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All data, including phase data, are available on CD-ROM and from the internet - http://www.isc.ac.uk

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

ISCJB ***01*** *00:18:32.5±0.6, 6°.51S±0°.05×129°.60E±0°.06, h165km, mb3.5/1, Error ellipse: s-maj=7.9km s-min=6.4km az=9.2*
IDC ***01*** *00:18:32.5±5.8, 6°.58S×129°.01E, h171km±59km, mb3.3/1, mb1 3.9/3, mb1mx3.3/18, mbtmp3.6/3, Error ellipse: s-maj=136.3km s-min=18.9km az=70.0*
ISC 01 00:18:33.3±0.9**, 6°.55S**±0°.06×**129°.59E**±0°.07**, h165km, n13, σ2s.04**/20**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.48**	**36**	P	**Pn**	**00 19 40.1**	**-0.1**
	baz=4.5,SNR=59						
FAKI				S	**Sn**	**00 20 29.8**	**-2.6**
	baz=4.5,SNR=21						
SOEI	**Soe**	**6.15**	**238**	P	**Pn**	**00 20 03.3**	**+1.0**
	baz=6.2,SNR=3.2						
SOEI				S	**Sn**	**00 21 11.8**	**-0.4**
	baz=6.2,SNR=4.9						
MTN	**Manton Dam**	**6.44**	**166**	P	**Pn**	**00 20 08.2**	**+2.2**
	baz=6.6,SNR=55						
MTN				S	**Sn**	**00 21 16.1**	**-2.7**
	baz=6.6,SNR=12						
KDU	**Kakadu**	**6.73**	**155**	P	**Pn**	**00 20 12.2**	**+2.3**
	baz=6.9,SNR=95						
KDU				S	**Sn**	**00 21 25.9**	**+0.1**
	baz=6.9,SNR=10						
LUWI	**Luwuk**	**8.73**	**309**	P	**Pn**	**00 20 36.8**	**+0.5**
	baz=8.6,SNR=3.3						
KNRA	**Kununurra**	**9.11**	**185**	P	**Pn**	**00 20 41.6**	**+0.3**
	baz=9.2,SNR=43						
KNRA				S	**Sn**	**00 22 17.7**	**-5.0**
	baz=9.2,SNR=9.1						
WRA	**Warramunga Arr**	**14.09**	**161**	P	**Pn**	**00 21 45.0**	**-0.8**
	1.3nm,0.3s,baz=342,slow=12,SNR=34						
WRA				S	**Sn**	**00 24 19.1**	**-3.4**
	1.9nm,0.3s,baz=334,slow=22,SNR=8.1						
COEN	**Coen**	**15.26**	**120**	P	**P**	**00 22 02.7**	**+1.2**
	baz=15,SNR=19						
QIS	**Mount Isa**	**16.98**	**146**	P	**Pn**	**00 22 22.4**	**+1.2**
	baz=17,SNR=12						
ASAR	**Alice Springs**	**17.52**	**167**	P	**Pn**	**00 22 28.2**	**+0.6**
	1.4nm,0.3s,baz=342,slow=10,SNR=143						
ASAR				S	**S**	**00 25 41.0**	**+0.9**
	0.4nm,0.3s,baz=340,slow=21,SNR=7.8						
WRKA	**Warakurna**	**18.43**	**184**	P	**Pn**	**00 22 37.3**	**-1.0**
	baz=19,SNR=12						
WRKA				S	**S**	**00 25 59.4**	**+1.3**
	baz=19,SNR=4.2						
CMSA	**Cobar Meteorol**	**29.07**	**151**	P	**P**	**00 24 19.2**	**+1.0**
	baz=29,SNR=7.5						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	00 29 09.0	-3.3
	0.4nm,0.4s,baz=121,slow=7.8						

IDC 01 00:27:01.2±3.7**, 6°.87S**×**110°.55E, h0km, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/21**, mbtmp3.4**/3**, Error ellipse: s-maj=227.7km s-min=26.5km az=50.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.49**	**122**	P	P	00 32 41.0	+0.5
	0.2nm,0.7s,baz=297,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**27.97**	**129**	P	P	00 32 53.4	-0.4
	0.4nm,0.7s,baz=303,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**59.03**	**338**	P	P	00 37 02.9	-0.1
	0.3nm,0.4s,baz=151,slow=7.5						

NIED ***01*** *00:36:00, 41°.20N×138°.90E, h5km, Mw3.8 Best double couple: $M_0$5.85000×10^{14} NP1:ϕ_s196.00000°, δ30.00000°, λ52.00000°. NP2:ϕ_s57.00000°, δ67.00000°, λ109.00000°.*
ISCJB ***01*** *00:36:46.0±2.0, 41°.18N±0°.04×138°.94E±0°.04, h6km±13km, mb3.6/10, MS4.4/1, Error ellipse: s-maj=6.9km s-min=5.2km az=23.4*
IDC ***01*** *00:36:46.9±0.7, 41°.13N×139°.00E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.7/28, mbtmp3.6/13, ML2.9/3, MS3.7/2, Ms1 3.7/2, ms1mx2.6/39, Error ellipse: s-maj=20.4km s-min=15.8km az=103.0*
JMA ***01*** *00:36:47.6±0.1, 41°.19N×138°.94E, h28km±1km, M3.7*
ISC 01 00:36:47.3±1.7**, 41°.21N**±0°.04×**139°.05E**±0°.05**, h3km**±11km**, n22, σ0s.91**/28**, mb3.7**/10**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.93**	**20**	P	**Pg**	**00 37 05.2**	**0.0**
JIW	**Iwasaki**	**0.95**	**130**	P	**Pg**	**00 37 05.6**	**0.0**
JIW				*e*S	**Sg**	**00 37 18.4**	**+0.5**
JSI2	**Shiura 2**	**1.04**	**98**	P	**Pb**	**00 37 07.4**	**-0.6**
JSI2				*e*S	**Sb**	**00 37 21.7**	**-0.3**
JSR	**Shiriuchi**	**1.08**	**72**	P	**Pb**	**00 37 08.8**	**+0.1**
JSR				*e*S	**Sb**	**00 37 23.7**	**+0.5**
JYM2	**Yakumo 2**	**1.35**	**47**	P	**Pn**	**00 37 12.1**	**-0.9**
JOT	**Ohata**	**1.52**	**83**	P	**Pn**	**00 37 14.8**	**-0.6**
JAH	**Hinai**	**1.58**	**130**	P	**Pn**	**00 37 15.2**	**-1.0**
JAH				*e*S	**Sn**	**00 37 35.7**	**-1.5**
JKB	**Kayabe**	**1.64**	**65**	P	**Pn**	**00 37 17.1**	**+0.1**
MJAR	**Matsushiro Arr**	**4.71**	**188**	Pn	**Pn**	**00 37 59.1**	**-0.1**
	1.2nm,0.3s,baz=13,slow=13,SNR=13						
MJAR				Sn	**Sn**	**00 38 54.6**	**+0.3**
	baz=340,slow=16,SNR=2.7						
USRK	**Ussuriysk Arra**	**6.00**	**302**	Pn	**Pn**	**00 38 15.8**	**-1.1**
	0.6nm,0.3s,baz=108,slow=13,SNR=26						
USRK				Sn	**Sn**	**00 39 23.9**	**-2.1**
	1.2nm,0.3s,baz=114,slow=24,SNR=11						
USRK				LR	LR	00 40 32.2	
	comp=Z,134nm,18.2s,baz=40,slow=38						
KSRS	**Korea Array**	**9.40**	**250**	Pn	**Pn**	**00 39 03.8**	**+0.3**
	0.3nm,0.3s,baz=64,slow=14,SNR=7.7						
KSRS				Sn	**Sn**	**00 40 51.5**	**+1.8**
	0.5nm,0.3s,baz=66,slow=24,SNR=5.6						
ZALV	**Zalesovo Beam**	**37.81**	**309**	P	P	00 44 06.2	+1.5
	0.2nm,0.3s,baz=61,slow=10,SNR=2.5						
ZALV				PcP	**PcP**	**00 46 21.2**	**0.0**
	0.5nm,0.6s,baz=90,slow=1.4,SNR=3.6						
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**00 45 20.1**	**+0.5**
	0.4nm,0.9s,baz=266,slow=5.1,SNR=9.4						
WRA	**Warramunga Arr**	**60.99**	**185**	P	**P**	**00 47 00.6**	**-1.4**
	1.1nm,0.6s,baz=2.5,slow=7.6,SNR=24						
YKA	**Yellowknife Ar**	**61.14**	**31**	P	**P**	**00 47 02.6**	**+0.1**
	0.1nm,0.7s,baz=317,slow=5.5,SNR=3.1						
FINES	**FINESS Array B**	**64.27**	**331**	P	**P**	**00 47 24.1**	**+0.7**
	1.9nm,0.8s,baz=64,slow=6.3,SNR=2.3						
ASAR	**Alice Springs**	**64.72**	**185**	P	**P**	**00 47 26.6**	**-0.2**
	0.5nm,0.8s,baz=4.1,slow=7.0,SNR=5.4						
NOA	**NORSAR Array B**	**69.63**	**336**	P	**P**	**00 47 57.6**	**0.0**
	1.1nm,0.9s,baz=42,slow=6.0,SNR=2.7						
AKASG	**Malin Array Be**	**69.89**	**320**	P	**P**	**00 47 58.9**	**-0.4**
	0.2nm,0.5s,baz=45,slow=5.6,SNR=2.9						
NVAR	**Mina Array Bea**	**73.95**	**53**	P	**P**	**00 48 25.6**	**+1.3**
	0.2nm,0.4s,baz=300,slow=4.1,SNR=3.5						
PDAR	**Pinedale Array**	**76.04**	**45**	P	**P**	**00 48 37.2**	**+1.0**
	0.7nm,0.5s,baz=325,slow=1.4,SNR=2.6						
SADO	**Sadowa**	**87.81**	**26**	LR	LR	01 32 04.8	
	comp=Z,154nm,20.5s,baz=188,slow=38						

MAN 01 01:10:10, 17°.97N×**121°.36E, h12km, mb4.1, ML2.9, MS2.6, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.15**	**226**	*e*P	Pb	01 10 15.0	+0.1
APYP				*e*S	Sg	01 10 18.5	+2.3
CVP	**Callao Caves**	**0.51**	**121**	⇑*i*P	Pg	01 10 19.8	-0.3
CVP				*i* S	Sg	01 10 27.1	+0.1
ABRA	**Dolores**	**0.69**	**243**	*e*P	Pg	01 10 23.2	-0.3
PIP	**Pasuquin**	**0.79**	**297**	⇓*i*P	Pb	01 10 25.8	+0.1
PIP				*e*S	Sn	01 10 38.5	-0.2
CAUP	**Cauayan**	**1.11**	**157**	*e*P	Pb	01 10 31.2	0.0
PALP	**Palanan**	**1.36**	**131**	*e*P	Pn	01 10 34.3	-0.5

DDA 01 01:56:15.3, 38°.39N×**37°.49E, h7km, MD2.5, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.35**	**106**	*i* P	Pg	01 56 22.6	+0.2
AKCD				*i* S	Sb	01 56 29.6	-0.5

BJI ***01*** *02:08:20.5, 26°.30N×99°.76E, h5km, mB4.9/25, mb4.7/44, ML4.7/10, Ms4.6/40, Ms7 4.4/39*
ISCJB ***01*** *02:08:20.3±0.1, 26°.23N±0°.02×99°.85E±0°.02, h10km, mb4.7/108, MS4.0/13, Error ellipse: s-maj=2.8km s-min=2.6km az=27.4*
NEIC ***01*** *02:08:21.9±0.2, 26°.29N×99°.87E, h10km, mb5.0/35, Error ellipse: s-maj=5.2km s-min=4.0km az=57.0*
MOS ***01*** *02:08:23.7±1.0, 26°.27N×99°.92E, h33km, mb5.0/51, Error ellipse: s-maj=7.8km s-min=4.5km az=117.0*
IDC ***01*** *02:08:24.7±4.0, 26°.30N×99°.95E, h27km±28km, mb4.3/30, mb1 4.4/31, mb1mx4.4/34, mbtmp4.5/31, ML5.0/1, MS3.8/7, Ms1 3.9/7, ms1mx3.3/45, Error ellipse: s-maj=12.3km s-min=9.9km az=41.0*
BKK ***01*** *02:08:25.5±0.4, 26°N±4°×10°0E±°, h10km, M5.1/13, mB5.2/3, mb4.7/13, MLv5.3/4, Mw(mB)4.6/3*
ISC 01 02:08:21.9±0.2**, 26°.19N**±0°.03×**99°.85E**±0°.03**, h10km, n340, σ1s.70**/371**, mb4.8**/106**, MS4.0**/13**, 17C-6D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.81**	**111**	Pn	**Pb**	**02 09 10.4**	**-2.0**
KMI				Sn	**Sn**	**02 09 44.8**	**+3.5**
KMI				Sg	**Sg**	**02 09 52.7**	**+0.4**
KMI				smax	smax		
	comp=N,10μm,0.7s						
KMI				smax	smax		
	comp=E,8μm,0.7s						
KMI	**Kunming**	**2.81**	**111**	P	**Pb**	**02 09 10.4**	**-2.0**
KMI						02 09 44.8	
KMI	**Kunming**	**2.81**	**111**	Pn	**Pb**	**02 09 10.4**	**-2.0**
KMI				Pg	**Pg**	**02 09 17.2**	**+1.3**
KMI				Sn	**Sn**	**02 09 44.8**	**+3.5**
KMI				Sg	**Sg**	**02 09 52.7**	**+0.4**
CD2	**Chengdu**	**5.83**	**35**	Pn	**Pn**	**02 09 50.0**	**+1.5**
CD2				Sn	**Sn**	**02 11 00.1**	**+4.7**
CD2				Sg	**Sg**	**02 11 28.6**	**-0.4**
CD2				smax	smax		
	comp=N,440nm,1.7s						
CD2				LR	LR		
	comp=N,10μm,8.3s						
CD2				LR	LR		
	comp=E,13μm,10.7s						
CD2				LR	LR		
	comp=Z,3μm,7.7s						
SLVN	**Son La**	**6.09**	**142**	*e*Pn	**Pn**	**02 09 53.7**	**+1.6**
	103nm,0.7s						
SLVN				*e*Pg	**Pg**	**02 10 17.2**	**-1.4**
SLVN				*e*Sg	**Sg**	**02 11 39.5**	**+1.9**
GYA	**Guiyang**	**6.12**	**86**	⇑*i*Pn	**Pn**	**02 09 55.1**	**+2.6**
GYA				Sn	**Sn**	**02 11 04.6**	**+1.9**
GYA				Sg	**Sg**	**02 11 38.9**	**+0.5**
GYA				smax	smax		
	comp=N,170nm,1.0s						
GYA				smax	smax		
	comp=E,220nm,1.1s						
GYA				LR	LR		
	comp=N,2μm,10.3s						
GYA				LR	LR		
	comp=E,2μm,8.1s						
GYA				LR	LR		
	comp=Z,3μm,8.1s						
CMAI	**Chiengmai2**	**6.27**	**187**	P	**Pn**	**02 09 57.3**	**+2.7**
	46nm,0.7s,1.2nm						
SHL	**Shillong**	**7.20**	**267**	*e*P	**Pn**	**02 10 06.5**	**-1.1**
SHL				AMB	AMB	02 10 13.4	
	comp=Z,52nm,0.4s						
CHTO	**Chiang Mai**	**7.38**	**187**	*e*P	**Pn**	**02 10 12.3**	**+2.5**
CHTO				*e*		02 11 35.7	
CHTO				pmax	pmax		
	comp=Z,99nm,0.6s						
CHTO	**Chiang Mai**	**7.38**	**187**	*e*Pn	**Pn**	**02 10 12.3**	**+2.5**
	comp=Z,100nm,0.6s						
CHTO				*e*Pg	Pg	02 10 39.4	-4.0
CHTO				*e*Sn	**Sn**	**02 11 35.7**	**+2.0**
CHTO				*e*Sg	**Sg**	**02 12 18.6**	**-0.4**
LAMP	**Lampang**	**7.63**	**182**	P	**Pn**	**02 10 16.2**	**+3.0**
	comp=Z,14nm,0.7s,comp=Z,869nmcomp=Z,0.3nm						
CM31	**Chiang Mai Arr**	**7.74**	**186**	*e*Pn	**Pn**	**02 10 17.4**	**+2.8**
	comp=Z,79nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.74**	**186**	Pn	Pn	02 10 17.9	+3.3
CMAR				Pg	Pg	02 10 47.0	-3.0
CMAR				Lg	Lg	02 12 34.1	
CMAR	**Chiang Mai Arr**	**7.74**	**186**	Pn	Pn	02 10 17.9	+3.3
	comp=Z,6.2nm,0.3s,baz=1.3,slow=13,SNR=153						
CMAR				Pg	Pg	02 10 47.0	-3.0
	comp=Z,7.5nm,0.3s,baz=358,slow=18,SNR=26						
CMAR				Lg	Lg	02 12 34.1	
	comp=Z,6.7nm,0.3s,baz=359,slow=32,SNR=11						
CMAR				LR	LR	02 13 17.3	
	comp=Z,467nm,19.1s,baz=359,slow=37						
MHMT	**Maesarieng**	**8.17**	**193**	P	Pn	02 10 24.4	+3.8
	comp=Z,29nm,0.9s,comp=Z,535nmcomp=Z,0.4nm						
LSA	**Lhasa**	**8.46**	**296**	P	Pn	02 10 17.1	-7.8
LSA	**Lhasa**	**8.46**	**296**	*e*P	**Pn**	**02 10 24.6**	**-0.3**
LSA				pmax	pmax		
	comp=Z,57nm,0.6s						
LSA	**Lhasa**	**8.46**	**296**	*e*Pn	**Pn**	**02 10 24.6**	**-0.3**
	comp=Z,58nm,0.6s						
ENH	**Enshi**	**9.42**	**62**	*e*Pn	**Pn**	**02 10 37.2**	**-0.6**
	comp=Z,45nm,0.6s						
PBKT	**Sadao Pong**	**9.62**	**174**	P	Pn	02 10 46.6	+6.1
	comp=Z,16nm,2.0s						
CHAI	**Chaiyaphum**	**10.42**	**169**	P	Pn	02 11 05.2	+14
LZH	**Lanzhou**	**10.45**	**18**	*e*P	**Pn**	**02 10 52.9**	**+1.0**
LZH				pP		02 10 55.8	
LZH				sP		02 10 58.3	
LZH				*e*S	**Sn**	**02 12 50.1**	**+1.0**
LZH				SS	**SnSn**	**02 13 03.4**	**+2.1**
LZH				pmax	pmax		
	comp=Z,42nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,5.8s						
LZH				LR	LR		
	comp=Z,900nm,9.0s						
LZH				LR	LR		
	comp=Z,3μm,10.6s						
LZH				LR	LR		
	comp=Z,2μm,10.8s						
TAPN	**Taplejung**	**10.91**	**279**	*e*P	**Pn**	**02 10 56.8**	**-1.7**
	comp=Z,164nm,0.6s						
XAN	**Xi'an**	**11.08**	**43**	P	**Pn**	**02 10 59.1**	**-1.4**
XAN				S	**Sn**	**02 13 03.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN				LR	LR		
	comp=Z,3μm,12.6s						
XAN				LR	LR		
	comp=Z,700nm,13.9s						
XAN				LR	LR		
	comp=Z,310nm,11.3s						
ODAN	**Odare**	**11.18**	**276**	*e*P	**Pn**	**02 11 01.0**	**-1.1**
	comp=Z,232nm,0.7s						
KHLT	**Khaolaem Dam**	**11.39**	**186**	P	Pn	02 11 11.1	+6.3
	comp=Z,13nm,1.3s						
QIZ	**Qiongzhong**	**11.65**	**126**	P	**Pn**	**02 11 08.0**	**-0.3**
QIZ				S	**Sn**	**02 13 18.8**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,30nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,120nm,4.3s						
QIZ				LR	LR		
	comp=Z,3μm,13.3s						
QIZ				LR	LR		
	comp=Z,1μm,13.2s						
QIZ				LR	LR		
	comp=Z,3μm,12.8s						
QIZ	**Qiongzhong**	**11.65**	**126**	*e*Pn	**Pn**	**02 11 08.8**	**+0.5**
SRDT	**SRDT**	**11.79**	**183**	P	Pn	02 11 15.5	+5.2
	comp=Z,57nm,1.2s						
RAMN	**Ramite**	**11.89**	**277**	*e*P	**Pn**	**02 11 10.3**	**-1.5**
	comp=Z,184nm,0.8s						
JIRN	**Jiri**	**12.28**	**280**	*e*P	**Pn**	**02 11 15.8**	**-1.5**
	comp=Z,107nm,0.5s						
GUN	**Gumba**	**12.57**	**281**	*e*P	**Pn**	**02 11 19.2**	**-2.0**
	comp=Z,160nm,0.6s						
BOK	**Bokaro**	**12.89**	**262**	*e*P	**Pn**	**02 11 24.6**	**-0.6**
BOK				AMB	AMB	02 11 25.9	
	comp=Z,34nm,0.4s						
PKI	**Pulchoki**	**12.97**	**279**	*e*P	**Pn**	**02 11 24.0**	**-2.6**
	comp=Z,104nm,0.7s						
PKIN	**Phulchoki**	**12.98**	**279**	*e*P	**Pn**	**02 11 24.1**	**-2.6**
	comp=Z,63nm,0.6s						
KKN	**Kakani**	**13.09**	**280**	*e*P	**Pn**	**02 11 25.8**	**-2.4**
	comp=Z,219nm,0.6s						
GTA	**Gaotai**	**13.19**	**360**	*e*P	**Pn**	**02 11 32.3**	**+2.9**
GTA				pP	**P**	**02 11 36.6**	**-2.9**
GTA				sP		02 11 39.7	
GTA				S	**Sn**	**02 13 57.9**	**+1.7**
GTA				sS	S	02 14 04.6	-17
GTA				SS	**SnSn**	**02 14 14.1**	**+5.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,210nm,5.2s						
GTA				LR	LR		
	comp=Z,940nm,12.3s						
GTA				LR	LR		
	comp=Z,1μm,12.6s						
GTA				LR	LR		
	comp=Z,1μm,10.0s						
DMN	**Daman**	**13.24**	**279**	*e*P	**Pn**	**02 11 27.4**	**-2.8**
	comp=Z,72nm,0.6s						
WHN	**Wuhan**	**13.48**	**68**	⇑P	**Pn**	**02 11 34.0**	**+0.7**
WHN				S	**Sn**	**02 13 58.5**	**-4.7**
WHN				LR	LR		
	comp=Z,3μm,9.8s						
WHN				LR	LR		
	comp=Z,2μm,10.6s						
WHN				LR	LR		
	comp=Z,2μm,11.4s						
CHBT	**CHBT**	**13.56**	**170**	P	P	02 11 39.4	-4.2
	comp=Z,20nm,0.8s						
GKN	**Gorkha**	**13.68**	**281**	*e*P	Pn	02 11 32.6	-3.5
	comp=Z,72nm,0.5s						
DANN	**Dangsing**	**14.47**	**282**	*e*P	Pn	02 11 42.3	-4.9
	comp=Z,82nm,0.5s						
DGPR	**DIGLIPUR**	**14.48**	**208**	*e*P	**Pn**	**02 11 47.2**	**+0.2**
KOLN	**Koldanda**	**14.58**	**280**	*e*P	Pn	02 11 44.6	-3.9
	comp=Z,104nm,0.9s						
VIS	**Vishakhapatnam**	**17.48**	**245**	*e*P	**Pn**	**02 12 23.5**	**-2.3**
VIS				AMB	AMB	02 12 38.3	
	comp=Z,24nm,0.8s						
HHC	**Hu-ho-hao-te**	**17.56**	**31**	*e*P	**Pn**	**02 12 27.2**	**+0.3**
HHC				pP	**pP**	**02 12 30.4**	**-0.4**
HHC				PP	**PnPn**	**02 12 41.3**	**+4.0**
HHC				*e*S	**Sn**	**02 15 40.5**	**-2.0**
HHC				SS	**SnSn**	**02 16 06.0**	**+10**
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,3.7s						
HHC				LR	LR		
	comp=Z,720nm,6.9s						
HHC				LR	LR		
	comp=Z,2μm,7.4s						
HHC				LR	LR		
	comp=Z,1μm,9.6s						
NJ2	**Nanjing**	**17.59**	**66**	*e*P	**P**	**02 12 29.2**	**+0.9**
NJ2				S	**Sn**	**02 15 42.0**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,80nm,1.0s						
NJ2				LR	LR		
	comp=Z,1μm,18.5s						
NJ2				LR	LR		
	comp=Z,1μm,21.0s						
NJ2				LR	LR		
	comp=Z,1μm,10.4s						
TIA	**Tai'an**	**17.81**	**52**	P	**P**	**02 12 30.6**	**-0.1**
TIA				pmax	pmax		
	comp=Z,40nm,1.1s						
TIA				LR	LR		
	comp=Z,2μm,11.3s						
TIA				LR	LR		
	comp=Z,1μm,11.9s						
TIA				LR	LR		
	comp=Z,580nm,8.9s						
SSE	**Sheshan**	**19.35**	**70**	P	**P**	**02 12 46.7**	**-0.9**
SSE				pmax	pmax		
	comp=Z,20nm,0.8s						
SSE				pmax	pmax		
	comp=Z,180nm,4.4s						
SSE				LR	LR		
	comp=Z,370nm,11.1s						
SSE				LR	LR		
	comp=Z,460nm,10.9s						
SSE				LR	LR		
	comp=Z,610nm,8.2s						
BJT	**Baijiatuau**	**19.38**	**41**	*e*P	**P**	**02 12 47.7**	**-0.1**
	comp=Z,21nm,0.5s						
BJI	**Beijing**	**19.39**	**41**	P	**P**	**02 12 47.6**	**-0.4**
BJI				S	**Sn**	**02 16 25.2**	**-1.5**
BJI				pmax	pmax		
	comp=Z,17nm,1.3s						
BJI				pmax	pmax		
	comp=Z,350nm,5.8s						
BJI				LR	LR		
	comp=Z,2μm,17.2s						
BJI				LR	LR		
	comp=Z,2μm,17.6s						
BJI				LR	LR		
	comp=Z,230nm,15.1s						
DDI	**Dehra Dun**	**19.63**	**287**	*e*P	**P**	**02 12 49.0**	**-1.8**
NGP	**Nagpur**	**19.70**	**260**	*e*P	**P**	**02 12 49.4**	**-2.1**
WMQ	**Urumqi**	**20.18**	**334**	P	**P**	**02 12 57.1**	**+0.5**
WMQ				pP	**pP**	**02 13 01.1**	**+1.6**
WMQ				sP	**sP**	**02 13 04.1**	**+3.3**
WMQ				PP	**PnPn**	**02 13 16.7**	**+3.6**
WMQ				S	**S**	**02 16 37.2**	**-5.9**
WMQ				sS	Sn	02 16 43.1	-2.6
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,7.1s						
WMQ				LR	LR		
	comp=Z,360nm,19.7s						
SMLA	**Simla**	**20.50**	**289**	*e*P	**P**	**02 12 58.6**	**-1.5**
SMLA				AMB	AMB	02 13 03.2	
	comp=Z,130nm,0.4s						
BHPL	**Bhopal**	**20.58**	**267**	*e*P	**P**	**02 13 00.8**	**-0.3**
BHPL				AMB	AMB	02 13 08.2	
	comp=Z,185nm,0.7s						
KULM	**Kulim**	**20.79**	**178**	*e*P	Pn	02 13 05.3	-0.5
	comp=Z,32nm,1.4s						
DHRM	**DHARAMSHALA**	**21.41**	**292**	*e*P	**P**	**02 13 09.0**	**-1.2**
HYB	**Hyderabad**	**21.59**	**250**	*i* P	**P**	**02 13 13.0**	**+0.9**
HYB				*e*S	Sn	02 17 22.0	+2.0
HYB	**Hyderabad**	**21.59**	**250**	*e*P	**P**	**02 13 11.1**	**-1.0**
HYB				AMB	AMB	02 13 15.5	
	comp=Z,25nm,0.8s						
IPM	**Ipoh**	**21.61**	**177**	*e*P	**P**	**02 13 12.5**	**+0.2**
	comp=Z,12nm,0.8s						
AKL	**Akola**	**21.64**	**260**	*e*P	**P**	**02 13 10.9**	**-1.6**
SONM	**Songino Array**	**22.22**	**12**	P	**P**	**02 13 18.4**	**-0.2**
SONM	**Songino Array**	**22.22**	**12**	P	**P**	**02 13 18.4**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=194,slow=9.0,SNR=17						
SONM				LR	LR	02 23 05.3	
	comp=Z,254nm,20.1s,baz=219,slow=40						
ULN	**Ulaanbaatar**	**22.37**	**13**	*e*P	**P**	**02 13 19.9**	**-0.5**
	comp=Z,26nm,1.4s						
PSI	**Prapat**	**23.27**	**182**	P	x	02 13 32.6	
	comp=Z,59nm,1.4s,comp=Z,616nm						
PSI	**Prapat**	**23.27**	**182**	P	**P**	**02 13 31.7**	**+1.8**
PSI	**Prapat**	**23.27**	**182**	P	**P**	**02 13 31.7**	**+1.8**
	comp=Z,24nm,0.8s,baz=345,slow=8.7,SNR=17						
KSH	**Kashi**	**23.98**	**310**	P	**P**	**02 13 38.0**	**+1.3**
KSH				*e*sP	**sP**	**02 13 45.2**	**+4.2**
KSH				*e*PP	**PnPn**	**02 14 12.1**	**+6.9**
KSH				*e*PcP	**PcP**	**02 17 19.8**	**+1.0**
KSH				*e*S	**S**	**02 17 51.7**	**-1.9**
KSH				sS	**sS**	**02 18 00.7**	**+2.1**
KSH				*e*SS	SnSn	02 18 43.1	+10
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH				LR	LR		
	comp=Z,890nm,15.5s						
KSH				LR	LR		
	comp=Z,260nm,12.8s						
KSH				LR	LR		
	comp=Z,210nm,7.5s						
ZAK	**Zakamensk**	**24.30**	**5**	*e*P	**P**	**02 13 36.7**	**-2.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GSI	**Gunungsitoli**	**24.84**	**185**	P	**P**	**02 13 45.1**	**+0.5**
	comp=Z,58nm,0.8s						
GSI	**Gunungsitoli**	**24.84**	**185**	*e*P	**P**	**02 13 44.6**	**0.0**
MK31	**Makanchi Array**	**24.84**	**330**	*e*P	**P**	**02 13 44.4**	**0.0**
MK31	**Makanchi Array**	**24.84**	**330**	*e*P	**P**	**02 13 44.4**	**0.0**
SNY	**Shenyang**	**24.99**	**45**	⇓P	**P**	**02 13 46.8**	**+1.0**
SNY				pmax	pmax		
	comp=Z,28nm,1.2s						
SNY				pmax	pmax		
	comp=Z,330nm,4.4s						
SNY				LR	LR		
	comp=Z,680nm,14.9s						

SNY LR LR
comp=Z,740nm,6.9s
SNY LR LR
comp=Z,680nm,15.2s
ULHL Ulahol 25.14 316 P **P** **02 13 50.6 +3.2**
SNR=19
POO Poona 25.19 258 *e*P **P** **02 13 48.3 +0.4**
POO AMB AMB 02 13 56.5
comp=Z,17nm,1.4s
INCN Inchon 25.30 57 *e*P **P** **02 13 49.1 +0.4**
HVS Khovu-Aksy 25.35 351 *e*P **P** **02 13 48.1 -1.0**
HVS pmax pmax
comp=Z,113nm,1.4s
JOW Kunigami 25.42 82 P **P** **02 13 49.1 -0.7**
JOW Kunigami 25.42 82 P **P** **02 13 49.1 -0.7**
comp=Z,2.1nm,0.5s,baz=247,slow=11,SNR=4.2
JOW LR LR 02 24 49.8
comp=Z,62nm,18.4s,baz=119,slow=39
MOY Mondy 25.46 2 *e*P **P** **02 13 51.0 +0.9**
TLY Talaya 25.62 5 *e*P **P** **02 13 50.1 -1.4**
TLY *e*S **S** **02 18 18.4 -1.1**
TLY *e*SS **SnSn** **02 19 20.9 +7.5**
TLY pmax pmax
comp=Z,4.0nm,1.2s
TLY MLR MLR
comp=Z,289nm,13.0s
KZA Kyzart 25.68 314 *i*P **P** **02 13 53.3 +0.8**
KZA Kyzart 25.68 314 P **P** **02 13 53.3 +0.8**
SNR=25
TKM2 Tokmak 2 25.90 316 *i*P **P** **02 13 56.9 +2.6**
TKM2 Tokmak 2 25.90 316 P **P** **02 13 56.9 +2.6**
SNR=16
TKM2 Tokmak 2 25.90 316 *e*P **P** **02 13 54.3 0.0**
comp=Z,59nm,1.7s
KBK Karagaybulak 26.17 315 P **P** **02 14 00.1 +3.5**
SNR=25
UCH Uchtor 26.23 314 P **P** **02 14 00.7 +3.1**
SNR=9.8
IRK Irkutsk 26.24 6 *e*P **P** **02 13 53.8 -3.2**
IRK pmax pmax
comp=Z,31nm,2.9s
KSAR Wonju Array Be 26.24 58 P **P** **02 13 56.5 -0.7**
KSRS Korea Array 26.27 58 P **P** **02 13 56.5 -1.0**
comp=Z,2.8nm,0.7s,baz=244,slow=9.2,SNR=12
KSRS LR LR 02 24 04.9
comp=Z,276nm,18.1s,baz=28,slow=36
AAK Ala-Archa 26.44 315 P **P** **02 14 00.1 +0.9**
AAK pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 26.44 315 P **P** **02 14 00.4 +1.2**
SNR=20
AAK Ala-Archa 26.44 315 P **P** **02 14 00.1 +0.9**
AAK Ala-Archa 26.44 315 P **P** **02 14 00.1 +0.9**
comp=Z,14nm,0.7s,baz=120,slow=6.1,SNR=65
CHMS Chumysh 26.47 316 *i*P **P** **02 14 01.8 +2.6**
CHMS Chumysh 26.47 316 P **P** **02 14 01.9 +2.6**
SNR=7.4
FRU Bishkek 26.47 315 *e*P **P** **02 14 00.0 +0.8**
FRU *e* 02 14 12.0
FRU pmax pmax
comp=Z,80nm,2.0s
AML Almayashu 26.71 313 P **P** **02 14 04.9 +3.0**
SNR=35
USP Ospenovka 26.76 316 *i*P **P** **02 14 04.4 +2.5**
USP Ospenovka 26.76 316 P **P** **02 14 04.4 +2.5**
SNR=43
EKS2 Erkin-Say 26.92 314 *e*P **P** **02 14 04.4 +1.0**
EKS2 *e* 02 17 28.1
EKS2 pmax pmax
comp=Z,39nm,1.3s
EKS2 Erkin-Say 26.92 314 P **P** **02 14 06.4 +3.0**
SNR=20
EKS2 Erkin-Say 26.92 314 *e*P **P** **02 14 04.4 +1.0**
comp=Z,39nm,1.3s
EKS2 *e*PcP **PcP** **02 17 28.1 +2.7**
CN2 Changchun 27.19 43 *e*P **P** **02 14 06.4 +0.7**
CN2 *es*P **sP** **02 14 14.4 +4.4**
CN2 *e*S **S** **02 18 42.5 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,500nm,13.0s
CN2 LR LR
comp=Z,600nm,19.0s
JNU Nakatsue 27.77 68 P **P** **02 14 10.2 -0.8**
JNU Nakatsue 27.77 68 P **P** **02 14 10.2 -0.8**
comp=Z,14nm,1.0s,baz=192,slow=11,SNR=5.5
JNU LR LR 02 25 17.8
comp=Z,287nm,18.2s,baz=110,slow=37
KBL Kabul 27.78 295 *e*P **P** **02 14 11.0 -0.3**
KBL pmax pmax
comp=Z,46nm,0.6s
KBL Kabul 27.78 295 *e*P **P** **02 14 11.0 -0.3**
comp=Z,46nm,0.6s
KK31 Karatay Array 29.25 313 *i*P **P** **02 14 24.4 +0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 29.25 313 *e*P **P** **02 14 26.1 +2.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 29.25 313 *e*P **P** **02 14 26.1 +2.0**
comp=Z,3.3nm,0.7s
KURBB Kurchatov Arra 29.37 332 P **P** **02 14 24.9 -0.1**
comp=Z,10nm,0.7s,baz=145,slow=9.7,SNR=65
KURBB PcP **PcP** **02 17 30.4 -0.7**
comp=Z,4.1nm,0.9s,baz=128,slow=1.8,SNR=7.7
KURK Kurchatov 29.40 332 P **P** **02 14 24.9 -0.4**
KURK 02 17 30.4
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 29.40 332 P **P** **02 14 24.9 -0.4**
KURK PcP **PcP** **02 17 30.4 -0.8**
ZAA0 Zalesovo Array 29.89 342 *e*P **P** **02 14 29.1 -0.5**
ZALV Zalesovo Beam 29.89 342 P **P** **02 14 29.3 -0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 29.89 342 P **P** **02 14 29.2 -0.3**
ZALV Zalesovo Beam 29.89 342 P **P** **02 14 29.2 -0.3**
comp=Z,7.4nm,0.8s,baz=157,slow=11,SNR=27
MDJ Mudanjiang 30.18 45 P **P** **02 14 31.5 -0.8**
MDJ pP **pP** **02 14 34.5 -0.9**
MDJ S **S** **02 19 30.8 -0.7**
MDJ ScP **ScP** **02 21 15.0 -0.7**
MDJ PcS **PcS** **02 21 16.2 -0.5**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ pmax pmax
comp=Z,120nm,4.0s
MDJ LR LR
comp=Z,450nm,22.9s
MDJ LR LR
comp=Z,170nm,21.9s
USRK Ussuriysk Arra 31.55 47 P **P** **02 14 42.2 -2.2**
comp=Z,9.8nm,0.9s,baz=238,slow=7.1,SNR=7.8
USRK LR LR 02 28 48.4
comp=Z,383nm,18.8s,baz=240,slow=39
MMSI Mamuju 34.12 144 P x 02 15 09.4
comp=Z,86nm,1.0s
MAJO Matsushiro 34.14 63 *e*P **P** **02 15 07.3 +0.1**
MAJO pmax pmax
comp=Z,23nm,1.1s
MAJO Matsushiro 34.14 63 *e*P **P** **02 15 07.3 +0.1**
comp=Z,23nm,1.1s
MJAR Matsushiro Arr 34.15 63 P **P** **02 15 06.3 -0.9**
MJAR Matsushiro Arr 34.15 63 P **P** **02 15 06.3 -0.9**
comp=Z,4.8nm,1.0s,baz=259,slow=9.3,SNR=4.9
MJAR LR LR 02 30 51.2
comp=Z,196nm,18.0s,baz=280,slow=40
BVA0 Borovoye Array 34.68 329 *i*P **P** **02 15 11.4 -0.2**
BVA0 pmax pmax
comp=Z,32nm,1.4s
BVAR Borovoye Array 34.68 329 P **P** **02 15 11.6 0.0**
BVAR 02 17 44.6
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 34.68 329 P **P** **02 15 11.6 0.0**
BVAR PcP **PcP** **02 17 44.6 -0.9**
BVAR Borovoye Array 34.68 329 P **P** **02 15 11.6 0.0**
comp=Z,8.8nm,0.6s,baz=122,slow=9.4,SNR=36
BVAR PcP **PcP** **02 17 44.6 -0.9**
comp=Z,3.5nm,0.6s,baz=142,slow=3.5,SNR=9.8
BRVK Borovoye 34.75 328 *c i*P **P** **02 15 11.9 -0.3**
BRVK pmax pmax
comp=Z,48nm,1.2s
TTSI Tana Toraja 34.90 143 P **P** **02 15 16.3 +2.5**
comp=Z,61nm,1.1s
LUWI Luwuk 34.96 137 P **P** **02 15 15.3 +0.9**
comp=Z,77nm,1.4s
IMYA Miami 35.24 297 *e*P **P** **02 15 16.6 -0.4**
HABR Khabarovsk 35.29 42 *e*P P 02 15 23.2 +6.3
HABR *e* 02 16 31.5
HABR *e* 02 17 44.4
HABR *e*S S 02 20 44.6 -6.2
HABR *e**SS sS 02 21 01.1 +5.3
HABR SS **SnSn** **02 23 03.8 -4.8**
HABR *e* 02 25 30.9
HABR pmax pmax
comp=Z,135nm,2.1s
HABR MLR MLR
comp=Z,287nm,18.0s
SPSI Sidrap Palu 35.64 144 P **P** **02 15 20.8 +0.6**
comp=Z,62nm,1.1s,comp=Z,993nm
ISRO Mashad 35.75 296 *e*P **P** **02 15 20.9 -0.2**
IPAY Payeh 36.14 297 *e*P **P** **02 15 24.8 +0.1**
IKRD Kardeh 36.55 297 *e*P P 02 15 21.8 -6.5
GMJI Gumukmas 36.71 157 P **P** **02 15 30.2 +0.9**
comp=Z,16nm,1.2s
BKSI Bulukumba 36.98 145 P **P** **02 15 32.1 +0.5**
comp=Z,22nm,1.0s
JAGI Jajag, Banyuwa 37.15 156 *e*P **P** **02 15 33.9 +0.8**
AB31 Akbulak array 38.45 317 *i*P **P** **02 15 43.9 +0.1**
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 38.45 317 *e*P **P** **02 15 43.7 -0.1**
comp=Z,10nm,0.6s
ASAJ Asahikawa 38.76 51 P **P** **02 15 46.1 -0.4**
ASAJ Asahikawa 38.76 51 P **P** **02 15 46.1 -0.4**
comp=Z,37nm,1.1s,baz=256,slow=8.9,SNR=3.2
IBAF Bafgh 38.95 289 *e*P **P** **02 15 48.0 -0.5**
LBFI Labuhan Bajo, 39.58 148 P x 02 15 55.1
comp=Z,237nm,1.0s,comp=Z,2um
IMEH Mehriz 39.77 288 *e*P **P** **02 15 54.6 -0.8**
ICHK Chekchek 39.89 290 *e*P **P** **02 15 56.5 +0.1**
AKTO Aktyubinsk 40.05 318 P **P** **02 15 57.3 +0.2**
AKTO pmax pmax
comp=Z,10.0nm,0.7s
AKTO Aktyubinsk 40.05 318 P **P** **02 15 57.3 +0.2**
AKTO Aktyubinsk 40.05 318 P **P** **02 15 57.3 +0.2**
comp=Z,9.7nm,0.7s,baz=111,slow=6.2,SNR=38
IANJ Anjilo 40.22 295 *e*P **P** **02 15 59.3 +0.2**
IGLO Ghaloghah 40.30 296 *e*P **P** **02 15 59.0 -0.8**
SWI Sorong 40.52 127 P **P** **02 16 01.8 +0.4**
comp=Z,28nm,0.9s
MSAI Masohi 40.66 132 P **P** **02 16 04.5 +1.9**
comp=Z,14nm,0.9s
ISHM Shahmirzad 40.73 295 *e*P **P** **02 16 03.4 +0.1**
ILAS Lasjerd 41.00 295 *e*P **P** **02 16 05.3 -0.3**
YAK Yakutsk 41.01 21 *e*P **P** **02 16 03.4 -1.5**
IALA Alasht 41.12 296 *e*P **P** **02 16 08.9 +2.3**
IFIR Firoozkooh 41.16 295 *e*P **P** **02 16 09.2 +2.2**
SVE Sverdlovsk 41.47 328 *i*P **P** **02 16 09.4 +0.6**
SVE pmax pmax
comp=Z,89nm,1.2s
IPRN Peran 41.50 296 *e*P **P** **02 16 09.7 +0.2**
IDMV Damavand 41.75 295 *e*P **P** **02 16 11.2 -0.6**
IVRN Varamin 42.01 294 *e*P **P** **02 16 13.1 -0.5**
ARU Arti 42.27 327 P **P** **02 16 15.5 +0.2**
comp=Z,215nm,0.8s,SNR=8.4
ARU Arti 42.27 327 *d i*P **P** **02 16 15.2 -0.1**
ARU 02 17 53.2
ARU S **S** **02 22 35.6 -0.2**
ARU SS SS 02 25 36.4 -7.5
ARU pmax pmax
comp=Z,55nm,1.2s
IMHD Mahdasht 42.86 295 *e*P **P** **02 16 20.0 -0.6**
SOEI Soe 42.89 143 P **P** **02 16 21.2 +0.2**
comp=Z,85nm,0.9s
SOKR Solikamsk 44.62 330 *c i*P **P** **02 16 36.7 +2.5**
SOKR pmax pmax
comp=Z,50nm,1.0s
IBST Bostanabad 45.85 298 *e*P **P** **02 16 46.3 +1.7**
IDHR Dehrash 46.41 294 *e*P **P** **02 16 46.9 -2.2**
IAZR Azarshahr 46.57 298 *e*P **P** **02 16 50.5 +0.2**
DGRG David-gareji 47.01 303 P P 02 16 56.8 +3.4
GNI Garni 47.48 301 *e*P **P** **02 16 58.9 +1.6**
comp=Z,61nm,1.4s
GNI Garni 47.48 301 P **P** **02 16 59.1 +1.8**
comp=Z,7.6nm,0.6s,baz=272,slow=2.3,SNR=10
DUS Dusheti 47.52 304 P P 02 17 00.9 +3.4
GUDG Gudauri 47.70 305 P P 02 17 02.5 +3.5
ZEI Tsey 48.13 305 *e*P **P** **02 17 01.3 -1.1**
ZEI pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 48.30 12 *ce*P **P** **02 17 01.6 -1.4**
TIXI pmax pmax
comp=Z,14nm,1.7s
ONI Oni 48.46 305 P P 02 17 08.3 +3.6
GOF Gofitskoye 48.83 308 *e*P **P** **02 17 09.5 +2.0**
KBZ Khabaz 48.89 306 P **P** **02 17 08.1 +0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 48.89 306 P **P** **02 17 08.1 +0.2**
KBZ Khabaz 48.89 306 P **P** **02 17 08.1 +0.2**
comp=Z,3.8nm,0.8s,baz=113,slow=6.0,SNR=8.5
NEY Neytrino 49.01 306 *e*P **P** **02 17 10.3 +1.2**
KIV Kislovodsk 49.05 307 *e*P **P** **02 17 10.0 +0.7**
KIV pmax pmax
comp=Z,63nm,1.7s
SEY Seymchan 50.18 28 P **P** **02 17 17.6 +0.1**
SEY pmax pmax
comp=Z,1.0nm,0.5s
SEY Seymchan 50.18 28 P **P** **02 17 17.6 +0.1**
SEY Seymchan 50.18 28 P **P** **02 17 17.6 +0.1**
comp=Z,0.7nm,0.5s,baz=117,slow=6.8,SNR=3.8
VRHR Novokhopersk 50.28 316 *e*P **P** **02 17 18.4 0.0**
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
PETK Petropavlovsk- 50.32 42 P **P** **02 17 18.4 -0.4**
PETK pmax pmax
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 50.32 42 P **P** **02 17 18.4 -0.4**
PETK Petropavlovsk- 50.32 42 P **P** **02 17 18.4 -0.4**
comp=Z,2.5nm,0.8s,baz=268,slow=5.6,SNR=3.3
PRGR Permogore 50.47 330 *e*P **P** **02 17 20.0 +0.3**
PRGR pmax pmax
comp=Z,23nm,1.1s
VSR Storozhevoye 51.84 316 *e*P **P** **02 17 29.4 -0.7**
VSR pmax pmax
comp=N,5.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,9.0nm,1.1s
MOS Moscow 53.22 321 *e*P **P** **02 17 41.5 +1.2**
OBN Obninsk 53.75 320 *e*P **P** **02 17 44.5 +0.3**
OBN pmax pmax
comp=Z,21nm,1.7s
BR131 Keskin Array S 56.02 302 *e*P **P** **02 18 00.4 -0.7**
comp=Z,4.5nm,0.6s
BRTR Keskin Array B 56.02 302 P **P** **02 18 00.2 -0.9**
BRTR PP PP 02 20 12.4 +6.6
BRTR Keskin Array B 56.02 302 P **P** **02 18 00.2 -0.9**
comp=Z,4.7nm,0.6s,baz=118,slow=7.9,SNR=25
BRTR PP PP 02 20 12.4 +6.6
comp=Z,2.1nm,1.1s,baz=91,slow=5.1,SNR=3.7
ANTO Ankara 56.65 302 *e*P **P** **02 18 05.0 -0.5**
ANTO pmax pmax
comp=Z,32nm,1.0s
ANTO Ankara 56.65 302 *e*P **P** **02 18 05.0 -0.5**
comp=Z,32nm,1.0s
WRAB Tennant Creek 56.77 140 *d i*P **P** **02 18 07.0 +0.6**
WRAB pmax pmax
comp=Z,167nm,1.2s
WRA Warramunga Arr 56.77 140 P **P** **02 18 07.0 +0.5**
WRA Warramunga Arr 56.77 140 P **P** **02 18 07.0 +0.5**
comp=Z,27nm,0.7s,baz=328,slow=7.7,SNR=208
JOF Joensuu 57.27 330 *e*P **P** **02 18 10.9 +1.5**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 57.27 330 *ep* **P** **02 18 10.9 +1.5**
comp=Z,1.8nm,0.6s
PMG Port Moresby 58.00 121 P x 02 18 15.3
PMG Port Moresby 58.00 121 *e*P **P** **02 18 15.8 +0.6**
comp=Z,28nm,1.1s
PMG Port Moresby 58.00 121 P **P** **02 18 14.5 -0.7**
comp=Z,15nm,0.8s,baz=250,slow=8.5,SNR=5.5
COEN Coen 58.03 128 *e*P **P** **02 18 15.6 +0.2**
AKASG Malin Array Be 58.11 315 *ce*P **P** **02 18 16.2 +0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 58.11 315 P **P** **02 18 14.3 -1.2**
AKASG Malin Array Be 58.11 315 P **P** **02 18 14.3 -1.2**
comp=Z,1.8nm,0.5s,baz=76,slow=6.1,SNR=18
AKBB Malin Array Si 58.11 315 *e*P **P** **02 18 15.0 -0.5**
AKBB Malin Array Si 58.11 315 *e*P **P** **02 18 15.0 -0.5**
AK01 Malin Array Si 58.12 315 *e*P **P** **02 18 14.2 -1.4**
KIEV Kiev 58.12 315 *e*P **P** **02 18 14.1 -1.5**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 58.12 315 *e*P **P** **02 18 14.1 -1.5**
comp=Z,4.9nm,0.8s
AK02 Malin Array Si 58.13 315 *e*P **P** **02 18 13.7 -2.0**
ISP Isparta 58.72 300 *i*P **P** **02 18 20.8 +0.6**
ISP Isparta 58.72 300 ⇑*i*P **P** **02 18 20.5 +0.3**
AS31 Alice Springs 59.51 143 *e*P **P** **02 18 26.2 +0.6**
ASAR Alice Springs 59.51 143 P **P** **02 18 26.3 +0.8**
ASAR Alice Springs 59.51 143 P **P** **02 18 26.3 +0.8**
comp=Z,11nm,0.9s,baz=327,slow=6.5,SNR=89
KAF Kangasniemi 59.53 328 *e*P P 02 18 30.0 +4.8
KAF Kangasniemi 59.53 328 *ep* **P** **02 18 30.0 +4.8**
FINES FINESS Array B 59.63 328 P **P** **02 18 25.6 -0.3**
FINES FINESS Array B 59.63 328 P **P** **02 18 25.6 -0.3**
comp=Z,2.7nm,0.7s,baz=88,slow=9.3,SNR=13
KEV Kevo 59.76 337 *e*P **P** **02 18 26.7 +0.1**
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 59.76 337 *ep* **P** **02 18 26.7 +0.1**
comp=Z,6.0nm,0.7s
VRI Vrincioaia 60.25 310 ⇑*i*P **P** **02 18 33.0 +2.5**
ARCES ARCESS Array B 60.26 337 P **P** **02 18 29.6 -0.6**
ARCES ARCESS Array B 60.26 337 P **P** **02 18 29.6 -0.6**
comp=Z,5.2nm,0.9s,baz=75,slow=9.4,SNR=7.0
PLOR Plostina 60.30 310 ⇑*i*P **P** **02 18 33.4 +2.5**
MLR Muntele Rosu 60.85 309 ⇑*i*P **P** **02 18 37.1 +2.4**
BURAR Bucovina Array 61.04 312 ⇑*i*P **P** **02 18 38.3 +2.4**
BUR08 Bucovina Ar. S 61.04 312 *e*P **P** **02 18 36.0 0.0**
VOIR 61.48 309 ⇑*i*P **P** **02 18 41.6 +2.7**
ARR Arges 61.78 309 ⇑*i*P **P** **02 18 41.9 +1.0**
KWP Kalwaria Pacla 62.39 314 ⇑*i*P **P** **02 18 44.8 -0.1**
FORT Forrest 62.74 153 *e*P **P** **02 18 47.0 -0.3**
comp=Z,28nm,1.0s
KOLS Kolonicke sedl 62.78 314 *e*P **P** **02 18 49.3 +1.8**
KOLS pmax pmax
comp=Z,37nm,2.5s
KOLS Kolonicke sedl 62.78 314 *e*P **P** **02 18 49.3 +1.8**
DRGR 62.85 311 ⇑*i*P **P** **02 18 49.4 +1.3**
VTS Vitosha 63.31 306 ⇑*i*P **P** **02 18 52.4 +1.1**
CRVS Cervenica-Dubn 63.31 314 *e*P **P** **02 18 52.4 +1.3**
CRVS pmax pmax
comp=Z,3.0nm,1.0s
CRVS Cervenica-Dubn 63.31 314 *e*P **P** **02 18 52.4 +1.3**
CRVS *e*PCP **PcP** **02 19 26.7 -1.5**
STHS Stebnicka Huta 63.37 314 *e*P **P** **02 18 50.5 -0.9**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 63.37 314 *e*P **P** **02 18 50.5 -0.9**
STHS *e*PCP **PcP** **02 19 26.2 -2.2**
CTAO Charters Tower 64.37 131 *e*P **P** **02 18 57.9 -0.4**
CTAO pmax pmax
comp=Z,17nm,1.0s
CTAO Charters Tower 64.37 131 *e*P **P** **02 18 57.9 -0.4**
comp=Z,17nm,1.0s
OKC Ostrava-Krasne 65.27 315 *e*P **P** **02 19 05.7 +1.9**
OKC Ostrava-Krasne 65.27 315 *e*P **P** **02 19 05.7 +1.9**
KRLC Kraliky 66.08 316 *e*P **P** **02 19 10.8 +1.7**
KRLC Kraliky 66.08 316 *e*P **P** **02 19 10.8 +1.7**
KMBO Kilima Mbogo 66.12 256 *e*P **P** **02 19 10.1 0.0**
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 66.12 256 P **P** **02 19 12.1 +2.0**
comp=Z,0.5nm,0.3s,baz=53,slow=20,SNR=2.9
DPC Dobruska-Polom 66.31 316 *e*P P 02 19 17.3 +6.7
DPC Dobruska-Polom 66.31 316 *ep* **P** **02 19 17.3 +6.7**
UPC Upice 66.46 316 *e*P P 02 19 16.7 +5.2
UPC Upice 66.46 316 *ep* P 02 19 16.7 +5.2
NB2 NORSAR Subarra 66.81 328 P **P** **02 19 12.0 -1.6**
comp=Z,1.9nm,0.6s,baz=78,slow=6.5
NOA NORSAR Array B 66.81 328 P **P** **02 19 11.9 -1.6**
NOA NORSAR Array B 66.81 328 P **P** **02 19 11.9 -1.6**
comp=Z,5.2nm,1.0s,baz=78,slow=6.4,SNR=9.5
NAO01 NORSAR Array S 67.01 328 *e*P **P** **02 19 15.5 +0.7**
comp=Z,11nm,1.0s
TNA Tin City 67.38 27 *e*P **P** **02 19 16.4 -0.7**
comp=Z,7.5nm,1.1s
BRG Berggipfelhubel 67.66 317 *e*P **P** **02 19 20.6 +1.5**
comp=Z,8.4nm,1.3s
BRG Berggiesshubel 67.66 317 *e*P **P** **02 19 20.6 +1.5**
BRG pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 68.12 318 *e*P **P** **02 19 23.0 +1.0**
CLL Collm 68.12 318 *e*P **P** **02 19 23.0 +1.0**
CLL *e*PP **PP** **02 21 51.0 -0.9**
GERES GERESS Array B 68.33 315 P **P** **02 19 23.2 -0.3**
GERES GERESS Array B 68.33 315 P **P** **02 19 23.2 -0.3**
comp=Z,1.0nm,0.5s,baz=65,slow=5.1,SNR=11
STKA Stephens Creek 70.14 143 P **P** **02 19 34.7 0.0**
STKA Stephens Creek 70.14 143 P **P** **02 19 34.7 0.0**
comp=Z,4.7nm,0.8s,baz=321,slow=7.5,SNR=13
IM04 Indian Mountai 72.74 24 *e*P **P** **02 19 49.1 -0.8**
PGF Pioggiola 73.39 310 *e*P **P** **02 19 53.4 -1.0**
comp=Z,55nm,1.0s
PGF Pioggiola 73.39 310 *e*P **P** **02 19 53.4 -1.0**
PGF pmax pmax
comp=Z,55nm,1.0s
PGF Pioggiola 73.39 310 *e*P **P** **02 19 53.4 -1.0**
comp=Z,55nm,1.0s
LPG La Plagne 73.87 313 *e*P **P** **02 19 56.2 -1.2**
comp=Z,28nm,0.9s
LPG La Plagne 73.87 313 *e*P **P** **02 19 56.2 -1.2**
LPG pmax pmax
comp=Z,28nm,0.9s
LPG La Plagne 73.87 313 *e*P **P** **02 19 56.2 -1.2**
comp=Z,28nm,0.9s
LPL La Plagne 73.88 313 *e*P **P** **02 19 55.0 -2.4**
comp=Z,17nm,0.7s
LPL La Plagne 73.88 313 *e*P **P** **02 19 55.0 -2.4**
LPL pmax pmax
comp=Z,17nm,0.7s
LPL La Plagne 73.88 313 *e*P **P** **02 19 55.0 -2.4**
comp=Z,17nm,0.7s
MBDF Montbardon 74.13 312 *e*P **P** **02 19 57.4 -1.4**
comp=Z,22nm,1.1s
MBDF Montbardon 74.13 312 *e*P **P** **02 19 57.4 -1.4**
MBDF pmax pmax
comp=Z,22nm,1.1s
MBDF Montbardon 74.13 312 *e*P **P** **02 19 57.4 -1.4**
comp=Z,22nm,1.1s
PPLA Purkeypile 74.74 27 *e*P **P** **02 20 01.4 -0.5**
comp=Z,14nm,0.8s
TRF Thorofare Moun 75.23 26 *e*P **P** **02 20 04.9 +0.1**
comp=Z,3.9nm,0.7s
SCO Scoresbysund 75.27 343 *e*P **P** **02 20 03.2 -1.5**
SCO pmax pmax
comp=Z,2.0nm,1.0s
SCO Scoresbysund 75.27 343 *i*P **P** **02 20 03.2 -1.5**
comp=Z,2.1nm,1.0s
SSF Saint Saulge 75.38 315 *e*P **P** **02 20 07.4 +1.6**
comp=Z,7.5nm,0.8s
SSF Saint Saulge 75.38 315 *e*P **P** **02 20 07.4 +1.6**
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF Saint Saulge 75.38 315 *e*P **P** **02 20 07.4 +1.6**
comp=Z,7.5nm,0.8s
COLA College 75.44 24 ⇑*i*P **P** **02 20 05.5 -0.2**
COLA pmax pmax
comp=Z,43nm,1.1s
COLA College 75.44 24 *e*P **P** **02 20 05.1 -0.7**
comp=Z,14nm,1.1s
KEST Kesra 75.60 303 *e*P **P** **02 20 07.5 +0.1**
MCK McKinley 75.62 25 *e*P **P** **02 20 06.5 -0.4**
MCK pmax pmax
comp=Z,15nm,0.9s
MCK McKinley 75.62 25 *e*P **P** **02 20 06.5 -0.4**
comp=Z,15nm,0.9s
ILAR Eielson Array 75.85 24 P **P** **02 20 06.2 -2.0**

ILAR	**Eielson Array**	**75.85**	**24**	P		**P**	**02 20 06.2**	**-2.0**
	comp=Z,5.2nm,1.1s,baz=305,slow=4.8,SNR=15							
PMR	**Palmer**	**76.62**	**27**	*e*P		**P**	**02 20 11.1**	**-1.4**
PMR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
PMR	**Palmer**	**76.62**	**27**	*e*P		**P**	**02 20 11.1**	**-1.4**
	comp=Z,10nm,0.8s							
RC01	**Rabbit Creek A**	**76.63**	**28**	*e*P		**P**	**02 20 11.3**	**-1.3**
	comp=Z,14nm,1.2s							
SUMG	**Summit**	**77.50**	**348**	*i* P		**P**	**02 20 17.4**	**-0.4**
SUMG					pmax	pmax		
	comp=Z,12nm,0.9s							
SUMG	**Summit**	**77.50**	**348**	*i* P		**P**	**02 20 17.4**	**-0.4**
	comp=Z,12nm,0.9s							
INK	**Inuvik**	**77.99**	**18**	*e*P		**P**	**02 20 19.3**	**-0.8**
	comp=Z,17nm,0.9s							
BMRM	**Bremner River**	**78.81**	**27**	*e*P		**P**	**02 20 24.5**	**-0.3**
	comp=Z,21nm,0.9s							
DAWY	**Dawson**	**78.92**	**23**	*e*P		**P**	**02 20 24.3**	**-1.2**
LSZ	**Lusaka**	**80.92**	**248**	*e*P		**P**	**02 20 36.6**	**-0.5**
	comp=Z,4.6nm,0.6s							
ESDC	**Sonseca Array**	**83.48**	**311**	P		**P**	**02 20 50.4**	**+0.2**
ESDC	**Sonseca Array**	**83.48**	**311**	P		**P**	**02 20 50.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=50,slow=5.2,SNR=3.9							
TAM	**Tamanrasset**	**83.89**	**292**	*e*P		**P**	**02 20 53.9**	**+1.3**
TAM					pmax	pmax		
	comp=Z,14nm,1.6s							
TAM	**Tamanrasset**	**83.89**	**292**	*e*P		**P**	**02 20 53.9**	**+1.3**
	comp=Z,14nm,1.6s							
YKW3	**Yellowknife Ar**	**87.38**	**15**	*e*P		**P**	**02 21 07.8**	**-1.2**
YKA	**Yellowknife Ar**	**87.44**	**15**	P		**P**	**02 21 08.2**	**-1.2**
YKA	**Yellowknife Ar**	**87.44**	**15**	P		**P**	**02 21 08.1**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=327,slow=4.7,SNR=43							
TOA0	**Torodi Ar. Sit**	**91.43**	**285**	*e*P		**P**	**02 21 29.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**91.43**	**285**	P		**P**	**02 21 28.4**	**-0.6**
TORD				PP		**PP**	**02 25 07.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**91.43**	**285**	P		**P**	**02 21 28.4**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=48,slow=3.3,SNR=9.1							
TORD				PP		**PP**	**02 25 07.2**	**+0.6**
	comp=Z,3.2nm,1.3s,baz=66,slow=6.1,SNR=4.6							
WVT	**Waverly**	**117.60**	**7**	*e*PKIKP		**PKPdf**	**02 27 07.0**	**-1.5**
WVT	**Waverly**	**117.60**	**7**	*e*PKPdf		**PKPdf**	**02 27 07.0**	**-1.5**
TXAR	**Lajitas Array**	**120.36**	**24**	PKP		**PKPdf**	**02 27 15.1**	**+0.9**
TXAR	**Lajitas Array**	**120.36**	**24**	PKP		**PKPdf**	**02 27 15.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=48,slow=1.3,SNR=2.5							
JCT	**Junction City**	**120.60**	**20**	*e*PKIKP		**PKPdf**	**02 27 13.1**	**-1.4**
JCT	**Junction City**	**120.60**	**20**	*e*PKPdf		**PKPdf**	**02 27 13.1**	**-1.4**
SDV	**Santo Domingo**	**143.93**	**344**	*e*PKPpre		PKPpre	02 27 54.2	
SDV				*e*PKPdf		**PKPdf**	**02 27 58.0**	**-0.8**
PTGA	**Pitinga**	**148.09**	**319**	*e*PKPbc		**PKPbc**	**02 28 07.7**	**-1.0**
ROSC	**El Rosal**	**148.63**	**349**	*e*PKPbc		**PKPbc**	**02 28 10.4**	**-0.3**
ROSC	**El Rosal**	**148.63**	**349**	PKPbc		**PKPbc**	**02 28 10.6**	**0.0**
	comp=Z,27nm,0.8s,baz=103,slow=6.5,SNR=27							
OTAV	**Otavalo**	**153.68**	**356**	*e*PKPdf		**PKPdf**	**02 28 15.3**	**+0.5**
OTAV				*e*PKPab		**PKPab**	**02 28 34.9**	**-0.1**
SAML	**Samuel**	**156.48**	**314**	*e*PKPdf		**PKPdf**	**02 28 16.3**	**-1.7**
SAML				*e*PKPab		**PKPab**	**02 28 47.1**	**+0.6**
CPUP	**Villa Florida**	**159.53**	**265**	*e*PKPdf		**PKPdf**	**02 28 19.4**	**-2.0**
CPUP				*e*PKPab		**PKPab**	**02 28 58.1**	**-1.4**
PLCA	**Paso Flores**	**163.44**	**206**	*e*PKPdf		**PKPdf**	**02 28 22.4**	**-2.7**
LPAZ	**La Paz**	**165.09**	**309**	*e*PKPdf		**PKPdf**	**02 28 27.1**	**-0.9**
LPAZ				*e*PKPab		**PKPab**	**02 29 23.4**	**-1.4**

GEN ***01*** *02:15:56.7, 44˚.69N×6˚.69E, h9km, ML1.4*
STR ***01*** *02:15:57.6±0.1, 44˚.71N×6˚.70E, h5km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***01*** *02:15:57.7±0.1, 44˚.73N×6˚.78E, h2km, Md1.9/1, Ml2.0/5, Error ellipse: s-maj=2.9km s-min=1.9km az=65.0*

CSEM 01 02:15:57.0±0.1, 44˚.72N×6˚.75E, h5km, ML2.0/6, Error ellipse: s-maj=2.8km s-min=2.0km az=90.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG22	**Abries**	**0.17**	**54**	Pg	Pg	02 16 02.3	+1.6
OG22				Sg	Sg	02 16 05.3	+2.0
OG22	**Abries**	**0.17**	**54**	Pg	Pg	02 16 02.3	+1.6
OG22				Sg	Sg	02 16 05.3	+2.0
SURF	**Saint Ours**	**0.24**	**169**	Pg	Pg	02 16 02.9	+0.9
SURF				Sg	Sg	02 16 06.1	+0.7
SURF	**Saint Ours**	**0.24**	**169**	Pg	Pg	02 16 02.9	+0.9
SURF				Sg	Sg	02 16 06.1	+0.7
PZZ	**Stroppo**	**0.34**	**129**	P	Pg	02 16 03.7	-0.1
PZZ				S	Sg	02 16 08.6	+0.2
BHB	**Bricherasio**	**0.39**	**71**	P	Pg	02 16 05.0	+0.5
BHB				S	Sg	02 16 10.7	+1.0
RSP	**Reno Superiore**	**0.56**	**40**	P	Pg	02 16 08.4	+0.3
RSP				S	Sg	02 16 16.3	+0.8
STV	**Sant Anna di V**	**0.63**	**139**	P	Pg	02 16 08.7	-0.5
STV				S	Sg	02 16 16.9	-0.6
GDM	**Grand'Maison**	**0.66**	**317**	Pg	Pg	02 16 10.1	+0.1
GDM				Sg	Sg	02 16 18.7	0.0
GDM	**Grand'Maison**	**0.66**	**317**	Pg	Pg	02 16 10.1	+0.1
GDM				Sg	Sg	02 16 18.7	0.0
ENR	**Entracque**	**0.69**	**136**	P	Pg	02 16 09.8	-0.6
ENR				S	Sg	02 16 18.5	-0.9
LPG	**La Plagne**	**0.78**	**0**	*e*Pg	Pg	02 16 12.4	0.0
LPG				*e*Sg	Sg	02 16 22.5	-0.3
	9.3nm,0.4s						
LPG	**La Plagne**	**0.78**	**0**	*e*Pg	Pg	02 16 12.4	0.0
LPG				*e*Sg	Sg	02 16 22.5	-0.3
	4.7nm,0.4s						
LSD	**Lago del Serru**	**0.79**	**20**	P	Pg	02 16 12.4	-0.1
LSD				S	Sg	02 16 23.0	0.0
TOUF	**Mont Tournerai**	**0.79**	**153**	Pg	Pg	02 16 12.3	-0.2
TOUF				Sg	Sb	02 16 24.6	-0.1
TOUF	**Mont Tournerai**	**0.79**	**153**	Pg	Pg	02 16 12.3	-0.2
TOUF				Sg	Sb	02 16 24.6	-0.1
AUTN	**L'Aution**	**0.87**	**146**	Pg	Pg	02 16 14.3	+0.2
AUTN				Sg	Sg	02 16 26.1	+0.5
AUTN	**L'Aution**	**0.87**	**146**	Pg	Pg	02 16 14.3	+0.2
AUTN				Sg	Sg	02 16 26.1	+0.5
MVIF	**Mont Vial**	**0.87**	**160**	Pg	Pg	02 16 13.8	-0.2
MVIF				Sg	Sg	02 16 25.6	+0.1
MVIF	**Mont Vial**	**0.87**	**160**	Pg	Pg	02 16 13.8	-0.2
MVIF				Sg	Sg	02 16 25.6	+0.1
CALN	**Calern**	**0.97**	**174**	Pg	Pg	02 16 16.0	+0.1
CALN	**Calern**	**0.97**	**174**	Pg	Pg	02 16 16.0	+0.1
SBF	**Sospel**	**0.99**	**150**	*e*Pg	Pg	02 16 16.4	+0.3
SBF				*e*Sg	Sg	02 16 28.6	-0.4
	7.2nm,0.2s						
SBF	**Sospel**	**0.99**	**150**	*e*Pg	Pg	02 16 16.4	+0.3
SBF				*e*Sg	Sg	02 16 28.6	-0.4
	3.6nm,0.2s						
CIRO	**Champorcher**	**1.05**	**33**	P	Pg	02 16 17.1	-0.6
CIRO				S	Sg	02 16 31.1	-0.5
TRAV	**Traversella**	**1.06**	**41**	P	Pg	02 16 16.7	-0.8
TRAV				S	Sg	02 16 30.3	-1.1
REVF	**Revere**	**1.08**	**155**	Pg	Pb	02 16 18.3	+0.1
REVF				Sg	Sb	02 16 33.3	+0.7
REVF	**Revere**	**1.08**	**155**	Pg	Pb	02 16 18.3	+0.1
REVF				Sg	Sb	02 16 33.3	+0.7
NEGI	**Seborga**	**1.11**	**141**	P	Pg	02 16 16.7	-1.7
NEGI				S	Sg	02 16 29.7	-3.1
SMRF	**Simiane la Rot**	**1.12**	**229**	*e*Pg	Pn	02 16 19.4	-0.1
SMRF				*e*Sg	Sn	02 16 34.7	-0.7
	2.7nm,0.2s						
SMRF	**Simiane la Rot**	**1.12**	**229**	*e*Pg	Pn	02 16 19.4	-0.1
SMRF				*e*Sg	Sn	02 16 34.7	-0.7
	1.4nm,0.2s						
PCP	**Piancastagn**	**1.29**	**97**	P	Pn	02 16 20.8	-1.0
PCP				S	Sg	02 16 36.7	-2.1
LMR	**La Mourre**	**1.40**	**187**	*e*Pg	Pb	02 16 23.4	-0.2
LMR				*e*Sg	Sg	02 16 41.9	0.0
	5.2nm,0.3s						
LMR	**La Mourre**	**1.40**	**187**	*e*Pg	Pb	02 16 23.4	-0.2
LMR				*e*Sg	Sg	02 16 41.9	0.0
	2.6nm,0.3s						
VIVF	**Saint-Julien-l**	**1.48**	**276**	*e*Pn	Pn	02 16 24.2	-0.2
VIVF				*e*Sn	Sn	02 16 43.1	-1.2
	1.0nm,0.2s						
VIVF	**Saint-Julien-l**	**1.48**	**276**	*e*Pn	Pn	02 16 24.2	-0.2
VIVF				*e*Sn	Sn	02 16 43.1	-1.2
	0.5nm,0.2s						
LASF	**Ste Croix**	**2.17**	**254**	*e*Pn	Pn	02 16 33.5	-0.3
LASF				*e*Sn	Sn	02 16 59.6	-1.5
	1.1nm,0.2s						
LASF	**Ste Croix**	**2.17**	**254**	*e*Pn	Pn	02 16 33.5	-0.3
LASF				*e*Sn	Sn	02 16 59.6	-1.5
	0.6nm,0.2s						

IDC ***01*** *02:22:21.9±0.5, 30˚.57N×83˚.88E, h0km, mb4.3/31, mb1 4.4/33, mb1mx4.4/36, mbtmp4.3/33, ML4.2/2, MS4.5/34, Ms1 4.5/34, ms1mx4.4/44, Error ellipse: s-maj=15.0km s-min=10.6km az=20.0*
DMN ***01*** *02:22:22.2±0.6, 30˚.99N×83˚.59E, h10km, Ml5.4/3, Error ellipse: s-maj=11.9km s-min=7.8km az=148.0*
ISCJB ***01*** *02:22:22.0±0.9, 30˚.73N±0˚.02×83˚.83E±0˚.02, h6km±5km, mb4.6/98, MS4.5/46, Error ellipse: s-maj=3.7km s-min=2.6km az=39.7*
GCMT ***01*** *02:22:23.8±0.2, 30˚.43N×83˚.91E, h16km±1km, MW5.2/103, Moment Tensor Solution. s50,c69; s103,c183; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr0.50±.16; Mθθ-5.78±.16; Mϕϕ5.28±.15; Mrθ1.68±.42; Mθϕ-4.47±.14; Mϕr-2.19±.45; Best double couple: M07.63400×1016 NP1:ϕs114.00000°, δ81.00000°, λ161.00000°. NP2:ϕs207.00000°, δ71.00000°, λ10.00000°. Principal axes: T 7.8090, Plg20.0000°, Azm69.0000°; N -0.3520, Plg69.0000°, Azm269.0000°; P -7.4580, Plg7.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***01*** *02:22:23.8±0.2, 30˚.65N×83˚.79E, h10km, mb4.8/32 Error ellipse: s-maj=7.2km s-min=4.2km az=39.0*
BJI ***01*** *02:22:24.0, 30˚.94N×84˚.00E, h6km, mB5.2/32, mb4.7/46, Ms5.1/49, Ms7 4.8/45*
MOS ***01*** *02:22:25.5±1.4, 30˚.65N×83˚.78E, h33km, mb4.8/56, MS4.5/19, Error ellipse: s-maj=7.7km s-min=4.1km az=117.1*
NDI ***01*** *02:22:25.1±2.6, 30˚.44N×83˚.71E, h10km, mb4.8, mb4.8(NEIC)*

ISC 01 02:22:24.3±0.4, 30˚.61N±0˚.03×83˚.80E±0˚.02, h12km±2km, h12km:pP-P,n325,σ1§88/368, mb4.7/98, MS4.6/48, 17C-9D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**2.25**	**181**	*e*Pn	**Pn**	**02 23 02.6**	**+0.9**
DANN				*e*Sn	**Sb**	**02 23 32.5**	**-0.6**
	24μm,1.1s						
PYUN	**Piuthan**	**2.60**	**196**	*e*Pn	**Pn**	**02 23 07.5**	**+1.1**
PYUN				*e*Sn	**Sn**	**02 23 39.9**	**+1.9**
	7μm,0.8s						
GKN	**Gorkha**	**2.70**	**164**	*e*Pn	**Pn**	**02 23 09.8**	**+2.1**
GKN				*e*Sn	**Sb**	**02 23 45.4**	**-0.4**
	2μm,0.3s						
KOLN	**Koldanda**	**2.84**	**184**	*e*Pn	**Pn**	**02 23 11.3**	**+1.7**
KKN	**Kakani**	**3.10**	**155**	*e*Pn	**Pn**	**02 23 15.1**	**+1.9**
KKN				*e*Sn	**Sb**	**02 23 54.6**	**-2.7**
DMN	**Daman**	**3.20**	**159**	*e*Pn	**Pn**	**02 23 16.8**	**+2.1**
GUN	**Gumba**	**3.25**	**145**	*e*Pn	**Pn**	**02 23 17.4**	**+2.0**
PTH	**Pithoragarh**	**3.28**	**252**	*e*P	**Pn**	**02 23 16.2**	**+0.5**
PTH				*e*S	**Sn**	**02 23 50.9**	**-3.8**
LGTI	**Lohaghat**	**3.29**	**250**	*ex*	Pn	02 23 22.3	+6.7
LGTI				*ex*	**Sg**	**02 24 11.4**	**+1.4**
PKIN	**Phulchoki**	**3.33**	**155**	*e*Pn	**Pn**	**02 23 18.4**	**+1.9**
PKI	**Pulchoki**	**3.34**	**155**	*e*Pn	**Pn**	**02 23 18.6**	**+1.9**
JIRN	**Jiri**	**3.61**	**144**	*e*Pn	**Pn**	**02 23 22.5**	**+2.1**
RAMN	**Ramite**	**4.40**	**145**	*e*Pn	**Pn**	**02 23 32.2**	**+1.0**
ODAN	**Odare**	**4.89**	**139**	*e*Pn	**Pn**	**02 23 39.5**	**+1.6**
DDI	**Dehra Dun**	**4.96**	**268**	*e*P	**Pn**	**02 23 38.8**	**0.0**
SMLA	**Simla**	**5.72**	**277**	*e*P	**Pn**	**02 23 50.9**	**+1.8**
SDNR	**Sundarnagar**	**5.92**	**280**	*ex*	Pn	02 23 57.0	+5.1
NDI	**New Delhi**	**6.04**	**253**	*e*P	**Pn**	**02 23 53.0**	**-0.5**
BHK	**Bhakra**	**6.39**	**279**	*ex*	**Pg**	**02 24 28.0**	**+1.4**
LSA	**Lhasa**	**6.43**	**96**	Pn	Pn	02 24 02.6	+3.3
LSA	**Lhasa**	**6.43**	**96**	*e*P	**Pn**	**02 24 02.2**	**+2.9**
LSA				pmax	pmax		
	comp=Z,1μm,1.4s						
LSA	**Lhasa**	**6.43**	**96**	*e*Pn	**Pn**	**02 24 02.2**	**+2.9**
	comp=Z,1μm,1.4s						
DHRM	**DHARAMSHALA**	**6.61**	**286**	*e*P	**Pn**	**02 24 01.1**	**-0.5**
JHNI	**Jhansi**	**6.92**	**223**	*ex*	**Pn**	**02 24 05.0**	**-0.5**
JHNI				*ex*	**Sn**	**02 25 22.0**	**-2.2**
BOK	**Bokaro**	**7.04**	**164**	*e*P	**Pn**	**02 24 07.2**	**-0.1**
BOK				AMB	AMB	02 24 09.9	
	comp=Z,193nm,1.1s						
SHL	**Shillong**	**8.73**	**123**	*e*P	**Pn**	**02 24 29.6**	**-1.0**
SHL				AMB	AMB	02 24 31.8	
	comp=Z,137nm,1.3s						
SHL				*ex*	**Sn**	**02 26 09.0**	**-0.1**
BHPL	**Bhopal**	**9.28**	**219**	*e*P	**Pn**	**02 24 37.0**	**-1.1**
BHPL				AMB	AMB	02 24 39.5	
	comp=Z,55nm,2.0s						
CHCP	**Chirah Chowk**	**9.43**	**292**	P	**Pn**	**02 24 42.2**	**+2.1**
SARP	**Sargodha**	**9.61**	**281**	P	**Pn**	**02 24 42.9**	**+0.4**
NGP	**Nagpur**	**10.34**	**205**	*e*P	**Pn**	**02 24 51.5**	**-1.0**
NGP				AMB	AMB	02 24 57.7	
	comp=Z,34nm,1.5s						
THW	**Thamme Wali**	**10.50**	**285**	P	**Pn**	**02 24 54.2**	**-0.4**
CEP	**Cherat**	**10.57**	**291**	P	**Pn**	**02 24 55.7**	**0.0**
CEP				S	**Sn**	**02 26 52.0**	**-2.0**
KSH	**Kashi**	**10.95**	**326**	P	**Pn**	**02 24 59.2**	**-1.7**
KSH				*e*SP		02 25 05.5	
KSH				*e*PP	**PnPn**	**02 25 07.3**	**-1.4**
KSH				S	Sn	02 26 56.6	-6.8
KSH				pmax	pmax		
	comp=Z,24nm,0.9s						
KSH				pmax	pmax		
	comp=Z,200nm,2.8s						
KSH				LR	LR		
	comp=Z,4μm,8.4s						
KSH				LR	LR		
	comp=Z,6μm,8.1s						
KSH				LR	LR		
	comp=Z,3μm,6.6s						
AKL	**Akola**	**11.60**	**213**	*i* P	**Pn**	**02 25 07.5**	**-2.3**
AKL				AMB	AMB	02 25 10.7	
	comp=Z,103nm,0.0s						
VIS	**Vishakhapatnam**	**12.84**	**182**	*e*P	**Pn**	**02 25 24.8**	**-1.9**
VIS				AMB	AMB	02 25 26.7	
	comp=Z,32nm,1.1s						
KBL	**Kabul**	**13.04**	**291**	*e*P	**Pn**	**02 25 28.5**	**-1.1**
KBL				*e*		02 27 54.2	
KBL	**Kabul**	**13.04**	**291**	*e*Pn	**Pn**	**02 25 28.5**	**-1.1**
KBL				*e*Sn	**Sn**	**02 27 54.2**	**-0.6**
ULHL	**Ulahol**	**13.10**	**334**	*i* P	**Pn**	**02 25 30.1**	**-0.3**
ULHL	**Ulahol**	**13.10**	**334**	P	**Pn**	**02 25 30.1**	**-0.3**
	SNR=7.2						
KZA	**Kyzart**	**13.35**	**331**	*i* P	**Pn**	**02 25 32.1**	**-1.8**
KZA	**Kyzart**	**13.35**	**331**	P	**Pn**	**02 25 32.2**	**-1.8**
	SNR=7.1						
WMQ	**Urumqi**	**13.54**	**12**	P	**Pn**	**02 25 38.4**	**+2.1**
WMQ				pP	P	02 25 40.1	-5.3
WMQ				sP		02 25 45.1	
WMQ				PP	**PnPn**	**02 25 49.3**	**+5.0**
WMQ				S	**Sn**	**02 28 04.5**	**-2.2**
WMQ				PcP	**PcP**	**02 31 05.2**	**+2.5**
WMQ				PcS	**PcS**	**02 34 38.1**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,41nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,350nm,4.9s						
WMQ				LR	LR		
	comp=Z,3μm,13.9s						
WMQ				LR	LR		
	comp=Z,8μm,22.3s						
WMQ				LR	LR		
	comp=Z,2μm,24.2s						
UCH	**Uchtor**	**13.78**	**330**	*i* P	**Pn**	**02 25 38.0**	**-1.9**
UCH	**Uchtor**	**13.78**	**330**	P	**Pn**	**02 25 38.1**	**-1.9**
	SNR=28						
TKM2	**Tokmak 2**	**13.92**	**334**	*e*P	**Pn**	**02 25 41.2**	**-0.4**
TKM2	**Tokmak 2**	**13.92**	**334**	P	**Pn**	**02 25 43.3**	**+1.7**
	SNR=14						
TKM2	**Tokmak 2**	**13.92**	**334**	*e*Pn	**Pn**	**02 25 41.2**	**-0.4**
KBK	**Karagaybulak**	**13.95**	**332**	P	**P**	**02 25 52.2**	**+2.1**
	SNR=5.4						
HYB	**Hyderabad**	**13.98**	**201**	*i* P	Pn	02 25 37.0	-5.3
HYB				*e*S	**Sn**	**02 28 16.0**	**-1.5**
HYB	**Hyderabad**	**13.98**	**201**	*ex*	Pn	02 25 38.6	-3.7
AML	**Almayashu**	**14.07**	**328**	*i* P	**Pn**	**02 25 41.7**	**-2.1**
AML	**Almayashu**	**14.07**	**328**	P	**Pn**	**02 25 41.7**	**-2.1**
	SNR=16						
AAK	**Ala-Archa**	**14.12**	**331***c*	*i* P	**Pn**	**02 25 43.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,71nm,2.5s						
AAK	**Ala-Archa**	**14.12**	**331**	Pn	**Pn**	**02 25 43.6**	**-0.7**
AAK	**Ala-Archa**	**14.12**	**331**	Pn	**Pn**	**02 25 43.6**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=131,slow=14,SNR=9.8						
AAK				LR	LR	02 31 20.8	
	comp=Z,1μm,19.1s,baz=121,slow=38						

FRU	**Bishkek**	**14.23**	**331**	*e*P		**Pn**	**02 25 44.0**	**-1.7**
FRU					pmax	pmax			
	comp=Z,200nm,2.0s								
CHMS	**Chumysh**	**14.32**	**332**	*i* P		**Pn**	**02 25 47.3**	**+0.5**
CHMS	**Chumysh**	**14.32**	**332**	P		**Pn**	**02 25 47.4**	**+0.5**
	SNR=5.3								
EKS2	**Erkin-Say**	**14.45**	**329**	*i* P		**Pn**	**02 25 47.4**	**-1.4**
EKS2	**Erkin-Say**	**14.45**	**329**	P		**Pn**	**02 25 47.4**	**-1.4**
	SNR=12								
EKS2	**Erkin-Say**	**14.45**	**329**	*e*Pn		**Pn**	**02 25 48.1**	**-0.7**
BHJ	**Bhuj**	**14.58**	**243**	*e*P		**Pn**	**02 25 48.2**	**-2.3**
POO	**Poona**	**15.04**	**219**	*e*P		**Pn**	**02 25 54.8**	**-2.0**
POO					AMB	AMB	02 25 56.5		
	comp=Z,28nm,1.4s								
POO				*i* x		**S**	**02 28 56.0**	**-4.9**
GTA	**Gaotai**	**15.77**	**52**	*e*P		**Pn**	**02 26 04.7**	**-1.7**
GTA				pP		**P**	**02 26 09.0**	**-1.3**
GTA				sP		**sP**	**02 26 11.8**	**-3.6**
GTA				S		**Sn**	**02 28 58.3**	**-2.8**
GTA				sS		sS	02 29 03.0	-18	
GTA				SS		**S**	**02 29 17.5**	**+1.6**
GTA				pmax	pmax				
	comp=Z,340nm,5.5s								
GTA				LR		LR			
	comp=Z,6μm,17.1s								
GTA				LR		LR			
	comp=Z,3μm,12.6s								
GTA				LR		LR			
	comp=Z,4μm,13.5s								
MK31	**Makanchi Array**	**16.20**	**356**	*e*P		**Pn**	**02 26 11.8**	**+0.1**
MK31	**Makanchi Array**	**16.20**	**356**	*e*Pn		**Pn**	**02 26 11.8**	**+0.1**
MKAR	**Makanchi Array**	**16.20**	**356**	*e*P		**Pn**	**02 26 12.0**	**+0.2**
MKAR	**Makanchi Array**	**16.20**	**356**	*e*Pn		**Pn**	**02 26 11.9**	**+0.2**
KKAR	**Karatay Array**	**16.36**	**323**	*e*P		**Pn**	**02 26 10.9**	**-2.9**
KKAR	**Karatay Array**	**16.36**	**323**	*e*Pn		**Pn**	**02 26 10.9**	**-2.9**
CD2	**Chengdu**	**17.16**	**84**	*i* P		**Pn**	**02 26 22.9**	**-1.2**
CD2				pP		**P**	**02 26 26.5**	**+0.8**
CD2				sP		**sP**	**02 26 29.6**	**-1.1**
CD2				PP		**PnPn**	**02 26 37.2**	**+3.3**
CD2				S		**Sn**	**02 29 32.6**	**-2.3**
CD2				sS		**S**	**02 29 37.9**	**-6.4**
CD2				SS		**SnSn**	**02 29 53.6**	**+5.5**
CD2				pmax	pmax				
	comp=Z,90nm,1.7s								
CD2				pmax	pmax				
	comp=Z,290nm,8.2s								
CD2				LR		LR			
	comp=Z,7μm,10.7s								
CD2				LR		LR			
	comp=Z,3μm,7.7s								
CD2				LR		LR			
	comp=Z,4μm,9.5s								
CMAI	**Chiengmai2**	**17.39**	**124**	P		**Pn**	**02 26 27.1**	**0.0**	
	comp=Z,36nm,1.5s								
LZH	**Lanzhou**	**17.61**	**67**	*e*P		**Pn**	**02 26 30.1**	**+0.4**
LZH				pP		**pP**	**02 26 33.1**	**-1.1**
LZH				sP		**sP**	**02 26 34.8**	**-1.0**
LZH				PP		**PnPn**	**02 26 38.1**	**-2.0**
LZH				*e*S		**Sn**	**02 29 39.5**	**-6.3**
LZH				SS		**SnSn**	**02 30 04.3**	**+5.1**
LZH				pmax	pmax				
	comp=Z,35nm,1.2s								
LZH				pmax	pmax				
	comp=Z,190nm,4.2s								
LZH				LR		LR			
	comp=Z,3μm,8.0s								
LZH				LR		LR			
	comp=Z,4μm,10.0s								
LZH				LR		LR			
	comp=Z,4μm,13.7s								
GOA	**Goa**	**17.61**	**213**	*e*P		**Pn**	**02 26 26.8**	**-2.8**
KMI	**Kunming**	**17.61**	**103**	⇑P		**Pn**	**02 26 27.9**	**-2.0**
KMI				pP		**P**	**02 26 30.4**	**-0.5**
KMI				PP		**PnPn**	**02 26 46.5**	**+6.3**
KMI				S		**Sn**	**02 29 44.0**	**-2.1**
KMI				sS		**S**	**02 29 49.5**	**-4.3**
KMI				SS		**SnSn**	**02 30 07.8**	**+8.3**
KMI				pmax	pmax				
	comp=Z,50nm,1.0s								
KMI				pmax	pmax				
	comp=Z,250nm,3.1s								
KMI				LR		LR			
	comp=Z,9μm,15.4s								
KMI				LR		LR			
	comp=Z,4μm,13.0s								
KMI				LR		LR			
	comp=Z,5μm,10.3s								
KMI	**Kunming**	**17.61**	**103**	⇑P		**Pn**	**02 26 27.9**	**-2.0**	
KMI				S		**Sn**	**02 29 44.0**	**-2.1**	
KMI	**Kunming**	**17.61**	**103**	⇑P		**Pn**	**02 26 27.9**	**-2.0**	
KMI				pP		**P**	**02 26 30.4**	**-0.5**	
KMI				sP		**sP**	**02 26 32.6**	**-3.3**	

XAN LR LR
comp=Z,560nm,15.6s
HVS Khovu-Aksy 21.79 17 *e*P **P 02 27 16.7 +0.6**
HVS pmax pmax
comp=Z,235nm,1.5s
IKRD Kardeh 21.88 293 *e*P P 02 27 08.9 -8.5
ENH Enshi 22.14 84 *e*P **P 02 27 19.7 -0.2**
comp=Z,12nm,0.6s
CHAI Chaiyaphum 22.17 127 P **P 02 27 20.9 +0.6**
comp=Z,19nm,0.9s,comp=Z,385nm
ZAA0 Zalesovo Array 23.33 2 *e*P **P 02 27 31.1 -1.1**
ZALV Zalesovo Beam 23.33 2 P **P 02 27 32.1 -0.1**
ZALV pmax pmax
comp=Z,17nm,0.8s
ZALV MLR MLR
comp=Z,1μm,18.2s
ZALV Zalesovo Beam 23.33 2 P **P 02 27 32.1 -0.1**
ZALV Zalesovo Beam 23.33 2 P **P 02 27 32.1 -0.1**
comp=Z,17nm,0.8s,baz=187,slow=10,SNR=46
ZALV LR LR 02 38 04.4
comp=Z,1μm,18.2s,baz=182,slow=40
PATY Pattaya 23.63 134 P **P 02 27 39.3 +3.9**
comp=Z,9.8nm,1.1s
IBND Bandar-abas 24.02 269 *e*P **P 02 27 39.9 +0.8**
IBAF Bafgh 24.17 280 *e*P **P 02 27 41.2 +0.5**
SONM Songino Array 24.40 39 P **P 02 27 43.4 +0.8**
SONM PcP **PcP 02 31 21.1 -0.5**
SONM Songino Array 24.40 39 P **P 02 27 43.4 +0.8**
comp=Z,11nm,0.6s,baz=227,slow=10.0,SNR=118
SONM PcP **PcP 02 31 21.1 -0.5**
comp=Z,0.8nm,0.7s,baz=216,slow=2.7,SNR=4.7
SONM LR LR 02 39 44.3
comp=Z,220nm,19.4s,baz=54,slow=43
BVAR Borovoye Array 24.44 340 P **P 02 27 42.6 -0.2**
BVAR 02 31 23.3
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 24.44 340 P **P 02 27 42.6 -0.2**
BVAR PcP **PcP 02 31 23.3 +1.9**
BVAR Borovoye Array 24.44 340 P **P 02 27 42.6 -0.2**
comp=Z,2.9nm,0.5s,baz=144,slow=9.4,SNR=16
BVAR PcP **PcP 02 31 23.3 +1.9**
comp=Z,0.6nm,0.5s,baz=203,slow=1.3,SNR=4.5
BRVK Borovoye 24.50 340 *e*P **P 02 27 42.7 -0.6**
BRVK pmax pmax
comp=Z,12nm,1.2s
ZAK Zakamensk 24.55 31 *e*P **P 02 27 44.2 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
MOY Mondy 24.59 26 *e*P **P 02 27 46.0 +1.8**
HHC Hu-ho-hao-te 24.66 58 *e*P **P 02 27 45.6 +0.6**
HHC pP **pP 02 27 49.1 +0.4**
HHC sP **sP 02 27 52.8 +2.5**
HHC S **S 02 32 03.4 -2.9**
HHC pmax pmax
comp=Z,49nm,1.0s
HHC pmax pmax
comp=Z,350nm,3.8s
HHC LR LR
comp=Z,2μm,11.4s
HHC LR LR
comp=Z,3μm,10.8s
HHC LR LR
comp=Z,2μm,12.0s
CHBT CHBT 24.68 132 P **P 02 27 48.9 +3.7**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 24.78 39 *e*P **P 02 27 45.9 -0.2**
comp=Z,10nm,0.7s
IMEH Mehriz 25.00 279 *e*P **P 02 27 48.1 -0.2**
UBPT Khong Chiam 25.05 123 P **P 02 27 48.2 -0.4**
comp=Z,68nm,1.4s
ICHK Chekchek 25.10 281 *e*P **P 02 27 50.0 +0.7**
IANJ Anjilo 25.46 289 *e*P **P 02 27 54.0 +1.5**
TLY Talaya 25.66 29 *e*P **P 02 27 55.8 +2.0**
TLY *e*S S 02 32 10.7 -11
TLY pmax pmax
comp=Z,12nm,1.4s
TLY MLR MLR
comp=Z,1μm,15.0s
SURT Suratani 25.69 144 P **P 02 27 57.3 +2.9**
comp=Z,36nm,1.9s,comp=Z,547nm
ABKAR Akbulak array 25.92 323 *e*P **P 02 27 56.6 +0.4**
QIZ Qiongzhong 26.24 110 P **P 02 28 00.0 +0.7**
QIZ S **S 02 32 33.4 +1.9**
QIZ pmax pmax
comp=Z,17nm,1.6s
QIZ LR LR
comp=Z,1μm,18.4s
QIZ LR LR
comp=Z,1μm,16.7s
ILAS Lasjerd 26.24 289 *e*P **P 02 28 00.8 +1.3**
WHN Wuhan 26.27 82 P **P 02 27 59.7 +0.2**
WHN LR LR
comp=Z,7μm,12.6s
WHN LR LR
comp=Z,2μm,9.9s
WHN LR LR
comp=Z,3μm,14.0s
IRK Irkutsk 26.34 29 *e*P P 02 27 54.4 -5.6
IRK pmax pmax
comp=Z,36nm,2.6s
IALA Alasht 26.39 290 *e*P **P 02 28 03.6 +2.7**
IPAR Pars 26.54 276 *e*P **P 02 28 02.9 +0.5**
IPRN Peran 26.78 291 *e*P **P 02 28 05.5 +1.2**
IZEF Zefreh 26.81 283 *e*P **P 02 28 05.8 +1.1**
IDMV Damavand 27.00 289 *e*P **P 02 28 06.4 -0.1**
IVRN Varamin 27.24 288 *e*P **P 02 28 09.0 +0.6**
IKLH Kolahrood 27.41 284 *e*P **P 02 28 11.5 +1.3**
AKTO Aktyubinsk 27.63 323 P **P 02 28 11.7 +0.1**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
AKTO MLR MLR
comp=Z,3μm,19.5s
AKTO Aktyubinsk 27.63 323 P **P 02 28 11.7 +0.1**
AKTO Aktyubinsk 27.63 323 P **P 02 28 11.7 +0.1**
comp=Z,5.6nm,1.0s,baz=116,slow=9.3,SNR=18
AKTO LR LR 02 40 30.2
comp=Z,3μm,19.5s,baz=247,slow=39
BJI Beijing 27.91 61 P **P 02 28 13.3 -0.9**
BJI S **S 02 33 03.0 +5.4**
BJI pmax pmax
comp=Z,21nm,1.4s
BJI pmax pmax
comp=Z,180nm,3.7s
BJI LR LR
comp=Z,3μm,14.0s
BJI LR LR
comp=Z,1μm,12.3s
BJI LR LR
comp=Z,2μm,23.7s
IMHD Mahdasht 28.11 289 *e*P **P 02 28 15.9 -0.3**
KULM Kulim 29.77 144 *e*P **P 02 28 31.7 +0.8**
comp=Z,29nm,1.3s
NJ2 Nanjing 29.90 78 *e*P **P 02 28 33.7 +1.7**
NJ2 S **S 02 33 32.0 +2.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,2μm,23.4s
NJ2 LR LR
comp=Z,4μm,12.7s
NJ2 LR LR
comp=Z,1μm,13.8s
IPM Ipoh 30.65 145 *e*P **P 02 28 38.6 -0.2**
comp=Z,23nm,1.2s
SVE Sverdlovsk 30.80 335⇑ *e*P **P 02 28 39.9 +0.3**
SVE pmax pmax
comp=Z,15nm,1.2s
SVE MLR MLR
comp=Z,2μm,15.0s
IBST Bostanabad 31.20 293 *e*P **P 02 28 44.0 +0.3**
ARU Arti 31.29 333 *d* iP **P 02 28 43.9 -0.1**
ARU 02 29 43.3
ARU S **S 02 33 48.6 -1.7**
ARU SS **SnSn 02 35 29.1 -4.1**
ARU pmax pmax
comp=Z,17nm,1.2s
GSI Gunungsitoli 31.94 153 *e*P **P 02 28 53.0 +2.9**
SSE Sheshan 32.01 79 P **P 02 28 51.5 +1.0**
SSE S **S 02 34 04.1 +2.1**
SSE pmax pmax
comp=Z,17nm,1.2s
SSE pmax pmax
comp=Z,190nm,5.4s
SSE LR LR
comp=Z,3μm,17.1s
SSE LR LR
comp=Z,550nm,17.2s
SSE LR LR
comp=Z,850nm,8.1s
GNI Garni 33.01 298 *e*P **P 02 28 57.4 -2.1**
GNI Garni 33.01 298 P **P 02 29 01.4 +1.9**
comp=Z,3.7nm,0.9s,baz=41,slow=11,SNR=7.8
SNY Shenyang 33.72 59⇑ P **P 02 29 05.0 -0.4**
SNY S **S 02 34 27.7 -0.7**
SNY pmax pmax
comp=Z,28nm,2.3s
SNY pmax pmax
comp=Z,310nm,4.6s
SNY LR LR
comp=Z,1μm,9.0s
SNY LR LR
comp=Z,890nm,22.1s
SNY LR LR
comp=Z,1μm,26.7s
ZEI Tsey 33.92 302 *e*P **P 02 29 08.0 +0.6**
ZEI pmax pmax
comp=Z,27nm,1.8s
SOKR Solikamsk 34.22 336⇑ *i*P **P 02 29 10.5 +1.0**
SOKR pmax pmax
comp=Z,30nm,1.2s
SOKR MLR MLR
comp=Z,2μm,25.0s
KBZ Khabaz 34.77 304 P **P 02 29 14.5 0.0**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 34.77 304 P **P 02 29 14.5 0.0**
KBZ Khabaz 34.77 304 P **P 02 29 14.5 0.0**
comp=Z,6.2nm,0.8s,baz=116,slow=6.4,SNR=9.9
KIV Kislovodsk 34.96 304 *e*P **P 02 29 16.5 +0.2**
KIV *e* 02 29 24.8
KIV *e* 02 30 32.3
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,700nm,16.0s
CN2 Changchun 35.32 56 *e*P **P 02 29 19.6 +0.3**
CN2 *es*P **sP 02 29 26.6 +2.0**
CN2 *e*S **S 02 34 51.6 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
KSAR Wonju Array Be 36.91 67 P **P 02 29 30.8 -2.2**
KSRS Korea Array 36.94 67 P **P 02 29 30.8 -2.4**
comp=Z,2.5nm,0.6s,baz=278,slow=8.8,SNR=10
KSRS LR LR 02 46 19.1
comp=Z,1μm,19.7s,baz=281,slow=39
VRHR Novokhopersk 37.24 316 *e*P **P 02 29 33.3 -2.2**
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
MDJ Mudanjiang 38.38 56 P **P 02 29 44.4 -0.9**
MDJ pmax pmax
comp=Z,11nm,1.7s
MDJ pmax pmax
comp=Z,260nm,3.0s
VORD Divnogorie 38.62 315 *e*P **P 02 29 49.1 +1.9**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,30nm,1.3s
VSR Storozhevoye 38.76 315 *e*P **P 02 29 47.7 -0.7**
VSR pmax pmax
comp=N,6.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
SBUM Sibu 38.83 131 *e*P **P 02 29 50.7 +1.4**
comp=Z,19nm,1.1s
JOW Kunigami 39.00 84 LR LR 02 46 01.9
comp=Z,56nm,18.2s,baz=247,slow=36
PRGR Permogore 39.75 333 *e*P **P 02 29 56.4 -0.1**
PRGR pmax pmax
comp=Z,15nm,0.7s
JNU Nakatsue 39.81 74 LR LR 02 47 26.8
comp=Z,668nm,19.2s,baz=14,slow=38
VLA Vladivostok 39.94 58 *de*P **P 02 29 58.1 -0.2**
VLA pmax pmax
comp=Z,36nm,1.9s
USRK Ussuriysk Arra 40.06 56 P **P 02 29 59.0 -0.3**
comp=Z,3.7nm,0.7s,baz=268,slow=9.3,SNR=14
USRK LR LR 02 48 03.5
comp=Z,1μm,20.1s,baz=70,slow=38
MMAI Mount Meron Ar 40.91 286 LR LR 02 48 26.1
comp=Z,598nm,20.9s,baz=50,slow=38
MOS Moscow 40.93 321 *e*P **P 02 30 07.0 +0.6**
MOS *e* 02 31 42.4
MOS *e*PPP PPP 02 32 13.6
MOS pmax pmax
comp=Z,41nm,1.3s
OBN Obninsk 41.32 320 *d* iP **P 02 30 09.1 -0.4**
OBN *e* 02 31 44.6
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,2μm,17.0s
BR131 Keskin Array S 41.54 297 *e*P **P 02 30 10.5 -1.3**
comp=Z,20nm,1.4s
BRTR Keskin Array B 41.54 297 P **P 02 30 11.8 0.0**
BRTR Keskin Array B 41.54 297 P **P 02 30 11.8 0.0**
comp=Z,4.6nm,1.1s,baz=96,slow=2.5,SNR=15
BRTR LR LR 02 50 03.7
comp=Z,337nm,18.9s,baz=238,slow=40
EIL Elat 41.98 282 LR LR 02 50 05.5
comp=Z,1μm,19.3s,baz=76,slow=40
ANTO Ankara 42.18 297 *e*P **P 02 30 17.9 +0.9**
ANTO pmax pmax
comp=Z,12nm,0.9s
ANTO Ankara 42.18 297 *e*P **P 02 30 17.9 +0.9**
comp=Z,12nm,0.9s
YAK Yakutsk 43.13 30 *e*P **P 02 30 24.2 0.0**
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK Yakutsk 43.13 30 *e*P **P 02 30 24.2 0.0**
comp=Z,8.5nm,0.6s
ISP Isparta 44.14 294 *e*P **P 02 30 32.5 -0.4**
ISP pmax pmax
comp=Z,29nm,1.4s
ISP Isparta 44.14 294 *i* P **P 02 30 33.2 +0.3**
ISP Isparta 44.14 294 *e*P **P 02 30 32.5 -0.4**
comp=Z,29nm,1.4s
AKASG Malin Array Be 44.86 313 P **P 02 30 37.2 -1.1**
AKASG 02 32 27.8
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG MLR MLR
comp=Z,295nm,19.8s
AKASG Malin Array Be 44.86 313 P **P 02 30 37.2 -1.1**
AKASG PP **PP 02 32 27.8 +4.9**
AKASG Malin Array Be 44.86 313 P **P 02 30 37.2 -1.1**
comp=Z,2.4nm,0.6s,baz=80,slow=7.5,SNR=28
AKASG PP **PP 02 32 27.8 +4.9**
comp=Z,1.3nm,0.8s,baz=81,slow=8.5,SNR=4.7
AKASG LR LR 02 51 41.9
comp=Z,295nm,19.8s,baz=95,slow=39
AKBB Malin Array Si 44.86 313 *e*P **P 02 30 37.9 -0.4**
AKBB Malin Array Si 44.86 313 *e*P **P 02 30 37.9 -0.4**
AK01 Malin Array Si 44.87 313 *e*P **P 02 30 36.9 -1.5**
AK02 Malin Array Si 44.87 313 *e*P **P 02 30 37.3 -1.1**
KIEV Kiev 44.87 313 *e*P **P 02 30 36.8 -1.6**
KIEV pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 44.87 313 *e*P **P 02 30 36.8 -1.6**
comp=Z,3.7nm,0.6s
MJAR Matsushiro Arr 45.22 67 P **P 02 30 39.6 -1.8**
MJAR Matsushiro Arr 45.22 67 P **P 02 30 39.6 -1.8**
comp=Z,1.5nm,0.8s,baz=276,slow=9.6,SNR=3.9
MJAR LR LR 02 50 44.2
comp=Z,833nm,20.8s,baz=275,slow=38
JOF Joensuu 46.31 330 *e*P **P 02 30 50.0 +0.4**
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 46.31 330 *ep* **P 02 30 50.0 +0.4**
comp=Z,6.5nm,0.7s
VRI Vrincioaia 46.37 306⇓ *i*P **P 02 30 50.8 +0.4**
PLOR Plostina 46.43 306⇓ *i*P **P 02 30 51.5 +0.6**
JMB Yambol 46.66 301⇑ *i*P **P 02 30 54.0 +1.3**
MLR Muntele Rosu 46.94 305⇑ *i*P **P 02 30 55.7 +0.7**
MLR Muntele Rosu 46.94 305 P **P 02 30 55.5 +0.5**
MLR Muntele Rosu 46.94 305 P **P 02 30 55.5 +0.5**
comp=Z,2.5nm,0.9s,baz=157,slow=2.2,SNR=3.0
MLR LR LR 02 53 28.4
comp=Z,203nm,21.6s,baz=246,slow=40
DOPR Dopca 47.30 306⇓ *i*P **P 02 30 59.3 +1.6**
VSU Vasula 47.36 323 *e*P **P 02 30 57.1 -0.7**
VSU pmax pmax
comp=Z,44nm,1.4s
BURAR Bucovina Array 47.38 308⇑ *i*P **P 02 30 59.6 +1.3**
BUR08 Bucovina Ar. S 47.39 308 *e*P **P 02 30 58.5 +0.1**
VOIR 47.57 305⇑ *i*P **P 02 31 00.6 +0.8**
TIXI Tiksi 47.67 18 *e*P **P 02 30 59.8 -0.3**
TIXI Tiksi 47.67 18 *e*P **P 02 30 59.8 -0.3**
ASAJ Asahikawa 47.69 56 LR LR 02 52 27.6
comp=Z,1μm,19.8s,baz=237,slow=38
ARR Arges 47.86 305⇑ *i*P **P 02 31 01.9 -0.2**
FINES FINESS Array B 48.27 327 P **P 02 31 04.8 -0.1**
FINES FINESS Array B 48.27 327 P **P 02 31 04.8 -0.1**
comp=Z,4.9nm,0.6s,baz=111,slow=9.0,SNR=29
KAF Kangasniemi 48.31 328 *e*P **P 02 31 07.5 +2.3**
KAF Kangasniemi 48.31 328 *ep* **P 02 31 07.5 +2.3**
KWP Kalwaria Pacla 49.01 311⇑ *i*P **P 02 31 12.9 +2.1**
IDI Anoyia 49.03 292 LR LR 02 57 48.9
comp=Z,233nm,19.7s,baz=271,slow=43
DRGR 49.12 307⇑ *i*P **P 02 31 12.4 +0.7**
VTS Vitosha 49.13 302⇓ *i*P **P 02 31 12.8 +0.8**
UZH Uzhgorod 49.31 310 *e*P **P 02 31 12.2 -0.9**
UZH *i* 02 31 22.1
YUK Yuzh-Kuril'sk 50.04 56 *c i*P **P 02 31 18.1 -0.6**
YUK *i* 02 33 13.0
YUK *i* S **S 02 38 32.5 +3.1**
YUK *i* SS **SS 02 41 56.2 -6.0**
YUK *i* SSS SSS 02 43 32.2
YUK pmax pmax
comp=N,906nm,22.0s
YUK pmax pmax
comp=E,804nm,22.0s
KEV Kevo 50.26 338 *e*P **P 02 31 20.3 +0.3**
KEV Kevo 50.26 338 *ep* **P 02 31 20.3 +0.3**
ARCES ARCESS Array B 50.68 337 P **P 02 31 23.6 +0.4**
ARCES ARCESS Array B 50.68 337 P **P 02 31 23.6 +0.4**
comp=E,8.5nm,0.9s,baz=90,slow=7.3,SNR=11
ARCES LR LR 02 54 12.9
comp=E,796nm,19.9s,baz=131,slow=38
JCJ Chichijima 50.77 79 LR LR 02 53 01.7
comp=E,441nm,18.8s,baz=206,slow=36
MORC Moravsky Berou 52.35 311⇑ *i*P **P 02 31 36.5 +0.4**
VRAC Vranov 53.01 311 P **P 02 31 40.9 0.0**
VRAC Vranov 53.01 311 P **P 02 31 40.9 0.0**
comp=E,1.7nm,0.6s,baz=97,slow=8.4,SNR=6.2
VRAC LR LR 02 57 14.9
comp=E,622nm,18.8s,baz=90,slow=39
DPC Dobruska-Polom 53.09 312 *e*P **P 02 31 42.3 +0.8**
DPC Dobruska-Polom 53.09 312 *e*P **P 02 31 42.3 +0.8**
SEY Seymchan 53.52 32 P **P 02 31 44.6 +0.2**
SEY pmax pmax
comp=Z,1.0nm,0.4s
SEY Seymchan 53.52 32 P **P 02 31 44.5 +0.2**
SEY Seymchan 53.52 32 P **P 02 31 44.5 +0.2**
comp=Z,1.4nm,0.4s,baz=360,slow=22,SNR=6.3
KMBO Kilima Mbogo 54.34 243 *e*P **P 02 31 53.0 +1.7**
comp=Z,10.0nm,1.1s
KMBO Kilima Mbogo 54.34 243 P **P 02 31 52.2 +0.8**
comp=Z,4.9nm,0.9s,baz=39,slow=11,SNR=15
GERES GERESS Array B 54.95 311 P **P 02 31 54.5 -0.7**
GERES GERESS Array B 54.95 311 P **P 02 31 54.5 -0.7**
comp=Z,0.6nm,0.8s,baz=108,slow=3.1,SNR=5.0
GERES LR LR 02 56 39.3
comp=Z,413nm,20.3s,baz=263,slow=37
NB2 NORSAR Subarra 55.37 326 P **P 02 31 56.5 -1.5**
comp=Z,0.5nm,0.7s,baz=88,slow=7.9
NOA NORSAR Array B 55.37 326 P **P 02 31 56.9 -1.1**
NOA NORSAR Array B 55.37 326 P **P 02 31 56.9 -1.1**
comp=Z,3.8nm,0.8s,baz=88,slow=7.2,SNR=11
NOA LR LR 02 58 25.7
comp=Z,546nm,18.6s,baz=90,slow=39
NAO01 NORSAR Array S 55.54 325 *e*P **P 02 31 57.5 -1.6**
comp=Z,2.4nm,0.6s
PETK Petropavlovsk- 56.74 44 P **P 02 32 07.3 -0.6**
PETK pmax pmax
comp=Z,3.0nm,0.6s
PETK MLR MLR
comp=Z,451nm,18.3s
PETK Petropavlovsk- 56.74 44 P **P 02 32 07.2 -0.6**
PETK Petropavlovsk- 56.74 44 P **P 02 32 07.2 -0.6**
comp=Z,3.1nm,0.6s,baz=274,slow=3.0,SNR=11
PETK LR LR 02 57 30.4
comp=Z,451nm,18.3s,baz=114,slow=37
DAVOX Davos/Dischmat 57.85 309 LR LR 03 00 25.8
comp=Z,426nm,18.3s,baz=76,slow=39
LPG La Plagne 60.26 308 *e*P **P 02 32 32.0 -0.9**
comp=Z,20nm,1.1s
LPG La Plagne 60.26 308 *e*P **P 02 32 32.0 -0.9**
LPG pmax pmax
comp=Z,20nm,1.1s
LPG La Plagne 60.26 308 *e*P **P 02 32 32.0 -0.9**
comp=Z,20nm,1.1s
LPL La Plagne 60.27 308 *e*P **P 02 32 31.0 -1.8**
comp=Z,15nm,0.9s
LPL La Plagne 60.27 308 *e*P **P 02 32 31.0 -1.8**
LPL pmax pmax
comp=Z,15nm,0.9s
LPL La Plagne 60.27 308 *e*P **P 02 32 31.0 -1.8**
comp=Z,15nm,0.9s
KEST Kesra 61.14 296 *e*P **P 02 32 38.9 +0.1**
KEST Kesra 61.14 296 P **P 02 32 39.2 +0.4**
comp=Z,1.2nm,0.7s,baz=66,slow=6.3,SNR=2.4
KEST LR LR 03 04 48.5
comp=Z,82nm,19.6s,baz=315,slow=42
SSF Saint Saulge 62.02 310 *e*P **P 02 32 46.9 +2.5**
comp=Z,9.0nm,0.9s
SSF Saint Saulge 62.02 310 *e*P **P 02 32 46.9 +2.5**
SSF pmax pmax
comp=Z,9.0nm,0.9s
SSF Saint Saulge 62.02 310 *e*P **P 02 32 46.9 +2.5**
comp=Z,9.0nm,0.9s
TCF Toulx Ste Croi 63.09 310 *e*P P 02 32 55.0 +3.3
comp=Z,55nm,1.4s
TCF Toulx Ste Croi 63.09 310 *e*P P 02 32 55.0 +3.3
TCF pmax pmax
comp=Z,55nm,1.4s
TCF Toulx Ste Croi 63.09 310 *e*P P 02 32 55.0 +3.3
comp=Z,55nm,1.4s
EKA Eskdalemuir Ar 63.77 320 P **P 02 32 55.6 -0.3**
EKA Eskdalemuir Ar 63.77 320 P **P 02 32 55.6 -0.3**
comp=Z,1.1nm,0.5s,baz=78,slow=5.8,SNR=11
FX1 Attu Island--F 65.87 42 LR LR 03 00 48.5
comp=Z,294nm,19.0s,baz=134,slow=35
SCO Scoresbysund 66.51 339 *e*P **P 02 33 14.7 +1.3**
SCO pmax pmax
comp=Z,2.0nm,0.9s
SCO Scoresbysund 66.51 339 *i* P **P 02 33 14.7 +1.3**
comp=Z,1.9nm,0.9s
TAM Tamanrasset 69.09 285 *e*P **P 02 33 29.7 -1.0**
TAM pmax pmax
comp=Z,11nm,1.8s
TAM Tamanrasset 69.09 285 *e*P **P 02 33 29.7 -1.0**
comp=Z,11nm,1.8s
ESDC Sonseca Array 69.62 305 P **P 02 33 32.8 -0.9**
ESDC Sonseca Array 69.62 305 P **P 02 33 32.8 -0.9**
comp=Z,0.9nm,0.7s,baz=56,slow=6.5,SNR=3.4
ESDC LR LR 03 09 13.5
comp=Z,188nm,19.3s,baz=65,slow=40
SUMG Summit 69.85 344 *e*P **P 02 33 34.5 -0.4**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 69.85 344 *i* P **P 02 33 34.5 -0.4**
comp=Z,12nm,1.0s
WRA Warramunga Arr 69.90 129 P **P 02 33 34.1 -1.3**
WRA Warramunga Arr 69.90 129 P **P 02 33 34.1 -1.3**
comp=Z,4.7nm,0.9s,baz=324,slow=6.3,SNR=40
WRA LR LR 03 06 20.2
comp=Z,188nm,22.0s,baz=310,slow=38

LSZ	**Lusaka**	**70.29**	**238**	*e*P		**P**		**02 33 39.0**	**+1.0**
	comp=Z,5.8nm,0.5s								
COEN	**Coen**	**72.25**	**119**	*e*P		**P**		**02 33 50.7**	**+0.9**
	comp=Z,209nm,1.7s								
AS31	**Alice Springs**	**72.26**	**132**	*e*P		**P**		**02 33 49.5**	**-0.2**
ASAR	**Alice Springs**	**72.26**	**132**	P		**P**		**02 33 47.6**	**-2.1**
ASAR	**Alice Springs**	**72.26**	**132**	P		**P**		**02 33 47.6**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=315,slow=5.7,SNR=27								
ASAR				LR		LR		03 06 38.4	
	comp=Z,218nm,20.4s,baz=318,slow=37								
PMG	**Port Moresby**	**72.59**	**112**	*e*P		**P**		**02 33 52.0**	**+0.1**
	comp=Z,8.3nm,0.7s								
FORT	**Forrest**	**74.13**	**141**	*e*P		**P**		**02 34 00.6**	**+0.1**
	comp=Z,27nm,1.2s								
TOA0	**Torodi Ar. Sit**	**76.71**	**278**	*e*P		**P**		**02 34 15.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.71**	**278**	P		**P**		**02 34 15.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.71**	**278**	P		**P**		**02 34 15.0**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=53,slow=4.2,SNR=16								
TORD				LR		LR		03 12 00.4	
	comp=Z,405nm,18.9s,baz=120,slow=39								
COLA	**College**	**76.72**	**20**	*e*P		**P**		**02 34 16.3**	**+1.3**
COLA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
COLA	**College**	**76.72**	**20**	*e*P		**P**		**02 34 16.3**	**+1.3**
	comp=Z,7.2nm,0.9s								
PPLA	**Purkeypile**	**76.73**	**23**	*e*P		**P**		**02 34 15.2**	**-0.1**
	comp=Z,31nm,1.5s								
ILAR	**Eielson Array**	**77.08**	**20**	P		**P**		**02 34 16.8**	**-0.3**
ILAR				PP		**PP**		**02 37 09.6**	**-0.3**
ILAR	**Eielson Array**	**77.08**	**20**	P		**P**		**02 34 16.8**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=314,slow=4.8,SNR=21								
ILAR				PP		**PP**		**02 37 09.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=314,slow=8.0,SNR=5.9								
ILAR				LR		LR		03 13 29.4	
	comp=Z,238nm,18.7s,baz=327,slow=40								
MCK	**McKinley**	**77.21**	**21**	*e*P		**P**		**02 34 18.0**	**+0.2**
MCK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MCK	**McKinley**	**77.21**	**21**	*e*P		**P**		**02 34 18.0**	**+0.2**
	comp=Z,5.9nm,1.0s								
INK	**Inuvik**	**77.56**	**13**	*e*P		**P**		**02 34 21.1**	**+1.4**
	comp=Z,26nm,1.6s								
CTAO	**Charters Tower**	**78.36**	**122**	*e*P		**P**		**02 34 24.8**	**-0.1**
CTAO				pmax		pmax			
	comp=Z,19nm,1.3s								
CTAO	**Charters Tower**	**78.36**	**122**	*e*P		**P**		**02 34 24.8**	**-0.1**
	comp=Z,19nm,1.3s								
LBTB	**Lobatse**	**78.51**	**232**	*e*P		**P**		**02 34 26.9**	**+1.2**
	comp=Z,6.4nm,0.7s								
RC01	**Rabbit Creek A**	**78.82**	**23**	*e*P		**P**		**02 34 27.0**	**+0.2**
	comp=Z,4.3nm,0.7s								
TSUM	**Tsumeb**	**80.62**	**241**	*e*P		**P**		**02 34 38.2**	**+0.8**
	comp=Z,4.4nm,1.0s								
STKA	**Stephens Creek**	**82.84**	**133**	P		**P**		**02 34 48.9**	**+0.3**
STKA	**Stephens Creek**	**82.84**	**133**	P		**P**		**02 34 48.9**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=316,slow=12,SNR=6.3								
STKA				LR		LR		03 15 58.8	
	comp=Z,240nm,18.4s,baz=114,slow=39								
DBIC	**Dimbokro**	**85.49**	**275**	*e*P		**P**		**02 35 02.2**	**-0.4**
	comp=Z,6.6nm,0.8s								
DBIC	**Dimbokro**	**85.49**	**275**	P		**P**		**02 35 02.4**	**-0.2**
	comp=Z,3.5nm,0.6s,baz=82,slow=5.8,SNR=8.3								
KIC	**Kosan Boka**	**85.55**	**275**	*e*P		**P**		**02 35 03.0**	**+0.1**
	comp=Z,21nm,1.0s								
TIC	**Toumodi**	**85.65**	**275**	*e*P		**P**		**02 35 05.0**	**+1.6**
	comp=Z,17nm,0.9s								
LIC	**Lamto**	**85.86**	**275**	*e*P		**P**		**02 35 06.6**	**+2.1**
	comp=Z,27nm,1.3s								
YKW3	**Yellowknife Ar**	**85.98**	**8**	*e*P		**P**		**02 35 04.0**	**-0.2**
	comp=Z,0.1nm,0.8s								
YKA	**Yellowknife Ar**	**86.05**	**8**	P		**P**		**02 35 03.7**	**-0.8**
YKA	**Yellowknife Ar**	**86.05**	**8**	P		**P**		**02 35 03.7**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=336,slow=5.2,SNR=26								
SUR	**Sutherland**	**86.48**	**229**	LR		LR		03 11 12.1	
	comp=Z,326nm,18.4s,baz=48,slow=34								
DZM	**Mont Dzumac**	**94.99**	**113**	*e*LR		LR		03 06 29.1	
	comp=Z,236nm,25.5s								
MAW	**Mawson**	**99.17**	**188**	LR		LR		03 13 27.8	
	comp=Z,189nm,19.2s,baz=136,slow=31								
ULM	**Lac du Bonnet**	**99.50**	**360**	LR		LR		03 27 51.3	
	comp=Z,296nm,18.2s,baz=6.7,slow=40								
PPT2	**Papeete2**	**130.00**	**88**	*e*LR		LR		03 22 35.5	
	comp=Z,247nm,26.5s								
TBI	**Tubuai**	**132.35**	**95**	*e*LR		LR		03 23 44.3	
	comp=Z,136nm,27.5s								
RKT	**Rikitea**	**144.75**	**87**	*e*LR		LR		03 29 26.6	
	comp=Z,220nm,28.5s								
OTAV	**Otavalo**	**144.98**	**328**	*e*PKPdf		**PKPdf**		**02 42 02.5**	**-0.4**
CPUP	**Villa Florida**	**145.68**	**267**	PKPbc		**PKPdf**		**02 42 03.0**	**0.0**
CPUP	**Villa Florida**	**145.68**	**267**	PKPbc		**PKPdf**		**02 42 03.0**	**0.0**
	comp=Z,6.3nm,0.8s,baz=10,slow=5.3,SNR=7.1								
LPAZ	**La Paz**	**150.67**	**293**	PKPbc		**PKPbc**		**02 42 17.8**	**+0.1**
LPAZ	**La Paz**	**150.67**	**293**	PKPbc		**PKPbc**		**02 42 17.8**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=30,slow=7.9,SNR=5.3								

NIED ***01*** *02:28:00,27.90N×127.80E,h5km,Mw3.9 Best double couple: M0 7.57000×10^14 NP1:φs=359.00000°,δ61.00000°, λ-160.00000°. NP2:φs=259.00000°,δ72.00000°, λ-30.00000°.*

JMA 01 02:28:35.7±0.2,27.89N×127.76E,h15km±2km,M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIH	**Iheya**	**0.87**	**168**	P		Pb	02 28 52.1	-0.4
JIH				*e*S		Sb	02 29 03.4	-0.6
JTK	**Tokunoshima**	**1.06**	**95**	P		Pb	02 28 55.1	-0.7
JTK				*e*S		Sb	02 29 09.2	-0.3
JOW	**Kunigami**	**1.15**	**156**	P		Pn	02 28 56.7	-0.6
JOW				*e*S		Sb	02 29 11.8	-0.2
JAMN	**Amaminishikomi**	**1.30**	**74**	P		Pn	02 28 59.2	-0.1
JAGN	**Aguni-jima**	**1.38**	**200**	P		Pn	02 29 00.3	-0.1
JAM	**Amami Oshima**	**1.71**	**72**	P		Pn	02 29 05.4	+0.4
JJT2	**Tamagusuku 2**	**1.75**	**180**	P		Pn	02 29 06.2	+0.8
JJT2				*e*S		Sb	02 29 28.6	-0.5
JKE	**Kume jima 2**	**1.78**	**209**	P		Pn	02 29 06.1	+0.1

NEIC ***01*** *02:33:42.6,32.48N×115.19W,h2km,ML3.2(PAS),After PAS.*
NEIC Felt at Mexicali.
ECX ***01*** *02:33:43.5±0.4,32.49N×115.21W,h16km±2km,MD3.3, ML3.5,Fault plane solution: NP1:φs=359.00000°, δ90.00000°,λ30.00000°.*

ISC 01 02:33:41.6±1.0,32.47N±0.02×115.20W±0.02,h9km±9km, n48,σ1°39/81,4C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGL	**Mount Signal**	**0.48**	**292**	*e*P		**Pg**	**02 33 51.8**	**+0.9**
EMX	**El Mayor**	**0.49**	**184**	⇓*i*P		**Pg**	**02 33 51.7**	**+0.7**
EMX				*e*S		**Sg**	**02 33 58.9**	**+1.4**
EMX				⇓*e*			02 34 05.4	
	comp=E,1μm,0.6s							
RUN	**Ruthven**	**0.53**	**20**	⇑*i*P		**Pg**	**02 33 52.9**	**+0.9**
YMD	**Yuma Desert**	**0.56**	**82**	⇑*i*P		**Pg**	**02 33 53.6**	**+1.1**
COK	**Cook Ranch**	**0.58**	**310**	⇓*i*P		**Pg**	**02 33 53.9**	**+1.0**
YUH	**Yuha Desert**	**0.64**	**286**	*e*P		**Pg**	**02 33 54.5**	**+0.5**
GLA	**Glamis**	**0.66**	**28**	*e*Pg		**Sg**	**02 33 54.7**	**+0.4**
GLA				*e*Sg		**Sg**	**02 34 03.4**	**+0.4**
GLA	**Glamis**	**0.66**	**28**	P		**Pg**	**02 33 54.9**	**+0.6**
	baz=0.7							
GLA				S		**Sg**	**02 34 03.8**	**+0.9**
	baz=0.7							
SWSC	**Sam W. Stewart**	**0.69**	**313**	P		**Pg**	**02 33 54.9**	**0.0**
	baz=0.7							
RMX	**La Rumorosa**	**0.76**	**280**	*e*P		**Pg**	**02 33 56.6**	**+0.4**
DVTC	**Desert V Tower**	**0.79**	**284**	P		**Pb**	**02 33 57.0**	**-0.4**
	baz=0.8							
RDX	**Rancho Dawling**	**0.83**	**229**	⇑*e*P		**Pb**	**02 33 58.3**	**0.0**
RDX				*e*S		**Sb**	**02 34 09.6**	**-0.1**
RDX				⇓*e*			02 34 12.8	
	comp=N,1μm,0.7s							
RDX				⇑*e*			02 34 15.6	
	comp=E,1μm,0.8s							
ECBX	**El Chinero**	**1.01**	**173**	*e*P		**Pb**	**02 33 59.7**	**-1.5**
ECBX				*e*S		**Sb**	**02 34 13.4**	**-1.1**
ECBX				⇓*e*			02 34 19.6	
	comp=N,787nm,0.5s							
MONP	**Monument Peak**	**1.11**	**292**	P		**Pb**	**02 34 01.8**	**-1.3**
	baz=1.1							
BC3	**Big Chuckawall**	**1.20**	**350**	P		**Pn**	**02 34 03.0**	**-1.6**
	baz=1.2							
113A	**Mohawk Valley,**	**1.24**	**76**	P		**Pn**	**02 34 03.9**	**-1.2**
	baz=1.2							
113A				S		**Sb**	**02 34 20.8**	**-0.5**
	baz=1.2							
CBX	**Cerro Bola**	**1.25**	**263**	*e*P		**Pn**	**02 34 04.6**	**-0.7**
CBX				*e*S		**Sb**	**02 34 21.3**	**-0.4**
BAR	**Barrett**	**1.26**	**280**	*e*Pn		**Pn**	**02 34 04.2**	**-1.2**
BAR				*e*Sg		**Sb**	**02 34 21.3**	**-0.6**
ZAX	**El Zacaton**	**1.32**	**224**	*e*P		**Pn**	**02 34 06.0**	**-0.3**
ZAX				*e*S		**Sn**	**02 34 24.1**	**0.0**
Y12C	**Blythe**	**1.39**	**24**	S		**Sn**	**02 34 25.9**	**+0.2**
	baz=1.4							
ECNX	**Esteban Cantu**	**1.44**	**236**	*e*P		**Pn**	**02 34 07.9**	**0.0**
PBX	**Punta Banda**	**1.49**	**241**	*e*P		**Pn**	**02 34 08.7**	**+0.2**
PFO	**Pinyon Flat Ob**	**1.55**	**317**	P		**Pn**	**02 34 07.5**	**-2.0**
	baz=1.6							
109C	**Camp Elliot, M**	**1.66**	**285**	Sb		**Sb**	**02 34 33.6**	**+0.3**
	baz=1.7							
BELC	**Belle Mtn. Jos**	**1.66**	**336**	P		**Pn**	**02 34 09.6**	**-1.4**
	baz=1.7							
PDMCI	**Parker Dam,Lak**	**2.02**	**26**	Sb		**Sb**	**02 34 45.0**	**+1.2**
	baz=2.0							
214A	**Organ Pipe Nat**	**2.09**	**104**	*e*Pn		**Pn**	**02 34 15.2**	**-1.5**
214A				*e*Pg		**Pb**	**02 34 21.0**	**+1.3**
214A				*e*Sg		**Sg**	**02 34 49.0**	**+0.3**
214A	**Organ Pipe Nat**	**2.09**	**104**	P		**Pn**	**02 34 15.4**	**-1.4**
	baz=2.1							
Z14A	**Wintersburg**	**2.09**	**64**	Sb		**Sb**	**02 34 47.0**	**+1.3**
	baz=2.1							
LDFC	**Landfair**	**2.60**	**2**	*e*Pn		**Pn**	**02 34 24.8**	**+1.0**
LDFC				*e*Pg		**Pg**	**02 34 31.8**	**+0.4**
LDFC				*e*Sn		**Sn**	**02 34 57.0**	**+1.3**
LDFC				*e*Sg		**Sg**	**02 35 05.6**	**+0.5**
MWC	**Mount Wilson**	**2.96**	**307**	*e*Pn		**Pn**	**02 34 30.5**	**+1.6**
MWC				*e*Pg		**Pg**	**02 34 38.3**	**-0.1**
MWC				*e*Sn		**Sn**	**02 35 06.8**	**+2.1**
MWC				*e*Sg		**Sg**	**02 35 17.1**	**+0.2**
PASC	**Pasadena Art C**	**3.02**	**305**	*e*Pn		**Pn**	**02 34 29.5**	**-0.1**
PASC				*e*Pg		**Pg**	**02 34 38.6**	**-0.9**
PASC				*e*Sg		**Sb**	**02 35 15.4**	**+2.9**
GSC	**Goldstone**	**3.12**	**335**	*e*Pn		**Pn**	**02 34 32.1**	**+1.0**
GSC				*e*Pg		**Pg**	**02 34 41.0**	**-0.4**
TUC	**Tucson**	**3.74**	**91**	*e*Pn		**Pn**	**02 34 41.0**	**+1.6**
TUC				*e*Pg		**Pg**	**02 34 52.6**	**-0.6**
TUC				*e*Sn		**Sn**	**02 35 24.6**	**+1.0**
TUC				*e*Sg		**Sg**	**02 35 39.1**	**-2.6**
ISA	**Isabella**	**4.18**	**320**	*e*Pn		**Pn**	**02 34 45.5**	**-0.1**
ISA				*e*Pg		**Pg**	**02 35 00.4**	**-1.4**
WUAZ	**Wupatki**	**4.39**	**45**	*e*Pn		**Pn**	**02 34 50.7**	**+2.1**
WUAZ				*e*Pg		Pb	02 35 03.3	+4.3
WUAZ				*e*Sn		**Sn**	**02 35 42.4**	**+2.4**
WUAZ				*e*Sg		**Sg**	**02 35 60.0**	**-2.7**
W18A	**Petrified Fore**	**5.26**	**58**	*e*Pn		**Pn**	**02 35 00.8**	**+0.3**
	comp=N,6.5nm,0.5s							
W18A				*e*Pg		Pb	02 35 19.1	+5.4
W18A				*e*Sg		**Sg**	**02 36 28.1**	**-2.4**
CCUT	**Cedar City**	**5.28**	**16**	*e*Pn		**Pn**	**02 35 01.2**	**+0.3**
CCUT				*e*Pg		Pb	02 35 19.5	+5.2
CCUT				*e*Sg		**Sg**	**02 36 27.6**	**-3.7**
ARUT	**Antelope Range**	**5.49**	**15**	*e*Pn		**Pn**	**02 35 04.9**	**+1.2**
	comp=N,153nm,0.6s							
ARUT				*e*Pg		Pb	02 35 22.9	+5.2
ARUT				*e*Sg		**Sg**	**02 36 35.2**	**-2.8**
R11A	**Troy Canyon, C**	**5.87**	**357**	*e*Pg		**Pg**	**02 35 32.4**	**-1.7**
R11A				*e*Sg		Sg	02 36 44.6	-5.5
121A	**Cookes Peak, D**	**6.26**	**87**	*e*Pn		**Pn**	**02 35 14.0**	**-0.3**
	comp=N,6.6nm,0.5s							
121A				*e*Sn		**Sn**	**02 36 26.3**	**+0.2**
121A				*e*Sg		Sb	02 36 55.2	+9.2
MVU	**Marysvale**	**6.49**	**21**	*e*Pn		**Pn**	**02 35 18.7**	**+1.2**
MVU				*e*Pg		Pb	02 35 41.3	+6.5
MVU				*e*Sn		**Sn**	**02 36 31.8**	**+0.1**
MVU				*e*Sg		Sb	02 37 02.1	+10
LAZ	**Ladron**	**7.00**	**72**	*e*Pn		**Pn**	**02 35 24.8**	**+0.2**
LAZ				*e*Pg		Pg	02 35 51.8	-4.0
LAZ				*e*Sg		**Sg**	**02 37 22.9**	**-3.6**
MVCO	**Mesa Verde**	**7.25**	**48**	*e*Pn		**Pn**	**02 35 30.9**	**+2.9**
MVCO				*e*Pg		**Pg**	**02 35 59.1**	**-1.4**
MVCO				*e*Sg		Sg	02 37 28.7	-5.8
BNM	**Barren Site**	**7.37**	**75**	*e*Pn		**Pn**	**02 35 30.7**	**+1.2**
	comp=N,1.5nm,0.3s							
BNM				*e*Pg		Pb	02 35 56.6	+6.9
BNM				*e*Sn		**Sn**	**02 36 54.3**	**+1.0**
BNM				*e*Sg		Sb	02 37 29.0	+11
SRU	**San Rafael**	**7.63**	**29**	*e*Pn		**Pn**	**02 35 34.3**	**+1.2**
SRU				*e*Pg		Pb	02 36 04.2	+10
SRU				*e*Sg		Sb	02 37 37.9	+12
PV04	**Paradox Valley**	**7.82**	**39**	*e*Pn		Pn	02 35 40.6	+4.9
PV04				*e*Pg		Pb	02 36 09.1	+11
PV04				*e*Sg		Sb	02 37 48.8	+18
MNTX	**Cornudas Mount**	**8.36**	**93**	*e*Pn		**Pn**	**02 35 44.7**	**+1.7**

MOS ***01*** *02:34:53.2±1.1,40.85N×51.92E,h29km,mb5.0/59, MS4.4/7,Error ellipse: s-maj=5.0km s-min=3.4km az=37.6*
THR ***01*** *02:34:54.7±0.6,40.58N×51.80E,h15km,ML4.6*
ISCJB ***01*** *02:34:54.6±0.3,40.78N±0.02×51.95E±0.02,h43km±3km, mb4.7/150,MS4.2/9,Error ellipse: s-maj=3.8km s-min=2.1km az=11.1*
BJI ***01*** *02:34:55.1,40.87N×51.81E,h51km,mB5.1/15,mb4.7/26, Ms4.4/12,Ms7 4.2/11*
IDC ***01*** *02:34:55.8±0.4,40.63N×51.87E,h45km±2km,mb4.3/31, mb1 4.4/39,mb1mx4.4/41,mbtmp4.3/39,MS3.6/3, Ms1 3.5/3,ms1mx2.9/38,Error ellipse: s-maj=11.8km s-min=7.0km az=2.0*
CSEM ***01*** *02:34:56.1±0.1,40.80N×52.01E,h47km,mb4.7/96,Ms4.4, Error ellipse: s-maj=3.5km s-min=2.3km az=177.0*
NEIC ***01*** *02:34:56.0±0.2,40.73N×51.93E,mb5.0/60,Error ellipse: s-maj=5.1km s-min=2.8km az=174.0*
AZER ***01*** *02:34:57.6±0.1,40.41N×51.81E,h42km±1km,Error ellipse: s-maj=17.9km s-min=2.2km az=265.0*
NNC ***01*** *02:35:00.1±2.2,41.37N×52.61E,h0km,mb5.0,Error ellipse: s-maj=21.8km s-min=18.4km az=75.0*
SZGRF ***01*** *02:35:14.5,41.16N×49.10E,h33km,mb4.5,MS4.4, Caspian Sea*

ISC 01 02:34:56.3±0.2,40.81N±0.02×51.93E±0.02,h47km±1km, h46km:pP-P,n1027,σ1°22/1192,mb4.7/148,MS4.4/9, 191C-54D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GALA	**Gala**	**1.41**	**254**	⇓P		Pn	02 35 22.4	+2.9
	SNR=34							
GALA	**Gala**	**1.41**	**254**	P		Pn	02 35 22.4	+2.9
	SNR=34							
NDR	**Nardaran**	**1.50**	**262**	⇓P		Pn	02 35 23.7	+3.0
	SNR=49							
NDR	**Nardaran**	**1.50**	**262**	P		Pn	02 35 23.7	+3.0
	SNR=49							
GOBA	**Gobu**	**1.72**	**257**	⇑P		Pn	02 35 26.8	+3.0
	SNR=12							
GOBA	**Gobu**	**1.72**	**257**	P		Pn	02 35 26.8	+3.0
	SNR=12							
ATGJ	**Altiaghaj**	**2.27**	**272**	⇓P		**Pn**	**02 35 33.3**	**+1.8**
	SNR=89							
ATGJ	**Altiaghaj**	**2.27**	**272**	P		**Pn**	**02 35 33.3**	**+1.8**
	SNR=89							
SIZA	**Siyzn**	**2.31**	**278**	⇑P		**Pn**	**02 35 34.1**	**+2.1**
	SNR=127							
SIZA				⇓S		**Sn**	**02 36 04.3**	**+5.0**
SIZA	**Siyzn**	**2.31**	**278**	P		**Pn**	**02 35 34.1**	**+2.1**
	SNR=127							
SIZA				S		**Sn**	**02 36 04.3**	**+5.0**
ALIB	**Äli-Bayra**	**2.39**	**250**	⇑P		**Pn**	**02 35 35.3**	**+2.4**
ALIB	**Äli-Bayra**	**2.39**	**250**	P		**Pn**	**02 35 35.3**	**+2.4**
PQL	**Pirkuli**	**2.54**	**271**	⇓P		**Pn**	**02 35 37.1**	**+2.0**
	SNR=35							
PQL				⇑S		**Sn**	**02 36 06.4**	**+1.6**
PQL	**Pirkuli**	**2.54**	**271**	P		**Pn**	**02 35 37.1**	**+2.0**
	SNR=35							
PQL				S		**Sn**	**02 36 06.4**	**+1.6**
QUBA	**Quba, Azerbaij**	**2.66**	**283**	⇓P		**Pn**	**02 35 39.0**	**+2.3**
	SNR=215							
QUBA				⇓S		**Sn**	**02 36 10.2**	**+2.5**
QUBA	**Quba, Azerbaij**	**2.66**	**283**	P		**Pn**	**02 35 39.0**	**+2.3**
	SNR=215							
QUBA				S		**Sn**	**02 36 10.2**	**+2.5**
IML	**Ismayilli**	**2.85**	**271**	⇓P		**Pn**	**02 35 40.8**	**+1.5**
	SNR=45							
IML				⇓S		**Sn**	**02 36 14.3**	**+2.0**
IML				S		**Sn**	**02 36 14.3**	**+2.0**
KDMR	**Kurdemir**	**2.89**	**263**	⇓P		**Pn**	**02 35 40.6**	**+0.9**
	SNR=15							
KDMR				⇑S		**Sn**	**02 36 14.5**	**+1.3**
DRN	**Derbent**	**2.97**	**295**	⇓*i*PN		**Pn**	**02 35 43.8**	**+2.9**
DRN				pmax		pmax		
	comp=Z,131nm,0.2s							
DRN	**Derbent**	**2.97**	**295**	*i* Pn		**Pn**	**02 35 43.8**	**+2.9**
	comp=Z,131nm,0.2s							
GLBA	**Clilabad**	**3.13**	**241**	⇑P		**Pn**	**02 35 43.3**	**+0.2**
	SNR=396							
GLBA				⇓S		**Sn**	**02 36 17.4**	**-1.9**
GLBA	**Clilabad**	**3.13**	**241**	P		**Pn**	**02 35 43.3**	**+0.2**
	SNR=396							
GLBA				S		**Sn**	**02 36 17.4**	**-1.9**
LKRN	**Lenkeran, Azer**	**3.21**	**230**	⇑P		**Pn**	**02 35 43.2**	**-1.0**
	SNR=793							
LKRN				⇑S		**Sn**	**02 36 17.7**	**-3.4**
LKRN	**Lenkeran, Azer**	**3.21**	**230**	P		**Pn**	**02 35 43.2**	**-1.0**
	SNR=793							
LKRN				S		**Sn**	**02 36 17.7**	**-3.4**
LRK	**Lerik**	**3.51**	**233**	⇓P		**Pn**	**02 35 47.0**	**-1.5**
LRK				⇓S		**Sn**	**02 36 25.3**	**-3.6**
LRK	**Lerik**	**3.51**	**233**	P		**Pn**	**02 35 47.0**	**-1.5**
LRK				S		**Sn**	**02 36 25.3**	**-3.6**
SEKA	**Sheki**	**3.61**	**278**	⇑P		**Pn**	**02 35 51.0**	**+1.3**
	SNR=201							
SEKA				⇓S		**Sn**	**02 36 31.8**	**+0.8**
SEKA	**Sheki**	**3.61**	**278**	P		**Pn**	**02 35 51.0**	**+1.3**
	SNR=201							
SEKA				S		**Sn**	**02 36 31.8**	**+0.8**
BRDA	**Brd**	**3.66**	**263**	⇑P		**Pn**	**02 35 51.5**	**+1.1**
	SNR=26							
BRDA				⇑S		**Sn**	**02 36 33.3**	**+1.0**
BRDA	**Brd**	**3.66**	**263**	P		**Pn**	**02 35 51.5**	**+1.1**
	SNR=26							
BRDA				S		**Sn**	**02 36 33.3**	**+1.0**
MNSR	**Manas**	**3.68**	**302**	*e*PN		Pn	02 35 53.8	+3.2
MNSR				pmax		pmax		
	comp=Z,225nm,0.2s							
MNSR	**Manas**	**3.68**	**302**	*e*Pn		Pn	02 35 53.8	+3.2
	comp=Z,225nm,0.2s							
GRMI	**Germi**	**3.70**	**239**	*e*Pn		**Pn**	**02 35 50.3**	**-0.7**
GRMI	**Germi**	**3.70**	**239**	*e*Pn		**Pn**	**02 35 50.3**	**-0.7**
MAK	**Makhachkala**	**3.95**	**305**	*e*PN		**Pn**	**02 35 55.5**	**+1.3**
MAK				*e*			02 36 04.0	
MAK				*e*			02 36 46.2	
MAK				pmax		pmax		
	comp=Z,204nm,0.7s							
MAK	**Makhachkala**	**3.95**	**305**	*e*Pn		**Pn**	**02 35 55.5**	**+1.3**
	comp=Z,204nm,0.7s							
MAK	**Makhachkala**	**3.95**	**305**	*e*Pb		Pn	02 36 04.0	+10
ZKTA	**Zakatala**	**4.09**	**283**	⇑P		**Pn**	**02 35 58.1**	**+1.8**
	SNR=98							
ZKTA				⇓S		**Sn**	**02 36 44.7**	**+1.8**
GANJ	**Ganja**	**4.27**	**270**	⇑P		**Pn**	**02 35 58.4**	**-0.3**
	SNR=46							
GANJ				⇑S		**Sn**	**02 36 45.2**	**-2.0**
GANJ	**Ganja**	**4.27**	**270**	P		**Pn**	**02 35 58.4**	**-0.3**
	SNR=46							
GANJ				S		**Sn**	**02 36 45.2**	**-2.0**
DBC	**Dubki**	**4.40**	**302**	⇑*i*PN		Pn	02 36 03.9	+3.3
DBC				*i* S		**Sn**	**02 36 53.1**	**+2.4**
DBC	**Dubki**	**4.40**	**302**	*i* Pn		Pn	02 36 03.9	+3.3
DBC				*i* Sn		**Sn**	**02 36 53.1**	**+2.4**
MRVT	**Maraveh tapeh**	**4.50**	**133**	*e*Pn		**Pn**	**02 36 03.2**	**+1.2**
	comp=Z,360nm,0.2s							
MRVT	**Maraveh tapeh**	**4.50**	**133**	*e*Pn		**Pn**	**02 36 03.1**	**+1.2**
MRVT				AML		AML	02 36 51.9	
	comp=N,597nm,0.5s							
MRVT				AML		AML	02 36 52.9	
	comp=E,360nm,0.2s							
CHTH	**Charan**	**4.93**	**188**	*e*Pn		**Pn**	**02 36 06.8**	**-1.2**
CHTH	**Charan**	**4.93**	**188**	*e*Pn		**Pn**	**02 36 06.8**	**-1.2**
DGRG	**David-gareji**	**5.00**	**280**	P		**Pn**	**02 36 09.7**	**+0.9**
DGRG				S		**Sn**	**02 37 04.8**	**-0.4**
DGRG	**David-gareji**	**5.00**	**280**	P		**Pn**	**02 36 09.7**	**+0.9**
DGRG				S		**Sn**	**02 37 04.8**	**-0.4**
DAMV	**Damavand**	**5.17**	**180**	*e*Pn		**Pn**

KIV pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 7.53 298⇑ *e*P **Pn 02 36 43.0 -0.6**
SNR=25
KIV Kislovodsk 7.53 298 *i* P **Pn 02 36 43.1 -0.5**
comp=Z,7.0nm,0.6s
GOF Gofitskoye 7.78 306 *e*P **Pn 02 36 47.3 +0.4**
GOF *e*S **Sn 02 38 10.6 -3.0**
GOF pmax pmax
comp=Z,30nm,0.9s
GOF smax smax
comp=N,300nm,0.9s
GOF smax smax
comp=E,410nm,0.7s
GOF Gofitskoye 7.78 306 *e*P **Pn 02 36 47.3 +0.4**
comp=E,30nm,0.9s
BCA Borcka 7.81 278 *e*P Pn 02 36 51.1 +3.8
NASN Na'in 8.02 175 *e*Pn **Pn 02 36 50.2 -0.3**
NASN Na'in 8.02 175 *e*Pn **Pn 02 36 50.2 -0.3**
SIRT Sirnak 8.08 249 *e*P **Pn 02 36 52.4 +1.3**
VRTB Varto-Mus 8.21 262 *e*P **Pn 02 36 54.3 +1.4**
TABS Tabas 8.25 148 *e*Pn **Pn 02 36 54.2 +0.7**
TABS Tabas 8.25 148 *e*Pn **Pn 02 36 54.1 +0.7**
BTMT Batman 8.49 255 *e*P **Pn 02 36 58.1 +1.5**
BNGB Bing¯ll 8.84 262 *e*P **Pn 02 37 02.9 +1.4**
BAYT Ayd¯–ntepe-Bay 8.98 271 *e*P **Pn 02 37 05.9 +2.4**
ERZN Erzincan 9.43 267 *e*P **Pn 02 37 11.0 +1.5**
PTK Pertek 9.83 263 *e*P **Pn 02 37 17.1 +1.9**
AB31 Akbulak array 10.17 31 ⇑Pn **Pn 02 37 18.3 -1.2**
comp=E,16nm,0.3s,baz=212,slow=12,SNR=2098
AB31 ⇑Sn Sn 02 39 05.3 -6.8
comp=E,38nm,0.5s,baz=350,slow=39,SNR=11
AB31 Akbulak array 10.17 31 P **Pn 02 37 17.8 -1.7**
AB31 02 39 04.5
AB31 pmax pmax
comp=Z,27nm,0.3s
AB31 smax smax
comp=N,34nm,0.3s
AB31 Akbulak array 10.17 31 P **Pn 02 37 17.8 -1.7**
comp=N,27nm,0.3s
AB31 Akbulak array 10.17 31 Pn **Pn 02 37 18.3 -1.2**
comp=N,16nm,0.3s,SNR=1000
ABKAR Akbulak array 10.17 31 *e*Pn **Pn 02 37 18.0 -1.5**
ABKAR *e*Sn Sn 02 39 05.2 -6.8
ABKAR Akbulak array 10.17 31 *e*Pn **Pn 02 37 18.0 -1.5**
ABKAR *e*Sn Sn 02 39 05.2 -6.8
ILIC ilic-Erzincan 10.33 267 *e*P **Pn 02 37 23.2 +1.4**
AKTK Aktyubinsk 10.53 22 P **Pn 02 37 23.0 -1.4**
comp=N,79nm,0.4s
AKTO Aktyubinsk 10.53 22 ⇓Pn **Pn 02 37 23.4 -1.0**
comp=N,79nm,0.3s
AKTO ⇑Sn Sn 02 39 14.8 -6.0
comp=N,395nm,0.8s
AKTO Aktyubinsk 10.53 22 P **Pn 02 37 23.0 -1.4**
AKTO 02 39 14.2
AKTO pmax pmax
comp=Z,79nm,0.4s
AKTO smax smax
comp=N,395nm,0.8s
AKTO Aktyubinsk 10.53 22 P **Pn 02 37 23.7 -0.7**
AKTO S **Sn 02 39 18.6 -2.2**
AKTO Aktyubinsk 10.53 22 P **Pn 02 37 23.7 -0.7**
comp=N,48nm,0.3s,baz=206,slow=12,SNR=199
AKTO S **Sn 02 39 18.6 -2.2**
comp=N,26nm,0.3s,baz=354,slow=23,SNR=12
AKTO Aktyubinsk 10.53 22 Pn **Pn 02 37 23.4 -1.0**
comp=N,79nm,0.3s
AKTO Aktyubinsk 10.53 22 P **Pn 02 37 23.7 -0.7**
AKTO S **Sn 02 39 18.6 -2.2**
MALT Malatya 10.72 261 *e*P **Pn 02 37 28.9 +1.6**
SVSK Karacayir 11.43 270 *e*P **Pn 02 37 38.5 +1.7**
BNN Bunyan 12.52 266 *e*P **Pn 02 37 53.7 +1.9**
VRHR Novokhopersk 12.53 329 *e*P **Pn 02 37 51.8 +0.1**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR Novokhopersk 12.53 329 *e*P **Pn 02 37 51.8 +0.1**
comp=E,20nm,0.9s
KOZT Kozan 12.94 260 *e*P **Pn 02 37 57.5 +0.1**
CORM Corum 13.19 273 *e*P **Pn 02 38 02.9 +1.9**
VORD Divnogorie 13.42 323 *e*P Pn 02 37 59.6 -4.3
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,40nm,0.7s
BZK Bozkurt 13.52 281 *e*P **Pn 02 38 07.6 +2.4**
VSR Storozhevoye 13.66 324 *e*P **Pn 02 38 05.1 -2.0**
VSR *e*S Sn 02 40 29.1 -8.1
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,20nm,0.7s
VSR smax smax
comp=N,210nm,1.0s
VSR smax smax
comp=E,240nm,1.0s
VSR smax smax
comp=Z,50nm,0.7s
BR131 Keskin Array S 14.02 272 *e*Pn **Pn 02 38 12.8 +0.6**
comp=Z,9.2nm,0.4s
BR131 *e*P **P 02 38 19.4 +0.4**
BR131 Keskin Array S 14.02 272 *e*Pn **Pn 02 38 12.8 +0.6**
comp=Z,9.2nm,0.4s
BRTR Keskin Array B 14.02 272 P **Pn 02 38 12.1 -0.2**
BRTR Keskin Array B 14.02 272 P **Pn 02 38 12.1 -0.2**
comp=Z,0.3nm,0.3s,baz=84,slow=9.3,SNR=15
BRTR Keskin Array B 14.02 272 P **Pn 02 38 12.1 -0.2**
KK31 Karatay Array 14.02 74 ⇑Pn **Pn 02 38 09.9 -2.2**
comp=Z,9.9nm,0.6s,baz=259,slow=17,SNR=105
KK31 ⇑Sn Sn 02 40 40.0 -6.1
comp=Z,15nm,0.5s,baz=273,slow=25,SNR=4.6
KK31 Karatay Array 14.02 74 *i* P **Pn 02 38 09.9 -2.2**
KK31 02 40 39.4
KK31 pmax pmax
comp=Z,5.0nm,0.3s
KK31 smax smax
comp=N,17nm,0.4s
KK31 Karatay Array 14.02 74 Pn **Pn 02 38 09.9 -2.2**
comp=N,9.9nm,0.6s,SNR=105
KKAR Karatay Array 14.02 74 *e*P **Pn 02 38 09.9 -2.2**
KKAR *e* 02 40 40.1
KKAR Karatay Array 14.02 74 *e*Pn **Pn 02 38 09.9 -2.2**
KKAR *e*Sn Sn 02 40 40.1 -6.0
KKAR Karatay Array 14.02 74 *e*Pn **Pn 02 38 09.9 -2.2**
KKAR *e*Sn Sn 02 40 40.1 -6.0
SULT Sultanhani-AKS 14.46 266 *e*P **Pn 02 38 19.6 +1.5**
AFSR Af¯ar-Bala (A 14.50 271 *e*P **Pn 02 38 19.6 +1.0**
ANTO Ankara 14.63 273 *e*P **Pn 02 38 20.0 -0.4**
ANTO Ankara 14.63 273 *e*P **Pn 02 38 22.6 +2.2**
ANTO Ankara 14.63 273 *e*Pn **Pn 02 38 20.0 -0.4**
ANTO *e*P **P 02 38 26.5 +0.7**
ANTO Ankara 14.63 273 *e*Pn **Pn 02 38 20.0 -0.4**
LOD Lodumlu 14.65 273 *e*P **Pn 02 38 21.9 +1.3**
ASF Jabal al Asfar 14.83 239 P **Pn 02 38 22.4 -0.7**
ASF Jabal al Asfar 14.83 239 P **Pn 02 38 22.4 -0.7**
comp=N,0.2nm,0.3s,baz=36,slow=8.6,SNR=8.3
KBL Kabul 14.91 109 *e*P **Pn 02 38 24.8 +0.6**
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 14.91 109 *e*Pn **Pn 02 38 24.8 +0.6**
comp=Z,11nm,0.9s
KBL Kabul 14.91 109 *e*Pn **Pn 02 38 24.8 +0.6**
comp=Z,11nm,0.9s
IKL Isikli 14.99 258 *e*P **Pn 02 38 25.6 +0.6**
MMAI Mount Meron Ar 15.32 245 P **Pn 02 38 25.9 -3.5**
MMAI Mount Meron Ar 15.32 245 P **Pn 02 38 25.9 -3.5**
comp=Z,1.8nm,0.3s,baz=52,slow=14,SNR=4.1
MMAI Mount Meron Ar 15.32 245 P **Pn 02 38 26.0 -3.5**
LADK Ladik-KONYA 15.33 267 *e*P **Pn 02 38 30.3 +0.8**
LFK Lefkose 15.50 255 *e*P **Pn 02 38 32.6 +0.8**
SVRH Sivrihisar-ESK 15.67 272 *e*P **Pn 02 38 34.9 +0.9**
MDUB Mudurnu 15.75 276 *e*P **P 02 38 37.2 -1.0**
CSS Prodhromos 15.79 254 *e*P **Pn 02 38 36.6 +1.1**
NAZ Nazwa, Dubai 16.08 168⇓ *e*P **Pn 02 38 37.3 -1.8**
NAZ Nazwa, Dubai 16.08 168 P **Pn 02 38 37.3 -1.8**
ARU Arti 16.23 13 Pn **Pn 02 38 37.1 -3.6**
comp=Z,490nm,0.5s,SNR=23

ARU Arti 16.23 13*c i*P **Pn 02 38 36.8 -3.9**
ARU S Sn 02 41 32.7 -6.8
ARU pmax pmax
comp=Z,30nm,0.6s
GULT Gulveren 16.27 276 *e*P **P 02 38 43.3 -0.6**
FAQ Al Faqa, Dubai 16.31 168⇓ *e*P **Pn 02 38 39.8 -2.2**
FAQ Al Faqa, Dubai 16.31 168 P **Pn 02 38 39.8 -2.2**
HATD Hatta, Dubai 16.32 166⇑ *e*P **Pn 02 38 40.6 -1.6**
HATD Hatta, Dubai 16.32 166 P **Pn 02 38 40.6 -1.6**
AML Almayashu 16.36 78 *i* P **Pn 02 38 43.1 +0.1**
AML Almayashu 16.36 78 P **Pn 02 38 43.1 +0.1**
SNR=23
AML Almayashu 16.36 78 *i* P **Pn 02 38 43.1 +0.1**
ASUD Al Ashush, Dub 16.38 169⇑ *e*P **Pn 02 38 40.9 -2.1**
ASUD Al Ashush, Dub 16.38 169 P **Pn 02 38 40.8 -2.1**
EKS2 Erkin-Say 16.41 76 *i* P **Pn 02 38 42.5 -0.8**
EKS2 Erkin-Say 16.41 76 P **Pn 02 38 42.5 -0.8**
SNR=14
EKS2 Erkin-Say 16.41 76 *e*Pn **Pn 02 38 43.1 -0.2**
comp=Z,14nm,0.8s
EKS2 Erkin-Say 16.41 76 *i* P **Pn 02 38 42.5 -0.8**
EKS2 Erkin-Say 16.41 76 *e*Pn **Pn 02 38 43.1 -0.2**
comp=Z,14nm,0.8s
SUTC Sutluce-Ispart 16.57 265 *e*P **P 02 38 47.1 -0.3**
SHUT Suhut-Afyon 16.61 269 *e*P **P 02 38 47.7 -0.1**
CAVI Cavuskoy 16.81 275 *e*P **P 02 38 51.5 +1.7**
AAK Ala-Archa 16.94 76 ⇑Pn **Pn 02 38 50.1 +0.1**
comp=Z,11nm,0.8s
AAK Ala-Archa 16.94 76 *i* P **P 02 38 50.5 -0.9**
AAK Ala-Archa 16.94 76 P **P 02 38 50.5 -0.9**
SNR=17
AAK Ala-Archa 16.94 76 P **Pn 02 38 50.2 +0.2**
AAK Ala-Archa 16.94 76 P **Pn 02 38 50.2 +0.2**
comp=Z,2.5nm,0.3s,baz=245,slow=8.7,SNR=36
AAK LR LR 02 46 08.1
comp=Z,252nm,20.1s,baz=36,slow=40
AAK Ala-Archa 16.94 76 P **Pn 02 38 50.2 +0.2**
USP Ospenovka 16.94 74 *i* P **Pn 02 38 49.0 -0.8**
USP Ospenovka 16.94 74 P **Pn 02 38 49.1 -0.8**
SNR=26
USP Ospenovka 16.94 74 *i* P **Pn 02 38 49.0 -0.8**
UCH Uchtor 16.97 78 *i* P **P 02 38 51.5 -0.5**
UCH Uchtor 16.97 78 P **P 02 38 51.6 -0.5**
SNR=6.8
UCH Uchtor 16.97 78 *i* P **P 02 38 51.5 -0.5**
SVE Sverdlovsk 17.00 17 *e*P **Pn 02 38 48.4 -2.1**
SVE pmax pmax
comp=Z,69nm,1.1s
CHMS Chumysh 17.12 75 *i* P **Pn 02 38 52.0 -0.1**
CHMS Chumysh 17.12 75 P **Pn 02 38 52.0 -0.1**
SNR=9.7
CHMS Chumysh 17.12 75 *i* P **Pn 02 38 52.0 -0.1**
GEMT Gemlik 17.27 276 *e*P **P 02 38 57.8 +2.9**
KBK Karagaybulak 17.27 76 *i* P **P 02 38 55.4 +0.3**
KBK Karagaybulak 17.27 76 P **P 02 38 55.4 +0.3**
SNR=43
KBK Karagaybulak 17.27 76 *i* P **P 02 38 55.4 +0.3**
TLCR 17.45 292⇑ *i*P **Pn 02 38 54.9 -1.2**
KHL Karahalli 17.45 269 *e*P **P 02 38 59.2 +2.2**
BRVK Borovoye 17.46 39 ⇓Pn **Pn 02 38 54.2 -2.0**
comp=Z,59nm,0.7s
BRVK Borovoye 17.46 39⇑ *i*P **Pn 02 38 54.3 -1.9**
BRVK pmax pmax
comp=Z,76nm,1.2s
BRVK Borovoye 17.46 39 Pn **Pn 02 38 54.2 -2.0**
comp=Z,59nm,0.7s
BVA0 Borovoye Array 17.49 40 ⇓Pn **Pn 02 38 54.6 -2.0**
comp=Z,34nm,0.6s,baz=229,slow=12,SNR=450
BVA0 ⇑Sn Sn 02 41 58.7 -12
comp=Z,29nm,0.7s,baz=300,slow=50,SNR=7.0
BVA0 Borovoye Array 17.49 40 *i* P **Pn 02 38 54.4 -2.2**
BVA0 02 41 58.3
BVA0 pmax pmax
comp=Z,35nm,0.6s
BVA0 smax smax
comp=N,51nm,1.1s
BVA0 Borovoye Array 17.49 40 Pn **Pn 02 38 54.6 -2.0**
comp=N,34nm,0.6s,SNR=450
BVAR Borovoye Array 17.49 40 P **Pn 02 38 54.7 -1.9**
BVAR S Sn 02 42 01.4 -8.9
BVAR pmax pmax
comp=Z,8.0nm,0.3s
BVAR smax smax
comp=N,5.0nm,0.3s
BVAR Borovoye Array 17.49 40 P **Pn 02 38 54.7 -1.9**
BVAR S Sn 02 42 01.4 -8.9
BVAR Borovoye Array 17.49 40 P **Pn 02 38 54.7 -1.9**
comp=N,8.2nm,0.3s,baz=238,slow=11,SNR=116
BVAR S Sn 02 42 01.4 -8.9
comp=N,5.3nm,0.3s,baz=228,slow=22,SNR=7.0
BVAR Borovoye Array 17.49 40 P **Pn 02 38 54.7 -1.9**
comp=N,8.0nm,0.3s
MANR Mangalia 17.52 288⇓ *i*P **Pn 02 38 56.6 -0.3**
KZA Kyzart 17.52 78 *i* P **P 02 38 58.6 +0.5**
KZA Kyzart 17.52 78 P **P 02 38 58.7 +0.5**
SNR=39
KZA Kyzart 17.52 78 *i* P **P 02 38 58.6 +0.5**
OBN Obninsk 17.57 330 *i* P **Pn 02 38 56.5 -1.0**
OBN *e* 02 42 03.7
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 17.57 330 *i* P **Pn 02 38 56.5 -1.0**
comp=Z,4.0nm,0.6s
ELL Elmali 17.64 264 *e*P **P 02 39 00.8 +1.7**
MOS Moscow 17.66 333 *e*P **Pn 02 38 55.7 -2.9**
MOS *e*S Sn 02 42 02.4 -12
MOS pmax pmax
comp=Z,34nm,1.0s
MOS MLR MLR
comp=E,2μm,16.0s
MOS MLR MLR
comp=Z,3μm,16.0s
TIRR Tirgusor 17.67 290 *e*P **Pn 02 38 56.2 -2.6**
TIRR pmax pmax
comp=Z,30nm,1.0s
TIRR Tirgusor 17.67 290⇑ *i*P **Pn 02 38 57.9 -0.9**
TIRR Tirgusor 17.67 290 *e*Pn **Pn 02 38 56.2 -2.6**
comp=Z,30nm,1.0s
TIRR Tirgusor 17.67 290 *e*Pn **Pn 02 38 56.2 -2.6**
comp=Z,30nm,1.0s
TIRR Tirgusor 17.67 290⇑ *i*P **Pn 02 38 57.9 -0.9**
KIS Kishinev 17.74 298 *e*P **Pn 02 38 58.0 -1.7**
KIS *e*S **Sn 02 42 13.0 -3.3**
EIL Elat 17.74 237 P **Pn 02 38 56.9 -3.0**
EIL Elat 17.74 237 P **Pn 02 38 56.9 -3.0**
baz=324,slow=8.7,SNR=2.3
EIL Elat 17.74 237 P **Pn 02 38 56.8 -3.0**
TKM2 Tokmak 2 17.74 75 ⇑Pn **Pn 02 38 59.6 -0.3**
comp=Z,36nm,0.8s
TKM2 Tokmak 2 17.74 75 *i* P **P 02 38 59.9 -0.4**
TKM2 Tokmak 2 17.74 75 P **P 02 38 59.9 -0.4**
SNR=38
TKM2 Tokmak 2 17.74 75 *e*Pn **Pn 02 38 59.5 -0.5**
comp=Z,33nm,0.8s
TKM2 Tokmak 2 17.74 75 *e*Pn **Pn 02 38 59.5 -0.5**
comp=Z,33nm,0.8s
TKM2 Tokmak 2 17.74 75 *i* P **P 02 38 59.9 -0.4**
PSN Preselentsi 17.80 287 *e*P **Pn 02 39 00.0 -0.5**
PSN Preselentsi 17.80 287⇑ *i*P **Pn 02 39 00.7 +0.2**
PSN Preselentsi 17.80 287⇑ *i*P **Pn 02 39 00.7 +0.2**
GLHS Glhisar (BURDU 17.81 265 *e*P **P 02 39 04.6 +3.6**
CTYL Yal??k??y-??at 17.82 280 *e*P **P 02 39 05.4 +4.5**
CFR Carcaliu 17.93 292⇓ *i*P **Pn 02 39 00.5 -1.5**
LEOM Leova 18.03 296⇑ *i*P **P 02 39 01.8 -1.4**
MSAB Monastry St. A 18.07 288⇓ *i*P **P 02 39 03.4 -0.3**
ULHL Ulahol 18.25 77 *i* P **Pn 02 39 07.9 +1.8**
ULHL Ulahol 18.25 77 P **Pn 02 39 07.9 +1.8**
SNR=10
CRLT Corlu 18.27 279 *e*P Pn 02 39 11.5 +5.3
KSH Kashi 18.41 86 *e*P **P 02 39 06.0 -1.6**
KSH *es*P **sP 02 39 21.6 -2.9**
KSH *e*PP **PnPn 02 39 23.1 +2.7**
KSH *e*S Sn 02 42 22.8 -10
KSH sS **S 02 42 38.5 +3.0**
KSH SS **SnSn 02 42 49.3 +2.5**
KSH *e*PcP **PcP 02 43 38.1 +1.3**
KSH pmax pmax
comp=Z,3.0nm,0.5s
KSH pmax pmax
comp=Z,270nm,4.4s
KSH LR LR
comp=Z,290nm,6.8s

KSH LR LR
comp=Z,480nm,11.0s
KSH LR LR
comp=Z,340nm,9.7s
NEF NEVSHA 18.46 286 *e*P **Pn 02 39 09.0 +0.4**
GHRR 18.54 295⇓ *i*P **P 02 39 09.1 +0.3**
DALY Dalyan (Mu¯la 18.56 265 *e*P **Pn 02 39 13.8 +4.1**
AK02 Malin Array Si 18.61 310 *e*P **P 02 39 08.0 -1.5**
AK02 *e*Sn **Sn 02 42 34.9 -2.3**
AK02 Malin Array Si 18.61 310 *e*P **P 02 39 08.0 -1.5**
AKASG Malin Array Be 18.61 310*c e*P **P 02 39 08.6 -0.9**
AKASG pmax pmax
comp=Z,30nm,0.6s
AKASG Malin Array Be 18.61 310 P **P 02 39 08.7 -0.9**
AKASG S **Sn 02 42 35.3 -2.0**
AKASG Malin Array Be 18.61 310 P **P 02 39 08.7 -0.9**
comp=Z,17nm,0.3s,baz=112,slow=11,SNR=112
AKASG S **Sn 02 42 35.3 -2.0**
comp=Z,2.0nm,0.3s,baz=112,slow=22,SNR=7.0
AKASG Malin Array Be 18.61 310 P **P 02 39 08.7 -0.9**
AKASG S **Sn 02 42 35.3 -2.0**
AKBB Malin Array Si 18.61 310 *e*P **P 02 39 09.0 -0.6**
AKBB *e* 02 42 34.6
AKBB Malin Array Si 18.61 310 *e*P **P 02 39 08.9 -0.6**
AKBB *e*Sn **Sn 02 42 34.6 -2.7**
AKBB Malin Array Si 18.61 310 *e*P **P 02 39 08.9 -0.6**
AKBB *e*Sn **Sn 02 42 34.6 -2.7**
AK01 Malin Array Si 18.62 310 *e*P **P 02 39 08.8 -0.8**
AK01 *e*Sn **Sn 02 42 34.8 -2.6**
AK01 Malin Array Si 18.62 310 *e*P **P 02 39 08.8 -0.8**
KIEV Kiev 18.62 310*c i*P **P 02 39 09.1 -0.6**
KIEV Kiev 18.62 310 *e*P **P 02 39 08.5 -1.1**
comp=Z,44nm,0.8s
KIEV *e*Sn **Sn 02 42 34.7 -2.8**
KIEV Kiev 18.62 310 *i* P **P 02 39 09.1 -0.6**
AYDB Zeytinkoy-Aydi 18.79 269 *e*P Pn 02 39 17.6 +4.9
VRI Vrincioaia 18.99 294⇑ *i*P **P 02 39 14.5 +0.7**
JMB Yambol 19.00 283⇓ *i*P **Pn 02 39 15.1 +0.1**
PLOR Plostina 19.04 294⇓ *i*P **P 02 39 15.3 +0.9**
ISR Istrita 19.05 292⇓ *i*P **Pn 02 39 15.6 0.0**
SOKR Solikamsk 19.06 8*d i*P **P 02 39 14.6 +0.3**
SOKR S Sn 02 42 34.3 -13
SOKR pmax pmax
comp=Z,40nm,0.9s
MLR Muntele Rosu 19.50 293⇓ *i*P **Pn 02 39 21.2 +0.2**
MLR Muntele Rosu 19.50 293 P **Pn 02 39 21.2 +0.2**
MLR Muntele Rosu 19.50 293 P **Pn 02 39 21.2 +0.2**
comp=Z,0.4nm,0.3s,baz=336,slow=0.1,SNR=36
MLR Muntele Rosu 19.50 293 P **Pn 02 39 21.2 +0.2**
DOPR Dopca 19.93 294⇑ *i*P **P 02 39 24.3 +0.3**
KDZ Kurdzhali 19.94 281 *e*P **P 02 39 24.7 +0.5**
KDZ Kurdzhali 19.94 281⇓ *i*P **P 02 39 25.6 +1.4**
KDZ Kurdzhali 19.94 281⇓ *i*P **P 02 39 25.6 +1.4**
VOIR 20.12 292⇓ *i*P **P 02 39 26.9 +0.7**
HUMR Humele 20.13 290⇑ *i*P **P 02 39 26.9 +0.7**
GOLR 20.15 291⇓ *i*P Pn 02 39 28.0 -0.6
BURAR Bucovina Array 20.26 299⇑ *i*P **P 02 39 27.4 -0.3**
BUR08 Bucovina Ar. S 20.28 299 *e*P **P 02 39 27.3 -0.6**
BUR08 Bucovina Ar. S 20.28 299 *e*P **P 02 39 27.3 -0.6**
ARR Arges 20.41 292⇑ *i*P **P 02 39 30.0 +0.7**
RZN Rozhen 20.46 281 *e*P **P 02 39 29.9 -0.1**
KURBB Kurchatov Arra 20.90 53 ⇓P Pn 02 39 35.8 -1.7
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 20.90 53 P Pn 02 39 36.2 -1.2
comp=Z,22nm,0.7s,baz=254,slow=12,SNR=75
KURBB S **S 02 43 22.0 -2.8**
comp=Z,3.5nm,0.8s,baz=169,slow=16,SNR=4.5
KURBB Kurchatov Arra 20.90 53 P Pn 02 39 35.8 -1.7
comp=Z,19nm,0.8s
KURK Kurchatov 20.98 53 ⇓P Pn 02 39 37.1 -1.3
comp=Z,22nm,0.6s
KURK Kurchatov 20.98 53 P **P 02 39 36.4 +1.0**
KURK pmax pmax
comp=Z,22nm,0.6s
KURK Kurchatov 20.98 53 P **P 02 39 36.2 +0.8**
KURK S **S 02 43 22.0 -4.4**
KURK Kurchatov 20.98 53 P **P 02 39 36.2 +0.8**
LOT Lotru 21.02 292⇓ *i*P **P 02 39 36.4 +0.4**
NVR Nevrokopi 21.14 281 P **P 02 39 37.9 +0.7**
NVR Nevrokopi 21.14 281 *e*P **P 02 39 37.7 +0.5**
NVR Nevrokopi 21.14 281 P **P 02 39 37.9 +0.7**
NVR Nevrokopi 21.14 281 P **P 02 39 37.9 +0.7**
MMB Musomiste 21.20 281 *e*P **P 02 39 37.0 -0.9**
MMB Musomiste 21.20 281⇓ *i*P **P 02 39 38.8 +0.9**
MMB Musomiste 21.20 281⇓ *i*P **P 02 39 38.8 +0.9**
OUR Ouranopolis 21.21 278 *e*P **P 02 39 36.7 -1.2**
PRGR Permogore 21.21 352⇓ *i*P **P 02 39 38.3 +0.6**
PRGR *e*S S 02 43 21.8 -8.8
PRGR pmax pmax
comp=Z,52nm,0.6s
PRGR Permogore 21.21 352 *i* P **P 02 39 38.3 +0.6**
comp=Z,52nm,0.6s
CJR Cluj-Napoca 21.23 296⇓ *i*P **P 02 39 39.0 +0.8**
SRS Serrai 21.37 280 P **P 02 39 40.2 +0.6**
SRS Serrai 21.37 280 P **P 02 39 40.2 +0.6**
SRS Serrai 21.37 280 *e*P **P 02 39 40.3 +0.6**
SRS Serrai 21.37 280 P **P 02 39 40.2 +0.6**
SRS Serrai 21.37 280 P **P 02 39 40.2 +0.6**
SRE Strehaia 21.40 290⇑ *i*P **P 02 39 40.2 +0.3**
BMR Baia Mare 21.42 298⇑ *i*P **P 02 39 40.3 +0.2**
VTS Vitosha 21.48 284 P **P 02 39 41.4 +0.4**
VTS Vitosha 21.48 284 P **P 02 39 41.4 +0.4**
VTS Vitosha 21.48 284 *e*P **P 02 39 40.0 -1.0**
VTS Vitosha 21.48 284⇑ *i*P **P 02 39 41.6 +0.6**
VTS Vitosha 21.48 284 P **P 02 39 41.4 +0.4**
VTS Vitosha 21.48 284 P **P 02 39 41.4 +0.4**
LVV L'vov 21.49 304 *e*P **P 02 39 40.2 -0.6**
LVV L'vov 21.49 304 *e*P **P 02 39 40.2 -0.6**
SOH Sokhos 21.60 279 *e*P **P 02 39 42.5 +0.4**
PLG Polygyros 21.60 278 P **P 02 39 42.6 +0.4**
PLG Polygyros 21.60 278 P **P 02 39 42.6 +0.4**
PLG Polygyros 21.60 278 *e*P **P 02 39 42.7 +0.5**
PLG Polygyros 21.60 278 P **P 02 39 42.6 +0.4**
PLG Polygyros 21.60 278 P **P 02 39 42.6 +0.4**
KKB Krupnik 21.65 282 *e*P **P 02 39 42.0 -0.6**
HORT Horliatis 21.82 279 *e*P **P 02 39 45.0 +0.4**
NACGM Naroch 21.83 319 *e*P P 02 39 39.0 -5.4
DRGR 21.85 296⇑ *i*P **P 02 39 44.8 0.0**
KNT Kendrikon 21.88 281 *e*P **P 02 39 45.0 -0.1**
THE Thessaloniki 21.92 279 *e*P **P 02 39 45.7 +0.2**
IDI Anoyia 21.95 264 P **P 02 39 44.6 -1.4**
IDI Anoyia 21.95 264 P **P 02 39 44.6 -1.4**
comp=Z,13nm,0.3s,baz=45,slow=4.8,SNR=30
IDI Anoyia 21.95 264 P **P 02 39 44.6 -1.4**
NEO Neokhori 21.99 276 *e*P **P 02 39 42.7 -3.6**
IDID Didziasalis 22.06 320 *e*P **P 02 39 46.2 -0.7**
IDID AMB AMB 02 39 51.2
comp=Z,12nm,0.8s
IDID Didziasalis 22.06 320 *e*P **P 02 39 46.2 -0.7**
comp=Z,12nm,0.8s,SNR=33
TRPA Tarpa 22.12 299⇑ *e* **P 02 39 48.0 +0.4**
KWP Kalwaria Pacla 22.28 303 *e*P **P 02 39 49.6 +0.2**
KWP Kalwaria Pacla 22.28 303 *e*P **P 02 39 49.6 +0.2**
KWP Kalwaria Pacla 22.28 303⇓ *i*P **P 02 39 49.5 +0.2**
KWP Kalwaria Pacla 22.28 303 *e*P **P 02 39 49.6 +0.2**
GRG Griva 22.29 280 *e*P **P 02 39 49.4 -0.1**
IIGN Ignalina 22.33 319 *e*P **P 02 39 48.8 -1.0**
IIGN AMB AMB 02 39 52.5
comp=Z,12nm,0.7s
IIGN Ignalina 22.33 319 *e*P **P 02 39 48.8 -1.0**
comp=Z,12nm,0.7s,SNR=29
UZH Uzhgorod 22.36 300 *e*P **P 02 39 51.6 +1.4**
UZH *e* 02 39 58.9
UZH *e* 02 40 03.7
UZH *e* 02 40 18.7
UZH *e* 02 40 30.5
UZH *e*S **S 02 43 49.5 -3.4**
UZH Uzhgorod 22.36 300 *e*P **P 02 39 51.6 +1.4**
LIT Litokhoron 22.37 278 *e*P **P 02 39 51.2 +0.8**
KOLS Kolonicke sedl 22.43 301 *e*P **P 02 39 52.3 +1.4**
KOLS pmax pmax
comp=Z,8.0nm,0.7s
KOLS Kolonicke sedl 22.43 301 *e*P **P 02 39 52.3 +1.4**
KOLS *e* 02 40 01.2
KOLS *e*PCP **PcP 02 43 42.7 -1.2**
KOLS Kolonicke sedl 22.43 301 *e*P **P 02 39 52.3 +1.4**
comp=Z,8.0nm,0.7s
ISAL Salakas 22.49 320 *e*P **P 02 39 50.4 -1.1**
ISAL AMB AMB 02 39 54.7
comp=Z,17nm,0.8s
ISAL Salakas 22.49 320 *e*P **P 02 39 50.4 -1.1**
comp=Z,17nm,0.8s,SNR=28

MK31	**Makanchi Array**	**22.62**	**65**	P		**P**	**02 39 54.6**	**+1.5**
	comp=Z,12nm,0.6s,baz=259,slow=9.1,SNR=103							
MK31				⇓S		**S**	**02 44 00.4**	**+2.8**
	comp=Z,12nm,0.7s							
MK31	**Makanchi Array**	**22.62**	**65**	*i* P		**P**	**02 39 54.6**	**+1.5**
MK31							02 43 59.7	
MK31				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MK31				smax	smax			
	comp=N,5.0nm,0.6s							
MK31	**Makanchi Array**	**22.62**	**65**	*e*P		**P**	**02 39 54.5**	**+1.4**
MK31	**Makanchi Array**	**22.62**	**65**	*e*P		**P**	**02 39 54.5**	**+1.4**
AGG	**Agios Georgios**	**22.73**	**275**	*e*P		P	02 39 49.0	-5.2
THL	**Klokotos Trika**	**22.84**	**277**	*e*P		**P**	**02 39 54.8**	**-0.6**
KZN	**Kozani**	**22.87**	**279**	*e*P		**P**	**02 39 55.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**22.95**	**301**	*e*P		**P**	**02 39 56.2**	**-0.2**
CRVS				pmax	pmax			
	comp=Z,12nm,1.3s							
CRVS	**Cervenica-Dubn**	**22.95**	**301**	*e*P		**P**	**02 39 56.2**	**-0.2**
CRVS				*e*			02 40 07.6	
CRVS	**Cervenica-Dubn**	**22.95**	**301**	*e*P		**P**	**02 39 56.2**	**-0.2**
	comp=Z,12nm,1.3s							
KALE	**Kalithea**	**23.04**	**274**	P		**P**	**02 39 56.6**	**-0.8**
KALE	**Kalithea**	**23.04**	**274**	P		**P**	**02 39 56.6**	**-0.8**
KALE	**Kalithea**	**23.04**	**274**	P		**P**	**02 39 56.6**	**-0.8**
FNA	**Florina**	**23.08**	**280**	*e*P		P	02 39 52.3	-5.5
EVR	**Evrytania**	**23.15**	**275**	P		**P**	**02 39 59.5**	**+0.9**
EVR	**Evrytania**	**23.15**	**275**	P		**P**	**02 39 59.5**	**+0.9**
EVR	**Evrytania**	**23.15**	**275**	P		**P**	**02 39 59.5**	**+0.9**
STHS	**Stebnicka Huta**	**23.18**	**302**	*e*P		**P**	**02 39 57.9**	**-0.8**
STHS	**Stebnicka Huta**	**23.18**	**302**	*e*P		**P**	**02 39 57.9**	**-0.8**
STHS				*e*			02 40 10.2	
STHS	**Stebnicka Huta**	**23.18**	**302**	*e*P		**P**	**02 39 57.9**	**-0.8**
	comp=Z,2.4nm,0.8s							
LAKA	**Lakka**	**23.20**	**273**	P		**P**	**02 39 58.8**	**-0.2**
LAKA	**Lakka**	**23.20**	**273**	P		**P**	**02 39 58.8**	**-0.2**
LAKA	**Lakka**	**23.20**	**273**	P		**P**	**02 39 58.8**	**-0.2**
EFP	**Efpalio**	**23.20**	**274**	P		**P**	**02 39 58.5**	**-0.5**
SUW	**Suwalki**	**23.32**	**314**	*e*P		**P**	**02 40 00.7**	**+0.7**
SUW	**Suwalki**	**23.32**	**314**	*e*P		**P**	**02 40 00.6**	**+0.6**
SUW	**Suwalki**	**23.32**	**314**	*e*P		**P**	**02 40 00.6**	**+0.6**
SUW	**Suwalki**	**23.32**	**314**	*e*P		**P**	**02 40 00.6**	**+0.6**
PVO	**Paravola**	**23.44**	**275**	P		**P**	**02 40 01.8**	**+0.5**
DRO	**Drossia**	**23.48**	**273**	P		**P**	**02 40 00.8**	**-0.9**
PDO	**Prodromos**	**23.70**	**275**	P		**P**	**02 40 03.5**	**-0.3**
DIVS	**Divibare**	**23.72**	**289**	P		**P**	**02 40 03.6**	**-0.3**
DIVS	**Divibare**	**23.72**	**289**	⇑*i*P		**P**	**02 40 04.5**	**+0.6**
NIE	**Niedzica**	**23.78**	**302**	*e*P		**P**	**02 40 05.6**	**+1.2**
NIE	**Niedzica**	**23.78**	**302**	*e*P		**P**	**02 40 05.6**	**+1.2**
PKSN	**Nyarlorinc**	**23.80**	**296**	⇓*e*P		**P**	**02 40 06.2**	**+1.6**
VSU	**Vasula**	**23.82**	**326**	*i* P		**P**	**02 40 04.5**	**-0.1**
PSZ	**Piszkesteto**	**23.86**	**298**	*e*P		**P**	**02 40 05.9**	**+0.7**
PSZ	**Piszkesteto**	**23.86**	**298**	⇓*i*P		**P**	**02 40 05.4**	**+0.2**
PSZ	**Piszkesteto**	**23.86**	**298**	*e*P		**P**	**02 40 05.9**	**+0.7**
PSZ	**Piszkesteto**	**23.86**	**298**	⇑*e*P		**P**	**02 40 06.5**	**+1.3**
PSZ	**Piszkesteto**	**23.86**	**298**	*e*P		**P**	**02 40 05.9**	**+0.7**
PVY	**Plav**	**23.87**	**285**	⇑*i*P		**P**	**02 40 06.7**	**+1.3**
BEY	**Berane**	**23.89**	**286**	*e*P		**P**	**02 40 06.3**	**+0.8**
IVA	**Berane**	**23.89**	**286**	*e*P		**P**	**02 40 06.3**	**+0.8**
BEL	**Belsk**	**23.99**	**308**	*e*P		**P**	**02 40 06.9**	**+0.7**
BEL	**Belsk**	**23.99**	**308**	*e*P		**P**	**02 40 06.9**	**+0.7**
LKD2	**Lefkada island**	**24.05**	**275**	P		**P**	**02 40 06.7**	**-0.3**
LKD2	**Lefkada island**	**24.05**	**275**	P		**P**	**02 40 06.7**	**-0.3**
LKD2	**Lefkada island**	**24.05**	**275**	P		**P**	**02 40 06.7**	**-0.3**
IGT	**Igoumenitsa**	**24.12**	**277**	P		**P**	**02 40 07.2**	**-0.4**
IGT	**Igoumenitsa**	**24.12**	**277**	P		**P**	**02 40 07.2**	**-0.4**
IGT	**Igoumenitsa**	**24.12**	**277**	*e*P		**P**	**02 40 07.2**	**-0.4**
IGT	**Igoumenitsa**	**24.12**	**277**	P		**P**	**02 40 07.2**	**-0.4**
IGT	**Igoumenitsa**	**24.12**	**277**	P		**P**	**02 40 07.2**	**-0.4**
OJC	**Ojcow**	**24.24**	**304**	*e*P		**P**	**02 40 09.1**	**+0.5**
OJC	**Ojcow**	**24.24**	**304**	*e*P		**P**	**02 40 09.1**	**+0.5**
SRN	**Sarande**	**24.29**	**278**	P		**P**	**02 40 08.8**	**-0.3**
SRN	**Sarande**	**24.29**	**278**	P		**P**	**02 40 08.8**	**-0.3**
SRN	**Sarande**	**24.29**	**278**	P		**P**	**02 40 08.8**	**-0.3**
PDG	**Podgorica**	**24.41**	**285**	⇑*i*P		**P**	**02 40 11.4**	**+1.3**
TTG	**Podgorica**	**24.41**	**285**	⇑*i*P		**P**	**02 40 11.3**	**+1.2**
BUD	**Budapest**	**24.41**	**297**	⇓*e*P		**P**	**02 40 11.7**	**+1.5**
ULC	**Ulcinj**	**24.48**	**284**	⇑*i*P		**P**	**02 40 11.2**	**+0.3**
ULC	**Ulcinj**	**24.48**	**284**	⇑*i*P		**P**	**02 40 11.2**	**+0.3**
NKY	**Niksic**	**24.55**	**286**	⇑*i*P		**P**	**02 40 11.5**	**-0.1**
NKY	**Niksic**	**24.55**	**286**	⇑*i*P		**P**	**02 40 11.6**	**-0.1**
UPM	**Unac-Piva**	**24.57**	**287**	⇑*i*P		**P**	**02 40 10.4**	**-1.5**
UPM	**Unac-Piva**	**24.57**	**287**	⇑*i*P		**P**	**02 40 10.5**	**-1.5**
PKSM	**Moragy**	**24.63**	**294**	⇑*i*P		**P**	**02 40 13.2**	**+1.1**
PKSM	**Moragy**	**24.63**	**294**	⇓*e*P		**P**	**02 40 13.3**	**+1.1**
PKSM	**Moragy**	**24.63**	**294**	⇓*e*P		**P**	**02 40 13.3**	**+1.1**
BUM	**Brajici-Budva**	**24.69**	**284**	⇑*i*P		**P**	**02 40 13.4**	**+0.6**
BUM	**Brajici-Budva**	**24.69**	**284**	⇑*i*P		**P**	**02 40 13.4**	**+0.6**
PKSG		**24.84**	**297**	⇑*e*P		**P**	**02 40 15.4**	**+1.4**
BRY	**Bratogost**	**24.87**	**286**	⇑*i*P		**P**	**02 40 14.3**	**-0.2**
BRY	**Bratogost**	**24.87**	**286**	⇑*i*P		**P**	**02 40 14.4**	**-0.2**
PKS9	**Tamasi**	**24.88**	**295**	⇓*e*P		**P**	**02 40 15.8**	**+1.3**
HCY	**Herceg Novi**	**24.96**	**285**	⇑*i*P		**P**	**02 40 15.9**	**+0.7**
HCY	**Herceg Novi**	**24.96**	**285**	⇑*i*P		**P**	**02 40 16.0**	**+0.7**
PKST	**T"s**	**25.07**	**296**	⇓*e*P		**P**	**02 40 17.1**	**+0.9**
OKC	**Ostrava-Krasne**	**25.23**	**302**	⇑*i*P		**P**	**02 40 18.5**	**+0.9**
OKC				MLR	MLR			
	comp=Z,700nm,11.7s							
OKC	**Ostrava-Krasne**	**25.23**	**302**	⇑*i*P		**P**	**02 40 18.5**	**+0.9**
OKC				AMS	AMS		02 56 00.0	
	comp=Z,700nm,11.7s							
OKC	**Ostrava-Krasne**	**25.23**	**302**	P		**P**	**02 40 18.5**	**+0.9**
JOF	**Joensuu**	**25.32**	**338**	*e*P		**P**	**02 40 19.2**	**+1.0**
JOF				pmax	pmax			
	comp=Z,25nm,0.5s							
JOF	**Joensuu**	**25.32**	**338**	*ep*		**P**	**02 40 19.2**	**+1.0**
	comp=Z,25nm,0.5s							
SMOL	**Smolenice**	**25.55**	**299**	*e*P		**P**	**02 40 21.6**	**+1.0**
SMOL	**Smolenice**	**25.55**	**299**	*e*P		**P**	**02 40 21.6**	**+1.0**
ZAA0	**Zalesovo Array**	**25.59**	**48**	*e*P		**P**	**02 40 21.5**	**+0.7**
ZAA0	**Zalesovo Array**	**25.59**	**48**	*e*P		**P**	**02 40 21.5**	**+0.7**
ZALV	**Zalesovo Beam**	**25.59**	**48**	P		**P**	**02 40 22.5**	**+1.7**
ZALV				*PP		**pP**	**02 40 34.3**	**+1.3**
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.4s							
ZALV	**Zalesovo Beam**	**25.59**	**48**	P		**P**	**02 40 22.5**	**+1.7**
ZALV				pP		**pP**	**02 40 34.3**	**+1.3**
ZALV				S		**sS**	**02 45 07.1**	**+1.2**
ZALV	**Zalesovo Beam**	**25.59**	**48**	P		**P**	**02 40 22.5**	**+1.7**
	comp=Z,4.5nm,0.4s,baz=262,slow=10,SNR=24							
ZALV				pP		**pP**	**02 40 34.3**	**+1.3**
	comp=Z,6.1nm,0.5s,baz=260,slow=11,SNR=9.4							
ZALV				S		**sS**	**02 45 07.1**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=251,slow=15,SNR=4.0							
ZALV				LR	LR		02 52 01.2	
	comp=Z,204nm,19.8s,baz=69,slow=40							
ZALV	**Zalesovo Beam**	**25.59**	**48**	P		**P**	**02 40 22.5**	**+1.7**
ZALV				pP		**pP**	**02 40 34.3**	**+1.3**
MORC	**Moravsky Berou**	**25.61**	**302**	⇑*i*P		**P**	**02 40 22.9**	**+1.8**
MORC	**Moravsky Berou**	**25.61**	**302**	⇑*i*P		**P**	**02 40 22.9**	**+1.8**
FIA1	**FINESS Array S**	**25.95**	**331**	*e*P		**P**	**02 40 24.2**	**+0.2**
FIA1	**FINESS Array S**	**25.95**	**331**	*e*P		**P**	**02 40 24.2**	**+0.2**
FINES	**FINESS Array B**	**25.95**	**331**	P		**P**	**02 40 24.4**	**+0.4**
FINES				pP		**pP**	**02 40 37.4**	**+1.2**
FINES				S		**sS**	**02 45 13.0**	**+1.6**
FINES	**FINESS Array B**	**25.95**	**331**	P		**P**	**02 40 24.4**	**+0.4**
	comp=Z,11nm,0.5s,baz=135,slow=11,SNR=44							
FINES				pP		**pP**	**02 40 37.4**	**+1.2**
	comp=Z,18nm,0.7s,baz=137,slow=10,SNR=11							
FINES				S		**sS**	**02 45 13.0**	**+1.6**
	comp=Z,8.4nm,0.9s,baz=120,slow=20,SNR=5.0							
FINES	**FINESS Array B**	**25.95**	**331**	P		**P**	**02 40 24.4**	**+0.4**
FINES				pP		**pP**	**02 40 37.4**	**+1.2**
SOP	**Sopron**	**26.09**	**297**	⇓*e*P		**P**	**02 40 26.5**	**+1.1**
KRLC	**Kraliky**	**26.14**	**303**	⇑*i*P		**P**	**02 40 26.4**	**+0.5**
KRLC	**Kraliky**	**26.14**	**303**	⇑*i*P		**P**	**02 40 26.4**	**+0.5**
KRLC	**Kraliky**	**26.14**	**303**	P		**P**	**02 40 26.4**	**+0.5**
VRAC	**Vranov**	**26.17**	**301**	⇓*i*P		**P**	**02 40 27.1**	**+0.9**
VRAC	**Vranov**	**26.17**	**301**	P		**P**	**02 40 27.0**	**+0.8**
VRAC	**Vranov**	**26.17**	**301**	P		**P**	**02 40 27.0**	**+0.8**
	comp=Z,3.3nm,0.5s,baz=99,slow=8.8,SNR=15							
VRAC	**Vranov**	**26.17**	**301**	⇓*i*P		**P**	**02 40 27.1**	**+0.9**
KOGS	**Kog**	**26.28**	**294**	*i* P		**P**	**02 40 28.0**	**+0.9**
KAF	**Kangasniemi**	**26.32**	**333**	*e*P		**P**	**02 40 29.7**	**+2.4**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KAF	**Kangasniemi**	**26.32**	**333**	*ep*		**P**	**02 40 29.7**	**+2.4**
	comp=Z,2.1nm,0.3s							
DPC	**Dobruska-Polom**	**26.46**	**303**	⇑*i*P		**P**	**02 40 30.1**	**+1.3**
DPC				*e*			02 40 42.1	
DPC	**Dobruska-Polom**	**26.46**	**303**	⇑*i*P		**P**	**02 40 30.1**	**+1.3**
DPC				*e*pP		**pP**	**02 40 42.1**	**+1.1**
DPC				AMS	AMS		02 56 40.0	
DPC	**Dobruska-Polom**	**26.46**	**303**	*e*P		**P**	**02 40 29.9**	**+1.0**
DPC	**Dobruska-Polom**	**26.46**	**303**	P		**P**	**02 40 30.1**	**+1.3**
WMQ	**Urumqi**	**26.49**	**72**	P		**P**	**02 40 32.0**	**+2.9**
WMQ				pP		**pP**	**02 40 43.6**	**+2.3**
WMQ				sP		**sP**	**02 40 49.2**	**+2.3**
WMQ				PP		**PnPn**	**02 41 17.0**	**+6.2**
WMQ				S		**S**	**02 45 01.6**	**+1.7**
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,140nm,7.0s							
WMQ				LR	LR			
	comp=Z,110nm,20.2s							
WMQ				LR	LR			
	comp=Z,130nm,18.0s							
KSP	**Ksiaz**	**26.55**	**304**	*e*P		**P**	**02 40 30.1**	**+0.6**
KSP				*e**PP		**pP**	**02 40 42.0**	**+0.3**
KSP	**Ksiaz**	**26.55**	**304**	*e*P		**P**	**02 40 30.4**	**+0.9**
CONA	**Conrad Observa**	**26.57**	**298**	⇑*i*P		**P**	**02 40 30.3**	**+0.5**
	comp=Z,5.8nm,0.8s							
CONA	**Conrad Observa**	**26.57**	**298**	P		**P**	**02 40 30.3**	**+0.5**
	comp=Z,5.8nm,0.8s							
UPC	**Upice**	**26.68**	**303**	⇑*i*P		**P**	**02 40 32.0**	**+1.3**
UPC				*e*			02 40 44.0	
UPC	**Upice**	**26.68**	**303**	⇑*i*P		**P**	**02 40 32.0**	**+1.3**
UPC				*e*pP		**pP**	**02 40 44.0**	**+1.1**
UPC	**Upice**	**26.68**	**303**	P		**P**	**02 40 32.0**	**+1.3**
ARSA	**Arzberg**	**26.78**	**296**	⇑*i*P		**P**	**02 40 32.5**	**+0.8**
	comp=Z,8.1nm,0.5s,SNR=5.8							
ARSA	**Arzberg**	**26.78**	**296**	P		**P**	**02 40 32.5**	**+0.8**
	comp=Z,8.1nm,0.5s,SNR=5.8							
CRES	**Cresnjev**	**26.85**	**293**	*i* P		**P**	**02 40 33.0**	**+0.8**
TREC	**Trest**	**26.89**	**301**	*e*P		**P**	**02 40 33.7**	**+1.0**
TREC				MLR	MLR			
	comp=Z,1μm,9.9s							
TREC	**Trest**	**26.89**	**301**	⇑*e*P		**P**	**02 40 33.7**	**+1.0**
TREC				AMS	AMS		02 57 00.0	
	comp=Z,1μm,9.9s							
TREC	**Trest**	**26.89**	**301**	P		**P**	**02 40 33.7**	**+1.0**
PERS	**Pernice**	**27.06**	**295**	*i* P		**P**	**02 40 34.9**	**+0.7**
SOKA	**Soboth**	**27.12**	**295**	⇑*i*P		**P**	**02 40 35.6**	**+0.8**
	comp=Z,16nm,0.6s,SNR=6.0							
SOKA	**Soboth**	**27.12**	**295**	P		**P**	**02 40 35.6**	**+0.8**
	comp=Z,16nm,0.6s,SNR=6.0							
OBKA	**Obir**	**27.46**	**295**	⇓*i*P		**P**	**02 40 38.8**	**+1.0**
	comp=Z,5.5nm,0.6s							
OBKA	**Obir**	**27.46**	**295**	P		**P**	**02 40 38.8**	**+1.0**
	comp=Z,5.5nm,0.6s							
LJU	**Ljubljana**	**27.49**	**294**	*i* P		**P**	**02 40 38.9**	**+0.8**
PRU	**Pruhonice**	**27.56**	**302**	*e*P		**P**	**02 40 39.5**	**+0.9**
PRU				*e*			02 40 51.4	
PRU				MLR	MLR			
	comp=Z,900nm,15.4s							
PRU				MLR	MLR			
	comp=E,600nm,16.6s							
PRU	**Pruhonice**	**27.56**	**302**	⇑*e*P		**P**	**02 40 39.5**	**+0.9**
PRU				*ep*P		**pP**	**02 40 51.4**	**+0.5**
PRU				AMS	AMS		02 57 20.0	
	comp=E,900nm,15.4s							
PRU	**Pruhonice**	**27.56**	**302**	P		**P**	**02 40 39.5**	**+0.9**
PVCC	**Panska Ves**	**27.60**	**303**	*e*P		**P**	**02 40 36.8**	**-2.1**
PVCC				MLR	MLR			
	comp=Z,1μm,25.2s							
PVCC	**Panska Ves**	**27.60**	**303**	⇑*e*P		**P**	**02 40 36.8**	**-2.1**
PVCC				AMS	AMS		02 57 10.0	
	comp=Z,1μm,25.2s							
CRNS	**Crni Vrh**	**27.67**	**294**	*i* P		**P**	**02 40 40.5**	**+0.7**
BRG	**Berggiesshubel**	**28.03**	**304**	*e*P		**P**	**02 40 44.1**	**+1.3**
	comp=Z,18nm,1.0s							
BRG				pmax	pmax			
	comp=Z,18nm,1.0s							
BRG				MLR	MLR			
	comp=N,3μm,23.1s							
BRG				MLR	MLR			
	comp=E,730nm,21.1s							
BRG				MLR	MLR			
	comp=Z,1μm,13.6s							
BRG	**Berggiesshubel**	**28.03**	**304**	*e*P		**P**	**02 40 44.1**	**+1.3**
BRG				pmax	pmax			
	comp=Z,18nm,1.0s							
BRG				MLR	MLR			
	comp=N,3μm,23.1s							
BRG				MLR	MLR			
	comp=E,730nm,21.1s							
BRG				MLR	MLR			
	comp=Z,1μm,13.6s							
BRG	**Berggiesshubel**	**28.03**	**304**	*e*P		**P**	**02 40 44.5**	**+1.7**
	comp=Z,8.0nm,0.7s							
BRG	**Berggiesshubel**	**28.03**	**304**	*e*P		**P**	**02 40 44.5**	**+1.7**
	comp=Z,8.0nm,0.7s							
GEC2	**GERESS Array S**	**28.04**	**300**	*e*P		**P**	**02 40 43.9**	**+0.9**
	comp=Z,4.0nm,0.6s							
GEC2	**GERESS Array S**	**28.04**	**300**	*e*P		**P**	**02 40 43.9**	**+0.9**
	comp=Z,4.0nm,0.6s							
GERES	**GERESS Array B**	**28.04**	**300**	P		**P**	**02 40 43.3**	**+0.3**
GERES				pP		**pP**	**02 40 53.8**	**-1.5**
GERES				sP		**sP**	**02 41 00.5**	**-0.4**
GERES	**GERESS Array B**	**28.04**	**300**	P		**P**	**02 40 43.3**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=92,slow=8.5,SNR=95							
GERES				pP		**pP**	**02 40 53.8**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=74,slow=16,SNR=4.2							
GERES				sP		**sP**	**02 41 00.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=100,slow=9.3,SNR=4.0							
GERES	**GERESS Array B**	**28.04**	**300**	P		**P**	**02 40 43.3**	**+0.3**
GERES				pP		**pP**	**02 40 53.8**	**-1.5**
KHC	**Kasperske Hory**	**28.13**	**300**	⇑*i*P		**P**	**02 40 44.1**	**+0.3**
KHC				*e*			02 40 53.9	
KHC	**Kasperske Hory**	**28.13**	**300**	⇑*i*P		**P**	**02 40 44.1**	**+0.3**
KHC				*e*pP		**pP**	**02 40 53.9**	**-2.1**
KHC	**Kasperske Hory**	**28.13**	**300**	P		**P**	**02 40 44.1**	**+0.3**
BSD	**Bornholm Skovb**	**28.23**	**313**	⇑*i*P		**P**	**02 40 44.2**	**-0.3**
BSD				pmax	pmax			
	comp=Z,6.0nm,0.4s							
BSD	**Bornholm Skovb**	**28.23**	**313**	⇑*i*P		**P**	**02 40 44.2**	**-0.3**
	comp=Z,6.1nm,0.3s							
KBA	**Koelnbreinsper**	**28.27**	**296**	⇑*i*P		**P**	**02 40 45.9**	**+0.7**
	comp=Z,14nm,0.5s,SNR=6.1							
KBA	**Koelnbreinsper**	**28.27**	**296**	P		**P**	**02 40 45.9**	**+0.7**
	comp=Z,14nm,0.5s,SNR=6.1							
RUE	**Ruedersdorf**	**28.34**	**307**	*e*P		**P**	**02 40 46.5**	**+1.0**
	comp=Z,8.0nm,0.8s							
RUE	**Ruedersdorf**	**28.34**	**307**	*e*P		**P**	**02 40 46.5**	**+1.0**
	comp=Z,8.0nm,0.8s							
WET	**Wettzell**	**28.59**	**300**	*e*P		**P**	**02 40 49.4**	**+1.5**
	comp=Z,1.0nm,0.6s							
WET	**Wettzell**	**28.59**	**300**	*e*P		**P**	**02 40 49.4**	**+1.5**
	comp=Z,1.0nm,0.6s							
RJOB	**Jochberg**	**28.63**	**297**	*e*P		**P**	**02 40 49.1**	**+0.9**
	comp=Z,11nm,0.8s							
RJOB	**Jochberg**	**28.63**	**297**	*e*P		**P**	**02 40 49.1**	**+0.9**
	comp=Z,11nm,0.8s							
CLL	**Collm**	**28.67**	**305**	*e*P		**P**	**02 40 49.0**	**+0.6**
CLL				pmax	pmax			
	comp=Z,12nm,1.2s							
CLL	**Collm**	**28.67**	**305**	*e*P		**P**	**02 40 49.7**	**+1.3**
	comp=Z,4.0nm,0.7s							
CLL	**Collm**	**28.67**	**305**	*e*P		**P**	**02 40 49.0**	**+0.6**
	comp=Z,12nm,1.2s							
CLL				*ep*P		**pP**	**02 41 00.0**	**-0.7**
CLL				*e*PPP	PPP		02 41 49.0	
CLL	**Collm**	**28.67**	**305**	*e*P		**P**	**02 40 49.7**	**+1.3**
	comp=Z,4.0nm,0.7s							
DANN	**Dangsing**	**28.84**	**106**	*e*P		**P**	**02 40 51.9**	**+1.4**
ABTA	**Abfaltersbach**	**28.85**	**295**	⇑*i*P		**P**	**02 40 50.5**	**+0.3**
	comp=Z,9.4nm,0.7s							
ABTA	**Abfaltersbach**	**28.85**	**295**	P		**P**	**02 40 50.5**	**+0.3**
	comp=Z,9.4nm,0.7s							
NKC	**Novy Kostel**	**28.93**	**302**	⇑*i*P		**P**	**02 40 51.9**	**+1.1**
NKC				MLR	MLR			
	comp=Z,800nm,11.2s							
NKC	**Novy Kostel**	**28.93**	**302**	⇑*i*P		**P**	**02 40 51.9**	**+1.1**
NKC				AMS	AMS		02 58 00.0	
	comp=Z,800nm,11.2s							
NKC	**Novy Kostel**	**28.93**	**302**	P		**P**	**02 40 51.9**	**+1.1**
TANN	**Tannenbergstha**	**28.93**	**303**	*e*P		**P**	**02 40 52.3**	**+1.4**
	comp=Z,5.0nm,0.7s							
TANN	**Tannenbergstha**	**28.93**	**303**	*e*P		**P**	**02 40 52.3**	**+1.4**
	comp=Z,5.0nm,0.7s							
KOLN	**Koldanda**	**29.05**	**107**	*e*P		**P**	**02 40 53.2**	**+0.9**
ROTZ	**Rotzenmuhle**	**29.06**	**301**	*e*P		**P**	**02 40 53.0**	**+1.1**
	comp=Z,2.0nm,0.7s							
ROTZ	**Rotzenmuhle**	**29.06**	**301**	*e*P		**P**	**02 40 53.0**	**+1.1**
	comp=Z,2.0nm,0.7s							
MANZ	**Manzenberg**	**29.13**	**302**	*e*P		**P**	**02 40 55.2**	**+2.6**
	comp=Z,2.0nm,0.7s							
MANZ	**Manzenberg**	**29.13**	**302**	*e*P		**P**	**02 40 55.2**	**+2.6**
	comp=Z,2.0nm,0.7s							
NEUB	**Neuenburg**	**29.43**	**304**	*e*P		**P**	**02 40 56.8**	**+1.7**
	comp=Z,15nm,0.9s							
NEUB	**Neuenburg**	**29.43**	**304**	*e*P		**P**	**02 40 56.8**	**+1.7**
	comp=Z,15nm,0.9s							
WATA	**Walderalm**	**29.47**	**296**	⇑*i*P		**P**	**02 40 55.5**	**-0.2**
	comp=Z,7.4nm,0.5s,SNR=11							
WATA	**Walderalm**	**29.47**	**296**	P		**P**	**02 40 55.5**	**-0.2**
	comp=Z,7.4nm,0.5s,SNR=11							
FUR	**Furstenfeldbru**	**29.65**	**298**	*e*P		**P**	**02 40 58.0**	**+0.8**
	comp=Z,11nm,0.6s							
FUR	**Furstenfeldbru**	**29.65**	**298**	*e*P		**P**	**02 40 58.0**	**+0.8**
	comp=Z,11nm,0.6s							
GRA1	**Grafenberg Arr**	**29.69**	**301**	*e*P		**P**	**02 40 59.0**	**+1.4**
	comp=Z,6.0nm,0.7s							
GRF	**Grafenberg Arr**	**29.69**	**301**	*e*P		**P**	**02 40 59.0**	**+1.4**
	comp=Z,6.0nm,0.7s							
GRF				*e*L		L	02 59 03.4	
	comp=Z,870nm,18.7s							
MOTA	**Moosalm**	**29.79**	**296**	⇑*i*P		**P**	**02 40 58.0**	**-0.6**
	comp=Z,7.1nm,0.6s,SNR=12							
MOTA	**Moosalm**	**29.79**	**296**	P		**P**	**02 40 58.0**	**-0.6**
	comp=Z,7.1nm,0.6s,SNR=12							
RETA	**Reutte**	**30.01**	**297**	⇑*i*P		**P**	**02 40 60.0**	**-0.5**
	comp=Z,4.2nm,0.5s							
RETA	**Reutte**	**30.01**	**297**	P		**P**	**02 41 00.0**	**-0.5**
	comp=Z,4.2nm,0.5s							
FETA	**Feichten**	**30.06**	**296**	⇑*i*P		**P**	**02 41 00.6**	**-0.4**
	comp=Z,16nm,1.2s							
DMN	**Daman**	**30.24**	**105**	*e*P		**P**	**02 41 03.4**	**+0.5**
KKN	**Kakani**	**30.26**	**105**	*e*P		**P**	**02 41 04.4**	**+1.3**
CLZ	**Clausthal**	**30.35**	**305**	*e*P		**P**	**02 41 05.0**	**+1.6**
	comp=Z,7.0nm,0.7s							
CLZ	**Clausthal**	**30.35**	**305**	*e*P		**P**	**02 41 05.0**	**+1.6**
	comp=Z,7.0nm,0.7s							
PKIN	**Phulchoki**	**30.47**	**105**	*e*P		**P**	**02 41 05.7**	**+0.8**
	comp=Z,6.0nm,0.4s							
PKI	**Pulchoki**	**30.48**	**105**	*e*P		**P**	**02 41 05.8**	**+0.7**
	comp=Z,6.7nm,0.6s							
UBBA	**Unterbreizbach**	**30.52**	**303**	*e*P		**P**	**02 41 06.5**	**+1.8**
	comp=Z,6.0nm,0.6s							
UBBA	**Unterbreizbach**	**30.52**	**303**	*e*P		**P**	**02 41 06.5**	**+1.8**
	comp=Z,6.0nm,0.6s							
NRDL	**

MEM Membach 33.05 303 P P 02 41 28.9 +1.8
comp=Z,8.9nm,1.1s
MBDF Montbardon 33.06 292 *e*P P 02 41 27.7 +0.3
comp=Z,54nm,0.6s
MBDF Montbardon 33.06 292 *e*P P 02 41 27.7 +0.3
MBDF pmax pmax
comp=Z,54nm,0.6s
MBDF Montbardon 33.06 292 *e*P P 02 41 27.7 +0.3
comp=Z,54nm,0.6s
MBDF Montbardon 33.06 292 *e*P P 02 41 27.7 +0.3
comp=Z,27nm,0.6s
CABF La Chapelle 33.27 296⇑*e*P P 02 41 29.4 +0.3
comp=Z,35nm,0.5s
CABF La Chapelle 33.27 296⇑*i*P P 02 41 29.4 +0.3
CABF pmax pmax
comp=Z,35nm,0.5s
CABF La Chapelle 33.27 296⇑*i*P P 02 41 29.4 +0.3
comp=Z,35nm,0.5s
CABF La Chapelle 33.27 296⇑*i*P P 02 41 29.4 +0.3
comp=Z,17nm,0.5s
PAGF Fort de Pagny 33.33 299⇑*i*P P 02 41 30.3 +0.8
comp=Z,6.0nm,0.6s
PAGF Fort de Pagny 33.33 299⇑*i*P P 02 41 30.3 +0.8
comp=Z,6.0nm,0.6s
PAGF Fort de Pagny 33.33 299⇑*i*P P 02 41 30.3 +0.8
comp=Z,3.0nm,0.6s
LMR La Mourre 33.50 290 *e*P P 02 41 31.0 -0.1
LMR La Mourre 33.50 290 *e*P P 02 41 31.0 -0.1
LMR La Mourre 33.50 290 *e*P P 02 41 31.0 -0.1
LMR La Mourre 33.50 290 *e*P P 02 41 31.0 -0.1
BCLA Clavier 33.51 303 P P 02 41 31.6 +0.6
KEST Kesra 33.57 275 *e*P P 02 41 31.0 -0.9
KEST Kesra 33.57 275 P P 02 41 32.7 +0.8
comp=Z,3.9nm,0.9s,baz=37,slow=10,SNR=6.7
KEST Kesra 33.57 275 *e*P P 02 41 31.0 -0.9
ORIF Oris-en-Rattie 33.66 293 *e*P P 02 41 32.0 -0.5
ORIF Oris-en-Rattie 33.66 293 *e*P P 02 41 32.0 -0.5
ORIF Oris-en-Rattie 33.66 293 *e*P P 02 41 32.0 -0.5
ORIF Oris-en-Rattie 33.66 293 *e*P P 02 41 32.0 -0.5
MEZF Maizieres J'vi 33.78 299⇑*i*P P 02 41 34.1 +0.7
comp=Z,21nm,0.6s
MEZF Maizieres J'vi 33.78 299⇑*i*P P 02 41 34.1 +0.7
comp=Z,21nm,0.6s
MEZF Maizieres J'vi 33.78 299⇑*i*P P 02 41 34.1 +0.7
comp=Z,10nm,0.6s
SFTF Sexfontaines 33.81 299⇑*i*P P 02 41 34.1 +0.4
comp=Z,23nm,0.6s
SFTF Sexfontaines 33.81 299⇑*i*P P 02 41 34.1 +0.4
comp=Z,23nm,0.6s
SFTF Sexfontaines 33.81 299⇑*i*P P 02 41 34.1 +0.4
comp=Z,12nm,0.6s
GIVF Givet 33.83 302⇑*i*P P 02 41 35.6 +1.8
comp=Z,28nm,0.8s
GIVF Givet 33.83 302⇑*i*P P 02 41 35.6 +1.8
GIVF pmax pmax
comp=Z,28nm,0.8s
GIVF Givet 33.83 302⇑*i*P P 02 41 35.6 +1.8
comp=Z,28nm,0.8s
GIVF Givet 33.83 302⇑*i*P P 02 41 35.6 +1.8
comp=Z,14nm,0.8s
DOU Dourbes 33.97 302 P P 02 41 36.8 +1.7
SMRF Simiane la Rot 34.04 291 *e*P P 02 41 36.2 +0.4
comp=Z,13nm,0.7s
SMRF Simiane la Rot 34.04 291 *e*P P 02 41 36.2 +0.4
comp=Z,13nm,0.7s
SMRF Simiane la Rot 34.04 291 *e*P P 02 41 36.2 +0.4
comp=Z,6.7nm,0.7s
SNF Seneffe 34.16 303 P P 02 41 37.9 +1.2
BAIF Baives 34.23 302⇑*i*P P 02 41 39.2 +1.9
comp=Z,38nm,0.8s
BAIF Baives 34.23 302⇑*i*P P 02 41 39.2 +1.9
BAIF pmax pmax
comp=Z,38nm,0.8s
BAIF Baives 34.23 302⇑*i*P P 02 41 39.2 +1.9
comp=Z,38nm,0.8s
BAIF Baives 34.23 302⇑*i*P P 02 41 39.2 +1.9
comp=Z,19nm,0.8s
VIVF Saint-Julien-l 34.51 293 *e*P P 02 41 39.9 0.0
comp=Z,18nm,0.6s
VIVF Saint-Julien-l 34.51 293 *e*P P 02 41 39.9 0.0
VIVF pmax pmax
comp=Z,18nm,0.6s
VIVF Saint-Julien-l 34.51 293 *e*P P 02 41 39.9 0.0
comp=Z,18nm,0.6s
VIVF Saint-Julien-l 34.51 293 *e*P P 02 41 39.9 0.0
comp=Z,8.9nm,0.6s
SSB Saint Sauveur 34.53 294 *e*P P 02 41 39.9 -0.1
SSB pmax pmax
comp=Z,17nm,0.4s
SSB Saint Sauveur 34.53 294 *e*P P 02 41 39.9 -0.1
comp=Z,17nm,0.4s
SSB Saint Sauveur 34.53 294 *e*P P 02 41 39.9 -0.1
comp=Z,17nm,0.4s
LOR Lormes 34.70 297⇑*i*P P 02 41 41.4 -0.1
comp=Z,22nm,0.7s
LOR Lormes 34.70 297⇑*i*P P 02 41 41.4 -0.1
comp=Z,22nm,0.7s
LOR Lormes 34.70 297⇑*i*P P 02 41 41.4 -0.1
comp=Z,11nm,0.7s
SMF Signal de Mont 34.80 296⇑*i*P P 02 41 42.5 +0.2
comp=Z,16nm,0.5s
SMF Signal de Mont 34.80 296⇑*i*P P 02 41 42.5 +0.2
SMF pmax pmax
comp=Z,16nm,0.5s
SMF Signal de Mont 34.80 296⇑*i*P P 02 41 42.5 +0.2
comp=Z,16nm,0.5s
SMF Signal de Mont 34.80 296⇑*i*P P 02 41 42.5 +0.2
comp=Z,8.1nm,0.5s
SSF Saint Saulge 34.97 297⇑*i*P P 02 41 43.8 0.0
comp=Z,7.1nm,0.4s
SSF Saint Saulge 34.97 297⇑*i*P P 02 41 43.8 0.0
SSF pmax pmax
comp=Z,7.0nm,0.4s
SSF Saint Saulge 34.97 297⇑*i*P P 02 41 43.8 0.0
comp=Z,7.1nm,0.4s
SSF Saint Saulge 34.97 297⇑*i*P P 02 41 43.8 0.0
comp=Z,3.5nm,0.4s
MOY Mondy 35.01 55 *e*P pP 02 41 55.4 -1.2
AVF Avril sur Loir 35.11 296⇑*i*P P 02 41 45.4 +0.4
comp=Z,23nm,0.5s
AVF Avril sur Loir 35.11 296⇑*i*P P 02 41 45.4 +0.4
AVF pmax pmax
comp=Z,23nm,0.5s
AVF Avril sur Loir 35.11 296⇑*i*P P 02 41 45.4 +0.4
comp=Z,23nm,0.5s
AVF Avril sur Loir 35.11 296⇑*i*P P 02 41 45.4 +0.4
comp=Z,11nm,0.5s
LASF Ste Croix 35.23 292 *e*P P 02 41 46.4 +0.3
comp=Z,20nm,0.8s
LASF Ste Croix 35.23 292 *e*P P 02 41 46.4 +0.3
comp=Z,20nm,0.8s
LASF Ste Croix 35.23 292 *e*P P 02 41 46.4 +0.3
comp=Z,9.9nm,0.8s
BGF Bois d'Agland 35.49 296⇑*i*P P 02 41 48.6 +0.3
comp=Z,14nm,0.6s
BGF Bois d'Agland 35.49 296⇑*i*P P 02 41 48.6 +0.3
BGF pmax pmax
comp=Z,14nm,0.6s
BGF Bois d'Agland 35.49 296⇑*i*P P 02 41 48.6 +0.3
comp=Z,14nm,0.6s
BGF Bois d'Agland 35.49 296⇑*i*P P 02 41 48.6 +0.3
comp=Z,6.8nm,0.6s
HYF Humbligny 35.53 297 *e*P P 02 41 49.3 +0.7
HYF Humbligny 35.53 297 *e*P P 02 41 49.3 +0.7
HYF Humbligny 35.53 297 *e*P P 02 41 49.3 +0.7
TCF Toulx Ste Croi 35.97 296⇑*i*P P 02 41 53.2 +0.8
comp=Z,32nm,0.6s
TCF Toulx Ste Croi 35.97 296⇑*i*P P 02 41 53.2 +0.8
TCF pmax pmax
comp=Z,32nm,0.6s
TCF Toulx Ste Croi 35.97 296⇑*i*P P 02 41 53.2 +0.8
comp=Z,32nm,0.6s
TCF Toulx Ste Croi 35.97 296⇑*i*P P 02 41 53.2 +0.8
comp=Z,16nm,0.6s
GTA Gaotai 36.29 76 *e*P P 02 41 57.7 +2.4
GTA pP **pP 02 42 05.8 -2.0**
GTA pmax pmax
comp=Z,6.0nm,0.8s
CAF Calvac 36.32 294⇑*i*P P 02 41 56.2 +0.8
comp=Z,35nm,0.9s
CAF Calvac 36.32 294⇑*i*P P 02 41 56.2 +0.8
CAF pmax pmax
comp=Z,35nm,0.9s
CAF Calvac 36.32 294⇑*i*P P 02 41 56.2 +0.8
comp=Z,35nm,0.9s
CAF Calvac 36.32 294⇑*i*P P 02 41 56.2 +0.8
comp=Z,18nm,0.9s

ZAK Zakamensk 36.52 57 *e*P P 02 41 59.8 +2.7
ZAK pmax pmax
comp=Z,5.0nm,1.3s
MTLF Montolieu 36.55 291 *e*P P 02 41 57.7 +0.3
MTLF Montolieu 36.55 291 *e*P P 02 41 57.7 +0.3
MTLF Montolieu 36.55 291 *e*P P 02 41 57.7 +0.3
MTLF Montolieu 36.55 291 *e*P P 02 41 57.7 +0.3
RJF Les Rejaudoux 36.62 294 *e*P P 02 41 59.1 +1.1
RJF Les Rejaudoux 36.62 294 *e*P P 02 41 59.1 +1.1
RJF Les Rejaudoux 36.62 294 *e*P P 02 41 59.1 +1.1
RJF Les Rejaudoux 36.62 294 *e*P P 02 41 59.1 +1.1
TLY Talaya 36.65 55 *e*P P 02 41 51.0 -7.1
TLY pmax pmax
comp=Z,5.0nm,0.9s
LDF La Druitiere 37.18 300 *e*P P 02 42 02.8 +0.2
comp=Z,13nm,0.5s
LDF La Druitiere 37.18 300 *e*P P 02 42 02.8 +0.2
LDF pmax pmax
comp=Z,13nm,0.5s
LDF La Druitiere 37.18 300 *e*P P 02 42 02.8 +0.2
comp=Z,13nm,0.5s
LDF La Druitiere 37.18 300 *e*P P 02 42 02.8 +0.2
comp=Z,6.4nm,0.5s
LFF La Frestale 37.24 294⇑*i*P P 02 42 04.1 +1.0
comp=Z,51nm,0.6s
LFF La Frestale 37.24 294⇑*i*P P 02 42 04.1 +1.0
LFF pmax pmax
comp=Z,51nm,0.6s
LFF La Frestale 37.24 294⇑*i*P P 02 42 04.1 +1.0
comp=Z,51nm,0.6s
LFF La Frestale 37.24 294⇑*i*P P 02 42 04.1 +1.0
comp=Z,25nm,0.6s
FLN La Foliniere 37.40 300⇑*i*P P 02 42 04.9 +0.5
comp=Z,36nm,0.8s
FLN La Foliniere 37.40 300⇑*i*P P 02 42 04.9 +0.5
FLN pmax pmax
comp=Z,36nm,0.8s
FLN La Foliniere 37.40 300⇑*i*P P 02 42 04.9 +0.5
comp=Z,36nm,0.8s
FLN La Foliniere 37.40 300⇑*i*P P 02 42 04.9 +0.5
comp=Z,18nm,0.8s
MFF Saint Martin d 37.52 297 *e*P P 02 42 05.6 +0.1
comp=Z,16nm,0.6s
MFF Saint Martin d 37.52 297 *e*P P 02 42 05.6 +0.1
MFF pmax pmax
comp=Z,16nm,0.6s
MFF Saint Martin d 37.52 297 *e*P P 02 42 05.6 +0.1
comp=Z,16nm,0.6s
MFF Saint Martin d 37.52 297 *e*P P 02 42 05.6 +0.1
comp=Z,7.8nm,0.6s
WOL Wolverton 37.58 305 *e*P P 02 42 06.7 +0.7
WOL AMB AMB 02 42 09.2
comp=Z,232nm,2.0s
WOL Wolverton 37.58 305 *e*P P 02 42 06.7 +0.7
HPK Haverah Park 37.66 309 *e*P P 02 42 06.8 +0.2
HPK AMB AMB 02 42 12.1
comp=Z,173nm,2.4s
HPK Haverah Park 37.66 309 *e*P P 02 42 06.8 +0.2
GRR Gorron 37.70 300⇑*i*P P 02 42 07.3 +0.3
comp=Z,13nm,0.4s
GRR Gorron 37.70 300⇑*i*P P 02 42 07.3 +0.3
GRR pmax pmax
comp=Z,13nm,0.4s
GRR Gorron 37.70 300⇑*i*P P 02 42 07.3 +0.3
comp=Z,13nm,0.4s
GRR Gorron 37.70 300⇑*i*P P 02 42 07.3 +0.3
comp=Z,6.7nm,0.4s
SWN1 Swindon 37.92 305 *e*P P 02 42 09.5 +0.6
SWN1 AMB AMB 02 42 18.4
comp=Z,187nm,2.3s
SWN1 Swindon 37.92 305 *e*P P 02 42 09.5 +0.6
EPF Esparros 37.96 291 *e*P P 02 42 09.3 -0.1
EPF Esparros 37.96 291 *e*P P 02 42 09.3 -0.1
EPF Esparros 37.96 291 *e*P P 02 42 09.3 -0.1
EPF Esparros 37.96 291 *e*P P 02 42 09.3 -0.1
XAL Allendale 37.98 310 *e*P P 02 42 10.0 +0.7
XAL Allendale 37.98 310 *e*P P 02 42 10.0 +0.7
HLM1 Long Mynd 38.50 307 *e*P P 02 42 14.1 +0.3
HLM1 Long Mynd 38.50 307 *e*P P 02 42 14.1 +0.3
KESW Keswick, Cumbr 38.51 310 *e*P P 02 42 14.2 +0.5
KESW AMB AMB 02 42 17.0
comp=Z,62nm,1.8s
KESW Keswick, Cumbr 38.51 310 *e*P P 02 42 14.2 +0.5
EKA Eskdalemuir Ar 38.51 311 P P 02 42 13.9 +0.2
EKA pP **pP 02 42 26.6 +0.3**
EKA PcP **PcP 02 44 26.1 +0.4**
EKA Eskdalemuir Ar 38.51 311 P P 02 42 13.9 +0.2
comp=Z,5.8nm,0.4s,baz=97,slow=8.9,SNR=95
EKA pP **pP 02 42 26.6 +0.3**
comp=Z,3.3nm,0.4s,baz=95,slow=8.5,SNR=6.0
EKA PcP **PcP 02 44 26.1 +0.4**
comp=Z,1.9nm,0.6s,baz=95,slow=3.0,SNR=4.5
EKA Eskdalemuir Ar 38.51 311 P P 02 42 13.9 +0.2
EKA pP **pP 02 42 26.6 +0.3**
MONM Monmouth 38.52 306 *e*P P 02 42 13.7 -0.1
MONM Monmouth 38.52 306 *e*P P 02 42 13.7 -0.1
ESK Eskdalemuir 38.54 311 *e*P P 02 42 14.1 +0.1
ESK Eskdalemuir 38.54 311 *e*P P 02 42 14.1 +0.1
MCH1 Michaelchurch 38.62 306 *e*P P 02 42 14.7 0.0
MCH1 AMB AMB 02 42 16.2
comp=Z,103nm,5.4s
MCH1 Michaelchurch 38.62 306 *e*P P 02 42 14.7 0.0
ETSF Etsaut 38.63 291 *e*P P 02 42 14.6 -0.4
ETSF Etsaut 38.63 291 *e*P P 02 42 14.6 -0.4
ETSF Etsaut 38.63 291 *e*P P 02 42 14.6 -0.4
ETSF Etsaut 38.63 291 *e*P P 02 42 14.6 -0.4
FOEL Foel Wylfa 38.67 307 *e*P P 02 42 15.6 +0.5
FOEL Foel Wylfa 38.67 307 *e*P P 02 42 15.6 +0.5
SGMF Saint Gilles 38.84 300⇑*i*P P 02 42 17.3 +0.7
comp=Z,34nm,0.5s
SGMF Saint Gilles 38.84 300⇑*i*P P 02 42 17.3 +0.7
SGMF pmax pmax
comp=Z,35nm,0.5s
SGMF Saint Gilles 38.84 300⇑*i*P P 02 42 17.3 +0.7
comp=Z,34nm,0.5s
SGMF Saint Gilles 38.84 300⇑*i*P P 02 42 17.3 +0.7
comp=Z,17nm,0.5s
SONM Songino Array 38.89 61 P P 02 42 18.8 +1.6
SONM pP **pP 02 42 30.9 +1.1**
SONM sP **sP 02 42 36.7 +1.4**
SONM PcP **PcP 02 44 27.8 +0.5**
SONM pPcP 02 44 40.9
SONM Songino Array 38.89 61 P P 02 42 18.8 +1.6
comp=Z,0.6nm,0.5s,baz=273,slow=8.7,SNR=8.2
SONM pP **pP 02 42 30.9 +1.1**
comp=Z,3.5nm,0.7s,baz=273,slow=9.0,SNR=24
SONM sP **sP 02 42 36.7 +1.4**
comp=Z,2.3nm,0.7s,baz=272,slow=9.7,SNR=8.7
SONM PcP **PcP 02 44 27.8 +0.5**
comp=Z,0.7nm,0.7s,baz=285,slow=5.5,SNR=3.3
SONM pPcP 02 44 40.9
comp=Z,1.3nm,0.8s,baz=267,slow=2.3,SNR=4.5
SONM Songino Array 38.89 61 P P 02 42 18.8 +1.6
SONM pP **pP 02 42 30.9 +1.1**
WPM1 Penmaenmawr 39.06 308 *e*P P 02 42 18.8 +0.4
WPM1 Penmaenmawr 39.06 308 *e*P P 02 42 18.8 +0.4
EAB Aberfoyle 39.16 313 *e*P P 02 42 18.9 -0.3
EAB Aberfoyle 39.16 313 *e*P P 02 42 18.9 -0.3
HEX Exmoor 39.22 304 *e*P P 02 42 19.8 0.0
HEX Exmoor 39.22 304 *e*P P 02 42 19.8 0.0
PGBU Glenifferbraes 39.25 312 *e*P P 02 42 19.9 -0.1
PGBU AMB AMB 02 42 25.9
comp=Z,84nm,2.8s
PGBU Glenifferbraes 39.25 312 *e*P P 02 42 19.9 -0.1
LPW Lampeter 39.27 306 *e*P P 02 42 20.1 0.0
LPW Lampeter 39.27 306 *e*P P 02 42 20.1 0.0
ROSF Rostrenen 39.30 300⇑*i*P P 02 42 21.1 +0.7
comp=Z,47nm,0.6s
ROSF Rostrenen 39.30 300⇑*i*P P 02 42 21.1 +0.7
ROSF pmax pmax
comp=Z,47nm,0.6s
ROSF Rostrenen 39.30 300⇑*i*P P 02 42 21.1 +0.7
comp=Z,47nm,0.6s
ROSF Rostrenen 39.30 300⇑*i*P P 02 42 21.1 +0.7
comp=Z,24nm,0.6s
QUIF Quistinic 39.30 299⇑*i*P P 02 42 21.0 +0.6
comp=Z,19nm,0.5s
QUIF Quistinic 39.30 299⇑*i*P P 02 42 21.0 +0.6
QUIF pmax pmax
comp=Z,19nm,0.5s
QUIF Quistinic 39.30 299⇑*i*P P 02 42 21.0 +0.6
comp=Z,19nm,0.5s
QUIF Quistinic 39.30 299⇑*i*P P 02 42 21.0 +0.6
comp=Z,9.7nm,0.5s

ULN Ulaanbaatar 39.32 61 *e*P P 02 42 22.8 +1.9
comp=Z,18nm,0.8s
ULN Ulaanbaatar 39.32 61 *e*P P 02 42 22.8 +1.9
comp=Z,18nm,0.8s
WLF1 Llynfaes 39.35 308 *e*P P 02 42 21.2 +0.4
WLF1 Llynfaes 39.35 308 *e*P P 02 42 21.2 +0.4
YRC Rhoscolyn 39.46 308 *e*P P 02 42 22.1 +0.4
YRC Rhoscolyn 39.46 308 *e*P P 02 42 22.1 +0.4
SPITS Spitsbergen Ar 40.15 349 P P 02 42 29.0 +1.8
SPITS pP **pP 02 42 41.7 +1.9**
SPITS Spitsbergen Ar 40.15 349 P P 02 42 29.0 +1.8
comp=Z,6.3nm,0.7s,baz=134,slow=10,SNR=15
SPITS pP **pP 02 42 41.7 +1.9**
comp=Z,4.1nm,0.6s,baz=127,slow=9.6,SNR=2.2
SPITS Spitsbergen Ar 40.15 349 P P 02 42 29.0 +1.8
SPITS pP **pP 02 42 41.7 +1.9**
ESDC Sonseca Array 42.06 287 P P 02 42 43.0 -0.4
ESDC pP **pP 02 42 56.0 0.0**
ESDC Sonseca Array 42.06 287 P P 02 42 43.0 -0.4
comp=Z,3.5nm,0.6s,baz=60,slow=8.1,SNR=25
ESDC pP **pP 02 42 56.0 0.0**
comp=Z,1.1nm,0.4s,baz=63,slow=8.9,SNR=5.7
ESDC Sonseca Array 42.06 287 P P 02 42 43.0 -0.4
ESDC pP **pP 02 42 56.0 0.0**
CD2 Chengdu 42.61 86 *e*P P 02 42 49.1 +1.2
TAM Tamanrasset 42.80 260 *e*P P 02 42 49.7 0.0
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 42.80 260 *e*P P 02 42 49.7 0.0
comp=Z,4.3nm,1.0s
TAM Tamanrasset 42.80 260 *e*P P 02 42 49.7 0.0
comp=Z,4.3nm,1.0s
KMBO Kilima Mbogo 43.83 201 *e*P P 02 42 57.9 -0.2
comp=Z,2.8nm,1.2s
KMBO pP **pP 02 43 09.9 -0.9**
KMBO Kilima Mbogo 43.83 201 pP pP 02 43 09.9 -0.9
comp=Z,2.1nm,0.9s,baz=312,slow=6.5,SNR=3.3
KMBO Kilima Mbogo 43.83 201 *e*P P 02 42 57.9 -0.2
comp=Z,2.8nm,1.2s
KMBO pP **pP 02 43 09.9 -0.9**
HHC Hu-ho-hao-te 44.33 69 *e*P P 02 43 04.3 +2.5
HHC pP **pP 02 43 15.6 +1.1**
HHC sP **sP 02 43 21.2 +1.2**
HHC PP **PP 02 44 49.3 +3.7**
HHC pmax pmax
comp=Z,22nm,0.9s
KMI Kunming 44.79 94 P P 02 43 06.6 +0.9
KMI pP **pP 02 43 18.9 +0.4**
KMI pmax pmax
comp=Z,17nm,1.0s
XAN Xi'an 45.08 80 P P 02 43 08.5 +0.8
XAN pP **pP 02 43 20.9 +0.4**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,16nm,5.1s
CMAR Chiang Mai Arr 45.88 105 P P 02 43 14.1 -0.1
CMAR pP **pP 02 43 25.6 -1.3**
CMAR Chiang Mai Arr 45.88 105 P P 02 43 14.1 -0.1
comp=Z,6.2nm,1.0s,baz=306,slow=7.7,SNR=18
CMAR pP **pP 02 43 25.6 -1.3**
comp=Z,2.6nm,0.8s,baz=300,slow=7.2,SNR=4.2
CMAR Chiang Mai Arr 45.88 105 P P 02 43 14.1 -0.1
CMAR pP **pP 02 43 25.6 -1.3**
GYA Guiyang 47.05 90 *e*P P 02 43 24.0 +0.6
GYA pP **pP 02 43 37.6 +1.4**
GYA sP **sP 02 43 45.0 +3.4**
GYA PcP **PcP 02 44 56.4 +1.5**
GYA ScP **ScP 02 48 45.0 +0.2**
GYA S **S 02 50 11.7 -0.4**
GYA sS **sS 02 50 35.2 +1.7**
GYA SS **SS 02 53 33.0 -6.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=Z,350nm,17.8s
GYA LR LR
comp=Z,230nm,18.0s
GYA LR LR
comp=Z,370nm,17.6s
TIXI Tiksi 47.79 25⇑*e*P P 02 43 30.0 +1.7
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 47.79 25 *e*P P 02 43 30.1 +1.7
comp=Z,4.4nm,0.7s
TIXI Tiksi 47.79 25 *e*P P 02 43 30.1 +1.7
comp=Z,4.4nm,0.7s
BJI Beijing 47.90 69 P P 02 43 29.0 -0.7
BJI pmax pmax
comp=Z,7.0nm,1.0s
YAK Yakutsk 49.45 37 *e*P P 02 43 41.9 +0.6
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 49.45 37 *e*P P 02 43 41.9 +0.6
comp=Z,9.5nm,0.7s
YAK Yakutsk 49.45 37 *e*P P 02 43 41.9 +0.6
comp=Z,9.4nm,0.7s
TOA0 Torodi Ar. Sit 51.68 253 *e*P P 02 43 57.2 -1.5
TOA0 Torodi Ar. Sit 51.68 253 *e*P P 02 43 57.2 -1.5
TORD Torodi Ar. Bea 51.68 253 P P 02 43 57.6 -1.1
TORD pP **pP 02 44 11.0 -0.6**
TORD Torodi Ar. Bea 51.68 253 P P 02 43 57.6 -1.1
comp=Z,1.0nm,0.5s,baz=45,slow=6.9,SNR=36
TORD pP **pP 02 44 11.0 -0.6**
comp=Z,2.6nm,0.8s,baz=22,slow=8.7,SNR=9.0
TORD Torodi Ar. Bea 51.68 253 P P 02 43 57.6 -1.1
TORD pP **pP 02 44 11.0 -0.6**
SUMG Summit 51.74 337 *i*P P 02 44 14.1 +2.2
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 51.74 337 *i*P pP 02 44 14.1 +2.2
comp=Z,7.3nm,0.9s
CN2 Changchun 52.77 61 *e*P P 02 44 08.4 +1.9
NJ2 Nanjing 53.38 77 *e*P P 02 44 11.6 +0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 55.14 58 P P 02 44 24.3 +0.6
MDJ pP **pP 02 44 35.9 -0.9**
MDJ sP **sP 02 44 40.8 -1.4**
MDJ ScP **ScP 02 49 20.7 +1.5**
MDJ PcS **PcS 02 49 25.2 +0.9**
MDJ S **S 02 52 04.2 +1.0**
MDJ sS **sS 02 52 24.1 -0.9**
MDJ pmax pmax
comp=Z,17nm,1.9s
MDJ pmax pmax
comp=Z,320nm,5.3s
MDJ LR LR
comp=Z,53nm,18.4s
MDJ LR LR
comp=Z,40nm,18.7s
MDJ LR LR
comp=Z,68nm,18.4s
KULM Kulim 56.06 116 *e*P P 02 44 30.5 -0.1
comp=Z,5.8nm,0.7s
KULM Kulim 56.06 116 *e*P P 02 44 30.5 -0.1
comp=Z,5.8nm,0.7s
PSI Prapat 56.72 119 P P 02 44 34.0 -1.4
PSI pP **pP 02 44 46.7 -1.9**
PSI Prapat 56.72 119 P P 02 44 34.0 -1.4
comp=Z,5.2nm,0.8s,baz=312,slow=8.8,SNR=3.5
PSI pP **pP 02 44 46.7 -1.9**
comp=Z,8.3nm,0.7s,baz=306,slow=5.2,SNR=4.5
USRK Ussuriysk Arra 56.87 58 P P 02 44 37.0 +0.9
comp=Z,6.1nm,0.6s,baz=282,slow=7.1,SNR=30
USRK pP **pP 02 44 49.5 +0.3**
comp=Z,2.9nm,0.6s,baz=290,slow=7.5,SNR=4.1
IPM Ipoh 56.90 116 *e*P P 02 44 35.7 -1.0
comp=Z,19nm,1.0s
IPM Ipoh 56.90 116 *e*P P 02 44 35.7 -1.0
comp=Z,19nm,1.0s
KSAR Wonju Array Be 57.26 67 P P 02 44 39.9 +0.9
KSAR pP **pP 02 44 51.9 -0.2**
KSAR Wonju Array Be 57.26 67 P P 02 44 39.9 +0.9
KSAR pP **pP 02 44 51.9 -0.2**
KSRS Korea Array 57.28 67 P P 02 44 39.9 +0.8
comp=Z,6.4nm,0.6s,baz=292,slow=6.9,SNR=14
KSRS pP **pP 02 44 51.9 -0.4**
comp=Z,2.7nm,0.6s,baz=292,slow=6.8,SNR=5.0
SFJD Kangerlussuaq 57.74 333 P P 02 44 41.8 0.0
SFJD Kangerlussuaq 57.74 333 P P 02 44 41.8 0.0
comp=Z,6.0nm,0.6s,baz=40,slow=9.2,SNR=3.5
SFJD Kangerlussuaq 57.74 333 P P 02 44 41.8 0.0

SEY	**Seymchan**	**58.94**	**32**	P	**P**	**02 44 52.4**	**+2.1**
SEY				*PP	**pP**	**02 45 04.8**	**+1.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SEY	**Seymchan**	**58.94**	**32**	P	**P**	**02 44 52.4**	**+2.1**
SEY				pP	**pP**	**02 45 04.8**	**+1.3**
SEY	**Seymchan**	**58.94**	**32**	P	**P**	**02 44 52.4**	**+2.1**
	comp=Z,2.3nm,0.5s,baz=281,slow=10,SNR=12						
SEY				pP	**pP**	**02 45 04.8**	**+1.3**
	comp=Z,2.4nm,0.5s,baz=273,slow=11,SNR=5.1						
SEY	**Seymchan**	**58.94**	**32**	P	**P**	**02 44 52.4**	**+2.1**
SEY				pP	**pP**	**02 45 04.8**	**+1.3**
LSZ	**Lusaka**	**59.99**	**207**	*eP*	**P**	**02 44 58.0**	**-0.2**
	comp=Z,3.1nm,0.9s						
LSZ				*epP*	**pP**	**02 45 11.2**	**-0.2**
LSZ	**Lusaka**	**59.99**	**207**	*eP*	**P**	**02 44 58.0**	**-0.2**
	comp=Z,3.1nm,0.9s						
LSZ				*epP*	**pP**	**02 45 11.2**	**-0.2**
DBIC	**Dimbokro**	**60.78**	**252**	*eP*	**P**	**02 45 02.3**	**-1.3**
	comp=Z,12nm,0.6s						
DBIC				*epP*	**pP**	**02 45 16.0**	**-0.9**
DBIC	**Dimbokro**	**60.78**	**252**	P	**P**	**02 45 02.8**	**-0.8**
	comp=Z,7.4nm,0.7s,baz=24,slow=6.8,SNR=19						
DBIC				pP	**pP**	**02 45 16.6**	**-0.3**
	comp=Z,10nm,0.5s,baz=31,slow=8.0,SNR=12						
DBIC	**Dimbokro**	**60.78**	**252**	*eP*	**P**	**02 45 02.3**	**-1.3**
	comp=Z,12nm,0.6s						
DBIC				*epP*	**pP**	**02 45 16.0**	**-0.9**
KIC	**Kosan Boka**	**60.91**	**252**	⇑*iP*	**P**	**02 45 03.7**	**-0.8**
	comp=Z,8.8nm,0.5s						
KIC	**Kosan Boka**	**60.91**	**252**	⇑*iPcP*	pP	02 45 17.6	-0.1
TIC	**Toumodi**	**60.92**	**252**	⇑*iP*	**P**	**02 45 03.4**	**-1.2**
	comp=Z,4.6nm,0.2s						
TIC	**Toumodi**	**60.92**	**252**	⇑*iPcP*	pP	02 45 17.5	-0.3
LIC	**Lamto**	**61.21**	**252**	⇑*iP*	**P**	**02 45 05.7**	**-0.8**
	comp=Z,17nm,0.4s						
LIC				*epP*	**pP**	**02 45 19.5**	**-0.3**
LIC	**Lamto**	**61.21**	**252**	⇑*iP*	**P**	**02 45 05.7**	**-0.8**
	comp=Z,68nm,0.8s						
LIC	**Lamto**	**61.21**	**252**	⇑*iPcP*	pP	02 45 19.5	-0.3
LIC	**Lamto**	**61.21**	**252**	⇑*iP*	**P**	**02 45 05.7**	**-0.8**
	comp=Z,17nm,0.4s						
LIC				*epP*	**pP**	**02 45 19.5**	**-0.3**
LIC	**Lamto**	**61.21**	**252**	⇑*iP*	**P**	**02 45 05.7**	**-0.8**
	comp=Z,8.6nm,0.4s						
LIC				*epP*	**pP**	**02 45 19.5**	**-0.3**
MJAR	**Matsushiro Arr**	**64.81**	**63**	P	**P**	**02 45 29.5**	**-0.7**
MJAR	**Matsushiro Arr**	**64.81**	**63**	P	**P**	**02 45 29.5**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=292,slow=12,SNR=4.7						
MJAR	**Matsushiro Arr**	**64.81**	**63**	P	**P**	**02 45 29.5**	**-0.7**
TSUM	**Tsumeb**	**67.70**	**215**	*eP*	**P**	**02 45 48.6**	**-0.3**
	comp=Z,6.1nm,1.1s						
TSUM	**Tsumeb**	**67.70**	**215**	*eP*	**P**	**02 45 48.6**	**-0.3**
	comp=Z,6.1nm,1.1s						
LBTB	**Lobatse**	**69.91**	**205**	*eP*	**P**	**02 46 02.9**	**+0.4**
	comp=Z,12nm,0.8s						
LBTB				*epP*	**pP**	**02 46 16.6**	**+0.7**
LBTB	**Lobatse**	**69.91**	**205**	*eP*	**P**	**02 46 02.9**	**+0.4**
	comp=Z,12nm,0.8s						
LBTB				*epP*	**pP**	**02 46 16.6**	**+0.7**
COLD	**Coldfoot**	**70.98**	**9**	*eP*	**P**	**02 46 10.0**	**+1.5**
	comp=Z,3.7nm,1.0s						
COLD				*epP*	**pP**	**02 46 23.9**	**+2.0**
COLD	**Coldfoot**	**70.98**	**9**	*eP*	**P**	**02 46 10.0**	**+1.5**
	comp=Z,3.7nm,1.0s						
COLD				*epP*	**pP**	**02 46 23.9**	**+2.0**
INK	**Inuvik**	**71.13**	**2**	*eP*	**P**	**02 46 09.4**	**+0.1**
	comp=Z,6.1nm,1.3s						
INK	**Inuvik**	**71.13**	**2**	*eP*	**P**	**02 46 09.4**	**+0.1**
	comp=Z,6.1nm,1.3s						
SCHQ	**Schefferville**	**71.36**	**328**	P	**P**	**02 46 10.9**	**0.0**
SCHQ	**Schefferville**	**71.36**	**328**	P	**P**	**02 46 10.9**	**0.0**
	comp=Z,2.1nm,0.5s,baz=46,slow=7.1,SNR=6.4						
SCHQ	**Schefferville**	**71.36**	**328**	P	**P**	**02 46 10.9**	**0.0**
COLA	**College**	**73.52**	**9**	*eP*	**P**	**02 46 23.1**	**-0.5**
COLA				*e*PP	**pP**	**02 46 37.8**	**+0.7**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
COLA	**College**	**73.52**	**9**	*eP*	**P**	**02 46 23.1**	**-0.5**
	comp=Z,6.2nm,0.9s						
COLA				*epP*	**pP**	**02 46 37.8**	**+0.7**
COLA	**College**	**73.52**	**9**	*eP*	**P**	**02 46 23.1**	**-0.5**
	comp=Z,6.2nm,0.9s						
COLA				*epP*	**pP**	**02 46 37.8**	**+0.7**
ILAR	**Eielson Array**	**73.73**	**8**	P	**P**	**02 46 25.4**	**+0.6**
ILAR				pP	**pP**	**02 46 39.0**	**+0.6**
ILAR	**Eielson Array**	**73.73**	**8**	P	**P**	**02 46 25.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=332,slow=4.4,SNR=18						
ILAR				pP	**pP**	**02 46 39.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=332,slow=4.7,SNR=10						
ILAR	**Eielson Array**	**73.73**	**8**	P	**P**	**02 46 25.5**	**+0.6**
ILAR				pP	**pP**	**02 46 39.0**	**+0.6**
FX1	**Attu Island--F**	**73.78**	**33**	*eP*	**P**	**02 46 25.9**	**+0.6**
FX1				*epP*	**pP**	**02 46 39.2**	**+0.3**
FX1	**Attu Island--F**	**73.78**	**33**	P	**P**	**02 46 26.3**	**+1.0**
	comp=Z,15nm,0.6s,baz=308,slow=2.5,SNR=10						
FX1				pP	**pP**	**02 46 39.4**	**+0.5**
	comp=Z,9.0nm,0.5s,baz=11,slow=5.2,SNR=3.5						
FX1	**Attu Island--F**	**73.78**	**33**	*eP*	**P**	**02 46 25.9**	**+0.6**
FX1				*epP*	**pP**	**02 46 39.2**	**+0.3**
KTH	**Kantishna Hill**	**74.40**	**10**	*eP*	**P**	**02 46 29.2**	**+0.3**
	comp=Z,11nm,0.8s						
KTH				*epP*	**pP**	**02 46 41.9**	**-0.5**
KTH	**Kantishna Hill**	**74.40**	**10**	*eP*	**P**	**02 46 29.2**	**+0.3**
	comp=Z,11nm,0.8s						
KTH				*epP*	**pP**	**02 46 41.9**	**-0.5**
MCK	**McKinley**	**74.49**	**9**	*eP*	**P**	**02 46 29.7**	**+0.4**
MCK				*e*PP	**PcP**	**02 46 44.1**	**+0.4**
MCK				pmax	pmax		
	comp=Z,18nm,1.6s						
MCK	**McKinley**	**74.49**	**9**	*eP*	**P**	**02 46 29.7**	**+0.4**
	comp=Z,18nm,1.6s						
MCK				*epP*	**PcP**	**02 46 44.1**	**+0.4**
MCK	**McKinley**	**74.49**	**9**	*eP*	**P**	**02 46 29.7**	**+0.4**
	comp=Z,18nm,1.6s						
MCK				*epP*	**PcP**	**02 46 44.1**	**+0.4**
PPLA	**Purkeypile**	**74.85**	**11**	*eP*	**P**	**02 46 32.3**	**+0.7**
	comp=Z,4.1nm,0.6s						
PPLA				*epP*	**PcP**	**02 46 45.7**	**+0.3**
PPLA	**Purkeypile**	**74.85**	**11**	*eP*	**P**	**02 46 32.3**	**+0.7**
	comp=Z,4.1nm,0.6s						
PPLA				*epP*	**PcP**	**02 46 45.7**	**+0.3**
DOT	**Dot Lake**	**75.11**	**7**	*eP*	**P**	**02 46 33.7**	**+0.8**
	comp=Z,4.1nm,0.6s						
DOT				*epP*	**PcP**	**02 46 48.5**	**+2.1**
DOT	**Dot Lake**	**75.11**	**7**	*eP*	**P**	**02 46 33.7**	**+0.8**
	comp=Z,4.1nm,0.6s						
DOT				*epP*	**PcP**	**02 46 48.5**	**+2.1**
YKW3	**Yellowknife Ar**	**76.41**	**354**	*eP*	**P**	**02 46 39.9**	**-0.4**
YKW3	**Yellowknife Ar**	**76.41**	**354**	*eP*	**P**	**02 46 39.9**	**-0.4**
YKA	**Yellowknife Ar**	**76.48**	**354**	P	**P**	**02 46 40.8**	**+0.1**
YKA				pP	**pP**	**02 46 53.4**	**-1.0**
YKA	**Yellowknife Ar**	**76.48**	**354**	P	**P**	**02 46 40.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=7.1,slow=6.0,SNR=53						
YKA				pP	**pP**	**02 46 53.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=7.8,slow=5.6,SNR=8.9						
YKA	**Yellowknife Ar**	**76.48**	**354**	P	**P**	**02 46 40.8**	**+0.1**
YKA				pP	**pP**	**02 46 53.3**	**-1.0**
PMR	**Palmer**	**76.53**	**10**	*eP*	**P**	**02 46 41.5**	**+0.5**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PMR	**Palmer**	**76.53**	**10**	*eP*	**P**	**02 46 41.5**	**+0.5**
	comp=Z,7.8nm,0.9s						
PMR	**Palmer**	**76.53**	**10**	*eP*	**P**	**02 46 41.5**	**+0.5**
	comp=Z,7.8nm,0.9s						
FCC	**Fort Churchill**	**76.85**	**343**	*eP*	**P**	**02 46 43.3**	**+0.5**
FCC	**Fort Churchill**	**76.85**	**343**	*eP*	**P**	**02 46 43.3**	**+0.5**
	comp=Z,0.2nm,0.7s						
FCC	**Fort Churchill**	**76.85**	**343**	*eP*	**P**	**02 46 43.3**	**+0.5**
	comp=Z,0.2nm,0.7s						
RC01	**Rabbit Creek A**	**76.93**	**11**	*eP*	**P**	**02 46 43.9**	**+0.6**
	comp=Z,6.5nm,0.5s						
RC01				*epP*	**pP**	**02 46 56.8**	**-0.1**
RC01	**Rabbit Creek A**	**76.93**	**11**	*eP*	**P**	**02 46 43.9**	**+0.6**
	comp=Z,6.5nm,0.5s						
RC01				*epP*	**pP**	**02 46 56.8**	**-0.1**
ULM	**Lac du Bonnet**	**85.03**	**340**	P	**P**	**02 47 26.1**	**-0.5**
ULM				pP	**pP**	**02 47 38.8**	**-1.6**
ULM	**Lac du Bonnet**	**85.03**	**340**	P	**P**	**02 47 26.1**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=24,slow=3.0,SNR=5.9						
ULM				pP	**pP**	**02 47 38.8**	**-1.6**
	comp=Z,3.3nm,0.8s,baz=91,slow=4.0,SNR=3.3						
ULM	**Lac du Bonnet**	**85.03**	**340**	P	**P**	**02 47 26.0**	**-0.5**
ULM				pP	**pP**	**02 47 38.8**	**-1.6**
AGMN	**Agassiz Nation**	**86.81**	**339**	P	**P**	**02 47 35.7**	**+0.3**
	baz=86						
A30A	**Hoffart Farm,**	**86.85**	**341**	P	**P**	**02 47 35.8**	**+0.2**
	baz=87						
A29A	**Manning Farm,**	**87.09**	**341**	P	**P**	**02 47 36.8**	**0.0**
	baz=87						
B30A	**Myrvik Farm, E**	**87.31**	**341**	P	**P**	**02 47 37.7**	**-0.2**
	baz=87						
B28A	**Dugan Ranch, T**	**87.81**	**342**	P	**P**	**02 47 40.9**	**+0.7**
	baz=88						
A24A	**Westby**	**88.16**	**344**	P	**P**	**02 47 42.9**	**+0.9**
	baz=88						
A23A	**Redstone**	**88.30**	**345**	P	**P**	**02 47 43.2**	**+0.6**
	baz=88						
B26A	**Jensen Ranch,**	**88.30**	**343**	P	**P**	**02 47 43.0**	**+0.4**
	baz=88						
A22A	**Carney Farms,**	**88.47**	**346**	P	**P**	**02 47 43.8**	**+0.3**
	baz=88						
B25A	**Knox Farm, Ray**	**88.60**	**344**	P	**P**	**02 47 43.7**	**-0.3**
	baz=88						
DGMT	**Dagmar**	**88.63**	**344**	P	**P**	**02 47 44.2**	**0.0**
	baz=88						
A21A	**Bergtoll Ranch**	**88.66**	**346**	P	**P**	**02 47 44.3**	**0.0**
	baz=88						
D30A	**Buchanan**	**88.67**	**340**	P	**P**	**02 47 44.3**	**-0.1**
	baz=88						
SPMN	**St. Paul**	**88.71**	**336**	P	**P**	**02 47 44.5**	**0.0**
	baz=88						
C26A	**Wahner Farm, P**	**88.79**	**343**	P	**P**	**02 47 45.1**	**+0.1**
	baz=88						
B23A	**Brockton**	**88.80**	**345**	P	**P**	**02 47 45.6**	**+0.6**
	baz=88						
A20A	**Cobblestone Ra**	**88.94**	**347**	P	**P**	**02 47 46.2**	**+0.5**
	baz=89						
A19A	**Klindworth Far**	**89.03**	**347**	P	**P**	**02 47 47.0**	**+0.9**
	baz=89						
B22A	**Reddig Ranch S**	**89.15**	**345**	P	**P**	**02 47 47.7**	**+1.0**
	baz=89						
C25A	**Freed Ranch, W**	**89.15**	**344**	P	**P**	**02 47 47.3**	**+0.7**
	baz=89						
E30A	**Jud**	**89.27**	**340**	P	**P**	**02 47 47.8**	**+0.6**
	baz=89						
B20A	**Solberg Farm,**	**89.38**	**347**	P	**P**	**02 47 48.5**	**+0.8**
	baz=89						
B19A	**Brinkman Farms**	**89.52**	**347**	P	**P**	**02 47 48.6**	**+0.2**
	baz=89						
C24A	**Savage**	**89.57**	**344**	P	**P**	**02 47 48.1**	**-0.6**
	baz=89						
D26A	**Manning**	**89.62**	**343**	P	**P**	**02 47 49.6**	**+0.7**
	baz=89						
C22A	**Vida**	**89.66**	**345**	P	**P**	**02 47 49.4**	**+0.4**
	baz=89						
D25A	**Fairfield**	**89.70**	**343**	P	**P**	**02 47 49.9**	**+0.6**
	baz=89						
D23A	**Lindsay**	**90.07**	**345**	P	**P**	**02 47 51.6**	**+0.5**
	baz=90						
EGMT	**Eagleton**	**90.07**	**348**	P	**P**	**02 47 51.7**	**+0.6**
	baz=90						
C20A	**Veseth Ranch,**	**90.08**	**347**	P	**P**	**02 47 51.8**	**+0.8**
	baz=90						
E26A	**Carlson Angus**	**90.15**	**343**	P	**P**	**02 47 52.1**	**+0.7**
	baz=90						
C19A	**Slack Wire Ran**	**90.24**	**347**	P	**P**	**02 47 52.3**	**+0.5**
	baz=90						
D22A	**Cohagen**	**90.29**	**345**	P	**P**	**02 47 52.0**	**0.0**
	baz=90						
E25A	**Miller Ranch,**	**90.33**	**343**	P	**P**	**02 47 52.8**	**+0.5**
	baz=90						
F28A	**McLaughlin**	**90.35**	**341**	P	**P**	**02 47 52.5**	**+0.2**
	baz=90						
E24A	**Baker**	**90.47**	**344**	P	**P**	**02 47 53.5**	**+0.7**
	baz=90						
G30A	**Faulkton**	**90.60**	**340**	P	**P**	**02 47 53.9**	**+0.5**
	baz=90						
D20A	**Manuel Ranch,**	**90.70**	**347**	P	**P**	**02 47 54.6**	**+0.6**
	baz=90						
NEW	**Newport**	**90.78**	**353**	*eP*	**P**	**02 47 55.2**	**+0.9**
	comp=Z,8.4nm,1.2s						
NEW	**Newport**	**90.78**	**353**	P	**P**	**02 47 55.0**	**+0.7**
	baz=90						
NEW	**Newport**	**90.78**	**353**	*eP*	**P**	**02 47 55.2**	**+0.9**
	comp=Z,8.4nm,1.2s						
F26A	**Logepole**	**90.78**	**343**	P	**P**	**02 47 54.6**	**+0.3**
	baz=90						
F25A	**Bowman**	**90.89**	**343**	P	**P**	**02 47 55.4**	**+0.5**
	baz=91						
G27A	**Dupree**	**91.06**	**342**	P	**P**	**02 47 55.5**	**-0.1**
	baz=91						
F24A	**Ekalaka**	**91.18**	**344**	P	**P**	**02 47 56.4**	**+0.2**
	baz=91						
ECSD	**EROS Data Cent**	**91.20**	**338**	P	**P**	**02 47 56.1**	**-0.2**
	baz=91						
SLMT	**Seeley Lake**	**91.38**	**350**	*eP*	**P**	**02 47 57.9**	**+0.7**
	comp=Z,14nm,1.4s						
SLMT	**Seeley Lake**	**91.38**	**350**	*eP*	**P**	**02 47 57.9**	**+0.7**
	comp=Z,14nm,1.4s						
E19A	**Rath Farm, Rou**	**91.43**	**347**	P	**P**	**02 47 57.3**	**-0.1**
	baz=91						
F23A	**Volborg**	**91.50**	**344**	P	**P**	**02 47 57.8**	**+0.1**
	baz=91						
F22A	**Rosebud**	**91.62**	**345**	P	**P**	**02 47 58.6**	**+0.4**
	baz=91						
H27A	**Howes**	**91.80**	**342**	P	**P**	**02 47 59.2**	**+0.2**
	baz=92						
F20A	**Billings**	**91.95**	**346**	P	**P**	**02 47 60.0**	**+0.1**
	baz=92						
F19A	**Roth Farm, Mol**	**92.04**	**347**	P	**P**	**02 48 00.8**	**+0.5**
	baz=92						
H25A	**Fruitdale**	**92.16**	**343**	P	**P**	**02 48 00.9**	**+0.1**
	baz=92						
I28A	**Midland**	**92.17**	**341**	P	**P**	**02 48 00.9**	**+0.1**
	baz=92						
GCMT	**Greycliff**	**92.23**	**347**	*eP*	**P**	**02 48 01.7**	**+0.6**
GCMT				*epP*	**pP**	**02 48 15.2**	**+0.2**
GCMT	**Greycliff**	**92.23**	**347**	*eP*	**P**	**02 48 01.7**	**+0.6**
GCMT				*epP*	**pP**	**02 48 15.2**	**+0.2**
H24A	**Dirks Ranch, A**	**92.25**	**343**	P	**P**	**02 48 01.0**	**-0.2**
	baz=92						
J30A	**Dallas**	**92.37**	**340**	P	**P**	**02 48 01.6**	**-0.1**
	baz=92						
J29A	**Okreek**	**92.52**	**340**	P	**P**	**02 48 02.3**	**0.0**
	baz=92						
G20A	**Bridger**	**92.53**	**346**	P	**P**	**02 48 02.6**	**+0.1**
	baz=92						
I26A	**New Underwood**	**92.55**	**342**	P	**P**	**02 48 03.2**	**+0.6**
	baz=92						
RSSD	**Black Hills**	**92.73**	**343**	*eP*	**P**	**02 48 03.8**	**+0.2**
RSSD	**Black Hills**	**92.73**	**343**	*eP*	**P**	**02 48 03.8**	**+0.2**
RSSD	**Black Hills**	**92.73**	**343**	*eP*	**P**	**02 48 03.8**	**+0.2**
H21A	**Big Horn, Sher**	**92.88**	**345**	P	**P**	**02 48 04.5**	**+0.4**
	baz=93						
K30A	**Basset**	**93.01**	**339**	P	**P**	**02 48 05.3**	**+0.6**
	baz=93						
H20A	**Greybull**	**93.19**	**346**	P	**P**	**02 48 05.0**	**-0.6**
	baz=93						
J26A	**Sides Ranch, S**	**93.28**	**342**	P	**P**	**02 48 05.8**	**-0.2**
	baz=93						
I22A	**9 Mile Ranch,**	**93.47**	**345**	P	**P**	**02 48 07.4**	**+0.5**
	baz=93						
J20A	**Shoshoni**	**94.31**	**346**	P	**P**	**02 48 10.1**	**-0.6**
	baz=94						
PDAR	**Pinedale Array**	**95.14**	**346**	P	**P**	**02 48 14.4**	**-0.3**
PDAR	**Pinedale Array**	**95.14**	**346**	P	**P**	**02 48 14.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=64,slow=4.1,SNR=3.2						
PDAR	**Pinedale Array**	**95.14**	**346**	P	**P**	**02 48 14.4**	**-0.3**
HVU	**Hansel Valley**	**96.64**	**349**	*eP*	**P**	**02 48 22.3**	**+0.9**
HVU	**Hansel Valley**	**96.64**	**349**	*eP*	**P**	**02 48 22.3**	**+0.9**
HVU	**Hansel Valley**	**96.64**	**349**	*eP*	**P**	**02 48 22.3**	**+0.9**
WVOR	**Wild Horse Val**	**96.70**	**353**	*eP*	**P**	**02 48 21.2**	**-0.5**
WVOR	**Wild Horse Val**	**96.70**	**353**	*eP*	**P**	**02 48 21.2**	**-0.5**
WVOR	**Wild Horse Val**	**96.70**	**353**	*eP*	**P**	**02 48 21.2**	**-0.5**
WRA	**Warramunga Arr**	**97.26**	**110**	P	**P**	**02 48 23.3**	**-1.0**
WRA				pP	**pP**	**02 48 36.5**	**-1.7**
WRA	**Warramunga Arr**	**97.26**	**110**	P	**P**	**02 48 23.3**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=319,slow=4.2,SNR=24						
WRA				pP	**pP**	**02 48 36.5**	**-1.7**
	comp=Z,1.9nm,0.6s,baz=320,slow=4.3,SNR=8.4						
WRA	**Warramunga Arr**	**97.26**	**110**	P	**P**	**02 48 23.3**	**-1.0**
WRA				pP	**pP**	**02 48 36.5**	**-1.7**
DUG	**Dugway**	**98.19**	**348**	*eP*	Pdif	02 48 28.7	+0.2
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DUG	**Dugway**	**98.19**	**348**	*eP*	Pdif	02 48 28.7	+0.2
	comp=Z,1.1nm,0.7s						
DUG	**Dugway**	**98.19**	**348**	*eP*	Pdif	02 48 28.7	+0.2
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**99.36**	**113**	P	**Pdif**	**02 48 33.1**	**-0.5**
ASAR				pP	**pP**	**02 48 46.6**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=314,slow=4.6,SNR=2.9						
ASAR	**Alice Springs**	**99.36**	**113**	P	**Pdif**	**02 48 33.1**	**-0.5**
ASAR				pP	**pP**	**02 48 46.6**	**-1.0**
SAML	**Samuel**	**114.77**	**280**	*e*PKP	PKPdf	02 53 31.8	-0.2
CPUP	**Villa Florida**	**120.79**	**260**	*e*PKPdf	**PKPdf**	**02 53 42.0**	**-1.2**
CPUP	**Villa Florida**	**120.79**	**260**	PKP	**PKPdf**	**02 53 42.2**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=66,slow=2.6,SNR=6.3						
CPUP	**Villa Florida**	**120.79**	**260**	*e*PKIKP	**PKPdf**	**02 53 42.0**	**-1.2**
LPAZ	**La Paz**	**123.14**	**277**	PKP	**PKPdf**	**02 53 48.4**	**-0.4**
LPAZ	**La Paz**	**123.14**	**277**	PKP	**PKPdf**	**02 53 48.4**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=102,slow=7.3,SNR=7.2						
LPAZ	**La Paz**	**123.14**	**277**	PKIKP	**PKPdf**	**02 53 48.4**	**-0.4**
LVC	**Limon Verde**	**127.48**	**271**	*e*PKPdf	**PKPdf**	**02 53 56.3**	**-0.2**
LVC	**Limon Verde**	**127.48**	**271**	*e*PKIKP	**PKPdf**	**02 53 56.3**	**-0.2**
TRQA	**Tornquist**	**129.98**	**250**	*e*PKPdf	**PKPdf**	**02 54 00.6**	**+0.1**
TRQA	**Tornquist**	**129.98**	**250**	*e*PKIKP	**PKPdf**	**02 54 00.6**	**+0.1**
LCO	**Las Campanas**	**132.27**	**265**	*e*PKPdf	**PKPdf**	**02 54 04.9**	**-0.5**
LCO	**Las Campanas**	**132.27**	**265**	*e*PKIKP	**PKPdf**	**02 54 04.9**	**-0.5**
PLCA	**Paso Flores**	**137.13**	**250**	*e*PKPdf	**PKPdf**	**02 54 14.1**	**+0.2**
PLCA				pPKP	**pPKPdf**	**02 54 27.6**	**-0.7**
PLCA	**Paso Flores**	**137.13**	**250**	PKP	**PKPdf**	**02 54 14.2**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=50,slow=2.9,SNR=7.8						
PLCA				pPKP	**pPKPdf**	**02 54 27.6**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=80,slow=1.8,SNR=3.1						
PLCA	**Paso Flores**	**137.13**	**250**	*e*PKIKP	**PKPdf**	**02 54 14.1**	**+0.2**

*IDC **01** 02:38:04.8±1.2, 1.°15S×132.°69E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, ML4.1/1, MS3.9/2, Ms1 4.0/2, ms1mx3.1/30, Error ellipse: s-maj=62.5km s-min=12.2km az=83.0*

*ISCJB **01** 02:38:05.6±0.9, 0.°82S±0.°09×133.°62E±0.°06, h29km, mb3.9/4, MS4.0/2, Error ellipse: s-maj=12.4km s-min=8.3km az=176.9*

*DJA **01** 02:38:05.3±1.4, 0.°5S±15.°×13.°4E±.°, h23km±8km, M4.4/5, MLv4.4/5*

ISC 01 02:38:07.0±1.1, 0.°9S±0.°1×133.°64E±0.°06, h29km, n15, σ1.°9 76/11, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**0.41**	**99**	P	x	02 38 16.7	
SWI	**Sorong**	**2.38**	**270**	P	**Pn**	**02 38 44.5**	**+0.5**
FAKI	**Fak Fak**	**2.46**	**214**	P	**Pb**	**02 38 49.5**	**-1.1**
BAKI	**Biak**	**2.49**	**97**	P	**Pn**	**02 38 44.9**	**-0.7**
BAKI				S	**Sn**	**02 39 14.9**	**-0.2**
SRPI	**Serui, Papua**	**2.79**	**111**	P	**Pn**	**02 38 50.6**	**+0.9**
WRA	**Warramunga Arr**	**18.97**	**178**	P	**Pn**	**02 42 27.4**	**+0.4**
	0.7nm,0.3s,baz=356,slow=11,SNR=42						
WRA				S	**Sn**	**02 45 55.4**	**-3.4**
	0.1nm,0.3s,baz=2.2,slow=23,SNR=3.3						
ASAR	**Alice Springs**	**22.66**	**179**	P	**P**	**02 43 06.9**	**+0.8**
	2.8nm,0.5s,baz=358,slow=12,SNR=90						
ASAR				S	**S**	**02 47 15.4**	**+2.7**
	0.7nm,1.0s,baz=347,slow=28,SNR=3.2						
STKA	**Stephens Creek**	**31.75**	**167**	P	**P**	**02 44 29.9**	**+1.3**
	1.1nm,0.6s,baz=342,slow=9.6,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**38.49**	**56**	T	T	03 26 34.3	
	baz=250,slow=75,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**38.51**	**56**	T	T	03 26 34.7	
	baz=250,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**38.51**	**56**	T	T	03 26 35.8	
	baz=250,slow=75,SNR=4.3						
RPZ	**Rata Peaks**	**54.11**	**147**	LR	LR	03 13 55.6	
	comp=Z,62nm,18.0s,baz=251,slow=40						
MKAR	**Makanchi Array**	**65.28**	**324**	P	**P**	**02 48 45.3**	**-1.0**
	0.7nm,0.7s,baz=122,slow=6.2,SNR=3.1						
VNDA	**Vanda**	**78.09**	**174**	LR	LR	03 21 48.2	
	comp=Z,136nm,22.0s,baz=299,slow=34						
ILAR	**Eielson Array**	**86.29**	**25**	P	P	02 50 52.4	+6.5
	0.7nm,0.9s,baz=250,slow=5.8,SNR=4.8						

BJI 01 02:38:56.1, 26.°28N×99.°77E, h6km, ML3.5/7, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.92**	**113**	Pg	Pb	02 39 50.4	+

PETK	**Petropavlovsky-**	**13.53**	**46**	P		**P**	**02 45 17.8**	**+0.6**
	0.1nm,0.3s,baz=225,slow=14,SNR=3.6							
SEY	**Seymchan**	**19.28**	**15**	P		**P**	**02 46 18.7**	**-1.1**
	0.8nm,0.3s,baz=359,slow=22,SNR=7.7							
SONM	**Songino Array**	**24.33**	**290**	P		**P**	**02 47 09.3**	**+0.7**
	1.3nm,0.5s,baz=87,slow=8.3,SNR=13							
MKAR	**Makanchi Array**	**40.51**	**295**	P		**P**	**02 49 28.0**	**-0.1**
	1.2nm,0.6s,baz=80,slow=9.5,SNR=6.9							
KURBB	**Kurchatov Arra**	**41.67**	**301**	P		**P**	**02 49 37.5**	**+0.2**
	0.7nm,0.3s,baz=73,slow=8.8,SNR=3.7							
ILAR	**Eielson Array**	**43.10**	**37**	P		**P**	**02 49 48.3**	**-0.4**
	1.1nm,0.6s,baz=277,slow=9.3,SNR=20							
BVAR	**Borovoye Array**	**45.70**	**307**	P		**P**	**02 50 09.6**	**+0.3**
	0.6nm,0.3s,baz=74,slow=9.0,SNR=9.2							
AKTO	**Aktyubinsk**	**53.77**	**308**	P		**P**	**02 51 10.1**	**+0.3**
	0.5nm,0.5s,baz=72,slow=21,SNR=4.3							
KEV	**Kevo**	**56.31**	**338**	*ep*		**P**	**02 51 26.5**	**-1.0**
ARCES	**ARCESS Array B**	**56.86**	**338**	P		**P**	**02 51 30.7**	**-0.7**
	5.9nm,1.0s,baz=29,slow=9.6,SNR=3.4							
YKA	**Yellowknife Ar**	**57.19**	**32**	P		**P**	**02 51 34.2**	**+0.3**
	0.8nm,0.7s,baz=305,slow=6.5,SNR=11							
JOF	**Joensuu**	**59.27**	**330**	*ep*		**P**	**02 51 47.6**	**-0.5**
FINES	**FINESS Array B**	**62.09**	**331**	P		**P**	**02 52 06.0**	**-1.1**
	1.4nm,0.6s,baz=58,slow=7.2,SNR=11							
WRA	**Warramunga Arr**	**64.69**	**187**	P		**P**	**02 52 25.2**	**+0.7**
	0.3nm,0.8s,baz=5.3,slow=7.3,SNR=2.5							
NOA	**NORSAR Array B**	**67.14**	**336**	P		**P**	**02 52 38.9**	**-0.9**
	0.8nm,0.6s,baz=36,slow=6.3,SNR=2.9							
AKASG	**Malin Array Be**	**68.31**	**321**	P		**P**	**02 52 46.8**	**-0.4**
	1.0nm,0.4s,baz=41,slow=6.1,SNR=12							
NVAR	**Mina Array Bea**	**70.42**	**55**	P		**P**	**02 53 02.3**	**+1.8**
	0.6nm,0.7s,baz=292,slow=5.7,SNR=3.1							
PDAR	**Pinedale Array**	**72.29**	**47**	P		**P**	**02 53 12.7**	**+1.1**
	0.9nm,0.6s,baz=267,slow=2.2,SNR=7.2							
BRTR	**Keskin Array B**	**73.87**	**310**	P		**P**	**02 53 20.7**	**0.0**
	0.3nm,0.7s,baz=42,slow=4.9,SNR=2.4							
EKA	**Eskdalemuir Ar**	**75.91**	**340**	P		**P**	**02 53 31.4**	**-0.5**
	0.6nm,0.5s,baz=29,slow=5.3,SNR=5.9							
GERES	**GERESS Array B**	**76.23**	**327**	P		**P**	**02 53 33.8**	**-0.2**
	0.2nm,0.4s,baz=42,slow=6.2,SNR=7.2							

WEL 01 02:48:35.8±0.3, 38.02S×176.29E, h143km±2km, ML3.6/8, 7C-2D, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RRRZ	**Republican Roa**	**0.36**	**151**	PN	Pn	02 48 56.2	+0.5
URZ	**Urewera**	**0.69**	**110**	⇑PN	Pn	02 48 57.2	-0.2
URZ				SN	Sn	02 49 14.1	+0.2
URZ				AML	AML	02 49 14.8	
MWZ	**Matawai**	**1.02**	**108**	PN	Pn	02 49 00.1	-0.1
MWZ				SN	Sn	02 49 18.8	0.0
MWZ				AML	AML	02 49 20.3	
RAHZ	**Arahi**	**1.09**	**145**	⇓PN	Pn	02 49 01.1	+0.4
SNGZ	**Shannon Statio**	**1.12**	**133**	PN	Pn	02 49 01.3	+0.2
NMHZ	**Naumai**	**1.15**	**159**	PN	Pn	02 49 02.0	+0.6
BKZ	**Black Stump Fm**	**1.16**	**172**	⇑PN	Pn	02 49 01.2	-0.2
BKZ				SN	Sn	02 49 20.3	-0.7
NGZ	**Ngauruhoe**	**1.27**	**205**	PN	Pn	02 49 03.2	+0.6
WHHZ	**Waihua**	**1.29**	**145**	PN	Pn	02 49 02.7	+0.2
RIGZ	**Rimuhau**	**1.34**	**121**	PN	Pn	02 49 03.2	-0.1
TRVZ	**Turoa**	**1.40**	**204**	PN	Pn	02 49 04.2	+0.1
WNVZ	**Wahianoa**	**1.41**	**202**	PN	Pn	02 49 04.1	0.0
MCHZ	**McNeill Hill**	**1.46**	**167**	PN	Pn	02 49 04.6	+0.3
KNZ	**Kokohu**	**1.48**	**133**	PN	Pn	02 49 04.2	-0.3
BHHZ	**Black Hill Sta**	**1.48**	**187**	⇑PN	Pn	02 49 04.2	-0.5
PRGZ	**Paritu Road**	**1.54**	**126**	PN	Pn	02 49 05.0	-0.3
CNGZ	**Carnagh Statio**	**1.58**	**108**	PN	Pn	02 49 05.9	+0.2
MXZ	**Matakaoa Point**	**1.66**	**75**	PN	Pn	02 49 06.3	-0.2
MXZ				SN	Sn	02 49 30.3	+0.2
MHGZ	**Mahia Peninsul**	**1.70**	**132**	⇓PN	Pn	02 49 06.8	-0.2
CKHZ	**Cape Kidnapper**	**1.75**	**160**	⇑PN	Pn	02 49 07.3	-0.2
KAHZ	**Kahuranaki**	**1.83**	**166**	⇑PN	Pn	02 49 08.1	-0.4
PNHZ	**Pukenui**	**1.89**	**182**	PN	Pn	02 49 08.3	-0.9
WPHZ	**Waipukurau**	**2.04**	**177**	PN	Pn	02 49 09.9	-1.0
TSZ	**Takapari Road**	**2.05**	**187**	PN	Pn	02 49 09.9	-1.2
TSZ				SN	Sn	02 49 36.9	-1.4
PXZ	**Pawanui**	**2.06**	**168**	⇑PN	Pn	02 49 10.1	-0.9
PXZ				SN	Sn	02 49 35.9	-2.5
PRHZ	**Porangahau**	**2.26**	**173**	PN	Pn	02 49 12.3	-1.3
OGWZ	**Otaki Gorge**	**2.92**	**197**	PN	Pn	02 49 19.5	-2.3
HOWZ	**Holdsworth Sta**	**2.94**	**192**	⇑PN	Pn	02 49 19.3	-2.7
KIW	**Kapiti Island**	**3.03**	**200**	*e*PN	Pn	02 49 20.7	-2.5
TMWZ	**Te Maipa**	**3.10**	**186**	PN	Pn	02 49 21.4	-2.7
MTW	**Mount Morrison**	**3.19**	**191**	PN	Pn	02 49 22.1	-3.2
CAW	**Cannon Point**	**3.22**	**197**	PN	Pn	02 49 22.5	-3.2
MSWZ	**Moikau Station**	**3.48**	**193**	PN	Pn	02 49 25.5	-3.5
TCW	**Tory Channel**	**3.55**	**205**	PN	Pn	02 49 26.7	-3.1
PLWZ	**Palliser**	**3.63**	**192**	PN	Pn	02 49 27.2	-3.8
NNZ	**Nelson**	**3.90**	**214**	PN	Pn	02 49 31.1	-3.4

*IDC **01** 02:49:04.9±1.8, 0.08N×125.89E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, Error ellipse: s-maj=181.4km s-min=22.9km az=64.0*
*DJA **01** 02:49:07.9±1.3, 0.5S±10.1×12.6E±0.7, h62km±37km, M4.4/5, mb4.3/1, MLv4.4/5*
*ISCJB **01** 02:49:09.0±1.0, 0.0S±0.1×125.74E±0.07, h44km, mb3.4/4, Error ellipse: s-maj=15.5km s-min=9.5km az=17.9*

ISC 01 02:49:11.0±1.3, 0.1S±0.1×125.7E±0.1, h44km, n10, σ1s73/10, mb3.4/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.88**	**291**	P	Pn	02 49 37.8	-2.9
KMSI				S	**Sn**	**02 50 01.5**	**-1.8**
GTOI	**Gorontalo**	**2.83**	**285**	P	**Pn**	**02 49 52.9**	**-0.7**
GTOI				S	**Sn**	**02 50 29.7**	**+3.2**
LUWI	**Luwuk**	**3.12**	**252**	P	**Pn**	**02 49 55.9**	**-1.7**
LUWI				S	**Sn**	**02 50 34.1**	**+0.5**
MRSI	**Marisa**	**3.84**	**279**	P	Pn	02 50 11.8	+4.2
APSI	**Ampana**	**4.17**	**259**	P	**Pn**	**02 50 12.0**	**-0.1**
SPSI	**Sidrap Palu**	**7.10**	**237**	P	Pn	02 50 47.9	-4.4
WRA	**Warramunga Arr**	**21.45**	**157**	P	**P**	**02 53 55.0**	**-0.6**
	0.3nm,0.4s,baz=336,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**24.73**	**162**	P	**P**	**02 54 30.4**	**+1.9**
	0.3nm,0.6s,baz=344,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**60.16**	**327**	P	**P**	**02 59 14.3**	**+0.1**
	0.4nm,0.6s,baz=124,slow=7.6,SNR=8.4						
AKTO	**Aktyubinsk**	**76.05**	**322**	P	**P**	**03 00 53.7**	**-0.1**
	0.8nm,0.6s,baz=97,slow=5.9,SNR=7.9						

*IDC **01** 02:59:17.1±4.1, 36.30N×70.92E, h158km±36km, mb3.2/9, mb1 3.3/13, mb1mx3.1/30, mbtmp3.1/13, MS3.3/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=28.9km s-min=18.2km az=34.0*
*NNC **01** 02:59:28.9±7.0, 37.20N×70.93E, h238km±75km, mb2.4, mpv3.6, Error ellipse: s-maj=69.1km s-min=43.4km az=20.0*

ISC 01 02:59:16.5±1.0, 36.34N±0.09×70.9E±0.1, h150km, n27, σ2s23/30, mb3.4/8, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.17**	**20**	P	**Pn**	**03 00 48.7**	**+2.9**
	SNR=78						
UCH	**Uchtor**	**6.51**	**24**	P	**Pn**	**03 00 53.5**	**+3.1**
	SNR=9.9						
EKS2	**Erkin-Say**	**6.69**	**19**	P	**Pn**	**03 00 55.4**	**+2.9**
	SNR=19						
KK31	**Karatay Array**	**6.76**	**358**	⇑P	**Pn**	**03 00 55.7**	**+2.4**
	1.0nm,0.3s,baz=181,slow=12,SNR=21						
KK31				⇓S	**Sn**	**03 02 06.4**	**-2.7**
	2.5nm,0.4s,baz=183,slow=22,SNR=6.4						
AAK	**Ala-Archa**	**6.87**	**23**	⇓P	**Pn**	**03 00 57.8**	**+2.9**
	1.9nm,0.3s						
AAK	**Ala-Archa**	**6.87**	**23**	P	**Pn**	**03 00 58.0**	**+3.2**
	SNR=8.6						
AAK	**Ala-Archa**	**6.87**	**23**	P	**Pn**	**03 00 57.7**	**+2.9**
	1.5nm,0.3s,baz=170,slow=3.2,SNR=26						
AAK				S	**Sn**	**03 02 11.4**	**-0.6**
	0.7nm,0.3s,baz=346,slow=22,SNR=12						
KBK	**Karagaybulak**	**7.04**	**25**	P	**Pn**	**03 01 00.3**	**+3.2**
	SNR=6.4						
USP	**Ospenovka**	**7.45**	**21**	P	**Pn**	**03 01 05.0**	**+2.5**
	SNR=6.8						
TKM2	**Tokmak 2**	**7.50**	**27**	⇑P	**Pn**	**03 01 05.6**	**+2.2**
	7.8nm,0.6s						
TKM2				⇓S	**Sn**	**03 02 22.9**	**-4.3**
	1.3nm,0.6s						
TKM2	**Tokmak 2**	**7.50**	**27**	P	**Pn**	**03 01 06.0**	**+2.7**
	SNR=19						
MKAR	**Makanchi Array**	**13.46**	**36**	P	**Pn**	**03 02 22.2**	**+0.7**
	0.1nm,0.3s,baz=220,slow=15,SNR=3.4						
AB31	**Akbulak array**	**15.18**	**332**	⇑P	**P**	**03 02 45.7**	**+1.2**
	0.2nm,0.3s,baz=152,slow=10,SNR=16						
AB31				⇑S	Sn	03 05 20.6	-11
	0.3nm,0.6s,baz=322,slow=17,SNR=4.0						
BVA0	**Borovoye Array**	**16.68**	**359**	⇑P	**P**	**03 02 58.6**	**-2.4**
	0.7nm,0.8s,baz=154,slow=11,SNR=5.8						
BVAR	**Borovoye Array**	**16.68**	**359**	P	**Pn**	**03 03 02.5**	**+1.1**
	0.1nm,0.3s,baz=159,slow=11,SNR=5.2						
BVAR				S	**S**	**03 06 05.6**	**-1.0**
	0.1nm,0.3s,baz=162,slow=19,SNR=4.4						
AKTO	**Aktyubinsk**	**16.88**	**331**	⇑P	**P**	**03 03 01.4**	**-1.9**
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**16.88**	**331**	P	**Pn**	**03 03 05.1**	**+1.4**
	0.3nm,0.3s,baz=148,slow=9.2,SNR=12						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**03 03 38.1**	**0.0**
	0.5nm,0.4s,baz=207,slow=12,SNR=4.5						
KBZ	**Khabaz**	**22.60**	**298**	LR	LR	03 14 25.8	
	comp=Z,84nm,20.6s,baz=85,slow=40						
AKASG	**Malin Array Be**	**32.98**	**309**	P	**P**	**03 05 36.2**	**-0.7**
	0.1nm,0.3s,baz=110,slow=7.4,SNR=4.4						
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**03 06 16.2**	**+0.3**
	9.4nm,1.3s,baz=146,slow=11,SNR=4.3						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**03 06 47.1**	**+0.7**
	2.7nm,0.9s,baz=112,slow=7.9,SNR=7.2						
NOA	**NORSAR Array B**	**44.46**	**323**	P	**P**	**03 07 13.3**	**+1.0**
	0.9nm,0.9s,baz=96,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P	**P**	**03 09 43.3**	**-1.5**
	0.3nm,0.7s,baz=42,slow=4.7,SNR=4.5						
YKA	**Yellowknife Ar**	**81.41**	**3**	P	**P**	**03 11 16.0**	**-0.2**
	0.3nm,0.3s,baz=351,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**81.98**	**122**	P	**P**	**03 11 19.1**	**-0.7**
	0.5nm,1.0s,baz=324,slow=4.8,SNR=5.3						
ASAR	**Alice Springs**	**84.23**	**125**	P	**P**	**03 11 30.9**	**-0.4**
	0.4nm,0.6s,baz=317,slow=4.9,SNR=9.0						

GUC 01 03:03:24.9±0.9, 31.27S×72.25W, h16km±12km, MD4.2, ML3.7, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**1.99**	**135**	⇓*i*P	Pn	03 03 58.6	+0.6
ROCH	**El Roble**	**1.99**	**148**	⇓*i*P	Pn	03 03 58.7	+0.5
ROCH				AML	AML	03 04 29.5	
	comp=N,580nm,0.5s						
PEL	**Peldehue**	**2.29**	**145**	⇓*i*P	Pn	03 04 02.8	+0.7
PEL				*i* S	Sb	03 04 32.4	-1.6
PEL				AML	AML	03 04 35.3	
	comp=E,874nm,0.2s						
CLCH	**Cerro Calan**	**2.56**	**146**	⇓*i*P	Pn	03 04 06.5	+0.6
CLCH				*i* S	Sn	03 04 38.4	+1.6
CLCH				AML	AML	03 04 50.5	
	comp=E,312nm,0.4s						
LMEL	**Las Melosas**	**3.09**	**147**	*e*P	Pn	03 04 14.8	+1.5
LMEL				*i* S	Sn	03 04 49.9	-0.3
LMEL				AML	AML	03 05 02.6	
	comp=N,176nm,0.3s						
CACH	**El Canelo**	**3.16**	**154**	*e*P	Pn	03 04 16.1	+2.0

*IDC **01** 03:56:43.4±2.6, 57.25N×121.35E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/31, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=56.7km s-min=22.6km az=153.0*
*BYKL **01** 03:56:45.7±0.5, 57.46N×120.84E*
*YARS **01** 03:56:45.4±0.2, 57.46N±0.01×120.86E±0.01, h10km, MSV3.5*
*MOS **01** 03:56:46.3±1.4, 57.46N×120.78E, h13km, mb4.3/3, Error ellipse: s-maj=17.0km s-min=15.3km az=65.0*

ISC 01 03:56:46.6±1.2, 57.37N±0.03×120.80E±0.02, h1km±9km, n73, σ1s97/97, mb3.7/6, 7C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.63**	**225**	⇑*i*Pg	**Pg**	**03 56 58.7**	**+0.1**
KHNR				*e*Pb	**Pb**	**03 57 00.2**	**-0.2**
KHNR				*e*Sg	**Sg**	**03 57 07.1**	**+0.3**
KHN	**Khani**	**0.71**	**231**	*i* P	**Pg**	**03 56 58.7**	**-1.4**
KHN				Pm		03 56 58.7	
	comp=Z,205nm,0.2s						
KHN				*i* S	**Sg**	**03 57 07.1**	**-2.2**
KHN				Sm		03 57 07.1	
	comp=N,2μm,0.2s						
YKLR	**Yuktali**	**0.91**	**149**	⇑*i*Pg	**Pg**	**03 57 04.3**	**+0.3**
YKLR				*e*Sg	**Sb**	**03 57 17.4**	**-0.3**
YKLR				*e*Sb	**Sn**	**03 57 20.6**	**+0.3**
YKLR	**Yuktali**	**0.91**	**149**	*i* P	**Pg**	**03 57 04.4**	**+0.4**
YKLR				Pm		03 57 04.4	
	comp=Z,245nm,0.3s						
YKLR				*e*S	**Sg**	**03 57 15.7**	**0.0**
YKLR				Sm		03 57 15.7	
	comp=E,4μm,0.3s						
CRS	**Chara**	**1.46**	**252**	*e*P	**Pn**	**03 57 13.5**	**-0.5**
CRS				*e*		03 57 31.9	
CRS				pmax	pmax		
	comp=Z,237nm,0.5s						
CRS				smax	smax		
	comp=E,324nm,0.5s						
CRS	**Chara**	**1.46**	**252**	⇑*i*Pg	**Pn**	**03 57 13.2**	**-0.8**
CRS				*e*		03 57 15.0	
CRS				*e*Sg	**Sn**	**03 57 31.9**	**-1.9**
CRS				max			
	comp=E,46nm,0.3s						
CRS				Smax			
	comp=E,373nm,0.5s						
CRS	**Chara**	**1.46**	**252**	*e*P	**Pn**	**03 57 13.2**	**-0.8**
CRS				Pm		03 57 13.2	
	comp=Z,46nm,0.3s						
CRS				*e*S	**Sn**	**03 57 31.9**	**-1.9**
CRS				Sm		03 57 31.9	
	comp=E,373nm,0.5s						
CLNS	**Chul'man**	**2.30**	**102**	*e*P	**Pn**	**03 57 26.5**	**+0.9**
CLNS				*e*S	**Sb**	**03 57 56.6**	**-1.1**
CLNS	**Chul'man**	**2.30**	**102**	⇑*i*Pg	**Pn**	**03 57 26.6**	**+0.9**
CLNS				*e*		03 57 34.8	
CLNS				*e*Sg	**Sb**	**03 57 57.0**	**-0.7**
CLNS	**Chul'man**	**2.30**	**102**	*i* P	**Pn**	**03 57 26.6**	**+0.9**
CLNS				Pm		03 57 26.6	
	comp=Z,43nm,0.3s						
CLNS				*e*S	**Sb**	**03 57 55.9**	**-1.8**
CLNS				Sm		03 57 55.9	
	comp=E,683nm,0.4s						
IENR	**Iengra**	**2.51**	**115**	⇑*i*Pn	**Pn**	**03 57 28.8**	**+0.2**
IENR				⇑*i*Pg	**Pb**	**03 57 31.4**	**-1.1**
IENR				*e*Sg	**Sb**	**03 58 04.6**	**+0.7**
IENR				*e*		03 58 14.4	
IENR				*e*P		03 57 28.9	
IENR	**Iengra**	**2.51**	**115**	*e*P	**Pb**	**03 57 31.3**	**-1.2**
IENR				Pm		03 57 31.3	
	comp=Z,122nm,0.3s						
IENR				*e*S	**Sb**	**03 58 03.7**	**-0.2**
IENR				Sm		03 58 03.7	
	comp=N,692nm,0.3s						
ALDR	**Aldan**	**2.75**	**61**	*e*Pg	**Pb**	**03 57 34.0**	**-2.6**
ALDR				*e*Sg	**Sb**	**03 58 09.2**	**-1.6**
ALDR	**Aldan**	**2.75**	**61**	*e*P	Pb	03 57 33.5	-3.1
ALDR				Pm		03 57 33.5	
	comp=Z,22nm,0.1s						
ALDR				*e*S	**Sb**	**03 58 09.3**	**-1.6**
ALDR				Sm		03 58 09.3	
	comp=N,819nm,0.4s						
NLYR	**Nelyaty**	**2.93**	**255**	*e*P	**Pn**	**03 57 34.4**	**+0.2**
NLYR				*e*		03 58 14.8	
NLYR				pmax	pmax		
	comp=Z,90nm,0.4s						
NLYR				smax	smax		
	comp=N,353nm,1.1s						
NLYR	**Nelyaty**	**2.93**	**255**	⇑*i*Pn	**Pn**	**03 57 34.4**	**+0.2**
NLYR				*e*Pg	**Pb**	**03 57 39.1**	**-0.4**
NLYR				*e*		03 57 41.8	
NLYR				*e*Sg	**Sb**	**03 58 16.4**	**+0.6**
NLYR				*e*		03 58 19.7	
NLYR				max			
	comp=N,90nm,0.4s						
NLYR				max			
	comp=N,331nm,0.5s						
NLYR				*i* P		03 57 34.4	
NLYR	**Nelyaty**	**2.93**	**255**	*e*P	**Pb**	**03 57 39.1**	**-0.4**
NLYR				Pm		03 57 39.1	
	comp=Z,90nm,0.4s						
NLYR				*e*S	**Sb**	**03 58 16.4**	**+0.6**
NLYR				Sm		03 58 16.4	
	comp=E,331nm,0.5s						
TUP	**Tupik**	**2.99**	**189**	*e*P	**Pn**	**03 57 35.3**	**+0.2**
TUP				*e*S	**Sn**	**03 58 10.6**	**-1.0**
TUP				pmax	pmax		
	comp=Z,177nm,0.6s						
TUP				smax	smax		
	comp=E,726nm,0.6s						
TUP	**Tupik**	**2.99**	**189**	⇓*i*Pn	**Pn**	**03 57 34.8**	**-0.3**
TUP				*e*		03 57 36.8	
TUP				⇓*i*Pg	**Pb**	**03 57 39.8**	**-0.8**
TUP				*e*Sn	**Sn**	**03 58 09.3**	**-2.3**
TUP				*i* Sg	**Sb**	**03 58 19.0**	**+1.4**
TUP				*e*		03 58 27.1	
TUP				Pmax			
	comp=E,176nm,0.7s						
TUP				max			
	comp=E,719nm,0.6s						
TUP				*i* P		03 57 34.8	
TUP	**Tupik**	**2.99**	**189**	*i* P	**Pb**	**03 57 39.8**	**-0.8**
TUP				Pm		03 57 39.8	
	comp=Z,176nm,0.7s						
TUP				*e*S		03 58 09.3	
TUP				*i* S	**Sb**	**03 58 19.0**	**+1.4**
TUP				Sm		03 58 19.0	
	comp=E,719nm,0.6s						
TNDR	**Tynda**	**3.12**	**134**	Pg	**Pb**	**03 57 43.5**	**+0.6**
TNDR				*e*Sg	**Sb**	**03 58 23.7**	**+2.3**
TNDR				*e*		03 58 38.5	
TNDR				*e*P		03 57 37.3	
TNDR	**Tynda**	**3.12**	**134**	*e*P	**Pb**	**03 57 43.2**	**+0.3**
TNDR				Pm		03 57 43.2	
	comp=Z,28nm,0.2s						
TNDR				*e*S	**Sb**	**03 58 23.1**	**+1.7**
TNDR				Sm		03 58 23.1	
	comp=N,607nm,0.4s						
BOD	**Bodaibo**	**3.68**	**280**	*e*P	**Pn**	**03 57 43.6**	**-1.0**
BOD				pmax	pmax		
	comp=Z,25nm,0.5s						
BOD	**Bodaibo**	**3.68**	**280**	⇑*i*Pn	**Pn**	**03 57 45.1**	**+0.5**
BOD				*e*Pg	**Pb**	**03 57 50.8**	**-1.6**
BOD				*e*Sg	**Sb**	**03 58 38.5**	**+1.0**
BOD				Pmax			
	comp=Z,23nm,0.3s						
BOD				Smax			
	comp=E,265nm,1.3s						
BOD				*i* P		03 57 45.1	
BOD	**Bodaibo**	**3.68**	**280**	*e*P	**Pb**	**03 57 50.8**	**-1.6**
BOD				Pm		03 57 50.8	
	comp=Z,23nm,0.3s						
BOD				*e*S	**Sb**	**03 58 38.5**	**+1.0**
BOD				Sm		03 58 38.5	
	comp=N,265nm,1.3s						
SVKR	**Severomuysk**	**4.18**	**256**	*e*Pg	**Pb**	**03 58 02.6**	**+1.8**
SVKR				*e*		03 58 10.1	
SVKR				*e*Sg	**Sb**	**03 58 56.5**	**+4.7**
SVKR				max			
	comp=N,44nm,0.4s						
SVKR				Smax			
	comp=N,188nm,0.6s						
SVKR	**Severomuysk**	**4.18**	**256**	*e*P	**Pb**	**03 58 02.6**	**+1.8**
SVKR				Pm		03 58 02.6	
	comp=Z,44nm,0.4s						
SVKR				*e*S	**Sb**	**03 58 56.5**	**+4.7**
SVKR				Sm		03 58 56.5	
	comp=N,188nm,0.6s						
UKT	**Uakit**	**4.40**	**248**	*e*P	**Pb**	**03 58 07.8**	**+3.1**
UKT				pmax	pmax		
	comp=Z,18nm,0.5s						
UKT	**Uakit**	**4.40**	**248**	*e*	Pn	03 57 58.1	+3.5
UKT				*e*Pg	**Pb**	**03 58 06.2**	**+1.5**
UKT				*i* Sg	**Sb**	**03 59 02.9**	**+4.6**
UKT				Pmax			
	comp=Z,24nm,0.6s						
UKT				Smax			
	comp=Z,81nm,1.0s						
UKT	**Uakit**	**4.40**	**248**	*e*P	**Pb**	**03 58 06.2**	**+1.5**
UKT				Pm		03 58 06.2	
	comp=Z,24nm,0.6s						
UKT				*i* S	**Sb**	**03 59 02.9**	**+4.6**
UKT				Sm		03 59 02.9	
	comp=E,81nm,1.0s						
KROS				*e*P		03 57 53.0	
KROS	**Kirovskiy**	**4.55**	**128**	*i* P	**Pb**	**03 58 05.0**	**-2.2**
KROS				Pm		03 58 05.0	
	comp=Z,22nm,0.6s						
KROS				*e*S		03 58 44.1	
KROS				*i* S	**Sb**	**03 59 04.9**	**+2.4**
KROS				Sm		03 59 04.9	
	comp=N,290nm,0.6s						
KROS				*e*P		03 59 00.4	
VTMR	**Vitim**	**4.81**	**299**	*e*	Pb	03 58 05.8	-5.7
VTMR				*e*Pg	Pg	03 58 10.6	-8.0
VTMR				*e*Sg	**Sb**	**03 59 11.1**	**+1.3**
VTMR				*e*P		03 57 57.3	
VTMR	**Vitim**	**4.81**	**299**	*e*P	**Pb**	**03 58 12.8**	**+1.3**
VTMR				Pm		03 58 12.8	
	comp=Z,3.0nm,0.2s						
VTMR				*e*S	**Sb**	**03 59 12.3**	**+2.5**
VTMR				Sm		03 59 12.3	
	comp=E,348nm,0.6s						
YOA	**Uoyan**	**5.14**	**260**	*e*Sg	**Sg**	**03 59 27.3**	**-4.3**
YOA				Smax			
	comp=E,474nm,1.6s						
YOA				*e*S	**Sg**	**03 59 27.3**	**-4.3**
YOA				Sm		03 59 27.3	
	comp=N,474nm,1.6s						
CGD				*e*S		03 59 05.7	
CGD				*e*S	**Sb**	**03 59 30.1**	**+3.4**
CGD				Sm		03 59

	comp=N,66nm,2.2s								
YAK	**Yakutsk**	**6.48**	**40**	*e*P		**Pb**	**03 58 41.9**	**+1.9**	
YAK				*e*			03 59 31.7		
YAK					pmax	pmax			
	comp=Z,15nm,0.4s								
YAK					pmax	pmax			
	comp=N,2.0nm,0.3s								
YAK					pmax	pmax			
	comp=E,4.0nm,0.3s								
YAK					smax	smax			
	comp=N,29nm,0.6s								
YAK					smax	smax			
	comp=E,29nm,0.4s								
YAK					smax	smax			
	comp=E,82nm,1.1s								
YAK					smax	smax			
	comp=N,100nm,0.9s								
YAK					smax	smax			
	comp=Z,51nm,7.1s								
YAK	**Yakutsk**	**6.48**	**40**	*e*P		**Pb**	**03 58 39.9**	**-0.1**	
YAK				Pm			03 58 39.9		
	comp=Z,8.0nm,0.4s								
YAK				*e*S			03 59 30.2		
YAK				*e*S		**Sb**	**04 00 02.0**	**+4.1**	
YAK				Sm			04 00 02.0		
	comp=E,81nm,0.5s								
NBS				*e*P			03 58 20.6		
NBS	**Nizhniy Bestya**	**6.49**	**41**	*e*P		**Pb**	**03 58 40.9**	**+0.7**	
NBS				*e*S			03 59 30.0		
NBS				*e*S		Sb	04 00 03.3	+5.1	
CIT	**Chita**	**6.80**	**221**	*e*Sg		Sb	04 00 16.9	+10	
CIT				Smax					
	comp=E,200nm,1.3s								
CIT				*e*S		Sb	04 00 16.9	+10	
CIT				Sm			04 00 16.9		
	comp=N,200nm,1.3s								
USMR				*e*P			03 58 37.2		
USMR	**Ust'-Maya**	**7.75**	**61**	*e*P		Pb	03 59 03.9	+2.4	
USMR				Pm			03 59 03.9		
	comp=Z,6.0nm,0.5s								
USMR				*e*S			04 00 00.1		
USMR				*e*S		Sb	04 00 42.4	+8.2	
USMR				Sm			04 00 42.4		
	comp=N,94nm,0.8s								
MXMB	**Maximikha**	**8.01**	**244**	*e*Pg		Pb	03 59 10.9	+4.9	
MXMB				*e*			03 59 16.7		
MXMB				*e*Sg		Sg	04 00 56.7	-6.8	
MXMB				*e*			04 01 01.6		
MXMB				*e*			04 01 10.4		
MXMB				max					
	comp=N,6.0nm,0.1s								
MXMB				max					
	comp=N,172nm,1.7s								
OGRR	**Ongureny**	**8.37**	**249**	*e*Pn		**Pn**	**03 58 50.8**	**+1.9**	
OGRR				*e*			03 58 50.9		
OGRR				*e*Sg		Sg	04 01 08.6	-6.4	
OGRR				Smax					
	comp=N,53nm,1.1s								
OGRR				*e*P			03 58 50.9		
OGRR				*e*S		Sg	04 01 08.6	-6.4	
OGRR				Sm			04 01 08.6		
	comp=E,53nm,1.1s								
KPC	**Khapcheranga**	**9.16**	**217**	*e*Pn		**Pn**	**03 59 00.4**	**+0.6**	
KPC				*e*Pg			03 59 31.3		
KPC				*e*Sn		**Sn**	**04 00 42.6**	**-1.0**	
KPC				*e*Sg			04 01 29.9		
KPC				*e*			04 01 39.2		
KPC				Pmax					
	comp=E,1.0nm,0.4s								
KPC				max					
	comp=E,57nm,1.1s								
ZRHB	**Zarechye**	**9.21**	**244**	*e*Sg		Sn	04 01 31.9	+47	
ZRHB				*e*			04 01 44.5		
ZRHB				max					
	comp=E,189nm,1.3s								
TRG	**Tyrgan**	**9.48**	**247**	*e*			04 01 31.2		
TRG				*e*Sg		Sn	04 01 42.0	+51	
TRG				Smax					
	comp=E,13nm,1.3s								
KAB	**Kabansk**	**9.76**	**243**	*e*Pg		Pn	03 59 43.6	+36	
KAB				*e*Sg		Sn	04 01 50.2	+52	
KAB				Smax					
	comp=E,124nm,0.9s								
HRMR	**Khuramsha**	**9.88**	**240**	*e*			04 00 51.8		
HRMR				*e*Sg		Sn	04 01 53.3	+52	
HRMR				Smax					
	comp=E,138nm,1.0s								
LSTR	**Listvyanka**	**10.76**	**246**	*e*Sg			04 02 23.6		
LSTR				Smax					
	comp=E,22nm,1.3s								
ARS	**Arshan**	**11.94**	**251**	*e*			04 02 45.8		
ARS				*e*Sg			04 02 58.8		
ARS				Smax					
	comp=E,43nm,1.0s								
ZAK	**Zakamensk**	**12.46**	**243**	*e*			04 03 07.4		
ZAK				*e*Sg			04 03 12.9		
ZAK				Smax					
	comp=E,12nm,1.4s								
MOY	**Mondy**	**12.82**	**252**	*e*Sg			04 03 23.8		
MOY				Smax					
	comp=E,34nm,1.6s								
SONM	**Songino Array**	**12.92**	**229**	Pn		**Pn**	**03 59 52.3**	**+1.0**	
	comp=E,0.1nm,0.3s,baz=33,slow=12,SNR=4.1								
SONM				Lg		Lg	04 03 31.8		
	comp=E,0.5nm,0.3s,baz=26,slow=27,SNR=13								
ORL	**Orlik**	**12.97**	**257**	*e*Sg			04 03 26.5		
ORL				Smax					
	comp=E,21nm,1.5s								
SEY	**Seymchan**	**16.56**	**57**	P		Pn	04 00 31.1	-8.6	
SEY	**Seymchan**	**16.56**	**57**	Pn		Pn	04 00 31.1	-8.6	
	comp=E,0.2nm,0.3s,baz=60,slow=14,SNR=4.3								
SEY				Lg		Lg	04 05 24.9		
	comp=E,0.0nm,0.3s,baz=21,slow=23,SNR=3.9								
ZALV	**Zalesovo Beam**	**20.43**	**276**	P		Pn	04 01 26.4	-0.6	
ZALV	**Zalesovo Beam**	**20.43**	**276**	P		Pn	04 01 26.4	-0.6	
	comp=E,0.6nm,0.5s,baz=65,slow=6.8,SNR=3.8								
KURK	**Kurchatov**	**25.30**	**273**	P		**P**	**04 02 14.0**	**-0.3**	
KURBB	**Kurchatov Arra**	**25.40**	**273**	P		**P**	**04 02 14.0**	**-1.2**	
	comp=E,0.4nm,0.9s,baz=60,slow=9.2,SNR=2.6								
BVAR	**Borovoye Array**	**28.55**	**283**	P		**P**	**04 02 43.6**	**+0.1**	
BVAR	**Borovoye Array**	**28.55**	**283**	P		**P**	**04 02 43.5**	**+0.1**	
	comp=E,0.2nm,0.5s,baz=60,slow=8.5,SNR=2.5								
ARCES	**ARCESS Array B**	**39.71**	**327**	P		**P**	**04 04 20.9**	**+1.0**	
	comp=E,3.5nm,1.0s,baz=69,slow=10.0,SNR=3.4								
FINES	**FINESS Array B**	**44.30**	**317**	P		**P**	**04 04 55.9**	**-1.5**	
	comp=E,3.1nm,1.0s,baz=59,slow=9.2,SNR=5.0								
NOA	**NORSAR Array B**	**49.77**	**323**	P		**P**	**04 05 38.8**	**-1.4**	
	comp=E,0.6nm,0.8s,baz=42,slow=7.5,SNR=2.7								
AKASG	**Malin Array Be**	**50.27**	**304**	P		**P**	**04 05 42.1**	**-1.9**	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**50.27**	**304**	P		**P**	**04 05 42.1**	**-1.9**	
	comp=Z,0.7nm,0.6s,baz=41,slow=8.4,SNR=7.8								

IDC 01 04:05:12.2±4.9, 14°03'×70°39'W, h82km±43km, mb3.5/2, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/19, Error ellipse: s-maj=60.6km s-min=46.7km az=42.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.56**	**129**	P	Pn	04 06 05.8	-0.1
	0.9nm,0.3s,baz=295,slow=13,SNR=18						
SIV	**San Ignacio**	**9.78**	**103**	P	Pn	04 07 29.7	-0.4
	0.2nm,0.3s,baz=282,slow=15,SNR=3.1						
PTGA	**Pitinga**	**17.14**	**40**	P	Pn	04 09 06.5	0.0
	0.6nm,0.3s,baz=216,slow=15,SNR=6.2						
PTGA				LR	LR	04 16 27.5	
	comp=Z,94nm,18.7s,baz=77,slow=39						
TORD	**Torodi Ar. Bea**	**76.88**	**73**	P	P	04 16 56.1	+0.1
	0.7nm,0.9s,baz=267,slow=6.2,SNR=3.0						
YKA	**Yellowknife Ar**	**83.52**	**341**	P	P	04 17 30.7	0.0
	0.9nm,0.8s,baz=134,slow=5.2,SNR=15						

MEX 01 04:10:44.8±0.4, 15°65'N×95°83'W, h26km±6km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.29**	**293**	*e*P	Pb	04 10 50.4	-1.4
HUIG				*i* S	Sb	04 10 55.2	-1.4
VHO	**Vista Hermosa**	**1.66**	**328**	*e*P	Pn	04 11 10.5	-2.0
VHO				*i* S	Sn	04 11 29.6	-3.6
CMIG	**Matias Romero**	**1.69**	**32**	*e*P	Pn	04 11 10.0	-2.7
PNIG	**Pinotepa**	**2.33**	**289**	*i* P	Pn	04 11 19.6	-1.9
PNIG				*i* S	Sn	04 11 46.1	-3.3
PCIG		**2.51**	**88**	*e*P	Pn	04 11 21.6	-2.3
PCIG				*i* S	Sn	04 11 50.9	-2.9
TLIG	**Tlapa**	**3.24**	**306**	*i* P	Pn	04 11 31.8	-2.4
TLIG				*e*S	Sn	04 12 08.7	-3.4

*IDC **01** 04:41:09.8±7.2, 1°91'S×100°11'E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=138.9km s-min=63.0km az=13.0*
*DJA **01** 04:41:19.2±1.3, 1°S±7'×9°9'E±', h13km, M3.9/4, MLv3.9/4*
ISC 01 04:41:17.9±1.9, 1°5S±0'.1×99°43E±0'.07, h33km, n11, σ1§61/13, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.18**	**61**	P	**Pb**	**04 41 38.4**	**-1.3**
PDSI				S	**Sb**	**04 41 55.2**	**+0.5**
PPI	**Padang Panjang**	**1.41**	**43**	P	**Pn**	**04 41 41.3**	**+0.1**
PPI				S	**Sb**	**04 42 01.1**	**-0.1**
MNSI	**Mandailing Nat**	**2.27**	**4**	P	**Pn**	**04 41 54.5**	**+1.4**
MNSI				S	**Sn**	**04 42 22.5**	**+2.5**
BKNI	**Bangkinang**	**2.42**	**42**	P	**Pb**	**04 42 00.0**	**-0.7**
BKNI				S	**Sb**	**04 42 27.1**	**-3.0**
GSI	**Gunungsitoli**	**3.34**	**326**	P	**Pb**	**04 42 14.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**19.83**	**359**	P	**Pn**	**04 45 46.7**	**-1.0**
	0.3nm,0.3s,baz=192,slow=11,SNR=3.4						
JNU	**Nakatsue**	**45.44**	**38**	P	P	04 49 29.5	-4.4
	12nm,0.8s,baz=206,slow=6.6,SNR=6.3						
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**04 50 05.6**	**+0.3**
	0.1nm,0.4s,baz=197,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**50.39**	**345**	P	**P**	**04 50 12.8**	**+0.9**
	0.7nm,0.6s,baz=150,slow=8.2,SNR=7.9						
KURBB	**Kurchatov Arra**	**54.90**	**344**	P	P	04 50 52.3	+7.1
	0.3nm,0.6s,baz=166,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	**P**	**04 50 57.7**	**+0.6**
	1.6nm,0.6s,baz=165,slow=7.4,SNR=3.8						

*ISCJB **01** 04:42:51.7±0.2, 5°13N±0'.02×127°28E±0'.03, h76km, mb4.3/27, Error ellipse: s-maj=4.8km s-min=3.0km az=160.7*
*BJI **01** 04:42:51.2, 4°62N×126°93E, h100km, mb4.4/4*
*NEIC **01** 04:42:53.6±1.1, 5°03N×127°12E, h81km±10km, mb4.4/12, Error ellipse: s-maj=12.3km s-min=5.8km az=66.0*
*IDC **01** 04:42:56.8±6.7, 4°97N×127°06E, h111km±64km, mb4.1/15, mb1 4.2/15, mb1mx4.0/25, mbtmp4.1/15, Error ellipse: s-maj=31.7km s-min=13.0km az=71.0*
*DJA **01** 04:42:58.1±0.7, 5°N±5'×12°7E±', h48km±20km, M4.8/13, mB5.2/8, mb4.9/13, MLv5.0/9, Mw(mB)4.6/8*
*MAN **01** 04:43:10, 6°21N×126°14E, h1km, mb4.9, ML3.8, MS3.9*
ISC 01 04:42:53.3±0.4, 5°10N±0'.04×127°25E±0'.06, h76km, n107, σ1§34/107, mb4.4/26, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.08**	**332**	*e*P	**Pn**	**04 43 25.5**	**-0.8**
SGSI	**Sangihe**	**2.22**	**231**	P	**Pn**	**04 43 27.6**	**-0.5**
SGSI				S	**Sn**	**04 43 53.9**	**-0.8**
GSPH	**General Santos**	**2.49**	**293**	*e*P	Pn	04 43 28.6	-3.2
DAV	**Davao City (W)**	**2.56**	**320**	*e*Pn	**Pn**	**04 43 32.5**	**-0.3**
DAV				*e*Sn	**Sn**	**04 44 03.7**	**+0.7**
DMPH	**Davao City--Mi**	**2.62**	**319**	*e*P	Pn	04 43 37.1	+3.5
DMPH				*e*S	**Sn**	**04 44 10.1**	**+5.7**
GAMI	**Galela, Maluku**	**3.29**	**171**	P	x	04 43 44.2	
GAMI				S	x	04 44 20.4	
BUKP	**Musuan**	**3.51**	**322**	*e*P	**Pn**	**04 43 46.3**	**+0.6**
BUKP				*e*S	Sn	04 44 11.4	-15
CTBH	**Cotabato--PC H**	**3.65**	**305**	*i*P	**Pn**	**04 43 48.3**	**+0.8**
BUTP	**Butuan**	**4.17**	**337**	*e*P	**Pn**	**04 43 56.0**	**+1.5**
CGP	**Cagayan de Oro**	**4.19**	**323**	*i*P	**Pn**	**04 43 57.1**	**+2.2**
CGP				*i* S	Sn	04 44 48.9	+6.4
TNTI	**Ternate**	**4.30**	**178**	P	**Pn**	**04 43 57.3**	**+0.9**
PAGZ	**Pagadian**	**4.71**	**306**	*e*P	**Pn**	**04 44 03.0**	**+1.0**
IPIL	**Ipil**	**5.36**	**300**	*e*P	**Pn**	**04 44 13.1**	**+2.2**
MSLP	**Maasin**	**5.53**	**335**	*e*P	**Pn**	**04 44 15.7**	**+2.5**
LBMI	**Labuha**	**5.71**	**177**	P	**Pn**	**04 44 16.7**	**+1.1**
	402nm,0.8s,4μm1.4nm						
GTOI	**Gorontalo**	**6.13**	**224**	P	**Pn**	**04 44 21.0**	**-0.4**
	135nm,0.7s,2μm0.5nm						
MRSI	**Marisa**	**7.01**	**229**	P	**Pn**	**04 44 33.6**	**+0.1**
	109nm,0.6s,2μm0.4nm						
MRSI				S	**Sn**	**04 45 52.9**	**+1.1**
	109nm,0.6s,2μm0.4nm						
SWI	**Sorong**	**7.15**	**146**	P	**Pn**	**04 44 37.2**	**+1.8**
	66nm,0.5s,1μm0.3nm						
SWI				S	**Sn**	**04 45 57.8**	**+2.6**
	66nm,0.5s,1μm0.3nm						
PALU	**Palau**	**7.52**	**72**	P	**Pn**	**04 44 37.9**	**-2.4**
	baz=7.3,SNR=4.2						
PALU				S	Sn	04 45 54.2	-10
	baz=7.3,SNR=5.9						
LUWI	**Luwuk**	**7.57**	**216**	P	**Pn**	**04 44 44.0**	**+3.0**
	118nm,0.7s,3μm0.6nm						
LUWI				S	**Sn**	**04 46 08.2**	**+2.9**
	118nm,0.7s,3μm0.6nm						
LUWI	**Luwuk**	**7.57**	**216**	P	**Pn**	**04 44 44.0**	**+3.0**
	baz=7.8,SNR=8.7						
APSI	**Ampana**	**8.18**	**223**	P	**Pn**	**04 44 51.1**	**+1.6**
	87nm,0.6s,1μm0.4nm						
NLAI	**Namlea**	**8.29**	**181**	P	**Pn**	**04 44 50.6**	**-0.3**
	66nm,0.8s,2μm						
MYLDM	**Lahad Datu**	**8.71**	**271**	P	x	04 44 59.7	
	52nm,1.2s						
FAKI	**Fak Fak**	**9.40**	**148**	P	**Pn**	**04 45 08.0**	**+1.9**
	58nm,0.9s						
FAKI	**Fak Fak**	**9.40**	**148**	P	**Pn**	**04 45 07.2**	**+1.0**
	baz=9.4,SNR=13						
FAKI				S	**Sn**	**04 46 51.6**	**+1.3**
	baz=9.4,SNR=4.6						
TTSI	**Tana Toraja**	**10.98**	**223**	P	**Pn**	**04 45 30.3**	**+2.6**
	22nm,0.8s						
MMSI	**Mamuju**	**11.37**	**227**	P	x	04 45 34.2	
	55nm,0.8s						
SPSI	**Sidrap Palu**	**11.70**	**220**	P	**Pn**	**04 45 37.7**	**+0.2**
	16nm,0.6s						
BBKI	**Banjar Baru**	**15.04**	**236**	P	**Pn**	**04 46 23.9**	**+2.2**
MTN	**Manton Dam**	**18.24**	**168**	P	**P**	**04 46 59.8**	**-1.0**
	baz=18,SNR=12						
KDU	**Kakadu**	**18.42**	**164**	P	**P**	**04 47 02.5**	**-0.2**
	baz=18,SNR=5.8						
JAGI	**Jajag, Banyuwa**	**18.77**	**224**	P	**Pn**	**04 47 07.9**	**0.0**
	baz=19,SNR=5.2						
KNRA	**Kununurra**	**20.70**	**176**	P	**P**	**04 47 28.0**	**+0.4**
	baz=21,SNR=15						
COEN	**Coen**	**24.67**	**140**	*e*P	**P**	**04 48 07.8**	**+0.6**
WRA	**Warramunga Arr**	**25.85**	**165**	P	**P**	**04 48 18.1**	**+0.1**
WRA	**Warramunga Arr**	**25.85**	**165**	P	**P**	**04 48 18.1**	**+0.1**
	25nm,0.9s,baz=345,slow=10,SNR=81						
IPM	**Ipoh**	**26.14**	**270**	*e*P	**P**	**04 48 19.2**	**-1.6**
	10.0nm,0.8s						
KULM	**Kulim**	**26.49**	**272**	*e*P	**P**	**04 48 23.0**	**-0.9**
	12nm,1.1s						
QIS	**Mount Isa**	**28.24**	**155**	P	**P**	**04 48 40.0**	**+0.6**
	baz=28,SNR=9.1						
AS31	**Alice Springs**	**29.32**	**167**	*e*P	**P**	**04 48 48.9**	**-0.2**
ASAR	**Alice Springs**	**29.32**	**167**	P	**P**	**04 48 48.3**	**-0.7**
ASAR	**Alice Springs**	**29.32**	**167**	P	**P**	**04 48 48.3**	**-0.7**
	2.2nm,0.6s,baz=351,slow=7.9,SNR=52						
WRKA	**Warakurna**	**29.98**	**178**	P	**P**	**04 48 55.3**	**+0.5**
	baz=30,SNR=11						
CMAR	**Chiang Mai Arr**	**30.66**	**298**	P	**P**	**04 48 59.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.66**	**298**	P	**P**	**04 48 59.9**	**-1.0**
	0.3nm,0.3s,baz=119,slow=7.5,SNR=2.9						
MEEK	**Meekatharra**	**32.64**	**194**	P	P	04 49 22.1	+3.9
	baz=33,SNR=4.5						
XAN	**Xi'an**	**33.45**	**332**	P	**P**	**04 49 24.2**	**-1.0**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
QLP	**Quilpie**	**35.54**	**153**	P	**P**	**04 49 43.6**	**+0.3**
	baz=36,SNR=4.7						
FORT	**Forrest**	**35.69**	**179**	*e*P	**P**	**04 49 42.1**	**-2.3**
	22nm,0.9s						
BBOO	**Buckleboo**	**38.62**	**168**	P	**P**	**04 50 09.6**	**+0.2**
	baz=39,SNR=20						
USRK	**Ussuriysk Arra**	**39.16**	**5**	P	**P**	**04 50 14.9**	**+1.2**
	4.0nm,1.0s,baz=148,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**39.23**	**161**	*e*P	**P**	**04 50 14.5**	**0.0**
	4.9nm,0.8s						
STKA	**Stephens Creek**	**39.23**	**161**	P	**P**	**04 50 13.3**	**-1.1**
	18nm,0.6s,baz=338,slow=8.1,SNR=55						
STKA	**Stephens Creek**	**39.23**	**161**	P	**P**	**04 50 13.2**	**-1.2**
	baz=39,SNR=41						
SHL	**Shillong**	**39.50**	**305**	*e*P	**P**	**04 50 16.0**	**-1.1**
CMSA	**Cobar Meteorol**	**40.46**	**155**	P	**P**	**04 50 25.4**	**+0.8**
	baz=41,SNR=13						
ARMA	**Armidale**	**42.34**	**148**	P	**P**	**04 50 41.7**	**+1.5**
	baz=42,SNR=5.6						
TAPN	**Taplejung**	**43.64**	**305**	*e*P	**P**	**04 50 50.4**	**-0.6**
	14nm,0.6s						
ODAN	**Odare**	**43.72**	**304**	*e*P	**P**	**04 50 50.7**	**-0.9**
	21nm,0.8s						
ARPS	**Mount Arapiles**	**43.83**	**163**	P	**P**	**04 50 53.1**	**+1.1**
	baz=44,SNR=12						
RAMN	**Ramite**	**44.40**	**304**	*e*P	**P**	**04 50 56.7**	**-0.4**
	26nm,0.8s						
JIRN	**Jiri**	**45.01**	**305**	*e*P	**P**	**04 51 01.4**	**-0.6**
	21nm,0.6s						
GUN	**Gumba**	**45.36**	**305**	*e*P	**P**	**04 51 04.1**	**-0.7**
	21nm,0.6s						
PKI	**Pulchoki**	**45.62**	**304**	*e*P	**P**	**04 51 05.1**	**-1.7**
	8.1nm,0.8s						
PKIN	**Phulchoki**	**45.63**	**304**	*e*P	**P**	**04 51 05.9**	**-0.9**
KKN	**Kakani**	**45.80**	**304**	*e*P	**P**	**04 51 06.9**	**-1.2**
DMN	**Daman**	**45.88**	**304**	*e*P	**P**	**04 51 07.6**	**-1.2**
	20nm,1.0s						
ULN	**Ulaanbaatar**	**45.99**	**341**	*e*P	**P**	**04 51 09.9**	**+0.8**
	5.6nm,1.1s						
SONM	**Songino Array**	**46.18**	**341**	P	**P**	**04 51 11.2**	**+0.6**
SONM	**Songino Array**	**46.18**	**341**	P	**P**	**04 51 11.2**	**+0.6**
	1.3nm,0.6s,baz=157,slow=8.0,SNR=9.3						
GKN	**Gorkha**	**46.41**	**304**	*e*P	**P**	**04 51 11.6**	**-1.2**
KOLN	**Koldanda**	**47.19**	**304**	*e*P	**P**	**04 51 18.3**	**-0.6**
	23nm,0.7s						
DANN	**Dangsing**	**47.26**	**304**	*e*P	**P**	**04 51 18.8**	**-0.8**
	27nm,0.7s						
PEA0B	**Petropavlovsk-**	**53.97**	**22**	*e*P	**P**	**04 52 09.4**	**0.0**
PETK	**Petropavlovsk-**	**53.97**	**22**	P	**P**	**04 52 10.6**	**+1.3**
PETK	**Petropavlovsk-**	**53.97**	**22**	P	**P**	**04 52 10.6**	**+1.3**
	6.1nm,0.6s,baz=34,slow=3.9,SNR=6.2						
MK31	**Makanchi Array**	**56.74**	**325**	*e*P	**P**	**04 52 29.6**	**+0.2**
MKAR	**Makanchi Array**	**56.74**	**325**	P	**P**	**04 52 29.8**	**+0.4**
MKAR	**Makanchi Array**	**56.74**	**325**	P	**P**	**04 52 29.8**	**+0.4**
	7.2nm,0.6s,baz=124,slow=8.3,SNR=110						
TKM2	**Tokmak 2**	**59.08**	**318**	*e*P	**P**	**04 52 45.5**	**-0.6**
	2.4nm,0.7s						
ZAA0	**Zalesovo Array**	**59.61**	**332**	*e*P	**P**	**04 52 49.0**	**-0.2**
ZALV	**Zalesovo Beam**	**59.61**	**332**	P	**P**	**04 52 48.2**	**-1.1**
ZALV	**Zalesovo Beam**	**59.61**	**332**	P	**P**	**04 52 48.2**	**-1.1**
	4.4nm,0.6s,baz=122,slow=7.0,SNR=17						
EKS2	**Erkin-Say**	**60.20**	**317**	*e*P	**P**	**04 52 54.5**	**+0.8**
	1.3nm,0.8s						
KURK	**Kurchatov**	**60.87**	**327**	P	**P**	**04 52 58.0**	**+0.1**
KURBB	**Kurchatov Arra**	**60.88**	**327**	P	**P**	**04 52 58.0**	**+0.1**
	5.6nm,0.8s,baz=126,slow=6.1,SNR=66						
KKAR	**Karatay Array**	**62.59**	**316**	*e*P	**P**	**04 53 09.0**	**-0.7**
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**66.46**	**327**	P	**P**	**04 53 34.7**	**0.0**
BVAR	**Borovoye Array**	**66.46**	**327**	P	**P**	**04 53 34.7**	**0.0**
	4.4nm,0.6s,baz=123,slow=7.4,SNR=29						
ABKAR	**Akbulak array**	**71.42**	**320**	*e*P	**P**	**04 54 05.4**	**-0.1**
	3.9nm,0.7s						
JOF	**Joensuu**	**88.20**	**333**	*e*p	**P**	**04 55 38.2**	**+2.4**
INK	**Inuvik**	**88.70**	**22**	*e*P	**P**	**04 55 37.1**	**-1.0**
	2.6nm,1.1s						
ARCES	**ARCESS Array B**	**89.35**	**340**	P	**P**	**04 55 40.7**	**-0.4**
ARCES	**ARCESS Array B**	**89.35**	**340**	P	**P**	**04 55 40.7**	**-0.4**
	2.0nm,0.8s,baz=77,slow=4.1,SNR=7.1						
BR131	**Keskin Array S**	**89.55**	**310**	*e*P	**P**	**04 55 42.2**	**-0.7**
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**89.55**	**310**	P	**P**	**04 55 42.0**	**-0.8**
BRTR	**Keskin Array B**	**89.55**	**310**	P	**P**	**04 55 42.0**	**-0.8**
	1.3nm,0.9s,baz=128,slow=5.0,SNR=6.3						
KAF	**Kangasniemi**	**90.63**	**333**	*e*p	**P**	**04 55 47.5**	**+0.3**
	1.2nm,0.5s						
FINES	**FINESS Array B**	**90.87**	**332**	P	**P**	**04 55 46.8**	**-1.5**
FINES	**FINESS Array B**	**90.87**	**332**	P	**P**	**04 55 46.8**	**-1.5**
	2.6nm,1.0s,baz=225,slow=1.6,SNR=12						
AKASG	**Malin Array Be**	**91.16**	**321**	P	**P**	**04 55 48.3**	**-1.6**
AKASG	**Malin Array Be**	**91.16**	**321**	P	**P**	**04 55 48.3**	**-1.6**
	0.5nm,0.5s,baz=65,slow=5.3,SNR=4.8						
BUR08	**Bucovina Ar. S**	**94.33**	**318**	*e*P	**P**	**04 56 05.2**	**+0.4**
NAO01	**NORSAR Array S**	**98.02**	**334**	*e*P	Pdif	04 56 21.5	+0.4
	3.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.97**	**289**	PKP	**PKPdf**	**05 01 41.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**122.97**	**289**	PKP	**PKPdf**	**05 01 41.3**	**-0.7**
	0.3nm,0.6s,baz=69,slow=1.9,SNR=4.6						

DJA 01 05:14:02.0±0.4, 10°S±4°×119°9E±', h99km±13km, M3.9/7, mb4.0/2, MLv3.8/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.60**	**51**	P	x	05 14 26.8	
LBFI				S	x	05 14 49.7	
WSI	**Waingapu**	**1.64**	**96**	P	Pn	05 14 29.9	-0.1
WSI				S	Sn	05 14 54.3	+3.0
WSI	**Waingapu**	**1.64**	**96**	P	Pn

TGY Tagaytay City 4.57 275 Pn **Pn** 05 38 19.9 -1.2
86nm,0.3s,baz=78,slow=0.3,SNR=12
TGY Sn **Sn** 05 39 12.8 -1.1
45nm,0.3s,baz=43,slow=22,SNR=3.7
PCPH Palayan 4.75 293‖ *e*P Pn 05 38 19.4 -4.2
PCPH *e*S Sn 05 39 08.9 -9.4
CVP Callao Caves 5.39 318 *e*P **Pn** 05 38 30.7 -1.8
BUSP Coron 5.56 253 *e*P **Pn** 05 38 34.4 -0.4
SZP Santa 6.27 308 *e*Pn **Pn** 05 38 44.8 +0.3
DAV Davao City (W) 6.61 180 Pn **Pn** 05 38 47.5 -1.6
DAV *e*Sn **Sn** 05 40 00.1 -4.1
YULB Yu-li 10.46 338 *e*Pn **Pn** 05 39 42.6 +0.6
YULB *e*Sn Sn 05 41 28.6 -10
JOW Kunigami 13.28 10 *e*Pn **Pn** 05 40 20.8 +0.2
JOW Kunigami 13.28 10 Pn **Pn** 05 40 20.5 -0.1
0.4nm,0.3s,baz=168,slow=18,SNR=9.6
JOW LR LR 05 44 17.9
comp=Z,16nm,21.9s,baz=0.7,slow=32
MRSI Marisa 13.65 196 P **P** 05 40 34.1 -0.4
24nm,0.4s,845nm
APSI Ampana 15.06 195 P **P** 05 40 54.1 +4.0
49nm,1.2s
SWI Sorong 15.53 158 P **P** 05 40 53.4 -1.9
27nm,1.0s
QIZ Qiongzhong 16.03 291 P **Pn** 05 40 56.2 -1.4
QIZ S **Sn** 05 43 55.6 +0.5
QIZ pmax pmax
comp=Z,140nm,5.5s
NLAI Namlea 16.91 175 P **P** 05 41 10.5 -0.2
46nm,0.7s
MSAI Masohi 17.27 169 P P 05 41 20.2 +5.5
31nm,0.9s,691nm
SBUM Sibu 17.35 231 P x 05 41 15.7
28nm,1.6s,541nm
SBUM Sibu 17.35 231 *e*P **P** 05 41 15.1 -0.5
30nm,1.2s
MMSI Mamuju 17.61 203 P x 05 41 04.0
TTSI Tana Toraja 17.62 199 P **P** 05 41 20.4 +1.8
73nm,0.9s,982nm
MJSI Majene 18.38 201 P x 05 40 59.7
MJSI S x 05 42 34.8
SPSI Sidrap Palu 18.50 199 P **Pn** 05 41 31.0 +2.5
61nm,0.9s
BNSI Bone 18.82 197 P **Pn** 05 41 35.5 +3.2
45nm,1.2s,2μm
NJ2 Nanjing 19.27 342 *e*P **Pn** 05 41 37.5 -0.2
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
JNU Nakatsue 19.90 13 *e*P **P** 05 41 43.6 +0.1
22nm,1.4s
JNU Nakatsue 19.90 13 P **P** 05 41 42.3 -1.2
0.2nm,0.3s,baz=11,slow=10,SNR=3.9
JNU LR LR 05 48 58.7
comp=Z,72nm,18.9s,baz=42,slow=36
BBKI Banjar Baru 20.15 213 P **P** 05 41 45.7 -0.6
GYA Guiyang 21.82 308 P **P** 05 42 07.9 +3.5
GYA PP **PnPn** 05 42 31.8 +6.0
GYA S **S** 05 46 02.4 -2.9
GYA SS **SnSn** 05 46 39.0 +8.5
GYA ScP **ScP** 05 49 42.2 +1.2
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.7s
GYA LR LR
comp=N,650nm,14.3s
GYA LR LR
comp=E,530nm,15.0s
GYA LR LR
comp=Z,670nm,14.2s
SLVN Son La 22.04 293 *e*P **P** 05 42 06.4 -0.4
ENH Enshi 22.21 320 P **P** 05 42 07.7 -0.8
3.4nm,0.3s
LBFI Labuhan Bajo, 22.78 195 P x 05 41 19.4
KSAR Wonju Array Be 23.71 4 P **P** 05 42 24.8 +1.0
KSRS Korea Array 23.73 5 P **P** 05 42 24.8 +0.9
7.5nm,0.9s,baz=182,slow=9.9,SNR=17
KSRS LR LR 05 50 33.8
comp=Z,54nm,21.6s,baz=200,slow=34
KMI Kunming 24.34 301 P **P** 05 42 30.9 +0.8
KMI pmax pmax
comp=Z,6.0nm,0.7s
JAGI Jajag, Banyuwa 24.81 208 *e*P **P** 05 42 34.0 -0.2
38nm,1.1s
XAN Xi'an 25.28 326 P **P** 05 42 37.5 -0.8
XAN pP **pP** 05 42 40.4 -3.1
XAN pmax pmax
comp=Z,2.0nm,0.6s
XAN pmax pmax
comp=Z,20nm,4.1s
MJAR Matsushiro Arr 25.37 24 LR LR 05 50 53.7
comp=Z,120nm,20.6s,baz=205,slow=32
CM31 Chiang Mai Arr 26.05 284 *e*P **P** 05 42 44.9 -0.6
9.1nm,0.7s
CMAR Chiang Mai Arr 26.05 284 P **P** 05 42 44.9 -0.6
CMAR PcP **PcP** 05 46 14.7 +1.3
CMAR Chiang Mai Arr 26.05 284 P **P** 05 42 44.9 -0.6
12nm,0.8s,baz=97,slow=7.9,SNR=60
CMAR PcP **PcP** 05 46 14.7 +1.3
1.3nm,0.6s,baz=38,slow=1.1,SNR=9.4
CMAR LR LR 05 53 39.4
comp=Z,78nm,19.3s,baz=108,slow=38
CD2 Chengdu 26.41 314 *e*P **P** 05 42 49.4 +0.8
CD2 pP **pP** 05 42 53.8 0.0
CD2 sP **sP** 05 42 56.6 +0.6
CD2 PP **PnPn** 05 43 32.7 +4.2
CD2 S **S** 05 47 21.1 -0.4
CD2 SS **SnSn** 05 48 30.5 +7.8
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=N,330nm,13.1s
CD2 LR LR
comp=E,150nm,11.9s
CD2 LR LR
comp=Z,310nm,15.5s
BJI Beijing 27.50 344 P **P** 05 42 58.6 +0.3
BJI pmax pmax
comp=Z,5.0nm,0.5s
PSI Prapat 28.52 250 LR LR 05 54 10.7
comp=Z,200nm,20.8s,baz=141,slow=36
LZH Lanzhou 29.64 323 *e*P **P** 05 43 17.5 -0.1
LZH pP **pP** 05 43 22.1 -0.7
LZH sP **sP** 05 43 24.8 -0.1
LZH pmax pmax
comp=Z,17nm,1.1s
HHC Hu-ho-hao-te 29.69 338 *e*P **P** 05 43 19.5 +1.6
HHC pP **pP** 05 43 23.8 +0.6
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,510nm,5.6s
CN2 Changchun 29.98 360 *e*P **P** 05 43 21.6 +1.3
CN2 *es*P **sP** 05 43 30.4 +2.7
CN2 *e*S **S** 05 48 17.4 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
USRK Ussuriysk Arra 30.86 9 P **P** 05 43 28.8 +0.7
5.5nm,0.8s,baz=185,slow=9.6,SNR=9.0
MDJ Mudanjiang 30.98 6 P **P** 05 43 29.6 +0.5
MDJ pP **pP** 05 43 32.6 -1.8
MDJ sP **sP** 05 43 34.0 -2.5
MDJ S **S** 05 48 35.3 +2.3
MDJ sS **sS** 05 48 40.5 -1.2
MDJ ScP **ScP** 05 50 08.0 +0.7
MDJ PcS **PcS** 05 50 09.3 +0.3
MDJ pmax pmax
comp=Z,92nm,3.2s
COEN Coen 32.53 147 *e*P **P** 05 43 42.5 -0.5
SHL Shillong 33.79 296 *e*P **P** 05 43 55.0 +0.7
GTA Gaotai 34.23 323 *e*P **P** 05 43 58.2 +0.4
GTA pP **pP** 05 44 02.5 -0.6
GTA sP **sP** 05 44 06.0 +0.8
GTA pmax pmax
comp=Z,3.0nm,1.1s
WRAB Tennant Creek 34.53 165 *ce*P **P** 05 43 58.7 -1.7
WRAB pmax pmax
comp=Z,33nm,1.7s
WRA Warramunga Arr 34.53 165 P **P** 05 43 59.0 -1.4
WRA PcP **PcP** 05 46 35.1 -0.2
WRA Warramunga Arr 34.53 165 P **P** 05 43 59.0 -1.4
comp=Z,4.8nm,0.9s,baz=347,slow=9.1,SNR=29
WRA PcP **PcP** 05 46 35.1 -0.2
comp=Z,3.1nm,0.8s,baz=342,slow=3.4,SNR=14
HABR Khabarovsk 35.52 11 P P 05 44 15.8 +7.2
HABR *e* 05 45 25.8
HABR *e* 05 46 34.3
HABR *e*S **S** 05 49 39.8 -3.6
HABR *e**SS sS 05 49 56.6 +4.5
HABR *e*SS **SnSn** 05 52 03.9 0.0
HABR *e* 05 54 22.8
HABR pmax pmax
comp=Z,51nm,1.6s
LSA Lhasa 35.59 302 *e*P **P** 05 44 09.8 -0.3
LSA pmax pmax
comp=Z,23nm,1.4s
LSA Lhasa 35.59 302 *e*P **P** 05 44 09.8 -0.3
comp=Z,23nm,1.4s
ULN Ulaanbaatar 37.39 339 *e*P **P** 05 44 24.8 0.0
comp=Z,5.8nm,0.7s
SONM Songino Array 37.59 339 P **P** 05 44 26.7 +0.2
SONM PcP **PcP** 05 46 44.1 -0.1
SONM Songino Array 37.59 339 P **P** 05 44 26.7 +0.2
comp=Z,3.9nm,0.7s,baz=155,slow=9.7,SNR=34
SONM PcP **PcP** 05 46 44.1 -0.1
comp=Z,0.4nm,0.5s,baz=149,slow=2.4,SNR=4.3
SONM LR LR 06 00 31.6
comp=Z,64nm,18.1s,baz=163,slow=37
ODAN Odare 38.02 296 *e*P **P** 05 44 30.3 -0.2
comp=Z,39nm,0.8s
AS31 Alice Springs 38.03 168 *e*P **P** 05 44 30.0 -0.3
ASAR Alice Springs 38.03 168 P **P** 05 44 30.0 -0.3
ASAR PcP **PcP** 05 46 44.6 -1.1
ASAR Alice Springs 38.03 168 P **P** 05 44 30.0 -0.3
comp=Z,6.5nm,0.6s,baz=345,slow=6.9,SNR=122
ASAR PcP **PcP** 05 46 44.6 -1.1
comp=Z,2.0nm,0.8s,baz=344,slow=2.3,SNR=7.2
RAMN Ramite 38.72 296 *e*P **P** 05 44 36.7 +0.2
comp=Z,24nm,0.8s
JIRN Jiri 39.23 297 *e*P **P** 05 44 40.9 0.0
comp=Z,26nm,0.9s
CTA Charters Tower 39.25 148 P **P** 05 44 41.4 +0.8
CTA Charters Tower 39.25 148 P **P** 05 44 41.4 +0.8
comp=Z,5.3nm,0.5s,baz=335,slow=8.4,SNR=10
GUN Gumba 39.55 297 *e*P **P** 05 44 43.2 -0.4
comp=Z,36nm,0.9s
PKI Pulchoki 39.89 297 *e*P **P** 05 44 46.5 +0.1
comp=Z,19nm,1.0s
PKIN Phulchoki 39.90 297 *e*P **P** 05 44 46.9 +0.5
KKN Kakani 40.05 297 *e*P **P** 05 44 46.7 -0.8
comp=Z,25nm,0.9s
DMN Daman 40.16 297 *e*P **P** 05 44 48.4 -0.1
comp=Z,33nm,1.1s
GKN Gorkha 40.65 297 *e*P **P** 05 44 52.0 -0.4
comp=Z,30nm,1.1s
ZAK Zakamensk 40.84 338 *e*P **P** 05 44 51.1 -2.5
ZAK pmax pmax
comp=Z,2.0nm,1.7s
HNR Honiara 41.10 122 LR LR 05 58 23.0
comp=Z,74nm,20.6s,baz=134,slow=31
DANN Dangsing 41.48 297 *e*P **P** 05 44 58.3 -1.1
comp=Z,26nm,0.9s
KOLN Koldanda 41.50 296 *e*P **P** 05 44 58.9 -0.6
comp=Z,30nm,1.0s
TLY Talaya 41.80 340 *e*P **P** 05 45 01.9 +0.5
TLY pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 44.16 320 P **P** 05 45 19.2 -1.5
WMQ PcP **PcP** 05 47 04.8 -0.7
WMQ ScP **ScP** 05 50 56.1 -0.7
WMQ S **S** 05 51 52.0 -1.1
WMQ pmax pmax
comp=Z,2.0nm,0.4s
WMQ LR LR
comp=Z,66nm,16.4s
WMQ LR LR
comp=Z,41nm,21.8s
FORT Forrest 44.30 177 *e*P **P** 05 45 21.9 +0.1
comp=Z,29nm,0.6s
HVS Khovu-Aksy 45.36 332⇑ *i*P **P** 05 45 30.8 +0.7
HVS pmax pmax
comp=Z,39nm,2.2s
EIDS Eidsvold 46.10 147 *e*P **P** 05 45 36.5 +0.3
comp=Z,4.3nm,0.7s
PETK Petropavlovsk- 46.80 26 P **P** 05 45 42.4 +1.0
PETK Petropavlovsk- 46.80 26 P **P** 05 45 42.4 +1.0
PETK Petropavlovsk- 46.80 26 P **P** 05 45 42.4 +1.0
comp=Z,6.1nm,1.0s,baz=186,slow=6.5,SNR=3.6
PETK LR LR 06 02 14.5
comp=Z,57nm,21.6s,baz=20,slow=32
NWAO Narrogin (SRO) 47.07 190 P **P** 05 45 42.5 -1.1
NWAO Narrogin (SRO) 47.07 190 P **P** 05 45 42.5 -1.1
comp=Z,4.0nm,0.7s,baz=39,slow=6.5,SNR=4.5
BBOO Buckleboo 47.33 168 *e*P **P** 05 45 45.7 0.0
comp=Z,2μm,1.6s
STKA Stephens Creek 47.85 162 *e*P **P** 05 45 50.4 +0.6
comp=Z,4.1nm,0.8s
STKA Stephens Creek 47.85 162 P **P** 05 45 50.5 +0.8
comp=Z,15nm,0.7s,baz=335,slow=7.2,SNR=37
MK31 Makanchi Array 48.94 321 *e*P **P** 05 45 58.2 +0.1
MK31 Makanchi Array 48.94 321 *e*P **P** 05 45 58.1 +0.1
MKAR Makanchi Array 48.94 321 P **P** 05 45 58.4 +0.4
MKAR Makanchi Array 48.94 321 P **P** 05 45 58.4 +0.4
comp=Z,3.6nm,0.6s,baz=112,slow=8.5,SNR=33
KSH Kashi 50.50 310 P **P** 05 46 12.4 +2.2
KSH *es*P **sP** 05 46 19.3 +1.5
KSH *e*PcP **PcP** 05 47 29.1 +0.9
KSH *e*PP **PP** 05 48 08.7 +2.7
KSH *e*S **S** 05 53 26.1 +2.4
KSH *e*SS **SS** 05 56 58.3 +0.5
KSH pmax pmax
comp=Z,3.0nm,0.4s
KSH pmax pmax
comp=Z,210nm,4.7s
KSH LR LR
comp=Z,110nm,5.4s
KSH LR LR
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,160nm,5.5s
ULHL Ulahol 51.12 314 *i*P **P** 05 46 15.8 +0.8
ULHL Ulahol 51.12 314 P **P** 05 46 15.8 +0.8
SNR=8.1
ZAA0 Zalesovo Array 51.32 330 *e*P **P** 05 46 15.2 -0.8
ZALV Zalesovo Beam 51.32 330 P **P** 05 46 15.4 -0.6
ZALV Zalesovo Beam 51.32 330 P **P** 05 46 15.4 -0.6
ZALV Zalesovo Beam 51.32 330 P **P** 05 46 15.4 -0.6
comp=Z,3.5nm,0.7s,baz=117,slow=8.5,SNR=16
KZA Kyzart 51.77 313 *i*P **P** 05 46 21.7 +1.6
KZA Kyzart 51.77 313 P **P** 05 46 21.8 +1.6
SNR=8.9
TKM2 Tokmak 2 51.79 314 *e*P **P** 05 46 19.9 -0.1
TKM2 pmax pmax
comp=Z,11nm,1.4s
TKM2 Tokmak 2 51.79 314 P **P** 05 46 21.0 +1.0
SNR=5.4
TKM2 Tokmak 2 51.79 314 *e*P **P** 05 46 19.9 -0.1
comp=Z,11nm,1.4s
UCH Uchtor 52.34 313 *i*P **P** 05 46 25.6 +1.2
UCH Uchtor 52.34 313 P **P** 05 46 25.6 +1.2
SNR=13
CHMS Chumysh 52.41 314 *i*P **P** 05 46 24.8 +0.5
CHMS Chumysh 52.41 314 P **P** 05 46 24.9 +0.5
SNR=6.5
SEY Seymchan 52.66 15 P **P** 05 46 26.6 +0.8
SEY Seymchan 52.66 15 P **P** 05 46 26.6 +0.8
SEY Seymchan 52.66 15 P **P** 05 46 26.6 +0.8
comp=Z,2.0nm,0.8s,baz=179,slow=23,SNR=6.0
USP Ospenovka 52.66 314 *i*P **P** 05 46 26.5 +0.3
USP Ospenovka 52.66 314 P **P** 05 46 26.6 +0.3
SNR=6.6
AML Almayashu 52.90 313 *i*P **P** 05 46 29.2 +0.8
AML Almayashu 52.90 313 P **P** 05 46 29.2 +0.8
SNR=7.6
EKS2 Erkin-Say 52.99 313 *e*P **P** 05 46 29.3 +0.5
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 52.99 313 P **P** 05 46 29.9 +1.1
SNR=8.6
EKS2 Erkin-Say 52.99 313 *e*P **P** 05 46 29.3 +0.5
comp=Z,6.9nm,1.0s
KK31 Karatay Array 55.42 313 *i*P **P** 05 46 46.4 0.0
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 55.42 313 *e*P **P** 05 46 46.3 -0.1
KKAR Karatay Array 55.42 313 *e*P **P** 05 46 46.3 -0.1
TIXI Tiksi 57.94 1 *e*P **P** 05 47 02.3 -1.4
TIXI pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 57.94 1 *e*P **P** 05 47 02.3 -1.4
comp=Z,7.2nm,1.1s
BVA0 Borovoye Array 58.50 324 *i*P **P** 05 47 08.0 0.0
BVA0 pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 58.57 324 *ce*P **P** 05 47 07.5 -1.0
BRVK pmax pmax
comp=Z,27nm,1.2s
ABKAR Akbulak array 63.88 318 *e*P **P** 05 47 43.8 -0.8
SVE Sverdlovsk 64.99 327 *i*P **P** 05 47 49.4 -2.2
SVE pmax pmax
comp=Z,11nm,1.0s
AKTO Aktyubinsk 65.30 319 P **P** 05 47 53.2 -0.6
AKTO Aktyubinsk 65.30 319 P **P** 05 47 53.1 -0.6
AKTO Aktyubinsk 65.30 319 P **P** 05 47 53.1 -0.6
comp=Z,1.5nm,0.7s,baz=84,slow=5.8,SNR=4.1
ARU Arti 66.02 326 *di*P **P** 05 47 57.5 -0.8
ARU 05 50 19.0
ARU S **S** 05 56 45.1 -0.3
ARU pmax pmax
comp=Z,7.0nm,0.7s
OHAK Old Harbor 73.76 34 *e*P **P** 05 48 46.2 +0.3
comp=Z,15nm,1.1s
ZEI Tsey 74.78 311 *e*P **P** 05 48 51.2 -1.2
ZEI pmax pmax
comp=Z,6.0nm,0.9s
COLD Coldfoot 75.20 24 *e*P **P** 05 48 55.2 +1.1
comp=Z,10nm,1.0s
KBZ Khabaz 75.43 312 P **P** 05 48 55.3 -0.6
KBZ Khabaz 75.43 312 P **P** 05 48 55.2 -0.6
KBZ Khabaz 75.43 312 P **P** 05 48 55.2 -0.6
comp=Z,2.3nm,0.9s,baz=78,slow=14,SNR=2.9
KIV Kislovodsk 75.56 312⇑ *i*P **P** 05 48 57.2 +0.4
KIV *e*SS SS 06 03 27.8 -0.1
KIV pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 75.79 27 *e*P **P** 05 48 57.6 0.0
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 75.79 27 *e*P **P** 05 48 57.5 0.0
comp=Z,16nm,1.0s
COLA College 76.22 26 *e*P **P** 05 49 00.8 +0.9
COLA College 76.22 26 *e*P **P** 05 49 00.8 +0.9
ILAR Eielson Array 76.63 26 P **P** 05 49 02.5 +0.2
ILAR Eielson Array 76.63 26 P **P** 05 49 02.5 +0.2
comp=Z,1.2nm,0.8s,baz=246,slow=6.9,SNR=12
ILAR LR LR 06 22 55.3
comp=Z,78nm,19.7s,baz=280,slow=36
DOT Dot Lake 77.96 27 *e*P **P** 05 49 10.6 +0.7
comp=Z,9.3nm,1.2s
OBN Obninsk 78.34 324 *e*P **P** 05 49 10.5 -1.5
OBN *e**PP **PcP** 05 49 22.8 +1.5
OBN *e* 05 52 09.7
OBN *e*S **S** 05 59 05.9 -0.8
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,17.0s
EGAK Eagle 79.07 26 *e*P **P** 05 49 16.6 +0.8
comp=Z,70nm,2.6s
JOF Joensuu 79.86 332 *e*P **P** 05 49 20.0 -0.2
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 79.86 332 *ep* **P** 05 49 20.0 -0.2
comp=Z,1.1nm,0.5s
ARCES ARCESS Array B 80.76 339 P **P** 05 49 24.6 -0.3
ARCES ARCESS Array B 80.76 339 P **P** 05 49 24.6 -0.3
comp=Z,3.9nm,1.0s,baz=66,slow=5.9,SNR=10.0
INK Inuvik 81.33 22 *e*P **P** 05 49 28.2 +0.2
comp=Z,10nm,1.4s
INK Inuvik 81.33 22 P **P** 05 49 28.0 +0.1
comp=Z,3.3nm,0.9s,baz=292,slow=6.6,SNR=8.4
KAF Kangasniemi 82.30 332 *e*P **P** 05 49 32.2 -1.0
KAF Kangasniemi 82.30 332 *ep* **P** 05 49 32.2 -1.0
FINES FINESS Array B 82.58 331 P **P** 05 49 34.0 -0.7
FINES FINESS Array B 82.58 331 P **P** 05 49 34.0 -0.7
comp=Z,1.4nm,0.7s,baz=62,slow=4.5,SNR=9.0
BRTR Keskin Array B 82.87 309 P **P** 05 49 35.6 -1.3
BRTR Keskin Array B 82.87 309 P **P** 05 49 35.6 -1.3
comp=Z,0.9nm,0.8s,baz=96,slow=3.7,SNR=5.0
AKASG Malin Array Be 83.51 321 P **P** 05 49 38.2 -1.6
AKASG Malin Array Be 83.51 321 P **P** 05 49 38.2 -1.6
AKASG Malin Array Be 83.51 321 P **P** 05 49 38.2 -1.6
comp=Z,0.2nm,0.3s,baz=65,slow=4.2,SNR=7.9
BUR08 Bucovina Ar. S 86.86 318 *e*P **P** 05 49 56.4 -0.4
MLR Muntele Rosu 86.99 316 P **P** 05 49 57.1 -0.3
MLR Muntele Rosu 86.99 316 P **P** 05 49 57.1 -0.3
comp=Z,0.5nm,0.9s,baz=75,slow=4.6,SNR=3.0
RES Resolute Bay 88.23 10 *e*P **P** 05 50 02.6 -0.1
comp=Z,5.4nm,0.8s
RES Resolute Bay 88.23 10 P **P** 05 50 02.9 +0.2
comp=Z,5.2nm,0.7s,baz=306,slow=5.8,SNR=12
KOLS Kolonicke sedl 88.33 320 *e*P P 05 50 00.4 -3.2
KOLS pmax pmax
comp=Z,49nm,2.7s
KOLS Kolonicke sedl 88.33 320 *e*P P 05 50 00.4 -3.2
CRVS Cervenica-Dubn 88.84 320 *e*P **P** 05 50 05.8 -0.3
CRVS pmax pmax
comp=Z,8.0nm,1.6s
CRVS Cervenica-Dubn 88.84 320 *e*P **P** 05 50 05.8 -0.3
NOA NORSAR Array B 89.40 334 LR LR 06 30 21.2
comp=Z,26nm,20.4s,baz=310,slow=36
YKA Yellowknife Ar 90.88 24 P **P** 05 50 15.3 +0.1
YKA Yellowknife Ar 90.88 24 P **P** 05 50 15.3 +0.1
comp=Z,0.5nm,0.8s,baz=301,slow=5.0,SNR=7.6
PHWY Pilot Hill 107.76 38 *e*Pdif **Pdif** 05 51 29.9 -2.3
TXAR Lajitas Array 116.01 47 PKP **PKPdf** 05 55 56.1 +0.5
TXAR Lajitas Array 116.01 47 PKP **PKPdf** 05 55 56.1 +0.5
comp=Z,0.4nm,0.8s,baz=318,slow=2.6,SNR=3.2
TORD Torodi Ar. Bea 118.37 293 PKP **PKPdf** 05 55 59.6 -0.7
TORD Torodi Ar. Bea 118.37 293 PKP **PKPdf** 05 55 59.6 -0.7
comp=Z,0.7nm,0.7s,baz=69,slow=2.1,SNR=5.4
PLCA Paso Flores 149.59 155 *e*PKPbc **PKPbc** 05 57 02.1 +0.4
PLCA Paso Flores 149.59 155 PKPbc **PKPbc** 05 57 02.0 +0.2
comp=Z,4.4nm,0.8s,baz=215,slow=5.8,SNR=7.1
SDV Santo Domingo 152.34 37 *e*PKPdf **PKPdf** 05 57 01.2 -1.2
SDV *e*PKPbc **PKPbc** 05 57 08.9 -0.2
LPAZ La Paz 166.47 103 *e*PKPdf **PKPdf** 05 57 19.1 +0.2

*ISCJB **01** 05:37:27.5±0.6,34°.31N±0°.04×25°.42E±0°.02,h49km±4km, mb4.0/27,MS4.3/1,Error ellipse: s-maj=7.2km s-min=3.0km az=12.4*
*THE **01** 05:37:28.3,34°.31N×25°.29E,h2km±1km,ML3.6/1,Error ellipse: s-maj=1.5km s-min=0.7km az=196.0*
*IDC **01** 05:37:29.6±1.5,34°.34N×25°.38E,h41km±12km,mb3.8/16, mb1 3.9/26,mb1mx3.8/35,mbtmp3.8/26,ML4.1/7,MS3.6/2, Ms1 3.7/2,ms1mx2.6/40,Error ellipse: s-maj=14.1km s-min=9.5km az=27.0*
*CSEM **01** 05:37:29.8±0.2,34°.39N×25°.39E,h49km±2km,mb4.2/10, Error ellipse: s-maj=6.6km s-min=2.7km az=13.0*
*NEIC **01** 05:37:29.0±0.7,34°.33N×25°.30E,h39km±6km,mb4.2/3, Error ellipse: s-maj=6.7km s-min=4.2km az=198.0*
*ATH **01** 05:37:30.7,34°.54N×25°.23E,h66km±2km*
*VIE **01** 05:37:33.8,34°.49N×25°.21E,h75km,mb3.7,ML4.2*
*DDA **01** 05:37:55.3,35°.45N×27°.59E,h5km,MD3.8*

ISC 01 05:37:28.8±1.0,**34°.28N**±0°.06×**25°.35E**±0°.03,**h41**km±9km, **n390**,σ1°§**14**/415,**mb4.0**/26,**3C**,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.86**	**329**	P	**Pn**	**05 37 44.1**	**-0.4**
SIVA				S	**Sn**	**05 37 56.3**	**+0.4**
SIVA	**Sivas**	**0.86**	**329**	*e*P	**Pn**	**05 37 44.0**	**-0.4**
SIVA	**Sivas**	**0.86**	**329**	*e*P	**Pn**	**05 37 44.2**	**-0.3**
SIVA				*e*S	**Sn**	**05 37 55.1**	**-0.8**
SIVA	**Sivas**	**0.86**	**329**	P	**Pn**	**05 37 44.1**	**-0.4**
SIVA				*e*S	**Sn**	**05 37 55.1**	**-0.8**
LAST	**Lasithi**	**0.89**	**7**	P	**Pn**	**05 37 44.8**	**-0.2**
LAST				S	**Sn**	**05 37 58.4**	**+1.7**
LAST	**Lasithi**	**0.89**	**7**	*e*P	**Pn**	**05 37 45.0**	**0.0**
LAST				*e*S	**Sn**	**05 37 56.2**	**-0.5**
LAST	**Lasithi**	**0.89**	**7**	P	**Pn**	**05 37 44.8**	**-0.2**
LAST				*e*S	**Sn**	**05 37 56.2**	**-0.5**
NPS	**Neapolis**	**1.01**	**12**	*e*P	**Pn**	**05 37 47.0**	**+0.5**
NPS				*e*S	**Sn**	**05 37 57.8**	**-1.7**
NPS	**Neapolis**	**1.01**	**12**	*e*P	**Pn**	**05 37 47.0**	**+0.5**
NPS				*e*S	**Sn**	**05 37 57.8**	**-1.7**
IDI	**Anoyia**	**1.08**	**340**	P	**Pn**	**05 37 47.7**	**+0.2**
IDI				S	**Sn**	**05 38 03.0**	**+1.7**

IDI	**Anoyia**	**1.08**	**340**	*eP*	**Pn**	**05 37 47.6**	**0.0**
IDI	**Anoyia**	**1.08**	**340**	*eP*	**Pn**	**05 37 48.0**	**+0.5**
IDI				*eS*	**Sn**	**05 37 59.4**	**-1.9**
IDI	**Anoyia**	**1.08**	**340**	P	**Pn**	**05 37 48.0**	**+0.5**
IDI				S	**Sn**	**05 38 01.4**	**+0.1**
IDI	**Anoyia**	**1.08**	**340**	P	**Pn**	**05 37 48.0**	**+0.5**
	94nm,0.3s,baz=163,slow=16,SNR=251						
IDI				S	**Sn**	**05 38 01.5**	**+0.1**
	152nm,0.3s,baz=71,slow=18,SNR=28						
IDI	**Anoyia**	**1.08**	**340**	P	**Pn**	**05 37 47.7**	**+0.2**
IDI				*eS*	**Sn**	**05 37 59.4**	**-1.9**
ZKR	**Zakros**	**1.10**	**40**	P	**Pn**	**05 37 49.4**	**+1.6**
ZKR				S	**Sn**	**05 38 05.2**	**+3.4**
ZKR	**Zakros**	**1.10**	**40**	*eP*	**Pn**	**05 37 48.4**	**+0.6**
ZKR	**Zakros**	**1.10**	**40**	*eP*	**Pn**	**05 37 49.3**	**+1.5**
ZKR				*eS*	**Sn**	**05 38 03.8**	**+2.0**
ZKR	**Zakros**	**1.10**	**40**	*eP*	**Pn**	**05 37 49.3**	**+1.5**
ZKR				S	**Sn**	**05 38 05.2**	**+3.4**
VAM	**Vamos**	**1.47**	**320**	P	**Pn**	**05 37 53.8**	**+1.0**
VAM	**Vamos**	**1.47**	**320**	*eP*	**Pn**	**05 37 53.0**	**+0.2**
VAM				*eS*	**Sn**	**05 38 09.3**	**-1.6**
VAM	**Vamos**	**1.47**	**320**	*eP*	**Pn**	**05 37 53.0**	**+0.2**
VAM				*eS*	**Sn**	**05 38 09.3**	**-1.6**
KARP	**Karpathos**	**1.96**	**49**	P	Pn	05 38 02.1	+2.5
KARP				S	Sn	05 38 27.3	+4.4
KARP	**Karpathos**	**1.96**	**49**	*eP*	Pn	05 38 02.2	+2.6
KARP				*eS*	**Sn**	**05 38 24.8**	**+1.9**
KARP	**Karpathos**	**1.96**	**49**	P	Pn	05 38 02.1	+2.5
SANT	**Santorini**	**2.09**	**2**	P	**Pn**	**05 38 00.7**	**-0.8**
SANT	**Santorini**	**2.09**	**2**	*eP*	**Pn**	**05 38 00.7**	**-0.8**
SANT	**Santorini**	**2.09**	**2**	*eP*	**Pn**	**05 38 01.9**	**+0.5**
SANT	**Santorini**	**2.09**	**2**	*eP*	**Pn**	**05 38 01.9**	**+0.5**
ANKY	**Antikythira Is**	**2.31**	**314**	P	**Pn**	**05 38 05.1**	**+0.7**
ANKY				S	**Sn**	**05 38 34.4**	**+2.9**
ANKY	**Antikythira Is**	**2.31**	**314**	*eP*	**Pn**	**05 38 05.2**	**+0.8**
ANKY	**Antikythira Is**	**2.31**	**314**	P	**Pn**	**05 38 05.1**	**+0.7**
ANKY				S	**Sn**	**05 38 34.4**	**+2.9**
KYTH	**Kithira**	**2.75**	**317**	*eP*	**Pn**	**05 38 11.3**	**+0.8**
KYTH	**Kithira**	**2.75**	**317**	*eP*	**Pn**	**05 38 11.3**	**+0.8**
APE	**Apeiranthos**	**2.79**	**3**	P	**Pn**	**05 38 10.7**	**-0.3**
APE	**Apeiranthos**	**2.79**	**3**	*eP*	**Pn**	**05 38 10.6**	**-0.4**
APE	**Apeiranthos**	**2.79**	**3**	*eP*	**Pn**	**05 38 11.2**	**+0.2**
APE	**Apeiranthos**	**2.79**	**3**	P	**Pn**	**05 38 10.7**	**-0.3**
ARG	**Arkhangelos**	**2.99**	**49**	P	**Pn**	**05 38 15.6**	**+1.9**
ARG				S	Sn	05 38 52.5	+4.3
ARG	**Arkhangelos**	**2.99**	**49**	*eP*	Pn	05 38 15.9	+2.2
ARG	**Arkhangelos**	**2.99**	**49**	P	**Pn**	**05 38 15.6**	**+1.9**
VLI	**Veliai**	**3.13**	**322**	P	**Pn**	**05 38 15.1**	**-0.5**
VLI	**Veliai**	**3.13**	**322**	*eP*	**Pn**	**05 38 15.2**	**-0.4**
VLI				*eS*	**Sn**	**05 38 48.5**	**-3.3**
VLI	**Veliai**	**3.13**	**322**	*eP*	**Pn**	**05 38 15.2**	**-0.4**
VLI				*eS*	**Sn**	**05 38 48.5**	**-3.3**
SMG	**Samos**	**3.63**	**19**	P	**Pn**	**05 38 22.8**	**+0.2**
SMG	**Samos**	**3.63**	**19**	*eP*	**Pn**	**05 38 22.9**	**+0.3**
SMG	**Samos**	**3.63**	**19**	P	**Pn**	**05 38 22.8**	**+0.2**
DID	**Didima**	**3.65**	**333**	*eP*	**Pn**	**05 38 22.3**	**-0.5**
DID	**Didima**	**3.65**	**333**	*eP*	**Pn**	**05 38 22.3**	**-0.5**
DALY	**Dalyan (Mu˘la**	**3.70**	**46**	*eP*	**Pn**	**05 38 22.7**	**-0.8**
DALY	**Dalyan (Mu˘la**	**3.70**	**46**	*eP*	**Pn**	**05 38 22.7**	**-0.8**
TURN	**Turunc**	**3.71**	**45**	*i* P	Pn	05 38 19.5	-4.0
TURN				*i* S	Sn	05 38 59.3	-6.7
TURN	**Turunc**	**3.71**	**45**	*i* P	Pn	05 38 19.5	-4.1
NAIG	**Nisos Aigina**	**3.79**	**337**	*eP*	**Pn**	**05 38 24.6**	**-0.1**
NAIG	**Nisos Aigina**	**3.79**	**337**	*eP*	**Pn**	**05 38 24.6**	**-0.1**
FETY	**Fethiye**	**3.85**	**51**	*eP*	**Pn**	**05 38 25.2**	**-0.4**
FETY	**Fethiye**	**3.85**	**51**	*eP*	**Pn**	**05 38 25.2**	**-0.4**
ATH	**Athens Observa**	**3.92**	**341**	*eP*	**Pn**	**05 38 26.5**	**+0.1**
ATH	**Athens Observa**	**3.92**	**341**	*eP*	**Pn**	**05 38 26.5**	**+0.1**
PYL	**PYLOS**	**3.93**	**313**	P	**Pn**	**05 38 25.0**	**-1.7**
PYL	**PYLOS**	**3.93**	**313**	*eP*	**Pn**	**05 38 27.5**	**+0.8**
PYL	**PYLOS**	**3.93**	**313**	*eP*	**Pn**	**05 38 27.5**	**+0.8**
PTL	**Penteli**	**3.95**	**343**	*eP*	**Pn**	**05 38 27.3**	**+0.3**
PTL	**Penteli**	**3.95**	**343**	*eP*	**Pn**	**05 38 27.3**	**+0.3**
AKAS	**Kas**	**4.00**	**60**	*i* P	**Pn**	**05 38 27.3**	**-0.3**
AKAS				*i* S	**Sn**	**05 39 11.8**	**-1.5**
AKAS	**Kas**	**4.00**	**60**	*i* P	**Pn**	**05 38 27.3**	**-0.3**
AKAS				*i* S	**Sn**	**05 39 11.8**	**-1.5**
ITM	**Ithomi**	**4.02**	**317**	*eP*	**Pn**	**05 38 27.8**	**0.0**
ITM	**Ithomi**	**4.02**	**317**	*eP*	**Pn**	**05 38 27.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**4.20**	**29**	*eP*	**Pn**	**05 38 30.9**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**4.20**	**29**	*eP*	**Pn**	**05 38 30.9**	**+0.4**
LTK	**Loutraki**	**4.21**	**333**	*eP*	**Pn**	**05 38 29.9**	**-0.5**
LTK	**Loutraki**	**4.21**	**333**	*eP*	**Pn**	**05 38 29.9**	**-0.5**
GUR	**Goura**	**4.39**	**327**	P	**Pn**	**05 38 32.2**	**-0.8**
GUR	**Goura**	**4.39**	**327**	*eP*	**Pn**	**05 38 32.4**	**-0.6**
GUR	**Goura**	**4.39**	**327**	*eP*	**Pn**	**05 38 32.4**	**-0.6**
AMT	**Artemida-Makis**	**4.39**	**319**	*eP*	**Pn**	**05 38 32.8**	**-0.2**
AMT	**Artemida-Makis**	**4.39**	**319**	*eP*	**Pn**	**05 38 32.8**	**-0.2**
GLHS	**Glhisar (BURDU**	**4.43**	**48**	*eP*	**Pn**	**05 38 33.2**	**-0.5**
GLHS	**Glhisar (BURDU**	**4.43**	**48**	*eP*	**Pn**	**05 38 33.2**	**-0.5**
ELL	**Elmali**	**4.46**	**55**	*eP*	**Pn**	**05 38 33.8**	**-0.3**
ELL	**Elmali**	**4.46**	**55**	*eP*	**Pn**	**05 38 33.8**	**-0.3**
KLV	**Kalavryta, Ach**	**4.56**	**326**	P	**Pn**	**05 38 34.5**	**-0.9**
KLV	**Kalavryta, Ach**	**4.56**	**326**	*eP*	**Pn**	**05 38 34.9**	**-0.5**
KLV	**Kalavryta, Ach**	**4.56**	**326**	*eP*	**Pn**	**05 38 34.9**	**-0.5**
MRKA	**Markates**	**4.64**	**343**	*eP*	**Pn**	**05 38 36.7**	**+0.3**
MRKA	**Markates**	**4.64**	**343**	*eP*	**Pn**	**05 38 36.7**	**+0.3**
DRO	**Drossia**	**4.70**	**322**	*eP*	**Pn**	**05 38 37.7**	**+0.4**
DRO	**Drossia**	**4.70**	**322**	*eP*	**Pn**	**05 38 37.7**	**+0.4**
DSF	**Desfina**	**4.71**	**332**	*eP*	**Pn**	**05 38 36.9**	**-0.5**
DSF	**Desfina**	**4.71**	**332**	*eP*	**Pn**	**05 38 36.9**	**-0.5**
LKR	**Lokris**	**4.76**	**337**	P	**Pn**	**05 38 37.8**	**-0.3**
LKR	**Lokris**	**4.76**	**337**	*eP*	**Pn**	**05 38 37.7**	**-0.3**
LKR	**Lokris**	**4.76**	**337**	*eP*	**Pn**	**05 38 37.7**	**-0.3**
LAKA	**Lakka**	**4.80**	**326**	P	**Pn**	**05 38 37.8**	**-0.8**
LAKA	**Lakka**	**4.80**	**326**	*eP*	**Pn**	**05 38 38.3**	**-0.3**
LAKA	**Lakka**	**4.80**	**326**	*eP*	**Pn**	**05 38 38.3**	**-0.3**
KALE	**Kalithea**	**4.86**	**329**	*eP*	**Pn**	**05 38 39.6**	**+0.2**
KALE	**Kalithea**	**4.86**	**329**	*eP*	**Pn**	**05 38 39.6**	**+0.2**
KORT	**Korkueli**	**4.90**	**55**	*i* P	**Pn**	**05 38 42.0**	**+1.9**
KORT				*i* S	**Sn**	**05 39 35.1**	**-0.4**
KORT	**Korkueli**	**4.90**	**55**	*i* P	**Pn**	**05 38 42.0**	**+1.9**
KORT				*i* S	**Sn**	**05 39 35.1**	**-0.4**
RLS	**Riolos of Patr**	**4.91**	**321**	*eP*	**Pn**	**05 38 40.9**	**+0.9**
RLS	**Riolos of Patr**	**4.91**	**321**	*eP*	**Pn**	**05 38 40.9**	**+0.9**
EFP	**Efpalio**	**4.99**	**327**	P	**Pn**	**05 38 40.3**	**-0.8**
EFP	**Efpalio**	**4.99**	**327**	*eP*	**Pn**	**05 38 41.5**	**+0.4**
EFP	**Efpalio**	**4.99**	**327**	P	**Pn**	**05 38 40.3**	**-0.8**
KULA	**Kula-Manisa**	**5.00**	**31**	*eP*	**Pn**	**05 38 41.0**	**-0.4**
KULA	**Kula-Manisa**	**5.00**	**31**	*eP*	**Pn**	**05 38 41.0**	**-0.4**
ANTB	**Antalya**	**5.05**	**57**	*eP*	**Pn**	**05 38 41.9**	**-0.1**
ANTB	**Antalya**	**5.05**	**57**	*eP*	**Pn**	**05 38 41.9**	**-0.1**
KHL	**Karahalli**	**5.26**	**39**	*eP*	**Pn**	**05 38 44.6**	**-0.4**
KHL	**Karahalli**	**5.26**	**39**	*eP*	**Pn**	**05 38 44.6**	**-0.4**
KHAL	**Karahalli**	**5.28**	**38**	*i* P	**Pn**	**05 38 45.9**	**+0.6**
KHAL				*i* S	**Sn**	**05 39 41.6**	**-3.4**
KHAL	**Karahalli**	**5.28**	**38**	*i* P	**Pn**	**05 38 45.9**	**+0.6**
KHAL				*i* S	**Sn**	**05 39 41.6**	**-3.3**
EVR	**Evrytania**	**5.44**	**329**	*eP*	**Pn**	**05 38 48.0**	**+0.6**
EVR	**Evrytania**	**5.44**	**329**	*eP*	**Pn**	**05 38 48.0**	**+0.6**
PDO	**Prodromos**	**5.47**	**323**	*eP*	**Pn**	**05 38 48.9**	**+1.2**
PDO	**Prodromos**	**5.47**	**323**	*eP*	**Pn**	**05 38 48.9**	**+1.2**
VLS	**Valsamata**	**5.47**	**317**	*eP*	**Pn**	**05 38 48.5**	**+0.7**
VLS	**Valsamata**	**5.47**	**317**	*eP*	**Pn**	**05 38 48.5**	**+0.7**
SUTC	**Sutluce-Ispart**	**5.59**	**54**	*eP*	**Pn**	**05 38 49.8**	**+0.3**
SUTC	**Sutluce-Ispart**	**5.59**	**54**	*eP*	**Pn**	**05 38 49.8**	**+0.2**
LKD2	**Lefkada island**	**5.88**	**321**	P	**Pn**	**05 38 52.7**	**-0.7**
LKD2	**Lefkada island**	**5.88**	**321**	P	**Pn**	**05 38 52.7**	**-0.7**
THL	**Klokotos Trika**	**5.92**	**334**	*eP*	**Pn**	**05 38 55.2**	**+1.3**
THL	**Klokotos Trika**	**5.92**	**334**	*eP*	**Pn**	**05 38 55.2**	**+1.3**
GAZI	**Gazipasa**	**6.03**	**69**	*i* P	**Pn**	**05 38 53.2**	**-2.2**
GAZI				*i* S	**Sn**	**05 39 58.4**	**-4.8**
GAZI	**Gazipasa**	**6.03**	**69**	*i* P	**Pn**	**05 38 53.2**	**-2.2**
TVSB	**Tavsanli**	**6.13**	**31**	*eP*	**Pn**	**05 38 56.1**	**-0.8**
TVSB	**Tavsanli**	**6.13**	**31**	*eP*	**Pn**	**05 38 56.1**	**-0.8**
LEF	**Lefka**	**6.27**	**80**	*eP*	**Pn**	**05 38 58.7**	**-0.1**
LEF	**Lefka**	**6.27**	**80**	*eP*	**Pn**	**05 38 58.7**	**-0.1**
KCTX	**Karacabey (Bur**	**6.44**	**21**	*eP*	**Pn**	**05 39 00.7**	**-0.4**
KCTX	**Karacabey (Bur**	**6.44**	**21**	*eP*	**Pn**	**05 39 00.7**	**-0.4**
CSS	**Prodhromos**	**6.62**	**82**	*eP*	**Pn**	**05 39 04.9**	**+1.3**
CSS	**Prodhromos**	**6.62**	**82**	*eP*	**Pn**	**05 39 04.9**	**+1.3**
KONT	**Konya--Tatoy**	**6.75**	**55**	*eP*	**Pn**	**05 39 04.8**	**-0.7**
KONT	**Konya--Tatoy**	**6.75**	**55**	*eP*	**Pn**	**05 39 04.8**	**-0.7**
LFK	**Lefkose**	**6.81**	**79**	*eP*	**Pn**	**05 39 06.2**	**0.0**
LFK	**Lefkose**	**6.81**	**79**	*eP*	**Pn**	**05 39 06.3**	**0.0**
KIZT	**Kizilcal**	**6.98**	**47**	*eP*	**Pn**	**05 39 07.7**	**-0.9**
KIZT	**Kizilcal**	**6.98**	**47**	*eP*	**Pn**	**05 39 07.7**	**-0.9**
IKL	**Isikli**	**7.10**	**72**	*eP*	**Pn**	**05 39 09.2**	**-0.9**
IKL	**Isikli**	**7.10**	**72**	*eP*	**Pn**	**05 39 09.2**	**-0.9**

SVRH	**Sivrihisar-ESK**	**7.15**	**42**	*eP*	**Pn**	**05 39 09.2**	**-1.7**
SVRH	**Sivrihisar-ESK**	**7.15**	**42**	*eP*	**Pn**	**05 39 09.2**	**-1.7**
EREN	**Erenkoy**	**7.36**	**78**	*eP*	**Pn**	**05 39 13.8**	**+0.1**
EREN	**Erenkoy**	**7.36**	**78**	*eP*	**Pn**	**05 39 13.8**	**+0.1**
MERS	**Mersin**	**7.91**	**68**	*eP*	**Pn**	**05 39 21.0**	**-0.4**
MERS	**Mersin**	**7.91**	**68**	*eP*	**Pn**	**05 39 21.0**	**-0.4**
AFSR	**Af˘ar-Bala (A**	**8.06**	**48**	*eP*	**Pn**	**05 39 21.6**	**-1.8**
AFSR	**Af˘ar-Bala (A**	**8.06**	**48**	*eP*	**Pn**	**05 39 21.6**	**-1.8**
KARA	**Karaisali**	**8.43**	**67**	*eP*	**Pn**	**05 39 27.5**	**-0.9**
KARA	**Karaisali**	**8.43**	**67**	*eP*	**Pn**	**05 39 27.5**	**-0.9**
VTS	**Vitosha**	**8.47**	**349**	*eP*	**Pn**	**05 39 28.3**	**-0.8**
VTS	**Vitosha**	**8.47**	**349**	*eP*	**Pn**	**05 39 28.3**	**-0.8**
MMAI	**Mount Meron Ar**	**8.48**	**96**	P	**Pn**	**05 39 29.8**	**+0.7**
MMAI				S	**Sn**	**05 41 02.1**	**-1.5**
MMAI	**Mount Meron Ar**	**8.48**	**96**	P	**Pn**	**05 39 29.8**	**+0.7**
	1.7nm,0.3s,baz=278,slow=12,SNR=4.2						
MMAI				S	**Sn**	**05 41 02.1**	**-1.5**
	9.1nm,0.3s,baz=276,slow=25,SNR=11						
MMAI	**Mount Meron Ar**	**8.48**	**96**	P	**Pn**	**05 39 29.8**	**+0.7**
MMAI				S	**Sn**	**05 41 02.1**	**-1.5**
BR131	**Keskin Array S**	**8.58**	**48**	*e*Pn	**Pn**	**05 39 30.8**	**+0.3**
	1.3nm,0.7s						
BR131	**Keskin Array S**	**8.58**	**48**	*e*Pn	**Pn**	**05 39 30.8**	**+0.3**
	1.3nm,0.7s						
BRTR	**Keskin Array B**	**8.58**	**48**	P	**Pn**	**05 39 30.6**	**0.0**
BRTR				S	**Sn**	**05 41 04.3**	**-1.7**
BRTR	**Keskin Array B**	**8.58**	**48**	P	**Pn**	**05 39 30.6**	**0.0**
	0.1nm,0.3s,baz=212,slow=14,SNR=5.4						
BRTR				S	**Sn**	**05 41 04.3**	**-1.7**
	0.1nm,0.3s,baz=223,slow=25,SNR=3.7						
BRTR	**Keskin Array B**	**8.58**	**48**	P	**Pn**	**05 39 30.5**	**0.0**
BRTR				S	**Sn**	**05 41 04.3**	**-1.7**
TAHT	**Tahtakopru-Hat**	**9.10**	**74**	*eP*	**Pn**	**05 39 37.3**	**-0.3**
TAHT	**Tahtakopru-Hat**	**9.10**	**74**	*eP*	**Pn**	**05 39 37.3**	**-0.3**
EIL	**Elat**	**9.36**	**117**	P	**Pn**	**05 39 41.4**	**+0.2**
EIL				S	**Sn**	**05 41 22.3**	**-2.8**
EIL	**Elat**	**9.36**	**117**	P	**Pn**	**05 39 41.4**	**+0.2**
	1.1nm,0.3s,baz=292,slow=7.2,SNR=16						
EIL				S	**Sn**	**05 41 22.3**	**-2.8**
	2.4nm,0.3s,baz=357,slow=18,SNR=9.4						
EIL	**Elat**	**9.36**	**117**	P	**Pn**	**05 39 41.4**	**+0.2**
BNN	**Bunyan**	**9.60**	**59**	*eP*	**Pn**	**05 39 43.2**	**-1.3**
BNN	**Bunyan**	**9.60**	**59**	*eP*	**Pn**	**05 39 43.2**	**-1.3**
ASF	**Jabal al Asfar**	**9.90**	**99**	P	**Pn**	**05 39 48.0**	**-0.6**
ASF				S	**Sn**	**05 41 34.2**	**-4.3**
ASF	**Jabal al Asfar**	**9.90**	**99**	P	**Pn**	**05 39 48.0**	**-0.6**
	0.3nm,0.3s,baz=287,slow=14,SNR=2.5						
ASF				S	**Sn**	**05 41 34.2**	**-4.3**
	0.5nm,0.3s,baz=35,slow=16,SNR=4.1						
MLR	**Muntele Rosu**	**11.21**	**2**	P	**Pn**	**05 40 06.2**	**-0.3**
MLR	**Muntele Rosu**	**11.21**	**2**	P	**Pn**	**05 40 06.2**	**-0.3**
	0.0nm,0.3s,baz=186,slow=18,SNR=2.3						
MLR	**Muntele Rosu**	**11.21**	**2**	P	**Pn**	**05 40 06.2**	**-0.3**
PGF	**Pioggiola**	**15.23**	**308**	*eP*	Pn	05 40 53.9	-7.1
PGF	**Pioggiola**	**15.23**	**308**	*eP*	Pn	05 40 53.9	-7.1
VRAC	**Vranov**	**16.36**	**339**	P	**P**	**05 41 15.5**	**-2.3**
VRAC	**Vranov**	**16.36**	**339**	P	**P**	**05 41 15.5**	**-2.3**
	0.5nm,0.3s,baz=173,slow=12,SNR=9.1						
VRAC				LR	LR	05 47 34.7	
	comp=Z,64nm,21.8s,baz=342,slow=37						
VRAC	**Vranov**	**16.36**	**339**	P	**P**	**05 41 15.5**	**-2.3**
RJOB	**Jochberg**	**16.42**	**329**	*eP*	**P**	**05 41 19.9**	**+1.4**
	comp=Z,2.0nm,0.8s						
RJOB	**Jochberg**	**16.42**	**329**	*eP*	**P**	**05 41 19.9**	**+1.4**
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**16.56**	**50**	P	**P**	**05 41 19.9**	**-0.1**
KBZ	**Khabaz**	**16.56**	**50**	P	**P**	**05 41 19.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=254,slow=8.1,SNR=7.9						
KBZ	**Khabaz**	**16.56**	**50**	P	**P**		
AK02	**Malin Array Si**	**16.61**	**9**	*eP*	**P**	**05 41 18.1**	**-2.5**
AK02	**Malin Array Si**	**16.61**	**9**	*eP*	**P**	**05 41 18.1**	**-2.5**
AK01	**Malin Array Si**	**16.65**	**9**	*eP*	**P**	**05 41 19.0**	**-1.9**
AK01	**Malin Array Si**	**16.65**	**9**	*eP*	**P**	**05 41 19.0**	**-1.9**
KIEV	**Kiev**	**16.65**	**9**	*eP*	**P**	**05 41 18.9**	**-2.0**
	comp=Z,14nm,0.6s						
KIEV	**Kiev**	**16.65**	**9**	*eP*	**P**	**05 41 19.0**	**-2.0**
	comp=Z,14nm,0.6s						
AKASG	**Malin Array Be**	**16.66**	**9**	P	**P**	**05 41 19.2**	**-1.8**
AKASG	**Malin Array Be**	**16.66**	**9**	P	**P**	**05 41 19.2**	**-1.8**
	comp=Z,5.8nm,0.3s,baz=201,slow=11,SNR=41						
AKASG	**Malin Array Be**	**16.66**	**9**	P	**P**	**05 41 19.2**	**-1.8**
AKBB	**Malin Array Si**	**16.66**	**9**	*eP*	**P**	**05 41 18.8**	**-2.2**
AKBB	**Malin Array Si**	**16.66**	**9**	*eP*	**P**	**05 41 18.8**	**-2.2**
FETA	**Feichten**	**16.85**	**323**	⇑*i*Pn	**Pn**	**05 41 21.2**	**-0.5**
	comp=Z,7.1nm,0.9s						
FETA	**Feichten**	**16.85**	**323**	P	**Pn**	**05 41 21.2**	**-0.5**
	comp=Z,7.1nm,0.9s						
SBF	**Sospel**	**16.86**	**310**	*eP*	Pn	05 41 16.5	-5.2
SBF	**Sospel**	**16.86**	**310**	*eP*	Pn	05 41 16.5	-5.2
MOTA	**Moosalm**	**16.89**	**325**	⇑*i*Pn	**Pn**	**05 41 21.8**	**-0.5**
	comp=Z,3.3nm,0.7s						
MOTA	**Moosalm**	**16.89**	**325**	P	**Pn**	**05 41 21.8**	**-0.5**
	comp=Z,3.3nm,0.7s						
GEC2	**GERESS Array S**	**16.93**	**333**	*eP*	**P**	**05 41 24.2**	**-0.1**
	comp=Z,3.0nm,0.7s						
GEC2	**GERESS Array S**	**16.93**	**333**	*eP*	**P**	**05 41 24.2**	**-0.1**
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**16.93**	**333**	P	**P**	**05 41 23.7**	**-0.6**
GERES	**GERESS Array B**	**16.93**	**333**	P	**P**	**05 41 23.7**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=147,slow=12,SNR=36						
GERES	**GERESS Array B**	**16.93**	**333**	P	**P**	**05 41 23.7**	**-0.6**
DAVOX	**Davos/Dischmat**	**17.11**	**321**	P	**P**	**05 41 26.5**	**+0.1**
DAVOX	**Davos/Dischmat**	**17.11**	**321**	P	**P**	**05 41 26.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=136,slow=17,SNR=6.6						
DAVOX	**Davos/Dischmat**	**17.11**	**321**	P	**P**	**05 41 26.5**	**+0.1**
LMR	**La Mourre**	**17.21**	**307**	*eP*	Pn	05 41 21.2	-4.9
LMR	**La Mourre**	**17.21**	**307**	*eP*	Pn	05 41 21.2	-4.9
FUR	**Furstenfeldbru**	**17.41**	**327**	*eP*	**P**	**05 41 29.5**	**0.0**
	comp=Z,18nm,1.2s						
FUR	**Furstenfeldbru**	**17.41**	**327**	*eP*	**P**	**05 41 29.5**	**0.0**
	comp=Z,18nm,1.2s						
DAVA	**Damuels**	**17.45**	**323**	⇑*i*Pn	**Pn**	**05 41 28.4**	**-0.8**
	comp=Z,5.2nm,0.9s						
DAVA	**Damuels**	**17.45**	**323**	P	**Pn**	**05 41 28.4**	**-0.8**
	comp=Z,5.2nm,0.9s						
WET	**Wettzell**	**17.50**	**332**	*eP*	**P**	**05 41 31.7**	**+1.3**
	comp=Z,4.0nm,0.9s						
WET	**Wettzell**	**17.50**	**332**	*eP*	**P**	**05 41 31.7**	**+1.3**
	comp=Z,4.0nm,0.9s						
MBDF	**Montbardon**	**17.69**	**312**	*eP*	**Pn**	**05 41 29.8**	**-2.4**
MBDF	**Montbardon**	**17.69**	**312**	*eP*	**Pn**	**05 41 29.8**	**-2.4**
LPG	**La Plagne**	**18.10**	**314**	*eP*	**Pn**	**05 41 36.8**	**-0.5**
LPG	**La Plagne**	**18.10**	**314**	*eP*	**Pn**	**05 41 36.8**	**-0.5**
LPG	**La Plagne**	**18.10**	**314**	*eP*	**Pn**	**05 41 36.8**	**-0.5**
LPL	**La Plagne**	**18.12**	**314**	*eP*	**Pn**	**05 41 36.7**	**-0.8**
LPL	**La Plagne**	**18.12**	**314**	*eP*	**Pn**	**05 41 36.7**	**-0.8**
LPL	**La Plagne**	**18.12**	**314**	*eP*	**Pn**	**05 41 36.7**	**-0.8**
ROTZ	**Rotzenmuhle**	**18.26**	**332**	*eP*	**Pn**	**05 41 39.6**	**+0.7**
	comp=Z,1.0nm,0.8s						
ROTZ	**Rotzenmuhle**	**18.26**	**332**	*eP*	**Pn**	**05 41 39.6**	**+0.7**
	comp=Z,1.0nm,0.8s						
MANZ	**Manzenberg**	**18.47**	**332**	*eP*	**Pn**	**05 41 41.6**	**+0.1**
	comp=Z,2.0nm,0.8s						
MANZ	**Manzenberg**	**18.47**	**332**	*eP*	**Pn**	**05 41 41.6**	**+0.1**
	comp=Z,2.0nm,0.8s						
BRG	**Berggiesshubel**	**18.55**	**337**	*eP*	**Pn**	**05 41 41.9**	**-0.6**
	comp=Z,3.0nm,0.8s						
BRG	**Berggiesshubel**	**18.55**	**337**	*eP*	**Pn**	**05 41 41.6**	**-0.9**
	comp=Z,1.0nm,0.7s						
BRG	**Berggiesshubel**	**18.55**	**337**	*eP*	**Pn**	**05 41 41.6**	**-0.9**
	comp=Z,1.0nm,0.7s						
GRA1	**Grafenberg Arr**	**18.59**	**330**	*eP*	**Pn**	**05 41 43.6**	**+0.6**
	comp=Z,4.0nm,0.8s						
GRF	**Grafenberg Arr**	**18.59**	**330**	*eP*	**Pn**	**05 41 43.6**	**+0.6**
	comp=Z,4.0nm,0.8s						
TANN	**Tannenbergstha**	**18.68**	**334**	*eP*	**Pn**	**05 41 44.7**	**+0.6**
	comp=Z,5.0nm,0.8s						
TANN	**Tannenbergstha**	**18.68**	**334**	*eP*	**Pn**	**05 41 44.7**	**+0.6**
	comp=Z,5.0nm,0.8s						
STU	**Stuttgart**	**18.81**	**325**	*eP*	**Pn**	**05 41 45.9**	**+0.3**
	comp=Z,5.0nm,0.7s						
STU	**Stuttgart**	**18.81**	**325**	*eP*	**Pn**	**05 41 45.9**	**+0.3**
	comp=Z,5.0nm,0.7s						
BFO	**Black Forest**	**18.93**	**323**	*eP*	**Pn**	**05 41 46.9**	**-0.2**
	comp=Z,2.0nm,0.6s						
BFO	**Black Forest**	**18.93**	**323**	*eP*	**Pn**	**05 41 46.9**	**-0.2**
	comp=Z,2.0nm,0.6s						
VIVF	**Saint-Julien-l**	**19.07**	**310**	*eP*	**P**	**05 41 46.5**	**-1.3**
VIVF	**Saint-Julien-l**	**19.07**	**310**	*eP*	**P**	**05 41 46.5**	**-1.3**
VIVF	**Saint-Julien-l**	**19.07**	**310**	*eP*	**P**	**05 41 46.5**	**-1.3**
CABF	**La Chapelle**	**19.09**	**316**	*eP*	**P**	**05 41 46.5**	**-1.5**
CABF	**La Chapelle**	**19.09**	**316**	*eP*	**P**	**05 41 46.5**	**-1.5**
CLL	**Collm**	**19.24**	**336**	*eP*	**Pn**	**05 41 48.8**	**-1.9**
	comp=Z,3.0nm,0.6s						

CLL	**Collm**	**19.24**	**336**	*eP*	**Pn**	**05 41 49.0**	**-1.7**
CLL				*e*		05 41 54.0	
CLL	**Collm**	**19.24**	**336**	*eP*	**Pn**	**05 41 48.8**	**-1.9**
	comp=Z,3.0nm,0.6s						
HINF	**Hinteralfeld**	**19.36**	**320**	*eP*	**P**	**05 41 50.5**	**-0.5**
	comp=Z,20nm,1.1s						
HINF	**Hin

ARCES	**ARCESS Array B**	**35.31**	**0**	P		**P**	**05 44 18.2**	**-1.4**
ARCES	**ARCESS Array B**	**35.31**	**0**	P		**P**	**05 44 18.2**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=188,slow=9.3,SNR=11							
ARCES	**ARCESS Array B**	**35.31**	**0**	P		**P**	**05 44 18.2**	**-1.4**
KEV	**Kevo**	**35.55**	**1**	*ep*		**P**	**05 44 20.9**	**-0.7**
KEV	**Kevo**	**35.55**	**1**	*eP*		**P**	**05 44 20.9**	**-0.7**
KKAR	**Karatay Array**	**35.97**	**62**	*eP*		**P**	**05 44 26.6**	**+1.0**
	comp=Z,1.3nm,0.7s							
KKAR	**Karatay Array**	**35.97**	**62**	*eP*		**P**	**05 44 26.6**	**+1.0**
	comp=Z,1.3nm,0.7s							
DBIC	**Dimbokro**	**39.14**	**232**	P		**P**	**05 44 53.4**	**+0.7**
DBIC	**Dimbokro**	**39.14**	**232**	P		**P**	**05 44 53.4**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=95,slow=2.5,SNR=4.7							
DBIC	**Dimbokro**	**39.14**	**232**	P		**P**	**05 44 53.4**	**+0.7**
MKAR	**Makanchi Array**	**44.14**	**56**	P		**P**	**05 45 34.5**	**+1.2**
MKAR	**Makanchi Array**	**44.14**	**56**	P		**P**	**05 45 34.5**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=277,slow=6.7,SNR=38							
MKAR	**Makanchi Array**	**44.14**	**56**	P		**P**	**05 45 34.5**	**+1.2**
ZAA0	**Zalesovo Array**	**45.51**	**46**	*eP*		**P**	**05 45 43.9**	**-0.1**
ZAA0	**Zalesovo Array**	**45.51**	**46**	*eP*		**P**	**05 45 43.9**	**-0.1**
ZALV	**Zalesovo Beam**	**45.51**	**46**	P		**P**	**05 45 44.3**	**+0.3**
ZALV	**Zalesovo Beam**	**45.51**	**46**	P		**P**	**05 45 44.3**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=265,slow=8.5,SNR=16							
ZALV	**Zalesovo Beam**	**45.51**	**46**	P		**P**	**05 45 44.3**	**+0.3**
SONM	**Songino Array**	**59.93**	**50**	P		**P**	**05 47 32.4**	**+1.5**
SONM	**Songino Array**	**59.93**	**50**	P		**P**	**05 47 32.4**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=289,slow=7.5,SNR=8.1							
SONM	**Songino Array**	**59.93**	**50**	P		**P**	**05 47 32.4**	**+1.5**
SCHQ	**Schefferville**	**63.96**	**320**	P		**P**	**05 47 57.9**	**+0.2**
SCHQ	**Schefferville**	**63.96**	**320**	P		**P**	**05 47 57.9**	**+0.2**
	comp=Z,2.4nm,0.4s,baz=62,slow=8.7,SNR=12							
SCHQ	**Schefferville**	**63.96**	**320**	P		**P**	**05 47 57.8**	**+0.2**
USRK	**Ussuriysk Arra**	**77.36**	**45**	P		**P**	**05 49 20.1**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=283,slow=6.7,SNR=9.7							
YKA	**Yellowknife Ar**	**78.34**	**342**	P		**P**	**05 49 24.7**	**+0.3**
YKA	**Yellowknife Ar**	**78.34**	**342**	P		**P**	**05 49 24.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=36,slow=5.4,SNR=5.9							
YKA	**Yellowknife Ar**	**78.34**	**342**	P		**P**	**05 49 24.7**	**+0.3**
KSAR	**Wonju Array Be**	**78.68**	**52**	P		**P**	**05 49 27.9**	**+1.2**
KSAR	**Wonju Array Be**	**78.68**	**52**	P		**P**	**05 49 28.0**	**+1.2**
KSRS	**Korea Array**	**78.70**	**52**	P		**P**	**05 49 27.9**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=310,slow=4.4,SNR=5.5							
ILAR	**Eielson Array**	**81.09**	**357**	P		**P**	**05 49 40.1**	**+0.7**
ILAR	**Eielson Array**	**81.09**	**357**	P		**P**	**05 49 40.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=339,slow=3.5,SNR=3.6							
ILAR	**Eielson Array**	**81.09**	**357**	P		**P**	**05 49 40.1**	**+0.7**
PDAR	**Pinedale Array**	**92.94**	**329**	LR	LR		06 31 35.1	
	comp=Z,108nm,18.1s,baz=262,slow=35							

IDC 01 05:44:17.4±49.0, **15°.46S**×**175°.82W**, **h0**km, **mb4.1/3**, **mb1 4.3/3**, **mb1mx3.7/19**, **mbtmp4.1/3**, **MS3.2/1**, **Ms1 3.2/1**, **ms1mx2.1/32**, **Error ellipse: s-maj=920.1km s-min=163.0km az=77.0**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.20**	**69**	LR	LR	05 46 28.5	
	comp=Z,254nm,19.2s,baz=160,slow=31						
STKA	**Stephens Creek**	**41.99**	**239**	P		P	05 52 11.1	+0.6
	0.6nm,0.4s,baz=98,slow=13,SNR=6.0						
WRA	**Warramunga Arr**	**47.56**	**257**	P		P	05 52 53.5	-1.6
	0.6nm,0.3s,baz=94,slow=8.3,SNR=25						
ASAR	**Alice Springs**	**47.87**	**252**	P		P	05 52 58.4	+0.8
	4.8nm,0.5s,baz=88,slow=8.1,SNR=165						

*ISCJB **01** 05:57:01.6±1.4, 22°.6S±0°.3×70°.1E±0°.2, h10km, mb3.5/6, MS3.9/8, Error ellipse: s-maj=48.1km s-min=25.0km az=31.5*
*IDC **01** 05:57:02.0±1.4, 22°.57S×70°.10E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, MS3.8/8, Ms1 3.8/8, ms1mx3.3/26, Error ellipse: s-maj=49.5km s-min=27.0km az=31.0*
ISC 01 05:57:03.5±1.6, **22°.6S**±0°.4×**70°.1E**±0°.3, **h10**km, **n17**, **σ0§84/6**, **mb3.6/6**, **MS4.0/8**, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**15.07**	**9**	T	T	06 16 11.5	
	baz=192,slow=76,SNR=184						
H08S2	**Diego Garcia H**	**15.07**	**9**	T	T	06 16 20.8	
	baz=192,slow=76,SNR=240						
H08S3	**Diego Garcia H**	**15.08**	**9**	T	T	06 16 19.4	
	baz=192,slow=76,SNR=220						
H01W2	**Cape Leeuwin H**	**40.20**	**118**	T	T	06 47 59.5	
	baz=271						
H01W3	**Cape Leeuwin H**	**40.20**	**118**	T	T	06 48 13.4	
	baz=271						
H01W1	**Cape Leeuwin H**	**40.22**	**118**	T	T	06 48 08.5	
	baz=271						
CMAR	**Chiang Mai Arr**	**49.62**	**37**	LR	LR	06 24 35.1	
	comp=Z,29nm,18.8s,baz=188,slow=33						
ASAR	**Alice Springs**	**58.22**	**105**	P	**P**	**06 06 58.0**	**-0.5**
	0.3nm,0.6s,baz=262,slow=6.3,SNR=6.5						
ASAR				LR	LR	06 28 12.0	
	comp=Z,170nm,20.2s,baz=171,slow=32						
WRA	**Warramunga Arr**	**59.51**	**100**	P	**P**	**06 07 07.9**	**+0.5**
	0.7nm,0.6s,baz=255,slow=6.8,SNR=8.2						
WRA				LR	LR	06 28 10.6	
	comp=Z,61nm,20.5s,baz=250,slow=31						
STKA	**Stephens Creek**	**59.23**	**115**	LR	LR	06 31 20.0	
	comp=Z,137nm,20.2s,baz=206,slow=32						
MKAR	**Makanchi Array**	**69.96**	**9**	P	**P**	**06 08 14.5**	**-0.5**
	0.3nm,0.6s,baz=198,slow=6.5,SNR=5.2						
KBZ	**Khabaz**	**70.59**	**339**	LR	LR	06 33 22.5	
	comp=Z,37nm,19.6s,baz=67,slow=31						
PMG	**Port Moresby**	**74.56**	**94**	LR	LR	06 37 01.8	
	comp=Z,81nm,20.4s,baz=234,slow=32						
TORD	**Torodi Ar. Bea**	**75.83**	**291**	P	**P**	**06 08 50.6**	**+0.1**
	0.3nm,0.9s,baz=89,slow=5.4,SNR=2.3						
TORD				LR	LR	06 40 46.8	
	comp=Z,72nm,19.9s,baz=275,slow=35						
ZALV	**Zalesovo Beam**	**77.31**	**9**	P	**P**	**06 08 57.1**	**-0.8**
	0.3nm,0.3s,baz=204,slow=3.2,SNR=2.3						
SONM	**Songino Array**	**77.34**	**24**	P	**P**	**06 08 59.3**	**+0.8**
	0.3nm,0.8s,baz=221,slow=5.6,SNR=2.1						
DBIC	**Dimbokro**	**78.81**	**282**	LR	LR	06 41 31.2	
	comp=Z,121nm,18.4s,baz=133,slow=34						

*ISCJB **01** 06:20:26.8±1.1, 12°.5N±0°.1×142°.3E±0°.3, h27km, mb3.7/7, MS3.2/2, Error ellipse: s-maj=37.0km s-min=18.0km az=175.4*
*IDC **01** 06:20:27.6±5.2, 12°.46N×142°.31E, h18km±30km, mb3.6/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, MS3.3/2, Ms1 3.3/2, ms1mx2.6/22, Error ellipse: s-maj=42.9km s-min=21.0km az=85.0*
ISC 01 06:20:28.9±1.3, **12°.4N**±0°.2×**142°.3E**±0°.3, **h27**km, **n9**, **σ0§51/8**, **mb3.6/7**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**28.03**	**335**	LR	LR	06 37 00.2	
	comp=Z,266nm,18.5s,baz=170,slow=35						
WRA	**Warramunga Arr**	**33.12**	**194**	P	**P**	**06 27 02.7**	**-0.3**
	0.8nm,0.5s,baz=15,slow=9.4,SNR=5.8						
ASAR	**Alice Springs**	**36.81**	**193**	P	**P**	**06 27 35.2**	**+0.4**
	0.7nm,1.1s,baz=19,slow=13,SNR=7.2						
CMAR	**Chiang Mai Arr**	**42.12**	**284**	P	**P**	**06 28 18.8**	**-0.4**
	0.7nm,0.7s,baz=85,slow=7.4,SNR=6.6						
STKA	**Stephens Creek**	**44.07**	**181**	LR	LR	06 49 02.4	
	comp=Z,68nm,19.4s,baz=209,slow=39						
SONM	**Songino Array**	**46.26**	**327**	P	**P**	**06 28 52.4**	**+0.2**
	0.5nm,0.7s,baz=121,slow=5.6,SNR=3.3						
SONM				ScP	**ScP**	**06 34 19.9**	**+0.8**
	0.4nm,1.1s,baz=132,slow=2.1,SNR=3.8						
MKAR	**Makanchi Array**	**60.58**	**317**	P	**P**	**06 30 37.4**	**+0.1**
	0.8nm,0.8s,baz=94,slow=8.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**61.10**	**325**	P	**P**	**06 30 40.6**	**+0.1**
	0.5nm,0.4s,baz=120,slow=8.5,SNR=3.4						
ILAR	**Eielson Array**	**70.68**	**25**	P	**P**	**06 31 41.7**	**-0.4**
	0.4nm,0.7s,baz=260,slow=6.2,SNR=4.1						

IDC 01 06:36:47.1±8.7, **5°.88S**×**152°.24E**, **h94**km±61km, **mb3.1/2**, **mb1 3.3/3**, **mb1mx3.0/19**, **mbtmp3.1/3**, **ML2.5/1**, **Error ellipse: s-maj=110.3km s-min=51.5km az=124.0**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.14**	**235**	P	Pn	06 38 14.6	-0.7
	0.8nm,0.3s,baz=343,slow=17,SNR=2.9						
PMG				S	Sn	06 39 26.7	+2.6
	2.2nm,0.3s,baz=32,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**22.32**	**230**	P	P	06 41 35.8	-1.4
	0.8nm,0.6s,baz=51,slow=9.7,SNR=5.8						
ASAR	**Alice Springs**	**24.99**	**223**	P	P	06 42 02.0	-0.2
	0.4nm,0.4s,baz=57,slow=9.6,SNR=21						
TORD	**Torodi Ar. Bea**	**150.09**	**286**	PKP	PKPdf	06 56 23.7	+0.8
	0.3nm,0.4s,baz=76,slow=2.9,SNR=4.5						
TORD				PKPbc	PKPbc	06 56 27.7	-0.3
	0.1nm,0.3s,baz=91,slow=2.6,SNR=3.3						

CASC 01 06:37:40.1±1.3, **13°.06N**×**89°.16W**, **h35**km±245km, **MD3.7, ML3.7, 1C-2D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.57**	**10**	*eP*	Pn	06 37 51.9	-0.1
LFRS				*eS*	Sn	06 38 00.6	+0.4
SNET	**Serv Nac Est T**	**0.63**	**354**	*eP*	Pn	06 37 52.5	-0.2
SNET				*eS*	Sn	06 38 01.9	+0.4
SNET				AML	AML	06 38 12.3	
	comp=Z,3μm,0.3s						
LBRS	**Las Brisas**	**0.68**	**10**	*eP*	Pn	06 37 53.7	+0.3
LFU	**La Fuente**	**0.69**	**4**	*eP*	Pn	06 37 53.7	+0.2
LFU				*eS*	Sn	06 38 03.3	+0.3
SBLS	**San Blas**	**0.89**	**330**	*eP*	Pn	06 37 56.3	-0.2
SBLS				*eS*	Sn	06 38 09.2	+0.8
RTR	**El Retiro**	**0.95**	**331**	*eP*	Pn	06 37 57.4	+0.1
RTR				*eS*	Sn	06 38 11.0	+1.2
RBDL	**Robledal**	**1.16**	**334**	*eP*	Pn	06 38 00.2	0.0
RBDL				*eS*	Sn	06 38 15.8	+0.8
CAHU	**Cacacuatique**	**1.16**	**53**	*eP*	Pn	06 38 00.2	+0.1
CNCH	**Conchagua**	**1.31**	**80**	*eP*	Pn	06 38 02.4	+0.3
CNCH				*eS*	Sn	06 38 18.7	+0.2
NBG	**Las Nubes**	**1.90**	**323**	*eP*	Pn	06 38 13.9	+3.5
MRL	**Marmol**	**2.06**	**346**	*eP*	Pn	06 38 13.1	+0.6
MRL				⇑*eP*	Pn	06 38 14.0	+1.6
COPN	**Copaltepe**	**2.66**	**109**	*eP*	Pn	06 38 19.7	-0.8
COPN				*eS*	Sn	06 38 51.8	+0.3

*ISCJB **01** 07:02:56.3±0.9, 33°.7N±0°.1×82°.3E±0°.2, h33km, mb3.2/6, Error ellipse: s-maj=28.4km s-min=13.3km az=161.2*
*IDC **01** 07:02:59.8±4.7, 33°.69N×82°.36E, h48km±46km, mb3.0/7, mb1 3.3/9, mb1mx3.1/28, mbtmp3.1/9, ML3.3/2, Error ellipse: s-maj=36.9km s-min=20.8km az=51.0*
ISC 01 07:02:58.4±1.1, **33°.7N**±0°.1×**82°.3E**±0°.2, **h35**km, **n9**, **σ0§66/9**, **mb3.3/6**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.12**	**360**	P	**Pn**	**07 06 01.8**	**-0.3**
	0.1nm,0.3s,baz=178,slow=13,SNR=8.6						
KURBB	**Kurchatov Arra**	**17.18**	**352**	P	**Pn**	**07 06 55.9**	**+0.4**
	0.1nm,0.3s,baz=171,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**20.36**	**4**	P	**P**	**07 07 32.5**	**+0.9**
	0.5nm,0.6s,baz=198,slow=9.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**21.22**	**131**	P	**P**	**07 07 41.6**	**+0.4**
	1.4nm,0.8s,baz=307,slow=11,SNR=9.1						
SONM	**Songino Array**	**22.96**	**45**	P	**P**	**07 07 59.9**	**+0.1**
	0.4nm,0.9s,baz=234,slow=9.9,SNR=3.1						
WRA	**Warramunga Arr**	**72.79**	**129**	P	**P**	**07 14 24.0**	**+0.5**
	0.4nm,0.7s,baz=323,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**75.11**	**276**	P	**P**	**07 14 37.5**	**+0.2**
	0.3nm,0.6s,baz=39,slow=3.8,SNR=2.4						
ASAR	**Alice Springs**	**75.22**	**132**	P	**P**	**07 14 36.9**	**-0.8**
	0.2nm,0.9s,baz=332,slow=5.3,SNR=3.7						
YKA	**Yellowknife Ar**	**83.21**	**8**	P	**P**	**07 15 19.9**	**-0.8**
	0.1nm,0.5s,baz=336,slow=5.4,SNR=5.8						

*ISCJB **01** 07:22:09.6±0.4, 5°.22N±0°.04×124°.24E±0°.07, h450km, mb3.7/15, Error ellipse: s-maj=9.2km s-min=5.7km az=171.4*
*IDC **01** 07:22:12.1±1.8, 5°.21N×124°.22E, h470km±20km, mb3.3/15, mb1 3.4/15, mb1mx3.3/25, mbtmp3.3/15, Error ellipse: s-maj=29.7km s-min=7.7km az=67.0*
*KLM **01** 07:22:13.2, 4°.77N×124°.11E, h439km, mb4.1, MS5.3*
*DJA **01** 07:22:16.0±1.5, 5°.N±10°×12°.4E±1°.4, h433km±9km, M4.3/8, mb4.4/8, mB4.5/2, MLv4.3/4, Mw(mB)3.6/2*
ISC 01 07:22:10.6±0.5, **5°.17N**±0°.05×**124°.14E**±0°.10, **h450**km, **n41**, **σ1§49/46**, **mb3.6/15**, **3C-2D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.22**	**41**	*eP*	**P**	**07 23 10.2**	**+2.4**
DMPH	**Davao City--Mi**	**2.34**	**35**	⇓*eP*	**P**	**07 23 15.1**	**+2.0**
DMPH	**Davao City--Mi**	**2.34**	**35**	⇑*eP*	**S**	**07 24 05.5**	**+1.7**
GTOI	**Gorontalo**	**4.64**	**194**	P	**P**	**07 23 32.1**	**+0.5**
GTOI				S	**S**	**07 24 35.3**	**-2.2**
MRSI	**Marisa**	**5.15**	**205**	P	**P**	**07 23 38.4**	**+1.9**
MRSI				S	**S**	**07 24 43.8**	**-2.6**
MYLDM	**Lahad Datu**	**5.62**	**270**	P	x	07 23 42.9	
	112nm,1.0s,0.4nm						
MYLDM	**Lahad Datu**	**5.62**	**270**	⇑P	**P**	**07 23 43.0**	**+2.0**
TSM	**Tawau**	**6.31**	**262**	⇓P	**P**	**07 23 49.5**	**+1.4**
LUWI	**Luwuk**	**6.32**	**193**	P	P	07 23 51.8	+3.6
	baz=4.8,SNR=9.1						
LUWI				S	**S**	**07 25 05.7**	**-2.2**
	baz=4.8,SNR=5.0						
APSI	**Ampana**	**6.53**	**202**	P	**P**	**07 23 52.0**	**+1.6**
	43nm,0.7s,956nm0.2nm						
SDKM	**Sandakan**	**6.93**	**274**	⇑P	**P**	**07 23 57.1**	**+2.4**
TTSI	**Tana Toraja**	**9.23**	**208**	P	**P**	**07 24 21.1**	**+1.7**
	36nm,0.6s						
MMSI	**Mamuju**	**9.39**	**214**	P	x	07 24 23.0	
	41nm,0.6s						
SPSI	**Sidrap Palu**	**10.07**	**206**	P	**P**	**07 24 31.1**	**+2.6**
	51nm,0.9s						
BKSI	**Bulukumba**	**11.16**	**201**	P	**P**	**07 24 43.6**	**+3.2**
	44nm,0.8s						
SBUM	**Sibu**	**12.20**	**258**	P	x	07 24 53.8	
	60nm,0.9s,501nm						
STKI	**Sintang**	**13.62**	**249**	P	**P**	**07 25 09.1**	**+2.0**
KDU	**Kakadu**	**19.57**	**155**	P	**P**	**07 26 08.4**	**+0.3**
	baz=19,SNR=7.4						
KNRA	**Kununurra**	**21.21**	**168**	P	**P**	**07 26 23.4**	**+0.4**
	baz=20,SNR=4.8						
WRA	**Warramunga Arr**	**26.89**	**158**	P	**P**	**07 27 13.4**	**-0.5**
	0.7nm,0.3s,baz=340,slow=9.1,SNR=16						
WRA				S	**S**	**07 31 18.4**	**+0.5**
	0.4nm,0.7s,baz=313,slow=22,SNR=2.5						
WRA				ScP	**ScP**	**07 33 17.7**	**-1.8**
	0.3nm,0.6s,baz=347,slow=3.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**27.92**	**300**	P	**P**	**07 27 24.1**	**+1.1**
	1.3nm,0.8s,baz=111,slow=7.4,SNR=8.8						
ASAR	**Alice Springs**	**30.20**	**162**	P	**P**	**07 27 43.0**	**+0.2**
	2.8nm,0.3s,baz=339,slow=7.5,SNR=147						
ASAR				PcP	**PcP**	**07 30 30.5**	**-0.1**
	0.8nm,0.5s,baz=337,slow=1.6,SNR=4.5						
ASAR				S	**S**	**07 32 08.7**	**-0.9**
	1.0nm,0.8s,baz=349,slow=24,SNR=6.0						
WRKA	**Warakurna**	**30.29**	**173**	P	**P**	**07 27 44.1**	**+0.4**
	baz=29,SNR=5.8						
KSRS	**Korea Array**	**32.32**	**6**	P	**P**	**07 27 59.8**	**-1.1**
	0.8nm,0.5s,baz=164,slow=4.8,SNR=3.0						
BBOO	**Buckleboo**	**39.43**	**164**	P	**P**	**07 29 00.9**	**+0.6**
	baz=39,SNR=8.9						
STKA	**Stephens Creek**	**40.42**	**157**	P	**P**	**07 29 09.3**	**+1.0**
	3.3nm,0.3s,baz=327,slow=7.8,SNR=16						
STKA	**Stephens Creek**	**40.42**	**157**	P	**P**	**07 29 09.3**	**+1.0**
	baz=40,SNR=8.3						
HTT	**Hallett**	**40.86**	**161**	P	**P**	**07 29 13.1**	**+1.2**
	baz=40,SNR=14						
CMSA	**Cobar Meteorol**	**41.89**	**152**	P	**P**	**07 29 22.2**	**+2.1**
	baz=42,SNR=5.5						
ARPS	**Mount Arapiles**	**44.88**	**160**	P	**P**	**07 29 44.3**	**+0.9**
	baz=44,SNR=12						
SONM	**Songino Array**	**45.15**	**343**	P	**P**	**07 29 46.4**	**+0.8**
	2.4nm,0.9s,baz=157,slow=8.3,SNR=16						
SONM				PcP	**PcP**	**07 31 16.3**	**-0.6**
	0.4nm,0.8s,baz=171,slow=1.9,SNR=3.6						
MKAR	**Makanchi Array**	**54.92**	**326**	P	**P**	**07 30 58.0**	**+0.4**
	1.5nm,0.6s,baz=122,slow=8.4,SNR=32						
MKAR				PcP	**PcP**	**07 31 52.7**	**-0.3**
	0.9nm,0.5s,baz=122,slow=3.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**58.16**	**334**	P	**P**	**07 31 19.2**	**-0.6**
	0.5nm,0.6s,baz=123,slow=5.5,SNR=8.8						
AKTO	**Aktyubinsk**	**70.94**	**322**	P	**P**	**07 32 41.2**	**-0.1**
	4.9nm,0.6s,baz=106,slow=7.5,SNR=26						
ILAR	**Eielson Array**	**84.92**	**25**	P	**P**	**07 33 56.0**	**-0.7**
	0.6nm,1.1s,baz=266,slow=4.7,SNR=3.4						
VNDA	**Vanda**	**85.18**	**172**	P	**P**	**07 33 57.8**	**+0.1**
	1.0nm,0.7s,baz=295,slow=7.5,SNR=5.3						
BRTR	**Keskin Array B**	**87.12**	**309**	P	**P**	**07 34 06.5**	**-1.6**
	1.9nm,0.7s,baz=115,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**88.22**	**340**	P	**P**	**07 34 12.1**	**-0.2**
	4.2nm,0.9s,baz=82,slow=6.6,SNR=2.9						
AKASG	**Malin Array Be**	**89.16**	**321**	P	**P**	**07 34 16.0**	**-1.0**
	0.1nm,0.3s,baz=63,slow=5.2,SNR=3.3						
FINES	**FINESS Array B**	**89.35**	**332**	P	**P**	**07 34 16.6**	**-1.2**
	3.7nm,1.1s,baz=89,slow=8.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**120.02**	**288**	PKP	**PKPdf**	**07 40 09.0**	**-1.2**
	0.5nm,0.8s,baz=35,slow=2.1,SNR=3.7						

*CSEM **01** 07:33:21.4±0.7, 36°.10N×30°.26E, h10km, MD3.1, Error ellipse: s-maj=13.7km s-min=8.5km az=178.0*
*ISK **01** 07:33:23.5, 36°.20N×30°.28E, h29km, MD3.0*
*DDA **01** 07:33:28.5, 36°.90N×29°.60E, h8km, MD3.1*
ISC 01 07:33:24.8±1.4, **36°.32N**±0°.05×**30°.29E**±0°.03, **h12**km±10km, **n32**, **σ2§16/42**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELL	**Elmali**	**0.52**	**324**	*e*PG	**Pb**	**07 33 37.4**	**+1.3**
ELL				*e*SG	**Sb**	**07 33 46.1**	**+2.4**
ELL	**Elmali**	**0.52**	**324**	*e*Pg	**Pb**	**07 33 37.4**	**+1.3**
ELL				*e*Sg	**Sb**	**07 33 46.1**	**+2.4**
AKAS	**Kas**	**0.56**	**261**	*i* P	**Pn**	**07 33 40.7**	**+1.9**
AKAS				*i* S	**Sn**	**07 33 52.0**	**+3.9**
AKAS	**Kas**	**0.56**	**261**	*i* P	**Pn**	**07 33 40.7**	**+1.9**
AKAS				*i* S	**Sn**	**07 33 52.0**	**+3.9**
ANTB	**Antalya**	**0.65**	**27**	*e*PG	**Pg**	**07 33 38.2**	**+0.8**
ANTB				*e*SG	**Sb**	**07 33 49.4**	**+2.3**
ANTB	**Antalya**	**0.65**	**27**	*e*Pg	**Pg**	**07 33 38.2**	**+0.8**
ANTB				*e*Sg	**Sb**	**07 33 49.4**	**+2.3**
KORT	**Korkueli**	**0.68**	**4**	*i* P	**Pg**	**07 33 39.0**	**+1.0**
KORT				*i* S	**Sb**	**07 33 50.0**	**+1.8**
KORT	**Korkueli**	**0.68**	**4**	*i* P	**Pg**	**07 33 39.0**	**+1.0**
KORT				*i* S	**Sb**	**07 33 50.0**	**+1.8**
FETY	**Fethiye**	**1.02**	**288**	*e*PG	**Pg**	**07 33 42.7**	**-1.8**
FETY				*e*SG	**Sg**	**07 33 56.4**	**-1.4**
FETY	**Fethiye**	**1.02**	**288**	*e*Pg	**Pg**	**07 33 42.7**	**-1.8**
FETY				*e*Sg	**Sg**	**07 33 56.4**	**-1.4**
SUTC	**Sutluce-Ispart**	**1.28**	**26**	*e*PN	**Pn**	**07 33 47.5**	**-1.3**
SUTC	**Sutluce-Ispart**	**1.28**	**26**	*e*Pn	**Pn**	**07 33 47.5**	**-1.3**
DALY	**Dalyan (Mu¨la**	**1.41**	**291**	*e*PN	**Pn**	**07 33 48.0**	**-2.3**
DALY	**Dalyan (Mu¨la**	**1.41**	**291**	*e*Pn	**Pn**	**07 33 48.0**	**-2.3**
TURN	**Turunc**	**1.46**	**293**	*i* P	**Pg**	**07 33 52.7**	**-0.2**
TURN				*i* S	**Sg**	**07 34 12.7**	**+0.7**
TURN	**Turunc**	**1.46**	**293**	*i* P	**Pg**	**07 33 52.7**	**-0.2**
TURN				*i* S	**Sg**	**07 34 12.7**	**+0.7**
ISP	**Isparta**	**1.51**	**7**	*e*PN	**Pn**	**07 33 49.9**	**-1.9**
ISP	**Isparta**	**1.51**	**7**	*e*Pn	**Pn**	**07 33 49.9**	**-1.9**
ERMK	**Ermenek**	**2.14**	**81**	*i* P	**Pb**	**07 34 03.1**	**-0.5**
ERMK	**Ermenek**	**2.14**	**81**	*i* P	**Pb**	**07 34 03.1**	**-0.5**
KHAL	**Karahalli**	**2.14**	**343**	*i* P	Pn	07 33 55.0	-5.5
KHAL				*i* S	Sn	07 34 18.3	-8.9
KHAL	**Karahalli**	**2.14**	**343**	*i* P	Pn	07 33 55.0	-5.5
KHAL				*i* S	Sn	07 34 18.3	-8.9
KONT	**Konya--Tatoy**	**2.32**	**45**	*e*PN	**Pn**	**07 34 01.7**	**-1.1**
KONT	**Konya--Tatoy**	**2.32**	**45**	*e*Pn	**Pn**	**07 34 01.7**	**-1.1**
AYDN	**Tasoluk**	**2.35**	**305**	*i* P	Pn	07 33 58.3	-5.0
AYDN				*i* S	Sn	07 34 23.0	-9.1
AYDN	**Tasoluk**	**2.35**	**305**	*i* P	Pn	07 33 58.3	-5.0
AYDN				*i* S	Sn	07 34 23.0	-9.1
BDRM	**Kayabasi**	**2.40**	**289**	*i* P	**Pn**	**07 34 02.0**	**-2.0**
BDRM				*i* S	**Sn**	**07 34 28.3**	**-5.1**
BDRM	**Kayab

0.9nm,0.7s,baz=162,slow=7.3,SNR=7.3
ZALV Zalesovo Beam 54.37 350 P P 08 53 40.4 -0.1
1.0nm,0.4s,baz=168,slow=6.3,SNR=8.5

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*JMA **01** 09:01:42.6±0.6,46˚.49N×151˚.97E,h30km,M5.4*
*ISCJB **01** 09:01:43.9±0.3,46˚.58N±0˚.04×151˚.62E±0˚.05,h90km, mb4.4/65,Error ellipse: s-maj=7.2km s-min=2.7km az=136.9*
*SKHL **01** 09:01:43.8±1.1,46˚.53N×152˚.00E,h105km±7km, mb5.3/5, msh5.8/3*
*MOS **01** 09:01:45.6±1.0,46˚.66N×151˚.53E,h102km, mb4.4/31, Error ellipse: s-maj=8.1km s-min=5.7km az=93.4*
*IDC **01** 09:01:48.3±2.1,46˚.78N×151˚.54E,h111km±18km, mb3.9/26,mb1 4.0/32,mb1mx4.0/36,mbtmp3.9/32,MS3.6/8, Ms1 3.6/8,ms1mx3.1/54,Error ellipse: s-maj=14.8km s-min=9.5km az=152.0*
*NEIC **01** 09:01:48.6±0.6,46˚.74N×151˚.59E,h114km±5km,mb4.8/26, Error ellipse: s-maj=7.5km s-min=4.1km az=149.0*

ISC 01 09:01:45.1±0.4,46˚.55N±0˚.05×151˚.71E±0˚.05,h90km,n280, σ1§46/286,mb4.4/65,20C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.99**	**245**	*e*PN	**Pn**	**09 02 32.4**	**+2.0**
KUR				*i* S	**Sn**	**09 03 08.8**	**+3.5**
KUR				pmax	pmax		
	comp=N,170nm,0.5s						
KUR				pmax	pmax		
	comp=E,240nm,0.5s						
KUR				pmax	pmax		
	comp=Z,570nm,0.5s						
KUR				smax	smax		
	comp=N,4μm,0.5s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**2.99**	**245**	*e*P	**Pn**	**09 02 32.4**	**+2.0**
KUR				AMB	AMB	09 02 37.4	
	comp=E,170nm,0.5s						
KUR				AMB	AMB	09 02 37.4	
	comp=E,240nm,0.5s						
KUR				AMB	AMB	09 02 37.4	
	comp=E,570nm,0.5s						
KUR				*e*S	**Sn**	**09 03 08.0**	**+2.7**
KUR				A	A	09 03 19.8	
	comp=E,395nm,0.5s						
KUR				A	A	09 03 19.8	
	comp=E,228nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.83**	**241**	*c i*PN	**Pn**	**09 02 56.8**	**+1.5**
YUK				*i* S	**Sn**	**09 03 52.3**	**+2.3**
YUK				pmax	pmax		
	comp=N,316nm,0.4s						
YUK				pmax	pmax		
	comp=E,481nm,0.4s						
YUK				pmax	pmax		
	comp=Z,522nm,0.4s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.83**	**241**	*e*P	**Pn**	**09 02 56.8**	**+1.5**
YUK				AMB	AMB	09 03 02.3	
	comp=E,320nm,0.3s						
YUK				AMB	AMB	09 03 02.3	
	comp=E,480nm,0.3s						
YUK				AMB	AMB	09 03 02.3	
	comp=E,520nm,0.3s						
YUK				*e*S	**Sn**	**09 03 52.4**	**+2.4**
YUK				A	A	09 04 07.8	
	comp=E,132nm,0.4s						
YUK				A	A	09 04 07.8	
	comp=E,260nm,0.4s						
SKR	**Severo-Kuril's**	**5.06**	**34**	*e*PN	Pn	09 02 54.0	-4.4
SKR				*e*S	**Sn**	**09 03 53.5**	**-2.1**
SKR				pmax	pmax		
	comp=Z,160nm,0.8s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,90nm,0.4s						
SKR				smax	smax		
	comp=E,190nm,0.6s						
SKR				smax	smax		
	comp=N,310nm,0.5s						
SKR	**Severo-Kuril's**	**5.06**	**34**	*e*P	Pn	09 02 54.0	-4.4
SKR				AMB	AMB	09 02 57.9	
	comp=N,80nm,0.6s						
SKR				AMB	AMB	09 02 57.9	
	comp=N,90nm,0.6s						
SKR				AMB	AMB	09 02 57.9	
	comp=N,160nm,0.6s						
SKR				*e*S	**Sn**	**09 03 50.0**	**-5.6**
SKR				A	A	09 04 16.0	
	comp=N,310nm,0.6s						
SKR				A	A	09 04 16.0	
	comp=N,190nm,0.6s						
SKR				A	A	09 04 16.0	
	comp=N,150nm,0.6s						
NEM2	**Nemuro 2**	**5.30**	**235**	P	**Pn**	**09 03 00.5**	**-1.2**
NEM2				*e*S	**Sn**	**09 03 58.1**	**-3.2**
JRA	**Rausu**	**5.33**	**243**	P	**Pn**	**09 03 03.7**	**+1.5**
JNK	**Nakash**	**5.77**	**242**	P	**Pn**	**09 03 09.0**	**+0.9**
JNK				*e*S	**Sn**	**09 04 12.8**	**-0.1**
PAU	**Pauzhetka**	**5.96**	**32**	*e*P	**Pn**	**09 03 11.2**	**+0.6**
PAU				*e*rx	rx	09 04 16.6	
JTKR	**Abashiri--Toko**	**6.08**	**248**	P	**Pn**	**09 03 14.3**	**+2.0**
JAK	**Akkeshi**	**6.13**	**237**	P	**Pn**	**09 03 11.7**	**-1.2**
JAK				*e*S	**Sn**	**09 04 18.7**	**-2.8**
YSS	**Yuzh-Sakhalins**	**6.17**	**277**	⇑*i*PN	**Pn**	**09 03 16.2**	**+2.7**
YSS				*i* S	**Sn**	**09 04 25.9**	**+3.4**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				smax	smax		
	comp=N,90nm,0.8s						
YSS				smax	smax		
	comp=E,120nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.17**	**277**	*e*Pn	Pn	09 03 16.9	+3.5
	comp=E,56nm,0.6s						
YSS				*e*Sn	**Sn**	**09 04 24.1**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.17**	**277**	*e*P	**Pn**	**09 03 16.0**	**+2.5**
YSS				AMB	AMB	09 03 19.0	
	comp=E,80nm,0.9s						
YSS				*e*S	**Sn**	**09 04 24.0**	**+1.5**
YSS				A	A	09 04 29.0	
	comp=E,90nm,0.9s						
YSS				A	A	09 04 29.0	
	comp=E,120nm,0.9s						
JMP	**Maruseppu**	**6.42**	**250**	P	Pn	09 03 20.5	+3.6
JAR	**Ashorobuto**	**6.51**	**243**	P	**Pn**	**09 03 19.5**	**+1.4**
JAR				*e*S	**Sn**	**09 04 30.8**	**-0.1**
JOB	**Onbets**	**6.69**	**240**	P	**Pn**	**09 03 20.4**	**-0.2**
JOB				*e*S	**Sn**	**09 04 32.4**	**-2.9**
HRK	**Horoka**	**6.82**	**246**	*e*P	**Pn**	**09 03 24.3**	**+1.9**
ASAJ	**Asahikawa**	**6.87**	**253**	P	**Pn**	**09 03 26.0**	**+2.9**
ASAJ	**Asahikawa**	**6.87**	**253**	P	Pn	09 03 26.8	+3.7
ASAJ				S	Sn	09 04 50.1	+10
ASAJ	**Asahikawa**	**6.87**	**253**	P	Pn	09 03 26.7	+3.7
	comp=E,5.9nm,0.3s,baz=62,slow=11,SNR=42						
ASAJ				S	Sn	09 04 50.1	+10
	comp=E,3.5nm,0.3s,baz=246,slow=20,SNR=2.2						
JKK2	**Kamakawa 2**	**6.87**	**250**	P	**Pn**	**09 03 25.9**	**+2.8**
JCH	**Churui**	**7.14**	**240**	P	**Pn**	**09 03 25.7**	**-1.1**
JCH				*e*S	**Sn**	**09 04 40.4**	**-5.9**
JFR	**Furan**	**7.31**	**246**	P	**Pn**	**09 03 30.9**	**+1.8**
TYV	**Tymovskoe**	**7.38**	**309**	*e*P	**Pn**	**09 03 31.0**	**+1.0**
TYV				AMB	AMB	09 03 33.0	
	comp=E,24nm,0.8s						
MYR	**Moyori**	**7.38**	**238**	*e*P	**Pn**	**09 03 28.9**	**-1.1**
JHR	**Hokuryu**	**7.59**	**252**	P	Pn	09 03 37.9	+4.9
PEA0B	**Petropavlovsk-**	**7.62**	**28**	*e*Pn	**Pn**	**09 03 36.0**	**+2.8**
PETK	**Petropavlovsk-**	**7.62**	**28**	PN	**Pn**	**09 03 34.3**	**+1.0**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.62**	**28**	P	**Pn**	**09 03 34.2**	**+1.0**
PETK	**Petropavlovsk-**	**7.62**	**28**	P	**Pn**	**09 03 34.2**	**+1.0**
	comp=Z,4.9nm,0.3s,baz=181,slow=13,SNR=40						
JEM	**Erimo**	**7.63**	**237**	P	**Pn**	**09 03 34.0**	**+0.6**
JEM				*e*S	**Sn**	**09 04 55.4**	**-2.8**
ERM	**Erimo**	**7.63**	**237**	*e*PN	**Pn**	**09 03 34.1**	**+0.7**
ERM	**Erimo**	**7.63**	**237**	*e*P	**Pn**	**09 03 34.1**	**+0.7**
JBT2	**Biratori 2**	**7.65**	**244**	P	**Pn**	**09 03 33.7**	**-0.1**
JBT2				*e*S	**Sn**	**09 04 57.5**	**-1.3**
JNBK	**Urakawa-nobuka**	**7.70**	**240**	P	**Pn**	**09 03 33.1**	**-1.3**
JNBK				*e*S	**Sn**	**09 04 55.0**	**-5.0**
PET	**Petropavlovsk**	**7.88**	**32**	*e*PN	**Pn**	**09 03 35.7**	**-1.1**
PET				*e*S	**Sn**	**09 05 03.5**	**-0.8**
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
JNB	**Noboribetsu**	**8.65**	**246**	P	**Pn**	**09 03 47.4**	**+0.1**
JNB				*e*S	**Sn**	**09 05 21.0**	**-2.0**
JKB	**Kayabe**	**8.97**	**243**	P	**Pn**	**09 03 50.5**	**-1.2**
JKB				*e*S	Sn	09 05 24.0	-6.9
JSH	**Shimam**	**9.19**	**249**	P	**Pn**	**09 03 56.2**	**+1.5**
JYM2	**Yakumo 2**	**9.25**	**245**	P	**Pn**	**09 03 55.4**	**-0.1**
JTM	**Tenmabayashi**	**9.62**	**237**	P	**Pn**	**09 03 58.0**	**-2.6**
JTM				*e*S	Sn	09 05 37.2	-10
JANG	**Nango**	**9.64**	**234**	P	**Pn**	09 03 57.0	-3.9
JANG				*e*S	Sn	09 05 37.0	-10
NKL	**Nikolayevsk**	**9.71**	**317**	*e*P	**Pn**	**09 04 03.6**	**+2.0**
OFUJ	**Ofunato**	**10.49**	**228**	*e*S	Sn	09 05 57.3	-11
JRG	**Rokugo**	**10.81**	**233**	P	**Pn**	**09 04 13.9**	**-2.8**
JIO	**Ouri**	**11.12**	**227**	P	Pn	09 04 16.5	-4.5
JIO				*e*S	Sn	09 06 12.0	-11
JFY	**Yanaizu**	**12.76**	**229**	P	**Pn**	**09 04 40.4**	**-2.7**
EKMR	**Ekimchan**	**13.74**	**305**	*e*P	**Pn**	**09 04 53.5**	**-2.3**
EKMR				AMB	AMB	09 05 02.7	
	comp=E,8.0nm,0.5s						
USRK	**Ussuriysk Arra**	**14.06**	**268**	P	**Pn**	**09 05 01.6**	**+1.6**
	comp=Z,4.9nm,0.3s,baz=63,slow=14,SNR=56						
MJAR	**Matsushiro Arr**	**14.20**	**230**	P	**Pn**	**09 05 00.2**	**-1.7**
MJAR	**Matsushiro Arr**	**14.20**	**230**	P	**Pn**	**09 05 00.2**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=26,slow=14,SNR=6.9						
MAJO	**Matsushiro**	**14.20**	**230**	⇓*i*P	**Pn**	**09 05 00.2**	**-1.7**
MAJO	**Matsushiro**	**14.20**	**230**	*e*Pn	**Pn**	**09 05 00.1**	**-1.8**
MAJO				*e*Sn	**Sn**	**09 07 42.5**	**+4.4**
MAJO	**Matsushiro**	**14.20**	**230**	*e*P	**Pn**	**09 05 00.2**	**-1.7**
MAT	**Matsushiro**	**14.20**	**230**	P	**Pn**	**09 04 59.6**	**-2.3**
MAT				S	**Sn**	**09 07 43.8**	**+5.7**
FX1	**Attu Island--F**	**15.22**	**58**	*e*Pn	**Pn**	**09 05 15.7**	**+0.8**
FX1				S	Sn	09 07 53.0	-10
FX1				*e*Sn	S	09 07 58.1	-16
FX1	**Attu Island--F**	**15.22**	**58**	P	**Pn**	**09 05 15.2**	**+0.4**
	comp=Z,6.0nm,0.3s,baz=258,slow=2.4,SNR=18						
FX1				S	Sn	09 07 53.0	-10
	comp=Z,3.2nm,0.3s,baz=270,slow=20,SNR=4.6						
MDJ	**Mudanjiang**	**15.60**	**271**	*e*Pn	**P**	**09 05 21.2**	**-0.8**
	comp=Z,22nm,0.8s						
SEY	**Seymchan**	**16.42**	**1**	P	**Pn**	**09 05 29.8**	**+0.1**
SEY	**Seymchan**	**16.42**	**1**	P	**Pn**	**09 05 29.8**	**+0.1**
SEY	**Seymchan**	**16.42**	**1**	P	**Pn**	**09 05 29.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=175,slow=18,SNR=8.1						
SEY	**Seymchan**	**16.42**	**1**	*e*P	**Pn**	**09 05 29.8**	**+0.1**
ZEA	**Zeya**	**17.19**	**304**	*e*P	**Pn**	**09 05 38.2**	**-1.1**
ZEA				AMB	AMB	09 05 42.2	
	comp=Z,46nm,1.4s						
KROS	**Kirovskiy**	**17.54**	**306**	*e*P	**P**	**09 05 40.4**	**-2.9**
KROS				AMB	AMB	09 05 42.4	
	comp=Z,9.0nm,0.6s						
KROS				AMB	AMB	09 05 42.4	
	comp=Z,13nm,0.6s						
KSRS	**Korea Array**	**19.82**	**251**	P	**Pn**	**09 06 09.9**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=52,slow=11,SNR=68						
KSAR	**Wonju Array Be**	**19.85**	**251**	P	**P**	**09 06 09.9**	**+1.2**
YAK	**Yakutsk**	**19.98**	**329**	*e*P	**P**	**09 06 10.1**	**+0.2**
YAK				*e*		09 09 48.1	
YAK				pmax	pmax		
	comp=Z,107nm,0.9s						
YAK				pmax	pmax		
	comp=N,44nm,1.2s						
YAK				pmax	pmax		
	comp=E,35nm,1.0s						
YAK	**Yakutsk**	**19.98**	**329**	*e*P	**P**	**09 06 09.8**	**-0.1**
	comp=E,142nm,0.8s						
JNU	**Nakatsue**	**20.79**	**237**	P	**P**	**09 06 20.2**	**+1.3**
JNU	**Nakatsue**	**20.79**	**237**	P	**P**	**09 06 20.2**	**+1.3**
	comp=E,13nm,1.0s,baz=24,slow=12,SNR=3.8						
TJN	**Taejon**	**20.81**	**249**	*e*P	**P**	**09 06 19.5**	**+0.5**
TIXI	**Tiksi**	**27.39**	**344**	⇑*e*P	**P**	**09 07 20.2**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.4s						
TIXI	**Tiksi**	**27.39**	**344**	*e*P	**P**	**09 07 20.1**	**-1.4**
	comp=Z,1.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.51**	**150**	T	T	09 39 04.5	
	baz=342,slow=76,SNR=5028						
H11N1	**WAKE ISLAND Hy**	**29.52**	**150**	T	T	09 39 16.1	
	baz=342,slow=76,SNR=2929						
H11N3	**WAKE ISLAND Hy**	**29.53**	**150**	T	T	09 39 07.4	
	baz=342,slow=76,SNR=3519						
ULN	**Ulaanbaatar**	**30.05**	**289**	*e*P	**P**	**09 07 45.3**	**-0.3**
	comp=Z,3.8nm,0.9s						
SONM	**Songino Array**	**30.48**	**289**	P	**P**	**09 07 49.3**	**-0.1**
SONM	**Songino Array**	**30.48**	**289**	P	**P**	**09 07 49.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=83,slow=7.2,SNR=11						
SONM				LR	LR	09 20 32.7	
	comp=Z,62nm,19.9s,baz=19,slow=37						
H11S1	**WAKE ISLAND Hy**	**30.58**	**151**	T	T	09 40 26.3	
	baz=342,slow=77,SNR=3684						
H11S3	**WAKE ISLAND Hy**	**30.59**	**151**	T	T	09 40 26.8	
	baz=342,slow=77,SNR=1899						
H11S2	**WAKE ISLAND Hy**	**30.60**	**151**	T	T	09 40 27.5	
	baz=342,slow=77,SNR=3015						
TLY	**Talaya**	**31.41**	**297**	*e*P	**P**	**09 07 57.3**	**-0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,72nm,16.0s						
ZAK	**Zakamensk**	**31.89**	**295**	*e*P	**P**	**09 08 01.2**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
COLA	**College**	**36.89**	**38**	⇑*i*P	**P**	**09 08 45.7**	**+1.2**
COLA				pmax	pmax		
	comp=Z,19nm,0.9s						
COLA	**College**	**36.89**	**38**	*e*P	**P**	**09 08 45.0**	**+0.5**
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**37.31**	**38**	P	**P**	**09 08 47.9**	**-0.2**
ILAR	**Eielson Array**	**37.31**	**38**	P	**P**	**09 08 47.9**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=262,slow=7.1,SNR=9.6						
HVS	**Khovu-Aksy**	**37.59**	**299**	*e*P	**P**	**09 08 50.4**	**-0.3**
HVS				pmax	pmax		
	comp=Z,27nm,1.0s						
DAWY	**Dawson**	**40.61**	**39**	*e*P	P	09 09 19.8	+4.2
ZALV	**Zalesovo Beam**	**41.94**	**306**	P	**P**	**09 09 24.3**	**-2.2**
ZALV						09 11 20.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,58nm,20.8s						
ZALV	**Zalesovo Beam**	**41.94**	**306**	P	**P**	**09 09 24.3**	**-2.2**
ZALV				PcP	**PcP**	**09 11 20.6**	**+0.3**
ZALV	**Zalesovo Beam**	**41.94**	**306**	P	**P**	**09 09 24.3**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=64,slow=6.5,SNR=6.5						
ZALV				PcP	**PcP**	**09 11 20.6**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=80,slow=2.5,SNR=6.2						
ZALV				LR	LR	09 27 13.3	
	comp=Z,58nm,20.8s,baz=72,slow=37						
INK	**Inuvik**	**42.34**	**32**	P	**P**	**09 09 30.4**	**+0.9**
INK	**Inuvik**	**42.34**	**32**	P	**P**	**09 09 30.5**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=303,slow=8.1,SNR=9.1						
MK31	**Makanchi Array**	**46.17**	**297**	*e*P	**P**	**09 09 59.3**	**-1.2**
MK31	**Makanchi Array**	**46.17**	**297**	*e*P	**P**	**09 09 59.3**	**-1.2**
MKAR	**Makanchi Array**	**46.17**	**297**	P	**P**	**09 09 59.3**	**-1.2**
MKAR						09 11 35.4	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,42nm,20.9s						
MKAR	**Makanchi Array**	**46.17**	**297**	P	**P**	**09 09 59.2**	**-1.2**
MKAR				PcP	**PcP**	**09 11 35.4**	**+0.5**
MKAR	**Makanchi Array**	**46.17**	**297**	P	**P**	**09 09 59.3**	**-1.2**
	comp=Z,3.8nm,0.6s,baz=69,slow=7.5,SNR=50						
MKAR				PcP	**PcP**	**09 11 35.4**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=68,slow=4.4,SNR=7.1						
MKAR				LR	LR	09 29 47.5	
	comp=Z,42nm,20.9s,baz=356,slow=36						
LSA	**Lhasa**	**49.32**	**272**	*e*P	**P**	**09 10 27.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LSA	**Lhasa**	**49.32**	**272**	*e*P	**P**	**09 10 27.2**	**+1.7**
	comp=Z,7.0nm,0.5s						
BVA0	**Borovoye Array**	**50.23**	**309**	*i* P	**P**	**09 10 30.7**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**50.23**	**309**	P	**P**	**09 10 30.7**	**-0.9**
BVAR						09 11 49.9	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**50.23**	**309**	P	**P**	**09 10 30.7**	**-0.9**
BVAR				PcP	**PcP**	**09 11 50.0**	**+0.6**
BVAR	**Borovoye Array**	**50.23**	**309**	P	P	**09 10 30.7**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=55,slow=7.7,SNR=24						
BVAR				PcP	**PcP**	**09 11 49.9**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=76,slow=2.9,SNR=5.6						
BRVK	**Borovoye**	**50.28**	**309**	*c i*P	**P**	**09 10 31.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,11nm,2.5s						
CHTO	**Chiang Mai**	**51.13**	**256**	*e*P	**P**	**09 10 40.2**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**51.13**	**256**	*e*P	**P**	**09 10 40.2**	**+1.4**
	comp=Z,3.6nm,0.8s						
RES	**Resolute Bay**	**51.33**	**18**	P	**P**	**09 10 40.3**	**+0.8**
RES	**Resolute Bay**	**51.33**	**18**	P	**P**	**09 10 40.3**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=324,slow=7.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**51.38**	**255**	P	**P**	**09 10 42.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**51.38**	**255**	P	**P**	**09 10 42.3**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=36,slow=7.4,SNR=14						
SHL	**Shillong**	**51.40**	**268**	*e*P	**P**	**09 10 41.0**	**+0.1**
YKA	**Yellowknife Ar**	**51.66**	**36**	P	**P**	**09 10 42.6**	**+0.5**
YKA	**Yellowknife Ar**	**51.66**	**36**	P	**P**	**09 10 42.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=299,slow=7.1,SNR=16						
TKM2	**Tokmak 2**	**52.21**	**296**	*e*P	**P**	**09 10 46.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**52.21**	**296**	*e*P	**P**	**09 10 46.8**	**0.0**
	comp=Z,1.9nm,0.6s						
AAK	**Ala-Archa**	**53.05**	**296**	*c i*P	**P**	**09 10 53.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,17nm,1.7s						
AAK	**Ala-Archa**	**53.05**	**296**	P	**P**	**09 10 53.3**	**+0.3**
AAK	**Ala-Archa**	**53.05**	**296**	P	**P**	**09 10 53.3**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=114,slow=6.3,SNR=20						
TAPN	**Taplejung**	**53.14**	**272**	*e*P	**P**	**09 10 54.7**	**+0.7**
	comp=Z,18nm,0.5s						
SVE	**Sverdlovsk**	**53.31**	**317**	⇓*i*P	**P**	**09 10 54.7**	**+0.3**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ODAN	**Odare**	**53.67**	**272**	*e*P	**P**	**09 10 58.7**	**+0.9**
	comp=Z,12nm,0.4s						
JIRN	**Jiri**	**53.99**	**274**	*e*P	**P**	**09 11 01.0**	**+0.7**
	comp=Z,28nm,0.6s						
GUN	**Gumba**	**54.05**	**274**	*e*P	**P**	**09 11 01.1**	**+0.4**
	comp=Z,25nm,0.4s						
RAMN	**Ramite**	**54.16**	**273**	*e*P	**P**	**09 11 01.8**	**+0.5**
	comp=Z,59nm,0.4s						
ARU	**Arti**	**54.50**	**317**	*d i*P	**P**	**09 11 02.3**	**-0.8**
ARU				*PP	**pP**	**09 11 29.9**	**+4.7**
ARU						09 12 04.7	
ARU						09 13 04.2	
ARU				S	**S**	**09 18 34.5**	**-0.4**
ARU				SS	**SS**	**09 22 18.0**	**+0.2**
ARU				pmax	pmax		
	comp=Z,17nm,1.7s						
KKN	**Kakani**	**54.54**	**274**	*e*P	**P**	**09 11 04.8**	**+0.7**
	comp=Z,26nm,0.7s						
PKI	**Pulchoki**	**54.59**	**274**	*e*P	**P**	**09 11 04.8**	**+0.3**
	comp=Z,8.7nm,0.5s						
DMN	**Daman**	**54.77**	**274**	*e*P	**P**	**09 11 06.4**	**+0.6**
	comp=Z,20nm,0.6s						
GKN	**Gorkha**	**54.85**	**275**	*e*P	**P**	**09 11 06.7**	**+0.5**
DANN	**Dangsing**	**55.23**	**276**	*e*P	**P**	**09 11 09.9**	**+0.8**
	comp=Z,25nm,0.5s						
KK31	**Karatay Array**	**55.24**	**298**	*i* P	**P**	**09 11 08.0**	**-0.7**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**55.24**	**298**	*e*P	**P**	**09 11 08.2**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**55.24**	**298**	*e*P	**P**	**09 11 08.2**	**-0.5**
	comp=Z,2.0nm,0.5s						
KOLN	**Koldanda**	**55.71**	**276**	*e*P	**P**	**09 11 13.0**	**+0.6**
	comp=Z,21nm,0.7s						
PRGR	**Permogore**	**57.01**	**327**	*e*P	**P**	**09 11 20.3**	**-0.6**
PRGR				pmax	pmax		
	comp=Z,15nm,0.8s						
KEV	**Kevo**	**57.20**	**340**	*e*P	**P**	**09 11 19.3**	**-2.9**
KEV	**Kevo**	**57.20**	**340**	*ep*	**P**	**09 11 19.3**	**-2.9**
ARCES	**ARCESS Array B**	**57.72**	**340**	P	**P**	**09 11 25.1**	**-0.7**
ARCES	**ARCESS Array B**	**57.72**	**340**	P	**P**	**09 11 25.1**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=42,slow=6.5,SNR=16						
ARCES				LR	LR	09 40 55.1	
	comp=Z,64nm,18.7s,baz=180,slow=41						
AB31	**Akbulak array**	**57.81**	**309**	*e*P	**P**	**09 11 25.5**	**-1.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ABKAR	**Akbulak array**	**57.81**	**309**	*e*P	**P**	**09 11 25.3**	**-1.4**
	comp=Z,4.7nm,0.4s						
AKTO	**Aktyubinsk**	**58.13**	**311**	LR	LR	09 38 48.7	
	comp=Z,50nm,18.6s,baz=239,slow=38						
SLMT	**Seeley Lake**	**60.64**	**51**	*e*P	**P**	**09 11 47.4**	**+0.9**
SUMG	**Summit**	**60.96**	**3**	*i* P	**P**	**09 11 48.6**	**0.0**
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SUMG	**Summit**	**60.96**	**3**	*i* P	**P**	**09 11 48.6**	**0.0**
	comp=Z,6.2nm,1.0s						
JOF	**Joensuu**	**61.08**	**333**	*e*P	**P**	**09 11 48.2**	**-0.8**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**61.08**	**333**	*ep*	**P**	**09 11 48.2**	**-0.8**
	comp=Z,1.2nm,0.4s						
KAF	**Kangasniemi**	**63.21**	**335**	*e*P

STHS	**Stebnicka Huta**	**75.19**	**329**	*e*P		**P**	**09 13 17.6**	**+0.1**
STHS				pmax		pmax			
	comp=Z,2.0nm,0.8s								
STHS	**Stebnicka Huta**	**75.19**	**329**	*e*P		**P**	**09 13 17.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**75.20**	**326**	*e*P		**P**	**09 13 17.1**	**-0.6**
BURAR	**Bucovina Array**	**75.21**	**326**	⇑*i*P		**P**	**09 13 18.1**	**+0.4**
KOLS	**Kolonicke sedl**	**75.23**	**328**	*e*P		**P**	**09 13 18.0**	**+0.3**
KOLS				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KOLS	**Kolonicke sedl**	**75.23**	**328**	*e*P		**P**	**09 13 18.0**	**+0.3**
CRVS	**Cervenica-Dubn**	**75.55**	**329**	*e*P		**P**	**09 13 19.0**	**-0.5**
CRVS				pmax		pmax			
	comp=Z,3.0nm,1.2s								
CRVS	**Cervenica-Dubn**	**75.55**	**329**	*e*P		**P**	**09 13 19.0**	**-0.5**
DPC	**Dobruska-Polom**	**76.06**	**332**	*e*P		**P**	**09 13 23.0**	**+0.6**
DPC	**Dobruska-Polom**	**76.06**	**332**	*e*P		**P**	**09 13 23.0**	**+0.6**
CLL	**Collm**	**76.24**	**335**	*e*P		**P**	**09 13 23.0**	**-0.4**
CLL	**Collm**	**76.24**	**335**	*e*P		**P**	**09 13 23.0**	**-0.4**
MLR	**Muntele Rosu**	**76.66**	**324**	⇑*i*P		**P**	**09 13 26.8**	**+0.7**
VOIR		**77.07**	**325**	⇑*i*P		**P**	**09 13 28.7**	**+0.4**
ARR	**Arges**	**77.29**	**325**	⇑*i*P		**P**	**09 13 31.7**	**+2.2**
BR131	**Keskin Array S**	**77.86**	**316**	*e*P		**P**	**09 13 33.0**	**+0.2**
	comp=Z,1.5nm,0.6s								
BRTR	**Keskin Array B**	**77.86**	**316**	P		**P**	**09 13 32.4**	**-0.5**
BRTR	**Keskin Array B**	**77.86**	**316**	P		**P**	**09 13 32.4**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=56,slow=2.0,SNR=11								
KHC	**Kasperske Hory**	**77.99**	**333**	*e*P		**P**	**09 13 33.5**	**+0.2**
KHC				*e*			09 13 37.5		
KHC	**Kasperske Hory**	**77.99**	**333**	*e*P		**P**	**09 13 33.5**	**+0.2**
KHC				*ex*		x	09 13 37.5		
GERES	**GERESS Array B**	**78.20**	**333**	P		**P**	**09 13 34.2**	**-0.3**
GERES	**GERESS Array B**	**78.20**	**333**	P		**P**	**09 13 34.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=34,slow=5.5,SNR=11								
TXAR	**Lajitas Array**	**78.43**	**60**	P		**P**	**09 13 37.0**	**+0.9**
TXAR	**Lajitas Array**	**78.43**	**60**	P		**P**	**09 13 37.0**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=296,slow=4.2,SNR=21								
STKA	**Stephens Creek**	**78.60**	**189**	P		**P**	**09 13 38.0**	**+1.5**
STKA	**Stephens Creek**	**78.60**	**189**	P		**P**	**09 13 38.0**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=0.0,slow=5.1,SNR=3.0								
VTS	**Vitosha**	**80.17**	**324**	⇑*i*P		**P**	**09 13 45.8**	**+0.4**
BFO	**Black Forest**	**80.25**	**336**	*i* P		**P**	**09 13 47.3**	**+1.7**
CDF	**Champ du Feu**	**80.47**	**337**	*e*P		**P**	**09 13 46.3**	**-0.5**
CDF	**Champ du Feu**	**80.47**	**337**	*e*P		**P**	**09 13 46.3**	**-0.5**
CDF	**Champ du Feu**	**80.47**	**337**	*e*P		**P**	**09 13 46.3**	**-0.5**
PAGF	**Fort de Pagny**	**80.75**	**338**	⇑*i*P		**P**	**09 13 48.8**	**+0.6**
	comp=Z,3.1nm,0.5s								
PAGF	**Fort de Pagny**	**80.75**	**338**	⇑*i*P		**P**	**09 13 48.8**	**+0.6**
	comp=Z,3.1nm,0.5s								
MEZF	**Maizieres J'vi**	**80.97**	**338**	*e*P		**P**	**09 13 49.4**	**0.0**
	comp=Z,4.4nm,0.5s								
MEZF	**Maizieres J'vi**	**80.97**	**338**	*e*P		**P**	**09 13 49.4**	**0.0**
	comp=Z,4.4nm,0.5s								
SFTF	**Sexfontaines**	**81.25**	**338**	⇑*i*P		**P**	**09 13 51.2**	**+0.3**
	comp=Z,9.7nm,0.5s								
SFTF	**Sexfontaines**	**81.25**	**338**	⇑*i*P		**P**	**09 13 51.2**	**+0.3**
	comp=Z,9.7nm,0.5s								
FLN	**La Foliniere**	**82.03**	**342**	*e*P		**P**	**09 13 55.2**	**+0.2**
FLN	**La Foliniere**	**82.03**	**342**	*e*P		**P**	**09 13 55.2**	**+0.2**
FLN	**La Foliniere**	**82.03**	**342**	*e*P		**P**	**09 13 55.2**	**+0.2**
LDF	**La Druitiere**	**82.11**	**342**	*e*P		**P**	**09 13 54.8**	**-0.6**
	comp=Z,17nm,0.8s								
LDF	**La Druitiere**	**82.11**	**342**	*e*P		**P**	**09 13 54.8**	**-0.6**
LDF				pmax		pmax			
	comp=Z,17nm,0.8s								
LDF	**La Druitiere**	**82.11**	**342**	*e*P		**P**	**09 13 54.8**	**-0.6**
	comp=Z,17nm,0.8s								
LOR	**Lormes**	**82.42**	**339**	⇑*i*P		**P**	**09 13 57.3**	**+0.3**
	comp=Z,12nm,0.8s								
LOR	**Lormes**	**82.42**	**339**	⇑*i*P		**P**	**09 13 57.3**	**+0.3**
	comp=Z,12nm,0.8s								
GRR	**Gorron**	**82.46**	**342**	*e*P		**P**	**09 13 57.1**	**-0.1**
	comp=Z,27nm,0.8s								
GRR	**Gorron**	**82.46**	**342**	*e*P		**P**	**09 13 57.1**	**-0.1**
GRR				pmax		pmax			
	comp=Z,27nm,0.8s								
GRR	**Gorron**	**82.46**	**342**	*e*P		**P**	**09 13 57.1**	**-0.1**
	comp=Z,27nm,0.8s								
SSF	**Saint Saulge**	**82.70**	**339**	*e*P		**P**	**09 13 58.8**	**+0.3**
SSF	**Saint Saulge**	**82.70**	**339**	*e*P		**P**	**09 13 58.8**	**+0.3**
SSF	**Saint Saulge**	**82.70**	**339**	*e*P		**P**	**09 13 58.8**	**+0.3**
SGMF	**Saint Gilles**	**82.94**	**343**	*e*P		**P**	**09 13 59.1**	**-0.6**
	comp=Z,24nm,0.8s								
SGMF	**Saint Gilles**	**82.94**	**343**	*e*P		**P**	**09 13 59.1**	**-0.6**
SGMF				pmax		pmax			
	comp=Z,24nm,0.8s								
SGMF	**Saint Gilles**	**82.94**	**343**	*e*P		**P**	**09 13 59.1**	**-0.6**
	comp=Z,24nm,0.8s								
AVF	**Avril sur Loir**	**82.99**	**339**	*e*P		**P**	**09 13 59.8**	**-0.2**
	comp=Z,12nm,0.8s								
AVF	**Avril sur Loir**	**82.99**	**339**	*e*P		**P**	**09 13 59.8**	**-0.2**
AVF				pmax		pmax			
	comp=Z,12nm,0.8s								
AVF	**Avril sur Loir**	**82.99**	**339**	*e*P		**P**	**09 13 59.8**	**-0.2**
	comp=Z,12nm,0.8s								
SMF	**Signal de Mont**	**83.00**	**338**	*e*P		**P**	**09 14 00.5**	**+0.4**
	comp=Z,19nm,0.8s								
SMF	**Signal de Mont**	**83.00**	**338**	*e*P		**P**	**09 14 00.5**	**+0.4**
SMF				pmax		pmax			
	comp=Z,19nm,0.8s								
SMF	**Signal de Mont**	**83.00**	**338**	*e*P		**P**	**09 14 00.5**	**+0.4**
	comp=Z,19nm,0.8s								
LPL	**La Plagne**	**83.27**	**336**	*e*P		**P**	**09 14 02.6**	**+0.9**
LPL	**La Plagne**	**83.27**	**336**	*e*P		**P**	**09 14 02.6**	**+0.9**
LPL	**La Plagne**	**83.27**	**336**	*e*P		**P**	**09 14 02.6**	**+0.9**
LPG	**La Plagne**	**83.28**	**336**	*e*P		**P**	**09 14 02.8**	**+0.9**
	comp=Z,8.6nm,0.5s								
LPG	**La Plagne**	**83.28**	**336**	*e*P		**P**	**09 14 02.8**	**+0.9**
LPG				pmax		pmax			
	comp=Z,9.0nm,0.5s								
LPG	**La Plagne**	**83.28**	**336**	*e*P		**P**	**09 14 02.8**	**+0.9**
	comp=Z,8.6nm,0.5s								
MBDF	**Montbardon**	**83.98**	**336**	*e*P		**P**	**09 14 05.5**	**+0.2**
MBDF	**Montbardon**	**83.98**	**336**	*e*P		**P**	**09 14 05.5**	**+0.2**
MBDF	**Montbardon**	**83.98**	**336**	*e*P		**P**	**09 14 05.5**	**+0.2**
MFF	**Saint Martin d**	**84.00**	**341**	*e*P		**P**	**09 14 05.4**	**+0.2**
	comp=Z,22nm,0.8s								
MFF	**Saint Martin d**	**84.00**	**341**	*e*P		**P**	**09 14 05.4**	**+0.2**
MFF				pmax		pmax			
	comp=Z,22nm,0.8s								
MFF	**Saint Martin d**	**84.00**	**341**	*e*P		**P**	**09 14 05.4**	**+0.2**
	comp=Z,22nm,0.8s								
ORIF	**Oris-en-Rattie**	**84.06**	**336**	⇑*i*P		**P**	**09 14 05.9**	**+0.3**
	comp=Z,25nm,0.8s								
ORIF	**Oris-en-Rattie**	**84.06**	**336**	⇑*i*P		**P**	**09 14 05.9**	**+0.3**
ORIF				pmax		pmax			
	comp=Z,25nm,0.8s								
ORIF	**Oris-en-Rattie**	**84.06**	**336**	⇑*i*P		**P**	**09 14 05.9**	**+0.3**
	comp=Z,25nm,0.8s								
RJF	**Les Rejaudoux**	**84.83**	**339**	*e*P		**P**	**09 14 09.7**	**+0.3**
	comp=Z,20nm,1.0s								
RJF	**Les Rejaudoux**	**84.83**	**339**	*e*P		**P**	**09 14 09.7**	**+0.3**
RJF				pmax		pmax			
	comp=Z,20nm,1.0s								
RJF	**Les Rejaudoux**	**84.83**	**339**	*e*P		**P**	**09 14 09.7**	**+0.3**
	comp=Z,20nm,1.0s								
CAF	**Calviac**	**85.05**	**339**	*e*P		**P**	**09 14 11.2**	**+0.6**
	comp=Z,10nm,0.6s								
CAF	**Calviac**	**85.05**	**339**	*e*P		**P**	**09 14 11.2**	**+0.6**
CAF				pmax		pmax			
	comp=Z,11nm,0.6s								
CAF	**Calviac**	**85.05**	**339**	*e*P		**P**	**09 14 11.2**	**+0.6**
	comp=Z,10nm,0.6s								
PGF	**Pioggiola**	**85.31**	**333**	*e*P		**P**	**09 14 11.8**	**-0.2**
PGF	**Pioggiola**	**85.31**	**333**	*e*P		**P**	**09 14 11.8**	**-0.2**
PGF	**Pioggiola**	**85.31**	**333**	*e*P		**P**	**09 14 11.8**	**-0.2**
LFF	**La Frestale**	**85.36**	**340**	*e*P		**P**	**09 14 12.0**	**0.0**
LFF	**La Frestale**	**85.36**	**340**	*e*P		**P**	**09 14 12.0**	**0.0**
LFF	**La Frestale**	**85.36**	**340**	*e*P		**P**	**09 14 12.0**	**0.0**
IDI	**Anoyia**	**85.54**	**319**	P		**P**	**09 14 11.6**	**-1.6**
IDI	**Anoyia**	**85.54**	**319**	P		**P**	**09 14 11.6**	**-1.6**
	comp=Z,11nm,0.6s,baz=30,slow=7.1,SNR=4.3								
ESDC	**Sonseca Array**	**91.44**	**341**	P		**P**	**09 14 40.7**	**-0.5**
ESDC	**Sonseca Array**	**91.44**	**341**	P		**P**	**09 14 40.7**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=349,slow=3.7,SNR=3.2								
TORD	**Torodi Ar. Bea**	**114.75**	**328**	PKP		PKPdf	09 20 15.8	+0.4	
TORD	**Torodi Ar. Bea**	**114.75**	**328**	PKP		PKPdf	09 20 15.7	+0.4	
	comp=Z,0.2nm,0.5s,baz=10,slow=2.4,SNR=2.8								
H03N2	**Juan Fernandez**	**139.72**	**90**	T		T	11 56 57.9		
	baz=305,slow=75,SNR=115								
H03N1	**Juan Fernandez**	**139.74**	**90**	T		T	11 56 59.0		
	baz=305,slow=75,SNR=92								
H03N3	**Juan Fernandez**	**139.74**	**90**	T		T	11 56 59.0		
	baz=305,slow=75,SNR=132								
PLCA	**Paso Flores**	**149.16**	**95**	PKPbc		**PKPbc**	**09 21 23.5**	**+0.9**	
PLCA	**Paso Flores**	**149.16**	**95**	PKPbc		**PKPbc**	**09 21 23.5**	**+0.9**	

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comp=Z,1.7nm,0.6s,baz=276,slow=6.2,SNR=6.9

*ISCJB **01** 09:18:17.6±0.5,38°.21N±0°.02×20°.66E±0°.04, h19km±4km, mb3.6/11, Error ellipse: s-maj=5.1km s-min=3.6km az=148.0*

*CSEM **01** 09:18:18.3±0.2, 38°.20N×20°.79E, h2km, ML3.7, Error ellipse: s-maj=4.4km s-min=2.5km az=49.0*

*THE **01** 09:18:19.0, 38°.21N×20°.82E, h0km±2km, ML3.3/5, Error ellipse: s-maj=2.0km s-min=0.7km az=172.0*

*ATH **01** 09:18:19.9, 38°.23N×20°.88E, h13km±1km, MD3.5/25*

*BEO **01** 09:18:21.3±0.7, 38°.35N×20°.65E, h0km, ML3.6/1*

*IDC **01** 09:18:21.9±2.3, 38°.32N×20°.72E, h46km±23km, mb3.5/11, mb1 3.5/17, mb1mx3.4/34, mbtmp3.4/17, ML3.4/6, Error ellipse: s-maj=22.1km s-min=15.9km az=174.0*

ISC 01 09:18:17.8±0.7,**38°.19N**±0°.02×**20°.76E**±0°.02,**h16**km±4km, **n164**,σ1§**23**/218,**mb3.7**/11,**Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.09**	**163**	P		**Pg**		**09 18 20.9**	**-0.1**
KFL				S		**Sg**		**09 18 23.2**	**+0.1**
KFL	**Anninata**	**0.09**	**163**	P		**Pg**		**09 18 20.9**	**-0.1**
KFL				S		**Sg**		**09 18 22.6**	**-0.5**
PDO	**Prodromos**	**0.53**	**39**	P		**Pg**		**09 18 28.4**	**+0.2**
PDO				S		**Sg**		**09 18 36.1**	**0.0**
PDO	**Prodromos**	**0.53**	**39**	*e*PB		**Pg**		**09 18 28.6**	**+0.3**
PDO				*e*SB		**Sg**		**09 18 35.6**	**+0.2**
PDO	**Prodromos**	**0.53**	**39**	P		**Pg**		**09 18 28.5**	**+0.2**
PDO				*e*Sb		**Sg**		**09 18 35.6**	**+0.2**
PDO				S		**Sb**		**09 18 36.1**	**0.0**
RLS	**Riolos of Patr**	**0.58**	**103**	P		**Pg**		**09 18 29.1**	**-0.1**
RLS				S		**Sg**		**09 18 36.8**	**0.0**
RLS	**Riolos of Patr**	**0.58**	**103**	P		**Pg**		**09 18 29.2**	**0.0**
RLS				S		**Sg**		**09 18 36.8**	**0.0**
LKD2	**Lefkada island**	**0.60**	**353**	P		**Pg**		**09 18 29.5**	**-0.2**
LKD2				S		**Sb**		**09 18 39.2**	**+0.9**
PVO	**Paravola**	**0.74**	**55**	P		**Pb**		**09 18 32.7**	**+0.4**
PVO				S		**Sb**		**09 18 42.2**	**0.0**
PVO	**Paravola**	**0.74**	**55**	P		**Pb**		**09 18 32.7**	**+0.4**
PVO				S		**Sb**		**09 18 42.2**	**0.0**
DRO	**Drossia**	**0.79**	**107**	P		**Pg**		**09 18 32.6**	**-0.6**
DRO				S		**Sb**		**09 18 44.1**	**+0.4**
DRO	**Drossia**	**0.79**	**107**	*e*PG		**Pg**		**09 18 33.2**	**0.0**
DRO				*e*SB		**Sb**		**09 18 44.5**	**+0.8**
DRO	**Drossia**	**0.79**	**107**	P		**Pg**		**09 18 33.2**	**0.0**
DRO				S		**Sb**		**09 18 44.1**	**+0.4**
UPR	**University Cam**	**0.82**	**83**	P		**Pb**		**09 18 34.1**	**+0.5**
UPR				S		**Sb**		**09 18 45.0**	**+0.6**
UPR	**University Cam**	**0.82**	**83**	P		**Pb**		**09 18 34.1**	**+0.5**
UPR				S		**Sb**		**09 18 45.0**	**+0.6**
EFP	**Efpalio**	**0.94**	**75**	P		**Pb**		**09 18 35.2**	**-0.4**
EFP				S		**Sg**		**09 18 48.7**	**+0.5**
EFP	**Efpalio**	**0.94**	**75**	*e*PG		**Pb**		**09 18 35.5**	**-0.1**
EFP				*e*SB		**Sb**		**09 18 47.9**	**+0.1**
EFP	**Efpalio**	**0.94**	**75**	P		**Pb**		**09 18 35.2**	**-0.4**
EFP	**Efpalio**	**0.94**	**75**	*e*Pg		**Pb**		**09 18 35.5**	**-0.1**
EFP				*e*Sb		**Sb**		**09 18 47.9**	**+0.1**
EFP				S		**Sg**		**09 18 48.7**	**+0.5**
SFD	**Strofades**	**0.96**	**167**	*e*PB		**Pn**		**09 18 38.7**	**+2.1**
SFD	**Strofades**	**0.96**	**167**	*e*Pb		**Pn**		**09 18 38.7**	**+2.1**
LAKA	**Lakka**	**0.96**	**87**	P		**Pb**		**09 18 36.1**	**-0.1**
LAKA	**Lakka**	**0.96**	**87**	*e*PG		**Pb**		**09 18 36.1**	**-0.1**
LAKA	**Lakka**	**0.96**	**87**	P		**Pb**		**09 18 36.1**	**-0.1**
AMT	**Artemida-Makis**	**1.00**	**131**	P		**Pg**		**09 18 37.6**	**+0.4**
AMT	**Artemida-Makis**	**1.00**	**131**	*e*PB		**Pn**		**09 18 38.3**	**+1.1**
AMT				*e*SB		**Sg**		**09 18 51.1**	**+0.8**
AMT	**Artemida-Makis**	**1.00**	**131**	P		**Pg**		**09 18 37.6**	**+0.4**
AMT	**Artemida-Makis**	**1.00**	**131**	*e*Pb		**Pn**		**09 18 38.3**	**+1.1**
AMT				*e*Sb		**Sg**		**09 18 51.1**	**+0.8**
EVR	**Evrytania**	**1.10**	**48**	P		**Pb**		**09 18 38.5**	**0.0**
EVR				S		**Sg**		**09 18 53.6**	**+0.2**
EVR	**Evrytania**	**1.10**	**48**	*e*PG		**Pb**		**09 18 38.2**	**-0.3**
EVR				*e*SB		**Sg**		**09 18 53.4**	**0.0**
EVR	**Evrytania**	**1.10**	**48**	*e*Pg		**Pb**		**09 18 38.2**	**-0.3**
EVR	**Evrytania**	**1.10**	**48**	P		**Pb**		**09 18 38.5**	**0.0**
EVR				S		**Sg**		**09 18 53.6**	**+0.2**
KALE	**Kalithea**	**1.11**	**79**	P		**Pb**		**09 18 38.3**	**-0.3**
KALE	**Kalithea**	**1.11**	**79**	*e*PG		**Pb**		**09 18 38.3**	**-0.3**
KALE	**Kalithea**	**1.11**	**79**	P		**Pb**		**09 18 38.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.11**	**97**	P		**Pb**		**09 18 38.7**	**+0.1**
KLV				S		**Sn**		**09 18 54.2**	**+0.4**
KLV	**Kalavryta, Ach**	**1.11**	**97**	*e*PG		**Pb**		**09 18 38.8**	**+0.1**
KLV				*e*SB		**Sb**		**09 18 53.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.11**	**97**	*e*Pg		**Pb**		**09 18 38.8**	**+0.1**
KLV				*e*Sb		**Sb**		**09 18 53.2**	**+0.3**
KLV				S		**Sn**		**09 18 54.2**	**+0.4**
GUR	**Goura**	**1.28**	**101**	*e*PB		**Pn**		**09 18 41.0**	**-0.1**
GUR	**Goura**	**1.28**	**101**	*e*Pb		**Pn**		**09 18 41.0**	**-0.1**
ITM	**Ithomi**	**1.37**	**137**	*e*PB		**Pg**		**09 18 45.6**	**+1.4**
ITM	**Ithomi**	**1.37**	**137**	*e*Pb		**Pg**		**09 18 45.6**	**+1.4**
IGT	**Igoumenitsa**	**1.38**	**346**	P		**Pg**		**09 18 44.2**	**-0.2**
IGT				S		**Sg**		**09 19 04.3**	**+1.9**
IGT	**Igoumenitsa**	**1.38**	**346**	*e*PG		**Pg**		**09 18 45.3**	**+0.9**
IGT				*e*SB		**Sg**		**09 19 04.2**	**+1.9**
IGT	**Igoumenitsa**	**1.38**	**346**	P		**Pg**		**09 18 44.2**	**-0.2**
IGT	**Igoumenitsa**	**1.38**	**346**	*e*Pg		**Pg**		**09 18 45.3**	**+0.9**
IGT				*e*Sb		**Sg**		**09 19 04.2**	**+1.9**
DSF	**Desfina**	**1.41**	**80**	*e*PN		**Pn**		**09 18 43.2**	**+0.3**
DSF	**Desfina**	**1.41**	**80**	*e*Pn		**Pn**		**09 18 43.2**	**+0.3**
JAN	**Janina**	**1.47**	**3**	P		**Pb**		**09 18 45.2**	**+0.5**
JAN	**Janina**	**1.47**	**3**	*e*PB		**Pg**		**09 18 46.6**	**+0.6**
JAN				*e*SB		**Sg**		**09 19 05.8**	**+0.7**
JAN	**Janina**	**1.47**	**3**	P		**Pb**		**09 18 45.2**	**+0.5**
JAN	**Janina**	**1.47**	**3**	*e*Pb		**Pg**		**09 18 46.6**	**+0.6**
JAN				*e*Sb		**Sg**		**09 19 05.8**	**+0.7**
AGG	**Agios Georgios**	**1.49**	**56**	P		**Pb**		**09 18 45.5**	**+0.4**
AGG	**Agios Georgios**	**1.49**	**56**	*e*PB		**Pb**		**09 18 45.9**	**+0.8**
AGG	**Agios Georgios**	**1.49**	**56**	P		**Pb**		**09 18 45.5**	**+0.4**
AGG	**Agios Georgios**	**1.49**	**56**	*e*Pb		**Pb**		**09 18 45.9**	**+0.8**
PYL	**PYLOS**	**1.51**	**148**	P		**Pb**		**09 18 45.5**	**0.0**
PYL	**PYLOS**	**1.51**	**148**	*e*PB		**Pg**		**09 18 48.2**	**+1.3**
PYL	**PYLOS**	**1.51**	**148**	P		**Pb**		**09 18 45.5**	**0.0**
PYL	**PYLOS**	**1.51**	**148**	*e*Pb		**Pg**		**09 18 48.2**	**+1.3**
VLX	**Vlachokerasia**	**1.52**	**122**	*e*PB		**Pg**		**09 18 47.9**	**+0.8**
VLX	**Vlachokerasia**	**1.52**	**122**	*e*Pb		**Pg**		**09 18 47.9**	**+0.8**
KEK	**Kerkira**	**1.69**	**334**	*e*PN		**Pg**		**09 18 50.8**	**+0.5**
KEK				*e*SN		**Sg**		**09 19 14.9**	**+2.6**
KEK	**Kerkira**	**1.69**	**334**	*e*Pn		**Pg**		**09 18 50.8**	**+0.5**
KEK				*e*Sn		**Sg**		**09 19 14.9**	**+2.6**
LTK	**Loutraki**	**1.75**	**95**	P		**Pb**		**09 18 49.6**	**0.0**
LTK	**Loutraki**	**1.75**	**95**	*e*PB		**Pb**		**09 18 50.4**	**+0.8**
LTK	**Loutraki**	**1.75**	**95**	P		**Pb**		**09 18 49.6**	**0.0**
LTK	**Loutraki**	**1.75**	**95**	*e*Pb		**Pb**		**09 18 50.4**	**+0.8**
SRN	**Sarande**	**1.79**	**341**	P		**Pb**		**09 18 50.1**	**0.0**
SRN				S		**Sg**		**09 19 15.5**	**+0.2**
SRN	**Sarande**	**1.79**	**341**	P		**Pb**		**09 18 50.1**	**0.0**
SRN				S		**Sg**		**09 19 15.5**	**+0.2**
LKR	**Lokris**	**1.82**	**75**	P		**Pb**		**09 18 50.5**	**-0.2**
LKR	**Lokris**	**1.82**	**75**	*e*PN		**Pb**		**09 18 51.1**	**+0.4**
LKR	**Lokris**	**1.82**	**75**	P		**Pb**		**09 18 50.5**	**-0.2**
LKR	**Lokris**	**1.82**	**75**	*e*Pn		**Pb**		**09 18 51.1**	**+0.4**
SMIA	**Simia**	**2.04**	**70**	*e*PN		**Pb**		**09 18 54.4**	**-0.1**
SMIA	**Simia**	**2.04**	**70**	*e*Pn		**Pb**		**09 18 54.4**	**-0.1**
DID	**Didima**	**2.08**	**108**	*e*PG		**Pb**		**09 18 56.3**	**+1.1**
DID	**Didima**	**2.08**	**108**	*e*Pg		**Pb**		**09 18 56.3**	**+1.1**
NAIG	**Nisos Aigina**	**2.20**	**100**	*e*PB		**Pb**		**09 18 56.5**	**-0.7**
NAIG	**Nisos Aigina**	**2.20**	**100**	*e*Pb		**Pb**		**09 18 56.5**	**-0.7**
NEO	**Neokhori**	**2.23**	**59**	*e*PN		**Pb**		**09 18 56.7**	**-1.0**
NEO	**Neokhori**	**2.23**	**59**	*e*Pn		**Pb**		**09 18 56.7**	**-1.0**
NEST	**Nestorio**	**2.23**	**6**	P		**Pb**		**09 18 57.2**	**-0.6**
NEST	**Nestorio**	**2.23**	**6**	P		**Pb**		**09 18 57.2**	**-0.6**
XOR	**Xorichti**	**2.24**	**58**	P		**Pb**		**09 18 56.7**	**-1.1**
XOR	**Xorichti**	**2.24**	**58**	P		**Pb**		**09 18 56.7**	**-1.1**
KZN	**Kozani**	**2.25**	**20**	P		**Pn**		**09 18 56.2**	**+1.7**
KZN	**Kozani**	**2.25**	**20**	*e*PN		**Pb**		**09 18 58.6**	**+0.4**
KZN				*e*SN		**Sb**		**09 19 26.9**	**+1.0**
KZN	**Kozani**	**2.25**	**20**	P		**Pn**		**09 18 56.2**	**+1.7**
KZN	**Kozani**	**2.25**	**20**	*e*Pn		**Pn**		**09 18 58.6**	**+0.4**
KZN				*e*Sn		**Sb**		**09 19 26.9**	**+1.0**
MRKA	**Markates**	**2.28**	**76**	P		**Pb**		**09 18 57.3**	**-1.3**
MRKA	**Markates**	**2.28**	**76**	*e*PN		**Pb**		**09 18 58.0**	**-0.6**
MRKA	**Markates**	**2.28**	**76**	P		**Pb**		**09 18 57.3**	**-1.3**
MRKA	**Markates**	**2.28**	**76**	*e*Pn		**Pb**		**09 18 58.0**	**-0.6**
LIT	**Litokhoron**	**2.34**	**35**	*e*PG		**Pb**		**09 19 00.4**	**+0.9**
LIT	**Litokhoron**	**2.34**	**35**	*e*Pg		**Pb**		**09 19 00.4**	**+0.9**
ATH	**Athens Observa**	**2.35**	**94**	*e*PN		**Pb**		**09 18 59.2**	**-0.5**
ATH	**Athens Observa**	**2.35**	**94**	*e*Pn		**Pb**		**09 18 59.2**	**-0.5**
PTL	**Penteli**	**2.46**	**92**	P		**Pn**		**09 18 59.5**	**+2.3**
PTL	**Penteli**	**2.46**	**92**	*e*PB		**Pb**		**09 18 59.8**	**-1.8**
PTL	**Penteli**	**2.46**	**92**	P		**Pn**		**09 18 59.5**	**+2.3**
PTL	**Penteli**	**2.46**	**92**	*e*Pb		**Pb**		**09 18 59.8**	**-1.8**
AOS	**Alonnisos**	**2.63**	**67**	P		**Pn**		**09 19 02.2**	**+2.6**
AOS	**Alonnisos**	**2.63**	**67**	*e*PB		**Pn**		**09 19 02.0**	**+2.4**
AOS	**Alonnisos**	**2.63**	**67**	P		**Pn**		**09 19 02.2**	**+2.6**
FNA	**Florina**	**2.63**	**10**	P		**Pn**		**09 19 02.0**	**+2.3**
FNA	**Florina**	**2.63**	**10**	P		**Pn**		**09 19 02.0**	**+2.3**
BIA	**Bitola**	**2.86**	**9**	*i* Pn		**Pb**		**09 19 07.9**	**-0.6**
BIA	**Bitola**	**2.86**	**9**	*i* Pn		**Pb**		**09 19 07.8**	**-0.7**
PLG	**Polygyros**	**3.02**	**43**	P		**Pn**		**09 19 06.4**	**+1.4**
PLG	**Polygyros**	**3.02**	**43**	P		**Pn**		**09 19 06.4**	**+1.4**
VAY	**Valandovo**	**3.42**	**24**	*e*Pn		**Pn**		**09 19 12.5**	**+2.0**
VAY				*e*Sn		**Sn**		**09 19 52.0**	**+1.2**
VAY	**Valandovo**	**3.42**	**24**	*e*Pn		**Pn**		**09 19 12.5**	**+2.0**
VAY				*e*Sn		**Sn**		**09 19 52.0**	**+1.2**
SKO	**Skopje**	**3.81**	**8**	*e*Pn		**Pn**		**09 19 17.8**	**+1.9**
SKO	**Skopje**	**3.81**	**8**	*e*Pn		**Pn**		**09 19 17.8**	**+1.9**
PDG	**Podgorica

JNU	**Nakatsue**	**12.13**	**235**	LR	LR	09 29 30.6	
	comp=Z,70nm,18.1s,baz=248,slow=37						
PETK	**Petropavlovsk-**	**16.01**	**35**	LR	LR	09 31 52.1	
	comp=Z,35nm,18.7s,baz=341,slow=37						
SEY	**Seymchan**	**22.95**	**11**	P	**P**	**09 26 55.5**	**-1.7**
	1.4nm,0.6s,baz=30,slow=23,SNR=3.8						
SONM	**Songino Array**	**26.73**	**298**	P	**P**	**09 27 31.9**	**-0.5**
	0.7nm,0.4s,baz=90,slow=8.7,SNR=13						
SONM				LR	LR	09 39 06.7	
	comp=Z,56nm,18.2s,baz=8.9,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.45**	**128**	T	T	09 58 57.7	
	baz=321,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**29.45**	**128**	T	T	09 59 02.2	
	baz=321,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**29.46**	**128**	T	T	09 59 05.6	
	baz=321,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**30.28**	**130**	T	T	10 00 43.0	
	baz=326,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**30.28**	**130**	T	T	10 00 41.9	
	baz=326,slow=76,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**30.30**	**130**	T	T	10 00 44.3	
	baz=326,slow=76,SNR=7.4						
ZALV	**Zalesovo Beam**	**40.23**	**309**	P	**P**	**09 29 29.3**	**+0.2**
	4.7nm,0.6s,baz=93,slow=8.3,SNR=25						
MKAR	**Makanchi Array**	**43.07**	**299**	P	**P**	**09 29 52.5**	**-0.1**
	1.5nm,0.5s,baz=83,slow=9.7,SNR=34						
CMAR	**Chiang Mai Arr**	**43.48**	**252**	P	**P**	**09 29 57.1**	**+0.9**
	0.4nm,0.6s,baz=45,slow=8.2,SNR=3.8						
ILAR	**Eielson Array**	**45.84**	**34**	P	**P**	**09 30 15.4**	**+1.0**
	0.3nm,0.8s,baz=266,slow=6.6,SNR=4.1						
GUN	**Gumba**	**47.86**	**273**	*e*P	**P**	**09 30 30.7**	**-0.4**
	33nm,0.6s						
KKN	**Kakani**	**48.38**	**273**	*e*P	**P**	**09 30 35.3**	**+0.4**
PKI	**Pulchoki**	**48.39**	**273**	*e*P	**P**	**09 30 37.3**	**+2.1**
DMN	**Daman**	**48.60**	**273**	*e*P	**P**	**09 30 38.4**	**+1.7**
GKN	**Gorkha**	**48.75**	**274**	*e*P	**P**	**09 30 38.5**	**+0.8**
	12nm,0.5s						
DANN	**Dangsing**	**49.24**	**275**	*e*P	**P**	**09 30 41.8**	**+0.2**
	62nm,0.7s						
AAK	**Ala-Archa**	**49.67**	**296**	LR	LR	09 52 25.2	
	comp=Z,25nm,18.1s,baz=223,slow=37						
INK	**Inuvik**	**50.63**	**29**	P	**P**	**09 30 52.7**	**+1.5**
	0.7nm,0.5s,baz=243,slow=4.5,SNR=6.5						
AKTO	**Aktyubinsk**	**56.96**	**311**	P	**P**	**09 31 37.6**	**-0.2**
	0.5nm,0.5s,baz=82,slow=7.1,SNR=3.1						
RES	**Resolute Bay**	**58.75**	**15**	P	**P**	**09 31 48.6**	**-1.3**
	2.6nm,0.5s,baz=331,slow=11,SNR=13						
YKA	**Yellowknife Ar**	**60.10**	**31**	P	**P**	**09 31 59.7**	**+0.2**
	0.1nm,0.4s,baz=304,slow=6.7,SNR=3.5						
KEV	**Kevo**	**60.32**	**339**	*e*p	P	09 32 07.3	+6.5
ARCES	**ARCESS Array B**	**60.87**	**339**	P	**P**	**09 32 04.8**	**+0.2**
	2.5nm,0.8s,baz=32,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**60.89**	**189**	P	**P**	**09 32 04.7**	**-0.6**
	0.6nm,0.6s,baz=8.0,slow=7.0,SNR=7.4						
JOF	**Joensuu**	**63.15**	**331**	*e*p	**P**	**09 32 20.1**	**+0.2**
	1.3nm,0.4s						
ASAR	**Alice Springs**	**64.62**	**189**	P	**P**	**09 32 30.0**	**0.0**
	0.6nm,0.6s,baz=14,slow=7.1,SNR=9.0						
KAF	**Kangasniemi**	**65.45**	**332**	*e*p	**P**	**09 32 34.6**	**-0.4**
FINES	**FINESS Array B**	**65.98**	**332**	P	**P**	**09 32 38.2**	**-0.3**
	2.8nm,0.5s,baz=45,slow=8.5,SNR=33						
KBZ	**Khabaz**	**69.24**	**310**	P	**P**	**09 32 59.0**	**-0.3**
	1.5nm,0.8s,baz=54,slow=8.7,SNR=2.9						
NB2	**NORSAR Subarra**	**71.13**	**337**	P	**P**	**09 33 10.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.13**	**337**	P	**P**	**09 33 10.3**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=38,slow=6.2,SNR=5.2						
AKASG	**Malin Array Be**	**71.96**	**322**	P	**P**	**09 33 15.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=44,slow=6.0,SNR=6.9						
ULM	**Lac du Bonnet**	**75.86**	**34**	P	**P**	**09 33 38.1**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=342,slow=6.4,SNR=2.2						
BRTR	**Keskin Array B**	**77.12**	**312**	P	**P**	**09 33 45.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=65,slow=4.0,SNR=2.7						
EKA	**Eskdalemuir Ar**	**79.94**	**341**	P	**P**	**09 34 00.3**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=45,slow=8.8,SNR=3.6						
GERES	**GERESS Array B**	**80.06**	**329**	P	**P**	**09 34 01.7**	**-0.4**
	comp=Z,1.1nm,1.1s,baz=19,slow=5.7,SNR=4.2						

MEX 01 09:26:56.8±0.8, 16°01N×98°20W, h3km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**11**	*e*P	Pg	09 27 03.4	-0.9
PNIG				*i* S	Sg	09 27 10.0	+0.6
TLIG	**Tlapa**	**1.58**	**347**	*i* P	Pn	09 27 22.0	-3.9
TLIG				*i* S	Sn	09 27 41.7	-5.3
VHO	**Vista Hermosa**	**1.76**	**53**	*e*P	Pn	09 27 25.1	-3.4
VHO				*i* S	Sn	09 27 46.4	-5.2
ACP2	**Acapulco**	**1.83**	**298**	*i* P	Pn	09 27 23.7	-5.4
HUIG	**Huatulco**	**2.03**	**97**	*e*P	Pn	09 27 28.7	-3.2
HUIG				*i* S	Sn	09 27 53.1	-4.8
PLIG	**Platanillo**	**2.67**	**333**	*e*P	Pn	09 27 38.6	-2.3
PLIG				*i* S	Sn	09 28 09.6	-4.3
YAIG	**Yautepec**	**2.95**	**344**	*i* P	Pn	09 27 42.4	-2.4
YAIG				*i* S	Sn	09 28 16.3	-4.6
ARIG	**Puente Sto Nin**	**3.05**	**318**	*i* P	Pn	09 27 41.6	-4.3
ARIG				*i* S	Sn	09 28 19.7	-3.3
UNM	**Universidad Na**	**3.43**	**344**	*e*P	Pn	09 27 43.5	-8.0
UNM				*e*S	Sn	09 28 34.0	+1.1
ZIIG	**Zihuatanejo**	**3.50**	**297**	*e*P	Pn	09 27 53.5	+1.3
ZIIG				*e*S	Sn	09 28 31.4	-2.7
LVIG	**Laguna Verde**	**4.06**	**24**	*e*P	Pn	09 28 01.2	+1.3
LVIG				*e*S	Sb	09 28 59.3	+0.7
DEIG	**Demacu**	**4.34**	**350**	*e*P	Pb	09 28 09.8	-4.3
DEIG				*e*S	Sb	09 29 04.6	-2.5
MOIG	**Morelia**	**4.62**	**322**	*e*P	Pn	09 28 11.6	+3.7
MOIG				*e*S	Sn	09 28 55.9	-6.5
PCIG		**4.81**	**93**	*i* P	Pn	09 28 07.6	-2.5
PCIG				*i* S	Sn	09 29 02.6	-3.7

MEX 01 09:31:21.5±0.4, 15°98N×98°42W, h6km±4km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.50**	**34**	*e*P	Pg	09 31 30.6	-0.6
PNIG				*i* S	Sg	09 31 38.0	+0.3
TLIG	**Tlapa**	**1.58**	**355**	*e*P	Pn	09 31 47.1	-3.2
TLIG				*i* S	Sn	09 32 05.9	-5.4
VHO	**Vista Hermosa**	**1.95**	**56**	*e*P	Pn	09 31 52.1	-3.3
VHO				*i* S	Sn	09 32 15.2	-5.2
HUIG	**Huatulco**	**2.23**	**95**	*i* P	Pn	09 31 55.9	-3.1
HUIG				*i* S	Sn	09 32 21.6	-5.3
PLIG	**Platanillo**	**2.62**	**337**	*i* P	Pn	09 32 01.6	-2.9
PLIG				*i* S	Sn	09 32 32.0	-4.7
ARIG	**Puente Sto Nin**	**2.94**	**321**	*i* P	Pn	09 32 06.5	-2.4
ARIG				*i* S	Sn	09 32 39.9	-4.7
LVIG	**Laguna Verde**	**4.18**	**27**	*e*P	Pn	09 32 27.8	+1.9
LVIG				*e*S	Sn	09 33 09.9	-5.3

MEX 01 09:36:09.2±0.9, 16°05N×98°41W, h14km±142km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**38**	*i* P	Pg	09 36 16.6	-1.4
PNIG				*i* S	Sg	09 36 23.1	-0.9
VHO	**Vista Hermosa**	**1.90**	**57**	*e*P	Pn	09 36 38.9	-2.6
VHO				*e*S	Sn	09 37 03.6	-1.9
HUIG	**Huatulco**	**2.23**	**97**	*e*P	Pn	09 36 42.3	-3.4
HUIG				*i* S	Sn	09 37 06.3	-6.8

*BJI **01** 09:37:08.8, 42°40N×30°50W, h10km, mB5.3/8, mb5.0/24, Ms5.2/9, Ms7 5.0/6*
*ISCJB **01** 09:37:09.1±0.1, 42°29N±0°02×30°53W±0°02, h10km, mb4.7/233, MS3.8/24, Error ellipse: s-maj=3.6km s-min=1.8km az=178.8*
*IDC **01** 09:37:09.7±0.4, 42°45N×30°57W, h0km, mb4.4/44, mb1 4.5/44, mb1mx4.5/46, mbtmp4.4/44, MS3.6/20, Ms1 3.6/20, ms1mx3.5/39, Error ellipse: s-maj=10.8km s-min=8.0km az=12.0*
*SZGRF **01** 09:37:10.9, 41°35N×30°48W, h33km, mb4.3, MS3.6, Azores Islands region*
*NEIC **01** 09:37:11.3±0.1, 42°36N×30°46W, h10km, mb5.0/136, Error ellipse: s-maj=3.8km s-min=1.9km az=180.0*
*CSEM **01** 09:37:11.2±0.1, 42°36N×30°47W, h10km, mb4.8/99, Ms3.3*
*PDA **01** 09:37:11.3±0.6, 42°50N×30°73W, h10km, MD4.0, ML4.3, Error ellipse: s-maj=6.3km s-min=3.8km az=114.0*

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*MOS **01** 09:37:13.2±0.8, 42°44N×30°49W, h33km, mb5.1/67, Error ellipse: s-maj=6.9km s-min=4.4km az=142.1*

ISC 01 09:37:12.1±0.4, 42°34N±0°04×30°55W±0°04, h16km±2km, h15km:pP-P, n1169, o0:90/1213, mb4.8/235, MS3.6/24, 226C-213D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07N1	**FLORES T-PHASE**	**2.68**	**189**	*e*P	**Pn**	**09 37 52.2**	**-2.5**
H07N1				*e*S	**Sn**	**09 38 22.6**	**-4.3**
H07S1	**FLORES T-PHASE**	**3.00**	**190**	*e*P	**Pn**	**09 37 56.6**	**-2.5**
H07S1				*e*S	**Sn**	**09 38 30.0**	**-4.8**
PCED	**Cedros**	**3.97**	**159**	*e*P	**Pn**	**09 38 10.8**	**-1.6**
PCED	**Cedros**	**3.97**	**159**	*e*P	**Pn**	**09 38 10.8**	**-1.6**
CALA	**Caldeira**	**4.01**	**159**	*e*P	**Pn**	**09 38 11.3**	**-1.7**
CALA	**Caldeira**	**4.01**	**159**	*e*P	**Pn**	**09 38 11.3**	**-1.7**
CALA	**Caldeira**	**4.01**	**159**	*e*P	**Pn**	**09 38 11.3**	**-1.7**
ROSA	**Rosais**	**4.02**	**153**	*e*P	**Pn**	**09 38 11.3**	**-1.8**
ROSA	**Rosais**	**4.02**	**153**	*e*P	**Pn**	**09 38 11.3**	**-1.8**
PMAN	**Manadas**	**4.15**	**152**	*e*P	**Pn**	**09 38 13.1**	**-1.8**
PMAN				*e*S	**Sn**	**09 39 00.0**	**-3.1**
PMAN				A	A	09 39 01.9	
	75nm,0.2s						
PMAN	**Manadas**	**4.15**	**152**	*e*P	**Pn**	**09 38 13.1**	**-1.8**
PMAN				*e*S	**Sn**	**09 39 00.0**	**-3.1**
PICO	**Pico**	**4.17**	**156**	*e*P	**Pn**	**09 38 13.6**	**-1.5**
PICO	**Pico**	**4.17**	**156**	*e*P	**Pn**	**09 38 13.6**	**-1.5**
TOPO	**Topo**	**4.25**	**151**	*e*P	**Pn**	**09 38 14.4**	**-1.9**
TOPO	**Topo**	**4.25**	**151**	*e*P	Pn	09 38 13.1	-3.2
TOPO	**Topo**	**4.25**	**151**	*e*P	**Pn**	**09 38 14.4**	**-1.9**
ROSF	**Rostrenen**	**20.03**	**63**	*e*P	**P**	**09 41 44.6**	**+0.4**
ROSF	**Rostrenen**	**20.03**	**63**	*e*P	**P**	**09 41 44.6**	**+0.4**
ROSF	**Rostrenen**	**20.03**	**63**	*e*P	**P**	**09 41 44.6**	**+0.4**
ROSF	**Rostrenen**	**20.03**	**63**	*e*P	**P**	**09 41 44.6**	**+0.4**
QUIF	**Quistinic**	**20.05**	**64**	*e*P	**P**	**09 41 45.1**	**+0.7**
QUIF	**Quistinic**	**20.05**	**64**	*e*P	**P**	**09 41 45.1**	**+0.7**
QUIF	**Quistinic**	**20.05**	**64**	*e*P	**P**	**09 41 45.1**	**+0.7**
QUIF	**Quistinic**	**20.05**	**64**	*e*P	**P**	**09 41 45.1**	**+0.7**
ESDC	**Sonseca Array**	**20.21**	**89**	P	**P**	**09 41 46.0**	**-0.4**
ESDC	**Sonseca Array**	**20.21**	**89**	P	**P**	**09 41 46.0**	**-0.4**
	3.1nm,0.7s,baz=292,slow=9.9,SNR=15						
ESDC	**Sonseca Array**	**20.21**	**89**	P	**P**	**09 41 46.0**	**-0.4**
ESLA	**Sonseca Array**	**20.21**	**89**	*e*P	**P**	**09 41 45.1**	**-1.3**
ESLA	**Sonseca Array**	**20.21**	**89**	*e*P	**P**	**09 41 45.1**	**-1.3**
SGMF	**Saint Gilles**	**20.49**	**64**	*e*P	**P**	**09 41 48.9**	**-0.4**
SGMF	**Saint Gilles**	**20.49**	**64**	*e*P	**P**	**09 41 48.9**	**-0.4**
SGMF	**Saint Gilles**	**20.49**	**64**	*e*P	**P**	**09 41 48.9**	**-0.4**
SGMF	**Saint Gilles**	**20.49**	**64**	*e*P	**P**	**09 41 48.9**	**-0.4**
GRR	**Gorron**	**21.63**	**64**	*e*P	**P**	**09 42 01.4**	**-0.1**
GRR	**Gorron**	**21.63**	**64**	*e*P	**P**	**09 42 01.4**	**-0.1**
GRR	**Gorron**	**21.63**	**64**	*e*P	**P**	**09 42 01.4**	**-0.1**
GRR	**Gorron**	**21.63**	**64**	*e*P	**P**	**09 42 01.4**	**-0.1**
FLN	**La Foliniere**	**21.92**	**63**	*e*P	**P**	**09 42 03.7**	**-0.9**
FLN				*e*R			
	116nm,17.2s						
FLN	**La Foliniere**	**21.92**	**63**	*e*P	**P**	**09 42 03.7**	**-0.9**
FLN	**La Foliniere**	**21.92**	**63**	*e*P	**P**	**09 42 03.7**	**-0.9**
FLN	**La Foliniere**	**21.92**	**63**	*e*P	**P**	**09 42 03.7**	**-0.9**
MFF	**Saint Martin d**	**22.04**	**68**	*e*P	**P**	**09 42 07.1**	**+1.2**
	164nm,1.5s						
MFF	**Saint Martin d**	**22.04**	**68**	*e*P	**P**	**09 42 07.1**	**+1.2**
MFF				pmax	pmax		
	comp=Z,164nm,1.5s						
MFF	**Saint Martin d**	**22.04**	**68**	*e*P	**P**	**09 42 07.1**	**+1.2**
	comp=Z,164nm,1.5s						
MFF	**Saint Martin d**	**22.04**	**68**	*e*P	**P**	**09 42 07.1**	**+1.2**
	comp=Z,82nm,1.5s						
EKA	**Eskdalemuir Ar**	**22.05**	**44**	P	**P**	**09 42 04.0**	**-2.0**
EKA	**Eskdalemuir Ar**	**22.05**	**44**	P	**P**	**09 42 03.9**	**-2.0**
	comp=Z,4.0nm,0.8s,baz=248,slow=6.3,SNR=9.1						
EKA	**Eskdalemuir Ar**	**22.05**	**44**	P	**P**	**09 42 04.0**	**-2.0**
LDF	**La Druitiere**	**22.14**	**63**	*e*P	**P**	**09 42 07.9**	**+0.9**
LDF	**La Druitiere**	**22.14**	**63**	*e*P	**P**	**09 42 07.9**	**+0.9**
LDF	**La Druitiere**	**22.14**	**63**	*e*P	**P**	**09 42 07.9**	**+0.9**
LDF	**La Druitiere**	**22.14**	**63**	*e*P	**P**	**09 42 07.9**	**+0.9**
MDT	**Midelt**	**22.57**	**106**	P	**P**	**09 42 11.0**	**-0.9**
MDT				S	**S**	**09 46 23.3**	**+4.4**
MDT	**Midelt**	**22.57**	**106**	P	**P**	**09 42 11.0**	**-0.9**
	comp=Z,7.8nm,1.0s,baz=312,slow=11,SNR=5.3						
MDT				S	**S**	**09 46 23.3**	**+4.4**
	comp=Z,2.8nm,1.0s,baz=269,slow=16,SNR=1.9						
MDT				LR	LR	09 48 37.4	
	comp=Z,108nm,21.7s,baz=332,slow=30						
MDT	**Midelt**	**22.57**	**106**	P	**P**	**09 42 11.0**	**-0.9**
MDT				S	**S**	**09 46 23.3**	**+4.4**
TCF	**Toulx Ste Croi**	**23.67**	**69**	*e*P	**P**	**09 42 22.2**	**-0.7**
	comp=Z,98nm,1.3s						
TCF	**Toulx Ste Croi**	**23.67**	**69**	*e*P	**P**	**09 42 22.2**	**-0.7**
TCF				pmax	pmax		
	comp=Z,98nm,1.3s						
TCF	**Toulx Ste Croi**	**23.67**	**69**	*e*P	**P**	**09 42 22.2**	**-0.7**
	comp=Z,98nm,1.3s						
TCF	**Toulx Ste Croi**	**23.67**	**69**	*e*P	**P**	**09 42 22.2**	**-0.7**
	comp=Z,49nm,1.3s						
HYF	**Humbligny**	**23.94**	**67**	*e*P	**P**	**09 42 24.8**	**-0.7**
HYF	**Humbligny**	**23.94**	**67**	*e*P	**P**	**09 42 24.8**	**-0.7**
HYF	**Humbligny**	**23.94**	**67**	*e*P	**P**	**09 42 24.8**	**-0.7**
BGF	**Bois d'Agland**	**24.10**	**68**	*e*P	**P**	**09 42 26.0**	**-0.9**
	comp=Z,86nm,0.8s						
BGF	**Bois d'Agland**	**24.10**	**68**	*e*P	**P**	**09 42 26.0**	**-0.9**
BGF				pmax	pmax		
	comp=Z,87nm,0.8s						
BGF	**Bois d'Agland**	**24.10**	**68**	*e*P	**P**	**09 42 26.0**	**-0.9**
	comp=Z,86nm,0.8s						
BGF	**Bois d'Agland**	**24.10**	**68**	*e*P	**P**	**09 42 26.0**	**-0.9**
	comp=Z,43nm,0.8s						
AVF	**Avril sur Loir**	**24.44**	**68**	*e*P	**P**	**09 42 28.9**	**-1.1**
	comp=Z,16nm,0.7s						
AVF	**Avril sur Loir**	**24.44**	**68**	*e*P	**P**	**09 42 28.9**	**-1.1**
AVF				pmax	pmax		
	comp=Z,16nm,0.7s						
AVF	**Avril sur Loir**	**24.44**	**68**	*e*P	**P**	**09 42 28.9**	**-1.1**
	comp=Z,16nm,0.7s						
AVF	**Avril sur Loir**	**24.44**	**68**	*e*P	**P**	**09 42 28.9**	**-1.1**
	comp=Z,7.9nm,0.7s						
SSF	**Saint Saulge**	**24.54**	**67**	*e*P	**P**	**09 42 29.9**	**-1.0**
	comp=Z,49nm,1.1s						
SSF	**Saint Saulge**	**24.54**	**67**	*e*P	**P**	**09 42 29.9**	**-1.0**
SSF				pmax	pmax		
	comp=Z,49nm,1.1s						
SSF	**Saint Saulge**	**24.54**	**67**	*e*P	**P**	**09 42 29.9**	**-1.0**
	comp=Z,49nm,1.1s						
SSF	**Saint Saulge**	**24.54**	**67**	*e*P	**P**	**09 42 29.9**	**-1.0**
	comp=Z,24nm,1.1s						
LOR	**Lormes**	**24.77**	**67**	*e*P	**P**	**09 42 32.0**	**-1.1**
	comp=Z,34nm,0.8s						
LOR				*e*R			
	comp=Z,100nm,18.2s						
LOR	**Lormes**	**24.77**	**67**	*e*P	**P**	**09 42 32.0**	**-1.1**
	comp=Z,34nm,0.8s						
LOR	**Lormes**	**24.77**	**67**	*e*P	**P**	**09 42 32.0**	**-1.1**
	comp=Z,17nm,0.8s						
SMF	**Signal de Mont**	**24.78**	**68**	*e*P	**P**	**09 42 32.2**	**-0.9**
	comp=Z,38nm,1.0s						
SMF	**Signal de Mont**	**24.78**	**68**	*e*P	**P**	**09 42 32.2**	**-0.9**
SMF				pmax	pmax		
	comp=Z,38nm,1.0s						
SMF	**Signal de Mont**	**24.78**	**68**	*e*P	**P**	**09 42 32.2**	**-0.9**
	comp=Z,38nm,1.0s						
SMF	**Signal de Mont**	**24.78**	**68**	*e*P	**P**	**09 42 32.2**	**-0.9**
	comp=Z,19nm,1.0s						
BAIF	**Baives**	**25.08**	**60**	*e*P	**P**	**09 42 34.9**	**-0.9**
	comp=Z,40nm,1.1s						
BAIF	**Baives**	**25.08**	**60**	*e*P	**P**	**09 42 34.9**	**-0.9**
BAIF				pmax	pmax		
	comp=Z,40nm,1.1s						
BAIF	**Baives**	**25.08**	**60**	*e*P	**P**	**09 42 34.9**	**-0.9**
	comp=Z,40nm,1.1s						
BAIF	**Baives**	**25.08**	**60**	*e*P	**P**	**09 42 34.9**	**-0.9**
	comp=Z,20nm,1.1s						
SNF	**Seneffe**	**25.17**	**59**	P	**P**	**09 42 36.0**	**-0.6**
DOU	**Dourbes**	**25.34**	**60**	P	**P**	**09 42 37.5**	**-0.6**
GIVF	**Givet**	**25.48**	**60**	*e*P	**P**	**09 42 38.3**	**-1.1**
	comp=Z,79nm,1.3s						
GIVF	**Givet**	**25.48**	**60**	*e*P	**P**	**09 42 38.3**	**-1.1**
GIVF				pmax	pmax		
	comp=Z,79nm,1.3s						
GIVF	**Givet**	**25.48**	**60**	*e*P	**P**	**09 42 38.3**	**-1.1**
	comp=Z,79nm,1.3s						
GIVF	**Givet**	**25.48**	**60**	*e*P	**P**	**09 42 38.3**	**-1.1**
	comp=Z,40nm,1.3s						
VIVF	**Saint-Julien-l**	**25.51**	**72**	*e*P	**P**	**09 42 39.5**	**-0.3**
	comp=Z,26nm,1.1s						
VIVF	**Saint-Julien-l**	**25.51**	**72**	*e*P	**P**	**09 42 39.5**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,26nm,1.0s						
VIVF	**Saint-Julien-l**	**25.51**	**72**	*e*P	**P**	**09 42 39.5**	**-0.3**
	comp=Z,26nm,1.0s						
VIVF	**Saint-Julien-l**	**25.51**	**72**	*e*P	**P**	**09 42 39.5**	**-0.3**
	comp=Z,13nm,1.1s						
SFTF	**Sexfontaines**	**25.56**	**64**	*e*P	**P**	**09 42 39.2**	**-0.9**
	comp=Z,108nm,1.3s						
SFTF	**Sexfontaines**	**25.56**	**64**	*e*P	**P**	**09 42 39.2**	**-0.9**
	comp=Z,108nm,1.3s						
SFTF	**Sexfontaines**	**25.56**	**64**	*e*P	**P**	**09 42 39.2**	**-0.9**
	comp=Z,54nm,1.3s						
MEZF	**Maizieres J'vi**	**25.57**	**64**	*e*P	**P**	**09 42 39.4**	**-0.8**
	comp=Z,67nm,0.9s						
MEZF	**Maizieres J'vi**	**25.57**	**64**	*e*P	**P**	**09 42 39.4**	**-0.8**
	comp=Z,67nm,0.9s						
MEZF	**Maizieres J'vi**	**25.57**	**64**	*e*P	**P**	**09 42 39.4**	**-0.8**
	comp=Z,34nm,0.9s						
BCLA	**Clavier**	**25.81**	**59**	P	**P**	**09 42 41.9**	**-0.5**
	comp=Z,21nm,1.8s						
PAGF	**Fort de Pagny**	**26.02**	**64**	*e*P	**P**	**09 42 43.2**	**-1.1**
	comp=Z,12nm,1.1s						
PAGF	**Fort de Pagny**	**26.02**	**64**	*e*P	**P**	**09 42 43.2**	**-1.1**
	comp=Z,12nm,1.0s						
PAGF	**Fort de Pagny**	**26.02**	**64**	*e*P	**P**	**09 42 43.2**	**-1.1**
	comp=Z,6.2nm,1.1s						
WLF	**Walferdange**	**26.32**	**61**	P	**P**	**09 42 46.4**	**-0.6**
WLF	**Walferdange**	**26.32**	**61**	*e*P	**P**	**09 42 47.4**	**+0.4**
	comp=Z,11nm,0.9s						
WLF	**Walferdange**	**26.32**	**61**	*e*P	**P**	**09 42 47.4**	**+0.4**
	comp=Z,11nm,0.9s						
CABF	**La Chapelle**	**26.33**	**68**	*e*P	**P**	**09 42 46.7**	**-0.6**
	comp=Z,115nm,1.5s						
CABF	**La Chapelle**	**26.33**	**68**	*e*P	**P**	**09 42 46.7**	**-0.6**
CABF				pmax	pmax		
	comp=Z,115nm,1.5s						
CABF	**La Chapelle**	**26.33**	**68**	*e*P	**P**	**09 42 46.7**	**-0.6**
	comp=Z,115nm,1.5s						
CABF	**La Chapelle**	**26.33**	**68**	*e*P	**P**	**09 42 46.7**	**-0.6**
	comp=Z,57nm,1.5s						
HAU	**Haudompre**	**26.44**	**65**	*e*P	**P**	**09 42 47.0**	**-1.2**
	comp=Z,51nm,1.3s						
HAU				*e*R			
	comp=Z,98nm,18.4s						
HAU	**Haudompre**	**26.44**	**65**	*e*P	**P**	**09 42 47.0**	**-1.2**
HAU				pmax	pmax		
	comp=Z,51nm,1.3s						
HAU	**Haudompre**	**26.44**	**65**	*e*P	**P**	**09 42 47.0**	**-1.2**
	comp=Z,51nm,1.3s						
HAU	**Haudompre**	**26.44**	**65**	*e*P	**P**	**09 42 47.0**	**-1.2**
	comp=Z,25nm,1.3s						
SCHQ	**Schefferville**	**26.73**	**310**	*e*P	**P**	**09 42 51.0**	**+0.3**
SCHQ	**Schefferville**	**26.73**	**310**	P	**P**	**09 42 49.9**	**-0.9**
	comp=Z,10nm,1.0s,baz=88,slow=13,SNR=7.8						
SCHQ	**Schefferville**	**26.73**	**310**	*e*P	**P**	**09 42 51.0**	**+0.3**
HINF	**Hinteralfeld**	**26.78**	**65**	*e*P	**P**	**09 42 50.1**	**-1.2**
	comp=Z,9.2nm,0.7s						
HINF	**Hinteralfeld**	**26.78**	**65**	*e*P	**P**	**09 42 50.1**	**-1.2**
HINF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HINF	**Hinteralfeld**	**26.78**	**65**	*e*P	**P**	**09 42 50.1**	**-1.2**
	comp=Z,9.2nm,0.7s						
HINF	**Hinteralfeld**	**26.78**	**65**	*e*P	**P**	**09 42 50.1**	**-1.2**
	comp=Z,4.6nm,0.7s						
SFJD	**Kangerlussuaq**	**27.03**	**343**	LR	LR	09 50 47.6	
	comp=Z,144nm,18.9s,baz=306,slow=30						
CDF	**Champ du Feu**	**27.05**	**64**	*e*P	**P**	**09 42 52.7**	**-1.0**
	comp=Z,53nm,1.0s						
CDF	**Champ du Feu**	**27.05**	**64**	*e*P	**P**	**09 42 52.7**	**-1.0**
CDF				pmax	pmax		
	comp=Z,53nm,1.0s						
CDF	**

comp=Z,100nm,19.8s
CLL Collm 30.72 58 *e*P **P 09 43 26.1 -0.1**
comp=Z,3.0nm,1.0s
WET Wettzell 30.72 62 *e*P **P 09 43 27.3 +1.0**
comp=Z,4.0nm,0.8s
WET Wettzell 30.72 62 *e*P **P 09 43 27.3 +1.0**
comp=Z,4.0nm,0.8s
JMIC Jan Mayen 30.77 14 LR LR 09 51 55.4
comp=Z,109nm,19.3s,baz=201,slow=29
RJOB Jochberg 30.79 65 *e*P **P 09 43 26.7 -0.2**
comp=Z,3.0nm,0.9s
RJOB Jochberg 30.79 65 *e*P **P 09 43 26.7 -0.2**
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 31.18 62 *e*P **P 09 43 29.9 -0.4**
KHC Kasperske Hory 31.18 62 *e*P **P 09 43 29.9 -0.4**
KHC Kasperske Hory 31.18 62 *e*P **P 09 43 29.9 -0.4**
comp=Z,9.7nm,0.9s
KHC Kasperske Hory 31.18 62 *e*P **P 09 43 29.9 -0.4**
comp=Z,9.7nm,0.9s
NOA NORSAR Array B 31.20 39 LR LR 09 53 38.1
comp=Z,53nm,19.0s,baz=260,slow=32
KBA Koelnbreinsper 31.24 66 *i* pP **P 09 43 31.0 0.0**
comp=Z,26nm,1.0s,SNR=15
GEC2 GERESS Array S 31.28 63 *e*P **P 09 43 30.7 -0.6**
GEC2 GERESS Array S 31.28 63 *e*P **P 09 43 31.0 -0.3**
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 31.28 63 *e*P **P 09 43 30.7 -0.6**
GEC2 GERESS Array S 31.28 63 *e*P **P 09 43 30.7 -0.5**
GERES GERESS Array B 31.28 63 P **P 09 43 30.8 -0.5**
GERES GERESS Array B 31.28 63 P **P 09 43 30.8 -0.5**
comp=Z,2.7nm,0.7s,baz=275,slow=8.8,SNR=27
GERES LR LR 09 53 39.6
comp=Z,84nm,20.3s,baz=104,slow=32
GERES GERESS Array B 31.28 63 P **P 09 43 30.8 -0.5**
BRG Berggiesshubel 31.32 59 *e*P **P 09 43 31.4 -0.1**
comp=Z,2.0nm,1.0s
BRG Berggiesshubel 31.32 59 *e*P **P 09 43 31.4 -0.1**
comp=Z,2.0nm,1.0s
KEST Kesra 31.46 89 P **P 09 43 32.9 -0.1**
KEST Kesra 31.46 89 P **P 09 43 32.9 -0.1**
comp=Z,2.0nm,0.6s,baz=302,slow=7.2,SNR=3.5
KEST Kesra 31.46 89 P **P 09 43 32.9 -0.1**
PVCC Panska Ves 31.73 59 *e*P **P 09 43 36.2 +1.1**
PVCC Panska Ves 31.73 59 *e*P **P 09 43 36.2 +1.1**
PVCC Panska Ves 31.73 59 *e*P **P 09 43 36.2 +1.1**
PRU Pruhonice 31.74 60 *e*P **P 09 43 34.9 -0.3**
PRU Pruhonice 31.74 60 *e*P **P 09 43 34.9 -0.3**
PRU *e*pP **pP 09 43 39.0 -1.0**
PRU Pruhonice 31.74 60 *e*P **P 09 43 34.9 -0.3**
LONY Lake Ozonia 31.75 289 *e*P **P 09 43 36.3 +0.9**
comp=Z,13nm,0.9s
LONY Lake Ozonia 31.75 289 *e*P **P 09 43 36.3 +0.9**
comp=Z,13nm,0.9s
PTN Potsdam (NY) 32.03 289 *e*P **P 09 43 38.6 +0.8**
PTN pmax pmax
comp=Z,24nm,0.8s
PTN Potsdam (NY) 32.03 289 *e*P **P 09 43 38.6 +0.8**
comp=Z,24nm,0.8s
PTN Potsdam (NY) 32.03 289 *e*P **P 09 43 38.6 +0.8**
comp=Z,24nm,0.8s
OBKA Obir 32.14 67 *i* P **P 09 43 38.1 -0.8**
comp=Z,26nm,0.8s,SNR=20
SOKA Soboth 32.44 66⇓*i*P **P 09 43 39.9 -1.6**
comp=Z,6.4nm,1.1s,SNR=5.4
UPC Upice 32.65 59 *e*P **P 09 43 42.6 -0.6**
UPC Upice 32.65 59 *e*P **P 09 43 42.6 -0.6**
UPC Upice 32.65 59 *e*P **P 09 43 42.6 -0.6**
ARSA Arzberg 32.68 65⇑*i*P **P 09 43 42.4 -1.2**
comp=Z,8.1nm,0.9s,SNR=5.6
CONA Conrad Observa 32.81 64 *i* P **P 09 43 44.1 -0.7**
comp=Z,5.8nm,0.7s,SNR=8.3
DPC Dobruska-Polom 32.86 60 *e*P **P 09 43 44.4 -0.7**
DPC Dobruska-Polom 32.86 60 *e*P **P 09 43 44.4 -0.7**
DPC Dobruska-Polom 32.86 60 *e*P **P 09 43 44.4 -0.7**
VRAC Vranov 33.13 61 P **P 09 43 46.9 -0.5**
VRAC Vranov 33.13 61 P **P 09 43 46.9 -0.5**
comp=Z,4.1nm,0.8s,baz=259,slow=8.7,SNR=6.9
VRAC LR LR 09 55 47.2
comp=Z,78nm,18.6s,baz=159,slow=34
VRAC Vranov 33.13 61 P **P 09 43 46.9 -0.5**
KRLC Kraliky 33.18 60 *e*P **P 09 43 47.8 -0.1**
KRLC Kraliky 33.18 60 *e*P **P 09 43 47.8 -0.1**
KRLC Kraliky 33.18 60 *e*P **P 09 43 47.8 -0.1**
MORC Moravsky Berou 33.70 60⇑P **P 09 43 52.1 -0.3**
MORC Moravsky Berou 33.70 60⇑*i*P **P 09 43 52.0 -0.3**
MORC Moravsky Berou 33.70 60 P **P 09 43 52.1 -0.3**
OKC Ostrava-Krasne 34.08 60 *e*P **P 09 43 55.3 -0.3**
OKC *e* 09 44 01.7
OKC Ostrava-Krasne 34.08 60 *e*P **P 09 43 55.3 -0.3**
OKC *e*pP **pP 09 44 01.7 +1.3**
OKC Ostrava-Krasne 34.08 60 *e*P **P 09 43 55.3 -0.3**
MMNY Mt. Morris Dam 34.54 287 *e*P **P 09 44 01.3 +1.6**
comp=Z,84nm,1.2s
MMNY Mt. Morris Dam 34.54 287 *e*P **P 09 44 01.3 +1.6**
comp=Z,84nm,1.2s
PKSM Moragy 34.98 66⇑P **P 09 44 02.1 -1.4**
PKSM Moragy 34.98 66⇑*i*P **P 09 44 02.1 -1.4**
OJC Ojcow 35.09 59 *e*P **P 09 44 04.2 -0.2**
OJC Ojcow 35.09 59 *e*P **P 09 44 04.2 -0.2**
PSZ Piszkesteto 35.49 63⇑P **P 09 44 08.5 +0.5**
PSZ Piszkesteto 35.49 63⇑*i*P **P 09 44 08.5 +0.5**
PSZ Piszkesteto 35.49 63 *e*P **P 09 44 08.6 +0.5**
comp=Z,7.2nm,1.0s
PSZ Piszkesteto 35.49 63 *e*P **P 09 44 08.6 +0.5**
comp=Z,7.2nm,1.0s
TAM Tamanrasset 35.76 112 *e*P **P 09 44 11.6 +1.0**
TAM pmax pmax
comp=Z,3.0nm,0.7s
TAM Tamanrasset 35.76 112 *e*P **P 09 44 11.6 +1.0**
comp=Z,3.0nm,0.7s
TAM Tamanrasset 35.76 112 *e*P **P 09 44 11.6 +1.0**
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 36.13 60 *e*P **P 09 44 13.8 +0.4**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 36.13 60 *e*P **P 09 44 13.8 +0.4**
CRVS Cervenica-Dubn 36.35 61 *e*P **P 09 44 15.0 -0.3**
CRVS pmax pmax
comp=Z,8.0nm,1.3s
CRVS Cervenica-Dubn 36.35 61 *e*P **P 09 44 15.0 -0.3**
KOLS Kolonicke sedl 36.88 61 *e*P **P 09 44 17.2 -2.5**
KOLS pmax pmax
comp=Z,53nm,2.6s
KOLS Kolonicke sedl 36.88 61 *e* **P 09 44 17.2 -2.5**
UZH Uzhgorod 36.94 62⇑*i*P **P 09 44 19.1 -1.2**
UZH *e* 09 44 32.5
BZS Buzias 37.14 67⇑P **P 09 44 21.7 -0.3**
BZS Buzias 37.14 67⇑*i*P **P 09 44 21.7 -0.3**
BLA Blacksburg 38.23 279 *e*P **P 09 44 32.6 +1.3**
BLA pmax pmax
comp=Z,27nm,1.1s
BLA Blacksburg 38.23 279 *e*P **P 09 44 32.6 +1.3**
comp=Z,27nm,1.1s
BLA Blacksburg 38.23 279 *e*P **P 09 44 32.6 +1.3**
comp=Z,27nm,1.1s
FINES FINESS Array B 38.33 40 P **P 09 44 31.0 -0.7**
FINES FINESS Array B 38.33 40 P **P 09 44 31.0 -0.7**
comp=Z,3.9nm,0.7s,baz=240,slow=6.4,SNR=12
FINES LR LR 09 57 50.5
comp=Z,94nm,21.1s,baz=309,slow=32
FINES FINESS Array B 38.33 40 P **P 09 44 31.0 -0.7**
VSU Vasula 38.60 45⇑*e*P **P 09 44 34.7 +0.6**
VSU pmax pmax
comp=Z,51nm,1.5s
ACSO Alum Creek Sta 38.94 285 *e*P **P 09 44 38.2 +0.9**
comp=Z,13nm,0.9s
ACSO Alum Creek Sta 38.94 285 *e*P **P 09 44 38.2 +0.9**
comp=Z,13nm,0.9s
BUR08 Bucovina Ar. S 39.05 63 *e*P **P 09 44 38.5 +0.3**
BUR08 Bucovina Ar. S 39.05 63 *e*P **P 09 44 38.5 +0.3**
BURAR Bucovina Array 39.07 63⇑P **P 09 44 38.8 +0.4**
BURAR Bucovina Array 39.07 63⇑*i*P **P 09 44 38.8 +0.4**
ARR Arges 39.25 66⇑*i*P **P 09 44 39.8 -0.1**
ARCES ARCESS Array B 39.30 27 P **P 09 44 38.4 -1.5**
ARCES ARCESS Array B 39.30 27 P **P 09 44 38.4 -1.5**
comp=Z,4.6nm,0.9s,baz=260,slow=6.0,SNR=8.5
ARCES LR LR 09 57 18.6
comp=Z,70nm,20.9s,baz=323,slow=31
ARCES ARCESS Array B 39.30 27 P **P 09 44 38.4 -1.5**
ARE0 ARCESS Array S 39.30 27 *e*P **P 09 44 38.8 -1.1**
ARE0 ARCESS Array S 39.30 27 *e*P **P 09 44 38.8 -1.1**
VOIR 39.51 66⇓P **P 09 44 39.8 -2.3**
VOIR 39.51 66⇓*i*P **P 09 44 39.8 -2.3**
DOPR Dopca 39.60 65⇓*i*P **P 09 44 41.7 -1.0**

KMSC Kings Mountain 39.76 277⇑P **P 09 44 44.7 +0.6**
baz=40
MLR Muntele Rosu 40.10 66⇑*i*P **P 09 44 46.7 -0.3**
MLR Muntele Rosu 40.10 66 P **P 09 44 46.0 -1.0**
MLR Muntele Rosu 40.10 66 P **P 09 44 46.0 -1.0**
comp=Z,1.1nm,0.9s,baz=153,slow=18,SNR=5.2
MLR LR LR 10 00 34.9
comp=Z,19nm,19.7s,baz=119,slow=35
MLR Muntele Rosu 40.10 66 P **P 09 44 46.0 -1.0**
TOA0 Torodi Ar. Sit 40.31 127 *e*P **P 09 44 48.8 -0.1**
TOA0 Torodi Ar. Sit 40.31 127 *e*P **P 09 44 48.8 -0.1**
TORD Torodi Ar. Bea 40.31 127 P **P 09 44 48.4 -0.5**
TORD PcP **PcP 09 46 52.8 +0.5**
TORD S **S 09 51 00.3 +4.2**
TORD Torodi Ar. Bea 40.31 127 P **P 09 44 48.4 -0.5**
comp=Z,14nm,0.9s,baz=317,slow=7.6,SNR=60
TORD PcP **PcP 09 46 52.8 +0.5**
comp=Z,1.5nm,0.9s,baz=339,slow=3.7,SNR=3.8
TORD S **S 09 51 00.3 +4.2**
comp=Z,0.5nm,1.0s,baz=324,slow=7.1,SNR=2.1
TORD Torodi Ar. Bea 40.31 127 P **P 09 44 48.4 -0.5**
SPITS Spitsbergen Ar 40.44 13 LR LR 09 57 39.6
comp=Z,59nm,20.5s,baz=255,slow=30
KIEV Kiev 40.94 57*d*⇑P **P 09 44 52.6 -1.1**
KIEV Kiev 40.94 57 *e*P **P 09 44 52.7 -1.0**
comp=Z,13nm,1.0s
KIEV Kiev 40.94 57 *e*P **P 09 44 52.7 -1.0**
comp=Z,13nm,1.0s
AK01 Malin Array Si 40.95 57 *e*P **P 09 44 52.7 -1.1**
AK01 Malin Array Si 40.95 57 *e*P **P 09 44 52.7 -1.1**
AK02 Malin Array Si 40.95 57 *e*P **P 09 44 52.7 -1.1**
AK02 Malin Array Si 40.95 57 *e*P **P 09 44 52.7 -1.1**
AKASG Malin Array Be 40.95 57*ce*P **P 09 44 52.5 -1.2**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 40.95 57 P **P 09 44 52.6 -1.2**
AKASG PcP **PcP 09 46 52.6 -1.3**
AKASG Malin Array Be 40.95 57 P **P 09 44 52.6 -1.2**
comp=Z,9.0nm,0.8s,baz=280,slow=8.2,SNR=16
AKASG PcP **PcP 09 46 52.6 -1.3**
comp=Z,1.5nm,0.7s,baz=273,slow=3.8,SNR=6.3
AKASG Malin Array Be 40.95 57 P **P 09 44 52.6 -1.2**
AKBB Malin Array Si 40.95 57 *e*P **P 09 44 52.9 -0.9**
AKBB Malin Array Si 40.95 57 *e*P **P 09 44 52.9 -0.9**
AKBB Malin Array Si 40.95 57 *e*P **P 09 44 52.8 -1.0**
SDDR Presa de Saban 41.54 249 *e*P **P 09 45 00.9 +1.9**
comp=Z,35nm,1.1s
SDDR Presa de Saban 41.54 249 *e*P **P 09 45 00.9 +1.9**
comp=Z,35nm,1.1s
TLB Topalu 41.79 66⇑P **P 09 44 59.0 -1.8**
TLB Topalu 41.79 66⇑*i*P **P 09 44 59.0 -1.8**
SFIN Scholer Farm 41.82 287⇓P **P 09 45 01.5 +0.5**
baz=42
FCC Fort Churchill 41.85 316 *e*P **P 09 45 01.5 +0.5**
FCC Fort Churchill 41.85 316 *e*P **P 09 45 01.5 +0.5**
comp=Z,0.7nm,1.4s
FCC Fort Churchill 41.85 316 *e*P **P 09 45 01.5 +0.5**
comp=Z,0.7nm,1.4s
BLO Bloomington 41.87 285 *e*P **P 09 45 02.4 +0.9**
BLO Bloomington 41.87 285 *e*P **P 09 45 02.4 +0.9**
BLO Bloomington 41.87 285 *e*P **P 09 45 02.4 +0.9**
CPCT Cooper Cave 41.97 279 *e*P **P 09 45 03.8 +1.4**
CPCT Cooper Cave 41.97 279 *e*P **P 09 45 03.8 +1.4**
WCI Wyandotte Cave 42.08 284 *e*P **P 09 45 03.8 +0.5**
WCI pmax pmax
comp=Z,12nm,0.8s
WCI Wyandotte Cave 42.08 284 *e*P **P 09 45 03.8 +0.5**
comp=Z,12nm,0.8s
WCI Wyandotte Cave 42.08 284 *e*P **P 09 45 03.8 +0.5**
comp=Z,12nm,0.8s
TIRR Tirgusor 42.08 66⇑P **P 09 45 01.4 -1.7**
TIRR Tirgusor 42.08 66⇑*i*P **P 09 45 01.4 -1.7**
TIRR Tirgusor 42.08 66 *e*P **P 09 45 00.4 -2.7**
comp=Z,15nm,1.0s
TIRR Tirgusor 42.08 66 *e*P **P 09 45 00.4 -2.7**
comp=Z,15nm,1.0s
GOGA Godfrey 42.12 276 *e*P **P 09 45 05.0 +1.4**
GOGA pmax pmax
comp=Z,15nm,0.9s
GOGA Godfrey 42.12 276 *e*P **P 09 45 05.0 +1.4**
comp=Z,15nm,0.9s
GOGA Godfrey 42.12 276 *e*P **P 09 45 05.0 +1.4**
comp=Z,15nm,0.9s
DBIC Dimbokro 42.18 140 *e*P **P 09 45 04.6 +0.4**
comp=Z,4.1nm,0.8s
DBIC Dimbokro 42.18 140 P **P 09 45 04.8 +0.7**
comp=Z,3.7nm,0.6s,baz=296,slow=9.8,SNR=6.0
DBIC LR LR 10 00 35.5
comp=Z,82nm,19.3s,baz=310,slow=33
DBIC Dimbokro 42.18 140 *e*P **P 09 45 04.6 +0.4**
comp=Z,4.1nm,0.8s
RES Resolute Bay 42.93 339 P **P 09 45 10.0 +0.4**
RES PcP **PcP 09 47 00.5 +0.6**
RES Resolute Bay 42.93 339 P **P 09 45 10.0 +0.4**
comp=Z,4.7nm,1.0s,baz=103,slow=6.0,SNR=7.6
RES PcP **PcP 09 47 00.5 +0.6**
comp=Z,2.1nm,0.8s,baz=112,slow=5.0,SNR=3.6
RES Resolute Bay 42.93 339 P **P 09 45 10.0 +0.4**
RES Resolute Bay 42.93 339 PcP **PcP 09 47 00.5 +0.6**
SWET Sewanee 43.10 280 *e*P **P 09 45 12.4 +0.7**
comp=Z,17nm,0.7s
SWET Sewanee 43.10 280 *e*P **P 09 45 12.4 +0.7**
comp=Z,17nm,0.7s
SPMN St. Paul 44.05 296 *e*P **P 09 45 19.4 +0.4**
comp=Z,14nm,0.7s
SPMN St. Paul 44.05 296⇓P **P 09 45 19.3 +0.2**
baz=44,SNR=8.7
SPMN St. Paul 44.05 296 *e*P **P 09 45 19.5 +0.4**
comp=Z,14nm,0.7s
WVT Waverly 44.08 282 *e*P **P 09 45 19.6 +0.2**
WVT pmax pmax
comp=Z,14nm,0.9s
WVT Waverly 44.08 282 *e*P **P 09 45 19.6 +0.2**
comp=Z,14nm,0.9s
WVT Waverly 44.08 282 *e*P **P 09 45 19.6 +0.2**
comp=Z,14nm,0.9s
OBN Obninsk 44.37 49⇓*e*P **P 09 45 21.7 +0.3**
OBN *e* 09 47 04.5
OBN pmax pmax
comp=Z,28nm,1.7s
SIUC Southern Illin 44.40 284 *e*P **P 09 45 22.4 +0.5**
comp=Z,614nm,1.1s
SIUC Southern Illin 44.40 284 *e*P **P 09 45 22.4 +0.5**
comp=Z,614nm,1.1s
ULM Lac du Bonnet 44.50 304 P **P 09 45 22.2 -0.4**
ULM PcP **PcP 09 47 04.8 -0.9**
ULM Lac du Bonnet 44.50 304 P **P 09 45 22.2 -0.4**
comp=Z,1.9nm,0.5s,baz=83,slow=8.5,SNR=4.0
ULM PcP **PcP 09 47 04.8 -0.9**
comp=Z,3.2nm,0.8s,baz=58,slow=2.9,SNR=3.7
ULM Lac du Bonnet 44.50 304 P **P 09 45 22.2 -0.4**
ULM Lac du Bonnet 44.50 304 PcP **PcP 09 47 04.8 -0.9**
SLM Saint Louis 44.74 286 *e*P **P 09 45 24.7 0.0**
SLM pmax pmax
comp=Z,25nm,1.0s
SLM Saint Louis 44.74 286 *e*P **P 09 45 24.7 0.0**
comp=Z,25nm,1.0s
SLM Saint Louis 44.74 286 *e*P **P 09 45 24.7 0.0**
comp=Z,25nm,1.0s
LRAL Lakeview Retre 44.90 277 *e*P **P 09 45 26.7 +0.7**
comp=Z,18nm,1.1s
LRAL Lakeview Retre 44.90 277 *e*P **P 09 45 26.7 +0.7**
comp=Z,18nm,1.1s
AGMN Agassiz Nation 45.06 301 *e*P **P 09 45 27.2 +0.1**
comp=Z,192nm,2.8s
AGMN Agassiz Nation 45.06 301⇓P **P 09 45 27.5 +0.3**
baz=45
AGMN Agassiz Nation 45.06 301 *e*P **P 09 45 27.2 +0.1**
comp=Z,192nm,2.8s
PBMO Poplar Bluff 45.67 284 *e*P **P 09 45 32.2 +0.1**
comp=Z,34nm,0.9s
PBMO Poplar Bluff 45.67 284 *e*P **P 09 45 32.2 +0.1**
comp=Z,34nm,0.9s
GNAR Gosnell 45.74 283 *e*P **P 09 45 33.0 +0.4**
comp=Z,424nm,0.8s
GNAR Gosnell 45.74 283 *e*P **P 09 45 33.0 +0.4**
comp=Z,424nm,0.8s
OXF Oxford 45.97 281 *e*P **P 09 45 34.6 +0.2**
OXF pmax pmax
comp=Z,96nm,1.0s
OXF Oxford 45.97 281 *e*P **P 09 45 34.6 +0.2**
comp=Z,96nm,1.0s
OXF Oxford 45.97 281 *e*P **P 09 45 34.6 +0.2**
comp=Z,96nm,1.0s
A30A Hoffart Farm, 46.40 303⇑P **P 09 45 37.9 +0.2**
baz=46,SNR=6.0

B30A Myrvik Farm, E 46.58 302⇑P **P 09 45 39.5 +0.4**
baz=46,SNR=6.6
FFC Flin Flon 46.88 311 *i* P **P 09 45 42.1 +0.8**
VSR Storozhevoye 46.89 54 *e*P **P 09 45 40.4 -1.1**
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
C30A Mose, Pekin 46.92 301⇑P **P 09 45 41.8 0.0**
baz=47
A29A Manning Farm, 46.99 303⇑P **P 09 45 42.1 -0.2**
baz=47
VORD Divnogorie 47.04 54 *e*P **P 09 45 40.5 -2.1**
VORD pmax pmax
comp=N,9.0nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
ECSD EROS Data Cent 47.13 295 *e*P **P 09 45 43.6 +0.1**
comp=Z,28nm,0.9s
ECSD EROS Data Cent 47.13 295⇓P **P 09 45 43.7 +0.1**
baz=47,SNR=21
ECSD EROS Data Cent 47.13 295 *e*P **P 09 45 43.6 +0.1**
comp=Z,28nm,0.9s
D30A Buchanan 47.30 300⇓P **P 09 45 44.6 -0.2**
baz=47
BR131 Keskin Array S 47.46 70 *e*P **P 09 45 46.1 -0.1**
comp=Z,2.3nm,0.8s
BR131 Keskin Array S 47.46 70 *e*P **P 09 45 46.1 -0.1**
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 47.46 70 P **P 09 45 45.9 -0.4**
BRTR PcP **PcP 09 47 15.8 -0.6**
BRTR Keskin Array B 47.46 70 P **P 09 45 45.9 -0.4**
comp=Z,3.4nm,0.9s,baz=281,slow=6.2,SNR=13
BRTR PcP **PcP 09 47 15.8 -0.6**
comp=Z,2.5nm,0.9s,baz=267,slow=2.5,SNR=7.2
BRTR Keskin Array B 47.46 70 P **P 09 45 45.8 -0.4**
MDND Maddock 47.58 302 *e*P **P 09 45 47.4 +0.5**
comp=Z,62nm,1.4s
MDND Maddock 47.58 302⇑P **P 09 45 47.0 0.0**
baz=48
MDND Maddock 47.58 302 *e*P **P 09 45 47.4 +0.5**
comp=Z,62nm,1.4s
E30A Jud 47.62 300⇓P **P 09 45 47.4 +0.1**
baz=48
A28A Rude Farm, Bot 47.63 303⇓P **P 09 45 47.8 +0.5**
baz=48
B28A Dugan Ranch, T 47.85 303⇓P **P 09 45 49.2 +0.1**
baz=48
VBMS Vicksburg 47.89 278 *e*P **P 09 45 50.1 +0.6**
comp=Z,47nm,0.9s
VBMS Vicksburg 47.89 278 *e*P **P 09 45 50.1 +0.6**
comp=Z,47nm,0.9s
UALR University of 47.97 282 *e*P **P 09 45 49.6 -0.5**
comp=Z,11nm,0.9s
UALR University of 47.97 282 *e*P **P 09 45 49.6 -0.5**
comp=Z,11nm,0.9s
G30A Faulkton 48.28 298⇓P **P 09 45 52.4 0.0**
baz=48
VRHR Novokhopersk 48.40 53 *e*P **P 09 45 52.5 -0.7**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.3s
BRSD Miller 48.42 297 *e*P **P 09 45 54.0 +0.5**
comp=E,23nm,0.9s
BRSD Miller 48.42 297⇑P **P 09 45 53.6 +0.2**
baz=48
BRSD Miller 48.42 297 *e*P **P 09 45 54.0 +0.5**
comp=E,23nm,0.9s
D28A Regan 48.43 301⇓P **P 09 45 54.3 +0.7**
baz=48
SDV Santo Domingo 48.43 238 *e*P **P 09 45 55.7 +1.6**
comp=E,3.5nm,0.9s
SDV Santo Domingo 48.43 238 *e*P **P 09 45 55.7 +1.6**
comp=E,3.5nm,0.9s
E28A Huff 48.73 300⇓P **P 09 45 56.1 +0.2**
baz=49
MIAR Mount Ida 48.97 283 *e*P **P 09 45 58.1 +0.3**
MIAR pmax pmax
comp=Z,40nm,0.9s
MIAR Mount Ida 48.97 283 *e*P **P 09 45 58.1 +0.3**
comp=Z,40nm,0.9s
MIAR Mount Ida 48.97 283 *e*P **P 09 45 58.1 +0.3**
comp=Z,40nm,0.9s
KSU1 Kansas State U 49.03 290 *e*P **P 09 45 57.9 -0.4**
comp=Z,40nm,0.8s
KSU1 Kansas State U 49.03 290⇓P **P 09 45 58.0 -0.3**
baz=49,SNR=12
KSU1 Kansas State U 49.03 290 *e*P **P 09 45 57.9 -0.4**
comp=Z,40nm,0.8s
D27A Center 49.07 301⇓P **P 09 45 58.9 +0.5**
baz=49
BGNE Belgrade 49.10 293 *e*P **P 09 45 58.6 -0.2**
comp=Z,77nm,0.9s
BGNE Belgrade 49.10 293⇓P **P 09 45 58.8 0.0**
baz=49,SNR=9.9
BGNE Belgrade 49.10 293 *e*P **P 09 45 58.6 -0.2**
comp=Z,77nm,0.9s
C26A Wahner Farm, P 49.16 302⇑P **P 09 45 59.0 -0.2**
baz=49
H29A Onida 49.17 298⇓P **P 09 45 58.9 -0.3**
baz=49,SNR=5.1
J30A Dallas 49.22 296⇑P **P 09 45 59.2 -0.4**
baz=49,SNR=15
L31A Butterfield Fa 49.25 294⇑P **P 09 45 59.5 -0.4**
baz=49,SNR=8.6
E27A Carson 49.35 300⇑P **P 09 46 01.0 +0.3**
baz=49
A25A Svangstu Ranch 49.38 304⇑P **P 09 46 00.5 -0.3**
baz=49
G28A Parade 49.45 299⇓P **P 09 46 01.7 +0.2**
baz=49,SNR=6.4
I29A Vivian Onida 49.47 297⇑P **P 09 46 01.7 +0.1**
baz=49,SNR=21
N32A Stulken Farm, 49.48 292⇓P **P 09 46 01.4 -0.3**
baz=49
K30A Basset 49.56 295⇓P **P 09 46 01.9 -0.4**
baz=50,SNR=6.8
P33A Williams Farm, 49.64 291⇑P **P 09 46 02.6 -0.3**
baz=50,SNR=7.9
D26A Manning 49.67 301⇑P **P 09 46 03.0 0.0**
baz=50
H28A Mission Ridge 49.68 298⇓P **P 09 46 03.1 -0.1**
baz=50
O32A Brookman Farm, 49.68 292⇓P **P 09 46 02.3 -1.0**
baz=50,SNR=7.5
M31A Lambtecht Ranc 49.70 293⇑P **P 09 46 02.8 -0.6**
baz=50,SNR=8.4
J29A Okreek 49.74 296⇑P **P 09 46 03.4 -0.3**
baz=50,SNR=5.3
F27A Lemmon 49.85 300⇑P **P 09 46 04.2 -0.3**
baz=50
N31A Bailey Ranch, 49.90 293⇓P **P 09 46 04.4 -0.5**
baz=50
E26A Carlson Angus 49.90 301⇓P **P 09 46 04.8 -0.1**
baz=50
TUL1 Tulsa 49.92 286 *e*P **P 09 46 04.2 -0.8**
comp=Z,21nm,0.7s
TUL1 Tulsa 49.92 286⇓P **P 09 46 04.2 -0.8**
baz=50,SNR=12
TUL1 Tulsa 49.92 286 *e*P **P 09 46 04.2 -0.8**
comp=Z,21nm,0.7s
C25A Freed Ranch, W 49.93 303⇑P **P 09 46 04.9 -0.1**
baz=50
Q33A Connelly Farm, 49.93 290⇓P **P 09 46 04.6 -0.6**
baz=50
L30A Spencer Herefo 49.94 294⇑P **P 09 46 04.6 -0.6**
baz=50
G27A Dupree 49.99 299⇓P **P 09 46 06.0 +0.4**
baz=50,SNR=8.5
K29A Lazy Trails An 50.00 296⇑P **P 09 46 05.5 -0.2**
baz=50,SNR=8.9
I28A Midland 50.05 297⇑P **P 09 46 05.8 -0.2**
baz=50,SNR=11
D25A Fairfield 50.18 302⇓P **P 09 46 07.4 +0.5**
baz=50,SNR=6.2
P32A Huiting Farm, 50.19 291⇑P **P 09 46 06.4 -0.7**
baz=50,SNR=12
M30A Dale-Ortello V 50.22 294⇑P **P 09 46 06.9 -0.5**
baz=50
DGMT Dagmar 50.22 304 *e*P **P 09 46 08.3 +1.1**
comp=Z,12nm,0.9s

DGMT **Dagmar** 50.22 304 ⇓P P 09 46 07.2 -0.1
baz=50
DGMT **Dagmar** 50.22 304 *eP* P 09 46 08.3 +1.1
comp=Z,12nm,0.9s
F26A **Lodgepole** 50.28 300 ⇓P P 09 46 07.3 -0.4
baz=50
J28A **Allard Ranch,** 50.34 297 ⇑P P 09 46 08.2 0.0
baz=50,SNR=20
R33A **Olander Ranch,** 50.35 289 ⇑P P 09 46 07.5 -0.8
baz=50,SNR=5.4
H27A **Howes** 50.39 298 ⇓P P 09 46 08.1 -0.5
baz=50,SNR=7.6
L29A **Maesberg Ranch** 50.40 295 ⇓P P 09 46 07.9 -0.8
baz=50,SNR=8.3
PTGA **Pitinga** 50.41 220 *eP* P 09 46 09.7 +0.7
comp=Z,15nm,1.2s
PTGA **Pitinga** 50.41 220 *eP* P 09 46 09.7 +0.7
comp=Z,15nm,1.2s
Q32A **Meitler Ranch,** 50.44 290 ⇑P P 09 46 08.0 -1.0
baz=50,SNR=6.9
O31A **Woolen Ranch,** 50.45 292 ⇑P P 09 46 08.1 -1.0
baz=50
E25A **Miller Ranch,** 50.49 301 ⇓P P 09 46 09.6 +0.3
baz=50,SNR=8.4
I27A **Quinn** 50.60 298 ⇓P P 09 46 09.9 -0.3
baz=50
S33A **Kaszmaul Farm,** 50.69 289 ⇑P P 09 46 10.5 -0.5
baz=51,SNR=6.1
N30A **Hueftle Ranch,** 50.70 293 ⇓P P 09 46 10.9 -0.1
baz=51
B23A **Brockton** 50.71 304 ⇑P P 09 46 11.6 +0.6
baz=51,SNR=6.7
K28A **Ten Mile Ranch** 50.72 296 ⇑P P 09 46 10.7 -0.4
baz=51
C24A **Savage** 50.73 303 ⇑P P 09 46 11.7 +0.7
baz=51
F25A **Bowman** 50.76 301 ⇑P P 09 46 11.3 -0.1
baz=51
P31A **Stockton** 50.77 291 ⇑P P 09 46 10.5 -1.0
baz=51,SNR=13
R32A **Long Quarter,** 50.81 290 ⇑P P 09 46 10.9 -0.9
baz=51,SNR=13
M29A **Burnside Ranch** 50.81 294 ⇑P P 09 46 11.2 -0.6
baz=51,SNR=6.0
D24A **Glendive** 50.83 302 ⇑P P 09 46 12.0 +0.2
baz=51
H26A **Fairpoint** 50.85 299 ⇑P P 09 46 11.8 -0.3
baz=51
U34A **Anderson Ranch** 50.91 287 ⇓P P 09 46 12.0 -0.5
baz=51,SNR=6.8
J27A **Elkhorn Farm,** 50.92 297 ⇑P P 09 46 12.4 -0.2
baz=51,SNR=6.4
O30A **MW Ranch, Wils** 50.94 292 ⇓P P 09 46 12.3 -0.5
baz=51
YKA **Yellowknife Ar** 50.95 324 P P 09 46 11.8 -0.6
YKA PcP PcP 09 47 27.6 -0.9
YKA **Yellowknife Ar** 50.95 324 P P 09 46 11.8 -0.6
comp=Z,1.6nm,0.7s,baz=69,slow=8.0,SNR=26
YKA PcP PcP 09 47 27.6 -0.9
comp=Z,2.0nm,0.8s,baz=70,slow=4.1,SNR=17
YKA **Yellowknife Ar** 50.95 324 P P 09 46 11.8 -0.6
YKA **Yellowknife Ar** 50.95 324 PcP PcP 09 47 27.6 -0.9
Q31A **Ellis** 51.02 291 ⇓P P 09 46 12.7 -0.6
baz=51
G25A **Newell** 51.03 300 ⇑P P 09 46 12.9 -0.5
baz=51,SNR=5.6
N29A **Votaw Ranch, W** 51.05 293 ⇓P P 09 46 13.2 -0.4
baz=51,SNR=5.5
A22A **Carney Farms,** 51.07 305 ⇑P P 09 46 14.3 +0.6
baz=51
C23A **Lambert** 51.09 303 ⇓P P 09 46 14.5 +0.7
baz=51
T33A **Patterson Ranc** 51.10 288 ⇓P P 09 46 13.7 -0.3
baz=51,SNR=13
I26A **New Underwood** 51.15 298 ⇓P P 09 46 13.9 -0.4
baz=51
V34A **Guthrie** 51.18 286 ⇑P P 09 46 14.2 -0.4
baz=51,SNR=12
M28A **Bar X Bar Ranc** 51.30 294 ⇑P P 09 46 15.2 -0.3
baz=51
S32A **Newby Ranch, P** 51.30 289 ⇓P P 09 46 14.8 -0.7
baz=51,SNR=9.9
K27A **Fleuckinger Fa** 51.30 296 ⇓P P 09 46 15.1 -0.4
baz=51
U33A **Lingo Farm, Me** 51.32 287 ⇓P P 09 46 15.5 -0.1
baz=51
D23A **Lindsay** 51.36 303 ⇑P P 09 46 16.5 +0.6
baz=51
P30A **Selden** 51.36 292 ⇓P P 09 46 15.0 -0.9
baz=51,SNR=9.0
H25A **Fruitdale** 51.38 299 ⇑P P 09 46 16.6 +0.6
baz=51
B22A **Reddig Ranch S** 51.40 304 ⇓P P 09 46 16.6 +0.5
baz=51
F24A **Ekalaka** 51.42 301 ⇑P P 09 46 17.0 +0.6
baz=51
MALT **Malatya** 51.42 70 ⇑P P 09 46 16.5 0.0
MALT **Malatya** 51.42 70 ⇑i/P P 09 46 16.5 0.0
R31A **Burdett** 51.44 290 ⇓P P 09 46 15.6 -1.0
baz=51,SNR=5.1
O29A **4D Ranch, Culb** 51.47 293 ⇑P P 09 46 16.0 -0.8
baz=51,SNR=6.8
T32A **Huddler Ranch,** 51.54 289 ⇓P P 09 46 16.7 -0.6
baz=51,SNR=7.4
C22A **Vida** 51.55 304 ⇑P P 09 46 17.1 -0.1
baz=51,SNR=5.9
J26A **Sides Ranch, S** 51.60 297 ⇑P P 09 46 17.9 +0.2
baz=52,SNR=9.0
Q30A **Quinter** 51.60 291 ⇓P P 09 46 16.8 -0.9
baz=52,SNR=6.4
G24A **Alzada** 51.61 300 ⇓P P 09 46 17.2 -0.6
baz=52
W34A **Bridge Creek,** 51.66 286 ⇓P P 09 46 17.9 -0.3
baz=52,SNR=7.4
E23A **Ismay** 51.69 302 ⇑P P 09 46 18.1 -0.2
baz=52
I25A **Rochford** 51.72 298 ⇓P P 09 46 18.6 -0.2
baz=52
N28A **Pribbeno Ranch** 51.73 294 ⇓P P 09 46 18.0 -0.7
baz=52,SNR=12
V33A **Lossen Ranch,** 51.74 287 ⇑P P 09 46 18.2 -0.6
baz=52,SNR=10
KIV **Kislovodsk** 51.78 62 *eP* P 09 46 20.1 +1.0
KIV *e* 09 46 26.8
KIV *e* 09 47 31.3
KIV pmax pmax
comp=Z,6.0nm,0.9s
P29A **Atwood** 51.80 292 ⇑P P 09 46 18.5 -0.8
baz=52,SNR=5.2
MMAI **Mount Meron Ar** 51.85 77 P P 09 46 20.2 +0.5
MMAI **Mount Meron Ar** 51.85 77 P P 09 46 20.2 +0.5
comp=Z,0.3nm,0.3s,baz=268,slow=40,SNR=2.4
MMAI **Mount Meron Ar** 51.85 77 P P 09 46 20.2 +0.5
RSSD **Black Hills** 51.88 299 *eP* P 09 46 19.6 -0.4
RSSD pmax pmax
comp=Z,2.0nm,0.8s
RSSD **Black Hills** 51.88 299 *eP* P 09 46 19.6 -0.4
comp=Z,2.0nm,0.8s
RSSD **Black Hills** 51.88 299 *eP* P 09 46 19.6 -0.4
comp=Z,2.0nm,0.8s
M27A **Reverse DX Ran** 51.92 295 ⇑P P 09 46 19.9 -0.3
baz=52
K26A **Motz Farm, Whi** 51.93 297 ⇑P P 09 46 19.9 -0.3
baz=52
OGNE **Ogallala** 51.94 294 ⇑P P 09 46 19.6 -0.7
baz=52,SNR=6.4
H24A **Dirks Ranch, A** 51.95 300 ⇓P P 09 46 19.8 -0.5
baz=52
R30A **Dighton** 51.96 290 ⇑P P 09 46 19.8 -0.6
baz=52,SNR=22
D22A **Cohagen** 51.97 303 ⇓P P 09 46 20.8 +0.3
baz=52,SNR=9.4
U32A **Winter Ranch,** 51.97 288 ⇑P P 09 46 20.6 +0.1
baz=52
X34A **Smith Ranch, M** 52.01 285 ⇑P P 09 46 20.5 -0.4
baz=52,SNR=6.3
KBZ **Khabaz** 52.02 62 P P 09 46 21.5 +0.8
KBZ 09 47 33.6
KBZ **Khabaz** 52.02 62 P P 09 46 21.5 +0.8
KBZ PcP PcP 09 47 33.5 +0.7
KBZ **Khabaz** 52.02 62 P P 09 46 21.5 +0.8
comp=Z,7.1nm,1.0s,baz=275,slow=7.0,SNR=6.3
KBZ PcP PcP 09 47 33.5 +0.7
comp=Z,4.7nm,0.9s,baz=228,slow=1.7,SNR=4.1
KBZ LR LR 10 06 57.0
comp=Z,56nm,20.5s,baz=321,slow=34
KBZ **Khabaz** 52.02 62 P P 09 46 21.5 +0.8
KBZ **Khabaz** 52.02 62 PcP PcP 09 47 33.5 +0.7
J25A **Sunshine Ranch** 52.04 298 ⇓P P 09 46 20.7 -0.3
baz=52
F23A **Volborg** 52.08 301 ⇓P P 09 46 21.0 -0.2
baz=52
T31A **Randall Ranch,** 52.10 289 ⇑P P 09 46 21.1 -0.4
baz=52,SNR=10
E22A **Miles City** 52.12 302 ⇓P P 09 46 21.4 -0.2
baz=52,SNR=7.8
O28A **Krutsinger Ran** 52.14 293 ⇑P P 09 46 21.0 -0.8
baz=52,SNR=6.2
L26A **Underwood Farm** 52.16 296 ⇑P P 09 46 21.6 -0.3
baz=52
Q29A **Oakley** 52.16 291 ⇑P P 09 46 21.2 -0.8
baz=52,SNR=22
W33A **Caddo, Fort Co** 52.19 286 ⇓P P 09 46 22.1 -0.1
baz=52,SNR=9.8
Z35A **Perchaven, San** 52.23 283 ⇑P P 09 46 22.3 -0.1
baz=52
Y34A **Reagan Ranch,** 52.28 284 ⇓P P 09 46 22.0 -0.8
baz=52
G23A **Biddle** 52.29 300 ⇓P P 09 46 22.6 -0.3
baz=52,SNR=7.6
V32A **Arapaho** 52.32 287 ⇓P P 09 46 22.9 -0.2
baz=52,SNR=7.8
A20A **Cobblestone Ra** 52.34 306 ⇑P P 09 46 22.5 -0.6
baz=52
N27A **Anderson Farm,** 52.35 294 ⇑P P 09 46 23.1 -0.2
baz=52,SNR=5.3
P28A **Saint Francis** 52.38 293 ⇓P P 09 46 22.9 -0.7
baz=52,SNR=7.7
S30A **Montezuma** 52.40 290 ⇓P P 09 46 23.3 -0.5
baz=52,SNR=7.5
K25A **Mack Ranch, Ha** 52.43 297 ⇑P P 09 46 24.0 +0.1
baz=52,SNR=6.9
M26A **McRoberts Ranc** 52.46 295 ⇑P P 09 46 24.1 -0.1
baz=52
D21A **La Casta Ranch** 52.51 303 ⇑P P 09 46 24.4 0.0
baz=52,SNR=5.7
X33A **Lawton** 52.52 285 ⇑P P 09 46 24.1 -0.5
baz=52,SNR=13
B20A **Solberg Farm,** 52.57 305 ⇑P P 09 46 24.6 -0.3
baz=52
U31A **Nine Bar Ranch** 52.58 288 ⇑P P 09 46 25.6 +0.5
baz=52
O27A **Beecher Island** 52.59 294 ⇑P P 09 46 24.6 -0.6
baz=52,SNR=7.9
F22A **Rosebud** 52.59 301 ⇓P P 09 46 24.9 -0.2
baz=52
WMOK **Wichita Mounta** 52.62 286 *eP* P 09 46 24.6 -0.8
WMOK pmax pmax
comp=Z,22nm,1.1s
WMOK **Wichita Mounta** 52.62 286 *eP* P 09 46 24.6 -0.8
comp=Z,22nm,1.1s
WMOK **Wichita Mounta** 52.62 286 *eP* P 09 46 24.6 -0.8
comp=Z,22nm,1.1s
Q28A **Sharon Springs** 52.67 292 ⇑P P 09 46 25.3 -0.5
baz=53
Z34A **Collier Ranch,** 52.69 284 ⇓P P 09 46 25.3 -0.6
baz=53,SNR=6.4
L25A **Engebretsen Ra** 52.70 296 ⇑P P 09 46 26.0 0.0
baz=53
T30A **Plains** 52.72 289 ⇓P P 09 46 25.6 -0.5
baz=53
135A **Vickery Place,** 52.74 283 ⇓P P 09 46 26.1 -0.2
baz=53,SNR=5.5
N26A **Koester Ranch,** 52.80 295 ⇓P P 09 46 26.2 -0.5
baz=53
A19A **Klindworth Far** 52.81 306 ⇓P P 09 46 25.8 -0.8
baz=53
G22A **Birney** 52.86 301 ⇓P P 09 46 26.9 -0.2
baz=53,SNR=8.8
S29A **Ulysses** 52.86 290 ⇓P P 09 46 26.9 -0.3
baz=53,SNR=7.0
V31A **Spring Creek L** 52.86 287 ⇑P P 09 46 27.0 -0.2
baz=53,SNR=11
C20A **Veseth Ranch,** 52.87 304 ⇑P P 09 46 27.0 0.0
baz=53
Y33A **Hilltop Ranch,** 52.88 285 ⇑P P 09 46 27.3 +0.1
baz=53
P27A **Ficken Ranch,** 52.95 293 ⇑P P 09 46 27.1 -0.8
baz=53,SNR=8.3
TEIG **Tepich** 52.96 264 *eP* P 09 46 29.4 +1.4
comp=Z,20nm,1.0s
TEIG **Tepich** 52.96 264 *eP* P 09 46 29.4 +1.4
comp=Z,20nm,1.0s
R28A **Tribune** 53.00 291 ⇓P P 09 46 27.4 -0.8
baz=53,SNR=10
K24A **Anderson Ranch** 53.00 297 ⇑P P 09 46 28.5 +0.2
baz=53
U30A **WK&E Inc. Balk** 53.06 289 ⇓P P 09 46 28.5 -0.2
baz=53,SNR=7.1
WHTX **Lake Whitney** 53.07 282 *eP* P 09 46 28.5 -0.1
comp=Z,27nm,0.7s
WHTX **Lake Whitney** 53.07 282 ⇓P P 09 46 28.7 0.0
baz=53,SNR=8.5
WHTX **Lake Whitney** 53.07 282 *eP* P 09 46 28.5 -0.1
comp=Z,27nm,0.7s
ZEI **Tsey** 53.09 62 *eP* P 09 46 29.0 0.0
ZEI pmax pmax
comp=Z,24nm,1.1s
B19A **Brinkman Farms** 53.13 305 ⇓P P 09 46 28.9 0.0
baz=53
O26A **Horse Wrangler** 53.13 294 ⇓P P 09 46 29.1 -0.1
baz=53,SNR=7.9
X32A **Elmer** 53.14 286 ⇓P P 09 46 29.0 -0.2
baz=53,SNR=9.6
H22A **Clearmont** 53.17 300 ⇓P P 09 46 29.0 -0.4
baz=53
T29A **Hugoton** 53.21 290 ⇑P P 09 46 29.7 0.0
baz=53
D20A **Manuel Ranch,** 53.21 304 ⇓P P 09 46 29.8 +0.2
baz=53,SNR=7.2
134A **White-Moore Ra** 53.22 283 ⇑P P 09 46 29.5 -0.3
baz=53
W31A **Holland Ranch,** 53.23 287 ⇑P P 09 46 29.4 -0.4
baz=53
KSCO **Kaye Shedlock'** 53.24 292 *eP* P 09 46 29.8 -0.3
comp=Z,29nm,0.9s
KSCO **Kaye Shedlock'** 53.24 292 ⇑P P 09 46 29.5 -0.5
baz=53,SNR=5.4
KSCO **Kaye Shedlock'** 53.24 292 *eP* P 09 46 29.8 -0.3
comp=Z,29nm,0.9s
EIL **Elat** 53.27 81 P P 09 46 30.4 +0.2
EIL **Elat** 53.27 81 P P 09 46 30.4 +0.2
comp=Z,5.2nm,1.1s,baz=9.3,slow=6.2,SNR=2.6
EIL **Elat** 53.27 81 P P 09 46 30.4 +0.2
Z33A **Whitaker Ranch** 53.34 284 ⇑P P 09 46 30.3 -0.4
baz=53,SNR=18
ASF **Jabal al Asfar** 53.36 77 P P 09 46 31.0 +0.1
ASF **Jabal al Asfar** 53.36 77 P P 09 46 31.0 +0.1
comp=Z,5.8nm,1.1s,baz=75,slow=5.3,SNR=4.6
N25A **Grover** 53.39 295 ⇑P P 09 46 31.0 -0.1
baz=53
335A **Moody** 53.42 281 ⇑P P 09 46 31.1 -0.1
baz=53,SNR=10
S28A **Manter** 53.42 290 ⇑P P 09 46 30.9 -0.4
baz=53,SNR=6.9
G21A **Lodge Grass** 53.44 301 ⇓P P 09 46 31.2 -0.2
baz=53,SNR=5.2
E20A **Meyer Farm, Mu** 53.46 303 ⇓P P 09 46 31.8 +0.3
baz=53,SNR=6.0
Y32A **R-V Farms, Ver** 53.46 285 ⇑P P 09 46 31.4 -0.2
baz=53,SNR=12
V30A **Spur Ranch, Mi** 53.47 288 ⇑P P 09 46 32.0 +0.3
baz=53,SNR=6.4
P26A **Davis Ranch, A** 53.47 293 ⇓P P 09 46 31.7 -0.1
baz=53
C19A **Slick Wire Ran** 53.50 305 ⇑P P 09 46 31.7 0.0
baz=53,SNR=7.0
K23A **Bowen Ranch, D** 53.52 298 ⇑P P 09 46 32.2 +0.1
baz=53,SNR=9.7
X31A **McDonald Ranch** 53.53 286 ⇑P P 09 46 32.0 0.0
baz=53,SNR=19
234A **Clairette** 53.55 282 ⇓P P 09 46 31.9 -0.4
baz=54,SNR=12
I22A **9 Mile Ranch,** 53.57 299 ⇑P P 09 46 32.4 0.0
baz=53,SNR=12
M24A **Cheyenne** 53.58 296 ⇓P P 09 46 33.0 +0.5
baz=54,SNR=5.9
H21A **Big Horn, Sher** 53.60 300 ⇓P P 09 46 32.6 +0.1
baz=54
D19A **Cripps Ranch,** 53.64 304 ⇓P P 09 46 32.7 0.0
baz=54
W30A **Crocket Farms** 53.68 287 ⇓P P 09 46 33.2 0.0
baz=54
EDM **Edmonton** 53.70 312 *eP* P 09 46 33.3 +0.3
EDM **Edmonton** 53.70 312 *eP* P 09 46 33.3 +0.3
EDM **Edmonton** 53.70 312 *eP* P 09 46 33.3 +0.3
R27A **Eads** 53.70 292 ⇓P P 09 46 33.2 -0.2
baz=54,SNR=23
O25A **Wiggins** 53.74 294 ⇑P P 09 46 33.2 -0.4
baz=54
F20A **Billings** 53.78 302 ⇑P P 09 46 33.9 +0.1
baz=54,SNR=7.2
J22A **Midwest** 53.78 299 ⇓P P 09 46 33.4 -0.6
baz=54,SNR=6.3
T28A **Walsh** 53.80 290 ⇑P P 09 46 34.0 -0.1
baz=54,SNR=14
EGMT **Eagleton** 53.80 305 ⇑P P 09 46 33.5 -0.4
baz=54
133A **Hamilton Ranch** 53.80 284 ⇓P P 09 46 33.8 -0.2
baz=54,SNR=20
Z32A **Haskell** 53.84 285 ⇓P P 09 46 33.9 -0.5
baz=54,SNR=28
ROSC **El Rosal** 53.86 239 *eP* P 09 46 36.1 +1.0
ROSC **El Rosal** 53.86 239 P P 09 46 36.1 +1.0
comp=Z,4.8nm,0.7s,baz=92,slow=8.6,SNR=7.4
ROSC **El Rosal** 53.86 239 *eP* P 09 46 36.1 +1.0
L23A **Garrett** 53.86 297 ⇑P P 09 46 34.1 -0.6
baz=54
E19A **Rath Farm, Rou** 53.89 303 ⇑P P 09 46 34.4 -0.1
baz=54
Q26A **Hugo** 53.90 293 ⇓P P 09 46 34.9 +0.1
baz=54
N24A **Carr** 53.92 295 ⇑P P 09 46 34.9 -0.1
baz=54
334A **Lometa** 53.98 282 ⇓P P 09 46 34.9 -0.5
baz=54,SNR=6.5
V29A **Stinnett** 54.00 288 ⇑P P 09 46 35.8 +0.2
baz=54
P25A **Willow Gulch B** 54.05 294 ⇑P P 09 46 36.0 0.0
baz=54,SNR=5.3
Y31A **Rekieta Farm,** 54.07 286 ⇓P P 09 46 36.0 0.0
baz=54,SNR=18
G20A **Bridger** 54.08 302 ⇑P P 09 46 35.5 -0.6
baz=54
PHWY **Pilot Hill** 54.08 296 *eP* P 09 46 36.6 +0.3
comp=Z,16nm,0.8s
PHWY **Pilot Hill** 54.08 296 *eP* P 09 46 36.6 +0.3
comp=Z,16nm,0.8s
233A **Rising Star** 54.10 283 ⇓P P 09 46 36.0 -0.2
baz=54,SNR=17
I21A **Big Trails, Te** 54.12 300 ⇑P P 09 46 36.0 -0.5
baz=54,SNR=16
R26A **Arlington** 54.15 292 ⇓P P 09 46 36.8 +0.2
baz=54,SNR=14
K22A **Casper** 54.16 298 *eP* P 09 46 36.8 +0.1
K22A **Casper** 54.16 298 ⇓P P 09 46 36.5 -0.2
baz=54,SNR=12
K22A **Casper** 54.16 298 *eP* P 09 46 36.8 +0.1
M23A **Laramie** 54.18 296 ⇓P P 09 46 37.2 +0.2
baz=54,SNR=5.7
535A **Dale** 54.19 280 ⇑P P 09 46 36.9 0.0
baz=54
U28A **Mallet** 54.24 289 ⇓P P 09 46 37.5 +0.2
baz=54
T27A **Campo** 54.25 290 ⇑P P 09 46 37.3 -0.1
baz=54,SNR=6.9
F19A **Roth Farm, Mol** 54.25 302 ⇓P P 09 46 37.1 -0.2
baz=54
X30A **Coker Ranch, T** 54.26 287 ⇓P P 09 46 37.3 -0.2
baz=54,SNR=9.9
H20A **Greybull** 54.27 301 ⇓P P 09 46 37.6 +0.1
baz=54
434A **Burnet** 54.28 281 ⇑P P 09 46 36.7 -0.9
baz=54,SNR=6.4
Z31A **Sharp Cattle R** 54.31 285 ⇓P P 09 46 37.3 -0.6
baz=54,SNR=13
ABTX **Abilene, Hawle** 54.32 284 *eP* P 09 46 36.2 -1.7
comp=Z,14nm,0.5s
ABTX **Abilene, Hawle** 54.32 284 ⇓P P 09 46 37.1 -0.7
baz=54,SNR=11
ABTX **Abilene, Hawle** 54.32 284 *eP* P 09 46 36.2 -1.7
comp=Z,14nm,0.5s
O24A **Longmont** 54.38 295 ⇓P P 09 46 38.1 -0.3
baz=54,SNR=5.4
L22A **Ellis Ranch, M** 54.38 297 ⇑P P 09 46 38.5 0.0
baz=54
Q25A **Bedland, Calha** 54.40 293 ⇓P P 09 46 38.6 0.0
baz=54,SNR=8.8
J21A **Lysite** 54.44 299 ⇑P P 09 46 38.6 -0.2
baz=54,SNR=11
W29A **Amarillo** 54.46 288 ⇓P P 09 46 39.5 +0.5
baz=54,SNR=10
S26A **Kim** 54.49 291 ⇑P P 09 46 39.3 +0.1
baz=54,SNR=12
333A **Richland Sprin** 54.52 282 ⇑P P 09 46 38.7 -0.7
baz=54,SNR=6.2
V28A **Channing** 54.55 289 ⇓P P 09 46 39.9 +0.2
baz=54,SNR=8.2
P24A **Kohler Place,** 54.56 294 ⇑P P 09 46 39.6 -0.1
baz=54
N23A **Red Feather La** 54.59 296 ⇑P P 09 46 40.5 +0.4
baz=54,SNR=15
I20A **Worland** 54.60 300 ⇓P P 09 46 39.9 0.0
baz=54,SNR=12
AMTX **Amarillo** 54.61 287 *eP* P 09 46 40.5 +0.5
comp=Z,65nm,1.2s
AMTX **Amarillo** 54.61 287 ⇑P P 09 46 40.2 +0.1
baz=54
AMTX **Amarillo** 54.61 287 *eP* P 09 46 40.5 +0.5
comp=Z,65nm,1.2s
U27A **Thompson Grove** 54.64 290 ⇑P P 09 46 40.4 +0.1
baz=54,SNR=18
K21A **Alcova** 54.64 298 ⇑P P 09 46 39.9 -0.4
baz=54,SNR=6.9
635A **Leesville** 54.68 280 ⇓P P 09 46 40.3 -0.2
baz=55,SNR=6.4
232A **Coleman** 54.70 283 ⇓P P 09 46 40.3 -0.4
baz=55,SNR=21
M22A **Cedar Creek Ra** 54.79 297 ⇓P P 09 46 41.8 +0.4
baz=55
W28A **Vega** 54.79 288 ⇑P P 09 46 41.2 -0.1
baz=55
R25A **Fountain Ranch** 54.80 292 ⇑P P 09 46 41.4 0.0
baz=55
T26A **Comanche Natio** 54.80 291 ⇑P P 09 46 42.0 +0.5
baz=55,SNR=16
H19A **Powell** 54.81 301 ⇓P P 09 46 41.7 +0.2
baz=55,SNR=8.9
131A **Roby** 54.83 284 ⇑P P 09 46 40.9 -0.7
baz=55
J20A **Shoshoni** 54.85 299 ⇑P P 09 46 42.0 +0.3
baz=55,SNR=18
X29A **Tulia** 54.85 287 ⇑P P 09 46 41.6 -0.1
baz=55,SNR=8.5
534A **Blanco** 54.85 281 ⇓P P 09 46 41.2 -0.5
baz=55,SNR=11
GNI **Garni** 54.88 65 *eP* P 09 46 42.5 +0.5
GNI **Garni** 54.88 65 P P 09 46 42.4 +0.4
comp=Z,5.6nm,0.6s,baz=252,slow=4.3,SNR=4.9
GNI **Garni** 54.88 65 *eP* P 09 46 42.5 +0.5
ISCO **Idaho Springs** 54.90 295 *eP* P 09 46 42.9 +0.6
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO **Idaho Springs** 54.90 295 *eP* P 09 46 42.9 +0.6
comp=Z,10nm,1.1s
ISCO **Idaho Springs** 54.90 295 ⇑P P 09 46 42.5 +0.2
baz=55
ISCO **Idaho Springs** 54.90 295 *eP* P 09 46 42.9 +0.6
comp=Z,10nm,1.1s
O23A **Lake Granby, G** 54.90 295 ⇑P P 09 46 42.6 +0.2
baz=55,SNR=5.7
433A **Art** 54.91 282 ⇓P P 09 46 41.5 -0.6
baz=55,SNR=28
V27A **Dan Oppiter Fa** 54.98 289 ⇑P P 09 46 42.7 0.0
baz=55,SNR=8.1
Q24A **Divide** 54.99 293 ⇑P P 09 46 43.1 +0.1
baz=55,SNR=8.8
735A **Kenedy** 55.00 279 ⇑P P 09 46 43.2 +0.4
baz=55
Z30A **Sanderson Ranc** 55.04 285 ⇑P P 09 46 42.1 -1.0
baz=55,SNR=5.5
332A **Millersview** 55.04 283 ⇑P P 09 46 42.6 -0.5
baz=55,SNR=19
I19A **Meeteetse** 55.11 301 ⇓P P 09 46 43.8 +0.1
baz=55,SNR=8.0
Y29A **Porterfield Fa** 55.13 286 ⇑P P 09 46 43.3 -0.5
baz=55,SNR=7.3
S25A **Robets Cordova** 55.14 292 ⇓P P 09 46 43.9 0.0
baz=55,SNR=9.8
X28A **Dimmitt** 55.16 287 ⇓P P 09 46 44.2 +0.1
baz=55
231A **Bronte** 55.16 284 ⇑P P 09 46 43.5 -0.5
baz=55,SNR=11

533A Kerrville 55.23 281 ⇑P P 09 46 43.8 -0.7
baz=55,SNR=14
H18A Shoshone NF, C 55.24 301 ⇓P P 09 46 44.8 +0.2
baz=55
P23A Jefferson 55.26 294 ⇓P P 09 46 45.4 +0.4
baz=55
130A Snyder 55.28 285 ⇓P P 09 46 44.5 -0.4
baz=55,SNR=5.7
U26A Atchley Ranch, 55.29 290 ⇓P P 09 46 45.0 -0.1
baz=55,SNR=11
R24A Sanders Place, 55.32 293 ⇓P P 09 46 45.8 +0.6
baz=55,SNR=8.4
835A Beeville 55.33 278 ⇑P P 09 46 45.7 +0.5
baz=55
O22A Kremmling 55.35 295 ⇑P P 09 46 45.7 +0.1
baz=55,SNR=9.6
432A Menard 55.35 282 ⇑P P 09 46 44.5 -0.9
baz=55,SNR=8.7
T25A Trinidad 55.38 291 ⇓P P 09 46 46.2 +0.4
baz=55,SNR=14
Z29A Hungry Hill Ra 55.46 286 ⇓P P 09 46 45.5 -0.7
baz=55,SNR=8.9
W27A Bowe Ranch, En 55.49 288 ⇓P P 09 46 46.6 +0.2
baz=55,SNR=15
Y28A McKinney Farm, 55.51 287 ⇓P P 09 46 45.7 -0.8
baz=55
J19A Crowheart 55.51 300 ⇑P P 09 46 46.0 -0.5
baz=55,SNR=10
734A La Parita Cree 55.55 279 ⇓P P 09 46 46.5 -0.3
baz=56
JCT Junction City 55.57 282 eP P 09 46 46.3 -0.7
JCT pmax pmax
comp=Z,11nm,0.8s
JCT Junction City 55.57 282 eP P 09 46 46.2 -0.7
comp=Z,11nm,0.8s
JCT Junction City 55.57 282 ⇓P P 09 46 46.5 -0.5
baz=56,SNR=10.0
JCT Junction City 55.57 282 eP P 09 46 46.2 -0.7
comp=Z,11nm,0.8s
331A San Angelo 55.58 283 ⇑P P 09 46 46.6 -0.4
baz=56,SNR=8.0
V26A Tequesquite Ra 55.62 289 ⇓P P 09 46 47.5 +0.1
baz=56,SNR=26
ARU Arti 55.64 42 d iP P 09 46 46.6 -0.4
ARU 09 48 45.8
ARU S S 09 54 33.7 +1.5
ARU pmax pmax
comp=Z,20nm,1.7s
HRY Holter Researc 55.65 305 eP P 09 46 47.4 0.0
HRY Holter Researc 55.65 305 eP P 09 46 47.4 0.0
633A Saathoff Ranch 55.67 280 ⇓P P 09 46 47.3 -0.3
baz=56,SNR=7.2
X27A F and S Farms, 55.73 288 ⇑P P 09 46 48.2 +0.1
baz=56,SNR=12
U25A Circle Dot Ran 55.75 290 ⇓P P 09 46 49.6 +1.2
baz=56,SNR=42
230A Sterling City 55.76 284 ⇓P P 09 46 48.2 -0.1
baz=56,SNR=5.4
P22A Eagle 55.77 295 ⇑P P 09 46 48.9 +0.4
baz=56
WALA Waterton Lakes 55.82 308 eP P 09 46 48.8 +0.2
comp=Z,0.5nm,1.0s
WALA Waterton Lakes 55.82 308 eP P 09 46 48.8 +0.2
comp=Z,0.5nm,1.0s
SDCO Great Sand Dun 55.83 292 eP P 09 46 49.5 +0.5
comp=Z,110nm,0.8s
SDCO Great Sand Dun 55.83 292 eP P 09 46 49.5 +0.5
comp=Z,110nm,0.8s
R23A Moffat 55.83 293 ⇓P P 09 46 49.7 +0.7
baz=56,SNR=9.5
532A Rocksprings 55.83 282 ⇑P P 09 46 48.5 -0.4
baz=56,SNR=12
MSTX Muleshoe 55.85 287 eP P 09 46 49.0 0.0
comp=Z,24nm,0.7s
MSTX Muleshoe 55.85 287 ⇓P P 09 46 49.0 0.0
baz=56,SNR=15
MSTX Muleshoe 55.85 287 eP P 09 46 49.0 0.0
comp=Z,24nm,0.7s
INK Inuvik 55.87 334 eP P 09 46 47.5 -0.9
comp=Z,6.4nm,1.1s
INK Inuvik 55.87 334 eP P 09 46 47.5 -0.9
comp=Z,6.4nm,1.1s
129A Stewart Farms, 55.91 285 ⇑P P 09 46 49.1 -0.3
baz=56,SNR=7.7
Z28A Tucker Farm, M 55.93 286 ⇓P P 09 46 49.2 -0.4
baz=56,SNR=6.5
834A Tilden 55.95 279 ⇑P P 09 46 49.9 +0.3
baz=56
H17A Grant Village 55.95 302 eP P 09 46 51.6 +1.9
comp=Z,5.1nm,1.0s
H17A Grant Village 55.95 302 ⇑P P 09 46 50.7 +0.9
baz=56
H17A Grant Village 55.95 302 eP P 09 46 51.7 +1.9
comp=Z,5.1nm,1.0s
W26A Owens Ranch, T 55.97 289 ⇑P P 09 46 50.3 +0.4
baz=56,SNR=6.5
431A Sonora 56.04 282 ⇑P P 09 46 50.0 -0.3
baz=56,SNR=7.1
330A Mertzon 56.06 284 ⇑P P 09 46 50.2 -0.3
baz=56,SNR=10
YMR Madison River 56.07 302 eP P 09 46 52.7 +2.2
comp=Z,114nm,2.5s
YMR Madison River 56.07 302 eP P 09 46 52.7 +2.2
comp=Z,114nm,2.5s
BW06 Boulder Array 56.08 299 eP P 09 46 50.0 -0.7
comp=Z,13nm,1.0s
BW06 Boulder Array 56.08 299 eP P 09 46 50.0 -0.7
comp=Z,13nm,1.0s
PDAR Pinedale Array 56.08 299 P P 09 46 49.9 -0.8
PDAR Pinedale Array 56.08 299 P P 09 46 49.9 -0.8
comp=Z,8.8nm,1.0s,baz=66,slow=5.6,SNR=43
PDAR LR LR 10 09 28.9
comp=Z,115nm,19.5s,baz=246,slow=35
PDAR Pinedale Array 56.08 299 P P 09 46 49.9 -0.8
632A Uvalde 56.09 281 ⇑P P 09 46 50.2 -0.4
baz=56,SNR=6.3
YFT Old Faithful 56.09 302 eP P 09 46 53.2 +2.4
comp=Z,11nm,1.0s
YFT Old Faithful 56.09 302 eP P 09 46 53.2 +2.4
comp=Z,11nm,1.0s
T24B San Luis 56.09 292 ⇑P P 09 46 52.2 +1.2
baz=56,SNR=7.2
SMCO Snowmass 56.12 294 eP P 09 46 51.3 +0.1
comp=Z,9.6nm,0.8s
SMCO Snowmass 56.12 294 eP P 09 46 51.3 +0.1
comp=Z,9.6nm,0.8s
733A Divot King Ran 56.16 280 ⇑P P 09 46 50.8 -0.3
baz=56,SNR=5.1
N20A Spence Gulch, 56.16 297 ⇑P P 09 46 51.8 +0.5
baz=56,SNR=9.3
Y27A Causey 56.17 287 ⇓P P 09 46 51.0 -0.4
baz=56,SNR=8.5
I17A Pilgrim Ck. 56.17 301 ⇑P P 09 46 51.7 +0.3
baz=56
FLWY Flagg Ranch 56.18 301 eP P 09 46 51.7 +0.3
comp=Z,12nm,1.1s
FLWY Flagg Ranch 56.18 301 eP P 09 46 51.7 +0.3
comp=Z,12nm,1.1s
V25A Rancho No Teng 56.18 290 ⇓P P 09 46 51.3 -0.2
baz=56,SNR=5.7
S23A Nye Farm, Mont 56.19 292 ⇓P P 09 46 52.7 +1.1
baz=56
934A Benavides 56.22 278 ⇓P P 09 46 51.7 +0.2
baz=56
229A Bryant Ranch, 56.22 284 ⇓P P 09 46 51.6 0.0
baz=56
531A Rocksprings 56.28 282 ⇓P P 09 46 51.8 -0.2
baz=56,SNR=16
X26A CR and CF Fran 56.28 288 ⇓P P 09 46 51.8 -0.3
baz=56,SNR=5.2
LOHW Long Hollow 56.34 301 eP P 09 46 52.7 +0.2
comp=Z,9.8nm,1.1s
LOHW Long Hollow 56.34 301 eP P 09 46 52.7 +0.2
comp=Z,9.8nm,1.1s
128A Castleberry Fa 56.36 285 ⇑P P 09 46 52.3 -0.4
baz=56,SNR=7.2
MOOW Moose Ponds 56.37 301 eP P 09 46 52.8 +0.1
comp=Z,9.7nm,1.1s
MOOW Moose Ponds 56.37 301 eP P 09 46 52.8 +0.1
comp=Z,9.7nm,1.1s
W25A X Bar L Ranch, 56.39 289 ⇓P P 09 46 53.1 +0.2
baz=56,SNR=6.5
SLMT Seeley Lake 56.41 306 eP P 09 46 52.6 -0.3
comp=Z,3.9nm,0.8s
SLMT Seeley Lake 56.41 306 eP P 09 46 52.6 -0.3
comp=Z,3.8nm,0.8s
CHMT Chamberlain Mo 56.42 305 eP P 09 46 53.5 +0.5
CHMT Chamberlain Mo 56.42 305 eP P 09 46 53.5 +0.5

430A Baggett Ranch, 56.44 283 ⇑P P 09 46 53.0 -0.3
baz=56,SNR=8.0
833A Chaparral WMA, 56.45 279 ⇓P P 09 46 53.2 -0.1
baz=56,SNR=8.3
SVE Sverdlovsk 56.48 41 eP P 09 46 52.7 -0.4
SVE pmax pmax
comp=Z,10.0nm,1.2s
O20A White River Ci 56.49 296 eP P 09 46 54.3 +0.6
comp=Z,42nm,1.8s
O20A White River Ci 56.49 296 ⇑P P 09 46 54.0 +0.3
baz=56
O20A White River Ci 56.49 296 eP P 09 46 54.3 +0.6
comp=Z,42nm,1.8s
Z27A Tatum 56.51 287 ⇓P P 09 46 53.5 -0.2
baz=56,SNR=9.6
T23A Casias Ranch, 56.56 292 ⇓P P 09 46 55.3 +1.1
baz=56
SWMT Swartz Lake 56.59 306 eP P 09 46 53.8 -0.3
SWMT Swartz Lake 56.59 306 eP P 09 46 53.8 -0.3
329A Wagon Wheel Ra 56.60 284 ⇑P P 09 46 54.1 -0.2
baz=56,SNR=5.5
REDW Red Top Meadow 56.62 301 eP P 09 46 54.7 +0.2
comp=Z,31nm,1.4s
REDW Red Top Meadow 56.62 301 eP P 09 46 54.7 +0.2
comp=Z,31nm,1.4s
732A Laxson Ranch, 56.65 280 ⇑P P 09 46 54.4 -0.3
baz=57,SNR=11
V24A Rampart Ranch, 56.70 290 ⇑P P 09 46 56.1 +0.9
baz=57
228A UT Block 9, Go 56.70 285 ⇓P P 09 46 54.6 -0.5
baz=57
631A Perdido Creek 56.71 281 ⇑P P 09 46 54.7 -0.4
baz=57,SNR=7.2
S22A 4UR Ranch, Cre 56.74 293 ⇑P P 09 46 55.8 +0.3
baz=57,SNR=7.0
DLMT Dillon 56.75 303 eP P 09 46 55.9 +0.5
comp=Z,14nm,1.2s
DLMT Dillon 56.75 303 eP P 09 46 55.9 +0.5
comp=Z,14nm,1.2s
530A J-C Ranch, Com 56.86 282 ⇑P P 09 46 56.0 -0.2
baz=57
MSO Missoula 56.88 305 eP P 09 46 56.2 0.0
comp=Z,9.6nm,1.2s
MSO Missoula 56.88 305 ⇑P P 09 46 55.8 -0.3
baz=57,SNR=5.1
MSO Missoula 56.88 305 eP P 09 46 56.2 0.0
comp=Z,9.6nm,1.2s
X25A Clemmons Ranch 56.89 289 ⇑P P 09 46 56.7 +0.2
baz=57
832A Faith Ranch, C 56.90 280 ⇓P P 09 46 56.3 -0.2
baz=57,SNR=11
127A Arkansas Junct 56.95 286 ⇓P P 09 46 56.6 -0.3
baz=57,SNR=6.5
429A Davenport Ranc 57.00 283 ⇓P P 09 46 56.6 -0.6
baz=57,SNR=5.6
U23A El Rito 57.02 291 ⇑P P 09 46 58.4 +0.9
baz=57,SNR=7.5
W24A Lazy 6 Ranch, 57.06 290 ⇓P P 09 46 58.5 +0.7
baz=57,SNR=6.7
Z26A Caprock 57.08 287 ⇑P P 09 46 58.1 +0.4
baz=57,SNR=7.0
Y25A Mesa, Roswell 57.23 288 ⇓P P 09 46 59.1 +0.2
baz=57,SNR=16
328A Wristen Ranch, 57.25 284 ⇓P P 09 46 58.6 -0.4
baz=57,SNR=6.0
227A Bennet, Jal 57.26 285 ⇓P P 09 46 58.8 -0.3
baz=57
V23A Ortiz Mt. (NFS 57.32 291 ⇓P P 09 47 01.0 +1.4
baz=57,SNR=5.8
126A Clayton Basin, 57.44 286 ⇑P P 09 47 00.2 -0.1
baz=57
U22A Llaves 57.46 292 ⇓P P 09 47 01.7 +1.1
baz=57
529A Stev Forest Ra 57.51 283 ⇑P P 09 47 00.6 -0.3
baz=57,SNR=25
428A Kincaid Ranch, 57.52 284 ⇓P P 09 47 00.8 -0.1
baz=57,SNR=12
Z25A Roswell 57.59 287 ⇓P P 09 47 02.2 +0.7
baz=58,SNR=19
W23A Werner Place, 57.60 290 ⇑P P 09 47 02.4 +0.8
baz=58,SNR=7.6
V22A San Miguel Ran 57.74 291 ⇓P P 09 47 03.5 +0.9
baz=58,SNR=7.4
Y24A Capitan 57.76 288 ⇓P P 09 47 03.2 +0.5
baz=58,SNR=13
PV04 Paradox Valley 57.82 295 eP P 09 47 03.8 +0.8
PV04 Paradox Valley 57.82 295 eP P 09 47 03.8 +0.8
226B Tecolote Peak, 57.85 286 ⇓P P 09 47 03.5 +0.3
baz=58,SNR=12
125A Gardner Draw, 57.88 287 ⇓P P 09 47 03.7 +0.2
baz=58,SNR=9.6
PV10 Paradox Valley 57.92 295 eP P 09 47 04.6 +0.8
comp=Z,102nm,0.8s
PV10 Paradox Valley 57.92 295 eP P 09 47 04.6 +0.8
comp=Z,102nm,0.8s
ANMO Albuquerque 57.93 290 eP P 09 47 04.8 +0.9
comp=Z,5.7nm,0.8s
ANMO Albuquerque 57.93 290 eP P 09 47 04.8 +0.9
comp=Z,5.7nm,0.8s
X23A Hourglass Bar 57.94 289 ⇓P P 09 47 04.9 +0.9
baz=58
427A Hayter Ranch, 57.97 284 ⇓P P 09 47 03.7 -0.3
baz=58,SNR=21
Z24A Sheeppen Canyo 58.02 288 ⇑P P 09 47 05.4 +0.8
baz=58,SNR=14
NEW Newport 58.07 308 eP P 09 47 04.0 -0.4
comp=Z,18nm,1.0s
NEW Newport 58.07 308 ⇓P P 09 47 03.9 -0.6
baz=58
NEW Newport 58.07 308 eP P 09 47 04.1 -0.4
comp=Z,18nm,1.0s
326A Caldwell Ranch 58.13 285 ⇓P P 09 47 05.7 +0.6
baz=58,SNR=19
AKTO Aktyubinsk 58.14 49 P P 09 47 05.1 +0.2
AKTO Aktyubinsk 58.14 49 P P 09 47 05.1 +0.2
AKTO Aktyubinsk 58.14 49 P P 09 47 05.1 +0.2
comp=Z,8.1nm,0.9s,baz=299,slow=7.0,SNR=31
AKTO Aktyubinsk 58.14 49 P P 09 47 05.1 +0.2
MVCO Mesa Verde 58.15 293 eP P 09 47 06.7 +1.2
comp=Z,14nm,0.8s
MVCO Mesa Verde 58.15 293 ⇑P P 09 47 06.4 +1.0
baz=58,SNR=12
MVCO Mesa Verde 58.15 293 eP P 09 47 06.7 +1.2
comp=Z,14nm,0.8s
Y23A Lovelace Mesa, 58.19 289 ⇓P P 09 47 06.2 +0.5
baz=58,SNR=7.2
225A Deer Hill, Car 58.30 286 ⇓P P 09 47 07.0 +0.5
baz=58,SNR=22
DAU Daniels Canyon 58.35 298 eP P 09 47 07.5 +0.6
DAU Daniels Canyon 58.35 298 eP P 09 47 07.5 +0.6
DAU Daniels Canyon 58.35 298 eP P 09 47 07.4 +0.6
628A Black Gap, Mar 58.35 283 ⇓P P 09 47 06.6 -0.1
baz=58,SNR=10.0
LPM Los Pinos Moun 58.39 289 eP P 09 47 08.0 +0.9
comp=Z,4.7nm,1.0s
LPM Los Pinos Moun 58.39 289 eP P 09 47 08.0 +0.9
comp=Z,4.7nm,1.0s
BNM Barren Site 58.47 289 eP P 09 47 08.7 +1.0
comp=Z,6.4nm,0.7s
BNM Barren Site 58.47 289 eP P 09 47 08.7 +1.0
comp=Z,6.4nm,0.7s
527A Woodward Ranch 58.51 284 ⇓P P 09 47 07.7 -0.2
baz=58,SNR=14
426A McDonald Obser 58.52 284 ⇑P P 09 47 08.4 +0.3
baz=58,SNR=16
HVU Hansel Valley 58.64 300 eP P 09 47 08.6 -0.1
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 58.64 300 eP P 09 47 08.6 -0.1
comp=Z,11nm,0.9s
HVU Hansel Valley 58.64 300 eP P 09 47 08.6 -0.1
comp=Z,11nm,0.9s
Z23A Rita Site, Whi 58.67 288 ⇓P P 09 47 09.9 +0.9
baz=59,SNR=7.7
LAZ Ladron 58.70 290 eP P 09 47 10.2 +1.0
comp=Z,7.3nm,1.3s
LAZ Ladron 58.70 290 eP P 09 47 10.2 +1.0
comp=Z,7.3nm,1.3s
LENM Lemitar 58.71 289 eP P 09 47 10.5 +1.2
LENM Lemitar 58.71 289 eP P 09 47 10.5 +1.2
Y22D IRIS PASSCAL I 58.72 289 ⇓P P 09 47 10.1 +0.8
baz=59
627A Terlingua Ranc 58.73 283 ⇑P P 09 47 09.9 +0.5
baz=59,SNR=14
HLID Hailey 58.77 302 eP P 09 47 10.3 +0.7
comp=Z,6.4nm,0.9s
HLID Hailey 58.77 302 ⇓P P 09 47 10.0 +0.4
baz=59,SNR=11

HLID Hailey 58.77 302 eP P 09 47 10.3 +0.7
comp=Z,6.4nm,0.9s
MPU Maple Canyon 58.80 298 eP P 09 47 10.4 +0.5
comp=Z,8.3nm,1.1s
MPU Maple Canyon 58.80 298 eP P 09 47 10.4 +0.5
comp=Z,8.3nm,1.1s
325A Bean Ranch, Si 58.81 286 ⇓P P 09 47 10.0 0.0
baz=59,SNR=8.1
224A Cornudas Mount 58.81 287 ⇓P P 09 47 09.9 -0.1
baz=59,SNR=8.8
TMUT Trail Mountain 58.89 297 eP P 09 47 11.1 +0.5
comp=Z,24nm,0.8s
TMUT Trail Mountain 58.89 297 eP P 09 47 11.1 +0.5
comp=Z,24nm,0.8s
526A Mary Lane Ranc 58.90 284 ⇓P P 09 47 11.1 +0.4
baz=59,SNR=19
TXAR Lajitas Array 59.00 283 P P 09 47 11.2 -0.1
TXAR Lajitas Array 59.00 283 P P 09 47 11.2 -0.1
comp=Z,7.4nm,0.7s,baz=70,slow=7.2,SNR=95
TXAR Lajitas Array 59.00 283 P P 09 47 11.2 -0.1
123A Bell Site, Whi 59.03 288 ⇓P P 09 47 11.9 +0.4
baz=59
NLU North Lily Min 59.12 298 eP P 09 47 12.6 +0.5
comp=Z,11nm,1.1s
NLU North Lily Min 59.12 298 eP P 09 47 12.6 +0.5
comp=Z,11nm,1.1s
SAML Samuel 59.13 218 eP P 09 47 12.1 0.0
comp=Z,7.6nm,1.4s
SAML Samuel 59.13 218 eP P 09 47 12.1 0.0
comp=Z,7.6nm,1.4s
324A Moseley Ranch, 59.13 286 ⇓P P 09 47 11.8 -0.4
baz=59,SNR=8.6
425A Indio Mountain 59.14 285 ⇑P P 09 47 12.3 +0.1
baz=59,SNR=14
Z22A Elephant Butte 59.19 289 ⇓P P 09 47 13.3 +0.7
baz=59
626A Big Bend Ranch 59.21 283 ⇓P P 09 47 13.0 +0.3
baz=59,SNR=10
BGU Big Grassy Mou 59.24 299 eP P 09 47 12.9 0.0
comp=Z,4.8nm,1.2s
BGU Big Grassy Mou 59.24 299 eP P 09 47 12.9 0.0
comp=Z,4.8nm,1.2s
F10A Beach Ranch, E 59.28 306 eP P 09 47 12.4 -0.6
comp=Z,90nm,2.6s
F10A Beach Ranch, E 59.28 306 eP P 09 47 12.4 -0.6
comp=Z,90nm,2.6s
DUG Dugway 59.48 298 eP P 09 47 14.9 +0.4
DUG pmax pmax
comp=Z,17nm,0.9s
DUG Dugway 59.48 298 eP P 09 47 14.9 +0.4
comp=Z,17nm,0.9s
DUG Dugway 59.48 298 ⇓P P 09 47 14.8 +0.4
baz=59,SNR=21
DUG Dugway 59.48 298 eP P 09 47 14.9 +0.4
comp=Z,17nm,0.9s
DLBC Dease Lake 59.57 323 eP P 09 47 15.7 +0.9
DLBC Dease Lake 59.57 323 eP P 09 47 15.6 +0.9
ABKAR Akbulak array 59.81 49 eP P 09 47 16.8 +0.4
comp=Z,0.9nm,0.4s
ABKAR Akbulak array 59.81 49 eP P 09 47 16.8 +0.4
comp=Z,0.9nm,0.4s
BDFB Brasilia 59.90 200 eP P 09 47 18.3 +0.9
BDFB Brasilia 59.90 200 P P 09 47 18.2 +0.7
comp=Z,11nm,0.8s,baz=8.5,slow=10.0,SNR=13
BDFB LR LR 10 08 10.8
comp=Z,99nm,20.8s,baz=33,slow=31
BDFB Brasilia 59.90 200 eP P 09 47 18.3 +0.9
MVU Marysvale 59.97 296 eP P 09 47 18.8 +0.7
comp=Z,10nm,0.9s
MVU Marysvale 59.97 296 eP P 09 47 18.8 +0.7
comp=Z,10nm,0.9s
OTAV Otavalo 60.02 239 eP P 09 47 19.2 +0.4
comp=Z,9.2nm,1.3s
OTAV Otavalo 60.02 239 eP P 09 47 19.2 +0.4
comp=Z,9.2nm,1.3s
W18A Petrified Fore 60.11 292 eP P 09 47 19.9 +0.9
comp=Z,9.8nm,0.9s
W18A Petrified Fore 60.11 292 ⇓P P 09 47 19.7 +0.7
baz=60
W18A Petrified Fore 60.11 292 eP P 09 47 20.3 +1.3
comp=Z,22nm,1.0s
121A Cookes Peak, D 60.16 288 eP P 09 47 20.3 +0.9
comp=Z,22nm,1.0s
121A Cookes Peak, D 60.16 288 ⇑P P 09 47 20.2 +0.9
baz=60,SNR=12
DAWY Dawson 60.17 331 eP P 09 47 18.7 0.0
DAWY Dawson 60.17 331 eP P 09 47 18.7 0.0
EGAK Eagle 60.36 333 eP P 09 47 19.7 -0.3
comp=Z,9.0nm,1.3s
EGAK Eagle 60.36 333 eP P 09 47 19.7 -0.3
comp=Z,9.0nm,1.3s
221A Mesquite Ranch 60.45 288 ⇓P P 09 47 22.4 +1.1
baz=60
X18A Snowflake 60.58 291 ⇓P P 09 47 22.4 +0.2
baz=60,SNR=10.0
ELK Elko 60.76 300 eP P 09 47 24.2 +0.8
comp=Z,8.6nm,0.9s
ELK Elko 60.76 300 eP P 09 47 24.2 +0.8
comp=Z,8.6nm,0.9s
WUAZ Wupatki 61.02 293 eP P 09 47 26.5 +1.4
comp=Z,12nm,0.9s
WUAZ Wupatki 61.02 293 ⇓P P 09 47 26.1 +0.9
baz=61,SNR=5.5
WUAZ Wupatki 61.02 293 eP P 09 47 26.5 +1.4
comp=Z,12nm,0.9s
U15A North Rim 61.14 294 ⇑P P 09 47 26.3 +0.2
baz=61,SNR=11
ARUT Antelope Range 61.17 296 eP P 09 47 26.7 +0.5
ARUT Antelope Range 61.17 296 eP P 09 47 26.7 +0.5
comp=Z,252nm,1.2s
ARUT Antelope Range 61.17 296 eP P 09 47 26.7 +0.5
comp=Z,252nm,1.2s
CCUT Cedar City 61.25 296 eP P 09 47 27.5 +0.7
comp=Z,14nm,0.8s
CCUT Cedar City 61.25 296 eP P 09 47 27.5 +0.7
comp=Z,14nm,0.8s
320A Kipp Ranch, An 61.35 288 ⇓P P 09 47 28.6 +1.2
baz=61,SNR=6.0
HYT Haines Junctio 61.38 328 eP P 09 47 27.9 +0.8
HYT Haines Junctio 61.38 328 eP P 09 47 27.9 +0.8
J08A Circle Bar Ran 61.40 304 eP P 09 47 28.8 +1.2
comp=Z,34nm,1.1s
J08A Circle Bar Ran 61.40 304 eP P 09 47 28.8 +1.2
comp=Z,34nm,1.1s
COLD Coldfoot 61.62 337 eP P 09 47 29.0 +0.5
comp=Z,12nm,1.0s
COLD Coldfoot 61.62 337 eP P 09 47 29.0 +0.5
comp=Z,12nm,1.0s
X16A Lo Mia Camp, P 61.67 292 ⇑P P 09 47 31.0 +1.4
baz=62,SNR=8.8
319A Douglas 61.86 288 ⇓P P 09 47 31.8 +0.9
baz=62,SNR=5.4
WVOR Wild Horse Val 62.00 303 eP P 09 47 32.8 +1.2
WVOR pmax pmax
comp=Z,19nm,1.1s
WVOR Wild Horse Val 62.00 303 eP P 09 47 32.8 +1.2
comp=Z,19nm,1.1s
WVOR Wild Horse Val 62.00 303 eP P 09 47 32.8 +1.2
comp=Z,19nm,1.1s
DOT Dot Lake 62.06 332 eP P 09 47 32.0 +0.4
comp=Z,11nm,1.2s
DOT Dot Lake 62.06 332 eP P 09 47 32.0 +0.4
comp=Z,11nm,1.2s
BMN Battle Mountai 62.20 301 eP P 09 47 33.8 +0.7
BMN pmax pmax
comp=Z,8.0nm,0.8s
BMN Battle Mountai 62.20 301 eP P 09 47 33.8 +0.7
comp=Z,7.6nm,0.8s
BMN Battle Mountai 62.20 301 eP P 09 47 33.8 +0.7
comp=Z,7.6nm,0.8s
ILAR Eielson Array 62.27 334 P P 09 47 32.5 -0.4
ILAR Eielson Array 62.27 334 P P 09 47 32.5 -0.4
comp=Z,3.0nm,0.8s,baz=44,slow=6.1,SNR=46
ILAR LR LR 10 13 31.5
comp=Z,58nm,18.5s,baz=91,slow=35
ILAR Eielson Array 62.27 334 P P 09 47 32.5 -0.4
R11A Troy Canyon, C 62.28 298 eP P 09 47 33.6 0.0
comp=Z,14nm,1.7s
R11A Troy Canyon, C 62.28 298 ⇓P P 09 47 33.9 +0.3
baz=62,SNR=7.0
R11A Troy Canyon, C 62.28 298 eP P 09 47 33.7 0.0
comp=Z,14nm,1.7s
TUC Tucson 62.39 290 eP P 09 47 35.8 +1.4
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 62.39 290 eP P 09 47 35.8 +1.4
comp=Z,10nm,0.9s

TUC	Tucson	62.39	290	eP		P	09 47 35.8	+1.4	
	comp=Z,10nm,0.9s								
COLA	College	62.51	335	eP		P	09 47 35.2	+0.8	
COLA					pmax	pmax			
	comp=Z,7.0nm,1.1s								
COLA	College	62.51	335	eP		P	09 47 35.2	+0.8	
	comp=Z,7.0nm,1.1s								
COLA	College	62.51	335	eP		P	09 47 35.2	+0.8	
	comp=Z,7.0nm,1.1s								
I05D	Terrebonne, OR	62.61	306	⇓P		P	09 47 36.2	+0.6	
	baz=62								
W13A	Hualapai Mount	62.96	294	⇑P		P	09 47 38.8	+0.6	
	baz=63,SNR=6.8								
PAX	Paxson	62.98	332	eP		P	09 47 38.1	+0.3	
PAX					pmax	pmax			
	comp=Z,59nm,2.3s								
PAX	Paxson	62.98	332	eP		P	09 47 38.1	+0.3	
	comp=Z,59nm,2.3s								
PAX	Paxson	62.98	332	eP		P	09 47 38.1	+0.3	
	comp=Z,59nm,2.3s								
Y14A	Wickenburg	63.01	292	⇑P		P	09 47 39.1	+0.7	
	baz=63,SNR=7.5								
J05D	Fort Rock, OR	63.13	305	⇓P		P	09 47 40.3	+1.1	
	baz=63								
BRVK	Borovoye	63.19	42	⇑iP		P	09 47 39.6	+0.4	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.7s								
BRVK					MLR	MLR			
	comp=Z,50nm,15.0s								
BVAR	Borovoye Array	63.27	42	P		P	09 47 40.1	+0.4	
BVAR	Borovoye Array	63.27	42	P		P	09 47 40.1	+0.4	
BVAR	Borovoye Array	63.27	42	P		P	09 47 40.1	+0.4	
	comp=Z,3.1nm,0.8s,baz=289,slow=4.5,SNR=11								
BVAR	Borovoye Array	63.27	42	P		P	09 47 40.1	+0.4	
Z14A	Wintersburg	63.29	292	⇑P		P	09 47 41.4	+1.2	
	baz=63								
MOD	Modoc	63.33	303	eP		P	09 47 41.5	+1.0	
	comp=Z,3.8nm,1.0s								
MOD	Modoc	63.33	303	eP		P	09 47 41.5	+1.0	
	comp=Z,3.8nm,1.0s								
TPNV	Topopah Spring	63.50	297	eP		P	09 47 42.0	+0.2	
TPNV					pmax	pmax			
	comp=Z,42nm,2.1s								
TPNV	Topopah Spring	63.50	297	eP		P	09 47 42.0	+0.2	
	comp=Z,42nm,2.1s								
TPNV	Topopah Spring	63.50	297	⇑P		P	09 47 42.1	+0.4	
	baz=63								
TPNV	Topopah Spring	63.50	297	eP		P	09 47 42.0	+0.2	
	comp=Z,42nm,2.1s								
TPH	Tonopah	63.51	298	eP		P	09 47 42.1	+0.3	
TPH					pmax	pmax			
	comp=Z,12nm,0.9s								
TPH	Tonopah	63.51	298	eP		P	09 47 42.1	+0.3	
	comp=Z,12nm,0.9s								
TPH	Tonopah	63.51	298	eP		P	09 47 42.1	+0.3	
	comp=Z,12nm,0.9s								
IM04	Indian Mountai	63.52	338	eP		P	09 47 41.2	0.0	
IM04	Indian Mountai	63.52	338	eP		P	09 47 41.2	0.0	
PDMCI	Parker Dam,Lak	63.58	293	⇑P		P	09 47 42.8	+0.7	
	baz=64								
MCK	McKinley	63.63	334	eP		P	09 47 41.9	-0.1	
MCK					pmax	pmax			
	comp=Z,12nm,1.0s								
MCK	McKinley	63.63	334	eP		P	09 47 41.9	-0.1	
	comp=Z,12nm,1.0s								
MCK	McKinley	63.63	334	eP		P	09 47 41.9	-0.1	
	comp=Z,12nm,1.0s								
BMRM	Bremner River	64.00	330	eP		P	09 47 44.5	0.0	
	comp=Z,13nm,1.0s								
BMRM	Bremner River	64.00	330	eP		P	09 47 44.5	0.0	
	comp=Z,13nm,1.0s								
214A	Organ Pipe Nat	64.00	290	⇓P		P	09 47 45.8	+0.8	
	baz=64								
NVAR	Mina Array Bea	64.01	299	P		P	09 47 44.9	-0.3	
NVAR	Mina Array Bea	64.01	299	P		P	09 47 44.9	-0.3	
	comp=Z,2.0nm,0.8s,baz=57,slow=5.6,SNR=17								
NVAR	Mina Array Bea	64.01	299	P		P	09 47 44.9	-0.3	
TUQ	Turquoise Moun	64.14	295	⇑P		P	09 47 46.5	+0.6	
	baz=64,SNR=6.1								
Y12C	Blythe	64.16	293	⇓P		P	09 47 46.9	+1.0	
	baz=64,SNR=6.8								
FURC	Furnace Creek,	64.18	297	⇓P		P	09 47 46.6	+0.7	
	baz=64								
113A	Mohawk Valley,	64.20	292	⇑P		P	09 47 46.9	+0.7	
	baz=64,SNR=6.9								
GRAC	Grapevine Rang	64.21	297	⇑P		P	09 47 46.7	+0.4	
	baz=64								
TRF	Thorofare Moun	64.26	334	eP		P	09 47 46.2	-0.2	
	comp=Z,12nm,0.8s								
TRF	Thorofare Moun	64.26	334	eP		P	09 47 46.2	-0.2	
	comp=Z,12nm,0.8s								
GMRC	Granite Mounta	64.34	295	⇓P		P	09 47 47.8	+0.6	
	baz=64								
M04C	Macdoel	64.34	304	⇓P		P	09 47 47.5	+0.3	
	baz=64								
IRM	Iron Mountain	64.35	294	⇑P		P	09 47 47.8	+0.6	
	baz=64								
KTH	Kantishna Hill	64.39	335	eP		P	09 47 46.6	-0.5	
	comp=Z,76nm,1.0s								
KTH	Kantishna Hill	64.39	335	eP		P	09 47 46.6	-0.5	
	comp=Z,76nm,1.0s								
BEKR	Beckworth	64.51	302	eP		P	09 47 48.7	+0.3	
	comp=Z,7.3nm,1.1s								
BEKR	Beckworth	64.51	302	eP		P	09 47 48.7	+0.3	
	comp=Z,7.2nm,1.1s								
TIN	Tinemaha	64.74	298	⇑P		P	09 47 50.7	+0.8	
	baz=65								
HEC	Hector,Ludlow	64.76	295	⇑P		P	09 47 51.0	+1.1	
	baz=65								
GLA	Glamis	64.76	293	⇑P		P	09 47 51.0	+1.0	
	baz=65								
MTUM	Tungsten Hills	64.79	298	eP		P	09 47 50.8	+0.5	
MTUM	Tungsten Hills	64.79	298	eP		P	09 47 50.8	+0.5	
GSC	Goldstone	64.81	296	⇑P		P	09 47 51.3	+1.0	
	baz=65								
MLAC	Mammoth Lakes	64.81	299	⇑P		P	09 47 51.2	+0.8	
	baz=65								
MPMC	Manual Prospec	64.83	297	⇑P		P	09 47 51.4	+0.9	
	baz=65								
BC3	Big Chuckawall	64.84	293	⇑P		P	09 47 51.6	+1.0	
	baz=65								
CWC	Cottonwood Cre	65.00	297	⇑P		P	09 47 52.4	+0.8	
	baz=65								
BELC	Belle Mtn. Jos	65.01	294	⇓P		P	09 47 52.7	+1.0	
	baz=65								
PMR	Palmer	65.18	332	eP		P	09 47 52.2	+0.1	
PMR					pmax	pmax			
	comp=Z,17nm,1.0s								
PMR	Palmer	65.18	332	eP		P	09 47 52.1	+0.1	
	comp=Z,17nm,1.0s								
PMR	Palmer	65.18	332	eP		P	09 47 52.2	+0.1	
	comp=Z,17nm,1.0s								
LRMC	Laurel Mountai	65.30	296	⇓P		P	09 47 54.2	+0.7	
	baz=65								
TIXI	Tiksi	65.37	7	⇓eP		P	09 47 53.6	+0.4	
TIXI					pmax	pmax			
	comp=Z,19nm,1.2s								
TIXI	Tiksi	65.37	7	eP		P	09 47 53.4	+0.2	
	comp=Z,14nm,1.0s								
TIXI	Tiksi	65.37	7	eP		P	09 47 53.4	+0.2	
	comp=Z,14nm,1.0s								
BBRC	Big Bear Solar	65.48	295	⇓P		P	09 47 55.7	+0.9	
	baz=65								
PFO	Pinyon Flat Ob	65.55	294	P		P	09 47 56.2	+1.0	
	comp=Z,82nm,0.9s,SNR=5.5								
PFO	Pinyon Flat Ob	65.55	294	⇓P		P	09 47 56.1	+0.9	
	baz=65								
CMB	Columbia Colle	65.58	300	eP		P	09 47 55.4	+0.2	
CMB					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CMB	Columbia Colle	65.58	300	eP		P	09 47 55.4	+0.2	
	comp=Z,7.8nm,0.9s								
CMB	Columbia Colle	65.58	300	eP		P	09 47 55.4	+0.2	
	comp=Z,7.8nm,0.9s								
ISA	Isabella	65.71	297	eP		P	09 47 57.2	+1.1	
ISA					pmax	pmax			
	comp=Z,2.0nm,1.1s								
ISA	Isabella	65.71	297	eP		P	09 47 57.2	+1.1	
	comp=Z,2.5nm,1.1s								
ISA	Isabella	65.71	297	⇑P		P	09 47 57.1	+1.1	
	baz=66								
ISA	Isabella	65.71	297	eP		P	09 47 57.2	+1.1	
	comp=Z,2.5nm,1.1s								
RCTC	Rector, Farmer	65.84	298	⇑P		P	09 47 57.4	+0.7	
	baz=66								
EDW2	Edwards Air Fo	65.84	296	⇓P		P	09 47 57.8	+0.8	
	baz=66								
DVTC	Desert V Tower	65.86	293	⇓P		P	09 47 58.2	+1.1	
	baz=66								
MONP	Monument Peak	65.95	293	⇑P		P	09 47 58.9	+1.1	
	baz=66								
BFSC	Mount Baldy Ra	66.00	295	⇑P		P	09 47 58.5	+0.5	
	baz=66								
MURC	Murrieta	66.06	294	⇑P		P	09 47 58.9	+0.6	
	baz=66								
BAR	Barrett	66.24	293	eP		P	09 48 00.7	+1.2	
	comp=Z,12nm,1.0s								
BAR	Barrett	66.24	293	eP		P	09 48 00.7	+1.2	
	comp=Z,12nm,1.0s								
ARVC	Arvin	66.26	296	⇑P		P	09 48 00.4	+0.9	
	baz=66								
109C	Camp Elliot, M	66.41	294	⇓P		P	09 48 01.3	+0.7	
	baz=66								
SPU	Mount Spurr	66.46	333	eP		P	09 48 00.0	-0.5	
SPU	Mount Spurr	66.46	333	eP		P	09 48 00.0	-0.5	
OSI	Osito Adit	66.49	296	⇓P		P	09 48 01.8	+0.7	
	baz=66								
PKM	Peak Mountain	67.05	297	⇓P		P	09 48 05.2	+0.4	
	baz=67								
TNA	Tin City	67.46	342	eP		P	09 48 07.1	+0.4	
	comp=Z,6.7nm,1.0s								
TNA	Tin City	67.46	342	eP		P	09 48 07.1	+0.4	
	comp=Z,6.7nm,1.0s								
LPAZ	La Paz	67.84	219	eP		P	09 48 11.2	+0.9	
	comp=Z,19nm,1.4s								
LPAZ	La Paz	67.84	219	P		P	09 48 11.2	+0.9	
	comp=Z,4.3nm,0.9s,baz=26,slow=6.3,SNR=14								
LPAZ	La Paz	67.84	219	eP		P	09 48 11.2	+0.9	
	comp=Z,19nm,1.4s								
KURK	Kurchatov	68.70	40	P		P	09 48 14.2	-0.5	
	comp=Z,36nm,0.9s,SNR=7.0								
KURK	Kurchatov	68.70	40	P		P	09 48 14.9	+0.2	
KURK	Kurchatov	68.70	40	P		P	09 48 14.9	+0.2	
KURK	Kurchatov	68.70	40	P		P	09 48 14.9	+0.2	
KURBB	Kurchatov Arra	68.72	40	P		P	09 48 14.9	+0.1	
	comp=Z,6.2nm,0.8s,baz=314,slow=6.7,SNR=32								
ZAA0	Zalesovo Array	69.30	35	eP		P	09 48 17.6	-0.7	
ZAA0	Zalesovo Array	69.30	35	eP		P	09 48 17.6	-0.7	
ZALV	Zalesovo Beam	69.30	35	iP		P	09 48 17.7	-0.6	
ZALV					pmax	pmax			
	comp=Z,5.0nm,0.7s								
ZALV	Zalesovo Beam	69.30	35	P		P	09 48 17.7	-0.6	
ZALV	Zalesovo Beam	69.30	35	P		P	09 48 17.7	-0.6	
	comp=Z,5.1nm,0.7s,baz=304,slow=7.4,SNR=22								
ZALV					LR	LR	10 16 21.9		
	comp=Z,84nm,19.6s,baz=216,slow=34								
ZALV	Zalesovo Beam	69.30	35	P		P	09 48 17.7	-0.6	
EKS2	Erkin-Say	71.47	49	eP		P	09 48 33.0	+1.0	
EKS2					pmax	pmax			
	comp=Z,18nm,1.1s								
EKS2	Erkin-Say	71.47	49	P		P	09 48 33.1	+1.1	
	SNR=15								
EKS2	Erkin-Say	71.47	49	eP		P	09 48 33.0	+1.0	
	comp=Z,18nm,1.1s								
EKS2	Erkin-Say	71.47	49	eP		P	09 48 33.0	+1.0	
	comp=Z,18nm,1.1s								
AML	Almayashu	71.77	49	iP		P	09 48 35.2	+1.0	
AML	Almayashu	71.77	49	P		P	09 48 35.1	+1.0	
	SNR=20								
AAK	Ala-Archa	71.89	49	⇑iP		P	09 48 35.5	+0.9	
AAK					pmax	pmax			
	comp=Z,45nm,2.5s								
AAK	Ala-Archa	71.89	49	P		P	09 48 34.4	-0.2	
AAK	Ala-Archa	71.89	49	P		P	09 48 34.4	-0.2	
	comp=Z,1.9nm,0.7s,baz=8.6,slow=4.6,SNR=9.6								
AAK	Ala-Archa	71.89	49	P		P	09 48 34.4	-0.2	
UCH	Uchtor	72.17	49	iP		P	09 48 38.0	+1.4	
UCH	Uchtor	72.17	49	P		P	09 48 38.0	+1.4	
	SNR=23								
TKM2	Tokmak 2	72.31	48	iP		P	09 48 37.8	+0.7	
TKM2	Tokmak 2	72.31	48	P		P	09 48 37.9	+0.7	
	SNR=9.0								
TKM2	Tokmak 2	72.31	48	eP		P	09 48 37.9	+0.8	
	comp=Z,14nm,1.2s								
TKM2	Tokmak 2	72.31	48	eP		P	09 48 37.9	+0.8	
	comp=Z,14nm,1.2s								
CPUP	Villa Florida	72.67	205	eP		P	09 48 38.9	-0.1	
	comp=Z,0.3nm,0.5s								
CPUP	Villa Florida	72.67	205	P		P	09 48 38.9	-0.1	
	comp=Z,5.7nm,0.7s,baz=350,slow=7.2,SNR=8.6								
CPUP					LR	LR	10 16 55.1		
	comp=Z,74nm,18.0s,baz=238,slow=33								
CPUP	Villa Florida	72.67	205	eP		P	09 48 38.9	-0.1	
	comp=Z,0.3nm,0.5s								
KZA	Kyzart	72.67	49	iP		P	09 48 41.2	+1.6	
KZA	Kyzart	72.67	49	P		P	09 48 41.3	+1.6	
	SNR=6.8								
ULHL	Ulahol	73.11	48	iP		P	09 48 42.5	+0.6	
ULHL	Ulahol	73.11	48	P		P	09 48 42.6	+0.6	
	SNR=6.0								
MK31	Makanchi Array	73.15	41	eP		P	09 48 41.5	-0.3	
MK31	Makanchi Array	73.15	41	eP		P	09 48 41.5	-0.3	
MK31	Makanchi Array	73.15	41	eP		P	09 48 41.5	-0.3	
MKAR	Makanchi Array	73.15	41	eP		P	09 48 41.7	-0.2	
MKAR	Makanchi Array	73.15	41	eP		P	09 48 41.6	-0.2	
MKAR	Makanchi Array	73.15	41	P		P	09 48 41.4	-0.5	
	comp=Z,6.7nm,0.7s,baz=319,slow=5.6,SNR=53								
MKAR					LR	LR	10 21 12.0		
	comp=Z,58nm,18.3s,baz=350,slow=36								
MKAR	Makanchi Array	73.15	41	eP		P	09 48 41.7	-0.2	
LVC	Limon Verde	73.70	217	eP		P	09 48 46.3	+0.8	
	comp=Z,29nm,1.8s								
LVC	Limon Verde	73.70	217	eP		P	09 48 46.3	+0.8	
	comp=Z,29nm,1.8s								
KBL	Kabul	73.93	58	eP		P	09 48 46.8	-0.1	
KBL					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KBL	Kabul	73.93	58	eP		P	09 48 46.8	-0.1	
	comp=Z,4.0nm,1.0s								
KBL	Kabul	73.93	58	eP		P	09 48 46.8	-0.1	
	comp=Z,4.0nm,1.0s								
KMBO	Kilima Mbogo	74.52	106	eP		P	09 48 51.9	+1.4	
	comp=Z,3.7nm,1.1s								
KMBO	Kilima Mbogo	74.52	106	P		P	09 48 52.0	+1.4	
	comp=Z,2.3nm,0.9s,baz=0.1,slow=6.5,SNR=7.4								
KMBO	Kilima Mbogo	74.52	106	eP		P	09 48 51.9	+1.4	
	comp=Z,3.7nm,1.1s								
YAK	Yakutsk	74.76	10	eP		P	09 48 50.3	-0.6	
YAK					pmax	pmax			
	comp=Z,12nm,0.8s								
YAK	Yakutsk	74.76	10	eP		P	09 48 50.3	-0.6	
	comp=Z,12nm,0.8s								
YAK	Yakutsk	74.76	10	eP		P	09 48 50.3	-0.6	
	comp=Z,12nm,0.8s								
KSH	Kashi	74.80	50	P		P	09 48 53.4	+1.7	
KSH					esP	sP	09 48 58.6	-0.1	
KSH					ePcP	PcP	09 49 08.0	+2.2	
KSH					ePP	PP	09 51 42.0	+3.5	
KSH					eS	S	09 58 27.3	-0.6	
KSH					esS	sS	09 58 35.3	-1.0	
KSH					eSS	SS	10 03 16.0	+1.1	
KSH					pmax	pmax			
	comp=Z,30nm,0.9s								
KSH					LR	LR			
	comp=Z,130nm,4.7s								
KSH					LR	LR			
	comp=Z,130nm,5.0s								
KSH					LR	LR			
	comp=Z,230nm,4.9s								
HVS	Khovu-Aksy	75.03	33	⇑iP		P	09 48 52.8	0.0	
HVS					pmax	pmax			
	comp=Z,31nm,1.1s								
SEY	Seymchan	75.05	359	P		P	09 48 52.8	+0.2	
SEY	Seymchan	75.05	359	P		P	09 48 52.8	+0.2	
SEY	Seymchan	75.05	359	P		P	09 48 52.8	+0.2	
	comp=Z,6.0nm,0.9s,baz=26,slow=23,SNR=13								
SEY	Seymchan	75.05	359	P		P	09 48 52.8	+0.2	
WMQ	Urumqi	77.93	41	P		P	09 49 09.7	+0.3	
WMQ					pP	pP	09 49 14.4	-0.1	
WMQ					sP	sP	09 49 16.7	+0.4	
WMQ					pmax	pmax			
	comp=Z,11nm,1.0s								
WMQ					pmax	pmax			
	comp=Z,220nm,4.0s								
WMQ					LR	LR			
	comp=Z,77nm,19.2s								
WMQ					LR	LR			
	comp=Z,31nm,21.1s								
TLY	Talaya	78.26	27	eP		P	09 49 13.9	+2.9	
TLY					pmax	pmax			
	comp=Z,6.0nm,1.0s								
LSZ	Lusaka	78.72	123	eP		P	09 49 14.3	+0.3	
	comp=Z,1.3nm,0.6s								
LSZ	Lusaka	78.72	123	eP		P	09 49 14.3	+0.3	
ZAK	Zakamensk	79.23	28	eP		P	09 49 16.1	-0.4	
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.6s								
SONM	Songino Array	82.48	28	P		P	09 49 33.8	-0.1	
SONM	Songino Array	82.48	28	P		P	09 49 33.8	-0.1	
	comp=Z,2.7nm,0.8s,baz=314,slow=5.4,SNR=21								
SONM	Songino Array	82.48	28	P		P	09 49 33.8	-0.1	
ULN	Ulaanbaatar	82.67	27	eP		P	09 49 34.9	-0.1	
	comp=Z,2.7nm,0.6s								
ULN	Ulaanbaatar	82.67	27	eP		P	09 49 34.9	-0.1	
	comp=Z,2.7nm,0.6s								
PETK	Petropavlovsk-	84.66	355	P		P	09 49 45.0	+0.2	
PETK	Petropavlovsk-	84.66	355	P		P	09 49 45.0	+0.2	
PETK	Petropavlovsk-	84.66	355	P		P	09 49 45.0	+0.2	
	comp=Z,1.8nm,0.6s,baz=46,slow=12,SNR=7.1								
PETK	Petropavlovsk-	84.66	355	P		P	09 49 45.0	+0.2	
LBTB	Lobatse	84.69	131	eP		P	09 49 45.9	+0.5	
	comp=Z,5.8nm,0.8s								
LBTB	Lobatse	84.69	131	eP		P	09 49 45.9	+0.5	
	comp=Z,5.8nm,0.8s								
PYUN	Piuthan	86.97	54	eP		P	09 49 56.6	-0.4	
	comp=Z,40nm,0.8s								
GTA	Gaotai	87.00	36	eP		P	09 49 56.7	-0.1	
GTA					pP	pP	09 50 01.5	-0.5	
GTA					sP	sP	09 50 04.3	+0.4	
GTA					pmax	pmax			
	comp=Z,5.0nm,0.9s								
DANN	Dangsing	87.25	54	eP		P	09 49 58.3	-0.1	
	comp=Z,5.5nm,0.8s								
KOLN	Koldanda	87.58	54	eP		P	09 49 59.3	-0.6	
GKN	Gorkha	88.02	53	eP		P	09 50 01.5	-0.5	
	comp=Z,17nm,0.9s								
KKN	Kakani	88.56	53	eP		P	09 50 04.4	-0.2	
DMN	Daman	88.59	53	eP		P	09 50 05.1	+0.3	
PKI	Pulchoki	88.80	53	eP		P	09 50 05.3	-0.6	
	comp=Z,8.2nm,0.7s								
GUN	Gumba	88.83	52	eP		P	09 50 06.2	+0.2	
	comp=Z,32nm,0.9s								
JIRN	Jiri	89.20	52	eP		P	09 50 07.8	0.0	
	comp=Z,16nm,1.0s								
RAMN	Ramite	89.97	53	eP		P	09 50 10.4	-0.9	
PLCA	Paso Flores	90.27	209	P		P	09 50 11.9	+0.1	
PLCA	Paso Flores	90.27	209	P		P	09 50 11.9	+0.1	
	comp=Z,3.5nm,0.8s,baz=5.7,slow=7.3,SNR=6.3								
PLCA					LR	LR	10 29 01.0		
	comp=Z,80nm,19.6s,baz=26,slow=34								
PLCA	Paso Flores	90.27	209	P		P	09 50 11.9	+0.1	
TAPN	Taplejung	90.32	52	eP		P	09 50 12.8	-0.2	
	comp=Z,27nm,1.1s								
HHC	Hu-ho-hao-te	90.38	28	eP		P	09 50 11.2	-1.6	
HHC					sP	sP	09 50 18.5	-1.3	
HHC					PP	PP	09 53 46.1	0.0	
HHC					pmax	pmax			
	comp=Z,26nm,0.8s								
LZH	Lanzhou	91.52	35	eP		P	09 50 19.3	+1.0	
LZH					pP	pP	09 50 27.4	+4.0	
LZH					pmax	pmax			
	comp=Z,22nm,1.2s								
LZH					pmax	pmax			
	comp=Z,95nm,4.5s								
CN2	Changchun	91.58	17	eP		P	09 50 17.9	-0.2	
CN2					esP	sP	09 50 24.9	-0.3	
CN2					eS	S	10 01 13.2	-4.2	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
CN2					pmax	pmax			
	comp=Z,200nm,3.0s								
MDJ	Mudanjiang	91.62	14	P		P	09 50 15.9	-2.4	
MDJ					pmax	pmax			
	comp=Z,3.0nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,98nm,2.9s								
USRK	Ussuriysk Arra	92.43	12	P		P	09 50 21.2	-0.8	
	comp=Z,1.8nm,1.0s,baz=352,slow=6.5,SNR=3.7								
BJI	Beijing	92.63	25	P		P	09 50 21.5	-1.5	
BJI					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2	Chengdu	95.86	38	eP		P	09 50 37.1	-1.0	
CD2					pP	pP	09 50 42.1	-1.2	
CD2					PP	PP	09 54 30.4	+1.1	
CD2					SKS	SKSac	10 01 11.5	-2.6	
CD2					S	S	10 01 50.2	-5.5	
CD2					SS	SS	10 08 22.1	-2.0	
CD2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CD2					pmax	pmax			
	comp=Z,80nm,5.6s								
CD2					LR	LR			
	comp=Z,280nm,16.7s								
CD2					LR	LR			
	comp=Z,310nm,14.3s								
CD2					LR	LR			
	comp=Z,220nm,14.2s								
KMI	Kunming	100.22	42	P		Pdif	09 50 56.6	-1.4	
KMI					pmax	pmax			
	comp=Z,9.0nm,0.7s								
NJ2	Nanjing	100.81	26	eP		Pdif	09 50 57.1	-3.1	
MAJO	Matsushiro	100.82	9	P		Pdif	09 51 02.5	+2.2	
GYA	Guiyang	100.97	38	eP		Pdif	09 51 01.0	-0.2	
GYA					PP	PP	09 55 11.0	+2.4	
GYA					SKS	SKSac	10 01 38.9	-1.3	
GYA					S	Sdif	10 02 33.2	-6.2	
GYA					SS	SS	10 09 35.4	-0.8	
GYA					LR	LR			
	comp=Z,550nm,22.4s								
GYA					LR	LR			
	comp=Z,430nm,23.2s								
GYA					LR	LR			
	comp=Z,470nm,24.5s								
CMAR	Chiang Mai Arr	103.67	49	PKKPbc		PKKPbc	10 07 05.3	+1.9	
CMAR	Chiang Mai Arr	103.67	49	PKKPbc		PKKP

0.3nm,0.6s,baz=75,slow=9.0,SNR=7.7
QSPA South Pole Qui 76.87 180 P **P 09 50 05.6 +0.1**
1.1nm,0.7s,baz=98,slow=1.3,SNR=7.9
ILAR Eielson Array 84.99 18 P **P 09 50 49.3 +0.7**
0.4nm,0.5s,baz=243,slow=5.2,SNR=11
MKAR Makanchi Array 96.17 316 P **P 09 51 41.6 0.0**
0.3nm,0.6s,baz=102,slow=3.4,SNR=3.5
ARCES ARCESS Array B 118.77 346 PKP **PKPdf 09 56 59.9 -1.2**
6.8nm,1.1s,baz=69,slow=3.0,SNR=5.4
FINES FINESS Array B 124.32 339 PKP **PKPdf 09 57 11.0 -1.0**
2.3nm,1.0s,baz=59,slow=4.9,SNR=3.3

GUC 01 09:40:29.2±0.8, 32.80S×71.96W, h10km±2km, MD3.6, ML3.4, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.35**	**131**	⇑*i*	P	g	09 40 36.4	+0.2
IHA				*i*	S	g	09 40 42.0	+1.1
ROCH	**El Roble**	**0.82**	**103**	⇑*i*	P	g	09 40 44.4	-0.9
ROCH				*i*	S	g	09 40 55.9	-0.2
ROCH				AML	AML		09 40 57.5	
	comp=N,6μm,0.5s							
PEL	**Peldehue**	**1.12**	**108**	⇓*i*	P	b	09 40 49.6	-1.2
PEL				*i*	S	g	09 41 05.2	-0.4
PEL				AML	AML		09 41 11.4	
	comp=E,3μm,0.4s							
JACH	**Jahuel**	**1.16**	**85**	*i*	P	b	09 40 50.0	-1.4
JACH				*i*	S	b	09 41 05.5	-1.1
TACH	**Talagante**	**1.21**	**135**	⇓*i*	P	n	09 40 50.6	-1.6
LNV	**Longovilo**	**1.24**	**159**	*eP*	P	n	09 40 51.4	-1.3
LNV				*eS*	S	b	09 41 07.9	-1.0
SAN	**Santiago**	**1.27**	**121**	*i*	P	n	09 40 52.0	-1.1
SAN				*i*	S	b	09 41 09.4	-0.3
SAN				AML	AML		09 41 16.2	
	comp=N,702nm,0.5s							
CLCH	**Cerro Calan**	**1.33**	**117**	⇑*i*	P	n	09 40 53.0	-1.1
CLCH				*i*	S	b	09 41 11.3	-0.4
CLCH				AML	AML		09 41 20.2	
	comp=E,1μm,0.5s							
ANTU	**Antumapu**	**1.35**	**125**	AML	AML		09 41 18.2	
	comp=N,1μm,0.6s							
LACH	**Col Las Americ**	**1.36**	**119**	⇓*i*	P	n	09 40 53.8	-0.7
LACH				*i*	S	b	09 41 12.3	-0.3
LACH				AML	AML		09 41 22.2	
	comp=N,734nm,0.6s							
PCH	**Pirque**	**1.46**	**125**	⇑*i*	P	n	09 40 55.4	-0.5
PCH				*i*	S	n	09 41 14.2	-0.9
CHCH	**Chadas Angostu**	**1.57**	**136**	*i*	P	n	09 40 56.7	-0.6
CACH	**El Canelo**	**1.74**	**140**	⇓*i*	P	n	09 41 00.3	+0.6
CACH				*i*	S	b	09 41 23.3	-0.2
LMEL	**Las Melosas**	**1.80**	**126**	⇓*i*	P	n	09 41 00.8	+0.2
LMEL				*i*	S	b	09 41 25.2	-0.2
LMEL				AML	AML		09 41 32.4	
	comp=N,710nm,0.4s							

GUC 01 09:42:36.0±0.8, 32.76S×71.80W, h1km±3km, MD3.5, ML3.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.30**	**153**	⇑*i*	P	g	09 42 42.2	+0.4
IHA				*i*	S	g	09 42 46.8	+1.1
ROCH	**El Roble**	**0.70**	**108**	*eP*	P	g	09 42 50.1	+0.3
ROCH				*i*	S	b	09 43 01.6	-0.1
ROCH				AML	AML		09 43 03.3	
	comp=N,1μm,0.4s							
PEL	**Peldehue**	**1.02**	**112**	⇑*i*	P	g	09 42 55.6	+0.1
PEL				*i*	S	b	09 43 10.9	+0.6
PEL				AML	AML		09 43 17.3	
	comp=N,942nm,0.3s							
JACH	**Jahuel**	**1.02**	**86**	*eP*	P	g	09 42 55.8	0.0
JACH				*i*	S	b	09 43 10.6	-0.2
TACH	**Talagante**	**1.15**	**141**	*i*	P	g	09 42 56.4	-1.8
TACH				*i*	S	g	09 43 12.3	-0.8
SAN	**Santiago**	**1.18**	**126**	*i*	S	b	09 43 14.9	-0.2
CLCH	**Cerro Calan**	**1.24**	**121**	⇓*i*	P	g	09 42 58.9	-1.0
CLCH				*i*	S	b	09 43 16.9	0.0
CLCH				AML	AML		09 43 25.8	
	comp=E,464nm,0.7s							
PCH	**Pirque**	**1.38**	**129**	*eP*	P	n	09 43 01.1	-1.5
PCH				*i*	S	g	09 43 20.6	-0.1
CHCH	**Chadas Angostu**	**1.52**	**141**	*eP*	P	n	09 43 03.5	-0.9
CACH	**El Canelo**	**1.69**	**144**	*eP*	P	n	09 43 06.1	-0.7
CACH				*i*	S	n	09 43 29.1	-0.1
LMEL	**Las Melosas**	**1.73**	**129**	*eP*	P	n	09 43 06.8	-0.6
LMEL				*i*	S	b	09 43 30.7	-0.4
LMEL				*i*	S	g	09 43 31.1	-0.8
LMEL				AML	AML		09 43 33.9	
	comp=N,258nm,0.4s							

MEX 01 09:43:14.9±0.4, 16.01N×98.45W, h4km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.49**	**39**	*i*	P	g	09 43 24.0	-0.3
PNIG				*eS*	Sg		09 43 30.9	+0.2
VHO	**Vista Hermosa**	**1.95**	**57**	*eP*	Pn		09 43 45.3	-3.8
VHO				*i*	S	n	09 44 09.5	-4.7
HUIG	**Huatulco**	**2.26**	**96**	*eP*	Pn		09 43 49.8	-3.3
HUIG				*i*	S	n	09 44 18.1	-3.4

KRSC 01 09:59:38.4±2.8, 49.32N×156.99E, h6km±59km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.48**	**338**	*eP*	Pn		10 00 02.2	-3.3
SKR				*eS*	Sn		10 00 22.5	-2.6
MTVR	**Mutnovka**	**3.26**	**13**	*eP*	Pn		10 00 32.7	+2.5
MTVR				*eS*	Sb		10 01 14.2	-2.6
RUS	**Russkaya**	**3.27**	**17**	*eP*	Pn		10 00 32.1	+2.0
RUS				*eS*	Sn		10 01 12.1	+2.9
UGLR	**Uglovaya**	**4.06**	**16**	*eP*	Pn		10 00 45.0	+3.8
AVH	**Avacha**	**4.10**	**15**	*eP*	Pn		10 00 45.1	+3.4
KOK	**Koryaka**	**4.11**	**14**	*eP*	Pn		10 00 45.1	+3.3
SDLR	**Sedlovina**	**4.14**	**16**	*eP*	Pn		10 00 44.9	+2.6
KRER	**Koryakskii**	**4.14**	**15**	*eP*	Pn		10 00 46.4	+4.0
KRX	**Arik**	**4.18**	**14**	*eP*	Pn		10 00 46.3	+3.5

IDC 01 10:38:20.1±50.0, 23.85S×172.77W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/19, mbtmp4.0/3, Error ellipse: s-maj=956.0km s-min=188.2km az=89.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.89**	**248**	P	P		10 46 04.2	+0.1
	3.7nm,1.2s,baz=74,slow=7.4,SNR=5.0							
ASAR	**Alice Springs**	**48.56**	**259**	P	P		10 47 05.2	-0.3
	0.4nm,0.4s,baz=101,slow=7.0,SNR=22							
WRA	**Warramunga Arr**	**49.01**	**264**	P	P		10 47 08.8	-0.2
	1.5nm,0.4s,baz=104,slow=8.1,SNR=55							

IDC 01 10:46:57.4±15.0, 0.21S×124.52E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=306.7km s-min=239.0km az=46.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.84**	**154**	P	P		10 51 52.0	+0.3
	0.5nm,0.3s,baz=337,slow=9.3,SNR=30							
ASAR	**Alice Springs**	**25.03**	**159**	P	P		10 52 22.5	-1.0
	0.4nm,0.4s,baz=330,slow=8.8,SNR=34							
STKA	**Stephens Creek**	**35.40**	**154**	P	P		10 53 55.9	+0.8
	1.5nm,0.9s,baz=328,slow=9.1,SNR=6.8							

MEX 01 10:55:21.3±0.5, 17.94N×98.54W, h58km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**0.38**	**184**	*i*	P		10 55 30.6	-1.5
TLIG				*eS*	Sn		10 55 38.1	-1.7
PLIG	**Platanillo**	**1.02**	**296**	*i*	P		10 55 38.0	-1.7
PLIG				*i*	S		10 55 51.4	-1.9
YAIG	**Yautepec**	**1.04**	**331**	*eP*	Pn		10 55 38.7	-1.4
YAIG				*i*	S		10 55 51.6	-2.4
PPM	**Popocatepetl**	**1.12**	**356**	*eP*	Pn		10 55 40.2	-1.4
PPM				*eS*	Sn		10 55 54.4	-2.2
PNIG	**Pinotepa**	**1.59**	**166**	*i*	P		10 55 45.2	-2.0
PNIG				*i*	S		10 56 04.2	-2.5
ARIG	**Puente Sto Nin**	**1.75**	**281**	*eP*	Pn		10 55 49.0	-0.4
ARIG				*eS*	Sn		10 56 09.0	-1.8

*NIED **01** 11:01:00,24.10N×122.20E,h47km,Mw4.0 Best double couple: M0 9.48000×10^14 NP1:φs 352.00000°,δ15.00000°, λ125.00000°. NP2:φs 136.00000°,δ77.00000°,λ81.00000°.*
*ISCJB **01** 11:01:29.3±0.2,24.20N±0.02×122.26E±0.02,h60km±3km, mb3.6/14, Error ellipse: s-maj=2.9km s-min=2.0km az=143.8*
*TAP **01** 11:01:29.9,24.21N×122.23E,h49km,ML4.6,B*
*JMA **01** 11:01:29.3±0.1,24.13N×122.21E,h46km±4km,M4.1*
*IDC **01** 11:01:32.7±4.7,24.25N×122.15E,h82km±44km,mb3.4/14, mb1 3.6/15,mb1mx3.6/27,mbtmp3.5/15,ML3.9/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/26,Error ellipse: s-maj=21.8km s-min=15.8km az=73.0*

ISC 01 11:01:29.6±0.8, 24.18N±0.02×122.25E±0.02, h51km±7km, n100, σ1°30/172, mb3.6/14, 21C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.48**	**286**	P	Pn		11 01 40.9	+0.2
	baz=283							
EHP				*eS*	Sn		11 01 49.2	+0.5
	baz=283							
ENA	**Nanau**	**0.53**	**298**	⇓*i*	P	Pn		11 01 41.5	+0.2
	baz=304							
ENA				S	Sn		11 01 49.7	+0.1
	baz=304							
TWC	**Suao**	**0.56**	**319**	⇓*i*	P	Pn		11 01 41.6	-0.1
	baz=320							
TWC				*i*	S	Sn		11 01 49.5	-0.9
	baz=320							
TWD	**Chiawan**	**0.61**	**261**	⇓*i*	P	Pn		11 01 42.1	-0.1
	baz=249							
TWD				*i*	S	Sn		11 01 51.0	-0.3
	baz=249							
HWA	**Hwalien**	**0.62**	**251**	⇓*i*	P	Pn		11 01 42.7	+0.2
	baz=248							
HWA				*i*	S	Sn		11 01 52.1	+0.4
	baz=248							
EGS		**0.72**	**336**	P	Pn		11 01 44.0	+0.3
	baz=337							
EGS				S	Sn		11 01 54.1	+0.2
	baz=337							
ILA	**Ilan**	**0.74**	**322**	*eP*	Pn		11 01 44.5	+0.5
	baz=322							
ILA				S	Sn		11 01 55.3	+1.0
	baz=322							
ESF	**Shoufeng Towns**	**0.75**	**246**	⇓P	Pn		11 01 44.7	+0.7
	baz=243							
ESF				*eS*	Sn		11 01 55.1	+0.7
	baz=243							
YOJ	**Yonaguni jima**	**0.75**	**68**	P	Pn		11 01 44.6	+0.6
YOJ				S	Sn		11 01 55.1	+0.6
YOJ	**Yonaguni jima**	**0.75**	**68**	⇓*i*	P	Pn		11 01 44.6	+0.6
	baz=70							
YOJ				*i*	S	Sn		11 01 55.5	+1.0
	baz=70							
ENTT	**Nioudou**	**0.77**	**306**	⇓*i*	P	Pn		11 01 44.8	+0.4
	baz=305							
ENTT				*i*	S	Sn		11 01 55.4	+0.3
	baz=305							
TEGC	**Jichi Village**	**0.80**	**234**	⇑P	Pn		11 01 45.8	+1.0
	baz=225							
TEGC				S	Sn		11 01 57.0	+1.2
	baz=225							
ESL	**Shilin**	**0.83**	**244**	⇓*i*	P	Pn		11 01 44.9	-0.3
	baz=242							
ESL				*eS*	Sn		11 01 55.9	-0.6
	baz=242							
NNS	**Nan Shan**	**0.84**	**288**	⇓*i*	P	Pn		11 01 45.4	0.0
	baz=287							
NNS				*eS*	Sn		11 01 56.6	-0.3
	baz=287							
TWB1	**Santiao Chiao**	**0.86**	**344**	⇑*i*	P	Pn		11 01 45.4	-0.1
	baz=345							
TWB1				S	Sn		11 01 55.9	-1.2
	baz=345							
WHF	**Hehuan Shan**	**0.90**	**268**	⇓*i*	P	Pn		11 01 46.4	-0.1
	baz=256							
WHF				*i*	S	Sn		11 01 58.0	-0.7
	baz=256							
NSK	**Sanguang**	**0.95**	**301**	⇓*i*	P	Pn		11 01 47.2	+0.4
	baz=300							
NSK				*i*	S	Sn		11 01 58.9	-0.5
	baz=300							
NWF	**Wu-fen Shan**	**0.98**	**334**	⇑*i*	P	Pn		11 01 47.5	+0.2
	baz=345							
NWF				*eS*	Sn		11 02 00.0	-0.2
	baz=345							
TWT	**Tachien**	**0.98**	**274**	⇓P	Pn		11 01 48.0	+0.7
	baz=273							
TWT				*eS*	Sn		11 02 00.5	+0.2
	baz=273							
TWA	**Mucha**	**1.00**	**323**	⇑P	Pn		11 01 48.2	+0.8
	baz=322							
TWA				*eS*	Sn		11 02 01.3	+0.8
	baz=322							
TAP1	**Taipei**	**1.08**	**322**	*eP*	Pn		11 01 49.1	+0.7
	baz=321							
TAP1				*eS*	Sn		11 02 03.4	+1.0
	baz=321							
EHY	**Hungye**	**1.08**	**232**	⇑*eP*	Pn		11 01 48.3	-0.2
	baz=230							
EHY				*eS*	Sn		11 02 01.6	-0.9
	baz=230							
TAP	**Taipei**	**1.09**	**322**	*eP*	Pn		11 01 49.8	+1.2
	baz=321							
TAP				*eS*	Sn		11 02 02.7	+0.1
	baz=321							
TWS1	**Kuangyinshan**	**1.19**	**321**	*eP*	Pn		11 01 50.7	+0.7
	baz=330							
TWS1				*eS*	Sn		11 02 05.9	+0.9
	baz=330							
TWF1	**Yuli**	**1.20**	**227**	⇑*i*	P	Pn		11 01 50.2	0.0
	baz=237							
TWF1				*eS*	Sn		11 02 04.7	-0.6
	baz=237							
NSTT	**Nanjuang**	**1.22**	**292**	P	Pn		11 01 51.5	+1.0
	baz=291							
NSTT				S	Sn		11 02 06.8	+0.9
	baz=291							
TWY	**Chenhua**	**1.24**	**332**	*eP*	Pn		11 01 51.4	+0.8
	baz=341							
TWY				*eS*	Sn		11 02 07.1	+0.8
	baz=341							
NCU	**National Centr**	**1.25**	**309**	*eP*	Pn		11 01 51.3	+0.6
	baz=308							
NCU				*eS*	Sn		11 02 07.3	+0.8
	baz=308							
SMLT	**Sun Moon Lake**	**1.27**	**257**	⇑*i*	P	Pn		11 01 51.9	+0.7
	baz=247							
SMLT				S	Sn		11 02 07.5	+0.3
	baz=247							
TYC	**Yuchr**	**1.30**	**258**	⇑P	Pn		11 01 52.2	+0.7
	baz=250							
TYC				*eS*	Sn		11 02 07.6	-0.2
	baz=250							
HSN	**Hsinchu**	**1.32**	**298**	*eP*	Pn		11 01 52.0	+0.3
	baz=299							
HSN				*eS*	Sn		11 02 09.1	+0.9
	baz=299							
CHKT	**Chengkung**	**1.35**	**217**	⇑*i*	P	Pn		11 01 51.7	-0.4
	baz=209							
CHKT				*eS*	Sn		11 02 07.0	-1.8
	baz=209							
IRIF	**Iriomote-Funau**	**1.36**	**83**	P	Pn		11 01 52.7	+0.5
IRIF				S	Sn		11 02 09.9	+0.8
TWQ1	**Liyutan**	**1.36**	**277**	⇑*i*	P	Pn		11 01 53.6	+1.4
	baz=276							
TWQ1				*eS*	Sn		11 02 10.7	+1.5
	baz=276							
YUS	**Yu-Shan**	**1.37**	**240**	⇑*i*	P	Pn		11 01 53.8	+0.9
	baz=239							
YUS				S	Sn		11 02 09.9	-0.4
	baz=239							
NSY	**Sanyi**	**1.38**	**280**	*eP*	Pn		11 01 53.8	+1.2
	baz=279							
NSY				*eS*	Sn		11 02 11.3	+1.6
	baz=279							
HATJ	**Hateruma jima**	**1.43**	**95**	P	Pn		11 01 54.5	+1.4
HATJ				S	Sn		11 02 12.5	+1.7
TCU	**Taichung**	**1.44**	**269**	*eP*	Pn		11 01 54.9	+1.6
	baz=268							
TCU				*eS*	Sn		11 02 12.9	+1.8
	baz=268							
PCYT	**Pengchaiyu**	**1.45**	**354**	*eP*	Pn		11 01 53.8	+0.2
	baz=343							
PCYT				*eS*	Sn		11 02 12.1	+0.7
	baz=343							
WNT	**Mingjian**	**1.46**	**258**	⇑*i*	P	Pn		11 01 55.6	+1.9
	baz=257							
WNT				*eS*	Sn		11 02 13.4	+1.7
	baz=257							
ALS	**Alishan**	**1.48**	**244**	⇑*eP*	Pn		11 01 55.3	+1.1
	baz=235							
ALS				S	Sn		11 02 13.4	+0.8
	baz=235							
ELDTW	**Lidau**	**1.50**	**229**	⇑*i*	P	Pn		11 01 54.2	-0.1
	baz=228							
ELDTW				*eS*	Sn		11 02 11.9	-0.9
	baz=228							
CHN5	**Tsauling**	**1.55**	**248**	⇑P	Pn		11 01 56.4	+1.4
	baz=238							
CHN5				S	Sn		11 02 15.8	+1.8
	baz=238							
JKRS	**Kuro-shima**	**1.61**	**88**	P	Pn		11 01 56.9	+1.3
JKRS				S	Sn		11 02 16.2	+1.0
WGK	**Gukeng**	**1.62**	**253**	⇑P	Pn		11 01 57.7	+1.9
	baz=241							
WGK				*eS*	Sn		11 02 16.9	+1.3
	baz=241							
STYT	**Tauyuan**	**1.70**	**234**	⇑*i*	P	Pn		11 01 58.3	+1.3
	baz=226							
STYT				S	Sn		11 02 19.3	+1.6
	baz=226							
CHN4	**Tsaushan**	**1.73**	**242**	*eS*	Sn		11 02 20.8	+2.6
	baz=232							
TWG	**Pinlang**	**1.73**	**219**	⇑*eP*	Pn		11 01 57.0	-0.4
	baz=218							
TWG				*eS*	Sn		11 02 16.9	-1.4
	baz=218							
JIJ	**Ishigaki jima**	**1.74**	**84**	P	Pn		11 01 57.7	+0.3
JIJ				S	Sn		11 02 18.1	-0.3
TTN	**Taitung**	**1.74**	**216**	*eP*	Pn		11 01 57.9	+0.4
	baz=208							
TTN				*eS*	Sn		11 02 18.4	-0.1
	baz=208							
CHY	**Chiayi**	**1.81**	**248**	*eP*	Pn		11 02 00.0	+1.7
	baz=247							
CHY				*eS*	Sn		11 02 21.6	+1.6
	baz=247							
WTCT	**Ta-ch'eng**	**1.83**	**260**	*eP*	Pn		11 01 59.8	+1.2
	baz=260							
WTCT				*eS*	Sn		11 02 22.0	+1.4
	baz=260							
TWK	**Hsinying**	**1.85**	**241**	*eP*	Pn		11 02 00.3	+1.3
	baz=240							
TWK				*eS*	Sn		11 02 23.5	+2.1
	baz=240							
CHN1	**Nanshi**	**1.86**	**238**	⇑*eP*	Pn		11 02 00.8	+1.6
	baz=238							
CHN1				*eS*	Sn		11 02 23.3	+1.7
	baz=238							
SGST	**Jiashian**	**1.88**	**235**	⇑P	Pn		11 02 01.5	+2.2
	baz=234							
SGST				*eS*	Sn		11 02 23.9	+1.9
	baz=234							
WSF	**Szhu**	**1.93**	**254**	⇓*eP*	Pn		11 02 01.7	+1.6
	baz=266							
WSF				*eS*	Sn		11 02 25.8	+2.6
	baz=266							
ECL	**Taimali**	**1.98**	**217**	*eP*	Pn		11 02 00.0	-0.6
	baz=217							
ECL				*eS*	Sn		11 02 22.4	-1.9
	baz=217							
CHN8	**Yiju**	**2.04**	**246**	*eP*	Pn		11 02 02.9	+1.3
	baz=246							
CHN8				*eS*	Sn		11 02 27.8	+1.9
	baz=246							
CHN3	**Shinhua**	**2.05**	**238**	*eP*	Pn		11 02 03.8	+2.1
	baz=237							
CHN3				*eS*	Sn		11 02 29.8	+3.7
	baz=237							
SSD	**Sandimen**	**2.06**	**226**	*eP*	Pn		11 02 02.9	+1.1
	baz=226							
SSD				*eS*	Sn		11 02 28.7	+2.3
	baz=226							
SCLT	**Jiali**	**2.13**	**242**	*eP*	Pn		11 02 04.5	+1.7
	baz=242							
SCLT				*eS*	Sn		11 02 30.2	+2.1
	baz=242							
TWM1	**Shoushan**	**2.15**	**232**	*eP*	Pn		11 02 06.0	+2.8
	baz=241							
TWM1				*eS*	Sn		11 02 32.5	+3.8
	baz=241							
SGLT	**Jiouru**	**2.17**	**228**	*eP*	Pn		11 02 05.7	+2.4
	baz=219							
SGLT				*eS*	Sn		11 02 32.5	+3.5
	baz=219							
TAI1	**Yung-k'ang**	**2.17**	**239**	*eP*	Pn		11 02 05.3	+1.9
	baz=249							
TAI1				*eS*	Sn		11 02 31.8	+2.7
	baz=249							
TAW	**Tawu**	**2.20**	**215**	*eP*	Pn		11 02 06.4	+2.7
	baz=214							
TAW				*eS*	Sn		11 02 28.4	-1.3
	baz=214							
EAST	**Anshuo**	**2.21**	**216**	⇑*eP*	Pn		11 02 03.6	-0.2
	baz=215							
LAY	**Lan-yu**	**2.23**	**197**	*eP*	Pn		11 02 03.4	-0.7
	baz=197							
LAY				*eS*	Sn		11 02 28.6	-1.9
	baz=197							
JTJ	**Tarama**	**2.28**	**78**	P	Pn		11 02 05.8	+1.0
JTJ				S	Sn		11 02 31.9	+0.2
SCZT	**Fangliau**	**2.34**	**220**	⇓*eP*	Pn		11 02 06.8	+1.1
	baz=229							
SCZT				*eS*	Sn		11 02 35.1	+1.9
	baz=229							
TWP	**Hsiaoliuchiu**	**2.52**	**224**	*eP*	Pn		11 02 10.2	+2.1
	baz=223							
WDGT	**Dungji**	**2.54**	**249**	*eP*	Pn		11 02 09.1	+0.6
	baz=249							
WDGT				*eS*	Sn		11 02 38.0	-0.3
	baz=249							
HEN	**Hengchun**	**2.57**	**213**	*eP*	Pn		11 02 10.7	+1.8
	baz=213							
HEN				*eS*	Sn		11 02 39.3	+0.4
	baz=213							
TSEB	**Hengchuen, Pin**	**2.59**	**209**	*eP*	Pn		11 02 10.7	+1.7
	baz=210							
TSEB				*eS*	Sn		11 02 40.3	+1.0
	baz=210							
TWK1	**Hengchun**	**2.59**	**211**	*eP*	Pn		11 02 09.7	+0.6
	baz=211							
TWK1				*eS*	Sn		11 02 39.4	-0.1
	baz=211							
JMJ	**Miyako jima 2**	**2.84**	**77**	P	Pn		11 02 14.1	+1.6
JMJ				S	Sn		11 02 46.4	+0.8
JOGS	**Gusukube**	**2.93**	**78**	P	Pn		11 02 15.3	+1.5
JOGS				S	Sn		11 02 49.2	+1.4
QZH	**Quanzhou**	**3.42**	**284**	⇓*i*	Pn	Pn		11 02 15.7	-4.7
QZH					Sn	Sn		11 02 51.6	-8.1
QZH					smax	smax			
	comp=N,290nm,0.3s								
QZH					smax	smax			
	comp=E,230nm,0.3s								
KNM	**Kinmen**	**3.49**	**275**	*eP*	Pn		11 02 22.5	+1.0
	baz=264							
KNM				*eS*	Sn		11 03 00.8	-0.7
	baz=264							
JKE	**Kume jima 2**	**4.63**	**62**	P	Pn		11 02 37.9	+0.9
JIH	**Iheya**	**5.89**	**60**	P	Pn		11 02 54.8	+0.4
JOW	**Kunigami**	**6.05**	**63**	P	Pn		11 02 56.0	-0.5
JOW	**Kunigami**	**6.05**	**63**	*eP*	Pn		11 02 56.1	-0.5
	baz=64							
JTK	**Tokunoshima**	**7.02**	**58**	P	Pn		11 03 09.0	-0.8
JAMN	**Amaminishikomi**	**7.42**	**55**	P	Pn		11 03 13.8	-1.5
KSRS	**Korea Array**	**14.10**	**19**	P	Pn		11 04 49.6	+3.2
	comp=E,0

comp=E,3.7nm,0.7s,baz=149,slow=9.9,SNR=34
MKAR Makanchi Array 39.02 316 P **P** 11 08 50.6 -0.7
comp=E,0.5nm,0.5s,baz=100,slow=9.6,SNR=18
ZALV Zalesovo Beam 40.78 327 P **P** 11 09 04.1 -1.7
comp=E,1.6nm,0.5s,baz=114,slow=7.1,SNR=8.6
KURBB Kurchatov Arra 42.74 320 P **P** 11 09 21.1 -0.8
comp=E,0.2nm,0.3s,baz=113,slow=9.0,SNR=5.5
WRA Warramunga Arr 45.41 164 P **P** 11 09 43.5 0.0
comp=E,0.8nm,0.6s,baz=346,slow=8.7,SNR=6.2
FX1 Attu Island--F 47.70 39 LR LR 11 30 41.2
comp=E,29nm,21.4s,baz=214,slow=37
ASAR Alice Springs 48.89 166 P **P** 11 10 11.1 +0.5
comp=E,0.4nm,0.7s,baz=350,slow=6.6,SNR=9.0
ILAR Eielson Array 68.77 27 P **P** 11 12 28.3 +0.2
comp=E,0.3nm,0.7s,baz=286,slow=7.3,SNR=6.2
FINES FINESS Array B 71.94 330 P **P** 11 12 45.7 -1.7
comp=E,0.6nm,0.6s,baz=54,slow=7.1,SNR=4.1
BRTR Keskin Array B 73.96 307 P **P** 11 12 59.8 -0.2
comp=E,0.4nm,0.7s,baz=98,slow=7.4,SNR=3.2
NOA NORSAR Array B 78.68 332 P **P** 11 13 24.4 -1.8
comp=E,0.8nm,0.7s,baz=58,slow=5.7,SNR=2.9
YKA Yellowknife Ar 82.59 23 P **P** 11 13 46.0 -1.1
comp=E,1.2nm,0.7s,baz=311,slow=5.2,SNR=29
NVAR Mina Array Bea 95.77 43 P **P** 11 14 51.1 +0.3
comp=E,0.7nm,0.7s,baz=312,slow=5.6,SNR=5.8

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*ISCJB **01** 12:17:16.5±0.8, 33°.79S±0°.04×70°.30W±0°.04, h111km±4km, Error ellipse: s-maj=7.5km s-min=5.0km az=157.4*
*SJA **01** 12:17:17.8±0.5, 33°.74S×70°.02W, h132km±4km, MD3.6, ML3.0*
*GUC **01** 12:17:17.2±0.3, 33°.83S×70°.31W, h108km±1km, ML3.9*
ISC 01 12:17:16.2±1.9, 33°.84S±0°.07×70°.31W±0°.04, h113km±10km, n31, σ0§75/59, 6C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.09**	**95**	⇓*i*P	**Pn**	**12 17 31.9**	**0.0**
LMEL				*i* S	**Sn**	**12 17 43.3**	**-0.5**
LMEL				AML	AML	12 17 46.5	
	comp=N,5μm,0.2s						
SJCH	**San Jose de Ma**	**0.20**	**350**	⇓*i*P	**Pn**	**12 17 31.5**	**-0.7**
SJCH				*i* S	**Sn**	**12 17 43.0**	**-1.1**
SJCH				AML	AML	12 17 44.3	
	comp=E,4μm,0.5s						
YECH	**El Yeso**	**0.26**	**48**	⇓*i*P	**Pn**	**12 17 32.9**	**+0.3**
YECH				*i* S	**Sn**	**12 17 45.2**	**+0.4**
PCH	**Pirque**	**0.28**	**322**	⇑*i*P	**Pn**	**12 17 32.6**	**+0.3**
PCH				*i* S	**Sn**	**12 17 44.3**	**-0.2**
CHCH	**Chadas Angostu**	**0.30**	**252**	⇓*i*P	**Pn**	**12 17 32.7**	**+0.3**
CHCH				*i* S	**Sn**	**12 17 44.4**	**-0.2**
CACH	**El Canelo**	**0.37**	**221**	*i* P	**Pn**	**12 17 33.4**	**+0.6**
CACH				*i* S	**Sn**	**12 17 45.6**	**+0.3**
ANTU	**Antumapu**	**0.38**	**315**	⇓*i*P	**Pn**	**12 17 33.0**	**+0.2**
ANTU				*i* S	**Sn**	**12 17 44.9**	**-0.4**
ANTU				AML	AML	12 17 45.4	
	comp=N,4μm,0.3s						
FSR	**Penalolen**	**0.40**	**333**	*i* P	**Pn**	**12 17 33.8**	**+0.8**
FSR				*i* S	**Sn**	**12 17 46.0**	**+0.5**
LACH	**Col Las Americ**	**0.43**	**335**	*eP*	**Pn**	**12 17 33.3**	**+0.2**
LACH				*i* S	**Sn**	**12 17 45.3**	**-0.4**
CLCH	**Cerro Calan**	**0.48**	**337**	⇑*i*P	**Pn**	**12 17 33.5**	**+0.1**
CLCH				*eS*	**Sn**	**12 17 46.0**	**-0.3**
CLCH				AML	AML	12 17 47.2	
	comp=E,7μm,0.3s						
SAN	**Santiago**	**0.48**	**323**	*i* P	**Pn**	**12 17 33.3**	**-0.1**
SAN				*i* S	**Sn**	**12 17 45.7**	**-0.5**
STL	**Santa Lucia**	**0.49**	**325**	⇑*i*P	**Pn**	**12 17 33.1**	**-0.3**
STL				*i* S	**Sn**	**12 17 45.5**	**-0.8**
TACH	**Talagante**	**0.55**	**289**	⇓*i*P	**Pn**	**12 17 34.0**	**+0.2**
TACH				*i* S	**Sn**	**12 17 46.9**	**-0.1**
PEL	**Peldehue**	**0.76**	**336**	⇓*i*P	**Pn**	**12 17 35.7**	**+0.2**
PEL				*i* S	**Sn**	**12 17 49.7**	**-0.3**
PEL				AML	AML	12 17 50.8	
	comp=N,9μm,0.3s						
LNV	**Longovilo**	**0.92**	**262**	⇑*i*P	**Pn**	**12 17 37.0**	**+0.1**
LNV				*i* S	**Sn**	**12 17 52.1**	**-0.3**
ROCH	**El Roble**	**1.04**	**326**	⇑*i*P	**Pn**	**12 17 38.1**	**-0.2**
ROCH				*i* S	**Sn**	**12 17 54.6**	**-0.4**
LCCH	**Las Cruces**	**1.11**	**289**	*i* P	**Pn**	**12 17 39.0**	**+0.3**
LCCH				*i* S	**Sn**	**12 17 55.6**	**-0.3**
JACH	**Jahuel**	**1.18**	**348**	*i* P	**Pn**	**12 17 40.0**	**+0.4**
JACH				*i* S	**Sn**	**12 17 57.4**	**0.0**
IHA	**Instituto Hidr**	**1.38**	**306**	⇑*i*P	**Pn**	**12 17 42.2**	**+0.5**
IHA				*i* S	**Sn**	**12 18 01.1**	**+0.1**
AAGR	**Agrelo**	**1.45**	**59**	*i* P	**Pn**	**12 17 43.5**	**+0.8**
AAGR				*i* S	**Sn**	**12 18 02.6**	**-0.2**
ARCO	**CERRO ARCO**	**1.52**	**50**	*i* P	**Pn**	**12 17 44.5**	**+0.8**
ARCO				AML	AML	12 18 13.7	
	comp=Z,109nm,0.6s						
AVIZ	**Vizcacheras**	**1.54**	**77**	*i* P	**Pn**	**12 17 44.5**	**+0.7**
AVIZ				*i* S	**Sn**	**12 18 04.5**	**-0.3**
ASAL	**Salagasta**	**1.75**	**45**	*i* P	**Pn**	**12 17 47.2**	**+0.8**
ASAL				*i* S	**Sn**	**12 18 08.7**	**-0.7**
AUSP	**Uspallata**	**1.79**	**26**	*i* P	**Pn**	**12 17 48.5**	**+1.5**
AUSP				*i* S	**Sn**	**12 18 12.0**	**+1.6**
RTLS	**Leoncito**	**2.21**	**23**	*i* P	**Pn**	**12 17 53.7**	**+1.5**
RTLS				*i* S	**Sn**	**12 18 20.5**	**+0.8**
RTCV	**Cerro Valdivia**	**2.47**	**38**	*i* P	**Pn**	**12 17 55.9**	**+0.5**
RTCV				*i* S	**Sn**	**12 18 24.1**	**-1.4**
CFAA	**Coronel Fontan**	**2.83**	**39**	*i* P	**Pn**	**12 18 00.7**	**+0.5**
CFAA				*i* S	**Sn**	**12 18 32.0**	**-1.9**
RTLL	**Cerro Villicun**	**2.94**	**32**	*i* P	**Pn**	**12 18 02.2**	**+0.6**
RTLL				*i* S	**Sn**	**12 18 35.0**	**-1.6**
ACAN	**Cantantal**	**3.05**	**60**	*i* P	**Pn**	**12 18 03.0**	**-0.1**
AMOG	**MOGNA**	**3.27**	**28**	*i* P	**Pn**	**12 18 06.5**	**+0.4**
AMOG				*i* S	**Sn**	**12 18 42.3**	**-2.2**
AVFE	**Valle Fertil**	**3.99**	**38**	*i* P	**Pn**	**12 18 15.6**	**+0.1**
AVFE				AML	AML	12 19 05.7	
	comp=Z,33nm,0.5s						

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*ISCJB **01** 12:17:34.1±0.7, 8°.28S±0°.09×119°.11E±0°.06, h10km, mb3.3/1, Error ellipse: s-maj=13.8km s-min=7.4km az=25.6*
*IDC **01** 12:17:34.0±2.2, 8°.33S×118°.89E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=193.5km s-min=23.7km az=53.0*
*DJA **01** 12:17:36.1±0.4, 8°.S±6°×11°.9E±°, h10km, M3.8/6, MLv3.8/6*
ISC 01 12:17:35.6±1.0, 8°.25S±0°.09×119°.10E±0°.10, h10km, n10, σ1§20/8, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**0.82**	**107**	P	x	12 17 51.6	
WSI	**Waingapu**	**1.84**	**140**	P	**Pb**	**12 18 09.5**	**+0.1**
MTNI	**Mataram**	**2.92**	**262**	P	x	12 18 22.4	
BKSI	**Bulukumba**	**3.08**	**19**	P	**Pn**	**12 18 23.8**	**-0.5**
KHKI	**Kahang-Kahang**	**3.46**	**268**	P	x	12 18 29.6	
SRBI	**Singaraja**	**3.85**	**272**	P	**Pn**	**12 18 34.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.68**	**148**	Pn	**Pn**	**12 20 23.4**	**+1.0**
	0.2nm,0.3s,baz=328,slow=12,SNR=6.3						
FITZ				Sn	**Sn**	**12 22 30.8**	**-2.2**
	0.3nm,0.3s,baz=182,slow=18,SNR=5.8						
WRA	**Warramunga Arr**	**18.79**	**130**	P	**P**	**12 21 55.8**	**+0.6**
	0.2nm,0.3s,baz=304,slow=12,SNR=9.6						
WRA				S	Sn	12 25 19.9	-6.2
	0.0nm,0.3s,baz=290,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**20.89**	**139**	P	**P**	**12 22 19.0**	**+0.8**
	1.7nm,0.7s,baz=311,slow=9.6,SNR=24						
MKAR	**Makanchi Array**	**63.84**	**333**	P	**P**	**12 28 08.1**	**-0.1**
	0.2nm,0.6s,baz=151,slow=6.5,SNR=4.3						

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*CSEM **01** 13:11:45.9, 45°.54N×26°.29E, h160km, MD4.0/3, After BUC*
BUC 01 13:11:45.9±0.8, 45°.54N×26°.29E, h160km±7km, MD4.0/3, 60C-21D, Error ellipse: s-maj=6.2km s-min=4.1km az=6.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.25**	**258**	⇑*i*P	Pn	13 12 07.4	-0.3
MLR	**Muntele Rosu**	**0.25**	**258**	⇑*i*P	Pn	13 12 07.4	-0.3
MLR				*i* S	Sn	13 12 23.4	-0.9
MLR	**Muntele Rosu**	**0.25**	**258**	⇑*i*P	Pn	13 12 07.4	-0.3
MLR				*i* S	Sn	13 12 23.4	-0.9
PLOR	**Plostina**	**0.40**	**40**	⇑*i*P	Pn	13 12 08.1	0.0
PLOR				*i* S	Sn	13 12 23.3	-1.8
PLOR	**Plostina**	**0.40**	**40**	⇑*i*P	Pn	13 12 08.1	0.0
PLOR				*i* S	Sn	13 12 23.3	-1.8
PLOR	**Plostina**	**0.40**	**40**	⇑*i*P	Pn	13 12 08.1	0.0
PLOR				*i* S	Sn	13 12 23.3	-1.8
VRI	**Vrincioaia**	**0.45**	**44**	⇑*i*P	Pn	13 12 07.7	-0.5
VRI	**Vrincioaia**	**0.45**	**44**	⇑*i*P	Pn	13 12 07.7	-0.5
VRI				*i* S	Sn	13 12 23.8	-1.6
VRI	**Vrincioaia**	**0.45**	**44**	⇑*i*P	Pn	13 12 07.7	-0.5
VRI				*i* S	Sn	13 12 23.8	-1.6
ISR	**Istrita**	**0.46**	**157**	⇑*i*P	Pn	13 12 08.4	0.0
ISR	**Istrita**	**0.46**	**157**	⇑*i*P	Pn	13 12 08.4	0.0
ISR				*i* S	Sn	13 12 24.6	-0.9
ISR	**Istrita**	**0.46**	**157**	⇑*i*P	Pn	13 12 08.4	0.0
ISR				*i* S	Sn	13 12 24.6	-0.9
GRER		**0.51**	**108**	⇑*i*P	Pn	13 12 09.4	+0.9
GRER		**0.51**	**108**	⇑*i*P	Pn	13 12 09.4	+0.9
GRER		**0.51**	**108**	⇑*i*P	Pn	13 12 09.4	+0.9
SECR		**0.53**	**197**	⇓*i*P	Pn	13 12 08.8	+0.2
SECR		**0.53**	**197**	⇓*i*P	Pn	13 12 08.8	+0.2
SECR				*i* S	Sn	13 12 25.4	-0.6
SECR		**0.53**	**197**	⇓*i*P	Pn	13 12 08.8	+0.2
SECR				*i* S	Sn	13 12 25.4	-0.6
ODBI	**Odobesti**	**0.58**	**68**	⇑*i*P	Pn	13 12 10.0	+1.2
ODBI	**Odobesti**	**0.58**	**68**	⇑*i*P	Pn	13 12 10.0	+1.2
ODBI				*i* S	Sn	13 12 25.0	-1.4
ODBI	**Odobesti**	**0.58**	**68**	⇑*i*P	Pn	13 12 10.0	+1.2
ODBI				*i* S	Sn	13 12 25.0	-1.4
PETR	**Petresti**	**0.69**	**75**	⇑*i*P	Pn	13 12 09.6	+0.2
PETR	**Petresti**	**0.69**	**75**	⇑*i*P	Pn	13 12 09.6	+0.2
PETR				*i* S	Sn	13 12 26.8	-0.6
PETR	**Petresti**	**0.69**	**75**	⇑*i*P	Pn	13 12 09.6	+0.2
PETR				*i* S	Sn	13 12 26.8	-0.6
DOPR	**Dopca**	**0.76**	**304**	⇓*i*P	Pn	13 12 09.5	-0.4
DOPR	**Dopca**	**0.76**	**304**	⇓*i*P	Pn	13 12 09.5	-0.4
DOPR				*i* S	Sn	13 12 27.4	-0.9
DOPR	**Dopca**	**0.76**	**304**	⇓*i*P	Pn	13 12 09.5	-0.4
DOPR				*i* S	Sn	13 12 27.4	-0.9
PGOR	**Pogoanele**	**0.81**	**142**	⇑*i*P	Pn	13 12 10.6	+0.4
PGOR	**Pogoanele**	**0.81**	**142**	⇑*i*P	Pn	13 12 10.6	+0.4
PGOR				*i* S	Sn	13 12 28.8	0.0
PGOR	**Pogoanele**	**0.81**	**142**	⇑*i*P	Pn	13 12 10.6	+0.4
PGOR				*i* S	Sn	13 12 28.8	0.0
SULR		**0.87**	**181**	⇑*i*P	Pn	13 12 10.8	+0.2
SULR		**0.87**	**181**	⇑*i*P	Pn	13 12 10.8	+0.2
SULR				*i* S	Sn	13 12 28.2	-1.3
SULR		**0.87**	**181**	⇑*i*P	Pn	13 12 10.8	+0.2
SULR				*i* S	Sn	13 12 28.2	-1.3
VOIR		**0.88**	**263**	⇓*i*P	Pn	13 12 10.2	-0.6
VOIR		**0.88**	**263**	⇓*i*P	Pn	13 12 10.2	-0.6
VOIR				*i* S	Sn	13 12 29.9	0.0
VOIR		**0.88**	**263**	⇓*i*P	Pn	13 12 10.2	-0.6
VOIR				*i* S	Sn	13 12 29.9	0.0
ARR	**Arges**	**1.18**	**262**	⇑*i*P	Pn	13 12 13.1	-0.1
ARR	**Arges**	**1.18**	**262**	⇑*i*P	Pn	13 12 13.1	-0.1
ARR				*i* S	Sn	13 12 33.2	-1.0
ARR	**Arges**	**1.18**	**262**	⇑*i*P	Pn	13 12 13.1	-0.1
ARR				*i* S	Sn	13 12 33.2	-1.0
AMRR	**Amara**	**1.19**	**141**	⇑*i*P	Pn	13 12 13.4	+0.1
AMRR	**Amara**	**1.19**	**141**	⇑*i*P	Pn	13 12 13.4	+0.1
AMRR				*i* S	Sn	13 12 33.3	-1.0
AMRR	**Amara**	**1.19**	**141**	⇑*i*P	Pn	13 12 13.4	+0.1
AMRR				*i* S	Sn	13 12 33.3	-1.0
BUC1	**Bucharest**	**1.21**	**189**	⇑*i*P	Pn	13 12 13.6	+0.1
BUC1	**Bucharest**	**1.21**	**189**	⇑*i*P	Pn	13 12 13.6	+0.1
BUC1				*i* S	Sn	13 12 33.8	-0.8
BUC1	**Bucharest**	**1.21**	**189**	⇑*i*P	Pn	13 12 13.6	+0.1
BUC1				*i* S	Sn	13 12 33.8	-0.8
CFR	**Carcaliu**	**1.35**	**105**	⇑*i*P	Pn	13 12 14.3	-0.5
CFR	**Carcaliu**	**1.35**	**105**	⇑*i*P	Pn	13 12 14.3	-0.5
CFR				*i* S	Sn	13 12 35.0	-1.9
CFR	**Carcaliu**	**1.35**	**105**	⇑*i*P	Pn	13 12 14.3	-0.5
CFR				*i* S	Sn	13 12 35.0	-1.9
HUMR	**Humele**	**1.37**	**223**	⇑*i*P	Pn	13 12 14.7	-0.3
HUMR	**Humele**	**1.37**	**223**	⇑*i*P	Pn	13 12 14.7	-0.3
HUMR				*i* S	Sn	13 12 36.3	-1.1
HUMR	**Humele**	**1.37**	**223**	⇑*i*P	Pn	13 12 14.7	-0.3
HUMR				*i* S	Sn	13 12 36.3	-1.1
HARR	**Harsova**	**1.44**	**126**	⇑*i*P	Pn	13 12 15.5	-0.2
HARR	**Harsova**	**1.44**	**126**	⇑*i*P	Pn	13 12 15.5	-0.2
HARR	**Harsova**	**1.44**	**126**	⇑*i*P	Pn	13 12 15.5	-0.2
LEOM	**Leova**	**1.65**	**55**	⇑*i*P	Pn	13 12 17.8	0.0
LEOM	**Leova**	**1.65**	**55**	⇑*i*P	Pn	13 12 17.8	0.0
LEOM				*i* S	Sn	13 12 40.7	-1.7
LEOM	**Leova**	**1.65**	**55**	⇑*i*P	Pn	13 12 17.8	0.0
LEOM				*i* S	Sn	13 12 40.7	-1.7
CVD	**Cernavoda**	**1.75**	**134**	⇑*i*P	Pn	13 12 18.6	-0.2
CVD	**Cernavoda**	**1.75**	**134**	⇑*i*P	Pn	13 12 18.6	-0.2
CVD				*i* S	Sn	13 12 42.1	-2.0
CVD	**Cernavoda**	**1.75**	**134**	⇑*i*P	Pn	13 12 18.6	-0.2
CVD				*i* S	Sn	13 12 42.1	-2.0
LOT	**Lotru**	**1.77**	**268**	⇓*i*P	Pn	13 12 19.7	+0.4
LOT	**Lotru**	**1.77**	**268**	⇓*i*P	Pn	13 12 19.7	+0.4
LOT				*i* S	Sn	13 12 44.9	-0.1
LOT	**Lotru**	**1.77**	**268**	⇓*i*P	Pn	13 12 19.7	+0.4
LOT				*i* S	Sn	13 12 44.9	-0.1
TLCR		**1.82**	**100**	⇓*i*P	Pn	13 12 19.6	0.0
TLCR		**1.82**	**100**	⇓*i*P	Pn	13 12 19.6	0.0
TLCR				*i* S	Sn	13 12 44.8	-0.7
TLCR		**1.82**	**100**	⇓*i*P	Pn	13 12 19.6	0.0
TLCR				*i* S	Sn	13 12 44.8	-0.7
MSAB	**Monastry St. A**	**1.82**	**142**	⇑*i*P	Pn	13 12 19.9	+0.3
MSAB	**Monastry St. A**	**1.82**	**142**	⇑*i*P	Pn	13 12 19.9	+0.3
MSAB				*i* S	Sn	13 12 45.1	-0.5
MSAB	**Monastry St. A**	**1.82**	**142**	⇑*i*P	Pn	13 12 19.9	+0.3
MSAB				*i* S	Sn	13 12 45.1	-0.5
TIRR	**Tirgusor**	**1.86**	**125**	⇓*i*P	Pn	13 12 19.9	-0.1
TIRR	**Tirgusor**	**1.86**	**125**	⇓*i*P	Pn	13 12 19.9	-0.1
TIRR				*i* S	Sn	13 12 44.4	-1.9
TIRR	**Tirgusor**	**1.86**	**125**	⇓*i*P	Pn	13 12 19.9	-0.1
TIRR				*i* S	Sn	13 12 44.4	-1.9
ZIMR		**2.00**	**200**	S	Sn	13 12 47.7	-1.4
ZIMR		**2.00**	**200**	*i* S	Sn	13 12 47.7	-1.4
BURAR	**Bucovina Array**	**2.20**	**341**	⇑*i*P	Pn	13 12 25.1	+1.1
BURAR	**Bucovina Array**	**2.20**	**341**	⇑*i*P	Pn	13 12 25.1	+1.1
BURAR	**Bucovina Array**	**2.20**	**341**	⇑*i*P	Pn	13 12 25.1	+1.1
SRE	**Strehaia**	**2.35**	**249**	⇑*i*P	Pn	13 12 25.5	-0.3
SRE	**Strehaia**	**2.35**	**249**	⇑*i*P	Pn	13 12 25.5	-0.3
SRE	**Strehaia**	**2.35**	**249**	⇑*i*P	Pn	13 12 25.5	-0.3
BZS	**Buzias**	**3.28**	**273**	⇓*i*P	Pn	13 12 37.1	0.0
BZS	**Buzias**	**3.28**	**273**	⇓*i*P	Pn	13 12 37.1	0.0
BZS	**Buzias**	**3.28**	**273**	⇓*i*P	Pn	13 12 37.1	0.0

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*ISCJB **01** 13:24:09.8±0.5, 18°.68S±0°.04×69°.00W±0°.06, h128km, mb3.9/8, Error ellipse: s-maj=8.3km s-min=4.9km az=169.9*
*SJA **01** 13:24:10.7±0.4, 18°.92S×69°.36W, h226km±71km, ML4.0*
*IDC **01** 13:24:12.0±0.8, 18°.63S×68°.98W, h134km±5km, mb3.7/9, mb1 3.9/13, mb1mx3.7/21, mbtmp4.1/13, MS2.5/1, Ms1 2.6/1, ms1mx2.3/24, Error ellipse: s-maj=14.6km s-min=12.4km az=108.0*
ISC 01 13:24:11.2±0.6, 18°.71S±0°.05×68°.99W±0°.08, h128km, n35, σ1§11/35, mb4.0/8, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.54**	**19**	P	**Pn**	**13 24 53.6**	**+1.1**
	6.5nm,0.3s,baz=206,slow=9.8,SNR=209						
LPAZ				S	**Sn**	**13 25 24.4**	**+0.3**
	4.3nm,0.3s,baz=229,slow=19,SNR=5.1						
LPAZ				LR	LR	13 25 54.8	
	comp=Z,100nm,21.0s,baz=266,slow=42						
LVC	**Limon Verde**	**3.89**	**179**	*i* P	**Pn**	**13 25 11.1**	**+1.3**
LVC				*i* S	**Sn**	**13 25 55.2**	**+0.2**
AZAP	**Zapla**	**6.60**	**147**	*i* P	**Pn**	**13 25 47.3**	**+1.3**
AZAP				AML	AML	13 25 49.0	
	comp=Z,16nm,0.4s						
AZAP				*i* S	**Sn**	**13 26 58.9**	**-1.1**
ASTB	**Santa Barbara**	**6.70**	**142**	*i* P	**Pn**	**13 25 49.1**	**+1.8**
ASTB				*i* S	**Sn**	**13 27 01.9**	**-0.5**
SLA	**San Lorenzo**	**6.81**	**152**	*i* P	**Pn**	**13 25 49.6**	**+0.8**
SLA				AML	AML	13 25 53.2	
	comp=Z,44nm,0.5s						
ALOL	**LOMAS DE OLMED**	**6.91**	**138**	*i* P	**Pn**	**13 25 51.2**	**+1.1**
ALOL				*i* S	**Sn**	**13 27 06.9**	**-0.4**
SIV	**San Ignacio**	**8.03**	**72**	P	**Pn**	**13 26 04.4**	**-0.7**
	comp=Z,6.3nm,0.3s,baz=272,slow=11,SNR=65						
SIV				S	**Sn**	**13 27 34.0**	**-0.4**
	baz=356,slow=18,SNR=3.1						
CFAA	**Coronel Fontan**	**12.86**	**177**	P	**Pn**	**13 27 06.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=11						
CFAA				S	Sn	13 29 23.6	-7.7
	comp=Z,0.0nm,0.3s,baz=238,slow=19,SNR=3.3						
CPUP	**Villa Florida**	**13.17**	**127**	P	**Pn**	**13 27 12.9**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=304,slow=14,SNR=7.1						
H03N1	**Juan Fernandez**	**17.15**	**209**	T	T	13 46 00.1	
	baz=27,slow=75,SNR=20						
H03N2	**Juan Fernandez**	**17.16**	**209**	T	T	13 45 58.3	
	baz=27,slow=75,SNR=19						
H03N3	**Juan Fernandez**	**17.17**	**209**	T	T	13 46 04.2	
	baz=27,slow=75,SNR=21						
PTGA	**Pitinga**	**19.94**	**27**	P	**P**	**13 28 31.9**	**-1.4**
	comp=Z,1.7nm,0.3s,baz=322,slow=22,SNR=8.5						
BDFB	**Brasilia**	**20.27**	**85**	P	**P**	**13 28 37.9**	**+0.9**
	comp=Z,6.8nm,0.4s,baz=256,slow=9.7,SNR=18						
PLCA	**Paso Flores**	**21.99**	**183**	P	**P**	**13 28 55.9**	**+0.7**
	comp=Z,6.3nm,1.1s,baz=4.1,slow=9.4,SNR=9.7						
TXAR	**Lajitas Array**	**58.31**	**324**	P	**P**	**13 33 52.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=141,slow=5.5,SNR=5.4						
DBIC	**Dimbokro**	**68.04**	**75**	P	**P**	**13 34 57.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=240,slow=7.7,SNR=3.5						
PDAR	**Pinedale Array**	**71.67**	**330**	P	**P**	**13 35 18.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=121,slow=8.6,SNR=6.4						
ULM	**Lac du Bonnet**	**72.64**	**342**	P	**P**	**13 35 23.1**	**-1.5**
	comp=Z,1.8nm,0.4s,baz=146,slow=7.6,SNR=3.4						
NVAR	**Mina Array Bea**	**73.26**	**322**	P	**P**	**13 35 28.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=140,slow=7.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.51**	**71**	P	**P**	**13 35 47.3**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=254,slow=5.4,SNR=25						
TORD				pP	**pP**	**13 36 22.4**	**+2.7**
	comp=Z,1.0nm,0.9s,baz=237,slow=5.0,SNR=2.9						
YKA	**Yellowknife Ar**	**88.54**	**341**	P	**P**	**13 36 48.7**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=132,slow=4.8,SNR=94						
YKA				pP	**pP**	**13 37 22.3**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=134,slow=4.8,SNR=4.3						
YKA				sP	**sP**	**13 37 36.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=135,slow=4.9,SNR=2.1						
H11S2	**WAKE ISLAND Hyl**	**27.40**	**279**	T	T	16 02 31.7	
	baz=103,slow=73,SNR=10						
H11N3	**WAKE ISLAND Hyl**	**27.41**	**281**	T	T	16 02 40.2	
	baz=103						
H11S1	**WAKE ISLAND Hyl**	**27.41**	**279**	T	T	16 02 30.0	
	baz=103,slow=73,SNR=4.3						
H11S3	**WAKE ISLAND Hyl**	**27.42**	**279**	T	T	16 02 30.7	
	baz=103,slow=73,SNR=5.4						
H11N2	**WAKE ISLAND Hyl**	**27.42**	**281**	T	T	16 02 39.0	
	baz=103						
H11N1	**WAKE ISLAND Hyl**	**27.43**	**281**	T	T	16 02 43.6	
	baz=103						
ASAR	**Alice Springs**	**132.33**	**209**	PKP	**PKPdf**	**13 43 11.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=150,slow=2.0,SNR=12						
WRA	**Warramunga Arr**	**135.29**	**212**	PKP	**PKPdf**	**13 43 16.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=149,slow=1.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**139.45**	**24**	PKP	**PKPdf**	**13 43 23.4**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=329,slow=2.5,SNR=6.9						
MKAR	**Makanchi Array**	**143.39**	**34**	PKhKP	PKPpre	13 43 27.5	
	comp=Z,0.2nm,0.5s,baz=326,slow=3.1,SNR=3.8						
USRK	**Ussuriysk Arra**	**149.09**	**330**	PKPbc	**PKPbc**	**13 43 44.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=255,slow=2.1,SNR=5.4						
MJAR	**Matsushiro Arr**	**150.21**	**312**	PKPbc	**PKPbc**	**13 43 47.5**	**-0.1**
	comp=Z,1.7nm,0.7s,baz

LUWI	Luwuk	5.49	238	P	Pn	13 53 54.6	+1.6
	baz=5.6,SNR=8.5						
MRSI	Marisa	5.65	255	P	Pn	13 53 57.4	+2.1
	48nm,0.9s,1μm						
MRSI				S	Sn	13 54 57.7	-1.2
	48nm,0.9s,1μm						
APSI	Ampana	6.41	244	P	Pn	13 54 05.6	+0.1
	46nm,0.6s,1μm						
TOLI	Toli-Toli	6.66	263	P	x	13 54 09.7	
	138nm,0.5s,8μm						
FAKI	Fak Fak	6.81	135	P	Pn	13 54 14.4	+3.3
	42nm,0.8s						
FAKI	Fak Fak	6.81	135	P	Pn	13 54 14.3	+3.3
	baz=6.8,SNR=9.1						
MWPI	Manokwari, Pap	7.21	113	P	x	13 54 24.5	
	107nm,1.4s						
TTSI	Tana Toraja	9.04	237	P	Pn	13 54 39.9	-1.4
	21nm,0.7s						
MYLDM	Lahad Datu	9.46	290	P	x	13 54 50.5	
	48nm,1.2s						
SPSI	Sidrap Palu	9.61	233	P	Pn	13 54 49.6	+0.6
	21nm,0.5s						
BKSI	Bulukumba	10.23	225	P	Pn	13 54 59.5	+2.2
MTN	Manton Dam	15.12	166	P	Pn	13 55 59.7	-1.6
	baz=15,SNR=12						
KDU	Kakadu	15.35	161	P	P	13 56 07.0	+0.6
	baz=16,SNR=11						
JAGI	Jajag, Banyuwa	16.77	232	P	P	13 56 25.6	+3.5
	baz=17,SNR=5.9						
KNRA	Kununurra	17.53	176	P	P	13 56 30.6	+0.1
	baz=18,SNR=6.3						
KNRA				S	S	13 59 54.7	+7.6
	baz=18,SNR=5.6						
UGM	Wanagama	19.46	240	P	P	13 56 52.9	+1.1
	baz=20,SNR=4.4						
COEN	Coen	22.20	136	P	P	13 57 21.1	0.0
	baz=22,SNR=5.1						
WRA	Warramunga Arr	22.76	163	P	P	13 57 25.6	-1.0
	12nm,0.6s,baz=343,slow=11,SNR=120						
WRA				S	S	14 01 25.1	-2.1
	0.9nm,0.7s,baz=331,slow=19,SNR=6.1						
QIS	Mount Isa	25.33	152	P	P	13 57 50.5	+0.3
	baz=26,SNR=9.6						
ASAR	Alice Springs	26.20	166	P	P	13 57 57.1	-0.9
	1.0nm,0.6s,baz=354,slow=7.7,SNR=20						
ASAR				S	S	14 02 20.7	-1.3
	0.5nm,0.8s,baz=347,slow=19,SNR=3.0						
WRKA	Warakurna	26.80	178	P	P	13 58 00.9	-2.5
	baz=27,SNR=5.5						
MEEK	Meekatharra	29.63	196	P	P	13 58 27.7	-0.8
	baz=30,SNR=8.0						
CMAR	Chiang Mai Arr	32.39	302	P	P	13 58 53.2	+0.3
	1.1nm,0.9s,baz=119,slow=6.9,SNR=9.4						
KLBR	Kellerberrin	34.56	195	P	P	13 59 11.0	-0.6
	baz=35,SNR=4.7						
KSRS	Korea Array	35.37	1	P	P	13 59 18.9	+0.5
	1.4nm,0.7s,baz=176,slow=9.7,SNR=5.8						
STKA	Stephens Creek	36.20	159	P	P	13 59 25.2	-0.4
	6.3nm,0.6s,baz=330,slow=8.5,SNR=27						
STKA	Stephens Creek	36.20	159	P	P	13 59 25.2	-0.4
	baz=36,SNR=21						
XAN	Xi'an	36.34	334	P	P	13 59 27.3	+0.5
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA	Gaotai	45.00	330	eP	P	14 00 39.2	+1.2
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	Songino Array	49.23	341	P	P	14 01 11.3	+0.6
	1.2nm,0.6s,baz=153,slow=7.8,SNR=11						
MKAR	Makanchi Array	59.43	326	P	P	14 02 24.9	+0.3
	8.2nm,0.7s,baz=119,slow=8.5,SNR=72						
ZALV	Zalesovo Beam	62.51	333	P	P	14 02 44.0	-1.1
	0.6nm,0.4s,baz=132,slow=5.1,SNR=4.3						
SEY	Seymchan	63.65	12	P	P	14 02 53.7	+1.2
	1.3nm,0.7s,baz=8.4,slow=23,SNR=4.4						
ARCES	ARCESS Array B	92.38	340	P	P	14 05 29.0	-2.2
	3.7nm,0.9s,baz=65,slow=6.4,SNR=2.6						
FINES	FINESS Array B	93.74	332	P	P	14 05 36.4	-1.2
	2.3nm,1.0s,baz=39,slow=12,SNR=2.9						
TORD	Torodi Ar. Bea	124.11	287	PKP	PKPdf	14 11 19.1	-0.9
	0.4nm,0.6s,baz=110,slow=0.9,SNR=4.3						

IDC 01 14:25:49.9±10.0, 13°63S×166°68E, h117km±108km, mb3.2/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.2/5, ML3.1/1, Error ellipse: s-maj=81.7km s-min=33.2km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.40	182	P	Pn	14 27 49.5	+0.5
	0.2nm,0.3s,baz=90,slow=20,SNR=6.8						
DZM				S	Sn	14 29 22.3	0.0
	baz=90,slow=20,SNR=1.8						
WRA	Warramunga Arr	31.56	254	P	P	14 32 00.8	-0.8
	0.3nm,0.5s,baz=86,slow=9.1,SNR=7.1						
ASAR	Alice Springs	32.55	247	P	P	14 32 10.3	0.0
	0.5nm,0.6s,baz=71,slow=9.6,SNR=16						
CMAR	Chiang Mai Arr	73.98	294	P	P	14 37 14.2	+0.9
	0.3nm,0.6s,baz=104,slow=2.8,SNR=4.4						
ILAR	Eielson Array	85.66	18	P	P	14 38 14.7	-0.5
	0.2nm,0.5s,baz=238,slow=5.0,SNR=5.0						

*ISCJB **01** 14:31:08.5±0.5, 22°.9S±0°.1×69°.37E±0°.09, h10km, mb4.2/21, MS4.5/25, Error ellipse: s-maj=15.1km s-min=12.5km az=167.5*

*IDC **01** 14:31:08.8±0.6, 22°.88S×69°.39E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/26, mbtmp4.0/14, MS4.4/25, Ms1 4.4/25, ms1mx4.4/31, Error ellipse: s-maj=20.8km s-min=16.8km az=20.0*

*GCMT **01** 14:31:10.1±0.2, 22°.74S×69°.19E, h18km, MW5.2/97, Moment Tensor Solution. s55,c76; s97,c175; Duration: 1!0 Moment tensor: Scale 10^17 Nm; Mrr-0.18±.02; Mθθ-0.68±.02; Mφφ0.85±.02; Mrθ0.04±.03; Mφθ0.41±.01; Mφr-0.20±.04; Best double couple: M0 0.89600×10^17 NP1:!θs149.00000°, δ90.00000°, λ167.00000°. NP2: φs239.00000°, δ77.00000°, λ0.00000°. Principal axes: T 0.9930, Plg9.0000°, Azm104.0000°; N -0.1920, Plg77.0000°, Azm328.0000°; P -0.8000, Plg9.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 14:31:10.1±0.5, 22°.87S×69°.35E, h10km, mb4.4/8 Error ellipse: s-maj=14.2km s-min=11.9km az=172.0*

ISC 01 14:31:10.6±0.6, 22°.8S±0°.1×69°.27E±0°.10, h10km, n69, σ1!33/42, mb4.3/21, MS4.4/25, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	Mauritius Mete	11.24	281	ePn	Pn	14 33 45.9	-5.6
H08S1	Diego Carcia H	15.41	12	T	T	14 50 38.3	
	baz=193,slow=76,SNR=543						
H08S2	Diego Garcia H	15.42	12	T	T	14 50 37.0	
	baz=193,slow=76,SNR=624						
H08S3	Diego Garcia H	15.43	12	T	T	14 50 39.9	
	baz=193,slow=76,SNR=939						
OPO	Ambohidratompo	21.08	278	P	P	14 35 55.8	+0.4
OPO	Ambohidratompo	21.08	278	P	P	14 35 55.8	+0.4
	12nm,1.1s,baz=91,slow=16,SNR=6.8						
OPO				LR	LR	14 41 48.7	
	comp=Z,3μm,21.0s,baz=113,slow=30						
KMBO	Kilima Mbogo	37.85	300	P	P	14 38 28.5	+0.4
KMBO	Kilima Mbogo	37.85	300	P	P	14 38 28.5	+0.4
	6.7nm,0.2s,baz=238,slow=23,SNR=7.7						
LSZ	Lusaka	39.45	274	eP	P	14 38 39.7	-1.7
	6.3nm,1.0s						
LSZ	Lusaka	39.45	274	P	P	14 38 41.2	-0.2
	5.7nm,1.1s,baz=82,slow=13,SNR=7.4						
H01W2	Cape Leeuwin H	40.78	117	T	T	15 22 17.1	
	baz=275,slow=75,SNR=28						
H01W3	Cape Leeuwin H	40.78	117	T	T	15 22 25.2	
	baz=275,slow=75,SNR=23						
H01W1	Cape Leeuwin H	40.80	117	T	T	15 22 22.4	
	baz=275,slow=75,SNR=26						
MAW	Mawson	44.95	183	LR	LR	14 53 34.8	
	comp=Z,385nm,19.0s,baz=340,slow=30						
CM31	Chiang Mai Arr	50.25	38	eP	P	14 40 06.4	-0.9
	3.7nm,0.9s						
CMAR	Chiang Mai Arr	50.25	38	P	P	14 40 07.8	+0.6
CMAR	Chiang Mai Arr	50.25	38	P	P	14 40 07.8	+0.6
	1.5nm,1.0s,baz=236,slow=7.4,SNR=8.5						
CMAR				LR	LR	15 00 00.3	
	comp=Z,164nm,18.4s,baz=219,slow=34						
CHTO	Chiang Mai	50.54	37	eP	P	14 40 08.7	-0.8
	5.0nm,1.1s						
SHL	Shillong	52.87	26	eP	P	14 40 29.0	+2.0
LSA	Lhasa	56.31	23	eP	P	14 40 53.3	+1.1
	11nm,1.5s						
ASAR	Alice Springs	58.91	105	P	P	14 41 08.4	-1.9
ASAR	Alice Springs	58.91	105	P	P	14 41 08.4	-1.9
	3.1nm,1.0s,baz=257,slow=4.4,SNR=9.3						
ASAR				LR	LR	15 03 19.5	
	comp=Z,1μm,20.6s,baz=272,slow=33						
WRA	Warramunga Arr	60.22	101	P	P	14 41 17.1	-2.3
WRA	Warramunga Arr	60.22	101	P	P	14 41 17.1	-2.3
	2.3nm,1.0s,baz=256,slow=6.8,SNR=8.7						
WRA				LR	LR	15 05 44.9	
	comp=Z,609nm,18.1s,baz=255,slow=34						
STKA	Stephens Creek	63.83	115	LR	LR	15 05 53.1	
	comp=Z,829nm,19.9s,baz=216,slow=33						
KKAR	Karatay Array	65.62	1	eP	P	14 41 54.4	-0.3
	3.1nm,1.0s						
QSPA	South Pole Qui	67.28	180	P	P	14 42 05.9	+0.5
	4.7nm,1.1s						
QSPA	South Pole Qui	67.28	180	P	P	14 42 05.9	+0.5
	2.9nm,1.0s,baz=294,slow=2.5,SNR=6.3						
VNDA	Vanda	68.44	166	P	P	14 42 12.7	+0.4
VNDA	Vanda	68.44	166	P	P	14 42 12.7	+0.4
	1.1nm,0.8s,baz=237,slow=12,SNR=3.7						
VNDA				LR	LR	15 09 36.2	
	comp=Z,208nm,18.2s,baz=261,slow=34						
MK31	Makanchi Array	70.29	9	eP	P	14 42 22.7	-1.4
MKAR	Makanchi Array	70.29	9	P	P	14 42 23.8	-0.3
MKAR	Makanchi Array	70.29	9	P	P	14 42 23.8	-0.3
	1.3nm,0.7s,baz=196,slow=6.9,SNR=7.5						
MKAR				LR	LR	15 12 00.1	
	comp=Z,227nm,20.2s,baz=178,slow=35						
KBZ	Khabaz	70.52	340	LR	LR	15 12 23.2	
	comp=Z,218nm,20.3s,baz=162,slow=35						
BRTR	Keskin Array B	70.57	332	P	P	14 42 26.9	+0.8
BRTR	Keskin Array B	70.57	332	P	P	14 42 26.9	+0.8
	1.1nm,0.8s,baz=149,slow=6.7,SNR=3.5						
BRTR				LR	LR	15 10 40.4	
	comp=Z,137nm,18.1s,baz=13,slow=34						
ABKAR	Akbulak array	72.24	354	eP	P	14 42 35.4	-0.3
	3.0nm,0.8s						
TORD	Torodi Ar. Bea	75.19	291	P	P	14 42 54.0	+0.1
TORD	Torodi Ar. Bea	75.19	291	P	P	14 42 54.0	+0.1
	3.5nm,1.3s,baz=116,slow=3.4,SNR=4.1						
TORD				LR	LR	15 15 28.9	
	comp=Z,400nm,19.6s,baz=115,slow=35						
PMG	Port Moresby	75.31	94	LR	LR	15 11 37.9	
	comp=Z,246nm,21.2s,baz=72,slow=32						
ZAA0	Zalesovo Array	77.64	9	eP	P	14 43 05.9	-1.0
ZALV	Zalesovo Beam	77.64	9	P	P	14 43 06.2	-0.6
ZALV	Zalesovo Beam	77.64	9	P	P	14 43 06.2	-0.6
	2.4nm,0.8s,baz=207,slow=4.7,SNR=7.7						
ZALV				LR	LR	15 15 57.9	
	comp=Z,156nm,20.9s,baz=250,slow=35						
SONM	Songino Array	77.85	25	P	P	14 43 08.7	+0.3
SONM	Songino Array	77.85	25	P	P	14 43 08.7	+0.3
	1.2nm,0.8s,baz=220,slow=4.3,SNR=9.3						
SONM				LR	LR	15 15 16.4	
	comp=Z,244nm,20.0s,baz=193,slow=34						
DBIC	Dimbokro	78.10	282	LR	LR	15 15 48.9	
	comp=Z,704nm,18.6s,baz=95,slow=34						
ULN	Ulaanbaatar	78.13	25	eP	P	14 43 08.5	-1.5
	4.3nm,1.1s						
JNU	Nakatsue	80.89	48	LR	LR	15 16 14.3	
	comp=Z,169nm,19.6s,baz=66,slow=34						
KEST	Kesra	81.27	315	LR	LR	15 16 22.7	
	comp=Z,134nm,19.7s,baz=159,slow=33						
AKASG	Malin Array Be	81.30	336	P	P	14 43 28.4	+1.5
AKASG	Malin Array Be	81.30	336	P	P	14 43 28.4	+1.5
	0.9nm,0.6s,baz=136,slow=4.6,SNR=7.7						
AKASG				LR	LR	15 19 46.9	
	comp=Z,68nm,20.7s,baz=275,slow=36						
KSAR	Wonju Array Be	81.44	43	P	P	14 43 28.0	0.0
KSRS	Korea Array	81.47	43	P	P	14 43 28.0	-0.1
	0.6nm,0.6s,baz=245,slow=5.5,SNR=3.5						
KSRS				LR	LR	15 18 19.6	
	comp=Z,96nm,18.7s,baz=230,slow=35						
MJAR	Matsushiro Arr	87.81	49	LR	LR	15 25 57.8	
	comp=Z,104nm,18.4s,baz=40,slow=38						
DZM	Mont Dzumac	87.86	113	eS	S	14 54 35.0	-10
	99nm,26.0s						
DZM				eSS	SS	15 00 35.5	+4.2
	277nm,27.2s						
DZM	Mont Dzumac	87.86	113	eLR	LR	15 12 04.3	
	882nm,22.3s						
DZM	Mont Dzumac	87.86	113	LR	LR	15 19 24.8	
	comp=Z,526nm,21.6s,baz=222,slow=33						
USRK	Ussuriysk Arra	87.93	40	LR	LR	15 24 01.5	
	comp=Z,174nm,18.3s,baz=1.4,slow=36						
FINES	FINESS Array B	90.87	341	LR	LR	15 25 09.3	
	comp=Z,118nm,19.6s,baz=215,slow=36						
ESDC	Sonseca Array	92.29	312	LR	LR	15 27 47.7	
	comp=Z,222nm,19.1s,baz=165,slow=37						
ARCES	ARCESS Array B	97.29	346	LR	LR	15 27 30.0	
	comp=Z,217nm,21.0s,baz=160,slow=35						
TBI	Tubuai	120.62	138	eSS	SS	15 08 08.6	+9.1
	96nm,31.8s						
TBI	Tubuai	120.62	138	eLR	LR	15 27 09.5	
	202nm,31.0s						
PPT2	Papeete2	124.71	133	eSS	SS	15 09 03.5	+11
	68nm,30.8s						
PPT2	Papeete2	124.71	133	eLR	LR	15 29 08.2	
	154nm,24.5s						
RKT	Rikitea	128.59	151	eLR	LR	15 30 53.7	
	236nm,26.8s						
RKT	Rikitea	128.59	151	eT	T	17 11 58.6	
	1.5nm,0.3s						
YKA	Yellowknife Ar	140.27	3	PKP	PKPdf	14 50 37.0	-2.2
YKA	Yellowknife Ar	140.27	3	PKP	PKPdf	14 50 37.0	-2.2
	0.7nm,1.0s,baz=334,slow=3.6,SNR=4.5						

IDC 01 15:00:36.6±56.0, 21°.13S×177°.89W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=1020.0km s-min=159.9km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.62	245	P	P	15 07 53.0	-0.2
	1.1nm,0.5s,baz=112,slow=11,SNR=5.0						
ASAR	Alice Springs	44.48	257	P	P	15 08 49.8	-0.2
	1.3nm,0.7s,baz=100,slow=7.5,SNR=18						
WRA	Warramunga Arr	44.62	263	P	P	15 08 51.1	0.0
	0.4nm,0.3s,baz=96,slow=8.3,SNR=57						

*IDC **01** 15:11:09.8±2.4, 22°.42S×69°.21W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=63.4km s-min=43.5km az=24.0*

*ISCJB **01** 15:11:27.9±0.6, 21°.22S±0°.04×68°.9W±0°.1, h125km±7km, mb3.5/2, Error ellipse: s-maj=16.3km s-min=5.6km az=171.0*

*GUC **01** 15:11:28.1±0.9, 21°.22S×68°.92W, h120km±6km, ML3.9*

ISC 01 15:11:28.7±0.9, 21°.22S±0°.04×68°.9W±0°.1, h120km±9km, n18, σ0!63/27, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.58	288	⇑iP	Pn	15 11 47.1	-0.2
PB01				i S	Sn	15 12 01.4	+0.1
PB01				AML	AML	15 12 02.0	
	comp=E,7μm,0.2s						
PB09	Plate Boundary	0.66	210	⇑iP	Pn	15 11 48.0	0.0
PB09				i S	Sn	15 12 02.7	+0.3
PB09				AML	AML	15 12 03.5	
	comp=N,9μm,0.3s						
PB07	Plate Boundary	1.05	241	⇑iP	Pn	15 11 51.6	+0.2
PB07				i S	Sn	15 12 08.9	+0.3
PB07				AML	AML	15 12 10.0	
	comp=N,3μm,0.2s						
PB04	Plate Boundary	1.18	208	⇑iP	Pn	15 11 57.6	+5.1
PB04				i S	Sn	15 12 19.7	+9.1
PB04				AML	AML	15 12 24.8	
	comp=E,1μm,0.3s						
PATCX	Punta Patache	1.24	289	⇑iP	Pn	15 11 53.8	+0.5
PATCX				i S	Sn	15 12 12.7	+0.7
PATCX				AML	AML	15 12 14.1	
	comp=E,2μm,0.3s						
MACH	Maria Elena	1.26	220	⇓iP	Pn	15 11 53.8	+0.2
MACH				i S	Sn	15 12 12.6	+0.1
HMBC	Humberstone	1.32	315	⇑iP	Pn	15 11 54.1	-0.2
HMBC				i S	Sn	15 12 13.8	+0.2
HMBC				AML	AML	15 12 14.6	
	comp=E,2μm,0.4s						
LVC	Limon Verde	1.38	181	⇑iP	Pn	15 11 55.3	+0.2
LVC				i S	Sn	15 12 15.6	+0.5
PB06	Plate Boundary	1.60	203	⇑iP	Pn	15 11 57.8	+0.2
PB06				i S	Sn	15 12 19.4	0.0
PB06				AML	AML	15 12 21.5	
	comp=E,927nm,0.2s						
PB11	Plate Boundary	1.62	334	⇑iP	Pn	15 11 57.6	-0.2
PB11				i S	Sn	15 12 19.9	+0.1
PB11				AML	AML	15 12 21.0	
	comp=N,6μm,0.2s						
PSGC	Pisagua	1.99	324	⇑iP	Pn	15 12 01.5	-0.7
PSGC				i S	Sn	15 12 26.9	-0.7
PSGC				AML	AML	15 12 28.4	
	comp=N,524nm,0.3s						
MNMC	Minimini	2.18	342	⇑iP	Pn	15 12 04.8	0.0
MNMC				i S	Sn	15 12 33.0	+0.7
MNMC				AML	AML	15 12 35.5	
	comp=N,754nm,0.1s						
CEN1	Los Morros	2.47	209	AML	AML	15 12 54.1	
	comp=N,138nm,0.3s						
LPAZ	La Paz	4.96	8	Pn	Pn	15 12 43.3	+1.5
	comp=N,0.4nm,0.3s,baz=194,slow=6.0,SNR=9.7						
BDFB	Brasilia	20.56	78	P	P	15 15 56.6	-1.6
	comp=N,4.1nm,0.4s,baz=260,slow=8.4,SNR=7.7						
TORD	Torodi Ar. Bea	77.25	70	P	P	15 23 09.7	-0.6
	comp=N,0.3nm,0.4s,baz=248,slow=5.4,SNR=5.5						
YKA	Yellowknife Ar	90.93	341	P	P	15 24 19.0	+0.4
	comp=N,0.3nm,0.7s,baz=136,slow=4.8,SNR=6.3						
MKAR	Makanchi Array	145.40	36	PKPbc	PKPbc	15 30 53.6	+0.9
	comp=N,0.6nm,0.8s,baz=327,slow=3.2,SNR=6.7						

JMA 01 15:41:07.3±0.1, 38°.34N×144°.69E, h31km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.48	288	P	Pn	15 41 47.0	+1.5
MIYJ	Miyakonagasawa	2.56	300	P	Pn	15 41 47.8	+1.2
MIYJ				eS	Sn	15 42 18.0	+1.4
JIO	Ouri	2.63	274	P	Pn	15 41 49.1	+1.5
JIO				S	Sn	15 42 20.1	+1.7
JMK	Ichinoseki	2.79	284	P	Pn	15 41 51.5	+1.8
JMK				eS	Sn	15 42 24.6	+2.3
JOM	Ohasama	2.88	294	P	Pn	15 41 52.9	+1.8
JOM				S	Sn	15 42 27.0	+2.3
JOU	Okura	3.17	272	P	Pn	15 41 57.1	+2.1
JOU				S	Sn	15 42 34.4	+2.7
JRG	Rokugo	3.34	290	P	Pn	15 41 59.9	+2.6
JRG				eS	Sn	15 42 39.4	+3.5
JYK	Kaneyama	3.44	281	P	Pn	15 42 01.3	+2.5
JYK				S	Sn	15 42 41.8	+3.3
JFT	Otama	3.54	258	P	Pn	15 42 02.6	+2.5
JFT				S	Sn	15 42 43.6	+2.7
JAH	Hinai	3.65	302	eS	Sn	15 42 45.9	+2.3
JTM	Tenmabayashi	3.72	312	P	Pn	15 42 04.1	+1.6
JTM				eS	Sn	15 42 46.1	+0.9
JCH	Churui	4.39	347	P	Pn	15 42 10.5	-1.3
JCH				eS	Sn	15 42 58.1	-3.7
JKB	Kayabe	4.52	323	eS	Sn	15 43 04.4	-0.6
NEM2	Nemuro 2	5.08	9	P	Pn	15 42 17.5	-3.8
NEM2				eS	Sn	15 43 10.6	-8.3
JRY	Ryogami san	5.17	245	P	Pn	15 42 23.9	+1.3
JRY				eS	Sn	15 43 20.1	-1.1
MAT	Matsushiro	5.46	253	P	Pn	15 42 29.5	+2.9
MAT				eS	Sn	15 43 30.7	+2.3
JTKR	Abashiri--Toko	5.66	354	eS	Sn	15 43 28.4	-4.6

*BJI **01** 15:43:03.6, 24°.43S×179°.04W, h463km, mB5.3/17, mb4.7/30*

*IDC **01** 15:43:08.5±1.3, 24°.42S×179°.91W, h474km±13km, mb4.1/25, mb1 4.2/27, mb1mx4.1/28, mbtmp4.1/27, Error ellipse: s-maj=10.1km s-min=9.7km az=57.0*

*ISCJB **01** 15:43:09.2±0.6, 24°.54S±0°.05×179°.94W±0°.05, h496km±8km, mb4.6/46, Error ellipse: s-maj=8.2km s-min=6.2km az=136.7*

*NEIC **01** 15:43:10.6±0.8, 24°.56S×179°.95W, h508km±8km, mb4.8/12, Error ellipse: s-maj=9.9km s-min=7.4km az=181.0*

*MOS **01** 15:43:10.6±2.1, 24°.55S×179°.97E, h501km, mb5.3/4, Error ellipse: s-maj=14.9km s-min=11.8km az=20.4*

ISC 01 15:43:07.9±0.4, 24°.47S±0°.05×179°.94W±0°.05, h473km±3km, h473km:pP-P, n274, σ1!21/343, mb4.7/46, 28C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.09	160	P	P	15 44 38.6	+4.4
	1μm,0.3s						
RAO				S	S	15 45 46.2	+1.5
RAO	Raoul Island	5.09	160	P	P	15 44 38.6	+4.4
	206nm,0.3s,baz=268,slow=23,SNR=8.4						
RAO				S	S	15 45 46.2	+1.5
	225nm,0.3s,baz=95,slow=22,SNR=5.8						
NIUE	Niue	10.73	62	P	P	15 45 33.8	+0.8
	baz=10,SNR=21						
NIUE				S	S	15 47 35.3	+2.7
	baz=10,SNR=13						
DZM	Mont Dzumac	12.74	278	P	P	15 45 58.9	+4.2
DZM	Mont Dzumac	12.74	278	P	P	15 45 58.9	+4.2
	3.2nm,0.3s,baz=88,slow=16,SNR=38						
AFI	Afiamalu	13.02	38	eP	P	15 45 54.9	-2.9
	94nm,0.9s						
AFI				eS	S	15 48 13.6	-4.3
AFI	Afiamalu	13.02	38	P	P	15 45 55.0	-2.8
	8.4nm,0.3s,baz=296,slow=2.6,SNR=15						
AFI				S	S	15 48 08.8	-9.1
	5.2nm,0.3s,baz=6.3,slow=18,SNR=7.5						
MKAZ	Moumakai	13.28	197	ePN	P	15 46 02.9	+2.7
URZ	Urewera	13.98	190	P	P	15 46 06.8	-0.8
URZ				S	S	15 48 33.2	-2.7
URZ	Urewera	13.98	190	P	P	15 46 06.8	-0.8
	5.2nm,0.3s,baz=15,slow=3.1,SNR=30						
URZ				S	S	15 48 33.2	-2.7
	2.4nm,0.3s,baz=56,slow=20,SNR=9.0						
URZ	Urewera	13.98	190	ePN	P	15 46 06.8	-0.8
URZ				eSN	S	15 48 32.1	-3.8
KNZ	Kokohu	14.65	187	ePN	P	15 46 13.7	-0.9
KNZ				eSN	S	15 48 49.8	+0.9
QRZ	Quartz Range	17.49	199	PN	P	15 46 44.3	-0.2
QRZ				eSN	S	15 49 42.4	+0.2
THZ	Tophouse	18.25	197	ePN	P	15 46 50.7	-1.1
THZ				eSN	S	15 49 50.1	-4.8
RAR	Rarotonga	18.86	84	P	P	15 46 57.4	-0.4
RAR	Rarotonga	18.86	84	P	P

STKA **Stephens Creek** **34.57 249** *e*P **P** 15 49 15.9 -0.1
5.6nm,0.7s
STKA PcP **PcP** 15 51 38.3 +0.5
STKA *e*PcP **PcP** 15 51 38.6 +0.9
STKA Stephens Creek 34.57 249 P **P** 15 49 17.2 +1.2
22nm,0.5s,baz=94,slow=9.9,SNR=123
STKA PcP **PcP** 15 51 38.3 +0.5
5.6nm,0.7s,baz=29,slow=2.6,SNR=3.9
STKA Stephens Creek 34.57 249 P **P** 15 49 17.2 +1.2
baz=35,SNR=98
PMG Port Moresby 34.74 290 *e*P **P** 15 49 17.5 -0.1
74nm,0.9s
PMG Port Moresby 34.74 290 P **P** 15 49 18.4 +0.8
65nm,0.8s,baz=111,slow=5.2,SNR=37
ARPS Mount Arapiles 34.88 240 P **P** 15 49 19.8 +1.2
baz=35,SNR=15
COEN Coen 36.27 280 P **P** 15 49 31.7 +1.3
baz=37,SNR=12
HTT Hallett 36.90 246 P **P** 15 49 36.2 +0.7
baz=37,SNR=25
QIS Mount Isa 37.49 268 P **P** 15 49 40.8 +0.3
baz=38,SNR=8.1
BBOO Buckleboo 39.28 248 *e*P **P** 15 49 54.0 -0.9
649nm,0.9s
BBOO Buckleboo 39.28 248 P **P** 15 49 55.0 +0.1
baz=40,SNR=45
AS31 Alice Springs 42.00 261 *e*P **P** 15 50 16.9 0.0
ASAR Alice Springs 42.00 261 P **P** 15 50 17.2 +0.3
ASAR PcP **PcP** 15 52 00.1 -1.3
ASAR ScP **ScP** 15 55 07.8 +1.3
ASAR S **S** 15 55 58.8 -2.2
ASAR Alice Springs 42.00 261 P **P** 15 50 17.2 +0.3
15nm,0.6s,baz=91,slow=6.6,SNR=392
ASAR PcP **PcP** 15 52 00.1 -1.3
2.0nm,0.7s,baz=94,slow=5.9,SNR=5.5
ASAR ScP **ScP** 15 55 07.8 +1.3
1.6nm,1.0s,baz=115,slow=4.1,SNR=4.5
ASAR S **S** 15 55 58.8 -2.2
1.4nm,0.8s,baz=100,slow=13,SNR=6.9
WRAB Tennant Creek 42.42 267 P **P** 15 50 20.0 -0.2
339nm,0.5s,SNR=67
WRAB Tennant Creek 42.42 267 *d* iP **P** 15 50 20.2 0.0
WRAB pmax pmax
comp=Z,81nm,0.7s
WRA Warramunga Arr 42.43 267 P **P** 15 50 20.2 -0.1
WRA PcP **PcP** 15 52 02.8 -0.1
WRA ScP **ScP** 15 55 09.5 +1.3
WRA S **S** 15 56 02.9 -4.2
WRA Warramunga Arr 42.43 267 P **P** 15 50 20.2 -0.1
comp=Z,38nm,0.6s,baz=101,slow=8.3,SNR=394
WRA PcP **PcP** 15 52 02.8 -0.1
comp=Z,4.2nm,0.9s,baz=100,slow=3.3,SNR=5.2
WRA ScP **ScP** 15 55 09.5 +1.3
comp=Z,7.4nm,0.9s,baz=104,slow=4.1,SNR=19
WRA S **S** 15 56 02.9 -4.2
comp=Z,2.2nm,0.8s,baz=99,slow=13,SNR=4.7
JAY Jayapura 43.79 294 P **P** 15 50 31.2 +0.1
baz=44,SNR=24
FORT Forrest 46.17 250 *e*P **P** 15 50 48.4 -0.8
comp=Z,102nm,0.6s
FORT Forrest 46.17 250 P **P** 15 50 48.8 -0.4
baz=46,SNR=52
KDU Kakadu 46.40 276 P **P** 15 50 50.8 -0.3
baz=47,SNR=13
WRKA Warakurna 46.77 258 P **P** 15 50 53.9 -0.1
baz=47,SNR=50
MTN Manton Dam 47.56 275 P **P** 15 50 59.3 -0.6
baz=48,SNR=8.6
KNRA Kununurra 48.74 270 P **P** 15 51 09.2 +0.4
baz=49,SNR=49
FAKI Fak Fak 50.80 287 P **P** 15 51 23.9 -0.2
baz=51,SNR=4.9
SBA Scott Base 53.81 183 *e*P **P** 15 51 43.3 -1.4
SBA pmax pmax
comp=Z,11nm,0.9s
SBA Scott Base 53.81 183 *e*P **P** 15 51 43.3 -1.4
comp=Z,11nm,0.9s
VNDA Vanda 53.82 185 P **P** 15 51 46.2 +1.4
VNDA PcP **PcP** 15 52 44.2 +0.9
VNDA Vanda 53.82 185 P **P** 15 51 46.2 +1.4
comp=Z,2.4nm,0.8s,baz=6.7,slow=7.6,SNR=22
VNDA PcP **PcP** 15 52 44.2 +0.9
comp=Z,1.9nm,0.7s,baz=345,slow=6.0,SNR=7.0
KLBR Kellerberrin 54.82 248 P **P** 15 51 52.5 -0.2
baz=55,SNR=7.0
SOEI Soe 54.95 275 P **P** 15 51 55.5 +1.5
baz=55,SNR=9.6
MEEK Meekatharra 55.01 254 P **P** 15 51 53.3 -0.8
baz=55,SNR=14
BLDU Ballidu 55.87 249 P **P** 15 51 59.6 -0.4
baz=56,SNR=24
MORW Morawa 56.74 250 P **P** 15 52 05.7 -0.3
baz=57,SNR=7.0
JAGI Jajag, Banyuwa 64.65 272 P **P** 15 52 57.7 -0.9
baz=65,SNR=4.5
QSPA South Pole Qui 65.62 180 *e*P **P** 15 53 03.2 -0.8
comp=Z,21nm,0.8s
QSPA South Pole Qui 65.62 180 P **P** 15 53 05.2 +1.2
comp=Z,21nm,0.8s,baz=24,slow=1.3,SNR=130
UGM Wanagama 68.17 271 P **P** 15 53 20.6 -0.1
baz=68,SNR=5.5
KSM Kuching 72.26 280 P **P** 15 53 45.4 +0.4
baz=73,SNR=14
MJAR Matsushiro Arr 72.40 326 P **P** 15 53 44.5 -0.7
MJAR Matsushiro Arr 72.40 326 P **P** 15 53 44.5 -0.7
comp=Z,6.5nm,0.8s,baz=164,slow=5.9,SNR=14
JNU Nakatsue 73.99 319 P **P** 15 53 54.6 +0.1
JNU Nakatsue 73.99 319 P **P** 15 53 54.6 +0.1
comp=Z,13nm,0.9s,baz=175,slow=2.5,SNR=4.0
MAW Mawson 77.24 200 P **P** 15 54 12.8 +0.8
MAW Mawson 77.24 200 P **P** 15 54 12.8 +0.8
comp=Z,12nm,0.6s,baz=143,slow=7.2,SNR=17
KSRS Korea Array 78.72 320 P **P** 15 54 21.6 +1.2
comp=Z,4.5nm,0.7s,baz=129,slow=6.2,SNR=17
KSAR Wonju Array Be 78.73 320 P **P** 15 54 21.6 +1.1
PETK Petropavlovsk- 79.67 347 P **P** 15 54 25.6 +0.5
PETK Petropavlovsk- 79.67 347 P **P** 15 54 25.6 +0.5
PETK Petropavlovsk- 79.67 347 P **P** 15 54 25.6 +0.5
comp=Z,12nm,0.9s,baz=131,slow=7.0,SNR=13
NJ2 Nanjing 81.08 311 *e*P **P** 15 54 33.8 +0.8
NJ2 pmax pmax
comp=Z,30nm,0.9s
USRK Ussuriysk Arra 81.27 327 P **P** 15 54 35.0 +1.2
comp=Z,5.6nm,0.6s,baz=152,slow=4.1,SNR=25
IPM Ipoh 81.91 279 *e*P **P** 15 54 35.2 -2.5
comp=Z,22nm,0.6s
SYO Syowa Base 82.47 193⇑ *e*P **P** 15 54 37.7 -1.9
MDJ Mudanjiang 82.77 326 P **P** 15 54 42.3 +0.9
MDJ pP **pP** 15 56 24.4 -1.4
MDJ sP **sP** 15 57 12.2 -2.3
MDJ S **SKKSac** 16 04 23.1 +0.8
MDJ sS **sS** 16 07 25.5 -0.1
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.7s
UBPT Khong Chiam 82.78 290 P P 15 54 53.6 +12
PSI Prapat 83.10 276 P **P** 15 54 43.0 -1.0
baz=83,SNR=11
CN2 Changchun 84.38 324 *e*P **P** 15 54 50.0 +0.6
NVAR Mina Array Bea 85.12 44 P **P** 15 54 54.3 +0.8
NVAR pP **pP** 15 56 41.8 +3.2
NVAR Mina Array Bea 85.12 44 P **P** 15 54 54.3 +0.8
comp=Z,1.3nm,0.9s,baz=228,slow=7.3,SNR=8.3
NVAR pP **pP** 15 56 41.8 +3.2
comp=Z,0.2nm,0.6s,baz=78,slow=35,SNR=2.6
PATY Pattaya 85.70 286 P **P** 15 54 58.7 +2.2
comp=Z,8.6nm,0.8s,comp=Z,666nm
CHAI Chaiyaphum 86.05 289 P **P** 15 54 59.5 +1.3
comp=Z,3.1nm,1.0s
ENH Enshi 86.82 305 *e*P **P** 15 55 00.8 -0.8
comp=Z,7.2nm,0.7s
GYA Guiyang 87.09 301 P **P** 15 55 04.0 +0.9
GYA pP **pP** 15 56 48.5 -0.3
GYA sP **sP** 15 57 35.8 -1.4
GYA PP **PP** 15 58 38.0 +2.7
GYA SKS **SKSac** 16 04 45.2 +0.1
GYA S **S** 16 05 03.7 +1.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
PBKT Sadao Pong 87.22 289 P **P** 15 55 05.1 +1.4
comp=Z,17nm,1.0s
BJI Beijing 87.48 316 P **P** 15 55 05.3 +0.9
BJI pmax pmax
comp=Z,9.0nm,0.6s
XAN Xi'an 89.14 308 P **P** 15 55 13.2 +0.8
XAN pmax pmax
comp=Z,4.0nm,0.9s
LAMP Lampang 89.22 291 P **P** 15 55 14.8 +1.8
KMI Kunming 89.58 298 P **P** 15 55 16.6 +1.7
KMI pP **pP** 15 57 00.0 -1.2
KMI pmax pmax
comp=Z,12nm,1.1s
CM31 Chiang Mai Arr 89.78 290 *e*P **P** 15 55 14.7 -1.0
comp=Z,10nm,1.0s
CMAR Chiang Mai Arr 89.78 290 P **P** 15 55 16.4 +0.8
CMAR Chiang Mai Arr 89.78 290 P **P** 15 55 16.4 +0.8
comp=Z,7.2nm,0.9s,baz=139,slow=3.3,SNR=62
SEY Seymchan 89.84 348 P **P** 15 55 15.0 +0.1
SEY Seymchan 89.84 348 P **P** 15 55 14.9 +0.1
SEY Seymchan 89.84 348 P **P** 15 55 14.9 +0.1
comp=Z,6.3nm,0.7s,baz=127,slow=5.9,SNR=18
CHTO Chiang Mai 89.93 291 *e*P **P** 15 55 15.6 -0.8
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 89.93 291 *e*P **P** 15 55 15.6 -0.8
comp=Z,13nm,1.0s
TXAR Lajitas Array 90.68 58 P **P** 15 55 20.6 +0.8
TXAR PKKPbc **PKKPbc** 16 12 44.0 +0.4
TXAR Lajitas Array 90.68 58 P **P** 15 55 20.6 +0.8
comp=Z,2.3nm,0.8s,baz=225,slow=6.9,SNR=27
TXAR PKKPbc **PKKPbc** 16 12 44.0 +0.4
comp=Z,0.3nm,0.7s,baz=104,slow=4.0,SNR=5.2
HHC Hu-ho-hao-te 90.86 315 *e*P **P** 15 55 20.3 0.0
HHC pP **pP** 15 57 05.5 -1.2
HHC PP **PP** 15 59 10.5 +5.8
HHC S **S** 16 05 35.0 -1.3
HHC SS **SS** 16 11 54.8 +1.2
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,380nm,4.3s
ANMO Albuquerque 91.26 52 P **P** 15 55 22.3 -0.1
ANMO Albuquerque 91.26 52 P **P** 15 55 22.3 -0.1
comp=Z,1.5nm,0.9s,baz=218,slow=4.1,SNR=4.6
CD2 Chengdu 91.44 303 *e*P **P** 15 55 24.1 +1.0
CD2 sP **sP** 15 57 55.7 -2.0
CD2 PP **PP** 15 59 12.6 +3.2
CD2 SKS **SKSac** 16 05 11.5 +1.5
CD2 S **S** 16 05 42.1 +0.3
CD2 SS **SS** 16 12 05.8 +3.7
CD2 pmax pmax
comp=Z,30nm,0.8s
ILAR Eielson Array 92.57 14 P **P** 15 55 26.5 -0.9
ILAR Eielson Array 92.57 14 P **P** 15 55 26.5 -0.9
comp=Z,0.6nm,0.8s,baz=219,slow=5.5,SNR=6.2
PDAR Pinedale Array 93.06 44 P **P** 15 55 31.0 +0.5
PDAR Pinedale Array 93.06 44 P **P** 15 55 31.0 +0.5
comp=Z,0.7nm,0.8s,baz=234,slow=5.0,SNR=5.3
LZH Lanzhou 93.77 308 *e*P **P** 15 55 36.4 +2.5
LZH pP **pP** 15 57 19.1 -1.4
LZH sP sP 15 58 01.0 -7.5
LZH pmax pmax
comp=Z,14nm,1.0s
APG El Apazote 95.61 76 P **P** 15 55 41.6 -1.1
APG El Apazote 95.61 76 P **P** 15 55 41.6 -1.1
comp=Z,1.8nm,0.3s,baz=190,slow=3.6,SNR=3.8
SONM Songino Array 97.57 319 P **P** 15 55 50.7 0.0
SONM Songino Array 97.57 319 P **P** 15 55 50.7 0.0
comp=Z,0.5nm,0.6s,baz=144,slow=4.0,SNR=4.6
ZALV Zalesovo Beam 112.43 320 PKiKP **PKiKP** 16 00 47.6 -1.6
ZALV Zalesovo Beam 112.43 320 PKiKP **PKiKP** 16 00 47.6 -1.6
comp=Z,1.1nm,0.6s,baz=166,slow=1.2,SNR=6.6
MKAR Makanchi Array 112.58 313 PKiKP **PKiKP** 16 00 48.5 -1.2
MKAR Makanchi Array 112.58 313 PKiKP **PKiKP** 16 00 48.5 -1.2
comp=Z,1.4nm,0.8s,baz=69,slow=2.3,SNR=16
KSH Kashi 115.64 304 *e*PKP **PKPdf** 16 00 57.1 +1.1
KSH *e*PKS **PKSdf** 16 04 32.4 -0.3
KSH *e*SKS **SKSdf** 16 07 23.0 +0.1
KSH AMB AMB
comp=Z,170nm,6.2s
KURK Kurchatov 115.65 316 *i* PKiKP **PKPdf** 16 00 54.6 -0.8
AAK Ala-Archa 117.29 307 *i* PKiKP **PKPdf** 16 00 58.8 -0.3
KBL Kabul 120.15 297 *e*PKiKP **PKPdf** 16 01 04.9 -0.1
KBL Kabul 120.15 297 *e*PKPdf **PKPdf** 16 01 04.8 -0.1
KKAR Karatay Array 120.25 307 *e*PKiKP **PKPdf** 16 01 03.7 -0.9
KKAR Karatay Array 120.25 307 *e*PKPdf **PKPdf** 16 01 03.7 -0.9
BRVK Borovoye 120.97 319⇑ *i* PKiKP **PKPdf** 16 01 05.1 -0.5
ARU Arti 127.37 323 *i* PKiKP **PKPdf** 16 01 17.6 -0.2
ARU 16 07 38.4
ABKAR Akbulak array 127.65 314 *e*PKPdf **PKPdf** 16 01 17.6 -0.9
ARCES ARCESS Array B 132.45 348 PKP **PKPdf** 16 01 26.3 -0.8
ARCES ARCESS Array B 132.45 348 PKP **PKPdf** 16 01 26.3 -0.8
comp=Z,5.6nm,0.8s,baz=100,slow=3.1,SNR=11
KAF Kangasniemi 138.40 342 *e*PKHKP PKPpre 16 01 29.7
KAF Kangasniemi 138.40 342 *e*p PKPpre 16 01 29.7
FINES FINESS Array B 139.00 341 PKPpre PKPpre 16 01 29.9
FINES PKP **PKPdf** 16 01 40.2 +0.8
FINES SKPbc **SKPbc** 16 04 28.2 -1.3
FINES FINESS Array B 139.00 341 PKhKP PKPpre 16 01 29.9
comp=Z,1.6nm,0.5s,baz=79,slow=4.1,SNR=21
FINES PKP **PKPdf** 16 01 40.2 +0.8
comp=Z,4.1nm,0.6s,baz=96,slow=3.2,SNR=12
FINES SKPbc **SKPbc** 16 04 28.2 -1.3
comp=Z,4.0nm,0.7s,baz=52,slow=4.2,SNR=9.2
ZEI Tsey 139.70 308 *i* PKiKP **PKPdf** 16 01 41.3 -0.3
ZEI pmax pmax
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 142.65 351 PKP PKPpre 16 01 42.1
comp=Z,2.4nm,0.8s,baz=9.3,slow=3.3
NOA NORSAR Array B 142.65 351 PKPpre PKPpre 16 01 42.7
NOA NORSAR Array B 142.65 351 PKhKP PKPpre 16 01 42.7
comp=Z,4.6nm,0.9s,baz=16,slow=4.6,SNR=10
IDID Didziasalis 143.46 334 *e*P PKPab 16 01 45.0 -0.7
IDID AMB AMB 16 01 46.6
comp=Z,12nm,1.1s
ISAL Salakas 143.51 335 *e*P PKPab 16 01 45.6 -0.3
ISAL AMB AMB 16 01 47.0
comp=Z,13nm,1.0s
IIGN Ignalina 143.63 335 *e*P PKPab 16 01 45.1 -1.3
IIGN AMB AMB 16 01 46.8
comp=Z,17nm,0.9s
NACGM Naroch 143.74 334 *e*P PKPab 16 01 43.0 -3.8
AKASG Malin Array Be 145.48 327 PKiKP **PKPdf** 16 01 51.4 +0.2
AKASG 16 03 46.2
AKASG Malin Array Be 145.48 327 PKPbc **PKPdf** 16 01 51.4 +0.2
AKASG pPKP **pPKPdf** 16 03 46.2 +1.8
AKASG Malin Array Be 145.48 327 PKPbc **PKPdf** 16 01 51.4 +0.2
comp=Z,11nm,0.6s,baz=44,slow=4.1,SNR=83
AKASG pPKP **pPKPdf** 16 03 46.2 +1.8
comp=Z,0.4nm,0.5s,baz=47,slow=4.3,SNR=1.3
AKBB Malin Array Si 145.48 327 *e*PKiKP **PKPdf** 16 01 51.0 -0.2
AKBB Malin Array Si 145.48 327 *e*PKPdf **PKPdf** 16 01 51.0 -0.2
AK01 Malin Array Si 145.49 327 *e*PKPbc **PKPdf** 16 01 51.4 +0.2
KIEV Kiev 145.49 327 *d* iPKiKP **PKPdf** 16 01 51.3 +0.1
KIEV Kiev 145.49 327 *e*PKPdf **PKPdf** 16 01 51.2 0.0
AK02 Malin Array Si 145.51 327 *e*PKPbc **PKPdf** 16 01 51.6 +0.3
AK02 *e*PKPab **PKPab** 16 01 53.5 -0.1
SIM Simferopol' 145.70 315 *e*PKiKP **PKPdf** 16 01 52.0 +0.2
SIM pmax pmax
comp=Z,16nm,1.1s
SUW Suwalki 145.81 336 *e*PKiKP **PKPbc** 16 01 52.5 -0.7
SUW Suwalki 145.81 336 *e*PKP **PKPbc** 16 01 52.5 -0.7
KAC Achnashellach 146.77 5 *e*P **PKPbc** 16 01 55.6 -0.2
WRDH Warideh 146.82 298 *i* P **PKPbc** 16 01 57.1 +0.4
MCD Coleburn Disti 146.83 3 *e*P **PKPbc** 16 01 55.3 -0.6
KPL Plockton 146.90 6 *e*P **PKPbc** 16 01 55.8 -0.3
BIDA Albida 146.97 297 *i* P **PKPbc** 16 01 58.2 +1.0
HAWK Haweek 146.97 296 *i* P **PKPbc** 16 01 58.6 +1.4
MARH Ras Al Marh 146.97 295 *i* P **PKPbc** 16 01 58.7 +1.2
TOTH TOTAH 147.09 294 *i* P **PKPbc** 16 01 58.6 +1.1
ARNB Al Arnab 147.12 299 *i* P **PKPbc** 16 01 57.6 +0.1
TCHB Talchebab 147.55 293 *i* P **PKPbc** 16 01 59.7 +1.0
BR131 Keskin Array S 147.96 306 *e*PKPdf **PKPdf** 16 01 55.0 -0.9
BR131 *e*PKPbc **PKPbc** 16 01 59.0 -0.6
BR131 *e*PKPab **PKPab** 16 02 04.0 -0.1
BRTR Keskin Array B 147.96 306 PKPbc **PKPbc** 16 01 59.3 -0.4
BRTR Keskin Array B 147.96 306 PKPbc **PKPbc** 16 01 59.3 -0.4
comp=Z,7.4nm,0.7s,baz=140,slow=4.0,SNR=36
EAB Aberfoyle 148.15 5 *e*P **PKPbc** 16 01 59.1 -0.3
BEL Belsk 148.41 335 *e*PKP2 **PKPbc** 16 02 00.5 +0.3
BEL Belsk 148.41 335 *e*PKP **PKPbc** 16 02 00.5 +0.3
GKP Gorka Klasztor 148.46 340 *e*PKP **PKPbc** 16 02 00.0 -0.2
ANTO Ankara 148.53 307⇑ *i* P **PKPbc** 16 02 00.7 -0.3
ANTO Ankara 148.53 307 *e*PKPdf **PKPdf** 16 01 56.6 -0.2
ANTO *e*PKPbc **PKPbc** 16 02 00.9 -0.1
ANTO *e*PKPab **PKPab** 16 02 06.7 +0.4

LVV L'vov 148.56 330 *e*PKHKP **PKPbc** 16 01 59.8 -0.8
EBL Broad Law 148.65 3 *e*P **PKPbc** 16 02 00.3 -0.4
TLCR 148.89 319⇑ PKP2 **PKPbc** 16 02 02.7 +1.1
TLCR 148.89 319⇑ *i* P **PKPbc** 16 02 02.7 +1.1
KWP Kalwaria Pacla 149.29 331 *e*PKP **PKPbc** 16 02 02.5 +0.1
KWP Kalwaria Pacla 149.29 331⇑ *i* P **PKPbc** 16 02 02.6 +0.1
CFR Carcaliu 149.30 319⇓ *i* P **PKPbc** 16 02 03.2 +0.6
BUR08 Bucovina Ar. S 149.46 326 *e*PKPbc **PKPbc** 16 02 03.1 +0.1
TIRR Tirgusor 149.52 318⇓ *i* P **PKPbc** 16 02 03.7 +0.6
BSEG Bad Segeberg 149.58 348 *e*PKPbc **PKPbc** 16 02 03.3 +0.3
BSEG *e*PKPab **PKPab** 16 02 10.3 +0.4
VRI Vrincioaia 149.73 322⇓ *i* P **PKPbc** 16 02 03.5 -0.2
KOLS Kolonicke sedl 149.99 330 *e*PKIKP **PKPbc** 16 02 04.2 0.0
KOLS *e* 16 02 10.9
KOLS Kolonicke sedl 149.99 330 *e*PKP **PKPbc** 16 02 04.2 0.0
KOLS *e* 16 02 10.9
OJC Ojcow 150.07 334 *e*PKIKP **PKPbc** 16 02 04.2 -0.1
STHS Stebnicka Huta 150.09 332 *e*PKIKP **PKPbc** 16 02 04.8 +0.4
STHS Stebnicka Huta 150.09 332 *e*PKP **PKPbc** 16 02 04.8 +0.4
RUE Ruedersdorf 150.15 343 *e*PKPbc **PKPbc** 16 02 04.8 +0.5
UZH Uzhgorod 150.20 330 *e*PKIKP **PKPbc** 16 02 02.5 -2.1
UZH *i* 16 02 04.5
CRVS Cervenica-Dubn 150.38 331 *e*PKIKP **PKPbc** 16 02 05.1 0.0
CRVS *e* 16 02 14.5
CRVS Cervenica-Dubn 150.38 331 *e*PKP **PKPbc** 16 02 05.1 0.0
CRVS *e* 16 02 14.4
MLR Muntele Rosu 150.40 322⇑ *i* P **PKPbc** 16 02 04.6 -0.8
KSP Ksiaz 150.84 339 *e*PKIKP **PKPbc** 16 02 06.3 +0.2
KSP Ksiaz 150.84 339 *e*PKP **PKPbc** 16 02 06.2 +0.2
CJR Cluj-Napoca 150.90 326⇓⇓ PKIKP **PKPbc** 16 02 06.6 +0.2
CJR Cluj-Napoca 150.90 326⇓ *i* P **PKPbc** 16 02 06.6 +0.2
VOIR 150.93 322⇑ PKIKP **PKPbc** 16 02 06.2 -0.3
VOIR 150.93 322⇑ *i* P **PKPbc** 16 02 06.2 -0.3
NRDL Niedersach Rie 150.99 347 *e*PKPbc **PKPbc** 16 02 06.5 +0.3
NRDL *e*PKPab **PKPab** 16 02 16.6 +0.8
OKC Ostrava-Krasne 151.02 335 *i* PKIKP **PKPbc** 16 02 06.3 -0.2
OKC *e* 16 02 16.6
OKC Ostrava-Krasne 151.02 335⇑ *i* PKP **PKPbc** 16 02 06.3 -0.2
OKC *e*PKPab **PKPab** 16 02 16.6 +0.5
ARR Arges 151.21 323⇓ *i* P **PKPbc** 16 02 07.9 +0.7
UPC Upice 151.22 339 *i* PKIKP **PKPbc** 16 02 07.0 +0.1
UPC *e* 16 02 17.5
UPC Upice 151.22 339⇑ *i* PKP **PKPbc** 16 02 07.0 +0.1
UPC *e*PKPAB **PKPab** 16 02 17.5 +0.6
DPC Dobruska-Polom 151.25 338 *i* PKIKP **PKPbc** 16 02 07.3 +0.2
DPC *e* 16 02 18.0
DPC Dobruska-Polom 151.25 338⇑ *i* PKP **PKPbc** 16 02 07.3 +0.2
DPC *e*PKPAB **PKPab** 16 02 18.0 +0.9
KRLC Kraliky 151.32 337 *i* PKIKP **PKPbc** 16 02 07.3 +0.1
KRLC *e* 16 02 17.7
KRLC Kraliky 151.32 337⇑ *i* PKP **PKPbc** 16 02 07.3 +0.1
KRLC *e*PKPAB **PKPab** 16 02 17.7 +0.2
CLL Collm 151.41 343⇓ *i* PKIKP **PKPbc** 16 02 07.2 -0.1
CLL *e* 16 02 17.0
CLL *e* 16 04 04.0
CLL pmax pmax
comp=Z,23nm,0.7s
CLL Collm 151.41 343 *e*PKPbc **PKPbc** 16 02 07.6 +0.3
CLL Collm 151.41 343⇓ *i* PKPbc **PKPbc** 16 02 07.2 -0.1
comp=Z,23nm,0.7s
CLL *e*PKPab **PKPab** 16 02 17.0 -0.7
CLL *e*pPKPbc **pPKPbc** 16 04 04.0 +4.3
FOEL Foel Wylfa 151.51 4 *e*P **PKPbc** 16 02 06.7 -0.8
BRG Berggiesshubel 151.54 341⇑ *i* PKP **PKPbc** 16 02 07.7 +0.1
comp=Z,12nm,0.6s
BRG *e* 16 02 18.1
comp=Z,6.4nm,0.9s
BRG *e*pPKP pPKPdf 16 04 07.0 +13
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 151.54 341⇑ *i* PKIKP **PKPbc** 16 02 07.7 +0.1
BRG *e* 16 02 18.1
BRG *e* 16 04 07.0
BRG pmax pmax
comp=Z,12nm,0.6s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 151.54 341 *e*PKPbc **PKPbc** 16 02 08.0 +0.4
CLZ Clausthal 151.55 347 *e*PKPbc **PKPbc** 16 02 08.1 +0.4
IBBN Ibbenburen 151.59 350 *e*PKPbc **PKPbc** 16 02 08.7 +1.0
IBBN *e*PKPab **PKPab** 16 02 18.6 +0.2
PVCC Panska Ves 151.66 340 *i* PKIKP **PKPbc** 16 02 08.0 +0.1
PVCC Panska Ves 151.66 340⇑ *i* PKP **PKPbc** 16 02 08.0 +0.1
NEUB Neuenburg 151.82 344 *e*PKPbc **PKPbc** 16 02 08.5 +0.3
VRAC Vranov 152.03 337⇓ *i* P **PKPbc** 16 02 20.5 +0.1
WTSB Winterswijk 152.07 351 *e*PKP **PKPbc** 16 02 08.1 -0.6
comp=Z,16nm,0.7s
PRU Pruhonice 152.14 340 *i* PKIKP **PKPbc** 16 02 08.8 -0.2
PRU *e* 16 02 21.3
PRU Pruhonice 152.14 340⇑ *i* PKP **PKPbc** 16 02 08.8 -0.2
PRU *e*PKPAB **PKPab** 16 02 21.3 +0.5
SIRR Siria 152.18 327⇑ *i* P **PKPbc** 16 02 09.3 +0.1
TANN Tannenbergstha 152.37 343 *e*PKPbc **PKPbc** 16 02 09.7 +0.1
TANN *e*PKPab **PKPab** 16 02 22.7 +0.8
NKC Novy Kostel 152.54 343 *e*PKIKP **PKPbc** 16 02 09.7 -0.2
NKC Novy Kostel 152.54 343⇑ *e*PKP **PKPbc** 16 02 09.7 -0.2
UBBA Unterbreizbach 152.59 346 *e*PKPbc **PKPbc** 16 02 10.4 +0.6
UBBA *e*PKPab **PKPab** 16 02 23.0 +0.4
BZS Buzias 152.65 326⇑ PKIKP **PKPbc** 16 02 10.0 -0.3
BZS Buzias 152.65 326⇑ *i* P **PKPbc** 16 02 10.0 -0.3
MANZ Manzenberg 152.85 343 *e*PKPbc **PKPbc** 16 02 10.9 +0.3
MANZ *e*PKPab **PKPab** 16 02 23.4 -0.5
ROTZ Rotzenmuhle 153.03 342 *e*PKPbc **PKPbc** 16 02 11.1 +0.1
KHC Kasperske Hory 153.19 340 *e*PKIKP **PKPdf** 16 02 00.0 -3.5
KHC *i* 16 02 11.4
KHC *e* 16 02 25.8
KHC Kasperske Hory 153.19 340 *e*PKPDF **PKPdf** 16 02 00.0 -3.5
KHC ⇑ *i* PKP **PKiKP** 16 02 11.4 -0.1
KHC *e*PKPAB **PKPab** 16 02 25.8 +0.4
GRF Grafenberg Arr 153.36 344 *e*PKPab **PKPab** 16 02 27.6 +1.6
WET Wettzell 153.40 341 *e*PKPab **PKPab** 16 02 28.2 +2.0
GERES GERESS Array B 153.41 340 PKP **PKPdf** 16 02 03.2 -0.7
GERES PKPbc **PKPbc** 16 02 11.7 -0.3
GERES PKPab **PKPab** 16 02 26.5 +0.1
GERES GERESS Array B 153.41 340 PKP **PKPdf** 16 02 03.2 -0.7
comp=Z,0.4nm,0.8s,baz=263,slow=2.2,SNR=3.9
GERES PKPbc **PKPbc** 16 02 11.7 -0.3
comp=Z,1.6nm,0.9s,baz=38,slow=2.4,SNR=11
GERES PKPab **PKPab** 16 02 26.5 +0.1
comp=Z,1.5nm,0.7s,baz=36,slow=4.2,SNR=10
CONA Conrad Observa 153.45 336⇑ *i* PKPab **PKPab** 16 02 27.5 +0.9
comp=Z,8.4nm,0.8s
TNS Taunus Mts 153.48 348 *e*PKPbc **PKPbc** 16 02 12.2 +0.2
TNS *e*PKPab **PKPab** 16 02 26.7 +0.1
PKSM Moragy 153.66 330⇑⇑ PKIKP **PKPdf** 16 02 03.5 -0.7
PKSM Moragy 153.66 330⇑⇑ *i* P **PKPdf** 16 02 03.5 -0.7
VTS Vitosha 153.70 319⇑⇑ PKP2 **PKPab** 16 02 29.0 +1.0
VTS Vitosha 153.70 319⇑⇑ *i* P **PKPab** 16 02 29.0 +1.0
RJOB Jochberg 154.67 340 *e*PKPab **PKPab** 16 02 32.8 +1.0
STU Stuttgart 154.70 346 *e*PKPab **PKPab** 16 02 32.2 +0.4
FUR Furstenfeldbru 154.74 342 *e*PKPab **PKPab** 16 02 32.6 +0.6
BFO Black Forest 155.31 347 *e*PKPbc PKPbc 16 02 20.7
BFO *e*PKPab **PKPab** 16 02 34.2 -0.2
MYKA Terra Mystica 155.35 337⇑ *i* PKPab **PKPab** 16 02 34.4 -0.4
comp=Z,4.2nm,0.6s
DBIC Dimbokro 161.68 164 PKP **PKPdf** 16 02 14.1 -0.9
DBIC Dimbokro 161.68 164 PKP **PKPdf** 16 02 14.1 -0.9
comp=Z,7.3nm,1.2s,baz=301,slow=3.6,SNR=3.1
ESDC Sonseca Array 164.46 12 PKPab **PKPab** 16 03 14.2 -0.5
ESDC Sonseca Array 164.46 12 PKPab **PKPab** 16 03 14.2 -0.5
comp=Z,0.1nm,0.3s,baz=338,slow=2.4,SNR=4.1
TORD Torodi Ar. Bea 168.63 188 PKP **PKPdf** 16 02 19.2 -1.4
TORD PKPab **PKPab** 16 03 33.3 -0.2
TORD Torodi Ar. Bea 168.63 188 PKP **PKPdf** 16 02 19.2 -1.4
comp=Z,1.7nm,0.8s,baz=286,slow=0.1,SNR=9.3
TORD PKPab **PKPab** 16 03 33.3 -0.2
comp=Z,3.8nm,0.7s,baz=177,slow=3.8,SNR=22

KRSC 01 15:48:25.8±2.5, **48.92N**×**157.30E, h16**km±47km, **ML4.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.93**	**337**	*e*P		Pn 15 48 57.4	-0.6
SKR				*e*S		Sn 15 49 21.2	-0.6
PAU	**Pauzhetka**	**2.57**	**353**	*e*P		Pn 15 49 08.0	+1.2
PAU				*e*S		Sn 15 49 39.9	+2.1
RUS	**Russkaya**	**3.60**	**12**	*e*P		Pn 15 49 24.0	+3.0
RUS				*e*S		Sn 15 50 07.1	+3.9
MTVR	**Mutnovka**	**3.61**	**9**	*e*P		Pn 15 49 24.5	+3.1
MTVR				*e*S		Sn 15 50 06.8	+3.0
APC	**Apacha**	**4.01**	**359**	*e*P		Pn 15 49 30.2	+3.6

PET	**Petropavlovsk**	**4.20**	**11**	*e*P	Pn	15 49 33.4	+4.2
PET				*e*S	Sn	15 50 22.2	+4.3
UGLR	**Uglovaya**	**4.40**	**12**	*e*P	Pn	15 49 36.5	+4.3
AVH	**Avacha**	**4.45**	**11**	*e*P	Pn	15 49 37.5	+4.8
AVH				*e*S	Sb	15 50 31.1	-5.9
NLC	**Nalytchevo**	**4.45**	**16**	*e*P	Pn	15 49 34.9	+2.3
NLC				*e*S	Sn	15 50 26.9	+2.9
SMAR	**Somma**	**4.45**	**12**	*e*P	Pn	15 49 36.8	+3.8
KOK	**Koryaka**	**4.46**	**10**	*i* P	Pn	15 49 37.9	+5.0
KOK				*e*S	Sb	15 50 33.3	-4.2
KRER	**Koryakskii**	**4.48**	**11**	*e*P	Pn	15 49 37.7	+4.3
KRER				*e*S	Sn	15 50 31.9	+6.5
KRX	**Arik**	**4.53**	**10**	*e*P	Pn	15 49 38.5	+4.6
GNL	**Ganaly**	**4.80**	**5**	*e*P	Pn	15 49 41.2	+3.6

*ISCJB **01** 15:51:45.5±0.7, 34°.65S±0°.06×70°.84W±0°.09, h108km±8km, Error ellipse: s-maj=14.4km s-min=6.5km az=39.6*
*GUC **01** 15:51:46.3±0.6, 34°.66S×70°.85W, h98km±4km, MD3.5, ML3.8*
*SJA **01** 15:51:55.2±0.5, 33°.94S×70°.26W, h133km±9km, ML2.9*
ISC 01 15:51:45.7±1.6**, 34°.70S**±0°.07×**70°.78W**±0°.07**, h105**km±13km**, n28,** σ1§**25**/44**, 6C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.59**	**14**	⇑*i* P	**Pn**	**15 52 03.0**	**+0.2**
CHCH	**Chadas Angostu**	**0.77**	**8**	*i* P	**Pn**	**15 52 04.2**	**-0.1**
CHCH				*i* S	**Sn**	**15 52 17.7**	**-0.5**
LNV	**Longovilo**	**0.90**	**324**	⇑*i* P	**Pn**	**15 52 05.3**	**-0.1**
LNV				*e*S	**Sn**	**15 52 19.3**	**-1.1**
LMEL	**Las Melosas**	**0.97**	**30**	⇓*i* P	**Pn**	**15 52 06.9**	**+0.6**
LMEL				*i* S	**Sn**	**15 52 22.7**	**+0.7**
LMEL				AML	AML	15 52 27.9	
	comp=N,3μm,0.2s						
TACH	**Talagante**	**1.05**	**353**	⇓*i* P	**Pn**	**15 52 06.9**	**-0.1**
TACH				*i* S	**Sn**	**15 52 22.7**	**-0.4**
PCH	**Pirque**	**1.09**	**12**	⇑*i* P	**Pn**	**15 52 07.9**	**+0.3**
PCH				*i* S	**Sn**	**15 52 23.9**	**-0.2**
SJCH	**San Jose de Ma**	**1.11**	**19**	⇑*i* P	**Pn**	**15 52 07.2**	**-0.6**
SJCH				*i* S	**Sn**	**15 52 23.5**	**-0.9**
ANTU	**Antumapu**	**1.13**	**6**	⇓*i* P	**Pn**	**15 52 08.2**	**+0.3**
ANTU				*i* S	**Sn**	**15 52 24.6**	**-0.1**
ANTU				AML	AML	15 52 25.2	
	comp=N,2μm,0.2s						
FSR	**Penalolen**	**1.23**	**10**	*i* P	**Pn**	**15 52 10.4**	**+1.3**
FSR				*i* S	**Sn**	**15 52 27.5**	**+0.7**
SAN	**Santiago**	**1.24**	**5**	⇓*i* P	**Pn**	**15 52 09.2**	**0.0**
SAN				*i* S	**Sn**	**15 52 26.6**	**-0.4**
LACH	**Col Las Americ**	**1.26**	**10**	⇑*i* P	**Pn**	**15 52 09.7**	**+0.3**
LACH				*i* S	**Sn**	**15 52 27.2**	**-0.1**
STL	**Santa Lucia**	**1.26**	**5**	⇓*i* P	**Pn**	**15 52 09.4**	**-0.1**
STL				*i* S	**Sn**	**15 52 27.0**	**-0.4**
CLCH	**Cerro Calan**	**1.31**	**9**	⇑*i* P	**Pn**	**15 52 10.3**	**+0.2**
CLCH				*i* S	**Sn**	**15 52 28.3**	**-0.2**
CLCH				AML	AML	15 52 29.8	
	comp=N,2μm,0.7s						
FCH	**Farellones**	**1.42**	**17**	⇓*i* P	Pn	15 52 16.3	+4.7
FCH				*i* S	**Sn**	**15 52 36.5**	**+5.2**
FCH				AML	AML	15 52 37.8	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.55**	**3**	⇓*i* P	**Pn**	**15 52 13.1**	**+0.2**
PEL				*i* S	**Sn**	**15 52 33.3**	**-0.2**
PEL				AML	AML	15 52 34.6	
	comp=N,2μm,0.3s						
IHA	**Instituto Hidr**	**1.81**	**336**	*e*P	**Pn**	**15 52 16.4**	**+0.4**
IHA				*i* S	**Sn**	**15 52 39.1**	**-0.1**
JACH	**Jahuel**	**2.01**	**4**	*e*P	**Pn**	**15 52 19.0**	**+0.2**
COCH	**Cobquecura**	**2.18**	**228**	*i* P	**Pn**	**15 52 21.2**	**+0.5**
COCH				*i* S	**Sn**	**15 52 47.3**	**-0.2**
AAGR	**Agrelo**	**2.28**	**46**	*i* P	**Pn**	**15 52 23.7**	**+1.5**
AAGR				*i* S	**Sn**	**15 52 45.7**	**-4.5**
ARCO	**CERRO ARCO**	**2.41**	**40**	*i* P	**Pn**	**15 52 25.1**	**+1.3**
ARCO				AML	AML	15 52 57.3	
	comp=Z,39nm,0.6s						
ASAL	**Salagasta**	**2.65**	**38**	*i* P	**Pn**	**15 52 28.0**	**+1.0**
AUSP	**Uspallata**	**2.73**	**26**	*i* P	**Pn**	**15 52 29.5**	**+1.3**
RTLS	**Leoncito**	**3.14**	**24**	*i* P	**Pn**	**15 52 34.4**	**+0.6**
RTLS				*i* S	Sn	15 53 03.3	-7.5
RTCV	**Cerro Valdivia**	**3.39**	**34**	*i* P	**Pn**	**15 52 37.0**	**+0.1**
RTCV				*i* S	Sn	15 53 07.7	-8.6
CFAA	**Coronel Fontan**	**3.75**	**35**	*i* P	**Pn**	**15 52 41.5**	**0.0**
RTLL	**Cerro Villicun**	**3.88**	**31**	*i* P	**Pn**	**15 52 43.2**	**-0.1**
AMOG	**MOGNA**	**4.21**	**28**	*i* P	**Pn**	**15 52 47.6**	**-0.3**
AVFE	**Valle Fertil**	**4.90**	**36**	*i* P	**Pn**	**15 52 56.4**	**-0.8**
AVFE				AML	AML	15 53 10.5	
	comp=Z,31nm,0.3s						

*ISCJB **01** 16:10:25.5±0.9, 3°.9N±0°.2×122°.7E±0°.5, h573km, mb3.2/6, Error ellipse: s-maj=63.5km s-min=15.7km az=160.0*
*IDC **01** 16:10:27.6±21.0, 3°.88N×122°.78E, h578km±347km, mb2.6/6, mb1 2.7/6, mb1mx2.5/24, mbtmp2.6/6, Error ellipse: s-maj=124.4km s-min=24.4km az=94.0*
ISC 01 16:10:27.2±1.2**, 3°.9N**±0°.2×**122°.8E**±0°.5**, h573km**, **n6,** σ**0**§**40**/6**, mb3.2**/6**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.27**	**155**	P	**P**	**16 15 17.5**	**-0.5**
	0.3nm,0.4s,baz=336,slow=9.7,SNR=9.7						
ASAR	**Alice Springs**	**29.46**	**159**	P	**P**	**16 15 46.1**	**+0.3**
	0.2nm,0.3s,baz=335,slow=7.7,SNR=17						
USRK	**Ussuriysk Arra**	**40.96**	**10**	P	**P**	**16 17 20.9**	**+0.1**
	1.1nm,0.9s,baz=201,slow=4.0,SNR=4.3						
SONM	**Songino Array**	**46.00**	**345**	P	**P**	**16 17 59.9**	**0.0**
	0.3nm,0.5s,baz=154,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**55.23**	**327**	P	**P**	**16 19 07.0**	**+0.2**
	0.8nm,0.3s,baz=125,slow=7.6,SNR=42						
KURBB	**Kurchatov Arra**	**59.52**	**329**	P	**P**	**16 19 35.7**	**-0.3**
	0.4nm,0.5s,baz=136,slow=6.6,SNR=11						

*ISCJB **01** 16:15:11.8±0.5, 1°.95N±0°.04×127°.45E±0°.04, h112km, mb3.8/6, Error ellipse: s-maj=7.3km s-min=5.2km az=135.0*
*IDC **01** 16:15:11.6±3.7, 1°.74N×127°.48E, h116km±33km, mb3.6/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.5/7, Error ellipse: s-maj=74.4km s-min=11.6km az=71.0*
*DJA **01** 16:15:14.1±0.4, 2°.N±3°×12°.7E±°, h97km±11km, M4.1/8, mb4.5/7, mB4.7/5, MLv4.0/8, Mw(mB)3.9/5*
ISC 01 16:15:12.2±0.8**, 1°.86N**±0°.06×**127°.45E**±0°.07**, h112**km**, n31,** σ1§**88**/34**, mb4.0**/6**, 1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.34**	**94**	P	x	16 15 29.6	
TNTI	**Ternate**	**1.08**	**184**	P	**Pn**	**16 15 36.6**	**+2.2**
LBMI	**Labuha**	**2.48**	**179**	P	**Pn**	**16 15 53.5**	**+2.0**
LBMI				S	**Sn**	**16 16 24.7**	**+3.1**
SGSI	**Sangihe**	**2.64**	**313**	P	**Pn**	**16 15 54.0**	**+0.5**
SGSI				S	**Sn**	**16 16 25.9**	**+0.6**
KMSI	**Cibinong**	**3.69**	**250**	P	**Pn**	**16 16 08.6**	**+1.1**
KMSI				S	**Sn**	**16 16 51.2**	**+0.9**
GTOI	**Gorontalo**	**4.60**	**255**	P	**Pn**	**16 16 22.4**	**+2.8**
SWI	**Sorong**	**4.67**	**125**	P	**Pn**	**16 16 22.2**	**+1.6**
NLAI	**Namlea**	**5.08**	**184**	P	**Pn**	**16 16 26.6**	**+0.5**
	20nm,1.0s,725nm0.2nm						
LUWI	**Luwuk**	**5.49**	**238**	P	**Pn**	**16 16 31.8**	**+0.1**
	57nm,0.6s,1μm						
LUWI	**Luwuk**	**5.49**	**238**	P	**Pn**	**16 16 34.2**	**+2.5**
	baz=5.4,SNR=20						
MRSI	**Marisa**	**5.67**	**256**	P	**Pn**	**16 16 35.4**	**+1.2**
	27nm,0.9s,490nm						
CTBH	**Cotabato--PC H**	**6.21**	**329**	⇓*i* P	**Pn**	**16 16 41.9**	**+0.5**
APSI	**Ampana**	**6.42**	**245**	P	**Pn**	**16 16 44.8**	**+0.6**
	44nm,0.9s,822nm						
FAKI	**Fak Fak**	**6.75**	**135**	P	**Pn**	**16 16 51.0**	**+2.2**
	34nm,1.1s						
FAKI	**Fak Fak**	**6.75**	**135**	P	**Pn**	**16 16 50.8**	**+2.1**
	baz=6.5,SNR=3.8						
TTSI	**Tana Toraja**	**9.05**	**237**	P	**Pn**	**16 17 20.1**	**+0.2**
	40nm,0.6s						
SPSI	**Sidrap Palu**	**9.61**	**233**	P	**Pn**	**16 17 29.1**	**+1.6**
SOEI	**Soe**	**11.97**	**195**	S	**Sn**	**16 20 07.3**	**-3.8**
	baz=12,SNR=3.4						
JAY	**Jayapura**	**13.95**	**108**	P	**Pn**	**16 18 25.7**	**+0.5**
	baz=14,SNR=3.0						
MTN	**Manton Dam**	**15.06**	**166**	P	**P**	**16 18 41.8**	**0.0**
	baz=15,SNR=3.7						
KDU	**Kakadu**	**15.29**	**161**	P	**P**	**16 18 44.4**	**+0.1**
	baz=15,SNR=3.5						
JAGI	**Jajag, Banyuwa**	**16.76**	**232**	P	**P**	**16 19 04.4**	**+3.7**
	baz=17,SNR=3.6						
KNRA	**Kununurra**	**17.47**	**176**	P	**P**	**16 19 07.4**	**-1.1**
	baz=17,SNR=4.3						
UGM	**Wanagama**	**19.47**	**240**	P	**P**	**16 19 32.2**	**+1.7**
	baz=19,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.92**	**185**	P	**P**	**16 19 32.6**	**-2.5**
WRA	**Warramunga Arr**	**22.70**	**163**	P	**P**	**16 20 02.3**	**-2.3**
	3.9nm,0.6s,baz=344,slow=11,SNR=47						
WRA				S	**S**	**16 24 02.4**	**-2.4**
	0.2nm,0.5s,baz=331,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**26.14**	**166**	P	**P**	**16 20 34.0**	**-2.0**
	1.1nm,0.5s,baz=345,slow=7.2,SNR=47						
STKA	**Stephens Creek**	**36.14**	**159**	P	**P**	**16 22 01.8**	**-1.8**
	1.8nm,0.8s,baz=342,slow=11,SNR=3.8						
SONM	**Songino Array**	**49.29**	**341**	P	**P**	**16 23 48.9**	**-0.8**
	0.2nm,0.6s,baz=140,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**59.49**	**326**	P	**P**	**16 25 03.8**	**+0.3**
	1.8nm,0.5s,baz=117,slow=8.4,SNR=69						
KURBB	**Kurchatov Arra**	**63.69**	**328**	P	**P**	**16 25 31.4**	**-0.3**
	1.3nm,0.7s,baz=130,slow=6.2,SNR=20						

*MOS **01** 16:20:12.2±2.0, 56°.68N×117°.96E, h10km, mb4.3/1, Error ellipse: s-maj=20.7km s-min=15.1km az=48.8*
BYKL 01 16:20:12.3±0.3**, 56°.69N**×**117°.99E, h8**km±5km**, 9C-5D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.26**	**36**	⇑*i* Pg	Pg	16 20 18.1	+0.5
CRS				*e*Sg	Sg	16 20 21.9	+0.7
KHNR	**Khani**	**1.12**	**77**	⇑*i* Pg	Pg	16 20 33.3	-0.6
KHNR				*i* Sg	Sg	16 20 48.2	-0.2
YKLR	**Yuktali**	**2.03**	**91**	⇓*i* Pg	Pb	16 20 49.0	-0.4
YKLR				*e*Sg	Sb	16 21 15.6	+0.8
YKLR				*e*		16 21 52.3	
BOD	**Bodaibo**	**2.44**	**299**	⇑*e*PN	Pn	16 20 51.8	-0.7
BOD				*i*		16 20 55.4	
BOD	**Bodaibo**	**2.44**	**299**	⇑*i* Pn	Pn	16 20 53.6	+1.1
BOD				⇓*i* Pg	Pb	16 20 56.0	-0.5
BOD				*e*		16 21 00.5	
BOD				*e*Sn	Sn	16 21 23.1	+0.6
BOD				*i* Sg	Sb	16 21 27.3	+0.6
BOD				*i* Pmax			
	78nm,0.2s						
BOD				Smax			
	294nm,0.6s						
SVKR	**Severomuysk**	**2.53**	**259**	*e*PN	Pb	16 20 57.5	-0.5
SVKR				*e*		16 21 29.9	
SVKR				pmax	pmax		
	comp=Z,96nm,0.5s						
SVKR				smax	smax		
	comp=E,543nm,0.4s						
SVKR	**Severomuysk**	**2.53**	**259**	⇓*i* Pg	Pb	16 20 57.6	-0.4
SVKR				*e*		16 21 02.0	
SVKR				*e*Sg	Sb	16 21 30.7	+1.4
SVKR				*e*		16 21 33.2	
SVKR				Pmax			
	comp=E,86nm,0.4s						
SVKR				max			
	comp=E,540nm,0.3s						
TUP	**Tupik**	**2.53**	**153**	*e*PN	Pn	16 20 53.9	+0.2
TUP				*e*		16 20 57.4	
TUP				*e*S	Sn	16 21 24.9	+0.2
TUP				*e*		16 21 30.8	
TUP				pmax	pmax		
	comp=Z,102nm,0.5s						
TUP				smax	smax		
	comp=N,302nm,1.0s						
TUP	**Tupik**	**2.53**	**153**	*e*Pn	Pn	16 20 54.0	+0.3
TUP				⇓*i* Pg	Pb	16 20 57.2	-0.8
TUP				*e*		16 21 21.0	
TUP				*i* Sg	Sb	16 21 30.8	+1.5
TUP				Pmax			
	comp=N,114nm,0.6s						
TUP				Smax			
	comp=N,303nm,1.1s						
UKT	**Uakit**	**2.73**	**246**	*e*PN	Pb	16 21 00.6	-0.8
UKT				*e*		16 21 36.2	
UKT				pmax	pmax		
	comp=Z,16nm,0.3s						
UKT				smax	smax		
	comp=E,164nm,0.2s						
UKT	**Uakit**	**2.73**	**246**	⇑*i* Pn	Pn	16 20 56.4	-0.1
UKT				⇑*i* Pg	Pb	16 21 00.7	-0.7
UKT				*e*		16 21 03.3	
UKT				*i* Sg	Sb	16 21 36.3	+1.2
UKT				*e*		16 21 38.2	
UKT				Pmax			
	comp=E,19nm,0.6s						
UKT				max			
	comp=E,181nm,0.5s						
YOA	**Uoyan**	**3.53**	**264**	*e*Pg	Pb	16 21 15.5	+0.6
YOA				*e*		16 21 31.0	
YOA				*e*Sg	Sg	16 22 02.4	-3.2
YOA				Pmax			
	comp=E,50nm,0.3s						
YOA				Smax			
	comp=E,792nm,0.6s						
CLNS	**Chul'man**	**3.80**	**85**	*e*PN	Pn	16 21 12.5	+1.3
CLNS				*e*		16 21 21.2	
CLNS				*e*S	Sn	16 22 00.9	+4.8
CLNS				*e*		16 22 08.6	
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.3s						
CLNS				smax	smax		
	comp=N,51nm,0.4s						
CLNS				smax	smax		
	comp=Z,94nm,0.5s						
CLNS				smax	smax		
	comp=E,84nm,0.5s						
CLNS	**Chul'man**	**3.80**	**85**	*e*	Pn	16 21 14.2	+3.0
CLNS				*e*Pg	Pb	16 21 19.3	-0.4
CLNS				*e*		16 21 26.4	
CLNS				*e*Sg	Sb	16 22 08.7	+2.8
IENR	**Iengra**	**3.84**	**94**	⇑*i* Pn	Pn	16 21 12.1	+0.4
IENR				⇑*i*		16 21 15.4	
IENR				*e*Pg	Pb	16 21 19.8	-0.5
IENR				*i* Sn	Sn	16 21 58.1	+1.0
IENR				*i* Sg	Sb	16 22 09.7	+2.7
KMO	**Kumora**	**3.87**	**261**	*e*PN	Pn	16 21 12.5	+0.4
KMO				*e*		16 21 21.2	
KMO				*e*S	Sn	16 21 55.7	-2.0
KMO				*e*		16 22 08.8	
KMO				pmax	pmax		
	comp=Z,17nm,0.4s						
KMO				smax	smax		
	comp=N,187nm,1.0s						
KMO	**Kumora**	**3.87**	**261**	⇓*i* Pn	Pn	16 21 12.7	+0.6
KMO				*e*		16 21 15.2	
KMO				*e*Pg	Pb	16 21 21.0	+0.2
KMO				*e*		16 21 29.8	
KMO				*e*Sg	Sb	16 22 10.9	+3.1
KMO				Pmax			
	comp=N,26nm,0.4s						
KMO				Smax			
	comp=N,186nm,1.1s						
YLYR	**Ulyunkhan**	**4.26**	**248**	⇑*i* Pn	Pn	16 21 17.7	+0.2
YLYR				*e*		16 21 20.3	
YLYR				*e*Pg	Pb	16 21 28.3	+0.8
YLYR				*e*Sg	Sg	16 22 24.3	-4.9
YLYR				Pmax			
	comp=N,6.0nm,0.4s						
YLYR				Smax			
	comp=N,75nm,0.6s						
NIZ	**Nizh Angarsk**	**4.80**	**263**	*e*PN	Pn	16 21 26.2	+1.3
NIZ				*e*		16 21 39.5	
NIZ				*e*		16 22 41.0	
NIZ				pmax	pmax		
	comp=Z,11nm,0.8s						
NIZ				smax	smax		
	comp=N,36nm,0.7s						
NIZ	**Nizh Angarsk**	**4.80**	**263**	*e*Pn	Pn	16 21 26.6	+1.7
NIZ				*e*		16 21 31.2	
NIZ				*e*Pg	Pb	16 21 37.6	+0.9
NIZ				*e*		16 21 46.6	
NIZ				*e*Sg	Sg	16 22 41.2	-5.3
NIZ				*e*		16 22 45.8	
NIZ				max			
	comp=N,15nm,0.8s						
NIZ				max			
	comp=N,47nm,0.8s						
CIT	**Chita**	**5.35**	**211**	Sg	Sg	16 22 59.2	-4.9
CIT				Smax			
	comp=N,89nm,0.7s						
SYVR	**Suvo**	**5.50**	**240**	*e*PN	Pn	16 21 34.1	-0.3
SYVR				*e*		16 21 53.2	
SYVR	**Suvo**	**5.50**	**240**	*e*Pn	Pn	16 21 37.1	+2.7
SYVR				*e*Pg	Pb	16 21 50.6	+2.1
SYVR				*e*		16 22 36.1	
SYVR				*e*Sg	Sg	16 23 02.5	-6.2
SYVR				Pmax			
	comp=N,4.0nm,0.8s						
SYVR				Smax			
	comp=N,51nm,1.7s						
MXMB	**Maximikha**	**6.33**	**241**	*e*	Sn	16 22 54.2	-4.2
MXMB				Sg	Sg	16 23 28.2	-7.4
MXMB				*e*		16 23 34.6	
MXMB				max			
	comp=N,77nm,0.7s						
OGRR	**Ongureny**	**6.69**	**247**	*e*PN	Pn	16 21 51.2	+0.4
OGRR				*e*		16 22 12.7	
OGRR				*e*		16 23 39.8	
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
OGRR				smax	smax		
	comp=N,17nm,0.7s						
OGRR	**Ongureny**	**6.69**	**247**	*e*Pn	Pn	16 21 51.2	+0.4
OGRR				*e*Pg	Pb	16 22 12.3	+3.5
OGRR				*e*		16 22 16.1	
OGRR				*e*		16 22 56.2	
OGRR				*e*		16 23 22.8	
OGRR				*e*Sg	Sg	16 23 39.8	-7.2
OGRR				max			
	comp=N,3.0nm,0.6s						
OGRR				Smax			
	comp=N,27nm,1.1s						
ZRHB	**Zarechye**	**7.53**	**241**	*e*Sg	Sg	16 24 04.6	-9.3
ZRHB				*e*		16 24 18.2	
ZRHB				max			
	comp=N,150nm,1.4s						
KPC	**Khapcheranga**	**7.76**	**208**	*e*PN	Pn	16 22 04.3	-1.3
KPC				*e*		16 22 32.0	
KPC				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KPC	**Khapcheranga**	**7.76**	**208**	*e*Pn	Pn	16 22 04.4	-1.2
KPC				*e*Pg	Pb	16 22 31.7	+4.5
KPC				*e*		16 22 34.9	
KPC				*e*		16 23 27.7	
KPC				*e*Sg	Sg	16 24 14.2	-7.4
KPC				max			
	comp=Z,1.0nm,1.0s						
KPC				Smax			
	comp=Z,35nm,2.0s						
TRG	**Tyrgan**	**7.80**	**245**	*e*	x	16 23 05.4	
TRG				*e*Sg	Sg	16 24 15.8	-6.9
TRG				Smax			
	comp=Z,10.0nm,0.9s						
KAB	**Kabansk**	**8.09**	**240**	Sg	Sg	16 24 22.0	-10
KAB				Smax			
	comp=Z,143nm,0.7s						
HRMR	**Khuramsha**	**8.22**	**237**	Pn	Pn	16 22 13.5	+1.7
HRMR				*e*		16 22 21.8	
HRMR				*i* Sg	Sg	16 24 28.7	-7.4
HRMR				Smax			
	comp=Z,76nm,1.3s						
LSTR	**Listvyanka**	**9.08**	**243**	Sg	Sn	16 24 52.5	+47
LSTR				Smax			
	comp=Z,17nm,1.3s						
ZAK	**Zakamensk**	**10.78**	**240**	Sg	Sn	16 25 46.4	+59
ZAK				Smax			
	comp=Z,3.0nm,1.1s						
MOY	**Mondy**	**11.15**	**250**	*e*		16 25 35.8	
MOY				*e*Sg	Sn	16 25 55.0	+58
MOY				Smax			
	comp=Z,8.0nm,1.1s						
ORL	**Orlik**	**11.32**	**256**	*e*	Pn	16 23 01.4	+7.0
ORL				*e*		16 23 31.6	
ORL				*e*		16 25 33.8	
ORL				*e*		16 25 51.5	
ORL				*e*Sg		16 26 02.5	
ORL				Smax			
	comp=Z,6.0nm,1.1s						

*ISCJB **01** 16:23:09.7±0.5, 51°.67N±0°.08×175°.31W±0°.05, h55km, mb3.7/12, Error ellipse: s-maj=11.4km s-min=4.0km az=178.4*
*NEIC **01** 16:23:12.3±0.8, 51°.87N×175°.53W, h56km±10km, mb3.9/2, ML3.7(AEIC), Error ellipse: s-maj=24.8km s-min=5.5km az=166.0*
*IDC **01** 16:23:13.8±3.2, 51°.84N×175°.30W, h85km±28km, mb3.2/11, mb1 3.5/14, mb1mx3.3/32, mbtmp3.3/14, MS3.1/1, Ms1 3.1/1, ms1mx2.8/22, Error ellipse: s-maj=28.0km s-min=12.9km az=174.0*
ISC 01 16:23:10.9±0.8**, 51°.8N**±0°.1×**175°.34W**±0°.05**, h55**km**, n48,** σ1§**41**/43**, mb3.7**/12**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.51**	**299**	P	**Pn**	**16 23 22.0**	**-0.6**
GSTR	**Great Sitkin T**	**0.53**	**304**	*e*Pg	**Pn**	**16 23 22.1**	**-0.8**
GSTR				*e*Sg	**Sn**	**16 23 31.5**	**-0.1**
GSCK	**Great Sitkin C**	**0.55**	**293**	P	**Pn**	**16 23 22.5**	**-0.6**
GSTD	**Great Sitkin T**	**0.56**	**298**	P	**Pn**	**16 23 22.8**	**-0.5**
GSTD				S	**Sn**	**16 23 33.1**	**+0.9**
ETKA	**Kagalaska Isla**	**0.66**	**276**	P	**Pn**	**16 23 23.3**	**-1.1**
ADAG	**Mount Adagdak**	**0.80**	**284**	P	**Pn**	**16 23 26.4**	**+0.2**
KIRH	**Kanaga Island**	**1.09**	**276**	P	**Pn**	**16 23 30.3**	**+0.3**
KINC	**Kanaga Island**	**1.11**	**278**	P	**Pn**	**16 23 29.8**	**-0.5**
KIKV	**Kanaga Island**	**1.14**	**275**	P	**Pn**	**16 23 29.8**	**-0.8**
KIKV				S	**Sn**	**16 23 46.1**	**+0.8**
KICM	**Kanaga Island**	**1.16**	**277**	P	**Pn**	**16 23 30.3**	**-0.5**
TAPA	**Tanaga Point A**	**1.53**	**272**	P	**Pn**	**16 23 35.4**	**-0.6**
TAFL	**Tanaga Flats**	**1.59**	**269**	P	**Pn**	**16 23 37.1**	**+0.5**
TAFP	**Tanaga Falls P**	**1.64**	**275**	P	**Pn**	**16 23 37.2**	**-0.2**
TAFP				S	**Sn**	**16 23 59.3**	**+1.9**
TASE	**Tanaga Southea**	**1.67**	**272**	P	**Pn**	**16 23 37.7**	**-0.2**
TANO	**Tanaga North**	**1.73**	**275**	P	**Pn**	**16 23 39.4**	**+0.8**
GANE	**Gareloi Northe**	**2.13**	**272**	P	**Pn**	**16 23 45.6**	**+1.5**
NIKH	**Nikolski High**	**4.15**	**71**	P	**Pn**	**16 24 14.8**	**+3.2**
OKFG	**Magazine Ridge**	**4.81**	**67**	P	**Pn**	**16 24 23.1**	**+2.4**
MREP	**Makushin Rep't**	**5.59**	**66**	P	**Pn**	**16 24 33.8**	**+2.3**
UNV	**Unalaska Valle**	**5.74**	**66**	P	**Pn**	**16 24 36.2**	**+2.8**
AKRB	**Akutan Reef Bi**	**6.07**	**64**	P	**Pn**	**16 24 40.8**	**+2.8**
SPIA	**Saint Paul Isl**	**6.15**	**27**	P	Pn	16 24 42.9	+3.8
FX1	**Attu Island--F**	**7.13**	**283**	P	**Pn**	**16 24 55.6**	**+3.1**
	2.6nm,0.3s,baz=297,slow=22,SNR=6.7						
FX1				S	**Sn**	**16 26 15.2**	**

SONM	**Songino Array**	**48.37**	**298**	P	**P**	**16**	**31**	**47.7 +0.6**
	0.2nm,0.7s,baz=53,slow=9.6,SNR=2.5							
SONM				PcP	**PcP**	**16**	**33**	**11.9 -0.9**
	0.2nm,0.7s,baz=91,slow=2.9,SNR=3.8							
TXAR	**Lajitas Array**	**56.46**	**84**	P	**P**	**16**	**32**	**46.3 -0.8**
	0.2nm,0.6s,baz=299,slow=6.1,SNR=2.9							
KURBB	**Kurchatov Arra**	**60.37**	**315**	P	**P**	**16**	**33**	**13.1 -0.8**
	0.5nm,0.4s,baz=43,slow=6.7,SNR=14							
MKAR	**Makanchi Array**	**61.44**	**310**	P	**P**	**16**	**33**	**20.1 -1.2**
	0.2nm,0.7s,baz=31,slow=8.9,SNR=5.1							
BVAR	**Borovoye Array**	**61.93**	**321**	P	**P**	**16**	**33**	**24.3 -0.2**
	0.4nm,0.4s,baz=55,slow=6.2,SNR=5.1							
CMAR	**Chiang Mai Arr**	**73.10**	**278**	P	**P**	**16**	**34**	**35.8 +0.4**
	0.7nm,0.8s,baz=31,slow=7.6,SNR=7.6							
WRA	**Warramunga Arr**	**83.84**	**227**	P	**P**	**16**	**35**	**33.1 -1.3**
	0.8nm,1.0s,baz=34,slow=6.1,SNR=3.8							
ASAR	**Alice Springs**	**87.28**	**225**	P	**P**	**16**	**35**	**51.0 -0.4**
	0.6nm,0.8s,baz=27,slow=6.8,SNR=6.1							
H03N2	**Juan Fernandez**	**119.20**	**108**	T	T	18	52	14.5
	baz=315,slow=75,SNR=17							
H03N1	**Juan Fernandez**	**119.22**	**108**	T	T	18	52	20.3
	baz=315,slow=75,SNR=29							
H03N3	**Juan Fernandez**	**119.22**	**108**	T	T	18	52	16.1
	baz=315,slow=75,SNR=27							

CSEM ***01*** *16:24:29.3,37.47N×24.71W,h5km,ML3.1,After PDA*
PDA 01 16:24:29.3±1.3,37.47N×24.71W,h5km,MD3.9,ML3.1,
Error ellipse: s-maj=9.9km s-min=2.9km az=78.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.48**	**310**	*e*P			Pg	16 24 37.1	-1.6
BART				*e*S			Sg	16 24 43.5	-1.5
BART				A			A	16 24 44.0	
	657nm,0.1s								
BART	**Pico Bartolome**	**0.48**	**310**	*e*P			Pg	16 24 37.1	-1.6
BART				*e*S			Sg	16 24 43.5	-1.5
PSMN	**Pico do Norte,**	**0.55**	**212**	*e*P			Pg	16 24 38.6	-1.3
PSMN				*e*S			Sg	16 24 45.7	-1.4
PSMN				A			A	16 24 46.4	
	158nm,0.3s								
PSMN	**Pico do Norte,**	**0.55**	**212**	*e*P			Pg	16 24 38.6	-1.3
PSMN				*e*S			Sg	16 24 45.7	-1.4
PSMA	**Santa Maria**	**0.58**	**215**	*e*P			Pg	16 24 39.0	-1.5
PSMA				*e*S			Sg	16 24 46.6	-1.5
PSMA				A			A	16 24 50.4	
	227nm,0.4s								
GRON	**Grota Negra**	**0.72**	**294**	*e*P			Pg	16 24 39.4	-3.8
GRON				*e*S			Sg	16 24 47.0	-5.7
GRON				A			A	16 24 48.3	
	108nm,0.1s								
PDA	**Ponta Delgada**	**0.81**	**290**	*e*P			Pg	16 24 42.0	-2.8
PDA				*e*S			Sg	16 24 52.0	-3.3
PDA				A			A	16 24 54.8	
	263nm,0.6s								
PDA	**Ponta Delgada**	**0.81**	**290**	*e*P			Pg	16 24 42.0	-2.8
PDA				*e*S			Sg	16 24 52.0	-3.3
PSET	**Sete Cidades**	**0.88**	**294**	*e*P			Pg	16 24 43.4	-2.8
PSET				*e*S			Sg	16 24 54.1	-3.6
PSET				A			A	16 25 00.0	
	438nm,0.3s								
PSET	**Sete Cidades**	**0.88**	**294**	*e*P			Pg	16 24 43.4	-2.8
PSET				*e*S			Sg	16 24 54.1	-3.6
ADH	**Angra Heroismo**	**2.32**	**301**	*e*P			Pn	16 25 03.8	-4.3
ADH				*e*S			Sn	16 25 29.3	-7.7
ADH				A			A	16 25 31.0	
	95nm,0.4s								
ADH	**Angra Heroismo**	**2.32**	**301**	*e*P			Pn	16 25 03.8	-4.3
ADH				*e*S			Sn	16 25 29.3	-7.7
ROSA	**Rosais**	**3.06**	**295**	*e*P			Pn	16 25 14.4	-3.9
ROSA				*e*S			Sn	16 25 47.1	-8.1
ROSA				A			A	16 25 47.5	
	86nm,0.4s								
ROSA	**Rosais**	**3.06**	**295**	*e*P			Pn	16 25 14.4	-3.9
ROSA				*e*S			Sn	16 25 47.1	-8.1
PICO	**Pico**	**3.11**	**290**	*e*P			Pn	16 25 14.8	-4.4
PICO	**Pico**	**3.11**	**290**	*e*P			Pn	16 25 14.8	-4.4
CALA	**Caldeira**	**3.34**	**291**	*e*P			Pn	16 25 17.9	-4.5
CALA				*e*S			Sn	16 25 54.1	-8.4
CALA	**Caldeira**	**3.34**	**291**	*e*P			Pn	16 25 17.9	-4.5
CALA				*e*S			Sn	16 25 54.1	-8.4
PCED	**Cedros**	**3.36**	**291**	*e*S			Sn	16 25 54.5	-8.2
PCED	**Cedros**	**3.36**	**291**	*e*S			Sn	16 25 54.5	-8.2

IDC ***01*** *16:33:23.2±0.9,30°.52N×83°.49E,h0km,mb3.5/8,*
mb1 3.6/11,mb1mx3.4/30,mbtmp3.4/11,ML3.0/3,Error
ellipse: s-maj=32.0km s-min=17.9km az=60.0
ISC 01 16:33:27.0±0.8,30°.7N±0°.1×83°.74E±0°.08,h18km,n13,
σ1$52/14,mb3.3/8,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.27**	**249**	*e*P			**Pg**	**16**	**34**	**28.9 -0.7**
LGTI				*e*S			**Sg**	**16**	**35**	**13.8 +1.8**
AAK	**Ala-Archa**	**14.04**	**331**	Pn			**Pn**	**16**	**36**	**45.2 0.0**
	0.1nm,0.3s,baz=177,slow=19,SNR=1.9									
MKAR	**Makanchi Array**	**16.14**	**356**	Pn			**Pn**	**16**	**37**	**12.8 -0.1**
	0.0nm,0.3s,baz=184,slow=12,SNR=2.6									
CMAR	**Chiang Mai Arr**	**18.39**	**128**	P			**Pn**	**16**	**37**	**42.3 +1.2**
	0.0nm,0.3s,baz=309,slow=11,SNR=6.7									
KURBB	**Kurchatov Arra**	**20.31**	**350**	P			**P**	**16**	**38**	**01.8 0.0**
	1.8nm,0.8s,baz=172,slow=9.9,SNR=23									
ZALV	**Zalesovo Beam**	**23.27**	**2**	P			**P**	**16**	**38**	**32.9 -0.5**
	0.8nm,0.8s,baz=194,slow=5.2,SNR=3.2									
BVAR	**Borovoye Array**	**24.37**	**340**	P			**P**	**16**	**38**	**47.1 +3.2**
	0.3nm,0.6s,baz=156,slow=7.2,SNR=2.8									
SONM	**Songino Array**	**24.38**	**39**	P			**P**	**16**	**38**	**45.4 +1.2**
	0.8nm,0.9s,baz=225,slow=10,SNR=7.6									
FINES	**FINESS Array B**	**48.19**	**327**	P			**P**	**16**	**42**	**05.3 -0.7**
	4.8nm,1.2s,baz=94,slow=5.6,SNR=4.3									
WRA	**Warramunga Arr**	**69.98**	**129**	P			**P**	**16**	**44**	**38.2 +0.5**
	0.2nm,0.6s,baz=325,slow=6.2,SNR=3.9									
ASAR	**Alice Springs**	**72.33**	**132**	P			**P**	**16**	**44**	**50.1 -1.8**
	0.5nm,1.1s,baz=306,slow=7.9,SNR=2.9									
TORD	**Torodi Ar. Bea**	**76.65**	**277**	P			**P**	**16**	**45**	**15.3 -1.9**
	0.3nm,0.9s,baz=50,slow=4.7,SNR=2.0									
YKA	**Yellowknife Ar**	**85.99**	**8**	P			**P**	**16**	**46**	**06.4 +0.5**
	0.1nm,0.4s,baz=339,slow=5.2,SNR=6.8									

MAN 01 16:54:30,7.24N×126.86E,h9km,mb4.6,ML3.4,MS3.4,
1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**244**	*e*P			Pb	16	54	43.6 -0.3
MATI				*e*S			Sb	16	54	56.3 0.0
BUKP	**Musuan**	**1.90**	**290**	*e*P			Pn	16	55	03.3 +0.7
BUKP				*e*S			Sb	16	55	27.8 -1.0
BUTP	**Butuan**	**2.11**	**324**	*e*P			Pn	16	55	05.5 0.0
CTBH	**Cotabato--PC H**	**2.60**	**270**	⇓*i*P			Pn	16	55	14.0 +1.8

IDC ***01*** *17:10:37.6±0.6,7.24N×126.88E,h0km,mb3.9/14,*
mb1 4.0/14,mb1mx3.9/25,mbtmp3.8/14,Error ellipse:
s-maj=31.2km s-min=13.7km az=80.0
MAN ***01*** *17:10:39,7.33N×127.18E,h1km,mb5.0,ML4.0,MS4.1*
DJA ***01*** *17:11:55.5±0.9,3°.1N±11°×12°.4E±°,h10km,M3.7/7,*
MLv3.7/7
ISC 01 17:10:42.0±2.2,7.29N±0°.05×127.07E±0°.09,h30km±15km,
n30,σ1$95/33,mb3.8/14,3C-1D,Philippine Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.88**	**247**	*e*P			**Pn**	**17**	**10**	**58.3 0.0**
MATI				*e*S			**Sb**	**17**	**11**	**07.8 -2.3**
DMPH	**Davao City--Mi**	**1.57**	**263**	⇑*e*P			**Pb**	**17**	**11**	**11.6 +1.3**
DMPH				*e*S			**Sb**	**17**	**11**	**35.4 +5.6**
KCP	**Kidapawan**	**1.99**	**262**	⇑*e*P			**Pb**	**17**	**11**	**36.3 -1.2**
KCP				*i* S			**Sb**	**17**	**11**	**43.6 +1.6**
BUKP	**Musuan**	**2.08**	**287**	*e*P			**Pb**	**17**	**11**	**17.8 -1.3**
BUKP				*e*S			**Sn**	**17**	**11**	**38.5 -1.3**
BUTP	**Butuan**	**2.21**	**319**	*e*P			**Pn**	**17**	**11**	**17.9 +1.3**
CGP	**Cagayan de Oro**	**2.63**	**296**	⇑*e*P			**Pb**	**17**	**11**	**25.4 -3.0**
CGP				*e*S			**Sb**	**17**	**11**	**58.6 -1.7**
CTBH	**Cotabato--PC H**	**2.81**	**269**	⇓*i*P			**Pn**	**17**	**11**	**26.9 +2.1**
PAGZ	**Pagadian**	**3.70**	**279**	*e*P			Pn	17	11	40.8 +3.7
SGSI	**Sangihe**	**3.89**	**203**	P			**Sn**	**17**	**12**	**21.0 -3.5**
KMSI	**Cibinong**	**7.35**	**205**	P			**Pb**	**17**	**12**	**46.7 -2.1**
GTOI	**Gorontalo**	**7.75**	**212**	P			**Pn**	**17**	**12**	**35.1 +2.3**
MRSI	**Marisa**	**8.48**	**217**	P			**Pn**	**17**	**12**	**45.7 +2.8**
TOLI	**Toli-Toli**	**8.76**	**226**	P			x	17	13	01.6
LUWI	**Luwuk**	**9.32**	**208**	P			Pn	17	13	02.9 +8.5
APSI	**Ampana**	**9.78**	**214**	P			Pn	17	13	06.3 +5.7
FITZ	**Fitzroy Crossi**	**25.27**	**183**	P			**P**	**17**	**16**	**05.9 +0.2**
	2.0nm,0.8s,baz=143,slow=20,SNR=8.3									
WRA	**Warramunga Arr**	**27.99**	**165**	P			**P**	**17**	**16**	**29.2 -1.1**
	0.5nm,0.5s,baz=347,slow=9.9,SNR=11									
CMAR	**Chiang Mai Arr**	**29.54**	**295**	P			**P**	**17**	**16**	**43.6 -0.6**
	0.2nm,0.6s,baz=114,slow=9.0,SNR=3.4									
CMAR						PcP	**PcP**	**17**	**19**	**49.8 +0.7**
	0.5nm,0.8s,baz=50,slow=1.9,SNR=5.4									
KSRS	**Korea Array**	**30.04**	**1**	P			**P**	**17**	**16**	**50.1 +1.8**
	2.0nm,0.8s,baz=181,slow=11,SNR=6.7									
ASAR	**Alice Springs**	**31.48**	**168**	P			**P**	**17**	**17**	**02.5 +1.2**
	0.3nm,0.5s,baz=345,slow=6.9,SNR=3.4									
ASAR						PcP	**PcP**	**17**	**19**	**54.2 +0.2**
	0.4nm,0.5s,baz=344,slow=1.9,SNR=6.7									
USRK	**Ussuriysk Arra**	**37.02**	**6**	P			**P**	**17**	**17**	**50.1 +1.1**
	7.1nm,1.0s,baz=203,slow=4.5,SNR=8.7									
STKA	**Stephens Creek**	**41.34**	**161**	P			**P**	**17**	**18**	**24.9 -0.3**
	1.8nm,0.6s,baz=341,slow=9.6,SNR=6.3									
SONM	**Songino Array**	**44.08**	**340**	P			**P**	**17**	**18**	**47.1 -0.3**
	0.3nm,0.6s,baz=164,slow=6.0,SNR=3.9									
PETK	**Petropavlovsk-**	**52.03**	**23**	P			**P**	**17**	**19**	**48.9 +0.2**
	2.0nm,0.9s,baz=231,slow=9.1,SNR=2.9									
MKAR	**Makanchi Array**	**54.88**	**324**	P			**P**	**17**	**20**	**08.9 -0.8**
	0.4nm,0.4s,baz=112,slow=6.7,SNR=33									
ILAR	**Eielson Array**	**81.77**	**26**	P			**P**	**17**	**22**	**59.0 +1.4**
	0.2nm,0.5s,baz=256,slow=4.5,SNR=4.3									
FINES	**FINESS Array B**	**88.88**	**332**	P			**P**	**17**	**23**	**32.2 -0.9**
	4.7nm,1.1s,baz=107,slow=6.3,SNR=3.2									
AKASG	**Malin Array Be**	**89.36**	**321**	P			**P**	**17**	**23**	**34.1 -1.6**
	0.3nm,0.5s,baz=60,slow=5.6,SNR=4.0									
YKA	**Yellowknife Ar**	**96.14**	**24**	P			**P**	**17**	**24**	**07.9 +1.2**
	0.2nm,0.8s,baz=298,slow=4.6,SNR=3.0									
TORD	**Torodi Ar. Bea**	**122.08**	**290**	PKP			**PKPdf**	**17**	**29**	**34.0 -0.7**
	0.3nm,0.7s,baz=56,slow=1.4,SNR=3.7									

ISCJB ***01*** *17:16:19.1±0.4,39°.01N±0°.04×111°.40W±0°.05,h0km,*
mb2.9/1,Error ellipse: s-maj=6.0km s-min=5.3km
az=162.3
NEIC ***01*** *17:16:19.3±0.4,39°.00N×111°.40W,h0km,ML2.1,Error*
ellipse: s-maj=6.6km s-min=4.9km az=69.0,Suspected
Mining explosion.
NEIC 65 km [40 miles] ENE of Richfield.
IDC ***01*** *17:16:20.0±1.2,39°.03N×111°.24W,h0km,mb2.7/1,*
mb1 3.0/4,mb1mx3.0/30,mbtmp2.7/4,ML2.8/3,Error
ellipse: s-maj=15.3km s-min=10.0km az=136.0
ISC 01 17:16:18.9±0.9,38°.96N±0°.03×111°.31W±0°.04,h0km,n28,
σ1$48/32,Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TMUT	**Trail Mountain**	**0.35**	**13**	*e*Pg			**Pg**	**17**	**16**	**26.1 +0.5**
SRU	**San Rafael**	**0.63**	**76**	*e*Pg			**Pg**	**17**	**16**	**31.5 +0.6**
MVU	**Marysvale**	**0.84**	**238**	*e*Pg			**Pg**	**17**	**16**	**34.7 -0.3**
MPU	**Maple Canyon**	**1.09**	**347**	*e*Pg			**Pg**	**17**	**16**	**38.5 -1.2**
NLU	**North Lily Min**	**1.16**	**329**	*e*Pg			**Pg**	**17**	**16**	**40.2 -1.0**
DAU	**Daniels Canyon**	**1.45**	**1**	*e*Pn			**Pn**	**17**	**16**	**45.7 -1.1**
DUG	**Dugway**	**1.70**	**317**	*e*Pn			**Pn**	**17**	**16**	**48.6 -1.4**
PV04	**Paradox Valley**	**1.96**	**106**	*e*Pn			**Pb**	**17**	**16**	**56.0 +0.4**
ARUT	**Antelope Range**	**2.04**	**236**	*e*Pn			**Pn**	**17**	**16**	**54.5 -0.3**
CCUT	**Cedar City**	**2.14**	**230**	*e*Pn			**Pn**	**17**	**16**	**57.0 +0.9**
PV01	**Paradox Valley**	**2.30**	**110**	*e*Pn			**Pb**	**17**	**17**	**00.8 -0.6**
BGU	**Big Grassy Mou**	**2.37**	**327**	*e*Pn			**Pn**	**17**	**16**	**57.8 -1.4**
SPUT	**South Promonto**	**2.51**	**340**	*e*Pn			**Pn**	**17**	**17**	**00.1 -1.0**
O20A	**White River Ci**	**2.64**	**63**	*e*Pn			**Pb**	**17**	**17**	**06.8 -0.5**
MVCO	**Mesa Verde**	**2.82**	**127**	*e*Pn			**Pb**	**17**	**17**	**08.3 -2.0**
HVU	**Hansel Valley**	**3.03**	**339**	*e*Pn			**Pn**	**17**	**17**	**06.9 -1.5**
R11A	**Troy Canyon, C**	**3.41**	**261**	Pn			**Pn**	**17**	**17**	**16.2 +2.7**
WUAZ	**Wupatki**	**3.44**	**181**	*e*Pn			**Pn**	**17**	**17**	**15.3 +1.4**
PDAR	**Pinedale Array**	**4.03**	**19**	Pn			**Pn**	**17**	**17**	**24.1 +2.0**
PDAR				Pg			**Pb**	**17**	**17**	**31.2 +0.3**
PDAR				Lg			Lg	17	18	23.8
PDAR	**Pinedale Array**	**4.03**	**19**	Pn			**Pn**	**17**	**17**	**24.1 +2.0**
	0.2nm,0.3s,baz=193,slow=12,SNR=6.5									
PDAR				Pg			**Pb**	**17**	**17**	**31.2 +0.3**
	0.2nm,0.3s,baz=186,slow=15,SNR=15									
PDAR				Lg			Lg	17	18	23.8
	0.2nm,0.3s,baz=206,slow=30,SNR=3.6									
W18A	**Petrified Fore**	**4.03**	**161**	Pn			**Pn**	**17**	**17**	**22.8 +0.7**
NVAR	**Mina Array Bea**	**5.50**	**267**	Pn			**Pn**	**17**	**17**	**44.6 +2.3**
NVAR				Lg			Lg	17	19	15.4
NVAR	**Mina Array Bea**	**5.50**	**267**	Pn			**Pn**	**17**	**17**	**44.6 +2.3**
	0.1nm,0.3s,baz=76,slow=15,SNR=3.2									
NVAR				Lg			Lg	17	19	15.4
	0.1nm,0.3s,baz=72,slow=24,SNR=2.8									
ANMO	**Albuquerque**	**5.58**	**134**	Pn			**Pn**	**17**	**17**	**44.8 +1.5**
ANMO				Pg			**Pg**	**17**	**18**	**03.5 -2.3**
ANMO				Lg			Lg	17	19	16.3
ANMO	**Albuquerque**	**5.58**	**134**	Pn			**Pn**	**17**	**17**	**44.8 +1.5**
	0.4nm,0.3s,baz=333,slow=12,SNR=16									
ANMO				Pg			**Pg**	**17**	**18**	**03.5 -2.3**
	0.3nm,0.3s,baz=322,slow=12,SNR=8.8									
ANMO				Lg			Lg	17	19	16.3
	0.1nm,0.3s,baz=56,slow=20,SNR=3.9									
BNM	**Barren Site**	**6.10**	**140**	*e*Pg			**Pg**	**17**	**18**	**14.5 -1.2**
	3.0nm,0.8s									
YKA	**Yellowknife Ar**	**23.65**	**356**	P			**P**	**17**	**21**	**32.2 +0.6**
YKA	**Yellowknife Ar**	**23.65**	**356**	P			**P**	**17**	**21**	**32.2 +0.6**
	0.2nm,0.6s,baz=174,slow=9.9,SNR=4.4									

ISCJB ***01*** *17:23:51.5±0.3,3°.69N±0°.03×126°.89E±0°.05,h48km,*
mb4.2/33,Error ellipse: s-maj=7.2km s-min=3.9km
az=166.9
IDC ***01*** *17:23:52.2±5.5,3°.58N×126°.63E,h40km±50km,mb3.9/18,*
mb1 4.0/18,mb1mx3.9/27,mbtmp3.9/18,Error ellipse:
s-maj=27.8km s-min=12.4km az=76.0
DJA ***01*** *17:23:53.5±0.8,4°.1N±12°.7E±°,h10km,M4.5/8,mb4.7/5,*
mB4.9/3,MLv4.5/8,Mw(mB)4.2/3
NEIC ***01*** *17:23:54.7±1.3,3°.62N×126°.78E,h67km±12km,mb4.3/15,*
Error ellipse: s-maj=11.8km s-min=6.7km az=77.0
ISC 01 17:23:53.3±0.4,3°.68N±0°.05×126°.82E±0°.08,h48km,n83,
σ1$21/83,mb4.2/33,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.28**	**270**	P			**Pn**	**17**	**24**	**13.5 -1.3**
TNTI	**Ternate**	**2.94**	**169**	P			**Pn**	**17**	**24**	**38.1 +0.6**
TNTI				S			**Sn**	**17**	**25**	**10.2 -1.4**
MATI	**Mati**	**3.29**	**350**	*e*P			**Pn**	**17**	**24**	**44.0 +1.5**
DAV	**Davao City (W)**	**3.59**	**340**	Pn			**Pn**	**17**	**24**	**48.1 +1.6**
KMSI	**Cibinong**	**4.19**	**223**	P			**Pn**	**17**	**24**	**57.0 +2.4**
LBMI	**Labuha**	**4.34**	**171**	P			**Pn**	**17**	**24**	**58.3 +1.5**
CTBH	**Cotabato--PC H**	**4.35**	**324**	⇓*e*P			**Pn**	**17**	**24**	**58.6 +1.7**
BUKP	**Musuan**	**4.52**	**337**	*e*P			**Pn**	**17**	**25**	**01.1 +1.8**
GTOI	**Gorontalo**	**4.86**	**232**	P			**Pn**	**17**	**25**	**04.9 +1.1**
PAGZ	**Pagadian**	**5.37**	**321**	*e*P			**Pn**	**17**	**25**	**12.8 +1.9**
BUTP	**Butuan**	**5.39**	**347**	*e*P			Pn	17	25	17.4 +6.2
MRSI	**Marisa**	**5.82**	**237**	P			**Pn**	**17**	**25**	**18.5 +1.5**
	66nm,0.6s,1μm0.2nm									
LUWI	**Luwuk**	**6.19**	**221**	P			**Pn**	**17**	**25**	**25.2 +3.0**
	113nm,0.9s,1μm0.5nm									
LUWI	**Luwuk**	**6.19**	**221**	P			Pn	17	25	25.8 +3.6
	baz=6.3,SNR=5.9									
SWI	**Sorong**	**6.33**	**135**	P			**Pn**	**17**	**25**	**24.9 +0.8**
	32nm,1.0s,0.1nm									
NLAI	**Namlea**	**6.88**	**178**	P			**Pn**	**17**	**25**	**32.9 +1.3**
	34nm,0.6s,774nm									
APSI	**Ampana**	**6.89**	**229**	P			Pn	17	25	36.6 +4.9
MYLDM	**Lahad Datu**	**8.43**	**281**	P			x	17	25	55.5
FAKI	**Fak Fak**	**8.51**	**140**	P			**Pn**	**17**	**25**	**55.7 +1.7**
	baz=8.4,SNR=5.6									
KSM	**Kuching**	**16.64**	**263**	P			**P**	**17**	**27**	**45.2 +0.1**
MTN	**Manton Dam**	**16.96**	**165**	P			**Pn**	**17**	**27**	**44.6 -2.7**
	baz=17,SNR=11									
KDU	**Kakadu**	**17.20**	**161**	P			**Pn**	**17**	**27**	**50.7 +0.4**
	baz=17,SNR=5.3									
JAGI	**Jajag, Banyuwa**	**17.47**	**226**	P			**P**	**17**	**27**	**56.6 +2.3**
	baz=18,SNR=4.8									
KNRA	**Kununurra**	**19.33**	**174**	P			**P**	**17**	**28**	**14.5 -0.2**
	baz=19,SNR=13									
YHNB	**Yeheng**	**21.52**	**346**	P			**P**	**17**	**28**	**39.2 +0.7**
	48nm,1.3s									
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P			**P**	**17**	**28**	**38.6 -1.5**
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P			**P**	**17**	**28**	**38.6 -1.5**
	5.8nm,0.7s,baz=28,slow=13,SNR=16									
WRA	**Warramunga Arr**	**24.61**	**163**	P			**P**	**17**	**29**	**08.2 -1.1**
WRA	**Warramunga Arr**	**24.61**	**163**	P			**P**	**17**	**29**	**08.2 -1.1**
	17nm,0.8s,baz=344,slow=10,SNR=94									
QIS	**Mount Isa**	**27.16**	**153**	P			P	17	29	38.5 +6.2
	baz=27,SNR=3.3									
AS31	**Alice Springs**	**28.04**	**166**	*e*P			**P**	**17**	**29**	**39.1 -1.1**
ASAR	**Alice Springs**	**28.04**	**166**	P			**P**	**17**	**29**	**39.0 -1.2**
ASAR						PcP	**PcP**	**17**	**32**	**55.1 +0.9**
ASAR	**Alice Springs**	**28.04**	**166**	P			**P**	**17**	**29**	**39.0 -1.2**
	0.5nm,0.3s,baz=350,slow=13,SNR=33									
ASAR						PcP	**PcP**	**17**	**32**	**55.1 +0.9**
	1.0nm,0.4s,baz=352,slow=2.3,SNR=8.9									
WRKA	**Warakurna**	**28.58**	**177**	P			**P**	**17**	**29**	**45.1 +0.1**
	baz=29,SNR=5.2									
CM31	**Chiang Mai Arr**	**30.97**	**300**	P			**P**	**17**	**30**	**05.9 -0.3**
	1.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**30.97**	**300**	P			**P**	**17**	**30**	**06.0 -0.2**
CMAR	**Chiang Mai Arr**	**30.97**	**300**	P			**P**	**17**	**30**	**06.0 -0.2**
	0.8nm,0.7s,baz=117,slow=7.2,SNR=12									
ENH	**Enshi**	**31.12**	**330**	*e*P			**P**	**17**	**30**	**06.5 -0.9**
	3.3nm,0.7s									
CHTO	**Chiang Mai**	**31.12**	**301**	P			**P**	**17**	**30**	**06.8 -0.7**
	1.4nm,0.6s									
MEEK	**Meekatharra**	**31.16**	**194**	P			**P**	**17**	**30**	**07.9 +0.1**
	baz=31,SNR=4.5									
KSAR	**Wonju Array Be**	**33.62**	**2**	P			**P**	**17**	**30**	**30.1 +1.0**
KSRS	**Korea Array**	**33.63**	**2**	P			**P**	**17**	**30**	**30.1 +0.9**
	2.6nm,0.7s,baz=180,slow=9.3,SNR=7.3									
MAJO	**Matsushiro**	**34.35**	**16**	P			**P**	**17**	**30**	**33.2 -2.4**
BJT	**Baijiatuau**	**37.44**	**347**	*e*P			**P**	**17**	**31**	**02.6 +0.7**
	24nm,0.6s									
STKA	**Stephens Creek**	**38.05**	**159**	P			**P**	**17**	**31**	**06.6 -0.6**
STKA						PcP	**PcP**	**17**	**33**	**22.6 +0.7**
STKA	**Stephens Creek**	**38.05**	**159**	P			**P**	**17**	**31**	**06.6 -0.6**
	3.6nm,0.6s,baz=346,slow=9.0,SNR=13									
STKA						PcP	**PcP**	**17**	**33**	**22.6 +0.7**
	2.2nm,0.7s,baz=303,slow=7.8,SNR=3.2									
STKA	**Stephens Creek**	**38.05**	**159**	P			**P**	**17**	**31**	**07.5 +0.3**
	baz=38,SNR=8.2									
USRK	**Ussuriysk Arra**	**40.61**	**6**	P			**P**	**17**	**31**	**29.2 +0.8**
	1.5nm,0.7s,baz=198,slow=6.1,SNR=7.0									
MDJ	**Mudanjiang**	**40.84**	**3**	*e*P			**P**	**17**	**31**	**30.9 +0.6**
	11nm,0.9s									
LSA	**Lhasa**	**42.54**	**311**	*e*P			**P**	**17**	**31**	**45.0 0.0**
	3.4nm,0.7s									
SONM	**

TWT eS Sb 17 35 07.0 -0.8
baz=311
CHKT Chengkung 0.72 206 eP Pn 17 34 59.8 +0.4
baz=185
CHKT eS Sn 17 35 10.0 +0.4
baz=185
YUS Yu-Shan 0.74 250⇑iP Pn 17 35 00.2 +0.1
baz=245
YUS S Sb 17 35 09.1 -0.1
baz=245
SMLT Sun Moon Lake 0.75 281⇑iP Pb 17 34 59.5 +0.2
baz=280
SMLT S Sb 17 35 08.5 -0.7
baz=280
NNS Nan Shan 0.76 336⇑iP Pb 17 34 59.5 +0.1
baz=339
NNS eS Sb 17 35 09.1 -0.2
baz=339
TYC Yuchr 0.79 282⇑iP Pb 17 34 60.0 0.0
baz=283
TYC S Sb 17 35 10.0 -0.3
baz=283
ELDTW Lidau 0.84 229⇑iP Pb 17 35 00.8 0.0
baz=216
ALS Alishan 0.86 254⇑iP Pn 17 35 02.0 +0.3
baz=251
ALS S Sb 17 35 12.5 +0.1
baz=251
TWC Suao 0.87 9⇑eP Pn 17 35 02.0 +0.5
baz=25
TWC S Sn 17 35 14.1 +0.7
baz=25
ENTT Nioudou 0.90 352⇑iP Pn 17 35 01.9 -0.1
baz=345
ENTT eS Sb 17 35 13.2 -0.2
baz=345
WNT Mingjian 0.94 278⇑iP Pn 17 35 03.4 +0.8
baz=276
WNT iS Sn 17 35 15.4 +0.1
baz=276
CHN5 Tsauling 0.95 261⇑iP Pn 17 35 03.6 +0.8
baz=258
YHNB Yeheng 0.97 342 ePg Pb 17 35 02.8 -0.2
NSK Sanguang 0.98 341⇑iP Pb 17 35 03.2 +0.1
baz=351
NSK iS Sb 17 35 14.8 -0.9
baz=351
ILA Ilan 1.01 2 eP Pb 17 35 04.0 +0.2
baz=351
ILA eS Sn 17 35 18.1 +1.1
baz=351
TCU Taichung 1.02 293⇑iP Pb 17 35 04.6 +0.7
baz=291
TCU eS Sn 17 35 18.2 +1.0
baz=291
TWQ1 Liyutan 1.04 305⇑iP Pb 17 35 05.0 +0.8
baz=304
TWQ1 S Sb 17 35 17.4 -0.1
baz=304
STYT Tauyuan 1.05 237⇓iP Pb 17 35 04.9 +0.6
baz=228
STYT S Sb 17 35 17.8 +0.1
baz=228
WGK Gukeng 1.05 267⇑iP Pb 17 35 04.9 +0.6
baz=264
WGK eS Sn 17 35 18.3 +0.4
baz=264
TPUB Ta-pu 1.08 246 ePn Pb 17 35 05.4 +0.5
TWG Pinlang 1.09 212 ePn Pn 17 35 03.4 -1.1
TWG Pinlang 1.09 212⇓iP Pn 17 35 04.0 -0.6
baz=209
TWG eS Sb 17 35 17.6 -1.2
baz=209
NSTT Nanjuang 1.09 324⇑iP Pb 17 35 05.4 +0.4
baz=324
NSTT S Sb 17 35 18.3 -0.6
baz=324
NSY Sanyi 1.09 308⇑iP Pb 17 35 05.8 +0.8
baz=307
NSY iS Sn 17 35 19.1 +0.2
baz=307
EGS 1.11 11 eP Pb 17 35 05.2 -0.2
baz=28
EGS eS Sn 17 35 20.5 +1.0
baz=28
TTN Taitung 1.11 208 eP Pn 17 35 05.2 +0.3
baz=201
TTN eS Sn 17 35 19.6 +0.2
baz=201
CHY Chiayi 1.20 258 eP Pb 17 35 07.2 +0.4
baz=256
CHY eS Sb 17 35 22.5 +0.5
baz=256
TWK Hsinying 1.22 247 eP Pb 17 35 07.5 +0.3
baz=245
TWK eS Sb 17 35 23.0 +0.6
baz=245
CHN1 Nanshi 1.22 243⇓eP Pb 17 35 07.7 +0.5
baz=241
CHN1 eS Sb 17 35 23.0 +0.5
baz=241
SGST Jiashian 1.23 238⇓eP Pb 17 35 08.1 +0.8
baz=228
SGST eS Sb 17 35 23.4 +0.7
baz=228
TWA Mucha 1.23 355⇑P Pb 17 35 07.5 +0.1
baz=355
TWA eS Sb 17 35 22.6 -0.3
baz=355
TATO Taipei 1.24 351 ePn Pb 17 35 07.2 -0.3
HSN Hsinchu 1.25 328 eP Pb 17 35 08.5 +0.9
baz=315
HSN eS Sb 17 35 24.4 +1.1
baz=315
TWB1 Santiao Chiao 1.28 12 eP Pb 17 35 08.5 +0.2
baz=16
TWB1 eS Sb 17 35 24.5 +0.1
baz=16
TAP1 Taipei 1.30 353 P Pb 17 35 08.1 -0.5
baz=352
TAP1 eS Sn 17 35 23.8 -0.2
baz=352
TAP Taipei 1.30 352 eP Pb 17 35 08.3 -0.3
baz=352
TAP eS Sb 17 35 24.9 0.0
baz=352
NCU National Centr 1.31 339 eP Pb 17 35 08.5 -0.2
baz=338
NCU eS Sb 17 35 25.8 +0.7
baz=338
WTCT Ta-ch'eng 1.31 275⇑P Pb 17 35 08.6 -0.1
baz=273
WTCT S Sb 17 35 25.1 0.0
baz=273
NWF Wu-fen Shan 1.32 3 eP Pb 17 35 08.9 -0.1
baz=350
NWF S Sb 17 35 26.2 +0.7
baz=350
ECL Taimali 1.34 211 eP Pn 17 35 07.1 -0.9
baz=195
ECL eS Sn 17 35 25.3 +0.3
baz=195
WSF Szhu 1.36 266 eP Pb 17 35 09.4 -0.2
baz=264
WSF eS Sb 17 35 26.7 0.0
baz=264
TWS1 Kuangyinshan 1.37 349 eP Pb 17 35 09.4 -0.4
baz=357
TWS1 eS Sb 17 35 26.8 -0.2
baz=357
YOJ Yonaguni jima 1.39 59 eP Pb 17 35 10.3 +0.2
YOJ Yonaguni jima 1.39 59 P Pb 17 35 10.5 +0.4
YOJ S Sb 17 35 28.7 +1.3
YOJ Yonaguni jima 1.39 59 ePn Pb 17 35 10.3 +0.2
YOJ Yonaguni jima 1.39 59⇓iP Pb 17 35 10.6 +0.5
baz=65
YOJ iS Sb 17 35 28.5 +1.1
baz=65
CHN3 Shinhua 1.40 242 eP Pb 17 35 11.1 +0.8
baz=241
CHN3 eS Sb 17 35 29.2 +1.4
baz=241
SSD Sandimen 1.40 225 eP Pn 17 35 09.7 +0.8
baz=225
SSD eS Sb 17 35 28.1 +0.3
baz=225
CHN8 Yiju 1.43 254 eP Pn 17 35 10.0 +0.8
baz=253
CHN8 eS Sb 17 35 28.0 -0.5
baz=253
TWM1 Shoushan 1.50 232 eP Pb 17 35 12.1 +0.2
baz=243
TWM1 eS Sb 17 35 33.3 +2.8
baz=243
SCLT Jiali 1.50 248 eP Pb 17 35 11.4 -0.6
baz=247
SCLT eS Sb 17 35 30.7 +0.1
baz=247
SGLT Jiouru 1.51 228⇓eP Pb 17 35 13.7 +1.5
baz=218
SGLT eS Sb 17 35 34.0 +3.1
baz=218
TWY Chenhua 1.53 356 eP Pb 17 35 11.5 -0.9
baz=356
TAI1 Yung-k'ang 1.53 243 eP Pb 17 35 12.6 +0.2
baz=254
TAI1 eS Sn 17 35 30.7 +1.0
baz=254
EAST Anshuo 1.57 210⇓P Pn 17 35 11.0 -0.2
baz=197
EAST eS Sb 17 35 32.2 -0.4
baz=197
TAW Tawu 1.57 209 eP Pn 17 35 10.9 -0.2
baz=194
TAW eS Sn 17 35 31.1 +0.4
baz=194
SCZT Fangliau 1.69 216 eP Pn 17 35 14.1 +1.3
baz=218
SCZT eS Sn 17 35 34.9 +1.1
baz=218
LAY Lan-yu 1.71 185⇑eP Pn 17 35 13.0 -0.1
baz=173
LAY eS Sn 17 35 33.2 -0.9
baz=173
KAU Kaohsiung 1.74 228 eP Pb 17 35 15.2 -0.9
baz=243
TWP Hsiaoliuchiu 1.86 222 eP Pb 17 35 17.5 -0.7
baz=222
WDGT Dungji 1.94 256 eP Pn 17 35 16.8 +0.5
baz=255
WDGT eS Sn 17 35 38.6 -1.2
baz=255
IRIF Iriomote-Funau 1.94 72 P Pb 17 35 18.4 -1.1
IRIF S Sb 17 35 42.6 -0.7
HATJ Hateruma jima 1.95 80 P Pb 17 35 18.4 -1.2
HATJ S Sb 17 35 42.8 -0.6
HEN Hengchun 1.95 207 eP Pb 17 35 18.5 -1.1
baz=195
HEN eS Sn 17 35 41.7 +1.6
baz=195
TWK1 Hengchun 1.98 205 eP Pn 17 35 17.9 +1.1
baz=187
TWK1 eS Sn 17 35 42.5 +1.8
baz=187
TSEB Hengchuen, Pin 1.98 202 eP Pn 17 35 18.2 +1.4
baz=198
TSEB eS Sn 17 35 42.8 +1.9
baz=198
JKRS Kuro-shima 2.16 76 P Pb 17 35 21.7 -1.6
JKRS S Sn 17 35 47.6 +2.3
JIJ Ishigaki jima 2.31 74 P Pn 17 35 23.1 +1.8
JIJ S Sn 17 35 50.7 +1.7
JTJ Tarama 2.88 71 P Pn 17 35 31.1 +2.0
JTJ S Sn 17 36 04.7 +1.7
KNM Kinmen 3.06 283⇑eP Pn 17 35 33.4 +1.7
baz=280
KNM eS Sn 17 36 07.3 -0.3
baz=280
QZH Quanzhou 3.08 293⇓iPn Pn 17 35 27.7 -4.2
QZH Sn Sn 17 36 00.3 -7.7
QZH smax smax
comp=N,5μm,0.7s
QZH smax smax
comp=E,3μm,0.8s
JMJ Miyako jima 2 3.44 71 P Pn 17 35 39.0 +2.1
JMJ S Sn 17 36 19.6 +2.7
JMJ Miyako jima 2 3.44 71 eP Pn 17 35 38.6 +1.7
baz=74
JOGS Gusukube 3.52 73 P Pn 17 35 40.4 +2.4
JOGS S Sn 17 36 21.6 +2.6
JKE Kume jima 2 5.28 60 P Pn 17 36 03.4 +1.3
JKE S Sn 17 37 03.6 +1.4
JAGN Aguni-jima 5.76 59 P Pn 17 36 09.9 +1.1
JJT2 Tamagusuku 2 5.98 65 P Pn 17 36 13.0 +1.2
SZP Santa 6.27 191 ePn Pn 17 36 19.5 +3.6
58nm,0.8s
JIH Iheya 6.54 59 P Pn 17 36 20.1 +0.6
JOW Kunigami 6.69 61 P Pn 17 36 21.7 +0.1
JOW Kunigami 6.69 61 ePn Pn 17 36 21.6 +0.1
13nm,0.5s
JOW Kunigami 6.69 61 eP Pn 17 36 21.8 +0.2
baz=64
SSE Sheshan 7.33 357 P Pn 17 36 32.9 +2.5
SSE pmax pmax
comp=Z,20nm,0.6s
SSE pmax pmax
comp=Z,92nm,5.9s
JTK Tokunoshima 7.67 57 P Pn 17 36 34.5 -0.5
GZH Guangzhou 7.71 267 P Pn 17 36 32.3 -3.2
GZH smax smax
comp=N,690nm,1.0s
GZH smax smax
comp=E,570nm,1.1s
JAMN Amaminishikomi 8.07 55 P Pn 17 36 39.8 -0.7
JAM Amami Oshima 8.48 55 P Pn 17 36 45.5 -0.7
NJ2 Nanjing 8.65 344 eP Pn 17 36 46.8 -1.6
NJ2 S Sn 17 38 21.7 -3.5
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 smax smax
comp=N,210nm,1.0s
NJ2 smax smax
comp=E,230nm,0.8s
NJ2 LR LR
comp=N,2μm,19.6s
NJ2 LR LR
comp=E,14μm,12.0s
NJ2 LR LR
comp=Z,640nm,11.1s
JMZ Minamidaito 2 8.89 75 P Pn 17 36 49.1 -2.6
JMZ S Sn 17 38 22.7 -8.5
WHN Wuhan 9.42 318 P Pn 17 37 04.0 +5.0
WHN S Sn 17 38 37.3 -6.8
WHN LR LR
comp=N,1μm,4.8s
WHN LR LR
comp=E,2μm,5.4s
QIZ Qiongzhong 12.00 249 P Pn 17 37 37.8 +3.3
QIZ S Sn 17 39 51.6 +3.9
QIZ pmax pmax
comp=Z,99nm,4.6s
QIZ LR LR
comp=N,440nm,17.3s
QIZ LR LR
comp=Z,430nm,17.5s
QIZ Qiongzhong 12.00 249 ePn Pn 17 37 34.7 +0.3
QIZ eSn Sn 17 39 47.4 -0.2
JNU Nakatsue 12.34 39 P Pn 17 37 39.8 +0.8
JNU S Sn 17 39 46.6 -9.1
JNU Nakatsue 12.34 39 P Pn 17 37 39.8 +0.8
0.3nm,0.3s,baz=5.9,slow=20,SNR=5.2
JNU S Sn 17 39 46.6 -9.1
0.2nm,0.3s,baz=132,slow=18,SNR=3.0
JNU LR LR 17 43 29.5
comp=Z,261nm,18.3s,baz=219,slow=42
ENH Enshi 12.68 303 ePn Pn 17 37 44.8 +1.1
3.9nm,0.6s
ENH eSn Sn 17 39 59.2 -4.9
GYA Guiyang 13.89 284⇑iP Pn 17 38 02.1 +1.7
GYA pP P 17 38 08.4 0.0
GYA PP PnPn 17 38 13.0 +4.7
GYA S Sn 17 40 31.6 -2.4
GYA sS sS 17 40 44.3
GYA SS S 17 40 52.8 -2.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,220nm,9.6s
GYA LR LR
comp=E,830nm,12.4s
GYA LR LR
comp=Z,900nm,13.9s
KSAR Wonju Array Be 14.64 20 P Pn 17 38 10.3 -0.1
KSAR S Sn 17 40 44.0 -8.0
KSRS Korea Array 14.67 20 P Pn 17 38 10.3 -0.4
0.1nm,0.3s,baz=196,slow=11,SNR=3.2
KSRS S Sn 17 40 43.9 -8.5
0.3nm,0.3s,baz=153,slow=21,SNR=5.3
KSRS LR LR 17 44 33.1
comp=Z,178nm,19.4s,baz=195,slow=40
XAN Xi'an 15.17 315 P Pn 17 38 18.4 +0.8
XAN pP P 17 38 21.6 -0.8
XAN S Sn 17 41 03.7 -1.2
XAN sS sS 17 41 08.6 -23
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,17nm,8.8s
XAN LR LR
comp=N,170nm,14.1s
XAN LR LR
comp=E,170nm,14.1s
XAN LR LR
comp=Z,170nm,14.9s
SLVN Son La 16.62 265 ePn Pn 17 38 34.7 -1.7
3.3nm,0.7s
BJI Beijing 16.90 345 P Pn 17 38 40.1 +0.4
BJI S Sn 17 41 50.5 +3.7
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI LR LR
comp=N,290nm,20.4s
BJI LR LR
comp=E,370nm,18.6s
KMI Kunming 17.33 278 P P 17 38 48.2 +1.6
KMI S Sn 17 41 56.7 -0.9
KMI pmax pmax
comp=Z,3.0nm,0.5s
KMI pmax pmax
comp=Z,67nm,3.5s
KMI LR LR
comp=N,560nm,12.9s
KMI LR LR
comp=E,510nm,12.4s
KMI LR LR
comp=Z,630nm,11.2s
CD2 Chengdu 17.46 298 eP P 17 38 47.5 -0.4
CD2 pP pP 17 38 53.7 -0.8
CD2 sP sP 17 38 58.0 +0.3
CD2 PP PnPn 17 39 02.0 +4.8
CD2 S Sn 17 41 58.5 -2.0
CD2 sS S 17 42 08.6 +0.2
CD2 SS SnSn 17 42 20.3 +6.3
CD2 pmax pmax
comp=Z,20nm,1.3s
CD2 pmax pmax
comp=Z,130nm,6.0s
CD2 LR LR
comp=N,850nm,13.1s
CD2 LR LR
comp=E,820nm,21.4s
CD2 LR LR
comp=Z,1μm,13.1s
JCJ Chichijima 18.80 75 LR LR 17 45 57.8
comp=Z,246nm,18.5s,baz=160,slow=36
HHC Hu-ho-hao-te 19.06 336 eP Pn 17 39 07.0 +0.6
HHC pP pP 17 39 13.3 +1.1
HHC PP PnPn 17 39 23.9 +4.7
HHC S Sn 17 42 34.7 -4.5
HHC sS S 17 42 44.0 +3.7
HHC SS SnSn 17 43 00.3 +6.8
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.3s
HHC LR LR
comp=N,460nm,14.7s
HHC LR LR
comp=E,710nm,9.1s
HHC LR LR
comp=Z,570nm,9.4s
MJAR Matsushiro Arr 19.10 44 P P 17 39 04.9 -1.0
MJAR Matsushiro Arr 19.10 44 P P 17 39 04.9 -1.0
0.0nm,0.3s,baz=297,slow=17,SNR=4.3
LZH Lanzhou 19.73 313 eP P 17 39 13.7 +0.8
LZH pP pP 17 39 18.1 -1.5
LZH sP sP 17 39 22.3 -0.5
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,82nm,4.5s
LZH LR LR
comp=N,260nm,12.7s
LZH LR LR
comp=E,480nm,12.6s
LZH LR LR
comp=Z,520nm,14.8s
CN2 Changchun 20.24 8 eP Pn 17 39 21.7 +1.5
CN2 epP pP 17 39 28.4 +3.5
CN2 eS S 17 43 02.1 -2.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
MDJ Mudanjiang 21.80 15 P P 17 39 36.0 +1.1
MDJ pP pP 17 39 40.9 -0.8
MDJ sP sP 17 39 44.3 -0.5
MDJ S S 17 43 36.5 +1.7
MDJ ScP ScP 17 47 11.9 +1.6
MDJ PcS PcS 17 47 14.4 +1.5
MDJ pmax pmax
comp=Z,6.0nm,1.6s
MDJ pmax pmax
comp=Z,290nm,5.4s
MDJ LR LR
comp=N,430nm,5.2s
MDJ LR LR
comp=E,250nm,6.2s
MDJ LR LR
comp=Z,600nm,5.8s
CM31 Chiang Mai Arr 21.87 260 eP P 17 39 37.5 +1.5
6.9nm,1.0s
CMAR Chiang Mai Arr 21.87 260 P P 17 39 37.0 +1.1
CMAR Chiang Mai Arr 21.87 260 P P 17 39 37.0 +1.1
2.9nm,0.8s,baz=65,slow=8.8,SNR=31
CMAR LR LR 17 48 53.5
comp=Z,205nm,19.1s,baz=173,slow=39
USRK Ussuriysk Arra 22.08 20 P P 17 39 38.0 0.0
2.5nm,0.8s,baz=203,slow=10.0,SNR=5.9
GTA Gaotai 24.23 315 eP P 17 40 00.6 +0.7
GTA pP pP 17 40 04.8 -2.4
GTA sP sP 17 40 08.1 -2.1
GTA pmax pmax
comp=Z,3.0nm,0.9s
KSM Kuching 24.74 208 eP P 17 40 05.3 +0.7
18nm,1.0s
HIA Hailar 25.52 357 eP P 17 40 10.7 -0.6
8.3nm,0.8s
ASAJ Asahikawa 26.57 35 LR LR 17 51 53.2
comp=Z,201nm,19.4s,baz=89,slow=39
ULN Ulaanbaatar 26.75 338 eP P 17 40 22.1 -0.5
3.6nm,0.8s
SONM Songino Array 26.95 337 P P 17 40 24.0 -0.5
SONM PcP PcP 17 43 44.4 -1.6
SONM Songino Array 26.95 337 P P 17 40 24.0 -0.5
1.8nm,0.8s,baz=156,slow=9.5,SNR=15
SONM PcP PcP 17 43 44.4 -1.6
0.5nm,0.9s,baz=144,slow=3.5,SNR=3.1
SONM LR LR 17 52 29.0
comp=Z,285nm,18.3s,baz=139,slow=39
LSA Lhasa 27.88 289 eP P 17 40 34.8 +1.4
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 27.88 289 eP P 17 40 34.8 +1.4
comp=Z,5.6nm,0.6s
PSI Prapat 30.31 230 P P 17 40 55.3 +0.6
PSI Prapat 30.31 230 P P 17 40 55.3 +0.6
comp=Z,3.4nm,0.7s,baz=291,slow=2.1,SNR=5.0
TLY Talaya 31.16 338 eP P 17 41 03.2 +1.5
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY MLR MLR
comp=Z,193nm,17.0s
WMQ Urumqi 34.30 314 P P 17 41 31.4 +2.1
WMQ LR LR
comp=Z,85nm,18.9s
WMQ LR LR
comp=Z,200nm,21.8s

WMQ LR LR
comp=Z,120nm,18.8s
YAK Yakutsk 38.65 6 *e*P **P 17 42 04.3 -1.7**
YAK pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 38.65 6 *e*P **P 17 42 04.3 -1.7**
comp=Z,5.7nm,0.7s
MK31 Makanchi Array 38.98 316 *e*P **P 17 42 08.8 -0.4**
MK31 *e* 17 44 17.7
MK31 Makanchi Array 38.98 316 *e*P **P 17 42 08.8 -0.4**
MK31 *e*PcP **PcP 17 44 17.7 -1.5**
MKAR Makanchi Array 38.98 316 P **P 17 42 09.4 +0.2**
MKAR 17 44 17.6
MKAR Makanchi Array 38.98 316 P **P 17 42 09.4 +0.2**
MKAR PcP **PcP 17 44 17.6 -1.6**
MKAR Makanchi Array 38.98 316 P **P 17 42 09.4 +0.2**
comp=Z,5.4nm,0.8s,baz=99,slow=7.9,SNR=37
MKAR PcP **PcP 17 44 17.6 -1.6**
comp=Z,1.7nm,0.8s,baz=86,slow=4.7,SNR=7.7
PETK Petropavlovsk- 39.96 33 LR LR 17 59 46.1
comp=Z,102nm,18.7s,baz=228,slow=38
ZAA0 Zalesovo Array 40.87 327 *e*P **P 17 42 23.7 -1.0**
ZALV Zalesovo Beam 40.87 327 P **P 17 42 23.7 -1.0**
ZALV 17 44 23.1
ZALV Zalesovo Beam 40.87 327 P **P 17 42 23.7 -1.0**
ZALV PcP **PcP 17 44 23.1 -2.0**
ZALV Zalesovo Beam 40.87 327 P **P 17 42 23.7 -1.0**
comp=Z,4.2nm,0.6s,baz=115,slow=7.7,SNR=17
ZALV PcP **PcP 17 44 23.1 -2.0**
comp=Z,0.5nm,0.4s,baz=128,slow=4.0,SNR=2.5
PMG Port Moresby 41.29 140 P **P 17 42 28.3 -0.2**
PMG Port Moresby 41.29 140 P **P 17 42 28.3 -0.2**
comp=Z,6.9nm,0.9s,baz=344,slow=20,SNR=3.6
KSH Kashi 41.54 303 P P 17 42 33.9 +3.4
KSH *e*sP sP 17 42 44.2 +3.3
KSH *e*PP **PnPn 17 44 14.3 +2.8**
KSH *e*PcP **PcP 17 44 31.0 +3.3**
KSH *e*S **S 17 48 49.3 +4.2**
KSH *e*sS sS 17 49 01.0 +3.7
KSH *e*SS **SS 17 51 49.0 -1.1**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,70nm,4.5s
KSH LR LR
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,150nm,5.3s
KSH LR LR
comp=Z,150nm,6.5s
H11N1 WAKE ISLAND Hy 42.04 86 T T 18 27 38.3
baz=286,slow=75,SNR=54
H11N2 WAKE ISLAND Hy 42.04 86 T T 18 27 42.8
baz=286,slow=75,SNR=53
H11N3 WAKE ISLAND Hy 42.05 86 T T 18 27 44.1
baz=286,slow=75,SNR=52
H11S3 WAKE ISLAND Hy 42.15 88 T T 18 27 49.7
baz=286,slow=73,SNR=190
H11S1 WAKE ISLAND Hy 42.16 88 T T 18 27 50.2
baz=286,slow=73,SNR=125
H11S2 WAKE ISLAND Hy 42.17 88 T T 18 27 51.3
baz=286,slow=73,SNR=105
TKM2 Tokmak 2 42.41 308 *e*P **P 17 42 37.7 0.0**
TKM2 *e* 17 44 29.3
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 42.41 308 P **P 17 42 38.8 +1.1**
SNR=8.5
TKM2 Tokmak 2 42.41 308 *e*P **P 17 42 37.7 0.0**
comp=Z,7.4nm,0.8s
TKM2 *e*PcP **PcP 17 44 29.3 -1.4**
KZA Kyzart 42.50 307 *i* P **P 17 42 40.5 +1.8**
KZA Kyzart 42.50 307 P **P 17 42 40.5 +1.8**
SNR=6.6
KBK Karagaybulak 42.83 308 *i* P **P 17 42 42.7 +1.6**
KBK Karagaybulak 42.83 308 P **P 17 42 42.7 +1.6**
SNR=6.1
CHMS Chumysh 43.03 308 *i* P **P 17 42 43.4 +0.8**
CHMS Chumysh 43.03 308 P **P 17 42 43.4 +0.8**
SNR=6.1
UCH Uchtor 43.06 307 *i* P **P 17 42 44.9 +1.6**
UCH Uchtor 43.06 307 P **P 17 42 45.0 +1.6**
SNR=15
AAK Ala-Archa 43.15 308⇓*i*P **P 17 42 44.9 +1.2**
AAK pmax pmax
comp=Z,6.0nm,1.2s
AML Almayashu 43.65 307 *i* P **P 17 42 49.5 +1.5**
AML Almayashu 43.65 307 P **P 17 42 49.5 +1.5**
SNR=11
EKS2 Erkin-Say 43.67 308 *e*P **P 17 42 47.4 -0.5**
EKS2 *e* 17 44 33.9
EKS2 pmax pmax
comp=Z,12nm,1.4s
EKS2 Erkin-Say 43.67 308 P **P 17 42 49.1 +1.3**
SNR=5.1
EKS2 Erkin-Say 43.67 308 *e*P **P 17 42 47.4 -0.5**
comp=Z,12nm,1.4s
EKS2 *e*PcP **PcP 17 44 33.9 -0.9**
WRAB Tennant Creek 45.13 163⇓*i*P **P 17 42 58.9 -0.6**
WRAB pmax pmax
comp=Z,20nm,1.4s
WRA Warramunga Arr 45.14 163 P **P 17 42 59.0 -0.6**
WRA Warramunga Arr 45.14 163 P **P 17 42 59.0 -0.6**
comp=Z,2.2nm,0.7s,baz=345,slow=8.6,SNR=20
KK31 Karatay Array 46.12 308 *i* P **P 17 43 07.8 +0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 46.12 308 *e*P **P 17 43 07.8 +0.7**
KKAR *e* 17 44 42.1
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 46.12 308 *e*P **P 17 43 07.8 +0.7**
comp=Z,5.9nm,0.9s
KKAR *e*PcP **PcP 17 44 42.1 -0.9**
KBL Kabul 46.78 296 *e*P **P 17 43 13.9 +1.2**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 46.78 296 *e*P **P 17 43 13.9 +1.2**
comp=Z,12nm,0.9s
TIXI Tiksi 48.10 3⇓*e*P **P 17 43 20.9 -1.3**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
BVA0 Borovoye Array 48.31 321 *i* P **P 17 43 23.4 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 48.31 321 P **P 17 43 24.0 -0.1**
BVAR 17 44 48.9
BVAR Borovoye Array 48.31 321 P **P 17 43 24.0 -0.1**
BVAR PcP **PcP 17 44 48.9 -1.8**
BVAR Borovoye Array 48.31 321 P **P 17 43 24.0 -0.1**
comp=Z,1.8nm,0.6s,baz=103,slow=10,SNR=14
BVAR PcP **PcP 17 44 48.9 -1.8**
comp=Z,2.5nm,0.7s,baz=106,slow=3.7,SNR=7.9
BRVK Borovoye 48.38 321*d i*P **P 17 43 24.7 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
ASAR Alice Springs 48.60 165 P **P 17 43 26.6 +0.1**
ASAR Alice Springs 48.60 165 P **P 17 43 26.6 +0.1**
comp=Z,2.1nm,0.9s,baz=334,slow=6.5,SNR=17
CTAO Charters Tower 49.71 149 P **P 17 43 37.7 +2.6**
CTAO Charters Tower 49.71 149 P **P 17 43 37.7 +2.6**
AB31 Akbulak array 54.09 315 *i* P **P 17 44 07.5 0.0**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 54.09 315 *e*P **P 17 44 07.4 0.0**
comp=Z,5.9nm,0.7s
ABKAR *e*PcP **PcP 17 45 10.2 -1.9**
TARA Tarawa 54.32 106 P **P 17 44 09.7 0.0**
SVE Sverdlovsk 54.68 324 *e*P **P 17 44 11.8 +0.2**
SVE pmax pmax
comp=Z,8.0nm,1.2s
AKTO Aktyubinsk 55.42 316 P **P 17 44 17.1 0.0**
AKTO Aktyubinsk 55.42 316 P **P 17 44 17.1 0.0**
AKTO Aktyubinsk 55.42 316 P **P 17 44 17.1 0.0**
comp=Z,4.1nm,1.0s,baz=95,slow=7.6,SNR=11
ARU Arti 55.74 323*d i*P **P 17 44 18.8 -0.5**
ARU 17 45 15.9
ARU 17 46 22.0
ARU S **S 17 52 04.0 -0.4**
ARU pmax pmax
comp=Z,14nm,1.7s
NWAO Narrogin (SRO) 56.52 185 *e*P **P 17 44 23.9 -1.2**
comp=Z,0.1nm,0.8s
STKA Stephens Creek 58.49 160 *e*P **P 17 44 39.1 +0.1**
comp=Z,0.6nm,0.6s
STKA Stephens Creek 58.49 160 P **P 17 44 39.2 +0.2**
comp=Z,2.7nm,0.6s,baz=347,slow=6.2,SNR=12
ZEI Tsey 65.57 308 *e*P **P 17 45 25.7 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 66.12 309 P **P 17 45 29.6 -0.5**
KBZ Khabaz 66.12 309 P **P 17 45 29.6 -0.5**
KBZ Khabaz 66.12 309 P **P 17 45 29.6 -0.5**
comp=Z,4.9nm,0.8s,baz=90,slow=4.0,SNR=8.3
KIV Kislovodsk 66.23 309⇓*e*P **P 17 45 31.5 +0.5**
KIV pmax pmax
comp=Z,14nm,1.2s
VORD Divnogorie 67.25 317 *e*P **P 17 45 34.8 -2.3**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
KTH Kantishna Hill 67.86 29 *e*P **P 17 45 42.1 +1.1**
comp=Z,3.3nm,0.7s
OBN Obninsk 68.14 322 *e*P **P 17 45 42.8 +0.1**
OBN *e* 17 45 53.2
OBN *e* 17 46 03.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 68.71 29 *e*P **P 17 45 46.1 -0.1**
MCK pmax pmax
comp=Z,10.0nm,1.2s
MCK McKinley 68.71 29 *e*P **P 17 45 46.1 -0.1**
comp=Z,10nm,1.2s
RC01 Rabbit Creek A 68.83 31 *e*P **P 17 45 46.8 -0.1**
comp=Z,20nm,1.3s
COLA College 68.96 27 *e*P **P 17 45 48.4 +0.8**
COLA pmax pmax
comp=Z,3.0nm,0.6s
COLA College 68.96 27 *e*P **P 17 45 48.4 +0.8**
comp=Z,2.6nm,0.6s
PMR Palmer 69.02 31 *e*P **P 17 45 47.8 -0.3**
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR Palmer 69.02 31 *e*P **P 17 45 47.8 -0.3**
comp=Z,4.2nm,0.6s
ILAR Eielson Array 69.38 27 P **P 17 45 49.6 -0.7**
ILAR Eielson Array 69.38 27 P **P 17 45 49.6 -0.7**
comp=Z,0.6nm,0.6s,baz=297,slow=7.3,SNR=21
FINES FINESS Array B 72.06 330 P **P 17 46 05.3 -1.4**
FINES FINESS Array B 72.06 330 P **P 17 46 05.3 -1.4**
comp=Z,2.9nm,0.9s,baz=52,slow=10,SNR=7.9
DAWY Dawson 72.71 27 *e*P **P 17 46 10.6 +0.1**
INK Inuvik 73.45 22 *e*P **P 17 46 14.8 +0.1**
comp=Z,7.7nm,1.0s
AKASG Malin Array Be 73.51 319 P **P 17 46 13.6 -1.8**
AKASG Malin Array Be 73.51 319 P **P 17 46 13.6 -1.8**
AKASG Malin Array Be 73.51 319 P **P 17 46 13.6 -1.8**
comp=Z,1.7nm,0.7s,baz=60,slow=6.1,SNR=12
BR131 Keskin Array S 73.81 307 *e*P **P 17 46 16.8 -0.8**
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 73.81 307 P **P 17 46 17.1 -0.6**
BRTR Keskin Array B 73.81 307 P **P 17 46 17.1 -0.6**
comp=Z,3.1nm,0.8s,baz=111,slow=5.6,SNR=17
NOA NORSAR Array B 78.83 332 P **P 17 46 45.1 -0.5**
NOA NORSAR Array B 78.83 332 P **P 17 46 45.1 -0.5**
comp=Z,2.5nm,1.0s,baz=59,slow=7.2,SNR=2.9
DPC Dobruska-Polom 81.27 321 *e*P **P 17 46 58.5 -0.5**
DPC Dobruska-Polom 81.27 321 *e*P **P 17 46 58.5 -0.5**
CLL Collm 82.69 323 *e*P **P 17 47 05.0 -1.3**
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 82.69 323 *e*P **P 17 47 05.0 -1.3**
CLL *e*(SS) 18 02 24.0
CLL *e*SSS SSS 18 06 18.0
YKA Yellowknife Ar 83.19 23 P **P 17 47 08.2 -0.4**
YKA Yellowknife Ar 83.19 23 P **P 17 47 08.2 -0.4**
comp=Z,1.1nm,0.6s,baz=314,slow=5.0,SNR=32
KHC Kasperske Hory 83.42 321 *e*P **P 17 47 09.3 -0.9**
KHC Kasperske Hory 83.42 321 *e*P **P 17 47 09.3 -0.9**
GERES GERESS Array B 83.48 321 P **P 17 47 09.2 -1.4**
GERES GERESS Array B 83.48 321 P **P 17 47 09.2 -1.4**
comp=Z,2.6nm,0.8s,baz=57,slow=4.9,SNR=27
SFTF Sexfontaines 88.71 323 *e*P **P 17 47 35.0 -1.3**
comp=Z,18nm,0.9s
SFTF Sexfontaines 88.71 323 *e*P **P 17 47 35.0 -1.3**
comp=Z,18nm,0.9s
LPG La Plagne 89.27 320 *e*P **P 17 47 38.3 -1.1**
comp=Z,11nm,0.8s
LPL La Plagne 89.27 320 *e*P **P 17 47 38.2 -1.1**
comp=Z,4.8nm,0.6s
SMF Signal de Mont 90.28 322 *e*P **P 17 47 42.3 -1.4**
comp=Z,14nm,0.8s
SMF Signal de Mont 90.28 322 *e*P **P 17 47 42.3 -1.4**
SMF pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 90.28 322 *e*P **P 17 47 42.3 -1.4**
comp=Z,14nm,0.8s
AVF Avril sur Loir 90.46 323 *e*P **P 17 47 43.1 -1.4**
comp=Z,12nm,0.9s
AVF Avril sur Loir 90.46 323 *e*P **P 17 47 43.1 -1.4**
AVF pmax pmax
comp=Z,12nm,0.9s
AVF Avril sur Loir 90.46 323 *e*P **P 17 47 43.1 -1.4**
comp=Z,12nm,0.9s
BGF Bois d'Agland 90.88 323 *e*P **P 17 47 47.1 +0.6**
comp=Z,23nm,0.9s
BGF Bois d'Agland 90.88 323 *e*P **P 17 47 47.1 +0.6**
BGF pmax pmax
comp=Z,23nm,0.9s
BGF Bois d'Agland 90.88 323 *e*P **P 17 47 47.1 +0.6**
comp=Z,23nm,0.9s
TCF Toulx Ste Croi 91.40 323 *e*P **P 17 47 47.7 -1.2**
RJF Les Rejaudoux 92.38 322 *e*P **P 17 47 52.7 -0.7**
comp=Z,14nm,0.8s
FCC Fort Churchill 92.61 18 P **P 17 47 54.0 -0.2**
FCC Fort Churchill 92.61 18 P **P 17 47 54.0 -0.2**
NVAR Mina Array Bea 96.42 43 P **P 17 48 12.8 +0.3**
NVAR Mina Array Bea 96.42 43 P **P 17 48 12.8 +0.3**
comp=Z,0.1nm,0.3s,baz=276,slow=5.4,SNR=4.0
SDV Santo Domingo 145.40 22 *e*PKPdf **PKPbc 17 54 20.2 -1.5**

MOS ***01*** *17:42:02.5±1.0, 1.°53N×67.°71E, h10km, mb4.8/19, Error ellipse: s-maj=11.4km s-min=7.1km az=95.0*
ISCJB ***01*** *17:42:02.1±0.3, 1.°44N±0.°04×67.°75E±0.°05, h10km, mb4.4/58, MS4.1/36, Error ellipse: s-maj=7.1km s-min=4.9km az=163.4*
IDC ***01*** *17:42:02.8±0.6, 1.°48N×67.°77E, h0km, mb4.2/24, mb1 4.2/24, mb1mx4.1/34, mbtmp4.2/24, MS4.0/32, Ms1 4.0/32, ms1mx3.9/50, Error ellipse: s-maj=19.0km s-min=13.4km az=31.0*
NEIC ***01*** *17:42:03.9±0.3, 1.°44N×67.°76E, h10km, mb4.7/15, Error ellipse: s-maj=9.6km s-min=8.0km az=188.0*
GCMT ***01*** *17:42:03.9±0.2, 1.°42N×67.°78E, h16km±1km, MW5.0/88, Moment Tensor Solution. s35,c47; s88,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.10; $M_{\theta\theta}$3.56±.10; $M_{\phi\phi}$-3.36±.10; $M_{r\theta}$-0.15±.25; $M_{\theta\phi}$1.37±.09; $M_{\phi r}$-1.08±.28; Best double couple: $M_0$3.88100×10^{16} NP1:ϕ_s35.00000°,δ83.00000°,λ-165.00000°. NP2: ϕ_s303.00000°,δ75.00000°,λ-8.00000°. Principal axes: T 3.8520, Plg5.0000°, Azm168.0000°; N 0.0530, Plg74.0000°, Azm61.0000°; P -3.9110, Plg16.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***01*** *17:42:04.3, 1.°60N×67.°90E, h10km, mB4.8/6, mb4.2/11*
ISC 01 17:42:04.5±0.4**, 1.°50N**±0.°07×**67.°77E**±0.°07**, h10km, n224, σ1.°10**/191**, mb4.6**/58**, MS4.1**/36**, 35C-32D, Carlsberg Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H08N2 Diego Garcia H 8.41 157 Pn **Pn 17 44 06.0 -0.2**
H08N2 T T 17 52 50.7
baz=337,slow=75,SNR=308
H08N3 Diego Garcia H 8.43 158 Pn **Pn 17 44 06.2 -0.2**
H08N3 T T 17 52 53.9
baz=337,slow=75,SNR=558
H08N1 Diego Carcia H 8.43 157 Pn **Pn 17 44 06.6 +0.1**
H08N1 T T 17 52 43.1
baz=337,slow=75,SNR=396
H08S3 Diego Garcia H 10.21 153 Pn **Pn 17 44 31.3 +0.3**
H08S1 Diego Carcia H 10.22 153 Pn **Pn 17 44 30.9 -0.3**
H08S2 Diego Garcia H 10.23 153 Pn **Pn 17 44 31.5 +0.3**
GOA Goa 15.14 23 *e*P **Pn 17 45 38.6 +0.1**
GOA AMB AMB 17 45 43.0
comp=Z,20nm,1.7s
POO Poona 17.95 19 *e*P **P 17 46 14.8 -0.2**
POO AMB AMB 17 46 24.3
comp=Z,30nm,1.1s
HYB Hyderabad 19.05 33 *i* P Pn 17 46 34.0 +6.2
HYB Hyderabad 19.05 33 *e*P **Pn 17 46 27.4 -0.4**
HYB AMB AMB 17 46 36.2
comp=Z,39nm,1.8s
BHJ Bhuj 21.71 5 *e*P **P 17 46 55.7 -0.1**
BHJ AMB AMB 17 47 04.7
comp=Z,91nm,1.2s
NGP Nagpur 22.42 29 *e*P **P 17 47 01.6 -2.0**
NGP AMB AMB 17 47 16.0
comp=Z,48nm,0.7s
BHPL Bhopal 23.56 23 *e*P **P 17 47 15.8 +0.5**
BHPL AMB AMB 17 47 25.4
comp=Z,48nm,1.2s
KOLN Koldanda 30.21 29 *e*P **P 17 48 17.0 +1.4**
comp=Z,65nm,1.3s
KMBO Kilima Mbogo 30.62 265 P **P 17 48 19.9 +0.5**
comp=Z,5.2nm,1.3s
SMLA Simla 30.79 16 *e*P **P 17 48 20.4 +0.1**
SMLA AMB AMB 17 49 01.1
comp=Z,6.5nm,1.3s
DMN Daman 30.82 31 *e*P **P 17 48 22.0 +0.9**
comp=Z,28nm,0.9s
GKN Gorkha 30.91 30 *e*P **P 17 48 22.5 +0.8**
comp=Z,43nm,1.0s
PKI Pulchoki 30.95 32 *e*P **P 17 48 22.9 +0.6**
comp=Z,12nm,0.9s
KKN Kakani 31.06 31 *e*P **P 17 48 24.2 +1.1**
comp=Z,25nm,0.8s
RAMN Ramite 31.10 34 *e*P **P 17 48 25.0 +1.5**
comp=Z,66nm,1.6s
PSI Prapat 31.16 87 P **P 17 48 25.4 +1.3**
PSI Prapat 31.16 87 P **P 17 48 25.4 +1.3**
comp=Z,7.2nm,0.8s,baz=268,slow=7.3,SNR=6.2
JIRN Jiri 31.44 33 *e*P **P 17 48 27.6 +1.0**
GUN Gumba 31.47 32 *e*P **P 17 48 27.9 +1.0**
comp=Z,38nm,0.8s
ODAN Odare 31.48 35 *e*P **P 17 48 27.2 +0.3**
comp=Z,23nm,0.9s
DHRM DHARAMSHALA 31.63 14 *e*x P 17 48 24.4 -3.6
DHRM AMB AMB 17 48 35.8
comp=Z,14nm,1.6s
KBL Kabul 32.90 2 *e*P **P 17 48 40.4 +1.2**
KBL pmax pmax
comp=Z,10.0nm,1.2s
KBL Kabul 32.90 2 *e*P **P 17 48 40.4 +1.2**
comp=Z,10nm,1.2s
KULM Kulim 33.03 83 *e*P **P 17 48 40.2 -0.2**
comp=Z,36nm,1.3s
SHL Shillong 33.36 42 *e*P **P 17 48 43.0 -0.3**
SHL AMB AMB 17 48 51.9
comp=Z,11nm,1.4s
CM31 Chiang Mai Arr 34.92 59 *e*P **P 17 48 54.8 -1.9**
comp=Z,8.8nm,1.1s
CMAR Chiang Mai Arr 34.92 59 P **P 17 48 57.7 +1.0**
CMAR PcP **PcP 17 51 31.4 +1.9**
CMAR Chiang Mai Arr 34.92 59 P **P 17 48 57.7 +1.0**
comp=Z,3.0nm,1.0s,baz=245,slow=9.6,SNR=18
CMAR PcP **PcP 17 51 31.4 +1.9**
comp=Z,0.8nm,1.0s,baz=253,slow=2.7,SNR=3.6
CMAR LR LR 18 01 39.3
comp=Z,209nm,20.1s,baz=12,slow=34
CHTO Chiang Mai 35.07 59 *e*P **P 17 48 59.2 +1.2**
CHTO pmax pmax
comp=Z,20nm,1.2s
CHTO Chiang Mai 35.07 59 *e*P **P 17 48 59.2 +1.2**
comp=Z,20nm,1.2s
LSA Lhasa 35.80 36 *e*P **P 17 49 05.5 +0.8**
LSA Lhasa 35.80 36 *e*P **P 17 49 05.5 +0.8**
KSH Kashi 38.58 10 P **P 17 49 24.8 -2.9**
KSH *e*sP sP 17 49 38.6 +6.5
KSH *e*PP **PP 17 50 55.2 -0.9**
KSH *e*PcP **PcP 17 51 40.2 -0.1**
KSH *e*S S 17 55 14.5 -9.5
KSH *e*sS **sS 17 55 30.2 +1.1**
KSH *e*SS SnSn 17 57 49.1 -22
KSH pmax pmax
comp=Z,10.0nm,1.3s
KSH pmax pmax
comp=Z,190nm,11.4s
KMI Kunming 41.11 52 P P 17 49 58.8 +10
KMI S S 17 55 52.6 -10
KMI pmax pmax
comp=Z,13nm,1.1s
KMI LR LR
comp=N,310nm,13.6s
KMI LR LR
comp=E,160nm,12.9s
KMI LR LR
comp=Z,190nm,25.8s
EKS2 Erkin-Say 41.34 7 *e*P **P 17 49 51.6 +1.0**
EKS2 pmax pmax
comp=Z,19nm,1.3s
EKS2 Erkin-Say 41.34 7 *e*P **P 17 49 51.6 +1.0**
comp=Z,19nm,1.3s
AAK Ala-Archa 41.40 8⇑*e*P **P 17 49 52.4 +1.2**
AAK pmax pmax
comp=Z,13nm,1.2s
AAK Ala-Archa 41.40 8 P **P 17 49 52.0 +0.8**
AAK Ala-Archa 41.40 8 P **P 17 49 52.0 +0.8**
comp=Z,2.1nm,0.8s,baz=190,slow=10,SNR=5.5
TKM2 Tokmak 2 41.84 9 *e*P **P 17 49 54.1 -0.7**
TKM2 pmax pmax
comp=Z,6.0nm,1.1s
TKM2 Tokmak 2 41.84 9 *e*P **P 17 49 54.1 -0.7**
comp=Z,6.3nm,1.1s
EIL Elat 41.93 315 P **P 17 49 56.8 +1.2**
EIL Elat 41.93 315 P **P 17 49 56.8 +1.2**
comp=Z,2.7nm,0.9s,baz=162,slow=9.9,SNR=2.8
EIL LR LR 18 05 28.8
comp=Z,348nm,18.2s,baz=276,slow=34
ASF Jabal al Asfar 42.15 320 P **P 17 49 55.7 -1.7**
ASF Jabal al Asfar 42.15 320 P **P 17 49 55.7 -1.7**
comp=Z,2.2nm,0.8s,baz=49,slow=11,SNR=2.8
ASF LR LR 18 06 35.9
comp=Z,298nm,20.1s,baz=98,slow=35
LSZ Lusaka 42.54 245 *e*P **P 17 50 00.6 -0.3**
comp=Z,15nm,1.3s
LSZ Lusaka 42.54 245 P **P 17 50 01.3 +0.5**
comp=Z,0.9nm,0.5s,baz=68,slow=8.6,SNR=5.2
GNI Garni 43.79 334 *e*P **P 17 50 10.2 -0.5**
comp=Z,27nm,1.1s
GNI Garni 43.79 334 P **P 17 50 11.3 +0.6**
comp=Z,1.9nm,0.3s,baz=149,slow=12,SNR=6.1
GNI LR LR 18 08 29.4
comp=Z,129nm,21.1s,baz=344,slow=36
QIZ Qiongzhong 44.74 64 P **P 17 50 17.4 -1.0**
QIZ S **S 17 56 54.5 -1.1**
QIZ pmax pmax
comp=Z,15nm,1.6s
QIZ pmax pmax
comp=Z,140nm,5.1s
MK31 Makanchi Array 46.87 14 *e*P **P 17 50 33.5 -1.4**
MK31 Makanchi Array 46.87 14 *e*P **P 17 50 33.5 -1.4**
MKAR Makanchi Array 46.87 14 P **P 17 50 34.0 -0.8**
MKAR Makanchi Array 46.87 14 P **P 17 50 34.0 -0.8**
MKAR Makanchi Array 46.87 14 P **P 17 50 34.0 -0.8**
comp=Z,1.0nm,0.7s,baz=199,slow=8.5,SNR=14
MKAR LR LR 18 11 04.6
comp=Z,119nm,21.9s,baz=197,slow=37
KBZ Khabaz 47.52 336 P **P 17 50 39.8 -0.1**
KBZ Khabaz 47.52 336 P **P 17 50 39.8 -0.1**
KBZ Khabaz 47.52 336 P **P 17 50 39.8 -0.1**
comp=Z,6.0nm,1.1s,baz=167,slow=5.4,SNR=5.5
KBZ LR LR 18 11 12.5
comp=Z,150nm,18.0s,baz=249,slow=37
KIV Kislovodsk 47.79 336 *e*P **P 17 50 43.7 +1.5**
KIV *e* 17 52 08.8
KIV *e*SS SS 18 01 04.6 -3.0
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,200nm,23.0s
AB31 Akbulak array 48.05 353 *i* P **P 17 50 43.7 -0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 48.05 353 *e*P **P 17 50 43.8 -0.2**
comp=Z,16nm,1.1s
ENH Enshi 48.81 50 *e*P **P 17 50 49.3 -0.9**
comp=Z,7.1nm,0.8s
BRTR Keskin Array B 49.10 325 P **P 17 50 52.9 +0.4**
BRTR Keskin Array B 49.10 325 P **P 17 50 52.9 +0.4**

comp=Z,1.3nm,0.8s,baz=131,slow=10,SNR=5.0
BRTR LR LR 18 12 16.1
comp=Z,153nm,18.3s,baz=128,slow=37
AKTO Aktyubinsk 49.46 352 P **P 17 50 54.7 -0.1**
AKTO Aktyubinsk 49.46 352 P **P 17 50 54.7 -0.1**
AKTO Aktyubinsk 49.46 352 P **P 17 50 54.7 -0.1**
comp=Z,5.2nm,0.9s,baz=177,slow=7.5,SNR=19
AKTO LR LR 18 09 47.3
comp=Z,196nm,20.1s,baz=11,slow=34
KURK Kurchatov 49.90 9 *i*P **P 17 50 57.9 -0.2**
XAN Xi'an 50.25 45 P **P 17 51 00.6 -0.6**
XAN pP **pP 17 51 09.3 +5.0**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,22nm,4.8s
BVAR Borovoye Array 51.40 2 P **P 17 51 09.2 -0.2**
BVAR Borovoye Array 51.40 2 P **P 17 51 09.2 -0.2**
BVAR Borovoye Array 51.40 2 P **P 17 51 09.2 -0.2**
comp=Z,0.8nm,0.7s,baz=180,slow=7.9,SNR=7.3
BRVK Borovoye 51.43 2⇑ *e*P **P 17 51 09.2 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,2.5s
WHN Wuhan 52.71 52 P P 17 51 27.4 +7.8
ZAA0 Zalesovo Array 54.14 12 *e*P **P 17 51 28.3 -1.3**
ZALV Zalesovo Beam 54.14 12 P **P 17 51 28.5 -1.1**
ZALV Zalesovo Beam 54.14 12 P **P 17 51 28.5 -1.1**
ZALV Zalesovo Beam 54.14 12 P **P 17 51 28.5 -1.1**
comp=Z,6.8nm,0.7s,baz=204,slow=7.5,SNR=41
ZALV LR LR 18 14 36.3
comp=Z,120nm,20.4s,baz=68,slow=36
VORD Divnogorie 54.85 338 *e*P **P 17 51 32.9 -1.9**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 55.27 354 *c i*P **P 17 51 37.2 -0.6**
ARU 17 53 40.2
ARU S **S 17 59 19.4 -2.0**
ARU pmax pmax
comp=Z,8.0nm,1.2s
SVE Sverdlovsk 55.46 355 *e*P **P 17 51 38.7 -0.5**
SVE pmax pmax
comp=Z,10.0nm,1.4s
H01W3 Cape Leeuwin H 56.47 134 T T 18 52 37.6
baz=300,slow=75,SNR=40
H01W2 Cape Leeuwin H 56.48 134 T T 18 52 38.0
baz=300,slow=75,SNR=34
H01W1 Cape Leeuwin H 56.49 134 T T 18 52 39.0
baz=300,slow=75,SNR=36
SONM Songino Array 56.95 30 P **P 17 51 50.3 0.0**
SONM Songino Array 56.95 30 P **P 17 51 50.3 0.0**
comp=Z,2.3nm,1.0s,baz=222,slow=7.3,SNR=15
MLR Muntele Rosu 57.15 326 LR LR 18 13 41.3
comp=Z,39nm,20.0s,baz=334,slow=33
ULN Ulaanbaatar 57.31 30 P P 17 51 59.8 +7.0
comp=Z,7.1nm,1.4s
TLY Talaya 58.36 25 *e*P **P 17 52 01.3 +1.4**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,125nm,16.0s
AKASG Malin Array Be 58.85 332 P **P 17 52 02.0 -1.3**
AKASG Malin Array Be 58.85 332 P **P 17 52 02.0 -1.3**
AKASG Malin Array Be 58.85 332 P **P 17 52 02.0 -1.3**
comp=Z,0.7nm,0.7s,baz=136,slow=5.5,SNR=9.6
KIEV Kiev 58.86 332 *i*P **P 17 52 04.6 +1.3**
OBN Obninsk 59.17 340⇑ *e*P **P 17 52 04.2 -1.2**
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,19.0s
MOS Moscow 59.32 341 *e*P **P 17 52 05.7 -0.7**
MOS pmax pmax
comp=Z,32nm,1.0s
KOLS Kolonicke sedl 61.21 328 *e*P **P 17 52 20.4 +0.8**
KOLS pmax pmax
comp=Z,13nm,1.7s
KOLS Kolonicke sedl 61.21 328 *e*P **P 17 52 20.4 +0.8**
CRVS Cervenica-Dubn 61.63 327 *e*P **P 17 52 22.7 +0.3**
CRVS pmax pmax
comp=Z,3.0nm,1.1s
CRVS Cervenica-Dubn 61.63 327 *e*P **P 17 52 22.7 +0.3**
PRGR Permogore 62.29 348 P **P 17 52 25.2 -1.3**
PRGR pmax pmax
comp=Z,6.0nm,0.9s
KEST Kesra 63.83 309 LR LR 18 18 38.3
comp=Z,76nm,19.5s,baz=274,slow=34
VRAC Vranov 64.54 326 LR LR 18 21 03.0
comp=Z,156nm,18.9s,baz=265,slow=36
DPC Dobruska-Polom 65.22 327 *e*P P 17 52 52.6 +6.4
DPC Dobruska-Polom 65.22 327 *e*pP P 17 52 52.6 +6.4
DPC *ex* x 17 53 07.2
KSRS Korea Array 65.70 49 LR LR 18 21 55.9
comp=Z,108nm,18.3s,baz=60,slow=36
GERES GERESS Array B 65.98 324 LR LR 18 23 03.7
comp=Z,81nm,19.1s,baz=110,slow=37
TOA0 Torodi Ar. Sit 66.37 284 P **P 17 52 53.4 -0.8**
TORD Torodi Ar. Bea 66.37 284 P **P 17 52 54.1 -0.1**
TORD Torodi Ar. Bea 66.37 284 P **P 17 52 54.1 -0.1**
comp=Z,1.1nm,1.1s,baz=94,slow=6.5,SNR=3.8
TORD LR LR 18 19 39.6
comp=Z,99nm,18.8s,baz=110,slow=34
JNU Nakatsue 66.83 55 LR LR 18 21 23.7
comp=Z,120nm,18.7s,baz=65,slow=35
DAVOX Davos/Dischmat 67.42 321 LR LR 18 21 48.4
comp=Z,183nm,19.3s,baz=102,slow=35
CLL Collm 67.53 326 *e*P **P 17 52 58.0 -2.9**
CLL Collm 67.53 326 *e*(P) **P 17 53 04.0 +3.1**
FINES FINESS Array B 67.58 340 P **P 17 53 00.4 -0.6**
FINES FINESS Array B 67.58 340 P **P 17 53 00.4 -0.6**
comp=Z,4.5nm,1.0s,baz=123,slow=10,SNR=3.4
FINES LR LR 18 24 00.3
comp=Z,102nm,18.8s,baz=51,slow=37
WRA Warramunga Arr 68.58 112 P **P 17 53 07.0 -1.2**
WRA Warramunga Arr 68.58 112 P **P 17 53 07.0 -1.2**
comp=Z,2.8nm,0.9s,baz=290,slow=5.9,SNR=10.0
WRA LR LR 18 19 58.8
comp=Z,48nm,19.4s,baz=305,slow=33
WRAB Tennant Creek 68.59 112 *e*P **P 17 53 10.3 +2.1**
ASAR Alice Springs 68.87 116 P **P 17 53 09.1 -0.9**
ASAR Alice Springs 68.87 116 P **P 17 53 09.1 -0.9**
comp=Z,0.6nm,0.6s,baz=290,slow=5.8,SNR=13
ASAR LR LR 18 18 02.8
comp=Z,97nm,19.5s,baz=276,slow=31
AS31 Alice Springs 68.87 116 *e*P **P 17 53 07.8 -2.2**
MAW Mawson 69.04 182 LR LR 18 15 47.7
comp=Z,112nm,21.8s,baz=11,slow=29
USRK Ussuriysk Arra 70.69 43 LR LR 18 23 55.8
comp=Z,118nm,20.0s,baz=120,slow=36
DBIC Dimbokro 72.57 276 *e*P **P 17 53 32.4 -0.2**
comp=Z,10nm,0.9s
DBIC Dimbokro 72.57 276 P **P 17 53 33.0 +0.5**
comp=Z,2.5nm,0.6s,baz=146,slow=4.4,SNR=5.2
DBIC LR LR 18 23 09.8
comp=Z,71nm,19.5s,baz=69,slow=34
NOA NORSAR Array B 73.09 335 LR LR 18 25 13.6
comp=Z,130nm,19.3s,baz=125,slow=35
MJAR Matsushiro Arr 73.45 52 LR LR 18 29 00.5
comp=Z,106nm,18.1s,baz=240,slow=38
ARCES ARCESS Array B 73.47 346 P **P 17 53 36.2 -0.7**
ARCES ARCESS Array B 73.47 346 P **P 17 53 36.2 -0.7**
comp=Z,2.6nm,0.7s,baz=134,slow=8.7,SNR=7.3
ARCES LR LR 18 26 35.2
comp=Z,112nm,19.6s,baz=102,slow=36
MDT Midelt 74.41 304 LR LR 18 23 05.3
comp=Z,156nm,21.6s,baz=100,slow=33
ESDC Sonseca Array 75.03 311 P **P 17 53 46.7 +0.1**
ESDC Sonseca Array 75.03 311 P **P 17 53 46.7 +0.1**
comp=Z,0.5nm,0.5s,baz=86,slow=4.8,SNR=3.1
STKA Stephens Creek 77.10 123 P **P 17 53 57.9 -0.6**
STKA Stephens Creek 77.10 123 P **P 17 53 57.9 -0.6**
comp=Z,1.2nm,0.8s,baz=38,slow=0.9,SNR=1.4
STKA LR LR 18 23 47.2
comp=Z,134nm,18.4s,baz=36,slow=32
TIXI Tiksi 79.77 16⇑ *e*P **P 17 54 11.5 -0.9**
SPITS Spitsbergen Ar 81.14 351 P **P 17 54 20.1 +0.3**
SPITS Spitsbergen Ar 81.14 351 P **P 17 54 20.1 +0.3**
comp=Z,12nm,1.0s,baz=116,slow=6.7,SNR=2.8
BBTS Babate 84.11 284 LR LR 18 32 27.0
comp=Z,109nm,20.5s,baz=134,slow=36
JMIC Jan Mayen 84.13 341 LR LR 18 29 46.1
comp=Z,127nm,20.7s,baz=103,slow=34
QSPA South Pole Qui 91.47 180 P **P 17 55 10.1 -0.9**
comp=Z,2.0nm,0.9s
QSPA South Pole Qui 91.47 180 LR LR 18 31 41.3
comp=Z,72nm,18.5s,baz=126,slow=33
VNDA Vanda 92.34 167 P P 17 55 21.8 +7.2
comp=Z,3.8nm,1.1s
VNDA Vanda 92.34 167 LR LR 18 31 33.3
comp=Z,112nm,19.8s,baz=278,slow=32
PDAR Pinedale Array 135.87 357 PKP **PKPdf 18 01 27.5 +1.2**
PDAR Pinedale Array 135.87 357 PKP **PKPdf 18 01 27.5 +1.2**
comp=Z,0.5nm,0.7s,baz=54,slow=2.6,SNR=3.6
NVAR Mina Array Bea 139.88 7 PKP **PKPdf 18 01 34.7 +0.9**
NVAR Mina Array Bea 139.88 7 PKP **PKPdf 18 01 34.7 +0.9**
comp=Z,0.1nm,0.3s,baz=289,slow=2.8,SNR=2.2
TUQ Turquoise Moun 143.10 5⇑P **PKPdf 18 01 44.2 +4.7**
baz=143
X26A CR and CF Fran 143.28 348⇑P PKPab 18 01 34.8 -0.9
baz=143
ANMO Albuquerque 143.35 352 PKP PKPbc 18 01 37.9 +0.9
ANMO Albuquerque 143.35 352 PKP PKPbc 18 01 37.9 +0.9
comp=Z,0.7nm,0.7s,baz=127,slow=20,SNR=3.0
Y27A Causey 143.79 347⇑P PKPbc 18 01 38.4 +0.1
baz=144,SNR=5.8
Y26A Elida 143.89 348⇓P PKPbc 18 01 38.4 -0.2
baz=144
Z29A Hungry Hill Ra 144.03 345⇑P **PKPab 18 01 38.7 +0.2**
baz=144
Y25A Mesa, Roswell 144.06 349⇓P PKPbc 18 01 39.1 0.0
baz=144
234A Clairette 144.10 339⇓P **PKPab 18 01 37.5 -1.2**
baz=144
BNM Barren Site 144.15 352 *e*PKPdf PKPbc 18 01 39.9 +0.4
Y24A Capitan 144.19 350⇑P PKPbc 18 01 39.8 +0.2
baz=144,SNR=5.2
131A Roby 144.22 343⇑P **PKPab 18 01 37.8 -1.3**
baz=144
X16A Lo Mia Camp, P 144.27 359⇓P **PKPdf 18 01 44.1 +2.5**
baz=144
Y23A Lovelace Mesa, 144.28 351⇑P PKPbc 18 01 40.2 +0.3
baz=144
Z27A Tatum 144.35 347⇑P PKPbc 18 01 40.1 +0.1
baz=144,SNR=5.9
233A Rising Star 144.35 340⇑P **PKPab 18 01 39.7 0.0**
baz=144
130A Snyder 144.46 344⇑P PKPbc 18 01 40.6 +0.3
baz=144
Z26A Caprock 144.55 348⇓P **PKPab 18 01 39.6 -0.9**
baz=144,SNR=6.1
Z25A Roswell 144.69 349⇑P **PKPdf 18 01 42.0 -0.4**
baz=145
232A Coleman 144.72 341⇑P PKPbc 18 01 41.3 +0.1
baz=145,SNR=6.1
334A Lometa 144.75 339⇑P **PKPab 18 01 40.4 -0.7**
baz=145
Z24A Sheeppen Canyo 144.76 350⇓P **PKPdf 18 01 42.4 -0.2**
baz=145
128A Castleberry Fa 144.84 346⇓P **PKPdf 18 01 42.3 -0.3**
baz=145
Y12C Blythe 144.88 3⇓P PKPdf 18 01 48.2 +5.7
baz=145
231A Bronte 144.88 342⇓P PKPbc 18 01 41.8 +0.1
baz=145
Z23A Rita Site, Whi 144.97 351⇑P **PKPdf 18 01 43.5 +0.6**
baz=145
333A Richland Sprin 145.02 340⇓P **PKPab 18 01 42.0 -0.1**
baz=145,SNR=7.0
Z22A Elephant Butte 145.08 352⇓P **PKPdf 18 01 43.3 +0.2**
baz=145
230A Sterling City 145.16 343⇓P **PKPbc 18 01 41.9 -0.7**
baz=145
332A Millersview 145.22 341⇑P **PKPab 18 01 42.8 -0.1**
baz=145
434A Burnet 145.23 339⇓P **PKPbc 18 01 42.5 -0.3**
baz=145,SNR=7.5
125A Gardner Draw, 145.28 349⇓P **PKPbc 18 01 42.4 -0.6**
baz=145
229A Bryant Ranch, 145.28 344⇑P **PKPbc 18 01 42.8 -0.2**
baz=145
331A San Angelo 145.50 342⇓P **PKPab 18 01 44.1 +0.2**
baz=145
433A Art 145.57 340⇓P **PKPdf 18 01 43.4 -0.4**
baz=146
330A Mertzon 145.63 343⇑P **PKPdf 18 01 43.8 -0.2**
baz=146
226B Tecolote Peak, 145.75 348⇓P **PKPab 18 01 44.8 -0.1**
baz=146
121A Cookes Peak, D 145.90 353⇓P **PKPab 18 01 47.9 +2.4**
baz=146
224A Cornudas Mount 146.01 350⇑P **PKPab 18 01 47.3 +1.5**
baz=146
534A Blanco 146.01 338⇑P **PKPdf 18 01 43.8 -0.8**
baz=146,SNR=5.8
JCT Junction City 146.07 341 *e*PKP2 **PKPdf 18 01 43.4 -1.3**
JCT Junction City 146.07 341 *e*PKPdf **PKPdf 18 01 43.4 -1.3**
JCT Junction City 146.07 341⇑P **PKPdf 18 01 43.8 -0.9**
baz=146
328A Wristen Ranch, 146.10 345⇓P **PKPdf 18 01 44.8 0.0**
baz=146
431A Sonora 146.14 342⇑P **PKPbc 18 01 45.8 +0.1**
baz=146
OTAV Otavalo 146.18 273 *e*PKPdf **PKPdf 18 01 44.6 -1.3**
532A Rocksprings 146.42 340⇓P **PKPbc 18 01 46.5 0.0**
baz=146
429A Davenport Ranc 146.57 344⇓P **PKPdf 18 01 45.9 +0.3**
baz=146
325A Bean Ranch, Si 146.59 349⇑P **PKPab 18 01 48.9 +0.8**
baz=146
531A Rocksprings 146.60 341⇓P **PKPbc 18 01 47.2 +0.1**
baz=146
324A Moseley Ranch, 146.62 349⇑P **PKPab 18 01 48.3 +0.1**
baz=146
428A Kincaid Ranch, 146.69 345⇓P **PKPab 18 01 48.3 -0.1**
baz=147
427A Hayter Ranch, 146.75 346⇑P **PKPbc 18 01 48.0 +0.4**
baz=147
633A Saathoff Ranch 146.78 339⇓P **PKPab 18 01 48.2 -0.5**
baz=147
530A J-C Ranch, Com 146.86 343⇑P **PKPbc 18 01 48.2 +0.4**
baz=147
632A Uvalde 146.95 340⇑P **PKPbc 18 01 48.4 +0.4**
baz=147
426A McDonald Obser 147.07 347⇓P **PKPab 18 01 50.7 +0.6**
baz=147
529A Stev Forest Ra 147.14 344⇑P **PKPbc 18 01 48.5 -0.2**
baz=147
425A Indio Mountain 147.16 348⇓P **PKPbc 18 01 49.3 +0.5**
baz=147
631A Perdido Creek 147.31 341⇓P **PKPbc 18 01 49.4 +0.4**
baz=147
835A Beeville 147.32 336⇑P **PKPbc 18 01 49.7 +0.6**
baz=147
527A Woodward Ranch 147.48 346⇓P **PKPbc 18 01 50.2 +0.5**
baz=147
733A Divot King Ran 147.50 339⇓P **PKPbc 18 01 50.4 +0.9**
baz=147
526A Mary Lane Ranc 147.67 347⇓P **PKPbc 18 01 51.0 +0.7**
baz=148
833A Chaparral WMA, 147.89 338⇑P **PKPbc 18 01 50.2 -0.5**
baz=148
628A Black Gap, Mar 147.92 345⇓P **PKPbc 18 01 51.1 +0.3**
baz=148
627A Terlingua Ranc 148.08 345⇑P **PKPbc 18 01 51.5 +0.1**
baz=148
626A Big Bend Ranch 148.17 347⇓P **PKPab 18 01 53.6 -0.6**
baz=148
TXAR Lajitas Array 148.27 346 PKPbc **PKPbc 18 01 52.0 +0.3**
TXAR Lajitas Array 148.27 346 PKPbc **PKPbc 18 01 52.0 +0.3**
comp=Z,1.6nm,0.8s,baz=33,slow=2.8,SNR=19
TGUH Tegucigalpa,Un 150.84 303 *e*PKP **PKPdf 18 01 54.5 +1.8**

*ISCJB **01** 17:52:40.9±0.8, 33°52S±0.05×70°08W±0.04, h116km±5km, Error ellipse: s-maj=8.3km s-min=4.6km az=148.1*
*SJA **01** 17:52:41.0±0.6, 33°52S×69°95W, h123km±4km, MD3.2, ML3.2*
*GUC **01** 17:52:41.4±0.6, 33°51S×70°10W, h110km±2km, ML4.1*
ISC 01 17:52:41.0±2.0, 33°55S±0.07×70°08W±0.04, h116km±12km, n30, σ0.59/55, 5C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**0.24**	**248**	*e*P		**Pn**		**17 52 56.4**	**-1.0**
SJCH				*i* S		**Sn**		**17 53 08.5**	**-1.2**
LMEL	**Las Melosas**	**0.31**	**199**	⇓*i*P		**Pn**		**17 52 57.7**	**0.0**
PCH	**Pirque**	**0.37**	**259**	*e*P		**Pn**		**17 52 57.9**	**0.0**
PCH				*e*S		**Sn**		**17 53 10.4**	**-0.2**
FSR	**Penalolen**	**0.38**	**281**	⇑*i*P		**Pn**		**17 52 59.1**	**+1.2**
FSR				*i* S		**Sn**		**17 53 11.7**	**+1.1**
LACH	**Col Las Americ**	**0.39**	**284**	⇓*i*P		**Pn**		**17 52 58.0**	**+0.1**
LACH				*i* S		**Sn**		**17 53 10.9**	**+0.2**
LACH				AML		AML		17 53 11.8	
comp=E,3μm,0.5s									
CLCH	**Cerro Calan**	**0.41**	**292**	⇓*i*P		**Pn**		**17 52 58.0**	**-0.1**
CLCH				*i* S		**Sn**		**17 53 10.7**	**-0.2**
CLCH				AML		AML		17 53 12.4	
comp=E,10μm,0.5s									
ANTU	**Antumapu**	**0.46**	**267**	*e*P		**Pn**		**17 52 58.2**	**-0.1**
ANTU				*i* S		**Sn**		**17 53 10.9**	**-0.4**
ANTU				AML		AML		17 53 11.9	
comp=E,8μm,0.3s									
STL	**Santa Lucia**	**0.48**	**283**	⇑*i*P		**Pn**		**17 52 58.3**	**-0.1**
SAN	**Santiago**	**0.49**	**281**	⇑*i*P		**Pn**		**17 52 58.4**	**0.0**
SAN				*i* S		**Sn**		**17 53 11.3**	**-0.4**
SAN				AML		AML		17 53 12.3	
comp=E,5μm,0.2s									
CHCH	**Chadas Angostu**	**0.61**	**231**	⇓*i*P		**Pn**		**17 52 59.6**	**+0.3**
CHCH				*i* S		**Sn**		**17 53 13.2**	**+0.1**
PEL	**Peldehue**	**0.65**	**309**	⇑*i*P		**Pn**		**17 52 59.5**	**-0.1**
PEL				*i* S		**Sn**		**17 53 13.1**	**-0.5**
PEL				AML		AML		17 53 13.9	
comp=N,19μm,0.3s									
CACH	**El Canelo**	**0.71**	**217**	⇓*i*P		**Pn**		**17 53 00.8**	**+0.6**
CACH				*i* S		**Sn**		**17 53 15.3**	**+0.7**
TACH	**Talagante**	**0.72**	**261**	⇓*i*P		**Pn**		**17 53 00.0**	**-0.1**
TACH				*i* S		**Sn**		**17 53 14.3**	**-0.3**
JACH	**Jahuel**	**0.96**	**334**	⇓*i*P		**Pn**		**17 53 02.3**	**-0.2**
ROCH	**El Roble**	**0.97**	**306**	⇑*i*P		**Pn**		**17 53 02.4**	**-0.2**
ROCH				*i* S		**Sn**		**17 53 18.6**	**-0.3**
ROCH				AML		AML		17 53 19.1	
comp=N,12μm,0.3s									
AAGR	**Agrelo**	**1.15**	**67**	*i* P		**Pn**		**17 53 04.7**	**+0.3**
AAGR				*i* S		**Sn**		**17 53 21.9**	**-0.1**
ARCO	**CERRO ARCO**	**1.20**	**54**	*i* P		**Pn**		**17 53 05.2**	**+0.3**
ARCO				*i* S		**Sn**		**17 53 23.2**	**+0.2**
ARCO				AML		AML		17 53 25.5	
comp=Z,401nm,0.5s									
LCCH	**Las Cruces**	**1.24**	**273**	⇓*i*P		**Pn**		**17 53 05.6**	**+0.4**
AVIZ	**Vizcacheras**	**1.31**	**87**	*i* P		**Pn**		**17 53 06.2**	**+0.1**
AVIZ				*i* S		**Sn**		**17 53 24.9**	**-0.2**
IHA	**Instituto Hidr**	**1.41**	**291**	⇓*i*P		**Pn**		**17 53 07.3**	**+0.3**
IHA				*i* S		**Sn**		**17 53 26.4**	**-0.4**
ASAL	**Salagasta**	**1.42**	**48**	*i* P		**Pn**		**17 53 07.9**	**+0.6**
ASAL				*i* S		**Sn**		**17 53 27.4**	**+0.1**
AUSP	**Uspallata**	**1.45**	**24**	*i* P		**Pn**		**17 53 08.4**	**+0.5**
AUSP				*i* S		**Sn**		**17 53 29.3**	**+1.1**
RTLS	**Leoncito**	**1.87**	**21**	*i* P		**Pn**		**17 53 14.0**	**+1.1**
RTLS				*i* S		**Sn**		**17 53 38.2**	**+1.0**
RTCV	**Cerro Valdivia**	**2.13**	**38**	*i* P		**Pn**		**17 53 16.1**	**+0.1**
RTCV				*i* S		**Sn**		**17 53 41.8**	**-0.8**
SJA	**San Juan**	**2.39**	**33**	*i* P		**Pn**		**17 53 19.5**	**+0.2**
SJA				*i* Pn		Pn		17 53 29.9	+11
SJA				*i* S		**Sn**		**17 53 48.2**	**-0.5**
SJA				AML		AML		17 53 52.3	
comp=Z,211nm,0.5s									
CFAA	**Coronel Fontan**	**2.49**	**39**	*i* P		**Pn**		**17 53 20.4**	**-0.1**
CFAA				*i* S		**Sn**		**17 53 50.1**	**-0.8**
CFAA				AML		AML		17 53 51.8	
comp=Z,22nm,0.3s									
RTLL	**Cerro Villicun**	**2.60**	**32**	*i* P		**Pn**		**17 53 22.2**	**+0.2**
RTLL				*i* S		**Sn**		**17 53 52.9**	**-0.5**
ACAN	**Cantantal**	**2.75**	**63**	*i* P		**Pn**		**17 53 24.1**	**+0.2**
AMOG	**MOGNA**	**2.93**	**28**	*i* P		**Pn**		**17 53 27.0**	**+0.6**
AMOG				*i* P		**Pn**		**17 53 27.0**	**+0.6**
AVFE	**Valle Fertil**	**3.64**	**38**	*i* P		**Pn**		**17 53 35.5**	**-0.3**
AVFE				*i* S		**Sn**		**17 54 16.4**	**-1.8**
AVFE				AML		AML		17 54 19.4	
comp=Z,92nm,0.3s									

*IDC **01** 18:05:17.8±3.7, 16°28S×173°40W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/21, mbtmp3.8/7, ML1.8/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/33, Error ellipse: s-maj=177.8km s-min=21.9km az=139.0*
ISC 01 18:05:21.6±2.8, 16°0S±0.6×173°4W±0.6, h26km, n25, σ1.56/10, mb3.9/6, MS3.5/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**36**	Pn		Pn		**18 06 02.2**	**-0.1**
8.1nm,0.3s,baz=223,slow=22,SNR=9.2									
AFI						Sn		**18 06 31.0**	**-2.3**
23nm,0.3s,baz=230,slow=24,SNR=13									
RAR	**Rarotonga**	**13.88**	**114**	LR		LR		18 12 47.4	
comp=Z,68nm,18.1s,baz=315,slow=33									
DZM	**Mont Dzumac**	**19.99**	**249**	*e*LR		LR		18 15 13.4	
108nm,25.8s									
PAE	**Paea**	**22.83**	**97**	*e*T		T		18 33 34.3	
1.3nm,0.3s									
PPT	**Papeete**	**22.83**	**97**	LR		LR		18 16 57.7	
comp=Z,159nm,18.9s,baz=88,slow=31									
PPT2	**Papeete2**	**22.83**	**97**	*e*LR		LR		18 15 46.7	
77nm,25.2s									
TBI	**Tubuai**	**23.64**	**112**	*e*LR		LR		18 16 01.4	
60nm,25.2s									
TBI	**Tubuai**	**23.64**	**112**	*e*T		T		18 34 35.9	
5.3nm,0.3s									
HNR	**Honiara**	**26.82**	**281**	LR		LR		18 20 10.6	
comp=Z,123nm,19.7s,baz=356,slow=33									
RKT	**Rikitea**	**36.78**	**107**	*e*T		T		18 51 00.2	
1.9nm,0.3s									
PMG	**Port Moresby**	**39.01**	**275**	LR		LR		18 26 26.0	
comp=Z,74nm,19.1s,baz=76,slow=32									
H11S2	**WAKE ISLAND Hy**	**39.52**	**329**	T		T		18 54 36.4	
baz=153,slow=76,SNR=3.6									
H11S3	**WAKE ISLAND Hy**	**39.53**	**329**	T		T		18 54 37.6	
baz=153,slow=76,SNR=3.7									
H11S1	**WAKE ISLAND Hy**	**39.54**	**329**	T		T		18 54 38.1	
baz=153,slow=76,SNR=3.1									
H11N3	**WAKE ISLAND Hy**	**40.47**	**331**	T		T		18 55 57.5	
baz=155,slow=75									
H11N1	**WAKE ISLAND Hy**	**40.48**	**331**	T		T		18 56 01.2	
baz=155									
H11N2	**WAKE ISLAND Hy**	**40.49**	**331**	T		T		18 56 01.1	
baz=155,slow=75									
STKA	**Stephens Creek**	**43.75**	**241**	P		**P**		**18 13 23.6**	**-1.5**
2.4nm,0.8s,baz=66,slow=7.2,SNR=3.3									
WRA	**Warramunga Arr**	**49.73**	**257**	P		**P**		**18 14 10.9**	**-1.2**
0.5nm,0.6s,baz=91,slow=7.3,SNR=8.3									
ASAR	**Alice Springs**	**49.94**	**252**	P		**P**		**18 14 12.2**	**-1.5**
3.4nm,0.5s,baz=88,slow=8.3,SNR=91									
ILAR	**Eielson Array**	**83.06**	**11**	P		**P**		**18 17 45.7**	**+1.3**
0.5nm,0.8s,baz=213,slow=6.3,SNR=5.8									
YKA	**Yellowknife Ar**	**90.67**	**23**	P		**P**		**18 18 22.6**	**+1.0**
0.3nm,0.9s,baz=238,slow=4.0,SNR=4.0									
CMAR	**Chiang Mai Arr**	**92.84**	**288**	P		**P**		**18 18 34.5**	**+1.8**
0.6nm,0.9s,baz=104,slow=2.9,SNR=4.5									
BRTR	**Keskin Array B**	**146.66**	**320**	PKPbc		**PKPab**		**18 25 03.1**	**+0.5**
1.0nm,0.7s,baz=95,slow=2.2,SNR=5.3									
GERES	**GERESS Array B**	**146.77**	**351**	PKPbc		**PKPab**		**18 25 02.9**	**+0.2**
0.3nm,0.6s,baz=72,slow=1.7,SNR=4.8									

*ISCJB **01** 18:06:18.6±0.4, 1°40N±0.05×67°69E±0.08, h10km, mb4.1/22, MS3.7/13, Error ellipse: s-maj=11.6km s-min=6.1km az=162.2*
*IDC **01** 18:06:19.3±0.6, 1°45N×67°73E, h0km, mb4.0/18, mb1 4.1/18, mb1mx3.9/31, mbtmp4.0/18, MS3.7/13, Ms1 3.7/13, ms1mx3.5/39, Error ellipse: s-maj=18.6km s-min=15.5km az=50.0*
*NEIC **01** 18:06:20.4±0.5, 1°40N×67°66E, h10km, mb4.5/5, Error ellipse: s-maj=11.5km s-min=11.1km az=151.0*
ISC 01 18:06:20.7±0.5, 1°41N±0.08×67°66E±0.09, h10km, n63, σ1.01/56, mb4.2/22, MS3.7/13, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**8.38**	**157**	Pn		Pn		**18 08 22.6**	**+0.6**
H08N2				T		T		18 16 57.8	
baz=336,slow=75,SNR=188									
H08N3	**Diego Garcia H**	**8.39**	**157**	Pn		Pn		**18 08 22.8**	**+0.6**
H08N3				T		T		18 16 56.8	
baz=336,slow=75,SNR=184									
H08N1	**Diego Garcia H**	**8.40**	**157**	Pn		**Pn**		**18 08 23.1**	**+0.8**
H08N1				T		T		18 16 59.4	
baz=336,slow=75,SNR=249									
H08S3	**Diego Garcia H**	**10.19**	**152**	Pn		**Pn**		**18 08 47.6**	**+0.7**
H08S1	**Diego Garcia H**	**10.20**	**152**	Pn		**Pn**		**18 08 47.5**	**+0.4**
H08S2	**Diego Garcia H**	**10.21**	**152**	Pn		**Pn**		**18 08 48.2**	**+1.0**
KBL	**Kabul**	**32.98**	**2**	P		**P**		**18 12 57.4**	**+1.3**
KULM	**Kulim**	**33.15**	**83**	P		**P**		**18 12 55.8**	**-1.8**

	15nm,1.0s									
CMAR	**Chiang Mai Arr**	**35.05**	**59**	P	**P**		**18 13 15.2**	**+1.1**		
CMAR				PcP	**PcP**		**18 15 47.5**	**+1.3**		
CMAR	**Chiang Mai Arr**	**35.05**	**59**	P	**P**		**18 13 15.3**	**+1.1**		
	0.9nm,0.9s,baz=249,slow=10,SNR=6.6									
CMAR				PcP	**PcP**		**18 15 47.5**	**+1.3**		
	0.2nm,0.6s,baz=240,slow=5.1,SNR=2.5									
CMAR				LR	LR		18 27 22.3			
	comp=Z,67nm,18.5s,baz=336,slow=36									
CHTO	**Chiang Mai**	**35.20**	**59**	*eP*	**P**		**18 13 17.4**	**+2.0**		
	5.1nm,0.9s									
LSA	**Lhasa**	**35.93**	**36**	P	**P**		**18 13 22.5**	**+0.5**		
EKS2	**Erkin-Say**	**41.43**	**7**	*eP*	**P**		**18 14 08.1**	**+0.4**		
	6.2nm,1.3s									
AAK	**Ala-Archa**	**41.49**	**8**	P	**P**		**18 14 07.7**	**-0.5**		
AAK	**Ala-Archa**	**41.49**	**8**	P	**P**		**18 14 07.7**	**-0.5**		
	0.9nm,0.7s,baz=185,slow=7.6,SNR=4.8									
EIL	**Elat**	**41.91**	**315**	LR	LR		18 29 54.5			
	comp=Z,150nm,18.0s,baz=308,slow=34									
TKM2	**Tokmak 2**	**41.93**	**9**	P	**P**		**18 14 09.9**	**-2.0**		
LSZ	**Lusaka**	**42.41**	**245**	P	**P**		**18 14 16.1**	**+0.1**		
LSZ	**Lusaka**	**42.41**	**245**	P	**P**		**18 14 16.1**	**+0.1**		
	1.2nm,0.7s,baz=90,slow=19,SNR=1.5									
GNI	**Garni**	**43.82**	**334**	*eP*	**P**		**18 14 27.1**	**-0.1**		
	11nm,1.0s									
GNI	**Garni**	**43.82**	**334**	P	**P**		**18 14 28.7**	**+1.5**		
	5.0nm,0.7s,baz=274,slow=13,SNR=4.7									
QIZ	**Qiongzhong**	**44.87**	**64**	P	**P**		**18 14 35.7**	**0.0**		
MKAR	**Makanchi Array**	**46.97**	**14**	P	**P**		**18 14 50.2**	**-1.7**		
MKAR	**Makanchi Array**	**46.97**	**14**	P	**P**		**18 14 50.2**	**-1.7**		
	0.7nm,0.8s,baz=188,slow=8.7,SNR=7.0									
MKAR				LR	LR		18 35 47.2			
	comp=Z,58nm,18.3s,baz=97,slow=38									
KBZ	**Khabaz**	**47.55**	**336**	LR	LR		18 34 12.8			
	comp=Z,61nm,19.3s,baz=169,slow=35									
ABKAR	**Akbulak array**	**48.12**	**353**	*eP*	**P**		**18 15 00.4**	**-0.4**		
	4.9nm,0.9s									
LBTB	**Lobatse**	**48.46**	**234**	P	**P**		**18 15 01.3**	**-2.7**		
BRTR	**Keskin Array B**	**49.11**	**325**	P	**P**		**18 15 09.1**	**+0.4**		
BRTR	**Keskin Array B**	**49.11**	**325**	P	**P**		**18 15 09.1**	**+0.4**		
	1.0nm,0.7s,baz=134,slow=10,SNR=7.2									
BRTR				LR	LR		18 36 32.9			
	comp=Z,70nm,18.5s,baz=124,slow=37									
AKTO	**Aktyubinsk**	**49.53**	**352**	P	**P**		**18 15 11.3**	**-0.2**		
AKTO	**Aktyubinsk**	**49.53**	**352**	P	**P**		**18 15 11.3**	**-0.2**		
	4.8nm,1.0s,baz=174,slow=8.3,SNR=13									
TSUM	**Tsumeb**	**53.25**	**245**	LR	LR		18 35 09.4			
	comp=Z,134nm,21.1s,baz=200,slow=32									
ZAAO	**Zalesovo Array**	**54.24**	**12**	*eP*	**P**		**18 15 44.9**	**-1.7**		
ZALV	**Zalesovo Beam**	**54.24**	**12**	P	**P**		**18 15 45.6**	**-1.0**		
ZALV	**Zalesovo Beam**	**54.24**	**12**	P	**P**		**18 15 45.6**	**-1.0**		
	3.4nm,0.7s,baz=210,slow=7.5,SNR=21									
ZALV				LR	LR		18 39 55.5			
	comp=Z,60nm,18.7s,baz=253,slow=37									
H01W3	**Cape Leeuwin H**	**56.49**	**134**	T	T		19 16 54.4			
	baz=300,slow=75,SNR=16									
H01W2	**Cape Leeuwin H**	**56.50**	**134**	T	T		19 16 54.9			
	baz=300,slow=75,SNR=17									
H01W1	**Cape Leeuwin H**	**56.51**	**134**	T	T		19 16 56.8			
	baz=300,slow=75,SNR=13									
SONM	**Songino Array**	**57.08**	**30**	P	**P**		**18 16 07.2**	**-0.1**		
SONM	**Songino Array**	**57.08**	**30**	P	**P**		**18 16 07.2**	**-0.1**		
	0.8nm,0.6s,baz=221,slow=7.0,SNR=7.8									
NWAO	**Narrogin (SRO)**	**57.86**	**131**	P	**P**		**18 16 12.6**	**-0.4**		
NWAO	**Narrogin (SRO)**	**57.86**	**131**	P	**P**		**18 16 12.6**	**-0.4**		
	6.9nm,0.7s,baz=180,slow=7.1,SNR=4.1									
AKASG	**Malin Array Be**	**58.88**	**332**	P	**P**		**18 16 18.9**	**-0.8**		
AKASG	**Malin Array Be**	**58.88**	**332**	P	**P**		**18 16 18.9**	**-0.8**		
	0.6nm,0.6s,baz=134,slow=5.5,SNR=7.7									
KEST	**Kesra**	**63.80**	**310**	LR	LR		18 42 14.0			
	comp=Z,52nm,19.0s,baz=89,slow=34									
TORD	**Torodi Ar. Bea**	**66.29**	**284**	P	**P**		**18 17 10.8**	**+0.9**		
TORD	**Torodi Ar. Bea**	**66.29**	**284**	P	**P**		**18 17 10.8**	**+0.9**		
	0.9nm,1.1s,baz=85,slow=5.7,SNR=3.3									
TORD				LR	LR		18 43 38.7			
	comp=Z,57nm,20.4s,baz=315,slow=34									
FINES	**FINESS Array B**	**67.62**	**340**	P	**P**		**18 17 17.1**	**-0.4**		
FINES	**FINESS Array B**	**67.62**	**340**	P	**P**		**18 17 17.1**	**-0.4**		
	3.4nm,1.0s,baz=157,slow=10,SNR=4.1									
WRA	**Warramunga Arr**	**68.65**	**112**	P	**P**		**18 17 24.3**	**-0.5**		
WRA	**Warramunga Arr**	**68.65**	**112**	P	**P**		**18 17 24.3**	**-0.5**		
	1.0nm,0.8s,baz=290,slow=5.7,SNR=5.5									
ASAR	**Alice Springs**	**68.93**	**116**	P	**P**		**18 17 25.9**	**-0.7**		
ASAR	**Alice Springs**	**68.93**	**116**	P	**P**		**18 17 25.9**	**-0.7**		
	0.3nm,0.5s,baz=290,slow=6.0,SNR=6.4									
DBIC	**Dimbokro**	**72.47**	**277**	P	**P**		**18 17 49.5**	**+1.2**		
DBIC	**Dimbokro**	**72.47**	**277**	P	**P**		**18 17 49.5**	**+1.2**		
	3.4nm,0.9s,baz=92,slow=6.1,SNR=3.7									
DBIC				LR	LR		18 48 24.4			
	comp=Z,80nm,19.6s,baz=201,slow=35									
NOA	**NORSAR Array B**	**73.12**	**335**	LR	LR		18 50 43.6			
	comp=Z,32nm,19.2s,baz=110,slow=36									
ARCES	**ARCESS Array B**	**73.53**	**346**	P	**P**		**18 17 52.8**	**-0.7**		
ARCES	**ARCESS Array B**	**73.53**	**346**	P	**P**		**18 17 52.8**	**-0.7**		
	3.1nm,1.0s,baz=111,slow=4.9,SNR=7.7									
ARCES				LR	LR		18 49 35.7			
	comp=Z,61nm,20.9s,baz=103,slow=35									
QSPA	**South Pole Qui**	**91.39**	**180**	P	**P**		**18 19 27.4**	**+0.6**		
QSPA	**South Pole Qui**	**91.39**	**180**	P	**P**		**18 19 27.4**	**+0.6**		
	0.9nm,0.9s,baz=280,slow=0.7,SNR=2.0									
VNDA	**Vanda**	**92.28**	**167**	LR	LR		18 55 28.2			
	comp=Z,33nm,18.4s,baz=32,slow=32									
TXAR	**Lajitas Array**	**148.32**	**345**	PKPbc	**PKPbc**		**18 26 08.8**	**+0.6**		
TXAR	**Lajitas Array**	**148.32**	**345**	PKPbc	**PKPbc**		**18 26 08.8**	**+0.6**		
	1.6nm,0.7s,baz=41,slow=3.0,SNR=23									

*DDA **01** 18:06:56.7,35°.73N×26°.95E,h28km,ML3.6*
*ISK **01** 18:06:57.4,35°.90N×27°.16E,h10km,ML3.8*
*HLW **01** 18:06:58.5,35°.63N×27°.30E,h7km±8km,Md3.3,Ml3.6*
*ISCJB **01** 18:06:58.6±0.2,35°.80N±0°.02×27°.16E±0°.02,h88km±3km, mb3.5/5,Error ellipse: s-maj=3.1km s-min=2.3km az=179.1*
*IDC **01** 18:06:59.4±1.0,35°.74N×27°.19E,h80km±14km,mb3.5/5, mb1 3.6/13,mb1mx3.4/32,mbtmp3.4/13,Error ellipse: s-maj=15.8km s-min=8.6km az=174.0*
*NSSC **01** 18:06:59.0±1.6,35°.28N×27°.54E,h0km±263km,MD2.2, ML3.3*
*ATH **01** 18:07:00.6,35°.97N×27°.04E,h46km±3km,MD3.3/12*
*CSEM **01** 18:07:00.6±0.1,35°.81N×27°.17E,h40km,ML3.8,Ms3.2, Error ellipse: s-maj=3.3km s-min=2.5km az=4.0*
*THE **01** 18:07:02.6,35°.93N×27°.01E,h40km±3km,ML3.8/3,Error ellipse: s-maj=3.5km s-min=0.6km az=136.0*
*NIC **01** 18:07:09.0±0.3,34°.87N×27°.96E,h46km,mb4.3,ML3.9*

ISC 01 18:06:59.5±0.6,35°.82N±0°.03×27°.15E±0°.03,h74km±6km, n241,σ1°55°/315,mb3.5/5,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	**Karpathos**	**0.27**	**177**	P		**Pn**	**18 07 11.6**	**+0.5**
KARP				S		**Sn**	**18 07 19.2**	**-0.4**
KARP	**Karpathos**	**0.27**	**177**	*eP*		**Pn**	**18 07 11.7**	**+0.6**
KARP				*eS*		**Sn**	**18 07 19.2**	**-0.4**
KARP	**Karpathos**	**0.27**	**177**	*eP*		**Pn**	**18 07 11.7**	**+0.6**
KARP				*eS*		**Sn**	**18 07 19.2**	**-0.4**
ARG	**Arkhangelos**	**0.89**	**63**	P		**Pn**	**18 07 18.5**	**+1.6**
ARG				S		**Sn**	**18 07 30.9**	**+1.1**
ARG	**Arkhangelos**	**0.89**	**63**	*eP*		**Pn**	**18 07 18.5**	**+1.6**
ARG				*eS*		**Sn**	**18 07 30.5**	**+0.7**
ARG	**Arkhangelos**	**0.89**	**63**	*eP*		**Pn**	**18 07 18.5**	**+1.6**
ARG				*eS*		**Sn**	**18 07 30.5**	**+0.7**
ZKR	**Zakros**	**1.04**	**227**	P		**Pn**	**18 07 20.2**	**+1.6**
ZKR				S		**Sn**	**18 07 34.4**	**+1.4**
ZKR	**Zakros**	**1.04**	**227**	*eP*		**Pn**	**18 07 19.3**	**+0.6**
ZKR				*eS*		**Sn**	**18 07 34.1**	**+1.1**
ZKR	**Zakros**	**1.04**	**227**	*eP*		**Pn**	**18 07 20.3**	**+1.6**
ZKR				*eS*		**Sn**	**18 07 34.6**	**+1.6**
ZKR	**Zakros**	**1.04**	**227**	*ePn*		**Pn**	**18 07 19.3**	**+0.6**
ZKR	**Zakros**	**1.04**	**227**	*eP*		**Pn**	**18 07 20.3**	**+1.6**
ZKR				*eSn*		**Sn**	**18 07 34.1**	**+1.1**
BODT	**Bodrum**	**1.25**	**6**	*ePN*		**Pn**	**18 07 21.1**	**-0.2**
BODT				*eSN*		**Sn**	**18 07 36.3**	**-1.4**
BODT	**Bodrum**	**1.25**	**6**	*ePn*		**Pn**	**18 07 21.2**	**-0.2**
BODT				*eSn*		**Sn**	**18 07 36.3**	**-1.4**
BDRM	**Kayabasi**	**1.26**	**11**	*i* P		**Pn**	**18 07 22.1**	**+0.5**
BDRM				*i* S		**Sn**	**18 07 37.5**	**-0.6**
BDRM	**Kayabasi**	**1.26**	**11**	*i* P		**Pn**	**18 07 22.1**	**+0.5**
BDRM				*i* S		**Sn**	**18 07 37.5**	**-0.6**
NPS	**Neapolis**	**1.37**	**246**	*eP*		**Pn**	**18 07 23.7**	**+0.8**
NPS				*eS*		**Sn**	**18 07 40.7**	**+0.1**
NPS	**Neapolis**	**1.37**	**246**	*eP*		**Pn**	**18 07 23.7**	**+0.8**
NPS				*eS*		**Sn**	**18 07 40.7**	**+0.1**
SANT	**Santorini**	**1.47**	**292**	P		**Pn**	**18 07 24.1**	**-0.2**
SANT				S		**Sn**	**18 07 40.5**	**-2.4**
SANT	**Santorini**	**1.47**	**292**	*ePN*		**Pn**	**18 07 24.2**	**-0.1**
SANT	**Santorini**	**1.47**	**292**	*eP*		**Pn**	**18 07 24.2**	**-0.1**
SANT				*eS*		**Sn**	**18 07 40.6**	**-2.4**
SANT	**Santorini**	**1.47**	**292**	*eP*		**Pn**	**18 07 24.2**	**-0.1**
SANT				*eS*		**Sn**	**18 07 40.6**	**-2.4**
LAST	**Lasithi**	**1.51**	**245**	P		**Pn**	**18 07 25.8**	**+0.9**
LAST				S		**Sn**	**18 07 44.5**	**+0.5**
LAST	**Lasithi**	**1.51**	**245**	P		**Pn**	**18 07 25.8**	**+0.9**
LAST				S		**Sn**	**18 07 44.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.57**	**50**	*ePN*		**Pn**	**18 07 25.8**	**+0.3**
DALY				*eSN*		**Sn**	**18 07 45.8**	**+0.6**
DALY	**Dalyan (Mu¨la**	**1.57**	**50**	*ePn*		**Pn**	**18 07 25.8**	**+0.3**
DALY				*eSn*		**Sn**	**18 07 45.8**	**+0.6**
TURN	**Turunc**	**1.58**	**48**	*i* P		**Pn**	**18 07 23.0**	**-2.6**
TURN				*i* S		**Sn**	**18 07 39.8**	**-5.5**
TURN	**Turunc**	**1.58**	**48**	*i* P		**Pn**	**18 07 23.0**	**-2.6**
FETY	**Fethiye**	**1.76**	**62**	*ePN*		**Pn**	**18 07 28.5**	**+0.3**
FETY	**Fethiye**	**1.76**	**62**	*ePn*		**Pn**	**18 07 28.5**	**+0.3**
APE	**Apeiranthos**	**1.80**	**314**	P		**Pn**	**18 07 28.6**	**-0.1**
APE				S		**Sn**	**18 07 48.9**	**-1.9**
APE	**Apeiranthos**	**1.80**	**314**	*ePN*		**Pn**	**18 07 28.8**	**+0.1**
APE	**Apeiranthos**	**1.80**	**314**	*eP*		**Pn**	**18 07 28.6**	**-0.1**
APE				*eS*		**Sn**	**18 07 48.1**	**-2.7**
APE	**Apeiranthos**	**1.80**	**314**	*eP*		**Pn**	**18 07 28.6**	**-0.1**
APE				*eS*		**Sn**	**18 07 48.1**	**-2.7**
GCAM	**G?zelcaml?**	**1.88**	**2**	*i* P		**Pn**	**18 07 30.3**	**+0.7**
GCAM				*i* S		**Sn**	**18 07 52.4**	**0.0**
GCAM	**G?zelcaml?**	**1.88**	**2**	*i* P		**Pn**	**18 07 30.3**	**+0.7**
GCAM				*i* S		**Sn**	**18 07 52.4**	**0.0**
SMG	**Samos**	**1.90**	**353**	P		**Pn**	**18 07 30.2**	**+0.3**
SMG				S		**Sn**	**18 07 52.0**	**-1.0**
SMG	**Samos**	**1.90**	**353**	*eP*		**Pn**	**18 07 30.3**	**+0.3**
SMG				*eS*		**Sn**	**18 07 50.8**	**-2.2**
SMG	**Samos**	**1.90**	**353**	*eP*		**Pn**	**18 07 30.3**	**+0.3**
SMG				S		**Sn**	**18 07 52.0**	**-1.0**
IDI	**Anoyia**	**1.92**	**255**	P		**Pn**	**18 07 30.6**	**+0.5**
	26nm,0.3s,baz=49,slow=13,SNR=175							
IDI				S		**Sn**	**18 07 53.9**	**+0.4**
	40nm,0.3s,baz=265,slow=15,SNR=3.5							
AKAS	**Kas**	**2.04**	**78**	*i* P		**Pn**	**18 07 33.8**	**+2.0**
AKAS				*i* S		**Sn**	**18 07 58.7**	**+2.2**
AKAS	**Kas**	**2.04**	**78**	*i* P		**Pn**	**18 07 33.8**	**+2.0**
AKAS				*i* S		**Sn**	**18 07 58.7**	**+2.2**
SIVA	**Sivas**	**2.07**	**248**	P		**Pn**	**18 07 34.0**	**+1.8**
SIVA	**Sivas**	**2.07**	**248**	*ePN*		**Pn**	**18 07 33.8**	**+1.6**
SIVA	**Sivas**	**2.07**	**248**	*eP*		**Pn**	**18 07 34.3**	**+2.1**
SIVA				*eS*		**Sn**	**18 07 58.0**	**+0.9**
SIVA	**Sivas**	**2.07**	**248**	*ePn*		**Pn**	**18 07 33.8**	**+1.6**
SIVA	**Sivas**	**2.07**	**248**	*eP*		**Pn**	**18 07 34.3**	**+2.1**
SIVA				*eS*		**Sn**	**18 07 58.0**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**16**	*ePN*		**Pn**	**18 07 33.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**16**	*ePn*		**Pn**	**18 07 33.9**	**-0.2**
GOLH	**Golhisar**	**2.40**	**53**	*i* P		**Pn**	**18 07 39.2**	**+2.4**
GOLH				*i* S		**Sn**	**18 08 10.2**	**+4.9**
GOLH	**Golhisar**	**2.40**	**53**	*i* P		**Pn**	**18 07 39.2**	**+2.4**
GOLH				*i* S		**Sn**	**18 08 10.2**	**+4.9**
DNZL	**Cakiroluk**	**2.41**	**39**	*i* P		**Pn**	**18 07 38.7**	**+1.8**
DNZL				*i* S		**Sn**	**18 08 08.2**	**+2.6**
DNZL	**Cakiroluk**	**2.41**	**39**	*i* P		**Pn**	**18 07 38.7**	**+1.8**
DNZL				*i* S		**Sn**	**18 08 08.2**	**+2.6**
ELL	**Elmali**	**2.42**	**67**	*ePN*		**Pn**	**18 07 37.7**	**+0.7**
ELL	**Elmali**	**2.42**	**67**	*ePn*		**Pn**	**18 07 37.7**	**+0.7**
VAM	**Vamos**	**2.44**	**261**	P		**Pn**	**18 07 37.4**	**+0.3**
VAM				S		**Sn**	**18 08 05.8**	**-0.1**
VAM	**Vamos**	**2.44**	**261**	*eP*		**Pn**	**18 07 39.2**	**+2.1**
VAM				*eS*		**Sn**	**18 08 06.3**	**+0.4**
VAM	**Vamos**	**2.44**	**261**	*eP*		**Pn**	**18 07 39.2**	**+2.1**
VAM				*eS*		**Sn**	**18 08 06.3**	**+0.4**
IZM	**Izmir**	**2.57**	**2**	*ePN*		**Pn**	**18 07 39.6**	**+0.6**
IZM	**Izmir**	**2.57**	**2**	*ePn*		**Pn**	**18 07 39.6**	**+0.6**
KARN	**Karanos**	**2.66**	**262**	P		**Pn**	**18 07 41.4**	**+1.2**
KARN				S		**Sn**	**18 08 11.7**	**+0.2**
KARN	**Karanos**	**2.66**	**262**	*eP*		**Pn**	**18 07 41.5**	**+1.2**
KARN				*eS*		**Sn**	**18 08 11.4**	**-0.1**
KARN	**Karanos**	**2.66**	**262**	*eP*		**Pn**	**18 07 41.5**	**+1.2**
KARN				S		**Sn**	**18 08 11.7**	**+0.2**
CHOS	**Chios island**	**2.71**	**342**	P		**Pn**	**18 07 41.2**	**+0.4**
CHOS				S		**Sn**	**18 08 11.8**	**-0.8**
CHOS	**Chios island**	**2.71**	**342**	*ePN*		**Pn**	**18 07 41.3**	**+0.4**
CHOS	**Chios island**	**2.71**	**342**	*eP*		**Pn**	**18 07 40.8**	**0.0**
CHOS	**Chios island**	**2.71**	**342**	P		**Pn**	**18 07 41.2**	**+0.4**
CHOS				S		**Sn**	**18 08 11.8**	**-0.8**
KORT	**Korkueli**	**2.84**	**65**	*i* P		**Pn**	**18 07 45.3**	**+2.6**
KORT				*i* S		**Sn**	**18 08 20.6**	**+4.7**
KORT	**Korkueli**	**2.84**	**65**	*i* P		**Pn**	**18 07 45.3**	**+2.6**
KORT				*i* S		**Sn**	**18 08 20.6**	**+4.7**
KULA	**Kula-Manisa**	**2.95**	**24**	*ePN*		**Pn**	**18 07 45.0**	**+0.9**
KULA	**Kula-Manisa**	**2.95**	**24**	*ePn*		**Pn**	**18 07 45.0**	**+0.9**
ANTB	**Antalya**	**3.03**	**68**	*ePN*		**Pn**	**18 07 45.8**	**+0.7**
ANTB	**Antalya**	**3.03**	**68**	*ePn*		**Pn**	**18 07 45.8**	**+0.7**
AKS	**Akhisar**	**3.10**	**10**	*ePN*		**Pn**	**18 07 46.4**	**+0.3**
AKS	**Akhisar**	**3.10**	**10**	*ePn*		**Pn**	**18 07 46.4**	**+0.3**
ANKY	**Antikythira Is**	**3.12**	**272**	P		**Pn**	**18 07 46.9**	**+0.5**
ANKY				S		**Sn**	**18 08 22.6**	**0.0**
ANKY	**Antikythira Is**	**3.12**	**272**	*eP*		**Pn**	**18 07 48.1**	**+1.7**
ANKY	**Antikythira Is**	**3.12**	**272**	*eP*		**Pn**	**18 07 48.1**	**+1.7**
ANKY				S		**Sn**	**18 08 22.6**	**0.0**
KHL	**Karahalli**	**3.14**	**37**	*ePN*		**Pn**	**18 07 48.0**	**+1.3**
KHL	**Karahalli**	**3.14**	**37**	*ePn*		**Pn**	**18 07 48.0**	**+1.3**
KHAL	**Karahalli**	**3.16**	**36**	*i* P		**Pn**	**18 07 48.4**	**+1.4**
KHAL				*i* S		**Sn**	**18 08 23.3**	**-0.4**
KHAL	**Karahalli**	**3.16**	**36**	*i* P		**Pn**	**18 07 48.4**	**+1.4**
KHAL				*i* S		**Sn**	**18 08 23.3**	**-0.4**
KYTH	**Kithira**	**3.36**	**279**	*eP*		**Pn**	**18 07 50.6**	**+0.9**
KYTH	**Kithira**	**3.36**	**279**	*eP*		**Pn**	**18 07 50.6**	**+0.9**
ISP	**Isparta**	**3.37**	**53**	P		**Pn**	**18 07 51.1**	**+1.3**
ISP	**Isparta**	**3.37**	**53**	*ePN*		**Pn**	**18 07 51.4**	**+1.6**
ISP	**Isparta**	**3.37**	**53**	P		**Pn**	**18 07 51.1**	**+1.3**
ISP	**Isparta**	**3.37**	**53**	*ePn*		**Pn**	**18 07 51.4**	**+1.6**
ATHU	**Athens Univers**	**3.44**	**309**	P		**Pn**	**18 07 51.8**	**+1.0**
ATHU	**Athens Univers**	**3.44**	**309**	P		**Pn**	**18 07 51.8**	**+1.0**
PTL	**Penteli**	**3.44**	**311**	P		**Pn**	**18 07 51.7**	**+0.9**
PTL	**Penteli**	**3.44**	**311**	P		**Pn**	**18 07 51.7**	**+0.9**
DEMI	**Demirci**	**3.45**	**21**	*i* P		**Pn**	**18 07 52.0**	**+1.0**
DEMI				*i* S		**Sn**	**18 08 29.5**	**-1.2**
DEMI	**Demirci**	**3.45**	**21**	*i* P		**Pn**	**18 07 52.0**	**+1.0**
DEMI				*i* S		**Sn**	**18 08 29.5**	**-1.2**
PRK	**Paraskevi**	**3.49**	**349**	P		**Pn**	**18 07 52.3**	**+0.9**
PRK	**Paraskevi**	**3.49**	**349**	*eP*		**Pn**	**18 07 51.9**	**+0.5**
PRK	**Paraskevi**	**3.49**	**349**	*eP*		**Pn**	**18 07 51.9**	**+0.5**
SUTC	**Sutluce-Ispart**	**3.51**	**61**	*ePN*		**Pn**	**18 07 53.1**	**+1.3**
SUTC	**Sutluce-Ispart**	**3.51**	**61**	*ePn*		**Pn**	**18 07 53.1**	**+1.3**
VLI	**Veliai**	**3.52**	**286**	P		**Pn**	**18 07 52.8**	**+1.0**
VLI				S		**Sn**	**18 08 30.7**	**-1.5**
VLI	**Veliai**	**3.52**	**286**	*eP*		**Pn**	**18 07 52.9**	**+1.1**
VLI	**Veliai**	**3.52**	**286**	*eP*		**Pn**	**18 07 52.9**	**+1.1**
VLI				S		**Sn**	**18 08 30.7**	**-1.5**
SIGR	**SIGRI**	**3.54**	**344**	P		**Pn**	**18 07 52.7**	**+0.7**
SIGR	**SIGRI**	**3.54**	**344**	*eP*		**Pn**	**18 07 52.7**	**+0.7**
SIGR	**SIGRI**	**3.54**	**344**	*eP*		**Pn**	**18 07 52.7**	**+0.7**
DID	**Didima**	**3.56**	**299**	P		**Pn**	**18 07 53.8**	**+1.3**
DID				S		**Sn**	**18 08 32.0**	**-1.4**
DID	**Didima**	**3.56**	**299**	*eP*		**Pn**	**18 07 53.8**	**+1.3**
DID	**Didima**	**3.56**	**299**	*eP*		**Pn**	**18 07 53.8**	**+1.3**
DID				S		**Sn**	**18 08 32.0**	**-1.4**
SHUT	**Suhut-Afyon**	**3.85**	**44**	*ePN*		**Pn**	**18 07 56.9**	**+0.5**
SHUT	**Suhut-Afyon**	**3.85**	**44**	*ePn*		**Pn**	**18 07 56.9**	**+0.5**
LTK	**Loutraki**	**4.00**	**305**	P		**Pn**	**18 07 59.2**	**+0.8**
LTK	**Loutraki**	**4.00**	**305**	P		**Pn**	**18 07 59.2**	**+0.8**
TVSB	**Tavsanli**	**4.06**	**26**	*ePN*		**Pn**	**18 08 00.5**	**+1.2**
TVSB	**Tavsanli**	**4.06**	**26**	*ePn*		**Pn**	**18 08 00.5**	**+1.2**
GAZI	**Gazipasa**	**4.21**	**83**	*i* P		**Pn**	**18 08 00.6**	**-0.7**
GAZI				*i* S		**Sn**	**18 08 45.4**	**-3.8**
GAZI	**Gazipasa**	**4.21**	**83**	*i* P		**Pn**	**18 08 00.6**	**-0.7**
GAZI				*i* S		**Sn**	**18 08 45.4**	**-3.8**
AKMC	**Akamas**	**4.31**	**99**	P		**Pn**	**18 08 02.9**	**+0.3**
	baz=268							
AKMC	**Akamas**	**4.31**	**99**	P		**Pn**	**18 08 02.9**	**+0.3**
PPCY	**Paphos**	**4.35**	**101**	P		**Pn**	**18 08 03.4**	**+0.3**
	baz=270							
PPCY	**Paphos**	**4.35**	**101**	P		**Pn**	**18 08 03.4**	**+0.3**
LIA	**Limnos Island**	**4.36**	**340**	P		**Pn**	**18 08 04.1**	**+0.9**
LIA	**Limnos Island**	**4.36**	**340**	P		**Pn**	**18 08 04.1**	**+0.9**
GUR	**Goura**	**4.39**	**300**	*eP*		**Pn**	**18 08 06.0**	**+2.2**
GUR	**Goura**	**4.39**	**300**	*eP*		**Pn**	**18 08 06.0**	**+2.2**
ITM	**Ithomi**	**4.42**	**289**	*eP*		**Pn**	**18 08 06.2**	**+2.1**
ITM	**Ithomi**	**4.42**	**289**	*eP*		**Pn**	**18 08 06.2**	**+2.1**
PYL	**PYLOS**	**4.49**	**285**	P		**Pn**	**18 08 06.0**	**+0.9**
PYL				S		**Sn**	**18 08 56.0**	**0.0**
PYL	**PYLOS**	**4.49**	**285**	P		**Pn**	**18 08 06.0**	**+0.9**
PYL				S		**Sn**	**18 08 56.0**	**0.0**
ALFC	**Alevga**	**4.50**	**97**	P		**Pn**	**18 08 05.7**	**+0.5**
	baz=267							
ALFC				S		**Sn**	**18 08 50.8**	**-5.5**
ALFC	**Alevga**	**4.50**	**97**	P		**Pn**	**18 08 05.7**	**+0.5**
KLV	**Kalavryta, Ach**	**4.58**	**300**	P		**Pn**	**18 08 07.6**	**+1.3**
KLV				S		**Sn**	**18 08 56.9**	**-1.3**
KLV	**Kalavryta, Ach**	**4.58**	**300**	P		**Pn**	**18 08 07.6**	**+1.3**
KLV				S		**Sn**	**18 08 56.9**	**-1.3**
SLUM		**4.61**	**201**	P		**Pn**	**18 08 07.2**	**+0.5**
	baz=204							
SLUM		**4.61**	**201**	P		**Pn**	**18 08 07.2**	**+0.5**
AMT	**Artemida-Makis**	**4.69**	**293**	*eP*		**Pn**	**18 08 09.8**	**+2.0**
AMT	**Artemida-Makis**	**4.69**	**293**	*eP*		**Pn**	**18 08 09.8**	**+2.0**
HMAT	**Matruh**	**4.71**	**181**	S		**Sn**	**18 08 58.2**	**-3.4**
	baz=183							
HMAT	**Matruh**	**4.71**	**181**	S		**Sn**	**18 08 58.2**	**-3.4**
LEF	**Lefka**	**4.74**	**97**	*ePN*		**Pn**	**18 08 10.6**	**+2.2**
LEF	**Lefka**	**4.74**	**97**	*

comp=E,1.7nm,0.7s
PAGF Fort de Pagny 20.26 316 *e*P P **18 11 28.2 -0.5**
comp=E,0.9nm,0.7s
SMF Signal de Mont 20.52 309 *e*P P **18 11 30.0 -1.6**
SMF Signal de Mont 20.52 309 *e*P P **18 11 30.0 -1.6**
LOR Lormes 20.76 311 *e*P P **18 11 34.4 +0.2**
LOR *e*R
comp=E,117nm,22.2s
LOR Lormes 20.76 311 *e*P P **18 11 34.4 +0.2**
AVF Avril sur Loir 20.89 309 *e*P P **18 11 33.8 -1.7**
AVF Avril sur Loir 20.89 309 *e*P P **18 11 33.8 -1.7**
SSF Saint Saulge 20.90 310 *e*P P **18 11 34.9 -0.7**
comp=E,12nm,0.7s
SSF Saint Saulge 20.90 310 *e*P P **18 11 34.9 -0.7**
comp=E,6.2nm,0.7s
BGF Bois d'Agland 21.12 308 *e*P P **18 11 37.4 -0.6**
BGF Bois d'Agland 21.12 308 *e*P P **18 11 37.4 -0.6**
BAIF Baives 21.89 318 *e*P P **18 11 45.1 -1.1**
MFF Saint Martin d 23.07 306 *e*P P **18 11 57.0 -1.7**
MFF Saint Martin d 23.07 306 *e*P P **18 11 57.0 -1.7**
LDF La Druitiere 23.75 311 *e*P P **18 12 03.3 -1.6**
LDF La Druitiere 23.75 311 *e*P P **18 12 03.3 -1.6**
FLN La Foliniere 24.03 311 *e*P P **18 12 06.9 -0.5**
FLN *e*R
comp=E,192nm,18.8s
GRR Gorron 24.13 310 *e*P P **18 12 07.3 -0.9**
GRR Gorron 24.13 310 *e*P P **18 12 07.3 -0.9**
ESDC Sonseca Array 24.83 288 P P **18 12 15.2 +0.3**
comp=E,0.2nm,0.5s,baz=81,slow=9.8,SNR=4.3
FINES FINESS Array B 25.65 359 P P **18 12 21.6 -0.4**
comp=E,3.3nm,0.9s,baz=163,slow=11,SNR=8.8
EKA Eskdalemuir Ar 28.46 323 P P **18 12 46.5 -0.8**
comp=E,1.1nm,0.9s,baz=140,slow=9.4,SNR=2.8
TORD Torodi Ar. Bea 32.16 232 P P **18 13 21.0 +0.8**
comp=E,0.3nm,0.4s,baz=32,slow=8.3,SNR=4.6
ARCES ARCESS Array B 33.78 359 P P **18 13 32.8 -1.0**
comp=E,3.7nm,1.0s,baz=182,slow=8.5,SNR=6.1

IDC 01 18:08:33.0±2.1, 4°30S×130°28E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=114.5km s-min=29.0km az=70.0, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.04 166**	Pn	Pn	18 12 18.8	-1.5
	0.1nm,0.3s,baz=346,slow=11,SNR=3.8					
ASAR	**Alice Springs**	**19.57 170**	P	P	18 13 03.4	+0.6
	0.1nm,0.3s,baz=349,slow=9.2,SNR=13					
MKAR	**Makanchi Array**	**66.14 326**	P	P	18 19 22.4	0.0
	0.1nm,0.5s,baz=139,slow=7.7,SNR=4.1					

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*MOS **01** 18:14:27.1±0.9, 6°63S×130°03E, h123km, mb4.9/10, Error ellipse: s-maj=17.3km s-min=6.6km az=114.7*
*BJI **01** 18:14:27.9, 6°98S×130°28E, h166km, mB4.9/27, mb4.9/41*
*KLM **01** 18:14:29.9, 6°93S×129°88E, h100km, mb4.9, MS6.1*
*ISCJB **01** 18:14:31.7±0.3, 6°73S±0°02×130°14E±0°03, h173km±3km, mb4.7/63, Error ellipse: s-maj=4.5km s-min=3.6km az=140.9*
*IDC **01** 18:14:31.8±1.9, 6°68S×129°97E, h154km±17km, mb4.0/16, mb1 4.1/18, mb1mx4.0/24, mbtmp4.5/18, MS3.5/1, Ms1 3.5/1, ms1mx2.7/29, Error ellipse: s-maj=17.2km s-min=9.7km az=77.0*
*NEIC **01** 18:14:32.2±0.8, 6°70S×130°02E, h161km±8km, mb4.8/22, Error ellipse: s-maj=9.1km s-min=5.5km az=56.0*
*DJA **01** 18:14:33.6±0.2, 7°S×13°0E±°, h148km±3km, M5.0/49, mb5.0/49, mB5.4/20, MLv5.4/14, Mw(mB)4.8/20*
ISC 01 18:14:32.4±0.3, 6°74S±0°04×130°03E±0°04, h164km±2km, n263, σ1°45/290, mb4.7/62, 17C-7D, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.77 135**	P	**Pn**	**18 15 06.2**	**+0.5**
SAUI			S	**Sn**	**18 15 33.8**	**+2.3**
BNDI	**Bandanaira**	**2.20 357**	P	**Pn**	**18 15 11.1**	**+0.4**
MSAI	**Masohi**	**3.54 342**	P	**Pn**	**18 15 27.7**	**+0.6**
MSAI			S	**Sn**	**18 16 08.9**	**-0.9**
FAKI	**Fak Fak**	**4.39 30**	P	**Pn**	**18 15 35.2**	**-2.9**
FAKI			S	Sn	18 16 21.5	-7.9
FAKI	**Fak Fak**	**4.39 30**	P	**Pn**	**18 15 35.2**	**-2.9**
	baz=4.3,SNR=687					
FAKI			S	Sn	18 16 23.3	-6.1
	baz=4.3,SNR=28					
NLAI	**Namlea**	**4.54 320**	P	Pn	18 15 43.9	+3.9
SWI	**Sorong**	**5.96 12**	P	**Pn**	**18 15 55.7**	**-3.0**
	214nm,0.3s,26µm5.7nm					
MTN	**Manton Dam**	**6.17 170**	P	**Pn**	**18 16 00.9**	**-0.5**
	baz=6.3,SNR=262					
MTN			S	**Sn**	**18 17 07.5**	**-3.8**
	baz=6.3,SNR=16					
KDU	**Kakadu**	**6.38 158**	P	**Pn**	**18 16 03.2**	**-1.0**
	baz=6.5,SNR=316					
KDU			S	**Sn**	**18 17 12.8**	**-3.7**
	baz=6.5,SNR=6.6					
SOEI	**Soe**	**6.45 242**	P	**Pn**	**18 16 06.0**	**+0.7**
	1µm,0.8s,10µm4.4nm					
SOEI	**Soe**	**6.45 242**	P	**Pn**	**18 16 05.9**	**+0.7**
	baz=6.5,SNR=132					
LBMI	**Labuha**	**6.56 337**	P	**Pn**	**18 16 06.8**	**+0.1**
	318nm,0.9s,4µm1.3nm					
MWPI	**Manokwari, Pap**	**7.02 35**	P	x	18 16 11.7	
	2µm,0.7s,24µm10nm					
SRPI	**Serui, Papua**	**7.85 52**	P	**Pn**	**18 16 22.0**	**-1.8**
	441nm,0.8s,7µm2.4nm					
TNTI	**Ternate**	**7.92 340**	P	**Pn**	**18 16 24.5**	**-0.2**
	56nm,0.9s,0.2nm					
TNTI	**Ternate**	**7.92 340**	*e*Pn	**Pn**	**18 16 23.8**	**-0.9**
MMRI	**Maumere**	**7.95 256**	P	**Pn**	**18 16 26.2**	**+1.1**
	133nm,1.0s,1µm					
BAKI	**Biak**	**8.19 48**	P	**Pn**	**18 16 27.9**	**-0.4**
	2µm,0.8s,16µm6.4nm					
KNRA	**Kununurra**	**8.97 188**	P	**Pn**	**18 16 36.9**	**-1.7**
	baz=9.1,SNR=134					
KNRA			S	Sn	18 18 11.0	-7.5
	baz=9.1,SNR=13					
LUWI	**Luwuk**	**9.19 308**	P	**Pn**	**18 16 43.7**	**+2.2**
	74nm,1.0s,935nm					
LUWI	**Luwuk**	**9.19 308**	P	**Pn**	**18 16 44.1**	**+2.6**
	baz=9.1,SNR=5.5					
KMSI	**Cibinong**	**9.44 320**	P	**Pn**	**18 16 42.0**	**-2.9**
	110nm,1.2s					
BKSI	**Bulukumba**	**9.95 278**	P	Pn	18 16 56.1	+4.5
	30nm,0.8s					
WSI	**Waingapu**	**10.06 253**	P	**Pn**	**18 16 51.5**	**-1.6**
	396nm,0.7s,6µm					
WSI	**Waingapu**	**10.06 253**	P	**Pn**	**18 16 51.9**	**-1.2**
	baz=10,SNR=17					
WSI			S	**Sn**	**18 18 42.5**	**-2.3**
	baz=10,SNR=4.3					
BNSI	**Bone**	**10.15 283**	P	**P**	**18 17 01.4**	**-2.2**
	55nm,0.8s					
APSI	**Ampana**	**10.17 304**	P	**Pn**	**18 16 57.1**	**+2.7**
	191nm,1.0s,2µm					
LBFI	**Labuhan Bajo,**	**10.20 260**	P	x	18 16 53.5	
	124nm,0.8s,1µm					
MMPI	**Merauke**	**10.40 100**	P	**Pn**	**18 16 55.7**	**-1.8**
	321nm,1.5s					
SPSI	**Sidrap Palu**	**10.58 285**	P	**P**	**18 17 09.3**	**+0.9**
	87nm,0.6s,1µm					
MRSI	**Marisa**	**10.79 311**	P	**Pn**	**18 17 04.3**	**+1.6**
	311nm,1.0s,3µm					
TTSI	**Tana Toraja**	**10.81 289**	P	Pn	18 17 06.4	+3.5
	26nm,0.8s					
GENI	**Genyem**	**10.91 68**	P	**Pn**	**18 17 03.6**	**-0.6**
	62nm,0.9s,1µm					
JAY	**Jayapura**	**11.43 69**	P	**Pn**	**18 17 10.9**	**-0.1**
	baz=11,SNR=7.5					
JAY			S	**Sn**	**18 19 16.0**	**-1.9**
	baz=11,SNR=5.8					
MJSI	**Majene**	**11.45 286**	P	x	18 17 15.1	
	62nm,0.8s					
MMSI	**Mamuju**	**11.79 289**	P	x	18 17 20.3	
	54nm,0.6s					
TOLI	**Toli-Toli**	**12.08 310**	P	x	18 17 22.6	
	64nm,0.6s,3µm					
WRA	**Warramunga Arr**	**13.78 163**	P	**Pn**	**18 17 38.5**	**-2.6**
WRA			S	Sn	18 20 03.8	-10
WRA	**Warramunga Arr**	**13.78 163**	P	**Pn**	**18 17 38.5**	**-2.6**
	0.9nm,0.3s,baz=344,slow=13,SNR=25					
WRA			S	Sn	18 20 03.8	-10
	5.0nm,0.3s,baz=343,slow=22,SNR=11					
BKB	**Balikpapan**	**14.18 292**	P	**P**	**18 17 50.7**	**+2.0**
	97nm,0.9s					
KBKI	**Kotabaru**	**14.22 283**	P	**P**	**18 17 49.5**	**+0.3**
	48nm,0.9s,2µm					
KHKI	**Kahang-Kahang**	**14.39 263**	P	x	18 17 47.3	
	18nm,0.8s					
COEN	**Coen**	**14.78 120**	*e*P	**Pn**	**18 17 53.1**	**-0.4**
	353nm,0.8s					
COEN	**Coen**	**14.78 120**	P	**Pn**	**18 17 53.8**	**+0.2**
	baz=15,SNR=51					
CTBH	**Cotabato--PC H**	**15.02 337**	⇓*i*P	**P**	**18 17 58.8**	**+0.9**
BBKI	**Banjar Baru**	**15.47 281**	P	**P**	**18 18 06.1**	**+3.1**
	232nm,0.8s					
BYJI	**Banyuwangi**	**15.61 264**	P	x	18 18 06.6	
	58nm,0.8s					
JAGI	**Jajag, Banyuwa**	**15.83 263**	*e*P	**Pn**	**18 18 06.5**	**-0.1**
	17nm,0.8s					
JAGI	**Jajag, Banyuwa**	**15.83 263**	P	**Pn**	**18 18 04.4**	**-2.2**
	baz=16,SNR=16					
JAGI			S	S	18 20 49.9	-13
	baz=16,SNR=5.4					
KMMI	**Kalianget**	**15.95 268**	P	**P**	**18 18 12.5**	**+4.2**
	59nm,0.7s					
MTKI	**Muara Teweh, K**	**16.16 290**	P	**P**	**18 18 13.1**	**+2.5**
	130nm,0.7s					
BLJI	**Banyuglugur**	**16.34 265**	P	**Pn**	**18 18 14.1**	**+1.5**
	35nm,0.7s					
TSM	**Tawau**	**16.35 312**	⇓P	**Pn**	**18 18 13.8**	**+1.0**
MYLDM	**Lahad Datu**	**16.51 316**	P	x	18 18 16.1	
	33nm,1.4s					
MYLDM	**Lahad Datu**	**16.51 316**	*e*Pn	**Pn**	**18 18 17.5**	**+2.8**
	41nm,1.2s					
MYLDM	**Lahad Datu**	**16.51 316**	⇑P	**Pn**	**18 18 17.1**	**+2.3**
GMJI	**Gumukmas**	**16.52 264**	P	**P**	**18 18 12.7**	**-1.8**
	26nm,1.5s					
QIS	**Mount Isa**	**16.58 147**	P	**Pn**	**18 18 15.6**	**+0.1**
	baz=17,SNR=12					
PMG	**Port Moresby**	**17.16 100**	P	x	18 18 23.8	
	87nm,1.2s,858nm					
PMG	**Port Moresby**	**17.16 100**	P	**Pn**	**18 18 23.7**	**+1.1**
PMG			S	S	18 21 22.9	-9.4
PMG	**Port Moresby**	**17.16 100**	P	**Pn**	**18 18 23.7**	**+1.1**
	1.4nm,0.3s,baz=314,slow=6.0,SNR=16					
PMG			S	S	18 21 22.9	-9.4
	0.5nm,0.3s,baz=143,slow=20,SNR=4.6					
AS31	**Alice Springs**	**17.24 168**	*e*P	**Pn**	**18 18 23.7**	**+0.2**
ASAR	**Alice Springs**	**17.24 168**	P	**Pn**	**18 18 24.0**	**+0.5**
ASAR			S	S	18 21 24.9	-8.9
ASAR	**Alice Springs**	**17.24 168**	P	**Pn**	**18 18 24.0**	**+0.5**
	1.1nm,0.3s,baz=348,slow=11,SNR=57					
ASAR			S	S	18 21 24.9	-8.9
	0.7nm,0.3s,baz=347,slow=21,SNR=8.2					
SDKM	**Sandakan**	**17.76 314**	⇓P	**Pn**	**18 18 30.6**	**+0.9**
MANU	**Manus Island**	**17.90 76**	P	**Pn**	**18 18 32.6**	**+1.3**
	baz=18,SNR=6.7					
PWJI	**Pagerwojo**	**18.12 265**	P	**P**	**18 18 33.2**	**+1.1**
	29nm,1.5s					
WRKA	**Warakurna**	**18.27 185**	P	**Pn**	**18 18 35.3**	**-0.4**
	baz=18,SNR=18					
WRKA			S	**S**	**18 21 51.6**	**-2.7**
	baz=18,SNR=4.1					
PBKI	**Pangkalan Bun**	**18.73 281**	P	**Pn**	**18 18 41.1**	**0.0**
	159nm,0.8s					
UGM	**Wanagama**	**19.38 265**	P	**Pn**	**18 18 52.0**	**+3.2**
	baz=19,SNR=3.6					
BTM	**Bintulu**	**19.59 300**	⇑P	**Pn**	**18 18 50.6**	**-0.6**
STKI	**Sintang**	**19.71 289**	P	**Pn**	**18 18 56.0**	**+3.4**
	17nm,1.2s					
SBUM	**Sibu**	**19.98 297**	P	x	18 18 54.6	
	48nm,1.1s					
SBUM	**Sibu**	**19.98 297**	*e*P	Pn	18 18 54.7	-1.3
	30nm,0.6s					
SBUM	**Sibu**	**19.98 297**	⇓P	Pn	18 18 55.0	-1.0
BJII	**Banjamegara**	**20.18 267**	P	x	18 19 01.4	
	29nm,1.8s					
CTA	**Charters Tower**	**20.59 132**	P	**P**	**18 18 59.2**	**+0.5**
CTA	**Charters Tower**	**20.59 132**	P	**P**	**18 18 59.2**	**+0.5**
	7.4nm,0.9s,baz=290,slow=12,SNR=3.9					
CTAO	**Charters Tower**	**20.59 132**	P	**P**	**18 18 59.1**	**+0.3**
CTAO			pmax	pmax		
	comp=Z,16nm,1.1s					
CTAO	**Charters Tower**	**20.59 132**	P	**P**	**18 18 59.1**	**+0.3**
	comp=Z,16nm,1.1s					
KPJI	**Karang Pucung**	**20.95 267**	P	**P**	**18 19 04.7**	**+2.1**
	comp=Z,34nm,0.6s					
KSM	**Kuching**	**21.31 292**	*e*P	**P**	**18 19 06.2**	**-0.3**
	comp=Z,37nm,1.2s					
KSM	**Kuching**	**21.31 292**	P	**P**	**18 19 06.9**	**+0.4**
	baz=21,SNR=11					
KSM	**Kuching**	**21.31 292**	⇓P	**P**	**18 19 07.6**	**+1.1**
CISI	**Cisompet, Garu**	**22.06 267**	P	**P**	**18 19 15.4**	**+1.0**
	comp=Z,110nm,0.8s					
CISI	**Cisompet, Garu**	**22.06 267**	*e*P	**P**	**18 19 14.2**	**-0.2**
	comp=Z,75nm,0.8s					
CISI	**Cisompet, Garu**	**22.06 267**	P	**P**	**18 19 15.6**	**+1.2**
	baz=22,SNR=5.3					
LEM	**Lembang**	**22.26 268**	P	**P**	**18 19 20.6**	**+4.2**
	comp=Z,55nm,1.1s					
MEEK	**Meekatharra**	**22.58 207**	P	**P**	**18 19 21.9**	**+2.7**
	baz=23,SNR=5.6					
TGY	**Tagaytay City**	**22.59 336**	P	**P**	**18 19 18.8**	**-0.5**
TGY	**Tagaytay City**	**22.59 336**	P	**P**	**18 19 18.8**	**-0.5**
	comp=Z,118nm,0.7s,baz=176,slow=5.6,SNR=7.6					
TPI	**Tanjungpandan**	**22.64 279**	P	P	18 19 25.0	+5.1
	comp=Z,25nm,1.1s					
CBJI	**Citeko**	**23.03 269**	P	**P**	**18 19 26.3**	**+2.9**
	comp=Z,174nm,1.2s					
KMBL	**Kambalda**	**25.66 196**	P	**P**	**18 19 47.9**	**+0.8**
	baz=26,SNR=5.5					
STKA	**Stephens Creek**	**27.25 158**	P	**P**	**18 20 02.0**	**+0.8**
STKA	**Stephens Creek**	**27.25 158**	P	**P**	**18 20 02.0**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=265,slow=6.5,SNR=4.3					
MYKOM	**Kota Tinggi**	**27.47 287**	P	x	18 20 06.7	
	comp=Z,40nm,1.3s					
MYKOM	**Kota Tinggi**	**27.47 287**	*e*P	**P**	**18 20 06.7**	**+3.2**
	comp=Z,31nm,0.6s					
MYKOM	**Kota Tinggi**	**27.47 287**	⇓P	**P**	**18 20 07.1**	**+3.6**
KGM	**Kluang**	**28.05 287**	⇑P	P	18 20 12.1	+3.5
RGRI	**Rengat**	**28.35 282**	P	P	18 20 30.6	+19
NWAO	**Narrogin (SRO)**	**28.65 203**	P	**P**	**18 20 14.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**28.65 203**	P	**P**	**18 20 14.0**	**+0.3**
	comp=Z,12nm,1.1s,baz=18,slow=8.9,SNR=4.2					
NWAO			LR	LR	18 33 23.2	
	comp=Z,86nm,18.3s,baz=42,slow=40					
CMSA	**Cobar Meteorol**	**28.69 151**	P	**P**	**18 20 15.5**	**+1.4**
	baz=29,SNR=6.5					
FRIM	**Kepong**	**30.04 288**	⇑P	**P**	**18 20 29.2**	**+2.9**
IPM	**Ipoh**	**31.02 290**	⇑P	**P**	**18 20 37.1**	**+2.2**
KULM	**Kulim**	**31.66 291**	*e*P	**P**	**18 20 39.3**	**-1.3**
	comp=Z,27nm,1.3s					
KULM	**Kulim**	**31.66 291**	⇑P	**P**	**18 20 40.2**	**-0.3**
QIZ	**Qiongzhong**	**32.42 322**	P	**P**	**18 20 47.3**	**+0.2**
QIZ			pP	**pP**	**18 21 20.4**	**-1.2**
QIZ			sP	**sP**	**18 21 39.7**	**-0.7**
QIZ			S	**S**	**18 25 49.8**	**+0.1**
QIZ			pmax	pmax		
	comp=Z,13nm,1.6s					
QIZ			pmax	pmax		
	comp=Z,89nm,4.6s					
PSI	**Prapat**	**32.47 286**	P	x	18 20 48.5	
PSI	**Prapat**	**32.47 286**	P	**P**	**18 20 46.0**	**-1.7**
PSI	**Prapat**	**32.47 286**	P	**P**	**18 20 46.0**	**-1.7**
	comp=Z,22nm,0.8s,baz=98,slow=4.4,SNR=15					
PSI	**Prapat**	**32.47 286**	P	**P**	**18 20 46.6**	**-1.1**
	baz=32,SNR=19					
UBPT	**Khong Chiam**	**32.73 312**	P	**P**	**18 20 50.7**	**+1.0**
	comp=Z,25nm,0.9s					
CHBT	**CHBT**	**33.66 305**	P	**P**	**18 20 57.6**	**-0.2**
	comp=Z,17nm,0.7s					
CHAI	**Chaiyaphum**	**35.74 309**	P	**P**	**18 21 15.0**	**-0.7**
	comp=Z,7.6nm,0.5s,comp=Z,106nm					
PBKT	**Sadao Tong**	**36.92 309**	P	P	18 21 30.7	+5.0
	comp=Z,11nm,1.1s,comp=Z,882nm					
SRDT	**SRDT**	**37.14 304**	P	**P**	**18 21 28.0**	**+0.4**
	comp=Z,94nm,0.9s,comp=Z,10µm					
SLVN	**Son La**	**37.89 318**	*e*P	**P**	**18 21 33.9**	**0.0**
	comp=Z,3.5nm,0.4s					
LAMP	**Lampang**	**39.10 310**	P	**P**	**18 21 44.3**	**+0.3**
	comp=Z,5.3nm,0.7s,comp=Z,46nm					
CM31	**Chiang Mai Arr**	**39.59 310**	*e*P	**P**	**18 21 47.5**	**-0.5**
	comp=Z,6.2nm,0.6s					
CMAR	**Chiang Mai Arr**	**39.59 310**	P	**P**	**18 21 48.1**	**+0.1**
CMAR			PcP	**PcP**	**18 23 53.5**	**+1.4**
CMAR			ScP	**ScP**	**18 27 25.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.59 310**	P	**P**	**18 21 48.1**	**+0.1**
	comp=Z,6.6nm,0.6s,baz=134,slow=7.0,SNR=116					
CMAR			PcP	**PcP**	**18 23 53.5**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=167,slow=2.5,SNR=6.7					
CMAR			ScP	**ScP**	**18 27 25.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=158,slow=3.2,SNR=6.2					
JNU	**Nakatsue**	**39.65 1**	P	**P**	**18 21 47.0**	**-1.3**
JNU	**Nakatsue**	**39.65 1**	P	**P**	**18 21 47.0**	**-1.3**
	comp=Z,6.7nm,1.0s,baz=220,slow=22,SNR=4.7					
WHN	**Wuhan**	**40.00 339**	P	**P**	**18 21 51.6**	**+0.4**
NJ2	**Nanjing**	**40.02 345**	*e*P	**P**	**18 21 51.6**	**+0.3**
NJ2			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA	**Guiyang**	**40.03 326**	⇑*i*P	**P**	**18 21 51.2**	**-0.5**
GYA			pP	**pP**	**18 22 28.7**	**+1.5**
GYA			PP	**PnPn**	**18 23 32.4**	**0.0**
GYA			PcP	**PcP**	**18 23 55.3**	**+1.8**
GYA			ScP	**ScP**	**18 27 28.0**	**+0.6**
GYA			S	**S**	**18 27 47.6**	**+2.1**
GYA			sS	**sS**	**18 28 49.2**	**+1.6**
GYA			SS	**SS**	**18 30 45.0**	**-4.8**
GYA			ScS	**ScS**	**18 31 39.8**	**-1.6**
GYA			pmax	pmax		
	comp=Z,20nm,0.8s					
GYA			pmax	pmax		
	comp=Z,120nm,5.0s					
MHMT	**Maesarieng**	**40.20 308**	P	**P**	**18 21 53.8**	**+0.7**
	comp=Z,5.8nm,1.1s					
CMAI	**Chiengmai2**	**40.40 312**	P	**P**	**18 21 55.4**	**+0.5**
	comp=Z,237nm,0.7s					
KMI	**Kunming**	**41.33 321**	⇑P	**P**	**18 22 03.2**	**+0.7**
KMI			pP	**pP**	**18 22 39.7**	**+1.5**
KMI			sP	**sP**	**18 22 58.4**	**+1.7**
KMI			PP	**PP**	**18 23 43.7**	**+2.2**
KMI			S	**S**	**18 28 06.3**	**+1.3**
KMI			sS	**sS**	**18 29 09.9**	**+2.5**
KMI			SS	**SS**	**18 31 10.1**	**-5.5**
KMI			pmax	pmax		
	comp=Z,28nm,0.7s					
KMI			pmax	pmax		
	comp=Z,46nm,3.1s					
KMI			LR	LR		
	comp=Z,400nm,12.0s					
KMI			LR	LR		
	comp=Z,470nm,14.1s					
KMI			LR	LR		
	comp=Z,290nm,12.5s					
ENH	**Enshi**	**41.74 333**	*e*P	**P**	**18 22 04.4**	**-1.2**
	comp=Z,12nm,0.6s					
MAJO	**Matsushiro**	**43.73 10**	P	**P**	**18 22 20.5**	**-0.9**
MAJO	**Matsushiro**	**43.73 10**	P	**P**	**18 22 20.5**	**-0.9**
MJAR	**Matsushiro Arr**	**43.73 10**	P	**P**	**18 22 19.4**	**-2.0**
MJAR	**Matsushiro Arr**	**43.73 10**	P	**P**	**18 22 19.4**	**-2.0**
	comp=Z,2.7nm,0.9s,baz=185,slow=10,SNR=6.8					
KSAR	**Wonju Array Be**	**43.99 358**	P	**P**	**18 22 23.8**	**+0.3**
KSRS	**Korea Array**	**44.00 358**	P	**P**	**18 22 23.8**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=177,slow=9.2,SNR=15					
CD2	**Chengdu**	**45.10 328**	*e*P	**P**	**18 22 31.6**	**-0.8**
CD2			sP	**sP**	**18 23 26.8**	**-0.2**
CD2			PP	**PP**	**18 24 20.0**	**-1.3**
CD2			S	**S**	**18 28 58.0**	**-1.4**
CD2			sS	**sS**	**18 30 02.5**	**-0.1**
CD2			SS	**ScS**	**18 32 17.4**	**+4.9**
CD2			pmax	pmax		
	comp=Z,30nm,0.7s					
CD2			pmax	pmax		
	comp=Z,150nm,8.3s					
XAN	**Xi'an**	**45.21 335**	P	**P**	**18 22 32.0**	**-1.3**
XAN			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BJT	**Baijiatuau**	**48.25 346**	*e*P	**P**	**18 22 56.0**	**-0.7**
	comp=Z,26nm,0.4s					
BJI	**Beijing**	**48.27 346**	P	**P**	**18 22 55.9**	**-0.9**
BJI			pmax	pmax		
	comp=Z,49nm,0.6s					
HHC	**Hu-ho-hao-te**	**50.30 342**	*e*P	**P**	**18 23 13.6**	**+1.2**
HHC			pP	**pP**	**18 23 49.2**	**-0.2**
HHC			PP	**PP**	**18 25 10.2**	**+0.6**
HHC			S	**S**	**18 30 13.3**	**+0.7**
HHC			sS	**sS**	**18 31 17.0**	**+0.1**
HHC			SS	**SS**	**18 33 46.4**	**-2.2**
HHC			pmax	pmax		
	comp=Z,22nm,0.9s					
HHC			pmax	pmax		
	comp=Z,210nm,7.0s					
USRK	**Ussuriysk Arra**	**50.73 2**	P	**P**	**18 23 15.1**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=195,slow=8.0,SNR=9.7					
MDJ	**Mudanjiang**	**51.12 360**	P	**P**	**18 23 19.4**	**+1.1**
MDJ			pP	**pP**	**18 23 55.7**	**+0.3**
MDJ			sP	**sP**	**18 24 13.5**	**0.0**
MDJ			ScP	**ScP**	**18 28 13.0**	**+0.3**
MDJ			PcS	**PcS**	**18 28 29.9**	**+0.6**
MDJ			S	**S**	**18 30 26.4**	**+3.0**
MDJ			sS	**sS**	**18 31 30.0**	**+2.1**
MDJ			pmax	pmax		
	comp=Z,16nm,2.5s					
MDJ			pmax	pmax		
	comp=Z,250nm,4.1s					
MDJ			LR	LR		
	comp=Z,29nm,16.1s					
MDJ			LR	LR		
	comp=Z,36nm,15.8s					
MDJ			LR	LR		
	comp=Z,32nm,17.1s					
LSA	**Lhasa**	**52.03 316**	*e*P	**P**	**18 23 26.3**	**+0.4**
LSA			pmax	pmax		
	comp=Z,29nm,0.7s					
LSA	**Lhasa**	**52.03 316**	*e*P	**P**	**18 23 26.3**	**+0.4**
	comp=Z,29nm,0.7s					
ODAN	**Odare**	**53.11 311**	*e*P	**P**	**18 23 33.3**	**-0.3**
	comp=Z,50nm,0.5s					
TAPN	**Taplejung**	**53.13 312**	*e*P	**P**	**18 23 33.7**	**-0.2**
	comp=Z,46nm,0.5s					
RAMN	**Ramite**	**53.75 310**	*e*P	**P**	**18 23 38.4**	**+0.1**
	comp=Z,122nm,0.5s					
GTA	**Gaotai**	**53.76 331**	*e*P	**P**	**18 23 38.4**	**+0.4**
GTA			pmax	pmax		
	comp=Z,21nm,0.8s					
JIRN	**Jiri**	**54.44 311**	*e*P	**P**	**18 23 43.2**	**-0.2**
	comp=Z,42nm,0.6s					
GUN	**Gumba**	**54.80 311**	*e*P	**P**	**18 23 45.8**	**-0.2**
	comp=Z,91nm,0.6s					
PKI	**Pulchoki**	**54.98 310**	*e*P	**P**	**18 23 46.7**	**-0.6**
	comp=Z,24nm,0.4s					
KKN	**Kakani**	**55.19 311**	*e*P	**P**	**18 23 48.4**	**-0.3**
	comp=Z,31nm,0.6s					
DMN	**Daman**	**55.23 310**	*e*P	**P**	**18 23 48.8**	**-0.2**
	comp=Z,49nm,0.9s					
GKN	**Gorkha**	**55.79 310**	*e*P	**P**	**18 23 52.7**	**-0.2**
	comp=Z,48nm,0.4s					
HYB	**Hyderabad**	**56.23 296**	*i* P	**P**

KSH pmax pmax
comp=Z,12nm,0.5s
KSH pmax pmax
comp=Z,220nm,7.1s
KSH LR LR
comp=Z,150nm,5.2s
KSH LR LR
comp=Z,170nm,6.0s
KSH LR LR
comp=Z,200nm,8.7s
MK31 Makanchi Array 68.02 327⇑ *i*P **P 18 25 14.5 +0.4**
MK31 Makanchi Array 68.02 327⇑ *i*P **P 18 25 14.5 +0.4**
MKAR Makanchi Array 68.02 327 P **P 18 25 14.7 +0.6**
MKAR Makanchi Array 68.02 327 P **P 18 25 14.7 +0.6**
MKAR Makanchi Array 68.02 327 P **P 18 25 14.7 +0.6**
comp=Z,37nm,0.6s,baz=123,slow=7.9,SNR=1033
YAK Yakutsk 68.56 360 *e*P **P 18 25 15.9 -1.1**
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK Yakutsk 68.56 360 *e*P **P 18 25 16.0 -1.1**
comp=N,27nm,0.9s
ULHL Ulahol 69.05 320 *i*P **P 18 25 21.6 +0.9**
ULHL Ulahol 69.05 320 P **P 18 25 21.7 +0.9**
SNR=7.4
KZA Kyzart 69.60 320 *i*P **P 18 25 25.8 +1.4**
KZA Kyzart 69.60 320 P **P 18 25 25.8 +1.4**
SNR=35
TKM2 Tokmak 2 69.80 320⇑ *i*P **P 18 25 25.8 +0.5**
TKM2 pmax pmax
comp=Z,26nm,0.6s
TKM2 Tokmak 2 69.80 320 P **P 18 25 26.3 +0.9**
SNR=44
TKM2 Tokmak 2 69.80 320⇑ *i*P **P 18 25 25.8 +0.5**
comp=Z,26nm,0.6s
KBK Karagaybulak 70.08 320 *i*P **P 18 25 28.2 +1.2**
KBK Karagaybulak 70.08 320 P **P 18 25 28.2 +1.2**
SNR=26
UCH Uchtor 70.15 319 *i*P **P 18 25 29.0 +1.3**
UCH Uchtor 70.15 319 P **P 18 25 29.1 +1.3**
SNR=38
AAK Ala-Archa 70.36 320 *c e*P **P 18 25 29.6 +0.9**
AAK pmax pmax
comp=Z,83nm,1.1s
AAK Ala-Archa 70.36 320 P **P 18 25 29.6 +0.9**
SNR=32
CHMS Chumysh 70.38 320 *i*P **P 18 25 28.9 +0.3**
CHMS Chumysh 70.38 320 P **P 18 25 29.0 +0.3**
SNR=15
KBL Kabul 70.62 310 *e*P **P 18 25 30.8 +0.3**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 70.62 310 *e*P **P 18 25 30.8 +0.3**
comp=Z,12nm,0.9s
KBL Kabul 70.62 310 P **P 18 25 31.0 +0.5**
baz=71,SNR=4.3
AML Almayashu 70.63 319 *i*P **P 18 25 31.8 +1.2**
AML Almayashu 70.63 319 P **P 18 25 31.8 +1.2**
SNR=55
USP Ospenovka 70.67 320 *i*P **P 18 25 31.3 +0.9**
USP Ospenovka 70.67 320 P **P 18 25 31.3 +0.9**
SNR=67
EKS2 Erkin-Say 70.83 320 *i*P **P 18 25 32.9 +1.4**
EKS2 Erkin-Say 70.83 320 P **P 18 25 32.9 +1.4**
SNR=50
EKS2 Erkin-Say 70.83 320 *e*P **P 18 25 32.8 +1.4**
comp=Z,30nm,0.7s
ZAA0 Zalesovo Array 71.36 334 *e*P **P 18 25 33.2 -1.0**
ZALV Zalesovo Beam 71.36 334 P **P 18 25 33.6 -0.7**
ZALV Zalesovo Beam 71.36 334 P **P 18 25 33.6 -0.7**
ZALV Zalesovo Beam 71.36 334 P **P 18 25 33.6 -0.7**
comp=Z,4.8nm,0.5s,baz=132,slow=5.7,SNR=33
SEY Seymchan 71.54 11 P **P 18 25 35.8 +0.7**
SEY Seymchan 71.54 11 P **P 18 25 35.8 +0.7**
SEY Seymchan 71.54 11 P **P 18 25 35.8 +0.7**
comp=Z,7.5nm,1.0s,baz=39,slow=23,SNR=12
KURK Kurchatov 72.31 329 *i*P **P 18 25 40.2 +0.2**
VNDA Vanda 72.70 173 *e*P **P 18 25 42.7 +0.8**
comp=Z,3.1nm,0.9s
VNDA Vanda 72.70 173 P **P 18 25 42.9 +1.0**
comp=Z,2.3nm,0.8s,baz=332,slow=4.0,SNR=6.5
KKAR Karatay Array 73.16 319⇑ *e*P **P 18 25 45.4 +0.1**
KKAR pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 73.16 319⇑ *e*P **P 18 25 45.4 +0.1**
comp=Z,19nm,1.0s
IDAH Dahanechah 77.21 306 *e*P **P 18 26 10.3 +1.3**
IKOO Kooshah 77.82 305 *e*P **P 18 26 13.0 +0.7**
BRVK Borovoye 77.93 328⇑ *e*P **P 18 26 12.1 0.0**
BRVK pmax pmax
comp=Z,12nm,1.3s
IMYA Miami 78.09 309 *e*P **P 18 26 14.3 +0.7**
ITEG Tejag 78.16 305 *e*P **P 18 26 14.8 +0.7**
TIKI Tiksi 78.23 360⇓ *i*P **P 18 26 12.7 -0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
IPAY Payeh 78.97 309 *e*P **P 18 26 18.8 +0.3**
IKRD Kardeh 79.44 309 *e*P P 18 26 17.6 -3.4
IBAF Bafgh 80.43 304 *e*P **P 18 26 26.6 +0.2**
ISAD Sadrabad 82.06 303 *e*P **P 18 26 35.4 +0.3**
IPAR Pars 82.14 301 *e*P **P 18 26 35.7 +0.1**
ABKAR Akbulak array 82.32 322 *e*P **P 18 26 35.1 -0.7**
comp=Z,2.6nm,0.5s
QSPA South Pole Qui 83.24 180 P **P 18 26 39.9 -0.4**
QSPA South Pole Qui 83.24 180 P **P 18 26 39.9 -0.4**
comp=Z,1.8nm,0.8s,baz=338,slow=4.4,SNR=6.7
AKTO Aktyubinsk 83.89 322 P **P 18 26 43.8 0.0**
AKTO Aktyubinsk 83.89 322 P **P 18 26 43.8 0.0**
AKTO Aktyubinsk 83.89 322 P **P 18 26 43.8 0.0**
comp=Z,4.7nm,0.7s,baz=111,slow=6.7,SNR=18
IKLH Kolahrood 84.10 304 *e*P **P 18 26 46.4 +0.8**
SVE Sverdlovsk 84.56 329 *e*P **P 18 26 47.4 +0.4**
ARU Arti 85.50 328 *c i*P **P 18 26 51.2 -0.5**
ARU 18 30 07.0
ARU S S 18 37 00.3 -8.9
ARU SS SS 18 42 57.0 +8.3
ARU pmax pmax
comp=Z,9.0nm,1.0s
IRAZ Razeghan 85.86 306 *e*P **P 18 26 54.8 +0.6**
IVIS Veis 88.19 305 *e*P **P 18 27 05.4 +0.1**
MCK McKinley 92.03 26 P **P 18 27 24.1 +1.6**
MCK McKinley 92.03 26 P **P 18 27 24.1 +1.6**
YKA Yellowknife Ar 107.50 26 PKKPbc PKKPbc 18 43 55.1 -2.2
YKA Yellowknife Ar 107.50 26 PKKPbc PKKPbc 18 43 55.1 -2.2
comp=Z,0.2nm,0.7s,baz=98,slow=2.9,SNR=4.7
GERES GERESS Array B 112.24 320 PKiKP **PKiKP 18 32 48.6 -0.2**
GERES GERESS Array B 112.24 320 PKiKP **PKiKP 18 32 48.6 -0.2**
comp=Z,0.4nm,0.5s,baz=80,slow=1.5,SNR=6.5
MSKU Masuku 116.00 265 PKP **PKPdf 18 32 59.6 +2.7**
MSKU Masuku 116.00 265 PKP **PKPdf 18 32 59.6 +2.7**
comp=Z,13nm,0.8s,baz=337,slow=0.3,SNR=18
PDAR Pinedale Array 116.68 45 PKP **PKPdf 18 32 58.3 +0.6**
PDAR Pinedale Array 116.68 45 PKP **PKPdf 18 32 58.3 +0.6**
comp=Z,0.3nm,0.7s,baz=278,slow=2.6,SNR=3.0
EKA Eskdalemuir Ar 118.95 332 PKP **PKPdf 18 33 00.8 -0.6**
EKA Eskdalemuir Ar 118.95 332 PKP **PKPdf 18 33 00.8 -0.6**
comp=Z,0.9nm,0.6s,baz=219,slow=26,SNR=3.5
TORD Torodi Ar. Bea 128.79 281 PKP **PKPdf 18 33 21.3 -0.1**
TORD SKPbc SKiKP 18 36 26.6 -16
TORD Torodi Ar. Bea 128.79 281 PKP **PKPdf 18 33 21.3 -0.1**
comp=Z,1.2nm,0.7s,baz=28,slow=1.7,SNR=8.3
TORD SKPbc SKiKP 18 36 26.6 -16
comp=Z,0.9nm,0.8s,baz=92,slow=2.7,SNR=5.1
PLCA Paso Flores 129.11 160 PKP **PKPdf 18 33 21.7 +0.2**
PLCA Paso Flores 129.11 160 PKP **PKPdf 18 33 21.7 +0.2**
comp=Z,1.9nm,0.8s,baz=77,slow=17,SNR=3.3
SCHQ Schefferville 130.16 13 SKPbc **SKPab 18 36 29.6 -1.1**
SCHQ Schefferville 130.16 13 SKPbc **SKPab 18 36 29.6 -1.1**
comp=Z,10nm,0.9s,baz=327,slow=3.6,SNR=8.0
DBIC Dimbokro 135.21 273 PKP **PKPdf 18 33 34.8 +1.2**
DBIC SKPbc **SKPbc 18 36 48.5 -0.8**
DBIC Dimbokro 135.21 273 PKP **PKPdf 18 33 34.8 +1.2**
comp=Z,1.7nm,0.8s,baz=115,slow=11,SNR=3.7
DBIC SKPbc **SKPbc 18 36 48.5 -0.8**
comp=Z,2.8nm,0.9s,baz=118,slow=0.9,SNR=3.6
CPUP Villa Florida 146.36 168 PKPbc **PKPbc 18 33 55.0 +0.3**
CPUP Villa Florida 146.36 168 PKPbc **PKPbc 18 33 55.0 +0.3**
comp=Z,4.8nm,0.7s,baz=184,slow=5.0,SNR=6.3
LPAZ La Paz 150.91 142 PKPbc **PKPbc 18 34 08.1 +0.6**
LPAZ La Paz 150.91 142 PKPbc **PKPbc 18 34 08.1 +0.6**
comp=Z,3.7nm,0.8s,baz=125,slow=1.2,SNR=9.4
RCBR Riachuelo 161.22 229 PKPab **PKPab 18 34 59.0 +0.2**
RCBR Riachuelo 161.22 229 PKPab **PKPab 18 34 59.0 +0.2**
comp=Z,7.6nm,0.8s,baz=74,slow=1.3,SNR=4.2

IDC 01 18:22:04.2±8.0, 31.71S×179.82E, h450km±100km, mb2.4/2, mb1 2.8/3, mb1mx2.7/18, mbtmp2.6/3, Error ellipse: s-maj=107.0km s-min=40.1km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.90**	**198**	P	P	18 23 48.0	+0.3
	3.0nm,0.3s,baz=244,slow=6.2,SNR=17						
URZ				S	S	18 25 12.7	+0.2
	4.6nm,0.3s,baz=67,slow=22,SNR=17						
ASAR	**Alice Springs**	**41.20**	**269**	P	P	18 29 07.8	-0.5
	0.3nm,0.8s,baz=108,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**42.31**	**275**	P	P	18 29 17.4	+0.2
	0.5nm,0.8s,baz=111,slow=8.0,SNR=5.7						
FINES	**FINESS Array B**	**145.69**	**338**	PKPbc	PKPdf	18 40 50.0	+0.5
	0.8nm,0.5s,baz=53,slow=3.4,SNR=12						

*DJA **01** 18:29:40.8±0.3, 2°S±2°×10°0E±°, h10km, M4.8/24, mb4.7/22, mB5.4/4, MLv4.9/24, Mw(mB)4.8/4*
*BJI **01** 18:29:40.7, 2.20S×100.50E, h10km, mB5.0/5, mb4.4/7, Ms4.7/2, Ms7 4.5/2*
*IDC **01** 18:29:41.6±0.5, 1.91S×101.13E, h0km, mb4.4/25, mb1 4.5/26, mb1mx4.4/31, mbtmp4.4/26, ML3.4/1, MS3.7/13, Ms1 3.7/13, ms1mx3.4/34, Error ellipse: s-maj=19.0km s-min=11.5km az=50.0*
*ISCJB **01** 18:29:43.7±1.4, 1.83S±0.05×101.09E±0.06, h23km±9km, mb4.5/51, MS3.8/14, Error ellipse: s-maj=12.0km s-min=4.2km az=145.1*
*NEIC **01** 18:29:45.2±4.2, 1.90S×101.14E, h27km±28km, mb4.3/12, Error ellipse: s-maj=17.9km s-min=8.6km az=51.0*
*MOS **01** 18:29:45.3±1.3, 1.87S×101.28E, h33km, mb4.8/19, Error ellipse: s-maj=15.6km s-min=6.6km az=119.4*
ISC 01 18:29:43.8±0.7, 1.94S±0.04×100.88E±0.05, h16km±4km, n224, σ1s95/212, mb4.7/50, MS3.9/14, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.10**	**337**	P	**Pb**	**18 30 02.5**	**-2.1**
PDSI				S	**Sn**	**18 30 19.9**	**+0.3**
SDSI	**Sungai Dareh**	**1.14**	**29**	P	**Pg**	**18 30 07.2**	**+1.4**
PPI	**Padang Panjang**	**1.55**	**342**	P	**Pn**	**18 30 10.9**	**+0.1**
PPI	**Padang Panjang**	**1.55**	**342**	P	**Pn**	**18 30 10.3**	**-0.4**
	baz=1.7,SNR=292						
RGRI	**Rengat**	**2.14**	**43**	P	**Pg**	**18 30 23.1**	**-1.9**
RGRI				S	Sg	18 30 59.4	+6.6
BKNI	**Bangkinang**	**2.25**	**4**	P	**Pg**	**18 30 26.3**	**-0.8**
BKNI				S	**Sg**	**18 30 59.1**	**+2.7**
BKNI	**Bangkinang**	**2.25**	**4**	P	**Pg**	**18 30 26.2**	**-0.8**
	baz=2.5,SNR=24						
BKNI				S	**Sg**	**18 30 59.2**	**+2.9**
	baz=2.5,SNR=8.3						
JMBI	**JAMBI**	**2.77**	**84**	P	**Pb**	**18 30 32.8**	**-0.3**
JMBI				S	**Sg**	**18 31 17.1**	**+4.1**
MNAI	**Manna**	**3.17**	**139**	P	**Pn**	**18 30 32.9**	**-0.3**
MNAI				S	**Sb**	**18 31 19.1**	**+0.7**
MNAI	**Manna**	**3.17**	**139**	P	**Pn**	**18 30 32.2**	**-1.0**
	baz=3.1,SNR=13						
LHSI	**Lahat**	**3.24**	**126**	P	Pb	18 30 37.1	-3.9
MDSI	**Maura Dua**	**4.15**	**128**	P	**Pn**	**18 30 46.4**	**-0.2**
BTDF	**Bukit Timah Da**	**4.37**	**41**	P	Pb	18 30 54.5	-5.8
	baz=4.6,SNR=26						
LWLI	**Liwa**	**4.41**	**134**	P	**Pn**	**18 30 50.3**	**+0.1**
GSI	**Gunungsitoli**	**4.62**	**314**	P	Pn	18 30 50.1	-2.9
TPRI	**Tanjung Pinang**	**4.62**	**52**	P	Pn	18 30 57.3	+4.3
	258nm,0.7s,3μm0.8nm						
KLSI		**4.71**	**126**	P	**Pn**	**18 30 54.3**	**-0.1**
MYKOM	**Kota Tinggi**	**4.74**	**39**	P	x	18 30 58.2	
	138nm,1.0s,2μm0.7nm						
KLI	**Kotabumi**	**4.92**	**126**	P	**Pn**	**18 30 58.9**	**+1.7**
	222nm,0.8s,2μm1.7nm						
KASI	**Kota Agung**	**5.07**	**135**	P	**Pn**	**18 30 58.2**	**-1.0**
	138nm,0.6s,0.8nm						
PSI	**Prapat**	**5.10**	**337**	P	x	18 30 59.3	
	71nm,1.0s,0.4nm						
PSI	**Prapat**	**5.10**	**337**	Pn	**Pn**	**18 30 59.0**	**-0.8**
PSI				Lg	Lg	18 32 21.6	
PSI	**Prapat**	**5.10**	**337**	Pn	**Pn**	**18 30 59.0**	**-0.8**
	1.3nm,0.3s,baz=161,slow=12,SNR=5.9						
PSI				Lg	Lg	18 32 21.6	
	1.7nm,0.3s,baz=204,slow=18,SNR=2.7						
PSI				LR	LR	18 33 29.6	
	comp=Z,523nm,19.4s,baz=147,slow=45						
PSI	**Prapat**	**5.10**	**337**	P	**Pn**	**18 31 01.1**	**+1.3**
	baz=5.2,SNR=5.3						
BLSI	**Bandar Lampung**	**5.53**	**128**	P	**Pn**	**18 31 08.1**	**+2.5**
	106nm,0.7s,0.5nm						
TPTI		**6.35**	**324**	P	**Pn**	**18 31 15.9**	**-1.0**
	13nm,0.8s,19μm3.2nm						
IPM	**Ipoh**	**6.38**	**1**	P	x	18 31 20.1	
	36nm,0.9s,0.4nm						
IPM	**Ipoh**	**6.38**	**1**	*e*Pn	Pn	18 31 20.3	+3.1
	22nm,0.6s						
IPM				*e*Sg	**Sg**	**18 33 09.2**	**+0.6**
CGJI	**Cibinong**	**6.68**	**134**	P	**Pn**	**18 31 19.0**	**-2.3**
	45nm,0.9s,0.2nm						
TPI	**Tanjungpandan**	**6.81**	**97**	P	**Pn**	**18 31 23.1**	**-0.1**
	21nm,0.7s,0.3nm						
KULM	**Kulim**	**7.18**	**358**	P	x	18 31 29.8	
	28nm,1.5s,0.3nm						
KULM	**Kulim**	**7.18**	**358**	*e*Pn	**Pn**	**18 31 30.2**	**+1.9**
	11nm,0.6s						
KULM				*e*Sn	**Sn**	**18 32 47.7**	**-1.9**
KULM				*e*Sg	**Sg**	**18 33 33.1**	**-1.4**
DBJI	**Dramaga**	**7.43**	**128**	P	**Pn**	**18 31 32.1**	**+0.3**
	61nm,1.0s,0.3nm						
LEM	**Lembang**	**8.29**	**126**	P	**Pn**	**18 31 46.2**	**+2.6**
	41nm,1.2s						
CISI	**Cisompet, Garu**	**8.88**	**129**	P	**Pn**	**18 31 49.0**	**-2.7**
	69nm,0.6s						
CISI	**Cisompet, Garu**	**8.88**	**129**	P	**Pn**	**18 31 49.4**	**-2.2**
	baz=8.9,SNR=8.6						
CMJI	**Cimerak**	**9.51**	**128**	P	Pn	18 31 56.4	-3.9
	62nm,2.0s						
TGJI	**Tegal**	**9.56**	**121**	P	x	18 32 03.3	
	29nm,1.6s						
KPJI	**Karang Pucung**	**9.64**	**124**	P	**Pn**	**18 32 03.5**	**+1.4**
	32nm,0.9s						
CLJI	**Cilicap**	**9.93**	**126**	P	x	18 32 06.9	
	60nm,1.2s						
KSM	**Kuching**	**10.01**	**70**	P	**Pn**	**18 32 04.3**	**-2.9**
UGM	**Wanagama**	**11.29**	**122**	P	**Pn**	**18 32 23.6**	**-1.0**
	baz=11,SNR=8.1						
SBUM	**Sibu**	**12.14**	**69**	P	x	18 32 42.2	
	20nm,1.3s						
PWJI	**Pagerwojo**	**12.44**	**119**	P	**Pn**	**18 32 38.1**	**-2.3**
	28nm,1.3s						
KMMI	**Kalianget**	**13.99**	**112**	P	Pn	18 32 55.8	-5.8
GMJI	**Gumukmas**	**14.00**	**117**	P	**Pn**	**18 33 03.6**	**+1.9**
	18nm,3s						
BBKI	**Banjar Baru**	**14.02**	**97**	P	**P**	**18 33 09.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**14.72**	**117**	P	**Pn**	**18 33 10.0**	**-1.6**
	baz=15,SNR=7.4						
SRBI	**Singaraja**	**15.52**	**114**	P	**Pn**	**18 33 17.7**	**-4.5**
CM31	**Chiang Mai Arr**	**20.36**	**355**	*e*P	**P**	**18 34 18.9**	**-1.0**
	4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**20.36**	**355**	P	**P**	**18 34 18.6**	**-1.2**
CMAR				PcP	**PcP**	**18 38 35.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**20.36**	**355**	P	**P**	**18 34 18.6**	**-1.2**
	4.4nm,0.7s,baz=186,slow=10,SNR=32						
CMAR				PcP	**PcP**	**18 38 35.0**	**+2.2**
	0.6nm,0.6s,baz=210,slow=4.0,SNR=6.2						
CMAR				LR	LR	18 42 11.8	
	comp=Z,189nm,18.3s,baz=174,slow=37						
CHTO	**Chiang Mai**	**20.71**	**355**	P	**P**	**18 34 21.6**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**20.71**	**355**	P	**P**	**18 34 21.6**	**-2.1**
	comp=Z,1.6nm,0.8s						
SLVN	**Son La**	**23.32**	**7**	*e*P	**P**	**18 34 50.0**	**-1.4**
	comp=Z,3.9nm,0.7s						
H08S2	**Diego Garcia H**	**28.84**	**258**	T	T	19 04 41.7	
	baz=81,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**28.85**	**258**	T	T	19 04 46.9	
	baz=81,slow=75,SNR=30						
H08S1	**Diego Garcia H**	**28.86**	**258**	T	T	19 04 45.5	
	baz=81,slow=75,SNR=26						
ODAN	**Odare**	**31.45**	**336**	*e*P	**P**	**18 36 03.2**	**-1.8**
	comp=Z,13nm,0.5s						
TAPN	**Taplejung**	**31.76**	**337**	*e*P	**P**	**18 36 06.1**	**-1.8**
	comp=Z,64nm,1.0s						

RAMN Ramite 31.85 335 *e*P **P 18 36 07.2 -1.4**
JIRN Jiri 32.65 335 *e*P **P 18 36 13.8 -1.9**
comp=Z,29nm,0.8s
LSA Lhasa 32.81 344 P **P 18 36 16.5 -0.7**
LSA Lhasa 32.81 344 P **P 18 36 16.5 -0.7**
PKI Pulchoki 32.90 334 *e*P **P 18 36 16.0 -1.9**
comp=Z,6.3nm,0.6s
GUN Gumba 33.00 335 *e*P **P 18 36 16.6 -2.2**
comp=Z,33nm,0.6s
ENH Enshi 33.06 14 P **P 18 36 19.4 +0.5**
DMN Daman 33.07 334 *e*P **P 18 36 17.4 -1.9**
KKN Kakani 33.15 334 *e*P **P 18 36 17.7 -2.2**
comp=Z,11nm,0.6s
GKN Gorkha 33.62 333 *e*P **P 18 36 21.9 -2.0**
NWAO Narrogin (SRO) 34.44 155 P **P 18 36 30.5 -0.4**
NWAO Narrogin (SRO) 34.44 155 P **P 18 36 30.5 -0.4**
comp=Z,7.6nm,0.9s,baz=315,slow=4.3,SNR=2.8
WRKA Warakurna 35.02 133 P **P 18 36 37.8 +1.7**
baz=35,SNR=4.4
H01W3 Cape Leeuwin H 35.03 161 T T 19 13 18.9
baz=337,slow=76,SNR=56
H01W2 Cape Leeuwin H 35.04 161 T T 19 13 20.0
baz=337,slow=76,SNR=53
H01W1 Cape Leeuwin H 35.04 161 T T 19 13 18.3
baz=337,slow=76,SNR=45
XAN Xi'an 36.58 11 P **P 18 36 49.1 -0.1**
XAN pmax pmax
comp=Z,8.0nm,0.5s
XAN pmax pmax
comp=Z,33nm,5.4s
WRA Warramunga Arr 37.27 121 P **P 18 36 52.6 -2.7**
WRA Warramunga Arr 37.27 121 P **P 18 36 52.6 -2.7**
comp=Z,2.9nm,0.8s,baz=305,slow=8.7,SNR=18
WRAB Tennant Creek 37.27 121 *e*P **P 18 36 52.9 -2.5**
AS31 Alice Springs 38.58 127 *e*P P 18 37 03.0 -3.4
ASAR Alice Springs 38.58 127 P **P 18 37 03.8 -2.6**
ASAR PcP **PcP 18 39 20.8 +1.8**
ASAR S S **18 42 57.0 -5.2**
ASAR Alice Springs 38.58 127 P **P 18 37 03.8 -2.6**
comp=Z,10.0nm,0.9s,baz=305,slow=7.9,SNR=33
ASAR PcP **PcP 18 39 20.8 +1.8**
comp=Z,1.2nm,0.6s,baz=301,slow=2.3,SNR=6.2
ASAR S **S 18 42 57.0 -5.2**
comp=Z,0.7nm,0.9s,baz=296,slow=15,SNR=5.8
JNU Nakatsue 44.92 36 LR LR 18 57 54.7
comp=Z,88nm,18.7s,baz=306,slow=38
KSAR Wonju Array Be 46.49 30 P **P 18 38 09.6 -0.9**
KSRS Korea Array 46.52 30 P **P 18 38 09.6 -1.1**
comp=Z,0.6nm,0.7s,baz=224,slow=7.0,SNR=4.0
KSRS LR LR 19 02 04.0
comp=Z,24nm,18.8s,baz=155,slow=42
PMG Port Moresby 46.60 101 P **P 18 38 09.6 -2.1**
PMG Port Moresby 46.60 101 LR LR 18 57 54.5
comp=Z,46nm,19.1s,baz=60,slow=36
KSH Kashi 47.16 334 *e*P **P 18 38 15.3 -0.6**
KSH *es*P **sP 18 38 23.4 +0.7**
KSH *e*PP **PP 18 40 05.3 -1.6**
KSH *e*S **S 18 45 07.3 -0.8**
KSH *es*S **sS 18 45 15.1 -1.1**
KSH *e*SS **SS 18 48 29.0 -6.5**
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,51nm,4.8s
KSH LR LR
comp=Z,150nm,5.7s
KSH LR LR
comp=Z,140nm,5.5s
KSH LR LR
comp=Z,200nm,5.1s
HTT Hallett 47.42 136 P **P 18 38 17.5 -0.3**
baz=48,SNR=4.2
CTAO Charters Tower 47.83 116 P **P 18 38 19.4 -1.8**
CTAO Charters Tower 47.83 116 P **P 18 38 19.4 -1.8**
QLP Quilpie 48.26 125 P **P 18 38 27.4 +2.9**
baz=48,SNR=7.9
STKA Stephens Creek 48.53 132 *e*P **P 18 38 25.2 -1.2**
comp=Z,1.8nm,0.7s
STKA Stephens Creek 48.53 132 P **P 18 38 25.3 -1.2**
comp=Z,8.6nm,0.7s,baz=304,slow=7.4,SNR=18
STKA LR LR 18 57 44.3
comp=Z,113nm,19.1s,baz=266,slow=35
STKA Stephens Creek 48.53 132 P **P 18 38 27.9 +1.5**
baz=49,SNR=8.4
ULHL Ulahol 49.31 336 *i*P P 18 38 36.0 +3.5
ULHL Ulahol 49.31 336 P P 18 38 36.0 +3.5
SNR=5.2
SONM Songino Array 49.80 5 P **P 18 38 34.7 -1.4**
SONM PcP **PcP 18 39 56.4 -0.3**
SONM Songino Array 49.80 5 P **P 18 38 34.7 -1.4**
comp=Z,1.1nm,0.6s,baz=187,slow=11,SNR=12
SONM PcP **PcP 18 39 56.4 -0.3**
comp=Z,1.7nm,0.4s,baz=182,slow=4.0,SNR=13
ULN Ulaanbaatar 49.89 5 *e*P **P 18 38 36.6 -0.2**
comp=Z,3.4nm,1.1s
UCH Uchtor 50.02 334 P **P 18 38 36.5 -1.7**
SNR=13
TKM2 Tokmak 2 50.13 336 *e*P **P 18 38 37.0 -1.7**
TKM2 pmax pmax
comp=Z,24nm,0.8s
TKM2 Tokmak 2 50.13 336 P **P 18 38 36.8 -2.0**
SNR=9.4
TKM2 Tokmak 2 50.13 336 *e*P **P 18 38 37.0 -1.7**
comp=Z,24nm,0.8s
KBK Karagaybulak 50.18 335 P **P 18 38 38.0 -1.1**
SNR=14
AML Almayashu 50.29 334 *i*P P 18 38 43.6 +3.4
AML Almayashu 50.29 334 P P 18 38 43.6 +3.4
SNR=12
AAK Ala-Archa 50.35 335⇓ *e*P **P 18 38 43.4 +3.0**
AAK pmax pmax
comp=Z,39nm,2.0s
AAK Ala-Archa 50.35 335 P **P 18 38 43.6 +3.2**
SNR=8.8
CHMS Chumysh 50.55 335 *i*P **P 18 38 44.6 +3.0**
CHMS Chumysh 50.55 335 P **P 18 38 44.7 +3.0**
SNR=12
EKS2 Erkin-Say 50.69 334 *e*P **P 18 38 40.8 -2.1**
EKS2 pmax pmax
comp=Z,22nm,0.7s
EKS2 Erkin-Say 50.69 334 P **P 18 38 41.4 -1.5**
SNR=28
EKS2 Erkin-Say 50.69 334 *e*P **P 18 38 40.8 -2.1**
comp=Z,22nm,0.7s
USP Ospenovka 50.87 335 P **P 18 38 42.1 -2.1**
SNR=14
MK31 Makanchi Array 51.21 344 *e*P **P 18 38 43.6 -3.0**
MK31 Makanchi Array 51.21 344 *e*P **P 18 38 43.5 -3.0**
MKAR Makanchi Array 51.21 344 P **P 18 38 44.7 -1.9**
MKAR Makanchi Array 51.21 344 P **P 18 38 44.7 -1.9**
MKAR Makanchi Array 51.21 344 P **P 18 38 44.7 -1.9**
comp=Z,6.2nm,0.7s,baz=150,slow=7.7,SNR=30
MKAR LR LR 19 03 15.8
comp=Z,51nm,19.4s,baz=247,slow=39
CMSA Cobar Meteorol 51.47 130 P **P 18 38 51.2 +2.4**
baz=52,SNR=12
MJAR Matsushiro Arr 51.67 38 P **P 18 38 50.1 -0.1**
MJAR Matsushiro Arr 51.67 38 P **P 18 38 50.1 -0.1**
comp=Z,3.0nm,0.9s,baz=215,slow=7.2,SNR=5.4
KKAR Karatay Array 52.51 332 *e*P **P 18 38 57.4 +1.1**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 52.51 332 *e*P **P 18 38 57.4 +1.1**
comp=Z,1.9nm,0.4s
USRK Ussuriysk Arra 53.69 27 P **P 18 39 04.4 -0.6**
comp=Z,4.9nm,0.5s,baz=219,slow=4.2,SNR=19
USRK LR LR 19 04 01.0
comp=Z,145nm,18.7s,baz=340,slow=38
ARMA Armidale 55.72 126 P P 18 39 23.8 +3.7
baz=56,SNR=5.3
KURK Kurchatov 55.80 343 *i*P **P 18 39 21.2 +1.1**
ZAA0 Zalesovo Array 57.27 349 *e*P **P 18 39 27.6 -3.0**
ZALV Zalesovo Beam 57.27 349 P **P 18 39 27.8 -2.8**
ZALV Zalesovo Beam 57.27 349 P **P 18 39 27.8 -2.8**
ZALV Zalesovo Beam 57.27 349 P **P 18 39 27.8 -2.8**
comp=Z,4.4nm,0.4s,baz=170,slow=5.0,SNR=16
ZALV LR LR 19 05 00.3
comp=Z,45nm,18.9s,baz=339,slow=37
HABR Khabarovsk 58.32 26 *e*P **P 18 39 38.2 +0.2**
HABR *e* 18 40 27.4
HABR *e* 18 41 48.0
HABR *e*PPP PPP 18 43 07.9
HABR *e*S **S 18 47 44.6 +4.8**
HABR *e* 18 49 27.7
HABR pmax pmax
comp=Z,118nm,2.0s

HABR				MLR	MLR		
	comp=Z,117nm,16.0s						
BRVK	**Borovoye**	**60.50**	**339**⇑	*i*P	**P**	**18 39 52.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**62.01**	**331**	*e*P	P	18 39 58.9	-4.5
	comp=Z,6.8nm,0.6s						
AKTO	**Aktyubinsk**	**63.73**	**331**	P	**P**	**18 40 15.1**	**+0.3**
AKTO	**Aktyubinsk**	**63.73**	**331**	P	**P**	**18 40 15.1**	**+0.3**
AKTO	**Aktyubinsk**	**63.73**	**331**	P	**P**	**18 40 15.1**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=106,slow=5.5,SNR=10.0						
YAK	**Yakutsk**	**67.46**	**14**	*e*P	**P**	**18 40 41.1**	**+2.5**
ARU	**Arti**	**67.50**	**336**	*d i*P	**P**	**18 40 40.6**	**+1.6**
ARU						18 43 08.3	
ARU				S	**S**	**18 49 39.8**	**+5.1**
ARU				pmax	pmax		
	comp=Z,17nm,2.5s						
ZEI	**Tsey**	**67.78**	**318**	*e*P	**P**	**18 40 43.3**	**+2.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBZ	**Khabaz**	**68.84**	**319**	P	**P**	**18 40 48.3**	**+0.6**
KBZ	**Khabaz**	**68.84**	**319**	P	**P**	**18 40 48.3**	**+0.6**
KBZ	**Khabaz**	**68.84**	**319**	P	**P**	**18 40 48.3**	**+0.6**
	comp=Z,7.3nm,1.0s,baz=174,slow=7.5,SNR=7.3						
KIV	**Kislovodsk**	**69.07**	**319**	*e*P	**P**	**18 40 50.9**	**+1.6**
KIV				*e*		18 41 14.8	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ASF	**Jabal al Asfar**	**69.27**	**305**	P	**P**	**18 40 52.4**	**+1.6**
ASF	**Jabal al Asfar**	**69.27**	**305**	P	**P**	**18 40 52.4**	**+1.6**
	comp=Z,3.3nm,0.7s,baz=124,slow=1.6,SNR=5.8						
EIL	**Elat**	**70.23**	**302**	P	**P**	**18 40 58.6**	**+2.0**
EIL	**Elat**	**70.23**	**302**	P	**P**	**18 40 58.6**	**+2.0**
	comp=Z,7.0nm,0.8s,baz=47,slow=3.3,SNR=12						
EIL	**Elat**	**70.23**	**302**	P	**P**	**18 40 59.1**	**+2.5**
	baz=70,SNR=7.8						
MMAI	**Mount Meron Ar**	**70.71**	**306**	P	**P**	**18 41 01.6**	**+2.1**
MMAI	**Mount Meron Ar**	**70.71**	**306**	P	**P**	**18 41 01.6**	**+2.1**
	comp=Z,4.0nm,0.6s,baz=84,slow=9.3,SNR=9.3						
VRHR	**Novokhopersk**	**72.78**	**325**	*e*P	**P**	**18 41 11.9**	**+0.4**
VRHR				pmax	pmax		
	comp=Z,20nm,0.7s						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.7s						
LSZ	**Lusaka**	**72.80**	**255**	*e*P	P	18 41 08.6	-3.9
	comp=E,2.0nm,0.8s						
LSZ	**Lusaka**	**72.80**	**255**	P	**P**	**18 41 13.6**	**+1.1**
	comp=E,0.9nm,0.6s,baz=103,slow=8.1,SNR=5.1						
BR131	**Keskin Array S**	**73.93**	**312**	*e*P	**P**	**18 41 18.7**	**0.0**
	comp=E,1.6nm,0.6s						
BRTR	**Keskin Array B**	**73.93**	**312**	P	**P**	**18 41 18.8**	**0.0**
BRTR	**Keskin Array B**	**73.93**	**312**	P	**P**	**18 41 18.8**	**0.0**
	comp=E,3.0nm,0.6s,baz=136,slow=7.1,SNR=18						
VORD	**Divnogorie**	**74.06**	**325**	*e*P	**P**	**18 41 18.7**	**-0.3**
VORD				pmax	pmax		
	comp=N,9.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VSR	**Storozhevoye**	**74.23**	**325**	*e*P	**P**	**18 41 20.1**	**0.0**
VSR				pmax	pmax		
	comp=N,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
RPZ	**Rata Peaks**	**74.40**	**135**	LR	LR	19 12 49.6	
	comp=Z,107nm,20.5s,baz=284,slow=35						
SEY	**Seymchan**	**75.24**	**22**	P	**P**	**18 41 25.7**	**+0.1**
SEY	**Seymchan**	**75.24**	**22**	P	**P**	**18 41 25.7**	**+0.1**
SEY	**Seymchan**	**75.24**	**22**	P	**P**	**18 41 25.7**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=158,slow=23,SNR=4.7						
TIXI	**Tiksi**	**75.66**	**9**⇑	*i*P	**P**	**18 41 29.7**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,115nm,23.0s						
PRGR	**Permogore**	**75.97**	**336**	*e*P	**P**	**18 41 30.6**	**+0.8**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN	**Obninsk**	**77.21**	**328**⇑	*e*P	**P**	**18 41 38.6**	**+1.6**
OBN				*e*		18 44 35.7	
OBN				*e*SS	SS	18 56 30.7	+6.9
OBN				pmax	pmax		
	comp=Z,18nm,1.7s						
URZ	**Urewera**	**77.99**	**129**	LR	LR	19 17 34.7	
	comp=Z,57nm,20.7s,baz=271,slow=37						
IDI	**Anoyia**	**79.71**	**306**	P	**P**	**18 41 53.0**	**+1.6**
IDI	**Anoyia**	**79.71**	**306**	P	**P**	**18 41 53.0**	**+1.6**
	comp=Z,14nm,0.9s,baz=124,slow=3.6,SNR=3.3						
AKASG	**Malin Array Be**	**79.97**	**322**	*e*P	**P**	**18 41 53.7**	**+1.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**79.97**	**322**	P	**P**	**18 41 53.4**	**+1.1**
AKASG	**Malin Array Be**	**79.97**	**322**	P	**P**	**18 41 53.4**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=89,slow=4.8,SNR=13						
KIEV	**Kiev**	**79.98**	**322**⇓	*e*P	**P**	**18 41 53.5**	**+1.1**
MLR	**Muntele Rosu**	**80.86**	**317**	P	**P**	**18 41 59.6**	**+2.2**
MLR	**Muntele Rosu**	**80.86**	**317**	P	**P**	**18 41 59.6**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=57,slow=4.0,SNR=9.0						
BUR08	**Bucovina Ar. S**	**81.81**	**319**	*e*P	**P**	**18 42 04.6**	**+2.2**
VNDA	**Vanda**	**82.05**	**169**	P	**P**	**18 42 01.2**	**-1.8**
VNDA	**Vanda**	**82.05**	**169**	LR	LR	19 16 08.5	
	comp=Z,42nm,18.8s,baz=56,slow=34						
TSUM	**Tsumeb**	**83.04**	**251**	P	**P**	**18 42 08.0**	**-1.5**
KOLS	**Kolonicke sedl**	**83.98**	**319**	*e*P	**P**	**18 42 15.9**	**+2.4**
KOLS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KOLS	**Kolonicke sedl**	**83.98**	**319**	*e*P	**P**	**18 42 15.9**	**+2.4**
FINES	**FINESS Array B**	**84.47**	**332**	P	**P**	**18 42 17.3**	**+1.6**
FINES	**FINESS Array B**	**84.47**	**332**	P	**P**	**18 42 17.3**	**+1.6**
	comp=Z,1.7nm,0.5s,baz=111,slow=5.8,SNR=14						
CRVS	**Cervenica-Dubn**	**84.50**	**319**	*e*P	**P**	**18 42 17.7**	**+1.5**
CRVS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CRVS	**Cervenica-Dubn**	**84.50**	**319**	*e*P	**P**	**18 42 17.7**	**+1.5**
STHS	**Stebnicka Huta**	**84.72**	**320**	*e*P	**P**	**18 42 19.8**	**+2.5**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STHS	**Stebnicka Huta**	**84.72**	**320**	*e*P	**P**	**18 42 19.8**	**+2.5**
ARCES	**ARCESS Array B**	**86.72**	**340**	P	**P**	**18 42 27.5**	**+0.8**
ARCES	**ARCESS Array B**	**86.72**	**340**	P	**P**	**18 42 27.5**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=96,slow=4.8,SNR=33						
KRLC	**Kraliky**	**87.68**	**320**	*e*P	**P**	**18 42 34.8**	**+2.9**
KRLC	**Kraliky**	**87.68**	**320**	*e*P	**P**	**18 42 34.8**	**+2.9**
DPC	**Dobruska-Polom**	**88.00**	**320**	*e*P	**P**	**18 42 36.2**	**+2.8**
DPC	**Dobruska-Polom**	**88.00**	**320**	*e*P	**P**	**18 42 36.2**	**+2.8**
QSPA	**South Pole Qui**	**88.02**	**180**	*e*P	**P**	**18 42 34.9**	**+1.6**
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**88.02**	**180**	LR	LR	19 16 32.7	
	comp=Z,58nm,21.3s,baz=100,slow=32						
PRU	**Pruhonice**	**89.11**	**320**	*e*P	**P**	**18 42 40.8**	**+2.2**
PRU	**Pruhonice**	**89.11**	**320**	*e*P	**P**	**18 42 40.8**	**+2.2**
PVCC	**Panska Ves**	**89.13**	**320**	*e*P	**P**	**18 42 41.5**	**+2.8**
PVCC	**Panska Ves**	**89.13**	**320**	*e*P	**P**	**18 42 41.5**	**+2.8**
BRG	**Berggiesshubel**	**89.55**	**321**	*e*P	**P**	**18 42 43.2**	**+2.6**
	comp=Z,3.9nm,0.8s						
BRG	**Berggiesshubel**	**89.55**	**321**	*e*P	**P**	**18 42 43.2**	**+2.6**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**89.58**	**319**	P	**P**	**18 42 42.4**	**+1.4**
GERES	**GERESS Array B**	**89.58**	**319**	P	**P**	**18 42 42.4**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=101,slow=3.5,SNR=15						
KHC	**Kasperske Hory**	**89.68**	**319**	*e*P	**P**	**18 42 43.8**	**+2.5**
KHC	**Kasperske Hory**	**89.68**	**319**	*e*P	**P**	**18 42 43.8**	**+2.5**
CLL	**Collm**	**90.17**	**321**	*e*P	P	18 42 38.0	-5.5
NOA	**NORSAR Array B**	**91.52**	**331**	P	**P**	**18 42 51.1**	**+1.5**
NOA	**NORSAR Array B**	**91.52**	**331**	P	**P**	**18 42 51.1**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=120,slow=3.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**99.39**	**283**	P	**Pdif**	**18 43 28.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**99.39**	**283**	P	**Pdif**	**18 43 28.1**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=92,slow=4.6,SNR=2.6						
NVAR	**Mina Array Bea**	**128.99**	**40**	PKP	**PKPdf**	**18 48 52.8**	**+1.0**
NVAR	**Mina Array Bea**	**128.99**	**40**	PKP	**PKPdf**	**18 48 52.8**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=263,slow=4.5,SNR=3.4						
TXAR	**Lajitas Array**	**144.11**	**38**	PKP	**PKPdf**	**18 49 18.9**	**-1.0**
TXAR	**Lajitas Array**	**144.11**	**38**	PKP	**PKPdf**	**18 49 18.9**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=311,slow=1.4,SNR=19						
BDFB	**Brasilia**	**144.63**	**239**	PKP	**PKPdf**	**18 49 21.2**	**+0.2**
BDFB	**Brasilia**	**144.63**	**239**	PKP	**PKPdf**	**18 49 21.2**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=148,slow=17,SNR=3.8						
MIAR	**Mount Ida**	**144.87**	**21**	*e*PKIKP	**PKPab**	**18 49 19.8**	**0.0**
MIAR	**Mount Ida**	**144.87**	**21**	*e*PKPdf	**PKPab**	**18 49 19.8**	**0.0**
CPUP	**Villa Florida**	**144.89**	**215**	PKPbc	**PKPab**	**18 49 20.0**	**-0.1**
CPUP	**Villa Florida**	**144.89**	**215**	PKPbc	**PKPab**	**18 49 20.0**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=101,slow=5.3,SNR=4.2						
WVT	**Waverly**	**145.03**	**12**	*e*PKIKP	**PKPab**	**18 49 18.6**	**-1.8**
WVT	**Waverly**	**145.03**	**12**	*e*PKPdf	**PKPab**	**18 49 18.6**	**-1.8**

*ISK **01** 18:41:53.3, 39.°13N×26.°52E, h7km, MD2.8*
*ISCJB **01** 18:41:54.2±0.7, 39.°17N±0.°03×26.°20E±0.°07, h11km, Error ellipse: s-maj=7.5km s-min=4.7km az=8.9*
*DDA **01** 18:41:54.5, 39.°15N×26.°20E, h7km, MD2.7*
*CSEM **01** 18:41:54.5±0.5, 39.°13N×26.°45E, h10km, MD2.8, Error ellipse: s-maj=15.5km s-min=9.2km az=98.0*

ISC 01 18:41:54.7±0.9, 39.°15N±0.°03×26.°33E±0.°05, h11km, n20, σ1=35/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.32**	**60**	*i* P	**Pb**	**18 42 02.8**	**+0.3**
AYVA				*i* S	**Sb**	**18 42 08.9**	**+1.3**
AYVA	**Ayvalik**	**0.32**	**60**	*i* P	**Pb**	**18 42 02.8**	**+0.3**
AYVA				*i* S	**Sb**	**18 42 08.9**	**+1.3**
EZN	**Ezine**	**0.67**	**360**	*e*PG	**Pb**	**18 42 08.5**	**0.0**
EZN				*e*SG	**Sg**	**18 42 16.9**	**+0.2**
EZN	**Ezine**	**0.67**	**360**	*e*Pg	**Pb**	**18 42 08.5**	**0.0**
EZN				*e*Sg	**Sg**	**18 42 16.9**	**+0.2**
CHOS	**Chios island**	**0.79**	**196**	*e*PG	**Pg**	**18 42 09.8**	**-0.3**
CHOS				*e*SG	**Sg**	**18 42 21.3**	**+0.9**
CHOS	**Chios island**	**0.79**	**196**	*e*Pg	**Pg**	**18 42 09.8**	**-0.3**
CHOS				*e*Sg	**Sg**	**18 42 21.3**	**+0.9**
AKHS	**Akhisar**	**1.19**	**103**	*i* P	**Pb**	**18 42 15.9**	**-1.3**
AKHS				*i* S	**Sn**	**18 42 35.9**	**+2.5**
AKHS	**Akhisar**	**1.19**	**103**	*i* P	**Pb**	**18 42 15.9**	**-1.3**
AKHS				*i* S	**Sn**	**18 42 35.9**	**+2.5**
GELI	**Tayfur-Gelibol**	**1.25**	**5**	*e*PN	**Pg**	**18 42 18.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.25**	**5**	*e*Pn	**Pg**	**18 42 18.4**	**-0.4**
LPK	**Lapseki**	**1.26**	**15**	*e*PN	**Pn**	**18 42 17.6**	**-0.7**
LPK	**Lapseki**	**1.26**	**15**	*e*Pn	**Pn**	**18 42 17.6**	**-0.7**
GONE	**Gonen-Balikesi**	**1.38**	**49**	*e*PN	**Pn**	**18 42 17.6**	**-2.3**
GONE	**Gonen-Balikesi**	**1.38**	**49**	*e*Pn	**Pn**	**18 42 17.6**	**-2.3**
KRBG	**Karabiga-Canak**	**1.45**	**31**	*e*PN	**Pn**	**18 42 20.3**	**-0.5**
KRBG	**Karabiga-Canak**	**1.45**	**31**	*e*Pn	**Pn**	**18 42 20.3**	**-0.5**
ERIK	**Erikli-Kesan**	**1.52**	**5**	*e*PN	**Pb**	**18 42 22.3**	**-0.7**
ERIK	**Erikli-Kesan**	**1.52**	**5**	*e*Pn	**Pb**	**18 42 22.3**	**-0.7**
KCTX	**Karacabey (Bur**	**1.92**	**54**	*e*PN	**Pn**	**18 42 25.0**	**-2.4**
KCTX	**Karacabey (Bur**	**1.92**	**54**	*e*Pn	**Pn**	**18 42 25.0**	**-2.4**

*ISCJB **01** 19:20:02.1±0.8, 18.°6N±0.°1×146.°5E±0.°2, h64km, mb3.8/14, Error ellipse: s-maj=25.1km s-min=14.6km az=174.1*
*IDC **01** 19:20:10.3±6.5, 18.°59N×146.°48E, h125km±58km, mb3.4/14, mb1 3.6/15, mb1mx3.5/27, mbtmp3.4/15, Error ellipse: s-maj=26.8km s-min=13.5km az=85.0*

ISC 01 19:20:03.6±0.9, 18.°6N±0.°1×146.°6E±0.°2, h64km, n16, σ1=79/17, mb3.6/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**19.34**	**339**	P	**Pn**	**19 24 25.4**	**0.0**
	0.3nm,0.3s,baz=161,slow=11,SNR=8.3						
KSRS	**Korea Array**	**24.89**	**323**	P	**P**	**19 25 21.0**	**+0.6**
	1.0nm,0.8s,baz=147,slow=9.5,SNR=2.6						
USRK	**Ussuriysk Arra**	**28.31**	**338**	P	**P**	**19 25 52.7**	**+1.6**
	1.3nm,0.8s,baz=154,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**40.12**	**198**	P	**P**	**19 27 33.6**	**+0.3**
	2.0nm,0.7s,baz=29,slow=8.6,SNR=25						
WRA				PcP	**PcP**	**19 29 36.6**	**-0.2**
	0.3nm,0.4s,baz=18,slow=3.6,SNR=5.1						
SONM	**Songino Array**	**43.74**	**321**	P	**P**	**19 28 02.8**	**+0.2**
	0.4nm,0.4s,baz=133,slow=7.9,SNR=21						
ASAR	**Alice Springs**	**43.77**	**197**	P	**P**	**19 28 03.5**	**+0.4**
	0.5nm,0.8s,baz=10,slow=6.4,SNR=14						
CMAR	**Chiang Mai Arr**	**45.03**	**278**	P	**P**	**19 28 13.2**	**-0.1**
	0.2nm,0.7s,baz=73,slow=7.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**58.60**	**322**	P	**P**	**19 29 52.6**	**-1.1**
	1.1nm,0.6s,baz=110,slow=7.7,SNR=7.1						
MKAR	**Makanchi Array**	**59.12**	**314**	P	**P**	**19 29 57.7**	**+0.1**
	0.3nm,0.5s,baz=88,slow=7.9,SNR=7.9						
KURBB	**Kurchatov Arra**	**61.94**	**318**	P	**P**	**19 30 16.5**	**-0.2**
	1.0nm,0.4s,baz=91,slow=7.4,SNR=9.2						
BVAR	**Borovoye Array**	**67.08**	**320**	P	**P**	**19 30 50.2**	**+0.1**
	1.9nm,0.4s,baz=98,slow=7.8,SNR=30						
YKA	**Yellowknife Ar**	**77.71**	**28**	P	**P**	**19 31 52.3**	**-0.8**
	0.4nm,0.6s,baz=285,slow=5.4,SNR=7.6						
NVAR	**Mina Array Bea**	**82.57**	**52**	P	**P**	**19 32 21.0**	**+0.8**
	0.3nm,0.5s,baz=274,slow=6.1,SNR=3.3						
ARCES	**ARCESS Array B**	**82.84**	**342**	P	**P**	**19 32 20.6**	**-0.1**
	1.8nm,0.7s,baz=60,slow=7.2,SNR=9.2						
JOF	**Joensuu**	**84.46**	**335**	*ep*	**P**	**19 32 27.9**	**-1.1**
FINES	**FINESS Array B**	**87.32**	**336**	P	**P**	**19 32 41.9**	**-1.3**
	0.9nm,0.5s,baz=15,slow=8.1,SNR=9.4						

IDC 01 19:36:22.1±5.8, 3.°74S×140.°85E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML3.7/1, Error ellipse: s-maj=213.4km s-min=34.3km az=90.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.31**	**201**	P	P	19 40 26.6	-0.3
	0.2nm,0.3s,baz=26,slow=12,SNR=17						
ASAR	**Alice Springs**	**20.92**	**198**	P	P	19 41 05.8	-0.6
	0.2nm,0.5s,baz=25,slow=12,SNR=7.1						
MKAR	**Makanchi Array**	**71.91**	**322**	P	P	19 47 47.4	+0.1
	0.2nm,0.6s,baz=110,slow=8.0,SNR=2.5						

*KRNET **01** 19:47:14.6±0.1, 39.°68N×73.°86E, h3km, mb3.9*
*IDC **01** 19:47:17.4±2.6, 39.°69N×73.°76E, h0km, mb3.9/3, mb1 3.8/7, mb1mx3.4/30, mbtmp3.6/7, ML3.0/5, Error ellipse: s-maj=35.9km s-min=18.8km az=147.0*
*NNC **01** 19:47:18.5±3.4, 39.°65N×73.°74E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=26.6km s-min=15.4km az=166.0*

ISC 01 19:47:14.7±1.4, 39.°66N±0.°07×73.°87E±0.°04, h10km, n32, σ1=75/38, mb4.0/3, 6C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.45**	**322**	*i* P	**Pg**	**19 47 21.8**	**-1.7**
	baz=320						
SFK				*e*S	**Sg**	**19 47 28.8**	**-0.7**
	baz=320						
OHH	**Osh**	**1.20**	**316**	*e*P	**Pg**	**19 47 38.4**	**+0.8**
	baz=316						
OHH				*e*S	**Sn**	**19 47 56.0**	**+2.1**
	baz=316						
ARSB	**Arslanbob**	**1.79**	**338**	*e*P	**Pg**	**19 47 48.9**	**-0.2**
	baz=338						
ARSB				*e*S	**Sg**	**19 48 14.9**	**+2.6**
	baz=338						
ARLS	**Aral**	**2.23**	**9**	*i* P	**Pg**	**19 47 56.3**	**-1.0**
	baz=9.0						
ARLS				*e*S	**Sg**	**19 48 25.6**	**-0.6**
	baz=9.0						
BTK	**Batken**	**2.38**	**281**	*e*P	**Pg**	**19 47 59.0**	**-1.3**
	baz=280						
BTK				*e*S	**Sg**	**19 48 29.0**	**-2.1**
	baz=280						
NRN	**Naryn**	**2.40**	**42**	*e*P	**Pg**	**19 47 59.3**	**-1.5**
	baz=42						
NRN				*e*S	**Sg**	**19 48 29.6**	**-2.3**
	baz=42						
AML	**Almayashu**	**2.47**	**357**	P	**Pg**	**19 48 00.5**	**-1.5**
	SNR=74						
ARK	**Arkit**	**2.58**	**326**	*e*P	**Pb**	**19 48 00.3**	**-0.8**
	baz=326						
ARK				*e*S	**Sg**	**19 48 34.5**	**-3.0**
	baz=326						
UCH	**Uchtor**	**2.61**	**11**	P	**Pb**	**19 48 01.8**	**0.0**
	SNR=38						
KZA	**Kyzart**	**2.63**	**23**	P	**Pg**	**19 48 03.8**	**-1.4**
	SNR=8.6						
EKS2	**Erkin-Say**	**3.00**	**359**	P	**Pb**	**19 48 08.7**	**+0.5**
	SNR=16						
AAK	**Ala-Archa**	**3.01**	**9**	⇓Pn	**Pb**	**19 48 08.2**	**-0.2**
	21nm,0.7s						
AAK				⇓Lg	Lg	19 48 49.3	
	42nm,0.8s						
AAK	**Ala-Archa**	**3.01**	**9**	P	**Pb**	**19 48 09.1**	**+0.7**
	SNR=9.7						
AAK	**Ala-Archa**	**3.01**	**9**	Pn	**Pb**	**19 48 08.4**	**0.0**
	3.4nm,0.3s,baz=158,slow=7.0,SNR=69						
AAK				Sn	**Sg**	**19 48 49.0**	**-2.2**
	5.0nm,0.3s,baz=354,slow=17,SNR=10						
KBK	**Karagaybulak**	**3.10**	**15**	P	**Pb**	**19 48 09.7**	**-0.4**
	SNR=20						
ULHL	**Ulahol**	**3.15**	**34**	P	**Pg**	**19 48 12.3**	**-2.6**
	SNR=7.6						
BOOM	**Boomskoye usch**	**3.23**	**28**	*e*P	**Pb**	**19 48 11.8**	**-0.4**
	baz=29						
BOOM				*e*S	**Sb**	**19 48 54.0**	**+2.3**
	baz=29						
CHMS	**Chumysh**	**3.40**	**11**	P	**Pb**	**19 48 15.1**	**+0.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**3.51**	**21**	⇑Pn	**Pb**	**19 48 14.8**	**-2.2**
	5.7nm,0.5s						
TKM2				⇑Sn	**Sb**	**19 49 00.1**	**+0.4**
	5.3nm,0.5s						
TKM2				⇑Lg	Lg	19 49 11.7	
	15nm,0.8s						
TKM2	**Tokmak 2**	**3.51**	**21**	P	Pb	19 48 12.9	-4.0
	SNR=11						
USP	**Ospenovka**	**3.63**	**7**	P	**Pb**	**19 48 20.6**	**+1.5**
	SNR=26						
KK31	**Karatay Array**	**4.26**	**325**	⇓Pn	Pb	19 48 23.9	-5.8
	1.0nm,0.3s,baz=127,slow=13,SNR=42						
KK31				⇑Pg	**Pg**	**19 48 34.3**	**-2.0**
	2.5nm,0.3s,baz=139,slow=15,SNR=6.8						
KK31				⇑Sn	**Sb**	**19 49 16.6**	**-4.7**
	5.6nm,0.5s,baz=145,slow=24,SNR=4.6						
KK31				⇑Lg	Lg	19 49 30.3	
	8.5nm,0.5s						
MKAR	**Makanchi Array**	**9.41**	**38**	Pn	Pn	19 49 36.5	+6.2
	0.0nm,0.3s,baz=224,slow=14,SNR=2.6						
MKAR				Lg	Lg	19 52 15.8	
	0.0nm,0.3s,baz=233,slow=29,SNR=2.9						
KURBB	**Kurchatov Arra**	**11.44**	**15**	Lg	Lg	19 53 17.3	
	0.1nm,0.3s,baz=203,slow=30,SNR=4.4						
BVAR	**Borovoye Array**	**13.58**	**351**	Pn	**Pn**	**19 50 29.0**	**+1.8**
	0.1nm,0.3s,baz=168,slow=11,SNR=3.7						
AB31	**Akbulak array**	**13.79**	**319**	⇓P	**Pn**	**19 50 30.8**	**+0.6**
	0.2nm,0.5s,baz=122,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**15.51**	**319**	⇓P	**P**	**19 50 56.7**	**-1.0**
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**15.51**	**319**	Pn	**Pn**	**19 50 54.6**	**+1.3**
	0.1nm,0.3s,baz=115,slow=17,SNR=3.6						
ZALV	**Zalesovo Beam**	**16.11**	**24**	Pn	**P**	**19 51 05.7**	**+1.4**
	0.1nm,0.3s,baz=216,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**36.22**	**323**	P	P	19 54 21.4	+4.0
	3.5nm,1.1s,baz=126,slow=8.0,SNR=4.4						
ARCES	**ARCESS Array B**	**39.15**	**335**	P	**P**	**19 54 44.0**	**+2.0**
	2.9nm,0.9s,baz=114,slow=9.0,SNR=3.4						
NOA	**NORSAR Array B**	**43.29**	**321**	P	P	19 55 21.0	+4.8
	0.4nm,0.7s,baz=112,slow=5.9,SNR=2.5						

IDC 01 20:00:11.3±3.4, 49.°73S×116.°49E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.5/2, Error ellipse: s-maj=90.5km s-min=79.9km az=174.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.92**	**352**	T	T	20 18 48.8	
	baz=174,slow=74,SNR=29						
H01W1	**Cape Leeuwin H**	**14.92**	**353**	T	T	20 18 49.1	
	baz=174,slow=74,SNR=23						
H01W3	**Cape Leeuwin H**	**14.93**	**352**	T	T	20 18 58.4	
	baz=174,slow=74,SNR=23						
WRA	**Warramunga Arr**	**32.95**	**32**	P	P	20 06 47.5	0.0
	0.6nm,0.9s,baz=198,slow=11,SNR=2.9						
H08S2	**Diego Garcia H**	**55.71**	**304**	T	T	21 09 29.0	
	baz=148						
H08S1	**Diego Carcia H**	**55.72**	**304**	T	T	21 09 37.0	
	baz=148						
H08S3	**Diego Garcia H**	**55.73**	**304**	T	T	21 09 41.4	
	baz=148						
CMAR	**Chiang Mai Arr**	**69.64**	**342**	P	P

IBZA	**Bozab**	**1.44**	**215**	*e*Pn	**Pg**	**21 46 05.8**	**+0.3**
IBZA				*e*Sg	**Sn**	**21 46 26.0**	**+0.8**
ASAO	**Ashtian**	**1.46**	**139**	*e*Pn	**Pn**	**21 46 05.6**	**-0.2**
ASAO				*e*Sg	**Sb**	**21 46 25.2**	**-0.2**
ILIN	**Lien**	**1.71**	**245**	*e*Pn	**Pg**	**21 46 11.1**	**+0.3**
ILIN				*e*Sg	**Sg**	**21 46 33.9**	**+0.9**
ILIN	comp=Z,8μm,0.2s			*e*		21 46 40.2	
ILIN	**Lien**	**1.71**	**245**	*e*Pn	**Pg**	**21 46 11.1**	**+0.3**
ILIN				*e*Sg	**Sg**	**21 46 33.9**	**+0.9**
IVIS	**Veis**	**1.99**	**236**	*e*Pn	**Pg**	**21 46 16.1**	**0.0**
IVIS	comp=Z,3μm,0.2s			*e*		21 46 53.6	
IVIS	**Veis**	**1.99**	**236**	*e*Pn	**Pg**	**21 46 16.1**	**0.0**
IDHR	**Dehrash**	**2.23**	**245**	*e*Pn	**Pb**	**21 46 19.3**	**0.0**
IDHR	comp=Z,4μm,0.2s			*e*		21 46 27.6	
IDHR	**Dehrash**	**2.23**	**245**	*e*Pn	**Pb**	**21 46 19.3**	**0.0**
IGHG	**Ghaleghazi**	**2.29**	**235**	*e*Pn	**Pb**	**21 46 20.4**	**0.0**
IGHG	comp=Z,3μm,0.3s			*e*		21 47 00.8	
IGHG	**Ghaleghazi**	**2.29**	**235**	*e*Pn	**Pb**	**21 46 20.4**	**0.0**
IVRN	**Varamin**	**2.44**	**105**	*e*Pn	**Pb**	**21 46 22.8**	**0.0**
IVRN				*e*Sg	**Sg**	**21 46 58.6**	**+2.2**
IVRN	comp=Z,1μm,0.2s			*e*		21 47 08.1	
IVRN	**Varamin**	**2.44**	**105**	*e*Pn	**Pb**	**21 46 22.8**	**0.0**
IVRN				*e*Sg	**Sg**	**21 46 58.6**	**+2.2**
DAMV	**Damavand**	**2.54**	**90**	*e*Pn	**Pn**	**21 46 22.1**	**+1.5**
IDMV	**Damavand**	**2.59**	**91**	*e*Pn	**Pb**	**21 46 24.6**	**-0.8**
IDMV	comp=Z,2μm,0.3s			*e*		21 47 09.1	
IDMV	**Damavand**	**2.59**	**91**	*e*Pn	**Pb**	**21 46 24.6**	**-0.8**
LRK	**Lerik**	**3.01**	**352**	⇓P	**Pn**	**21 46 29.0**	**+2.0**
LRK				⇓S	**Sg**	**21 47 14.6**	**-0.1**
LRK	**Lerik**	**3.01**	**352**	P	**Pn**	**21 46 29.0**	**+2.0**
LKRN	**Lenkeran, Azer**	**3.05**	**359**	⇓P	**Pn**	**21 46 28.1**	**+0.7**
LKRN				⇓S	**Sb**	**21 47 11.5**	**+0.7**
LKRN	**Lenkeran, Azer**	**3.05**	**359**	P	**Pn**	**21 46 28.1**	**+0.7**
LKRN				S	**Sb**	**21 47 11.5**	**+0.7**
IAZR	**Azarshahr**	**3.07**	**312**	*e*	Pg	21 46 43.4	+6.7
IKLH	**Kolahrood**	**3.24**	**135**	*e*Pn	**Pb**	**21 46 34.1**	**-2.4**
IKLH	comp=Z,2μm,0.2s			*e*		21 47 32.3	
IKLH	**Kolahrood**	**3.24**	**135**	*e*Pn	**Pb**	**21 46 34.1**	**-2.4**
ITBZ	**Tabriz**	**3.36**	**321**	*e*Pn	**Pn**	**21 46 34.6**	**+2.7**
ITBZ	comp=Z,276nm,0.2s			*e*		21 46 52.0	
ITBZ	**Tabriz**	**3.36**	**321**	*e*Pn	**Pn**	**21 46 34.6**	**+2.7**
IBDR	**Badra**	**3.50**	**224**	*e*Pn	**Pb**	**21 46 41.0**	**+0.2**
IBDR				*e*Sn	**Sb**	**21 47 21.0**	**-2.9**
GLBA	**Clilabad**	**3.60**	**354**	⇑P	**Pb**	**21 46 39.9**	**-2.5**
GLBA				⇓S	**Sb**	**21 47 25.2**	**-1.4**
GLBA	**Clilabad**	**3.60**	**354**	P	**Pb**	**21 46 39.9**	**-2.5**
GLBA				S	**Sb**	**21 47 25.2**	**-1.4**
IMRD	**Marand**	**3.96**	**321**	*e*Pn	**Pn**	**21 46 42.6**	**+2.6**
IMRD	comp=Z,594nm,0.3s			*e*		21 47 10.1	
IMRD	**Marand**	**3.96**	**321**	*e*Pn	**Pn**	**21 46 42.6**	**+2.6**
IZEF	**Zefreh**	**3.98**	**133**	*e*Pn	Pn	21 46 44.0	+3.5
IZEF	comp=Z,347nm,0.5s			*e*		21 47 59.0	
IZEF	**Zefreh**	**3.98**	**133**	*e*Pn	Pn	21 46 44.0	+3.5
BHD	**Baghdad**	**4.39**	**239**	*e*Pn	**Pn**	**21 46 47.2**	**+1.3**
BHD	baz=45			*e*Sn	**Sn**	**21 47 38.0**	**+0.3**
BHD	**Baghdad**	**4.39**	**239**	*e*Pn	**Pn**	**21 46 47.2**	**+1.3**
BHD	SNR=3.0			*e*Sn	**Sn**	**21 47 38.0**	**+0.3**
	SNR=3.0						
NAX	**Nakhchivan**	**4.41**	**324**	⇑P	Pb	21 46 53.4	-3.0
NAX	**Nakhchivan**	**4.41**	**324**	P	Pb	21 46 53.4	-3.0
BRDA	**Brd**	**4.79**	**344**	⇑P	Pn	21 46 55.0	+3.7
BRDA	**Brd**	**4.79**	**344**	P	Pn	21 46 55.0	+3.7
PQL	**Pirkuli**	**5.13**	**358**	⇓P	**Pn**	**21 46 56.9**	**+0.8**
PQL				⇓S	**Sn**	**21 48 01.6**	**+5.5**
PQL	**Pirkuli**	**5.13**	**358**	P	**Pn**	**21 46 56.9**	**+0.8**
PQL				S	**Sn**	**21 48 01.6**	**+5.5**
GANJ	**Ganja**	**5.37**	**339**	⇓P	Pn	21 47 03.6	+4.3
GANJ				⇓S	**Sb**	**21 48 14.9**	**-2.7**
GANJ	**Ganja**	**5.37**	**339**	P	Pn	21 47 03.6	+4.3
SIZA	**Siyzn**	**5.41**	**0**	⇑P	**Pn**	**21 47 00.1**	**+0.2**
SEKA	**Sheki**	**5.70**	**347**	⇑P	**Pn**	**21 47 05.9**	**+2.1**
QUBA	**Quba, Azerbaij**	**5.70**	**357**	⇑P	**Pn**	**21 47 04.4**	**+0.6**
ZKTA	**Zakatala**	**6.22**	**344**	⇓P	Pn	21 47 14.7	+3.7
RTB	**Rutbah**	**7.54**	**252**	*e*Sn	Pn	21 47 35.4	+6.3

IDC 01 22:18:54.1±6.9, 19°.61S×69°.21W, h100km±48km, mb3.4/2, mb1 3.6/4, mb1mx3.3/19, mbtmp3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/13, Error ellipse: s-maj=63.1km s-min=34.4km az=50.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.46**	**18**	P	Pn	22 19 48.4	+1.6
LPAZ	3.5nm,0.3s,baz=145,slow=2.2,SNR=52			S	Sn	22 20 27.3	-0.2
SIV	**San Ignacio**	**8.55**	**66**	P	Pn	22 20 53.2	-1.9
APG	**El Apazote**	**40.25**	**327**	LR	LR	22 41 39.2	
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P	P	22 30 37.3	+0.8
YKA	**Yellowknife Ar**	**89.31**	**341**	P	P	22 31 38.6	-0.1
H11S2	**WAKE ISLAND Hyl**	**27.34**	**279**	T	T	00 57 28.8	
H11S1	**WAKE ISLAND Hyl**	**27.34**	**279**	T	T	00 57 24.0	
H11S3	**WAKE ISLAND Hyl**	**27.35**	**279**	T	T	00 57 25.3	
SONM	**Songino Array**	**151.62**	**6**	PKPbc	PKPbc	22 38 35.5	-1.4

IDC 01 22:24:20.6±1.0, 6°.65N×126°.62E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=43.2km s-min=21.7km az=66.0
MAN 01 22:24:27, 6°.52N×126°.34E, h38km, mb4.9, ML3.8, MS3.9
ISC 01 22:24:26.3±1.7, 6°.27N±0°.08×126°.21E±0°.07, h32km±9km, n13, σ1°25/17, mb3.7/6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**4**	*e*P	**Pb**	**22 24 39.2**	**-0.4**
MATI				*e*S	**Sb**	**22 24 47.5**	**-1.2**
DMPH	**Davao City--Mi**	**1.06**	**319**	⇓*e*P	**Pb**	**22 24 46.8**	**+0.6**
DMPH				*e*S	**Sb**	**22 25 01.7**	**+1.9**
GSPH	**General Santos**	**1.27**	**262**	*e*P	**Pn**	**22 24 47.9**	**0.0**
GSPH				*e*S	**Sn**	**22 25 04.2**	**+0.4**
KCP	**Kidapawan**	**1.33**	**303**	⇑*e*P	**Pb**	**22 24 50.0**	**-0.7**
KCP				*i* S	**Sb**	**22 25 07.7**	**+0.2**
BUKP	**Musuan**	**1.96**	**325**	*e*P	**Pn**	**22 24 59.0**	**+1.6**
BUKP				*e*S	**Sn**	**22 25 20.2**	**-0.7**
CTBH	**Cotabato--PC H**	**2.17**	**296**	⇑*i*P	**Pb**	**22 25 03.1**	**-1.7**
WRA	**Warramunga Arr**	**27.25**	**163**	P	**P**	**22 30 09.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**29.20**	**297**	P	**P**	**22 30 26.1**	**+0.9**
STKA	**Stephens Creek**	**40.68**	**160**	P	**P**	**22 32 04.6**	**+0.8**
PETK	**Petropavlovsk-**	**53.30**	**23**	P	P	22 33 37.6	-4.5
MKAR	**Makanchi Array**	**55.19**	**325**	P	**P**	**22 33 55.6**	**-0.4**
AKASG	**Malin Array Be**	**89.61**	**321**	P	**P**	**22 37 18.6**	**-2.1**
TORD	**Torodi Ar. Bea**	**121.61**	**290**	PKP	**PKPdf**	**22 43 17.4**	**-0.4**

NIED 01 22:44:00, 35°.10N×139°.80E, h125km, Mw3.7 Best double couple: M0 4.61000×10^14 NP1:φs101.00000°, δ18.00000°, λ-13.00000°. NP2:φs203.00000°, δ86.00000°, λ-108.00000°.
ISCJB 01 22:44:48.5±0.4, 35°.03N±0°.04×139°.83E±0°.05, h125km±2km, mb3.4/10, Error ellipse: s-maj=8.4km s-min=5.7km az=139.6
JMA 01 22:44:48.9±0.2, 35°.06N×139°.85E, h122km±2km, M3.6

JMA Felt I J1.
IDC 01 22:44:49.8±2.3, 34°.93N×139°.66E, h121km±15km, mb3.2/10, mb1 3.4/10, mb1mx3.3/25, mbtmp3.6/10, MS2.4/1, Ms1 2.4/1, ms1mx2.2/11, Error ellipse: s-maj=31.2km s-min=20.2km az=77.0
ISC 01 22:44:49.6±0.7, 35°.03N±0°.05×139°.82E±0°.05, h120km±5km, n34, σ0s64/42, mb3.4/10, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.06**	**91**	P	**Pn**	**22 45 06.1**	**+0.1**
TATJ				S	**Sn**	**22 45 19.0**	**+0.7**
JYO	**Yokosk**	**0.23**	**327**	P	**Pn**	**22 45 06.3**	**0.0**
JYO				S	**Sn**	**22 45 19.4**	**+0.4**
KTR	**Katsuura**	**0.42**	**74**	P	**Pn**	**22 45 06.8**	**-0.3**
KTR				S	**Sn**	**22 45 20.2**	**-0.1**
BSO4	**Boso 4**	**0.43**	**96**	P	**Pn**	**22 45 07.1**	**+0.1**
BSO4				S	**Sn**	**22 45 21.4**	**+1.2**
JIM2	**Oshima 3**	**0.45**	**225**	P	**Pn**	**22 45 06.6**	**-0.7**
JIM2				S	**Sn**	**22 45 19.7**	**-1.0**
I30JP	**ISUMI INFRASON**	**0.49**	**56**	P	**Pn**	**22 45 07.5**	**0.0**
I30JP	baz=236,slow=9.8			S	**Sn**	**22 45 20.1**	**-0.9**
BSO3	**Boso 3**	**0.61**	**112**	P	**Pn**	**22 45 07.8**	**-0.2**
BSO3				S	**Sn**	**22 45 22.7**	**+0.8**
JOD2	**Odawara 2**	**0.64**	**291**	P	**Pn**	**22 45 08.0**	**-0.5**
JOD2				S	**Sn**	**22 45 22.7**	**-0.2**
JIZS	**Izushimoda**	**0.83**	**248**	P	**Pn**	**22 45 10.1**	**0.0**
JIZS				S	**Sn**	**22 45 25.8**	**+0.2**
BSO1	**Boso 1**	**1.03**	**111**	P	**Pn**	**22 45 10.9**	**-0.4**
JYN	**Shimob**	**1.14**	**294**	P	**Pn**	**22 45 13.5**	**+0.4**
JYN				S	**Sn**	**22 45 32.4**	**+1.4**
JRY	**Ryogami san**	**1.23**	**323**	P	**Pn**	**22 45 14.2**	**+0.1**
JRY				S	**Sn**	**22 45 32.6**	**-0.1**
SHZ3	**Shizuoka 3**	**1.32**	**272**	P	**Pn**	**22 45 15.7**	**+0.6**
JAG	**Ashikaga**	**1.42**	**348**	P	**Pn**	**22 45 15.4**	**-0.7**
JAG				S	**Sn**	**22 45 35.2**	**-1.1**
JHJ2	**Mitsune**	**1.92**	**180**	P	**Pn**	**22 45 22.4**	**+0.4**
JHJ2				*e*S	**Sn**	**22 45 46.2**	**-0.6**
MJAR	**Matsushiro Arr**	**2.00**	**319**	P	**Pn**	**22 45 22.9**	**-0.1**
MJAR	14nm,0.3s,baz=156,slow=11,SNR=203			S	**Sn**	**22 45 48.5**	**0.0**
	21nm,0.3s,baz=171,slow=28,SNR=18						
MAT	**Matsushiro**	**2.00**	**319**	P	**Pn**	**22 45 23.1**	**+0.1**
MAT				S	**Sn**	**22 45 48.3**	**-0.3**
KSRS	**Korea Array**	**9.91**	**288**	LR	LR	22 51 00.5	
SONM	**Songino Array**	**27.90**	**308**	P	**P**	**22 50 28.1**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.35**	**115**	T	T	23 20 31.7	
H11N1	**WAKE ISLAND Hy**	**28.35**	**115**	T	T	23 20 36.5	
H11N3	**WAKE ISLAND Hy**	**28.36**	**115**	T	T	23 20 37.3	
H11S3	**WAKE ISLAND Hy**	**28.97**	**118**	T	T	23 21 20.8	
H11S1	**WAKE ISLAND Hy**	**28.97**	**118**	T	T	23 21 19.7	
H11S2	**WAKE ISLAND Hy**	**28.98**	**118**	T	T	23 21 20.2	
CMAR	**Chiang Mai Arr**	**39.75**	**256**	P	**P**	**22 52 09.5**	**-1.1**
ZALV	**Zalesovo Beam**	**42.34**	**314**	P	**P**	**22 52 31.5**	**+0.1**
MKAR	**Makanchi Array**	**44.12**	**304**	P	**P**	**22 52 45.9**	**+0.1**
ILAR	**Eielson Array**	**51.87**	**31**	P	**P**	**22 53 46.9**	**+1.7**
WRA	**Warramunga Arr**	**54.92**	**186**	P	**P**	**22 54 07.1**	**-0.8**
FINES	**FINESS Array B**	**69.98**	**332**	P	**P**	**22 55 47.5**	**0.0**
KBZ	**Khabaz**	**71.22**	**311**	P	**P**	**22 55 55.6**	**+0.2**
AKASG	**Malin Array Be**	**75.08**	**322**	P	**P**	**22 56 17.8**	**-0.2**
GERES	**GERESS Array B**	**83.72**	**328**	P	**P**	**22 57 05.3**	**+0.2**

IDC 01 23:31:47.3±5.4, 28°.51N×142°.39E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/23, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=209.8km s-min=27.8km az=75.0
ISCJB 01 23:31:48.9±1.6, 29°.54N±0°.04×143°.9E±0°.2, h10km, mb3.8/3, Error ellipse: s-maj=24.1km s-min=5.4km az=178.2
JMA 01 23:31:48.2±0.3, 29°.53N×143°.81E, h0km, M4.1
ISC 01 23:31:51.3±3.0, 29°.48N±0°.07×143°.9E±0°.3, h10km, n12, σ0s50/14, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.82**	**213**	P	**Pn**	**23 32 35.4**	**-1.0**
CBIJ				S	**Sn**	**23 33 11.0**	**+0.6**
JHHJ	**Haha-jima-NKT**	**3.22**	**209**	P	**Pn**	**23 32 41.6**	**-0.3**
BSO3	**Boso 3**	**6.04**	**332**	P	**Pn**	**23 33 20.9**	**+0.5**
JOD2	**Odawara 2**	**7.06**	**326**	P	Pn	23 33 33.3	-1.4
JOD2				S	**Sn**	**23 34 55.1**	**+0.1**
JHU	**Hanno**	**7.45**	**330**	P	**Pn**	**23 33 40.2**	**+0.1**
JHU				S	**Sn**	**23 35 04.7**	**0.0**
JHO	**Hitachi**	**7.64**	**339**	P	**Pn**	**23 33 42.9**	**+0.2**
JHO				S	**Sn**	**23 35 09.8**	**+0.4**
JRY	**Ryogami san**	**7.76**	**328**	P	**Pn**	**23 33 44.4**	**+0.1**
JRY				S	**Sn**	**23 35 12.1**	**-0.2**
JAG	**Ashikaga**	**7.87**	**333**	P	**Pn**	**23 33 45.5**	**-0.3**
JAG				S	**Sn**	**23 35 14.2**	**-0.8**
MJAR	**Matsushiro Arr**	**8.51**	**327**	Pn	**Pn**	**23 33 54.9**	**+0.3**
	0.5nm,0.3s,baz=142,slow=17,SNR=5.2						
ZALV	**Zalesovo Beam**	**48.72**	**318**	P	P	23 40 32.5	-3.4
	0.3nm,0.4s,baz=94,slow=8.3,SNR=4.3						
WRA	**Warramunga Arr**	**49.99**	**192**	P	P	23 40 34.3	-12
	0.8nm,0.5s,baz=12,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**50.17**	**308**	P	P	23 40 40.6	-6.4
	0.3nm,0.6s,baz=86,slow=9.8,SNR=6.1						

THE 01 23:44:20.9, 36°.90N×20°.08E, h44km±11km, ML3.4/6, Error ellipse: s-maj=11.1km s-min=1.0km az=57.0
ATH 01 23:44:20.8, 36°.96N×20°.16E, h41km±1km, MD3.5/29
BEO 01 23:44:21.1±0.8, 37°.19N×20°.35E, h5km, ML3.9/1
CSEM 01 23:44:21.3±0.3, 36°.96N×20°.04E, h40km, MD3.5, Error ellipse: s-maj=6.2km s-min=3.4km az=31.0
IDC 01 23:44:24.7±2.8, 37°.19N×20°.22E, h56km±30km, mb3.3/5, mb1 3.4/9, mb1mx3.2/30, mbtmp3.4/9, ML3.6/4, Error ellipse: s-maj=25.2km s-min=21.7km az=75.0
VIE 01 23:44:27.5, 37°.35N×19°.59E, h57km, mb3.3, ML3.8
ISC 01 23:44:21.5±1.2, 37°.00N±0°.05×20°.07E±0°.04, h42km±16km, n173, σ1s39/246, mb3.3/5, 8C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.80**	**71**	P	**Pn**	**23 44 35.4**	**-0.9**
SFD				S	**Sn**	**23 44 48.3**	**+1.2**
SFD	**Strofades**	**0.80**	**71**	*e*P	**Pn**	**23 44 35.6**	**-0.7**
SFD				*e*S	**Sn**	**23 44 46.7**	**-0.4**
SFD	**Strofades**	**0.80**	**71**	*e*P	**Pn**	**23 44 35.6**	**-0.7**
SFD				*e*S	**Sn**	**23 44 46.7**	**-0.4**
VLS	**Valsamata**	**1.25**	**19**	*e*P	**Pn**	**23 44 42.8**	**+0.3**
VLS				*e*S	**Sn**	**23 44 59.4**	**+1.3**
VLS	**Valsamata**	**1.25**	**19**	*e*P	**Pn**	**23 44 42.8**	**+0.3**
VLS				*e*S	**Sn**	**23 44 59.4**	**+1.3**
PYL	**PYLOS**	**1.35**	**94**	P	**Pn**	**23 44 42.3**	**-1.5**
PYL				S	**Sn**	**23 44 59.8**	**-0.7**
PYL	**PYLOS**	**1.35**	**94**	*e*P	**Pn**	**23 44 42.8**	**-1.0**
PYL				*e*S	**Sn**	**23 45 00.3**	**-0.2**
PYL	**PYLOS**	**1.35**	**94**	*e*P	**Pn**	**23 44 42.8**	**-1.0**
PYL				*e*S	**Sn**	**23 45 00.3**	**-0.2**
AMT	**Artemida-Makis**	**1.42**	**67**	P	**Pn**	**23 44 44.5**	**-0.3**
AMT				S	**Sn**	**23 45 02.2**	**0.0**
AMT	**Artemida-Makis**	**1.42**	**67**	*e*P	**Pn**	**23 44 44.5**	**-0.3**
AMT	**Artemida-Makis**	**1.42**	**67**	*e*P	**Pn**	**23 44 44.5**	**-0.3**
AMT				S	**Sn**	**23 45 02.2**	**0.0**
ITM	**Ithomi**	**1.50**	**83**	*e*P	**Pn**	**23 44 45.3**	**-0.6**
ITM	**Ithomi**	**1.50**	**83**	*e*P	**Pn**	**23 44 45.3**	**-0.6**
RLS	**Riolos of Patr**	**1.54**	**46**	P	**Pn**	**23 44 46.8**	**+0.4**
RLS				S	**Sn**	**23 45 06.5**	**+1.4**
RLS	**Riolos of Patr**	**1.54**	**46**	*e*P	**Pn**	**23 44 47.0**	**+0.6**
RLS				*e*S	**Sn**	**23 45 06.3**	**+1.2**
RLS	**Riolos of Patr**	**1.54**	**46**	*e*P	**Pn**	**23 44 47.0**	**+0.6**
RLS				*e*S	**Sn**	**23 45 06.3**	**+1.2**
DRO	**Drossia**	**1.62**	**54**	P	**Pn**	**23 44 47.8**	**+0.2**
DRO	**Drossia**	**1.62**	**54**	*e*P	**Pn**	**23 44 47.7**	**+0.2**
DRO				*e*S	**Sn**	**23 45 07.6**	**+0.4**
DRO	**Drossia**	**1.62**	**54**	*e*P	**Pn**	**23 44 47.7**	**+0.2**
DRO				*e*S	**Sn**	**23 45 07.6**	**+0.4**
PDO	**Prodromos**	**1.82**	**29**	P	**Pn**	**23 44 50.2**	**-0.2**
PDO				S	**Sn**	**23 45 14.2**	**+1.9**
PDO	**Prodromos**	**1.82**	**29**	*e*P	**Pn**	**23 44 52.0**	**+1.6**
PDO				*e*S	**Sn**	**23 45 14.4**	**+2.1**
PDO	**Prodromos**	**1.82**	**29**	*e*P	**Pn**	**23 44 52.0**	**+1.6**
PDO				*e*S	**Sn**	**23 45 14.4**	**+2.1**
LKD2	**Lefkada island**	**1.85**	**15**	P	**Pn**	**23 44 51.8**	**+1.1**
LKD2				S	**Sn**	**23 45 14.8**	**+1.9**
LKD2	**Lefkada island**	**1.85**	**15**	*e*P	**Pn**	**23 44 52.4**	**+1.7**
LKD2	**Lefkada island**	**1.85**	**15**	P	**Pn**	**23 44 51.8**	**+1.1**
LKD2				S	**Sn**	**23 45 14.8**	**+1.9**
KLV	**Kalavryta, Ach**	**1.96**	**57**	P	**Pn**	**23 44 52.9**	**+0.6**
KLV				S	**Sn**	**23 45 16.1**	**+0.4**
KLV	**Kalavryta, Ach**	**1.96**	**57**	*e*P	**Pn**	**23 44 52.9**	**+0.6**
KLV	**Kalavryta, Ach**	**1.96**	**57**	*e*P	**Pn**	**23 44 52.9**	**+0.6**
KLV				S	**Sn**	**23 45 16.1**	**+0.4**
LAKA	**Lakka**	**1.96**	**50**	P	**Pn**	**23 44 53.2**	**+0.9**
LAKA	**Lakka**	**1.96**	**50**	*e*P	**Pn**	**23 44 53.8**	**+1.5**
LAKA	**Lakka**	**1.96**	**50**	*e*P	**Pn**	**23 44 53.8**	**+1.5**
GUR	**Goura**	**2.04**	**62**	P	**Pn**	**23 44 53.6**	**+0.2**
GUR				S	**Sn**	**23 45 19.0**	**+1.3**
GUR	**Goura**	**2.04**	**62**	*e*P	**Pn**	**23 44 53.8**	**+0.4**
GUR	**Goura**	**2.04**	**62**	*e*P	**Pn**	**23 44 53.8**	**+0.4**
GUR				S	**Sn**	**23 45 19.0**	**+1.3**
EFP	**Efpalio**	**2.04**	**45**	P	**Pn**	**23 44 54.6**	**+1.3**
EFP				S	**Sn**	**23 45 19.2**	**+2.2**
EFP	**Efpalio**	**2.04**	**45**	*e*P	**Pn**	**23 44 54.8**	**+1.5**
EFP				*e*S	**Sn**	**23 45 17.9**	**+0.4**
EFP	**Efpalio**	**2.04**	**45**	P	**Pn**	**23 44 54.6**	**+1.3**
EFP				*e*S	**Sn**	**23 45 17.9**	**+0.4**
KALE	**Kalithea**	**2.15**	**49**	*e*P	**Pn**	**23 44 56.8**	**+1.8**
KALE				*e*S	**Sn**	**23 45 20.1**	**-0.4**
KALE	**Kalithea**	**2.15**	**49**	*e*P	**Pn**	**23 44 56.8**	**+1.8**
KALE				*e*S	**Sn**	**23 45 20.1**	**-0.4**
VLI	**Veliai**	**2.32**	**96**	P	**Pn**	**23 44 57.4**	**+0.2**
VLI				S	**Sn**	**23 45 24.9**	**+0.4**
VLI	**Veliai**	**2.32**	**96**	*e*P	**Pn**	**23 44 57.6**	**+0.4**
VLI				*e*S	**Sn**	**23 45 23.8**	**-0.7**
VLI	**Veliai**	**2.32**	**96**	P	**Pn**	**23 44 57.4**	**+0.2**
VLI				*e*S	**Sn**	**23 45 23.8**	**-0.7**
EVR	**Evrytania**	**2.36**	**35**	P	**Pn**	**23 44 59.1**	**+1.3**
EVR	**Evrytania**	**2.36**	**35**	*e*P	**Pn**	**23 44 59.7**	**+1.9**
EVR				*e*S	**Sn**	**23 45 26.0**	**+0.4**
EVR	**Evrytania**	**2.36**	**35**	*e*P	**Pn**	**23 44 59.7**	**+1.9**
EVR				*e*S	**Sn**	**23 45 26.0**	**+0.4**
DSF	**Desfina**	**2.41**	**53**	P	**Pn**	**23 44 59.4**	**+1.0**
DSF				S	**Sn**	**23 45 28.9**	**+2.2**
DSF	**Desfina**	**2.41**	**53**	*e*P	**Pn**	**23 44 59.5**	**+1.0**
DSF				*e*S	**Sn**	**23 45 27.3**	**+0.6**
DSF	**Desfina**	**2.41**	**53**	P	**Pn**	**23 44 59.4**	**+1.0**
DSF				*e*S	**Sn**	**23 45 27.3**	**+0.6**
KYTH	**Kithira**	**2.50**	**106**	*e*P	**Pn**	**23 45 00.2**	**+0.6**
KYTH	**Kithira**	**2.50**	**106**	*e*P	**Pn**	**23 45 00.2**	**+0.6**
LTK	**Loutraki**	**2.52**	**65**	P	**Pn**	**23 44 59.6**	**-0.4**
LTK				S	**Sn**	**23 45 30.0**	**+0.5**
LTK	**Loutraki**	**2.52**	**65**	*e*P	**Pn**	**23 44 59.8**	**-0.2**
LTK				*e*S	**Sn**	**23 45 28.9**	**-0.6**
LTK	**Loutraki**	**2.52**	**65**	*e*P	**Pn**	**23 44 59.8**	**-0.2**
LTK				*e*S	**Sn**	**23 45 28.9**	**-0.6**
IGT	**Igoumenitsa**	**2.54**	**5**	P	**Pn**	**23 45 00.7**	**+0.5**
IGT	**Igoumenitsa**	**2.54**	**5**	*e*P	**Pn**	**23 45 00.9**	**+0.7**
IGT	**Igoumenitsa**	**2.54**	**5**	*e*P	**Pn**	**23 45 00.9**	**+0.7**
DID	**Didima**	**2.58**	**78**	P	**Pn**	**23 44 59.9**	**-0.9**
DID				S	**Sn**	**23 45 30.7**	**-0.2**
DID	**Didima**	**2.58**	**78**	*e*P	**Pn**	**23 45 00.3**	**-0.5**
DID	**Didima**	**2.58**	**78**	*e*P	**Pn**	**23 45 00.3**	**-0.5**
DID				S	**Sn**	**23 45 30.7**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.59**	**38**	*e*P	**Pn**	**23 45 02.4**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.59**	**38**	*e*P	**Pn**	**23 45 02.4**	**+1.5**
AGG	**Agios Georgios**	**2.70**	**41**	P	**Pn**	**23 45 04.0**	**+1.6**
AGG	**Agios Georgios**	**2.70**	**41**	*e*P	**Pn**	**23 45 04.0**	**+1.6**
AGG				*e*S	**Sn**	**23 45 34.9**	**+1.1**
AGG	**Agios Georgios**	**2.70**	**41**	*e*P	**Pn**	**23 45 04.0**	**+1.6**
AGG				*e*S	**Sn**	**23 45 34.9**	**+1.1**
KEK	**Kerkira**	**2.72**	**356**	P	**Pn**	**23 45 03.3**	**+0.7**
KEK	**Kerkira**	**2.72**	**356**	*e*P	**Pn**	**23 45 03.5**	**+0.9**
KEK	**Kerkira**	**2.72**	**356**	*e*P	**Pn**	**23 45 03.5**	**+0.9**
JAN	**Janina**	**2.72**	**13**	P	**Pn**	**23 45 04.5**	**+1.8**
JAN	**Janina**	**2.72**	**13**	*e*P	**Pn**	**23 45 04.6**	**+1.8**
JAN				*e*S	**Sn**	**23 45 35.3**	**+0.8**
JAN	**Janina**	**2.72**	**13**	*e*P	**Pn**	**23 45 04.6**	**+1.8**
JAN				*e*S	**Sn**	**23 45 35.3**	**+0.8**
LKR	**Lokris**	**2.85**	**54**	P	**Pn**	**23 45 05.0**	**+0.6**
LKR				S	**Sn**	**23 45 39.1**	**+1.6**
LKR	**Lokris**	**2.85**	**54**	*e*P	**Pn**	**23 45 05.1**	**+0.6**
LKR				*e*S	**Sn**	**23 45 38.1**	**+0.6

LAST	**Lasithi**	**4.75**	**111**	P		**Pn**	**23 45 30.3**	**-0.4**
SRS	**Serrai**	**4.94**	**33**	*e*P		**Pn**	**23 45 35.0**	**+1.8**
SRS	**Serrai**	**4.94**	**33**	*e*P		**Pn**	**23 45 35.0**	**+1.8**
NVR	**Nevrokopi**	**5.25**	**33**	P		**Pn**	**23 45 38.4**	**+0.9**
NVR	**Nevrokopi**	**5.25**	**33**	*e*P		**Pn**	**23 45 38.7**	**+1.2**
NVR	**Nevrokopi**	**5.25**	**33**	P		**Pn**	**23 45 38.4**	**+0.9**
PDG	**Podgorica**	**5.46**	**354**	*e*Pn		**Pn**	**23 45 40.2**	**-0.1**
PDG				*e*Sn		**Sn**	**23 46 39.0**	**-2.8**
PDG	**Podgorica**	**5.46**	**354**	*e*Pn		**Pn**	**23 45 40.2**	**-0.1**
KARP	**Karpathos**	**5.91**	**102**	P		**Pn**	**23 45 47.4**	**+0.8**
KARP	**Karpathos**	**5.91**	**102**	P		**Pn**	**23 45 47.4**	**+0.8**
VTS	**Vitosha**	**6.09**	**22**	*e*Sn		**Sn**	**23 46 51.9**	**-5.5**
STON	**Ston**	**6.14**	**344**	*e*Pn		**Pn**	**23 45 49.2**	**-0.4**
STON				Sn		**Sn**	**23 46 53.3**	**-5.2**
STON	**Ston**	**6.14**	**344**	*e*Pn		**Pn**	**23 45 49.2**	**-0.4**
SJES	**Sjenica**	**6.25**	**359**	*e*Pn		**Pn**	**23 45 50.5**	**-0.8**
SJES				*e*Sn		**Sn**	**23 46 59.0**	**-2.5**
SELS	**Selova**	**6.26**	**7**	⇑*i*Pn		**Pn**	**23 45 51.2**	**-0.2**
ZAPS	**Zavoj**	**6.57**	**17**	*e*Pn		**Pn**	**23 45 55.0**	**-0.5**
ZAPS				*e*Sn		**Sn**	**23 47 05.0**	**-4.1**
IVAS	**Ivanjica**	**6.57**	**1**	⇑*i*Pn		**Pn**	**23 45 55.7**	**+0.1**
IVAS				*e*Sn		**Sn**	**23 47 06.8**	**-2.4**
IVAS	**Ivanjica**	**6.57**	**1**	⇑*i*Pn		**Pn**	**23 45 55.7**	**+0.1**
GRUS	**Gruza**	**6.90**	**4**	*e*Pn		**Pn**	**23 45 59.1**	**-0.9**
GRUS				*e*Sn		**Sn**	**23 47 13.6**	**-3.6**
GRUS	**Gruza**	**6.90**	**4**	*e*Pn		**Pn**	**23 45 59.1**	**-0.9**
DIVS	**Divibare**	**7.09**	**360**	⇑*i*Pn		**Pn**	**23 46 02.1**	**-0.6**
DIVS				*i* Sn		**Sn**	**23 47 19.2**	**-2.9**
DIVS	**Divibare**	**7.09**	**360**	⇑*i*Pn		**Pn**	**23 46 02.1**	**-0.6**
TRUS	**Trudelj**	**7.22**	**2**	*e*Pn		**Pn**	**23 46 03.3**	**-1.1**
TRUS				*e*Sn		**Sn**	**23 47 21.1**	**-4.0**
TRUS	**Trudelj**	**7.22**	**2**	*e*Pn		**Pn**	**23 46 03.3**	**-1.1**
TEKS	**Tekeris**	**7.55**	**357**	*e*Pn		**Pn**	**23 46 08.1**	**-0.9**
TEKS	**Tekeris**	**7.55**	**357**	*e*Pn		**Pn**	**23 46 08.1**	**-0.9**
BLY	**Banja Luka**	**8.04**	**345**	*e*Pn		**Pn**	**23 46 16.3**	**+0.6**
BLY	**Banja Luka**	**8.04**	**345**	*e*Pn		**Pn**	**23 46 16.3**	**+0.6**
FGSL	**Fruska Gora**	**8.15**	**359**	⇑*i*Pn		**Pn**	**23 46 16.0**	**-1.2**
FRGS	**Fruska Gora**	**8.15**	**359**	⇑*i*Pn		**Pn**	**23 46 16.0**	**-1.2**
FRGS				*i* Sn		**Sn**	**23 47 43.3**	**-4.7**
UDBI	**Udbina**	**8.20**	**338**	*e*Pn		**Pn**	**23 46 19.0**	**+1.1**
UDBI				Sn		**Sn**	**23 47 46.2**	**-2.9**
UDBI	**Udbina**	**8.20**	**338**	*e*Pn		**Pn**	**23 46 18.9**	**+1.1**
NVLJ	**Novalja**	**8.52**	**334**	*i* Pn		**Pn**	**23 46 22.5**	**+0.3**
NVLJ				Sn		**Sn**	**23 47 52.5**	**-4.4**
NVLJ	**Novalja**	**8.52**	**334**	*i* Pn		**Pn**	**23 46 22.5**	**+0.3**
GZR	**Gura Žlata**	**8.63**	**13**	*e*Sn		Sn	23 47 53.2	-6.6
PKSM	**Morągy**	**9.27**	**354**	⇓*i*Pn		**Pn**	**23 46 31.0**	**-1.4**
PKSM				*e*Sn		Sn	23 48 08.9	-6.4
PKSM	**Morągy**	**9.27**	**354**	⇓*i*Pn		**Pn**	**23 46 31.0**	**-1.4**
GCIS	**Gornji Cirnik**	**9.46**	**341**	*i* Pn		**Pn**	**23 46 35.1**	**-0.1**
GCIS	**Gornji Cirnik**	**9.46**	**341**	*i* Pn		**Pn**	**23 46 35.1**	**-0.1**
CRES	**Cresnjev**	**9.47**	**340**	*i* Pn		**Pn**	**23 46 35.3**	**0.0**
CRES	**Cresnjev**	**9.47**	**340**	*i* Pn		**Pn**	**23 46 35.3**	**0.0**
OBKA	**Obir**	**10.35**	**338**	⇑*i*Pn		**Pn**	**23 46 47.9**	**+0.5**
OBKA	**Obir**	**10.35**	**338**	Pn		**Pn**	**23 46 47.9**	**+0.5**
SOKA	**Soboth**	**10.37**	**340**	⇓*i*Pn		**Pn**	**23 46 47.3**	**-0.3**
SOKA	**Soboth**	**10.37**	**340**	Pn		**Pn**	**23 46 47.3**	**-0.3**
DAVOX	**Davos/Dischmat**	**12.36**	**325**	P		Pn	23 47 17.7	+2.7
	0.2nm,0.3s,baz=150,slow=20,SNR=4.3							
DAVOX				S		**Sn**	**23 49 27.2**	**-4.2**
	0.1nm,0.3s,baz=323,slow=20,SNR=2.7							
GERES	**GERESS Array B**	**12.72**	**341**	P		**Pn**	**23 47 19.0**	**-0.7**
	0.3nm,0.3s,baz=158,slow=14,SNR=18							
GERES				S		Sn	23 49 33.8	-6.1
	0.1nm,0.3s,baz=152,slow=23,SNR=4.8							
KHC	**Kasperske Hory**	**13.01**	**341**	*e*P		**Pn**	**23 47 23.5**	**-0.2**
AKASG	**Malin Array Be**	**15.19**	**23**	P		**Pn**	**23 47 54.1**	**+1.2**
	0.3nm,0.3s,baz=209,slow=9.5,SNR=4.3							
EKA	**Eskdalemuir Ar**	**24.20**	**327**	P		**P**	**23 49 36.2**	**+2.4**
	0.3nm,0.4s,baz=126,slow=9.2,SNR=6.2							
NOA	**NORSAR Array B**	**24.70**	**350**	P		**P**	**23 49 38.5**	**+0.1**
	1.0nm,0.7s,baz=160,slow=9.1,SNR=3.5							
FINES	**FINESS Array B**	**24.76**		P		**P**	**23 49 37.9**	**-1.0**
	2.9nm,1.0s,baz=223,slow=9.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**28.89**	**219**	P		P	23 50 20.1	+3.6
	0.3nm,0.5s,baz=32,slow=9.3,SNR=6.3							
MKAR	**Makanchi Array**	**46.23**	**57**	P		**P**	**23 52 42.7**	**+0.3**
	0.2nm,0.5s,baz=268,slow=7.9,SNR=8.7							

CSEM ***01*** *23:50:32.9,45.98N×15.46E,h0km,ML0.1,After LJU*

LJU 01 23:50:32.9,45.98N×15.46E,h0km,ML0.1,2C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESS	**Cesta pri Krsk**	**0.01**	**108**	⇑*i*Pg	Pg	23 50 32.9	-0.1
CESS	comp=Z,66nm,0.0s						
CESS	**Cesta pri Krsk**	**0.01**	**108**	⇑*i*Pg	Pg	23 50 32.9	-0.2
	comp=Z,66nm,0.0s						
LEGS	**Legarje**	**0.10**	**255**	*i* Pg	Pg	23 50 34.8	-0.1
LEGS				*i* Sg	Sg	23 50 36.5	+0.3
LEGS	**Legarje**	**0.10**	**255**	*i* Pg	Pg	23 50 34.8	-0.1
LEGS				*i* Sg	Sg	23 50 36.5	+0.3
GOLS	**Golise**	**0.12**	**73**	*i* Pg	Pg	23 50 35.6	+0.2
GOLS	**Golise**	**0.12**	**73**	*i* Pg	Pg	23 50 35.6	+0.3
CRES	**Cresnjev**	**0.15**	**180**	*i* Pg	Pg	23 50 35.6	-0.2
CRES				*i* Sg	Sg	23 50 38.3	+0.5
CRES	**Cresnjev**	**0.15**	**180**	*i* Pg	Pg	23 50 35.6	-0.2
CRES				*i* Sg	Sg	23 50 38.3	+0.5

IDC ***02*** *00:00:04.8±2.2,4.18S×129.47E,h0km,mb3.3/2, mb1 3.8/3,mb1mx3.5/19,mbtmp3.6/3,ML4.2/1,Error ellipse: s-maj=100.2km s-min=41.1km az=70.0*

ISCJB ***02*** *00:00:19.0±0.8,4.33S±0.07×129.87E±0.08,h160km±6km, mb3.0/2,Error ellipse: s-maj=13.2km s-min=11.4km az=35.2*

DJA ***02*** *00:00:24.1±0.9,4°S±5°×13°0E±°,h120km±8km,M3.6/6, MLv3.6/6*

ISC 02 00:00:20.5±1.0,4.33S±0.09×129.92E±0.07,h152km±8km, n8,σ1§67/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.20**	**186**	P	**Pn**	**00 00 41.3**	**+0.3**
BNDI				S	**Sn**	**00 00 57.3**	**+0.6**
MSAI	**Masohi**	**1.39**	**314**	P	**Pn**	**00 00 49.1**	**0.0**
MSAI				S	**Sn**	**00 01 09.7**	**-1.4**
FAKI	**Fak Fak**	**2.71**	**59**	P	**Pn**	**00 01 06.3**	**+2.0**
FAKI				S	**Sn**	**00 01 39.2**	**+1.0**
NLAI	**Namlea**	**3.02**	**291**	P	**Pn**	**00 01 11.0**	**+2.8**
SWI	**Sorong**	**3.69**	**21**	P	**Pn**	**00 01 16.8**	**0.0**
SWI				S	**Sn**	**00 01 59.2**	**-1.4**
WRA	**Warramunga Arr**	**16.11**	**165**	Pn	**Pn**	**00 03 56.3**	**-2.2**
	0.9nm,0.3s,baz=344,slow=12,SNR=34						
WRA				Sn	S	00 06 45.0	-13
	0.3nm,0.3s,baz=341,slow=22,SNR=4.1						
SONM	**Songino Array**	**55.90**	**341**	P	**P**	**00 09 43.0**	**+0.4**
	0.2nm,0.6s,baz=157,slow=6.5,SNR=2.1						
MKAR	**Makanchi Array**	**65.97**	**326**	P	**P**	**00 10 50.2**	**-0.3**
	0.1nm,0.5s,baz=115,slow=7.4,SNR=4.8						

ISCJB ***02*** *00:10:00.3±1.6,19.90S±0.05×175.41W±0.03, h65km±14km,mb5.0/103,Error ellipse: s-maj=9.0km s-min=4.2km az=157.6*

MOS ***02*** *00:10:03.5±2.2,19.80S×175.45W,h81km,mb5.1/13, Error ellipse: s-maj=12.1km s-min=9.8km az=74.1*

IDC ***02*** *00:10:04.0±0.5,19.91S×175.32W,h86km±3km,mb4.6/19, mb1 4.7/20,mb1mx4.7/23,mbtmp4.9/20,MS3.6/7, Ms1 3.6/7,ms1mx3.2/38,Error ellipse: s-maj=15.2km s-min=11.9km az=108.0*

BJI ***02*** *00:10:07.5,20.00S×175.30W,h139km,mB5.6/20, mb5.0/38*

SZGRF ***02*** *00:10:07.9,20.66S×174.70W,h133km,Tonga Islands*

NEIC ***02*** *00:10:11.6±2.0,19.99S×175.41W,h157km±17km, mb4.9/53,Error ellipse: s-maj=8.6km s-min=6.1km az=147.0*

GCMT ***02*** *00:10:11.6±0.3,20.06S×174.83W,h136km±4km, MW5.0/68,Moment Tensor Solution. s19,c23; s68,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.84±.18; Mθθ0.21±.23; Mθθ0.62±.23; Mrθ-0.03±.13; Mθθ0.76±.37; Mθr-3.26±.12; Best double couple: M◎3.42800×10¹⁶ NP1:φs3.00000°,δ83.00000°,λ-103.00000°. NP2: φs245.00000°,δ14.00000°,λ-28.00000°. Principal axes: T 3.3540, Plg37.0000°, Azm104.0000°; N 0.1480,*

Plg12.0000°, Azm4.0000°; P -3.5030, Plg50.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 02 00:10:04.0±0.3,19.87S±0.06×175.25W±0.06,h91km±2km, h90km:pP-P,n579,σ1§23/606,mb5.1/102,119C-59D,
Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.08**	**82**	⇑P	**Pn**	**00 11 16.9**	**-0.9**
	baz=5.0,SNR=704						
AFI	**Afiamalu**	**6.79**	**30**	LR	LR	00 13 37.5	
	comp=Z,124nm,20.6s,baz=210,slow=31						
RAR	**Rarotonga**	**14.56**	**98**	*e*Pn	**Pn**	**00 13 25.4**	**-0.2**
RAR				S	Sn	00 15 57.4	-8.6
RAR	**Rarotonga**	**14.56**	**98**	P	**Pn**	**00 13 23.9**	**-1.6**
	6.1nm,0.3s,baz=108,slow=0.0,SNR=9.3						
RAR				S	Sn	00 15 57.4	-8.6
	11nm,0.3s,baz=74,slow=0.0,SNR=3.7						
RAR				LR	LR	00 18 24.0	
	comp=Z,166nm,19.4s,baz=47,slow=34						
DZM	**Mont Dzumac**	**17.24**	**259**	*e*P	**P**	**00 14 03.5**	**+4.2**
	322nm,0.8s						
DZM				*e*LR	LR	00 18 17.7	
	341nm,28.9s						
DZM	**Mont Dzumac**	**17.24**	**259**	P	**P**	**00 14 03.8**	**+4.4**
DZM	**Mont Dzumac**	**17.24**	**259**	P	**P**	**00 14 03.8**	**+4.4**
	6.3nm,0.3s,baz=78,slow=16,SNR=69						
OUZ	**Omahuta**	**18.19**	**210**	*e*P	**Pn**	**00 14 11.4**	**+1.0**
	26nm,1.0s						
URZ	**Urewera**	**19.49**	**198**	*e*P	**P**	**00 14 24.0**	**+0.2**
	68nm,0.5s						
URZ				S	S	00 17 48.9	-10
URZ	**Urewera**	**19.49**	**198**	P	**P**	**00 14 22.9**	**-0.9**
	20nm,0.3s,baz=319,slow=2.9,SNR=126						
URZ				S	S	00 17 48.9	-10
	4.3nm,0.3s,baz=337,slow=22,SNR=7.2						
URZ	**Urewera**	**19.49**	**198**	*e*PN	**P**	**00 14 22.5**	**-1.3**
URZ				SN	S	00 17 44.9	-14
TOZ	**Tahuroa Road**	**19.54**	**202**	PN	**Pn**	**00 14 26.5**	**+0.1**
BKZ	**Black Stump Fm**	**20.52**	**199**	*e*P	**P**	**00 14 33.7**	**-1.2**
	19nm,0.6s						
WTVZ	**West Tongariro**	**20.75**	**200**	PN	**P**	**00 14 36.0**	**-1.5**
BHHZ	**Black Hill Sta**	**20.94**	**199**	*e*PN	**P**	**00 14 37.4**	**-2.1**
BFZ	**Birch Farm**	**21.99**	**197**	*e*P	**P**	**00 14 49.5**	**-1.0**
	77nm,1.0s						
THZ	**Tophouse**	**24.04**	**202**	*e*PN	**P**	**00 15 09.6**	**-1.0**
TBI	**Tubuai**	**24.22**	**103**	*e*LR	LR	00 20 58.7	
	310nm,38.0s						
PPT2	**Papeete2**	**24.41**	**89**	*e*LQ	LQ	00 20 18.9	
	262nm,24.0s						
PPT2				*e*LR	LR	00 21 18.0	
	510nm,32.8s						
PPT	**Papeete**	**24.42**	**89**	LR	LR	00 22 47.5	
	comp=Z,130nm,19.1s,baz=304,slow=31						
OXZ	**Oxford**	**25.71**	**202**	*e*PN	**P**	**00 15 23.9**	**-1.8**
RPZ	**Rata Peaks**	**26.40**	**203**	*e*P	**P**	**00 15 32.3**	**+0.3**
	77nm,0.7s						
RPZ	**Rata Peaks**	**26.40**	**203**	P	**P**	**00 15 33.0**	**+1.1**
	57nm,0.5s,baz=336,slow=2.1,SNR=16						
ODZ	**Otabua Downs**	**27.70**	**202**	*e*P	**P**	**00 15 44.8**	**+1.2**
	689nm,2.6s						
DCZ	**Deep Cove**	**29.39**	**206**	*e*P	**P**	**00 16 00.8**	**+2.2**
	904nm,2.8s						
WHZ	**Wether Hill Ro**	**29.42**	**204**	*e*P	**P**	**00 15 57.5**	**-1.3**
EIDS	**Eidsvold**	**31.50**	**254**	*e*P	**P**	**00 16 17.8**	**+0.3**
	11nm,0.8s						
EIDS	**Eidsvold**	**31.50**	**254**	⇓P	**P**	**00 16 17.7**	**+0.3**
	baz=32,SNR=4.1						
ARMA	**Armidale**	**31.66**	**244**	*e*P	**P**	**00 16 19.6**	**+0.6**
	19nm,0.9s						
ARMA	**Armidale**	**31.66**	**244**	⇑P	**P**	**00 16 19.4**	**+0.5**
	baz=32,SNR=21						
MGCD	**Mangrove Creek**	**32.75**	**239**	⇓P	**P**	**00 16 28.9**	**+0.6**
	baz=33,SNR=28						
RMQ	**Roma**	**33.66**	**252**	⇓P	**P**	**00 16 37.3**	**+1.0**
	baz=34,SNR=6.0						
CNB	**Canberra Magne**	**34.72**	**236**	⇑P	**P**	**00 16 45.4**	**0.0**
	baz=35,SNR=51						
CAN	**Canberra**	**35.01**	**236**	⇓P	**P**	**00 16 47.9**	**0.0**
	baz=35						
YNG	**Young**	**35.21**	**238**	⇑P	**P**	**00 16 49.6**	**0.0**
	baz=35,SNR=8.1						
MILA	**Mila**	**35.41**	**233**	⇑P	**P**	**00 16 51.4**	**0.0**
	baz=36						
CTA	**Charters Tower**	**36.12**	**263**	⇑P	**P**	**00 16 58.4**	**+0.8**
	baz=36						
CTAO	**Charters Tower**	**36.12**	**263**	*e*P	**P**	**00 16 58.3**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,80nm,0.7s						
CTAO	**Charters Tower**	**36.12**	**263**	*e*P	**P**	**00 16 58.3**	**+0.7**
	comp=Z,80nm,0.7s						
CMSA	**Cobar Meteorol**	**36.88**	**244**	⇑P	**P**	**00 17 03.6**	**-0.2**
	baz=37,SNR=58						
RKT	**Rikitea**	**37.54**	**102**	*e*LR	LR	00 27 25.6	
	comp=Z,271nm,30.5s						
QLP	**Quilpie**	**37.71**	**252**	P	**P**	**00 17 10.7**	**-0.2**
	baz=38,SNR=30						
PMG	**Port Moresby**	**37.74**	**280**	P	x	00 17 12.4	
	comp=Z,83nm,0.9s,comp=Z,841nm						
PMG	**Port Moresby**	**37.74**	**280**	*e*P	**P**	**00 17 12.2**	**+0.9**
	comp=Z,66nm,0.8s						
PMG	**Port Moresby**	**37.74**	**280**	P	**P**	**00 17 11.5**	**+0.2**
	comp=Z,53nm,0.8s,baz=84,slow=5.9,SNR=32						
TOO	**Toolangi**	**38.35**	**234**	⇑P	**P**	**00 17 15.9**	**-0.4**
	baz=38,SNR=20						
TAU	**Tasmania Unive**	**38.90**	**225**	*e*P	**P**	**00 17 19.7**	**-1.0**
TAU	**Tasmania Unive**	**38.90**	**225**	*e*P	**P**	**00 17 19.7**	**-1.0**
	comp=Z,701nm,2.6s						
COEN	**Coen**	**40.13**	**272**	*e*P	**P**	**00 17 32.1**	**+0.8**
	comp=Z,454nm,1.4s						
COEN	**Coen**	**40.13**	**272**	P	**P**	**00 17 32.1**	**+0.8**
	baz=40,SNR=29						
STKA	**Stephens Creek**	**40.38**	**244**	*e*P	**P**	**00 17 33.0**	**-0.2**
	comp=Z,3.4nm,0.7s						
STKA				PcP	**PcP**	**00 19 35.7**	**+0.9**
STKA	**Stephens Creek**	**40.38**	**244**	P	**P**	**00 17 32.8**	**-0.3**
	comp=Z,16nm,0.6s,baz=84,slow=9.6,SNR=45						
STKA				PcP	**PcP**	**00 19 35.7**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=103,slow=5.2,SNR=2.9						
STKA				LR	LR	00 32 02.6	
	comp=Z,77nm,18.6s,baz=42,slow=33						
STKA	**Stephens Creek**	**40.38**	**244**	P	**P**	**00 17 32.9**	**-0.3**
	baz=40,SNR=23						
ARPS	**Mount Arapiles**	**40.98**	**236**	⇓P	**P**	**00 17 37.5**	**-0.5**
	baz=41,SNR=4.7						
QIS	**Mount Isa**	**42.27**	**261**	⇑P	**P**	**00 17 48.4**	**-0.4**
	baz=42,SNR=5.1						
HTT	**Hallett**	**42.80**	**242**	⇓P	**P**	**00 17 52.3**	**-0.7**
	baz=43,SNR=7.5						
BBOO	**Buckleboo**	**45.14**	**243**	*e*P	**P**	**00 18 10.4**	**-1.2**
	comp=Z,402nm,1.6s						
BBOO	**Buckleboo**	**45.14**	**243**	⇓P	**P**	**00 18 10.5**	**-1.2**
	baz=45,SNR=12						
JAY	**Jayapura**	**46.32**	**286**	⇓P	**P**	**00 18 22.1**	**+0.9**
	baz=46,SNR=33						
GENI	**Genyem**	**46.77**	**286**	P	**P**	**00 18 26.9**	**+2.2**
	comp=Z,212nm,0.8s,comp=Z,3µm						
AS01	**Alice Springs**	**47.13**	**256**	*e*P	**P**	**00 18 27.4**	**-0.1**
AS01				*e*PcP	**PcP**	**00 19 58.0**	**+0.1**
WRAB	**Tennant Creek**	**47.24**	**261**	P	**P**	**00 18 27.0**	**-1.3**
	comp=Z,280nm,0.7s,SNR=78						
WRAB	**Tennant Creek**	**47.24**	**261**	*d*P	**P**	**00 18 26.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,95nm,0.8s						
WRAB	**Tennant Creek**	**47.24**	**261**	*e*P	**P**	**00 18 27.5**	**-0.8**
	comp=Z,34nm,0.8s						
WRAB				*e*PcP	**PcP**	**00 19 58.6**	**+0.3**
WRA	**Warramunga Arr**	**47.25**	**261**	P	**P**	**00 18 27.1**	**-1.2**
WRA				PcP	**PcP**	**00 19 58.5**	**+0.1**
WRA	**Warramunga Arr**	**47.25**	**261**	P	**P**	**00 18 27.1**	**-1.2**
	comp=Z,26nm,0.5s,baz=94,slow=5.4,SNR=434						
WRA				PcP	**PcP**	**00 19 58.5**	**+0.1**
	comp=Z,12nm,0.7s,baz=93,slow=3.5,SNR=12						
KDU	**Kakadu**	**50.53**	**270**	⇑P	**P**	**00 18 53.1**	**-0.4**
	baz=51,SNR=17						
MTN	**Manton Dam**	**51.75**	**269**	⇑P	**P**	**00 19 01.7**	**-0.9**
	baz=52,SNR=7.3						
FORT	**Forrest**	**51.91**	**246**	*e*P	**P**	**00 19 01.9**	**-1.8**
	comp=Z,63nm,1.3s						
WRKA	**Warakurna**	**52.12**	**253**	⇑P	**P**	**00 19 04.5**	**-0.9**
	baz=52,SNR=41						
KNRA	**Kununurra**	**53.28**	**265**	⇓P	**P**	**00 19 13.7**	**-0.2**
	baz=53,SNR=15						
FAKI	**Fak Fak**	**53.89**	**281**	⇓P	**P**	**00 19 18.6**	**+0.2**
	baz=54,SNR=8.5						
SWI	**Sorong**	**55.60**	**283**	P	**P**	**00 19 31.0**	**+0.3**
	comp=Z,172nm,0.8s,comp=Z,1µm						
SWI	**Sorong**	**55.60**	**283**	⇑P	**P**	**00 19 31.2**	**+0.5**
	baz=56						
SBA	**Scott Base**	**58.68**	**184**	*e*P	**P**	**00 19 54.0**	**+2.5**
SBA				pmax	pmax		
	comp=Z,28nm,0.9s						
SBA	**Scott Base**	**58.68**	**184**	*e*P	**P**	**00 19 54.0**	**+2.5**
	comp=Z,28nm,0.9s						
VNDA	**Vanda**	**58.78**	**186**	*e*P	**P**	**00 19 52.1**	**-0.1**
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**58.78**	**186**	P	**P**	**00 19 52.7**	**+0.5**
	comp=Z,9.0nm,0.7s,baz=1.0,slow=6.8,SNR=22						
SOEI	**Soe**	**59.07**	**270**	P	**P**	**00 19 56.3**	**+1.0**
	comp=Z,93nm,1.5s						
SOEI	**Soe**	**59.07**	**270**	⇓P	**P**	**00 19 56.6**	**+1.2**
	baz=59,SNR=9.7						
MEEK	**Meekatharra**	**60.56**	**250**	P	**P**	**00 20 03.8**	**-1.5**
	baz=61,SNR=7.8						
KLBR	**Kellerberrin**	**60.66**	**244**	⇓P	**P**	**00 20 04.6**	**-1.3**
	baz=61,SNR=9.8						
MORW	**Morawa**	**62.45**	**247**	⇑P	**P**	**00 20 16.9**	**-1.1**
	baz=62,SNR=3.7						
LUWI	**Luwuk**	**63.37**	**279**	⇑P	**P**	**00 20 24.3**	**+0.1**
	baz=64,SNR=3.7						
LBFI	**Labuhan Bajo,**	**63.57**	**270**	P	x	00 20 24.4	
	comp=Z,96nm,0.6s						
GTOI	**Gorontalo**	**63.77**	**281**	P	**P**	**00 20 28.2**	**+1.3**
	comp=Z,66nm,0.7s						
APSI	**Ampana**	**64.46**	**279**	P	**P**	**00 20 33.1**	**+1.7**
	comp=Z,53nm,0.7s,comp=Z,622nm						
BNSI	**Bone**	**64.68**	**275**	P	**P**	**00 20 32.6**	**-0.2**
	comp=Z,21nm,1.3s						
SRBI	**Singaraja**	**68.10**	**269**	P	**P**	**00 20 53.3**	**-1.3**
	comp=Z,44nm,0.9s						
JAGI	**Jajag, Banyuwa**	**68.98**	**268**	*e*P	**P**	**00 20 58.8**	**-1.4**
	comp=Z,36nm,0.7s						
JAGI	**Jajag, Banyuwa**	**68.98**	**268**	⇑P	**P**	**00 20 58.7**	**-1.4**
	baz=69,SNR=5.5						
ABJI	**Asem Bagus**	**69.11**	**269**	P	**P**	**00 20 59.5**	**-1.4**
	comp=Z,44nm,1.0s						
GMJI	**Gumukmas**	**69.70**	**268**	P	**P**	**00 21 02.8**	**-1.8**
	comp=Z,30nm,0.8s						
BLJI	**Banyuglugur**	**69.72**	**269**	P	**P**	**00 21 04.4**	**-0.3**
	comp=Z,62nm,0.7s						
MJAR	**Matsushiro Arr**	**71.27**	**322**	P	**P**	**00 21 14.1**	**+0.4**
MJAR	**Matsushiro Arr**	**71.27**	**322**	P	**P**	**00 21 14.1**	**+0.4**
	comp=Z,32nm,0.7s,baz=156,slow=6.0,SNR=90						
MAJO	**Matsushiro**	**71.27**	**322**	⇑*i*P	**P**	**00 21 14.5**	**+0.9**
MAJO	**Matsushiro**	**71.27**	**322**	*e*P	**P**	**00 21 14.0**	**+0.4**
	comp=Z,28nm,0.8s						
MAT	**Matsushiro**	**71.27**	**322**	P	**P**	**00 21 14.1**	**+0.5**
PWJI	**Pagerwojo**	**71.32**	**268**	P	**P**	**00 21 13.9**	**-0.6**
	comp=Z,42nm,0.9s						
PCJI	**Pacitan**	**71.86**	**268**	P	**P**	**00 21 17.5**	**-0.2**
	comp=Z,184nm,0.6s,comp=Z,2µm						
UGM	**Wanagama**	**72.56**	**268**	⇑P	**P**	**00 21 21.4**	**-0.5**
	baz=73,SNR=8.0						
PBKI	**Pangkalan Bun**	**73.17**	**273**	P	P	00 21 16.0	-9.5
JNU	**Nakatsue**	**73.62**	**315**	P	**P**	**00 21 27.7**	**0.0**
JNU	**Nakatsue**	**73.62**	**315**	P	**P**	**00 21 27.7**	**0.0**
	comp=Z,9.3nm,0.8s,baz=104,slow=1.4,SNR=6.8						
H06S1	**SOCORRO T**	**73.80**	**63**	T	T	01 41 59.9	
	SNR=23						
KPJI	**Karang Pucung**	**74.24**	**268**	P	**P**	**00 21 31.4**	**-0.3**
	comp=Z,44nm,0.8s						
CISI	**Cisompet, Garu**	**75.22**	**267**	⇓P	**P**	**00 21 36.4**	**-1.1**
	baz=75						
LEM	**Lembang**	**75.64**	**268**	⇓P	**P**	**00 21 39.1**	**-0.9**
	baz=76,SNR=4.0						
TPUB	**Ta-pu**	**75.83**	**301**	*e*P	**P**	**00 21 39.5**	**-1.1**
	comp

HABR **Khabarovsk** 81.20 329 *e*P **P** **00 22 08.5 -1.1**
HABR *e**PP pP 00 22 41.4 +8.0
HABR *e* 00 25 15.0
HABR *e*S **S** **00 32 07.5 -4.7**
HABR *e* 00 32 24.7
HABR *e**SS sS 00 33 05.0 +12
HABR *e*SS **SS** **00 37 26.0 -4.0**
HABR *e*SSS SSS 00 40 52.5
HABR pmax pmax
comp=Z,13nm,2.0s
HABR MLR MLR
comp=Z,37nm,6.0s
NJ2 **Nanjing** 81.49 308 *e*P **P** **00 22 12.8 +1.3**
NJ2 pmax pmax
comp=Z,20nm,0.9s
MDJ **Mudanjiang** 81.51 324 P **P** **00 22 13.5 +2.2**
MDJ pmax pmax
comp=Z,32nm,0.8s
MDJ pmax pmax
comp=Z,670nm,4.9s
MDJ **Mudanjiang** 81.51 324 *e*P **P** **00 22 12.8 +1.4**
comp=Z,31nm,0.9s
ARUT **Antelope Range** 81.60 45 *e*P **P** **00 22 13.1 +0.9**
ARUT **Antelope Range** 81.60 45 *e*P **P** **00 22 13.1 +0.9**
U15A **North Rim** 81.64 47 ⇑P **P** **00 22 14.3 +1.7**
baz=82
WUAZ **Wupatki** 81.80 48 *e*P **P** **00 22 14.8 +1.6**
comp=Z,10.0nm,1.1s
WUAZ **Wupatki** 81.80 48 ⇑P **P** **00 22 14.6 +1.3**
baz=82
G08A **Pilot Rock** 82.56 36 *e*P **P** **00 22 18.7 +1.7**
comp=Z,10nm,1.3s
121A **Cookes Peak, D** 82.88 52 P **P** **00 22 20.8 +1.7**
baz=83
HAWA **Hanford** 82.93 35 *e*P **P** **00 22 20.4 +1.7**
comp=Z,37nm,1.8s
QIZ **Qiongzhong** 82.97 293 P **P** **00 22 20.6 +1.1**
QIZ pP pP 00 22 53.8 +10
QIZ sP sP 00 23 07.9 +15
QIZ S **S** **00 32 26.4 -5.2**
QIZ pmax pmax
comp=Z,13nm,1.6s
MAW **Mawson** 83.02 199 *e*P **P** **00 22 19.4 +0.5**
comp=Z,4.4nm,1.1s
MAW **Mawson** 83.02 199 P **P** **00 22 19.7 +0.8**
comp=Z,10.0nm,0.9s,baz=132,slow=6.5,SNR=7.2
222A **Williams Famil** 83.19 52 P **P** **00 22 22.3 +1.7**
baz=84
RC01 **Rabbit Creek A** 83.25 12 *e*P **P** **00 22 20.1 +0.1**
comp=Z,48nm,1.6s
DUG **Dugway** 83.31 43 P **P** **00 22 23.4 +2.4**
baz=84
CN2 **Changchun** 83.40 321 *e*P **P** **00 22 22.8 +1.6**
CN2 *e*pP pP 00 22 58.2 +13
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
GAMB **Gambell** 83.41 2 *e*P **P** **00 22 22.2 +1.5**
comp=Z,32nm,1.6s
PMR **Palmer** 83.83 12 *e*P **P** **00 22 23.1 +0.2**
PMR pmax pmax
comp=Z,18nm,1.3s
PMR **Palmer** 83.83 12 *e*P **P** **00 22 23.1 +0.2**
comp=Z,18nm,1.3s
Z22A **Elephant Butte** 83.83 52 ⇑P **P** **00 22 26.2 +2.3**
baz=84,SNR=6.8
324A **Moseley Ranch,** 84.10 54 ⇑P **P** **00 22 26.7 +1.5**
baz=84
DIV **Divide** 84.13 14 *e*P **P** **00 22 24.7 +0.1**
comp=Z,16nm,0.8s
425A **Indio Mountain** 84.18 55 ⇑P **P** **00 22 27.4 +1.7**
baz=84
HLID **Hailey** 84.18 40 *e*P **P** **00 22 26.9 +1.5**
comp=Z,5.0nm,0.9s
HLID **Hailey** 84.18 40 ⇑P **P** **00 22 27.1 +1.7**
baz=85
SRU **San Rafael** 84.24 45 *e*P **P** **00 22 27.0 +1.2**
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU **San Rafael** 84.24 45 *e*P **P** **00 22 27.0 +1.2**
comp=Z,10nm,1.1s
LAZ **Ladron** 84.25 50 *e*P **P** **00 22 27.9 +1.8**
BMRM **Bremner River** 84.25 14 *e*P **P** **00 22 25.7 +0.5**
comp=Z,25nm,1.1s
626A **Big Bend Ranch** 84.28 56 ⇓P **P** **00 22 28.0 +1.8**
baz=85
MNTX **Cornudas Mount** 84.29 54 *e*P **P** **00 22 26.4 +0.4**
comp=Z,9.8nm,1.0s
H03N2 **Juan Fernandez** 84.34 123 T T 01 55 01.9
baz=245,slow=53,SNR=325
H03N3 **Juan Fernandez** 84.34 123 T T 01 55 04.0
baz=245,slow=53,SNR=157
H03N1 **Juan Fernandez** 84.35 123 T T 01 55 04.8
baz=245,slow=53,SNR=258
224A **Cornudas Mount** 84.36 53 ⇑P **P** **00 22 28.6 +2.0**
baz=85
Z23A **Rita Site, Whi** 84.38 52 ⇑P **P** **00 22 27.1 +0.5**
baz=85
325A **Bean Ranch, Si** 84.45 54 ⇓P **P** **00 22 27.5 +0.4**
baz=85
526A **Mary Lane Ranc** 84.54 56 ⇑P **P** **00 22 29.2 +1.7**
baz=85
TX31 **Lajitas Ar. Si** 84.55 56 *e*P **P** **00 22 28.6 +1.1**
TXAR **Lajitas Array** 84.55 56 P **P** **00 22 29.0 +1.5**
TXAR sP **sP** **00 23 00.8 -0.4**
TXAR **Lajitas Array** 84.55 56 P **P** **00 22 29.0 +1.5**
comp=Z,0.9nm,0.8s,baz=218,slow=7.6,SNR=11
TXAR sP **sP** **00 23 00.8 -0.4**
comp=Z,6.9nm,1.1s,baz=223,slow=6.1,SNR=9.3
LPM **Los Pinos Moun** 84.58 51 *e*P **P** **00 22 27.5 -0.2**
PV05 **Paradox Valley** 84.67 46 *e*P **P** **00 22 28.2 +0.1**
627A **Terlingua Ranc** 84.82 56 ⇑P **P** **00 22 30.7 +1.8**
baz=85
Y23A **Lovelace Mesa,** 84.82 51 ⇑P **P** **00 22 30.2 +1.3**
baz=85
PV09 **Paradox Valley** 84.86 46 *e*P **P** **00 22 30.1 +1.0**
PV10 **Paradox Valley** 84.86 46 *e*P **P** **00 22 29.8 +0.7**
225A **Deer Hill, Car** 84.90 53 ⇑P **P** **00 22 31.1 +1.8**
baz=85,SNR=6.1
527A **Woodward Ranch** 84.95 56 ⇑P **P** **00 22 30.6 +1.0**
baz=85
PV04 **Paradox Valley** 84.96 46 *e*P **P** **00 22 30.7 +1.2**
ANMO **Albuquerque** 85.00 50 *e*P **P** **00 22 30.9 +1.1**
comp=Z,18nm,1.1s
X23A **Hourglass Bar** 85.03 51 ⇓P **P** **00 22 31.9 +2.0**
baz=85,SNR=6.4
Z24A **Sheeppen Canyo** 85.05 52 ⇓P **P** **00 22 30.9 +0.9**
baz=85,SNR=6.7
PV01 **Paradox Valley** 85.06 47 *e*P **P** **00 22 30.8 +0.7**
326A **Caldwell Ranch** 85.19 54 ⇑P **P** **00 22 31.5 +0.8**
baz=86
628A **Black Gap, Mar** 85.23 56 ⇓P **P** **00 22 32.6 +1.7**
baz=86
125A **Gardner Draw,** 85.28 53 ⇑P **P** **00 22 32.8 +1.7**
baz=86,SNR=7.7
Y24A **Capitan** 85.28 52 ⇑P **P** **00 22 33.0 +1.8**
baz=86,SNR=10.0
KTH **Kantishna Hill** 85.30 11 *e*P **P** **00 22 29.7 -0.7**
comp=Z,10nm,0.9s
TRF **Thorofare Moun** 85.32 11 *e*P **P** **00 22 30.2 -0.5**
comp=Z,22nm,0.8s
226B **Tecolote Peak,** 85.38 54 ⇑P **P** **00 22 33.4 +1.8**
baz=86,SNR=7.3
427A **Hayter Ranch,** 85.42 55 ⇑P **P** **00 22 33.6 +1.7**
baz=86,SNR=8.9
Z25A **Roswell** 85.51 52 ⇑P **P** **00 22 34.5 +2.2**
baz=86,SNR=11
X24A **Lazy VL Ranch,** 85.57 51 ⇓P **P** **00 22 34.9 +2.3**
baz=86
V23A **Ortiz Mt. (NFS** 85.58 50 ⇑P **P** **00 22 34.7 +2.0**
baz=86,SNR=5.3
IPM **Ipoh** 85.62 276 P x 00 22 33.6
comp=Z,29nm,0.9s
IPM **Ipoh** 85.62 276 *e*P **P** **00 22 31.7 -1.4**
comp=Z,23nm,1.0s
126A **Clayton Basin,** 85.75 53 ⇓P **P** **00 22 34.1 +0.6**
baz=86,SNR=6.5
AHID **Auburn Hatcher** 85.78 42 *e*P **P** **00 22 33.8 +0.4**
comp=Z,21nm,1.6s
MCMT **McKenzie Canyo** 85.82 39 *e*P **P** **00 22 33.5 -0.2**
MCK **McKinley** 85.82 11 *e*P **P** **00 22 32.8 -0.1**
MCK pmax pmax
comp=Z,28nm,0.8s
MCK **McKinley** 85.82 11 *e*P **P** **00 22 32.8 -0.1**
comp=Z,28nm,0.8s
Y25A **Mesa, Roswell** 85.82 52 ⇓P **P** **00 22 35.0 +1.2**
baz=86,SNR=12
U23A **El Rito** 85.85 49 ⇑P **P** **00 22 35.5 +1.5**
baz=86,SNR=5.3
W24A **Lazy 6 Ranch,** 85.89 50 ⇑P **P** **00 22 34.8 +0.6**
baz=86,SNR=6.4
428A **Kincaid Ranch,** 85.92 55 ⇑P **P** **00 22 36.1 +1.8**
baz=86
529A **Stev Forest Ra** 86.03 56 ⇑P **P** **00 22 36.5 +1.7**
baz=86,SNR=7.8
Z26A **Caprock** 86.06 53 ⇓P **P** **00 22 35.6 +0.6**
baz=86,SNR=11
S22A **4UR Ranch, Cre** 86.07 48 P **P** **00 22 36.6 +1.4**
baz=86
328A **Wristen Ranch,** 86.11 55 ⇑P **P** **00 22 37.6 +2.4**
baz=86,SNR=6.2
X25A **Clemmons Ranch** 86.12 51 ⇓P **P** **00 22 37.3 +2.0**
baz=86,SNR=8.7
V24A **Rampart Ranch,** 86.23 50 ⇑P **P** **00 22 37.5 +1.6**
baz=87,SNR=5.6
127A **Arkansas Junct** 86.26 53 P **P** **00 22 38.0 +2.0**
baz=87
O20A **White River Ci** 86.28 45 P **P** **00 22 37.0 +1.0**
baz=87
SEY **Seymchan** 86.37 346 P **P** **00 22 36.2 +0.6**
SEY **Seymchan** 86.37 346 P **P** **00 22 36.2 +0.6**
SEY **Seymchan** 86.37 346 P **P** **00 22 36.2 +0.6**
comp=Z,14nm,0.6s,baz=142,slow=6.5,SNR=30
Y26A **Elida** 86.47 52 ⇓P **P** **00 22 37.8 +0.8**
baz=87,SNR=7.0
429A **Davenport Ranc** 86.50 56 ⇑P **P** **00 22 37.8 +0.7**
baz=87,SNR=8.0
N20A **Spence Gulch,** 86.61 44 P **P** **00 22 38.0 +0.4**
baz=87
Z27A **Tatum** 86.65 53 ⇑P **P** **00 22 39.7 +1.8**
baz=87,SNR=12
530A **J-C Ranch, Com** 86.73 56 ⇑P **P** **00 22 40.2 +2.0**
baz=87,SNR=6.1
BW06 **Boulder Array** 86.75 42 *e*P **P** **00 22 38.4 +0.1**
PDAR **Pinedale Array** 86.75 42 P **P** **00 22 39.5 +1.3**
PDAR pP **pP** **00 23 03.0 +0.6**
PDAR sP **sP** **00 23 12.9 +0.9**
PDAR PKKP **PKKPbc** **00 40 32.1 -2.1**
PDAR **Pinedale Array** 86.75 42 P **P** **00 22 39.5 +1.3**
comp=Z,0.6nm,0.7s,baz=219,slow=3.3,SNR=5.6
PDAR pP **pP** **00 23 03.0 +0.6**
comp=Z,0.4nm,0.5s,baz=209,slow=2.8,SNR=2.7
PDAR sP **sP** **00 23 12.9 +0.9**
comp=Z,2.2nm,1.0s,baz=204,slow=3.3,SNR=4.9
PDAR PKKP **PKKPbc** **00 40 32.1 -2.1**
comp=Z,0.4nm,0.8s,baz=81,slow=4.8,SNR=3.5
PDAR LR LR 00 57 33.1
comp=Z,48nm,20.0s,baz=342,slow=33
329A **Wagon Wheel Ra** 86.80 55 ⇓P **P** **00 22 39.9 +1.4**
baz=87,SNR=7.7
128A **Castleberry Fa** 86.90 54 ⇑P **P** **00 22 39.6 +0.5**
baz=87,SNR=9.9
Y27A **Causey** 86.94 52 ⇑P **P** **00 22 40.7 +1.4**
baz=87,SNR=12
PSI **Prapat** 87.02 274 P x 00 22 38.7
PSI **Prapat** 87.02 274 ⇑P **P** **00 22 39.5 -0.6**
baz=87
631A **Perdido Creek** 87.02 57 ⇑P **P** **00 22 40.7 +1.1**
baz=87,SNR=10
832A **Faith Ranch, C** 87.03 59 ⇓P **P** **00 22 40.4 +0.7**
baz=87,SNR=7.2
COLA **College** 87.06 11⇓ *e*P **P** **00 22 38.7 -0.2**
COLA pmax pmax
comp=Z,109nm,1.4s
COLA **College** 87.06 11 *e*P **P** **00 22 38.5 -0.4**
comp=Z,5.4nm,0.8s
IL1 **Eielson Array** 87.15 12 *e*P **P** **00 22 39.1 -0.3**
ILAR **Eielson Array** 87.15 12 P **P** **00 22 39.1 -0.2**
ILAR sP **sP** **00 23 12.2 -1.0**
ILAR PKKP **PKKPdf** **00 40 30.4 +2.6**
ILAR **Eielson Array** 87.15 12 P **P** **00 22 39.1 -0.2**
comp=Z,6.0nm,1.0s,baz=222,slow=5.2,SNR=22
ILAR sP **sP** **00 23 12.2 -1.0**
comp=Z,3.8nm,0.9s,baz=221,slow=4.8,SNR=6.6
ILAR PKKP **PKKPdf** **00 40 30.4 +2.6**
comp=Z,0.4nm,0.9s,baz=357,slow=2.5,SNR=4.4
MSTX **Muleshoe** 87.27 53 *e*P **P** **00 22 41.8 +0.9**
BJI **Beijing** 87.28 314 P **P** **00 22 39.9 -0.6**
BJI pmax pmax
comp=Z,16nm,1.4s
531A **Rocksprings** 87.36 57 ⇓P **P** **00 22 43.1 +1.8**
baz=88,SNR=12
O22A **Kremmling** 87.42 46 P **P** **00 22 43.0 +1.3**
baz=88
N22A **Wattenberg Ran** 87.79 45 P **P** **00 22 44.9 +1.5**
baz=88
PLCA **Paso Flores** 87.82 133 P **P** **00 22 44.2 +0.8**
PLCA sP **sP** **00 23 15.7 -1.6**
PLCA **Paso Flores** 87.82 133 P **P** **00 22 44.2 +0.8**
comp=Z,1.1nm,0.8s,baz=295,slow=4.1,SNR=2.9
PLCA sP **sP** **00 23 15.7 -1.6**
comp=Z,6.9nm,1.2s,baz=270,slow=6.8,SNR=5.2
ENH **Enshi** 87.84 303 *e*P **P** **00 22 43.8 +0.3**
comp=Z,9.4nm,0.8s
532A **Rocksprings** 87.85 57 ⇓P **P** **00 22 45.0 +1.4**
baz=88,SNR=9.2
SYO **Syowa Base** 87.89 192⇑ *e*P **P** **00 22 41.0 -2.1**
Y29A **Porterfield Fa** 88.05 53 ⇓P **P** **00 22 45.6 +1.1**
baz=88,SNR=5.7
633A **Saathoff Ranch** 88.15 58 ⇓P **P** **00 22 45.5 +0.5**
baz=88,SNR=6.9
DAWY **Dawson** 88.16 15 *e*P **P** **00 22 44.5 +0.2**
Z30A **Sanderson Ranc** 88.22 54 ⇓P **P** **00 22 45.9 +0.6**
baz=89,SNR=5.4
231A **Bronte** 88.27 55 ⇓P **P** **00 22 46.2 +0.6**
baz=89,SNR=6.1
EGAK **Eagle** 88.35 14 *e*P **P** **00 22 45.5 +0.4**
comp=Z,8.4nm,1.0s
SRIT **Nakonsritamara** 88.36 280 P **P** **00 22 48.8 +2.5**
comp=Z,187nm,2.2s
SNAA **Sanae** 88.55 178 *e*P **P** **00 22 44.8 -1.5**
comp=Z,11nm,0.8s
PATY **Pattaya** 88.70 284 P **P** **00 22 50.8 +2.9**
comp=Z,6.5nm,0.8s
COLD **Coldfoot** 88.81 9 *e*P **P** **00 22 47.0 -0.2**
comp=Z,5.5nm,0.7s
Z32A **Haskell** 89.48 54 ⇑P **P** **00 22 53.7 +2.5**
baz=90,SNR=7.7
133A **Hamilton Ranch** 89.63 55 ⇓P **P** **00 22 53.4 +1.5**
baz=90
XAN **Xi'an** 89.82 306 P **P** **00 22 53.9 +1.1**
XAN pmax pmax
comp=Z,5.0nm,1.1s
HHC **Hu-ho-hao-te** 90.78 313 *e*P **P** **00 22 58.2 +1.0**
HHC PP **PP** **00 26 31.8 -2.4**
HHC **Hu-ho-hao-te** 90.78 313 SKS SKKSac 00 33 26.3 -9.4
HHC **Hu-ho-hao-te** 90.78 313 S **S** **00 33 50.2 +3.9**
HHC **Hu-ho-hao-te** 90.78 313 *e*P **P** **00 22 55.1 -2.1**
HHC PP **PP** **00 26 35.6 +1.4**
HHC SKS SKSac 00 33 11.9 -8.9
HHC S **SKKSac** **00 33 37.7 +2.0**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,290nm,5.1s
HHC LR LR
comp=Z,470nm,17.6s
HHC LR LR
comp=Z,280nm,17.5s
HHC LR LR
comp=Z,360nm,16.5s
SRDT **SRDT** 90.78 285 P **P** **00 22 59.9 +2.3**
comp=Z,29nm,0.9s,comp=Z,5μm
RSSD **Black Hills** 90.92 43 *e*P **P** **00 22 57.7 -0.2**
RSSD pmax pmax
comp=Z,118nm,2.9s
RSSD **Black Hills** 90.92 43 *e*P **P** **00 22 57.7 -0.2**
comp=Z,118nm,2.9s
KMI **Kunming** 91.38 296 P **P** **00 23 01.8 +1.3**
KMI pP pP 00 23 36.9 +12
KMI S **S** **00 33 48.3 -4.3**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI LR LR
comp=Z,71nm,21.5s
LAMP **Lampang** 91.75 289 P **P** **00 23 03.6 +1.5**
comp=Z,10.0nm,0.8s,comp=Z,91nm
CM01 **Chiang Mai Arr** 92.32 289 *e*P **P** **00 23 05.5 +0.8**
CMAR **Chiang Mai Arr** 92.35 289 P **P** **00 23 06.3 +1.5**
CMAR **Chiang Mai Arr** 92.35 289 P **P** **00 23 06.3 +1.5**
comp=Z,6.7nm,0.8s,baz=122,slow=2.7,SNR=52
YAK **Yakutsk** 92.51 337 *e*P **P** **00 23 03.0 -1.5**
CD2 **Chengdu** 92.64 302 *e*P **P** **00 23 06.6 +0.7**
CD2 PP **PP** **00 26 52.6 +3.6**
CD2 SKS **SKSac** **00 33 26.8 -4.9**
CD2 S **S** **00 33 57.6 -5.7**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
INK **Inuvik** 93.01 14 *e*P **P** **00 23 06.2 -0.4**
comp=Z,11nm,1.1s
ATAH **Atahualpa** 94.00 99 LR LR 00 56 25.7
comp=Z,53nm,20.0s,baz=358,slow=30
LZH **Lanzhou** 94.45 307 *e*P **P** **00 23 13.0 -1.3**
LZH pP pP 00 23 49.1 +11
LZH sP sP 00 24 03.2 +15
LZH pmax pmax
comp=Z,15nm,1.0s
YKA **Yellowknife Ar** 94.87 24 P **P** **00 23 15.7 +0.3**
YKA sP **sP** **00 23 47.7 -1.6**
YKA **Yellowknife Ar** 94.87 24 P **P** **00 23 15.7 +0.3**
comp=Z,1.4nm,0.8s,baz=239,slow=4.3,SNR=31
YKA sP **sP** **00 23 47.7 -1.6**
comp=Z,1.1nm,0.8s,baz=238,slow=4.1,SNR=4.8
YKB5 **Yellowknife Ar** 94.87 24 *e*P **P** **00 23 14.8 -0.6**
ULN **Ulaanbaatar** 96.58 319 *e*P **P** **00 23 21.9 -1.8**
comp=Z,5.3nm,1.1s
SONM **Songino Array** 96.98 318 P **P** **00 23 25.6 +0.1**
SONM **Songino Array** 96.98 318 P **P** **00 23 25.6 +0.1**
comp=Z,1.7nm,1.1s,baz=145,slow=6.0,SNR=7.5
GTA **Gaotai** 98.58 309 *e*P Pdif 00 23 33.8 +0.9
GTA pP pP 00 24 09.8 +13
GTA sP sP 00 24 24.9 +18
GTA pmax pmax
comp=Z,4.0nm,1.0s
TIXI **Tiksi** 98.81 345⇑ *i*P Pdif 00 23 33.4 +0.4
TIXI pmax pmax
comp=Z,3.0nm,0.4s
ZAA0 **Zalesovo Array** 111.62 321 *e*PKiKP **PKiKP** **00 28 25.9 -1.7**
ZALV **Zalesovo Beam** 111.62 321 PKiKP **PKiKP** **00 28 26.6 -1.0**
ZALV **Zalesovo Beam** 111.62 321 PKiKP **PKiKP** **00 28 26.6 -1.0**
comp=Z,2.3nm,0.7s,baz=146,slow=1.0,SNR=13
MK01 **Makanchi Array** 112.63 313 *e*PKiKP **PKiKP** **00 28 27.3 -2.5**
MKAR **Makanchi Array** 112.64 313 *e*PKiKP **PKiKP** **00 28 27.9 -2.0**
MKAR PKKPbc **PKKPbc** **00 39 19.0 -1.0**
MKAR **Makanchi Array** 112.64 313 PKiKP **PKiKP** **00 28 29.0 -0.9**
comp=Z,1.3nm,0.5s,baz=195,slow=0.8,SNR=45
MKAR PKKPbc **PKKPbc** **00 39 19.0 -1.0**
comp=Z,0.4nm,0.7s,baz=269,slow=2.8,SNR=4.2
KURK **Kurchatov** 115.28 318 *e*PKiKP **PKPdf** **00 28 34.2 -0.5**
TKM2 **Tokmak 2** 117.13 309 *e*PKiKP **PKPdf** **00 28 37.2 -1.7**
TKM2 **Tokmak 2** 117.13 309 *e*PKPdf **PKPdf** **00 28 37.1 -1.7**
AAK **Ala-Archa** 117.93 308 *i* PKiKP **PKPdf** **00 28 40.3 -0.1**
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK **Ala-Archa** 117.93 308 *e*PKPdf **PKPdf** **00 28 39.0 -1.3**
AAK **Ala-Archa** 117.93 308 PKP **PKPdf** **00 28 39.9 -0.5**
comp=Z,2.2nm,0.8s,baz=116,slow=5.0,SNR=9.6
EKS2 **Erkin-Say** 118.46 308 *e*PKiKP **PKPdf** **00 28 39.7 -1.6**
EKS2 **Erkin-Say** 118.46 308 *e*PKPdf **PKPdf** **00 28 39.7 -1.6**
BRVK **Borovoye** 120.31 320 *i* PKiKP **PKPdf** **00 28 43.4 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK **Borovoye** 120.31 320 *e*PKPdf **PKPdf** **00 28 42.4 -1.9**
KKAR **Karatay Array** 120.86 309 *e*PKiKP **PKPdf** **00 28 44.3 -1.5**
KKAR **Karatay Array** 120.86 309 *e*PKPdf **PKPdf** **00 28 44.3 -1.5**
KBL **Kabul** 121.85 299 *e*PKiKP **PKPdf** **00 28 46.7 -1.5**
KBL **Kabul** 121.85 299 *e*PKPdf **PKPdf** **00 28 46.7 -1.5**
OPO **Ambohidratompo** 123.50 230 PKP **PKPdf** **00 28 51.9 +0.1**
OPO **Ambohidratompo** 123.50 230 PKP **PKPdf** **00 28 51.9 +0.1**
comp=Z,5.1nm,0.8s,baz=84,slow=4.6,SNR=5.1
ARU **Arti** 126.13 326 *i* PKiKP **PKPdf** **00 28 55.2 -0.2**
ARU 00 30 51.9
ARU 00 35 47.3
ARU SS SS 00 47 40.5 -5.4
ABKAR **Akbulak array** 127.39 317 *e*PKPdf **PKPdf** **00 28 56.5 -1.5**
KEV **Kevo** 128.31 350 *e*PKiKP **PKPdf** **00 28 58.0 -1.2**
KEV pmax pmax
comp=Z,8.0nm,0.5s
KEV **Kevo** 128.31 350 *ep* **PKPdf** **00 28 58.0 -1.2**
comp=Z,8.2nm,0.5s
ARCES **ARCESS Array B** 128.74 351 PKP **PKPdf** **00 29 00.1 +0.1**
ARCES **ARCESS Array B** 128.74 351 PKP **PKPdf** **00 29 00.1 +0.1**
comp=Z,3.0nm,0.4s,baz=17,slow=1.5,SNR=32
JOF **Joensuu** 133.29 344 *e*PKiKP **PKPdf** **00 29 07.8 -1.0**
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF **Joensuu** 133.29 344 *ep* **PKPdf** **00 29 07.8 -1.0**
comp=Z,7.5nm,0.5s
KAF **Kangasniemi** 135.21 346 *e*PKiKP **PKPdf** **00 29 12.5 0.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF **Kangasniemi** 135.21 346 *ep* **PKPdf** **00 29 12.5 0.0**
comp=Z,3.5nm,0.5s
FINES **FINESS Array B** 135.85 345 PKPpre PKPpre 00 29 06.1
FINES PKP **PKPdf** **00 29 13.5 -0.2**
FINES **FINESS Array B** 135.85 345 PKhKP PKPpre 00 29 06.1
comp=Z,1.9nm,0.8s,baz=48,slow=2.8,SNR=7.2
FINES PKP **PKPdf** **00 29 13.5 -0.2**
comp=Z,3.2nm,0.6s,baz=31,slow=3.2,SNR=16
OBN **Obninsk** 137.39 333⇑ *e*PKiKP **PKPdf** **00 29 16.9 +0.2**
OBN *e**PP **pPKPdf** **00 29 42.7 +0.8**
OBN *e* 00 32 01.9
OBN pmax pmax
comp=Z,8.0nm,1.2s
VRHR **Novokhopersk** 137.47 326 *e*PKiKP **PKPdf** **00 29 17.5 +0.5**
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,8.0nm,0.7s
NB2 **NORSAR Subarra** 138.61 355 PKP **PKPdf** **00 29 19.7 +0.8**
comp=Z,1.3nm,0.8s,baz=17,slow=2.6
NOA **NORSAR Array B** 138.61 355 PKP **PKPdf** **00 29 19.4 +0.5**
NOA **NORSAR Array B** 138.61 355 PKP **PKPdf** **00 29 19.4 +0.5**
comp=Z,1.9nm,0.8s,baz=15,slow=4.0,SNR=5.0
VSR **Storozhevoye** 138.67 327 *e*PKiKP **PKPdf** **00 29 17.1 -2.1**
VSR pmax pmax
comp=Z,7.0nm,1.0s
VSR pmax pmax
comp=N,1.0nm,0.8s
VSR pmax pmax
comp=E,2.0nm,1.0s
VORD **Divnogorie** 138.76 327 *e*PKiKP **PKPdf** **00 29 17.5 -1.8**
VORD pmax pmax
comp=N,2.0nm,0.8s
VORD pmax pmax
comp=E,4.0nm,0.8s
VORD pmax pmax
comp=Z,5.0nm,0.8s
KIV **Kislovodsk** 140.33 316⇓ *e*PKiKP **PKPdf** **00 29 23.0 +0.4**
KIV *e**PP **pPKPdf** **00 29 48.7 +0.9**
KIV *e* 00 32 22.8
KIV *e* 00 36 25.7
KIV *e*SS SS 00 50 39.7 +1.2
KIV pmax pmax
comp=Z,11nm,1.3s
KMBO **Kilima Mbogo** 141.91 241 PKPpre PKPpre 00 29 21.4
KMBO **Kilima Mbogo** 141.91 241 PKhKP PKPpre 00 29 21.4
comp=Z,1.2nm,0.8s,baz=45,slow=1.4,SNR=3.1
SUW **Suwalki** 143.10 342 *e*PKP PKPbc 00 29 24.0 -0.2
AKASG **Malin Array Be** 143.65 334 PKHKP PKPpre 00 29 25.5
AKASG **Malin Array Be** 143.65 334 PKPpre PKPpre 00 29 25.5
AKASG **Malin Array Be** 143.65 334 PKhKP PKPpre 00 29 25.5
comp=Z,4.0nm,0.5s,baz=42,slow=4.2,SNR=32
KIEV **Kiev** 143.66 334⇑ *i*PKHKP PKPpre 00 29 24.9
KIEV **Kiev** 143.66 334 *e*PKPpre PKPpre 00 29 25.5
AK11 **Malin Array Si** 143.69 334 *e*PKPpre PKPpre 00 29 24.2
EKA **Eskdalemuir Ar** 144.09 8 PKP **PKPab** **00 29 26.6 +0.1**
EKA **Eskdalemuir Ar** 144.09 8 PKP **PKPab** **00 29 26.6 +0.1**
comp=Z,4.3nm,0.7s,baz=338,slow=2.6,SNR=12
KESW **Keswick, Cumbr** 144.82 8 *e*P **PKPab** **00 29 29.4 +0.1**
KESW AMB AMB 00 29 37.8
comp=Z,68nm,2.2s
SIM **Simferopol'** 145.12 322*d* *i*PKiKP **PKPdf** **00 29 31.3 +0.4**
SIM pmax pmax
comp=Z,60nm,9.9s
GKP **Gorka Klasztor** 145.29 347 *e*PKP2 **PKPdf** **00 29 31.0 +0.1**
GKP **Gorka Klasztor** 145.29 347 *e*PKP **PKPdf** **00 29 31.0 +0.1**
FURI **Furi** 145.44 257 *e*PKPdf **PKPdf** **00 29 31.5 -1.3**
FURI **Furi** 145.44 257 *i* P **PKPab** **00 29 34.9 +1.7**
MALT **Malatya** 145.56 310⇓ *i*PKiKP **PKPab** **00 29 33.4 +0.7**
MALT **Malatya** 145.56 310⇑ *i*P **PKPab** **00 29 34.0 +1.3**
HPK **Haverah Park** 145.62 7 *e*P **PKPbc** **00 29 32.0 +0.1**
HPK AMB AMB 00 29 33.1
comp=Z,63nm,1.4s

BEL	**Belsk**	**145.71**	**342**	*e*PKIKP	**PKPbc**	**00 29 32.2**	**0.0**
BEL	**Belsk**	**145.71**	**342**	*e*PKP	**PKPbc**	**00 29 32.1**	**-0.1**
BSEG	**Bad Segeberg**	**145.72**	**354**	*e*PKPbc	**PKPab**	**00 29 32.6**	**0.0**
BSEG				*ep*PKPbc	pPKPbc	00 30 07.8	+11
WME	**Myndd Eilian**	**145.81**	**10**	*e*P	**PKPbc**	**00 29 32.4**	**0.0**
WLF1	**Llynfaes**	**145.90**	**10**	*e*P	**PKPdf**	**00 29 32.4**	**+0.5**
WLF1				AMB	AMB	00 29 34.5	
	comp=Z,87nm,2.6s						
YRC	**Rhoscolyn**	**145.91**	**10**	*e*P	**PKPbc**	**00 29 32.5**	**-0.2**
WPM1	**Penmaenmawr**	**146.00**	**9**	*e*P	**PKPbc**	**00 29 33.0**	**-0.1**
LMK	**Market Rasen**	**146.24**	**5**	*e*P	**PKPbc**	**00 29 33.4**	**-0.3**
LMK				AMB	AMB	00 29 34.3	
	comp=Z,123nm,1.3s						
KBI1	**Birley Grange**	**146.32**	**7**	*e*P	**PKPbc**	**00 29 34.2**	**+0.2**
LVV	**L'vov**	**146.39**	**337**	*i* PKP2	**PKPbc**	**00 29 34.3**	**0.0**
STNC	**Stoke**	**146.40**	**8**	*e*P	**PKPbc**	**00 29 33.9**	**-0.3**
STNC				AMB	AMB	00 29 34.0	
	comp=Z,84nm,1.5s						
FOEL	**Foel Wylfa**	**146.47**	**9**	*e*P	**PKPbc**	**00 29 34.5**	**0.0**
FOEL				AMB	AMB	00 29 37.4	
	comp=Z,61nm,3.0s						
KIS	**Kishinev**	**146.56**	**330**	*e*PKP2	**PKPbc**	**00 29 35.0**	**+0.1**
KIS				pmax	pmax		
	comp=Z,70nm,1.3s						
KIS	**Kishinev**	**146.56**	**330**	*e*P	**PKPbc**	**00 29 35.0**	**+0.1**
KIS				XM		00 29 35.5	
	comp=Z,100nm,1.3s						
RUE	**Ruedersdorf**	**146.70**	**350**	*e*PKPbc	**PKPbc**	**00 29 35.5**	**+0.4**
RUE	**Ruedersdorf**	**146.70**	**350**	*e*PKPdf	**PKPdf**	**00 29 33.7**	**+0.4**
HLM1	**Long Mynd**	**146.87**	**9**	*e*P	**PKPbc**	**00 29 35.6**	**-0.1**
HLM1				AMB	AMB	00 29 36.1	
	comp=Z,30nm,1.0s						
KWP	**Kalwaria Pacla**	**147.02**	**338**	⇑PKP2	**PKPbc**	**00 29 36.7**	**+0.6**
KWP	**Kalwaria Pacla**	**147.02**	**338**	*e*PKP	**PKPbc**	**00 29 36.8**	**+0.6**
KWP	**Kalwaria Pacla**	**147.02**	**338**	⇑*i*P	**PKPbc**	**00 29 36.9**	**+0.8**
LPW	**Lampeter**	**147.09**	**10**	*e*P	**PKPbc**	**00 29 35.9**	**-0.3**
LPW				AMB	AMB	00 29 40.6	
	comp=Z,53nm,2.0s						
NRDL	**Niedersach Rie**	**147.17**	**354**	*e*PKPbc	**PKPbc**	**00 29 36.7**	**+0.4**
LEOM	**Leova**	**147.21**	**329**	⇓PKP2	**PKPbc**	**00 29 37.5**	**+0.8**
LEOM	**Leova**	**147.21**	**329**	⇑*i*P	**PKPbc**	**00 29 37.3**	**+0.6**
MCH1	**Michaelchurch**	**147.36**	**9**	*e*P	**PKPbc**	**00 29 36.9**	**-0.1**
MCH1				AMB	AMB	00 29 40.0	
	comp=Z,34nm,1.6s						
OJC	**Ojcow**	**147.43**	**342**	*e*PKP2	**PKPbc**	**00 29 37.5**	**+0.2**
OJC	**Ojcow**	**147.43**	**342**	*e*PKP	**PKPbc**	**00 29 37.5**	**+0.2**
OJC	**Ojcow**	**147.43**	**342**	*e*PKPdf	**PKPbc**	**00 29 36.3**	**-0.9**
IBBN	**Ibbenburen**	**147.54**	**357**	*e*PKPbc	**PKPbc**	**00 29 37.9**	**+0.5**
MONM	**Monmouth**	**147.54**	**9**	*e*P	**PKPbc**	**00 29 37.4**	**-0.1**
MONM				AMB	AMB	00 29 45.5	
	comp=Z,69nm,2.6s						
STHS	**Stebnicka Huta**	**147.69**	**340**	*e*PKP2	**PKPbc**	**00 29 38.6**	**+0.6**
STHS	**Stebnicka Huta**	**147.69**	**340**	*e*PKP	**PKPbc**	**00 29 38.6**	**+0.6**
BUR04	**Bucovina Ar. S**	**147.71**	**334**	*e*PKPdf	**PKPdf**	**00 29 35.5**	**+0.2**
BURAR	**Bucovina Array**	**147.71**	**334**	⇑PKIKP	**PKPbc**	**00 29 37.0**	**-1.2**
BURAR	**Bucovina Array**	**147.71**	**334**	⇑*i*P	**PKPbc**	**00 29 37.7**	**-0.5**
KOLS	**Kolonicke sedl**	**147.76**	**338**	*e*PKIKP	**PKPdf**	**00 29 35.7**	**+0.4**
KOLS				*e*		00 29 38.9	
KOLS	**Kolonicke sedl**	**147.76**	**338**	*e*PKP	**PKPdf**	**00 29 35.7**	**+0.4**
KOLS				*e*		00 29 38.9	
KSP	**Ksiaz**	**147.77**	**346**	*e*PKP2	**PKPbc**	**00 29 38.8**	**+0.7**
KSP	**Ksiaz**	**147.77**	**346**	*e*PKP	**PKPbc**	**00 29 38.8**	**+0.7**
CLZ	**Clausthal**	**147.78**	**353**	*e*PKPbc	**PKPbc**	**00 29 38.7**	**+0.5**
CLZ				*ep*PKPbc	pPKPbc	00 30 14.1	+11
TLCR		**147.84**	**327**	⇑PKP2	**PKPbc**	**00 29 38.8**	**+0.3**
TLCR		**147.84**	**327**	⇑*i*P	**PKPbc**	**00 29 38.7**	**+0.3**
GHRR		**147.91**	**330**	⇑*i*P	**PKPab**	**00 29 40.2**	**-1.2**
WTSB	**Winterswijk**	**147.92**	**358**	*e*PKP	**PKPbc**	**00 29 38.4**	**-0.1**
	comp=Z,29nm,0.7s						
CLL	**Collm**	**147.96**	**350**	⇓*e*PKIKP	**PKPdf**	**00 29 36.0**	**+0.5**
CLL				*i*		00 29 41.3	
CLL				pmax	pmax		
	comp=Z,45nm,1.0s						
CLL	**Collm**	**147.96**	**350**	*e*PKPbc	**PKPbc**	**00 29 39.1**	**+0.4**
CLL				*ep*PKPbc	pPKPbc	00 30 14.4	+11
CLL	**Collm**	**147.96**	**350**	*e*PKPdf	**PKPdf**	**00 29 36.0**	**+0.5**
CLL				⇓*i*PKPbc	**PKPbc**	**00 29 39.0**	**+0.4**
	comp=Z,45nm,1.0s						
CLL				*i* PKPab	**PKPab**	**00 29 41.3**	**-0.1**
	comp=Z,24nm,0.8s						
CLL				*ep*PKPbc	pPKPbc	00 30 14.0	+10
NIE	**Niedzica**	**147.99**	**341**	*e*PKP2	**PKPbc**	**00 29 39.1**	**+0.3**
NIE	**Niedzica**	**147.99**	**341**	*e*PKP	**PKPbc**	**00 29 39.1**	**+0.3**
UZH	**Uzhgorod**	**148.01**	**338**	⇓*i*PKP2	**PKPbc**	**00 29 39.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**148.06**	**339**	*e*PKIKP	**PKPdf**	**00 29 35.8**	**0.0**
CRVS				*e*		00 29 40.0	
CRVS	**Cervenica-Dubn**	**148.06**	**339**	*e*PKP	**PKPdf**	**00 29 35.8**	**0.0**
CRVS				*e*		00 29 39.9	
HEX	**Exmoor**	**148.14**	**10**	*e*P	**PKPbc**	**00 29 38.6**	**-0.5**
UPC	**Upice**	**148.14**	**346**	*i* PKP2	**PKPbc**	**00 29 39.8**	**+0.6**
UPC	**Upice**	**148.14**	**346**	⇑*i*PKP	**PKPbc**	**00 29 39.8**	**+0.6**
CFR	**Carcaliu**	**148.19**	**328**	⇑PKP2	**PKPbc**	**00 29 39.8**	**+0.4**
CFR	**Carcaliu**	**148.19**	**328**	⇑*i*P	**PKPbc**	**00 29 40.0**	**+0.6**
BRG	**Berggiesshubel**	**148.21**	**349**	*e*PKP	**PKPdf**	**00 29 36.4**	**+0.5**
	comp=Z,5.7nm,1.1s						
BRG				*i*		00 29 39.8	
	comp=Z,23nm,1.0s						
BRG				*ep*PKP	pPKPdf	00 30 13.3	+12
	comp=Z,6.4nm,0.8s						
BRG	**Berggiesshubel**	**148.21**	**349**	*e*PKIKP	**PKPdf**	**00 29 36.4**	**+0.5**
BRG				*i*		00 29 39.8	
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRG	**Berggiesshubel**	**148.21**	**349**	*e*PKPbc	**PKPbc**	**00 29 39.9**	**+0.6**
BRG				*ep*PKPbc	pPKPbc	00 30 15.4	+11
DPC	**Dobruska-Polom**	**148.22**	**346**	*i* PKP2	**PKPbc**	**00 29 39.9**	**+0.5**
DPC	**Dobruska-Polom**	**148.22**	**346**	⇑*i*PKP	**PKPbc**	**00 29 39.9**	**+0.5**
DPC				*e*PKPAB	**PKPab**	**00 29 43.5**	**+0.9**
DPC	**Dobruska-Polom**	**148.22**	**346**	*e*PKPbc	**PKPbc**	**00 29 39.4**	**-0.1**
NEUB	**Neuenburg**	**148.24**	**352**	*e*PKPbc	**PKPbc**	**00 29 39.6**	**+0.3**
NEUB				*ep*PKPbc	pPKPbc	00 30 15.2	+11
OKC	**Ostrava-Krasne**	**148.24**	**343**	*i* PKP2	**PKPbc**	**00 29 39.7**	**+0.3**
OKC	**Ostrava-Krasne**	**148.24**	**343**	⇑*i*PKP	**PKPbc**	**00 29 39.7**	**+0.3**
FBE	**Freiberg**	**148.27**	**350**	*e*PKPbc	**PKPbc**	**00 29 40.3**	**+0.8**
BRTR	**Keskin Array B**	**148.28**	**315**	PKPbc	**PKPbc**	**00 29 40.1**	**+0.1**
BRTR	**Keskin Array B**	**148.28**	**315**	PKPbc	**PKPbc**	**00 29 40.1**	**+0.1**
	comp=Z,10nm,0.8s,baz=118,slow=2.9,SNR=38						
BMR	**Baia Mare**	**148.36**	**336**	⇑*i*P	**PKPbc**	**00 29 39.6**	**-0.2**
KRLC	**Kraliky**	**148.37**	**345**	*i* PKP2	**PKPbc**	**00 29 40.4**	**+0.6**
KRLC	**Kraliky**	**148.37**	**345**	⇑*i*PKP	**PKPbc**	**00 29 40.4**	**+0.6**
VRI	**Vrincioaia**	**148.38**	**330**	⇓PKP2	**PKPbc**	**00 29 40.2**	**+0.3**
VRI	**Vrincioaia**	**148.38**	**330**	⇑*i*P	**PKPbc**	**00 29 40.4**	**+0.5**
PLOR	**Plostina**	**148.43**	**330**	⇑*i*P	**PKPbc**	**00 29 39.5**	**-0.6**
BUG	**Bochum--Univer**	**148.43**	**357**	*e*PKPbc	**PKPbc**	**00 29 40.1**	**+0.3**
BUG				*ep*PKPbc	pPKPbc	00 30 15.6	+11
PVCC	**Panska Ves**	**148.43**	**348**	*i* PKP2	**PKPbc**	**00 29 41.0**	**+1.1**
PVCC	**Panska Ves**	**148.43**	**348**	⇑*i*PKP	**PKPbc**	**00 29 41.0**	**+1.1**
MORC	**Moravsky Berou**	**148.46**	**344**	⇓PKIKP	**PKPdf**	**00 29 37.1**	**+0.7**
MORC	**Moravsky Berou**	**148.46**	**344**	⇑*i*P	**PKPbc**	**00 29 40.3**	**+0.2**
MORC	**Moravsky Berou**	**148.46**	**344**	*e*PKPdf	**PKPdf**	**00 29 36.3**	**-0.2**
TIRR	**Tirgusor**	**148.55**	**327**	⇑PKP2	**PKPbc**	**00 29 40.8**	**+0.4**
TIRR	**Tirgusor**	**148.55**	**327**	⇑*i*P	**PKPbc**	**00 29 41.0**	**+0.6**
TIRR	**Tirgusor**	**148.55**	**327**	*e*PKPbc	**PKPbc**	**00 29 40.2**	**-0.2**
HARR	**Harsova**	**148.64**	**327**	⇓PKP2	**PKPbc**	**00 29 41.5**	**+0.9**
HARR	**Harsova**	**148.64**	**327**	⇑*i*P	**PKPbc**	**00 29 42.0**	**+1.4**
TLB	**Topalu**	**148.66**	**327**	⇑PKP2	**PKPbc**	**00 29 41.3**	**+0.7**
TLB	**Topalu**	**148.66**	**327**	⇑*i*P	**PKPbc**	**00 29 41.5**	**+0.9**
ANTO	**Ankara**	**148.76**	**316**	⇓PKIKP	**PKPbc**	**00 29 40.0**	**-1.2**
ANTO	**Ankara**	**148.76**	**316**	⇑*i*P	**PKPdf**	**00 29 37.2**	**-0.1**
ANTO	**Ankara**	**148.76**	**316**	*e*PKPdf	**PKPdf**	**00 29 37.2**	**-0.1**
ANTO				*e*PKPbc	**PKPbc**	**00 29 41.6**	**+0.4**
BR231	**Keskin MP Arra**	**148.79**	**316**	*e*PKPdf	**PKPdf**	**00 29 37.4**	**0.0**
BR231				*e*PKPbc	**PKPbc**	**00 29 40.9**	**-0.4**
UBBA	**Unterbreizbach**	**148.83**	**354**	*e*PKPbc	**PKPbc**	**00 29 40.9**	**+0.1**
MANR	**Mangalia**	**148.90**	**326**	⇑*i*P	**PKPbc**	**00 29 42.3**	**+1.0**
WERD	**Werda**	**148.90**	**351**	*e*PKPbc	**PKPbc**	**00 29 41.6**	**+0.5**
TANN	**Tannenbergstha**	**148.91**	**350**	*e*PKPbc	**PKPbc**	**00 29 41.7**	**+0.5**
TANN				*ep*PKPbc	pPKPbc	00 30 17.0	+11
DOPR	**Dopca**	**148.92**	**332**	⇑*i*P	**PKPbc**	**00 29 42.6**	**+1.3**
PRU	**Pruhonice**	**148.95**	**348**	*i* PKP2	**PKPbc**	**00 29 41.7**	**+0.5**
PRU	**Pruhonice**	**148.95**	**348**	⇑*i*PKP	**PKPbc**	**00 29 41.7**	**+0.5**
GUNZ	**Gunzen**	**148.98**	**351**	*e*PKPbc	**PKPbc**	**00 29 42.0**	**+0.6**
AMRR	**Amara**	**149.00**	**328**	⇑*i*P	**PKPbc**	**00 29 42.7**	**+1.2**
MLR	**Muntele Rosu**	**149.02**	**330**	⇑*i*P	**PKPbc**	**00 29 41.6**	**-0.1**
MLR	**Muntele Rosu**	**149.02**	**330**	PKPbc	**PKPbc**	**00 29 41.6**	**-0.1**
MLR	**Muntele Rosu**	**149.02**	**330**	PKPbc	**PKPbc**	**00 29 41.6**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=3,3,slow=4.1,SNR=28						
WERN	**Wernitzgruen**	**149.04**	**350**	*e*PKPbc	**PKPbc**	**00 29 42.3**	**+0.8**
NKC	**Novy Kostel**	**149.09**	**350**	*i* PKP2	**PKPbc**	**00 29 42.1**	**+0.5**
NKC	**Novy Kostel**	**149.09**	**350**	⇑*i*PKP	**PKPbc**	**00 29 42.1**	**+0.5**
NKC				*e*PKPAB	**PKPab**	**00 29 45.5**	**-0.6**

CJR	**Cluj-Napoca**	**149.09**	**334**	⇑*i*P	**PKPbc**	**00 29 42.7**	**+0.9**
VRAC	**Vranov**	**149.13**	**345**	⇑*i*P	**PKPbc**	**00 29 42.7**	**+1.0**
VRAC	**Vranov**	**149.13**	**345**	PKPbc	**PKPbc**	**00 29 42.2**	**+0.4**
VRAC	**Vranov**	**149.13**	**345**	PKPbc	**PKPbc**	**00 29 42.2**	**+0.4**
	comp=Z,6.5nm,0.8s,baz=44,slow=1.9,SNR=18						
UCC	**Uccle**	**149.13**	**0**	PKPbc	**PKPbc**	**00 29 42.1**	**+0.4**
HGN	**Heimansgroeve**	**149.15**	**359**	*e*PKP	**PKPbc**	**00 29 41.7**	**0.0**
	comp=Z,17nm,1.0s						
MDB	**Medias**	**149.22**	**333**	⇑*i*P	**PKPbc**	**00 29 42.8**	**+0.7**
SECR		**149.31**	**330**	⇑*i*P	**PKPbc**	**00 29 43.0**	**+0.7**
MEM	**Membach**	**149.31**	**358**	PKPbc	**PKPbc**	**00 29 42.6**	**+0.5**
MEM	**Membach**	**149.31**	**358**	*e*PKP2	**PKPbc**	**00 29 42.6**	**+0.5**
MEM	**Membach**	**149.31**	**358**	*e*PKPbc	**PKPbc**	**00 29 42.6**	**+0.5**
MANZ	**Manzenberg**	**149.38**	**351**	*e*PKPbc	**PKPbc**	**00 29 43.0**	**+0.6**
DRGR		**149.39**	**335**	⇑*i*P	**PKPbc**	**00 29 43.3**	**+0.8**
TREC	**Trest**	**149.40**	**346**	⇑*i*PKP	**PKPbc**	**00 29 42.6**	**+0.2**
SNF	**Seneffe**	**149.42**	**1**	PKPbc	**PKPbc**	**00 29 42.8**	**+0.4**
PSZ	**Piszkesteto**	**149.44**	**340**	*e*PKP2	**PKPbc**	**00 29 43.1**	**+0.5**
PSZ	**Piszkesteto**	**149.44**	**340**	⇑*i*P	**PKPbc**	**00 29 43.2**	**+0.6**
PSZ	**Piszkesteto**	**149.44**	**340**	*e*PKPbc	**PKPbc**	**00 29 43.1**	**+0.5**
VOIR		**149.47**	**331**	⇓PKP2	**PKPbc**	**00 29 43.5**	**+0.7**
VOIR		**149.47**	**331**	⇑*i*P	**PKPbc**	**00 29 43.3**	**+0.5**
SULR		**149.48**	**329**	⇑*i*P	**PKPbc**	**00 29 42.4**	**-0.3**
BCLA	**Clavier**	**149.51**	**359**	PKPab	**PKPab**	**00 29 47.5**	**-0.2**
TNS	**Taunus Mts**	**149.57**	**355**	*e*PKPbc	**PKPbc**	**00 29 43.4**	**+0.6**
ROTZ	**Rotzenmuhle**	**149.58**	**350**	*e*PKPbc	**PKPbc**	**00 29 43.7**	**+0.9**
MMAI	**Mount Meron Ar**	**149.71**	**302**	PKPbc	**PKPbc**	**00 29 44.7**	**+0.9**
MMAI	**Mount Meron Ar**	**149.71**	**302**	PKPbc	**PKPbc**	**00 29 44.7**	**+0.9**
	comp=Z,20nm,0.7s,baz=68,slow=5.5,SNR=32						
ARR	**Arges**	**149.72**	**332**	⇑*i*P	**PKPbc**	**00 29 44.8**	**+1.4**
DOU	**Dourbes**	**149.84**	**0**	PKPbc	**PKPbc**	**00 29 43.9**	**+0.4**
KHC	**Kasperske Hory**	**149.95**	**348**	*e*PKIKP	**PKPdf**	**00 29 39.3**	**+0.4**
KHC	**Kasperske Hory**	**149.95**	**348**	*i* PKPDF	**PKPdf**	**00 29 39.2**	**+0.4**
KHC				⇑*e*PKP	**PKiKP**	**00 29 44.4**	**-0.3**
KHC	**Kasperske Hory**	**149.95**	**348**	*e*PKPdf	**PKPdf**	**00 29 39.3**	**+0.4**
KHC				*e*PKPbc	**PKiKP**	**00 29 44.5**	**-0.3**
GOLR		**149.97**	**331**	⇑*i*P	**PKPbc**	**00 29 44.8**	**+0.9**
LOT	**Lotru**	**150.03**	**333**	⇑*i*P	**PKPbc**	**00 29 43.5**	**-0.7**
DEV	**Deva**	**150.05**	**334**	⇑*i*P	**PKPbc**	**00 29 43.3**	**-0.8**
HUMR	**Humele**	**150.20**	**330**	⇑*i*P	**PKPbc**	**00 29 44.4**	**-0.1**
GEC2	**GERESS Array S**	**150.20**	**348**	*e*PKIKP	**PKPbc**	**00 29 44.9**	**+0.4**
GEC2	**GERESS Array S**	**150.20**	**348**	*e*PKPbc	**PKPbc**	**00 29 44.6**	**+0.2**
GEC2	**GERESS Array S**	**150.20**	**348**	*e*PKPbc	**PKPbc**	**00 29 44.9**	**+0.4**
GERES	**GERESS Array B**	**150.20**	**348**	PKP	**PKPdf**	**00 29 38.6**	**-0.8**
GERES				PKPbc	**PKPbc**	**00 29 44.7**	**+0.2**
GERES	**GERESS Array B**	**150.20**	**348**	PKP	**PKPdf**	**00 29 38.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=0.0,slow=2.7,SNR=9.4						
GERES				PKPbc	**PKPbc**	**00 29 44.7**	**+0.2**
	comp=Z,12nm,0.8s,baz=30,slow=2.2,SNR=87						
SIRR	**Siria**	**150.23**	**336**	⇑*i*P	**PKPbc**	**00 29 45.4**	**+0.9**
WLF	**Walferdange**	**150.25**	**358**	*e*PKIKP	**PKPdf**	**00 29 39.3**	**+0.1**
WLF				*e*		00 29 45.9	
WLF	**Walferdange**	**150.25**	**358**	*e*PKPdf	**PKPdf**	**00 29 39.3**	**+0.1**
WLF				*e*PKPbc	**PKiKP**	**00 29 45.9**	**+0.7**
GZR	**Gura Zlata**	**150.50**	**334**	⇑PKIKP	**PKPbc**	**00 29 45.3**	**0.0**
GZR	**Gura Zlata**	**150.50**	**334**	⇑*i*P	**PKPbc**	**00 29 45.5**	**+0.2**
CONA	**Conrad Observa**	**150.59**	**345**	*i* PKiKP	**PKiKP**	**00 29 46.1**	**0.0**
	comp=Z,24nm,0.7s,SNR=11						
ZIMR		**150.66**	**329**	⇑*i*P	**PKPbc**	**00 29 45.9**	**+0.3**
BZS	**Buzias**	**150.78**	**335**	⇓PKIKP	**PKPbc**	**00 29 46.0**	**+0.2**
JMB	**Yambol**	**150.89**	**326**	⇓PKIKP	**PKPbc**	**00 29 46.4**	**+0.2**
JMB	**Yambol**	**150.89**	**326**	⇑*i*P	**PKPbc**	**00 29 46.7**	**+0.5**
SRE	**Strehaia**	**150.90**	**332**	⇑PKIKP	**PKPbc**	**00 29 47.1**	**+1.0**
SRE	**Strehaia**	**150.90**	**332**	⇑*i*P	**PKPbc**	**00 29 46.9**	**+0.8**
STU	**Stuttgart**	**150.94**	**354**	*e*PKIKP	**PKPdf**	**00 29 40.2**	**-0.1**
STU	**Stuttgart**	**150.94**	**354**	*e*PKPbc	**PKPbc**	**00 29 46.5**	**+0.4**
STU	**Stuttgart**	**150.94**	**354**	*e*PKPdf	**PKPdf**	**00 29 40.2**	**-0.1**
EIL	**Elat**	**150.96**	**296**	PKPbc	**PKPbc**	**00 29 47.0**	**+0.2**
EIL	**Elat**	**150.96**	**296**	PKPbc	**PKPbc**	**00 29 47.0**	**+0.2**
	comp=Z,16nm,0.8s,baz=17,slow=1.8,SNR=24						
BANR	**Banloc**	**151.17**	**336**	⇑*i*P	**PKPbc**	**00 29 47.7**	**+1.0**
FUR	**Furstenfeldbru**	**151.28**	**351**	*e*PKPbc	**PKPbc**	**00 29 47.1**	**+0.2**
ISP	**Isparta**	**151.34**	**314**	*e*PKIKP	**PKPbc**	**00 29 46.5**	**-1.0**
ISP	**Isparta**	**151.34**	**314**	⇑*i*P	**PKPbc**	**00 29 47.1**	**-0.4**
ISP	**Isparta**	**151.34**	**314**	*e*PKPbc	**PKPbc**	**00 29 46.5**	**-1.0**
PKSM	**Moragy**	**151.35**	**340**	⇓PKIKP	**PKPbc**	**00 29 47.2**	**+0.1**
PKSM	**Moragy**	**151.35**	**340**	⇑*i*P	**PKPbc**	**00 29 47.5**	**+0.4**
RJOB	**Jochberg**	**151.44**	**349**	*e*PKPbc	**PKPbc**	**00 29 47.2**	**-0.2**
BFO	**Black Forest**	**151.46**	**355**	*i* PKIKP	**PKPbc**	**00 29 47.7**	**+0.3**
BFO	**Black Forest**	**151.46**	**355**	*e*PKPbc	**PKPbc**	**00 29 47.5**	**+0.1**
SOKA	**Soboth**	**151.96**	**345**	*i* PKiKP	**PKPbc**	**00 29 48.3**	**-0.3**
	comp=Z,18nm,1.0s,SNR=6.8						
KBA	**Koelnbreinsper**	**151.96**	**347**	*i* PKiKP	**PKPbc**	**00 29 48.3**	**-0.4**
	comp=Z,15nm,0.6s,SNR=6.8						
RETA	**Reutte**	**152.01**	**351**	⇓*i*PKiKP	**PKPbc**	**00 29 48.5**	**-0.2**
	comp=Z,20nm,1.4s						
WATA	**Walderalm**	**152.04**	**350**	*i* PKiKP	**PKPbc**	**00 29 48.7**	**-0.1**
	comp=Z,9.7nm,0.5s,SNR=13						
KDZ	**Kurdzhali**	**152.08**	**326**	⇓PKIKP	**PKPbc**	**00 29 48.6**	**-0.4**
KDZ	**Kurdzhali**	**152.08**	**326**	⇑*i*P	**PKPbc**	**00 29 48.8**	**-0.2**
MOTA	**Moosalm**	**152.10**	**351**	⇑*i*PKiKP	**PKPbc**	**00 29 48.9**	**-0.2**
	comp=Z,17nm,0.8s,SNR=10						
MYKA	**Terra Mystica**	**152.33**	**347**	⇓*i*PKPbc	**PKPbc**	**00 29 48.7**	**-0.8**
	comp=Z,12nm,0.6s						
DAVA	**Damuels**	**152.33**	**352**	⇑*i*PKiKP	**PKiKP**	**00 29 49.9**	**+0.1**
	comp=Z,20nm,0.8s						
ABTA	**Abfaltersbach**	**152.44**	**348**	*i* PKiKP	**PKPbc**	**00 29 49.3**	**-0.5**
	comp=Z,23nm,0.6s,SNR=7.0						
FETA	**Feichten**	**152.48**	**351**	*i* PKiKP	**PKiKP**	**00 29 50.1**	**0.0**
SNR=5.2							
VTS	**Vitosha**	**152.51**	**330**	⇑PKIKP	**PKPbc**	**00 29 50.3**	**+0.2**
VTS	**Vitosha**	**152.51**	**330**	⇑*i*P	**PKPbc**	**00 29 50.5**	**+0.4**
CRES	**Cresnjev**	**152.64**	**344**	*i* PKPbc	**PKPbc**	**00 29 50.1**	**0.0**
DAVOX	**Davos/Dischmat**	**152.83**	**352**	PKPbc	**PKPbc**	**00 29 51.1**	**+0.4**
DAVOX	**Davos/Dischmat**	**152.83**	**352**	PKPbc	**PKPbc**	**00 29 51.1**	**+0.4**
	comp=Z,13nm,0.6s,baz=258,slow=1.9,SNR=42						
MMB	**Musomiste**	**153.00**	**327**	⇑PKIKP	**PKPbc**	**00 29 50.9**	**-0.2**
TUE	**Stuetta**	**153.19**	**353**	*e*PKPdf	**PKPdf**	**00 29 47.3**	**+3.2**
TUE				*e*PKPbc	**PKPbc**	**00 29 51.6**	**+0.1**
ES19	**SONSECA Array**	**158.88**	**19**	*e*PKPdf	**PKPdf**	**00 29 52.1**	**+0.6**
ES19				*e*PKPab	**PKPab**	**00 30 28.5**	**+0.7**
ESDC	**Sonseca Array**	**158.88**	**19**	PKPab	**PKPab**	**00 30 29.0**	**+1.1**
ESDC	**Sonseca Array**	**158.88**	**19**	PKPab	**PKPab**	**00 30 29.0**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=335,slow=4.4,SNR=8.7						
DBIC	**Dimbokro**	**163.91**	**143**	PKPab	**PKPab**	**00 30 51.0**	**+0.6**
DBIC	**Dimbokro**	**163.91**	**143**	PKPab	**PKPab**	**00 30 51.0**	**+0.6**
	comp=Z,5.8nm,1.2s,baz=114,slow=4.1,SNR=3.2						
MDT	**Midelt**	**164.62**	**31**	PKP	**PKPdf**	**00 29 58.5**	**+0.7**
MDT	**Midelt**	**164.62**	**31**	PKP	**PKPdf**	**00 29 58.5**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=84,slow=3.8,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**172.71**	**156**	*e*PKPdf	**PKPdf**	**00 30 02.0**	**-1.3**
TOA0				*e*PKPab	**PKPab**	**00 31 29.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**172.71**	**156**	PKP	**PKPdf**	**00 30 02.2**	**-1.1**
TORD				PKPab	**PKPab**	**00 31 29.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**172.71**	**156**	PKP	**PKPdf**	**00 30 02.2**	**-1.1**
	comp=Z,3.9nm,1.1s,baz=299,slow=2.0,SNR=11						
TORD				PKPab	**PKPab**	**00 31 29.1**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=212,slow=3.9,SNR=7.1						

*ISCJB **02** 00:21:58.5±0.7, 16°.5S×0°.1×67°.5E±0°.1, h12km, mb4.2/13, MS4.0/15, Error ellipse: s-maj=21.2km s-min=13.4km az=147.2*

*IDC **02** 00:21:58.8±0.7, 16°.42S×67°.62E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/26, mbtmp4.1/11, ML4.1/1, MS3.9/16, Ms1 3.9/16, ms1mx3.8/35, Error ellipse: s-maj=23.7km s-min=23.0km az=24.0*

*NEIC **02** 00:21:59.7±0.9, 16°.59S×67°.32E, h10km, mb4.4/3, Error ellipse: s-maj=30.6km s-min=16.7km az=144.0*

*GCMT **02** 00:22:00.0±0.3, 16°.16S×67°.11E, h22km±1km, MW5.0/76, Moment Tensor Solution. s29,c31; s76,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.05±.17; $M_{\theta\theta}$=-3.26±.15; $M_{\phi\phi}$3.31±.14; $M_{r\theta}$-0.98±.24; $M_{r\phi}$ 1.27±.11; $M_{\theta\phi}$~1.09±.25; Best double couple: $M_0$3.80700×10^{16} NP1:φ±236.00000°, δ87.00000°, λ22.00000°. NP2: φ±145.00000°, δ68.00000°, λ176.00000°. Principal axes: T 3.9460, Plg18.0000°, Azm102.0000°; N -0.2800, Plg68.0000°, Azm245.0000°; P -3.6680, Plg13.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

**ISC 02 00:22:00.7

MRZ				*e*SN	Sn	00 24 27.9	-1.1
OGWZ	**Otaki Gorge**	**2.58**	**195**	PN	Pn	00 23 59.3	-1.9
HOWZ	**Holdsworth Sta**	**2.60**	**189**	PN	Pn	00 23 59.3	-2.2
KIW	**Kapiti Island**	**2.68**	**199**	PN	Pn	00 24 00.0	-2.4
MTW	**Mount Morrison**	**2.86**	**188**	*e*PN	Pn	00 24 02.1	-2.6
TCW	**Tory Channel**	**3.19**	**205**	PN	Pn	00 24 06.1	-2.7

SKHL 02 00:33:50.1±0.1, 44°98N×130°63E, h10km, mb3.5/1, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**1.68**	**139**	*e*Pn	Pn	00 34 20.0	+0.5
GRTR				*e*Pg	Pb	00 34 20.5	-0.6
GRTR				*e*rx	rx	00 34 25.1	
GRTR				AMB	AMB	00 34 34.3	
	34nm,1.6s						
GRTR				*e*Sg	Sb	00 34 42.7	+0.4
GRTR				*e*Sg	Sg	00 35 06.6	+22
GRTR				A	A	00 35 11.0	
	86nm,0.8s						
TEY	**Ternei**	**4.24**	**87**	*e*Sg	Sg	00 36 02.0	-4.1

*IDC **02** 00:42:50.6±0.9, 51°99N×166°37W, h0km, mb4.0/20, mb1 4.2/20, mb1mx4.1/30, mbtmp4.0/20, MS3.2/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=27.7km s-min=13.9km az=10.0*

*ISCJB **02** 00:42:53.1±1.4, 52°04N±0°04×166°21W±0°04, h28km±9km, mb4.4/58, MS4.6/1, Error ellipse: s-maj=6.5km s-min=3.6km az=30.5*

*BJI **02** 00:42:54.9, 52°10N×167°09W, h21km, mB5.0/7, mb4.6/13, Ms4.8/5, Ms7 4.5/4*

*NEIC **02** 00:42:54.2, 51°94N×166°39W, h32km, mb4.5/34, ML3.8(AEIC), After AEIC.*

ISC 02 00:42:55.1±0.7, 52°02N±0°06×166°29W±0°04, h31km±4km, n332, σ1§03/337, mb4.4/58, 81C-90D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.70**	**325**	P	**Pn**	**00 43 21.4**	**-1.3**
OKFG				S	**Sn**	**00 43 42.6**	**-0.8**
MREP	**Makushin Rep't**	**1.81**	**351**	P	**Pn**	**00 43 23.8**	**-0.4**
UNV	**Unalaska Valle**	**1.83**	**356**	P	**Pn**	**00 43 22.9**	**-1.5**
UNV				S	**Sn**	**00 43 46.1**	**-0.4**
NIKH	**Nikolski High**	**1.83**	**302**	P	**Pn**	**00 43 22.4**	**-2.1**
NIKH				S	**Sn**	**00 43 43.8**	**-2.8**
MSOM	**Makushin Julie**	**1.84**	**348**	P	**Pn**	**00 43 23.7**	**-0.9**
MSW	**Makushin Switc**	**1.92**	**351**	P	**Pn**	**00 43 24.8**	**-0.8**
MSW				S	**Sn**	**00 43 49.0**	**+0.3**
MCIR	**Makushin Cirqu**	**1.96**	**350**	P	**Pn**	**00 43 26.0**	**-0.3**
ZRO	**Akutan Zero**	**2.08**	**5**	P	**Pn**	**00 43 27.1**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.11**	**3**	P	**Pn**	**00 43 27.6**	**-0.7**
AKRB				S	**Sn**	**00 43 53.7**	**+0.2**
AKUT	**Akutan**	**2.14**	**8**	*e*Pn	**Pn**	**00 43 27.8**	**-0.9**
AKUT				*e*Sn	**Sn**	**00 43 51.8**	**-2.3**
AKGG	**Akutan Green G**	**2.19**	**5**	P	**Pn**	**00 43 28.8**	**-0.5**
WESE	**West Dahl East**	**2.66**	**22**	P	**Pn**	**00 43 35.6**	**-0.3**
WESN	**West Dahl Nort**	**2.75**	**21**	P	**Pn**	**00 43 37.5**	**+0.5**
SSBA	**Shishaldin**	**3.04**	**24**	P	**Pn**	**00 43 40.7**	**-0.4**
SSLW	**Shishaldin Wes**	**3.04**	**24**	P	**Pn**	**00 43 41.0**	**-0.1**
SSLN	**Shishaldin Nor**	**3.11**	**25**	P	**Pn**	**00 43 42.1**	**0.0**
FALS	**False Pass**	**3.32**	**30**	P	**Pn**	**00 43 44.6**	**-0.3**
DRIA	**Deer Island**	**3.80**	**38**	P	**Pn**	**00 43 51.0**	**-0.5**
DTA	**Dutton South F**	**3.95**	**36**	P	**Pn**	**00 43 53.3**	**-0.2**
PS4A	**Pavlof South-4**	**4.24**	**37**	P	**Pn**	**00 43 58.0**	**+0.4**
SDPT	**Sand Point**	**4.80**	**44**	P	**Pn**	**00 44 05.1**	**-0.1**
SPIA	**Saint Paul Isl**	**5.65**	**338**	P	**Pn**	**00 44 16.1**	**-0.7**
VNHG	**Veniaminof 1**	**5.93**	**42**	P	**Pn**	**00 44 22.0**	**+1.1**
GSTD	**Great Sitkin T**	**6.08**	**274**	P	**Pn**	**00 44 20.2**	**-2.7**
ANPB	**Aniakchak Plen**	**6.69**	**41**	P	**Pn**	**00 44 31.1**	**0.0**
TAFP	**Tanaga Falls P**	**7.23**	**274**	P	**Pn**	**00 44 36.5**	**-2.1**
KABR	**Katmai Barrier**	**8.91**	**42**	P	**Pn**	**00 45 01.6**	**-0.1**
OHAK	**Old Harbor**	**9.16**	**50**	P	**Pn**	**00 45 02.9**	**-2.1**
KDAK	**Kodiak Island**	**9.77**	**48**	P	**Pn**	**00 45 12.5**	**-0.8**
RSO	**Redoubt South**	**11.30**	**36**	*e*Pn	**Pn**	**00 45 35.1**	**+0.6**
GAMB	**Gambell**	**12.12**	**348**	*e*Pn	**Pn**	**00 45 46.5**	**+1.1**
SEW	**Seward**	**12.38**	**43**	*e*Pn	**Pn**	**00 45 47.1**	**-1.9**
RC01	**Rabbit Creek A**	**12.84**	**39**	*e*Pn	**Pn**	**00 45 53.0**	**-2.3**
PPLA	**Purkeypile**	**13.24**	**29**	*e*Pn	**Pn**	**00 46 03.1**	**+2.2**
PMR	**Palmer**	**13.38**	**38**	*e*Pn	**Pn**	**00 45 59.6**	**-2.9**
KTH	**Kantishna Hill**	**14.11**	**29**	*e*Pn	**Pn**	**00 46 13.2**	**+0.5**
TRF	**Thorofare Moun**	**14.23**	**30**	*e*Pn	**Pn**	**00 46 12.9**	**-1.5**
DIV	**Divide**	**14.46**	**43**	*e*Pn	Pn	00 46 13.0	-4.5
RAGM	**Ragged Mountai**	**14.59**	**47**	*e*Pn	**Pn**	**00 46 16.9**	**-2.3**
MCK	**McKinley**	**14.86**	**31**	*e*Pn	**Pn**	**00 46 23.8**	**+1.1**
BMRM	**Bremner River**	**14.88**	**45**	*e*Pn	Pn	00 46 20.0	-3.1
ILAR	**Eielson Array**	**16.23**	**31**	Pn	**Pn**	**00 46 36.7**	**-3.8**
ILAR				Sn	**Sn**	**00 49 36.0**	**-3.3**
ILAR	**Eielson Array**	**16.23**	**31**	Pn	**Pn**	**00 46 36.7**	**-3.8**
	0.2nm,0.3s,baz=226,slow=12,SNR=12						
ILAR				Sn	**Sn**	**00 49 36.0**	**-3.3**
	0.1nm,0.3s,baz=88,slow=7.4,SNR=3.3						
ILAR				LR	LR	00 53 47.7	
	comp=Z,89nm,19.4s,baz=5.0,slow=40						
MENT	**Mentasta**	**16.23**	**39**	*e*Pn	**Pn**	**00 46 38.1**	**-2.4**
IL1	**Eielson Array**	**16.23**	**31**	*e*Pn	**Pn**	**00 46 38.3**	**-2.2**
DOT	**Dot Lake**	**16.49**	**36**	*e*Pn	**Pn**	**00 46 41.8**	**-2.1**
	5.0nm,0.9s						
COLD	**Coldfoot**	**17.18**	**21**	*e*Pn	**Pn**	**00 46 53.1**	**+0.6**
	9.9nm,1.1s						
HYT	**Haines Junctio**	**18.05**	**50**	*e*Pn	**P**	**00 47 04.8**	**+1.1**
EGAK	**Eagle**	**18.17**	**36**	*e*Pn	**P**	**00 47 04.2**	**-0.6**
	13nm,1.2s						
DAWY	**Dawson**	**18.47**	**39**	*e*P	**P**	**00 47 07.4**	**-0.8**
PEAQ	**Petropavlovsk-**	**21.78**	**287**	*e*P	**P**	**00 47 45.2**	**+1.1**
PETK	**Petropavlovsk-**	**21.78**	**287**	P	**P**	**00 47 43.5**	**-0.6**
PETK	**Petropavlovsk-**	**21.78**	**287**	P	**P**	**00 47 43.5**	**-0.6**
	2.1nm,0.5s,baz=92,slow=13,SNR=15						
INK	**Inuvik**	**22.62**	**32**	*e*P	**P**	**00 47 52.5**	**-0.5**
	6.8nm,0.8s						
INK	**Inuvik**	**22.62**	**32**	P	**P**	**00 47 52.5**	**-0.5**
	6.2nm,0.6s,baz=242,slow=11,SNR=46						
YKA	**Yellowknife Ar**	**29.04**	**49**	P	**P**	**00 48 52.9**	**+0.8**
YKA	**Yellowknife Ar**	**29.04**	**49**	P	**P**	**00 48 52.9**	**+0.8**
	1.1nm,0.8s,baz=269,slow=7.6,SNR=32						
YKB5	**Yellowknife Ar**	**29.04**	**49**	*e*P	**P**	**00 48 52.1**	**+0.1**
HAWA	**Hanford**	**30.63**	**82**	*e*P	**P**	**00 49 06.6**	**+0.4**
	9.5nm,0.8s						
D08A	**Wollman Farm,**	**30.69**	**80**	*e*P	**P**	**00 49 07.9**	**+1.1**
	7.1nm,0.8s						
C09A	**Chrisman Ranch**	**30.75**	**79**	*e*P	**P**	**00 49 08.2**	**+0.8**
	4.9nm,0.6s						
NEW	**Newport**	**31.25**	**77**	*e*P	**P**	**00 49 11.2**	**-0.6**
	9.1nm,1.0s						
NEW	**Newport**	**31.25**	**77**	⇑P	**P**	**00 49 10.5**	**-1.2**
	baz=31						
M04C	**Macdoel**	**31.59**	**91**	⇓P	**P**	**00 49 13.9**	**-1.0**
	baz=32						
I07A	**Izee**	**31.79**	**86**	*e*P	**P**	**00 49 16.9**	**+0.3**
	122nm,2.7s						
BSMT	**Bassoo Peak**	**32.83**	**76**	*e*P	**P**	**00 49 26.5**	**+0.6**
JTMT	**Jette**	**33.19**	**76**	*e*P	**P**	**00 49 27.9**	**-0.9**
CHMT	**Chamberlain Mo**	**34.19**	**77**	*e*P	**P**	**00 49 38.0**	**+0.2**
MFID	**Camas Ranch**	**34.40**	**84**	*e*P	**P**	**00 49 40.4**	**+0.9**
	4.3nm,0.9s						
WAKR	**Walker**	**35.01**	**94**	*e*P	**P**	**00 49 45.9**	**+1.0**
HLID	**Hailey**	**35.19**	**83**	*e*P	**P**	**00 49 47.1**	**+0.8**
	6.0nm,1.0s						
HLID	**Hailey**	**35.19**	**83**	⇓P	**P**	**00 49 45.9**	**-0.5**
	baz=35,SNR=6.5						
MCMT	**McKenzie Canyo**	**35.48**	**80**	*e*P	**P**	**00 49 49.9**	**+1.0**
EGMT	**Eagleton**	**35.76**	**73**	*e*P	**P**	**00 49 51.6**	**+0.6**
	9.2nm,0.8s						
EGMT	**Eagleton**	**35.76**	**73**	⇓P	**P**	**00 49 50.6**	**-0.4**
	baz=36						
NV01	**Mina Array Sit**	**35.76**	**93**	*e*P	**P**	**00 49 51.2**	**-0.1**
NVAR	**Mina Array Bea**	**35.76**	**93**	P	**P**	**00 49 52.4**	**+1.1**
NVAR	**Mina Array Bea**	**35.76**	**93**	P	**P**	**00 49 52.4**	**+1.1**
	2.3nm,0.7s,baz=300,slow=9.6,SNR=18						
B19A	**Brinkman Farms**	**36.03**	**72**	⇑P	**P**	**00 49 52.3**	**-1.1**
	baz=36						
C19A	**Slack Wire Ran**	**36.31**	**73**	⇑P	**P**	**00 49 55.1**	**-0.7**
	baz=36,SNR=6.6						
D19A	**Cripps Ranch,**	**36.69**	**74**	⇓P	**P**	**00 49 58.1**	**-0.9**
	baz=37						
VES	**Vestal, Richgr**	**36.92**	**97**	⇓P	**P**	**00 50 01.4**	**+0.4**
	baz=37						
H17A	**Grant Village**	**37.09**	**79**	⇓P	**P**	**00 50 01.7**	**-0.9**
	baz=37						
E19A	**Rath Farm, Rou**	**37.09**	**75**	⇓P	**P**	**00 50 02.1**	**-0.4**
	baz=37						
PKM	**Peak Mountain**	**37.10**	**99**	⇓P	**P**	**00 50 01.7**	**-1.0**
	baz=37						
CWC	**Cottonwood Cre**	**37.15**	**95**	⇓P	**P**	**00 50 02.3**	**-0.9**
	baz=37						
D20A	**Manuel Ranch,**	**37.17**	**74**	⇓P	**P**	**00 50 02.6**	**-0.5**
	baz=37						
ISA	**Isabella**	**37.41**	**97**	⇑P	**P**	**00 50 04.7**	**-0.6**
	baz=37						
E20A	**Meyer Farm, Mu**	**37.47**	**75**	⇓P	**P**	**00 50 04.0**	**-1.6**
	baz=37						
R11A	**Troy Canyon, C**	**37.48**	**91**	*e*P	**P**	**00 50 06.6**	**+0.7**
R11A	**Troy Canyon, C**	**37.48**	**91**	⇓P	**P**	**00 50 04.9**	**-1.1**
	baz=37,SNR=5.3						
BGU	**Big Grassy Mou**	**37.52**	**86**	*e*P	**P**	**00 50 07.0**	**+0.8**
	21nm,2.3s						
MPMC	**Manual Prospec**	**37.76**	**95**	⇑P	**P**	**00 50 08.1**	**-0.2**
	baz=38						
F20A	**Billings**	**37.81**	**76**	⇑P	**P**	**00 50 07.6**	**-1.0**
	baz=38						
BSC	**Santa Cruz Isl**	**37.82**	**100**	⇑P	**P**	**00 50 07.7**	**-1.0**
	baz=38						
H19A	**Powell**	**37.90**	**78**	⇑P	**P**	**00 50 07.7**	**-1.7**
	baz=38						
TPNV	**Topopah Spring**	**37.95**	**93**	*e*P	**P**	**00 50 10.6**	**+0.6**
TPNV	**Topopah Spring**	**37.95**	**93**	⇑P	**P**	**00 50 09.5**	**-0.4**
	baz=38,SNR=6.2						
LRMC	**Laurel Mountai**	**38.02**	**96**	⇓P	**P**	**00 50 10.3**	**-0.1**
	baz=38						
G20A	**Bridger**	**38.08**	**77**	⇓P	**P**	**00 50 09.8**	**-1.1**
	baz=38						
DUG	**Dugway**	**38.08**	**86**	*e*P	**P**	**00 50 10.8**	**-0.2**
	5.7nm,0.9s						
DUG	**Dugway**	**38.08**	**86**	⇓P	**P**	**00 50 10.5**	**-0.5**
	baz=38,SNR=7.9						
I19A	**Meeteetse**	**38.24**	**79**	⇑P	**P**	**00 50 11.3**	**-1.0**
	baz=38						
D22A	**Cohagen**	**38.30**	**73**	⇑P	**P**	**00 50 10.9**	**-1.6**
	baz=38						
B23A	**Brockton**	**38.34**	**70**	⇓P	**P**	**00 50 11.3**	**-1.6**
	baz=38						
F21A	**Absaloka Mine,**	**38.41**	**75**	⇑P	**P**	**00 50 12.1**	**-1.5**
	baz=38						
H11N2	**WAKE ISLAND Hy**	**38.43**	**223**	T	T	01 30 56.1	
	baz=21,slow=75						
H11N3	**WAKE ISLAND Hy**	**38.44**	**223**	T	T	01 30 55.1	
	baz=21,slow=75						
H11N1	**WAKE ISLAND Hy**	**38.45**	**223**	T	T	01 31 02.2	
	baz=21						
C23A	**Lambert**	**38.55**	**71**	⇓P	**P**	**00 50 13.9**	**-0.8**
	baz=38,SNR=6.1						
BW06	**Boulder Array**	**38.60**	**81**	*e*P	**P**	**00 50 15.7**	**+0.4**
	3.5nm,0.6s						
PDAR	**Pinedale Array**	**38.60**	**81**	P	**P**	**00 50 15.8**	**+0.5**
PDAR	**Pinedale Array**	**38.60**	**81**	P	**P**	**00 50 15.8**	**+0.5**
	2.9nm,0.0s,baz=296,slow=4.1,SNR=46						
H20A	**Greybull**	**38.60**	**77**	⇑P	**P**	**00 50 15.0**	**-0.2**
	baz=38						
GSC	**Goldstone**	**38.68**	**96**	*e*P	**P**	**00 50 16.9**	**+1.0**
	380nm,2.9s						
GSC	**Goldstone**	**38.68**	**96**	⇑P	**P**	**00 50 16.1**	**+0.2**
	baz=39						
NLU	**North Lily Min**	**38.68**	**86**	*e*P	**P**	**00 50 17.1**	**+1.0**
	4.6nm,0.9s						
G21A	**Lodge Grass**	**38.68**	**76**	⇑P	**P**	**00 50 14.7**	**-1.2**
	baz=39						
E22A	**Miles City**	**38.80**	**74**	⇓P	**P**	**00 50 15.9**	**-0.9**
	baz=39						
D23A	**Lindsay**	**38.86**	**72**	⇓P	**P**	**00 50 16.5**	**-0.8**
	baz=39						
DAU	**Daniels Canyon**	**38.91**	**85**	*e*P	**P**	**00 50 19.1**	**+1.0**
MPU	**Maple Canyon**	**38.91**	**86**	*e*P	**P**	**00 50 18.0**	**-0.1**
	63nm,2.6s						
F22A	**Rosebud**	**38.95**	**75**	⇑P	**P**	**00 50 17.4**	**-0.7**
	baz=39						
TUQ	**Turquoise Moun**	**39.13**	**95**	⇓P	**P**	**00 50 18.8**	**-1.0**
	baz=39						
ARUT	**Antelope Range**	**39.16**	**90**	*e*P	**P**	**00 50 19.8**	**-0.2**
J20A	**Shoshoni**	**39.16**	**79**	⇓P	**P**	**00 50 18.2**	**-1.8**
	baz=39						
CCUT	**Cedar City**	**39.35**	**90**	*e*P	**P**	**00 50 22.5**	**+0.7**
	54nm,2.5s						
I21A	**Big Trails, Te**	**39.39**	**78**	⇑P	**P**	**00 50 20.2**	**-1.7**
	baz=39						
D24A	**Glendive**	**39.40**	**72**	⇓P	**P**	**00 50 20.3**	**-1.6**
	baz=39,SNR=6.8						
MVU	**Marysvale**	**39.47**	**88**	*e*P	**P**	**00 50 23.1**	**+0.4**
	57nm,2.9s						
F23A	**Volborg**	**39.49**	**74**	⇑P	**P**	**00 50 22.1**	**-0.5**
	baz=39,SNR=5.9						
B25A	**Knox Farm, Ray**	**39.50**	**70**	⇓P	**P**	**00 50 20.9**	**-1.7**
	baz=39						
J21A	**Lyte**	**39.56**	**79**	⇓P	**P**	**00 50 22.5**	**-0.8**
	baz=40						
H11S1	**WAKE ISLAND Hy**	**39.60**	**223**	T	T	01 32 29.8	
	baz=33						
TMUT	**Trail Mountain**	**39.61**	**86**	*e*P	**P**	**00 50 25.1**	**+1.1**
	6.8nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**39.62**	**223**	T	T	01 32 29.0	
	baz=33						
H11S3	**WAKE ISLAND Hy**	**39.62**	**223**	T	T	01 32 29.6	
	baz=33						
FCC	**Fort Churchill**	**39.69**	**51**	*e*P	**P**	**00 50 24.3**	**+0.3**
C25A	**Freed Ranch, W**	**39.73**	**70**	⇑P	**P**	**00 50 24.0**	**-0.5**
	baz=40						
GMRC	**Granite Mounta**	**39.73**	**95**	⇑P	**P**	**00 50 24.9**	**+0.1**
	baz=40						
G23A	**Biddle**	**39.78**	**75**	⇓P	**P**	**00 50 24.7**	**-0.4**
	baz=40						
A26A	**Wade Farm, Ken**	**39.83**	**68**	⇓P	**P**	**00 50 24.8**	**-0.6**
	baz=40						
LDFC	**Landfair**	**39.87**	**95**	*e*P	**P**	**00 50 25.7**	**-0.2**
	5.6nm,0.9s						
F24A	**Ekalaka**	**40.00**	**74**	⇓P	**P**	**00 50 26.0**	**-0.9**
	baz=40						
PFO	**Pinyon Flat Ob**	**40.02**	**97**	⇓P	**P**	**00 50 26.5**	**-0.7**
	baz=40						
BELC	**Belle Mtn. Jos**	**40.04**	**97**	⇓P	**P**	**00 50 27.3**	**-0.1**
	baz=40						
K21A	**Alcova**	**40.08**	**79**	⇑P	**P**	**00 50 27.1**	**-0.6**
	baz=40						
J22A	**Midwest**	**40.10**	**78**	⇑P	**P**	**00 50 27.3**	**-0.6**
	baz=40						
109C	**Camp Elliot, M**	**40.12**	**99**	⇑P	**P**	**00 50 27.7**	**-0.2**
	baz=40						
H23A	**Clabaugh Cattl**	**40.12**	**76**	⇓P	**P**	**00 50 27.2**	**-0.7**
	baz=40						
SRU	**San Rafael**	**40.14**	**86**	*e*P	**P**	**00 50 28.9**	**+0.7**
	5.9nm,0.8s						
N20A	**Spone Gulch,**	**40.50**	**82**	⇑P	**P**	**00 50 30.6**	**-0.6**
	baz=40						
K22A	**Casper**	**40.51**	**79**	⇓P	**P**	**00 50 30.8**	**-0.4**
	baz=40						
F25A	**Bowman**	**40.54**	**73**	⇑P	**P**	**00 50 30.7**	**-0.6**
	baz=40						
U15A	**North Rim**	**40.73**	**91**	⇑P	**P**	**00 50 33.1**	**-0.1**
	baz=41,SNR=6.8						
A28A	**Rude Farm, Bot**	**40.84**	**67**	⇓P	**P**	**00 50 33.3**	**-0.4**
	baz=41						
O20A	**White River Ci**	**40.93**	**83**	*e*P	**P**	**00 50 34.9**	**+0.2**
	8.4nm,0.8s						
O20A	**White River Ci**	**40.93**	**83**	⇓P	**P**	**00 50 34.2**	**-0.6**
	baz=41,SNR=7.7						
B28A	**Dugan Ranch, T**	**41.02**	**68**	⇓P	**P**	**00 50 34.4**	**-0.8**
	baz=41						
Y12C	**Blythe**	**41.11**	**96**	⇑P	**P**	**00 50 36.3**	**+0.2**
	baz=41						
RSSD	**Black Hills**	**41.18**	**75**	*e*P	**P**	**00 50 36.3**	**-0.4**
	80nm,2.8s						
M22A	**Cedar Creek Ra**	**41.18**	**81**	⇓P	**P**	**00 50 36.0**	**-0.9**
	baz=41						
J24A	**Dixon Ranch, L**	**41.25**	**77**	⇑P	**P**	**00 50 35.9**	**-1.3**
	baz=41						
L23A	**Garrett**	**41.31**	**79**	⇑P	**P**	**00 50 36.2**	**-1.7**
	baz=41						
PV09	**Paradox Valley**	**41.38**	**86**	*e*P	**P**	**00 50 38.9**	**+0.3**
F27A	**Lemmon**	**41.41**	**72**	⇑P	**P**	**00 50 37.0**	**-1.5**
	baz=41						
A29A	**Manning Farm,**	**41.42**	**67**	⇑P	**P**	**00 50 37.9**	**-0.6**
	baz=41,SNR=5.7						
PV10	**Paradox Valley**	**41.51**	**86**	*e*P	**P**	**00 50 39.5**	**-0.1**
PV04	**Paradox Valley**	**41.58**	**86**	*e*P	**P**	**00 50 39.0**	**-1.1**
N22A	**Wattenberg Ran**	**41.62**	**81**	⇓P	**P**	**00 50 39.7**	**-0.8**
	baz=42						
PV05	**Paradox Valley**	**41.66**	**86**	*e*P	**P**	**00 50 40.6**	**-0.2**
J25A	**Sunshine Ranch**	**41.73**	**76**	⇑P	**P**	**00 50 40.6**	**-0.5**
	baz=42						
G27A	**Dupree**	**41.73**	**73**	⇓P	**P**	**00 50 40.2**	**-0.9**
	baz=42						
N23A	**Red Feather La**	**41.88**	**81**	⇑P	**P**	**00 50 42.2**	**-0.4**
	baz=42						
WUAZ	**Wupatki**	**41.88**	**91**	*e*P	**P**	**00 50 42.7**	**+0.1**
	8.0nm,0.9s						
WUAZ	**Wupatki**	**41.88**	**91**	⇓P	**P**	**00 50 43.5**	**+0.9**
	baz=42,SNR=5.4						
Y14A	**Wickenburg**	**41.92**	**94**	⇓P	**P**	**00 50 42.9**	**+0.1**
	baz=42						
PV01	**Paradox Valley**	**41.95**	**86**	*e*P	**P**	**00 50 42.6**	**-0.5**
P22A	**Eagle**	**42.16**	**83**	⇓P	**P**	**00 50 44.5**	**-0.4**
	baz=42						
B30A	**Myrvik Farm, E**	**42.18**	**67**	⇓P	**P**	**00 50 43.6**	**-1.1**
	baz=42						
J26A	**Sides Ranch, S**	**42.21**	**76**	⇑P	**P**	**00 50 44.9**	**-0.2**
	baz=42						
O23A	**Lake Granby, G**	**42.30**	**81**	⇑P	**P**	**00 50 46.0**	**-0.1**
	baz=42						
I27A	**Quinn**	**42.39**	**74**	⇑P	**P**	**00 50 46.7**	**+0.3**
	baz=42						
X16A	**Lo Mia Camp, P**	**42.57**	**92**	⇑P	**P**	**00 50 48.1**	**0.0**
	baz=42						
MVCO	**Mesa Verde**	**42.57**	**87**	*e*P	**P**	**00 50 47.7**	**-0.5**
	35nm,2.1s						
MVCO	**Mesa Verde**	**42.57**	**87**	⇑P	**P**	**00 50 47.9**	**-0.4**
	baz=42						
ULM	**Lac du Bonnet**	**42.62**	**63**	*e*P	**P**	**00 50 48.1**	**-0.1**
	76nm,2.5s						
ULM	**Lac du Bonnet**	**42.62**	**63**	P	**P**	**00 50 48.0**	**-0.2**
	4.8nm,0.8s,baz=303,slow=11,SNR=6.7						
I28A	**Midland**	**42.95**	**74**	⇑P	**P**	**00 50 50.2**	**-0.8**
	baz=43						
S22A	**4UR Ranch, Cre**	**43.26**	**85**	⇓P	**P**	**00 50 53.6**	**-0.3**
	baz=43						
I29A	**Vivian Onida**	**43.45**	**73**	⇑P	**P**	**00 50 55.1**	**0.0**
	baz=43						
G30A	**Faulkton**	**43.51**	**71**	⇓P	**P**	**00 50 55.7**	**+0.2**
	baz=43						
R23A	**Moffat**	**43.60**	**84**	⇑P	**P**	**00 50 55.6**	**-1.0**
	baz=44						
AGMN	**Agassiz Nation**	**43.65**	**66**	⇓P	**P**	**00 50 56.3**	**-0.3**
	baz=44						
J29A	**Okreek**	**43.80**	**74**	⇓P	**P**	**00 50 56.9**	**-0.9**
	baz=44						
BRSD	**Miller**	**44.01**	**72**	*e*P	**P**	**00 50 58.1**	**-1.4**
	13nm,0.8s						
K29A	**Lazy Trails An**	**44.18**	**75**	⇓P	**P**	**00 51 01.1**	**+0.1**
	baz=44						
J30A	**Dallas**	**44.34**	**74**	⇑P	**P**	**00 51 01.5**	**-0.7**
	baz=44						
M28A	**Bar X Bar Ranc**	**44.35**	**77**	⇑P	**P**	**00 51 01.0**	**-1.4**
	baz=44						
V22A	**San Miguel Ran**	**44.38**	**87**	⇑P	**P**	**00 51 02.0**	**-0.9**
	baz=44						
U23A	**El Rito**	**44.56**	**86**	⇑P	**P**	**00 51 03.6**	**-0.6**
	baz=44						
R25A	**Fountain Ranch**	**44.58**	**83**	⇑P	**P**	**00 51 03.4**	**-0.8**
	baz=44						
T24B	**San Luis**	**44.59**	**85**	⇓P	**P**	**00 51 03.9**	**-0.6**
	baz=44						
K30A	**Basset**	**44.65**	**75**	⇓P	**P**	**00 51 03.1**	**-1.5**
	baz=45						
O28A	**Krutsinger Ran**	**44.88**	**79**	⇑P	**P**	**00 51 05.2**	**-1.4**
	baz=45						
CN2	**Changchun**	**44.93**	**288**	*e*P	**P**	**00 51 06.7**	**-0.1**
V23A	**Ortiz Mt. (NFS**	**44.94**	**87**	⇑P	**P**	**00 51 06.7**	**-0.6**
	baz=45						
R26A	**Arlington**	**44.99**	**82**	⇑P	**P**	**00 51 06.2**	**-1.4**
	baz=45						
L30A	**Spencer Herefo**	**45.01**	**75**	⇓P	**P**	**00 51 06.7**	**-0.9**
	baz=45						
T25A	**Trinidad**	**45.14**	**84**	⇑P	**P**	**00 51 08.4**	**-0.4**
	baz=45						
P28A	**Saint Francis**	**45.23**	**79**	⇓P	**P**	**00 51 09.7**	**+0.3**
	baz=45						
LAZ	**Ladron**	**45.23**	**89**	*e*P	**P**	**00 51 09.8**	**+0.1**
ANMO	**Albuquerque**	**45.30**	**88**	P	**P**	**00 51 10.3**	**+0.2**
ANMO	**Albuquerque**	**45.30**	**88**	P	**P**	**00 51 10.3**	**+0.2**
	0.5nm,0.3s,baz=313,slow=10,SNR=3.0						
W23A	**Werner Place,**	**45.34**	**87**	⇑P	**P**	**00 51 10.8**	**+0.3**
	baz=45					

baz=49
128A Castleberry Fa 49.30 87 ⇓P P **P** 00 51 39.8 -1.4
baz=49
Z29A Hungry Hill Ra 49.35 86 ⇓P P **P** 00 51 39.9 -1.7
baz=49
Z30A Sanderson Ranc 49.69 85 ⇓P P **P** 00 51 42.8 -1.3
baz=50
U34A Anderson Ranch 49.79 80 ⇑P P **P** 00 51 44.1 -0.7
baz=50
328A Wristen Ranch, 49.95 89 ⇑P P **P** 00 51 45.8 -0.3
baz=50
WMOK Wichita Mounta 50.16 82 *eP* P **P** 00 51 47.8 +0.2
8.9nm,1.2s
527A Woodward Ranch 50.31 90 ⇓P P **P** 00 51 48.9 -0.1
baz=50
626A Big Bend Ranch 50.41 91 ⇓P P **P** 00 51 49.6 0.0
baz=50
428A Kincaid Ranch, 50.48 89 ⇑P P **P** 00 51 50.0 -0.1
baz=50
230A Sterling City 50.65 87 ⇑P P **P** 00 51 51.4 +0.1
baz=51
Z32A Haskell 50.69 84 ⇓P P **P** 00 51 51.5 -0.1
baz=51
TX31 Lajitas Ar. Si 50.85 91 *eP* **P** 00 51 53.2 +0.3
TXAR Lajitas Array 50.85 91 P P **P** 00 51 53.0 0.0
TXAR Lajitas Array 50.85 91 P P **P** 00 51 53.0 0.0
3.0nm,0.5s,baz=305,slow=6.2,SNR=42
627A Terlingua Ranc 50.94 91 ⇑P P **P** 00 51 53.6 -0.1
baz=51
TUL1 Tulsa 51.20 79 ⇓P P **P** 00 51 55.0 -0.4
baz=51
628A Black Gap, Mar 51.22 90 ⇑P P **P** 00 51 55.9 +0.2
baz=51
430A Baggett Ranch, 51.34 88 ⇑P P **P** 00 51 55.4 -1.2
baz=51
331A San Angelo 51.48 87 ⇑P P **P** 00 51 57.0 -0.5
baz=51
133A Hamilton Ranch 51.51 84 ⇑P P **P** 00 51 57.8 0.0
baz=51
Z34A Collier Ranch, 51.61 83 ⇓P P **P** 00 51 57.7 -0.7
baz=52
530A J-C Ranch, Com 51.72 89 ⇑P P **P** 00 51 59.3 -0.1
baz=52
431A Sonora 51.80 87 ⇓P P **P** 00 51 58.4 -1.5
baz=52
332A Millersview 51.84 86 ⇓P P **P** 00 51 59.3 -1.0
baz=52
233A Rising Star 51.93 85 ⇓P P **P** 00 52 00.6 -0.3
baz=52
134A White-Moore Ra 52.05 84 ⇓P P **P** 00 52 01.1 -0.7
baz=52
531A Rocksprings 52.20 88 ⇓P P **P** 00 52 02.5 -0.5
baz=52
333A Richland Sprin 52.35 86 ⇓P P **P** 00 52 03.4 -0.6
baz=52
433A Art 52.68 86 ⇓P P **P** 00 52 06.1 -0.4
baz=53
BJI Beijing 52.69 290 P P **P** 00 52 04.1 -2.2
BJI pmax pmax
comp=Z,7.0nm,0.6s
334A Lometa 52.81 85 ⇓P P **P** 00 52 07.5 +0.1
baz=53
WHTX Lake Whitney 52.83 84 ⇑P P **P** 00 52 07.3 -0.3
baz=53
SONM Songino Array 53.09 303 P P **P** 00 52 09.4 -0.1
SONM Songino Array 53.09 303 P P **P** 00 52 09.4 -0.1
0.5nm,0.9s,baz=74,slow=6.2,SNR=3.4
434A Burnet 53.15 86 ⇓P P **P** 00 52 09.0 -1.0
baz=53
833A Chaparral WMA, 54.20 89 ⇓P P **P** 00 52 17.6 -0.1
baz=54
USIN University of 54.69 72 *eP* P **P** 00 52 20.2 -0.9
14nm,0.6s
HHC Hu-ho-hao-te 54.81 293 *eP* P **P** 00 52 23.0 +1.0
HHC PP **PP** 00 54 26.8 +2.2
HHC PcS **PcS** 00 57 23.8 -0.1
HHC S **S** 01 00 00.3 -0.5
HHC sS **sS** 01 00 12.0 -4.3
HHC SS **SS** 01 03 41.8 -1.8
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,570nm,5.2s
HHC LR LR
comp=N,240nm,17.1s
HHC LR LR
comp=E,530nm,17.8s
HHC LR LR
comp=Z,360nm,17.3s
WVT Waverly 55.83 73 *eP* P **P** 00 52 28.7 -0.6
131nm,2.8s
ARCES ARCESS Array B 58.45 355 P P **P** 00 52 47.8 +0.5
ARCES ARCESS Array B 58.45 355 P P **P** 00 52 47.8 +0.5
3.7nm,1.0s,baz=9.9,slow=7.3,SNR=5.0
ZALV Zalesovo Beam 58.94 319 P P **P** 00 52 51.2 +0.3
ZALV Zalesovo Beam 58.94 319 P P **P** 00 52 51.2 +0.3
0.3nm,0.4s,baz=32,slow=5.8,SNR=2.7
GTA Gaotai 62.31 299 *eP* P **P** 00 53 15.6 +1.2
GTA pP **pP** 00 53 25.9 +2.0
GTA sP **sP** 00 53 30.3 +2.8
GTA pmax pmax
comp=Z,1.0nm,1.4s
LZH Lanzhou 62.47 294 *eP* P P 00 53 17.4 +1.9
LZH pP pP 00 53 23.6 -1.4
LZH sP sP 00 53 26.0 -2.7
LZH pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 65.22 310 P P P 00 53 37.2 +3.8
WMQ pmax pmax
comp=Z,2.0nm,0.8s
WMQ LR LR
comp=N,17nm,20.8s
WMQ LR LR
comp=E,55nm,27.3s
MKAR Makanchi Array 65.40 315 P P **P** 00 53 34.0 -0.5
MKAR Makanchi Array 65.40 315 P P **P** 00 53 34.0 -0.5
0.6nm,0.7s,baz=49,slow=6.4,SNR=10
MK01 Makanchi Array 65.42 315 *eP* P **P** 00 53 34.5 0.0
CD2 Chengdu 66.28 290 *eP* P **P** 00 53 41.8 +1.5
CD2 pmax pmax
comp=Z,10.0nm,1.1s
FINES FINESS Array B 66.45 354 P P **P** 00 53 41.6 +0.7
FINES FINESS Array B 66.45 354 P P **P** 00 53 41.6 +0.7
1.9nm,0.6s,baz=23,slow=8.7,SNR=10
NB2 NORSAR Subarra 67.27 1 P P **P** 00 53 46.9 +0.7
comp=Z,1.3nm,0.6s,baz=360,slow=6.2
NOA NORSAR Array B 67.27 1 P P **P** 00 53 47.2 +1.1
NOA NORSAR Array B 67.27 1 P P **P** 00 53 47.2 +1.1
comp=Z,1.0nm,0.5s,baz=1.1,slow=6.3,SNR=6.4
KMI Kunming 71.19 287 P P **P** 00 54 12.5 +1.3
KMI pmax pmax
comp=Z,5.0nm,1.1s
AKTO Aktyubinsk 71.23 332 P P **P** 00 54 11.4 +0.6
AKTO Aktyubinsk 71.23 332 P P **P** 00 54 11.4 +0.6
comp=Z,0.5nm,0.4s,baz=37,slow=10,SNR=3.4
AAK Ala-Archa 72.06 317 *eP* P **P** 00 54 17.0 +0.9
comp=Z,2.2nm,0.8s
KKAR Karatay Array 73.29 320 *eP* P **P** 00 54 23.7 +0.4
KSH Kashi 73.99 315 P P P 00 54 31.5 +3.9
KSH *e*sP sP 00 54 40.6 -0.3
KSH *e*PcP PcP 00 54 46.9 +4.1
KSH *e*PP PP 00 57 18.1 +5.9
KSH *e*S **S** **01 04 01.8 +4.1**
KSH *e*ScS ScS 01 04 41.5 +6.2
KSH *e*SS SS 01 08 48.3 +6.8
KSH pmax pmax
comp=Z,130nm,6.4s
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH LR LR
comp=Z,48nm,4.8s
KSH LR LR
comp=Z,39nm,4.1s
KSH LR LR
comp=Z,50nm,6.3s
AKASG Malin Array Be 76.81 350 P P **P** 00 54 43.1 -0.2
AKASG Malin Array Be 76.81 350 P P **P** 00 54 43.2 -0.2
comp=Z,1.4nm,0.6s,baz=13,slow=5.6,SNR=4.8
CLL Collm 77.04 0 *eP* **P** 00 54 46.0 +1.3
CMAR Chiang Mai Arr 78.54 285 P P **P** 00 54 54.0 +0.5
CMAR Chiang Mai Arr 78.54 285 P P **P** 00 54 54.0 +0.5
comp=Z,0.3nm,0.3s,baz=46,slow=3.9,SNR=3.7
GERES GERESS Array B 79.51 0 P P **P** 00 54 59.1 +0.6
GERES GERESS Array B 79.51 0 P P **P** 00 54 59.1 +0.6
comp=Z,0.4nm,0.6s,baz=23,slow=4.4,SNR=5.0
BRTR Keskin Array B 86.99 345 P P **P** 00 55 38.0 +0.7
comp=Z,0.7nm,0.8s,baz=69,slow=4.1,SNR=4.4
WRA Warramunga Arr 88.31 234 P P **P** 00 55 43.1 -0.4
WRA Warramunga Arr 88.31 234 P P **P** 00 55 43.1 -0.4
comp=Z,0.5nm,0.6s,baz=35,slow=5.8,SNR=4.7

*IDC **02** 00:46:06.1±1.5, 16°.01N×88°.34W, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/24, mbtmp3.3/5, ML3.1/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/18, Error ellipse: s-maj=38.3km s-min=29.0km az=76.0*
ISC 02 00:46:08.4±0.9, 15°.87N±0°.09×88°.35W±0°.08, h18km, n9, σ1$40/9, Honduras

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.21**	**247**	Pn		**Pn**	**00 46 45.0**	**+0.5**
	1.3nm,0.3s,baz=74,slow=9.4,SNR=49							
APG				Sn		**Sg**	**00 47 20.0**	**+0.3**
	12nm,0.3s,baz=93,slow=14,SNR=6.4							
TEIG	**Tepich**	**4.34**	**1**	LR		LR	00 48 53.8	
	comp=Z,118nm,18.9s,baz=216,slow=40							
JTS	**JuntasAbangare**	**6.45**	**149**	Pn		**Pn**	**00 47 44.6**	**+2.0**
	0.3nm,0.3s,baz=331,slow=19,SNR=2.0							
JTS				Sn		**Sb**	**00 49 14.6**	**-2.5**
	1.0nm,0.3s,baz=305,slow=16,SNR=3.7							
TXAR	**Lajitas Array**	**19.45**	**316**	P		**P**	**00 50 33.6**	**-0.6**
	0.0nm,0.3s,baz=140,slow=8.0,SNR=8.2							
YKA	**Yellowknife Ar**	**50.11**	**344**	P		**P**	**00 55 01.4**	**-0.8**
	0.2nm,0.5s,baz=140,slow=7.5,SNR=4.5							
CPUP	**Villa Florida**	**51.66**	**144**	LR		LR	01 18 49.9	
	comp=Z,66nm,18.0s,baz=56,slow=38							
ILAR	**Eielson Array**	**62.56**	**336**	P		**P**	**00 56 31.4**	**+0.4**
	0.6nm,1.1s,baz=134,slow=5.1,SNR=4.1							
SONM	**Songino Array**	**115.23**	**349**	PKP		**PKPdf**	**01 04 49.0**	**0.0**
	0.8nm,1.2s,baz=186,slow=1.4,SNR=2.6							
WRA	**Warramunga Arr**	**139.25**	**258**	PKP		**PKPdf**	**01 05 35.6**	**+0.4**
	0.4nm,0.9s,baz=86,slow=2.2,SNR=3.1							

*IDC **02** 00:53:21.7±3.8, 17°.14S×69°.04W, h178km±17km, mb3.6/4, mb1 3.6/5, mb1mx3.3/18, mbtmp3.6/5, Error ellipse: s-maj=76.5km s-min=27.6km az=21.0*
ISC 02 00:53:17.3±1.6, 17°.7S±0°.2×69°.2W±0°.2, h153km, n6, σ0$81/8, mb4.0/3, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.75**	**36**	P		**Pn**	**00 53 50.9**	**+0.5**
	26nm,0.3s,baz=234,slow=5.5,SNR=914							
LPAZ				S		**Sn**	**00 54 15.3**	**-0.4**
	3.8nm,0.3s,baz=39,slow=24,SNR=3.9							
SIV	**San Ignacio**	**7.98**	**79**	P		**Pn**	**00 55 10.4**	**-0.1**
	2.1nm,0.3s,baz=264,slow=13,SNR=30							
BDFB	**Brasilia**	**20.41**	**87**	P		**P**	**00 57 43.0**	**+0.4**
	3.6nm,0.4s,baz=255,slow=11,SNR=12							
DBIC	**Dimbokro**	**67.98**	**75**	P		**P**	**01 04 00.5**	**+0.1**
	3.4nm,0.6s,baz=223,slow=6.3,SNR=8.3							
TORD	**Torodi Ar. Bea**	**76.38**	**71**	P		**P**	**01 04 50.2**	**-0.1**
	1.6nm,0.5s,baz=254,slow=5.7,SNR=38							
YKA	**Yellowknife Ar**	**87.53**	**341**	P		**P**	**01 05 46.3**	**-1.1**
	0.1nm,0.7s,baz=136,slow=5.1,SNR=4.3							
YKA				pP		**pP**	**01 06 27.2**	**+1.2**
	0.2nm,0.7s,baz=133,slow=4.4,SNR=3.5							

IDC 02 00:56:32.2±2.5, 49°.44S×115°.97E, h0km, mb4.1/1, mb1 4.4/2, mb1mx3.8/13, mbtmp4.2/2, ML2.3/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/16, Error ellipse: s-maj=139.6km s-min=46.5km az=102.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.60**	**354**	T		T	01 15 14.1	
	baz=179,slow=75,SNR=142							
H01W1	**Cape Leeuwin H**	**14.60**	**354**	T		T	01 15 13.7	
	baz=179,slow=75,SNR=131							
H01W3	**Cape Leeuwin H**	**14.61**	**354**	T		T	01 15 14.4	
	baz=179,slow=75,SNR=132							
NWAO	**Narrogin (SRO)**	**16.52**	**4**	Pn		Pn	01 00 26.0	+0.6
	0.5nm,0.3s,baz=198,slow=9.6,SNR=3.9							
NWAO				LR		LR	01 05 19.0	
	comp=Z,573nm,19.8s,baz=190,slow=32							
STKA	**Stephens Creek**	**25.99**	**57**	LR		LR	01 11 02.0	
	comp=Z,182nm,20.7s,baz=212,slow=34							
MAW	**Mawson**	**31.80**	**216**	LR		LR	01 13 10.0	
	comp=Z,96nm,18.6s,baz=92,slow=31							
WRA	**Warramunga Arr**	**32.90**	**33**	P		P	01 03 07.6	-0.4
	1.9nm,0.7s,baz=202,slow=10,SNR=18							
WRA				LR		LR	01 14 19.9	
	comp=Z,66nm,21.9s,baz=80,slow=32							
VNDA	**Vanda**	**33.04**	**163**	LR		LR	01 15 43.7	
	comp=Z,245nm,18.4s,baz=312,slow=35							
H08S2	**Diego Garcia H**	**55.28**	**304**	T		T	02 04 48.7	
	SNR=30							
H08S1	**Diego Carcia H**	**55.29**	**304**	T		T	02 04 44.6	
	SNR=33							
H08S3	**Diego Garcia H**	**55.30**	**304**	T		T	02 04 48.9	
	SNR=26							
H08N1	**Diego Carcia H**	**57.16**	**303**	T		T	02 05 09.9	
	SNR=12							
CMAR	**Chiang Mai Arr**	**69.27**	**343**	LR		LR	01 33 13.4	
	comp=Z,28nm,21.3s,baz=110,slow=32							
PLCA	**Paso Flores**	**90.02**	**175**	LR		LR	01 45 44.4	
	comp=Z,113nm,21.9s,baz=126,slow=33							
TXAR	**Lajitas Array**	**143.92**	**109**	PKP		PKPbc	01 16 07.0	-0.2
	0.5nm,0.8s,baz=216,slow=2.9,SNR=7.1							
PDAR	**Pinedale Array**	**148.13**	**84**	PKPbc		PKPbc	01 16 19.7	+0.1
	0.4nm,0.7s,baz=229,slow=1.4,SNR=3.6							
YKA	**Yellowknife Ar**	**149.70**	**45**	PKP		PKPdf	01 16 15.6	-2.3
	0.9nm,0.6s,baz=282,slow=2.0,SNR=7.1							
YKA				PKPbc		PKPbc	01 16 23.0	+0.4
	0.8nm,0.6s,baz=285,slow=2.0,SNR=21							

*KRSC **02** 01:00:54.9±1.4, 52°.92N×160°.23E, h50km±13km, ML4.5*
*ISCJB **02** 01:00:56.8±0.5, 52°.88N±0°.03×160°.14E±0°.06, h57km±3km, mb4.0/29, Error ellipse: s-maj=7.8km s-min=3.1km az=38.8*
*MOS **02** 01:00:56.4±1.7, 52°.96N×160°.01E, h56km, mb4.3/9, Error ellipse: s-maj=14.4km s-min=7.5km az=76.7*
*IDC **02** 01:01:01.4±1.4, 53°.04N×159°.79E, h84km±10km, mb3.3/19, mb1 3.6/19, mb1mx3.5/27, mbtmp3.7/19, Error ellipse: s-maj=19.7km s-min=13.8km az=164.0*
ISC 02 01:00:57.1±0.6, 52°.86N±0°.04×160°.18E±0°.04, h45km±6km, n118, σ1$30/145, mb3.9/29, 5C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.26**	**339**	PN		**Pn**	**01 01 03.9**	**-1.6**
SPN	**Mys Shipunski**	**0.26**	**339**	P		**Pn**	**01 01 03.9**	**-1.6**
SPN	**Mys Shipunski**	**0.26**	**339**	*e*P		**Pn**	**01 01 04.1**	**-1.4**
NLC	**Nalytchevo**	**0.59**	**302**	*i* P		**Pn**	**01 01 08.2**	**-1.1**
NLC				S		**Sn**	**01 01 16.0**	**-2.0**
NLC	**Nalytchevo**	**0.59**	**302**	*e*P		**Pn**	**01 01 08.1**	**-1.2**
NLC				*e*S		**Sn**	**01 01 16.0**	**-2.0**
SDLR	**Sedlovina**	**0.89**	**299**	*i* P		**Pn**	**01 01 12.6**	**-0.7**
SDLR	**Sedlovina**	**0.89**	**299**	*i* P		**Pn**	**01 01 12.6**	**-0.7**
UGLR	**Uglovaya**	**0.89**	**294**	*i* P		**Pn**	**01 01 12.8**	**-0.6**
UGLR	**Uglovaya**	**0.89**	**294**	*i* P		**Pn**	**01 01 12.7**	**-0.7**
SMAR	**Somma**	**0.93**	**297**	*i* P		**Pn**	**01 01 13.0**	**-0.9**
SMAR	**Somma**	**0.93**	**297**	*i* P		**Pn**	**01 01 13.0**	**-0.9**
PET	**Petropavlovsk**	**0.94**	**281**	⇓*i* PN		**Pn**	**01 01 13.2**	**-0.6**
PET				*e*S		**Sn**	**01 01 23.7**	**-2.5**
PET				pmax	pmax			
	comp=Z,903nm,0.5s							
PET				smax	smax			
	comp=E,3μm,0.6s							
PET	**Petropavlovsk**	**0.94**	**281**	*i* P		**Pn**	**01 01 13.3**	**-0.6**
PET				S		**Sn**	**01 01 25.7**	**-0.5**
PET	**Petropavlovsk**	**0.94**	**281**	*i* P		**Pn**	**01 01 13.2**	**-0.6**
PET				*e*S		**Sn**	**01 01 25.6**	**-0.6**
AVH	**Avacha**	**0.96**	**296**	*i* P		**Pn**	**01 01 13.9**	**-0.4**
AVH				S		**Sn**	**01 01 27.1**	**+0.2**
AVH	**Avacha**	**0.96**	**296**	*i* P		**Pn**	**01 01 13.8**	**-0.5**
AVH				*e*S		**Sn**	**01 01 27.5**	**+0.6**
KRER	**Koryakskii**	**0.97**	**298**	*i* P		**Pn**	**01 01 14.1**	**-0.5**
KRER				S		**Sn**	**01 01 27.6**	**+0.3**
KRER	**Koryakskii**	**0.97**	**298**	*i* P		**Pn**	**01 01 14.1**	**-0.5**
INSR	**Institute**	**0.97**	**283**	*e*P		**Pn**	**01 01 12.3**	**-2.1**
INSR				*e*S		**Sn**	**01 01 25.0**	**-2.1**
KOK	**Koryaka**	**1.03**	**296**	*i* P		**Pn**	**01 01 14.9**	**-0.3**
KOK	**Koryaka**	**1.03**	**296**	*i* P		**Pn**	**01 01 14.6**	**-0.6**
KRX	**Arik**	**1.05**	**299**	P		**Pn**	**01 01 14.8**	**-0.8**
KRX				S		**Sn**	**01 01 28.7**	**-0.4**
KRX	**Arik**	**1.05**	**299**	*i* P		**Pn**	**01 01 14.8**	**-0.8**
RUS	**Russkaya**	**1.10**	**248**	PN		**Pn**	**01 01 15.9**	**-0.2**
RUS				S		**Sn**	**01 01 30.0**	**-0.1**
RUS	**Russkaya**	**1.10**	**248**	*i* P		**Pn**	**01 01 15.9**	**-0.2**
RUS				S		**Sn**	**01 01 30.0**	**-0.1**
RUS	**Russkaya**	**1.10**	**248**	*i* P		**Pn**	**01 01 15.8**	**-0.3**
RUS				*e*S		**Sn**	**01 01 29.8**	**-0.3**
KII	**Karymskiy**	**1.26**	**340**	*i* P		**Pn**	**01 01 17.7**	**-0.7**
KII				S		**Sn**	**01 01 33.7**	**-0.5**
MTVR	**Mutnovka**	**1.27**	**254**	*i* P		**Pn**	**01 01 18.8**	**+0.2**
MTVR				S		**Sn**	**01 01 35.0**	**+0.5**
MTVR	**Mutnovka**	**1.27**	**254**	*e*P		**Pn**	**01 01 18.5**	**-0.1**
MTVR				*e*S		**Sn**	**01 01 34.8**	**+0.3**
GRL	**Gorelyy**	**1.32**	**257**	*i* P		**Pn**	**01 01 19.6**	**+0.4**
GRL				S		**Sn**	**01 01 36.6**	**+1.0**
GRL	**Gorelyy**	**1.32**	**257**	*i* P		**Pn**	**01 01 19.7**	**+0.5**
GRL				*e*S		**Sn**	**01 01 34.6**	**-1.0**
ASAK	**Asacha**	**1.47**	**252**	*i* P		**Pn**	**01 01 22.0**	**+0.8**
ASAK				S		**Sn**	**01 01 41.1**	**+1.8**
ASAK	**Asacha**	**1.47**	**252**	*i* P		**Pn**	**01 01 22.2**	**+1.0**
ASAK				*e*S		**Sn**	**01 01 41.1**	**+1.8**
PETK	**Petropavlovsk-**	**1.52**	**281**	PN		**Pn**	**01 01 22.1**	**+0.2**
PETK				S		**Sn**	**01 01 41.0**	**+0.5**
PETK				pmax	pmax			
	comp=Z,117nm,0.3s							
PETK				smax	smax			
	comp=N,135nm,0.3s							
PETK	**Petropavlovsk-**	**1.52**	**281**	P		**Pn**	**01 01 22.1**	**+0.2**
	comp=N,117nm,0.3s,baz=97,slow=20,SNR=3408							
PETK				S		**Sn**	**01 01 41.0**	**+0.5**
	comp=N,135nm,0.3s,baz=78,slow=27,SNR=17							
PETK				LR		LR	01 02 00.8	
	comp=N,116nm,20.9s,baz=126,slow=47							
GNL	**Ganaly**	**1.58**	**303**	*i* P		**Pn**	**01 01 23.2**	**+0.4**
GNL				S		**Sn**	**01 01 43.3**	**+1.1**
GNL	**Ganaly**	**1.58**	**303**	*i* P		**Pn**	**01 01 23.1**	**+0.3**
GNL				*e*S		**Sn**	**01 01 43.4**	**+1.2**
APC	**Apacha**	**1.83**	**273**	P		**Pn**	**01 01 27.3**	**+1.2**
APC				S		**Sn**	**01 01 50.0**	**+2.0**
MIPR	**Malaya Ipel'ka**	**2.17**	**256**	*i* P		**Pn**	**01 01 32.4**	**+1.7**
MIPR	**Malaya Ipel'ka**	**2.17**	**256**	*e*P		**Pn**	**01 01 32.2**	**+1.5**
KZV	**Kizimen**	**2.26**	**2**	*i* P		**Pn**	**01 01 31.9**	**-0.3**
KZV				S		**Sn**	**01 01 58.6**	**-0.3**
TUMR	**Tumrok**	**2.43**	**360**	*i* P		**Pn**	**01 01 34.9**	**+0.5**
TUMR				S		**Sn**	**01 02 03.9**	**+0.9**
PAU	**Pauzhetka**	**2.50**	**237**	PN		Pn	01 01 37.6	+2.4
PAU				S		**Sn**	**01 02 07.0**	**+2.6**
PAU	**Pauzhetka**	**2.50**	**237**	P		Pn	01 01 37.6	+2.4
PAU				S		**Sn**	**01 02 07.0**	**+2.6**
KMNR	**Kamenistaya**	**2.91**	**1**	P		**Pn**	**01 01 42.2**	**+1.3**
KMNR				S		**Sn**	**01 02 16.7**	**+2.1**
KPT	**Kopyto**	**3.12**	**0**	P		**Pn**	**01 01 45.1**	**+1.3**
ESO	**Esso**	**3.19**	**345**	PN		**Pn**	**01 01 44.9**	**+0.1**
ESO	**Esso**	**3.19**	**345**	P		**Pn**	**01 01 44.9**	**+0.1**
KOZ	**Kozyrevsk**	**3.21**	**357**	P		**Pn**	**01 01 45.1**	**0.0**
KOZR	**Kozyr**	**3.22**	**357**	PN		**Pn**	**01 01 45.1**	**-0.1**
SKR	**Severo-Kuril's**	**3.33**	**231**	PN		**Pn**	**01 01 46.0**	**-0.7**
SKR	**Severo-Kuril's**	**3.33**	**231**	S		**Sn**	**01 02 27.3**	**+2.4**
SRDR	**Sredinnyy**	**3.48**	**356**	P		**Pn**	**01 01 48.5**	**-0.2**
KBTR	**Krutoberegovo**	**3.69**	**24**	PN		**Pn**	**01 01 52.6**	**+1.0**
KBTR				S		**Sn**	**01 02 34.1**	**+0.2**
KBTR	**Krutoberegovo**	**3.69**	**24**	*i* P		**Pn**	**01 01 52.6**	**+1.0**
KBTR				S		**Sn**	**01 02 34.1**	**+0.2**
KBTR	**Krutoberegovo**	**3.69**	**24**	*e*P		**Pn**	**01 01 51.9**	**+0.3**
KBTR				*e*S		**Sn**	**01 02 31.9**	**-2.0**
KBG	**Krutoberegovo**	**3.71**	**22**	PN		Pn	01 01 54.5	+2.7
KBG				S		**Sn**	**01 02 36.7**	**+2.5**
KBG	**Krutoberegovo**	**3.71**	**22**	P		Pn	01 01 54.5	+2.7
KBG				S		**Sn**	**01 02 36.7**	**+2.5**
BDR	**Baidarnaya**	**3.77**	**9**	P		Pn	01 01 54.7	+2.0
BDR				S		**Sn**	**01 02 38.0**	**+2.2**
SMKR	**Semkarok**	**3.81**	**11**	P		**Pn**	**01 01 53.9**	**+0.6**
SMKR				S		**Sn**	**01 02 37.2**	**+0.4**
SRKR	**Sorokina**	**3.85**	**8**	P		**Pn**	**01 01 55.5**	**+1.7**
SRKR				S		**Sn**	**01 02 41.1**	**+3.3**
BKI	**Bering**	**4.15**	**53**	PN		**Pn**	**01 01 56.7**	**-1.1**
BKI	**Bering**	**4.15**	**53**	P		**Pn**	**01 01 56.7**	**-1.1**
BKI				S		**Sn**	**01 02 39.4**	**-5.6**
USRK	**Ussuriysk Arra**	**20.47**	**256**	P		**P**	**01 05 30.2**	**-0.6**
	comp=N,1.1nm,0.5s,baz=51,slow=10,SNR=5.4							
MJA0	**Matsu Arr-Jizo**	**22.42**	**232**	*ce*P		**P**	**01 05 52.5**	**+0.6**
MJA0				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MAJO	**Matsushiro**	**22.44**	**232**	*e*P		**P**	**01 05 52.5**	**+0.5**
MAJO				pmax	pmax			
	comp=Z,83nm,1.2s							
MJAR	**Matsushiro Arr**	**22.44**	**232**	P		**P**	**01 05 52.2**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=18,slow=10,SNR=8.7							
ILAR	**Eielson Array**	**28.95**	**45**	P		**P**	**01 06 52.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=264,slow=9.0,SNR=5.4							
H11N2	**WAKE ISLAND Hy**	**33.47**	**168**	T		T	01 43 10.4	
	baz=354,slow=77,SNR=74							
H11N3	**WAKE ISLAND Hy**	**33.49**	**168**	T		T	01 43 11.4	
	baz=354,slow=77,SNR=73							
H11N1	**WAKE ISLAND Hy**	**33.49**	**168**	T		T	01 43 11.0	
	baz=354,slow=77,SNR=82							
SONM	**Songino Array**	**34.01**	**284**	P		**P**	**01 07 34.4**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=58,slow=8.1,SNR=5.2							
SONM				PcP		**PcP**	**01 10 13.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=72,slow=1.7,SNR=4.2							
H11S1	**WAKE ISLAND Hy**	**34.66**	**169**	T		T	01 44 37.1	
	baz=355,SNR=19							
H11S3	**WAKE ISLAND Hy**	**34.67**	**169**	T		T	01 44 40.7	
	baz=355,SNR=35							
H11S2	**WAKE ISLAND Hy**	**34.67**	**169**	T		T	01 44 41.7	
	baz=355,SNR=12							
ZALV	**Zalesovo Beam**	**42.95**	**303**	P		P	01 08 48.1	-3.1
ZALV	**Zalesovo Beam**	**42.95**	**303**	P		P	01 08 48.1	-3.1
	comp=Z,0.2nm,0.3s,baz=64,slow=9.8,SNR=2.5							
YKA	**Yellowknife Ar**	**43.30**	**42**	P		**P**	**01 08 53.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=297,slow=7.0,SNR=5.7							
KURK	**Kurchatov**	**47.90**	**302**	P		**P**	**01 09 28.4**	**-2.0**
KURBB	**Kurchatov Arra**	**48.00**	**302**	P		**P**	**01 09 28.4**	**-2.8**
	comp=Z,0.4nm,0.4s,baz=61,slow=7.8,SNR=18							
MKAR	**Makanchi Array**	**48.30**	**296**	P		**P**	**01 09 30.7**	**-2.9**
MKAR	**Makanchi Array**	**48.30**	**296**	P		**P**	**01 09 30.7**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=59,slow=5.5,SNR=8.5							
ARCES	**ARCESS Array B**	**53.53**	**342**	P		**P**	**01 10 11.1**	**-1.4**
	comp=Z,2.2nm,0.8s,baz=31,slow=9.5,SNR=6.8							
NVAR	**Mina Array Bea**	**55.77**	**70**	P		**P**	**01 10 31.0**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=303,slow=8.5,SNR=2.6							
PDAR	**Pinedale Array**	**57.59**	**61**	P		**P**	**01 10 43.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=254,slow=1.1,SN

SGMF	**Saint Gilles**	**78.20**	**348**	*eP*	**P**	**01 12 50.6 -0.8**
LOR	**Lormes**	**78.22**	**344**	*eP*	**P**	**01 12 50.8 -0.8**
SSF	**Saint Saulge**	**78.48**	**344**	*eP*	**P**	**01 12 53.0 0.0**
AVF	**Avril sur Loir**	**78.77**	**344**	*eP*	**P**	**01 12 54.0 -0.6**
LPL	**La Plagne**	**79.39**	**341**	*eP*	**P**	**01 12 58.6 +0.3**
	comp=Z,2.2nm,0.4s					
LPG	**La Plagne**	**79.41**	**341**	*eP*	**P**	**01 12 58.8 +0.3**
	comp=Z,8.2nm,0.7s					
TCF	**Toulx Ste Croi**	**79.45**	**345**	*eP*	**P**	**01 12 57.8 -0.6**
ORIF	**Oris-en-Rattie**	**80.13**	**342**	*eP*	**P**	**01 13 02.4 +0.2**
	comp=Z,24nm,0.9s					
VIVF	**Saint-Julien-l**	**80.42**	**343**	*eP*	**P**	**01 13 04.5 +0.9**
	comp=Z,11nm,0.8s					
LFF	**La Frestale**	**80.99**	**345**	*eP*	**P**	**01 13 06.6 0.0**
	comp=Z,21nm,0.9s					
ESDC	**Sonseca Array**	**86.82**	**348**	P	**P**	**01 13 36.1 -0.4**
	comp=Z,0.4nm,0.5s,baz=1.0,slow=5.1,SNR=4.1					

KRSC ***02*** *01:18:48.1±1.7, 55.˚63N×166.˚08E, h47km±15km, ML4.8*
IDC ***02*** *01:18:48.9±0.4, 55.˚70N×165.˚86E, h0km, mb4.1/25, mb1 4.3/29, mb1mx4.3/33, mbtmp4.1/29, ML4.0/4, MS4.1/23, Ms1 4.1/23, ms1mx3.9/42, Error ellipse: s-maj=12.4km s-min=8.4km az=12.0*
MOS ***02*** *01:18:50.4±1.0, 55.˚69N×165.˚78E, h22km, mb4.7/52, Error ellipse: s-maj=7.8km s-min=6.1km az=92.1*
ISCJB ***02*** *01:18:50.4±0.6, 55.˚62N±0.˚03×165.˚87E±0.˚02, h19km±5km, mb4.6/101, MS4.2/29, Error ellipse: s-maj=4.3km s-min=2.1km az=169.3*
BJI ***02*** *01:18:50.8, 55.˚87N×165.˚57E, h9km, mB5.2/19, mb4.7/26, Ms4.8/23, Ms7 4.4/23*
GCMT ***02*** *01:18:51.6±0.3, 55.˚71N×165.˚92E, h17km±1km, MW4.9/66, Moment Tensor Solution. s28,c31; s66,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.29±.17; $M_{\theta\theta}$-2.33±.12; $M_{\phi\phi}$0.04±.10; $M_{r\theta}$-0.13±.25; $M_{\theta\phi}$0.52±.07; $M_{\phi r}$-0.78±.34; Best double couple: M_o2.49400×10^{16} NP1:ϕ_s119.00000°, δ48.00000°, λ115.00000°. NP2: ϕ_s265.00000°, δ47.00000°, λ65.00000°. Principal axes: T 2.5480, Plg72.0000°, Azm101.0000°; N -0.1080, Plg18.0000°, Azm282.0000°; P -2.4400, Plg0.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *01:18:51.6±1.9, 55.˚72N×165.˚74E, h15km±11km, mb4.8/64 Error ellipse: s-maj=5.6km s-min=2.8km az=166.0*

ISC 02 01:18:51.3±0.4, 55.˚65N±0.˚03×165.˚91E±0.˚03, h17km±1km, h16km:pP-P, n323, σ1§45/381, mb4.6/102, MS4.2/31, 8C-4D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.45**	**176**	PN	**Pg**	**01 18 58.7**	**-1.6**
BKI				S	**Sg**	**01 19 05.5**	**-0.8**
BKI	**Bering**	**0.45**	**176**	*eP*	**Pg**	**01 18 58.4**	**-1.9**
BKI				*eS*	**Sg**	**01 19 05.3**	**-1.0**
BKI	**Bering**	**0.45**	**176**	P	**Pg**	**01 18 58.7**	**-1.6**
BKI				S	**Sg**	**01 19 05.5**	**-0.8**
KBTR	**Krutoberegovo**	**1.83**	**289**	PN	**Pn**	**01 19 19.4**	**-2.6**
KBTR				S	**Sn**	**01 19 41.7**	**-3.1**
KBTR	**Krutoberegovo**	**1.83**	**289**	*i* P	**Pn**	**01 19 19.7**	**-2.3**
KBTR				*eS*	**Sn**	**01 19 41.6**	**-3.2**
KBTR	**Krutoberegovo**	**1.83**	**289**	P	**Pn**	**01 19 19.4**	**-2.6**
KBTR				S	**Sn**	**01 19 41.7**	**-3.1**
KBG	**Krutoberegovo**	**1.90**	**290**	PN	**Pn**	**01 19 20.4**	**-2.6**
KBG				S	**Sn**	**01 19 44.2**	**-2.4**
KBG	**Krutoberegovo**	**1.90**	**290**	*eP*	**Pn**	**01 19 20.3**	**-2.7**
KBG				*eS*	**Sn**	**01 19 44.4**	**-2.2**
KBG	**Krutoberegovo**	**1.90**	**290**	P	**Pn**	**01 19 20.4**	**-2.6**
KBG				S	**Sn**	**01 19 44.2**	**-2.4**
SMKR	**Semkarok**	**2.66**	**292**	*i* P	**Pn**	**01 19 32.7**	**-0.8**
SMKR				S	**Sn**	**01 20 06.0**	**+0.7**
BDR	**Baidarnaya**	**2.79**	**291**	*i* P	**Pn**	**01 19 34.1**	**-1.2**
BDR				S	**Sn**	**01 20 10.2**	**+1.6**
SRKR	**Sorokina**	**2.84**	**293**	*i* P	**Pn**	**01 19 35.6**	**-0.3**
SRKR				S	**Sn**	**01 20 10.3**	**+0.5**
ZLN	**Zelenaya**	**2.91**	**279**	S	**Sn**	**01 20 13.6**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**2.96**	**278**	*i* P	**Pn**	**01 19 38.4**	**+0.8**
BZGR				S	**Sn**	**01 20 15.0**	**+2.2**
KLY	**Klyuchi**	**3.03**	**285**	PN	**Pn**	**01 19 36.8**	**-1.7**
KLY				S	**Sn**	**01 20 12.8**	**-1.5**
KLY	**Klyuchi**	**3.03**	**285**	*i* P	**Pn**	**01 19 36.8**	**-1.7**
KLY				S	**Sn**	**01 20 12.8**	**-1.5**
KRSR	**Krestovskiy**	**3.06**	**283**	P	**Pn**	**01 19 38.8**	**-0.2**
KRSR				S	**Sn**	**01 20 13.5**	**-1.8**
BZWR	**Bezymyannyi-We**	**3.07**	**278**	*i* P	**Pn**	**01 19 39.9**	**+0.6**
BZWR				S	**Sn**	**01 20 17.2**	**+1.5**
BZMR	**Bezymyannaya**	**3.08**	**278**	*i* P	**Pn**	**01 19 39.5**	**+0.2**
BZMR				S	**Sn**	**01 20 17.1**	**+1.4**
KIRR	**Kirishev**	**3.16**	**278**	*i* P	**Pn**	**01 19 40.6**	**+0.2**
KIRR				S	**Sn**	**01 20 18.8**	**+1.0**
KMNR	**Kamenistaya**	**3.21**	**274**	*i* P	**Pn**	**01 19 41.5**	**+0.4**
KMNR				*eS*	**Sn**	**01 20 20.7**	**+1.7**
KMNR	**Kamenistaya**	**3.21**	**274**	*i* P	**Pn**	**01 19 41.9**	**+0.8**
KMNR				S	**Sn**	**01 20 19.9**	**+0.9**
KPT	**Kopyto**	**3.23**	**278**	*i* P	**Pn**	**01 19 41.8**	**+0.5**
KPT				S	**Sn**	**01 20 21.4**	**+2.0**
KZV	**Kizimen**	**3.25**	**263**	*i* P	**Pn**	**01 19 42.0**	**+0.3**
KZV				*eS*	**Sn**	**01 20 20.4**	**+0.4**
KZV	**Kizimen**	**3.25**	**263**	*i* P	**Pn**	**01 19 41.5**	**-0.2**
KZV				S	**Sn**	**01 20 20.0**	**0.0**
TUMR	**Tumrok**	**3.30**	**266**	*i* P	**Pn**	**01 19 42.8**	**+0.4**
TUMR				*eS*	**Sn**	**01 20 23.5**	**+2.3**
TUMR	**Tumrok**	**3.30**	**266**	*i* P	**Pn**	**01 19 42.8**	**+0.4**
TUMR				S	**Sn**	**01 20 23.6**	**+2.3**
KOZR	**Kozyr**	**3.42**	**280**	PN	**Pn**	**01 19 44.9**	**+1.1**
KOZR				S	**Sn**	**01 20 26.5**	**+2.6**
KOZ	**Kozyrevsk**	**3.43**	**279**	*i* P	**Pn**	**01 19 44.9**	**+0.9**
KOZ				S	**Sn**	**01 20 26.5**	**+2.3**
SRDR	**Sredinnyy**	**3.54**	**283**	*i* P	**Pn**	**01 19 45.9**	**+0.3**
SRDR				S	**Sn**	**01 20 29.5**	**+2.3**
OSSR	**Ossora**	**3.93**	**338**	P	**Pn**	**01 19 48.6**	**-2.2**
KII	**Karymskiy**	**4.07**	**249**	S	**Sn**	**01 20 37.9**	**-2.2**
ESO	**Esso**	**4.08**	**277**	PN	**Pn**	**01 19 52.5**	**-0.5**
ESO				S	**Sn**	**01 20 40.0**	**-0.3**
ESO	**Esso**	**4.08**	**277**	S	**Sn**	**01 19 52.5**	**-0.5**
ESO				S	**Sn**	**01 20 40.0**	**-0.3**
PALN	**Palana**	**4.72**	**319**	*eP*	**Pn**	**01 20 02.4**	**+0.8**
PALN	**Palana**	**4.72**	**319**	P	**Pn**	**01 20 02.2**	**+0.6**
SDLR	**Sedlovina**	**4.74**	**243**	*i* P	**Pn**	**01 20 02.2**	**+0.1**
SDLR	**Sedlovina**	**4.74**	**243**	*i* P	**Pn**	**01 20 02.3**	**+0.2**
SDLR				S	**Sn**	**01 20 55.9**	**-0.7**
KRER	**Koryakskii**	**4.79**	**244**	*i* P	**Pn**	**01 20 03.3**	**+0.4**
KRER	**Koryakskii**	**4.79**	**244**	*i* P	**Pn**	**01 20 03.4**	**+0.5**
KRER				S	**Sn**	**01 20 58.7**	**+0.6**
UGLR	**Uglovaya**	**4.81**	**242**	*i* P	**Pn**	**01 20 03.7**	**+0.7**
UGLR	**Uglovaya**	**4.81**	**242**	*i* P	**Pn**	**01 20 03.8**	**+0.8**
UGLR				S	**Sn**	**01 20 56.7**	**-1.6**
KRX	**Arik**	**4.81**	**245**	*i* P	**Pn**	**01 20 03.5**	**+0.4**
KRX	**Arik**	**4.81**	**245**	*i* P	**Pn**	**01 20 04.1**	**+1.0**
KRX				S	**Sn**	**01 20 58.6**	**+0.1**
TILK	**Tilichiki**	**4.81**	**1**	*eP*	**Pn**	**01 20 01.1**	**-1.9**
TILK	**Tilichiki**	**4.81**	**1**	P	**Pn**	**01 20 01.8**	**-1.2**
AVH	**Avacha**	**4.82**	**243**	*i* P	**Pn**	**01 20 03.8**	**+0.7**
AVH	**Avacha**	**4.82**	**243**	*i* P	**Pn**	**01 20 03.9**	**+0.8**
AVH				S	**Sn**	**01 20 58.0**	**-0.6**
KOK	**Koryaka**	**4.86**	**244**	*i* P	**Pn**	**01 20 04.1**	**+0.4**
KOK	**Koryaka**	**4.86**	**244**	P	**Pn**	**01 20 04.0**	**+0.4**
KOK				S	**Sn**	**01 21 00.2**	**+0.7**
PET	**Petropavlovsk**	**5.00**	**241**	*e*PN	**Pn**	**01 20 06.2**	**+0.7**
PET				pmax	pmax		
	comp=Z,67nm,0.5s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET	**Petropavlovsk**	**5.00**	**241**	*eP*	**Pn**	**01 20 06.3**	**+0.8**
PET	**Petropavlovsk**	**5.00**	**241**	*i* P	**Pn**	**01 20 05.8**	**+0.3**
PET				S	**Sn**	**01 21 01.2**	**-1.6**
PET	**Petropavlovsk**	**5.00**	**241**	*e*Pn	**Pn**	**01 20 05.8**	**+0.3**
PET				*e*Sn	**Sn**	**01 21 01.9**	**-0.9**
GNL	**Ganaly**	**5.02**	**250**	*i* P	**Pn**	**01 20 06.9**	**+0.9**
GNL	**Ganaly**	**5.02**	**250**	*i* P	**Pn**	**01 20 07.0**	**+1.0**
FX1	**Attu Island--F**	**5.07**	**120**	*e*Pn	**Pn**	**01 20 06.7**	**+0.1**
FX1				Sn	**Sn**	**01 21 01.5**	**-3.2**
FX1	**Attu Island--F**	**5.07**	**120**	Pn	**Pn**	**01 20 05.3**	**-1.3**
	comp=Z,36nm,0.3s,baz=296,slow=2.5,SNR=29						
FX1				Sn	**Sn**	**01 21 01.5**	**-3.2**
	comp=Z,21nm,0.3s,baz=70,slow=17,SNR=3.9						
RUS	**Russkaya**	**5.42**	**237**	PN	**Pn**	**01 20 10.9**	**-0.4**
RUS	**Russkaya**	**5.42**	**237**	*eP*	**Pn**	**01 20 11.2**	**-0.1**
RUS				*eS*	**Sn**	**01 21 10.8**	**-2.4**
RUS	**Russkaya**	**5.42**	**237**	P	**Pn**	**01 20 10.8**	**-0.5**
RUS				S	**Sn**	**01 21 09.6**	**-3.6**
PEA0B	**Petropavlovsk-**	**5.43**	**245**	*e*Pn	**Pn**	**01 20 12.0**	**+0.5**
PETK	**Petropavlovsk-**	**5.43**	**245**	PN	**Pn**	**01 20 11.7**	**+0.2**
PETK						01 21 14.9	
PETK				pmax	pmax		
	comp=Z,12nm,0.3s						
PETK				smax	smax		
	comp=N,6.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.43**	**245**	Pn	**Pn**	**01 20 11.7**	**+0.2**
PETK				Sn	**Sn**	**01 21 14.9**	**+1.3**
PETK	**Petropavlovsk-**	**5.43**	**245**	Pn	**Pn**	**01 20 11.7**	**+0.2**
	comp=N,12nm,0.3s,baz=74,slow=16,SNR=101						
PETK				Sn	**Sn**	**01 21 14.9**	**+1.3**
	comp=N,6.4nm,0.3s,baz=93,slow=22,SNR=4.0						
MTVR	**Mutnovka**	**5.55**	**238**	*i* P	**Pn**	**01 20 13.4**	**+0.2**
MTVR				S	**Sn**	**01 21 15.4**	**-1.2**
GRL	**Gorelyy**	**5.56**	**239**	*i* P	**Pn**	**01 20 14.9**	**+1.6**
GRL	**Gorelyy**	**5.56**	**239**	P	**Pn**	**01 20 14.0**	**+0.7**
ASAK	**Asacha**	**5.74**	**239**	*eP*	**Pn**	**01 20 16.0**	**+0.2**
ASAK	**Asacha**	**5.74**	**239**	*i* P	**Pn**	**01 20 16.8**	**+1.0**
ASAK				S	**Sn**	**01 21 20.2**	**-1.2**
APC	**Apacha**	**5.81**	**246**	P	**Pn**	**01 20 18.0**	**+1.4**
APC				S	**Sn**	**01 21 23.8**	**+1.0**
MIPR	**Malaya Ipel'ka**	**6.37**	**242**	P	**Pn**	**01 20 26.0**	**+1.6**
PAU	**Pauzhetka**	**6.85**	**236**	PN	**Pn**	**01 20 32.4**	**+1.5**
PAU	**Pauzhetka**	**6.85**	**236**	P	**Pn**	**01 20 32.4**	**+1.5**
SKR	**Severo-Kuril's**	**7.70**	**234**	*e*PN	Pn	01 20 37.5	-5.1
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
SKR	**Severo-Kuril's**	**7.70**	**234**	P	**Pn**	**01 20 43.6**	**+1.0**
SKR				S	**Sn**	**01 22 08.4**	**-1.0**
SEY	**Seymchan**	**10.04**	**322**	PN	**Pn**	**01 21 13.3**	**-1.3**
SEY	**Seymchan**	**10.04**	**322**	Pn	**Pn**	**01 21 13.3**	**-1.3**
SEY	**Seymchan**	**10.04**	**322**	Pn	**Pn**	**01 21 13.3**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=150,slow=14,SNR=3.2						
GAMB	**Gambell**	**13.86**	**45**	*e*Pn	**Pn**	**01 22 05.4**	**-1.3**
TNA	**Tin City**	**16.09**	**41**	*e*Pn	**Pn**	**01 22 36.6**	**+0.1**
	comp=Z,12nm,0.8s						
YSS	**Yuzh-Sakhalins**	**16.83**	**249**	*eP*	**Pn**	**01 22 44.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**16.83**	**249**	*e*Pn	**Pn**	**01 22 44.8**	**-1.1**
ASAJ	**Asahikawa**	**18.84**	**242**	P	**Pn**	**01 23 11.1**	**+0.3**
ASAJ	**Asahikawa**	**18.84**	**242**	P	**Pn**	**01 23 11.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=38,slow=12,SNR=2.7						
ASAJ				LR	LR	01 31 44.4	
	comp=Z,544nm,18.2s,baz=308,slow=41						
YAK	**Yakutsk**	**19.59**	**304**	*eP*	**P**	**01 23 17.4**	**-0.9**
YAK				*eS*	**S**	**01 26 55.8**	**-2.8**
YAK				pmax	pmax		
	comp=Z,33nm,1.1s						
YAK				pmax	pmax		
	comp=E,23nm,1.2s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,62nm,1.1s						
YAK				pmax	pmax		
	comp=E,35nm,1.2s						
YAK				pmax	pmax		
	comp=N,23nm,1.3s						
YAK				smax	smax		
	comp=E,33nm,5.3s						
YAK				smax	smax		
	comp=N,36nm,5.8s						
YAK				MLR	MLR		
	comp=Z,196nm,10.0s						
YAK				MLR	MLR		
	comp=N,212nm,10.0s						
YAK	**Yakutsk**	**19.59**	**304**	*eP*	**P**	**01 23 18.1**	**-0.2**
	comp=N,46nm,0.9s						
HABR	**Khabarovsk**	**20.16**	**262**	*eP*	**P**	**01 23 22.9**	**-1.7**
HABR				*e**SP	**sP**	**01 23 33.1**	**+1.7**
HABR				*e*		01 23 39.4	
HABR				*eS*	**S**	**01 27 08.4**	**-1.7**
HABR				*e**SS	**sS**	**01 27 19.7**	**+2.1**
HABR				*e*		01 34 54.0	
HABR				pmax	pmax		
	comp=Z,23nm,1.6s						
SVW2	**Sparrevohn**	**20.68**	**59**	*e*Pn	Pn	01 23 32.3	-0.2
	comp=Z,14nm,1.1s						
IM04	**Indian Mountai**	**21.78**	**46**	*eP*	**P**	**01 23 43.6**	**+1.6**
RSO	**Redoubt South**	**22.11**	**60**	*eP*	P	01 23 50.8	+5.1
PPLA	**Purkeypile**	**22.25**	**54**	*eP*	**P**	**01 23 49.8**	**+2.7**
	comp=Z,23nm,1.1s						
TIXI	**Tiksi**	**22.38**	**330**	*i*P	**P**	**01 23 48.2**	**0.0**
TIXI				pmax	pmax		
	comp=Z,15nm,1.7s						
TIXI	**Tiksi**	**22.38**	**330**	*eP*	**P**	**01 23 48.2**	**0.0**
	comp=Z,105nm,2.3s						
KTH	**Kantishna Hill**	**22.82**	**52**	*eP*	**P**	**01 23 54.5**	**+1.3**
	comp=Z,111nm,1.2s						
TRF	**Thorofare Moun**	**23.10**	**52**	*eP*	**P**	**01 23 57.0**	**+0.8**
	comp=Z,17nm,0.8s						
COLD	**Coldfoot**	**23.38**	**43**	*eP*	**P**	**01 23 59.3**	**+0.5**
	comp=Z,10nm,1.0s						
MCK	**McKinley**	**23.70**	**52**	*eP*	**P**	**01 24 02.3**	**+0.3**
MCK				pmax	pmax		
	comp=Z,144nm,2.5s						
MCK	**McKinley**	**23.70**	**52**	*eP*	**P**	**01 24 02.3**	**+0.3**
	comp=Z,144nm,2.5s						
PMR	**Palmer**	**23.75**	**57**	*eP*	**P**	**01 24 03.2**	**+0.8**
PMR				pmax	pmax		
	comp=Z,94nm,2.3s						
PMR	**Palmer**	**23.75**	**57**	*eP*	**P**	**01 24 03.1**	**+0.8**
	comp=Z,94nm,2.3s						
SEW	**Seward**	**23.79**	**61**	*eP*	**P**	**01 24 02.8**	**+0.1**
	comp=Z,23nm,1.0s						
COLA	**College**	**24.17**	**49**	*i* P	**P**	**01 24 06.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,113nm,2.4s						
COLA	**College**	**24.17**	**49**	*eP*	**P**	**01 24 06.7**	**+0.5**
	comp=Z,4.2nm,1.0s						
USRK	**Ussuriysk Arra**	**24.40**	**256**	P	**P**	**01 24 09.6**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=43,slow=15,SNR=3.4						
USRK				LR	LR	01 35 07.9	
	comp=Z,393nm,19.2s,baz=45,slow=40						
ILAR	**Eielson Array**	**24.58**	**49**	P	**P**	**01 24 09.8**	**-0.3**
ILAR	**Eielson Array**	**24.58**	**49**	P	**P**	**01 24 09.8**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=256,slow=8.4,SNR=55						
ILAR				LR	LR	01 34 40.1	
	comp=Z,692nm,18.4s,baz=274,slow=39						
DIV	**Divide**	**25.41**	**58**	*eP*	**P**	**01 24 17.9**	**+0.2**
	comp=Z,12nm,0.8s						
BMRM	**Bremner River**	**26.00**	**58**	*eP*	**P**	**01 24 23.8**	**+0.8**
	comp=Z,23nm,0.8s						
RAGM	**Ragged Mountai**	**26.08**	**59**	*eP*	**P**	**01 24 26.6**	**+2.9**
	comp=Z,42nm,1.2s						
MJAO	**Matsu Arr-Jizo**	**26.79**	**236**	*eP*	**P**	**01 24 32.2**	**+1.9**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAJO	**Matsushiro**	**26.80**	**236**	*eP*	**P**	**01 24 30.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,26nm,1.0s						
MAJO	**Matsushiro**	**26.80**	**236**	*eP*	**P**	**01 24 30.9**	**+0.5**
	comp=Z,26nm,1.0s						
MAT	**Matsushiro**	**26.80**	**236**	P	**P**	**01 24 30.9**	**+0.5**
MAT				S	**S**	**01 29 09.8**	**+4.1**
MJAR	**Matsushiro Arr**	**26.80**	**236**	P	**P**	**01 24 30.6**	**+0.2**
MJAR	**Matsushiro Arr**	**26.80**	**236**	P	**P**	**01 24 30.6**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=29,slow=7.7,SNR=13						
MJAR				LR	LR	01 35 11.1	
	comp=Z,257nm,18.8s,baz=50,slow=37						
EGAK	**Eagle**	**27.03**	**49**	*eP*	**P**	**01 24 31.6**	**-0.6**
	comp=Z,208nm,2.8s						
DAWY	**Dawson**	**27.88**	**50**	*eP*	**P**	**01 24 40.5**	**+0.6**
CN2	**Changchun**	**28.30**	**262**	*eP*	**P**	**01 24 46.1**	**+2.4**
HYT	**Haines Junctio**	**29.41**	**56**	*eP*	**P**	**01 24 54.7**	**+1.1**
INK	**Inuvik**	**29.74**	**41**	*eP*	**P**	**01 24 56.3**	**+0.1**
	comp=Z,2.4nm,0.7s						
INK	**Inuvik**	**29.74**	**41**	P	**P**	**01 24 56.1**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=294,slow=7.3,SNR=12						
INK				LR	LR	01 35 46.4	
	comp=Z,275nm,21.6s,baz=330,slow=34						
KSRS	**Korea Array**	**31.31**	**251**	P	**P**	**01 25 10.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=45,slow=8.8,SNR=4.4						
KSRS				LR	LR	01 36 25.2	
	comp=Z,216nm,21.1s,baz=67,slow=34						
KSAR	**Wonju Array Be**	**31.34**	**251**	P	**P**	**01 25 10.9**	**+0.3**
JNU	**Nakatsue**	**33.12**	**242**	P	**P**	**01 25 27.6**	**+1.2**
JNU	**Nakatsue**	**33.12**	**242**	P	**P**	**01 25 27.6**	**+1.2**
	comp=Z,7.7nm,0.9s,baz=0.0,slow=8.1,SNR=4.6						
JNU				LR	LR	01 40 46.2	
	comp=Z,307nm,18.6s,baz=45,slow=40						
JCJ	**Chichijima**	**33.29**	**221**	LR	LR	01 37 23.6	
	comp=Z,198nm,19.6s,baz=149,slow=34						
IRK	**Irkutsk**	**35.39**	**291**	*eP*	**P**	**01 25 47.0**	**+1.1**
IRK				pmax	pmax		
	comp=Z,41nm,1.8s						
H11N2	**WAKE ISLAND Hy**	**35.87**	**178**	T	T	02 03 31.4	
	baz=1.5,slow=76,SNR=133						
H11N3	**WAKE ISLAND Hy**	**35.88**	**178**	T	T	02 03 32.5	
	baz=1.5,slow=76,SNR=52						
H11N1	**WAKE ISLAND Hy**	**35.88**	**178**	T	T	02 03 32.7	
	baz=1.5,slow=76,SNR=69						
BJI	**Beijing**	**35.99**	**266**	P	**P**	**01 25 51.1**	**0.0**
BJI				S	S	01 31 38.2	+9.4
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,340nm,3.7s						
BJI				LR	LR		
	comp=Z,940nm,17.4s						
BJI				LR	LR		
	comp=Z,530nm,19.6s						
BJI				LR	LR		
	comp=Z,180nm,19.6s						
TLY	**Talaya**	**36.01**	**290**	*eP*	**P**	**01 25 52.4**	**+1.2**
TLY				*e*		01 31 32.0	
TLY				pmax	pmax		
	comp=Z,18nm,2.3s						
TLY				MLR	MLR		
	comp=Z,162nm,12.0s						
ULN	**Ulaanbaatar**	**36.25**	**283**	*eP*	**P**	**01 25 54.1**	**+0.7**
	comp=Z,13nm,1.1s						
SONM	**Songino Array**	**36.63**	**283**	P	**P**	**01 25 57.9**	**+1.2**
SONM	**Songino Array**	**36.63**	**283**	P	**P**	**01 25 57.9**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=54,slow=8.6,SNR=21						
ZAK	**Zakamensk**	**36.90**	**289**	*eP*	**P**	**01 25 58.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**37.08**	**179**	T	T	02 05 01.2	
	baz=3.0,slow=75						
H11S3	**WAKE ISLAND Hy**	**37.09**	**179**	T	T	02 05 01.0	
	baz=3.0						
H11S2	**WAKE ISLAND Hy**	**37.10**	**179**	T	T	02 05 02.5	
	baz=3.0,slow=75						
MOY	**Mondy**	**37.42**	**292**	*eP*	**P**	**01 26 04.2**	**+0.9**
MOY				pmax	pmax		
	comp=Z,41nm,2.2s						
HHC	**Hu-ho-hao-te**	**38.06**	**270**	*eP*	**P**	**01 26 08.9**	**+0.1**
HHC				PP	**PnPn**	**01 27 38.1**	**+1.0**
HHC				S	**S**	**01 31 58.9**	**-1.7**
HHC				sS	**sS**	**01 32 06.3**	**-2.7**
HHC				SS	**SnSn**	**01 34 34.0**	**-9.2**
HHC				ScS	**ScS**	**01 36 19.1**	**-0.7**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,520nm,5.2s						
HHC				LR	LR		
	comp=Z,1μm,16.1s						
HHC				LR	LR		
	comp=Z,800nm,16.1s						
HHC				LR	LR		
	comp=Z,320nm,16.5s						
YKW3	**Yellowknife Ar**	**38.92**	**46**	*eP*	**P**	**01 26 16.2**	**+0.6**
YKA	**Yellowknife Ar**	**38.95**	**47**	P	**P**	**01 26 16.2**	**+0.3**
YKA	**Yellowknife Ar**	**38.95**	**47**	P	**P**	**01 26 16.2**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=298,slow=8.0,SNR=36						
NJ2	**Nanjing**	**40.27**	**254**	*eP*	**P**	**01 26 27.1**	**-0.1**
NJ2				S	**S**	**01 32 37.5**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,50nm,0.7s						
NJ2				LR	LR		
	comp=Z,630nm,18.5s						
NJ2				LR	LR		
	comp=Z,690nm,7.1s						
NJ2				LR	LR		
	comp=Z,340nm,24.4s						
ZALV	**Zalesovo Beam**	**44.24**	**303**	P	**P**	**01 26 58.6**	**-0.7**
ZALV						01 28 41.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.24**	**303**	P	**P**	**01 26 58.6**	**-0.7**
ZALV				PcP	**PP**	**01 28 41.5**	**-0.8**
ZALV	**Zalesovo Beam**	**44.24**	**303**	P	**P**	**01 26 58.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=50,slow=8.0,SNR=4.9						
ZALV				PcP	**PP**	**01 28 41.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=75,slow=3.7,SNR=4.2						
EDM	**Edmonton**	**44.51**	**58**	*eP*	**P**

CD2					LR	LR			
	comp=Z,370nm,14.4s								
CD2					LR	LR			
	comp=Z,300nm,17.8s								
MK31	**Makanchi Array**	**50.07**	**297**	*eP*	**P**	**P**	**01 27 43.8**	**-1.1**	
MK31	**Makanchi Array**	**50.07**	**297**	*eP*	**P**	**P**	**01 27 43.8**	**-1.1**	
MKAR	**Makanchi Array**	**50.07**	**297**	P	**P**	**P**	**01 27 44.1**	**-0.8**	
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MKAR					MLR	MLR			
	comp=Z,118nm,18.2s								
MKAR	**Makanchi Array**	**50.07**	**297**	*eP*	**P**	**P**	**01 27 44.2**	**-0.7**	
MKAR	**Makanchi Array**	**50.07**	**297**	P	**P**	**P**	**01 27 44.1**	**-0.8**	
	comp=Z,1.8nm,0.6s,baz=50,slow=7.1,SNR=30								
MKAR					LR	LR	01 49 51.7		
	comp=Z,118nm,18.2s,baz=300,slow=37								
SUMG	**Summit**	**50.95**	**9**	*i* P	**P**	**P**	**01 27 51.2**	**-0.5**	
SUMG					pmax	pmax			
	comp=Z,6.0nm,0.9s								
SUMG	**Summit**	**50.95**	**9**	*i* P	**P**	**P**	**01 27 51.2**	**-0.5**	
	comp=Z,6.4nm,0.9s								
SUMG	**Summit**	**50.95**	**9**	*e*P	**P**	**P**	**01 27 51.7**	**+0.1**	
	comp=Z,11nm,1.0s								
WAKR	**Walker**	**51.06**	**77**	*e*P	**P**	**P**	**01 27 54.6**	**+1.9**	
GYA	**Guiyang**	**51.32**	**261**	ǁ *i* P	P	P	01 28 01.9	+7.2	
GYA					pmax	pmax			
	comp=Z,20nm,1.1s								
BRVK	**Borovoye**	**51.45**	**310**	*d i* P	**P**	**P**	**01 27 54.6**	**-0.6**	
BRVK					pmax	pmax			
	comp=Z,7.0nm,0.8s								
BRVK	**Borovoye**	**51.45**	**310**	*e*P	**P**	**P**	**01 27 54.7**	**-0.4**	
	comp=Z,7.1nm,0.8s								
NVAR	**Mina Array Bea**	**51.74**	**76**	P	**P**	**P**	**01 27 59.0**	**+1.2**	
NVAR	**Mina Array Bea**	**51.74**	**76**	P	**P**	**P**	**01 27 59.0**	**+1.2**	
	comp=Z,1.5nm,0.7s,baz=305,slow=8.2,SNR=13								
ARCES	**ARCESS Array B**	**51.86**	**343**	P	**P**	**P**	**01 27 58.4**	**+0.3**	
ARCES	**ARCESS Array B**	**51.86**	**343**	P	**P**	**P**	**01 27 58.4**	**+0.3**	
	comp=Z,5.2nm,0.9s,baz=40,slow=6.0,SNR=3.6								
ARCES					LR	LR	01 53 32.8		
	comp=Z,146nm,18.2s,baz=167,slow=40								
LOHW	**Long Hollow**	**52.20**	**66**	*e*P	**P**	**P**	**01 28 03.3**	**+2.1**	
	comp=Z,4.5nm,0.9s								
TPH	**Tonopah**	**52.59**	**75**	*e*P	**P**	**P**	**01 28 05.3**	**+1.2**	
TPH					pmax	pmax			
	comp=Z,11nm,1.3s								
TPH	**Tonopah**	**52.59**	**75**	*e*P	**P**	**P**	**01 28 05.3**	**+1.2**	
	comp=Z,11nm,1.3s								
R11A	**Troy Canyon, C**	**53.28**	**74**	*e*P	**P**	**P**	**01 28 10.7**	**+1.4**	
	comp=Z,59nm,2.7s								
BW06	**Boulder Array**	**53.33**	**66**	*e*P	**P**	**P**	**01 28 11.0**	**+1.4**	
	comp=Z,7.4nm,1.2s								
PDAR	**Pinedale Array**	**53.33**	**66**	P	**P**	**P**	**01 28 10.3**	**+0.7**	
PDAR	**Pinedale Array**	**53.33**	**66**	P	**P**	**P**	**01 28 10.3**	**+0.7**	
	comp=Z,1.8nm,0.7s,baz=323,slow=3.0,SNR=21								
JMIC	**Jan Mayen**	**53.60**	**358**	LR	LR	LR	01 50 26.2		
	comp=Z,124nm,19.2s,baz=293,slow=35								
FRB	**Frobisher Bay**	**53.75**	**27**	LR	LR	LR	01 52 13.2		
	comp=Z,220nm,18.3s,baz=20,slow=37								
ARU	**Arti**	**53.77**	**319**	*c i* P	**P**	**P**	**01 28 11.6**	**-0.7**	
ARU					S	**S**	**01 35 45.4**	**-0.2**	
ARU					pmax	pmax			
	comp=Z,3.0nm,0.6s								
ARU	**Arti**	**53.77**	**319**	*e*P	**P**	**P**	**01 28 11.1**	**-1.1**	
	comp=Z,5.5nm,1.0s								
TPNV	**Topopah Spring**	**53.93**	**76**	*e*P	**P**	**P**	**01 28 15.3**	**+1.3**	
TPNV					pmax	pmax			
	comp=Z,8.0nm,1.1s								
TPNV	**Topopah Spring**	**53.93**	**76**	*e*P	**P**	**P**	**01 28 15.2**	**+1.3**	
	comp=Z,7.7nm,1.1s								
PRGR	**Permogore**	**54.03**	**329**	*e*P	**P**	**P**	**01 28 13.2**	**-0.9**	
PRGR					pmax	pmax			
	comp=Z,12nm,1.1s								
KMI	**Kunming**	**54.57**	**263**	P	**P**	**P**	**01 28 20.1**	**+1.3**	
KMI				pP	**pP**	**pP**	**01 28 25.3**	**+1.2**	
KMI				sP	**sP**	**sP**	**01 28 27.5**	**+1.4**	
KMI				PP	**PP**	**PP**	**01 30 23.7**	**+2.7**	
KMI				S	**S**	**S**	**01 35 55.9**	**-1.7**	
KMI				sS	**sS**	**sS**	**01 36 04.6**	**-1.7**	
KMI				SS	**SS**	**SS**	**01 39 37.9**	**-2.0**	
KMI				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KMI				LR	LR				
	comp=Z,450nm,14.0s								
KMI				LR	LR				
	comp=Z,280nm,19.5s								
KMI				LR	LR				
	comp=Z,150nm,14.0s								
ULM	**Lac du Bonnet**	**54.57**	**51**	*e*P	**P**	**P**	**01 28 19.4**	**+1.1**	
	comp=Z,192nm,2.8s								
ULM	**Lac du Bonnet**	**54.57**	**51**	P	**P**	**P**	**01 28 18.2**	**0.0**	
	comp=Z,5.8nm,0.7s,baz=315,slow=7.7,SNR=9.2								
ULM					LR	LR	01 54 19.0		
	comp=Z,284nm,19.0s,baz=322,slow=39								
MDND	**Maddock**	**54.62**	**55**	*e*P	**P**	**P**	**01 28 20.4**	**+1.8**	
	comp=Z,22nm,0.9s								
SFJD	**Kangerlussuaq**	**54.66**	**17**	LR	LR	LR	01 49 30.4		
	comp=Z,270nm,21.7s,baz=326,slow=34								
GSC	**Goldstone**	**54.83**	**77**	*e*P	**P**	**P**	**01 28 21.9**	**+1.5**	
GSC					pmax	pmax			
	comp=Z,38nm,1.1s								
GSC	**Goldstone**	**54.83**	**77**	*e*P	**P**	**P**	**01 28 21.9**	**+1.5**	
	comp=Z,38nm,1.1s								
ARUT	**Antelope Range**	**54.85**	**73**	*e*P	**P**	**P**	**01 28 22.3**	**+1.6**	
ARUT	**Antelope Range**	**54.85**	**73**	*e*P	**P**	**P**	**01 28 22.3**	**+1.6**	
	comp=Z,93nm,1.0s								
TMUT	**Trail Mountain**	**54.96**	**70**	*e*P	**P**	**P**	**01 28 24.1**	**+2.5**	
	comp=Z,198nm,2.9s								
CCUT	**Cedar City**	**55.07**	**73**	*e*P	**P**	**P**	**01 28 24.2**	**+1.9**	
	comp=Z,83nm,2.7s								
RSSD	**Black Hills**	**55.17**	**61**	*e*P	**P**	**P**	**01 28 23.4**	**+0.5**	
RSSD					pmax	pmax			
	comp=Z,4.0nm,1.3s								
RSSD	**Black Hills**	**55.17**	**61**	*e*P	**P**	**P**	**01 28 23.4**	**+0.5**	
	comp=Z,3.5nm,1.3s								
SRU	**San Rafael**	**55.46**	**70**	*e*P	**P**	**P**	**01 28 27.1**	**+2.1**	
SRU					pmax	pmax			
	comp=Z,12nm,0.8s								
SRU	**San Rafael**	**55.46**	**70**	*e*P	**P**	**P**	**01 28 27.1**	**+2.1**	
	comp=Z,12nm,0.8s								
QIZ	**Qiongzhong**	**55.51**	**252**	P	**P**	**P**	**01 28 27.1**	**+1.8**	
QIZ				S	**S**	**S**	**01 36 12.5**	**+2.7**	
O20A	**White River Ci**	**55.92**	**67**	*e*P	**P**	**P**	**01 28 30.0**	**+1.6**	
LDFC	**Landfair**	**55.93**	**76**	*e*P	**P**	**P**	**01 28 29.7**	**+1.3**	
	comp=Z,13nm,0.8s								
AGMN	**Agassiz Nation**	**56.01**	**53**	*e*P	**P**	**P**	**01 28 29.6**	**+1.0**	
	comp=Z,133nm,2.4s								
TKM2	**Tokmak 2**	**56.17**	**298**	*e*P	**P**	**P**	**01 28 31.3**	**+1.1**	
TKM2					pmax	pmax			
	comp=Z,9.0nm,1.6s								
TKM2	**Tokmak 2**	**56.17**	**298**	*e*P	**P**	**P**	**01 28 31.2**	**+1.1**	
	comp=Z,9.4nm,1.6s								
JOF	**Joensuu**	**56.61**	**337**	*e*P	**P**	**P**	**01 28 31.1**	**-1.6**	
JOF					pmax	pmax			
	comp=Z,6.0nm,0.7s								
JOF	**Joensuu**	**56.61**	**337**	*e*p	**P**	**P**	**01 28 31.1**	**-1.6**	
	comp=Z,6.0nm,0.7s								
PV04	**Paradox Valley**	**56.84**	**69**	*e*P	**P**	**P**	**01 28 36.8**	**+1.8**	
AAK	**Ala-Archa**	**56.94**	**298**	ǁ *e*P	**P**	**P**	**01 28 35.5**	**0.0**	
AAK					pmax	pmax			
	comp=Z,12nm,1.7s								
AAK	**Ala-Archa**	**56.94**	**298**	*e*P	**P**	**P**	**01 28 35.5**	**0.0**	
	comp=Z,4.5nm,0.9s								
PV01	**Paradox Valley**	**57.21**	**69**	*e*P	**P**	**P**	**01 28 38.6**	**+0.9**	
EKS2	**Erkin-Say**	**57.27**	**299**	*e*P	**P**	**P**	**01 28 38.0**	**+0.2**	
EKS2					pmax	pmax			
	comp=Z,6.0nm,1.0s								
EKS2	**Erkin-Say**	**57.27**	**299**	*e*P	**P**	**P**	**01 28 38.0**	**+0.2**	
	comp=Z,6.1nm,1.0s								
SMCO	**Snowmass**	**57.28**	**67**	*e*P	**P**	**P**	**01 28 40.4**	**+2.1**	
	comp=Z,69nm,2.5s								
ISCO	**Idaho Springs**	**57.53**	**66**	*e*P	**P**	**P**	**01 28 41.4**	**+1.5**	
ISCO					pmax	pmax			
	comp=Z,12nm,1.2s								
ISCO	**Idaho Springs**	**57.53**	**66**	*e*P	**P**	**P**	**01 28 41.4**	**+1.5**	
	comp=Z,12nm,1.2s								
WUAZ	**Wupatki**	**57.65**	**73**	*e*P	**P**	**P**	**01 28 42.2**	**+1.5**	
	comp=Z,77nm,2.7s								
KAF	**Kangasniemi**	**58.39**	**339**	*e*P	**P**	**P**	**01 28 44.6**	**-0.6**	
KAF					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KAF	**Kangasniemi**	**58.39**	**339**	*e*p	**P**	**P**	**01 28 44.6**	**-0.6**	
	comp=Z,10.0nm,1.1s								
KSH	**Kashi**	**58.50**	**295**	*e*P	P	P	01 28 50.1	+3.6	
KSH				*e*PcP	**PcP**	**PcP**	**01 29 40.0**	**+3.1**	
KSH				*e*PP	PP	PP	01 31 01.5	+5.9	
KSH				*e*S	**S**	**S**	**01 36 51.2**	**+2.1**	
KSH				*es*S	sS		01 37 01.6	+3.7	
KSH				*e*SS	**SS**		**01 40 46.3**	**+5.4**	
KSH				pmax	pmax				
	comp=Z,110nm,6.3s								
KSH				LR	LR				
	comp=Z,160nm,5.1s								
KSH				LR	LR				
	comp=Z,220nm,12.6s								
KSH				LR	LR				
	comp=Z,140nm,5.0s								
KKAR	**Karatay Array**	**58.55**	**301**	*e*P	**P**		**01 28 46.3**	**-0.4**	
KKAR	**Karatay Array**	**58.55**	**301**	*e*P	**P**		**01 28 46.3**	**-0.4**	
ABKAR	**Akbulak array**	**58.66**	**312**	*e*P	**P**		**01 28 47.0**	**-0.3**	
FINES	**FINESS Array B**	**59.05**	**339**	P	**P**		**01 28 49.2**	**-0.5**	
FINES	**FINESS Array B**	**59.05**	**339**	P	**P**		**01 28 49.2**	**-0.5**	
	comp=Z,3.8nm,0.7s,baz=26,slow=5.9,SNR=10								
FINES					LR	LR	01 58 16.0		
	comp=Z,105nm,19.1s,baz=195,slow=40								
ECSD	**EROS Data Cent**	**59.07**	**57**	*e*P	**P**		**01 28 51.2**	**+1.0**	
	comp=Z,114nm,2.5s								
SDCO	**Great Sand Dun**	**59.12**	**67**	*e*P	**P**		**01 28 52.5**	**+1.4**	
	comp=Z,30nm,2.1s								
SPMN	**St. Paul**	**59.70**	**53**	*e*P	**P**		**01 28 55.7**	**+1.1**	
BGNE	**Belgrade**	**60.09**	**60**	*e*P	**P**		**01 28 58.9**	**+1.6**	
ANMO	**Albuquerque**	**60.73**	**70**	*e*P	**P**		**01 29 03.1**	**+1.1**	
	comp=Z,48nm,2.5s								
LAZ	**Ladron**	**60.77**	**71**	*e*P	**P**		**01 29 03.7**	**+1.3**	
	comp=Z,8.5nm,1.4s								
SCHQ	**Schefferville**	**61.74**	**32**	LR	LR		01 56 40.3		
	comp=Z,304nm,20.5s,baz=25,slow=37								
NB2	**NORSAR Subarra**	**61.95**	**346**	P	**P**		**01 29 09.0**	**-0.7**	
	comp=Z,6.0nm,1.2s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	**61.95**	**346**	P	**P**		**01 29 09.2**	**-0.5**	
NOA	**NORSAR Array B**	**61.95**	**346**	P	**P**		**01 29 09.2**	**-0.5**	
	comp=Z,0.8nm,0.6s,baz=7.3,slow=5.5,SNR=4.4								
NOA					LR	LR	01 56 26.6		
	comp=Z,86nm,19.2s,baz=355,slow=36								
CMAR	**Chiang Mai Arr**	**61.98**	**262**	P	**P**		**01 29 10.2**	**-0.2**	
CMAR	**Chiang Mai Arr**	**61.98**	**262**	P	**P**		**01 29 10.2**	**-0.2**	
	comp=Z,1.2nm,0.7s,baz=22,slow=7.5,SNR=9.1								
CMAR					LR	LR	02 00 14.1		
	comp=Z,128nm,19.2s,baz=26,slow=40								
GDL2	**Guadalupe Moun**	**63.95**	**71**	*e*P	**P**		**01 29 23.7**	**+0.2**	
	comp=Z,0.7nm,0.2s								
VRHR	**Novokhopersk**	**64.02**	**325**	*e*P	P		01 29 20.4	-3.1	
VRHR					pmax	pmax			
	comp=N,5.0nm,0.8s								
VRHR					pmax	pmax			
	comp=E,5.0nm,0.8s								
VRHR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
VSR	**Storozhevoye**	**64.71**	**326**	*e*P	**P**		**01 29 25.5**	**-2.5**	
VSR					pmax	pmax			
	comp=N,3.0nm,0.9s								
VSR					pmax	pmax			
	comp=E,2.0nm,0.9s								
VSR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KBL	**Kabul**	**65.86**	**296**	*e*P	**P**		**01 29 34.1**	**-1.9**	
KBL					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KBL	**Kabul**	**65.86**	**296**	*e*P	**P**		**01 29 34.1**	**-1.9**	
	comp=Z,1.7nm,0.5s								
TXAR	**Lajitas Array**	**66.55**	**72**	P	**P**		**01 29 41.2**	**+0.8**	
TXAR	**Lajitas Array**	**66.55**	**72**	P	**P**		**01 29 41.2**	**+0.8**	
	comp=Z,2.2nm,0.7s,baz=300,slow=4.7,SNR=30								
PMG	**Port Moresby**	**66.68**	**200**	LR	LR		01 52 40.2		
	comp=Z,232nm,21.7s,baz=244,slow=30								
AKASG	**Malin Array Be**	**68.07**	**332**	P	**P**		**01 29 48.5**	**-1.0**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKASG					MLR	MLR			
	comp=Z,195nm,18.1s								
AKASG	**Malin Array Be**	**68.07**	**332**	P	**P**		**01 29 48.5**	**-1.0**	
AKASG	**Malin Array Be**	**68.07**	**332**	P	**P**		**01 29 48.5**	**-1.0**	
	comp=Z,0.9nm,0.4s,baz=27,slow=6.1,SNR=7.1								
AKASG					LR	LR	02 03 55.9		
	comp=Z,195nm,18.1s,baz=0.0,slow=40								
AKBB	**Malin Array Si**	**68.07**	**332**	*e*P	**P**		**01 29 49.9**	**+0.4**	
AKBB	**Malin Array Si**	**68.07**	**332**	*e*P	**P**		**01 29 49.9**	**+0.4**	
KIEV	**Kiev**	**68.08**	**332**	*e*P	**P**		**01 29 48.8**	**-0.8**	
KIEV					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KIEV	**Kiev**	**68.08**	**332**	*e*P	**P**		**01 29 48.8**	**-0.8**	
	comp=Z,2.4nm,0.6s								
AK01	**Malin Array Si**	**68.08**	**332**	*e*P	**P**		**01 29 48.8**	**-0.8**	
AK02	**Malin Array Si**	**68.11**	**332**	*e*P	**P**		**01 29 48.7**	**-1.1**	
KIV	**Kislovodsk**	**69.79**	**320**	*e*P	**P**		**01 29 59.4**	**-1.1**	
KIV					pmax	pmax			
	comp=Z,10.0nm,1.2s								
KIV	**Kislovodsk**	**69.79**	**320**	*e*P	**P**		**01 29 59.4**	**-1.1**	
	comp=Z,9.7nm,1.2s								
KBZ	**Khabaz**	**69.91**	**320**	P	**P**		**01 30 01.2**	**+0.1**	
KBZ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KBZ	**Khabaz**	**69.91**	**320**	P	**P**		**01 30 01.2**	**+0.1**	
KBZ	**Khabaz**	**69.91**	**320**	P	**P**		**01 30 01.2**	**+0.1**	
	comp=Z,2.8nm,0.9s,baz=348,slow=3.1,SNR=4.5								
KWP	**Kalwaria Pacla**	**70.69**	**336**	ǁ *i* P	**P**		**01 30 05.2**	**-0.6**	
OJC	**Ojcow**	**70.79**	**338**	*e*P	**P**		**01 30 06.7**	**+0.3**	
OJC	**Ojcow**	**70.79**	**338**	*e*P	**P**		**01 30 06.7**	**+0.3**	
CLL	**Collm**	**71.06**	**342**	*e*(P)	P		01 30 11.0	+3.0	
	comp=Z,37nm,2.2s								
STHS	**Stebnicka Huta**	**71.22**	**336**	*e*P	**P**		**01 30 09.8**	**+0.7**	
STHS					pmax	pmax			
	comp=Z,1.0nm,0.6s								
STHS	**Stebnicka Huta**	**71.22**	**336**	*e*P	**P**		**01 30 09.8**	**+0.7**	
DPC	**Dobruska-Polom**	**71.38**	**340**	*e*P	P		01 30 13.1	+3.1	
DPC	**Dobruska-Polom**	**71.38**	**340**	*e*P	P		01 30 13.1	+3.1	
OKC	**Ostrava-Krasne**	**71.50**	**339**	*e*P	**P**		**01 30 11.0**	**+0.3**	
OKC	**Ostrava-Krasne**	**71.50**	**339**	*e*P	**P**		**01 30 11.0**	**+0.3**	
KRLC	**Kraliky**	**71.55**	**340**	*e*P	**P**		**01 30 11.3**	**+0.3**	
KRLC	**Kraliky**	**71.55**	**340**	*e*P	**P**		**01 30 11.3**	**+0.3**	
MORC	**Moravsky Berou**	**71.68**	**339**	*e*P	**P**		**01 30 12.0**	**+0.1**	
MORC					pmax	pmax			
	comp=Z,4.0nm,0.8s								
MORC	**Moravsky Berou**	**71.68**	**339**	ǁ *i* P	**P**		**01 30 12.4**	**+0.6**	
MORC	**Moravsky Berou**	**71.68**	**339**	*e*P	**P**		**01 30 12.0**	**+0.1**	
	comp=Z,3.8nm,0.8s								
KULM	**Kulim**	**71.84**	**252**	*e*P	**P**		**01 30 13.3**	**+0.1**	
	comp=Z,4.4nm,0.6s								
BUR08	**Bucovina Ar. S**	**71.93**	**333**	*e*P	**P**		**01 30 13.3**	**-0.1**	
BURAR	**Bucovina Array**	**71.95**	**333**	ǁ *i* P	**P**		**01 30 13.6**	**0.0**	
PRU	**Pruhonice**	**72.06**	**341**	*e*P	P		01 30 21.5	+7.5	
PRU	**Pruhonice**	**72.06**	**341**	*ep*P	P		01 30 21.5	+7.5	
ITEG	**Tejag**	**72.27**	**302**	*e*P	**P**		**01 30 15.3**	**-0.5**	
VRAC	**Vranov**	**72.32**	**339**	ǁ *i* P	**P**		**01 30 15.7**	**+0.1**	
PSZ	**Piszkesteto**	**72.94**	**337**	*e*P	**P**		**01 30 19.9**	**+0.5**	
PSZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
PSZ	**Piszkesteto**	**72.94**	**337**	*e*P	**P**		**01 30 19.9**	**+0.5**	
	comp=Z,3.2nm,0.8s								
KHC	**Kasperske Hory**	**73.06**	**341**	*e*P	**P**		**01 30 20.0**	**-0.1**	
GERES	**GERESS Array B**	**73.31**	**341**	P	**P**		**01 30 21.4**	**-0.2**	
GERES	**GERESS Array B**	**73.31**	**341**	P	**P**		**01 30 21.4**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=30,slow=3.7,SNR=6.6								
MLR	**Muntele Rosu**	**73.72**	**332**	ǁ *i* P	**P**		**01 30 24.4**	**+0.2**	
VOIR		**74.01**	**332**	ǁ *i* P	**P**		**01 30 24.9**	**-0.9**	
BZS	**Buzias**	**74.71**	**335**	ǁ *i* P	**P**		**01 30 29.8**	**+0.1**	
IZEF	**Zefreh**	**75.26**	**307**	*e*P	**P**		**01 30 33.2**	**-0.3**	
BR131	**Keskin Array S**	**76.68**	**324**	*e*P	**P**		**01 30 40.9**	**-0.5**	
	comp=Z,1.3nm,0.7s								
BRTR	**Keskin Array B**	**76.68**	**324**	P	**P**		**01 30 40.5**	**-0.8**	
BRTR	**Keskin Array B**	**76.68**	**324**	P	**P**		**01 30 40.5**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=55,slow=4.6,SNR=4.7								
DZM	**Mont Dzumac**	**77.41**	**179**	*e*LR	LR		01 54 35.4		
	comp=Z,153nm,24.6s								
WRAB	**Tennant Creek**	**79.91**	**210**	*e*P	**P**		**01 30 58.7**	**-0.3**	
WRAB					pmax	pmax			
	comp=Z,6.0nm,1.1s								
WRAB	**Tennant Creek**	**79.91**	**210**	*e*P	**P**		**01 30 58.7**	**-0.3**	
	comp=Z,6.1nm,1.1s								
WRA	**Warramunga Arr**	**79.92**	**210**	P	**P**		**01 30 57.9**	**-1.2**	
WRA	**Warramunga Arr**	**79.92**	**210**	P	**P**		**01 30 57.9**	**-1.2**	
	comp=Z,1.3nm,0.7s,baz=24,slow=5.9,SNR=12								
WRA					LR	LR	02 01 30.4		
	comp=Z,91nm,19.8s,baz=70,slow=32								
PPT	**Papeete**	**82.04**	**138**	LR	LR		01 58 05.8		
	comp=Z,207nm,21.4s,baz=181,slow=29								
PPT2	**Papeete2**	**82.06**	**138**	*e*LR	LR		01 56 47.7		
	comp=Z,225nm,24.0s,baz=328								
AS31	**Alice Springs**	**83.57**	**209**	*e*P	**P**		**01 31 18.0**	**-0.3**	
ESDC	**Sonseca Array**	**84.66**	**352**	P	**P**		**01 31 23.9**	**0.0**	
ESDC	**Sonseca Array**	**84.66**	**352**	P	**P**		**01 31 23.9**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=1.7,slow=6.0,SNR=3.7								
TBI	**Tubuai**	**87.36**	**140**	*e*LR	LR		01 59 15.5		
	comp=Z,137nm,26.2s,baz=334								
STKA	**Stephens Creek**	**89.62**	**201**	LR	LR		02 06 00.2		
	comp=Z,146nm,21.8s,baz=25,slow=32								
JTS	**JuntasAbangare**	**92.10**	**68**	*e*P	**P**		**01 32 00.1**	**+0.3**	
BCIP	**Isla Barro Col**	**95.71**	**65**	*e*P	**P**		**01 32 15.9**	**-0.4**	
	comp=Z,19nm,0.7s								
QSPA	**South Pole Qui**	**145.40**	**180**	*e*PKPbc	**PKPdf**		**01 38 24.8**	**-2.0**	

KRSC 02 01:34:53.0±1.7, 55.61N×165.99E, h39km±14km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.41**	**181**	P	Pn	01 35 03.2	+0.8
BKI				S	Sn	01 35 09.4	+0.4
KBTR	**Krutoberegovo**	**1.88**	**290**	P	Pn	01 35 24.0	+1.4
KBTR				S	Sn	01 35 47.3	+2.2
KBG	**Krutoberegovo**	**1.96**	**291**	P	Pn	01 35 25.3	+1.7
KBG				S	Sn	01 35 48.1	+1.2
SMKR	**Semkarok**	**2.71**	**293**	P	Pn	01 35 37.2	+3.1
SMKR				S	Sn	01 36 10.6	+4.8
BDR	**Baidarnaya**	**2.85**	**292**	P	Pn	01 35 39.5	+3.5
BDR				S	Sn	01 36 14.4	+5.4
SRKR	**Sorokina**	**2.89**	**293**	P	Pn	01 35 37.9	+1.3
SRKR				S	Sn	01 36 12.5	+2.3
KLY	**Klyuchi**	**3.08**	**285**	S	Sn	01 36 17.4	+2.8
KMNR	**Kamenistaya**	**3.26**	**275**	P	Pn	01 35 46.2	+4.5
KMNR				S	Sn	01 36 24.9	+5.6
KZV	**Kizimen**	**3.29**	**264**	P	Pn	01 35 44.6	+2.4
KZV				S	Sn	01 36 23.7	+3.6
TUMR	**Tumrok**	**3.34**	**267**	P	Pn	01 35 47.2	+4.3
TUMR				S	Sn	01 36 26.4	+5.0
KOZ	**Kozyrevsk**	**3.48**	**280**	P	Pn	01 35 49.3	+4.7
KOZ				S	Sn	01 36 30.1	+5.6
SRDR	**Sredinnyy**	**3.60**	**284**	P	Pn	01 35 50.7	+4.5
SRDR				S	Sn	01 36 32.3	+4.8
SDLR	**Sedlovina**	**4.76**	**244**	P	Pn	01 36 06.6	+4.3
SDLR				S	Sn	01 37 00.7	+4.4
SMAR	**Somma**	**4.81**	**244**	P	Pn	01 36 07.5	+4.4
SMAR				S	Sn	01 37 02.7	+5.0
KRER	**Koryakskii**	**4.81**	**244**	P	Pn	01 36 07.9	+4.7
KRER				S	Sn	01 37 03.7	+5.9
UGLR	**Uglovaya**	**4.83**	**243**	P	Pn	01 36 08.2	+5.0
UGLR				S	Sn	01 37 03.0	+5.1
KRX	**Arik**	**4.84**	**245**	P	Pn	01 36 07.8	+4.4
KRX				S	Sn	01 37 01.9	+3.6
AVH	**Avacha**	**4.84**	**244**	P	Pn	01 36 07.7	+4.3
AVH				S	Sn	01 37 01.5	+3.3
KOK	**Koryaka**	**4.88**	**245**	P	Pn	01 36 08.7	+4.8
GNL	**Ganaly**	**5.05**	**251**	P	Pn	01 36 10.6	+4.3
MTVR	**Mutnovka**	**5.56**	**239**	P	Pn	01 36 17.5	+4.1
MTVR				S	Sn	01 37 18.6	+2.5
ASAK	**Asacha**	**5.76**	**239**	P	Pn	01 36 22.1	+6.1
ASAK				S	Sn	01 37 24.3	+3.4

NIED ***02*** *01:37:00.29±30.30N×130.60E, h5km, Mw4.4 Best double couple: M₀4.69000×10¹

s-maj=152.6km s-min=26.2km az=61.0
ISCJB ***02*** *01:46:57.4±0.5,0˚.68S±0˚.05×122˚.94E±0˚.06, h10km, mb3.5/4, Error ellipse: s-maj=9.8km s-min=5.7km az=36.2*
DJA ***02*** *01:46:59.0±0.3,1˚S±3˚×12˚3E±˚, h10km, M4.3/15, mb4.6/3, MLv4.2/15*

ISC 02 01:46:57.7±0.8,0.69S±0˚.05×122.93E±0˚.06,h10km,n21, σ1§51/16,mb3.5/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.38**	**204**	P	**Pg**	**01 47 04.7**	**-0.5**
APSI	**Ampana**	**1.30**	**260**	P	**Pg**	**01 47 23.7**	**+1.1**
GTOI	**Gorontalo**	**1.32**	**4**	P	**Pg**	**01 47 22.5**	**-0.6**
MRSI	**Marisa**	**1.52**	**320**	P	**Pb**	**01 47 24.3**	**-1.8**
KMSI	**Cibinong**	**1.64**	**40**	P	**Pb**	**01 47 26.7**	**-1.4**
TOLI	**Toli-Toli**	**2.79**	**310**	P	x	01 47 48.8	
KKSI	**Kolaka, Sulawe**	**3.68**	**200**	P	x	01 47 57.2	
TTSI	**Tana Toraja**	**3.89**	**233**	P	**Pn**	**01 47 58.4**	**+0.9**
MMSI	**Mamuju**	**4.48**	**244**	P	x	01 48 07.7	
SPSI	**Sidrap Palu**	**4.53**	**224**	P	**Pn**	**01 48 07.4**	**+1.0**
LBMI	**Labuha**	**4.57**	**89**	P	**Pn**	**01 48 09.6**	**+2.6**
BNSI	**Bone**	**4.64**	**217**	P	**Pn**	**01 48 08.7**	**+0.8**
TNTI	**Ternate**	**4.67**	**72**	P	**Pn**	**01 48 08.9**	**+0.6**
MJSI	**Majene**	**4.86**	**234**	P	x	01 48 14.6	
SGSI	**Sangihe** 210nm,0.8s,1.1nm	**5.07**	**31**	P	**Pn**	**01 48 14.6**	**+0.8**
BKSI	**Bulukumba** 22nm,0.9s,0.1nm	**5.38**	**211**	P	**Pn**	**01 48 18.4**	**+0.3**
MYLDM	**Lahad Datu**	**7.32**	**323**	P	x	01 48 46.9	
WRA	**Warramunga Arr** 1.1nm,0.6s,baz=326,slow=11,SNR=17	**22.15**	**150**	P	**P**	**01 51 51.1**	**-2.8**
SONM	**Songino Array** 0.2nm,0.5s,baz=155,slow=8.5,SNR=2.9	**50.43**	**346**	P	**P**	**01 55 56.9**	**+1.2**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=127,slow=8.4,SNR=6.1	**59.16**	**329**	P	**P**	**01 56 58.2**	**-0.6**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=119,slow=7.6,SNR=6.9	**63.52**	**330**	P	**P**	**01 57 29.8**	**+1.6**

ISCJB ***02*** *01:52:26.6±0.7,36˚.2N±0˚.1×137˚.6E±0˚.1, h247km±5km, mb3.3/2, Error ellipse: s-maj=18.2km s-min=11.6km az=145.5*
IDC ***02*** *01:52:27.2±0.9,35˚.96N×137˚.25E, h230km±29km, mb3.1/2, mb1 3.5/2, mb1mx2.8/25, mbtmp3.1/2, Error ellipse: s-maj=89.2km s-min=27.7km az=60.0*
JMA ***02*** *01:52:27.6±0.1,36˚.13N×137˚.59E, h242km±1km, M3.1*

ISC 02 01:52:27.3±1.1,36.15N±0˚.09×137.56E±0˚.08, h243km±7km, n17,σ0§42/23,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.21**	**291**	P	**Pn**	**01 52 59.1**	**+0.3**
JGN				S	**S**	**01 53 23.4**	**-0.1**
MAT	**Matsushiro**	**0.65**	**53**	P	**Pn**	**01 53 00.2**	**+0.3**
MAT				S	**S**	**01 53 25.2**	**-0.3**
MAT	**Matsushiro**	**0.65**	**53**	P	**Pn**	**01 53 00.2**	**+0.3**
MAT				S	**S**	**01 53 25.9**	**+0.4**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=236,slow=5.1,SNR=174	**0.66**	**53**	P	**Pn**	**01 53 00.4**	**+0.5**
MJAR	1.1nm,0.3s,baz=270,slow=28,SNR=9.4			S	**S**	**01 53 25.9**	**+0.4**
JGM	**Miyama**	**0.82**	**237**	P	**Pn**	**01 53 00.6**	**-0.1**
JGM				S	**S**	**01 53 26.0**	**-0.8**
JYN	**Shimob**	**1.03**	**129**	P	**Pn**	**01 53 02.2**	**+0.4**
JRY	**Ryogami san**	**1.09**	**96**	P	**Pn**	**01 53 02.4**	**+0.3**
JRY				S	**S**	**01 53 28.9**	**-0.6**
JOD2	**Odawara 2**	**1.52**	**125**	P	**Pn**	**01 53 05.4**	**+0.2**
JAG	**Ashikaga**	**1.55**	**79**	P	**Pn**	**01 53 05.1**	**-0.2**
JIE	**Ise**	**1.89**	**202**	P	**Pn**	**01 53 08.8**	**+0.6**
JWT	**Wachi**	**1.96**	**244**	P	**Pn**	**01 53 09.0**	**+0.2**
JSD	**Sado**	**1.97**	**16**	P	**Pn**	**01 53 08.9**	**+0.1**
JNS	**Sasagawa**	**2.18**	**40**	P	**Pn**	**01 53 11.1**	**+0.3**
JWY	**Kouya**	**2.51**	**221**	P	**Pn**	**01 53 14.8**	**+0.5**
JFT	**Otama**	**2.61**	**58**	P	**Pn**	**01 53 15.6**	**+0.4**
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=81,slow=8.9,SNR=2.3	**41.97**	**302**	P	**P**	**01 59 54.5**	**0.0**
WRA	**Warramunga Arr** 1.6nm,0.3s,baz=360,slow=7.7,SNR=50	**55.87**	**184**	P	**P**	**02 01 39.5**	**-0.3**

IDC ***02*** *02:15:05.5±0.4,38˚.25N×71˚.51E, h0km, mb5.0/38, mb1 5.1/44, mb1mx5.1/44, mbtmp5.0/44, ML4.8/6, MS4.9/42, Ms1 4.9/42, ms1mx4.8/48, Error ellipse: s-maj=10.5km s-min=7.8km az=163.0*
ISCJB ***02*** *02:15:08.4±0.6,38˚.20N±0˚.02×71˚.49E±0˚.02, h29km±4km, mb5.2/290, MS5.1/207, Error ellipse: s-maj=3.0km s-min=2.1km az=11.7*
MOS ***02*** *02:15:08.9±1.1,38˚.21N×71˚.42E, h33km, mb5.5/113, MS5.0/73, Error ellipse: s-maj=4.6km s-min=3.2km az=115.0*
NNC ***02*** *02:15:08.5±3.2,38˚.51N×70˚.88E, h6km-9km, mb5.9, mpv5.6, Error ellipse: s-maj=24.5km s-min=17.8km az=8.0*
BJI ***02*** *02:15:10.0,38˚.40N×71˚.50E, h40km, mB5.4/44, mb5.0/50, ML5.5/3, Ms5.5/60, Ms7 5.2/59*
GCMT ***02*** *02:15:12.1±0.1,38˚.40N×71˚.41E, h14km, MW5.4/100, Moment Tensor Solution. s73,c128; s100,c194; Duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr-0.86±.03; Mθθ-0.96±.03; Mϕϕ1.82±.02; Mrθ0.33±.05; Mθϕ0.66±.02; Mϕr-0.44±.04; Best double couple: M0 1.72300×10^17 NP1:ϕs336.00000°,δ70.00000°, λ-146.00000°. NP2:ϕs232.00000°,δ58.00000°, λ-24.00000°. Principal axes: T 2.0150, Plg7.0000°, Azm102.0000°; N -0.5800, Plg51.0000°, Azm3.0000°; P -1.4320, Plg38.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *02:15:12.1±0.5,38˚.25N×71˚.47E, h47km±4km, mb5.4/133, MS5.1/116 Error ellipse: s-maj=4.1km s-min=2.8km az=188.0*
NEIC Ninety-eight houses destroyed, about 1,000 damaged and 783 people left homeless in Kuhistoni Badakhshon. Felt at Dushanbe and Khorugh.

ISC 02 02:15:10.1±0.5,38.29N±0˚.03×71.45E±0˚.02,h30km±3km, n1080,σ1§64/1060,mb5.3/291,MS5.1/209,142C-83D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.73**	**69**	P	Pn	**02 16 04.4**	**-1.4**
KSH				S	Sn	02 16 42.5	-6.3
KSH	comp=N,16μm,0.8s			smax	smax		
KSH	comp=E,18μm,0.9s			smax	smax		
AML	**Almayashu**	**4.20**	**23**	*i* PN	Pn	02 16 14.7	+2.2
AML	**Almayashu** SNR=742	**4.20**	**23**	P	Pn	02 16 14.7	+2.2
AML	**Almayashu**	**4.20**	**23**	*i* P	Pn	02 16 14.7	+2.2
KBL	**Kabul**	**4.22**	**208**	⇓*e*PN	Pn	02 16 15.5	+2.9
KBL				*e*		02 17 11.1	
KBL	**Kabul**	**4.22**	**208**	⇓ePn	Pn	02 16 15.5	+2.9
KBL				*e*Sn	**Sb**	**02 17 11.1**	**-3.2**
CEP	**Cherat**	**4.48**	**175**	P	Pn	02 16 18.6	+2.6
CEP				S	Sb	02 17 27.0	+5.4
UCH	**Uchtor**	**4.57**	**30**	*i* PN	Pn	02 16 19.9	+2.3
UCH	**Uchtor** SNR=370	**4.57**	**30**	P	Pn	02 16 19.9	+2.3
UCH	**Uchtor**	**4.57**	**30**	*i* P	Pn	02 16 19.9	+2.3
EKS2	**Erkin-Say**	**4.71**	**21**	*e*PN	Pn	02 16 21.9	+2.7
EKS2	**Erkin-Say** SNR=371	**4.71**	**21**	P	Pn	02 16 21.7	+2.5
EKS2	**Erkin-Say**	**4.71**	**21**	*e*Pn	Pn	02 16 21.9	+2.7
EKS2				*e*Sn	**Sn**	**02 17 15.2**	**+2.3**
KZA	**Kyzart**	**4.77**	**36**	*i* PN	Pn	02 16 22.6	+2.3
KZA	**Kyzart** SNR=37	**4.77**	**36**	P	Pn	02 16 22.6	+2.3
CHCP	**Chirah Chowk**	**4.85**	**162**	P	Pn	02 16 23.8	+2.7
KK31	**Karatay Array** 202nm,0.4s,baz=180,slow=14,SNR=6746	**4.86**	**352**	⇑Pn	**Pn**	**02 16 22.8**	**+1.6**
KK31	1μm,0.6s,baz=176,slow=14,SNR=7.8			⇑Pg	**Pb**	**02 16 35.2**	**+0.7**
KK31	857nm,0.5s,baz=179,slow=23,SNR=3.8			⇑Sn	**Sn**	**02 17 16.9**	**+0.5**
KK31	3μm,0.6s,baz=158,slow=29,SNR=5.9			⇑Lg	Lg	02 17 34.2	
KK31	**Karatay Array**	**4.86**	**352**	*e*PN	**Pn**	**02 16 22.7**	**+1.6**
KK31				*e*		02 17 21.8	
KK31	comp=Z,179nm,0.2s			pmax	pmax	02 17 37.7	
KK31	comp=N,1μm,0.5s			smax	smax		
KKAR	**Karatay Array**	**4.86**	**352**	*e*Pn	**Pn**	**02 16 22.7**	**+1.6**
KKAR	**Karatay Array**	**4.86**	**352**	*e*Pn	**Pn**	**02 16 22.7**	**+1.6**
KKAR				*e*Sn	**Sn**	**02 17 16.8**	**+0.5**
KKAR				*e*Lg	Lg	02 17 40.1	
AAK	**Ala-Archa** comp=N,524nm,0.7s	**4.92**	**27**	⇑Pn	Pn	02 16 24.7	+2.7
AAK	comp=N,2μm,0.6s			⇓Pg	Pb	02 16 39.8	+4.3
AAK	comp=N,3μm,0.8s			⇓Sn	Sb	02 17 27.0	-7.2
AAK	comp=N,4μm,0.8s			⇑Lg	Lg	02 17 42.7	
AAK	**Ala-Archa** comp=N,5μm,0.7s	**4.92**	**27**	Pn	Pn	02 16 25.2	+3.1
AAK	**Ala-Archa**	**4.92**	**27**	*c* iPN	Pn	02 16 24.4	+2.3
AAK	**Ala-Archa** SNR=412	**4.92**	**27**	P	Pn	02 16 24.8	+2.7
AAK	**Ala-Archa**	**4.92**	**27**	*e*Pn	Pn	02 16 25.2	+3.1
AAK				Sn	**Sb**	**02 17 29.8**	**-4.4**
AAK				Lg	Lg	02 17 43.2	
AAK	**Ala-Archa** comp=N,43nm,0.3s,baz=211,slow=7.4,SNR=206	**4.92**	**27**	Pn	**Pn**	**02 16 23.9**	**+1.8**
AAK	comp=N,120nm,0.3s,baz=318,slow=21,SNR=8.2			Sn	**Sb**	**02 17 29.8**	**-4.4**
AAK	comp=N,98nm,0.3s,baz=270,slow=15,SNR=4.5			Lg	Lg	02 17 43.2	
AAK	comp=N,18μm,18.5s,baz=208,slow=42			LR	LR	02 18 32.6	
KBK	**Karagaybulak**	**5.11**	**30**	*i* PN	Pn	02 16 27.5	+2.8
KBK	**Karagaybulak** SNR=264	**5.11**	**30**	P	Pn	02 16 27.5	+2.8
FRU	**Bishkek**	**5.13**	**27**	⇑*e*PN	Pn	02 16 29.5	+4.5
FRU				*i* S	**Sb**	**02 17 36.2**	**-4.2**
FRU	comp=Z,6μm,1.1s			pmax	pmax		
FRU	comp=E,30μm,1.4s			smax	smax		
CHMS	**Chumysh**	**5.33**	**27**	*i* PN	Pn	02 16 30.1	+2.5
CHMS	**Chumysh** SNR=626	**5.33**	**27**	P	Pn	02 16 30.1	+2.5
ULHL	**Ulahol**	**5.38**	**41**	*i* PN	Pn	02 16 30.9	+2.4
ULHL	**Ulahol** SNR=47	**5.38**	**41**	P	Pn	02 16 31.0	+2.4
USP	**Ospenovka**	**5.48**	**24**	*i* PN	Pn	02 16 32.1	+2.4
USP	**Ospenovka** SNR=86	**5.48**	**24**	P	Pn	02 16 32.1	+2.4
THW	**Thamme Wali**	**5.49**	**177**	P	**Pn**	**02 16 30.7**	**+0.8**
TKM2	**Tokmak 2** comp=E,241nm,0.5s	**5.59**	**33**	⇑Pn	Pn	02 16 33.8	+2.4
TKM2	comp=E,488nm,0.6s			⇑Pg	Pb	02 16 51.0	+3.9
TKM2	comp=E,682nm,0.7s			⇑Sn	**Sn**	**02 17 37.8**	**+3.0**
TKM2	comp=E,6μm,1.6s			⇑Lg	Lg	02 18 04.4	
TKM2	**Tokmak 2**	**5.59**	**33**	PN	Pn	02 16 33.8	+2.4
TKM2						02 16 51.0	
TKM2						02 18 04.1	
TKM2	comp=Z,241nm,0.5s			pmax	pmax		
TKM2	comp=Z,622nm,0.7s			pmax	pmax		
TKM2	**Tokmak 2** SNR=30	**5.59**	**33**	P	Pn	02 16 34.0	+2.6
TKM2	**Tokmak 2**	**5.59**	**33**	*e*Pn	Pn	02 16 33.9	+2.5
TKM2				*e*Lg	Lg	02 18 07.2	
KNDC	**Almaty**	**6.46**	**39**	⇑Pn	Pn	02 16 47.5	+4.4
KNDC				⇑Pg	Pb	02 17 07.7	+6.1
KNDC				⇓Sn	Sn	02 18 05.9	+10
KNDC				⇑Lg	Lg	02 18 35.2	
AAA	**Alma-Ata**	**6.49**	**38**	*i* PN	Pn	02 16 48.8	+5.2
AAA				*i* S	Sb	02 18 08.9	-10
AAA	comp=Z,1μm,2.0s			pmax	pmax		
AAA	comp=E,4μm,2.1s			smax	smax		
AAA	comp=Z,63μm,8.0s			MLR	MLR		
DLH	**Dalhousie**	**6.82**	**146**	*e*P	**Pn**	**02 16 48.0**	**-0.3**
DLH				*e*S	**Sn**	**02 18 07.0**	**+2.0**
DHRM	**DHARAMSHALA**	**7.21**	**145**	*e*P	**Pn**	**02 16 54.2**	**+0.5**
SDNR	**Sundarnagar**	**8.15**	**145**	*e*P	**Pn**	**02 17 06.0**	**-0.4**
SDNR				*e*x	x	02 18 27.0	
SMLA	**Simla**	**8.55**	**145**	*e*P	**Pn**	**02 17 11.6**	**-0.3**
IMYA	**Miami**	**9.25**	**261**	*e*P	**Pn**	**02 17 18.5**	**-3.1**
DDI	**Dehra Dun**	**9.64**	**144**	*e*P	**Pn**	**02 17 27.1**	**+0.2**
ISRO	**Mashad**	**9.75**	**262**	*e*P	Pn	02 17 24.9	-3.4
IMOG	**Moghan**	**9.91**	**261**	*e*P	Pn	02 17 27.1	-3.6
IPAY	**Payeh**	**10.08**	**263**	*e*P	**Pn**	**02 17 30.4**	**-2.7**
ABKT	**Ailbek** comp=Z,1μm,0.7s,SNR=26	**10.51**	**272**	Pn	Pn	02 17 35.1	-3.7
NDI	**New Delhi**	**10.72**	**152**	*e*P	**Pn**	**02 17 39.0**	**-2.6**
NDI				*e*x	x	02 19 52.0	
ISFR	**Sfrayin**	**10.74**	**268**	*e*P	**Pn**	**02 17 39.7**	**-2.4**
ISHV	**Shirvan**	**10.89**	**270**	*e*P	**Pn**	**02 17 42.0**	**-2.1**
IDAH	**Dahanechah**	**10.94**	**243**	*e*P	**Pn**	**02 17 45.3**	**+0.4**
LGTI	**Lohaghat**	**11.45**	**138**	*e*P	**Pn**	**02 17 52.8**	**+1.3**
LGTI				*e*x	x	02 20 03.1	
MK31	**Makanchi Array** comp=Z,338nm,0.9s,baz=223,slow=8.4,SNR=3273	**11.65**	**40**	Pn	**Pn**	**02 17 56.1**	**+1.8**
MK31	comp=Z,765nm,1.6s,baz=44,slow=20,SNR=2.6			⇓Lg	Lg	02 21 17.2	
MK31	**Makanchi Array**	**11.65**	**40**	*e*P	**Pn**	**02 17 55.3**	**+1.0**
MK31	**Makanchi Array**	**11.65**	**40**	*e*Pn	**Pn**	**02 17 55.3**	**+1.0**
MK31				*e*Lg	Lg	02 21 24.5	
MKAR	**Makanchi Array**	**11.65**	**40**	P	**Pn**	**02 17 55.1**	**+0.8**
MKAR	comp=Z,5.0nm,0.3s			pmax	pmax		
MKAR	comp=Z,4μm,21.3s			MLR	MLR		
MKAR	**Makanchi Array**	**11.65**	**40**	*e*Pn	Pn	02 17 56.2	+1.9
MKAR				Lg	Lg	02 21 16.3	
MKAR	**Makanchi Array** comp=Z,4.7nm,0.3s,baz=225,slow=10,SNR=341	**11.65**	**40**	Pn	**Pn**	**02 17 55.1**	**+0.8**
MKAR	comp=Z,1.3nm,0.3s,baz=232,slow=27,SNR=3.0			Lg	Lg	02 21 16.3	
MKAR	comp=Z,4μm,21.3s,baz=232,slow=40			LR	LR	02 22 58.2	
ITEG	**Tejag**	**11.65**	**246**	*e*P	**Pn**	**02 17 53.6**	**-1.0**
IKOO	**Kooshah**	**11.72**	**244**	*e*P	**Pn**	**02 17 55.5**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,133nm,1.2s	**13.31**	**20**	⇓Pn	**Pn**	**02 18 14.4**	**-2.5**
KURBB	comp=Z,1μm,1.1s			⇑Lg	Lg	02 22 09.4	
KURBB	**Kurchatov Arra** comp=Z,2.0nm,0.3s,baz=213,slow=12,SNR=89	**13.31**	**20**	Pn	**Pn**	**02 18 14.9**	**-2.0**
KURBB	comp=Z,1.6nm,0.3s,baz=213,slow=30,SNR=4.5			Sn	**S**	**02 21 04.0**	**-3.4**
KURBB	comp=Z,2.6nm,0.3s,baz=208,slow=32,SNR=5.0			Lg	Lg	02 22 01.7	
KURK	**Kurchatov** comp=Z,50nm,1.0s	**13.42**	**20**	⇑Pn	**Pn**	**02 18 15.5**	**-2.9**
KURK	comp=Z,1μm,1.3s			⇓Lg	Lg	02 22 11.6	
KURK	**Kurchatov** comp=Z,171nm,1.1s,SNR=19	**13.42**	**20**	Pn	**Pn**	**02 18 16.6**	**-1.8**
KURK	**Kurchatov**	**13.42**	**20**	P	Pn	02 18 14.9	-3.5
KURK	comp=Z,2.0nm,0.3s			pmax	pmax		
KURK	**Kurchatov** comp=Z,48nm,0.9s	**13.42**	**20**	*e*Pn	**Pn**	**02 18 15.8**	**-2.5**
KURK				*e*Lg	Lg	02 22 02.0	
WMQ	**Urumqi**	**13.44**	**61**	P	Pn	02 18 20.3	+1.6
WMQ				pP	**P**	**02 18 28.7**	**+1.0**
WMQ				PP	**PnPn**	**02 18 31.8**	**+5.3**
WMQ				sP		02 18 35.4	
WMQ				S	**Sn**	**02 20 48.7**	**+1.7**
WMQ	comp=Z,64nm,1.6s			pmax	pmax		
WMQ	comp=Z,630nm,8.3s			pmax	pmax		
WMQ	comp=Z,6μm,8.0s			LR	LR		
WMQ	comp=Z,5μm,6.8s			LR	LR		
WMQ	comp=Z,2μm,26.5s			LR	LR		
AB31	**Akbulak array** comp=Z,131nm,0.7s,baz=136,slow=13,SNR=1886	**13.74**	**327**	⇓Pn	Pn	02 18 19.3	-3.4
AB31	comp=Z,386nm,0.7s,baz=153,slow=22,SNR=14			⇑Sn	Sn	02 20 46.0	-8.1
AB31	**Akbulak array**	**13.74**	**327**	*e*P	Pn	02 18 19.4	-3.3
AB31	comp=Z,50nm,0.4s			pmax	pmax		
ABKAR	**Akbulak array**	**13.74**	**327**	*e*Pn	Pn	02 18 19.2	-3.5
ABKAR				*e*Sn	Sn	02 20 46.1	-8.0
PYUN	**Piuthan** comp=Z,433nm,0.6s	**14.01**	**133**	*e*P	Pn	02 18 21.2	-5.5
JHNI	**Jhansi**	**14.13**	**153**	*ex*	Pn	02 18 20.0	-8.2
JHNI				*ex*	**Sn**	**02 21 02.0**	**-1.9**
DANN	**Dangsing** comp=Z,552nm,0.8s	**14.28**	**130**	*e*P	Pn	02 18 24.4	-6.1
KOLN	**Koldanda** comp=Z,307nm,0.8s	**14.61**	**132**	*e*P	Pn	02 18 29.6	-5.3
BVA0	**Borovoye Array** comp=Z,126nm,0.9s,baz=169,slow=12,SNR=374	**14.75**	**357**	⇓Pn	Pn	02 18 33.0	-3.5
BVA0	comp=Z,197nm,1.2s,baz=166,slow=21,SNR=2.9			⇓Sn	**Sn**	**02 21 13.2**	**-5.6**
BVA0	**Borovoye Array**	**14.75**	**357**	*i* P	**Pn**	**02 18 33.5**	**-3.0**
BVA0	comp=Z,126nm,0.9s			pmax	pmax		
BVAR	**Borovoye Array**	**14.75**	**357**	P	**Pn**	**02 18 34.3**	**-2.2**
BVAR						02 21 14.9	
BVAR	comp=Z,6.0nm,0.3s			pmax	pmax		
BVAR	comp=N,5.0nm,0.3s			smax	smax		
BVAR	comp=Z,9μm,19.6s			MLR	MLR		
BVAR	**Borovoye Array**	**14.75**	**357**	Pn	**Pn**	**02 18 34.3**	**-2.2**
BVAR				Sn	**Sn**	**02 21 14.9**	**-3.9**
BVAR				Lg	Lg	02 22 57.1	
BVAR	**Borovoye Array** comp=Z,5.7nm,0.3s,baz=156,slow=13,SNR=60	**14.75**	**357**	Pn	**Pn**	**02 18 34.3**	**-2.2**
BVAR	comp=Z,4.7nm,0.3s,baz=179,slow=20,SNR=3.6			Sn	**Sn**	**02 21 14.9**	**-3.9**
BVAR	comp=Z,0.6nm,0.3s,baz=179,slow=28,SNR=3.7			Lg	Lg	02 22 57.1	
BVAR	comp=Z,9μm,19.6s,baz=178,slow=39			LR	LR	02 24 44.6	
BRVK	**Borovoye** comp=Z,193nm,0.9s	**14.79**	**357**	⇑Pn	**Pn**	**02 18 34.2**	**-2.8**
BRVK	comp=Z,199nm,1.0s			⇓Sn	**Sn**	**02 21 17.4**	**-2.3**
BRVK	**Borovoye** comp=Z,920nm,0.6s,SNR=9.3	**14.79**	**357**	Pn	**Pn**	**02 18 34.5**	**-2.4**
BRVK	**Borovoye**	**14.79**	**357**	⇓*e*P	**Pn**	**02 18 34.5**	**-2.4**
BRVK	comp=Z,105nm,1.7s			pmax	pmax		
BRVK	**Borovoye**	**14.79**	**357**	*e*Pn	**Pn**	**02 18 34.6**	**-2.4**
BRVK				*e*Sn	**Sn**	**02 21 17.1**	**-2.6**
GKN	**Gorkha** comp=Z,283nm,0.5s	**15.06**	**129**	*e*P	Pn	02 18 34.6	-6.3
BHJ	**Bhuj**	**15.07**	**186**	*e*P	**Pn**	**02 18 37.7**	**-3.2**
BHJ	comp=Z,356nm,0.5s			AMB	AMB	02 18 39.5	
ICHK	**Chekchek**	**15.17**	**252**	*e*P	**Pn**	**02 18 40.6**	**-1.8**
IMEH	**Mehriz**	**15.44**	**249**	*e*P	**Pn**	**02 18 44.3**	**-1.6**
AKTO	**Aktyubinsk** comp=Z,406nm,0.9s	**15.45**	**326**	⇑Pn	**Pn**	**02 18 42.6**	**-3.1**
AKTO	comp=Z,324nm,1.1s			⇑Sn	**Sn**	**02 21 29.7**	**-6.1**
AKTO	**Aktyubinsk**	**15.45**	**326**	P	**Pn**	**02 18 42.8**	**-2.9**
AKTO						02 21 34.0	
AKTO	comp=Z,2.0nm,0.3s			pmax	pmax		
AKTO	comp=N,14nm,0.3s			smax	smax		
AKTO	**Aktyubinsk**	**15.45**	**326**	Pn	**Pn**	**02 18 42.8**	**-2.9**
AKTO				Sn	**Sn**	**02 21 34.0**	**-1.8**
AKTO	**Aktyubinsk** comp=N,1.7nm,0.3s,baz=135,slow=13,SNR=44	**15.45**	**326**	Pn	**Pn**	**02 18 42.8**	**-2.9**
AKTO	comp=N,14nm,0.3s,baz=359,slow=22,SNR=7.4			Sn	**Sn**	**02 21 34.0**	**-1.8**
AKTO				LR	LR	02 25 23.8	
KKN	**Kakani** comp=N,342nm,0.8s	**15.61**	**128**	*e*P	Pn	02 18 41.4	-6.7
DMN	**Daman** comp=N,477nm,0.8s	**15.63**	**129**	*e*P	Pn	02 18 42.2	-6.3
IDMV	**Damavand**	**15.76**	**266**	*e*P	**Pn**	**02 18 49.0**	**-1.2**
PKI	**Pulchoki** comp=N,313nm,0.8s	**15.84**	**128**	*e*P	Pn	02 18 44.6	-6.7
BHPL	**Bhopal**	**15.85**	**159**	*e*P	**Pn**	**02 18 49.5**	**-1.6**
BHPL	comp=Z,204nm,0.0s			AMB	AMB	02 18 55.0	
ISAD	**Sadrabad**	**15.86**	**252**	*e*P	**Pn**	**02 18 50.5**	**-0.9**
GUN	**Gumba** comp=Z,1μm,1.0s	**15.90**	**126**	*e*P	Pn	02 18 45.1	-6.9
IVRN	**Varamin**	**16.17**	**264**	*e*P	**Pn**	**02 18 52.3**	**-2.8**
JIRN	**Jiri** comp=Z,550nm,0.5s	**16.27**	**126**	*e*P	Pn	02 18 50.2	-6.6
IZEF	**Zefreh**	**16.45**	**257**	*e*P	**Pn**	**02 18 57.6**	**-1.4**
IBND	**Bandar-abas**	**16.53**	**234**	*e*P	**Pn**	**02 18 58.7**	**-0.9**
IKLH	**Kolahrood**	**16.86**	**259**	*e*P	**Pn**	**02 19 03.1**	**-1.0**
RAMN	**Ramite** comp=Z,719nm,0.9s	**17.03**	**127**	*e*P	Pn	02 19 00.3	-5.9
TAPN	**Taplejung** comp=Z,448nm,0.9s	**17.46**	**124**	*e*P	Pn	02 19 05.6	-6.1
ODAN	**Odare** comp=Z,524nm,0.6s	**17.59**	**126**	*e*P	Pn	02 19 07.9	-5.3
ZAA0	**Zalesovo Array**	**18.14**	**26**	*e*Pn	**Pn**	**02 19 17.6**	**-1.9**
ZALV	**Zalesovo Beam**	**18.14**	**26**	P	**Pn**	**02 19 18.2**	**-1.4**
ZALV	comp=Z,8.0nm,0.3s			pmax	pmax		
ZALV	**Zalesovo Beam**	**18.14**	**26**	P	**Pn**	**02 19 18.2**	**-1.4**
ZALV	**Zalesovo Beam** comp=Z,8.3nm,0.3s,baz=218,slow=11,SNR=135	**18.14**	**26**	P	**Pn**	**02 19 18.2**	**-1.4**
ZALV	comp=Z,676nm,20.2s,baz=211,slow=34			LR	LR	02 25 31.9	
NGP	**Nagpur**	**18.30**	**157**	*e*P	**Pn**	**02 19 18.8**	**-3.0**
NGP	comp=Z,263nm,1.3s			*ex*	x	02 19 31.2	
NGP				*ex*	x	02 22 24.8	
LSA	**Lhasa**	**18.42**	**112**	P	**P**	**02 19 22.6**	**-0.8**
LSA				S	**S**	**02 22 51.8**	**-0.7**
LSA	comp=Z,2μm,8.8s			LR	LR		
LSA	comp=Z,7μm,8.4s			LR	LR		
LSA	comp=Z,9μm,10.3s			LR	LR		
LSA	**Lhasa**	**18.42**	**112**	*e*P	**P**	**02 19 21.4**	**-2.1**
LSA	comp=Z,166nm,1.0s			pmax	pmax		
LSA	**Lhasa** comp=Z,166nm,1.0s	**18.42**	**112**	*e*P	**P**	**02 19 21.4**	**-2.1**
UOSS	**Wadi Hilu** comp=Z,304nm,1.3s,SNR=5.2	**18.56**	**229**	Pn	**Pn**	**02 19 25.0**	**+0.1**
MAK	**Makhachkala**	**18.74**	**292**	*d* iP	**Pn**	**02 19 27.1**	**+0.1**
MAK				*i* S	**S**	**02 22 57.7**	**-0.2**
MAK	comp=Z,233nm,1.1s			pmax	pmax		
MAK	comp=Z,14μm,15.0s			MLR	MLR		
BOK	**Bokaro** comp=Z,125nm,1.0s	**18.99**	**135**	*e*P	**P**	**02 19 28.0**	**-1.2**
BOK				AMB	AMB	02 19

GNI	**Garni**	**20.75**	**284**	*e*P	Pn	02 19 50.7	-0.4	
	comp=Z,392nm,1.0s							
GNI				LR	LR			
	comp=Z,2μm,19.0s							
GNI	**Garni**	**20.75**	**284**	P	**P**	**02 19 48.7**	**+0.2**	
	comp=Z,39nm,0.5s,baz=9.3,slow=1.5,SNR=66							
GNI				LR	LR	02 29 31.3		
	comp=Z,2μm,20.1s,baz=104,slow=42							
ZEI	**Tsey**	**21.37**	**291**	*e*P	**P**	**02 19 53.3**	**-1.9**	
ZEI				*e*		02 20 14.3		
ZEI				*e*S	**S**	**02 23 52.6**	**+1.6**	
ZEI				pmax	pmax			
	comp=Z,206nm,1.1s							
AKH	**Akhalkalaki**	**21.65**	**287**	P	**P**	**02 19 59.3**	**+1.1**	
ONI	**Oni**	**21.69**	**290**	P	**P**	**02 20 00.1**	**+1.6**	
HYB	**Hyderabad**	**21.71**	**161**	*i* P	**P**	**02 19 56.0**	**-2.8**	
	comp=Z,150nm,1.0s							
HYB				*e*S	S	02 23 48.0	-10	
HYB	**Hyderabad**	**21.71**	**161**	*e*P	**P**	**02 19 56.5**	**-2.3**	
HYB				AMB	AMB	02 20 06.2		
	comp=Z,134nm,1.8s							
HAKT	**HAKKARI**	**21.87**	**277**	*i* P	**P**	**02 20 00.3**	**-0.4**	
GTA	**Gaotai**	**22.08**	**78**	⇓P	**P**	**02 20 03.1**	**+0.3**	
GTA				pP	pP	02 20 14.5	+3.6	
GTA				sP	sP	02 20 20.3	+5.6	
GTA				PcP	**PcP**	**02 23 56.8**	**-2.9**	
GTA				S	**S**	**02 24 02.7**	**-2.0**	
GTA				ScP	ScP	02 27 29.1	-5.7	
GTA				pmax	pmax			
	comp=Z,46nm,1.4s							
GTA				pmax	pmax			
	comp=Z,680nm,5.5s							
GTA				LR	LR			
	comp=Z,4μm,14.3s							
GTA				LR	LR			
	comp=Z,4μm,13.3s							
GTA				LR	LR			
	comp=Z,4μm,12.4s							
KBZ	**Khabaz**	**22.16**	**293**	P	**P**	**02 20 02.0**	**-1.4**	
KBZ				pmax	pmax			
	comp=Z,39nm,0.8s							
KBZ				MLR	MLR			
	comp=Z,5μm,19.3s							
KBZ	**Khabaz**	**22.16**	**293**	P	**P**	**02 20 01.9**	**-1.4**	
KBZ	**Khabaz**	**22.16**	**293**	P	**P**	**02 20 01.9**	**-1.4**	
	comp=Z,39nm,0.8s,baz=122,slow=8.4,SNR=69							
KBZ				LR	LR	02 30 40.7		
	comp=Z,5μm,19.3s,baz=90,slow=42							
GOF	**Gofitskoye**	**22.20**	**297**	*e*P	**P**	**02 20 03.8**	**0.0**	
GOF				*e*S	**S**	**02 24 07.3**	**+0.8**	
GOF				pmax	pmax			
	comp=Z,420nm,1.1s							
GOF				smax	smax			
	comp=N,280nm,1.2s							
GOF				smax	smax			
	comp=E,430nm,1.5s							
GEVA	**Gevas**	**22.25**	**279**	*i* P	**P**	**02 20 05.0**	**+0.4**	
NEY	**Neytrino**	**22.26**	**292**	*i* P	**P**	**02 20 05.7**	**+1.0**	
KIV	**Kislovodsk**	**22.33**	**294**	P	**P**	**02 20 05.4**	**0.0**	
	comp=E,2μm,0.6s,SNR=16							
KIV	**Kislovodsk**	**22.33**	**294**	⇑*i*P	**P**	**02 20 04.3**	**-1.1**	
KIV				*e*		02 20 28.3		
KIV				*i* S	**S**	**02 24 12.7**	**+3.5**	
KIV				pmax	pmax			
	comp=Z,87nm,0.7s							
KIV				MLR	MLR			
	comp=Z,5μm,17.0s							
KIV	**Kislovodsk**	**22.33**	**294**	*e*P	**P**	**02 20 04.5**	**-0.9**	
	comp=Z,184nm,0.6s							
KIV				*e*S	**S**	**02 24 10.4**	**+1.2**	
KIV				LR	LR			
	comp=Z,6μm,19.0s							
EATA	**Eleskirt**	**22.50**	**283**	*i* P	**P**	**02 20 10.5**	**+3.0**	
GOA	**Goa**	**22.81**	**174**	*e*P	**P**	**02 20 08.5**	**-2.0**	
ARTV	**Artvin**	**22.84**	**287**	*i* P	**P**	**02 20 11.1**	**+0.2**	
DAGI	**Agillar**	**22.85**	**286**	*i* P	**P**	**02 20 13.2**	**+2.3**	
EKAR	**Karacoban**	**22.89**	**282**	*i* P	**P**	**02 20 13.0**	**+1.5**	
SIRN	**S¨¨rnak**	**22.89**	**277**	*i* P	**P**	**02 20 11.9**	**+0.6**	
HOMI	**Horasan**	**22.93**	**284**	*i* P	**P**	**02 20 15.5**	**+3.6**	
VIS	**Vishakhapatnam**	**22.98**	**150**	*e*P	**P**	**02 20 11.5**	**-0.7**	
VIS				AMB	AMB	02 20 16.9		
	comp=Z,122nm,0.6s							
VIS				*i* S	**S**	**02 24 20.7**	**0.0**	
DDEM	**Demirkent**	**22.99**	**286**	*i* P	**P**	**02 20 12.8**	**+0.5**	
DBAD	**Bademkaya**	**23.02**	**286**	*i* P	**P**	**02 20 14.4**	**+1.7**	
DBOC	**Borcka**	**23.03**	**287**	*i* P	**P**	**02 20 13.6**	**+0.9**	
SOKR	**Solikamsk**	**23.29**	**341***c*	*i*P	**P**	**02 20 15.8**	**+0.8**	
SOKR				S	**S**	**02 24 26.9**	**+1.7**	
SOKR				pmax	pmax			
	comp=Z,60nm,0.9s							
SOKR				MLR	MLR			
	comp=Z,6μm,15.0s							
BNGL	**BINGOL**	**23.64**	**281**	*i* P	**P**	**02 20 22.2**	**+3.3**	
MARD	**Mardin**	**24.20**	**277**	*i* P	**P**	**02 20 25.7**	**+1.5**	
SOC	**Sochi**	**24.46**	**293***d*	*i*P	**P**	**02 20 27.6**	**+1.4**	
SOC				*e**PP	**pP**	**02 20 33.3**	**-1.6**	
SOC				*e*S	**S**	**02 24 48.3**	**+3.9**	
SOC				*e**SS	sS	02 25 00.0	+1.4	
SOC				*e*SS	**SnSn**	**02 25 28.3**	**-1.3**	
SOC				pmax	pmax			
	comp=Z,106nm,0.8s							
SOC				MLR	MLR			
	comp=Z,4μm,17.0s							
VRHR	**Novokhopersk**	**24.57**	**311**	*e*P	**P**	**02 20 25.4**	**-1.8**	
VRHR				*e*S	**S**	**02 24 50.3**	**+4.2**	
VRHR				pmax	pmax			
	comp=N,30nm,0.8s							
VRHR				pmax	pmax			
	comp=E,100nm,0.8s							
VRHR				pmax	pmax			
	comp=Z,100nm,0.8s							
VRHR				smax	smax			
	comp=N,750nm,1.6s							
VRHR				smax	smax			
	comp=E,510nm,1.6s							
VRHR				smax	smax			
	comp=Z,140nm,1.4s							
VRHR				MLR	MLR			
	comp=N,3μm,18.0s							
VRHR				MLR	MLR			
	comp=E,3μm,18.0s							
VRHR				MLR	MLR			
	comp=Z,3μm,18.0s							
DIYA	**Diyarbakir**	**24.60**	**279**	*i* P	**P**	**02 20 32.0**	**+4.3**	
MOY	**Mondy**	**24.61**	**48**	*e*P	**P**	**02 20 29.4**	**+1.7**	
MOY				pmax	pmax			
	comp=Z,141nm,2.8s							
EUZM	**Uzumlu**	**24.66**	**283**	*i* P	**P**	**02 20 32.7**	**+4.5**	
KELT	**Kelkit**	**24.94**	**284**	*i* P	**P**	**02 20 33.5**	**+2.6**	
ELZG	**Elazig**	**25.38**	**281**	*i* P	**P**	**02 20 39.1**	**+4.2**	
ZAK	**Zakamensk**	**25.57**	**51**	*e*P	**P**	**02 20 37.5**	**+1.1**	
ZAK				pmax	pmax			
	comp=Z,73nm,1.0s							
KEMA	**Kemaliye**	**25.64**	**283**	*i* P	**P**	**02 20 38.9**	**+1.8**	
LZH	**Lanzhou**	**25.83**	**85**	*e*P	**P**	**02 20 39.5**	**+0.5**	
LZH				pP	pP	02 20 50.5	+2.9	
LZH				sP	**sP**	**02 20 54.1**	**+2.8**	
LZH				PP	**PnPn**	**02 21 20.9**	**+4.5**	
LZH				S	**S**	**02 25 02.5**	**-4.3**	
LZH				sS	sS	02 25 19.2	-1.9	
LZH				SS	**SnSn**	**02 26 06.3**	**+2.7**	
LZH				pmax	pmax			
	comp=Z,34nm,1.0s							
LZH				pmax	pmax			
	comp=Z,230nm,4.0s							
LZH				LR	LR			
	comp=Z,7μm,13.6s							
LZH				LR	LR			
	comp=Z,7μm,15.8s							
LZH				LR	LR			
	comp=Z,7μm,16.1s							
MALT	**Malatya**	**25.84**	**280**	⇓*i*P	**P**	**02 20 41.2**	**+2.2**	
VORD	**Divnogorie**	**25.93**	**310**	*e*P	**P**	**02 20 38.6**	**-0.9**	
VORD				*e*S	**S**	**02 25 11.4**	**+3.7**	
VORD				pmax	pmax			
	comp=N,200nm,1.0s							
VORD				pmax	pmax			
	comp=E,310nm,1.0s							
VORD				pmax	pmax			
	comp=Z,160nm,1.0s							
VORD				smax	smax			
	comp=N,620nm,2.4s							
VORD				smax	smax			
	comp=Z,210nm,2.4s							
VORD				smax	smax			
	comp=E,500nm,2.3s							
VORD				MLR	MLR			
	comp=N,5μm,17.0s							
VORD				MLR	MLR			
	comp=E,2μm,17.0s							
VORD				MLR	MLR			
	comp=Z,4μm,17.0s							
VSR	**Storozhevoye**	**26.08**	**310**	*e*P	**P**	**02 20 40.2**	**-0.7**	
VSR				*e*S	**S**	**02 25 11.9**	**+1.8**	
VSR				pmax	pmax			
	comp=N,90nm,0.9s							
VSR				pmax	pmax			
	comp=E,500nm,0.9s							
VSR				pmax	pmax			
	comp=Z,250nm,0.9s							
VSR				smax	smax			
	comp=N,180nm,1.3s							
VSR				smax	smax			
	comp=E,180nm,1.3s							
VSR				smax	smax			
	comp=Z,60nm,1.3s							
VSR				MLR	MLR			
	comp=N,3μm,13.0s							
VSR				MLR	MLR			
	comp=E,2μm,13.0s							
VSR				MLR	MLR			
	comp=Z,2μm,13.0s							
ATAB	**Bozova**	**26.11**	**279**	*i* P	**P**	**02 20 44.1**	**+2.7**	
ANN	**Anapa**	**26.14**	**295**	*e*P	**P**	**02 20 41.2**	**-0.3**	
ANN				*e*PPP	PPP	02 21 27.0		
ANN				S	**S**	**02 25 11.3**	**+0.2**	
ANN				pmax	pmax			
	comp=Z,242nm,1.4s							
ANN				MLR	MLR			
	comp=Z,3μm,21.0s							
TLY	**Talaya**	**26.17**	**49**	P	P	02 20 46.8	+5.1	
	comp=Z,187nm,0.6s,SNR=5.4							
TLY	**Talaya**	**26.17**	**49***c*	*i*P	**P**	**02 20 44.7**	**+3.0**	
TLY				*e*		02 21 32.9		
TLY				*e*S	**S**	**02 25 07.4**	**-4.1**	
TLY				pmax	pmax			
	comp=Z,14nm,0.6s							
TLY				MLR	MLR			
	comp=Z,3μm,11.0s							
TLY	**Talaya**	**26.17**	**49**	*e*P	**P**	**02 20 43.4**	**+1.7**	
	comp=Z,34nm,1.0s							
TLY				LR	LR			
	comp=Z,387nm,19.0s							
AKCD	**Akcadag**	**26.24**	**281**	*i* P	**P**	**02 20 47.1**	**+4.5**	
JHLN	**Al Jahlan**	**26.42**	**275**	*i* P	P	02 20 51.9	+7.8	
RAYN	**Ar Rayn**	**26.57**	**244**	P	**P**	**02 20 45.8**	**+0.2**	
	comp=Z,450nm,0.8s,SNR=18							
SLMH	**Al Salmeh**	**26.68**	**276**	*i* P	P	02 20 52.5	+5.9	
GZT	**Gaziantep**	**26.70**	**279**	*i* P	**P**	**02 20 49.8**	**+3.0**	
IRK	**Irkutsk**	**26.71**	**48**	*e*P	**P**	**02 20 47.1**	**+0.5**	
IRK				pmax	pmax			
	comp=Z,121nm,1.8s							
SONM	**Songino Array**	**27.05**	**58**	P	**P**	**02 20 50.2**	**+0.4**	
SONM				PcP	**PcP**	**02 24 11.3**	**+0.9**	
SONM	**Songino Array**	**27.05**	**58**	P	**P**	**02 20 50.2**	**+0.4**	
	comp=Z,8.7nm,0.9s,baz=261,slow=7.9,SNR=54							
SONM				PcP	**PcP**	**02 24 11.3**	**+0.9**	
	comp=Z,4.7nm,0.8s,baz=289,slow=3.4,SNR=4.3							
SONM				LR	LR	02 32 32.2		
	comp=Z,6μm,21.4s,baz=266,slow=39							
KUZU	**Kuzuini**	**27.21**	**278**	*i* P	**P**	**02 20 54.4**	**+3.1**	
PINB	**Pinarbasi**	**27.34**	**282**	*i* P	**P**	**02 20 52.8**	**+0.1**	
CD2	**Chengdu**	**27.49**	**96**	P	**P**	**02 20 55.8**	**+1.9**	
CD2				pP	pP	02 21 07.1	+4.6	
CD2				sP	sP	02 21 12.3	+6.1	
CD2				PP	**PnPn**	**02 21 44.0**	**+4.9**	
CD2				PcP	**PcP**	**02 24 13.8**	**+2.2**	
CD2				S	**S**	**02 25 31.1**	**-1.8**	
CD2				sS	sS	02 25 50.8	+3.6	
CD2				SS	**SnSn**	**02 26 50.2**	**+6.1**	
CD2				ScS	**ScS**	**02 31 39.4**	**-2.4**	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CD2				pmax	pmax			
	comp=Z,340nm,8.4s							
CD2				LR	LR			
	comp=Z,5μm,10.8s							
CD2				LR	LR			
	comp=Z,4μm,15.4s							
CD2				LR	LR			
	comp=Z,5μm,13.1s							
ULN	**Ulaanbaatar**	**27.49**	**58**	*e*P	**P**	**02 20 54.0**	**+0.2**	
	comp=Z,20nm,0.7s							
ULN				LR	LR			
	comp=Z,6μm,22.0s							
ANDN	**Andirin**	**27.60**	**280**	*i* P	**P**	**02 20 55.5**	**+0.7**	
ROOS	**tl_alroos**	**27.77**	**272**	*i* P	**P**	**02 20 59.7**	**+3.4**	
BTCH	**Batrach**	**27.88**	**276**	*i* P	**P**	**02 20 59.0**	**+1.7**	
ZALF	**Zalf**	**28.15**	**270**	*i* P	**P**	**02 21 02.5**	**+2.8**	
PRGR	**Permogore**	**28.30**	**334**	⇑*i*P	**P**	**02 21 00.5**	**-0.2**	
PRGR				pmax	pmax			
	comp=Z,62nm,1.0s							
SIM	**Simferopol'**	**28.50**	**296**	*e*P	**P**	**02 21 04.2**	**+1.5**	
SIM				*e*S	**S**	**02 25 53.2**	**+4.8**	
SIM				pmax	pmax			
	comp=Z,103nm,1.1s							
SIM				MLR	MLR			
	comp=Z,2μm,16.0s							
MOS	**Moscow**	**28.52**	**319**	*e*P	**P**	**02 21 02.0**	**-0.7**	
MOS				*e*PPP	PPP	02 22 01.0		
MOS				*e*S	**S**	**02 25 48.8**	**+0.4**	
MOS				*e*		02 27 37.4		
MOS				pmax	pmax			
	comp=Z,200nm,1.2s							
MOS				pmax	pmax			
	comp=Z,153nm,1.0s							
MOS				MLR	MLR			
	comp=Z,3μm,14.0s							
MOS				MLR	MLR			
	comp=E,2μm,15.0s							
MOS				MLR	MLR			
	comp=N,2μm,12.0s							
SALA	**Sala**	**28.70**	**269**	*i* P	**P**	**02 21 06.8**	**+2.0**	
TOTH	**TOTAH**	**28.71**	**271**	*i* P	**P**	**02 21 06.5**	**+1.8**	
ASF	**Jabal al Asfar**	**28.77**	**268**	P	**P**	**02 21 06.2**	**+1.0**	
ASF	**Jabal al Asfar**	**28.77**	**268**	P	**P**	**02 21 06.2**	**+1.0**	
	comp=N,5,8nm,1.0s,baz=53,slow=5.1,SNR=4.6							
ASF				LR	LR	02 35 08.8		
	comp=N,2μm,19.5s,baz=29,slow=42							
OBN	**Obninsk**	**28.84**	**317**	P	**P**	**02 21 05.2**	**-0.3**	
	comp=N,1μm,0.5s,SNR=28							
OBN	**Obninsk**	**28.84**	**317**	⇑*i*P	**P**	**02 21 05.4**	**-0.1**	
OBN				*e*		02 21 57.3		
OBN				*i* S	**S**	**02 25 53.6**	**+0.2**	
OBN				pmax	pmax			
	comp=Z,147nm,1.0s							
OBN				MLR	MLR			
	comp=Z,3μm,14.0s							
OBN	**Obninsk**	**28.84**	**317**	*e*P	**P**	**02 21 05.7**	**+0.2**	
	comp=Z,112nm,0.7s							
OBN				LR	LR			
	comp=Z,3μm,22.0s							
GULE	**Gulek**	**28.88**	**280**	*i* P	**P**	**02 21 07.9**	**+1.6**	
BRBR	**Barbar**	**29.07**	**271**	*i* P	**P**	**02 21 08.1**	**+0.1**	
BR131	**Keskin Array S**	**29.28**	**285**	*e*P	**P**	**02 21 10.9**	**+1.1**	
	comp=Z,26nm,0.8s							
BRTR	**Keskin Array B**	**29.28**	**285**	P	**P**	**02 21 10.5**	**+0.7**	
BRTR	**Keskin Array B**	**29.28**	**285**	P	**P**	**02 21 10.5**	**+0.7**	
	comp=Z,32nm,1.0s,baz=100,slow=6.3,SNR=121							
BRTR				LR	LR	02 34 54.8		
	comp=Z,765nm,19.4s,baz=52,slow=40							
TCHB	**Talchebab**	**29.31**	**270**	*i* P	**P**	**02 21 10.4**	**+0.4**	
KMI	**Kunming**	**29.53**	**107**	P	**P**	**02 21 14.1**	**+1.9**	
KMI				pP	pP	02 21 25.6	+4.7	
KMI				sP	sP	02 21 30.8	+6.2	
KMI				PP	**PnPn**	**02 22 11.0**	**+3.9**	
KMI				S	**S**	**02 26 03.5**	**-1.8**	
KMI				sS	sS	02 26 24.3	+4.6	
KMI				SS	**SnSn**	**02 27 38.1**	**+4.0**	
KMI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KMI				pmax	pmax			
	comp=Z,240nm,4.3s							
KMI				LR	LR			
	comp=Z,4μm,15.8s							
KMI				LR	LR			
	comp=Z,2μm,18.4s							
KMI				LR	LR			
	comp=Z,3μm,18.4s							
MMAI	**Mount Meron Ar**	**29.64**	**271**	P	**P**	**02 21 15.1**	**+2.1**	
MMAI				PcP	**PcP**	**02 24 18.9**	**+2.0**	
MMAI	**Mount Meron Ar**	**29.64**	**271**	P	**P**	**02 21 15.0**	**+2.1**	
	comp=Z,5.9nm,0.8s,baz=55,slow=10,SNR=11							
MMAI				PcP	**PcP**	**02 24 18.9**	**+2.0**	
	comp=Z,3.7nm,0.5s,baz=71,slow=6.5,SNR=9.5							
MMAI				LR	LR	02 35 55.6		
	comp=Z,2μm,18.9s,baz=60,slow=42							
BBAL	**Bala**	**29.70**	**285**	*i* P	**P**	**02 21 14.9**	**+1.3**	
BTO	**Baotou**	**29.71**	**73**	*e*P	**P**	**02 21 12.4**	**-1.2**	
ANTO	**Ankara**	**29.90**	**285**	*e*P	**P**	**02 21 17.1**	**+1.9**	
ANTO				pmax	pmax			
	comp=Z,65nm,1.1s							
ANTO				MLR	MLR			
	comp=Z,1μm,22.0s							
ANTO	**Ankara**	**29.90**	**285**	⇑*i*P	**P**	**02 21 17.4**	**+2.2**	
ANTO	**Ankara**	**29.90**	**285**	*e*P	**P**	**02 21 17.1**	**+1.9**	
	comp=Z,65nm,1.1s							
ANTO				LR	LR			
	comp=Z,1μm,22.0s							
BCAM	**Yenicaga**	**30.30**	**287**	*i* P	**P**	**02 21 18.7**	**-0.1**	
XAN	**Xi'an**	**30.41**	**86**	P	**P**	**02 21 19.5**	**-0.2**	
XAN				pP	pP	02 21 31.3	+2.9	
XAN				PP	**PnPn**	**02 22 22.3**	**+3.7**	
XAN				S	**S**	**02 26 19.2**	**+0.6**	
XAN				sS	sS	02 26 39.5	+6.5	
XAN				pmax	pmax			
	comp=Z,2.0nm,0.7s							
XAN				pmax	pmax			
	comp=Z,62nm,5.7s							
XAN				LR	LR			
	comp=Z,3μm,12.2s							
XAN				LR	LR			
	comp=Z,2μm,19.9s							
XAN				LR	LR			
	comp=Z,1μm,13.8s							
MHMT	**Maesarieng**	**30.58**	**124**	P	P	02 21 26.2	+5.0	
	comp=Z,15nm,0.9s,comp=Z,464nm							
CSS	**Prodhromos**	**30.63**	**276**	PFAKE		02 21 30.0	+8.3	
CSS				LR	LR			
	comp=Z,260nm,22.0s							
CHTO	**Chiang Mai**	**30.80**	**121**	*e*P	**P**	**02 21 24.1**	**+0.9**	
CHTO				pmax	pmax			
	comp=Z,13nm,0.8s							
CHTO	**Chiang Mai**	**30.80**	**121**	*e*P	**P**	**02 21 24.1**	**+0.9**	
	comp=Z,13nm,0.8s							
HHC	**Hu-ho-hao-te**	**30.84**	**72**	*e*P	**P**	**02 21 23.8**	**+0.3**	
HHC				pP	pP	02 21 39.3	+7.0	
HHC				sP	sP	02 21 44.7	+8.8	
HHC				PP	**PP**	**02 22 29.2**	**-4.1**	
HHC				S	**S**	**02 26 25.7**	**+0.3**	
HHC				sS	sS	02 26 46.6	+6.8	
HHC				SS	**SnSn**	**02 28 09.7**	**+4.2**	
HHC				pmax	pmax			
	comp=Z,74nm,1.9s							
HHC				pmax	pmax			
	comp=Z,230nm,5.3s							
HHC				LR	LR			
	comp=Z,7μm,15.1s							
HHC				LR	LR			
	comp=Z,6μm,15.3s							
HHC				LR	LR			
	comp=Z,3μm,15.1s							
CM31	**Chiang Mai Arr**	**31.05**	**122**	*e*P	**P**	**02 21 26.3**	**+0.9**	
	comp=Z,3.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.05**	**122**	P	**P**	**02 21 24.6**	**-0.9**	
CMAR				PcP	**PcP**	**02 24 21.8**	**+1.1**	
CMAR				ScP	**ScP**	**02 28 05.8**	**+4.4**	
CMAR	**Chiang Mai Arr**	**31.05**	**122**	P	**P**	**02 21 24.6**	**-0.9**	
	comp=Z,3.9nm,0.8s,baz=314,slow=9.0,SNR=16							
CMAR				PcP	**PcP**	**02 24 21.8**	**+1.1**	
	comp=Z,5.9nm,0.9s,baz=301,slow=3.7,SNR=7.0							
CMAR				ScP	**ScP**	**02 28 05.8**	**+4.4**	
	comp=Z,1.5nm,0.7s,baz=302,slow=3.8,SNR=5.0							
CMAR				LR	LR	02 35 59.4		
	comp=Z,2μm,20.4s,baz=330,slow=40							
BTAS	**Taskesti**	**31.14**	**287**	*i* P	**P**	**02 21 25.9**	**-0.2**	
EIL	**Elat**	**31.30**	**265**	P	**P**	**02 21 27.7**	**+0.1**	
EIL	**Elat**	**31.30**	**265**	P	**P**	**02 21 27.7**	**+0.1**	
	comp=Z,30nm,0.9s,baz=52,slow=5.2,SNR=13							
EIL				LR	LR	02 36 39.8		
	comp=Z,5μm,18.9s,baz=73,slow=41							
LAMP	**Lampang**	**31.46**	**121**	P	**P**	**02 21 28.7**	**-0.4**	
	comp=Z,6.8nm,0.8s							
GYA	**Guiyang**	**31.81**	**101**	P	**P**	**02 21 33.0**	**+0.8**	
GYA				pP	pP	02 21 43.4	+2.4	
GYA				sP	sP	02 21 50.8	+6.2	
GYA				PP	**PnPn**	**02 22 39.0**	**+1.9**	
GYA				PcP	**PcP**	**02 24 23.2**	**+0.3**	
GYA				S	**S**	**02 26 37.5**	**-3.3**	
GYA				sS	sS	02 27 00.8	+5.6	
GYA				ScP	**ScP**	**02 28 03.2**	**-0.8**	
GYA				SS	**SnSn**	**02 28 30.0**	**+0.5**	
GYA				ScS	**ScS**	**02 31 58.7**	**-3.8**	
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,180nm,5.0s							
GYA				LR	LR			
	comp=Z,2μm,20.6s							
GYA				LR	LR			
	comp=Z,3μm,21.2s							
GYA				LR	LR			
	comp=Z,4μm,22.0s							
PALK	**Pallekele**	**32.00**	**162**	*e*P	**P**	**02 21 32.2**	**-1.6**	
NANT	**Nan**	**32.00**	**119**	P	**P**	**02 21 32.4**	**-1.4**	
	comp=Z,46nm,1.0s							
ISP	**Isparta**	**32.05**	**282**	*e*P	**P**	**02 21 35.7**	**+1.5**	
ISP				pmax	pmax			
	comp=Z,288nm,2.4s							
ISP				MLR	MLR			
	comp=Z,1μm,19.0s							
ISP	**Isparta**	**32.05**	**282**	*e*P	**P**	**02 21 35.7**	**+1.5**	
	comp=Z,288nm,2.4s							
ISP				LR	LR			
	comp=Z,1μm,19.0s							
AKASG	**Malin Array Be**	**32.13**	**307**	P	**P**	**02 21 34.4**	**-0.3**	
AKASG				pmax	pmax			
	comp=Z,15nm,0.7s							
AKASG				MLR	MLR			
	comp=Z,3μm,18.1s							
AKASG	**Malin Array Be**	**32.13**	**307**	P	**P**	**02 21 34.4**	**-0.3**	
AKASG	**Malin Array Be**	**32.13**	**307**	P	**P**	**02 21 34.4**	**-0.3**	
	comp=Z,15nm,0.7s,baz=79,slow=7.4,SNR=77							
AKASG				LR	LR	02 37 13.1		
	comp=Z,3μm,18.1s,baz=115,slow=41							
AKBB	**Malin Array Si**	**32.13**	**307**	*e*P	**P**	**02 21 34.5**	**-0.2**	
AKBB	**Malin Array Si**	**32.13**	**307**	*e*P	**P**	**02 21 34.5**	**-0.2**	
AK01	**Malin Array Si**	**32.14**	**307**	*e*P	**P**	**02 21 34.4**	**-0.3**	
AK02	**Malin Array Si**	**32.14**	**306**	*e*P	**P**	**02 21 34.5**	**-0.2**	
KIEV	**Kiev**	**32.15**	**307***c*	*i*P	**P**	**02 21 34.4**	**-0.3**	
KIEV	**Kiev**	**32.15**	**307**	*e*P	**P**	**02 21 34.5**	**-0.2**	
	comp=Z,39nm,1.0s							
KIEV				LR	LR			
	comp=Z,3μm,19.0s							
KIS	**Kishinev**	**32.20**	**300**	*e*P	**P**	**02 21 35.0**	**-0.3**	
KIS				*e*PPP	PPP	02 22 50.0		
KIS				*e*S	**S**	**02 26 44.0**	**-2.3**	
KIS				*e*SS	**SnSn**	**02 28 34.0**	**-4.4**	
KIS				*e*		02 29 09.0		
KIS				MLR	MLR			
	comp=Z,3μm,15.0s							
KIS				MLR	MLR			
	comp=N,1μm,9.0s							
KIS				MLR	MLR			
	comp=E,2μm,16.0s							
KIS				MLR	MLR			
	comp=Z,3μm,15.0s							
KIS	**Kishinev**	**32.20**	**300**	⇑*i*P	**

SLVN Son La 32.62 112 eP P 02 21 40.5 +1.2
KHAL Karahalli 32.71 283 i P P 02 21 41.0 +0.9
CFR Carcaliu 32.73 296⇓ iP P 02 21 41.4 +1.4
TLB Topalu 32.84 295⇑ iP P 02 21 42.6 +1.7
MSAB Monastry St. A 33.04 294⇑ iP P 02 21 44.8 +2.2
IAS Iasi 33.06 300⇓ iP P 02 21 45.0 +2.2
GHRR 33.20 298⇑ iP P 02 21 46.5 +2.5
PETR Petresti 33.34 297⇑ iP P 02 21 48.3 +3.0
AMRR Amara 33.34 295⇑ iP P 02 21 46.6 +1.3
PRD Provadia 33.44 293 eP P 02 21 48.8 +2.7
MICGM Minsk 33.51 313 eP P 02 21 46.0 -0.6
NEF NEVSHA 33.52 293 eP P 02 21 50.1 +3.2
MNK Minsk 33.54 313 eP P 02 21 46.0 -0.9
MNK eS S 02 27 06.0 -0.8
MNK MLR MLR
comp=Z,7µm,10.0s
GRER 33.54 297⇓ iP P 02 21 50.2 +3.2
PGOR Pogoanele 33.57 296⇑ iP P 02 21 50.3 +3.1
PUL Pulkovo 33.68 323 eP P 02 21 48.5 +0.5
PUL pmax pmax
comp=Z,201nm,1.0s
PUL MLR MLR
comp=Z,5µm,22.0s
VRI Vrincioaia 33.68 298⇑ iP P 02 21 50.8 +2.5
PLOR Plostina 33.74 298⇑ iP P 02 21 51.3 +2.5
PBKT Sadao Pong 33.74 122 P P 02 21 49.3 +0.3
comp=Z,23nm,1.4s,comp=Z,5µm
ISR Istrita 33.86 296⇓ iP P 02 21 52.9 +3.0
SULR 34.10 295⇑ iP P 02 21 54.5 +2.6
SRDT SRDT 34.17 127 P P 02 21 53.3 +0.6
comp=Z,70nm,1.1s
SECR 34.20 296⇑ iP P 02 21 55.3 +2.5
NACGM Naroch 34.21 314 eP P 02 21 50.0 -2.7
MLR Muntele Rosu 34.26 297⇑ iP P 02 21 55.7 +2.3
MLR Muntele Rosu 34.26 297 P P 02 21 54.5 +1.1
MLR Muntele Rosu 34.26 297 P P 02 21 54.5 +1.1
comp=Z,20nm,0.9s,baz=107,slow=6.6
MLR LR LR 02 38 35.5
comp=Z,506nm,19.1s,baz=64,slow=41
BUC1 Bucharest 34.30 295⇑ iP P 02 21 56.1 +2.5
IDID Didziasalis 34.31 314 eP P 02 21 53.4 -0.1
IDID AMB AMB 02 21 57.8
comp=Z,39nm,1.0s
BJT Baijiatuan 34.45 73 eP P 02 21 55.7 +0.8
comp=Z,51nm,0.9s
BJT LR LR
comp=Z,3µm,21.0s
BJI Beijing 34.45 73 P P 02 21 56.0 +1.1
BJI S S 02 27 19.7 -1.5
BJI pmax pmax
comp=Z,31nm,0.9s
BJI LR LR
comp=Z,4µm,17.8s
BJI LR LR
comp=Z,3µm,16.9s
BJI LR LR
comp=Z,2µm,24.0s
SZH Strazhica 34.49 293 eP P 02 21 58.0 +2.7
JOF Joensuu 34.51 329 eP P 02 21 55.2 0.0
JOF pmax pmax
comp=Z,26nm,0.4s
JOF Joensuu 34.51 329 ep P 02 21 55.2 0.0
comp=Z,26nm,0.4s
IIGN Ignalina 34.61 314 eP P 02 21 55.9 -0.2
IIGN AMB AMB 02 21 60.0
comp=Z,33nm,0.8s
DOPR Dopca 34.61 298⇑ iP P 02 21 58.6 +2.3
BURAR Bucovina Array 34.65 301⇑ iP P 02 21 57.3 +0.6
BUR08 Bucovina Ar. S 34.66 301 eP P 02 21 57.1 +0.3
ISAL Salakas 34.70 315 eP P 02 21 56.9 -0.1
ISAL AMB AMB 02 22 01.3
comp=Z,25nm,1.1s
VOIR 34.89 297⇑ iP P 02 22 00.2 +1.4
MTUR Matau 34.90 297⇑ iP P 02 21 59.6 +0.7
CHAI Chaiyaphum 34.90 121 P P 02 21 59.4 +0.3
comp=Z,7.1nm,0.9s,comp=Z,81nm
PVL Pavlikeni 34.93 293 eP P 02 22 02.1 +3.0
GOLR 35.01 296⇑ iP P 02 22 02.8 +3.1
HUMR Humele 35.02 295⇑ iP P 02 22 01.9 +2.0
VSU Vasula 35.03 320c iP P 02 21 59.8 +0.1
VSU pmax pmax
comp=Z,371nm,1.0s
VSU MLR MLR
comp=Z,4µm,13.0s
ARR Arges 35.19 297⇑ iP P 02 22 02.8 +1.4
LVV L'vov 35.41 305 eP P 02 22 03.7 +0.5
LVV e 02 23 19.5
LVV eS S 02 27 35.3 -0.6
LVV eSS SnSn 02 29 50.5 -5.5
LVV MLR MLR
comp=E,2µm,15.0s
LVV MLR MLR
comp=Z,2µm,15.0s
LVV MLR MLR
comp=N,1µm,13.0s
NAYO Nakonayok 35.60 124 P P 02 22 05.5 +0.4
comp=N,21nm,1.1s,comp=N,772nm
LOT Lotru 35.78 297⇑ iP P 02 22 08.5 +1.9
CJR Cluj-Napoca 35.80 299⇑ iP P 02 22 09.0 +2.4
BMR Baia Mare 35.81 301⇑ iP P 02 22 08.1 +1.5
PGB Panagyurishte 35.88 292 eP P 02 22 10.6 +3.2
LVZ Lovozero 35.94 337 P P 02 22 07.3 -0.2
comp=N,472nm,1.1s,SNR=16
LVZ Lovozero 35.94 337 deP P 02 22 07.9 +0.4
LVZ pmax pmax
comp=Z,103nm,1.2s
LVZ MLR MLR
comp=Z,8µm,18.0s
LVZ Lovozero 35.94 337 eP P 02 22 07.7 +0.2
comp=Z,60nm,0.8s
LVZ LR LR
comp=Z,4µm,21.0s
WHN Wuhan 35.97 89 ⇑P P 02 21 58.4 -10
WHN S S 02 27 47.6 +2.8
WHN LR LR
comp=N,5µm,8.7s
WHN LR LR
comp=E,3µm,7.6s
WHN LR LR
comp=Z,8µm,15.8s
HIA Hailar 35.98 56 eP P 02 22 10.1 +2.0
comp=Z,42nm,1.4s
HIA LR LR
comp=Z,6µm,20.0s
APA Apatity 36.13 336⇑ iP P 02 22 09.6 +0.5
APA i 02 23 36.0
APA i 02 24 37.0
APA i S S 02 27 44.0 -2.5
APA i SS SnSn 02 30 18.0 +5.0
APA pmax pmax
comp=Z,26nm,0.8s
APA MLR MLR
comp=Z,9µm,18.0s
TIA Tai'an 36.13 79 P P 02 22 10.5 +1.0
TIA S S 02 27 51.9 +4.6
TIA pmax pmax
comp=Z,70nm,0.9s
TIA pmax pmax
comp=Z,420nm,5.0s
TIA LR LR
comp=Z,4µm,13.7s
TIA LR LR
comp=Z,3µm,16.1s
TIA LR LR
comp=Z,2µm,10.7s
ZKR Zakros 36.13 279 eP P 02 22 10.1 +0.6
SUW Suwalki 36.17 312 eP P 02 22 09.5 -0.1
SUW Suwalki 36.17 312 eP P 02 22 09.5 -0.1
FIA1 FINESS Array S 36.21 325 eP P 02 22 09.7 -0.2
FINES FINESS Array B 36.21 325 P P 02 22 09.8 -0.1
FINES FINESS Array B 36.21 325 P P 02 22 09.8 -0.1
comp=Z,45nm,0.5s,baz=120,slow=8.8,SNR=236
FINES LR LR 02 38 04.7
comp=Z,5µm,18.6s,baz=108,slow=38
SRE Strehaia 36.27 296⇑ iP P 02 22 12.9 +2.3
KWP Kalwaria Pacla 36.27 304 eP P 02 22 12.3 +1.7
KWP Kalwaria Pacla 36.27 304 eP P 02 22 12.2 +1.7
KWP Kalwaria Pacla 36.27 304⇑ iP P 02 22 11.5 +1.0
KWP Kalwaria Pacla 36.27 304 PFAKE 02 22 20.0 +9.4
KWP LR LR
comp=Z,2µm,22.0s
NVR Nevrokopi 36.32 290 eP P 02 22 13.0 +1.9
KAF Kangasniemi 36.33 326 eP P 02 22 11.7 +0.8
KAF pmax pmax
comp=Z,33nm,0.7s
KAF Kangasniemi 36.33 326 ep P 02 22 11.7 +0.8
comp=Z,33nm,0.7s
SANT Santorini 36.33 282 PFAKE 02 22 20.0 +8.7
SANT LR LR
comp=Z,882nm,19.0s
DEV Deva 36.34 298⇑ iP P 02 22 13.9 +2.7
DRGR 36.40 299⇑ iP P 02 22 13.9 +2.2
TRPA Tarpa 36.43 302⇓ eP P 02 22 15.2 +3.3
GZR Gura Zlata 36.48 297⇑ iP P 02 22 14.2 +1.7
NPS Neapolis 36.55 280 eP P 02 22 12.5 -0.7
UZH Uzhgorod 36.57 303 eP P 02 22 13.3 +0.2
UZH e 02 22 22.5
UZH e 02 23 55.9
UZH eS S 02 27 54.1 +0.5
UZH e 02 30 15.7
UZH MLR MLR
comp=N,700nm,11.0s
UZH MLR MLR
comp=E,1µm,11.0s
UZH MLR MLR
comp=Z,1µm,11.0s
KOLS Kolonicke sedl 36.57 303 eP P 02 22 14.4 +1.3
KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 36.57 303 eP P 02 22 14.4 +1.3
KOLS ePP PP 02 23 41.1 +4.6
VTS Vitosha 36.57 292 eP P 02 22 15.8 +2.4
VTS Vitosha 36.57 292⇑ iP P 02 22 15.4 +2.0
LAST Lasithi 36.69 280 eP P 02 22 16.0 +1.6
PLG Polygyros 36.83 289 eP P 02 22 17.3 +1.8
KNT Kendrikon 37.07 290 eP P 02 22 19.4 +1.9
CRVS Cervenica-Dubn 37.11 303 eP P 02 22 20.6 +2.9
CRVS pmax pmax
comp=Z,9.0nm,0.9s
CRVS Cervenica-Dubn 37.11 303 eP P 02 22 20.6 +2.9
CRVS ePP PnPn 02 23 46.7 +3.8
IDI Anoyia 37.11 280 P P 02 22 18.5 +0.6
IDI Anoyia 37.11 280 P P 02 22 18.5 +0.6
comp=Z,5.9nm,0.4s,baz=69,slow=8.6,SNR=13
SIRR Siria 37.17 299⇓ iP P 02 22 21.4 +3.2
STHS Stebnicka Huta 37.23 304 eP P 02 22 20.1 +1.4
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 37.23 304 eP P 02 22 20.1 +1.4
STHS ePP PnPn 02 23 45.4 +1.0
BZS Buzias 37.27 298⇑ iP P 02 22 21.3 +2.2
VAY Valandovo 37.28 290 i P P 02 22 19.7 +0.5
SMIA Simia 37.36 286 eP P 02 22 20.9 +0.9
BEL Belsk 37.49 308 eP P 02 22 21.9 +1.1
BEL Belsk 37.49 308 eP P 02 22 21.8 +1.0
VAM Vamos 37.60 281 eP P 02 22 20.5 -1.5
LIT Litokhoron 37.61 289 eP P 02 22 22.7 +0.7
BANR Banloc 37.63 297⇓ iP P 02 22 23.0 +0.9
UBPT Khong Chiam 37.72 118 P P 02 22 24.1 +1.0
comp=Z,38nm,1.0s
KARN Karanos 37.82 281 eP P 02 22 25.7 +1.8
NIE Niedzica 37.84 304 eP P 02 22 25.3 +1.4
NIE MLR MLR
comp=Z,3µm,15.0s
NIE Niedzica 37.84 304 eP P 02 22 25.3 +1.4
NIE L L 02 40 32.0
comp=Z,3µm,15.0s
SKO Skopje 37.98 292 i P P 02 22 17.8 -7.4
AGG Agios Georgios 37.99 287 eP P 02 22 26.0 +0.7
DSF Desfina 38.00 286 eP P 02 22 23.9 -1.5
THL Klokotos Trika 38.09 288 eP P 02 22 26.5 +0.4
KZN Kozani 38.09 289 eP P 02 22 29.6 +3.4
OJC Ojcow 38.13 305 eP P 02 22 26.7 +0.3
OJC e*PP pP 02 22 34.9 -0.3
OJC e 02 23 55.6
OJC MLR MLR
comp=Z,3µm,16.4s
OJC Ojcow 38.13 305 eP P 02 22 26.7 +0.3
OJC epP pP 02 22 34.9 -0.3
OJC ePP PnPn 02 23 55.6 +0.3
OJC L L 02 40 34.0
comp=Z,3µm,16.4s
MAKR Makrakomi, Fth 38.14 287 eP P 02 22 28.0 +1.4
SURT Suratani 38.19 133 P P 02 22 29.4 +2.3
comp=Z,16nm,0.7s
PSZ Piszkesteto 38.21 302 eP P 02 22 28.3 +1.1
PSZ MLR MLR
comp=Z,1µm,19.0s
PSZ Piszkesteto 38.21 302⇑ iP P 02 22 29.0 +1.9
PSZ Piszkesteto 38.21 302 eP P 02 22 28.3 +1.1
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 38.21 302⇑ eP P 02 22 28.2 +1.1
BIA Bitola 38.26 290 i P P 02 22 28.1 +0.5
GUR Goura 38.27 285 eP P 02 22 25.6 -2.2
FNA Florina 38.28 290 eP P 02 22 29.9 +2.2
KALE Kalithea 38.30 286 eP P 02 22 28.5 +0.5
PKSN Nyarlorinc 38.33 300⇓ eP P 02 22 30.6 +2.6
EVR Evrytania 38.41 287 eP P 02 22 30.9 +2.0
QIZ Qiongzhong 38.42 109 PFAKE 02 22 40.0 +11
QIZ LR LR
comp=Z,3µm,21.0s
LAKA Lakka 38.46 286 eP P 02 22 30.8 +1.5
EFP Efpalio 38.47 286 eP P 02 22 30.8 +1.5
ITM Ithomi 38.80 284 eP P 02 22 32.7 +0.5
BUD Budapest 38.84 301⇓ eP P 02 22 34.6 +2.3
NJ2 Nanjing 38.91 84 eP P 02 22 30.8 -0.2
NJ2 pP pP 02 22 40.5 -1.4
NJ2 S S 02 28 23.5 -5.9
NJ2 pmax pmax
comp=Z,50nm,0.9s
NJ2 LR LR
comp=Z,5µm,18.0s
NJ2 LR LR
comp=Z,4µm,18.1s
NJ2 LR LR
comp=Z,2µm,13.8s
JAN Janina 38.94 288 eP P 02 22 34.6 +1.3
SRIT Nakonsritamara 38.95 132 P P 02 22 35.3 +1.8
comp=Z,24nm,1.1s,comp=Z,5µm
PDO Prodromos 38.97 287 eP P 02 22 33.9 +0.4
OKC Ostrava-Krasne 39.22 305 eP P 02 22 37.7 +2.3
OKC e 02 24 05.9
OKC eS S 02 28 34.3 +0.6
OKC MLR MLR
comp=Z,1µm,16.4s
OKC Ostrava-Krasne 39.22 305 eP P 02 22 37.7 +2.3
OKC ePP PP 02 24 05.9 +0.4
OKC eS S 02 28 34.3 +0.6
OKC AMS AMS 02 40 10.0
comp=Z,1µm,16.4s
PKSM Moragy 39.25 299⇑ iP P 02 22 32.1 -3.7
PKSM Moragy 39.25 299⇓ eP P 02 22 37.1 +1.3
PKSG 39.28 301⇑ eP P 02 22 37.0 +1.1
KEV Kevo 39.28 337 eP P 02 22 35.3 -0.3
KEV pmax pmax
comp=Z,69nm,1.0s
KEV Kevo 39.28 337 ep P 02 22 35.3 -0.3
comp=Z,69nm,1.0s
KEV Kevo 39.28 337 eP P 02 22 36.0 +0.4
comp=Z,78nm,1.1s
KEV LR LR
comp=Z,7µm,19.0s
LKD2 Lefkada island 39.31 287 eP P 02 22 38.2 +1.8
IGT Igoumenitsa 39.36 288 eP P 02 22 35.3 -1.4
CLNS Chul'man 39.36 44 eP P 02 22 39.0 +2.4
CLNS e 02 24 09.6
CLNS e 02 24 47.3
CLNS eS S 02 28 29.6 -6.2
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax smax
comp=E,336nm,12.8s
CLNS smax smax
comp=N,188nm,12.6s
CLNS MLR MLR
comp=N,2µm,12.0s
CLNS MLR MLR
comp=Z,6µm,12.0s
CLNS MLR MLR
comp=E,5µm,13.0s
PKS9 Tamasi 39.45 300⇓ eP P 02 22 39.0 +1.6
PKST T''s 39.53 301⇑ eP P 02 22 39.3 +1.2
SNY Shenyang 39.55 68 ⇓P P 02 22 39.9 +1.6
SNY S S 02 28 40.3 +1.4
SNY pmax pmax
comp=E,18nm,0.9s
SNY pmax pmax
comp=E,400nm,5.3s
SNY LR LR
comp=E,8µm,19.5s
SNY LR LR
comp=E,3µm,20.4s
SNY LR LR
comp=E,4µm,19.4s
MORC Moravsky Berou 39.61 305⇑ iP P 02 22 39.8 +1.0
ARCES ARCESS Array B 39.63 337 P P 02 22 39.0 +0.3
ARCES ARCESS Array B 39.63 337 P P 02 22 39.0 +0.3
comp=E,61nm,0.8s,baz=114,slow=8.1,SNR=200
ARCES LR LR 02 40 10.4
comp=E,10µm,18.5s,baz=120,slow=38
ARE0 ARCESS Array S 39.63 337 eP P 02 22 38.8 +0.1
GKP Gorka Klasztor 39.67 310 eP P 02 22 39.8 +0.7
GKP Gorka Klasztor 39.67 310 eP P 02 22 39.7 +0.7
HEF Hetta 39.74 335 eP P 02 22 39.6 0.0
SMOL Smolenice 39.80 303 eP P 02 22 42.5 +2.2
SMOL Smolenice 39.80 303 eP P 02 22 42.5 +2.2
KRLC Kraliky 40.08 305 eP P 02 22 43.2 +0.5
KRLC e 02 24 13.0
KRLC Kraliky 40.08 305 eP P 02 22 43.2 +0.5
KRLC ePP PP 02 24 13.0 -2.0
KTK1 Kautokeino 40.13 335 eP P 02 22 43.0 +0.2
KTK1 lAmb lAmb 02 22 47.9
comp=N,22nm,0.6s
VRAC Vranov 40.27 304⇑ iP P 02 22 45.6 +1.4
VRAC Vranov 40.27 304 P P 02 22 45.1 +0.9
VRAC Vranov 40.27 304 P P 02 22 45.1 +0.9
comp=N,40nm,0.9s,baz=81,slow=8.3,SNR=54
KSP Ksiaz 40.34 306⇑ eP P 02 22 45.3 +0.5
KSP e 02 24 16.9
KSP eS S 02 28 51.0 +0.5
KSP MLR MLR
comp=E,18µm,16.8s
KSP Ksiaz 40.34 306 eP P 02 22 45.2 +0.5
DPC Dobruska-Polom 40.35 306 eP P 02 22 45.9 +1.0
DPC e 02 24 18.0
DPC eS S 02 28 52.8 +2.0
DPC Dobruska-Polom 40.35 306 eP P 02 22 45.9 +1.0
DPC ePP PP 02 24 18.0 +0.1
DPC eS S 02 28 52.8 +2.0
DPC AMS AMS 02 41 40.0
DPC Dobruska-Polom 40.35 306 eP P 02 22 46.1 +1.1
SOP Sopron 40.47 302⇓ eP P 02 22 47.4 +1.5
CN2 Changchun 40.49 64 eP P 02 22 42.6 -3.4
CN2 eS S 02 28 48.1 -4.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,6µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,2µm,19.0s
BEHE Becsehely 40.50 300⇑ eP P 02 22 48.1 +2.0
UPC Upice 40.54 306 eP P 02 22 47.1 +0.7
UPC e 02 24 21.4
UPC Upice 40.54 306 eP P 02 22 47.1 +0.7
UPC ePP PP 02 24 21.4 +1.5
CONA Conrad Observa 40.91 302 i P P 02 22 51.0 +1.4
comp=Z,70nm,1.0s,SNR=31
TREC Trest 40.99 304 eP P 02 22 52.2 +2.0
TREC MLR MLR
comp=Z,2µm,16.5s
TREC Trest 40.99 304 eP P 02 22 52.2 +2.0
TREC AMS AMS 02 43 10.0
comp=Z,2µm,16.5s
BSD Bornholm Skovb 41.03 313⇑ iP P 02 22 51.5 +1.2
BSD pmax pmax
comp=Z,49nm,1.0s
BSD MLR MLR
comp=Z,3µm,12.0s
BSD Bornholm Skovb 41.03 313⇑ iP P 02 22 51.5 +1.2
comp=Z,49nm,1.0s
BSD
comp=Z,3µm,11.0s
SSE Sheshan 41.11 85 P P 02 22 51.1 -0.2
SSE S S 02 29 00.2 -2.2
SSE sS sS 02 29 19.8 +2.7
SSE pmax pmax
comp=Z,65nm,1.0s
SSE pmax pmax
comp=Z,180nm,5.6s
SSE LR LR
comp=Z,3µm,17.4s
SSE LR LR
comp=Z,2µm,17.4s
SSE LR LR
comp=Z,2µm,13.0s
ARSA Arzberg 41.23 301⇑ iP P 02 22 53.0 +0.9
comp=Z,22nm,0.9s,SNR=7.9
GCIS Gornji Cirnik 41.38 299 eP P 02 22 54.9 +1.5
PVCC Panska Ves 41.46 306 eP P 02 22 57.1 +3.2
PVCC MLR MLR
comp=Z,4µm,12.0s
PVCC Panska Ves 41.46 306 eP P 02 22 57.1 +3.2
PVCC AMS AMS 02 42 20.0
comp=Z,4µm,12.0s
PRU Pruhonice 41.53 305 eP P 02 22 55.7 +1.2
PRU e 02 24 32.9
PRU eS S 02 29 10.6 +2.4
PRU MLR MLR
comp=Z,3µm,13.4s
PRU Pruhonice 41.53 305 eP P 02 22 55.7 +1.2
PRU ePP PP 02 24 32.9 +2.3
PRU eS S 02 29 10.6 +2.4
PRU AMS AMS 02 42 20.0
comp=Z,3µm,13.4s
FURI Furi 41.53 234 i P P 02 22 58.2 +2.9
FURI S S 02 29 12.4 +2.9
PRA Prague 41.59 305 P P 02 22 56.0 +1.0
PRA PP PP 02 24 33.0 +1.8
PERS Pernice 41.60 300 eP P 02 22 55.9 +0.6
SOKA Soboth 41.65 300⇑ iP P 02 22 56.7 +1.0
comp=Z,41nm,1.0s,SNR=17
BOJS Bojanci 41.70 299 eP P 02 22 55.0 -1.0
TRO Tromso 41.78 335 eP P 02 22 58.5 +2.2
TRO lAmb lAmb 02 23 04.7
comp=Z,36nm,0.6s
RUE Ruedersdorf 41.79 309 eP P 02 22 57.5 +0.9
comp=Z,48nm,1.3s
BRG Berggiesshubel 41.82 307 eP P 02 22 57.9 +1.0
comp=Z,12nm,1.1s
BRG PP PP 02 24 30.0 -3.7
BRG i 02 24 54.0
comp=Z,48nm,1.4s
BRG S S 02 29 12.0 -0.5
BRG SS SS 02 32 04.0 -15
BRG
comp=N,2µm,12.0s
BRG
comp=E,2µm,12.3s
BRG
comp=Z,3µm,24.0s
BRG Berggiesshubel 41.82 307 eP P 02 22 57.9 +1.0
BRG i 02 24 54.0
BRG S S 02 29 12.0 -0.5
BRG pmax pmax
comp=Z,13nm,1.1s
BRG MLR MLR
comp=N,2µm,12.0s
BRG MLR MLR
comp=E,2µm,12.3s
BRG MLR MLR
comp=Z,3µm,24.0s
BRG Berggiesshubel 41.82 307 eP P 02 22 58.0 +1.1
comp=Z,50nm,0.9s
QZH Quanzhou 41.87 94 ⇑P P 02 22 55.1 -2.5
QZH S S 02 29 13.0 -0.7
QZH LR LR

QZH comp=Z,4µm,17.6s LR LR
QZH comp=Z,2µm,11.2s LR LR
QZH comp=Z,5µm,18.4s LR LR
OBKA Obir 42.01 300 ⇑*i* P **P 02 22 59.6 +1.0**
TPTI comp=Z,30nm,1.2s 42.05 140 P **P 02 22 57.4 -1.7**
LJU comp=Z,18nm,0.8s Ljubljana 42.10 299 *e*P **P 02 23 00.3 +0.9**
LJU *e*PP PP 02 24 43.1 +6.2
TIP Timpagrande 42.12 289 PFAKE
TIP LR LR 02 23 10.0 +10
KCSI comp=Z,1µm,21.0s Kotacane, Aceh 42.13 139 P **P 02 22 56.9 -2.9**
FBE comp=Z,27nm,0.7s Freiberg 42.19 307 *e*P **P 02 23 01.0 +1.1**
GEC2 comp=Z,57nm,0.9s GERESS Array S 42.21 304 *e*P **P 02 23 02.0 +1.7**
GEC2 GERESS Array S 42.21 304 *e*P **P 02 23 01.4 +1.1**
GEC2 comp=Z,35nm,1.6s GERESS Array S 42.21 304 *e*P **P 02 23 02.0 +1.7**
GERES GERESS Array B 42.21 304 P **P 02 23 01.6 +1.4**
GERES PP **PP 02 24 42.7 +4.6**
GERES GERESS Array B 42.21 304 P **P 02 23 01.6 +1.4**
comp=Z,5.6nm,0.6s,baz=67,slow=7.5,SNR=36
GERES PP **PP 02 24 42.7 +4.6**
comp=Z,5.7nm,0.8s,baz=83,slow=10.0,SNR=4.6
GERES LR LR 02 41 51.1
comp=Z,2µm,21.3s,baz=80,slow=38
KULM Kulim 42.23 134 *e*P **P 02 23 00.0 -0.6**
KULM comp=Z,8.7nm,0.6s LR LR
KHC comp=Z,1µm,22.0s Kasperske Hory 42.25 304 *e*P **P 02 23 01.6 +1.1**
KHC *e*S **S 02 29 23.2 +4.2**
KHC MLR MLR
KHC comp=Z,2µm,23.5s Kasperske Hory 42.25 304 *e*P **P 02 23 01.6 +1.1**
KHC *e*S **S 02 29 23.2 +4.2**
KHC AMS AMS 02 41 30.0
KHC comp=Z,2µm,23.5s Kasperske Hory 42.25 304 *e*P **P 02 23 01.7 +1.2**
YAK comp=Z,26nm,0.9s Yakutsk 42.31 37 *e*P **P 02 23 00.8 +0.1**
YAK *e**PP pP 02 23 10.4 +0.8
YAK *e* 02 24 42.0
YAK *e* 02 24 54.8
YAK *e*PPP PPP 02 25 08.7
YAK *e*S **S 02 29 18.7 -0.6**
YAK *e**SS sS 02 29 37.9 +3.9
YAK *e* 02 33 02.2
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=E,37nm,1.1s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=E,27nm,1.2s
YAK smax smax
comp=N,212nm,2.2s
YAK smax smax
comp=E,292nm,2.9s
YAK MLR MLR
comp=Z,3µm,12.0s
YAK MLR MLR
comp=N,724nm,11.0s
YAK MLR MLR
comp=E,2µm,13.0s
YAK Yakutsk 42.31 37 *e*P **P 02 23 01.2 +0.5**
YAK comp=E,93nm,0.7s LR LR
comp=Z,1µm,20.0s
SNSI Sinabang, Aceh 42.35 141 P **P 02 23 01.0 -0.6**
comp=Z,357nm,0.7s,comp=Z,4µm
CLL Collm 42.37 307 *i* P **P 02 23 01.5 +0.1**
CLL *e*S **S 02 29 21.0 +0.5**
CLL pmax pmax
comp=Z,27nm,0.8s
CLL MLR MLR
comp=Z,2µm,18.5s
CLL Collm 42.37 307 *e*P **P 02 23 01.4 +0.1**
comp=Z,27nm,0.8s
CLL Collm 42.37 307 *i* P **P 02 23 01.5 +0.1**
comp=Z,11nm,0.9s
CLL *i* Pmax 02 23 03.5
CLL comp=Z,27nm,0.8s *e*pP pP 02 23 15.0 +4.7
CLL *e*PP **PP 02 24 39.0 -0.6**
CLL *e*PPP PPP 02 25 10.0
CLL *e*S **S 02 29 21.0 +0.5**
CLL *e*SS **SS 02 32 30.0 +0.4**
CLL LmV 02 43 00.0
comp=Z,2µm,18.5s
COP Copenhagen 42.44 314 ⇑*i* P **P 02 23 04.6 +2.8**
COP pmax pmax
comp=Z,57nm,0.8s
COP MLR MLR
comp=Z,2µm,14.0s
COP Copenhagen 42.44 314 ⇑*i* P **P 02 23 04.6 +2.8**
COP
comp=Z,1µm,13.0s
MOR8 Moi Rana 42.44 330 *e*P **P 02 23 01.0 -0.8**
MOR8 IAmb IAmb 02 23 03.4
comp=Z,68nm,0.8s
STEI Steigen 42.55 332 IAmB **P 02 23 02.8 +0.3**
comp=Z,728nm,3.3s
STEI *e*P **P 02 23 02.8 +0.3**
STEI IAmb IAmb 02 23 12.8
comp=Z,71nm,0.9s
LLD Lille Linde 42.57 313 *i* P P 02 23 06.2 +3.3
LLD Lille Linde 42.57 313 *i* P P 02 23 06.2 +3.3
CUC Castrocucco 42.59 290 *e*P **P 02 23 06.1 +2.8**
comp=Z,64nm,0.9s
MYKA Terra Mystica 42.60 301 ⇑*i* P **P 02 23 04.1 +0.6**
comp=Z,24nm,0.9s,SNR=5.6
CADS Cadrg 42.61 300 *e*P **P 02 23 03.9 +0.4**
TRI Trieste 42.69 299 *e*P **P 02 23 04.8 +0.8**
TRI pmax pmax
comp=Z,40nm,1.0s
TRI Trieste 42.69 299 *e*P **P 02 23 04.8 +0.8**
comp=Z,40nm,1.0s
WET Wettzell 42.71 304 *e*P **P 02 23 05.9 +1.7**
comp=Z,14nm,0.9s
KBA Koelnbreinsper 42.72 301 ⇑*i* P **P 02 23 07.2 +2.7**
comp=Z,38nm,1.4s
TANN Tannenbergstha 42.81 306 *e*P **P 02 23 06.3 +1.3**
comp=Z,14nm,0.9s
NKC Novy Kostel 42.84 306 *e*P **P 02 23 07.2 +2.0**
NKC MLR MLR
comp=Z,2µm,15.1s
NKC Novy Kostel 42.84 306 *e*P **P 02 23 07.2 +2.0**
NKC AMS AMS 02 42 20.0
comp=Z,2µm,15.1s
WERN Wernitzgruen 42.88 306 *e*P **P 02 23 07.5 +1.9**
comp=Z,13nm,1.0s
GUNZ Gunzen 42.90 306 *e*P **P 02 23 07.6 +1.9**
comp=Z,17nm,0.9s
WERD Werda 42.90 306 *e*P **P 02 23 07.1 +1.3**
comp=Z,20nm,0.9s
FLOS Flostrand 42.90 330 *e*P **P 02 23 06.5 +1.0**
RJOB Jochberg 42.98 302 *e*P **P 02 23 08.6 +2.1**
comp=Z,11nm,0.9s
INCN Inchon 43.00 73 PFAKE
INCN LR LR 02 23 20.0 +13
comp=Z,2µm,21.0s
CEL Celeste 43.04 288 PFAKE 02 23 20.0 +13
CEL LR LR
comp=Z,2µm,19.0s
ROTZ Rotzenmuhle 43.05 305 *e*P **P 02 23 08.8 +1.8**
comp=Z,17nm,1.2s
MANZ Manzenberg 43.09 306 *e*P **P 02 23 08.7 +1.4**
comp=Z,17nm,1.0s
IPM Ipoh 43.10 134 P x 02 23 06.5
comp=Z,36nm,0.8s
IPM Ipoh 43.10 134 *e*P **P 02 23 06.1 -1.6**
comp=Z,22nm,0.7s
NEUB Neuenburg 43.14 307 *e*P **P 02 23 08.8 +1.1**
comp=Z,44nm,0.9s
NB2 NORSAR Subarra 43.18 322 P **P 02 23 07.5 -0.4**
comp=Z,47nm,0.8s,baz=93,slow=8.6
NB2 NORSAR Subarra 43.18 322 P **P 02 23 07.5 -0.4**
baz=93,slow=8.6
NOA NORSAR Array B 43.18 322 P **P 02 23 07.5 -0.4**
NOA NORSAR Array B 43.18 322 P **P 02 23 07.5 -0.4**
comp=Z,68nm,0.9s,baz=93,slow=8.0,SNR=70
NOA LR LR 02 42 12.6
comp=Z,2µm,19.3s,baz=90,slow=38
NSS Namsos 43.18 327 *e*P **P 02 23 07.6 -0.2**
NSS IAmb IAmb 02 23 09.6
comp=Z,24nm,1.0s
NSS IAMs_20 IAMs_20 02 41 51.3
comp=Z,3µm,11.1s
MDJ Mudanjiang 43.23 62 P **P 02 23 08.2 -0.3**
MDJ pP pP 02 23 19.6 +2.2
MDJ sP sP 02 23 24.6 +3.6
MDJ PP **PP 02 24 49.0 0.0**
MDJ PcP **PcP 02 24 55.4 -1.9**
MDJ ScP **ScP 02 28 43.5 -2.8**
MDJ PcS **PcS 02 28 48.0 -1.7**
MDJ S **S 02 29 31.8 -1.6**
MDJ ScS **ScS 02 33 03.4 -2.9**
MDJ pmax pmax
comp=Z,9.0nm,1.9s
MDJ pmax pmax
comp=Z,270nm,4.7s
MDJ LR LR
comp=Z,8µm,27.2s
MDJ LR LR
comp=Z,2µm,22.0s
MDJ LR LR
comp=Z,2µm,18.3s
MDJ Mudanjiang 43.23 62 *e*P **P 02 23 08.9 +0.4**
comp=Z,14nm,0.8s
MDJ LR LR
comp=Z,2µm,21.0s
NAO01 NORSAR Array S 43.33 322 *e*P **P 02 23 09.0 0.0**
comp=Z,50nm,0.9s
NAO01 *e*PcP **PcP 02 24 56.0 -1.4**
PSI Prapat 43.34 138 P x 02 23 07.7
comp=Z,32nm,0.7s
ABTA Abfaltersbach 43.34 301 ⇑*i* P **P 02 23 09.8 +0.4**
comp=Z,24nm,0.9s
HOPEN Hopen 43.35 346 *e* 02 32 36.3
HOPEN IAMs_20 IAMs_20 02 43 31.4
comp=Z,4µm,17.6s
OSL Oslo 43.37 320 *e*P **P 02 23 10.1 +0.8**
BJO Bjornoya 43.62 342 *e*P **P 02 23 12.9 +1.7**
GRF Grafenberg Arr 43.70 305 *e*P **P 02 23 14.3 +2.1**
comp=Z,39nm,0.9s
GRF *e*L L 02 43 45.1
comp=Z,2µm,18.8s
BSEG Bad Segeberg 43.76 312 *e*P **P 02 23 13.6 +1.1**
comp=Z,45nm,0.9s
TBLU Trondheim 43.79 325 *e*P **P 02 23 12.7 +0.1**
TBLU IAmb IAmb 02 23 17.9
comp=Z,139nm,1.6s
WATA Walderalm 43.86 302 ⇓*i* P **P 02 23 13.2 -0.5**
comp=Z,20nm,0.7s,SNR=16
FUR Furstenfeldbru 43.91 303 *e*P **P 02 23 14.4 +0.5**
comp=Z,70nm,1.1s
GSI Gunungsitoli 43.92 141 P **P 02 23 14.1 -0.2**
comp=Z,194nm,0.6s
GSI Gunungsitoli 43.92 141 *e*P **P 02 23 13.8 -0.5**
comp=Z,133nm,0.7s
KONO Kongsberg 43.94 320 *e*P **P 02 23 14.2 +0.3**
KONO pmax pmax
comp=Z,10.0nm,0.8s
KONO MLR MLR
comp=Z,1µm,19.0s
KONO Kongsberg 43.94 320 *e*P **P 02 23 14.1 +0.2**
KONO IAmb IAmb 02 23 16.1
comp=Z,53nm,1.0s
KONO *e* 02 32 55.9
KONO IAMs_20 IAMs_20 02 41 47.9
comp=Z,4µm,12.0s
KONO Kongsberg 43.94 320 *e*P **P 02 23 14.2 +0.3**
comp=Z,10nm,0.8s
KONO LR LR
comp=Z,1µm,19.0s
CLZ Clausthal 43.94 309 *e*P **P 02 23 15.4 +1.3**
comp=Z,20nm,0.8s
KSAR Wonju Array Be 43.95 73 P **P 02 23 14.3 0.0**
KSAR PcP **PcP 02 25 02.4 +2.5**
KSRS Korea Array 43.98 73 P **P 02 23 14.3 -0.2**
comp=Z,14nm,0.9s,baz=279,slow=6.4,SNR=21
KSRS PcP **PcP 02 25 02.4 +2.5**
comp=Z,7.5nm,0.9s,baz=286,slow=2.9,SNR=4.7
KSRS LR LR 02 43 49.0
comp=Z,1µm,20.1s,baz=294,slow=39
TIXI Tiksi 43.98 23*d* *i*P **P 02 23 14.0 -0.1**
TIXI pmax pmax
comp=Z,109nm,1.0s
TIXI MLR MLR
comp=Z,3µm,18.0s
TIXI Tiksi 43.98 23 *e*P **P 02 23 14.0 -0.1**
comp=Z,86nm,0.8s
TIXI *e*S **S 02 29 44.6 +1.0**
TIXI LR LR
comp=Z,3µm,19.0s
NRDL Niedersach Rie 44.02 309 *e*P **P 02 23 16.2 +1.6**
comp=Z,38nm,1.0s
TATO Taipei 44.12 92 PFAKE
TATO LR LR 02 23 30.0 +14
comp=Z,2µm,19.0s
MOTA Moosalm 44.18 302 *i* P **P 02 23 16.7 +0.4**
comp=Z,36nm,0.9s,SNR=25
YHNB Yeheng 44.19 93 PFAKE
YHNB LR LR 02 23 30.0 +13
comp=Z,2µm,21.0s
SSLB Suanglung 44.31 94 *e*P **P 02 23 17.0 -0.4**
comp=Z,41nm,0.8s
UBBA Unterbreizbach 44.31 307 *e*P **P 02 23 19.6 +2.7**
comp=Z,9.0nm,0.6s
RETA Reutte 44.38 302 ⇑*i* P **P 02 23 18.5 +0.7**
comp=Z,13nm,0.9s
FETA Feichten 44.49 302 *i* P **P 02 23 19.2 +0.5**
comp=Z,25nm,1.1s,SNR=12
HOMB Homborsund 44.52 318 *e*P **P 02 23 19.1 +0.5**
WDD Wield Dalam 44.87 285 PFAKE 02 23 30.0 +8.3
WDD LR LR
comp=Z,996nm,20.0s
TWG Pinlang 44.90 95 *e*P **P 02 23 22.9 +0.8**
comp=Z,154nm,0.9s
USRK Ussuriysk Arra 45.00 62 P **P 02 23 22.9 +0.3**
comp=Z,3.2nm,0.6s,baz=281,slow=7.0,SNR=8.2
USRK PcP **PcP 02 25 03.8 +0.4**
comp=Z,3.2nm,0.8s,baz=318,slow=8.1,SNR=4.2
USRK LR LR 02 42 43.1
comp=Z,2µm,21.8s,baz=277,slow=37
DAVA Damuels 45.00 302 *i* P **P 02 23 22.6 -0.3**
comp=Z,75nm,1.1s,SNR=12
DAVOX Davos/Dischmat 45.11 301 P **P 02 23 23.5 -0.3**
DAVOX Davos/Dischmat 45.11 301 P **P 02 23 23.5 -0.3**
comp=Z,29nm,0.6s,baz=102,slow=7.4
DAVOX LR LR 02 45 30.4
comp=Z,1µm,20.2s,baz=62,slow=40
STU Stuttgart 45.16 304 *e*P **P 02 23 25.6 +1.7**
STU pmax pmax
comp=Z,33nm,1.1s
STU Stuttgart 45.16 304 *e*P **P 02 23 25.6 +1.7**
comp=Z,23nm,0.9s
STU Stuttgart 45.16 304 *e*P **P 02 23 25.6 +1.7**
comp=Z,33nm,1.1s
SNART Snartemo 45.20 318 *e* **P 02 23 23.8 -0.2**
SNART *e*P **P 02 23 24.9 +0.9**
SNART IAmb IAmb 02 23 27.9
comp=Z,26nm,0.9s
MSEY Mahe Island 45.25 203 PFAKE 02 23 40.0 +15
MSEY LR LR
comp=Z,1µm,19.0s
CLTB Caltabellotta 45.26 288 PFAKE 02 23 40.0 +15
CLTB LR LR
comp=Z,1µm,21.0s
VLC Villacollemand 45.38 298 PFAKE 02 23 40.0 +14
VLC LR LR
comp=Z,1µm,21.0s
TNS Taunus Mts 45.38 306 *e*P **P 02 23 28.6 +2.9**
comp=Z,14nm,0.9s
MNSI Mandailing Nat 45.38 139 P **P 02 23 24.6 -1.3**
comp=Z,50nm,0.9s,comp=Z,3µm
ODD1 Odda 45.44 320 *e*P **P 02 23 27.7 +1.8**
IBBN Ibbenburen 45.48 309 *e*P **P 02 23 27.0 +0.7**
comp=Z,66nm,1.2s
TUE Stuetta 45.54 301 *e*P **P 02 23 27.7 +0.5**
comp=Z,20nm,1.0s
TUE LR LR
comp=Z,1µm,19.0s
BLS5 Blasjo 45.54 320 *e*P **P 02 23 28.2 +1.4**
BFO Black Forest 45.81 304 P **P 02 23 31.7 +2.6**
comp=Z,107nm,1.4s,SNR=5.8
BFO Black Forest 45.81 304 *e*P **P 02 23 30.1 +1.0**
BFO pmax pmax
comp=Z,42nm,1.3s
BFO MLR MLR
comp=Z,1µm,21.0s
BFO Black Forest 45.81 304 *e*P **P 02 23 31.5 +2.4**
comp=Z,23nm,1.1s
BFO Black Forest 45.81 304 *e*P **P 02 23 30.1 +1.0**
comp=Z,42nm,1.3s
BFO LR LR
comp=Z,1µm,21.0s
SPITS Spitsbergen Ar 45.83 346 P **P 02 23 29.8 +1.0**
SPITS Spitsbergen Ar 45.83 346 P **P 02 23 29.8 +1.0**
comp=Z,19nm,0.8s,baz=128,slow=9.3,SNR=12
BUG Bochum-Univer 45.91 308 *e*P **P 02 23 32.6 +2.9**
comp=Z,48nm,1.4s
LANF Langenberg 46.02 305 *e*P **P 02 23 32.8 +2.1**
RUND Rundenannen 46.05 321 *e*P **P 02 23 31.1 +0.4**
BER Bergen 46.06 321 *e*P **P 02 23 32.1 +1.3**
BER IAMs_20 IAMs_20 02 43 47.7
comp=Z,3µm,6.6s
BER IAMSBB 02 44 35.0
comp=Z,3µm,4.4s
HABR Khabarovsk 46.09 56 *e*P **P 02 23 30.4 -0.8**
HABR *e**PP pP 02 23 40.1 -0.1
HABR *e**SP sP 02 23 44.5 +0.7
HABR *e* 02 25 05.8
HABR 02 25 19.4
HABR *e*PPP PPP 02 26 01.1
HABR *e*S **S 02 30 14.9 +0.1**
HABR *e**SS sS 02 30 31.8 +2.2
HABR *e* 02 33 22.9
HABR *e*SSS SSS 02 34 36.3
HABR pmax pmax
comp=Z,73nm,1.9s
HABR MLR MLR
comp=Z,1µm,17.0s
WTSB Winterswijk 46.11 309 *e*P **P 02 23 33.8 +2.5**
comp=Z,35nm,1.0s
EGD Espegrend 46.12 321 *e*P **P 02 23 31.4 +0.1**
ASK Askoy 46.13 321 *e*P **P 02 23 31.9 +0.6**
CDF Champ du Feu 46.48 304 *e*P **P 02 23 34.0 -0.4**
comp=Z,43nm,1.1s
CDF Champ du Feu 46.48 304 *e*P **P 02 23 34.0 -0.4**
CDF pmax pmax
comp=Z,43nm,1.1s
CDF Champ du Feu 46.48 304 *e*P **P 02 23 34.0 -0.4**
comp=Z,43nm,1.1s
BKNI Bangkinang 46.55 137 P **P 02 23 35.1 0.0**
MOF Molkenrain 46.70 303 *e*P **P 02 23 37.1 +1.0**
PGF Pioggiola 46.79 296 *e*P **P 02 23 36.6 -0.3**
PGF Pioggiola 46.79 296 *e*P **P 02 23 36.6 -0.3**
PGF Pioggiola 46.79 296 *e*P **P 02 23 36.6 -0.3**
MEM Membach 46.84 307 P **P 02 23 37.4 +0.3**
HGN Heimansgroeve 46.86 308 *e*P **P 02 23 39.4 +2.2**
PPI Padang Panjang 46.87 138 P **P 02 23 35.8 -1.8**
comp=Z,35nm,1.0s,comp=Z,3µm
HINF Hinteralfeld 46.89 303 *e*P **P 02 23 37.2 -0.4**
comp=Z,54nm,1.0s
HINF Hinteralfeld 46.89 303 *e*P **P 02 23 37.2 -0.4**
HINF pmax pmax
comp=Z,54nm,1.0s
HINF Hinteralfeld 46.89 303 *e*P **P 02 23 37.2 -0.4**
comp=Z,54nm,1.0s
WLF Walferdange 46.94 306 P **P 02 23 39.0 +1.2**
comp=Z,33nm,2.1s
WLF Walferdange 46.94 306 *e*P **P 02 23 40.9 +3.0**
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 46.94 306 *e*P **P 02 23 39.5 +1.6**
comp=Z,35nm,1.4s
WLF Walferdange 46.94 306 *e*P **P 02 23 40.9 +3.0**
WLF LR LR
comp=Z,2µm,19.0s
KBS Kingsbay 46.95 347 *e*P **P 02 23 39.6 +2.1**
KBS pmax pmax
comp=Z,34nm,0.7s
KBS MLR MLR
comp=Z,3µm,22.0s
KBS Kingsbay 46.95 347 *e*P **P 02 23 39.2 +1.6**
KBS IAmb IAmb 02 23 42.5
comp=Z,43nm,1.0s
KBS IAMs_20 IAMs_20 02 45 53.7
comp=Z,4µm,13.9s
KBS Kingsbay 46.95 347 *e*P **P 02 23 39.6 +2.1**
comp=Z,34nm,0.7s
KBS LR LR
comp=Z,3µm,22.0s
HAU Haudompre 47.18 304 *e*P **P 02 23 39.5 -0.3**
comp=Z,27nm,0.6s
HAU *e*R
comp=Z,2µm,23.0s
HAU Haudompre 47.18 304 *e*P **P 02 23 39.5 -0.3**
HAU pmax pmax
comp=Z,27nm,0.6s
HAU Haudompre 47.18 304 *e*P **P 02 23 39.5 -0.3**
comp=Z,27nm,0.6s
PDSI Padang 47.29 139 P **P 02 23 39.5 -1.4**
comp=Z,47nm,0.9s,comp=Z,6µm
BCLA Clavier 47.32 307 E P 02 23 44.8 +4.0
THEF They Montfort 47.36 304 *e*P **P 02 23 43.9 +2.7**
SAOF Saorge 47.39 298 *e*P P 02 23 46.1 +4.6
PAGF Fort de Pagny 47.46 305 *e*P **P 02 23 42.2 +0.3**
comp=Z,32nm,1.1s
PAGF Fort de Pagny 47.46 305 *e*P **P 02 23 42.2 +0.3**
comp=Z,32nm,1.1s
SBF Sospel 47.51 298 *e*P **P 02 23 41.8 -0.7**
comp=Z,163nm,1.0s
SBF Sospel 47.51 298 *e*P **P 02 23 41.8 -0.7**
SBF pmax pmax
comp=Z,163nm,1.0s
SBF Sospel 47.51 298 *e*P **P 02 23 41.8 -0.7**
comp=Z,163nm,1.0s
LPG La Plagne 47.53 300 *e*P **P 02 23 42.9 0.0**
comp=Z,62nm,0.8s
LPG La Plagne 47.53 300 *e*P **P 02 23 42.9 0.0**
LPG pmax pmax
comp=Z,62nm,0.8s
LPG La Plagne 47.53 300 *e*P **P 02 23 42.9 0.0**
comp=Z,62nm,0.8s
LPL La Plagne 47.54 300 *e*P **P 02 23 42.8 -0.1**
comp=Z,130nm,1.1s
LPL La Plagne 47.54 300 *e*P **P 02 23 42.8 -0.1**
LPL pmax pmax
comp=Z,130nm,1.1s
LPL La Plagne 47.54 300 *e*P **P 02 23 42.8 -0.1**
comp=Z,130nm,1.1s
TOUF Mont Tournerai 47.59 298 *e*P P 02 23 46.5 +3.2
CABF La Chapelle 47.69 302 *e*P **P 02 23 43.8 0.0**
comp=Z,91nm,1.1s
CABF La Chapelle 47.69 302 *e*P **P 02 23 43.8 0.0**
CABF pmax pmax
comp=Z,91nm,1.1s
CABF La Chapelle 47.69 302 *e*P **P 02 23 43.8 0.0**
comp=Z,91nm,1.1s
GIVF Givet 47.69 307 *e*P **P 02 23 43.7 0.0**
comp=Z,87nm,1.4s
GIVF Givet 47.69 307 *e*P **P 02 23 43.7 0.0**
GIVF pmax pmax
comp=Z,87nm,1.4s
GIVF Givet 47.69 307 *e*P **P 02 23 43.7 0.0**
comp=Z,87nm,1.4s
MVIF Mont Vial 47.70 298 *e*P P 02 23 48.1 +4.1
BNI Bardonecchia 47.70 300 *e*P **P 02 23 45.2 +1.2**
BNI MLR MLR
comp=Z,3µm,19.0s
BNI Bardonecchia 47.70 300 *e*P **P 02 23 45.1 +1.2**
BNI LR LR
comp=Z,3µm,19.0s
MBDF Montbardon 47.73 299 *e*P **P 02 23 44.6 +0.4**
comp=Z,80nm,0.9s
MBDF Montbardon 47.73 299 *e*P **P 02 23 44.6 +0.4**
MBDF pmax pmax
comp=Z,80nm,0.9s
MBDF Montbardon 47.73 299 *e*P **P 02 23 44.6 +0.4**
comp=Z,80nm,0.9s
JNU Nakatsue 47.82 77 *e*P **P 02 23 45.7 +0.8**
comp=Z,45nm,1.0s
JNU Nakatsue 47.82 77 P **P 02 23 45.3 +0.3**
comp=Z,73nm,0.9s,baz=316,slow=2.6,SNR=17
JNU LR LR 02 45 40.9
comp=Z,1µm,18.0s,baz=300,slow=38
DOU Dourbes 47.84 307 P **P 02 23 45.6 +0.8**

MEZF Maizieres J'vi 47.91 305 *e*P P 02 23 45.5 +0.1
comp=Z,182nm,1.2s
MEZF Maizieres J'vi 47.91 305 *e*P P 02 23 45.5 +0.1
comp=Z,182nm,1.2s
SNF Seneffe 47.94 308 P P 02 23 48.7 +3.1
SFTF Sexfontaines 47.98 304 *e*P P 02 23 45.8 -0.2
comp=Z,78nm,1.1s
SFTF Sexfontaines 47.98 304 *e*P P 02 23 45.8 -0.2
comp=Z,78nm,1.1s
BAIF Baives 48.09 307 *e*P P 02 23 47.0 +0.3
comp=Z,161nm,1.4s
BAIF Baives 48.09 307 *e*P P 02 23 47.0 +0.3
BAIF pmax pmax
comp=Z,161nm,1.4s
BAIF Baives 48.09 307 *e*P P 02 23 47.0 +0.3
comp=Z,161nm,1.4s
ORIF Oris-en-Rattie 48.28 300 *e*P P 02 23 48.2 -0.3
comp=Z,45nm,1.1s
ORIF *e*R
comp=Z,3µm,19.2s
ORIF Oris-en-Rattie 48.28 300 *e*P P 02 23 48.2 -0.3
ORIF pmax pmax
comp=Z,45nm,1.0s
ORIF Oris-en-Rattie 48.28 300 *e*P P 02 23 48.2 -0.3
comp=Z,45nm,1.0s
LMR La Mourre 48.30 298 *e*P P 02 23 48.5 0.0
comp=Z,129nm,1.4s
LMR La Mourre 48.30 298 *e*P P 02 23 48.5 0.0
LMR pmax pmax
comp=Z,129nm,1.4s
LMR La Mourre 48.30 298 *e*P P 02 23 48.5 0.0
comp=Z,129nm,1.4s
JOW Kunigami 48.56 86 *e*P P 02 23 49.9 -0.8
comp=Z,18nm,0.6s
SMRF Simiane la Rot 48.76 299 *e*P P 02 23 52.0 -0.1
comp=Z,229nm,1.5s
SMRF Simiane la Rot 48.76 299 *e*P P 02 23 52.0 -0.1
comp=Z,229nm,1.5s
KEST Kesra 48.83 287 *e*P P 02 23 54.1 +1.3
KEST Kesra 48.83 287 P P 02 23 52.8 0.0
comp=Z,8.9nm,0.7s,baz=352,slow=3.1,SNR=22
KEST LR LR 02 48 14.4
comp=Z,149nm,20.3s,baz=2.0,slow=41
LOR Lormes 48.99 303 *e*P P 02 23 53.9 +0.1
comp=Z,57nm,1.2s
LOR *e*R
comp=Z,985nm,17.8s
LOR Lormes 48.99 303 *e*P P 02 23 53.9 +0.1
comp=Z,57nm,1.2s
SSB Saint Sauveur 49.09 301 *e*P P 02 23 54.7 +0.1
SSB pmax pmax
comp=Z,38nm,1.1s
SSB Saint Sauveur 49.09 301 *e*P P 02 23 54.7 +0.1
comp=Z,38nm,1.1s
VIVF Saint-Julien-l 49.12 300 *e*P P 02 23 53.9 -0.9
comp=Z,45nm,0.8s
VIVF Saint-Julien-l 49.12 300 *e*P P 02 23 53.9 -0.9
VIVF pmax pmax
comp=Z,45nm,0.8s
VIVF Saint-Julien-l 49.12 300 *e*P P 02 23 53.9 -0.9
comp=Z,45nm,0.8s
SMF Signal de Mont 49.17 303 *e*P P 02 23 54.8 -0.4
comp=Z,43nm,0.8s
SMF Signal de Mont 49.17 303 *e*P P 02 23 54.8 -0.4
SMF pmax pmax
comp=Z,43nm,0.8s
SMF Signal de Mont 49.17 303 *e*P P 02 23 54.8 -0.4
comp=Z,43nm,0.8s
MENF Mencas 49.25 308 *e*P P 02 23 58.3 +2.6
SSF Saint Saulge 49.28 303 *e*P P 02 23 55.6 -0.4
comp=Z,32nm,1.1s
SSF Saint Saulge 49.28 303 *e*P P 02 23 55.6 -0.4
SSF pmax pmax
comp=Z,32nm,1.1s
SSF Saint Saulge 49.28 303 *e*P P 02 23 55.6 -0.4
comp=Z,32nm,1.1s
AVF Avril sur Loir 49.45 303 *e*P P 02 23 56.8 -0.5
comp=Z,104nm,1.1s
AVF Avril sur Loir 49.45 303 *e*P P 02 23 56.8 -0.5
AVF pmax pmax
comp=Z,104nm,1.1s
AVF Avril sur Loir 49.45 303 *e*P P 02 23 56.8 -0.5
comp=Z,104nm,1.1s
HYF Humbligny 49.79 304 *e*P P 02 23 59.8 -0.1
HYF Humbligny 49.79 304 *e*P P 02 23 59.8 -0.1
BGF Bois d'Agland 49.85 303 *e*P P 02 24 00.7 +0.3
comp=Z,85nm,1.1s
BGF Bois d'Agland 49.85 303 *e*P P 02 24 00.7 +0.3
BGF pmax pmax
comp=Z,85nm,1.1s
BGF Bois d'Agland 49.85 303 *e*P P 02 24 00.7 +0.3
comp=Z,85nm,1.1s
LASF Ste Croix 49.91 299 *e*P P 02 24 01.1 +0.2
comp=Z,134nm,1.2s
LASF Ste Croix 49.91 299 *e*P P 02 24 01.1 +0.2
comp=Z,134nm,1.2s
LBL Lubilhac 49.98 301 *e*P P 02 24 03.4 +2.0
PYM Petit Puy Mans 49.98 302 *e*P P 02 24 04.8 +3.4
MASI Maura Aman, Be 50.11 138 P P 02 24 01.6 -1.0
comp=Z,184nm,0.9s
KMBO Kilima Mbogo 50.31 227 *e*P P 02 24 03.5 -0.9
comp=Z,12nm,1.0s
KMBO LR LR
comp=Z,675nm,21.0s
KMBO Kilima Mbogo 50.31 227 P P 02 24 03.2 -1.2
comp=Z,5.2nm,0.6s,baz=38,slow=11,SNR=19
KMBO LR LR 02 46 06.0
comp=Z,877nm,21.9s,baz=36,slow=37
TCF Toulx Ste Croi 50.35 303 *e*P P 02 24 04.0 -0.2
comp=Z,104nm,1.1s
TCF Toulx Ste Croi 50.35 303 *e*P P 02 24 04.0 -0.2
TCF pmax pmax
comp=Z,104nm,1.1s
TCF Toulx Ste Croi 50.35 303 *e*P P 02 24 04.0 -0.2
comp=Z,104nm,1.1s
HPK Haverah Park 50.71 313 *e*P P 02 24 07.0 +0.2
HPK AMB AMB 02 24 09.2
comp=Z,62nm,1.4s
HPK AMS AMS 02 48 57.2
comp=Z,2µm,17.5s
MCD Coleburn Disti 50.82 318 *e*P P 02 24 09.2 +1.7
CAF Calviac 50.87 301 *e*P P 02 24 08.3 +0.2
comp=Z,91nm,1.2s
CAF Calviac 50.87 301 *e*P P 02 24 08.3 +0.2
CAF pmax pmax
comp=Z,91nm,1.2s
CAF Calviac 50.87 301 *e*P P 02 24 08.3 +0.2
comp=Z,91nm,1.2s
BIGH Upper Bighouse 50.98 319 *e*P P 02 24 09.0 +0.4
BIGH AMB AMB 02 24 18.8
comp=Z,420nm,2.4s
KSM Kuching 51.08 126 PFAKE 02 24 20.0 +10
KSM LR LR
comp=Z,755nm,19.0s
JMIC Jan Mayen 51.10 335 LR LR 02 46 12.8
comp=Z,3µm,19.0s,baz=76,slow=36
RJF Les Rejaudoux 51.12 302 *e*P P 02 24 10.2 +0.3
comp=Z,60nm,1.1s
RJF *e*R
comp=Z,984nm,17.5s
RJF Les Rejaudoux 51.12 302 *e*P P 02 24 10.2 +0.3
RJF pmax pmax
comp=Z,60nm,1.1s
RJF Les Rejaudoux 51.12 302 *e*P P 02 24 10.2 +0.3
comp=Z,60nm,1.1s
WOL Wolverton 51.13 310 *e*P P 02 24 10.1 +0.2
WOL AMB AMB 02 24 14.5
comp=Z,94nm,2.7s
WOL AMS AMS 02 47 49.5
comp=Z,2µm,27.2s
LDF La Druitiere 51.20 306 *e*P P 02 24 10.8 +0.3
comp=Z,106nm,1.1s
LDF La Druitiere 51.20 306 *e*P P 02 24 10.8 +0.3
LDF pmax pmax
comp=Z,106nm,1.1s
LDF La Druitiere 51.20 306 *e*P P 02 24 10.8 +0.3
comp=Z,106nm,1.1s
EKA Eskdalemuir Ar 51.26 315 P P 02 24 10.7 -0.1
EKA Eskdalemuir Ar 51.26 315 P P 02 24 10.7 -0.1
comp=Z,21nm,0.8s,baz=80,slow=6.7,SNR=25
MTLF Montolieu 51.27 299 *e*P P 02 24 11.1 0.0
comp=Z,28nm,0.9s
MTLF Montolieu 51.27 299 *e*P P 02 24 11.1 0.0
MTLF pmax pmax
comp=Z,28nm,0.9s
MTLF Montolieu 51.27 299 *e*P P 02 24 11.1 0.0
comp=Z,28nm,0.9s

ESK Eskdalemuir 51.29 315 *e*P P 02 24 11.5 +0.4
ESK pmax pmax
comp=Z,52nm,1.0s
ESK MLR MLR
comp=Z,2µm,20.0s
ESK Eskdalemuir 51.29 315 *e*P P 02 24 11.1 0.0
ESK AMB AMB 02 24 15.8
comp=Z,70nm,3.3s
ESK AMS AMS 02 48 27.7
comp=Z,2µm,15.2s
ESK Eskdalemuir 51.29 315 *e*P P 02 24 11.5 +0.4
comp=Z,52nm,1.0s
ESK LR LR
comp=Z,2µm,20.0s
FLN La Foliniere 51.38 306 *e*P P 02 24 11.0 -0.8
comp=Z,41nm,0.9s
FLN *e*R
comp=Z,2µm,19.8s
FLN La Foliniere 51.38 306 *e*P P 02 24 11.0 -0.8
FLN pmax pmax
comp=Z,41nm,0.9s
FLN La Foliniere 51.38 306 *e*P P 02 24 11.0 -0.8
comp=Z,41nm,0.9s
KESW Keswick, Cumbr 51.41 314 *e*P P 02 24 13.2 +1.2
KESW AMB AMB 02 24 15.3
comp=Z,70nm,1.3s
KESW AMS AMS 02 45 35.1
comp=Z,2µm,19.6s
MDO Dochfour 51.44 318 *e*P P 02 24 13.4 +1.2
YSS Yuzh-Sakhalins 51.51 56 *e*P P 02 24 14.0 +1.2
YSS Yuzh-Sakhalins 51.51 56 *e*P P 02 24 14.0 +1.2
CKHR Kef el Ahmar 51.58 289 P P 02 24 14.3 +0.6
SET Setif 51.59 289 P P 02 24 16.0 +2.3
EAB Aberfoyle 51.71 316 *e*P P 02 24 14.6 +0.4
GRR Gorron 51.73 306 *e*P P 02 24 14.6 +0.2
comp=Z,74nm,0.9s
GRR Gorron 51.73 306 *e*P P 02 24 14.6 +0.2
GRR pmax pmax
comp=Z,74nm,0.9s
GRR Gorron 51.73 306 *e*P P 02 24 14.6 +0.2
comp=Z,74nm,0.9s
LFF La Frestale 51.75 301 *e*P P 02 24 14.6 -0.1
comp=Z,145nm,1.2s
LFF La Frestale 51.75 301 *e*P P 02 24 14.6 -0.1
LFF pmax pmax
comp=Z,145nm,1.2s
LFF La Frestale 51.75 301 *e*P P 02 24 14.6 -0.1
comp=Z,145nm,1.2s
HLM1 Long Mynd 51.80 312 *e*P P 02 24 16.9 +2.0
HLM1 AMB AMB 02 24 19.1
comp=Z,33nm,2.8s
MFF Saint Martin d 51.81 304 *e*P P 02 24 15.4 +0.3
comp=Z,115nm,1.3s
MFF Saint Martin d 51.81 304 *e*P P 02 24 15.4 +0.3
MFF pmax pmax
comp=Z,115nm,1.3s
MFF Saint Martin d 51.81 304 *e*P P 02 24 15.4 +0.3
comp=Z,115nm,1.3s
PGBU Glenifferbraes 51.88 316 *e*P P 02 24 16.6 +1.2
PGBU AMB AMB 02 24 20.4
comp=Z,143nm,2.1s
PGBU AMS AMS 02 49 33.5
comp=Z,2µm,12.7s
FOEL Foel Wylfa 51.89 312 *e*P P 02 24 16.4 +0.7
FOEL AMB AMB 02 24 22.3
comp=Z,57nm,2.4s
FOEL AMS AMS 02 49 25.4
comp=Z,2µm,16.6s
KAC Achnashellach 51.91 318 *e*P P 02 24 15.7 0.0
MAJO Matsushiro 51.98 70 *e*P P 02 24 15.6 -0.9
MAJO pmax pmax
comp=Z,32nm,0.9s
MAJO MLR MLR
comp=Z,2µm,19.0s
MAJO Matsushiro 51.98 70 *e*P P 02 24 15.6 -0.9
comp=Z,32nm,0.9s
MAJO LR LR
comp=Z,2µm,19.0s
MAT Matsushiro 51.98 70 P P 02 24 16.0 -0.5
MAT S S 02 31 37.0 -0.9
MJAR Matsushiro Arr 51.98 70 P P 02 24 16.3 -0.2
MJAR Matsushiro Arr 51.98 70 P P 02 24 16.3 -0.2
comp=Z,12nm,0.9s,baz=290,slow=9.6,SNR=20
MJAR LR LR 02 48 18.2
comp=Z,868nm,18.8s,baz=285,slow=38
MCH1 Michaelchurch 52.02 311 *e*P P 02 24 16.8 +0.2
MCH1 AMB AMB 02 24 25.6
comp=Z,70nm,1.8s
MCH1 AMS AMS 02 49 17.0
comp=Z,2µm,16.5s
KPL Plockton 52.14 318 *e*P P 02 24 17.5 +0.2
KPL AMB AMB 02 24 24.4
comp=Z,97nm,2.1s
KPL AMS AMS 02 47 15.2
comp=Z,3µm,14.8s
MDSI Maura Dua 52.27 137 P P 02 24 12.7 -6.0
comp=Z,13nm,1.1s
YRC Rhoscolyn 52.59 313 *e*P P 02 24 21.9 +1.1
LPW Lampeter 52.62 311 AMB AMB 02 24 20.2
comp=Z,55nm,2.7s
LPW *e*P P 02 24 20.3 -0.6
LPW AMS AMS 02 46 23.5
comp=Z,2µm,19.7s
EPF Esparros 52.67 299 *e*P P 02 24 21.5 -0.1
comp=Z,24nm,0.8s
EPF Esparros 52.67 299 *e*P P 02 24 21.5 -0.1
EPF pmax pmax
comp=Z,25nm,0.8s
EPF Esparros 52.67 299 *e*P P 02 24 21.5 -0.1
comp=Z,24nm,0.8s
KLSI 52.73 137 P P 02 24 22.6 +0.4
SEY Seymchan 52.73 35 P P 02 24 21.8 +0.1
SEY pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 52.73 35 P P 02 24 21.8 +0.1
SEY Seymchan 52.73 35 P P 02 24 21.8 +0.1
comp=Z,4.8nm,0.7s,baz=271,slow=13,SNR=14
SGMF Saint Gilles 52.85 306 *e*P P 02 24 22.3 -0.4
comp=Z,54nm,0.7s
SGMF Saint Gilles 52.85 306 *e*P P 02 24 22.3 -0.4
SGMF pmax pmax
comp=Z,54nm,0.7s
SGMF Saint Gilles 52.85 306 *e*P P 02 24 22.3 -0.4
comp=Z,54nm,0.7s
DAG Danmarks Havn 53.12 343 *i*P P 02 24 26.5 +2.2
DAG pmax pmax
comp=Z,26nm,0.8s
DAG Danmarks Havn 53.12 343 *i*P P 02 24 26.5 +2.2
comp=Z,34nm,0.8s
ROSF Rostrenen 53.27 307 *e*P P 02 24 25.5 -0.4
comp=Z,58nm,0.8s
ROSF Rostrenen 53.27 307 *e*P P 02 24 25.5 -0.4
ROSF pmax pmax
comp=Z,58nm,0.8s
ROSF Rostrenen 53.27 307 *e*P P 02 24 25.5 -0.4
comp=Z,58nm,0.8s
ETSF Etsaut 53.34 299 *e*P P 02 24 26.5 0.0
comp=Z,40nm,0.7s
ETSF Etsaut 53.34 299 *e*P P 02 24 26.5 0.0
ETSF pmax pmax
comp=Z,40nm,0.7s
ETSF Etsaut 53.34 299 *e*P P 02 24 26.5 0.0
comp=Z,40nm,0.7s
QUIF Quistinic 53.34 306 *e*P P 02 24 26.6 +0.2
comp=Z,37nm,0.7s
QUIF Quistinic 53.34 306 *e*P P 02 24 26.6 +0.2
QUIF pmax pmax
comp=Z,37nm,0.7s
QUIF Quistinic 53.34 306 *e*P P 02 24 26.6 +0.2
comp=Z,37nm,0.7s
ERM Erimo 53.45 62 PFAKE 02 24 40.0 +13
ERM LR LR
comp=Z,3µm,19.0s
SJPF Ste Jean 53.71 300 *e*P P 02 24 29.2 0.0
comp=Z,58nm,1.2s
SJPF Ste Jean 53.71 300 *e*P P 02 24 29.2 0.0
SJPF pmax pmax
comp=Z,58nm,1.2s
SJPF Ste Jean 53.71 300 *e*P P 02 24 29.2 0.0
comp=Z,58nm,1.2s
SCO Scoresbysund 55.56 336 *i*P P 02 24 43.7 +1.6
SCO pmax pmax
comp=Z,5.0nm,1.0s
SCO MLR MLR
comp=Z,3µm,18.0s
SCO Scoresbysund 55.56 336 *i*P P 02 24 43.7 +1.6
comp=Z,5.1nm,1.0s
SCO
comp=Z,3µm,17.0s
ESDC Sonseca Array 56.95 297 P P 02 24 53.1 +0.5
ESDC Sonseca Array 56.95 297 P P 02 24 53.1 +0.5
comp=Z,15nm,0.6s,baz=57,slow=7.5,SNR=68
ESDC LR LR 02 53 15.7
comp=Z,359nm,18.2s,baz=335,slow=40
ESLA Sonseca Array 56.95 297 *e*P P 02 24 52.6 -0.1
comp=Z,11nm,1.0s
BORG Borgarnes 57.24 329 P P 02 24 54.5 +0.3
BORG Borgarnes 57.24 329 P P 02 24 54.5 +0.3
comp=Z,10nm,0.7s,baz=98,slow=7.1,SNR=2.9
PAB San Pablo 57.28 297 *e*P P 02 24 55.5 +0.5
PAB pmax pmax
comp=Z,21nm,1.0s
PAB MLR MLR
comp=Z,647nm,21.0s
PAB San Pablo 57.28 297 *e*P P 02 24 55.5 +0.5
comp=Z,21nm,1.0s
PAB LR LR
comp=Z,647nm,21.0s
TAM Tamanrasset 57.73 275 *e*P P 02 24 59.0 +0.5
TAM pmax pmax
comp=Z,29nm,1.0s
TAM MLR MLR
comp=Z,629nm,19.0s
TAM Tamanrasset 57.73 275 *e*P P 02 24 59.0 +0.5
comp=Z,29nm,1.0s
TAM LR LR
comp=Z,629nm,19.0s
DAV Davao City (W) 57.79 108 PFAKE 02 25 10.0 +11
DAV LR LR
comp=Z,1µm,22.0s
PETK Petropavlovsk- 58.44 45 P P 02 25 01.3 -1.5
PETK pmax pmax
comp=Z,3.0nm,0.6s
PETK Petropavlovsk- 58.44 45 P P 02 25 01.3 -1.5
PETK Petropavlovsk- 58.44 45 P P 02 25 01.3 -1.5
comp=Z,3.2nm,0.6s,baz=244,slow=4.4,SNR=12
PETK LR LR 02 51 25.8
comp=Z,862nm,19.0s,baz=290,slow=37
MVO Moncorvo 58.45 300 *e*LR LR 02 50 28.4
comp=Z,527nm,20.0s
POLO Lamas de Olo 58.88 300 *e*P P 02 25 07.5 +1.3
comp=Z,32nm,1.5s
PGAV Gavieira, Arco 58.95 301 *e*P P 02 25 07.2 +0.5
comp=Z,103nm,1.8s
PGAV Gavieira, Arco 58.95 301 *e*LR LR 02 50 16.6
comp=Z,419nm,20.0s
MTE Manteigas 59.13 299 *e*P P 02 25 09.4 +1.5
comp=Z,58nm,1.6s
MTE Manteigas 59.13 299 *e*LR LR 02 51 16.4
comp=Z,641nm,18.0s
MTE Manteigas 59.13 299 PFAKE 02 25 20.0 +12
MTE LR LR
comp=Z,819nm,21.0s
JCJ Chichijima 59.27 78 LR LR 02 52 36.5
comp=Z,427nm,19.2s,slow=38
PMRV Marv??o 59.45 298 *e*P P 02 25 11.2 +1.1
comp=Z,46nm,1.6s
PMRV Marv??o 59.45 298 *e*LR LR 02 52 08.6
comp=Z,794nm,18.0s
SUMG Summit 59.49 341 *i*P P 02 25 11.2 +0.9
SUMG pmax pmax
comp=Z,92nm,1.0s
SUMG Summit 59.49 341 *i*P P 02 25 11.2 +0.9
comp=Z,92nm,1.0s
EVO Evora 60.28 297 *e*P P 02 25 17.6 +1.8
comp=Z,33nm,1.9s
PVAQ Vaqueiros 60.59 296 *e*P P 02 25 17.5 -0.4
comp=Z,75nm,1.4s
PVAQ *e*S S 02 33 31.4 -0.6
PVAQ Vaqueiros 60.59 296 *e*LR LR 02 51 48.2
comp=Z,575nm,18.0s
PCVE Castro Verde 60.71 296 *e*P P 02 25 20.3 +1.6
comp=Z,51nm,1.6s
ABPO Ambohimpanom 61.38 206 *e*P P 02 25 22.4 -1.1
ABPO pmax pmax
comp=Z,11nm,0.6s
ABPO MLR MLR
comp=Z,931nm,21.0s
ABPO Ambohimpanom 61.38 206 *e*P P 02 25 22.4 -1.1
comp=Z,11nm,0.6s
ABPO LR LR
comp=Z,931nm,21.0s
RTC Rabat Centre 61.58 292 PFAKE 02 25 40.0 +15
RTC LR LR
comp=Z,624nm,19.0s
KAPI Kappang 62.10 123 *e*P P 02 25 27.8 -0.5
comp=Z,53nm,0.9s
KAPI LR LR
comp=Z,503nm,21.0s
KULLO Kullorsuaq 62.41 346 *i*P P 02 25 31.1 +1.5
KULLO pmax pmax
comp=Z,34nm,0.9s
KULLO Kullorsuaq 62.41 346 *i*P P 02 25 31.1 +1.5
comp=Z,34nm,0.9s
TOA0 Torodi Ar. Sit 66.13 268 *e*P P 02 25 53.7 -1.1
TORD Torodi Ar. Bea 66.13 268 P P 02 25 53.8 -1.0
TORD SKKP 02 49 32.0
TORD ⇑*e* 02 54 32.8
TORD Torodi Ar. Bea 66.13 268 P P 02 25 53.8 -1.0
comp=Z,38nm,0.5s,baz=48,slow=5.4,SNR=541
TORD SKKP 02 49 32.0
comp=Z,1.1nm,0.6s,baz=288,slow=1.4,SNR=15
TORD PKP2bc 02 54 32.8
comp=Z,1.3nm,1.0s,baz=260,slow=3.6,SNR=4.3
TORD LR LR 02 58 05.1
comp=Z,593nm,18.5s,baz=30,slow=39
SFJD Kangerlussuaq 66.22 339 *i*P P 02 26 02.7 +8.1
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 66.22 339 *e*P P 02 25 55.2 +0.6
comp=Z,19nm,0.8s
SFJD LR LR
comp=Z,1µm,19.0s
GAMB Gambell 66.73 26 *e*P P 02 25 58.5 +0.6
comp=Z,14nm,1.0s
TNA Tin City 66.77 23 *e*P P 02 25 59.2 +1.1
comp=Z,18nm,0.9s
LSZ Lusaka 66.96 226 *e*P P 02 25 59.1 -1.0
comp=Z,5.6nm,0.7s
LSZ LR LR
comp=Z,435nm,20.0s
COLD Coldfoot 70.15 16 *e*P P 02 26 19.4 +0.1
comp=Z,33nm,0.8s
IM04 Indian Mountai 70.36 18 *e*P P 02 26 20.0 -0.6
INK Inuvik 72.08 9 *e*P P 02 26 31.1 +0.2
comp=Z,34nm,0.9s
COLA College 72.66 16*d* *i*P P 02 26 34.3 -0.1
COLA pmax pmax
comp=Z,153nm,1.5s
COLA MLR MLR
comp=Z,2µm,21.0s
COLA College 72.66 16 *e*P P 02 26 35.1 +0.7
comp=Z,35nm,0.8s
COLA LR LR
comp=Z,703nm,20.0s
ILAR Eielson Array 72.96 16 P P 02 26 35.7 -0.5
ILAR Eielson Array 72.96 16 P P 02 26 35.7 -0.5
comp=Z,12nm,1.0s,baz=315,slow=4.4,SNR=38
ILAR LR LR 03 01 44.4
comp=Z,812nm,19.8s,baz=333,slow=38
KTH Kantishna Hill 73.05 18 *e*P P 02 26 36.7 -0.2
comp=Z,38nm,0.9s
PPLA Purkeypile 73.28 19 *e*P P 02 26 38.0 -0.4
comp=Z,36nm,0.9s
TRF Thorofare Moun 73.29 18 *e*P P 02 26 38.9 +0.4
comp=Z,10nm,0.8s
MCK McKinley 73.38 18 *e*P P 02 26 38.3 -0.5
MCK pmax pmax
comp=Z,8.0nm,0.6s
MCK McKinley 73.38 18 *e*P P 02 26 38.2 -0.5
comp=Z,7.7nm,0.6s
EGAK Eagle 74.12 14 *e*P P 02 26 43.3 +0.3
comp=Z,21nm,1.0s
EGAK LR LR
comp=Z,587nm,20.0s
DOT Dot Lake 74.55 16 *e*P P 02 26 45.0 -0.6
comp=Z,15nm,1.1s
PAX Paxson 74.84 17 *e*P P 02 26 46.8 -0.6
PAX pmax pmax
comp=Z,27nm,1.0s
PAX Paxson 74.84 17 *e*P P 02 26 46.8 -0.6
comp=Z,27nm,1.0s
RSO Redoubt South 75.14 21 *e*P P 02 26 48.7 -0.6
comp=Z,45nm,0.8s

DBIC Dimbokro 75.15 267 *e*P **P 02 26 48.8 -1.0**
comp=Z,39nm,1.1s
DBIC Dimbokro 75.15 267 P **P 02 26 49.1 -0.7**
comp=Z,38nm,1.1s,baz=34,slow=7.0,SNR=34
DBIC LR LR 03 04 38.6
comp=Z,924nm,18.2s,baz=30,slow=40
PMR Palmer 75.16 19 *e*P **P 02 26 48.7 -0.3**
PMR pmax pmax
comp=Z,43nm,1.1s
PMR Palmer 75.16 19 *e*P **P 02 26 48.7 -0.3**
comp=Z,43nm,1.1s
KIC Kosan Boka 75.25 266 *e*P **P 02 26 49.8 -0.6**
comp=Z,108nm,1.1s
TIC Toumodi 75.30 267 *e*P **P 02 26 50.0 -0.7**
comp=Z,85nm,1.1s
RC01 Rabbit Creek A 75.43 19 *e*P **P 02 26 50.3 -0.4**
comp=Z,15nm,0.5s
UNV Unalaska Valle 75.54 31 *e*P **P 02 26 50.4 -1.0**
comp=Z,18nm,0.8s
LIC Lamto 75.56 267 *e*P **P 02 26 51.2 -1.0**
comp=Z,38nm,0.8s
LIC *e*R
comp=Z,2μm,21.2s
LIC Lamto 75.56 267 *e*P **P 02 26 51.5 -0.7**
comp=Z,84nm,1.0s
LIC Lamto 75.56 267 *e*P **P 02 26 51.2 -1.0**
comp=Z,38nm,0.8s
LBTB Lobatse 76.25 222 *e*P **P 02 26 55.6 -0.3**
comp=Z,14nm,0.9s
TSUM Tsumeb 76.31 232 *e*P **P 02 26 56.5 +0.2**
comp=Z,29nm,1.4s
TSUM Tsumeb 76.31 232 LR LR 03 04 41.6
comp=Z,424nm,18.3s,baz=34,slow=39
DIV Divide 76.38 18 *e*P **P 02 26 56.8 +0.6**
comp=Z,27nm,1.0s
BMRM Bremner River 76.80 17 *e*P **P 02 26 59.3 +0.8**
comp=Z,46nm,1.2s
KDAK Kodiak Island 77.40 22 P **P 02 27 02.3 +0.4**
comp=Z,221nm,1.2s,SNR=12
KDAK Kodiak Island 77.40 22 *e*P **P 02 27 02.9 +1.0**
comp=Z,155nm,1.6s
KDAK LR LR
comp=Z,980nm,19.0s
OHAK Old Harbor 77.65 23 *e*P **P 02 27 03.6 +0.3**
comp=Z,118nm,1.4s
HYT Haines Junctio 78.43 14 *e*P **P 02 27 08.5 +0.8**
YKW3 Yellowknife Ar 79.37 3 *e*P **P 02 27 13.0 +0.3**
comp=Z,1.5nm,1.4s
YKA Yellowknife Ar 79.44 3 P **P 02 27 12.7 -0.3**
YKA PKKPbc **PKKPbc 02 45 59.5 -2.3**
YKA P'P' 02 54 02.4
YKA Yellowknife Ar 79.44 3 P **P 02 27 12.7 -0.3**
comp=Z,15nm,0.7s,baz=350,slow=5.4,SNR=122
YKA PKKPbc **PKKPbc 02 45 59.5 -2.3**
comp=Z,0.3nm,0.6s,baz=166,slow=2.5,SNR=8.7
YKA PKPPKP P'P'df 02 54 02.4 -9.2
comp=Z,0.3nm,0.9s,baz=133,slow=2.6,SNR=4.3
SCHQ Schefferville 80.59 337 P **P 02 27 18.4 -1.1**
SCHQ Schefferville 80.59 337 P **P 02 27 18.4 -1.1**
comp=Z,8.4nm,0.7s,baz=49,slow=4.3,SNR=13
SCHQ LR LR 03 02 41.1
comp=Z,1μm,20.1s,baz=39,slow=35
FCC Fort Churchill 82.55 352 *e*P **P 02 27 30.4 +0.7**
FCC pmax pmax
comp=Z,1.0nm,1.1s
FCC Fort Churchill 82.55 352 *e*P **P 02 27 30.4 +0.7**
comp=Z,1.4nm,1.1s
WRA Warramunga Arr 82.64 122 P **P 02 27 28.9 -1.8**
WRA PKKPbc **PKKPbc 02 45 56.4 +1.4**
WRA Warramunga Arr 82.64 122 P **P 02 27 28.9 -1.8**
comp=Z,5.1nm,0.4s,baz=324,slow=4.9,SNR=97
WRA PKKPbc **PKKPbc 02 45 56.4 +1.4**
comp=Z,1.1nm,0.9s,baz=137,slow=2.1,SNR=12
WRA LR LR 03 09 19.3
comp=Z,203nm,21.6s,baz=300,slow=39
WRAB Tennant Creek 82.64 122 P **P 02 27 29.0 -1.7**
comp=Z,123nm,0.8s,SNR=26
WRAB Tennant Creek 82.64 122 *e*P **P 02 27 28.5 -2.2**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRAB MLR MLR
comp=Z,422nm,20.0s
WRAB Tennant Creek 82.64 122 *e*P **P 02 27 28.5 -2.2**
comp=Z,17nm,0.8s
WRAB LR LR
comp=Z,422nm,20.0s
NWAO Narrogin (SRO) 82.67 143 LR LR 03 03 23.4
comp=Z,234nm,20.7s,slow=35
WRAK Wrangell Islan 83.51 13 PFAKE 02 27 50.0 +15
WRAK LR LR
comp=Z,711nm,19.0s
SUR Sutherland 84.64 221 LR LR 03 07 20.8
comp=Z,251nm,19.6s,baz=20,slow=37
COEN Coen 84.74 112 *e*P **P 02 27 41.3 -0.3**
PMG Port Moresby 84.75 106 *e*P **P 02 27 41.4 -0.3**
comp=Z,39nm,0.8s
PMG LR LR
comp=Z,251nm,21.0s
AS31 Alice Springs 84.99 125 *e*P **P 02 27 40.7 -2.0**
FORT Forrest 86.65 134 *e*P **P 02 27 50.3 -0.4**
FFC Flin Flon 87.18 356 P **P 02 27 53.3 +0.2**
comp=Z,216nm,1.0s,SNR=20
FFC Flin Flon 87.18 356 *e*P **P 02 27 53.4 +0.3**
FFC pmax pmax
comp=Z,38nm,1.0s
FFC MLR MLR
comp=Z,1μm,19.0s
FFC Flin Flon 87.18 356 *e*P **P 02 27 53.4 +0.3**
comp=Z,38nm,1.0s
FFC LR LR
comp=Z,1μm,19.0s
EDM Edmonton 88.76 3 *e*P **P 02 28 01.1 +0.4**
EDM Edmonton 88.76 3 *e*P **P 02 28 01.1 +0.4**
CTAO Charters Tower 90.96 115 *e*P **P 02 28 11.3 -0.1**
CTAO pmax pmax
comp=Z,30nm,1.3s
CTAO MLR MLR
comp=Z,390nm,20.0s
CTAO Charters Tower 90.96 115 *e*P **P 02 28 11.3 -0.1**
comp=Z,30nm,1.3s
CTAO LR LR
comp=Z,390nm,20.0s
ULM Lac du Bonnet 91.13 352 *e*P **P 02 28 11.3 -0.5**
comp=Z,13nm,1.1s
ULM Lac du Bonnet 91.13 352 P **P 02 28 11.8 0.0**
comp=Z,7.5nm,0.8s,baz=7.5,slow=4.6,SNR=7.5
ULM LR LR 03 11 31.1
comp=Z,1μm,19.5s,baz=18,slow=37
ASCN Ascension 91.59 261 PFAKE 02 28 30.0 +16
ASCN LR LR
comp=Z,728nm,20.0s
A30A Hoffart Farm, 92.67 353 ⇑P **P 02 28 17.9 -1.0**
baz=92,SNR=11
A29A Manning Farm, 92.77 354 ⇑P **P 02 28 19.1 -0.3**
baz=92
EYMN Ely 92.80 349 *e*P **P 02 28 20.2 +0.6**
comp=Z,16nm,1.1s
EYMN LR LR
comp=Z,976nm,19.0s
A28A Rude Farm, Bot 92.86 355 ⇑P **P 02 28 20.2 +0.4**
baz=92
A26A Wade Farm, Ken 93.00 356 ⇓P **P 02 28 20.5 0.0**
baz=93
A25A Svangstu Ranch 93.01 356 ⇓P **P 02 28 18.9 -1.6**
baz=93
AGMN Agassiz Nation 93.05 352 *e*P **P 02 28 21.0 +0.3**
comp=Z,16nm,0.8s
AGMN LR LR
comp=Z,1μm,21.0s
AGMN Agassiz Nation 93.05 352 ⇓P **P 02 28 19.1 -1.6**
baz=93,SNR=8.5
A22A Carney Farms, 93.06 358 ⇓P **P 02 28 19.5 -1.3**
baz=93
A24A Westby 93.07 357 ⇑P **P 02 28 19.8 -1.0**
baz=93
A21A Bergtoll Ranch 93.08 359 ⇓P **P 02 28 20.6 -0.3**
baz=93
A19A Klindworth Far 93.16 0 ⇓P **P 02 28 21.2 -0.1**
baz=93
B30A Myrvik Farm, E 93.16 353 ⇑P **P 02 28 20.7 -0.5**
baz=93,SNR=6.8
SADO Sadowa 93.16 339 LR LR 03 10 53.7
comp=Z,871nm,18.7s,baz=10,slow=36
A20A Cobblestone Ra 93.20 360 ⇓P **P 02 28 22.4 +1.0**
baz=93
B29A Wagenman Farm, 93.23 354 ⇑P **P 02 28 22.8 +1.2**
baz=93
B28A Dugan Ranch, T 93.33 355 ⇓P **P 02 28 23.7 +1.7**
baz=93
NEW Newport 93.48 6 *e*P **P 02 28 23.7 +0.9**
comp=Z,12nm,0.8s
NEW LR LR
comp=Z,1μm,22.0s
NEW Newport 93.48 6 ⇑P **P 02 28 24.3 +1.5**
baz=93,SNR=14
DGMT Dagmar 93.53 357 *e*P **P 02 28 24.4 +1.5**
comp=Z,25nm,0.9s
DGMT LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 93.53 357 ⇓P **P 02 28 24.9 +2.0**
baz=93
B23A Brockton 93.56 358 ⇓P **P 02 28 24.3 +1.2**
baz=93
B19A Brinkman Farms 93.63 0 ⇑P **P 02 28 24.0 +0.6**
baz=93
B20A Solberg Farm, 93.64 360 ⇓P **P 02 28 25.2 +1.7**
baz=93,SNR=9.7
B21A Ellsworth Farm 93.65 359 ⇑P **P 02 28 25.4 +1.9**
baz=93
B25A Knox Farm, Ray 93.68 356 ⇑P **P 02 28 25.9 +2.3**
baz=93
B22A Reddig Ranch S 93.75 358 ⇑P **P 02 28 26.3 +2.3**
baz=93
MDND Maddock 93.87 354 *e*P **P 02 28 25.4 +1.0**
MDND Maddock 93.87 354 ⇓P **P 02 28 25.8 +1.3**
baz=94
C30A Mose, Pekin 93.91 353 ⇓P **P 02 28 25.8 +1.2**
baz=94
BSMT Bassoo Peak 94.05 4 *e*P **P 02 28 26.8 +1.2**
comp=Z,11nm,0.8s
EGMT Eagleton 94.05 1 *e*P **P 02 28 26.2 +0.8**
comp=Z,21nm,0.9s
EGMT LR LR
comp=Z,992nm,20.0s
EGMT Eagleton 94.05 1 ⇑P **P 02 28 26.4 +1.0**
baz=94
C26A Wahner Farm, P 94.07 356 ⇑P **P 02 28 26.6 +1.2**
baz=94
JTMT Jette 94.19 4 *e*P **P 02 28 27.1 +1.0**
comp=Z,13nm,1.3s
C23A Lambert 94.23 358 ⇓P **P 02 28 28.4 +2.3**
baz=94,SNR=5.6
C22A Vida 94.31 358 ⇑P **P 02 28 28.5 +2.0**
baz=94,SNR=15
C19A Slack Wire Ran 94.35 0 ⇑P **P 02 28 28.2 +1.4**
baz=94
C20A Veseth Ranch, 94.37 360 ⇓P **P 02 28 28.2 +1.3**
baz=94
SWMT Swartz Lake 94.44 4 *e*P **P 02 28 28.1 +0.9**
comp=Z,17nm,1.5s
D30A Buchanan 94.53 353 ⇑P **P 02 28 28.7 +1.2**
baz=94,SNR=13
HNR Honiara 94.59 98 PFAKE 02 28 40.0 +12
HNR LR LR
comp=Z,348nm,20.0s
SLMT Seeley Lake 94.73 3 *e*P **P 02 28 29.1 +0.5**
comp=Z,16nm,0.9s
D25A Fairfield 94.81 356 ⇓P **P 02 28 31.3 +2.4**
baz=94
D23A Lindsay 94.86 358 ⇑P **P 02 28 30.6 +1.5**
baz=94
D26A Manning 94.88 356 ⇓P **P 02 28 31.2 +2.1**
baz=95
D22A Cohagen 94.91 358 ⇑P **P 02 28 31.5 +2.2**
baz=95
D19A Cripps Ranch, 94.92 0 ⇓P **P 02 28 30.7 +1.3**
baz=95
D20A Manuel Ranch, 94.99 360 ⇑P **P 02 28 30.9 +1.1**
baz=95
D21A La Casta Ranch 95.01 359 ⇓P **P 02 28 29.8 0.0**
baz=95
CHMT Chamberlain Mo 95.07 3 *e*P **P 02 28 30.4 +0.1**
comp=Z,7.1nm,0.8s
MSO Missoula 95.12 4 ⇓P **P 02 28 31.5 +1.1**
baz=95
E29A Napoleon 95.14 354 ⇓P **P 02 28 32.0 +1.6**
baz=95
E30A Jud 95.14 353 ⇓P **P 02 28 31.3 +1.0**
baz=95
E28A Huff 95.22 355 ⇑P **P 02 28 31.9 +1.2**
baz=95
HRY Holter Researc 95.32 2 *e*P **P 02 28 32.1 +0.8**
comp=Z,11nm,0.7s
LAO LASA Array 95.37 358 *e*P **P 02 28 32.9 +1.4**
comp=Z,24nm,0.8s
LAO LR LR
comp=Z,1μm,19.0s
E27A Carson 95.42 355 ⇓P **P 02 28 29.8 -1.8**
baz=95
E26A Carlson Angus 95.44 356 ⇑P **P 02 28 31.9 +0.2**
baz=95
E23A Ismay 95.54 358 ⇑P **P 02 28 34.4 +2.2**
baz=95
STKA Stephens Creek 95.56 126 P **P 02 28 32.5 +0.2**
STKA Stephens Creek 95.56 126 P **P 02 28 32.5 +0.2**
comp=Z,2.2nm,0.7s,baz=271,slow=6.7,SNR=4.2
STKA LR LR 03 17 18.2
comp=Z,196nm,18.4s,baz=302,slow=39
E20A Meyer Farm, Mu 95.58 360 ⇓P **P 02 28 34.0 +1.6**
baz=95,SNR=6.6
E22A Miles City 95.61 358 ⇓P **P 02 28 34.4 +1.9**
baz=95
E19A Rath Farm, Rou 95.62 0 ⇑P **P 02 28 34.2 +1.5**
baz=95,SNR=6.1
SPMN St. Paul 95.66 349 ⇓P **P 02 28 32.5 -0.2**
baz=95
ERPA Erie 95.85 339 PFAKE 02 28 40.0 +6.4
ERPA LR LR
comp=Z,983nm,19.0s
F28A McLaughlin 95.95 355 ⇑P **P 02 28 33.0 -1.0**
baz=96
F27A Lemmon 96.01 355 ⇑P **P 02 28 35.2 +0.9**
baz=96
F25A Bowman 96.03 356 ⇓P **P 02 28 33.7 -0.8**
baz=96
F26A Lodgepole 96.07 356 ⇓P **P 02 28 36.3 +1.6**
baz=96
F24A Ekalaka 96.16 357 ⇑P **P 02 28 36.5 +1.4**
baz=96
LRM Limekiln Ridge 96.19 3 *e*P **P 02 28 36.2 +0.8**
comp=Z,268nm,1.8s
F19A Roth Farm, Mol 96.23 0 ⇑P **P 02 28 36.0 +0.6**
baz=96,SNR=7.7
F22A Rosebud 96.28 358 ⇑P **P 02 28 37.0 +1.4**
baz=96
F20A Billings 96.28 360 ⇑P **P 02 28 36.8 +1.2**
baz=96
F23A Volborg 96.32 358 ⇑P **P 02 28 36.6 +0.8**
baz=96
BOZ Bozeman (W) 96.39 2 *e*P **P 02 28 36.9 +0.6**
BOZ pmax pmax
comp=Z,8.0nm,0.6s
BOZ MLR MLR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 96.39 2 *e*P **P 02 28 36.9 +0.6**
comp=Z,8.4nm,0.6s
BOZ LR LR
comp=Z,1μm,21.0s
G27A Dupree 96.49 355 ⇑P **P 02 28 37.9 +1.4**
baz=96
G30A Faulkton 96.53 353 ⇓P **P 02 28 37.8 +1.1**
baz=96
AAM Ann Arbor 96.64 342 PFAKE 02 28 50.0 +13
AAM LR LR
comp=Z,2μm,20.0s
G28A Parade 96.73 355 ⇓P **P 02 28 39.3 +1.6**
baz=96
G25A Newell 96.76 356 ⇓P **P 02 28 37.6 -0.2**
baz=96
G23A Biddle 96.84 358 ⇓P **P 02 28 39.5 +1.3**
baz=96
G22A Birney 96.84 358 ⇓P **P 02 28 39.0 +0.8**
baz=96
G21A Lodge Grass 96.85 359 ⇓P **P 02 28 39.0 +0.7**
baz=96
G20A Bridger 96.86 360 ⇓P **P 02 28 39.7 +1.4**
baz=96
RLMT Red Lodge 96.96 1 PFAKE 02 28 50.0 +11
RLMT LR LR
comp=Z,1μm,19.0s
H28A Mission Ridge 97.13 355 ⇑P **P 02 28 38.9 -0.6**
baz=97
MCMT McKenzie Canyo 97.17 3 *e*P Pdif 02 28 40.8 +0.8
comp=Z,1.6nm,0.8s
H27A Howes 97.25 355 ⇑P Pdif 02 28 40.2 +0.1
baz=97
H24A Dirks Ranch, A 97.26 357 ⇓P **P 02 28 38.3 -1.8**
baz=97
I03D Drain, OR 97.29 11 ⇑P **P 02 28 38.1 -2.0**
baz=97
H19A Powell 97.42 0 ⇑P Pdif 02 28 42.0 +1.1
baz=97
H21A Big Horn, Sher 97.45 359 ⇓P Pdif 02 28 42.5 +1.4
baz=97
H22A Clearmont 97.47 358 ⇑P Pdif 02 28 42.7 +1.6
baz=97
JFWS Jewell Farm 97.48 347 PFAKE 02 28 50.0 +8.9
JFWS LR LR
comp=Z,1μm,20.0s
H20A Greybull 97.60 360 ⇑P Pdif 02 28 42.1 +0.4
baz=97
ECSD EROS Data Cent 97.64 351 *e*P Pdif 02 28 42.0 +0.2
comp=Z,10nm,0.9s
ECSD LR LR
comp=Z,811nm,19.0s
ECSD EROS Data Cent 97.64 351 ⇑P Pdif 02 28 42.7 +0.9
baz=97
H17A Grant Village 97.67 1 ⇑P Pdif 02 28 43.4 +1.1
baz=97
I27A Quinn 97.81 355 ⇑P Pdif 02 28 43.2 +0.6
baz=98
I28A Midland 97.81 355 ⇓P **P 02 28 42.6 +0.1**
baz=98
RSSD Black Hills 97.86 357 *e*P **P 02 28 42.8 -0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 97.86 357 *e*P **P 02 28 42.8 -0.2**
comp=Z,4.9nm,0.8s
I25A Rochford 97.95 356 ⇓P **P 02 28 42.0 -1.3**
baz=98
J05D Fort Rock, OR 97.99 9 ⇑P **P 02 28 41.9 -1.6**
baz=98
I19A Meeteetse 98.05 0 ⇓P **P 02 28 42.8 -1.0**
baz=98
I20A Worland 98.14 360 ⇑P Pdif 02 28 44.3 +0.2
baz=98
I24A Kuemmerle Ranc 98.15 357 ⇓P Pdif 02 28 44.5 +0.3
baz=98
I22A 9 Mile Ranch, 98.17 358 ⇓P **P 02 28 42.1 -2.2**
baz=98
I21A Big Trails, Te 98.27 359 ⇑P Pdif 02 28 45.6 +0.8
baz=98
J29A Okreek 98.34 354 ⇑P Pdif 02 28 46.2 +1.3
baz=98
J30A Dallas 98.35 353 ⇑P Pdif 02 28 45.6 +0.6
baz=98
HLID Hailey 98.35 4 *e*P **P 02 28 44.3 -0.9**
comp=Z,14nm,1.8s
HLID LR LR
comp=Z,2μm,19.0s
HLID Hailey 98.35 4 ⇑P **P 02 28 45.0 -0.1**
baz=98
J28A Allard Ranch, 98.39 355 ⇓P **P 02 28 44.7 -0.5**
baz=98
ACSO Alum Creek Sta 98.42 340 PFAKE 02 29 00.0 +15
ACSO LR LR
comp=Z,931nm,20.0s
J26A Sides Ranch, S 98.62 356 ⇑P Pdif 02 28 46.6 +0.4
baz=98
CBN Corbin 98.64 336 PFAKE 02 29 00.0 +14
CBN LR LR
comp=Z,1μm,19.0s
J22A Midwest 98.65 358 ⇑P **P 02 28 45.3 -1.1**
baz=98
J20A Shoshoni 98.73 360 ⇓P **P 02 28 46.2 -0.6**
baz=98
J21A Lysite 98.73 359 ⇑P **P 02 28 44.6 -2.3**
baz=98
J19A Crowheart 98.82 0 ⇓P **P 02 28 46.5 -0.8**
baz=98
SCIA State Center 98.96 348 PFAKE 02 29 00.0 +12
SCIA LR LR
comp=Z,2μm,22.0s
K29A Lazy Trails An 98.98 354 ⇑P **P 02 28 45.3 -2.5**
baz=99
WVOR Wild Horse Val 99.13 8 PFAKE 02 29 00.0 +11
WVOR LR LR
comp=Z,924nm,22.0s
AHID Auburn Hatcher 99.29 2 PFAKE 02 29 00.0 +11
AHID LR LR
comp=Z,963nm,20.0s
BW06 Boulder Array 99.31 1 *e*P **Pdif 02 28 50.6 +1.1**
comp=Z,2.6nm,0.9s
BW06 LR LR
comp=Z,857nm,20.0s
PDAR Pinedale Array 99.31 1 P **Pdif 02 28 49.4 -0.2**
PDAR Pinedale Array 99.31 1 P **Pdif 02 28 49.4 -0.2**
comp=Z,0.8nm,0.8s,baz=29,slow=2.1,SNR=5.2
PDAR LR LR 03 18 16.0
comp=Z,622nm,18.8s,baz=20,slow=38
K22A Casper 99.41 358 ⇓P **Pdif 02 28 48.4 -1.5**
baz=99
L31A Butterfield Fa 99.42 353 ⇓P **Pdif 02 28 48.5 -1.3**
baz=99
K21A Alcova 99.44 359 ⇑P **Pdif 02 28 48.7 -1.4**
baz=99
L30A Spencer Herefo 99.73 353 ⇑P **Pdif 02 28 48.8 -2.4**
baz=99
BLA Blacksburg 100.51 337 PFAKE 02 29 10.0 +15
BLA LR LR
comp=Z,1μm,22.0s
WCI Wyandotte Cave 101.14 342 *e*P **Pdif 02 28 58.4 +0.9**
WCI Wyandotte Cave 101.14 342 *e*Pdif **Pdif 02 28 58.4 +0.9**
N20A Spence Gulch, 101.25 360 ⇓P **Pdif 02 28 56.9 -1.3**
baz=101
DUG Dugway 101.79 3 *e*P **Pdif 02 29 01.7 +1.2**
DUG MLR MLR
comp=Z,985nm,19.0s
DUG Dugway 101.79 3 *e*Pdif **Pdif 02 29 01.6 +1.2**
DUG LR LR
comp=Z,985nm,19.0s
DUG Dugway 101.79 3 ⇑P **Pdif 02 28 58.4 -2.1**
baz=102
O23A Lake Granby, G 101.83 358 ⇓P **Pdif 02 28 58.5 -2.4**
baz=102
KSU1 Kansas State U 102.20 351 PFAKE 02 29 10.0 +7.8
KSU1 LR LR
comp=Z,720nm,21.0s
ISCO Idaho Springs 102.24 358 PFAKE 02 29 10.0 +7.3
ISCO LR LR
comp=Z,992nm,20.0s
CAN Canberra 102.50 125 PFAKE 02 29 10.0 +6.6
CAN LR LR
comp=Z,647nm,19.0s
NVAR Mina Array Bea 103.12 8 Pdif **Pdif 02 29 08.8 +2.3**
NVAR PP **PKiKP 02 33 28.1 +2.0**
NVAR Mina Array Bea 103.12 8 Pdiff **Pdif 02 29 08.8 +2.3**
comp=Z,1.1nm,0.7s,baz=0.8,slow=4.4,SNR=7.8
NVAR PP **PKiKP 02 33 28.1 +2.0**
comp=Z,0.2nm,0.3s,baz=319,slow=2.6,SNR=2.7
WVT Waverly 103.51 343 *e*P **Pdif 02 29 06.8 -1.2**
WVT Waverly 103.51 343 *e*Pdif **Pdif 02 29 06.8 -1.2**
NHSC New Hope 104.22 336 PFAKE 02 29 20.0 +8.8
NHSC LR LR
comp=Z,851nm,20.0s
SDCO Great Sand Dun 104.28 358 PFAKE 02 29 20.0 +8.2
SDCO LR LR
comp=Z,2μm,19.0s
S22A 4UR Ranch, Cre 104.32 359 ⇑P **Pdif 02 29 10.5 -1.4**
baz=104
GRAC Grapevine Rang 104.64 7 ⇓P **Pdif 02 29 11.0 -2.1**
baz=104
MVCO Mesa Verde 104.87 360 PFAKE 02 29 30.0 +16
MVCO LR LR
comp=Z,877nm,21.0s
GOGA Godfrey 104.94 338 PFAKE 02 29 30.0 +16
GOGA LR LR
comp=Z,1μm,21.0s
MIAR Mount Ida 106.21 347 PFAKE 02 33 40.0
MIAR LR LR
comp=Z,1μm,19.0s
WUAZ Wupatki 106.51 2 PFAKE 02 33 40.0
WUAZ LR LR
comp=Z,957nm,22.0s
WMOK Wichita Mounta 106.77 352 PFAKE 02 33 40.0
WMOK LR LR
comp=Z,1μm,21.0s
ANMO Albuquerque 107.10 358 PFAKE 02 33 40.0
ANMO LR LR
comp=Z,1μm,22.0s
DZM Mont Dzumac 107.10 105 *e*LR LR 03 04 53.6
comp=Z,462nm,24.9s

RCBR	**Riachuelo**	**107.20**	**276**	*e*PKP			02 33 33.9	
RCBR				LR	LR			
	comp=Z,388nm,20.0s							
PFO	**Pinyon Flat Ob**	**108.08**	**7**	PFAKE			02 33 50.0	
PFO				LR	LR			
	comp=Z,726nm,19.0s							
BRAL	**Brewton**	**108.19**	**341**	PFAKE			02 33 50.0	
BRAL				LR	LR			
	comp=Z,1μm,19.0s							
NATX	**Nacogdoches**	**109.11**	**348**	PFAKE			02 33 50.0	
NATX				LR	LR			
	comp=Z,1μm,20.0s							
TUC	**Tucson**	**109.73**	**2**	PFAKE			02 33 50.0	
TUC				LR	LR			
	comp=Z,844nm,20.0s							
MNTX	**Cornudas Mount**	**110.30**	**357**	*e*PKP			02 33 39.8	
MNTX				LR	LR			
	comp=Z,698nm,19.0s							
GRTK	**Grand Turk**	**110.92**	**323**	PFAKE			02 33 50.0	
GRTK				LR	LR			
	comp=Z,769nm,20.0s							
JCT	**Junction City**	**111.10**	**352**	PFAKE			02 33 50.0	
JCT				LR	LR			
	comp=Z,1μm,20.0s							
TXAR	**Lajitas Array**	**112.57**	**355**	Pdif	**Pdif**		**02 29 52.1**	**+3.5**
TXAR				PKiKP	**PKiKP**		**02 33 45.4**	**+1.6**
TXAR				PP	**PP**		**02 34 32.6**	**+3.5**
TXAR	**Lajitas Array**	**112.57**	**355**	Pdiff	**Pdif**		**02 29 52.1**	**+3.5**
	comp=Z,0.2nm,0.7s,baz=32,slow=3.5,SNR=3.1							
TXAR				PKiKP	**PKiKP**		**02 33 45.4**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=80,slow=1.7,SNR=4.2							
TXAR				PP	**PP**		**02 34 32.6**	**+3.5**
	comp=Z,0.9nm,0.9s,baz=29,slow=2.9,SNR=4.6							
SDDR	**Presa de Saban**	**113.15**	**321**	PFAKE			02 34 00.0	
SDDR				LR	LR			
	comp=Z,770nm,22.0s							
GTBY	**Guantanamo Bay**	**114.12**	**325**	PFAKE			02 34 00.0	+13
GTBY				LR	LR			
	comp=Z,639nm,20.0s							
MTDJ	**Mount Denham**	**116.69**	**327**	PFAKE			02 34 00.0	+8.1
MTDJ				LR	LR			
	comp=Z,504nm,22.0s							
TEIG	**Tepich**	**118.75**	**338**	PFAKE			02 34 10.0	+14
TEIG				LR	LR			
	comp=Z,856nm,20.0s							
SDV	**Santo Domingo**	**121.25**	**315**	PFAKE			02 34 10.0	+9.1
SDV				LR	LR			
	comp=Z,176nm,21.0s							
PTGA	**Pitinga**	**121.89**	**298**	PFAKE			02 34 10.0	+8.1
PTGA				LR	LR			
	comp=Z,322nm,20.0s							
BDFB	**Brasilia**	**122.56**	**276**	PP	PP		02 35 39.2	-1.3
BDFB	**Brasília**	**122.56**	**276**	PP	PP		02 35 39.2	-1.3
	comp=Z,6.6nm,1.0s,baz=50,slow=10.0,SNR=4.6							
TGUH	**Tegucigalpa,Un**	**124.24**	**335**	PFAKE			02 34 20.0	+14
TGUH				LR	LR			
	comp=Z,382nm,19.0s							
BCIP	**Isla Barro Col**	**125.72**	**324**	PFAKE			02 34 20.0	+11
BCIP				LR	LR			
	comp=Z,433nm,20.0s							
ROSC	**El Rosal**	**126.62**	**316**	PKP	**PKPdf**		**02 34 13.5**	**+2.0**
ROSC	**El Rosal**	**126.62**	**316**	PKP	**PKPdf**		**02 34 13.5**	**+2.0**
	comp=Z,13nm,0.6s,baz=76,slow=4.2,SNR=12							
JTS	**JuntasAbangare**	**126.88**	**330**	PFAKE			02 34 20.0	+8.5
JTS				LR	LR			
	comp=Z,377nm,22.0s							
VNDA	**Vanda**	**127.12**	**164**	*e*PKPdf	**PKPdf**		**02 34 10.6**	**+0.6**
VNDA				PKP	**PKPdf**		**02 34 10.7**	**+0.7**
VNDA	**Vanda**	**127.12**	**164**	PKP	**PKPdf**		**02 34 10.7**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=289,slow=7.0,SNR=5.7							
QSPA	**South Pole Qui**	**128.09**	**180**	*e*PKPdf	**PKPdf**		**02 34 12.1**	**-0.1**
QSPA	**South Pole Qui**	**128.09**	**180**	PKP	**PKPdf**		**02 34 12.1**	**-0.1**
	comp=Z,24nm,1.1s,baz=269,slow=2.3							
SAML	**Samuel**	**129.91**	**294**	*e*PKPdf	**PKPdf**		**02 34 17.8**	**+0.6**
SAML				LR	LR			
	comp=Z,473nm,22.0s							
OTAV	**Otavalo**	**132.71**	**317**	*e*PKPdf	**PKPdf**		**02 34 24.8**	**+1.7**
OTAV				*e*SKPbc	**SKPbc**		**02 37 47.9**	**-0.3**
OTAV				LR	LR			
	comp=Z,370nm,19.0s							
CPUP	**Villa Florida**	**135.61**	**270**	*e*PKPdf	**PKPdf**		**02 34 27.4**	**-0.1**
CPUP	**Villa Florida**	**135.61**	**270**	PKP	**PKPdf**		**02 34 27.0**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=79,slow=2.2,SNR=9.1							
LPAZ	**La Paz**	**138.36**	**290**	*e*PKPdf	**PKPdf**		**02 34 33.9**	**+0.2**
LPAZ				*e*PP	**PP**		**02 37 22.4**	**-1.0**
LPAZ				PP	PP		02 37 23.5	0.0
LPAZ	**La Paz**	**138.36**	**290**	PKP	**PKPdf**		**02 34 33.6**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=18,slow=3.2,SNR=5.0							
LPAZ				PP	**PP**		**02 37 23.5**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=27,slow=2.0,SNR=3.8							
PPT2	**Papeete2**	**138.72**	**72**	*e*LR	LR		03 19 34.2	
	comp=Z,459nm,22.5s							
NNA	**Nana**	**141.48**	**304**	*e*PKPdf	**PKPdf**		**02 34 39.1**	**+0.3**
NNA				LR	LR			
	comp=Z,434nm,20.0s							
TBI	**Tubuai**	**142.16**	**79**	*e*LR	LR		03 21 05.9	
	comp=Z,514nm,27.8s							
LVC	**Limon Verde**	**142.74**	**283**	*e*PKPdf	**PKPdf**		**02 34 41.3**	**+0.3**
LVC				LR	LR			
	comp=Z,261nm,20.0s							
PMSA	**Palmer Station**	**142.95**	**210**	*e*PKPdf	**PKPdf**		**02 34 39.9**	**+0.2**
PMSA				LR	LR			
	comp=Z,342nm,19.0s							
TRQA	**Tornquist**	**143.69**	**256**	*e*PKPdf	PKPbc		02 34 39.9	+0.3
TRQA				LR	LR			
	comp=Z,557nm,20.0s							
LCO	**Las Campanas**	**147.35**	**275**	*e*PKPbc	**PKPbc**		**02 34 51.7**	**+0.5**
LCO				LR	LR			
	comp=Z,399nm,20.0s							
PLCA	**Paso Flores**	**150.73**	**253**	*e*PKPdf	**PKPdf**		**02 34 55.0**	**+1.4**
PLCA				*e*PKPbc	**PKiKP**		**02 35 00.1**	**+0.3**
PLCA	**Paso Flores**	**150.73**	**253**	PKP	**PKPdf**		**02 34 54.9**	**+1.2**
	comp=Z,7.1nm,1.2s,baz=68,slow=0.7,SNR=6.2							
RKT	**Rikitea**	**152.83**	**64**	*e*LR	LR		03 26 07.0	
	comp=Z,338nm,25.5s							

*IDC **02** 02:24:54.8±3.1,38°.29N×71°.24E,h0km,mb3.9/4, mb1 4.1/6,mb1mx3.7/27,mbtmp3.9/6,ML3.6/2,Error ellipse: s-maj=74.7km s-min=22.2km az=140.0*
*ISCJB **02** 02:24:55.3±1.3,38°.3N±0°.1×71°.0E±0°.2,h10km,mb3.8/4, Error ellipse: s-maj=22.0km s-min=11.4km az=32.6*

ISC 02 02:24:56.9±1.6,38°.2N±0°.1×71°.0E±0°.2,h10km,n7,σ1s01/9, mb4.0/4,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK31	**Karatay Array**	**4.88**	**356**	Pn		**Pn**	**02 26 10.9**	**+0.5**
	38nm,1.1s,baz=179,slow=13,SNR=56							
KK31				⇓Pg		Pb	02 26 17.2	-5.3
	7.6nm,0.6s,baz=181,slow=13,SNR=11							
KK31				⇑Sn		**Sn**	**02 27 07.0**	**+0.1**
	31nm,1.1s							
KK31				⇑Lg		Lg	02 27 22.3	
	36nm,1.0s,baz=183,slow=30,SNR=3.7							
AAK	**Ala-Archa**	**5.14**	**30**	Pn		**Pn**	**02 26 15.0**	**+0.8**
	1.7nm,0.3s,baz=74,slow=21,SNR=8.6							
AAK				Sn		**Sn**	**02 27 14.3**	**+0.7**
	baz=139,slow=22,SNR=2.0							
ZALV	**Zalesovo Beam**	**18.36**	**27**	P		**Pn**	**02 29 09.3**	**-2.0**
	0.2nm,0.3s,baz=213,slow=12,SNR=4.4							
FINES	**FINESS Array B**	**36.06**	**325**	P		**P**	**02 31 58.2**	**0.0**
	7.6nm,1.1s,baz=120,slow=9.4,SNR=5.9							
ARCES	**ARCESS Array B**	**39.55**	**337**	P		**P**	**02 32 27.2**	**-0.5**
	8.4nm,1.2s,baz=106,slow=7.6,SNR=9.5							
TORD	**Torodi Ar. Bea**	**65.77**	**268**	P		**P**	**02 35 42.8**	**+0.4**
	0.4nm,0.7s,baz=39,slow=4.9,SNR=3.4							
YKA	**Yellowknife Ar**	**79.52**	**3**	P		**P**	**02 37 03.5**	**+0.1**
	0.1nm,0.6s,baz=355,slow=5.1,SNR=4.1							

WEL 02 02:30:01.2±0.2,44°.37S×167°.19E,h12km,ML2.5/4,1D, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MSZ	**Milford Sound**	**0.61**	**120**	⇓P*		Pg	02 30 12.6	-0.5
MSZ				*e*S*		Sg	02 30 21.1	0.0
MSZ				S*		Sb	02 30 21.2	-1.1
MSZ				AML		AML	02 30 22.3	
MSZ				AML		AML	02 30 22.3	
JCZ	**Jackson Bay**	**1.17**	**76**	P*		Pb	02 30 22.7	-0.8
JCZ				*e*S*		Sb	02 30 38.6	-0.1
MLZ	**Mavora Lakes**	**1.20**	**145**	P*		Pn	02 30 22.8	-1.0
MLZ				*e*S*		Sb	02 30 38.5	-0.9
MLZ				*e*S*		Sg	02 30 39.0	-1.1
FOZ	**Fox Glacier**	**1.98**	**67**	PN		Pg	02 30 39.2	+0.1
ODZ	**Otahua Downs**	**2.56**	**106**	*e*PN		Pb	02 30 47.1	+0.1

*KRNET **02** 02:35:21.4±0.1,39°.60N×73°.76E,h3km,mb3.5*
*NNC **02** 02:35:25.9±4.7,39°.77N×73°.53E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=39.8km s-min=23.4km az=1.0*

ISC 02 02:35:23.4±2.3,39°.71N±0°.09×73°.63E±0°.05,h0km±14km, n9,σ1s94/17,6C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFK	**Sufi-Kurgan**	**0.32**	**343**	*i* P		**Pg**	**02 35 29.1**	**-0.4**
	baz=335							
SFK				*i* S		**Sg**	**02 35 36.3**	**+2.6**
	baz=335							
OHH	**Osh**	**1.04**	**322**	*e*P		**Pn**	**02 35 45.2**	**0.0**
	baz=321							
OHH				*e*S		**Sn**	**02 36 02.4**	**+1.9**
	baz=321							
ARSB	**Arslanbob**	**1.69**	**343**	*e*P		**Pn**	**02 35 54.4**	**+0.2**
	baz=341							
ARSB				*e*S		**Sg**	**02 36 19.1**	**+1.5**
	baz=341							
BTK	**Batken**	**2.19**	**280**	*e*P		**Pb**	**02 36 04.1**	**+0.2**
	baz=282							
BTK				*e*S		**Sg**	**02 36 35.0**	**+1.3**
	baz=282							
ARK	**Arkit**	**2.44**	**329**	*e*P		**Pb**	**02 36 07.5**	**-0.7**
	baz=329							
ARK				*e*S		**Sg**	**02 36 43.2**	**+1.4**
	baz=329							
NRN	**Naryn**	**2.50**	**46**	*e*P		**Pn**	**02 36 05.6**	**+0.1**
	baz=42							
NRN				*e*S		**Sb**	**02 36 38.8**	**-1.8**
	baz=42							
AAK	**Ala-Archa**	**3.00**	**12**	⇑Pn		**Pb**	**02 36 16.1**	**-1.5**
	2.6nm,0.5s							
AAK				⇑Lg		Lg	02 37 01.3	
	9.9nm,0.8s							
TKM2	**Tokmak 2**	**3.54**	**24**	⇑Pn		Pn	02 36 23.0	+3.3
	1.4nm,0.7s							
TKM2				⇑Pg		**Pb**	**02 36 28.9**	**+2.0**
	8.9nm,1.4s							
TKM2				⇓Lg		Lg	02 37 18.0	
	6.4nm,0.9s							
KK31	**Karatay Array**	**4.12**	**326**	⇓Pn		**Pn**	**02 36 29.7**	**+2.2**
	0.2nm,0.2s,baz=127,slow=12,SNR=14							
KK31				⇑Pg		**Pg**	**02 36 40.0**	**-2.3**
	0.8nm,0.3s,baz=136,slow=15,SNR=6.4							
KK31				⇑Sn		**Sb**	**02 37 23.6**	**-3.5**
	0.7nm,0.3s,baz=164,slow=26							
KK31				⇓Lg		Lg	02 37 35.6	
	0.9nm,0.3s,baz=139,slow=29,SNR=3.5							

IDC 02 02:41:15.4±1.6,12°.34N×142°.46E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/24,mbtmp3.4/4,Error ellipse: s-maj=60.0km s-min=31.6km az=93.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**33.06**	**194**	P		P	02 47 52.9	0.0
	0.3nm,0.6s,baz=17,slow=9.7,SNR=4.7							
MKAR	**Makanchi Array**	**60.78**	**317**	P		P	02 51 28.8	-0.4
	0.5nm,0.8s,baz=92,slow=6.2,SNR=4.0							
ZALV	**Zalesovo Beam**	**61.29**	**325**	P		P	02 51 32.9	+0.4
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.2							
ILAR	**Eielson Array**	**70.70**	**25**	P		P	02 52 32.9	0.0
	0.2nm,0.6s,baz=269,slow=5.4,SNR=4.2							

IDC 02 02:46:06.8±1.4,0°.59N×126°.32E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/20,mbtmp3.8/4,Error ellipse: s-maj=159.2km s-min=22.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**159**	P		P	02 51 00.1	-1.4
	1.5nm,0.5s,baz=338,slow=11,SNR=21							
QIS	**Mount Isa**	**24.72**	**149**	P		P	02 51 32.4	+2.4
	baz=9.3,SNR=4.8							
WRKA	**Warakurna**	**25.55**	**176**	P		P	02 51 32.3	-5.3
	baz=9.3,SNR=4.4							
STKA	**Stephens Creek**	**35.38**	**157**	P		P	02 53 05.8	+1.4
	2.4nm,0.8s,baz=345,slow=12,SNR=2.4							
MKAR	**Makanchi Array**	**59.91**	**326**	P		P	02 56 15.0	+0.3
	0.4nm,0.4s,baz=122,slow=8.2,SNR=7.4							
ZALV	**Zalesovo Beam**	**63.20**	**334**	P		P	02 56 36.3	-0.4
	0.3nm,0.6s,baz=103,slow=6.5,SNR=2.6							

*IDC **02** 02:53:48.7±0.9,31°.68S×57°.94E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.7/24,mbtmp3.8/6,Error ellipse: s-maj=33.1km s-min=27.5km az=91.0*
*ISCJB **02** 02:53:49.4±1.0,31°.7S±0°.2×58°.0E±0°.3,h17km,mb3.7/6, Error ellipse: s-maj=34.3km s-min=28.3km az=179.0*

ISC 02 02:53:51.4±1.0,31°.7S±0°.2×57°.9E±0°.2,h17km,n7,σ0s27/7, mb3.9/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
QSPA	**South Pole Qui**	**58.48**	**180**	P		**P**	**03 03 46.4**	**+0.1**
	2.0nm,0.6s,baz=265,slow=3.1,SNR=16							
CMAR	**Chiang Mai Arr**	**63.50**	**44**	P		**P**	**03 04 21.1**	**+0.3**
	1.3nm,0.6s,baz=228,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**68.54**	**101**	P		**P**	**03 04 53.2**	**-0.2**
	0.7nm,0.8s,baz=241,slow=5.5,SNR=5.0							
TORD	**Torodi Ar. Bea**	**69.92**	**300**	P		**P**	**03 05 01.9**	**0.0**
	0.2nm,0.7s,baz=175,slow=5.7,SNR=2.1							
MKAR	**Makanchi Array**	**81.16**	**17**	P		**P**	**03 06 05.8**	**+0.1**
	0.2nm,0.5s,baz=188,slow=4.3,SNR=4.4							
ZALV	**Zalesovo Beam**	**88.41**	**16**	P		**P**	**03 06 41.6**	**-0.3**
	0.3nm,0.6s,baz=235,slow=5.1,SNR=2.6							
YKA	**Yellowknife Ar**	**148.81**	**353**	PKPbc		**PKPbc**	**03 13 37.1**	**-0.1**
	1.1nm,0.6s,baz=5.2,slow=4.4,SNR=25							

NNC 02 02:56:34.1±4.7,38°.32N×70°.97E,h0km,mb3.5,mpv3.1, 7C-4D,Error ellipse: s-maj=35.4km s-min=26.7km az=1.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK31	**Karatay Array**	**4.79**	**356**	Pn		Pn	02 57 51.2	+3.7
	1.8nm,0.6s,baz=175,slow=13,SNR=21							
KK31				⇓Pg		Pg	02 58 05.5	-0.5
	1.2nm,0.5s,baz=172,slow=14,SNR=3.8							
KK31				⇑Sn		Sn	02 58 49.5	+5.7
	2.1nm,0.5s,baz=182,slow=23							
KK31				⇓Lg		Lg	02 59 05.0	
	3.9nm,0.7s,baz=164,slow=28,SNR=3.7							
AAK	**Ala-Archa**	**5.08**	**31**	⇓Pn		Pn	02 57 50.3	-1.4
	1.2nm,0.6s							
AAK				⇑Pg		Pb	02 58 02.3	-1.7
	1.8nm,0.4s							
AAK				⇑Sn		Sn	02 58 53.7	+2.5
	2.7nm,0.6s							
AAK				⇑Lg		Lg	02 59 17.1	
	2.3nm,0.5s							
TKM2	**Tokmak 2**	**5.79**	**36**	⇑Pn		Pn	02 58 00.8	-0.7
	0.6nm,0.3s							
TKM2				⇑Pg		Pb	02 58 16.5	+0.3
	4.5nm,1.2s							
TKM2				⇓Sn		Sn	02 59 10.0	+1.2
	1.5nm,0.7s							
TKM2				⇑Lg		Lg	02 59 34.3	
	2.4nm,0.7s							

*IDC **02** 03:04:08.6±4.8,8°.15S×120°.56E,h0km,mb3.9/2, mb1 4.0/3,mb1mx3.6/20,mbtmp3.8/3,ML3.6/1,Error ellipse: s-maj=387.6km s-min=36.5km az=50.0*
*ISCJB **02** 03:04:12.3±0.9,7°.99S±0°.08×120°.78E±0°.09,h33km, mb3.8/2,Error ellipse: s-maj=12.4km s-min=11.1km az=167.5*

ISC 02 03:04:14.8±1.2,8°.10S±0°.10×120°.7E±0°.1,h33km,n7, σ1s54/8,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WSI	**Waingapu**	**1.62**	**196**	P		**Pn**	**03 04 40.3**	**-0.8**
	baz=1.6,SNR=3.9							
WSI				S		**Sn**	**03 05 01.6**	**+0.7**
	baz=1.6,SNR=5.2							
JAGI	**Jajag, Banyuwa**	**6.53**	**266**	P		**Pn**	**03 05 49.9**	**+1.2**
	baz=6.5,SNR=3.1							
KNRA	**Kununurra**	**10.88**	**135**	P		**Pn**	**03 06 48.6**	**+0.3**
	baz=11,SNR=6.1							
MTN	**Manton Dam**	**11.25**	**116**	P		**Pn**	**03 06 55.6**	**+2.1**
	baz=11,SNR=5.2							
WRA	**Warramunga Arr**	**17.67**	**133**	P		**Pn**	**03 08 17.7**	**-0.8**
	0.2nm,0.3s,baz=307,slow=13,SNR=16							
MKAR	**Makanchi Array**	**64.46**	**332**	P		**P**	**03 14 47.3**	**-0.8**
	0.5nm,0.7s,baz=144,slow=7.3,SNR=4.7							
ZALV	**Zalesovo Beam**	**68.83**	**338**	P		**P**	**03 15 14.0**	**-1.8**
	1.0nm,0.5s,baz=152,slow=6.1,SNR=6.4							

*IDC **02** 03:12:08.0±0.8,38°.24N×71°.41E,h0km,mb3.9/16, mb1 4.1/21,mb1mx4.0/32,mbtmp3.9/21,ML3.9/5,MS2.7/1, Ms1 2.7/1,ms1mx2.5/54,Error ellipse: s-maj=16.5km s-min=11.5km az=158.0*
*NNC **02** 03:12:09.2±2.6,38°.34N×71°.05E,h7km±9km,mb4.4, mpv4.2,Error ellipse: s-maj=21.8km s-min=14.6km az=35.0*
*ISCJB **02** 03:12:12.2±0.2,38°.22N±0°.02×71°.40E±0°.04,h47km, mb4.1/35,MS4.0/1,Error ellipse: s-maj=4.5km s-min=3.3km az=157.9*
*MOS **02** 03:12:12.0±1.1,38°.32N×71°.29E,h33km,mb4.4/20,Error ellipse: s-maj=8.6km s-min=4.9km az=82.0*
*BJI **02** 03:12:12.3,38°.30N×71°.64E,h20km,mb3.6/6,ML4.0/3*
*NEIC **02** 03:12:14.4±0.8,38°.36N×71°.32E,h43km±7km,mb4.4/13, Error ellipse: s-maj=7.3km s-min=5.8km az=181.0*

ISC 02 03:12:14.2±0.4,38°.32N±0°.04×71°.34E±0°.05,h47km,n164, σ1s85/165,mb4.2/35,16C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSH	**Kashi**	**3.81**	**70**	Pg		**Pn**	**03 13 08.3**	**-2.1**
KSH				smax		smax		
	comp=N,650nm,0.8s							
KSH				smax		smax		
	comp=E,490nm,0.9s							
KBL	**Kabul**	**4.20**	**207**	*e*PN		**Pn**	**03 13 17.7**	**+1.8**
KBL				*e*			03 14 04.9	
KBL	**Kabul**	**4.20**	**207**	*e*Pn		**Pn**	**03 13 17.7**	**+1.8**
KBL				*e*Sn		**Sn**	**03 14 04.9**	**+1.1**
AML	**Almayashu**	**4.21**	**25**	*i* PN		**Pn**	**03 13 17.5**	**+1.3**
AML	**Almayashu**	**4.21**	**25**	P		**Pn**	**03 13 17.5**	**+1.3**
	SNR=12							
UCH	**Uchtor**	**4.60**	**31**	*i* PN		Pn	03 13 26.1	+4.5
UCH	**Uchtor**	**4.60**	**31**	P		Pn	03 13 26.1	+4.5
	SNR=12							
EKS2	**Erkin-Say**	**4.72**	**22**	*e*PN		**Pn**	**03 13 23.1**	**+0.2**
EKS2	**Erkin-Say**	**4.72**	**22**	P		Pn	03 13 26.6	+3.7
	SNR=9.5							
EKS2	**Erkin-Say**	**4.72**	**22**	*e*Pn		**Pn**	**03 13 23.1**	**+0.2**
KZA	**Kyzart**	**4.80**	**37**	*i* PN		Pn	03 13 30.0	+5.7
KZA	**Kyzart**	**4.80**	**37**	P		Pn	03 13 30.1	+5.7
	SNR=8.0							
KK31	**Karatay Array**	**4.82**	**353**	Pn		**Pn**	**03 13 25.3**	**+1.1**
	4.2nm,0.3s,baz=173,slow=12,SNR=18							
KK31				Pg			03 13 36.2	
	15nm,0.4s,baz=183,slow=12,SNR=7.5							
KK31				⇓Sn		**Sn**	**03 14 23.3**	**+4.5**
	22nm,0.5s,baz=180,slow=23,SNR=5.3							
KK31				⇑Lg		Lg	03 14 41.3	
	37nm,0.5s,baz=174,slow=31,SNR=4.1							
KK31	**Karatay Array**	**4.82**	**353**	PN		**Pn**	**03 13 25.3**	**+1.1**
KK31							03 14 23.3	
KK31							03 14 41.8	
KK31				pmax		pmax		
	comp=Z,17nm,0.3s							
KK31				smax		smax		
	comp=N,30nm,0.4s							
KK31				pmax		pmax		
	comp=N,79nm,0.5s							
KKAR	**Karatay Array**	**4.82**	**353**	*e*PN		**Pn**	**03 13 24.6**	**+0.3**
KKAR	**Karatay Array**	**4.82**	**353**	*e*Pn		**Pn**	**03 13 24.6**	**+0.3**
KKAR				*e*Sn		**Sn**	**03 14 18.2**	**-0.6**
CHCP	**Chirah Chowk**	**4.90**	**161**	⇓P		**Pn**	**03 13 26.4**	**+1.0**
AAK	**Ala-Archa**	**4.94**	**28**	PN		**Pn**	**03 13 27.4**	**+1.4**
AAK							03 14 24.1	
AAK				pmax		pmax		
	comp=Z,6.0nm,0.3s							
AAK				smax		smax		
	comp=N,5.0nm,0.3s							
AAK	**Ala-Archa**	**4.94**	**28**	P		**Pn**	**03 13 27.3**	**+1.4**
	SNR=9.8							
AAK	**Ala-Archa**	**4.94**	**28**	*e*Pn		**Pn**	**03 13 26.7**	**+0.8**
AAK				Sn		**Sn**	**03 14 24.1**	**+2.2**
AAK				Lg		Lg	03 14 47.5	
AAK	**Ala-Archa**	**4.94**	**28**	Pn		**Pn**	**03 13 27.4**	**+1.4**
	comp=N,6.1nm,0.3s,baz=186,slow=8.9,SNR=22							
AAK				Sn		**Sn**		
	comp=N,4.5nm,0.3s,baz=167,slow=18,SNR=2.6							
AAK				Lg		Lg	03 14 47.5	
	comp=N,4.7nm,0.3s,baz=259,slow=19,SNR=2.7							
AAK				LR		LR	03 14 50.8	
	comp=N,72nm,18.2s,baz=145,slow=33							
KBK	**Karagaybulak**	**5.13**	**31**	*i* PN		**Pn**	**03 13 31.4**	**+2.8**
KBK	**Karagaybulak**	**5.13**	**31**	P		**Pn**	**03 13 31.4**	**+2.8**
	SNR=7.9							
FRU	**Bishkek**	**5.16**	**28**	*e*PN		**Pn**	**03 13 30.0**	**+1.2**
FRU				*i*			03 13 46.0	
FRU				*i*			03 14 33.0	
FRU				pmax		pmax		
	comp=Z,190nm,1.6s							
FRU				smax		smax		
	comp=E,550nm,1.8s							
CHMS	**Chumysh**	**5.35**	**28**	*i* PN		**Pn**	**03 13 32.8**	**+1.4**
CHMS	**Chumysh**	**5.35**	**28**	P		**Pn**	**03 13 32.9**	**+1.4**
	SNR=20							
ULHL	**Ulahol**	**5.43**	**42**	*i* PN		Pn	03 13 37.6	+4.9
ULHL	**Ulahol**	**5.43**	**42**	P		Pn

comp=Z,0.5nm,0.3s,baz=225,slow=12,SNR=50
MKAR Lg Lg 03 18 23.7
comp=Z,0.1nm,0.3s,baz=223,slow=26,SNR=3.0
KURBB **Kurchatov Arra 13.32 20** ⇑Pn **Pn 03 15 19.3 -1.1**
comp=Z,1.9nm,0.6s
KURBB **Kurchatov Arra 13.32 20** Pn Pn 03 15 16.6 -3.8
comp=Z,0.3nm,0.3s,baz=217,slow=12,SNR=11
KURBB Lg Lg 03 19 13.2
comp=Z,0.1nm,0.3s,baz=359,slow=17,SNR=5.3
KURK Kurchatov 13.43 20 ⇑Pn **Pn 03 15 20.4 -1.6**
comp=Z,0.6nm,0.6s
KURK Kurchatov 13.43 20 P Pn 03 15 16.6 -5.3
KURK Kurchatov 13.43 20 *e*P **Pn 03 15 21.9 -0.1**
KURK Kurchatov 13.43 20 Pn Pn 03 15 16.6 -5.3
KURK Lg Lg 03 19 13.2
AB31 Akbulak array 13.67 327 ⇑Pn Pn 03 15 21.9 -3.3
comp=Z,3.7nm,0.6s,baz=141,slow=12,SNR=50
AB31 ⇑Sn **Sn 03 17 50.8 -4.6**
comp=Z,3.6nm,0.5s,baz=154,slow=22,SNR=7.0
AB31 Akbulak array 13.67 327 *e*P Pn 03 15 21.9 -3.3
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 13.67 327 *e*Pn Pn 03 15 21.2 -4.0
comp=Z,4.2nm,0.5s
ABKAR *e*Sn **Sn 03 17 51.3 -4.2**
DANN Dangsing 14.36 130 *e*P Pn 03 15 30.7 -4.2
comp=Z,18nm,0.5s
KOLN Koldanda 14.69 132 *e*P Pn 03 15 33.5 -5.8
comp=Z,14nm,0.6s
BVA0 Borovoye Array 14.72 358 ⇓Pn **Pn 03 15 39.7 +0.4**
comp=Z,4.7nm,1.0s
BVA0 ⇑Sn **Sn 03 18 20.8 -0.3**
comp=Z,7.5nm,1.6s,baz=164,slow=19,SNR=3.9
BVA0 Borovoye Array 14.72 358 P **Pn 03 15 40.2 +0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 14.72 358 P **Pn 03 15 39.0 -0.3**
BVAR 03 18 19.6
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 14.72 358 Pn **Pn 03 15 39.0 -0.3**
BVAR Sn **Sn 03 18 19.6 -1.5**
BVAR Borovoye Array 14.72 358 Pn **Pn 03 15 39.0 -0.3**
comp=Z,0.5nm,0.3s,baz=154,slow=12,SNR=9.2
BVAR Sn **Sn 03 18 19.6 -1.5**
comp=Z,0.2nm,0.3s,baz=172,slow=21,SNR=3.9
BRVK Borovoye 14.76 357 ⇑Pn **Pn 03 15 41.0 +1.2**
comp=Z,9.0nm,1.0s
BRVK Borovoye 14.76 357 *e*P **Pn 03 15 38.8 -1.0**
BRVK Borovoye 14.76 357 *e*Pn **Pn 03 15 38.8 -1.0**
GKN Gorkha 15.14 129 *e*P Pn 03 15 40.4 -4.7
comp=Z,20nm,0.4s
AKTO Aktyubinsk 15.38 326 ⇓Pn **Pn 03 15 44.3 -3.6**
comp=Z,14nm,0.9s
AKTO ⇑Sn **Sn 03 18 34.5 -2.5**
comp=Z,6.2nm,0.8s
AKTO Aktyubinsk 15.38 326 P **Pn 03 15 44.7 -3.2**
AKTO 03 18 30.8
AKTO Aktyubinsk 15.38 326 Pn **Pn 03 15 44.7 -3.2**
AKTO Sn **Sn 03 18 30.8 -6.3**
AKTO Aktyubinsk 15.38 326 Pn **Pn 03 15 44.7 -3.2**
comp=Z,0.2nm,0.3s,baz=123,slow=16,SNR=3.9
AKTO Sn **Sn 03 18 30.8 -6.3**
comp=Z,0.3nm,0.3s,baz=162,slow=20,SNR=3.4
DMN Daman 15.71 129 *e*P **Pn 03 15 48.3 -4.3**
PKI Pulchoki 15.93 128 *e*P **Pn 03 15 51.4 -4.0**
GUN Gumba 15.98 126 *e*P **Pn 03 15 52.9 -3.2**
comp=Z,45nm,0.9s
JIRN Jiri 16.35 126 *e*P **Pn 03 15 56.6 -4.3**
comp=Z,21nm,0.5s
RAMN Ramite 17.11 127 *e*P **Pn 03 16 06.6 -3.6**
comp=Z,41nm,1.0s
TAPN Taplejung 17.55 124 *e*P **Pn 03 16 13.2 -2.5**
comp=Z,9.3nm,0.6s
ODAN Odare 17.68 126 *e*P **Pn 03 16 15.0 -2.2**
comp=Z,28nm,0.7s
ZAA0 Zalesovo Array 18.16 26 *e*Pn **P 03 16 21.2 -1.3**
ZALV Zalesovo Beam 18.16 26 P **P 03 16 20.8 -1.7**
ZALV 03 19 47.3
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 18.16 26 Pn **P 03 16 20.8 -1.7**
ZALV Sn **S 03 19 47.3 -0.5**
ZALV Zalesovo Beam 18.16 26 Pn **P 03 16 20.8 -1.7**
comp=Z,0.9nm,0.3s,baz=215,slow=10,SNR=16
ZALV Sn **S 03 19 47.3 -0.5**
comp=Z,0.1nm,0.3s,baz=227,slow=31,SNR=2.1
LSA Lhasa 18.51 112 *e*P **Pn 03 16 28.3 +0.7**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 18.51 112 *e*P **Pn 03 16 28.3 +0.7**
comp=Z,6.5nm,0.7s
ARU Arti 20.02 339 P **P 03 16 43.5 +0.7**
ARU 03 17 01.1
ARU S Sn 03 20 27.7 -1.4
ARU SS **SnSn 03 20 43.7 -0.2**
ARU Arti 20.02 339 *e*P **P 03 16 42.1 -0.7**
comp=Z,3.1nm,0.7s
GNI Garni 20.66 283 P **P 03 16 51.0 +0.9**
GNI Garni 20.66 283 P **P 03 16 51.0 +0.9**
comp=Z,1.6nm,0.5s,baz=62,slow=15,SNR=3.1
ZEI Tsey 21.28 291 *e*P **P 03 16 57.5 +0.7**
ZEI pmax pmax
comp=Z,12nm,1.6s
KBZ Khabaz 22.07 293 P **P 03 17 04.6 -0.4**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 22.07 293 P **P 03 17 04.6 -0.4**
KBZ Khabaz 22.07 293 P **P 03 17 04.6 -0.4**
comp=Z,3.3nm,0.8s,baz=90,slow=11,SNR=5.2
GTA Gaotai 22.17 78 *e*P **P 03 17 06.6 +0.4**
GTA pP **pP 03 17 12.4 -5.0**
GTA sP sP 03 17 15.6 -7.7
GTA pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 22.24 294⇑ *e*P **P 03 17 07.9 +0.9**
KIV *e*S **S 03 21 08.2 -0.7**
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV Kislovodsk 22.24 294 *e*P **P 03 17 07.9 +0.9**
VRHR Novokhopersk 24.49 311 *e*P P 03 17 36.2 +7.4
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
ZAK Zakamensk 25.62 52 *e*P **P 03 17 41.3 +2.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
VORD Divnogorie 25.85 310 *e*P **P 03 17 41.0 -0.1**
VORD pmax pmax
comp=N,8.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.9s
VORD pmax pmax
comp=Z,8.0nm,0.9s
VSR Storozhevoye 26.00 310 *e*P **P 03 17 42.2 -0.2**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 27.11 58 P **P 03 17 54.3 +1.6**
SONM Songino Array 27.11 58 P **P 03 17 54.3 +1.6**
comp=Z,1.0nm,1.1s,baz=255,slow=11,SNR=6.4
ULN Ulaanbaatar 27.56 58 *e*P **P 03 17 57.3 +0.6**
OBN Obninsk 28.76 317⇓ *e*P **P 03 18 08.2 +1.1**
OBN *e* 03 19 03.1
OBN *i* S **S 03 22 49.0 -4.1**
OBN pmax pmax
comp=Z,40nm,2.5s
OBN Obninsk 28.76 317 *e*P **P 03 18 07.8 +0.7**
comp=Z,7.1nm,0.6s
BR131 Keskin Array S 29.19 285 *e*P **P 03 18 10.0 -1.2**
comp=Z,0.5nm,0.6s
BRTR Keskin Array B 29.19 285 P **P 03 18 13.0 +1.8**
BRTR Keskin Array B 29.19 285 P **P 03 18 13.0 +1.8**
comp=Z,0.5nm,0.6s,baz=98,slow=8.5,SNR=5.0
AKASG Malin Array Be 32.05 307 *c*e**P P 03 18 38.9 +2.7**
AKASG Malin Array Be 32.05 307 P **P 03 18 37.0 +0.9**
AKASG Malin Array Be 32.05 307 P **P 03 18 37.0 +0.9**
comp=Z,0.3nm,0.4s,baz=81,slow=7.8,SNR=6.4
AK01 Malin Array Si 32.06 307 *e*P **P 03 18 36.5 +0.3**
AK02 Malin Array Si 32.06 306 *e*P **P 03 18 35.4 -0.9**
KIEV Kiev 32.06 307 *e*P **P 03 18 36.5 +0.2**
KIEV pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 32.06 307 *e*P **P 03 18 36.5 +0.2**
comp=Z,1.4nm,0.5s
MLR Muntele Rosu 34.16 297⇑ *i*P **P 03 18 56.0 +1.1**
JOF Joensuu 34.45 329 *e*P **P 03 18 57.6 +0.7**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 34.45 329 *e*p **P 03 18 57.6 +0.7**
comp=Z,1.4nm,0.3s
BUR08 Bucovina Ar. S 34.57 301 *e*P **P 03 18 57.8 -0.5**
FIA1 FINESS Array S 36.14 325 *e*P **P 03 19 12.4 +0.9**
FINES FINESS Array B 36.14 325 P **P 03 19 12.7 +1.2**
FINES FINESS Array B 36.14 325 P **P 03 19 12.7 +1.2**
comp=Z,1.7nm,0.3s,baz=116,slow=8.7,SNR=30
KAF Kangasniemi 36.26 326 *e*P **P 03 19 12.8 +0.3**
KAF pmax pmax
comp=Z,9.0nm,1.0s
KAF Kangasniemi 36.26 326 *e*p **P 03 19 12.8 +0.3**
comp=Z,9.1nm,1.0s
KEV Kevo 39.22 337 *e*P **P 03 19 36.4 -1.0**
KEV pmax pmax
comp=Z,31nm,1.3s
KEV Kevo 39.22 337 *e*p **P 03 19 36.4 -1.0**
comp=Z,30nm,1.3s
ARCES ARCESS Array B 39.58 337 P **P 03 19 41.4 +1.0**
ARCES ARCESS Array B 39.58 337 P **P 03 19 41.4 +1.0**
comp=Z,2.7nm,0.6s,baz=109,slow=7.7,SNR=22
CLL Collm 42.28 307 *e*P **P 03 20 05.0 +2.1**
CLL MLR MLR
comp=Z,200nm,18.7s
CLL Collm 42.28 307 *e*P **P 03 20 05.0 +2.1**
CLL LmV 03 41 00.0
comp=Z,200nm,18.7s
CLL Lm MLR 05 08 00.0
comp=N,100nm,20.5s
CLL Lm MLR 05 08 00.0
comp=E,100nm,20.3s
KULM Kulim 42.30 134 *e*P **P 03 20 03.1 -0.3**
YAK Yakutsk 42.34 37 *e*P **P 03 20 03.8 +0.6**
YAK pmax pmax
comp=Z,11nm,0.6s
YAK Yakutsk 42.34 37 *e*P **P 03 20 03.8 +0.6**
comp=Z,11nm,0.6s
NB2 NORSAR Subarra 43.11 322 P **P 03 20 09.8 +0.3**
comp=Z,5.2nm,1.0s,baz=94,slow=8.6
NOA NORSAR Array B 43.11 322 P **P 03 20 10.1 +0.6**
NOA NORSAR Array B 43.11 322 P **P 03 20 10.1 +0.6**
comp=Z,2.7nm,0.8s,baz=93,slow=8.1,SNR=7.4
IPM Ipoh 43.18 134 *e*P **P 03 20 09.7 -0.8**
TIXI Tiksi 43.99 23⇑ *e*P **P 03 20 16.9 +0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 43.99 23 *e*P **P 03 20 16.4 0.0**
comp=Z,4.4nm,0.7s
KSAR Wonju Array Be 44.03 73 P **P 03 20 18.0 +0.9**
KSRS Korea Array 44.06 73 P **P 03 20 18.0 +0.7**
comp=Z,0.8nm,0.8s,baz=292,slow=6.6,SNR=4.5
SSLB Suanglung 44.40 94 *e*P **P 03 20 20.7 +0.4**
MJAR Matsushiro Arr 52.06 70 P **P 03 21 20.8 +1.6**
MJAR Matsushiro Arr 52.06 70 P **P 03 21 20.8 +1.6**
comp=Z,2.7nm,0.9s,baz=283,slow=11,SNR=4.7
ESDC Sonseca Array 56.86 297 P **P 03 21 54.9 +0.8**
ESDC Sonseca Array 56.86 297 P **P 03 21 54.9 +0.8**
comp=Z,0.9nm,0.7s,baz=58,slow=7.3,SNR=5.7
TAM Tamanrasset 57.64 275 *e*P **P 03 22 02.1 +2.2**
TAM pmax pmax
comp=Z,6.0nm,1.5s
TAM Tamanrasset 57.64 275 *e*P **P 03 22 02.1 +2.2**
comp=Z,5.5nm,1.5s
TOA0 Torodi Ar. Sit 66.04 268 *e*P **P 03 22 56.1 -0.2**
TORD Torodi Ar. Bea 66.04 268 P **P 03 22 56.5 +0.1**
TORD Torodi Ar. Bea 66.04 268 P **P 03 22 56.5 +0.1**
comp=Z,1.1nm,0.5s,baz=44,slow=5.6,SNR=12
GAMB Gambell 66.75 26 *e*P **P 03 23 00.3 +0.2**
comp=Z,4.9nm,1.1s
COLD Coldfoot 70.15 16 *e*P **P 03 23 23.4 +2.1**
comp=Z,1.9nm,0.8s
INK Inuvik 72.07 9 P **P 03 23 34.0 +1.2**
INK Inuvik 72.07 9 P **P 03 23 34.0 +1.2**
comp=Z,0.9nm,0.5s,baz=356,slow=8.8,SNR=7.6
COLA College 72.66 16 *e*P **P 03 23 37.5 +1.1**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 72.66 16 *e*P **P 03 23 37.5 +1.1**
comp=Z,3.1nm,0.8s
ILAR Eielson Array 72.96 16 P **P 03 23 39.1 +0.8**
ILAR Eielson Array 72.96 16 P **P 03 23 39.1 +0.8**
comp=Z,0.5nm,0.9s,baz=327,slow=7.5,SNR=5.9
LBTB Lobatse 76.21 222 *e*P **P 03 23 57.4 -0.2**
comp=Z,6.7nm,1.0s
YKA Yellowknife Ar 79.42 3 P **P 03 24 16.0 +1.1**
YKA Yellowknife Ar 79.42 3 P **P 03 24 16.0 +1.1**
comp=Z,0.5nm,0.5s,baz=349,slow=5.6,SNR=17
WRA Warramunga Arr 82.73 122 P **P 03 24 32.0 -1.2**
WRA Warramunga Arr 82.73 122 P **P 03 24 32.0 -1.2**
comp=Z,0.2nm,0.5s,baz=322,slow=5.0,SNR=6.1
COEN Coen 84.83 112 *e*P **P 03 24 45.5 +1.6**

*BUL **02** 03:13:06.5±7.2, 4.°55S×34.°93E, h300km±81km, MD3.9*
*IDC **02** 03:13:16.2±2.6, 3.°82S×34.°84E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.7/4, ML3.7/1, MS3.7/1, Ms1 3.7/1, ms1mx3.0/34, Error ellipse: s-maj=67.6km s-min=20.1km az=150.0*
ISC 02 03:13:16.8±0.9, 4.°09S±0.°06×34.°84E±0.°06, h22km, n8, σ2s 01/14, mb3.8/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**2.28**	**157**	*i* P		**Pb**	**03 13 55.3**	**-1.9**
DODT				*i* S		**Sb**	**03 14 27.4**	**+2.4**
MAUS	**Longido**	**2.29**	**54**	*i* P		**Pn**	**03 13 52.7**	**-0.6**
MAUS				*i* S		**Sn**	**03 14 17.4**	**-3.6**
KMBO	**Kilima Mbogo**	**3.80**	**39**	Pn		**Pn**	**03 14 13.4**	**-0.9**
	6.4nm,0.3s,baz=222,slow=18,SNR=85							
KMBO				Pg		**Pb**	**03 14 23.6**	**+0.3**
	15nm,0.3s,baz=218,slow=18,SNR=37							
KMBO				Sn		**Sn**	**03 14 56.6**	**-1.9**
	18nm,0.3s,baz=253,slow=19,SNR=4.1							
KMBO				Lg		Lg	03 15 09.8	
	41nm,0.3s,baz=298,slow=23,SNR=6.1							
KMBO	**Kilima Mbogo**	**3.80**	**39**	*i* P		**Pn**	**03 14 13.4**	**-0.9**
KMBO				*i* S		**Sn**	**03 14 59.0**	**+0.5**
MBAR	**Mbarara**	**5.36**	**310**	*i* P		**Pn**	**03 14 35.2**	**-0.6**
MBAR				*i* S		**Sn**	**03 15 33.9**	**-3.1**
TORD	**Torodi Ar. Bea**	**37.10**	**298**	P		**P**	**03 20 27.5**	**+1.6**
	1.1nm,0.9s,baz=103,slow=6.9,SNR=3.0							
TORD				LR		LR	03 35 47.8	
	comp=Z,112nm,18.1s,baz=315,slow=37							
MKAR	**Makanchi Array**	**65.67**	**34**	P		**P**	**03 24 00.5**	**+1.0**
	0.4nm,0.6s,baz=224,slow=5.9,SNR=5.7							
KURBB	**Kurchatov Arra**	**66.12**	**29**	P		**P**	**03 24 04.0**	**+1.8**
	0.7nm,1.0s,baz=233,slow=6.7,SNR=4.0							

*ISCJB **02** 03:17:34.5±0.5, 25.°30S±0.°03×70.°6W±0.°1, h35km, mb3.4/3, Error ellipse: s-maj=15.5km s-min=3.6km az=6.5*
*GUC **02** 03:17:34.8±0.4, 25.°30S×70.°61W, h51km±62km, ML4.1*
*IDC **02** 03:17:40.2±2.9, 25.°18S×70.°61W, h66km±25km, mb3.2/3, mb1 3.4/6, mb1mx3.3/18, mbtmp3.5/6, Error ellipse: s-maj=36.8km s-min=18.2km az=91.0*
ISC 02 03:17:36.0±0.8, 25.°25S±0.°04×70.°8W±0.°1, h35km, n16, σ1s 80/24, mb3.4/3, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.61**	**14**⇑	*i* P		**Pn**	**03 18 01.2**	**-0.7**
ANCH				*i* S		**Sn**	**03 18 21.2**	**-0.2**
PB10	**Plate Boundary**	**1.75**	**8**⇑	*i* P		**Pn**	**03 18 03.7**	**-0.2**
PB10				*i* S		**Sn**	**03 18 25.6**	**+0.6**
PB10				AML		AML	03 18 34.7	
	comp=E,2μm,0.3s							
CDCH	**Caldera**	**1.81**	**180**	*i* P		**Pn**	**03 18 03.7**	**-1.0**
CDCH				*i* S		**Sn**	**03 18 25.4**	**-1.0**
CEN1	**Los Morros**	**1.94**	**17**	*e*P		**Pn**	**03 18 04.2**	**-2.4**
CEN1				*i* S		**Sn**	**03 18 25.9**	**-3.9**
CPCH	**Copiapo**	**2.14**	**169**	*e*P		**Pn**	**03 18 07.7**	**-1.6**
CPCH				*i* S		**Sn**	**03 18 32.6**	**-2.1**
VACH	**Vallenar**	**3.31**	**179**	*i* P		**Pn**	**03 18 24.1**	**-1.3**
VACH				*i* S		**Sn**	**03 19 01.6**	**-2.0**
LCO	**Las Campanas**	**3.75**	**178**	*e*P		**Pn**	**03 18 30.5**	**-1.0**
LCO			⇑	*i* S		**Sn**	**03 19 13.0**	**-1.6**
LCO				AML		AML	03 19 34.7	
	comp=E,269nm,0.3s							
CFAA	**Coronel Fontan**	**6.73**	**161**	P		Pn	03 19 16.8	+4.5
	comp=E,0.2nm,0.3s,baz=350,slow=14,SNR=15							
CFAA				S		**Sn**	**03 20 32.1**	**+4.3**
	comp=E,0.2nm,0.3s,baz=327,slow=17,SNR=3.0							
LPAZ	**La Paz**	**9.27**	**16**	P		**Pn**	**03 19 49.2**	**+1.5**
	comp=E,0.1nm,0.3s,baz=196,slow=7.4,SNR=4.2							
SIV	**San Ignacio**	**12.97**	**47**	P		**Pn**	**03 20 39.9**	**+2.0**
	comp=E,0.6nm,0.3s,baz=235,slow=10,SNR=9.9							
SIV				S		**Sn**	**03 23 00.1**	**-1.0**
	comp=E,0.1nm,0.3s,baz=252,slow=17,SNR=3.0							
TXAR	**Lajitas Array**	**62.77**	**328**	P		**P**	**03 27 59.3**	**+1.3**
	comp=E,0.1nm,0.6s,baz=129,slow=7.1,SNR=2.7							
TORD	**Torodi Ar. Bea**	**80.27**	**71**	P		**P**	**03 29 43.0**	**-0.7**
	comp=E,0.7nm,0.7s,baz=261,slow=5.2,SNR=17							
YKA	**Yellowknife Ar**	**94.14**	**341**	P		**P**	**03 30 50.7**	**+0.3**
	comp=E,0.1nm,0.7s,baz=130,slow=4.2,SNR=5.1							
WRA	**Warramunga Arr**	**128.84**	**211**	PKP		**PKPdf**	**03 36 40.8**	**+0.2**
	comp=E,0.2nm,0.6s,baz=170,slow=1.5,SNR=3.6							
ZALV	**Zalesovo Beam**	**146.08**	**26**	PKPbc		**PKPdf**	**03 37 11.0**	**-0.1**
	comp=E,1.4nm,0.7s,baz=312,slow=3.9,SNR=6.2							
MKAR	**Makanchi Array**	**149.68**	**38**	PKPbc		**PKPbc**	**03 37 22.1**	**+0.2**
	comp=E,0.6nm,0.7s,baz=321,slow=3.2,SNR=5.2							

IDC 02 03:28:17.6±2.2, 14.°19N×89.°12W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.5/23, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=58.8km s-min=25.0km az=29.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
APG	**El Apazote**	**1.53**	**302**	Pg		Pb	03 28 47.0	0.0
	12nm,0.3s,baz=148,slow=7.9,SNR=118							
JTS	**JuntasAbangare**	**5.63**	**133**	Pn		Pn	03 29 43.1	+0.5
	1.0nm,0.3s,baz=294,slow=18,SNR=3.4							
TXAR	**Lajitas Array**	**20.20**	**321**	P		P	03 32 53.5	-0.7
	0.3nm,0.8s,baz=151,slow=11,SNR=3.8							
NVAR	**Mina Array Bea**	**35.33**	**319**	P		P	03 35 13.5	-1.5
	0.3nm,0.6s,baz=134,slow=6.4,SNR=3.7							
SCHQ	**Schefferville**	**44.12**	**18**	P		P	03 36 28.6	+1.0
	2.2nm,0.7s,baz=231,slow=14,SNR=3.1							
YKA	**Yellowknife Ar**	**51.52**	**345**	P		P	03 37 24.1	-0.7
	0.2nm,0.7s,baz=142,slow=7.3,SNR=4.6							

*IDC **02** 03:29:48.5±3.2, 38.°08N×71.°32E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.3/27, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=70.5km s-min=20.4km az=145.0*
*ISCJB **02** 03:29:49.1±1.4, 38.°3N±0.°1×71.°3E±0.°1, h10km, mb3.8/3, Error ellipse: s-maj=18.4km s-min=12.1km az=135.8*
ISC 02 03:29:51.3±1.8, 38.°2N±0.°1×71.°2E±0.°1, h10km, n6, σ1s 11/9, mb3.8/3, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.88**	**354**	Pn		**Pn**	**03 31 06.0**	**+1.2**
	0.9nm,0.4s,baz=180,slow=14,SNR=20							
KK31			⇑	Pg		**Pb**	**03 31 16.7**	**-0.3**
	1.2nm,0.5s,baz=177,slow=17,SNR=5.1							
KK31			⇓	Sn		**Sn**	**03 32 01.0**	**-0.5**
	2.7nm,0.6s,baz=172,slow=21							
KK31			⇑	Lg		Lg	03 32 17.4	
	1.9nm,0.5s,baz=168,slow=26							
MKAR	**Makanchi Array**	**11.84**	**40**	Pn		**Pn**	**03 32 40.1**	**-0.1**
	0.0nm,0.3s,baz=228,slow=14,SNR=6.1							
MKAR				Sn		**Sn**	**03 34 52.8**	**+0.5**
	0.1nm,0.3s,baz=226,slow=16,SNR=14							
ZALV	**Zalesovo Beam**	**18.29**	**26**	P		**Pn**	**03 34 02.7**	**-2.3**
	0.1nm,0.3s,baz=225,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**36.13**	**325**	P		**P**	**03 36 53.7**	**+0.4**
	2.0nm,0.9s,baz=116,slow=9.6,SNR=6.6							
ARCES	**ARCESS Array B**	**39.60**	**337**	P		**P**	**03 37 22.7**	**+0.2**
	2.0nm,0.9s,baz=93,slow=9.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**65.91**	**268**	P		**P**	**03 40 37.5**	**-0.2**
	0.3nm,0.6s,baz=40,slow=5.7,SNR=6.3							

NNC 02 03:32:09.0±3.5, 38.°63N×70.°76E, h0km, mb3.7, mpv3.4, 6C-8D, Error ellipse: s-maj=27.2km s-min=17.0km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.48**	**358**	⇓Pn		Pn	03 33 21.1	+2.9
	3.8nm,0.6s,baz=175,slow=13,SNR=8.3							
KK31			⇑	Sn		Sb	03 34 17.2	-5.9
	8.1nm,0.7s,baz=180,slow=24							
KK31			⇓	Lg		Lg	03 34 32.6	
	5.1nm,0.6s,baz=177,slow=29							
AAK	**Ala-Archa**	**4.91**	**34**	⇓Pn		Pn	03 33 27.8	+3.5
	7.7nm,0.8s							
AAK			⇑	Sn		Sn	03 34 23.9	+2.0
	6.3nm,0.6s							
AAK			⇓	Lg		Lg	03 34 43.5	
	10nm,0.7s							
TKM2	**Tokmak 2**	**5.65**	**39**	⇑Pn		Pn	03 33 30.3	-4.1
	1.9nm,0.6s							
TKM2			⇓	Pg		Pb	03 33 48.6	-0.1
	5.2nm,1.1s							
TKM2			⇓	Sn		Sn	03 34 41.1	+0.9
	3.5nm,0.9s							
TKM2			⇓	Lg		Lg	03 35 05.3	
	6.0nm,0.8s							
AB31	**Akbulak array**	**13.16**	**327**	⇑Pn		Pn	03 35 16.2	-0.9
	0.1nm,0.4s,baz=143,slow=12,SNR=6.4							
AB31			⇑	Sn		Sn	03 37 46.2	+2.1
	1.0nm,0.7s,baz=147,slow=22,SNR=3.2							
AKTO	**Aktyubinsk**	**14.87**	**327**	⇑Pn		Pn	03 35 42.6	+2.2
	2.3nm,1.0s							
AKTO			⇓	Sn		Sn	03 38 24.4	-1.5
	1.6nm,1.4s							

KRSC 02 03:38:24.8±2.1, 49.°71N×155.°98E, h91km±20km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.98**	**5**	P		Pn	03 38 44.8	+0.5
SKR				*e*S		Sn	03 39 00.8	+1.9
PAU	**Pauzhetka**	**1.84**	**16**	P		Pn	03 38 56.7	+1.8
PAU				*e*S		Sn	03 39 20.1	+3.1
ASAK	**Asacha**	**2.94**	**24**	*e*P		Pn	03 39 12.4	+2.8
MTVR	**Mutnovka**	**3.10**	**26**	*e*P		Pn	03 39 14.1	+2.2
MTVR				*e*S		Sn	03 39 50.1	+1.9
RUS	**Russkaya**	**3.16**	**29**	*i* P		Pn	03 39 13.4	+1.0
RUS				*e*S		Sn	03 39 49.7	+0.5
UGLR	**Uglovaya**	**3.93**	**26**	P		Pn	03 39 24.7	+1.7
KOK	**Koryaka**	**3.95**	**24**	P		Pn	03 39 26.4	+3.1
AVH	**Avacha**	**3.96**	**25**	P		Pn	03 39 25.9	+2.6
SMAR	**Somma**	**3.97**	**25**	P		Pn	03 39 25.2	+1.5
KRER	**Koryakskii**	**3.99**	**25**	P		Pn	03 39 26.6	+2.6
SDLR	**Sedlovina**	**4.01**	**26**	P		Pn	03 39 25.9	+1.8
KRX	**Arik**	**4.02**	**23**	P		Pn	03 39 27.2	+3.0
GNL	**Ganaly**	**4.17**	**16**	P		Pn	03 39 28.4	+2.1
KBTR	**Krutoberegovo**	**7.71**	**30**	P		Pn	03 40 19.0	+4.9

IDC 02 03:52:19.7±2.3, 12.°27S×65.°55E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=83.3km s-min=38.4km az=56.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**7.97**	**43**	T		T	04 02 39.1	
	baz=222,slow=76,SNR=209							
H08N1	**Diego Garcia H**	**7.99**	**43**	T		T	04 02 40.4	
	baz=222,slow=76,SNR=143							
H08N2	**Diego Garcia H**	**7.99**	**43**	T		T	04 02 40.6	
	baz=222,slow=76,SNR=181							
H08S1	**Diego Garcia H**	**8.23**	**57**	T		T	04 03 00.2	
	baz=232							
H08S2	**Diego Garcia H**	**8.24**	**57**	T		T	04 03 01.6	
	baz=232							
H08S3	**Diego Garcia H**	**8.25**	**57**	T		T	04 03 01.3	
	baz=232							
MKAR	**Makanchi Array**	**60.68**	**13**	P		P	04 02 32.1	-0.7
	0.3nm,0

0.3nm,0.4s,baz=221,slow=5.3,SNR=4.4
PDAR Pinedale Array 149.32 353 PKPbc PKPbc 04 12 10.2 -1.0
0.8nm,0.7s,baz=107,slow=3.0,SNR=7.3
NVAR Mina Array Bea 153.73 7 PKPbc PKPbc 04 12 22.1 +0.6
0.3nm,0.4s,baz=20,slow=2.9,SNR=4.9

NNC 02 03:58:10.2±3.2, 38°45'N×71°08'E, h0km, mb3.6, mpv3.2, 4C-7D, Error ellipse: s-maj=25.0km s-min=19.6km az=24.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.19**	**28**	P	Pn	03 59 16.2	+0.4
	SNR=7.8						
UCH	**Uchtor**	**4.60**	**34**	P	Pn	03 59 25.1	+3.6
	SNR=6.8						
KK31	**Karatay Array**	**4.67**	**355**	⇓Pn	Pn	03 59 23.9	+1.9
	0.3nm,0.2s,baz=181,slow=13,SNR=27						
KK31				⇓Pg	Pg	03 59 38.8	-1.0
	1.1nm,0.4s,baz=173,slow=15,SNR=5.7						
KK31				⇑Sn	Sn	04 00 23.3	+6.4
	1.6nm,0.4s,baz=0.0,slow=0.1,SNR=4.1						
KK31				⇓Lg	Lg	04 00 38.9	
	5.2nm,0.6s,baz=170,slow=30,SNR=4.3						
AAK	**Ala-Archa**	**4.92**	**31**	⇓Pn	Pn	03 59 25.7	0.0
	1.3nm,0.5s						
AAK				⇑Pg	Pb	03 59 38.1	+0.6
	9.3nm,0.7s						
AAK				⇓Lg	Lg	04 00 47.0	
	12nm,1.1s						
CHMS	**Chumysh**	**5.33**	**30**	P	Pn	03 59 35.2	+4.1
	SNR=7.9						
USP	**Ospenovka**	**5.47**	**27**	P	Pn	03 59 36.3	+3.3
	SNR=5.9						
TKM2	**Tokmak 2**	**5.63**	**36**	⇓Pn	Pn	03 59 37.7	+2.2
	2.1nm,0.5s						
TKM2				⇓Pg	Pb	03 59 52.4	+2.7
	6.7nm,1.3s						
TKM2				⇑Sn	Sn	04 00 42.1	+1.0
	2.0nm,0.7s						
TKM2				⇑Lg	Lg	04 01 07.2	
	3.3nm,0.8s						
TKM2	**Tokmak 2**	**5.63**	**36**	P	Pn	03 59 38.9	+3.4
	SNR=6.4						

*IDC **02** 04:06:14.2±0.7, 12°.47N×142°.21E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.1/29, mbtmp4.1/15, MS3.8/22, Ms1 3.8/22, ms1mx3.7/36, Error ellipse: s-maj=24.2km s-min=15.7km az=81.0*
*NEIC **02** 04:06:15.7±0.2, 12°.44N×142°.20E, h10km, mb4.7/17, Error ellipse: s-maj=8.0km s-min=6.0km az=84.0*
*ISCJB **02** 04:06:17.2±0.3, 12°.44N±0°.05×142°.19E±0°.06, h33km, mb4.3/31, MS3.8/21, Error ellipse: s-maj=8.2km s-min=7.0km az=40.8*

ISC 02 04:06:19.1±0.4, 12°44'N±0°.08×142°23'E±0°.07, h33km, n79, σ0s87/61, mb4.3/31, MS3.7/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.81**	**66**	*e*Pn	**Pn**	**04 07 00.5**	**-1.4**
GUMO				*e*Pg	**Pb**	**04 07 07.7**	**-1.0**
GUMO				*e*Sn	**Sn**	**04 07 35.3**	**+0.7**
JCJ	**Chichijima**	**14.58**	**360**	LR	LR	04 14 43.3	
	comp=Z,210nm,19.7s,baz=180,slow=35						
PMG	**Port Moresby**	**22.25**	**167**	*e*P	**P**	**04 11 13.3**	**0.0**
	19nm,1.0s						
PMG	**Port Moresby**	**22.25**	**167**	P	**P**	**04 11 13.6**	**+0.3**
	5.0nm,0.8s,baz=337,slow=11,SNR=3.4						
PMG				LR	LR	04 18 56.7	
	comp=Z,211nm,19.4s,baz=355,slow=34						
JNU	**Nakatsue**	**23.06**	**335**	LR	LR	04 18 34.7	
	comp=Z,159nm,19.8s,baz=200,slow=32						
MJAR	**Matsushiro Ant**	**24.27**	**352**	LR	LR	04 19 54.5	
	comp=Z,199nm,20.5s,baz=165,slow=34						
H11S3	**WAKE ISLAND Hy**	**24.31**	**73**	T	T	04 37 04.3	
	baz=268,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**24.33**	**73**	T	T	04 37 11.8	
	baz=268						
H11S2	**WAKE ISLAND Hy**	**24.33**	**73**	T	T	04 37 08.3	
	baz=268						
H11N1	**WAKE ISLAND Hy**	**24.76**	**70**	T	T	04 37 45.8	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**24.77**	**70**	T	T	04 37 46.7	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**24.77**	**70**	T	T	04 37 49.6	
	baz=262						
COEN	**Coen**	**26.24**	**178**	*e*P	**P**	**04 11 51.6**	**+0.3**
HNR	**Honiara**	**27.96**	**140**	LR	LR	04 21 00.8	
	comp=Z,104nm,20.4s,baz=295,slow=32						
KSRS	**Korea Array**	**28.01**	**335**	LR	LR	04 21 14.6	
	comp=Z,150nm,20.8s,baz=197,slow=32						
CTAO	**Charters Tower**	**32.56**	**173**	*e*P	**P**	**04 12 48.2**	**+0.7**
	8.3nm,0.9s						
USRK	**Ussuriysk Arra**	**32.85**	**346**	P	**P**	**04 12 48.6**	**-1.1**
	3.0nm,0.9s,baz=151,slow=9.1,SNR=3.1						
USRK				LR	LR	04 25 18.7	
	comp=Z,109nm,19.4s,baz=204,slow=35						
DLV	**T Lat**	**32.97**	**273**	*e*P	**P**	**04 12 51.1**	**-0.3**
WRAB	**Tennant Creek**	**33.09**	**194**	*e*P	**P**	**04 12 51.1**	**-1.0**
	19nm,1.2s						
WRA	**Warramunga Arr**	**33.10**	**194**	P	**P**	**04 12 51.7**	**-0.5**
WRA	**Warramunga Arr**	**33.10**	**194**	P	**P**	**04 12 51.7**	**-0.5**
	2.1nm,0.7s,baz=14,slow=9.4,SNR=14						
WRA				LR	LR	04 25 44.8	
	comp=Z,171nm,21.0s,baz=15,slow=35						
AS31	**Alice Springs**	**36.79**	**193**	*e*P	**P**	**04 13 23.9**	**-0.2**
KULM	**Kulim**	**41.65**	**264**	*e*P	**P**	**04 14 04.5**	**-0.3**
	8.1nm,0.9s						
DZM	**Mont Dzumac**	**41.72**	**145**	LR	LR	04 29 58.3	
	comp=Z,82nm,18.3s,baz=203,slow=34						
CMAR	**Chiang Mai Arr**	**42.07**	**284**	P	**P**	**04 14 08.2**	**0.0**
CMAR	**Chiang Mai Arr**	**42.07**	**284**	P	**P**	**04 14 08.2**	**0.0**
	3.2nm,0.9s,baz=83,slow=6.4,SNR=14						
CMAR				LR	LR	04 30 45.4	
	comp=Z,54nm,18.1s,baz=328,slow=35						
PETK	**Petropavlovsk-**	**42.41**	**14**	LR	LR	04 31 46.7	
	comp=Z,101nm,18.9s,baz=114,slow=36						
STKA	**Stephens Creek**	**44.06**	**181**	P	**P**	**04 14 23.7**	**-0.3**
STKA	**Stephens Creek**	**44.06**	**181**	P	**P**	**04 14 23.7**	**-0.3**
	2.9nm,1.0s,baz=356,slow=14,SNR=2.2						
STKA				LR	LR	04 33 45.2	
	comp=Z,155nm,19.2s,baz=28,slow=37						
FORT	**Forrest**	**45.08**	**197**	*e*P	**P**	**04 14 32.7**	**+0.5**
	17nm,0.9s						
ULN	**Ulaanbaatar**	**45.91**	**327**	*e*P	**P**	**04 14 39.1**	**+0.3**
	4.0nm,0.9s						
SONM	**Songino Array**	**46.24**	**327**	P	**P**	**04 14 41.6**	**+0.2**
SONM	**Songino Array**	**46.24**	**327**	P	**P**	**04 14 41.6**	**+0.2**
	2.5nm,1.2s,baz=139,slow=3.3,SNR=7.0						
SONM				LR	LR	04 32 29.4	
	comp=Z,96nm,20.9s,baz=25,slow=34						
YAK	**Yakutsk**	**50.34**	**352**	*e*P	**P**	**04 15 13.0**	**+0.5**
	26nm,0.8s						
SEY	**Seymchan**	**50.94**	**6**	P	**P**	**04 15 18.4**	**+1.4**
SEY	**Seymchan**	**50.94**	**6**	P	**P**	**04 15 18.4**	**+1.4**
	2.6nm,0.7s,baz=191,slow=23,SNR=4.3						
MK31	**Makanchi Array**	**60.55**	**317**	*e*P	**P**	**04 16 26.8**	**+0.5**
MKAR	**Makanchi Array**	**60.55**	**317**	P	**P**	**04 16 27.1**	**+0.7**
MKAR	**Makanchi Array**	**60.55**	**317**	P	**P**	**04 16 27.1**	**+0.7**
	5.2nm,1.0s,baz=92,slow=9.0,SNR=26						
MKAR				LR	LR	04 42 55.6	
	comp=Z,23nm,19.5s,baz=186,slow=36						
PALK	**Pallekele**	**60.73**	**271**	*e*P	**P**	**04 16 27.8**	**-0.3**
ZAA0	**Zalesovo Array**	**61.08**	**325**	*e*P	**P**	**04 16 28.9**	**-0.8**
ZALV	**Zalesovo Beam**	**61.08**	**325**	P	**P**	**04 16 28.6**	**-1.1**
ZALV	**Zalesovo Beam**	**61.08**	**325**	P	**P**	**04 16 28.6**	**-1.1**
	1.0nm,0.5s,baz=104,slow=6.5,SNR=6.8						
KURK	**Kurchatov**	**63.82**	**321**	*e*P	**P**	**04 16 48.3**	**+0.2**
	7.2nm,0.9s						
TKM2	**Tokmak 2**	**64.55**	**312**	*e*P	**P**	**04 16 52.9**	**-0.4**
	2.8nm,1.0s						
AAK	**Ala-Archa**	**65.32**	**311**	*e*P	**P**	**04 16 58.8**	**+0.5**
	4.3nm,0.8s						
EKS2	**Erkin-Say**	**65.85**	**311**	*e*P	**P**	**04 17 00.2**	**-1.5**
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**69.24**	**322**	P	**P**	**04 17 22.7**	**-0.1**
BVAR	**Borovoye Array**	**69.24**	**322**	P	**P**	**04 17 22.7**	**-0.1**
	6.9nm,0.9s,baz=110,slow=7.1,SNR=16						
BRVK	**Borovoye**	**69.31**	**322**	*e*P	**P**	**04 17 23.3**	**+0.1**
	11nm,0.8s						
MCK	**McKinley**	**69.60**	**26**	*e*P	**P**	**04 17 24.6**	**-0.2**
	7.9nm,1.1s						
COLD	**Coldfoot**	**69.99**	**23**	*e*P	**P**	**04 17 28.5**	**+1.4**
	7.4nm,1.1s						

COLA	**College**	**70.32**	**25**	*e*P	**P**	**04 17 28.9**	**-0.2**
	5.8nm,1.2s						
ILAR	**Eielson Array**	**70.70**	**25**	P	**P**	**04 17 31.0**	**-0.5**
ILAR	**Eielson Array**	**70.70**	**25**	P	**P**	**04 17 31.0**	**-0.5**
	1.6nm,0.9s,baz=253,slow=4.7,SNR=12						
ILAR				LR	LR	04 45 42.7	
	comp=Z,110nm,19.0s,baz=309,slow=34						
ABKAR	**Akbulak array**	**75.67**	**318**	*e*P	**P**	**04 18 00.2**	**-0.9**
	2.6nm,0.8s						
ARU	**Arti**	**76.25**	**325**	*e*P	**P**	**04 18 05.1**	**+0.9**
	7.2nm,1.0s						
INK	**Inuvik**	**76.41**	**22**	P	**P**	**04 18 03.3**	**-1.6**
INK	**Inuvik**	**76.41**	**22**	P	**P**	**04 18 03.3**	**-1.6**
	2.2nm,1.2s,baz=170,slow=2.5,SNR=2.8						
AKTO	**Aktyubinsk**	**76.85**	**319**	P	**P**	**04 18 07.2**	**-0.6**
AKTO	**Aktyubinsk**	**76.85**	**319**	P	**P**	**04 18 07.2**	**-0.6**
	0.6nm,0.5s,baz=102,slow=7.7,SNR=4.3						
YKA	**Yellowknife Ar**	**85.05**	**27**	P	**P**	**04 18 51.8**	**+0.5**
YKA	**Yellowknife Ar**	**85.05**	**27**	P	**P**	**04 18 51.8**	**+0.5**
	1.1nm,1.2s,baz=293,slow=5.6,SNR=5.0						
ARCES	**ARCESS Array B**	**87.37**	**342**	LR	LR	05 01 32.5	
	comp=Z,78nm,19.7s,baz=165,slow=38						
KBZ	**Khabaz**	**88.13**	**314**	LR	LR	04 58 38.5	
	comp=Z,62nm,18.0s,baz=350,slow=36						
NVAR	**Mina Array Bea**	**89.64**	**51**	P	**P**	**04 19 15.8**	**+1.5**
NVAR	**Mina Array Bea**	**89.64**	**51**	P	**P**	**04 19 15.7**	**+1.5**
	0.6nm,0.8s,baz=274,slow=6.6,SNR=4.7						
VNDA	**Vanda**	**90.50**	**176**	LR	LR	04 56 53.1	
	comp=Z,53nm,18.1s,baz=166,slow=34						
AKASG	**Malin Array Be**	**94.45**	**324**	LR	LR	05 03 30.1	
	comp=Z,93nm,20.0s,baz=300,slow=36						
ASF	**Jabal al Asfar**	**96.07**	**305**	LR	LR	05 04 24.6	
	comp=Z,120nm,21.2s,baz=193,slow=36						
MMAI	**Mount Meron Ar**	**96.98**	**306**	LR	LR	05 03 26.3	
	comp=Z,27nm,19.6s,baz=190,slow=35						
NOA	**NORSAR Array B**	**97.19**	**338**	LR	LR	05 03 43.0	
	comp=Z,54nm,18.3s,baz=30,slow=36						
TSUM	**Tsumeb**	**126.50**	**255**	*e*PKPdf	**PKPdf**	**04 25 18.3**	**-1.6**
OTAV	**Otavalo**	**137.72**	**76**	*e*PKPdf	**PKPdf**	**04 25 41.5**	**-0.1**
ROSC	**El Rosal**	**139.81**	**67**	*e*PKPdf	**PKPdf**	**04 25 44.8**	**-0.6**
NNA	**Nana**	**141.83**	**94**	*e*PKPdf	**PKPdf**	**04 25 47.8**	**-0.8**
LCO	**Las Campanas**	**145.22**	**123**	*e*PKPbc	**PKPdf**	**04 25 55.4**	**+1.0**
LPAZ	**La Paz**	**150.36**	**101**	*e*PKPbc	**PKPbc**	**04 26 10.2**	**+1.4**
LPAZ	**La Paz**	**150.36**	**101**	PKPbc	**PKPbc**	**04 26 10.6**	**+1.7**
	2.9nm,0.9s,baz=334,slow=3.7,SNR=8.8						

*IDC **02** 04:11:02.3±1.1, 12°.45N×142°.22E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/25, mbtmp3.8/7, Error ellipse: s-maj=35.1km s-min=25.3km az=78.0*
*NEIC **02** 04:11:03.5±0.5, 12°.29N×142°.09E, h10km, mb4.4/7, Error ellipse: s-maj=13.5km s-min=11.2km az=86.0*
*ISCJB **02** 04:11:04.8±0.5, 12°.28N±0°.08×142°.1E±0°.1, h33km, mb4.0/14, Error ellipse: s-maj=14.2km s-min=11.6km az=1.4*

ISC 02 04:11:06.7±0.7, 12°3N±0°.1×142°1E±0°1, h33km, n28, σ1s07/28, mb4.1/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.99**	**64**	*e*Pn	**Pn**	**04 11 52.7**	**+0.8**
PMG	**Port Moresby**	**22.11**	**167**	*e*P	**P**	**04 15 57.2**	**-2.3**
	7.1nm,0.9s						
WRAB	**Tennant Creek**	**32.90**	**194**	*e*P	**P**	**04 17 39.5**	**+1.4**
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**32.91**	**194**	P	**P**	**04 17 39.7**	**+1.5**
WRA	**Warramunga Arr**	**32.91**	**194**	P	**P**	**04 17 39.7**	**+1.5**
	0.9nm,0.5s,baz=16,slow=9.7,SNR=10						
AS31	**Alice Springs**	**36.61**	**193**	*e*P	**P**	**04 18 09.4**	**-0.7**
IPM	**Ipoh**	**41.33**	**263**	*e*P	**P**	**04 18 50.9**	**+1.1**
	25nm,1.4s						
CMAR	**Chiang Mai Arr**	**42.00**	**284**	P	**P**	**04 18 56.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**42.00**	**284**	P	**P**	**04 18 56.0**	**+0.8**
	0.7nm,0.6s,baz=82,slow=7.7,SNR=1.5						
SONM	**Songino Array**	**46.31**	**327**	P	**P**	**04 19 28.8**	**-0.7**
SONM	**Songino Array**	**46.31**	**327**	P	**P**	**04 19 28.8**	**-0.7**
	0.2nm,0.6s,baz=145,slow=7.0,SNR=2.0						
MK31	**Makanchi Array**	**60.59**	**317**	*e*P	**P**	**04 21 14.9**	**+0.7**
MKAR	**Makanchi Array**	**60.59**	**317**	P	**P**	**04 21 14.9**	**+0.7**
MKAR	**Makanchi Array**	**60.59**	**317**	P	**P**	**04 21 14.9**	**+0.7**
	1.5nm,0.8s,baz=96,slow=9.1,SNR=13						
PALK	**Pallekele**	**60.62**	**271**	*e*P	**P**	**04 21 13.4**	**-1.6**
ZALV	**Zalesovo Beam**	**61.15**	**325**	P	**P**	**04 21 17.8**	**-0.1**
ZALV	**Zalesovo Beam**	**61.15**	**325**	P	**P**	**04 21 17.8**	**-0.1**
	0.8nm,0.6s,baz=106,slow=7.7,SNR=4.6						
KURK	**Kurchatov**	**63.87**	**321**	*e*P	**P**	**04 21 35.8**	**-0.4**
	2.5nm,0.9s						
TKM2	**Tokmak 2**	**64.57**	**312**	*e*P	**P**	**04 21 41.5**	**+0.4**
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**69.30**	**322**	P	**P**	**04 22 11.1**	**+0.3**
BVAR	**Borovoye Array**	**69.30**	**322**	P	**P**	**04 22 11.1**	**+0.3**
	2.0nm,0.6s,baz=106,slow=8.3,SNR=10.0						
BRVK	**Borovoye**	**69.37**	**322**	*e*P	**P**	**04 22 11.1**	**-0.1**
	4.0nm,0.8s						
MCK	**McKinley**	**69.80**	**26**	*e*P	**P**	**04 22 12.9**	**-0.8**
	6.5nm,1.3s						
ILAR	**Eielson Array**	**70.90**	**25**	P	**P**	**04 22 19.2**	**-1.1**
ILAR	**Eielson Array**	**70.90**	**25**	P	**P**	**04 22 19.2**	**-1.1**
	0.5nm,0.7s,baz=250,slow=5.8,SNR=6.6						
ABKAR	**Akbulak array**	**75.71**	**318**	*e*P	**P**	**04 22 48.2**	**-0.8**
LPAZ	**La Paz**	**150.44**	**101**	PKPbc	**PKPbc**	**04 30 58.1**	**+1.4**
LPAZ	**La Paz**	**150.44**	**101**	PKPbc	**PKPbc**	**04 30 58.1**	**+1.4**
	0.9nm,0.7s,baz=352,slow=1.9,SNR=4.2						

*DDA **02** 04:14:34.6, 40°.86N×29°.31E, h17km, MD3.2*
*ISCJB **02** 04:14:34.9±0.3, 40°.90N±0°.01×29°.31E±0°.02, h8km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=152.9*
*ISK **02** 04:14:34.7, 40°.85N×29°.28E, h9km, MD3.0*
*IDC **02** 04:14:36.0±1.9, 41°.01N×29°.54E, h0km, mb3.5/1, mb1 3.3/5, mb1mx3.1/28, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=35.7km s-min=14.7km az=54.0*
*SOF **02** 04:14:35.1, 40°.76N×29°.57E, h39km, MD2.8*
*CSEM **02** 04:14:35.3±0.1, 40°.86N×29°.29E, h5km, MD3.0, Error ellipse: s-maj=2.4km s-min=1.8km az=42.0*

ISC 02 04:14:35.4±0.9, 40°85N±0°.02×29°30E±0°.02, h11km±7km, n152, σ1s04/192, 10C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISK	**Istanbul-Kandi**	**0.28**	**320**	PG	**Pg**	**04 14 40.9**	**-0.2**
ISK				*e*SG	**Sg**	**04 14 44.9**	**0.0**
ISK	**Istanbul-Kandi**	**0.28**	**320**	*i* Pg	**Pg**	**04 14 40.9**	**-0.2**
ISK				*e*Sg	**Sg**	**04 14 44.9**	**0.0**
HRT	**Hereke**	**0.28**	**96**	PG	**Pg**	**04 14 41.1**	**-0.1**
HRT				*e*SG	**Sg**	**04 14 45.2**	**+0.1**
HRT	**Hereke**	**0.28**	**96**	*i* Pg	**Pg**	**04 14 41.1**	**-0.1**
HRT				*e*Sg	**Sg**	**04 14 45.2**	**+0.1**
SILT	**Sile**	**0.40**	**41**	PG	**Pg**	**04 14 43.3**	**0.0**
SILT				*e*SG	**Sg**	**04 14 49.0**	**+0.4**
SILT	**Sile**	**0.40**	**41**	*i* Pg	**Pg**	**04 14 43.3**	**0.0**
SILT				*e*Sg	**Sg**	**04 14 49.0**	**+0.4**
GEMT	**Gemlik**	**0.43**	**191**	PG	**Pg**	**04 14 43.4**	**-0.4**
GEMT	**Gemlik**	**0.43**	**191**	*i* Pg	**Pg**	**04 14 43.4**	**-0.4**
ARMT	**Armutlu**	**0.44**	**229**	PG	**Pg**	**04 14 43.8**	**-0.2**
ARMT	**Armutlu**	**0.44**	**229**	*i* Pg	**Pg**	**04 14 43.8**	**-0.2**
KLYT	**Kilyos**	**0.44**	**334**	*e*PG	**Pg**	**04 14 44.1**	**-0.1**
KLYT	**Kilyos**	**0.44**	**334**	*e*Pg	**Pg**	**04 14 44.1**	**-0.1**
BGKT	**Bogazkoy**	**0.52**	**310**	*e*PG	**Pg**	**04 14 45.2**	**-0.3**
BGKT	**Bogazkoy**	**0.52**	**310**	*e*Pg	**Pg**	**04 14 45.2**	**-0.3**
ADVT	**Abdulvahap**	**0.54**	**141**	*e*PG	**Pg**	**04 14 45.8**	**-0.1**
ADVT	**Abdulvahap**	**0.54**	**141**	*e*Pg	**Pg**	**04 14 45.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.58**	**213**	*e*PG	**Pg**	**04 14 46.7**	**0.0**
MDNY	**Mudanya-Bursa**	**0.58**	**213**	*e*Pg	**Pg**	**04 14 46.7**	**0.0**
CTKS	**Kestanelik-??a**	**0.71**	**303**	*e*PG	**Pg**	**04 14 48.3**	**-0.9**
CTKS	**Kestanelik-??a**	**0.71**	**303**	*e*Pg	**Pg**	**04 14 48.3**	**-0.9**
ELBA	**Catalca**	**0.72**	**294**	*i* P	**Pg**	**04 14 48.9**	**-0.4**
ELBA				*i* S	**Sg**	**04 14 58.5**	**-0.3**
ELBA	**Catalca**	**0.72**	**294**	*i* P	**Pg**	**04 14 48.9**	**-0.4**
ELBA				*i* S	**Sg**	**04 14 58.5**	**-0.3**
CAVI	**Cavuskoy**	**0.77**	**147**	*e*PG	**Pg**	**04 14 49.7**	**-0.6**
CAVI	**Cavuskoy**	**0.77**	**147**	*e*Pg	**Pg**	**04 14 49.7**	**-0.6**
SPNC	**Sapanca-Adapaz**	**0.79**	**102**	*e*PG	**Pg**	**04 14 50.6**	**0.0**
SPNC	**Sapanca-Adapaz**	**0.79**	**102**	*e*Pg	**Pg**	**04 14 50.6**	**0.0**
ORLT	**Orhaneli**	**0.86**	**201**	*e*PG	**Pg**	**04 14 51.8**	**-0.3**
ORLT	**Orhaneli**	**0.86**	**201**	*e*Pg	**Pg**	**04 14 51.8**	**-0.3**
SLVT	**Silivri**	**0.91**	**295**	*e*PG	**Pg**	**04 14 51.8**	**-1.1**
SLVT	**Silivri**	**0.91**	**295**	*e*Pg	**Pg**	**04 14 51.8**	**-1.1**
SLVT	**Silivri**	**0.91**	**295**	*i* P	**Pg**	**04 14 52.5**	**-0.4**
SLVT				*i* S	**Sg**	**04 15 04.4**	**-0.3**
KCTX	**Karacabey (Bur**	**0.93**	**231**	*e*PG	**Pg**	**04 14 53.0**	**-0.3**
KCTX	**Karacabey (Bur**	**0.93**	**231**	*e*Pg	**Pg**	**04 14 53.0**	**-0.3**

GPA	**Golpazari**	**0.95**	**126**	*e*PG	**Pg**	**04 14 53.8**	**0.0**
GPA	**Golpazari**	**0.95**	**126**	*e*Pg	**Pg**	**04 14 53.8**	**0.0**
CTYL	**Yal??k??y-??at**	**0.98**	**310**	*e*PG	**Pg**	**04 14 53.3**	**-1.0**
CTYL	**Yal??k??y-??at**	**0.98**	**310**	*e*Pg	**Pg**	**04 14 53.3**	**-1.0**
GULT	**Gulveren**	**1.02**	**114**	*e*PG	**Pg**	**04 14 54.8**	**-0.2**
GULT	**Gulveren**	**1.02**	**114**	*e*Pg	**Pg**	**04 14 54.8**	**-0.2**
EDC	**Edincik**	**1.20**	**246**	*e*PN	**Pn**	**04 14 57.0**	**-1.2**
EDC	**Edincik**	**1.20**	**246**	*e*Pn	**Pn**	**04 14 57.0**	**-1.2**
CRLT	**Corlu**	**1.21**	**284**	*e*PN	**Pn**	**04 14 58.0**	**-0.4**
CRLT	**Corlu**	**1.21**	**284**	*e*Pn	**Pn**	**04 14 58.0**	**-0.4**
BORA	**Eskisehir**	**1.31**	**137**	*i* P	**Pg**	**04 15 00.9**	**+0.2**
BORA				*i* S	**Sn**	**04 15 17.5**	**+0.1**
BORA	**Eskisehir**	**1.31**	**137**	*i* P	**Pg**	**04 15 00.9**	**+0.2**
BORA				*i* S	**Sn**	**04 15 17.5**	**+0.1**
MRMT	**Marmara Adasi**	**1.32**	**260**	*e*PN	**Pn**	**04 14 59.4**	**-0.5**
MRMT	**Marmara Adasi**	**1.32**	**260**	*e*Pn	**Pn**	**04 14 59.4**	**-0.5**
DURS	**Dursunbey**	**1.40**	**207**	*i* P	**Pg**	**04 15 02.2**	**-0.1**
DURS				*i* S	**Sg**	**04 15 20.4**	**-0.1**
DURS	**Dursunbey**	**1.40**	**207**	*i* P	**Pg**	**04 15 02.2**	**-0.1**
DURS				*i* S	**Sg**	**04 15 20.4**	**-0.1**
TVSB	**Tavsanli**	**1.41**	**175**	*e*PN	**Pn**	**04 15 00.8**	**-0.2**
TVSB	**Tavsanli**	**1.41**	**175**	*e*Pn	**Pn**	**04 15 00.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.47**	**237**	*e*PN	**Pn**	**04 15 01.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.47**	**237**	*e*Pn	**Pn**	**04 15 01.9**	**+0.1**
MDUB	**Mudurnu**	**1.50**	**104**	*e*PN	**Pn**	**04 15 02.7**	**+0.4**
MDUB	**Mudurnu**	**1.50**	**104**	*e*Pn	**Pn**	**04 15 02.7**	**+0.4**
PHSR	**Pinarhisar**	**1.55**	**301**	*e*PN	**Pn**	**04 15 03.4**	**+0.5**
PHSR	**Pinarhisar**	**1.55**	**301**	*e*Pn	**Pn**	**04 15 03.4**	**+0.5**
KRBG	**Karabiga-Canak**	**1.59**	**254**	*e*PN	**Pn**	**04 15 03.8**	**+0.3**
KRBG	**Karabiga-Canak**	**1.59**	**254**	*e*Pn	**Pn**	**04 15 03.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.62**	**265**	*e*PN	**Pn**	**04 15 03.4**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.62**	**265**	*e*Pn	**Pn**	**04 15 03.4**	**-0.6**
BALB	**Balikesir**	**1.63**	**222**	*e*PN	**Pb**	**04 15 04.8**	**-0.6**
BALB	**Balikesir**	**1.63**	**222**	*e*Pn	**Pb**	**04 15 04.8**	**-0.6**
KDZE	**Karadeniz Ereo**	**1.69**	**73**	*e*PN	**Pn**	**04 15 05.2**	**+0.3**
KDZE	**Karadeniz Ereo**	**1.69**	**73**	*e*Pn	**Pn**	**04 15 05.2**	**+0.3**
BALY	**Balya**	**1.70**	**230**	*i* P	**Pb**	**04 15 06.2**	**-0.5**
BALY				*i* S	**Sb**	**04 15 28.7**	**+0.6**
BALY	**Balya**	**1.70**	**230**	*i* P	**Pb**	**04 15 06.2**	**-0.5**
BALY				*i* S	**Sb**	**04 15 28.7**	**+0.6**
GDZ	**Gediz**	**1.77**	**175**	*i* P	**Pb**	**04 15 08.5**	**+0.6**
GDZ				*i* S	**Sb**	**04 15 30.8**	**+0.6**
GDZ	**Gediz**	**1.77**	**175**	*i* P	**Pb**	**04 15 08.5**	**+0.6**
GDZ				*i* S	**Sb**	**04 15 30.8**	**+0.6**
DEMI	**Demirci**	**1.86**	**194**	*i* P	**Pg**	**04 15 10.9**	**-0.2**
DEMI				*i* S	**Sb**	**04 15 33.8**	**+1.0**
DEMI	**Demirci**	**1.86**	**194**	*i* P	**Pg**	**04 15 10.9**	**-0.2**
DEMI				*i* S	**Sb**	**04 15 33.8**	**+1.0**
LPK	**Lapseki**	**1.99**	**257**	*e*PN	**Pn**	**04 15 09.6**	**+0.6**

AKASG Sn **Sn** **04 18 41.9 -5.5**
0.6nm,0.3s,baz=180,slow=24,SNR=1.9
FINES FINESS Array B 20.71 356 P Pn 04 19 17.6 -0.2
2.0nm,0.8s,baz=165,slow=7.9,SNR=3.9

KRSC ***02*** *04:14:51.6±1.4, 53.45N×161.10E, h53km±17km, ML4.0*
MOS ***02*** *04:14:52.9±1.4, 53.40N×161.01E, h54km, mb4.2/7, Error ellipse: s-maj=14.6km s-min=9.0km az=82.1*
ISCJB ***02*** *04:14:53.8±0.5, 53.45N±0.02×161.04E±0.06, h58km±4km, mb3.8/19, Error ellipse: s-maj=6.5km s-min=2.5km az=30.9*
IDC ***02*** *04:14:57.0±2.3, 53.66N×160.82E, h61km±21km, mb3.4/17, mb1 3.6/17, mb1mx3.5/32, mbtmp3.5/17, Error ellipse: s-maj=22.1km s-min=14.8km az=152.0*

ISC 02 04:14:54.1±1.1, 53°45'N±0°03'×161°06'E±0°04, h43km±11km, n79, σ1§31/117, mb3.7/19, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.71**	**241**	PN	**Pn**	**04 15 07.2**	**-0.5**
SPN				S	**Sn**	**04 15 16.3**	**-1.3**
SPN	**Mys Shipunski**	**0.71**	**241** *i*	P	**Pn**	**04 15 07.2**	**-0.5**
SPN				S	**Sn**	**04 15 16.3**	**-1.3**
NLC	**Nalytchevo**	**1.06**	**255**	P	**Pn**	**04 15 12.3**	**-0.2**
NLC				S	**Sn**	**04 15 25.6**	**-0.5**
KII	**Karymskiy**	**1.12**	**302**	P	**Pn**	**04 15 12.0**	**-1.3**
SDLR	**Sedlovina**	**1.31**	**263** *i*	P	**Pn**	**04 15 15.9**	**-0.1**
SDLR				S	**Sn**	**04 15 32.8**	**+0.4**
UGLR	**Uglovaya**	**1.36**	**261** *i*	P	**Pn**	**04 15 16.9**	**+0.2**
UGLR				S	**Sn**	**04 15 33.8**	**+0.2**
SMAR	**Somma**	**1.36**	**263** *i*	P	**Pn**	**04 15 16.7**	**-0.1**
SMAR				S	**Sn**	**04 15 34.1**	**+0.3**
KRER	**Koryakskii**	**1.39**	**265** *i*	P	**Pn**	**04 15 17.3**	**+0.1**
KRER				S	**Sn**	**04 15 35.0**	**+0.6**
AVH	**Avacha**	**1.40**	**263** *i*	P	**Pn**	**04 15 17.5**	**+0.3**
AVH				S	**Sn**	**04 15 35.7**	**+1.2**
KOK	**Koryaka**	**1.46**	**265** *i*	P	**Pn**	**04 15 18.2**	**+0.2**
KOK				S	**Sn**	**04 15 36.7**	**+0.8**
PET	**Petropavlovsk**	**1.51**	**254** ⇓	iPN	**Pn**	**04 15 18.4**	**-0.1**
PET				*e*S	**Sn**	**04 15 36.8**	**-0.1**
PET				pmax	pmax		
	comp=Z,241nm,0.5s						
PET				smax	smax		
	comp=N,729nm,0.6s						
PET	**Petropavlovsk**	**1.51**	**254** *i*	P	**Pn**	**04 15 18.5**	**-0.1**
PET				S	**Sn**	**04 15 37.1**	**+0.2**
KZV	**Kizimen**	**1.72**	**345** *i*	P	**Pn**	**04 15 21.3**	**-0.4**
KZV				S	**Sn**	**04 15 41.5**	**-1.0**
RUS	**Russkaya**	**1.85**	**237**	PN	**Pn**	**04 15 23.1**	**-0.1**
RUS				S	**Sn**	**04 15 44.9**	**-0.4**
RUS	**Russkaya**	**1.85**	**237** *i*	P	**Pn**	**04 15 23.1**	**-0.1**
RUS				S	**Sn**	**04 15 44.9**	**-0.4**
GNL	**Ganaly**	**1.87**	**279** *i*	P	**Pn**	**04 15 24.3**	**+0.6**
GNL				S	**Sn**	**04 15 46.8**	**+0.6**
TUMR	**Tumrok**	**1.91**	**344** *i*	P	**Pn**	**04 15 24.3**	**+0.1**
TUMR				S	**Sn**	**04 15 46.3**	**-0.8**
MTVR	**Mutnovka**	**1.99**	**242** *i*	P	**Pn**	**04 15 25.6**	**+0.3**
MTVR				S	**Sn**	**04 15 49.5**	**+0.4**
GRL	**Gorelyy**	**2.02**	**245**	P	**Pn**	**04 15 26.3**	**+0.6**
GRL				S	**Sn**	**04 15 50.5**	**+0.8**
PETK	**Petropavlovsk-**	**2.04**	**262**	PN	**Pn**	**04 15 26.5**	**+0.6**
PETK				S	**Sn**	**04 15 52.4**	**+2.2**
PETK				pmax	pmax		
	comp=Z,25nm,0.3s						
PETK				smax	smax		
	comp=N,30nm,0.3s						
PETK	**Petropavlovsk-**	**2.04**	**262**	P	**Pn**	**04 15 26.5**	**+0.6**
	comp=N,25nm,0.3s,baz=80,slow=17,SNR=194						
PETK				S	**Sn**	**04 15 52.4**	**+2.2**
	comp=N,30nm,0.3s,baz=97,slow=24,SNR=3.9						
ASAK	**Asacha**	**2.19**	**242** *i*	P	**Pn**	**04 15 29.1**	**+1.1**
ASAK				S	**Sn**	**04 15 55.7**	**+1.8**
KMNR	**Kamenistaya**	**2.36**	**349**	P	**Pn**	**04 15 31.3**	**+1.0**
KMNR				S	**Sn**	**04 15 58.5**	**+0.5**
APC	**Apacha**	**2.40**	**259**	P	**Pn**	**04 15 32.4**	**+1.6**
APC				S	**Sn**	**04 16 00.9**	**+1.9**
BZMR	**Bezymyannaya**	**2.51**	**353**	P	**Pn**	**04 15 34.3**	**+1.8**
BZMR				S	**Sn**	**04 16 03.9**	**+2.0**
BZWR	**Bezymyannyi-We**	**2.54**	**353**	P	**Pn**	**04 15 34.5**	**+1.6**
BZWR				S	**Sn**	**04 16 04.5**	**+1.9**
KIRR	**Kirishev**	**2.54**	**351**	P	**Pn**	**04 15 34.3**	**+1.4**
KIRR				S	**Sn**	**04 16 03.9**	**+1.3**
KPT	**Kopyto**	**2.56**	**349**	P	**Pn**	**04 15 34.6**	**+1.4**
KPT				S	**Sn**	**04 16 04.0**	**+0.9**
ZLN	**Zelenaya**	**2.57**	**357**	P	**Pn**	**04 15 35.2**	**+1.9**
LGNR	**Loginova**	**2.65**	**356**	S	**Sn**	**04 16 07.1**	**+1.7**
KOZ	**Kozyrevsk**	**2.70**	**346** *i*	P	**Pn**	**04 15 35.7**	**+0.8**
KOZ				S	**Sn**	**04 16 07.0**	**+0.6**
KOZR	**Kozyr**	**2.70**	**346**	PN	**Pn**	**04 15 35.7**	**+0.7**
KOZR				S	**Sn**	**04 16 07.0**	**+0.5**
KRSR	**Krestovskiy**	**2.79**	**354**	P	**Pn**	**04 15 38.0**	**+1.8**
KRSR				S	**Sn**	**04 16 10.2**	**+1.6**
ESO	**Esso**	**2.83**	**332**	PN	**Pn**	**04 15 36.8**	**+0.1**
ESO				S	**Sn**	**04 16 08.7**	**-0.9**
ESO	**Esso**	**2.83**	**332**	P	**Pn**	**04 15 36.8**	**+0.1**
ESO				S	**Sn**	**04 16 08.7**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.86**	**247**	P	**Pn**	**04 15 38.8**	**+1.7**
MIPR				S	**Sn**	**04 16 11.8**	**+1.5**
KLY	**Klyuchi**	**2.88**	**356**	PN	**Pn**	**04 15 38.2**	**+0.9**
KLY				S	**Sn**	**04 16 10.7**	**+0.1**
KLY	**Klyuchi**	**2.88**	**356**	P	**Pn**	**04 15 38.2**	**+0.9**
KLY				S	**Sn**	**04 16 10.7**	**+0.1**
KBTR	**Krutoberegovo**	**2.94**	**20** *i*	P	**Pn**	**04 15 40.0**	**+1.7**
KBTR				S	**Sn**	**04 16 12.8**	**+0.5**
SRDR	**Sredinnyy**	**2.97**	**345**	P	**Pn**	**04 15 38.7**	**0.0**
SRDR				S	**Sn**	**04 16 11.8**	**-1.4**
BDR	**Baidarnaya**	**3.12**	**2**	P	**Pn**	**04 15 43.0**	**+2.2**
BDR				S	**Sn**	**04 16 19.1**	**+2.2**
SMKR	**Semkarok**	**3.15**	**4** *i*	P	**Pn**	**04 15 42.4**	**+1.3**
SMKR				S	**Sn**	**04 16 17.7**	**+0.3**
SRKR	**Sorokina**	**3.21**	**1**	P	**Pn**	**04 15 43.9**	**+1.9**
SRKR				S	**Sn**	**04 16 21.1**	**+2.1**
PAU	**Pauzhetka**	**3.27**	**234**	PN	**Pn**	**04 15 44.5**	**+1.8**
PAU				S	**Sn**	**04 16 21.6**	**+1.2**
PAU	**Pauzhetka**	**3.27**	**234**	P	**Pn**	**04 15 44.5**	**+1.8**
PAU				S	**Sn**	**04 16 21.6**	**+1.2**
BKI	**Bering**	**3.37**	**57**	P	**Pn**	**04 15 43.9**	**-0.2**
BKI				S	**Sn**	**04 16 19.1**	**-3.7**
SKR	**Severo-Kuril's**	**4.12**	**230**	*e*PN	Pn	04 15 51.3	-3.1
SKR				*e*		04 16 40.5	
SKR	**Severo-Kuril's**	**4.12**	**230**	P	**Pn**	**04 15 56.4**	**+2.0**
SKR				S	**Sn**	**04 16 42.2**	**+0.9**
OSSR	**Ossora**	**5.92**	**10**	P	Pn	04 16 22.2	+3.2
FX1	**Attu Island--F**	**7.30**	**90**	P	**Pn**	**04 16 38.9**	**+0.9**
	comp=N,25nm,0.3s,baz=95,slow=22,SNR=26						
FX1				S	**Sn**	**04 17 55.0**	**-4.5**
	comp=N,9.0nm,0.3s,baz=322,slow=23,SNR=6.2						
MJAR	**Matsushiro Arr**	**23.22**	**232**	P	**P**	**04 19 58.9**	**+1.7**
	comp=N,1.9nm,0.7s,baz=8.9,slow=14,SNR=6.4						
INK	**Inuvik**	**33.23**	**38**	P	**P**	**04 21 26.6**	**+0.3**
	comp=N,0.8nm,0.8s,baz=239,slow=5.9,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**33.96**	**170**	T	T	04 57 55.0	
	baz=355,slow=77,SNR=56						
H11N3	**WAKE ISLAND Hy**	**33.98**	**170**	T	T	04 57 56.7	
	baz=355,slow=77,SNR=51						
H11N1	**WAKE ISLAND Hy**	**33.98**	**170**	T	T	04 57 58.0	
	baz=355,slow=77,SNR=50						
SONM	**Songino Array**	**34.38**	**283**	P	**P**	**04 21 35.7**	**-1.1**
	comp=N,0.2nm,0.3s,baz=70,slow=7.5,SNR=3.9						
SONM				PcP	**PcP**	**04 24 12.7**	**+1.1**
	comp=N,0.4nm,0.5s,baz=80,slow=1.2,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**35.15**	**171**	T	T	04 59 23.9	
	baz=355,slow=77,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**35.16**	**171**	T	T	04 59 26.6	
	baz=355,slow=77,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**35.17**	**171**	T	T	04 59 26.3	
	baz=355,slow=77,SNR=5.9						
YKA	**Yellowknife Ar**	**42.51**	**43**	P	**P**	**04 22 45.7**	**+1.1**
	comp=N,0.1nm,0.5s,baz=297,slow=8.4,SNR=4.2						
RES	**Resolute Bay**	**42.77**	**22**	P	**P**	**04 22 45.2**	**-1.4**
	comp=N,0.5nm,0.3s,baz=270,slow=7.1,SNR=5.9						
MKAR	**Makanchi Array**	**48.52**	**296**	P	**P**	**04 23 30.2**	**-2.2**
MKAR	**Makanchi Array**	**48.52**	**296**	P	**P**	**04 23 30.2**	**-2.2**
	comp=N,0.3nm,0.4s,baz=57,slow=6.9,SNR=6.6						
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**04 23 46.1**	**-2.1**
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**04 23 46.1**	**-2.1**
	comp=N,0.4nm,0.5s,baz=52,slow=9.3,SNR=2.7						
ARCES	**ARCESS Array B**	**53.12**	**342**	P	**P**	**04 24 05.8**	**-0.9**
	comp=N,3.8nm,1.0s,baz=42,slow=7.9,SNR=10						

NVAR	**Mina Array Bea**	**55.08**	**71**	P	**P**	**04 24 23.1**	**+1.5**
	comp=N,0.2nm,0.4s,baz=291,slow=7.6,SNR=2.6						
JOF	**Joensuu**	**57.48**	**335**	*ep*	**P**	**04 24 37.1**	**-1.0**
	comp=N,1.4nm,0.4s						
KAF	**Kangasniemi**	**59.38**	**337**	*ep*	**P**	**04 24 50.0**	**-1.3**
	comp=N,3.8nm,0.4s						
FINES	**FINESS Array B**	**60.02**	**337**	P	**P**	**04 24 55.6**	**-0.1**
	comp=N,1.9nm,0.4s,baz=35,slow=7.9,SNR=29						
NB2	**NORSAR Subarra**	**63.36**	**344**	P	**P**	**04 25 17.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.36**	**344**	P	**P**	**04 25 17.7**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=23,slow=6.5,SNR=5.5						
AKASG	**Malin Array Be**	**68.60**	**329**	P	**P**	**04 25 50.8**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**68.60**	**329**	P	**P**	**04 25 50.8**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=28,slow=6.4,SNR=5.6						
EKA	**Eskdalemuir Ar**	**70.80**	**351**	P	**P**	**04 26 05.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=20,slow=5.6,SNR=6.0						
MLR	**Muntele Rosu**	**74.24**	**329**	P	**P**	**04 26 26.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=315,slow=7.1						
WRA	**Warramunga Arr**	**76.65**	**206**	P	**P**	**04 26 41.3**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=17,slow=6.0,SNR=5.4						
BRTR	**Keskin Array B**	**76.71**	**321**	P	**P**	**04 26 39.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=35,slow=3.6,SNR=3.7						
DAVOX	**Davos/Dischmat**	**77.17**	**340**	P	**P**	**04 26 44.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=237,slow=12,SNR=1.5						

IDC 02 04:27:44.1±1.4, 12°38'N×142°20'E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/27, Error ellipse: s-maj=53.1km s-min=29.3km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**14.64**	**360**	LR	LR	04 36 11.4	
	comp=Z,90nm,19.9s,baz=122,slow=35						
WRA	**Warramunga Arr**	**33.04**	**194**	P	P	04 34 21.5	0.0
	0.4nm,0.5s,baz=15,slow=9.8,SNR=6.6						
MKAR	**Makanchi Array**	**60.57**	**317**	P	P	04 37 56.9	+0.3
	0.5nm,0.8s,baz=94,slow=9.3,SNR=5.3						
BVAR	**Borovoye Array**	**69.27**	**322**	P	P	04 38 52.9	-0.2
	0.7nm,0.5s,baz=109,slow=6.9,SNR=6.3						
ILAR	**Eielson Array**	**70.77**	**25**	P	P	04 39 02.1	0.0
	0.3nm,0.8s,baz=252,slow=5.3,SNR=3.6						

MAN ***02*** *04:42:38, 5.84N×127.05E, h62km, mb4.7, ML3.6, MS3.6*
IDC ***02*** *04:42:39.3±1.2, 6.23N×126.94E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=66.3km s-min=26.4km az=67.0*

ISC 02 04:42:39.3±3.3, 5.7N±0.2×126.9E±0.2, h35km, n9, σ1§51/6, mb3.4/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.42**	**336**	*e*P	**Pn**	**04 43 01.9**	**-0.7**
MATI				*e*S	**Sn**	**04 43 19.0**	**-1.1**
GSPH	**General Santos**	**1.94**	**283**	*e*P	**Pn**	**04 43 09.1**	**-0.9**
BUKP	**Musuan**	**2.84**	**321**	*e*P	**Pn**	**04 43 23.8**	**+1.5**
PAGZ	**Pagadian**	**4.08**	**303**	*e*P	**Pn**	**04 43 40.7**	**+1.4**
WRA	**Warramunga Arr**	**26.47**	**164**	P	P	04 48 23.1	+10
	0.7nm,0.7s,baz=342,slow=10,SNR=4.9						
SONM	**Songino Array**	**45.54**	**341**	P	**P**	**04 50 55.7**	**0.0**
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.9						
MKAR	**Makanchi Array**	**56.07**	**324**	P	P	04 52 18.1	+3.1
	0.9nm,0.8s,baz=131,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Array**	**60.21**	**327**	P	P	04 52 46.1	+2.3
	0.8nm,0.8s,baz=131,slow=5.2,SNR=7.9						
ILAR	**Eielson Array**	**83.33**	**26**	P	P	04 55 05.1	+2.7
	0.1nm,0.4s,baz=245,slow=5.8,SNR=5.4						

IDC ***02*** *04:48:56.6±1.4, 38.17N×71.45E, h0km, mb3.8/12, mb1 4.0/17, mb1mx3.9/31, mbtmp3.8/17, ML3.7/5, Error ellipse: s-maj=29.2km s-min=12.1km az=146.0*
ISCJB ***02*** *04:48:59.5±0.3, 38.52N±0.03×70.97E±0.05, h10km, mb3.9/19, MS3.5/1, Error ellipse: s-maj=5.7km s-min=4.3km az=8.2*
NNC ***02*** *04:48:59.5±4.0, 38.37N×71.08E, h15km±19km, mb4.3, mpv4.0, Error ellipse: s-maj=32.4km s-min=22.5km az=14.0*
MOS ***02*** *04:49:01.6±1.1, 38.40N×71.17E, h33km, mb4.2/14, Error ellipse: s-maj=12.6km s-min=5.1km az=77.8*
NEIC ***02*** *04:49:04.5±1.0, 38.45N×71.29E, h49km±9km, mb4.3/4, Error ellipse: s-maj=12.6km s-min=8.5km az=141.0*
BJI ***02*** *04:49:07.5, 38.92N×71.70E, h35km, mb3.9/2, ML3.8/3*

ISC 02 04:49:00.8±0.5, 38°46'N±0°04×71°05'E±0°06, h10km, n109, σ1§76/118, mb3.9/20, 14C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.98**	**73**	P	Pn	04 49 56.5	-5.6
KSH				smax	smax		
	comp=N,440nm,1.0s						
KSH				smax	smax		
	comp=E,300nm,1.0s						
AML	**Almayashu**	**4.19**	**28** *i*	PN	**Pn**	**04 50 06.4**	**+1.2**
AML	**Almayashu**	**4.19**	**28**	P	**Pn**	**04 50 06.4**	**+1.2**
SNR=31							
KBL	**Kabul**	**4.23**	**203**	*e*PN	**Pn**	**04 50 07.5**	**+2.0**
KBL				*e*		04 50 56.4	
KBL	**Kabul**	**4.23**	**203**	*e*Pn	**Pn**	**04 50 07.5**	**+2.0**
KBL				*e*Sn	**Sn**	**04 50 56.4**	**+1.4**
UCH	**Uchtor**	**4.61**	**34** *i*	PN	**Pn**	**04 50 11.5**	**+0.6**
UCH	**Uchtor**	**4.61**	**34**	P	**Pn**	**04 50 11.6**	**+0.6**
SNR=27							
KK31	**Karatay Array**	**4.66**	**355**	Pn	**Pn**	**04 50 14.1**	**+2.8**
	13nm,0.7s,baz=178,slow=13,SNR=103						
KK31				⇓Pg	**Pg**	**04 50 28.7**	**-1.4**
	12nm,0.6s,baz=164,slow=15,SNR=6.3						
KK31				⇑Sn	**Sn**	**04 51 10.6**	**+5.1**
	17nm,0.7s						
KK31				⇑Lg	Lg	04 51 28.8	
	39nm,0.8s,baz=177,slow=30						
KK31	**Karatay Array**	**4.66**	**355**	*e*PN	**Pn**	**04 50 14.1**	**+2.8**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KK31				pmax	pmax		
	comp=N,34nm,0.6s						
KKAR	**Karatay Array**	**4.66**	**355**	*e*PN	**Pn**	**04 50 14.0**	**+2.7**
KKAR	**Karatay Array**	**4.66**	**355**	*e*Pn	**Pn**	**04 50 14.0**	**+2.7**
KKAR				*e*Sn	Sn	04 50 57.8	-7.6
CEP	**Cherat**	**4.67**	**171**	P	**Pn**	**04 50 13.6**	**+2.0**
CEP				S	**Sb**	**04 51 18.0**	**-1.4**
EKS2	**Erkin-Say**	**4.69**	**25**	*e*PN	**Pn**	**04 50 13.0**	**+1.2**
EKS2	**Erkin-Say**	**4.69**	**25**	P	**Pn**	**04 50 13.4**	**+1.7**
SNR=24							
EKS2	**Erkin-Say**	**4.69**	**25**	*e*Pn	**Pn**	**04 50 13.0**	**+1.2**
EKS2				*e*Sn	Sn	04 50 57.7	-8.5
KZA	**Kyzart**	**4.84**	**40** *i*	PN	**Pn**	**04 50 13.9**	**-0.2**
KZA	**Kyzart**	**4.84**	**40**	P	**Pn**	**04 50 14.0**	**-0.2**
SNR=15							
AAK	**Ala-Archa**	**4.93**	**31**	⇑Pn	**Pn**	**04 50 16.2**	**+1.2**
	comp=N,11nm,0.5s,baz=177,slow=30						
AAK				⇓Pg	**Pb**	**04 50 29.8**	**+2.4**
	comp=N,46nm,0.8s,baz=177,slow=30						
AAK				⇓Lg	Lg	04 51 40.4	
	comp=N,50nm,1.1s,baz=177,slow=30						
AAK	**Ala-Archa**	**4.93**	**31**	PN	**Pn**	**04 50 16.3**	**+1.2**
AAK						04 50 29.5	
AAK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AAK	**Ala-Archa**	**4.93**	**31**	P	**Pn**	**04 50 16.5**	**+1.4**
SNR=22							
AAK	**Ala-Archa**	**4.93**	**31**	*e*Pn	**Pn**	**04 50 16.0**	**+0.9**
AAK	**Ala-Archa**	**4.93**	**31**	Pn	**Pn**	**04 50 16.3**	**+1.2**
	comp=Z,3.8nm,0.3s,baz=197,slow=8.1,SNR=38						
AAK				Pg	**Pb**	**04 50 29.5**	**+2.2**
	comp=Z,4.6nm,0.3s,baz=176,slow=12,SNR=20						
CHCP	**Chirah Chowk**	**5.11**	**159**	P	**Pn**	**04 50 18.0**	**+0.5**
KBK	**Karagaybulak**	**5.14**	**34** *i*	PN	**Pn**	**04 50 20.0**	**+2.0**
KBK	**Karagaybulak**	**5.14**	**34**	P	**Pn**	**04 50 20.0**	**+2.0**
SNR=12							
FRU	**Bishkek**	**5.15**	**31**	*e*PN	Pn	04 50 24.0	+6.0
FRU				*i*		04 50 36.0	
FRU				*e*S	Sb	04 51 26.0	-6.9
FRU				*i*		04 51 39.0	
FRU				pmax	pmax		
FRU				smax	smax		
	comp=Z,80nm,1.4s						
FRU				smax	smax		
	comp=E,440nm,1.6s						
CHMS	**Chumysh**	**5.34**	**31** *i*	PN	**Pn**	**04 50 21.8**	**+1.2**
CHMS	**Chumysh**	**5.34**	**31**	P	**Pn**	**04 50 21.8**	**+1.2**
SNR=25							
USP	**Ospenovka**	**5.47**	**27** *i*	PN	**Pn**	**04 50 24.1**	**+1.7**
USP	**Ospenovka**	**5.47**	**27**	P	**Pn**	**04 50 24.1**	**+1.7**
SNR=9.1							
TKM2	**Tokmak 2**	**5.64**	**36**	⇑Pn	**Pn**	**04 50 24.9**	**-0.1**
	comp=E,6.8nm,0.5s,baz=177,slow=30						
TKM2				⇑Pg	**Pb**	**04 50 39.3**	**-0.2**
	comp=E,9.5nm,0.5s,baz=177,slow=30						
TKM2				⇑Sn	**Sn**	**04 51 33.6**	**+3.6**
	comp=E,17nm,0.7s,baz=177,slow=30						
TKM2				⇑Lg	Lg	04 51 59.4	
	comp=E,20nm,0.7s,baz=177,slow=30						
TKM2	**Tokmak 2**	**5.64**	**36**	*e*PN	**Pn**	**04 50 25.1**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,13nm,0.5s						
TKM2	**Tokmak 2**	**5.64**	**36**	P	**Pn**	**04 50 25.4**	**+0.4**
SNR=26							
TKM2	**Tokmak 2**	**5.64**	**36**	*e*Pn	**Pn**	**04 50 25.1**	**+0.1**
	comp=Z,12nm,0.5s						
THW	**Thamme Wali**	**5.68**	**174**	P	Pn	04 50 27.6	+2.3
MKAR	**Makanchi Array**	**11.74**	**41**	P	**Pn**	**04 51 47.6**	**-0.7**
MKAR	**Makanchi Array**	**11.74**	**41**	Pn	**Pn**	**04 51 47.6**	**-0.7**
MKAR	**Makanchi Array**	**11.74**	**41**	Pn	**Pn**	**04 51 47.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=228,slow=12,SNR=49						
MK31	**Makanchi Array**	**11.74**	**41**	Pn	**Pn**	**04 51 47.2**	**-1.1**
	comp=Z,7.6nm,0.8s,baz=177,slow=30,SNR=44						
MK31	**Makanchi Array**	**11.74**	**41** *i*	P	**Pn**	**04 51 47.2**	**-1.1**
MK31				pmax	pmax		
	comp=Z,13nm,1.0s						
MK31	**Makanchi Array**	**11.74**	**41**	*e*Pn	**Pn**	**04 51 47.5**	**-0.8**
KURBB	**Kurchatov Array**	**13.27**	**21**	⇓Pn	Pn	04 52 04.7	-4.5
	comp=Z,3.1nm,0.8s,baz=177,slow=30						
KURBB	**Kurchatov Array**	**13.27**	**21**	Pn	Pn	04 52 05.6	-3.6
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=12						
KURBB				Lg	Lg	04 56 00.6	
	comp=Z,0.0nm,0.3s,baz=217,slow=30,SNR=3.9						
KURK	**Kurchatov**	**13.38**	**21**	⇑Pn	**Pn**	**04 52 13.3**	**+2.6**
	comp=Z,2.0nm,1.5s,baz=177,slow=30						
KURK	**Kurchatov**	**13.38**	**21**	P	**Pn**	**04 52 11.5**	**+0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**13.38**	**21**	*e*Pn	**Pn**	**04 52 12.2**	**+1.5**
KURK				Lg	Lg	04 56 00.6	
AB31	**Akbulak array**	**13.43**	**327**	Pn	**Pn**	**04 52 10.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=177,slow=30,SNR=41						
AB31				Sn	**Sn**	**04 54 39.6**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=177,slow=30,SNR=4.7						
AB31	**Akbulak array**	**13.43**	**327**	*e*P	**Pn**	**04 52 10.8**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**13.43**	**327**	*e*Pn	**Pn**	**04 52 10.9**	**-0.4**
	comp=Z,1.6nm,0.4s						
ABKAR				*e*Sn	**Sn**	**04 54 39.5**	**-1.0**
BVA0	**Borovoye Array**	**14.58**	**358**	⇑Pn	**Pn**	**04 52 28.3**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=177,slow=30,SNR=32						
BVA0	**Borovoye Array**	**14.58**	**358**	*e*P	**Pn**	**04 52 28.2**	**+1.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**14.58**	**358**	P	**Pn**	**04 52 25.9**	**-1.2**
BVAR	**Borovoye Array**	**14.58**	**358**	Pn	**Pn**	**04 52 25.9**	**-1.2**
BVAR	**Borovoye Array**	**14.58**	**358**	Pn	**Pn**	**04 52 25.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=160,slow=11,SNR=15						
BRVK	**Borovoye**	**14.61**	**358**	⇑Pn	**Pn**	**04 52 29.5**	**+2.0**
	comp=Z,9.0nm,0.8s,baz=177,slow=30						
BRVK	**Borovoye**	**14.61**	**358**	*e*P	**Pn**	**04 52 28.0**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**14.61**	**358**	*e*Pn	**Pn**	**04 52 28.0**	**+0.5**
	comp=Z,4.6nm,0.7s						
AKTO	**Aktyubinsk**	**15.14**	**326**	⇑Pn	**Pn**	**04 52 36.8**	**+2.2**
	comp=Z,6.6nm,

comp=Z,0.4nm,0.5s,baz=58,slow=6.9,SNR=4.1

TOA0	**Torodi Ar. Sit**	**65.81**	**268**	*e*P	**P**	**04 59 46.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**65.81**	**268**	P	**P**	**04 59 45.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**65.81**	**268**	P	**P**	**04 59 45.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=47,slow=5.6,SNR=13						
INK	**Inuvik**	**71.97**	**9**	*e*P	**P**	**05 00 22.9**	**-1.1**
	comp=Z,5.4nm,1.2s						
INK	**Inuvik**	**71.97**	**9**	P	**P**	**05 00 23.2**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=354,slow=8.3,SNR=6.2						
ILAR	**Eielson Array**	**72.89**	**16**	P	**P**	**05 00 27.4**	**-2.3**
ILAR	**Eielson Array**	**72.89**	**16**	P	**P**	**05 00 27.4**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=327,slow=6.4,SNR=5.1						
YKA	**Yellowknife Ar**	**79.29**	**3**	P	**P**	**05 01 05.0**	**-1.0**
YKA	**Yellowknife Ar**	**79.29**	**3**	P	**P**	**05 01 05.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=350,slow=5.8,SNR=17						

IDC ***02*** *04:52:26.4±1.7,36°.83S×178°.31E,h0km,mb3.6/1, mb1 4.0/1,mb1mx3.6/15,mbtmp3.6/1, Error ellipse: s-maj=13.8km s-min=10.8km az=166.1*

IDC ***02*** *05:00:57.7±4.6,30°.67N×83°.76E,h56km±41km,mb3.6/16, mb1 3.8/19,mb1mx3.7/30,mbtmp3.7/19,ML3.9/3,MS3.0/2, Ms1 3.1/2,ms1mx2.4/35,Error ellipse: s-maj=24.7km s-min=17.1km az=28.0*

ISC 02 05:00:53.0±0.7,30°.6N±0°.1×83°.7E±0°.1,h18km,n20,
σ1♦07/21,mb4.0/15,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**14.10**	**331**	P	**Pn**	**05 04 14.4**	**+2.3**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.0						
POO	**Poona**	**15.01**	**219**	*e*P	**Pn**	**05 04 24.0**	**-0.3**
MKAR	**Makanchi Array**	**16.20**	**356**	P	**Pn**	**05 04 39.6**	**-0.1**
	0.3nm,0.3s,baz=184,slow=11,SNR=23						
CMAR	**Chiang Mai Arr**	**18.35**	**128**	P	**Pn**	**05 05 09.2**	**+2.6**
	0.4nm,0.3s,baz=311,slow=10,SNR=13						
CMAR				LR	LR	05 13 44.8	
	comp=Z,30nm,21.1s,baz=105,slow=42						
KURBB	**Kurchatov Arra**	**20.38**	**350**	P	**P**	**05 05 28.1**	**-0.5**
	8.1nm,0.8s,baz=165,slow=10,SNR=62						
ZALV	**Zalesovo Beam**	**23.34**	**2**	P	**P**	**05 05 59.4**	**-0.7**
	3.4nm,0.8s,baz=187,slow=10,SNR=20						
ZALV				LR	LR	05 15 06.6	
	comp=Z,71nm,18.8s,baz=77,slow=36						
BVAR	**Borovoye Array**	**24.43**	**340**	P	**P**	**05 06 10.3**	**-0.2**
	1.1nm,0.7s,baz=143,slow=9.5,SNR=8.5						
SONM	**Songino Array**	**24.44**	**39**	P	**P**	**05 06 11.8**	**+1.0**
	0.9nm,0.7s,baz=227,slow=9.8,SNR=14						
SONM				PcP	**PcP**	**05 09 48.9**	**-0.4**
	0.1nm,0.6s,baz=225,slow=2.8,SNR=3.6						
AKTO	**Aktyubinsk**	**27.60**	**323**	P	**P**	**05 06 39.6**	**+0.4**
	0.6nm,0.7s,baz=123,slow=2.0,SNR=3.9						
KBZ	**Khabaz**	**34.74**	**304**	P	**P**	**05 07 42.7**	**+0.7**
	2.5nm,0.8s,baz=122,slow=5.9,SNR=5.1						
BRTR	**Keskin Array B**	**41.50**	**297**	P	**P**	**05 08 40.5**	**+1.2**
	0.9nm,0.9s,baz=107,slow=4.1,SNR=4.2						
AKASG	**Malin Array Be**	**44.83**	**313**	P	**P**	**05 09 05.2**	**-0.7**
	0.7nm,0.6s,baz=80,slow=7.4,SNR=10						
FINES	**FINESS Array B**	**48.25**	**327**	P	**P**	**05 09 32.0**	**-0.5**
	1.7nm,0.6s,baz=108,slow=8.6,SNR=11						
ARCES	**ARCESS Array B**	**50.67**	**337**	P	**P**	**05 09 50.6**	**-0.3**
	2.3nm,0.8s,baz=69,slow=7.9,SNR=5.4						
NOA	**NORSAR Array B**	**55.35**	**326**	P	**P**	**05 10 24.7**	**-1.0**
	1.3nm,0.7s,baz=88,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**69.93**	**129**	P	**P**	**05 12 02.4**	**-1.1**
	1.3nm,0.8s,baz=325,slow=6.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.66**	**277**	P	**P**	**05 12 42.7**	**-0.6**
	1.6nm,0.8s,baz=48,slow=3.7,SNR=9.0						
ILAR	**Eielson Array**	**77.10**	**20**	P	**P**	**05 12 44.7**	**-0.3**
	0.5nm,0.8s,baz=320,slow=4.0,SNR=5.9						
DBIC	**Dimbokro**	**85.45**	**275**	P	**P**	**05 13 30.3**	**+0.2**
	2.1nm,0.7s,baz=102,slow=8.0,SNR=3.4						
YKA	**Yellowknife Ar**	**86.06**	**8**	P	**P**	**05 13 31.3**	**-1.1**
	0.8nm,0.7s,baz=338,slow=5.3,SNR=22						

ISCJB ***02*** *05:03:52.3±0.8,6°.1N±0°.1×126°.6E±0°.1,h10km,mb3.8/11, Error ellipse: s-maj=20.8km s-min=15.8km az=35.7*

IDC ***02*** *05:03:52.1±1.0,6°.17N×126°.76E,h0km,mb3.8/11, mb1 3.9/11,mb1mx3.8/25,mbtmp3.8/11,Error ellipse: s-maj=54.9km s-min=25.5km az=65.0*

ISC 02 05:03:53.6±1.0,6°.1N±0°.2×126°.6E±0°.1,h10km,n15,
σ0♦97/14,mb3.9/10,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**1.43**	**313**	*e*P	**Pn**	**05 04 19.0**	**-0.6**
DMPH				*e*S	Sg	05 04 57.9	+18
GSPH	**General Santos**	**1.60**	**269**	*e*P	**Pn**	**05 04 21.2**	**-0.9**
CTBH	**Cotabato--PC H**	**2.55**	**296**	*i*P	**Pb**	**05 04 40.1**	**+0.6**
WRA	**Warramunga Arr**	**26.99**	**164**	P	**P**	**05 09 37.0**	**+1.1**
	0.8nm,0.6s,baz=345,slow=10.0,SNR=5.2						
SONM	**Songino Array**	**45.01**	**341**	P	P	05 12 11.2	+1.7
	0.3nm,0.7s,baz=154,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**55.53**	**324**	P	**P**	**05 13 29.6**	**+0.4**
	0.2nm,0.5s,baz=117,slow=7.5,SNR=7.4						
MKAR				PcP	**PcP**	**05 14 29.7**	**+0.7**
	0.4nm,0.8s,baz=139,slow=2.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**59.67**	**327**	P	**P**	**05 13 59.2**	**+1.1**
	1.1nm,0.8s,baz=125,slow=6.2,SNR=4.5						
BVAR	**Borovoye Array**	**65.25**	**326**	P	**P**	**05 14 36.4**	**+0.9**
	0.7nm,0.7s,baz=115,slow=6.7,SNR=4.0						
AKTO	**Aktyubinsk**	**71.71**	**321**	P	**P**	**05 15 16.9**	**+1.0**
	0.5nm,0.5s,baz=88,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**83.05**	**26**	P	**P**	**05 16 18.4**	**-0.8**
	0.3nm,0.5s,baz=249,slow=5.2,SNR=6.2						
ARCES	**ARCESS Array B**	**88.18**	**340**	P	**P**	**05 16 43.8**	**-0.8**
	2.9nm,0.9s,baz=98,slow=5.6,SNR=2.7						
BRTR	**Keskin Array B**	**88.39**	**310**	P	**P**	**05 16 46.1**	**-0.3**
	0.6nm,0.9s,baz=45,slow=6.5,SNR=2.9						
FINES	**FINESS Array B**	**89.67**	**332**	P	**P**	**05 16 51.4**	**-0.3**
	1.6nm,0.9s,baz=123,slow=5.1,SNR=3.2						
YKA	**Yellowknife Ar**	**97.42**	**24**	P	Pdif	05 17 26.7	-0.7
	0.1nm,0.6s,baz=301,slow=4.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.00**	**290**	PKP	**PKPdf**	**05 22 47.9**	**-1.6**
	0.2nm,0.8s,baz=34,slow=3.6,SNR=2.5						

IDC ***02*** *05:12:30.8±2.1,38°.02N×71°.83E,h0km,mb3.4/3, mb1 3.5/7,mb1mx3.3/29,mbtmp3.4/7,ML3.0/4,Error ellipse: s-maj=42.2km s-min=17.4km az=135.0*

ISCJB ***02*** *05:12:35.1±1.4,38°.6N±0°.1×70°.8E±0°.1,h10km,mb3.5/3, Error ellipse: s-maj=15.3km s-min=12.5km az=175.4*

NNC ***02*** *05:12:36.2±3.3,38°.49N×70°.86E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=25.7km s-min=20.4km az=6.0*

ISC 02 05:12:37.6±1.4,38°.6N±0°.1×70°.7E±0°.09,h10km,n11,
σ2♦55/15,mb3.5/3,9C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.52**	**358**	Pn	Pn	05 13 50.5	+4.4
	0.9nm,0.5s,baz=174,slow=12,SNR=20						
KK31				⇑Pg	**Pg**	**05 14 04.6**	**+0.5**
	3.6nm,0.7s,baz=179,slow=13,SNR=4.7						
KK31				⇑Sn	**Sb**	**05 14 46.9**	**-4.5**
	3.5nm,0.6s,baz=185,slow=16,SNR=4.0						
KK31				⇑Lg	Lg	05 15 04.2	
	8.4nm,0.6s						
AAK	**Ala-Archa**	**4.94**	**34**	⇑Pn	**Pn**	**05 13 51.0**	**-1.0**
	3.3nm,1.1s						
AAK				⇑Pg	Pb	05 14 07.2	+3.0
	4.8nm,0.8s						
AAK				⇑Sn	**Sn**	**05 14 53.7**	**+4.5**
	3.2nm,0.6s						
AAK				⇓Lg	Lg	05 15 10.5	
	13nm,1.1s						
AAK	**Ala-Archa**	**4.94**	**34**	Pn	**Pn**	**05 13 50.8**	**-1.2**
	0.3nm,0.3s,baz=197,slow=11,SNR=4.7						
AAK				Sn	**Sn**	**05 14 50.4**	**+1.2**
	baz=321,slow=19,SNR=1.7						
AAK				Lg	Lg	05 15 10.4	
	0.3nm,0.3s,baz=7.7,slow=20,SNR=1.5						
TKM2	**Tokmak 2**	**5.67**	**39**	⇑Pn	**Pn**	**05 14 01.3**	**-0.8**
	1.4nm,0.6s						
TKM2				⇓Pg	**Pb**	**05 14 18.7**	**+1.9**
	2.2nm,0.8s						
TKM2				⇑Lg	Lg	05 15 34.2	
	4.9nm,1.1s						
MKAR	**Makanchi Array**	**11.79**	**42**	Pn	Pn	05 15 21.9	-3.8
	0.1nm,0.3s,baz=231,slow=12,SNR=11						
AB31	**Akbulak array**	**13.20**	**327**	⇑Pn	**Pn**	**05 15 46.5**	**+1.5**
	2.7nm,1.2s,baz=144,slow=12,SNR=4.8						
AB31				⇓Sn	**Sn**	**05 18 12.9**	**+1.2**
	0.4nm,0.7s,baz=142,slow=23,SNR=2.9						
AKTO	**Aktyubinsk**	**14.91**	**327**	Pn	**P**	**05 16 13.9**	**-0.1**
	0.1nm,0.3s,baz=144,slow=8.7,SNR=6.0						
ZALV	**Zalesovo Beam**	**18.12**	**27**	P	**Pn**	**05 16 45.0**	**-4.2**
	0.1nm,0.3s,baz=227,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**35.66**	**325**	P	**P**	**05 19 37.7**	**+2.2**
	1.3nm,0.8s,baz=141,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**65.60**	**268**	P	**P**	**05 23 21.4**	**-0.5**
	0.3nm,0.8s,baz=64,slow=6.1,SNR=2.7						
YKA	**Yellowknife Ar**	**79.17**	**3**	P	**P**	**05 24 40.5**	**-1.7**
	0.2nm,0.9s,baz=352,slow=5.3,SNR=4.1						

BJI ***02*** *05:20:48.4,12°.43N×142°.30E,h10km,mB5.3/41,mb4.9/46, Ms4.9/44,Ms7 4.5/44*

ISCJB ***02*** *05:20:49.5±1.2,12°.36N±0°.04×142°.18E±0°.05,h18km±8km, mb4.8/85,MS4.5/31,Error ellipse: s-maj=7.6km s-min=6.3km az=158.1*

NEIC ***02*** *05:20:50.4±0.2,12°.40N×142°.16E,h10km,mb5.1/44,Error ellipse: s-maj=6.8km s-min=5.1km az=81.0*

GCMT ***02*** *05:20:50.3±0.2,12°.35N×141°.80E,h12km,MW5.1/87, Moment Tensor Solution. s56,c73; s87,c143; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.59±.11; Mθθ4.27±.09; Mφφ0.32±.12; Mrθ3.42±.29; Mφθ1.28±.10; Mφr1.25±.33; Best double couple: M◎5.88200×10^16 NP1:◎s251.00000°,δ64.00000°,λ-92.00000°. NP2: ◎s76.00000°,δ26.00000°,λ-86.00000°. Principal axes: T 5.9080, Plg19.0000°, Azm343.0000°; N -0.0500, Plg2.0000°, Azm252.0000°; P -5.8560, Plg71.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***02*** *05:20:52.1±1.1,12°.35N×142°.02E,h33km,mb5.0/26 Error ellipse: s-maj=11.5km s-min=7.3km az=108.3*

IDC ***02*** *05:20:57.2±4.7,12°.39N×142°.09E,h67km±44km,mb4.1/19, mb1 4.3/19,mb1mx4.1/29,mbtmp4.4/19,MS4.4/14, Ms1 4.4/14,ms1mx4.1/29,Error ellipse: s-maj=19.5km s-min=11.4km az=78.0*

ISC 02 05:20:52.3±0.4,12°.38N±0°.05×142°.21E±0°.05,h23km±2km,
h23km:pP-P,n183,σ1♦39/224,mb4.9/85,MS4.5/31,2C-3D,
South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.86**	**65**	*e*Pn	**Pb**	**05 21 40.4**	**-2.2**
JOW	**Kunigami**	**19.45**	**320**	*e*P	**Pn**	**05 25 20.0**	**+1.4**
	29nm,1.3s						
TGY	**Tagaytay City**	**20.78**	**277**	P	**P**	**05 25 32.6**	**+0.5**
TGY	**Tagaytay City**	**20.78**	**277**	P	**P**	**05 25 32.6**	**+0.5**
	150nm,0.4s,baz=104,slow=4.2,SNR=6.2						
PMG	**Port Moresby**	**22.19**	**167**	*e*P	**P**	**05 25 47.7**	**+0.6**
	236nm,1.9s						
PMG	**Port Moresby**	**22.19**	**167**	P	**P**	**05 25 47.6**	**+0.5**
	14nm,0.8s,baz=7.1,slow=4.9,SNR=8.6						
TWG	**Pinlang**	**22.64**	**300**	*e*P	**P**	**05 25 51.0**	**-0.9**
	97nm,1.0s						
YULB	**Yu-li**	**22.69**	**302**	*e*P	**P**	**05 25 51.7**	**-0.8**
	45nm,1.1s						
JNU	**Nakatsue**	**23.11**	**335**	*e*P	**P**	**05 25 57.9**	**+1.2**
	16nm,0.9s						
JNU	**Nakatsue**	**23.11**	**335**	P	**P**	**05 25 57.2**	**+0.5**
	24nm,0.8s,baz=122,slow=3.5,SNR=15						
SSLB	**Suanglung**	**23.14**	**302**	*e*P	**P**	**05 25 55.4**	**-1.8**
	79nm,1.1s						
YHNB	**Yeheng**	**23.19**	**305**	*e*P	**P**	**05 25 58.2**	**+0.5**
	428nm,2.7s						
TPUB	**Ta-pu**	**23.21**	**301**	*e*P	**P**	**05 25 56.6**	**-1.2**
	36nm,1.4s						
MJAR	**Matsushiro Arr**	**24.33**	**352**	P	**P**	**05 26 08.8**	**+0.4**
MJAR	**Matsushiro Arr**	**24.33**	**352**	P	**P**	**05 26 08.8**	**+0.4**
	2.3nm,0.7s,baz=180,slow=0.7,SNR=9.2						
MAJO	**Matsushiro**	**24.33**	**352**	*e*P	**P**	**05 26 09.6**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,24nm,1.1s						
MAJO	**Matsushiro**	**24.33**	**352**	*e*P	**P**	**05 26 09.6**	**+1.2**
	comp=Z,24nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**24.35**	**72**	T	T	05 51 39.7	
	baz=260,slow=73,SNR=12						
H11S1	**WAKE ISLAND Hy**	**24.36**	**72**	T	T	05 51 54.7	
	baz=260,slow=73,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**24.37**	**72**	T	T	05 51 43.5	
	baz=260,slow=73,SNR=11						
MYLDM	**Lahad Datu**	**24.48**	**255**	*e*P	**P**	**05 26 10.2**	**+0.2**
	comp=Z,90nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**24.80**	**70**	T	T	05 52 21.9	
	baz=258,slow=75,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**24.80**	**70**	T	T	05 52 27.2	
	baz=258,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**24.81**	**70**	T	T	05 52 16.0	
	baz=258,slow=75,SNR=8.1						
QZH	**Quanzhou**	**25.58**	**303**	⇓*i*P	**P**	**05 26 18.2**	**-1.6**
QZH				pmax	pmax		
	comp=Z,820nm,9.4s						
QZH				LR	LR		
	comp=Z,990nm,12.8s						
QZH				LR	LR		
	comp=Z,880nm,11.5s						
QZH				LR	LR		
	comp=Z,2μm,29.3s						
COEN	**Coen**	**26.18**	**178**	*e*P	**P**	**05 26 26.2**	**+0.9**
	comp=Z,526nm,1.6s						
SSE	**Sheshan**	**26.90**	**317**	P	**P**	**05 26 30.8**	**-0.9**
SSE				S	**S**	**05 31 07.1**	**-0.2**
SSE				sS	**sS**	**05 31 17.5**	**-1.3**
SSE				pmax	pmax		
	comp=Z,37nm,1.0s						
SSE				pmax	pmax		
	comp=Z,210nm,6.7s						
SSE				LR	LR		
	comp=Z,330nm,20.6s						
SSE				LR	LR		
	comp=Z,350nm,20.6s						
SSE				LR	LR		
	comp=Z,600nm,20.0s						
HNR	**Honiara**	**27.93**	**140**	LR	LR	05 36 04.9	
	comp=Z,278nm,18.2s,baz=308,slow=32						
KSRS	**Korea Array**	**28.06**	**335**	P	**P**	**05 26 41.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=148,slow=9.4,SNR=3.9						
KSAR	**Wonju Array Be**	**28.07**	**335**	P	**P**	**05 26 41.9**	**-0.1**
NJ2	**Nanjing**	**29.05**	**316**	*e*P	**P**	**05 26 50.5**	**-0.4**
NJ2				S	**S**	**05 31 42.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,15.8s						
NJ2				LR	LR		
	comp=Z,830nm,16.4s						
NJ2				LR	LR		
	comp=Z,580nm,9.6s						
QIZ	**Qiongzhong**	**31.82**	**286**	P	**P**	**05 27 15.0**	**-0.6**
QIZ				S	**S**	**05 32 22.3**	**-2.6**
QIZ				pmax	pmax		
	comp=Z,26nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,210nm,4.3s						
QIZ				LR	LR		
	comp=Z,480nm,19.1s						
QIZ				LR	LR		
	comp=Z,300nm,17.5s						
QIZ				LR	LR		
	comp=Z,520nm,19.8s						
CTAO	**Charters Tower**	**32.50**	**173**	*e*P	**P**	**05 27 23.0**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,121nm,1.9s						
CTAO	**Charters Tower**	**32.50**	**173**	*e*P	**P**	**05 27 23.0**	**+1.5**
	comp=Z,121nm,1.9s						
USRK	**Ussuriysk Arra**	**32.91**	**346**	P	**P**	**05 27 24.2**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=170,slow=9.2,SNR=6.6						
WRAB	**Tennant Creek**	**33.02**	**194**	P	**P**	**05 27 25.0**	**-1.0**
	comp=Z,177nm,0.8s,SNR=23						
WRAB	**Tennant Creek**	**33.02**	**194**	⇑*e*P	**P**	**05 27 25.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,61nm,1.2s						
WRAB	**Tennant Creek**	**33.02**	**194**	*e*P	**P**	**05 27 25.1**	**-1.0**
	comp=Z,88nm,1.4s						
WRA	**Warramunga Arr**	**33.04**	**194**	P	**P**	**05 27 25.5**	**-0.7**
WRA	**Warramunga Arr**	**33.04**	**194**	P	**P**	**05 27 25.5**	**-0.7**
	comp=Z,7.9nm,0.6s,baz=16,slow=9.7,SNR=31						
MDJ	**Mudanjiang**	**33.90**	**344**	P	**P**	**05 27 32.3**	**-1.1**
MDJ				pP	**pP**	**05 27 38.4**	**-2.0**
MDJ				sP	**sP**	**05 27 41.1**	**-2.2**
MDJ				PP	**PnPn**	**05 28 48.1**	**+1.5**
MDJ				PcP	**PcP**	**05 30 11.6**	**-0.1**
MDJ				S	**S**	**05 32 58.1**	**+1.4**
MDJ				ScP	**ScP**	**05 33 55.2**	**-0.1**
MDJ				PcS	**PcS**	**05 33 57.8**	**+0.2**
MDJ				ScS	**ScS**	**05 37 55.6**	**-1.3**
MDJ				pmax	pmax		

	comp=Z,20nm,2.5s							
MDJ				pmax	pmax			
	comp=Z,360nm,6.2s							
MDJ				LR	LR			
	comp=Z,560nm,33.6s							
MDJ				LR	LR			
	comp=Z,220nm,32.5s							
MDJ				LR	LR			
	comp=Z,800nm,20.5s							
FITZ	**Fitzroy Crossi**	**34.42 209**		P	**P**		**05 27 37.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**34.42 209**		P	**P**		**05 27 37.3**	**-0.8**
	comp=Z,6.0nm,1.0s,baz=312,slow=7.7,SNR=5.4							
CN2	**Changchun**	**34.49 338**		*e*P	**P**		**05 27 37.2**	**-1.3**
CN2				*e*S	**S**		**05 33 03.7**	**-2.0**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=Z,1µm,15.0s							
CN2				LR	LR			
	comp=Z,500nm,15.0s							
CN2				LR	LR			
	comp=Z,500nm,14.0s							
ENH	**Enshi**	**35.12 306**		*e*P	**P**		**05 27 46.5**	**+2.2**
	comp=Z,29nm,1.3s							
BJI	**Beijing**	**35.86 325**		P	**P**		**05 27 49.8**	**-0.6**
BJI				PP	**PP**		**05 29 12.2**	**+0.1**
BJI				S	**S**		**05 33 29.7**	**+2.7**
BJI				pmax	pmax			
	comp=Z,12nm,0.8s							
BJI				pmax	pmax			
	comp=Z,170nm,4.5s							
BJI				LR	LR			
	comp=Z,780nm,17.2s							
BJI				LR	LR			
	comp=Z,680nm,17.8s							
BJI				LR	LR			
	comp=Z,740nm,24.8s							
GYA	**Guiyang**	**36.19 298**		P	**P**		**05 27 54.3**	**+0.7**
GYA				pP	**pP**		**05 28 04.0**	**+3.4**
GYA				PP	**PP**		**05 29 17.5**	**+1.4**
GYA				S	**S**		**05 33 32.0**	**-0.7**
GYA				sS	**sS**		**05 33 43.2**	**-1.1**
GYA				ScP	**ScP**		**05 34 04.0**	**-0.1**
GYA				ScS	**ScS**		**05 38 08.7**	**-1.6**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,4.9s							
GYA				LR	LR			
	comp=Z,920nm,18.6s							
GYA				LR	LR			
	comp=Z,670nm,19.2s							
GYA				LR	LR			
	comp=Z,830nm,17.6s							
HABR	**Khabarovsk**	**36.48 352**		*e*P	**P**		**05 27 57.6**	**+2.0**
HABR				*e*			05 30 16.7	
HABR				*e*S	**S**		**05 33 34.7**	**-1.5**
HABR				*e*SS	**SnSn**		**05 36 05.5**	**-0.1**
HABR				*e*			05 38 08.6	
HABR				pmax	pmax			
	comp=Z,23nm,1.2s							
HABR				MLR	MLR			
	comp=Z,248nm,19.0s							
AS31	**Alice Springs**	**36.73 193**		*e*P	**P**		**05 27 58.3**	**+0.3**
XAN	**Xi'an**	**37.17 311**		P	**P**		**05 28 00.7**	**-1.1**
XAN				pP	**pP**		**05 28 06.7**	**-2.1**
XAN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,28nm,4.0s							
XAN				LR	LR			
	comp=Z,390nm,18.3s							
XAN				LR	LR			
	comp=Z,210nm,22.9s							
XAN				LR	LR			
	comp=Z,140nm,19.7s							
SLVN	**Son La**	**37.64 289**		*e*P	**P**		**05 28 09.1**	**+3.1**
HHC	**Hu-ho-hao-te**	**39.07 322**		*e*P	**P**		**05 28 18.8**	**+1.1**
HHC				PP	**PnPn**		**05 29 52.6**	**+2.6**
HHC				S	**S**		**05 34 17.2**	**+1.3**
HHC				PcS	**PcS**		**05 34 18.8**	**+1.7**
HHC				sS	**sS**		**05 34 29.5**	**+1.9**
HHC				ScS	**ScS**		**05 38 25.7**	**-0.3**
HHC				pmax	pmax			
	comp=Z,52nm,1.5s							
HHC				pmax	pmax			
	comp=Z,680nm,6.9s							
HHC				LR	LR			
	comp=Z,1µm,17.7s							
HHC				LR	LR			
	comp=Z,750nm,14.1s							
HHC				LR	LR			
	comp=Z,990nm,22.1s							
KMI	**Kunming**	**39.32 295**		P	**P**		**05 28 21.5**	**+1.3**
KMI				pP	**pP**		**05 28 28.0**	**+0.7**
KMI				PP	**PnPn**		**05 29 52.8**	**-0.6**
KMI				S	**S**		**05 34 19.8**	**-0.6**
KMI				sS	**sS**		**05 34 31.1**	**-0.9**
KMI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KMI				pmax	pmax			
	comp=Z,160nm,3.5s							
KMI				LR	LR			
	comp=Z,490nm,14.2s							
KMI				LR	LR			
	comp=Z,340nm,14.2s							
KMI				LR	LR			
	comp=Z,420nm,21.1s							
CD2	**Chengdu**	**39.96 304**		P	**P**		**05 28 27.3**	**+2.0**
CD2				pP	**pP**		**05 28 33.4**	**+1.1**
CD2				sP	**sP**		**05 28 37.2**	**+2.0**
CD2				PP	**PnPn**		**05 30 02.9**	**+2.2**
CD2				PcP	**PcP**		**05 30 33.1**	**+2.7**
CD2				S	**S**		**05 34 29.9**	**+0.4**
CD2				sS	**sS**		**05 34 41.5**	**+0.3**
CD2				pmax	pmax			
	comp=Z,30nm,1.0s							
CD2				pmax	pmax			
	comp=Z,200nm,5.9s							
CD2				LR	LR			
	comp=Z,580nm,17.8s							
CD2				LR	LR			
	comp=Z,780nm,16.6s							
CD2				LR	LR			
	comp=Z,470nm,14.4s							
PBKT	**Sadao Pong**	**40.10 281**		P	P		05 28 29.7	+3.2
	comp=Z,14nm,0.8s							
LAMP	**Lampang**	**41.42 284**		P	P		05 28 46.7	+9.3
	comp=Z,4.5nm,1.0s							
UTHA	**Uthaitani**	**41.57 280**		P	P		05 28 48.3	+10
	comp=Z,5.9nm,1.1s							
DZM	**Mont Dzumac**	**41.68 145**		*e*P	P		05 28 43.0	+3.5
	comp=Z,48nm,1.2s							
DZM				*e*S	**S**		**05 34 53.2**	**-2.0**
	comp=Z,217nm,26.7s							
DZM				*e*LR	LR		05 40 16.8	
	comp=Z,1µm,31.6s							
DZM	**Mont Dzumac**	**41.68 145**		P	**P**		**05 28 41.8**	**+2.3**
DZM	**Mont Dzumac**	**41.68 145**		P	**P**		**05 28 41.8**	**+2.3**
	comp=Z,6.3nm,0.8s,baz=290,slow=12,SNR=3.5							
LZH	**Lanzhou**	**41.81 311**		*e*P	**P**		**05 28 42.2**	**+1.6**
LZH				pP	**pP**		**05 28 48.4**	**+0.7**
LZH				sP	**sP**		**05 28 50.2**	**-0.3**
LZH				PP	**PP**		**05 30 19.1**	**+1.7**
LZH				S	**S**		**05 34 59.4**	**+2.3**
LZH				sS	**sS**		**05 35 10.4**	**+1.6**
LZH				pmax	pmax			
	comp=Z,32nm,1.1s							
LZH				pmax	pmax			
	comp=Z,160nm,4.0s							
LZH				LR	LR			
	comp=Z,600nm,13.6s							
LZH				LR	LR			
	comp=Z,800nm,15.2s							
LZH				LR	LR			
	comp=Z,920nm,15.6s							
CMAI	**Chiengmai2**	**42.04 286**		P	P		05 28 52.3	+10
	comp=Z,22nm,1.5s							
CM31	**Chiang Mai Arr**	**42.07 284**		*e*P	**P**		**05 28 43.1**	**+0.3**
	comp=Z,11nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.07 284**		P	**P**		**05 28 42.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**42.07 284**		P	**P**		**05 28 42.1**	**-0.7**
	comp=Z,7.3nm,0.8s,baz=84,slow=6.2,SNR=24							
PET	**Petropavlovsk**	**42.63 15**		*e*P	**P**		**05 28 49.6**	**+2.9**
PET				*e*S	**S**		**05 35 09.4**	**+1.1**
MHMT	**Maesarieng**	**43.02 283**		P	P		05 28 54.0	+3.5
	comp=Z,11nm,1.2s							
ARMA	**Armidale**	**43.50 168**		*e*P	**P**		**05 28 54.4**	**+0.2**
	comp=Z,24nm,1.5s							
PSI	**Prapat**	**43.88 261**		P	**P**		**05 28 56.4**	**-1.3**
PSI	**Prapat**	**43.88 261**		P	**P**		**05 28 56.4**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=82,slow=11,SNR=2.8							
STKA	**Stephens Creek**	**44.00 181**		*e*P	**P**		**05 28 58.9**	**+0.8**
	comp=Z,13nm,1.9s							
STKA	**Stephens Creek**	**44.00 181**		P	**P**		**05 28 58.7**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=350,slow=9.5,SNR=6.0							
STKA				LR	LR		05 48 29.7	
	comp=Z,814nm,18.6s,baz=8.8,slow=38							
FORT	**Forrest**	**45.01 197**		*e*P	**P**		**05 29 06.1**	**-0.1**
	comp=Z,36nm,1.1s							
BBOO	**Buckleboo**	**45.31 187**		*e*P	**P**		**05 29 08.2**	**-0.3**
	comp=Z,620nm,1.0s							
ULN	**Ulaanbaatar**	**45.95 327**		*e*P	**P**		**05 29 13.6**	**0.0**
	comp=Z,39nm,1.3s							
GTA	**Gaotai**	**46.08 314**		*e*P	**P**		**05 29 15.2**	**+0.4**
GTA				pP	**pP**		**05 29 19.8**	**-2.2**
GTA				sP	**sP**		**05 29 22.2**	**-2.6**
GTA				PP	**PP**		**05 31 06.9**	**+3.8**
GTA				S	**S**		**05 35 59.3**	**0.0**
GTA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,410nm,5.3s							
GTA				LR	LR			
	comp=Z,420nm,16.7s							
GTA				LR	LR			
	comp=Z,540nm,15.3s							
GTA				LR	LR			
	comp=Z,510nm,16.6s							
SONM	**Songino Array**	**46.28 327**		P	**P**		**05 29 16.8**	**+0.6**
SONM	**Songino Array**	**46.28 327**		P	**P**		**05 29 16.8**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=132,slow=6.6,SNR=18							
SONM				LR	LR		05 48 12.8	
	comp=Z,362nm,21.4s,baz=0.9,slow=35							
TLY	**Talaya**	**50.04 330**		*e*P	**P**		**05 29 45.9**	**+0.9**
TLY				*e*			05 31 35.4	
TLY				*e*PPP	PPP		05 32 42.7	
TLY				*e*			05 39 29.9	
TLY				*e*SS	**SS**		**05 40 25.7**	**-2.2**
TLY				pmax	pmax			
	comp=Z,23nm,1.5s							
TLY	**Talaya**	**50.04 330**		*e*P	**P**		**05 29 46.0**	**+0.9**
	comp=Z,21nm,1.3s							
LSA	**Lhasa**	**50.26 298**		*e*P	**P**		**05 29 46.8**	**-0.9**
LSA				pmax	pmax			
	comp=Z,22nm,1.2s							
LSA	**Lhasa**	**50.26 298**		*e*P	**P**		**05 29 46.8**	**-0.9**
	comp=Z,22nm,1.2s							
YAK	**Yakutsk**	**50.40 352**		*e*P	**P**		**05 29 47.4**	**-0.1**
YAK				*e**PP	**pP**		**05 29 55.9**	**+1.2**
YAK				*e*			05 31 02.3	
YAK				*e*			05 31 41.4	
YAK				*e*PPP	PPP		05 32 47.9	
YAK				*e*S	**S**		**05 37 02.5**	**+3.2**
YAK				*e*			05 39 38.8	
YAK				*e*SS	**SS**		**05 40 32.2**	**-1.0**
YAK				pmax	pmax			
	comp=N,12nm,0.9s							
YAK				pmax	pmax			
	comp=Z,56nm,0.9s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.8s							
YAK				pmax	pmax			
	comp=Z,185nm,4.2s							
YAK				pmax	pmax			
	comp=N,140nm,3.8s							
YAK				pmax	pmax			
	comp=E,146nm,3.8s							
YAK				smax	smax			
	comp=E,224nm,3.9s							
YAK				smax	smax			
	comp=N,60nm,3.0s							
YAK	**Yakutsk**	**50.40 352**		*e*P	**P**		**05 29 47.5**	**0.0**
	comp=N,71nm,0.8s							
SEY	**Seymchan**	**51.00 6**		P	**P**		**05 29 52.5**	**+0.4**
SEY	**Seymchan**	**51.00 6**		P	**P**		**05 29 52.5**	**+0.4**
SEY	**Seymchan**	**51.00 6**		P	**P**		**05 29 52.5**	**+0.4**
	comp=N,11nm,1.0s,baz=166,slow=7.6,SNR=11							
TAPN	**Taplejung**	**52.99 295**		*e*P	**P**		**05 30 06.3**	**-1.6**
	comp=N,55nm,1.2s							
ODAN	**Odare**	**53.23 294**		*e*P	**P**		**05 30 07.8**	**-1.8**
	comp=N,80nm,1.5s							
RAMN	**Ramite**	**53.94 294**		*e*P	**P**		**05 30 13.3**	**-1.6**
	comp=N,63nm,1.2s							
JIRN	**Jiri**	**54.36 295**		*e*P	**P**		**05 30 16.8**	**-1.2**
	comp=N,52nm,1.1s							
GUN	**Gumba**	**54.65 295**		*e*P	**P**		**05 30 18.9**	**-1.2**
	comp=N,113nm,1.1s							
PKI	**Pulchoki**	**55.04 295**		*e*P	**P**		**05 30 21.1**	**-1.9**
	comp=N,54nm,1.2s							
KKN	**Kakani**	**55.17 295**		*e*P	**P**		**05 30 23.3**	**-0.5**
	comp=N,19nm,0.8s							
DMN	**Daman**	**55.31 295**		*e*P	**P**		**05 30 23.4**	**-1.4**
	comp=N,60nm,1.2s							
GKN	**Gorkha**	**55.76 295**		*e*P	**P**		**05 30 26.9**	**-1.0**
	comp=N,85nm,1.3s							
WMQ	**Urumqi**	**56.12 315**		P	**P**		**05 30 30.4**	**+0.3**
WMQ				pP	**pP**		**05 30 36.5**	**-0.9**
WMQ				sP	**sP**		**05 30 39.3**	**-0.9**
WMQ				ScP	**ScP**		**05 35 25.1**	**-0.9**
WMQ				S	**S**		**05 38 16.0**	**-2.0**
WMQ				ScS	**ScS**		**05 40 15.0**	**-3.2**
WMQ				pmax	pmax			
	comp=N,41nm,1.1s							
WMQ				pmax	pmax			
	comp=N,260nm,4.4s							
WMQ				LR	LR			
	comp=N,250nm,11.1s							
WMQ				LR	LR			
	comp=N,330nm,10.0s							
WMQ				LR	LR			
	comp=N,410nm,20.9s							
DANN	**Dangsing**	**56.55 296**		*e*P	**P**		**05 30 32.1**	**-1.6**
	comp=N,96nm,1.2s							
KOLN	**Koldanda**	**56.66 295**		*e*P	**P**		**05 30 32.8**	**-1.6**
	comp=N,56nm,1.1s							
PYUN	**Piuthan**	**57.22 295**		*e*P	**P**		**05 30 36.6**	**-1.7**
	comp=N,84nm,1.0s							
TIXI	**Tiksi**	**59.79 355**		*e*P	**P**		**05 30 55.8**	**+0.5**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TIXI	**Tiksi**	**59.79 355**		*e*P	**P**		**05 30 55.5**	**+0.3**
	comp=Z,6.7nm,0.9s							
GAMB	**Gambell**	**60.54 22**		*e*P	**P**		**05 31 00.6**	**+0.1**
	comp=Z,13nm,1.1s							
MK31	**Makanchi Array**	**60.58 317**		*i* P	**P**		**05 31 00.4**	**-0.7**
MK31				pmax	pmax			
	comp=Z,36nm,1.1s							
MK31	**Makanchi Array**	**60.58 317**		*e*P	**P**		**05 31 00.5**	**-0.7**
MKAR	**Makanchi Array**	**60.58 317**		*e*P	**P**		**05 31 00.7**	**-0.5**
MKAR	**Makanchi Array**	**60.58 317**		*e*P	**P**		**05 31 00.7**	**-0.5**
MKAR	**Makanchi Array**	**60.58 317**		P	**P**		**05 31 00.6**	**-0.6**
	comp=Z,6.9nm,0.7s,baz=91,slow=8.3,SNR=61							
MKAR				LR	LR		05 57 46.7	
	comp=Z,185nm,18.6s,baz=105,slow=36							
ZAA0	**Zalesovo Array**	**61.12 325**		*e*P	**P**		**05 31 03.1**	**-1.5**
ZALV	**Zalesovo Beam**	**61.12 325**		*i* P	**P**		**05 31 03.7**	**-0.9**
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ZALV	**Zalesovo Beam**	**61.12 325**		P	**P**		**05 31 03.3**	**-1.3**
ZALV	**Zalesovo Beam**	**61.12 325**		P	**P**		**05 31 03.3**	**-1.3**
	comp=Z,5.1nm,0.6s,baz=110,slow=7.1,SNR=28							
ZALV				LR	LR		05 57 38.9	
	comp=Z,244nm,18.4s,baz=252,slow=36							
HYB	**Hyderabad**	**61.49 283**		*i* P	**P**		**05 31 09.0**	**+1.2**
TNA	**Tin City**	**62.89 21**		*e*P	**P**		**05 31 17.9**	**+1.6**
	comp=Z,114nm,2.6s							
KURK	**Kurchatov**	**63.85 321**		P	**P**		**05 31 22.6**	**-0.4**
	comp=Z,179nm,0.9s,SNR=21							
KURK	**Kurchatov**	**63.85 321**		P	**P**		**05 31 21.9**	**-1.1**
KURK				pmax	pmax			
	comp=Z,31nm,1.1s							
KURK	**Kurchatov**	**63.85 321**		*e*P	**P**		**05 31 21.8**	**-1.1**
	comp=Z,31nm,1.0s							
KSH	**Kashi**	**63.93 308**		*e*P	**P**		**05 31 25.1**	**+1.2**
KSH				*e*sP	**sP**		**05 31 36.3**	**+2.3**
KSH				*e*PcP	**PcP**		**05 32 01.1**	**+1.7**
KSH				*e*PP	**PP**		**05 33 46.4**	**+1.9**
KSH				*e*PcS			05 36 03.3	
KSH				S	**S**		**05 39 56.3**	**-2.3**
KSH				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,120nm,7.8s							
KSH				LR	LR			
	comp=Z,110nm,10.5s							
KSH				LR	LR			
	comp=Z,260nm,13.0s							
KSH				LR	LR			
	comp=Z,140nm,12.4s							
TKM2	**Tokmak 2**	**64.57 312**		*e*P	**P**		**05 31 27.6**	**-0.5**
TKM2				pmax	pmax			
	comp=Z,7.0nm,0.8s							
TKM2	**Tokmak 2**	**64.57 312**		*e*P	**P**		**05 31 27.6**	**-0.5**
	comp=Z,6.7nm,0.8s							
AAK	**Ala-Archa**	**65.35 311**		*ce*P	**P**		**05 31 33.0**	**-0.1**
AAK				pmax	pmax			
	comp=Z,20nm,1.7s							
AAK	**Ala-Archa**	**65.35 311**		*e*P	**P**		**05 31 32.5**	**-0.6**
	comp=Z,7.1nm,1.0s							
AAK	**Ala-Archa**	**65.35 311**		LR	LR		06 01 38.1	
	comp=Z,304nm,18.8s,baz=76,slow=37							
EKS2	**Erkin-Say**	**65.88 311**		*e*P	**P**		**05 31 37.0**	**+0.5**
EKS2				pmax	pmax			
	comp=Z,26nm,1.9s							
EKS2	**Erkin-Say**	**65.88 311**		*e*P	**P**		**05 31 37.0**	**+0.5**
	comp=Z,26nm,1.9s							
CAST	**Castle Rocks**	**68.22 26**		*e*P	**P**		**05 31 50.9**	**0.0**
	comp=Z,8.9nm,0.8s							
KK31	**Karatay Array**	**68.30 312**		*i* P	**P**		**05 31 50.6**	**-1.2**
KKAR	**Karatay Array**	**68.30 312**		*e*P	**P**		**05 31 51.8**	**0.0**
KKAR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KKAR	**Karatay Array**	**68.30 312**		*e*P	**P**		**05 31 51.8**	**0.0**
	comp=Z,5.8nm,1.0s							
IM04	**Indian Mountai**	**68.31 23**		*e*P	**P**		**05 31 51.5**	**+0.2**
SEW	**Seward**	**68.59 30**		*e*P	**P**		**05 31 53.1**	**-0.1**
	comp=Z,73nm,1.6s							
KTH	**Kantishna Hill**	**68.76 26**		*e*P	**P**		**05 31 54.1**	**-0.2**
	comp=Z,46nm,0.8s							
TRF	**Thorofare Moun**	**69.01 26**		*e*P	**P**		**05 31 55.2**	**-0.7**
	comp=Z,138nm,2.6s							
PMR	**Palmer**	**69.08 28**		*e*P	**P**		**05 31 55.8**	**-0.4**
PMR				pmax	pmax			
	comp=Z,43nm,1.8s							
PMR	**Palmer**	**69.08 28**		*e*P	**P**		**05 31 55.8**	**-0.4**
	comp=Z,43nm,1.8s							
BRVK	**Borovoye**	**69.35 322**		P	**P**		**05 31 57.6**	**-0.4**
	comp=Z,205nm,0.8s,SNR=27							
BRVK	**Borovoye**	**69.35 322**		*d* P	**P**		**05 31 57.4**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,63nm,1.7s							
BRVK	**Borovoye**	**69.35 322**		*e*P	**P**		**05 31 57.3**	**-0.7**
	comp=Z,45nm,1.1s							
MCK	**McKinley**	**69.66 26**		*e*P	**P**		**05 32 00.1**	**+0.2**
MCK				pmax	pmax			
	comp=Z,13nm,1.1s							
MCK	**McKinley**	**69.66 26**		*e*P	**P**		**05 32 00.1**	**+0.2**
	comp=Z,13nm,1.1s							
COLD	**Coldfoot**	**70.05 23**		*e*P	**P**		**05 32 03.0**	**+0.9**
	comp=Z,9.6nm,0.9s							
ILAR	**Eielson Array**	**70.77 25**		P	**P**		**05 32 04.8**	**-1.8**
ILAR	**Eielson Array**	**70.77 25**		P	**P**		**05 32 04.8**	**-1.8**
	comp=Z,4.0nm,0.6s,baz=249,slow=5.5,SNR=39							
ILAR				LR	LR		05 59 45.2	
	comp=Z,322nm,20.7s,baz=80,slow=33							
BMRM	**Bremner River**	**71.11 30**		*e*P	**P**		**05 32 09.8**	**+1.1**
	comp=Z,28nm,1.5s							
DOT	**Dot Lake**	**71.78 27**		*e*P	**P**		**05 32 12.5**	**-0.2**
	comp=Z,12nm,0.8s							
PPT2	**Papeete2**	**73.62 113**		*e*S	**SKiKP**		**05 41 51.7**	**-2.0**
	comp=Z,133nm,29.0s							
PPT2	**Papeete2**	**73.62 113**		*e*LR	LR		05 54 58.5	
	comp=Z,403nm,30.5s,baz=294							
HYT	**Haines Junctio**	**74.55 30**		*e*P	**P**		**05 32 29.4**	**+0.1**
TBI	**Tubuai**	**75.66 118**		*e*LR	LR		05 55 51.4	
	comp=Z,308nm,29.0s,baz=300							
AB31	**Akbulak array**	**75.70 318**		*i* P	**P**		**05 32 34.2**	**-1.8**
AB31				pmax	pmax			
	comp=Z,9.0nm,0.7s							
ABKAR	**Akbulak array**	**75.70 318**		*e*P	**P**		**05 32 35.0**	**-0.9**
	comp=Z,13nm,0.8s							
ARU	**Arti**	**76.28 325**		*d* P	**P**		**05 32 37.7**	**-1.4**
ARU							05 35 33.8	
ARU				S	**S**		**05 42 23.3**	**+0.9**
ARU				SS	**SS**		**05 47 11.6**	**-4.5**
ARU				pmax	pmax			
	comp=Z,21nm,1.0s							
ARU	**Arti**	**76.28 325**		*e*P	**P**		**05 32 37.6**	**-1.6**
	comp=Z,24nm,1.0s							
INK	**Inuvik**	**76.47 22**		*e*P	**P**		**05 32 40.3**	**+0.3**
	comp=Z,5.1nm,1.1s							
IMYA	**Miami**	**76.47 305**		*e*P	**P**		**05 32 41.2**	**+0.3**
AKTO	**Aktyubinsk**	**76.89 319**		P	**P**		**05 32 40.8**	**-1.9**
AKTO				pmax	pmax			
	comp=Z,9.0nm,0.8s							
IDAH	**Dahanechah**	**77.04 301**		*e*P	**P**		**05 32 43.5**	**-0.7**
IKRD	**Kardeh**	**77.70 305**		*e*P	**P**		**05 32 43.4**	**-4.5**
IKOO	**Kooshah**	**77.80 301**		*e*P	**P**		**05 32 47.2**	**-1.3**
ITEG	**Tejag**	**77.95 301**		*e*P	**P**		**05 32 49.1**	**-0.1**
YKA	**Yellowknife Ar**	**85.12 27**		P	**P**		**05 33 25.6**	**-0.7**
YKA	**Yellowknife Ar**	**85.12 27**		P	**P**		**05 33 25.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=287,slow=5.0,SNR=12							
YBH	**Yreka Blue Hor**	**85.61 48**		LR	LR		06 04 19.4	
	comp=Z,191nm,21.4s,baz=276,slow=30							
RES	**Resolute Bay**	**86.31 13**		*e*P	**P**		**05 33 31.9**	**-0.1**
	comp=Z,9.4nm,1.1s							
ARCES	**ARCESS Array B**	**87.43 342**		P	**P**		**05 33 36.7**	**-0.8**
ARCES	**ARCESS Array B**	**87.43 342**		P	**P**		**05 33 36.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=14,slow=10,SNR=5.8							
ARCES				LR	LR		06 12 55.8	
	comp=Z,283nm,20.8s,baz=82,slow=36							
KBZ	**Khabaz**	**88.16 314**		LR	LR		06 16 18.5	
	comp=Z,191nm,20.8s,baz=71,slow=38							
RKT	**Rikitea**	**88.32 114**		*e*LR	LR		06 01 16.3	
	comp=Z,202nm,35.0s							
OBN	**Obninsk**	**88.69 326**		*e*P	**P**		**05 33 44.0**	**+0.3**
OBN				pmax	pmax			
	comp=Z,49nm,3.9s							
NVAR	**Mina Array Bea**	**89.69 51**		P	**P**		**05 33 49.5**	**+0.3**
NVAR	**Mina Array Bea**	**89.69 51**		P	**P**		**05 33 49.5**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=267,slow=6.6,SNR=15							
VNDA	**Vanda**	**90.44 176**		LR	LR		06 14 04.5	
	comp=Z,203nm,20.5s,baz=343,slow=35							
FINES	**FINESS Array B**	**91.15 334**		P	**P**		**05 33 52.4**	**-2.8**
FINES	**FINESS Array B**	**91.15 334**		P	**P**		**05 33 52.4**	**-2.8**
	comp=Z,2.2nm,0.7s,baz=69,slow=6.3,SNR=7.2							
AKASG	**Malin Array Be**	**94.49 324**		LR	LR		06 17 42.5	
	comp=Z,371nm,21.3s,baz=55,slow=36							
MAW	**Mawson**	**97.32 202**		LR	LR		06 11 09.3	
	comp=Z,152nm,20.4s,baz=87,slow=31							
ULM	**Lac du Bonnet**	**99.69 34**		LR	LR		06 21 42.5	
	comp=Z,191nm,18.8s,baz=297,slow=36							
CLL	**Collm**	**102.82 330**		*e*Pdif	**Pd

PLIG				*e*S	Sn	05 23 52.1	-2.7
PPM	**Popocatepetl**	**3.41**	**338**	*e*P	Pn	05 23 18.8	-0.2
PPM				*e*S	Sn	05 23 54.7	-4.4
YAIG	**Yautepec**	**3.41**	**330**	*e*P	Pn	05 23 17.5	-1.1
YAIG				*e*S	Sn	05 23 55.8	-2.6
ARIG	**Puente Sto Nin**	**3.77**	**310**	*i* P	Pn	05 23 21.3	-2.1
ARIG				*i* S	Sn	05 24 04.0	-3.1
PCIG		**3.92**	**92**	*i* P	Pn	05 23 23.6	-1.6
PCIG				*i* S	Sn	05 24 07.0	-3.5
ZIIG	**Zihuatanejo**	**4.36**	**294**	*e*S	Sn	05 24 14.5	-6.8

IDC ***02*** *05:28:58.0±0.6, 12°.44N×142°.16E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.4/30, mbtmp4.4/20, MS4.0/2, Ms1 4.0/2, ms1mx3.1/30, Error ellipse: s-maj=23.2km s-min=13.1km az=82.0*

GCMT ***02*** *05:28:59.7±0.2, 12°.41N×141°.79E, h18km, MW5.2/70, Moment Tensor Solution. s29,c40; s70,c114; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=6.82±.34; Mθθ=5.63±.21; Mϕϕ=1.18±.20; Mrθ=4.38±.45; Mϕθ=0.54±.14; Mrϕ=0.41±.55; Best double couple: M0=7.64900×10^16 NP1:ϕs=264.00000°, δ63.00000°, λ-89.00000°. NP2: ϕs=83.00000°, δ27.00000°, λ-91.00000°. Principal axes: T 7.0860, Plg18.0000°, Azm354.0000°; N 1.1160, Plg1.0000°, Azm84.0000°; P -8.2120, Plg72.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***02*** *05:28:59.4, 11°.98N×142°.45E, h47km, mB5.3/29, mb4.8/41, Ms4.8/30, Ms7 4.5/29*

NEIC ***02*** *05:28:59.7±0.2, 12°.46N×142°.19E, h10km, mb4.9/40, Error ellipse: s-maj=7.8km s-min=5.8km az=74.0*

MOS ***02*** *05:29:01.8±1.3, 12°.49N×142°.03E, h33km, mb5.0/26, Error ellipse: s-maj=11.7km s-min=7.6km az=108.6*

ISCJB ***02*** *05:29:03.0±1.1, 12°.40N±0°.05×142°.09E±0°.05, h49km±10km, mb4.8/70, MS4.3/11, Error ellipse: s-maj=8.1km s-min=7.4km az=142.9*

ISC 02 05:29:06.1±0.5, 12°.44N±0°.06×142°.07E±0°.06, h59km±2km, n153, σ1$30/171, mb4.8/70, MS4.4/12, 1C-4D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.96**	**67**	*e*Pn	**Pn**	**05 29 50.7**	**+0.1**
TGY	**Tagaytay City**	**20.64**	**277**	P	Pn	05 33 43.1	-0.7
TGY	**Tagaytay City**	**20.64**	**277**	P	Pn	05 33 43.1	-0.7
	114nm,0.3s,baz=189,slow=5.2,SNR=5.0						
PMG	**Port Moresby**	**22.29**	**167**	*e*P	**P**	**05 33 56.9**	**-1.7**
	49nm,1.1s						
PMG	**Port Moresby**	**22.29**	**167**	P	**P**	**05 33 56.7**	**-1.9**
	9.7nm,0.8s,baz=1.1,slow=11,SNR=12						
YULB	**Yu-li**	**22.54**	**302**	*e*P	**P**	**05 34 01.1**	**-0.2**
	92nm,1.6s						
SSLB	**Suanglung**	**22.99**	**302**	*e*P	**P**	**05 34 05.0**	**-1.1**
	59nm,1.1s						
JNU	**Nakatsue**	**22.99**	**335**	*e*P	**P**	**05 34 07.0**	**+1.0**
	21nm,1.1s						
JNU	**Nakatsue**	**22.99**	**335**	P	**P**	**05 34 05.7**	**-0.3**
	13nm,0.8s,baz=102,slow=6.8,SNR=4.3						
MJAR	**Matsushiro Arr**	**24.25**	**352**	P	**P**	**05 34 17.5**	**-0.2**
MJAR	**Matsushiro Arr**	**24.25**	**352**	P	**P**	**05 34 17.5**	**-0.2**
	3.9nm,1.0s,baz=174,slow=7.6,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**24.46**	**73**	T	T	05 59 52.9	
	baz=260,slow=73,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**24.48**	**73**	T	T	05 59 56.8	
	baz=260,slow=73,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**24.48**	**73**	T	T	05 59 53.7	
	baz=260,slow=73,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**24.90**	**70**	T	T	06 00 27.2	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**24.91**	**70**	T	T	06 00 34.4	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**24.92**	**70**	T	T	06 00 26.7	
	baz=264						
COEN	**Coen**	**26.25**	**178**	*e*P	**P**	**05 34 36.0**	**+0.1**
	138nm,0.9s						
KSRS	**Korea Array**	**27.95**	**335**	P	**P**	**05 34 50.4**	**-0.6**
	0.6nm,0.3s,baz=138,slow=11,SNR=4.8						
KSAR	**Wonju Array Be**	**27.95**	**335**	P	**P**	**05 34 50.4**	**-0.6**
HNR	**Honiara**	**28.07**	**140**	LR	LR	05 44 38.8	
	comp=Z,152nm,19.0s,baz=71,slow=34						
NJ2	**Nanjing**	**28.91**	**316**	*e*P	**P**	**05 35 02.3**	**+2.7**
NJ2				S	**S**	**05 39 41.5**	**-4.6**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
NJ2				LR	LR		
	comp=N,740nm,21.2s						
NJ2				LR	LR		
	comp=E,870nm,14.9s						
NJ2				LR	LR		
	comp=Z,500nm,17.0s						
QIZ	**Qiongzhong**	**31.67**	**286**	P	**P**	**05 35 23.7**	**-0.5**
QIZ				pP	**pP**	**05 35 37.7**	**-1.1**
QIZ				sP	**sP**	**05 35 43.5**	**-2.2**
QIZ				S	**S**	**05 40 31.5**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,17nm,1.9s						
QIZ				LR	LR		
	comp=N,380nm,15.5s						
QIZ				LR	LR		
	comp=Z,680nm,19.1s						
CTA	**Charters Tower**	**32.59**	**173**	P	P	05 35 35.5	+3.4
CTA	**Charters Tower**	**32.59**	**173**	P	P	05 35 35.5	+3.4
	13nm,0.8s,baz=339,slow=9.9,SNR=11						
CTAO	**Charters Tower**	**32.59**	**173**	*e*P	**P**	**05 35 34.2**	**+2.1**
CTAO				pmax	pmax		
	comp=Z,22nm,1.0s						
CTAO	**Charters Tower**	**32.59**	**173**	*e*P	**P**	**05 35 34.2**	**+2.1**
	comp=Z,22nm,1.0s						
USRK	**Ussuriysk Arra**	**32.81**	**347**	P	**P**	**05 35 34.5**	**+0.6**
	comp=Z,7.0nm,1.0s,baz=165,slow=7.9,SNR=4.9						
WRAB	**Tennant Creek**	**33.06**	**193**	*i*P	**P**	**05 35 34.8**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,75nm,1.7s						
WRA	**Warramunga Arr**	**33.07**	**193**	P	**P**	**05 35 35.0**	**-1.3**
WRA	**Warramunga Arr**	**33.07**	**193**	P	**P**	**05 35 35.0**	**-1.3**
	comp=Z,9.6nm,1.1s,baz=13,slow=8.8,SNR=14						
CN2	**Changchun**	**34.38**	**338**	*e*P	P	05 35 54.1	+6.6
FITZ	**Fitzroy Crossi**	**34.41**	**208**	P	**P**	**05 35 47.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**34.41**	**208**	P	**P**	**05 35 47.3**	**-0.7**
	comp=Z,13nm,1.1s,baz=52,slow=4.2,SNR=5.1						
ENH	**Enshi**	**34.97**	**306**	*e*P	**P**	**05 35 53.1**	**+0.2**
	comp=Z,7.0nm,0.4s						
BJT	**Baijiatuan**	**35.72**	**325**	*e*P	**P**	**05 35 58.8**	**-0.3**
	comp=Z,58nm,1.3s						
BJI	**Beijing**	**35.73**	**325**	P	**P**	**05 35 59.3**	**+0.1**
BJI				pmax	pmax		
	comp=Z,16nm,1.7s						
BJI				pmax	pmax		
	comp=Z,190nm,3.7s						
GYA	**Guiyang**	**36.04**	**298**	P	**P**	**05 36 03.0**	**+0.8**
GYA				pP	**pP**	**05 36 18.6**	**+1.6**
GYA				sP	**sP**	**05 36 24.7**	**+0.8**
GYA				PP	**PP**	**05 37 26.0**	**+0.9**
GYA				S	**S**	**05 41 37.8**	**+0.4**
GYA				sS	**sS**	**05 42 02.2**	**-0.3**
GYA				ScP	**ScP**	**05 42 08.0**	**-1.0**
GYA				ScS	**ScS**	**05 46 13.2**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.7s						
GYA				LR	LR		
	comp=Z,480nm,18.2s						
GYA				LR	LR		
	comp=Z,370nm,19.0s						
GYA				LR	LR		
	comp=Z,450nm,17.8s						
HABR	**Khabarovsk**	**36.40**	**352**	P	**P**	**05 36 02.6**	**-2.1**
HABR				*e**PP	pP	05 36 12.1	-7.4
HABR				*e**SP	sP	05 36 16.4	-10
HABR				*e*		05 37 25.2	
HABR				*e*PPP	PPP	05 37 40.7	
HABR				*e*S	**S**	**05 41 42.7**	**+0.8**
HABR				*e**SS	sS	05 41 58.8	-8.2
HABR				*e*SS	**SnSn**	**05 44 13.4**	**-1.3**
HABR				*e*SSS	SSS	05 44 30.9	
HABR				*e*		05 46 16.0	
HABR				pmax	pmax		
	comp=Z,30nm,1.5s						
HABR				MLR	MLR		
	comp=Z,317nm,19.0s						
AS31	**Alice Springs**	**36.76**	**193**	*e*P	**P**	**05 36 07.6**	**-0.5**

HHC	**Hu-ho-hao-te**	**38.93**	**322**	*e*P	**P**	**05 36 27.0**	**+0.6**
HHC				PP	**PnPn**	**05 38 02.8**	**+3.4**
HHC				S	**S**	**05 42 22.4**	**+1.6**
HHC				PcS	**PcS**	**05 42 26.3**	**+0.5**
HHC				sS	**sS**	**05 42 48.4**	**+2.3**
HHC				ScS	**ScS**	**05 46 29.7**	**-1.1**
HHC				pmax	pmax		
	comp=Z,30nm,1.4s						
HHC				pmax	pmax		
	comp=Z,480nm,7.7s						
HHC				LR	LR		
	comp=Z,520nm,16.9s						
HHC				LR	LR		
	comp=Z,530nm,16.1s						
HHC				LR	LR		
	comp=Z,590nm,15.9s						
KMI	**Kunming**	**39.17**	**295**	P	**P**	**05 36 30.2**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CD2	**Chengdu**	**39.81**	**304**	*e*P	**P**	**05 36 34.2**	**+0.4**
CD2				sP	**sP**	**05 36 56.3**	**+0.7**
CD2				PP	**PnPn**	**05 38 11.0**	**+1.1**
CD2				S	**S**	**05 42 34.3**	**+0.1**
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
CD2				LR	LR		
	comp=Z,430nm,9.6s						
CD2				LR	LR		
	comp=Z,760nm,14.3s						
LZH	**Lanzhou**	**41.66**	**311**	*e*P	**P**	**05 36 50.5**	**+1.3**
LZH				pP	**pP**	**05 37 04.8**	**+0.6**
LZH				sP	**sP**	**05 37 10.5**	**-0.5**
LZH				PP	**PnPn**	**05 38 29.3**	**-2.3**
LZH				S	**S**	**05 43 03.6**	**+1.8**
LZH				sS	**sS**	**05 43 26.0**	**-1.3**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,4.1s						
LZH				LR	LR		
	comp=Z,560nm,14.2s						
LZH				LR	LR		
	comp=Z,490nm,14.6s						
LZH				LR	LR		
	comp=Z,700nm,16.1s						
DZM	**Mont Dzumac**	**41.81**	**145**	*e*LR	LR	05 48 21.8	
	comp=Z,998nm,32.8s						
DZM	**Mont Dzumac**	**41.81**	**145**	*e*P	**P**	**05 36 50.6**	**+0.3**
	comp=Z,24nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.92**	**284**	P	**P**	**05 36 51.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.92**	**284**	P	**P**	**05 36 51.1**	**-0.2**
	comp=Z,10nm,1.1s,baz=84,slow=6.4,SNR=17						
ARMA	**Armidale**	**43.59**	**168**	*e*P	**P**	**05 37 03.1**	**-1.6**
	comp=Z,37nm,1.5s						
STKA	**Stephens Creek**	**44.07**	**181**	*e*P	**P**	**05 37 09.2**	**+0.8**
	comp=Z,5.6nm,1.4s						
STKA	**Stephens Creek**	**44.07**	**181**	P	**P**	**05 37 09.3**	**+1.0**
	comp=Z,7.2nm,1.1s,baz=344,slow=10,SNR=6.4						
ULN	**Ulaanbaatar**	**45.82**	**327**	*e*P	**P**	**05 37 22.9**	**+0.6**
	comp=Z,28nm,1.3s						
GTA	**Gaotai**	**45.94**	**314**	*e*P	**P**	**05 37 23.4**	**0.0**
GTA				pP	**pP**	**05 37 33.6**	**-5.0**
GTA				sP	sP	05 37 37.5	-7.9
GTA				S	**S**	**05 44 05.8**	**+1.8**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,250nm,4.7s						
GTA				LR	LR		
	comp=Z,350nm,17.1s						
GTA				LR	LR		
	comp=Z,370nm,17.4s						
GTA				LR	LR		
	comp=Z,440nm,19.4s						
SONM	**Songino Array**	**46.15**	**327**	P	**P**	**05 37 25.7**	**+0.8**
SONM	**Songino Array**	**46.15**	**327**	P	**P**	**05 37 25.7**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=136,slow=6.8,SNR=17						
TLY	**Talaya**	**49.91**	**330**	*e*P	**P**	**05 37 55.5**	**+1.7**
TLY				pmax	pmax		
	comp=Z,21nm,1.9s						
TLY	**Talaya**	**49.91**	**330**	*e*P	**P**	**05 37 55.1**	**+1.3**
	comp=Z,25nm,1.5s						
LSA	**Lhasa**	**50.11**	**298**	*e*P	**P**	**05 37 57.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,12nm,1.1s						
LSA	**Lhasa**	**50.11**	**298**	*e*P	**P**	**05 37 57.4**	**+1.2**
	comp=Z,12nm,1.1s						
YAK	**Yakutsk**	**50.31**	**352**	*e*P	**P**	**05 37 56.2**	**-0.4**
YAK				*e*		05 38 04.2	
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK	**Yakutsk**	**50.31**	**352**	*e*P	**P**	**05 37 57.2**	**+0.6**
	comp=N,50nm,0.8s						
SEY	**Seymchan**	**50.95**	**6**	P	**P**	**05 38 02.2**	**+0.8**
SEY	**Seymchan**	**50.95**	**6**	P	**P**	**05 38 02.2**	**+0.8**
SEY	**Seymchan**	**50.95**	**6**	P	**P**	**05 38 02.2**	**+0.8**
	comp=N,12nm,1.1s,baz=184,slow=6.5,SNR=8.2						
TAPN	**Taplejung**	**52.84**	**295**	*e*P	**P**	**05 38 15.2**	**-1.2**
	comp=N,85nm,1.5s						
ODAN	**Odare**	**53.08**	**294**	*e*P	**P**	**05 38 16.8**	**-1.3**
RAMN	**Ramite**	**53.79**	**294**	*e*P	**P**	**05 38 22.4**	**-1.0**
	comp=N,57nm,1.4s						
JIRN	**Jiri**	**54.21**	**295**	*e*P	**P**	**05 38 25.8**	**-0.7**
	comp=N,80nm,1.5s						
GUN	**Gumba**	**54.50**	**295**	*e*P	**P**	**05 38 28.1**	**-0.5**
	comp=N,106nm,1.2s						
PKI	**Pulchoki**	**54.89**	**295**	*e*P	**P**	**05 38 30.3**	**-1.2**
	comp=N,64nm,1.5s						
DMN	**Daman**	**55.16**	**295**	*e*P	**P**	**05 38 32.2**	**-1.1**
	comp=N,39nm,1.1s						
GKN	**Gorkha**	**55.60**	**295**	*e*P	**P**	**05 38 35.3**	**-1.1**
	comp=N,73nm,1.2s						
WMQ	**Urumqi**	**55.98**	**315**	P	**P**	**05 38 40.7**	**+2.0**
WMQ				pP	**pP**	**05 38 56.6**	**+2.3**
WMQ				sP	sP	05 39 03.6	+2.6
WMQ				S	**S**	**05 46 22.7**	**+0.1**
WMQ				pmax	pmax		
	comp=N,9.0nm,1.2s						
WMQ				pmax	pmax		
	comp=N,91nm,11.3s						
WMQ				LR	LR		
	comp=N,160nm,21.3s						
WMQ				LR	LR		
	comp=N,280nm,23.1s						
WMQ				LR	LR		
	comp=N,340nm,22.1s						
DANN	**Dangsing**	**56.40**	**296**	*e*P	**P**	**05 38 41.2**	**-1.0**
	comp=N,81nm,1.3s						
KOLN	**Koldanda**	**56.51**	**295**	*e*P	**P**	**05 38 41.8**	**-1.1**
	comp=N,74nm,1.3s						
PYUN	**Piuthan**	**57.06**	**295**	*e*P	**P**	**05 38 45.4**	**-1.4**
	comp=N,103nm,1.1s						
TIXI	**Tiksi**	**59.72**	**355**	*i*P	**P**	**05 39 05.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI	**Tiksi**	**59.72**	**355**	*e*P	**P**	**05 39 04.5**	**+0.3**
	comp=Z,7.3nm,0.9s						
MK31	**Makanchi Array**	**60.44**	**317**	*e*P	**P**	**05 39 09.8**	**+0.1**
MK31	**Makanchi Array**	**60.44**	**317**	*e*P	**P**	**05 39 09.8**	**+0.1**
MKAR	**Makanchi Array**	**60.44**	**317**	P	**P**	**05 39 09.9**	**+0.1**
MKAR	**Makanchi Array**	**60.44**	**317**	P	**P**	**05 39 09.9**	**+0.1**
MKAR	**Makanchi Array**	**60.44**	**317**	P	**P**	**05 39 09.9**	**+0.1**
	comp=Z,18nm,1.0s,baz=92,slow=7.9,SNR=35						
ZAA0	**Zalesovo Array**	**60.99**	**325**	*e*P	**P**	**05 39 12.8**	**-0.5**
ZALV	**Zalesovo Beam**	**60.99**	**325**	*i* P	**P**	**05 39 13.0**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	**60.99**	**325**	P	**P**	**05 39 12.9**	**-0.4**
ZALV	**Zalesovo Beam**	**60.99**	**325**	P	**P**	**05 39 12.9**	**-0.4**
	comp=Z,5.5nm,1.0s,baz=112,slow=7.0,SNR=15						
TNA	**Tin City**	**62.88**	**21**	*e*P	**P**	**05 39 25.1**	**-0.6**
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**63.72**	**321**	P	**P**	**05 39 31.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,39nm,1.2s						
KURK	**Kurchatov**	**63.72**	**321**	*e*P	**P**	**05 39 31.5**	**-0.1**
	comp=Z,31nm,1.0s						
KURBB	**Kurchatov Arra**	**63.75**	**321**	P	**P**	**05 39 31.7**	**-0.1**
	comp=Z,22nm,0.9s,baz=106,slow=6.8,SNR=56						
KSH	**Kashi**	**63.78**	**308**	*e*P	**P**	**05 39 34.4**	**+2.0**
KSH				*e*PP	**PP**	**05 41 56.2**	**+3.0**
KSH				*e*S	**S**	**05 48 01.9**	**-1.3**
KSH				*e*sS	**sS**	**05 48 29.6**	**-0.5**
KSH				pmax	pmax		
	comp=Z,31nm,2.0s						
KSH				pmax	pmax		
	comp=Z,130nm,3.5s						
KSH				LR	LR		
	comp=Z,79nm,7.6s						
KSH				LR	LR		
	comp=Z,140nm,11.5s						
KSH				LR	LR		
	comp=Z,79nm,5.6s						
TKM2	**Tokmak 2**	**64.43**	**312**	*e*P	**P**	**05 39 36.4**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TKM2	**Tokmak 2**	**64.43**	**312**	*e*P	**P**	**05 39 36.4**	**-0.3**
	comp=Z,7.3nm,1.0s						
AAK	**Ala-Archa**	**65.20**	**311**	*i*P	**P**	**05 39 42.7**	**+1.0**
AAK				pmax	pmax		
	comp=Z,21nm,1.7s						
AAK	**Ala-Archa**	**65.20**	**311**	*e*P	**P**	**05 39 41.9**	**+0.2**
	comp=Z,5.1nm,1.0s						
AAK	**Ala-Archa**	**65.20**	**311**	P	**P**	**05 39 41.7**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=61,slow=3.3,SNR=6.0						
EKS2	**Erkin-Say**	**65.73**	**311**	*e*P	**P**	**05 39 45.1**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,9.0nm,1.2s						
EKS2	**Erkin-Say**	**65.73**	**311**	*e*P	**P**	**05 39 45.1**	**+0.1**
	comp=Z,8.8nm,1.2s						
KKAR	**Karatay Array**	**68.16**	**312**	*e*P	**P**	**05 39 58.7**	**-1.6**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KKAR	**Karatay Array**	**68.16**	**312**	*e*P	**P**	**05 39 58.7**	**-1.6**
	comp=Z,9.1nm,1.1s						
RC01	**Rabbit Creek A**	**68.69**	**29**	*e*P	**P**	**05 40 02.0**	**-1.2**
	comp=Z,31nm,1.5s						
KTH	**Kantishna Hill**	**68.76**	**26**	*e*P	**P**	**05 40 03.7**	**0.0**
	comp=Z,13nm,0.9s						
TRF	**Thorofare Moun**	**69.01**	**26**	*e*P	**P**	**05 40 04.5**	**-0.9**
	comp=Z,14nm,0.9s						
PMR	**Palmer**	**69.09**	**29**	*e*P	**P**	**05 40 05.0**	**-0.7**
PMR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PMR	**Palmer**	**69.09**	**29**	*e*P	**P**	**05 40 05.0**	**-0.7**
	comp=Z,8.4nm,1.0s						
KBL	**Kabul**	**69.13**	**302**	*e*P	**P**	**05 40 07.6**	**+0.8**
KBL				pmax	pmax		
	comp=Z,15nm,1.1s						
KBL	**Kabul**	**69.13**	**302**	*e*P	**P**	**05 40 07.6**	**+0.8**
	comp=Z,15nm,1.1s						
BRVK	**Borovoye**	**69.21**	**322**	*d i*P	**P**	**05 40 06.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,37nm,1.0s						
BRVK	**Borovoye**	**69.21**	**322**	*e*P	**P**	**05 40 06.7**	**+0.1**
	comp=Z,34nm,1.0s						
MCK	**McKinley**	**69.67**	**26**	*e*P	**P**	**05 40 07.9**	**-1.4**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MCK	**McKinley**	**69.67**	**26**	*e*P	**P**	**05 40 07.9**	**-1.4**
	comp=Z,10nm,1.0s						
COLD	**Coldfoot**	**70.05**	**23**	*e*P	**P**	**05 40 11.5**	**0.0**
	comp=Z,11nm,0.9s						
COLA	**College**	**70.39**	**25**	*e*P	**P**	**05 40 12.8**	**-0.8**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
COLA	**College**	**70.39**	**25**	*e*P	**P**	**05 40 12.8**	**-0.8**
	comp=Z,8.2nm,1.1s						
ILAR	**Eielson Array**	**70.77**	**25**	P	**P**	**05 40 14.2**	**-1.8**
ILAR	**Eielson Array**	**70.77**	**25**	P	**P**	**05 40 14.2**	**-1.8**
	comp=Z,2.3nm,0.7s,baz=248,slow=5.6,SNR=18						
DOT	**Dot Lake**	**71.78**	**27**	*e*P	**P**	**05 40 21.6**	**-0.5**
	comp=Z,17nm,0.8s						
EGAK	**Eagle**	**73.19**	**26**	*e*P	**P**	**05 40 29.8**	**-0.6**
	comp=Z,7.9nm,1.3s						
PPT	**Papeete**	**73.77**	**113**	LR	LR	06 11 47.7	
	comp=Z,149nm,18.7s,baz=187,slow=35						
PPT2	**Papeete2**	**73.77**	**113**	*e*S	**SKiKP**	**05 49 59.2**	**-0.1**
	comp=Z,146nm,29.0s						
PPT2	**Papeete2**	**73.77**	**113**	*e*LR	LR	06 03 05.3	
	comp=Z,360nm,30.2s						
DAWY	**Dawson**	**73.88**	**27**	*e*P	**P**	**05 40 35.1**	**+0.5**
AB31	**Akbulak array**	**75.56**	**318**	*i* P	**P**	**05 40 43.3**	**-1.2**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**75.56**	**318**	*e*P	**P**	**05 40 43.8**	**-0.7**
	comp=Z,8.4nm,0.8s						
TBI	**Tubuai**	**75.81**	**118**	*e*LR	LR	06 03 58.5	
	comp=Z,276nm,34.0s						
ARU	**Arti**	**76.15**	**325**	*c i*P	**P**	**05 40 47.5**	**-0.2**
ARU						05 43 39.8	
ARU				S	**S**	**05 50 30.5**	**+3.4**
ARU				SS	**SS**	**05 55 16.8**	**-4.3**
ARU				pmax	pmax		
	comp=Z,34nm,1.7s						
ARU	**Arti**	**76.15**	**325**	*e*P	**P**	**05 40 47.1**	**-0.6**
	comp=Z,19nm,1.0s						
INK	**Inuvik**	**76.46**	**22**	*e*P	**P**	**05 40 49.9**	**+0.6**
	comp=Z,6.8nm,1.0s						
IKOO	**Kooshah**	**77.65**	**301**	*e*P	**P**	**05 40 56.7**	**-0.3**
ITEG	**Tejag**	**77.80**	**301**	*e*P	**P**	**05 40 58.2**	**+0.4**
DLBC	**Dease Lake**	**78.41**	**32**	*e*P	**P**	**05 41 01.2**	**+0.7**
YKA	**Yellowknife Ar**	**85.12**	**27**	P	**P**	**05 41 35.3**	**-0.2**
YKA	**Yellowknife Ar**	**85.12**	**27**	P	**P**	**05 41 35.3**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=291,slow=5.2,SNR=10						
RES	**Resolute Bay**	**86.28**	**13**	*e*P	**P**	**05 41 41.4**	**+0.3**
	comp=Z,3.5nm,0.8s						
ARCES	**ARCESS Array B**	**87.32**	**342**	P	**P**	**05 41 47.5**	**+1.2**
ARCES	**ARCESS Array B**	**87.32**	**342**	P	**P**	**05 41 47.5**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=46,slow=8.8,SNR=3.9						
CMB	**Columbia Colle**	**88.28**	**52**	*e*P	**P**	**05 41 51.2**	**-0.4**
CMB				pmax	pmax		
	comp=Z,11nm,1.4s						
CMB	**Columbia Colle**	**88.28**	**52**	*e*P	**P**	**05 41 51.2**	**-0.4**
	comp=Z,11nm,1.4s						
RKT	**Rikitea**	**88.47**	**114**	*e*LR	LR	06 09 22.8	
	comp=Z,362nm,31.0s						
NVAR	**Mina Array Bea**	**89.76**	**51**	P	**P**	**05 41 59.2**	**+0.4**
NVAR	**Mina Array Bea**	**89.76**	**51**	P	**P**	**05 41 59.2**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=274,slow=5.9,SNR=8.0						
MFID	**Camas Ranch**	**90.15**	**45**	*e*P	**P**	**05 42 00.5**	**+0.2**
	comp=Z,3.7nm,1.0s						
TPH	**Tonopah**	**90.67**	**51**	*e*P	**P**	**05 42 03.1**	**+0.1**
	comp=Z,3.5nm,1.1s						
FINES	**FINESS Array B**	**91.03**	**334**	P	**P**	**05 42 02.3**	**-1.5**
FINES	**FINESS Array B**	**91.03**	**334**	P	**P**	**05 42 02.3**	**-1.5**

s-maj=42.2km s-min=27.5km az=114.0

ISC 02 05:47:23.0±1.1, 21°66S×0°08×68°5W±0°2, h118km, n9, σ1887/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.36**	**4**	P	**Pn**	**05 48 39.4**	**-1.9**
	0.7nm,0.3s,baz=194,slow=8.7,SNR=21						
SIV	**San Ignacio**	**9.04**	**53**	P	**Pn**	**05 49 28.8**	**-1.9**
	2.1nm,0.3s,baz=257,slow=12,SNR=33						
CFAA	**Coronel Fontan**	**9.91**	**178**	P	**Pn**	**05 49 41.7**	**-0.6**
	0.0nm,0.3s,baz=269,slow=2.7,SNR=13						
CFAA				S	**Sn**	**05 51 29.0**	**-2.7**
	0.0nm,0.3s,baz=220,slow=14,SNR=3.7						
PLCA	**Paso Flores**	**19.09**	**185**	P	**Pn**	**05 51 40.9**	**+2.4**
	0.1nm,0.3s,baz=354,slow=10,SNR=4.5						
BDFB	**Brasilia**	**20.34**	**76**	P	**P**	**05 51 51.1**	**+0.8**
	4.3nm,0.5s,baz=287,slow=20,SNR=14						
DBIC	**Dimbokro**	**68.45**	**73**	P	**P**	**05 58 13.2**	**+0.4**
	0.8nm,0.5s,baz=179,slow=15,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P	**P**	**05 59 04.5**	**+0.7**
	0.9nm,0.8s,baz=257,slow=5.6,SNR=7.4						
TORD				pP	**pP**	**05 59 35.2**	**+1.6**
	0.5nm,0.7s,baz=257,slow=5.5,SNR=2.2						
YKA	**Yellowknife Ar**	**91.45**	**340**	pP	pP	06 00 45.6	-0.4
	0.1nm,0.7s,baz=124,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**145.56**	**36**	PKPbc	**PKPdf**	**06 06 47.6**	**+0.3**
	0.1nm,0.6s,baz=20,slow=4.6,SNR=2.4						
MKAR				pPKPbc	pPKPbc	06 07 20.8	+1.6
	0.7nm,0.8s,baz=338,slow=2.9,SNR=4.8						

IDC 02 05:49:14.8±2.6, 12°41N×142°23E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/25, mbtmp3.8/5, Error ellipse: s-maj=83.1km s-min=28.4km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.08**	**194**	P	P	05 55 52.4	-0.1
	0.7nm,0.7s,baz=16,slow=9.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**42.08**	**284**	P	P	05 57 08.7	-0.2
	0.3nm,0.3s,baz=90,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**60.57**	**317**	P	P	05 59 27.6	+0.3
	1.4nm,0.8s,baz=95,slow=8.1,SNR=13						
ZALV	**Zalesovo Beam**	**61.10**	**325**	P	P	05 59 30.3	-0.4
	0.3nm,0.5s,baz=103,slow=10,SNR=2.9						
KURBB	**Kurchatov Arra**	**63.87**	**321**	P	P	05 59 49.3	0.0
	2.3nm,0.8s,baz=104,slow=6.5,SNR=21						

*IDC **02** 05:54:59.0±0.9, 12°.40N×142°.21E, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/25, mbtmp3.9/9, MS3.4/6, Ms1 3.4/6, ms1mx3.0/35, Error ellipse: s-maj=27.4km s-min=24.8km az=91.0*

*NEIC **02** 05:55:00.8±0.6, 12°.31N×142°.03E, h10km, mb4.6/4, Error ellipse: s-maj=14.9km s-min=14.4km az=110.0*

ISC 02 05:55:02.9±0.8, 12°3N±0°.1×142°3E±0°.1, h27km, n35, σ0994/28, mb4.2/14, MS3.3/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.79**	**63**	*e*Pn	**Pb**	**05 55 51.1**	**-0.9**
PMG	**Port Moresby**	**22.13**	**167**	LR	LR	06 07 51.7	
	comp=Z,78nm,20.6s,baz=337,slow=35						
JNU	**Nakatsue**	**23.18**	**335**	P	**P**	**06 00 09.3**	**+1.7**
JNU	**Nakatsue**	**23.18**	**335**	P	**P**	**06 00 09.3**	**+1.7**
	6.9nm,0.8s,baz=119,slow=10,SNR=3.7						
JNU				LR	LR	06 07 21.8	
	comp=Z,93nm,20.2s,baz=146,slow=32						
H11S3	**WAKE ISLAND Hy**	**24.27**	**72**	T	T	06 25 58.0	
	baz=256						
H11S1	**WAKE ISLAND Hy**	**24.28**	**72**	T	T	06 25 51.9	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**24.29**	**72**	T	T	06 26 04.9	
	baz=256						
KSRS	**Korea Array**	**28.14**	**335**	LR	LR	06 09 57.9	
	comp=Z,79nm,20.7s,baz=39,slow=32						
ASAJ	**Asahikawa**	**31.67**	**0**	LR	LR	06 14 38.7	
	comp=Z,126nm,18.5s,baz=325,slow=37						
WRAB	**Tennant Creek**	**33.01**	**194**	*e*P	**P**	**06 01 36.1**	**+0.2**
	5.3nm,1.0s						
WRA	**Warramunga Arr**	**33.02**	**194**	P	**P**	**06 01 36.3**	**+0.2**
WRA	**Warramunga Arr**	**33.02**	**194**	P	**P**	**06 01 36.3**	**+0.2**
	2.2nm,0.9s,baz=15,slow=9.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**42.17**	**284**	P	**P**	**06 02 52.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**42.17**	**284**	P	**P**	**06 02 52.6**	**-1.0**
	1.7nm,0.9s,baz=90,slow=6.6,SNR=8.7						
CMAR				LR	LR	06 20 08.4	
	comp=Z,32nm,21.1s,baz=334,slow=36						
STKA	**Stephens Creek**	**43.97**	**181**	LR	LR	06 21 17.0	
	comp=Z,60nm,18.9s,baz=26,slow=36						
SONM	**Songino Array**	**46.36**	**327**	P	**P**	**06 03 26.7**	**-0.2**
SONM	**Songino Array**	**46.36**	**327**	P	**P**	**06 03 26.7**	**-0.2**
	1.6nm,1.1s,baz=136,slow=9.5,SNR=6.3						
SEY	**Seymchan**	**51.03**	**6**	P	**P**	**06 04 03.5**	**+1.2**
SEY	**Seymchan**	**51.03**	**6**	P	**P**	**06 04 03.5**	**+1.2**
	6.0nm,1.1s,baz=195,slow=10,SNR=5.9						
MK31	**Makanchi Array**	**60.68**	**317**	*e*P	**P**	**06 05 11.5**	**-0.3**
MKAR	**Makanchi Array**	**60.68**	**317**	P	**P**	**06 05 11.3**	**-0.5**
MKAR	**Makanchi Array**	**60.68**	**317**	P	**P**	**06 05 11.3**	**-0.5**
	3.1nm,1.0s,baz=96,slow=8.7,SNR=19						
ZALV	**Zalesovo Beam**	**61.20**	**325**	P	**P**	**06 05 14.2**	**-1.0**
ZALV	**Zalesovo Beam**	**61.20**	**325**	P	**P**	**06 05 14.2**	**-1.0**
	1.3nm,0.7s,baz=110,slow=8.1,SNR=5.3						
KURK	**Kurchatov**	**63.95**	**321**	*e*P	**P**	**06 05 32.9**	**-0.7**
	5.2nm,0.9s						
BRVK	**Borovoye**	**69.44**	**322**	*e*P	**P**	**06 06 07.6**	**-0.9**
	6.7nm,0.9s						
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**06 06 15.8**	**-0.7**
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**06 06 15.8**	**-0.7**
	1.2nm,0.7s,baz=256,slow=5.3,SNR=12						
ABKAR	**Akbulak array**	**75.79**	**318**	*e*P	**P**	**06 06 45.7**	**-0.8**
	2.3nm,0.9s						
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**06 07 36.8**	**+0.6**
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**06 07 36.8**	**+0.6**
	0.1nm,0.5s,baz=289,slow=4.3,SNR=3.9						
NVAR	**Mina Array Bea**	**89.64**	**51**	P	**P**	**06 07 59.0**	**0.0**
NVAR	**Mina Array Bea**	**89.64**	**51**	P	**P**	**06 07 59.0**	**0.0**
	0.6nm,0.8s,baz=278,slow=6.6,SNR=4.2						
LPAZ	**La Paz**	**150.26**	**101**	*e*PKPbc	**PKPbc**	**06 14 54.6**	**+1.3**
LPAZ	**La Paz**	**150.26**	**101**	PKPbc	**PKPbc**	**06 14 54.8**	**+1.5**
	2.5nm,0.9s,baz=21,slow=2.1,SNR=8.7						

*NEIC **02** 05:58:00.4, 46°.30S×166°.25E, h12km, ML4.0(WEL), After WEL.*

WEL 02 05:58:00.8±0.9, 46°24S×166°11E, h33km, ML4.0/11, 1D, Error ellipse: s-maj=10.7km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.06**	**44**	PN	Pn	05 58 19.0	-0.3
DCZ				SN	Sn	05 58 31.8	-1.1
DCZ				AML	AML	05 58 32.3	
DCZ				AML	AML	05 58 34.6	
DCZ				AML	AML	05 58 34.7	
DCZ	**Deep Cove**	**1.06**	**44**	P*	Pn	05 58 19.0	-0.3
DCZ				S*	Sn	05 58 32.5	-0.4
WHZ	**Wether Hill Ro**	**1.33**	**75**	*e*PN	Pn	05 58 23.4	+0.4
WHZ				SN	Sn	05 58 38.7	-0.9
WHZ				AML	AML	05 58 43.0	
WHZ	**Wether Hill Ro**	**1.33**	**75**	P*	Pn	05 58 23.5	+0.5
WHZ				S*	Sn	05 58 40.0	+0.3
APZ	**The Paps**	**1.43**	**115**	⇓PN	Pn	05 58 23.5	-1.0
APZ				AML	AML	05 58 40.3	
APZ				AML	AML	05 58 40.3	
APZ	**The Paps**	**1.43**	**115**	Pn	Pn	05 58 23.5	-1.0
APZ				SN	Sn	05 58 39.6	-2.6
MLZ	**Mavora Lakes**	**1.70**	**59**	PN	Pn	05 58 29.6	+1.4
MLZ				AML	AML	05 58 54.2	
MLZ				AML	AML	05 58 59.4	
MLZ	**Mavora Lakes**	**1.70**	**59**	Pn	Pb	05 58 29.9	-1.6
MSZ	**Milford Sound**	**2.03**	**40**	PN	Pb	05 58 35.7	-1.3
MSZ				AML	AML	05 59 08.9	
MSZ				AML	AML	05 59 20.0	
MSZ	**Milford Sound**	**2.03**	**40**	Pn	Pb	05 58 37.7	+0.7
SYZ	**Scrubby Hill**	**2.12**	**99**	PN	Pn	05 58 33.9	0.0
SYZ				AML	AML	05 59 00.7	
SYZ				AML	AML	05 59 00.8	
SYZ				AML	AML	05 59 02.8	
SYZ				AML	AML	05 59 02.8	
SYZ	**Scrubby Hill**	**2.12**	**99**	Pn	Pn	05 58 34.0	0.0
EAZ	**Earnscleugh**	**2.46**	**67**	PN	Pn	05 58 40.0	+1.3
EAZ				AML	AML	05 59 10.6	
EAZ				AML	AML	05 59 10.6	
EAZ				AML	AML	05 59 15.6	
EAZ				AML	AML	05 59 18.5	
EAZ	**Earnscleugh**	**2.46**	**67**	Pn	Pn	05 58 40.0	+1.3
TUZ	**Tuapeka**	**2.47**	**85**	PN	Pn	05 58 39.3	+0.5
TUZ				AML	AML	05 59 10.5	
TUZ				AML	AML	05 59 21.0	
TUZ	**Tuapeka**	**2.47**	**85**	Pn	Pn	05 58 39.3	+0.5
WKZ	**Wanaka**	**2.49**	**56**	PN	Pb	05 58 42.3	-2.6
WKZ				AML	AML	05 59 16.5	
WKZ				AML	AML	05 59 17.4	
WKZ	**Wanaka**	**2.49**	**56**	Pn	Pb	05 58 42.3	-2.6
JCZ	**Jackson Bay**	**2.87**	**42**	*e*PN	Pb	05 58 48.3	-3.1
JCZ				AML	AML	05 59 31.9	
JCZ				AML	AML	05 59 37.3	
JCZ	**Jackson Bay**	**2.87**	**42**	Pn	Pb	05 58 48.9	-2.6
ODZ	**Otahua Downs**	**3.40**	**71**	PN	Pn	05 58 50.7	-0.8
ODZ	**Otahua Downs**	**3.40**	**71**	Pn	Pn	05 58 50.9	-0.7
LBZ	**Lake Benmore**	**3.42**	**59**	PN	Pn	05 58 52.8	+0.9
LBZ				AML	AML	05 59 37.1	
LBZ				AML	AML	05 59 58.0	
LBZ	**Lake Benmore**	**3.42**	**59**	Pn	Pn	05 58 52.8	+0.9
FOZ	**Fox Glacier**	**3.69**	**45**	PN	Pn	05 58 59.9	+4.3
FOZ	**Fox Glacier**	**3.69**	**45**	Pn	Pn	05 58 59.9	+4.3
OXZ	**Oxford**	**5.13**	**57**	PN	Pn	05 59 17.1	+1.7
LTZ	**Lake Taylor**	**5.60**	**54**	Pn	Pn	05 59 23.0	+1.1

MEX 02 05:59:18.2±1.0, 17°06N×94°55W, h189km±18km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.85**	**136**	*i* P	Pn	05 59 53.8	-0.6
PCIG				*i* S	Sn	06 00 20.1	-2.4
HUIG	**Huatulco**	**1.97**	**230**	*e*P	Pn	05 59 53.5	-2.1
HUIG				*i* S	Sn	06 00 23.5	-1.1
VHO	**Vista Hermosa**	**2.09**	**271**	*e*P	Pn	05 59 56.2	-0.9
VHO				*i* S	Sn	06 00 24.9	-2.4
THIG		**3.06**	**134**	*i* P	Pn	06 00 07.1	-1.0
THIG				*i* S	Sn	06 00 44.6	-2.4
PNIG	**Pinotepa**	**3.49**	**260**	*i* P	Pn	06 00 11.5	-1.8
PNIG				*i* S	Sn	06 00 53.8	-2.5
TLIG	**Tlapa**	**3.87**	**278**	*e*P	Pn	06 00 16.9	-1.3
TLIG				*i* S	Sn	06 01 02.2	-2.9
YAIG	**Yautepec**	**4.66**	**293**	*i* P	Pn	06 00 28.1	-0.1
YAIG				*i* S	Sn	06 01 18.9	-4.3
PLIG	**Platanillo**	**4.90**	**286**	*i* P	Pn	06 00 31.2	-0.1
PLIG				*e*S	Sn	06 01 24.9	-3.8
ARIG	**Puente Sto Nin**	**5.66**	**283**	*e*P	Pn	06 00 41.3	+0.4
ARIG				*i* S	Sn	06 01 43.8	-2.4

*IDC **02** 06:13:01.1±0.6, 12°.42N×142°.17E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/29, mbtmp4.1/16, MS3.9/18, Ms1 3.9/18, ms1mx3.7/35, Error ellipse: s-maj=24.6km s-min=13.9km az=82.0*

*ISCJB **02** 06:13:03.5±0.4, 12°.39N±0°.06×142°.1E±0°.1, h27km, mb4.3/27, MS3.9/17, Error ellipse: s-maj=17.0km s-min=8.0km az=171.8*

*NEIC **02** 06:13:03.3±0.4, 12°.39N×142°.00E, h10km, mb4.6/14, Error ellipse: s-maj=12.7km s-min=7.8km az=81.0*

ISC 02 06:13:05.3±0.5, 12°39N±0°08×142°23E±0°.10, h27km, n64, σ1902/50, mb4.3/27, MS3.9/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.83**	**65**	*e*Pn	**Pb**	**06 13 54.5**	**-0.8**
JCJ	**Chichijima**	**14.63**	**360**	LR	LR	06 21 30.7	
	comp=Z,164nm,18.1s,baz=122,slow=35						
PMG	**Port Moresby**	**22.20**	**167**	*e*P	**P**	**06 17 58.7**	**-1.0**
	16nm,0.9s						
PMG	**Port Moresby**	**22.20**	**167**	P	**P**	**06 17 58.1**	**-1.6**
	6.3nm,0.7s,baz=351,slow=4.6,SNR=3.7						
PMG				LR	LR	06 25 43.4	
	comp=Z,173nm,18.4s,baz=35,slow=34						
JNU	**Nakatsue**	**23.10**	**335**	*e*P	**P**	**06 18 11.8**	**+2.7**
	3.9nm,0.7s						
JNU	**Nakatsue**	**23.10**	**335**	P	**P**	**06 18 07.9**	**-1.2**
	11nm,0.8s,baz=224,slow=5.2,SNR=6.2						
JNU				LR	LR	06 25 22.6	
	comp=Z,172nm,19.2s,baz=235,slow=32						
SSLB	**Suanglung**	**23.14**	**302**	*e*P	**P**	**06 18 09.6**	**-0.1**
	14nm,0.9s						
MJAR	**Matsushiro Arr**	**24.32**	**352**	P	**P**	**06 18 20.2**	**-0.5**
MJAR	**Matsushiro Arr**	**24.32**	**352**	P	**P**	**06 18 20.2**	**-0.5**
	0.5nm,0.2s,baz=169,slow=7.2,SNR=3.2						
MJAR				LR	LR	06 26 30.8	
	comp=Z,192nm,21.3s,baz=160,slow=33						
H11S3	**WAKE ISLAND Hy**	**24.33**	**73**	T	T	06 44 00.5	
	baz=275,slow=57						
H11S1	**WAKE ISLAND Hy**	**24.34**	**72**	T	T	06 44 05.0	
	baz=275,slow=57						
H11S2	**WAKE ISLAND Hy**	**24.35**	**73**	T	T	06 44 05.7	
	baz=275,slow=57						
H11N1	**WAKE ISLAND Hy**	**24.77**	**70**	T	T	06 44 30.5	
	baz=258,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**24.78**	**70**	T	T	06 44 29.8	
	baz=258,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**24.79**	**70**	T	T	06 44 28.7	
	baz=258,slow=75,SNR=3.9						
COEN	**Coen**	**26.20**	**178**	*e*P	**P**	**06 18 40.0**	**+2.0**
	60nm,0.9s						
KSRS	**Korea Array**	**28.05**	**335**	LR	LR	06 28 01.3	
	comp=Z,187nm,19.5s,baz=171,slow=32						
CTA	**Charters Tower**	**32.52**	**173**	P	**P**	**06 19 34.3**	**+0.2**
CTA	**Charters Tower**	**32.52**	**173**	P	**P**	**06 19 34.3**	**+0.2**
	1.7nm,0.7s,baz=348,slow=9.8,SNR=3.7						
CTAO	**Charters Tower**	**32.52**	**173**	*e*P	**P**	**06 19 36.4**	**+2.3**
	9.7nm,1.1s						
WRAB	**Tennant Creek**	**33.05**	**194**	*e*P	**P**	**06 19 38.1**	**-0.6**
	7.6nm,0.6s						
WRA	**Warramunga Arr**	**33.06**	**194**	P	**P**	**06 19 38.5**	**-0.2**
WRA	**Warramunga Arr**	**33.06**	**194**	P	**P**	**06 19 38.5**	**-0.2**
	2.0nm,0.5s,baz=16,slow=9.3,SNR=20						
WRA				LR	LR	06 32 30.7	
	comp=Z,196nm,21.8s,baz=345,slow=35						
AS31	**Alice Springs**	**36.75**	**193**	*e*P	**P**	**06 20 11.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.08**	**284**	P	**P**	**06 20 54.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**42.08**	**284**	P	**P**	**06 20 54.5**	**-0.9**
	2.3nm,0.8s,baz=84,slow=6.1,SNR=11						
CMAR				LR	LR	06 36 10.8	
	comp=Z,69nm,20.9s,baz=350,slow=33						
PETK	**Petropavlovsk-**	**42.45**	**14**	LR	LR	06 35 38.1	
	comp=Z,170nm,19.4s,baz=213,slow=32						
STKA	**Stephens Creek**	**44.02**	**181**	P	**P**	**06 21 11.1**	**+0.4**
STKA	**Stephens Creek**	**44.02**	**181**	P	**P**	**06 21 11.1**	**+0.4**
	1.4nm,0.7s,baz=17,slow=1.0,SNR=2.8						
STKA				LR	LR	06 40 41.0	
	comp=Z,179nm,19.1s,baz=26,slow=38						
ULN	**Ulaanbaatar**	**45.94**	**327**	*e*P	**P**	**06 21 27.6**	**+1.5**
	2.4nm,0.9s						
SONM	**Songino Array**	**46.27**	**327**	P	**P**	**06 21 28.8**	**+0.1**
SONM	**Songino Array**	**46.27**	**327**	P	**P**	**06 21 28.7**	**+0.1**
	1.1nm,0.8s,baz=130,slow=5.8,SNR=7.9						
SONM				LR	LR	06 40 02.2	
	comp=Z,74nm,18.6s,baz=127,slow=35						
FX1	**Attu Island--F**	**47.35**	**25**	LR	LR	06 39 09.7	
	comp=Z,132nm,18.7s,baz=71,slow=33						
YAK	**Yakutsk**	**50.38**	**352**	*e*P	**P**	**06 22 00.6**	**+0.8**
	32nm,0.7s						
SEY	**Seymchan**	**50.98**	**6**	P	**P**	**06 22 03.5**	**-0.9**
SEY	**Seymchan**	**50.98**	**6**	P	**P**	**06 22 03.5**	**-0.9**
	1.1nm,0.5s,baz=131,slow=10,SNR=4.0						
TIXI	**Tiksi**	**59.78**	**355**	*e*P	**P**	**06 23 08.7**	**+1.2**
	5.7nm,1.1s						
MK31	**Makanchi Array**	**60.58**	**317**	*e*P	**P**	**06 23 13.5**	**-0.1**
MKAR	**Makanchi Array**	**60.58**	**317**	P	**P**	**06 23 13.8**	**+0.1**
MKAR	**Makanchi Array**	**60.58**	**317**	P	**P**	**06 23 13.8**	**+0.1**
	4.7nm,0.8s,baz=93,slow=8.9,SNR=46						
MKAR				LR	LR	06 50 06.1	
	comp=Z,48nm,18.0s,baz=252,slow=37						
ZAA0	**Zalesovo Array**	**61.11**	**325**	*e*P	**P**	**06 23 16.7**	**-0.3**
ZALV	**Zalesovo Beam**	**61.11**	**325**	P	**P**	**06 23 16.6**	**-0.5**
ZALV	**Zalesovo Beam**	**61.11**	**325**	P	**P**	**06 23 16.6**	**-0.5**
	1.8nm,0.6s,baz=105,slow=7.5,SNR=9.4						
ZALV				LR	LR	06 49 41.1	
	comp=Z,74nm,18.4s,baz=250,slow=36						
KURK	**Kurchatov**	**63.85**	**321**	*e*P	**P**	**06 23 35.0**	**-0.3**
	10nm,1.0s						
KTH	**Kantishna Hill**	**68.74**	**26**	*e*P	**P**	**06 24 07.5**	**+0.9**
	11nm,1.2s						
BRVK	**Borovoye**	**69.34**	**322**	*e*P	**P**	**06 24 10.5**	**0.0**
	8.7nm,0.7s						
ILAR	**Eielson Array**	**70.75**	**25**	P	**P**	**06 24 18.2**	**-0.6**
ILAR	**Eielson Array**	**70.75**	**25**	P	**P**	**06 24 18.2**	**-0.6**
	1.6nm,0.7s,baz=252,slow=5.8,SNR=22						
ILAR				LR	LR	06 57 42.3	
	comp=Z,111nm,18.9s,baz=287,slow=38						
ABKAR	**Akbulak array**	**75.70**	**318**	*e*P	**P**	**06 24 47.2**	**-1.2**
	2.2nm,0.7s						
ARU	**Arti**	**76.28**	**325**	*e*P	**P**	**06 24 51.3**	**-0.3**
	6.8nm,0.9s						
INK	**Inuvik**	**76.45**	**22**	P	**P**	**06 24 52.6**	**+0.4**
INK	**Inuvik**	**76.45**	**22**	P	**P**	**06 24 52.6**	**+0.4**
	1.0nm,0.9s,baz=342,slow=3.2,SNR=2.7						
YKA	**Yellowknife Ar**	**85.09**	**27**	P	**P**	**06 25 38.6**	**+0.1**
YKA	**Yellowknife Ar**	**85.09**	**27**	P	**P**	**06 25 38.7**	**+0.1**
	0.4nm,0.6s,baz=285,slow=4.8,SNR=7.8						
ARCES	**ARCESS Array B**	**87.42**	**342**	LR	LR	07 08 19.0	
	comp=Z,97nm,20.2s,baz=160,slow=38						
NVAR	**Mina Array Bea**	**89.67**	**51**	P	**P**	**06 26 02.8**	**+1.3**
NVAR	**Mina Array Bea**	**89.67**	**51**	P	**P**	**06 26 02.8**	**+1.3**
	0.6nm,0.7s,baz=282,slow=6.2,SNR=6.2						
FINES	**FINESS Array B**	**91.14**	**334**	P	**P**	**06 26 05.7**	**-1.8**
FINES	**FINESS Array B**	**91.14**	**334**	P	**P**	**06 26 05.7**	**-1.8**
	3.4nm,0.9s,baz=64,slow=4.4,SNR=6.8						
AKASG	**Malin Array Be**	**94.49**	**324**	LR	LR	07 10 37.8	
	comp=Z,97nm,19.6s,baz=280,slow=37						
NOA	**NORSAR Array B**	**97.22**	**338**	LR	LR	07 10 39.9	
	comp=Z,53nm,21.4s,baz=305,slow=36						
ULM	**Lac du Bonnet**	**99.67**	**34**	LR	LR	07 12 34.1	
	comp=Z,156nm,19.9s,baz=320,slow=36						
LPAZ	**La Paz**	**150.35**	**101**	*e*PKPbc	**PKPbc**	**06 32 57.2**	**+1.2**
LPAZ	**La Paz**	**150.35**	**101**	PKPbc	**PKPbc**	**06 32 57.1**	**+1.2**
	1.6nm,0.7s,baz=293,slow=2.0,SNR=9.4						

IDC 02 06:29:17.2±5.7, 26°29S×178°04W, h0km, mb3.8/1, mb1 4.2/1, mb1mx3.7/16, mbtmp3.8/1, Error ellipse: s-maj=322.1km s-min=64.6km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.06**	**268**	P	P	06 37 26.9	-0.2
	0.9nm,0.6s,baz=108,slow=7.8,SNR=5.2						
AKASG	**Malin Array Be**	**147.93**	**327**	PKPbc	PKPbc	06 49 02.8	-1.3
	1.1nm,0.6s,baz=41,slow=3.4,SNR=9.1						
BRTR	**Keskin Array B**	**150.41**	**305**	PKPbc	PKPbc	06 49 11.2	+0.2
	1.6nm,1.1s,baz=332,slow=2.1,SNR=3.4						

*IDC **02** 06:36:53.9±0.7, 12°.39N×142°.17E, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.1/29, mbtmp4.3/15, MS3.5/9, Ms1 3.5/9, ms1mx3.2/44, Error ellipse: s-maj=25.2km s-min=15.5km az=75.0*

*NEIC **02** 06:36:56.0±0.3, 12°.35N×141°.97E, h10km, mb4.7/12, Error ellipse: s-maj=12.7km s-min=7.9km az=81.0*

*ISCJB **02** 06:36:57.5±0.4, 12°.34N±0°.06×142°.0E±0°.1, h33km, mb4.4/27, MS3.4/9, Error ellipse: s-maj=15.5km s-min=8.4km az=169.8*

*BJI **02** 06:36:58.0, 12°.30N×141°.90E, h33km, mB5.2/3, mb4.7/7, Ms5.0/1, Ms7 4.6/1*

ISC 02 06:36:58.9±0.5, 12°39N±0°08×142°21E±0°10, h33km, n53, σ0992/50, mb4.4/27, MS3.4/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.85**	**65**	*e*Pn	**Pb**	**06 37 47.6**	**-1.5**
PMG	**Port Moresby**	**22.21**	**167**	P	**P**	**06 41 52.9**	**+0.3**
PMG	**Port Moresby**	**22.21**	**167**	P	**P**	**06 41 52.9**	**+0.3**
	2.9nm,0.5s,baz=320,slow=7.9,SNR=3.4						
PMG				LR	LR	06 50 21.2	
	comp=Z,92nm,18.1s,baz=20,slow=36						
JNU	**Nakatsue**	**23.09**	**335**	*e*P	**P**	**06 42 03.1**	**+1.1**
	8.2nm,1.0s						
JNU	**Nakatsue**	**23.09**	**335**	P	**P**	**06 42 02.5**	**+0.5**
	14nm,0.8s,baz=141,slow=4.2,SNR=6.5						
JNU				LR	LR	06 48 59.7	
	comp=Z,100nm,19.1s,baz=146,slow=31						
MJAR	**Matsushiro Arr**	**24.32**	**352**	LR	LR	06 50 32.2	
	comp=Z,103nm,20.7s,baz=155,slow=34						
COEN	**Coen**	**26.20**	**178**	*e*P	**P**	**06 42 31.3**	**+0.6**
	195nm,1.5s						
KSRS	**Korea Array**	**28.05**	**335**	LR	LR	06 53 54.9	
	comp=Z,56nm,19.3s,baz=262,slow=36						
CTA	**Charters Tower**	**32.52**	**173**	P	**P**	**06 43 26.9**	**+0.1**
CTA	**Charters Tower**	**32.52**	**173**	P	**P**	**06 43 26.9**	**+0.1**
	4.2nm,1.0s,baz=328,slow=6.2,SNR=4.4						
WRAB	**Tennant Creek**	**33.04**	**194**	*e*P	**P**	**06 43 31.2**	**-0.2**
	17nm

IDC 02 06:41:17.1±1.4, 12°.93N×142°.33E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, Error ellipse: s-maj=47.8km s-min=29.4km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.60**	**194**	P	P	06 47 59.2	-0.1
	0.5nm,0.6s,baz=16,slow=9.7,SNR=5.3						
MKAR	**Makanchi Array**	**60.26**	**317**	P	P	06 51 28.0	+0.6
	1.3nm,0.8s,baz=94,slow=8.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**60.73**	**325**	P	P	06 51 29.5	-0.9
	0.4nm,0.5s,baz=95,slow=10,SNR=2.4						
KURBB	**Kurchatov Arra**	**63.54**	**320**	P	P	06 51 49.4	+0.1
	0.5nm,0.7s,baz=105,slow=6.7,SNR=14						
ILAR	**Eielson Array**	**70.22**	**25**	P	P	06 52 31.8	+0.1
	0.2nm,0.7s,baz=250,slow=5.4,SNR=3.9						

IDC 02 06:46:19.6±1.7, 14°.67S×173°.67W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/18, mbtmp3.8/7, MS2.9/1, Ms1 2.9/1, ms1mx2.6/28, Error ellipse: s-maj=92.7km s-min=24.6km az=147.0

ISC 02 06:46:22.2±2.1, 15°.0S±0°.6×172°.9W±0°.5, h29km, n10, σ2§14/8, mb3.9/7, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.56**	**47**	Pn	**Pn**	**06 46 46.7**	**-1.3**
	29nm,0.3s,baz=317,slow=4.9,SNR=18						
AFI				Sn	**Sn**	**06 47 05.1**	**-2.1**
	184nm,0.3s,baz=188,slow=22,SNR=19						
PPT	**Papeete**	**22.57**	**100**	LR	LR	06 59 06.3	
	comp=Z,28nm,18.2s,baz=261,slow=33						
STKA	**Stephens Creek**	**44.63**	**240**	P	**P**	**06 54 30.8**	**-1.5**
	2.8nm,0.9s,baz=14,slow=4.8,SNR=3.7						
WRA	**Warramunga Arr**	**50.37**	**256**	P	P	06 55 13.2	-3.9
	0.3nm,0.6s,baz=89,slow=7.0,SNR=4.4						
NVAR	**Mina Array Bea**	**73.73**	**42**	P	**P**	**06 57 56.5**	**+2.5**
	0.4nm,0.6s,baz=243,slow=9.9,SNR=3.8						
TXAR	**Lajitas Array**	**80.02**	**56**	P	P	06 58 34.1	+4.7
	0.6nm,1.1s,baz=168,slow=6.4,SNR=3.8						
ILAR	**Eielson Array**	**81.96**	**11**	P	**P**	**06 58 40.3**	**+1.5**
	1.1nm,0.8s,baz=229,slow=6.3,SNR=11						
YKA	**Yellowknife Ar**	**89.54**	**23**	P	**P**	**06 59 17.8**	**+1.3**
	0.7nm,0.9s,baz=238,slow=4.4,SNR=12						
CMAR	**Chiang Mai Arr**	**92.91**	**288**	P	**P**	**06 59 31.2**	**-1.9**
	0.6nm,0.3s,baz=108,slow=9.2,SNR=4.3						
BRTR	**Keskin Array B**	**146.11**	**322**	PKPbc	**PKPbc**	**07 06 00.7**	**+0.6**
	1.7nm,0.8s,baz=106,slow=3.9,SNR=7.8						

IDC 02 07:04:49.4±1.1, 29°.30N×130°.58E, h0km, mb3.4/9, mb1 3.5/10, mb1mx3.5/27, mbtmp3.4/10, ML2.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/24, Error ellipse: s-maj=29.3km s-min=22.3km az=72.0

JMA 02 07:04:54.3±0.1, 29°.32N×130°.56E, h72km±3km, M3.3

ISC 02 07:04:54.1±1.8, 29°.28N±0°.04×130°.63E±0°.08, h31km±13km, n21, σ0§58/28, mb3.4/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.86**	**310**	P	**Pb**	**07 05 10.3**	**-0.3**
JNN				eS	**Sn**	**07 05 23.0**	**+1.3**
JZK	**Kikaishima**	**1.12**	**211**	P	**Pb**	**07 05 14.9**	**-0.1**
JKC	**Kuchinoerabu**	**1.23**	**342**	P	**Pn**	**07 05 15.4**	**+0.1**
JKC				eS	**Sn**	**07 05 30.9**	**0.0**
JAM	**Amami Oshima**	**1.25**	**226**	P	**Pn**	**07 05 15.7**	**+0.2**
JAM				eS	**Sn**	**07 05 31.7**	**+0.5**
JTN	**Tanegashima 3**	**1.40**	**12**	P	**Pn**	**07 05 17.8**	**+0.2**
JAMN	**Amaminishikomi**	**1.64**	**231**	P	**Pn**	**07 05 21.1**	**+0.2**
JAMN				eS	**Sn**	**07 05 41.2**	**+0.2**
JTSR	**Tashiro 2**	**1.89**	**8**	P	**Pn**	**07 05 25.1**	**+0.7**
JTSR				eS	**Sn**	**07 05 47.8**	**+0.6**
JTK	**Tokunoshima**	**2.10**	**225**	P	**Pn**	**07 05 27.7**	**+0.5**
JTK				eS	**Sn**	**07 05 52.8**	**+0.5**
JSU	**Suzuyama**	**2.22**	**356**	P	**Pn**	**07 05 29.0**	**+0.1**
JNAR	**Kushima--Naru**	**2.30**	**14**	P	**Pn**	**07 05 30.9**	**+0.9**
JSJ	**Shimokoshiki**	**2.51**	**342**	P	**Pn**	**07 05 33.5**	**+0.6**
JNU	**Nakatsue**	**3.83**	**3**	Pn	**Pn**	**07 05 51.6**	**+0.6**
	1.3nm,0.3s,baz=216,slow=6.4,SNR=20						
JNU				Sn	**Sn**	**07 06 35.0**	**-0.1**
	1.7nm,0.3s,baz=180,slow=18,SNR=3.6						
SONM	**Songino Array**	**26.32**	**321**	P	**P**	**07 10 26.9**	**-0.3**
	0.3nm,0.6s,baz=134,slow=10,SNR=2.8						
SONM				LR	LR	07 22 30.8	
	comp=Z,78nm,18.1s,baz=106,slow=40						
MKAR	**Makanchi Array**	**41.19**	**309**	P	**P**	**07 12 35.7**	**-0.1**
	0.2nm,0.5s,baz=87,slow=10,SNR=5.6						
ZALV	**Zalesovo Beam**	**41.20**	**321**	P	**P**	**07 12 34.5**	**-1.2**
	0.3nm,0.4s,baz=107,slow=8.4,SNR=2.7						
KURBB	**Kurchatov Arra**	**44.19**	**314**	P	**P**	**07 12 59.3**	**-0.8**
	1.0nm,0.8s,baz=102,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**49.07**	**175**	P	**P**	**07 13 38.9**	**+0.3**
	0.3nm,0.6s,baz=354,slow=8.2,SNR=3.7						
BVAR	**Borovoye Array**	**49.48**	**316**	P	**P**	**07 13 41.3**	**-0.2**
	1.0nm,0.6s,baz=100,slow=9.0,SNR=10						
ILAR	**Eielson Array**	**60.75**	**29**	P	**P**	**07 15 02.7**	**+0.1**
	0.2nm,0.8s,baz=274,slow=6.2,SNR=2.9						
AKASG	**Malin Array Be**	**74.59**	**320**	P	**P**	**07 16 29.6**	**-0.4**
	0.4nm,0.5s,baz=58,slow=6.4,SNR=2.5						
YKA	**Yellowknife Ar**	**74.87**	**26**	P	**P**	**07 16 31.1**	**-0.3**
	0.2nm,0.8s,baz=309,slow=4.9,SNR=4.8						

IDC 02 07:12:42.5±0.6, 12°.38N×142°.05E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/30, mbtmp4.1/16, MS3.9/21, Ms1 3.9/21, ms1mx3.8/31, Error ellipse: s-maj=25.2km s-min=14.2km az=77.0

NEIC 02 07:12:44.5±0.3, 12°.34N×141°.90E, h10km, mb4.8/8, Error ellipse: s-maj=12.2km s-min=7.6km az=82.0

ISC 02 07:12:47.4±0.5, 12°.38N±0°.08×142°.2E±0°.1, h33km, n58, σ1§07/43, mb4.3/24, MS3.9/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.85**	**65**	*e*Pn	**Pb**	**07 13 35.7**	**-2.0**
PMG	**Port Moresby**	**22.19**	**167**	P	**P**	**07 17 41.9**	**+0.9**
PMG	**Port Moresby**	**22.19**	**167**	P	**P**	**07 17 41.9**	**+0.9**
	6.5nm,0.6s,baz=10,slow=11,SNR=4.5						
PMG				LR	LR	07 25 24.3	
	comp=Z,207nm,18.4s,baz=143,slow=34						
JNU	**Nakatsue**	**23.11**	**335**	LR	LR	07 25 23.5	
	comp=Z,182nm,18.6s,baz=196,slow=33						
MJAR	**Matsushiro Arr**	**24.33**	**352**	LR	LR	07 26 11.5	
	comp=Z,255nm,19.3s,baz=160,slow=33						
H11S3	**WAKE ISLAND Hy**	**24.35**	**72**	T	T	07 43 45.8	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**24.36**	**72**	T	T	07 43 42.9	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**24.36**	**73**	T	T	07 43 37.7	
	baz=274						
COEN	**Coen**	**26.18**	**178**	*e*P	**P**	**07 18 19.8**	**+0.7**
	190nm,1.2s						
KSRS	**Korea Array**	**28.06**	**335**	LR	LR	07 27 19.8	
	comp=Z,245nm,21.9s,baz=177,slow=31						
ASAJ	**Asahikawa**	**31.63**	**1**	LR	LR	07 29 41.0	
	comp=Z,303nm,21.7s,baz=332,slow=32						
CTA	**Charters Tower**	**32.51**	**173**	P	**P**	**07 19 13.8**	**-1.5**
CTA	**Charters Tower**	**32.51**	**173**	P	**P**	**07 19 13.8**	**-1.5**
	3.2nm,0.9s,baz=333,slow=4.5,SNR=3.3						
USRK	**Ussuriysk Arra**	**32.91**	**346**	LR	LR	07 29 57.8	
	comp=Z,252nm,20.6s,baz=160,slow=32						
WRAB	**Tennant Creek**	**33.03**	**194**	*e*P	**P**	**07 19 19.1**	**-0.7**
	13nm,1.0s						
WRA	**Warramunga Arr**	**33.04**	**194**	P	**P**	**07 19 19.0**	**-0.9**
WRA	**Warramunga Arr**	**33.04**	**194**	P	**P**	**07 19 19.0**	**-0.9**
	1.8nm,0.6s,baz=16,slow=9.5,SNR=23						
AS31	**Alice Springs**	**36.73**	**193**	*e*P	**P**	**07 19 52.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.07**	**284**	P	**P**	**07 20 35.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**42.07**	**284**	P	**P**	**07 20 35.3**	**-1.2**
	1.2nm,0.8s,baz=93,slow=6.5,SNR=8.6						
CMAR				LR	LR	07 35 52.2	
	comp=Z,86nm,20.5s,baz=2.5,slow=33						
PETK	**Petropavlovsk-**	**42.47**	**14**	LR	LR	07 35 41.7	
	comp=Z,174nm,19.2s,baz=223,slow=32						
STKA	**Stephens Creek**	**44.01**	**181**	P	**P**	**07 20 53.0**	**+1.2**
STKA	**Stephens Creek**	**44.01**	**181**	P	**P**	**07 20 53.0**	**+1.2**
	1.6nm,0.9s,baz=318,slow=15,SNR=2.1						
ULN	**Ulaanbaatar**	**45.95**	**327**	*e*P	**P**	**07 21 07.4**	**0.0**
	5.4nm,1.1s						
SONM	**Songino Array**	**46.27**	**327**	P	**P**	**07 21 10.4**	**+0.4**
SONM	**Songino Array**	**46.27**	**327**	P	**P**	**07 21 10.4**	**+0.4**
	0.6nm,0.7s,baz=140,slow=5.4,SNR=6.2						
SONM				LR	LR	07 40 15.7	
	comp=Z,105nm,18.2s,baz=36,slow=36						
YAK	**Yakutsk**	**50.39**	**352**	*e*P	**P**	**07 21 42.7**	**+1.5**
	13nm,0.6s						
SEY	**Seymchan**	**51.00**	**6**	P	**P**	**07 21 46.9**	**+1.1**
SEY	**Seymchan**	**51.00**	**6**	P	**P**	**07 21 46.9**	**+1.1**
	3.0nm,0.8s,baz=159,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**60.58**	**317**	P	**P**	**07 22 54.7**	**-0.2**
MKAR	**Makanchi Array**	**60.58**	**317**	P	**P**	**07 22 54.7**	**-0.2**
	2.8nm,0.7s,baz=97,slow=8.7,SNR=7.7						
MKAR				LR	LR	07 49 58.8	
	comp=Z,64nm,18.7s,baz=153,slow=37						
ZALV	**Zalesovo Beam**	**61.12**	**325**	P	**P**	**07 22 57.8**	**-0.5**
ZALV	**Zalesovo Beam**	**61.12**	**325**	P	**P**	**07 22 57.8**	**-0.5**
	1.1nm,0.5s,baz=98,slow=7.0,SNR=4.2						
ZALV				LR	LR	07 53 04.3	
	comp=Z,54nm,18.7s,baz=250,slow=40						
KURK	**Kurchatov**	**63.85**	**321**	*e*P	**P**	**07 23 16.4**	**-0.2**
	12nm,1.1s						
KURBB	**Kurchatov Arra**	**63.89**	**321**	P	**P**	**07 23 16.3**	**-0.5**
	5.5nm,0.7s,baz=102,slow=6.5,SNR=18						
AAK	**Ala-Archa**	**65.35**	**311**	LR	LR	07 52 49.5	
	comp=Z,113nm,19.3s,baz=59,slow=37						
BVAR	**Borovoye Array**	**69.28**	**322**	P	**P**	**07 23 51.1**	**-0.2**
BVAR	**Borovoye Array**	**69.28**	**322**	P	**P**	**07 23 51.1**	**-0.2**
	5.3nm,0.6s,baz=105,slow=8.0,SNR=21						
BVAR				LR	LR	07 54 02.6	
	comp=Z,155nm,21.5s,baz=75,slow=36						
BRVK	**Borovoye**	**69.34**	**322**	*e*P	**P**	**07 23 51.3**	**-0.3**
	8.0nm,0.8s						
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**07 23 59.5**	**-0.6**
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**07 23 59.5**	**-0.6**
	0.6nm,0.7s,baz=248,slow=5.3,SNR=12						
ILAR				LR	LR	07 52 20.6	
	comp=Z,123nm,18.6s,baz=279,slow=34						
ABKAR	**Akbulak array**	**75.70**	**318**	*e*P	**P**	**07 24 29.1**	**-0.5**
	1.9nm,0.6s						
ARU	**Arti**	**76.28**	**325**	*e*P	**P**	**07 24 32.1**	**-0.7**
	3.7nm,0.8s						
AKTO	**Aktyubinsk**	**76.88**	**319**	P	**P**	**07 24 35.3**	**-1.0**
AKTO	**Aktyubinsk**	**76.88**	**319**	P	**P**	**07 24 35.3**	**-1.0**
	1.8nm,0.6s,baz=86,slow=8.7,SNR=11						
AKTO				LR	LR	07 58 08.8	
	comp=Z,92nm,20.3s,baz=72,slow=36						
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**07 25 20.9**	**+1.1**
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**07 25 20.9**	**+1.1**
	0.3nm,0.8s,baz=285,slow=4.9,SNR=4.4						
ARCES	**ARCESS Array B**	**87.42**	**342**	LR	LR	08 08 59.5	
	comp=Z,108nm,18.7s,baz=65,slow=39						
KBZ	**Khabaz**	**88.16**	**314**	LR	LR	08 05 44.4	
	comp=Z,65nm,18.5s,baz=266,slow=36						
NVAR	**Mina Array Bea**	**89.69**	**51**	P	**P**	**07 25 44.8**	**+1.9**
NVAR	**Mina Array Bea**	**89.69**	**51**	P	**P**	**07 25 44.7**	**+1.9**
	0.3nm,0.6s,baz=251,slow=2.8,SNR=3.4						
FINES	**FINESS Array B**	**91.15**	**334**	P	**P**	**07 25 47.1**	**-1.6**
FINES	**FINESS Array B**	**91.15**	**334**	P	**P**	**07 25 47.1**	**-1.6**
	2.3nm,0.9s,baz=58,slow=4.7,SNR=5.1						
FINES				LR	LR	08 10 58.2	
	comp=Z,64nm,18.2s,baz=85,slow=38						
AKASG	**Malin Array Be**	**94.49**	**324**	LR	LR	08 10 08.3	
	comp=Z,112nm,21.1s,baz=60,slow=36						
BRTR	**Keskin Array B**	**95.99**	**313**	LR	LR	08 11 55.8	
	comp=Z,42nm,20.1s,baz=285,slow=37						
NOA	**NORSAR Array B**	**97.23**	**338**	LR	LR	08 10 33.4	
	comp=Z,68nm,20.9s,baz=45,slow=36						
LPAZ	**La Paz**	**150.36**	**101**	*e*PKPbc	**PKPbc**	**07 32 38.4**	**+1.3**
LPAZ	**La Paz**	**150.36**	**101**	PKPbc	**PKPbc**	**07 32 38.0**	**+0.8**
	1.5nm,0.7s,baz=328,slow=3.0,SNR=7.6						

NNC 02 07:18:01.1±0.7, 49°.98N×78°.78E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=11.6km s-min=3.5km az=77.0

IDC 02 07:18:03.2±0.7, 50°.07N×78°.74E, h0km, mb4.1/1, mb1 3.6/5, mb1mx3.3/29, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=11.6km s-min=6.2km az=66.0

ISC 02 07:18:01.1±1.3, 50°.01N±0°.07×79°.0E±0°.1, h8km±11km, n34, σ0§81/54, 15C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR10	**Kurchatov Arra**	**0.60**	**330**	P	**Pg**	**07 18 12.4**	**-0.3**
KUR10				S	**Sb**	**07 18 21.5**	**-0.9**
KUR09	**Kurchatov Arra**	**0.61**	**331**	P	**Pg**	**07 18 12.8**	**-0.2**
KUR09				S	**Sb**	**07 18 21.7**	**-1.2**
KUR11	**Kurchatov Arra**	**0.62**	**343**	P	**Pg**	**07 18 13.3**	**+0.2**
KUR11				S	**Sg**	**07 18 22.0**	**+0.7**
KUR08	**Kurchatov Arra**	**0.63**	**332**	P	**Pg**	**07 18 13.1**	**-0.2**
KUR08				S	**Sb**	**07 18 21.8**	**-1.5**
KUR12	**Kurchatov Arra**	**0.63**	**342**	P	**Pg**	**07 18 13.6**	**+0.2**
KUR12				S	**Sg**	**07 18 22.0**	**+0.4**
KUR13	**Kurchatov Arra**	**0.64**	**340**	P	**Pg**	**07 18 13.6**	**0.0**
KUR13				S	**Sg**	**07 18 21.7**	**-0.2**
KUR07	**Kurchatov Arra**	**0.65**	**333**	P	**Pg**	**07 18 13.5**	**-0.1**
KUR07				S	**Sb**	**07 18 22.3**	**-1.4**
KUR14	**Kurchatov Arra**	**0.65**	**339**	P	**Pg**	**07 18 13.8**	**+0.1**
KUR14				S	**Sg**	**07 18 22.6**	**+0.3**
KUR06	**Kurchatov Arra**	**0.66**	**335**	P	**Pg**	**07 18 13.8**	**-0.1**
KUR06				S	**Sb**	**07 18 23.1**	**-1.1**
KUR15	**Kurchatov Arra**	**0.67**	**337**	P	**Pg**	**07 18 13.9**	**0.0**
KUR15				S	**Sb**	**07 18 23.1**	**-1.3**
KURBB	**Kurchatov Arra**	**0.68**	**336**	⇑P	**Pg**	**07 18 14.2**	**0.0**
	40nm,0.3s						
KURBB				⇑S	**Sb**	**07 18 23.4**	**-1.2**
	210nm,0.5s						
KURBB				⇓Rg	Rg	07 18 28.8	
	87nm,0.5s						
KURBB	**Kurchatov Arra**	**0.68**	**336**	Pg	**Pg**	**07 18 13.1**	**-1.1**
	23nm,0.3s,baz=167,slow=18,SNR=557						
KURBB				Lg	Lg	07 18 22.9	
	38nm,0.3s,baz=179,slow=29,SNR=55						
KUR16	**Kurchatov Arra**	**0.69**	**334**	P	**Pg**	**07 18 14.2**	**-0.2**
KUR16				S	**Sg**	**07 18 23.5**	**+0.1**
KUR05	**Kurchatov Arra**	**0.69**	**337**	P	**Pg**	**07 18 14.4**	**-0.1**
KUR05				S	**Sg**	**07 18 23.3**	**-0.2**
KUR17	**Kurchatov Arra**	**0.70**	**333**	P	**Pg**	**07 18 14.5**	**-0.2**
KUR17				S	**Sb**	**07 18 24.1**	**-1.3**
KUR04	**Kurchatov Arra**	**0.71**	**338**	P	**Pg**	**07 18 14.7**	**-0.1**
KUR04				S	**Sg**	**07 18 24.2**	**+0.1**
KUR18	**Kurchatov Arra**	**0.71**	**332**	P	**Pg**	**07 18 14.5**	**-0.4**
KUR18				S	**Sb**	**07 18 24.4**	**-1.4**
KUR03	**Kurchatov Arra**	**0.73**	**339**	P	**Pg**	**07 18 15.2**	**+0.1**
KUR03				S	**Sg**	**07 18 24.6**	**0.0**
KUR19	**Kurchatov Arra**	**0.73**	**331**	P	**Pg**	**07 18 14.4**	**-0.8**
KUR19				S	**Sb**	**07 18 24.8**	**-1.4**
KUR20	**Kurchatov Arra**	**0.74**	**329**	P	**Pg**	**07 18 14.7**	**-0.7**
KUR20				S	**Sb**	**07 18 24.9**	**-1.6**
KUR02	**Kurchatov Arra**	**0.74**	**339**	P	**Pg**	**07 18 15.6**	**+0.1**
KUR02				S	**Sg**	**07 18 24.8**	**-0.3**
KURK	**Kurchatov**	**0.74**	**343**	⇑P	**Pg**	**07 18 15.4**	**0.0**
	13nm,0.4s						
KURK				⇑S	**Sg**	**07 18 25.2**	**+0.1**
	25nm,0.5s						
KURK				⇑Rg	Rg	07 18 33.0	
	44nm,0.6s						
KUR01	**Kurchatov Arra**	**0.76**	**340**	P	**Pg**	**07 18 15.9**	**+0.1**
KUR01				S	**Sg**	**07 18 25.9**	**+0.2**
MK31	**Makanchi Array**	**3.90**	**144**	⇑Pn	Pb	07 19 06.5	-3.7
	0.3nm,0.2s,baz=92,slow=5.0,SNR=162						
MK31				⇑Pg	**Pg**	**07 19 14.3**	**-1.6**
	2.1nm,0.4s,baz=196,slow=26,SNR=34						
MK31				⇑Lg	Lg	07 20 08.9	
	9.9nm,0.5s,baz=336,slow=24,SNR=13						
MKAR	**Makanchi Array**	**3.90**	**144**	Pn	Pn	07 19 06.3	+4.9
	1.1nm,0.3s,baz=327,slow=11,SNR=129						
MKAR				Pg	**Pg**	**07 19 15.5**	**-0.4**
	2.3nm,0.3s,baz=316,slow=14,SNR=26						
MKAR				Lg	Lg	07 20 07.8	
	2.2nm,0.3s,baz=342,slow=27,SNR=9.6						
I46RU	**ZALESOVO INFRA**	**5.35**	**40**	*i*		07 49 40.0	
	baz=222,slow=338,SNR=1.9						
ZALV	**Zalesovo Beam**	**5.35**	**40**	Pn	Pn	07 19 26.9	+5.7
	2.5nm,0.3s,baz=232,slow=14,SNR=41						
ZALV				Sn	Sn	07 20 31.2	+8.3
	0.3nm,0.3s,baz=228,slow=21,SNR=2.3						
ZALV				Lg	Lg	07 20 57.0	
	0.7nm,0.3s,baz=228,slow=26,SNR=4.4						
BVA0	**Borovoye Array**	**6.15**	**303**	⇑Pn	Pn	07 19 34.0	+1.8
	0.2nm,0.2s,baz=112,slow=14,SNR=10						
BVA0				⇑Sn	**Sn**	**07 20 42.5**	**-0.1**
	2.8nm,0.5s,baz=119,slow=22,SNR=12						
BVA0				⇓Lg	Lg	07 21 09.0	
	3.1nm,0.5s						
BVAR	**Borovoye Array**	**6.15**	**303**	Pn	**Pn**	**07 19 33.4**	**+1.2**
	0.3nm,0.3s,baz=109,slow=13,SNR=10						
BVAR				Sn	**Sn**	**07 20 41.3**	**-1.3**
	2.1nm,0.3s,baz=110,slow=22,SNR=14						
BVAR				Lg	Lg	07 21 10.3	
	0.8nm,0.3s,baz=125,slow=30,SNR=3.5						
BRVK	**Borovoye**	**6.22**	**303**	⇑Pn	Pn	07 19 35.4	+2.3
	3.1nm,1.1s						
BRVK				⇑Sn	**Sn**	**07 20 42.9**	**-1.5**
	8.7nm,0.6s						
BRVK				⇑Lg	Lg	07 21 12.4	
	7.7nm,0.5s						
TKM2	**Tokmak 2**	**7.46**	**199**	⇑Pn	**Pn**	**07 19 51.2**	**+0.8**
	0.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**07 21 15.8**	**+0.6**
	1.3nm,0.8s						
TKM2				⇓Lg	Lg	07 21 53.4	
	4.2nm,0.6s						
AAK	**Ala-Archa**	**8.00**	**204**	⇓Lg	Lg	07 22 15.0	
	3.9nm,0.7s						
AAK	**Ala-Archa**	**8.00**	**204**	Pn	Pn	07 19 59.9	+2.1
	0.7nm,0.3s,baz=85,slow=3.7,SNR=6.5						
AAK				Lg	Lg	07 22 11.9	
	0.1nm,0.3s,baz=143,slow=20,SNR=4.1						
ARCES	**ARCESS Array B**	**31.76**	**328**	P	**P**	**07 24 26.1**	**+0.9**
	2.4nm,1.0s,baz=104,slow=9.6,SNR=2.9						

IDC 02 07:26:58.1±0.9, 2°.13S×134°.14E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML4.3/1, Error ellipse: s-maj=51.1km s-min=21.4km az=68.0

ISCJB 02 07:27:00.2±0.5, 2°.25S±0°.05×134°.0E±0°.1, h25km, mb4.1/12, Error ellipse: s-maj=15.1km s-min=6.7km az=176.2

NEIC 02 07:27:04.2±2.6, 2°.19S×134°.13E, h43km±25km, mb4.1/6, Error ellipse: s-maj=22.3km s-min=11.0km az=50.0

ISC 02 07:27:02.1±0.6, 2°.22S±0°.07×134°.07E±0°.1, h25km, n37, σ1§25/37, mb4.1/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.95**	**249**	P	**Pn**	**07 27 33.9**	**+0.2**
	baz=1.8,SNR=77						
KDU	**Kakadu**	**10.52**	**189**	P	**Pn**	**07 29 31.8**	**+0.3**
	baz=10,SNR=8.7						
MTN	**Manton Dam**	**10.95**	**195**	P	**Pn**	**07 29 36.8**	**-0.5**
	baz=11,SNR=28						
KNRA	**Kununurra**	**14.36**	**201**	P	**Pn**	**07 30 21.9**	**-2.1**
	baz=14,SNR=16						
KNRA				S	**Sn**	**07 32 59.6**	**-2.9**
	baz=14,SNR=4.3						
KAPI	**Kappang**	**14.55**	**259**	*e*Pn	**Pn**	**07 30 29.1**	**+2.4**
COEN	**Coen**	**14.74**	**143**	*e*Pn	**Pn**	**07 30 30.1**	**+1.0**
COEN	**Coen**	**14.74**	**143**	P	**Pn**	**07 30 30.1**	**+1.0**
	baz=15,SNR=5.0						
WSI	**Waingapu**	**15.56**	**241**	P	Pn	07 30 34.2	-5.8
	baz=15,SNR=4.1						
WRAB	**Tennant Creek**	**17.61**	**179**	*e*P	**P**	**07 31 07.3**	**+0.5**
	6.2nm,0.5s						
WRA	**Warramunga Arr**	**17.62**	**179**	P	**Pn**	**07 31 04.6**	**-1.5**
WRA				S	Sn	07 34 11.1	-11
WRA	**Warramunga Arr**	**17.62**	**179**	P	**Pn**	**07 31 04.6**	**-1.5**
	1.1nm,0.3s,baz=359,slow=12,SNR=40						
WRA				S	Sn	07 34 11.1	-11
	0.1nm,0.3s,baz=4.0,slow=23,SNR=3.7						
AS31	**Alice Springs**	**21.32**	**180**	*e*P	**P**	**07 31 48.9**	**+1.4**
WRKA	**Warakurna**	**23.36**	**193**	P	**P**	**07 32 09.6**	**+0.6**
	baz=23,SNR=5.1						
STKA	**Stephens Creek**	**30.34**	**167**	P	**P**	**07 33 12.9**	**+1.0**
STKA	**Stephens Creek**	**30.34**	**167**	P	**P**	**07 33 12.9**	**+1.0**
	1.3nm,0.9s,baz=345,slow=22,SNR=3.4						
CMAR	**Chiang Mai Arr**	**40.21**	**302**	P	**P**	**07 34 37.0**	**0.0**
CMAR	**Chiang Mai Arr**	**40.21**	**302**	P	**P**	**07 34 37.0**	**0.0**
	0.9nm,0.8s,baz=120,slow=5.4,SNR=4.3						
SONM	**Songino Array**	**55.40**	**338**	P	**P**	**07 36 34.5**	**0.0**
SONM	**Songino Array**	**55.40**	**338**	P	**P**	**07 36 34.5**	**0.0**
	0.7nm,0.5s,baz=154,slow=8.1,SNR=9.5						
YAK	**Yakutsk**	**64.16**	**358**	*e*P	**P**	**07 37 34.3**	**0.0**
	16nm,0.8s			

JYK	Kaneyama	1.33	300	P	Pn	07 42 52.6 +0.5
JYS	Shirataka	1.40	269	P	Pn	07 42 53.5 +0.5
JFT	Otama	1.40	239	P	Pn	07 42 53.5 +0.5
JFT				*e*S	Sn	07 43 10.8 +0.4
JRG	Rokugo	1.48	321	P	Pn	07 42 55.0 +1.0
MAT	Matsushiro	3.36	240	P	Pn	07 43 21.2 +1.2
MAT				S	Sn	07 44 01.3 +2.7

ISCJB ***02*** *07:46:16.5±2.5, 17°.9S±0°.4×65°.2E±0°.5, h10km, mb3.6/7, MS3.6/1, Error ellipse: s-maj=88.4km s-min=25.6km az=145.2*

IDC ***02*** *07:46:16.7±2.6, 17°.97S×65°.14E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, MS3.6/1, Ms1 3.8/1, ms1mx3.0/30, Error ellipse: s-maj=90.3km s-min=28.5km az=54.0*

ISC 02 07:46:18.3±2.7, 18°.0S±0°.4×65°.1E±0°.6, h10km, n11, σ0836/7, mb3.7/7, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	12.90	27	T	T	08 02 34.4	
	baz=205,slow=76,SNR=495						
H08N1	Diego Garcia H	12.92	27	T	T	08 02 35.1	
	baz=205,slow=76,SNR=489						
H08N2	Diego Garcia H	12.93	27	T	T	08 02 35.7	
	baz=205,slow=76,SNR=440						
CMAR	Chiang Mai Arr	49.16	44	LR	LR	08 13 04.1	
	comp=Z,62nm,18.2s,baz=347,slow=33						
WRA	Warramunga Arr	65.06	104	P	P	07 56 59.5	0.0
	2.2nm,0.9s,baz=262,slow=6.0,SNR=5.5						
MKAR	Makanchi Array	66.30	13	P	P	07 57 07.3	+0.5
	0.3nm,0.7s,baz=215,slow=7.0,SNR=3.3						
KURBB	Kurchatov Arra	69.31	9	P	P	07 57 25.2	-0.4
	0.3nm,0.6s,baz=208,slow=7.0,SNR=3.9						
STKA	Stephens Creek	69.47	118	P	P	07 57 27.3	0.0
	1.0nm,0.6s,baz=270,slow=10,SNR=3.1						
ZALV	Zalesovo Beam	73.61	12	P	P	07 57 51.2	-0.3
	0.5nm,0.7s,baz=193,slow=5.9,SNR=3.7						
SONM	Songino Array	75.21	27	P	P	07 58 01.2	0.0
	0.3nm,0.8s,baz=210,slow=4.8,SNR=3.1						
AKASG	Malin Array Be	75.31	337	P	P	07 58 01.7	+0.1
	0.6nm,0.6s,baz=148,slow=5.4,SNR=8.3						

IGQ ***02*** *08:26:13±1.0, 1°.76S×81°.84W, h7km±9km, Mb4.4, Error ellipse: s-maj=6.2km s-min=4.3km az=11.6*

IDC ***02*** *08:26:15.1±0.8, 1°.64S×81°.65W, h0km, mb3.9/10, mb1 4.2/12, mb1mx4.1/25, mbtmp4.0/12, ML4.1/2, MS3.7/8, Ms1 3.7/8, ms1mx3.6/34, Error ellipse: s-maj=37.2km s-min=14.4km az=52.0*

ISCJB ***02*** *08:26:18.1±0.5, 1°.73S±0°.04×81°.71W±0°.04, h33km, mb4.0/12, MS3.6/6, Error ellipse: s-maj=5.5km s-min=5.2km az=39.7*

NEIC ***02*** *08:26:21.6±1.2, 1°.63S×81°.52W, h46km±12km, mb4.2/7, MD4.7(IGQ), Error ellipse: s-maj=13.1km s-min=7.9km az=73.0*

ISC 02 08:26:20.1±0.6, 1°.66S±0°.05×81°.67W±0°.07, h35km, n82, σ1912/80, mb4.1/12, MS3.6/6, 13C, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	Isla de la Pla	0.72	56	S	Sn	08 26 40.3	-3.2
ISPT	Isla de la Pla	0.72	56	P	Pn	08 26 30.6	-3.1
PECV	Mancha de Ca P	1.84	62	P	Pn	08 26 43.3	-6.0
JAMA	Jama	2.02	47	P	Pn	08 26 49.1	-2.6
ARNL	Arenillas	2.47	139	↑P	Pn	08 26 55.3	-2.5
ARNL	Arenillas	2.47	139	↑S	Sn	08 27 23.7	-3.0
MAG1	Magdalena	2.47	50	P	Pn	08 26 57.1	-0.8
IGUA	Igualata	3.04	87	P	Pn	08 27 05.3	-0.9
RIOE	Riobamba	3.04	92	S	Sn	08 27 43.9	+2.4
RIOE	Riobamba	3.04	92	P	Pn	08 27 04.2	-1.9
PAST	Pastocalle	3.18	72	P	Pn	08 27 08.8	+0.8
BMAS	Trigal station	3.19	87	↑P	Pn	08 27 07.4	-0.8
BMAS	Trigal station	3.19	87	↑S	Sn	08 27 47.8	+2.5
JUI6	Juive	3.21	86	P	Pn	08 27 08.1	-0.3
ARRY	Arrayan	3.22	87	↑P	Pn	08 27 08.6	0.0
RETU	Refugio	3.23	86	P	Pn	08 27 08.4	-0.4
PAT1	Patacocha	3.24	87	↑P	Pn	08 27 08.3	-0.5
BPAT	Tungurahua Vol	3.24	87	↑P	Pn	08 27 08.1	-0.8
BRUN	Tungurahua Vol	3.27	86	↑P	Pn	08 27 08.5	-0.7
BULB	Ulba Tungurahu	3.27	86	↑P	Pn	08 27 09.8	+0.5
ULBA	Ulba	3.27	86	P	Pn	08 27 09.0	-0.2
CAMI	Rancho Maria	3.31	73	P	Pn	08 27 10.0	+0.1
BNAS	Cotopaxi Volca	3.34	73	P	Pn	08 27 10.3	0.0
PISA	Pisayambo	3.34	80	P	Pn	08 27 10.4	+0.1
BMOR	Cotopaxi Volca	3.34	74	↑P	Pn	08 27 10.2	-0.2
NAS2	Nasa	3.36	73	P	Pn	08 27 11.6	+1.0
MOV1	Cotopaxi Vol s	3.37	74	P	Pn	08 27 11.1	+0.3
BREF	Cotopaxi Volca	3.38	73	P	Pn	08 27 12.3	+1.4
JUA2	San Juan 2	3.39	65	P	Pn	08 27 10.3	-0.6
TERV	Terraza Guagua	3.40	64	P	Pn	08 27 10.9	-0.4
BVC2	Cotopaxi Volca	3.41	73	↑P	Pn	08 27 12.6	+1.3
PINO	Pino	3.41	64	P	Pn	08 27 11.0	-0.4
GGP	Refugio Guagua	3.41	64	P	Pn	08 27 10.3	-1.0
BTAM	Cotopaxi Volca	3.42	73	↑P	Pn	08 27 12.6	+1.1
PITA	Cotopaxi Volc	3.42	71	P	Pn	08 27 12.5	+1.2
VC1	Cotopaxi 1	3.42	73	P	Pn	08 27 12.2	+0.8
TAMB	Tambo	3.44	74	P	Pn	08 27 12.5	+0.7
COV1	Cotopaxi Volc	3.47	73	P	Pn	08 27 12.0	-0.2
ANTI	Antisana	3.71	71	P	Pn	08 27 16.1	+0.6
OTAV	Otavalo	3.73	60	*e*Pn	Pn	08 27 14.1	-1.6
OTAV				*e*Sn	Sn	08 27 58.4	-0.3
OTAV	Otavalo	3.73	60	↑P	Pn	08 27 14.9	-0.7
CAYR	Refugio Cayamb	4.03	66	P	Pn	08 27 20.5	+0.6
CAYA	Cayambe	4.06	65	P	Pn	08 27 21.2	+0.9
ATAH	Atahualpa	6.34	149	Pn	Pn	08 27 52.1	+0.6
ATAH				Sn	Sn	08 29 02.4	-0.6
ATAH	Atahualpa	6.34	149	Pn	Pn	08 27 52.1	+0.6
	3.1nm,0.3s,baz=332,slow=6.7,SNR=19						
ATAH				Sn	Sn	08 29 02.4	-0.6
	2.7nm,0.3s,baz=148,slow=20,SNR=7.2						
NNA	Nana	11.32	155	*e*Pn	Pn	08 28 59.3	-0.3
	16nm,0.7s						
JTS	JuntasAbangare	12.31	345	LR	LR	08 32 38.8	
	comp=Z,327nm,19.3s,baz=258,slow=31						
SDV	Santo Domingo	15.19	46	*e*P	Pn	08 29 52.5	+0.1
	4.7nm,1.1s						
APG	El Apazote	18.71	333	LR	LR	08 36 11.1	
	comp=Z,271nm,21.7s,baz=88,slow=32						
LPAZ	La Paz	19.73	138	*e*P	P	08 30 47.7	+0.1
	5.3nm,0.7s						
LPAZ	La Paz	19.73	138	P	P	08 30 48.1	+0.6
	0.3nm,0.3s,baz=320,slow=9.9,SNR=20						
SAML	Samuel	19.77	112	*e*P	P	08 30 46.1	-1.3
	11nm,0.6s						
PTGA	Pitinga	21.72	88	*e*P	P	08 31 07.5	-1.0
	12nm,0.9s						
PTGA	Pitinga	21.72	88	P	P	08 31 08.2	-0.3
	6.4nm,0.5s,baz=270,slow=12,SNR=14						
PTGA				LR	LR	08 39 32.6	
	comp=Z,130nm,18.3s,baz=268,slow=37						
TEIG	Tepich	22.70	344	LR	LR	08 39 01.4	
	comp=Z,156nm,18.5s,baz=222,slow=34						
SIV	San Ignacio	24.80	126	P	P	08 31 39.4	+0.3
SIV	San Ignacio	24.80	126	P	P	08 31 39.4	+0.3
	4.9nm,0.7s,baz=306,slow=10,SNR=17						
SIV				LR	LR	08 42 44.7	
	comp=Z,229nm,20.0s,slow=40						
H03N2	Juan Fernandez	31.72	176	T	T	09 05 58.1	
	baz=354,slow=75,SNR=30						
H03N1	Juan Fernandez	31.72	176	T	T	09 05 58.1	
	baz=354,slow=75,SNR=38						
H03N3	Juan Fernandez	31.73	176	T	T	09 05 58.1	
	baz=354,slow=75,SNR=36						
CPUP	Villa Florida	33.90	138	LR	LR	08 48 04.3	
	comp=Z,90nm,21.7s,baz=142,slow=39						
BDFB	Brasilia	35.97	115	LR	LR	08 49 50.7	
	comp=Z,289nm,18.1s,baz=125,slow=39						
TXAR	Lajitas Array	37.32	327	P	P	08 33 30.8	+1.4
TXAR				PcP	PcP	08 35 48.6	+0.3
TXAR	Lajitas Array	37.32	327	P	P	08 33 30.8	+1.4
	0.7nm,1.0s,baz=122,slow=8.6,SNR=4.1						
TXAR				PcP	PcP	08 35 48.6	+0.3
	0.4nm,0.7s,baz=168,slow=5.5,SNR=5.2						
TXAR				LR	LR	08 47 44.3	
	comp=Z,118nm,18.9s,baz=0.0,slow=34						
ANMO	Albuquerque	43.19	330	*e*P	P	08 34 19.4	+1.4
	4.4nm,0.9s						
PDAR	Pinedale Array	50.87	334	P	P	08 35 18.1	+0.2
PDAR	Pinedale Array	50.87	334	P	P	08 35 18.1	+0.2
	0.7nm,0.9s,baz=132,slow=8.9,SNR=5.3						
NVAR	Mina Array Bea	52.25	324	P	P	08 35 29.9	+1.6
NVAR				PcP	PcP	08 36 38.9	-0.5
NVAR	Mina Array Bea	52.25	324	P	P	08 35 29.9	+1.6
	1.8nm,1.0s,baz=134,slow=6.5,SNR=8.7						
NVAR				PcP	PcP	08 36 38.9	-0.5
	0.5nm,0.7s,baz=131,slow=4.1,SNR=2.6						
ULM	Lac du Bonnet	53.13	349	P	P	08 35 33.8	-0.5
ULM	Lac du Bonnet	53.13	349	P	P	08 35 33.8	-0.5
	3.0nm,0.6s,baz=165,slow=8.3,SNR=5.2						
HLID	Hailey	53.74	331	*e*P	P	08 35 40.1	+1.0
	2.2nm,0.9s						
YKA	Yellowknife Ar	68.65	344	P	P	08 37 19.2	-0.4
YKA	Yellowknife Ar	68.65	344	P	P	08 37 19.2	-0.4
	0.5nm,0.8s,baz=138,slow=6.1,SNR=8.6						
ILAR	Eielson Array	81.17	337	P	P	08 38 31.7	-0.2
ILAR	Eielson Array	81.17	337	P	P	08 38 31.7	-0.2
	0.8nm,0.9s,baz=138,slow=3.1,SNR=6.8						
TORD	Torodi Ar. Bea	83.92	77	P	P	08 38 47.2	0.0
TORD	Torodi Ar. Bea	83.92	77	P	P	08 38 47.2	0.0
	0.3nm,0.5s,baz=290,slow=5.5,SNR=5.2						
QSPA	South Pole Qui	88.40	180	*e*P	P	08 39 08.4	0.0
	3.1nm,0.7s						
QSPA	South Pole Qui	88.40	180	P	P	08 39 08.4	0.0
	2.5nm,0.6s,baz=64,slow=2.7,SNR=20						
WRA	Warramunga Arr	138.67	237	PKP	PKPdf	08 45 42.9	-0.5
WRA	Warramunga Arr	138.67	237	PKP	PKPdf	08 45 42.9	-0.5
	0.5nm,0.6s,baz=106,slow=2.4,SNR=4.9						

ISCJB ***02*** *08:29:09.7±1.1, 15°.5S±0°.2×68°.4E±0°.2, h10km, mb3.7/6, MS3.8/1, Error ellipse: s-maj=33.4km s-min=21.7km az=162.3*

IDC ***02*** *08:29:10.3±1.4, 15°.47S×68°.44E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, MS3.9/1, Ms1 3.9/1, ms1mx3.5/31, Error ellipse: s-maj=38.5km s-min=29.7km az=6.0*

ISC 02 08:29:11.8±1.3, 15°.5S±0°.3×68°.4E±0°.2, h10km, n17, σ0870/7, mb3.8/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	8.77	27	T	T	08 41 31.2	
	baz=224,slow=78,SNR=351						
H08S2	Diego Garcia H	8.77	27	T	T	08 41 29.3	
	baz=224,slow=78,SNR=200						
H08S3	Diego Garcia H	8.79	27	T	T	08 41 38.7	
	baz=224,slow=78,SNR=374						
H08N3	Diego Garcia H	9.45	16	T	T	08 42 11.7	
	baz=200,slow=76,SNR=122						
H08N1	Diego Garcia H	9.46	16	T	T	08 42 11.7	
	baz=200,slow=76,SNR=139						
H08N2	Diego Garcia H	9.47	16	T	T	08 42 11.7	
	baz=200,slow=76,SNR=175						
OPO	Ambohidratompo	20.53	258	P	P	08 33 50.6	-0.1
	1.1nm,0.3s,baz=101,slow=12,SNR=3.0						
KMBO	Kilima Mbogo	33.91	292	LR	LR	08 45 57.0	
	comp=Z,201nm,21.4s,baz=277,slow=30						
H01W3	Cape Leeuwin H	45.20	124	T	T	09 26 18.2	
	baz=282						
H01W2	Cape Leeuwin H	45.20	124	T	T	09 26 15.4	
	baz=282						
H01W1	Cape Leeuwin H	45.21	124	T	T	09 26 17.2	
	baz=282						
WRA	Warramunga Arr	62.60	105	P	P	08 39 36.8	-0.1
	1.1nm,0.9s,baz=265,slow=6.2,SNR=6.8						
MKAR	Makanchi Array	63.26	11	P	P	08 39 39.7	-0.9
	0.1nm,0.3s,baz=201,slow=7.7,SNR=3.0						
ZALV	Zalesovo Beam	70.59	10	P	P	08 40 26.4	-0.7
	0.3nm,0.5s,baz=197,slow=4.4,SNR=2.8						
SONM	Songino Array	71.60	26	P	P	08 40 34.1	+0.6
	0.6nm,0.8s,baz=221,slow=5.7,SNR=2.8						
AKASG	Malin Array Be	74.33	335	P	P	08 40 49.4	0.0
	0.8nm,0.8s,baz=140,slow=5.1,SNR=3.3						
FINES	FINESS Array B	83.72	341	P	P	08 41 41.2	+0.6
	1.6nm,0.9s,baz=160,slow=4.4,SNR=3.0						

BJI ***02*** *08:45:22.7, 11°.77N×142°.83E, h5km, mB6.1/67, mb5.6/60, Ms6.1/78, Ms7 5.9/70*

IDC ***02*** *08:45:29.8±0.4, 12°.40N×142°.01E, h0km, mb5.3/27, mb1 5.4/27, mb1mx5.4/28, mbtmp5.3/27, MS5.7/33, Ms1 5.7/33, ms1mx5.7/34, Error ellipse: s-maj=18.2km s-min=7.7km az=77.0*

ISCJB ***02*** *08:45:31.9±0.9, 12°.48N±0°.02×142°.06E±0°.02, h12km±5km, mb5.6/279, MS5.9/228, Error ellipse: s-maj=3.5km s-min=2.8km az=165.0*

GCMT ***02*** *08:45:32.0±0.1, 12°.32N×141°.77E, h12km, MW6.0/124, Moment Tensor Solution. s108,c225; s124,c428; Duration: 28.5 Moment tensor: Scale 10^18 Nm; Mrr=1.14±.01; Mθθ 1.12±.01; Mϕϕ 0.03±.01; Mrθ 0.65±.02; Mθϕ 0.44±.01; Mϕr 0.31±.02; Best double couple: M0 1.40500×10^18 NP1:ϕ247.00000°, δ60.00000°, λ-94.00000°. NP2:ϕ75.00000°, δ30.00000°, λ-83.00000°. Principal axes: T 1.4710, Plg15.0000°, Azm340.0000°; N -0.1220, Plg3.0000°, Azm249.0000°; P -1.3400, Plg74.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***02*** *08:45:33.0±0.0, 12°.51N×141°.88E, h15km Best double couple: NP1:ϕ29.00000°, δ53.00000°, λ-125.00000°. NP2:ϕ261.00000°, δ49.00000°, λ-50.00000°. Principal axes: T 1.1600, Plg2.0000°, Azm144.0000°; N 0.3800, Plg28.0000°, Azm53.0000°; P -1.5300, Plg61.0000°, Azm239.0000°;*

NEIC ***02*** *08:45:33.0±0.1, 12°.42N×141°.95E, h8km, mb5.7/167, ME5.8, MS5.9/137, MW6.0, MW6.0, MW6.1 Error ellipse: s-maj=4.4km s-min=4.4km az=54.0, Moment Tensor Solution. s65 Moment tensor: Scale 10^18 Nm; Mrr=1.47; Mθθ 1.12; Mϕϕ 0.35; Mrθ 0.06; Mθϕ 0.34; Mϕr 0.67; Best double couple: M0 1.50000×10^18 NP1:ϕ230.00000°, δ54.00000°, λ-111.00000°. NP2:ϕ84.00000°, δ41.00000°, λ-64.00000°. Principal axes: T 1.2900, Plg6.0000°, Azm335.0000°; N 0.4100, Plg16.0000°, Azm243.0000°; P -1.6900, Plg71.0000°, Azm86.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

MOS ***02*** *08:45:35.3±1.5, 12°.47N×141°.88E, h33km, mb5.8/77, MS5.9/49 Error ellipse: s-maj=7.7km s-min=4.5km az=112.4*

NEIC ***02*** *08:45:57.9±0.0, 12°.89N×142°.40E, h10km, Moment Tensor Solution. s73 Moment tensor: Scale 10^18 Nm; Mrr-1.16; Mθθ 1.04; Mϕϕ 0.12; Mrθ 0.31; Mθϕ 0.51; Mϕr 0.09; Best double couple: M0 1.30000×10^18 NP1:ϕ249.00000°, δ52.00000°, λ-86.00000°. NP2:ϕ64.00000°, δ38.00000°, λ-93.00000°. Principal axes: T 1.3100, Plg7.0000°, Azm336.0000°; N -0.1100, Plg2.0000°, Azm66.0000°; P -1.2000, Plg82.0000°, Azm174.0000°;*

DJA ***02*** *08:46:03.9±1.5, 11°.N±8°.×14°.2E±°, h211km±11km, M5.7/54, mb5.5/54, mB6.0/43, Mw(mB)5.7/43, Mwp6.0/4*

ISC 02 08:45:35.4±0.3, 12°.42N±0°.03×142°.05E±0°.04, h24km±1km, h24km:pP-P, n1176, σ1978/1045, mb5.7/275, MS5.9/240, 175C-138D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.98	67	*e*Pn	Pn	08 46 21.3	+0.1
BAKI	Biak	14.76	204	P	P	08 49 06.9	-1.7
	780nm,2.4s,35μm						
GENI	Genyem	15.03	187	P	P	08 49 09.9	-1.7
	2μm,2.8s,54μm111μm						
SRPI	Serui, Papua	15.33	203	P	P	08 49 19.9	+5.0
MWPI	Manokwari, Pap	15.47	212	P	x	08 49 19.0	
	2μm,1.2s,37μm						
SCPH	Surigao	16.46	262	*e*P	P	08 49 30.2	+2.7
BUTP	Butuan	16.51	260	*e*P	P	08 49 29.9	+1.9
WAMI	Wamena	16.54	192	P	P	08 49 34.8	+6.5
	1μm,1.3s,22μm						
PLP	Palo	16.76	268	↓*e*P	Pn	08 49 28.5	-0.2
SWI	Sorong	17.00	220	P	P	08 49 36.2	+2.7
	317nm,1.8s,8μm						
MSLP	Maasin	17.02	264	*e*P	P	08 49 33.3	-0.4
DAV	Davao City (W)	17.08	253	↓*e*P	P	08 49 34.7	+0.3
DAV	Davao City (W)	17.08	253	*e*P	P	08 49 35.0	+0.6
OCLP	Ormoc	17.14	267	*e*P	P	08 49 40.4	+5.4
BUKP	Musuan	17.32	257	*e*P	Pn	08 49 35.5	-0.3
GAMI	Galela, Maluku	17.62	234	P	x	08 49 41.6	
	844nm,1.1s						
LLP	Lapu-Lapu	17.86	265	↓*e*P	Pn	08 49 41.8	-0.6
LLP				*e*S	S	08 53 12.1	+4.9
TBP	Tagbilaran	18.06	263	*e*P	Pn	08 49 44.8	-0.1
FAKI	Fak Fak	18.09	213	P	P	08 49 46.3	+0.8
	611nm,1.6s,17μm47μm						
CTBH	Cotabato--PC H	18.29	255	↓*i*P	Pn	08 49 48.7	+1.0
TNTI	Ternate	18.60	233	P	Pn	08 49 54.0	+2.5
	668nm,1.5s,15μm						
TNTI	Ternate	18.60	233	*e*Pn	P	08 49 51.2	0.0
	2μm,1.6s						
RCP	Roxas	18.91	269	↑*e*P	Pn	08 49 56.0	+0.7
PAGZ	Pagadian	18.93	258	*e*P	P	08 49 54.6	-0.2
GUIM	Jordan	19.16	267	*e*P	Pn	08 49 59.1	+0.9
JOW	Kunigami	19.31	320	*e*P	Pn	08 50 01.5	+1.4
	902nm,1.5s						
JOW				*e*Sn	S	08 53 40.3	+4.2
LBMI	Labuha	19.41	229	P	Pn	08 50 05.5	+4.1
	932nm,1.3s,20μm						
CVP	Callao Caves	20.22	288	↑*e*P	Pn	08 50 11.0	+0.1
MSAI	Masohi	20.38	221	P	P	08 50 09.7	-0.9
PCPH	Palayan	20.57	281	↑*e*P	P	08 50 11.7	-1.0
BNDI	Bandanaira	20.72	216	P	Pn	08 50 16.3	-0.4
	2μm,1.5s,31μm						
KMSI	Cibinong	21.44	238	P	P	08 50 23.9	+1.8
	2μm,1.0s,31μm						
SZP	Santa	21.47	286	*e*P	P	08 50 23.4	+1.1
	1μm,1.4s						
SZP				*e*S	Sn	08 54 29.9	+1.8
NLAI	Namlea	21.51	225	P	P	08 50 24.8	+2.0
	267nm,1.6s,6μm						
YOJ	Yonaguni jima	21.64	306	*e*P	P	08 50 25.1	+1.0
YOJ				*e*S	Sn	08 54 31.5	-0.6
YOJ	Yonaguni jima	21.64	306	*e*P	P	08 50 25.1	+1.0
YOJ				*e*S	Sn	08 54 31.4	-0.6
GTOI	Gorontalo	22.22	240	P	P	08 50 29.5	-1.0
PMG	Port Moresby	22.27	167	P	x	08 50 28.6	
PMG	Port Moresby	22.27	167	*e*P	P	08 50 28.3	-2.6
	459nm,1.7s						
PMG				*e*S	S	08 54 34.0	-0.9
PMG	Port Moresby	22.27	167	P	P	08 50 30.2	-0.8
	233nm,0.8s,baz=5.0,slow=8.2,SNR=30						
PMG				S	S	08 54 34.4	-0.5
	9.9nm,0.9s,baz=198,slow=20,SNR=1.8						
PMG				LR	LR	08 59 20.8	
	comp=Z,27μm,18.2s,baz=324,slow=37						
TWG	Pinlang	22.48	300	*e*P	P	08 50 33.9	+0.6
	7μm,2.6s						
YULB	Yu-li	22.53	302	*e*P	P	08 50 34.1	+0.4
	421nm,1.4s						
NACB	Ninganchiao	22.63	304	*e*P	P	08 50 35.5	+0.7
	2μm,2.8s						
SAUI	Saumlaki	22.92	208	P	P	08 50 40.6	+2.8
	1μm,1.4s,24μm						
SSLB	Suanglung	22.99	302	*e*P	P	08 50 36.4	-2.1
	564nm,1.2s						
SSLB				*e*S	S	08 54 45.9	-1.9
JNU	Nakatsue	23.00	335	*e*P	P	08 50 38.7	0.0
	1μm,2.5s						
JNU				*e*S	S	08 54 46.5	-1.4
JNU	Nakatsue	23.00	335	P	P	08 50 38.1	-0.5
	83nm,1.0s,baz=133,slow=3.6,SNR=27						
JNU				S	S	08 54 47.7	-0.2
	6.7nm,0.9s,baz=143,slow=20,SNR=1.8						
JNU				LR	LR	08 58 04.3	
	comp=Z,21μm,20.9s,baz=197,slow=33						
YHNB	Yeheng	23.04	305	*e*P	P	08 50 38.8	-0.4
	2μm,2.5s						
TPUB	Ta-pu	23.05	301	*e*P	P	08 50 38.6	-0.6
TATO	Taipei	23.10	306	*e*P	P	08 50 39.9	+0.3
	213nm,1.3s						
TATO				LR	LR		
	comp=Z,35μm,20.0s						
MRSI	Marisa	23.21	241	P	P	08 50 39.3	-1.6
LUWI	Luwuk	23.35	236	P	P	08 50 39.8	-2.5
APSI	Ampana	24.20	238	P	P	08 50 50.2	-0.2
	comp=Z,393nm,1.6s,comp=Z,10μmcomp=Z,11μm						
MJAR	Matsushiro Arr	24.27	352	P	P	08 50 49.7	-1.1
MJAR	Matsushiro Arr	24.27	352	P	P	08 50 49.7	-1.1
	comp=Z,0.6nm,0.3s,baz=52,slow=9.6,SNR=7.0						
MJAR				LR	LR	08 59 24.6	
	comp=Z,21μm,21.8s,baz=165,slow=34						
MAJO	Matsushiro	24.27	352	*e*P	P	08 50 50.6	-0.2
MAJO				pmax	pmax		
	comp=Z,153nm,1.2s						
MAJO	Matsushiro	24.27	352	*e*P	P	08 50 50.6	-0.2
	comp=Z,153nm,1.2s						
MAT	Matsushiro	24.27	352	P	P	08 50 51.7	+0.9
MAT				S	S	08 55 08.0	-0.2
MYLDM	Lahad Datu	24.35	255	P	x	08 50 52.1	
MYLDM	Lahad Datu	24.35	255	*e*P	P	08 50 52.7	+1.0
	comp=Z,1μm,1.4s						
MYLDM	Lahad Datu	24.35	255	↑P	P	08 50 52.1	+0.4
H11S3	WAKE ISLAND Hy	24.48	73	T	T	09 16 25.9	
	baz=274,SNR=48						
H11S1	WAKE ISLAND Hy	24.50	73	T	T	09 16 38.7	
	baz=274,SNR=17						
H11S2	WAKE ISLAND Hy	24.50	73	T	T	09 16 38.1	
	baz=274,SNR=22						
H11N1	WAKE ISLAND Hy	24.92	70	T	T	09 16 59.8	
	baz=258,slow=75,SNR=53						
H11N2	WAKE ISLAND Hy	24.93	70	T	T	09 17 06.8	
	baz=258,slow=75,SNR=41						
H11N3	WAKE ISLAND Hy	24.94	70	T	T	09 17 07.2	
	baz=258,slow=75,SNR=67						
TSM	Tawau	25.23	253	↓P	P	08 51 00.2	+0.4
KWAJ	Kwajalein Atol	25.37	96	PFAKE		08 51 10.0	+9.0
KWAJ				LR	LR		
	comp=Z,6μm,21.8s						
QZH	Quanzhou	25.43	303	↓*i*P	P	08 50 56.0	-5.4
QZH				S	S	08 55 14.0	-13
QZH				pmax	pmax		
	comp=Z,200nm,1.4s						
QZH				pmax	pmax		
	comp=Z,9μm,6.7s			

KAPI **Kappang** **28.13 233** *e*P P 08 51 22.1 -3.8
comp=Z,50nm,1.0s
SOEI **Soe** **28.24 220** P **P** **08 51 29.6 +2.6**
comp=Z,233nm,1.1s,comp=Z,7µm
SOEI **Soe** **28.24 220** ⇓P **P** **08 51 26.0 -1.0**
baz=27,SNR=5.6
HKC **Hong Kong Obse** **28.32 294** ⇑*i*P P 08 51 32.0 +4.5
HKC *i*S **S** **08 56 14.0 +1.2**
BKB **Balikpapan** **28.44 243** P P 08 51 40.5 +12
INCN **Inchon** **28.52 334** *e*P **P** **08 51 28.5 -0.6**
comp=Z,175nm,1.4s
INCN LR LR
comp=Z,34µm,21.0s
MMRI **Maumere** **28.73 224** P P 08 51 41.8 +11
MMRI **Maumere** **28.73 224** PFAKE 08 51 40.0 +8.8
MMRI LR LR
comp=Z,8µm,22.0s
NJ2 **Nanjing** **28.91 316** *e*P **P** **08 51 35.0 +2.3**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 LR LR
comp=Z,12µm,16.8s
NJ2 LR LR
comp=Z,22µm,21.6s
NJ2 LR LR
comp=Z,17µm,24.4s
GZH **Guangzhou** **29.27 295** P **P** **08 51 37.8 +1.9**
GZH S S 08 56 36.2 +8.5
GZH pmax pmax
comp=Z,4µm,6.5s
GZH LR LR
comp=Z,12µm,16.7s
GZH LR LR
comp=Z,22µm,17.7s
GZH LR LR
comp=Z,37µm,18.0s
KBKI **Kotabaru** **30.09 240** P P 08 51 51.5 +8.2
BTM **Bintulu** **30.09 255** ⇑P **P** **08 51 44.1 +0.7**
KNRA **Kununurra** **30.86 206** ⇓P **P** **08 51 49.3 -0.7**
baz=30,SNR=22
SBUM **Sibu** **31.16 254** P x 08 51 52.7
SBUM **Sibu** **31.16 254** *e*P **P** **08 51 51.4 -1.4**
comp=Z,63nm,1.2s
SBUM **Sibu** **31.16 254** ⇓P **P** **08 51 53.2 +0.5**
BBKI **Banjar Baru** **31.31 241** P P 08 52 04.6 +11
ASAJ **Asahikawa** **31.59 1** *e*P **P** **08 51 56.9 +0.7**
comp=Z,135nm,1.7s
ASAJ LR LR
comp=Z,11µm,21.6s
QIZ **Qiongzhong** **31.66 286** P **P** **08 51 57.1 0.0**
QIZ S **S** **08 57 04.5 -0.8**
QIZ pmax pmax
comp=Z,1µm,6.4s
QIZ LR LR
comp=Z,10µm,19.9s
QIZ LR LR
comp=Z,6µm,18.7s
QIZ LR LR
comp=Z,15µm,22.0s
QIZ **Qiongzhong** **31.66 286** *e*P **P** **08 51 58.2 +1.1**
comp=Z,105nm,1.3s
YUK **Yuzh-Kuril'sk** **31.67 5** *c i*P **P** **08 51 55.8 -1.1**
YUK *e*PPP PPP 08 53 05.1
YUK *i*S **S** **08 57 05.1 +0.2**
YUK *i*SS **SnSn** **08 58 51.3 -0.9**
YUK pmax pmax
comp=E,387nm,1.4s
YUK pmax pmax
comp=Z,863nm,1.4s
YUK pmax pmax
comp=N,108nm,0.7s
YUK MLR MLR
comp=Z,9µm,17.0s
VLA **Vladivostok** **31.83 346** ⇓*i*P **P** **08 51 56.6 -1.7**
VLA *e* 08 53 01.3
VLA 08 54 47.0
VLA S **S** **08 57 04.6 -2.8**
VLA pmax pmax
comp=Z,192nm,1.6s
DL2 **Dalian** **32.01 329** P P 08 52 04.1 +4.2
DL2 S S 08 57 19.9 +10
DL2 pmax pmax
comp=Z,130nm,1.1s
DL2 pmax pmax
comp=Z,2µm,5.9s
DL2 LR LR
comp=Z,3µm,17.2s
DL2 LR LR
comp=Z,5µm,13.7s
DL2 LR LR
comp=Z,8µm,27.3s
TARA **Tarawa** **32.51 107** PFAKE 08 52 20.0 +15
TARA LR LR
comp=Z,8µm,21.0s
CTAO **Charters Tower** **32.57 173** *e*P **P** **08 52 06.0 +1.0**
CTAO pmax pmax
comp=Z,184nm,1.1s
CTAO **Charters Tower** **32.57 173** *e*P **P** **08 52 06.0 +1.0**
comp=Z,184nm,1.1s
TIA **Tai'an** **32.63 321** P **P** **08 52 06.6 +1.1**
TIA PP **PP** **08 53 20.6 +1.1**
TIA S S 08 57 26.7 +6.5
TIA pmax pmax
comp=Z,40nm,1.4s
TIA pmax pmax
comp=Z,3µm,5.6s
TIA LR LR
comp=Z,9µm,21.4s
TIA LR LR
comp=Z,14µm,17.8s
TIA LR LR
comp=Z,14µm,20.2s
STKI **Sintang** **32.72 250** P P 08 52 13.5 +7.0
comp=Z,49nm,0.9s
USRK **Ussuriysk Arra** **32.83 347** P **P** **08 52 06.3 -0.8**
comp=Z,124nm,1.1s,baz=164,slow=7.8,SNR=37
USRK LR LR 09 04 37.6
comp=Z,12µm,18.4s,baz=154,slow=35
QIS **Mount Isa** **32.86 184** ⇑P **P** **08 52 05.7 -1.8**
baz=32,SNR=39
WRAB **Tennant Creek** **33.03 193** P **P** **08 52 06.7 -2.4**
comp=Z,1µm,1.2s,SNR=14
WRAB **Tennant Creek** **33.03 193** *e*P **P** **08 52 08.1 -1.0**
WRAB pmax pmax
comp=Z,296nm,1.2s
WRAB **Tennant Creek** **33.03 193** *e*P **P** **08 52 08.1 -1.0**
comp=Z,296nm,1.2s
WRA **Warramunga Arr** **33.05 193** P **P** **08 52 06.1 -3.1**
WRA S **S** **08 57 27.9 +1.1**
WRA **Warramunga Arr** **33.05 193** P **P** **08 52 06.1 -3.1**
comp=Z,26nm,0.6s,baz=14,slow=9.5,SNR=57
WRA S **S** **08 57 27.9 +1.1**
comp=Z,1.0nm,0.8s,baz=9.6,slow=14,SNR=3.2
WRA LR LR 09 05 36.6
comp=Z,18µm,21.2s,baz=15,slow=37
KSM **Kuching** **33.29 253** P x 08 52 10.9
KSM **Kuching** **33.29 253** *e*P **P** **08 52 09.5 -1.9**
comp=Z,60nm,1.2s
KSM *e*PcP **PcP** **08 54 53.6 +0.1**
KSM **Kuching** **33.29 253** ⇑P **P** **08 52 11.6 +0.2**
KHKI **Kahang-Kahang** **33.42 233** P x 08 52 12.5
comp=Z,124nm,1.3s,comp=Z,2µm
SNY **Shenyang** **33.44 335** ⇑P **P** **08 52 13.7 +1.3**
SNY pmax pmax
comp=Z,3µm,5.8s
SNY LR LR
comp=Z,13µm,21.6s
SNY LR LR
comp=Z,14µm,22.7s
SNY LR LR
comp=Z,26µm,22.7s
PBKI **Pangkalan Bun** **33.72 246** P P 08 52 24.7 +10
MDJ **Mudanjiang** **33.81 344** P **P** **08 52 16.0 +0.3**
MDJ pP **pP** **08 52 18.9 -4.0**
MDJ sP sP 08 52 20.6 -5.2
MDJ PP **PP** **08 53 31.8 -0.6**
MDJ S **S** **08 57 39.7 +1.5**
MDJ ScP **ScP** **08 58 39.5 +1.6**
MDJ pmax pmax
comp=Z,23nm,1.5s
MDJ pmax pmax
comp=Z,2µm,6.7s
MDJ LR LR
comp=Z,14µm,26.4s
MDJ LR LR
comp=Z,8µm,29.9s
MDJ LR LR
comp=Z,19µm,26.4s
MDJ **Mudanjiang** **33.81 344** *e*P **P** **08 52 16.8 +1.1**
comp=Z,39nm,1.2s
MDJ *e*PP **PP** **08 53 35.1 +2.7**
MDJ *e*S **S** **08 57 38.5 +0.3**
KMMI **Kalianget** **33.97 237** P **P** **08 52 20.0 +2.7**
comp=Z,89nm,1.5s,comp=Z,3µm
BYJI **Banyuwangi** **34.32 235** P x 08 52 21.0
comp=Z,703nm,1.1s,comp=Z,15µm
CN2 **Changchun** **34.39 339** *e*P **P** **08 52 21.0 +0.4**
CN2 PP **PP** **08 53 43.8 +5.0**
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,12µm,20.0s
CN2 LR LR
comp=Z,11µm,20.0s
CN2 LR LR
comp=Z,7µm,20.0s
YSS **Yuzh-Sakhalins** **34.43 1** *e*P **P** **08 52 20.0 -0.9**
YSS *e*S **S** **08 57 44.0 -3.6**
YSS 09 02 42.0
YSS smax smax
comp=N,7µm,12.0s
YSS MLR MLR
comp=N,12µm,16.0s
YSS MLR MLR
comp=Z,13µm,16.0s
YSS **Yuzh-Sakhalins** **34.43 1** *e*P **P** **08 52 22.2 +1.3**
comp=Z,134nm,1.2s
JAGI **Jajag, Banyuwa** **34.64 235** *e*P **P** **08 52 21.2 -2.0**
comp=Z,216nm,1.4s
JAGI **Jajag, Banyuwa** **34.64 235** ⇓P P 08 52 19.7 -3.4
baz=34,SNR=5.4
BLJI **Banyuglugur** **34.66 236** P **P** **08 52 25.5 +2.1**
comp=Z,174nm,1.4s,comp=Z,4µm
ENH **Enshi** **34.97 306** *e*P **P** **08 52 26.1 +0.2**
comp=Z,119nm,1.1s
GMJI **Gumukmas** **35.09 236** P **P** **08 52 25.6 -1.4**
GRJI **Gresik** **35.12 238** P P 08 52 36.0 +8.7
BJT **Baijiatuau** **35.72 325** *e*P **P** **08 52 32.2 0.0**
comp=Z,161nm,0.9s
BJT *e*S S 08 57 44.5 -23
KRKI **Karangkates** **35.83 237** P x 08 52 47.0
GYA **Guiyang** **36.04 298** ⇑*i*P **P** **08 52 35.6 +0.3**
GYA PP **PnPn** **08 53 56.8 +0.3**
GYA ScS ScS 09 02 51.0 -1.3
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,2µm,6.5s
GYA LR LR
comp=Z,11µm,19.5s
GYA LR LR
comp=Z,6µm,20.5s
GYA LR LR
comp=Z,11µm,23.3s
UWJI **Ujung Watu** **36.15 241** P P 08 52 43.0 +6.9
comp=Z,404nm,1.7s,comp=Z,5µm
NGJI **Ngawi** **36.21 239** P P 08 52 44.2 +7.5
PWJI **Pagerwojo** **36.28 237** P **P** **08 52 35.2 -2.1**
HABR **Khabarovsk** **36.41 352** *e*P **P** **08 52 38.0 0.0**
HABR *e**SP **sP** **08 52 49.3 +1.1**
HABR *e* 08 53 57.9
HABR *e* 08 54 59.3
HABR *e*S **S** **08 58 17.3 -0.8**
HABR *e**SS **sS** **08 58 31.6 +1.6**
HABR *e*SS **SnSn** **09 00 44.5 -2.5**
HABR *e* 09 02 49.3
HABR pmax pmax
comp=E,238nm,3.0s
HABR pmax pmax
comp=N,103nm,2.8s
HABR pmax pmax
comp=Z,352nm,2.8s
HABR pmax pmax
comp=Z,2µm,3.3s
HABR MLR MLR
comp=Z,6µm,19.0s
TIY **Taiyuan** **36.52 319** *e*P **P** **08 52 40.8 +1.7**
TIY S **S** **08 58 25.0 +4.8**
TIY pmax pmax
comp=Z,98nm,0.8s
TIY pmax pmax
comp=Z,4µm,5.7s
TIY LR LR
comp=Z,3µm,7.9s
TIY LR LR
comp=Z,8µm,14.6s
TIY LR LR
comp=Z,11µm,15.7s
AS01 **Alice Springs** **36.73 192** *e*P **P** **08 52 40.2 -0.8**
AS31 **Alice Springs** **36.74 193** *e*P **P** **08 52 40.7 -0.4**
ASAR **Alice Springs** **36.74 193** P **P** **08 52 39.9 -1.2**
ASAR **Alice Springs** **36.74 193** P **P** **08 52 39.9 -1.2**
baz=23,slow=12
PCJI **Pacitan** **36.90 238** P **P** **08 52 41.5 -1.0**
SMRI **Semarang** **36.90 240** P P 08 52 51.8 +9.2
SMRI **Semarang** **36.90 240** *e*pP pP 08 52 49.4 -0.5
XAN **Xi'an** **37.02 311** P **P** **08 52 44.0 +0.5**
XAN pP **pP** **08 52 48.0 -2.7**
XAN pmax pmax
comp=Z,20nm,1.2s
XAN pmax pmax
comp=Z,740nm,6.6s
XAN LR LR
comp=Z,7µm,18.8s
XAN LR LR
comp=Z,5µm,21.5s
XAN LR LR
comp=Z,5µm,21.5s
UGM **Wanagama** **37.29 239** P **P** **08 52 47.6 +1.7**
comp=Z,318nm,1.6s
UGM **Wanagama** **37.29 239** *e*P **P** **08 52 44.4 -1.5**
comp=Z,801nm,1.5s
UGM **Wanagama** **37.29 239** ⇓P **P** **08 52 44.5 -1.4**
baz=36,SNR=3.7
TPI **Tanjungpandan** **37.35 248** P **P** **08 52 46.2 -0.2**
SLVN **Son La** **37.48 289** *e*P **P** **08 52 47.6 0.0**
comp=Z,86nm,1.3s
BJII **Banjamegara** **37.67 240** P x 08 52 51.9
comp=Z,290nm,1.1s,comp=Z,6µm
KLR **Kul'dur** **37.68 349** *e*P **P** **08 52 46.5 -2.2**
KLR *e*S **S** **08 58 37.5 +0.1**
KLR *e* 09 01 13.0
KLR pmax pmax
comp=N,3µm,7.5s
KLR pmax pmax
comp=E,2µm,7.5s
KLR pmax pmax
comp=Z,6µm,7.5s
KLR smax smax
comp=N,10µm,12.5s
KLR smax smax
comp=E,6µm,12.5s
KLR MLR MLR
comp=N,9µm,12.5s
KLR MLR MLR
comp=Z,17µm,12.5s
KPJI **Karang Pucung** **38.33 241** P **P** **08 52 57.1 +2.4**
comp=Z,162nm,1.5s,comp=Z,4µm
JCJI **Jatiwangi** **38.48 243** P P 08 53 06.4 +10
EIDS **Eidsvold** **38.58 167** *e*P **P** **08 52 56.5 -0.1**
comp=Z,125nm,1.4s
EIDS **Eidsvold** **38.58 167** ⇑P **P** **08 52 57.2 +0.6**
baz=38,SNR=10
QLP **Quilpie** **38.83 177** ⇑P **P** **08 52 59.0 +0.4**
baz=38,SNR=4.1
HHC **Hu-ho-hao-te** **38.94 322** *e*P **P** **08 53 00.8 +1.2**
HHC PP **PnPn** **08 54 34.1 +2.6**
HHC ScS ScS 09 03 08.8 +0.7
HHC pmax pmax
comp=Z,7µm,6.7s
HHC LR LR
comp=Z,15µm,17.5s
HHC LR LR
comp=Z,12µm,13.9s
HHC LR LR
comp=Z,26µm,17.4s
CHAI **Chaiyaphum** **38.96 280** P **P** **08 53 00.7 +0.7**
comp=Z,26nm,1.1s,comp=Z,274nm
KTGM **Kuala Trenggan** **39.06 263** ⇑P **P** **08 53 00.9 0.0**
KMI **Kunming** **39.16 295** ⇑P **P** **08 53 03.4 +1.6**
KMI pP **pP** **08 53 04.9 -4.2**
KMI PP **PnPn** **08 54 33.5 -1.0**
KMI S **S** **08 59 01.3 +0.4**
KMI pmax pmax
comp=Z,76nm,1.1s
KMI pmax pmax
comp=Z,3µm,4.7s
KMI LR LR
comp=Z,12µm,15.5s
KMI LR LR
comp=Z,6µm,18.1s
KMI LR LR
comp=Z,11µm,25.2s
LEM **Lembang** **39.21 243** P P 08 53 10.6 +8.3
RMQ **Roma** **39.22 170** ⇓P **P** **08 53 02.5 +0.5**
baz=39,SNR=11
MYKOM **Kota Tinggi** **39.29 257** ⇑P **P** **08 53 02.9 +0.1**
DSRI **Dabo** **39.33 254** P P 08 53 11.0 +7.9
comp=Z,99nm,1.6s
CISI **Cisompet, Garu** **39.40 242** P P 08 53 09.8 +6.1
comp=Z,180nm,1.1s
CISI **Cisompet, Garu** **39.40 242** *e*P **P** **08 53 05.7 +2.0**
comp=Z,149nm,0.9s
WRKA **Warakurna** **39.58 200** ⇓P **P** **08 53 03.8 -1.2**
baz=39,SNR=57
BTO **Baotou** **39.73 321** *e*P **P** **08 53 05.4 -0.8**
KGM **Kluang** **39.73 258** ⇓P **P** **08 53 06.6 +0.1**
CD2 **Chengdu** **39.81 304** P **P** **08 53 06.4 -0.6**
CD2 pP **pP** **08 53 11.0 -3.3**
CD2 sP **sP** **08 53 13.8 -3.4**
CD2 PP **PnPn** **08 54 41.6 -0.3**
CD2 PcP **PcP** **08 55 12.5 -0.4**
CD2 ScS **ScS** **09 03 14.9 +1.4**
CD2 pmax pmax
comp=Z,320nm,0.8s
CD2 pmax pmax
comp=Z,4µm,7.1s
CD2 LR LR
comp=Z,12µm,19.0s
CD2 LR LR
comp=Z,9µm,10.7s
CD2 LR LR
comp=Z,11µm,11.9s
DBJI **Dramaga** **39.84 244** P **P** **08 53 09.8 +2.5**
comp=Z,298nm,1.7s,comp=Z,5µm
SKR **Severo-Kuril's** **39.85 14** *e*P P 08 53 02.0 -4.9
SKR *e* 08 54 42.0
SKR *e*S **S** **08 59 13.0 +3.0**
SKR *e*SS **SS** **09 02 06.0 -0.7**
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,5µm,14.0s
SKR pmax pmax
comp=E,3µm,12.0s
SKR smax smax
comp=N,19µm,18.0s
SKR smax smax
comp=E,11µm,16.0s
SKR MLR MLR
comp=Z,11µm,18.0s
SKR MLR MLR
comp=N,9µm,20.0s
SKR MLR MLR
comp=E,9µm,20.0s
PBKT **Sadao Pong** **39.94 281** P **P** **08 53 08.7 +0.6**
comp=E,139nm,1.0s,comp=E,4µm
BLSI **Bandar Lampung** **40.63 246** P P 08 53 22.8 +8.9
KLI **Kotabumi** **40.76 247** P P 08 53 23.8 +8.8
CGJI **Cibinong** **40.79 244** P P 08 53 20.5 +5.3
comp=E,244nm,0.8s
KLSI **40.81 248** P **P** **08 53 17.2 +1.9**
comp=E,195nm,1.1s,comp=E,4µm
FRIM **Kepong** **41.02 261** ⇓P **P** **08 53 17.2 0.0**
HIA **Hailar** **41.11 338** *e*P **P** **08 53 17.6 +0.2**
comp=E,27nm,0.8s
MDSI **Maura Dua** **41.22 248** P **P** **08 53 20.2 +1.4**
comp=E,94nm,2.0s,comp=E,2µm
LAMP **Lampang** **41.26 284** P **P** **08 53 19.9 +0.8**
comp=E,17nm,1.0s,comp=E,162nm
IPM **Ipoh** **41.30 263** P x 08 53 20.4
IPM **Ipoh** **41.30 263** *e*P **P** **08 53 20.1 +0.7**
comp=E,147nm,1.5s
IPM **Ipoh** **41.30 263** ⇑P **P** **08 53 19.4 0.0**
KASI **Kota Agung** **41.37 247** P P 08 53 29.0 +9.0
UTHA **Uthaitani** **41.41 279** P **P** **08 53 21.7 +1.4**
comp=E,20nm,0.9s,comp=E,212nm
KULM **Kulim** **41.48 264** P x 08 53 25.7
comp=E,85nm,0.8s,comp=E,3µm
KULM **Kulim** **41.48 264** *e*P **P** **08 53 20.6 -0.3**
comp=E,77nm,1.0s
KULM **Kulim** **41.48 264** ⇑P **P** **08 53 20.9 0.0**
LWLI **Liwa** **41.55 248** P P 08 53 30.3 +8.7
LHSI **Lahat** **41.55 250** P P 08 53 29.6 +8.1
LZH **Lanzhou** **41.66 311** ⇓P **P** **08 53 23.9 +1.6**
LZH pP **pP** **08 53 29.0 -0.7**
LZH sP **sP** **08 53 31.9 -0.7**
LZH S **S** **08 59 40.0 +2.2**
LZH pmax pmax
comp=E,270nm,1.2s
LZH pmax pmax
comp=E,1µm,5.1s
LZH LR LR
comp=E,11µm,15.8s
LZH LR LR
comp=E,14µm,15.4s
LZH LR LR
comp=E,20µm,17.0s
SRDT **SRDT** **41.77 278** P P 08 53 27.6 +4.3
comp=E,524nm,1.8s,comp=E,13µm
DZM **Mont Dzumac** **41.80 145** *e*P P 08 53 27.0 +3.5
comp=E,224nm,1.4s
DZM *e*S S 08 59 49.1 +9.2
DZM *e*LR LR 09 05 12.3
comp=E,35µm,32.2s
DZM **Mont Dzumac** **41.80 145** *e*P **P** **08 53 26.4 +2.9**
comp=E,159nm,1.4s
SRIT **Nakonsritamara** **41.88 269** P **P** **08 53 26.9 +2.7**
comp=E,81nm,1.3s
CMAI **Chiengmai2** **41.88 286** P **P** **08 53 25.2 +0.8**
comp=E,89nm,1.9s,comp=E,3µm
CM01 **Chiang Mai Arr** **41.89 284** *e*P **P** **08 53 21.7 -2.6**
CM31 **Chiang Mai Arr** **41.91 284** *e*P **P** **08 53 23.3 -1.1**
comp=E,114nm,1.0s
CMAR **Chiang Mai Arr** **41.91 284** P P **08 53 22.1 -2.3**
CMAR **Chiang Mai Arr** **41.91 284** P **P** **08 53 22.1 -2.3**
comp=E,42nm,0.9s,baz=85,slow=6.4,SNR=67
CMAR LR LR 09 09 25.2
comp=E,8µm,18.4s,baz=296,slow=34
BKNI **Bangkinang** **42.41 257** P P 08 53 35.9 +7.4
comp=E,137nm,1.4s
SDSI **Sungai Dareh** **42.45 255** P P 08 53 37.4 +8.6
PEA0 **Petropavlovsk-** **42.47 14** *e*P **P** **08 53 30.0 +1.5**
PEA0B **Petropavlovsk-** **42.47 14** *e*P **P** **08 53 29.6 +1.1**
PETK **Petropavlovsk-** **42.47 14** P **P** **08 53 28.1 -0.3**
PETK pmax pmax
comp=Z,41nm,1.0s
PETK **Petropavlovsk-** **42.47 14** P **P** **08 53 28.1 -0.3**
PETK **Petropavlovsk-** **42.47 14** P **P** **08 53 28.1 -0.3**
comp=Z,41nm,1.0s,baz=195,slow=2.4,SNR=28
PETK LR LR 09 09 07.3
comp=Z,12µm,20.8s,baz=203,slow=33
SURT **Suratani** **42.61 270** P **P** **08 53 32.9 +2.7**
comp=Z,58nm,1.1s,comp=Z,1µm
PET **Petropavlovsk** **42.62 15** ⇓*i*P **P** **08 53 31.8 +2.1**
PET *e*S **S** **08 59 49.7 -1.4**
PET pmax pmax
comp=Z,196nm,1.4s
PET pmax pmax
comp=Z,2µm,7.5s
PET **Petropavlovsk** **42.62 15** *e*P **P** **08 53 30.4 +0.8**
comp=Z,310nm,1.3s
PKDT **Phuket** **43.23 268** P P 08 53 38.4 +3.2
comp=Z,357nm,1.4s,comp=Z,4µm
PPI **Padang Panjang** **43.27 256** P **P** **08 53 36.9 +1.4**
comp=Z,159nm,1.9s,comp=Z,3µm
ARMA **Armidale** **43.58 168** *e*P **P** **08 53 38.3 +0.5**
comp=Z,148nm,1.6s
ARMA **Armidale** **43.58 168** ⇓P **P** **08 53 38.4 +0.6**
baz=43,SNR=7.8
MNSI **Mandailing Nat** **43.66 258** P **P** **08 53 38.4 -0.3**
PSI **Prapat** **43.74 261** P x 08 53 38.4
PSI **Prapat** **43.74 261** ⇓P **P** **08 53 38.3 -1.1**
baz=43,SNR=22
CMSA **Cobar Meteorol** **43.85 176** P **P** **08 53 40.1 +0.3**
baz=43,SNR=38
STKA **Stephens Creek** **44.05 181** *e*P **P** **08 53 40.8 -0.6**

comp=Z,32nm,1.3s
STKA Stephens Creek 44.05 181 P **P** **08 53 40.2 -1.2**
comp=Z,41nm,0.9s,baz=352,slow=8.3,SNR=29
STKA LR LR 09 13 13.8
comp=Z,21μm,19.3s,baz=354,slow=38
KCSI Kotacane, Aceh 44.67 262 P **P**
FORT Forrest 45.01 197 *e*P **P** **08 53 49.0 -0.1**
comp=Z,384nm,1.0s
FORT Forrest 45.01 197 ⇑P **P** **08 53 49.2 +0.1**
baz=44,SNR=16
MEEK Meekatharra 45.02 210 P **P** **08 53 48.0 -1.3**
baz=44,SNR=28
TPTI 45.31 262 P P 08 54 01.5 +10
BBOO Buckleboo 45.34 187 *e*P **P** **08 53 50.8 -0.9**
comp=Z,291nm,1.2s
BBOO LR LR
comp=Z,108μm,19.6s
BBOO Buckleboo 45.34 187 P **P** **08 53 51.5 -0.2**
baz=45,SNR=56
GSI Gunungsitoli 45.44 259 P **P** **08 53 52.9 0.0**
GSI Gunungsitoli 45.44 259 *e*P **P** **08 53 51.5 -1.4**
comp=Z,223nm,1.2s
CIT Chita 45.69 336 *e*P **P** **08 53 56.0 +1.6**
CIT *e* 08 54 06.2
CIT *e* 08 54 12.5
CIT pmax pmax
comp=Z,700nm,3.4s
HTT Hallett 45.69 184 ⇓P **P** **08 53 55.7 +1.1**
baz=45,SNR=10
ULN Ulaanbaatar 45.83 327 *e*P **P** **08 53 56.4 +0.7**
comp=Z,239nm,1.4s
GTA Gaotai 45.94 314 ⇓P **P** **08 53 55.0 -1.6**
GTA pP **pP** **08 54 05.3 +1.3**
GTA sP **sP** **08 54 09.4 +2.4**
GTA PP **PP** **08 55 44.4 -0.1**
GTA sS **sS** **09 00 53.4 +1.1**
GTA pmax pmax
comp=Z,3μm,5.7s
GTA LR LR
comp=Z,11μm,23.1s
GTA LR LR
comp=Z,9μm,22.4s
GTA LR LR
comp=Z,14μm,22.7s
SONM Songino Array 46.16 327 P **P** **08 53 57.5 -0.7**
SONM P'P'ab **P'P'ab** **09 26 31.9 +3.5**
SONM Songino Array 46.16 327 P **P** **08 53 57.5 -0.7**
comp=Z,14nm,0.6s,baz=136,slow=4.1,SNR=66
SONM LR LR 09 12 33.9
comp=Z,11μm,21.2s,baz=132,slow=35
SONM PKP2ab 09 26 31.9
comp=Z,0.4nm,0.7s,baz=299,slow=3.1,SNR=5.9
SONA1 Songino Array 46.16 327 *e*P **P** **08 53 57.1 -1.2**
CLNS Chul'man 46.25 347 *e*P **P** **08 54 00.6 +1.9**
CLNS *e**PP **pP** **08 54 08.5 +2.4**
CLNS *e* 08 55 35.5
CLNS *e* 08 55 47.3
CLNS *e*S **S** **09 00 46.9 +3.0**
CLNS *e* 09 03 52.7
CLNS pmax pmax
comp=Z,150nm,1.4s
CLNS pmax pmax
comp=N,81nm,1.3s
CLNS pmax pmax
comp=E,19nm,1.1s
CLNS pmax pmax
comp=N,30nm,0.9s
CLNS pmax pmax
comp=E,25nm,1.1s
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS smax smax
comp=N,8μm,13.0s
CLNS smax smax
comp=E,3μm,12.6s
CLNS MLR MLR
comp=Z,8μm,17.0s
CLNS MLR MLR
comp=E,4μm,14.0s
CLNS MLR MLR
comp=N,6μm,19.0s
SNSI Sinabang, Aceh 46.35 261 P P 08 54 08.2 +8.2
comp=N,232nm,1.0s
YNG Young 46.85 173 P **P** **08 54 04.8 +1.1**
baz=46,SNR=12
FX1 Attu Island--F 47.40 25 *e*P **P** **08 54 09.6 +1.9**
KMBL Kambalda 47.65 204 ⇓P **P** **08 54 09.1 -0.8**
baz=47,SNR=14
SMY Shemya 47.68 26 PFAKE 08 54 20.0 +10
SMY LR LR
comp=Z,15μm,20.9s
CMBY CAMPBELL BAY 47.69 268 *ex* P 08 54 00.7 -10
DGPR DIGLIPUR 47.85 277 *e*P **P** **08 54 09.7 -2.1**
CAN Canberra 47.93 172 *e*P **P** **08 54 13.2 +1.1**
CAN pmax pmax
comp=Z,215nm,1.5s
CAN Canberra 47.93 172 *e*P **P** **08 54 13.2 +1.1**
comp=Z,215nm,1.5s
CAN Canberra 47.93 172 ⇓P **P** **08 54 13.8 +1.8**
baz=47
CNB Canberra Magne 47.98 172 P **P** **08 54 14.4 +2.0**
baz=47,SNR=9.3
KNTN Kanton 48.34 105 PFAKE 08 54 30.0 +14
KNTN LR LR
comp=Z,6μm,19.0s
ARPS Mount Arapiles 48.93 180 P **P** **08 54 20.7 +1.1**
baz=48,SNR=19
SHL Shillong 48.94 293 *e*P **P** **08 54 18.2 -2.1**
SHL AMB AMB 08 54 24.5
comp=Z,72nm,0.9s
SHL *i* x x 09 01 20.0
ZAK Zakamensk 49.32 328 *e*P **P** **08 54 21.4 -1.3**
ZAK pmax pmax
comp=Z,240nm,1.2s
KLBR Kellerberrin 49.58 207 ⇓P **P** **08 54 23.9 -0.8**
baz=49,SNR=28
MILA Mila 49.66 173 ⇑P **P** **08 54 28.2 +2.9**
baz=49
TOO Toolangi 49.83 176 ⇓P **P** **08 54 28.1 +1.6**
baz=49,SNR=28
TLY Talaya 49.92 330 P **P** **08 54 29.3 +2.1**
comp=Z,467nm,1.4s,SNR=28
TLY Talaya 49.92 330*c* *i*P **P** **08 54 26.6 -0.6**
TLY *e* 08 56 26.1
TLY *e*S **S** **09 01 41.7 +5.7**
TLY pmax pmax
comp=Z,186nm,1.5s
TLY MLR MLR
comp=Z,4μm,16.0s
TLY Talaya 49.92 330 *e*P **P** **08 54 28.8 +1.6**
comp=Z,235nm,1.5s
IRK Irkutsk 49.96 331 *e*P **P** **08 54 28.0 +0.6**
IRK pmax pmax
comp=Z,342nm,2.6s
LSA Lhasa 50.11 298 P **P** **08 54 30.0 +0.5**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA pmax pmax
comp=Z,2μm,6.5s
LSA LR LR
comp=Z,2μm,16.7s
LSA LR LR
comp=Z,2μm,26.1s
LSA LR LR
comp=Z,6μm,26.2s
LSA Lhasa 50.11 298 *e*P **P** **08 54 29.9 +0.5**
LSA pmax pmax
comp=Z,40nm,0.7s
LSA Lhasa 50.11 298 *e*P **P** **08 54 29.9 +0.5**
comp=Z,40nm,0.7s
YAK Yakutsk 50.33 352 *e*P **P** **08 54 30.7 +0.7**
YAK *e**PP **pP** **08 54 40.9 +3.4**
YAK *e* 08 55 50.3
YAK *e* 08 56 29.5
YAK *e*PPP PPP 08 57 20.7
YAK *e*S **S** **09 01 41.3 0.0**
YAK *e* 09 04 21.4
YAK *e*SS **SS** **09 05 12.9 -2.1**
YAK pmax pmax
comp=Z,362nm,0.9s
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=N,172nm,1.1s
YAK pmax pmax
comp=Z,622nm,3.8s
YAK pmax pmax
comp=N,226nm,2.8s
YAK pmax pmax
comp=E,73nm,2.5s
YAK smax smax
comp=E,726nm,3.6s
YAK smax smax
comp=N,846nm,3.3s
YAK Yakutsk 50.33 352 *e*P **P** **08 54 28.1 -1.9**
comp=N,405nm,0.8s
SEY Seymchan 50.97 6 P **P** **08 54 34.0 -0.9**
SEY pmax pmax
comp=Z,163nm,1.1s
SEY Seymchan 50.97 6 P **P** **08 54 34.0 -0.9**
SEY Seymchan 50.97 6 P **P** **08 54 34.0 -0.9**
comp=Z,163nm,1.1s,baz=182,slow=7.1,SNR=74
SEY LR LR 09 14 56.2
comp=Z,9μm,20.2s,baz=150,slow=35
MOY Mondy 51.25 328 *e*P **P** **08 54 36.7 -0.6**
MOY pmax pmax
comp=Z,410nm,3.6s
RKGY Rocky Gully 52.48 206 ⇓P **P** **08 54 46.8 +0.3**
baz=52,SNR=7.4
AFI Afiamalu 52.71 118 LR LR 09 11 43.1
comp=Z,5μm,22.0s,baz=294,slow=30
TAPN Taplejung 52.83 295 *e*P **P** **08 54 48.8 -0.9**
comp=Z,296nm,1.2s
ODAN Odare 53.07 294 *e*P **P** **08 54 50.8 -0.6**
comp=Z,633nm,1.6s
RAMN Ramite 53.78 294 *e*P **P** **08 54 55.6 -1.1**
comp=Z,488nm,1.3s
JIRN Jiri 54.20 295 *e*P **P** **08 54 59.1 -0.7**
comp=Z,844nm,1.5s
BOK Bokaro 54.27 290 *e*P **P** **08 54 59.9 0.0**
BOK AMB AMB 08 55 06.6
comp=Z,113nm,2.1s
GUN Gumba 54.49 295 *e*P **P** **08 55 01.1 -0.9**
comp=Z,333nm,0.8s
PKI Pulchoki 54.88 295 *e*P **P** **08 55 03.2 -1.6**
comp=Z,751nm,1.6s
KKN Kakani 55.02 295 *e*P **P** **08 55 05.2 -0.4**
comp=Z,153nm,0.9s
DMN Daman 55.16 295 *e*P **P** **08 55 05.6 -1.1**
comp=Z,497nm,1.3s
TAU Tasmania Unive 55.27 175 *e*P **P** **08 55 08.3 +1.6**
TAU pmax pmax
comp=Z,180nm,1.3s
TAU Tasmania Unive 55.27 175 *e*P **P** **08 55 08.3 +1.6**
comp=Z,181nm,1.3s
GKN Gorkha 55.60 295 *e*P **P** **08 55 08.5 -1.2**
comp=Z,308nm,1.2s
WMQ Urumqi 55.98 315 P **P** **08 55 12.7 +0.6**
WMQ pP **pP** **08 55 17.3 -2.3**
WMQ sP **sP** **08 55 19.7 -2.8**
WMQ PcP **PcP** **08 56 11.5 +1.1**
WMQ PP **PP** **08 57 17.7 +0.7**
WMQ S **S** **09 02 57.5 -1.5**
WMQ ScS **ScS** **09 04 57.9 -2.1**
WMQ pmax pmax
comp=Z,240nm,1.2s
WMQ pmax pmax
comp=Z,3μm,5.9s
WMQ LR LR
comp=Z,6μm,15.4s
WMQ LR LR
comp=Z,13μm,21.0s
WMQ LR LR
comp=Z,14μm,26.2s
OUZ Omahuta 56.02 149 *e*P **P** **08 55 13.9 +1.7**
comp=Z,50nm,1.5s
DANN Dangsing 56.39 296 *e*P **P** **08 55 14.4 -1.2**
comp=Z,1μm,1.7s
KOLN Koldanda 56.50 295 *e*P **P** **08 55 14.4 -1.8**
comp=Z,226nm,0.9s
RAO Raoul Island 56.65 138 LR LR 09 16 19.8
comp=Z,6μm,19.4s,baz=316,slow=33
VIS Vishakhapatnam 56.77 283 *e*P **P** **08 55 17.0 -1.0**
PYUN Piuthan 57.06 295 *e*P **P** **08 55 18.9 -1.3**
comp=Z,586nm,1.1s
KRAR Krasnoyarsk 57.62 330 *e*P **P** **08 55 21.9 -1.5**
KRAR pmax pmax
comp=Z,5.0nm,0.6s
KIP Kipapa 57.75 72*ce*P P 08 55 29.8 +4.9
KIP pmax pmax
comp=Z,217nm,1.7s
UNV Unalaska Valle 57.80 33 *e*P **P** **08 55 25.7 +1.1**
comp=Z,77nm,0.8s
AKUT Akutan 58.31 33 PFAKE 08 55 40.0 +12
AKUT LR LR
comp=Z,7μm,21.0s
HKL Haleakala 59.41 73 *e*PKiKP **PKiKP** **09 02 48.6 +3.0**
LGTI Lohaghat 59.53 297 *e*P **P** **08 55 39.6 +2.4**
TIXI Tiksi 59.74 355 *e*P **P** **08 55 35.1 -2.7**
TIXI pmax pmax
comp=Z,144nm,1.2s
TIXI MLR MLR
comp=Z,8μm,22.0s
TIXI Tiksi 59.74 355 *e*P **P** **08 55 36.8 -1.0**
comp=Z,169nm,1.3s
FALS False Pass 59.86 33 PFAKE 08 55 50.0 +11
FALS LR LR
comp=Z,8μm,20.3s
MDRS Chennai 60.15 278 *e*P **P** **08 55 38.8 -2.8**
MDRS AMB AMB 08 55 43.2
comp=Z,83nm,8.8s
URZ Urewera 60.15 149 *e*P **P** **08 55 44.1 +3.0**
URZ *ep*P **pP** **08 55 49.2 +0.4**
MK01 Makanchi Array 60.43 317 *e*P **P** **08 55 43.0 -0.1**
MK31 Makanchi Array 60.44 317 *i* P **P** **08 55 41.4 -1.8**
MK31 pmax pmax
comp=Z,205nm,0.9s
MK31 Makanchi Array 60.44 317 *e*P **P** **08 55 42.0 -1.2**
MKAR Makanchi Array 60.44 317 P **P** **08 55 41.6 -1.6**
MKAR pmax pmax
comp=Z,175nm,1.0s
MKAR MLR MLR
comp=Z,6μm,18.8s
MKAR Makanchi Array 60.44 317 *e*P **P** **08 55 43.2 0.0**
MKAR PKKP **PKKPdf** **09 16 44.2 -2.1**
MKAR P'P' 09 24 58.5
MKAR ⇑*e* 09 25 10.7
MKAR Makanchi Array 60.44 317 P **P** **08 55 41.6 -1.6**
comp=Z,175nm,0.9s,baz=90,slow=8.5,SNR=133
MKAR PKKP **PKKPdf** **09 16 44.2 -2.1**
comp=Z,1.3nm,0.7s,baz=92,slow=9.2,SNR=18
MKAR LR LR 09 22 49.4
comp=Z,6μm,18.8s,baz=102,slow=37
MKAR PKPPKP P'P'df 09 24 58.5 -10
comp=Z,0.5nm,1.0s,baz=228,slow=4.7,SNR=3.8
MKAR PKP2bc 09 25 10.7
comp=Z,1.4nm,1.1s,baz=318,slow=1.6,SNR=5.4
BKZ Black Stump Fm 60.54 150 *e*P **P** **08 55 45.0 +1.1**
GAMB Gambell 60.55 22 *e*P **P** **08 55 44.5 +0.9**
comp=Z,60nm,1.2s
PALK Pallekele 60.56 271 PFAKE 08 55 50.0 +5.5
PALK LR LR
comp=Z,4μm,19.9s
NGP Nagpur 60.62 287 *e*P **P** **08 55 43.9 -0.9**
NGP *e*S **S** **09 04 01.0 +0.9**
NGP *e*S S 09 04 09.7 +10
XMAS Kiritimati 60.77 95 PFAKE 08 56 00.0 +14
XMAS LR LR
comp=Z,6μm,21.0s
ZAA0 Zalesovo Array 60.99 325 *e*P **P** **08 55 44.7 -2.0**
ZALV Zalesovo Beam 60.99 325 P **P** **08 55 44.7 -2.0**
ZALV pmax pmax
comp=Z,37nm,0.6s
ZALV MLR MLR
comp=Z,6μm,18.2s
ZALV pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 60.99 325 P **P** **08 55 44.7 -2.0**
ZALV ⇑*e* 09 25 07.8
ZALV Zalesovo Beam 60.99 325 P **P** **08 55 44.7 -2.0**
comp=Z,37nm,0.6s,baz=112,slow=6.8,SNR=74
ZALV LR LR 09 22 22.7
comp=Z,6μm,18.2s,baz=118,slow=36
ZALV PKP2bc 09 25 07.8
comp=Z,1.8nm,0.9s,baz=292,slow=4.7,SNR=7.5
HYB Hyderabad 61.33 283 ⇓*i*P **P** **08 55 49.0 -0.7**
HYB *ep*P pP 08 55 52.0 -5.3
HYB *e*S **S** **09 04 10.0 +0.7**
HYB Hyderabad 61.33 283 *e*P **P** **08 55 48.0 -1.7**
SNZO South Karori 61.38 152 PFAKE 08 56 00.0 +11
SNZO LR LR
comp=Z,10μm,22.0s
DDI Dehra Dun 61.47 298 *e*P **P** **08 55 49.9 -0.5**
DDI AMB AMB 08 55 56.1
comp=Z,110nm,0.6s
BFZ Birch Farm 61.59 151 *e*P **P** **08 55 53.1 +2.2**
comp=Z,442nm,1.7s
SDPT Sand Point 61.61 33 PFAKE 08 56 00.0 +9.1
SDPT LR LR
comp=Z,5μm,19.9s
KHZ Kahutara 61.76 154 PFAKE 08 56 00.0 +8.0
KHZ LR LR
comp=Z,8μm,21.0s
RPZ Rata Peaks 61.81 156 *e*P **P** **08 55 54.0 +1.6**
comp=Z,178nm,1.1s
BHPL Bhopal 62.04 290 *e*P **P** **08 55 53.9 -0.5**
NDI New Delhi 62.16 296 *e*P **P** **08 55 52.0 -3.1**
SMLA Simla 62.26 299 *e*P **P** **08 55 55.1 -0.6**
SMLA AMB AMB 08 55 57.6
comp=Z,136nm,2.1s
WHZ Wether Hill Ro 62.56 160 *e*P **P** **08 55 57.5 +0.2**
comp=Z,727nm,2.7s
WHZ *e*PP **PP** **08 58 19.1 +3.8**
ODZ Otahua Downs 62.78 158 PFAKE 08 56 10.0 +11
ODZ LR LR
comp=Z,5μm,20.0s
TNA Tin City 62.91 21 *e*P **P** **08 55 58.2 -1.1**
comp=Z,15nm,0.4s
DHRM DHARAMSHALA 63.04 300 *e*P **P** **08 55 58.5 -2.7**
DHRM AMB AMB 08 56 17.1
comp=Z,162nm,6.2s
AAA Alma-Ata 63.49 312 *i* P **P** **08 56 06.0 +2.2**
AAA *i* S S 09 04 43.3 +7.5
AAA pmax pmax
comp=Z,3μm,7.2s
AAA smax smax
comp=E,6μm,14.7s
AAA MLR MLR
comp=Z,8μm,22.0s
KURK Kurchatov 63.72 321 P **P** **08 56 02.9 -2.2**
comp=Z,2μm,1.3s,SNR=52
KURK Kurchatov 63.72 321 P **P** **08 56 03.7 -1.4**
KURK pmax pmax
comp=Z,302nm,1.0s
KURK Kurchatov 63.72 321 *e*P **P** **08 56 05.2 +0.1**
comp=Z,670nm,1.0s
KURBB Kurchatov Arra 63.76 321 P **P** **08 56 03.7 -1.6**
comp=Z,302nm,1.0s,baz=104,slow=6.2,SNR=84
KSH Kashi 63.78 308 P **P** **08 56 08.5 +2.6**
KSH PcP **PcP** **08 56 42.1 +0.4**
KSH PP **PP** **08 58 30.9 +4.7**
KSH PcS 09 00 43.1
KSH S **S** **09 04 43.8 +4.1**
KSH pmax pmax
comp=Z,19nm,1.2s
KSH pmax pmax
comp=Z,2μm,5.4s
KSH LR LR
comp=Z,3μm,13.8s
KSH LR LR
comp=Z,6μm,18.1s
KSH LR LR
comp=Z,5μm,16.8s
ULHL Ulahol 63.87 311 *i* P **P** **08 56 06.7 +0.2**
ULHL Ulahol 63.87 311 P **P** **08 56 06.8 +0.2**
SNR=71
TRD Trivandrum 64.00 273 *e*P **P** **08 56 06.7 -0.8**
TKM2 Tokmak 2 64.43 312 *e*P **P** **08 56 08.0 -2.2**
TKM2 pmax pmax
comp=Z,72nm,1.1s
TKM2 MLR MLR
comp=Z,8μm,20.0s
TKM2 Tokmak 2 64.43 312 P **P** **08 56 10.3 +0.1**
SNR=66
TKM2 Tokmak 2 64.43 312 *e*P **P** **08 56 08.0 -2.2**
comp=Z,72nm,1.1s
TKM2 ⇑*e* 09 25 03.6
TKM2 LR LR
comp=Z,8μm,20.0s
KZA Kyzart 64.59 311 *i* P **P** **08 56 11.8 +0.3**
KZA Kyzart 64.59 311 P **P** **08 56 11.8 +0.3**
SNR=115
KBK Karagaybulak 64.87 311 *i* P **P** **08 56 13.1 +0.1**
KBK Karagaybulak 64.87 311 P **P** **08 56 13.1 +0.1**
SNR=43
CHMS Chumysh 65.05 312 *i* P **P** **08 56 13.8 -0.2**
CHMS Chumysh 65.05 312 P **P** **08 56 13.9 -0.2**
SNR=59
FRU Bishkek 65.13 312 *e*P **P** **08 56 15.0 +0.5**
FRU *e*S **S** **09 05 00.0 +3.9**
FRU *e*SS **SS** **09 09 08.0 -0.6**
FRU pmax pmax
comp=Z,1μm,4.0s
FRU smax smax
comp=E,4μm,13.0s
FRU MLR MLR
comp=Z,10μm,20.5s
FRU MLR MLR
comp=E,8μm,20.0s
UCH Uchtor 65.15 311 *i* P **P** **08 56 15.2 +0.1**
UCH Uchtor 65.15 311 P **P** **08 56 15.3 +0.1**
SNR=139
AAK Ala-Archa 65.20 311 P **P** **08 56 14.3 -0.8**
comp=E,227nm,1.4s,SNR=11
AAK Ala-Archa 65.20 311 *i* P **P** **08 56 14.4 -0.8**
AAK Ala-Archa 65.20 311 P **P** **08 56 14.4 -0.8**
SNR=33
AAK Ala-Archa 65.20 311 *e*P **P** **08 56 14.3 -0.8**
AAK Ala-Archa 65.20 311 P **P** **08 56 13.3 -1.9**
comp=E,30nm,1.1s,baz=95,slow=5.5,SNR=33
USP Ospenovka 65.27 312 *i* P **P** **08 56 14.1 -1.3**
USP Ospenovka 65.27 312 P **P** **08 56 14.2 -1.3**
SNR=43
POO Poona 65.69 285 ⇓*i*P **P** **08 56 16.0 -2.6**
comp=E,214nm,1.2s
POO *e*P pP 08 56 16.4 -10
EKS2 Erkin-Say 65.73 311 *e*P **P** **08 56 18.1 -0.4**
EKS2 pmax pmax
comp=Z,46nm,1.1s
EKS2 Erkin-Say 65.73 311 P **P** **08 56 19.2 +0.6**
SNR=52
EKS2 Erkin-Say 65.73 311 *e*P **P** **08 56 18.1 -0.4**
comp=Z,46nm,1.1s
AML Almayashu 65.74 311 *i* P **P** **08 56 19.4 +0.5**
AML Almayashu 65.74 311 P **P** **08 56 19.4 +0.5**
SNR=95
OHAK Old Harbor 66.00 33 PFAKE 08 56 30.0 +10
OHAK LR LR
comp=Z,8μm,21.0s
GOA Goa 66.04 282 *e*P **P** **08 56 20.4 -0.3**
GOA Goa 66.04 282 *e*P **P** **08 56 18.8 -1.9**
GOA AMB AMB 08 56 22.9
comp=Z,70nm,5.8s
KDAK Kodiak Island 66.51 32 P **P** **08 56 25.9 +2.9**
comp=Z,278nm,0.8s,SNR=7.8
KDAK Kodiak Island 66.51 32 *e*P **P** **08 56 24.1 +1.1**
comp=Z,124nm,1.3s
RSO Reboubt South 67.12 29 *e*P **P** **08 56 27.8 +0.6**
comp=Z,146nm,1.1s
PPLA Purkeypile 68.06 27 *e*P **P** **08 56 32.4 -0.5**
comp=Z,28nm,0.7s
KK31 Karatay Array 68.16 312 *i* P **P** **08 56 32.3 -1.5**
KK31 pmax pmax
comp=Z,86nm,1.3s
KKAR Karatay Array 68.16 312 *e*P **P** **08 56 33.4 -0.4**
KKAR pmax pmax
comp=Z,69nm,1.2s
KKAR Karatay Array 68.16 312 *e*P **P** **08 56 33.4 -0.4**
comp=Z,69nm,1.2s
CAST Castle Rocks 68.25 26 *e*P **P** **08 56 35.0 +1.0**
comp=Z,50nm,0.8s
IM04 Indian Mountai 68.33 23 *e*P **P** **08 56 33.6 -0.8**
SEW Seward 68.63 30 *e*P **P** **08 56 36.6 +0.2**
comp=Z,56nm,0.9s
RC01 Rabbit Creek A 68.72 29 *e*P **P** **08 56 33.8 -3.1**
comp=Z,126nm,1.2s
KTH Kantishna Hill 68.79 26 *e*P **P** **08 56 35.6 -1.8**
comp=Z,95nm,1.0s
TRF Thorofare Moun 69.04 26 *e*P **P** **08 56 36.7 -2.4**
comp=Z,67nm,1.0s
PMR Palmer 69.11 29 PFAKE 08 56 50.0 +11
PMR LR LR
comp=Z,8μm,21.5s
KBL Kabul 69.13 302 *e*P **P** **08 56 39.5 -0.8**
KBL pmax pmax
comp=Z,67nm,1.0s
KBL Kabul 69.13 302 *e*P **P** **08 56 39.5 -0.8**
comp=Z,67nm,1.0s

BVA0 Borovoye Array 69.15 322 P **P** **08 56 38.5 -1.3**
BVA0 pmax pmax
comp=Z,406nm,1.3s
BVAR Borovoye Array 69.15 322 P **P** **08 56 37.5 -2.3**
BVAR pmax pmax
comp=Z,134nm,0.6s
BVAR Borovoye Array 69.15 322 P **P** **08 56 37.5 -2.3**
BVAR Borovoye Array 69.15 322 P **P** **08 56 37.5 -2.3**
comp=Z,134nm,0.6s,baz=101,slow=7.7,SNR=127
BHJ Bhuj 69.17 290 *e*P **P** **08 56 39.5 -1.0**
BRVK Borovoye 69.22 322 P **P** **08 56 38.8 -1.4**
comp=Z,2μm,0.8s,SNR=33
BRVK Borovoye 69.22 322 *ce*P **P** **08 56 37.9 -2.3**
BRVK pmax pmax
comp=Z,399nm,1.2s
BRVK Borovoye 69.22 322 *e*P **P** **08 56 38.5 -1.7**
comp=Z,432nm,1.1s
SML Sawmill 69.53 28 PFAKE 08 56 50.0 +8.0
SML LR LR
comp=Z,2μm,21.6s
MCK McKinley 69.69 26 *e*P **P** **08 56 40.6 -2.4**
MCK pmax pmax
comp=Z,123nm,1.4s
MCK McKinley 69.69 26 *e*P **P** **08 56 40.6 -2.4**
comp=Z,123nm,1.4s
MID Middleton Isla 70.05 31 PFAKE 08 57 00.0 +15
MID LR LR
comp=Z,5μm,20.1s
COLD Coldfoot 70.07 23 *e*P **P** **08 56 44.3 -0.9**
comp=Z,70nm,0.9s
COLA College 70.41 25 *i* P **P** **08 56 44.3 -3.0**
COLA College 70.41 25 *e*P **P** **08 56 44.4 -3.0**
comp=Z,24nm,0.7s
DIV Divide 70.61 29 *e*P **P** **08 56 48.7 0.0**
comp=Z,50nm,0.9s
IL1 Eielson Array 70.79 25 *e*P'P'df P'P'df 09 24 50.6 +0.5
ILAR Eielson Array 70.79 25 P P 08 56 45.8 -3.9
ILAR ⇑*e* 09 24 45.0
ILAR Eielson Array 70.79 25 P P 08 56 45.8 -3.9
comp=Z,18nm,0.7s,baz=250,slow=5.8,SNR=55
ILAR LR LR 09 24 40.8
comp=Z,9μm,21.3s,baz=270,slow=33
ILAR PKP2bc 09 24 45.0
comp=Z,0.6nm,1.1s,baz=69,slow=3.0,SNR=4.9
RAGM Ragged Mountai 71.03 30 PFAKE 08 57 00.0 +8.8
RAGM LR LR
comp=Z,6μm,19.8s
PAX Paxson 71.07 27 *e*P **P** **08 56 48.8 -2.6**
PAX pmax pmax
comp=Z,44nm,0.8s
PAX Paxson 71.07 27 *e*P **P** **08 56 48.8 -2.6**
comp=Z,44nm,0.8s
BMRM Bremner River 71.15 30 *e*P **P** **08 56 52.0 0.0**
comp=Z,139nm,1.2s
DOT Dot Lake 71.80 27 *e*P **P** **08 56 55.5 -0.3**
comp=Z,299nm,1.4s
DOT *e*PKiKP **PKiKP** **09 03 00.0 -0.4**
EGAK Eagle 73.22 26 *e*P **P** **08 57 05.6 +1.4**
comp=Z,62nm,1.2s
PPT Papeete 73.78 113 P **P** **08 57 06.7 -1.6**
PPT Papeete 73.78 113 P **P** **08 57 06.7 -1.6**
comp=Z,21nm,1.0s,baz=277,slow=8.1,SNR=2.5
PPT LR LR 09 27 01.2
comp=Z,2μm,18.8s,baz=110,slow=34
PPT2 Papeete2 73.78 113 *e*P **P** **08 57 11.1 +2.7**
comp=Z,126nm,1.2s
PPT2 *e*S **S** **09 06 40.9 +2.1**
comp=Z,9μm,29.8s
PPT2 *e*LQ LQ 09 16 17.0
comp=Z,8μm,31.8s
PPT2 *e*LR LR 09 19 43.2
comp=Z,14μm,30.8s,baz=300
PAE Paea 73.80 113 *e*P **P** **08 57 10.7 +2.3**
comp=Z,19nm,1.2s
DAWY Dawson 73.91 27 *e*P **P** **08 57 06.4 -2.0**
comp=Z,57nm,1.0s
TIAR Tiarei 73.98 112 *e*P **P** **08 57 12.0 +2.5**
comp=Z,38nm,0.9s
TVO Taravao 74.14 113 *e*P **P** **08 57 13.2 +2.7**
comp=Z,76nm,1.5s
PMOR Pomariorio Ree 74.51 110 *e*P **P** **08 57 14.6 +2.0**
comp=Z,157nm,1.1s
HYT Haines Junctio 74.59 30 *e*P **P** **08 57 11.6 -0.9**
comp=Z,60nm,1.0s
VAH Vaihoa 74.83 110 *e*P P 08 57 17.7 +3.3
comp=Z,97nm,1.1s
SVE Sverdlovsk 75.01 326⇑*i*P **P** **08 57 14.7 -0.1**
SVE *e*PPP PPP 09 01 42.0
SVE *e*S **S** **09 06 47.8 -3.3**
SVE *e* 09 07 30.7
SVE *e*SS **SS** **09 11 34.1 -5.6**
SVE pmax pmax
comp=Z,307nm,1.2s
SVE MLR MLR
comp=Z,8μm,23.0s
SVE MLR MLR
comp=E,7μm,22.0s
MEH Mehetia 75.24 112 *e*P **P** **08 57 19.2 +2.4**
comp=E,17nm,0.9s
AB31 Akbulak array 75.56 318 *i* P P 08 57 14.8 -3.3
AB31 pmax pmax
comp=Z,135nm,1.0s
ABKAR Akbulak array 75.56 318 *e*P **P** **08 57 15.5 -2.7**
comp=Z,116nm,1.0s
SKAG Skagway 75.65 32 PFAKE 08 57 30.0 +12
SKAG LR LR
comp=Z,3μm,21.7s
SIT Sitka 75.67 34 PFAKE 08 57 30.0 +11
SIT LR LR
comp=Z,2μm,19.5s
TBI Tubuai 75.82 118 *e*P P 08 57 23.2 +3.2
comp=Z,69nm,0.9s
TBI *e*S **S** **09 07 01.6 +0.5**
comp=Z,2μm,33.0s
TBI Tubuai 75.82 118 *e*LQ LQ 09 17 04.0
comp=Z,4μm,37.2s
TBI *e*LR LR 09 20 35.7
comp=Z,10μm,33.0s,baz=298
ARU Arti 76.16 325 P **P** **08 57 19.7 -1.7**
comp=Z,737nm,0.7s,SNR=24
ARU Arti 76.16 325*d i*P **P** **08 57 20.7 -0.7**
ARU 09 00 13.4
ARU PPP PPP 09 01 58.8
ARU S **S** **09 07 03.4 -0.5**
ARU SSS SSS 09 15 14.9
ARU pmax pmax
comp=Z,170nm,1.2s
ARU MLR MLR
comp=Z,7μm,22.0s
ARU Arti 76.16 325 *e*P **P** **08 57 19.2 -2.2**
comp=Z,235nm,1.2s
IMYA Miami 76.32 305 *e*P **P** **08 57 24.0 +1.1**
INK Inuvik 76.49 22 *e*P **P** **08 57 21.8 -1.2**
comp=Z,38nm,1.0s
AKTO Aktyubinsk 76.75 319 P **P** **08 57 21.7 -3.2**
AKTO pmax pmax
comp=Z,18nm,0.5s
AKTO Aktyubinsk 76.75 319 P **P** **08 57 21.7 -3.2**
AKTO Aktyubinsk 76.75 319 P **P** **08 57 21.7 -3.2**
comp=Z,18nm,0.5s,baz=92,slow=7.4,SNR=31
ISRO Mashad 76.83 305 *e*P **P** **08 57 27.0 +1.3**
IDAH Dahanechah 76.88 301 *e*P **P** **08 57 27.5 +1.2**
WRAK Wrangell Islan 77.33 35 *e*P **P** **08 57 28.9 +1.0**
comp=Z,46nm,1.0s
H02S1 DAWSON INLET T 77.46 38 T T 10 23 03.0
SNR=5.5
IKRD Kardeh 77.55 305 *e*P **P** **08 57 27.0 -3.0**
IKOO Kooshah 77.64 301 *e*P **P** **08 57 31.4 +0.8**
ABKT Ailbek 77.73 306 P **P** **08 57 31.3 +0.6**
comp=Z,341nm,1.0s,SNR=16
ITEG Tejag 77.80 301 *e*P **P** **08 57 32.7 +1.3**
DLBC Dease Lake 78.44 32 *e*P **P** **08 57 33.8 -0.5**
comp=Z,97nm,1.4s
IBND Bandar-abas 80.45 296 *e*P **P** **08 57 46.3 +0.6**
IBAF Bafgh 80.65 300 *e*P **P** **08 57 44.9 -2.1**
IGLO Ghaloghah 81.32 305 *e*P **P** **08 57 52.3 +1.8**
IANJ Anjilo 81.41 304 *e*P **P** **08 57 52.2 +1.2**
IKIA Kiasar 81.48 305 *e*P **P** **08 57 51.7 +0.3**
ICHK Chekchek 81.52 301 *e*P **P** **08 57 53.9 +2.2**
ISHM Shahmirzad 81.86 305 *e*P **P** **08 57 54.4 +1.0**
CASY Casey 81.87 192 PFAKE 08 58 00.0 +7.7
CASY LR LR
comp=Z,6μm,21.0s
ILAS Lasjerd 82.19 304 *e*P **P** **08 57 55.7 +0.5**
IALA Alasht 82.20 305 *e*P **P** **08 57 56.6 +1.4**
PRGR Permogore 82.21 331⇓*i*P **P** **08 57 55.1 +0.8**
PRGR pmax pmax
comp=Z,184nm,1.3s
IPAR Pars 83.08 299 *e*P **P** **08 57 59.0 -0.9**
ISRV Sarvestan 83.10 298 *e*P **P** **08 58 00.2 +0.1**
IZEF Zefreh 83.14 302 *e*P **P** **08 58 01.5 +1.3**
IVRN Varamin 83.25 304 *e*P **P** **08 58 01.3 +0.8**
IR3 Iran Long-Peri 83.73 305 *e*P **P** **08 58 03.7 +0.7**
HOPEN Hopen 84.06 348 *e*P **P** **08 58 03.9 +0.2**
HOPEN *e*PP **PP** **09 01 18.1 +0.7**
HOPEN *e*S **S** **09 08 30.4 +4.1**
HOPEN IAMs_20 IAMs_20 09 35 11.1
comp=Z,9μm,19.4s
IGZV Ghazvin 84.20 306 *e*P **P** **08 58 07.3 +1.8**
IPIR Pirpir 84.37 302 *e*P **P** **08 58 06.4 -0.1**
ALE Alert 84.55 3 P **P** **08 58 07.2 +1.1**
comp=Z,250nm,1.4s,SNR=8.6
G03D McMinnville, O 84.56 45⇑P **P** **08 58 06.2 -0.6**
baz=84
IRAZ Razeghan 84.62 305 *e*P **P** **08 58 08.8 +1.2**
SPITS Spitsbergen Ar 84.74 350 P **P** **08 58 04.3 -2.8**
SPITS Spitsbergen Ar 84.74 350 P **P** **08 58 04.3 -2.8**
comp=Z,37nm,0.9s,baz=87,slow=8.8,SNR=2.6
I03D Drain, OR 84.82 47⇑P **P** **08 58 07.5 -0.6**
baz=85
MAK Makhachkala 84.94 313*d i*P **P** **08 58 09.6 +0.9**
MAK *e* 09 01 19.8
MAK *e*PPP PPP 09 03 22.9
MAK *e*S **S** **09 08 32.4 -3.8**
MAK *e*SSS SSS 09 17 39.0
MAK pmax pmax
comp=Z,146nm,1.4s
MAK MLR MLR
comp=Z,9μm,22.0s
KBS Kingsbay 84.95 351 *e*P **P** **08 58 06.6 -1.6**
KBS *e*SKSac **SKSac** **09 08 32.3 +1.5**
KBS IAMs_20 IAMs_20 09 29 52.7
comp=Z,8μm,32.0s
KBS Kingsbay 84.95 351 PFAKE 08 58 20.0 +12
KBS LR LR
comp=Z,4μm,20.0s
F04A Amboy 84.99 44 *e*P **P** **08 58 10.3 +1.4**
comp=Z,377nm,2.0s
LVZ Lovozero 84.99 339 *e*P **P** **08 58 09.6 +1.0**
LVZ pmax pmax
comp=Z,95nm,1.1s
LVZ Lovozero 84.99 339 *e*P **P** **08 58 09.6 +1.0**
comp=Z,95nm,1.1s
D05A Enumclaw 85.00 43 *e*P **P** **08 58 09.7 +0.8**
comp=Z,134nm,1.4s
YKW3 Yellowknife Ar 85.12 27 *e*P **P** **08 58 09.3 0.0**
comp=Z,0.4nm,1.1s
KHMM Horse Mountain 85.13 49 PFAKE 08 58 20.0 +10
KHMM LR LR
comp=Z,5μm,19.6s
YKA Yellowknife Ar 85.15 27 P **P** **08 58 06.4 -3.0**
YKA PKKPbc **PKKPbc** **09 16 16.9 -0.8**
YKA Yellowknife Ar 85.15 27 P **P** **08 58 06.4 -3.0**
comp=Z,3.9nm,0.7s,baz=286,slow=5.0,SNR=45
YKA PKKPbc **PKKPbc** **09 16 16.9 -0.8**
comp=Z,0.1nm,0.6s,baz=120,slow=2.4,SNR=5.6
LON Longmire 85.22 43 *e*P **P** **08 58 11.1 +0.9**
LON pmax pmax
comp=Z,38nm,1.3s
LON Longmire 85.22 43 *e*P **P** **08 58 11.1 +0.9**
comp=Z,38nm,1.3s
HUMO Hull Mountain 85.33 48 *e*P **P** **08 58 13.2 +2.5**
comp=Z,26nm,1.0s
H04A Detroit Lake 85.42 45 *e*P **P** **08 58 11.4 +0.2**
comp=Z,54nm,1.1s
I04A Tendick Farm, 85.46 46⇑P **P** **08 58 10.8 -0.6**
baz=85
APA Apatity 85.56 339⇓*i*P **P** **08 58 12.0 +0.7**
APA *i* 09 01 28.0
APA *i* S **S** **09 08 42.0 +0.5**
APA *i* PS **PnS** **09 09 40.0 +0.6**
APA pmax pmax
comp=Z,72nm,12.0s
APA MLR MLR
comp=Z,9μm,22.0s
M02C Callahan 85.67 49⇓P **P** **08 58 11.8 -0.8**
baz=86
YBH Yreka Blue Hor 85.70 48 *e*P **P** **08 58 13.4 +0.7**
comp=Z,361nm,2.8s
J04D Umpqua Nationa 85.80 47⇑P **P** **08 58 12.6 -0.7**
baz=86
G05D Wamic, OR 85.90 45⇓P **P** **08 58 12.9 -0.7**
baz=86
HOPS Hopland 86.03 51 PFAKE 08 58 20.0 +5.7
HOPS LR LR
comp=Z,3μm,20.0s
WDC Whiskeytown Da 86.08 49 *e*P **P** **08 58 14.8 +0.3**
WDC pmax pmax
comp=Z,59nm,1.4s
WDC Whiskeytown Da 86.08 49 *e*P **P** **08 58 14.8 +0.3**
comp=Z,59nm,1.4s
I05D Terrebonne, OR 86.09 46⇑P **P** **08 58 13.8 -0.7**
baz=86
RES Resolute Bay 86.30 13 *e*P **P** **08 58 14.9 0.0**
comp=Z,48nm,0.9s
RES PKKPbc **PKKPbc** **09 16 13.5 -1.8**
RES Resolute Bay 86.30 13 PKKPbc PKKPbc 09 16 13.5 -1.8
comp=Z,0.4nm,0.3s,baz=99,slow=1.9,SNR=4.6
M04C Macdoel 86.32 48⇑P **P** **08 58 15.1 -0.8**
baz=86
BJO Bjornoya 86.37 347 *e*P **P** **08 58 16.0 +0.8**
BJO *e*SKSac **SKSac** **09 08 40.4 +0.6**
BJO IAMs_20 IAMs_20 09 38 24.3
comp=Z,6μm,18.4s
J05D Fort Rock, OR 86.41 47⇑P **P** **08 58 15.5 -0.8**
baz=86
PINOR Pine Mountain 86.54 46 *e*P **P** **08 58 18.2 +1.6**
comp=Z,21nm,0.7s
E07A Sunnyside 86.57 43 *e*P **P** **08 58 17.6 +0.8**
comp=Z,238nm,2.2s
KEV Kevo 86.77 342 *e*P **P** **08 58 16.4 -0.8**
KEV pmax pmax
comp=Z,64nm,1.0s
KEV Kevo 86.77 342 *e*p **P** **08 58 16.4 -0.8**
comp=Z,64nm,1.0s
KEV Kevo 86.77 342 *e*P **P** **08 58 17.1 -0.2**
comp=Z,92nm,1.3s
DGRG David-gareji 86.82 312 P **P** **08 58 18.5 +0.3**
HAWA Hanford 86.83 43 *e*P **P** **08 58 20.4 +2.3**
comp=Z,51nm,1.4s
VRHR Novokhopersk 86.88 322 *e*P **P** **08 58 15.6 -2.6**
VRHR *e**PP **pP** **08 58 25.4 -0.7**
VRHR *e* 09 01 42.4
VRHR *e*S **SKSac** **09 08 39.7 -4.1**
VRHR *e*SS **SS** **09 14 42.3 +5.4**
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,30nm,1.0s
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=Z,290nm,2.8s
VRHR pmax pmax
comp=N,60nm,1.4s
VRHR pmax pmax
comp=E,60nm,1.3s
VRHR smax smax
comp=N,490nm,3.0s
VRHR smax smax
comp=E,290nm,3.0s
VRHR smax smax
comp=Z,130nm,3.0s
VRHR MLR MLR
comp=N,4μm,19.0s
VRHR MLR MLR
comp=E,5μm,19.0s
VRHR MLR MLR
comp=Z,7μm,19.0s
D08A Wollman Farm, 87.07 43 *e*P **P** **08 58 20.2 +0.9**
comp=Z,314nm,2.4s
TBLG Delis 87.21 312 P **P** **08 58 19.9 -0.2**
C09A Chrisman Ranch 87.30 42 *e*P **P** **08 58 20.9 +0.6**
comp=Z,63nm,1.5s
ARA0 ARCESS Array S 87.33 342 *e*P **P** **08 58 20.9 +0.8**
ARCES **ARCESS Array B 87.33 342** P **P** **08 58 17.6 -2.5**
ARCES **ARCESS Array B 87.33 342** P **P** **08 58 17.6 -2.5**
comp=Z,12nm,0.5s,baz=79,slow=6.3,SNR=42
ARCES LR LR 09 40 51.7
comp=Z,10μm,21.5s,baz=63,slow=38
ARE0 ARCESS Array S 87.33 342 *e*P **P** **08 58 20.7 +0.6**
MOD Modoc 87.41 48 *e*P **P** **08 58 21.9 +0.8**
comp=Z,35nm,1.2s
I07A Izee 87.43 46 *e*P **P** **08 58 22.3 +1.1**
comp=Z,407nm,3.0s
G08A Pilot Rock 87.50 44 *e*P **P** **08 58 22.7 +1.2**
comp=Z,50nm,1.5s
ZEI Tsey 87.55 313 *e*P **P** **08 58 19.9 -2.0**
ZEI *e*S **SKSac** **09 08 44.7 -4.1**
ZEI pmax pmax
comp=Z,36nm,1.0s
ZEI MLR MLR
comp=Z,7μm,20.0s
ZEI MLR MLR
comp=E,6μm,19.0s
ZEI MLR MLR
comp=N,6μm,20.0s
GOF Gofitskoye 87.57 316 *e*P P 08 58 17.7 -4.0
GOF pmax pmax
comp=Z,60nm,1.1s
GNI Garni 87.59 310 *e*pP pP 08 58 32.9 +2.9
E09A Wood Farm, Sta 87.72 43 *e*P **P** **08 58 24.0 +1.6**
comp=Z,116nm,1.7s
MOS Moscow 87.79 327 *e*P **P** **08 58 21.3 -1.2**
MOS *e* 09 01 48.6
MOS *e*PPP PPP 09 03 45.1
MOS *i* 09 09 00.2
MOS *e*PS **PnS** **09 10 05.8 -0.8**
MOS *e*SS SS 09 14 52.7 +2.9
MOS *e*SSS SSS 09 18 24.3
MOS pmax pmax
comp=Z,179nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.4s
MOS MLR MLR
comp=Z,8μm,18.0s
MOS MLR MLR
comp=E,6μm,19.0s
MOS MLR MLR
comp=E,5μm,18.0s
BEKR Beckworth 87.87 50 *e*P **P** **08 58 22.3 -1.2**
comp=E,16nm,0.9s
NEW Newport 87.91 41 *e*P **P** **08 58 24.0 +0.7**
comp=E,31nm,1.3s
NEW Newport 87.91 41⇓P **P** **08 58 22.5 -0.8**
baz=88,SNR=10
ONI Oni 87.92 313 P **P** **08 58 22.6 -0.9**
KBZ Khabaz 88.02 314 P **P** **08 58 23.0 -0.8**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KBZ MLR MLR
comp=Z,5μm,19.9s
KBZ Khabaz 88.02 314 P **P** **08 58 23.0 -0.8**
KBZ Khabaz 88.02 314 P **P** **08 58 23.0 -0.8**
comp=Z,5.1nm,1.1s,baz=52,slow=0.8,SNR=5.1
KBZ LR LR 09 41 11.4
comp=Z,5μm,19.9s,baz=72,slow=38
KIV Kislovodsk 88.11 315⇑*e*P **P** **08 58 23.4 -1.0**
KIV *e* 09 01 49.6
KIV *i* S **SKSac** **09 08 50.9 -0.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,5μm,20.0s
KIV Kislovodsk 88.11 315 *e*P **P** **08 58 24.5 +0.1**
comp=Z,34nm,1.0s
JOF Joensuu 88.18 335 *e*P **P** **08 58 23.7 -0.5**
JOF pmax pmax
comp=Z,53nm,1.0s
JOF Joensuu 88.18 335 *ep* **P** **08 58 23.7 -0.5**
comp=Z,53nm,1.0s
AKH Akhalkalaki 88.20 312 P **P** **08 58 24.7 -0.3**
CMB Columbia Colle 88.30 52 *e*P **P** **08 58 25.6 +0.2**
CMB pmax pmax
comp=Z,20nm,1.0s
CMB Columbia Colle 88.30 52 *e*P **P** **08 58 25.6 +0.2**
comp=Z,20nm,1.0s
VORD Divnogorie 88.33 322 *e*P **P** **08 58 22.8 -2.3**
VORD *e**PP **pP** **08 58 30.8 -2.2**
VORD *e* 09 01 55.6
VORD *e*PPP PPP 09 03 54.7
VORD *e*S **SKSac** **09 08 51.5 -1.1**
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,30nm,1.2s
VORD pmax pmax
comp=Z,30nm,1.2s
VORD pmax pmax
comp=Z,500nm,3.4s
VORD pmax pmax
comp=N,50nm,1.3s
VORD pmax pmax
comp=E,340nm,3.2s
VORD smax smax
comp=E,340nm,3.5s
VORD smax smax
comp=Z,80nm,3.2s
VORD smax smax
comp=N,250nm,3.5s
VORD MLR MLR
comp=N,4μm,28.0s
VORD MLR MLR
comp=E,7μm,28.0s
VORD MLR MLR
comp=Z,9μm,28.0s
VSR Storozhevoye 88.33 322 *e*P **P** **08 58 23.0 -2.1**
VSR *e**PP **pP** **08 58 33.6 +0.6**
VSR *e* 09 01 50.9
VSR *e*S **SKSac** **09 08 48.6 -4.0**
VSR *e*SS **SS** **09 14 56.7 -1.3**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,40nm,0.9s
VSR pmax pmax
comp=N,40nm,1.4s
VSR pmax pmax
comp=E,40nm,1.4s
VSR pmax pmax
comp=Z,60nm,1.4s
VSR smax smax
comp=N,40nm,1.9s
VSR smax smax
comp=Z,4.0nm,0.5s
VSR smax smax
comp=E,10.0nm,0.9s
VSR MLR MLR
comp=N,1μm,13.0s
VSR MLR MLR
comp=E,590nm,13.0s
VSR MLR MLR
comp=Z,2μm,13.0s
J08A Circle Bar Ran 88.34 46 *e*P **P** **08 58 25.9 +0.3**
comp=Z,29nm,0.9s
WVOR Wild Horse Val 88.47 47 *e*P **P** **08 58 25.9 -0.3**
WVOR pmax pmax
comp=Z,407nm,2.7s
WVOR Wild Horse Val 88.47 47 *e*P **P** **08 58 25.9 -0.3**
comp=Z,407nm,2.7s
RKT Rikitea 88.48 114 *e*P **P** **08 58 28.5 +2.2**
comp=Z,60nm,1.4s
RKT Rikitea 88.48 114 *e*S **S** **09 09 09.7 -1.5**
comp=Z,926nm,24.8s
RKT *e*SS SS 09 15 15.7 +14
comp=Z,1μm,27.2s
F10A Beach Ranch, E 88.48 43 *e*P **P** **08 58 26.9 +0.8**
comp=Z,42nm,1.4s
OBN Obninsk 88.56 326⇑*i*P **P** **08 58 25.8 -0.3**
OBN *i* S **SKSac** **09 08 53.9 +0.1**
OBN *e*PS **PS** **09 10 16.7 -0.4**
OBN *i* SS **SS** **09 15 05.6 +4.5**
OBN pmax pmax
comp=Z,61nm,1.0s
OBN MLR MLR
comp=Z,6μm,17.0s
OBN Obninsk 88.56 326 *e*P **P** **08 58 26.0 -0.1**
comp=Z,210nm,1.3s
EDM Edmonton 88.70 36 *e*P **P** **08 58 27.6 +0.7**
EDM Edmonton 88.70 36 *e*P **P** **08 58 27.6 +0.7**
comp=Z,95nm,1.6s
WAKR Walker 88.91 51 *e*P **P** **08 58 28.7 +0.3**
comp=Z,21nm,1.1s
TRO Tromso 89.24 343 *e*P **P** **08 58 30.1 +1.1**
SMMC Simmler 89.28 54⇓P **P** **08 58 29.3 -0.8**
baz=89

PKM	Peak Mountain	89.53	54	⇓	P		P	08 58 31.0	-0.4
	baz=90,SNR=11								
BSMT	Bassoo Peak	89.53	41	*e*	P		P	08 58 33.6	+2.4
	comp=Z,24nm,1.4s								
MLAC	Mammoth Lakes	89.59	52	⇑	P		P	08 58 30.7	-1.0
	baz=90								
RCTC	Rector, Farmer	89.62	53	⇓	P		P	08 58 30.9	-0.7
	baz=90								
WALA	Waterton Lakes	89.71	40	*e*	P		P	08 58 34.6	+2.7
	comp=Z,25nm,1.4s								
SBC	Santa Barbara	89.73	55	⇓	P		P	08 58 31.5	-0.6
	baz=90								
NV01	Mina Array Sit	89.78	51	*e*	P		P	08 58 30.9	-1.6
NVAR	Mina Array Bea	89.78	51		P		P	08 58 31.6	-1.0
NVAR	Mina Array Bea	89.78	51		P		P	08 58 31.6	-1.0
	comp=Z,10.0nm,0.9s,baz=272,slow=4.5,SNR=40								
NVAR						LR	LR	09 33 34.6	
	comp=Z,3μm,19.4s,baz=68,slow=32								
VES	Vestal, Richgr	89.87	53	⇓	P		P	08 58 32.2	-0.5
	baz=90								
NV11	Mina Array Sit	89.90	51	*e*	P		P	08 58 33.4	+0.4
BSC	Santa Cruz Isl	89.91	55	⇓	P		P	08 58 32.4	-0.6
	baz=90								
BMN	Battle Mountai	90.04	49	*e*	P		P	08 58 33.8	+0.1
BMN						pmax	pmax		
	comp=Z,30nm,1.3s								
BMN	Battle Mountai	90.04	49	*e*	P		P	08 58 33.8	+0.1
	comp=Z,30nm,1.3s								
SWMT	Swartz Lake	90.14	41	*e*	P		P	08 58 36.1	+2.1
	comp=Z,6.8nm,1.2s								
MFID	Camas Ranch	90.18	45	*e*	P		P	08 58 33.4	-0.7
	comp=Z,41nm,1.3s								
TIN	Tinemaha	90.21	52	⇓	P		P	08 58 33.7	-0.8
	baz=90								
ARVC	Arvin	90.25	54	⇑	P		P	08 58 33.2	-1.4
	baz=90								
SOC	Sochi	90.28	315	*e*	P		P	08 58 30.6	-3.9
SOC				*e*				09 02 05.7	
SOC				*e*	S		SKSac	09 08 58.6	-5.8
SOC				*e*				09 09 31.0	
SOC				*e*				09 10 35.8	
SOC						MLR	MLR		
	comp=Z,9μm,21.0s								
BLG	Laguna Peak	90.34	55	⇓	P		P	08 58 33.7	-1.2
	baz=90								
ISA	Isabella	90.39	53	*e*	P		P	08 58 35.5	+0.2
ISA						pmax	pmax		
	comp=Z,16nm,1.9s								
ISA	Isabella	90.39	53	*e*	P		P	08 58 35.5	+0.2
	comp=Z,16nm,1.9s								
ISA	Isabella	90.39	53	⇑	P		P	08 58 34.1	-1.2
	baz=90,SNR=5.2								
MSO	Missoula	90.40	42		PFAKE			08 58 50.0	+15
MSO					LR		LR		
	comp=Z,3μm,21.0s								
MSO	Missoula	90.40	42	⇑	P		P	08 58 33.7	-1.5
	baz=90								
OSI	Osito Adit	90.47	55	*e*	P		P	08 58 36.4	+0.8
	comp=Z,16nm,1.3s								
OSI	Osito Adit	90.47	55	⇑	P		P	08 58 34.8	-0.8
	baz=90								
VNDA	Vanda	90.50	176	*e*	P		P	08 58 34.0	-0.6
	comp=Z,89nm,1.8s								
VNDA	Vanda	90.50	176		P		P	08 58 33.4	-1.3
	comp=Z,13nm,1.1s,baz=322,slow=6.0,SNR=11								
VNDA						LR	LR	09 37 31.2	
	comp=Z,4μm,21.1s,baz=347,slow=34								
SLMT	Seeley Lake	90.56	41	*e*	P		P	08 58 38.6	+2.6
KAF	Kangasniemi	90.62	335	*e*	P		P	08 58 33.8	-1.9
KAF						pmax	pmax		
	comp=Z,83nm,1.2s								
KAF	Kangasniemi	90.62	335	*e*	p		P	08 58 33.8	-1.9
	comp=Z,83nm,1.2s								
TPH	Tonopah	90.70	51	*e*	P		P	08 58 35.5	-1.3
TPH						pmax	pmax		
	comp=Z,15nm,0.9s								
TPH	Tonopah	90.70	51	*e*	P		P	08 58 35.5	-1.3
	comp=Z,15nm,0.9s								
CHMT	Chamberlain Mo	90.82	42	*e*	P		P	08 58 38.5	+1.3
DECC	Green Verdugo	90.89	55	⇑	P		P	08 58 36.8	-0.7
	baz=91								
GRAC	Grapevine Rang	90.89	52	⇑	P		P	08 58 36.6	-0.9
	baz=91								
EDW2	Edwards Air Fo	90.99	54	⇓	P		P	08 58 37.2	-0.9
	baz=91,SNR=11								
RAYN	Ar Rayn	91.00	294	*e*	P		P	08 58 36.9	-1.4
	comp=Z,32nm,1.4s								
PASC	Pasadena Art C	91.02	55	*e*	P		P	08 58 39.1	+1.0
	comp=Z,65nm,1.5s								
FIA1	FINESS Array S	91.04	334	*e*	P		P	08 58 36.0	-1.6
FINES	FINESS Array B	91.04	334		P		P	08 58 33.4	-4.2
FINES	FINESS Array B	91.04	334		P		P	08 58 33.4	-4.2
	comp=Z,22nm,0.6s,baz=70,slow=4.4,SNR=50								
FINES						LR	LR	09 42 19.4	
	comp=Z,8μm,19.4s,baz=61,slow=37								
SCI	San Clemente I	91.05	56	⇓	P		P	08 58 37.2	-1.1
	baz=91								
CIS	Catalina Islan	91.05	56	⇑	P		P	08 58 37.2	-1.1
	baz=91								
MPMC	Manual Prospec	91.06	53	⇑	P		P	08 58 37.3	-1.2
	baz=91,SNR=20								
FMP	Fort Macarthur	91.06	55	⇑	P		P	08 58 37.4	-0.9
	baz=91								
LRMC	Laurel Mountai	91.06	53	⇓	P		P	08 58 37.3	-1.1
	baz=91,SNR=7.5								
MWC	Mount Wilson	91.11	55	*e*	P		P	08 58 39.3	+0.5
MWC				*e*	*PP		pP	08 58 50.6	+3.9
MWC						pmax	pmax		
	comp=Z,35nm,1.3s								
MWC	Mount Wilson	91.11	55	*e*	P		P	08 58 39.3	+0.5
	comp=Z,43nm,1.3s								
MWC				*e*	pP		pP	08 58 50.5	+3.9
HLID	Hailey	91.11	45	*e*	P		P	08 58 38.6	0.0
	comp=Z,14nm,1.1s								
HLID	Hailey	91.11	45	⇓	P		P	08 58 37.4	-1.2
	baz=91,SNR=12								
SBA	Scott Base	91.20	175	*e*	P		P	08 58 40.3	+2.4
SBA						pmax	pmax		
	comp=Z,92nm,1.8s								
SBA	Scott Base	91.20	175	*e*	P		P	08 58 40.3	+2.4
	comp=Z,92nm,1.8s								
ELK	Elko	91.39	48	*e*	P		P	08 58 41.1	+1.1
	comp=Z,35nm,1.5s								
BFSC	Mount Baldy Ra	91.42	55	⇓	P		P	08 58 39.1	-1.1
	baz=91								
FURC	Furnace Creek,	91.43	52	⇑	P		P	08 58 39.0	-0.9
	baz=91,SNR=9.7								
ANN	Anapa	91.46	316	*e*	P		P	08 58 38.3	-1.6
ANN				*e*				09 02 14.6	
ANN				*e*	S		SKSac	09 09 07.6	-3.5
ANN				*e*				09 09 25.3	
ANN				*e*	SP		SPn	09 10 47.4	+0.5
ANN				*e*	PS		PnS	09 10 54.5	+4.2
ANN				*e*	SS		SS	09 15 41.3	-2.3
ANN						pmax	pmax		
	comp=Z,187nm,1.6s								
ANN						MLR	MLR		
	comp=Z,6μm,22.0s								
LRM	Limekiln Ridge	91.70	42	*e*	P		P	08 58 41.9	+0.5
	comp=Z,96nm,1.0s								
DLMT	Dillon	91.76	43	*e*	P		P	08 58 42.3	+0.7
	comp=Z,25nm,1.4s								
TPNV	Topopah Spring	91.76	52	*e*	P		P	08 58 42.6	+0.9
TPNV	Topopah Spring	91.76	52	*e*	P		P	08 58 42.6	+0.9
TPNV	Topopah Spring	91.76	52	⇑	P		P	08 58 40.5	-1.3
	baz=92,SNR=9.8								
RRX	Edison Barstow	91.77	54	⇑	P		P	08 58 40.6	-1.0
	baz=92								
MCMT	McKenzie Canyo	91.77	43	*e*	P		P	08 58 42.8	+1.0
	comp=Z,3.7nm,1.1s								
GSC	Goldstone	91.80	53	*e*	P		P	08 58 42.5	+0.6
GSC						pmax	pmax		
	comp=Z,20nm,1.0s								
GSC	Goldstone	91.80	53	*e*	P		P	08 58 42.5	+0.6
	comp=Z,20nm,1.0s								
GSC	Goldstone	91.80	53	⇑	P		P	08 58 40.7	-1.1
	baz=92,SNR=12								
HRY	Holter Researc	91.81	41	*e*	P		P	08 58 44.8	+3.2
	comp=Z,7.2nm,0.8s								
R11A	Troy Canyon, C	91.86	50	*e*	P		P	08 58 42.9	+0.7
	comp=Z,30nm,1.6s								
R11A	Troy Canyon, C	91.86	50	⇑	P		P	08 58 41.5	-0.7
	baz=92,SNR=10								
MURC	Murrieta	91.97	55	⇑	P		P	08 58 41.5	-1.1
	baz=92								
BBRC	Big Bear Solar	92.00	54	⇑	P		P	08 58 41.7	-1.4
	baz=92								
SHOC	Shoshone	92.04	53	⇓	P		P	08 58 41.9	-1.0
	baz=92,SNR=8.8								
109C	Camp Elliot, M	92.24	56	⇓	P		P	08 58 42.8	-1.0
	baz=92,SNR=7.7								
BOZ	Bozeman (W)	92.31	42		PFAKE			08 58 50.0	+5.9
BOZ					LR		LR		
	comp=Z,2μm,20.0s								
HEC	Hector,Ludlow	92.31	54	⇑	P		P	08 58 43.3	-1.0
	baz=92,SNR=14								
KULLO	Kullorsuaq	92.34	5	*e*	P		P	08 58 40.0	-3.4
KULLO						MLR	MLR		
	comp=Z,2μm,19.0s								
KULLO	Kullorsuaq	92.34	5	*i*	P		P	08 58 40.0	-3.4
KULLO									
	comp=Z,2μm,19.0s								
PFO	Pinyon Flat Ob	92.56	55		P		P	08 58 45.9	+0.4
	comp=Z,101nm,1.2s,SNR=5.9								
PFO	Pinyon Flat Ob	92.56	55	*e*	P		P	08 58 44.6	-0.9
	comp=Z,24nm,1.1s								
PFO	Pinyon Flat Ob	92.56	55	⇑	P		P	08 58 44.4	-1.1
	baz=92,SNR=8.7								
BAR	Barrett	92.65	56	*e*	P		P	08 58 45.0	-0.7
	comp=Z,5.1nm,1.1s								
EGMT	Eagleton	92.66	40	*e*	P		P	08 58 48.4	+2.9
EGMT	Eagleton	92.66	40	⇓	P		P	08 58 44.7	-0.9
	baz=93								
SHPR	Sheep Range	92.73	52	*e*	P		P	08 58 46.6	+0.3
	comp=Z,30nm,1.5s								
MONP	Monument Peak	92.79	56	⇓	P		P	08 58 45.4	-1.2
	baz=93,SNR=13								
BELC	Belle Mtn. Jos	92.81	54	⇑	P		P	08 58 45.6	-1.0
	baz=93								
MALT	Malatya	92.81	310	⇑	*i* P		P	08 58 47.5	+1.0
GMRC	Granite Mounta	92.85	54	⇓	P		P	08 58 45.7	-1.1
	baz=93,SNR=16								
BGU	Big Grassy Mou	92.93	47	*e*	P		P	08 58 47.7	+0.6
	comp=Z,11nm,1.7s								
A19A	Klindworth Far	92.94	39	⇑	P		P	08 58 45.8	-1.0
	baz=93,SNR=5.2								
B19A	Brinkman Farms	93.00	39	⇑	P		P	08 58 45.9	-1.1
	baz=93,SNR=5.4								
YMR	Madison River	93.09	43	*e*	P		P	08 58 49.6	+1.8
	comp=Z,27nm,1.0s								
DVTC	Desert V Tower	93.12	56	⇑	P		P	08 58 46.9	-1.1
	baz=93								
LDFC	Landfair	93.20	53	*e*	P		P	08 58 49.2	+0.8
	comp=Z,92nm,1.4s								
C19A	Slack Wire Ran	93.20	40	⇓	P		P	08 58 47.1	-1.0
	baz=93								
SPUT	South Promonto	93.22	47	*e*	P		P	08 58 49.4	+1.0
	comp=Z,57nm,1.9s								
YFT	Old Faithful	93.25	43	*e*	P		P	08 58 49.7	+1.1
	comp=Z,37nm,1.2s								
SWSC	Sam W. Stewart	93.28	55	⇑	P		P	08 58 47.8	-0.8
	baz=93								
DUG	Dugway	93.32	48	*e*	P		P	08 58 48.8	-0.1
DUG						pmax	pmax		
	comp=Z,11nm,1.1s								
DUG	Dugway	93.32	48	*e*	P		P	08 58 48.8	-0.1
	comp=Z,11nm,1.1s								
DUG	Dugway	93.32	48	⇓	P		P	08 58 47.9	-0.9
	baz=93,SNR=9.6								
BC3	Big Chuckawall	93.35	55	⇑	P		P	08 58 47.8	-1.3
	baz=93,SNR=7.6								
MICGM	Minsk	93.42	328	⇓	*e*	P	P	08 58 47.0	-1.8
IRM	Iron Mountain	93.44	54	⇑	P		P	08 58 48.4	-1.0
	baz=93,SNR=11								
H17A	Grant Village	93.44	43	*e*	P		P	08 58 51.9	+2.5
	comp=Z,38nm,1.4s								
H17A	Grant Village	93.44	43	⇓	P		P	08 58 48.2	-1.3
	baz=93								
MNK	Minsk	93.45	328	⇓	*e*	P	P	08 58 47.0	-1.9
MNK					*e*			09 09 18.0	
MNK					*e*	S	S	09 09 44.0	-12
MNK					*e*	SS	SS	09 16 20.0	+8.4
MNK						pmax	pmax		
	comp=Z,90nm,1.0s								
MNK						MLR	MLR		
	comp=E,6μm,20.0s								
MNK						MLR	MLR		
	comp=Z,10μm,20.0s								
MNK						MLR	MLR		
	comp=N,6μm,20.0s								
A20A	Cobblestone Ra	93.45	38	⇑	P		P	08 58 48.1	-1.1
	baz=93,SNR=5.5								
FLWY	Flagg Ranch	93.47	44	*e*	P		P	08 58 51.5	+1.9
	comp=N,25nm,1.1s								
D19A	Cripps Ranch,	93.53	40	⇓	P		P	08 58 48.5	-1.1
	baz=94,SNR=5.2								
MOOW	Moose Ponds	93.56	44	*e*	P		P	08 58 50.0	0.0
	comp=N,20nm,1.4s								
B20A	Solberg Farm,	93.57	39	⇑	P		P	08 58 48.8	-0.9
	baz=94								
I17A	Pilgrim Ck.	93.61	44	⇑	P		P	08 58 49.0	-1.3
	baz=94								
SIM	Simferopol'	93.62	317	*e*	P		P	08 58 51.8	+1.9
SIM				*e*				09 02 42.0	
SIM				*e*	S		S	09 09 57.6	+0.1
SIM				*e*	PS		PS	09 11 16.0	+2.4
SIM				*e*	SS		SS	09 16 22.0	+7.3
SIM						pmax	pmax		
	comp=Z,200nm,9.7s								
SIM						MLR	MLR		
	comp=N,3μm,18.4s								
REDW	Red Top Meadow	93.62	44	*e*	P		P	08 58 51.1	+0.8
	comp=N,138nm,2.8s								
ARUT	Antelope Range	93.64	50	*e*	P		P	08 58 51.0	+0.6
ARUT	Antelope Range	93.64	50	*e*	P		P	08 58 51.0	+0.6
SNOW	Snow King Moun	93.66	44	*e*	P		P	08 58 50.8	+0.3
	comp=N,130nm,2.7s								
AHID	Auburn Hatcher	93.66	45		PFAKE			08 59 00.0	+10
AHID					LR		LR		
	comp=Z,2μm,20.0s								
CCUT	Cedar City	93.77	50	*e*	P		P	08 58 51.3	+0.2
	comp=Z,124nm,3.0s								
NACGM	Naroch	93.81	328	*e*	P		P	08 58 44.0	-6.5
E19A	Rath Farm, Rou	93.85	41	⇑	P		P	08 58 49.7	-1.4
	baz=94								
C20A	Veseth Ranch,	93.86	40	⇑	P		P	08 58 49.9	-1.1
	baz=94,SNR=12								
NLU	North Lily Min	93.94	48		PFAKE			08 59 00.0	+8.2
NLU					LR		LR		
	comp=Z,4μm,21.9s								
H18A	Shoshone NF, C	93.95	43	⇑	P		P	08 58 50.5	-1.3
	baz=94								
F19A	Roth Farm, Mol	93.98	41	⇓	P		P	08 58 50.4	-1.4
	baz=94								
A21A	Bergtoll Ranch	94.02	38	⇑	P		P	08 58 50.5	-1.2
	baz=94								
TCUT	Toone Canyon	94.02	47		PFAKE			08 59 00.0	+7.8
TCUT					LR		LR		
	comp=Z,3μm,20.5s								
D20A	Manuel Ranch,	94.02	40	⇓	P		P	08 58 50.7	-1.1
	baz=94,SNR=6.7								
GLA	Glamis	94.03	55		PFAKE			08 59 00.0	+7.9
GLA					LR		LR		
	comp=Z,2μm,18.3s								
GLA	Glamis	94.03	55	⇓	P		P	08 58 50.9	-1.2
	baz=94								
Y12C	Blythe	94.06	54	⇓	P		P	08 58 51.1	-1.1
	baz=94,SNR=6.9								
W13A	Hualapai Mount	94.14	53	⇑	P		P	08 58 51.7	-1.2
	baz=94								
B21A	Ellsworth Farm	94.19	39	⇑	P		P	08 58 51.6	-0.9
	baz=94								
PDMCI	Parker Dam,Lak	94.19	54	⇑	P		P	08 58 51.7	-1.1
	baz=94								
MPU	Maple Canyon	94.24	48		PFAKE			08 59 00.0	+6.9
MPU					LR		LR		
	comp=Z,4μm,20.4s								
FFC	Flin Flon	94.25	32	*e*	P		P	08 58 53.2	+0.6
FFC						pmax	pmax		
	comp=Z,20nm,1.2s								
FFC	Flin Flon	94.25	32	*e*	P		P	08 58 53.2	+0.6
	comp=Z,18nm,1.2s								
E20A	Meyer Farm, Mu	94.26	41	⇑	P		P	08 58 51.7	-1.3
	baz=94								
MVU	Marysvale	94.32	49		PFAKE			08 59 00.0	+6.4
MVU					LR		LR		
	comp=Z,3μm,20.0s								
KNB	Kanab	94.35	51	*e*	P		P	08 58 54.1	+0.4
KNB						pmax	pmax		
	comp=Z,34nm,1.5s								
KNB	Kanab	94.35	51	*e*	P		P	08 58 54.1	+0.4
	comp=Z,34nm,1.5s								
AKASG	Malin Array Be	94.36	324	*ce*	P		P	08 58 52.4	-0.8
AKASG						pmax	pmax		
	comp=Z,7.0nm,1.1s								
AKASG	Malin Array Be	94.36	324		P		P	08 58 50.4	-2.7
AKASG	Malin Array Be	94.36	324		P		P	08 58 50.4	-2.7
	comp=Z,7.1nm,1.1s,baz=52,slow=4.4,SNR=14								
AKASG						LR	LR	09 42 48.7	
	comp=Z,13μm,21.9s,baz=60,slow=36								
AKBB	Malin Array Si	94.36	324	*e*	P		P	08 58 54.6	+1.4
AKBB	Malin Array Si	94.36	324	*e*	P		P	08 58 54.6	+1.4
DAU	Daniels Canyon	94.37	47	*e*	P		P	08 58 54.3	+0.4
DAU	Daniels Canyon	94.37	47	*e*	P		P	08 58 54.3	+0.4
AK01	Malin Array Si	94.37	324	*e*	P		P	08 58 52.8	-0.4
KIEV	Kiev	94.38	324	*e*	P		P	08 58 50.4	-2.8
KIEV	Kiev	94.38	324	*e*	P		P	08 58 51.2	-2.0
	comp=Z,26nm,1.3s								
AK02	Malin Array Si	94.39	324	*e*	P		P	08 58 52.1	-1.2
H19A	Powell	94.40	43	⇓	P		P	08 58 52.9	-0.8
	baz=94								
AK11	Malin Array Si	94.41	324	*e*	P		P	08 58 52.1	-1.3
F20A	Billings	94.52	41	⇑	P		P	08 58 53.1	-1.1
	baz=94								
NSS	Namsos	94.55	341	*e*	PP		PP	09 02 41.0	-0.1
NSS					IAMs_20		IAMs_20	09 40 18.7	
	comp=Z,10μm,27.2s								
A22A	Carney Farms,	94.62	38	⇓	P		P	08 58 53.6	-0.9
	baz=94								
I19A	Meeteetse	94.63	43	⇓	P		P	08 58 53.7	-1.2
	baz=95								
G20A	Bridger	94.70	42	⇓	P		P	08 58 54.0	-1.0
	baz=95,SNR=6.9								
BW06	Boulder Array	94.72	45	*e*	P		P	08 58 56.5	+1.1
	comp=Z,17nm,1.7s								
PDAR	Pinedale Array	94.72	45		P		P	08 58 54.0	-1.3
PDAR	Pinedale Array	94.72	45		P		P	08 58 54.0	-1.3
	comp=Z,1.3nm,1.0s,baz=222,slow=2.0,SNR=6.6								
PDAR						LR	LR	09 33 38.0	
	comp=Z,1μm,21.0s,baz=325,slow=30								
D21A	La Casta Ranch	94.75	40	⇑	P		P	08 58 54.2	-0.9
	baz=95								
TMUT	Trail Mountain	94.79	48		PFAKE			08 59 10.0	+14
TMUT					LR		LR		
	comp=Z,4μm,21.8s								
B22A	Reddig Ranch S	94.86	38	⇓	P		P	08 58 54.5	-1.2
	baz=95								
DBD	Des Bee Dove	94.87	48	*e*	PKiKP		PKiKP	09 03 39.1	+1.0
J19A	Crowheart	94.88	44	⇓	P		P	08 58 54.9	-1.1
	baz=95,SNR=13								
U15A	North Rim	94.95	51	⇓	P		P	08 58 55.3	-1.3
	baz=95,SNR=6.1								
113A	Mohawk Valley,	94.96	55	⇑	P		P	08 58 55.2	-1.1
	baz=95								
H20A	Greybull	95.12	42	⇑	P		P	08 58 55.5	-1.5
	baz=95								
C22A	Vida	95.16	39	⇓	P		P	08 58 55.6	-1.4
	baz=95								
SUMG	Summit	95.19	0	*i*	P		P	08 58 57.6	+0.5
SUMG						MLR	MLR		
	comp=Z,3μm,22.0s								
SUMG	Summit	95.19	0	*i*	P		P	08 58 57.6	+0.5
SUMG									
	comp=Z,3μm,21.0s								
SUMG	Summit	95.19	0	*e*	P		P	08 58 58.3	+1.3
	comp=Z,27nm,1.2s								
Y14A	Wickenburg	95.20	54	⇑	P		P	08 58 56.4	-1.1
	baz=95,SNR=6.3								
I20A	Worland	95.25	43	⇑	P		P	08 58 56.4	-1.1
	baz=95								
G21A	Lodge Grass	95.35	42	⇑	P		P	08 58 56.7	-1.3
	baz=95								
SRU	San Rafael	95.35	48	*e*	P		P	08 58 59.3	+1.0
SRU						pmax	pmax		
	comp=Z,76nm,2.5s								
SRU	San Rafael	95.35	48	*e*	P		P	08 58 59.2	+1.0
	comp=Z,76nm,2.5s								
LAO	LASA Array	95.39	40	*e*	P		P	08 59 00.3	+2.2
	comp=Z,244nm,2.5s								
B23A	Brockton	95.40	38	⇑	P		P	08 58 57.0	-1.0
	baz=95								
Z14A	Wintersburg	95.43	54	⇓	P		P	08 58 57.5	-0.9
	baz=95								
J20A	Shoshoni	95.50	44	⇑	P		P	08 58 57.5	-1.3
	baz=95								
C23A	Lambert	95.56	39	⇓	P		P	08 58 57.7	-1.1
	baz=96								
E22A	Miles City	95.66	40	⇑	P		P	08 58 58.3	-1.1
	baz=96								
H21A	Big Horn, Sher	95.70	42	⇓	P		P	08 58 58.5	-1.1
	baz=96								
F22A	Rosebud	95.74	41	⇓	P		P	08 58 58.5	-1.2
	baz=96								
A24A	Westby	95.79	37	⇑	P		P	08 58 58.9	-0.9
	baz=96								
FCC	Fort Churchill	95.81	26	*e*	P		P	08 58 59.0	-0.6
FCC	Fort Churchill	95.81	26	*e*	P		P	08 58 59.0	-0.6
	comp=Z,12nm,1.1s								
D23A	Lindsay	95.82	39	⇑	P		P	08 58 58.8	-1.2
	baz=96								
BRTR	Keskin Array B	95.85	313		P		P	08 58 58.2	-2.2
BRTR					PP		PP	09 02 50.3	-1.9
BRTR	Keskin Array B	95.85	313		P		P	08 58 58.2	-2.2
	comp=Z,3.2nm,1.0s,baz=83,slow=3.1,SNR=5.7								
BRTR					PP		PP	09 02 50.3	-1.9
	comp=Z,7.6nm,1.1s,baz=71,slow=8.0,SNR=6.2								
BRTR						LR	LR	09 46 55.0	
	comp=Z,3μm,21.8s,baz=47,slow=38								
I21A	Big Trails, Te	95.86	43	⇑	P		P	08 58 58.9	-1.5
	baz=96								
DGMT	Dagmar	95.87	38		PFAKE			08 59 10.0	+10
DGMT					LR		LR		
	comp=Z,5μm,22.0s								
ASF	Jabal al Asfar	95.93	305		LR		LR	09 46 36.6	
	comp=Z,1μm,21.1s,baz=8.2,slow=38				

BR231 Keskin MP Arra 96.43 313 *e*P P 08 58 59.8 -3.2
G23A Biddle 96.53 41 ⇓P P 08 59 01.7 -1.7
baz=96
J22A Midwest 96.56 43 ⇓P P 08 59 02.1 -1.5
baz=96
SCO Scoresbysund 96.56 355 *i* P P 08 59 04.6 +1.8
SCO MLR MLR
comp=Z,2μm,23.0s
SCO Scoresbysund 96.56 355 *i* P P 08 59 04.6 +1.8
SCO
comp=Z,2μm,22.0s
B25A Knox Farm, Ray 96.58 38 ⇑P P 08 59 02.1 -1.3
baz=96
O20A White River Ci 96.62 47 PFAKE 08 59 10.0 +6.0
O20A LR LR
comp=Z,2μm,20.0s
O20A White River Ci 96.62 47 ⇑P P 08 59 02.5 -1.5
baz=97
E24A Baker 96.64 40 ⇓P P 08 59 02.1 -1.6
baz=97
PV10 Paradox Valley 96.70 48 *e*P P 08 59 05.1 +0.6
comp=Z,182nm,1.0s
C25A Freed Ranch, W 96.77 38 ⇓P P 08 59 03.2 -1.1
baz=97
PV04 Paradox Valley 96.79 48 *e*P P 08 59 04.5 -0.3
PV04 *e*pP pP 08 59 16.8 +4.1
H23A Clabaugh Cattl 96.79 42 ⇑P P 08 59 03.4 -1.2
baz=97
K22A Casper 96.83 44 PFAKE 08 59 20.0 +15
K22A LR LR
comp=Z,2μm,20.0s
K22A Casper 96.83 44 ⇑P P 08 59 03.4 -1.4
baz=97
MMAI Mount Meron Ar 96.85 306 LR LR 09 47 03.6
comp=Z,3μm,21.0s,baz=55,slow=38
F24A Ekalaka 96.86 40 ⇓P P 08 59 03.4 -1.5
baz=97
A26A Wade Farm, Ken 96.96 37 ⇓P P 08 59 03.8 -1.3
baz=97
I23A Meade Ranch, G 97.00 42 ⇑P P 08 59 04.3 -1.3
baz=97
PV01 Paradox Valley 97.13 49 *e*P Pdif 08 59 07.7 +1.2
comp=Z,841nm,1.4s
NB2 NORSAR Subarra 97.14 338 P P 08 59 04.1 -1.6
comp=Z,18nm,1.2s,baz=42,slow=4.6
NB2 NORSAR Subarra 97.14 338 P P 08 59 04.1 -1.6
baz=42,slow=4.6
NOA NORSAR Array B 97.14 338 P P 08 59 01.6 -4.0
NOA PP PP 09 02 58.9 -2.3
NOA NORSAR Array B 97.14 338 P P 08 59 01.6 -4.0
comp=Z,7.3nm,1.0s,baz=59,slow=4.4,SNR=7.3
NOA PP PP 09 02 58.9 -2.3
comp=Z,12nm,1.1s,baz=47,slow=7.9,SNR=6.1
NOA LR LR 09 45 49.9
comp=Z,4μm,20.7s,baz=55,slow=37
J23A Dilts Ranch, B 97.18 43 ⇑P P 08 59 05.8 -0.6
baz=97
NBO02 NORSAR Array S 97.26 338 *e*P P 08 59 06.0 -0.2
H24A Dirks Ranch, A 97.27 41 ⇓P P 08 59 05.4 -1.3
baz=97
M22A Cedar Creek Ra 97.28 45 ⇓P P 08 59 05.6 -1.5
baz=97
MAW Mawson 97.31 202 *e*P P 08 59 05.8 -0.2
comp=Z,4.2nm,0.6s
MAW Mawson 97.31 202 P P 08 59 04.7 -1.3
comp=Z,14nm,0.9s,baz=67,slow=6.6,SNR=8.6
MAW LR LR 09 43 15.8
comp=Z,2μm,18.0s,baz=71,slow=36
K23A Bowen Ranch, D 97.40 43 ⇑P P 08 59 06.1 -1.3
baz=97
CFR Carcaliu 97.41 319 ⇑*i*P Pdif 08 59 07.5 +0.3
C26A Wahner Farm, P 97.42 38 ⇑P P 08 59 06.2 -1.1
baz=97
TUC Tucson 97.49 55 *e*P Pdif 08 59 10.3 +2.3
TUC pmax pmax
comp=Z,12nm,1.4s
TUC Tucson 97.49 55 *e*P Pdif 08 59 10.3 +2.2
comp=Z,12nm,1.4s
MVCO Mesa Verde 97.53 49 PFAKE 08 59 20.0 +12
MVCO LR LR
comp=Z,2μm,20.0s
MVCO Mesa Verde 97.53 49 ⇑P P 08 59 06.8 -1.4
baz=98
TIRR Tirgusor 97.55 319 PFAKE 08 59 20.0 +12
TIRR LR LR
comp=Z,8μm,20.0s
L23A Garrett 97.61 44 ⇑P P 08 59 07.0 -1.5
baz=98
N22A Wattenberg Ran 97.62 45 ⇑P P 08 59 07.4 -1.2
baz=98
B27A Peters Farms, 97.64 37 ⇓P P 08 59 07.1 -1.1
baz=98
LVV L'vov 97.73 325 *e*P P 08 59 06.3 -2.2
LVV *e* 09 03 09.9
LVV *e* 09 09 40.4
LVV *e*S S 09 10 25.9 -6.9
LVV *e*PS PS 09 12 01.5 +3.2
LVV MLR MLR
comp=E,8μm,20.0s
LVV MLR MLR
comp=N,4μm,21.0s
LVV MLR MLR
comp=Z,8μm,21.0s
CSS Prodhromos 97.80 308 PFAKE 08 59 20.0 +11
CSS LR LR
comp=Z,4μm,22.0s
O22A Kremmling 97.81 46 ⇓P P 08 59 07.9 -1.6
baz=98
E26A Carlson Angus 97.82 39 ⇑P P 08 59 07.9 -1.2
baz=98
RSSD Black Hills 97.87 42 *e*P Pdif 08 59 12.1 +2.5
RSSD pmax pmax
comp=Z,4.0nm,1.3s
RSSD Black Hills 97.87 42 *e*P Pdif 08 59 12.1 +2.4
comp=Z,4.1nm,1.3s
P22A Eagle 97.88 47 ⇓P P 08 59 08.4 -1.3
baz=98
SMCO Snowmass 97.89 47 *e*P Pdif 08 59 14.1 +4.0
comp=Z,104nm,3.0s
H25A Fruitdale 97.93 41 ⇑P P 08 59 08.5 -1.1
baz=98
N23A Red Feather La 97.94 45 ⇑P P 08 59 08.7 -1.3
baz=98
A28A Rude Farm, Bot 97.98 36 ⇑P P 08 59 08.6 -1.2
baz=98
VRI Vrincioaia 98.00 320 ⇑*i*P Pdif 08 59 14.9 +5.0
BUR08 Bucovina Ar. S 98.10 322 *e*P P 08 59 10.1 -0.3
BURAR Bucovina Array 98.11 322 ⇑*i*P Pdif 08 59 10.6 +0.1
BUR04 Bucovina Ar. S 98.11 322 *e*P Pdif 08 59 10.6 +0.2
I25A Rochford 98.11 42 ⇓P P 08 59 09.6 -1.1
baz=98
O23A Lake Granby, G 98.23 46 ⇓P P 08 59 10.0 -1.4
baz=98
EIL Elat 98.32 303 LR LR 09 48 17.9
comp=Z,3μm,21.6s,baz=59,slow=38
J25A Sunshine Ranch 98.34 42 ⇓P P 08 59 10.6 -1.0
baz=98
F27A Lemmon 98.37 39 ⇓P P 08 59 10.3 -1.2
baz=98
E27A Carson 98.39 39 ⇓P P 08 59 10.5 -1.1
baz=98
ABPO Ambohimpanom 98.45 252 *e*P P 08 59 10.9 -1.7
ABPO pmax pmax
comp=Z,14nm,1.0s
ABPO Ambohimpanom 98.45 252 *e*P P 08 59 10.9 -1.7
comp=Z,14nm,1.0s
M24A Cheyenne 98.47 44 ⇑P P 08 59 11.4 -0.9
baz=98
A29A Manning Farm, 98.56 36 ⇓P P 08 59 11.6 -0.7
baz=98
KWP Kalwaria Pacla 98.56 325 PFAKE 08 59 20.0 +7.7
KWP LR LR
comp=Z,12μm,21.0s
ISCO Idaho Springs 98.61 46 PFAKE 08 59 20.0 +6.8
ISCO LR LR
comp=Z,4μm,21.0s
P23A Jefferson 98.62 47 ⇑P P 08 59 11.4 -1.8
baz=99
G27A Dupree 98.65 40 ⇓P P 08 59 11.7 -1.1
baz=99
MLR Muntele Rosu 98.66 320 LR LR 09 49 01.1
comp=Z,1μm,20.7s,baz=54,slow=39
I26A New Underwood 98.67 41 ⇓P P 08 59 11.7 -1.3
baz=99
KONO Kongsberg 98.67 338 *e*P P 08 59 10.5 -2.0
KONO *e* 09 02 52.4
KONO *i* 09 12 08.1
KONO *e*SS SS 09 17 27.3 +2.3
KONO IAMs_20 IAMs_20 09 46 57.4
comp=Z,7μm,22.5s
KONO Kongsberg 98.67 338 PFAKE 08 59 20.0 +7.5
KONO LR LR
comp=Z,6μm,22.0s
N24A Carr 98.70 45 ⇑P P 08 59 11.7 -1.6
baz=99
B29A Wagenman Farm, 98.72 36 ⇓P P 08 59 11.7 -1.3
baz=99
ISP Isparta 98.82 312 *e*PP PP 09 03 15.7 +0.6
J26A Sides Ranch, S 98.85 42 ⇑P P 08 59 12.6 -1.2
baz=99
E28A Huff 98.85 38 ⇑P P 08 59 12.3 -1.4
baz=99
FOO Floro 98.86 341 *e* PP 09 03 22.7 +8.5
FOO IAMs_20 IAMs_20 09 43 13.5
comp=Z,3μm,29.1s
O24A Longmont 98.86 46 ⇓P P 08 59 12.6 -1.5
baz=99
MDND Maddock 98.88 37 PFAKE 08 59 20.0 +6.2
MDND LR LR
comp=Z,6μm,21.5s
MDND Maddock 98.88 37 ⇑P P 08 59 12.2 -1.6
baz=99
H27A Howes 98.90 41 ⇑P P 08 59 12.4 -1.6
baz=99
319A Douglas 99.02 55 ⇑P Pdif 08 59 13.3 -1.5
baz=99
U22A Llaves 99.06 50 ⇓P Pdif 08 59 13.4 -1.7
baz=99
A30A Hoffart Farm, 99.09 35 ⇑P Pdif 08 59 12.9 -1.7
baz=99
F28A McLaughlin 99.13 39 ⇑P Pdif 08 59 13.5 -1.5
baz=99
KOLS Kolonicke sedl 99.17 325 *i* P Pdif 08 59 15.2 +0.2
KOLS Kolonicke sedl 99.17 325 PDIF Pdif 08 59 15.2 +0.2
I27A Quinn 99.17 41 ⇓P Pdif 08 59 14.0 -1.2
baz=99
V22A San Miguel Ran 99.20 50 ⇑P Pdif 08 59 14.0 -1.8
baz=99
UZH Uzhgorod 99.31 324 *e*P Pdif 08 59 13.9 -1.7
UZH *e* 08 59 23.7
UZH *e* 08 59 32.7
UZH *e* 09 03 16.9
UZH *e* 09 05 21.7
UZH *e*S S 09 10 39.9 -6.3
UZH *e* 09 12 18.9
UZH *e* 09 21 22.7
UZH MLR MLR
comp=N,2μm,22.0s
UZH MLR MLR
comp=E,700nm,22.0s
UZH MLR MLR
comp=Z,1μm,22.0s
STHS Stebnicka Huta 99.49 325 *i* P Pdif 08 59 19.0 +2.5
STHS Stebnicka Huta 99.49 325 *e* Pdif 08 59 19.0 +2.5
SDCO Great Sand Dun 99.52 48 PFAKE 08 59 30.0 +13
SDCO LR LR
comp=Z,3μm,21.0s
O25A Wiggins 99.53 45 ⇑P Pdif 08 59 15.7 -1.3
baz=100
ARR Arges 99.53 321 ⇓*i*P Pdif 08 59 17.7 +0.9
U23A El Rito 99.57 50 ⇓P Pdif 08 59 15.6 -1.8
baz=100
C30A Mose, Pekin 99.61 37 ⇑P Pdif 08 59 15.7 -1.4
baz=100
M26A McRoberts Ranc 99.61 44 ⇓P Pdif 08 59 15.9 -1.5
baz=100
320A Kipp Ranch, An 99.63 55 ⇑P Pdif 08 59 16.1 -1.6
baz=100
CRVS Cervenica-Dubn 99.64 325 *i* P Pdif 08 59 17.9 +0.8
CRVS *e* 09 03 20.4
CRVS Cervenica-Dubn 99.64 325 PDIF Pdif 08 59 17.9 +0.8
CRVS *e*PP PP 09 03 20.4 -0.3
BER Bergen 99.66 340 *e* 09 03 12.7
BER *e*SS SS 09 17 47.1 +8.4
BER IAMs_20 IAMs_20 09 45 09.0
comp=Z,8μm,23.4s
ULM Lac du Bonnet 99.74 34 LR LR 09 42 02.9
comp=Z,4μm,21.4s,baz=315,slow=34
S24A Houchin Ranch, 99.77 48 ⇑P Pdif 08 59 16.7 -1.6
baz=100
121A Cookes Peak, D 99.79 54 ⇓P Pdif 08 59 16.9 -1.5
baz=100
V23A Ortiz Mt. (NFS 99.81 50 ⇓P Pdif 08 59 16.9 -1.6
baz=100
OJC Ojcow 99.85 327 *e*P Pdif 08 59 26.0 +8.0
OJC *e* 09 03 26.1
OJC *e*SS SS 09 17 51.6 +9.4
OJC MLR MLR
comp=Z,7μm,20.3s
OJC Ojcow 99.85 327 *e*Pdiff Pdif 08 59 26.0 +8.0
OJC *e*PP PP 09 03 26.1 +3.8
OJC *e*SS SS 09 17 51.6 +9.4
OJC L L 09 44 57.0
comp=Z,7μm,20.3s
OJC Ojcow 99.85 327 *e*Pdif Pdif 08 59 18.4 +0.4
comp=Z,18nm,1.0s
T24B San Luis 99.88 49 ⇑P Pdif 08 59 17.2 -1.6
baz=100
ANMO Albuquerque 99.91 51 *e*Pdif Pdif 08 59 19.9 +1.0
ANMO LR LR
comp=Z,3μm,21.0s
NIE Niedzica 100.01 326 *e*P Pdif 08 59 28.6 +10
NIE *e* 09 03 28.6
NIE *e*SS SS 09 17 55.2 +11
NIE Niedzica 100.01 326 *e*Pdiff Pdif 08 59 28.6 +10
NIE *e*PP PP 09 03 28.6 +5.1
NIE *e*SS SS 09 17 55.2 +11
NIE L L 09 49 59.0
comp=Z,5μm,18.3s
HOMB Homborsund 100.03 337 *e*PP PP 09 03 23.7 +0.4
HOMB IAMs_20 IAMs_20 09 46 02.1
comp=Z,5μm,19.3s
W23A Werner Place, 100.06 51 ⇓P Pdif 08 59 18.3 -1.3
baz=100
Z22A Elephant Butte 100.16 53 ⇓P Pdif 08 59 19.5 -0.5
baz=100
SFJD Kangerlussuaq 100.26 5 PFAKE 08 59 30.0 +11
SFJD LR LR
comp=Z,4μm,22.0s
RGN Rugen 100.51 332 PFAKE 08 59 30.0 +9.2
RGN LR LR
comp=Z,5μm,20.0s
J29A Okreek 100.59 41 ⇑P Pdif 08 59 21.1 -0.4
baz=100
W24A Lazy 6 Ranch, 100.60 50 ⇓P Pdif 08 59 21.4 -0.5
baz=100
Y23A Lovelace Mesa, 100.61 52 ⇑P Pdif 08 59 20.6 -1.4
baz=101
P27A Ficken Ranch, 100.84 45 ⇑P Pdif 08 59 22.5 -0.3
baz=101
U25A Circle Dot Ran 100.86 49 ⇑P Pdif 08 59 22.2 -0.9
baz=101
V25A Rancho No Teng 100.94 49 ⇑P Pdif 08 59 22.2 -1.2
baz=101
OKC Ostrava-Krasne 100.95 327 *i* P Pdif 08 59 23.2 +0.3
OKC *e*SP SP 09 12 29.8 +0.4
OKC *e*SS SS 09 17 55.6 -1.8
OKC MLR MLR
comp=Z,5μm,18.2s
OKC Ostrava-Krasne 100.95 327 *i* PDIFF Pdif 08 59 23.2 +0.3
OKC *ex* x 08 59 31.3
OKC *e*SP SP 09 12 29.8 +0.4
OKC *e*SS SS 09 17 55.6 -1.8
OKC AMS AMS 09 47 30.0
comp=Z,5μm,18.2s
BRSD Miller 100.95 40 PFAKE 08 59 30.0 +6.9
BRSD LR LR
comp=Z,2μm,21.4s
FURI Furi 100.98 282 PFAKE 08 59 30.0 +5.8
FURI LR LR
comp=Z,1μm,21.0s
KSCO Kaye Shedlock' 101.04 46 PFAKE 08 59 30.0 +6.2
KSCO LR LR
comp=Z,3μm,21.9s
KSCO Kaye Shedlock' 101.04 46 ⇑P Pdif 08 59 22.5 -1.2
baz=101
PSZ Piszkesteto 101.05 325 PFAKE 08 59 30.0 +6.5
PSZ LR LR
comp=Z,12μm,21.0s
Y24A Capitan 101.08 52 ⇑P Pdif 08 59 22.6 -1.5
baz=101
T26A Comanche Natio 101.14 48 ⇓P Pdif 08 59 23.2 -1.1
baz=101
J30A Dallas 101.16 41 ⇑P Pdif 08 59 23.0 -1.1
baz=101
BZS Buzias 101.25 322 ⇑*i*P Pdif 08 59 22.4 -1.9
M29A Burnside Ranch 101.27 43 ⇑P Pdif 08 59 22.9 -1.7
baz=101
W25A X Bar L Ranch, 101.31 50 ⇑P Pdif 08 59 23.9 -1.2
baz=101
MORC Moravsky Berou 101.31 327 *e*P Pdif 08 59 25.1 +0.5
MORC Moravsky Berou 101.31 327 ⇑*i*P Pdif 08 59 25.1 +0.5
MORC Moravsky Berou 101.31 327 *e*Pdif Pdif 08 59 25.1 +0.5
KSP Ksiaz 101.34 328 *e*P Pdif 08 59 24.8 +0.2
KSP *e* 09 03 37.0
KSP *e*SP SP 09 12 32.7 -0.9
KSP *e*SS SS 09 17 56.0 -6.8
KSP MLR MLR
comp=Z,27μm,22.4s
U26A Atchley Ranch, 101.36 49 ⇓P Pdif 08 59 24.1 -1.2
baz=101
KRLC Kraliky 101.54 328 *i* P Pdif 08 59 25.4 -0.2
KRLC Kraliky 101.54 328 *i* PDIFF Pdif 08 59 25.4 -0.2
KRLC *ex* x 08 59 32.7
KRLC *e*PP PP 09 03 28.1 -7.0
RUE Ruedersdorf 101.59 331 PFAKE 08 59 40.0 +14
RUE LR LR
comp=Z,9μm,21.0s
DPC Dobruska-Polom 101.62 328 *i* P Pdif 08 59 25.1 -0.8
DPC *e* 09 03 40.8
DPC *e*SP SP 09 12 33.8 -2.8
DPC *e*SS SS 09 18 02.0 -4.7
DPC Dobruska-Polom 101.62 328 *i* PDIFF Pdif 08 59 25.1 -0.8
DPC *ex* x 08 59 34.4
DPC *ex* x 09 02 32.7
DPC *e*PP PP 09 03 40.8 +5.2
DPC *e*SP SP 09 12 33.8 -2.8
DPC *e*SS SS 09 18 02.0 -4.7
DPC AMS AMS 09 46 50.0
DPC Dobruska-Polom 101.62 328 *e*Pdif Pdif 08 59 26.7 +0.8
Y25A Mesa, Roswell 101.65 51 ⇑P Pdif 08 59 26.0 -0.6
baz=102
UPC Upice 101.68 328 *i* P Pdif 08 59 26.7 +0.5
UPC Upice 101.68 328 *i* PDIFF Pdif 08 59 26.7 +0.5
UPC *ex* x 08 59 34.8
224A Cornudas Mount 101.74 53 ⇓P Pdif 08 59 26.1 -0.9
baz=102
VTS Vitosha 101.77 319 ⇑*i*P Pdif 08 59 28.3 +1.4
O29A 4D Ranch, Culb 101.81 44 ⇓P Pdif 08 59 26.2 -0.9
baz=102
MMB Musomiste 101.91 318 ⇑*i*P Pdif 08 59 35.8 +8.4
MNTX Cornudas Mount 101.99 54 *e*P Pdif 08 59 43.2 +15
X26A CR and CF Fran 102.07 50 ⇓P Pdif 08 59 27.4 -1.1
baz=102
VRAC Vranov 102.08 327 ⇑*i*P Pdif 08 59 29.0 +1.0
S28A Manter 102.18 47 ⇓P Pdif 08 59 28.0 -0.8
baz=102
BSEG Bad Segeberg 102.25 333 *e*PP PP 09 03 30.5 -10
QSPA South Pole Qui 102.27 180 *e*Pdif Pdif 08 59 30.4 +2.0
comp=Z,8.4nm,1.0s
R29A Marienthal 102.34 46 ⇑P Pdif 08 59 28.8 -0.7
baz=102
PVCC Panska Ves 102.41 329 *i* P Pdif 08 59 22.4 -7.0
PVCC *e* 09 03 45.8
PVCC *e*SP SP 09 12 46.6 +1.7
PVCC *e* 09 13 43.2
PVCC MLR MLR
comp=Z,8μm,21.6s
PVCC Panska Ves 102.41 329 *i* PDIFF Pdif 08 59 22.4 -7.0
PVCC *e*PP PP 09 03 45.8 +4.3
PVCC *e*SP SP 09 12 46.6 +1.7
PVCC *ex* x 09 13 43.2
PVCC AMS AMS 09 45 40.0
comp=Z,8μm,21.6s
325A Bean Ranch, Si 102.44 54 ⇓P Pdif 08 59 29.7 -0.5
baz=102
Z26A Caprock 102.46 52 ⇑P Pdif 08 59 29.7 -0.5
baz=102
BRG Berggiesshubel 102.51 329 *e*PKP Pdif 08 59 31.4 +1.6
comp=Z,8.4nm,1.3s
BRG PP PP 09 03 30.0 -12
BRG *i* 09 03 43.3
comp=Z,22nm,1.2s
BRG SS SS 09 18 16.0 -2.9
BRG
comp=N,7μm,21.5s
BRG
comp=E,7μm,22.4s
BRG
comp=Z,11μm,22.6s
BRG Berggiesshubel 102.51 329 *e*P Pdif 08 59 31.4 +1.6
BRG *i* 09 03 43.3
BRG SS SS 09 18 16.0 -2.9
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,22nm,1.2s
BRG MLR MLR
comp=N,7μm,21.5s
BRG MLR MLR
comp=E,7μm,22.4s
BRG MLR MLR
comp=Z,11μm,22.6s
BRG Berggiesshubel 102.51 329 *e*Pdiff Pdif 08 59 30.7 +0.9
425A Indio Mountain 102.66 54 ⇓P Pdif 08 59 30.0 -1.2
baz=103
TREC Trest 102.68 327 *e*SP SP 09 12 50.3 +2.5
TREC AMS AMS 09 47 50.0
comp=Z,6μm,18.8s
PKSM Moragy 102.69 324 ⇑*i*P Pdif 08 59 31.1 +0.4
CLL Collm 102.70 330 *e*P Pdif 08 59 30.0 -0.7
CLL *i* 09 03 45.0
CLL pmax pmax
comp=Z,17nm,1.2s
CLL MLR MLR
comp=Z,12μm,21.0s
CLL Collm 102.70 330 *e*Pdiff Pdif 08 59 31.2 +0.5
CLL *e*PP PP 09 03 35.4 -8.3
CLL Collm 102.70 330 *e*Pdif Pdif 08 59 30.0 -0.7
CLL *e* 09 03 38.0
comp=Z,17nm,1.2s
CLL *i* PP PP 09 03 45.0 +1.3
comp=Z,30nm,1.3s
CLL *e* 09 03 57.0
CLL *e*PS PS 09 12 52.0 +0.5
CLL *e*PPS PPS 09 13 39.0
CLL *e*PKKPbc PKKPbc 09 15 31.0 -0.3
CLL *e*SS SS 09 18 24.0 +2.5
CLL *e* 09 21 30.0
CLL *e* 09 22 00.0
CLL Lm MLR 09 48 00.0
comp=N,9μm,20.0s
CLL Lm MLR 09 48 00.0
comp=E,6μm,21.9s
CLL Lm MLR 09 48 00.0
comp=Z,12μm,21.0s
PRU Pruhonice 102.75 328 *i* P Pdif 08 59 31.5 +0.6
PRU *e*SP SP 09 12 47.1 -1.4
PRU *e* 09 13 45.3
PRU *e*SS SS 09 18 24.3 +2.0
PRU MLR MLR
comp=Z,5μm,19.5s
PRU Pruhonice 102.75 328 *i* PDIFF Pdif 08 59 31.5 +0.6
PRU *ex* x 08 59 39.7
PRU *ex* x 08 59 48.7
PRU *ex* x 09 02 37.4
PRU *e*PP PP 09 03 36.6 -7.5
PRU *e*SP SP 09 12 47.1 -1.4
PRU *ex* x 09 13 45.3
PRU *e*SS SS 09 18 24.3 +2.0
PRU AMS AMS 09 47 40.0
comp=Z,5μm,19.5s
ECSD EROS Data Cent 102.77 39 PFAKE 08 59 40.0 +8.8
ECSD LR LR
comp=Z,3μm,22.0s
R30A Dighton 103.01 46 ⇓P Pdif 08 59 31.3 -1.1
baz=103
MSTX Muleshoe 103.09 51 PFAKE 08 59 40.0 +7.1
MSTX LR LR
comp=Z,2μm,20.3s
SANT Santorini 103.11 312 PFAKE 08 59 40.0 +7.1
SANT LR LR
comp=Z,3μm,22.0s
CONA Conrad Observa 103.28 326 ⇑*i*sPdiff Pdif 08 59 34.4 +1.0
comp=Z,24nm,1.5s
EYMN Ely 103.42 34 PFAKE 08 59 40.0 +6.0

EYMN LR LR
comp=Z,5µm,21.0s
426A McDonald Obser 103.46 54 ⇓P **Pdif 08 59 33.5 -1.3**
baz=103
AMTX Amarillo 103.52 49 ⇑P **Pdif 08 59 34.2 -0.6**
baz=104
R31A Burdett 103.53 45 ⇑P **Pdif 08 59 33.2 -1.6**
baz=104
CLZ Clausthal 103.61 332 *e*Pdiff **Pdif 08 59 34.1 -0.7**
526A Mary Lane Ranc 103.65 55 ⇓P **Pdif 08 59 34.4 -1.2**
baz=104
NKC Novy Kostel 103.66 329 *i* P **Pdif 08 59 34.5 -0.5**
NKC *e*SP SP 09 12 58.7 +0.6
NKC *e* 09 13 52.3
NKC *e*SS **SS 09 18 40.3 +5.6**
NKC MLR MLR
comp=Z,6µm,23.1s
NKC Novy Kostel 103.66 329 *i* PDIFF **Pdif 08 59 34.5 -0.5**
NKC *ex* x 08 59 43.8
NKC *e*SP SP 09 12 58.7 +0.6
NKC *ex* x 09 13 52.3
NKC *e*SS **SS 09 18 40.3 +5.6**
NKC AMS AMS 09 46 50.0
comp=Z,6µm,23.1s
Z28A Tucker Farm, M 103.67 51 ⇑P **Pdif 08 59 34.5 -1.0**
baz=104
KHC Kasperske Hory 103.77 328 *i* P **Pdif 08 59 35.5 0.0**
KHC *e* 09 03 54.3
KHC *e*SP SP 09 13 02.1 +2.7
KHC *e* 09 13 55.1
KHC *e*SS **SS 09 18 40.3 +3.8**
KHC MLR MLR
comp=Z,4µm,18.2s
KHC Kasperske Hory 103.77 328 *i* PDIFF **Pdif 08 59 35.5 0.0**
KHC *ex* x 08 59 43.9
KHC *ex* x 09 02 51.9
KHC *e*PP **PKiKP 09 03 54.3 +0.8**
KHC *e*SP SP 09 13 02.1 +2.7
KHC *ex* x 09 13 55.1
KHC *e*SS **SS 09 18 40.3 +3.8**
KHC AMS AMS 09 51 20.0
comp=Z,4µm,18.2s
KHC Kasperske Hory 103.77 328 *e*Pdif **Pdif 08 59 38.2 +2.7**
GEC2 GERESS Array S 103.89 328 *e*P **Pdif 08 59 37.0 +0.9**
GEC2 GERESS Array S 103.89 328 *e*Pdiff **Pdif 08 59 36.4 +0.3**
GEC2 GERESS Array S 103.89 328 *e*Pdif **Pdif 08 59 37.0 +0.9**
GERES GERESS Array B 103.89 328 Pdif **Pdif 08 59 34.4 -1.7**
GERES PKKPbc **PKKPbc 09 15 26.3 -1.6**
GERES GERESS Array B 103.89 328 Pdiff **Pdif 08 59 34.4 -1.7**
comp=Z,1.9nm,0.9s,baz=48,slow=2.0,SNR=6.2
GERES PKKPbc **PKKPbc 09 15 26.3 -1.6**
comp=Z,1.0nm,0.7s,baz=242,slow=5.4,SNR=4.8
MANZ Manzenberg 103.98 329 *e*Pdiff **Pdif 08 59 37.1 +0.6**
527A Woodward Ranch 104.00 54 ⇑P **Pdif 08 59 36.1 -1.0**
baz=104
ROTZ Rotzenmuhle 104.07 329 *e*Pdiff **Pdif 08 59 37.2 +0.4**
ROTZ *e*PP **PP 09 03 51.2 -2.7**
SPMN St. Paul 104.25 37 PFAKE 08 59 50.0 +12
SPMN LR LR
comp=Z,6µm,21.9s
TXAR Lajitas Array 104.28 55 Pdif **Pdif 08 59 37.0 -1.3**
TXAR Lajitas Array 104.28 55 Pdiff **Pdif 08 59 37.0 -1.3**
comp=Z,1.4nm,1.2s,baz=241,slow=2.6,SNR=4.9
129A Stewart Farms, 104.34 51 ⇓P **Pdif 08 59 37.6 -0.9**
baz=104
627A Terlingua Ranc 104.45 55 ⇑P **Pdif 08 59 37.9 -1.2**
baz=104
V31A Spring Creek L 104.47 48 ⇓P **Pdif 08 59 38.0 -0.9**
baz=104
IBBN Ibbenburen 104.49 333 *e*PP PP 09 03 51.1 -5.8
GRF Grafenberg Arr 104.61 329 *e*L L 09 49 21.1
comp=Z,8µm,21.7s
KMBO Kilima Mbogo 104.70 272 PFAKE 08 59 50.0 +9.4
KMBO LR LR
comp=Z,1µm,21.0s
OBKA Obir 104.85 325 ⇑*i*sPdiff **Pdif 08 59 43.3 +2.8**
529A Stev Forest Ra 105.11 54 ⇓P **PKiKP 09 03 56.2 -0.4**
baz=105
KSU1 Kansas State U 105.13 44 PFAKE 09 04 10.0
KSU1 LR LR
comp=Z,4µm,21.0s
429A Davenport Ranc 105.16 53 ⇓P **PKiKP 09 03 55.1 -1.5**
baz=105
BUG Bochum--Univer 105.31 333 *e*PP PP 09 03 58.6 -4.3
X32A Elmer 105.49 49 ⇑P **PKiKP 09 03 57.9 +0.9**
baz=105
TNS Taunus Mts 105.60 331 *e*PP PP 09 04 05.9 +0.6
430A Baggett Ranch, 105.61 53 ⇓P **PKiKP 09 03 58.2 +0.8**
baz=106
WMOK Wichita Mounta 105.72 48 PFAKE 09 04 10.0
WMOK LR LR
comp=Z,2µm,20.0s
TRI Trieste 105.76 325 PFAKE 09 04 10.0
TRI LR LR
comp=Z,7µm,21.4s
530A J-C Ranch, Com 105.80 54 ⇑P **PKiKP 09 03 58.0 +0.2**
baz=106
231A Bronte 105.83 52 ⇑P **PKiKP 09 03 58.4 +0.6**
baz=106
Z32A Haskell 105.85 50 ⇑P **PKiKP 09 03 58.2 +0.5**
baz=106
SCIA State Center 105.86 40 PFAKE 09 04 10.0
SCIA LR LR
comp=Z,4µm,20.0s
EDI Edinburgh 105.97 340 PFAKE 09 04 10.0
EDI LR LR
comp=Z,2µm,20.7s
ABTX Abilene, Hawle 106.03 51 PFAKE 09 04 10.0
ABTX LR LR
comp=Z,2µm,19.8s
431A Sonora 106.14 53 ⇓P **PKiKP 09 03 58.0 -0.3**
baz=106
STU Stuttgart 106.22 330 *e*PP PP 09 04 07.3 -2.5
STU Stuttgart 106.22 330 PFAKE 09 04 10.0
STU LR LR
comp=Z,9µm,21.0s
232A Coleman 106.36 51 ⇓P **PKiKP 09 03 58.6 -0.1**
baz=106
Z33A Whitaker Ranch 106.39 50 ⇑P **PKiKP 09 03 58.7 -0.1**
baz=106
MEM Membach 106.46 333 PKP **PP 09 04 08.5 -3.0**
MEM Membach 106.46 333 *e*PP PP 09 04 13.7 +2.2
ESK Eskdalemuir 106.47 340 PFAKE 09 04 10.0
ESK LR LR
comp=Z,6µm,22.0s
332A Millersview 106.51 52 ⇑P **PKiKP 09 03 56.4 -2.6**
baz=106
133A Hamilton Ranch 106.59 50 ⇑P **PKiKP 09 03 57.9 -1.2**
baz=106
432A Menard 106.69 52 ⇑P **PKiKP 09 03 58.7 -0.7**
baz=107
631A Perdido Creek 106.70 54 ⇑P **PKiKP 09 03 57.6 -1.8**
baz=107
JCT Junction City 106.85 53 PFAKE 09 04 10.0
JCT LR LR
comp=Z,2µm,19.0s
JCT Junction City 106.85 53 ⇓P **PKiKP 09 03 58.4 -1.3**
baz=107
233A Rising Star 106.87 51 ⇑P **PKiKP 09 03 58.4 -1.2**
baz=107
532A Rocksprings 106.93 53 ⇓P **PKiKP 09 03 59.1 -0.7**
baz=107
BFO Black Forest 106.94 330 *e*PKPdf **PKiKP 09 03 60.0 +0.6**
WLF Walferdange 107.06 332 PFAKE 09 04 10.0
WLF LR LR
comp=Z,5µm,22.0s
JFWS Jewell Farm 107.09 37 PFAKE 09 04 10.0
JFWS LR LR
comp=Z,6µm,22.0s
333A Richland Sprin 107.11 52 ⇑P **PKiKP 09 04 00.6 +0.4**
baz=107
433A Art 107.28 52 ⇑P **PKiKP 09 03 58.9 -1.6**
baz=107
TUL1 Tulsa 107.29 46 PFAKE 09 04 10.0
TUL1 LR LR
comp=Z,4µm,21.2s
CDF Champ du Feu 107.40 330 *e*P **Pdif 08 59 51.1 -0.7**
comp=Z,16nm,1.2s
CDF Champ du Feu 107.40 330 *e*P **Pdif 08 59 51.1 -0.7**
CDF pmax pmax
comp=Z,16nm,1.2s
CDF Champ du Feu 107.40 330 *e*P **Pdif 08 59 51.1 -0.7**
comp=Z,16nm,1.2s
234A Clairette 107.45 51 ⇓P **PKiKP 09 03 59.9 -0.8**
baz=107

DOU Dourbes 107.46 333 PKP PP 09 04 09.4 -9.4
832A Faith Ranch, C 107.66 55 ⇑P **PKiKP 09 04 01.4 +0.2**
baz=108
TUE Stuetta 107.67 328 PFAKE 09 04 10.0
TUE LR LR
comp=Z,8µm,20.0s
334A Lometa 107.68 51 ⇓P **PKiKP 09 04 01.6 +0.4**
baz=108
TIP Timpagrande 107.71 318 PFAKE 09 04 10.0
TIP LR LR
comp=Z,3µm,20.9s
CUC Castrocucco 107.87 319 PFAKE 09 04 10.0
CUC LR LR
comp=Z,3µm,20.0s
434A Burnet 107.89 52 ⇑P **PKiKP 09 04 01.8 +0.2**
baz=108
WHTX Lake Whitney 107.97 50 PFAKE 09 04 10.0
WHTX LR LR
comp=Z,2µm,19.4s
HINF Hinterlaifeld 108.02 330 *e*P **Pdif 08 59 53.0 -1.5**
HINF Hinterlaifeld 108.02 330 *e*P **Pdif 08 59 53.0 -1.5**
HINF Hinterlaifeld 108.02 330 *e*P **Pdif 08 59 53.0 -1.5**
833A Chaparral WMA, 108.11 55 ⇑P **PKiKP 09 04 02.6 +0.6**
baz=108
VLC Villacollemand 108.61 325 PFAKE 09 04 10.0
VLC LR LR
comp=Z,7µm,21.0s
CEL Celeste 108.78 318 PFAKE 09 04 10.0
CEL LR LR
comp=Z,5µm,22.0s
SENIN Lac Senin/Sane 108.79 329 *e*PP PP 09 04 33.9 +4.9
MIAR Mount Ida 109.55 46 PFAKE 09 04 20.0
MIAR LR LR
comp=Z,4µm,21.0s
SLM Saint Louis 109.58 41 PFAKE 09 04 10.0
SLM LR LR
comp=Z,4µm,19.5s
BNI Bardonecchia 110.00 328 *e*PP PP 09 04 31.9 -5.8
HKT Hockley 110.16 52 PFAKE 09 04 20.0
HKT LR LR
comp=Z,2µm,20.0s
UALR University of 110.29 46 PFAKE 09 04 20.0
UALR LR LR
comp=Z,3µm,20.7s
SFIN Scholer Farm 110.50 38 PFAKE 09 04 20.0
SFIN LR LR
comp=Z,4µm,21.3s
SIUC Southern Illin 110.76 41 PFAKE 09 04 20.0
SIUC LR LR
comp=Z,4µm,21.1s
WDD Wield Dalam 111.02 316 PFAKE 09 04 20.0
WDD LR LR
comp=Z,2µm,20.0s
PVMO Portageville 111.19 43 PFAKE 09 04 20.0
PVMO LR LR
comp=Z,2µm,20.4s
AAM Ann Arbor 111.27 35 PFAKE 09 04 20.0
AAM LR LR
comp=Z,6µm,21.0s
BLO Bloomington 111.59 39 PFAKE 09 04 20.0
BLO LR LR
comp=Z,5µm,21.7s
WCI Wyandotte Cave 112.31 39 PFAKE 09 04 20.0
WCI LR LR
comp=Z,3µm,22.0s
WVT Waverly 112.59 42 PFAKE 09 04 20.0
WVT LR LR
comp=Z,3µm,21.0s
ACSO Alum Creek Sta 113.02 36 PFAKE 09 04 20.0
ACSO LR LR
comp=Z,5µm,22.0s
ERPA Erie 113.39 33 PFAKE 09 04 20.0
ERPA LR LR
comp=Z,4µm,22.0s
ALLY Alegheny Colle 113.63 33 PFAKE 09 04 20.0
ALLY LR LR
comp=Z,5µm,20.7s
LONY Lake Ozonia 114.22 28 PFAKE 09 04 20.0 +6.8
LONY LR LR
comp=Z,3µm,20.0s
FRNY Flat Rock 114.50 27 PFAKE 09 04 20.0 +6.3
FRNY LR LR
comp=Z,3µm,19.5s
TZTN Tazewell 115.07 39 PFAKE 09 04 30.0 +15
TZTN LR LR
comp=Z,4µm,21.6s
ACCN Adirondack Com 115.59 28 PFAKE 09 04 30.0 +14
ACCN LR LR
comp=Z,3µm,21.4s
LSZ Lusaka 115.94 259 *e*PKPdf **PKPdf 09 04 17.4 +0.1**
BRAL Brewton 116.07 46 PFAKE 09 04 30.0 +13
BRAL LR LR
comp=Z,4µm,20.0s
BLA Blacksburg 116.52 37 PFAKE 09 04 30.0 +12
BLA LR LR
comp=Z,4µm,21.0s
ODNJ Ogdensburg 116.90 30 PFAKE 09 04 30.0 +12
ODNJ LR LR
comp=Z,4µm,21.5s
SDMD Soldier's Deli 116.99 33 PFAKE 09 04 30.0 +11
SDMD LR LR
comp=Z,9µm,20.1s
GOGA Godfrey 117.09 42 PFAKE 09 04 30.0 +11
GOGA LR LR
comp=Z,3µm,21.0s
SNAA Sanae 117.10 192 PFAKE 09 04 30.0 +12
SNAA LR LR
comp=Z,4µm,21.0s
BRNJ Basking Ridge 117.23 31 PFAKE 09 04 30.0 +11
BRNJ LR LR
comp=Z,898µm,19.9s
PAL Palisades 117.31 30 PFAKE 09 04 30.0 +11
PAL LR LR
comp=Z,19µm,21.0s
KMSC Kings Mountain 117.35 39 PFAKE 09 04 30.0 +11
KMSC LR LR
comp=Z,4µm,21.4s
CBN Corbin 117.57 34 PFAKE 09 04 30.0 +10
CBN LR LR
comp=Z,7µm,21.0s
TIGA Tifton 118.22 44 PFAKE 09 04 30.0 +8.8
TIGA LR LR
comp=Z,3µm,21.8s
TIGA Tifton 118.22 44 ⇑P **PKPdf 09 04 19.3 -1.9**
baz=118
PBRG Braganca 118.87 334 *e*SS SS 09 22 04.5 +7.0
LBTB Lobatse 119.00 248 *e*PKPdf **PKPdf 09 04 22.8 -0.1**
ES19 SONSECA Array 119.24 330 *e*PP PP 09 05 36.4 -6.4
PGAV Gavieira, Arco 119.38 335 *e*PP PP 09 05 45.3 +1.7
PGAV Gavieira, Arco 119.38 335 *e*SS SS 09 22 12.3 +8.1
PGAV Gavieira, Arco 119.38 335 *e*LR LR 09 43 06.9
comp=Z,4µm,20.0s
NHSC New Hope 119.40 40 PFAKE 09 04 30.0 +6.6
NHSC LR LR
comp=Z,3µm,21.0s
MVO Moncorvo 119.51 334 *e*SS SS 09 22 08.7 +2.8
MVO Moncorvo 119.51 334 *e*LR LR 09 44 42.9
comp=Z,3µm,24.0s
PAB San Pablo 119.58 331 PFAKE 09 04 30.0 +6.3
PAB LR LR
comp=Z,6µm,21.0s
POLO Lamas de Olo 119.67 334 *e*PP PP 09 05 50.7 +5.1
MTE Manteigas 120.36 333 *e*PP PP 09 05 53.5 +3.1
MTE Manteigas 120.36 333 *e*SS SS 09 22 19.1 +2.3
MTE Manteigas 120.36 333 *e*LR LR 09 45 09.5
comp=Z,4µm,22.0s
MTE Manteigas 120.36 333 PFAKE 09 04 40.0 +15
MTE LR LR
comp=Z,4µm,22.0s
TEIG Tepich 120.81 57 PFAKE 09 04 40.0 +14
TEIG LR LR
comp=Z,2µm,20.0s
PMRV Marv??o 121.09 333 *e*PP PP 09 06 01.6 +6.3
PMRV Marv??o 121.09 333 *e*LR LR 09 45 29.7
comp=Z,5µm,22.0s
EVO Evora 122.10 332 *e*PP PP 09 06 04.5 +2.4
PBEJ Beja 122.44 332 *e*PP PP 09 06 04.9 +0.4
LIS Lisbon 122.45 333 *e*PP PP 09 06 04.2 -0.3
LIS AMS AMS 10 02 29.5
comp=N,4µm,17.3s
LIS Lisbon 122.45 333 *e*PP PP 09 06 04.2 -0.3
PNCL Nicolau / Gran 122.67 333 *e*PP PP 09 06 05.4 -0.6
PCVE Castro Verde 122.84 332 *e*PP PP 09 06 11.3 +4.1
PVAQ Vaqueiros 122.88 331 *e*PP PP 09 06 10.8 +3.3
PVAQ Vaqueiros 122.88 331 *e*PP PP 09 06 10.9 +3.4

PVAQ Vaqueiros 122.88 331 *e*SS SS 09 22 53.5 +4.6
PVAQ Vaqueiros 122.88 331 *e*LR LR 09 45 48.8
comp=N,4µm,20.0s
PTEO Sao Teotonio 123.23 332 *e*PP PP 09 06 16.6 +6.8
MORF Marmelete 123.39 332 *e*PP PP 09 06 13.5 +2.5
TGUH Tegucigalpa,Un 124.49 63 PFAKE 09 04 40.0 +6.4
TGUH LR LR
comp=Z,2µm,22.0s
PMSA Palmer Station 124.68 167 PFAKE 09 04 40.0 +7.5
PMSA LR LR
comp=Z,2µm,22.0s
TAM Tamanrasset 124.89 309 *e*PKIKP **PKPdf 09 04 34.7 +0.2**
TAM Tamanrasset 124.89 309 *e*PKPdf **PKPdf 09 04 34.7 +0.2**
RTC Rabat Centre 125.18 328 PFAKE 09 04 40.0 +5.5
RTC LR LR
comp=Z,4µm,20.0s
TSUM Tsumeb 126.33 255 PFAKE 09 04 50.0 +13
TSUM LR LR
comp=Z,1µm,20.0s
MSKU Masuku 127.82 278 *e*PKPdf **PKPdf 09 04 38.8 -1.3**
JTS JuntasAbangare 128.15 66 PFAKE 09 04 50.0 +9.3
JTS LR LR
comp=Z,1µm,20.0s
MTDJ Mount Denham 130.47 53 PFAKE 09 05 00.0 +15
MTDJ LR LR
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 131.30 49 PFAKE 09 05 00.0 +13
GTBY LR LR
comp=Z,2µm,21.0s
GRTK Grand Turk 133.11 44 PFAKE 09 05 00.0 +10
GRTK LR LR
comp=Z,2µm,20.0s
BCIP Isla Barro Col 133.18 65 PFAKE 09 05 00.0 +10
BCIP LR LR
comp=Z,1µm,18.0s
TOA0 Torodi Ar. Sit 133.19 302 *e*PKPdf **PKPdf 09 04 50.9 +0.6**
TORD Torodi Ar. Bea 133.19 302 PKP **PKPdf 09 04 48.5 -1.7**
TORD Torodi Ar. Bea 133.19 302 PKP **PKPdf 09 04 48.5 -1.7**
comp=Z,6.3nm,1.0s,baz=15,slow=1.6,SNR=22
SDDR Presa de Saban 134.68 47 PFAKE 09 05 00.0 +7.0
SDDR LR LR
comp=Z,2µm,20.0s
EFI East Falkland 137.60 161 PFAKE 09 05 10.0 +13
EFI LR LR
comp=Z,2µm,21.0s
OTAV Otavalo 137.89 76 *e*PKPdf **PKPdf 09 04 59.9 +0.2**
MPR Mayaguez 138.09 44 PFAKE 09 05 10.0 +11
MPR LR LR
comp=Z,1µm,21.4s
CRPR Cabo Rojo, PR 138.26 44 PFAKE 09 05 10.0 +10
CRPR LR LR
comp=Z,3µm,21.3s
OBIP Obispado Ponce 138.57 44 PFAKE 09 05 10.0 +10
OBIP LR LR
comp=Z,2µm,20.0s
HUMP Col San Antoni 139.01 43 PFAKE 09 05 10.0 +9.1
HUMP LR LR
comp=Z,3µm,21.5s
PLCA Paso Flores 139.84 141 PKPpre PKPpre 09 04 55.0
PLCA *e*PKPdf **PKPdf 09 05 01.7 -0.3**
PLCA Paso Flores 139.84 141 PKhKP PKPpre 09 04 55.0
comp=Z,0.9nm,0.5s,baz=346,slow=1.1,SNR=4.4
ROSC El Rosal 139.97 67 *e*PKPdf **PKPdf 09 05 03.0 -0.3**
CDVI St. Croix 140.00 42 PFAKE 09 05 10.0 +7.3
CDVI LR LR
comp=Z,2µm,19.4s
SABA Saba 141.08 40 PFAKE 09 05 20.0 +15
SABA LR LR
comp=Z,3µm,21.5s
SDV Santo Domingo 141.23 58 *e*PKPdf **PKPdf 09 05 06.2 +0.8**
ANWB Willy Bob 141.95 39 PFAKE 09 05 20.0 +14
ANWB LR LR
comp=Z,3µm,20.0s
NNA Nana 142.00 94 PFAKE 09 05 20.0 +13
NNA LR LR
comp=Z,2µm,22.0s
DBIC Dimbokro 142.03 298 PKP **PKPdf 09 05 02.5 -4.0**
DBIC *e*PKPdf **PKiKP 09 05 07.1 -2.4**
DBIC Dimbokro 142.03 298 PKP **PKPdf 09 05 02.5 -4.0**
comp=Z,3.5nm,0.6s,baz=341,slow=6.3,SNR=5.6
KIC Kosan Boka 142.08 298 *e*P PKPdf 09 04 59.9 -6.8
comp=Z,108nm,1.5s
TIC Toumodi 142.18 298 *e*P **PKPdf 09 05 04.9 -2.0**
comp=Z,32nm,1.1s
LIC Lamto 142.40 298 *e*PKIKP PKPdf 09 05 00.7 -6.5
comp=Z,92nm,1.4s
LIC Lamto 142.40 298 *e*P PKPdf 09 05 01.0 -6.2
comp=Z,82nm,1.4s
CLCH Cerro Calan 143.67 130 *i* P PKPbc 09 05 07.0 +0.5
FDF Fort de France 144.56 41 *e*PKIKP **PKPdf 09 05 11.4 +0.4**
FDF Fort de France 144.56 41 *e*PKPdf **PKPdf 09 05 11.4 +0.4**
LCO Las Campanas 145.36 124 *e*PKPdf **PKPab 09 05 12.6 +0.3**
GRGR Grenville 146.11 45 PFAKE 09 05 20.0 +4.9
GRGR LR LR
comp=Z,2µm,22.0s
TRQA Tornquist 146.67 144 *e*PKPbc **PKPbc 09 05 15.8 +0.2**
CEN1 Los Morros 147.50 114 *i* P **PKPbc 09 05 17.2 -1.3**
CEN1 Los Morros 147.50 114 *i* P **PKPbc 09 05 17.2 -1.3**
LVC Limon Verde 148.84 113 *e*PKPdf **PKPdf 09 05 20.1 +1.8**
LVC *e*PKPbc **PKiKP 09 05 23.1 -0.5**
LPAZ La Paz 150.52 101 *e*PKPdf **PKPdf 09 05 22.9 +1.4**
LPAZ PKPbc **PKPbc 09 05 24.5 -2.4**
LPAZ *e*PKPbc **PKiKP 09 05 27.6 -0.1**
LPAZ La Paz 150.52 101 PKPbc **PKPbc 09 05 24.5 -2.4**
comp=Z,17nm,1.0s,baz=277,slow=3.5,SNR=13
LPA La Plata 151.20 144 *de*PKIKP **PKPdf 09 05 23.0 +1.7**
LPA PKIKP **PKiKP 09 05 28.0 +0.3**
LPA pPP 09 09 07.0
SAML Samuel 154.97 85 *e*PKPdf **PKPdf 09 05 27.4 0.0**
SAML *e*PKPab **PKPab 09 05 52.7 +1.1**
PTGA Pitinga 155.27 64 *e*PKPdf **PKPdf 09 05 28.4 +0.6**
PTGA *e*PKPab **PKPab 09 05 52.1 -0.7**
ASCN Ascension 156.37 279 PFAKE 09 05 40.0 +11
ASCN LR LR
comp=Z,2µm,18.0s
CPUP Villa Florida 157.12 130 PKPab **PKPab 09 05 57.7 -2.7**
CPUP Villa Florida 157.12 130 PKPab **PKPab 09 05 57.7 -2.7**
comp=Z,2.8nm,0.8s,baz=236,slow=5.2,SNR=3.6
BB16B Bebedouro 166.70 131 (P) PKPdf 09 05 34.4 -5.5

IDC 02 08:53:48.3±6.4, 11°.94N×142°.25E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/25, mbtmp3.9/5, Error ellipse: s-maj=173.5km s-min=38.9km az=165.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**42.21**	**284**	P	P		09 01 43.0	-0.4
	0.4nm,0.3s,baz=74,slow=9.7,SNR=2.4							
MKAR	**Makanchi Array**	**60.92**	**317**	P	P		09 04 03.2	0.0
	0.8nm,0.6s,baz=104,slow=8.3,SNR=6.0							
KURBB	**Kurchatov Arra**	**64.25**	**321**	P	P		09 04 25.5	+0.2
	1.8nm,0.6s,baz=105,slow=7.0,SNR=6.2							
BVAR	**Borovoye Array**	**69.64**	**322**	P	P		09 04 59.7	+0.1
	2.1nm,0.7s,baz=110,slow=7.4,SNR=7.3							
ILAR	**Eielson Array**	**71.14**	**25**	P	P		09 05 08.4	-0.1
	0.2nm,0.7s,baz=267,slow=6.3,SNR=3.0							

*MOS **02** 09:00:06.4±1.4, 52°.15N×106°.51E, h10km, mb4.3/1, Error ellipse: s-maj=18.8km s-min=15.8km az=66.0*
MOS Felt (II) at Elantsy.
*BYKL **02** 09:00:07.3±0.3, 52°.16N×106°.42E, FELT I=II MSK at Yelantsy*

ISC 02 09:00:06.5±1.0, 52°.16N±0°.02×106°.51E±0°.02, h8km±10km, n33, σ1°.75/63, 7C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.56**	**45**	⇓*i*Pg	**Pg**		**09 00 18.5**	**+1.1**
ZRHB				*e*Pb	**Pn**		**09 00 20.4**	**-0.4**
ZRHB				*i* Sg	**Sb**		**09 00 26.9**	**+0.1**
ZRHB				max				
	338nm,0.1s							
ZRHB				Smax				
	2µm,0.5s							
HRMR	**Khuramsha**	**0.60**	**152**	⇓*i*Pg	**Pg**		**09 00 19.0**	**+0.9**
	2µm,0.3s							
HRMR				⇑*i*Pg	**Pg**		**09 00 19.0**	**+0.9**
	743nm,0.3s							
HRMR				⇑*i*Pg	**Pg**		**09 00 19.0**	**+0.9**
	4µm,0.3s							
HRMR				*i* Sg	**Sg**		**09 00 27.3**	**+1.4**

TRG	**Tyrgan**	**0.61**	**351**	⇑*i*PG	**Pg**	**09 00 18.9**	**+0.6**
TRG				*e*		09 00 27.5	
TRG				pmax	pmax		
	comp=Z,363nm,0.1s						
TRG				smax	smax		
	comp=N,3μm,0.1s						
TRG	**Tyrgan**	**0.61**	**351**	⇑*i*Pg	**Pg**	**09 00 18.9**	**+0.6**
	comp=N,215nm,0.2s						
TRG				⇓*i*Pg	**Pg**	**09 00 18.9**	**+0.6**
	comp=N,28nm,0.2s						
TRG				⇑*i*Pg	**Pg**	**09 00 18.9**	**+0.6**
	comp=N,330nm,0.2s						
TRG				*i* Pb	**Pn**	**09 00 20.8**	**-0.7**
TRG				*e*		09 00 24.3	
TRG				*e*Sg	**Sg**	**09 00 27.5**	**+1.2**
TRG				*e*Sb	**Sb**	**09 00 30.0**	**+1.7**
TRG				max			
	comp=N,402nm,0.2s						
TRG				Smax			
	comp=N,3μm,0.1s						
LSTR	**Listvyanka**	**1.07**	**255**	*e*PG	**Pg**	**09 00 26.6**	**-0.5**
LSTR				*e*		09 00 40.7	
LSTR				pmax	pmax		
	comp=Z,50nm,0.1s						
LSTR				smax	smax		
	comp=N,474nm,0.3s						
LSTR	**Listvyanka**	**1.07**	**255**	*e*Pg	**Pg**	**09 00 26.6**	**-0.5**
LSTR				*e*Pb	**Pn**	**09 00 27.5**	**-0.4**
LSTR				*i* Sg	**Sg**	**09 00 40.6**	**-0.5**
LSTR				*e*Sb	**Sn**	**09 00 42.3**	**-0.7**
LSTR				*e*L	L	09 01 31.7	
LSTR				max			
	comp=N,49nm,0.1s						
LSTR				Smax			
	comp=N,480nm,0.2s						
IRK	**Irkutsk**	**1.38**	**274**	*e*PG	**Pb**	**09 00 32.2**	**-0.3**
IRK				*e*		09 00 49.6	
IRK				pmax	pmax		
	comp=Z,203nm,0.3s						
IRK				smax	smax		
	comp=E,2μm,0.4s						
IRK	**Irkutsk**	**1.38**	**274**	*e*Pg	**Pn**	**09 00 32.0**	**-0.1**
IRK				*e*Sg	**Sb**	**09 00 49.2**	**-1.1**
IRK				*e*		09 00 52.5	
IRK				*e*		09 01 00.3	
IRK				Pmax			
	comp=E,125nm,0.2s						
IRK				max			
	comp=E,2μm,0.4s						
OGRR	**Ongureny**	**1.63**	**23**	*e*PN	**Pn**	**09 00 35.2**	**-0.3**
OGRR				*e*		09 00 56.0	
OGRR				pmax	pmax		
	comp=Z,42nm,0.2s						
OGRR				smax	smax		
	comp=N,501nm,0.6s						
OGRR	**Ongureny**	**1.63**	**23**	⇓*i*Pg	**Pn**	**09 00 35.2**	**-0.3**
OGRR				*e*		09 00 36.8	
OGRR				*e*Sg	**Sn**	**09 00 56.6**	**0.0**
OGRR				*e*L	L	09 01 32.1	
OGRR				max			
	comp=N,37nm,0.1s						
OGRR				Smax			
	comp=N,501nm,0.3s						
MXMB	**Maximikha**	**1.75**	**50**	⇓*i*Pn	**Pn**	**09 00 36.6**	**-0.6**
MXMB				*e*Pg	**Pb**	**09 00 38.9**	**0.0**
MXMB				*e*Sg	**Sg**	**09 01 03.3**	**+0.4**
MXMB				Pmax			
	comp=N,56nm,0.1s						
MXMB				Smax			
	comp=N,424nm,0.4s						
TLY	**Talaya**	**1.84**	**256**	*e*PN	**Pn**	**09 00 38.6**	**+0.2**
TLY				*e*		09 00 39.3	
TLY				*e*		09 01 02.1	
TLY				pmax	pmax		
	comp=Z,39nm,0.2s						
TLY				smax	smax		
	comp=E,183nm,0.6s						
TLY	**Talaya**	**1.84**	**256**	*e*Pg	**Pn**	**09 00 38.6**	**+0.2**
TLY				*e*		09 00 42.1	
TLY				*e*		09 00 44.6	
TLY				*e*Sg	**Sb**	**09 01 02.2**	**-1.3**
TLY				*e*L	L	09 01 39.7	
TLY				max			
	comp=E,22nm,0.3s						
TLY				Smax			
	comp=E,146nm,0.3s						
ARS	**Arshan**	**2.53**	**266**	*e*PN	**Pb**	**09 00 52.2**	**0.0**
ARS				*e*		09 01 23.6	
ARS				pmax	pmax		
	comp=Z,23nm,0.2s						
ARS				smax	smax		
	comp=E,260nm,0.4s						
ARS	**Arshan**	**2.53**	**266**	*e*Pg	**Pb**	**09 00 51.2**	**-1.0**
ARS				*e*		09 01 01.0	
ARS				*e*Sg	**Sb**	**09 01 23.5**	**-0.1**
ARS				Pmax			
	comp=E,27nm,0.2s						
ARS				Smax			
	comp=E,287nm,0.6s						
ZAK	**Zakamensk**	**2.70**	**230**	*e*Pg	**Pb**	**09 00 55.3**	**+0.3**
ZAK				⇓*i*		09 00 57.7	
ZAK				*e*Sg	**Sg**	**09 01 30.8**	**-2.3**
MOY	**Mondy**	**3.45**	**264**	*e*PN	**Pg**	**09 01 10.2**	**-2.4**
MOY				*e*		09 01 52.6	
MOY				pmax	pmax		
	comp=Z,17nm,0.3s						
MOY				smax	smax		
	comp=N,137nm,0.3s						
MOY	**Mondy**	**3.45**	**264**	*e*Pn	**Pn**	**09 01 03.4**	**+2.8**
MOY				Pg	**Pb**	**09 01 07.5**	**-0.4**
MOY				*e*		09 01 12.9	
MOY				*e*Sg	**Sb**	**09 01 52.8**	**+2.8**
MOY				max			
	comp=N,16nm,0.5s						
MOY				Smax			
	comp=N,139nm,0.6s						
YLYR	**Ulyunkhan**	**3.89**	**44**	⇑*i*Pn	**Pn**	**09 01 06.5**	**-0.1**
YLYR				*e*Pg	**Pb**	**09 01 17.5**	**+2.2**
YLYR				*e*Sn	**Sn**	**09 01 51.1**	**-1.3**
YLYR				*e*Sg	**Sg**	**09 02 08.2**	**-3.1**
YLYR				Pmax			
	comp=N,6.0nm,0.4s						
YLYR				Smax			
	comp=N,44nm,0.8s						
NIZ	**Nizh Angarsk**	**4.04**	**25**	*e*PN	**Pn**	**09 01 08.4**	**-0.2**
NIZ				*e*		09 01 19.0	
NIZ				*e*S	**Sn**	**09 01 55.5**	**-0.6**
NIZ				*e*		09 02 11.5	
NIZ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
NIZ				smax	smax		
	comp=N,74nm,0.5s						
NIZ	**Nizh Angarsk**	**4.04**	**25**	⇑*i*Pn	**Pn**	**09 01 08.4**	**-0.2**
NIZ				*e*		09 01 17.1	
NIZ				*e*Pg	**Pb**	**09 01 18.4**	**+0.5**
NIZ				*e*		09 01 51.2	
NIZ				*e*Sg	**Sb**	**09 02 11.1**	**+4.2**
NIZ				Pmax			
	comp=N,7.0nm,0.2s						
NIZ				Smax			
	comp=N,73nm,0.5s						
ORL	**Orlik**	**4.12**	**278**	*e*PN	**Pb**	**09 01 18.4**	**-1.0**
ORL				*e*		09 02 13.2	
ORL				pmax	pmax		
	comp=Z,14nm,0.5s						
ORL				smax	smax		
	comp=E,166nm,2.1s						
ORL	**Orlik**	**4.12**	**278**	*e*Pn	**Pn**	**09 01 11.2**	**+1.3**
ORL				*e*		09 01 17.4	
ORL				*e*Pg	**Pb**	**09 01 20.5**	**+1.1**
ORL				*e*		09 01 27.4	
ORL				*e*		09 01 59.4	
ORL				*e*Sg	**Sb**	**09 02 13.8**	**+4.4**
ORL				max			
	comp=E,13nm,0.8s						
ORL				Smax			
	comp=E,96nm,1.1s						
CIT	**Chita**	**4.35**	**89**	*e*Sg	**Sg**	**09 02 22.9**	**-3.1**
CIT				Smax			
	comp=E,151nm,0.4s						
KPC	**Khapcheranga**	**4.45**	**121**	*e*PN	**Pb**	**09 01 27.6**	**+2.7**
KPC				*e*		09 02 25.3	
KPC				pmax	pmax		
	comp=Z,77nm,0.3s						
KPC				smax	smax		
	comp=N,111nm,0.7s						
KPC	**Khapcheranga**	**4.45**	**121**	⇓*i*Pn	**Pn**	**09 01 13.3**	**-1.0**
KPC				⇓*i*Pg	**Pb**	**09 01 27.6**	**+2.7**
KPC				*e*		09 02 07.0	
KPC				*e*Sg	**Sg**	**09 02 25.2**	**-4.2**
KPC				Pmax			
	comp=N,17nm,0.4s						
KPC				Smax			
	comp=N,77nm,0.9s						
UKT	**Uakit**	**5.38**	**49**	*e*Pn	**Pn**	**09 01 26.4**	**-0.6**
UKT				*e*Pg	Pb	09 01 44.5	+3.8
UKT				*e*Sg	**Sg**	**09 02 56.2**	**-2.8**
UKT				Smax			
	comp=N,28nm,1.8s						
SVKR	**Severomuysk**	**5.74**	**43**	*e*Sg	**Sg**	**09 03 09.6**	**-0.9**
SVKR				Smax			
	comp=N,98nm,1.5s						
NLYR	**Nelyaty**	**6.91**	**47**	*e*	**Pg**	**09 02 16.3**	**-2.4**
NLYR				*e*Sg	Sg	09 03 42.4	-5.7
NLYR				Smax			
	comp=N,43nm,1.0s						
BOD	**Bodaibo**	**7.12**	**34**	*e*Sg	Sg	09 03 48.2	-6.7
BOD				Smax			
	comp=N,16nm,0.8s						
ARDR	**Aradan**	**8.02**	**278**	*e*Sg	Sb	09 04 11.7	+10
CRS	**Chara**	**8.32**	**51**	*e*Sg	**Sg**	**09 04 29.0**	**-4.4**
CRS				Smax			
	comp=N,11nm,1.0s						
TUP	**Tupik**	**8.37**	**69**	*e*	Sb	09 04 04.0	-7.4
TUP				*e*Sg	Sg	09 04 27.8	-7.1
TUP				Smax			
	comp=N,37nm,1.9s						

*IDC **02** 09:44:13.2±0.9, 12°.44N×142°.19E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/28, mbtmp4.0/11, MS3.7/1, Ms1 3.7/1, ms1mx3.3/35, Error ellipse: s-maj=32.1km s-min=18.8km az=73.0*

ISC 02 09:44:15.2±1.1, 12°.7N±0°.2×143°.1E±0°.4, h28km, n13, σ1§48/10, mb4.1/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**22.27**	**169**	P	**P**	**P**	**09 49 13.0**	**+2.7**
	2.0nm,0.4s,baz=322,slow=18,SNR=2.1							
KSRS	**Korea Array**	**28.20**	**334**	LR		LR	10 00 46.0	
	comp=Z,135nm,18.3s,baz=320,slow=36							
WRA	**Warramunga Arr**	**33.52**	**195**	P		**P**	**09 50 51.0**	**-1.5**
	2.0nm,0.7s,baz=12,slow=9.5,SNR=13							
CMAR	**Chiang Mai Arr**	**42.86**	**284**	P		P	09 52 06.1	-5.3
	1.9nm,0.8s,baz=82,slow=6.2,SNR=8.8							
SONM	**Songino Array**	**46.54**	**326**	P		**P**	**09 52 42.0**	**+1.5**
	0.2nm,0.6s,baz=141,slow=9.3,SNR=2.5							
MKAR	**Makanchi Array**	**60.99**	**317**	P		**P**	**09 54 25.9**	**-0.3**
	1.7nm,0.8s,baz=92,slow=8.4,SNR=16							
ZALV	**Zalesovo Beam**	**61.40**	**325**	P		**P**	**09 54 29.0**	**+0.3**
	0.4nm,0.5s,baz=108,slow=9.3,SNR=3.1							
KURBB	**Kurchatov Arra**	**64.24**	**320**	P		**P**	**09 54 47.5**	**-0.2**
	3.8nm,0.7s,baz=106,slow=6.5,SNR=12							
BVAR	**Borovoye Array**	**69.61**	**322**	P		**P**	**09 55 21.4**	**-0.4**
	2.9nm,0.6s,baz=110,slow=8.5,SNR=18							
ILAR	**Eielson Array**	**70.15**	**25**	P		P	09 55 31.1	+6.1
	1.0nm,0.6s,baz=249,slow=6.0,SNR=21							
AKTO	**Aktyubinsk**	**77.26**	**319**	P		**P**	**09 56 06.4**	**-0.6**
	0.7nm,0.6s,baz=80,slow=8.2,SNR=4.3							
FINES	**FINESS Array B**	**91.28**	**335**	P		**P**	**09 57 17.8**	**-0.1**
	1.9nm,0.9s,baz=88,slow=12,SNR=4.5							
LPAZ	**La Paz**	**149.55**	**101**	PKPbc		**PKPab**	**10 04 07.2**	**-1.6**
	0.9nm,0.6s,baz=283,slow=0.8,SNR=3.6							

KRSC 02 09:45:46.6±1.1, 50°.62N×156°.77E, h131km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.42**	**279**	P	P	Pn	09 46 06.6	+1.3
SKR				S		Sn	09 46 20.3	+0.8
PAU	**Pauzhetka**	**0.85**	**2**	P	P	Pn	09 46 09.5	+1.3
PAU				S		Sn	09 46 26.4	+1.7
ASAK	**Asacha**	**1.90**	**21**	P	P	Pn	09 46 21.5	+1.9
ASAK				S		Sn	09 46 47.3	+2.5
MTVR	**Mutnovka**	**2.07**	**25**	P	P	Pn	09 46 22.9	+1.3
MTVR				S		Sn	09 46 49.3	+0.9
RUS	**Russkaya**	**2.12**	**30**	P	P	Pn	09 46 23.1	+1.1
RUS				S		Sn	09 46 49.5	+0.3
APC	**Apacha**	**2.32**	**6**	P	P	Pn	09 46 25.2	+0.6
UGLR	**Uglovaya**	**2.89**	**25**	P	P	Pn	09 46 33.9	+2.0
KOK	**Koryaka**	**2.92**	**23**	P	P	Pn	09 46 34.6	+2.3
SMAR	**Somma**	**2.93**	**25**	P	P	Pn	09 46 34.3	+1.7
KRER	**Koryakskii**	**2.96**	**24**	P	P	Pn	09 46 34.4	+1.5
SDLR	**Sedlovina**	**2.97**	**25**	P	P	Pn	09 46 34.8	+1.8
KRX	**Arik**	**2.98**	**22**	P	P	Pn	09 46 34.6	+1.4
GNL	**Ganaly**	**3.17**	**13**	P	P	Pn	09 46 36.7	+1.2

*IDC **02** 09:49:40.3±1.1, 16°.19N×121°.78E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, Error ellipse: s-maj=55.2km s-min=23.1km az=70.0*

*ISCJB **02** 09:49:42.5±0.9, 16°.50N±0°.05×122°.60E±0°.07, h29km, mb3.6/7, Error ellipse: s-maj=10.4km s-min=6.6km az=9.5*

*MAN **02** 09:49:43, 16°.51N×122°.49E, h11km, mb4.8, ML3.7, MS3.7*

ISC 02 09:49:44.0±1.0, 16°.50N±0°.04×122°.42E±0°.08, h29km, n23, σ1§27/19, mb3.6/7, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.56**	**1**	⇑*e*P	**Pb**	**Pb**	**09 49 54.2**	**-1.1**
CAUP	**Cauayan**	**0.72**	**308**	*e*P	**Pb**	**Pb**	**09 49 57.6**	**-0.4**
CAUP				*e*S	**Sb**	**Sb**	**09 50 07.6**	**+0.1**
BALP	**Baler**	**1.11**	**227**	*e*P	**Pb**	**Pb**	**09 50 04.0**	**-0.5**
BALP				*e*S	**Sn**	**Sn**	**09 50 16.8**	**-1.1**
CVP	**Callao Caves**	**1.32**	**335**	⇓*e*P	**Pb**	**Pb**	**09 50 06.8**	**-1.4**
CVP				*i* S	**Sb**	**Sb**	**09 50 25.9**	**+1.2**
PCPH	**Palayan**	**1.58**	**234**	⇑*e*P	**Pb**	**Pb**	**09 50 11.6**	**-0.9**
PCPH				*e*S	**Sb**	**Sb**	**09 50 33.5**	**+1.4**
APYP	**Conner**	**1.76**	**321**	*e*P	**Pn**	**Pn**	**09 50 13.5**	**+1.0**
ABRA	**Dolores**	**1.99**	**305**	*e*P	**Pn**	**Pn**	**09 50 17.2**	**+1.5**
BOLP	**Bolinao**	**2.41**	**267**	*e*P	**Pb**	**Pb**	**09 50 25.8**	**-0.8**
PIP	**Pasuquin**	**2.50**	**317**	⇓*i*P	**Pb**	**Pb**	**09 50 26.0**	**-2.2**
SCZP	**Santa Cruz**	**2.51**	**254**	*e*P	**Pb**	**Pb**	**09 50 25.9**	**-2.6**
KSRS	**Korea Array**	**21.43**	**12**	P	P	P	09 54 34.9	+5.1
	1.0nm,0.7s,baz=199,slow=12,SNR=5.0							
SONM	**Songino Array**	**33.92**	**341**	P		**P**	**09 56 24.5**	**-0.1**
	0.3nm,0.6s,baz=152,slow=9.5,SNR=3.0							
WRA	**Warramunga Arr**	**38.07**	**162**	P		**P**	**09 56 59.9**	**-0.4**
	1.1nm,0.8s,baz=344,slow=9.7,SNR=4.8							
H11S3	**WAKE ISLAND Hy**	**42.19**	**81**	T		T	10 42 35.3	
	baz=276,slow=72,SNR=116							
H11S1	**WAKE ISLAND Hy**	**42.20**	**80**	T		T	10 42 40.7	
	baz=276,slow=72,SNR=58							
H11S2	**WAKE ISLAND Hy**	**42.21**	**81**	T		T	10 42 37.0	
	baz=276,slow=72,SNR=41							
H11N1	**WAKE ISLAND Hy**	**42.31**	**79**	T		T	10 42 46.6	
	baz=276,slow=75,SNR=27							
H11N2	**WAKE ISLAND Hy**	**42.31**	**79**	T		T	10 42 46.9	
	baz=276,slow=75,SNR=34							
H11N3	**WAKE ISLAND Hy**	**42.32**	**79**	T		T	10 42 49.6	
	baz=276,slow=75,SNR=16							
MKAR	**Makanchi Array**	**44.84**	**321**	P		**P**	**09 57 56.2**	**+0.6**
	0.5nm,0.7s,baz=115,slow=8.4,SNR=6.1							
KURBB	**Kurchatov Arra**	**48.85**	**324**	P		**P**	**09 58 27.5**	**+0.7**
	0.5nm,0.3s,baz=121,slow=8.1,SNR=6.0							
FINES	**FINESS Array B**	**78.66**	**331**	P		**P**	**10 01 42.9**	**-0.2**
	3.1nm,1.1s,baz=90,slow=1.9,SNR=7.6							
YKA	**Yellowknife Ar**	**89.56**	**23**	P		P	10 02 42.9	+4.4
	0.2nm,0.6s,baz=307,slow=5.0,SNR=4.2							

*CSEM **02** 09:55:11.6±0.4, 50°.41N×18°.85E, h2km*

PRU 02 09:55:13.0, 50°.30N×18°.86E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.09**	**96**	*e*Pg	Pg	Pg	09 55 14.5	-0.2
CHZP				*e*Sg	Sg	Sg	09 55 16.2	+0.4
OJC	**Ojcow**	**0.61**	**97**	*e*Pg	Pg	Pg	09 55 23.5	-1.2
OJC				*e*Sg	Sg	Sg	09 55 32.5	-0.1
OJC	**Ojcow**	**0.61**	**97**	*e*Pg	Pg	Pg	09 55 23.5	-1.2
OJC				*e*Sg	Sg	Sg	09 55 32.5	-0.1
OKC	**Ostrava-Krasne**	**0.65**	**225**	*e*PG	Pg	Pg	09 55 25.7	+0.2
OKC				*e*SG	Sg	Sg	09 55 34.8	+0.8
	6.6nm,0.3s							
MORC	**Moravsky Berou**	**1.00**	**239**	*e*Pg	Pg	Pg	09 55 32.5	+0.3
MORC				*e*Sg	Sb	Sb	09 55 46.2	-0.8
KRLC	**Kraliky**	**1.35**	**261**	*e*PG	Pg	Pg	09 55 37.5	-1.6
KRLC				*e*SG	Sg	Sg	09 55 56.0	-0.7
KRLC	**Kraliky**	**1.35**	**261**	Pg	Pg	Pg	09 55 37.5	-1.6
KRLC				Sg	Sg	Sg	09 55 56.0	-0.7
DPC	**Dobruska-Polom**	**1.63**	**273**	*e*PG	Pn	Pg	09 55 42.3	-0.7
DPC				*e*SG	Sn	Sg	09 56 03.8	-0.9
DPC	**Dobruska-Polom**	**1.63**	**273**	Pg	Pn	Pg	09 55 42.3	-0.7
DPC				Sg	Sn	Sg	09 56 03.8	-0.9
KSP	**Ksiaz**	**1.73**	**289**	Pn	Pn	Pg	09 55 42.9	-1.4
KSP				*e*Pg	Pb	Pb	09 55 45.4	-0.2
KSP				*e*Sg	Sb	Sb	09 56 07.9	+0.1
VRAC	**Vranov**	**1.77**	**237**	*e*Pn	Pn	Pg	09 55 45.3	+0.4
VRAC				*e*Sg	Sb	Sb	09 56 09.0	-0.2
UPC	**Upice**	**1.83**	**278**	*e*SG	Sg	Sg	09 56 11.5	-0.5
UPC	**Upice**	**1.83**	**278**	Sg	Sg	Sg	09 56 11.5	-0.5
PRU	**Pruhonice**	**2.79**	**265**	*e*SG	Sg	Sg	09 56 41.7	-1.1
PRU	**Pruhonice**	**2.79**	**265**	Sg	Sg	Sg	09 56 41.7	-1.1
BRG	**Berggiesshubel**	**3.19**	**282**	SG	Sb	Sb	09 56 52.0	+2.2
	1.1nm,0.5s							
BRG	**Berggiesshubel**	**3.19**	**282**	SG	Sg	Sg	09 56 54.9	-0.5
	2.3nm,0.8s							
KHC	**Kasperske Hory**	**3.62**	**253**	*e*SG	Sg	Sg	09 57 08.3	-1.2
KHC	**Kasperske Hory**	**3.62**	**253**	Sg	Sg	Sg	09 57 08.3	-1.2
CLL	**Collm**	**3.85**	**287**	*e*Sg	Sg	Sg	09 57 21.0	+4.3

*CSEM **02** 09:56:53.9, 45°.74N×26°.63E, h144km, MD3.0/1, After BUC*

BUC 02 09:56:53.9±0.8, 45°.74N×26°.63E, h144km±5km, MD2.9/1, 12C-6D, Error ellipse: s-maj=10.8km s-min=4.6km az=11.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.12**	**6**	S	S	Sn	09 57 27.5	-0.7
PLOR	**Plostina**	**0.12**	**6**	*i* S	S	Sn	09 57 27.5	-0.7
PLOR	**Plostina**	**0.12**	**6**	*i* S	S	Sn	09 57 27.5	-0.7
VRI	**Vrincioaia**	**0.15**	**27**	⇓*i*P	P	Pn	09 57 13.2	-0.2
VRI	**Vrincioaia**	**0.15**	**27**	⇓*i*P	P	Pn	09 57 13.2	-0.2
VRI				*i* S	S	Sn	09 57 27.5	-0.7
VRI	**Vrincioaia**	**0.15**	**27**	⇓*i*P	P	Pn	09 57 13.2	-0.2
VRI				*i* S	S	Sn	09 57 27.5	-0.7
MLR	**Muntele Rosu**	**0.54**	**243**	⇑*i*P	P	Pn	09 57 14.7	-0.2
MLR	**Muntele Rosu**	**0.54**	**243**	⇑*i*P	P	Pn	09 57 14.7	-0.2
MLR				*i* S	S	Sn	09 57 30.4	-0.5
MLR	**Muntele Rosu**	**0.54**	**243**	⇑*i*P	P	Pn	09 57 14.7	-0.2
MLR				*i* S	S	Sn	09 57 30.4	-0.5
ISR	**Istrita**	**0.62**	**186**	⇑*i*P	P	Pn	09 57 15.6	+0.3
ISR	**Istrita**	**0.62**	**186**	⇑*i*P	P	Pn	09 57 15.6	+0.3
ISR				*i* S	S	Sn	09 57 31.6	0.0
ISR	**Istrita**	**0.62**	**186**	⇑*i*P	P	Pn	09 57 15.6	+0.3
ISR				*i* S	S	Sn	09 57 31.6	0.0
VOIR		**1.15**	**256**	⇑*i*P	P	Pn	09 57 20.0	+0.4
VOIR		**1.15**	**256**	⇑*i*P	P	Pn	09 57 20.0	+0.4
VOIR				*i* S	S	Sn	09 57 37.8	-1.3
VOIR		**1.15**	**256**	⇑*i*P	P	Pn	09 57 20.0	+0.4
VOIR				*i* S	S	Sn	09 57 37.8	-1.3
CFR	**Carcaliu**	**1.20**	**117**	⇓*i*P	P	Pn	09 57 19.6	-0.3
CFR	**Carcaliu**	**1.20**	**117**	⇓*i*P	P	Pn	09 57 19.6	-0.3
CFR				*i* S	S	Sn	09 57 38.2	-1.4
CFR	**Carcaliu**	**1.20**	**117**	⇓*i*P	P	Pn	09 57 19.6	-0.3
CFR				*i* S	S	Sn	09 57 38.2	-1.4
TIRR	**Tirgusor**	**1.79**	**135**	⇑*i*P	P	Pn	09 57 25.5	-0.7
TIRR	**Tirgusor**	**1.79**	**135**	⇑*i*P	P	Pn	09 57 25.5	-0.7
TIRR	**Tirgusor**	**1.79**	**135**	⇑*i*P	P	Pn	09 57 25.5	-0.7

*ISCJB **02** 10:23:45.3±0.6, 19°.7S±0°.1×176°.1W±0°.1, h10km, mb4.0/8, MS4.2/6, Error ellipse: s-maj=18.0km s-min=11.6km az=146.7*

*IDC **02** 10:23:45.9±0.8, 19°.66S×176°.13W, h0km, mb4.0/8, mb1 4.3/11, mb1mx4.2/22, mbtmp4.2/11, ML2.6/2, MS4.1/10, Ms1 4.1/10, ms1mx3.9/29, Error ellipse: s-maj=30.4km s-min=19.5km az=143.0*

ISC 02 10:23:47.0±0.7, 19°.7S±0°.1×176°.1W±0°.1, h10km, n27, σ1§41/18, mb3.9/8, MS4.3/6, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.07**	**37**	Pn	**Pn**	**Pn**	**10 25 31.0**	**+0.4**
	1.1nm,0.3s,baz=58,slow=6.0,SNR=3.6							
AFI				LR	LR	LR	10 27 34.4	
	comp=Z,306nm,18.9s,baz=226,slow=32							
RAO	**Raoul Island**	**9.69**	**189**	LR		LR	10 29 34.1	
	comp=Z,μm,19.3s,baz=8.5,slow=36							
RAR	**Rarotonga**	**15.39**	**99**	Pn	**Pn**	**Pn**	**10 27 23.7**	**-0.6**
	0.9nm,0.3s,baz=45,slow=0.0,SNR=5.8							
RAR				LR	LR	LR	10 31 59.3	
	comp=Z,502nm,21.1s,baz=46,slow=32							
DZM	**Mont Dzumac**	**16.48**	**259**	eLR	LR	LR	10 31 40.5	
	2μm,25.1s							
DZM	**Mont Dzumac**	**16.48**	**259**	LR	LR	LR	10 32 55.7	
	comp=Z,1μm,20.1s,baz=50,slow=33							
URZ	**Urewera**	**19.45**	**196**	P		**P**	**10 28 13.0**	**-0.6**
	0.1nm,0.3s,baz=5.7,slow=10,SNR=3.3							
URZ				LR	LR	LR	10 34 16.1	
	comp=Z,386nm,21.3s,baz=21,slow=32							
TBI	**Tubuai**	**25.05**	**103**	eLQ	LQ	LQ	10 34 14.6	
	1μm,28.2s							
TBI				eLR	LR	LR	10 35 23.8	
	677nm,28.2s							
PPT2	**Papeete2**	**25.22**	**90**	eLQ	LQ	LQ	10 34 15.7	
	566nm,26.0s							
PPT2				eLR	LR	LR	10 35 25.3	
	2μm,26.8s,baz=262							
PPT	**Papeete**	**25.23**	**90**	LR	LR	LR	10 36 29.8	
	comp=Z,382nm,20.2s,baz=267,slow=30							
PMG	**Port Moresby**	**36.91**	**281**	P		**P**	**10 30 56.9**	**+0.7**
	10.0nm,0.9s,baz=141,slow=14,SNR=2.9							
RKT	**Rikitea**	**38.37**	**103**	eLR	LR	LR	10 41 32.2	
	631nm,30.0s,baz=262							
STKA	**Stephens Creek**	**39.75**	**244**	P		**P**	**10 31 21.4**	**+1.4**
	2.7nm,0.9s,baz=150,slow=9.6,SNR=3.2							
STKA				LR	LR	LR

IDC ***02*** *10:30:16.6±8.0, 19°.39N×62°.39W, h49km±79km, mb3.7/13, mb1 4.0/14, mb1mx3.7/28, mbtmp3.8/14, ML3.3/1, Error ellipse: s-maj=27.4km s-min=14.5km az=54.0*

ISC 02 10:30:14.7±0.7, **19°.32N**±0°.07×**62°.2W**±0°.1, **h35km**, **n41**, σ1°**32**/53, **mb4.0**/12, **2C-2D**, **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.70**	**165**	*eP*	**Pn**	**10 30 41.5**	**-0.3**
ANWB				*eS*	**Sn**	**10 31 02.1**	**-0.3**
SKI	**Saint Kitts**	**2.04**	**194**	*eP*	**Pn**	**10 30 47.0**	**+0.5**
SKI				*eS*	**Sn**	**10 31 10.3**	**-0.5**
BPA	**Boggy Peak**	**2.29**	**171**	*eP*	**Pn**	**10 30 50.4**	**+0.3**
BPA				*eS*	**Sn**	**10 31 17.9**	**+0.8**
H05N1	**Guadeloupe/Mar** SNR=76	**3.19**	**159**	P	**Pn**	**10 31 01.4**	**-1.0**
H05N1				S	**Sn**	**10 31 37.1**	**-2.3**
DEG	**La Desirade**	**3.19**	**159**	*eP*	**Pn**	**10 31 02.1**	**-0.5**
LZG	**Guadaloupe-1**	**3.19**	**172**	*eP*	**Pn**	**10 31 03.6**	**+1.1**
SSG	**Sans Toucher**	**3.26**	**171**	*eP*	**Pn**	**10 31 04.1**	**+0.6**
MLG	**Mont-d'or**	**3.28**	**171**	*ip*	**Pn**	**10 31 04.8**	**+1.1**
TAG	**Tarade**	**3.31**	**170**	*eP*	**Pn**	**10 31 05.2**	**+1.0**
ECG	**Echelle**	**3.31**	**170**	*eP*	**Pn**	**10 31 04.8**	**+0.6**
SCG	**Saint Claude**	**3.32**	**171**	*eP*	**Pn**	**10 31 05.0**	**+0.7**
SCG				*eS*	**Sn**	**10 31 42.5**	**0.0**
HMG	**Houelmont**	**3.36**	**171**	*eP*	**Pn**	**10 31 05.4**	**+0.6**
MGG	**Marie-Galante**	**3.50**	**165**	*eP*	**Pn**	**10 31 07.1**	**+0.5**
TBG	**Guadaloupe-3**	**3.50**	**171**	*eP*	**Pn**	**10 31 07.6**	**+1.0**
BBL	**Barber's Block**	**3.85**	**169**	*eP*	**Pn**	**10 31 11.6**	**+0.2**
FDF	**Fort de France**	**4.68**	**167**	*eP*	**Pn**	**10 31 23.4**	**+0.4**
FDF				*eS*	**Sn**	**10 32 12.8**	**-3.3**
BVM	**Bellevue**	**4.70**	**166**	*eP*	**Pn**	**10 31 24.5**	**+1.3**
ZAM	**Aeronautique**	**4.86**	**166**	*eP*	**Pn**	**10 31 25.5**	**+0.1**
ZAM				*eS*	**Sn**	**10 32 18.2**	**-2.3**
LPMF	**Morne Lapointe**	**4.88**	**165**	*eP*	**Pn**	**10 31 25.7**	**+0.1**
TRMF	**Trois Ilets**	**4.89**	**166**	*eP*	**Pn**	**10 31 26.8**	**+0.9**
BIM	**Bigot**	**4.91**	**167**	*eP*	**Pn**	**10 31 28.1**	**+2.0**
MVM	**Montagne Vaucl**	**4.91**	**165**	*eP*	**Pn**	**10 31 27.6**	**+1.4**
H05S1	**Guadeloupe/Mar**	**5.05**	**164**	P	**Pn**	**10 31 29.4**	**+1.4**
H05S1	SNR=38			S	Sn	10 32 18.6	-6.6
SLB	**Belfond**	**5.58**	**168**	*eP*	**Pn**	**10 31 36.4**	**+1.0**
SLB				*eS*	**Sn**	**10 32 36.6**	**-1.8**
MCLT	**Moule a Chique**	**5.72**	**167**	*eP*	**Pn**	**10 31 37.6**	**+0.4**
MCLT				*eS*	**Sn**	**10 32 38.5**	**-3.1**
SVV	**Soufriere Volc**	**6.05**	**171**	*eP*	**Pn**	**10 31 43.4**	**+1.6**
SVV				*eS*	**Sn**	**10 32 47.0**	**-2.8**
SVB	**Belmont**	**6.09**	**171**	*eP*	**Pn**	**10 31 43.5**	**+1.2**
SVB				*eS*	**Sn**	**10 32 48.3**	**-2.5**
ROSC	**El Rosal** 2.0nm,0.3s,baz=266,slow=23,SNR=3.7	**18.60**	**221**	P	**Pn**	**10 34 30.4**	**+0.5**
PTGA	**Pitinga** 2.9nm,0.4s,baz=287,slow=23,SNR=7.4	**20.05**	**173**	P	**Pn**	**10 34 48.4**	**+1.4**
APG	**El Apazote** 6.4nm,0.8s,baz=59,slow=19,SNR=6.0	**27.30**	**265**	P	**P**	**10 35 54.8**	**-1.7**
SIV	**San Ignacio** 2.5nm,0.5s,baz=9.8,slow=8.1,SNR=15	**35.11**	**178**	P	**P**	**10 37 05.4**	**+0.4**
LPAZ	**La Paz** 1.1nm,0.6s,baz=48,slow=7.8,SNR=5.2	**35.86**	**190**	P	**P**	**10 37 13.5**	**+1.4**
TXAR	**Lajitas Array** 0.5nm,0.8s,baz=95,slow=11,SNR=6.9	**38.87**	**293**	P	**P**	**10 37 36.2**	**-0.8**
CPUP	**Villa Florida** 2.0nm,0.6s,baz=334,slow=9.2,SNR=4.9	**45.63**	**174**	P	**P**	**10 38 32.1**	**+0.3**
PDAR	**Pinedale Array** 1.0nm,0.9s,baz=106,slow=8.1,SNR=7.0	**46.06**	**311**	P	**P**	**10 38 34.3**	**-1.2**
PDAR				PcP	**PcP**	**10 40 12.2**	**+0.7**
NVAR	**Mina Array Bea** 0.8nm,0.9s,baz=112,slow=3.5,SNR=3.7	**51.86**	**304**	P	**P**	**10 39 19.4**	**-0.5**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=95,slow=6.8,SNR=3.7	**56.01**	**334**	P	**P**	**10 39 49.1**	**-0.5**
PLCA	**Paso Flores** 1.2nm,0.7s,baz=108,slow=7.4,SNR=18	**56.40**	**187**	P	**P**	**10 40 19.9**	**+0.4**
TORD	**Torodi Ar. Bea** 2.9nm,0.7s,baz=15,slow=8.9,SNR=9.7	**61.40**	**85**	P	**P**	**10 40 29.4**	**+1.5**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=290,slow=5.8,SNR=2.9	**70.43**	**333**	P	**P**	**10 41 24.9**	**-0.2**
BRTR	**Keskin Array B** 1.5nm,0.8s,baz=98,slow=5.1,SNR=19	**82.25**	**51**	P	**P**	**10 42 32.9**	**+0.1**
PETK	**Petropavlovsk-** 1.3nm,0.5s,baz=205,slow=3.6,SNR=16	**50.34**	**24**	P	**P**	**10 57 19.4**	**+1.3**
MKAR	**Makanchi Array** 2.0nm,0.5s,baz=126,slow=7.8,SNR=68	**52.80**	**323**	P	**P**	**10 57 34.9**	**-1.8**
MKAR				PcP	**PcP**	**10 58 44.6**	**-1.3**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=130,slow=6.3,SNR=5.9	**55.45**	**332**	P	**P**	10 57 52.5	-3.3
SEY	**Seymchan** 1.5nm,0.6s,baz=25,slow=22,SNR=7.4	**56.60**	**14**	P	**P**	**10 58 05.7**	**+1.7**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=243,slow=4.7,SNR=11	**80.13**	**26**	P	**P**	**11 00 30.4**	**-0.8**
ARCES	**ARCESS Array B** 3.0nm,0.5s,baz=78,slow=6.5,SNR=38	**85.05**	**340**	P	**P**	**11 00 55.2**	**-1.4**
FINES	**FINESS Array B** 1.3nm,0.5s,baz=92,slow=4.6,SNR=21	**86.72**	**332**	P	**P**	11 01 03.1	-1.9
NOA	**NORSAR Array B** 1.1nm,0.9s,baz=66,slow=4.4,SNR=2.3	**93.59**	**334**	P	**P**	11 01 35.0	-2.3
YKA	**Yellowknife Ar** 0.7nm,0.8s,baz=300,slow=4.6,SNR=14	**94.46**	**24**	P	**P**	**11 01 41.0**	**-0.2**
TXAR	**Lajitas Array** 0.1nm,0.8s,baz=8.1,slow=1.9,SNR=3.4	**118.25**	**50**	PKP	**PKPdf**	**11 07 09.0**	**-0.3**
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=75,slow=1.9,SNR=8.5	**120.73**	**291**	PKP	**PKPdf**	**11 07 12.3**	**-2.0**
PLCA	**Paso Flores** 2.5nm,0.8s,baz=267,slow=3.5,SNR=7.1	**145.36**	**157**	PKPbc	**PKPbc**	**11 07 59.4**	**0.0**

IDC ***02*** *10:48:18.8±0.6, 9°.38N×126°.11E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/24, mbtmp4.0/15, MS3.5/1, Ms1 3.5/1, ms1mx3.0/29, Error ellipse: s-maj=27.8km s-min=14.3km az=80.0*

MAN ***02*** *10:48:25, 9°.43N×126°.35E, h24km, mb5.0, ML3.9, MS4.0*

ISC 02 10:48:23.8±1.7, **9°.42N**±0°.04×**126°.44E**±0°.05, **h28km**±12km, **n50**, σ1°**61**/47, **mb4.1**/16, **4C-2D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.92**	**241**	*eP*	**Pn**	**10 48 41.7**	**+0.8**
BUTP				*eS*	**Sn**	**10 48 54.1**	**+0.8**
BIPH	**Bislig**	**1.23**	**184**	*ip*	**Pn**	**10 48 46.5**	**+1.4**
BIPH				*iS*	**Sn**	**10 49 02.8**	**+2.0**
MSLP	**Maasin**	**1.71**	**295**	*eP*	**Pb**	**10 48 53.7**	**-0.9**
CGP	**Cagayan de Oro**	**1.97**	**241**	*ip*	**Pn**	**10 48 56.6**	**+1.3**
CGP				*iS*	**Sb**	**10 49 21.7**	**-1.4**
BUKP	**Musuan**	**2.05**	**222**	*eP*	**Pb**	**10 48 59.1**	**-1.2**
PLP	**Palo**	**2.25**	**321**	*eP*	**Pn**	**10 49 01.0**	**+1.8**
PLP				*eS*	**Sn**	**10 49 28.3**	**+2.1**
MATI	**Mati**	**2.46**	**184**	*eP*	**Pb**	**10 49 06.6**	**-0.8**
TBP	**Tagbilaran**	**2.56**	**276**	*eP*	**Pn**	**10 49 05.1**	**+1.6**
TBP				*eS*	**Sn**	**10 49 34.9**	**+1.2**
LLP	**Lapu-Lapu**	**2.60**	**290**	*ip*	**Pn**	**10 49 06.1**	**+2.1**
LLP				*iS*	**Sn**	**10 49 36.3**	**+1.7**
CTBH	**Cotabato--PC H**	**3.08**	**225**	*ip*	**Pn**	**10 49 13.1**	**+2.6**
PAGZ	**Pagadian**	**3.40**	**243**	*eP*	**Pn**	**10 49 17.7**	**+2.7**
GUIM	**Jordan**	**3.98**	**288**	*eP*	**Pn**	**10 49 24.7**	**+1.7**
IPIL	**Ipil**	**4.15**	**247**	*eP*	Pn	10 49 28.9	+3.5
RCP	**Roxas**	**4.21**	**301**	*eP*	**Pn**	**10 49 29.1**	**+2.9**
PVCP	**Virac**	**4.72**	**332**	*eP*	**Pn**	**10 49 35.3**	**+2.2**
PALU	**Palau** baz=8.1,SNR=4.8	**8.21**	**104**	P	Pn	10 50 19.1	-2.1
PALU				S	**Sn**	**10 51 51.6**	**-1.6**
FAKI	**Fak Fak** baz=14,SNR=4.9	**13.55**	**154**	S	Sn	10 53 58.4	-5.8
MTN	**Manton Dam** baz=23,SNR=7.0	**22.60**	**168**	P	**P**	**10 53 24.2**	**+1.8**
MTN				S	**S**	**10 57 27.1**	**-1.5**
MANU	**Manus Island** baz=24,SNR=5.4	**23.75**	**118**	P	**P**	**10 53 37.5**	**+3.4**
KNRA	**Kununurra** baz=25,SNR=7.7	**25.04**	**175**	P	**P**	**10 53 46.5**	**+0.7**
FITZ	**Fitzroy Crossi** 2.7nm,0.7s,baz=0.7,slow=19,SNR=11	**27.35**	**182**	P	**P**	**10 54 07.0**	**+0.3**
KSRS	**Korea Array** 1.7nm,0.8s,baz=185,slow=9.7,SNR=7.0	**27.95**	**3**	P	**P**	**10 54 12.2**	**+0.4**
CMAR	**Chiang Mai Arr** 0.8nm,0.7s,baz=101,slow=8.1,SNR=6.1	**28.12**	**292**	P	**P**	**10 54 12.2**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,81nm,18.5s,baz=35,slow=33	**29.04**	**20**	LR	LR	11 04 17.1	
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=344,slow=8.5,SNR=13	**30.19**	**165**	P	**P**	**10 54 30.9**	**-1.1**
WRKA	**Warakurna** baz=35,SNR=14	**34.29**	**177**	P	**P**	**10 55 09.1**	**+1.2**
USRK	**Ussuriysk Arra** 3.1nm,0.9s,baz=181,slow=9.2,SNR=4.6	**34.99**	**7**	P	**P**	**10 55 14.3**	**+0.6**
MEEK	**Meekatharra** baz=37,SNR=3.8	**36.63**	**192**	P	**P**	**10 55 28.7**	**+0.7**
FORT	**Forrest** baz=40,SNR=11	**39.99**	**178**	P	**P**	**10 55 57.3**	**+1.1**
H11S3	**WAKE ISLAND Hy 40.01** baz=264,slow=66,SNR=148	**72**		T	T	11 38 51.5	
H11S1	**WAKE ISLAND Hy 40.02** baz=264,slow=66,SNR=124	**72**		T	T	11 38 52.3	
H11S2	**WAKE ISLAND Hy 40.03** baz=264,slow=66,SNR=135	**73**		T	T	11 38 52.5	
H11N1	**WAKE ISLAND Hy 40.37** baz=268,slow=75,SNR=80	**71**		T	T	11 39 27.1	
H11N2	**WAKE ISLAND Hy 40.38** baz=268,slow=75,SNR=82	**71**		T	T	11 39 24.5	
H11N3	**WAKE ISLAND Hy 40.39** baz=268,slow=75,SNR=88	**71**		T	T	11 39 31.1	
SONM	**Songino Array** 0.4nm,0.6s,baz=156,slow=9.6,SNR=7.1	**41.87**	**340**	P	**P**	**10 56 10.1**	**-1.6**
SONM				PcP	**PcP**	**10 58 06.3**	**-0.9**
BBOO	**Buckleboo** baz=43,SNR=10	**42.98**	**168**	P	**P**	**10 56 21.4**	**+0.7**
STKA	**Stephens Creek** 1.9nm,0.6s,baz=207,slow=22,SNR=4.5	**43.55**	**161**	P	**P**	**10 56 24.6**	**-0.7**

BJI ***02*** *11:06:26.1, 21°.99N×143°.24E, h250km, mB4.7/15, mb4.4/30*

ISCJB ***02*** *11:06:28.2±0.8, 22°.10N±0°.04×142°.97E±0°.07, h245km±6km, mb4.3/60, Error ellipse: s-maj=10.1km s-min=7.0km az=14.4*

MOS ***02*** *11:06:29.7±0.9, 22°.11N×142°.81E, h255km, mb4.5/20, Error ellipse: s-maj=15.3km s-min=6.6km az=120.7*

IDC ***02*** *11:06:30.9±3.3, 22°.15N×142°.73E, h249km±30km, mb3.9/20, mb1 4.0/22, mb1mx3.9/28, mbtmp4.4/22, Error ellipse: s-maj=16.2km s-min=9.7km az=88.0*

NEIC ***02*** *11:06:31.0±0.9, 22°.13N×142°.81E, h254km±7km, mb4.7/17, Error ellipse: s-maj=7.9km s-min=5.5km az=105.0*

JMA ***02*** *11:06:33.4±0.4, 22°.52N×143°.18E, h264km, M4.6*

ISC 02 11:06:30.5±0.6, **22°.18N**±0°.05×**142°.94E**±0°.07, **h250km**±3km, **h250km**:**pP-P**, **n166**, σ1°**34**/208, **mb4.3**/60, **3C-1D**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.48**	**351**	P	**Pn**	**11 07 40.0**	**0.0**
JHHJ				S	**S**	**11 08 33.0**	**-2.3**
CBIJ	**Chichi jima**	**4.94**	**352**	P	**Pn**	**11 07 45.9**	**+0.4**
CBIJ				*eS*	**S**	**11 08 42.1**	**-3.3**
CBIJ	**Chichi jima**	**4.94**	**352**	*ePn*	**Pn**	**11 07 45.5**	**0.0**
JHJ2	**Mitsune**	**11.23**	**346**	P	**Pn**	**11 09 04.3**	**-0.1**
BSO1	**Boso 1**	**12.54**	**353**	P	**Pn**	**11 09 20.3**	**+0.1**
BSO3	**Boso 3**	**12.75**	**351**	P	**Pn**	**11 09 22.6**	**-0.4**
JIE	**Ise**	**13.34**	**337**	P	**P**	**11 09 31.6**	**-0.3**
JKN2	**Miekihoku**	**13.37**	**335**	P	**P**	**11 09 32.1**	**-0.1**
JHMK	**Hamakita**	**13.38**	**341**	P	**Pn**	**11 09 30.7**	**-0.2**
JOD2	**Odawara 2**	**13.46**	**346**	P	**Pn**	**11 09 31.8**	**-0.2**
JOD2				*eS*	S	11 11 53.1	-8.2
JAM	**Amami Oshima**	**13.56**	**300**	P	**P**	**11 09 36.5**	**+2.1**
JTO	**Tosashimizu**	**13.92**	**322**	P	**P**	**11 09 39.9**	**+1.6**
JHU	**Hanno**	**13.99**	**348**	P	**Pn**	**11 09 37.7**	**-0.7**
JHU				*eS*	S	11 12 04.4	-8.9
JOW	**Kunigami**	**14.13**	**292**	P	**P**	**11 09 41.1**	**+0.4**
JOW	**Kunigami**	**14.13**	**292**	*ePn*	**P**	**11 09 40.4**	**-0.4**
JYT	**Yasato**	**14.20**	**351**	P	**P**	**11 09 41.5**	**+0.1**
JYT				*eS*	**S**	**11 12 12.6**	**-5.4**
MJAR	**Matsushiro Arr**	**14.89**	**345**	P	**Pn**	**11 09 50.1**	**+0.8**
MJAR				S	**S**	**11 12 33.0**	**-0.7**
MJAR	**Matsushiro Arr** 4.1nm,0.3s,baz=159,slow=5.9,SNR=38	**14.89**	**345**	P	**Pn**	**11 09 50.1**	**+0.8**
MJAR				S	**S**	**11 12 33.0**	**-0.7**
MAJO	**Matsushiro** 0.3nm,0.3s,baz=295,slow=33,SNR=6.6	**14.89**	**345**	*eP*	**Pn**	**11 09 49.8**	**+0.5**
MAJO	comp=Z,87nm,1.8s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,87nm,1.8s	**14.89**	**345**	*ePn*	**Pn**	**11 09 49.8**	**+0.5**
MAT	**Matsushiro**	**14.89**	**345**	P	**Pn**	**11 09 49.3**	**0.0**
MAT				S	**S**	**11 12 32.5**	**-1.2**
JNU	**Nakatsue** comp=Z,27nm,1.5s	**15.25**	**318**	*ePn*	**Pn**	**11 09 54.8**	**+1.1**
JNU	**Nakatsue** comp=Z,1.6nm,0.3s,baz=201,slow=2.1,SNR=16	**15.25**	**318**	P	**Pn**	**11 09 55.0**	**+1.3**
NACB	**Ninganchiao** comp=Z,19nm,0.8s	**19.73**	**280**	*eP*	**P**	**11 10 40.6**	**-1.1**
YHNB	**Yeheng** comp=Z,15nm,0.6s	**19.94**	**281**	*eP*	**P**	**11 10 43.4**	**-0.7**
KSRS	**Korea Array** comp=Z,2.1nm,0.3s,baz=146,slow=8.8,SNR=47	**19.99**	**323**	P	**P**	**11 10 43.3**	**-1.0**
KSAR	**Wonju Array Be**	**20.01**	**323**	P	**P**	**11 10 43.3**	**-1.2**
SSLB	**Suanglung** comp=Z,57nm,0.8s	**20.31**	**279**	*eP*	**P**	**11 10 47.2**	**-0.8**
USRK	**Ussuriysk Arra** comp=Z,2.6nm,0.8s,baz=155,slow=16,SNR=3.3	**23.75**	**340**	P	**P**	**11 11 21.1**	**+0.9**
BJI	**Beijing** comp=Z,5.0nm,0.7s	**28.85**	**314**	P pmax	**P** pmax	**11 12 05.5**	**-0.4**
MYLDM	**Lahad Datu** comp=Z,34nm,1.1s	**29.07**	**238**	*eP*	**P**	**11 12 07.5**	**-0.5**
QIZ	**Qiongzhong**	**31.11**	**270**	P	**P**	**11 12 26.0**	**0.0**
QIZ				pP	**pP**	**11 13 14.7**	**-0.9**
QIZ				sP	**sP**	**11 13 42.4**	**-2.2**
QIZ				S	**S**	**11 17 15.4**	**+2.5**
QIZ	comp=Z,8.0nm,1.4s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**32.34**	**312**	*eP*	**P**	**11 12 37.5**	**+0.9**
HHC				PP	**PP**	**11 13 58.3**	**+3.0**
HHC				S	**S**	**11 17 32.3**	**+0.5**
HHC				sS	**sS**	**11 19 04.6**	**+3.3**
HHC				SS	**SS**	**11 19 53.5**	**-4.1**
HHC				ScS	**ScS**	**11 22 35.4**	**-2.2**
HHC	comp=Z,35nm,1.1s			pmax	pmax		
HHC	comp=Z,290nm,5.1s			pmax	pmax		
HHC	comp=Z,470nm,14.1s			LR	LR		
HHC	comp=Z,280nm,11.0s			LR	LR		
HHC	comp=Z,460nm,21.1s			LR	LR		
GYA	**Guiyang**	**33.26**	**285**	*eP*	**P**	**11 12 45.8**	**+1.0**
GYA				pP	**pP**	**11 13 35.9**	**+1.1**
GYA				PP	**PnPn**	**11 14 07.2**	**+1.3**
GYA				PcP	**PcP**	**11 15 20.0**	**-1.0**
GYA				S	**S**	**11 17 48.2**	**+1.9**
GYA				PcS	**PcS**	**11 19 05.1**	**-2.1**
GYA				ScS	**ScS**	**11 22 40.8**	**-2.1**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
SBUM	**Sibu** comp=Z,14nm,0.6s	**35.71**	**241**	*eP*	**P**	**11 13 05.3**	**-0.4**
CD2	**Chengdu**	**35.97**	**292**	*eP*	**P**	**11 13 07.8**	**0.0**
CD2				sP	**sP**	**11 14 27.1**	**0.0**
CD2				PP	**PnPn**	**11 14 40.2**	**+2.1**
CD2				SS	**SS**	**11 21 11.8**	**-4.1**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
LZH	**Lanzhou**	**36.60**	**301**	*eP*	**P**	**11 13 13.5**	**+0.3**
LZH				pP	**pP**	**11 14 01.5**	**-2.4**
LZH	comp=Z,17nm,1.0s			pmax	pmax		
KMI	**Kunming**	**36.85**	**283**	P	**P**	**11 13 16.9**	**+1.4**
KMI	comp=Z,8.0nm,0.7s			pmax	pmax		
KSM	**Kuching** comp=Z,5.9nm,0.7s	**37.83**	**242**	*eP*	**P**	**11 13 21.9**	**-1.6**
ULN	**Ulaanbaatar** comp=Z,8.6nm,0.7s	**38.45**	**321**	*eP*	**P**	**11 13 28.9**	**+0.4**
SONM	**Songino Array**	**38.82**	**320**	P	**P**	**11 13 31.8**	**+0.3**
SONM				PcP	**PcP**	**11 15 38.0**	**+0.8**
SONM	**Songino Array** comp=Z,5.7nm,0.5s,baz=133,slow=7.3,SNR=181	**38.82**	**320**	P	**P**	**11 13 31.8**	**+0.3**
SONM	comp=Z,0.8nm,0.7s,baz=130,slow=5.3,SNR=4.0			PcP	**PcP**	**11 15 38.0**	**+0.8**
GTA	**Gaotai**	**40.41**	**305**	*eP*	**P**	**11 13 43.8**	**-0.9**
GTA				pP	**pP**	**11 14 36.8**	**+0.5**
GTA				sP	**sP**	**11 15 05.0**	**+0.2**
GTA	comp=Z,5.0nm,1.3s			pmax	pmax		
CM31	**Chiang Mai Arr**	**41.32**	**273**	*eP*	**P**	**11 13 51.8**	**-0.4**
	comp=Z,3.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.32**	**273**	P	**P**	**11 13 52.0**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,2.6nm,0.5s,baz=84,slow=6.4,SNR=24	**41.32**	**273**	P	**P**	**11 13 52.0**	**-0.2**
ZAK	**Zakamensk**	**41.83**	**322**	*eP*	**P**	**11 13 54.8**	**-1.2**
ZAK	comp=Z,8.0nm,0.9s			pmax	pmax		
TLY	**Talaya**	**42.24**	**324**	*eP*	**P**	**11 14 00.2**	**+1.0**
TLY	comp=Z,5.0nm,0.8s			pmax	pmax		
TLY	**Talaya** comp=Z,4.6nm,0.8s	**42.24**	**324**	*eP*	**P**	**11 14 00.2**	**+1.0**
WRAB	**Tennant Creek**	**42.69**	**192**	*eP*	**P**	**11 14 02.7**	**-0.5**
WRAB	comp=Z,23nm,1.5s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,23nm,1.5s	**42.69**	**192**	*eP*	**P**	**11 14 02.7**	**-0.5**
WRA	**Warramunga Arr**	**42.70**	**192**	P	**P**	**11 14 02.5**	**-0.7**
WRA	**Warramunga Arr** comp=Z,2.4nm,0.3s,baz=8.4,slow=8.7,SNR=142	**42.70**	**192**	P	**P**	**11 14 02.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**43.47**	**204**	P	**P**	**11 14 08.5**	**-0.8**
FITZ	**Fitzroy Crossi** comp=Z,3.0nm,0.4s,baz=53,slow=5.1,SNR=28	**43.47**	**204**	P	**P**	**11 14 08.5**	**-0.8**
MOY	**Mondy**	**43.70**	**323**	*eP*	**P**	**11 14 11.4**	**+0.4**
KULM	**Kulim** comp=Z,9.7nm,0.6s	**44.18**	**254**	*eP*	**P**	**11 14 15.3**	**+0.1**
IPM	**Ipoh** comp=Z,163nm,2.3s	**44.21**	**253**	*eP*	**P**	**11 14 13.9**	**-1.5**
AS31	**Alice Springs**	**46.41**	**191**	*eP*	**P**	**11 14 31.2**	**-1.3**
PSI	**Prapat**	**46.84**	**252**	P	**P**	**11 14 36.0**	**-0.2**
PSI	**Prapat** comp=Z,15nm,0.6s,baz=82,slow=3.7,SNR=8.5	**46.84**	**252**	P	**P**	**11 14 36.0**	**-0.2**
GSI	**Gunungsitoli** comp=Z,59nm,0.4s	**48.74**	**251**	*eP*	**P**	**11 14 49.0**	**-1.5**
UNV	**Unalaska Valle**	**49.36**	**37**	*eP*	**P**	**11 14 56.8**	**+2.2**
TAPN	**Taplejung** comp=Z,14nm,0.3s	**50.08**	**288**	*eP*	**P**	**11 15 00.5**	**-0.4**
WMQ	**Urumqi**	**50.10**	**309**	P	**P**	**11 15 01.3**	**+0.8**
WMQ				pP	**pP**	**11 15 56.4**	**+2.1**
WMQ				sP	**sP**	**11 16 24.5**	**+2.3**
WMQ	comp=Z,9.0nm,0.6s			pmax	pmax		
WMQ	comp=Z,66nm,29.5s			LR	LR		
WMQ	comp=Z,44nm,32.4s			LR	LR		
WMQ	comp=Z,49nm,19.0s			LR	LR		
TIXI	**Tiksi**	**50.15**	**354**	*eP*	**P**	**11 15 02.9**	**+2.7**
ODAN	**Odare** comp=Z,16nm,0.3s	**50.43**	**287**	*eP*	**P**	**11 15 02.5**	**-0.9**
RAMN	**Ramite** comp=Z,12nm,0.6s	**51.11**	**287**	*eP*	**P**	**11 15 08.1**	**-0.4**
JIRN	**Jiri** comp=Z,43nm,0.6s	**51.38**	**288**	*eP*	**P**	**11 15 10.0**	**-0.6**
GUN	**Gumba** comp=Z,16nm,0.4s	**51.63**	**289**	*eP*	**P**	**11 15 12.1**	**-0.3**
PKI	**Pulchoki** comp=Z,7.6nm,0.4s	**52.08**	**288**	*eP*	**P**	**11 15 14.7**	**-1.0**
KKN	**Kakani** comp=Z,7.0nm,0.2s	**52.17**	**289**	*eP*	**P**	**11 15 15.7**	**-0.5**
DMN	**Daman** comp=Z,14nm,0.5s	**52.34**	**288**	*eP*	**P**	**11 15 16.6**	**-1.0**
GKN	**Gorkha** comp=Z,14nm,0.4s	**52.70**	**289**	*eP*	**P**	**11 15 19.5**	**-0.6**
DANN	**Dangsing** comp=Z,157nm,0.5s	**53.43**	**290**	*eP*	**P**	**11 15 25.2**	**-0.3**
KOLN	**Koldanda** comp=Z,12nm,0.3s	**53.65**	**289**	*eP*	**P**	**11 15 26.1**	**-0.9**
ZAA0	**Zalesovo Array**	**53.69**	**321**	*eP*	**P**	**11 15 26.1**	**-0.5**
ZALV	**Zalesovo Beam**	**53.69**	**321**	P	**P**	**11 15 26.3**	**-0.3**
ZALV						11 16 28.8	
ZALV	**Zalesovo Beam**	**53.69**	**321**	P	**P**	**11 15 26.3**	**-0.3**
ZALV				PcP	**PcP**	**11 16 28.8**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,6.0nm,0.4s,baz=108,slow=7.3,SNR=47	**53.69**	**321**	P	**P**	**11 15 26.3**	**-0.3**
ZALV	comp=Z,2.2nm,0.4s,baz=125,slow=4.4,SNR=5.9			PcP	**PcP**	**11 16 28.8**	**-0.5**
STKA	**Stephens Creek** comp=Z,0.8nm,0.9s	**53.77**	**181**	*eP*	**P**	**11 15 26.8**	**-0.5**
STKA	**Stephens Creek** comp=Z,3.3nm,0.7s,baz=40,slow=7.9,SNR=6.6	**53.77**	**181**	P	**P**	**11 15 26.8**	**-0.5**
PYUN	**Piuthan** comp=Z,29nm,0.6s	**54.13**	**289**	*eP*	**P**	**11 15 29.8**	**-0.7**
MK31	**Makanchi Array**	**54.21**	**312**	*eP*	**P**	**11 15 30.4**	**-0.1**
MK31	**Makanchi Array**	**54.21**	**312**	*eP*	**P**	**11 15 30.4**	**-0.1**
MKAR	**Makanchi Array**	**54.21**	**312**	*eP*	**P**	**11 15 30.5**	**0.0**
MKAR						11 16 31.7	
MKAR	**Makanchi Array**	**54.21**	**312**	*eP*	**P**	**11 15 30.5**	**0.0**
MKAR				PcP	**PcP**	**11 16 31.7**	**+0.2**
MKAR	**Makanchi Array** comp=Z,2.4nm,0.3s,baz=89,slow=8.9,SNR=63	**54.21**	**312**	P	**P**	**11 15 30.5**	**0.0**
MKAR	comp=Z,1.8nm,0.6s,baz=82,slow=5.3,SNR=6.2			PcP	**PcP**	**11 16 31.7**	**+0.2**
KURK	**Kurchatov**	**56.97**	**317**	*eP*	**P**	**11 15 49.5**	**-0.4**
KURK	comp=Z,5.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.9nm,0.8s	**56.97**	**317**	*eP*	**P**	**11 15 49.5**	**-0.4**
**UL

SVE	**Sverdlovsk**	**67.55**	**324**	*eP*		**P**		**11 17 00.6**	**+0.7**
SVE				pmax	pmax				
	comp=Z,15nm,0.9s								
ARU	**Arti**	**68.74**	**324**	*c iP*		**P**		**11 17 07.0**	**-0.2**
ARU								11 17 28.9	
ARU								11 19 40.8	
ARU				S		**S**		**11 25 50.8**	**+1.0**
ARU				SS		**SS**		**11 30 15.0**	**-4.3**
ARU				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ARU	**Arti**	**68.74**	**324**	*eP*		**P**		**11 17 07.1**	**-0.2**
	comp=Z,12nn,0.5s								
AB31	**Akbulak array**	**69.05**	**316**	*i* P		**P**		**11 17 08.4**	**-0.8**
AB31				pmax	pmax				
	comp=Z,3.0nm,0.3s								
ABKAR	**Akbulak array**	**69.05**	**316**	*eP*		**P**		**11 17 08.6**	**-0.6**
AKTO	**Aktyubinsk**	**70.06**	**317**	P		**P**		**11 17 14.1**	**-1.3**
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.5s								
PRGR	**Permogore**	**74.13**	**330**	*eP*		**P**		**11 17 38.2**	**-1.0**
PRGR				pmax	pmax				
	comp=Z,16nm,0.7s								
YKA	**Yellowknife Ar**	**76.13**	**28**	P		**P**		**11 17 52.2**	**+1.6**
YKA	**Yellowknife Ar**	**76.13**	**28**	P		**P**		**11 17 52.2**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=292,slow=5.7,SNR=6.8								
KEV	**Kevo**	**77.83**	**341**	*eP*		**P**		**11 18 00.4**	**+0.5**
KEV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
KEV	**Kevo**	**77.83**	**341**	*ep*		**P**		**11 18 00.4**	**+0.5**
	comp=Z,1.9nm,0.3s								
ARCES	**ARCESS Array B**	**78.39**	**341**	P		**P**		**11 18 03.6**	**+0.6**
ARCES	**ARCESS Array B**	**78.39**	**341**	P		**P**		**11 18 03.6**	**+0.6**
	comp=Z,3.5nm,0.5s,baz=80,slow=8.5,SNR=46								
JOF	**Joensuu**	**79.78**	**334**	*eP*		**P**		**11 18 10.5**	**-0.1**
JOF				pmax	pmax				
	comp=Z,14nm,0.4s								
JOF	**Joensuu**	**79.78**	**334**	*ep*		**P**		**11 18 10.5**	**-0.1**
	comp=Z,14nm,0.4s								
F10A	**Beach Ranch, E**	**80.87**	**44**	*eP*		**P**		**11 18 14.3**	**-2.6**
	comp=Z,8.6nm,0.9s								
OBN	**Obninsk**	**80.96**	**326**	⇓*eP*		**P**		**11 18 17.2**	**+0.2**
OBN				*e**PP		**pP**		**11 19 16.4**	**0.0**
OBN				*eS*		**S**		**11 28 05.7**	**+1.3**
OBN				pmax	pmax				
	comp=Z,24nm,2.5s								
KBZ	**Khabaz**	**81.87**	**314**	P		**P**		**11 18 22.0**	**0.0**
KBZ	**Khabaz**	**81.87**	**314**	P		**P**		**11 18 22.0**	**0.0**
KBZ	**Khabaz**	**81.87**	**314**	P		**P**		**11 18 22.0**	**0.0**
	comp=Z,11nm,0.8s,baz=166,slow=2.1,SNR=20								
KIV	**Kislovodsk**	**81.92**	**314**	⇑*eP*		**P**		**11 18 23.4**	**+0.9**
KIV				*e**PP		**pP**		**11 19 21.4**	**-0.6**
KIV				*eS*		**S**		**11 28 18.1**	**+3.1**
KIV				*e*SS		**SS**		**11 33 45.7**	**+6.7**
KIV				pmax	pmax				
	comp=Z,12nm,1.0s								
KAF	**Kangasniemi**	**82.19**	**335**	*eP*		**P**		**11 18 21.7**	**-1.6**
KAF				pmax	pmax				
	comp=Z,2.0nm,0.3s								
KAF	**Kangasniemi**	**82.19**	**335**	*ep*		**P**		**11 18 21.7**	**-1.6**
	comp=Z,1.9nm,0.3s								
FINES	**FINESS Array B**	**82.65**	**334**	P		**P**		**11 18 25.1**	**-0.6**
FINES	**FINESS Array B**	**82.65**	**334**	P		**P**		**11 18 25.1**	**-0.6**
	comp=Z,11nm,0.3s,baz=64,slow=4.7,SNR=248								
NVAR	**Mina Array Bea**	**83.02**	**51**	P		**P**		**11 18 31.1**	**+2.7**
NVAR	**Mina Array Bea**	**83.02**	**51**	P		**P**		**11 18 31.1**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=285,slow=5.1,SNR=4.8								
ANN	**Anapa**	**85.00**	**316**	*eP*		**P**		**11 18 39.5**	**+1.6**
ANN				pmax	pmax				
	comp=Z,214nm,1.2s								
AKASG	**Malin Array Be**	**86.98**	**324**	P		**P**		**11 18 46.2**	**-1.3**
AKASG	**Malin Array Be**	**86.98**	**324**	P		**P**		**11 18 46.2**	**-1.3**
AKASG	**Malin Array Be**	**86.98**	**324**	P		**P**		**11 18 46.2**	**-1.3**
	comp=Z,3.0nm,0.3s,baz=52,slow=5.1,SNR=27								
KIEV	**Kiev**	**87.00**	**324**	*eP*		**P**		**11 18 46.5**	**-1.0**
AK02	**Malin Array Si**	**87.02**	**324**	*eP*		**P**		**11 18 46.4**	**-1.2**
NB2	**NORSAR Subarra**	**88.41**	**339**	P		**P**		**11 18 53.1**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=54,slow=4.8								
NOA	**NORSAR Array B**	**88.41**	**339**	P		**P**		**11 18 53.0**	**-1.1**
NOA	**NORSAR Array B**	**88.41**	**339**	P		**P**		**11 18 53.0**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=46,slow=4.8,SNR=6.6								
BRTR	**Keskin Array B**	**89.85**	**313**	P		**P**		**11 19 00.6**	**-0.8**
BRTR	**Keskin Array B**	**89.85**	**313**	P		**P**		**11 19 00.6**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=110,slow=2.7,SNR=10								
GERES	**GERESS Array B**	**96.06**	**329**	P		**P**		**11 19 28.8**	**-0.9**
GERES	**GERESS Array B**	**96.06**	**329**	P		**P**		**11 19 28.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=32,slow=3.8,SNR=3.3								
TORD	**Torodi Ar. Bea**	**128.26**	**309**	PKP		**PKPdf**		**11 25 07.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**128.26**	**309**	PKP		**PKPdf**		**11 25 07.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=20,slow=1.8,SNR=12								
PLCA	**Paso Flores**	**146.24**	**131**	PKPbc		**PKPab**		**11 25 43.5**	**+0.4**
PLCA	**Paso Flores**	**146.24**	**131**	PKPbc		**PKPab**		**11 25 43.5**	**+0.4**
	comp=Z,5.5nm,0.6s,baz=245,slow=4.4,SNR=20								
LPAZ	**La Paz**	**150.12**	**84**	PKPbc		**PKPbc**		**11 25 54.2**	**+1.0**
LPAZ	**La Paz**	**150.12**	**84**	PKPbc		**PKPbc**		**11 25 54.2**	**+1.0**
	comp=Z,2.7nm,0.4s,baz=346,slow=2.3,SNR=10.0								

*IDC **02** 11:11:42.0±0.9, 6.°92N×33.°92W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/27, mbtmp3.9/9, ML3.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/33, Error ellipse: s-maj=31.7km s-min=18.2km az=142.0*

*ISCJB **02** 11:11:42.2±0.8, 6.°8N±0.°1×33.°8W±0.°1, h15km, mb3.7/8, MS3.7/4, Error ellipse: s-maj=22.2km s-min=14.4km az=36.7*

ISC 02 11:11:44.0±0.9, 6.°7N±0.°1×33.°8W±0.°2, h15km, n18, σ1§95/10, mb3.9/8, MS3.7/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RCBR	**Riachuelo**	**12.59**	**189**	Pn		**Pn**		**11 14 43.7**	**+1.0**
	0.7nm,0.3s,baz=9.1,slow=14,SNR=9.0								
RCBR				Sn		**Sn**		**11 16 59.7**	**-3.1**
	0.2nm,0.3s,baz=74,slow=7.9,SNR=3.3								
BBTS	**Babate**	**18.75**	**64**	LR		LR		11 21 00.8	
	comp=Z,200nm,21.6s,baz=114,slow=30								
H10N3	**ASCENSION HYDR**	**24.07**	**126**	T		T		11 42 14.5	
	baz=306,slow=75,SNR=20								
H10N2	**ASCENSION HYDR**	**24.07**	**126**	T		T		11 42 16.3	
	baz=306,slow=75,SNR=16								
H10N1	**ASCENSION HYDR**	**24.09**	**126**	T		T		11 42 18.1	
	baz=306,slow=75,SNR=21								
H10S3	**ASCENSION HYDR**	**24.61**	**129**	T		T		11 43 00.1	
	baz=308,slow=75,SNR=24								
H10S1	**ASCENSION HYDR**	**24.62**	**129**	T		T		11 42 59.3	
	baz=308,slow=75,SNR=29								
H10S2	**ASCENSION HYDR**	**24.63**	**129**	T		T		11 43 00.3	
	baz=308,slow=75,SNR=24								
BDFB	**Brasília**	**26.25**	**212**	P		**P**		**11 17 19.4**	**+0.4**
	2.2nm,0.6s,baz=359,slow=5.3,SNR=3.4								
PTGA	**Pitinga**	**27.10**	**255**	P		**P**		**11 17 26.4**	**-0.2**
	1.5nm,0.6s,baz=98,slow=11,SNR=5.2								
SIV	**San Ignacio**	**35.13**	**230**	P		**P**		**11 18 40.1**	**+2.7**
	2.4nm,0.9s,baz=86,slow=5.4,SNR=4.0								
TORD	**Torodi Ar. Bea**	**35.55**	**77**	P		**P**		**11 18 41.1**	**+0.1**
	2.9nm,0.7s,baz=269,slow=9.1,SNR=20								
TORD				LR		LR		11 31 08.9	
	comp=Z,138nm,19.9s,baz=235,slow=33								
CPUP	**Villa Florida**	**39.95**	**214**	LR		LR		11 35 35.7	
	comp=Z,96nm,20.0s,baz=219,slow=36								
ROSC	**El Rosal**	**40.33**	**270**	LR		LR		11 34 15.2	
	comp=Z,107nm,19.9s,baz=189,slow=34								
LPAZ	**La Paz**	**40.90**	**236**	P		**P**		**11 19 28.2**	**+1.5**
	1.5nm,0.7s,baz=67,slow=4.6,SNR=6.3								
LPAZ				LR		LR		11 35 28.6	
	comp=Z,94nm,20.9s,baz=298,slow=35								
AKASG	**Malin Array Be**	**67.96**	**38**	P		**P**		**11 22 43.0**	**+0.7**
	0.1nm,0.3s,baz=253,slow=5.6,SNR=2.8								
TXAR	**Lajitas Array**	**69.19**	**299**	P		**P**		**11 22 49.6**	**-1.0**
	0.3nm,0.7s,baz=96,slow=5.7,SNR=7.2								
YKA	**Yellowknife Ar**	**79.85**	**332**	P		**P**		**11 23 49.6**	**-2.2**
	0.4nm,0.8s,baz=94,slow=5.0,SNR=5.7								

*BEO **02** 12:00:16.8±0.5, 43.°06N×17.°73E, h0km, ML2.6/1*

*PDG **02** 12:00:16.2±0.3, 43.°00N×17.°74E, h10km, ML2.6/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*CSEM **02** 12:00:16.1±0.2, 42.°98N×17.°76E, h2km, ML2.6, Error ellipse: s-maj=4.7km s-min=3.6km az=32.0*

ISC 02 12:00:15.8±1.1, 43.°01N±0.°02×17.°73E±0.°02, h3km±9km, n53, σ0§89/96, 16C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STON	**Ston**	**0.14**	**188**	*i* Pg		**Pg**		**12 00 18.4**	**-0.1**
STON						Sg		**12 00 20.6**	**+0.3**
STON	**Ston**	**0.14**	**188**	*i* Pg		**Pg**		**12 00 18.3**	**-0.1**
STON						Sg		**12 00 20.6**	**+0.3**
BRY	**Bratogost**	**0.60**	**100**	⇓*i* Pg		**Pg**		**12 00 26.9**	**-0.6**
BRY				*e*Sg		**Sb**		**12 00 37.2**	**-0.9**
BRY	**Bratogost**	**0.60**	**100**	⇓*i* Pg		**Pg**		**12 00 26.9**	**-0.6**
BRY				*e*Sg		**Sb**		**12 00 37.2**	**-0.9**
HCY	**Herceg Novi**	**0.79**	**134**	⇑*i* Pg		**Pg**		**12 00 29.9**	**-1.1**
HCY				*e*Sg		**Sb**		**12 00 43.2**	**-0.2**
HCY	**Herceg Novi**	**0.79**	**134**	⇑*i* Pg		**Pg**		**12 00 29.9**	**-1.1**
UPM	**Unac-Piva**	**0.89**	**77**	⇑*i* Pg		**Pg**		**12 00 32.1**	**-0.7**
UPM				*e*Sg		**Sb**		**12 00 46.6**	**+0.4**
UPM	**Unac-Piva**	**0.89**	**77**	⇑*i* Pg		**Pg**		**12 00 32.1**	**-0.7**
UPM				*e*Sg		**Sb**		**12 00 46.6**	**+0.4**
NKME	**Niksic**	**0.93**	**104**	⇓*i* Pg		**Pg**		**12 00 33.2**	**-0.5**
NKME				*e*Sg		**Sn**		**12 00 48.1**	**-1.6**
NKME	**Niksic**	**0.93**	**104**	⇓*i* Pg		**Pg**		**12 00 33.2**	**-0.5**
NKY	**Niksic**	**0.95**	**101**	*e*Pg		**Pg**		**12 00 33.6**	**-0.4**
NKY				*e*Sg		**Sn**		**12 00 49.4**	**-0.8**
NKY	**Niksic**	**0.95**	**101**	*e*Pg		**Pg**		**12 00 33.6**	**-0.4**
BUM	**Brajici-Budva**	**1.11**	**129**	⇓*i* Pg		**Pb**		**12 00 37.2**	**-0.5**
BUM				*e*Sg		**Sn**		**12 00 54.4**	**+0.2**
BUM	**Brajici-Budva**	**1.11**	**129**	⇓*i* Pg		**Pb**		**12 00 37.2**	**-0.5**
PLE	**Pljevlja**	**1.26**	**75**	⇑*i* Pg		**Pb**		**12 00 40.0**	**-0.2**
PLE				*e*Sg		**Sn**		**12 00 59.6**	**+1.7**
PLE	**Pljevlja**	**1.26**	**75**	⇑*i* Pg		**Pb**		**12 00 40.0**	**-0.2**
PDG	**Podgorica**	**1.27**	**117**	*e*Pg		**Pg**		**12 00 40.4**	**+0.3**
PDG				*i* Sg		**Sn**		**12 00 57.9**	**+0.1**
PDG	**Podgorica**	**1.27**	**117**	⇑*i* Pg		**Pn**		**12 00 39.1**	**-1.2**
PDG				*i* Sg		**Sn**		**12 00 57.9**	**+0.1**
TTG	**Podgorica**	**1.27**	**117**	⇑*i* Pg		**Pn**		**12 00 39.1**	**-1.2**
TTG				*e*Sg		**Sn**		**12 00 59.5**	**+1.7**
DRME	**Dracevica, Mon**	**1.35**	**127**	⇑*i* Pg		**Pb**		**12 00 41.0**	**-0.8**
DRME				*e*Sg		**Sg**		**12 01 01.9**	**+2.6**
DRME	**Dracevica, Mon**	**1.35**	**127**	⇑*i* Pg		**Pb**		**12 00 41.0**	**-0.8**
BBLS	**Lazići**	**1.50**	**54**	*i* Sn		**Sg**		**12 01 04.6**	**+0.7**
BBLS	**Lazići**	**1.50**	**54**	*i* Sn		**Sg**		**12 01 04.6**	**+0.7**
BEY	**Berane**	**1.60**	**94**	⇑*i* Pn		**Pb**		**12 00 46.0**	**0.0**
BEY				*e*Sn		**Sg**		**12 01 08.5**	**+1.4**
IVA	**Berane**	**1.60**	**94**	⇑*i* Pn		**Pb**		**12 00 46.0**	**0.0**
IVA				*e*Sn		**Sg**		**12 01 08.5**	**+1.4**
SJES	**Sjenica**	**1.66**	**80**	*e*Pg		**Pb**		**12 00 46.4**	**-0.8**
SJES				*i* Sg		**Sg**		**12 01 09.1**	**-0.2**
PVY	**Plav**	**1.69**	**103**	⇑*i* Pn		**Pb**		**12 00 47.1**	**-0.6**
PVY				*e*Sn		**Sg**		**12 01 11.1**	**+0.9**
PVY	**Plav**	**1.69**	**103**	⇑*i* Pn		**Pb**		**12 00 47.1**	**-0.6**
PVY				*e*Sn		**Sg**		**12 01 11.1**	**+0.9**
BLY	**Banja Luka**	**1.79**	**347**	*e*Pn		**Pb**		**12 00 48.7**	**-0.5**
BLY				*i* Sn		**Sb**		**12 01 12.2**	**+0.3**
BLY	**Banja Luka**	**1.79**	**347**	*e*Pn		**Pb**		**12 00 48.7**	**-0.5**
BLY				*i* Sn		**Sb**		**12 01 12.2**	**+0.3**
IVAS	**Ivanjica**	**1.86**	**71**	*e*Pg		**Pb**		**12 00 49.9**	**-0.6**
IVAS				*e*Sg		**Sg**		**12 01 15.7**	**+0.1**
IVAS	**Ivanjica**	**1.86**	**71**	*e*Pg		**Pb**		**12 00 49.9**	**-0.6**
IVAS				*e*Sg		**Sg**		**12 01 15.7**	**+0.1**
DIVS	**Divibare**	**1.98**	**56**	*e*Pn		**Pn**		**12 00 50.6**	**+0.4**
DIVS				*e*Sn		**Sn**		**12 01 15.4**	**-0.1**
DIVS	**Divibare**	**1.98**	**56**	*e*Pn		**Pn**		**12 00 50.6**	**+0.4**
DIVS				*e*Sn		**Sn**		**12 01 15.4**	**-0.1**
TEKS	**Tekeris**	**2.02**	**40**	*e*Pn		**Pn**		**12 00 51.1**	**+0.3**
TEKS				*e*Sn		**Sb**		**12 01 18.2**	**-0.5**
TEKS	**Tekeris**	**2.02**	**40**	*e*Pn		**Pn**		**12 00 51.1**	**+0.3**
TEKS				*e*Sn		**Sb**		**12 01 18.2**	**-0.5**
UDBI	**Udbina**	**2.08**	**318**	*e*Pn		**Pb**		**12 00 53.1**	**-1.1**
UDBI				Sn		**Sb**		**12 01 21.8**	**+1.2**
UDBI	**Udbina**	**2.08**	**318**	*e*Pn		**Pb**		**12 00 53.1**	**-1.1**
UDBI				Sn		**Sb**		**12 01 21.8**	**+1.2**
TRUS	**Trudelj**	**2.29**	**57**	*e*Pn		**Pn**		**12 00 54.2**	**-0.3**
TRUS				*e*Sn		**Sn**		**12 01 23.1**	**-0.2**
TRUS	**Trudelj**	**2.29**	**57**	*e*Pn		**Pn**		**12 00 54.2**	**-0.3**
TRUS				*e*Sn		**Sn**		**12 01 23.1**	**-0.2**
GRUS	**Gruza**	**2.35**	**67**	*e*Pn		**Pn**		**12 00 55.9**	**+0.6**
GRUS				*i* Sn		**Sb**		**12 01 26.4**	**-1.7**
GRUS	**Gruza**	**2.35**	**67**	*e*Pn		**Pn**		**12 00 55.9**	**+0.6**
GRUS				*i* Sn		**Sb**		**12 01 26.4**	**-1.7**
SELS	**Selova**	**2.49**	**84**	*e*Pn		**Pn**		**12 00 57.9**	**+0.6**
SELS	**Selova**	**2.49**	**84**	*e*Pn		**Pn**		**12 00 57.9**	**+0.6**
NVLJ	**Novalja**	**2.59**	**308**	*e*Pn		**Pn**		**12 00 59.1**	**+0.6**
NVLJ				Sn		**Sb**		**12 01 34.7**	**-0.3**
NVLJ	**Novalja**	**2.59**	**308**	*e*Pn		**Pn**		**12 00 59.1**	**+0.6**
NVLJ				Sn		**Sb**		**12 01 34.6**	**-0.3**
FGSL	**Fruska Gora**	**2.62**	**34**	⇑*i* Pn		**Pn**		**12 00 58.5**	**-0.6**
FGSL				*i* Sn		**Sn**		**12 01 32.3**	**+0.9**
FRGS	**Fruska Gora**	**2.62**	**34**	⇑*i* Pn		**Pn**		**12 00 58.5**	**-0.6**
FRGS				*i* Sn		**Sn**		**12 01 32.5**	**+0.9**
SVIS	**Svilajnac**	**2.83**	**62**	*e*Pn		**Pn**		**12 01 02.8**	**+1.0**
SVIS				*i* Sn		**Sn**		**12 01 37.1**	**+0.7**
ZAPS	**Zavoj**	**3.60**	**84**	*e*Pn		**Pn**		**12 01 14.3**	**+1.8**
ZAPS				*e*Sn		**Sn**		**12 01 56.9**	**+1.4**
ZAPS	**Zavoj**	**3.60**	**84**	*e*Pn		**Pn**		**12 01 14.3**	**+1.8**
ZAPS				*e*Sn		**Sn**		**12 01 56.9**	**+1.4**
ARSA	**Arzberg**	**4.52**	**341**	*e*Pn		**Pn**		**12 01 26.1**	**+1.0**
ARSA				*e*Sn		**Sn**		**12 02 16.7**	**-1.5**
ARSA	**Arzberg**	**4.52**	**341**	*e*Pn		**Pn**		**12 01 26.1**	**+1.0**
ARSA				*e*Sn		**Sn**		**12 02 16.7**	**-1.5**

*IDC **02** 12:04:16.6±1.0, 38.°12N×71.°59E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.9/28, mbtmp3.8/15, ML3.7/5, Error ellipse: s-maj=18.1km s-min=13.5km az=148.0*

*NNC **02** 12:04:19.1±3.0, 38.°37N×71.°20E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=24.2km s-min=17.8km az=17.0*

ISC 02 12:04:21.2±0.8, 38.°19N±0.°07×71.°20E±0.°06, h25km, n46, σ1§83/47, mb3.9/15, 8C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AML	**Almayashu**	**4.37**	**25**	P		**Pn**		**12 05 27.0**	**+0.6**
	SNR=63								
UCH	**Uchtor**	**4.76**	**31**	P		**Pn**		**12 05 31.4**	**-0.4**
	SNR=21								
EKS2	**Erkin-Say**	**4.88**	**23**	P		**Pn**		**12 05 34.3**	**+1.2**
	SNR=17								
KK31	**Karatay Array**	**4.93**	**354**	⇑Pn		**Pn**		**12 05 34.9**	**+1.2**
	5.1nm,0.3s,baz=179,slow=13,SNR=109								
KK31				⇓Pg		**Pb**		**12 05 45.9**	**-1.0**
	7.3nm,0.4s,baz=176,slow=16,SNR=5.1								
KK31				⇑Sn		**Sn**		**12 06 33.8**	**+3.8**
	15nm,0.4s,baz=174,slow=22								
KK31				⇓Lg		Lg		12 06 50.5	
	29nm,0.5s,baz=159,slow=29								
KZA	**Kyzart**	**4.97**	**37**	P		**Pn**		**12 05 34.1**	**-0.4**
	SNR=13								
AAK	**Ala-Archa**	**5.10**	**29**	⇓Pn		**Pn**		**12 05 37.1**	**+1.0**
	15nm,0.6s								
AAK				⇓Pg		**Pb**		**12 05 50.7**	**+0.9**
	23nm,0.5s								
AAK				⇑Sn		**Sn**		**12 06 37.8**	**+3.5**
	35nm,0.7s								
AAK				⇑Lg		Lg		12 06 53.3	
	45nm,0.7s								
AAK	**Ala-Archa**	**5.10**	**29**	P		**Pn**		**12 05 37.4**	**+1.2**
	SNR=18								
AAK	**Ala-Archa**	**5.10**	**29**	Pn		**Pn**		**12 05 37.2**	**+1.1**
	3.1nm,0.3s,baz=189,slow=7.0,SNR=36								
AAK				Sn		**Sn**		**12 06 36.3**	**+2.1**
	3.6nm,0.3s,baz=336,slow=18,SNR=3.7								
CHMS	**Chumysh**	**5.51**	**28**	P		**Pn**		**12 05 42.3**	**+0.7**
	SNR=11								
ULHL	**Ulahol**	**5.59**	**42**	P		**Pn**		**12 05 42.8**	**-0.1**
	SNR=11								
USP	**Ospenovka**	**5.66**	**25**	P		**Pn**		**12 05 44.4**	**+0.7**
	SNR=16								
TKM2	**Tokmak 2**	**5.79**	**34**	⇑Pn		**Pn**		**12 05 45.9**	**+0.3**
	6.5nm,0.5s								
TKM2				⇓Pg		**Pb**		**12 06 01.9**	**+0.4**
	14nm,0.6s								
TKM2				⇓Sn		**Sn**		**12 06 47.6**	**-3.8**
	19nm,0.7s								
TKM2				⇓Lg		Lg		12 07 17.5	
	24nm,0.7s								
TKM2	**Tokmak 2**	**5.79**	**34**	P		**Pn**		**12 05 46.5**	**+0.8**
	SNR=17								
MK31	**Makanchi Array**	**11.86**	**40**	Pn		**Pn**		**12 07 08.2**	**-0.5**
	6.5nm,0.9s,baz=225,slow=11,SNR=40								
MKAR	**Makanchi Array**	**11.86**	**40**	Pn		**Pn**		**12 07 08.5**	**-0.2**
	0.3nm,0.3s,baz=224,slow=14,SNR=30								
KUR16	**Kurchatov Arra**	**13.47**	**20**	⇑Pn		Pn		12 07 27.0	-3.6
	0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**13.48**	**20**	Pn		Pn		12 07 26.6	-4.1
	0.1nm,0.3s,baz=212,slow=12,SNR=6.2								
KURBB				Lg		Lg		12 11 19.5	
	0.1nm,0.3s,baz=201,slow=21,SNR=4.4								
AB31	**Akbulak array**	**13.71**	**327**	Pn		**Pn**		**12 07 32.0**	**-1.9**
	0.9nm,0.4s,baz=147,slow=12,SNR=37								
AB31				⇓Sn		**Sn**		**12 10 01.5**	**-3.8**
	3.9nm,0.6s,baz=157,slow=23,SNR=8.3								
PYUN	**Piuthan**	**14.09**	**132**	*eP*		**Pn**		**12 07 38.0**	**-1.4**
	11nm,0.4s								
DANN	**Dangsing**	**14.36**	**129**	*eP*		Pn		12 07 36.7	-6.5
	8.4nm,0.4s								
BVA0	**Borovoye Array**	**14.85**	**358**	⇓Pn		**Pn**		**12 07 50.9**	**+1.5**
	3.2nm,0.7s,baz=0.0,slow=0.1,SNR=13								
BVAR	**Borovoye Array**	**14.85**	**358**	Pn		**Pn**		**12 07 49.7**	**+0.4**
	0.4nm,0.3s,baz=154,slow=8.7,SNR=12								
BRVK	**Borovoye**	**14.88**	**358**	⇑Pn		**Pn**		**12 07 50.9**	**+1.1**
	6.5nm,0.7s								
AKTO	**Aktyubinsk**	**15.42**	**327**	⇓Pn		**Pn**		**12 07 59.7**	**+2.7**
	12nm,0.8s								
AKTO				⇑Sn		**Sn**		**12 10 44.9**	**-2.1**
	12nm,1.4s								
AKTO	**Aktyubinsk**	**15.42**	**327**	Pn		**Pn**		**12 07 56.6**	**-0.3**
	0.2nm,0.3s,baz=130,slow=18,SNR=11								
AKTO				Sn		**Sn**		**12 10 42.6**	**-4.3**
	0.2nm,0.3s,baz=294,slow=20,SNR=2.9								
GUN	**Gumba**	**16.00**	**126**	*eP*		Pn		12 07 57.2	-7.7
	29nm,0.9s								
JIRN	**Jiri**	**16.37**	**126**	*eP*		Pn		12 08 03.5	-6.2
	13nm,0.4s								
RAMN	**Ramite**	**17.12**	**126**	*eP*		Pn		12 08 14.3	-4.8
	13nm,0.6s								
TAPN	**Taplejung**	**17.57**	**123**	*eP*		Pn		12 08 20.2	-4.5
	7.5nm,0.5s								
ZALV	**Zalesovo Beam**	**18.32**	**26**	P		**Pn**		**12 08 29.9**	**-3.4**
	0.6nm,0.3s,baz=218,slow=11,SNR=17								
KBZ	**Khabaz**	**22.02**	**294**	P		**P**		**12 09 15.3**	**+1.8**
	2.1nm,0.8s,baz=99,slow=9.9,SNR=3.8								
SONM	**Songino Array**	**27.27**	**58**	P		**P**		**12 10 00.5**	**-3.0**
	0.2nm,0.8s,baz=255,slow=15,SNR=2.8								
BRTR	**Keskin Array B**	**29.11**	**285**	P		P		12 10 25.3	+5.3
	0.5nm,0.5s,baz=101,slow=7.5,SNR=3.2								
JOF	**Joensuu**	**34.49**	**329**	*ep*		**P**		**12 11 07.9**	**+1.1**
	2.6nm,0.5s								
FINES	**FINESS Array B**	**36.18**	**325**	P		**P**		**12 11 22

ISC 02 13:14:07.5±0.7, 17°.6S±0°.2×178°.7W±0°.1, h547km, n27, σ0§57/28, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**62**	P	**P**	**13 16 00.5**	**-0.9**
	7.6nm,0.3s,baz=187,slow=1.0,SNR=13						
AFI				S	**S**	**13 17 35.3**	**+0.7**
	1.2nm,0.3s,baz=114,slow=20,SNR=2.3						
DZM	**Mont Dzumac**	**14.67**	**250**	P	**P**	**13 17 13.4**	**-0.4**
	1.0nm,0.3s,baz=110,slow=19,SNR=10.0						
LHI	**Lord Howe Isla**	**24.45**	**231**	P	**P**	**13 18 43.9**	**+0.4**
	baz=23,SNR=3.6						
ARMA	**Armidale**	**29.86**	**239**	P	**P**	**13 19 31.7**	**+0.6**
	baz=28,SNR=12						
RMQ	**Roma**	**31.37**	**248**	P	**P**	**13 19 44.4**	**+0.4**
	baz=30,SNR=7.6						
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	**P**	**13 20 15.0**	**-0.1**
	baz=34,SNR=13						
QLP	**Quilpie**	**35.39**	**249**	P	**P**	**13 20 17.6**	**-0.3**
	baz=34,SNR=5.4						
MANU	**Manus Island**	**36.74**	**291**	S	**S**	**13 25 34.8**	**+0.3**
	baz=35,SNR=4.4						
COEN	**Coen**	**36.84**	**270**	P	**P**	**13 20 30.7**	**+0.7**
	baz=35,SNR=9.7						
TOO	**Toolangi**	**37.15**	**230**	P	**P**	**13 20 32.4**	**+0.1**
	baz=36,SNR=6.7						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**13 20 43.9**	**+0.3**
	5.2nm,0.4s,baz=89,slow=9.9,SNR=23						
HTT	**Hallett**	**41.07**	**239**	P	**P**	**13 21 04.0**	**+0.1**
	baz=40,SNR=14						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**13 21 21.3**	**-0.3**
	baz=42,SNR=23						
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**13 21 29.6**	**-0.8**
	2.1nm,0.6s,baz=93,slow=7.0,SNR=23						
KDU	**Kakadu**	**47.30**	**269**	P	**P**	**13 21 52.0**	**-0.1**
	baz=46,SNR=4.2						
MTN	**Manton Dam**	**48.54**	**268**	P	**P**	**13 22 01.2**	**-0.3**
	baz=47,SNR=3.4						
WRKA	**Warakurna**	**49.68**	**252**	P	**P**	**13 22 09.5**	**-0.3**
	baz=48,SNR=22						
KNRA	**Kununurra**	**50.25**	**264**	P	**P**	**13 22 14.0**	**0.0**
	baz=48,SNR=5.5						
MJAR	**Matsushiro Arr**	**67.51**	**323**	P	**P**	**13 24 09.6**	**+0.1**
	2.2nm,1.1s,baz=146,slow=5.4,SNR=4.8						
PETK	**Petropavlovsk-**	**73.32**	**345**	P	**P**	**13 24 43.6**	**+0.2**
	2.3nm,0.7s,baz=156,slow=7.3,SNR=7.6						
NVAR	**Mina Aray Bea**	**79.39**	**44**	P	**P**	**13 25 18.2**	**+0.7**
	0.6nm,0.6s,baz=227,slow=8.4,SNR=5.7						
SEY	**Seymchan**	**83.42**	**347**	P	**P**	**13 25 37.4**	**+0.2**
	2.6nm,0.5s,baz=79,slow=10,SNR=9.7						
ILAR	**Eielson Array**	**85.66**	**13**	P	**P**	**13 25 47.4**	**-0.7**
	0.4nm,0.4s,baz=223,slow=5.4,SNR=16						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**13 25 52.2**	**+1.3**
	0.5nm,0.6s,baz=213,slow=5.7,SNR=8.4						
PDAR	**Pinedale Array**	**87.32**	**44**	P	**P**	**13 25 57.0**	**+0.3**
	0.6nm,0.5s,baz=209,slow=3.0,SNR=10						
YKA	**Yellowknife Ar**	**94.17**	**25**	P	**P**	**13 26 26.4**	**-1.1**
	0.2nm,0.5s,baz=252,slow=4.6,SNR=4.6						
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	**PKPbc**	**13 32 49.8**	**0.0**
	1.1nm,0.5s,baz=26,slow=3.2,SNR=11						

*IDC **02** 13:14:41.6±2.9, 7°.32S×68°.48E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.6/5, MS3.6/4, Ms1 3.6/4, ms1mx3.2/26, Error ellipse: s-maj=82.7km s-min=33.6km az=63.0*

ISC 02 13:14:45.4±1.5, 7°.2S±0°.2×68°.8E±0°.2, h10km, n21, σ1§15/14, mb3.5/5, MS3.6/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.37**	**70**	Pn	**Pn**	**13 15 23.8**	**-0.2**
H08N3				T	T	13 18 34.4	
	baz=248,slow=75						
H08N2	**Diego Garcia H**	**2.39**	**70**	Pn	**Pn**	**13 15 24.2**	**0.0**
H08N2				T	T	13 18 32.1	
	baz=248,slow=75						
H08N1	**Diego Garcia H**	**2.40**	**70**	Pn	**Pn**	**13 15 25.1**	**+0.7**
H08N1				T	T	13 18 32.2	
	baz=248,slow=75						
H08S1	**Diego Garcia H**	**3.73**	**98**	Pn	**Pn**	**13 15 43.0**	**+0.3**
H08S3	**Diego Garcia H**	**3.73**	**97**	Pn	**Pn**	**13 15 42.8**	**0.0**
H08S2	**Diego Garcia H**	**3.74**	**97**	Pn	**Pn**	**13 15 43.1**	**+0.1**
OPO	**Ambohidratompo**	**23.85**	**240**	LR	LR	13 26 09.9	
	comp=Z,138nm,21.9s,baz=160,slow=29						
KMBO	**Kilima Mbogo**	**31.97**	**279**	LR	LR	13 32 47.7	
	comp=Z,63nm,18.6s,baz=96,slow=34						
CMAR	**Chiang Mai Arr**	**39.19**	**49**	P	**P**	**13 22 15.2**	**+1.3**
	0.9nm,0.9s,baz=240,slow=7.2,SNR=4.2						
H01W3	**Cape Leeuwin H**	**49.95**	**130**	T	T	14 17 22.3	
	baz=292,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**49.95**	**130**	T	T	14 17 22.6	
	baz=292,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**49.96**	**130**	T	T	14 17 23.7	
	baz=292,slow=75,SNR=10						
MKAR	**Makanchi Array**	**55.06**	**11**	P	**P**	**13 24 15.8**	**-1.6**
	0.3nm,0.7s,baz=195,slow=7.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**62.38**	**11**	P	**P**	**13 25 06.9**	**-1.2**
	0.1nm,0.3s,baz=212,slow=5.1,SNR=2.7						
SONM	**Songino Array**	**64.04**	**27**	P	**P**	**13 25 19.2**	**-0.3**
	0.9nm,0.9s,baz=226,slow=7.5,SNR=5.1						
WRA	**Warramunga Arr**	**64.67**	**109**	P	**P**	**13 25 22.8**	**-1.3**
	2.6nm,0.9s,baz=282,slow=6.4,SNR=13						
TORD	**Torodi Ar. Bea**	**69.58**	**287**	LR	LR	13 54 44.1	
	comp=Z,62nm,19.7s,baz=320,slow=35						
DBIC	**Dimbokro**	**74.70**	**279**	LR	LR	13 57 57.6	
	comp=Z,56nm,18.1s,baz=94,slow=35						
YKA	**Yellowknife Ar**	**124.73**	**2**	PKP	**PKPdf**	**13 33 47.5**	**+2.4**
	0.4nm,0.8s,baz=328,slow=2.6,SNR=6.5						
PDAR	**Pinedale Array**	**144.51**	**358**	PKP	**PKPdf**	**13 34 22.6**	**-0.1**
	0.4nm,0.9s,baz=64,slow=1.9,SNR=3.9						
NVAR	**Mina Array Bea**	**148.23**	**11**	PKPbc	**PKPab**	**13 34 36.1**	**+0.8**
	1.3nm,0.8s,baz=321,slow=1.7,SNR=7.4						

NNC 02 13:15:16.5±3.3, 38°.55N×70°.92E, h0km, mb3.5, mpv3.1, 8C-6D, Error ellipse: s-maj=25.5km s-min=18.5km az=0.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.56**	**356**	⇓Pn	Pn	13 16 27.8	+1.0
	0.5nm,0.3s,baz=181,slow=13,SNR=7.1						
KK31				⇓Pg	Pb	13 16 39.5	+2.0
	0.9nm,0.4s,baz=178,slow=13,SNR=4.9						
KK31				⇓Sn	Sb	13 17 27.9	-5.1
	2.2nm,0.5s,baz=176,slow=22,SNR=5.0						
KK31				⇑Lg	Lg	13 17 42.6	
	5.7nm,0.6s						
AAK	**Ala-Archa**	**4.91**	**33**	⇑Pn	Pn	13 16 34.6	+2.8
	2.1nm,1.1s						
AAK				⇑Pg	Pb	13 16 44.5	+1.0
	4.5nm,0.7s						
AAK				⇑Sn	Sn	13 17 29.0	-0.4
	3.6nm,0.6s						
AAK				⇓Lg	Lg	13 17 49.6	
	2.2nm,0.5s						
TKM2	**Tokmak 2**	**5.63**	**38**	⇑Pn	Pn	13 16 43.7	+2.0
	1.1nm,0.5s						
TKM2				⇓Pg	Pb	13 16 56.9	+1.0
	3.2nm,0.9s						
TKM2				⇓Sn	Sn	13 17 49.7	+2.3
	1.1nm,0.6s						
TKM2				⇑Lg	Lg	13 18 13.4	
	3.4nm,0.8s						
AB31	**Akbulak array**	**13.29**	**327**	Pn	Pn	13 18 28.4	+2.0
	0.4nm,0.6s,baz=137,slow=14,SNR=10						
AB31				⇑Sn	Sn	13 20 54.4	-0.5
	0.7nm,0.8s						
AKTO	**Aktyubinsk**	**15.01**	**327**	⇑Pn	Pn	13 18 51.6	+1.9
	1.6nm,0.7s						

IDC 02 13:54:59.1±1.0, 58°.59S×25°.94W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/14, mbtmp3.8/3, Error ellipse: s-maj=38.8km s-min=34.9km az=105.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**33.17**	**283**	P	P	14 01 38.0	+0.9
	1.3nm,0.6s,baz=142,slow=12,SNR=5.8						
VNDA	**Vanda**	**44.06**	**182**	P	P	14 03 09.1	+1.1
	0.9nm,0.6s,baz=208,slow=7.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**74.96**	**28**	P	P	14 06 43.6	+1.8
	0.2nm,0.3s,baz=196,slow=5.7,SNR=6.5						
YKA	**Yellowknife Ar**	**138.49**	**316**	PKP	PKPdf	14 14 23.7	-1.3
	0.8nm,0.6s,baz=129,slow=2.5,SNR=17						
SONM	**Songino Array**	**150.13**	**90**	PKPbc	PKPbc	14 14 49.1	-1.7
	0.1nm,0.4s,baz=232,slow=2.9,SNR=2.5						
ILAR	**Eielson Array**	**152.26**	**308**	PKPbc	PKPbc	14 14 53.0	-2.1
	1.0nm,0.8s,baz=144,slow=1.6,SNR=9.6						

*IDC **02** 13:57:20.6±1.4, 12°.39N×142°.46E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, Error ellipse: s-maj=50.3km s-min=27.8km az=89.0*

*ISCJB **02** 13:57:22.7±1.3, 12°.4N±0°.2×142°.4E±0°.4, h27km, mb4.0/6, Error ellipse: s-maj=51.6km s-min=24.2km az=177.7*

ISC 02 13:57:24.6±1.4, 12°.4N±0°.2×142°.4E±0°.4, h27km, n6, σ0§71/6, mb4.0/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.09**	**194**	P	**P**	**14 03 58.5**	**+0.1**
	0.4nm,0.3s,baz=15,slow=9.7,SNR=2.6						
SONM	**Songino Array**	**46.40**	**327**	P	**P**	**14 05 49.3**	**+0.3**
	0.7nm,1.1s,baz=134,slow=6.3,SNR=4.8						
MKAR	**Makanchi Array**	**60.73**	**317**	P	**P**	**14 07 34.5**	**+0.5**
	5.7nm,1.3s,baz=95,slow=8.4,SNR=9.3						
ZALV	**Zalesovo Beam**	**61.25**	**325**	P	**P**	**14 07 37.0**	**-0.2**
	0.6nm,0.4s,baz=113,slow=8.5,SNR=4.3						
ILAR	**Eielson Array**	**70.67**	**25**	P	**P**	**14 08 38.1**	**+0.4**
	0.4nm,0.9s,baz=258,slow=4.5,SNR=4.0						
FINES	**FINESS Array B**	**91.25**	**334**	P	**P**	**14 10 26.4**	**-1.0**
	2.0nm,1.0s,baz=106,slow=4.9,SNR=4.5						

*JMA **02** 14:04:06.8±0.5, 22°.48N×122°.95E, h46km, M3.5*

*TAP **02** 14:04:07.9, 22°.40N×122°.85E, h69km±1km, ML3.7, D*

ISC 02 14:04:02.7±3.0, 22°.40N±0°.05×123°.01E±0°.04, h10km±22km, n46, σ1§52/76, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.40**	**255**	*i* P	**Pb**	**14 04 29.3**	**+0.4**
	baz=253						
LAY				*e*S	**Sb**	**14 04 45.1**	**-1.7**
	baz=253						
CHKT	**Chengkung**	**1.67**	**295**	*e*P	**Pn**	**14 04 32.8**	**+0.8**
	baz=297						
CHKT				*e*S	**Sn**	**14 04 50.2**	**-3.3**
	baz=297						
HATJ	**Hateruma jima**	**1.81**	**24**	P	**Pb**	**14 04 35.6**	**-0.3**
HATJ				S	**Sn**	**14 04 55.9**	**-0.9**
TWG	**Pinlang**	**1.84**	**284**	*e*P	**Pn**	**14 04 35.5**	**+1.2**
	baz=289						
TWG				*e*S	**Sn**	**14 04 56.2**	**-1.4**
	baz=289						
TWF1	**Yuli**	**1.84**	**301**	*e*P	**Pn**	**14 04 35.3**	**+0.9**
	baz=312						
TWF1				*e*S	**Sn**	**14 04 56.3**	**-1.4**
	baz=312						
EHY	**Hungye**	**1.90**	**306**	*e*P	**Pn**	**14 04 35.7**	**+0.5**
	baz=313						
EHY				*e*S	**Sn**	**14 04 57.4**	**-1.9**
	baz=313						
ECL	**Taimali**	**1.91**	**276**	*e*P	**Pn**	**14 04 36.9**	**+1.6**
	baz=276						
ECL				*e*S	**Sn**	**14 04 58.1**	**-1.3**
	baz=276						
ELDTW	**Lidau**	**2.00**	**294**	*e*P	**Pn**	**14 04 38.0**	**+1.4**
	baz=295						
EAST	**Anshuo**	**2.00**	**270**	*e*P	**Pb**	**14 04 38.5**	**-0.6**
	baz=261						
EAST				*e*S	**Sn**	**14 05 00.4**	**-1.3**
	baz=261						
TSEB	**Hengchuen, Pin**	**2.02**	**256**	*e*P	**Pn**	**14 04 38.2**	**+1.5**
	baz=255						
TSEB				*e*S	**Sn**	**14 05 03.2**	**+1.2**
	baz=255						
ESL	**Shilin**	**2.02**	**314**	*e*P	**Pn**	**14 04 37.9**	**+1.0**
	baz=317						
IRIF	**Iriomote-Funau**	**2.04**	**19**	P	**Pn**	**14 04 39.0**	**+1.9**
IRIF				S	**Sn**	**14 05 01.7**	**-0.9**
JKRS	**Kuro-shima**	**2.05**	**27**	P	**Pb**	**14 04 39.3**	**-0.7**
JKRS				S	**Sn**	**14 05 01.7**	**-1.1**
YOJ	**Yonaguni jima**	**2.05**	**0**	P	**Pb**	**14 04 40.0**	**-0.1**
YOJ				*e*S	**Sn**	**14 05 04.0**	**+1.1**
TWK1	**Hengchun**	**2.09**	**258**	*e*P	**Pn**	**14 04 38.4**	**+0.6**
	baz=256						
TWK1				*e*S	**Sn**	**14 05 02.5**	**-1.4**
	baz=256						
TWD	**Chiawan**	**2.12**	**322**	*e*P	**Pn**	**14 04 39.6**	**+1.5**
	baz=326						
HEN	**Hengchun**	**2.14**	**260**	*e*P	**Pn**	**14 04 38.9**	**+0.4**
	baz=258						
HEN				*e*S	**Sn**	**14 05 05.2**	**+0.1**
	baz=258						
YUS	**Yu-Shan**	**2.18**	**300**	*e*P	**Pn**	**14 04 41.1**	**+1.6**
	baz=309						
SCZT	**Fangliau**	**2.21**	**270**	*e*P	**Pb**	**14 04 41.8**	**-1.0**
	baz=262						
SCZT				*e*S	**Sn**	**14 05 07.0**	**+0.1**
	baz=262						
STYT	**Tauyuan**	**2.21**	**291**	*e*P	**Pn**	**14 04 40.7**	**+1.2**
	baz=295						
STYT				*e*S	**Sn**	**14 05 06.7**	**-0.2**
	baz=295						
JIJ	**Ishigaki jima**	**2.22**	**28**	P	**Pn**	**14 04 40.8**	**+1.3**
JIJ				S	**Sn**	**14 05 06.1**	**-0.9**
SSD	**Sandimen**	**2.22**	**279**	*e*P	**Pn**	**14 04 41.6**	**+2.0**
	baz=271						
ALS	**Alishan**	**2.31**	**299**	*e*P	**Pn**	**14 04 43.0**	**+1.9**
	baz=295						
ENA	**Nanau**	**2.33**	**330**	*e*P	**Pn**	**14 04 43.1**	**+2.0**
	baz=326						
ENA				*e*S	**Sn**	**14 05 09.2**	**-0.6**
	baz=326						
SGST	**Jiashian**	**2.34**	**287**	*e*P	**Pn**	**14 04 42.5**	**+1.2**
	baz=288						
SGST				*e*S	**Sn**	**14 05 11.9**	**+1.8**
	baz=288						
WHF	**Hehuan Shan**	**2.36**	**318**	*e*P	**Pn**	**14 04 42.9**	**+0.9**
	baz=320						
WHF				*e*S	**Sn**	**14 05 09.7**	**-1.5**
	baz=320						
CHN1	**Nanshi**	**2.42**	**289**	*e*P	**Pb**	**14 04 45.7**	**-0.6**
	baz=290						
CHN1				*e*S	**Sn**	**14 05 13.6**	**+1.6**
	baz=290						
TWM1	**Shoushan**	**2.42**	**281**	*e*P	**Pb**	**14 04 45.2**	**-1.2**
	baz=270						
SMLT	**Sun Moon Lake**	**2.44**	**308**	*e*P	**Pb**	**14 04 45.7**	**-1.0**
	baz=316						
TWC	**Suao**	**2.44**	**334**	*e*P	**Pb**	**14 04 45.4**	**-1.4**
	baz=346						
TWC				*e*S	**Sn**	**14 05 10.8**	**-1.8**
	baz=346						
CHN5	**Tsauling**	**2.46**	**299**	*e*P	**Pb**	**14 04 46.4**	**-0.6**
	baz=309						
CHN5				*e*S	**Sn**	**14 05 15.1**	**+2.1**
	baz=309						
TWK	**Hsinying**	**2.48**	**291**	*e*P	**Pb**	**14 04 46.3**	**-1.1**
	baz=300						
TWK				*e*S	**Sn**	**14 05 16.2**	**+2.7**
	baz=300						
TYC	**Yuchr**	**2.48**	**308**	P	**Pn**	**14 04 45.4**	**+2.2**
	baz=316						
TWT	**Tachien**	**2.50**	**318**	*e*P	**Pn**	**14 04 45.6**	**+2.1**
	baz=326						
NNS	**Nan Shan**	**2.52**	**324**	*e*P	**Pn**	**14 04 46.4**	**+2.4**
	baz=332						
WGK	**Gukeng**	**2.59**	**300**	*e*P	**Pb**	**14 04 48.4**	**-0.8**
	baz=301						
ENTT	**Nioudou**	**2.59**	**330**	*e*P	**Pn**	**14 04 46.5**	**+1.8**
	baz=327						
ENTT				*e*S	**Sn**	**14 05 15.7**	**-0.6**
	baz=327						
CHY	**Chiayi**	**2.62**	**295**	*e*P	**Pb**	**14 04 49.1**	**-0.7**
	baz=296						
EGS		**2.63**	**338**	*e*P	**Pn**	**14 04 47.9**	**+2.8**
	baz=351						
JTJ	**Tarama**	**2.72**	**35**	P	**Pn**	**14 04 47.6**	**+1.2**
JTJ				*e*S	**Sn**	**14 05 18.5**	**-0.9**
NSK	**Sanguang**	**2.73**	**327**	*e*P	**Pn**	**14 04 48.7**	**+2.1**
	baz=329						
NSK				*e*S	**Sn**	**14 05 18.2**	**-1.5**
	baz=329						
TWQ1	**Liyutan**	**2.82**	**314**	*e*P	**Pn**	**14 04 50.6**	**+2.7**
	baz=323						
TWQ1				*e*S	**Sn**	**14 05 23.9**	**+1.8**
	baz=323						
NSY	**Sanyi**	**2.88**	**315**	*e*P	**Pn**	**14 04 51.7**	**+3.0**
	baz=316						
NSTT	**Nanjuang**	**2.88**	**321**	*e*P	**Pn**	**14 04 50.5**	**+1.8**
	baz=328						
NSTT				*e*S	**Sn**	**14 05 23.5**	**0.0**
	baz=328						
NWF	**Wu-fen Shan**	**2.89**	**337**	*e*P	**Pb**	**14 04 52.9**	**-1.5**
	baz=349						
JOGS	**Gusukube**	**3.22**	**43**	P	**Pn**	**14 04 54.8**	**+1.5**
JOGS				*e*S	**Sn**	**14 05 31.0**	**-0.8**

NNC 02 14:05:43.4±9.5, 37°.32N×70°.31E, h0km, mb3.7, mpv3.3, 4C-1D, Error ellipse: s-maj=87.3km s-min=70.7km az=72.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.46**	**27**	P	Pn	14 07 07.1	+0.5
	SNR=36						
KK31	**Karatay Array**	**5.78**	**1**	⇑Pn	Pn	14 07 13.9	+3.6
	0.7nm,0.4s,baz=180,slow=13,SNR=7.0						
KK31				⇑Sn	Sn	14 08 23.9	+6.6
	0.6nm,0.3s,baz=190,slow=23,SNR=8.6						
UCH	**Uchtor**	**5.87**	**32**	P	Pn	14 07 11.5	-0.8
	SNR=5.3						
EKS2	**Erkin-Say**	**5.96**	**25**	P	Pn	14 07 14.2	+1.2
	SNR=10						
AAK	**Ala-Archa**	**6.20**	**30**	⇑Pn	Pn	14 07 15.5	-0.9
	0.9nm,0.3s						
AAK				⇑Sn	Sn	14 08 28.0	-0.1
	2.2nm,0.8s						
AAK	**Ala-Archa**	**6.20**	**30**	P	Pn	14 07 16.5	+0.1
	SNR=5.1						
USP	**Ospenovka**	**6.75**	**27**	P	Pn	14 07 23.1	-0.6
	SNR=7.3						
TKM2	**Tokmak 2**	**6.90**	**34**	⇓Pn	Pn	14 07 23.7	-2.4
	3.6nm,0.7s						
TKM2	**Tokmak 2**	**6.90**	**34**	P	Pn	14 07 24.7	-1.4
	SNR=6.8						

*ISCJB **02** 14:08:56.9±0.6, 22°.28N±0°.10×143°.4E±0°.2, h118km, mb3.9/15, Error ellipse: s-maj=24.3km s-min=13.8km az=4.8*

*IDC **02** 14:09:06.4±5.2, 22°.30N×143°.33E, h189km±49km, mb3.5/14, mb1 3.7/15, mb1mx3.6/26, mbtmp3.5/15, Error ellipse: s-maj=21.1km s-min=12.0km az=93.0*

ISC 02 14:08:58.6±0.7, 22°.3N±0°.1×143°.4E±0°.2, h118km, n18, σ1§03/17, mb3.9/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.94**	**344**	P	**P**	**14 12 27.3**	**+1.0**
	1.4nm,0.3s,baz=167,slow=9.6,SNR=22						
KSRS	**Korea Array**	**20.20**	**322**	P	Pn	14 13 28.6	+1.6
	4.3nm,0.6s,baz=146,slow=8.5,SNR=21						
SONM	**Songino Array**	**39.05**	**320**	P	**P**	**14 16 14.8**	**+0.8**
	0.9nm,0.4s,baz=134,slow=7.7,SNR=29						
SEY	**Seymchan**	**41.11**	**6**	P	**P**	**14 16 32.0**	**+1.5**
	1.3nm,0.9s,baz=195,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**42.86**	**193**	P	**P**	**14 16 46.5**	**+1.2**
	0.5nm,0.3s,baz=16,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**43.71**	**205**	P	**P**	**14 16 52.8**	**+0.6**
	5.7nm,1.1s,baz=358,slow=6.7,SNR=3.9						
STKA	**Stephens Creek**	**53.85**	**182**	P	**P**	**14 18 09.1**	**-0.3**
	2.1nm,0.7s,baz=352,slow=3.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**53.91**	**321**	P	**P**	**14 18 09.0**	**-0.6**
	0.6nm,0.3s,baz=101,slow=7.7,SNR=5.3						
MKAR	**Makanchi Array**	**54.48**	**312**	P	**P**	**14 18 14.2**	**+0.2**
	0.6nm,0.5s,baz=87,slow=9.7,SNR=12						
ILAR	**Eielson Array**	**61.45**	**27**	P	**P**	**14 19 01.4**	**-0.9**
	0.3nm,0.4s,baz=252,slow=5.0,SNR=10						
INK	**Inuvik**	**66.98**	**24**	P	**P**	**14 19 38.0**	**-0.2**
	0.6nm,0.6s,baz=338,slow=2.5,SNR=4.2						
YKA	**Yellowknife Ar**	**75.87**	**28**	P	**P**	**14 20 31.8**	**+0.1**
	1.0nm,0.4s,baz=292,slow=5.9,SNR=24						
ARCES	**ARCESS Array B**	**78.46**	**342**	P	**P**	**14 20 46.0**	**-0.1**
	1.6nm,0.6s,baz=79,slow=8.8,SNR=10						
JOF	**Joensuu**	**79.91**	**334**	*ep*	**P**	**14 20 53.0**	**-1.1**
	1.0nm,0.3s						
NVAR	**Mina Array Bea**	**82.64**	**52**	P	**P**	**14 21 09.4**	**+0.1**
	0.7nm,0.7s,baz=278,slow=5.0,SNR=6.4						
FINES	**FINESS Array B**	**82.77**	**335**	P	**P**	**14 21 07.7**	**-1.6**
	1.0nm,0.3s,baz=63,slow=4.5,SNR=29						
AKASG	**Malin Array Be**	**87.18**	**324**	P	**P**	**14 21 29.4**	**-2.1**
	0.2nm,0.3s,baz=52,slow=5.2,SNR=3.8						
PLCA	**Paso Flores**	**145.96**	**131**	PKPbc	**PKPab**	**14 28 25.5**	**+0.1**
	1.1nm,0.6s,baz=243,slow=4.5,SNR=6.3						

IDC 02 14:09:30.8±6.0, 12°.35N×142°.21E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/24, Error ellipse: s-maj=253.4km s-min=29.4km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**22.16**	**167**	LR	LR	14 22 32.2	
	comp=Z,48nm,20.1s,baz=241,slow=35						
WRA	**Warramunga Arr**	**33.01**	**194**	P	P	14 16 07.9	0.0
	1.0nm,0.6s,baz=15,slow=9.7,SNR=5.2						
SONM	**Songino Array**	**46.30**	**327**	P	P	14 17 59.0	+0.6
	0.3nm,0.5s,baz=114,slow=6.7,SNR=3.9						
MKAR	**Makanchi Array**	**60.60**	**317**	P	P	14 19 43.6	+0.2
	1.3nm,0.6s,baz=94,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**61.14**	**325**	P	P	14 19 45.7	-1.2
	0.9nm,0.6s,baz=113,slow=7.0,SNR=4.9						

*IDC **02** 15:01:16.7±1.5, 0°.48N×126°.40E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=128.8km s-min=26.9km az=67.0*

*DJA **02** 15:01:23.6±0.4, 0°.N±7°×12°.6E±°, h10km, M4.1/6, mb4.4/1, MLv3.9/6*

ISC 02 15:01:23.6±0.9, 0°.3N±0°.1×126°.00E±0°.05, h44km, n13, σ1§61/10, mb3.8/4, Northern Molucca Sea

baz=286
NRN *e*S **Sn** **15 24 08.4 +3.6**
baz=286
KSH **Kashi** **3.09 251** Pn **Pb** **15 23 37.5 +0.5**
KSH Sn Sg 15 24 27.7 +6.2
KSH smax smax
comp=N,540nm,0.5s
KSH smax smax
comp=E,480nm,0.8s
ULHL **Ulahol** **3.14 304** P **Pn** **15 23 34.2 +2.9**
SNR=259
ULHL **Ulahol** **3.14 304** ⇓*i*P **Pn** **15 23 34.0 +2.7**
baz=301
ULHL ⇓*i*S **Sb** **15 24 13.4 -2.5**
baz=301
KNDC **Almaty** **3.37 323** ⇑Pn **Pn** **15 23 37.1 +2.6**
38nm,0.5s
KNDC ⇑Pg **Pb** **15 23 42.2 +0.5**
152nm,0.5s
KNDC ⇓Lg Lg 15 24 21.2
881nm,0.8s
AAA **Alma-Ata** **3.42 323** *i* PN **Pb** **15 23 42.4 -0.2**
AAA *i* S **Sb** **15 24 27.1 +3.0**
AAA pmax pmax
comp=Z,361nm,0.3s
AAA smax smax
comp=E,2μm,1.0s
BOOM **Boomskoye usch** **3.46 305** *e*P Pn 15 23 39.2 +3.5
baz=303
BOOM *e*S **Sb** **15 24 28.0 +2.9**
baz=303
KZA **Kyzart** **3.72 295** P **Pn** **15 23 41.2 +1.7**
SNR=32
KZA **Kyzart** **3.72 295** ⇑*i*P **Pn** **15 23 41.1 +1.6**
baz=294
KZA ⇑*i*S **Sb** **15 24 35.6 +2.7**
baz=294
TKM2 **Tokmak 2** **3.91 308** ⇑Pn **Pn** **15 23 44.4 +2.5**
comp=E,12nm,0.4s
TKM2 ⇓Pg **Pb** **15 23 51.5 +0.6**
comp=E,27nm,0.3s
TKM2 ⇑Lg Lg 15 24 41.7
comp=E,309nm,0.6s
TKM2 **Tokmak 2** **3.91 308** PN **Pn** **15 23 44.4 +2.5**
TKM2 15 24 41.9
TKM2 pmax pmax
comp=Z,27nm,0.4s
TKM2 pmax pmax
comp=N,309nm,0.6s
TKM2 **Tokmak 2** **3.91 308** P **Pn** **15 23 44.4 +2.5**
SNR=96
TKM2 **Tokmak 2** **3.91 308** *e*Pn **Pn** **15 23 44.4 +2.5**
TKM2 *e*Sn **Sb** **15 24 41.6 +3.5**
TKM2 **Tokmak 2** **3.91 308** ⇑*i*P **Pn** **15 23 44.3 +2.4**
baz=307
TKM2 ⇑*i*S **Sb** **15 24 39.7 +1.6**
baz=307
KBK **Karagaybulak** **4.17 302** P **Pn** **15 23 48.4 +2.8**
SNR=14
KBK **Karagaybulak** **4.17 302** ⇑*i*P **Pn** **15 23 46.9 +1.4**
baz=300
KBK ⇑*i*S **Sb** **15 24 49.5 +3.8**
baz=300
UCH **Uchtor** **4.28 295** P **Pn** **15 23 48.9 +1.6**
SNR=11
AAK **Ala-Archa** **4.46 299** ⇑Pn **Pn** **15 23 51.9 +2.4**
comp=N,5.5nm,0.8s
AAK ⇓Pg **Pb** **15 24 00.8 +0.5**
comp=N,155nm,1.0s
AAK ⇓Lg Lg 15 24 58.6
comp=N,280nm,1.1s
AAK **Ala-Archa** **4.46 299** *ce*PN **Pn** **15 23 52.0 +2.6**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK **Ala-Archa** **4.46 299** P **Pn** **15 23 52.0 +2.6**
SNR=11
AAK **Ala-Archa** **4.46 299** Pn **Pn** **15 23 50.9 +1.5**
AAK Pg **Pb** **15 24 01.2 +0.9**
AAK Lg Lg 15 24 58.7
AAK **Ala-Archa** **4.46 299** Pn **Pn** **15 23 50.9 +1.5**
comp=Z,1.6nm,0.3s,baz=127,slow=8.2,SNR=27
AAK Pg **Pb** **15 24 01.2 +0.9**
comp=Z,6.9nm,0.3s,baz=110,slow=12,SNR=31
AAK Lg Lg 15 24 58.7
comp=Z,8.2nm,0.3s,baz=321,slow=19,SNR=9.2
AAK LR LR 15 25 51.4
comp=Z,186nm,18.2s,baz=106,slow=44
AAK **Ala-Archa** **4.46 299** ⇑*i*P **Pn** **15 23 51.9 +2.4**
baz=298
AAK ⇑*i*S **Sb** **15 24 58.5 +4.6**
baz=298
CHMS **Chumysh** **4.47 305** P **Pb** **15 24 00.3 0.0**
SNR=36
CHMS **Chumysh** **4.47 305** ⇑*i*P **Pn** **15 23 51.2 +1.8**
baz=303
CHMS ⇑*i*S **Sb** **15 24 58.0 +4.0**
baz=303
FRU **Bishkek** **4.47 302** *i* PN **Pb** **15 24 00.0 -0.4**
FRU *i* 15 24 50.0
FRU *i* 15 25 11.0
FRU pmax pmax
comp=Z,190nm,1.9s
FRU smax smax
comp=E,530nm,1.6s
USP **Ospenovka** **4.76 306** P **Pn** **15 23 55.5 +2.0**
SNR=7.3
SFK **Sufi-Kurgan** **4.82 265** *e*P **Pn** **15 23 56.3 +1.8**
baz=265
SFK *e*S **Sb** **15 25 04.8 +0.4**
baz=265
AML **Almayashu** **4.83 291** P **Pn** **15 23 56.3 +1.5**
SNR=13
EKS2 **Erkin-Say** **4.95 297** *e*PN **Pn** **15 23 58.9 +2.7**
EKS2 *e* 15 25 08.5
EKS2 **Erkin-Say** **4.95 297** P **Pn** **15 23 56.5 +0.3**
SNR=9.4
EKS2 **Erkin-Say** **4.95 297** *e*Pn **Pn** **15 23 58.9 +2.7**
EKS2 *e*Sn **Sb** **15 25 08.5 +0.4**
OHH **Osh** **5.32 272** *e*P **Pn** **15 24 04.0 +2.8**
baz=271
OHH *e*S **Sb** **15 25 21.0 +2.5**
baz=271
MK31 **Makanchi Array** **6.49 16** ⇑Pn **Pn** **15 24 19.8 +2.6**
comp=E,1.8nm,0.3s,baz=199,slow=12,SNR=176
MK31 ⇑Pg Pb 15 24 38.6 +3.8
comp=E,8.8nm,0.5s,baz=200,slow=15,SNR=5.0
MK31 ⇓Sn **Sn** **15 25 32.6 +1.6**
comp=E,42nm,0.8s,baz=200,slow=24,SNR=13
MK31 ⇑Lg Lg 15 26 01.6
comp=E,23nm,0.6s
MK31 **Makanchi Array** **6.49 16** *i* PN **Pn** **15 24 19.9 +2.7**
MK31 *e* 15 25 32.4
MK31 pmax pmax
comp=Z,5.0nm,0.2s
MK31 smax smax
comp=N,5.0nm,0.3s
MK31 **Makanchi Array** **6.49 16** *e*Pn **Pn** **15 24 20.0 +2.7**
MK31 *e*Sn **Sn** **15 25 34.9 +3.9**
MKAR **Makanchi Array** **6.49 16** PN **Pn** **15 24 19.7 +2.5**
MKAR 15 25 32.7
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR smax smax
comp=N,4.0nm,0.3s
MKAR **Makanchi Array** **6.49 16** Pn **Pn** **15 24 19.6 +2.5**
MKAR Sn **Sn** **15 25 32.7 +1.7**
MKAR **Makanchi Array** **6.49 16** Pn **Pn** **15 24 19.6 +2.5**
comp=N,2.6nm,0.3s,baz=194,slow=12,SNR=116
MKAR Sn **Sn** **15 25 32.7 +1.7**
comp=N,4.3nm,0.3s,baz=196,slow=17,SNR=6.3
WMQ **Urumqi** **6.73 58** Pn Pn 15 24 23.9 +3.4
WMQ Sn **Sn** **15 25 39.3 +2.4**
WMQ smax smax
comp=N,13nm,0.5s
WMQ smax smax
comp=N,14nm,0.4s
KK31 **Karatay Array** **7.36 293** ⇓Pn **Pn** **15 24 30.6 +1.5**
comp=N,1.4nm,0.8s,baz=105,slow=13,SNR=7.3
KK31 Pg Pb 15 24 53.8 +4.2
comp=N,6.9nm,0.6s,baz=102,slow=14,SNR=33
KK31 ⇑Lg Lg 15 26 29.0
comp=N,58nm,1.0s,baz=102,slow=26,SNR=4.2
KKAR **Karatay Array** **7.36 293** *e*PN Pn 15 24 25.5 -3.7
KKAR *e* 15 24 53.6
KKAR pmax pmax
comp=Z,14nm,0.6s
KKAR **Karatay Array** **7.36 293** *e*Pn Pn 15 24 25.5 -3.7
comp=Z,14nm,0.6s
KKAR *e*Sn Pb 15 24 53.6 +4.0
DLH **Dalhousie** **8.57 202** *e*P **Pn** **15 24 47.0 +1.1**
DLH *e*S **Sn** **15 26 20.0 -2.5**
CHCP **Chirak Chowk** **8.63 219** ⇑P **Pn** **15 24 48.4 +1.8**
CEP **Cherat** **9.19 225** ⇓P **Pn** **15 24 55.9 +1.5**
CEP S **Sn** **15 26 35.0 -2.6**
THW **Thamme Wali** **10.08 222** P **Pn** **15 25 06.4 0.0**
KURBB **Kurchatov Arra** **10.10 356** ⇑Pn **Pn** **15 25 07.6 +1.0**
comp=Z,5.4nm,0.9s
KURBB ⇓Lg Lg 15 27 58.2
comp=Z,203nm,0.9s
KURBB **Kurchatov Arra** **10.10 356** Pn **Pn** **15 25 06.9 +0.3**
comp=Z,0.7nm,0.3s,baz=179,slow=12,SNR=34
KURBB Lg Lg 15 28 00.9
comp=Z,1.4nm,0.3s,baz=178,slow=30,SNR=16
KURK **Kurchatov** **10.18 356** ⇑Pn **Pn** **15 25 08.1 +0.3**
comp=Z,6.1nm,0.8s
KURK ⇑Lg Lg 15 27 57.5
comp=Z,43nm,1.0s
KURK **Kurchatov** **10.18 356** P **Pn** **15 25 07.7 -0.1**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK **Kurchatov** **10.18 356** Pn **Pn** **15 25 06.9 -0.9**
KURK Lg Lg 15 28 00.9
DANN **Dangsing** **12.62 164** *e*P **Pn** **15 25 42.6 +1.1**
comp=Z,9.0nm,0.4s
PYUN **Piuthan** **12.71 167** *e*P **Pn** **15 25 45.3 +2.6**
comp=Z,23nm,0.6s
KOLN **Koldanda** **13.15 165** *e*P **Pn** **15 25 48.5 -0.2**
comp=Z,7.2nm,0.5s
GKN **Gorkha** **13.16 161** *e*P **Pn** **15 25 50.8 +2.1**
comp=Z,7.0nm,0.3s
PKI **Pulchoki** **13.78 158** *e*P **Pn** **15 25 58.2 +0.9**
comp=Z,12nm,0.6s
ZAA0 **Zalesovo Array** **13.82 13** *e*Pn **Pn** **15 25 57.0 -0.3**
ZAA0 *e*Sn **Sn** **15 28 26.9 -3.5**
ZALV **Zalesovo Beam** **13.82 13** P **Pn** **15 25 57.1 -0.3**
ZALV 15 28 27.5
ZALV smax smax
comp=N,1.0nm,0.3s
ZALV **Zalesovo Beam** **13.82 13** Pn **Pn** **15 25 57.0 -0.3**
ZALV Sn **Sn** **15 28 27.5 -3.0**
ZALV **Zalesovo Beam** **13.82 13** Pn **Pn** **15 25 57.0 -0.3**
comp=N,0.3nm,0.3s,baz=198,slow=14,SNR=18
ZALV Sn **Sn** **15 28 27.5 -3.0**
comp=N,0.6nm,0.3s,baz=206,slow=20,SNR=5.3
JIRN **Jiri** **13.92 156** *e*P P 15 26 03.8 -3.7
comp=N,13nm,0.5s
BVA0 **Borovoye Array** **14.00 336** Pn **Pn** **15 25 59.0 -1.0**
comp=N,5.4nm,0.8s,baz=151,slow=14,SNR=12
BVA0 ⇓Lg Lg 15 30 03.7
comp=N,23nm,1.2s,baz=146,slow=29,SNR=4.5
BVA0 **Borovoye Array** **14.00 336** *i* P **Pn** **15 25 58.9 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR **Borovoye Array** **14.00 336** P **Pn** **15 25 57.7 -2.3**
BVAR **Borovoye Array** **14.00 336** Pn **Pn** **15 25 57.7 -2.3**
BVAR Lg Lg 15 30 04.8
BVAR **Borovoye Array** **14.00 336** Pn **Pn** **15 25 57.7 -2.3**
comp=Z,0.4nm,0.3s,baz=145,slow=14,SNR=15
BVAR Lg Lg 15 30 04.8
comp=Z,0.4nm,0.3s,baz=146,slow=29,SNR=6.8
BVAR LR LR 15 31 55.1
comp=Z,42nm,19.2s,baz=103,slow=40
BRVK **Borovoye** **14.06 336** ⇑Pn **Pn** **15 25 59.1 -1.7**
comp=Z,9.2nm,0.7s
BRVK ⇓Lg Lg 15 30 01.8
comp=Z,60nm,1.3s
BRVK **Borovoye** **14.06 336** *ce*P **Pn** **15 26 00.6 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK **Borovoye** **14.06 336** *e*Pn **Pn** **15 25 59.9 -0.9**
comp=Z,7.3nm,0.8s
RAMN **Ramite** **14.71 155** *e*P **P** **15 26 14.6 -1.6**
comp=Z,19nm,0.6s
TAPN **Taplejung** **14.73 151** *e*P **P** **15 26 16.5 +0.1**
ODAN **Odare** **15.06 153** *e*P **P** **15 26 20.5 +0.5**
GTA **Gaotai** **15.42 88** *e*P **Pn** **15 26 19.0 -0.3**
GTA pP **P** **15 26 23.7 -0.1**
GTA sP **sP** **15 26 27.4 -2.5**
GTA S **Sn** **15 29 09.9 +0.1**
GTA sS S 15 29 17.1 -8.7
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=Z,170nm,8.1s
GTA LR LR
comp=Z,380nm,13.3s
GTA LR LR
comp=Z,200nm,11.2s
AB31 **Akbulak array** **16.47 308** ⇑Pn **Pn** **15 26 31.2 -1.4**
comp=Z,1.8nm,0.6s
AB31 **Akbulak array** **16.47 308** P **Pn** **15 26 31.7 -1.0**
ABKAR **Akbulak array** **16.47 308** *e*Pn **Pn** **15 26 30.3 -2.3**
comp=Z,1.5nm,0.6s
ABKAR *e*Sn **Sn** **15 29 30.9 -4.2**
AKTO **Aktyubinsk** **18.10 310** ⇓Pn **Pn** **15 26 51.8 -1.2**
comp=Z,3.0nm,0.7s
AKTO **Aktyubinsk** **18.10 310** P **Pn** **15 26 53.0 0.0**
AKTO **Aktyubinsk** **18.10 310** P **Pn** **15 26 53.0 0.0**
AKTO **Aktyubinsk** **18.10 310** P **Pn** **15 26 53.0 0.0**
comp=Z,0.3nm,0.3s,baz=88,slow=9.5,SNR=8.5
AKTO LR LR 15 34 01.5
comp=Z,83nm,18.8s,baz=179,slow=38
ZAK **Zakamensk** **19.12 51** *e*P **P** **15 27 03.8 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
SONM **Songino Array** **20.36 60** P Pn 15 27 21.2 +0.8
SONM **Songino Array** **20.36 60** P Pn 15 27 21.2 +0.8
comp=Z,5.0nm,0.8s,baz=255,slow=11,SNR=46
ULN **Ulaanbaatar** **20.80 60** *e*P **P** **15 27 23.7 +0.7**
comp=Z,3.3nm,0.7s
ARU **Arti** **21.06 326** *d*/*i*P **P** **15 27 25.7 +0.2**
ARU 15 27 38.9
ARU S S 15 31 05.4 -14
ARU SS Sn 15 31 18.2 -7.6
ARU pmax pmax
comp=Z,16nm,1.0s
ARU **Arti** **21.06 326** *e*P **P** **15 27 24.7 -0.9**
comp=Z,13nm,0.8s
KIV **Kislovodsk** **27.50 289** ⇑*e*P **P** **15 28 27.5 -0.5**
KIV *e* 15 29 14.5
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV MLR MLR
comp=Z,100nm,17.0s
CMAR **Chiang Mai Arr** **27.52 138** P **P** **15 28 28.5 +0.2**
CMAR **Chiang Mai Arr** **27.52 138** P **P** **15 28 28.5 +0.2**
comp=Z,0.6nm,0.9s,baz=316,slow=9.0,SNR=3.6
OBN **Obninsk** **31.86 312** ⇑*e*P **P** **15 29 05.4 -1.0**
OBN *e*S **S** **15 34 11.6 -4.8**
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,100nm,17.0s
AKASG **Malin Array Be** **36.12 304** P **P** **15 29 42.3 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** **36.12 304** P **P** **15 29 42.2 -1.1**
AKASG **Malin Array Be** **36.12 304** P **P** **15 29 42.2 -1.1**
comp=Z,1.4nm,0.3s,baz=67,slow=9.2,SNR=11
KSAR **Wonju Array Be** **37.16 79** P **P** **15 29 54.4 +1.9**
KSRS **Korea Array** **37.19 79** P **P** **15 29 54.4 +1.7**
comp=Z,2.5nm,0.6s,baz=288,slow=8.8,SNR=12
KSRS LR LR 15 47 00.3
comp=Z,45nm,18.5s,baz=110,slow=39
FINES **FINESS Array B** **38.29 321** P **P** **15 30 01.4 -0.3**
FINES **FINESS Array B** **38.29 321** P **P** **15 30 01.4 -0.3**
comp=Z,1.2nm,0.6s,baz=98,slow=8.7,SNR=10
TIXI **Tiksi** **39.43 22** *ce*P **P** **15 30 12.5 +1.4**
TIXI pmax pmax
comp=Z,4.0nm,1.7s
ARCES **ARCESS Array B** **40.28 334** P **P** **15 30 18.4 +0.1**
ARCES PcP **PcP** **15 32 21.4 -0.3**
ARCES **ARCESS Array B** **40.28 334** P **P** **15 30 18.4 +0.1**
comp=Z,3.7nm,1.0s,baz=95,slow=7.6,SNR=6.4
ARCES PcP **PcP** **15 32 21.4 -0.3**
comp=Z,1.9nm,0.9s,baz=111,slow=5.3,SNR=4.5
NB2 **NORSAR Subarra** **45.45 321** P **P** **15 30 59.4 -1.0**
comp=Z,0.7nm,0.6s,baz=85,slow=7.9
NOA **NORSAR Array B** **45.45 321** P **P** **15 30 59.4 -1.0**
NOA **NORSAR Array B** **45.45 321** P **P** **15 30 59.4 -1.0**
comp=Z,1.1nm,0.7s,baz=86,slow=7.8,SNR=3.9
CLL **Collm** **46.13 307** *i* P **P** **15 31 05.5 -0.3**
comp=Z,4.0nm,0.7s
GERES **GERESS Array B** **46.33 303** P **P** **15 31 07.7 +0.2**
GERES **GERESS Array B** **46.33 303** P **P** **15 31 07.7 +0.2**
comp=Z,2.1nm,0.8s,baz=68,slow=7.4,SNR=10
CDF **Champ du Feu** **50.52 305** *e*P **P** **15 31 39.0 -0.8**
CDF **Champ du Feu** **50.52 305** *e*P **P** **15 31 39.0 -0.8**
CDF **Champ du Feu** **50.52 305** *e*P **P** **15 31 39.0 -0.8**
HINF **Hinteralfeld** **50.99 304** *e*P **P** **15 31 42.7 -0.6**
comp=Z,6.5nm,0.5s
HINF **Hinteralfeld** **50.99 304** *e*P **P** **15 31 42.7 -0.6**
HINF pmax pmax
comp=Z,7.0nm,0.5s
HINF **Hinteralfeld** **50.99 304** *e*P **P** **15 31 42.7 -0.6**
comp=Z,6.5nm,0.5s
HAU **Haudompre** **51.24 304** *e*P **P** **15 31 44.3 -0.9**
HAU **Haudompre** **51.24 304** *e*P **P** **15 31 44.3 -0.9**
HAU **Haudompre** **51.24 304** *e*P **P** **15 31 44.3 -0.9**
BAIF **Baives** **51.85 307** *e*P **P** **15 31 49.4 -0.2**
comp=Z,12nm,1.0s
BAIF **Baives** **51.85 307** *e*P **P** **15 31 49.4 -0.2**
BAIF pmax pmax
comp=Z,12nm,1.0s
BAIF **Baives** **51.85 307** *e*P **P** **15 31 49.4 -0.2**
comp=Z,12nm,1.0s
MEZF **Maizieres J'vi** **51.88 305** *e*P **P** **15 31 49.7 -0.1**
MEZF **Maizieres J'vi** **51.88 305** *e*P **P** **15 31 49.7 -0.1**
LPG **La Plagne** **51.90 301** *e*P **P** **15 31 50.2 -0.2**
LPG **La Plagne** **51.90 301** *e*P **P** **15 31 50.2 -0.2**
LPG **La Plagne** **51.90 301** *e*P **P** **15 31 50.2 -0.2**
LPL **La Plagne** **51.91 301** *e*P **P** **15 31 50.2 -0.2**
LPL **La Plagne** **51.91 301** *e*P **P** **15 31 50.2 -0.2**
LPL **La Plagne** **51.91 301** *e*P **P** **15 31 50.2 -0.2**
ORIF **Oris-en-Rattie** **52.69 301** *e*P **P** **15 31 55.0 -1.1**
ORIF **Oris-en-Rattie** **52.69 301** *e*P **P** **15 31 55.0 -1.1**
ORIF **Oris-en-Rattie** **52.69 301** *e*P **P** **15 31 55.0 -1.1**
LOR **Lormes** **53.08 304** *e*P **P** **15 31 58.1 -0.7**
LOR **Lormes** **53.08 304** *e*P **P** **15 31 58.1 -0.7**
SMF **Signal de Mont** **53.33 304** *e*P **P** **15 31 59.7 -1.0**
comp=Z,6.4nm,0.7s
SMF **Signal de Mont** **53.33 304** *e*P **P** **15 31 59.7 -1.0**
SMF pmax pmax
comp=Z,6.0nm,0.7s
SMF **Signal de Mont** **53.33 304** *e*P **P** **15 31 59.7 -1.0**
comp=Z,6.4nm,0.7s
SSF **Saint Saulge** **53.38 304** *e*P **P** **15 32 00.7 -0.3**
SSF **Saint Saulge** **53.38 304** *e*P **P** **15 32 00.7 -0.3**
SSF **Saint Saulge** **53.38 304** *e*P **P** **15 32 00.7 -0.3**
AVF **Avril sur Loir** **53.58 304** *e*P **P** **15 32 01.7 -0.8**
comp=Z,15nm,0.7s
AVF **Avril sur Loir** **53.58 304** *e*P **P** **15 32 01.7 -0.8**
AVF **Avril sur Loir** **53.58 304** *e*P **P** **15 32 01.7 -0.8**
comp=Z,15nm,0.7s
TCF **Toulx Ste Croi** **54.51 304** *e*P **P** **15 32 08.8 -0.5**
TCF **Toulx Ste Croi** **54.51 304** *e*P **P** **15 32 08.8 -0.5**
TCF **Toulx Ste Croi** **54.51 304** *e*P **P** **15 32 08.8 -0.5**
CAF **Calviac** **55.16 302** *e*P **P** **15 32 13.8 -0.3**
CAF **Calviac** **55.16 302** *e*P **P** **15 32 13.8 -0.3**
CAF **Calviac** **55.16 302** *e*P **P** **15 32 13.8 -0.3**
GRR **Gorron** **55.55 307** *e*P **P** **15 32 16.3 -0.5**
GRR **Gorron** **55.55 307** *e*P **P** **15 32 16.3 -0.5**
GRR **Gorron** **55.55 307** *e*P **P** **15 32 16.3 -0.5**
MTLF **Montolieu** **55.74 300** *e*P **P** **15 32 17.7 -0.5**
MTLF **Montolieu** **55.74 300** *e*P **P** **15 32 17.7 -0.5**
MTLF **Montolieu** **55.74 300** *e*P **P** **15 32 17.7 -0.5**
MFF **Saint Martin d** **55.86 305** *e*P **P** **15 32 17.9 -1.1**
MFF **Saint Martin d** **55.86 305** *e*P **P** **15 32 17.9 -1.1**
MFF **Saint Martin d** **55.86 305** *e*P **P** **15 32 17.9 -1.1**
EPF **Esparros** **57.11 301** *e*P **P** **15 32 27.3 -0.8**
EPF **Esparros** **57.11 301** *e*P **P** **15 32 27.3 -0.8**
EPF **Esparros** **57.11 301** *e*P **P** **15 32 27.3 -0.8**
ESDC **Sonseca Array** **61.56 299** P **P** **15 32 58.3 -0.6**
ESDC **Sonseca Array** **61.56 299** P **P** **15 32 58.3 -0.6**
comp=Z,0.5nm,0.5s,baz=48,slow=6.8,SNR=6.8
ILAR **Eielson Array** **68.83 20** P **P** **15 33 45.0 -0.6**
ILAR **Eielson Array** **68.83 20** P **P** **15 33 45.0 -0.6**
comp=Z,0.9nm,0.8s,baz=296,slow=4.1,SNR=9.7
TORD **Torodi Ar. Bea** **72.55 273** P **P** **15 34 07.8 -1.2**
TORD **Torodi Ar. Bea** **72.55 273** P **P** **15 34 07.8 -1.2**
comp=Z,1.1nm,0.6s,baz=45,slow=5.5,SNR=11
YKA **Yellowknife Ar** **76.64 7** P **P** **15 34 32.1 +0.2**
YKA **Yellowknife Ar** **76.64 7** P **P** **15 34 32.1 +0.2**
comp=Z,1.7nm,0.7s,baz=343,slow=5.5,SNR=31
WRA **Warramunga Arr** **78.71 129** P **P** **15 34 44.9 +0.9**
WRA **Warramunga Arr** **78.71 129** P **P** **15 34 44.9 +0.9**
comp=Z,1.6nm,0.7s,baz=325,slow=5.5,SNR=18
SCHQ **Schefferville** **80.77 341** P **P** **15 34 55.0 +0.2**
SCHQ **Schefferville** **80.77 341** P **P** **15 34 55.0 +0.2**
comp=Z,2.5nm,0.8s,baz=18,slow=6.4,SNR=2.9

ISCJB ***02*** *15:30:05.0±0.7,37.66N±0.07×95.71E±0.07,h10km, mb3.5/4,MS2.9/1,Error ellipse: s-maj=11.0km s-min=7.2km az=18.9*

IDC ***02*** *15:30:06.0±1.1,37.73N×95.83E,h0km,mb3.6/4, mb1 3.8/8,mb1mx3.5/29,mbtmp3.7/8,ML3.8/4,MS2.9/2, Ms1 2.9/2,ms1mx2.5/30,Error ellipse: s-maj=33.7km s-min=18.9km az=45.0*

BJI ***02*** *15:30:07.5,37.73N×95.76E,h8km,mb3.9/1,ML3.8/9, Ms3.3/2,Ms7 3.2/2*

ISC 02 15:30:07.3±0.8, 37.76N±0.08×95.77E±0.05, h10km, n14, σ2s 47/21, mb3.6/4, 1C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GTA	**Gaotai**	**3.57**	**61**	Pn	**Pn**	**15 31 03.6**	**+0.7**
GTA				Pg	**Pb**	**15 31 11.2**	**+0.5**
GTA				Sn	**Sn**	**15 31 46.8**	**+1.6**
GTA				Sg	**Sg**	**15 31 59.1**	**-3.0**
GTA				smax	smax		
	comp=N,51nm,0.6s						
GTA				smax	smax		
	comp=E,30nm,1.0s						
GTA				LR	LR		
	comp=N,180nm,6.7s						
GTA				LR	LR		
	comp=E,250nm,9.0s						
GTA				LR	LR		
	comp=Z,250nm,10.0s						
LZH	**Lanzhou**	**6.68**	**102**	*e*Pg	**Pg**	**15 32 13.1**	**-2.1**
LZH				Sn	**Sn**	**15 33 06.6**	**+4.7**
LZH				Sg	**Sg**	**15 33 39.1**	**-2.6**
LZH				smax	smax		
	comp=N,56nm,0.8s						
LZH				smax	smax		
	comp=E,49nm,0.7s						
LZH				LR	LR		
	comp=N,190nm,5.4s						
LZH				LR	LR		
	comp=E,210nm,5.2s						
LZH				LR	LR		
	comp=Z,260nm,5.7s						
WMQ	**Urumqi**	**8.61**	**317**	P	**Pn**	**15 32 12.8**	**+0.8**
WMQ				S	**Sn**	**15 33 52.6**	**+3.4**
WMQ				smax	smax		
	comp=Z,29nm,0.7s						
WMQ				smax	smax		
	comp=Z,27nm,0.7s						
SONM	**Songino Array**	**12.73**	**34**	Pn	**Pn**	**15 33 09.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=220,slow=15,SNR=6.4						
MK31	**Makanchi Array**	**13.44**	**316**	⇑Pn	**Pn**	**15 33 16.4**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=124,slow=14,SNR=32						
MK31				⇓Sn	**Sn**	**15 35 44.4**	**-3.1**
	comp=Z,1.9nm,0.7s,baz=127,slow=26,SNR=7.4						
MKAR	**Makanchi Array**	**13.44**	**316**	Pn	**Pn**	**15 33 16.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=124,slow=14,SNR=14						
MKAR				Sn	**Sn**	**15 35 42.8**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=126,slow=22,SNR=4.0						
AAK	**Ala-Archa**	**16.96**	**293**	LR	LR	15 41 11.8	
	comp=Z,32nm,19.9s,baz=227,slow=39						
KURBB	**Kurchatov Arra**	**17.78**	**322**	P	**P**	**15 34 16.5**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=136,slow=11,SNR=4.9						
ZALV	**Zalesovo Beam**	**17.86**	**339**	P	**P**	**15 34 19.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=148,slow=8.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**19.43**	**171**	P	**P**	**15 34 33.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=342,slow=10.0,SNR=7.3						
BVAR	**Borovoye Array**	**23.29**	**319**	P	**P**	**15 35 14.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=121,slow=14,SNR=3.9						
BVAR				LR	LR	15 44 56.4	
	comp=Z,40nm,19.5s,baz=17,slow=38						
KSRS	**Korea Array**	**25.41**	**81**	P	**P**	**15 35 33.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=281,slow=9.4,SNR=3.5						
AKTO	**Aktyubinsk**	**29.60**	**308**	P	**P**	**15 36 12.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=117,slow=4.5,SNR=3.7						
WRA	**Warramunga Arr**	**67.90**	**141**	P	**P**	**15 41 06.8**	**+0.7**
	comp=Z,0.6nm,1.1s,baz=331,slow=6.3,SNR=3.0						

*ISCJB **02** 15:58:23.9±0.4, 13°.35N±0°.06×142°.11E±0°.07, h33km, mb4.5/28, MS3.6/11, Error ellipse: s-maj=10.4km s-min=8.6km az=167.1*

*IDC **02** 15:58:25.2±0.7, 12°.36N×142°.26E, h25km±4km, mb4.0/13, mb1 4.2/13, mb1mx4.1/25, mbtmp4.0/13, MS3.6/11, Ms1 3.6/11, ms1mx3.5/28, Error ellipse: s-maj=20.4km s-min=13.3km az=88.0*

*NEIC **02** 15:58:25.3±0.3, 12°.41N×142°.15E, mb4.7/12, Error ellipse: s-maj=11.7km s-min=7.8km az=80.0*

ISC 02 15:58:25.8±0.5, 12°.41N±0°.07×142°.15E±0°.10, h33km, n70, σ1§17/69, mb4.4/28, MS3.5/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.90**	**66**	*e*Pn	**Pn**	**15 59 09.0**	**-0.7**
PMG	**Port Moresby**	**22.24**	**167**	P	**P**	**16 03 22.6**	**+2.7**
PMG	**Port Moresby**	**22.24**	**167**	P	**P**	**16 03 22.6**	**+2.7**
	6.2nm,0.6s,baz=357,slow=7.1,SNR=4.0						
PMG				LR	LR	16 10 08.6	
	comp=Z,202nm,21.9s,baz=81,slow=32						
JNU	**Nakatsue**	**23.05**	**335**	LR	LR	16 10 42.7	
	comp=Z,110nm,20.3s,baz=232,slow=32						
MJAR	**Matsushiro Arr**	**24.29**	**352**	LR	LR	16 11 47.8	
	comp=Z,156nm,18.9s,baz=180,slow=33						
H11S3	**WAKE ISLAND Hy**	**24.40**	**73**	T	T	16 29 28.8	
	baz=260,slow=67,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**24.41**	**73**	T	T	16 29 22.3	
	baz=260,slow=67,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**24.42**	**73**	T	T	16 29 18.4	
	baz=260,slow=67,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**24.84**	**70**	T	T	16 29 48.4	
	baz=258,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**24.85**	**70**	T	T	16 29 49.0	
	baz=258,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**24.86**	**70**	T	T	16 29 49.5	
	baz=258,slow=75,SNR=4.7						
COEN	**Coen**	**26.22**	**178**	*e*P	**P**	**16 03 56.9**	**-0.9**
	101nm,1.0s						
KSRS	**Korea Array**	**28.00**	**335**	LR	LR	16 13 21.2	
	comp=Z,128nm,18.8s,baz=152,slow=32						
CTA	**Charters Tower**	**32.55**	**173**	P	**P**	**16 04 53.4**	**-0.6**
CTA	**Charters Tower**	**32.55**	**173**	P	**P**	**16 04 53.4**	**-0.6**
	2.6nm,0.7s,baz=17,slow=11,SNR=3.7						
USRK	**Ussuriysk Arra**	**32.86**	**346**	P	**P**	**16 04 58.0**	**+1.5**
	5.4nm,1.0s,baz=180,slow=5.3,SNR=5.3						
WRAB	**Tennant Creek**	**33.04**	**194**	*e*P	**P**	**16 04 57.8**	**-0.6**
	16nm,1.1s						
WRA	**Warramunga Arr**	**33.06**	**194**	P	**P**	**16 04 58.7**	**+0.2**
WRA				pP	**pP**	**16 05 06.5**	**-1.6**
WRA	**Warramunga Arr**	**33.06**	**194**	P	**P**	**16 04 58.7**	**+0.2**
	4.0nm,0.8s,baz=15,slow=9.8,SNR=20						
WRA				pP	**pP**	**16 05 06.5**	**-1.6**
	5.3nm,0.7s,baz=14,slow=9.3,SNR=12						
AS31	**Alice Springs**	**36.75**	**193**	*e*P	**P**	**16 05 30.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.00**	**284**	P	**P**	**16 06 15.3**	**+1.0**
CMAR				pP	**pP**	**16 06 23.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.00**	**284**	P	**P**	**16 06 15.3**	**+1.0**
	3.1nm,0.7s,baz=82,slow=6.3,SNR=27						
CMAR				pP	**pP**	**16 06 23.9**	**-0.1**
	11nm,0.8s,baz=85,slow=5.5,SNR=20						
CMAR				LR	LR	16 21 41.4	
	comp=Z,32nm,21.6s,baz=129,slow=33						
PETK	**Petropavlovsk-**	**42.46**	**14**	LR	LR	16 23 44.2	
	comp=Z,111nm,19.1s,baz=220,slow=36						
STKA	**Stephens Creek**	**44.04**	**181**	P	**P**	**16 06 30.3**	**-0.2**
STKA	**Stephens Creek**	**44.04**	**181**	P	**P**	**16 06 30.3**	**-0.2**
	2.2nm,0.9s,baz=304,slow=11,SNR=2.4						
STKA				LR	LR	16 26 12.2	
	comp=Z,140nm,18.7s,baz=24,slow=38						
ULN	**Ulaanbaatar**	**45.88**	**327**	*e*P	**P**	**16 06 47.1**	**+1.9**
	3.4nm,1.0s						
SONM	**Songino Array**	**46.21**	**327**	P	**P**	**16 06 49.2**	**+1.3**
SONM	**Songino Array**	**46.21**	**327**	P	**P**	**16 06 49.2**	**+1.3**
	1.0nm,0.9s,baz=128,slow=9.6,SNR=7.3						
SONM				LR	LR	16 24 46.0	
	comp=Z,72nm,20.3s,baz=344,slow=34						
LSA	**Lhasa**	**50.19**	**298**	*e*P	**P**	**16 07 19.8**	**+0.5**
	4.6nm,0.8s						
YAK	**Yakutsk**	**50.35**	**352**	*e*P	**P**	**16 07 18.1**	**-1.2**
	35nm,0.8s						
SEY	**Seymchan**	**50.97**	**6**	P	**P**	**16 07 26.2**	**+2.2**
SEY	**Seymchan**	**50.97**	**6**	P	**P**	**16 07 26.2**	**+2.2**
	4.7nm,1.0s,baz=176,slow=13,SNR=7.9						
TAPN	**Taplejung**	**52.92**	**295**	*e*P	**P**	**16 07 39.4**	**-0.1**
	23nm,1.1s						
ODAN	**Odare**	**53.16**	**294**	*e*P	**P**	**16 07 40.9**	**-0.3**
	40nm,1.6s						
RAMN	**Ramite**	**53.87**	**294**	*e*P	**P**	**16 07 46.1**	**-0.3**
	22nm,1.0s						
JIRN	**Jiri**	**54.29**	**295**	*e*P	**P**	**16 07 49.6**	**0.0**
	14nm,0.8s						
GUN	**Gumba**	**54.58**	**295**	*e*P	**P**	**16 07 51.6**	**-0.1**
	37nm,0.9s						
PKI	**Pulchoki**	**54.97**	**295**	*e*P	**P**	**16 07 53.9**	**-0.6**
	16nm,0.9s						
KKN	**Kakani**	**55.10**	**295**	*e*P	**P**	**16 07 54.9**	**-0.4**
	14nm,0.9s						
DMN	**Daman**	**55.24**	**295**	*e*P	**P**	**16 07 55.6**	**-0.8**
	22nm,0.9s						
GKN	**Gorkha**	**55.69**	**295**	*e*P	**P**	**16 07 59.1**	**-0.4**
	28nm,1.0s						
DANN	**Dangsing**	**56.48**	**296**	*e*P	**P**	**16 08 05.1**	**-0.2**
	26nm,1.0s						
KOLN	**Koldanda**	**56.59**	**295**	*e*P	**P**	**16 08 05.7**	**-0.3**
	31nm,0.9s						
MK31	**Makanchi Array**	**60.51**	**317**	*e*P	**P**	**16 08 33.6**	**+0.8**
MKAR	**Makanchi Array**	**60.51**	**317**	P	**P**	**16 08 33.7**	**+0.9**
MKAR	**Makanchi Array**	**60.51**	**317**	P	**P**	**16 08 33.7**	**+0.9**
	8.5nm,0.9s,baz=95,slow=8.6,SNR=70						
MKAR				LR	LR	16 35 46.6	
	comp=Z,40nm,18.4s,baz=354,slow=37						
ZAA0	**Zalesovo Array**	**61.05**	**325**	*e*P	**P**	**16 08 36.2**	**-0.1**
ZALV	**Zalesovo Beam**	**61.05**	**325**	P	**P**	**16 08 36.7**	**+0.4**
ZALV				pP	**pP**	**16 08 45.9**	**-0.5**
ZALV	**Zalesovo Beam**	**61.05**	**325**	P	**P**	**16 08 36.7**	**+0.4**
	2.6nm,0.8s,baz=104,slow=6.3,SNR=14						
ZALV				pP	**pP**	**16 08 45.9**	**-0.5**
	1.2nm,0.6s,baz=107,slow=7.0,SNR=4.4						
ZALV				LR	LR	16 37 14.0	
	comp=Z,35nm,19.4s,baz=259,slow=38						
KURK	**Kurchatov**	**63.79**	**321**	*e*P	**P**	**16 08 55.0**	**+0.4**
	14nm,0.9s						
TKM2	**Tokmak 2**	**64.50**	**312**	*e*P	**P**	**16 08 59.8**	**+0.1**
	5.2nm,1.2s						
AAK	**Ala-Archa**	**65.28**	**311**	*e*P	**P**	**16 09 02.8**	**-1.9**
	4.4nm,1.1s						
KKAR	**Karatay Array**	**68.23**	**312**	*e*P	**P**	**16 09 22.3**	**-1.1**
	3.2nm,1.0s						
KTH	**Kantishna Hill**	**68.76**	**26**	*e*P	**P**	**16 09 26.6**	**+0.3**
	30nm,0.3s						
BRVK	**Borovoye**	**69.28**	**322**	*e*P	**P**	**16 09 29.5**	**-0.1**
	28nm,1.1s						
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**16 09 38.5**	**-0.1**
ILAR				pP	**pP**	**16 09 46.5**	**-2.4**
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**16 09 38.5**	**-0.1**
	1.5nm,0.6s,baz=249,slow=5.8,SNR=36						
ILAR				pP	**pP**	**16 09 46.5**	**-2.4**
	2.0nm,0.7s,baz=255,slow=5.3,SNR=14						
ABKAR	**Akbulak array**	**75.63**	**318**	*e*P	**P**	**16 10 07.7**	**+0.1**
	6.2nm,0.9s						
ARU	**Arti**	**76.22**	**325**	*e*P	**P**	**16 10 10.8**	**0.0**
	9.3nm,1.0s						
INK	**Inuvik**	**76.46**	**22**	P	**P**	**16 10 12.6**	**+0.6**
INK	**Inuvik**	**76.46**	**22**	P	**P**	**16 10 12.6**	**+0.6**
	1.3nm,0.9s,baz=252,slow=8.5,SNR=3.3						
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**16 10 58.9**	**+0.6**
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**16 10 58.9**	**+0.6**
	0.3nm,0.6s,baz=287,slow=5.1,SNR=6.8						
NVAR	**Mina Array Bea**	**89.72**	**51**	P	**P**	**16 11 21.3**	**-0.1**
NVAR	**Mina Array Bea**	**89.72**	**51**	P	**P**	**16 11 21.3**	**-0.1**
	1.1nm,0.9s,baz=275,slow=5.8,SNR=6.7						
FINES	**FINESS Array B**	**91.09**	**334**	P	**P**	**16 11 25.4**	**-1.5**
FINES				pP	**pP**	**16 11 34.7**	**-2.8**
FINES	**FINESS Array B**	**91.09**	**334**	P	**P**	**16 11 25.4**	**-1.5**
	2.1nm,0.7s,baz=41,slow=3.4,SNR=11						
FINES				pP	**pP**	**16 11 34.7**	**-2.8**
	2.7nm,0.7s,baz=63,slow=5.1,SNR=3.8						
AKASG	**Malin Array Be**	**94.43**	**324**	LR	LR	16 57 01.8	
	comp=Z,64nm,19.2s,baz=290,slow=37						
LPAZ	**La Paz**	**150.43**	**101**	PKPbc	**PKPbc**	**16 18 16.9**	**+1.2**
LPAZ	**La Paz**	**150.43**	**101**	PKPbc	**PKPbc**	**16 18 16.9**	**+1.2**
	1.7nm,0.3s,baz=337,slow=2.4,SNR=15						

*MEX **02** 16:09:17.9±0.4, 13°.93N×92°.69W, h5km±13km, MD4.3*

*ISCJB **02** 16:09:19.1±0.2, 14°.21N±0°.03×92°.44W±0°.03, h33km, mb4.7/106, MS4.2/16, Error ellipse: s-maj=5.6km s-min=2.4km az=36.1*

*NEIC **02** 16:09:21.0±0.8, 14°.26N×92°.44W, h46km±6km, mb4.8/92, MD4.4(MEX), Error ellipse: s-maj=9.1km s-min=4.6km az=217.0*

*GCMT **02** 16:09:21.0±0.5, 14°.12N×92°.92W, h25km±1km, MW4.9/62, Moment Tensor Solution. s20,c24; s62,c74; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.10±.17; $M_{\theta\theta}$-1.39±.11; $M_{\phi\phi}$-0.71±.11; $M_{r\theta}$1.53±.20; $M_{r\phi}$0.62±.08; $M_{\theta\phi}$-1.89±.26; Best double couple: $M_0$3.09300×10^{16} NP1:ϕ_s136.00000°,δ71.00000°,λ98.00000°. NP2: ϕ_s294.00000°,δ20.00000°,λ69.00000°. Principal axes: T 3.3190, Plg63.0000°, Azm58.0000°; N -0.4550, Plg7.0000°, Azm313.0000°; P -2.8670, Plg26.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **02** 16:09:25.2±2.4, 14°.38N×92°.15W, h73km±19km, mb4.2/20, mb1 4.4/23, mb1mx4.3/29, mbtmp4.2/23, MS4.1/15, Ms1 4.1/15, ms1mx3.9/31 Error ellipse: s-maj=25.4km s-min=10.5km az=51.0*

ISC 02 16:09:21.3±1.0, 14°.17N±0°.06×92°.57W±0°.05, h49km±8km, n575, σ1§49/574, mb4.7/107, MS4.2/17, 155C-169D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.79**	**22**	*i* P	**Pn**	**16 09 35.3**	**-0.9**
THIG				*e*S	**Sn**	**16 09 49.7**	**+2.6**
THIG		**0.79**	**22**	*i* P	**Pn**	**16 09 35.4**	**-0.9**
THIG				*e*S	**Sn**	**16 09 49.7**	**+2.6**
JAT	**Jato**	**0.92**	**81**	∥*e*P	**Pn**	**16 09 38.7**	**+0.9**
JAT				*e*S	Sn	16 10 22.9	+33
PCIG		**1.65**	**338**	*i* P	**Pn**	**16 09 46.7**	**-1.1**
PCIG				*i* S	**Sn**	**16 10 09.0**	**+1.1**
PCIG		**1.65**	**338**	*i* P	**Pn**	**16 09 46.7**	**-1.1**
PCIG				*i* S	**Sn**	**16 10 09.0**	**+1.1**
PCG	**Pacaya**	**1.92**	**83**	*e*P	**Pn**	**16 09 52.1**	**+0.4**
IXG	**Ixpaco**	**2.05**	**90**	*e*P	**Pn**	**16 09 54.7**	**+1.2**
NBG	**Las Nubes**	**2.19**	**79**	*e*P	**Pn**	**16 09 57.4**	**+1.9**
APG	**El Apazote**	**2.20**	**68**	P	**Pn**	**16 09 53.8**	**-1.8**
APG				S	**Sn**	**16 10 24.5**	**+2.7**
APG	**El Apazote**	**2.20**	**68**	P	**Pn**	**16 09 53.8**	**-1.8**
	146nm,0.3s,baz=233,slow=7.5,SNR=807						
APG				S	**Sn**	**16 10 24.5**	**+2.7**
	188nm,0.3s,baz=104,slow=21,SNR=4.9						
RBDL	**Robledal**	**2.80**	**91**	*e*P	**Pn**	**16 10 03.5**	**-0.2**
RTR	**El Retiro**	**2.85**	**95**	*e*P	**Pn**	**16 10 04.0**	**-0.5**
SBLS	**San Blas**	**2.88**	**96**	*e*P	**Pn**	**16 10 04.3**	**-0.7**
SNJE	**San Jose**	**2.89**	**96**	*e*P	**Pn**	**16 10 04.5**	**-0.5**
MRL	**Marmol**	**2.93**	**72**	*e*P	**Pn**	**16 10 07.0**	**+1.5**
BOQS	**Boqueron**	**3.22**	**97**	*e*P	**Pn**	**16 10 09.1**	**-0.6**
SNET	**Serv Nac Est T**	**3.28**	**98**	*e*P	**Pn**	**16 10 09.0**	**-1.2**
SNET				*e*S	**Sn**	**16 10 47.1**	**-1.0**
SNET				AML	AML	16 10 53.8	
	comp=Z,1μm,0.2s						
LFU	**La Fuente**	**3.38**	**97**	*e*P	**Pn**	**16 10 11.2**	**-0.5**
LFRS	**El Faro**	**3.45**	**99**	*e*P	**Pn**	**16 10 12.0**	**-0.7**
LBRS	**Las Brisas**	**3.45**	**97**	*e*P	**Pn**	**16 10 12.0**	**-0.6**
SNVI	**San Vicente**	**3.67**	**98**	*e*P	**Pn**	**16 10 15.4**	**-0.2**
HUIG	**Huatulco**	**3.77**	**295**	*e*P	Pn	16 10 14.5	-2.4
HUIG				*i* P	Pn	16 10 14.6	-2.4
HUIG				*i* S	**Sn**	**16 10 57.7**	**-2.4**
HUIG	**Huatulco**	**3.77**	**295**	*i* P	Pn	16 10 14.6	-2.4
HUIG				*i* S	**Sn**	**16 10 57.7**	**-2.4**
CNCH	**Conchagua**	**4.69**	**100**	*e*P	**Pn**	**16 10 29.4**	**-0.2**
VHO	**Vista Hermosa**	**4.94**	**306**	*i* P	Pn	16 10 31.1	-2.1
VHO				*e*P	Pn	16 10 31.7	-1.5
VHO				*i* S	**Sn**	**16 11 27.8**	**-1.5**
VHO	**Vista Hermosa**	**4.94**	**306**	*i* P	Pn	16 10 31.1	-2.1
VHO				*i* S	**Sn**	**16 11 27.8**	**-1.5**
SCIG	**Sabancuy**	**4.95**	**15**	*i* P	**Pn**	**16 10 33.7**	**+0.5**
SCIG				*e*P	**Pn**	**16 10 34.2**	**+1.0**
SCIG				*i* S	Sn	16 11 34.0	+4.8
SCIG	**Sabancuy**	**4.95**	**15**	*i* P	**Pn**	**16 10 33.7**	**+0.5**
SCIG				*i* S	Sn	16 11 34.0	+4.8
TGUH	**Tegucigalpa,Un**	**5.14**	**91**	*e*Pn	**Pn**	**16 10 34.4**	**-1.4**
TGUH				*e*Sn	**Sn**	**16 11 30.3**	**-3.5**
TEIG	**Tepich**	**7.29**	**34**	*e*Pn	**Pn**	**16 11 03.9**	**-1.3**
TEIG				S	Sn	16 12 12.1	-15
TEIG				*e*Sn	Sn	16 12 23.6	-3.0
TEIG	**Tepich**	**7.29**	**34**	P	**Pn**	**16 11 05.4**	**+0.2**
	comp=Z,24nm,0.3s,baz=162,slow=20,SNR=58						
TEIG				S	Sn	16 12 12.1	-15
	baz=35,slow=18,SNR=2.0						
JTS	**JuntasAbangare**	**8.38**	**117**	*e*Pn	**Pn**	**16 11 19.1**	**-1.2**
JTS				*e*Sn	**Sn**	**16 12 55.4**	**+1.7**
JTS	**JuntasAbangare**	**8.38**	**117**	P	**Pn**	**16 11 21.2**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=315,slow=20,SNR=7.0						
JTS				LR	LR	16 14 44.7	
	comp=Z,1μm,20.5s,baz=4.4,slow=39						
934A	**Benavides**	**14.47**	**338**	⇓P	**Pn**	**16 12 42.4**	**-0.9**
	baz=14						
835A	**Beeville**	**14.88**	**342**	⇓P	**Pn**	**16 12 48.7**	**+0.1**
	baz=15						
834A	**Tilden**	**14.96**	**339**	⇓P	**Pn**	**16 12 49.6**	**-0.1**
	baz=15						
834A				⇑S	**Sn**	**16 15 34.0**	**-0.3**
	baz=15						
833A	**Chaparral WMA,**	**15.45**	**337**	⇑P	**Pn**	**16 12 57.1**	**+1.1**
	baz=16,SNR=19						
833A				⇑S	**Sn**	**16 15 45.0**	**-1.1**
	baz=16						
734A	**La Parita Cree**	**15.63**	**340**	⇓S	**Sn**	**16 15 48.5**	**-2.0**
	baz=16						
832A	**Faith Ranch, C**	**15.64**	**335**	⇑P	**Pn**	**16 12 60.0**	**+1.4**
	baz=16						
733A	**Divot King Ran**	**15.77**	**338**	⇓P	**Pn**	**16 13 01.0**	**+0.9**
	baz=16						
733A				⇑S	**Sn**	**16 15 51.7**	**-2.2**
	baz=16						
HKT	**Hockley**	**15.99**	**350**	*e*Pn	**Pn**	**16 13 00.0**	**-2.9**
	comp=Z,115nm,2.0s						
732A	**Laxson Ranch,**	**16.04**	**336**	⇓P	**Pn**	**16 13 04.8**	**+1.3**
	baz=16						
633A	**Saathoff Ranch**	**16.40**	**339**	⇑P	**Pn**	**16 13 08.5**	**+0.3**
	baz=16,SNR=8.7						
633A				⇓S	**Sn**	**16 16 07.2**	**-2.0**
	baz=16						
535A	**Dale**	**16.45**	**345**	⇑P	**Pn**	**16 13 08.7**	**-0.1**
	baz=16						
632A	**Uvalde**	**16.66**	**338**	⇑P	**Pn**	**16 13 11.8**	**+0.3**
	baz=17						
534A	**Blanco**	**16.70**	**342**	⇓P	**Pn**	**16 13 12.1**	**+0.1**
	baz=17,SNR=19						
631A	**Perdido Creek**	**16.88**	**335**	⇓P	**Pn**	**16 13 13.8**	**-0.4**
	baz=17,SNR=8.0						
533A	**Kerrville**	**16.91**	**340**	⇓P	**P**	**16 13 15.6**	**-0.5**
	baz=17						
532A	**Rocksprings**	**17.27**	**338**	⇑P	**Pn**	**16 13 19.0**	**-0.1**
	baz=17,SNR=16						
434A	**Burnet**	**17.38**	**343**	⇑P	**Pn**	**16 13 20.0**	**-0.4**
	baz=17						
531A	**Rocksprings**	**17.54**	**336**	⇓P	**Pn**	**16 13 21.9**	**-0.5**
	baz=18						
JCT	**Junction City**	**17.55**	**339**	*e*Pn	**Pn**	**16 13 20.5**	**-2.0**
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**17.55**	**339**	⇑P	**Pn**	**16 13 22.6**	**+0.1**
	baz=18						
433A	**Art**	**17.57**	**341**	⇓P	**P**	**16 13 23.6**	**+0.4**
	baz=18,SNR=11						
335A	**Mody**	**17.61**	**346**	⇓P	**P**	**16 13 23.5**	**-0.2**
	baz=18,SNR=6.6						
530A	**J-C Ranch, Com**	**17.84**	**334**	⇓P	**Pn**	**16 13 26.0**	**-0.1**
	baz=18,SNR=11						
334A	**Lometa**	**17.86**	**344**	⇑P	**P**	**16 13 26.5**	**0.0**
	baz=18,SNR=16						
628A	**Black Gap, Mar**	**17.98**	**330**	⇓P	**Pn**	**16 13 30.1**	**+2.2**
	baz=18,SNR=22						
431A	**Sonora**	**18.02**	**337**	⇓P	**Pn**	**16 13 30.5**	**+2.1**
	baz=18,SNR=6.4						
333A	**Richland Sprin**	**18.06**	**342**	⇑P	**Pn**	**16 13 30.9**	**+2.1**
	baz=18,SNR=6.9						
VBMS	**Vicksburg**	**18.07**	**6**	*e*Pn	**P**	**16 13 26.9**	**-1.7**
	comp=Z,42nm,0.8s						
H06E1	**SOCORRO T-PHAS**	**18.19**	**287**	T	T	16 32 07.9	
	SNR=29						
529A	**Stev Forest Ra**	**18.21**	**332**	⇓P	**Pn**	**16 13 32.7**	**+2.1**
	baz=18,SNR=40						
627A	**Terlingua Ranc**	**18.21**	**328**	⇓P	**Pn**	**16 13 33.6**	**+2.9**
	baz=18,SNR=65						
H06S1	**SOCORRO T**	**18.21**	**287**	T	T	16 32 09.2	
	SNR=15						
TXAR	**Lajitas Array**	**18.25**	**328**	P	**Pn**	**16 13 34.0**	**+2.7**
TXAR	**Lajitas Array**	**18.25**	**328**	P	**Pn**	**16 13 34.0**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=149,slow=9.5,SNR=73						
TXAR				LR	LR	16 21 44.5	
	comp=Z,235nm,18.8s,baz=0.0,slow=40						
WHTX	**Lake Whitney**	**18.30**	**347**	*e*Pn	**P**	**16 13 28.2**	**-3.1**
WHTX				eSn	**Sn**	**16 16 48.6**	**-6.5**
WHTX	**Lake Whitney**	**18.30**	**347**	⇓P	**Pn**	**16 13 32.6**	**+1.1**
	baz=18						
332A	**Millersview**	**18.36**	**340**	⇑P	**Pn**	**16 13 33.8**	**+1.4**
	baz=18,SNR=6.6						
430A	**Baggett Ranch,**	**18.36**	**336**	⇓P	**Pn**	**16 13 34.4**	**+1.9**
	baz=18,SNR=8.2						
234A	**Clairette**	**18.47**	**345**	⇓P	**Pn**	**16 13 34.0**	**+0.2**
	baz=18						
429A	**Davenport Ranc**	**18.49**	**334**	⇑P	**Pn**	**16 13 36.7**	**+2.6**
	baz=18,SNR=33						
331A	**San Angelo**	**18.52**	**338**	⇓P	**Pn**	**16 13 36.9**	**+2.5**
	baz=19,SNR=5.7						
626A	**Big Bend Ranch**	**18.68**	**327**	⇓P	**Pn**	**16 13 38.7**	**+2.4**
	baz=19,SNR=45						
233A	**Rising Star**	**18.69**	**343**	⇓P	**Pn**	**16 13 38.4**	**+2.0**
	baz=19,SNR=13						
232A	**Coleman**	**18.79**	**341**	⇓P	**Pn**	**16 13 38.7**	**+1.0**
	baz=19,SNR=11						
135A	**Vickery Place,**	**18.83**	**347**	⇑P	**Pn**	**16 13 40.4**	**+2.3**
	baz=19						
527A	**Woodward Ranch**	**18.88**	**329**	⇓P	**Pn**	**16 13 40.6**	**+1.7**
	baz=19,SNR=29						
330A	**Mertzon**	**18.89**	**337**	⇑P	**Pn**	**16 13 40.0**	**+1.2**
	baz=19						
428A	**Kincaid Ranch,**	**18.93**	**332**	⇑P	**Pn**	**16 13 41.2**	**+1.9**
	baz=19,SNR=20						
134A	**White-Moore Ra**	**19.00**	**346**	⇑P	**Pn**	**16 13 42.1**	**+2.1**
	baz=19,SNR=6.9						
231A	**Bronte**	**19.05**	**339**	⇓P	**Pn**	**16 13 41.3**	**+0.5**
	baz=19,SNR=9.3						
526A	**Mary Lane Ranc**	**19.06**	**328**	⇓P	**Pn**	**16 13 42.7**	**+1.8**
	baz=19,SNR=36						
133A	**Hamilton Ranch**	**19.25**	**344**	⇓P	**Pn**	**16 13 43.2**	**+0.2**
	baz=19,SNR=7.9						
329A	**Wagon Wheel Ra**	**19.28**	**335**	⇓P	**Pn**	**16 13 45.2**	**+1.7**
	baz=19,SNR=13						
230A	**Sterling City**	**19.29**	**338**	⇑P	**Pn**	**16 13 44.1**	**+0.5**
	baz=19						
427A	**Hayter Ranch,**	**19.36**	**331**	⇑P	**Pn**	**16 13 45.6**	**+1.1**
	baz=19,SNR=17						
LRAL	**Lakeview Retre**	**19.45**	**14**	*e*P	**P**	**16 13 43.1**	**-0.8**
	comp=Z,253nm,2.5s						
ABTX	**Abilene, Hawle**	**19.47**	**342**	*e*Pn	**P**	**16 13 43.6**	**-0.6**
ABTX	**Abilene, Hawle**	**19.47**	**342**	⇑P	**Pn**	**16 13 46.1**	**+0.3**
	baz=20,SNR=8.6						
426A	**McDonald Obser**	**19.52**	**329**	⇓P	**Pn**	**16 13 46.6**	**+0.2**
	baz=20,SNR=13						
328A	**Wristen Ranch,**	**19.54**	**333**	⇓P	**Pn**	**16 13 47.2**	**+0.6**
	baz=20,SNR=43						
Z35A	**Perchaven, San**	**19.55**	**348**	⇓P	**Pn**	**16 13 46.9**	**+0.3**
	baz=20						
229A	**Bryant Ranch,**	**19.63**	**336**	⇓P	**Pn**	**16 13 48.2**	**+0.5**
	baz=20						
OTAV	**Otavalo**	**19.67**	**134**	*e*P	**P**	**16 13 47.3**	**+0.4**
	comp=Z,6.2nm,1.0s						
Z34A	**Collier Ranch,**	**19.73**	**347**	⇑P	**Pn**	**16 13 48.6**	**-0.1**
	baz=20,SNR=5.9						
131A	**Roby**	**19.75**	**340**	⇑P	**Pn**	**16 13 49.5**	**+0.4**
	baz=20,SNR=11						
Z33A	**Whitaker Ranch**	**19.85**	**345**	⇑P	**Pn**	**16 13 50.2**	**0.0**
	baz=20,SNR=13						
130A	**Snyder**	**19.88**	**339**	⇓P	**Pn**	**16 13 50.5**	**-0.1**
	baz=20						
326A	**Caldwell Ranch**	**20.02**	**330**	⇓P	**Pn**	**16 13 52.5**	**+0.1**
	baz=20,SNR=28						
Z32A	**Haskell**	**20.06**	**343**	⇑P	Pn	16 13 52.5	-0.2
	baz=20,SNR=22						
228A	**UT Block 9, Go**	**20.08**	**335**	⇑P	Pn	16 13 52.7	-0.3
	baz=20,SNR=5.3						
425A	**Indio Mountain**	**20.10**	**327**	⇓P	Pn	16 13 53.5	+0.2
	baz=20,SNR=22						
ROSC	**El Rosal**	**20.21**	**115**	*e*P	**P**	**16 13 53.9**	**+1.2**
ROSC	**El Rosal**	**20.

baz=22,SNR=8.2
W31A Holland Ranch, 21.96 344 ⇓P P 16 14 11.6 +0.6
baz=22
Z25A Roswell 22.00 332 ⇓P P 16 14 12.9 +1.3
baz=22,SNR=42
V34A Guthrie 22.03 349 ⇑P P 16 14 12.1 +0.4
baz=22,SNR=5.3
SDV Santo Domingo 22.12 101 eP P 16 14 10.4 -2.7
comp=Z,2.9nm,0.9s
Y26A Elida 22.16 335 ⇓P P 16 14 14.0 +0.8
baz=22,SNR=15
V33A Lossen Ranch, 22.16 348 ⇑P P 16 14 14.2 +1.0
baz=22,SNR=8.9
AMTX Amarillo 22.20 340 eP P 16 14 13.8 0.0
comp=Z,69nm,0.9s
AMTX Amarillo 22.20 340 ⇑P P 16 14 15.0 +1.2
baz=22
123A Bell Site, Whi 22.22 328 ⇑P P 16 14 14.7 +0.8
baz=22,SNR=6.1
V32A Arapaho 22.24 346 ⇑P P 16 14 14.5 +0.5
baz=22,SNR=5.9
222A Williams Famil 22.25 326 ⇑P P 16 14 16.0 +1.7
baz=22,SNR=17
WVT Waverly 22.28 10 eP P 16 14 11.4 -3.0
comp=Z,16nm,1.0s
Z24A Sheeppaen Canyo 22.34 331 ⇑P P 16 14 17.2 +1.9
baz=22,SNR=52
CPCT Cooper Cave 22.39 17 eP P 16 14 16.4 +0.8
W29A Amraillo 22.41 340 ⇑P P 16 14 17.1 +1.2
baz=22,SNR=17
V31A Spring Creek L 22.48 344 ⇑P P 16 14 17.9 +1.2
baz=22,SNR=13
X27A F and S Farms, 22.50 337 ⇓P P 16 14 18.0 +1.0
baz=22,SNR=13
320A Kipp Ranch, An 22.50 322 ⇓P P 16 14 17.8 +0.7
baz=23,SNR=8.4
Y25A Mesa, Roswell 22.53 333 ⇑P P 16 14 17.9 +0.7
baz=23,SNR=35
221A Mesquite Ranch 22.56 324 ⇑P P 16 14 19.6 +2.0
baz=23,SNR=17
PBMO Poplar Bluff 22.60 4 eP P 16 14 17.0 -0.8
comp=Z,17nm,0.8s
U34A Anderson Ranch 22.62 350 ⇑P P 16 14 18.3 +0.3
baz=23,SNR=7.7
X26A CR and CF Fran 22.70 335 ⇓P P 16 14 19.7 +0.6
baz=23,SNR=15
Z23A Rita Site, Whi 22.71 329 ⇓P P 16 14 20.5 +1.4
baz=23
U33A Lingo Farm, Me 22.72 348 ⇑P P 16 14 19.3 +0.2
baz=23
W28A Vega 22.72 339 ⇓P P 16 14 19.9 +0.6
baz=23,SNR=13
TKL Tuckaleechee C 22.81 19 eP P 16 14 18.1 -2.0
TKL Tuckaleechee C 22.81 19 P P 16 14 18.1 -2.0
comp=Z,8.2nm,0.7s,baz=194,slow=11,SNR=7.6
TKL LR LR 16 25 16.7
comp=Z,493nm,18.3s,baz=167,slow=42
W27A Bowe Ranch, En 22.86 337 ⇑P P 16 14 20.9 +0.3
baz=23,SNR=45
U32A Winter Ranch, 22.86 347 ⇓P P 16 14 21.1 +0.5
baz=23
Y24A Capitan 22.87 332 ⇑P P 16 14 22.7 +1.8
baz=23,SNR=48
121A Cookes Peak, D 22.95 325 eP P 16 14 21.6 -0.2
comp=Z,45nm,0.9s
121A Cookes Peak, D 22.95 325 ⇓P P 16 14 22.8 +1.0
baz=23,SNR=24
319A Douglas 22.98 321 ⇓P P 16 14 22.0 0.0
baz=23,SNR=9.8
X25A Clemmons Ranch 23.03 334 ⇓P P 16 14 23.8 +1.3
baz=23,SNR=17
Z22A Elephant Butte 23.07 328 ⇓P P 16 14 24.7 +1.8
baz=23,SNR=5.6
W26A Owens Ranch, T 23.15 336 ⇑P P 16 14 24.4 +0.7
baz=23,SNR=5.6
Y23A Lovelace Mesa, 23.16 330 ⇑P P 16 14 25.6 +1.7
baz=23,SNR=23
V28A Channing 23.18 340 ⇑P P 16 14 24.9 +1.1
baz=23,SNR=7.8
KMSC Kings Mountain 23.21 24 eP P 16 14 23.2 -0.9
comp=Z,18nm,0.9s
KMSC Kings Mountain 23.21 24 ⇓P P 16 14 24.0 -0.1
baz=23
T33A Patterson Ranc 23.38 349 ⇓P P 16 14 26.2 +0.6
baz=23
V27A Dan Oppiter Fa 23.39 339 ⇑P P 16 14 26.9 +0.9
baz=23
U30A WK&E Inc. Balk 23.41 343 ⇑P P 16 14 27.0 +0.9
baz=23,SNR=9.2
U29A Oasis Ranch, S 23.52 342 ⇑P P 16 14 28.1 +1.0
baz=24
W25A X Bar L Ranch, 23.54 335 ⇓P P 16 14 28.7 +1.3
baz=24,SNR=29
T32A Huddler Ranch, 23.61 347 ⇑P P 16 14 28.9 +1.0
baz=24
BNM Barren Site 23.62 330 eP P 16 14 27.0 -1.3
comp=Z,18nm,0.9s
SIUC Southern Illin 23.64 7 eP P 16 14 25.6 -2.5
comp=Z,48nm,0.9s
T31A Randall Ranch, 23.70 346 ⇑P P 16 14 29.5 +0.8
baz=24
TZTN Tazewell 23.70 18 eP P 16 14 28.2 -0.5
comp=Z,65nm,1.4s
U28A Mallet 23.75 340 ⇓P P 16 14 30.5 +1.2
baz=24
LPM Los Pinos Moun 23.75 330 eP P 16 14 29.6 +0.1
X23A Hourglass Bar 23.76 331 ⇓P P 16 14 31.4 +1.9
baz=24,SNR=12
V26A Tequesquite Ra 23.78 337 ⇑P P 16 14 30.9 +1.3
baz=24,SNR=12
T30A Plains 23.87 344 ⇑P P 16 14 32.3 +1.9
baz=24
W24A Lazy 6 Ranch, 23.93 333 ⇑P P 16 14 33.2 +2.1
baz=24,SNR=40
U27A Thompson Grove 23.99 339 ⇓P P 16 14 33.1 +1.6
baz=24,SNR=27
LAZ Ladron 24.07 329 eP P 16 14 30.3 -2.1
comp=Z,10nm,1.1s
S32A Newby Ranch, P 24.11 348 ⇓P P 16 14 34.2 +1.6
baz=24
V25A Rancho No Teng 24.14 336 ⇑P P 16 14 35.1 +2.1
baz=24,SNR=26
S31A Mullinville 24.15 346 ⇑P P 16 14 34.8 +1.9
baz=24
T29A Hugoton 24.18 343 ⇑P P 16 14 34.1 +0.8
baz=24,SNR=6.8
ANMO Albuquerque 24.18 331 eP P 16 14 32.1 -1.3
comp=Z,13nm,1.0s
ANMO Albuquerque 24.18 331 P P 16 14 35.2 +1.7
comp=Z,11nm,1.0s,baz=152,slow=14,SNR=16
W23A Werner Place, 24.22 332 ⇓P P 16 14 36.0 +2.2
baz=24,SNR=6.8
U26A Atchley Ranch, 24.29 338 ⇓P P 16 14 36.5 +2.1
baz=24,SNR=32
V24A Rampart Ranch, 24.31 334 ⇓P P 16 14 36.5 +1.9
baz=24,SNR=12
T28A Walsh 24.39 341 ⇓P P 16 14 36.1 +0.9
baz=24
S30A Montezuma 24.41 345 ⇓P P 16 14 36.8 +1.5
baz=24,SNR=18
T27A Campo 24.53 340 ⇓P P 16 14 37.5 +1.0
baz=25,SNR=18
U25A Circle Dot Ran 24.55 337 ⇑P P 16 14 38.6 +1.9
baz=25,SNR=22
TUC Tucson 24.55 320 eP P 16 14 36.9 +0.2
comp=Z,16nm,1.1s
S29A Ulysses 24.56 344 ⇑P P 16 14 37.9 +1.2
baz=25,SNR=14
WCI Wyandotte Cave 24.60 12 eP P 16 14 34.3 -2.7
comp=Z,28nm,0.9s
V23A Ortiz Mt. (NFS 24.72 333 ⇓P P 16 14 40.3 +1.9
baz=25,SNR=17
R32A Long Quarter, 24.76 348 ⇓P P 16 14 39.4 +1.0
baz=25,SNR=11
R31A Burdett 24.80 347 ⇓P P 16 14 39.8 +1.0
baz=25,SNR=14
T26A Comanche Natio 24.93 339 ⇓P P 16 14 41.6 +1.4
baz=25,SNR=5.4
R30A Dighton 24.97 346 ⇓P P 16 14 41.7 +1.2
baz=25,SNR=25
KSU1 Kansas State U 25.09 353 eP P 16 14 38.6 -2.8
comp=Z,29nm,0.8s
KSU1 Kansas State U 25.09 353 ⇓P P 16 14 41.9 +0.5
baz=25,SNR=8.3
S27A Las Animas 25.16 340 ⇑P P 16 14 44.0 +1.8
baz=25,SNR=14
Q33A Connelly Farm, 25.17 350 ⇓P P 16 14 43.7 +1.6
baz=25

V22A San Miguel Ran 25.19 332 ⇑P P 16 14 44.9 +2.3
baz=25,SNR=6.1
T25A Trinidad 25.20 337 ⇑P P 16 14 44.2 +1.5
baz=25,SNR=24
U23A El Rito 25.22 333 ⇑P P 16 14 45.3 +2.5
baz=25,SNR=74
Q32A Meitler Ranch, 25.29 349 ⇑P P 16 14 44.5 +1.4
baz=25,SNR=16
S26A Kim 25.29 339 ⇓P P 16 14 45.3 +1.9
baz=25,SNR=9.1
R29A Marienthal 25.32 344 ⇓P P 16 14 44.8 +1.2
baz=25,SNR=6.5
ATAH Atahualpa 25.41 146 LR LR 16 22 00.2
comp=Z,224nm,18.1s,baz=322,slow=30
R28A Tribune 25.43 343 ⇑P P 16 14 45.5 +0.8
baz=26,SNR=11
Q31A Ellis 25.46 348 ⇑P P 16 14 45.1 +0.2
baz=26
T24B San Luis 25.50 336 ⇓P P 16 14 48.5 +3.0
baz=26,SNR=18
U22A Llaves 25.55 333 ⇓P P 16 14 47.6 +1.8
baz=26,SNR=19
Q30A Quinter 25.62 346 ⇓P P 16 14 47.6 +1.3
baz=26,SNR=14
X18A Snowflake 25.64 325 ⇓P P 16 14 49.7 +3.0
baz=26
S25A Robets Cordova 25.67 338 ⇓P P 16 14 49.5 +2.6
baz=26,SNR=15
R27A Eads 25.68 341 ⇓P P 16 14 48.6 +1.7
baz=26
Q29A Oakley 25.72 345 ⇓P P 16 14 48.2 +1.0
baz=26,SNR=14
T23A Casias Ranch, 25.75 335 ⇑P P 16 14 50.3 +2.5
baz=26,SNR=9.2
R26A Arlington 25.90 340 ⇓P P 16 14 50.9 +2.0
baz=26,SNR=6.0
P32A Huiting Farm, 25.91 349 ⇑P P 16 14 49.1 +0.3
baz=26
S24A Houchin Ranch, 25.94 337 ⇑P P 16 14 52.1 +2.6
baz=26,SNR=7.9
P31A Stockton 25.96 348 ⇓P P 16 14 50.2 +1.0
baz=26
R25A Fountain Ranch 26.05 339 ⇓P P 16 14 51.8 +1.5
baz=26,SNR=8.1
Q28A Sharon Springs 26.11 343 ⇑P P 16 14 51.9 +1.2
baz=26
SDCO Great Sand Dun 26.14 336 eP P 16 14 51.6 +0.3
comp=Z,11nm,1.0s
P30A Selden 26.17 346 ⇑P P 16 14 51.9 +0.7
baz=26,SNR=6.0
S23A Nye Farm, Mont 26.31 335 ⇓P P 16 14 55.6 +2.9
baz=26,SNR=7.0
P29A Atwood 26.38 345 ⇑P P 16 14 54.8 +1.7
baz=26
X16A Lo Mia Camp, P 26.41 323 ⇑P P 16 14 56.3 +2.6
baz=26,SNR=7.9
R24A Sanders Place, 26.42 337 ⇑P P 16 14 55.9 +2.2
baz=26,SNR=11
Q26A Hugo 26.49 341 ⇓P P 16 14 56.5 +2.3
baz=26
O31A Woolen Ranch, 26.55 348 ⇑P P 16 14 55.4 +0.7
baz=27
P28A Saint Francis 26.57 344 ⇓P P 16 14 56.2 +1.3
baz=27
Z14A Wintersburg 26.61 319 ⇓P P 16 14 57.0 +1.8
baz=27
R23A Moffat 26.66 336 ⇓P P 16 14 58.2 +2.3
baz=27,SNR=13
S22A 4UR Ranch, Cre 26.68 334 ⇑P P 16 14 58.6 +2.4
baz=27,SNR=24
Q25A Bedland, Calha 26.72 339 ⇑P P 16 14 58.0 +1.6
baz=27,SNR=7.8
113A Mowrk Valley, 26.75 317 ⇑P P 16 14 58.3 +1.8
baz=27
P27A Ficken Ranch, 26.78 343 ⇑P P 16 14 58.2 +1.4
baz=27
MVCO Mesa Verde 26.98 331 eP P 16 14 58.2 -0.6
comp=Z,44nm,0.9s
MVCO Mesa Verde 26.98 331 ⇓P P 16 15 01.6 +2.8
baz=27,SNR=33
P26A Davis Ranch, A 27.01 341 ⇓P P 16 15 00.7 +1.8
baz=27
Y14A Wickenburg 27.02 320 ⇑P P 16 15 01.4 +2.4
baz=27
Q24A Divide 27.08 338 ⇓P P 16 15 01.6 +1.8
baz=27
WUAZ Wupatki 27.16 325 eP P 16 15 00.7 +0.3
comp=Z,8.7nm,1.0s
WUAZ Wupatki 27.16 325 ⇓P P 16 15 02.9 +2.6
baz=27,SNR=6.0
P25A Willow Gulch B 27.23 340 ⇓P P 16 15 01.9 +1.0
baz=27
P23A Jefferson 27.70 337 ⇑P P 16 15 08.1 +2.8
baz=28,SNR=12
PV01 Paradox Valley 27.77 332 eP P 16 15 04.6 -1.3
comp=Z,2μm,1.1s
PDMCI Parker Dam,Lak 27.97 320 ⇑P P 16 15 09.4 +2.0
baz=28
ISCO Idaho Springs 27.99 338 eP P 16 15 08.3 +0.5
comp=Z,7.1nm,1.2s
ISCO Idaho Springs 27.99 338 ⇓P P 16 15 09.7 +1.9
baz=28
PV04 Paradox Valley 28.13 332 eP P 16 15 08.1 -1.0
P22A Eagle 28.24 336 ⇑P P 16 15 11.6 +1.6
baz=28
U15A North Rim 28.33 325 ⇑P P 16 15 13.2 +2.3
baz=28,SNR=5.9
W13A Hualapai Mount 28.34 321 ⇑P P 16 15 13.7 +2.8
baz=28
BC3 Big Chuckawall 28.41 317 ⇓P P 16 15 13.9 +2.4
baz=28,SNR=7.2
O23A Lake Granby, G 28.46 338 ⇓P P 16 15 14.9 +2.9
baz=28
IRM Iron Mountain 28.52 318 ⇑P P 16 15 14.6 +2.2
baz=29
O22A Kremmling 28.65 337 ⇑P P 16 15 15.1 +1.4
baz=29
PFO Pinyon Flat Ob 29.05 316 ⇓P P 16 15 17.5 +0.2
baz=29
N23A Red Feather La 29.07 339 ⇑P P 16 15 19.2 +1.8
baz=29
LDFC Landfair 29.08 320 eP P 16 15 18.8 +1.3
comp=Z,15nm,0.9s
N22A Wattenberg Ran 29.17 338 ⇑P P 16 15 20.5 +2.2
baz=29
GMRC Granite Mounta 29.24 319 ⇑P P 16 15 21.5 +2.6
baz=29
O20A White River Ci 29.29 335 eP P 16 15 19.7 +0.4
comp=Z,161nm,2.8s
O20A White River Ci 29.29 335 ⇑P P 16 15 21.8 +2.5
baz=29
SRU San Rafael 29.46 331 eP P 16 15 21.5 +0.7
comp=Z,8.7nm,1.2s
ECSD EROS Data Cent 29.67 354 eP P 16 15 21.9 -0.5
comp=Z,21nm,1.6s
ECSD EROS Data Cent 29.67 354 ⇑P P 16 15 22.9 +0.5
baz=30
HEC Hector,Ludlow 29.70 318 ⇓P P 16 15 24.4 +1.5
baz=30
CCUT Cedar City 29.74 325 eP P 16 15 24.1 +0.8
comp=Z,5.7nm,0.9s
M22A Cedar Creek Ra 29.75 338 ⇑P P 16 15 26.0 +2.5
baz=30
N20A Spence Gulch, 29.89 336 ⇓P P 16 15 27.3 +2.6
baz=30
TMUT Trail Mountain 29.93 330 eP P 16 15 26.0 +0.8
comp=Z,9.0nm,1.0s
ARUT Antelope Range 29.95 326 eP P 16 15 25.9 +0.8
comp=Z,253nm,1.0s
L23A Garrett 30.08 340 ⇓P P 16 15 28.0 +1.7
baz=30,SNR=7.7
J26A Sides Ranch, S 30.41 345 ⇑P P 16 15 30.1 +1.0
baz=30
K23A Bowen Ranch, D 30.63 341 ⇑P P 16 15 32.6 +1.5
baz=31
J25A Sunshine Ranch 30.68 344 ⇓P P 16 15 33.2 +1.7
baz=31
MPU Maple Canyon 30.70 331 eP P 16 15 32.4 +0.6
comp=Z,11nm,1.1s
EDW2 Edwards Air Fo 30.83 316 ⇑P P 16 15 34.7 +1.9
baz=31
K22A Casper 30.83 340 eP P 16 15 33.0 +0.2
comp=Z,7.4nm,0.9s
K22A Casper 30.83 340 ⇑P P 16 15 34.8 +1.9
baz=31
DAU Daniels Canyon 30.84 331 eP P 16 15 33.2 +0.1
I27A Quinn 30.88 347 ⇑P P 16 15 34.1 +1.0
baz=31

SPMN St. Paul 30.96 360 eP P 16 15 33.5 -0.2
comp=Z,16nm,1.0s
SPMN St. Paul 30.96 360 ⇓P P 16 15 34.8 +1.1
baz=31
FURC Furnace Creek, 31.06 320 ⇑P P 16 15 36.3 +1.6
baz=31
K21A Alcova 31.07 339 ⇓P P 16 15 36.6 +1.6
baz=31
MPMC Manual Prospec 31.21 319 ⇓P P 16 15 37.4 +1.1
baz=31,SNR=7.3
I25A Rochford 31.25 344 ⇑P P 16 15 37.5 +0.9
baz=31
G30A Faulkton 31.36 351 ⇑P P 16 15 38.1 +0.8
baz=31
DUG Dugway 31.41 329 ⇑P P 16 15 39.4 +1.4
baz=32
RSSD Black Hills 31.42 344 eP P 16 15 38.7 +0.6
comp=Z,5.6nm,0.8s
H27A Howes 31.43 347 ⇓P P 16 15 39.0 +1.1
baz=32
J22A Midwest 31.50 340 ⇑P P 16 15 39.7 +1.0
baz=32
R11A Troy Canyon, C 31.54 324 eP P 16 15 41.8 +2.6
comp=Z,56nm,2.9s
R11A Troy Canyon, C 31.54 324 ⇓P P 16 15 40.9 +1.7
baz=32,SNR=5.5
J21A Lysite 31.76 339 ⇓P P 16 15 42.7 +1.6
baz=32,SNR=12
H25A Fruitdale 31.77 345 ⇓P P 16 15 43.1 +2.1
baz=32
I22A 9 Mile Ranch, 31.93 341 ⇓P P 16 15 43.5 +1.1
baz=32
J20A Shoshoni 31.99 338 ⇑P P 16 15 44.1 +1.1
baz=32
BW06 Boulder Array 32.04 336 eP P 16 15 45.1 +1.5
comp=Z,11nm,1.2s
PDAR Pinedale Array 32.04 336 P P 16 15 44.7 +1.1
PDAR PcP PcP 16 18 33.5 +1.0
PDAR Pinedale Array 32.04 336 P P 16 15 44.7 +1.1
comp=Z,7.0nm,1.0s,baz=141,slow=7.8,SNR=25
PDAR PcP PcP 16 18 33.5 +1.0
comp=Z,0.9nm,0.5s,baz=128,slow=5.9,SNR=6.4
PDAR LR LR 16 32 53.9
comp=Z,131nm,18.7s,baz=317,slow=44
BGU Big Grassy Mou 32.08 330 eP P 16 15 43.5 -0.3
comp=Z,2.2nm,1.0s
VES Vestal, Richgr 32.11 317 ⇓P P 16 15 46.7 +2.6
baz=32
H24A Dirks Ranch, A 32.14 344 ⇓P P 16 15 45.3 +1.1
baz=32,SNR=6.8
G25A Newell 32.26 346 ⇑P P 16 15 46.7 +1.4
baz=32
J19A Crowheart 32.27 337 ⇑P P 16 15 47.0 +1.4
baz=32
TPH Tonopah 32.32 322 eP P 16 15 46.4 +0.4
comp=Z,3.4nm,0.8s
F28A McLaughlin 32.34 349 ⇑P P 16 15 46.9 +1.0
baz=32
H22A Clearmont 32.52 342 ⇓P P 16 15 49.0 +1.4
baz=33
I20A Worland 32.53 339 ⇑P P 16 15 49.4 +1.7
baz=33,SNR=9.4
G24A Alzada 32.64 344 ⇑P P 16 15 49.7 +1.0
baz=33
F26A Lodgepole 32.71 347 ⇓P P 16 15 51.0 +1.8
baz=33
H21A Big Horn, Sher 32.76 341 ⇑P P 16 15 50.8 +1.0
baz=33
G23A Biddle 32.79 343 ⇑P P 16 15 50.9 +0.9
baz=33
I19A Meeteetse 32.91 338 ⇓P P 16 15 53.1 +2.0
baz=33,SNR=7.6
H20A Greybull 32.95 340 ⇓P P 16 15 52.8 +1.3
baz=33,SNR=11
F25A Bowman 32.96 346 ⇑P P 16 15 52.5 +1.0
baz=33
E28A Huff 33.02 350 ⇑P P 16 15 52.7 +0.9
baz=33
E27A Carson 33.04 349 ⇓P P 16 15 53.2 +1.1
baz=33
ELK Elko 33.05 328 eP P 16 15 53.3 +0.8
comp=Z,5.6nm,1.1s
REDW Red Top Meadow 33.06 335 eP P 16 15 52.8 +0.3
comp=Z,52nm,1.0s
G22A Birney 33.06 342 ⇓P P 16 15 52.9 +0.5
baz=33
F24A Ekalaka 33.13 345 ⇑P P 16 15 53.3 +0.4
baz=33
LOHW Long Hollow 33.17 336 eP P 16 15 55.0 +1.5
comp=Z,18nm,0.9s
NVAR Mina Array Bea 33.20 321 P P 16 15 56.9 +3.1
NVAR PcP PcP 16 18 37.1 +1.4
NVAR Mina Array Bea 33.20 321 P P 16 15 56.9 +3.1
comp=Z,9.8nm,0.8s,baz=134,slow=8.3,SNR=68
NVAR PcP PcP 16 18 37.1 +1.4
comp=Z,1.8nm,0.8s,baz=135,slow=3.2,SNR=5.2
NVAR LR LR 16 31 18.3
comp=Z,559nm,18.2s,baz=229,slow=40
D30A Buchanan 33.24 352 ⇓P P 16 15 53.6 -0.2
baz=33
E26A Carlson Angus 33.26 347 ⇑P P 16 15 54.5 +0.5
baz=33
F23A Volborg 33.27 344 ⇓P P 16 15 54.9 +0.8
baz=33
MOOW Moose Ponds 33.34 336 eP P 16 15 55.8 +0.9
comp=Z,12nm,1.0s
I17A Pilgrim Ck. 33.41 336 ⇑P P 16 15 58.1 +2.5
baz=34,SNR=13
H19A Powell 33.46 339 ⇓P P 16 15 58.6 +2.7
baz=34
E25A Miller Ranch, 33.49 346 ⇓P P 16 15 56.7 +0.6
baz=34,SNR=8.2
FLWY Flagg Ranch 33.60 336 eP P 16 15 58.5 +1.4
comp=Z,11nm,0.9s
G20A Bridger 33.67 340 ⇓P P 16 15 58.5 +0.8
baz=34,SNR=6.1
D27A Center 33.68 349 ⇓P P 16 15 58.7 +1.0
baz=34
H18A Shoshone NF, C 33.71 338 ⇓P P 16 15 59.5 +1.3
baz=34,SNR=13
E24A Baker 33.76 345 ⇑P P 16 15 59.3 +0.9
baz=34,SNR=8.5
D26A Manning 33.79 348 ⇑P P 16 15 59.3 +0.7
baz=34
C30A Mose, Pekin 33.79 353 ⇓P P 16 15 58.7 +0.2
baz=34
H17A Grant Village 33.81 337 eP P 16 15 59.4 +0.3
comp=Z,131nm,3.0s
H17A Grant Village 33.81 337 ⇑P P 16 16 01.3 +2.3
baz=34
BMN Battle Mountai 33.90 325 eP P 16 16 00.4 +0.6
comp=Z,7.2nm,0.9s
YFT Old Faithful 33.96 336 eP P 16 16 00.7 +0.3
comp=Z,12nm,0.9s
E22A Miles City 34.08 343 ⇓P P 16 16 01.8 +0.7
baz=34
MDND Maddock 34.09 352 eP P 16 16 01.4 +0.3
comp=Z,51nm,0.8s
MDND Maddock 34.09 352 ⇓P P 16 16 01.4 +0.3
baz=34
D25A Fairfield 34.09 347 ⇑P P 16 16 02.6 +1.4
baz=34
AGMN Agassiz Nation 34.14 356 ⇑P P 16 16 01.6 +0.1
baz=34
F20A Billings 34.16 340 ⇑P P 16 16 02.6 +0.7
baz=34
YMR Madison River 34.19 336 eP P 16 16 02.8 +0.4
comp=Z,18nm,0.9s
CMB Columbia Colle 34.24 319 eP P 16 16 03.1 +0.5
comp=Z,50nm,2.8s
D24A Glendive 34.29 346 ⇑P P 16 16 03.5 +0.6
baz=34
F19A Roth Farm, Mol 34.48 340 ⇑P P 16 16 05.3 +0.7
baz=34,SNR=5.5
C26A Wahner Farm, P 34.48 349 ⇓P P 16 16 05.3 +0.8
baz=34
B30A Myrvik Farm, E 34.51 353 ⇑P P 16 16 05.2 +0.4
baz=34
D23A Lindsay 34.56 345 ⇑P P 16 16 06.4 +1.1
baz=35
WCN Washoe City 34.62 321 eP P 16 16 07.5 +1.4
comp=Z,3.9nm,0.7s
B29A Wagenman Farm, 34.66 352 ⇓P P 16 16 06.8 +0.8
baz=35
C24A Savage 34.70 346 ⇑P P 16 16 08.1 +1.7
baz=35
HLID Hailey 34.76 332 eP P 16 16 04.1 -3.2
comp=Z,17nm,1.0s

HLID	Hailey	34.76	332	⇑P		P	16 16 08.9	+1.7	
	baz=35,SNR=13								
E20A	Meyer Farm, Mu	34.78	341	⇓P		P	16 16 08.8	+1.5	
	baz=35								
B28A	Dugan Ranch, T	34.78	351	⇓P		P	16 16 07.9	+0.8	
	baz=35								
D22A	Cohagen	34.79	344	⇓P		P	16 16 08.5	+1.2	
	baz=35,SNR=20								
D21A	La Casta Ranch	34.95	343	⇑P		P	16 16 10.2	+1.6	
	baz=35								
E19A	Rath Farm, Rou	34.96	340	⇑P		P	16 16 10.0	+1.3	
	baz=35								
A30A	Hoffart Farm,	34.99	353	⇓P		P	16 16 09.7	+0.7	
	baz=35								
MCMT	McKenzie Canyo	35.08	335	eP		P	16 16 10.0	-0.1	
	comp=Z,21nm,1.0s								
A29A	Manning Farm,	35.09	352	⇓P		P	16 16 10.1	+0.3	
	baz=35,SNR=8.2								
B25A	Knox Farm, Ray	35.12	348	⇓P		P	16 16 11.1	+1.0	
	baz=35								
C23A	Lambert	35.14	345	⇓P		P	16 16 11.0	+0.8	
	baz=35,SNR=6.6								
C22A	Vida	35.26	344	⇓P		P	16 16 12.8	+1.5	
	baz=35,SNR=14								
D20A	Manuel Ranch,	35.31	342	⇑P		P	16 16 12.4	+0.6	
	baz=35								
MFID	Camas Ranch	35.32	330	eP		P	16 16 13.7	+1.7	
	comp=Z,26nm,1.8s								
BEKR	Beckworth	35.34	322	eP		P	16 16 11.2	-1.0	
	comp=Z,2.3nm,0.9s								
DLMT	Dillon	35.41	335	eP		P	16 16 13.9	+1.1	
	comp=Z,24nm,1.0s								
A26A	Wade Farm, Ken	35.50	349	⇓P		P	16 16 14.4	+1.1	
	baz=36								
PTGA	Pitinga	35.51	112	eP		P	16 16 11.9	-1.9	
	comp=Z,16nm,0.8s								
PTGA	Pitinga	35.51	112	P		P	16 16 13.3	-0.5	
	comp=Z,15nm,0.7s,baz=304,slow=9.8,SNR=29								
DGMT	Dagmar	35.53	347	eP		P	16 16 13.1	-0.5	
	comp=Z,18nm,0.9s								
DGMT	Dagmar	35.53	347	⇓P		P	16 16 14.7	+1.1	
	baz=36								
D19A	Cripps Ranch,	35.61	341	⇑P		P	16 16 15.1	+0.7	
	baz=36								
B23A	Brockton	35.71	346	⇓P		P	16 16 15.9	+0.7	
	baz=36,SNR=8.0								
LRM	Limekiln Ridge	35.73	336	eP		P	16 16 14.4	-1.2	
A25A	Svangstu Ranch	35.74	348	⇓P		P	16 16 16.1	+0.7	
	baz=36								
C20A	Veseth Ranch,	35.83	342	⇓P		P	16 16 17.0	+0.8	
	baz=36								
A24A	Westby	35.91	347	⇓P		P	16 16 17.8	+0.9	
	baz=36								
WVOR	Wild Horse Val	36.05	326	eP		P	16 16 15.5	-2.7	
	comp=Z,13nm,1.1s								
ULM	Lac du Bonnet	36.08	356	P		P	16 16 17.3	-1.0	
ULM				PcP		PcP	16 18 43.9	+0.4	
ULM	Lac du Bonnet	36.08	356	P		P	16 16 17.3	-1.0	
	comp=Z,3.2nm,0.5s,baz=178,slow=9.0,SNR=5.8								
ULM				PcP		PcP	16 18 43.9	+0.4	
	comp=Z,4.4nm,0.7s,baz=185,slow=4.9,SNR=4.0								
ULM				LR		LR	16 33 51.8		
	comp=Z,203nm,18.8s,baz=206,slow=41								
A23A	Redstone	36.14	346	⇑P		P	16 16 20.0	+1.1	
	baz=36,SNR=5.4								
C19A	Slack Wire Ran	36.16	341	⇑P		P	16 16 20.8	+1.8	
	baz=36								
B21A	Ellsworth Farm	36.19	344	⇑P		P	16 16 20.8	+1.5	
	baz=36								
A22A	Carney Farms,	36.42	345	⇑P		P	16 16 23.2	+1.9	
	baz=36								
J08A	Circle Bar Ran	36.60	328	eP		P	16 16 24.3	+1.3	
	comp=Z,22nm,1.0s								
MOD	Modoc	36.61	324	eP		P	16 16 25.0	+1.9	
	comp=Z,7.5nm,1.0s								
EGMT	Eagleton	36.65	341	eP		P	16 16 24.3	+1.1	
	comp=Z,17nm,1.3s								
EGMT	Eagleton	36.65	341	⇓P		P	16 16 24.0	+0.8	
	baz=37								
A21A	Bergtoll Ranch	36.68	344	⇓P		P	16 16 24.1	+0.7	
	baz=37								
B19A	Brinkman Farms	36.77	342	⇑P		P	16 16 25.3	+1.1	
	baz=37,SNR=7.2								
A20A	Cobblestone Ra	36.85	343	⇑P		P	16 16 25.7	+0.8	
	baz=37,SNR=6.7								
SAML	Samuel	37.12	127	eP		P	16 16 22.8	-4.6	
	comp=Z,5.9nm,1.0s								
MSO	Missoula	37.15	336	eP		P	16 16 29.1	+1.6	
	comp=Z,16nm,1.0s								
MSO	Missoula	37.15	336	⇑P		P	16 16 29.2	+1.6	
	baz=37,SNR=10								
M04C	Macdoel	37.41	323	⇑P		P	16 16 31.9	+2.0	
	baz=38								
I07A	Izee	37.64	328	eP		P	16 16 33.3	+1.5	
	comp=Z,131nm,2.8s								
SWMT	Swartz Lake	37.73	336	eP		P	16 16 30.9	-1.5	
M02C	Callahan	37.77	322	⇓P		P	16 16 33.8	+0.9	
	baz=38								
YBH	Yreka Blue Hor	37.89	322	P		P	16 16 34.2	+0.3	
YBH	Yreka Blue Hor	37.89	322	P		P	16 16 34.2	+0.3	
	comp=Z,1.6nm,0.8s,baz=53,slow=4.7,SNR=5.3								
J05D	Fort Rock, OR	38.03	325	⇑P		P	16 16 36.1	+1.0	
	baz=38								
JTMT	Jette	38.03	336	eP		P	16 16 35.4	+0.4	
J04D	Umpqua Nationa	38.49	325	⇑P		P	16 16 40.1	+1.1	
	baz=38								
LPAZ	La Paz	38.72	141	P		P	16 16 41.5	-0.1	
LPAZ	La Paz	38.72	141	P		P	16 16 41.5	-0.1	
	comp=Z,0.8nm,0.6s,baz=315,slow=5.7,SNR=3.1								
LPAZ				LR		LR	16 31 23.9		
	comp=Z,184nm,19.6s,baz=119,slow=34								
I05D	Terrebonne, OR	38.78	327	⇓P		P	16 16 42.8	+1.5	
	baz=39								
H04A	Detroit Lake	39.47	326	eP		P	16 16 48.5	+1.5	
	comp=Z,23nm,1.0s								
NEW	Newport	39.60	334	eP		P	16 16 48.3	+0.3	
	comp=Z,9.0nm,1.3s								
NEW	Newport	39.60	334	⇓P		P	16 16 48.9	+0.8	
	baz=40								
C09A	Chrisman Ranch	39.75	333	eP		P	16 16 50.3	+1.1	
	comp=Z,33nm,1.4s								
FFC	Flin Flon	41.13	352	eP		P	16 16 58.9	-1.6	
	comp=Z,5.0nm,1.4s								
B06A	Marblemount	41.74	331	eP		P	16 17 06.5	+0.9	
	comp=Z,42nm,1.4s								
EDM	Edmonton	42.30	342	eP		P	16 17 08.9	-1.2	
SIV	San Ignacio	43.21	133	P		P	16 17 17.4	-0.6	
SIV	San Ignacio	43.21	133	P		P	16 17 17.4	-0.6	
	comp=Z,12nm,1.0s,baz=313,slow=9.5,SNR=18								
FCC	Fort Churchill	44.53	359	eP		P	16 17 27.6	-0.3	
	comp=Z,3.2nm,2.9s								
SCHQ	Schefferville	45.26	21	eP		P	16 17 31.9	-2.0	
	comp=Z,257nm,2.5s								
SCHQ				PcP		PcP	16 19 13.7	+0.6	
SCHQ	Schefferville	45.26	21	P		P	16 17 30.8	-3.1	
	comp=Z,13nm,1.0s,baz=213,slow=8.8,SNR=7.6								
SCHQ				PcP		PcP	16 19 13.7	+0.6	
	comp=Z,3.1nm,1.0s,baz=229,slow=7.6,SNR=5.2								
SCHQ				LR		LR	16 39 05.0		
	comp=Z,557nm,18.3s,baz=245,slow=40								
YKA	Yellowknife Ar	50.74	347	P		P	16 18 16.8	+0.8	
YKA				PcP		PcP	16 19 33.2	+0.7	
YKA	Yellowknife Ar	50.74	347	P		P	16 18 16.8	+0.8	
	comp=Z,24nm,0.7s,baz=150,slow=7.5,SNR=284								
YKA				PcP		PcP	16 19 33.2	+0.7	
	comp=Z,3.9nm,1.0s,baz=147,slow=4.5,SNR=5.9								
DLBC	Dease Lake	52.28	336	eP		P	16 18 25.1	-2.6	
CPUP	Villa Florida	52.87	139	LR		LR	16 43 15.2		
	comp=Z,150nm,18.3s,baz=360,slow=38								
BDFB	Brasilia	53.08	122	P		P	16 18 33.8	-0.5	
BDFB	Brasilia	53.08	122	P		P	16 18 33.8	-0.5	
	comp=Z,6.6nm,0.9s,baz=265,slow=7.3,SNR=6.0								
RKT	Rikitea	55.64	229	eS		S	16 26 42.7	+7.3	
	comp=Z,141nm,26.5s								
RKT				eLR		LR	16 35 14.5		
	comp=Z,342nm,29.5s								
RKT	Rikitea	55.64	229	eT		T	17 18 25.4		
	comp=Z,1.7nm,0.3s								
PLCA	Paso Flores	58.32	160	P		P	16 19 16.0	+4.6	
PLCA	Paso Flores	58.32	160	P		P	16 19 16.0	+4.6	
	comp=Z,3.1nm,1.1s,baz=360,slow=10,SNR=3.2								
RCBR	Riachuelo	59.62	106	eP		P	16 19 20.5	-0.4	
INK	Inuvik	60.12	344	eP		P	16 19 22.5	-0.9	
	comp=Z,21nm,1.0s								
INK	Inuvik	60.12	344	LR		LR	16 49 42.7		
	comp=Z,211nm,18.7s,baz=27,slow=40								
EGAK	Eagle	60.35	338	eP		P	16 19 24.2	-0.9	
	comp=Z,5.8nm,0.9s								
DOT	Dot Lake	60.84	336	eP		P	16 19 26.5	-1.9	
	comp=Z,12nm,0.9s								
PAX	Paxson	61.07	335	eP		P	16 19 27.5	-2.7	
	comp=Z,10nm,0.8s								
PMR	Palmer	62.02	333	eP		P	16 19 32.7	-3.6	
	comp=Z,10nm,1.0s								
RC01	Rabbit Creek A	62.09	332	eP		P	16 19 35.8	-1.1	
	comp=Z,12nm,0.8s								
ILAR	Eielson Array	62.47	337	P		P	16 19 40.4	+1.0	
ILAR	Eielson Array	62.47	337	P		P	16 19 40.4	+1.0	
	comp=Z,9.7nm,1.0s,baz=135,slow=4.3,SNR=61								
MCK	McKinley	62.81	335	eP		P	16 19 39.2	-2.5	
	comp=Z,14nm,1.0s								
COLA	College	62.88	337	eP		P	16 19 39.8	-2.3	
	comp=Z,3.7nm,1.0s								
RSO	Redoubt South	63.24	331	eP		P	16 19 44.7	-0.1	
TRF	Thorofare Moun	63.25	335	eP		P	16 19 43.8	-1.0	
	comp=Z,19nm,1.0s								
KTH	Kantishna Hill	63.55	335	eP		P	16 19 41.9	-4.7	
	comp=Z,84nm,1.0s								
PPLA	Purkeypile	63.84	334	eP		P	16 19 47.6	-1.0	
CAST	Castle Rocks	63.98	334	eP		P	16 19 50.0	+0.6	
	comp=Z,9.8nm,0.8s								
PPT	Papeete	64.48	242	LR		LR	16 40 28.4		
	comp=Z,136nm,19.9s,baz=357,slow=29								
PPT2	Papeete2	64.48	242	eLR		LR	16 39 07.0		
	comp=Z,140nm,25.0s								
COLD	Coldfoot	64.77	339	eP		P	16 19 54.2	-0.3	
	comp=Z,8.1nm,1.1s								
TBI	Tubuai	66.98	237	eLR		LR	16 40 28.4		
	comp=Z,141nm,26.0s								
TNA	Tin City	71.14	335	eP		P	16 20 33.1	-1.4	
	comp=Z,8.8nm,1.1s								
QUIF	Quistinic	79.24	43	eP		P	16 21 19.6	-1.8	
QUIF	Quistinic	79.24	43	eP		P	16 21 19.6	-1.8	
ESDC	Sonseca Array	80.05	52	P		P	16 21 24.6	-1.6	
ESDC	Sonseca Array	80.05	52	P		P	16 21 24.6	-1.6	
	comp=Z,2.7nm,0.8s,baz=291,slow=5.6,SNR=11								
GRR	Gorron	80.68	42	eP		P	16 21 27.6	-1.6	
GRR	Gorron	80.68	42	eP		P	16 21 27.6	-1.6	
FLN	La Foliniere	80.85	42	eP		P	16 21 28.6	-1.5	
FLN				eR					
	comp=Z,203nm,18.2s								
FLN	La Foliniere	80.85	42	eP		P	16 21 28.6	-1.5	
LDF	La Druitiere	81.12	42	eP		P	16 21 29.8	-1.8	
LDF	La Druitiere	81.12	42	eP		P	16 21 29.8	-1.8	
SJPF	Ste Jean	81.43	48	eP		P	16 21 32.1	-1.3	
SJPF	Ste Jean	81.43	48	eP		P	16 21 32.1	-1.3	
ETSF	Etsaut	81.95	48	eP		P	16 21 34.6	-1.6	
ETSF	Etsaut	81.95	48	eP		P	16 21 34.6	-1.6	
LFF	La Frestale	82.45	46	eP		P	16 21 37.0	-1.6	
	comp=Z,28nm,1.0s								
LFF	La Frestale	82.45	46	eP		P	16 21 37.0	-1.6	
	comp=Z,28nm,1.0s								
EPF	Esparros	82.57	48	eP		P	16 21 37.7	-1.7	
EPF	Esparros	82.57	48	eP		P	16 21 37.7	-1.7	
TCF	Toulx Ste Croi	83.15	44	eP		P	16 21 40.2	-2.1	
TCF	Toulx Ste Croi	83.15	44	eP		P	16 21 40.2	-2.1	
BGF	Bois d'Agland	83.52	44	eP		P	16 21 42.4	-1.8	
BGF	Bois d'Agland	83.52	44	eP		P	16 21 42.4	-1.8	
AVF	Avril sur Loir	83.80	43	eP		P	16 21 43.6	-2.0	
	comp=Z,9.1nm,0.9s								
AVF	Avril sur Loir	83.80	43	eP		P	16 21 43.6	-2.0	
	comp=Z,9.1nm,0.9s								
SSF	Saint Saulge	83.84	43	eP		P	16 21 43.9	-1.9	
SSF	Saint Saulge	83.84	43	eP		P	16 21 43.9	-1.9	
LOR	Lormes	84.02	43	eP		P	16 21 45.0	-1.8	
LOR				eR					
	comp=Z,171nm,19.2s								
LOR	Lormes	84.02	43	eP		P	16 21 45.0	-1.8	
SMF	Signal de Mont	84.16	43	eP		P	16 21 45.5	-2.0	
SMF	Signal de Mont	84.16	43	eP		P	16 21 45.5	-2.0	
NOA	NORSAR Array B	84.26	28	P		P	16 21 46.6	-1.1	
NOA	NORSAR Array B	84.26	28	P		P	16 21 46.6	-1.1	
	comp=Z,1.2nm,0.8s,baz=287,slow=5.4,SNR=3.6								
HAU	Haudompre	85.45	42	eP		P	16 21 52.7	-1.3	
	comp=Z,6.3nm,0.7s								
HAU				eR					
	comp=Z,148nm,18.2s								
HAU	Haudompre	85.45	42	eP		P	16 21 52.7	-1.3	
	comp=Z,6.3nm,0.7s								
HINF	Hinteralfeld	85.83	42	eP		P	16 21 54.4	-1.5	
HINF	Hinteralfeld	85.83	42	eP		P	16 21 54.4	-1.5	
TIC	Toumodi	86.03	84	eP		P	16 21 57.3	-0.2	
	comp=Z,10.0nm,0.7s								
LIC	Lamto	86.13	85	eP		P	16 21 57.4	-0.5	
	comp=Z,21nm,0.9s,baz=280								
LIC				eR					
	comp=Z,122nm,23.0s								
LIC	Lamto	86.13	85	eP		P	16 21 57.9	0.0	
	comp=Z,29nm,0.9s								
LIC	Lamto	86.13	85	eP		P	16 21 57.4	-0.5	
	comp=Z,21nm,0.9s								
ARCES	ARCESS Array B	86.15	18	P		P	16 21 56.5	-0.5	
ARCES	ARCESS Array B	86.15	18	P		P	16 21 56.5	-0.5	
	comp=Z,2.4nm,0.7s,baz=297,slow=4.6,SNR=6.8								
DBIC	Dimbokro	86.19	84	P		P	16 21 58.2	0.0	
DBIC	Dimbokro	86.19	84	P		P	16 21 58.2	0.0	
	comp=Z,4.4nm,0.7s,baz=285,slow=4.2,SNR=9.0								
KIC	Kosan Boka	86.37	84	eP		P	16 21 59.1	0.0	
	comp=Z,18nm,0.8s								
SEY	Seymchan	88.37	336	P		P	16 22 09.3	+1.6	
SEY	Seymchan	88.37	336	P		P	16 22 09.3	+1.6	
	comp=Z,2.0nm,0.7s,baz=38,slow=22,SNR=7.4								
CLL	Collm	88.52	37	eP		P	16 22 09.0	+0.3	
CLL				ePP		PP	16 25 38.0	+1.1	
CLL				Lm		MLR	16 59 00.0		
	comp=Z,200nm,19.5s								
GERES	GERESS Array B	89.82	39	LR		LR	17 00 23.8		
	comp=Z,104nm,18.9s,baz=88,slow=34								
FINES	FINESS Array B	90.58	25	P		P	16 22 17.6	-0.5	
FINES	FINESS Array B	90.58	25	P		P	16 22 17.6	-0.5	
	comp=Z,2.5nm,0.9s,baz=328,slow=6.9,SNR=5.0								
FINES				LR		LR	17 02 11.2		
	comp=Z,107nm,20.2s,baz=326,slow=35								
TORD	Torodi Ar. Bea	90.88	76	P		P	16 22 18.9	-1.5	
TORD	Torodi Ar. Bea	90.88	76	P		P	16 22 18.9	-1.5	
	comp=Z,0.5nm,0.7s,baz=289,slow=4.8,SNR=3.5								
TORD				LR		LR	16 56 56.4		
	comp=Z,96nm,19.1s,baz=315,slow=32								
DZM	Mont Dzumac	105.21	251	eLR		LR	16 58 12.0		
	comp=Z,82nm,23.6s								
SONM	Songino Array	116.00	346	PKP		PKPdf	16 28 01.8	+2.6	
SONM	Songino Array	116.00	346	PKP		PKPdf	16 28 01.8	+2.6	
	comp=Z,0.8nm,0.8s,baz=357,slow=3.0,SNR=5.1								
MKAR	Makanchi Array	119.14	4	PKP		PKPdf	16 28 04.2	-0.9	
MKAR	Makanchi Array	119.14	4	PKP		PKPdf	16 28 04.2	-0.9	
	comp=Z,0.3nm,0.4s,baz=0.0,slow=5.8,SNR=7.9								
BJI	Beijing	119.80	335	PKP		PKPdf	16 28 08.3	+1.8	
BJI				LR		LR			
	comp=Z,63nm,22.2s								
HHC	Hu-ho-hao-te	120.86	339	ePKP		PKPdf	16 28 08.6	-0.1	
HHC				PP		PP	16 29 40.4	+3.9	
HHC				PKS		PKSdf	16 31 44.6	-0.9	
HHC				SKS		SKSdf	16 35 16.2	-0.9	
HHC				SKKS		SKKSac	16 36 29.6	-3.9	
HHC				SS		SS	16 46 03.6	-0.2	
HHC				AMB		AMB			
	comp=Z,120nm,5.1s								
HHC				LR		LR			
	comp=Z,260nm,18.6s								
HHC				LR		LR			
	comp=Z,240nm,19.0s								
HHC				LR		LR			
	comp=Z,210nm,19.4s								
WMQ	Urumqi	122.29	360	PKP		PKPdf	16 28 11.4	+0.1	
KSH	Kashi	125.53	11	ePKP		PKPdf	16 28 20.0	+2.2	
KSH				esPKP			16 28 34.3		
KSH				eSKS		SKSdf	16 35 26.8	+0.8	
KSH				AMB		AMB			
	comp=Z,150nm,4.8s								
KSH				LR		LR			
	comp=Z,41nm,3.9s								
KSH				LR		LR			
	comp=Z,42nm,5.0s								
KSH				LR		LR			
	comp=Z,59nm,3.9s								
STKA	Stephens Creek	127.66	241	PKP		PKPdf	16 28 22.2	+0.4	
STKA	Stephens Creek	127.66	241	PKP		PKPdf	16 28 22.2	+0.4	
	comp=Z,1.7nm,0.6s,baz=283,slow=19,SNR=5.4								
LZH	Lanzhou	127.66	343	ePKP		PKPdf	16 28 21.5	-0.5	
LZH				sPKP			16 28 35.8		
LZH				LR		LR			
	comp=Z,170nm,17.2s								
LZH				LR		LR			
	comp=Z,170nm,18.0s								
LZH				LR		LR			
	comp=Z,180nm,19.8s								
CD2	Chengdu	132.51	341	ePKP		PKPdf	16 28 31.3	+0.1	
WRA	Warramunga Arr	134.90	256	PKP		PKPdf	16 28 36.7	+0.9	
WRA	Warramunga Arr	134.90	256	PKP		PKPdf	16 28 36.7	+0.9	
	comp=Z,0.4nm,0.6s,baz=86,slow=2.0,SNR=9.7								
GYA	Guiyang	135.50	335	ePdif		Pdif	16 25 38.8	-1.1	
GYA				PKP		PKPdf	16 28 37.0	0.0	
GYA				PP		PP	16 31 15.4	+2.6	
GYA				AMB		AMB			
	comp=Z,90nm,7.8s								
KMI	Kunming	138.19	339	PKP		PKPdf	16 28 43.0	+0.9	
CHTO	Chiang Mai	145.32	341	ePKPdf		PKPbc	16 28 54.7	+0.2	
CM31	Chiang Mai Arr	145.65	340	ePKPdf		PKPab	16 28 56.2	+0.4	
CMAR	Chiang Mai Arr	145.65	340	PKPbc		PKPab	16 28 56.4	+0.5	
CMAR	Chiang Mai Arr	145.65	340	PKPbc		PKPab	16 28 56.4	+0.5	
	comp=Z,11nm,0.8s,baz=338,slow=3.6,SNR=89								
HYB	Hyderabad	147.42	16	*i* PKP		PKPbc	16 29 00.0	-0.8	
KSM	Kuching	152.52	303	ePKPbc		PKPbc	16 29 14.3	+1.0	

ISCJB ***02*** *16:12:22.0±0.9, 13°.8N±0°.1×92°.68W±0°.05, h46km, mb4.2/5, MS3.8/1, Error ellipse: s-maj=17.8km s-min=6.9km az=10.3*

CASC ***02*** *16:12:23.3±1.5, 13°.87N×92°.52W, h16km±20km, MD4.1*

IDC ***02*** *16:12:27.9±6.5, 14°.25N×92°.17W, h69km±51km, mb3.9/5, mb1 4.2/7, mb1mx3.7/25, mbtmp4.0/7, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx3.2/29, Error ellipse: s-maj=76.9km s-min=18.6km az=48.0*

ISC 02 16:12:24.5±0.9, 14°.0N±0°.1×92°.60W±0°.08, h46km, n19, σ1ₛ04/22, mb4.1/5, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	1.00	69	⇑eP	Pn	16 12 41.8	-0.3
PCG	Pacaya	1.98	77	eP	Pn	16 12 55.3	-0.5
PCG				eS	Sn	16 13 21.1	+1.6
IXG	Ixpaco	2.09	84	eP	Pn	16 12 57.4	+0.2
NBG	Las Nubes	2.27	74	eP	Pn	16 13 00.5	+0.8
APG	El Apazote	2.31	63	P	Pn	16 12 56.7	-3.6
	35nm,0.3s,baz=231,slow=8.9,SNR=4.7						
APG				LR	LR	16 13 39.1	
	comp=Z,358nm,18.4s,baz=91,slow=39						
RTR	El Retiro	2.87	91	eP	Pn	16 13 07.0	-0.9
SBLS	San Blas	2.89	92	eP	Pn	16 13 07.5	-0.8
SBLS				eS	Sn	16 13 42.8	+0.9
SNJE	San Jose	2.91	91	eP	Pn	16 13 08.1	-0.3
SNJE				eS	Sn	16 13 42.1	-0.2
MRL	Marmol	3.02	68	eP	Pn	16 13 10.2	+0.2
BOQS	Boqueron	3.23	94	eP	Pn	16 13 12.1	-0.8
TEIG	Tepich	7.48	33	P	Pn	16 14 08.8	-2.2
	3.4nm,0.3s,baz=156,slow=20,SNR=1.9						
TXAR	Lajitas Array	18.42	328	P	Pn	16 16 37.7	+1.1
	0.0nm,0.3s,baz=148,slow=11,SNR=7.2						
NVAR	Mina Array Bea	33.34	322	P	P	16 19 00.3	+1.8
	1.4nm,0.7s,baz=135,slow=8.8,SNR=4.1						
NVAR				PcP	PcP	16 21 40.8	+1.2
	0.6nm,0.8s,baz=145,slow=3.3,SNR=4.0						
PTGA	Pitinga	35.46	112	P	P	16 19 16.4	-0.5
	2.2nm,0.6s,baz=318,slow=22,SNR=5.5						
SIV	San Ignacio	43.09	133	P	P	16 20 19.9	-0.5
	2.1nm,0.7s,baz=317,slow=5.4,SNR=3.8						
YKA	Yellowknife Ar	50.94	347	P	P	16 21 20.0	-0.9
	3.8nm,0.6s,baz=149,slow=7.3,SNR=25						
YKA				PcP	PcP	16 22 35.4	-1.3
	0.2nm,0.8s,baz=150,slow=3.8,SNR=3.6						
ILAR	Eielson Array	62.65	337	P	P	16 22 43.9	-0.2
	1.7nm,1.0s,baz=132,slow=4.7,SNR=4.9						
KEST	Kesra	91.38	53	LR	LR	17 02 42.5	
	comp=Z,35nm,19.4s,baz=278,slow=33						
CMAR	Chiang Mai Arr	145.84	340	PKPbc	PKPbc	16 31 59.5	-0.1
	1.8nm,0.7s,baz=338,slow=3.2,SNR=7.1						

IDC ***02*** *16:36:42.4±2.3, 45°.28N×121°.09W, h0km, mb2.8/1, mb1 3.4/5, mb1mx3.2/28, mbtmp3.0/5, ML3.1/4, Error ellipse: s-maj=32.1km s-min=17.0km az=140.0*

ISCJB ***02*** *16:36:45.4±0.3, 45°.14N±0°.02×120°.89W±0°.03, h24km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=28.6*

PNSN ***02*** *16:36:45.9, 45°.14N×120°.96W, h15km, MD3.6, Fault plane solution: NP1:ϕs247.00000°, δ60.00000°, NP2: ϕs340.00000°, δ85.00000°, Principal axes: T Plg17.0000°, Azm110.0000°; P Plg24.0000°, Azm208.0000°:*

NEIC ***02*** *16:36:45.9, 45°.14N×120°.96W, h16km, MD3.6(SEA), After SEA.*

*NEIC Fel

COR				*e*Sn		**Sn**	16 37 37.0	-0.2
EBG	**Ellensburg**	**1.79**	**8**	P		**Pn**	16 37 16.3	+0.9
J05D	**Fort Rock, OR**	**1.87**	**187**	Pb		**Pb**	16 37 18.8	-0.3
	baz=1.9							
J05D				Sb		**Sb**	16 37 43.6	+1.4
	baz=1.9							
J04D	**Umpqua Nationa**	**2.08**	**204**	Pb		**Pb**	16 37 22.2	-0.5
	baz=2.1							
LTY	**Liberty**	**2.12**	**5**	*e*Pn		**Pn**	16 37 20.4	+0.4
D05A	**Enumclaw**	**2.17**	**341**	*e*Pn		**Pn**	16 37 20.9	+0.2
I03D	**Drain, OR**	**2.26**	**231**	P		**Pn**	16 37 22.5	+0.8
	baz=2.2							
I03D				S		**Sn**	16 37 50.9	+1.8
	baz=2.2							
E03A	**Lebam**	**2.31**	**308**	*e*Pn		**Pn**	16 37 22.3	-0.2
D08A	**Wollman Farm,**	**2.37**	**35**	*e*Pn		**Pn**	16 37 22.8	-0.6
J08A	**Circle Bar Ran**	**2.51**	**134**	*e*Pn		**Pn**	16 37 25.5	+0.1
F10A	**Beach Ranch, E**	**2.73**	**71**	*e*Pn		**Pn**	16 37 28.7	+0.3
HUMO	**Hull Mountain**	**2.93**	**211**	*e*Pn		**Pn**	16 37 32.0	+0.9
HUMO				*e*Sn		**Sn**	16 38 06.1	+0.3
WVOR	**Wild Horse Val**	**3.18**	**148**	*e*Pn		**Pn**	16 37 35.2	+0.6
C09A	**Chrisman Ranch**	**3.23**	**34**	*e*Pn		**Pn**	16 37 34.8	-0.4
MOD	**Modoc**	**3.27**	**172**	*e*Pn		**Pn**	16 37 35.8	-0.1
MOD				*e*Pg		**Pg**	16 37 48.4	+0.3
MOD				*e*Sn		**Sn**	16 38 14.0	-0.4
MOD				*e*Sg		**Sg**	16 38 30.4	0.0
KEBM	**Edson Butte**	**3.34**	**228**	*e*Pn		**Pn**	16 37 37.6	+0.8
KEBM				*e*Pg		**Pg**	16 37 50.0	+0.6
KEBM				*e*Sn		**Sn**	16 38 14.1	-2.0
KEBM				*e*Sg		**Sg**	16 38 33.0	+0.3
YBH	**Yreka Blue Hor**	**3.65**	**201**	*e*Pn		**Pn**	16 37 39.9	-1.1
YBH				*e*Pg		**Pg**	16 37 55.4	+0.2
YBH				*e*Sn		**Sn**	16 38 23.0	-0.6
YBH	**Yreka Blue Hor**	**3.65**	**201**	Pn		**Pn**	16 37 43.2	+2.2
	0.7nm,0.3s,baz=346,slow=12,SNR=12							
KBO	**Bosley Butte**	**3.78**	**220**	*e*Pn		**Pn**	16 37 41.5	-1.3
KBO				*e*Sn		**Sn**	16 38 27.6	+0.7
PGD	**Sidney**	**3.91**	**335**	*e*Pn		**Pn**	16 37 44.4	-0.1
A05A	**Maple Falls**	**3.94**	**349**	*e*Pn		**Pn**	16 37 43.8	-1.1
MFID	**Camas Ranch**	**4.05**	**113**	*e*Pn		**Pn**	16 37 46.5	-0.1
NEW	**Newport**	**4.08**	**39**	*e*Pn		**Pn**	16 37 45.6	-1.2
NEW				*e*Pg		**Pg**	16 38 03.2	-0.2
NEW	**Newport**	**4.08**	**39**	P		**Pn**	16 37 46.0	-0.8
	baz=4.1							
NEW				S		**Sn**	16 38 32.0	-2.2
	baz=4.1							
WDC	**Whiskeytown Da**	**4.71**	**195**	*e*Pn		**Pn**	16 37 54.8	-0.8
HLID	**Hailey**	**4.93**	**106**	*e*Pn		**Pn**	16 37 58.2	-0.5
BSMT	**Bassoo Peak**	**5.03**	**55**	*e*Pn		**Pn**	16 38 00.4	+0.2
BSMT				*e*Sn		**Sn**	16 38 57.7	-0.3
MSO	**Missoula**	**5.16**	**68**	*e*Pn		**Pn**	16 38 01.8	+0.1
SWMT	**Swartz Lake**	**5.35**	**61**	*e*Pn		**Pn**	16 38 03.6	-0.9
MCMT	**McKenzie Canyo**	**5.74**	**90**	*e*Pn		**Pn**	16 38 10.7	+0.8
	3.8nm,0.6s							
MCMT				*e*Pg		**Pg**	16 38 35.9	+0.6
ELK	**Elko**	**6.06**	**134**	*e*Pn		**Pn**	16 38 14.6	+0.2
ELK				Lg		Lg	16 39 55.6	
WALA	**Waterton Lakes**	**6.19**	**48**	*e*Pn		**Pn**	16 38 17.3	+1.4
NVAR	**Mina Array Bea**	**6.99**	**163**	Pn		Pn	16 38 31.9	+4.9
	0.2nm,0.3s,baz=347,slow=14,SNR=11							
PDAR	**Pinedale Array**	**8.54**	**102**	Pn		Pn	16 38 52.0	+3.6
PDAR	**Pinedale Array**	**8.54**	**102**	Pn		Pn	16 38 52.0	+3.6
	0.0nm,0.3s,baz=316,slow=12,SNR=2.4							
YKA	**Yellowknife Ar**	**17.76**	**10**	P		**Pn**	**16 40 51.1**	**-0.3**
YKA	**Yellowknife Ar**	**17.76**	**10**	P		**Pn**	**16 40 51.1**	**-0.3**
	0.1nm,0.3s,baz=194,slow=12,SNR=5.9							
TXAR	**Lajitas Array**	**20.86**	**133**	P		Pn	16 41 28.7	-0.2
TXAR	**Lajitas Array**	**20.86**	**133**	P		Pn	16 41 28.7	-0.2
	0.4nm,0.8s,baz=342,slow=8.5,SNR=2.5							

DDA ***02*** *16:39:16.8,35°.59N×26°.35E,h20km,MD2.8*
IDC ***02*** *16:39:18.9±1.7,36°.87N×26°.99E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/24,mbtmp3.6/3,Error ellipse: s-maj=60.5km s-min=28.8km az=133.0*
CSEM ***02*** *16:39:32.7±0.9,37°.01N×26°.74E,h10km,MD3.2,Error ellipse: s-maj=26.7km s-min=10.7km az=151.0*
ISCJB ***02*** *16:39:33.2±0.6,36°.74N±0°.08×27°.05E±0°.07,h144km±6km, mb3.5/3,Error ellipse: s-maj=14.1km s-min=6.3km az=151.0*
ATH ***02*** *16:39:34.9,36°.89N×26°.81E,h23km±5km,MD3.2/5*

ISC 02 16:39:33.8±0.9,36°.74N±0°.06×27°.11E±0°.05,h141km±7km, n23,σ1§57/39,mb3.2/3,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.42**	**39**	*i* P	**Pn**	**16 39 54.7**	**+0.9**
BDRM				*i* S	**Sn**	**16 40 09.2**	**+0.2**
BDRM	**Kayabasi**	**0.42**	**39**	*i* P	**Pn**	**16 39 54.7**	**+0.9**
BDRM				*i* S	**Sn**	**16 40 09.2**	**+0.2**
ARG	**Arkhangelos**	**0.97**	**122**	*e*PN	**Pn**	**16 39 59.0**	**+1.5**
ARG				*e*SN	**Sn**	**16 40 16.5**	**+1.0**
ARG	**Arkhangelos**	**0.97**	**122**	*e*Pn	**Pn**	**16 39 59.0**	**+1.5**
ARG				*e*Sn	**Sn**	**16 40 16.5**	**+1.0**
KARP	**Karpathos**	**1.19**	**178**	*e*PN	**Pn**	**16 40 00.4**	**+0.8**
KARP				*e*SN	**Sn**	**16 40 19.5**	**+0.2**
KARP	**Karpathos**	**1.19**	**178**	*e*Pn	**Pn**	**16 40 00.4**	**+0.8**
KARP				*e*Sn	**Sn**	**16 40 19.5**	**+0.2**
TURN	**Turunc**	**1.20**	**83**	*i* P	**Pn**	**16 39 58.3**	**-1.3**
TURN				*i* S	**Sn**	**16 40 15.0**	**-4.2**
TURN	**Turunc**	**1.20**	**83**	*i* P	**Pn**	**16 39 58.3**	**-1.3**
TURN				*i* S	**Sn**	**16 40 15.0**	**-4.2**
DNZL	**Cakiroluk**	**1.81**	**58**	*i* P	**Pn**	**16 40 08.0**	**+1.7**
DNZL	**Cakiroluk**	**1.81**	**58**	*i* P	**Pn**	**16 40 08.0**	**+1.7**
NPS	**Neapolis**	**1.91**	**220**	*e*PN	**Pn**	**16 40 07.7**	**+0.3**
NPS				*e*SN	**Sn**	**16 40 32.1**	**-1.1**
NPS	**Neapolis**	**1.91**	**220**	*e*Pn	**Pn**	**16 40 07.7**	**+0.3**
NPS				*e*Sn	**Sn**	**16 40 32.1**	**-1.1**
GOLH	**Golhisar**	**2.02**	**75**	*i* P	**Pn**	**16 40 10.9**	**+2.2**
GOLH	**Golhisar**	**2.02**	**75**	*i* P	**Pn**	**16 40 10.9**	**+2.2**
LAST	**Lasithi**	**2.06**	**221**	*e*PB	**Pn**	**16 40 09.5**	**+0.2**
LAST				*e*SN	**Sn**	**16 40 35.1**	**-1.3**
LAST	**Lasithi**	**2.06**	**221**	*e*Pb	**Pn**	**16 40 09.5**	**+0.2**
LAST				*e*Sn	**Sn**	**16 40 35.1**	**-1.3**
AKAS	**Kas**	**2.07**	**103**	*i* P	**Pn**	**16 40 10.1**	**+0.7**
AKAS				*i* S	**Sn**	**16 40 35.2**	**-1.4**
AKAS	**Kas**	**2.07**	**103**	*i* P	**Pn**	**16 40 10.1**	**+0.7**
AKAS				*i* S	**Sn**	**16 40 35.2**	**-1.4**
KARN	**Karanos**	**2.91**	**244**	*e*PB	**Pn**	**16 40 21.2**	**+1.4**
KARN				*e*SN	**Sn**	**16 40 53.5**	**-1.7**
KARN	**Karanos**	**2.91**	**244**	*e*Pb	**Pn**	**16 40 21.2**	**+1.4**
KARN				*e*Sn	**Sn**	**16 40 53.5**	**-1.7**
TORD	**Torodi Ar. Bea**	**32.72**	**231**	P	**P**	**16 45 53.2**	**+0.2**
	0.2nm,0.4s,baz=37,slow=9.7,SNR=5.1						
ARCES	**ARCESS Array B**	**32.86**	**359**	P	**P**	**16 45 52.9**	**-0.9**
	3.6nm,0.9s,baz=164,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**41.59**	**58**	P	**P**	**16 47 08.4**	**+0.8**
	0.2nm,0.4s,baz=271,slow=9.0,SNR=6.3						

WEL 02 16:53:28.8±0.8,36°.86S×176°.76E,h252km±6km,ML3.5/7, 1C-3D,Error ellipse: s-maj=11.2km s-min=7.5km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.42**	**120**	PN	Pn	16 54 06.4	-0.3
MXZ				SN	S	16 54 36.3	-0.3
URZ	**Urewera**	**1.43**	**169**	PN	Pn	16 54 06.9	+0.1
URZ				SN	S	16 54 37.0	+0.3
MWZ	**Matawai**	**1.60**	**158**	PN	Pn	16 54 08.3	+0.2
SNGZ	**Shannon Statio**	**1.98**	**167**	PN	Pn	16 54 11.7	+0.5
CNGZ	**Carnagh Statio**	**1.99**	**145**	PN	Pn	16 54 11.8	+0.5
RIGZ	**Rimuhau**	**2.01**	**157**	⇓PN	Pn	16 54 12.0	+0.5
NMHZ	**Naumai**	**2.24**	**179**	PN	Pn	16 54 14.7	+1.0
WHHZ	**Waihua**	**2.25**	**171**	⇓PN	Pn	16 54 14.2	+0.5
KNZ	**Kokohu**	**2.28**	**162**	⇑PN	Pn	16 54 13.8	-0.2
BKZ	**Black Stump Fm**	**2.32**	**185**	PN	Pn	16 54 14.2	-0.2
BKZ				SN	S	16 54 49.6	-1.0
MHGZ	**Mahia Peninsul**	**2.47**	**159**	PN	Pn	16 54 15.8	0.0
MCHZ	**McNeill Hill**	**2.58**	**181**	PN	Pn	16 54 17.5	+0.5
BHHZ	**Black Hill Sta**	**2.69**	**192**	PN	Pn	16 54 18.1	0.0
CKHZ	**Cape Kidnapper**	**2.81**	**175**	PN	Pn	16 54 19.2	-0.1
KAHZ	**Kahuranaki**	**2.94**	**178**	PN	Pn	16 54 20.6	-0.2
PXZ	**Pawanui**	**3.17**	**179**	PN	Pn	16 54 22.5	-0.7
PXZ				SN	S	16 55 03.4	-3.0
TSZ	**Takapari Road**	**3.26**	**191**	PN	Pn	16 54 23.4	-0.9
MRZ	**Mangatainoka R**	**3.91**	**193**	⇓PN	Pn	16 54 30.1	-1.5
OGWZ	**Otaki Gorge**	**4.15**	**197**	PN	Pn	16 54 32.9	-1.5
HOWZ	**Holdsworth Sta**	**4.15**	**193**	PN	Pn	16 54 32.6	-1.9
TCW	**Tory Channel**	**4.76**	**203**	PN	Pn	16 54 39.8	-1.9
TUWZ	**Tuamarina**	**5.07**	**205**	PN	Pn	16 54 43.6	-1.8
NNZ	**Nelson**	**5.09**	**210**	PN	Pn	16 54 43.9	-1.8
NNZ				*e*SN	S	16 55 43.3	-3.7
THZ	**Tophouse**	**5.74**	**210**	PN	Pn	16 54 52.5	-1.2

IDC 02 17:08:43.2±1.3,19°.19S×67°.31W,h218km±21km,mb3.3/2, mb1 3.1/5,mb1mx3.0/19,mbtmp3.0/5,Error ellipse: s-maj=34.6km s-min=18.5km az=107.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.99**	**345**	P	Pn	17 09 35.8	+1.3
	5.4nm,0.3s,baz=154,slow=6.3,SNR=113						
LPAZ				S	S	17 10 14.4	0.0
	2.0nm,0.3s,baz=301,slow=16,SNR=7.3						
SIV	**San Ignacio**	**6.75**	**63**	P	Pn	17 10 20.7	+0.2
	0.7nm,0.3s,baz=258,slow=15,SNR=16						
CFAA	**Coronel Fontan**	**12.39**	**184**	P	Pn	17 11 30.6	-2.0
	0.0nm,0.3s,baz=8.1,slow=5.6,SNR=17						
CFAA				S	S	17 13 39.8	-10
	0.0nm,0.3s,baz=236,slow=18,SNR=3.3						
PLCA	**Paso Flores**	**21.65**	**187**	P	P	17 13 16.9	+0.4
	1.1nm,0.5s,baz=4.6,slow=13,SNR=5.8						
TORD	**Torodi Ar. Bea**	**75.17**	**70**	P	P	17 20 02.1	-0.1
	0.7nm,0.4s,baz=255,slow=5.6,SNR=14						

ISCJB ***02*** *17:15:55.4±0.5,23°.92N±0°.03×122°.94E±0°.02,h23km±6km, Error ellipse: s-maj=4.3km s-min=3.7km az=166.4*
JMA ***02*** *17:15:55.8±0.2,24°.01N×122°.91E,h29km±4km,M3.1*
TAP ***02*** *17:15:55.9,24°.00N×122°.95E,h34km±1km,ML3.6,D*

ISC 02 17:15:54.5±1.2,23°.91N±0°.03×122°.91E±0°.02,h19km±3km, n51,σ0§79/82,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**9**	P	**Pb**	**17 16 05.4**	**-0.2**
YOJ				S	**Sb**	**17 16 11.7**	**-1.4**
HATJ	**Hateruma jima**	**0.83**	**80**	P	**Pg**	**17 16 10.9**	**+0.2**
HATJ				*e*S	**Sg**	**17 16 22.1**	**+0.4**
IRIF	**Iriomote-Funau**	**0.86**	**60**	P	**Pb**	**17 16 10.9**	**+0.2**
IRIF				S	**Sg**	**17 16 22.5**	**-0.1**
JKRS	**Kuro-shima**	**1.05**	**72**	P	**Pn**	**17 16 14.3**	**+0.1**
JKRS				S	**Sb**	**17 16 27.7**	**+0.2**
ENA	**Nanau**	**1.19**	**296**	*e*P	**Pb**	**17 16 16.8**	**+0.4**
	baz=290						
ENA				*e*S	**Sg**	**17 16 33.1**	**-0.1**
	baz=290						
TWC	**Suao**	**1.20**	**306**	*i* P	**Pn**	**17 16 16.4**	**+0.2**
	baz=300						
TWC				*i* S	**Sb**	**17 16 31.8**	**+0.2**
	baz=300						
JIJ	**Ishigaki jima**	**1.21**	**68**	P	**Pn**	**17 16 16.3**	**-0.1**
JIJ				S	**Sb**	**17 16 31.0**	**-1.0**
TWD	**Chiawan**	**1.22**	**278**	*e*P	**Pn**	**17 16 16.1**	**-0.3**
	baz=273						
EGS		**1.29**	**316**	*e*P	**Pg**	**17 16 19.3**	**-0.2**
	baz=312						
ESL	**Shilin**	**1.36**	**266**	*e*P	**Pn**	**17 16 18.0**	**-0.4**
	baz=262						
ILA	**Ilan**	**1.36**	**309**	*e*P	**Pb**	**17 16 19.2**	**-0.1**
	baz=303						
ILA				*e*S	**Sg**	**17 16 38.0**	**-0.7**
	baz=303						
TWB1	**Santiao Chiao**	**1.38**	**323**	*e*P	**Pn**	**17 16 19.1**	**+0.4**
	baz=328						
TWB1				S	**Sn**	**17 16 35.8**	**-0.7**
	baz=328						
ENTT	**Nioudou**	**1.43**	**301**	*e*P	**Pb**	**17 16 21.1**	**+0.6**
	baz=280						
ENTT				*e*S	**Sb**	**17 16 39.2**	**+0.9**
	baz=280						
NNS	**Nan Shan**	**1.50**	**291**	*e*P	**Pg**	**17 16 23.3**	**-0.2**
	baz=274						
EHY	**Hungye**	**1.51**	**255**	*e*P	**Pb**	**17 16 21.6**	**-0.3**
	baz=251						
EHY				*e*S	**Sn**	**17 16 39.9**	**+0.2**
	baz=251						
WHF	**Hehuan Shan**	**1.53**	**279**	*e*P	**Pn**	**17 16 21.6**	**+0.5**
	baz=274						
NWF	**Wu-fen Shan**	**1.55**	**319**	P	**Pn**	**17 16 21.0**	**-0.1**
	baz=313						
NWF				S	**Sn**	**17 16 40.6**	**-0.2**
	baz=313						
TWF1	**Yuli**	**1.58**	**250**	*e*P	**Pb**	**17 16 22.7**	**-0.4**
	baz=237						
TWF1				*e*S	**Sn**	**17 16 40.6**	**-0.8**
	baz=237						
NSK	**Sanguang**	**1.61**	**299**	*e*P	**Pb**	**17 16 23.6**	**0.0**
	baz=278						
NSK				*e*S	**Sb**	**17 16 43.8**	**+0.1**
	baz=278						
TWA	**Mucha**	**1.62**	**312**	*e*P	**Pn**	**17 16 21.7**	**-0.2**
	baz=305						
TWA				*e*S	**Sb**	**17 16 45.0**	**+1.4**
	baz=305						
TWT	**Tachien**	**1.62**	**283**	*e*P	**Pb**	**17 16 24.2**	**+0.3**
	baz=278						
CHKT	**Chengkung**	**1.63**	**241**	*e*P	**Pn**	**17 16 22.9**	**+0.7**
	baz=238						
CHKT				*e*S	**Sn**	**17 16 41.9**	**-0.8**
	baz=238						
TAP	**Taipei**	**1.71**	**312**	*e*P	**Pn**	**17 16 23.3**	**+0.1**
	baz=305						
TAP				*e*S	**Sn**	**17 16 43.6**	**-0.8**
	baz=305						
JTJ	**Tarama**	**1.79**	**66**	P	**Pn**	**17 16 24.7**	**+0.4**
JTJ				*e*S	**Sn**	**17 16 47.1**	**+0.6**
TWY	**Chenhua**	**1.81**	**319**	*e*P	**Pn**	**17 16 25.7**	**+1.1**
	baz=315						
SMLT	**Sun Moon Lake**	**1.84**	**270**	*e*P	**Pb**	**17 16 27.0**	**-0.7**
	baz=264						
SMLT				*e*S	**Sn**	**17 16 48.1**	**+0.1**
	baz=264						
YUS	**Yu-Shan**	**1.85**	**257**	*e*P	**Pn**	**17 16 26.3**	**+0.7**
	baz=254						
ELDTW	**Lidau**	**1.88**	**248**	*e*P	**Pn**	**17 16 26.3**	**+0.6**
	baz=246						
TYC	**Yuchr**	**1.88**	**270**	*e*P	**Pb**	**17 16 27.3**	**-0.9**
	baz=265						
TYC				*e*S	**Sb**	**17 16 52.0**	**+0.6**
	baz=265						
NSTT	**Nanjuang**	**1.89**	**293**	*e*P	**Pb**	**17 16 28.1**	**-0.2**
	baz=288						
NCU	**National Centr**	**1.90**	**304**	*e*P	**Pb**	**17 16 28.7**	**+0.2**
	baz=299						
ALS	**Alishan**	**1.97**	**259**	*e*P	**Pb**	**17 16 29.4**	**-0.6**
	baz=255						
ALS				*e*S	**Sn**	**17 16 52.0**	**+0.6**
	baz=255						
TTN	**Taitung**	**1.99**	**235**	*e*P	**Pn**	**17 16 27.1**	**+0.1**
	baz=234						
TWQ1	**Liyutan**	**2.00**	**283**	*e*P	**Pn**	**17 16 27.7**	**+0.4**
	baz=278						
TWG	**Pinlang**	**2.01**	**238**	*e*P	**Pn**	**17 16 28.2**	**+0.8**
	baz=227						
TWG				*e*S	**Sn**	**17 16 51.7**	**-0.3**
	baz=227						
NSY	**Sanyi**	**2.03**	**285**	*e*P	**Pb**	**17 16 30.0**	**-0.8**
	baz=280						
WNT	**Mingjian**	**2.04**	**270**	*e*P	**Pb**	**17 16 30.7**	**-0.2**
	baz=264						
WNT				*e*S	**Sb**	**17 16 56.2**	**+0.3**
	baz=264						
TCU	**Taichung**	**2.06**	**277**	*e*P	**Pb**	**17 16 30.4**	**-0.9**
	baz=272						
CHN5	**Tsauling**	**2.07**	**262**	*e*P	**Pb**	**17 16 31.1**	**-0.4**
	baz=250						
CHN5				*e*S	**Sb**	**17 16 56.8**	**-0.1**
	baz=250						
STYT	**Tauyuan**	**2.11**	**250**	*e*P	**Pb**	**17 16 30.9**	**-1.3**
	baz=240						
STYT				*e*S	**Sn**	**17 16 56.7**	**+2.1**
	baz=240						
WGK	**Gukeng**	**2.17**	**265**	*e*P	**Pb**	**17 16 33.3**	**+0.2**
	baz=261						
ECL	**Taimali**	**2.23**	**234**	*e*P	**Pn**	**17 16 31.4**	**+1.0**
	baz=244						
ECL				*e*S	**Sn**	**17 16 57.2**	**0.0**
	baz=244						
LAY	**Lan-yu**	**2.25**	**214**	P	**Pn**	**17 16 31.3**	**+0.7**
	baz=223						
LAY				*e*S	**Sn**	**17 16 57.8**	**0.0**
	baz=223						
SGST	**Jiashian**	**2.29**	**249**	*e*P	**Pb**	**17 16 34.9**	**-0.3**
	baz=238						
SGST				*e*S	**Sb**	**17 17 03.0**	**-0.1**
	baz=238						
CHN1	**Nanshi**	**2.31**	**252**	*e*P	**Pb**	**17 16 34.2**	**-1.3**
	baz=249						
CHN1				*e*S	**Sb**	**17 17 03.4**	**-0.2**
	baz=249						
TWK	**Hsinying**	**2.31**	**254**	*e*P	**Pb**	**17 16 34.2**	**-1.4**
	baz=251						
TWK				*e*S	**Sb**	**17 17 03.6**	**-0.2**
	baz=251						
SSD	**Sandimen**	**2.40**	**242**	*e*P	**Pn**	**17 16 34.4**	**+1.8**
	baz=234						
EAST	**Anshuo**	**2.43**	**232**	P	**Pn**	**17 16 34.5**	**+1.3**
	baz=239						
EAST				*e*S	**Sn**	**17 17 03.7**	**+1.2**
	baz=239						
TWM1	**Shoushan**	**2.53**	**245**	*e*P	**Pb**	**17 16 38.6**	**-0.7**
	baz=243						
SCZT	**Fangliau**	**2.61**	**235**	*e*P	**Pn**	**17 16 38.0**	**+2.4**
	baz=233						
TWK1	**Hengchun**	**2.76**	**225**	*e*P	**Pb**	**17 16 40.9**	**-2.3**
	baz=225						

ISCJB ***02*** *17:29:41.2±0.7,19°.35S±0°.08×70°.4W±0°.1,h44km,mb3.9/9, MS3.7/6,Error ellipse: s-maj=15.0km s-min=11.9km az=0.5*
IDC ***02*** *17:29:45.3±3.3,19°.37S×70°.28W,h67km±29km,mb3.7/9, mb1 3.9/11,mb1mx3.8/20,mbtmp4.1/11,ML4.6/2,MS3.4/9, Ms1 3.4/9,ms1mx3.3/26,Error ellipse: s-maj=24.5km s-min=17.7km az=101.0*

ISC 02 17:29:42.6±0.8,19°.33S±0°.10×70°.5W±0°.1,h44km,n30, σ1§08/16,mb4.1/9,MS3.4/6,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.75**	**37**	P	Pn	17 30 44.4	+5.8
	2.9nm,0.3s,baz=172,slow=5.9,SNR=46						
LPAZ				LR	LR	17 31 52.2	
	comp=Z,207nm,18.0s,baz=208,slow=34						
SIV	**San Ignacio**	**9.54**	**71**	P	**Pn**	**17 31 59.6**	**+2.1**
	1.5nm,0.3s,baz=274,slow=9.5,SNR=26						
SIV				LR	LR	17 36 21.7	
	comp=Z,408nm,18.6s,slow=42						
CFAA	**Coronel Fontan**	**12.39**	**171**	P	**Pn**	**17 32 36.9**	**+0.4**
	0.0nm,0.3s,baz=342,slow=14,SNR=2.6						
CFAA				LR	LR	17 37 25.9	
	comp=Z,24nm,20.1s,baz=332,slow=37						
CPUP	**Villa Florida**	**13.97**	**122**	P	**Pn**	**17 32 57.8**	**-0.1**
	0.9nm,0.3s,baz=294,slow=11,SNR=12						
ATAH	**Atahualpa**	**14.36**	**326**	LR	LR	17 39 20.1	
	comp=Z,114nm,21.3s,baz=322,slow=40						
H03N1	**Juan Fernandez**	**15.96**	**207**	T	T	17 49 24.8	
	baz=32,slow=75,SNR=234						
H03N2	**Juan Fernandez**	**15.97**	**207**	T	T	17 49 32.3	
	baz=32,slow=75,SNR=322						
H03N3	**Juan Fernandez**	**15.97**	**207**	T	T	17 49 28.4	
	baz=32,slow=75,SNR=275						
PTGA	**Pitinga**	**21.15**	**30**	P	**P**	**17 34 23.8**	**-0.3**
	5.8nm,0.3s,baz=296,slow=23,SNR=14						
PTGA				LR	LR	17 43 40.6	
	comp=Z,145nm,19.5s,baz=142,slow=40						
PLCA	**Paso Flores**	**21.34**	**180**	P	**P**	**17 34 26.5**	**+0.5**
	2.2nm,0.9s,baz=12,slow=13,SNR=4.2						
PLCA				LR	LR	17 41 28.4	
	comp=Z,164nm,18.7s,baz=256,slow=33						
BDFB	**Brasilia**	**21.72**	**84**	P	**P**	**17 34 28.8**	**-1.6**
	3.1nm,0.7s,baz=248,slow=19,SNR=1.8						
BDFB				LR	LR	17 44 44.0	
	comp=Z,152nm,20.0s,baz=47,slow=42						
ROSC	**El Rosal**	**24.33**	**351**	LR	LR	17 45 24.2	
	comp=Z,97nm,19.6s,baz=247,slow=38						
TXAR	**Lajitas Array**	**58.02**	**326**	LR	LR	18 05 53.0	
	comp=Z,75nm,19.8s,baz=180,slow=37						
DBIC	**Dimbokro**	**69.55**	**75**	P	**P**	**17 40 46.4**	**-1.0**
	2.4nm,0.7s,baz=216,slow=5.8,SNR=3.8						
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**17 40 54.9**	**+0.1**
	0.9nm,0.4s,baz=190,slow=0.4,SNR=20						
PDAR	**Pinedale Array**	**71.51**	**331**	P	**P**	**17 40 59.5**	**+0.5**
	0.4nm,0.8s,baz=195,slow=5.6,SNR=3.1						
NVAR	**Mina Array Bea**	**72.89**	**322**	P	**P**	**17 41 09.1**	**+1.7**
	0.5nm,1.0s,baz=161,slow=5.7,SNR=2.6						
SCHQ	**Schefferville**	**73.92**	**2**	LR	LR	18 11 20.7	
	comp=Z,318nm,18.6s,baz=66,slow=34						
TORD	**Torodi Ar. Bea**	**78.02**	**71**	P	**P**	**17 41 36.8**	**-0.3**
	3.2nm,0.6s,baz=248,slow=5.3,SNR=21						
YKA	**Yellowknife Ar**	**88.67**	**341**	P	**P**	**17 42 30.8**	**+0.1**
	0.9nm,0.8s,baz=139,slow=4.6,SNR=13						
H11S2	**WAKE ISLAND Hyd**	**26.13**	**279**	T	T	20 07 42.1	
	baz=104,slow=73,SNR=108						
H11S1	**WAKE ISLAND Hyd**	**26.14**	**279**	T	T	20 07 49.3	

ZKR	**Zakros**	**1.31**	**255**	*e*Pn	**Pg**	**18 09 56.5**	**-0.7**
ZKR				*e*Sn	**Sg**	**18 10 16.3**	**+2.1**
DALY	**Dalyan (Mu˘la**	**1.54**	**28**	*e*Pn	**Pb**	**18 10 00.5**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.54**	**28**	*e*Pn	**Pb**	**18 10 00.5**	**-0.2**
TURN	**Turunc**	**1.57**	**25**	*i* P	**Pb**	**18 10 00.4**	**-0.9**
TURN				*i* S	**Sg**	**18 10 22.3**	**-0.2**
TURN	**Turunc**	**1.57**	**25**	*i* P	**Pb**	**18 10 00.4**	**-0.9**
TURN				*i* S	**Sg**	**18 10 22.3**	**-0.2**
FETY	**Fethiye**	**1.59**	**42**	*e*PN	**Pb**	**18 10 01.3**	**-0.4**
FETY	**Fethiye**	**1.59**	**42**	*e*Pn	**Pb**	**18 10 01.3**	**-0.4**
BDRM	**Kayabasi**	**1.63**	**351**	*i* P	**Pb**	**18 10 02.4**	**+0.1**
BDRM				*i* S	**Sg**	**18 10 25.6**	**+1.2**
BDRM	**Kayabasi**	**1.63**	**351**	*i* P	**Pb**	**18 10 02.4**	**+0.1**
BDRM				*i* S	**Sg**	**18 10 25.6**	**+1.2**
BODT	**Bodrum**	**1.64**	**347**	*e*PN	**Pb**	**18 10 02.4**	**-0.2**
BODT	**Bodrum**	**1.64**	**347**	*e*Pn	**Pb**	**18 10 02.4**	**-0.2**
NPS	**Neapolis**	**1.77**	**264**	*e*PN	**Pb**	**18 10 03.2**	**-1.5**
NPS	**Neapolis**	**1.77**	**264**	*e*Pn	**Pb**	**18 10 03.2**	**-1.5**
LAST	**Lasithi**	**1.89**	**262**	*e*PN	**Pb**	**18 10 05.8**	**-1.1**
LAST	**Lasithi**	**1.89**	**262**	*e*Pn	**Pb**	**18 10 05.8**	**-1.1**
ELL	**Elmali**	**2.16**	**53**	*e*PN	**Pb**	**18 10 10.2**	**-1.3**
ELL	**Elmali**	**2.16**	**53**	*e*Pn	**Pb**	**18 10 10.2**	**-1.3**
GLHS	**Glhisar (BURDU**	**2.20**	**39**	*e*PN	**Pb**	**18 10 10.6**	**-1.6**
GLHS	**Glhisar (BURDU**	**2.20**	**39**	*e*Pn	**Pb**	**18 10 10.6**	**-1.6**
APE	**Apeiranthos**	**2.42**	**312**	*e*PN	**Pb**	**18 10 13.6**	**-2.2**
APE	**Apeiranthos**	**2.42**	**312**	*e*Pn	**Pb**	**18 10 14.1**	**-1.7**
APE				*e*SN	**Sb**	**18 10 44.3**	**-1.5**
APE	**Apeiranthos**	**2.42**	**312**	*e*Pn	**Pb**	**18 10 13.6**	**-2.2**
APE				*e*Sn	**Sb**	**18 10 44.3**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**2.49**	**2**	*e*PN	**Pn**	**18 10 14.5**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**2.49**	**2**	*e*Pn	**Pn**	**18 10 14.5**	**+1.6**
VAM	**Vamos**	**2.91**	**270**	*e*PN	**Pn**	**18 10 20.0**	**+1.4**
VAM	**Vamos**	**2.91**	**270**	*e*Pn	**Pn**	**18 10 20.0**	**+1.4**
IZM	**Izmir**	**2.96**	**352**	*e*PN	**Pn**	**18 10 21.5**	**+2.1**
IZM	**Izmir**	**2.96**	**352**	*e*Pn	**Pn**	**18 10 21.5**	**+2.1**
KULA	**Kula-Manisa**	**3.13**	**13**	*e*PN	**Pn**	**18 10 23.0**	**+1.2**
KULA	**Kula-Manisa**	**3.13**	**13**	*e*Pn	**Pn**	**18 10 23.0**	**+1.2**
KARN	**Karanos**	**3.14**	**270**	*e*PN	**Pn**	**18 10 23.5**	**+1.7**
KARN	**Karanos**	**3.14**	**270**	*e*Pn	**Pn**	**18 10 23.5**	**+1.7**
KHL	**Karahalli**	**3.19**	**26**	*e*PN	**Pn**	**18 10 24.6**	**+2.0**
KHL	**Karahalli**	**3.19**	**26**	*e*Pn	**Pn**	**18 10 24.6**	**+2.0**
SUTC	**Sutluce-Ispart**	**3.30**	**51**	*e*PN	**Pn**	**18 10 26.1**	**+2.0**
SUTC	**Sutluce-Ispart**	**3.30**	**51**	*e*Pn	**Pn**	**18 10 26.1**	**+2.0**
AKS	**Akhisar**	**3.42**	**1**	*e*PN	**Pn**	**18 10 27.3**	**+1.7**
AKS	**Akhisar**	**3.42**	**1**	*e*Pn	**Pn**	**18 10 27.3**	**+1.7**
VLI	**Veliai**	**4.11**	**289**	*e*PN	**Pn**	**18 10 37.1**	**+2.0**
VLI	**Veliai**	**4.11**	**289**	*e*Pn	**Pn**	**18 10 37.1**	**+2.0**

WEL 02 18:39:46.4±0.5,**41°24S**×**172°65E**,**h210**km±3km,**ML3.5/6, 3C**,**Error ellipse: s-maj=5.0km s-min=3.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.42**	**348**	⇑PN	Pn	18 40 14.1	-0.4
QRZ				SN	S	18 40 35.0	-1.3
NNZ	**Nelson**	**0.55**	**88**	⇑PN	Pn	18 40 14.7	-0.2
NNZ				SN	S	18 40 36.2	-0.8
THZ	**Tophouse**	**0.56**	**160**	⇑PN	Pn	18 40 15.0	0.0
THZ				SN	S	18 40 36.2	-1.2
TUWZ	**Tuamarina**	**0.99**	**101**	PN	Pn	18 40 17.3	+0.1
TCW	**Tory Channel**	**1.23**	**89**	PN	Pn	18 40 18.7	0.0
KHZ	**Kahutara**	**1.35**	**151**	PN	Pn	18 40 19.3	-0.4
LTZ	**Lake Taylor**	**1.57**	**190**	PN	Pn	18 40 20.9	-0.7
KIW	**Kapiti Island**	**1.75**	**78**	PN	Pn	18 40 23.0	-0.3
CAW	**Cannon Point**	**1.83**	**87**	PN	Pn	18 40 23.7	-0.4
MTW	**Mount Morrison**	**2.15**	**89**	PN	Pn	18 40 26.9	-0.3

*JMA **02** 19:11:22.8, 24°03N×121°66E, h52km, M3.1*
*TAP **02** 19:11:23.6, 24°08N×121°70E, h56km, ML3.6, B*
*ISCJB **02** 19:11:24.1±0.3, 24°07N±0°02×121°76E±0°02, h51km±4km, Error ellipse: s-maj=3.4km s-min=2.1km az=40.4*

ISC 02 19:11:24.7±1.2,**24°07N**±0°02×**121°74E**±0°02,**h47**km±6km, **n63**,σ0**87**/118,**8C-3D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=271	**0.13**	**273**	⇑*i*P	**Pn**	**19 11 32.2**	**-0.1**
TWD				*e*S	**Sn**	**19 11 37.8**	**+0.2**
HWA	**Hwalien** baz=207	**0.16**	**233**	*e*P	**Pn**	**19 11 32.8**	**+0.3**
EHP	**Heping Village** baz=18	**0.24**	**360**	*e*P	**Pn**	**19 11 32.5**	**-0.5**
ESF	**Shoufeng Towns** baz=230	**0.29**	**227**	*e*P	**Pn**	**19 11 33.7**	**+0.2**
ESF				*e*S	**Sn**	**19 11 40.2**	**+0.5**
ENA	**Nanau** baz=1.0	**0.35**	**360**	⇑*i*P	**Pn**	**19 11 34.0**	**-0.1**
ENA				*e*S	**Sn**	**19 11 42.1**	**+1.3**
ESL	**Shilin** baz=228	**0.38**	**228**	⇑*i*P	**Pn**	**19 11 33.6**	**-0.9**
ESL				*e*S	**Sn**	**19 11 40.4**	**-0.9**
TEGC	**Jichi Village** baz=200	**0.41**	**207**	*e*P	**Pn**	**19 11 35.7**	**+1.0**
WHF	**Hehuan Shan** baz=279	**0.44**	**279**	⇑*i*P	**Pn**	**19 11 34.9**	**-0.7**
WHF				S	**Sn**	**19 11 42.2**	**-1.0**
NNS	**Nan Shan** baz=324	**0.50**	**317**	⇑*i*P	**Pn**	**19 11 35.2**	**-0.7**
NNS				*e*S	**Sn**	**19 11 43.4**	**-0.5**
TWC	**Suao** baz=21	**0.54**	**10**	P	**Pn**	**19 11 36.5**	**+0.2**
TWC				S	**Sn**	**19 11 45.6**	**+1.0**
TWT	**Tachien** baz=289	**0.55**	**289**	⇑*i*P	**Pn**	**19 11 36.4**	**-0.2**
TWT				*i* S	**Sn**	**19 11 44.9**	**-0.1**
ENTT	**Nioudou** baz=349	**0.59**	**344**	⇑*i*P	**Pn**	**19 11 36.3**	**-0.6**
ENTT				*e*S	**Sn**	**19 11 44.8**	**-0.9**
EHY	**Hungye** baz=210	**0.68**	**214**	*e*P	**Pn**	**19 11 36.5**	**-1.6**
ILA	**Ilan** baz=359	**0.69**	**0**	*e*P	**Pn**	**19 11 38.3**	**+0.1**
ILA				*e*S	**Sn**	**19 11 48.7**	**+0.8**
NSK	**Sanguang** baz=339	**0.69**	**330**	⇑*i*P	**Pn**	**19 11 37.7**	**-0.6**
NSK				*i* S	**Sn**	**19 11 47.5**	**-0.6**
EGS	baz=26	**0.79**	**13**	P	**Pn**	**19 11 39.8**	**+0.3**
EGS				*e*S	**Sn**	**19 11 51.9**	**+1.6**
SMLT	**Sun Moon Lake** baz=251	**0.79**	**256**	P	**Pn**	**19 11 39.3**	**-0.4**
SMLT				S	**Sn**	**19 11 50.5**	**0.0**
TWF1	**Yuli** baz=214	**0.83**	**210**	*e*P	**Pn**	**19 11 38.4**	**-1.7**
TWF1				*e*S	**Sn**	**19 11 49.8**	**-1.4**
TYC	**Yuchr** baz=254	**0.83**	**258**	*e*P	**Pn**	**19 11 39.8**	**-0.2**
TYC				*e*S	**Sn**	**19 11 51.2**	**0.0**
NSTT	**Nanjuang** baz=311	**0.88**	**310**	P	**Pn**	**19 11 40.6**	**-0.1**
NSTT				S	**Sn**	**19 11 52.2**	**-0.1**
TWA	**Mucha** baz=343	**0.92**	**351**	P	**Pn**	**19 11 40.7**	**-0.6**
TWA				S	**Sn**	**19 11 53.2**	**-0.1**
TWQ1	**Liyutan** baz=288	**0.93**	**287**	P	**Pn**	**19 11 41.0**	**-0.3**
TWQ1				*e*S	**Sn**	**19 11 53.5**	**-0.1**
YUS	**Yu-Shan** baz=222	**0.93**	**231**	*e*P	**Pn**	**19 11 41.4**	**-0.5**
YUS				S	**Sn**	**19 11 54.5**	**+0.2**
TWB1	**Santiao Chiao** baz=24	**0.96**	**13**	P	**Pn**	**19 11 42.0**	**+0.2**
TWB1				*e*S	**Sn**	**19 11 54.7**	**+0.3**
NSY	**Sanyi** baz=292	**0.96**	**291**	P	**Pn**	**19 11 41.5**	**-0.3**
NSY				*e*S	**Sn**	**19 11 54.1**	**-0.3**
TCU	**Taichung** baz=274	**0.98**	**275**	*e*P	**Pn**	**19 11 42.0**	**-0.1**
TCU				*e*S	**Sn**	**19 11 54.6**	**-0.2**
TAP1	**Taipei** baz=350	**0.98**	**348**	*e*P	**Pn**	**19 11 41.0**	**-1.2**
TAP1				*e*S	**Sn**	**19 11 54.6**	**-0.3**
TAP	**Taipei** baz=350	**0.99**	**347**	*e*P	**Pn**	**19 11 41.6**	**-0.6**
TAP				*e*S	**Sn**	**19 11 55.2**	**+0.2**
WNT	**Mingjian** baz=267	**0.99**	**259**	*e*P	**Pn**	**19 11 42.6**	**+0.4**
WNT				*e*S	**Sn**	**19 11 55.8**	**+0.8**
NWF	**Wu-fen Shan** baz=351	**0.99**	**2**	P	**Pn**	**19 11 42.0**	**-0.4**
NWF				S	**Sn**	**19 11 55.4**	**0.0**
HSN	**Hsinchu** baz=320	**1.01**	**316**	*e*P	**Pn**	**19 11 42.6**	**+0.1**
ALS	**Alishan** baz=230	**1.03**	**237**	⇓*e*P	**Pn**	**19 11 43.0**	**0.0**
ALS				*e*S	**Sn**	**19 11 56.2**	**-0.2**
NCU	**National Centr** baz=333	**1.03**	**331**	*e*P	**Pn**	**19 11 42.2**	**-0.5**
NCU				*e*S	**Sn**	**19 11 55.3**	**-0.7**
CHKT	**Chengkung** baz=198	**1.03**	**200**	*e*P	**Pn**	**19 11 42.0**	**-0.7**
CHKT				*e*S	**Sn**	**19 11 56.2**	**+0.2**
CHN5	**Tsauling** baz=236	**1.08**	**244**	⇓P	**Pn**	**19 11 43.7**	**+0.1**
CHN5				*e*S	**Sn**	**19 11 58.4**	**+0.8**
ELDTW	**Lidau** baz=210	**1.10**	**217**	*e*P	**Pn**	**19 11 42.6**	**-1.3**
ELDTW				*e*S	**Sn**	**19 11 57.2**	**-0.8**
WGK	**Gukeng** baz=250	**1.15**	**251**	*e*P	**Pn**	**19 11 44.8**	**+0.4**
WGK				*e*S	**Sn**	**19 12 00.3**	**+1.4**
TWY	**Chenhua** baz=346	**1.21**	**354**	*e*P	**Pn**	**19 11 43.9**	**-1.2**
YOJ	**Yonaguni jima** baz=71	**1.22**	**71**	P	**Pn**	**19 11 45.1**	**-0.3**
YOJ				*e*S	**Sn**	**19 12 00.7**	**0.0**
YOJ	**Yonaguni jima** baz=71	**1.22**	**71**	*e*P	**Pn**	**19 11 45.0**	**-0.3**
YOJ				*e*S	**Sn**	**19 12 01.2**	**+0.5**
STYT	**Tauyuan** baz=224	**1.28**	**225**	P	**Pn**	**19 11 46.5**	**+0.2**
STYT				*e*S	**Sn**	**19 12 03.0**	**+0.8**
CHY	**Chiayi** baz=235	**1.34**	**245**	*e*P	**Pn**	**19 11 47.4**	**+0.4**
CHY				*e*S	**Sn**	**19 12 05.8**	**+2.3**
WTCT	**Ta-ch'eng** baz=272	**1.35**	**261**	*e*P	**Pn**	**19 11 47.5**	**+0.3**
WTCT				*e*S	**Sn**	**19 12 03.9**	**-0.1**
TWG	**Pinlang** baz=196	**1.39**	**206**	*e*P	**Pn**	**19 11 46.0**	**-1.7**
TWG				*e*S	**Sn**	**19 12 02.6**	**-2.3**
CHN1	**Nanshi** baz=231	**1.42**	**232**	P	**Pn**	**19 11 48.5**	**+0.4**
CHN1				*e*S	**Sn**	**19 12 06.0**	**+0.3**
SGST	**Jiashian** baz=221	**1.45**	**227**	⇓P	**Pn**	**19 11 49.2**	**+0.6**
SGST				*e*S	**Sn**	**19 12 06.9**	**+0.5**
WSF	**Szhu** baz=264	**1.46**	**253**	*e*P	**Pn**	**19 11 48.6**	**0.0**
WSF				*e*S	**Sn**	**19 12 07.3**	**+0.8**
CHN3	**Shinhua** baz=242	**1.61**	**232**	*e*P	**Pn**	**19 11 51.1**	**+0.5**
CHN3				*e*S	**Sn**	**19 12 11.2**	**+1.0**
ECL	**Taimali** baz=200	**1.64**	**206**	*e*P	**Pn**	**19 11 49.3**	**-1.8**
ECL				*e*S	**Sn**	**19 12 10.5**	**-0.5**
SSD	**Sandimen** baz=229	**1.67**	**218**	*e*P	**Pn**	**19 11 51.7**	**+0.2**
SSD				*e*S	**Sn**	**19 12 13.7**	**+2.0**
SCLT	**Jiali** baz=237	**1.68**	**238**	*e*P	**Pn**	**19 11 51.8**	**+0.2**
SCLT				*e*S	**Sn**	**19 12 12.6**	**+0.6**
SGLT	**Jiouru** baz=221	**1.77**	**221**	*e*P	**Pn**	**19 11 53.8**	**+1.0**
SGLT				*e*S	**Sn**	**19 12 17.9**	**+3.7**
IRIF	**Iriomote-Funau** baz=221	**1.83**	**81**	P	**Pn**	**19 11 53.5**	**-0.2**
IRIF				*e*S	**Sn**	**19 12 15.7**	**0.0**
EAST	**Anshuo** baz=202	**1.87**	**206**	*e*P	**Pn**	**19 11 55.1**	**+0.8**
EAST				*e*S	**Sn**	**19 12 15.7**	**-1.1**
TAW	**Tawu** baz=197	**1.88**	**205**	*e*P	**Pn**	**19 11 54.6**	**+0.3**
TAW				*e*S	**Sn**	**19 12 15.3**	**-1.5**
HATJ	**Hateruma jima** baz=224	**1.89**	**90**	P	**Pn**	**19 11 55.0**	**+0.6**
HATJ				*e*S	**Sn**	**19 12 17.9**	**+0.9**
SCZT	**Fangliau** baz=224	**1.98**	**212**	*e*P	**Pn**	**19 11 56.3**	**+0.5**
SCZT				*e*S	**Sn**	**19 12 19.8**	**+0.3**
JKRS	**Kuro-shima** baz=197	**2.08**	**85**	P	**Pn**	**19 11 57.6**	**+0.5**
JKRS				*e*S	**Sn**	**19 12 22.0**	**+0.3**
JIJ	**Ishigaki jima** baz=194	**2.21**	**82**	P	**Pn**	**19 11 58.5**	**-0.4**
JIJ				S	**Sn**	**19 12 23.8**	**-1.2**
HEN	**Hengchun** baz=196	**2.26**	**204**	*e*P	**Pn**	**19 12 01.2**	**+1.7**
TWK1	**Hengchun** baz=196	**2.29**	**202**	*e*P	**Pn**	**19 11 59.7**	**-0.3**
TWK1				*e*S	**Sn**	**19 12 25.9**	**-1.0**
JTJ	**Tarama** baz=277	**2.76**	**78**	P	**Pn**	**19 12 06.4**	**0.0**
JTJ				*e*S	**Sn**	**19 12 37.8**	**-0.7**
KNM	**Kinmen** baz=277	**3.04**	**277**	*e*P	**Pn**	**19 12 09.8**	**-0.5**
MAT	**Matsushiro** baz=195,slow=10,SNR=15	**2.90**	**18**	P	**Pn**	**19 12 56.2**	**+0.4**
JAG	**Ashikaga**	**3.27**	**35**	P	**Pn**	**19 12 59.1**	**-0.7**
JAG				*e*S	**S**	**19 13 48.7**	**-1.6**
BSO1	**Boso 1**	**3.32**	**74**	P	**Pn**	**19 12 59.3**	**-0.4**
BSO1				*e*S	**S**	**19 13 49.9**	**-0.4**
KSRS	**Korea Array** 0.2nm,0.3s,baz=122,slow=9.6,SNR=5.2	**8.33**	**299**	P	**P**	**19 13 57.2**	**-0.1**
USRK	**Ussuriysk Arra** 0.3nm,0.3s,baz=151,slow=10,SNR=5.6	**11.14**	**341**	P	**P**	**19 14 28.0**	**-0.5**
SONM	**Songino Array** 0.5nm,0.5s,baz=119,slow=8.6,SNR=3.1	**26.95**	**311**	P	**P**	**19 17 09.3**	**+2.5**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=0.0,slow=7.6,SNR=22	**53.49**	**183**	P	**P**	**19 20 40.8**	**-0.8**

*IDC **02** 19:29:44.7±2.3, 18°48S×175°70W, h206km±22km, mb3.5/12, mb1 3.8/13, mb1mx3.7/21, mbtmp3.6/13, Error ellipse: s-maj=24.6km s-min=12.9km az=130.0*
*ISCJB **02** 19:29:46.2±0.5, 18°5S±0°1×175°63W±0°09, h238km, mb3.6/11, Error ellipse: s-maj=16.9km s-min=9.0km az=150.3*

ISC 02 19:29:47.5±0.6,**18°6S**±0°1×**175°60W**±0°10,**h238**km,**n31**, σ0**66**/31,**mb3.7**/11,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=5.0,SNR=11	**5.39**	**96**	P	**Pn**	**19 31 06.8**	**-1.0**
AFI	**Afiamalu** 5.9nm,0.3s,baz=50,slow=18,SNR=4.6	**5.95**	**39**	P	Pn	19 31 10.5	-4.4
AFI				S	S	19 32 14.0	-11
DZM	**Mont Dzumac** 13nm,0.3s,baz=188,slow=21,SNR=7.8	**17.18**	**255**	P	**Pn**	**19 33 34.1**	**-0.1**
URZ	**Urewera** 7.1nm,0.5s,baz=308,slow=2.0,SNR=11	**20.59**	**197**	P	**P**	**19 34 08.9**	**+0.4**
ARMA	**Armidale** baz=32,SNR=5.2	**31.93**	**242**	P	**P**	**19 35 52.4**	**+1.1**
RMQ	**Roma** baz=34,SNR=6.8	**33.75**	**250**	P	**P**	**19 36 08.1**	**+1.1**
QLP	**Quilpie** baz=38,SNR=6.2	**37.80**	**250**	P	**P**	**19 36 41.3**	**+0.1**
COEN	**Coen** baz=40,SNR=4.8	**39.78**	**270**	P	**P**	**19 36 57.8**	**0.0**
STKA	**Stephens Creek** 1.5nm,0.5s,baz=132,slow=12,SNR=10	**40.65**	**243**	P	**P**	**19 37 05.0**	**+0.3**
HTT	**Hallett** baz=44,SNR=3.5	**43.11**	**241**	P	**P**	**19 37 25.2**	**+0.6**
BBOO	**Buckleboo** baz=46,SNR=5.6	**45.42**	**242**	P	**P**	**19 37 42.8**	**0.0**
WRA	**Warramunga Arr** 1.6nm,0.4s,baz=97,slow=7.8,SNR=75	**47.13**	**260**	P	**P**	**19 37 55.2**	**-1.1**
WRA				PcP	**PcP**	**19 39 24.3**	**+0.2**
ASAR	**Alice Springs** baz=104,slow=4.1	**47.17**	**255**	PcP	**PcP**	**19 39 24.1**	**-0.1**
KDU	**Kakadu** baz=51,SNR=4.9	**50.21**	**269**	P	**P**	**19 38 19.1**	**-0.7**
WRKA	**Warakurna** baz=53,SNR=24	**52.17**	**252**	P	**P**	**19 38 34.0**	**-0.3**
KNRA	**Kununurra** baz=54,SNR=15	**53.07**	**264**	P	**P**	**19 38 40.6**	**-0.2**
MEEK	**Meekatharra** baz=61,SNR=3.3	**60.68**	**249**	P	**P**	**19 39 33.3**	**-0.9**
MJAR	**Matsushiro Arr** 3.7nm,1.0s,baz=92,slow=0.9,SNR=7.7	**70.08**	**322**	P	**P**	**19 40 33.6**	**-0.3**
PETK	**Petropavlovsk-** 2.5nm,0.8s,baz=111,slow=9.9,SNR=4.1	**75.07**	**344**	P	**P**	**19 41 02.8**	**-0.1**
KSRS	**Korea Array** 1.0nm,0.9s,baz=120,slow=5.4,SNR=4.1	**77.01**	**317**	P	**P**	**19 41 14.9**	**+0.8**
NVAR	**Mina Array Bea** 0.7nm,0.6s,baz=227,slow=8.8,SNR=6.2	**78.11**	**42**	P	**P**	**19 41 21.2**	**+0.7**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=230,slow=7.0,SNR=4.2	**84.14**	**57**	P	**P**	**19 41 54.0**	**+1.7**
SEY	**Seymchan** 1.1nm,0.6s,baz=82,slow=15,SNR=5.6	**85.08**	**346**	P	**P**	**19 41 55.6**	**-0.4**
ILAR	**Eielson Array** 0.9nm,0.5s,baz=231,slow=6.2,SNR=22	**86.00**	**12**	P	**P**	**19 42 00.1**	**-0.5**
CMAR	**Chiang Mai Arr** 0.7nm,0.8s,baz=80,slow=3.9,SNR=4.6	**91.63**	**289**	P	**P**	**19 42 28.4**	**+0.3**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=242,slow=4.5,SNR=6.7	**93.87**	**24**	P	**P**	**19 42 37.5**	**+0.1**
BVAR	**Borovoye Array** 0.8nm,0.4s,baz=102,slow=2.3,SNR=6.1	**119.07**	**321**	PKP	**PKPdf**	**19 48 07.0**	**-0.7**
ARCES	**ARCESS Array B** 3.6nm,1.0s,baz=49,slow=1.0,SNR=11	**127.45**	**351**	PKP	**PKPdf**	**19 48 22.6**	**-0.7**
FINES	**FINESS Array B** 3.8nm,1.2s,baz=44,slow=4.2,SNR=5.6	**134.56**	**346**	PKP	**PKPdf**	**19 48 37.0**	**+0.1**
GERES	**GERESS Array B** 0.9nm,0.6s,baz=35,slow=3.6,SNR=7.5	**148.91**	**348**	PKPbc	**PKPbc**	**19 49 07.5**	**+0.3**
ESDC	**Sonseca Array** 0.2nm,0.6s,baz=328,slow=3.4,SNR=4.1	**157.80**	**17**	PKPab	**PKPab**	**19 49 49.6**	**-0.1**

*IDC **02** 19:39:24.1±1.1, 0°01N×125°50E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=119.3km s-min=21.7km az=66.0*
*ISCJB **02** 19:39:27.9±0.8, 0°26N±0°08×126°34E±0°06, h44km, mb4.0/4, Error ellipse: s-maj=11.6km s-min=8.7km az=6.3*
*DJA **02** 19:39:27.4±2.5, 0°N±8°×126°6E±°, h10km±24km, M3.9/5, MLv3.9/5*

ISC 02 19:39:29.2±0.9,**0°29N**±0°09×**126°33E**±0°07,**h44**km,**n9**, σ1**99**/10,**mb4.1**/4,**Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**65**	P	**Pn**	**19 39 47.3**	**-1.5**
TNTI				S	**Sn**	**19 40 02.9**	**-0.5**
LBMI	**Labuha**	**1.49**	**128**	P	**Pn**	**19 39 53.3**	**-0.2**
LBMI				S	**Sn**	**19 40 08.4**	**-3.4**
KMSI	**Cibinong**	**2.36**	**277**	P	**Pn**	**19 40 03.7**	**-1.8**
APSI	**Ampana**	**4.83**	**256**	P	Pn	19 40 43.5	+4.1
WRA	**Warramunga Arr** 4.0nm,0.6s,baz=337,slow=11,SNR=37	**21.58**	**159**	P	**P**	**19 44 16.4**	**+1.0**
STKA	**Stephens Creek** 2.3nm,0.7s,baz=333,slow=9.0,SNR=3.1	**35.10**	**157**	P	**P**	**19 46 20.0**	**+1.5**
SONM	**Songino Array** 0.3nm,0.4s,baz=160,slow=7.9,SNR=3.2	**50.43**	**343**	P	**P**	**19 48 24.8**	**+2.3**
MKAR	**Makanchi Array** 1.7nm,0.7s,baz=120,slow=8.1,SNR=30	**60.16**	**327**	P	**P**	**19 49 31.4**	**-1.2**
TORD	**Tordi Ar. Bea** 0.2nm,0.6s,baz=73,slow=2.6,SNR=3.5	**123.54**	**286**	PKP	**PKPdf**	**19 58 23.0**	**+0.1**

*NEIC **02** 19:45:04.7±0.4, 12°36N×141°92E, h10km, mb4.6/11, Error ellipse: s-maj=11.3km s-min=7.7km az=71.0*
*ISCJB **02** 19:45:06.2±0.5, 12°35N±0°07×141°93E±0°09, h33km, mb4.3/23, MS3.4/7, Error ellipse: s-maj=12.8km s-min=9.4km az=164.3*
*IDC **02** 19:45:06.8±0.7, 12°39N×142°07E, h24km±3km, mb3.9/13, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, MS3.5/7, Ms1 3.5/7, ms1mx3.2/29, Error ellipse: s-maj=22.1km s-min=14.2km az=82.0*

ISC 02 19:45:07.8±0.5,**12°38N**±0°09×**141°93E**±0°10,**h33**km,**n50**, σ1**20**/54,**mb4.4**/23,**MS3.4**/7,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.10**	**67**	*e*Pn	**Pn**	**19 45 55.8**	**+1.3**
PMG	**Port Moresby**	**22.26**	**166**	P	**P**	**19 50 01.9**	**-0.2**
PMG	**Port Moresby** 8.8nm,0.8s,baz=12,slow=9.3,SNR=3.5	**22.26**	**166**	P	**P**	**19 50 01.9**	**-0.2**
JNU	**Nakatsue** comp=Z,81nm,18.5s,baz=228,slow=33	**22.99**	**336**	LR	LR	19 57 42.5	
TATO	**Taipei** 97nm,1.1s	**23.02**	**306**	P	**P**	**19 50 09.4**	**-0.7**
MJAR	**Matsushiro Arr** comp=Z,50nm,21.6s,baz=140,slow=34	**24.29**	**353**	LR	LR	19 58 52.4	
KSRS	**Korea Array** comp=Z,44nm,18.8s,baz=337,slow=36	**27.94**	**336**	LR	LR	20 01 59.1	
CTA	**Charters Tower**	**32.55**	**172**	P	**P**	**19 51 36.5**	**+0.5**
CTA	**Charters Tower** 2.4nm,0.7s,baz=354,slow=7.4,SNR=5.0	**32.55**	**172**	P	**P**	**19 51 36.5**	**+0.5**
CTAO	**Charters Tower** 18nm,1.5s	**32.55**	**172**	*e*P	**P**	**19 51 34.9**	**-1.1**
WRAB	**Tennant Creek** 5.6nm,0.6s	**32.97**	**193**	*e*P	**P**	**19 51 39.6**	**-0.1**
WRA	**Warramunga Arr**	**32.98**	**193**	P	**P**	**19 51 39.7**	**-0.1**
WRA	**Warramunga Arr** 3.0nm,0.6s,baz=15,slow=9.6,SNR=52	**32.98**	**193**	P	**P**	**19 51 39.7**	**-0.1**
ENH	**Enshi** 5.3nm,1.0s	**34.90**	**306**	P	**P**	**19 51 57.5**	**+1.0**
ASAR	**Alice Springs**	**36.68**	**192**	P	**P**	**19 52 12.5**	**+0.7**
ASAR	**Alice Springs**	**36.68**	**192**	P	**P**	**19 52 12.5**	**+0.7**

1.6nm,0.6s,baz=20,slow=13,SNR=24
CM31 Chiang Mai Arr 41.81 284 P **P** **19 52 55.8 +1.0**
2.8nm,0.6s
CMAR Chiang Mai Arr 41.81 284 P **P** **19 52 55.6 +0.9**
CMAR pP **pP** **19 53 03.2 -1.3**
CMAR Chiang Mai Arr 41.81 284 P **P** **19 52 55.6 +0.9**
1.4nm,0.7s,baz=84,slow=6.8,SNR=11
CMAR pP **pP** **19 53 03.2 -1.3**
4.0nm,0.8s,baz=81,slow=6.5,SNR=16
ULN Ulaanbaatar 45.80 328 *eP* **P** **19 53 27.8 +1.2**
2.3nm,0.9s
SONM Songino Array 46.12 327 P **P** **19 53 30.3 +1.2**
SONM Songino Array 46.12 327 P **P** **19 53 30.3 +1.2**
0.8nm,0.8s,baz=135,slow=9.7,SNR=4.0
FX1 Attu Island--F 47.48 25 LR LR 20 09 32.2
comp=Z,40nm,20.5s,baz=106,slow=31
LSA Lhasa 50.02 298 P **P** **19 54 00.7 +0.7**
YAK Yakutsk 50.35 353 *eP* **P** **19 54 01.6 +0.3**
18nm,0.8s
SEY Seymchan 51.02 6 P **P** **19 54 07.9 +1.6**
SEY Seymchan 51.02 6 P **P** **19 54 07.9 +1.6**
3.0nm,0.9s,baz=204,slow=22,SNR=4.9
MK31 Makanchi Array 60.39 317 *eP* **P** **19 55 14.8 +0.9**
MK31 *e* 19 55 22.3
MKAR Makanchi Array 60.39 317 P **P** **19 55 15.1 +1.2**
MKAR pP **pP** **19 55 23.2 -0.9**
MKAR Makanchi Array 60.39 317 P **P** **19 55 15.1 +1.2**
3.6nm,0.8s,baz=91,slow=8.8,SNR=35
MKAR pP **pP** **19 55 23.2 -0.9**
1.4nm,0.6s,baz=92,slow=8.7,SNR=8.5
ZAA0 Zalesovo Array 60.96 325 *eP* **P** **19 55 16.7 -0.9**
ZALV Zalesovo Beam 60.96 325 P **P** **19 55 17.9 +0.2**
ZALV pP **pP** **19 55 25.4 -2.4**
ZALV Zalesovo Beam 60.96 325 P **P** **19 55 17.9 +0.2**
1.9nm,0.6s,baz=109,slow=7.2,SNR=13
ZALV pP **pP** **19 55 25.4 -2.4**
1.2nm,0.5s,baz=119,slow=7.3,SNR=5.4
KURK Kurchatov 63.68 321 *eP* **P** **19 55 36.3 +0.5**
8.7nm,1.0s
TKM2 Tokmak 2 64.36 312 *eP* **P** **19 55 42.4 +1.6**
BVAR Borovoye Array 69.11 322 P **P** **19 56 11.5 +0.9**
BVAR pP **pP** **19 56 19.3 -1.6**
BVAR Borovoye Array 69.11 322 P **P** **19 56 11.5 +0.9**
3.6nm,0.7s,baz=107,slow=7.9,SNR=23
BVAR pP **pP** **19 56 19.3 -1.6**
2.6nm,0.7s,baz=114,slow=7.0,SNR=9.1
BRVK Borovoye 69.17 322 *eP* **P** **19 56 11.7 +0.7**
3.1nm,0.6s
ILAR Eielson Array 70.88 25 P **P** **19 56 20.8 -0.5**
ILAR pP **pP** **19 56 28.7 -2.8**
ILAR Eielson Array 70.88 25 P **P** **19 56 20.8 -0.5**
0.6nm,0.6s,baz=246,slow=5.9,SNR=10
ILAR pP **pP** **19 56 28.7 -2.8**
1.4nm,0.7s,baz=252,slow=5.8,SNR=9.9
ILAR LR LR 20 22 31.7
comp=Z,56nm,21.4s,baz=156,slow=32
DOT Dot Lake 71.89 27 P P 19 56 22.3 -5.1
9.2nm,1.2s
ABKAR Akbulak array 75.51 318 *eP* **P** **19 56 48.0 -0.9**
1.9nm,0.6s
ARU Arti 76.12 325 P **P** **19 56 50.8 -1.4**
YKA Yellowknife Ar 85.23 27 P **P** **19 57 40.0 -0.8**
YKA Yellowknife Ar 85.23 27 P **P** **19 57 40.0 -0.8**
0.1nm,0.5s,baz=282,slow=3.1,SNR=3.9
ARCES ARCESS Array B 87.33 342 LR LR 20 39 57.2
comp=Z,44nm,18.4s,baz=349,slow=38
FINES FINESS Array B 91.02 334 P **P** **19 58 07.4 -1.2**
FINES FINESS Array B 91.02 334 P **P** **19 58 07.4 -1.2**
1.7nm,0.9s,baz=39,slow=7.1,SNR=6.6
FINES LR LR 20 39 28.9
comp=Z,34nm,19.5s,baz=21,slow=36
LPAZ La Paz 150.63 101 PKPbc **PKPbc** **20 04 58.9 +0.7**
LPAZ La Paz 150.63 101 PKPbc **PKPbc** **20 04 58.9 +0.7**
1.1nm,0.8s,baz=22,slow=4.6,SNR=4.3

*IDC **02** 20:00:41.1±1.0, 12.°78N×87.°33W, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=44.2km s-min=20.0km az=52.0*
*ISCJB **02** 20:00:47.3±0.4, 12.°41N±0.°05×87.°83W±0.°04, h50km, mb4.0/12, Error ellipse: s-maj=9.3km s-min=3.9km az=36.1*
*CASC **02** 20:00:49.1±2.6, 12.°50N×87.°79W, h39km±16km, MD4.1, ML4.0*
*NEIC **02** 20:00:49.1±1.3, 12.°59N×87.°67W, h66km±11km, mb4.2/3, Error ellipse: s-maj=23.8km s-min=11.1km az=55.0*
ISC 02 20:00:48.0±0.6, 12.°49N±0.°06×87.°79W±0.°05, h50km, n107, σ1°23/112, mb4.0/12, 26C-37D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.79**	**357**	⇓*i*P		**Pn**		**20 01 03.9**	**+0.9**
CNCH				*e*S		**Sn**		**20 01 15.3**	**+1.4**
VSM	**San Miguel**	**1.05**	**333**	*e*P		**Pn**		**20 01 07.0**	**+0.4**
CNGN	**Cerro Negro**	**1.06**	**89**	⇓*i*P		**Pn**		**20 01 06.6**	**0.0**
CNGN				*e*S		**Sn**		**20 01 21.4**	**+1.1**
CAHU	**Cacacuatique**	**1.34**	**342**	⇓*e*P		**Pn**		**20 01 11.8**	**+1.2**
SNVI	**San Vicente**	**1.52**	**318**	⇓*e*P		**Pn**		**20 01 12.2**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.64**	**18**	⇓*i*P		**Pn**		**20 01 16.2**	**+1.8**
TGUH	**Tegucigalpa,Un**	**1.64**	**18**	*e*Pn		**Pn**		**20 01 15.9**	**+1.5**
LFRS	**El Faro**	**1.68**	**312**	⇓*e*P		**Pn**		**20 01 15.2**	**+0.2**
LBRS	**Las Brisas**	**1.75**	**316**	*e*P		**Pn**		**20 01 16.4**	**+0.5**
LFU	**La Fuente**	**1.80**	**314**	*e*P		**Pn**		**20 01 17.5**	**+0.8**
SNET	**Serv Nac Est T**	**1.85**	**310**	*e*P		**Pn**		**20 01 18.6**	**+1.3**
SNET					AML	AML		20 01 42.7	
comp=Z,2μm,0.3s									
BOQS	**Boqueron**	**1.91**	**311**	*e*P		**Pn**		**20 01 19.4**	**+1.0**
SBLS	**San Blas**	**2.24**	**307**	*e*P		**Pn**		**20 01 24.3**	**+1.5**
RBDL	**Robledal**	**2.46**	**311**	*e*P		**Pn**		**20 01 26.8**	**+1.0**
IXG	**Ixpaco**	**3.09**	**303**	*e*P		**Pn**		**20 01 36.1**	**+1.6**
IXG				*e*S		**Sn**		**20 02 10.7**	**+0.4**
MRL	**Marmol**	**3.16**	**324**	*e*P		Pn		20 01 44.5	+9.1
JTS	**JuntasAbangare**	**3.53**	**128**	Pn		**Pn**		**20 01 41.1**	**+0.8**
JTS				Sn		**Sn**		**20 02 20.6**	**-0.3**
JTS				Lg		Lg		20 02 34.1	
JTS	**JuntasAbangare**	**3.53**	**128**	Pn		**Pn**		**20 01 41.1**	**+0.8**
comp=Z,2.5nm,0.3s,baz=297,slow=21,SNR=18									
JTS				Sn		**Sn**		**20 02 20.6**	**-0.3**
comp=Z,10nm,0.3s,baz=281,slow=21,SNR=3.5									
JTS				Lg		Lg		20 02 34.1	
comp=Z,44nm,0.3s,baz=238,slow=19,SNR=16									
APG	**El Apazote**	**3.61**	**314**	Pn		**Pn**		**20 01 41.7**	**+0.1**
APG	**El Apazote**	**3.61**	**314**	Pn		**Pn**		**20 01 41.7**	**+0.1**
comp=Z,1.3nm,0.3s,baz=103,slow=14,SNR=7.2									
JCR	**Jicaral**	**3.71**	**135**	*e*P		**Pn**		**20 01 43.9**	**+1.1**
CGA2	**Cerro Gallo 2**	**4.08**	**127**	*e*P		**Pn**		**20 01 51.1**	**+3.1**
URSC	**Urasca**	**4.73**	**123**	*e*P		Pn		20 02 00.9	+3.8
TEIG	**Tepich**	**7.71**	**357**	Pn		**Pn**		**20 02 36.2**	**-1.5**
ROSC	**El Rosal**	**15.30**	**119**	LR		LR		20 09 50.6	
comp=Z,99nm,19.1s,baz=280,slow=36									
832A	**Faith Ranch, C**	**19.41**	**326**	⇑P		**P**		**20 05 11.3**	**+1.3**
baz=19,SNR=7.4									
632A	**Uvalde**	**20.28**	**328**	⇑P		Pn		20 05 24.0	+2.1
baz=20,SNR=8.2									
532A	**Rocksprings**	**20.84**	**329**	⇑P		**P**		**20 05 25.8**	**+0.1**
baz=21									
433A	**Art**	**20.97**	**332**	⇑P		**P**		**20 05 27.5**	**+0.5**
baz=21									
334A	**Lometa**	**21.09**	**334**	⇑P		**P**		**20 05 29.6**	**+1.3**
baz=21									
531A	**Rocksprings**	**21.20**	**328**	⇓P		**P**		**20 05 30.1**	**+0.6**
baz=21									
432A	**Menard**	**21.40**	**331**	⇑P		**P**		**20 05 32.0**	**+0.4**
baz=21									
530A	**J-C Ranch, Com**	**21.60**	**327**	⇓P		**P**		**20 05 33.7**	**-0.1**
baz=22									
431A	**Sonora**	**21.65**	**329**	⇓P		**P**		**20 05 37.4**	**+3.1**
baz=22,SNR=7.1									
332A	**Millersview**	**21.80**	**332**	⇑P		**P**		**20 05 36.8**	**+0.9**
baz=22,SNR=6.2									
233A	**Rising Star**	**21.96**	**334**	⇓P		**P**		**20 05 39.1**	**+1.5**
baz=22									
628A	**Black Gap, Mar**	**21.98**	**323**	⇑P		**P**		**20 05 37.6**	**-0.3**
baz=22									
331A	**San Angelo**	**22.07**	**330**	⇓P		**P**		**20 05 39.6**	**+0.8**
baz=22									
529A	**Stev Forest Ra**	**22.07**	**325**	⇓P		**P**		**20 05 37.8**	**-1.0**
baz=22									
232A	**Coleman**	**22.18**	**332**	⇑P		**P**		**20 05 41.5**	**+1.5**
baz=22,SNR=5.6									
627A	**Terlingua Ranc**	**22.25**	**322**	⇑P		**P**		**20 05 40.5**	**-0.4**
baz=22									
429A	**Davenport Ranc**	**22.27**	**326**	⇓P		**P**		**20 05 40.8**	**-0.3**
baz=22,SNR=6.8									
TXAR	**Lajitas Array**	**22.34**	**321**	P		**P**		**20 05 42.6**	**+0.8**
TXAR				PcP		**PcP**		**20 09 36.6**	**+0.7**
TXAR	**Lajitas Array**	**22.34**	**321**	P		**P**		**20 05 42.6**	**+0.8**
comp=Z,2.3nm,0.7s,baz=139,slow=9.1,SNR=38									
TXAR				PcP		**PcP**		**20 09 36.6**	**+0.7**
comp=Z,0.2nm,0.5s,baz=137,slow=5.5,SNR=4.3									
330A	**Mertzon**	**22.52**	**329**	⇓P		**P**		**20 05 44.2**	**+0.6**
baz=23									
MIAR	**Mount Ida**	**22.58**	**347**	*e*P		**P**		**20 05 44.5**	**+0.2**
comp=Z,8.1nm,0.7s									
626A	**Big Bend Ranch**	**22.78**	**321**	⇑P		**P**		**20 05 46.8**	**+0.3**
baz=23,SNR=6.7									
ABTX	**Abilene, Hawle**	**22.80**	**333**	⇑P		**P**		**20 05 48.2**	**+1.6**
baz=23									
329A	**Wagon Wheel Ra**	**22.99**	**328**	⇑P		**P**		**20 05 49.2**	**+0.5**
baz=23									
526A	**Mary Lane Ranc**	**23.11**	**322**	⇓P		**P**		**20 05 49.8**	**-0.2**
baz=23									
427A	**Hayter Ranch,**	**23.29**	**324**	⇓P		**P**		**20 05 51.4**	**-0.1**
baz=23									
229A	**Bryant Ranch,**	**23.29**	**329**	⇓P		**P**		**20 05 52.3**	**+0.8**
baz=23									
328A	**Wristen Ranch,**	**23.36**	**326**	⇓P		**P**		**20 05 52.9**	**+0.7**
baz=23,SNR=12									
TKL	**Tuckaleechee C**	**23.36**	**8**	P		**P**		**20 05 51.5**	**-0.5**
TKL	**Tuckaleechee C**	**23.36**	**8**	P		**P**		**20 05 51.5**	**-0.5**
comp=Z,5.1nm,0.8s,baz=172,slow=14,SNR=3.2									
130A	**Snyder**	**23.38**	**331**	⇓P		**P**		**20 05 53.8**	**+1.4**
baz=23,SNR=7.2									
426A	**McDonald Obser**	**23.52**	**323**	⇓P		**P**		**20 05 54.3**	**+0.4**
baz=24									
Y33A	**Hilltop Ranch,**	**23.59**	**337**	⇑P		**P**		**20 05 55.8**	**+1.5**
baz=24									
228A	**UT Block 9, Go**	**23.81**	**328**	⇑P		**P**		**20 05 56.3**	**-0.1**
baz=24,SNR=5.6									
X34A	**Smith Ranch, M**	**23.83**	**339**	⇓P		**P**		**20 05 57.8**	**+1.2**
baz=24,SNR=7.8									
129A	**Stewart Farms,**	**23.85**	**329**	⇓P		**P**		**20 05 57.7**	**+0.9**
baz=24									
326A	**Caldwell Ranch**	**23.96**	**324**	⇓P		**P**		**20 05 58.9**	**+1.0**
baz=24									
X33A	**Lawton**	**24.02**	**338**	⇓P		**P**		**20 05 59.0**	**+0.7**
baz=24,SNR=14									
Z30A	**Sanderson Ranc**	**24.03**	**332**	⇓P		**P**		**20 05 59.5**	**+1.0**
baz=24									
227A	**Bennet, Jal**	**24.10**	**326**	⇓P		**P**		**20 06 00.4**	**+1.3**
baz=24									
128A	**Castleberry Fa**	**24.15**	**328**	⇓P		**P**		**20 06 00.2**	**+0.6**
baz=24,SNR=6.4									
425A	**Indio Mountain**	**24.17**	**322**	⇓P		**P**		**20 06 00.7**	**+0.9**
baz=24									
X32A	**Elmer**	**24.21**	**336**	⇑P		**P**		**20 06 00.9**	**+0.9**
baz=24,SNR=6.1									
Z29A	**Hungry Hill Ra**	**24.28**	**331**	⇓P		**P**		**20 06 01.5**	**+0.8**
baz=24,SNR=5.8									
WMOK	**Wichita Mounta**	**24.30**	**338**	P		**P**		**20 05 58.4**	**-2.4**
comp=Z,2.8nm,0.6s									
Y30A	**Stafford Cattl**	**24.42**	**333**	⇑P		**P**		**20 06 03.3**	**+1.3**
baz=24,SNR=11									
226B	**Tecolote Peak,**	**24.63**	**325**	⇑P		**P**		**20 06 05.5**	**+1.5**
baz=25									
Z28A	**Tucker Farm, M**	**24.64**	**330**	⇑P		**P**		**20 06 04.6**	**+0.6**
baz=25									
127A	**Arkansas Junct**	**24.65**	**327**	⇓P		**P**		**20 06 04.4**	**+0.3**
baz=25,SNR=6.1									
Y29A	**Porterfield Fa**	**24.76**	**332**	⇓P		**P**		**20 06 07.4**	**+2.3**
baz=25									
X30A	**Coker Ranch, T**	**24.89**	**334**	⇑P		**P**		**20 06 07.6**	**+1.4**
baz=25									
324A	**Moseley Ranch,**	**24.94**	**322**	⇓P		**P**		**20 06 07.4**	**+0.5**
baz=25									
Y28A	**McKinney Farm,**	**25.07**	**331**	⇓P		**P**		**20 06 08.5**	**+0.6**
baz=25									
Z27A	**Tatum**	**25.07**	**328**	⇑P		**P**		**20 06 08.1**	**+0.1**
baz=25,SNR=5.6									
X29A	**Tulia**	**25.26**	**332**	⇑P		**P**		**20 06 11.2**	**+1.6**
baz=25									
125A	**Gardner Draw,**	**25.34**	**325**	⇓P		**P**		**20 06 12.0**	**+1.6**
baz=25,SNR=8.1									
MSTX	**Muleshoe**	**25.37**	**330**	⇓P		**P**		**20 06 11.5**	**+0.8**
baz=25									
224A	**Cocudas Mount**	**25.41**	**323**	⇑P		**P**		**20 06 11.7**	**+0.5**
baz=26									
Z26A	**Caprock**	**25.44**	**327**	⇓P		**P**		**20 06 12.3**	**+1.0**
baz=26,SNR=5.6									
Y27A	**Causey**	**25.50**	**329**	⇑P		**P**		**20 06 12.9**	**+1.1**
baz=26									
Z25A	**Roswell**	**25.84**	**326**	⇓P		**P**		**20 06 16.2**	**+1.2**
baz=26									
Y25A	**Mesa, Roswell**	**26.32**	**327**	⇓P		**P**		**20 06 22.8**	**+3.5**
baz=26									
KSU1	**Kansas State U**	**27.64**	**345**	P		**P**		**20 06 28.5**	**-2.5**
comp=Z,5.9nm,0.5s									
V25A	**Rancho No Teng**	**27.77**	**330**	⇑P		**P**		**20 06 34.0**	**+1.5**
baz=28									
ANMO	**Albuquerque**	**28.05**	**326**	P		**P**		**20 06 36.5**	**+1.6**
ANMO	**Albuquerque**	**28.05**	**326**	P		**P**		**20 06 37.1**	**+2.3**
comp=Z,0.4nm,0.4s,baz=124,slow=7.3,SNR=3.4									
NVAR	**Mina Array Bea**	**37.46**	**319**	P		**P**		**20 07 58.0**	**+1.1**
NVAR				PcP		**PcP**		**20 10 15.5**	**+0.8**
NVAR	**Mina Array Bea**	**37.46**	**319**	P		**P**		**20 07 58.0**	**+1.1**
comp=Z,0.6nm,0.6s,baz=129,slow=7.8,SNR=6.5									
NVAR				PcP		**PcP**		**20 10 15.5**	**+0.8**
comp=Z,0.8nm,0.6s,baz=123,slow=3.2,SNR=8.9									
ULM	**Lac du Bonnet**	**38.24**	**352**	P		**P**		**20 08 01.2**	**-1.8**
ULM	**Lac du Bonnet**	**38.24**	**352**	P		**P**		**20 08 01.2**	**-1.8**
comp=Z,3.6nm,0.5s,baz=159,slow=8.8,SNR=4.7									
SIV	**San Ignacio**	**38.72**	**136**	P		**P**		**20 08 07.1**	**-0.4**
SIV	**San Ignacio**	**38.72**	**136**	P		**P**		**20 08 07.1**	**-0.4**
comp=Z,4.3nm,0.6s,baz=319,slow=9.0,SNR=15									
SCHQ	**Schefferville**	**45.34**	**17**	P		P		20 08 58.4	-2.6
SCHQ	**Schefferville**	**45.34**	**17**	P		P		20 08 58.4	-2.6
comp=Z,5.0nm,0.5s,baz=214,slow=8.1,SNR=20									
YKA	**Yellowknife Ar**	**53.49**	**345**	P		**P**		**20 10 01.6**	**-1.4**
YKA				PcP		**PcP**		**20 11 07.7**	**-1.7**
YKA	**Yellowknife Ar**	**53.49**	**345**	P		**P**		**20 10 01.6**	**-1.4**
comp=Z,0.6nm,0.7s,baz=133,slow=8.4,SNR=14									
YKA				PcP		**PcP**		**20 11 07.6**	**-1.7**
comp=Z,0.2nm,0.4s,baz=144,slow=4.0,SNR=5.7									
ILAR	**Eielson Array**	**65.86**	**336**	P		**P**		**20 11 26.5**	**-1.6**
ILAR	**Eielson Array**	**65.86**	**336**	P		**P**		**20 11 26.5**	**-1.6**
comp=Z,0.3nm,0.5s,baz=159,slow=5.2,SNR=8.9									
WRA	**Warramunga Arr**	**138.96**	**254**	PKP		**PKPdf**		**20 20 10.2**	**+0.4**
WRA	**Warramunga Arr**	**138.96**	**254**	PKP		**PKPdf**		**20 20 10.2**	**+0.4**
comp=Z,0.5nm,0.5s,baz=90,slow=2.4,SNR=9.1									
CMAR	**Chiang Mai Arr**	**148.55**	**348**	PKPbc		**PKPdf**		**20 20 28.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**148.55**	**348**	PKPbc		**PKPdf**		**20 20 28.4**	**+1.8**
comp=Z,0.7nm,0.6s,baz=348,slow=3.7,SNR=7.0									

*IDC **02** 20:01:10.7±3.5, 41.°90N×84.°11E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.1/26, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=79.7km s-min=25.3km az=94.0*
*NNC **02** 20:01:21.1±4.1, 42.°59N×83.°59E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=34.3km s-min=14.1km az=127.0*
ISC 02 20:01:21.3±3.3, 42.°4N±0.°2×83.°7E±0.°2, h10km, n9, σ2°35/15, 10C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.53**	**348**	⇑Pn		**Pn**		**20 02 29.3**	**-0.6**
0.2nm,0.2s,baz=353,slow=12,SNR=87									
MK31				⇑Pg		**Pb**		**20 02 43.3**	**+2.4**
1.1nm,0.2s,baz=161,slow=16,SNR=21									
MK31				⇑Sn		**Sn**		**20 03 24.4**	**+1.8**
4.3nm,0.5s									
MK31				⇑Lg		Lg		20 03 39.8	
22nm,0.6s,baz=166,slow=27,SNR=7.8									
MKAR	**Makanchi Array**	**4.53**	**348**	Pn		**Pn**		**20 02 30.3**	**+0.4**
0.4nm,0.3s,baz=160,slow=15,SNR=16									
MKAR				Pg		**Pb**		**20 02 43.3**	**+2.5**
3.4nm,0.3s,baz=160,slow=16,SNR=37									
MKAR				Lg		Lg		20 03 49.5	
3.5nm,0.3s,baz=162,slow=27,SNR=7.4									
TKM2	**Tokmak 2**	**5.98**	**278**	⇑Pn		**Pn**		**20 02 47.6**	**-2.4**
1.7nm,0.5s									
TKM2				⇑Sn		**Sn**		**20 04 02.3**	**+3.6**
3.7nm,0.9s									
TKM2				⇓Lg		Lg		20 04 28.7	
7.5nm,0.8s									
AAK	**Ala-Archa**	**6.79**	**275**	⇑Pn		**Pn**		**20 03 02.7**	**+1.6**
1.3nm,0.7s									
AAK				⇓Sn		**Sn**		**20 04 15.8**	**-2.8**
6.1nm,0.8s									
AAK				⇑Lg		Lg		20 04 53.2	
5.4nm,0.7s									
KURBB	**Kurchatov Arra**	**8.98**	**339**	⇑Pn		**Pn**		**20 03 31.2**	**+0.2**
3.6nm,1.4s									
KURBB				⇓Sn		**Sn**		**20 05 08.4**	**-3.6**
3.2nm,1.1s									
KURBB				⇓Lg		Lg		20 06 01.1	
10nm,0.7s									
KURK	**Kurchatov**	**9.04**	**339**	⇓Pn		**Pn**		**20 03 31.7**	**0.0**
1.4nm,1.4s									
KURK				⇓Sn		**Sn**		**20 05 11.5**	**-2.0**
1.3nm,1.2s									
KURK				⇓Lg		Lg		20 06 01.1	
4.4nm,1.2s									
KK31	**Karatay Array**	**9.72**	**279**	⇓Pn		**Pn**		**20 03 39.8**	**-1.2**
0.2nm,0.3s,baz=146,slow=14,SNR=9.6									
KK31				⇑Sn		Px		20 04 29.5	
1.2nm,0.4s,baz=154,slow=23,SNR=8.9									
KK31				⇓Lg		Lg		20 04 41.7	
0.9nm,0.5s,baz=153,slow=26,SNR=4.5									
ZALV	**Zalesovo Beam**	**11.61**	**3**	Pn		**Pn**		**20 04 05.3**	**-1.6**
0.1nm,0.3s,baz=185,slow=14,SNR=2.6									
TORD	**Torodi Ar. Bea**	**75.38**	**275**	P		P		20 12 58.3	-7.0
0.2nm,0.4s,baz=40,slow=5.0,SNR=4.8									

*ISCJB **02** 20:05:52.7±0.7, 12.°5N±0.°1×142.°2E±0.°1, h27km, mb3.9/11, MS3.2/3, Error ellipse: s-maj=21.0km s-min=16.8km az=4.5*
*IDC **02** 20:05:53.7±1.0, 12.°49N×142.°25E, h22km±5km, mb3.7/11, mb1 3.9/11, mb1mx3.8/24, mbtmp3.7/11, MS3.2/3, Ms1 3.2/3, ms1mx2.9/33, Error ellipse: s-maj=25.1km s-min=19.0km az=100.0*
ISC 02 20:05:54.3±0.9, 12.°5N±0.°2×142.°2E±0.°2, h27km, n14, σ0°95/15, mb3.8/11, MS3.1/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**21.86**	**281**	*e*P		**P**		**20 10 45.6**	**+0.5**
KSRS	**Korea Array**	**27.95**	**335**	LR		LR		20 20 38.0	
comp=Z,42nm,19.7s,baz=358,slow=32									
ASAJ	**Asahikawa**	**31.51**	**1**	LR		LR		20 23 17.4	
comp=Z,43nm,20.2s,baz=136,slow=33									
WRA	**Warramunga Arr**	**33.15**	**194**	P		**P**		**20 12 27.6**	**-1.0**
1.3nm,1.0s,baz=16,slow=9.6,SNR=7.9									
ASAR	**Alice Springs**	**36.84**	**193**	P		**P**		**20 13 01.3**	**+0.9**
0.5nm,0.8s,baz=9.6,slow=12,SNR=6.8									
CMAR	**Chiang Mai Arr**	**42.04**	**284**	P		**P**		**20 13 44.2**	**+0.3**
0.9nm,0.9s,baz=80,slow=6.2,SNR=5.6									
CMAR				pP		**pP**		**20 13 51.1**	**-0.9**
1.1nm,0.8s,baz=82,slow=7.3,SNR=6.2									
SONM	**Songino Array**	**46.18**	**327**	P		**P**		**20 14 17.5**	**+0.7**
0.5nm,0.8s,baz=148,slow=8.5,SNR=3.0									
SONM				LR		LR		20 32 03.0	
comp=Z,44nm,20.2s,baz=80,slow=34									
MKAR	**Makanchi Array**	**60.49**	**317**	P		**P**		**20 16 02.4**	**+0.4**
4.3nm,0.8s,baz=93,slow=8.8,SNR=30									
MKAR				pP		**pP**		**20 16 09.6**	**-0.8**
1.9nm,0.7s,baz=88,slow=9.4,SNR=8.9									
ZALV	**Zalesovo Beam**	**61.02**	**325**	P		**P**		**20 16 05.6**	**+0.2**
1.4nm,0.6s,baz=111,slow=7.2,SNR=7.9									
ILAR	**Eielson Array**	**70.66**	**25**	P		**P**		**20 17 06.9**	**-0.4**
0.8nm,0.7s,baz=251,slow=6.0,SNR=12									
ILAR				pP		**pP**		**20 17 14.1**	**-1.8**
0.4nm,0.5s,baz=244,slow=6.1,SNR=3.8									
YKA	**Yellowknife Ar**	**85.01**	**27**	P		**P**		**20 18 28.0**	**+0.9**
0.1nm,0.4s,baz=286,slow=4.7,SNR=3.6									
ARCES	**ARCESS Array B**	**87.31**	**342**	P		**P**		**20 18 38.4**	**0.0**
4.0nm,0.9s,baz=67,slow=6.9,SNR=4.9									
NVAR	**Mina Array Bea**	**89.62**	**51**	P		**P**		**20 18 51.2**	**+1.0**
0.3nm,0.7s,baz=287,slow=3.7,SNR=3.6									
FINES	**FINESS Array B**	**91.04**	**334**	P		**P**		**20 18 54.7**	**-1.3**
4.2nm,1.2s,baz=63,slow=6.4,SNR=3.6									

IDC 02 20:06:01.4±2.3, 31.°26S×177.°78W, h0km, mb3.9/1, mb1 4.1/2, mb1mx3.7/18, mbtmp3.8/2, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=73.1km s-min=42.6km az=125.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.00**	**356**	LR		LR		20 07 05.3	
comp=Z,534nm,20.8s,

1.5nm,0.8s,baz=90,slow=7.0,SNR=20
ASAR Alice Springs 49.90 252 P **P** **20 34 19.2 +0.1**
6.5nm,0.7s,baz=86,slow=8.0,SNR=128
PETK Petropavlovsk- 72.30 342 P **P** **20 36 50.5 +0.2**
2.2nm,0.7s,baz=145,slow=8.8,SNR=3.9
NVAR Mina Array Bea 74.34 42 P **P** **20 37 03.0 0.0**
0.6nm,0.7s,baz=233,slow=9.7,SNR=4.5
TXAR Lajitas Array 80.72 56 P **P** **20 37 39.2 +0.5**
0.5nm,0.8s,baz=216,slow=6.2,SNR=6.1
ILAR Eielson Array 82.26 11 P **P** **20 37 45.6 -0.3**
1.0nm,0.9s,baz=235,slow=6.1,SNR=8.0
PDAR Pinedale Array 82.28 42 P **P** **20 37 46.5 -0.4**
0.7nm,0.6s,baz=211,slow=3.9,SNR=7.2
YKA Yellowknife Ar 89.99 23 P **P** **20 38 23.6 -0.4**
0.9nm,0.9s,baz=237,slow=4.5,SNR=12
GERES GERESS Array B 145.85 351 PKPbc **PKPab** **20 45 05.2 +0.4**
0.9nm,0.7s,baz=19,slow=4.5,SNR=7.4

*ISCJB **02** 20:43:31.9±0.8,21.8S±0.2×179.2W±0.2,h576km,mb3.4/6, Error ellipse: s-maj=32.8km s-min=17.3km az=135.7*
*IDC **02** 20:43:37.8±5.8,22.01S×179.20W,h645km±80km,mb2.9/6, mb1 3.3/7,mb1mx3.1/18,mbtmp3.0/7,Error ellipse: s-maj=62.0km s-min=27.4km az=171.0*
ISC 02 20:43:32.4±0.9,21.8S±0.2×179.1W±0.2,h576km,n10, σ1§39/9,**mb3.6/6,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.74**	**190**	P		**P**		**20 46 56.7**	**-0.7**
	2.0nm,0.3s,baz=340,slow=5.7,SNR=11								
STKA	**Stephens Creek**	**36.28**	**245**	P		**P**		**20 49 49.0**	**+0.7**
	0.9nm,0.4s,baz=124,slow=11,SNR=5.9								
WRA	**Warramunga Ar**	**43.38**	**264**	P		**P**		**20 50 45.7**	**+0.5**
	0.1nm,0.3s,baz=96,slow=7.8,SNR=11								
NVAR	**Mina Array Bea**	**82.68**	**44**	P		**P**		**20 54 57.3**	**+0.7**
	1.3nm,0.8s,baz=228,slow=8.9,SNR=8.1								
TXAR	**Lajitas Array**	**88.64**	**58**	P		**P**		**20 55 26.9**	**+1.6**
	0.8nm,1.0s,baz=237,slow=8.8,SNR=5.0								
ILAR	**Eielson Array**	**89.80**	**13**	P		**P**		**20 55 28.8**	**-0.9**
	0.8nm,1.0s,baz=220,slow=6.8,SNR=6.8								
PDAR	**Pinedale Array**	**90.62**	**44**	P		**P**		**20 55 34.5**	**+0.1**
	0.5nm,0.8s,baz=235,slow=5.2,SNR=4.4								
ARCES	**ARCESS Array B**	**129.98**	**349**	PKP		**PKPdf**		**21 01 34.1**	**-2.4**
	3.3nm,0.9s,baz=344,slow=3.9,SNR=4.3								
AKASG	**Malin Array Be**	**143.59**	**329**	PKP		PKPab		21 01 60.0	-0.9
	1.6nm,0.6s,baz=42,slow=4.3,SNR=19								
GERES	**GERESS Array B**	**151.12**	**342**	PKPbc		**PKPbc**		**21 02 20.3**	**-0.8**
	0.7nm,0.7s,baz=31,slow=3.1,SNR=6.1								

*IDC **02** 20:44:34.7±1.4,55.47N×159.86E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.4/25,mbtmp3.5/4,Error ellipse: s-maj=40.6km s-min=37.6km az=38.0*
*ISCJB **02** 20:44:56.9±0.7,55.55N±0.04×160.39E±0.09, h184km±5km,mb3.2/4,Error ellipse: s-maj=9.9km s-min=5.2km az=37.4*
*KRSC **02** 20:44:57.1±1.4,55.51N×160.39E,h176km±13km,ML3.8*
ISC 02 20:44:56.7±0.9,55.57N±0.05×160.29E±0.06,h186km±7km, n38,σ1§06/47,**mb3.1/4,Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.19**	**351**	*e*P			**Pn**	**20 45 22.3**	**+0.8**
TUMR	**Tumrok**	**0.30**	**196**	*i* P			**Pn**	**20 45 22.8**	**+1.0**
BZMR	**Bezymyannaya**	**0.39**	**17**	*e*P			**Pn**	**20 45 22.7**	**+0.7**
KIRR	**Kirishev**	**0.39**	**5**	*e*P			**Pn**	**20 45 22.0**	**0.0**
KPT	**Kopyto**	**0.40**	**355**	*e*P			**Pn**	**20 45 22.1**	**+0.2**
BZWR	**Bezymyannyi-We**	**0.41**	**16**	*e*P			**Pn**	**20 45 22.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**0.44**	**32**	*e*P			**Pn**	**20 45 23.0**	**+0.9**
KZV	**Kizimen**	**0.46**	**180**	*e*P			**Pn**	**20 45 23.2**	**+0.9**
ZLN	**Zelenaya**	**0.54**	**33**	*e*P			**Pn**	**20 45 23.5**	**+1.0**
KOZ	**Kozyrevsk**	**0.55**	**335**	*e*P			**Pn**	**20 45 22.4**	**0.0**
LGNR	**Loginova**	**0.56**	**24**	*e*P			**Pn**	**20 45 23.9**	**+1.1**
CIRR	**Tsirk**	**0.61**	**25**	P			**Pn**	**20 45 23.9**	**+1.1**
KRSR	**Krestovskiy**	**0.67**	**13**	*e*P			**Pn**	**20 45 23.4**	**+0.3**
KLY	**Klyuchi**	**0.78**	**15**	*i* P			**Pn**	**20 45 24.1**	**+0.6**
KLY				*i* S			**Sn**	**20 45 44.7**	**+0.3**
SRDR	**Sredinnyy**	**0.82**	**337**	*e*P			**Pn**	**20 45 23.8**	**-0.1**
SRDR				*e*S			**Sn**	**20 45 44.1**	**-0.9**
ESO	**Esso**	**0.97**	**292**	*i* P			**Pn**	**20 45 25.0**	**+0.2**
ESO				*i* S			**Sn**	**20 45 46.0**	**-0.6**
BDR	**Baidarnaya**	**1.13**	**27**	*e*P			**Pn**	**20 45 26.9**	**+0.9**
BDR				*e*S			**Sn**	**20 45 49.4**	**+0.5**
SRKR	**Sorokina**	**1.20**	**24**	*e*P			**Pn**	**20 45 26.9**	**+0.3**
SRKR				*e*S			**Sn**	**20 45 49.5**	**-0.4**
SMKR	**Semkarok**	**1.21**	**33**	*e*P			**Pn**	**20 45 27.0**	**+0.3**
SMKR				*e*S			**Sn**	**20 45 49.6**	**-0.5**
KBG	**Krutoberegovo**	**1.53**	**62**	*i* P			**Pn**	**20 45 29.4**	**+0.1**
KBG				*i* S			**Sn**	**20 45 53.8**	**-0.9**
KBTR	**Krutoberegovo**	**1.56**	**65**	*e*P			**Pn**	**20 45 29.6**	**-0.1**
KBTR				*e*S			**Sn**	**20 45 53.9**	**-1.5**
GNL	**Ganaly**	**2.32**	**217**	*e*P			**Pn**	**20 45 38.7**	**+0.9**
KRX	**Arik**	**2.41**	**204**	P			**Pn**	**20 45 40.6**	**+1.7**
SDLR	**Sedlovina**	**2.44**	**200**	P			**Pn**	**20 45 40.1**	**+1.0**
KRER	**Koryakskii**	**2.44**	**202**	P			**Pn**	**20 45 41.3**	**+2.0**
NLC	**Nalytchevo**	**2.46**	**193**	P			**Pn**	**20 45 39.6**	**+0.3**
NLC				*e*S			**Sn**	**20 46 11.4**	**-1.0**
SMAR	**Somma**	**2.47**	**201**	P			**Pn**	**20 45 39.5**	**-0.1**
KOK	**Koryaka**	**2.48**	**204**	P			**Pn**	**20 45 41.4**	**+1.8**
AVH	**Avacha**	**2.48**	**202**	P			**Pn**	**20 45 39.7**	**+0.1**
UGLR	**Uglovaya**	**2.51**	**201**	P			**Pn**	**20 45 40.8**	**+0.8**
PET	**Petropavlovsk**	**2.72**	**201**	S			**Sn**	**20 46 17.0**	**-0.8**
BKI	**Bering**	**3.26**	**94**	*i* P			**Pn**	**20 45 49.5**	**+0.8**
BKI				*i* S			**Sn**	**20 46 28.1**	**-1.3**
RUS	**Russkaya**	**3.31**	**199**	S			**Sn**	**20 46 27.0**	**-3.5**
MTVR	**Mutnovka**	**3.33**	**203**	S			**Sn**	**20 46 31.5**	**+0.3**
MKAR	**Makanchi Array**	**47.22**	**294**	P		P		20 53 07.7	-2.8
	0.1nm,0.3s,baz=60,slow=8.5,SNR=6.2								
FINES	**FINESS Array B**	**57.90**	**336**	P		**P**		**20 54 27.4**	**-1.1**
	2.0nm,1.0s,baz=26,slow=8.3,SNR=7.9								
TXAR	**Lajitas Array**	**69.58**	**68**	P		**P**		**20 55 47.3**	**+1.9**
	0.1nm,0.5s,baz=309,slow=5.7,SNR=2.9								
WRA	**Warramunga Arr**	**78.38**	**205**	P		**P**		**20 56 35.6**	**-0.6**
	0.8nm,1.0s,baz=14,slow=5.7,SNR=4.1								

*ISCJB **02** 21:25:13.0±1.0,3.02N±0.10×77.15W±0.09,h33km, mb3.6/5,MS2.7/2,Error ellipse: s-maj=15.7km s-min=10.9km az=136.7*
*IDC **02** 21:25:20.1±3.2,3.30N×76.90W,h108km±29km,mb3.3/5, mb1 3.6/7,mb1mx3.3/25,mbtmp3.5/7,MS2.8/2,Ms1 2.8/2, ms1mx2.3/22,Error ellipse: s-maj=29.5km s-min=17.9km az=79.0*
ISC 02 21:25:13.3±0.9,3.1N±0.1×77.3W±0.1,h35km,n11,σ2§02/9, **mb3.6/5,Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.39**	**60**	P			**Pn**	**21 26 05.6**	**+1.5**
	26nm,0.3s,baz=284,slow=3.0,SNR=42								
ROSC				S			**Sn**	**21 26 43.0**	**-0.3**
	18nm,0.3s,baz=85,slow=22,SNR=7.7								
APG	**El Apazote**	**17.55**	**313**	P			**P**	**21 29 18.6**	**+2.2**
	1.4nm,0.3s,baz=90,slow=7.1,SNR=3.5								
LPAZ	**La Paz**	**21.32**	**155**	P			**P**	**21 29 58.2**	**+0.3**
	0.8nm,0.5s,baz=319,slow=10,SNR=2.6								
SIV	**San Ignacio**	**24.86**	**140**	P			**P**	**21 30 30.5**	**-2.4**
	0.9nm,0.5s,baz=336,slow=13,SNR=3.6								
SIV				LR		LR		21 40 21.2	
	comp=Z,52nm,18.4s,slow=36								
CFAA	**Coronel Fontan**	**35.61**	**167**	LR		LR		21 48 23.0	
	comp=Z,4.9nm,20.7s,baz=278,slow=39								
PLCA	**Paso Flores**	**44.10**	**173**	P			**P**	**21 33 20.0**	**+1.7**
	2.2nm,0.8s,baz=357,slow=5.7,SNR=5.4								
YKA	**Yellowknife Ar**	**65.36**	**342**	P			**P**	**21 35 50.3**	**-1.6**
	0.5nm,0.6s,baz=136,slow=6.2,SNR=9.0								
TORD	**Torodi Ar. Bea**	**78.55**	**77**	P			P	21 37 07.8	-4.1
	0.3nm,0.6s,baz=282,slow=4.5,SNR=4.2								
MKAR	**Makanchi Array**	**127.10**	**18**	PKP			**PKPdf**	**21 44 11.8**	**-2.4**
	0.2nm,1.0s,baz=358,slow=1.9,SNR=4.0								
ASAR	**Alice Springs**	**143.62**	**233**	PKP			PKPab	21 44 42.1	+0.1
	0.7nm,0.6s,baz=121,slow=2.3								
WRA	**Warramunga Arr**	**144.93**	**239**	PKPbc			**PKPab**	**21 44 46.3**	**-0.7**
	0.6nm,0.7s,baz=116,slow=2.7,SNR=7.5								

*IDC **02** 21:49:04.6±4.5,17.74S×69.18W,h168km±24km,mb3.5/4, mb1 3.5/6,mb1mx3.3/19,mbtmp3.5/6,Error ellipse: s-maj=58.0km s-min=29.2km az=33.0*
ISC 02 21:48:57.5±1.7,18.3S±0.2×69.5W±0.2,h126km,n10, σ1§92/7,**mb3.8/3,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.36**	**33**	P			**Pn**	**21 49 38.4**	**+2.0**
	24nm,0.3s,baz=223,slow=6.7,SNR=589								
LPAZ				S			**Sn**	**21 50 05.5**	**-0.5**
	3.1nm,0.3s,baz=45,slow=20,SNR=2.6								
SIV	**San Ignacio**	**8.34**	**75**	P			**Pn**	**21 50 57.2**	**+1.5**
	0.7nm,0.3s,baz=282,slow=9.1,SNR=9.3								
H03N1	**Juan Fernandez**	**17.31**	**207**	T			T	22 11 06.8	
	baz=27,slow=75,SNR=6.1								
H03N2	**Juan Fernandez**	**17.32**	**208**	T			T	22 10 51.4	
	baz=27,slow=75,SNR=6.7								
H03N3	**Juan Fernandez**	**17.33**	**207**	T			T	22 10 52.4	
	baz=27,slow=75,SNR=5.8								
PTGA	**Pitinga**	**19.78**	**29**	P			**P**	**21 53 15.4**	**-2.6**
	1.4nm,0.3s,baz=301,slow=23,SNR=4.6								
BDFB	**Brasilia**	**20.69**	**86**	P			Pn	21 53 30.2	-1.4
	1.7nm,0.4s,baz=218,slow=6.6,SNR=3.9								
DBIC	**Dimbokro**	**68.37**	**75**	P			**P**	**21 59 45.2**	**-0.7**
	2.7nm,0.8s,baz=162,slow=6.0,SNR=4.7								
TORD	**Torodi Ar. Bea**	**76.80**	**71**	P			**P**	**22 00 35.4**	**-0.5**
	0.9nm,0.5s,baz=259,slow=5.0,SNR=6.6								
YKA	**Yellowknife Ar**	**87.99**	**341**	P			**P**	**22 01 33.7**	**+0.9**
	0.3nm,0.6s,baz=131,slow=4.6,SNR=7.7								

*ISCJB **02** 21:56:18.6±0.9,24.91N±0.07×127.20E±0.06,h30km, mb3.7/3,Error ellipse: s-maj=11.9km s-min=3.7km az=144.5*
*IDC **02** 21:56:18.1±2.4,25.79N×127.70E,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.5/22,mbtmp3.9/3,Error ellipse: s-maj=146.3km s-min=29.3km az=66.0*
*JMA **02** 21:56:21.1±0.2,25.01N×127.12E,h46km,M3.0*
ISC 02 21:56:18.8±1.1,24.85N±0.07×127.26E±0.05,h30km,n16, σ1§17/26,**mb3.6/3,Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.36**	**19**	P			**Pb**	**21 56 42.7**	**-1.0**
JJT2				*e*S			**Sn**	**21 56 58.7**	**-0.1**
JKE	**Kume jima 2**	**1.53**	**344**	P			**Pn**	**21 56 44.0**	**-0.2**
JOGS	**Gusukube**	**1.68**	**267**	P			**Pn**	**21 56 47.2**	**+1.0**
JOGS				*e*S			**Sn**	**21 57 06.5**	**-0.3**
JAGN	**Aguni-jima**	**1.74**	**360**	P			**Pn**	**21 56 47.4**	**+0.5**
JAGN				*e*S			**Sn**	**21 57 06.5**	**-1.6**
JMJ	**Miyako jima 2**	**1.78**	**269**	*e*S			**Sn**	**21 57 09.3**	**+0.1**
JOW	**Kunigami**	**2.18**	**25**	P			**Pn**	**21 56 55.1**	**+2.0**
JOW				*e*S			**Sn**	**21 57 18.3**	**-0.8**
JIH	**Iheya**	**2.27**	**16**	P			**Pn**	**21 56 55.6**	**+1.3**
JIH				*e*S			**Sn**	**21 57 20.4**	**-0.9**
JTJ	**Tarama**	**2.33**	**266**	P			**Pn**	**21 56 55.8**	**+0.7**
JTJ				*e*S			**Sn**	**21 57 21.3**	**-1.5**
JIJ	**Ishigaki jima**	**2.87**	**261**	P			**Pn**	**21 57 02.8**	**+0.2**
JIJ				*e*S			**Sn**	**21 57 34.6**	**-1.6**
JTK	**Tokunoshima**	**3.30**	**27**	P			**Pn**	**21 57 09.4**	**+1.0**
JTK				*e*S			**Sn**	**21 57 47.1**	**+0.4**
JMZ	**Minamidaito 2**	**3.72**	**74**	P			**Pn**	**21 57 14.7**	**+0.5**
JMZ				*e*S			**Sn**	**21 57 55.0**	**-1.9**
JAMN	**Amaminishikomi**	**3.79**	**27**	P			**Pn**	**21 57 16.4**	**+1.2**
JAMN				*e*S			**Sn**	**21 57 58.7**	**-0.2**
JAM	**Amami Oshima**	**4.13**	**30**	P			**Pn**	**21 57 20.6**	**+0.8**
JAM				*e*S			**Sn**	**21 58 04.5**	**-2.6**
MKAR	**Makanchi Array**	**41.82**	**313**	P			**P**	**22 04 06.4**	**+0.6**
	0.5nm,0.4s,baz=97,slow=9.8,SNR=34								
WRA	**Warramunga Arr**	**45.05**	**171**	P			P	22 04 42.6	+11
	0.8nm,0.9s,baz=353,slow=8.8,SNR=5.1								
FINES	**FINESS Array B**	**73.63**	**331**	P			**P**	**22 07 49.6**	**+0.5**
	2.7nm,1.0s,baz=48,slow=2.1,SNR=4.5								

MAN 02 22:08:00,16.92N×122.27E,h28km,mb4.5,ML3.3,MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.21**	**46**	*e*P			Pb	22 08 06.1	0.0
CAUP	**Cauayan**	**0.43**	**274**	*e*P			Pn	22 08 10.5	+0.2
APYP	**Conner**	**1.36**	**314**	*e*P			Pn	22 08 23.9	+0.8
APYP				*e*S			Sn	22 08 40.8	+0.6

*TEH **02** 22:13:08.9,36.84N×59.42E,h26km,ML4.0*
*ISCJB **02** 22:13:08.8±0.3,36.88N±0.03×59.41E±0.04,h10km, mb3.6/5,MS2.6/1,Error ellipse: s-maj=4.6km s-min=4.0km az=4.2*
*IDC **02** 22:13:08.3±1.6,36.87N×59.24E,h0km,mb3.8/4, mb1 3.8/10,mb1mx3.6/27,mbtmp3.8/10,ML3.9/5,MS2.7/3, Ms1 2.7/3,ms1mx2.3/34,Error ellipse: s-maj=27.7km s-min=16.0km az=6.0*
*CSEM **02** 22:13:09.6±0.2,36.86N×59.62E,h2km,ML4.0,Error ellipse: s-maj=7.1km s-min=6.3km az=110.0*
*THR **02** 22:13:12.8±1.5,36.77N×59.56E,h40km,ML3.7*
*NNC **02** 22:13:19.6±4.2,37.78N×60.14E,h0km,mb3.9,Error ellipse: s-maj=40.7km s-min=23.8km az=22.0*
ISC 02 22:13:10.1±0.6,36.83N±0.04×59.55E±0.04,h10km,n54, σ1§85/59,**mb3.9/5,11C-4D,Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ISRO	**Mashad**	**0.53**	**187**	↑*e*Pg			**Pg**	**22 13 19.2**	**-1.2**
ISRO				*e*Sg			**Sg**	**22 13 26.8**	**-0.5**
ISRO	**Mashad**	**0.53**	**187**	↑*e*Pg			**Pg**	**22 13 19.2**	**-1.2**
ISRO				*e*Sg			**Sg**	**22 13 26.8**	**-0.5**
IPAY	**Payeh**	**0.59**	**230**	*e*Pg			Pg	22 13 19.1	-2.4
IPAY				*e*Sg			**Sg**	**22 13 27.1**	**-2.3**
IPAY				*e*				22 13 27.9	
	comp=Z,4μm,0.1s								
IMYA	**Miami**	**0.66**	**138**	↑*e*Pg			**Pg**	**22 13 22.8**	**-0.1**
IMYA				*e*Sg			**Sg**	**22 13 33.7**	**+2.1**
IMYA				*e*				22 13 37.6	
	comp=Z,58μm,0.1s								
IMYA	**Miami**	**0.66**	**138**	↑*e*Pg			**Pg**	**22 13 22.8**	**-0.1**
IMOG	**Moghan**	**0.74**	**193**	↓*e*Pn			Pg	22 13 23.3	-1.2
IMOG				*e*				22 13 36.2	
	comp=Z,67μm,0.2s								
IQHU	**Qucahn**	**0.84**	**287**	*e*Pg			Pg	22 13 22.7	-3.7
IQHU				*e*				22 13 37.6	
	comp=Z,93μm,0.1s								
ISHV	**Shirvan**	**1.63**	**296**	*e*Pg			**Pn**	**22 13 37.1**	**-2.1**
ISHV				*e*				22 14 07.9	
	comp=Z,36μm,0.2s								
BJRD	**Bojnurd**	**1.92**	**298**	*e*Pg			**Pg**	**22 13 47.2**	**+0.3**
BJRD				*e*Sg			**Sg**	**22 14 14.3**	**+2.5**
	comp=Z,1μm,1.3s								
BJRD	**Bojnurd**	**1.92**	**298**	*e*Pg			**Pg**	**22 13 47.2**	**+0.3**
BJRD				*e*Sg			**Sg**	**22 14 14.3**	**+2.5**
BJRD				AML		AML		22 14 21.6	
	comp=N,695nm,1.3s								
BJRD				AML		AML		22 14 24.8	
	comp=E,1μm,1.3s								
MRVT	**Maraveh tapeh**	**2.88**	**288**	*e*Pn			**Pn**	**22 13 58.7**	**+2.5**
	comp=E,138nm,0.9s								
MRVT	**Maraveh tapeh**	**2.88**	**288**	*e*Pn			**Pn**	**22 13 58.7**	**+2.5**
MRVT				AML		AML		22 14 51.5	
	comp=N,172nm,0.7s								
MRVT				AML		AML		22 14 52.3	
	comp=E,138nm,0.8s								
SHRO	**Shahrood**	**2.98**	**255**	*e*Pn			**Pn**	**22 13 58.5**	**+1.0**
SHRO	**Shahrood**	**2.98**	**255**	*e*Pn			**Pn**	**22 13 58.5**	**+1.0**
SHRT	**Shahrakht**	**3.24**	**169**	*e*Pn			**Pn**	**22 14 02.5**	**+1.4**
SHRT	**Shahrakht**	**3.24**	**169**	*e*Pn			**Pn**	**22 14 02.5**	**+1.4**
TABS	**Tabas**	**3.75**	**213**	*e*Pn			**Pn**	**22 14 09.4**	**+1.3**
TABS	**Tabas**	**3.75**	**213**	*e*Pn			**Pn**	**22 14 09.4**	**+1.3**
KK31	**Karatay Array**	**10.48**	**50**	Pn			**Pn**	**22 15 39.8**	**-0.6**
	comp=E,0.7nm,0.4s,baz=238,slow=15,SNR=20								
KK31				↑Sn			Sn	22 17 30.0	-7.9
	comp=E,10nm,0.9s,baz=242,slow=26,SNR=2.7								
KK31	**Karatay Array**	**10.48**	**50**	Pn			**Pn**	**22 15 39.8**	**-0.6**
	comp=E,0.7nm,0.4s,baz=238,SNR=20								
GNI	**Garni**	**12.07**	**290**	Pn			**Pn**	**22 16 00.1**	**-2.2**
	comp=E,0.2nm,0.3s,baz=302,slow=19,SNR=2.8								
AB31	**Akbulak array**	**12.42**	**1**	Pn			Pn	22 16 02.8	-4.0
	comp=E,1.0nm,0.5s,baz=256,slow=61,SNR=53								
AB31				↑Sn			Sn	22 18 14.6	-11
	comp=E,4.4nm,0.6s,baz=187,slow=24,SNR=6.1								
AAK	**Ala-Archa**	**12.87**	**59**	↑Pn			**Pn**	**22 16 13.7**	**+0.4**
	comp=E,1.3nm,0.5s								
AAK				↑Sn			**Sn**	**22 18 31.2**	**-5.4**
	comp=E,7.7nm,1.1s								
AAK	**Ala-Archa**	**12.87**	**59**	Pn			**Pn**	**22 16 13.1**	**-0.2**
	comp=E,1.0nm,0.3s,baz=211,slow=4.5,SNR=19								
AAK				Sn			**Sn**	**22 18 35.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=243,slow=18,SNR=3.8								
AAK				LR			LR	22 21 56.9	
	comp=E,25nm,18.5s,baz=17,slow=40								
AAK	**Ala-Archa**	**12.87**	**59**	Pn			**Pn**	**22 16 13.7**	**+0.4**
	comp=E,1.3nm,0.5s								
AKTO	**Aktyubinsk**	**13.64**	**356**	↑Pn			**Pn**	**22 16 21.5**	**-2.0**
	comp=E,1.6nm,0.4s								
AKTO				↑Sn			Sn	22 18 47.1	-8.0
	comp=E,5.4nm,0.5s								
AKTO	**Aktyubinsk**	**13.64**	**356**	Pn			**Pn**	**22 16 21.0**	**-2.5**
	comp=E,0.9nm,0.3s,baz=180,slow=13,SNR=16								
AKTO				Sn			Sn	22 18 44.7	-10
	comp=E,0.4nm,0.3s,baz=43,slow=18,SNR=4.0								
AKTO				LR			LR	22 22 25.3	
	comp=E,32nm,21.0s,baz=204,slow=41								
AKTO	**Aktyubinsk**	**13.64**	**356**	Pn			**Pn**	**22 16 21.5**	**-2.0**
	comp=E,1.6nm,0.4s								
TKM2	**Tokmak 2**	**13.73**	**59**	↓Pn			**Pn**	**22 16 24.7**	**-0.3**
	comp=E,1.4nm,0.6s								
TKM2				↑Sn			**Sn**	**22 18 53.5**	**-4.2**
	comp=E,2.6nm,0.8s								
TKM2	**Tokmak 2**	**13.73**	**59**	Pn			**Pn**	**22 16 24.7**	**-0.3**
	comp=E,1.4nm,0.6s								
BRVK	**Borovoye**	**17.88**	**21**	↓P			**P**	**22 17 20.1**	**+0.7**
	comp=E,4.3nm,0.8s								
BRVK	**Borovoye**	**17.88**	**21**	P			**P**	**22 17 20.1**	**+0.7**
	comp=E,4.3nm,0.8s								
BVA0	**Borovoye Array**	**17.88**	**22**	P			**P**	**22 17 20.2**	**+0.7**
	comp=E,1.8nm,0.5s,baz=267,slow=39,SNR=11								
BVA0	**Borovoye Array**	**17.88**	**22**	P			**P**	**22 17 20.2**	**+0.7**
	comp=E,1.8nm,0.5s,SNR=11								
BVAR	**Borovoye Array**	**17.88**	**22**	P			**P**	**22 17 19.4**	**-0.1**
	comp=E,0.6nm,0.3s,baz=192,slow=12,SNR=9.7								
KURBB	**Kurchatov Arra**	**19.37**	**39**	P			**Pn**	**22 17 36.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=232,slow=10,SNR=4.1								
MK31	**Makanchi Array**	**19.59**	**52**	↓P			**P**	**22 17 38.4**	**0.0**
	comp=E,2.1nm,1.2s,baz=250,slow=7.0,SNR=11								
MK31	**Makanchi Array**	**19.59**	**52**	P			**P**	**22 17 38.4**	**0.0**
	comp=E,2.1nm,1.2s,SNR=11								
MKAR	**Makanchi Array**	**19.59**	**52**	P			**P**	**22 17 39.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=247,slow=9.7,SNR=6.9								
DANN	**Dangsing**	**22.04**	**106**	*e*P			**P**	**22 18 07.3**	**+2.1**
	comp=E,10nm,0.5s								
KOLN	**Koldanda**	**22.20**	**107**	*e*P			**P**	**22 18 10.7**	**+3.9**
	comp=E,9.4nm,0.7s								
GKN	**Gorkha**	**22.88**	**105**	*e*P			**P**	**22 18 16.0**	**+1.9**
DMN	**Daman**	**23.44**	**106**	*e*P			**P**	**22 18 21.9**	**+2.0**
	comp=E,15nm,0.8s								
KKN	**Kakani**	**23.48**	**105**	*e*P			**P**	**22 18 22.8**	**+2.5**
	comp=E,7.9nm,0.6s								
PKI	**Pulchoki**	**23.69**	**106**	*e*P			**P**	**22 18 24.9**	**+2.5**
	comp=E,12nm,0.6s								
GUN	**Gumba**	**23.89**	**104**	*e*P			**P**	**22 18 26.2**	**+1.8**
	comp=E,24nm,0.7s								
JIRN	**Jiri**	**24.25**	**104**	*e*P			**P**	**22 18 28.8**	**+1.0**
	comp=E,13nm,0.5s								
ZALV	**Zalesovo Beam**	**24.45**	**38**	P			**P**	**22 18 30.1**	**+1.2**
	comp=E,2.2nm,0.6s,baz=248,slow=8.0,SNR=9.7								
ZALV				LR			LR	22 29 35.2	
	comp=E,17nm,19.1s,baz=264,slow=40								
RAMN	**Ramite**	**24.92**	**106**	*e*P			**P**	**22 18 36.1**	**+2.4**
	comp=E,11nm,0.8s								
TAPN	**Taplejung**	**25.58**	**104**	*e*P			**P**	**22 18 42.4**	**+2.6**
	comp=E,13nm,1.0s								
AKASG	**Malin Array Be**	**25.70

PB06 eS S 22 53 50.6 -1.1
PB06 AML AML 22 53 53.4
comp=E,600nm,0.2s
CEN1 Los Morros 3.04 285 eP Pn **22 53 20.2 +2.7**
CEN1 eS S **22 53 57.2 +0.6**
ANCH Antofagasta 3.16 279 ||iP Pn **22 53 19.8 +1.0**
ANCH iS S **22 53 57.5 -1.6**
ANCH AML AML 22 54 00.3
comp=E,255nm,0.1s
PB09 Plate Boundary 3.18 319 iP Pn **22 53 21.1 +1.9**
PB09 iS S **22 53 59.5 -0.2**
PB09 AML AML 22 54 01.2
comp=N,790nm,0.5s
MACH Maria Elena 3.24 308 iS S **22 54 00.6 -0.6**
PB10 Plate Boundary 3.33 282 ||iP Pn **22 53 22.2 +1.4**
PB10 iS S **22 54 01.1 -1.5**
PB10 AML AML 22 54 08.6
comp=N,374nm,0.4s
PATCX Punta Patache 4.47 319 eP Pn **22 53 35.7 +0.5**
PATCX eS S **22 54 26.2 -2.1**
ACLC CERRO LA CRUZ 5.18 180 iP Pn **22 53 44.3 +0.1**
MNMC Minimini 5.62 334 ||jP Pn **22 53 49.8 -0.2**
MNMC iS S **22 54 52.7 -2.4**
ACHE Chepes 6.92 178 iP Pn **22 54 06.7 0.0**
CFAA Coronel Fontan 7.43 188 P Pn **22 54 13.6 +0.3**
comp=N,0.1nm,0.3s,baz=7.0,slow=14,SNR=4.9
CFAA S S **22 55 33.6 -3.7**
comp=N,0.2nm,0.3s,baz=318,slow=17,SNR=7.9
LPAZ La Paz 7.97 352 P Pn **22 54 21.7 +0.8**
comp=N,0.4nm,0.3s,baz=146,slow=6.2,SNR=20
LPAZ S S **22 55 47.9 -3.3**
comp=N,0.1nm,0.3s,baz=252,slow=20,SNR=2.7
CPUP Villa Florida 9.00 105 P Pn **22 54 34.4 +0.6**
comp=N,0.3nm,0.3s,baz=249,slow=8.6,SNR=2.4
SIV San Ignacio 9.91 35 P Pn **22 54 46.4 +0.8**
comp=N,0.9nm,0.3s,baz=247,slow=11,SNR=10
BDFB Brasilia 19.77 68 P P **22 56 43.7 +0.9**
comp=N,0.4nm,0.3s,baz=249,slow=8.4,SNR=3.9
TORD Torodi Ar. Bea 76.65 69 P P **23 03 57.0 +0.1**
comp=N,0.2nm,0.6s,baz=249,slow=5.4,SNR=4.8
MKAR Makanchi Array 146.70 40 PKPbc **PKPab 23 11 47.4 -0.1**
comp=N,0.2nm,0.4s,baz=328,slow=2.8,SNR=4.5

IDC ***02*** *22:58:15.3±14.0, 41.˝62N×140.˝86E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=366.6km s-min=36.0km az=170.0*
ISCJB ***02*** *22:58:23.6±0.6, 41.˝19N±0.˝04×141.˝09E±0.˝08, h106km±4km, mb3.6/4, Error ellipse: s-maj=10.3km s-min=6.7km az=166.7*
JMA ***02*** *22:58:24.3±0.1, 41.˝21N×141.˝15E, h99km±1km, M2.7*
ISC 02 22:58:24.4±1.0, 41.˝19N±0.˝04×141.˝10E±0.˝06, h100km±7km, n19, σ0$55/27, mb3.7/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.20**	**349**	P		**Pn**		**22 58 38.4**	**-0.1**
JTM	**Tenmabayashi**	**0.40**	**183**	P		**Pn**		**22 58 39.5**	**0.0**
JTM				S		**Sn**		**22 58 50.6**	**-0.1**
JSI2	**Shiura 2**	**0.54**	**256**	P		**Pn**		**22 58 40.7**	**+0.3**
JSI2				eS		**Sn**		**22 58 53.1**	**+0.8**
JSR	**Shiriuchi**	**0.61**	**304**	P		**Pn**		**22 58 41.0**	**0.0**
JSR				S		**Sn**		**22 58 53.1**	**-0.4**
JKB	**Kayabe**	**0.70**	**356**	P		**Pn**		**22 58 41.8**	**0.0**
JKB				eS		**Sn**		**22 58 54.9**	**+0.1**
JANG	**Nango**	**0.87**	**159**	P		**Pn**		**22 58 43.1**	**-0.4**
JANG				S		**Sn**		**22 58 57.1**	**-0.7**
JIW	**Iwasaki**	**1.02**	**235**	P		**Pn**		**22 58 45.4**	**+0.4**
JIW				eS		**Sn**		**22 59 01.5**	**+1.0**
JAH	**Hinai**	**1.06**	**200**	P		**Pn**		**22 58 46.0**	**+0.6**
JYM2	**Yakumo 2**	**1.08**	**330**	P		**Pn**		**22 58 45.9**	**+0.3**
JYM2				eS		**Sn**		**22 59 02.1**	**+0.5**
JNB	**Noboribetsu**	**1.28**	**358**	P		**Pn**		**22 58 48.1**	**+0.1**
JOSM	**Okushiri--Mats**	**1.51**	**307**	P		**Pn**		**22 58 50.4**	**-0.3**
JOSM				eS		**Sn**		**22 59 10.6**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.65**	**48**	P		**Pn**		**22 58 53.1**	**+0.6**
JSH	**Shimam**	**1.65**	**332**	P		**Pn**		**22 58 52.9**	**+0.4**
JEW	**Eniwo**	**1.67**	**9**	P		**Pn**		**22 58 53.3**	**+0.6**
JOM	**Ohasama**	**1.72**	**175**	P		**Pn**		**22 58 54.0**	**+0.6**
ZALV	**Zalesovo Beam**	**39.03**	**309**	P		**P**		**23 05 40.0**	**-1.1**
	0.8nm,0.5s,baz=90,slow=10,SNR=5.3								
MKAR	**Makanchi Array**	**41.82**	**298**	P		**P**		**23 06 03.7**	**-0.5**
	0.5nm,0.6s,baz=86,slow=10,SNR=11								
KURBB	**Kurchatov Arra**	**43.35**	**305**	P		**P**		**23 06 15.6**	**-0.8**
	0.7nm,0.4s,baz=79,slow=9.0,SNR=12								
ILAR	**Eielson Array**	**46.16**	**34**	P		**P**		**23 06 39.1**	**+0.6**
	0.3nm,0.6s,baz=277,slow=8.2,SNR=4.5								

BJI ***02*** *23:05:47.7, 51.˝17N×31.˝32W, h9km, mB5.1/5, mb4.7/16, Ms4.9/5, Ms7 4.5/3*
IDC ***02*** *23:05:56.4±0.7, 52.˝10N×30.˝08W, h0km, mb4.0/21, mb1 4.2/23, mb1mx4.1/35, mbtmp4.0/23, ML4.2/2, MS3.5/23, Ms1 3.6/23, ms1mx3.5/38, Error ellipse: s-maj=19.5km s-min=11.5km az=15.0*
MOS ***02*** *23:05:57.2±0.9, 52.˝21N×29.˝85W, h10km, mb4.7/35, Error ellipse: s-maj=9.8km s-min=6.4km az=147.8*
NEIC ***02*** *23:05:57.7±0.4, 52.˝12N×30.˝06W, h10km, mb4.7/32, Error ellipse: s-maj=8.7km s-min=4.7km az=202.0*
CSEM ***02*** *23:05:57.6±0.2, 52.˝15N×30.˝06W, h10km, mb4.4/56, Ms3.3, Error ellipse: s-maj=8.5km s-min=4.6km az=23.0*
ISCJB ***02*** *23:05:58.2±2.0, 52.˝07N±0.˝06×30.˝11W±0.˝07, h27km±14km, mb4.3/93, MS3.6/26, Error ellipse: s-maj=11.4km s-min=6.2km az=22.6*
ISC 02 23:05:58.7±0.6, 52.˝15N±0.˝08×30.˝07W±0.˝06, h17km±2km, h16km:pP-P, n357, σ1$15/357, mb4.4/93, MS3.5/26, 20C-16D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VAL	**Valentia**	**12.21**	**83**	eP			Pn	23 08 47.7	-4.0
VAL	**Valentia**	**12.21**	**83**	||iS		Sn	23 10 58.9	-8.3
BORG	**Borgarnes**	**13.42**	**16**	Pn			**Pn**	**23 09 07.4**	**-0.7**
BORG	**Borgarnes**	**13.42**	**16**	Pn			**Pn**	**23 09 07.4**	**-0.7**
	0.3nm,0.3s,baz=232,slow=15,SNR=1.9								
BORG	**Borgarnes**	**13.42**	**16**	P			**Pn**	**23 09 07.4**	**-0.7**
ESK	**Eskdalemuir**	**16.17**	**68**	eP			P	**23 09 46.9**	**-1.1**
ESK					pmax		pmax		
	comp=Z,90nm,1.3s								
ESK	**Eskdalemuir**	**16.17**	**68**	ePn			**P**	**23 09 46.9**	**-1.1**
	comp=Z,90nm,1.3s								
ESK	**Eskdalemuir**	**16.17**	**68**	eP			**P**	**23 09 46.9**	**-1.1**
	comp=Z,90nm,1.3s								
EKA	**Eskdalemuir Ar**	**16.19**	**68**	Pn			**Pn**	**23 09 43.3**	**-1.9**
EKA	**Eskdalemuir Ar**	**16.19**	**68**	Pn			**Pn**	**23 09 43.3**	**-1.9**
	baz=278,slow=12,SNR=13								
QUIF	**Quistinic**	**17.75**	**93**	eP			**Pn**	**23 10 04.7**	**-0.1**
QUIF	**Quistinic**	**17.75**	**93**	eP			**Pn**	**23 10 04.7**	**-0.1**
QUIF	**Quistinic**	**17.75**	**93**	eP			**Pn**	**23 10 04.7**	**-0.1**
QUIF	**Quistinic**	**17.75**	**93**	eP			**Pn**	**23 10 04.7**	**-0.1**
SFJD	**Kangerlussuaq**	**18.02**	**334**	iP			**P**	**23 10 09.3**	**+0.9**
	comp=Z,3.9nm,0.7s								
SFJD	**Kangerlussuaq**	**18.02**	**334**	LR			LR	23 15 37.5	
	comp=Z,259nm,18.5s,baz=150,slow=32								
SFJD	**Kangerlussuaq**	**18.02**	**334**	eP			**P**	**23 10 09.3**	**+0.9**
	comp=Z,4.0nm,0.8s								
SCO	**Scoresbysund**	**18.78**	**8**	iP			**Pn**	**23 10 20.3**	**+3.1**
SCO					pmax		pmax		
	comp=Z,6.0nm,1.0s								
SCO	**Scoresbysund**	**18.78**	**8**	iP			**Pn**	**23 10 20.3**	**+3.1**
	comp=Z,5.5nm,1.0s								
GRR	**Gorron**	**18.98**	**90**	eP			**P**	**23 10 19.3**	**+0.1**
GRR	**Gorron**	**18.98**	**90**	eP			**P**	**23 10 19.3**	**+0.1**
GRR	**Gorron**	**18.98**	**90**	eP			**P**	**23 10 19.3**	**+0.1**
GRR	**Gorron**	**18.98**	**90**	eP			**P**	**23 10 19.3**	**+0.1**
MFF	**Saint Martin d**	**20.17**	**94**	eP			**P**	**23 10 32.0**	**-0.1**
	comp=Z,27nm,1.0s								
MFF	**Saint Martin d**	**20.17**	**94**	eP			**P**	**23 10 32.0**	**-0.1**
MFF					pmax		pmax		
	comp=Z,27nm,1.0s								
MFF	**Saint Martin d**	**20.17**	**94**	eP			**P**	**23 10 32.0**	**-0.1**
	comp=Z,27nm,1.0s								
MFF	**Saint Martin d**	**20.17**	**94**	eP			**P**	**23 10 32.0**	**-0.1**
	comp=Z,14nm,1.0s								
SUMG	**Summit**	**20.83**	**353**	iP			Pn	23 10 41.7	-0.4
SUMG					pmax		pmax		
	comp=Z,7.0nm,0.9s								
SUMG	**Summit**	**20.83**	**353**	iP			Pn	23 10 41.7	-0.4
	comp=Z,6.9nm,0.9s								
SUMG	**Summit**	**20.83**	**353**	eP			**P**	**23 10 40.0**	**+0.5**
	comp=Z,186nm,2.8s								
SUMG	**Summit**	**20.83**	**353**	eP			**P**	**23 10 40.0**	**+0.5**
	comp=Z,186nm,2.8s								
SNF	**Seneffe**	**21.41**	**81**	P			**P**	**23 10 45.1**	**-0.4**
BAIF	**Baives**	**21.51**	**82**	eP			**P**	**23 10 46.1**	**-0.4**
	comp=Z,36nm,1.0s								
BAIF	**Baives**	**21.51**	**82**	eP			**P**	**23 10 46.1**	**-0.4**
BAIF					pmax		pmax		
	comp=Z,36nm,1.0s								
BAIF	**Baives**	**21.51**	**82**	eP			**P**	**23 10 46.1**	**-0.4**
	comp=Z,36nm,1.0s								
BAIF	**Baives**	**21.51**	**82**	eP			**P**	**23 10 46.1**	**-0.4**
	comp=Z,18nm,1.0s								
HYF	**Humbligny**	**21.59**	**90**	eP			**P**	**23 10 47.3**	**-0.2**
HYF	**Humbligny**	**21.59**	**90**	eP			**P**	**23 10 47.3**	**-0.2**
HYF	**Humbligny**	**21.59**	**90**	eP			**P**	**23 10 47.3**	**-0.2**
DOU	**Dourbes**	**21.73**	**82**	P			**P**	**23 10 48.6**	**-0.4**
TCF	**Toulx Ste Croi**	**21.76**	**93**	eP			**P**	**23 10 48.9**	**-0.4**
	comp=Z,20nm,0.9s								
TCF	**Toulx Ste Croi**	**21.76**	**93**	eP			**P**	**23 10 48.9**	**-0.4**
TCF					pmax		pmax		
	comp=Z,20nm,0.9s								
TCF	**Toulx Ste Croi**	**21.76**	**93**	eP			**P**	**23 10 48.9**	**-0.4**
	comp=Z,20nm,0.9s								
TCF	**Toulx Ste Croi**	**21.76**	**93**	eP			**P**	**23 10 48.9**	**-0.4**
	comp=Z,10nm,0.9s								
PAB	**San Pablo**	**21.77**	**115**	eP			**P**	**23 10 51.0**	**+1.5**
PAB					pmax		pmax		
	comp=Z,45nm,2.9s								
PAB	**San Pablo**	**21.77**	**115**	eP			**P**	**23 10 51.0**	**+1.5**
	comp=Z,44nm,2.9s								
PAB	**San Pablo**	**21.77**	**115**	eP			**P**	**23 10 51.0**	**+1.5**
	comp=Z,45nm,2.9s								
RJF	**Les Rejaudoux**	**21.81**	**96**	eP			**P**	**23 10 49.4**	**-0.4**
	comp=Z,19nm,1.1s								
RJF					eR				
	comp=Z,126nm,20.0s								
RJF	**Les Rejaudoux**	**21.81**	**96**	eP			**P**	**23 10 49.4**	**-0.4**
RJF					pmax		pmax		
	comp=Z,19nm,1.1s								
RJF	**Les Rejaudoux**	**21.81**	**96**	eP			**P**	**23 10 49.4**	**-0.4**
	comp=Z,19nm,1.1s								
RJF	**Les Rejaudoux**	**21.81**	**96**	eP			**P**	**23 10 49.4**	**-0.4**
	comp=Z,9.4nm,1.1s								
SCHQ	**Schefferville**	**21.88**	**292**	eP			**P**	**23 10 49.5**	**-1.0**
	comp=Z,189nm,2.5s								
SCHQ	**Schefferville**	**21.88**	**292**	P			**P**	**23 10 50.3**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=111,slow=4.5,SNR=11								
SCHQ	**Schefferville**	**21.88**	**292**	eP			**P**	**23 10 49.5**	**-1.0**
	comp=Z,189nm,2.5s								
ESDC	**Sonseca Array**	**21.89**	**114**	P			**P**	**23 10 50.7**	**-0.1**
ESDC	**Sonseca Array**	**21.89**	**114**	P			**P**	**23 10 50.7**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=311,slow=9.7,SNR=15								
ESDC					LR		LR	23 17 58.8	
	comp=Z,78nm,21.0s,baz=170,slow=33								
ESDC	**Sonseca Array**	**21.89**	**114**	P			**P**	**23 10 50.7**	**-0.1**
ES19	**SONSECA Array**	**21.91**	**114**	eP			**P**	**23 10 52.8**	**+1.8**
ES19	**SONSECA Array**	**21.91**	**114**	eP			**P**	**23 10 52.8**	**+1.8**
BGF	**Bois d'Agland**	**22.03**	**92**	eP			**P**	**23 10 51.7**	**-0.5**
	comp=Z,35nm,0.8s								
BGF	**Bois d'Agland**	**22.03**	**92**	eP			**P**	**23 10 51.7**	**-0.5**
BGF					pmax		pmax		
	comp=Z,35nm,0.8s								
BGF	**Bois d'Agland**	**22.03**	**92**	eP			**P**	**23 10 51.7**	**-0.5**
	comp=Z,35nm,0.8s								
BGF	**Bois d'Agland**	**22.03**	**92**	eP			**P**	**23 10 51.7**	**-0.5**
	comp=Z,17nm,0.8s								
BCLA	**Clavier**	**22.06**	**80**	AP			pP	23 10 56.1	-1.2
BEBN	**Eben Emael**	**22.17**	**79**	P			**P**	**23 10 55.3**	**+1.6**
	comp=Z,5.1nm,1.2s								
SSF	**Saint Saulge**	**22.21**	**90**	eP			**P**	**23 10 53.4**	**-0.8**
	comp=Z,35nm,1.2s								
SSF	**Saint Saulge**	**22.21**	**90**	eP			**P**	**23 10 53.4**	**-0.8**
SSF					pmax		pmax		
	comp=Z,35nm,1.2s								
SSF	**Saint Saulge**	**22.21**	**90**	eP			**P**	**23 10 53.4**	**-0.8**
	comp=Z,35nm,1.2s								
SSF	**Saint Saulge**	**22.21**	**90**	eP			**P**	**23 10 53.4**	**-0.8**
	comp=Z,18nm,1.2s								
AVF	**Avril sur Loir**	**22.24**	**91**	eP			**P**	**23 10 53.5**	**-0.9**
	comp=Z,14nm,0.9s								
AVF	**Avril sur Loir**	**22.24**	**91**	eP			**P**	**23 10 53.5**	**-0.9**
AVF					pmax		pmax		
	comp=Z,15nm,0.9s								
AVF	**Avril sur Loir**	**22.24**	**91**	eP			**P**	**23 10 53.5**	**-0.9**
	comp=Z,14nm,0.9s								
AVF	**Avril sur Loir**	**22.24**	**91**	eP			**P**	**23 10 53.5**	**-0.9**
	comp=Z,7.2nm,0.9s								
HGN	**Heimansgroeve**	**22.34**	**79**	eP			**P**	**23 10 55.3**	**-0.1**
	comp=Z,11nm,0.9s								
HGN					eL		L	23 17 55.5	
	comp=Z,128nm,19.5s								
LOR	**Lormes**	**22.34**	**89**	eP			**P**	**23 10 54.1**	**-1.5**
	comp=Z,23nm,0.9s								
LOR					eR				
	comp=Z,186nm,21.2s								
LOR	**Lormes**	**22.34**	**89**	eP			**P**	**23 10 54.1**	**-1.5**
	comp=Z,23nm,0.9s								
LOR	**Lormes**	**22.34**	**89**	eP			**P**	**23 10 54.1**	**-1.5**
	comp=Z,11nm,0.9s								
MEM	**Membach**	**22.43**	**80**	P			**P**	**23 10 57.0**	**+0.6**
	comp=Z,8.6nm,1.3s								
MEM	**Membach**	**22.43**	**80**	eP			**P**	**23 10 57.6**	**+1.2**
MEM					pmax		pmax		
	comp=Z,13nm,0.9s								
MEM	**Membach**	**22.43**	**80**	eP			**P**	**23 10 57.6**	**+1.2**
	comp=Z,13nm,0.9s								
MEM	**Membach**	**22.43**	**80**	eP			**P**	**23 10 57.6**	**+1.2**
	comp=Z,13nm,0.9s								
WTSB	**Winterswijk**	**22.52**	**76**	eP			**P**	**23 10 56.4**	**-1.0**
	comp=Z,40nm,1.0s								
MEZF	**Maizieres J'vi**	**22.58**	**85**	eP			**P**	**23 10 57.3**	**-0.7**
	comp=Z,39nm,1.0s								
MEZF	**Maizieres J'vi**	**22.58**	**85**	eP			**P**	**23 10 57.3**	**-0.7**
	comp=Z,39nm,1.0s								
MEZF	**Maizieres J'vi**	**22.58**	**85**	eP			**P**	**23 10 57.3**	**-0.7**
	comp=Z,20nm,1.0s								
SMF	**Signal de Mont**	**22.61**	**91**	eP			**P**	**23 10 57.6**	**-0.8**
	comp=Z,26nm,1.2s								
SMF	**Signal de Mont**	**22.61**	**91**	eP			**P**	**23 10 57.6**	**-0.8**
SMF					pmax		pmax		
	comp=Z,26nm,1.2s								
SMF	**Signal de Mont**	**22.61**	**91**	eP			**P**	**23 10 57.6**	**-0.8**
	comp=Z,26nm,1.2s								
SMF	**Signal de Mont**	**22.61**	**91**	eP			**P**	**23 10 57.6**	**-0.8**
	comp=Z,13nm,1.2s								
SFTF	**Sexfontaines**	**22.68**	**86**	eP			**P**	**23 10 58.2**	**-1.0**
	comp=Z,60nm,1.1s								
SFTF	**Sexfontaines**	**22.68**	**86**	eP			**P**	**23 10 58.2**	**-1.0**
	comp=Z,60nm,1.1s								
SFTF	**Sexfontaines**	**22.68**	**86**	eP			**P**	**23 10 58.2**	**-1.0**
	comp=Z,30nm,1.1s								
WLF	**Walferdange**	**22.83**	**82**	P			**P**	**23 11 00.6**	**-0.1**
	comp=Z,17nm,1.7s								
WLF	**Walferdange**	**22.83**	**82**	eP			**P**	**23 11 01.3**	**+0.7**
	comp=Z,20nm,1.2s								
WLF	**Walferdange**	**22.83**	**82**	eP			**P**	**23 11 01.3**	**+0.7**
	comp=Z,20nm,1.2s								
BUG	**Bochum--Univer**	**22.94**	**77**	eP			**P**	**23 11 03.7**	**+1.9**
	comp=Z,8.0nm,0.9s								
BUG	**Bochum--Univer**	**22.94**	**77**	eP			**P**	**23 11 03.7**	**+1.9**
	comp=Z,8.0nm,0.9s								
PAGF	**Fort de Pagny**	**22.97**	**85**	eP			**P**	**23 11 01.4**	**-0.8**
	comp=Z,2.2nm,0.6s								
PAGF	**Fort de Pagny**	**22.97**	**85**	eP			**P**	**23 11 01.4**	**-0.8**
	comp=Z,2.2nm,0.6s								
PAGF	**Fort de Pagny**	**22.97**	**85**	eP			**P**	**23 11 01.4**	**-0.8**
	comp=Z,1.1nm,0.6s								
IBBN	**Ibbenburen**	**23.00**	**74**	eP			**P**	**23 11 03.8**	**+1.4**
	comp=Z,19nm,0.8s								
IBBN	**Ibbenburen**	**23.00**	**74**	eP			**P**	**23 11 03.8**	**+1.4**
	comp=Z,19nm,0.8s								
MUD	**Monsted U'grnd**	**23.07**	**64**	iP			**P**	**23 11 07.1**	**+4.0**
	comp=Z,14nm,0.9s								
FRB	**Frobisher Bay**	**23.08**	**315**	P			**P**	**23 11 03.5**	**+0.4**
FRB	**Frobisher Bay**	**23.08**	**315**	P			**P**	**23 11 03.5**	**+0.4**
	comp=Z,4.0nm,1.0s,baz=59,slow=14,SNR=4.6								
FRB					LR		LR	23 18 11.9	
	comp=Z,164nm,20.3s,baz=135,slow=32								
FRB	**Frobisher Bay**	**23.08**	**315**	P			**P**	**23 11 03.5**	**+0.4**
KONO	**Kongsberg**	**23.17**	**55**	eP			**P**	**23 11 05.0**	**+0.9**
KONO					pmax		pmax		
	comp=Z,34nm,1.4s								
KONO	**Kongsberg**	**23.17**	**55**	eP			**P**	**23 11 05.0**	**+0.9**
	comp=Z,34nm,1.4s								
KONO	**Kongsberg**	**23.17**	**55**	eP			**P**	**23 11 05.0**	**+0.9**
	comp=Z,34nm,1.4s								
HAU	**Haudompre**	**23.57**	**86**	eP			**P**	**23 11 08.3**	**+0.1**
	comp=Z,8.8nm,0.8s								
HAU					eR				
	comp=Z,123nm,22.0s								
HAU	**Haudompre**	**23.57**	**86**	eP			**P**	**23 11 08.3**	**+0.1**
HAU					pmax		pmax		
	comp=Z,9.0nm,0.8s								
HAU	**Haudompre**	**23.57**	**86**	eP			**P**	**23 11 08.3**	**+0.1**
	comp=Z,8.8nm,0.8s								
HAU	**Haudompre**	**23.57**	**86**	eP			**P**	**23 11 08.3**	**+0.1**
	comp=Z,4.4nm,0.8s								
NBO02	**NORSAR Array S**	**23.85**	**52**	eP			**P**	**23 11 11.1**	**+0.3**
NBO02	**NORSAR Array S**	**23.85**	**52**	eP			**P**	**23 11 11.1**	**+0.3**
HINF	**Hinteralfeld**	**23.96**	**86**	eP			**P**	**23 11 11.3**	**-0.6**
	comp=Z,15nm,0.9s								
HINF	**Hinteralfeld**	**23.96**	**86**	eP			**P**	**23 11 11.3**	**-0.6**
HINF					pmax		pmax		
	comp=Z,15nm,0.9s								
HINF	**Hinteralfeld**	**23.96**	**86**	eP			**P**	**23 11 11.3**	**-0.6**
	comp=Z,15nm,0.9s								
HINF	**Hinteralfeld**	**23.96**	**86**	eP			**P**	**23 11 11.3**	**-0.6**
	comp=Z,7.6nm,0.9s								
CDF	**Champ du Feu**	**23.98**	**84**	eP			**P**	**23 11 11.7**	**-0.5**
CDF	**Champ du Feu**	**23.98**	**84**	eP			**P**	**23 11 11.7**	**-0.5**
CDF	**Champ du Feu**	**23.98**	**84**	eP			**P**	**23 11 11.7**	**-0.5**
CDF	**Champ du Feu**	**23.98**	**84**	eP			**P**	**23 11 11.7**	**-0.5**
CABF	**La Chapelle**	**24.00**	**89**	eP			**P**	**23 11 10.9**	**-1.6**
	comp=Z,20nm,1.1s								
CABF	**La Chapelle**	**24.00**	**89**	eP			**P**	**23 11 10.9**	**-1.6**
CABF					pmax		pmax		
	comp=Z,20nm,1.1s								
CABF	**La Chapelle**	**24.00**	**89**	eP			**P**	**23 11 10.9**	**-1.6**
	comp=Z,20nm,1.1s								
CABF	**La Chapelle**	**24.00**	**89**	eP			**P**	**23 11 10.9**	**-1.6**
	comp=Z,9.9nm,1.1s								
NB2	**NORSAR Subarra**	**24.02**	**52**	P			**P**	**23 11 12.5**	**0.0**
	comp=Z,3.7nm,0.8s,baz=268,slow=9.3								
NB2	**NORSAR Subarra**	**24.02**	**52**	P			**P**	**23 11 12.5**	**0.0**
	comp=Z,3.7nm,0.8s,SNR=7.9								
NOA	**NORSAR Array B**	**24.02**	**52**	P			**P**	**23 11 12.7**	**+0.2**
NOA	**NORSAR Array B**	**24.02**	**52**	P			**P**	**23 11 12.7**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=269,slow=9.2,SNR=8.1								
NOA					LR		LR	23 18 52.1	
	comp=Z,106nm,20.7s,baz=270,slow=32								
NOA	**NORSAR Array B**	**24.02**	**52**	P			**P**	**23 11 12.7**	**+0.2**
TNS	**Taunus Mts**	**24.03**	**79**	eP			**P**	**23 11 13.6**	**+1.0**
	comp=Z,4.0nm,0.7s								
TNS	**Taunus Mts**	**24.03**	**79**	eP			**P**	**23 11 13.6**	**+1.0**
	comp=Z,4.0nm,0.7s								
BSEG	**Bad Segeberg**	**24.12**	**70**	eP			**P**	**23 11 14.0**	**+0.7**
	comp=Z,8.0nm,0.8s								
BSEG	**Bad Segeberg**	**24.12**	**70**	eP			**P**	**23 11 14.0**	**+0.7**
	comp=Z,8.0nm,0.8s								
NRDL	**Niedersach Rie**	**24.34**	**73**	eP			**P**	**23 11 16.1**	**+0.8**
	comp=Z,11nm,0.9s								
NRDL	**Niedersach Rie**	**24.34**	**73**	eP			**P**	**23 11 16.1**	**+0.8**
	comp=Z,11nm,0.9s								
BFO	**Black Forest**	**24.66**	**84**	iP			**P**	**23 11 19.7**	**+1.4**
BFO	**Black Forest**	**24.66**	**84**	eP			**P**	**23 11 19.2**	**+0.9**
	comp=Z,6.0nm,1.0s								
BFO	**Black Forest**	**24.66**	**84**	eP			**P**	**23 11 19.2**	**+0.9**
	comp=Z,6.0nm,1.0s								
CLZ	**Clausthal**	**24.68**	**75**	eP			**P**	**23 11 19.4**	**+0.9**
	comp=Z,6.0nm,0.9s								
CLZ	**Clausthal**	**24.68**	**75**	eP			**P**	**23 11 19.4**	**+0.9**
	comp=Z,6.0nm,0.9s								
SENIN	**Lac Senin/Sane**	**24.86**	**88**	eP			**P**	**23 11 19.8**	**-0.6**
	comp=Z,25nm,1.5s								
SENIN	**Lac Senin/Sane**	**24.86**	**88**	eP			**P**	**23 11 19.8**	**-0.6**
	comp=Z,25nm,1.5s								
STU	**Stuttgart**	**25.01**	**82**	eP			**P**	**23 11 21.5**	**0.0**
STU					pmax		pmax		
	comp=Z,24nm,1.2s								
STU	**Stuttgart**	**25.01**	**82**	eP			**P**	**23 11 21.9**	**+0.4**
	comp=Z,6.0nm,0.8s								
STU	**Stuttgart**	**25.01**	**82**	eP			**P**	**23 11 21.5**	**0.0**
	comp=Z,24nm,1.2s								
STU	**Stuttgart**	**25.01**	**82**	eP			**P**	**23 11 21.9**	**+0.4**
	comp=Z,6.0nm,0.8s								
NEUB	**Neuenburg**	**25.71**	**75**	eP			**P**	**23 11 28.5**	**+0.7**
	comp=Z,

OJC	**Ojcow**	**30.83**	**73**	*eP*		**P**	**23 12 12.7**	**-0.8**
	comp=Z,5.5nm,0.8s								
OJC	**Ojcow**	**30.83**	**73**	*eP*		**P**	**23 12 12.7**	**-0.8**
	comp=Z,6.0nm,0.8s								
FINES	**FINESS Array B**	**31.17**	**50**	P		**P**	**23 12 16.5**	**+0.2**
FINES	**FINESS Array B**	**31.17**	**50**	P		**P**	**23 12 16.5**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=281,slow=8.0,SNR=32								
FINES				LR		LR	23 23 42.1		
	comp=Z,109nm,19.8s,baz=25,slow=34								
FINES	**FINESS Array B**	**31.17**	**50**	P		**P**	**23 12 16.5**	**+0.2**
KAF	**Kangasniemi**	**31.18**	**49**	*eP*		**P**	**23 12 15.8**	**-0.7**
KAF				pmax		pmax			
	comp=Z,4.0nm,0.5s								
KAF	**Kangasniemi**	**31.18**	**49**	*ep*		**P**	**23 12 15.8**	**-0.7**
	comp=Z,3.8nm,0.5s								
KAF	**Kangasniemi**	**31.18**	**49**	*eP*		**P**	**23 12 15.8**	**-0.7**
	comp=Z,3.8nm,0.5s								
SUW	**Suwalki**	**31.42**	**65**	*eP*		**P**	**23 12 18.2**	**-0.4**
SUW				pmax		pmax			
	comp=Z,36nm,1.1s								
SUW	**Suwalki**	**31.42**	**65**	*eP*		**P**	**23 12 18.2**	**-0.4**
	comp=Z,36nm,1.1s								
SUW	**Suwalki**	**31.42**	**65**	*eP*		**P**	**23 12 18.2**	**-0.4**
	comp=Z,36nm,1.1s								
PSZ	**Piszkesteto**	**31.85**	**77**	*eP*		**P**	**23 12 23.7**	**+1.1**
PSZ				pmax		pmax			
	comp=Z,7.0nm,1.1s								
PSZ	**Piszkesteto**	**31.85**	**77**	*eP*		**P**	**23 12 23.7**	**+1.1**
	comp=Z,7.1nm,1.1s								
PSZ	**Piszkesteto**	**31.85**	**77**	*eP*		**P**	**23 12 23.7**	**+1.1**
	comp=Z,7.0nm,1.1s								
STHS	**Stebnicka Huta**	**32.01**	**74**	*eP*		**P**	**23 12 24.8**	**+0.9**
STHS				pmax		pmax			
	comp=Z,3.0nm,0.8s								
STHS	**Stebnicka Huta**	**32.01**	**74**	*eP*		**P**	**23 12 24.8**	**+0.9**
STHS	**Stebnicka Huta**	**32.01**	**74**	*eP*		**P**	**23 12 24.8**	**+0.9**
	comp=Z,3.4nm,0.8s								
KEST	**Kesra**	**32.30**	**105**	P		**P**	**23 12 26.8**	**+0.1**
KEST	**Kesra**	**32.30**	**105**	P		**P**	**23 12 26.8**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=254,slow=7.4,SNR=2.6								
KEST	**Kesra**	**32.30**	**105**	P		**P**	**23 12 26.8**	**+0.1**
CRVS	**Cervenica-Dubn**	**32.36**	**75**	*eP*		**P**	**23 12 27.5**	**+0.5**
CRVS				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CRVS	**Cervenica-Dubn**	**32.36**	**75**	*eP*		**P**	**23 12 27.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**32.36**	**75**	*eP*		**P**	**23 12 27.5**	**+0.5**
	comp=Z,3.3nm,0.8s								
KWP	**Kalwaria Pacla**	**32.78**	**73**	*i*P		**P**	**23 12 31.7**	**+1.0**
KWP	**Kalwaria Pacla**	**32.78**	**73**	*i*P		**P**	**23 12 31.7**	**+1.0**
KWP	**Kalwaria Pacla**	**32.78**	**73**	*i*P		**P**	**23 12 31.7**	**+1.0**
JOF	**Joensuu**	**33.35**	**47**	*eP*		**P**	**23 12 35.0**	**-0.4**
JOF				pmax		pmax			
	comp=Z,2.0nm,0.4s								
JOF	**Joensuu**	**33.35**	**47**	*ep*		**P**	**23 12 35.0**	**-0.4**
	comp=Z,2.1nm,0.4s								
JOF	**Joensuu**	**33.35**	**47**	*eP*		**P**	**23 12 35.0**	**-0.4**
	comp=Z,2.1nm,0.4s								
BZS	**Buzias**	**33.99**	**80**	*i*P		**P**	**23 12 41.8**	**+0.6**
BZS	**Buzias**	**33.99**	**80**	*i*P		**P**	**23 12 41.8**	**+0.6**
BZS	**Buzias**	**33.99**	**80**	*i*P		**P**	**23 12 41.8**	**+0.6**
RES	**Resolute Bay**	**34.01**	**335**	LR		LR	23 25 25.7		
	comp=Z,62nm,18.9s,baz=243,slow=34								
DRGR		**34.07**	**78**	*i*P		**P**	**23 12 42.9**	**+0.9**
DRGR		**34.07**	**78**	*i*P		**P**	**23 12 42.9**	**+0.9**
DRGR		**34.07**	**78**	*i*P		**P**	**23 12 42.9**	**+0.9**
GZR	**Gura Zlata**	**34.81**	**80**	*i*P		**P**	**23 12 48.8**	**+0.4**
GZR	**Gura Zlata**	**34.81**	**80**	*i*P		**P**	**23 12 48.8**	**+0.4**
GZR	**Gura Zlata**	**34.81**	**80**	*i*P		**P**	**23 12 48.8**	**+0.4**
BUR04	**Bucovina Ar. S**	**35.17**	**75**	*eP*		**P**	**23 12 52.0**	**+0.4**
BUR04	**Bucovina Ar. S**	**35.17**	**75**	*eP*		**P**	**23 12 52.0**	**+0.4**
BURAR	**Bucovina Array**	**35.18**	**75**	*i*P		**P**	**23 12 52.6**	**+1.0**
BURAR	**Bucovina Array**	**35.18**	**75**	*i*P		**P**	**23 12 52.6**	**+1.0**
BURAR	**Bucovina Array**	**35.18**	**75**	*i*P		**P**	**23 12 52.6**	**+1.0**
AK11	**Malin Array Si**	**36.08**	**68**	*eP*		**P**	**23 12 58.2**	**-1.0**
AK11	**Malin Array Si**	**36.08**	**68**	*eP*		**P**	**23 12 58.2**	**-1.0**
DOPR	**Dopca**	**36.09**	**77**	*i*P		**P**	**23 13 00.0**	**+0.6**
DOPR	**Dopca**	**36.09**	**77**	*i*P		**P**	**23 13 00.0**	**+0.6**
KIEV	**Kiev**	**36.10**	**68**	*eP*		**P**	**23 12 59.0**	**-0.3**
KIEV				pmax		pmax			
	comp=Z,8.0nm,0.7s								
KIEV	**Kiev**	**36.10**	**68**	*eP*		**P**	**23 12 59.0**	**-0.3**
	comp=Z,7.6nm,0.7s								
KIEV	**Kiev**	**36.10**	**68**	*eP*		**P**	**23 12 59.0**	**-0.3**
	comp=Z,8.0nm,0.7s								
AKASG	**Malin Array Be**	**36.11**	**68**	*i* P		**P**	**23 12 59.0**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.6s								
AKASG	**Malin Array Be**	**36.11**	**68**	P		**P**	**23 12 59.0**	**-0.4**
AKASG	**Malin Array Be**	**36.11**	**68**	P		**P**	**23 12 59.0**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=296,slow=8.6,SNR=18								
AKASG	**Malin Array Be**	**36.11**	**68**	*i* P		**P**	**23 12 59.0**	**-0.4**
	comp=Z,3.0nm,0.6s								
VOIR		**36.16**	**78**	*i*P		**P**	**23 12 59.5**	**-0.5**
VOIR		**36.16**	**78**	*i*P		**P**	**23 12 59.5**	**-0.5**
VOIR		**36.16**	**78**	*i*P		**P**	**23 12 59.5**	**-0.5**
MLR	**Muntele Rosu**	**36.67**	**78**	*i*P		**P**	**23 13 04.8**	**+0.4**
MLR	**Muntele Rosu**	**36.67**	**78**	LR		LR	23 26 08.1		
	comp=Z,26nm,21.7s,baz=107,slow=33								
MLR	**Muntele Rosu**	**36.67**	**78**	*i*P		**P**	**23 13 04.8**	**+0.4**
VRI	**Vrincioaia**	**36.95**	**77**	*i*P		**P**	**23 13 06.1**	**-0.5**
VRI	**Vrincioaia**	**36.95**	**77**	*i*P		**P**	**23 13 06.1**	**-0.5**
VRI	**Vrincioaia**	**36.95**	**77**	*i*P		**P**	**23 13 06.1**	**-0.5**
CFR	**Carcaliu**	**38.15**	**77**	*i*P		**P**	**23 13 15.5**	**-1.3**
CFR	**Carcaliu**	**38.15**	**77**	*i*P		**P**	**23 13 15.5**	**-1.3**
CFR	**Carcaliu**	**38.15**	**77**	*i*P		**P**	**23 13 15.5**	**-1.3**
OBN	**Obninsk**	**38.28**	**58**	*eP*		**P**	**23 13 18.2**	**+0.5**
OBN				*e*			23 14 45.6		
OBN				*eS*		**S**	**23 19 11.7**	**+1.0**
OBN				pmax		pmax			
	comp=Z,42nm,1.2s								
OBN				MLR		MLR			
	comp=Z,100nm,16.0s								
OBN	**Obninsk**	**38.28**	**58**	*eP*		**P**	**23 13 18.2**	**+0.5**
	comp=Z,42nm,1.2s								
OBN				*eS*		**S**	**23 19 11.7**	**+1.0**
	comp=Z,100nm,16.0s								
ULM	**Lac du Bonnet**	**40.01**	**294**	LR		LR	23 28 46.4		
	comp=Z,68nm,19.7s,baz=87,slow=34								
PRGR	**Permogore**	**40.12**	**46**	P		**P**	**23 13 33.2**	**+0.1**
PRGR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
PRGR	**Permogore**	**40.12**	**46**	P		**P**	**23 13 33.2**	**+0.1**
	comp=Z,5.0nm,0.9s								
LPSR	**Galich'ya Gora**	**40.64**	**61**	*eP*		**P**	**23 13 37.1**	**-0.4**
	comp=Z,2.0nm,0.8s								
VSR	**Storozhevoye**	**41.44**	**63**	*eP*		**P**	**23 13 43.1**	**-0.9**
VSR				pmax		pmax			
	comp=N,10.0nm,0.9s								
VSR				pmax		pmax			
	comp=E,20nm,0.9s								
VSR				pmax		pmax			
	comp=Z,20nm,0.9s								
VSR	**Storozhevoye**	**41.44**	**63**	*eP*		**P**	**23 13 43.1**	**-0.9**
VORD	**Divnogorie**	**41.63**	**63**	*eP*		**P**	**23 13 44.4**	**-1.2**
VORD				pmax		pmax			
	comp=N,10.0nm,0.9s								
VORD				pmax		pmax			
	comp=E,30nm,0.9s								
VORD				pmax		pmax			
	comp=Z,20nm,0.9s								
VORD	**Divnogorie**	**41.63**	**63**	*eP*		**P**	**23 13 44.4**	**-1.2**
VRHR	**Novokhopersk**	**42.84**	**62**	*eP*		**P**	**23 13 54.4**	**-1.0**
VRHR				pmax		pmax			
	comp=N,9.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,3.0nm,0.8s								
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VRHR	**Novokhopersk**	**42.84**	**62**	*eP*		**P**	**23 13 54.4**	**-1.0**
YKA	**Yellowknife Ar**	**43.55**	**318**	P		**P**	**23 14 01.5**	**+0.5**
YKA				PcP		**PcP**	**23 15 48.8**	**+0.4**
YKA	**Yellowknife Ar**	**43.55**	**318**	P		**P**	**23 14 01.5**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=61,slow=8.0,SNR=9.3								
YKA				PcP		**PcP**	**23 15 48.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=57,slow=4.0,SNR=5.6								
YKA	**Yellowknife Ar**	**43.55**	**318**	P		**P**	**23 14 01.5**	**+0.5**
YKA	**Yellowknife Ar**	**43.55**	**318**	PcP		**PcP**	**23 15 48.8**	**+0.4**
YKB5	**Yellowknife Ar**	**43.55**	**318**	*eP*		**P**	**23 14 00.6**	**-0.5**
YKB5	**Yellowknife Ar**	**43.55**	**318**	*eP*		**P**	**23 14 00.6**	**-0.5**
TOA0	**Torodi Ar. Sit**	**46.50**	**135**	*eP*		**P**	**23 14 24.3**	**-0.7**
TOA0	**Torodi Ar. Sit**	**46.50**	**135**	*eP*		**P**	**23 14 24.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**46.50**	**135**	P		**P**	**23 14 24.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**46.50**	**135**	P		**P**	**23 14 24.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=336,slow=8.2,SNR=18								
TORD	**Torodi Ar. Bea**	**46.50**	**135**	P		**P**	**23 14 24.9**	**-0.1**
KBZ	**Khabaz**	**47.67**	**70**	P		**P**	**23 14 34.7**	**+0.8**
KBZ	**Khabaz**	**47.67**	**70**	P		**P**	**23 14 34.7**	**+0.8**
KBZ	**Khabaz**	**47.67**	**70**	P		**P**	**23 14 34.7**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=250,slow=16,SNR=3.7								
KBZ	**Khabaz**	**47.67**	**70**	P		**P**	**23 14 34.7**	**+0.8**
ARU	**Arti**	**48.47**	**48**	*c i*P		**P**	**23 14 40.7**	**+0.8**
ARU							23 16 30.6		
ARU				PPP		PPP	23 17 22.3		
ARU				S		**S**	**23 21 38.6**	**-1.2**
ARU				SS		**SS**	**23 25 06.3**	**-2.7**
ARU				pmax		pmax			
	comp=Z,27nm,1.0s								
ARU	**Arti**	**48.47**	**48**	*i* P		**P**	**23 14 40.7**	**+0.8**
	comp=Z,27nm,1.0s								
ARU				S		**S**	**23 21 38.6**	**-1.2**
SVE	**Sverdlovsk**	**49.18**	**47**	*eP*		**P**	**23 14 44.6**	**-0.8**
SVE				pmax		pmax			
	comp=Z,11nm,1.0s								
SVE	**Sverdlovsk**	**49.18**	**47**	*eP*		**P**	**23 14 44.6**	**-0.8**
	comp=Z,11nm,1.0s								
DBIC	**Dimbokro**	**49.86**	**146**	P		**P**	**23 14 51.0**	**0.0**
DBIC	**Dimbokro**	**49.86**	**146**	P		**P**	**23 14 51.0**	**0.0**
	comp=Z,1.3nm,0.4s,baz=327,slow=7.9,SNR=4.9								
DBIC				LR		LR	23 33 55.7		
	comp=Z,47nm,20.2s,baz=311,slow=34								
DBIC	**Dimbokro**	**49.86**	**146**	P		**P**	**23 14 51.0**	**0.0**
PDAR	**Pinedale Array**	**52.00**	**293**	P		**P**	**23 15 07.0**	**-0.3**
PDAR	**Pinedale Array**	**52.00**	**293**	P		**P**	**23 15 07.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=74,slow=7.8,SNR=5.0								
PDAR	**Pinedale Array**	**52.00**	**293**	P		**P**	**23 15 06.9**	**-0.3**
ABKAR	**Akbulak array**	**53.49**	**55**	*eP*		**P**	**23 15 18.0**	**+0.2**
ABKAR	**Akbulak array**	**53.49**	**55**	*eP*		**P**	**23 15 18.0**	**+0.2**
ILAR	**Eielson Array**	**53.67**	**332**	P		**P**	**23 15 20.4**	**+1.6**
ILAR	**Eielson Array**	**53.67**	**332**	P		**P**	**23 15 20.4**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=42,slow=6.3,SNR=7.4								
ILAR				LR		LR	23 36 49.3		
	comp=Z,89nm,19.0s,baz=69,slow=34								
ILAR	**Eielson Array**	**53.67**	**332**	P		**P**	**23 15 20.5**	**+1.6**
DAU	**Daniels Canyon**	**54.50**	**292**	*eP*		P	23 15 17.8	-7.9	
DAU	**Daniels Canyon**	**54.50**	**292**	*eP*		P	23 15 17.8	-7.9	
PV10	**Paradox Valley**	**54.58**	**289**	*eP*		P	23 15 22.4	-3.8	
SPUT	**South Promonto**	**54.59**	**294**	*eP*		P	23 15 18.6	-7.5	
	comp=Z,7.2nm,0.6s								
BRVK	**Borovoye**	**55.87**	**46**	*eP*		**P**	**23 15 36.4**	**+1.4**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BRVK	**Borovoye**	**55.87**	**46**	*eP*		**P**	**23 15 36.4**	**+1.4**
	comp=Z,4.2nm,0.8s								
BRVK	**Borovoye**	**55.87**	**46**	*eP*		**P**	**23 15 36.4**	**+1.4**
	comp=Z,4.0nm,0.8s								
TXAR	**Lajitas Array**	**57.60**	**277**	P		**P**	**23 15 48.5**	**+0.7**
TXAR	**Lajitas Array**	**57.60**	**277**	P		**P**	**23 15 48.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=65,slow=9.0,SNR=7.0								
TXAR	**Lajitas Array**	**57.60**	**277**	P		**P**	**23 15 48.5**	**+0.7**
ROSC	**El Rosal**	**59.60**	**234**	LR		LR	23 36 52.5		
	comp=Z,93nm,19.8s,baz=88,slow=31								
NVAR	**Mina Array Bea**	**59.84**	**295**	P		**P**	**23 16 02.4**	**-1.0**
NVAR	**Mina Array Bea**	**59.84**	**295**	P		**P**	**23 16 02.4**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=21,slow=7.7,SNR=2.7								
NVAR	**Mina Array Bea**	**59.84**	**295**	P		**P**	**23 16 02.3**	**-1.0**
ZALV	**Zalesovo Beam**	**61.19**	**38**	P		**P**	**23 16 12.9**	**+0.9**
ZALV	**Zalesovo Beam**	**61.19**	**38**	P		**P**	**23 16 12.9**	**+0.9**
ZALV	**Zalesovo Beam**	**61.19**	**38**	P		**P**	**23 16 12.9**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=315,slow=8.0,SNR=5.3								
ZALV				LR		LR	23 43 25.2		
	comp=Z,42nm,18.3s,baz=301,slow=37								
ZALV	**Zalesovo Beam**	**61.19**	**38**	P		**P**	**23 16 12.9**	**+0.9**
EKS2	**Erkin-Say**	**64.98**	**52**	*eP*		**P**	**23 16 39.4**	**+1.9**
EKS2				pmax		pmax			
	comp=Z,6.0nm,0.7s								
EKS2	**Erkin-Say**	**64.98**	**52**	*eP*		**P**	**23 16 39.4**	**+1.9**
	comp=Z,5.5nm,0.7s								
EKS2	**Erkin-Say**	**64.98**	**52**	*eP*		**P**	**23 16 39.4**	**+1.9**
	comp=Z,6.0nm,0.7s								
AAK	**Ala-Archa**	**65.35**	**52**	*eP*		**P**	**23 16 42.2**	**+2.2**
AAK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
AAK	**Ala-Archa**	**65.35**	**52**	*eP*		**P**	**23 16 42.2**	**+2.2**
	comp=Z,7.0nm,1.2s								
MKAR	**Makanchi Array**	**65.72**	**44**	*eP*		**P**	**23 16 42.7**	**+0.5**
MKAR	**Makanchi Array**	**65.72**	**44**	*eP*		**P**	**23 16 42.6**	**+0.5**
MKAR	**Makanchi Array**	**65.72**	**44**	P		**P**	**23 16 42.7**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=332,slow=5.8,SNR=37								
MKAR				LR		LR	23 44 57.1		
	comp=Z,54nm,18.5s,baz=354,slow=36								
MKAR	**Makanchi Array**	**65.72**	**44**	*eP*		**P**	**23 16 42.7**	**+0.5**
MK01	**Makanchi Array**	**65.74**	**44**	*eP*		**P**	**23 16 42.2**	**-0.1**
MK01	**Makanchi Array**	**65.74**	**44**	*eP*		**P**	**23 16 42.2**	**-0.1**
KSH	**Kashi**	**68.44**	**53**	*eP*		**P**	**23 17 02.6**	**+2.9**
KSH				*es*P		**sP**	**23 17 10.3**	**+3.1**
KSH				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KSH				pmax		pmax			
	comp=Z,66nm,10.0s								
KSH				LR		LR			
	comp=Z,33nm,4.3s								
KSH				LR		LR			
	comp=Z,47nm,4.6s								
BDFB	**Brasilia**	**69.28**	**199**	LR		LR	23 40 20.5		
	comp=Z,88nm,18.3s,baz=215,slow=30								
WMQ	**Urumqi**	**70.39**	**43**	P		**P**	**23 17 13.0**	**+1.4**
WMQ				pP		**pP**	**23 17 17.7**	**+0.6**
WMQ				sP		**sP**	**23 17 20.0**	**+0.9**
WMQ				PP		PP	23 19 52.6	+5.8	
WMQ				S		**S**	**23 26 28.5**	**+5.3**
WMQ				pmax		pmax			
	comp=Z,4.0nm,0.5s								
WMQ				pmax		pmax			
	comp=Z,120nm,5.1s								
WMQ				LR		LR			
	comp=Z,37nm,21.2s								
WMQ				LR		LR			
	comp=Z,48nm,19.9s								
SONM	**Songino Array**	**73.68**	**29**	P		**P**	**23 17 33.1**	**+1.8**
SONM	**Songino Array**	**73.68**	**29**	P		**P**	**23 17 33.1**	**+1.8**
	comp=Z,0.6nm,0.2s,baz=345,slow=11,SNR=3.8								
SONM	**Songino Array**	**73.68**	**29**	P		**P**	**23 17 33.1**	**+1.8**
ULN	**Ulaanbaatar**	**73.85**	**28**	*eP*		**P**	**23 17 33.5**	**+1.2**
	comp=Z,8.0nm,2.5s								
LPAZ	**La Paz**	**75.73**	**218**	LR		LR	23 48 20.0		
	comp=Z,42nm,18.3s,baz=245,slow=34								
HIA	**Hailar**	**75.75**	**20**	*eP*		**P**	**23 17 44.0**	**+0.9**
	comp=Z,2.0nm,1.2s								
GTA	**Gaotai**	**78.94**	**37**	*eP*		**P**	**23 18 01.2**	**-0.1**
GTA				pP		**pP**	**23 18 05.6**	**-1.3**
GTA				sP		**sP**	**23 18 08.3**	**-0.6**
GTA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**81.57**	**28**	*eP*		P	23 18 10.7	-4.7	
HHC				PP		**PP**	**23 21 21.4**	**+0.4**
HHC				S		**S**	**23 28 23.4**	**-3.1**
HHC				SKS		**SKSac**	**23 28 27.2**	**-7.1**
HHC				pmax		pmax			
	comp=Z,11nm,1.1s								
HHC				pmax		pmax			
	comp=Z,150nm,5.1s								
HHC				LR		LR			
	comp=Z,250nm,17.1s								
HHC				LR		LR			
	comp=Z,330nm,16.5s								
HHC				LR		LR			
	comp=Z,120nm,17.6s								
CPUP	**Villa Florida**	**81.71**	**205**	LR		LR	23 49 46.0		
	comp=Z,42nm,18.5s,baz=14,slow=32								
CN2	**Changchun**	**82.12**	**18**	*eP*		P	23 18 21.7	+3.6	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
LZH	**Lanzhou**	**83.36**	**36**	*eP*		**P**	**23 18 22.3**	**-2.6**
LZH				pP		**PcP**	**23 18 27.2**	**-2.1**
LZH				sP		**sP**	**23 18 29.8**	**-2.7**
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
BJI	**Beijing**	**83.61**	**25**	P		**P**	**23 18 23.9**	**-2.0**
BJI				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CD2	**Chengdu**	**87.95**	**38**	*eP*		**P**	**23 18 44.6**	**-3.0**
CD2				sP		**sP**	**23 18 51.5**	**-3.8**
CD2				PP		**PP**	**23 22 14.8**	**+1.7**
CD2				SKS		**SKSac**	**23 29 11.4**	**-3.9**
CD2				S		**SKKSac**	**23 29 27.3**	**+2.0**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KSRS	**Korea Array**	**88.72**	**17**	LR		LR	23 59 52.4		
	comp=Z,39nm,19.2s,baz=308,slow=36								
KMI	**Kunming**	**92.70**	**42**	P		**P**	**23 19 07.1**	**-3.0**
KMI				pmax		pmax			
	comp=Z,3.0nm,1.4s								
GYA	**Guiyang**	**93.05**	**38**	*eP*		**P**	**23 19 08.9**	**-2.7**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**96.91**	**48**	LR		LR	00 06 19.7		
	comp=Z,14nm,18.8s,baz=235,slow=37								
WRA	**Warramunga Arr**	**145.63**	**27**	PKPbc		**PKPbc**	**23 25 36.5**	**+0.2**
WRA	**Warramunga Arr**	**145.63**	**27**	PKPbc		**PKPbc**	**23 25 36.5**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=345,slow=3.7,SNR=18								
WRA	**Warramunga Arr**	**145.63**	**27**	PKPbc		**PKPbc**	**23 25 36.5**	**+0.2**

*ISCJB **02** 23:43:52.1±0.9, 3.93S±0.05×133.49E±0.06, h33km, Error ellipse: s-maj=9.7km s-min=7.0km az=153.9*
*DJA **02** 23:44:01.0±1.3, 4.8S×13.3E±, h10km, M4.4/6, mb4.7/1, mB5.0/1, MLv4.2/6, Mw(mB)4.3/1*

ISC 02 23:43:52.3±1.6, 3.8S±0.1×133.6E±0.1, h35km, n11, σ1s59/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
FAKI	**Fak Fak**	**1.56**	**302**	P		**Pn**	**23 44 17.6**		**0.0**
FAKI	**Fak Fak**	**1.56**	**302**	S		**Pn**	**23 44 17.5**		**0.0**
	baz=0.9,SNR=163								
MWPI	**Manokwari, Pap**	**2.85**	**10**	P		x	23 44 39.7		
SWI	**Sorong**	**3.69**	**321**	P		Pn	23 44 58.0		+11
BNDI	**Bandanaira**	**3.73**	**258**	P		**Pn**	**23 44 48.6**		**+1.2**
BNDI				S		**Sn**	**23 45 29.9**		**-0.3**
MSAI	**Masohi**	**4.65**	**275**	P		**Pn**	**23 45 00.1**		**+0.1**
MSAI				S		**Sn**	**23 45 50.7**		**-2.1**
NLAI	**Namlea**	**6.48**	**274**	P		**Pn**	**23 45 27.8**		**+2.6**
KDU	**Kakadu**	**8.94**	**187**	P		**Pn**	**23 46 00.4**		**+1.4**
	baz=9.2,SNR=25								
KDU				S		**Sn**	**23 47 35.5**		**-3.0**
	baz=9.2,SNR=3.7								
MTN	**Manton Dam**	**9.34**	**195**	P		**Pn**	**23 46 05.5**		**+0.9**
	baz=9.6,SNR=64								
MTN				S		**Sn**	**23 47 49.2**		**+0.7**
	baz=9.6,SNR=5.3								
KNRA	**Kununurra**	**12.75**	**201**	P		**Pn**	**23 46 51.1**		**-0.1**
	baz=13,SNR=30								
COEN	**Coen**	**13.88**	**138**	P		**Pn**	**23 47 06.6**		**0.0**
	baz=14,SNR=16								

MEX 02 23:47:44.9±0.7, 16.92N×95.52W, h142km±10km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
VHO	**Vista Hermosa**	**1.17**	**278**	*i* P		Pn	23 48 09.4		-1.3
VHO				*i* S		Sn	23 48 28.2		-2.1
HUIG	**Huatulco**	**1.28**	**206**	*eP*		Pn	23 48 09.7		-1.8
HUIG				*i* S		Sn	23 48 30.4		-1.4
PCIG		**2.52**	**118**	*i* P		Pn	23 48 24.5		-1.4
PCIG				*i* S		Sn	23 48 56.4		-1.0
PNIG	**Pinotepa**	**2.55**	**259**	*i* P		Pn	23 48 24.9		-1.4
PNIG				*eS*		Sn	23 48 56.6		-1.6
LVIG	**Laguna Verde**	**2.92**	**343**	*i* P		Pn	23 48 26.5		-4.4
TLIG	**Tlapa**	**2.98**	**283**	*i* P		Pn	23 48 30.9		-1.0
TLIG				*i* S		Sn	23 49 05.8		-2.3
THIG		**3.72**	**122**	*i* P		Pn	23 48 39.8		-1.4
THIG				*i* S		Sn	23 49 23.2		-1.7
YAIG	**Yautepec**	**3.89**	**300**	*i* P		Pn	23 48 41.8		-1.9
YAIG				*i* S		Sn

	baz=225,slow=28								
ARA0	**ARCESS Array S**	**2.60**	**45**	Pn		**Pn**	**00 23 32.3**	**+0.9**	
	baz=222,slow=15,SNR=50								
ARA0				Sn		**Sn**	**00 24 04.3**	**+0.6**	
	baz=225,slow=25,SNR=50								
ARCES	**ARCESS Array B**	**2.60**	**45**	Pn		**Pn**	**00 23 30.1**	**-1.3**	
	comp=Z,0.4nm,0.3s,baz=225,slow=15,SNR=48								
ARCES				Lg	Lg		00 24 04.9		
	comp=Z,2.2nm,0.3s,baz=225,slow=25,SNR=11								
MOR8	**Moi Rana**	**2.80**	**237**	*e*P		**Pn**	**00 23 35.2**	**+1.1**	
MOR8				*e*Sg		**Sn**	**00 24 10.8**	**+2.2**	
MOR8				IAML			00 24 13.2		
	comp=Z,17nm,0.3s								
MOR8	**Moi Rana**	**2.80**	**237**	*e*P		**Pn**	**00 23 35.2**	**+1.1**	
	SNR=50								
FLOS	**Flostrand**	**3.06**	**245**	*e*Sg		**Sg**	**00 24 24.8**	**-1.6**	
FLOS	**Flostrand**	**3.06**	**245**	*e*Sg		**Sg**	**00 24 24.8**	**-1.6**	
	SNR=90								
KONS	**Konsvik**	**3.07**	**248**	*e*P		**Pn**	**00 23 38.5**	**+0.8**	
KONS				IAML			00 24 26.5		
	comp=Z,13nm,0.4s								
KONS	**Konsvik**	**3.07**	**248**	*e*P		**Pn**	**00 23 38.5**	**+0.8**	
	SNR=50								
KEV	**Kevo**	**3.15**	**48**	*e*P		**Pn**	**00 23 39.6**	**+0.7**	
	baz=244								
KEV				*e*SB		**Sb**	**00 24 23.0**	**-0.9**	
KEV				MSG			00 24 23.0		
	comp=Z,3.4nm,0.4s								
KEV	**Kevo**	**3.15**	**48**	P		**Pn**	**00 23 39.6**	**+0.7**	
STOK	**Stokkvaagen**	**3.19**	**246**	*e*P		**Pn**	**00 23 40.2**	**+0.8**	
STOK				*e*Sg		**Sg**	**00 24 30.2**	**-0.1**	
STOK				IAML			00 24 33.6		
	comp=N,10.0nm,0.4s								
STOK	**Stokkvaagen**	**3.19**	**246**	*e*P		**Pn**	**00 23 40.2**	**+0.8**	
	SNR=50								
STOK				*e*Sg		**Sg**	**00 24 30.2**	**-0.1**	
	SNR=90								
OUL	**Oulu**	**3.54**	**137**	*e*SG		**Sg**	**00 24 39.4**	**-2.5**	
OUL				MSG			00 24 39.4		
	comp=Z,0.7nm,0.4s								
MSF	**Maaselka**	**3.96**	**114**	*e*SG		**Sg**	**00 24 53.3**	**-1.8**	
MSF				MSG			00 24 53.3		
	comp=Z,0.7nm,0.4s								
APA0	**Apatity Array**	**4.86**	**86**	Pn		**Pn**	**00 24 03.7**	**+1.3**	
	baz=294,slow=12								
APA0	**Apatity Array**	**4.86**	**86**	Pn		**Pn**	**00 24 03.7**	**+1.3**	
	baz=294,slow=12								
APA0	**Apatity Array**	**4.86**	**86**	Pn		**Pn**	**00 24 03.7**	**+1.3**	
	baz=294,slow=12,SNR=50								
FIA0	**FINESS Array S**	**6.85**	**156**	Pn		**Pn**	**00 24 30.8**	**+1.1**	
	baz=338,slow=12								
FIA0				Sn		**Sn**	**00 25 48.6**	**+0.3**	
	baz=352,slow=22								
FIA0				Lg	Lg		00 26 22.4		
	baz=345,slow=37								
FIA0	**FINESS Array S**	**6.85**	**156**	Pn		**Pn**	**00 24 30.8**	**+1.1**	
	baz=338,slow=12								
FIA0				Sn		**Sn**	**00 25 48.6**	**+0.3**	
	baz=352,slow=22								
FIA0				Lg	Lg		00 26 22.4		
	baz=345,slow=37								
FIA0	**FINESS Array S**	**6.85**	**156**	Pn		**Pn**	**00 24 30.8**	**+1.1**	
	baz=338,slow=12,SNR=50								
FIA0				Sn		**Sn**	**00 25 48.6**	**+0.3**	
	baz=352,slow=22,SNR=50								
FINES	**FINESS Array B**	**6.85**	**156**	Pn		**Pn**	**00 24 31.0**	**+1.3**	
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=4.7								
FINES				Sn		**Sn**	**00 25 45.7**	**-2.5**	
	comp=Z,0.1nm,0.3s,baz=350,slow=24,SNR=2.8								
FINES				Lg	Lg		00 26 20.9		
	comp=Z,0.3nm,0.3s,baz=341,slow=26,SNR=7.8								
NB2	**NORSAR Subarra**	**7.81**	**214**	Pn		**Pn**	**00 24 42.9**	**-0.1**	
	baz=20,slow=14								
NB2	**NORSAR Subarra**	**7.81**	**214**	Pn		**Pn**	**00 24 42.9**	**-0.1**	
	baz=20,slow=14								
NB2	**NORSAR Subarra**	**7.81**	**214**	Pn		**Pn**	**00 24 42.9**	**-0.1**	
	baz=20,slow=13,SNR=50								
NOA	**NORSAR Array B**	**7.81**	**214**	Pn		**Pn**	**00 24 44.6**	**+1.6**	
	comp=Z,0.1nm,0.3s,baz=25,slow=11,SNR=2.4								
NOA				Lg	Lg		00 26 53.3		
	comp=Z,0.3nm,0.3s,baz=3.6,slow=14,SNR=4.4								
HFS	**Hagfors**	**8.21**	**204**	Pn		**Pn**	**00 24 48.4**	**+0.1**	
	baz=4.0,slow=12								
HFS	**Hagfors**	**8.21**	**204**	Pn		**Pn**	**00 24 48.4**	**+0.1**	
	baz=4.0,slow=12								
HFS	**Hagfors**	**8.21**	**204**	Pn		**Pn**	**00 24 48.4**	**+0.1**	
	baz=4.0,slow=12,SNR=50								
SPA0	**Spitsbergen Ar**	**10.50**	**356**	Pn		**Pn**	**00 25 20.0**	**+0.4**	
	baz=159,slow=18								
SPA0	**Spitsbergen Ar**	**10.50**	**356**	Pn		**Pn**	**00 25 20.0**	**+0.4**	
	baz=159,slow=18								
SPA0	**Spitsbergen Ar**	**10.50**	**356**	Pn		**Pn**	**00 25 20.0**	**+0.4**	
	baz=159,slow=17,SNR=50								

BJI ***03*** *00:23:22.1,3˝.39S×130˚.14E,h24km,mB5.0/8,mb4.6/20, Ms4.7/7,Ms7 4.3/8*

IDC ***03*** *00:23:23.8±0.8,2˝.94S×129˚.92E,h0km,mb4.2/8, mb1 4.2/10,mb1mx4.0/22,mbtmp4.1/10,ML3.8/2,MS3.6/8, Ms1 3.5/8,ms1mx3.3/31,Error ellipse: s-maj=40.3km s-min=16.5km az=66.0*

ISCJB ***03*** *00:23:25.6±0.3,2˝.89S±0˚.03×129˚.98E±0˚.03,h25km, mb4.5/24,MS3.7/9,Error ellipse: s-maj=4.8km s-min=3.9km az=18.7*

NEIC ***03*** *00:23:28.3±0.4,2˝.92S×129˚.98E,h35km,mb4.6/10,Error ellipse: s-maj=14.6km s-min=6.7km az=61.0*

DJA ***03*** *00:23:31.6±0.3,3˝S±3˝×13˚0E±˚,h43km±11km,M4.5/9, mb4.5/8,mB5.4/2,MLv4.6/9,Mw(mB)4.8/2*

ISC 03 00:23:28.3±0.4,2˝78S±0˚.04×130˚06E±0˚.03,h25km,n74, σ2s11/98,mb4.5/24,MS3.6/10,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.27**	**244**	P	**Pb**	**00 23 51.4**	**-0.1**
MSAI				S	**Sb**	**00 24 11.3**	**+3.9**
BNDI	**Bandanaira**	**1.74**	**185**	P	**Pb**	**00 23 59.0**	**-0.6**
BNDI				S	**Sb**	**00 24 24.1**	**+3.1**
FAKI	**Fak Fak**	**2.19**	**94**	P	**Pb**	**00 24 08.6**	**+1.4**
FAKI				S	**Sb**	**00 24 35.7**	**+1.8**
FAKI	**Fak Fak**	**2.19**	**94**	P	**Pn**	**00 24 02.7**	**-0.4**
	baz=2.2,SNR=9.7						
SWI	**Sorong**	**2.25**	**32**	P	**Pb**	**00 24 06.7**	**-1.6**
SWI				S	**Sn**	**00 24 31.3**	**+0.4**
NLAI	**Namlea**	**3.00**	**261**	P	**Pn**	**00 24 15.2**	**+1.0**
LBMI	**Labuha**	**3.33**	**310**	P	**Pn**	**00 24 18.9**	**0.0**
MWPI	**Manokwari, Pap**	**4.38**	**65**	P	x	00 24 37.9	
MWPI				S	x	00 25 27.9	
TNTI	**Ternate**	**4.44**	**323**	P	Pb	00 24 51.6	+6.0
TNTI	**Ternate**	**4.44**	**323**	*e*Pn	**Pn**	**00 24 31.6**	**-2.6**
BAKI	**Biak**	**6.24**	**75**	P	**Pn**	**00 24 59.2**	**+0.3**
	86nm,1.1s						
BAKI				S	**Sn**	**00 26 12.2**	**+2.7**
	86nm,1.1s						
LUWI	**Luwuk**	**7.49**	**283**	P	**Pn**	**00 25 17.4**	**+1.3**
	56nm,1.0s,4μm0.4nm						
LUWI				S	**Sn**	**00 26 40.7**	**+0.4**
	56nm,1.0s,4μm0.4nm						
APSI	**Ampana**	**8.61**	**282**	P	**Pn**	**00 25 30.6**	**-0.9**
	136nm,1.1s,1μm						
APSI				S	**Sn**	**00 27 05.6**	**-2.3**
	136nm,1.1s,1μm						
MRSI	**Marisa**	**8.74**	**292**	P	**Pn**	**00 25 32.6**	**-0.6**
	34nm,1.1s						
MRSI				S	**Sn**	**00 27 10.3**	**-0.8**
	34nm,1.1s						
MTN	**Manton Dam**	**10.06**	**174**	P	**Pn**	**00 25 52.4**	**+1.1**
	baz=9.9,SNR=5.1						
MTN				S	**Sn**	**00 27 44.6**	**+1.3**
	baz=9.9,SNR=3.1						
KDU	**Kakadu**	**10.13**	**167**	P	Pn	00 25 47.7	-4.6
	baz=10.0,SNR=11						
BKSI	**Bulukumba**	**10.23**	**255**	P	**Pn**	**00 25 54.6**	**+0.9**
	27nm,1.4s						
KNRA	**Kununurra**	**12.88**	**186**	P	Pn	00 26 25.1	-4.8
	baz=13,SNR=7.2						
BBKI	**Banjar Baru**	**15.21**	**267**	P	**P**	**00 27 10.9**	**+4.4**
FITZ	**Fitzroy Crossi**	**15.83**	**196**	Pn	**Pn**	**00 27 05.9**	**-3.8**
FITZ	**Fitzroy Crossi**	**15.83**	**196**	Pn	**Pn**	**00 27 05.9**	**-3.8**
	0.1nm,0.3s,baz=18,slow=16,SNR=2.6						
FITZ				LR	LR	00 33 23.2	
	comp=Z,105nm,18.7s,baz=24,slow=38						
COEN	**Coen**	**17.06**	**131**	*e*Pn	**Pn**	**00 27 23.5**	**-1.9**
	120nm,1.1s						
WRA	**Warramunga Arr**	**17.56**	**167**	P	**Pn**	**00 27 29.6**	**-2.0**
WRA	**Warramunga Arr**	**17.56**	**167**	P	**Pn**	**00 27 29.6**	**-2.0**
	0.7nm,0.3s,baz=350,slow=11,SNR=13						
SBUM	**Sibu**	**18.58**	**286**	P	x	00 27 45.1	
	15nm,1.5s						
SBUM	**Sibu**	**18.58**	**286**	*e*P	**P**	**00 27 41.3**	**-2.4**
	31nm,1.5s						
QIS	**Mount Isa**	**19.97**	**153**	P	**P**	**00 27 57.2**	**-1.8**
	baz=20,SNR=6.5						
KSM	**Kuching**	**20.20**	**282**	P	x	00 28 01.4	
KSM	**Kuching**	**20.20**	**282**	*e*P	**P**	**00 28 00.7**	**-0.8**
	65nm,2.0s						
KSM	**Kuching**	**20.20**	**282**	S	S	00 31 39.6	-7.6
	baz=20,SNR=3.3						
AS01	**Alice Springs**	**21.10**	**170**	*e*P	**P**	**00 28 07.8**	**-3.4**
WRKA	**Warakurna**	**22.20**	**184**	P	**P**	**00 28 19.4**	**-3.6**
	baz=22,SNR=23						
CTA	**Charters Tower**	**23.36**	**139**	P	**P**	**00 28 33.2**	**-1.9**
CTA	**Charters Tower**	**23.36**	**139**	P	**P**	**00 28 33.2**	**-1.9**
	2.9nm,0.7s,baz=277,slow=8.1,SNR=3.3						
QIZ	**Qiongzhong**	**29.42**	**318**	P	**P**	**00 29 30.5**	**+0.4**
QIZ				S	**S**	**00 34 22.3**	**-0.5**
STKA	**Stephens Creek**	**30.91**	**161**	*e*P	**P**	**00 29 40.5**	**-2.7**
	6.1nm,1.7s						
STKA	**Stephens Creek**	**30.91**	**161**	P	**P**	**00 29 41.1**	**-2.1**
	1.3nm,0.4s,baz=342,slow=9.2,SNR=7.3						
STKA				LR	LR	00 43 45.1	
	comp=Z,203nm,18.4s,baz=212,slow=40						
JNU	**Nakatsue**	**35.72**	**1**	*e*P	**P**	**00 30 23.4**	**-1.6**
	133nm,1.7s						
JNU	**Nakatsue**	**35.72**	**1**	LR	LR	00 42 43.0	
	comp=Z,136nm,20.3s,baz=63,slow=32						
NJ2	**Nanjing**	**36.24**	**344**	*e*P	**P**	**00 30 30.7**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CM01	**Chiang Mai Arr**	**37.17**	**306**	*e*P	**P**	**00 30 36.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**37.20**	**306**	P	**P**	**00 30 36.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**37.20**	**306**	P	**P**	**00 30 36.9**	**-1.0**
	3.8nm,1.0s,baz=128,slow=6.7,SNR=18						
KMI	**Kunming**	**38.37**	**318**	P	**P**	**00 30 49.0**	**+1.1**
KMI				pP	**pP**	**00 30 58.9**	**+3.4**
KMI				sP	**sP**	**00 31 03.1**	**+4.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**39.85**	**10**	LR	LR	00 46 39.9	
	comp=Z,43nm,18.1s,baz=210,slow=35						
KSRS	**Korea Array**	**40.08**	**357**	LR	LR	00 46 05.6	
	comp=Z,65nm,19.8s,baz=27,slow=34						
CD2	**Chengdu**	**41.84**	**325**	*e*P	**P**	**00 31 16.8**	**+0.3**
CD2				sP	**sP**	**00 31 31.1**	**+4.0**
CD2				PP	**PnPn**	**00 32 57.1**	**-1.6**
CD2				S	**S**	**00 37 32.5**	**-0.6**
CD2				SS	**SS**	**00 40 34.8**	**-5.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				LR	LR		
	comp=N,120nm,11.8s						
CD2				LR	LR		
	comp=Z,110nm,12.0s						
BJI	**Beijing**	**44.48**	**345**	P	**P**	**00 31 36.5**	**-1.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LZH	**Lanzhou**	**45.77**	**330**	*e*P	**P**	**00 31 49.3**	**+1.2**
LZH				pP	**pP**	**00 31 59.4**	**+3.6**
LZH				sP	**sP**	**00 32 02.1**	**+3.3**
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
CN2	**Changchun**	**46.55**	**355**	*e*P	**P**	**00 31 56.6**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**46.59**	**341**	*e*P	**P**	**00 31 54.5**	**0.0**
HHC				PP	**PP**	**00 33 44.1**	**-0.2**
HHC				PcS	**PcS**	**00 37 21.1**	**-2.0**
HHC				S	**S**	**00 38 41.0**	**-1.1**
HHC				sS	**sS**	**00 38 57.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,300nm,5.2s						
HHC				LR	LR		
	comp=N,220nm,16.3s						
HHC				LR	LR		
	comp=E,350nm,15.7s						
HHC				LR	LR		
	comp=Z,170nm,16.7s						
USRK	**Ussuriysk Arra**	**46.80**	**2**	P	**P**	**00 31 56.5**	**+0.6**
	2.4nm,0.8s,baz=195,slow=10,SNR=3.8						
USRK				LR	LR	00 50 28.5	
	comp=Z,34nm,18.6s,baz=21,slow=35						
LSA	**Lhasa**	**49.27**	**314**	*e*P	**P**	**00 32 14.9**	**-1.0**
	4.6nm,1.0s						
GTA	**Gaotai**	**50.36**	**330**	*e*P	**P**	**00 32 23.2**	**-0.4**
GTA				pP	**pP**	**00 32 33.0**	**+1.7**
GTA				sP	**sP**	**00 32 37.1**	**+2.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULN	**Ulaanbaatar**	**54.31**	**341**	*e*P	**P**	**00 32 52.0**	**-0.8**
	7.1nm,1.1s						
SONM	**Songino Array**	**54.50**	**341**	P	**P**	**00 32 53.3**	**-0.8**
SONM	**Songino Array**	**54.50**	**341**	P	**P**	**00 32 53.3**	**-0.8**
	1.6nm,0.7s,baz=134,slow=6.4,SNR=3.9						
WMQ	**Urumqi**	**59.94**	**326**	P	**P**	**00 33 32.5**	**-0.1**
WMQ				pP	**pP**	**00 33 42.6**	**+2.2**
WMQ				sP	**sP**	**00 33 46.5**	**+3.1**
WMQ				PcP	**PcP**	**00 34 18.5**	**-0.2**
WMQ				ScP	**ScP**	**00 38 15.1**	**-3.2**
WMQ				S	**S**	**00 41 40.4**	**-3.0**
WMQ				ScS	**ScS**	**00 43 16.5**	**-5.2**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,16nm,8.7s						
WMQ				LR	LR		
	comp=N,41nm,20.2s						
WMQ				LR	LR		
	comp=E,45nm,26.1s						
WMQ				LR	LR		
	comp=Z,47nm,26.0s						
MK01	**Makanchi Array**	**64.75**	**326**	*e*P	**P**	**00 34 04.9**	**+0.2**
MKAR	**Makanchi Array**	**64.77**	**326**	*e*P	**P**	**00 34 03.9**	**-1.0**
MKAR	**Makanchi Array**	**64.77**	**326**	P	**P**	**00 34 04.6**	**-0.2**
	2.1nm,0.9s,baz=123,slow=7.6,SNR=20						
MKAR				LR	LR	01 02 25.5	
	comp=Z,33nm,21.6s,baz=175,slow=36						
KSH	**Kashi**	**65.00**	**316**	*e*P	**P**	**00 34 06.9**	**+0.3**
KSH				*es*P	**sP**	**00 34 21.3**	**+3.8**
KSH				*e*PcP	**PcP**	**00 34 40.2**	**+0.7**
KSH				*e*PP	**PP**	**00 36 31.7**	**+1.9**
KSH				*e*PcS		00 38 43.1	
KSH				*e*S	**S**	**00 42 44.4**	**-3.0**
KSH				*es*S	**sS**	**00 43 01.1**	**+0.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,62nm,3.6s						
KSH				LR	LR		
	comp=Z,46nm,4.2s						
AAK	**Ala-Archa**	**67.40**	**319**	*e*P	**P**	**00 34 21.3**	**-0.7**
	5.4nm,1.4s						
SEY	**Seymchan**	**67.67**	**11**	P	**P**	**00 34 24.6**	**+1.6**
SEY	**Seymchan**	**67.67**	**11**	P	**P**	**00 34 24.6**	**+1.6**
	3.6nm,0.9s,baz=202,slow=19,SNR=4.2						
ZAA0	**Zalesovo Array**	**67.86**	**333**	*e*P	**P**	**00 34 22.6**	**-1.9**
ZALV	**Zalesovo Beam**	**67.86**	**333**	P	**P**	**00 34 23.5**	**-0.9**
ZALV	**Zalesovo Beam**	**67.86**	**333**	P	**P**	**00 34 23.5**	**-0.9**
	3.0nm,0.9s,baz=116,slow=5.1,SNR=14						
BRVK	**Borovoye**	**74.63**	**327**	*e*P	**P**	**00 35 04.6**	**-0.9**
	13nm,1.6s						
MAW	**Mawson**	**78.88**	**201**	LR	LR	01 07 30.5	
	comp=Z,55nm,19.3s,baz=270,slow=34						
ABKAR	**Akbulak array**	**79.27**	**321**	*e*P	**P**	**00 35 30.5**	**-1.1**
RAYN	**Ar Rayn**	**86.11**	**294**	*e*P	**P**	**00 36 06.7**	**-1.1**
	8.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**127.94**	**284**	PKP	**PKPdf**	**00 42 33.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**127.94**	**284**	PKP	**PKPdf**	**00 42 33.3**	**+0.2**
	0.7nm,1.0s,baz=58,slow=2.0,SNR=3.6						

CASC 03 00:24:46.1±3.1,8˚62N×83˚20W,h18km±9km,MD3.8, 2C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.05**	**49**	↑*i*P	Pg	00 24 49.5	+0.1
ACR				*e*S	Sg	00 24 52.7	+1.0
CTCR	**Cotoan**	**0.52**	**58**	↓*i*P	Pg	00 24 56.2	-0.6
BRU2	**Volcan**	**0.54**	**71**	↓*i*P	Pg	00 24 56.4	-0.7
BRU2				*e*S	Sb	00 25 05.5	+0.8
BRU	**Baru**	**0.66**	**74**	*e*P	Pb	00 24 58.6	-1.1
CNI	**Changuinola**	**1.04**	**41**	↑*i*P	Pb	00 25 04.3	-1.3
BUS	**Buena Vista**	**1.08**	**329**	*e*P	Pb	00 25 04.1	-2.8
BUS				*e*S	Sb	00 25 20.6	-0.3
QCR	**Quepos**	**1.24**	**310**	↓*i*P	Pn	00 25 06.8	-1.8
QCR				*e*S	Sg	00 25 26.2	-0.2
CGA2	**Cerro Gallo 2**	**1.86**	**318**	*e*P	Pn	00 25 16.9	-0.5
JCR	**Jicaral**	**2.24**	**303**	*e*P	Pn	00 25 22.6	+0.1
BCIP	**Isla Barro Col**	**3.37**	**81**	*e*P	Pn	00 25 40.2	+2.3
UPA	**Univ. de Panam**	**3.65**	**84**	*e*P	Pn	00 25 38.7	-3.0
UPA				*e*S	Sb	00 26 35.0	+1.1

BJI ***03*** *00:27:55.7,8˝.60S×159˚.62E,h132km,mB5.1/12,mb4.6/22*

ISCJB ***03*** *00:27:58.5±0.8,8˝.60S±0˚.05×158˚.97E±0˚.06,h133km±7km, mb4.5/38,Error ellipse: s-maj=10.0km s-min=8.0km az=21.3*

IDC ***03*** *00:27:59.0±0.5,8˝.60S×158˚.97E,h127km±4km,mb4.0/17, mb1 4.2/19,mb1mx4.2/22,mbtmp4.0/19,MS3.4/1, Ms1 3.4/1,ms1mx2.8/33,Error ellipse: s-maj=12.5km s-min=8.9km az=53.0*

NEIC ***03*** *00:27:59.7±0.9,8˝.56S×159˚.00E,h132km±8km,mb4.8/15, Error ellipse: s-maj=8.4km s-min=6.9km az=124.0*

ISC 03 00:27:59.7±0.4,8˚62S±0˚.05×159˚12E±0˚.07,h133km±2km, h133km:pP-P,n99,σ1s53/130,mb4.4/38,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.15**	**135**	*e*Pn	**Pn**	**00 28 24.9**	**+0.6**
HNR				*e*Sn	**Sn**	**00 28 44.9**	**+1.9**
HNR	**Honiara**	**1.15**	**135**	P	**Pn**	**00 28 24.9**	**+0.6**
	909nm,0.3s,baz=200,slow=6.7,SNR=135						
HNR				S	**Sn**	**00 28 43.3**	**+0.3**
	725nm,0.3s,baz=234,slow=19,SNR=26						
HNR	**Honiara**	**1.15**	**135**	*i* P	**Pn**	**00 28 24.9**	**+0.6**
HNR				*i* S	**Sn**	**00 28 44.5**	**+1.5**
DZM	**Mont Dzumac**	**15.12**	**153**	P	**P**	**00 31 28.0**	**-0.7**
DZM	**Mont Dzumac**	**15.12**	**153**	P	**P**	**00 31 28.0**	**-0.7**
	0.4nm,0.3s,baz=1.3,slow=23,SNR=3.3						
COEN	**Coen**	**16.51**	**250**	*e*Pn	**Pn**	**00 31 42.9**	**-0.9**
	94nm,1.3s						
COEN	**Coen**	**16.51**	**250**	P	**P**	**00 31 47.2**	**+3.2**
	baz=18,SNR=5.8						
CTA	**Charters Tower**	**16.88**	**226**	P	**P**	**00 31 48.0**	**0.0**
CTA	**Charters Tower**	**16.88**	**226**	P	**P**	**00 31 48.0**	**0.0**
	0.4nm,0.3s,baz=49,slow=16,SNR=9.2						
CTAO	**Charters Tower**	**16.88**	**226**	*e*P	**Pn**	**00 31 49.4**	**+1.2**
	9.8nm,0.8s						
EIDS	**Eidsvold**	**18.34**	**204**	*e*P	**Pn**	**00 32 06.3**	**+0.7**
	20nm,0.9s						
EIDS	**Eidsvold**	**18.34**	**204**	P	**Pn**	**00 32 06.4**	**+0.8**
	baz=20,SNR=5.2						
JAY	**Jayapura**	**19.30**	**287**	P	**P**	**00 32 14.1**	**-0.5**
	baz=20,SNR=5.6						
RMQ	**Roma**	**20.31**	**208**	P	Pn	00 32 27.8	-1.0
	baz=22,SNR=8.5						
QLP	**Quilpie**	**22.77**	**216**	P	**P**	**00 32 51.1**	**+0.1**
	baz=24,SNR=6.2						
ARMA	**Armidale**	**22.80**	**197**	*e*P	**P**	**00 32 52.6**	**+1.3**
	319nm,2.8s						
ARMA	**Armidale**	**22.80**	**197**	P	**P**	**00 32 52.4**	**+1.1**
	baz=24,SNR=10						
CMSA	**Cobar Meteorol**	**26.01**	**207**	P	**P**	**00 33 20.3**	**-0.1**
	baz=28,SNR=8.2						
WRAB	**Tennant Creek**	**26.47**	**242**	*e*P	**P**	**00 33 23.8**	**-0.9**
	11nm,1.0s						
WRA	**Warramunga Arr**	**26.48**	**242**	P	**P**	**00 33 23.8**	**-1.1**
WRA				pP	**pP**	**00 33 50.2**	**-2.8**
WRA	**Warramunga Arr**	**26.48**	**242**	P	**P**	**00 33 23.8**	**-1.1**
	2.6nm,0.5s,baz=67,slow=9.1,SNR=11						
WRA				pP	**pP**	**00 33 50.2**	**-2.8**
	4.7nm,0.7s,baz=68,slow=9.6,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**27.95**	**15**	T	T	01 02 09.6	
	baz=199,slow=78,SNR=139						
H11S2	**WAKE ISLAND Hy**	**27.95**	**15**	T	T	01 02 09.6	
	baz=199,slow=78,SNR=165						
H11S1	**WAKE ISLAND Hy**	**27.97**	**15**	T	T	01 02 08.6	
	baz=199,slow=78,SNR=227						
STKA	**Stephens Creek**	**28.30**	**213**	*e*P	**P**	**00 33 40.7**	**-0.2**
	23nm,2.6s						
STKA	**Stephens Creek**	**28.30**	**213**	P	**P**	**00 33 41.2**	**+0.3**
	2.9nm,0.4s,baz=46,slow=13,SNR=18						
AS01	**Alice Springs**	**28.36**	**235**	*e*P	**P**	**00 33 40.0**	**-1.5**
ASAR	**Alice Springs**	**28.40**	**235**	P	**P**	**00 33 40.0**	**-1.9**
ASAR	**Alice Springs**	**28.40**	**235**	P	**P**	**00 33 40.0**	**-1.9**
	5.4nm,0.4s,baz=63,slow=9.8,SNR=80						
H11N1	**WAKE ISLAND Hy**	**29.17**	**15**	T	T	01 04 07.3	
	baz=198,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**29.18**	**15**	T	T	01 04 07.0	
	baz=198,slow=75,SNR=152						
H11N2	**WAKE ISLAND Hy**	**29.19**	**15**	T	T	01 04 13.3	
	baz=198,slow=75,SNR=135						
OUZ	**Omahuta**	**29.61**	**156**	*e*P	**P**	**00 33 53.8**	**+1.4**
	32nm,1.6s						
KNRA	**Kununurra**	**30.47**	**254**	P	**P**	**00 33 59.0**	**-1.2**
	baz=32,SNR=8.2						
HTT	**Hallett**	**30.94**	**214**	P	**P**	**00 34 04.2**	**

HHC					sS	**sS**	**00 48 03.3 +0.1**		
HHC					SS	**SS**	**00 51 29.3 +4.1**		
HHC					pmax	pmax			
	comp=Z,8.0nm,1.0s								
HHC					pmax	pmax			
	comp=Z,92nm,5.3s								
HHC					LR	LR			
	comp=N,290nm,16.9s								
HHC					LR	LR			
	comp=E,390nm,15.3s								
HHC					LR	LR			
	comp=Z,160nm,16.7s								
CD2	**Chengdu**	**65.98**	**309**	*e*P	**P**	**00 38 33.9 +1.7**			
CD2				sP	**sP**	**00 39 20.5 +1.7**			
CD2				PP	**PP**	**00 41 03.1 +3.8**			
CD2				S	**S**	**00 47 09.6 0.0**			
CD2				sS	**sS**	**00 48 05.8 +0.6**			
CD2				SS	**SS**	**00 51 28.5 +0.8**			
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
LZH	**Lanzhou**	**68.35**	**314**	*e*P	**P**	**00 38 47.5 +0.3**			
LZH				pP	**pP**	**00 39 21.6 +2.0**			
LZH				sP	**sP**	**00 39 37.2 +3.2**			
LZH				pmax	pmax				
	comp=Z,17nm,1.0s								
VNDA	**Vanda**	**68.89**	**179**	P	**P**	**00 38 50.2 +0.6**			
VNDA	**Vanda**	**68.89**	**179**	P	**P**	**00 38 50.2 +0.6**			
	2.7nm,0.6s,baz=2.0,slow=5.8,SNR=9.5								
ULN	**Ulaanbaatar**	**72.58**	**326**	*e*P	**P**	**00 39 12.9 +0.2**			
	3.7nm,0.6s								
GTA	**Gaotai**	**72.73**	**316**	*e*P	**P**	**00 39 14.0 +0.3**			
GTA				pP	**pP**	**00 39 45.5 -1.0**			
GTA				sP	**sP**	**00 39 59.2 -1.5**			
GTA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**72.93**	**326**	P	**P**	**00 39 15.2 +0.5**			
SONM				pP	**pP**	**00 39 45.1 -2.4**			
SONM	**Songino Array**	**72.93**	**326**	P	**P**	**00 39 15.2 +0.5**			
	7.9nm,0.6s,baz=140,slow=5.7,SNR=18								
SONM				pP	**pP**	**00 39 45.1 -2.4**			
	4.8nm,0.8s,baz=120,slow=5.4,SNR=2.4								
SONA1	**Songino Array**	**72.93**	**326**	*e*P	**P**	**00 39 15.1 +0.4**			
QSPA	**South Pole Qui**	**81.37**	**180**	*e*P	**P**	**00 40 01.0 -0.5**			
	96nm,2.8s								
MCK	**McKinley**	**82.07**	**21**	*e*P	**P**	**00 40 04.7 -0.3**			
	6.7nm,0.9s								
WMQ	**Urumqi**	**82.80**	**316**	P	**P**	**00 40 09.4 +0.1**			
WMQ				pP	**pP**	**00 40 41.4 -1.5**			
WMQ				sP	**sP**	**00 40 55.0 -1.9**			
WMQ				PP	**PP**	**00 43 19.4 -2.0**			
WMQ				S	**S**	**00 50 15.0 -1.7**			
WMQ				pmax	pmax				
	comp=Z,3.0nm,0.8s								
WMQ				LR	LR				
	comp=N,18nm,28.4s								
WMQ				LR	LR				
	comp=E,12nm,21.4s								
WMQ				LR	LR				
	comp=Z,19nm,12.2s								
IL1	**Eielson Array**	**83.42**	**20**	*e*P	**P**	**00 40 11.6 -0.3**			
ILAR	**Eielson Array**	**83.42**	**20**	P	**P**	**00 40 11.2 -0.7**			
ILAR				pP	**pP**	**00 40 44.0 -1.4**			
ILAR	**Eielson Array**	**83.42**	**20**	P	**P**	**00 40 11.2 -0.7**			
	2.3nm,0.5s,baz=250,slow=5.0,SNR=79								
ILAR				pP	**pP**	**00 40 44.0 -1.4**			
	1.8nm,1.0s,baz=254,slow=5.2,SNR=3.4								
MK01	**Makanchi Array**	**87.31**	**318**	*e*P	**P**	**00 40 30.8 -0.9**			
MKAR	**Makanchi Array**	**87.33**	**318**	*e*P	**P**	**00 40 30.9 -0.9**			
MKAR				pP	**pP**	**00 41 04.1 -1.5**			
MKAR	**Makanchi Array**	**87.33**	**318**	P	**P**	**00 40 30.9 -0.9**			
	2.9nm,0.6s,baz=96,slow=6.4,SNR=41								
MKAR				pP	**pP**	**00 41 04.1 -1.5**			
	1.2nm,0.6s,baz=99,slow=5.8,SNR=4.3								
ZALV	**Zalesovo Beam**	**87.82**	**325**	P	**P**	**00 40 32.5 -1.4**			
ZALV				pP	**pP**	**00 41 06.5 -1.2**			
ZALV	**Zalesovo Beam**	**87.82**	**325**	P	**P**	**00 40 32.5 -1.4**			
	1.0nm,0.4s,baz=115,slow=5.6,SNR=5.8								
ZALV				pP	**pP**	**00 41 06.5 -1.2**			
	0.8nm,0.8s,baz=96,slow=6.0,SNR=2.3								
NV01	**Mina Array Sit**	**89.53**	**51**	*e*P	**P**	**00 40 43.7 +1.1**			
NVAR	**Mina Array Bea**	**89.53**	**51**	P	**P**	**00 40 44.5 +1.8**			
NVAR	**Mina Array Bea**	**89.53**	**51**	P	**P**	**00 40 44.5 +1.8**			
	2.0nm,1.0s,baz=252,slow=6.1,SNR=10								
KSH	**Kashi**	**90.17**	**310**	*e*P	**P**	**00 40 46.5 +1.0**			
KSH				*e*sP	**sP**	**00 41 37.0 +3.6**			
KSH				*e*PP	**PP**	**00 44 22.0 +1.0**			
KSH				*e*SKS	**SKSac**	**00 51 01.2 -3.3**			
KSH				*e*S	**SKKSac**	**00 51 23.0 +4.5**			
KSH				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KSH				LR	LR				
	comp=N,32nm,5.4s								
KSH				LR	LR				
	comp=E,77nm,6.1s								
KSH				LR	LR				
	comp=Z,94nm,4.8s								
TPNV	**Topopah Spring**	**90.86**	**53**	*e*P	**P**	**00 40 50.4 +1.7**			
YKA	**Yellowknife Ar**	**95.85**	**28**	P	**P**	**00 41 11.2 +0.3**			
YKA	**Yellowknife Ar**	**95.85**	**28**	P	**P**	**00 41 11.2 +0.3**			
	0.8nm,0.6s,baz=258,slow=4.8,SNR=13								
YKB5	**Yellowknife Ar**	**95.85**	**28**	*e*P	**P**	**00 41 10.1 -0.8**			
PDAR	**Pinedale Array**	**96.75**	**48**	P	**P**	**00 41 16.4 +0.7**			
PDAR	**Pinedale Array**	**96.75**	**48**	P	**P**	**00 41 16.4 +0.7**			
	1.0nm,0.8s,baz=261,slow=3.2,SNR=8.0								
AKASG	**Malin Array Be**	**121.21**	**325**	PKP	**PKPdf**	**00 46 35.6 -1.4**			
AKASG	**Malin Array Be**	**121.21**	**325**	PKP	**PKPdf**	**00 46 35.6 -1.4**			
	0.6nm,0.6s,baz=50,slow=2.6,SNR=7.2								
LPAZ	**La Paz**	**127.09**	**118**	PKP	**PKPdf**	**00 46 49.2 -0.8**			
LPAZ	**La Paz**	**127.09**	**118**	PKP	**PKPdf**	**00 46 49.2 -0.8**			
	0.9nm,0.7s,baz=257,slow=6.1,SNR=3.8								
GERES	**GERESS Array B**	**130.51**	**330**	PKP	**PKPdf**	**00 46 54.1 -0.9**			
GERES	**GERESS Array B**	**130.51**	**330**	PKP	**PKPdf**	**00 46 54.1 -0.9**			
	0.3nm,0.6s,baz=89,slow=4.2,SNR=2.9								
ESDC	**Sonseca Array**	**145.57**	**337**	PKPbc	**PKPab**	**00 47 23.8 +0.3**			
ESDC				pPKPbc	pPKPbc	00 47 55.4 -2.8			
ESDC	**Sonseca Array**	**145.57**	**337**	PKPbc	**PKPab**	**00 47 23.8 +0.3**			
	0.7nm,0.6s,baz=16,slow=4.9,SNR=6.0								
ESDC				pPKPbc	pPKPbc	00 47 55.4 -2.8			
	2.3nm,1.0s,baz=21,slow=3.1,SNR=2.5								

BJI ***03*** *00:49:57.7, 8.˚78S× 123.˚36E, h209km, mB4.8/12, mb4.4/21*
IDC ***03*** *00:50:02.9± 3.1, 7.˚98S× 122.˚99E, h196km± 30km, mb3.9/19, mb1 4.0/21, mb1mx3.9/28, mbtmp3.9/21, MS2.9/1, Ms1 2.9/1, ms1mx2.6/24, Error ellipse: s-maj=17.6km s-min=9.4km az=74.0*
NEIC ***03*** *00:50:03.4± 0.6, 8.˚01S× 122.˚96E, h200km± 6km, mb4.6/12, Error ellipse: s-maj=10.3km s-min=5.1km az=49.0*
ISCJB ***03*** *00:50:04.0± 0.2, 8.˚08S± 0.˚03× 122.˚92E± 0.˚03, h221km, mb4.2/35, Error ellipse: s-maj=4.3km s-min=2.8km az=137.6*
DJA ***03*** *00:50:05.4± 0.2, 8.˚3S± 2.˚2× 12.˚3E± .˚1, h189km± 4km, M4.5/34, mb4.7/34, mB4.9/12, MLv4.7/17, Mw(mB)4.2/12*

ISC 03 00:50:05.2±0.3,**8.˚19S**±0.˚04×**122.˚98E**±0.˚05,**h221**km,**n168,**
σ1s**76**/176,**mb4.3**/34,**Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.86**	**239**	P	**Pn**	**00 50 33.4**	**-2.9**
MMRI	**Maumere**	**0.86**	**239**	*e*Pn	**Pn**	**00 50 33.7**	**-2.6**
MMRI				*e*Sn	**S**	**00 50 59.3**	**-1.3**
SOEI	**Soe**	**2.01**	**141**	P	**Pn**	**00 50 45.7**	**+0.1**
SOEI				S	**S**	**00 51 16.9**	**-0.1**
SOEI	**Soe**	**2.01**	**141**	P	**Pn**	**00 50 45.2**	**-0.3**
	baz=2.2,SNR=168						
WSI	**Waingapu**	**3.03**	**241**	P	**Pn**	**00 50 54.4**	**-1.9**
WSI	**Waingapu**	**3.03**	**241**	P	**Pn**	**00 50 54.7**	**-1.6**
	baz=3.1,SNR=14						
LBFI	**Labuhan Bajo,**	**3.07**	**264**	P	x	00 50 54.6	
BKSI	**Bulukumba**	**4.02**	**315**	P	Pn	00 51 04.0	-4.0
KKSI	**Kolaka, Sulawe**	**4.20**	**342**	P	x	00 51 06.4	
KAPI	**Kappang**	**4.50**	**314**	*e*Pn	Pn	00 51 10.6	-3.3
BNSI	**Bone**	**4.72**	**323**	P	**Pn**	**00 51 13.9**	**-2.8**
SPSI	**Sidrap Palu**	**5.27**	**323**	P	**Pn**	**00 51 20.4**	**-3.2**
	94nm,0.9s,1μm0.3nm						
TTSI	**Tana Toraja**	**6.00**	**328**	P	**Pn**	**00 51 31.2**	**-1.6**
	160nm,0.8s,1μm0.4nm						
MJSI	**Majene**	**6.09**	**319**	P	x	00 51 34.1	
	120nm,1.0s,1μm0.4nm						
NLAI	**Namlea**	**6.40**	**40**	P	**Pn**	**00 51 40.5**	**+2.5**
MTNI	**Mataram**	**6.75**	**266**	P	x	00 51 40.5	
	116nm,0.6s,2μm0.4nm						
MMSI	**Mamuju**	**6.80**	**323**	P	x	00 51 43.0	
	58nm,0.9s,0.2nm						
LUWI	**Luwuk**	**7.10**	**358**	P	**Pn**	**00 51 44.3**	**-2.7**
	61nm,1.4s,1μm0.3nm						
KHKI	**Kahang-Kahang**	**7.30**	**268**	P	x	00 51 46.0	
	60nm,1.0s,0.2nm						
APSI	**Ampana**	**7.35**	**350**	P	**Pn**	**00 51 47.4**	**-2.7**
	124nm,1.0s,1μm0.4nm						
MSAI	**Masohi**	**7.63**	**51**	P	**Pn**	**00 51 54.1**	**+0.4**
	15nm,0.8s,0.1nm						
SRBI	**Singaraja**	**7.69**	**270**	P	**Pn**	**00 51 53.5**	**-1.0**
	82nm,0.9s,0.3nm						
ABJI	**Asem Bagus**	**8.67**	**272**	P	Pn	00 52 13.0	+5.9
MRSI	**Marisa**	**8.67**	**353**	P	**Pn**	**00 52 04.0**	**-3.1**
	81nm,1.1s,2μm						
JAGI	**Jajag, Banyuwa**	**8.74**	**268**	*e*Pn	Pn	00 52 04.2	-3.8
JAGI				*e*Sn	S	00 53 36.6	-10
JAGI	**Jajag, Banyuwa**	**8.74**	**268**	P	**Pn**	**00 52 05.2**	**-2.9**
	baz=8.8,SNR=10						
KMMI	**Kalianget**	**9.00**	**277**	P	**Pn**	**00 52 11.3**	**-0.1**
	49nm,0.7s,3μm						
MTN	**Manton Dam**	**9.26**	**121**	P	**Pn**	**00 52 14.1**	**-0.6**
	baz=9.3,SNR=456						
MTN				S	S	00 53 52.4	-6.5
	baz=9.3,SNR=17						
BLJI	**Banyuglugur**	**9.30**	**272**	P	**Pn**	**00 52 17.7**	**+2.4**
KNRA	**Kununurra**	**9.35**	**143**	P	**Pn**	**00 52 15.2**	**-0.6**
	baz=9.5,SNR=84						
KNRA				S	**S**	**00 53 56.3**	**-4.8**
	baz=9.5,SNR=17						
BBKI	**Banjar Baru**	**9.36**	**300**	P	**Pn**	**00 52 17.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**10.19**	**166**	P	**Pn**	**00 52 26.3**	**-0.2**
FITZ				S	**S**	**00 54 18.0**	**-3.0**
FITZ	**Fitzroy Crossi**	**10.19**	**166**	P	**Pn**	**00 52 26.3**	**-0.2**
	baz=4.1,slow=11						
FITZ				S	**S**	**00 54 18.0**	**-3.0**
FITZ				LR	LR	00 56 41.0	
	comp=Z,61nm,20.2s,baz=290,slow=38						
KDU	**Kakadu**	**10.35**	**116**	P	**Pn**	**00 52 27.2**	**-1.5**
	baz=10,SNR=50						
GRJI	**Gresik**	**10.48**	**276**	P	**Pn**	**00 52 29.9**	**-0.5**
	39nm,0.9s						
FAKI	**Fak Fak**	**10.61**	**61**	P	**Pn**	**00 52 30.2**	**-1.8**
	150nm,0.9s,1μm						
FAKI	**Fak Fak**	**10.61**	**61**	P	**Pn**	**00 52 29.5**	**-2.5**
	baz=10,SNR=21						
PWJI	**Pagerwojo**	**11.06**	**270**	P	**Pn**	**00 52 35.7**	**-2.1**
	71nm,0.8s						
NGJI	**Ngawi**	**11.44**	**273**	P	**P**	**00 52 49.5**	**+2.1**
PCJI	**Pacitan**	**11.68**	**269**	P	**Pn**	**00 52 43.0**	**-2.6**
	138nm,0.7s						
UGM	**Wanagama**	**12.34**	**270**	*e*Pn	**Pn**	**00 52 51.0**	**-2.9**
UGM	**Wanagama**	**12.34**	**270**	P	**Pn**	**00 52 51.1**	**-2.8**
	baz=12,SNR=16						
SMRI	**Semarang**	**12.48**	**274**	P	**Pn**	**00 52 55.4**	**-0.2**
	88nm,1.2s						
SMRI	**Semarang**	**12.48**	**274**	*e*Pn	Pn	00 52 50.3	-5.3
SMRI	**Semarang**	**12.48**	**274**	P	**Pn**	**00 52 55.1**	**-0.6**
	baz=12,SNR=3.9						
MWPI	**Mamokwari, Pap**	**13.17**	**57**	P	x	00 53 04.4	
	161nm,1.1s						
BJII	**Banjamegara**	**13.18**	**273**	P	x	00 53 03.3	
	58nm,0.7s						
TGJI	**Tegal**	**13.80**	**275**	P	x	00 53 09.6	
	90nm,1.2s						
KPJI	**Karang Pucung**	**13.95**	**273**	P	**Pn**	**00 53 13.7**	**-0.1**
	54nm,0.8s						
MYLDM	**Lahad Datu**	**14.01**	**341**	*e*Pn	Pn	00 53 10.3	-4.2
BAKI	**Biak**	**14.81**	**63**	P	**Pn**	**00 53 24.3**	**-0.1**
	241nm,1.1s,2μm						
CISI	**Cisompet, Garu**	**15.03**	**271**	*e*Pn	**Pn**	**00 53 24.8**	**-2.3**
	62nm,1.0s						
CISI	**Cisompet, Garu**	**15.03**	**271**	P	**Pn**	**00 53 25.1**	**-2.0**
	baz=15,SNR=4.1						
SBUM	**Sibu**	**15.06**	**314**	*e*Pn	**Pn**	**00 53 27.4**	**0.0**
LEM	**Lembang**	**15.29**	**274**	P	**Pn**	**00 53 35.1**	**+4.8**
KSM	**Kuching**	**15.87**	**307**	P	x	00 53 37.9	
	16nm,1.1s						
KSM	**Kuching**	**15.87**	**307**	*e*P	**P**	**00 53 36.0**	**-0.5**
	13nm,1.0s						
KSM	**Kuching**	**15.87**	**307**	P	**Pn**	**00 53 38.3**	**+1.2**
	baz=16,SNR=3.5						
WRA	**Warramunga Arr**	**16.05**	**138**	P	**Pn**	**00 53 39.6**	**+0.3**
WRA				S	**S**	**00 56 33.1**	**-2.7**
WRA	**Warramunga Arr**	**16.05**	**138**	P	**Pn**	**00 53 39.6**	**+0.3**
	2.6nm,0.3s,baz=312,slow=12,SNR=93						
WRA				S	**S**	**00 56 33.1**	**-2.7**
	3.6nm,0.3s,baz=304,slow=22,SNR=9.5						
WRAB	**Tennant Creek**	**16.05**	**138**	*e*P	**P**	**00 53 38.8**	**+0.4**
	29nm,0.7s						
DBJI	**Dramaga**	**16.18**	**275**	P	**P**	**00 53 40.3**	**+0.4**
	89nm,1.1s						
GIRL	**Giralia**	**16.65**	**209**	P	**Pn**	**00 53 48.1**	**+1.8**
	baz=17,SNR=7.8						
XMIS	**Christmas Isla**	**17.25**	**261**	*e*P	**P**	**00 53 52.2**	**+0.6**
	334nm,0.7s						
XMIS	**Christmas Isla**	**17.25**	**261**	S	S	00 57 09.4	+10
	baz=17,SNR=4.3						
WRKA	**Warakurna**	**17.51**	**164**	P	**Pn**	**00 53 57.0**	**+0.5**
	baz=18,SNR=204						
GENI	**Genyem**	**17.99**	**73**	P	**Pn**	**00 54 01.0**	**-1.2**
	100nm,0.9s,2μm						
JAY	**Jayapura**	**18.52**	**73**	P	**P**	**00 54 06.1**	**+0.6**
	baz=18,SNR=12						
ASAR	**Alice Springs**	**18.62**	**147**	P	**Pn**	**00 54 08.9**	**-0.6**
ASAR				S	**S**	**00 57 26.4**	**-0.5**
ASAR	**Alice Springs**	**18.62**	**147**	P	**Pn**	**00 54 08.9**	**-0.6**
	7.2nm,0.3s,baz=334,slow=12,SNR=210						
ASAR				S	**S**	**00 57 26.4**	**-0.5**
	baz=320,slow=16,SNR=6.4						
AS01	**Alice Springs**	**18.64**	**147**	*e*P	**Pn**	**00 54 09.0**	**-0.7**
MEEK	**Meekatharra**	**18.81**	**192**	P	**Pn**	**00 54 10.8**	**-0.9**
	baz=19,SNR=65						
MEEK				S	S	00 57 41.3	+11
	baz=19,SNR=5.8						
PALU	**Palau**	**19.22**	**37**	P	**P**	**00 54 11.9**	**-1.0**
	baz=19,SNR=4.2						
QIS	**Mount Isa**	**20.24**	**129**	P	**P**	**00 54 25.7**	**+1.8**
	baz=20,SNR=62						
COEN	**Coen**	**20.63**	**108**	*e*P	**P**	**00 54 28.2**	**+0.2**
	83nm,0.7s						
COEN	**Coen**	**20.63**	**108**	P	**P**	**00 54 28.3**	**+0.2**
	baz=21,SNR=63						
MYKOM	**Kota Tinggi**	**21.50**	**297**	P	x	00 54 39.5	
	21nm,1.5s						
MORW	**Morawa**	**21.77**	**197**	P	**P**	**00 54 40.9**	**+1.4**
	baz=22,SNR=6.7						
MORW				S	S	00 58 48.5	+24
	baz=22,SNR=3.7						
FORT	**Forrest**	**22.97**	**169**	*e*P	**P**	**00 54 52.8**	**+2.3**
	61nm,0.7s						
FORT	**Forrest**	**22.97**	**169**	P	**P**	**00 54 52.6**	**+2.1**
	baz=23,SNR=25						
BLDU	**Ballidu**	**23.07**	**194**	P	**P**	**00 54 53.1**	**+1.7**
	baz=23,SNR=24						
KMBL	**Kambalda**	**23.09**	**182**	P	**P**	**00 54 53.6**	**+2.1**
	baz=23,SNR=7.1						
KLBR	**Kellerberrin**	**23.79**	**191**	P	**P**	**00 54 59.9**	**+2.0**
	baz=24,SNR=16						
PMG	**Port Moresby**	**23.93**	**95**	P	**P**	**00 54 58.9**	**-0.5**
PMG	**Port Moresby**	**23.93**	**95**	P	**P**	**00 54 58.9**	**-0.5**
	13nm,0.7s,baz=297,slow=2.3,SNR=3.9						
NWAO	**Narrogin (SRO)**	**25.19**	**191**	P	**P**	**00 55 11.9**	**+1.3**
NWAO	**Narrogin (SRO)**	**25.19**	**191**	P	**P**	**00 55 11.9**	**+1.3**
	11nm,0.4s,baz=26,slow=8.2,SNR=18						
CTA	**Charters Tower**	**25.44**	**120**	P	**P**	**00 55 13.4**	**+0.3**
CTA	**Charters Tower**	**25.44**	**120**	P	**P**	**00 55 13.4**	**+0.3**
	4.4nm,0.8s,baz=295,slow=12,SNR=6.2						
QLP	**Quilpie**	**27.23**	**135**	P	**P**	**00 55 31.9**	**+2.9**
	baz=27,SNR=3.8						
BBOO	**Buckleboo**	**27.34**	**155**	*e*P	**P**	**00 55 31.7**	**+1.9**
	209nm,0.4s						
BBOO	**Buckleboo**	**27.34**	**155**	P	**P**	**00 55 31.6**	**+1.8**
	baz=28,SNR=127						
HTT	**Hallett**	**29.12**	**152**	P	**P**	**00 55 48.2**	**+2.5**
	baz=29,SNR=36						
STKA	**Stephens Creek**	**29.25**	**146**	*e*P	**P**	**00 55 49.0**	**+2.3**
	3.4nm,1.0s						
STKA	**Stephens Creek**	**29.25**	**146**	P	**P**	**00 55 49.2**	**+2.5**
	12nm,0.7s,baz=313,slow=8.7,SNR=33						
RMQ	**Roma**	**30.50**	**130**	P	**P**	**00 56 00.9**	**+3.0**
	baz=31,SNR=8.1						
CMSA	**Cobar Meteorol**	**31.42**	**141**	P	**P**	**00 56 09.0**	**+3.2**
	baz=32,SNR=7.2						
ARPS	**Mount Arapiles**	**33.22**	**152**	P	P	00 56 24.9	+3.4
	baz=34,SNR=22						
YNG	**Young**	**34.96**	**142**	P	P	00 56 40.0	+3.6
	baz=35,SNR=8.5						
CMAR	**Chiang Mai Arr**	**35.55**	**318**	P	**P**	**00 56 41.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**35.55**	**318**	P	**P**	**00 56 41.2**	**-0.4**
	1.2nm,0.7s,baz=141,slow=7.1,SNR=8.5						
TOO	**Toolangi**	**35.66**	**149**	P	P	00 56 46.4	+4.1
	baz=36,SNR=7.4						
GYA	**Guiyang**	**37.91**	**336**	*e*P	**P**	**00 57 03.2**	**+1.7**
GYA				pP	**pP**	**00 57 48.4**	**+1.0**
GYA				sP	**sP**	**00 58 12.2**	**-0.4**
GYA				PP	**PnPn**	**00 58 38.0**	**+0.7**
GYA				PcP	**PcP**	**00 59 14.4**	**+1.5**
GYA				S	**ScP**	**01 02 39.0**	**-0.4**
GYA				ScP	**S**	**01 02 41.7**	**+5.1**
GYA				PcS	**PcS**	**01 03 03.2**	**+1.0**
GYA				ScS	**ScS**	**01 06 50.0**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
KMI	**Kunming**	**38.53**	**330**	P	**P**	**00 57 07.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CD2	**Chengdu**	**43.02**	**336**	*e*P	**P**	**00 57 44.9**	**+1.7**
XAN	**Xi'an**	**44.06**	**343**	P	**P**	**00 57 50.4**	**-1.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**46.74**	**17**	P	**P**	**00 58 09.9**	**-2.4**
MJAR	**Matsushiro Arr**	**46.74**	**17**	P	**P**	**00 58 09.9**	**-2.4**
	1.3nm,0.5s,baz=188,slow=9.4,SNR=9.0						
LZH	**Lanzhou**	**47.58**	**339**	*e*P	**P**	**00 58 21.5**	**+2.5**
LZH				pP	**pP**	**00 59 06.6**	**-0.2**
LZH				sP	**sP**	**00 59 29.2**	**-2.3**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
BJI	**Beijing**	**48.40**	**353**	P	P	00 58 21.2	-3.8
BJI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ODAN	**Odare**	**49.04**	**316**	*e*P	**P**	**00 58 30.1**	**-0.3**
	8.1nm,0.4s						
TAPN	**Taplejung**	**49.14**	**317**	*e*P	**P**	**00 58 31.3**	**+0.1**
	11nm,0.4s						
RAMN	**Ramite**	**49.63**	**316**	*e*P	**P**	**00 58 34.9**	**0.0**
	34nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.91**	**349**	*e*P	**P**	**00 58 37.9**	**+1.3**
HHC				PP	**PP**	**01 00 37.3**	**+3.4**
HHC				S	**S**	**01 05 33.7**	**+4.0**
HHC				sS	**sS**	**01 06 53.3**	**-1.2**
HHC				SS	**SS**	**01 09 06.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,210nm,5.4s						
HHC				LR	LR		
	comp=N,88nm,16.1s						
HHC				LR	LR		
	comp=E,270nm,16.9s						
HHC				LR	LR		
	comp=Z,260nm,16.9s						
JIRN	**Jiri**	**50.37**	**316**	*e*P	**P**	**00 58 40.5**	**-0.1**
	16nm,0.5s						
GUN	**Gumba**	**50.74**	**316**	*e*P	**P**	**00 58 43.0**	**-0.3**
	29nm,0.7s						
PKI	**Pulchoki**	**50.85**	**316**	*e*P	**P**	**00 58 43.3**	**-0.8**
	25nm,0.5s						
KKN	**Kakani**	**51.07**	**316**	*e*P	**P**	**00 58 45.6**	**-0.1**
	16nm,0.7s						
DMN	**Daman**	**51.08**	**316**	*e*P	**P**	**00 58 45.4**	**-0.4**
GKN	**Gorkha**	**51.65**	**316**	*e*P	**P**	**00 58 49.4**	**-0.5**
	21nm,0.5s						
CN2	**Changchun**	**51.79**	**2**	*e*P	**P**	**00 58 52.1**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GTA	**Gaotai**	**52.00**	**337**	*e*P	**P**	**00 58 54.6**	**+2.4**
GTA				pP	**pP**	**00 59 40.7**	**-0.2**
GTA				sP	**sP**	**01 00 04.1**	**-1.2**
GTA				S	**S**	**01 06 01.2**	**+2.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KOLN	**Koldanda**	**52.23**	**315**	*e*P	**P**	**00 58 53.7**	**-0.5**
	12nm,0.5s						
DANN	**Dangsing**	**52.47**	**315**	*e*P	**P**	**00 58 55.6**	**-0.5**
	48nm,0.5s						
USRK	**Ussuriysk Arra**	**52.78**	**8**	P	**P**	**00 58 56.4**	**-1.2**
	2.9nm,0.4s,baz=195,slow=7.0,SNR=24						
SONM	**Songino Array**	**57.68**	**347**	P	**P**	**00 59 31.9**	**-0.7**
SONM	**Songino Array**	**57.68**	**347**	P	**P**	**00 59 31.9**	**-0.7**
	1.3nm,0.8s,baz=184,slow=9.4,SNR=2.8						
WMQ	**Urumqi**	**60.84**	**331**	P	**P**	**00 59 55.7**	**+1.4**
KSH	**Kashi**	**64.37**	**321**	P	**P**	**01 00 18.7**	**+0.9**
KSH				sP	**sP**	**01 01 28.0**	**-4.6**
KSH				*e*PP	**PP**	**01 02 42.1**	**-0.4**
KSH				*e*S	**S**	**01 08 33.4**	**-5.0**
KSH				*e*ScS	**SKSac**	**01 09

CPUP	**Villa Florida**	**145.69**	**180**	PKPbc	**PKPab**	**01 09 19.7**	**+0.4**
	1.1nm,0.4s,baz=163,slow=3.2,SNR=3.9						

*IDC **03** 00:53:42.7±1.5,53°.29N×164°.22W,h0km,mb3.9/12, mb1 4.0/14,mb1mx3.8/31,mbtmp3.9/14,ML3.4/2,MS3.3/1, Ms1 3.3/1,ms1mx2.8/42,Error ellipse: s-maj=38.0km s-min=16.1km az=167.0*

*ISCJB **03** 00:53:44.6±0.7,53°.18N±0°.06×163°.98W±0°.06,h26km, mb3.8/11,MS3.4/1,Error ellipse: s-maj=8.6km s-min=5.3km az=173.1*

*NEIC **03** 00:53:46.5,53°.28N×164°.04W,h8km,ML3.3(AEIC),After AEIC.*

ISC 03 00:53:47.0±0.8,**53°.32N**±0°.08×**164°.07W**±0°.05,**h26**km,**n45**, σ0**8**2/49,**mb3.9**/11,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.19**	**345**	P	**Pn**	**00 54 08.0**	**0.0**
AKSA	**Akutan Strait**	**1.26**	**311**	P	**Pn**	**00 54 08.8**	**-0.1**
AKSA				S	**Sb**	**00 54 26.2**	**+0.3**
WESN	**West Dahl Nort**	**1.28**	**347**	P	**Pn**	**00 54 09.5**	**+0.2**
AKUT	**Akutan**	**1.30**	**309**	P	**Pn**	**00 54 09.0**	**-0.4**
AKUT				S	**Sb**	**00 54 27.5**	**+0.6**
ZRO	**Akutan Zero**	**1.37**	**305**	P	**Pn**	**00 54 10.4**	**-0.1**
SSLW	**Shishaldin Wes**	**1.45**	**359**	P	**Pn**	**00 54 11.4**	**-0.2**
SSLN	**Shishaldin Nor**	**1.49**	**2**	P	**Pn**	**00 54 12.5**	**+0.4**
UNV	**Unalaska Valle**	**1.54**	**291**	P	**Pn**	**00 54 12.3**	**-0.5**
UNV				S	**Sb**	**00 54 32.7**	**-1.2**
FALS	**False Pass**	**1.58**	**14**	P	**Pn**	**00 54 13.1**	**-0.2**
FALS				S	**Sb**	**00 54 35.0**	**-0.1**
MTBL	**Makushin Table**	**1.68**	**294**	P	**Pn**	**00 54 14.8**	**0.0**
MSW	**Makushin Switc**	**1.72**	**291**	P	**Pn**	**00 54 15.3**	**+0.1**
MCIR	**Makushin Cirqu**	**1.79**	**292**	P	**Pn**	**00 54 16.9**	**+0.6**
DTNA	**Dutton South F**	**2.12**	**30**	P	**Pn**	**00 54 21.0**	**+0.3**
HAG	**Hague Volcano**	**2.37**	**32**	P	**Pn**	**00 54 24.3**	**+0.2**
PS4A	**Pavlof South-4**	**2.41**	**32**	P	**Pn**	**00 54 24.8**	**+0.2**
NIKH	**Nikolski High**	**2.90**	**265**	P	**Pn**	**00 54 31.0**	**-0.4**
SDPT	**Sand Point**	**2.92**	**45**	P	**Pn**	**00 54 32.1**	**-0.4**
FX1	**Attu Island--F**	**13.68**	**277**	Pn	**Pn**	**00 57 00.9**	**+1.9**
FX1	**Attu Island--F**	**13.68**	**277**	Pn	**Pn**	**00 57 00.9**	**+1.9**
	0.9nm,0.3s,baz=56,slow=3.6,SNR=4.9						
ILAR	**Eielson Array**	**14.42**	**31**	Pn	**Pn**	**00 57 08.8**	**-0.3**
ILAR	**Eielson Array**	**14.42**	**31**	Pn	**Pn**	**00 57 08.8**	**-0.3**
	0.0nm,0.3s,baz=224,slow=11,SNR=3.8						
INK	**Inuvik**	**20.80**	**32**	P	**P**	**00 58 24.8**	**-1.0**
INK	**Inuvik**	**20.80**	**32**	P	**P**	**00 58 24.8**	**-1.0**
	3.3nm,0.7s,baz=232,slow=15,SNR=4.1						
YKA	**Yellowknife Ar**	**27.17**	**51**	P	**P**	**00 59 29.2**	**+1.4**
YKA	**Yellowknife Ar**	**27.17**	**51**	P	**P**	**00 59 29.2**	**+1.4**
	0.3nm,0.6s,baz=273,slow=9.0,SNR=7.2						
TXAR	**Lajitas Array**	**49.56**	**94**	P	**P**	**01 02 35.1**	**-0.5**
TXAR	**Lajitas Array**	**49.56**	**94**	P	**P**	**01 02 35.1**	**-0.5**
	0.3nm,0.7s,baz=305,slow=7.0,SNR=4.6						
SONM	**Songino Array**	**53.52**	**303**	P	**P**	**01 03 04.7**	**-0.4**
SONM	**Songino Array**	**53.52**	**303**	P	**P**	**01 03 04.7**	**-0.4**
	1.4nm,0.7s,baz=36,slow=7.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**58.83**	**320**	P	**P**	**01 03 41.0**	**-1.7**
ZALV	**Zalesovo Beam**	**58.83**	**320**	P	**P**	**01 03 41.0**	**-1.7**
	0.4nm,0.4s,baz=34,slow=10,SNR=3.0						
ZALV				LR	LR	01 30 58.0	
	comp=Z,29nm,21.9s,baz=43,slow=38						
FINES	**FINESS Array B**	**65.30**	**355**	P	**P**	**01 04 24.9**	**-1.0**
FINES	**FINESS Array B**	**65.30**	**355**	P	**P**	**01 04 24.9**	**-1.0**
	1.0nm,0.7s,baz=22,slow=7.0,SNR=6.3						
MKAR	**Makanchi Array**	**65.41**	**316**	P	**P**	**01 04 25.9**	**-1.2**
MKAR	**Makanchi Array**	**65.41**	**316**	P	**P**	**01 04 25.9**	**-1.2**
	0.7nm,0.7s,baz=50,slow=7.5,SNR=7.9						
AKTO	**Aktyubinsk**	**70.71**	**333**	P	**P**	**01 05 00.5**	**+0.4**
AKTO	**Aktyubinsk**	**70.71**	**333**	P	**P**	**01 05 00.5**	**+0.4**
	3.1nm,0.8s,baz=26,slow=6.5,SNR=13						
AAK	**Ala-Archa**	**72.00**	**319**	P	**P**	**01 05 08.9**	**+0.6**
AAK	**Ala-Archa**	**72.00**	**319**	P	**P**	**01 05 08.9**	**+0.6**
	1.6nm,0.7s,baz=101,slow=2.6,SNR=9.5						
AKASG	**Malin Array Be**	**75.75**	**351**	P	**P**	**01 05 29.6**	**-0.2**
AKASG	**Malin Array Be**	**75.75**	**351**	P	**P**	**01 05 29.6**	**-0.2**
	1.1nm,0.6s,baz=11,slow=5.8,SNR=14						
GERES	**GERESS Array B**	**78.19**	**2**	P	**P**	**01 05 43.8**	**+0.1**
GERES	**GERESS Array B**	**78.19**	**2**	P	**P**	**01 05 43.8**	**+0.1**
	0.3nm,0.6s,baz=46,slow=3.0,SNR=2.2						
CMAR	**Chiang Mai Arr**	**79.48**	**287**	P	**P**	**01 05 52.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**79.48**	**287**	P	**P**	**01 05 52.0**	**+0.8**
	0.6nm,0.4s,baz=24,slow=6.9,SNR=4.7						

*ISCJB **03** 01:29:33.5±0.6,11°.00S±0°.06×165°.90E±0°.07,h61km, mb4.1/13,Error ellipse: s-maj=10.4km s-min=8.0km az=148.9*

*NEIC **03** 01:29:33.1±0.4,10°.85S×166°.06E,mb4.4/5,Error ellipse: s-maj=11.0km s-min=8.5km az=136.0*

*IDC **03** 01:29:33.3±1.3,10°.86S×166°.01E,h45km±11km,mb3.8/11, mb1 4.1/13,mb1mx3.9/22,mbtmp3.9/13,ML4.6/2,MS3.6/3, Ms1 3.6/3,ms1mx3.1/24,Error ellipse: s-maj=22.6km s-min=18.7km az=173.0*

ISC 03 01:29:34.6±0.6,**10°.92S**±0°.08×**165°.96E**±0°.08,**h61**km,**n52**, σ1**9**09/**58**,**mb4.0**/13,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.10**	**284**	P	**Pn**	**01 31 03.0**	**+0.7**
HNR				S	**Sn**	**01 32 10.6**	**-0.2**
HNR	**Honiara**	**6.10**	**284**	P	**Pn**	**01 31 03.0**	**+0.7**
	43nm,0.3s,baz=136,slow=3.3,SNR=11						
HNR				S	**Sn**	**01 32 10.6**	**-0.2**
	baz=36,slow=19,SNR=2.4						
HNR	**Honiara**	**6.10**	**284**	*e*P	**Pn**	**01 31 02.0**	**-0.3**
HNR				S	**Sn**	**01 32 10.0**	**-0.8**
DZM	**Mont Dzumac**	**11.10**	**178**	*e*Pn	**Pn**	**01 32 11.6**	**+0.9**
	7.2nm,0.2s						
DZM				*e*Sn	**Sn**	**01 34 12.0**	**-1.3**
	3.5nm,0.3s						
DZM				*e*LR	LR	01 34 55.8	
	210nm,25.9s						
DZM	**Mont Dzumac**	**11.10**	**178**	*e*Pn	**Pn**	**01 32 11.1**	**+0.4**
DZM	**Mont Dzumac**	**11.10**	**178**	P	**Pn**	**01 32 11.9**	**+1.2**
	1.7nm,0.3s,baz=199,slow=23,SNR=18						
DZM				LR	LR	01 34 59.5	
	comp=Z,57nm,20.6s,baz=232,slow=29						
PMG	**Port Moresby**	**18.57**	**273**	*e*P	**P**	**01 33 46.8**	**0.0**
	51nm,1.5s						
CTA	**Charters Tower**	**21.04**	**242**	P	**P**	**01 34 14.8**	**+1.1**
CTA				pP	**pP**	**01 34 26.1**	**-0.8**
CTA	**Charters Tower**	**21.04**	**242**	P	**P**	**01 34 14.8**	**+1.1**
	2.6nm,0.6s,baz=60,slow=11,SNR=5.1						
CTA				pP	**pP**	**01 34 26.1**	**-0.8**
	3.1nm,0.8s,baz=33,slow=11,SNR=3.0						
CTAO	**Charters Tower**	**21.04**	**242**	*e*P	**P**	**01 34 15.1**	**+1.4**
	15nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**29.24**	**1**	T	T	02 05 38.0	
	baz=182,slow=75,SNR=142						
H11S3	**WAKE ISLAND Hy**	**29.24**	**1**	T	T	02 06 02.8	
	baz=29,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**29.25**	**1**	T	T	02 05 27.7	
	SNR=93						
WRAB	**Tennant Creek**	**31.71**	**250**	*e*P	**P**	**01 35 52.6**	**-0.3**
	17nm,1.4s						
WRA	**Warramunga Arr**	**31.72**	**250**	P	**P**	**01 35 53.4**	**+0.4**
WRA				pP	**pP**	**01 36 04.9**	**-3.2**
WRA	**Warramunga Arr**	**31.72**	**250**	P	**P**	**01 35 53.4**	**+0.4**
	2.3nm,0.6s,baz=81,slow=9.3,SNR=17						
WRA				pP	**pP**	**01 36 04.9**	**-3.2**
	1.5nm,0.7s,baz=81,slow=9.6,SNR=5.0						
RPZ	**Rata Peaks**	**32.97**	**173**	LR	LR	01 46 41.6	
	comp=Z,354nm,20.4s,baz=3.4,slow=31						
AS31	**Alice Springs**	**33.03**	**243**	*e*P	**P**	**01 36 05.4**	**+0.9**
ASAR	**Alice Springs**	**33.03**	**243**	P	**P**	**01 36 04.3**	**-0.2**
ASAR				pP	**pP**	**01 36 17.4**	**-2.3**
ASAR	**Alice Springs**	**33.03**	**243**	P	**P**	**01 36 04.3**	**-0.2**
	1.0nm,0.5s,baz=63,slow=10,SNR=25						
ASAR				pP	**pP**	**01 36 17.4**	**-2.3**
	1.5nm,0.9s,baz=70,slow=9.4,SNR=7.1						
ASAR				LR	LR	01 47 09.0	
	comp=Z,196nm,20.2s,baz=215,slow=32						
PPT2	**Papeete2**	**43.52**	**104**	*e*LR	LR	01 49 43.5	
	46nm,22.5s						
KAPI	**Kappang**	**46.10**	**274**	*e*P	**P**	**01 37 54.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**72.26**	**293**	P	**P**	**01 40 55.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**72.26**	**293**	P	**P**	**01 40 55.1**	**+1.0**
	0.5nm,0.3s,baz=110,slow=4.9,SNR=3.3						
ULN	**Ulaanbaatar**	**78.33**	**324**	*e*P	**P**	**01 41 29.0**	**+0.5**
	1.5nm,0.8s						
SONM	**Songino Array**	**78.69**	**324**	P	**P**	**01 41 31.7**	**+1.2**
SONM	**Songino Array**	**78.69**	**324**	P	**P**	**01 41 31.7**	**+1.2**
	0.7nm,0.6s,baz=109,slow=7.8,SNR=2.3						
ILAR	**Eielson Array**	**83.33**	**18**	P	**P**	**01 41 55.1**	**+0.5**
ILAR	**Eielson Array**	**83.33**	**18**	P	**P**	**01 41 55.1**	**+0.5**
	1.0nm,0.5s,baz=234,slow=5.1,SNR=34						
MAW	**Mawson**	**84.91**	**202**	P	**P**	**01 42 03.7**	**+1.0**
MAW	**Mawson**	**84.91**	**202**	P	**P**	**01 42 03.7**	**+1.0**
	5.4nm,0.7s,baz=88,slow=4.1,SNR=5.0						
NVAR	**Mina Array Bea**	**85.78**	**50**	P	**P**	**01 42 08.1**	**+0.2**
NVAR	**Mina Array Bea**	**85.78**	**50**	P	**P**	**01 42 08.1**	**+0.2**
	0.4nm,0.6s,baz=237,slow=7.9,SNR=4.1						
MK31	**Makanchi Array**	**93.58**	**317**	*e*P	**P**	**01 42 44.2**	**0.0**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**01 42 44.5**	**+0.4**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**01 42 44.5**	**+0.4**
	0.8nm,0.7s,baz=90,slow=6.6,SNR=11						
ZALV	**Zalesovo Beam**	**93.58**	**324**	P	**P**	**01 42 43.0**	**-0.9**
ZALV	**Zalesovo Beam**	**93.58**	**324**	P	**P**	**01 42 43.0**	**-0.9**
	0.4nm,0.6s,baz=98,slow=9.4,SNR=4.1						
YKA	**Yellowknife Ar**	**94.77**	**27**	P	**P**	**01 42 47.5**	**-1.8**
YKA	**Yellowknife Ar**	**94.77**	**27**	P	**P**	**01 42 47.4**	**-1.8**
	0.2nm,0.6s,baz=271,slow=4.3,SNR=3.9						
TKM2	**Tokmak2**	**97.60**	**312**	*e*P	Pdif	01 43 02.9	0.0
	0.8nm,0.6s						
ARCES	**ARCESS Array B**	**116.27**	**346**	PKP	**PKPdf**	**01 48 10.3**	**-0.3**
ARCES	**ARCESS Array B**	**116.27**	**346**	PKP	**PKPdf**	**01 48 10.3**	**-0.3**
	3.0nm,0.9s,baz=57,slow=1.6,SNR=18						
FINES	**FINESS Array B**	**121.73**	**339**	PKPpre	PKPpre	01 48 11.7	
FINES				PKP	**PKPdf**	**01 48 20.3**	**-1.1**
FINES	**FINESS Array B**	**121.73**	**339**	PKhKP	PKPpre	01 48 11.7	
	2.2nm,0.9s,baz=214,slow=9.2,SNR=4.2						
FINES				PKP	**PKPdf**	**01 48 20.3**	**-1.1**
	1.8nm,0.9s,baz=323,slow=1.0,SNR=5.0						
KEST	**Kesra**	**147.45**	**323**	PKPbc	**PKPab**	**01 49 13.5**	**-0.9**
KEST	**Kesra**	**147.45**	**323**	PKPbc	**PKPab**	**01 49 13.5**	**-0.9**
	1.7nm,0.8s,baz=74,slow=7.9,SNR=6.1						
ESDC	**Sonseca Array**	**150.00**	**344**	PKPbc	**PKPbc**	**01 49 18.8**	**+0.1**
ESDC	**Sonseca Array**	**150.00**	**344**	PKPbc	**PKPbc**	**01 49 18.8**	**+0.1**
	0.2nm,0.4s,baz=4.9,slow=4.1,SNR=7.1						
TOA0	**Torodi Ar. Sit**	**164.45**	**280**	*e*PKPdf	**PKPdf**	**01 49 32.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**164.45**	**280**	PKP	**PKPdf**	**01 49 32.9**	**+0.4**
TORD				PKPab	**PKPab**	**01 50 27.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**164.45**	**280**	PKP	**PKPdf**	**01 49 32.9**	**+0.4**
	0.3nm,0.6s,baz=34,slow=0.6,SNR=4.3						
TORD				PKPab	**PKPab**	**01 50 27.8**	**+0.4**
	0.4nm,0.8s,baz=86,slow=3.7,SNR=2.5						

WEL 03 01:46:43.7±0.3,**40°.43S**×**173°.46E**,**h166**km±2km,**ML3.6**/12, **5C-1D**,**Error ellipse: s-maj=1.7km s-min=1.2km az=90.0**, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.52**	**137**	↑P	Pn	01 47 07.1	+0.2
DUWZ				S	Sn	01 47 23.9	-1.0
NNZ	**Nelson**	**0.80**	**184**	P	Pn	01 47 08.4	-0.1
QRZ	**Quartz Range**	**0.81**	**240**	↓P	Pn	01 47 08.3	-0.3
QRZ				S	Sn	01 47 26.6	-1.2
TCW	**Tory Channel**	**1.00**	**142**	P	Pn	01 47 10.3	+0.3
TCW				S	Sn	01 47 29.0	-1.3
TCW				AML	AML	01 47 30.3	
TUWZ	**Tuamarina**	**1.07**	**160**	P	Pn	01 47 10.6	+0.1
TUWZ				S	Sn	01 47 30.2	-1.1
TUWZ				AML	AML	01 47 30.2	
KIW	**Kapiti Island**	**1.19**	**112**	P	Pn	01 47 11.5	0.0
KIW				AML	AML	01 47 32.1	
KIW				AML	AML	01 47 32.2	
KHEZ	**Kahui Hut**	**1.21**	**21**	↑P	Pn	01 47 11.8	-0.1
SNZO	**South Karori**	**1.29**	**133**	↑P	Pn	01 47 12.5	0.0
SNZO				AML	AML	01 47 34.9	
SNZO				AML	AML	01 47 35.1	
BSWZ	**Blackbirch Sta**	**1.33**	**166**	P	Pn	01 47 13.0	+0.2
WAZ	**Wanganui**	**1.35**	**61**	P	Pn	01 47 13.4	+0.3
CAW	**Cannon Point**	**1.40**	**120**	P	Pn	01 47 13.5	0.0
CAW				AML	AML	01 47 36.5	
CAW				AML	AML	01 47 36.8	
THZ	**Tophouse**	**1.40**	**197**	↑P	Pn	01 47 13.2	-0.3
MRZ	**Mangatainoka R**	**1.63**	**99**	P	Pn	01 47 15.6	-0.2
MRZ				AML	AML	01 47 39.1	
MRZ				AML	AML	01 47 39.1	
HOWZ	**Holdsworth Sta**	**1.63**	**107**	P	Pn	01 47 15.6	-0.2
VRZ	**Vera Road**	**1.64**	**38**	P	Pn	01 47 15.1	-0.9
MSWZ	**Moikau Station**	**1.68**	**127**	P	Pn	01 47 16.0	-0.3
MSWZ				AML	AML	01 47 39.9	
MSWZ				AML	AML	01 47 40.9	
MTW	**Mount Morrison**	**1.72**	**116**	P	Pn	01 47 16.5	-0.2
MTW				AML	AML	01 47 40.6	
MTW				AML	AML	01 47 41.8	
POWZ	**Post Office Ro**	**1.76**	**90**	P	Pn	01 47 16.8	-0.4
PAWZ	**Paruwai Farm**	**1.77**	**123**	P	Pn	01 47 16.2	-1.0
PAWZ				AML	AML	01 47 41.4	
PAWZ				AML	AML	01 47 42.8	
PLWZ	**Palliser**	**1.78**	**131**	P	Pn	01 47 17.0	-0.4
TIWZ	**Tintock**	**1.88**	**102**	AML	AML	01 47 44.2	
TIWZ				AML	AML	01 47 45.6	
PRWZ	**Pori Road**	**1.92**	**95**	P	Pn	01 47 18.8	-0.1
TRWZ	**Traveller**	**1.95**	**121**	P	Pn	01 47 19.0	-0.2
TRWZ				AML	AML	01 47 46.9	
TRWZ				AML	AML	01 47 47.2	
TSZ	**Takapari Road**	**1.95**	**80**	P	Pn	01 47 18.9	-0.4
TSZ				AML	AML	01 47 48.1	
TMWZ	**Te Maipa**	**1.97**	**111**	P	Pn	01 47 19.2	-0.2
WNVZ	**Whahianoa**	**1.98**	**57**	P	Pn	01 47 18.9	-0.9
FWVZ	**Far West T-bar**	**1.99**	**55**	P	Pn	01 47 18.9	-1.1
WPVZ	**Whakapapa**	**2.02**	**54**	P	Pn	01 47 19.2	-0.9
MOVZ	**Moawhango**	**2.04**	**61**	P	Pn	01 47 19.0	-1.3
DVHZ	**Dannevirke**	**2.07**	**87**	P	Pn	01 47 20.0	-0.7
WTVZ	**West Tongariro**	**2.10**	**52**	P	Pn	01 47 20.0	-1.0
BFZ	**Birch Farm**	**2.14**	**98**	P	Pn	01 47 21.0	-0.4
KRVZ	**Karewarewa**	**2.14**	**52**	P	Pn	01 47 20.5	-1.1
PNHZ	**Pukenui**	**2.16**	**77**	P	Pn	01 47 21.1	-0.6
HIZ	**Hauiti**	**2.19**	**30**	P	Pn	01 47 20.8	-1.2
BHHZ	**Black Hill Sta**	**2.21**	**66**	P	Pn	01 47 21.0	-1.3
ANWZ	**Angora Road**	**2.30**	**92**	↑P	Pn	01 47 22.9	-0.3
WPHZ	**Waipukurau**	**2.31**	**82**	P	Pn	01 47 23.0	-0.4
PXZ	**Pawanui**	**2.63**	**83**	P	Pn	01 47 26.4	-0.8
CRLZ	**Canterbury Las**	**3.21**	**191**	P	Pn	01 47 32.2	-2.0
MQZ	**McQueen's Vall**	**3.33**	**190**	P	Pn	01 47 33.6	-2.1
KNZ	**Kokohu**	**3.54**	**68**	P	Pn	01 47 36.6	-1.8
URZ	**Urewera**	**3.56**	**54**	P	Pn	01 47 35.9	-2.8

*IDC **03** 02:17:53.1±6.8,5°.80S×146°.61E,h74km±71km,mb3.4/2, mb1 3.4/4,mb1mx3.2/17,mbtmp3.3/4,ML3.0/2,Error ellipse: s-maj=55.3km s-min=34.7km az=139.0*

*ISCJB **03** 02:17:56.2±1.2,6°.03S±0°.09×146°.7E±0°.2,h123km, mb3.5/2,Error ellipse: s-maj=28.2km s-min=11.8km az=171.0*

ISC 03 02:17:57.6±1.2,**6°.1S**±0°.1×**146°.7E**±0°.2,**h123**km,**n9**, σ1**2**9/**7**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.34**	**172**	P	**Pn**	**02 18 47.2**	**-1.2**
	2.9nm,0.3s,baz=252,slow=8.4,SNR=11						
PMG				S	**Sn**	**02 19 29.0**	**+1.2**
	3.4nm,0.3s,baz=267,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**18.29**	**220**	P	**Pn**	**02 22 03.0**	**-0.6**
	0.1nm,0.3s,baz=45,slow=12,SNR=7.6						
FITZ	**Fitzroy Crossi**	**23.79**	**238**	P	**P**	**02 23 00.0**	**+0.9**
	baz=49,slow=12						
H11S3	**WAKE ISLAND Hy**	**31.37**	**39**	T	T	02 56 37.2	
	baz=221,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**31.38**	**39**	T	T	02 56 27.7	
	baz=221,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**31.39**	**39**	T	T	02 56 35.7	
	baz=221,slow=75,SNR=6.3						
ZALV	**Zalesovo Beam**	**78.92**	**328**	P	**P**	**02 29 46.5**	**-0.8**
	0.3nm,0.3s,baz=108,slow=3.6,SNR=3.3						
ILAR	**Eielson Array**	**85.66**	**23**	P	**P**	**02 30 22.6**	**+0.3**
	0.5nm,0.9s,baz=252,slow=4.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.83**	**284**	PKP	**PKPdf**	**02 37 22.4**	**+1.3**
	0.4nm,0.7s,baz=79,slow=2.9,SNR=3.5						

IDC 03 02:53:33.5±1.4,**12°.57N**×**140°.52E**,**h0**km,**mb3.8**/5, **mb1 4.0**/5,**mb1mx3.6**/23,**mbtmp3.8**/5,**Error ellipse: s-maj=56.2km s-min=28.9km az=87.0**,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.88**	**191**	P	P	03 00 09.4	0.0
	1.2nm,1.2s,baz=14,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**59.31**	**317**	P	P	03 03 37.9	+0.6
	0.6nm,0.8s,baz=99,slow=8.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**62.69**	**321**	P	P	03 03 59.9	-0.2
	0.9nm,0.4s,baz=103,slow=6.8,SNR=5.9						
ILAR	**Eielson Array**	**71.30**	**26**	P	P	03 04 55.1	+0.5
	0.3nm,0.7s,baz=259,slow=5.9,SNR=4.3						
FINES	**FINESS Array B**	**90.26**	**334**	P	P	03 06 34.9	-1.1
	2.4nm,1.0s,baz=56,slow=5.2,SNR=2.5						

*IDC **03** 02:58:55.7±0.6,0°.80N×125°.99E,h0km,mb4.4/18, mb1 4.5/19,mb1mx4.5/22,mbtmp4.4/19,ML4.0/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/24,Error ellipse: s-maj=27.8km s-min=13.6km az=76.0*

*ISCJB **03** 02:59:00.3±0.2,0°.85N±0°.03×126°.18E±0°.03,h44km, mb4.6/38,Error ellipse: s-maj=4.4km s-min=3.5km az=136.2*

*DJA **03** 02:59:00.8±1.0,1°.N±3°×12°.6E±°,h21km±13km,M4.8/8, mb5.0/6,mB5.2/2,MLv4.7/8,Mw(mB)4.5/2*

*BJI **03** 02:59:00.3,0°.80N×126°.20E,h52km,mB5.0/3,mb4.4/6, Ms4.6/2,Ms7 4.3/2*

*NEIC **03** 02:59:02.4±0.9,0°.82N×126°.19E,h52km±8km,mb4.6/22, Error ellipse: s-maj=8.7km s-min=5.7km az=56.0*

ISC 03 02:59:02.0±0.3,**0°.86N**±0°.05×**126°.21E**±0°.04,**h44**km,**n125**, σ1**9**15/129,**mb4.5**/39,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**94**	P	**Pn**	**02 59 20.0**	**-1.7**
TNTI				S	**Sn**	**02 59 36.9**	**+0.5**
TNTI	**Ternate**	**1.16**	**94**	*e*P	**Pn**	**02 59 21.1**	**-0.6**
LBMI	**Labuha**	**1.97**	**139**	P	**Pn**	**02 59 32.3**	**-0.6**
LBMI				S	**Sn**	**02 59 57.8**	**+1.4**
KMSI	**Cibinong**	**2.25**	**263**	P	**Pn**	**02 59 35.4**	**-1.3**
KMSI				S	**Sn**	**03 00 02.4**	**-0.8**
SGSI	**Sangihe**	**2.89**	**346**	P	**Pn**	**02 59 48.3**	**+2.8**
SGSI				S	**Sn**	**03 00 20.5**	**+1.5**
GTOI	**Gorontalo**	**3.21**	**266**	P	**Pn**	**02 59 50.9**	**+1.0**
LUWI	**Luwuk**	**3.92**	**241**	P	**Pn**	**03 00 00.2**	**+0.5**
LUWI	**Luwuk**	**3.92**	**241**	P	**Pn**	**03 00 01.2**	**+1.5**
	baz=4.3,SNR=6.0						
NLAI	**Namlea**	**4.17**	**168**	P	**Pn**	**03 00 01.7**	**-1.4**
MRSI	**Marisa**	**4.29**	**265**	P	**Pn**	**03 00 04.6**	**-0.1**
APSI	**Ampana**	**4.89**	**249**	P	**Pn**	**03 00 14.5**	**+1.5**
MSAI	**Masohi**	**4.99**	**147**	P	**Pn**	**03 00 14.6**	**+0.3**
FAKI	**Fak Fak**	**7.11**	**122**	P	**Pn**	**03 00 44.3**	**+0.8**
	baz=7.2,SNR=5.7						
TTSI	**Tana Toraja**	**7.47**	**239**	P	**Pn**	**03 00 49.0**	**+0.5**
	129nm,0.7s						
SPSI	**Sidrap Palu**	**8.03**	**233**	P	**Pn**	**03 00 56.3**	**+0.2**
	73nm,0.8s,1μm						
BNSI	**Bone**	**8.03**	**229**	P	**Pn**	**03 00 56.7**	**+0.6**
	55nm,0.7s						
MMSI	**Mamuju**	**8.11**	**244**	P	x	03 00 58.5	
	52nm,0.8s						
BKSI	**Bulukumba**	**8.64**	**225**	P	**Pn**	**03 01 04.8**	**+0.3**
	29nm,0.8s						
KAPI	**Kappang**	**8.70**	**228**	*e*Pn	**Pn**	**03 01 06.7**	**+1.3**
MYLDM	**Lahad Datu**	**8.81**	**299**	P	x	03 01 08.5	
MYLDM	**Lahad Datu**	**8.81**	**299**	*e*Pn	**Pn**	**03 01 08.7**	**+1.8**
WSI	**Waingapu**	**12.00**	**209**	P	Pn	03 01 45.1	-5.4
	baz=12,SNR=4.0						
SBUM	**Sibu**	**14.07**	**277**	*e*Pn	**Pn**	**03 02 18.8**	**-0.1**
SBUM				*e*		03 02 25.7	
MTN	**Manton

SONM	**Songino Array**	**49.85**	**343**	P	**P**	**03 07 50.5**	**-0.4**
SONM	**Songino Array**	**49.85**	**343**	P	**P**	**03 07 50.5**	**-0.4**
	1.7nm,0.8s,baz=164,slow=8.6,SNR=5.0						
PEA0	**Petropavlovsk-**	**58.27**	**22**	*e*P	**P**	**03 08 53.9**	**+1.8**
PETK	**Petropavlovsk-**	**58.27**	**22**	P	**P**	**03 08 53.0**	**+1.0**
PETK	**Petropavlovsk-**	**58.27**	**22**	P	**P**	**03 08 53.0**	**+1.0**
	3.7nm,0.6s,baz=183,slow=5.7,SNR=15						
MK01	**Makanchi Array**	**59.60**	**326**	*e*P	**P**	**03 09 00.2**	**-1.2**
MK31	**Makanchi Array**	**59.62**	**326**	*e*P	**P**	**03 09 00.7**	**-0.9**
MKAR	**Makanchi Array**	**59.62**	**326**	*e*P	**P**	**03 08 60.0**	**-1.6**
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**03 09 00.9**	**-0.7**
	2.5nm,0.3s,baz=122,slow=7.0,SNR=82						
TKM2	**Tokmak 2**	**61.56**	**320**	*e*P	**P**	**03 09 14.8**	**-0.4**
	3.6nm,0.9s						
AAK	**Ala-Archa**	**62.15**	**319**	*e*P	**P**	**03 09 18.1**	**-0.9**
	6.7nm,1.4s						
AAK	**Ala-Archa**	**62.15**	**319**	P	**P**	**03 09 18.5**	**-0.5**
	2.5nm,1.0s,baz=120,slow=3.2,SNR=5.5						
EKS2	**Erkin-Say**	**62.63**	**319**	*e*P	**P**	**03 09 22.7**	**+0.5**
	6.3nm,1.4s						
ZAA0	**Zalesovo Array**	**62.91**	**334**	*e*P	**P**	**03 09 22.0**	**-1.6**
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**03 09 22.6**	**-1.0**
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**03 09 22.6**	**-1.0**
	1.0nm,0.4s,baz=129,slow=6.8,SNR=7.1						
KURBB	**Kurchatov Arra**	**63.88**	**328**	P	**P**	**03 09 28.6**	**-1.5**
	4.8nm,0.8s,baz=125,slow=6.1,SNR=17						
KURK	**Kurchatov**	**63.88**	**328**	*e*P	**P**	**03 09 29.1**	**-1.0**
	4.6nm,0.8s						
ABKAR	**Akbulak array**	**74.04**	**321**	*e*P	**P**	**03 10 31.0**	**-2.3**
ARU	**Arti**	**77.08**	**328**	*e*P	**P**	**03 10 49.9**	**-0.6**
	5.8nm,0.9s						
VNDA	**Vanda**	**80.67**	**173**	*e*P	**P**	**03 11 08.7**	**-1.1**
	3.7nm,0.7s						
VNDA	**Vanda**	**80.67**	**173**	P	**P**	**03 11 09.7**	**-0.1**
	3.5nm,0.8s,baz=313,slow=6.5,SNR=6.8						
KBZ	**Khabaz**	**84.57**	**314**	P	**P**	**03 11 30.0**	**-0.7**
KBZ	**Khabaz**	**84.57**	**314**	P	**P**	**03 11 30.0**	**-0.7**
	2.7nm,0.9s,baz=216,slow=7.6,SNR=4.2						
COLD	**Coldfoot**	**86.72**	**23**	*e*P	**P**	**03 11 41.7**	**+0.7**
	6.9nm,1.1s						
MCK	**McKinley**	**86.95**	**26**	*e*P	**P**	**03 11 41.4**	**-0.8**
	2.9nm,0.7s						
ILAR	**Eielson Array**	**87.90**	**25**	P	**P**	**03 11 46.6**	**-0.1**
ILAR	**Eielson Array**	**87.90**	**25**	P	**P**	**03 11 46.6**	**-0.1**
	0.7nm,0.6s,baz=248,slow=4.9,SNR=12						
PAX	**Paxson**	**88.47**	**27**	*e*P	**P**	**03 11 49.3**	**-0.2**
	3.9nm,0.9s						
KMBO	**Kilima Mbogo**	**88.97**	**269**	*e*P	**P**	**03 11 54.0**	**+0.8**
	3.2nm,1.0s						
ARCES	**ARCESS Array B**	**92.94**	**340**	P	**P**	**03 12 11.9**	**+1.8**
ARCES	**ARCESS Array B**	**92.94**	**340**	P	**P**	**03 12 11.9**	**+1.8**
	8.1nm,1.1s,baz=99,slow=5.6,SNR=4.2						
INK	**Inuvik**	**93.00**	**21**	*e*P	**P**	**03 12 10.6**	**+0.2**
	9.2nm,1.5s						
AKASG	**Malin Array Be**	**93.77**	**321**	P	**P**	**03 12 13.6**	**-0.7**
AKASG	**Malin Array Be**	**93.77**	**321**	P	**P**	**03 12 13.6**	**-0.7**
	0.3nm,0.5s,baz=69,slow=4.4,SNR=3.4						
FINES	**FINESS Array B**	**94.10**	**332**	P	**P**	**03 12 15.4**	**-0.1**
FINES	**FINESS Array B**	**94.10**	**332**	P	**P**	**03 12 15.4**	**-0.1**
	2.0nm,0.9s,baz=14,slow=2.9,SNR=3.5						
BUR04	**Bucovina Ar. S**	**96.78**	**318**	*e*P	**P**	**03 12 27.8**	**-0.5**
BUR08	**Bucovina Ar. S**	**96.78**	**318**	*e*P	**P**	**03 12 28.3**	**0.0**
TOA0	**Torodi Ar. Sit**	**123.27**	**286**	*e*PKPdf	**PKPdf**	**03 17 55.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**123.27**	**286**	PKP	**PKPdf**	**03 17 55.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.27**	**286**	PKP	**PKPdf**	**03 17 55.6**	**+0.5**
	1.1nm,0.8s,baz=81,slow=2.1,SNR=6.6						
TXAR	**Lajitas Array**	**123.74**	**53**	PKP	**PKPdf**	**03 17 57.3**	**+1.5**
TXAR	**Lajitas Array**	**123.74**	**53**	PKP	**PKPdf**	**03 17 57.3**	**+1.5**
	0.5nm,0.7s,baz=211,slow=0.7,SNR=9.2						
TRQA	**Tornquist**	**142.23**	**169**	*e*PKPdf	**PKPdf**	**03 18 28.7**	**-1.4**
JTS	**JuntasAbangare**	**147.07**	**70**	*e*PKPbc	**PKPab**	**03 18 42.2**	**-0.7**
LCO	**Las Campanas**	**147.69**	**152**	*e*PKPbc	**PKPbc**	**03 18 43.8**	**+0.9**
LVC	**Limon Verde**	**153.85**	**147**	*e*PKPdf	**PKPdf**	**03 18 50.5**	**+0.7**
CPUP	**Villa Florida**	**154.45**	**173**	*e*PKPdf	**PKPdf**	**03 18 48.7**	**-1.5**
NNA	**Nana**	**154.60**	**117**	*e*PKPdf	**PKPdf**	**03 18 50.4**	**-0.4**
LPAZ	**La Paz**	**159.15**	**138**	*e*PKPab	**PKPab**	**03 19 30.8**	**-3.2**

WEL 03 03:07:26.1±0.5, 38.58S×175.39E, h254km±3km, ML4.0/15, 9C-9D, Error ellipse: s-maj=3.5km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.43**	**279**	↑P	Pn	03 07 59.2	-0.1
HIZ				S	S	03 08 25.6	+0.3
TWVZ	**Taurewa**	**0.49**	**176**	Pn	Pn	03 07 59.4	-0.1
TWVZ				S	S	03 08 24.8	-1.0
WTVZ	**West Tongariro**	**0.55**	**164**	Pn	Pn	03 07 59.7	0.0
WTVZ				S	S	03 08 25.2	-1.1
WPVZ	**Whakapapa**	**0.63**	**169**	Pn	Pn	03 08 00.1	+0.1
FWVZ	**Far West T-bar**	**0.68**	**169**	Pn	Pn	03 08 00.3	0.0
WHVZ	**Whangaehu Hut**	**0.71**	**168**	Pn	Pn	03 08 00.5	+0.1
VRZ	**Vera Road**	**0.73**	**222**	↑P	Pn	03 07 59.8	-0.4
MTVZ	**Mangateitei**	**0.80**	**176**	Pn	Pn	03 08 00.6	-0.1
TOZ	**Tahuroa Road**	**0.86**	**6**	Pn	Pn	03 08 00.6	-0.2
MOVZ	**Moawhango**	**0.87**	**161**	Pn	Pn	03 08 00.6	-0.3
BKZ	**Black Stump Fm**	**1.04**	**124**	↓P	Pn	03 08 01.8	0.0
BKZ				S	S	03 08 28.4	-1.5
BKZ				AML	AML	03 08 30.8	
BHHZ	**Black Hill Sta**	**1.04**	**150**	Pn	Pn	03 08 01.7	-0.1
WAZ	**Wanganui**	**1.21**	**195**	↑P	Pn	03 08 02.0	-0.2
MCHZ	**McNeill Hill**	**1.33**	**131**	Pn	Pn	03 08 04.3	+0.8
RAHZ	**Arahi**	**1.37**	**105**	↓P	Pn	03 08 04.3	+0.5
URZ	**Urewera**	**1.39**	**77**	↓P	Pn	03 08 03.2	-0.8
URZ				AML	AML	03 08 33.4	
URZ				AML	AML	03 08 33.7	
PNHZ	**Pukenui**	**1.47**	**155**	Pn	Pn	03 08 04.4	-0.2
WHHZ	**Waihua**	**1.52**	**109**	↓P	Pn	03 08 05.3	+0.4
SNGZ	**Shannon Statio**	**1.54**	**98**	↓P	Pn	03 08 05.3	+0.2
TSZ	**Takapari Road**	**1.54**	**163**	Pn	Pn	03 08 04.8	-0.3
TSZ				AML	AML	03 08 36.7	
TSZ				AML	AML	03 08 38.3	
KAHZ	**Kahuranaki**	**1.67**	**137**	Pn	Pn	03 08 06.5	+0.3
WPHZ	**Waipukurau**	**1.69**	**152**	Pn	Pn	03 08 06.1	-0.1
CKHZ	**Cape Kidnapper**	**1.69**	**130**	Pn	Pn	03 08 06.8	+0.5
MWZ	**Matawai**	**1.70**	**82**	↓P	Pn	03 08 06.0	-0.4
MWZ				S	S	03 08 36.1	-2.0
MWZ				AML	AML	03 08 38.2	
DVHZ	**Dannevirke**	**1.82**	**161**	Pn	Pn	03 08 06.6	-0.7
POWZ	**Post Office Ro**	**1.83**	**171**	Pn	Pn	03 08 06.5	-0.9
KNZ	**Kokohu**	**1.84**	**104**	↓P	Pn	03 08 07.4	0.0
PXZ	**Pawanui**	**1.84**	**142**	Pn	Pn	03 08 07.4	0.0
PXZ				AML	AML	03 08 39.8	
PXZ				AML	AML	03 08 39.8	
PXZ				AML	AML	03 08 42.2	
PXZ				AML	AML	03 08 42.3	
RIGZ	**Rimuhau**	**1.86**	**94**	↓P	Pn	03 08 07.9	+0.2
PRHZ	**Porangahau**	**1.94**	**151**	Pn	Pn	03 08 08.0	-0.3
PRGZ	**Paritu Road**	**1.98**	**101**	Pn	Pn	03 08 08.7	0.0
PRWZ	**Pori Road**	**2.02**	**167**	Pn	Pn	03 08 08.3	-0.7
MHGZ	**Mahia Peninsul**	**2.04**	**107**	Pn	Pn	03 08 09.3	+0.1
ANWZ	**Angora Road**	**2.05**	**156**	↑P	Pn	03 08 08.9	-0.4
MRZ	**Mangatainoka R**	**2.08**	**176**	↑P	Pn	03 08 08.3	-1.3
MRZ				AML	AML	03 08 43.5	
MRZ				AML	AML	03 08 43.7	
BFZ	**Birch Farm**	**2.20**	**163**	Pn	Pn	03 08 09.6	-1.0
OGWZ	**Otaki Gorge**	**2.24**	**184**	↑P	Pn	03 08 09.8	-1.2
KIW	**Kapiti Island**	**2.31**	**189**	Pn	Pn	03 08 10.1	-1.5
KIW				AML	AML	03 08 48.9	
KIW				AML	AML	03 08 49.2	
HOWZ	**Holdsworth Sta**	**2.31**	**178**	↑P	Pn	03 08 10.2	-1.6
CPWZ	**Castlepoint**	**2.41**	**165**	Pn	Pn	03 08 12.0	-0.6
DUWZ	**D'Urville Isla**	**2.49**	**207**	↓P	Pn	03 08 11.8	-1.7
MXZ	**Matakaoa Point**	**2.52**	**67**	Pn	Pn	03 08 13.2	-0.6
CAW	**Cannon Point**	**2.53**	**186**	↑P	Pn	03 08 12.3	-1.7
CAW				AML	AML	03 08 51.8	
CAW				AML	AML	03 08 57.7	
TMWZ	**Te Maipa**	**2.55**	**171**	Pn	Pn	03 08 12.6	-1.5
MTW	**Mount Morrison**	**2.57**	**178**	Pn	Pn	03 08 12.5	-1.8
MTW				AML	AML	03 08 51.2	
MTW				AML	AML	03 08 51.3	
WEL	**Wellington**	**2.74**	**190**	Pn	Pn	03 08 14.0	-2.0
TCW	**Tory Channel**	**2.76**	**198**	Pn	Pn	03 08 14.4	-1.9
TCW				AML	AML	03 08 53.7	
TCW				AML	AML	03 08 54.6	
SNZO	**South Karori**	**2.77**	**191**	Pn	Pn	03 08 14.3	-2.1
SNZO				AML	AML	03 08 54.5	
SNZO				AML	AML	03 09 03.3	
PAWZ	**Paruwai Farm**	**2.79**	**179**	Pn	Pn	03 08 14.8	-1.8
PAWZ				AML	AML	03 08 54.0	
PAWZ				AML	AML	03 08 54.4	
TRWZ	**Traveller**	**2.82**	**175**	PN	Pn	03 08 15.2	-1.6
MSWZ	**Moikau Station**	**2.83**	**182**	PN	Pn	03 08 15.0	-1.9
MSWZ				AML	AML	03 08 54.4	
MSWZ				AML	AML	03 08 56.3	
BHW	**Baring Head**	**2.85**	**188**	PN	Pn	03 08 15.0	-2.1
BHW				AML	AML	03 09 05.5	
PLWZ	**Palliser**	**2.98**	**182**	PN	Pn	03 08 16.5	-2.1
NNZ	**Nelson**	**3.05**	**210**	↑PN	Pn	03 08 16.9	-2.4
TUWZ	**Tuamarina**	**3.05**	**201**	PN	Pn	03 08 17.3	-2.0
TUWZ				AML	AML	03 08 58.6	
TUWZ				AML	AML	03 08 60.0	
QRZ	**Quartz Range**	**3.15**	**224**	PN	Pn	03 08 17.1	-3.3
BSWZ	**Blackbirch Sta**	**3.34**	**200**	PN	Pn	03 08 20.6	-1.8
THZ	**Tophouse**	**3.70**	**210**	PN	Pn	03 09 23.8	-2.9
LTZ	**Lake Taylor**	**4.82**	**209**	PN	Pn	03 08 36.3	-3.5
OXZ	**Oxford**	**5.37**	**207**	PN	Pn	03 08 42.4	-4.1
MQZ	**McQueen's Vall**	**5.52**	**201**	PN	Pn	03 08 43.9	-4.4
LBZ	**Lake Benmore**	**6.99**	**212**	PN	Pn	03 09 01.7	-4.9
ODZ	**Otahua Downs**	**7.36**	**207**	PN	Pn	03 09 07.7	-3.6

*ISCJB **03** 03:09:18.7±0.9, 39.32N±0.04×37.91E±0.05, h6km±7km, Error ellipse: s-maj=7.0km s-min=6.6km az=2.3*
*ISK **03** 03:09:19.0, 39.32N×37.92E, h17km, MD2.9*
*CSEM **03** 03:09:19.1±0.2, 39.33N×37.93E, h15km, MD2.9, Error ellipse: s-maj=4.6km s-min=4.5km az=111.0*
*DDA **03** 03:09:21.1, 39.52N×38.78E, h7km, MD2.9*
ISC 03 03:09:18.9±1.3, 39.34N±0.04×37.93E±0.04, h11km±12km, n23, σ0957/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.44**	**99**	*i* P	**Pg**	**03 09 27.4**	**-0.3**
KEMA				*i* S	**Sg**	**03 09 33.1**	**-0.5**
KEMA	**Kemaliye**	**0.44**	**99**	*i* P	**Pg**	**03 09 27.4**	**-0.3**
KEMA				*i* S	**Sg**	**03 09 33.1**	**-0.5**
ILIC	**ilic-Erzincan**	**0.51**	**77**	*e*PG	**Pb**	**03 09 29.9**	**0.0**
ILIC				*e*SG	**Sb**	**03 09 37.6**	**+0.2**
ILIC	**ilic-Erzincan**	**0.51**	**77**	*e*Pg	**Pb**	**03 09 29.9**	**0.0**
ILIC				*e*Sg	**Sb**	**03 09 37.6**	**+0.2**
DARE	**Darende-Malaty**	**0.84**	**204**	*e*PG	**Pb**	**03 09 35.4**	**-0.3**
DARE	**Darende-Malaty**	**0.84**	**204**	*e*Pg	**Pb**	**03 09 35.4**	**-0.3**
SUSE	**Susehri**	**0.89**	**14**	*i* P	**Pb**	**03 09 36.4**	**-0.1**
SUSE				*i* S	**Sn**	**03 09 51.0**	**+0.5**
SUSE	**Susehri**	**0.89**	**14**	*i* P	**Pb**	**03 09 36.4**	**-0.1**
SVSK	**Karacayir**	**0.92**	**309**	*e*PG	**Pn**	**03 09 37.4**	**-0.4**
SVSK	**Karacayir**	**0.92**	**309**	*e*Pg	**Pn**	**03 09 37.4**	**-0.4**
MALT	**Malatya**	**1.10**	**159**	*e*PN	**Pg**	**03 09 40.3**	**+0.2**
MALT	**Malatya**	**1.10**	**159**	*e*Pn	**Pg**	**03 09 40.3**	**+0.2**
EZC	**Erzincan**	**1.18**	**69**	*e*PN	**Pb**	**03 09 41.6**	**+0.3**
EZC	**Erzincan**	**1.18**	**69**	*e*Pn	**Pb**	**03 09 41.6**	**+0.3**
ELZG	**Elazig**	**1.18**	**135**	*i* P	**Pn**	**03 09 41.0**	**-0.5**
ELZG				*i* S	**Sg**	**03 09 58.3**	**+1.4**
ELZG	**Elazig**	**1.18**	**135**	*i* P	**Pn**	**03 09 41.0**	**-0.5**
ELZG				*i* S	**Sg**	**03 09 58.3**	**+1.4**
PTK	**Pertek**	**1.22**	**111**	*e*PN	**Pn**	**03 09 41.0**	**-1.2**
PTK	**Pertek**	**1.22**	**111**	*e*Pn	**Pn**	**03 09 41.0**	**-1.2**
KELT	**Kelkit**	**1.30**	**51**	*i* P	**Pn**	**03 09 43.1**	**-0.2**
KELT				*i* S	**Sb**	**03 10 00.5**	**+0.1**
KELT	**Kelkit**	**1.30**	**51**	*i* P	**Pn**	**03 09 43.1**	**-0.2**
KELT				*i* S	**Sb**	**03 10 00.5**	**+0.1**
ERZN	**Erzincan**	**1.41**	**79**	*e*PN	**Pb**	**03 09 45.4**	**0.0**
GUMT	**Gumushane**	**1.63**	**46**	*e*PN	**Pn**	**03 09 47.4**	**-0.4**
GUMT	**Gumushane**	**1.63**	**46**	*e*Pn	**Pn**	**03 09 47.4**	**-0.4**

*IDC **03** 03:14:03.7±1.9, 6.85N×92.42E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=76.3km s-min=20.9km az=64.0*
ISC 03 03:14:08.1±1.4, 6.9N±0.2×92.7E±0.3, h23km, n16, σ1935/10, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.02**	**27**	Pn	**Pn**	**03 17 11.7**	**-0.2**
	0.4nm,0.3s,baz=224,slow=15,SNR=2.4						
RAMN	**Ramite**	**20.76**	**345**	*e*P	Pn	03 18 52.6	+2.3
JIRN	**Jiri**	**21.54**	**344**	*e*P	**P**	**03 18 58.4**	**+2.1**
PKI	**Pulchoki**	**21.68**	**342**	*e*P	P	03 19 03.3	+5.5
GUN	**Gumba**	**21.87**	**344**	*e*P	**P**	**03 19 01.2**	**+1.5**
KOLN	**Koldada**	**22.47**	**339**	*e*P	P	03 19 18.8	+13
	8.3nm,0.5s						
H08S3	**Diego Garcia H**	**24.76**	**235**	T	T	03 45 31.7	
	baz=54,slow=75,SNR=7.9						
H08S2	**Diego Garcia H**	**24.76**	**235**	T	T	03 46 12.0	
	baz=54,SNR=13						
H08S1	**Diego Carcia H**	**24.77**	**235**	T	T	03 45 32.4	
	baz=54,slow=75,SNR=10						
MKAR	**Makanchi Array**	**40.74**	**349**	P	**P**	**03 21 45.5**	**-1.7**
	0.4nm,0.6s,baz=171,slow=9.4,SNR=6.1						
SONM	**Songino Array**	**42.44**	**14**	P	**P**	**03 22 01.1**	**-0.2**
	1.1nm,0.7s,baz=186,slow=13,SNR=3.6						
KURBB	**Kurchatov Arra**	**45.15**	**347**	P	**P**	**03 22 21.5**	**-1.3**
	0.3nm,0.2s,baz=173,slow=7.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**47.34**	**354**	P	**P**	**03 22 40.5**	**+0.4**
	0.6nm,0.4s,baz=160,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**48.92**	**124**	P	**P**	**03 22 53.4**	**+0.6**
	1.1nm,0.9s,baz=303,slow=8.4,SNR=5.8						
STKA	**Stephens Creek**	**60.52**	**133**	P	**P**	**03 24 16.7**	**-0.1**
	1.9nm,0.7s,baz=306,slow=4.5,SNR=7.6						
TXAR	**Lajitas Array**	**140.70**	**23**	PKP	**PKPdf**	**03 33 36.0**	**-0.9**
	0.1nm,0.4s,baz=28,slow=4.1,SNR=4.1						

NNC 03 03:54:33.8±5.2, 36.97N×70.67E, h0km, mb3.7, mpv3.4, 3C-1D, Error ellipse: s-maj=42.6km s-min=32.8km az=159.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**359**	P	Pn	03 56 07.5	+1.8
	1.1nm,0.3s,baz=175,slow=12,SNR=31						
KK31				↓S	Sn	03 57 18.0	+1.5
	0.8nm,0.3s,baz=184,slow=22,SNR=8.1						
AAK	**Ala-Archa**	**6.38**	**26**	P	Pn	03 56 09.1	-0.2
	2.0nm,0.4s						
AAK				S	Sn	03 57 23.7	+0.6
	2.0nm,0.6s						
TKM2	**Tokmak 2**	**7.05**	**31**	↑P	Pn	03 56 17.5	-1.1
	1.5nm,0.7s						
TKM2				↑S	Sn	03 57 40.2	+0.6
	0.7nm,0.7s						
AB31	**Akbulak array**	**14.55**	**331**	↑P	Pn	03 57 59.9	-1.0
	0.5nm,0.7s,baz=152,slow=12,SNR=4.1						

IDC 03 03:56:08.7±2.7, 2.55S×130.87E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=250.6km s-min=28.9km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.61**	**169**	P	Pn	04 00 13.9	-1.8
	0.6nm,0.3s,baz=350,slow=11,SNR=15						
STKA	**Stephens Creek**	**30.87**	**162**	P	P	04 02 27.3	+0.4
	1.6nm,0.8s,baz=352,slow=8.1,SNR=6.2						
MKAR	**Makanchi Array**	**65.04**	**325**	P	P	04 06 51.0	+0.1
	0.4nm,0.8s,baz=112,slow=7.6,SNR=4.0						

*BJI **03** 04:11:36.7, 5.55S×146.24E, h56km, mB5.8/57, mb5.4/69, Ms5.4/75, Ms7 5.2/69*
*MOS **03** 04:11:38.1±1.0, 5.28S×145.78E, h33km, mb5.6/43, MS5.4/38, Error ellipse: s-maj=8.8km s-min=5.4km az=106.2*
*IDC **03** 04:11:39.0±3.9, 5.36S×145.71E, h34km±30km, mb5.0/26, mb1 5.1/30, mb1mx5.1/30, mbtmp5.2/30, ML4.8/4, MS5.4/24, Ms1 5.4/24, ms1mx5.3/29, Error ellipse: s-maj=12.0km s-min=9.0km az=88.0*
*ISCJB **03** 04:11:39.8±0.5, 5.35S±0.02×145.84E±0.02, h51km±4km, mb5.5/150, MS5.5/205, Error ellipse: s-maj=4.1km s-min=3.3km az=140.4*
*GCMT **03** 04:11:39.5±0.1, 5.33S×145.85E, h41km, MW5.8/121, Moment Tensor Solution. s121,c240; s118,c321; Duration: 2±0 Moment tensor: Scale 10^17 Nm; Mrr5.61±.06; Mθθ-0.41±.05; Mϕϕ-5.19±.05; Mrθ2.01±.06; Mθϕ3.15±.04; Mϕr-2.30±.07; Best double couple: M0 6.90900×10^17 NP1:ϕs146.00000°, δ58.00000°, λ81.00000°. NP2:ϕs343.00000°, δ33.00000°, λ104.00000°. Principal axes: T 6.3890, Plg75.0000°, Azm30.0000°; N 1.0440, Plg8.0000°, Azm151.0000°; P -7.4280, Plg13.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 04:11:39.5±0.1, 5.30S×145.86E, h34km, mb5.6/81, MS5.6/154, MW5.8, MW5.8 Error ellipse: s-maj=4.6km s-min=3.6km az=75.0, Moment Tensor Solution. s46 Moment tensor: Scale 10^17 Nm; Mrr4.10; Mθθ1.08; Mϕϕ-5.19; Mrθ1.43; Mθϕ1.99; Mϕr-1.85; Best double couple: M0 5.60000×10^17 NP1:ϕs150.00000°, δ59.00000°, λ73.00000°. NP2:ϕs1.00000°, δ35.00000°, λ115.00000°. Principal axes: T 4.7800, Plg71.0000°, Azm20.0000°; N 1.4400, Plg14.0000°, Azm159.0000°; P -6.2300, Plg11.0000°, Azm252.0000°;*
NEIC Felt [V] at Madang. Also felt at Kainantu and Mount Hagen.
*DJA **03** 04:11:41.3±0.5, 5.5S×147.6E±., h10km, M5.9/16, mb6.0/16, mB6.2/16, Mw(mB)5.9/16, Mwp5.9/5*
*NEIC **03** 04:12:00.5±0.0, 5.30S×145.72E, h39km, Moment Tensor Solution. s137 Moment tensor: Scale 10^17 Nm; Mrr6.54; Mθθ-1.08; Mϕϕ-5.47; Mrθ1.39; Mθϕ2.69; Mϕr-2.46; Best double couple: M0 7.20000×10^17 NP1:ϕs153.00000°, δ57.00000°, λ88.00000°. NP2:ϕs336.00000°, δ34.00000°, λ93.00000°. Principal axes: T 7.1200, Plg78.0000°, Azm56.0000°; N 0.1900, Plg1.0000°, Azm153.0000°; P -7.3200, Plg11.0000°, Azm244.0000°;*
ISC 03 04:11:42.0±0.3, 5.39S±0.03×145.84E±0.03, h57km±1km, h57km:pP-P, n814, σ1974/848, mb5.5/149, MS5.5/205, 131C-86D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.66**	**25**	↓P	**Pn**	**04 12 35.3**	**-0.8**
	baz=3.7,SNR=38						
PMG	**Port Moresby**	**4.20**	**162**	*e*Pn	**Pn**	**04 12 43.4**	**-0.2**
PMG				Sn	**Sn**	**04 13 31.3**	**-0.1**
PMG	**Port Moresby**	**4.20**	**162**	Pn	**Pn**	**04 12 42.9**	**-0.7**
	219nm,0.3s,baz=17,slow=4.5,SNR=200						
PMG				Sn	**Sn**	**04 13 31.3**	**-0.1**
	431nm,0.3s,baz=315,slow=22,SNR=6.1						
PMG				LR	LR	04 14 10.8	
	comp=Z,20μm,18.7s,baz=351,slow=36						
JAY	**Jayapura**	**5.86**	**299**	P	**Pn**	**04 13 07.7**	**+1.2**
	baz=5.9,SNR=52						
GENI	**Genyem**	**6.30**	**296**	P	**Pn**	**04 13 14.6**	**+2.2**
	3μm,1.3s,40μm88μm						
RABL	**Rabaul**	**6.41**	**80**	P	**Pn**	**04 13 13.5**	**-0.4**
	baz=6.4,SNR=29						
COEN	**Coen**	**8.91**	**197**	*e*Pn	**Pn**	**04 13 48.4**	**+0.2**
COEN				*e*Sn	**Sn**	**04 15 24.8**	**-2.3**
COEN	**Coen**	**8.91**	**197**	↑P	**Pn**	**04 13 49.4**	**+1.2**
	baz=8.9,SNR=1000						
SRPI	**Serui, Papua**	**10.20**	**290**	P	**Pn**	**04 14 05.0**	**-0.7**
	1μm,0.8s,12μm						
BAKI	**Biak**	**10.57**	**293**	P	**Pn**	**04 14 10.6**	**-0.3**
	697nm,1.2s,11μm94μm						
MWPI	**Manokwari, Pap**	**12.58**	**290**	P	x	04 14 38.9	
	1μm,1.0s,10μm						
FAKI	**Fak Fak**	**13.78**	**280**	P	**Pn**	**04 14 52.0**	**-2.6**
	293nm,1.0s,7μm40μm						
FAKI	**Fak Fak**	**13.78**	**280**	↓P	**Pn**	**04 14 54.4**	**-0.2**
	baz=14,SNR=11						
HNR	**Honiara**	**14.55**	**107**	Pn	**Pn**	**04 15 05.1**	**+0.2**
HNR	**Honiara**	**14.55**	**107**	Pn	**Pn**	**04 15 05.1**	**+0.2**
	5.5nm,0.3s,baz=152,slow=3.6,SNR=22						
HNR				LR	LR	04 20 02.6	
	comp=Z,9μm,19.9s,baz=281,slow=34						
HNR	**Honiara**	**14.55**	**107**	*e*P	P	04 15 15.0	+5.0
HNR				*e*S	**S**	**04 17 59.0**	**-2.5**
CTA	**Charters Tower**	**14.62**	**178**	Pn	**Pn**	**04 15 05.3**	**-0.4**
CTA	**Charters Tower**	**14.62**	**178**	Pn	**Pn**	**04 15 05.3**	**-0.4**
	2.9nm,0.3s,baz=355,slow=14,SNR=64						
CTAO	**Charters Tower**	**14.62**	**178**	*e*P	**Pn**	**04 15 06.6**	**+0.9

TARA Tarawa 27.87 77 PFAKE 04 17 40.0 +13
TARA LR LR
comp=Z,10μm,20.0s
HTT Hallett 28.64 192 P **P** **04 17 33.6 +0.4**
baz=29,SNR=31
BBOO Buckleboo 28.77 197 *e*P **P** **04 17 34.4 0.0**
comp=Z,1μm,1.0s
BBOO Buckleboo 28.77 197 P **P** **04 17 34.0 -0.4**
baz=29,SNR=16
YNG Young 28.86 176 P **P** **04 17 36.6 +1.3**
baz=29,SNR=15
MYLDM Lahad Datu 29.25 291 *e*P **P** **04 17 40.5 +1.6**
comp=Z,339nm,1.3s
MYLDM Lahad Datu 29.25 291 ⇑P **P** **04 17 40.2 +1.3**
TSM Tawau 29.54 288 ⇓P **P** **04 17 42.8 +1.3**
CAN Canberra 29.93 175 *e*P **P** **04 17 45.3 +0.6**
CAN pmax pmax
comp=Z,112nm,1.2s
CAN MLR MLR
comp=Z,5μm,22.0s
CAN Canberra 29.93 175 *e*P **P** **04 17 45.3 +0.6**
comp=Z,112nm,1.2s
CAN LR LR
comp=Z,5μm,22.0s
FORT Forrest 30.29 211 *e*P **P** **04 17 47.9 -0.1**
comp=Z,134nm,0.7s
FORT Forrest 30.29 211 P **P** **04 17 48.5 +0.5**
baz=30,SNR=31
SDKM Sandakan 30.63 291 ⇑P **P** **04 17 51.6 +0.4**
H11S3 WAKE ISLAND Hy 31.40 40 T T 04 51 08.1
baz=222,slow=76,SNR=81
H11S2 WAKE ISLAND Hy 31.41 40 T T 04 51 08.4
baz=222,slow=76,SNR=78
H11S1 WAKE ISLAND Hy 31.41 40 T T 04 51 10.0
baz=222,slow=76,SNR=77
ARPS Mount Arapiles 31.45 186 P **P** **04 17 59.9 +1.8**
baz=32,SNR=6.9
JAGI Jajag, Banyuwa 31.60 263 *e*P **P** **04 17 58.1 -1.6**
JAGI Jajag, Banyuwa 31.60 263 P **P** **04 17 58.7 -1.0**
baz=32,SNR=4.7
MILA Mila 31.66 175 P **P** **04 18 01.7 +1.7**
baz=32,SNR=5.9
WAKE Wake Island 31.95 39 PFAKE 04 18 10.0 +7.4
WAKE LR LR
comp=Z,5μm,20.0s
TOO Toolangi 32.04 181 P **P** **04 18 04.6 +1.4**
baz=32,SNR=10
H11N1 WAKE ISLAND Hy 32.42 39 T T 04 52 25.8
baz=222,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 32.44 39 T T 04 52 25.6
baz=222,slow=76,SNR=47
H11N2 WAKE ISLAND Hy 32.44 39 T T 04 52 29.3
baz=222,slow=76,SNR=16
CBIJ Chichi jima 32.48 354 *e*P **P** **04 18 06.0 -1.2**
comp=Z,93nm,0.7s
MEEK Meekatharra 33.49 228 P **P** **04 18 16.1 0.0**
baz=34,SNR=142
BTM Bintulu 33.81 284 ⇑P **P** **04 18 19.8 +0.8**
KMBL Kambalda 34.25 218 P **P** **04 18 23.0 +0.3**
baz=34,SNR=29
SBUM Sibu 34.47 282 *e*P **P** **04 18 24.8 0.0**
comp=Z,88nm,1.0s
SBUM Sibu 34.47 282 ⇓P **P** **04 18 25.2 +0.4**
UGM Wanagama 35.16 264 ⇓P **P** **04 18 32.0 +1.3**
baz=35,SNR=14
SMRI Semarang 35.22 265 *e*P **P** **04 18 32.9 +1.6**
comp=Z,79nm,0.7s
SMRI Semarang 35.22 265 ⇑P **P** **04 18 32.8 +1.5**
baz=35,SNR=5.1
KSM Kuching 36.14 280 *e*P **P** **04 18 39.2 +0.1**
KSM LR LR
comp=Z,3μm,20.0s
KSM Kuching 36.14 280 P **P** **04 18 39.9 +0.8**
baz=36,SNR=38
KSM Kuching 36.14 280 ⇓P **P** **04 18 39.4 +0.3**
MORW Morawa 36.73 227 P **P** **04 18 44.5 +0.5**
baz=37,SNR=22
KLBR Kellerberrin 37.04 222 P **P** **04 18 46.6 +0.1**
baz=37,SNR=63
YOJ Yonaguni jima 37.08 324 *e*P **P** **04 18 48.0 +1.1**
YOJ Yonaguni jima 37.08 324 *e*P **P** **04 18 48.0 +1.1**
BLDU Ballidu 37.15 224 P **P** **04 18 47.5 0.0**
baz=37,SNR=27
YULB Yu-li 37.32 321 *e*P **P** **04 18 48.7 -0.2**
comp=Z,31nm,0.8s
TAU Tasmania Unive 37.39 178 *e*P **P** **04 18 49.6 +0.3**
TAU pmax pmax
comp=Z,93nm,1.3s
TAU MLR MLR
comp=Z,14μm,20.0s
TAU Tasmania Unive 37.39 178 *e*P **P** **04 18 49.6 +0.3**
comp=Z,93nm,1.3s
TAU LR LR
comp=Z,14μm,20.0s
TPUB Ta-pu 37.67 320 *e*P **P** **04 18 51.1 -0.9**
comp=Z,56nm,0.8s
NACB Ninganchiao 37.71 322 *e*P **P** **04 18 51.9 -0.3**
comp=Z,73nm,0.8s
SSLB Suanglung 37.82 321 *e*P **P** **04 18 53.5 +0.2**
CISI Cisompet, Garu 37.84 265 *e*P **P** **04 18 52.9 -0.7**
CISI Cisompet, Garu 37.84 265 P **P** **04 18 54.0 +0.4**
baz=38,SNR=8.1
YHNB Yeheng 38.21 322 *e*P **P** **04 18 57.1 +0.6**
comp=Z,157nm,0.8s
YHNB LR LR
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 38.22 221 S **S** **04 24 47.5 +1.2**
NWAO Narrogin (SRO) 38.22 221 S **S** **04 24 47.5 +1.2**
comp=Z,7.1nm,0.9s,baz=272,slow=14,SNR=3.0
NWAO LR LR 04 35 42.3
comp=Z,12μm,20.8s,baz=212,slow=38
TATO Taipei 38.37 323 *e*P **P** **04 18 58.9 +1.2**
comp=Z,110nm,0.9s
TATO LR LR
comp=Z,4μm,21.0s
OUZ Omahuta 39.20 143 *e*P **P** **04 19 06.8 +2.2**
RKGY Rocky Gully 39.47 219 ⇓P **P** **04 19 08.8 +1.9**
baz=40,SNR=20
XMI Christmas Isla 40.06 260 P **P** **04 19 13.8 +1.7**
baz=40,SNR=10
XMIS Christmas Isla 40.10 260 *e*P **P** **04 19 13.7 +1.3**
XMIS Christmas Isla 40.10 260 P **P** **04 19 14.0 +1.6**
baz=40,SNR=10
QZH Quanzhou 40.14 320 ⇑*i*P P 04 19 08.6 -4.0
QZH S **S** **04 25 11.8 -3.5**
QZH pmax pmax
comp=Z,100nm,0.7s
QZH pmax pmax
comp=Z,1μm,3.9s
QZH LR LR
comp=Z,2μm,14.3s
QZH LR LR
comp=Z,2μm,14.1s
QZH LR LR
comp=Z,7μm,26.2s
JNU Nakatsue 40.84 341 *e*P **P** **04 19 18.7 +0.4**
JNU Nakatsue 40.84 341 LR LR 04 34 12.6
comp=Z,5μm,20.0s,baz=154,slow=33
RAO Raoul Island 41.66 129 P **P** **04 19 25.2 +0.1**
RAO LR LR
comp=Z,2μm,19.0s
RAO Raoul Island 41.66 129 P **P** **04 19 25.2 +0.1**
comp=Z,146nm,0.3s,baz=234,slow=21,SNR=4.9
MJAR Matsushiro Arr 42.32 351 P **P** **04 19 28.5 -1.8**
MJAR Matsushiro Arr 42.32 351 P **P** **04 19 28.5 -1.8**
comp=Z,37nm,0.9s,baz=175,slow=6.4,SNR=38
MJAR LR LR 04 34 30.9
comp=Z,2μm,21.1s,baz=160,slow=32
MAJO Matsushiro 42.32 351 ⇓*i*P **P** **04 19 29.5 -0.8**
MAJO Matsushiro 42.32 351 *e*P **P** **04 19 29.2 -1.1**
comp=Z,311nm,1.5s
MAJO LR LR
comp=Z,3μm,22.0s
MAT Matsushiro 42.32 351 P **P** **04 19 28.8 -1.5**
MAT S **S** **04 25 48.2 +0.9**
GZH Guangzhou 42.53 313 P **P** **04 19 31.8 -0.4**
GZH S **S** **04 25 51.2 +0.5**
GZH SS **SS** **04 29 03.9 +1.6**
GZH LR LR
comp=Z,2μm,20.1s
GZH LR LR
comp=Z,2μm,19.6s
MYKOM Kota Tinggi 42.54 279 ⇑P **P** **04 19 33.5 +1.0**
AFI Afiamalu 42.57 105 *e*P **P** **04 19 33.6 +0.8**
comp=Z,324nm,1.0s
AFI LR LR
comp=Z,3μm,20.0s

AFI Afiamalu 42.57 105 P **P** **04 19 32.4 -0.4**
comp=Z,231nm,0.9s,baz=285,slow=2.7,SNR=22
AFI LR LR 04 35 10.1
comp=Z,3μm,20.1s,baz=264,slow=33
QIZ Qiongzhong 42.96 305 P **P** **04 19 35.5 -0.3**
QIZ sP **sP** **04 19 55.8 -1.4**
QIZ PP **PP** **04 21 17.8 +1.3**
QIZ S **S** **04 25 52.7 -4.5**
QIZ SS **SS** **04 29 05.6 -5.4**
QIZ pmax pmax
comp=Z,32nm,1.7s
QIZ LR LR
comp=Z,1μm,24.6s
QIZ LR LR
comp=Z,810nm,24.6s
QIZ LR LR
comp=Z,4μm,25.2s
QIZ Qiongzhong 42.96 305 PFAKE 04 19 50.0 +14
QIZ LR LR
comp=Z,2μm,20.0s
KGM Kluang 43.10 279 ⇑P **P** **04 19 38.1 +1.1**
SSE Sheshan 43.26 329 P **P** **04 19 38.4 +0.5**
SSE S **S** **04 26 03.6 +2.5**
SSE sS **sS** **04 26 30.2 +4.1**
SSE pmax pmax
comp=Z,88nm,0.9s
SSE pmax pmax
comp=Z,610nm,10.8s
SSE LR LR
comp=Z,2μm,29.0s
SSE LR LR
comp=Z,2μm,29.0s
SSE LR LR
comp=Z,3μm,20.0s
URZ Urewera 43.33 143 *e*P **P** **04 19 39.8 +1.3**
URZ *e*PcP **PcP** **04 21 25.2 -1.2**
KTGM Kuala Trenggan 43.95 283 ⇑P **P** **04 19 45.5 +1.7**
SNZO South Karori 44.09 148 *e*P **P** **04 19 45.4 +0.8**
comp=Z,191nm,1.1s
SNZO LR LR
comp=Z,3μm,20.0s
RPZ Rata Peaks 44.16 154 *e*P **P** **04 19 46.4 +1.2**
comp=Z,81nm,0.7s
WHZ Wether Hill Ro 44.69 158 *e*P **P** **04 19 49.9 +0.7**
comp=Z,84nm,0.9s
FRIM Kepong 44.99 280 ⇓P **P** **04 19 53.4 +1.3**
NIUE Niue 45.17 112 P **P** **04 19 55.2 +1.7**
baz=45,SNR=5.1
NJ2 Nanjing 45.24 327 *e*P **P** **04 19 54.7 +0.9**
NJ2 pP **pP** **04 20 09.1 +0.4**
NJ2 sP **sP** **04 20 14.7 -0.6**
NJ2 S **S** **04 26 35.0 +5.0**
NJ2 sS **sS** **04 26 57.0 +1.9**
NJ2 pmax pmax
comp=Z,90nm,1.0s
NJ2 pmax pmax
comp=Z,850nm,6.5s
NJ2 LR LR
comp=Z,4μm,23.6s
NJ2 LR LR
comp=Z,2μm,19.4s
NJ2 LR LR
comp=Z,4μm,27.7s
PPI Padang Panjang 45.63 275 P **P** **04 19 57.9 +0.6**
baz=46,SNR=13
KSRS Korea Array 45.78 340 P **P** **04 19 57.3 -0.7**
comp=Z,54nm,0.8s,baz=158,slow=9.0,SNR=112
KSRS LR LR 04 37 13.2
comp=Z,6μm,19.8s,baz=154,slow=34
KSAR Wonju Array Be 45.78 340 P **P** **04 19 57.3 -0.7**
IPM Ipoh 45.82 282 *e*P **P** **04 19 58.3 -0.4**
comp=Z,44nm,0.8s
IPM Ipoh 45.82 282 ⇑P **P** **04 20 00.1 +1.3**
INCN Inchon 46.26 339 *e*P **P** **04 20 02.4 +0.6**
comp=Z,78nm,1.0s
INCN LR LR
comp=Z,3μm,19.0s
KULM Kulim 46.35 283 *e*P **P** **04 20 02.3 -0.6**
comp=Z,42nm,0.8s
KULM LR LR
comp=Z,3μm,22.0s
KULM Kulim 46.35 283 ⇑P **P** **04 20 04.7 +1.8**
WHN Wuhan 46.74 322 ⇓*i*P **P** **04 20 07.2 +1.6**
WHN sP **sP** **04 20 29.9 +2.7**
WHN S **S** **04 26 53.9 +2.3**
WHN pmax pmax
comp=Z,150nm,0.9s
WHN LR LR
comp=Z,2μm,12.5s
WHN LR LR
comp=Z,4μm,18.8s
WHN LR LR
comp=Z,3μm,17.4s
ERM Erimo 47.24 357 PFAKE 04 20 20.0 +11
ERM LR LR
comp=Z,2μm,20.0s
PSI Prapat 47.56 279 P **P** **04 20 12.4 -0.2**
baz=48,SNR=31
PATY Pattaya 48.24 293 P **P** **04 20 19.4 +1.8**
comp=Z,13nm,1.1s
CHAI Chaiyaphum 48.28 297 P **P** **04 20 18.5 +0.6**
comp=Z,36nm,0.8s
COCO West Island 48.84 259 PFAKE 04 20 30.0 +7.8
COCO LR LR
comp=Z,4μm,22.0s
SLVN Son La 48.95 304 *e*P **P** **04 20 23.5 +0.5**
comp=Z,51nm,1.4s
SURT Suratani 49.02 287 P **P** **04 20 25.1 +1.6**
comp=Z,36nm,0.9s,comp=Z,804nm
PKDT Phuket 49.19 285 P **P** **04 20 26.2 +1.3**
comp=Z,125nm,1.0s,comp=Z,4μm
YUK Yuzh-Kuril'sk 49.19 0*c* *i*P P 04 20 16.5 -7.8
YUK *i* *PP pP 04 20 32.8 -6.6
YUK *i* 04 22 11.1
YUK *i* 04 27 30.3
YUK MLR MLR
comp=N,3μm,20.0s
YUK MLR MLR
comp=E,2μm,20.0s
YUK MLR MLR
comp=Z,2μm,20.0s
TIA Tai'an 49.36 329 ⇓P **P** **04 20 25.5 -0.3**
TIA S **S** **04 27 30.4 +1.9**
TIA pmax pmax
comp=Z,60nm,1.0s
TIA pmax pmax
comp=Z,760nm,8.0s
TIA LR LR
comp=Z,1μm,18.4s
TIA LR LR
comp=Z,2μm,17.8s
TIA LR LR
comp=Z,3μm,18.1s
GYA Guiyang 49.41 312 ⇑*i*P **P** **04 20 26.5 -0.1**
GYA pP **pP** **04 20 44.6 +3.0**
GYA sP **sP** **04 20 50.9 +2.7**
GYA PcP **PcP** **04 21 49.0 +0.7**
GYA PP **PP** **04 22 23.2 +2.0**
GYA S **S** **04 27 27.0 -2.8**
GYA sS **sS** **04 27 57.8 +2.6**
GYA ScS **ScS** **04 30 11.2 -2.6**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,670nm,8.9s
GYA LR LR
comp=Z,1μm,17.8s
GYA LR LR
comp=Z,1μm,20.0s
GYA LR LR
comp=Z,2μm,20.9s
PBKT Sadao Pong 49.44 297 P **P** **04 20 28.1 +1.4**
comp=Z,47nm,1.2s,comp=Z,1μm
ENH Enshi 49.69 318 *e*P **P** **04 20 28.3 -0.1**
comp=Z,30nm,0.9s
VLA Vladivostok 49.91 347 ⇑*e*P **P** **04 20 28.5 -1.3**
VLA *e* 04 21 47.0
VLA *i* 04 22 23.4
VLA S **S** **04 27 34.0 -1.9**
VLA pmax pmax
comp=Z,54nm,1.0s
MCQ Macquarie Isla 50.11 170 P **P** **04 20 32.9 +1.7**
baz=50,SNR=5.6
SRDT SRDT 50.31 294 P **P** **04 20 35.3 +1.9**
comp=Z,214nm,1.7s
NANT Nan 50.55 300 P **P** **04 20 35.8 +0.7**

comp=Z,259nm,1.0s,comp=Z,2μm
USRK Ussuriysk Arra 50.91 347 P **P** **04 20 36.7 -0.7**
comp=Z,80nm,0.7s,baz=176,slow=5.4,SNR=43
USRK LR LR 04 39 54.6
comp=Z,2μm,21.8s,baz=145,slow=33
KHLT Khaolaem Dam 50.95 294 P **P** **04 20 40.6 +2.4**
comp=Z,45nm,1.0s,comp=Z,809nm
SNY Shenyang 51.19 339 ⇑P **P** **04 20 38.7 -0.8**
SNY S **S** **04 27 54.9 +1.1**
SNY LR LR
comp=Z,4μm,18.4s
SNY LR LR
comp=Z,2μm,17.7s
SNY LR LR
comp=Z,5μm,18.8s
LAMP Lampang 51.37 299 P **P** **04 20 44.4 +3.1**
comp=Z,23nm,0.8s,comp=Z,198nm
KMI Kunming 51.71 308 P **P** **04 20 44.5 +0.5**
KMI pP **pP** **04 20 55.1 -4.1**
KMI PP **PP** **04 22 42.4 +0.2**
KMI S **S** **04 28 02.8 +0.8**
KMI SS **SS** **04 31 35.5 -3.7**
KMI pmax pmax
comp=Z,23nm,2.0s
KMI pmax pmax
comp=Z,450nm,6.9s
KMI LR LR
comp=Z,1μm,23.7s
KMI LR LR
comp=Z,1μm,27.7s
KMI LR LR
comp=Z,3μm,25.5s
MDJ Mudanjiang 51.88 345 P **P** **04 20 45.2 +0.6**
MDJ pP **pP** **04 20 58.8 -1.0**
MDJ sP **sP** **04 21 04.7 -1.6**
MDJ PcP **PcP** **04 21 58.5 +1.7**
MDJ PP **PP** **04 22 42.3 -0.8**
MDJ S **S** **04 28 02.7 -0.4**
MDJ SS **SS** **04 31 39.7 -1.0**
MDJ pmax pmax
comp=Z,47nm,0.8s
MDJ pmax pmax
comp=Z,580nm,4.0s
MDJ LR LR
comp=Z,1μm,22.6s
MDJ LR LR
comp=Z,1μm,24.1s
MDJ LR LR
comp=Z,2μm,22.6s
MDJ Mudanjiang 51.88 345 *e*P **P** **04 20 44.7 +0.1**
comp=Z,45nm,0.8s
MDJ LR LR
comp=Z,2μm,20.0s
CM31 Chiang Mai Arr 51.95 298 *e*P **P** **04 20 46.9 +1.3**
comp=Z,36nm,0.6s
CMAR Chiang Mai Arr 51.95 298 P **P** **04 20 45.4 -0.2**
CMAR Chiang Mai Arr 51.95 298 P **P** **04 20 45.4 -0.2**
comp=Z,14nm,0.7s,baz=122,slow=5.9,SNR=35
CMAR LR LR 04 40 54.0
comp=Z,1μm,19.6s,baz=122,slow=34
CHTO Chiang Mai 52.08 299 *e*P **P** **04 20 47.1 +0.5**
CHTO pmax pmax
comp=Z,37nm,0.9s
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 52.08 299 *e*P **P** **04 20 47.1 +0.5**
comp=Z,37nm,0.9s
CHTO LR LR
comp=Z,1μm,22.0s
YSS Yuzh-Sakhalins 52.19 357 ⇑*i*P **P** **04 20 47.0 +0.2**
YSS *e*S **S** **04 28 08.0 +0.8**
YSS *e*PS PS 04 28 21.0
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS Yuzh-Sakhalins 52.19 357 *e*P **P** **04 20 47.1 +0.3**
comp=N,64nm,0.9s
YSS LR LR
comp=Z,564nm,19.0s
CN2 Changchun 52.31 341 *e*P **P** **04 20 48.7 +0.9**
CN2 *e*sP **sP** **04 21 11.5 +1.9**
CN2 PP **PP** **04 22 49.4 +2.4**
CN2 *e*S **S** **04 28 08.7 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,500nm,20.0s
CMAI Chiengmai2 52.43 300 P **P** **04 20 50.7 +1.3**
comp=Z,52nm,1.4s,comp=Z,2μm
XAN Xi'an 52.48 321 P **P** **04 20 48.2 -1.2**
XAN pP **pP** **04 21 03.5 -1.1**
XAN PP **PP** **04 22 49.2 +0.4**
XAN S **S** **04 28 10.2 -1.7**
XAN sS **sS** **04 28 37.5 +0.1**
XAN SS **SS** **04 31 48.8 -2.0**
XAN pmax pmax
comp=Z,17nm,1.0s
XAN pmax pmax
comp=Z,150nm,6.9s
XAN LR LR
comp=Z,1μm,18.2s
XAN LR LR
comp=Z,430nm,19.5s
XAN LR LR
comp=Z,440nm,17.4s
MHMT Maesarieng 52.73 298 P **P** **04 20 54.0 +2.6**
comp=Z,36nm,0.6s,comp=Z,606nm
BJT Baijiatuau 52.80 331 *e*P **P** **04 20 51.3 -0.3**
comp=Z,41nm,0.8s
BJT LR LR
comp=Z,4μm,20.0s
BJI Beijing 52.81 332 P **P** **04 20 50.1 -1.5**
BJI PP **PP** **04 22 54.1 +2.5**
BJI S **S** **04 28 14.4 -1.6**
BJI SS **SS** **04 31 57.4 +1.7**
BJI pmax pmax
comp=Z,53nm,1.8s
BJI pmax pmax
comp=Z,820nm,5.9s
BJI LR LR
comp=Z,3μm,19.2s
BJI LR LR
comp=Z,2μm,22.4s
BJI LR LR
comp=Z,2μm,21.3s
TIY Taiyuan 52.96 327 *e*P **P** **04 20 52.1 -0.8**
TIY S **S** **04 28 17.4 -0.9**
TIY pmax pmax
comp=Z,510nm,6.2s
TIY LR LR
comp=Z,600nm,12.5s
TIY LR LR
comp=Z,230nm,6.8s
TIY LR LR
comp=Z,680nm,17.2s
CD2 Chengdu 54.02 315 ⇓*i*P **P** **04 21 01.2 +0.4**
CD2 pP **pP** **04 21 13.8 -2.2**
CD2 sP **sP** **04 21 22.9 +0.4**
CD2 PP **PP** **04 23 03.2 +0.4**
CD2 S **S** **04 28 32.6 -0.3**
CD2 sS **sS** **04 28 57.6 -1.0**
CD2 ScS **ScS** **04 30 43.4 -2.1**
CD2 SS **SKiKP** **04 32 11.2 +2.7**
CD2 pmax pmax
comp=Z,90nm,1.2s
CD2 pmax pmax
comp=Z,640nm,10.8s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,2μm,17.8s
CD2 LR LR
comp=Z,2μm,19.0s
HABR Khabarovsk 54.46 351 *i*P **P** **04 21 01.1 -2.4**
HABR *e**PP **pP** **04 21 17.0 -1.8**
HABR 04 22 04.3
HABR *e* 04 23 03.7

HABR eS **S** **04 28 36.2 -1.9**
HABR e 04 30 44.7
HABR eSS **SS** **04 32 20.5 -0.9**
HABR pmax pmax
comp=N,23nm,2.0s
HABR pmax pmax
comp=E,106nm,2.0s
HABR pmax pmax
comp=Z,81nm,2.0s
HABR MLR MLR
comp=Z,689nm,18.0s
RAR **Rarotonga** **54.94 112** eP **P** **04 21 07.6 +0.1**
comp=Z,192nm,1.1s
RAR **Rarotonga** **54.94 112** LR LR 04 42 07.4
comp=Z,1μm,19.0s,baz=225,slow=33
HHC **Hu-ho-hao-te** **55.71 329** eP **P** **04 21 12.8 -0.1**
HHC pP **pP** **04 21 28.2 0.0**
HHC PP **PP** **04 23 19.4 +1.6**
HHC S **S** **04 28 53.5 -1.9**
HHC sS **sS** **04 29 20.7 -0.4**
HHC SS **SS** **04 32 39.7 -2.0**
HHC pmax pmax
comp=Z,45nm,1.1s
HHC pmax pmax
comp=Z,410nm,5.2s
HHC LR LR
comp=Z,3μm,19.0s
HHC LR LR
comp=Z,2μm,19.0s
HHC LR LR
comp=Z,4μm,19.0s
KLR **Kul'dur** **55.76 349** eP P 04 21 08.5 -4.4
KLR eS **S** **04 28 49.5 -6.0**
KLR e 04 30 49.5
KLR pmax pmax
comp=N,130nm,2.2s
KLR pmax pmax
comp=E,140nm,2.2s
KLR pmax pmax
comp=Z,400nm,2.2s
KLR pmax pmax
comp=Z,2μm,7.5s
BTO **Baotou** **56.34 328** eP **P** **04 21 15.4 -2.0**
LZH **Lanzhou** **57.00 320** ⇑P **P** **04 21 22.6 +0.4**
LZH pP **pP** **04 21 39.4 +1.9**
LZH sP **sP** **04 21 45.6 +1.6**
LZH PP **PP** **04 23 26.1 -3.4**
LZH S **S** **04 29 10.0 -2.7**
LZH sS **sS** **04 29 36.1 -2.4**
LZH SS **SS** **04 33 01.2 -1.0**
LZH pmax pmax
comp=Z,55nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.0s
LZH LR LR
comp=Z,910nm,15.1s
LZH LR LR
comp=Z,1μm,16.0s
LZH LR LR
comp=Z,2μm,17.5s
XMAS **Kiritimati** **57.13 84** PFAKE 04 21 40.0 +17
XMAS LR LR
comp=Z,12μm,22.0s
HIA **Hailar** **58.99 340** eP **P** **04 21 35.3 -0.4**
comp=Z,70nm,1.1s
HIA LR LR
comp=Z,4μm,19.0s
PEA0B **Petropavlovsk-** **59.13 8** eP **P** **04 21 38.2 +1.6**
PEA0B epP **pP** **04 21 50.4 -1.6**
PETK **Petropavlovsk-** **59.13 8** P **P** **04 21 36.7 +0.1**
PETK **Petropavlovsk-** **59.13 8** P **P** **04 21 36.7 +0.1**
PETK ⇑e 04 51 18.3
PETK **Petropavlovsk-** **59.13 8** P **P** **04 21 36.7 +0.1**
comp=Z,32nm,0.9s,baz=171,slow=7.6,SNR=34
PETK LR LR 04 42 30.2
comp=Z,2μm,21.6s,baz=191,slow=31
PETK PKP2bc 04 51 18.3
comp=Z,16nm,0.9s,baz=100,slow=6.2,SNR=10
PET **Petropavlovsk** **59.20 9** eP **P** **04 21 38.3 +1.3**
PET eS **S** **04 29 43.5 +3.2**
PET eSS **SS** **04 33 41.6 +5.9**
PET pmax pmax
comp=Z,58nm,1.3s
PET pmax pmax
comp=Z,1μm,16.2s
PET pmax pmax
comp=Z,300nm,16.2s
PET **Petropavlovsk** **59.20 9** PFAKE 04 21 50.0 +13
PET LR LR
comp=Z,2μm,22.0s
SHL **Shillong** **60.72 303** ⇑iP **P** **04 21 47.0 -1.2**
SHL eS **S** **04 30 06.0 +4.7**
KIP **Kipapa** **61.12 62** eP **P** **04 21 52.8 +2.0**
KIP pmax pmax
comp=Z,81nm,1.0s
KIP MLR MLR
comp=Z,3μm,22.0s
KIP **Kipapa** **61.12 62** eP **P** **04 21 52.8 +2.0**
comp=Z,82nm,1.0s
KIP LR LR
comp=Z,3μm,22.0s
GTA **Gaotai** **61.54 321** ⇑P **P** **04 21 53.7 +0.2**
GTA pP **pP** **04 22 06.3 -2.7**
GTA sP **sP** **04 22 11.8 -3.6**
GTA PP **PP** **04 24 12.0 +2.4**
GTA S **S** **04 30 12.3 +1.1**
GTA SS **SS** **04 34 15.8 +2.5**
GTA pmax pmax
comp=Z,39nm,1.9s
GTA pmax pmax
comp=Z,810nm,6.7s
GTA LR LR
comp=Z,760nm,20.9s
GTA LR LR
comp=Z,940nm,20.0s
GTA LR LR
comp=Z,1μm,19.2s
FX1 **Attu Island--F** **62.49 18** eP **P** **04 22 00.7 +1.3**
FX1 **Attu Island--F** **62.49 18** P **P** **04 21 59.6 +0.2**
comp=Z,18nm,0.6s,baz=39,slow=20,SNR=6.9
FX1 LR LR 04 44 11.7
comp=Z,4μm,21.5s,baz=227,slow=31
POHA **Pohakuloa** **62.82 65** eP **P** **04 22 04.0 +1.5**
comp=Z,98nm,0.9s
POHA LR LR
comp=Z,9μm,21.0s
LSA **Lhasa** **62.95 307** P **P** **04 22 03.6 +0.1**
LSA S **S** **04 30 30.9 +0.9**
LSA LR LR
comp=Z,670nm,26.4s
LSA LR LR
comp=Z,940nm,25.1s
LSA LR LR
comp=Z,2μm,26.4s
LSA **Lhasa** **62.95 307** eP **P** **04 22 04.5 +0.9**
LSA pmax pmax
comp=Z,162nm,1.6s
LSA MLR MLR
comp=Z,1μm,22.0s
LSA **Lhasa** **62.95 307** eP **P** **04 22 04.5 +0.9**
comp=Z,162nm,1.6s
LSA LR LR
comp=Z,1μm,22.0s
ULN **Ulaanbaatar** **63.02 332** eP **P** **04 22 03.3 0.0**
comp=Z,74nm,1.5s
ULN LR LR
comp=Z,4μm,20.0s
SONM **Songino Array** **63.31 331** P **P** **04 22 05.1 -0.1**
SONM P'P' 04 51 02.5
SONM **Songino Array** **63.31 331** P **P** **04 22 05.1 -0.1**
comp=Z,7.2nm,0.8s,baz=151,slow=8.9,SNR=18
SONM LR LR 04 49 42.0
comp=Z,5μm,20.0s,baz=145,slow=36
SONM PKPPKP **P'P'df** **04 51 02.5 +0.6**
comp=Z,1.5nm,0.9s,baz=288,slow=0.9,SNR=4.2
CIT **Chita** **63.46 338** eP **P** **04 22 06.2 +0.3**
CIT e 04 22 15.2
CIT pmax pmax
comp=Z,315nm,2.5s
PAE **Paea** **64.18 107** eP **P** **04 22 12.8 +1.6**
comp=Z,48nm,1.5s
PPT **Papeete** **64.18 107** P **P** **04 22 12.1 +0.8**
PPT **Papeete** **64.18 107** P **P** **04 22 12.1 +0.8**
comp=Z,35nm,0.8s,baz=77,slow=19,SNR=2.9
PPT LR LR 04 45 49.9
comp=Z,1μm,18.2s,baz=273,slow=32

PPT2 **Papeete2** **64.18 107** eP **P** **04 22 13.0 +1.7**
comp=Z,153nm,1.4s
PPT2 **Papeete2** **64.18 107** ePP PP 04 24 32.7 -0.4
comp=Z,388nm,26.8s
PPT2 eS **S** **04 30 44.0 -0.8**
comp=Z,3μm,26.2s
PPT2 eLQ LQ 04 38 34.1
comp=Z,4μm,31.5s
PPT2 eLR LR 04 41 21.7
comp=Z,4μm,27.8s
CLNS **Chul'man** **64.33 347** eP **P** **04 22 11.9 +0.3**
CLNS e*PP pP 04 22 21.6 -5.6
CLNS e 04 22 46.8
CLNS e 04 24 31.8
CLNS eS **S** **04 30 45.6 +0.3**
CLNS e 04 31 57.0
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=Z,26nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.3s
CLNS smax smax
comp=N,391nm,10.9s
CLNS smax smax
comp=E,812nm,13.1s
CLNS MLR MLR
comp=E,454nm,17.0s
CLNS MLR MLR
comp=Z,679nm,16.0s
CLNS MLR MLR
comp=N,488nm,18.0s
TIAR **Tiarei** **64.39 107** eP **P** **04 22 14.6 +1.9**
comp=N,52nm,1.1s
TVO **Taravao** **64.49 107** eP **P** **04 22 15.1 +1.7**
comp=N,59nm,1.4s
TBI **Tubuai** **64.67 113** eP **P** **04 22 16.0 +1.6**
comp=N,329nm,1.0s
TBI **Tubuai** **64.67 113** ePP PP 04 24 37.1 -0.1
comp=N,405nm,28.5s
TBI eS **S** **04 30 50.7 +0.1**
comp=N,2μm,27.2s
TBI eLQ LQ 04 38 49.8
comp=N,4μm,30.8s
TBI eLR LR 04 41 33.4
comp=N,4μm,34.8s
TAPN **Taplejung** **64.85 303** eP **P** **04 22 15.8 -0.1**
comp=N,146nm,1.1s
ODAN **Odare** **64.95 303** eP **P** **04 22 16.4 0.0**
comp=N,124nm,0.8s
CASY **Casey** **65.54 195** eP **P** **04 22 19.6 +0.4**
comp=N,57nm,0.8s
CASY LR LR
comp=Z,2μm,19.0s
MEH **Mehetia** **65.63 107** eP **P** **04 22 22.2 +1.5**
comp=Z,41nm,1.1s
RAMN **Ramite** **65.64 303** eP **P** **04 22 20.6 -0.3**
comp=E,78nm,1.0s
PMOR **Pomariorio Ree** **65.72 104** eP **P** **04 22 23.0 +1.7**
comp=Z,406nm,1.1s
VAH **Vaihoa** **65.98 104** eP **P** **04 22 24.3 +1.3**
comp=Z,181nm,1.2s
PALK **Pallekele** **66.20 280** eP **P** **04 22 24.6 +0.1**
JIRN **Jiri** **66.22 303** eP **P** **04 22 24.7 -0.1**
comp=Z,36nm,0.6s
ZAK **Zakamensk** **66.56 332** eP **P** **04 22 25.2 -0.9**
ZAK pmax pmax
comp=Z,40nm,1.2s
GUN **Gumba** **66.57 303** eP **P** **04 22 26.7 -0.3**
comp=Z,84nm,0.4s
PKI **Pulchoki** **66.85 303** eP **P** **04 22 28.3 -0.4**
comp=Z,91nm,1.2s
KKN **Kakani** **67.03 303** eP **P** **04 22 29.6 -0.1**
comp=Z,85nm,0.8s
DMN **Daman** **67.11 303** eP **P** **04 22 30.2 -0.1**
comp=Z,90nm,0.8s
TLY **Talaya** **67.28 333** P **P** **04 22 31.0 +0.4**
comp=Z,78nm,1.0s,SNR=6.3
TLY **Talaya** **67.28 333***c* iP **P** **04 22 30.0 -0.6**
TLY e 04 22 42.9
TLY eS **S** **04 31 24.5 +3.1**
TLY e 04 31 47.7
TLY e 04 32 23.9
TLY pmax pmax
comp=Z,45nm,2.0s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY **Talaya** **67.28 333** eP **P** **04 22 31.0 +0.4**
comp=Z,32nm,1.3s
TLY LR LR
comp=Z,3μm,20.0s
IRK **Irkutsk** **67.39 334** eP P 04 22 27.4 -3.9
IRK pmax pmax
comp=Z,78nm,2.6s
GKN **Gorkha** **67.63 303** eP **P** **04 22 33.1 -0.4**
comp=Z,40nm,0.5s
SEY **Seymchan** **68.31 3** P **P** **04 22 36.5 -0.3**
SEY **Seymchan** **68.31 3** P **P** **04 22 36.5 -0.3**
SEY **Seymchan** **68.31 3** P **P** **04 22 36.5 -0.3**
comp=Z,6.5nm,0.8s,baz=141,slow=5.0,SNR=20
YAK **Yakutsk** **68.37 352***c* iP **P** **04 22 36.5 -0.7**
YAK e*PP **pP** **04 22 50.1 -2.8**
YAK e 04 22 56.2
YAK e 04 25 07.2
YAK eS **S** **04 31 31.1 -2.8**
YAK e*SS sS 04 31 53.8 -6.6
YAK e 04 32 22.1
YAK pmax pmax
comp=Z,73nm,1.6s
YAK pmax pmax
comp=N,33nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,17nm,0.6s
YAK pmax pmax
comp=E,34nm,1.4s
YAK pmax pmax
comp=N,91nm,1.9s
YAK smax smax
comp=N,218nm,3.6s
YAK smax smax
comp=E,326nm,2.6s
YAK **Yakutsk** **68.37 352** eP **P** **04 22 37.1 -0.1**
comp=E,40nm,0.8s
YAK LR LR
comp=Z,2μm,19.0s
KOLN **Koldanda** **68.43 303** eP **P** **04 22 37.9 -0.6**
comp=Z,65nm,0.8s
DANN **Dangsing** **68.48 303** eP **P** **04 22 38.3 -0.7**
comp=Z,100nm,0.9s
MOY **Mondy** **68.49 332** eP **P** **04 22 37.3 -1.0**
MOY pmax pmax
comp=Z,142nm,2.8s
PYUN **Piuthan** **69.04 303** eP **P** **04 22 41.7 -0.7**
comp=Z,114nm,0.8s
HYB **Hyderabad** **70.17 291** *i* P **P** **04 22 47.0 -2.3**
HYB eS **S** **04 31 54.0 -2.9**
HYB eSP **SPn** **04 32 20.0 -2.2**
MIR **Mirnyy** **70.96 200** ⇑iP **P** **04 22 54.0 +0.9**
MIR e 04 23 21.0
MIR ePPP PPP 04 27 16.0
MIR eS **S** **04 32 08.0 +3.7**
MIR ePS **PnS** **04 32 48.0 +8.7**
MIR pmax pmax
comp=Z,126nm,1.0s
MIR pmax pmax
comp=Z,700nm,4.0s
MIR MLR MLR
comp=N,2μm,20.0s
MIR MLR MLR
comp=E,2μm,20.0s
MIR MLR MLR
comp=Z,4μm,20.0s
UNV **Unalaska Valle** **71.20 28** eP **P** **04 22 52.8 -2.0**
comp=Z,55nm,1.0s
WMQ **Urumqi** **71.58 320** P **P** **04 22 57.7 +0.3**
WMQ pP **pP** **04 23 14.2 +1.0**
WMQ sP **sP** **04 23 21.1 +1.5**
WMQ PP **PP** **04 25 37.5 +0.5**

WMQ S **S** **04 32 14.0 +1.6**
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,170nm,9.8s
WMQ LR LR
comp=Z,1μm,29.8s
WMQ LR LR
comp=Z,750nm,36.8s
WMQ LR LR
comp=Z,880nm,26.3s
VNDA **Vanda** **72.59 176** eP **P** **04 23 03.9 +1.2**
comp=Z,98nm,1.2s
VNDA **Vanda** **72.59 176** P **P** **04 23 03.4 +0.7**
comp=Z,44nm,0.9s,baz=330,slow=6.6,SNR=70
VNDA LR LR 04 52 46.9
comp=Z,4μm,20.5s,baz=345,slow=34
DGAR **Diego Garcia** **72.89 264** PFAKE 04 23 20.0 +14
DGAR LR LR
comp=Z,3μm,21.0s
SBA **Scott Base** **73.25 175** eP **P** **04 23 08.3 +1.6**
SBA pmax pmax
comp=Z,76nm,1.4s
SBA MLR MLR
comp=Z,3μm,20.0s
SBA **Scott Base** **73.25 175** eP **P** **04 23 08.3 +1.6**
comp=Z,76nm,1.4s
SBA LR LR
comp=Z,3μm,20.0s
NDI **New Delhi** **74.08 302** ex P 04 23 09.0 -3.4
POO **Poona** **74.78 291** ex **P** **04 23 16.0 -0.7**
SDPT **Sand Point** **74.92 28** eP **P** **04 23 17.6 +0.9**
comp=Z,153nm,0.8s
GAMB **Gambell** **75.95 18** eP **P** **04 23 22.4 0.0**
comp=Z,48nm,1.4s
MK31 **Makanchi Array** **76.29 321** eP **P** **04 23 24.3 -0.5**
MK31 **Makanchi Array** **76.29 321** eP **P** **04 23 24.3 -0.5**
MKAR **Makanchi Array** **76.29 321** P **P** **04 23 23.7 -1.1**
MKAR **Makanchi Array** **76.29 321** P **P** **04 23 23.7 -1.1**
MKAR PKKPbc **PKKPbc** **04 42 39.0 -1.4**
MKAR P'P' 04 50 29.1
MKAR **Makanchi Array** **76.29 321** P **P** **04 23 23.7 -1.1**
comp=Z,5.0nm,0.6s,baz=106,slow=6.7,SNR=52
MKAR PKKPbc **PKKPbc** **04 42 39.0 -1.4**
comp=Z,0.6nm,0.8s,baz=207,slow=0.5,SNR=6.1
MKAR PKPPKP P'P'df 04 50 29.1 -11
comp=Z,1.0nm,1.0s,baz=300,slow=2.4,SNR=5.2
PAF **Port-aux-Franc** **76.57 221** PFAKE 04 23 40.0 +14
PAF LR LR
comp=Z,4μm,20.0s
TIXI **Tiksi** **77.69 355** eP **P** **04 23 31.6 -0.5**
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI MLR MLR
comp=Z,1μm,22.0s
TIXI **Tiksi** **77.69 355** eP **P** **04 23 31.6 -0.5**
comp=Z,12nm,0.8s
TIXI LR LR
comp=Z,1μm,22.0s
ZAA0 **Zalesovo Array** **77.88 328** eP **P** **04 23 32.1 -1.4**
ZALV **Zalesovo Beam** **77.88 328** *i* P **P** **04 23 32.4 -1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV **Zalesovo Beam** **77.88 328** P **P** **04 23 32.4 -1.1**
ZALV PKKPbc **PKKPbc** **04 42 35.3 -1.9**
ZALV P'P' 04 50 25.7
ZALV **Zalesovo Beam** **77.88 328** P **P** **04 23 32.4 -1.1**
comp=Z,4.5nm,0.5s,baz=103,slow=6.0,SNR=20
ZALV PKKPbc **PKKPbc** **04 42 35.3 -1.9**
comp=Z,2.4nm,0.9s,baz=282,slow=2.9,SNR=6.5
ZALV PKPPKP P'P'df 04 50 25.7 -11
comp=Z,0.4nm,0.4s,baz=279,slow=2.9,SNR=3.5
ZALV LR LR 04 56 25.5
comp=Z,2μm,21.8s,baz=116,slow=34
RKT **Rikitea** **77.97 112** eP **P** **04 23 35.7 +1.0**
comp=Z,138nm,1.0s
RKT **Rikitea** **77.97 112** ePP PP 04 26 27.8 -3.6
comp=Z,291nm,29.2s
RKT eS **S** **04 33 23.4 -0.9**
comp=Z,931nm,29.8s
RKT eSS **SS** **04 38 25.6 -0.9**
comp=Z,618nm,36.8s
RKT eLQ LQ 04 44 25.8
comp=Z,2μm,40.2s
RKT eLR LR 04 47 42.4
comp=Z,4μm,33.2s
KSH **Kashi** **78.11 312** P **P** **04 23 36.5 +1.2**
KSH esP **sP** **04 24 00.1 +2.4**
KSH ePP PP 04 26 40.1 +7.6
KSH S **S** **04 33 23.5 -2.0**
KSH SKS **SKSac** **04 33 43.2 -1.9**
KSH pmax pmax
comp=Z,170nm,2.5s
KSH pmax pmax
comp=Z,460nm,5.4s
KSH LR LR
comp=Z,470nm,18.1s
KSH LR LR
comp=Z,2μm,23.7s
KSH LR LR
comp=Z,790nm,15.8s
TNA **Tin City** **78.36 18** eP **P** **04 23 35.3 -0.6**
comp=Z,18nm,0.8s
AAA **Alma-Ata** **78.57 316** *i* P **P** **04 23 37.3 -0.4**
AAA *i* S **S** **04 33 34.2 +4.1**
AAA pmax pmax
comp=Z,700nm,2.2s
AAA smax smax
comp=N,1μm,4.9s
OHAK **Old Harbor** **79.32 29** eP **P** **04 23 42.5 +1.2**
comp=N,23nm,0.7s
KZA **Kyzart** **79.39 314** *i* P **P** **04 23 43.6 +1.0**
KZA **Kyzart** **79.39 314** P **P** **04 23 43.7 +1.0**
SNR=27
TKM2 **Tokmak 2** **79.40 315** eP **P** **04 23 41.8 -0.6**
TKM2 pmax pmax
comp=Z,18nm,0.8s
TKM2 MLR MLR
comp=Z,949nm,22.0s
TKM2 **Tokmak 2** **79.40 315** P **P** **04 23 41.5 -0.9**
SNR=17
TKM2 **Tokmak 2** **79.40 315** eP **P** **04 23 41.8 -0.6**
comp=Z,18nm,0.8s
TKM2 LR LR
comp=Z,949nm,22.0s
KDAK **Kodiak Island** **79.92 29** eP **P** **04 23 44.0 -0.5**
comp=Z,82nm,1.3s
KDAK LR LR
comp=Z,3μm,22.0s
UCH **Uchtor** **79.96 314** *i* P **P** **04 23 46.4 +0.6**
UCH **Uchtor** **79.96 314** P **P** **04 23 46.4 +0.6**
SNR=13
KURK **Kurchatov** **80.03 323** eP **P** **04 23 44.2 -1.2**
KURK pmax pmax
comp=Z,37nm,1.2s
KURK MLR MLR
comp=Z,1μm,20.0s
KURK **Kurchatov** **80.03 323** eP **P** **04 23 44.2 -1.2**
comp=Z,37nm,1.2s
KURK LR LR
comp=Z,1μm,20.0s
KURBB **Kurchatov Arra** **80.05 323** P **P** **04 23 44.2 -1.2**
comp=Z,5.0nm,0.8s,baz=112,slow=4.8,SNR=26
FRU **Bishkek** **80.06 315**⇑eP **P** **04 23 46.0 +0.2**
FRU pmax pmax
comp=Z,90nm,2.0s
FRU MLR MLR
comp=Z,800nm,19.5s
AAK **Ala-Archa** **80.09 315** P **P** **04 23 45.0 -1.1**
comp=Z,53nm,0.6s,SNR=6.1
AAK **Ala-Archa** **80.09 315***c* iP **P** **04 23 45.7 -0.4**
AAK pmax pmax
comp=Z,80nm,2.1s
AAK **Ala-Archa** **80.09 315** P **P** **04 23 46.3 +0.2**
SNR=7.7
AAK **Ala-Archa** **80.09 315** eP **P** **04 23 45.4 -0.7**
comp=Z,40nm,1.3s
AAK LR LR
comp=Z,822nm,21.0s
AAK **Ala-Archa** **80.09 315** P **P** **04 23 45.4 -0.7**
comp=Z,5.2nm,0.7s,baz=143,slow=6.7,SNR=19
USP **Ospenovka** **80.27 315** *i* P **P** **04 23 46.9 0.0**
USP **Ospenovka** **80.27 315** P **P** **04 23 47.0 0.0**
SNR=22
AML **Almayashu** **80.52 314** *i* P **P** **04 23 49.3 +0.6**
AML **Almayashu** **80.52 314** P **P** **04 23 49.3 +0.6**
SNR=17

EKS2 Erkin-Say 80.61 315 *i* P **P 04 23 49.2 +0.4**
EKS2 Erkin-Say 80.61 315 P **P 04 23 49.2 +0.4**
SNR=10
EKS2 Erkin-Say 80.61 315 *e*P **P 04 23 48.9 +0.1**
comp=Z,26nm,1.0s
EKS2 LR LR
comp=Z,895nm,20.0s
KBL Kabul 82.24 306 *e*P **P 04 23 57.3 -0.4**
KBL pmax pmax
comp=Z,30nm,1.2s
KBL Kabul 82.24 306 *e*P **P 04 23 57.3 -0.4**
comp=Z,30nm,1.2s
MAW Mawson 82.37 203 *e*P **P 04 23 57.9 +0.4**
comp=Z,14nm,1.1s
MAW Mawson 82.37 203 P **P 04 23 57.7 +0.3**
comp=Z,45nm,1.0s,baz=81,slow=5.5,SNR=18
MAW LR LR 05 00 26.7
comp=Z,2µm,19.2s,baz=76,slow=36
SEW Seward 82.39 27 *e*P **P 04 23 58.3 +0.7**
comp=Z,36nm,0.8s
PPLA Purkeypile 82.45 24 *e*P **P 04 23 57.8 -0.4**
comp=Z,257nm,1.8s
PPLA *e*PP **PP 04 27 05.4 -2.5**
KK31 Karatay Array 83.04 314 *i* P **P 04 24 00.0 -1.5**
KK31 pmax pmax
comp=Z,187nm,2.3s
KKAR Karatay Array 83.04 314 *e*P **P 04 24 00.6 -0.9**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 83.04 314 *e*P **P 04 24 00.6 -0.9**
comp=Z,7.4nm,0.6s
PMR Palmer 83.16 26 *e*P **P 04 24 01.4 -0.2**
PMR pmax pmax
comp=Z,27nm,0.8s
PMR Palmer 83.16 26 *e*P **P 04 24 01.4 -0.2**
comp=Z,27nm,0.8s
KTH Kantishna Hill 83.26 24 *e*P **P 04 24 02.3 +0.1**
comp=Z,53nm,0.9s
IM04 Indian Mountai 83.32 21 *e*P **P 04 24 01.8 -0.6**
TRF Thorofare Moun 83.47 24 *e*P **P 04 24 03.0 -0.4**
comp=Z,26nm,0.9s
MCK McKinley 84.14 24 *e*P **P 04 24 05.7 -0.9**
MCK pmax pmax
comp=Z,73nm,0.8s
MCK McKinley 84.14 24 *e*P **P 04 24 05.7 -0.9**
comp=Z,73nm,0.8s
DIV Divide 84.47 27 *e*P **P 04 24 09.0 +0.6**
comp=Z,73nm,0.9s
QSPA South Pole Qui 84.58 180 *e*P **P 04 24 09.4 +0.4**
comp=Z,88nm,0.8s
QSPA LR LR
comp=Z,3µm,19.0s
QSPA South Pole Qui 84.58 180 P **P 04 24 08.8 -0.2**
comp=Z,106nm,0.9s,baz=346,slow=1.9,SNR=140
BMRM Bremner River 84.94 27 *e*P **P 04 24 11.5 +0.7**
comp=Z,71nm,0.9s
COLA College 85.04 23 *e*P **P 04 24 11.1 0.0**
COLA pmax pmax
comp=Z,110nm,0.8s
COLA College 85.04 23 *e*P **P 04 24 10.8 -0.3**
comp=Z,92nm,0.8s
COLA LR LR
comp=Z,3µm,20.0s
COLD Coldfoot 85.17 21 *e*P **P 04 24 11.4 -0.3**
comp=Z,27nm,0.9s
PAX Paxson 85.28 25 *e*P **P 04 24 11.9 -0.6**
PAX pmax pmax
comp=Z,33nm,1.1s
PAX Paxson 85.28 25 *e*P **P 04 24 11.9 -0.6**
comp=Z,33nm,1.1s
ILAR Eielson Array 85.38 23 P **P 04 24 11.4 -1.4**
ILAR PKKPbc **PKKPdf 04 42 15.7 +3.0**
ILAR P'P' 04 50 22.8
ILAR Eielson Array 85.38 23 P **P 04 24 11.4 -1.4**
comp=Z,28nm,0.8s,baz=253,slow=4.5,SNR=226
ILAR PKKPbc **PKKPdf 04 42 15.7 +3.0**
comp=Z,1.8nm,0.7s,baz=348,slow=1.0,SNR=18
ILAR PKPPKP **P'P'df 04 50 22.8 0.0**
comp=Z,0.7nm,0.9s,baz=338,slow=1.5,SNR=4.5
ILAR LR LR 05 01 34.1
comp=Z,2µm,20.1s,baz=260,slow=35
BVA0 Borovoye Array 85.60 324 *i* P **P 04 24 11.8 -2.4**
BVA0 pmax pmax
comp=Z,210nm,2.5s
BVAR Borovoye Array 85.60 324 P **P 04 24 11.8 -2.4**
BVAR Borovoye Array 85.60 324 P **P 04 24 11.8 -2.4**
BVAR Borovoye Array 85.60 324 P **P 04 24 11.8 -2.4**
comp=Z,9.1nm,0.8s,baz=115,slow=5.9,SNR=43
BRVK Borovoye 85.67 324*c i*P **P 04 24 13.1 -1.4**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 85.67 324 *e*P **P 04 24 13.5 -1.1**
comp=Z,13nm,0.8s
BRVK LR LR
comp=Z,1µm,22.0s
MENT Mentasta 86.01 26 *e*P **P 04 24 16.4 +0.3**
MRIV Mauritius Mete 86.61 250 *e*P **P 04 24 21.3 +1.3**
EGAK Eagle 87.68 24 *e*P **P 04 24 24.0 -0.1**
comp=Z,55nm,1.0s
EGAK LR LR
comp=Z,4µm,20.0s
RER Riviere de l'E 88.17 249 PFAKE 04 24 40.0 +12
RER LR LR
comp=Z,3µm,21.0s
SKAG Skagway 88.95 30 *e*P **P 04 24 29.4 -0.7**
comp=Z,26nm,1.0s
IDAH Dahanechah 89.50 303 *e*P **P 04 24 32.5 -1.3**
IMYA Miami 89.73 306 *e*P **P 04 24 32.5 -2.2**
MSEY Mahe Island 89.92 265 PFAKE 04 24 50.0 +14
MSEY LR LR
comp=Z,1µm,21.0s
WRAK Wrangell Islan 89.93 33 PFAKE 04 24 50.0 +15
WRAK LR LR
comp=Z,5µm,22.0s
IKOO Kooshah 90.19 302 *e*P **P 04 24 36.8 -0.2**
ISRO Mashad 90.23 306 *e*P **P 04 24 35.0 -1.9**
ITEG Tejag 90.45 303 *e*P **P 04 24 37.9 -0.2**
SYO Syowa Base 90.77 200 ⇓*i*P **P 04 24 37.8 -0.7**
IKRD Kardeh 91.05 307 *e*P P 04 24 36.8 -4.1
AB31 Akbulak array 91.36 319 *i* P **P 04 24 38.7 -3.0**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 91.36 319 *e*P **P 04 24 39.6 -2.1**
comp=Z,8.5nm,0.8s
DLBC Dease Lake 91.48 32 P **P 04 24 41.0 -1.1**
DLBC Dease Lake 91.48 32 P **P 04 24 41.0 -1.1**
comp=Z,2.8nm,0.9s,baz=306,slow=26,SNR=3.9
INK Inuvik 91.51 22 *e*P **P 04 24 41.2 -0.7**
comp=Z,28nm,1.1s
INK Inuvik 91.51 22 P **P 04 24 40.5 -1.5**
comp=Z,9.8nm,1.0s,baz=276,slow=5.8,SNR=14
BBB Bella Bella 91.79 38 LR LR 05 00 20.8
comp=Z,3µm,19.2s,baz=266,slow=32
SVE Sverdlovsk 91.84 327 *e*P P 04 24 48.4 +4.7
SVE *e* 04 28 20.5
SVE *e*S **SKSac 04 35 12.7 +1.1**
SVE pmax pmax
comp=Z,13nm,1.4s
SVE MLR MLR
comp=Z,2µm,19.0s
ARU Arti 92.94 326*c i*P P 04 24 43.9 -4.9
ARU S **SKSac 04 35 11.4 -6.4**
ARU pmax pmax
comp=Z,11nm,1.8s
ARU MLR MLR
comp=Z,2µm,19.0s
ARU Arti 92.94 326 *e*P **P 04 24 47.1 -1.7**
comp=Z,14nm,1.1s
ARU LR LR
comp=Z,2µm,19.0s
KCPM Cahto Peak 93.85 51 *e*P **P 04 24 51.9 -1.7**
comp=Z,120nm,2.0s
NLWA Neilton Lookou 94.12 43 PFAKE 04 25 10.0 +15
NLWA LR LR
comp=Z,2µm,19.0s
N02D Trinity Center 94.59 49 P **P 04 24 58.0 +1.1**
baz=95
YBH Yreka Blue Hor 94.63 49 P **P 04 24 57.6 +0.5**
YBH Yreka Blue Hor 94.63 49 P **P 04 24 57.6 +0.5**
comp=Z,4.9nm,1.2s,baz=196,slow=1.3,SNR=3.6
YBH LR LR 04 59 21.6
comp=Z,4µm,21.9s,baz=312,slow=30
I04A Tendick Farm, 94.95 47 P **P 04 24 58.9 +0.5**
baz=95
J05D Fort Rock, OR 95.79 47 P **P 04 25 02.7 +0.3**
baz=96

ABPO Ambohimpanom 96.36 250 *e*P **P 04 25 05.7 +0.1**
ABPO pmax pmax
comp=Z,25nm,1.1s
ABPO MLR MLR
comp=Z,1µm,22.0s
ABPO Ambohimpanom 96.36 250 *e*P **P 04 25 05.7 +0.1**
comp=Z,24nm,1.1s
ABPO LR LR
comp=Z,1µm,22.0s
PKM Peak Mountain 96.61 56 P **P 04 25 06.7 +0.3**
baz=97
HAWA Hanford 97.06 44 PFAKE 04 25 20.0 +12
HAWA LR LR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 97.68 48 *e*P **P 04 25 11.0 0.0**
WVOR *e* 04 29 07.0
WVOR MLR MLR
comp=Z,3µm,22.0s
WVOR Wild Horse Val 97.68 48 *e*P **P 04 25 11.0 0.0**
WVOR *e*PP **PP 04 29 07.0 -2.4**
WVOR LR LR
comp=Z,3µm,22.0s
ISA Isabella 97.73 55 P **P 04 25 10.7 -0.6**
baz=98
CIS Catalina Islan 97.74 57 P Pdif 04 25 11.5 +0.2
baz=98
NVAR Mina Array Bea 97.91 52 P **P 04 25 12.0 -0.2**
NVAR PP **PP 04 29 15.9 +4.6**
NVAR PKKPbc PKKPbc 04 41 36.3 -11
NVAR Mina Array Bea 97.91 52 P **P 04 25 12.0 -0.2**
comp=Z,1.8nm,0.7s,baz=279,slow=5.3,SNR=10
NVAR PP **PP 04 29 15.9 +4.6**
comp=Z,2.3nm,1.0s,baz=257,slow=9.7,SNR=4.9
NVAR PKKPbc PKKPbc 04 41 36.3 -11
comp=Z,0.6nm,0.8s,baz=85,slow=5.8,SNR=4.1
NVAR LR LR 05 02 07.4
comp=Z,3µm,21.0s,baz=90,slow=31
TIN Tinemaha 97.95 53 P **P 04 25 12.2 0.0**
baz=98
EDW2 Edwards Air Fo 98.11 56 P **P 04 25 12.7 -0.3**
baz=98
LRMC Laurel Mountai 98.36 55 P Pdif 04 25 14.3 0.0
baz=98
BFSC Mount Baldy Ra 98.37 56 P **P 04 25 13.9 -0.4**
baz=98
MPMC Manual Prospec 98.53 54 P Pdif 04 25 15.2 +0.2
baz=98
NEW Newport 98.68 42 *e*P **P 04 25 15.0 -0.2**
comp=Z,4.3nm,0.9s
NEW LR LR
comp=Z,2µm,21.0s
NEW Newport 98.68 42 P **P 04 25 14.8 -0.4**
baz=99
FURC Furnace Creek, 99.04 54 P **Pdif 04 25 17.8 +0.8**
baz=99
YKW3 Yellowknife Ar 99.16 28 *e*P **Pdif 04 25 17.1 +0.2**
YKW3 *e*PP **PP 04 29 18.3 -1.6**
YKA Yellowknife Ar 99.17 28 P **Pdif 04 25 16.2 -0.7**
YKA PP PP 04 29 25.4 +5.5
YKA PKKPbc **PKKPbc 04 41 40.2 -4.2**
YKA P'P' 04 49 51.5
YKA Yellowknife Ar 99.17 28 P **Pdif 04 25 16.2 -0.7**
comp=Z,2.4nm,0.8s,baz=274,slow=4.7,SNR=27
YKA PP PP 04 29 25.4 +5.5
comp=Z,2.4nm,1.0s,baz=273,slow=7.1,SNR=7.5
YKA PKKPbc **PKKPbc 04 41 40.2 -4.2**
comp=Z,6.7nm,0.7s,baz=92,slow=2.9,SNR=46
YKA PKPPKP P'P'df 04 49 51.5 -5.7
comp=Z,0.4nm,0.8s,baz=60,slow=2.0,SNR=3.9
PFO Pinyon Flat Ob 99.37 57 PFAKE 04 25 30.0 +11
PFO LR LR
comp=Z,3µm,20.0s
TPNV Topopah Spring 99.53 54 P **Pdif 04 25 19.8 +0.3**
baz=100
MAK Makhachkala 99.75 313 *e*P **Pdif 04 25 18.6 -1.4**
MAK *e* 04 29 22.1
MAK *e* 04 35 50.2
MAK *e*SSS SSS 04 47 37.4
R11A Troy Canyon, C 100.04 52 P **Pdif 04 25 21.8 +0.1**
baz=100
SNAA Sanae 100.41 190 *e*Pdif **Pdif 04 25 22.6 +0.1**
comp=Z,18nm,1.3s
SNAA *e*PP **PP 04 29 28.1 -0.7**
HLID Hailey 100.75 47 *e*Pdif **Pdif 04 25 25.0 +0.3**
comp=Z,4.9nm,1.1s
HLID LR LR
comp=Z,2µm,22.0s
SWMT Swartz Lake 100.81 43 *e*Pdif **Pdif 04 25 24.4 -0.4**
113A Mohawk Valley, 101.63 58 P **Pdif 04 25 29.3 +0.7**
baz=102
MCMT McKenzie Canyo 101.80 45 *e*Pdif **Pdif 04 25 28.0 -1.5**
GNI Garni 101.94 310 PFAKE 04 25 40.0 +10
GNI LR LR
comp=Z,370nm,21.0s
DUG Dugway 102.12 50 *e*P **Pdif 04 25 31.2 +0.3**
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway 102.12 50 *e*Pdif **Pdif 04 25 31.2 +0.3**
DUG LR LR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 102.59 45 *e*P **Pdif 04 25 33.4 +0.6**
BOZ MLR MLR
comp=Z,2µm,22.0s
BOZ Bozeman (W) 102.59 45 *e*Pdif **Pdif 04 25 33.4 +0.6**
BOZ LR LR
comp=Z,2µm,22.0s
RES Resolute Bay 102.66 14 *e*Pdif **Pdif 04 25 30.5 -1.8**
LVZ Lovozero 102.86 339 PFAKE 04 25 40.0 +6.7
LVZ LR LR
comp=Z,1µm,20.0s
KBS Kingsbay 103.00 352 PFAKE 04 25 50.0 +16
KBS LR LR
comp=Z,786nm,19.0s
KIV Kislovodsk 103.19 314 *e*P Pdif 04 25 46.9 +11
KIV *i* 04 29 50.5
KIV *e*S **SKSac 04 36 17.8 +7.2**
KIV *e*S **Sdif 04 37 20.9 +2.7**
KIV *e*SS **SS 04 44 32.4 +2.5**
KIV Kislovodsk 103.19 314 *e*Pdif **Pdif 04 25 35.3 -0.1**
KIV LR LR
comp=Z,619nm,21.0s
AHID Auburn Hatcher 103.22 47 PFAKE 04 25 50.0 +14
AHID LR LR
comp=Z,3µm,22.0s
WUAZ Wupatki 103.52 55 PFAKE 04 25 50.0 +13
WUAZ LR LR
comp=Z,2µm,22.0s
EGMT Eagleton 103.62 42 PFAKE 04 25 50.0 +13
EGMT LR LR
comp=Z,1µm,19.0s
H18A Shoshone NF, C 104.07 45 P **Pdif 04 25 39.8 +0.3**
baz=104
TUC Tucson 104.16 58 *e*P **Pdif 04 25 40.6 +0.6**
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 104.16 58 *e*Pdif **Pdif 04 25 40.6 +0.6**
TUC LR LR
comp=Z,2µm,20.0s
RLMT Red Lodge 104.30 45 PFAKE 04 25 50.0 +9.5
RLMT LR LR
comp=Z,2µm,22.0s
BW06 Boulder Array 104.36 47 *e*Pdif **Pdif 04 25 41.3 +0.5**
BW06 LR LR
comp=Z,3µm,22.0s
PDAR Pinedale Array 104.36 47 Pdif **Pdif 04 25 40.1 -0.8**
PDAR PP **PKiKP 04 29 57.4 +0.2**
PDAR PKKPbc **PKKPbc 04 41 28.1 -0.9**
PDAR P'P' 04 49 51.5
PDAR Pinedale Array 104.36 47 Pdiff **Pdif 04 25 40.1 -0.8**
comp=Z,0.9nm,1.0s,baz=207,slow=3.7,SNR=4.5
PDAR PP **PKiKP 04 29 57.4 +0.2**
comp=Z,0.7nm,0.7s,baz=235,slow=3.2,SNR=3.9
PDAR PKKPbc **PKKPbc 04 41 28.1 -0.9**
comp=Z,2.8nm,0.8s,baz=108,slow=6.6,SNR=16
PDAR PKPPKP **P'P'df 04 49 51.5 +2.4**
comp=Z,0.8nm,0.9s,baz=116,slow=6.9,SNR=5.0
KEV Kevo 104.75 342 PFAKE 04 25 50.0 +8.4
KEV LR LR
comp=Z,486nm,19.0s
ARCES ARCESS Array B 105.32 342 PKKPbc PKKPbc 04 41 22.9 -3.7
ARCES ARCESS Array B 105.32 342 PKKPbc PKKPbc 04 41 22.9 -3.7
comp=Z,5.5nm,0.6s,baz=252,slow=2.8,SNR=30
OBN Obninsk 105.38 326 PFAKE 04 30 10.0
OBN LR LR
comp=Z,1µm,19.0s

MVCO Mesa Verde 105.71 53 PFAKE 04 30 10.0
MVCO LR LR
comp=Z,2µm,22.0s
320A Kipp Ranch, An 106.13 59 ⇓P **PKKPab 04 41 41.7 +3.0**
baz=106
LAO LASA Array 106.19 43 PFAKE 04 30 10.0
LAO LR LR
comp=Z,2µm,19.0s
PMSA Palmer Station 106.60 167 *e*PKP **PKiKP 04 30 01.0 +0.7**
PMSA LR LR
comp=Z,1µm,21.0s
221A Mesquite Ranch 106.72 58 ⇓P **PKKPab 04 41 39.2 +3.1**
baz=107
FFC Flin Flon 107.10 34 PFAKE 04 30 10.0
FFC LR LR
comp=Z,2µm,22.0s
U22A Llaves 107.10 54 ⇑P **PKKPab 04 41 35.1 +0.7**
baz=107,SNR=5.6
V22A San Miguel Ran 107.11 54 ⇓P **PKKPab 04 41 35.7 +1.3**
baz=107,SNR=5.5
DGMT Dagmar 107.21 41 PFAKE 04 30 10.0
DGMT LR LR
comp=Z,2µm,22.0s
Z22A Elephant Butte 107.31 57 ⇓P **PKKPab 04 41 34.8 +1.4**
baz=107,SNR=6.2
ANMO Albuquerque 107.57 55 *e*PKP **PKiKP 04 30 03.4 +0.1**
ANMO PKKP **PKKPab 04 41 33.6 +1.3**
ANMO LR LR
comp=Z,1µm,21.0s
ANMO Albuquerque 107.57 55 PKKP **PKKPab 04 41 33.6 +1.3**
comp=Z,5.8nm,0.8s,baz=108,slow=6.7,SNR=19
ISCO Idaho Springs 107.66 50 PFAKE 04 30 20.0
ISCO LR LR
comp=Z,2µm,21.0s
T23A Casias Ranch, 107.68 53 ⇓P **PKKPab 04 41 33.5 +1.6**
baz=108
V23A Ortiz Mt. (NFS 107.71 54 ⇑P **PKKPab 04 41 34.1 +2.4**
baz=108,SNR=5.4
W23A Werner Place, 107.80 55 ⇓P **PKKPab 04 41 32.4 +1.1**
baz=108,SNR=8.4
Z23A Rita Site, Whi 107.92 57 ⇓P **PKKPab 04 41 32.2 +1.5**
baz=108,SNR=13
Y23A Lovelace Mesa, 108.00 56 ⇓P **PKKPab 04 41 31.7 +1.3**
baz=108,SNR=6.7
SDCO Great Sand Dun 108.02 52 PFAKE 04 30 20.0
SDCO LR LR
comp=Z,2µm,21.0s
S24A Houchin Ranch, 108.26 52 ⇓P PKKPbc 04 41 30.7 +14
baz=108
R24A Sanders Place, 108.27 52 ⇓P **PKKPbc 04 41 17.4 +0.7**
baz=108
KMBO Kilima Mbogo 108.39 267 Pdif **Pdif 04 26 00.6 +1.2**
KMBO *e*PKP **PKiKP 04 30 06.0 +0.6**
KMBO LR LR
comp=Z,929nm,20.0s
KMBO Kilima Mbogo 108.39 267 Pdiff **Pdif 04 26 00.6 +1.2**
comp=Z,0.6nm,0.4s,baz=77,slow=21,SNR=5.8
W24A Lazy 6 Ranch, 108.40 55 ⇓P **PKKPdf 04 41 30.1 -0.6**
baz=108,SNR=6.6
X24A Lazy VL Ranch, 108.45 55 ⇑P **PKKPdf 04 41 29.4 -1.2**
baz=108,SNR=6.5
FINES FINESS Array B 108.62 334 PKiKP **PKiKP 04 30 02.7 -1.4**
FINES PKKPbc **PKKPbc 04 41 13.6 -2.4**
FINES FINESS Array B 108.62 334 PKiKP **PKiKP 04 30 02.7 -1.4**
comp=Z,1.9nm,0.9s,baz=346,slow=3.1,SNR=3.6
FINES PKKPbc **PKKPbc 04 41 13.6 -2.4**
comp=Z,3.1nm,0.8s,baz=265,slow=4.7,SNR=9.5
Z24A Sheeppen Canyo 108.64 57 ⇑P **PKKPdf 04 41 28.8 -1.3**
baz=105
324A Moseley Ranch, 108.72 59 ⇑P **PKKPdf 04 41 26.4 -3.5**
baz=109,SNR=6.8
MNTX Cornudas Mount 108.78 58 *e*PKP **PKiKP 04 30 05.6 +0.2**
MNTX *e*PP **PP 04 30 32.1 -0.4**
MNTX LR LR
comp=Z,1µm,20.0s
S25A Robets Cordova 108.87 52 ⇓P **PKKPdf 04 41 29.0 -0.8**
baz=109
R25A Fountain Ranch 108.92 52 ⇑P **PKKPdf 04 41 27.4 -2.2**
baz=109
V25A Rancho No Teng 108.97 54 ⇓P **PKKPdf 04 41 29.9 +0.3**
baz=109
U25A Circle Dot Ran 109.06 53 ⇑P **PKKPdf 04 41 25.3 -0.4**
baz=109
X25A Clemmons Ranch 109.09 55 ⇓P **PKKPdf 04 41 26.8 -2.4**
baz=109,SNR=8.4
Y25A Mesa, Roswell 109.13 56 ⇓P **PKKPdf 04 41 26.6 -2.6**
baz=109
325A Bean Ranch, Si 109.16 59 ⇑P **PKKPdf 04 41 26.1 -3.0**
baz=109,SNR=7.8
Z25A Roswell 109.18 57 ⇑P **PKKPdf 04 41 26.1 -3.0**
baz=109,SNR=14
425A Indio Mountain 109.20 59 ⇓P **PKKPdf 04 41 27.3 -1.6**
baz=109,SNR=11
125A Gardner Draw, 109.30 57 ⇓P **PKKPdf 04 41 25.0 -3.8**
baz=109,SNR=6.0
R26A Arlington 109.55 51 ⇓P **PKKPdf 04 41 24.8 -3.7**
baz=110
T26A Comanche Natio 109.60 53 ⇓P **PKKPdf 04 41 24.1 -4.4**
baz=110
V26A Tequesquite Ra 109.64 54 ⇑P **PKKPdf 04 41 23.4 -4.9**
baz=110,SNR=7.8
226B Tecolote Peak, 109.77 58 ⇓P **PKKPdf 04 41 23.7 -4.1**
baz=110,SNR=22
X26A CR and CF Fran 109.78 55 ⇓P **PKKPdf 04 41 23.9 -4.1**
baz=110,SNR=10
126A Clayton Basin, 109.83 57 ⇓P **PKKPdf 04 41 23.3 -4.5**
baz=110,SNR=5.4
Y26A Elida 109.85 56 ⇑P **PKKPdf 04 41 24.0 -3.8**
baz=110,SNR=10
426A McDonald Obser 110.03 59 ⇑P **PKKPdf 04 41 23.7 -3.8**
baz=110,SNR=7.2
526A Mary Lane Ranc 110.04 60 ⇓P **PKKPdf 04 41 23.3 -4.1**
baz=110,SNR=10
626A Big Bend Ranch 110.05 61 ⇑P **PKKPdf 04 41 23.0 -4.3**
baz=110,SNR=16
R27A Eads 110.06 51 ⇑P **PKKPdf 04 41 22.9 -4.6**
baz=110
U27A Thompson Grove 110.32 53 ⇓P **PKKPdf 04 41 22.0 -5.0**
baz=110
X27A F and S Farms, 110.35 55 ⇑P PKKPdf 04 41 21.2 -5.7
baz=110,SNR=8.5
Y27A Causey 110.40 56 ⇑P PKKPdf 04 41 21.2 -5.5
baz=110,SNR=12
Z27A Tatum 110.43 57 ⇓P PKKPdf 04 41 20.9 -5.8
baz=110,SNR=5.9
527A Woodward Ranch 110.44 60 ⇑P **PKKPdf 04 41 21.7 -4.9**
baz=110,SNR=18
TXAR Lajitas Array 110.48 61 PKiKP **PKiKP 04 30 07.2 -1.5**
TXAR PKKPbc **PKKPbc 04 41 10.6 +1.4**
TXAR PKKP **PKKPab 04 41 20.8 +1.4**
TXAR Lajitas Array 110.48 61 PKiKP **PKiKP 04 30 07.2 -1.5**
comp=Z,2.0nm,0.7s,baz=111,slow=4.0,SNR=3.0
TXAR PKKPbc **PKKPbc 04 41 10.6 +1.4**
comp=Z,0.8nm,0.5s,baz=109,slow=4.9,SNR=14
TXAR PKKP **PKKPab 04 41 20.8 +1.4**
comp=Z,4.8nm,0.8s,baz=117,slow=6.1,SNR=30
427A Hayter Ranch, 110.55 59 ⇓P **PKKPab 04 41 20.1 +1.0**
baz=110
627A Terlingua Ranc 110.71 61 ⇑P **PKKPab 04 41 16.8 -1.6**
baz=111
MSTX Muleshoe 110.71 56 ⇓P **PKKPab 04 41 20.4 +2.2**
baz=111,SNR=15
U28A Mallet 110.81 53 ⇑P **PKKPab 04 41 17.4 -0.4**
baz=111
AKASG Malin Array Be 110.83 323 PKiKP **PKiKP 04 30 06.9 -1.7**
AKASG PP **PP 04 30 48.9 +2.3**
AKASG PKKPbc **PKKPbc 04 41 05.2 -3.4**
AKASG Malin Array Be 110.83 323 PKiKP **PKiKP 04 30 06.9 -1.7**
comp=Z,0.6nm,0.6s,baz=74,slow=2.1,SNR=4.2
AKASG PP **PP 04 30 48.9 +2.3**
comp=Z,1.6nm,0.7s,baz=63,slow=6.3,SNR=7.7
AKASG PKKPbc **PKKPbc 04 41 05.2 -3.4**
comp=Z,5.7nm,0.8s,baz=262,slow=3.8,SNR=5.1
KIEV Kiev 110.84 323 *e*PKP **PKiKP 04 30 07.8 -0.8**
KIEV *e*PP **PP 04 30 46.6 0.0**
KIEV LR LR
comp=Z,1µm,20.0s
328A Wristen Ranch, 111.00 59 ⇑P **PKKPab 04 41 17.8 +0.8**
baz=111,SNR=8.4
ANTO Ankara 111.07 311 ⇓*i*P **PKKPab 04 41 18.3 +1.8**
ANTO Ankara 111.07 311 PFAKE 04 30 20.0
ANTO LR LR
comp=Z,427nm,20.0s
228A UT Block 9, Go 111.10 58 ⇑P **PKKPab 04 41 13.3 -3.2**
baz=111,SNR=6.6
X28A Dimmitt 111.11 55 ⇑P **PKKPab 04 41 17.4 +0.9**
baz=111,SNR=7.2

Z28A Tucker Farm, M 111.12 56 ⇓P PKKPab 04 41 18.0 +1.5
baz=111,SNR=6.6
128A Castleberry Fa 111.12 57 ⇓P PKKPab 04 41 17.4 +1.0
baz=111,SNR=6.0
628A Black Gap, Mar 111.14 61 ⇑P PKKPab 04 41 18.1 +1.7
baz=111,SNR=7.2
Y28A McKinney Farm, 111.15 56 ⇓P PKKPab 04 41 17.9 +1.5
baz=111,SNR=11
428A Kincaid Ranch, 111.18 59 ⇓P PKKPab 04 41 17.8 +1.6
baz=111,SNR=14
CSS Prodhromos 111.49 305 PFAKE 04 30 20.0
CSS LR LR
comp=Z,130nm,20.0s
X29A Tulia 111.52 55 ⇓P PKKPab 04 41 15.9 +1.3
baz=111,SNR=5.4
Y29A Porterfield Fa 111.63 56 ⇑P PKKPab 04 41 16.0 +1.8
baz=112,SNR=5.7
129A Stewart Farms, 111.64 57 ⇓P PKKPab 04 41 14.4 +0.3
baz=112
Z29A Hungry Hill Ra 111.69 56 ⇑P PKKPab 04 41 15.1 +1.2
baz=112,SNR=17
329A Wagon Wheel Ra 111.69 58 ⇓P PKKPab 04 41 14.9 +1.0
baz=112
229A Bryant Ranch, 111.77 58 ⇓P PKKPab 04 41 13.7 +0.2
baz=112
429A Davenport Ranc 111.87 59 ⇓P PKKPab 04 41 09.6 -3.5
baz=112,SNR=9.3
ULM Lac du Bonnet 111.99 38 ePKP PKiKP 04 30 10.5 -0.3
ULM ePP PP 04 30 54.2 -0.7
ULM PKKPbc PKKPbc 04 41 03.4 -1.4
ULM Lac du Bonnet 111.99 38 PKKPbc PKKPbc 04 41 03.4 -1.4
comp=Z,5.2nm,0.9s,baz=117,slow=3.1,SNR=4.7
R30A Dighton 112.01 51 ⇑P PKKPab 04 41 11.6 -0.7
baz=112
Z30A Sanderson Ranc 112.16 56 ⇑P PKKPab 04 41 13.2 +1.5
baz=112,SNR=7.2
KIS Kishinev 112.19 319 e 04 30 28.0
KIS LRM MLR 05 21 16.0
comp=Z,900nm,20.0s
KIS Kishinev 112.19 319 eP PKKPab 04 41 12.0 +0.7
X30A Coker Ranch, T 112.20 55 ⇑P PKKPab 04 41 13.8 +2.2
baz=112,SNR=8.9
Y30A Stafford Cattl 112.27 56 ⇓P PKKPab 04 41 12.9 +1.5
baz=112
230A Sterling City 112.37 58 ⇑P PKKPab 04 41 12.2 +1.4
baz=112,SNR=9.5
330A Mertzon 112.38 58 ⇑P PKKPab 04 41 11.1 +0.2
baz=112,SNR=5.2
130A Snyder 112.40 57 ⇓P PKKPab 04 41 12.4 +1.7
baz=112
530A J-C Ranch, Com 112.40 60 ⇓P PKKPab 04 41 11.6 +0.9
baz=112,SNR=8.1
430A Baggett Ranch, 112.41 59 ⇓P PKKPab 04 41 05.2 -5.6
baz=112,SNR=6.4
AGMN Agassiz Nation 112.62 40 PFAKE 04 30 20.0
AGMN LR LR
comp=Z,2μm,21.0s
Y31A Rekieta Farm, 112.78 56 ⇓P PKKPbc 04 41 10.3 +8.6
baz=113,SNR=9.9
W31A Holland Ranch, 112.83 54 ⇓P PKKPbc 04 41 10.0 +8.4
baz=113
SUMG Summit 112.83 1 i P PKKPbc 04 41 00.1 -3.0
comp=Z,6.9nm,0.9s
SUMG i PKKPab 04 41 13.4 +4.8
131A Roby 112.87 57 ⇑P PKKPab 04 41 09.6 +1.0
baz=113,SNR=7.9
X31A McDonald Ranch 112.90 55 ⇑P PKKPab 04 41 09.8 +1.3
baz=113
431A Sonora 112.96 59 ⇑P PKKPab 04 41 03.1 -5.2
baz=113,SNR=6.9
Z31A Sharp Cattle R 112.97 56 ⇑P PKKPab 04 41 03.2 -5.0
baz=113,SNR=12
331A San Angelo 113.03 58 ⇓P PKKPab 04 41 02.2 -5.8
baz=113,SNR=5.4
231A Bronte 113.03 58 ⇓P PKKPab 04 41 04.7 -3.2
baz=113,SNR=6.9
531A Rocksprings 113.08 60 ⇑P PKKPab 04 41 02.0 -5.7
baz=113
CFR Carcaliu 113.16 317 ⇑iP PKKPab 04 41 07.4 +0.4
TIRR Tirgusor 113.17 316 ⇑PKiKP PKiKP 04 30 13.4 +0.1
TIRR Tirgusor 113.17 316 ⇑iP PKiKP 04 30 13.4 +0.1
ISP Isparta 113.21 309 PFAKE 04 30 30.0
ISP LR LR
comp=Z,511nm,19.0s
TLB Topalu 113.39 316 ⇑PKiKP PKiKP 04 30 13.6 -0.1
TLB Topalu 113.39 316 ⇑iP PKiKP 04 30 13.6 -0.1
Y32A R-V Farms, Ver 113.44 55 ⇑P PKKPab 04 41 06.3 +0.3
baz=113
ECSD EROS Data Cent 113.45 44 PFAKE 04 30 30.0
ECSD LR LR
comp=Z,2μm,20.0s
ABTX Abilene, Hawle 113.50 57 ⇓P PKKPab 04 41 06.6 +0.8
baz=113
X32A Elmer 113.50 55 ⇑P PKKPab 04 41 06.3 +0.5
baz=113
Z32A Haskell 113.53 56 ⇑P PKKPab 04 41 02.4 -3.3
baz=113,SNR=10
332A Millersview 113.60 58 ⇓P PKKPab 04 41 01.3 -4.1
baz=114,SNR=10
232A Coleman 113.61 58 ⇓P PKKPab 04 41 01.0 -4.4
baz=114
432A Menard 113.63 59 ⇓P PKKPab 04 41 01.1 -4.2
baz=114,SNR=6.5
532A Rocksprings 113.64 60 ⇓P PKKPab 04 41 01.8 -3.5
baz=114,SNR=9.3
JCT Junction City 113.68 59 ePKiKP PKiKP 04 30 14.6 -0.2
JCT MLR MLR
comp=Z,3μm,21.0s
JCT Junction City 113.68 59 ePKP PKiKP 04 30 14.6 -0.2
JCT LR LR
comp=Z,3μm,21.0s
JCT Junction City 113.68 59 ⇑P PKKPab 04 41 02.0 -3.1
baz=114,SNR=16
Q33A Connelly Farm, 113.74 50 ⇑P PKKPab 04 41 02.2 -2.4
baz=114
732A Laxson Ranch, 113.76 61 ⇑P PKKPab 04 40 60.0 -4.7
baz=114
832A Faith Ranch, C 113.81 62 ⇑P PKKPab 04 41 00.7 -3.8
baz=114
632A Uvalde 113.82 60 ⇑P PKKPab 04 41 01.6 -2.9
baz=114,SNR=9.7
WMOK Wichita Mounta 113.85 54 ePKiKP PKiKP 04 30 16.9 +2.0
WMOK MLR MLR
comp=Z,2μm,21.0s
WMOK Wichita Mounta 113.85 54 ePKP PKiKP 04 30 16.9 +2.0
WMOK LR LR
comp=Z,2μm,21.0s
VRI Vrincioaia 113.90 318 ⇑PKiKP PKiKP 04 30 15.0 +0.3
VRI Vrincioaia 113.90 318 ⇑iP PKiKP 04 30 15.0 +0.3
VRI Vrincioaia 113.90 318 ⇑iP PKKPbc 04 40 57.2 -1.1
133A Hamilton Ranch 114.10 57 ⇓P PKKPab 04 40 59.0 -4.2
baz=114,SNR=7.1
Y33A Hilltop Ranch, 114.11 55 ⇓P PKKPab 04 41 02.5 -0.6
baz=114
X33A Lawton 114.11 55 ⇑P PKKPab 04 41 02.0 -1.1
baz=114
Z33A Whitaker Ranch 114.12 56 ⇑P PKKPab 04 41 02.2 -0.9
baz=114
233A Rising Star 114.21 57 ⇑P PKKPab 04 40 57.9 -4.8
baz=114,SNR=5.6
433A Art 114.24 59 ⇑P PKKPab 04 40 58.2 -4.4
baz=114,SNR=5.5
333A Richland Sprin 114.25 58 P PKPdf 04 30 15.1 -0.7
baz=114
333A ⇓P PKKPbc 04 40 57.9 +1.3
baz=114,SNR=5.3
833A Chaparral WMA, 114.31 61 ⇓P PKKPab 04 40 58.3 -4.0
baz=114
BURAR Bucovina Array 114.32 320 ⇑iP PKKPab 04 40 56.9 -5.1
BUR08 Bucovina Ar. S 114.32 320 ePKP PKPdf 04 30 15.9 +0.4
BUR08 ePP PP 04 31 11.4 -0.2
733A Divot King Ran 114.35 61 ⇓P PKKPab 04 40 58.9 -3.2
baz=114,SNR=5.4
633A Saathoff Ranch 114.35 60 ⇑P PKKPab 04 40 58.0 -4.1
baz=114,SNR=9.5
533A Kerrville 114.39 60 ⇓P PKKPab 04 40 57.7 -4.3
baz=114
SCO Scoresbysund 114.51 356 i P PKKPbc 04 40 55.0 -1.8
comp=Z,2.8nm,1.2s
SCO i 04 41 08.0
MLR Muntele Rosu 114.54 318 ⇑iP PKPdf 04 30 15.6 -0.5
MLR Muntele Rosu 114.54 318 ⇑iP PKKPab 04 40 56.6 -4.5
LBTB Lobatse 114.57 240 ePKP PKPdf 04 30 17.5 +0.8
W34A Bridge Creek, 114.57 54 ⇑P PKKPab 04 40 57.5 -3.6
baz=114
KSU1 Kansas State U 114.64 49 PFAKE 04 30 30.0 +14
KSU1 LR LR
comp=Z,2μm,19.0s
X34A Smith Ranch, M 114.64 54 ⇑P PKKPab 04 40 57.9 -2.8
baz=115,SNR=8.1
Z34A Collier Ranch, 114.80 56 ⇑P PKKPab 04 40 57.5 -2.5
baz=115,SNR=7.4
134A White-Moore Ra 114.81 57 ⇑P PKKPab 04 40 55.7 -4.3
baz=115
Y34A Reagan Ranch, 114.83 55 ⇑P PKKPab 04 40 58.4 -1.5
baz=115,SNR=6.5
234A Clairette 114.86 57 ⇑P PKKPab 04 40 56.1 -3.7
baz=115
534A Blanco 114.88 59 ⇓P PKKPab 04 40 55.8 -4.0
baz=115
334A Lometa 114.88 58 ⇑P PKKPab 04 40 55.7 -4.0
baz=115,SNR=5.7
LSZ Lusaka 114.93 251 ePKP PKPdf 04 30 18.6 +1.0
LSZ LR LR
comp=Z,2μm,22.0s
434A Burnet 114.93 59 P PKPdf 04 30 15.5 -1.6
baz=115
434A ⇓P PKKPbc 04 40 55.7 +1.4
baz=115
NB2 NORSAR Subarra 114.95 338 PKKP PKKPbc 04 40 52.8 -2.4
comp=Z,7.4nm,1.2s,baz=231,slow=1.9
NOA NORSAR Array B 114.95 338 PKKPbc PKKPbc 04 40 53.0 -2.1
NOA PKKPab **PKKPab 04 41 00.7 +1.8**
NOA NORSAR Array B 114.95 338 PKKPbc PKKPbc 04 40 53.0 -2.2
comp=Z,3.1nm,0.8s,baz=55,slow=3.4,SNR=10
NOA PKKPab **PKKPab 04 41 00.7 +1.8**
comp=Z,1.8nm,0.8s,baz=215,slow=6.7,SNR=4.6
834A Tilden 115.08 62 ⇑P PKKPbc 04 40 55.9 +2.3
baz=115
KWP Kalwaria Pacla 115.13 323 ⇓iP PKKPbc 04 40 52.9 -1.3
KWP Kalwaria Pacla 115.13 323 PFAKE 04 30 30.0 +13
KWP LR LR
comp=Z,1μm,20.0s
VOIR 115.16 318 ⇑PKiKP PKPdf 04 30 18.3 +1.1
VOIR 115.16 318 ⇑iP PKPdf 04 30 18.3 +1.1
934A Benavides 115.17 62 ⇓P PKKPab 04 40 55.4 -3.1
baz=115
Z35A Perchaven, San 115.36 56 ⇑P PKKPab 04 40 55.8 -1.8
baz=115,SNR=6.7
WHTX Lake Whitney 115.43 57 ⇓P PKKPab 04 40 56.5 -0.8
baz=115
ARR Arges 115.45 318 ⇑iP PKPdf 04 30 18.6 +0.8
ARR Arges 115.45 318 ⇑iP PKKPab 04 40 51.3 -5.7
EYMN Ely 115.49 39 PFAKE 04 30 30.0 +12
EYMN LR LR
comp=Z,2μm,22.0s
335A Moody 115.57 58 ⇓P PKKPab 04 40 53.9 -2.8
baz=116,SNR=5.6
635A Leesville 115.58 60 ⇑P PKKPab 04 40 54.7 -1.9
baz=116
735A Kenedy 115.62 61 ⇓P PKKPab 04 40 55.4 -1.1
baz=116
535A Dale 115.65 59 ⇑P PKKPab 04 40 53.9 -2.4
baz=116
KOLS Kolonicke sedl 115.67 322 ePKiKP PKPdf 04 30 25.1 +7.1
KOLS Kolonicke sedl 115.67 322 e PKPdf 04 30 25.1 +7.1
835A Beeville 115.69 61 ⇑P PKKPab 04 40 55.7 -0.5
baz=116
UZH Uzhgorod 115.77 322 ePKiKP PKPdf 04 30 19.8 +1.6
UZH e 04 31 25.4
UZH e 04 37 06.8
DRGR 116.21 320 ⇑PKiKP PKPdf 04 30 22.4 +3.2
DRGR 116.21 320 ⇑iP PKPdf 04 30 22.4 +3.2
SCIA State Center 116.37 46 PFAKE 04 30 30.0 +10
SCIA LR LR
comp=Z,2μm,20.0s
KONO Kongsberg 116.46 337 PFAKE 04 30 30.0 +11
KONO LR LR
comp=Z,1μm,21.0s
GZR Gura Zlata 116.67 319 ⇑PKiKP PKPdf 04 30 20.1 0.0
GZR Gura Zlata 116.67 319 ⇑iP PKPdf 04 30 20.1 0.0
GZR Gura Zlata 116.67 319 ⇑iP PKKPbc 04 40 47.9 -0.8
FRB Frobisher Bay 116.68 16 PKKPbc PKKPbc 04 40 49.9 +0.8
FRB Frobisher Bay 116.68 16 PKKPbc PKKPbc 04 40 49.9 +0.8
comp=Z,1.8nm,0.9s,baz=97,slow=8.6,SNR=3.8
MMB Musomiste 117.30 314 ⇑PKiKP PKPdf 04 30 20.9 -0.5
MMB Musomiste 117.30 314 ⇑iP PKPdf 04 30 20.9 -0.5
MMB Musomiste 117.30 314 ⇑iP PKKPbc 04 40 45.5 -0.8
VTS Vitosha 117.35 316 ⇑PKiKP PKPdf 04 30 21.6 0.0
VTS Vitosha 117.35 316 ⇑iP PKPdf 04 30 21.6 0.0
VTS Vitosha 117.35 316 ⇑iP PKKPbc 04 40 44.4 -2.0
BZS Buzias 117.35 319 ⇑PKiKP PKPdf 04 30 21.1 -0.2
BZS Buzias 117.35 319 ⇑iP PKPdf 04 30 21.1 -0.2
BZS Buzias 117.35 319 ⇑iP PKKPbc 04 40 45.1 -1.1
SFJD Kangerlussuaq 117.45 7 i P PKKPbc 04 40 47.6 +1.1
comp=Z,5.1nm,0.7s
SFJD Kangerlussuaq 117.45 7 PKKPbc PKKPbc 04 40 47.7 +1.3
SFJD LR LR
comp=Z,1μm,22.0s
SFJD Kangerlussuaq 117.45 7 PKKPbc PKKPbc 04 40 47.7 +1.3
comp=Z,5.7nm,0.7s,baz=111,slow=0.9,SNR=4.1
SANT Santorini 117.48 308 PFAKE 04 30 30.0 +8.1
SANT LR LR
comp=Z,908nm,20.0s
PSZ Piszkesteto 117.53 322 PFAKE 04 30 30.0 +8.3
PSZ LR LR
comp=Z,1μm,20.0s
OKC Ostrava-Krasne 117.73 325 ePKiKP PKPdf 04 30 19.4 -2.5
OKC e 04 31 40.8
OKC MLR MLR
comp=Z,1μm,16.5s
OKC Ostrava-Krasne 117.73 325 ePKPdf PKPdf 04 30 19.4 -2.5
OKC ePP PP 04 31 40.8 +5.6
OKC ePKKP **PKKPbc 04 40 43.2 -1.8**
OKC AMS AMS 05 24 10.0
comp=Z,1μm,16.5s
NATX Nacogdoches 117.81 57 ePKPdf PKPdf 04 30 23.1 +0.5
NATX LR LR
comp=Z,3μm,22.0s
MIAR Mount Ida 118.09 54 PFAKE 04 30 30.0 +6.9
MIAR LR LR
comp=Z,3μm,22.0s
MORC Moravsky Berou 118.10 325 ⇑PKiKP PKPdf 04 30 22.3 -0.4
MORC Moravsky Berou 118.10 325 ⇑iP PKPdf 04 30 22.3 -0.4
MORC Moravsky Berou 118.10 325 ⇑iP PKKPbc 04 40 42.7 -1.1
JFWS Jewell Farm 118.12 44 PFAKE 04 30 30.0 +7.1
JFWS LR LR
comp=Z,2μm,20.0s
KRLC Kraliky 118.39 325 ePKKP PKKPbc 04 40 42.4 -0.3
DPC Dobruska-Polom 118.52 326 ePKiKP PKPdf 04 30 23.6 +0.1
DPC e 04 31 42.8
DPC Dobruska-Polom 118.52 326 ePKPdf PKPdf 04 30 23.6 +0.1
DPC ex x 04 30 52.7
DPC ePP **PP 04 31 42.8 +2.0**
DPC ePKKP **PKKPbc 04 40 41.7 -0.6**
DPC ex x 04 40 49.6
DPC ex x 04 40 51.9
DPC AMS AMS 05 23 20.0
UPC Upice 118.62 326 ePKKP PKKPab 04 40 41.1 -1.8
UPC ex x 04 40 50.0
VRAC Vranov 118.87 325 ⇑iP PKPdf 04 30 24.1 0.0
PKSM Moragy 119.02 321 ⇓PKiKP PKPdf 04 30 23.7 -0.8
PKSM Moragy 119.02 321 ⇓iP PKPdf 04 30 23.7 -0.8
PKSM Moragy 119.02 321 ⇑iP PKPdf 04 30 39.8 -1.4
TREC Trest 119.51 325 ePKKP PKKPab 04 40 37.7 -1.4
TREC AMS AMS 05 24 30.0
comp=Z,2μm,20.7s
BRG Berggiesshubel 119.57 327 ePKiKP PKPdf 04 30 25.4 0.0
BRG 04 41 33.0
BRG pmax pmax
comp=Z,23nm,1.8s
BRG MLR MLR
comp=N,963nm,16.7s
BRG MLR MLR
comp=E,747nm,15.1s
BRG MLR MLR
comp=Z,2μm,22.3s
EFI East Falkland 119.59 163 PFAKE 04 30 40.0 +15
EFI LR LR
comp=Z,2μm,21.0s
PRU Pruhonice 119.69 326 ePKKP PKKPab 04 40 37.3 -0.9
PRU ex x 04 40 46.9
PRU AMS AMS 05 24 40.0
comp=Z,1μm,18.8s
CLL Collm 119.84 328 ePKiKP PKPdf 04 30 25.0 -0.9
CLL e 04 30 41.0
CLL pmax pmax
comp=Z,17nm,1.3s
CLL MLR MLR
comp=Z,1μm,20.5s
CLL Collm 119.84 328 ePKiKP PKPdf 04 30 25.0 -0.9
CLL esPKiKP sPKiKP 04 30 41.0 -8.0
CLL ePP **PP 04 31 48.0 -1.7**
CLL ePPP PPP 04 34 23.0
CLL ePPPP 04 36 24.0
CLL eSdif **Sdif 04 39 34.0 -2.6**
CLL i PKKPab **PKKPbc 04 40 36.5 -0.9**
comp=Z,17nm,1.3s
CLL ePS **PS 04 41 37.0 -3.1**
CLL ePPS PPS 04 43 00.0
CLL eSS **SS 04 48 13.0 +2.7**
CLL e 04 51 48.0
CLL eSSS SSS 04 53 18.0
CLL e 04 54 32.0
CLL e 04 57 42.0
CLL e 05 00 06.0
CLL LmV 05 25 00.0
comp=Z,1μm,20.5s
CONA Conrad Observa 119.95 324 ⇓iPKPdf PKPdf 04 30 25.4 -1.0
KHC Kasperske Hory 120.67 326 ePKiKP PKPdf 04 30 25.5 -2.2
KHC Kasperske Hory 120.67 326 ePKPdf PKPdf 04 30 25.5 -2.2
KHC ex x 04 31 21.0
KHC ePKKP **PKKPab 04 40 33.0 -1.0**
NKC Novy Kostel 120.71 327 ePKKP PKKPab 04 40 33.9 +0.1
GERES GERESS Array B 120.75 325 PKP PKPdf 04 30 27.0 -0.9
GERES PKKPbc **PKKPab 04 40 31.9 -1.8**
comp=Z,1.7nm,0.7s,baz=105,slow=1.8,SNR=12
GERES GERESS Array B 120.75 325 PKP PKPdf 04 30 27.0 -0.9
comp=Z,3.1nm,0.8s,baz=220,slow=3.5,SNR=14
GERES PKKPbc **PKKPab 04 40 31.9 -1.8**
SOKA Soboth 121.04 323 ⇑iPKiKP PKPdf 04 30 28.1 -0.4
comp=Z,7.5nm,1.0s
KBA Koelnbreinsper 121.85 324 ⇑iPKPdf PKPdf 04 30 36.5 +6.3
BLO Bloomington 122.09 47 ePKiKP PKPdf 04 30 32.6 +2.0
BLO Bloomington 122.09 47 ePKPdf PKPdf 04 30 32.6 +2.0
WVT Waverly 122.16 50 ePKiKP PKPdf 04 30 31.5 +0.6
WVT Waverly 122.16 50 ePKPdf PKPdf 04 30 31.4 +0.6
WCI Wyandotte Cave 122.60 48 ePKiKP PKPdf 04 30 31.4 -0.3
WCI Wyandotte Cave 122.60 48 ePKPdf PKPdf 04 30 31.4 -0.3
WATA Walderalm 122.75 325 ⇑iPKPdf PKPdf 04 30 30.7 -1.1
comp=Z,2.1nm,0.6s
AAM Ann Arbor 122.84 42 PFAKE 04 30 40.0 +8.0
AAM LR LR
comp=Z,3μm,20.0s
MOTA Moosalm 123.02 325 ⇓iPKPdf PKPdf 04 30 29.9 -2.5
comp=Z,8.4nm,0.8s
TIP Timpagrande 123.13 314 PFAKE 04 30 40.0 +7.3
TIP LR LR
comp=Z,988nm,22.0s
PLCA Paso Flores 123.26 147 ePKPdf PKPdf 04 30 32.9 -0.1
PLCA Paso Flores 123.26 147 PKP PKPdf 04 30 32.9 -0.1
comp=Z,13nm,0.7s,baz=224,slow=2.4,SNR=47
CUC Castrocucco 123.48 315 PFAKE 04 30 50.0 +17
CUC LR LR
comp=Z,680nm,21.0s
TSUM Tsumeb 123.51 243 ePKPdf PKPdf 04 30 35.2 +1.1
TSUM LR LR
comp=Z,2μm,22.0s
PAYG Puerto Ayora 123.63 94 PFAKE 04 30 50.0 +16
PAYG LR LR
comp=Z,594nm,19.0s
DAVA Damuels 123.75 325 ⇑iPKPdf PKPdf 04 30 33.0 -0.8
comp=Z,6.6nm,0.9s
MEM Membach 123.83 330 PKP PKPdf 04 30 33.6 0.0
BFO Black Forest 124.02 327 PFAKE 04 30 50.0 +16
BFO LR LR
comp=Z,1μm,22.0s
CEL Celeste 124.11 313 PFAKE 04 30 50.0 +15
CEL LR LR
comp=Z,1μm,22.0s
ACSO Alum Creek Sta 124.18 44 PFAKE 04 30 50.0 +15
ACSO LR LR
comp=Z,2μm,22.0s
BRAL Brewton 124.30 56 PFAKE 04 30 50.0 +15
BRAL LR LR
comp=Z,2μm,20.0s
WLF Walferdange 124.35 329 PFAKE 04 30 50.0 +15
WLF LR LR
comp=Z,1μm,19.0s
ESK Eskdalemuir 124.37 339 PFAKE 04 30 50.0 +16
ESK LR LR
comp=Z,2μm,21.0s
TUE Stuetta 124.51 325 PFAKE 04 30 50.0 +15
TUE LR LR
comp=Z,2μm,22.0s
GIVF Givet 124.73 330 ePKiKP PKPdf 04 30 35.1 -0.3
GIVF Givet 124.73 330 ePKPdf PKPdf 04 30 35.1 -0.3
GIVF Givet 124.73 330 ePKPdf PKPdf 04 30 35.1 -0.3
BAIF Baives 125.06 331 ePKiKP PKPdf 04 30 35.2 -0.8
BAIF Baives 125.06 331 ePKiKP PKPdf 04 30 35.2 -0.8
BAIF Baives 125.06 331 ePKPdf PKPdf 04 30 35.2 -0.8
HINF Hinteralfeld 125.12 327 ePKiKP PKPdf 04 30 35.4 -0.8
comp=Z,24nm,1.1s
HINF Hinteralfeld 125.12 327 ePKiKP PKPdf 04 30 35.4 -0.8
HINF Hinteralfeld 125.12 327 ePKPdf PKPdf 04 30 35.4 -0.8
VLC Villacollemand 125.13 322 PFAKE 04 30 50.0 +14
VLC LR LR
comp=Z,1μm,20.0s
HAU Haudompre 125.27 328 ePKiKP PKPdf 04 30 35.9 -0.6
comp=Z,22nm,1.1s
HAU Haudompre 125.27 328 ePKiKP PKPdf 04 30 35.9 -0.6
HAU Haudompre 125.27 328 ePKPdf PKPdf 04 30 35.9 -0.6
ERPA Erie 125.34 41 PFAKE 04 30 50.0 +13
ERPA LR LR
comp=Z,2μm,20.0s
TEIG Tepich 125.46 69 PFAKE 04 30 50.0 +12
TEIG LR LR
comp=Z,2μm,20.0s
MEZF Maizieres J'vi 125.64 329 ePKiKP PKPdf 04 30 37.1 0.0
MEZF Maizieres J'vi 125.64 329 ePKPdf PKPdf 04 30 37.1 0.0
CABF La Chapelle 126.26 326 ePKiKP PKPdf 04 30 38.5 0.0
comp=Z,44nm,1.1s
CABF La Chapelle 126.26 326 ePKiKP PKPdf 04 30 38.5 0.0
CABF La Chapelle 126.26 326 ePKPdf PKPdf 04 30 38.5 0.0
CLTB Caltabellotta 126.32 313 PFAKE 04 30 50.0 +11
CLTB LR LR
comp=Z,671nm,22.0s
GOGA Godfrey 126.45 52 PFAKE 04 30 50.0 +11
GOGA LR LR
comp=Z,3μm,22.0s
LPG La Plagne 126.55 325 ePKiKP PKPdf 04 30 36.8 -2.6
comp=Z,27nm,1.3s
LPG La Plagne 126.55 325 ePKiKP PKPdf 04 30 36.8 -2.6
LPG La Plagne 126.55 325 ePKPdf PKPdf 04 30 36.8 -2.6
BNI Bardonecchia 126.85 325 PFAKE 04 30 50.0 +10
BNI LR LR
comp=Z,2μm,20.0s
LOR Lormes 127.05 328 ePKiKP PKPdf 04 30 39.7 -0.2
comp=Z,45nm,1.5s
LOR Lormes 127.05 328 ePKPdf PKPdf 04 30 39.7 -0.2
TGUH Tegucigalpa,Un 127.05 77 PFAKE 04 30 50.0 +9.3
TGUH LR LR
comp=Z,2μm,20.0s
BLA Blacksburg 127.28 46 PFAKE 04 30 50.0 +9.3
BLA LR LR
comp=Z,3μm,22.0s
LONY Lake Ozonia 127.34 36 PFAKE 04 30 50.0 +9.4
LONY LR LR
comp=Z,2μm,22.0s
SSF Saint Saulge 127.36 328 ePKiKP PKPdf 04 30 40.4 -0.1
SSF Saint Saulge 127.36 328 ePKiKP PKPdf 04 30 40.4 -0.1
SSF Saint Saulge 127.36 328 ePKPdf PKPdf 04 30 40.4 -0.1
SMF Signal de Mont 127.45 328 ePKiKP PKPdf 04 30 41.2 +0.5
comp=Z,19nm,1.2s
SMF Signal de Mont 127.45 328 ePKiKP PKPdf 04 30 41.2 +0.5
SMF Signal de Mont 127.45 328 ePKPdf PKPdf 04 30 41.2 +0.5
AVF Avril sur Loir 127.62 328 ePKiKP PKPdf 04 30 41.2 +0.2
AVF Avril sur Loir 127.62 328 ePKiKP PKPdf 04 30 41.2 +0.2
AVF Avril sur Loir 127.62 328 ePKPdf PKPdf 04 30 41.2 +0.2
BINY Binghamton 127.86 39 PFAKE 04 30 50.0 +8.4
BINY LR LR
comp=Z,4μm,21.0s
SSB Saint Sauveur 127.93 326 PFAKE 04 30 50.0 +8.3
SSB LR LR
comp=Z,1μm,20.0s
BGF Bois d'Agland 128.04 328 ePKiKP PKPdf 04 30 42.3 +0.5
comp=Z,17nm,0.9s
BGF Bois d'Agland 128.04 328 ePKiKP PKPdf 04 30 42.3 +0.5
BGF Bois d'Agland 128.04 328 ePKPdf PKPdf 04 30 42.3 +0.5
SMRF Simiane la Rot 128.12 324 ePKiKP PKPdf 04 30 42.3 +0.2
SMRF Simiane la Rot 128.12 324 ePKPdf PKPdf 04 30 42.3 +0.2
VSL Villasalto 128.14 317 PFAKE 04 30 50.0 +7.8
VSL LR LR
comp=Z,749nm,22.0s
TCF Toulx Ste Croi 128.55 328 ePKiKP PKPdf 04 30 43.4 +0.6

comp=Z,13nm,0.9s
TCF Toulx Ste Croi 128.55 328 *e*PKIKP **PKPdf** **04 30 43.4 +0.6**
TCF Toulx Ste Croi 128.55 328 *e*PKPdf **PKPdf** **04 30 43.4 +0.6**
CBN Corbin 128.99 44 PFAKE 04 31 00.0 +16
CBN LR LR
comp=Z,2μm,21.0s
LBNH Lisbon 129.09 35 PFAKE 04 31 00.0 +16
LBNH LR LR
comp=Z,4μm,22.0s
NHSC New Hope 129.12 51 PFAKE 04 31 00.0 +16
NHSC LR LR
comp=Z,2μm,20.0s
JTS JuntasAbangare 129.49 81 *e*PKPdf **PKPdf** **04 30 45.9 +0.4**
JTS LR LR
comp=Z,5μm,22.0s
TRQA Tornquist 129.63 151 *e*PKPdf **PKPdf** **04 30 45.4 +0.3**
TRQA LR LR
comp=Z,1μm,19.0s
PKME Peaks-Kenny Pk 129.87 32 PFAKE 04 31 00.0 +15
PKME LR LR
comp=Z,3μm,22.0s
KEST Kesra 129.92 313 *e*PKPdf **PKPdf** **04 30 46.4 +0.6**
KEST PKP **PKPdf** **04 30 46.7 +0.9**
KEST Kesra 129.92 313 PKP **PKPdf** **04 30 46.7 +0.9**
comp=Z,1.1nm,0.7s,baz=227,slow=12,SNR=5.5
CFAA Coronel Fontan 130.92 141 PKPpre PKPpre 04 30 36.4
CFAA PKP **PKPdf** **04 30 48.0 +0.2**
CFAA Coronel Fontan 130.92 141 PKhKP PKPpre 04 30 36.4
comp=Z,0.2nm,0.4s,baz=29,slow=8.2,SNR=4.3
CFAA PKP **PKPdf** **04 30 48.0 +0.2**
comp=Z,0.6nm,0.4s,baz=248,slow=3.5,SNR=5.1
LCO Las Campanas 130.97 136 *e*PKPdf **PKPdf** **04 30 49.1 +0.8**
LCO *e*SKPbc **SKPab** **04 34 10.8 +2.5**
LCO LR LR
comp=Z,1μm,19.0s
TRIS Tristan da Cun 133.09 204 PFAKE 04 31 00.0 +8.3
TRIS LR LR
comp=Z,2μm,20.0s
NNA Nana 134.18 112 *e*PKPdf **PKPdf** **04 30 53.7 -0.7**
NNA LR LR
comp=Z,645nm,19.0s
BCIP Isla Barro Col 134.56 82 *e*PKPdf **PKPdf** **04 30 55.6 +0.6**
BCIP LR LR
comp=Z,2μm,22.0s
OTAV Otavalo 135.49 95 *e*PKPdf **PKPdf** **04 30 57.5 +0.1**
OTAV LR LR
comp=Z,738nm,19.0s
MTDJ Mount Denham 135.79 69 PFAKE 04 31 10.0 +13
MTDJ LR LR
comp=Z,2μm,22.0s
LVC Limon Verde 136.07 131 *e*PKPpre PKPpre 04 30 45.9
LVC *e*PKPdf **PKPdf** **04 30 57.1 -0.9**
LVC LR LR
comp=Z,676nm,19.0s
ESDC Sonseca Array 136.34 326 PKP **PKPdf** **04 30 58.0 +0.3**
ESDC Sonseca Array 136.34 326 PKP **PKPdf** **04 30 58.0 +0.3**
comp=Z,0.3nm,0.5s,baz=350,slow=4.8,SNR=3.6
PAB San Pablo 136.64 326 PFAKE 04 31 10.0 +12
PAB LR LR
comp=Z,1μm,19.0s
GTBY Guantanamo Bay 137.66 66 PFAKE 04 31 10.0 +9.4
GTBY LR LR
comp=Z,1μm,21.0s
MTE Manteigas 137.73 329 PFAKE 04 31 10.0 +10
MTE LR LR
comp=Z,2μm,19.0s
TAM Tamanrasset 137.99 298 *e*PKIKP **PKPdf** **04 31 00.6 -0.8**
TAM *e* 04 33 50.0
TAM MLR MLR
comp=Z,702nm,21.0s
TAM Tamanrasset 137.99 298 *e*PKPdf **PKPdf** **04 31 00.6 -0.8**
TAM *e*PP **PP** **04 33 50.0 +0.3**
TAM *e*SKPab **SKPab** **04 34 37.4 -1.4**
TAM LR LR
comp=Z,702nm,21.0s
ROSC El Rosal 139.99 89 *e*PKPpre PKPpre 04 30 58.7
ROSC *e*PKPdf **PKPdf** **04 31 05.7 +0.1**
ROSC El Rosal 139.99 89 PKPpre PKPpre 04 30 57.9
comp=Z,5.0nm,0.6s,baz=80,slow=18,SNR=4.2
ROSC PKP **PKPdf** **04 31 06.5 +0.9**
comp=Z,7.9nm,0.7s,baz=96,slow=20,SNR=7.3
LPAZ La Paz 140.08 123 *e*PKPpre PKPpre 04 30 56.9
LPAZ *e*PKPdf **PKPdf** **04 31 06.7 +0.8**
LPAZ *e*PP **PP** **04 34 01.9 -1.1**
LPAZ *e*SKPdf **SKPdf** **04 34 36.7 +0.6**
LPAZ *e*SKPab **SKPab** **04 34 48.1 -0.8**
LPAZ La Paz 140.08 123 PKhKP PKPpre 04 30 57.2
comp=Z,9.3nm,0.8s,baz=160,slow=2.7,SNR=30
LPAZ PKP **PKiKP** **04 31 07.4 -1.0**
comp=Z,14nm,0.8s,baz=39,slow=13,SNR=12
GRTK Grand Turk 140.78 62 PFAKE 04 31 20.0 +14
GRTK LR LR
comp=Z,3μm,22.0s
BBSR BB Station 140.84 43 PFAKE 04 31 20.0 +14
BBSR LR LR
comp=Z,2μm,22.0s
CPUP Villa Florida 141.29 146 *e*PKPpre PKPpre 04 31 00.3
CPUP *e*PKPdf **PKPdf** **04 31 08.2 +1.1**
CPUP Villa Florida 141.29 146 PKhKP PKPpre 04 31 00.3
comp=Z,26nm,0.8s,baz=222,slow=4.0,SNR=21
SDDR Presa de Saban 141.38 66 PFAKE 04 31 20.0 +12
SDDR LR LR
comp=Z,2μm,21.0s
RTC Rabat Centre 141.91 322 PFAKE 04 31 20.0 +12
RTC LR LR
comp=Z,881nm,21.0s
SDV Santo Domingo 143.66 82 *e*PKPpre PKPpre 04 31 08.3
SDV *e*PKPdf **PKPdf** **04 31 13.4 +1.6**
SDV *e*SKP 04 34 50.0
SDV LR LR
comp=Z,595nm,22.0s
TOA0 Torodi Ar. Sit 143.82 285 *e*PKPpre PKPpre 04 31 08.8
TOA0 *e*PKPdf **PKPdf** **04 31 11.6 -0.3**
TORD Torodi Ar. Bea 143.82 285 PKP PKPab 04 31 09.1 +0.1
TORD Torodi Ar. Bea 143.82 285 PKP PKPab 04 31 09.1 +0.1
comp=Z,11nm,0.7s,baz=78,slow=3.5,SNR=108
SHEL Horse Pasture 144.77 233 *e*PKIKP **PKPdf** **04 31 14.4 +0.8**
SHEL MLR MLR
comp=Z,1μm,21.0s
SHEL Horse Pasture 144.77 233 *e*PKPdf **PKPdf** **04 31 14.4 +0.8**
SHEL LR LR
comp=Z,1μm,21.0s
LSP Las Mesas 145.43 66 *e*PKPbc **PKPdf** **04 31 14.0 -0.6**
CRPR Cabo Rojo, PR 145.46 66 *e*PKPbc **PKPdf** **04 31 12.5 -2.1**
OBIP Obispado Ponce 145.91 66 *e*PKPbc **PKPdf** **04 31 14.6 -0.8**
CELP Cerrillos 145.92 66 *e*PKPdf **PKPdf** **04 31 14.2 -1.2**
CELP *e*PKPbc **PKPbc** **04 31 15.7 -0.5**
SIV San Ignacio 145.93 129 PKPbc **PKPbc** **04 31 16.1 -0.1**
SIV San Ignacio 145.93 129 PKPbc **PKPbc** **04 31 16.1 -0.1**
comp=Z,137nm,0.7s,baz=249,slow=3.8,SNR=328
CDVI St. Croix 147.66 65 *e*PKPbc **PKPbc** **04 31 20.2 -0.9**
SAML Samuel 147.75 116 *e*PKPdf **PKPdf** **04 31 18.9 +0.3**
SAML *e*PKPbc **PKPbc** **04 31 21.8 +0.3**
SAML LR LR
comp=Z,761nm,20.0s
BB16B Bebedouro 150.17 152 *e*P **PKPdf** **04 31 23.2 +0.7**
BB16B *i* 04 31 27.5
BB16B *i* 04 31 30.5
BB16B *i* 04 31 36.1
BB16B *i* 04 31 38.4
BB16B *i* 04 31 45.5
BB16B *i* 04 31 51.5
ANWB Willy Bob 150.36 63 PFAKE 04 31 30.0 +2.0
ANWB LR LR
comp=Z,1μm,21.0s
KIC Kosan Boka 150.72 273 *e*PKP1 **PKPbc** **04 31 29.7 +0.7**
comp=Z,476nm,1.3s
DBIC Dimbokro 150.83 274 *e*PKPdf **PKPdf** **04 31 24.2 +0.7**
DBIC *e*PKPbc **PKPbc** **04 31 29.3 +0.1**
DBIC *e*PKPab **PKPab** **04 31 35.8 -0.8**
DBIC Dimbokro 150.83 274 PKPbc **PKPbc** **04 31 29.9 +0.7**
comp=Z,61nm,0.7s,baz=71,slow=2.2,SNR=5.6
TIC Toumodi 151.00 274 *e*PKP1 **PKPbc** **04 31 30.3 +0.7**
comp=Z,128nm,0.7s
LIC Lamto 151.01 273 *e*PKIKP **PKPbc** **04 31 29.4 -0.2**
comp=Z,183nm,0.6s
LIC Lamto 151.01 273 *e*PKP1 **PKPbc** **04 31 30.4 +0.8**
comp=Z,311nm,0.6s
LIC Lamto 151.01 273 *e*PKPdf **PKPbc** **04 31 29.4 -0.2**
FDF Fort de France 151.88 69 PFAKE 04 31 40.0 -0.9
FDF LR LR
comp=Z,2μm,21.0s
GRGR Grenville 152.03 74 PFAKE 04 31 40.0 -1.5
GRGR LR LR
comp=Z,966nm,21.0s
PTGA Pitinga 153.52 103 *e*PKPbc **PKPbc** **04 31 35.3 -0.1**
PTGA *e*PKPab **PKPab** **04 31 47.3 -0.6**
PTGA LR LR
comp=Z,766nm,21.0s
PTGA Pitinga 153.52 103 PKPbc **PKPbc** **04 31 35.2 -0.1**
comp=Z,8.3nm,0.8s,baz=191,slow=6.0,SNR=8.8
PTGA PKPab **PKPab** **04 31 47.6 -0.2**
comp=Z,23nm,0.9s,baz=234,slow=2.9,SNR=17
BBGH Gun Hill 153.79 71 PFAKE 04 31 40.0 +4.2
BBGH LR LR
comp=Z,3μm,21.0s
BDFB Brasilia 155.00 147 PKP **PKPdf** **04 31 30.1 +0.4**
BDFB PKPbc PKPbc 04 31 39.1
BDFB PKPab **PKPab** **04 31 53.2 -0.8**
BDFB Brasilia 155.00 147 PKP **PKPdf** **04 31 30.1 +0.4**
comp=Z,9.6nm,0.9s,baz=158,slow=4.6,SNR=10
BDFB PKPbc PKPbc 04 31 39.1
comp=Z,46nm,0.9s,baz=187,slow=0.4,SNR=26
BDFB PKPab **PKPab** **04 31 53.2 -0.8**
comp=Z,14nm,0.6s,baz=196,slow=2.2,SNR=5.2
ASCN Ascension 156.23 236 PFAKE 04 31 40.0 +8.7
ASCN LR LR
comp=Z,2μm,21.0s
SACV Santiago Islan 165.92 313 PFAKE 04 31 50.0 +8.4
SACV LR LR
comp=Z,1μm,19.0s
RCBR Riachuelo 168.72 171 *e*PKPdf **PKPdf** **04 31 44.8 +1.1**
RCBR *e*PKPab **PKPab** **04 32 54.5 +0.7**
RCBR LR LR
comp=Z,1μm,21.0s
RCBR Riachuelo 168.72 171 PKPab **PKPab** **04 32 54.4 +0.7**
comp=Z,14nm,0.7s,baz=216,slow=5.6,SNR=11

IDC 03 04:55:17.8±1.1, 13°.14N×143°.68E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/24, mbtmp3.8/5, Error ellipse: s-maj=82.5km s-min=28.8km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.13**	**196**	P	P	05 02 04.5	-0.2
	0.5nm,0.8s,baz=25,slow=10,SNR=3.9						
ILAR	**Eielson Array**	**69.47**	**25**	P	P	05 06 26.9	-0.9
	0.6nm,1.0s,baz=265,slow=5.3,SNR=5.2						
YKA	**Yellowknife Ar**	**83.79**	**27**	P	P	05 07 49.7	+0.9
	0.3nm,0.5s,baz=287,slow=5.0,SNR=5.4						
NVAR	**Mina Array Bea**	**88.10**	**51**	P	P	05 08 11.3	+0.2
	0.6nm,0.6s,baz=276,slow=5.2,SNR=6.2						
FINES	**FINESS Array B**	**91.08**	**335**	P	P	05 08 24.1	-0.1
	1.2nm,0.9s,baz=54,slow=7.1,SNR=6.0						

IDC 03 05:07:21.4±0.8, 59°.38S×24°.80W, h122km±6km, mb3.9/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.9/3, Error ellipse: s-maj=46.5km s-min=23.7km az=101.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**43.29**	**182**	P	P	05 15 10.0	-0.3
	1.4nm,0.7s,baz=124,slow=3.6,SNR=4.5						
DBIC	**Dimbokro**	**67.73**	**21**	P	P	05 18 05.1	-0.5
	4.0nm,1.0s,baz=175,slow=5.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**75.39**	**27**	P	P	05 18 51.8	+0.3
	3.5nm,0.8s,baz=200,slow=6.2,SNR=34						
AAK	**Ala-Archa**	**129.84**	**72**	PKP	PKPdf	05 26 14.8	-0.8
	0.7nm,0.3s,baz=139,slow=8.6,SNR=4.6						
BVAR	**Borovoye Array**	**135.44**	**59**	PKP	PKPdf	05 26 26.4	+0.8
	0.8nm,0.9s,baz=211,slow=0.9,SNR=4.3						
YKA	**Yellowknife Ar**	**139.47**	**314**	PKP	PKPdf	05 26 32.6	-0.1
	0.3nm,0.6s,baz=125,slow=2.5,SNR=4.0						
YKA				pPKP	pPKPdf	05 27 04.6	-0.8
	0.2nm,0.4s,baz=133,slow=2.1,SNR=3.2						
INK	**Inuvik**	**149.16**	**317**	PKPbc	PKPbc	05 26 52.9	-0.7
	2.1nm,0.7s,baz=90,slow=4.3,SNR=8.2						
INK				pPKPbc	pPKPbc	05 27 25.6	-0.6
	3.5nm,0.8s,baz=86,slow=7.8,SNR=5.2						
SONM	**Songino Array**	**149.53**	**90**	PKPbc	PKPbc	05 26 55.1	-0.3
	0.9nm,0.6s,baz=225,slow=3.9,SNR=2.9						
ILAR	**Eielson Array**	**153.22**	**306**	PKPbc	PKPbc	05 27 03.9	+0.7
	0.5nm,0.7s,baz=149,slow=2.5,SNR=6.1						
ILAR				PKPab	PKPab	05 27 14.9	-0.7
	1.2nm,0.9s,baz=143,slow=2.2,SNR=8.9						
ILAR				pPKPbc	pPKPbc	05 27 35.9	+0.1
	1.6nm,0.9s,baz=160,slow=2.0,SNR=6.2						

*ISCJB **03** 05:09:45.3±0.3, 34°.27N±0°.02×25°.37E±0°.03, h51km±4km, mb3.9/19, Error ellipse: s-maj=4.8km s-min=3.1km az=43.9*
*IDC **03** 05:09:46.9±1.9, 34°.26N×25°.40E, h41km±15km, mb3.7/13, mb1 3.8/19, mb1mx3.7/32, mbtmp3.7/19, ML4.1/6, Error ellipse: s-maj=17.3km s-min=11.0km az=32.0*
*CSEM **03** 05:09:46.9±0.1, 34°.30N×25°.33E, h47km±2km, mb4.1/5, Error ellipse: s-maj=4.3km s-min=2.4km az=53.0*
*HLW **03** 05:09:48.6, 34°.28N×25°.47E, h25km±16km, MlI3.3*
*ATH **03** 05:09:50.0, 34°.68N×25°.29E, h59km±3km, MD3.7/20*
*ISK **03** 05:09:53.0, 35°.08N×25°.89E, h2km, ML3.6*
*DDA **03** 05:10:26.4, 36°.58N×28°.44E, h30km, MD3.5*

ISC 03 05:09:46.9±0.9, 34°.34N±0°.04×25°.33E±0°.04, h44km±10km, n203,σ1§22/222, mb4.0/18, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.80**	**328**	*e*P	**Pn**	**05 10 02.1**	**+0.3**
SIVA				*e*S	**Sn**	**05 10 11.9**	**-0.7**
SIVA	**Sivas**	**0.80**	**328**	*e*P	**Pn**	**05 10 02.1**	**+0.3**
SIVA				*e*S	**Sn**	**05 10 12.6**	**0.0**
SIVA	**Sivas**	**0.80**	**328**	*e*P	**Pn**	**05 10 02.1**	**+0.3**
SIVA				*e*S	**Sn**	**05 10 12.6**	**0.0**
LAST	**Lasithi**	**0.83**	**9**	*e*P	**Pn**	**05 10 02.8**	**+0.5**
LAST	**Lasithi**	**0.83**	**9**	*e*P	**Pn**	**05 10 02.9**	**+0.6**
LAST				*e*S	**Sn**	**05 10 14.4**	**+1.0**
LAST	**Lasithi**	**0.83**	**9**	*e*P	**Pn**	**05 10 02.9**	**+0.6**
LAST				*e*S	**Sn**	**05 10 14.4**	**+1.0**
NPS	**Neapolis**	**0.95**	**14**	*e*P	**Pn**	**05 10 04.9**	**+1.1**
NPS				*e*S	**Sn**	**05 10 16.6**	**+0.3**
NPS	**Neapolis**	**0.95**	**14**	*e*P	**Pn**	**05 10 04.9**	**+1.1**
NPS				*e*S	**Sn**	**05 10 16.6**	**+0.3**
IDI	**Anoyia**	**1.01**	**339**	P	**Pn**	**05 10 04.7**	**-0.1**
	88nm,0.3s,baz=166,slow=16,SNR=207						
IDI				S	**Sn**	**05 10 20.7**	**+2.9**
	128nm,0.3s,baz=45,slow=20,SNR=23						
ZKR	**Zakros**	**1.07**	**43**	*e*P	**Pn**	**05 10 07.2**	**+1.8**
ZKR				*e*S	**Sn**	**05 10 19.6**	**+0.5**
ZKR	**Zakros**	**1.07**	**43**	*e*P	**Pn**	**05 10 07.5**	**+2.1**
ZKR	**Zakros**	**1.07**	**43**	*e*P	**Pn**	**05 10 07.5**	**+2.1**
VAM	**Vamos**	**1.41**	**319**	*e*P	**Pn**	**05 10 11.6**	**+1.5**
VAM				*e*S	**Sn**	**05 10 27.6**	**0.0**
KARP	**Karpathos**	**1.93**	**51**	*e*P	**Pn**	**05 10 20.2**	**+3.0**
KARP	**Karpathos**	**1.93**	**51**	*e*P	**Pn**	**05 10 20.2**	**+3.0**
KARP	**Karpathos**	**1.93**	**51**	*e*P	**Pn**	**05 10 20.2**	**+3.0**
SANT	**Santorini**	**2.03**	**3**	*e*PN	**Pn**	**05 10 19.2**	**+0.6**
SANT				*e*SN	**Sn**	**05 10 38.9**	**-3.9**
SANT	**Santorini**	**2.03**	**3**	*e*P	**Pn**	**05 10 18.2**	**-0.4**
SANT	**Santorini**	**2.03**	**3**	*e*Pn	**Pn**	**05 10 19.2**	**+0.6**
SANT				*e*Sn	**Sn**	**05 10 38.9**	**-3.9**
ANKY	**Antikythira Is**	**2.26**	**313**	*e*P	**Pn**	**05 10 24.0**	**+2.3**
KYTH	**Kithira**	**2.70**	**317**	*e*P	**Pn**	**05 10 28.9**	**+1.2**
KYTH	**Kithira**	**2.70**	**317**	*e*P	**Pn**	**05 10 28.9**	**+1.2**
KYTH	**Kithira**	**2.70**	**317**	*e*P	**Pn**	**05 10 28.9**	**+1.2**
APE	**Apeiranthos**	**2.73**	**3**	*e*PN	**Pn**	**05 10 29.1**	**+0.8**
APE				*e*SN	**Sn**	**05 10 55.1**	**-4.9**
APE	**Apeiranthos**	**2.73**	**3**	*e*P	**Pn**	**05 10 28.6**	**+0.4**
APE	**Apeiranthos**	**2.73**	**3**	*e*P	**Pn**	**05 10 28.8**	**+0.6**
APE	**Apeiranthos**	**2.73**	**3**	*e*P	**Pn**	**05 10 28.8**	**+0.6**
APE	**Apeiranthos**	**2.73**	**3**	*e*Pn	**Pn**	**05 10 29.1**	**+0.8**
SLUM		**2.84**	**182**	P	**Pn**	**05 10 30.2**	**+0.5**
	baz=185						
SLUM				AMP		05 11 00.0	
	comp=N,160μm,0.7s,logA/T=5.3,baz=185						
SLUM				S	**Sn**	**05 11 01.6**	**-1.0**
	baz=185						
SLUM		**2.84**	**182**	P	**Pn**	**05 10 30.2**	**+0.5**
SLUM				S	**Sn**	**05 11 01.6**	**-1.0**
ARG	**Arkhangelos**	**2.96**	**50**	*e*P	**Pn**	**05 10 33.4**	**+2.1**
ARG	**Arkhangelos**	**2.96**	**50**	*e*P	**Pn**	**05 10 33.6**	**+2.3**
ARG	**Arkhangelos**	**2.96**	**50**	*e*P	**Pn**	**05 10 33.6**	**+2.3**
VLI	**Veliai**	**3.07**	**321**	*e*P	**Pn**	**05 10 33.2**	**+0.3**
VLI				*e*S	**Sn**	**05 11 06.4**	**-2.0**
VLI	**Veliai**	**3.07**	**321**	*e*P	**Pn**	**05 10 33.2**	**+0.3**
VLI	**Veliai**	**3.07**	**321**	*e*P	**Pn**	**05 10 33.2**	**+0.3**
BODT	**Bodrum**	**3.16**	**30**	*e*PN	**Pn**	**05 10 32.7**	**-1.4**
BODT	**Bodrum**	**3.16**	**30**	*e*Pn	**Pn**	**05 10 32.7**	**-1.4**
BDRM	**Kayabasi**	**3.22**	**32**	*i* P	**Pn**	**05 10 36.1**	**+1.1**
BDRM	**Kayabasi**	**3.22**	**32**	*i* P	**Pn**	**05 10 36.1**	**+1.1**
SMG	**Samos**	**3.58**	**20**	*e*P	**Pn**	**05 10 41.0**	**+1.1**
SMG	**Samos**	**3.58**	**20**	*e*P	**Pn**	**05 10 41.0**	**+1.1**
DID	**Didima**	**3.59**	**332**	*e*P	**Pn**	**05 10 40.2**	**+0.2**
DID				*e*S	**Sn**	**05 11 18.0**	**-3.1**
DID	**Didima**	**3.59**	**332**	*e*P	**Pn**	**05 10 39.8**	**-0.2**
DID	**Didima**	**3.59**	**332**	*e*P	**Pn**	**05 10 39.8**	**-0.2**
DALY	**Dalyan (Mu¨la**	**3.67**	**47**	*e*PN	**Pn**	**05 10 41.1**	**+0.1**
DALY	**Dalyan (Mu¨la**	**3.67**	**47**	*e*Pn	**Pn**	**05 10 41.2**	**+0.1**
TURN	**Turunc**	**3.68**	**46**	*i* P	Pn	05 10 37.1	-4.0
TURN				*i* S	Sn	05 11 16.9	-6.4
TURN	**Turunc**	**3.68**	**46**	*i* P	Pn	05 10 37.1	-4.0
NAIG	**Nisos Aigina**	**3.72**	**337**	*e*P	**Pn**	**05 10 42.4**	**+0.6**
NAIG	**Nisos Aigina**	**3.72**	**337**	*e*P	**Pn**	**05 10 42.4**	**+0.6**
FETY	**Fethiye**	**3.83**	**52**	*e*PN	**Pn**	**05 10 43.0**	**-0.3**
FETY	**Fethiye**	**3.83**	**52**	*e*Pn	**Pn**	**05 10 43.0**	**-0.3**
PTL	**Penteli**	**3.89**	**343**	*e*P	**Pn**	**05 10 45.2**	**+1.1**
PTL	**Penteli**	**3.89**	**343**	*e*P	**Pn**	**05 10 45.2**	**+1.1**
AYDN	**Tasoluk**	**3.91**	**31**	*i* P	Pn	05 10 55.7	+11
ITM	**Ithomi**	**3.96**	**317**	*e*P	**Pn**	**05 10 45.8**	**+0.7**
ITM				*e*S	**Sn**	**05 11 27.6**	**-2.7**
ITM	**Ithomi**	**3.96**	**317**	*e*P	**Pn**	**05 10 45.2**	**+0.1**
ITM	**Ithomi**	**3.96**	**317**	*e*P	**Pn**	**05 10 45.2**	**+0.1**
AKAS	**Kas**	**3.98**	**60**	*i* P	Pn	05 10 45.5	+0.1
AKAS				*i* S	**Sn**	**05 11 28.8**	**-2.1**
AKAS	**Kas**	**3.98**	**60**	*i* P	Pn	05 10 45.5	+0.1
AKAS				*i* S	**Sn**	**05 11 28.8**	**-2.1**
LTK	**Loutraki**	**4.14**	**333**	*e*P	**Pn**	**05 10 48.5**	**+0.9**
LTK	**Loutraki**	**4.14**	**333**	*e*P	**Pn**	**05 10 47.8**	**+0.2**
LTK	**Loutraki**	**4.14**	**333**	*e*P	**Pn**	**05 10 47.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**4.16**	**29**	*e*PN	**Pn**	**05 10 47.1**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**4.16**	**29**	*e*Pn	**Pn**	**05 10 47.1**	**-0.8**
GUR	**Goura**	**4.33**	**327**	*e*P	**Pn**	**05 10 50.7**	**+0.5**
GUR	**Goura**	**4.33**	**327**	*e*P	**Pn**	**05 10 50.7**	**+0.5**
GUR	**Goura**	**4.33**	**327**	*e*P	**Pn**	**05 10 50.7**	**+0.5**
ELL	**Elmali**	**4.44**	**56**	*e*PN	**Pn**	**05 10 52.2**	**+0.4**
ELL	**Elmali**	**4.44**	**56**	*e*Pn	**Pn**	**05 10 52.2**	**+0.4**
GOLH	**Golhisar**	**4.50**	**49**	*i* P	Pn	05 10 53.9	+1.4
GOLH				*i* S	**Sn**	**05 11 42.9**	**-0.7**
GOLH	**Golhisar**	**4.50**	**49**	*i* P	Pn	05 10 53.9	+1.4
GOLH				*i* S	**Sn**	**05 11 42.9**	**-0.7**
DNZL	**Cakiroluk**	**4.50**	**41**	*i* P	Pn	05 10 54.8	+2.1
DNZL	**Cakiroluk**	**4.50**	**41**	*i* P	Pn	05 10 54.8	+2.1
KLV	**Kalavryta, Ach**	**4.50**	**326**	*e*P	**Pn**	**05 10 52.9**	**+0.3**
KLV	**Kalavryta, Ach**	**4.50**	**326**	*e*P	**Pn**	**05 10 52.9**	**+0.3**
MRKA	**Markates**	**4.58**	**343**	*e*P	**Pn**	**05 10 54.5**	**+0.9**
MRKA	**Markates**	**4.58**	**343**	*e*P	**Pn**	**05 10 54.5**	**+0.9**
MRKA	**Markates**	**4.58**	**343**	*e*P	**Pn**	**05 10 54.5**	**+0.9**
DRO	**Drossia**	**4.64**	**322**	*e*P	**Pn**	**05 10 56.4**	**+1.9**
DRO	**Drossia**	**4.64**	**322**	*e*P	**Pn**	**05 10 55.8**	**+1.3**
DRO	**Drossia**	**4.64**	**322**	*e*P	**Pn**	**05 10 55.8**	**+1.3**
DSF	**Desfina**	**4.65**	**332**	*e*P	**Pn**	**05 10 55.0**	**+0.4**
LKR	**Lokris**	**4.70**	**337**	*e*P	**Pn**	**05 10 55.7**	**+0.6**
LKR	**Lokris**	**4.70**	**337**	*e*P	**Pn**	**05 10 55.7**	**+0.6**
KORT	**Korkueli**	**4.88**	**56**	*i* P	Pn	05 10 58.8	+1.0
KORT				*i* S	**Sn**	**05 11 50.4**	**-2.6**
KORT	**Korkueli**	**4.88**	**56**	*i* P	Pn	05 10 58.8	+1.0
KORT				*i* S	**Sn**	**05 11 50.4**	**-2.6**
MANT	**Manisa**	**4.89**	**31**	*i* P	Pn	05 10 59.3	+1.2
MANT	**Manisa**	**4.89**	**31**	*i* P	Pn	05 10 59.3	+1.2
EFP	**Efpalio**	**4.93**	**327**	*e*P	**Pn**	**05 10 58.9**	**+0.6**
AKS	**Akhisar**	**4.95**	**23**	*e*PN	**Pn**	**05 10 59.0**	**+0.4**
AKS	**Akhisar**	**4.95**	**23**	*e*Pn	**Pn**	**05 10 59.0**	**+0.4**
KULA	**Kula-Manisa**	**4.96**	**32**	*e*PN	**Pn**	**05 10 59.5**	**+0.6**
KULA	**Kula-Manisa**	**4.96**	**32**	*e*Pn	**Pn**	**05 10 59.5**	**+0.6**
SWA2		**5.08**	**179**	P	**Pn**	**05 11 00.6**	**+0.1**
	baz=181						
SWA2		**5.08**	**179**	P	**Pn**	**05 11 00.6**	**+0.1**
KHL	**Karahalli**	**5.22**	**39**	*e*PN	**Pn**	**05 11 02.7**	**+0.2**
KHL	**Karahalli**	**5.22**	**39**	*e*Pn	**Pn**	**05 11 02.7**	**+0.2**
KHAL	**Karahalli**	**5.24**	**39**	*i* P	Pn	05 10 57.3	-5.5
AGG	**Agios Georgios**	**5.26**	**334**	*e*P	**Pn**	**05 11 04.3**	**+1.4**
AGG	**Agios Georgios**	**5.26**	**334**	*e*P	**Pn**	**05 11 04.3**	**+1.4**
MAKR	**Makrakomi, Fth**	**5.33**	**332**	*e*P	**Pn**	**05 11 05.8**	**+1.9**
PDO	**Prodromos**	**5.41**	**323**	*e*P	**Pn**	**05 11 07.3**	**+2.4**
DEMI	**Demirci**	**5.43**	**29**	*i* P	Pn	05 11 07.0	+1.8
SUTC	**Sutluce-Ispart**	**5.57**	**54**	*e*PN	**Pn**	**05 11 09.2**	**+1.9**
SUTC	**Sutluce-Ispart**	**5.57**	**54**	*e*Pn	**Pn**	**05 11 09.2**	**+1.9**
IGT	**Igoumenitsa**	**6.55**	**324**	*e*P	**Pn**	**05 11 20.5**	**-0.1**
IGT	**Igoumenitsa**	**6.55**	**324**	*e*P	**Pn**	**05 11 20.5**	**-0.1**
ERMK	**Ermenek**	**6.60**	**67**	*i* P	Pn	05 11 23.0	+1.5
SQR		**6.67**	**130**	P	**Pn**	**05 11 22.1**	**-0.2**
	baz=130						
SQR		**6.67**	**130**	P	**Pn**	**05 11 22.1**	**-0.2**
AYT	**Al 'Ayyat**	**6.77**	**131**	P	**Pn**	**05 11 23.4**	**-0.2**
	baz=131						
AYT	**Al 'Ayyat**	**6.77**	**131**	P	**Pn**	**05 11 23.4**	**-0.2**
KOT	**Kottamia**	**7.05**	**127**	P	**Pn**	**05 11 26.9**	**-0.7**
	baz=127						
KOT	**Kottamia**	**7.05**	**127**	P	**Pn**	**05 11 26.9**	**-0.7**
HSAF	**As Saff**	**7.08**	**130**	P	**Pn**	**05 11 27.3**	**-0.6**
	baz=130						
HSAF	**As Saff**	**7.08**	**130**	P	**Pn**	**05 11 27.3**	**-0.6**
FNA	**Florina**	**7.16**	**335**	*e*P	**Pn**	**05 11 29.6**	**+0.6**
FNA	**Florina**	**7.16**	**335**	*e*P	**Pn**	**05 11 29.6**	**+0.6**
GLL	**Jalalah**	**7.20**	**129**	P	**Pn**	**05 11 28.9**	**-0.7**
	baz=129						
GLL	**Jalalah**	**7.20**	**129**	P	**Pn**	**05 11 28.9**	**-0.7**
AMAG	**Maghara**	**7.61**	**117**	P	**Pn**	**05 11 34.8**	**-0.4**
	baz=116						
AMAG	**Maghara**	**7.61**	**117**	P	**Pn**	**05 11 34.8**	**-0.4**
SUZ		**7.79**	**123**	P	**Pn**	**05 11 37.3**

SFTF	**Sexfontaines**	**20.52**	**319**	*eP*	**P**	05 14 21.3	**+0.1**
LOR	**Lormes**	**20.68**	**315**	*eP*	**P**	05 14 23.0	**0.0**
	comp=N,1.3nm,0.3s						
LOR	**Lormes**	**20.68**	**319**	*eP*	**P**	05 14 23.0	**0.0**
	comp=N,0.6nm,0.3s						
MEZF	**Maizieres J'vi**	**20.68**	**319**	*eP*	**P**	05 14 23.2	**+0.2**
	comp=N,5.4nm,0.5s						
MEZF	**Maizieres J'vi**	**20.68**	**319**	*eP*	**P**	05 14 23.2	**+0.2**
	comp=N,2.7nm,0.5s						
CAF	**Calviac**	**20.73**	**308**	*eP*	**P**	05 14 24.4	**+0.8**
CAF	**Calviac**	**20.73**	**308**	*eP*	**P**	05 14 24.4	**+0.8**
AVF	**Avril sur Loir**	**20.74**	**313**	*eP*	**P**	05 14 24.4	**+0.8**
AVF	**Avril sur Loir**	**20.74**	**313**	*eP*	**P**	05 14 24.4	**+0.8**
SSF	**Saint Saulge**	**20.78**	**314**	*eP*	**P**	05 14 24.7	**+0.6**
	comp=N,8.7nm,0.9s						
SSF	**Saint Saulge**	**20.78**	**314**	*eP*	**P**	05 14 24.7	**+0.6**
	comp=N,4.3nm,0.9s						
BGF	**Bois d'Agland**	**20.93**	**312**	*eP*	**P**	05 14 26.1	**+0.4**
	comp=N,8.6nm,0.5s						
BGF	**Bois d'Agland**	**20.93**	**312**	*eP*	**P**	05 14 26.1	**+0.4**
	comp=N,4.3nm,0.5s						
RJF	**Les Rejaudoux**	**21.24**	**308**	*eP*	**P**	05 14 29.7	**+0.7**
	comp=N,16nm,1.0s						
RJF	**Les Rejaudoux**	**21.24**	**308**	*eP*	**P**	05 14 29.7	**+0.7**
	comp=N,8.1nm,1.0s						
BAIF	**Baives**	**22.06**	**322**	*eP*	**P**	05 14 39.6	**+1.9**
	comp=N,5.8nm,0.6s						
BAIF	**Baives**	**22.06**	**322**	*eP*	**P**	05 14 39.6	**+1.9**
	comp=N,2.9nm,0.6s						
MFF	**Saint Martin d**	**22.82**	**310**	*eP*	**P**	05 14 46.0	**+0.2**
	comp=N,11nm,0.7s						
MFF	**Saint Martin d**	**22.82**	**310**	*eP*	**P**	05 14 46.0	**+0.2**
	comp=N,5.4nm,0.7s						
LDF	**La Druitiere**	**23.66**	**315**	*eP*	**P**	05 14 53.7	**-0.4**
	comp=N,3.6nm,0.3s						
LDF	**La Druitiere**	**23.66**	**315**	*eP*	**P**	05 14 53.7	**-0.4**
	comp=N,1.8nm,0.3s						
ESDC	**Sonseca Array**	**23.93**	**291**	P	**P**	05 14 56.2	**-0.6**
	comp=N,0.3nm,0.5s,baz=81,slow=9.7,SNR=4.6						
FLN	**La Foliniere**	**23.95**	**315**	*eP*	**P**	05 14 57.3	**+0.5**
FLN	**La Foliniere**	**23.95**	**315**	*eP*	**P**	05 14 57.3	**+0.5**
SGMF	**Saint Gilles**	**24.98**	**312**	*eP*	**P**	05 15 06.3	**+0.1**
SGMF	**Saint Gilles**	**24.98**	**312**	*eP*	**P**	05 15 06.3	**+0.1**
QUIF	**Quistinic**	**25.22**	**311**	*eP*	**P**	05 15 09.3	**+0.9**
	comp=N,14nm,0.7s						
QUIF	**Quistinic**	**25.22**	**311**	*eP*	**P**	05 15 09.3	**+0.9**
	comp=N,7.2nm,0.7s						
ROSF	**Rostrenen**	**25.45**	**312**	*eP*	**P**	05 15 10.7	**+0.3**
ROSF	**Rostrenen**	**25.45**	**312**	*eP*	**P**	05 15 10.7	**+0.3**
FINES	**FINESS Array B**	**27.13**	**1**	P	**P**	05 15 24.8	**-0.7**
	comp=N,1.1nm,0.8s,baz=167,slow=12,SNR=8.3						
EKA	**Eskdalemuir Ar**	**28.79**	**326**	P	**P**	05 15 40.7	**+0.3**
	comp=N,0.5nm,0.4s,baz=131,slow=8.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**30.07**	**231**	P	**P**	05 15 54.0	**+1.8**
	comp=N,1.2nm,0.4s,baz=34,slow=8.5,SNR=57						
ARCES	**ARCESS Array B**	**35.25**	**0**	P	**P**	05 16 35.8	**-1.0**
	comp=N,3.0nm,0.9s,baz=180,slow=7.9,SNR=4.4						
BVAR	**Borovoye Array**	**36.82**	**46**	P	**P**	05 16 52.1	**+1.7**
	comp=N,0.3nm,0.5s,baz=260,slow=8.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**41.53**	**50**	P	**P**	05 17 30.7	**+0.9**
	comp=N,0.9nm,0.6s,baz=278,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**44.12**	**56**	P	**P**	05 17 52.4	**+1.5**
	comp=N,1.0nm,0.5s,baz=271,slow=7.2,SNR=18						
ZALV	**Zalesovo Beam**	**45.48**	**46**	P	**P**	05 18 01.9	**+0.5**
	comp=N,1.8nm,0.5s,baz=271,slow=8.8,SNR=10						
SONM	**Songino Array**	**59.90**	**50**	P	**P**	05 19 47.0	**-1.3**
	comp=N,0.9nm,0.5s,baz=336,slow=16,SNR=3.9						
SCHQ	**Schefferville**	**63.90**	**320**	P	**P**	05 20 15.2	**+0.3**
	comp=N,3.8nm,0.9s,baz=90,slow=10,SNR=5.8						
USRK	**Ussuriysk Arra**	**77.32**	**45**	P	**P**	05 21 37.3	**+0.6**
	comp=N,2.1nm,0.7s,baz=101,slow=15,SNR=5.4						
ILAR	**Eielson Array**	**81.03**	**357**	P	**P**	05 21 57.4	**+0.7**
	comp=N,0.2nm,0.6s,baz=348,slow=2.3,SNR=4.8						

BJI 03 05:22:20.3, 34°.24N × 92°.21E, h10 km, mb3.7/1, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**7.99**	**48**	*eP*	Pn	05 24 14.7	-1.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						

*NNC **03** 05:41:11.1±4.1, 37°.74N × 71°.58E, h179 km ± 76 km, mb2.7, mpv3.6, Error ellipse: s-maj=42.9km s-min=22.0km az=17.0*

ISC 03 05:41:09.1±3.6, 37°.6N±0°.2 × 71°.5E±0°.1, h109 km, n9, σ1 9≤36/13, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**5.20**	**26**	P	**Pn**	05 42 25.1	**+0.2**
	SNR=13						
EKS2	**Erkin-Say**	**5.37**	**19**	P	**Pn**	05 42 28.0	**+1.1**
	SNR=9.0						
AAK	**Ala-Archa**	**5.55**	**24**	⇓P	**Pn**	05 42 29.6	**+0.2**
	3.0nm,0.3s						
AAK				⇓S	**Sn**	05 43 32.1	**+0.1**
	18nm,0.8s						
AAK	**Ala-Archa**	**5.55**	**24**	P	**Pn**	05 42 30.0	**+0.6**
	SNR=12						
KK31	**Karatay Array**	**5.55**	**353**	⇑P	**Pn**	05 42 31.1	**+1.8**
	9.1nm,0.3s,baz=178,slow=13,SNR=358						
KK31				⇓S	**Sn**	05 43 33.5	**+1.7**
	0.8nm,0.2s,baz=181,slow=23,SNR=7.2						
CHMS	**Chumysh**	**5.96**	**24**	P	**Pn**	05 42 35.3	**+0.4**
	SNR=6.5						
USP	**Ospenovka**	**6.13**	**21**	P	**Pn**	05 42 37.2	**+0.1**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.20**	**30**	⇑P	**Pn**	05 42 37.6	**-0.6**
	1.7nm,0.8s						
TKM2				⇑S	**Sn**	05 43 48.2	**+0.4**
	6.8nm,0.9s						
AB31	**Akbulak array**	**14.32**	**328**	⇑P	**Pn**	05 44 26.6	**0.0**
	0.4nm,0.3s,baz=135,slow=15,SNR=25						
AB31				⇓S	**Sn**	05 47 01.2	**-3.2**
	1.0nm,0.8s,baz=153,slow=22,SNR=3.9						

*IDC **03** 05:44:10.8±2.0, 8°.20S × 129°.88E, h0 km, mb3.2/1, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=99.9km s-min=31.7km az=68.0*

ISC 03 05:44:12.8±1.0, 8°.21S±0°.08 × 130°.0E±0°.1, h22 km, n9, σ2 9≤30/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**4.73**	**167**	P	Pb	05 45 30.7	-4.4
	baz=5.0,SNR=6.6						
KDU	**Kakadu**	**5.07**	**152**	P	Pn	05 45 33.2	+5.8
	baz=5.3,SNR=11						
FAKI	**Fak Fak**	**5.71**	**23**	P	**Pn**	05 45 34.9	**-1.5**
	baz=5.5,SNR=4.4						
KNRA	**Kununurra**	**7.52**	**189**	P	Pn	05 46 08.6	+7.5
	baz=7.8,SNR=6.8						
KNRA				S	Sn	05 47 36.9	+11
	baz=7.8,SNR=5.6						
WSI	**Waingapu**	**9.70**	**261**	P	**Pn**	05 46 30.4	**-0.7**
	baz=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**12.39**	**161**	Pn	**Pn**	05 47 09.7	**+1.7**
	0.3nm,0.3s,baz=339,slow=13,SNR=8.0						
WRA				Sn	**Sn**	05 49 23.4	**-2.1**
	0.6nm,0.3s,baz=333,slow=21,SNR=7.7						
ASAR	**Alice Springs**	**15.81**	**167**	Pn	**Pn**	05 47 55.5	**+1.3**
	0.2nm,0.3s,baz=338,slow=8.7,SNR=29						
WRKA	**Warakurna**	**16.81**	**185**	P	**P**	05 48 10.6	**+1.7**
	baz=17,SNR=6.7						
WRKA				S	**Sn**	05 51 09.9	**-3.3**
	baz=17,SNR=4.2						
MKAR	**Makanchi Array**	**69.24**	**327**	P	**P**	05 55 19.2	**+1.2**
	0.1nm,0.5s,baz=109,slow=7.9,SNR=4.0						

IDC 03 06:00:41.5±1.2, 13°.74N × 144°.75E, h0 km, mb3.7/5, mb1 4.0/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=41.7km s-min=28.3km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.00**	**197**	P	P	06 07 35.6	-0.4
	0.7nm,0.9s,baz=20,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**61.30**	**316**	P	P	06 10 59.4	+0.4
	0.2nm,0.3s,baz=93,slow=8.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**64.43**	**320**	P	P	06 11 19.5	-0.1
	0.3nm,0.3s,baz=101,slow=6.9,SNR=5.2						
ILAR	**Eielson Array**	**68.48**	**25**	P	P	06 11 44.5	-0.9
	0.5nm,0.4s,baz=251,slow=5.8,SNR=20						
NVAR	**Mina Array Bea**	**86.92**	**51**	P	P	06 13 30.6	+1.6
	0.3nm,0.6s,baz=284,slow=6.0,SNR=3.9						

*IDC **03** 06:18:26.9±2.6, 27°.63N × 142°.06E, h0 km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=113.0km s-min=29.1km az=76.0*

*ISCJB **03** 06:19:15.7±0.8, 27°.05N±0°.1 × 140°.2E±0°.1, h443 km, mb3.0/4, Error ellipse: s-maj=19.3km s-min=10.7km az=151.5*

*JMA **03** 06:19:17.6±0.1, 27°.34N × 141°.00E, h457 km, M4.2*

ISC 03 06:19:16.7±1.0, 27°.0N±0°.1 × 140°.4E±0°.2, h443 km, n13, σ0 8≤86/15, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.59**	**88**	P	**P**	06 20 15.0	**+0.5**
CBIJ				S	**S**	06 21 00.4	**-0.8**
JHHJ	**Haha-jima-NKT**	**1.64**	**104**	P	**P**	06 20 15.9	**+1.2**
JHHJ				S	**S**	06 21 02.0	**+0.3**
BSO1	**Boso 1**	**7.61**	**4**	P	**P**	06 21 07.8	**+0.7**
JIE	**Ise**	**7.99**	**337**	P	**P**	06 21 14.0	**+2.2**
JOD2	**Odawara 2**	**8.28**	**352**	P	**P**	06 21 15.4	**+0.5**
JHU	**Hanno**	**8.84**	**354**	P	**P**	06 21 20.6	**-0.4**
JRY	**Ryogami san**	**9.04**	**352**	P	**P**	06 21 23.4	**+0.1**
JYT	**Yasato**	**9.16**	**359**	P	**P**	06 21 24.6	**+0.1**
JAG	**Ashikaga**	**9.39**	**355**	P	**P**	06 21 26.6	**-0.5**
WRA	**Warramunga Arr**	**47.07**	**188**	P	**P**	06 27 06.7	**-0.3**
	0.3nm,0.6s,baz=5.5,slow=8.2,SNR=3.0						
MKAR	**Makanchi Array**	**49.29**	**310**	P	**P**	06 27 23.1	**-0.4**
	0.1nm,0.4s,baz=107,slow=8.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**51.95**	**314**	P	**P**	06 27 42.5	**-0.3**
	0.4nm,0.4s,baz=91,slow=8.2,SNR=9.9						
FINES	**FINESS Array B**	**77.29**	**333**	P	**P**	06 30 23.5	**-0.4**
	0.8nm,0.4s,baz=62,slow=5.3,SNR=13						

*IDC **03** 06:39:13.0±2.0, 33°.69N × 138°.49E, h0 km, mb3.4/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=67.1km s-min=27.9km az=80.0*

*ISCJB **03** 06:39:15.1±0.9, 34°.3N±0°.1 × 140°.25E±0°.08, h79 km ± 8 km, mb3.4/2, Error ellipse: s-maj=18.3km s-min=9.6km az=16.3*

*JMA **03** 06:39:16.3±0.2, 34°.45N × 140°.28E, h77 km ± 2 km, M2.4*

ISC 03 06:39:16.1±1.3, 34°.4N±0°.1 × 140°.24E±0°.07, h73 km ± 11 km, n11, σ0 8≤56/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.51**	**26**	P	**Pn**	06 39 29.1	**+0.1**
BSO3				*eS*	**Sn**	06 39 38.9	**+0.5**
BSO4	**Boso 4**	**0.65**	**7**	P	**Pn**	06 39 30.7	**+0.1**
BSO1	**Boso 1**	**0.68**	**63**	P	**Pn**	06 39 30.7	**+0.3**
TATJ	**Tateyama 2**	**0.74**	**337**	P	**Pn**	06 39 32.0	**+0.3**
JIM2	**Oshima 3**	**0.77**	**299**	P	**Pn**	06 39 32.4	**+0.4**
JIM2				S	**Sn**	06 39 43.9	**+0.1**
KTR	**Katsuura**	**0.80**	**4**	P	**Pn**	06 39 32.0	**-0.4**
KTR				S	**Sn**	06 39 43.9	**-0.5**
KTJJ	**Kamata 2**	**1.13**	**301**	P	**Pn**	06 39 36.6	**+0.2**
KTJJ				S	**Sn**	06 39 51.0	**-0.6**
JOD2	**Odawara 2**	**1.32**	**314**	P	**Pn**	06 39 38.6	**-0.3**
JOD2				S	**Sn**	06 39 55.3	**-0.6**
MJAR	**Matsushiro Arr**	**2.75**	**323**	Pn	**Pn**	06 39 59.0	**+1.0**
	1.4nm,0.3s,baz=179,slow=17,SNR=15						
MJAR				Sn	**Sn**	06 40 31.2	**+1.0**
	1.5nm,0.3s,baz=239,slow=15,SNR=8.1						
MKAR	**Makanchi Array**	**44.79**	**304**	P	**P**	06 47 22.1	**-0.5**
	0.3nm,0.6s,baz=88,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**54.28**	**187**	P	**P**	06 48 34.9	**+0.1**
	0.5nm,0.8s,baz=2.7,slow=7.8,SNR=2.8						

FUNV 03 06:52:39.4, 7°.41N × 73°.22W, h141 km, MW3.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.00**	**63**	*eP*	Pn	06 53 03.1	-0.6
SOCV	**Socops**	**2.50**	**69**	*eP*	Pn	06 53 18.7	-1.4
SOCV				*eS*	Sn	06 53 48.6	-2.9
VIRV	**Villa del Rosa**	**3.18**	**15**	*eP*	Pn	06 53 27.3	-1.4
VIRV				*eS*	Sn	06 54 03.1	-3.9
ELOV	**Elorza**	**3.73**	**96**	*eP*	Pn	06 53 34.8	-1.1
QARV	**Quebrada Arrib**	**3.85**	**44**	*eP*	Pn	06 53 36.5	-1.1
CURV	**Curarigua**	**4.13**	**51**	*eP*	Pn	06 53 39.6	-1.7
CURV				*eS*	Sn	06 54 23.9	-5.5
SANV	**Sanarito**	**4.20**	**60**	*eP*	Pn	06 53 40.4	-1.8
SANV				*eS*	Sn	06 54 26.6	-4.3
DABV	**Dabajuro**	**4.32**	**36**	*eP*	Pn	06 53 42.8	-0.9
SIQV	**Siquisique**	**4.66**	**46**	*eP*	Pn	06 53 46.5	-1.7
SIQV				*eS*	Sn	06 54 36.1	-5.7
TEPV	**Terepaima**	**4.72**	**57**	*eP*	Pn	06 53 47.9	-1.1
MAPV	**Macapo**	**5.29**	**63**	*eP*	Pn	06 53 54.8	-1.8
BAUV	**El Baul**	**5.35**	**73**	*eP*	Pn	06 53 54.4	-2.9
CUPV	**Cœpira**	**7.80**	**70**	*eP*	Pn	06 54 27.3	-3.0

*NIED **03** 07:15:00, 29°.10N × 130°.00E, h38 km, Mw4.5 Best double couple: M0 6.67000×10^15 NP1: φ 220.00000°, δ 16.00000°, λ 107.00000°. NP2: φ 22.00000°, δ 74.00000°, λ 85.00000°.*

*ISCJB **03** 07:15:30.1±0.5, 29°.03N±0°.04 × 130°.10E±0°.08, h53 km ± 4 km, mb3.9/14, MS3.5/3, Error ellipse: s-maj=12.7km s-min=4.1km az=25.2*

*JMA **03** 07:15:30.6±0.1, 29°.06N × 130°.02E, h52 km ± 4 km, M4.2*

JMA Felt I J1.

*IDC **03** 07:15:33.1±3.5, 29°.09N × 130°.10E, h66 km ± 29 km, mb3.7/14, mb1 3.8/16, mb1mx3.8/27, mbtmp3.6/16, ML3.5/2, MS3.5/5, Ms1 3.5/5, ms1mx3.3/29, Error ellipse: s-maj=26.0km s-min=20.7km az=47.0*

ISC 03 07:15:31.1±1.0, 29°.06N±0°.05 × 130°.05E±0°.09, h47 km ± 10 km, n39, σ0 8≤71/46, mb4.0/14, MS3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.75**	**185**	P	**Pn**	07 15 45.2	**-0.2**
JAM	**Amami Oshima**	**0.76**	**211**	P	**Pn**	07 15 44.6	**-0.9**
JAM				S	**Sn**	07 15 55.5	**-0.4**
JNN	**Nakanoshima**	**0.79**	**349**	P	**Pn**	07 15 45.4	**-0.6**
JNN				*eS*	**Sn**	07 15 56.6	**-0.1**
JAMN	**Amaminishikomi**	**1.12**	**223**	P	**Pn**	07 15 50.3	**-0.1**
JKC	**Kuchinoerabu**	**1.40**	**5**	P	**Pn**	07 15 54.4	**+0.2**
JKC				S	**Sn**	07 16 11.8	**+0.3**
JTK	**Tokunoshima**	**1.60**	**217**	P	**Pn**	07 15 57.2	**+0.3**
JTK				*eS*	**Sn**	07 16 17.2	**+0.8**
JTN	**Tanegashima 3**	**1.78**	**27**	P	**Pn**	07 15 59.6	**+0.2**
JTN				S	**Sn**	07 16 22.2	**+1.3**
JOW	**Kunigami**	**2.72**	**216**	P	**Pn**	07 16 12.3	**0.0**
JIH	**Iheya**	**2.73**	**223**	P	**Pn**	07 16 12.5	**0.0**
JIH				*eS*	**Sn**	07 16 44.8	**+0.5**
JAGN	**Aguni-jima**	**3.50**	**226**	P	**Pn**	07 16 23.6	**+0.6**
JAGN				S	**Sn**	07 17 03.0	**-0.2**
JJT2	**Tamagusuku 2**	**3.56**	**216**	P	**Pn**	07 16 24.6	**+0.8**
JKE	**Kume jima 2**	**3.97**	**227**	P	**Pn**	07 16 29.8	**+0.3**
JKE				S	**Sn**	07 17 14.7	**-0.2**
KSRS	**Korea Array**	**8.55**	**349**	P	Pn	07 17 35.4	+3.1
	0.3nm,0.3s,baz=166,slow=14,SNR=5.0						
KSRS				LR	LR	07 21 05.5	
	comp=Z,181nm,21.0s,baz=154,slow=39						
MJAR	**Matsushiro Arr**	**10.13**	**41**	P	**Pn**	07 17 54.2	**+0.2**
	0.6nm,0.3s,baz=251,slow=14,SNR=10.0						
ASAJ	**Asahikawa**	**18.06**	**30**	LR	LR	07 27 32.8	
	comp=Z,126nm,18.4s,baz=346,slow=40						
SONM	**Songino Array**	**26.18**	**322**	P	**P**	07 21 00.4	**-0.8**
	2.5nm,0.6s,baz=142,slow=10.0,SNR=12						
SONM				LR	LR	07 32 45.5	
	comp=Z,185nm,18.6s,baz=335,slow=39						
CMAR	**Chiang Mai Arr**	**30.28**	**257**	LR	LR	07 35 22.7	
	comp=Z,85nm,18.4s,baz=259,slow=39						
PETK	**Petropavlovsk-**	**31.45**	**32**	LR	LR	07 34 49.5	
	comp=Z,73nm,19.6s,baz=359,slow=37						
GUN	**Gumba**	**38.67**	**279**	*eP*	**P**	07 22 51.8	**+1.0**
	17nm,0.5s						
PKI	**Pulchoki**	**39.15**	**279**	*eP*	**P**	07 22 55.5	**+0.7**
	18nm,0.8s						
KKN	**Kakani**	**39.21**	**279**	*eP*	**P**	07 22 56.0	**+0.8**
DMN	**Daman**	**39.40**	**279**	*eP*	**P**	07 22 57.9	**+1.1**
GKN	**Gorkha**	**39.72**	**280**	*eP*	**P**	07 23 00.1	**+0.8**
	7.7nm,0.5s						
DANN	**Dangsing**	**40.40**	**281**	*eP*	**P**	07 23 06.2	**+1.1**
	27nm,0.8s						

KOLN	**Koldanda**	**40.67**	**280**	*eP*	**P**	07 23 08.1	**+0.9**
MKAR	**Makanchi Array**	**40.93**	**309**	P	**P**	07 23 09.5	**+0.5**
	0.4nm,0.6s,baz=92,slow=9.6,SNR=9.2						
MKAR				PcP	**PcP**	07 25 09.2	**+0.5**
	0.9nm,0.5s,baz=75,slow=3.1,SNR=11						
ZALV	**Zalesovo Beam**	**41.04**	**320**	P	**P**	07 23 10.4	**+0.7**
	1.0nm,0.5s,baz=113,slow=8.4,SNR=7.9						
ZALV				PcP	**PcP**	07 25 08.0	**-0.8**
	0.7nm,0.5s,baz=96,slow=3.0,SNR=4.2						
PYUN	**Piuthan**	**41.12**	**280**	*eP*	**P**	07 23 11.9	**+0.9**
	15nm,0.5s						
KURBB	**Kurchatov Arra**	**43.98**	**314**	P	**P**	07 23 34.1	**+0.5**
	1.2nm,0.5s,baz=98,slow=9.1,SNR=26						
KURBB				PcP	**PcP**	07 25 18.1	**-0.5**
	0.5nm,0.7s,baz=107,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**48.90**	**175**	P	**P**	07 24 12.3	**-0.1**
	1.3nm,0.7s,baz=355,slow=8.4,SNR=9.2						
ILAR	**Eielson Array**	**61.19**	**29**	P	**P**	07 25 40.2	**-0.4**
	0.3nm,0.6s,baz=260,slow=4.4,SNR=6.3						
ARCES	**ARCESS Array B**	**67.97**	**338**	P	**P**	07 26 22.9	**-1.9**
	8.2nm,1.1s,baz=30,slow=8.4,SNR=3.9						
KBZ	**Khabaz**	**68.63**	**309**	P	**P**	07 26 29.8	**+0.5**
	2.2nm,0.7s,baz=356,slow=6.8,SNR=5.2						
FINES	**FINESS Array B**	**71.20**	**330**	P	**P**	07 26 44.1	**-0.7**
	1.5nm,0.6s,baz=74,slow=6.9,SNR=14						
AKASG	**Malin Array Be**	**74.43**	**320**	P	**P**	07 27 03.7	**-0.5**
	0.9nm,0.4s,baz=59,slow=6.1,SNR=7.9						
YKA	**Yellowknife Ar**	**75.28**	**26**	P	**P**	07 27 09.1	**+0.2**
	0.7nm,0.6s,baz=303,slow=5.7,SNR=13						
BRTR	**Keskin Array B**	**76.57**	**308**	P	**P**	07 27 15.9	**-0.9**
	1.0nm,0.6s,baz=116,slow=4.4,SNR=5.3						
NOA	**NORSAR Array B**	**77.48**	**334**	P	**P**	07 27 21.0	**-0.4**
	1.3nm,0.8s,baz=51,slow=5.6,SNR=3.5						
GERES	**GERESS Array B**	**83.91**	**323**	P	**P**	07 27 56.7	**+0.6**
	0.3nm,0.6s,baz=40,slow=6.4,SNR=2.7						

KRSC 03 07:21:36.8±1.3, 50°.15N × 159°.03E, h70 km ± 33 km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.93**	**314**	P	Pn	07 22 10.3	+2.9
PAU				S	Sn	07 22 33.8	+3.1
SKR	**Severo-Kuril's**	**1.94**	**287**	*eP*	Pn	07 22 09.0	+1.4
SKR				*eS*	Sn	07 22 32.0	+1.0
RUS	**Russkaya**	**2.31**	**352**	*eP*	Pn	07 22 14.8	+2.3
RUS				*eS*	Sn	07 22 41.6	+1.7
ASAK	**Asacha**	**2.34**	**343**	P	Pn	07 22 15.0	+1.8
MTVR	**Mutnovka**	**2.39**	**347**	P	Pn	07 22 16.4	+2.5
MTVR				*eS*	Sn	07 22 45.1	+2.8
APC	**Apacha**	**3.01**	**338**	P	Pn	07 22 25.4	+3.3
APC				S	Sn	07 23 00.3	+3.3
UGLR	**Uglovaya**	**3.06**	**358**	P	Pn	07 22 24.9	+1.9
SMAR	**Somma**	**3.12**	**357**	P	Pn	07 22 25.3	+1.5
AVH	**Avacha**	**3.12**	**357**	P	Pn	07 22 26.7	+3.0
SDLR	**Sedlovina**	**3.13**	**358**	P	Pn	07 22 26.4	+2.5
KOK	**Koryaka**	**3.15**	**356**	*eP*	Pn	07 22 27.3	+3.1
KRER	**Koryakskii**	**3.16**	**357**	P	Pn	07 22 26.3	+1.9
GNL	**Ganaly**	**3.61**	**350**	P	Pn	07 22 33.7	+3.3

DJA 03 07:22:03.2±1.1, 8°.S±8°.1 × 10°.9E±°.1, h32 km ± 10 km, M3.8/11, MLv3.8/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.75**	**323**	P	Pn	07 22 17.7	+0.1
CMJI				S	Sn	07 22 28.4	+0.6
KPJI	**Karang Pucung**	**1.05**	**2**	Pb	Pb	07 22 23.0	+0.1
BJII	**Banjamegara**	**1.32**	**37**	P	x	07 22 25.7	
CISI	**Cisompet, Garu**	**1.36**	**308**	P	Pn	07 22 25.9	-0.1
CISI				S	Sn	07 22 42.8	-0.2
TGJI	**Tegal**	**1.53**	**8**	P	x	07 22 28.1	
UGM	**Wanagama**	**1.68**	**74**	P	Pn	07 22 30.1	-0.3
UGM				S	Sn	07 22 50.6	-0.2
SMRI	**Semarang**	**2.03**	**49**	P	Pn	07 22 36.6	+1.4
PCJI	**Pacitan**	**2.26**	**85**	P	Pn	07 22 38.6	+0.2
PWJI	**Pagerwojo**	**2.90**	**83**	P	Pn	07 22 47.0	-0.1
CGJI	**Cibinong**	**3.64**	**299**	P	Pn	07 22 57.8	+0.5
GMJI	**Gumukmas**	**4.50**	**89**	P	Pn	07 23 09.7	+0.5

**IDC 03 07:40:17.9±1.1, 46°.37N × 27°.88W, h0 km, mb3.7/5, mb1 4.0/5, mb1mx3.6/31, mbtmp3.7/5, M

baz=11,SNR=8.5
425A Indio Mountain 12.24 8 ⇑P Pn 08 01 31.0 -0.2
baz=10
426A McDonald Obser 12.28 12 ⇓P Pn 08 01 31.9 0.0
baz=11
427A Hayter Ranch, 12.59 14 ⇓P Pn 08 01 36.4 +0.4
baz=11
632A Uvalde 12.65 30 ⇓P Pn 08 01 39.5 +2.8
baz=11
632A ⇑S Sn 08 03 43.1 -14
baz=11
320A Kipp Ranch, An 12.74 354 ⇓P Pn 08 01 38.6 +0.6
baz=11,SNR=13
734A La Parita Cree 12.74 35 ⇑P Pn 08 01 41.7 +3.8
baz=11,SNR=6.8
429A Davenport Ranc 12.80 20 ⇓P Pn 08 01 39.7 +0.9
baz=11
325A Bean Ranch, Si 12.82 8 ⇑P Pn 08 01 39.1 0.0
baz=11
324A Moseley Ranch, 12.83 6 ⇑P Pn 08 01 39.2 -0.1
baz=11
319A Douglas 12.87 351 ⇑P Pn 08 01 40.0 +0.2
baz=11
633A Saathoff Ranch 12.91 32 ⇓P Pn 08 01 42.8 +2.6
baz=11
326A Caldwell Ranch 12.92 11 ⇑P Pn 08 01 40.6 +0.1
baz=11
532A Rocksprings 13.12 28 ⇓P Pn 08 01 45.3 +2.1
baz=12,SNR=5.8
430A Baggett Ranch, 13.17 22 ⇑P Pn 08 01 44.6 +0.7
baz=12,SNR=7.4
735A Kenedy 13.18 38 ⇓P Pn 08 01 47.8 +3.9
baz=12
431A Sonora 13.31 24 ⇑P Pn 08 01 47.4 +1.7
baz=12
221A Mesquite Ranch 13.35 357 ⇑P Pn 08 01 46.4 0.0
baz=12
222A Williams Famil 13.43 359 ⇓P Pn 08 01 47.3 0.0
baz=12,SNR=14
224A Cornudas Mount 13.46 5 ⇓P Pn 08 01 47.7 -0.1
baz=12
JCT Junction City 13.47 27 ⇓P Pn 08 01 49.0 +1.1
baz=12,SNR=7.8
533A Kerrville 13.48 31 ⇑P Pn 08 01 50.6 +2.6
baz=12
225A Deer Hill, Car 13.57 8 ⇓P Pn 08 01 49.2 -0.1
baz=12
226B Tecolote Peak, 13.63 10 ⇓P Pn 08 01 49.9 -0.3
baz=12
534A Blanco 13.72 33 ⇑P Pn 08 01 54.2 +2.9
baz=12
330A Mertzon 13.76 21 ⇑P Pn 08 01 52.1 +0.3
baz=12
432A Menard 13.81 27 ⇑P Pn 08 01 54.4 +1.8
baz=12,SNR=6.7
121A Cookes Peak, D 13.87 357 ⇓P Pn 08 01 53.4 -0.1
baz=12,SNR=6.3
331A San Angelo 13.94 24 ⇓P Pn 08 01 55.6 +1.2
baz=12,SNR=5.7
433A Art 14.02 29 ⇑P Pn 08 01 57.3 +1.9
baz=12,SNR=6.1
125A Gardner Draw, 14.13 8 ⇓P Pn 08 01 56.4 -0.5
baz=12
535A Dale 14.20 35 ⇑P Pn 08 02 01.0 +3.1
baz=13
332A Millersview 14.28 26 ⇓P Pn 08 01 59.5 +0.6
baz=13
214A Organ Pipe Nat 14.29 339 ⇓P Pn 08 02 00.8 +1.7
baz=13,SNR=5.9
434A Burnet 14.46 31 ⇓P Pn 08 02 03.3 +1.9
baz=13
231A Bronte 14.54 23 ⇑P Pn 08 02 02.7 +0.2
baz=13
333A Richland Sprin 14.55 28 ⇑P Pn 08 02 05.0 +2.3
baz=13
Z22A Elephant Butte 14.57 360 ⇓P Pn 08 02 02.2 -0.8
baz=13,SNR=7.6
Z24A Sheeppen Canyo 14.72 5 ⇓P Pn 08 02 04.9 -0.2
baz=13
232A Coleman 14.76 25 ⇑P Pn 08 02 07.2 +1.7
baz=13
Z26A Caprock 14.83 10 ⇓P Pn 08 02 06.2 -0.3
baz=13
334A Lometa 14.91 30 ⇑P Pn 08 02 08.9 +1.5
baz=13
Z27A Tatum 15.01 12 ⇑P Pn 08 02 08.8 -0.1
baz=13
233A Rising Star 15.18 27 ⇓P Pn 08 02 12.4 +1.3
baz=14
Z29A Hungry Hill Ra 15.31 17 ⇑P Pn 08 02 12.5 -0.4
baz=14
113A Mohawk Valley, 15.36 338 ⇑P Pn 08 02 15.4 +2.0
baz=14
234A Clairette 15.51 29 ⇑P Pn 08 02 16.9 +1.5
baz=14
133A Hamilton Ranch 15.69 26 ⇓P Pn 08 02 18.9 +1.2
baz=14
Y28A McKinney Farm, 15.79 14 ⇓P Pn 08 02 19.0 -0.1
baz=14
Y29A Porterfield Fa 15.89 16 ⇑P Pn 08 02 20.0 -0.3
baz=14
X24A Lazy VL Ranch, 15.94 5 ⇑P Pn 08 02 20.5 -0.5
baz=14
134A White-Moore Ra 16.02 28 ⇑P Pn 08 02 23.4 +1.6
baz=14
X18A Snowflake 16.07 351 ⇓P Pn 08 02 22.9 +0.2
baz=14
Z32A Haskell 16.08 23 ⇓P Pn 08 02 23.4 +0.7
baz=14
Y14A Wickenburg 16.19 342 ⇑P P 08 02 25.7 -1.3
baz=15
X16A Lo Mia Camp, P 16.23 347 ⇓P Pn 08 02 26.2 +1.4
baz=15
Y31A Rekieta Farm, 16.40 20 ⇓P Pn 08 02 27.1 +0.2
baz=15
X29A Tulia 16.44 15 ⇑P Pn 08 02 26.8 -0.6
baz=15
W23A Werner Place, 16.49 2 ⇑P Pn 08 02 27.6 -0.5
baz=15
Y12C Blythe 16.52 337 ⇓P P 08 02 30.5 -0.1
baz=15
W24A Lazy 6 Ranch, 16.58 4 ⇓P Pn 08 02 29.1 -0.1
baz=15
X30A Coker Ranch, T 16.66 18 ⇑P Pn 08 02 30.6 +0.4
baz=15
Y32A R-V Farms, Ver 16.72 22 ⇑P Pn 08 02 31.6 +0.8
baz=15
Z34A Collier Ranch, 16.77 27 ⇑P P 08 02 33.8 +0.4
baz=15
BC3 Big Chuckawall 16.80 335 ⇓P P 08 02 34.7 +0.9
baz=15
AMTX Amarillo 16.86 15 ⇑P Pn 08 02 32.7 +0.1
baz=15
Z35A Perchaven, San 17.03 29 ⇓P P 08 02 36.5 +0.3
baz=16
Y33A Hilltop Ranch, 17.03 24 ⇓P Pn 08 02 35.7 +1.0
baz=15
V23A Ortiz Mt. (NFS 17.07 2 ⇓P Pn 08 02 35.1 -0.3
baz=15
X31A McDonald Ranch 17.11 20 ⇓P Pn 08 02 36.2 +0.5
baz=16
IRM Iron Mountain 17.12 336 ⇑P P 08 02 37.8 +0.5
baz=16
PFO Pinyon Flat Ob 17.18 332 ⇑P P 08 02 39.2 +1.1
baz=16
V22A San Miguel Ran 17.23 0 ⇓P Pn 08 02 36.8 -0.5
baz=16
WUAZ Wupatki 17.28 348 ⇓P Pn 08 02 38.4 +0.4
baz=16
W13A Hualapai Mount 17.53 341 ⇑P P 08 02 42.9 +0.8
baz=16
U22A Llaves 17.69 0 ⇑P Pn 08 02 42.8 -0.3
baz=16
X34A Smith Ranch, M 17.86 25 ⇓P P 08 02 46.4 +0.9
baz=16
U15A North Rim 18.35 346 ⇓P Pn 08 02 51.8 +0.5
baz=17
T25A Trinidad 18.58 6 ⇓P Pn 08 02 54.2 +0.2
baz=17
ISA Isabella 19.80 331 ⇑P Pn 08 03 09.0 +0.4
baz=18
R26A Arlington 19.84 8 ⇓P P 08 03 08.4 +1.1
baz=18
R29A Marienthal 20.37 13 ⇑P Pn 08 03 14.5 -0.7
baz=19
P22A Eagle 20.90 0 ⇓P P 08 03 20.5 +1.6
baz=19
R11A Troy Canyon, C 21.05 341 ⇑P P 08 03 21.4 +1.0
baz=19,SNR=6.2

ISCO Idaho Springs 21.14 3 ⇓P P 08 03 22.3 +0.7
baz=19
O20A White River Ci 21.47 357 ⇓P P 08 03 26.6 +1.6
baz=20
O22A Kremmling 21.47 1 ⇑P P 08 03 26.4 +1.3
baz=20
O23A Lake Granby, G 21.53 2 ⇑P P 08 03 28.6 +2.8
baz=20
Q33A Connelly Farm, 21.79 19 ⇓P P 08 03 30.1 +1.9
baz=20
NVAR Mina Array Bea 22.08 336 P P 08 03 29.1 -2.5
1.6nm,0.9s,baz=163,slow=13,SNR=10
DUG Dugway 22.09 348 ⇑P P 08 03 33.7 +2.1
baz=20
N22A Wattenberg Ran 22.11 1 ⇑P P 08 03 33.4 +1.5
baz=20
PDAR Pinedale Array 24.17 355 P P 08 03 50.6 -2.0
0.6nm,0.8s,baz=175,slow=9.4,SNR=5.7
INK Inuvik 52.41 348 P P 08 07 46.4 -1.6
1.4nm,0.8s,baz=135,slow=14,SNR=3.7
ILAR Eielson Array 53.25 340 P P 08 07 53.1 -1.1
0.8nm,1.0s,baz=150,slow=7.3,SNR=2.7
H03N2 Juan Fernandez 58.27 153 T T 09 11 42.7
baz=329,slow=75,SNR=46
H03N1 Juan Fernandez 58.28 152 T T 09 11 43.4
baz=329,slow=75,SNR=87
H03N3 Juan Fernandez 58.28 153 T T 09 11 44.0
baz=329,slow=75,SNR=93

*IDC **03** 08:07:38.6±2.5, 54˚55N×86˚35E, h0km, mb1 3.0/3, mb1mx2.9/29, mbtmp3.0/3, ML3.2/3, Error ellipse: s-maj=21.3km s-min=2.0km az=57.0*
*NNC **03** 08:07:39.0±3.4, 54˚39N×86˚55E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=28.3km s-min=22.4km az=168.0*
ISC 03 08:07:38.0±4.4, **54˚6N**±0˚2×**86˚7E**±0˚2, **h10km, n9, σ0s 78/10, 5C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**241**	*i*		08 14 27.4	
	baz=56,slow=334,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.25**	**241**	Pg	Pn	08 07 58.0	-3.5
	2.1nm,0.3s,baz=54,slow=17,SNR=28						
ZALV				Lg	Lg	08 08 14.5	
	2.6nm,0.3s,baz=59,slow=28,SNR=21						
KURK	**Kurchatov**	**6.23**	**235**	⇑Pn	**Pn**	**08 09 09.4**	**-0.5**
	2.3nm,1.4s						
KURK				⇑Sn	**Sn**	**08 10 20.1**	**-1.0**
	0.8nm,0.9s						
KURK				⇓Lg	Lg	08 10 52.1	
	2.3nm,1.2s						
KURBB	**Kurchatov Arra**	**6.34**	**235**	Pn	**Pn**	**08 09 11.2**	**-0.2**
	0.5nm,0.3s,baz=53,slow=15,SNR=9.9						
KURBB				Lg	Lg	08 10 55.9	
	0.1nm,0.3s,baz=62,slow=2.2,SNR=3.2						
KUR18	**Kurchatov Arra**	**6.37**	**235**	⇑Sn	**Sn**	**08 10 25.9**	**+1.3**
	0.8nm,0.8s						
KUR18				⇓Lg	Lg	08 10 56.8	
	4.1nm,1.1s						
KUR20	**Kurchatov Arra**	**6.40**	**235**	⇓Pn	**Pn**	**08 09 12.7**	**+0.5**
	0.9nm,0.8s						
MK31	**Makanchi Array**	**8.26**	**201**	⇑Pn	**Pn**	**08 09 37.7**	**-0.1**
	0.3nm,0.6s,baz=27,slow=14,SNR=6.9						
MK31				⇓Sn	**Sn**	**08 11 10.8**	**-0.3**
	0.2nm,0.3s,baz=27,slow=26,SNR=4.3						
MK31				⇑Lg	Lg	08 11 54.9	
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**8.26**	**201**	Pn	**Pn**	**08 09 38.7**	**+0.9**
	0.2nm,0.3s,baz=24,slow=13,SNR=10						
MKAR				Sn	**Sn**	**08 11 10.9**	**-0.3**
	0.1nm,0.3s,baz=25,slow=27,SNR=7.1						
MKAR				Lg	Lg	08 12 01.2	
	0.1nm,0.3s,baz=25,slow=29,SNR=3.3						
BVAR	**Borovoye Array**	**9.76**	**268**	Pn	**Pn**	**08 09 58.1**	**-0.1**
	0.1nm,0.3s,baz=70,slow=15,SNR=5.0						

*ISCJB **03** 08:24:54.4±0.5, 36˚51N±0˚06×5˚23E±0˚05, h19km, Error ellipse: s-maj=9.5km s-min=5.4km az=21.5*
*MDD **03** 08:24:55.0±0.5, 36˚43N×5˚25E, h0km, mb3.6/5, Error ellipse: s-maj=6.9km s-min=5.2km az=9.0, PRXIMO*
*CSEM **03** 08:24:54.3±0.2, 36˚44N×5˚25E, h8km, ML2.9, Error ellipse: s-maj=9.3km s-min=5.2km az=15.0*
*CRAAG **03** 08:24:54.5, 36˚28N×5˚58E, Ml2.9*
ISC 03 08:24:54.4±0.9, **36˚41N**±0˚04×**5˚27E**±0˚03, **h19km, n37, σ1s 07/38, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.23**	**153**	P	**Pb**	**08 25 00.0**	**+0.3**
SET	**Setif**	**0.23**	**153**	P	**Pb**	**08 25 00.0**	**+0.3**
SET	**Setif**	**0.23**	**153**	P	**Pb**	**08 25 00.0**	**+0.3**
CKHR	**Kef el Ahmar**	**0.44**	**153**	P	**Pg**	**08 25 02.3**	**-1.1**
CKHR	**Kef el Ahmar**	**0.44**	**153**	P	**Pg**	**08 25 02.3**	**-1.1**
CKHR	**Kef el Ahmar**	**0.44**	**153**	P	**Pg**	**08 25 02.3**	**-1.1**
DFRA	**Djebel Bou Aff**	**0.51**	**74**	P	**Pg**	**08 25 04.3**	**-0.4**
DFRA	**Djebel Bou Aff**	**0.51**	**74**	P	**Pg**	**08 25 04.3**	**-0.4**
DFRA	**Djebel Bou Aff**	**0.51**	**74**	P	**Pg**	**08 25 04.3**	**-0.4**
CTEI	**Djebel Teioual**	**0.98**	**110**	P	**Pg**	**08 25 15.4**	**+1.9**
CTEI	**Djebel Teioual**	**0.98**	**110**	P	**Pg**	**08 25 15.4**	**+1.9**
CTEI	**Djebel Teioual**	**0.98**	**110**	P	**Pg**	**08 25 15.4**	**+1.9**
CASM	**Ain Smara**	**1.00**	**98**	P	**Pn**	**08 25 13.4**	**0.0**
CASM	**Ain Smara**	**1.00**	**98**	P	**Pn**	**08 25 13.4**	**0.0**
CASM	**Ain Smara**	**1.00**	**98**	P	**Pn**	**08 25 13.4**	**0.0**
CKFL	**Kef-Lekhel**	**1.17**	**90**	P	**Pg**	**08 25 17.3**	**+0.2**
CKFL	**Kef-Lekhel**	**1.17**	**90**	P	**Pg**	**08 25 17.3**	**+0.2**
CKFL	**Kef-Lekhel**	**1.17**	**90**	P	**Pg**	**08 25 17.3**	**+0.2**
AKET	**Djebel Ketaf**	**1.18**	**253**	P	**Pg**	**08 25 17.4**	**+0.2**
AKET	**Djebel Ketaf**	**1.18**	**253**	P	**Pg**	**08 25 17.4**	**+0.2**
AKET	**Djebel Ketaf**	**1.18**	**253**	P	**Pg**	**08 25 17.4**	**+0.2**
CAEH	**ʿAin El Ouahch**	**1.32**	**73**	P	**Pb**	**08 25 19.1**	**+0.5**
CAEH	**ʿAin El Ouahch**	**1.32**	**73**	P	**Pb**	**08 25 19.1**	**+0.5**
CAEH	**ʿAin El Ouahch**	**1.32**	**73**	P	**Pb**	**08 25 19.1**	**+0.5**
ADJB	**Djebel Djouab**	**1.50**	**261**	P	**Pb**	**08 25 22.3**	**+0.6**
ADJB	**Djebel Djouab**	**1.50**	**261**	P	**Pb**	**08 25 22.3**	**+0.6**
ADJB	**Djebel Djouab**	**1.50**	**261**	P	**Pb**	**08 25 22.3**	**+0.6**
ETOS	**Mallorca**	**3.87**	**331**	P	**Pn**	**08 25 53.0**	**+0.1**
	3.2nm,0.4s,SNR=8.1						
ETOS				S	**Sn**	**08 26 34.3**	**-3.6**
	0.5nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.87**	**331**	P	**Pn**	**08 25 53.0**	**+0.1**
	3.2nm,0.4s,SNR=8.1						
EIBI	**Ibiza**	**4.07**	**311**	P	**Pn**	**08 25 55.2**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.07**	**311**	P	**Pn**	**08 25 55.2**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.86**	**294**	P	**Pn**	**08 26 22.2**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.86**	**294**	P	**Pn**	**08 26 22.2**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**6.22**	**333**	P	**Pn**	**08 26 26.1**	**+0.9**
	1.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.22**	**333**	P	**Pn**	**08 26 26.1**	**+0.9**
	1.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**6.58**	**277**	P	**Pn**	**08 26 30.9**	**+0.7**
	0.7nm,0.4s,SNR=7.9						
EBER	**Berja**	**6.58**	**277**	P	**Pn**	**08 26 30.9**	**+0.7**
	0.7nm,0.4s,SNR=7.9						

IDC 03 08:25:12.7±2.6, **22˚86S×68˚78W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=81.3km s-min=52.8km az=56.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.57**	**5**	Pn	Pn	08 26 51.4	0.0
	0.9nm,0.3s,baz=183,slow=8.1,SNR=25						
TORD	**Torodi Ar. Bea**	**77.70**	**70**	P	P	08 37 11.4	-0.4
	0.7nm,0.5s,baz=257,slow=5.0,SNR=6.4						
YKA	**Yellowknife Ar**	**92.50**	**341**	P	P	08 38 24.5	-0.7
	0.4nm,0.4s,baz=138,slow=4.4,SNR=8.1						
MKAR	**Makanchi Array**	**146.65**	**37**	PKPbc	PKPbc	08 44 56.8	+0.5
	0.1nm,0.5s,baz=291,slow=4.5,SNR=3.8						

*BJI **03** 08:37:46.9, 26˚31N×99˚77E, h11km, ML3.9/2*
IDC 03 08:37:48.0±1.6, **26˚34N×99˚90E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.3/24, mbtmp3.7/2, Error ellipse: s-maj=52.4km s-min=22.9km az=75.0, Yunnan**

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

CMAR Chiang Mai Arr 7.89 187 Pg Pg 08 40 13.8 -5.5
0.6nm,0.3s,baz=359,slow=18,SNR=8.2
CMAR Lg Lg 08 41 59.0
0.5nm,0.3s,baz=0.8,slow=28,SNR=3.2
MKAR Makanchi Array 24.73 330 P P 08 43 11.3 +0.3
1.0nm,0.7s,baz=134,slow=8.7,SNR=15
WRA Warramunga Arr 56.86 141 P P 08 47 34.1 -0.6
1.3nm,1.2s,baz=327,slow=7.6,SNR=4.8

WEL 03 08:49:35.1±0.1, **40˚12S×174˚96E, h12km, ML3.7/43, 6C-7D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.36**	**3**	⇑P*	Pg	08 49 43.0	+0.5
WAZ				AML	AML	08 49 49.9	
WAZ				AML	AML	08 49 50.1	
POWZ	**Post Office Ro**	**0.68**	**114**	P*	Pg	08 49 48.0	-0.3
POWZ				S*	Sg	08 49 57.3	+0.1
OGWZ	**Otaki Gorge**	**0.72**	**167**	P*	Pg	08 49 48.3	-0.8
OGWZ				S*	Sg	08 49 57.3	-1.2
MRZ	**Mangatainoka R**	**0.72**	**139**	⇑P*	Pg	08 49 48.7	-0.4
MRZ				S*	Sg	08 49 58.3	-0.3
MRZ				AML	AML	08 49 58.8	
KIW	**Kapiti Island**	**0.74**	**183**	⇓P*	Pg	08 49 48.1	-1.4
KIW				AML	AML	08 49 59.6	
KIW				AML	AML	08 50 00.6	
TSZ	**Takapari Road**	**0.77**	**86**	⇓P*	Pg	08 49 49.5	-0.5
TSZ				S*	Sg	08 49 59.5	-0.7
TSZ				AML	AML	08 50 00.2	
MTVZ	**Mangateitei**	**0.83**	**28**	P*	Pg	08 49 50.1	-1.2
MTVZ				AML	AML	08 50 04.4	
MTVZ				AML	AML	08 50 05.4	
PKVZ	**Pokaka**	**0.88**	**20**	P*	Pg	08 49 50.9	-1.3
PKVZ				PN	AML	08 50 05.0	
PKVZ				AML	AML	08 50 05.8	
HOWZ	**Holdsworth Sta**	**0.89**	**152**	P*	Pg	08 49 51.5	-0.8
PRWZ	**Pori Road**	**0.89**	**120**	P*	Pg	08 49 52.3	0.0
WNVZ	**Wahianoa**	**0.93**	**32**	P*	Pg	08 49 51.8	-1.6
WNVZ				AML	AML	08 50 09.5	
WNVZ				AML	AML	08 50 10.0	
TRVZ	**Turoa**	**0.94**	**29**	AML	AML	08 49 49.4	
TRVZ				P*	Pg	08 49 51.9	-1.6
TRVZ				AML	AML	08 50 06.5	
MOVZ	**Moawhango**	**0.94**	**41**	⇑P*	Pg	08 49 51.4	-1.9
MOVZ				AML	AML	08 50 05.6	
MOVZ				AML	AML	08 50 07.3	
DVHZ	**Dannevirke**	**0.94**	**101**	P*	Pg	08 49 53.2	-0.2
DVHZ				S*	Sg	08 50 05.6	-0.1
DRZ	**Dome Shelter**	**0.96**	**29**	P*	Pg	08 49 52.4	-1.7
DRZ				AML	AML	08 50 09.1	
DRZ				AML	AML	08 50 10.3	
TIWZ	**Tintock**	**0.96**	**133**	P*	Pg	08 49 53.4	-0.4
TIWZ				AML	AML	08 50 08.2	
TIWZ				AML	AML	08 50 09.9	
WHVZ	**Whangaehu Hut**	**0.97**	**30**	P*	Pg	08 49 52.3	-1.8
PNHZ	**Pukenui**	**0.97**	**78**	P*	Pg	08 49 53.0	-1.0
FWVZ	**Far West T-bar**	**0.97**	**28**	⇓P*	Pg	08 49 52.4	-1.9
FWVZ				AML	AML	08 50 07.6	
FWVZ				AML	AML	08 50 08.2	
CAW	**Cannon Point**	**0.99**	**175**	P*	Pb	08 49 53.0	-1.3
CAW				AML	AML	08 50 06.7	
CAW				AML	AML	08 50 09.5	
TUVZ	**Tukino**	**1.00**	**32**	P*	Pb	08 49 53.1	-1.6
TUVZ				AML	AML	08 50 10.3	
TUVZ				AML	AML	08 50 11.2	
VRZ	**Vera Road**	**1.00**	**351**	⇑P*	Pb	08 49 53.6	-0.9
VRZ				AML	AML	08 50 09.0	
VRZ				AML	AML	08 50 11.5	
WPVZ	**Whakapapa**	**1.02**	**26**	P*	Pb	08 49 53.2	-1.7
WPVZ				AML	AML	08 50 09.1	
WPVZ				AML	AML	08 50 09.9	
COVZ	**Chateau Observ**	**1.02**	**26**	⇓P*	Pb	08 49 53.1	-1.8
DFE	**Dawson Falls**	**1.03**	**320**	P*	Pb	08 49 54.8	-0.2
DUWZ	**D'Urville Isla**	**1.05**	**229**	P*	Pb	08 49 53.6	-1.7
DUWZ				AML	AML	08 50 10.9	
DUWZ				AML	AML	08 50 11.5	
BHHZ	**Black Hill Sta**	**1.06**	**54**	P*	Pb	08 49 53.6	-1.9
NGZ	**Ngauruhoe**	**1.06**	**28**	⇑P*	Pb	08 49 54.3	-1.4
NGZ				AML	AML	08 50 11.3	
NGZ				AML	AML	08 50 13.5	
NEZ	**North Egmont**	**1.08**	**321**	P*	Pb	08 49 55.6	-0.2
NMEZ	**Namu Road**	**1.09**	**310**	P*	Pb	08 49 55.6	-0.4
OTVZ	**Oturere**	**1.10**	**30**	P*	Pb	08 49 54.5	-1.8
OTVZ				AML	AML	08 50 12.1	
OTVZ				AML	AML	08 50 12.7	
DREZ	**Durham Road**	**1.10**	**327**	P*	Pb	08 49 55.8	-0.2
KHEZ	**Kahui Hut**	**1.10**	**318**	P*	Pb	08 49 56.0	-0.3
TWVZ	**Taurewa**	**1.11**	**20**	P*	Pb	08 49 54.3	-2.1
TWVZ				AML	AML	08 50 11.7	
TWVZ				AML	AML	08 50 12.6	
WTVZ	**West Tongariro**	**1.11**	**26**	⇓P*	Pb	08 49 54.7	-1.8
WTVZ				AML	AML	08 50 12.7	
WTVZ				AML	AML	08 50 13.4	
MTW	**Mount Morrison**	**1.12**	**159**	P*	Pb	08 49 55.6	-0.8
MTW				AML	AML	08 50 11.3	
MTW				AML	AML	08 50 12.2	
BFZ	**Birch Farm**	**1.13**	**120**	P*	Pb	08 49 56.0	-0.6
WPHZ	**Waipukurau**	**1.14**	**88**	P*	Pn	08 49 56.8	-0.1
KRVZ	**Karewarewa**	**1.15**	**27**	P*	Pb	08 49 55.2	-1.9
KRVZ				AML	AML	08 50 14.9	
KRVZ				AML	AML	08 50 15.7	
MHEZ	**Mangahewa**	**1.15**	**334**	P*	Pb	08 49 56.9	-0.1
WEL	**Wellington**	**1.17**	**187**	P*	Pb	08 49 55.7	-1.6
PKE	**Pukeiti**	**1.19**	**321**	P*	Pn	08 49 57.5	-0.1
PKE				AML	AML	08 50 16.4	
PKE				AML	AML	08 50 16.7	
SNZO	**South Karori**	**1.21**	**189**	P*	Pn	08 49 56.2	-1.6
SNZO				AML	AML	08 50 12.4	
SNZO				AML	AML	08 50 14.3	
ANWZ	**Angora Road**	**1.21**	**107**	P*	Pn	08 49 57.4	-0.5
TCW	**Tory Channel**	**1.21**	**205**	⇓P*	Pn	08 49 55.6	-2.3
TCW				AML	AML	08 50 12.8	
TCW				AML	AML	08 50 14.0	
TMWZ	**Te Maipa**	**1.21**	**145**	P*	Pn	08 49 56.9	-1.1
KATZ	**Kakaramea**	**1.27**	**27**	PN	Pn	08 49 57.3	-1.6
KATZ				AML	AML	08 50 17.1	
KATZ				AML	AML	08 50 19.9	
BHW	**Baring Head**	**1.29**	**183**	PN	Pn	08 49 58.0	-0.9
BHW				AML	AML	08 50 14.6	
BHW				AML	AML	08 50 17.7	
PRHZ	**Porangahau**	**1.29**	**97**	PN	Pn	08 49 58.7	-0.3
PAWZ	**Paruwai Farm**	**1.31**	**165**	PN	Pn	08 49 58.7	-0.6
PAWZ				AML	AML	08 50 18.9	
PAWZ				AML	AML	08 50 20.7	
MSWZ	**Moikau Station**	**1.31**	**171**	PN	Pn	08 49 58.3	-1.1
MSWZ				AML	AML	08 50 18.6	
MSWZ				AML	AML	08 50 20.9	
RITZ	**Rihia Road**	**1.33**	**32**	PN	Pn	08 49 58.9	-0.7
RITZ				AML	AML	08 50 23.2	
RITZ				AML	AML	08 50 25.6	
TRWZ	**Traveller**	**1.39**	**157**	PN	Pn	08 50 00.1	-0.4
TRWZ				AML	AML	08 50 20.9	
TRWZ				AML	AML	08 50 21.2	
RATZ	**Rangitukua**	**1.40**	**27**	PN	Pn	08 49 59.5	-1.0
RATZ				AML	AML	08 50 02.3	
RATZ				AML	AML	08 50 03.8	
PXZ	**Pawanui**	**1.46**	**87**	PN	Pn	08 50 00.8	-0.5
PXZ				SN	Sb	08 50 20.0	0.0
PXZ				AML	AML	08 50 25.4	
PXZ				AML	AML	08 50 29.1	
PXZ				AML	AML	08 50 29.1	
PLWZ	**Palliser**	**1.47**	**171**	PN	Pn	08 50 00.1	-1.4
MCHZ	**McNeill Hill**	**1.50**	**64**	PN	Pb	08 50 02.8	-0.1
HATZ	**Hinemaiaia**	**1.51**	**36**	PN	Pn	08 50 00.9	-1.1
HATZ				AML	AML	08 50 23.6	
HATZ				AML	AML	08 50 26.0	
KAHZ	**Kahuranaki**	**1.51**	**78**	PN	Pn	08 50 01.9	-0.2
BKZ	**Black Stump Fm**	**1.52**	**52**	PN	Pn	08 50 01.7	-0.5
BKZ				AML	AML	08 50 27.3	
BKZ				AML	AML	08 50 27.6	
TUWZ	**Tuamarina**	**1.52**	**210**	PN	Pn	08 50 00.8	-1.3
TUWZ				AML	AML	08 50 25.4	
TUWZ				AML	AML	08 50 27.0	
WATZ	**Wairara**	**1.53**	**23**	PN	Pn	08 50 02.0	-0.3
WATZ				AML	AML	08 50 27.5	
WATZ				AML	AML	08 50 33.2	
HIZ	**Hauiti**	**1.60**	**357**	⇓PN	Pn	08 50 02.4	-1.0

HIZ					AML	AML	08 50 25.6	
HIZ					AML	AML	08 50 26.7	
NNZ	**Nelson**	**1.63**	**227**		PN	Pn	08 50 02.8	-0.8
NNZ					AML	AML	08 50 31.2	
NNZ					AML	AML	08 50 33.2	
WHTZ	**Whakaora**	**1.64**	**28**		PN	Pn	08 50 04.4	+0.5
BSWZ	**Blackbirch Sta**	**1.79**	**207**		PN	Pn	08 50 05.7	-0.2
BSWZ					AML	AML	08 50 35.3	
BSWZ					AML	AML	08 50 39.7	
TLZ	**Tolley Road**	**1.84**	**14**		PN	Pn	08 50 05.8	-0.9
ALRZ	**Allen Road**	**1.89**	**35**		PN	Pn	08 50 06.3	-0.9
PRRZ	**Plateau Road**	**1.96**	**35**		PN	Pn	08 50 07.2	-1.0
GRRZ	**Galatos Road**	**1.98**	**27**		PN	Pb	08 50 10.4	-0.7
QRZ	**Quartz Range**	**1.99**	**240**		PN	Pn	08 50 07.9	-0.6
WHHZ	**Waihua**	**2.04**	**60**		PN	Pn	08 50 10.1	+0.8
RRRZ	**Republican Roa**	**2.15**	**35**		PN	Pn	08 50 09.9	-0.9
THZ	**Tophouse**	**2.26**	**223**		PN	Pn	08 50 12.4	0.0
THZ					AML	AML	08 50 54.5	
THZ					AML	AML	08 50 56.4	
SNGZ	**Shannon Statio**	**2.27**	**55**		PN	Pn	08 50 12.7	+0.1
KNZ	**Kokohu**	**2.37**	**63**		PN	Pn	08 50 12.9	-0.8
TOZ	**Tahuroa Road**	**2.42**	**10**		PN	Pn	08 50 13.1	-1.4
MHGZ	**Mahia Peninsul**	**2.47**	**68**		PN	Pn	08 50 14.3	-0.9
URZ	**Urewera**	**2.50**	**43**		PN	Pn	08 50 14.2	-1.3
RIGZ	**Rimuhau**	**2.59**	**58**		PN	Pn	08 50 16.6	-0.3
MWZ	**Matawai**	**2.67**	**49**		PN	Pn	08 50 17.6	-0.4
MKAZ	**Moumakai**	**3.01**	**3**	⇑	PN	Pn	08 50 21.2	-1.3
LTZ	**Lake Taylor**	**3.34**	**216**		PN	Pn	08 50 25.9	-1.4
LTZ					AML	AML	08 51 24.4	
MQZ	**McQueen's Vall**	**3.98**	**205**		PN	Pn	08 50 32.4	-3.5
WCZ	**Waipu Caves**	**4.20**	**353**		PN	Pn	08 50 38.7	-0.2

*IDC **03** 08:59:22.5±1.2,38˚.38N×70˚.64E, h0km, mb3.7/5, mb1 3.9/11,mb1mx3.6/31,mbtmp3.7/11,ML3.8/6,Error ellipse: s-maj=22.2km s-min=13.1km az=138.0*

*ISCJB **03** 08:59:25.8±0.9,38˚.51N±0˚.07×70˚.15E±0˚.07, h27km, mb3.7/5, Error ellipse: s-maj=11.0km s-min=7.5km az=156.6*

*NNC **03** 08:59:25.1±2.8,38˚.60N×70˚.17E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=21.1km s-min=14.8km az=6.0*

ISC 03 08:59:27.0±0.8, 38˚.47N±0˚.06×70˚.24E±0˚.08, h27km, n29, σ1§81/34, mb3.7/5, 7C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=82	**4.51**	**35**	P		**Pn**	**09 00 34.7**	**+0.8**
KK31	**Karatay Array** 4.3nm,0.3s,baz=180,slow=12,SNR=285	**4.64**	**3**	⇑Pn		**Pn**	**09 00 35.4**	**+0.2**
KK31	21nm,0.7s,baz=187,slow=30,SNR=5.9			⇓Sn		**Sn**	**09 01 30.0**	**+1.8**
KK31	46nm,0.8s,baz=187,slow=30,SNR=5.9			⇓Lg		Lg	09 01 46.7	
CEP	**Cherat**	**4.83**	**163**	P		**Pb**	**09 00 52.6**	**+1.7**
UCH	**Uchtor** SNR=125	**4.98**	**40**	P		**Pn**	**09 00 41.6**	**+1.3**
EKS2	**Erkin-Say** SNR=39	**4.98**	**32**	P		**Pn**	**09 00 41.0**	**+0.8**
KZA	**Kyzart** SNR=8.2	**5.26**	**45**	P		**Pn**	**09 00 46.2**	**+2.0**
AAK	**Ala-Archa** 27nm,0.4s	**5.28**	**37**	⇑Pn		**Pn**	**09 00 44.9**	**+0.7**
AAK	23nm,0.7s			⇑Sn		**Sn**	**09 01 45.7**	**+1.6**
AAK	**Ala-Archa** SNR=77	**5.28**	**37**	P		**Pn**	**09 00 45.3**	**+1.2**
AAK	**Ala-Archa** 16nm,0.3s,baz=200,slow=6.0,SNR=118	**5.28**	**37**	Pn		**Pn**	**09 00 43.6**	**-0.6**
AAK	baz=336,slow=20,SNR=2.3			Sn		**Sn**	**09 01 46.2**	**+2.0**
AAK	1.7nm,0.3s,baz=127,slow=20,SNR=3.2			Lg		Lg	09 02 08.0	
KBK	**Karagaybulak** SNR=148	**5.51**	**39**	P		**Pn**	**09 00 49.6**	**+2.2**
CHMS	**Chumysh** SNR=7.2	**5.68**	**36**	P		**Pn**	**09 00 50.7**	**+1.1**
USP	**Ospenovka** SNR=47	**5.78**	**33**	P		**Pn**	**09 00 51.6**	**+0.6**
THW	**Thamme Wali**	**5.79**	**167**	P		**Pb**	**09 01 05.0**	**-2.3**
ULHL	**Ulahol** SNR=5.0	**5.94**	**49**	P		**Pn**	**09 00 54.3**	**+1.0**
TKM2	**Tokmak 2** 39nm,0.6s	**6.03**	**41**	⇓Pn		**Pn**	**09 00 55.5**	**+0.9**
TKM2	12nm,0.6s			⇑Sn		**Sn**	**09 02 04.3**	**+1.5**
TKM2	**Tokmak 2** SNR=107	**6.03**	**41**	P		**Pn**	**09 00 55.9**	**+1.3**
MK31	**Makanchi Array** 1.1nm,0.7s,baz=234,slow=12,SNR=14	**12.16**	**43**	⇑P		**Pn**	**09 02 16.1**	**-2.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=234,slow=14,SNR=16	**12.16**	**43**	Pn		Pn	09 02 15.3	-3.1
AB31	**Akbulak array** 1.5nm,0.5s,baz=144,slow=11,SNR=57	**13.08**	**329**	P		**Pn**	**09 02 29.6**	**-1.3**
AB31	1.9nm,0.6s,baz=153,slow=23,SNR=7.6			⇑S		**Sn**	**09 04 50.7**	**-4.6**
KURBB	**Kurchatov Arra** 0.5nm,0.3s,baz=218,slow=13,SNR=5.1	**13.50**	**23**	Pn		Pn	09 02 32.1	-4.5
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=163,slow=11,SNR=6.8	**14.56**	**0**	Pn		**Pn**	**09 02 48.4**	**-2.6**
AKTO	**Aktyubinsk** 2.8nm,0.6s	**14.78**	**328**	⇑P		**Pn**	**09 02 54.0**	**-0.1**
AKTO	4.6nm,1.1s			⇓S		**Sn**	**09 05 36.0**	**-0.9**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=127,slow=16,SNR=3.6	**14.78**	**328**	Pn		**Pn**	**09 02 54.5**	**+0.4**
AKTO	0.2nm,0.3s,baz=168,slow=23,SNR=4.7			Sn		**Sn**	**09 05 39.9**	**+3.0**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=220,slow=11,SNR=5.7	**18.42**	**28**	P		**P**	**09 03 36.4**	**-3.6**
FINES	**FINESS Array B** 2.4nm,0.8s,baz=142,slow=6.5,SNR=4.5	**35.52**	**325**	P		**P**	**09 06 22.0**	**+0.8**
NOA	**NORSAR Array B** 1.6nm,1.1s,baz=115,slow=7.4,SNR=3.5	**42.45**	**322**	P		**P**	**09 07 19.4**	**+0.1**
TORD	**Torodi Ar. Bea** 0.4nm,0.5s,baz=50,slow=5.5,SNR=4.8	**65.18**	**267**	P		**P**	**09 10 07.8**	**+1.8**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=350,slow=5.5,SNR=6.1	**79.31**	**2**	P		**P**	**09 11 30.3**	**+0.7**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=321,slow=4.5,SNR=3.2	**83.54**	**122**	P		**P**	**09 11 52.0**	**-0.6**

IDC 03 09:02:56.3±9.0, 15˚.25S×177˚.65W, h555km±108km, mb2.8/5, mb1 3.3/5, mb1mx3.0/18, mbtmp2.8/5, Error ellipse: s-maj=104.1km s-min=30.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=93,slow=7.1,SNR=8.0	**45.89**	**257**	P		P	09 10 29.6	-0.1
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=237,slow=8.1,SNR=4.0	**77.01**	**44**	P		P	09 13 53.0	+0.2
ILAR	**Eielson Array** 1.0nm,0.4s,baz=222,slow=5.2,SNR=28	**83.15**	**13**	P		P	09 14 23.4	-0.6
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=215,slow=8.4,SNR=5.2	**83.96**	**58**	P		P	09 14 28.7	-0.2
PDAR	**Pinedale Array** 0.5nm,0.6s,baz=236,slow=2.3,SNR=6.1	**84.93**	**43**	P		P	09 14 33.8	+0.2
BRTR	**Keskin Array B** 1.5nm,0.8s,baz=116,slow=2.9,SNR=6.8	**143.38**	**318**	PKP		PKPab	09 21 26.6	-0.1
GERES	**GERESS Array B** 0.4nm,0.6s,baz=28,slow=3.5,SNR=5.9	**145.23**	**347**	PKPbc		PKPbc	09 21 32.3	0.0

*IDC **03** 09:09:17.6±3.0, 16˚.32N×122˚.48E, h0km, mb4.0/10, mb1 4.2/10,mb1mx4.0/25,mbtmp4.0/10,MS3.4/2, Ms1 3.5/2,ms1mx2.9/33,Error ellipse: s-maj=66.6km s-min=35.6km az=158.0*

*MAN **03** 09:09:21, 16˚.55N×122˚.62E, h17km, mb4.7, ML3.6, MS3.5*

ISC 03 09:09:20.0±1.9, 16˚.50N±0˚.04×122˚.53E±0˚.07, h8km±12km, n34, σ0§95/32, mb4.2/12, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.57**	**350**	*e*P		**Pn**	**09 09 34.4**	**-0.1**
PALP				*e*S		**Sb**	**09 09 41.2**	**+0.6**
CAUP	**Cauayan**	**0.81**	**303**	*e*P		**Pg**	**09 09 36.5**	**+0.9**
BALP	**Baler**	**1.19**	**231**	*e*P		**Pg**	**09 09 42.9**	**+0.2**
CVP	**Callao Caves**	**1.38**	**331**	*e*P		**Pn**	**09 09 45.9**	**+0.3**
CVP				*e*S		**Sn**	**09 10 03.7**	**-0.3**
APYP	**Conner**	**1.83**	**318**	*e*P		**Pn**	**09 09 52.5**	**+0.7**
BCPH	**Baguio City Da**	**1.88**	**267**	⇑*i*P		**Pb**	**09 09 53.7**	**-0.9**
BCPH				*i* S		**Sb**	**09 10 18.6**	**+0.3**
ABRA	**Dolores**	**2.08**	**304**	*e*P		**Pn**	**09 09 56.4**	**+1.1**
SIPP	**Brgy, Tapao**	**2.44**	**306**	⇑*i*P		**Pn**	**09 10 01.5**	**+1.4**
SIPP				*e*S		**Sg**	**09 10 37.3**	**-1.0**
BOLP	**Bolinao**	**2.52**	**268**	*e*P		**Pb**	**09 10 04.9**	**-0.5**
LQP	**Lukban**	**2.56**	**202**	⇓*e*P		**Pn**	**09 10 03.7**	**+1.7**
PIP	**Pasuquin**	**2.58**	**315**	⇑*i*P		**Pn**	**09 10 03.6**	**+1.5**
PIP				*e*S		**Sb**	**09 10 39.3**	**+0.9**
TGY	**Tagaytay City**	**2.83**	**213**	*e*P		**Pb**	**09 10 09.2**	**-1.7**
PVCP	**Virac**	**3.28**	**151**	⇓*e*P		**Pn**	**09 10 12.9**	**+1.1**
PVCP				*e*S		**Sn**	**09 10 51.1**	**0.0**
LUBP	**Lubang**	**3.52**	**219**	*e*P		Pn	09 10 18.1	+3.0
KSRS	**Korea Array** 1.6nm,0.6s,baz=200,slow=11,SNR=6.0	**21.41**	**12**	P		**P**	**09 14 09.1**	**+0.7**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=90,slow=6.5,SNR=3.7	**22.58**	**278**	P		**P**	**09 14 20.2**	**-0.9**
CMAR	comp=Z,98nm,21.0s,baz=80,slow=37			LR		LR	09 23 06.3	
SONM	**Songino Array** 1.2nm,0.6s,baz=158,slow=9.5,SNR=5.0	**33.96**	**340**	P		**P**	**09 16 04.5**	**+0.4**
H11S3	**WAKE ISLAND Hy** baz=277,slow=72,SNR=96	**42.09**	**81**	T		T	10 02 16.4	
H11S1	**WAKE ISLAND Hy** baz=277,slow=72,SNR=143	**42.10**	**81**	T		T	10 02 16.0	
H11S2	**WAKE ISLAND Hy** baz=277,slow=72,SNR=91	**42.10**	**81**	T		T	10 02 17.1	
H11N1	**WAKE ISLAND Hy** baz=276,slow=75,SNR=127	**42.20**	**79**	T		T	10 02 27.5	
H11N2	**WAKE ISLAND Hy** baz=276,slow=75,SNR=120	**42.20**	**79**	T		T	10 02 27.1	
H11N3	**WAKE ISLAND Hy** baz=276,slow=75,SNR=70	**42.22**	**79**	T		T	10 02 32.9	
MKAR	**Makanchi Array** 1.3nm,0.6s,baz=116,slow=9.5,SNR=11	**44.91**	**321**	P		**P**	**09 17 35.5**	**+0.2**
ZALV	**Zalesovo Beam** 1.3nm,0.8s,baz=106,slow=7.9,SNR=5.8	**47.45**	**331**	P		**P**	**09 17 54.3**	**-0.8**
AAK	**Ala-Archa** comp=Z,44nm,18.0s,baz=88,slow=40	**48.41**	**313**	LR		LR	09 41 18.5	
KURBB	**Kurchatov Arra** 3.4nm,0.6s,baz=121,slow=8.2,SNR=12	**48.92**	**324**	P		**P**	**09 18 06.3**	**-0.2**
JOF	**Joensuu** 1.3nm,0.5s	**76.02**	**332**	*ep*		**P**	**09 21 07.1**	**-0.5**
ARCES	**ARCESS Array B** 5.6nm,1.0s,baz=56,slow=6.6,SNR=4.6	**77.12**	**339**	P		**P**	**09 21 12.9**	**-0.8**
KAF	**Kangasniemi** 2.3nm,0.6s	**78.45**	**332**	*ep*		**P**	**09 21 20.8**	**-0.5**
FINES	**FINESS Array B** 1.6nm,0.5s,baz=59,slow=5.6,SNR=23	**78.72**	**331**	P		**P**	**09 21 22.6**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,1.2nm,0.6s,baz=62,slow=5.3	**85.59**	**333**	P		**P**	**09 21 58.1**	**-0.8**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.6s,baz=65,slow=4.9,SNR=7.2	**85.59**	**333**	P		**P**	**09 21 57.2**	**-1.7**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,baz=303,slow=4.2,SNR=5.7	**89.53**	**23**	P		**P**	**09 22 18.5**	**+0.8**

*IDC **03** 09:10:37.0±0.6, 13˚.90S×167˚.24E, h188km±5km, mb4.4/26, mb1 4.5/28,mb1mx4.5/29,mbtmp4.4/28,MS3.9/5, Ms1 4.0/5,ms1mx3.4/31,Error ellipse: s-maj=10.9km s-min=9.3km az=130.0*

*BJI **03** 09:10:36.2, 13˚.49S×167˚.22E, h182km, mB5.0/32, mb5.1/48*

*GCMT **03** 09:10:37.4±0.2, 13˚.88S×167˚.10E, h193km±1km, MW5.1/91,Moment Tensor Solution. s58,c79; s91,c120; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.83±.12; Mθθ-0.89±.19; Mϕϕ-4.95±.19; Mrθ-0.67±.15; Mθϕ1.95±.20; Mϕr-0.50±.15; Best double couple: M₀5.84000×10¹⁶ NP1:ϕs331.00000°,δ44.00000°,λ79.00000°. Principal axes: T 5.9410, Plg82.0000°, Azm150.0000°; N -0.2080, Plg8.0000°, Azm338.0000°; P -5.7380, Plg1.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 09:10:37.4±0.5, 13˚.88S×167˚.23E, h191km±4km, mb5.0/53 Error ellipse: s-maj=6.5km s-min=4.6km az=155.0*

*MOS **03** 09:10:38.4±0.9, 13˚.65S×167˚.14E, h204km, mb5.1/23, Error ellipse: s-maj=11.2km s-min=9.3km az=39.4*

*ISCJB **03** 09:10:38.1±0.8, 13˚.90S±0˚.04×167˚.17E±0˚.03, h209km±7km, mb4.8/106, Error ellipse: s-maj=5.9km s-min=4.6km az=172.0*

ISC 03 09:10:37.0±0.3, 13˚.90S±0˚.04×167˚.24E±0˚.05, h189km±2km, h189km:pP-P, n384, σ1§18/464, mb5.0/105, 11C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 71nm,0.3s	**8.16**	**185**	*e*Pn		**Pn**	**09 12 33.1**	**+0.6**
DZM	350nm,1.1s			*e*Sn		**Sn**	**09 13 59.6**	**-4.7**
DZM	965nm,25.4s			*e*LR		LR	09 14 19.8	
DZM	**Mont Dzumac** 239nm,0.9s	**8.16**	**185**	*e*Pn		**Pn**	**09 12 32.9**	**+0.4**
DZM				S		**Sn**	**09 14 05.7**	**+1.4**
DZM	**Mont Dzumac** 15nm,0.3s,baz=85,slow=23,SNR=55	**8.16**	**185**	P		**Pn**	**09 12 33.7**	**+1.2**
DZM	9.2nm,0.3s,baz=285,slow=19,SNR=5.0			S		**Sn**	**09 14 05.7**	**+1.4**
DZM	comp=Z,966nm,18.7s,baz=359,slow=34			LR		LR	09 15 17.3	
BAYA	**Yate Dam**	**8.22**	**182**	*e*S		**Sn**	**09 14 05.9**	**+0.4**
LASL	**Noumea**	**8.31**	**185**	*e*P		**Pn**	**09 12 34.2**	**-0.1**
LASL				*e*S		**Sn**	**09 14 08.1**	**+0.4**
HNR	**Honiara**	**8.41**	**301**	P		**Pn**	**09 12 36.6**	**+0.8**
HNR				S		**Sn**	**09 14 11.4**	**+1.3**
HNR	**Honiara** 7.3nm,0.3s,baz=184,slow=2.7,SNR=18	**8.41**	**301**	P		**Pn**	**09 12 36.6**	**+0.8**
HNR	baz=73,slow=19,SNR=2.1			S		**Sn**	**09 14 11.4**	**+1.3**
HNR	**Honiara**	**8.41**	**301**	*e*P		**Pn**	**09 12 36.0**	**+0.3**
HNR				*e*S		Sn	09 14 18.0	+7.8
EIDS	**Eidsvold** 103nm,1.0s	**19.00**	**231**	*e*P		**Pn**	**09 14 46.8**	**-0.6**
EIDS	**Eidsvold** baz=19,SNR=29	**19.00**	**231**	P		**Pn**	**09 14 46.7**	**-0.7**
PMG	**Port Moresby** 107nm,1.0s	**20.17**	**281**	*e*P		**P**	**09 14 57.9**	**+0.9**
PMG	**Port Moresby** 90nm,0.9s,baz=100,slow=6.8,SNR=19	**20.17**	**281**	P		**P**	**09 14 57.6**	**+0.5**
AFI	**Afiamalu** 148nm,1.1s	**20.37**	**93**	*e*P		Pn	09 15 02.0	-2.1
AFI	**Afiamalu** 82nm,0.9s,baz=21,slow=1.6,SNR=5.0	**20.37**	**93**	P		**P**	**09 15 00.3**	**+1.0**
CTA	**Charters Tower**	**20.98**	**250**	P		**P**	**09 15 06.5**	**+0.8**
CTA	**Charters Tower** 42nm,0.7s,baz=79,slow=12,SNR=48	**20.98**	**250**	P		**P**	**09 15 06.5**	**+0.8**
CTAO	**Charters Tower**	**20.98**	**250**	*e*P		**P**	**09 15 06.1**	**+0.3**
CTAO	comp=Z,41nm,0.8s			pmax		pmax		
CTAO	**Charters Tower** comp=Z,41nm,0.8s	**20.98**	**250**	*e*P		**P**	**09 15 06.1**	**+0.3**
RMQ	**Roma** baz=22,SNR=26	**21.36**	**231**	P		**P**	**09 15 11.5**	**+1.8**
ARMA	**Armidale** comp=Z,93nm,0.9s	**21.85**	**219**	*e*P		**P**	**09 15 16.5**	**+1.7**
ARMA	**Armidale** baz=22,SNR=23	**21.85**	**219**	P		**P**	**09 15 16.4**	**+1.7**
COEN	**Coen** comp=Z,273nm,0.8s	**23.36**	**267**	*e*P		**P**	**09 15 29.8**	**+1.1**
COEN	**Coen** baz=24,SNR=22	**23.36**	**267**	P		**P**	**09 15 29.9**	**+1.1**
MGCD	**Mangrove Creek** baz=24,SNR=11	**24.19**	**215**	P		**P**	**09 15 38.2**	**+2.1**
QLP	**Quilpie** baz=25,SNR=18	**24.95**	**236**	P		**P**	**09 15 43.6**	**+0.5**
CMSA	**Cobar Meteorol** baz=27,SNR=50	**26.43**	**225**	P		**P**	**09 15 57.1**	**+0.7**
YNG	**Young** baz=27,SNR=4.9	**26.53**	**217**	P		**P**	**09 15 58.8**	**+1.6**
CNB	**Canberra Magne** baz=27,SNR=4.9	**26.72**	**214**	P		**P**	**09 16 00.3**	**+1.3**
QIS	**Mount Isa** baz=27,SNR=16	**27.19**	**252**	P		**P**	**09 16 03.3**	**0.0**
STKA	**Stephens Creek** comp=Z,13nm,0.8s	**29.52**	**228**	*e*P		**P**	**09 16 25.0**	**+1.2**
STKA	**Stephens Creek** comp=Z,67nm,0.7s,baz=44,slow=7.7,SNR=124	**29.52**	**228**	P		**P**	**09 16 25.0**	**+1.2**
STKA	comp=Z,311nm,19.2s,baz=35,slow=34			LR		LR	09 27 13.5	
TOO	**Toolangi** baz=31,SNR=5.4	**30.50**	**215**	P		**P**	**09 16 33.7**	**+1.3**
WRAB	**Tennant Creek** comp=Z,154nm,0.6s,SNR=14	**32.00**	**255**	*c i*P		**P**	**09 16 44.6**	**-1.1**
WRAB	comp=Z,100nm,1.7s			pmax		pmax		
WRAB	**Tennant Creek** comp=Z,17nm,0.7s	**32.00**	**255**	*e*P		**P**	**09 16 45.0**	**-0.8**
WRA	**Warramunga Arr**	**32.01**	**255**	P		**P**	**09 16 44.2**	**-1.6**
WRA				PcP		**PcP**	**09 19 31.1**	**0.0**
WRA				S		**S**	**09 21 39.9**	**-3.8**
WRA				ScP		**ScP**	**09 22 58.2**	**+1.4**
WRA	**Warramunga Arr** comp=Z,18nm,0.6s,baz=85,slow=9.2,SNR=56	**32.01**	**255**	P		**P**	**09 16 44.2**	**-1.6**
WRA	comp=Z,8.0nm,1.1s,baz=77,slow=2.3,SNR=6.5			PcP		**PcP**	**09 19 31.1**	**0.0**
WRA	comp=Z,9.0nm,1.2s,baz=86,slow=15,SNR=6.1			S		**S**	**09 21 39.9**	**-3.8**
WRA	comp=Z,3.9nm,1.1s,baz=74,slow=4.0,SNR=6.2			ScP		**ScP**	**09 22 58.2**	**+1.4**
ARPS	**Mount Arapiles** baz=32,SNR=10	**32.15**	**220**	P		**P**	**09 16 48.1**	**+1.3**
HTT	**Hallett** baz=32,SNR=34	**32.25**	**228**	P		**P**	**09 16 48.7**	**+0.9**
AS31	**Alice Springs**	**32.95**	**248**	*e*P		**P**	**09 16 53.0**	**-1.0**
AS31				*e*S		**S**	**09 21 54.9**	**-3.3**
ASAR	**Alice Springs**	**32.95**	**248**	S		**S**	**09 21 54.7**	**-3.5**
ASAR	**Alice Springs** baz=77,slow=16	**32.95**	**248**	S		**S**	**09 21 54.7**	**-3.5**
KDU	**Kakadu** baz=34,SNR=35	**33.84**	**268**	P		**P**	**09 17 01.8**	**+0.1**
BBOO	**Buckleboo** comp=Z,893nm,0.7s	**34.07**	**231**	*e*P		**P**	**09 17 04.2**	**+0.6**
BBOO	**Buckleboo** baz=34,SNR=58	**34.07**	**231**	P		**P**	**09 17 04.1**	**+0.6**
MTN	**Manton Dam** baz=35,SNR=4.2	**35.13**	**267**	P		**P**	**09 17 13.3**	**+0.5**
KNRA	**Kununurra** baz=37,SNR=69	**37.22**	**262**	P		**P**	**09 17 30.2**	**-0.2**
KNRA	baz=37,SNR=31			P		**P**	**09 17 30.3**	**-0.2**
WRKA	**Warakurna** baz=38,SNR=147	**38.23**	**247**	P		**P**	**09 17 38.5**	**-0.4**
WRKA	baz=38,SNR=55			P		**P**	**09 17 38.5**	**-0.4**
FORT	**Forrest** comp=Z,140nm,0.8s	**39.70**	**238**	*e*P		**P**	**09 17 51.0**	**0.0**
FORT	**Forrest** baz=40,SNR=39	**39.70**	**238**	P		**P**	**09 17 51.0**	**0.0**
FITZ	**Fitzroy Crossi**	**40.15**	**258**	P		**P**	**09 17 53.9**	**-1.0**
FITZ	**Fitzroy Crossi** comp=Z,10nm,0.8s,baz=80,slow=9.7,SNR=13	**40.15**	**258**	P		**P**	**09 17 53.9**	**-1.0**
PPT2	**Papeete2** comp=Z,51nm,24.0s	**41.66**	**101**	*e*S		**S**	**09 24 13.8**	**+4.0**
TBI	**Tubuai** comp=Z,100nm,27.5s	**41.96**	**109**	*e*S		**S**	**09 24 12.7**	**-1.2**
SOEI	**Soe** baz=42,SNR=4.1	**42.22**	**271**	P		**P**	**09 18 13.0**	**+1.0**
KMBL	**Kambalda** baz=45,SNR=10	**44.98**	**239**	P		**P**	**09 18 33.4**	**-0.3**
KMBL	baz=45,SNR=5.6			P		**P**	**09 18 33.6**	**0.0**
MEEK	**Meekatharra** baz=47,SNR=22	**47.09**	**247**	P		**P**	**09 18 50.1**	**0.0**
KAPI	**Kappang** comp=Z,311nm,1.0s,SNR=6.1	**47.59**	**276**	P		**P**	**09 18 55.3**	**+1.1**
KAPI	**Kappang** comp=Z,273nm,1.0s	**47.59**	**276**	*e*P		**P**	**09 18 54.4**	**+0.3**
KLBR	**Kellerberrin** baz=49,SNR=9.5	**48.49**	**240**	P		**P**	**09 19 00.1**	**-0.7**
MORW	**Morawa** baz=50,SNR=11	**49.61**	**244**	P		**P**	**09 19 09.2**	**-0.2**
RKGY	**Rocky Gully** baz=50,SNR=6.3	**49.69**	**236**	P		**P**	**09 19 10.1**	**+0.2**
MTNI	**Mataram** comp=Z,41nm,1.2s	**50.29**	**270**	P		x	09 19 19.3	
KHKI	**Kahang-Kahang** comp=Z,63nm,0.9s,comp=Z,113µm	**50.88**	**270**	P		x	09 19 18.8	
SRBI	**Singaraja** comp=Z,70nm,1.1s	**51.32**	**271**	P		**P**	**09 19 22.8**	**+0.4**
MYLDM	**Lahad Datu** comp=Z,143nm,1.7s	**51.95**	**288**	*e*P		**P**	**09 19 29.1**	**+2.1**
TSM	**Tawau**	**52.20**	**287**	⇑P		**P**	**09 19 29.8**	**+0.9**
JAGI	**Jajag, Banyuwa** comp=Z,42nm,0.9s	**52.28**	**270**	*e*P		**P**	**09 19 28.6**	**-0.9**
ABJI	**Asem Bagus** comp=Z,89nm,1.1s	**52.33**	**271**	P		**P**	**09 19 30.5**	**+0.7**
BLJI	**Banyuglugur** comp=Z,66nm,1.0s	**52.96**	**271**	P		**P**	**09 19 34.5**	**0.0**
SDKM	**Sandakan**	**53.32**	**288**	⇑P		**P**	**09 19 38.7**	**+1.5**
KDM	**Kudat**	**54.13**	**289**	⇓P		**P**	**09 19 44.2**	**+1.2**
NGJI	**Ngawi** comp=Z,66nm,1.8s	**55.11**	**271**	P		**P**	**09 19 52.8**	**+2.8**
PCJI	**Pacitan**	**55.22**	**270**	P		**P**	**09 19 50.3**	**-0.5**
RKT	**Rikitea** comp=Z,221nm,31.5s	**55.26**	**109**	*e*S		**S**	**09 27 19.3**	**-0.8**
JOW	**Kunigami** comp=Z,31nm,1.0s	**55.42**	**317**	*e*P		**P**	**09 19 52.4**	**+0.3**
UGM	**Wanagama** baz=56,SNR=4.6	**55.91**	**270**	P		**P**	**09 19 56.2**	**+0.4**
SBUM	**Sibu** comp=Z,14nm,1.0s	**56.90**	**282**	*e*P		**P**	**09 20 03.7**	**+0.9**
SBUM	**Sibu**	**56.90**	**282**	⇓P		**P**	**09 20 04.2**	**+1.4**
MJAR	**Matsushiro Arr**	**57.16**	**332**	P		**P**	**09 20 03.4**	**-0.7**
MJAR	**Matsushiro Arr** comp=Z,8.4nm,0.7s,baz=171,slow=8.3,SNR=24	**57.16**	**332**	P		**P**	**09 20 03.4**	**-0.7**
MAJO	**Matsushiro** comp=Z,195nm,1.5s	**57.16**	**332**	⇓*i*P		**P**	**09 20 03.1**	**-1.0**
MAJO				pmax		pmax		
MAJO	**Matsushiro** comp=Z,250nm,2.3s	**57.16**	**332**	*e*P		**P**	**09 20 03.8**	**-0.4**
MAT	**Matsushiro**	**57.16**	**332**	P		**P**	**09 20 03.6**	**-0.5**
MAT				*e*S		**S**	**09 27 43.2**	**-1.4**
TGJI	**Tegal** comp=Z,54nm,1.2s	**57.48**	**271**	P		x	09 20 07.0	
KPJI	**Karang Pucung** comp=Z,93nm,0.8s	**57.57**	**270**	P		**P**	**09 20 07.8**	**+0.4**
JNU	**Nakatsue** comp=Z,47nm,1.3s	**58.24**	**324**	*e*P		**P**	**09 20 11.7**	**0.0**
KSM	**Kuching** comp=Z,35nm,1.3s	**58.43**	**280**	*e*P		**P**	**09 20 13.8**	**+0.3**
KSM	**Kuching** baz=59,SNR=5.4

WHN	Wuhan	67.37	312	P	P	09 21 12.2	+0.2	
MDJ	Mudanjiang	67.54	332	P	P	09 21 13.6	+0.8	
MDJ				pP	pP	09 21 56.0	-1.4	
MDJ				sP	sP	09 22 15.7	-2.1	
MDJ				PP	PP	09 23 44.4	-0.1	
MDJ				S	S	09 29 52.8	-1.1	
MDJ				sS	sS	09 31 09.7	-1.9	
MDJ				SS	SS	09 34 17.2	-1.6	
MDJ				pmax	pmax			
	comp=Z,38nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,250nm,5.5s							
MDJ				LR	LR			
	comp=Z,18nm,22.1s							
MDJ				LR	LR			
	comp=Z,20nm,17.4s							
MDJ				LR	LR			
	comp=Z,25nm,21.0s							
MDJ	**Mudanjiang**	**67.54**	**332**	*e*P	**P**	**09 21 14.1**	**+1.2**	
	comp=Z,26nm,0.9s							
IPM	**Ipoh**	**68.17**	**281**	*e*P	**P**	**09 21 17.6**	**+0.2**	
	comp=Z,51nm,1.0s							
HABR	**Khabarovsk**	**68.36**	**338**	*e*P	**P**	**09 21 16.6**	**-1.2**	
HABR				*e*		09 21 40.1		
HABR				*e**PP	**pP**	**09 22 00.7**	**-1.8**	
HABR				*e**SP	**sP**	**09 22 21.4**	**-1.5**	
HABR				*e*		09 23 48.7		
HABR				*e*PPP	PPP	09 25 30.1		
HABR				*e*S	**S**	**09 30 02.2**	**-1.3**	
HABR				*e*SS	**SS**	**09 34 28.6**	**-2.7**	
HABR				pmax	pmax			
	comp=N,15nm,1.4s							
HABR				pmax	pmax			
	comp=Z,84nm,1.4s							
HABR				pmax	pmax			
	comp=E,46nm,2.0s							
CN2	**Changchun**	**68.93**	**329**	*e*P	**P**	**09 21 22.0**	**+0.6**	
CN2				*e*pP	**pP**	**09 22 05.8**	**-0.4**	
CN2				*e*S	**S**	**09 30 10.4**	**0.0**	
CN2				pmax	pmax			
	comp=E,30nm,0.8s							
CN2				pmax	pmax			
	comp=E,200nm,5.0s							
PSI	**Prapat**	**69.71**	**278**	P	**P**	**09 21 26.2**	**-0.8**	
PSI	**Prapat**	**69.71**	**278**	P	**P**	**09 21 26.2**	**-0.8**	
	comp=E,18nm,0.8s,baz=89,slow=2.7,SNR=8.6							
PSI	**Prapat**	**69.71**	**278**	P	**P**	**09 21 26.3**	**-0.8**	
	baz=70,SNR=9.3							
KLR	**Kul'dur**	**70.24**	**336**	*e*P	**P**	**09 21 26.7**	**-2.7**	
KLR				pmax	pmax			
	comp=E,63nm,2.0s							
KLR				pmax	pmax			
	comp=Z,120nm,2.0s							
SRIT	**Nakonsritamara**	**70.74**	**284**	P	**P**	**09 21 34.8**	**+1.7**	
	comp=Z,194nm,0.9s							
ENH	**Enshi**	**70.82**	**309**	*e*P	**P**	**09 21 33.2**	**-0.1**	
	comp=Z,43nm,0.9s							
PATY	**Pattaya**	**70.95**	**289**	P	**P**	**09 21 36.2**	**+1.8**	
	comp=Z,14nm,1.0s							
GYA	**Guiyang**	**71.22**	**304**	⇑*i*P	**P**	**09 21 36.2**	**+0.2**	
GYA				pP	**pP**	**09 22 22.8**	**+1.8**	
GYA				sP	**sP**	**09 22 43.0**	**+1.7**	
GYA				PP	**PP**	**09 24 19.4**	**+2.7**	
GYA				SKS	**SKSac**	**09 31 16.7**	**-4.4**	
GYA				sS	**sS**	**09 31 56.0**	**-0.4**	
GYA				pmax	pmax			
	comp=Z,30nm,1.1s							
GYA				pmax	pmax			
	comp=Z,90nm,4.9s							
GYA				LR	LR			
	comp=Z,490nm,16.5s							
GYA				LR	LR			
	comp=Z,460nm,17.7s							
GYA				LR	LR			
	comp=Z,630nm,18.0s							
SLVN	**Son La**	**71.34**	**298**	*e*P	**P**	**09 21 37.1**	**+0.4**	
BJT	**Baijiatuan**	**71.60**	**321**	*e*P	**P**	**09 21 37.9**	**+0.2**	
	comp=Z,29nm,1.0s							
BJI	**Beijing**	**71.61**	**321**	P	**P**	**09 21 38.1**	**+0.3**	
BJI				pmax	pmax			
	comp=Z,38nm,0.9s							
SURT	**Suratani**	**71.61**	**284**	P	**P**	**09 21 40.6**	**+2.3**	
	comp=Z,17nm,1.1s							
PBKT	**Sadao Pong**	**72.12**	**293**	P	**P**	**09 21 42.1**	**+0.8**	
	comp=Z,37nm,1.2s							
PHIT	**Phitsanulok**	**72.83**	**293**	P	**P**	**09 21 47.5**	**+2.0**	
	comp=Z,34nm,0.9s							
XAN	**Xi'an**	**73.11**	**312**	P	**P**	**09 21 47.3**	**+0.4**	
XAN				pP	**pP**	**09 22 30.3**	**-1.9**	
XAN				pmax	pmax			
	comp=Z,9.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,21nm,6.8s							
UTHA	**Uthaitani**	**73.14**	**291**	P	**P**	**09 21 48.5**	**+1.2**	
	comp=Z,12nm,1.0s,comp=Z,106nm							
NANT	**Nan**	**73.16**	**295**	P	**P**	**09 21 47.8**	**+0.4**	
	comp=Z,75nm,1.2s,comp=Z,856nm							
KMI	**Kunming**	**73.85**	**302**	P	**P**	**09 21 52.8**	**+1.2**	
KMI				pP	**pP**	**09 22 37.8**	**+0.8**	
KMI				sP	**sP**	**09 22 56.7**	**-0.5**	
KMI				pmax	pmax			
	comp=Z,46nm,1.2s							
LAMP	**Lampang**	**74.00**	**294**	P	**P**	**09 21 53.3**	**+1.0**	
	comp=Z,32nm,0.8s,comp=Z,229nm							
CM31	**Chiang Mai Arr**	**74.59**	**294**	*e*P	**P**	**09 21 57.1**	**+1.3**	
	comp=Z,28nm,0.8s							
CMAR	**Chiang Mai Arr**	**74.59**	**294**	P	**P**	**09 21 56.6**	**+0.8**	
CMAR				pP	**pP**	**09 22 41.8**	**+0.6**	
CMAR	**Chiang Mai Arr**	**74.59**	**294**	P	**P**	**09 21 56.6**	**+0.8**	
	comp=Z,25nm,0.9s,baz=122,slow=4.2,SNR=88							
CMAR				pP	**pP**	**09 22 41.8**	**+0.6**	
	comp=Z,7.5nm,1.1s,baz=116,slow=4.8,SNR=2.2							
HHC	**Hu-ho-hao-te**	**74.94**	**320**	*e*P	**P**	**09 21 58.4**	**+1.0**	
HHC				S	**S**	**09 31 19.2**	**-0.2**	
HHC				SKS	**SKSac**	**09 31 44.4**	**-4.0**	
HHC				sS	**sS**	**09 32 39.1**	**+0.6**	
HHC				pmax	pmax			
	comp=Z,50nm,1.0s							
HHC				pmax	pmax			
	comp=Z,120nm,5.2s							
CMAI	**Chiengmai2**	**75.02**	**295**	P	**P**	**09 21 59.4**	**+1.0**	
	comp=Z,42nm,1.1s							
MHMT	**Maesarieng**	**75.39**	**293**	P	**P**	**09 22 03.2**	**+2.9**	
	comp=Z,14nm,1.2s,comp=Z,362nm							
CD2	**Chengdu**	**75.49**	**307**	*e*P	**P**	**09 22 02.5**	**+1.8**	
CD2				pmax	pmax			
	comp=Z,50nm,1.1s							
HIA	**Hailar**	**75.56**	**330**	*e*P	**P**	**09 22 00.8**	**+0.2**	
	comp=Z,42nm,1.3s							
QSPA	**South Pole Qui**	**76.12**	**180**	*e*P	**P**	**09 22 03.5**	**-0.3**	
	comp=Z,32nm,1.2s							
SEY	**Seymchan**	**77.46**	**353**	P	**P**	**09 22 11.4**	**+0.4**	
SEY	**Seymchan**	**77.46**	**353**	P	**P**	**09 22 11.4**	**+0.4**	
SEY	**Seymchan**	**77.46**	**353**	P	**P**	**09 22 11.4**	**+0.4**	
	comp=Z,18nm,0.9s,baz=153,slow=6.4,SNR=28							
LZH	**Lanzhou**	**77.75**	**312**	⇑P	**P**	**09 22 15.1**	**+1.7**	
LZH				pP	**pP**	**09 22 59.7**	**+0.5**	
LZH				sP	**sP**	**09 23 14.8**	**-4.5**	
LZH				PP	**PP**	**09 25 14.2**	**+2.4**	
LZH				S	**S**	**09 31 47.2**	**-3.0**	
LZH				pmax	pmax			
	comp=Z,64nm,1.2s							
LZH				pmax	pmax			
	comp=Z,220nm,5.1s							
YAK	**Yakutsk**	**81.23**	**343**	*e*P	**P**	**09 22 31.4**	**+0.1**	
YAK				*e**PP	**pP**	**09 23 19.9**	**+2.3**	
YAK				*e*		09 25 40.0		
YAK				*e*S	**S**	**09 32 25.0**	**-0.4**	
YAK				*e*SS	**SS**	**09 37 48.4**	**+2.7**	
YAK				*e*SSS	SSS	09 41 03.2		
YAK				pmax	pmax			
	comp=Z,96nm,1.5s							
YAK				pmax	pmax			
	comp=E,12nm,1.3s							
YAK				pmax	pmax			
	comp=N,26nm,1.4s							
YAK				pmax	pmax			
	comp=Z,4.0nm,0.5s							
YAK				pmax	pmax			
	comp=E,34nm,1.4s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.8s							
YAK				smax	smax			
	comp=N,195nm,5.8s							
YAK				smax	smax			
	comp=E,260nm,6.3s							
YAK	**Yakutsk**	**81.23**	**343**	*e*P	**P**	**09 22 31.5**	**+0.1**	
	comp=E,72nm,0.9s							
TNA	**Tin City**	**81.40**	**10**	*e*P	**P**	**09 22 33.7**	**+1.5**	
	comp=E,3.9nm,0.9s							
ULN	**Ulaanbaatar**	**81.45**	**324**	*e*P	**P**	**09 22 33.5**	**+0.4**	
	comp=E,24nm,1.0s							
SONM	**Songino Array**	**81.82**	**324**	P	**P**	**09 22 34.9**	**0.0**	
SONM	**Songino Array**	**81.82**	**324**	P	**P**	**09 22 34.9**	**0.0**	
	comp=E,10nm,1.1s,baz=139,slow=5.0,SNR=33							
GTA	**Gaotai**	**82.08**	**314**	⇑P	**P**	**09 22 37.5**	**+1.0**	
GTA				pP	**pP**	**09 23 23.5**	**+0.7**	
GTA				sP	**sP**	**09 23 43.7**	**+0.9**	
GTA				S	**S**	**09 32 35.3**	**-0.1**	
GTA				sS	**sS**	**09 33 56.1**	**+0.2**	
GTA				pmax	pmax			
	comp=E,28nm,1.2s							
GTA				pmax	pmax			
	comp=E,140nm,6.2s							
MAW	**Mawson**	**82.64**	**202**	P	**P**	**09 22 38.6**	**-0.2**	
MAW	**Mawson**	**82.64**	**202**	P	**P**	**09 22 38.6**	**-0.2**	
	comp=E,14nm,0.9s,baz=93,slow=11,SNR=5.2							
SHL	**Shillong**	**83.15**	**298**	⇑*i*P	**P**	**09 22 43.0**	**+0.6**	
H02S1	**DAWSON INLET T**	**84.32**	**32**	T	T	10 55 43.7		
	SNR=3.9							
MCK	**McKinley**	**84.38**	**18**	*e*P	**P**	**09 22 46.7**	**-0.9**	
MCK				pmax	pmax			
	comp=E,8.0nm,1.0s							
MCK	**McKinley**	**84.38**	**18**	*e*P	**P**	**09 22 46.7**	**-0.9**	
	comp=Z,7.9nm,1.0s							
N02D	**Trinity Center**	**84.55**	**46**	P	**P**	**09 22 49.7**	**+0.6**	
	baz=85							
M02C	**Callahan**	**84.62**	**45**	P	**P**	**09 22 49.1**	**-0.3**	
	baz=85							
YBH	**Yreka Blue Hor**	**84.85**	**45**	P	**P**	**09 22 50.6**	**0.0**	
YBH				pP	**pP**	**09 23 36.1**	**-1.0**	
YBH	**Yreka Blue Hor**	**84.85**	**45**	P	**P**	**09 22 50.6**	**0.0**	
	comp=Z,4.7nm,1.0s,baz=179,slow=4.8,SNR=7.9							
YBH				pP	**pP**	**09 23 36.1**	**-1.0**	
	comp=Z,5.3nm,1.1s,baz=182,slow=5.2,SNR=4.5							
ZAK	**Zakamensk**	**84.86**	**325**	*e*P	**P**	**09 22 49.7**	**-0.7**	
ZAK				pmax	pmax			
	comp=Z,21nm,1.5s							
CMB	**Columbia Colle**	**85.08**	**49**	*e*P	**P**	**09 22 51.7**	**0.0**	
CMB				pmax	pmax			
	comp=Z,55nm,2.5s							
CMB	**Columbia Colle**	**85.08**	**49**	*e*P	**P**	**09 22 51.7**	**0.0**	
	comp=Z,55nm,2.5s							
LSA	**Lhasa**	**85.10**	**302**	*e*P	**P**	**09 22 53.1**	**+0.5**	
LSA				pmax	pmax			
	comp=Z,14nm,1.0s							
LSA	**Lhasa**	**85.10**	**302**	*e*P	**P**	**09 22 53.0**	**+0.5**	
	comp=Z,14nm,1.0s							
IRK	**Irkutsk**	**85.23**	**327**	*e*P	**P**	**09 22 51.0**	**-1.1**	
IRK				pmax	pmax			
	comp=Z,30nm,1.4s							
TLY	**Talaya**	**85.29**	**326**	P	**P**	**09 22 52.9**	**+0.5**	
	comp=Z,139nm,0.9s,SNR=9.6							
TLY	**Talaya**	**85.29**	**326**	*e*P	**P**	**09 22 52.6**	**+0.2**	
TLY				*e*S	S	09 32 57.7	-9.0	
TLY				pmax	pmax			
	comp=Z,21nm,0.9s							
TLY	**Talaya**	**85.29**	**326**	*e*P	**P**	**09 22 52.1**	**-0.3**	
	comp=Z,33nm,1.1s							
M04C	**Macdoel**	**85.47**	**45**	P	**P**	**09 22 54.0**	**+0.3**	
	baz=86							
COLA	**College**	**85.54**	**18**	⇑*i*P	**P**	**09 22 52.6**	**-0.7**	
COLA				pmax	pmax			
	comp=Z,48nm,1.7s							
COLA	**College**	**85.54**	**18**	*e*P	**P**	**09 22 53.3**	**0.0**	
	comp=Z,8.0nm,1.4s							
ISA	**Isabella**	**85.66**	**52**	*e*P	**P**	**09 22 54.3**	**-0.4**	
ISA				pmax	pmax			
	comp=Z,3.0nm,1.5s							
ISA	**Isabella**	**85.66**	**52**	*e*P	**P**	**09 22 54.3**	**-0.4**	
	comp=Z,3.1nm,1.5s							
ISA	**Isabella**	**85.66**	**52**	P	**P**	**09 22 54.3**	**-0.4**	
	baz=86							
ILAR	**Eielson Array**	**85.75**	**18**	P	**P**	**09 22 54.0**	**-0.4**	
ILAR				pP	**pP**	**09 23 38.2**	**-2.8**	
ILAR	**Eielson Array**	**85.75**	**18**	P	**P**	**09 22 54.0**	**-0.4**	
	comp=Z,2.9nm,0.7s,baz=240,slow=4.5,SNR=26							
ILAR				pP	**pP**	**09 23 38.2**	**-2.8**	
	comp=Z,5.1nm,1.0s,baz=230,slow=5.7,SNR=3.3							
ILAR				LR	LR	09 58 27.4		
	comp=Z,65nm,18.1s,baz=300,slow=34							
EDW2	**Edwards Air Fo**	**85.76**	**53**	P	**P**	**09 22 55.4**	**+0.2**	
	baz=86							
BFSC	**Mount Baldy Ra**	**85.80**	**53**	P	**P**	**09 22 55.4**	**-0.2**	
	baz=86							
WAKR	**Walker**	**85.95**	**49**	*e*P	**P**	**09 22 56.7**	**+0.5**	
	comp=Z,93nm,2.8s							
LRMC	**Laurel Mountai**	**86.20**	**52**	P	**P**	**09 22 57.3**	**-0.1**	
	baz=86							
CWC	**Cottonwood Cre**	**86.23**	**51**	P	**P**	**09 22 57.4**	**-0.2**	
	baz=86							
MONP	**Monument Peak**	**86.33**	**55**	P	**P**	**09 22 58.7**	**+0.5**	
	baz=86							
J05D	**Fort Rock, OR**	**86.46**	**44**	P	**P**	**09 22 59.2**	**+0.6**	
	baz=87							
PFO	**Pinyon Flat Ob**	**86.54**	**54**	P	**P**	**09 22 58.6**	**-0.5**	
PFO	**Pinyon Flat Ob**	**86.54**	**54**	P	**P**	**09 22 58.6**	**-0.5**	
	comp=Z,1.2nm,0.7s,baz=190,slow=5.2,SNR=4.1							
PFO	**Pinyon Flat Ob**	**86.54**	**54**	P	**P**	**09 22 58.9**	**-0.2**	
	baz=87							
MPMC	**Manual Prospec**	**86.55**	**52**	P	**P**	**09 22 59.4**	**+0.2**	
	baz=87							
MOD	**Modoc**	**86.58**	**45**	*e*P	**P**	**09 22 59.7**	**+0.5**	
	comp=Z,32nm,2.2s							
COLD	**Coldfoot**	**86.64**	**15**	*e*P	**P**	**09 22 59.9**	**+1.3**	
	comp=Z,10nm,1.3s							
NVAR	**Mina Array Bea**	**86.75**	**49**	P	**P**	**09 23 00.3**	**+0.2**	
NVAR				pP	**pP**	**09 23 46.9**	**0.0**	
NVAR	**Mina Array Bea**	**86.75**	**49**	P	**P**	**09 23 00.3**	**+0.2**	
	comp=Z,2.0nm,0.9s,baz=236,slow=7.8,SNR=10							
NVAR				pP	**pP**	**09 23 46.9**	**0.0**	
	comp=Z,2.3nm,0.8s,baz=236,slow=7.7,SNR=6.0							
I05D	**Terrebonne, OR**	**86.80**	**43**	P	**P**	**09 22 59.9**	**-0.2**	
	baz=87							
GSC	**Goldstone**	**86.82**	**53**	P	**P**	**09 23 00.2**	**-0.2**	
	baz=87							
SWSC	**Sam W. Stewart**	**86.84**	**55**	P	**P**	**09 23 00.4**	**-0.1**	
	baz=87							
FURC	**Furnace Creek,**	**87.17**	**52**	P	**P**	**09 23 01.5**	**-0.3**	
	baz=87							
TAPN	**Taplejung**	**87.26**	**299**	*e*P	**P**	**09 23 02.9**	**0.0**	
	comp=Z,80nm,1.3s							
ODAN	**Odare**	**87.39**	**298**	*e*P	**P**	**09 23 03.4**	**-0.1**	
	comp=Z,84nm,0.9s							
GMRC	**Gmnite Mounta**	**87.54**	**53**	P	**P**	**09 23 03.3**	**-0.6**	
	baz=88							
TUQ	**Turquoise Moun**	**87.54**	**53**	P	**P**	**09 23 04.4**	**+0.5**	
	baz=88							
IRM	**Iron Mountain**	**87.74**	**54**	P	**P**	**09 23 05.3**	**+0.5**	
	baz=88							
TPNV	**Topopah Spring**	**87.79**	**51**	P	**P**	**09 23 05.0**	**0.0**	
	baz=88							
I07A	**Izee**	**87.93**	**44**	*e*P	**P**	**09 23 05.6**	**+0.1**	
	comp=Z,4.8nm,0.9s							
RAMN	**Ramite**	**88.09**	**298**	*e*P	**P**	**09 23 06.6**	**-0.2**	
	comp=Z,24nm,0.7s							
Y12C	**Blythe**	**88.11**	**55**	P	**P**	**09 23 07.3**	**+0.8**	
	baz=88							
J08A	**Circle Bar Ran**	**88.36**	**45**	*e*P	**P**	**09 23 07.5**	**-0.1**	
	comp=Z,7.4nm,0.9s							
113A	**Mohawk Valley,**	**88.42**	**56**	P	**P**	**09 23 08.5**	**+0.6**	
	baz=88							
SHPR	**Sheep Range**	**88.47**	**52**	*e*P	**P**	**09 23 08.9**	**+0.6**	
PDMCI	**Parker Dam,Lak**	**88.58**	**54**	P	**P**	**09 23 09.5**	**+0.9**	
	baz=89							
E07A	**Sunnyside**	**88.61**	**41**	*e*P	**P**	**09 23 09.4**	**+0.9**	
	comp=Z,46nm,2.0s							
JIRN	**Jiri**	**88.64**	**299**	*e*P	**P**	**09 23 09.5**	**0.0**	
	comp=Z,35nm,0.8s							
G08A	**Pilot Rock**	**88.73**	**43**	*e*P	**P**	**09 23 09.3**	**+0.1**	
	comp=Z,7.5nm,1.1s							
G08A				*e*pP	**pP**	**09 23 56.0**	**-0.2**	
R11A	**Troy Canyon, C**	**88.74**	**50**	*e*P	**P**	**09 23 09.8**	**+0.2**	
R11A	**Troy Canyon, C**	**88.74**	**50**	P	**P**	**09 23 09.7**	**+0.2**	
	baz=89							
214A	**Organ Pipe Nat**	**88.95**	**57**	P	**P**	**09 23 11.1**	**+0.6**	
	baz=89							
GUN	**Gumba**	**88.97**	**299**	*e*P	**P**	**09 23 10.9**	**-0.2**	
	comp=Z,46nm,0.9s							
W13A	**Hualapai Mount**	**89.02**	**54**	P	**P**	**09 23 11.3**	**+0.3**	
	baz=89							
Z14A	**Wintersburg**	**89.25**	**55**	P	**P**	**09 23 12.4**	**+0.5**	
	baz=89							
PKI	**Pulchoki**	**89.28**	**299**	*e*P	**P**	**09 23 12.0**	**-0.5**	
	comp=Z,70nm,1.0s							
Y14A	**Wickenburg**	**89.37**	**55**	P	**P**	**09 23 12.9**	**+0.5**	
	baz=90							
KKN	**Kakani**	**89.45**	**299**	*e*P	**P**	**09 23 12.9**	**-0.3**	
	comp=Z,59nm,1.0s							
SYO	**Syowa Base**	**89.49**	**197**	⇓*i*P	**P**	**09 23 10.6**	**-1.6**	
DMN	**Daman**	**89.55**	**298**	*e*P	**P**	**09 23 13.6**	**-0.1**	
	comp=Z,105nm,1.0s							
ELK	**Elko**	**89.75**	**48**	*e*P	**P**	**09 23 14.8**	**+0.5**	
	comp=Z,5.4nm,1.2s							
F10A	**Beach Ranch, E**	**90.11**	**42**	*e*P	**P**	**09 23 15.7**	**+0.1**	
	comp=Z,9.1nm,1.0s							
CCUT	**Cedar City**	**90.16**	**51**	*e*P	**P**	**09 23 16.8**	**+0.5**	
	comp=Z,3.2nm,1.0s							
ARUT	**Antelope Range**	**90.17**	**51**	*e*P	**P**	**09 23 17.1**	**+0.9**	
ARUT				pmax	pmax			
	comp=Z,53nm,1.0s							
ARUT	**Antelope Range**	**90.17**	**51**	*e*P	**P**	**09 23 17.1**	**+0.9**	
	comp=Z,53nm,1.0s							
MFID	**Camas Ranch**	**90.20**	**45**	*e*P	**P**	**09 23 16.5**	**+0.4**	
	comp=Z,3.2nm,0.8s							
U15A	**North Rim**	**90.65**	**53**	P	**P**	**09 23 19.1**	**+0.5**	
	baz=91							
TUC	**Tucson**	**90.69**	**57**	*e*P	**P**	**09 23 19.5**	**+0.8**	
TUC				pmax	pmax			
	comp=Z,9.0nm,1.5s							
TUC	**Tucson**	**90.69**	**57**	*e*P	**P**	**09 23 19.4**	**+0.8**	
	comp=Z,9.2nm,1.5s							
X16A	**Lo Mia Camp, P**	**90.75**	**55**	P	**P**	**09 23 19.8**	**+0.7**	
	baz=91							
KOLN	**Koldanda**	**90.88**	**298**	*e*P	**P**	**09 23 18.7**	**-1.1**	
DANN	**Dangsing**	**90.89**	**299**	*e*P	**P**	**09 23 18.8**	**-1.2**	
NEW	**Newport**	**90.95**	**40**	P	**P**	**09 23 19.4**	**0.0**	
	baz=91							
WUAZ	**Wupatki**	**91.11**	**54**	P	**P**	**09 23 19.9**	**-0.7**	
	baz=91							
HLID	**Hailey**	**91.22**	**45**	P	**P**	**09 23 20.7**	**-0.3**	
	baz=91							
MVU	**Marysvale**	**91.31**	**51**	*e*P	**P**	**09 23 20.9**	**-0.7**	
	comp=Z,4.6nm,1.2s							
PYUN	**Piuthan**	**91.49**	**298**	*e*P	**P**	**09 23 20.8**	**-1.8**	
319A	**Douglas**	**91.68**	**58**	P	**P**	**09 23 23.7**	**+0.4**	
	baz=92							
X18A	**Snowflake**	**91.97**	**55**	P	**P**	**09 23 24.8**	**+0.1**	
	baz=92							
INK	**Inuvik**	**92.12**	**19**	LR	LR	09 58 10.5		
	comp=Z,37nm,20.8s,baz=283,slow=31							
WMQ	**Urumqi**	**92.13**	**315**	P	**P**	**09 23 25.7**	**+0.7**	
WMQ				pP	**pP**	**09 24 13.1**	**+1.0**	
WMQ				sP	**sP**	**09 24 33.0**	**+1.1**	
WMQ				pmax	pmax			
	comp=Z,17nm,1.8s							
WMQ				pmax	pmax			
	comp=Z,17nm,7.5s							
WMQ				LR	LR			
	comp=Z,610nm,38.5s							
WMQ				LR	LR			
	comp=Z,860nm,38.8s							
WMQ				LR	LR			
	comp=Z,38nm,21.8s							
320A	**Kipp Ranch, An**	**92.29**	**58**	P	**P**	**09 23 27.1**	**+0.9**	
	baz=92							
HYB	**Hyderabad**	**92.86**	**287**	*i*P	**P**	**09 23 28.0**	**-0.9**	
I17A	**Pilgrim Ck.**	**93.99**	**46**	P	**P**	**09 23 35.4**	**+1.6**	
	baz=94							
Z22A	**Elephant Butte**	**94.05**	**57**	P	**P**	**09 23 34.7**	**+0.5**	
	baz=94							
PDAR	**Pinedale Array**	**94.41**	**47**	pP	**pP**	**09 24 22.3**	**-0.6**	
PDAR				PKKPbc	**PKKPbc**	**09 40 36.1**	**+0.1**	
PDAR	**Pinedale Array**	**94.41**	**47**	pP	**pP**	**09 24 22.3**	**-0.6**	
	comp=Z,0.7nm,1.0s,baz=126,slow=2.0,SNR=3.1							
PDAR				PKKPbc	**PKKPbc**	**09 40 36.1**	**+0.1**	
	comp=Z,0.2nm,0.8s,baz=74,slow=5.3,SNR=3.5							
PDAR				LR	LR	10 02 18.8		
	comp=Z,67nm,18.9s,baz=83,slow=33							
ANMO	**Albuquerque**	**94.86**	**55**	P	**P**	**09 23 38.3**	**+0.4**	
ANMO	**Albuquerque**	**94.86**	**55**	P	**P**	**09 23 38.3**	**+0.4**	
	comp=Z,0.9nm,0.9s,baz=99,slow=4.9,SNR=4.3							
224A	**Cornudas Mount**	**94.95**	**58**	P	**P**	**09 23 38.7**	**+0.3**	
	baz=95							
P22A	**Eagle**	**95.69**	**51**	P	**P**	**09 23 42.2**	**+0.5**	
	baz=96							
I20A	**Worland**	**95.71**	**46**	P	**P**	**09 23 42.7**	**+1.2**	
	baz=96							
TXAR	**Lajitas Array**	**95.91**	**61**	P	**P**	**09 23 42.5**	**-0.2**	
TXAR	**Lajitas Array**	**95.91**	**61**	P	**P**	**09 23 42.5**	**-0.2**	
	comp=Z,0.7nm,1.0s,baz=222,slow=5.0,SNR=5.1							
O22A	**Kremmling**	**95.98**	**50**	P	**P**	**09 23 43.4**	**+0.3**	
	baz=96							
MK31	**Makanchi Array**	**96.59**	**316**	*e*P	**P**	**09 23 44.9**	**-0.4**	
MK31	**Makanchi Array**	**96.59**	**316**	*e*P	**P**	**09 23 44.9**	**-0.4**	
MKAR	**Makanchi Array**	**96.59**	**316**	*e*P	**P**	**09 23 45.3**	**-0.1**	
MKAR	**Makanchi Array**	**96.59**	**316**	*e*P	**P**	**09 23 45.2**	**-0.1**	
MKAR				PKKPbc	**PKKPbc**	**09 40 29.1**	**-1.0**	
MKAR	**Makanchi Array**	**96.59**	**316**	P	**P**	**09 23 45.2**	**-0.1**	
	comp=Z,12nm,0.8s,baz=99,slow=6.1,SNR=102							
MKAR				PKKPbc	**PKKPbc**	**09 40 29.1**	**-1.0**	
	comp=Z,0.1nm,0.5s,baz=269,slow=4.4,SNR=4.3							
ZAA0	**Zalesovo Array**	**96.71**	**324**	*e*P	**P**	**09 23 44.2**	**-1.4**	
ZALV	**Zalesovo Beam**	**96.71**	**324**	P	**P**	**09 23 44.2**	**-1.4**	
ZALV				*PP	**pP**	**09 24 32.8**	**0.0**	
ZALV	**Zalesovo Beam**	**96.71**	**324**	P	**P**	**09 23 44.1**	**-1.4**	
ZALV				pP	**pP**	**09 24 32.8**	**0.0**	
ZALV	**Zalesovo Beam**	**96.71**	**324**	P	**P**	**09 23 44.1**	**-1.4**	
	comp=Z,9.3nm,0.8s,baz=108,sl

	comp=Z,4.8nm,0.9s,baz=159,slow=3.7,SNR=4.9							
VSR	**Storozhevoye**	**124.21 323**	*e*PKIKP	**PKPdf**	**09 29 11.8**	**-1.2**		
VSR			pmax	pmax				
	comp=N,9.0nm,0.9s							
VSR			pmax	pmax				
	comp=E,9.0nm,0.9s							
VSR			pmax	pmax				
	comp=Z,20nm,0.9s							
VORD	**Divnogorie**	**124.23 323**	*e*PKIKP	**PKPdf**	**09 29 12.4**	**-0.6**		
VORD			pmax	pmax				
	comp=Z,10.0nm,0.9s							
VORD			pmax	pmax				
	comp=N,6.0nm,0.8s							
VORD			pmax	pmax				
	comp=E,9.0nm,0.9s							
KAF	**Kangasniemi**	**124.42 339**	*e*PKIKP	**PKPdf**	**09 29 12.8**	**-0.3**		
KAF			pmax	pmax				
	comp=Z,4.0nm,0.6s							
KAF	**Kangasniemi**	**124.42 339**	*ep*	**PKPdf**	**09 29 12.8**	**-0.3**		
	comp=Z,4.0nm,0.6s							
FINES	**FINESS Array B**	**124.95 338**	PKP	**PKPdf**	**09 29 14.0**	**-0.1**		
FINES	**FINESS Array B**	**124.95 338**	PKP	**PKPdf**	**09 29 14.0**	**-0.1**		
	comp=Z,8.7nm,0.8s,baz=76,slow=2.1,SNR=33							
KMBO	**Kilima Mbogo**	**128.26 257**	PKP	**PKPdf**	**09 29 22.0**	**-0.3**		
KMBO	**Kilima Mbogo**	**128.26 257**	PKP	**PKPdf**	**09 29 22.0**	**-0.3**		
	comp=Z,2.7nm,0.8s,baz=184,slow=24,SNR=6.8							
NB2	**NORSAR Subarra**	**129.82 345**	PKPdf	**PKPdf**	**09 29 23.6**	**+0.1**		
	comp=Z,2.3nm,0.8s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.82 345**	PKP	**PKPdf**	**09 29 23.4**	**-0.1**		
NOA			SKPbc	SKPbc	09 32 29.0	+0.9		
NOA	**NORSAR Array B**	**129.82 345**	PKP	**PKPdf**	**09 29 23.4**	**-0.1**		
	comp=Z,2.9nm,0.8s,baz=32,slow=1.9,SNR=8.3							
NOA			SKPbc	SKPbc	09 32 29.0	+0.9		
	comp=Z,0.9nm,0.7s,baz=33,slow=4.2,SNR=4.0							
AKASG	**Malin Array Be**	**130.04 326**	PKIKP	**PKPdf**	**09 29 24.2**	**0.0**		
AKASG	**Malin Array Be**	**130.04 326**	PKP	**PKPdf**	**09 29 24.1**	**0.0**		
AKASG	**Malin Array Be**	**130.04 326**	PKP	**PKPdf**	**09 29 24.1**	**0.0**		
	comp=Z,4.4nm,0.9s,baz=56,slow=1.9,SNR=23							
KIEV	**Kiev**	**130.05 326**	*i*PKIKP	**PKPdf**	**09 29 24.7**	**+0.5**		
LSZ	**Lusaka**	**130.20 236**	*e*PKPdf	**PKPdf**	**09 29 26.4**	**+0.8**		
BRTR	**Keskin Array B**	**131.95 311**	PKP	**PKPdf**	**09 29 28.2**	**-0.1**		
BRTR	**Keskin Array B**	**131.95 311**	PKP	**PKPdf**	**09 29 28.2**	**-0.1**		
	comp=Z,3.0nm,0.9s,baz=70,slow=2.1,SNR=9.6							
BUR08	**Bucovina Ar. S**	**133.92 325**	*e*PKPdf	**PKPdf**	**09 29 33.5**	**+1.7**		
KOLS	**Kolonicke sedl**	**134.73 328**	*e*PKIKP	**PKPdf**	**09 29 34.0**	**+0.9**		
KOLS	**Kolonicke sedl**	**134.73 328**	*e*PKP	**PKPdf**	**09 29 34.0**	**+0.9**		
STHS	**Stebnicka Huta**	**134.95 329**	*e*PKIKP	**PKPdf**	**09 29 35.7**	**+2.2**		
STHS	**Stebnicka Huta**	**134.95 329**	*e*PKP	**PKPdf**	**09 29 35.7**	**+2.2**		
OKC	**Ostrava-Krasne**	**136.17 331**	*e*PKIKP	**PKPdf**	**09 29 33.7**	**-2.0**		
OKC	**Ostrava-Krasne**	**136.17 331**	*e*PKPdf	**PKPdf**	**09 29 33.7**	**-2.0**		
KSP	**Ksiaz**	**136.29 334**	*e*PKIKP	**PKPdf**	**09 29 36.4**	**+0.5**		
DPC	**Dobruska-Polom**	**136.63 333**	*e*PKIKP	**PKPdf**	**09 29 36.7**	**+0.1**		
DPC	**Dobruska-Polom**	**136.63 333**	*e*PKPdf	**PKPdf**	**09 29 36.7**	**+0.1**		
DPC			*e*SKP		09 32 56.5			
UPC	**Upice**	**136.66 333**	*e*PKIKP	**PKPdf**	**09 29 37.1**	**+0.5**		
UPC	**Upice**	**136.66 333**	*e*PKPdf	**PKPdf**	**09 29 37.1**	**+0.5**		
UPC			*e*SKP		09 32 54.8			
BRG	**Berggiesshubel**	**137.25 335**	*e*PKP	**PKPdf**	**09 29 37.6**	**-0.1**		
	comp=Z,11nm,1.1s							
BRG	**Berggiesshubel**	**137.25 335**	*e*PKIKP	**PKPdf**	**09 29 37.6**	**-0.1**		
BRG			pmax	pmax				
	comp=Z,11nm,1.1s							
PVCC	**Panska Ves**	**137.25 334**	*e*PKIKP	**PKPdf**	**09 29 38.2**	**+0.5**		
PVCC	**Panska Ves**	**137.25 334**	*e*PKPdf	**PKPdf**	**09 29 38.2**	**+0.5**		
PVCC			*e*SKP		09 33 03.7			
CLL	**Collm**	**137.29 336**	*e*PKIKP	**PKPdf**	**09 29 36.0**	**-1.7**		
CLL			pmax	pmax				
	comp=Z,17nm,1.2s							
CLL	**Collm**	**137.29 336**	*e*PKPdf	**PKPdf**	**09 29 36.0**	**-1.7**		
CLL			*i* PKiKP	**PKiKP**	**09 29 39.5**	**-0.2**		
	comp=Z,17nm,1.2s							
PRU	**Pruhonice**	**137.67 334**	*e*PKIKP	**PKPdf**	**09 29 39.0**	**+0.5**		
PRU	**Pruhonice**	**137.67 334**	*e*PKPdf	**PKPdf**	**09 29 39.0**	**+0.5**		
PRU			*e*SKP		09 32 56.6			
EKA	**Eskdalemuir Ar**	**137.99 352**	SKPbc	**SKPbc**	**09 32 56.2**	**+1.0**		
EKA	**Eskdalemuir Ar**	**137.99 352**	SKPbc	**SKPbc**	**09 32 56.2**	**+1.0**		
	comp=Z,1.8nm,0.9s,baz=352,slow=3.4,SNR=4.2							
CSNA	**Conrad Observa**	**138.59 331**	*i* PKPdf	**PKPdf**	**09 29 40.7**	**+0.3**		
	comp=Z,17nm,1.2s							
KHC	**Kasperske Hory**	**138.73 334**	*e*PKIKP	**PKPdf**	**09 29 40.6**	**+0.1**		
KHC	**Kasperske Hory**	**138.73 334**	*e*PKPdf	**PKPdf**	**09 29 40.6**	**+0.1**		
KHC			*e*SKP		09 33 07.1			
KHC	**Kasperske Hory**	**138.73 334**	*e*PKPdf	**PKPdf**	**09 29 40.5**	**-0.1**		
GERES	**GERESS Array B**	**138.90 333**	PKP	**PKPdf**	**09 29 40.4**	**-0.6**		
GERES			SKPbc	**SKPbc**	**09 32 58.5**	**+0.4**		
GERES	**GERESS Array B**	**138.90 333**	PKP	**PKPdf**	**09 29 40.4**	**-0.6**		
	comp=Z,2.4nm,0.8s,baz=42,slow=2.2,SNR=11							
GERES			SKPbc	**SKPbc**	**09 32 58.5**	**+0.4**		
	comp=Z,1.1nm,0.9s,baz=349,slow=2.9,SNR=5.7							
MEM	**Membach**	**140.34 341**	PKP	**PKPdf**	**09 29 44.4**	**+1.1**		
DAVOX	**Davos/Dischmat**	**142.12 334**	PKPpre	PKPpre	09 29 43.2			
DAVOX	**Davos/Dischmat**	**142.12 334**	PKhKP	PKPpre	09 29 43.2			
	comp=Z,3.6nm,0.6s,baz=53,slow=3.1,SNR=7.7							
TUE	**Stuetta**	**142.59 335**	*e*PKPdf	**PKPdf**	**09 29 44.1**	**-3.7**		
RSL	**Roselend**	**144.33 336**	PKP	PKPbc	09 29 49.8	+0.2		
BNI	**Bardonecchia**	**144.83 336**	*e*PKIKP	**PKPdf**	**09 29 51.7**	**0.0**		
BNI	**Bardonecchia**	**144.83 336**	*e*PKPdf	**PKPdf**	**09 29 51.7**	**0.0**		
OG22	**Abries**	**144.92 335**	PKP	**PKPdf**	**09 29 52.7**	**+0.8**		
SAOF	**Saorge**	**145.34 334**	PKP	**PKPab**	**09 29 52.9**	**-0.1**		
AUTN	**L'Aution**	**145.39 334**	PKP	**PKPab**	**09 29 53.3**	**-0.2**		
SSB	**Saint Sauveur**	**145.45 338**	*e*PKP2	**PKPab**	**09 29 53.3**	**-0.1**		
SSB	**Saint Sauveur**	**145.45 338**	PKP	**PKPab**	**09 29 53.8**	**+0.4**		
SSB	**Saint Sauveur**	**145.45 338**	*e*PKPdf	**PKPab**	**09 29 53.3**	**-0.1**		
TOUF	**Mont Tournerai**	**145.45 334**	PKP	**PKPab**	**09 29 53.5**	**-0.1**		
LUCF	**Luceram**	**145.51 334**	PKP	**PKPab**	**09 29 53.6**	**-0.1**		
MVIF	**Mont Vial**	**145.59 334**	PKP	**PKPbc**	**09 29 53.7**	**+0.1**		
REVF	**Revere**	**145.62 334**	PKP	**PKPdf**	**09 29 51.2**	**-1.8**		
OG25	**Le Caire**	**145.64 336**	PKP	**PKPab**	**09 29 54.1**	**-0.1**		
VERF	**Verneugheol**	**145.74 341**	PKP	**PKPab**	**09 29 55.1**	**+0.6**		
OG26	**St.-Nazaire-De**	**145.77 337**	PKP	**PKPab**	**09 29 55.1**	**+0.5**		
CALN	**Calern**	**145.81 334**	PKP	**PKPbc**	**09 29 54.2**	**-0.1**		
FRNF	**Fournols**	**146.03 341**	PKP	**PKPab**	**09 29 55.8**	**+0.2**		
VSL	**Villasalto**	**147.91 327**	*e*PKPbc	**PKPbc**	**09 29 59.6**	**-0.5**		
SHEL	**Horse Pasture**	**149.53 193**	*i* PKP2	**PKPbc**	**09 30 07.4**	**+2.5**		
KEST	**Kesra**	**150.55 321**	*e*PKPbc	**PKPbc**	**09 30 07.6**	**+0.8**		
KEST	**Kesra**	**150.55 321**	PKPbc	**PKPbc**	**09 30 07.7**	**+0.8**		
	comp=Z,24nm,0.9s,baz=288,slow=2.5,SNR=34							
CMAH	**Djebel Manchou**	**151.05 325**	P	**PKPbc**	**09 30 07.9**	**-0.1**		
CAEH	**'Ain El Ouahch**	**151.25 326**	P	**PKPbc**	**09 30 07.5**	**-0.9**		
ABSA	**Djebel Ababsia**	**151.27 324**	P	**PKPbc**	**09 30 08.0**	**-0.6**		
CKFL	**Kef-Lekhel**	**151.60 326**	P	**PKPbc**	**09 30 10.0**	**+0.7**		
CASM	**Ain Smara**	**151.83 326**	P	**PKPbc**	**09 30 10.2**	**+0.4**		
DFRA	**Djebel Bou Aff**	**151.95 327**	P	**PKPbc**	**09 30 10.4**	**+0.3**		
CKHR	**Kef el Ahmar**	**152.54 327**	P	**PKPbc**	**09 30 10.4**	**-1.1**		
ESDC	**Sonseca Array**	**153.18 345**	PKPbc	**PKPbc**	**09 30 13.3**	**+0.6**		
ESDC			PKPab	**PKPab**	**09 30 25.6**	**+0.6**		
ESDC	**Sonseca Array**	**153.18 345**	PKPbc	**PKPbc**	**09 30 13.3**	**+0.6**		
	comp=Z,2.3nm,0.8s,baz=16,slow=2.6,SNR=11							
ESDC			PKPab	**PKPab**	**09 30 25.6**	**+0.6**		
	comp=Z,2.5nm,0.7s,baz=11,slow=4.0,SNR=9.0							
TOA0	**Torodi Ar. Sit**	**165.93 269**	*e*PKPdf	**PKPdf**	**09 30 19.4**	**-0.7**		
TOA0			*e*PKPab	**PKPab**	**09 31 20.6**	**-0.6**		
TORD	**Torodi Ar. Bea**	**165.93 269**	PKP	**PKPdf**	**09 30 19.7**	**-0.5**		
TORD			PKPab	**PKPab**	**09 31 20.7**	**-0.5**		
TORD	**Torodi Ar. Bea**	**165.93 269**	PKP	**PKPdf**	**09 30 19.7**	**-0.5**		
	comp=Z,8.2nm,1.0s,baz=66,slow=1.2,SNR=31							
TORD			PKPab	**PKPab**	**09 31 20.7**	**-0.5**		
	comp=Z,10.0nm,1.0s,baz=86,slow=3.7,SNR=18							
KIC	**Kosan Boka**	**169.12 227**	*e*PKIKP	**PKPdf**	**09 30 21.6**	**-0.9**		
	comp=Z,34nm,1.3s							
LIC	**Lamto**	**169.23 226**	*e*PKIKP	**PKPdf**	**09 30 21.6**	**-1.0**		
	comp=Z,52nm,1.8s							
DBIC	**Dimbokro**	**169.42 228**	PKP	**PKPdf**	**09 30 21.9**	**-0.8**		
DBIC			PKPab	**PKPab**	**09 31 35.8**	**-0.6**		
DBIC	**Dimbokro**	**169.42 228**	PKP	**PKPdf**	**09 30 21.9**	**-0.8**		
	comp=Z,3.8nm,0.8s,baz=261,slow=5.0,SNR=5.4							
DBIC			PKPab	**PKPab**	**09 31 35.8**	**-0.6**		
	comp=Z,2.2nm,1.0s,baz=94,slow=6.8,SNR=3.5							
TIC	**Toumodi**	**169.52 227**	*e*PKIKP	**PKPdf**	**09 30 21.8**	**-1.0**		
	comp=Z,4.2nm,0.2s							

MAN 03 09:14:06, 16°.55N×122°.62E, h22km, mb4.4, ML3.2, MS3.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.54**	**340**	*e*P	Pn	09 14 19.8	+1.4
PALP				*e*S	Sn	09 14 26.3	-0.5
CAUP	**Cauayan**	**0.86**	**297**	*e*P	Pb	09 14 21.7	-0.5
CAUP				*e*S	Sb	09 14 25.0	-8.3
BALP	**Baler**	**1.29**	**231**	*e*P	Pn	09 14 28.1	-0.6
CVP	**Callao Caves**	**1.38**	**326**	*e*P	Pb	09 14 31.1	0.0
CVP				*e*S	Sb	09 14 48.0	-0.3
APYP	**Conner**	**1.85**	**315**	*e*P	Pn	09 14 37.6	+1.1
BCPH	**Baguio City Da**	**1.97**	**265**	⇑*i*P	Pn	09 14 39.3	+1.0
BCPH				*i* S	Sn	09 15 04.0	+1.6
ABRA	**Dolores**	**2.13**	**301**	*e*P	Pn	09 14 41.3	+1.0
GQP	**Guinayangan**	**2.64**	**184**	*i* P	Pn	09 14 49.9	+2.6
GQP				*i* S	Sn	09 15 20.3	+1.7
NBP	**Mount Natib**	**2.79**	**230**	⇑*e*P	Pn	09 14 50.2	+0.9
NBP				*e*S	Sb	09 15 30.2	+1.2
PVCP	**Virac**	**3.29**	**153**	*e*P	Pn	09 14 58.2	+1.9

IDC 03 09:16:17.5±1.6, 4°.38N×127°.16E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/24, mbtmp3.7/5, Error ellipse: s-maj=157.5km s-min=20.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.18**	**164**	P	P	09 21 43.6	-1.3
	1.0nm,0.6s,baz=344,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	09 22 17.1	+1.0
	0.6nm,0.8s,baz=345,slow=9.6						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	09 26 07.1	0.0
	0.5nm,0.5s,baz=121,slow=7.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.21**	**333**	P	P	09 26 27.1	-0.2
	0.6nm,0.4s,baz=121,slow=6.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**61.43**	**327**	P	P	09 26 35.8	+0.1
	0.7nm,0.7s,baz=123,slow=6.8,SNR=6.4						

MAN 03 09:18:44, 16°.50N×122°.77E, h23km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.65**	**330**	*e*P	Pn	09 18 58.2	+0.3
PALP				*e*S	Sb	09 19 06.4	+0.9
CAUP	**Cauayan**	**1.01**	**296**	*e*P	Pn	09 19 01.6	-1.2
CVP	**Callao Caves**	**1.50**	**323**	*e*P	Pb	09 19 11.1	-0.2
CVP				*e*S	Sb	09 19 29.2	-0.7
APYP	**Conner**	**1.99**	**313**	*e*P	Pn	09 19 17.5	+1.2
BCPH	**Baguio City Da**	**2.10**	**267**	⇑*i*P	Pn	09 19 18.8	+0.8
BCPH				*i* S	Sn	09 19 45.0	+1.3
ABRA	**Dolores**	**2.28**	**301**	*e*P	Pn	09 19 21.3	+1.1
BOLP	**Bolinao**	**2.74**	**268**	*e*P	Pn	09 19 26.8	+0.2
PVCP	**Virac**	**3.18**	**155**	*e*P	Pb	09 19 38.0	-1.8

MAN 03 09:29:23, 16°.89N×122°.33E, h59km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.19**	**28**	*e*P	Pn	09 29 36.8	+4.5
PALP				*e*S	Sn	09 29 42.4	+3.3
CAUP	**Cauayan**	**0.49**	**276**	*e*P	Pn	09 29 37.5	+2.8
APYP	**Conner**	**1.42**	**313**	*e*P	Pn	09 29 48.4	+1.8

JMA 03 09:32:52.7±0.1, 40°.35N×142°.18E, h45km±1km, M3.5, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.48**	**211**	⇑P	Pn	09 33 03.3	-0.1
JTH				S	Sn	09 33 10.8	-0.2
JANG	**Nango**	**0.51**	**273**	⇓P	Pn	09 33 03.8	0.0
JANG				S	Sn	09 33 11.5	-0.2
JKZ	**Kuzumaki**	**0.75**	**241**	⇓P	Pn	09 33 07.2	+0.2
JKZ				S	Sn	09 33 17.4	+0.1
JTM	**Tenmabayashi**	**0.95**	**298**	⇓P	Pn	09 33 09.3	-0.4
JTM				S	Sn	09 33 21.7	-0.4
JOM	**Ohasama**	**1.11**	**218**	P	Pn	09 33 12.1	+0.3
JOM				S	Sn	09 33 25.9	-0.1
JAH	**Hinai**	**1.19**	**263**	⇓P	Pn	09 33 13.2	+0.3
JAH				S	Sn	09 33 28.0	0.0
JOT	**Ohata**	**1.34**	**321**	P	Pn	09 33 14.4	-0.6
JOT				S	Sn	09 33 30.8	-0.8

IDC 03 09:38:49.8±1.0, 7°.02S×157°.02E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, ML4.8/1, Error ellipse: s-maj=30.6km s-min=21.8km az=123.0
ISCJB 03 09:38:52.4±0.7, 7°.3S±0°.1×157°.22E±0°.09, h33km, mb4.0/7, Error ellipse: s-maj=19.1km s-min=8.0km az=35.9
ISC 03 09:38:54.6±0.8, 7°.2S±0°.1×157°.2E±0°.1, h35km, n15, σ1§92/10, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.52**	**130**	Pn	Pn	09 39 49.6	+2.8
	71nm,0.3s,baz=214,slow=2.3,SNR=26						
HNR				S	**Sn**	**09 40 24.3**	**-2.9**
	100nm,0.3s,baz=237,slow=8.1,SNR=7.1						
HNR	**Honiara**	**3.52**	**130**	*e*P	**Pn**	**09 39 49.0**	**+2.2**
HNR				*i* S	**Sn**	**09 40 26.0**	**-1.2**
WRA	**Warramunga Arr**	**25.56**	**238**	P	**P**	**09 44 19.4**	**-1.0**
	5.2nm,0.7s,baz=62,slow=9.1,SNR=51						
H11S3	**WAKE ISLAND Hy**	**27.16**	**20**	T	T	10 13 20.5	
	baz=200,slow=77,SNR=71						
H11S2	**WAKE ISLAND Hy**	**27.16**	**20**	T	T	10 13 25.5	
	baz=200,slow=77,SNR=85						
H11S1	**WAKE ISLAND Hy**	**27.17**	**20**	T	T	10 13 21.8	
	baz=200,slow=77,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.36**	**19**	T	T	10 14 34.5	
	baz=321,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**28.37**	**20**	T	T	10 14 51.3	
	baz=196,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**28.38**	**19**	T	T	10 15 29.5	
	SNR=13						
STKA	**Stephens Creek**	**28.58**	**209**	P	**P**	**09 44 49.2**	**+1.8**
	1.4nm,0.5s,baz=48,slow=16,SNR=8.0						
FITZ	**Fitzroy Crossi**	**32.61**	**248**	P	**P**	**09 45 20.9**	**-2.3**
	2.9nm,0.4s,baz=67,slow=7.0,SNR=12						
SONM	**Songino Array**	**70.68**	**326**	P	**P**	**09 50 08.0**	**+1.0**
	0.7nm,0.9s,baz=106,slow=4.8,SNR=3.3						
ILAR	**Eielson Array**	**82.73**	**21**	P	**P**	**09 51 13.8**	**-0.7**
	1.6nm,1.1s,baz=253,slow=5.1,SNR=10.0						
MKAR	**Makanchi Array**	**84.99**	**318**	P	**P**	**09 51 26.2**	**-0.3**
	0.4nm,0.8s,baz=98,slow=6.0,SNR=3.0						
YKA	**Yellowknife Ar**	**95.46**	**28**	P	**P**	**09 52 15.3**	**-0.1**
	0.4nm,0.6s,baz=265,slow=4.7,SNR=7.5						

IDC 03 09:39:03.7±1.4, 4°.17N×127°.07E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=98.4km s-min=19.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.17**	**184**	P	P	09 44 00.1	-1.4
	4.1nm,0.9s,baz=10,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**25.00**	**164**	P	P	09 44 29.9	+0.5
	1.1nm,0.7s,baz=345,slow=11,SNR=13						
STKA	**Stephens Creek**	**38.42**	**160**	P	P	09 46 27.2	+0.1
	0.8nm,0.4s,baz=340,slow=7.4,SNR=4.4						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	09 48 54.0	0.0
	0.7nm,0.5s,baz=118,slow=7.7,SNR=19						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	P	09 49 14.4	0.0
	0.8nm,0.4s,baz=143,slow=10,SNR=4.2						

ISCJB 03 09:59:44.9±0.7, 6°.47N±0°.09×73°.33W±0°.09, h150km, mb3.4/2, Error ellipse: s-maj=16.9km s-min=7.6km az=136.2
IDC 03 09:59:48.0±3.4, 6°.45N×73°.75W, h143km±26km, mb3.1/2, mb1 3.6/2, mb1mx3.0/22, mbtmp3.1/2, Error ellipse: s-maj=78.3km s-min=32.5km az=83.0
FUNV 03 09:59:57.9, 6°.98N×72°.73W, h101km, MW3.8
ISC 03 09:59:46.1±1.0, 6°.5N±0°.1×73°.3W±0°.1, h150km, n17, σ1§08/18, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.73**	**36**	*i* P	**Pn**	**10 00 17.5**	**-0.9**
CAPV				*e*S	Sn	10 00 33.2	-10
ROSC	**El Rosal**	**1.87**	**212**	P	**Pn**	**10 00 20.0**	**-0.1**
	14nm,0.3s,baz=352,slow=2.7,SNR=52						
ROSC				S	**Sn**	**10 00 43.9**	**-2.3**
	30nm,0.3s,baz=92,slow=20,SNR=10						
SOCV	**Socops**	**3.06**	**53**	*e*P	**Pn**	**10 00 33.7**	**-0.5**
SOCV				*e*S	Sn	10 00 59.0	-12
ELOV	**Elorza**	**3.86**	**82**	*e*P	**Pn**	**10 00 45.0**	**+0.5**
QARV	**Quebrada Arrib**	**4.65**	**36**	*e*P	**Pn**	**10 00 54.3**	**-0.7**
QARV				*e*S	Sn	10 01 35.7	-13
SANV	**Sanarito**	**4.83**	**51**	*e*P	**Pn**	**10 00 56.6**	**-0.8**
SANV				*e*S	Sn	10 01 39.9	-13
CURV	**Curarigua**	**4.87**	**43**	*e*P	**Pn**	**10 00 56.9**	**-0.9**
DABV	**Dabajuro**	**5.18**	**31**	*e*P	**Pn**	**10 01 01.3**	**-0.7**
TEPV	**Terepaima**	**5.38**	**49**	*e*P	**Pn**	**10 01 04.2**	**-0.5**
TEPV				*e*S	Sn	10 01 53.0	-13
SIQV	**Siquisique**	**5.44**	**40**	*e*P	**Pn**	**10 01 04.3**	**-1.0**
SIQV				*e*S	Sn	10 01 53.4	-14
BAUV	**El Baul**	**5.80**	**64**	*e*P	**Pn**	**10 01 09.2**	**-1.0**
MAPV	**Macapo**	**5.88**	**55**	*e*P	**Pn**	**10 01 10.7**	**-0.6**
TURV	**Turiamo**	**6.73**	**53**	*e*P	**Pn**	**10 01 21.8**	**-0.8**
CUPV	**Cepira**	**8.28**	**64**	*e*P	**Pn**	**10 01 42.4**	**-0.9**
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**10 06 37.7**	**0.0**
	0.2nm,0.6s,baz=128,slow=12,SNR=3.7						
YKA	**Yellowknife Ar**	**63.54**	**340**	P	**P**	**10 10 01.6**	**+1.4**
	0.7nm,0.4s,baz=134,slow=6.7,SNR=17						
WRA	**Warramunga Arr**	**149.97**	**241**	PKPbc	**PKPbc**	**10 19 21.2**	**+1.5**
	0.4nm,0.5s,baz=106,slow=2.7,SNR=12						

ROM 03 10:07:45.1±0.4, 44°.28N×14°.65E, h10km, Ml2.6/4, Error ellipse: s-maj=6.2km s-min=2.4km az=100.0
PRU 03 10:07:48.2, 44°.40N×14°.48E, h6km
VIE 03 10:07:48.7±0.5, 44°.44N×14°.44E, h10km, mb2.4/4, ML2.8/5, Error ellipse: s-maj=3.9km s-min=2.9km az=138.0 101 km S of Rijeka
CSEM 03 10:07:48.1±0.2, 44°.29N×14°.44E, h20km, ML3.6/8, Error ellipse: s-maj=4.0km s-min=3.2km az=115.0
ISC 03 10:07:46.5±1.2, 44°.35N±0°.02×14°.42E±0°.02, h6km±9km, n79, σ0§79/120, 9C-10D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.39**	**56**	*i* Pg	**Pg**	**10 07 53.4**	**-0.7**
NVLJ				Sg	**Sg**	**10 07 59.7**	**+0.4**
NVLJ	**Novalja**	**0.39**	**56**	*i* Pg	**Pg**	**10 07 53.4**	**-0.7**
NVLJ				Sg	**Sg**	**10 07 59.6**	**+0.4**
UDBI	**Udbina**	**0.98**	**79**	*i* Pg	**Pb**	**10 08 06.0**	**+0.1**
UDBI				Sg	**Sb**	**10 08 19.4**	**+0.2**
UDBI	**Udbina**	**0.98**	**79**	*i* Pg	**Pb**	**10 08 06.0**	**+0.1**
UDBI				Sg	**Sb**	**10 08 19.3**	**+0.2**
KNDS	**Knezji Dol**	**1.18**	**359**	*i* Pg	**Pn**	**10 08 09.7**	**0.0**
KNDS							
	comp=Z,28nm,0.1s						
KNDS	**Knezji Dol**	**1.18**	**359**	*i* Pg	**Pn**	**10 08 09.7**	**0.0**
	comp=Z,28nm,0.1s						
GBRS	**Gornja Briga**	**1.22**	**13**	*i* Pg	**Pb**	**10 08 10.0**	**0.0**
GBRS				*i* Sg	**Sn**	**10 08 27.9**	**+1.0**
	comp=Z,23nm,0.2s						
SKDS	**Skadanscina**	**1.23**	**347**	*i* Pg	**Pb**	**10 08 09.8**	**-0.5**
SKDS				*e*Sg	**Sn**	**10 08 26.9**	**-0.4**
SKDS							
	comp=Z,37nm,0.1s						
SKDS	**Skadanscina**	**1.23**	**347**	*i* Pg	**Pb**	**10 08 09.8**	**-0.5**
SKDS				*e*Sg

OBKA	**Obir**	**2.17**	**2**⇑	*i*Pn		**Pn**	**10 08 24.1**	**+0.9**	
OBKA			⇓	*i*Sn		**Sn**	**10 08 51.3**	**+0.9**	
OBKA	**Obir**	**2.17**	**2**	Pn		**Pn**	**10 08 24.1**	**+0.9**	
OBKA				Sn		**Sn**	**10 08 51.3**	**+0.9**	
ACOM	**Acomizza, Ital**	**2.29**	**344**	*e*Pn		**Pn**	**10 08 26.1**	**+1.1**	
ACOM	**Acomizza, Ital**	**2.29**	**344**	Pg		**Pn**	**10 08 26.1**	**+1.1**	
	comp=Z,61nm,0.5s								
ACOM	**Acomizza, Ital**	**2.29**	**344**	Pg		**Pn**	**10 08 26.1**	**+1.1**	
	comp=Z,61nm,0.5s								
FUSE	**Fusea**	**2.30**	**335**⇓	*e*Pn		**Pn**	**10 08 26.1**	**+1.2**	
FUSE	**Fusea**	**2.30**	**335**⇓	*e*Pn		**Pn**	**10 08 26.1**	**+1.2**	
MYKA	**Terra Mystica**	**2.35**	**347**	*i*Pn		**Pn**	**10 08 26.6**	**+0.9**	
MYKA	**Terra Mystica**	**2.35**	**347**	Pn		**Pn**	**10 08 26.6**	**+0.9**	
SOKA	**Soboth**	**2.37**	**10**⇓	*i*Pn		**Pn**	**10 08 26.7**	**+0.7**	
SOKA			⇓	*i*Sn		**Sn**	**10 08 55.3**	**-0.2**	
SOKA	**Soboth**	**2.37**	**10**	Pn		**Pn**	**10 08 26.7**	**+0.7**	
SOKA				Sn		**Sn**	**10 08 55.3**	**-0.2**	
CIMO	**Cimolais**	**2.41**	**325**⇓	*e*Pn		**Pn**	**10 08 26.8**	**+0.3**	
CIMO	**Cimolais**	**2.41**	**325**⇓	*e*Pn		**Pn**	**10 08 26.8**	**+0.3**	
ZOU	**Zoufplan**	**2.44**	**336**	*e*Pn		**Pn**	**10 08 27.6**	**+0.6**	
DDS	**Dosso del Somm**	**2.75**	**305**	*e*Pn		**Pn**	**10 08 31.7**	**+0.3**	
DDS	**Dosso del Somm**	**2.75**	**305**	*e*Pn		**Pn**	**10 08 31.7**	**+0.3**	
STON	**Ston**	**2.80**	**121**	*e*Pn		**Pn**	**10 08 31.9**	**+0.1**	
STON				Sn		**Sn**	**10 09 07.6**	**+1.7**	
STON	**Ston**	**2.80**	**121**	*e*Pn		**Pn**	**10 08 31.9**	**+0.1**	
STON				Sn		**Sn**	**10 09 07.5**	**+1.7**	
KOSI	**Kohlern**	**3.01**	**316**	*e*Pn		**Pn**	**10 08 36.1**	**+1.2**	
RNI	**Roncone**	**3.13**	**303**	*e*Pn		**Pn**	**10 08 37.8**	**+1.3**	
RNI	**Roncone**	**3.13**	**303**	*e*Pn		**Pn**	**10 08 37.8**	**+1.3**	
ABSI	**Aberstueckl**	**3.23**	**319**	*e*Pn		**Pn**	**10 08 39.3**	**+1.4**	
CONA	**Conrad Observa**	**3.72**	**15**⇑	*i*Pn		**Pn**	**10 08 45.3**	**+0.7**	
CONA			⇑	*i*Sn		**Sn**	**10 09 28.0**	**-0.7**	
CONA	**Conrad Observa**	**3.72**	**15**	Pn		**Pn**	**10 08 45.3**	**+0.7**	
CONA				Sn		**Sn**	**10 09 28.0**	**-0.7**	
KHC	**Kasperske Hory**	**4.82**	**353**	*e*PN		**Pn**	**10 09 00.1**	**+0.5**	
KHC				*ex*		x	10 09 08.0		
KHC				*e*SN		**Sn**	**10 09 54.3**	**-1.5**	
KHC				*e*SG		**Sg**	**10 10 21.5**	**+0.2**	
KHC	**Kasperske Hory**	**4.82**	**353**	Pn		**Pn**	**10 09 00.1**	**+0.5**	
KHC				Sn		**Sn**	**10 09 54.3**	**-1.5**	

IDC 03 10:17:42.8±4.1,**1°75.N**×**98°.50E, h0**km**, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.4**/23**, mbtmp3.4**/4**,** Error ellipse: **s-maj=162.0km s-min=27.6km az=57.0,** Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.57**	**250**	T	T	10 51 01.4	
	baz=70						
H08S3	**Diego Garcia H**	**27.57**	**250**	T	T	10 51 05.0	
	baz=70,slow=75,SNR=4.2						
H08S1	**Diego Carcia H**	**27.59**	**250**	T	T	10 51 04.9	
	baz=70,slow=75,SNR=2.8						
WRA	**Warramunga Arr**	**41.23**	**123**	P	P	10 25 29.7	-0.1
	0.3nm,0.9s,baz=302,slow=9.1,SNR=2.8						
SONM	**Songino Array**	**46.42**	**7**	P	P	10 26 11.6	+0.3
	1.0nm,0.8s,baz=187,slow=8.4,SNR=6.5						
MKAR	**Makanchi Array**	**47.04**	**345**	P	P	10 26 17.1	+1.0
	0.1nm,0.4s,baz=161,slow=8.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**53.24**	**350**	P	P	10 27 01.2	-1.7
	0.3nm,0.5s,baz=158,slow=5.8,SNR=4.6						

MAN 03 10:18:04,12°.52N×**123°.63E, h7**km**, mb4.4, ML3.3, MS3.2, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.16**	**181**⇑	*i*P	Pg	10 18 08.5	+1.2
MMPH				*i*S	Sg	10 18 11.8	+2.4
CNP	**Catarman**	**1.01**	**90**	*e*P	Pb	10 18 23.9	+0.1
PVCP	**Virac**	**1.19**	**26**⇑	*e*P	Pg	10 18 26.1	-0.8
PVCP				*i*S	Sn	10 18 44.0	+0.4
AUQP	**San Andres**	**1.23**	**311**	*e*P	Pn	10 18 27.8	+0.2
RCP	**Roxas**	**1.28**	**222**⇓	*e*P	Pn	10 18 27.6	-0.8
RCP				*e*S	Sn	10 18 45.9	+0.1
OTRP	**Odiongan**	**1.57**	**265**	*e*P	Pn	10 18 31.9	-0.5
GUIM	**Jordan**	**2.13**	**209**	*e*P	Pn	10 18 41.5	+1.4

*ATH **03** 10:57:19.4,34°.36N×23°.50E,h39km, MD3.5/5*
*CSEM **03** 10:57:19.4,34°.36N×23°.50E,h39km, MD3.5, After ATH*
*IDC **03** 10:57:19.6±1.3,34°.59N×23°.69E, h0km, mb3.7/5, mb1 3.6/7, mb1mx3.5/27, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=39.2km s-min=18.5km az=145.0*
*ISCJB **03** 10:57:20.9±1.1,34°.32N±0°.10×23°.60E±0°.09, h33km, mb3.6/5, Error ellipse: s-maj=14.6km s-min=8.9km az=154.9*

ISC 03 10:57:24.2±1.1,**34°.48N**±0°.09×**23°.75E**±0°.07,**h33**km**, n18,** σ0**.96**/25**, mb3.7**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.99**	**22**	*e*PN	**Pn**	**10 57 41.2**	**-0.7**
VAM				*e*SN	**Sb**	**10 57 57.2**	**+1.4**
VAM	**Vamos**	**0.99**	**22**	*e*Pn	**Pn**	**10 57 41.2**	**-0.7**
VAM				*e*Sn	**Sb**	**10 57 57.2**	**+1.4**
SIVA	**Sivas**	**1.02**	**58**	*e*PB	**Pn**	**10 57 41.6**	**-0.7**
SIVA				*e*SN	**Sb**	**10 57 58.0**	**+1.3**
SIVA	**Sivas**	**1.02**	**58**	*e*Pb	**Pn**	**10 57 41.6**	**-0.7**
SIVA				*e*Sn	**Sb**	**10 57 58.0**	**+1.3**
IDI	**Anoyia**	**1.24**	**49**	Pn	**Pn**	**10 57 45.1**	**-0.2**
	12nm,0.3s,baz=205,slow=16,SNR=37						
IDI				Sn	**Sb**	**10 58 03.3**	**+0.6**
	23nm,0.3s,baz=349,slow=22,SNR=26						
LAST	**Lasithi**	**1.58**	**64**	*e*PN	**Pn**	**10 57 50.0**	**0.0**
LAST				*e*SN	**Sb**	**10 58 12.6**	**+0.1**
LAST	**Lasithi**	**1.58**	**64**	*e*Pn	**Pn**	**10 57 50.0**	**0.0**
LAST				*e*Sn	**Sb**	**10 58 12.6**	**+0.1**
NPS	**Neapolis**	**1.72**	**63**	*e*PN	**Pn**	**10 57 52.0**	**+0.1**
NPS	**Neapolis**	**1.72**	**63**	*e*Pn	**Pn**	**10 57 52.0**	**+0.1**
ZKR	**Zakros**	**2.13**	**72**	*e*PN	**Pn**	**10 57 57.3**	**-0.2**
ZKR	**Zakros**	**2.13**	**72**	*e*Pn	**Pn**	**10 57 57.3**	**-0.2**
BRTR	**Keskin Array B**	**9.47**	**54**	Pn	**Pn**	**10 59 37.9**	**-0.6**
	0.1nm,0.3s,baz=230,slow=11,SNR=3.4						
GERES	**GERESS Array B**	**16.17**	**336**	Pn	**Pn**	**11 01 09.3**	**+0.3**
	0.1nm,0.3s,baz=140,slow=13,SNR=3.1						
FINES	**FINESS Array B**	**27.02**	**2**	P	**P**	**11 03 01.8**	**-1.2**
	5.6nm,1.2s,baz=168,slow=9.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**29.17**	**229**	P	**P**	**11 03 23.6**	**+1.0**
	0.2nm,0.5s,baz=35,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**45.12**	**56**	P	**P**	**11 05 35.8**	**-1.5**
	0.5nm,0.4s,baz=269,slow=8.4,SNR=17						
ZALV	**Zalesovo Beam**	**46.31**	**46**	P	**P**	**11 05 44.8**	**-1.8**
	0.7nm,0.4s,baz=284,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**60.81**	**50**	P	**P**	**11 07 34.5**	**+1.3**
	0.3nm,0.7s,baz=297,slow=6.3,SNR=2.3						

*ISCJB **03** 11:06:12.6±0.3,7°.08S±0°.04×125°.23E±0°.06, h511km, mb3.8/8, Error ellipse: s-maj=8.0km s-min=5.7km az=164.5*
*DJA **03** 11:06:13.2±0.5,7°.S±5°×12°.5E±°, h513km±13km, M4.6/10, mb4.8/10, mB4.9/7, MLv4.8/9, Mw(mB)4.2/7*
*IDC **03** 11:06:14.1±3.3,7°.12S×125°.17E, h524km±46km, mb3.4/8, mb1 3.4/9, mb1mx3.2/21, mbtmp3.3/9, Error ellipse: s-maj=31.0km s-min=17.1km az=56.0*

ISC 03 11:06:13.3±0.6,**7°.06S**±0°.07×**125°.29E**±0°.08,**h511**km**, n39,** σ1**9.04**/39**, mb3.9**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.87**	**201**	P	**P**	**11 07 24.3**	**-0.1**
SOEI	**Soe**	**2.87**	**201**	P	**P**	**11 07 24.4**	**0.0**
	baz=2.8,SNR=48						
SOEI				S	**S**	**11 08 20.6**	**-1.7**
	baz=2.8,SNR=7.3						
MMRI	**Maumere**	**3.41**	**242**	P	**P**	**11 07 26.8**	**-1.2**
NLAI	**Namlea**	**4.20**	**26**	P	**P**	**11 07 35.1**	**+1.0**
BKSI	**Bulukumba**	**5.42**	**288**	P	**P**	**11 07 45.0**	**+0.3**
	74nm,0.7s,734nm0.2nm						
LBFI	**Labuhan Bajo,**	**5.53**	**255**	P	x	11 07 45.3	
	142nm,0.6s,2μm0.7nm						
LUWI	**Luwuk**	**6.48**	**337**	P	**P**	**11 07 55.6**	**+0.8**
	195nm,0.9s,0.6nm						
LUWI	**Luwuk**	**6.48**	**337**	P	**P**	**11 07 55.8**	**+1.0**
	baz=6.6,SNR=6.3						
LUWI				S	S	11 09 41.8	+24
	baz=6.6,SNR=4.4						
LBMI	**Labuha**	**6.75**	**19**	P	**P**	**11 07 58.7**	**+1.3**
	71nm,1.2s,0.3nm						
TTSI	**Tana Toraja**	**6.75**	**306**	P	P	11 08 02.9	+5.5
APSI	**Ampana**	**7.10**	**329**	P	**P**	**11 08 02.1**	**+1.2**
	166nm,1.0s,2μm0.5nm						
KMSI	**Cibinong**	**7.69**	**350**	P	**P**	**11 08 08.0**	**+1.1**
	579nm,0.6s,7μm2.4nm						
FAKI	**Fak Fak**	**8.06**	**60**	P	**P**	**11 08 11.3**	**+0.7**
	baz=8.2,SNR=7.1						
FAKI				S	**S**	**11 09 43.2**	**-3.6**
	baz=8.2,SNR=9.3						
MTN	**Manton Dam**	**8.14**	**135**	P	**P**	**11 08 12.0**	**+0.6**
	baz=8.1,SNR=174						
MRSI	**Marisa**	**8.19**	**336**	P	**P**	**11 08 12.4**	**+0.4**
	159nm,0.7s,1μm						
KDU	**Kakadu**	**9.02**	**129**	P	**P**	**11 08 20.7**	**+0.2**
	baz=9.0,SNR=8.2						
KNRA	**Kununurra**	**9.22**	**159**	P	**P**	**11 08 23.2**	**+0.6**
	baz=9.2,SNR=26						
FITZ	**Fitzroy Crossi**	**10.99**	**178**	P	**P**	**11 08 41.1**	**0.0**
	11nm,0.3s,baz=17,slow=9.4,SNR=524						
GENI	**Genyem**	**15.47**	**74**	P	**P**	**11 09 29.3**	**+0.9**
WRA	**Warramunga Arr**	**15.53**	**146**	P	**P**	**11 09 27.9**	**-1.1**
	3.3nm,0.3s,baz=336,slow=8.3,SNR=216						
WRA				S	**S**	**11 12 10.2**	**-0.1**
	0.1nm,0.3s,baz=330,slow=17,SNR=4.9						
JAY	**Jayapura**	**16.01**	**74**	P	P	11 09 29.7	-4.3
	baz=16,SNR=3.2						
WRKA	**Warakurna**	**18.11**	**171**	P	**P**	**11 09 54.4**	**+0.2**
	baz=18,SNR=65						
COEN	**Coen**	**18.87**	**113**	P	**P**	**11 10 01.4**	**+0.2**
	baz=19,SNR=19						
QIS	**Mount Isa**	**19.30**	**135**	P	**P**	**11 10 06.1**	**+1.0**
	baz=19,SNR=29						
MEEK	**Meekatharra**	**20.48**	**197**	P	**P**	**11 10 14.8**	**-0.9**
	baz=20,SNR=24						
BLDU	**Ballidu**	**24.78**	**198**	P	**P**	**11 10 53.9**	**-0.3**
	baz=25,SNR=8.0						
QLP	**Quilpie**	**26.50**	**139**	P	**P**	**11 11 10.6**	**+1.2**
	baz=27,SNR=5.1						
NWAO	**Narrogin (SRO)**	**26.81**	**195**	P	**P**	**11 11 11.3**	**-0.8**
	2.4nm,0.4s,baz=27,slow=8.2,SNR=7.1						
BBOO	**Buckleboo**	**27.51**	**160**	P	**P**	**11 11 18.5**	**+0.3**
	baz=28,SNR=13						
STKA	**Stephens Creek**	**29.01**	**150**	P	**P**	**11 11 32.0**	**+0.7**
	3.8nm,0.5s,baz=328,slow=8.6,SNR=25						
HTT	**Hallett**	**29.13**	**156**	P	**P**	**11 11 33.4**	**+0.9**
	baz=29,SNR=10						
CMSA	**Cobar Meteorol**	**30.93**	**145**	P	**P**	**11 11 49.2**	**+1.2**
	baz=31,SNR=18						
ARPS	**Mount Arapiles**	**33.21**	**155**	P	**P**	**11 12 08.5**	**+1.2**
	baz=33,SNR=12						
CMAR	**Chiang Mai Arr**	**36.31**	**315**	P	**P**	**11 12 33.6**	**+0.1**
	0.9nm,0.3s,baz=142,slow=6.6,SNR=8.8						
MKAR	**Makanchi Array**	**65.79**	**329**	P	**P**	**11 16 07.2**	**-0.3**
	1.7nm,0.5s,baz=125,slow=6.8,SNR=28						
PETK	**Petropavlovsk-**	**65.93**	**21**	P	**P**	**11 16 09.0**	**+0.8**
	1.2nm,0.5s,baz=197,slow=6.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**69.64**	**336**	P	**P**	**11 16 29.8**	**-1.1**
	0.7nm,0.5s,baz=153,slow=5.7,SNR=4.2						
SEY	**Seymchan**	**72.80**	**13**	P	**P**	**11 16 49.3**	**+0.2**
	3.6nm,0.5s						
AKTO	**Aktyubinsk**	**81.29**	**323**	P	**P**	**11 17 34.9**	**-0.9**
	0.8nm,0.6s,baz=107,slow=9.9,SNR=3.8						

*ISCJB **03** 11:14:24.6±0.7, 15°.89S±0°.09×74°.18W±0°.09, h49km, mb3.6/7, MS3.8/4, Error ellipse: s-maj=15.1km s-min=8.9km az=135.2*
*NEIC **03** 11:14:24.7±0.6, 15°.92S×74°.30W, h35km, mb3.8/3, ML4.2(ARE), Error ellipse: s-maj=13.8km s-min=9.2km az=221.0*
NEIC Felt [II] at Chala.
*IDC **03** 11:14:25.8±0.9, 15°.89S×74°.27W, h46km±7km, mb3.5/7, mb1 3.7/8, mb1mx3.6/19, mbtmp3.6/8, ML3.8/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/21, Error ellipse: s-maj=26.3km s-min=19.6km az=40.0*

ISC 03 11:14:25.7±0.6,**15°.95S**±0°.09×**74°.34W**±0°.08,**h49**km**, n44,** σ1**32**/37**, mb3.5**/7**, MS3.8**/4**,** Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.79**	**101**	*e*P	**Pn**	**11 15 08.0**	**-0.1**
ARE				*e*S	**Sn**	**11 15 45.0**	**+4.3**
NNA	**Nana**	**4.63**	**328**	*e*Pn	**Pn**	**11 15 34.3**	**+1.1**
NNA				*e*Sn	Sn	11 16 34.0	+8.3
LPAZ	**La Paz**	**5.98**	**94**	*e*Pn	Pn	11 15 57.0	+4.8
	39nm,1.0s						
LPAZ	**La Paz**	**5.98**	**94**	P	Pn	11 15 56.2	+4.0
	2.6nm,0.3s,baz=271,slow=10.0,SNR=49						
LPAZ				LR	LR	11 18 28.4	
	comp=Z,515nm,18.0s,baz=266,slow=41						
LVC	**Limon Verde**	**8.38**	**143**	*e*Pn	**Pn**	**11 16 24.4**	**-0.4**
	16nm,0.8s						
ATAH	**Atahualpa**	**9.62**	**335**	P	Pn	11 16 46.5	+4.6
ATAH	**Atahualpa**	**9.62**	**335**	P	Pn	11 16 46.5	+4.6
	1.9nm,0.3s,baz=156,slow=11,SNR=8.8						
ATAH				LR	LR	11 21 14.3	
	comp=Z,820nm,19.1s,baz=349,slow=43						
SIV	**San Ignacio**	**12.76**	**92**	P	**Pn**	**11 17 23.2**	**-1.4**
SIV	**San Ignacio**	**12.76**	**92**	P	**Pn**	**11 17 23.2**	**-1.4**
	0.3nm,0.3s,baz=272,slow=15,SNR=4.3						
SIV				LR	LR	11 22 52.0	
	comp=Z,255nm,20.9s,slow=40						
SAML	**Samuel**	**12.92**	**59**	*e*Pn	**Pn**	**11 17 24.9**	**-1.9**
	6.9nm,0.8s						
OTAV	**Otavalo**	**16.59**	**345**	*e*P	**P**	**11 18 19.9**	**+2.5**
	4.9nm,0.8s						
H03N1	**Juan Fernandez**	**17.90**	**193**	T	T	11 37 04.8	
	baz=14,slow=75,SNR=4294						
H03N2	**Juan Fernandez**	**17.90**	**193**	T	T	11 37 04.9	
	baz=14,slow=75,SNR=3187						
H03N3	**Juan Fernandez**	**17.92**	**193**	T	T	11 37 05.9	
	baz=14,slow=75,SNR=2617						
CPUP	**Villa Florida**	**18.91**	**126**	LR	LR	11 27 20.0	
	comp=Z,131nm,18.1s,baz=180,slow=41						
PTGA	**Pitinga**	**20.73**	**45**	*e*P	**P**	**11 19 01.6**	**-0.7**
	5.4nm,0.6s						
PTGA	**Pitinga**	**20.73**	**45**	P	**P**	**11 19 00.8**	**-1.5**
	5.1nm,0.7s,baz=216,slow=13,SNR=11						
PTGA				LR	LR	11 27 42.3	
	comp=Z,252nm,19.6s,baz=213,slow=39						
PLCA	**Paso Flores**	**24.91**	**173**	P	**P**	**11 19 45.0**	**+0.8**
PLCA	**Paso Flores**	**24.91**	**173**	P	**P**	**11 19 45.0**	**+0.8**
	1.2nm,0.9s,baz=4.1,slow=14,SNR=2.6						
SDV	**Santo Domingo**	**24.95**	**9**	*e*P	**P**	**11 19 44.0**	**-0.8**
	1.7nm,0.8s						
BDFB	**Brasilia**	**25.33**	**93**	P	**P**	**11 19 48.0**	**-0.3**
BDFB	**Brasilia**	**25.33**	**93**	P	**P**	**11 19 48.0**	**-0.3**
	4.9nm,0.9s,baz=258,slow=10,SNR=5.9						
JTS	**JuntasAbangare**	**28.11**	**337**	LR	LR	11 30 04.0	
	comp=Z,86nm,18.2s,baz=356,slow=33						
TXAR	**Lajitas Array**	**53.18**	**328**	P	**P**	**11 23 40.5**	**+1.3**
TXAR	**Lajitas Array**	**53.18**	**328**	P	**P**	**11 23 40.5**	**+1.3**
	0.1nm,0.4s,baz=153,slow=6.1,SNR=2.6						
PDAR	**Pinedale Array**	**66.80**	**332**	P	**P**	**11 25 13.5**	**+1.0**
PDAR	**Pinedale Array**	**66.80**	**332**	P	**P**	**11 25 13.5**	**+1.0**
	0.3nm,0.8s,baz=116,slow=2.1,SNR=2.1						
DBIC	**Dimbokro**	**72.34**	**78**	LR	LR	11 56 02.9	
	comp=Z,95nm,20.4s,baz=225,slow=35						
TORD	**Torodi Ar. Bea**	**80.54**	**73**	P	**P**	**11 26 33.6**	**+0.2**
TORD				pP	**pP**	**11 26 48.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**80.54**	**73**	P	**P**	**11 26 33.6**	**+0.2**
	3.2nm,0.7s,baz=258,slow=5.3,SNR=20						
TORD				pP	**pP**	**11 26 48.0**	**+0.4**
	2.1nm,0.8s,baz=260,slow=4.7,SNR=6.5						
TORD				LR	LR	12 03 09.5	
	comp=Z,64nm,18.2s,baz=285,slow=36						
YKA	**Yellowknife Ar**	**84.32**	**342**	P	**P**	**11 26 50.9**	**-1.2**
YKA				pP	**pP**	**11 27 04.5**	**-1.9**
YKA	**Yellowknife Ar**	**84.32**	**342**	P	**P**	**11 26 50.8**	**-1.2**
	0.5nm,1.0s,baz=144,slow=5.9,SNR=4.2						
YKA				pP	**pP**	**11 27 04.5**	**-1.9**
	0.5nm,0.8s,baz=132,slow=5.1,SNR=4.9						
H11N3	**WAKE ISLAND Hyl**	**21.83**	**284**	T	T	13 46 24.5	
	baz=100,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hyl**	**21.85**	**284**	T	T	13 46 29.0	
	baz=100,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hyl**	**21.85**	**284**	T	T	13 46 27.2	
	baz=100,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**21.87**	**282**	T	T	13 46 37.9	
	baz=101,slow=73,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**21.88**	**282**	T	T	13 46 36.9	
	baz=101,slow=73,SNR=9.2						
H11S3	**WAKE ISLAND Hyl**	**21.89**	**282**	T	T	13 46 54.9	
	baz=101,slow=73,SNR=11						
WRA	**Warramunga Arr**	**134.54**	**219**	PKP	**PKPdf**	**11 33 38.5**	**-1.0**
WRA				pPKP	**pPKPdf**	**11 33 53.5**	**-0.9**
WRA	**Warramunga Arr**	**134.54**	**219**	PKP	**PKPdf**	**11 33 38.5**	**-1.0**
	0.4nm,0.8s,baz=138,slow=2.1,SNR=3.7						
WRA				pPKP	**pPKPdf**	**11 33 53.5**	**-0.9**
	0.5nm,0.7s,baz=140,slow=1.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**138.74**	**19**	PKP	**PKPdf**	**11 33 46.8**	**+0.6**
ZALV				pPKP	**pPKPdf**	**11 34 00.7**	**-0.4**
ZALV	**Zalesovo Beam**	**138.74**	**19**	PKP	**PKPdf**	**11 33 46.8**	**+0.6**
	0.3nm,0.3s,baz=289,slow=4.4,SNR=3.5						
ZALV				pPKP	**pPKPdf**	**11 34 00.7**	**-0.4**
	0.5nm,0.3s,baz=270,slow=1.4,SNR=3.4						
SONM	**Songino Array**	**148.20**	**359**	PKPbc	**PKPbc**	**11 34 06.3**	**-0.2**
SONM	**Songino Array**	**148.20**	**359**	PKPbc	**PKPbc**	**11 34 06.3**	**-0.2**
	0.7nm,0.8s,baz=329,slow=1.6,SNR=5.9						

*NIED **03** 11:43:00,43°.90N×148°.30E, h20km, Mw3.9 Best double couple: M0 7.59000×10^14 NP1:φ=230.00000°,δ24.00000°, λ138.00000°. NP2:φ=0.00000°,δ74.00000°,λ72.00000°.*
*IDC **03** 11:43:22.1±1.0,44°.07N×148°.29E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.8/27, mbtmp3.8/14, ML3.3/4, MS3.0/2, Ms1 3.0/2, ms1mx2.7/42, Error ellipse: s-maj=27.2km s-min=18.0km az=147.0*
*JMA **03** 11:43:23.6±0.8, 43°.86N×148°.26E, h0km, M4.6*
*MOS **03** 11:43:24.8±1.2, 43°.95N×148°.39E, h35km, mb4.3/10, Error ellipse: s-maj=10.2km s-min=8.8km az=49.4*
*NEIC **03** 11:43:25.9±2.8, 44°.02N×148°.46E, h28km±20km, mb4.3/6, Error ellipse: s-maj=16.1km s-min=9.8km az=136.0*
*SKHL **03** 11:43:25.7±1.0, 44°.00N×148°.52E, h51km±3km, mb5.0/2*
*ISCJB **03** 11:43:26.4±0.5, 43°.98N±0°.05×148°.30E±0°.07, h47km, mb3.9/15, Error ellipse: s-maj=8.7km s-min=4.8km az=136.9*

ISC 03 11:43:27.9±0.7,**44°.02N**±0°.06×**148°.32E**±0°.07,**h47**km**, n89,** σ1**9.21**/83**, mb3.9**/15**, 3C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.26**	**345**⇓	*i*PN	**Pn**	**11 43 48.0**	**-1.1**
KUR				S	**Sn**	**11 44 04.0**	**-0.9**
KUR				pmax	pmax		
	comp=Z,400nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR				smax	smax		
	comp=E,740nm,0.5s						
KUR	**Kuril'sk**	**1.26**	**345**	*e*P	**Pn**	**11 43 48.0**	**-1.1**
KUR				AMB	AMB	11 43 49.5	
	comp=E,400nm,0.3s						
KUR				*e*S	**Sn**	**11 44 04.0**	**-0.9**
KUR				A	A	11 44 10.0	
	comp=E,1μm,0.5s						
KUR				A	A	11 44 10.0	
	comp=E,740nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.78**	**271**	*d i*PN	**Pn**	**11 43 55.1**	**-1.0**
YUK				*i* S	**Sn**	**11 44 17.9**	**+0.4**
YUK				pmax	pmax		
	comp=Z,520nm,0.3s						
YUK				pmax	pmax		
	comp=N,235nm,0.2s						
YUK				pmax	pmax		
	comp=E,95nm,0.2s						
YUK				smax	smax		
	comp=N,804nm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.78**	**271**	*e*P	**Pn**	**11 43 55.1**	**-1.0**
YUK				AMB	AMB	11 44 02.5	
	comp=E,235nm,0.3s						
YUK				AMB	AMB	11 44 02.5	
	comp=E,95nm,0.3s						
YUK				AMB	AMB	11 44 02.5	
	comp=E,520nm,0.3s						
YUK				*e*S	**Sn**	**11 44 17.9**	**+0.4**
YUK				A	A	11 44 21.4	
	comp=E,800nm,0.5s						
YUK				A	A	11 44 21.4	
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.98**	**252**	P	**Pn**	**11 43 57.2**	**-1.7**
JNK	**Nakash**	**2.65**	**262**	P	**Pn**	**11 44 07.3**	**-0.8**
JAK	**Akkeshi**	**2.83**	**250**	P	**Pn**	**11 44 09.4**	**-1.2**
JTKR	**Abashiri--Toko**	**3.19**	**271**	P	**Pn**	**11 44 16.1**	**+0.6**
JAR	**Ashorobuto**	**3.38**	**259**	P	**Pn**	**11 44 18.5**	**+0.3**
JCH	**Churui**	**3.88**	**251**	P	**Pn**	**11 44 25.0**	**0.0**
JKK2	**Kamakawa 2**	**4.03**	**270**	P	**Pn**	**11

KURK **Kurchatov** **46.08 304** *e*P **P** **11 51 46.7 -0.3**
comp=Z,0.8nm,0.6s
TKM2 **Tokmak 2** **51.16 296** *e*P **P** **11 52 27.8 +1.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.4s
TKM2 **Tokmak 2** **51.16 296** *e*P **P** **11 52 27.8 +1.5**
comp=Z,2.3nm,0.4s
AAK **Ala-Archa** **52.01 296** *e*P **P** **11 52 33.5 +0.9**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK **Ala-Archa** **52.01 296** *e*P **P** **11 52 33.5 +0.9**
comp=Z,2.7nm,0.7s
KKAR **Karatay Array** **54.34 298** *e*P **P** **11 52 50.1 +0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** **54.34 298** *e*P **P** **11 52 50.1 +0.6**
comp=Z,1.9nm,0.4s
ABKAR **Akbulak array** **57.56 309** *e*P **P** **11 53 12.8 +0.4**
comp=Z,1.1nm,0.4s
WRA **Warramunga Arr** **64.92 195** P **P** **11 54 03.2 +0.7**
WRA **Warramunga Arr** **64.92 195** P **P** **11 54 03.2 +0.7**
comp=Z,0.6nm,0.9s,baz=12,slow=6.9,SNR=5.0
FINES **FINESS Array B** **65.02 333** P **P** **11 54 02.3 -0.4**
FINES **FINESS Array B** **65.02 333** P **P** **11 54 02.3 -0.4**
comp=Z,1.1nm,0.5s,baz=33,slow=8.3,SNR=16
NB2 **NORSAR Subarra** **69.66 339** P **P** **11 54 31.9 -0.2**
comp=Z,0.6nm,0.5s,baz=36,slow=6.5
NOA **NORSAR Array B** **69.66 339** P **P** **11 54 32.1 0.0**
NOA **NORSAR Array B** **69.66 339** P **P** **11 54 32.1 0.0**
comp=Z,0.8nm,0.3s,baz=30,slow=6.3,SNR=11
AKASG **Malin Array Be** **71.86 324** P **P** **11 54 45.7 +0.1**
AKASG **Malin Array Be** **71.86 324** P **P** **11 54 45.6 +0.1**
AKASG **Malin Array Be** **71.86 324** P **P** **11 54 45.6 +0.1**
comp=Z,0.4nm,0.4s,baz=37,slow=5.7,SNR=6.7
CLL **Collm** **77.47 333** *e*P **P** **11 55 18.0 0.0**
CLL **Collm** **77.47 333** *e*P **P** **11 55 18.0 0.0**
GERES **GERESS Array B** **79.33 331** P **P** **11 55 29.1 +0.5**
GERES **GERESS Array B** **79.33 331** P **P** **11 55 29.1 +0.5**
comp=Z,0.4nm,0.7s,baz=1.3,slow=13,SNR=3.3
TXAR **Lajitas Array** **81.80 57** P **P** **11 55 43.0 +1.0**
TXAR **Lajitas Array** **81.80 57** P **P** **11 55 43.0 +1.0**
comp=Z,0.3nm,0.6s,baz=308,slow=4.7,SNR=7.1
H06N1 **SOCORRO T-PHAS** **84.50 69** T T 13 28 50.3
SNR=8.6
H03N2 **Juan Fernandez** **142.12 90** T T 14 41 39.5
baz=302,slow=75,SNR=25
H03N3 **Juan Fernandez** **142.13 90** T T 14 41 40.8
baz=302,slow=75,SNR=36
H03N1 **Juan Fernandez** **142.13 90** T T 14 41 40.0
baz=302,slow=75,SNR=30

NIED ***03*** *11:49:00,31.90N×132.20E,h23km,Mw3.9 Best double couple: M0 8.80000×10^14 NP1:φs 19.00000°,δ 42.00000°, λ -88.00000°. NP2:φs 196.00000°,δ 48.00000°, λ -92.00000°.*
ISCJB ***03*** *11:49:43.4±0.8,31.89N±0.07×132.08E±0.07,h51km±7km, mb3.5/7,MS3.5/1, Error ellipse: s-maj=12.9km s-min=7.3km az=141.9*
JMA ***03*** *11:49:43.2±0.1,31.88N×132.12E,h32km±2km,M3.9*
JMA Felt I J1.
IDC ***03*** *11:49:44.6±1.0,31.76N×131.63E,h35km±5km,mb3.4/7, mb1 3.6/8,mb1mx3.5/25,mbtmp3.4/8,ML2.9/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/21, Error ellipse: s-maj=28.4km s-min=20.2km az=56.0*
ISC 03 11:49:44.4±0.8,31.92N±0.07×132.02E±0.06,h41km±7km, n17,σ1s18/24,mb3.5/7,2C-2D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.55**	**307**	⇑P		**Pn**		**11 49 55.4**	**-0.4**
JTSN				S		**Sn**		**11 50 04.2**	**+0.3**
JNAR	**Kushima--Naru**	**0.75**	**239**	⇓P		**Pn**		**11 49 58.2**	**-0.3**
JNAR				S		**Sn**		**11 50 09.3**	**+0.7**
JTZ	**Takazaki**	**0.79**	**269**	⇑P		**Pn**		**11 49 59.0**	**-0.1**
JTZ				S		**Sn**		**11 50 10.9**	**+1.1**
JTO	**Tosashimizu**	**1.15**	**35**	P		**Pn**		**11 50 03.0**	**-1.1**
JIU2	**Izumi 2**	**1.20**	**302**	⇓P		**Pn**		**11 50 05.7**	**+1.0**
JIU2				S		**Sn**		**11 50 22.7**	**+2.9**
UWA2	**Uwa jima 2**	**1.39**	**21**	P		**Pn**		**11 50 07.2**	**-0.2**
UWA2				S		**Sn**		**11 50 24.7**	**+0.1**
KSRS	**Korea Array**	**6.47**	**330**	Pn		**Pn**		**11 51 16.2**	**-0.9**
	0.2nm,0.3s,baz=144,slow=14,SNR=4.3								
KSRS				Lg		Lg		11 53 13.5	
	0.3nm,0.3s,baz=150,slow=30,SNR=4.8								
MJAR	**Matsushiro Arr**	**6.90**	**46**	Pn		**Pn**		**11 51 24.5**	**+1.5**
	0.4nm,0.3s,baz=242,slow=14,SNR=6.5								
SONM	**Songino Array**	**25.12**	**317**	P		**P**		**11 55 05.5**	**-0.1**
	0.7nm,0.7s,baz=134,slow=9.6,SNR=6.4								
SONM				pP		**pP**		**11 55 16.7**	**+0.1**
	2.8nm,0.8s,baz=127,slow=9.5,SNR=16								
ZALV	**Zalesovo Beam**	**40.01**	**318**	LR		LR		12 14 39.0	
	comp=Z,66nm,18.2s,baz=130,slow=37								
MKAR	**Makanchi Array**	**40.54**	**306**	P		**P**		**11 57 19.0**	**-0.7**
	0.3nm,0.6s,baz=86,slow=10,SNR=6.9								
MKAR				pP		**pP**		**11 57 30.9**	**-0.1**
	0.7nm,0.6s,baz=91,slow=11,SNR=9.8								
WRA	**Warramunga Arr**	**51.61**	**177**	P		**P**		**11 58 47.0**	**0.0**
	1.1nm,0.9s,baz=355,slow=8.2,SNR=6.9								
ILAR	**Eielson Array**	**57.88**	**30**	P		P		11 59 35.9	+4.1
	0.4nm,0.9s,baz=296,slow=4.9,SNR=3.8								
FINES	**FINESS Array B**	**69.56**	**330**	P		**P**		**12 00 47.8**	**-1.0**
	2.9nm,0.9s,baz=49,slow=6.3,SNR=6.3								
FINES				pP		**pP**		**12 01 00.3**	**-0.6**
	1.5nm,0.8s,baz=64,slow=4.4,SNR=2.6								
YKA	**Yellowknife Ar**	**71.98**	**27**	P		**P**		**12 01 05.6**	**+2.1**
	0.1nm,0.3s,baz=303,slow=5.0,SNR=4.6								
YKA				pP		**pP**		**12 01 17.3**	**+1.7**
	0.3nm,0.8s,baz=305,slow=6.1,SNR=3.5								
AKASG	**Malin Array Be**	**73.36**	**320**	P		**P**		**12 01 10.9**	**-1.0**
	0.4nm,0.5s,baz=55,slow=7.1,SNR=2.5								
AKASG				pP		**pP**		**12 01 22.7**	**-1.4**
	0.8nm,0.5s,baz=55,slow=6.1,SNR=4.0								
BRTR	**Keskin Array B**	**76.15**	**308**	pP		pP		12 01 39.9	-0.8
	1.1nm,0.8s,baz=103,slow=2.8,SNR=3.9								

SKHL ***03*** *11:58:35.0±1.0,47.98N×154.21E,h35km±3km,mb5.0/2*
MOS ***03*** *11:58:35.8±1.7,47.89N×154.04E,h46km,mb4.3/4, Error ellipse: s-maj=17.2km s-min=9.2km az=59.0*
ISCJB ***03*** *11:58:38.4±0.7,48.1N±0.1×153.9E±0.1,h64km,mb3.7/11, Error ellipse: s-maj=20.5km s-min=5.7km az=139.5*
IDC ***03*** *11:58:39.8±3.1,47.78N×153.99E,h71km±28km,mb3.3/9, mb1 3.6/11,mb1mx3.4/27,mbtmp3.4/11, Error ellipse: s-maj=30.7km s-min=15.0km az=142.0*
ISC 03 11:58:40.4±0.9,48.1N±0.1×153.9E±0.1,h64km,n37,σ1s43/28,mb3.6/11,3C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.95**	**29**	*e*PN		Pn		11 59 20.0	-4.8
SKR				*e*S		**Sn**		**11 59 57.7**	**-1.3**
SKR				pmax	pmax				
	comp=N,80nm,0.5s								
SKR				pmax	pmax				
	comp=Z,110nm,0.5s								
SKR				smax	smax				
	comp=N,80nm,0.5s								
SKR				smax	smax				
	comp=E,80nm,0.5s								
SKR	**Severo-Kuril's**	**2.95**	**29**	*e*P		Pn		11 59 20.0	-4.8
SKR				AMB	AMB			11 59 22.5	
	comp=E,80nm,0.5s								
SKR				AMB	AMB			11 59 22.5	
	comp=E,110nm,0.5s								
SKR				*e*S		**Sn**		**11 59 54.5**	**-4.5**
SKR				A	A			12 00 10.2	
	comp=E,80nm,0.5s								
PETK	**Petropavlovsk-**	**5.55**	**24**	PN	Pn			**12 00 02.1**	**+1.7**
PETK				pmax	pmax				
	comp=Z,3.0nm,0.3s								
PETK	**Petropavlovsk-**	**5.55**	**24**	P		**Pn**		**12 00 02.1**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=175,slow=15,SNR=61								
PET	**Petropavlovsk**	**5.77**	**30**	*e*PN		**Pn**		**12 00 03.3**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**6.92**	**237**	*c i*PN		**Pn**		**12 00 19.0**	**-0.1**
YUK				*i* S		**Sn**		**12 01 36.1**	**-0.1**
YUK				pmax	pmax				
	comp=N,73nm,0.3s								
YUK				pmax	pmax				
	comp=E,55nm,0.3s								
YUK				pmax	pmax				
	comp=Z,81nm,0.3s								
YUK				pmax	pmax				
	comp=Z,1μm,3.9s								
YUK				smax	smax				
	comp=N,73nm,0.6s								
YUK				smax	smax				
	comp=E,139nm,0.6s								
YUK				smax	smax				
	comp=N,2μm,3.4s								
YUK				smax	smax				
	comp=E,2μm,3.4s								
YUK	**Yuzh-Kuril'sk**	**6.92**	**237**	*e*P		**Pn**		**12 00 19.0**	**-0.1**
YUK				AMB	AMB			12 00 23.6	
	comp=E,73nm,0.3s								
YUK				AMB	AMB			12 00 23.6	
	comp=E,55nm,0.3s								
YUK				AMB	AMB			12 00 23.6	
	comp=E,81nm,0.3s								
YUK				*e*S		**Sn**		**12 01 36.2**	**0.0**
YUK				A	A			12 01 38.9	
	comp=E,73nm,0.6s								
YUK				A	A			12 01 38.9	
	comp=E,139nm,0.6s								
YSS	**Yuzh-Sakhalins**	**7.63**	**265**	*e*PN		**Pn**		**12 00 27.6**	**-1.2**
JKA	**Kamikawa-asahi**	**8.80**	**247**	*e*P		**Pn**		**12 00 45.0**	**+0.1**
ASAJ	**Asahikawa**	**8.80**	**247**	P		**Pn**		**12 00 45.0**	**+0.1**
	comp=E,0.5nm,0.3s,baz=68,slow=10,SNR=5.2								
ERM	**Erimo**	**9.73**	**235**	*c e*PN		Pn		12 00 52.6	-5.0
ERM	**Erimo**	**9.73**	**235**	*e*P		Pn		12 00 52.6	-5.0
MAJO	**Matsushiro**	**16.34**	**231**	⇑*e*P		**Pn**		**12 02 23.9**	**-1.8**
MAJO	**Matsushiro**	**16.34**	**231**	*e*P		**Pn**		**12 02 23.9**	**-1.8**
KSRS	**Korea Array**	**21.73**	**250**	P		**P**		**12 03 24.6**	**-1.6**
	comp=E,2.0nm,0.8s,baz=59,slow=7.2,SNR=7.0								
H11N1	**WAKE ISLAND Hy**	**30.23**	**155**	T		T		12 35 54.6	
	baz=172,slow=75,SNR=145								
H11N3	**WAKE ISLAND Hy**	**30.23**	**155**	T		T		12 35 48.9	
	baz=345,slow=75,SNR=73								
H11S1	**WAKE ISLAND Hy**	**31.33**	**156**	T		T		12 37 19.5	
	SNR=348								
H11S3	**WAKE ISLAND Hy**	**31.34**	**156**	T		T		12 37 16.1	
	SNR=412								
H11S2	**WAKE ISLAND Hy**	**31.34**	**156**	T		T		12 37 09.7	
	SNR=382								
COLA	**College**	**34.74**	**40**	⇓*e*P		**P**		**12 05 25.2**	**+1.3**
INK	**Inuvik**	**40.22**	**33**	P		**P**		**12 06 12.0**	**+1.8**
	comp=E,0.4nm,0.5s,baz=274,slow=4.3,SNR=3.4								
MKAR	**Makanchi Array**	**46.79**	**297**	P		**P**		**12 07 03.3**	**0.0**
MKAR	**Makanchi Array**	**46.79**	**297**	P		**P**		**12 07 03.3**	**0.0**
	comp=E,0.5nm,0.7s,baz=68,slow=8.4,SNR=5.9								
KURK	**Kurchatov**	**47.05**	**303**	*e*P		**P**		**12 07 05.8**	**+0.5**
YKA	**Yellowknife Ar**	**49.51**	**38**	P		**P**		**12 07 23.9**	**-0.2**
	comp=E,0.2nm,0.7s,baz=297,slow=6.9,SNR=3.0								
BRVK	**Borovoye**	**50.44**	**309**	⇓*e*P		**P**		**12 07 32.3**	**+1.1**
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
CMAR	**Chiang Mai Arr**	**53.21**	**256**	P		**P**		**12 07 52.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=37,slow=7.2,SNR=4.3								
AAK	**Ala-Archa**	**53.70**	**296**	⇓*e*P		**P**		**12 07 55.3**	**-0.5**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.6s								
ARU	**Arti**	**54.36**	**317**	*e*P		**P**		**12 08 02.5**	**+2.4**
FINES	**FINESS Array B**	**63.02**	**335**	P		**P**		**12 08 59.9**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=35,slow=7.0,SNR=9.5								
PDAR	**Pinedale Array**	**63.52**	**55**	P		**P**		**12 09 04.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=74,slow=5.3,SNR=4.5								
WRA	**Warramunga Arr**	**69.98**	**200**	P		P		12 09 40.6	-4.4
	comp=Z,0.8nm,1.1s,baz=22,slow=6.6,SNR=4.4								
TXAR	**Lajitas Array**	**76.37**	**61**	P		**P**		**12 10 22.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=300,slow=3.9,SNR=6.1								
H03N2	**Juan Fernandez**	**138.22**	**89**	T		T		14 51 30.5	
	baz=307,slow=75,SNR=16								
H03N1	**Juan Fernandez**	**138.24**	**89**	T		T		14 51 27.5	
	baz=307,slow=75,SNR=22								
H03N3	**Juan Fernandez**	**138.24**	**89**	T		T		14 51 37.0	
	baz=307,slow=75,SNR=20								

KRNET ***03*** *12:32:02.2±0.1,39.72N×74.44E,h3km,mb3.7*
ISCJB ***03*** *12:32:06.6±1.4,39.64N±0.09×74.27E±0.06,h10km, Error ellipse: s-maj=13.3km s-min=7.1km az=174.3*
NNC ***03*** *12:32:07.6±1.7,39.77N×74.19E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=13.3km s-min=7.8km az=167.0*
ISC 03 12:32:03.1±2.0,39.69N±0.09×74.43E±0.06,h10km,n17,σ1s58/22,4C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.78**	**295**	*e*P		**Pg**		**12 32 15.9**	**-2.4**
	baz=293								
SFK				*e*S		**Sg**		**12 32 27.9**	**-0.7**
	baz=293								
OHH	**Osh**	**1.51**	**304**	*e*P		**Pb**		**12 32 32.0**	**+0.7**
	baz=303								
OHH				*e*S		**Sg**		**12 32 54.2**	**+2.4**
	baz=303								
ARSB	**Arslanbob**	**1.97**	**326**	*e*P		**Pb**		**12 32 40.0**	**+0.8**
	baz=326								
ARSB				*e*S		**Sg**		**12 33 07.6**	**+1.1**
	baz=326								
DRK	**Karamyk**	**2.04**	**265**	*e*P		**Pb**		**12 32 41.0**	**+0.5**
	baz=264								
DRK				*e*S		**Sg**		**12 33 09.3**	**+0.5**
	baz=264								
NRN	**Naryn**	**2.11**	**34**	*e*P		**Pb**		**12 32 43.0**	**+1.3**
	baz=34								
ARLS	**Aral**	**2.17**	**358**	⇓*i*P		**Pb**		**12 32 43.5**	**+0.9**
	baz=357								
KZA	**Kyzart**	**2.47**	**14**	P		**Pb**		**12 32 48.6**	**+0.8**
	SNR=15								
AML	**Almayashu**	**2.50**	**347**	P		**Pb**		**12 32 48.5**	**+0.1**
	SNR=34								
UCH	**Uchtor**	**2.54**	**1**	P		**Pb**		**12 32 49.5**	**+0.4**
	SNR=42								
ULHL	**Ulahol**	**2.90**	**28**	P		**Pb**		**12 32 57.8**	**+2.8**
	SNR=21								
AAK	**Ala-Archa**	**2.94**	**1**	⇓Pn		**Pb**		**12 32 55.0**	**-0.8**
	15nm,0.5s								
AAK				⇑Lg		Lg		12 33 37.8	
	9.2nm,0.5s								
AAK	**Ala-Archa**	**2.94**	**1**	P		**Pb**		**12 32 55.7**	**-0.1**
	SNR=13								
KBK	**Karagaybulak**	**2.99**	**7**	P		**Pb**		**12 32 56.2**	**-0.4**
	SNR=16								
CHMS	**Chumysh**	**3.32**	**4**	P		**Pb**		**12 33 00.3**	**-1.7**
	SNR=5.7								
TKM2	**Tokmak 2**	**3.35**	**15**	⇑Pn		**Pb**		**12 33 00.2**	**-2.5**
	4.9nm,0.5s								
TKM2				⇓Sn		**Sb**		**12 33 42.6**	**-0.9**
	12nm,0.6s								
TKM2	**Tokmak 2**	**3.35**	**15**	P		**Pb**		**12 33 01.0**	**-1.6**
	SNR=16								
KK31	**Karatay Array**	**4.51**	**320**	Pn		Pn		12 33 15.2	+3.8
	0.2nm,0.3s,baz=121,slow=12,SNR=13								
KK31				⇓Pg		Pb		12 33 25.8	+3.4
	2.1nm,0.6s,baz=135,slow=15,SNR=8.7								
KK31				⇑Sn		**Sn**		**12 34 06.8**	**+2.9**
	3.3nm,0.5s								
KK31				⇑Lg		Lg		12 34 25.2	
	5.8nm,0.6s,baz=134,slow=28,SNR=4.5								

NIED ***03*** *12:35:00,25.30N×124.60E,h107km,Mw4.5 Best double couple: M0 7.01000×10^15 NP1:φs 340.00000°, δ 19.00000°,λ 10.00000°. NP2:φs 241.00000°,δ 87.00000°, λ 108.00000°.*
ISCJB ***03*** *12:35:26.1±0.3,25.43N±0.06×124.61E±0.05, h112km±5km,mb3.7/13,Error ellipse: s-maj=12.2km s-min=3.8km az=145.8*
JMA ***03*** *12:35:28.2±0.2,25.30N×124.58E,h110km±5km,M3.6*
IDC ***03*** *12:35:29.8±4.2,25.41N×124.51E,h128km±39km, mb3.5/13,mb1 3.6/15,mb1mx3.5/29,mbtmp3.4/15,Error ellipse: s-maj=24.1km s-min=13.8km az=66.0*
ISC 03 12:35:27.4±0.8,25.43N±0.08×124.61E±0.06,h109km±9km, n32,σ1s09/49,mb3.8/13,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.79**	**174**	P		**Pn**		**12 35 46.4**	**0.0**
JTJ				S		**Sn**		**12 36 00.3**	**-0.4**
JMJ	**Miyako jima 2**	**0.87**	**134**	P		**Pn**		**12 35 47.6**	**+0.4**
JMJ				S		**Sn**		**12 36 02.0**	**-0.1**
JOGS	**Gusukube**	**0.98**	**132**	P		**Pn**		**12 35 48.9**	**+0.6**
JOGS				S		**Sn**		**12 36 04.2**	**+0.1**
JIJ	**Ishigaki jima**	**1.14**	**202**	P		**Pn**		**12 35 49.4**	**-0.6**
JIJ				S		**Sn**		**12 36 05.2**	**-1.9**
JKRS	**Kuro-shima**	**1.30**	**205**	P		**Pn**		**12 35 51.5**	**-0.3**
JKRS				S		**Sn**		**12 36 09.0**	**-1.3**
IRIF	**Iriomote-Funau**	**1.35**	**216**	P		**Pn**		**12 35 52.0**	**-0.3**
IRIF				S		**Sn**		**12 36 09.9**	**-1.3**
HATJ	**Hateruma jima**	**1.54**	**208**	P		**Pn**		**12 35 54.3**	**-0.4**
HATJ				S		**Sn**		**12 36 14.6**	**-0.8**
YOJ	**Yonaguni jima**	**1.74**	**237**	P		**Pn**		**12 35 57.6**	**+0.6**
YOJ				*e*S		**Sn**		**12 36 19.3**	**-0.3**
JKE	**Kume jima 2**	**2.16**	**65**	P		**Pn**		**12 36 03.2**	**+0.8**
JKE				*e*S		**Sn**		**12 36 29.4**	**+0.3**
JAGN	**Aguni-jima**	**2.64**	**63**	P		**Pn**		**12 36 09.5**	**+0.9**
JAGN				*e*S		**Sn**		**12 36 39.7**	**-0.6**
JJT2	**Tamagusuku 2**	**2.92**	**75**	P		**Pn**		**12 36 13.7**	**+1.4**
JJT2				*e*S		**Sn**		**12 36 47.2**	**+0.3**
JIH	**Iheya**	**3.42**	**61**	P		**Pn**		**12 36 20.0**	**+1.1**
JIH				*e*S		**Sn**		**12 36 57.1**	**-1.6**
JOW	**Kunigami**	**3.58**	**66**	P		**Pn**		**12 36 21.3**	**+0.2**
JOW				*e*S		**Sn**		**12 37 02.0**	**-0.7**
JTK	**Tokunoshima**	**4.54**	**58**	P		**Pn**		**12 36 33.8**	**-0.3**
JTK				*e*S		**Sn**		**12 37 23.5**	**-2.4**
JAMN	**Amaminishikomi**	**4.95**	**54**	P		**Pn**		**12 36 39.1**	**-0.5**
JAMN				*e*S		**Sn**		**12 37 33.4**	**-2.3**
JAM	**Amami Oshima**	**5.36**	**55**	P		**Pn**		**12 36 44.7**	**-0.4**
JAM				*e*S		**Sn**		**12 37 42.2**	**-3.4**
JMZ	**Minamidaito 2**	**5.98**	**85**	P		**Pn**		**12 36 50.9**	**-2.6**
JMZ				*e*S		Sn		12 37 52.8	-7.9
KSRS	**Korea Array**	**12.32**	**12**	P		P		12 38 22.7	-3.9
	0.2nm,0.3s,baz=186,slow=15,SNR=7.5								
MJAR	**Matsushiro Arr**	**16.07**	**43**	P		**P**		**12 39 09.9**	**+1.6**
	0.1nm,0.3s,baz=208,slow=32,SNR=4.6								
SONM	**Songino Array**	**26.59**	**332**	P		**P**		**12 40 54.9**	**-0.5**
	0.4nm,0.6s,baz=152,slow=9.2,SNR=4.9								
MKAR	**Makanchi Array**	**39.68**	**314**	P		**P**		**12 42 48.8**	**0.0**
	1.9nm,0.7s,baz=99,slow=10,SNR=26								
MKAR				PcP		**PcP**		**12 44 54.8**	**+1.3**
	0.2nm,0.8s,baz=126,slow=2.3,SNR=1.9								
ZALV	**Zalesovo Beam**	**40.96**	**325**	P		**P**		**12 42 58.7**	**-0.5**
	1.4nm,0.4s,baz=115,slow=7.2,SNR=8.2								
KURBB	**Kurchatov Arra**	**43.22**	**318**	P		**P**		**12 43 17.4**	**-0.2**
	1.2nm,0.8s,baz=118,slow=4.4,SNR=14								
WRA	**Warramunga Arr**	**46.08**	**167**	P		**P**		**12 43 40.3**	**-0.3**
	0.8nm,0.5s,baz=348,slow=8.7,SNR=10.0								
BVAR	**Borovoye Array**	**48.73**	**319**	P		**P**		**12 44 01.1**	**+0.3**
	0.6nm,0.3s,baz=102,slow=9.1,SNR=6.6								
BVAR				PcP		**PcP**		**12 45 24.6**	**+0.3**
	1.4nm,0.8s,baz=104,slow=6.1,SNR=5.4								
ASAR	**Alice Springs**	**49.63**	**169**	P		**P**		**12 44 08.6**	**+0.6**
	0.8nm,0.5s,baz=355,slow=13,SNR=28								
ILAR	**Eielson Array**	**66.68**	**28**	P		**P**		**12 46 06.2**	**0.0**
	0.4nm,0.5s,baz=252,slow=5.2,SNR=9.8								
FINES	**FINESS Array B**	**71.94**	**330**	P		**P**		**12 46 38.6**	**-0.1**
	1.4nm,0.7s,baz=347,slow=4.3,SNR=4.6								
AKASG	**Malin Array Be**	**74.00**	**319**	P		**P**		**12 46 50.6**	**-0.4**
	0.2nm,0.2s,baz=60,slow=6.8,SNR=2.0								
BRTR	**Keskin Array B**	**74.93**	**307**	P		**P**		**12 46 57.2**	**+0.4**
	0.3nm,0.5s,baz=80,slow=3.6,SNR=2.1								
NOA	**NORSAR Array B**	**78.56**	**333**	P		**P**		**12 47 16.5**	**-0.2**
	0.6nm,0.7s,baz=65,slow=5.3,SNR=1.5								
YKA	**Yellowknife Ar**	**80.60**	**24**	P		**P**		**12 47 28.2**	**+0.6**
	1.2nm,0.5s,baz=304,slow=5.2,SNR=17								

IDC 03 12:36:04.8±2.0,14.93S×174.66W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/19,mbtmp3.6/5,MS3.5/6,Ms1 3.5/6, ms1mx3.3/25,Error ellipse: s-maj=139.1km s-min=29.6km az=150.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.98**	**70**	Pn		**Pn**		12 36 46.9	-6.5
	19nm,0.3s,baz=68,slow=5.2,SNR=26								
AFI				S		Sn		12 37 23.2	-6.7
	5.5nm,0.3s,baz=82,slow=21,SNR=1.3								
AFI				LR		LR		12 37 52.6	
	comp=Z,452nm,21.0s,baz=45,slow=36								
AFI				T		T		12 39 29.8	
	7.0nm,0.3s,baz=258,slow=21,SNR=6.1								
H11S2	**WAKE ISLAND Hy**	**37.94**	**330**	T		T		13 24 18.4	
	baz=152,slow=76,SNR=24								
H11S3	**WAKE ISLAND Hy**	**37.96**	**330**	T		T		13 24 05.6	
	baz=152,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy**	**37.96**	**330**	T		T		13 24 08.1	
	baz=152,slow=76,SNR=17								
H11N3	**WAKE ISLAND Hy**	**38.91**	**332**	T		T		13 25 28.6	
	baz=153,slow=78,SNR=27								
H11N1	**WAKE ISLAND Hy**	**38.91**	**332**	T		T		13 25 20.6	
	baz=153,slow=78,SNR=41								
H11N2	**WAKE ISLAND Hy**	**38.93**	**332**	T		T		13 25 30.0	
	baz=153,slow=78,SNR=20								
STKA	**Stephens Creek**	**43.22**	**239**	LR		LR		12 59 47.1	
	comp=Z,78nm,19.1s,baz=24,slow=33								
ASAR	**Alice Springs**	**49.10**	**252**	P		P		12 44 54.4	-0.1
	1.4nm,0.9s,baz=87,slow=8.0,SNR=12								
MJAR	**Matsushiro Arr**	**67.80**	**320**	LR		LR		13 12 31.9	
	comp=Z,25nm,20.8s,baz=120,slow=32								
ASAJ	**Asahikawa**	**70.50**	**329**	LR		LR		13 15 56.1	
	comp=Z,36nm,18.8s,baz=350,slow

0.0nm,0.3s,baz=348,slow=20,SNR=3.9
ASAR Alice Springs 19.89 171 P P 13 25 20.8 -0.7
0.1nm,0.3s,baz=350,slow=10,SNR=14
MKAR Makanchi Array 66.04 326 P P 13 31 37.1 0.0
0.1nm,0.4s,baz=111,slow=8.2,SNR=3.6

SJA ***03*** *13:22:16.8±0.3,21°.49S×68°.99W,h370km±61km,ML5.0*
ISCJB ***03*** *13:22:34.3±0.3,22°.62S±0°.03×68°.51W±0°.04,h97km±2km, mb4.8/75, Error ellipse: s-maj=6.3km s-min=3.9km az=156.1*
NEIC ***03*** *13:22:36.7±0.2,22°.57S×68°.50W,mb4.8/56, Error ellipse: s-maj=5.7km s-min=4.5km az=55.0*
NEIC Felt [IV] at Calama, [III] at Maria Elena, San Pedro de Atacama and Toconao and [II] at Sierra Gorda.
IDC ***03*** *13:22:37.2±0.4,22°.49S×68°.47W,h103km±3km, mb4.4/20, mb1 4.5/24,mb1mx4.4/27, mbtmp4.4/24,MS3.4/6, Ms1 3.4/6,ms1mx3.3/24, Error ellipse: s-maj=12.4km s-min=10.3km az=49.0*
GUC ***03*** *13:22:37.2±1.0,22°.59S×68°.81W,h105km±5km,ML5.2*
BJI ***03*** *13:22:38.8,22°.50S×68°.40W,h101km,mB5.5/12*
ISC 03 13:22:36.8±0.3,22°.56S±0°.03×68°.63W±0°.04,h102km±2km, h102km:pP-P,n651,σ1°.04/718,mb4.8/75,216C-217D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.26**	**258**	*eP*		**Pn**	**13 22 50.8**	**-1.1**
LVC				*i*	S	**Sn**	**13 23 01.7**	**-1.5**
LVC	**Limon Verde**	**0.26**	**258**	*eP*		**Pn**	**13 22 50.8**	**-1.1**
LVC				*i*	S	**Sn**	**13 23 01.7**	**-1.5**
SPCH	**San Pedro de A**	**0.53**	**131**	⇓*iP*		**Pn**	**13 22 55.9**	**+2.4**
SPCH				*i*	S	**Sn**	**13 23 09.0**	**+3.1**
SPCH					AML	AML	13 23 09.3	
	comp=E,265μm,0.3s							
SPCH	**San Pedro de A**	**0.53**	**131**	⇓*iP*		**Pn**	**13 22 55.9**	**+2.4**
SPCH				*i*	S	**Sn**	**13 23 09.0**	**+3.1**
PB04	**Plate Boundary**	**0.84**	**290**	⇑*iP*		Pn	13 23 01.6	+5.7
PB04				*i*	S	Sn	13 23 20.2	+10
PB04					AML	AML	13 23 31.1	
	comp=N,35μm,0.7s							
PB04	**Plate Boundary**	**0.84**	**290**	⇑*iP*		Pn	13 23 01.6	+5.7
PB04				*i*	S	Sn	13 23 20.2	+10
PB06	**Plate Boundary**	**0.88**	**260**	⇑*iP*		**Pn**	**13 22 55.5**	**-0.9**
PB06				*i*	S	**Sn**	**13 23 09.8**	**-1.3**
PB06					AML	AML	13 23 11.6	
	comp=E,52μm,0.2s							
PB06	**Plate Boundary**	**0.88**	**260**	⇑*iP*		**Pn**	**13 22 55.5**	**-0.9**
PB06				*i*	S	**Sn**	**13 23 09.8**	**-1.3**
PB09	**Plate Boundary**	**0.94**	**323**	*iP*		**Pn**	**13 22 57.5**	**+0.5**
PB09				*i*	S	**Sn**	**13 23 12.7**	**+0.5**
PB09					AML	AML	13 23 15.5	
	comp=N,192μm,0.5s							
PB09	**Plate Boundary**	**0.94**	**323**	*iP*		**Pn**	**13 22 57.5**	**+0.5**
PB09				*i*	S	**Sn**	**13 23 12.7**	**+0.5**
PB07	**Plate Boundary**	**1.43**	**305**	⇑*iP*		**Pn**	**13 23 02.3**	**-0.2**
PB07				*i*	S	**Sn**	**13 23 21.2**	**-0.8**
PB07					AML	AML	13 23 23.1	
	comp=E,24μm,0.5s							
PB07	**Plate Boundary**	**1.43**	**305**	⇑*iP*		**Pn**	**13 23 02.3**	**-0.2**
PB07				*i*	S	**Sn**	**13 23 21.2**	**-0.8**
CEN1	**Los Morros**	**1.67**	**240**	⇓*iP*		**Pn**	**13 23 07.1**	**+1.7**
CEN1				*i*	S	**Sn**	**13 23 29.8**	**+2.7**
CEN1					AML	AML	13 23 34.4	
	comp=N,15μm,0.8s							
CEN1	**Los Morros**	**1.67**	**240**	⇓*iP*		**Pn**	**13 23 07.1**	**+1.7**
CEN1				*i*	S	**Sn**	**13 23 29.8**	**+2.7**
PB01	**Plate Boundary**	**1.70**	**332**	⇑*iP*		**Pn**	**13 23 06.2**	**+0.3**
PB01				*i*	S	**Sn**	**13 23 28.1**	**+0.2**
PB01					AML	AML	13 23 30.7	
	comp=E,27μm,0.4s							
PB01	**Plate Boundary**	**1.70**	**332**	⇑*iP*		**Pn**	**13 23 06.2**	**+0.3**
PB01				*i*	S	**Sn**	**13 23 28.1**	**+0.2**
ANCH	**Antofagasta**	**1.98**	**235**	⇑*iP*		**Pn**	**13 23 08.0**	**-1.3**
ANCH				*i*	S	**Sn**	**13 23 31.5**	**-2.6**
ANCH					AML	AML	13 23 41.0	
	comp=E,22μm,0.6s							
ANCH	**Antofagasta**	**1.98**	**235**	⇑*iP*		**Pn**	**13 23 08.0**	**-1.3**
ANCH				*i*	S	**Sn**	**13 23 31.5**	**-2.6**
PB10	**Plate Boundary**	**2.01**	**241**	⇑*iP*		**Pn**	**13 23 07.8**	**-1.8**
PB10				*i*	S	**Sn**	**13 23 31.3**	**-3.4**
PB10					AML	AML	13 23 45.4	
	comp=E,42μm,0.7s							
PATCX	**Punta Patache**	**2.23**	**320**		AML	AML	13 23 47.5	
	comp=N,18μm,0.5s							
HMBC	**Humberstone**	**2.55**	**332**		AML	AML	13 24 13.0	
	comp=N,12μm,0.5s							
PB11	**Plate Boundary**	**2.94**	**341**		AML	AML	13 24 05.9	
	comp=E,30μm,0.5s							
PSGC	**Pisagua**	**3.26**	**334**		AML	AML	13 24 33.0	
	comp=E,5μm,0.6s							
SLA	**San Lorenzo**	**3.59**	**128**	*iP*		**Pn**	**13 23 33.8**	**+3.1**
SLA					AML	AML	13 23 35.6	
	comp=Z,544nm,0.5s							
LPAZ	**La Paz**	**6.25**	**4**	*eP*		**Pn**	**13 24 08.1**	**+0.9**
	comp=Z,109nm,0.6s							
LPAZ					P	**Pn**	**13 24 09.0**	**+1.8**
LPAZ	**La Paz**	**6.25**	**4**		P	**Pn**	**13 24 09.0**	**+1.8**
	comp=Z,14nm,0.3s,baz=194,slow=7.3,SNR=142							
LPAZ					LR	LR	13 26 49.1	
	comp=Z,401nm,18.2s,baz=158,slow=41							
CYA	**Choya**	**6.39**	**157**	*iP*		**Pn**	**13 24 07.3**	**-1.2**
CYA					AML	AML	13 25 01.6	
	comp=Z,47nm,0.7s							
LCO	**Las Campanas**	**6.69**	**196**	*eP*		Pn	13 24 07.6	-5.2
	comp=Z,993nm,0.6s							
LCO	**Las Campanas**	**6.69**	**196**	*iP*		Pn	13 24 09.3	-3.4
LCO				*i*	S	**Sn**	**13 25 32.6**	**+4.9**
APLL	**PUNTA DE LOS L**	**8.03**	**167**	*iP*		**Pn**	**13 24 27.9**	**-2.8**
AVFE	**Valle Fertil**	**8.14**	**173**	*iP*		Pn	13 24 28.3	-4.0
AVFE					AML	AML	13 24 56.6	
	comp=Z,162nm,0.6s							
AMOG	**MOGNA**	**8.35**	**179**	*iP*		Pn	13 24 31.0	-4.1
ACHE	**Chepes**	**8.75**	**169**	*iP*		Pn	13 24 37.1	-3.6
CFAA	**Coronel Fontan**	**9.02**	**178**	*iP*		Pn	13 24 40.2	-4.0
CFAA					S	Sn	13 26 16.6	-7.3
CFAA	**Coronel Fontan**	**9.02**	**178**		P	Pn	13 24 40.2	-4.0
	comp=Z,3.9nm,0.3s,baz=1.0,slow=14,SNR=102							
CFAA					S	Sn	13 26 16.6	-7.3
	comp=Z,1.7nm,0.3s,baz=168,slow=16,SNR=1.8							
CFAA					LR	LR	13 27 53.6	
	comp=Z,36nm,21.8s,baz=350,slow=35							
RTLS	**Leoncito**	**9.22**	**184**	*iP*		Pn	13 24 43.2	-4.0
RTCV	**Cerro Valdivia**	**9.27**	**180**	*iP*		Pn	13 24 43.5	-4.1
SIV	**San Ignacio**	**9.67**	**49**	P		**Pn**	**13 24 50.2**	**-3.0**
SIV					S	**Sn**	**13 26 34.7**	**-5.4**
SIV	**San Ignacio**	**9.67**	**49**		P	**Pn**	**13 24 50.2**	**-3.0**
	comp=Z,27nm,0.3s,baz=249,slow=12,SNR=219							
SIV					S	**Sn**	**13 26 34.7**	**-5.4**
	comp=Z,2.2nm,0.3s,baz=154,slow=23,SNR=1.4							
ACAN	**Cantantal**	**9.76**	**173**	*iP*		Pn	13 24 49.6	-4.7
ACAN				*i*	S	**Sn**	**13 26 40.2**	**-1.8**
CPUP	**Villa Florida**	**10.96**	**112**	*eP*		**Pn**	**13 25 08.5**	**-2.1**
	comp=Z,1.0nm,0.6s							
CPUP					P	**Pn**	**13 25 09.3**	**-1.2**
CPUP	**Villa Florida**	**10.96**	**112**		P	**Pn**	**13 25 09.3**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=285,slow=11,SNR=9.9							
H03N1	**Juan Fernandez**	**14.13**	**218**	T		T	13 38 07.7	
	baz=41,slow=74,SNR=35							
H03N2	**Juan Fernandez**	**14.14**	**218**	T		T	13 38 18.9	
	baz=41,slow=74,SNR=33							
H03N3	**Juan Fernandez**	**14.15**	**218**	T		T	13 38 12.5	
	baz=41,slow=74,SNR=21							
SAML	**Samuel**	**14.51**	**22**	*eP*		Pn	13 25 53.5	-3.8
	comp=Z,13nm,0.3s							
TRQA	**Tornquist**	**16.47**	**161**	*eP*		**Pn**	**13 26 20.0**	**-1.8**
	comp=Z,37nm,0.7s							
ATAH	**Atahualpa**	**17.99**	**327**	P		**Pn**	**13 26 42.2**	**+1.4**
ATAH	**Atahualpa**	**17.99**	**327**	P		**Pn**	**13 26 42.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=82,slow=14,SNR=2.9							
PLCA	**Paso Flores**	**18.19**	**185**	*eP*		**P**	**13 26 41.0**	**-0.7**
	comp=Z,16nm,0.7s							
PLCA					P	**Pn**	**13 26 42.4**	**-0.4**
PLCA				*ePcP*		**PcP**	**13 31 11.2**	**+0.9**
PLCA	**Paso Flores**	**18.19**	**185**		P	**Pn**	**13 26 42.4**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=7.9,slow=13,SNR=16							
PLCA					PcP	**PcP**	**13 31 11.2**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=359,slow=2.1,SNR=7.1							
PLCA					LR	LR	13 35 04.3	
	comp=Z,90nm,18.7s,baz=266,slow=41							
BB16B	**Bebedouro**	**18.68**	**89**	⇑*iP*		**P**	**13 26 45.6**	**-1.5**
BB16B				*i*			13 26 48.4	
BB16B				*i*			13 26 51.4	
BDFB	**Brasilia**	**20.65**	**74**	P		**P**	**13 27 06.9**	**-1.7**
BDFB	**Brasilia**	**20.65**	**74**	P		**P**	**13 27 06.9**	**-1.7**
	comp=Z,31nm,0.7s,baz=253,slow=12,SNR=46							
PTGA	**Pitinga**	**23.28**	**22**	*eP*		P	13 27 29.8	-5.9
	comp=Z,42nm,0.6s							
PTGA					P	**P**	**13 27 34.5**	**-1.1**
PTGA	**Pitinga**	**23.28**	**22**	P		**P**	**13 27 34.5**	**-1.1**
	comp=Z,44nm,0.5s,baz=199,slow=14,SNR=66							
OTAV	**Otavo**	**24.59**	**336**	*eP*		**P**	**13 27 49.2**	**+1.2**
	comp=Z,21nm,0.9s							
ROSC	**El Rosal**	**27.81**	**348**	LR		LR	13 41 05.5	
	comp=Z,88nm,20.5s,baz=210,slow=40							
SDV	**Santo Domingo**	**31.31**	**356**	P		**P**	**13 28 46.0**	**-1.7**
	comp=Z,1.4nm,0.6s							
USHA	**Ushuaia**	**32.23**	**180**	P		**P**	**13 28 55.1**	**-0.1**
USHA	**Ushuaia**	**32.23**	**180**	P		**P**	**13 28 55.1**	**-0.1**
	comp=Z,6.0nm,0.5s,baz=339,slow=8.5,SNR=6.0							
RCBR	**Riachuelo**	**35.70**	**67**	P		**P**	**13 29 24.8**	**-0.9**
RCBR	**Riachuelo**	**35.70**	**67**	P		**P**	**13 29 24.8**	**-0.9**
	comp=Z,20nm,0.7s,baz=228,slow=9.4,SNR=12							
JTS	**JuntasAbangare**	**36.35**	**332**	P		**P**	**13 29 33.3**	**+2.1**
JTS	**JuntasAbangare**	**36.35**	**332**	P		**P**	**13 29 33.3**	**+2.1**
	comp=Z,4.6nm,0.6s,baz=277,slow=23,SNR=3.9							
FDF	**Fort de France**	**37.78**	**12**	*eP*		**P**	**13 29 41.7**	**-1.6**
	comp=Z,46nm,0.5s							
CRPR	**Cabo Rojo, PR**	**40.34**	**2**	*eP*		**P**	**13 30 02.1**	**-2.4**
CELP	**Cerrillos**	**40.43**	**3**	*eP*		**P**	**13 30 04.5**	**-0.8**
ANWB	**Willy Bob**	**40.54**	**10**	*eP*		**P**	**13 30 05.6**	**-0.5**
	comp=Z,60nm,0.6s							
TEIG	**Tepich**	**46.65**	**334**	P		**P**	**13 30 55.4**	**+0.3**
TEIG	**Tepich**	**46.65**	**334**	P		**P**	**13 30 55.4**	**+0.3**
	comp=Z,11nm,0.4s,baz=2.2,slow=2.5,SNR=11							
934A	**Benavides** baz=58	**57.62**	**328**	⇑P		**P**	**13 32 17.5**	**+1.1**
835A	**Beeville** baz=58	**57.87**	**329**	⇓P		**P**	**13 32 19.1**	**+1.0**
834A	**Tilden** baz=58	**58.08**	**329**	⇓P		**P**	**13 32 20.9**	**+1.4**
735A	**Kenedy** baz=59	**58.34**	**330**	⇑P		**P**	**13 32 22.6**	**+1.3**
833A	**Chaparral WMA,** baz=59,SNR=14	**58.65**	**328**	⇓P		**P**	**13 32 24.2**	**+0.8**
734A	**La Parita Cree** baz=59	**58.68**	**329**	⇑P		**P**	**13 32 24.7**	**+1.0**
635A	**Leesville** baz=59	**58.77**	**330**	⇓P		**P**	**13 32 25.1**	**+0.8**
832A	**Faith Ranch, C** baz=59,SNR=9.4	**58.90**	**328**	⇑P		**P**	**13 32 26.0**	**+0.7**
733A	**Divot King Ran** baz=59,SNR=5.5	**58.93**	**328**	⇓P		**P**	**13 32 25.9**	**+0.4**
634A	**China Grove, S** baz=59	**59.04**	**330**	⇑P		**P**	**13 32 26.9**	**+0.8**
535A	**Dale** baz=60	**59.23**	**331**	⇑P		**P**	**13 32 27.7**	**+0.2**
732A	**Laxson Ranch,** baz=60,SNR=5.8	**59.27**	**328**	⇓P		**P**	**13 32 28.0**	**+0.3**
633A	**Saathoff Ranch** baz=60,SNR=8.3	**59.49**	**329**	⇑P		**P**	**13 32 29.7**	**+0.4**
534A	**Blanco** baz=60,SNR=5.5	**59.64**	**330**	⇑P		**P**	**13 32 30.1**	**-0.3**
TKL	**Tuckaleechee C**	**59.65**	**346**	P		**P**	**13 32 29.4**	**-0.8**
TKL	**Tuckaleechee C**	**59.65**	**346**	P		**P**	**13 32 29.4**	**-0.8**
	comp=Z,15nm,1.0s,baz=150,slow=6.4,SNR=7.4							
SWET	**Sewanee** comp=Z,15nm,0.9s	**59.76**	**344**	*eP*		**P**	**13 32 30.5**	**-0.5**
SWET					*ePP*	**pP**	**13 32 55.8**	**-0.4**
632A	**Uvalde** baz=60,SNR=8.1	**59.82**	**329**	⇓P		**P**	**13 32 32.1**	**+0.6**
533A	**Kerrville** baz=60	**59.94**	**330**	⇓P		**P**	**13 32 32.9**	**+0.5**
631A	**Perdido Creek** baz=60,SNR=11	**60.13**	**328**	⇓P		**P**	**13 32 33.7**	**0.0**
434A	**Burnet** baz=60	**60.21**	**331**	⇓P		**P**	**13 32 34.0**	**-0.2**
335A	**Moody** baz=61,SNR=5.4	**60.23**	**332**	⇑P		**P**	**13 32 34.6**	**+0.3**
532A	**Rocksprings** baz=61,SNR=6.9	**60.40**	**329**	⇓P		**P**	**13 32 35.9**	**+0.3**
VWCC	**Virginia Weste**	**60.44**	**350**	*eP*		**P**	**13 32 36.3**	**+0.7**
433A	**Art** baz=61,SNR=15	**60.53**	**330**	⇓P		**P**	**13 32 36.2**	**-0.2**
334A	**Lometa** baz=61,SNR=6.0	**60.63**	**331**	⇑P		**P**	**13 32 36.9**	**-0.1**
JCT	**Junction City** comp=Z,18nm,0.7s	**60.64**	**329**	*eP*		**P**	**13 32 37.0**	**-0.2**
JCT	**Junction City** baz=61,SNR=14	**60.64**	**329**	⇓P		**P**	**13 32 37.2**	**0.0**
531A	**Rocksprings** baz=61,SNR=12	**60.73**	**328**	⇑P		**P**	**13 32 38.0**	**+0.2**
WHTX	**Lake Whitney** comp=Z,10nm,0.8s	**60.85**	**332**	*eP*		**P**	**13 32 38.6**	**+0.1**
WHTX					*epP*	**pP**	**13 33 04.4**	**+0.6**
WHTX	**Lake Whitney** baz=61,SNR=6.9	**60.85**	**332**	⇓P		**P**	**13 32 38.6**	**+0.1**
432A	**Menard** baz=61,SNR=16	**60.97**	**329**	⇓P		**P**	**13 32 39.4**	**0.0**
333A	**Richland Sprin** baz=61,SNR=8.5	**60.97**	**330**	⇓P		**P**	**13 32 39.3**	**-0.1**
530A	**J-C Ranch, Com** baz=61,SNR=14	**61.11**	**328**	⇓P		**P**	**13 32 40.7**	**+0.3**
WVT	**Waverly** comp=Z,16nm,0.8s	**61.13**	**342**	*eP*		**P**	**13 32 39.2**	**-1.1**
WVT					pP	**pP**	**13 33 05.4**	**-0.2**
234A	**Clairette** baz=62,SNR=13	**61.16**	**331**	⇓P		**P**	**13 32 40.9**	**+0.3**
431A	**Sonora** baz=62,SNR=6.7	**61.19**	**329**	⇑P		**P**	**13 32 40.9**	**0.0**
UALR	**University of** comp=Z,15nm,1.0s	**61.30**	**338**	*eP*		**P**	**13 32 41.0**	**-0.5**
UALR					*epP*	**pP**	**13 33 06.7**	**-0.1**
135A	**Vickery Place,** baz=62	**61.32**	**332**	⇑P		**P**	**13 32 41.9**	**+0.2**
628A	**Black Gap, Mar** baz=62,SNR=12	**61.36**	**326**	⇑P		**P**	**13 32 42.8**	**+0.8**
332A	**Millersview** baz=62,SNR=14	**61.37**	**330**	⇓P		**P**	**13 32 42.2**	**+0.2**
233A	**Rising Star** baz=62,SNR=8.6	**61.51**	**331**	⇓P		**P**	**13 32 43.0**	**-0.1**
529A	**Stev Forest Ra** baz=62,SNR=18	**61.53**	**327**	⇓P		**P**	**13 32 43.7**	**+0.4**
MIAR	**Mount Ida** comp=Z,32nm,1.1s	**61.54**	**337**	*eP*		**P**	**13 32 42.9**	**-0.2**
MIAR					*epP*	**pP**	**13 33 08.7**	**+0.3**
430A	**Baggett Ranch,** baz=62,SNR=6.1	**61.58**	**328**	⇓P		**P**	**13 32 43.7**	**+0.2**
627A	**Terlingua Ranc** baz=62,SNR=6.1	**61.59**	**326**	⇓P		**P**	**13 32 43.8**	**+0.1**
134A	**White-Moore Ra** baz=62	**61.62**	**332**	⇑P		**P**	**13 32 43.8**	**+0.1**
331A	**San Angelo** baz=62,SNR=9.2	**61.62**	**329**	⇓P		**P**	**13 32 43.7**	**-0.1**
TXAR	**Lajitas Array**	**61.64**	**325**	P		**P**	**13 32 44.2**	**+0.2**
TXAR					pP	**pP**	**13 33 09.9**	**+0.6**
TXAR	**Lajitas Array**	**61.64**	**325**	P		**P**	**13 32 44.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=150,slow=9.0,SNR=24							
TXAR					pP	**pP**	**13 33 09.9**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=148,slow=8.6,SNR=9.1							
232A	**Coleman** baz=62,SNR=9.5	**61.74**	**330**	⇓P		**P**	**13 32 44.7**	**+0.1**
429A	**Davenport Ranc** baz=62,SNR=9.7	**61.77**	**328**	⇓P		**P**	**13 32 45.2**	**+0.3**
Z35A	**Perchaven, San** baz=62,SNR=7.2	**61.92**	**333**	⇑P		**P**	**13 32 46.0**	**+0.3**
133A	**Hamilton Ranch** baz=62,SNR=6.8	**62.02**	**331**	⇓P		**P**	**13 32 46.4**	**0.0**
626A	**Big Bend Ranch** baz=62,SNR=17	**62.06**	**325**	⇑P		**P**	**13 32 46.8**	**0.0**
330A	**Mertzon** baz=62	**62.06**	**329**	⇓P		**P**	**13 32 46.6**	**-0.2**
231A	**Bronte** baz=62	**62.09**	**330**	⇓P		**P**	**13 32 46.6**	**-0.3**
Z34A	**Collier Ranch,** baz=63,SNR=14	**62.23**	**332**	⇑P		**P**	**13 32 48.1**	**+0.3**
428A	**Kincaid Ranch,** baz=63	**62.25**	**327**	⇓P		**P**	**13 32 48.7**	**+0.6**
527A	**Woodward Ranch** baz=63,SNR=8.3	**62.26**	**326**	⇓P		**P**	**13 32 48.6**	**+0.4**
ABTX	**Abilene, Hawle** comp=Z,28nm,1.2s	**62.36**	**331**	*eP*		**P**	**13 32 48.5**	**-0.2**
ABTX					*epP*	**pP**	**13 33 12.9**	**-1.1**
ABTX	**Abilene, Hawle** baz=63,SNR=8.0	**62.36**	**331**	⇓P		**P**	**13 32 48.7**	**0.0**
230A	**Sterling City** baz=63	**62.43**	**329**	⇓P		**P**	**13 32 49.2**	**0.0**
526A	**Mary Lane Ranc** baz=63,SNR=13	**62.44**	**325**	⇑P		**P**	**13 32 49.7**	**+0.3**
329A	**Wagon Wheel Ra** baz=63,SNR=8.2	**62.52**	**328**	⇑P		**P**	**13 32 49.9**	**+0.1**
Z33A	**Whitaker Ranch** baz=63,SNR=9.8	**62.53**	**332**	⇓P		**P**	**13 32 50.0**	**+0.2**
Y34A	**Reagan Ranch,** baz=63,SNR=8.8	**62.67**	**333**	⇓P		**P**	**13 32 50.8**	**+0.1**
427A	**Hayter Ranch,** baz=63,SNR=5.2	**62.71**	**327**	⇓P		**P**	**13 32 51.3**	**+0.2**
131A	**Roby** baz=63,SNR=9.5	**62.74**	**330**	⇑P		**P**	**13 32 51.3**	**+0.1**
229A	**Bryant Ranch,** baz=63	**62.83**	**328**	⇓P		**P**	**13 32 51.9**	**0.0**
328A	**Wristen Ranch,** baz=63,SNR=9.6	**62.84**	**327**	⇓P		**P**	**13 32 52.1**	**+0.1**
Z32A	**Haskell** baz=63,SNR=5.3	**62.86**	**331**	⇑P		**P**	**13 32 52.0**	**0.0**
426A	**McDonald Obser** baz=63,SNR=8.7	**62.89**	**326**	⇓P		**P**	**13 32 52.5**	**0.0**
130A	**Snyder** baz=63,SNR=11	**62.95**	**330**	⇑P		**P**	**13 32 52.8**	**+0.1**
Y33A	**Hilltop Ranch,** baz=63,SNR=6.4	**63.08**	**332**	⇑P		**P**	**13 32 53.6**	**+0.1**
Z31A	**Sharp Cattle R** baz=64,SNR=14	**63.17**	**331**	⇓P		**P**	**13 32 54.0**	**-0.1**
X34A	**Smith Ranch, M** baz=64,SNR=5.3	**63.26**	**333**	⇓P		**P**	**13 32 54.5**	**-0.1**
326A	**Caldwell Ranch** baz=64,SNR=9.0	**63.38**	**326**	⇓P		**P**	**13 32 55.7**	**+0.2**
129A	**Stewart Farms,** baz=64,SNR=5.8	**63.40**	**329**	⇑P		**P**	**13 32 56.1**	**+0.5**
Y32A	**R-V Farms, Ver** baz=64	**63.43**	**332**	⇓P		**P**	**13 32 56.1**	**+0.4**
X33A	**Lawton** baz=64	**63.48**	**333**	⇑P		**P**	**13 32 56.0**	**-0.1**
425A	**Indio Mountain** baz=64,SNR=16	**63.48**	**325**	⇑P		**P**	**13 32 56.8**	**+0.5**
TUL1	**Tulsa** comp=Z,20nm,0.9s	**63.58**	**336**	*eP*		**P**	**13 32 56.4**	**-0.2**
TUL1					*epP*	**pP**	**13 33 22.0**	**-0.1**
TUL1	**Tulsa** baz=64,SNR=6.1	**63.58**	**336**	⇓P		**P**	**13 32 57.0**	**+0.4**
227A	**Bennet, Jal** baz=64	**63.59**	**327**	⇑P		**P**	**13 32 57.7**	**+0.8**
Z30A	**Sanderson Ranc** baz=64,SNR=12	**63.59**	**330**	⇑P		**P**	**13 32 57.3**	**+0.4**
BLO	**Bloomington**	**63.65**	**345**	*eP*		**P**	**13 32 56.1**	**-0.9**
128A	**Castleberry Fa** baz=64	**63.69**	**328**	⇑P		**P**	**13 32 57.4**	**-0.2**
X32A	**Elmer** baz=64	**63.72**	**332**	⇑P		**P**	**13 32 58.3**	**+0.7**
Y31A	**Rekieta Farm,** baz=64,SNR=8.3	**63.76**	**331**	⇓P		**P**	**13 32 58.1**	**+0.2**
W34A	**Bridge Creek,** baz=64	**63.78**	**334**	⇓P		**P**	**13 32 58.4**	**+0.4**
Z29A	**Hungry Hill Ra** baz=64,SNR=6.2	**63.84**	**329**	⇑P		**P**	**13 32 58.0**	**-0.5**
325A	**Bean Ranch, Si** baz=64,SNR=26	**63.94**	**326**	⇓P		**P**	**13 32 59.0**	**-0.3**
Y30A	**Stafford Cattl** baz=64	**63.98**	**330**	⇓P		**P**	**13 32 59.4**	**0.0**
W33A	**Caddo, Fort Co** baz=64,SNR=13	**63.99**	**333**	⇓P		**P**	**13 32 59.6**	**+0.2**
226B	**Tecolote Peak,** baz=64,SNR=8.0	**64.09**	**327**	⇑P		**P**	**13 33 00.3**	**+0.2**
127A	**Arkansas Junct** baz=64	**64.16**	**328**	⇑P		**P**	**13 33 01.1**	**+0.4**
Z28A	**Tucker Farm, M** baz=64	**64.19**	**329**	⇑P		**P**	**13 33 00.4**	**-0.4**
V34A	**Guthrie** baz=64,SNR=7.5	**64.19**	**334**	⇓P		**P**	**13 33 00.4**	**-0.3**
X31A	**McDonald Ranch** baz=64,SNR=16	**64.20**	**332**	⇓P		**P**	**13 33 00.9**	**+0.1**
324A	**Moseley Ranch,** baz=65,SNR=16	**64.26**	**325**	⇑P		**P**	**13 33 01.1**	**-0.4**
Y29A	**Porterfield Fa** baz=65,SNR=10	**64.32**	**330**	⇓P		**P**	**13 33 01.4**	**-0.3**
X30A	**Coker Ranch, T** baz=65,SNR=7.2	**64.44**	**331**	⇑P		**P**	**13 33 02.1**	**-0.3**
225A	**Deer Hill, Car** baz=65,SNR=8.4	**64.45**	**326**	⇓P		**P**	**13 33 02.3**	**-0.4**
126A	**Clayton Basin,** baz=65,SNR=6.3	**64.47**	**327**	⇑P		**P**	**13 33 02.7**	**+0.1**
V33A	**Lossen Ranch,** baz=65,SNR=10.0	**64.49**	**334**	⇑P		**P**	**13 33 02.5**	**-0.1**
Z27A	**Tatum** baz=65,SNR=13	**64.61**	**328**	⇓P		**P**	**13 33 03.1**	**-0.5**
Y28A	**McKinney Farm,** baz=65,SNR=5.9	**64.63**	**329**	⇑P		**P**	**13 33 03.4**	**-0.3**
W31A	**Holland Ranch,** baz=65	**64.65**	**332**	⇓P		**P**	**13 33 03.4**	**-0.3**
U34A	**Anderson Ranch** baz=65,SNR=7.1	**64.72**	**334**	⇑P		**P**	**13 33 03.9**	**-0.2**
V32A	**Arapaho** baz=65	**64.72**	**333**	⇓P		**P**	**13 33 04.4**	**+0.2**
224A	**Cornudas Mount** baz=65,SNR=11	**64.78**	**326**	⇑P		**P**	**13 33 04.6**	**-0.2**
125A	**Gardner Draw,** baz=65,SNR=7.6	**64.80**	**327**	⇓P		**P**	**13 33 04.4**	**-0.4**
X29A	**Tulia** baz=65	**64.82**	**330**	⇓P		**P**	**13 33 04.7**	**-0.2**
MSTX	**Muleshoe** comp=Z,27nm,1.0s	**64.93**	**329**	*eP*		**P**	**13 33 05.5**	**-0.2**
MSTX	**Muleshoe** baz=65,SNR=11	**64.93**	**329**	⇑P		**P**	**13 33 06.0**	**+0.3**
Z26A	**Caprock** baz=65,SNR=8

		baz=67							
Z22A	Elephant Butte	66.46	325	⇑P		P	13 33 16.7	+1.1	
	baz=67,SNR=24								
Y23A	Lovelace Mesa,	66.52	327	⇓P		P	13 33 16.8	+0.9	
	baz=67,SNR=5.8								
R33A	Olander Ranch,	66.52	335	⇓P		P	13 33 15.8	+0.1	
	baz=67								
S31A	Mullinville	66.53	334	⇑P		P	13 33 16.1	+0.3	
	baz=67								
U28A	Mallet	66.66	331	⇓P		P	13 33 16.6	-0.1	
	baz=67,SNR=6.1								
KSU1	Kansas State U	66.69	337	eP		P	13 33 16.1	-0.6	
	comp=Z,29nm,1.0s								
KSU1				epP		pP	13 33 42.4	0.0	
KSU1	Kansas State U	66.69	337	⇑P		P	13 33 16.4	-0.3	
	baz=67,SNR=6.0								
X24A	Lazy VL Ranch,	66.71	327	⇑P		P	13 33 17.3	+0.2	
	baz=67,SNR=8.2								
W25A	X Bar L Ranch,	66.75	329	⇓P		P	13 33 17.3	-0.1	
	baz=67,SNR=8.6								
T29A	Hugoton	66.90	332	⇑P		P	13 33 18.3	+0.1	
	baz=67								
V26A	Tequesquite Ra	66.90	329	⇑P		P	13 33 18.6	+0.3	
	baz=67,SNR=12								
R32A	Long Quarter,	66.91	335	⇑P		P	13 33 18.5	+0.4	
	baz=67,SNR=5.6								
S30A	Montezuma	66.95	333	⇓P		P	13 33 19.0	+0.5	
	baz=67								
U27A	Thompson Grove	66.97	330	⇑P		P	13 33 18.8	+0.1	
	baz=67								
Q33A	Connelly Farm,	67.06	336	⇓P		P	13 33 19.4	+0.3	
	baz=67								
X23A	Hourglass Bar	67.10	327	⇓P		P	13 33 20.7	+1.0	
	baz=67,SNR=11								
LPM	Los Pinos Moun	67.11	326	eP		P	13 33 20.6	+0.9	
	comp=Z,4.9nm,0.8s								
R31A	Burdett	67.12	334	⇑P		P	13 33 20.3	+0.8	
	baz=68								
W24A	Lazy 6 Ranch,	67.21	328	⇑P		P	13 33 21.1	+0.8	
	baz=68,SNR=7.4								
S29A	Ulysses	67.21	332	⇓P		P	13 33 20.8	+0.6	
	baz=68,SNR=10								
T28A	Walsh	67.23	331	⇑P		P	13 33 20.3	0.0	
	baz=68,SNR=8.1								
V25A	Rancho No Teng	67.33	329	⇑P		P	13 33 21.6	+0.6	
	baz=68,SNR=9.8								
Q32A	Meitler Ranch,	67.34	335	⇑P		P	13 33 21.1	+0.2	
	baz=68,SNR=10								
U26A	Atchley Ranch,	67.37	330	⇓P		P	13 33 21.4	+0.1	
	baz=68,SNR=15								
P33A	Williams Farm,	67.39	336	⇑P		P	13 33 21.3	+0.2	
	baz=68								
R30A	Dighton	67.42	333	⇑P		P	13 33 22.0	+0.6	
	baz=68,SNR=5.8								
T27A	Campo	67.45	331	⇑P		P	13 33 22.2	+0.4	
	baz=68,SNR=13								
ANMO	Albuquerque	67.52	327	eP		P	13 33 23.3	+1.0	
	comp=Z,10nm,0.8s								
ANMO				epP		PcP	13 33 49.4	+0.5	
S28A	Manter	67.52	332	⇓P		P	13 33 22.7	+0.6	
	baz=68,SNR=18								
W23A	Werner Place,	67.54	327	⇑P		P	13 33 23.2	+0.7	
	baz=68,SNR=10.0								
V24A	Rampart Ranch,	67.55	328	⇓P		P	13 33 23.0	+0.4	
	baz=68,SNR=13								
QSPA	South Pole Qui	67.64	180	LR		LR	14 03 46.1		
	comp=Z,78nm,19.0s,baz=180,slow=36								
Q31A	Ellis	67.68	334	⇓P		P	13 33 23.6	+0.6	
	baz=68,SNR=7.6								
U25A	Circle Dot Ran	67.68	329	⇓P		P	13 33 23.9	+0.6	
	baz=68,SNR=13								
R29A	Marienthal	67.90	333	⇑P		P	13 33 25.1	+0.6	
	baz=68,SNR=5.8								
P32A	Huiting Farm,	67.90	335	⇓P		P	13 33 24.5	+0.1	
	baz=68								
T26A	Comanche Natio	67.94	330	⇓P		P	13 33 25.6	+0.7	
	baz=68,SNR=9.9								
Q30A	Quinter	67.99	334	⇑P		P	13 33 25.6	+0.7	
	baz=68,SNR=16								
V23A	Ortiz Mt. (NFS	68.02	328	⇓P		P	13 33 26.4	+1.0	
	baz=68,SNR=15								
S27A	Las Animas	68.04	331	⇑P		P	13 33 26.3	+0.8	
	baz=68								
U24A	Moreno Valley	68.11	329	⇓P		P	13 33 26.7	+0.7	
	baz=68								
P31A	Stockton	68.11	335	⇑P		P	13 33 26.1	+0.3	
	baz=68,SNR=14								
R28A	Tribune	68.11	332	⇓P		P	13 33 26.0	+0.2	
	baz=68,SNR=6.0								
Q29A	Oakley	68.22	333	⇑P		P	13 33 26.7	+0.2	
	baz=69,SNR=12								
S26A	Kim	68.25	331	⇑P		P	13 33 27.5	+0.8	
	baz=69,SNR=13								
T25A	Trinidad	68.28	330	⇓P		P	13 33 27.7	+0.6	
	baz=69								
O32A	Brockman Farm,	68.33	336	⇓P		P	13 33 27.2	+0.1	
	baz=69,SNR=5.2								
LIC	Lamto	68.44	73	eP		P	13 33 27.7	-0.6	
	comp=Z,13nm,0.6s								
P30A	Selden	68.48	334	⇓P		P	13 33 28.3	+0.3	
	baz=69,SNR=5.3								
U23A	El Rito	68.48	328	⇑P		P	13 33 29.4	+1.0	
	baz=69,SNR=5.7								
R27A	Eads	68.50	332	⇓P		P	13 33 28.4	+0.2	
	baz=69								
V22A	San Miguel Ran	68.51	327	⇑P		P	13 33 29.8	+1.2	
	baz=69,SNR=12								
TIC	Toumodi	68.64	73	eP		P	13 33 29.0	-0.5	
	comp=Z,3.6nm,0.3s								
T24B	San Luis	68.68	329	⇓P		P	13 33 30.8	+1.2	
	baz=69,SNR=6.4								
S25A	Robets Cordova	68.72	330	⇑P		P	13 33 30.4	+0.7	
	baz=69,SNR=9.4								
Q28A	Sharon Springs	68.73	333	⇓P		P	13 33 30.3	+0.6	
	baz=69								
214A	Organ Pipe Nat	68.74	321	⇑P		P	13 33 31.1	+1.4	
	baz=69,SNR=5.8								
KIC	Kosan Boka	68.75	73	eP		P	13 33 29.8	-0.4	
	comp=Z,11nm,0.5s								
DBIC	Dimbokro	68.79	73	eP		P	13 33 29.8	-0.7	
	comp=Z,28nm,0.9s								
DBIC				epP		pP	13 33 56.0	-0.2	
DBIC				pP		pwP	13 33 56.3	0.0	
DBIC	Dimbokro	68.79	73	P		P	13 33 29.9	-0.5	
	comp=Z,7.7nm,0.7s,baz=217,slow=5.7,SNR=18								
DBIC				pP		pwP	13 33 56.3	0.0	
	comp=Z,24nm,0.9s,baz=212,slow=6.1,SNR=12								
DBIC				LR		LR	14 03 27.9		
	comp=Z,61nm,18.7s,baz=248,slow=36								
R26A	Arlington	68.80	331	⇑P		P	13 33 30.8	+0.7	
	baz=69,SNR=16								
P29A	Atwood	68.81	334	⇑P		P	13 33 30.8	+0.7	
	baz=69								
U22A	Llaves	68.85	328	⇑P		P	13 33 31.6	+1.0	
	baz=69,SNR=8.5								
O30A	MW Ranch, Wils	68.95	335	⇓P		P	13 33 31.7	+0.8	
	baz=69								
T23A	Casias Ranch,	68.97	329	⇓P		P	13 33 32.4	+1.0	
	baz=69								
KSCO	Kaye Shedlock'	69.02	332	eP		P	13 33 32.3	+0.8	
	comp=Z,19nm,0.8s								
KSCO				epP		pP	13 33 57.3	0.0	
KSCO	Kaye Shedlock'	69.02	332	⇓P		P	13 33 32.3	+0.8	
	baz=69,SNR=8.3								
X18A	Snowflake	69.02	324	⇓P		P	13 33 32.9	+1.2	
	baz=69								
R25A	Fountain Ranch	69.05	331	⇓P		P	13 33 32.3	+0.6	
	baz=69,SNR=5.5								
S24A	Houchin Ranch,	69.06	330	⇓P		P	13 33 33.2	+1.2	
	baz=69,SNR=10								
N31A	Bailey Ranch,	69.07	336	⇑P		P	13 33 32.0	+0.3	
	baz=69								
P28A	Saint Francis	69.12	333	⇑P		P	13 33 32.9	+0.9	
	baz=70								
O29A	4D Ranch, Culb	69.20	334	⇑P		P	13 33 33.3	+0.8	
	baz=70								
BGNE	Belgrade	69.28	337	eP		P	13 33 33.0	+0.1	
	comp=Z,128nm,1.0s								
BGNE				epP		pP	13 33 59.6	+0.8	
BGNE	Belgrade	69.28	337	⇑P		P	13 33 33.2	+0.3	
	baz=70,SNR=8.3								
Q26A	Hugo	69.34	332	⇓P		P	13 33 34.5	+1.0	
	baz=70								
W18A	Petrified Fore	69.35	325	⇑P		P	13 33 35.0	+1.2	
	baz=70								
P27A	Ficken Ranch,	69.46	333	⇑P		P	13 33 35.6	+1.4	
	baz=70								
S23A	Nye Farm, Mont	69.49	329	⇓P		P	13 33 35.8	+1.2	
	baz=70,SNR=5.4								
N30A	Hueftle Ranch,	69.49	335	⇓P		P	13 33 35.0	+0.7	
	baz=70								
R24A	Sanders Place,	69.49	330	⇓P		P	13 33 35.6	+1.0	
	baz=70,SNR=10								
M31A	Lambtecht Ranc	69.53	336	⇑P		P	13 33 35.0	+0.5	
	baz=70,SNR=5.7								
O28A	Krutsinger Ran	69.60	333	⇑P		P	13 33 35.6	+0.7	
	baz=70,SNR=7.9								
Q25A	Bedland, Calha	69.66	331	⇑P		P	13 33 36.1	+0.6	
	baz=70								
N29A	Votaw Ranch, W	69.72	335	⇓P		P	13 33 36.2	+0.5	
	baz=70,SNR=5.3								
X16A	Lo Mia Camp, P	69.75	323	⇓P		P	13 33 37.2	+1.0	
	baz=70,SNR=10								
P26A	Davis Ranch, A	69.79	332	⇑P		P	13 33 37.0	+0.8	
	baz=70								
R23A	Moffat	69.79	329	⇑P		P	13 33 37.1	+0.6	
	baz=70,SNR=7.8								
Z14A	Wintersburg	69.83	321	⇓P		P	13 33 37.5	+1.0	
	baz=70								
113A	Mohawk Valley,	69.88	321	⇑P		P	13 33 38.0	+1.3	
	baz=70								
S22A	4UR Ranch, Cre	69.92	329	⇑P		P	13 33 38.2	+1.0	
	baz=70,SNR=5.7								
O27A	Beecher Island	69.94	333	⇑P		P	13 33 38.2	+1.0	
	baz=70,SNR=6.6								
N28A	Pribbeno Ranch	69.97	334	⇓P		P	13 33 37.7	+0.5	
	baz=70								
M30A	Dale-Ortello V	70.04	336	⇓P		P	13 33 38.2	+0.6	
	baz=70								
Q24A	Divide	70.11	330	⇑P		P	13 33 39.4	+1.0	
	baz=70,SNR=11								
P25A	Willow Gulch B	70.11	331	⇓P		P	13 33 39.4	+1.1	
	baz=70								
L31A	Butterfield Fa	70.20	337	⇑P		P	13 33 39.1	+0.5	
	baz=71,SNR=11								
M29A	Burnside Ranch	70.28	335	⇓P		P	13 33 40.0	+0.9	
	baz=71								
Y14A	Wickenburg	70.28	322	⇑P		P	13 33 40.2	+0.9	
	baz=71,SNR=5.3								
MVCO	Mesa Verde	70.32	327	eP		P	13 33 40.8	+1.1	
	comp=Z,5.9nm,0.6s								
MVCO	Mesa Verde	70.32	327	⇑P		P	13 33 40.5	+0.8	
	baz=71,SNR=11								
L30A	Spencer Herefo	70.33	336	⇑P		P	13 33 39.9	+0.5	
	baz=71								
O26A	Horse Wrangler	70.34	332	⇑P		P	13 33 40.2	+0.6	
	baz=71								
P24A	Kohler Place,	70.44	331	⇑P		P	13 33 41.4	+1.1	
	baz=71,SNR=5.8								
M28A	Bar X Bar Ranc	70.50	334	⇓P		P	13 33 41.8	+1.3	
	baz=71								
WUAZ	Wupatki	70.53	324	eP		P	13 33 42.5	+1.6	
	comp=Z,12nm,0.9s								
WUAZ				epP		pP	13 34 08.7	+1.9	
WUAZ	Wupatki	70.53	324	⇑P		P	13 33 42.4	+1.5	
	baz=71,SNR=15								
O25A	Wiggins	70.58	332	⇓P		P	13 33 42.7	+1.6	
	baz=71,SNR=5.3								
GLA	Glamis	70.71	320	⇑P		P	13 33 43.4	+1.5	
	baz=71								
L29A	Maesberg Ranch	70.72	335	⇓P		P	13 33 43.4	+1.6	
	baz=71								
P23A	Jefferson	70.75	330	⇓P		P	13 33 43.9	+1.6	
	baz=71								
ECSD	EROS Data Cent	70.79	339	⇓P		P	13 33 42.7	+0.6	
	baz=71								
K30A	Basset	70.92	336	⇑P		P	13 33 43.5	+0.5	
	baz=71,SNR=9.7								
SPMN	St. Paul	70.97	342	⇑P		P	13 33 42.9	-0.2	
	baz=71								
ISCO	Idaho Springs	70.99	331	eP		P	13 33 44.6	+0.8	
	comp=Z,3.3nm,0.6s								
ISCO	Idaho Springs	70.99	331	⇓P		P	13 33 44.5	+0.8	
	baz=71,SNR=7.2								
O24A	Longmont	71.01	331	⇑P		P	13 33 44.8	+1.2	
	baz=71								
Y12C	Blythe	71.03	321	⇑P		P	13 33 45.1	+1.4	
	baz=71,SNR=6.0								
PV01	Paradox Valley	71.07	328	eP		P	13 33 45.4	+1.2	
	comp=Z,761nm,1.1s								
PV01				epP		pP	13 34 11.8	+1.7	
L28A	Connealy Angus	71.08	335	⇓P		P	13 33 45.4	+1.4	
	baz=71								
PDMCI	Parker Dam,Lak	71.19	321	⇑P		P	13 33 45.8	+1.1	
	baz=72								
K29A	Lazy Trails An	71.26	336	⇑P		P	13 33 45.7	+0.7	
	baz=72,SNR=12								
P22A	Eagle	71.35	330	⇑P		P	13 33 46.9	+1.0	
	baz=72,SNR=8.2								
J30A	Dallas	71.44	337	⇓P		P	13 33 46.6	+0.6	
	baz=72,SNR=5.7								
O23A	Lake Granby, G	71.46	331	⇓P		P	13 33 47.8	+1.2	
	baz=72,SNR=15								
N24A	Carr	71.50	332	⇓P		P	13 33 48.0	+1.4	
	baz=72								
BC3	Big Chuckawall	71.51	320	⇓P		P	13 33 48.0	+1.2	
	baz=72								
MONP	Monument Peak	71.55	319	⇓P		P	13 33 48.3	+1.1	
	baz=72								
K28A	Ten Mile Ranch	71.62	335	⇓P		P	13 33 48.3	+1.1	
	baz=72,SNR=6.4								
W13A	Hualapai Mount	71.62	322	⇓P		P	13 33 48.7	+1.1	
	baz=72								
M25A	Palm-Egli Farm	71.64	333	⇓P		P	13 33 48.6	+1.1	
	baz=72								
IRM	Iron Mountain	71.68	321	⇑P		P	13 33 48.8	+1.1	
	baz=72,SNR=5.7								
O22A	Kremming	71.71	330	⇑P		P	13 33 49.0	+1.0	
	baz=72,SNR=7.8								
U15A	North Rim	71.71	324	⇑P		P	13 33 49.2	+1.1	
	baz=72,SNR=9.6								
L26A	Underwood Farm	71.73	334	⇑P		P	13 33 49.1	+1.1	
	baz=72								
NEE2	Needles Airpor	71.81	321	⇑P		P	13 33 49.4	+1.0	
	baz=72								
J29A	Okreek	71.82	336	⇓P		P	13 33 48.8	+0.5	
	baz=72,SNR=10								
K27A	Fluecking Fa	71.95	335	⇓P		P	13 33 50.1	+0.9	
	baz=72,SNR=9.0								
109C	Camp Elliot, M	71.97	319	⇓P		P	13 33 50.7	+1.3	
	baz=72								
M24A	Cheyenne	72.00	332	⇑P		P	13 33 51.0	+1.3	
	baz=72,SNR=13								
N23A	Red Feather La	72.02	331	⇓P		P	13 33 50.9	+1.0	
	baz=72,SNR=6.8								
BELC	Bel Mtn. Jos	72.07	320	⇑P		P	13 33 51.5	+1.3	
	baz=72								
PFO	Pinyon Flat Ob	72.07	319	P		P	13 33 51.0	+0.8	
PFO	Pinyon Flat Ob	72.07	319	P		P	13 33 51.0	+0.8	
	comp=Z,4.0nm,1.0s,baz=101,slow=5.2,SNR=5.1								
PFO	Pinyon Flat Ob	72.07	319	⇑P		P	13 33 51.4	+1.2	
	baz=72								
J28A	Allard Ranch,	72.17	336	⇑P		P	13 33 51.4	+0.9	
	baz=72,SNR=15								
N22A	Wattenberg Ran	72.18	331	⇑P		P	13 33 51.8	+1.0	
	baz=72,SNR=10								
J27A	Elkhorn Farm,	72.33	335	⇓P		P	13 33 52.7	+1.3	
	baz=73,SNR=20								
K26A	Motz Farm, Whi	72.33	334	⇑P		P	13 33 53.1	+1.7	
	baz=73								
I29A	Vivian Onida	72.34	337	⇓P		P	13 33 51.9	+0.5	
	baz=73								
M23A	Laramie	72.39	332	⇑P		P	13 33 52.9	+0.9	
	baz=73,SNR=11								
GMRC	Granite Mounta	72.42	321	⇓P		P	13 33 53.7	+1.5	
	baz=73,SNR=9.0								
O20A	White River Ci	72.48	329	⇑P		P	13 33 53.8	+1.3	
	baz=73,SNR=12								
MURC	Murrieta	72.52	319	⇑P		P	13 33 54.3	+1.6	
	baz=73								
K25A	Mack Ranch, Ha	72.54	333	⇓P		P	13 33 53.7	+1.0	
	baz=73								
I28A	Midland	72.64	336	⇑P		P	13 33 54.3	+1.2	
	baz=73								
M22A	Cedar Creek Ra	72.72	331	⇓P		P	13 33 55.7	+1.7	
	baz=73								
J26A	Sides Ranch, S	72.80	334	⇓P		P	13 33 55.3	+1.1	
	baz=73,SNR=8.0								
SRU	San Rafael	72.80	327	eP		P	13 33 55.0	+0.6	
	comp=Z,13nm,0.9s								
SRU				epP		pP	13 34 22.0	+1.5	
BBRC	Big Bear Solar	72.80	320	⇑P		P	13 33 56.1	+1.5	
	baz=73								
H29A	Onida	72.83	337	⇑P		P	13 33 54.4	+0.1	
	baz=73,SNR=5.9								
HEC	Hector,Ludlow	72.84	320	⇓P		P	13 33 56.4	+1.7	
	baz=73								
G30A	Faulkton	72.88	338	⇑P		P	13 33 56.2	+1.6	
	baz=73								
L23A	Garrett	72.91	332	⇓P		P	13 33 56.5	+1.5	
	baz=73								
K24A	Anderson Ranch	73.02	333	⇑P		P	13 33 57.0	+1.4	
	baz=73								
TUQ	Turquoise Moun	73.03	321	⇓P		P	13 33 57.5	+1.6	
	baz=73								
I27A	Quinn	73.03	335	⇓P		P	13 33 56.4	+0.9	
	baz=73,SNR=6.7								
N20A	Spence Gulch,	73.04	330	⇓P		P	13 33 56.9	+1.0	
	baz=73								
CCUT	Cedar City	73.11	324	eP		P	13 33 58.5	+2.1	
	comp=Z,13nm,0.9s								
CCUT				epP		pP	13 34 24.5	+2.1	
J25A	Sunshine Ranch	73.16	334	⇓P		P	13 33 58.0	+1.7	
	baz=74								
L22A	Ellis Ranch, M	73.16	332	⇓P		P	13 33 57.8	+1.3	
	baz=74								
H28A	Mission Ridge	73.16	336	⇑P		P	13 33 56.9	+0.6	
	baz=74,SNR=7.0								
MVU	Marysvale	73.21	326	eP		P	13 33 58.5	+1.5	
	comp=Z,6.9nm,0.8s								
MVU				epP		pP	13 34 24.8	+1.8	
MVU				esP		sP	13 34 36.4	+2.3	
BFSC	Mount Baldy Ra	73.23	319	⇓P		P	13 33 57.8	+0.7	
	baz=74								
I26A	New Underwood	73.31	335	⇓P		P	13 33 58.3	+1.1	
	baz=74								
ARUT	Antelope Range	73.33	324	eP		P	13 33 59.5	+1.9	
	comp=Z,459nm,1.3s								
ARUT				epP		pP	13 34 25.4	+1.8	
K23A	Bowen Ranch, D	73.39	332	⇓P		P	13 33 59.0	+1.2	
	baz=74								
GSC	Goldstone	73.45	321	⇓P		P	13 33 59.9	+1.7	
	baz=74								
J24A	Dixon Ranch, L	73.46	333	⇓P		P	13 33 59.4	+1.2	
	baz=74,SNR=5.6								
G28A	Parade	73.47	337	⇑P		P	13 33 58.8	+0.7	
	baz=74,SNR=6.2								
H27A	Howes	73.52	336	⇑P		P	13 33 59.1	+0.7	
	baz=74,SNR=7.8								
I25A	Rochford	73.65	334	⇓P		P	13 34 00.5	+1.1	
	baz=74,SNR=16								
K22A	Casper	73.70	332	eP		P	13 34 00.6	+1.0	
	comp=Z,6.5nm,0.9s								
K22A	Casper	73.70	332	⇓P		P	13 34 00.5	+0.9	
	baz=74,SNR=5.5								
F29A	Eureka	73.73	338	⇓P		P	13 34 00.5	+0.9	
	baz=74								
H26A	Fairpoint	73.77	335	⇑P		P	13 34 01.2	+1.3	
	baz=74								
RSSD	Black Hills	73.86	334	eP		P	13 34 01.4	+0.8	
	comp=Z,14nm,1.0s								
RSSD				epP		pP	13 34 28.2	+1.5	
EDW2	Edwards Air Fo	73.87	320	⇑P		P	13 34 01.7	+1.1	
	baz=74,SNR=5.2								
I24A	Kuemmerle Ranc	73.88	334	⇓P		P	13 34 01.8	+1.2	
	baz=74								
K21A	Alcova	74.00	331	⇑P		P	13 34 02.7	+1.3	
	baz=74,SNR=26								
F28A	McLaughlin	74.09	337	⇓P		P	13 34 03.0	+1.4	
	baz=74								
LRMC	Laurel Mountai	74.10	320	⇓P		P	13 34 03.8	+1.8	
	baz=74								
G27A	Dupree	74.10	336	⇓P		P	13 34 02.4	+0.7	
	baz=74,SNR=7.0								
H25A	Fruitdale	74.10	335	⇓P		P	13 34 02.5	+0.7	
	baz=74,SNR=7.2								
TPNV	Topopah Spring	74.28	322	⇓P		P	13 34 04.5	+1.4	
	baz=75,SNR=6.5								
J22A	Midwest	74.29	332	⇑P		P	13 34 03.8	+0.7	
	baz=75,SNR=11								
FURC	Furnace Creek,	74.30	321	⇓P		P	13 34 04.6	+1.6	
	baz=75,SNR=6.2								
MPMC	Manual Prospec	74.38	321	⇑P		P	13 34 04.8	+1.1	
	baz=75								
D30A	Buchanan	74.48	339	⇓P		P	13 34 04.4	+0.6	
	baz=75,SNR=7.8								
G25A	Newell	74.51	335	⇑P		P	13 34 04.8	+0.6	
	baz=75,SNR=7.1								
F27A	Lemmon	74.55	336	⇑P		P	13 34 05.1	+0.7	
	baz=75,SNR=6.0								
H24A	Dirks Ranch, A	74.58	334	⇑P		P	13 34 05.2	+0.6	
	baz=75,SNR=12								
AGMN	Agassiz Nation	74.64	342	⇑P		P	13 34 05.1	+0.4	
	baz=75								
J21A	Lysite	74.66	332	⇑P		P	13 34 06.3	+1.1	
	baz=75,SNR=7.5								
E28A	Huff	74.67	338	⇓P		P	13 34 05.8	+0.7	
	baz=75								
I22A	9 Mile Ranch,	74.68	333	⇑P		P	13 34 06.0	+0.8	
	baz=75,SNR=13								
ISA	Isabella	74.69	320	eP		P	13 34 06.5	+1.0	
	comp=Z,1.2nm,0.7s								
ISA				epP		pP	13 34 33.0	+1.4	
ISA	Isabella	74.69	320	⇑P		P	13 34 06.9	+1.4	
	baz=75,SNR=8.5								
H23A	Clabaugh Cattl	74.77	334	⇓P		P	13 34 06.8	+1.1	
	baz=75								
F26A	Lodgepole	74.78	336	⇑P		P	13 34 06.5	+0.9	
	baz=75,SNR=18								
DUG	Dugway	74.78	326	eP		P	13 34 07.1	+1.2	
	comp=Z,8.3nm,1.1s								
DUG				epP		pP	13 34 32.5	+0.4	
DUG	Dugway	74.78	326	⇑P		P	13 34 07.4	+1.5	
	baz=75,SNR=9.3								
E27A	Carson	74.86	337	⇓P		P	13 34 07.1	+1.0	
	baz=75

		baz=76									
C28A	**Hausauer Farms**	**75.55**	**338**	⇑	P		**P**	**13 34 11.0**	**+0.9**
	baz=76										
RCTC	**Rector, Farmer**	**75.58**	**320**	⇓	P		**P**	**13 34 11.3**	**+0.9**
	baz=76										
E25A	**Miller Ranch,**	**75.60**	**336**	⇓	P		**P**	**13 34 11.2**	**+0.9**
	baz=76										
TPH	**Tonopah**	**75.62**	**322**		*e*P		**P**	**13 34 12.1**	**+1.2**
	comp=Z,30nm,1.8s										
TPH						*e*pP	**pP**	**13 34 38.5**	**+1.4**
G22A	**Birney**	**75.68**	**334**	⇓	P		**P**	**13 34 11.3**	**+0.4**
	baz=76										
D26A	**Manning**	**75.69**	**337**	⇓	P		**P**	**13 34 11.3**	**+0.5**
	baz=76										
F23A	**Volborg**	**75.73**	**334**	⇑	P		**P**	**13 34 11.6**	**+0.5**
	baz=76,SNR=13										
H20A	**Greybull**	**75.81**	**332**	⇑	P		**P**	**13 34 12.0**	**+0.4**
	baz=76,SNR=7.3										
VNDA	**Vanda**	**75.86**	**190**		P		**P**	**13 34 12.3**	**+0.9**
VNDA	**Vanda**	**75.86**	**190**		P		**P**	**13 34 12.3**	**+0.9**
	comp=Z,5.1nm,0.9s,baz=119,slow=3.5,SNR=7.2										
B29A	**Wagenman Farm,**	**75.86**	**339**	⇓	P		**P**	**13 34 12.2**	**+0.5**
	baz=76,SNR=7.7										
I19A	**Meeteetse**	**75.89**	**331**	⇑	P		**P**	**13 34 12.7**	**+0.4**
	baz=76,SNR=13										
C27A	**Sayler Ranch,**	**75.94**	**338**	⇓	P		**P**	**13 34 13.6**	**+1.4**
	baz=76										
A30A	**Hoffart Farm,**	**75.95**	**340**	⇓	P		**P**	**13 34 13.2**	**+1.0**
	baz=76										
E24A	**Baker**	**75.99**	**335**	⇓	P		**P**	**13 34 13.5**	**+0.9**
	baz=76,SNR=7.7										
G21A	**Lodge Grass**	**76.06**	**333**	⇓	P		**P**	**13 34 13.8**	**+0.7**
	baz=76,SNR=8.3										
D25A	**Fairfield**	**76.11**	**336**	⇑	P		**P**	**13 34 14.4**	**+1.1**
	baz=76,SNR=11										
F22A	**Rosebud**	**76.12**	**334**	⇑	P		**P**	**13 34 14.0**	**+0.7**
	baz=76,SNR=9.3										
B28A	**Dugan Ranch, T**	**76.18**	**339**	⇑	P		**P**	**13 34 14.1**	**+0.5**
	baz=76,SNR=8.0										
A29A	**Manning Farm,**	**76.22**	**340**	⇑	P		**P**	**13 34 14.3**	**+0.5**
	baz=77,SNR=9.9										
MLAC	**Mammoth Lakes**	**76.24**	**321**	⇓	P		**P**	**13 34 14.7**	**+0.3**
	baz=77										
C26A	**Wahner Farm, P**	**76.24**	**338**	⇓	P		**P**	**13 34 14.9**	**+0.9**
	baz=77										
H19A	**Powell**	**76.39**	**332**	⇑	P		**P**	**13 34 15.7**	**+0.7**
	baz=77,SNR=7.2										
ULM	**Lac du Bonnet**	**76.40**	**342**		P		**P**	**13 34 14.3**	**-0.4**
ULM						*e*pP	**pP**	**13 34 39.1**	**-1.8**
ULM	**Lac du Bonnet**	**76.40**	**342**		P		**P**	**13 34 14.3**	**-0.4**
	comp=Z,7.2nm,0.6s,baz=148,slow=6.1,SNR=13										
ULM						*e*pP	**pP**	**13 34 39.1**	**-1.8**
	comp=Z,9.2nm,0.5s,baz=152,slow=6.4,SNR=10.0										
B27A	**Peters Farms,**	**76.44**	**338**	⇑	P		**P**	**13 34 16.0**	**+1.0**
	baz=77										
D24A	**Glendive**	**76.46**	**336**	⇑	P		**P**	**13 34 16.3**	**+1.1**
	baz=77										
NVAR	**Mina Array Bea**	**76.48**	**322**		P		**P**	**13 34 16.6**	**+0.8**
NVAR						*e*pP	**pP**	**13 34 42.4**	**+0.4**
NVAR	**Mina Array Bea**	**76.48**	**322**		P		**P**	**13 34 16.6**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=156,slow=5.9,SNR=25										
NVAR						*e*pP	**pP**	**13 34 42.4**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=156,slow=6.6,SNR=6.2										
G20A	**Bridger**	**76.48**	**332**	⇑	P		**P**	**13 34 15.9**	**+0.4**
	baz=77,SNR=12										
F21A	**Absaloka Mine,**	**76.51**	**333**	⇑	P		**P**	**13 34 17.0**	**+1.4**
	baz=77										
I17A	**Pilgrim Ck.**	**76.51**	**330**	⇑	P		**P**	**13 34 17.1**	**+1.2**
	baz=77,SNR=17										
E22A	**Miles City**	**76.53**	**334**	⇑	P		**P**	**13 34 16.3**	**+0.7**
	baz=77										
A28A	**Rude Farm, Bot**	**76.55**	**339**	⇓	P		**P**	**13 34 16.4**	**+0.7**
	baz=77										
C25A	**Freed Ranch, W**	**76.56**	**337**	⇑	P		**P**	**13 34 16.9**	**+1.1**
	baz=77										
H18A	**Shoshone NF, C**	**76.69**	**331**	⇑	P		**P**	**13 34 17.6**	**+0.8**
	baz=77										
B26A	**Jensen Ranch,**	**76.76**	**338**	⇑	P		**P**	**13 34 18.1**	**+1.2**
	baz=77										
C24A	**Savage**	**76.84**	**336**	⇑	P		**P**	**13 34 18.7**	**+1.3**
	baz=77										
D23A	**Lindsay**	**76.84**	**335**	⇑	P		**P**	**13 34 18.5**	**+1.1**
	baz=77,SNR=6.0										
LAO	**LASA Array**	**76.84**	**334**		*e*P		**P**	**13 34 17.8**	**+0.4**
	comp=Z,17nm,1.2s										
LAO						*e*pP	**pP**	**13 34 44.4**	**+0.7**
RLMT	**Red Lodge**	**76.86**	**332**		*e*P		**P**	**13 34 18.4**	**+0.7**
	comp=Z,21nm,1.3s										
RLMT						*e*pP	**pP**	**13 34 44.5**	**+0.5**
H17A	**Grant Village**	**76.88**	**331**	⇓	P		**P**	**13 34 19.1**	**+1.2**
	baz=77,SNR=6.0										
F20A	**Billings**	**76.92**	**333**	⇑	P		**P**	**13 34 18.6**	**+0.6**
	baz=77,SNR=7.0										
B25A	**Knox Farm, Ray**	**77.00**	**337**	⇓	P		**P**	**13 34 19.5**	**+1.2**
	baz=77										
E21A	**Keefer Ranch,**	**77.07**	**334**	⇑	P		**P**	**13 34 19.6**	**+1.0**
	baz=77,SNR=12										
SCHQ	**Schefferville**	**77.09**	**1**		P		**P**	**13 34 17.5**	**-1.0**
SCHQ	**Schefferville**	**77.09**	**1**		P		**P**	**13 34 17.5**	**-1.0**
	comp=Z,5.7nm,0.7s,baz=219,slow=4.4,SNR=6.3										
A26A	**Wade Farm, Ken**	**77.13**	**338**	⇓	P		**P**	**13 34 20.0**	**+1.1**
	baz=78										
D22A	**Cohagen**	**77.20**	**335**	⇑	P		**P**	**13 34 20.6**	**+1.2**
	baz=78,SNR=10										
YMR	**Madison River**	**77.27**	**330**		*e*P		**P**	**13 34 21.6**	**+1.6**
	comp=Z,6.8nm,0.6s										
YMR						pP	**pP**	**13 34 47.2**	**+0.9**
F19A	**Roth Farm, Mol**	**77.30**	**332**	⇑	P		**P**	**13 34 20.9**	**+0.8**
	baz=78,SNR=14										
C23A	**Lambert**	**77.36**	**336**	⇓	P		**P**	**13 34 21.1**	**+0.9**
	baz=78										
D21A	**La Casta Ranch**	**77.46**	**334**	⇓	P		**P**	**13 34 21.9**	**+1.1**
	baz=78,SNR=13										
TOA0	**Torodi Ar. Sit**	**77.47**	**70**		pP		pP	13 34 47.8	-0.1
TORD	**Torodi Ar. Bea**	**77.47**	**70**		P		**P**	**13 34 20.9**	**-0.6**
TORD					pP		**pP**	**13 34 46.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**77.47**	**70**		P		**P**	**13 34 20.9**	**-0.6**
	comp=Z,6.0nm,0.3s,baz=258,slow=5.7,SNR=181										
TORD						pP	**pP**	**13 34 46.7**	**-1.1**
	comp=Z,37nm,0.8s,baz=250,slow=5.1,SNR=18										
E20A	**Meyer Farm, Mu**	**77.47**	**333**	⇑	P		**P**	**13 34 21.8**	**+0.8**
	baz=78,SNR=24										
DGMT	**Dagmar**	**77.54**	**337**	⇑	P		**P**	**13 34 22.1**	**+0.9**
	baz=78,SNR=7.2										
A25A	**Svangstu Ranch**	**77.55**	**338**	⇓	P		**P**	**13 34 22.6**	**+1.3**
	baz=78,SNR=5.5										
C22A	**Vida**	**77.58**	**335**	⇓	P		**P**	**13 34 22.2**	**+0.7**
	baz=78										
E19A	**Rath Farm, Rou**	**77.71**	**333**	⇑	P		**P**	**13 34 23.2**	**+0.9**
	baz=78,SNR=28										
B23A	**Brockton**	**77.83**	**336**	⇓	P		**P**	**13 34 23.9**	**+1.1**
	baz=78										
A24A	**Westby**	**77.85**	**337**	⇑	P		**P**	**13 34 23.8**	**+0.9**
	baz=78,SNR=6.1										
D20A	**Manuel Ranch,**	**77.94**	**334**	⇓	P		**P**	**13 34 23.9**	**+0.4**
	baz=78,SNR=12										
HLID	**Hailey**	**78.07**	**328**		*e*P		**P**	**13 34 25.9**	**+1.4**
	comp=Z,19nm,1.0s										
HLID						*e*pP	**pP**	**13 34 51.2**	**+0.4**
HLID	**Hailey**	**78.07**	**328**	⇓	P		**P**	**13 34 25.9**	**+1.4**
	baz=78,SNR=26										
B22A	**Reddig Ranch S**	**78.08**	**336**	⇓	P		**P**	**13 34 24.8**	**+0.6**
	baz=78,SNR=5.3										
A23A	**Redstone**	**78.20**	**337**	⇑	P		**P**	**13 34 26.0**	**+1.1**
	baz=78										
MCMT	**McKenzie Canyo**	**78.26**	**330**		*e*P		**P**	**13 34 26.9**	**+1.3**
	comp=Z,5.9nm,0.8s										
MCMT						*e*pP	**pP**	**13 34 53.3**	**+1.4**
D19A	**Cripps Ranch,**	**78.31**	**333**	⇑	P		**P**	**13 34 26.0**	**+0.4**
	baz=79,SNR=8.3										
C20A	**Veseth Ranch,**	**78.39**	**334**	⇓	P		**P**	**13 34 26.4**	**+0.4**
	baz=79,SNR=6.8										
B21A	**Ellsworth Farm**	**78.57**	**335**	⇑	P		**P**	**13 34 28.2**	**+1.3**
	baz=79,SNR=6.2										
A22A	**Carney Farms,**	**78.61**	**336**	⇑	P		**P**	**13 34 28.4**	**+1.2**
	baz=79,SNR=8.4										
MFID	**Camas Ranch**	**78.67**	**327**		*e*P		**P**	**13 34 28.6**	**+0.9**
	comp=Z,11nm,1.1s										
MFID						pP	**pP**	**13 34 55.2**	**+1.1**
LRM	**Limekiln Ridge**	**78.83**	**330**		*e*P		**P**	**13 34 29.3**	**+0.7**
	comp=Z,38nm,0.9s										
LRM						*e*pP	**pP**	**13 34 55.7**	**+0.7**
C19A	**Slack Wire Ran**	**78.83**	**334**	⇑	P		**P**	**13 34 29.0**	**+0.6**
	baz=79,SNR=5.5										
B20A	**Solberg Farm,**	**78.98**	**334**	⇑	P		**P**	**13 34 29.8**	**+0.6**
	baz=79,SNR=6.7										
A21A	**Bergtoll Ranch**	**79.00**	**335**	⇑	P		**P**	**13 34 29.7**	**+0.4**
	baz=79										
A20A	**Cobblestone Ra**	**79.29**	**335**	⇑	P		**P**	**13 34 31.3**	**+0.4**
	baz=80,SNR=12										
EGMT	**Eagleton**	**79.35**	**333**		*e*P		**P**	**13 34 31.5**	**+0.2**
	comp=Z,23nm,1.6s										
EGMT						*e*pP	**pP**	**13 34 57.5**	**-0.2**
EGMT	**Eagleton**	**79.35**	**333**	⇓	P		**P**	**13 34 31.8**	**+0.5**
	baz=80										
B19A	**Brinkman Farms**	**79.36**	**334**	⇓	P		**P**	**13 34 32.1**	**+0.8**
	baz=80										
TSUM	**Tsumeb**	**79.49**	**106**		*e*P		**P**	**13 34 33.2**	**+0.4**
	comp=Z,21nm,0.8s										
TSUM						*e*pP	**pP**	**13 34 58.1**	**-1.1**
A19A	**Klindworth Far**	**79.66**	**334**	⇓	P		**P**	**13 34 33.2**	**+0.4**
	baz=80,SNR=7.6										
MOD	**Modoc**	**79.97**	**324**		*e*P		**P**	**13 34 35.6**	**+0.8**
	comp=Z,9.6nm,0.9s										
MOD						*e*pP	**pP**	**13 35 02.6**	**+1.3**
MSO	**Missoula**	**80.27**	**330**	⇓	P		**P**	**13 34 37.1**	**+0.9**
	baz=81										
N02D	**Trinity Center**	**80.70**	**322**	⇑	P		**P**	**13 34 39.2**	**+0.4**
	baz=81										
M04C	**Macdoel**	**80.74**	**323**	⇑	P		**P**	**13 34 39.7**	**+0.7**
	baz=81										
SWMT	**Swartz Lake**	**80.80**	**331**		*e*P		**P**	**13 34 40.0**	**+0.9**
	comp=Z,6.3nm,1.0s										
M02C	**Callahan**	**81.06**	**322**	⇑	P		**P**	**13 34 41.1**	**+0.5**
	baz=81										
YBH	**Yreka Blue Hor**	**81.20**	**322**		P		**P**	**13 34 41.2**	**-0.2**
YBH						pP	**pP**	**13 35 08.2**	**+0.3**
YBH	**Yreka Blue Hor**	**81.20**	**322**		P		**P**	**13 34 41.2**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=97,slow=2.9,SNR=14										
YBH						pP	**pP**	**13 35 08.2**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=149,slow=21,SNR=2.8										
K04D	**Chiloquin, OR**	**81.25**	**323**	⇓	P		**P**	**13 34 42.8**	**+1.1**
	baz=82										
BLMT	**Blacktail Moun**	**81.34**	**331**		*e*P		**P**	**13 34 42.1**	**+0.1**
	comp=Z,16nm,1.0s										
J05D	**Fort Rock, OR**	**81.41**	**324**	⇓	P		**P**	**13 34 43.2**	**+0.7**
	baz=82										
BSMT	**Bassoo Peak**	**81.41**	**331**		*e*P		**P**	**13 34 42.9**	**+0.4**
	comp=Z,14nm,1.2s										
BSMT						*e*pP	**pP**	**13 35 09.6**	**+0.6**
PINOR	**Pine Mountain**	**81.57**	**325**		*e*P		**P**	**13 34 44.5**	**+1.5**
	comp=Z,8.8nm,0.8s										
PINOR						*e*pP	**pP**	**13 35 11.3**	**+1.8**
KTRM	**Thompson Ridge**	**81.69**	**322**		P		**P**	**13 34 45.1**	**+1.1**
J04D	**Umpqua Nationa**	**81.86**	**324**	⇑	P		**P**	**13 34 45.3**	**+0.4**
	baz=82										
I05D	**Terrebonne, OR**	**82.17**	**325**	⇑	P		**P**	**13 34 47.4**	**+1.1**
	baz=82										
MDT	**Midelt**	**82.22**	**50**		pP		pP	13 35 13.1	-0.4
MDT	**Midelt**	**82.22**	**50**		pP		pP	13 35 13.1	-0.4
	comp=Z,4.8nm,0.9s,baz=229,slow=4.6,SNR=4.7										
I04A	**Tendick Farm,**	**82.39**	**324**	⇓	P		**P**	**13 34 48.1**	**+0.6**
	baz=83										
HAWA	**Hanford**	**82.63**	**327**		*e*P		**P**	**13 34 49.4**	**+0.8**
	comp=Z,12nm,0.8s										
HAWA						*e*pP	**pP**	**13 35 15.7**	**+0.5**
G05D	**Wamic, OR**	**82.76**	**326**	⇓	P		**P**	**13 34 50.6**	**+1.2**
	baz=83										
NEW	**Newport**	**82.79**	**330**	⇓	P		**P**	**13 34 49.9**	**+0.5**
	baz=83										
OD2	**Odessa Site #2**	**82.92**	**328**		P		**P**	**13 34 50.9**	**+0.8**
MAW	**Mawson**	**83.25**	**163**		P		**P**	**13 34 51.9**	**+0.4**
MAW						pP	**pP**	**13 35 18.8**	**+0.6**
MAW	**Mawson**	**83.25**	**163**		P		**P**	**13 34 51.9**	**+0.4**
	comp=Z,14nm,0.5s,baz=206,slow=6.0,SNR=32										
MAW						pP	**pP**	**13 35 18.8**	**+0.6**
	comp=Z,16nm,0.6s,baz=222,slow=5.5,SNR=8.4										
WTV	**Waterville**	**83.74**	**328**		P		**P**	**13 34 54.9**	**+0.5**
ETW	**Entiat**	**83.86**	**328**		P		**P**	**13 34 55.6**	**+0.5**
LBTB	**Lobatse**	**84.34**	**115**		*e*P		**P**	**13 34 58.1**	**-0.1**
	comp=Z,18nm,0.9s										
LBTB						*e*pP	**pP**	**13 35 25.5**	**+0.7**
EDM	**Edmonton**	**84.83**	**335**		*e*P		**P**	**13 34 58.7**	**-1.0**
EDM						*e*pP	**pP**	**13 35 25.8**	**-0.6**
TAM	**Tamanrasset**	**85.07**	**63**		P		**P**	**13 35 01.3**	**-0.5**
	comp=Z,4.0nm,0.8s										
TAM						*e*pP	**pP**	**13 35 28.8**	**+0.3**
CMW	**Cultus Mountai**	**85.30**	**328**		P		**P**	**13 35 02.2**	**-0.1**
ESDC	**Sonseca Array**	**86.40**	**44**		P		**P**	**13 35 08.1**	**+0.2**
ESDC	**Sonseca Array**	**86.40**	**44**		P		**P**	**13 35 08.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=224,slow=5.0,SNR=5.5										
LSZ	**Lusaka**	**90.35**	**107**		*e*P		**P**	**13 35 27.9**	**+0.7**
	comp=Z,1.6nm,0.6s										
YKA	**Yellowknife Ar**	**92.27**	**340**		P		**P**	**13 35 34.9**	**+0.1**
YKA						pP	**pP**	**13 36 02.1**	**+0.3**
YKA	**Yellowknife Ar**	**92.27**	**340**		P		**P**	**13 35 34.9**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=135,slow=4.6,SNR=140										
YKA						pP	**pP**	**13 36 02.1**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=135,slow=4.5,SNR=8.1										
ILAR	**Eielson Array**	**105.31**	**334**		PKKPbc		PKKPbc	13 52 12.3	-3.0
ILAR	**Eielson Array**	**105.31**	**334**		PKKPbc		PKKPbc	13 52 12.3	-3.0
	comp=Z,0.3nm,0.6s,baz=299,slow=4.2,SNR=4.4										
FINES	**FINESS Array B**	**111.78**	**31**		PKKPbc		PKKPbc	13 51 51.2	-3.3
FINES	**FINESS Array B**	**111.78**	**31**		PKKPbc		PKKPbc	13 51 51.2	-3.3
	comp=Z,2.0nm,0.8s,baz=48,slow=2.8,SNR=5.3										
AKASG	**Malin Array Be**	**112.01**	**43**		PKiKP		**PKiKP**	**13 40 59.4**	**-0.4**
AKASG	**Malin Array Be**	**112.01**	**43**		PKiKP		**PKiKP**	**13 40 59.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=264,slow=3.2,SNR=5.8										
BRTR	**Keskin Array B**	**113.22**	**55**		PKiKP		**PKiKP**	**13 41 02.2**	**-0.5**
BRTR	**Keskin Array B**	**113.22**	**55**		PKiKP		**PKiKP**	**13 41 02.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=186,slow=1.8,SNR=5.4										
STKA	**Stephens Creek**	**118.62**	**209**		PKP		**PKPdf**	**13 41 13.6**	**+0.3**
STKA	**Stephens Creek**	**118.62**	**209**		PKP		**PKPdf**	**13 41 13.6**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=360,slow=1.9,SNR=4.9										
KBZ	**Khabaz**	**120.57**	**52**		PKP		**PKPdf**	**13 41 17.1**	**+0.6**
KBZ	**Khabaz**	**120.57**	**52**		PKP		**PKPdf**	**13 41 17.1**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=46,slow=2.0,SNR=7.7										
H11S2	**WAKE ISLAND Hyl**	**128.26**	**276**		T		T	16 01 51.5	
	baz=107,slow=73,SNR=112										
H11S1	**WAKE ISLAND Hyl**	**128.27**	**276**		T		T	16 01 52.4	
	baz=107,slow=73,SNR=45										
H11S3	**WAKE ISLAND Hyl**	**128.27**	**276**		T		T	16 01 49.5	
	baz=107,slow=73,SNR=53										
H11N3	**WAKE ISLAND Hyl**	**128.37**	**278**		T		T	16 02 04.0	
	baz=106,slow=75,SNR=3.9										
H11N2	**WAKE ISLAND Hyl**	**128.38**	**278**		T		T	16 01 56.6	
	baz=106,slow=75,SNR=13										
H11N1	**WAKE ISLAND Hyl**	**128.38**	**278**		T		T	16 02 00.8	
	baz=106,slow=75,SNR=7.3										
ASAR	**Alice Springs**	**129.09**	**207**		PKPpre		PKPpre	13 41 19.6	
ASAR					PKP		**PKPdf**	**13 41 33.2**	**-0.4**
ASAR					pPKP		pPKPdf	13 42 01.4	-0.4
ASAR	**Alice Springs**	**129.09**	**207**		PKhKP		PKPpre	13 41 19.6	
	comp=Z,0.2nm,0.5s,baz=133,slow=1.7,SNR=7.5										
ASAR					PKP		**PKPdf**	**13 41 33.2**	**-0.4**
	comp=Z,7.7nm,0.8s,baz=137,slow=1.5,SNR=47										
ASAR					pPKP		pPKPdf	13 42 01.4	-0.4
	comp=Z,3.2nm,0.7s,baz=130,slow=2.0,SNR=6.4										
AS31	**Alice Springs**	**129.10**	**207**		*e*PKPdf		**PKPdf**	**13 41 33.3**	**-0.3**
AKTO	**Aktyubinsk**	**130.25**	**42**		PKP		**PKPdf**	**13 41 36.0**	**+1.1**
AKTO	**Aktyubinsk**	**130.25**	**42**		PKP		**PKPdf**	**13 41 36.0**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=354,slow=1.6,SNR=9.3										
SEY	**Seymchan**	**131.17**	**336**		PKP		**PKPdf**	**13 41 36.8**	**+0.7**
SEY	**Seymchan**	**131.17**	**336**		PKP		**PKPdf**	**13 41 36.8**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=10,slow=23,SNR=7.7										
ABKAR	**Akbulak array**	**131.74**	**43**		*e*PKPdf		**PKPdf**	**13 41 38.4**	**+0.7**
ABKAR					*ep*PKPdf		**pPKPdf**	**13 42 06.7**	**+0.9**
WRA	**Warramunga Arr**	**132.17**	**210**		PKPpre		PKPpre	13 41 25.5	
WRA					PKP		**PKPdf**	**13 41 39.5**	**0.0**
WRA					pPKP		pPKPdf	13 42 08.2	+0.7
WRA	**Warramunga Arr**	**132.17**	**210**		PKhKP		PKPpre	13 41 25.5	
	comp=Z,0.5nm,0.6s,baz=133,slow=1.6,SNR=9.4										
WRA					PKP		**PKPdf**	**13 41 39.5**	**0.0**
	comp=Z,6.7nm,0.6s,baz=153,slow=1.7,SNR=89										
WRA					pPKP		pPKPdf	13 42 08.2	+0.7
	comp=Z,2.8nm,0.6s,baz=159,slow=1.7,SNR=6.2										
PETK	**Petropavlovsk-**	**133.56**	**323**		PKP		**PKPdf**	**13 41 41.9**	**+0.9**
PETK	**Petropavlovsk-**	**133.56**	**323**		PKP		**PKPdf**	**13 41 41.9**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=131,slow=4.0,SNR=6.3										
KURK	**Kurchatov**	**142.06**	**34**		*e*PKPpre		PKPpre	13 41 52.3	
ZAA0	**Zalesovo Array**	**142.79**	**26**		*e*PKPpre		PKPpre	13 41 54.4	
ZALV	**Zalesovo Beam**	**142.79**	**26**		PKPpre		PKPpre	13 41 54.5	
ZALV					SKP			13 45 28.3	
ZALV	**Zalesovo Beam**	**142.79**	**26**		PKhKP		PKPpre	13 41 54.5	
	comp=Z,4.1nm,0.4s,baz=326,slow=4.2,SNR=18										
ZALV					SKP		**SKPbc**	**13 45 28.3**	**+1.7**
	comp=Z,2.3nm,0.7s,baz=312,slow=4.0,SNR=4.2										
EKS2	**Erkin-Say**	**142.92**	**48**		*e*PKPpre		PKPpre	13 41 56.9	
AAK	**Ala-Archa**	**143.43**	**48**		*e*PKPpre		PKPpre	13 41 58.2	
UCH	**Uchtor**	**143.59**	**49**		P		PKPbc	13 41 59.0	+1.0
	SNR=9.2										
KBK	**Karagaybulak**	**143.73**	**48**		P		PKPbc	13 41 58.8	+0.8
	SNR=6.9										
TKM2	**Tokmak 2**	**144.07**	**47**		P		PKPbc	13 41 59.8	+0.8
	SNR=7.3										
TKM2	**Tokmak 2**	**144.07**	**47**		*e*PKPpre		PKPbc	13 41 59.6	+0.6
KZA	**Kyzart**	**144.15**	**49**		P		**PKPdf**	**13 42 01.0**	**-0.2**
	SNR=10										
ULHL	**Ulahol**	**144.77**	**48**		P		**PKPdf**	**13 42 02.7**	**+0.7**
	SNR=21										
YSS	**Yuzh-Sakhalins**	**144.93**	**322**		*e*PKP		**PKPdf**	**13 42 01.7**	**-0.2**
KSH	**Kashi**	**145.55**	**52**		PKPbc		**PKPab**	**13 42 04.4**	**+0.3**
KSH					*e*PKP			13 42 41.5	
KSH					*e*SKS		**SKSdf**	**13 49 03.1**	**-0.2**
KSH					AMB		AMB		
	comp=Z,180nm,5.3s										
KSH					LR		LR		
	comp=Z,44nm,4.8s										
KSH					LR		LR		
	comp=Z,75nm,5.4s										
KSH					LR		LR		
	comp=Z,57nm,8.1s										
MK31	**Makanchi Array**	**146.33**	**37**		*e*PKPbc		**PKPdf**	**13 42 04.9**	**+0.6**
MKAR	**Makanchi Array**	**146.33**	**37**		PKPbc		**PKPdf**	**13 42 04.8**	**+0.5**
MKAR					pPKPbc		pPKPbc	13 42 33.8	+0.4
MKAR	**Makanchi Array**	**146.33**	**37**		PKPbc		**PKPdf**	**13 42 04.8**	**+0.5**
	comp=Z,19nm,0.8s,baz=339,slow=1.5,SNR=82										
MKAR					pPKPbc		pPKPbc	13 42 33.8	+0.4
	comp=Z,12nm,0.9s,baz=308,slow=3.3,SNR=6.9										
ASAJ	**Asahikawa**	**146.50**	**317**		PKPbc		**PKPbc**	**13 42 06.8**	**+0.6**
ASAJ	**Asahikawa**	**146.50**	**317**		PKPbc		**PKPbc**	**13 42 06.8**	**+0.6**
	comp=Z,32nm,1.0s,baz=280,slow=5.3,SNR=10										
NDI	**New Delhi**	**148.68**	**72**		*e*P		**PKPdf**	**13 42 07.0**	**-1.7**
HYB	**Hyderabad**	**148.78**	**93**		*i* PKP		**PKPdf**	**13 42 09.0**	**-0.2**
WMQ	**Urumqi**	**151.16**	**37**		PKPbc		**PKPdf**	**13 42 11.5**	**-0.8**
KAPI	**Kappang**	**151.40**	**198**		*e*PKPbc		**PKPbc**	**13 42 20.2**	**+0.6**
KAPI					*e*PKPab		**PKPab**	**13 42 28.4**	**+0.5**
USRK	**Ussuriysk Arra**	**152.53**	**327**		PKPbc		**PKPbc**	**13 42 21.6**	**+0.4**
	comp=Z,8.9nm,0.9s,baz=326,slow=2.0,SNR=10										
USRK	

ATAB	**Bozova**	**1.04**	**307**	*i* P		**Pb**	**13 32 58.7**	**-0.9**
ATAB				*i* S		**Sn**	**13 33 14.9**	**-0.4**
ATAB	**Bozova**	**1.04**	**307**	*i* P		**Pb**	**13 32 58.7**	**-0.9**
ATAB				*i* S		**Sn**	**13 33 14.9**	**-0.4**
MAZI	**Mazidag**	**1.08**	**55**	*e*PN		**Pn**	**13 33 00.1**	**-0.9**
MAZI	**Mazidag**	**1.08**	**55**	*e*Pn		**Pn**	**13 33 00.1**	**-0.9**
MARD	**Mardin**	**1.25**	**68**	*i* P		**Pb**	**13 33 03.2**	**0.0**
MARD				*i* S		**Sn**	**13 33 21.4**	**+0.8**
DIY	**Diyarbakir**	**1.27**	**34**	*e*Pn		**Pg**	**13 33 03.6**	**+0.2**
DIY				*e*Sn		**Sn**	**13 33 23.0**	**+1.9**
DYBB	**Diyarbakir**	**1.28**	**30**	*e*PN		**Pg**	**13 33 03.5**	**-0.1**
DYBB				*e*SN		**Sn**	**13 33 23.0**	**+1.7**
GZT	**Gaziantep**	**1.50**	**290**	*i* P		**Pg**	**13 33 07.7**	**-0.2**
GZT				*i* S		Sg	13 33 33.8	+6.4
MALT	**Malatya**	**1.63**	**334**	*e*PN		**Pn**	**13 33 08.2**	**-0.5**
MALT	**Malatya**	**1.63**	**334**	*e*Pn		**Pn**	**13 33 08.2**	**-0.5**
ELZG	**Elazig**	**1.67**	**351**	*i* P		**Pg**	**13 33 11.0**	**-0.1**
ELZG				*i* S		**Sg**	**13 33 33.7**	**+0.8**
ELZG	**Elazig**	**1.67**	**351**	*i* P		**Pg**	**13 33 11.0**	**-0.1**
ELZG				*i* S		**Sg**	**13 33 33.7**	**+0.8**
KUZU	**Kuzuini**	**1.81**	**268**	*i* P		**Pg**	**13 33 14.5**	**+0.6**
KUZU				*i* S		**Sg**	**13 33 38.1**	**+0.7**
KUZU	**Kuzuini**	**1.81**	**268**	*i* P		**Pg**	**13 33 14.5**	**+0.6**
KUZU				*i* S		**Sg**	**13 33 38.1**	**+0.7**
BEST	**Besiri**	**1.86**	**55**	*i* P		**Pg**	**13 33 14.2**	**-0.6**
BEST				*i* S		**Sg**	**13 33 38.5**	**-0.4**
PTK	**Pertek**	**2.04**	**1**	*e*PN		**Pn**	**13 33 14.2**	**-0.2**
PTK	**Pertek**	**2.04**	**1**	*e*Pn		**Pn**	**13 33 14.2**	**-0.2**

*TAP **03** 13:41:33.9,21.7°78N×119.44E,h43km±1km, ML3.7, D*
ISC 03 13:41:31.2±2.6, 21.7°N±0.1°×119.26E±0.0°, 09, h54km±39km, n49, σ1°32/89, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWP	**Hsiaoliuchiu**	**1.22**	**57**	*e*P	**Pn**	**13 41 52.8**	**+0.8**
TWP	baz=56			*e*S	**Sn**	**13 42 06.7**	**-0.8**
KAU	**Kaohsiung**	**1.31**	**48**	*e*P	**Pn**	**13 41 53.9**	**+0.6**
KAU	baz=45			*e*S	**Sn**	**13 42 09.5**	**-0.2**
HEN	**Hengchun**	**1.41**	**77**	P	**Pn**	**13 41 55.7**	**+1.1**
HEN	baz=79			*e*S	**Sn**	**13 42 12.0**	**-0.1**
SCZT	**Fangliau**	**1.44**	**61**	P	**Pn**	**13 41 55.5**	**+0.6**
SCZT	baz=61			*e*S	**Sn**	**13 42 11.6**	**-1.2**
TWK1	**Hengchun**	**1.46**	**79**	P	**Pn**	**13 41 56.1**	**+0.8**
TWK1	baz=82			*e*S	**Sn**	**13 42 13.2**	**-0.2**
TSEB	**Hengchuen, Pin**	**1.54**	**82**	P	**Pn**	**13 41 56.9**	**+0.5**
TSEB	baz=84			*e*S	**Sn**	**13 42 14.2**	**-1.1**
SGLT	**Jiouru**	**1.54**	**48**	*e*P	**Pn**	**13 41 57.5**	**+1.1**
SGLT	baz=46			*e*S	**Sn**	**13 42 14.5**	**-0.8**
TWM1	**Shoushan**	**1.57**	**43**	*e*P	**Pn**	**13 41 58.2**	**+1.5**
TWM1	baz=41			*e*S	**Sn**	**13 42 15.7**	**-0.3**
WDGT	**Dungji**	**1.61**	**13**	*e*P	**Pn**	**13 41 58.7**	**+1.3**
WDGT	baz=8.0			*e*S	**Sn**	**13 42 15.6**	**-1.5**
TAI1	**Yung-k'ang**	**1.62**	**33**	*e*P	**Pn**	**13 41 58.1**	**+0.7**
TAI1	baz=30			S	**Sn**	**13 42 16.6**	**-0.6**
EAST	**Anshuo**	**1.63**	**64**	⇓*i*P	**Pn**	**13 41 58.4**	**+0.8**
EAST	baz=65			*i* S	**Sn**	**13 42 16.4**	**-1.2**
SSD	**Sandimen**	**1.66**	**50**	P	**Pn**	**13 41 58.7**	**+0.8**
SSD	baz=49			S	**Sn**	**13 42 17.1**	**-1.0**
SCLT	**Jiali**	**1.72**	**30**	*e*P	**Pn**	**13 42 00.3**	**+1.5**
SCLT	baz=26			*e*S	**Sn**	**13 42 19.4**	**-0.2**
CHN3	**Shinhua**	**1.73**	**36**	*e*P	**Pn**	**13 41 59.9**	**+1.1**
ECL	baz=33 **Taimali**	**1.82**	**60**	*i* P	**Pn**	**13 42 00.9**	**+0.8**
ECL	baz=59			S	**Sn**	**13 42 20.3**	**-1.7**
SGST	**Jiashian**	**1.86**	**41**	*e*P	**Pn**	**13 42 01.6**	**+1.0**
SGST	baz=39			*e*S	**Sn**	**13 42 21.9**	**-1.1**
CHN1	**Nanshi**	**1.90**	**38**	P	**Pn**	**13 42 02.2**	**+0.9**
CHN1	baz=35			*e*S	**Sn**	**13 42 22.5**	**-1.7**
TWK	**Hsinying**	**1.94**	**36**	*e*P	**Pn**	**13 42 02.8**	**+0.9**
TWK	baz=33			*e*S	**Sn**	**13 42 24.4**	**-0.9**
STYT	**Tauyuan**	**2.02**	**43**	*e*P	**Pn**	**13 42 04.1**	**+1.1**
STYT	baz=41			*e*S	**Sn**	**13 42 24.1**	**-3.0**
TWG	**Pinlang**	**2.03**	**56**	*i* P	**Pn**	**13 42 04.2**	**+1.3**
TWG	baz=55			*e*S	**Sn**	**13 42 26.1**	**-1.0**
TTN	**Taitung**	**2.05**	**58**	*e*P	**Pn**	**13 42 04.0**	**+0.7**
WSF	baz=58 **Szhu**	**2.14**	**24**	*e*P	**Pn**	**13 42 05.7**	**+1.2**
WSF	baz=21			*e*S	**Sn**	**13 42 28.6**	**-1.3**
LAY	**Lan-yu**	**2.16**	**80**	*e*P	**Pn**	**13 42 04.4**	**-0.4**
ELDTW	baz=82 **Lidau**	**2.21**	**47**	P	**Pn**	**13 42 06.8**	**+1.1**
ELDTW	baz=46			*e*S	**Sn**	**13 42 30.4**	**-1.5**
CHN5	**Tsauling**	**2.31**	**34**	*e*P	**Pn**	**13 42 07.9**	**+0.9**
CHN5	baz=32			*e*S	**Sn**	**13 42 32.3**	**-2.0**
ALS	**Alishan**	**2.31**	**38**	P	**Pn**	**13 42 07.8**	**+0.7**
ALS	baz=36			S	**Sn**	**13 42 32.8**	**-1.8**
WGK	**Gukeng**	**2.33**	**31**	*e*P	**Pn**	**13 42 08.4**	**+1.3**
WGK	baz=28			*e*S	**Sn**	**13 42 34.1**	**-0.4**
WTCT	**Ta-ch'eng**	**2.37**	**23**	*e*P	**Pn**	**13 42 08.3**	**+0.7**
WTCT	baz=20			*e*S	**Sn**	**13 42 34.5**	**-1.0**
YUS	**Yu-Shan**	**2.38**	**41**	*e*P	**Pn**	**13 42 09.2**	**+0.9**
YUS	baz=39			*e*S	**Sn**	**13 42 35.1**	**-1.5**
CHKT	**Chengkung**	**2.41**	**54**	P	**Pn**	**13 42 09.4**	**+1.2**
CHKT	baz=53			*e*S	**Sn**	**13 42 35.7**	**-0.8**
TWF1	**Yuli**	**2.51**	**48**	P	**Pn**	**13 42 11.0**	**+1.3**
TWF1	baz=47			S	**Sn**	**13 42 37.8**	**-1.4**
EHY	**Hungye**	**2.63**	**46**	P	**Pn**	**13 42 12.7**	**+1.4**
EHY	baz=45			S	**Sn**	**13 42 40.8**	**-1.3**
TYC	**Yuchr**	**2.66**	**33**	P	**Pn**	**13 42 13.0**	**+1.4**
TYC	baz=31			S	**Sn**	**13 42 42.3**	**-0.3**
SMLT	**Sun Moon Lake**	**2.66**	**34**	*e*P	**Pn**	**13 42 13.2**	**+1.4**
SMLT	baz=32			*e*S	**Sn**	**13 42 41.6**	**-1.4**
TCU	**Taichung**	**2.78**	**28**	*e*P	**Pn**	**13 42 15.3**	**+2.1**
TCU	baz=25			*e*S	**Sn**	**13 42 44.4**	**-1.2**
KNM	**Kinmen**	**2.83**	**345**	*e*P	**Pn**	**13 42 15.4**	**+1.5**
ESL	baz=337 **Shilin**	**2.92**	**43**	*e*P	**Pn**	**13 42 16.9**	**+1.6**
ESL	baz=42			*e*S	**Sn**	**13 42 48.4**	**-0.8**
TWQ1	**Liyutan**	**3.00**	**27**	*e*P	**Pn**	**13 42 18.6**	**+2.3**
TWQ1	baz=25			*e*S	**Sn**	**13 42 50.5**	**-0.5**
WHF	**Hehuan Shan**	**3.07**	**37**	*e*P	**Pn**	**13 42 19.3**	**+1.6**
WHF	baz=35			*e*S	**Sn**	**13 42 52.5**	**-0.9**
TWT	**Tachien**	**3.11**	**34**	P	**Pn**	**13 42 19.6**	**+1.6**
TWT	baz=32			*e*S	**Sn**	**13 42 52.6**	**-1.4**
TWD	**Chiawan**	**3.22**	**42**	*e*P	**Pn**	**13 42 19.6**	**+0.3**
QZH	baz=41 **Quanzhou**	**3.30**	**349**	Pn	Pn	13 42 17.1	-3.3
QZH				Sn	**Sn**	**13 42 54.0**	**-4.4**
NSTT	**Nanjuang**	**3.34**	**28**	*e*P	**Pn**	**13 42 21.9**	**+0.8**
NSTT	baz=26			S	**Sn**	**13 42 58.2**	**-1.3**
NNS	**Nan Shan**	**3.37**	**35**	*e*P	**Pn**	**13 42 23.1**	**+1.7**
NNS	baz=33			*e*S	**Sn**	**13 42 59.2**	**-1.0**
NSK	**Sanguang**	**3.55**	**33**	*e*P	**Pn**	**13 42 25.2**	**+1.3**
NSK	baz=31			*e*S	**Sn**	**13 43 04.4**	**-0.3**
ENA	**Nanau**	**3.56**	**39**	*e*P	**Pn**	**13 42 25.6**	**+1.5**
ENTT	baz=38 **Nioudou**	**3.63**	**35**	*e*P	**Pn**	**13 42 27.2**	**+2.2**
ENTT	baz=34			*e*S	**Sn**	**13 43 06.1**	**-0.5**
TWC	**Suao**	**3.77**	**39**	*e*P	**Pn**	**13 42 26.8**	**0.0**
TWA	baz=38 **Mucha**	**3.92**	**33**	*e*P	**Pn**	**13 42 30.8**	**+1.9**
	baz=31						

*ISCJB **03** 13:42:30.1±0.5, 19.25°N±0.08°×145.8°E±0.1, h100km, mb4.0/21, Error ellipse: s-maj=19.7km s-min=11.1km az=1.7*
*IDC **03** 13:42:37.1±3.2, 19.26°N×145.77°E, h149km±29km, mb3.6/18, mb1 3.7/20, mb1mx3.7/30, mbtmp3.6/20, Error ellipse: s-maj=20.0km s-min=10.6km az=91.0*
ISC 03 13:42:31.6±0.6, 19.3°N±0.1°×145.9°E±0.2, h100km, n29, σ0°88/27, mb4.0/21, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**8.50**	**337**	P	Pn	13 44 36.8	+4.9
MJAR	5.0nm,0.3s,baz=189,slow=19,SNR=3.0 **Matsushiro Arr**	**18.48**	**340**	P	**Pn**	**13 46 41.5**	**+0.4**
H11S3	0.2nm,0.3s,baz=128,slow=29,SNR=5.1 **WAKE ISLAND Hy**	**19.73**	**89**	T	T	14 07 46.2	
H11S1	baz=277,slow=72,SNR=13 **WAKE ISLAND Hy**	**19.74**	**89**	T	T	14 07 49.0	
H11S2	baz=277,slow=72,SNR=13 **WAKE ISLAND Hy**	**19.75**	**89**	T	T	14 07 52.8	
KSRS	baz=277,slow=72,SNR=14 **Korea Array**	**23.96**	**323**	P	**P**	**13 47 38.1**	**+1.6**
PETK	1.7nm,0.7s,baz=145,slow=9.6,SNR=8.3 **Petropavlovsk-**	**35.02**	**12**	P	**P**	**13 49 15.6**	**+1.2**
WRA	6.8nm,1.1s,baz=219,slow=22,SNR=2.9 **Warramunga Arr**	**40.56**	**197**	P	**P**	**13 50 01.5**	**+0.1**
FITZ	2.7nm,0.6s,baz=29,slow=8.8,SNR=46 **Fitzroy Crossi**	**42.10**	**209**	P	**P**	**13 50 14.3**	**+0.3**
SONM	2.7nm,0.5s,baz=359,slow=6.3,SNR=23 **Songino Array**	**42.80**	**321**	P	**P**	**13 50 19.7**	**+0.1**
SONM	1.2nm,0.8s,baz=140,slow=8.2,SNR=12			PcP	**PcP**	**13 52 09.0**	**-0.1**
ASAR	0.5nm,0.9s,baz=133,slow=2.6,SNR=5.4 **Alice Springs**	**44.23**	**196**	P	**P**	**13 50 31.1**	**0.0**
STKA	0.9nm,0.4s,baz=12,slow=6.6,SNR=29 **Stephens Creek**	**51.01**	**185**	P	**P**	**13 51 24.2**	**+0.9**
ZALV	0.9nm,0.5s,baz=330,slow=14,SNR=3.8 **Zalesovo Beam**	**57.67**	**322**	P	**P**	**13 52 11.4**	**+0.1**
MKAR	1.4nm,0.6s,baz=103,slow=7.5,SNR=8.4 **Makanchi Array**	**58.19**	**314**	P	**P**	**13 52 15.6**	**+0.4**
MKAR	0.6nm,0.5s,baz=91,slow=7.9,SNR=16			PcP	**PcP**	**13 53 04.9**	**-0.7**
KURBB	0.6nm,0.4s,baz=82,slow=3.1,SNR=12 **Kurchatov Arra**	**61.01**	**318**	P	**P**	**13 52 34.4**	**0.0**
ILAR	1.9nm,0.4s,baz=92,slow=7.6,SNR=46 **Eielson Array**	**63.08**	**26**	P	**P**	**13 52 47.2**	**-0.9**
INK	0.3nm,0.5s,baz=264,slow=5.5,SNR=4.4 **Inuvik**	**68.81**	**23**	P	**P**	**13 53 25.8**	**+1.1**
AKTO	1.7nm,1.2s,baz=274,slow=8.3,SNR=2.5 **Aktyubinsk**	**74.05**	**318**	P	**P**	**13 53 55.5**	**-1.1**
YKA	0.9nm,0.6s,baz=91,slow=14,SNR=5.2 **Yellowknife Ar**	**77.43**	**28**	P	**P**	**13 54 15.5**	**-0.1**
ARCES	0.6nm,0.7s,baz=291,slow=5.3,SNR=6.6 **ARCESS Array B**	**82.01**	**342**	P	**P**	**13 54 40.5**	**+0.3**
NVAR	2.4nm,0.6s,baz=69,slow=7.9,SNR=10 **Mina Array Bea**	**82.68**	**52**	P	**P**	**13 54 45.2**	**+0.6**
JOF	0.7nm,0.6s,baz=265,slow=6.4,SNR=7.0 **Joensuu**	**83.58**	**335**	*ep*	**P**	**13 54 48.5**	**+0.1**
KAF	6.6nm,0.5s **Kangasniemi**	**85.97**	**336**	*ep*	**P**	**13 54 59.0**	**-1.4**
FINES	1.0nm,0.4s **FINESS Array B**	**86.44**	**335**	P	**P**	**13 55 01.3**	**-1.5**
PDAR	2.6nm,0.4s,baz=69,slow=4.7,SNR=55 **Pinedale Array**	**87.33**	**46**	P	**P**	**13 55 07.5**	**-0.3**
NOA	0.2nm,0.4s,baz=186,slow=1.5,SNR=4.3 **NORSAR Array B**	**92.10**	**340**	P	**P**	**13 55 28.0**	**-1.5**
TORD	0.3nm,0.6s,baz=45,slow=4.9,SNR=1.7 **Torodi Ar. Bea**	**132.22**	**310**	PKP	**PKPdf**	**14 01 33.8**	**-1.0**
PLCA	0.2nm,0.4s,baz=112,slow=1.6,SNR=1.7 **Paso Flores**	**142.27**	**133**	PKP	**PKPdf**	**14 01 53.3**	**+0.6**
LPAZ	0.6nm,0.5s,baz=276,slow=3.2,SNR=3.9 **La Paz**	**147.53**	**90**	PKPbc	**PKPab**	**14 02 07.0**	**-1.1**
	0.9nm,0.6s,baz=355,slow=8.8,SNR=4.5						

JMA 03 13:46:41.7±0.2, 27.55°N×140.83°E, h384km, M3.5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.29**	**110**	P	Pn	13 47 32.3	0.0
CBIJ				S	S	13 48 12.4	-0.6
JHHJ	**Haha-jima-NKT**	**1.51**	**127**	P	Pn	13 47 33.6	+0.2
JHHJ				S	S	13 48 14.1	-0.9
JOD2	**Odawara 2**	**7.83**	**349**	P	P	13 48 35.1	0.0
JAG	**Ashikaga**	**8.93**	**353**	P	Pn	13 48 47.1	+0.1
JHO	**Hitachi**	**9.04**	**359**	P	P	13 48 50.2	+1.3

IDC 03 13:58:38.7±2.5, 4.74S×130.84E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=109.7km s-min=29.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.22**	**201**	Pn	Pn	14 02 02.8	+1.3
FITZ	0.1nm,0.3s,baz=44,slow=12,SNR=1.4			Sn	Sn	14 04 36.4	-3.7
WRA	0.1nm,0.3s,baz=335,slow=20,SNR=1.2 **Warramunga Arr**	**15.49**	**168**	Pn	Pn	14 02 17.2	-1.5
WRA	0.1nm,0.3s,baz=349,slow=13,SNR=1.7			Sn	Sn	14 04 59.5	-12
ASAR	0.1nm,0.3s,baz=346,slow=23,SNR=2.2 **Alice Springs**	**19.05**	**171**	P	P	14 03 02.7	0.0
MKAR	0.3nm,0.3s,baz=351,slow=11,SNR=36 **Makanchi Array**	**66.81**	**326**	P	P	14 09 32.3	0.0
	0.1nm,0.5s,baz=116,slow=6.6,SNR=4.1						

*ISCJB **03** 14:11:12.4±0.8, 30.39°N±0.06°×138.4E±0.1, h411km, mb3.7/2, Error ellipse: s-maj=14.5km s-min=8.0km az=164.9*
*IDC **03** 14:11:12.4±1.4, 30.33°N×138.74E, h438km±20km, mb3.4/2, mb1 3.1/6, mb1mx2.7/28, mbtmp3.1/6, Error ellipse: s-maj=65.1km s-min=16.7km az=65.0*
*JMA **03** 14:11:15.3±0.4, 30.85°N×138.88E, h471km, M3.5*
ISC 03 14:11:13.4±1.3, 30.41°N±0.09°×138.7E±0.2, h411km, n16, σ1°99/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.87**	**20**	P	P	14 12 20.8	+4.7
JIE	**Ise**	**4.30**	**338**	P	P	14 12 32.2	+3.5
JCJ	**Chichijima**	**4.52**	**136**	P	**P**	**14 12 31.6**	**+0.6**
JCJ	5.3nm,0.3s,baz=298,slow=17,SNR=1.6			S	**S**	**14 13 34.4**	**0.0**
BSO3	39nm,0.3s,baz=298,slow=21,SNR=15 **Boso 3**	**4.65**	**19**	P	**P**	**14 12 34.7**	**+3.0**
BSO3				S	**S**	**14 13 35.9**	**0.0**
BSO1	**Boso 1**	**4.66**	**24**	P	**P**	**14 12 33.1**	**+1.6**
BSO1				S	**S**	**14 13 37.3**	**+1.7**
JOD2	**Odawara 2**	**4.85**	**4**	P	**P**	**14 12 35.8**	**+1.7**
JNY	**Yasuok**	**4.98**	**352**	P	**P**	**14 12 38.6**	**+3.2**
JHU	**Hanno**	**5.45**	**5**	P	**P**	**14 12 41.3**	**+1.1**
JHU				S	**S**	**14 13 48.6**	**-2.8**
JRY	**Ryogami san**	**5.59**	**2**	P	**P**	**14 12 43.5**	**+1.8**
JYT	**Yasato**	**5.94**	**12**	P	**P**	**14 12 45.9**	**+0.6**
JYT				S	**S**	**14 13 57.5**	**-3.3**
JAG	**Ashikaga**	**6.03**	**6**	P	**P**	**14 12 46.7**	**+0.4**
MJAR	**Matsushiro Arr**	**6.13**	**357**	P	**P**	**14 12 47.9**	**+0.5**
MJAR	0.4nm,0.3s,baz=172,slow=11,SNR=2.6			S	**S**	**14 14 07.6**	**+3.1**
KSRS	0.2nm,0.3s,baz=219,slow=29,SNR=1.3 **Korea Array**	**11.35**	**311**	P	**P**	**14 13 45.5**	**0.0**
USRK	0.2nm,0.3s,baz=126,slow=10,SNR=7.8 **Ussuriysk Arra**	**14.74**	**341**	P	**P**	**14 14 21.9**	**-0.6**
FINES	0.3nm,0.3s,baz=144,slow=9.6,SNR=9.3 **FINESS Array B**	**73.60**	**332**	P	P	14 21 59.3	-3.5
NOA	5.3nm,1.1s,baz=48,slow=2.8,SNR=6.4 **NORSAR Array B**	**79.38**	**337**	P	**P**	**14 22 33.4**	**-1.5**
	0.6nm,0.7s,baz=35,slow=6.2,SNR=3.3						

*ISCJB **03** 14:13:51.7±0.8, 1.86S±0.03°×139.06E±0.02, h9km±5km, mb5.2/143, MS4.6/32, Error ellipse: s-maj=4.4km s-min=3.9km az=37.9*
*IDC **03** 14:13:51.9±0.4, 1.92S×138.93E, h0km, mb4.9/18, mb1 5.1/21, mb1mx5.0/23, mbtmp5.0/21, ML4.9/2, MS4.6/16, Ms1 4.6/16, ms1mx4.5/23, Error ellipse: s-maj=17.8km s-min=9.5km az=83.0*
*DJA **03** 14:13:53.6±0.2, 2°S±3'×13°9E±°, h10km, M5.3/82, mb5.5/82, mB5.7/49, MLv5.6/8, Mw(mB)5.3/49, Mwp5.8/2*
*GCMT **03** 14:13:53.2±0.2, 1.62S×139.17E, h15km, MW5.3/77, Moment Tensor Solution. s54,c78; s77,c111; Duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.44±.01; $M_{\theta\theta}$-0.24±.01; $M_{\phi\phi}$-0.20±.01; $M_{r\theta}$-1.12±.04; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$0.35±.04; Best double couple: $M_0$1.25300×10^{17} NP1:ϕ_s289.00000°, δ80.00000°, λ82.00000°. NP2: ϕ_s149.00000°, δ12.00000°, λ129.00000°. Principal axes: T 1.2840, Plg54.0000°, Azm190.0000°; N -0.0640, Plg8.0000°, Azm291.0000°; P -1.2210, Plg35.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 14:13:53.2±2.5, 1.86S×138.98E, h10km±15km, mb5.2/45 Error ellipse: s-maj=6.3km s-min=4.0km az=62.0*
NEIC Felt [IV] at Sarmi.
*BJI **03** 14:13:53.4, 1.61S×139.17E, h17km, mB5.3/43, mb5.1/59, Ms4.9/58, Ms7 4.6/53*
*MOS **03** 14:13:55.1±1.1, 1.83S×139.17E, h33km, mb5.5/38, MS4.4/4, Error ellipse: s-maj=12.5km s-min=5.7km az=111.0*
ISC 03 14:13:56.0±0.3, 1.85S±0.03°×139.01E±0.04, h27km±1km, h27km:pP-P, n442, σ1°53/500, mb5.3/134, MS4.6/34, 19C-13D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.37**	**123**	P	**Pn**	**14 14 18.1**	**-1.3**
GENI				S	**Sb**	**14 14 37.8**	**-0.3**
JAY	**Jayapura**	**1.81**	**111**	P	Pn	14 14 15.7	-10
JAY	**Jayapura**	**1.81**	**111**	⇓P	**Pn**	**14 14 23.4**	**-2.2**
SRPI	baz=1.8,SNR=154 **Serui, Papua**	**2.77**	**270**	P	**Pn**	**14 14 37.9**	**-0.8**
BAKI	**Biak**	**2.98**	**283**	P	**Pn**	**14 14 39.8**	**-1.7**
BAKI				S	**Sb**	**14 15 21.2**	**-3.2**
MWPI	**Manokwari, Pap**	**5.05**	**280**	P	x	14 15 09.2	
MWPI	1μm,0.9s,14μm14nm			S	x	14 16 12.6	
FAKI	1μm,0.9s,14μm14nm **Fak Fak**	**6.84**	**261**	P	**Pn**	**14 15 35.8**	**+1.1**
FAKI	405nm,0.7s,4μm1.7nm			S	Px	14 16 14.4	
FAKI	1.7nm4μm405nm,0.7s **Fak Fak**	**6.84**	**261**	⇑P	**Pn**	**14 15 35.4**	**+0.8**
SWI	baz=6.8,SNR=174 **Sorong**	**7.81**	**277**	P	**Pn**	**14 15 48.4**	**+0.4**
BNDI	122nm,0.6s,2μm0.5nm **Bandanaira**	**9.47**	**254**	P	**Pn**	**14 16 11.9**	**+1.1**
SAUI	382nm,1.3s,7μm **Saumlaki**	**9.80**	**231**	P	**Pn**	**14 16 18.2**	**+2.9**
MSAI	821nm,0.9s,8μm **Masohi**	**10.18**	**261**	P	**Pn**	**14 16 22.5**	**+2.0**
PALU	87nm,0.8s,654nm **Palau**	**10.19**	**334**	P	**Pn**	**14 16 21.5**	**+0.8**
PMG	baz=10,SNR=13 **Port Moresby**	**11.04**	**133**	P	x	14 16 31.4	
PMG	188nm,1.1s,2μm **Port Moresby**	**11.04**	**133**	*e*P	**Pn**	**14 16 32.1**	**-0.2**
PMG	188nm,1.0s **Port Moresby**	**11.04**	**133**	Pn	**Pn**	**14 16 32.1**	**-0.2**
LBMI	0.5nm,0.3s,baz=316,slow=18,SNR=6.2 **Labuha**	**11.57**	**276**	P	**Pn**	**14 16 41.1**	**+1.5**
TNTI	123nm,1.2s,2μm **Ternate**	**11.93**	**283**	P	**Pn**	**14 16 45.2**	**+0.7**
NLAI	160nm,1.2s,3μm **Namlea**	**11.98**	**263**	P	**Pn**	**14 16 45.9**	**+0.7**
NLAI	124nm,1.7s,1μm			S		14 17 54.9	
KDU	124nm,1.7s,1μm **Kakadu**	**12.56**	**211**	⇓P	**Pn**	**14 16 51.3**	**-1.8**
COEN	baz=12,SNR=109 **Coen**	**12.71**	**161**	*e*P	**Pn**	**14 16 55.1**	**-0.1**
COEN	281nm,0.8s **Coen**	**12.71**	**161**	⇓P	**Pn**	**14 16 55.3**	**+0.1**
MTN	baz=13,SNR=40 **Manton Dam**	**13.42**	**215**	P	**Pn**	**14 17 03.2**	**-1.7**
KMSI	baz=13,SNR=30 **Cibinong**	**15.22**	**279**	P	**Pn**	**14 17 29.2**	**-0.1**
DAV	288nm,0.9s,5μm **Davao City (W)**	**16.07**	**304**	*e*P	**P**	**14 17 43.1**	**-0.4**
LUWI	**Luwuk**	**16.26**	**273**	P	**Pn**	**14 17 40.2**	**-2.5**
SOEI	259nm,1.2s,3μm **Soe**	**16.63**	**241**	P	**Pn**	**14 17 46.2**	**-1.3**
SOEI	1μm,1.3s,11μm **Soe**	**16.63**	**241**	⇑P	**Pn**	**14 17 46.5**	**-1.0**
MRSI	baz=17,SNR=19 **Marisa**	**17.23**	**278**	P	**Pn**	**14 17 55.2**	**+0.3**
APSI	96nm,1.0s,809nm **Ampana**	**17.38**	**273**	P	**Pn**	**14 17 55.7**	**-1.2**
KKSI	363nm,1.2s,3μm **Kolaka, Sulawe**	**17.49**	**262**	P	x	14 18 00.1	
MMRI	142nm,1.7s,2μm **Maumere**	**18.00**	**247**	P	**P**	**14 18 05.0**	**+0.1**
WRAB	125nm,1.2s,2μm **Tennant Creek**	**18.54**	**194**	P	**P**	**14 18 09.0**	**-1.7**
WRAB	2μm,0.6s **Tennant Creek**	**18.54**	**194**	*c* iP	**P**	**14 18 09.4**	**-1.3**
WRAB	comp=Z,463nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek**	**18.54**	**194**	*e*P	**P**	**14 18 08.7**	**-2.1**
WRA	comp=Z,308nm,0.8s **Warramunga Arr**	**18.55**	**194**	P	**P**	**14 18 07.7**	**-3.2**
WRA				S	Sn	14 21 29.3	-8.7
WRA	**Warramunga Arr**	**18.55**	**194**	P	**P**	**14 18 07.7**	**-3.2**
WRA	comp=Z,5.0nm,0.3s,baz=16,slow=11,SNR=86			S	Sn	14 21 29.3	-8.7
WRA	comp=Z,1.6nm,0.3s,baz=14,slow=22,SNR=4.8			LR	LR	14 25 44.4	
QIS	comp=Z,2μm,18.9s,baz=15,slow=39 **Mount Isa**	**18.60**	**178**	P	**P**	**14 18 11.3**	**-0.1**
BNSI	baz=19,SNR=29 **Bone**	**19.05**	**262**	P	**Pn**	**14 18 17.0**	**-0.2**
BKSI	comp=Z,228nm,1.0s,comp=Z,5μmcomp=Z,6μm **Bulukumba**	**19.16**	**259**	P	**P**	**14 18 17.9**	**+0.3**
TTSI	comp=Z,99nm,1.1s,comp=Z,3μmcomp=Z,45μm **Tana Toraja**	**19.21**	**266**	P	**Pn**	**14 18 19.4**	**+0.2**
SPSI	comp=Z,166nm,1.6s,comp=Z,3μm **Sidrap Palu**	**19.33**	**263**	P	**Pn**	**14 18 20.4**	**-0.3**
	comp=Z,129nm,1.0s,comp=Z,3μm						

CTA Charters Tower 19.46 159 P **P** **14 18 20.9 +0.1**
CTA Charters Tower 19.46 159 P **P** **14 18 20.9 +0.1**
comp=Z,1.5nm,0.3s,baz=331,slow=12,SNR=55
CTAO Charters Tower 19.46 159 *e*P **P** **14 18 20.8 0.0**
CTAO pmax pmax
comp=Z,67nm,0.9s
CTAO Charters Tower 19.46 159 *e*P **P** **14 18 20.8 0.0**
comp=Z,67nm,0.9s
KAPI Kappang 19.48 260 P **Pn** **14 18 26.3 +3.9**
comp=Z,392nm,1.0s,SNR=5.9
KAPI Kappang 19.48 260 P **P** **14 18 19.9 -1.2**
comp=Z,441nm,1.1s
MJSI Majene 20.08 265 P x 14 18 31.1
comp=Z,204nm,1.4s,comp=Z,6μm
MMSI Mamuju 20.10 267 P x 14 18 26.5
comp=Z,215nm,1.3s,comp=Z,3μm
LBFI Labuhan Bajo, 20.14 250 P x 14 18 29.5
comp=Z,139nm,1.0s,comp=Z,2μm
FITZ Fitzroy Crossi 20.81 218 P **P** **14 18 34.4 -1.1**
FITZ S **S** **14 22 21.5 -5.1**
FITZ Fitzroy Crossi 20.81 218 P **P** **14 18 34.4 -1.1**
comp=Z,42nm,1.0s,baz=55,slow=10,SNR=19
FITZ S **S** **14 22 21.5 -5.1**
comp=Z,27nm,0.6s,baz=141,slow=15,SNR=2.9
FITZ LR LR 14 27 40.4
comp=Z,1μm,19.2s,baz=38,slow=40
RCP Roxas 20.95 310⇑ *e*P **P** **14 18 38.4 +1.3**
PATS Pohnpei 21.11 66 P **P** **14 18 39.8 +1.0**
baz=21,SNR=5.9
MYLDM Lahad Datu 21.65 289 P x 14 18 47.3
comp=Z,151nm,1.4s,comp=Z,2μm
MYLDM Lahad Datu 21.65 289 ⇑P **P** **14 18 49.3 +4.7**
TSM Tawau 21.99 286 ⇓P **P** **14 18 50.7 +2.4**
BKB Balikpapan 22.12 271 P **P** **14 18 52.2 +2.6**
comp=Z,316nm,1.0s,comp=Z,4μm
HNR Honiara 22.14 111 P **P** **14 18 50.1 +0.3**
HNR Honiara 22.14 111 P **P** **14 18 50.1 +0.3**
comp=Z,170nm,0.7s,baz=225,slow=3.0,SNR=14
AS31 Alice Springs 22.24 192 *e*P **P** **14 18 49.7 -1.2**
ASAR Alice Springs 22.25 192 P **P** **14 18 50.1 -0.8**
ASAR S **S** **14 22 54.0 -0.5**
ASAR Alice Springs 22.25 192 P **P** **14 18 50.1 -0.8**
comp=Z,254nm,1.0s,baz=24,slow=9.8,SNR=682
ASAR S **S** **14 22 54.0 -0.5**
comp=Z,2.8nm,0.6s,baz=229,slow=9.4,SNR=2.7
KBKI Kotabaru 22.87 266 P **P** **14 18 58.7 +1.1**
comp=Z,145nm,1.1s,comp=Z,4μm
SDKM Sandakan 23.03 289 ⇓P **P** **14 19 01.5 +2.2**
LQP Lukban 23.48 313⇓ *e*P **P** **14 19 03.3 -0.7**
MTNI Mataram 23.71 253 P x 14 19 04.7
comp=Z,578nm,1.2s,comp=Z,6μm
MTKI Muara Teweh, K 24.13 272 P **P** **14 19 10.4 +0.4**
comp=Z,122nm,1.5s,comp=Z,4μm
KHKI Kahang-Kahang 24.18 254 P x 14 19 08.6
comp=Z,166nm,1.8s,comp=Z,3μm
BBKI Banjar Baru 24.20 266 P **P** **14 19 11.8 +1.2**
comp=Z,574nm,1.3s,comp=Z,8μm
SRBI Singaraja 24.50 255 P **P** **14 19 12.5 -0.8**
comp=Z,103nm,1.3s,comp=Z,2μm
QLP Quilpie 25.10 169 P **P** **14 19 19.0 +0.4**
baz=25,SNR=29
WRKA Warakurna 25.27 203 P **P** **14 19 19.4 -0.8**
baz=25,SNR=193
ABJI Asem Bagus 25.38 256 P **P** **14 19 23.3 +2.0**
comp=Z,144nm,1.4s
KMMI Kalianget 25.49 258 P **P** **14 19 24.5 +2.2**
comp=Z,528nm,1.0s,comp=Z,5μm
JAGI Jajag, Banyuwa 25.61 254 P **P** **14 19 22.4 -1.0**
baz=26,SNR=4.7
BLJI Banyuglugur 25.99 256 P **P** **14 19 26.2 -0.6**
comp=Z,88nm,1.2s
EIDS Eidsvold 26.12 155 *e*P **P** **14 19 27.9 0.0**
comp=Z,260nm,1.1s
EIDS Eidsvold 26.12 155 P **P** **14 19 28.2 +0.3**
baz=26,SNR=21
RMQ Roma 26.22 160 P **P** **14 19 29.7 +0.9**
baz=26,SNR=80
GMJI Gumukmas 26.24 255 P **P** **14 19 29.2 +0.1**
comp=Z,52nm,0.9s
BTM Bintulu 26.40 281 ⇑P **P** **14 19 32.0 +1.4**
BWJI Bawean 26.59 261 P **P** **14 19 34.7 +2.4**
comp=Z,50nm,1.1s
GRJI Gresik 26.92 258 P **P** **14 19 35.1 -0.2**
comp=Z,337nm,1.0s,comp=Z,3μm
SBUM Sibu 27.12 279 P x 14 19 38.0
comp=Z,55nm,1.1s
SBUM Sibu 27.12 279 ⇑P **P** **14 19 38.5 +1.4**
PBKI Pangkalan Bun 27.33 268 P **P** **14 19 36.9 -2.1**
comp=Z,192nm,1.1s,comp=Z,1μm
PWJI Pagerwojo 27.78 256 P **P** **14 19 40.3 -2.7**
comp=Z,72nm,0.9s
NGJI Ngawi 27.99 258 P **P** **14 19 45.4 +0.5**
comp=Z,80nm,1.5s
KSM Kuching 28.89 276 P x 14 19 58.5
comp=Z,52nm,1.1s
KSM Kuching 28.89 276 P **P** **14 19 53.3 +0.4**
comp=Z,59nm,1.1s
KSM Kuching 28.89 276 ⇑P **P** **14 19 53.0 +0.1**
JCJ Chichijima 28.94 6 LR LR 14 29 14.4
comp=Z,788nm,18.7s,baz=350,slow=32
BJII Banjamegara 29.70 258 P x 14 19 56.2
comp=Z,55nm,1.1s
STKA Stephens Creek 29.97 176 *e*P **P** **14 20 01.3 -0.9**
comp=Z,5.6nm,0.7s
STKA Stephens Creek 29.97 176 P **P** **14 20 01.5 -0.7**
comp=Z,31nm,0.8s,baz=341,slow=8.4,SNR=43
STKA LR LR 14 34 29.9
comp=Z,1μm,18.5s,baz=256,slow=41
CMSA Cobar Meteorol 30.20 169 P **P** **14 20 04.5 +0.3**
baz=30,SNR=63
TGJI Tegal 30.21 260 P x 14 20 03.6
comp=Z,44nm,1.1s
YULB Yu-li 30.45 327 *e*P **P** **14 20 05.0 -1.6**
comp=Z,27nm,1.1s
KPJI Karang Pucung 30.46 259 P **P** **14 20 06.1 -0.7**
comp=Z,86nm,1.2s
FORT Forrest 30.59 199 *e*P **P** **14 20 07.7 0.0**
comp=Z,114nm,0.7s
FORT Forrest 30.59 199 P **P** **14 20 07.8 +0.1**
baz=31,SNR=31
ARMA Armidale 30.83 158 *e*P **P** **14 20 12.1 +2.1**
comp=Z,38nm,1.0s
NACB Ninganchiao 30.91 328 *e*P **P** **14 20 09.6 -1.1**
comp=Z,106nm,1.3s
BBOO Buckleboo 30.92 185 *e*P **P** **14 20 10.1 -0.6**
comp=Z,4μm,1.4s
BBOO Buckleboo 30.92 185 P **P** **14 20 10.2 -0.5**
baz=31,SNR=28
SSLB Suanglung 30.95 326 *e*P **P** **14 20 09.9 -1.1**
comp=Z,19nm,0.8s
TPI Tanjungpandan 31.35 268 P **P** **14 20 15.5 +0.8**
comp=Z,50nm,1.1s,comp=Z,776nm
HTT Hallett 31.42 180 P **P** **14 20 15.0 -0.1**
baz=32,SNR=51
MEEK Meekatharra 31.48 217 P **P** **14 20 15.3 -0.4**
baz=32,SNR=20
CISI Cisompet, Garu 31.59 259 P **P** **14 20 15.5 -1.4**
comp=Z,136nm,1.0s,comp=Z,2μm
LEM Lembang 31.68 260 P P 14 20 24.8 +7.0
comp=Z,62nm,1.0s
DBJI Dramaga 32.50 261 P **P** **14 20 24.1 -0.7**
comp=Z,66nm,1.1s
QZH Quanzhou 33.19 325⇑ *i*P P 14 20 26.8 -3.8
QZH pmax pmax
comp=Z,120nm,0.9s
QZH LR LR
comp=Z,820nm,12.3s
QZH LR LR
comp=Z,1μm,15.0s
QZH LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 33.40 129 *e*P **P** **14 20 32.4 -0.2**
comp=Z,92nm,1.1s
DZM *e*LR LR 14 29 20.7
comp=Z,2μm,23.0s
DZM Mont Dzumac 33.40 129 P **P** **14 20 32.4 -0.2**
DZM Mont Dzumac 33.40 129 P **P** **14 20 32.4 -0.2**
comp=Z,28nm,0.9s,baz=302,slow=2.7,SNR=12
YNG Young 33.45 166 P **P** **14 20 33.1 +0.3**
baz=34,SNR=5.3
KMBL Kambalda 33.52 207 P **P** **14 20 32.9 -0.7**
baz=34,SNR=17
H11S3 WAKE ISLAND Hy 33.91 52 T T 14 56 17.4
baz=236,slow=75,SNR=472
H11S2 WAKE ISLAND Hy 33.92 52 T T 14 56 16.9
baz=236,slow=75,SNR=475
H11S1 WAKE ISLAND Hy 33.93 52 T T 14 56 18.6
baz=236,slow=75,SNR=352
CAN Canberra 34.57 166 *e*P **P** **14 20 42.8 +0.2**
CAN pmax pmax
comp=Z,96nm,1.4s
CAN Canberra 34.57 166 *e*P **P** **14 20 42.8 +0.2**
comp=Z,96nm,1.4s
TPRI Tanjung Pinang 34.59 274 P P 14 20 46.4 +3.4
comp=Z,84nm,0.2s,comp=Z,34μm
KASI Kota Agung 34.63 263 P P 14 20 50.8 +7.4
comp=Z,79nm,1.3s
CNB Canberra Magne 34.66 165 P **P** **14 20 44.2 +0.8**
baz=35,SNR=7.6
MORW Morawa 34.81 217 P **P** **14 20 44.3 -0.3**
baz=35,SNR=17
MDSI Maura Dua 34.88 265 P **P** **14 20 45.7 +0.2**
comp=Z,93nm,1.2s
MYKOM Kota Tinggi 35.34 276 P x 14 20 50.7
comp=Z,57nm,1.1s,comp=Z,766nm
JMBI JAMBI 35.35 270 P P 14 20 53.1 +3.5
comp=Z,272nm,1.3s
QIZ Qiongzhong 35.39 307 P **P** **14 20 49.9 +0.1**
QIZ sP **sP** **14 20 59.6 -1.6**
QIZ S **S** **14 26 26.4 +3.3**
QIZ sS **sS** **14 26 35.9 -0.5**
QIZ LR LR
comp=Z,830nm,20.5s
QIZ LR LR
comp=Z,590nm,17.8s
LHSI Lahat 35.50 266 P **P** **14 20 51.9 +1.1**
comp=Z,132nm,1.2s
JNU Nakatsue 35.62 348 *e*P **P** **14 20 50.7 -1.0**
comp=Z,31nm,1.3s
KLBR Kellerberrin 35.75 212 P **P** **14 20 52.2 -0.5**
baz=36,SNR=73
KGM Kluang 35.89 276 ⇓P **P** **14 20 56.6 +2.3**
TOO Toolangi 36.04 171 P **P** **14 20 56.0 +0.8**
baz=36,SNR=18
MILA Mila 36.26 166 P **P** **14 20 58.2 +1.0**
baz=36,SNR=9.4
KTGM Kuala Trenggan 36.54 281 ⇓P **P** **14 20 58.7 -1.1**
SSE Sheshan 36.89 334 P **P** **14 21 05.0 +2.5**
SSE S **S** **14 26 49.8 +4.0**
SSE pmax pmax
comp=Z,37nm,0.9s
SSE pmax pmax
comp=Z,130nm,7.2s
SSE LR LR
comp=Z,540nm,16.5s
SSE LR LR
comp=Z,490nm,16.5s
SSE LR LR
comp=Z,720nm,20.0s
FRIM Kepong 37.71 278 ⇑P **P** **14 21 10.3 +0.5**
BKNI Bangkinang 38.03 273 P P 14 21 18.8 +6.4
comp=Z,120nm,1.2s
MJAR Matsushiro Arr 38.20 359 P **P** **14 21 12.5 -1.1**
MJAR PcP **PcP** **14 23 30.1 +2.3**
MJAR Matsushiro Arr 38.20 359 P **P** **14 21 12.5 -1.1**
comp=Z,3.3nm,0.7s,baz=177,slow=9.8,SNR=50
MJAR PcP **PcP** **14 23 30.1 +2.3**
comp=Z,4.6nm,1.1s,baz=206,slow=5.0,SNR=4.1
MAJO Matsushiro 38.20 359⇑ *e*P **P** **14 21 13.3 -0.3**
MAJO pmax pmax
comp=Z,289nm,2.5s
MAT Matsushiro 38.20 359 P **P** **14 21 12.6 -1.0**
MAT S **S** **14 27 01.4 -4.2**
IPM Ipoh 38.48 280 *e*P **P** **14 21 16.1 -0.1**
comp=Z,74nm,1.1s
IPM Ipoh 38.48 280 ⇓P **P** **14 21 17.5 +1.3**
RKGY Rocky Gully 38.53 210 P **P** **14 21 18.0 +1.7**
baz=39,SNR=6.0
PDSI Padang 38.55 271 P **P** **14 21 17.0 +0.1**
comp=Z,52nm,1.1s,comp=Z,764nm
PPI Padang Panjang 38.63 272 P **P** **14 21 17.7 +0.2**
comp=Z,83nm,1.0s
NJ2 Nanjing 38.76 332 *e*P **P** **14 21 18.7 +0.5**
NJ2 pP **pP** **14 21 26.3 0.0**
NJ2 sP **sP** **14 21 29.1 -0.5**
NJ2 S **ScP** **14 27 17.5 +1.3**
NJ2 sS **sS** **14 27 28.0 +0.6**
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 pmax pmax
comp=Z,200nm,5.2s
NJ2 LR LR
comp=Z,640nm,19.7s
NJ2 LR LR
comp=Z,710nm,20.6s
NJ2 LR LR
comp=Z,630nm,20.7s
KULM Kulim 38.97 281 P x 14 21 20.8
comp=Z,100nm,1.2s,comp=Z,1μm
KULM Kulim 38.97 281 *e*P **P** **14 21 20.1 -0.3**
comp=Z,131nm,1.2s
KULM Kulim 38.97 281 ⇑P **P** **14 21 21.3 +1.0**
MNSI Mandailing Nat 39.52 273 P **P** **14 21 27.3 +2.4**
comp=Z,48nm,0.7s
WHN Wuhan 39.88 326 P **P** **14 21 29.1 +1.5**
WHN S **S** **14 27 33.2 +2.3**
WHN LR LR
comp=Z,810nm,13.6s
WHN LR LR
comp=Z,640nm,11.4s
WHN LR LR
comp=Z,940nm,15.6s
PSI Prapat 40.34 276 P **P** **14 21 32.0 +0.1**
baz=40,SNR=5.3
KSAR Wonju Array Be 40.43 346 P **P** **14 21 31.4 -0.7**
KSAR PcP **PcP** **14 23 36.2 +1.4**
KSRS Korea Array 40.44 346 P **P** **14 21 31.4 -0.7**
comp=Z,5.4nm,1.0s,baz=153,slow=9.4,SNR=14
KSRS PcP **PcP** **14 23 36.2 +1.5**
comp=Z,6.7nm,1.2s,baz=177,slow=3.1,SNR=3.8
KSRS LR LR 14 36 39.8
comp=Z,446nm,18.2s,baz=172,slow=34
PATY Pattaya 40.60 292 P P 14 21 39.8 +5.9
comp=Z,5.1nm,1.4s
CHAI Chaiyaphum 40.62 297 P **P** **14 21 34.9 +0.9**
comp=Z,9.7nm,1.4s,comp=Z,96nm
SRIT Nakonsritamara 40.63 285 P **P** **14 21 36.4 +2.2**
comp=Z,126nm,1.3s
TSI Tuntungan 40.78 277 P **P** **14 21 37.6 +2.2**
comp=Z,79nm,1.3s
SLVN Son La 41.35 306 *e*P **P** **14 21 39.5 -0.5**
comp=Z,32nm,1.1s
GSI Gunungsitoli 41.55 274 P **P** **14 21 42.0 +0.3**
comp=Z,145nm,1.8s
KCSI Kotacane, Aceh 41.57 277 P **P** **14 21 41.0 -0.9**
PBKT Sadao Pong 41.77 297 P **P** **14 21 46.4 +2.9**
comp=Z,17nm,1.9s,comp=Z,1μm
GYA Guiyang 42.04 314⇑ *i*P **P** **14 21 46.2 +0.5**
GYA pP **pP** **14 21 55.8 +2.0**
GYA PP **PP** **14 23 27.9 +4.6**
GYA PcP **PcP** **14 23 41.0 +0.5**
GYA S **S** **14 28 05.0 +1.5**
GYA sS **sS** **14 28 17.8 +0.9**
GYA SS **SS** **14 31 06.2 -5.1**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,790nm,17.5s
GYA LR LR
comp=Z,660nm,18.7s
GYA LR LR
comp=Z,730nm,19.0s
ENH Enshi 42.58 321 *e*P **P** **14 21 49.8 -0.2**
comp=Z,25nm,1.0s
SRDT SRDT 42.66 293 P P 14 21 54.8 +4.0
comp=Z,152nm,1.1s,comp=Z,10μm
COCO West Island 43.04 254 *i*P **P** **14 21 56.5 +2.7**
KHLT Khaolaem Dam 43.30 294 P P 14 22 00.5 +4.6
comp=Z,20nm,1.4s,comp=Z,403nm
LAMP Lampang 43.71 299 P **P** **14 22 01.3 +2.1**
comp=Z,8.3nm,1.1s,comp=Z,102nm
KMI Kunming 44.20 310 P **P** **14 22 04.0 +0.7**
KMI pP **pP** **14 22 10.9 -0.6**
KMI sP **sP** **14 22 13.9 -0.9**
KMI S **S** **14 28 36.9 +1.4**
KMI sS **sS** **14 28 49.1 +0.2**
KMI SS SS 14 31 44.6 -9.5
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,150nm,3.7s
KMI LR LR
comp=Z,280nm,15.1s
KMI LR LR
comp=Z,500nm,20.3s
KMI LR LR
comp=Z,510nm,21.3s
CM31 Chiang Mai Arr 44.28 299 P **P** **14 22 03.2 -0.6**
comp=Z,4.8nm,0.4s
CMAR Chiang Mai Arr 44.28 299 P **P** **14 22 04.2 +0.4**
CMAR PcP **PcP** **14 23 50.2 +2.2**
CMAR ScP **ScP** **14 27 41.2 +2.8**
CMAR Chiang Mai Arr 44.28 299 P **P** **14 22 04.2 +0.4**
comp=Z,5.8nm,0.8s,baz=119,slow=6.5,SNR=32
CMAR PcP **PcP** **14 23 50.2 +2.2**
comp=Z,1.8nm,0.9s,baz=145,slow=3.0,SNR=1.2
CMAR ScP **ScP** **14 27 41.2 +2.8**
comp=Z,1.1nm,0.9s,baz=112,slow=3.4,SNR=4.9
CMAR LR LR 14 43 06.9
comp=Z,298nm,18.2s,baz=286,slow=40
CMAI Chiengmai2 44.78 301 P **P** **14 22 10.0 +2.0**
comp=Z,186nm,1.2s,comp=Z,12μm
MHMT Maesarieng 45.06 298 P **P** **14 22 12.8 +2.8**
comp=Z,15nm,2.0s,comp=Z,282nm
VLA Vladivostok 45.22 353⇑ *e*P **P** **14 22 11.7 +0.8**
VLA pmax pmax
comp=Z,93nm,1.2s
XAN Xi'an 45.55 324 P **P** **14 22 13.3 -0.4**
XAN pP **pP** **14 22 20.8 -1.2**
XAN PP **PP** **14 23 59.8 -0.9**
XAN S **S** **14 28 51.9 -2.6**
XAN sS **sS** **14 29 10.5 +2.5**
XAN pmax pmax
comp=Z,6.0nm,1.3s
XAN pmax pmax
comp=Z,54nm,4.1s
XAN LR LR
comp=Z,260nm,16.2s
XAN LR LR
comp=Z,130nm,14.9s
XAN LR LR
comp=Z,140nm,18.0s
SNY Shenyang 45.67 344 P **P** **14 22 14.6 +0.1**
SNY S **S** **14 28 59.2 +3.4**
SNY pmax pmax
comp=Z,21nm,1.6s
SNY LR LR
comp=Z,540nm,16.4s
SNY LR LR
comp=Z,560nm,20.6s
SNY LR LR
comp=Z,680nm,16.3s
ASAJ Asahikawa 45.88 4 LR LR 14 38 58.5
comp=Z,580nm,21.6s,baz=179,slow=33
YUK Yuzh-Kuril'sk 46.09 7*c* *i*P **P** **14 22 16.2 -1.5**
YUK *e* 14 23 58.7
YUK *i* PPP PPP 14 24 44.4
YUK *i* S **S** **14 29 00.9 -0.8**
YUK *i* SS ScS 14 32 01.4 -10
YUK *e*SSS SSS 14 33 18.9
USRK Ussuriysk Arra 46.27 353 P **P** **14 22 19.0 -0.1**
comp=Z,15nm,1.0s,baz=181,slow=9.0,SNR=16
USRK LR LR 14 38 52.9
comp=Z,536nm,18.9s,baz=163,slow=32
BJT Baijiatuau 46.62 336 *e*P **P** **14 22 21.5 -0.5**
comp=Z,114nm,1.4s
BJI Beijing 46.64 336 P **P** **14 22 21.7 -0.4**
BJI S **S** **14 29 09.7 0.0**
BJI pmax pmax
comp=Z,64nm,1.1s
BJI pmax pmax
comp=Z,390nm,3.6s
BJI LR LR
comp=Z,880nm,19.9s
BJI LR LR
comp=Z,650nm,17.9s
BJI LR LR
comp=Z,800nm,19.2s
CD2 Chengdu 46.76 317 P **P** **14 22 24.2 +0.9**
CD2 S **S** **14 29 12.7 +0.8**
CD2 sS **sS** **14 29 26.2 +0.8**
CD2 SS **SS** **14 32 32.2 -6.5**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,630nm,10.7s
CD2 LR LR
comp=Z,580nm,15.5s
CD2 LR LR
comp=Z,680nm,17.8s
CD2 LR LR
comp=Z,1μm,10.8s
MDJ Mudanjiang 47.02 351 P **P** **14 22 24.8 -0.2**
MDJ pP **pP** **14 22 31.0 -2.2**
MDJ sP **sP** **14 22 33.7 -2.8**
MDJ PP **PP** **14 24 12.7 -3.3**
MDJ ScP **ScP** **14 27 52.3 +3.1**
MDJ S **S** **14 29 13.0 -2.1**
MDJ sS **sS** **14 29 25.8 -2.8**
MDJ pmax pmax
comp=Z,25nm,1.0s
MDJ pmax pmax
comp=Z,220nm,4.7s
MDJ LR LR
comp=Z,520nm,17.9s
MDJ LR LR
comp=Z,340nm,23.2s
MDJ LR LR
comp=Z,530nm,19.8s
MDJ Mudanjiang 47.02 351 *e*P **P** **14 22 24.8 -0.2**
comp=Z,25nm,1.0s
CN2 Changchun 47.05 347 *e*P **P** **14 22 24.9 -0.3**
CN2 *e*pP **pP** **14 22 32.5 -1.0**
CN2 *e*sP **sP** **14 22 35.7 -1.0**
CN2 PcP **PcP** **14 23 54.9 -2.2**
CN2 *e*S **S** **14 29 16.1 +0.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,300nm,18.0s
YSS Yuzh-Sakhalins 48.71 3 *e*P **P** **14 22 35.8 -2.2**
YSS *e* 14 22 50.4
YSS *e*S S 14 29 32.0 -6.9
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 48.71 3 *e*P **P** **14 22 37.1 -0.9**
HHC Hu-ho-hao-te 49.31 333 *e*P **P** **14 22 42.7 -0.2**
HHC sP **sP** **14 22 52.1 -2.4**
HHC PP **PP** **14 24 38.6 +1.5**
HHC S **S** **14 29 50.6 +2.8**
HHC sS **sS** **14 30 00.4 -1.1**
HHC SS **SS** **14 33 16.5 -3.3**
HHC pmax pmax
comp=Z,38nm,1.2s
HHC pmax pmax
comp=Z,400nm,7.0s
HHC LR LR
comp=Z,1μm,19.7s
HHC LR LR
comp=Z,720nm,18.5s
HHC LR LR
comp=Z,1μm,19.7s
BTO Baotou 49.85 331 *e*P **P** **14 22 48.4 +1.4**
LZH Lanzhou 49.98 322 P **P** **14 22 49.1 +0.9**
LZH pP **pP** **14 22 57.8 +1.3**
LZH sP **sP** **14 23 01.2 +1.4**
LZH PP **PP** **14 24 39.4 -4.0**
LZH S **S** **14 29 56.6 -0.9**
LZH sS **sS** **14 30 10.3 -0.9**
LZH SS **SS** **14 33 28.1 -2.8**
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
LZH LR LR
comp=Z,520nm,15.7s
LZH LR LR
comp=Z,750nm,13.9s
LZH LR LR
comp=Z,890nm,16.9s

HABR Khabarovsk 50.24 357 *e*P **P** **14 22 47.7 -2.0**
HABR *e**PP **pP** **14 22 57.4 -0.6**
HABR *e**SP **sP** **14 23 01.6 +0.4**
HABR *e* 14 24 05.5
HABR *e* 14 24 43.4
HABR *e*S **S** **14 29 58.7 -1.6**
HABR *e**SS **sS** **14 30 15.7 +1.8**
HABR *e* 14 32 36.0
HABR *e*SS **SS** **14 33 33.8 -0.3**
HABR pmax pmax
comp=N,13nm,1.3s
HABR pmax pmax
comp=Z,65nm,1.6s
HABR pmax pmax
comp=E,49nm,1.6s
KLR Kul'dur 51.27 354 *e*P P 14 22 53.2 -4.2
KLR *e*S S 14 30 08.5 -6.0
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,57nm,1.4s
SHL Shillong 53.10 304 *e*P **P** **14 23 13.0 +1.2**
HIA Hailar 53.57 344 *e*P **P** **14 23 14.5 -0.1**
comp=Z,56nm,1.4s
GTA Gaotai 54.56 323 P **P** **14 23 22.9 +0.7**
GTA pP **pP** **14 23 30.4 -0.1**
GTA sP **sP** **14 23 33.9 +0.1**
GTA S **S** **14 30 59.6 -0.6**
GTA sS **sS** **14 31 12.3 -1.6**
GTA SS **SS** **14 34 41.7 -1.6**
GTA pmax pmax
comp=Z,17nm,1.1s
GTA pmax pmax
comp=Z,170nm,4.5s
GTA LR LR
comp=Z,230nm,18.5s
GTA LR LR
comp=Z,370nm,18.5s
GTA LR LR
comp=Z,340nm,20.4s
LSA Lhasa 55.42 308 *e*P **P** **14 23 29.7 +0.8**
LSA pmax pmax
comp=Z,26nm,0.9s
LSA Lhasa 55.42 308 *e*P **P** **14 23 29.6 +0.8**
comp=Z,26nm,0.9s
ULN Ulaanbaatar 56.82 335 *e*P **P** **14 23 38.4 +0.1**
comp=Z,76nm,1.5s
PETK Petropavlovsk- 56.96 13 P **P** **14 23 39.8 +0.9**
PETK Petropavlovsk- 56.96 13 P **P** **14 23 39.8 +0.9**
PETK Petropavlovsk- 56.96 13 P **P** **14 23 39.8 +0.9**
comp=Z,6.1nm,0.7s,baz=150,slow=4.4,SNR=7.1
PETK LR LR 14 44 06.6
comp=Z,652nm,21.4s,baz=199,slow=32
SONM Songino Array 57.08 334 P **P** **14 23 40.5 +0.5**
SONM Songino Array 57.08 334 P **P** **14 23 40.5 +0.5**
comp=Z,4.5nm,0.6s,baz=153,slow=7.7,SNR=30
SONM LR LR 14 47 35.4
comp=Z,801nm,19.5s,baz=352,slow=35
PET Petropavlovsk 57.11 14 *e*P P 14 23 44.8 +4.9
PET *e*S **S** **14 31 36.7 +3.5**
TAPN Taplejung 57.24 304 *e*P **P** **14 23 42.1 +0.3**
comp=Z,139nm,1.4s
ODAN Odare 57.32 304 *e*P **P** **14 23 42.6 +0.3**
comp=Z,237nm,1.7s
CIT Chita 57.83 342 *e*P P 14 23 40.2 -5.0
CIT *e* 14 23 52.0
CIT *e* 14 24 44.5
CIT pmax pmax
comp=Z,102nm,1.8s
RAMN Ramite 58.01 303 *e*P **P** **14 23 47.3 +0.1**
comp=Z,152nm,1.4s
JIRN Jiri 58.61 304 *e*P **P** **14 23 51.8 +0.4**
comp=Z,34nm,0.7s
GUN Gumba 58.95 304 *e*P **P** **14 23 54.2 +0.4**
comp=Z,155nm,1.2s
PKI Pulchoki 59.22 304 *e*P **P** **14 23 55.6 -0.1**
KKN Kakani 59.41 304 *e*P **P** **14 23 56.9 +0.1**
comp=Z,48nm,0.8s
DMN Daman 59.49 304 *e*P **P** **14 23 58.1 +0.7**
comp=Z,240nm,1.5s
CLNS Chul'man 59.61 351 *e*P **P** **14 23 57.1 -0.3**
CLNS *e**PP **pP** **14 24 05.1 -0.7**
CLNS *e* 14 24 42.6
CLNS *e* 14 26 04.2
CLNS *e*S **S** **14 32 04.3 -1.5**
CLNS *e*SS **SS** **14 36 02.4 +0.6**
CLNS pmax pmax
comp=Z,32nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS smax smax
comp=E,342nm,11.5s
CLNS smax smax
comp=N,158nm,14.1s
CLNS MLR MLR
comp=E,565nm,19.0s
GKN Gorkha 60.01 304 *e*P **P** **14 24 01.4 +0.5**
comp=E,80nm,0.9s
ZAK Zakamensk 60.34 335⇑ *i*P **P** **14 24 02.5 -0.2**
ZAK pmax pmax
comp=Z,51nm,1.4s
KOLN Koldanda 60.80 303 *e*P **P** **14 24 06.8 +0.5**
comp=Z,135nm,1.4s
DANN Dangsing 60.86 304 *e*P **P** **14 24 07.1 +0.2**
comp=Z,45nm,0.7s
TLY Talaya 61.16 336 P **P** **14 24 09.7 +1.6**
comp=Z,158nm,1.2s,SNR=12
TLY Talaya 61.16 336 *e*P **P** **14 24 09.5 +1.4**
TLY *e* 14 24 49.8
TLY *e* 14 26 23.0
TLY *e*S **S** **14 32 27.0 +1.1**
TLY *e* 14 33 53.2
TLY *e*SS **SS** **14 36 30.9 +4.6**
TLY pmax pmax
comp=E,44nm,1.3s
TLY MLR MLR
comp=Z,505nm,18.0s
TLY Talaya 61.16 336 *e*P **P** **14 24 08.5 +0.4**
comp=Z,54nm,1.3s
IRK Irkutsk 61.33 336⇑ *i*P **P** **14 24 10.1 +0.9**
IRK *e* 14 26 29.2
IRK pmax pmax
comp=Z,92nm,1.9s
PYUN Piuthan 61.42 303 *e*P **P** **14 24 11.0 +0.5**
comp=Z,163nm,0.8s
MOY Mondy 62.27 334 *e*P **P** **14 24 16.6 +0.9**
MOY pmax pmax
comp=Z,76nm,2.3s
HYB Hyderabad 62.55 291 *i*P **P** **14 24 17.0 -1.1**
HYB *e*S S 14 32 24.0 -21
YAK Yakutsk 64.11 355 *e*P **P** **14 24 26.8 -0.7**
YAK *e**PP **pP** **14 24 38.2 +2.2**
YAK *e* 14 25 00.1
YAK *e*S **S** **14 32 59.5 -2.9**
YAK *e**SS sS 14 33 31.0 +15
YAK pmax pmax
comp=Z,102nm,1.0s
YAK pmax pmax
comp=N,55nm,1.4s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,154nm,4.9s
YAK pmax pmax
comp=N,252nm,5.2s
YAK pmax pmax
comp=E,104nm,4.8s
YAK smax smax
comp=E,172nm,5.4s
YAK smax smax
comp=N,315nm,4.8s
YAK Yakutsk 64.11 355 *e*P **P** **14 24 27.1 -0.4**
comp=N,127nm,1.0s
WMQ Urumqi 64.53 321 P **P** **14 24 32.0 +1.2**
WMQ pP **pP** **14 24 42.3 +3.0**
WMQ sP **sP** **14 24 46.2 +3.7**
WMQ PcP **PcP** **14 25 05.9 +1.1**
WMQ S **S** **14 33 07.2 -1.4**
WMQ ScS **SKSac** **14 34 20.0 -3.5**
WMQ SS **SS** **14 37 19.4 0.0**
WMQ pmax pmax
comp=N,21nm,1.1s
WMQ pmax pmax
comp=N,46nm,11.0s
WMQ LR LR
comp=N,330nm,22.3s
WMQ LR LR
comp=N,120nm,23.9s
WMQ LR LR
comp=N,160nm,27.0s
SEY Seymchan 65.40 7 P **P** **14 24 36.2 +0.3**
SEY Seymchan 65.40 7 P **P** **14 24 36.2 +0.3**
SEY Seymchan 65.40 7 P **P** **14 24 36.2 +0.3**
comp=N,2.6nm,0.7s,baz=221,slow=18,SNR=9.9
POO Poona 67.16 291 *ex* **P** **14 24 48.0 -0.1**
MK31 Makanchi Array 69.30 322 *e*P **P** **14 25 01.1 +0.1**
MK31 Makanchi Array 69.30 322 *e*P **P** **14 25 01.1 +0.1**
MKAR Makanchi Array 69.30 322 P **P** **14 25 01.7 +0.6**
MKAR Makanchi Array 69.30 322 P **P** **14 25 01.6 +0.6**
MKAR Makanchi Array 69.30 322 P **P** **14 25 01.6 +0.6**
comp=N,10.0nm,0.6s,baz=98,slow=8.6,SNR=76
MKAR LR LR 14 57 41.7
comp=N,231nm,20.0s,baz=114,slow=38
KSH Kashi 70.72 313 P **P** **14 25 13.1 +3.1**
KSH *es*P **sP** **14 25 24.3 +2.5**
KSH *e*PcP **PcP** **14 25 34.2 +3.4**
KSH *e*PP PP 14 27 52.3 +5.3
KSH S **S** **14 34 24.6 +1.5**
KSH sS sS 14 34 43.6 +6.4
KSH *e*ScS **SKSac** **14 35 10.1 -0.7**
KSH pmax pmax
comp=N,23nm,1.3s
KSH pmax pmax
comp=N,270nm,5.4s
KSH LR LR
comp=N,180nm,9.0s
KSH LR LR
comp=N,260nm,6.8s
KSH LR LR
comp=N,210nm,6.1s
ZAA0 Zalesovo Array 71.35 330 *e*P **P** **14 25 12.8 -0.6**
ZALV Zalesovo Beam 71.35 330 P **P** **14 25 12.9 -0.5**
ZALV Zalesovo Beam 71.35 330 P **P** **14 25 12.8 -0.5**
ZALV Zalesovo Beam 71.35 330 P **P** **14 25 12.8 -0.5**
comp=N,7.0nm,0.6s,baz=113,slow=5.6,SNR=24
ZALV LR LR 14 56 20.3
comp=N,328nm,19.1s,baz=104,slow=36
PPT2 Papeete2 71.73 108 *e*S **S** **14 34 32.2 -3.2**
comp=N,347nm,26.5s
PPT2 Papeete2 71.73 108 *e*LR LR 14 47 14.3
comp=N,831nm,24.5s
KZA Kyzart 72.09 315 *i*P **P** **14 25 20.3 +1.7**
KZA Kyzart 72.09 315 P **P** **14 25 20.4 +1.7**
SNR=24
MIR Mirnyy 72.11 198⇑ *i*P **P** **14 25 18.5 +0.9**
MIR pmax pmax
comp=Z,84nm,1.0s
TKM2 Tokmak 2 72.13 316 *e*P **P** **14 25 19.2 +0.6**
TKM2 pmax pmax
comp=Z,21nm,1.2s
TKM2 Tokmak 2 72.13 316 P **P** **14 25 19.4 +0.8**
SNR=12
TKM2 Tokmak 2 72.13 316 *e*P **P** **14 25 19.1 +0.6**
comp=Z,21nm,1.2s
TBI Tubuai 72.32 114 *e*S **S** **14 34 38.6 -3.2**
comp=Z,226nm,25.0s
TBI *e*LQ LQ 14 44 24.4
comp=Z,476nm,38.5s
TBI *e*LR LR 14 47 23.0
comp=Z,421nm,27.5s
KBK Karagaybulak 72.49 316 *i*P **P** **14 25 22.0 +1.3**
KBK Karagaybulak 72.49 316 P **P** **14 25 22.0 +1.3**
SNR=8.9
UCH Uchtor 72.66 315 *i*P **P** **14 25 23.8 +1.8**
UCH Uchtor 72.66 315 P **P** **14 25 23.9 +1.8**
SNR=19
CHMS Chumysh 72.74 316 *i*P **P** **14 25 24.8 +2.8**
CHMS Chumysh 72.74 316 P **P** **14 25 24.8 +2.8**
SNR=11
FRU Bishkek 72.78 316⇓ *e*P P 14 25 26.0 +3.7
FRU pmax pmax
comp=Z,60nm,1.8s
AAK Ala-Archa 72.80 316 P **P** **14 25 24.2 +1.7**
comp=Z,68nm,1.3s,SNR=7.2
AAK Ala-Archa 72.80 316⇑ *e*P **P** **14 25 23.7 +1.2**
AAK pmax pmax
comp=Z,41nm,1.7s
AAK Ala-Archa 72.80 316 P **P** **14 25 25.6 +3.1**
SNR=8.8
AAK Ala-Archa 72.80 316 *e*P **P** **14 25 23.1 +0.5**
comp=Z,26nm,1.4s
USP Ospenovka 73.01 316 *i*P **P** **14 25 24.4 +0.8**
USP Ospenovka 73.01 316 P **P** **14 25 24.4 +0.8**
SNR=25
KURK Kurchatov 73.19 325 P **P** **14 25 24.4 0.0**
comp=Z,72nm,1.0s,SNR=17
KURK Kurchatov 73.19 325 *e*P **P** **14 25 24.3 -0.1**
KURK pmax pmax
comp=Z,41nm,1.5s
KURK Kurchatov 73.19 325 *e*P **P** **14 25 24.3 -0.1**
comp=Z,41nm,1.5s
AML Almayashu 73.20 315 *i*P **P** **14 25 26.7 +1.5**
AML Almayashu 73.20 315 P **P** **14 25 26.7 +1.5**
SNR=19
EKS2 Erkin-Say 73.31 316 *e*P **P** **14 25 26.2 +0.7**
EKS2 pmax pmax
comp=Z,18nm,1.0s
EKS2 Erkin-Say 73.31 316 P **P** **14 25 26.7 +1.2**
SNR=15
EKS2 Erkin-Say 73.31 316 *e*P **P** **14 25 26.2 +0.7**
comp=Z,18nm,1.0s
KBL Kabul 74.66 306 *e*P **P** **14 25 33.9 +0.2**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 74.66 306 *e*P **P** **14 25 33.9 +0.2**
comp=Z,12nm,0.8s
KBL Kabul 74.66 306 P **P** **14 25 34.2 +0.5**
baz=75,SNR=4.6
GAMB Gambell 74.88 20 *e*P **P** **14 25 34.4 +0.5**
comp=Z,38nm,1.5s
KK31 Karatay Array 75.73 315 P **P** **14 25 39.2 -0.2**
KK31 pmax pmax
comp=Z,53nm,1.5s
KKAR Karatay Array 75.73 315 *e*P **P** **14 25 39.7 +0.3**
KKAR pmax pmax
comp=Z,22nm,1.1s
KKAR Karatay Array 75.73 315 *e*P **P** **14 25 39.7 +0.3**
comp=Z,22nm,1.1s
VNDA Vanda 76.60 175 *e*P **P** **14 25 43.6 -0.1**
comp=Z,30nm,0.8s
VNDA Vanda 76.60 175 P **P** **14 25 43.6 -0.1**
comp=Z,27nm,0.7s,baz=320,slow=6.2,SNR=76
VNDA LR LR 14 59 29.7
comp=Z,787nm,18.0s,baz=348,slow=36
TNA Tin City 77.25 20 *e*P **P** **14 25 47.9 +0.4**
comp=Z,12nm,0.9s
BVA0 Borovoye Array 78.78 325 *i*P **P** **14 25 56.2 -0.1**
BVA0 pmax pmax
comp=Z,57nm,1.2s
BRVK Borovoye 78.86 325 P **P** **14 25 57.6 +0.9**
comp=Z,147nm,0.7s,SNR=18
BRVK Borovoye 78.86 325 *d*P **P** **14 25 57.0 +0.3**
BRVK pmax pmax
comp=Z,43nm,1.7s
BRVK Borovoye 78.86 325 *e*P **P** **14 25 56.7 0.0**
comp=Z,20nm,0.8s
IDAH Dahanechah 81.87 303 *e*P **P** **14 26 16.3 +2.6**
IMYA Miami 82.17 307 *e*P **P** **14 26 16.5 +1.4**
IM04 Indian Mountai 82.57 22 *e*P **P** **14 26 15.4 -1.0**
RC01 Rabbit Creek A 82.64 28 *e*P **P** **14 26 16.0 -0.7**
comp=Z,20nm,0.8s
ITEG Tejag 82.83 303 *e*P **P** **14 26 20.3 +1.7**
KTH Kantishna Hill 82.88 25 *e*P **P** **14 26 17.6 -0.4**
comp=Z,20nm,1.2s
MAW Mawson 83.03 202 P **P** **14 26 18.8 +0.2**
MAW Mawson 83.03 202 P **P** **14 26 18.8 +0.2**
comp=Z,24nm,0.8s,baz=76,slow=5.8,SNR=30
MAW LR LR 15 01 49.6
comp=Z,945nm,18.4s,baz=72,slow=35
IPAY Payeh 83.07 307 *e*P **P** **14 26 22.2 +2.4**
PMR Palmer 83.07 27 *e*P **P** **14 26 18.4 -0.5**
PMR pmax pmax
comp=Z,16nm,0.9s
PMR Palmer 83.07 27 *e*P **P** **14 26 18.4 -0.5**
comp=Z,16nm,0.9s
MCK McKinley 83.78 25 *e*P **P** **14 26 22.1 -0.5**
MCK pmax pmax
comp=Z,33nm,1.3s
MCK McKinley 83.78 25 *e*P **P** **14 26 22.1 -0.5**
comp=Z,33nm,1.3s
ABKT Ailbek 83.95 308 P **P** **14 26 22.7 -1.4**
comp=Z,279nm,0.5s,SNR=5.3
AB31 Akbulak array 84.26 320 *i*P **P** **14 26 25.6 +0.2**
AB31 pmax pmax
comp=Z,14nm,1.0s
ABKAR Akbulak array 84.26 320 *e*P **P** **14 26 24.8 -0.6**
comp=Z,26nm,1.1s
COLD Coldfoot 84.35 22 *e*P **P** **14 26 25.9 +0.5**
comp=Z,9.2nm,1.0s
DIV Divide 84.51 28 *e*P **P** **14 26 26.5 +0.1**
comp=Z,44nm,1.0s
COLA College 84.56 24⇓ *e*P **P** **14 26 25.9 -0.6**
COLA pmax pmax
comp=Z,55nm,1.2s
ILAR Eielson Array 84.93 24 P **P** **14 26 26.9 -1.5**
ILAR Eielson Array 84.93 24 P **P** **14 26 26.9 -1.5**
comp=Z,9.8nm,1.0s,baz=262,slow=4.7,SNR=43
ILAR LR LR 15 02 30.3
comp=Z,280nm,19.3s,baz=47,slow=34
SVE Sverdlovsk 85.19 327 *e*P **P** **14 26 31.2 +1.4**
SVE pmax pmax
comp=Z,38nm,2.0s
RKT Rikitea 85.61 113 *e*LR LR 14 53 39.0
comp=Z,272nm,24.5s
AKTO Aktyubinsk 85.68 321 P **P** **14 26 31.4 -1.0**
AKTO pmax pmax
comp=Z,44nm,2.5s
DOT Dot Lake 85.86 26 *e*P **P** **14 26 33.2 +0.1**
comp=Z,16nm,1.0s
ARU Arti 86.25 327 *d i*P **P** **14 26 35.5 +0.4**
ARU 14 30 02.1
ARU S S 14 36 59.0 -9.5
ARU SS **SS** **14 42 45.5 -2.4**
ARU pmax pmax
comp=Z,11nm,0.8s
ARU Arti 86.25 327 *e*P **P** **14 26 35.0 -0.1**
comp=Z,9.8nm,0.8s
IANJ Anjilo 87.07 305 *e*P **P** **14 26 41.5 +1.5**
EGAK Eagle 87.33 25 *e*P **P** **14 26 40.6 +0.4**
comp=Z,19nm,1.1s
DAWY Dawson 87.97 26 *e*P **P** **14 26 44.1 +0.7**
HYT Haines Junctio 88.42 29 *e*P **P** **14 26 46.1 +0.5**
IKLH Kolahrood 88.86 303 *e*P **P** **14 26 50.0 +1.4**
INK Inuvik 90.77 22 P **P** **14 26 56.4 +0.1**
INK Inuvik 90.77 22 P **P** **14 26 56.4 +0.1**
comp=Z,4.6nm,1.1s,baz=254,slow=6.1,SNR=7.9
VRHR Novokhopersk 96.08 321 *e*P P 14 27 28.8 +7.6
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 97.56 321 *e*P **P** **14 27 26.8 -1.0**
VORD pmax pmax
comp=N,9.0nm,1.1s
VORD pmax pmax
comp=E,7.0nm,1.1s
VORD pmax pmax
comp=Z,7.0nm,1.1s
VSR Storozhevoye 97.61 321 *e*P **P** **14 27 26.6 -1.5**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,5.0nm,0.9s
MOS Moscow 97.94 326 *e*P Pdif 14 27 33.9 +4.4
MOS *e* 14 27 48.5
MOS *e* 14 31 25.0
YKA Yellowknife Ar 99.17 27 P **Pdif** **14 27 35.1 +0.3**
YKA PP **PP** **14 31 37.0 -0.2**
YKA PKKPbc **PKKPbc** **14 43 58.6 -3.7**
YKA Yellowknife Ar 99.17 27 P **Pdif** **14 27 35.1 +0.3**
comp=Z,1.2nm,0.9s,baz=287,slow=4.4,SNR=12
YKA PP **PP** **14 31 37.0 -0.2**
comp=Z,0.4nm,0.9s,baz=284,slow=7.9,SNR=5.4
YKA PKKPbc **PKKPbc** **14 43 58.6 -3.7**
comp=Z,0.4nm,0.7s,baz=103,slow=2.9,SNR=8.4
ARCES ARCESS Array B 99.80 341 P **Pdif** **14 27 37.8 +0.3**
ARCES ARCESS Array B 99.80 341 P **Pdif** **14 27 37.8 +0.3**
comp=Z,7.6nm,0.9s,baz=60,slow=5.9,SNR=6.2
ARCES LR LR 15 20 49.1
comp=Z,316nm,18.1s,baz=231,slow=40
NVAR Mina Array Bea 101.08 51 P **Pdif** **14 27 44.4 +0.2**
NVAR PP **PP** **14 31 52.6 -0.3**
NVAR Mina Array Bea 101.08 51 P **Pdif** **14 27 44.4 +0.2**
comp=Z,0.6nm,0.9s,baz=273,slow=5.6,SNR=4.4
NVAR PP **PP** **14 31 52.6 -0.3**
comp=Z,2.0nm,1.1s,baz=255,slow=4.5,SNR=4.0
AKASG Malin Array Be 103.88 322 P **Pdif** **14 27 57.6 +1.5**
AKASG 14 32 12.9
AKASG Malin Array Be 103.88 322 Pdif **Pdif** **14 27 57.6 +1.5**
AKASG PP **PP** **14 32 12.9 -0.3**
AKASG Malin Array Be 103.88 322 Pdiff **Pdif** **14 27 57.6 +1.5**
comp=Z,0.2nm,0.3s,baz=60,slow=4.1,SNR=5.3
AKASG PP **PP** **14 32 12.9 -0.3**
comp=Z,0.1nm,0.3s,baz=63,slow=6.6,SNR=4.5
PDAR Pinedale Array 106.89 46 PKiKP **PKiKP** **14 32 17.9 -2.0**
PDAR PP **PP** **14 32 32.1 -3.9**
PDAR Pinedale Array 106.89 46 PKiKP **PKiKP** **14 32 17.9 -2.0**
comp=Z,0.6nm,1.0s,baz=302,slow=1.7,SNR=2.5
PDAR PP **PP** **14 32 32.1 -3.9**
comp=Z,1.1nm,1.1s,baz=264,slow=5.5,SNR=4.9
UZH Uzhgorod 108.79 321 *e*P **Pdif** **14 28 26.3 +8.4**
NOA NORSAR Array B 109.03 336 PP PP 14 32 42.0 -8.6
NOA NORSAR Array B 109.03 336 PP PP 14 32 42.0 -8.6
comp=Z,1.6nm,0.9s,baz=14,slow=4.3,SNR=3.4
STHS Stebnicka Huta 109.17 322 *i*P **Pdif** **14 28 20.3 +0.6**
STHS Stebnicka Huta 109.17 322 PDIF **Pdif** **14 28 20.2 +0.6**
W25A X Bar L Ranch, 112.58 53 P **PKiKP** **14 32 31.2 +0.5**
baz=113
Y25A Mesa, Roswell 112.70 54 P **PKiKP** **14 32 31.8 +0.9**
baz=113
GERES GERESS Array B 113.94 324 PKiKP **PKiKP** **14 32 33.0 +0.2**
GERES PP **PP** **14 33 27.1 +0.8**
GERES GERESS Array B 113.94 324 PKiKP **PKiKP** **14 32 33.0 +0.2**
comp=Z,0.4nm,0.7s,baz=64,slow=3.1,SNR=4.4
GERES PP **PP** **14 33 27.1 +0.8**
comp=Z,0.5nm,0.7s,baz=42,slow=4.2,SNR=3.9
526A Mary Lane Ranc 114.08 58 P **PKiKP** **14 32 34.4 +0.7**
baz=114
MSTX Muleshoe 114.24 53 P PKPdf 14 32 35.2 +1.4
baz=114
TXAR Lajitas Array 114.59 59 PKP PKPdf 14 32 35.5 +0.9
TXAR PKKPbc **PKKPbc** **14 43 13.4 0.0**
TXAR Lajitas Array 114.59 59 PKP PKPdf 14 32 35.5 +0.9
comp=Z,1.3nm,1.1s,baz=329,slow=0.7,SNR=5.7
TXAR PKKPbc **PKKPbc** **14 43 13.4 0.0**
comp=Z,0.1nm,0.5s,baz=132,slow=9.1,SNR=3.4
627A Terlingua Ranc 114.81 58 P PKPdf 14 32 35.3 +0.2
baz=115
328A Wristen Ranch, 114.85 56 P PKPdf 14 32 36.1 +1.0
baz=115
228A UT Block 9, Go 114.85 55 P PKPdf 14 32 35.4 +0.4
baz=115
428A Kincaid Ranch, 115.11 57 P **PKPdf** **14 32 36.1 +0.6**
baz=115
Y29A Porterfield Fa 115.15 53 P **PKPdf** **14 32 37.1 +1.5**
baz=115
129A Stewart Farms, 115.32 55 P **PKPdf** **14 32 36.7 +0.8**
baz=115
329A Wagon Wheel Ra 115.51 56 P **PKPdf** **14 32 36.6 +0.3**
baz=116
ECSD EROS Data Cent 115.54 42 P **PKPdf** **14 32 36.8 +0.9**
baz=116
529A Stev Forest Ra 115.64 57 P **PKPdf** **14 32 36.4 -0.2**
baz=116
429A Davenport Ranc 115.80 57 P **PKPdf** **14 32 37.3 +0.4**
baz=116
Q32A Meitler Ranch, 115.96 47 P **PKPdf** **14 32 38.3 +1.4**
baz=116
W31A Holland Ranch, 116.14 51 P **PKPdf** **14 32 38.4 +1.1**
baz=116
530A J-C Ranch, Com 116.38 57 P **PKPdf** **14 32 38.9 +0.9**
baz=116
Q33A Connelly Farm, 116.49 47 P **PKPdf** **14 32 38.7 +0.8**
baz=116
231A Bronte 116.77 55 P **PKPdf** **14 32 39.7 +1.0**

baz=117
331A San Angelo 116.84 56 P PKPdf 14 32 40.2 +1.4
baz=117
431A Sonora 116.86 56 P PKPdf 14 32 40.2 +1.3
baz=117
531A Rocksprings 117.04 57 P PKPdf 14 32 40.4 +1.1
baz=117
Z32A Haskell 117.06 53 P PKPdf 14 32 40.8 +1.7
baz=117
ABTX Abilene, Hawle 117.13 54 P PKPdf 14 32 40.5 +1.1
baz=117
631A Perdido Creek 117.20 58 P PKPdf 14 32 40.3 +0.8
baz=117
232A Coleman 117.33 55 P PKPdf 14 32 40.9 +1.2
baz=117
332A Millersview 117.39 55 P PKPdf 14 32 41.1 +1.2
baz=117
JCT Junction City 117.58 56 *e*PKIKP PKPdf 14 32 41.3 +1.0
JCT Junction City 117.58 56 *e*P PKPdf 14 32 41.3 +1.0
JCT Junction City 117.58 56 P PKPdf 14 32 41.5 +1.3
baz=118
532A Rocksprings 117.58 57 P PKPdf 14 32 41.2 +0.9
baz=118
632A Uvalde 117.84 57 P PKPdf 14 32 42.1 +1.3
baz=118
CDF Champ du Feu 117.85 326 *e*PKIKP PKPdf 14 32 39.4 -0.9
CDF Champ du Feu 117.85 326 *e*PKIKP PKPdf 14 32 39.4 -0.9
CDF Champ du Feu 117.85 326 *e*PKPdf PKPdf 14 32 39.4 -0.9
832A Faith Ranch, C 117.99 59 P PKPdf 14 32 41.3 +0.2
baz=118
333A Richland Sprin 118.03 55 P PKPdf 14 32 41.5 +0.4
baz=118
433A Art 118.10 56 P PKPdf 14 32 41.6 +0.3
baz=118
633A Saathoff Ranch 118.37 57 P PKPdf 14 32 42.6 +0.8
baz=118
833A Chaparral WMA, 118.47 59 P PKPdf 14 32 42.2 +0.2
baz=118
234A Clairette 118.53 54 P PKPdf 14 32 42.2 +0.2
baz=118
334A Lometa 118.64 55 P PKPdf 14 32 42.7 +0.5
baz=119
434A Burnet 118.76 56 P PKPdf 14 32 43.2 +0.7
baz=119
534A Blanco 118.81 57 P PKPdf 14 32 42.6 0.0
baz=119
TUL1 Tulsa 119.10 49 P PKPdf 14 32 43.9 +1.0
baz=119
834A Tilden 119.24 59 P PKPdf 14 32 43.8 +0.4
baz=119
CABF La Chapelle 119.50 325 *e*PKIKP PKPdf 14 32 43.5 -0.1
CABF La Chapelle 119.50 325 *e*PKIKP PKPdf 14 32 43.5 -0.1
CABF La Chapelle 119.50 325 *e*PKPdf PKPdf 14 32 43.5 -0.1
MBDF Montbardon 120.10 322 *e*PKIKP PKPdf 14 32 43.9 -0.9
MBDF Montbardon 120.10 322 *e*PKIKP PKPdf 14 32 43.9 -0.9
MBDF Montbardon 120.10 322 *e*PKPdf PKPdf 14 32 43.9 -0.9
SSF Saint Saulge 120.72 326 *e*PKIKP PKPdf 14 32 46.0 +0.2
SSF Saint Saulge 120.72 326 *e*PKIKP PKPdf 14 32 46.0 +0.2
SSF Saint Saulge 120.72 326 *e*PKPdf PKPdf 14 32 46.0 +0.2
TCF Toulx Ste Croi 121.90 326 *e*PKIKP PKPdf 14 32 47.3 -0.8
TCF Toulx Ste Croi 121.90 326 *e*PKIKP PKPdf 14 32 47.3 -0.8
TCF Toulx Ste Croi 121.90 326 *e*PKPdf PKPdf 14 32 47.3 -0.8
PLCA Paso Flores 129.78 151 PKP PKPdf 14 33 04.5 +1.1
PLCA Paso Flores 129.78 151 PKP PKPdf 14 33 04.5 +1.1
comp=Z,3.6nm,0.8s,baz=210,slow=4.4,SNR=9.2
TOA0 Torodi Ar. Sit 136.30 287 *e*PKPdf PKPdf 14 33 16.1 -0.1
TORD Torodi Ar. Bea 136.30 287 PKPpre PKPpre 14 33 06.8
TORD PKP PKPdf 14 33 16.4 +0.2
TORD Torodi Ar. Bea 136.30 287 PKhKP PKPpre 14 33 06.8
comp=Z,1.1nm,0.9s,baz=68,slow=3.8,SNR=4.7
TORD PKP PKPdf 14 33 16.4 +0.2
comp=Z,5.6nm,1.2s,baz=94,slow=4.7,SNR=4.3
LVC Limon Verde 143.49 133 *e*PKPpre PKPpre 14 33 27.8
KIC Kosan Boka 143.58 278 *e*PKP2 PKPab 14 33 26.5 +0.5
comp=Z,103nm,1.4s
DBIC Dimbokro 143.66 279 *e*PKPpre PKPpre 14 33 26.9
DBIC PKP PKPbc 14 33 27.4 +0.2
DBIC Dimbokro 143.66 279 PKP PKPbc 14 33 27.4 +0.2
comp=Z,14nm,0.8s,baz=76,slow=4.0,SNR=24
TIC Toumodi 143.83 279 *e*PKP2 PKPab 14 33 26.2 -0.8
comp=Z,61nm,1.1s
LIC Lamto 143.88 278 *e*PKIKP PKPab 14 33 27.5 +0.4
comp=Z,139nm,1.5s
LIC Lamto 143.88 278 *e*PKP2 PKPab 14 33 27.5 +0.4
comp=Z,119nm,1.5s
LIC Lamto 143.88 278 *e*PKPdf PKPab 14 33 27.5 +0.4
SDDR Presa de Saban 145.79 58 *e*PKPbc **PKPab** 14 33 34.2 +0.1
ROSC El Rosal 146.59 84 *e*PKPbc **PKPbc** 14 33 36.6 -0.2
ROSC El Rosal 146.59 84 PKPbc **PKPab** 14 33 37.7 -0.1
comp=Z,8.8nm,0.6s,baz=94,slow=11,SNR=8.9
LPAZ La Paz 147.69 125 *e*PKPbc **PKPbc** 14 33 38.6 -1.4
LPAZ La Paz 147.69 125 PKPbc **PKPbc** 14 33 38.8 -1.2
comp=Z,17nm,1.0s,baz=309,slow=2.6,SNR=20
CPUP Villa Florida 147.84 152 PKPdf **PKPdf** 14 33 36.6 +0.1
CPUP PKPbc **PKPbc** 14 33 38.5 -0.8
CPUP Villa Florida 147.84 152 PKPbc **PKPbc** 14 33 38.5 -0.8
comp=Z,15nm,0.9s,baz=212,slow=2.8,SNR=16
SDV Santo Domingo 149.69 76 *e*PKPdf **PKPdf** 14 33 39.4 -0.6
LSP Las Mesas 149.69 56 *e*PKPbc **PKPbc** 14 33 44.8 +0.5
CRPR Cabo Rojo, PR 149.75 56 *e*PKPbc **PKPbc** 14 33 43.6 -0.8
OBIP Obispado Ponce 150.15 56 PKPbc **PKPbc** 14 33 45.1 -0.3
CELP Cerrillos 150.16 56 *e*PKPbc **PKPbc** 14 33 46.2 +0.8
SIV San Ignacio 153.39 132 PKP **PKPdf** 14 33 46.8 +1.4
SIV PKPbc **PKPbc** 14 33 52.6 -0.3
SIV San Ignacio 153.39 132 PKP **PKPdf** 14 33 46.8 +1.4
comp=Z,1.9nm,0.8s,baz=262,slow=2.4,SNR=4.8
SIV PKPbc **PKPbc** 14 33 52.6 -0.3
comp=Z,3.1nm,0.8s,baz=232,slow=1.1,SNR=7.5
SAML Samuel 155.41 116 *e*PKPdf **PKPdf** 14 33 47.6 -0.6
PTGA Pitinga 160.85 98 *e*PKPdf **PKPdf** 14 33 56.2 +1.3
PTGA PKPab **PKPab** 14 34 38.0 +0.6
PTGA Pitinga 160.85 98 PKPab **PKPab** 14 34 38.0 +0.6
comp=Z,7.3nm,0.7s,baz=253,slow=6.9,SNR=9.9
BDFB Brasilia 161.28 158 PKP **PKPdf** 14 33 56.4 +1.1
BDFB Brasilia 161.28 158 PKP **PKPdf** 14 33 56.4 +1.1
comp=Z,9.1nm,0.8s,baz=146,slow=2.0,SNR=12

*IDC **03** 14:27:53.5±1.2, 1°.75S×139°.33E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=46.3km s-min=19.0km az=89.0*
*DJA **03** 14:27:54.9±2.1, 1°.S±8°×13°.9E±°, h15km±33km, M4.3/5, MLv4.3/5*
*ISCJB **03** 14:27:56.7±0.6, 1°.83S±0°.07×138°.97E±0°.05, h29km, mb3.8/7, Error ellipse: s-maj=10.4km s-min=7.2km az=23.5*

ISC 03 14:27:58.1±0.8, 1°.95S±0°.08×139°.00E±0°.05, h29km, n16, σ2s08/19, mb4.0/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.34**	**119**	P	**Pn**	**14 28 20.4**	**-0.5**
GENI				S	**Sb**	**14 28 40.5**	**+1.2**
JAY	**Jayapura**	**1.80**	**108**	P	**Pn**	**14 28 26.2**	**-1.1**
JAY	**Jayapura**	**1.80**	**108**	P	**Pn**	**14 28 25.7**	**-1.6**
baz=1.6,SNR=8.5							
SRPI	**Serui, Papua**	**2.75**	**272**	P	**Pn**	**14 28 40.4**	**0.0**
BAKI	**Biak**	**2.98**	**285**	P	**Pn**	**14 28 42.0**	**-1.5**
KDU	**Kakadu**	**12.47**	**211**	P	**Pn**	**14 30 55.9**	**+2.0**
baz=13,SNR=7.6							
MTN	**Manton Dam**	**13.34**	**215**	P	**Pn**	**14 31 07.2**	**+1.6**
baz=14,SNR=12							
WRA	**Warramunga Arr**	**18.46**	**194**	P	**Pn**	**14 32 12.7**	**+0.8**
0.5nm,0.3s,baz=9.9,slow=12,SNR=35							
WRA				S	**Sn**	**14 35 32.0**	**-5.4**
0.1nm,0.3s,baz=11,slow=24,SNR=1.6							
FITZ	**Fitzroy Crossi**	**20.73**	**218**	P	Pn	14 32 40.5	+1.6
1.8nm,0.6s,baz=16,slow=10,SNR=1.2							
FITZ				S	**S**	**14 36 23.2**	**-3.4**
3.9nm,0.9s,baz=176,slow=11,SNR=2.4							
ASAR	**Alice Springs**	**22.15**	**192**	P	**P**	**14 32 54.0**	**+2.2**
3.4nm,0.6s,baz=15,slow=10,SNR=40							
ASAR				S	**S**	**14 36 55.8**	**+1.4**
0.7nm,0.9s,baz=18,slow=18,SNR=1.8							
CMAR	**Chiang Mai Arr**	**44.31**	**299**	P	**P**	**14 36 06.6**	**+0.7**
0.7nm,0.7s,baz=115,slow=6.8,SNR=3.0							
SONM	**Songino Array**	**57.16**	**334**	P	**P**	**14 37 42.7**	**+0.3**
0.3nm,0.6s,baz=151,slow=9.6,SNR=5.6							
MKAR	**Makanchi Array**	**69.36**	**322**	P	**P**	**14 39 04.0**	**+0.7**
1.9nm,0.8s,baz=97,slow=8.8,SNR=21							
ZALV	**Zalesovo Beam**	**71.42**	**330**	P	**P**	**14 39 14.4**	**-1.3**
0.6nm,0.4s,baz=134,slow=5.4,SNR=5.1							
VNDA	**Vanda**	**76.51**	**175**	P	**P**	**14 39 46.1**	**+1.1**
1.7nm,0.9s,baz=313,slow=5.8,SNR=2.1							
ILAR	**Eielson Array**	**85.02**	**24**	P	**P**	**14 40 29.1**	**-1.6**
1.1nm,1.1s,baz=258,slow=5.5,SNR=5.3

GUC 03 14:30:03.7±0.4, 32°.77S×72°.04W, h9km±3km, ML2.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.42**	**128**	*e*P	Pg	14 30 11.3	-0.7
IHA	**Instituto Hidr**	**0.42**	**128**	*e*P	Pg	14 30 11.3	-0.7
ROCH	**El Roble**	**0.89**	**104**	AML	AML	14 30 33.1	
comp=N,311nm,0.7s							
PEL	**Peldehue**	**1.20**	**109**	*e*P	Pb	14 30 24.7	-1.9
PEL				*e*S	Sb	14 30 40.3	-2.1
PEL				AML	AML	14 30 41.4	
comp=E,554nm,0.2s							
LNV	**Longovilo**	**1.30**	**156**	*e*P	Pn	14 30 25.9	-2.2
CLCH	**Cerro Calan**	**1.41**	**117**	*e*P	Pn	14 30 28.0	-1.7
CLCH				*e*S	Sn	14 30 46.3	-2.1
CLCH				AML	AML	14 30 53.8	
comp=N,143nm,0.8s							
CACH	**El Canelo**	**1.81**	**139**	*e*P	Pn	14 30 35.0	-0.2
CACH				*e*S	Sn	14 30 58.6	+0.2
CMCH	**Combarbala**	**1.82**	**29**	*e*P	Pn	14 30 34.3	-0.9
CMCH				*e*S	Sn	14 30 57.6	-0.9
CMCH				AML	AML	14 31 06.7	
comp=E,325nm,0.7s							
LMEL	**Las Melosas**	**1.88**	**126**	*e*P	Pn	14 30 35.7	-0.5
LMEL				*e*S	Sn	14 30 59.7	-0.5
LMEL				AML	AML	14 31 03.9	
comp=N,119nm,0.4s							

*IDC **03** 14:40:18.1±3.7, 1°.82S×139°.85E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=116.9km s-min=28.8km az=91.0*
*DJA **03** 14:40:20.5±1.1, 2°.S±8°×14°.1E±°, h178km±8km, M3.9/4, mb4.2/1, MLv3.7/4*
*ISCJB **03** 14:40:23.3±1.3, 1°.44S±0°.09×139°.27E±0°.09, h33km, mb3.7/3, Error ellipse: s-maj=15.9km s-min=9.6km az=137.7*

ISC 03 14:40:24.1±1.4, 1°.5S±0°.1×139°.31E±0°.10, h35km, n9, σ3s12/9, mb3.9/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.41**	**142**	P	**Pn**	**14 40 46.1**	**-1.1**
GENI				S	**Sn**	**14 41 06.0**	**+1.4**
JAY	**Jayapura**	**1.74**	**127**	P	Pn	14 40 43.3	-8.5
WAMI	**Wamena**	**2.47**	**194**	P	**Pn**	**14 41 03.4**	**+1.5**
WAMI				S	**Sn**	**14 41 32.4**	**+1.6**
BAKI	**Biak**	**3.21**	**275**	P	**Pn**	**14 41 10.8**	**-1.3**
MWPI	**Manokwari, Pap**	**5.29**	**276**	P	x	14 41 53.2	
WRA	**Warramunga Arr**	**18.99**	**195**	P	**P**	**14 44 38.3**	**-4.5**
0.4nm,0.3s,baz=13,slow=11,SNR=30							
FITZ	**Fitzroy Crossi**	**21.29**	**218**	P	**P**	**14 45 08.8**	**+1.1**
5.0nm,1.0s,baz=35,slow=16,SNR=2.6							
ASAR	**Alice Springs**	**22.68**	**193**	P	**P**	**14 45 18.4**	**-4.3**
4.4nm,1.0s,baz=21,slow=10,SNR=4.3							
MKAR	**Makanchi Array**	**69.18**	**322**	P	**P**	**14 51 30.3**	**+3.0**
0.7nm,1.0s,baz=123,slow=6.3,SNR=4.3							

IDC 03 14:41:03.0±5.0, 1°.69S×138°.63E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=207.6km s-min=28.6km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.62**	**193**	P	Pn	14 45 22.8	+0.3
0.3nm,0.3s,baz=16,slow=12,SNR=4.8							
ASAR	**Alice Springs**	**22.32**	**191**	P	P	14 46 02.6	+0.1
1.6nm,0.8s,baz=19,slow=9.9,SNR=4.5							
MKAR	**Makanchi Array**	**68.94**	**322**	P	P	14 52 09.9	-0.2
0.1nm,0.6s,baz=110,slow=5.4,SNR=1.6							

*IDC **03** 15:13:46.7±0.4, 12°.98S×166°.23E, h0km, mb5.0/24, mb1 5.1/26, mb1mx5.0/28, mbtmp5.0/26, ML4.3/2, MS4.7/25, Ms1 4.7/25, ms1mx4.6/40, Error ellipse: s-maj=15.7km s-min=12.2km az=95.0*
*GCMT **03** 15:13:48.8±0.2, 12°.88S×166°.15E, h12km, MW5.2/85, Moment Tensor Solution. s75,c123; s85,c149; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=6.49±.16; Mθθ=0.67±.12; Mφφ 7.15±.14; Mrθ=0.23±.34; Mθφ 1.56±.11; Mφr=0.95±.30; Best double couple: Mo7.04100×10^16 NP1:ϕs7.00000°, δ49.00000°, λ-95.00000°. NP2: ϕs195.00000°, δ42.00000°, λ-84.00000°. Principal axes: T 7.5060, Plg4.0000°, Azm101.0000°; N -0.9370, Plg4.0000°, Azm10.0000°; P -6.5750, Plg85.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 15:13:48.8±0.2, 12°.88S×166°.15E, h10km, mb5.4/37, MS5.0/51 Error ellipse: s-maj=6.4km s-min=5.8km az=113.0*
*MOS **03** 15:13:50.9±1.1, 12°.87S×166°.04E, h33km, mb5.6/24, MS4.7/9, Error ellipse: s-maj=10.1km s-min=8.0km az=39.3*
*ISCJB **03** 15:13:51.4±1.1, 12°.93S±0°.04×166°.06E±0°.03, h35km±9km, mb5.3/95, MS4.9/91, Error ellipse: s-maj=6.0km s-min=4.9km az=9.4*
*BJI **03** 15:13:55.4, 12°.09S×165°.51E, h26km, mB5.7/48, mb5.3/62, Ms5.2/47, Ms7 4.8/47*

ISC 03 15:13:51.9±0.3, 12°.86S±0°.05×166°.14E±0°.05, h29km±1km, h29km:pP-P, n417, σ1s49/437, mb5.4/95, MS4.9/91, 37C-40D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.96**	**299**	Pn	**Pn**	**15 15 32.6**	**+0.6**
HNR				Sn	**Sn**	**15 16 53.0**	**+2.8**
HNR	**Honiara**	**6.96**	**299**	Pn	**Pn**	**15 15 32.6**	**+0.6**
33nm,0.3s,baz=186,slow=4.2,SNR=41							
HNR				Sn	**Sn**	**15 16 53.0**	**+2.8**
baz=170,slow=22,SNR=0.9							
HNR				LR	LR	15 17 51.6	
comp=Z,9μm,20.3s,baz=124,slow=34							
HNR	**Honiara**	**6.96**	**299**	*e*P	Pn	15 15 38.0	+6.0
HNR				*e*S	Sb	15 17 08.0	-6.9
DZM	**Mont Dzumac**	**9.17**	**178**	*e*Pn	**Pn**	**15 16 01.7**	**-0.5**
32nm,0.3s							
DZM				*e*LR	LR	15 17 55.4	
2μm,31.4s							
DZM	**Mont Dzumac**	**9.17**	**178**	Pn	**Pn**	**15 16 01.8**	**-0.5**
DZM	**Mont Dzumac**	**9.17**	**178**	Pn	**Pn**	**15 16 01.8**	**-0.5**
1.6nm,0.3s,baz=19,slow=20,SNR=12							
DZM				LR	LR	15 18 21.5	
comp=Z,2μm,18.6s,baz=4.4,slow=30							
EIDS	**Eidsvold**	**18.88**	**227**	*e*P	**Pn**	**15 18 10.7**	**0.0**
100nm,1.0s							
EIDS	**Eidsvold**	**18.88**	**227**	P	**Pn**	**15 18 11.3**	**+0.6**
baz=19,SNR=22							
PMG	**Port Moresby**	**18.93**	**279**	P	x	15 18 11.8	
156nm,1.6s,4μm							
PMG	**Port Moresby**	**18.93**	**279**	*e*P	**Pn**	**15 18 11.3**	**-0.1**
216nm,1.3s							
PMG				Pn	**Pn**	**15 18 12.4**	**+0.9**
PMG	**Port Moresby**	**18.93**	**279**	Pn	**Pn**	**15 18 12.4**	**+0.9**
0.8nm,0.3s,baz=93,slow=7.0,SNR=21							
PMG				LR	LR	15 24 33.7	
comp=Z,2μm,20.1s,baz=110,slow=34							
CTA	**Charters Tower**	**20.36**	**247**	P	Pn	15 18 27.9	-0.6
CTA	**Charters Tower**	**20.36**	**247**	P	Pn	15 18 27.9	-0.6
61nm,0.8s,baz=73,slow=12,SNR=49							
CTA				LR	LR	15 25 32.5	
comp=Z,5μm,18.5s,baz=71,slow=35							
CTAO	**Charters Tower**	**20.36**	**247**	*e*P	**P**	**15 18 26.9**	**+0.7**
CTAO				pmax	pmax		
comp=Z,345nm,1.5s							
CTAO				MLR	MLR		
comp=Z,6μm,19.0s							
CTAO	**Charters Tower**	**20.36**	**247**	*e*P	**P**	**15 18 26.9**	**+0.7**
comp=Z,345nm,1.5s							
CTAO				LR	LR		
comp=Z,6μm,19.0s							
PATS	**Pohnpei**	**21.05**	**338**	⇓P	**P**	**15 18 37.8**	**+4.2**
baz=21,SNR=4.7							
RMQ	**Roma**	**21.21**	**228**	P	**P**	**15 18 36.1**	**+0.7**
baz=21,SNR=105							
MANU	**Manus Island**	**21.47**	**299**	P	**P**	**15 18 39.9**	**+1.7**
baz=22,SNR=11
AFI Afiamalu 21.51 95 P **P** 15 18 40.5 +1.8
AFI Afiamalu 21.51 95 P **P** 15 18 39.7 +1.0
comp=Z,74nm,0.9s,baz=106,slow=23,SNR=6.4
AFI LR LR 15 24 40.9
comp=Z,1μm,21.9s,baz=260,slow=31
ARMA Armidale 22.03 215 *e*P **P** 15 18 44.0 -0.2
comp=Z,374nm,1.5s
ARMA Armidale 22.03 215 P **P** 15 18 44.5 +0.3
baz=22,SNR=15
RAO Raoul Island 22.04 140 P **P** 15 18 44.8 +0.6
COEN Coen 22.36 265 *e*P **P** 15 18 48.3 +0.5
comp=Z,4μm,1.5s
COEN Coen 22.36 265 P **P** 15 18 48.5 +0.7
baz=22,SNR=41
OUZ Omahuta 23.27 164 P **P** 15 18 57.6 +0.6
comp=Z,104nm,1.8s
MGCD Mangrove Creek 24.47 212 P **P** 15 19 08.8 +0.3
baz=24,SNR=12
QLP Quilpie 24.67 233 P **P** 15 19 10.5 +0.2
baz=25,SNR=7.3
CMSA Cobar Meteorol 26.45 222 P **P** 15 19 25.6 -0.7
baz=26,SNR=20
QIS Mount Isa 26.51 250 P **P** 15 19 26.9 -0.2
baz=27,SNR=47
YNG Young 26.75 214 P **P** 15 19 29.6 +0.6
baz=27,SNR=14
CNB Canberra Magne 27.02 211 P **P** 15 19 31.7 +0.2
baz=27,SNR=7.3
URZ Urewera 27.12 161 *e*P **P** 15 19 31.8 -0.6
URZ Urewera 27.12 161 P **P** 15 19 31.7 -0.6
comp=Z,5.3nm,0.7s,baz=358,slow=21,SNR=3.1
CAN Canberra 27.21 212 PFAKE 15 19 40.0 +6.8
CAN LR LR
comp=Z,1μm,21.0s
SNZO South Karori 29.32 167 PFAKE 15 20 00.0 +8.1
SNZO LR LR
comp=Z,3μm,19.0s
STKA Stephens Creek 29.43 226 *e*P **P** 15 19 52.5 -0.6
comp=Z,37nm,1.4s
STKA PcP **PcP** 15 22 57.7 -0.9
STKA Stephens Creek 29.43 226 P **P** 15 19 52.7 -0.3
comp=Z,37nm,0.8s,baz=38,slow=8.0,SNR=81
STKA PcP **PcP** 15 22 57.7 -0.9
comp=Z,13nm,1.0s,baz=74,slow=5.0,SNR=3.7
STKA LR LR 15 32 06.4
comp=Z,2μm,18.4s,baz=54,slow=37
TOO Toolangi 30.75 213 P **P** 15 20 04.6 0.0
baz=31,SNR=16
RPZ Rata Peaks 31.04 173 P **P** 15 20 06.1 -1.0
RPZ Rata Peaks 31.04 173 P **P** 15 20 06.1 -1.0
comp=Z,51nm,0.9s,baz=270,slow=5.0,SNR=7.2
RPZ LR LR 15 31 07.9
comp=Z,888nm,19.4s,baz=82,slow=34
WRAB Tennant Creek 31.26 253 P **P** 15 20 08.5 -0.8
comp=Z,98nm,1.0s,SNR=6.4
WRAB Tennant Creek 31.26 253 *d* iP **P** 15 20 07.9 -1.4
WRAB pmax pmax
comp=Z,99nm,1.7s
WRAB Tennant Creek 31.26 253 *e*P **P** 15 20 08.0 -1.4
comp=Z,19nm,1.0s
WRAB LR LR
comp=Z,3μm,20.0s
WRA Warramunga Arr 31.27 253 P **P** 15 20 08.1 -1.3
WRA PcP **PcP** 15 23 03.6 0.0
WRA Warramunga Arr 31.27 253 P **P** 15 20 08.1 -1.3
comp=Z,11nm,0.8s,baz=83,slow=8.8,SNR=51
WRA PcP **PcP** 15 23 03.6 0.0
comp=Z,7.5nm,0.8s,baz=80,slow=3.1,SNR=10
WRA LR LR 15 32 09.7
comp=Z,3μm,18.7s,baz=75,slow=35
HTT Hallett 32.16 226 P **P** 15 20 17.2 0.0
baz=32,SNR=13
ARPS Mount Arapiles 32.27 218 P **P** 15 20 18.2 +0.2
baz=32,SNR=6.3
AS31 Alice Springs 32.37 246 *e*P **P** 15 20 17.1 -1.9
ASAR Alice Springs 32.37 246 P **P** 15 20 17.1 -2.0
ASAR PcP **PcP** 15 23 06.2 -0.3
ASAR Alice Springs 32.37 246 P **P** 15 20 17.1 -2.0
comp=Z,38nm,0.9s,baz=70,slow=9.0,SNR=230
ASAR PcP **PcP** 15 23 06.2 -0.3
comp=Z,6.7nm,0.8s,baz=69,slow=2.6,SNR=9.8
ASAR LR LR 15 32 58.8
comp=Z,3μm,19.2s,baz=76,slow=36
KDU Kakadu 32.82 266 P **P** 15 20 23.0 -0.1
baz=33,SNR=5.6
RAR Rarotonga 33.58 109 LR LR 15 32 08.8
comp=Z,682nm,18.9s,baz=315,slow=33
GUMO Guam 33.69 321 PFAKE 15 20 40.0 +9.4
GUMO LR LR
comp=Z,2μm,21.0s
BBOO Buckleboo 33.91 229 *e*P **P** 15 20 31.5 -0.9
comp=Z,2μm,0.9s
BBOO Buckleboo 33.91 229 P **P** 15 20 31.8 -0.6
baz=34,SNR=39
TAU Tasmania Unive 34.08 205 PFAKE 15 20 50.0 +16
TAU LR LR
comp=Z,794nm,19.0s
MTN Manton Dam 34.11 266 P **P** 15 20 34.7 +0.3
baz=34,SNR=4.3
KNRA Kununurra 36.30 261 P **P** 15 20 52.6 -0.6
baz=36,SNR=13
PALU Palau 37.32 301 P **P** 15 21 03.9 +2.0
baz=38,SNR=4.6
FITZ Fitzroy Crossi 39.32 257 P **P** 15 21 18.5 -0.2
FITZ Fitzroy Crossi 39.32 257 P **P** 15 21 18.5 -0.2
comp=Z,38nm,1.1s,baz=92,slow=11,SNR=15
FITZ LR LR 15 37 10.4
comp=Z,2μm,18.5s,baz=87,slow=36
FORT Forrest 39.35 237 *e*P **P** 15 21 17.8 -1.0
comp=Z,195nm,0.8s
FORT Forrest 39.35 237 P **P** 15 21 18.1 -0.7
baz=39,SNR=29
SOEI Soe 41.14 270 P **P** 15 21 35.4 +1.4
baz=41,SNR=3.9
PPT Papeete 42.92 102 LR LR 15 36 01.0
comp=Z,452nm,18.4s,baz=266,slow=31
PPT2 Papeete2 42.92 102 *e*S **S** 15 28 14.1 +2.2
comp=Z,537nm,25.5s
PPT2 *e*LQ LQ 15 32 01.7
comp=Z,2μm,25.2s
PPT2 *e*LR LR 15 33 49.9
comp=Z,3μm,31.2s
TBI Tubuai 43.32 110 *e*S **S** 15 28 18.3 +0.8
comp=Z,517nm,25.2s
TBI *e*LQ LQ 15 31 49.9
comp=Z,716nm,25.2s
TBI *e*LR LR 15 33 56.9
comp=Z,1μm,33.8s
LUWI Luwuk 44.53 282 P **P** 15 22 02.1 +0.7
baz=45,SNR=4.2
KMBL Kambalda 44.60 238 P **P** 15 22 01.6 -0.1
baz=45,SNR=9.5
PMOR Pomariorio Ree 44.61 98 *e*P **P** 15 22 02.9 +1.0
comp=Z,272nm,1.3s
VAH Vaihoa 44.85 99 *e*P **P** 15 22 04.5 +0.6
comp=Z,182nm,1.2s
DAV Davao City (W) 44.90 294 PFAKE 15 22 20.0 +16
DAV LR LR
comp=Z,594nm,19.0s
KAPI Kappang 46.42 275 P **P** 15 22 16.5 +0.2
comp=Z,161nm,0.9s,SNR=5.6
KAPI Kappang 46.42 275 *e*P **P** 15 22 16.8 +0.5
comp=Z,400nm,1.5s
KAPI LR LR
comp=Z,455nm,21.0s
MEEK Meekatharra 46.52 245 P **P** 15 22 16.6 -0.4
baz=46,SNR=24
KLBR Kellerberrin 48.09 239 P **P** 15 22 28.3 -0.8
baz=48,SNR=14
BLDU Ballidu 48.78 241 P **P** 15 22 34.5 0.0
baz=49,SNR=5.1
NWAO Narrogin (SRO) 48.79 237 P **P** 15 22 33.5 -1.0
NWAO Narrogin (SRO) 48.79 237 P **P** 15 22 33.5 -1.0
comp=Z,56nm,1.0s,baz=75,slow=7.3,SNR=14
NWAO LR LR 15 43 31.9
comp=Z,2μm,18.2s,baz=73,slow=37
MORW Morawa 49.11 243 P **P** 15 22 36.8 -0.2
baz=49,SNR=12
MORW P **P** 15 22 36.9 -0.2
baz=49,SNR=11
RKGY Rocky Gully 49.38 235 P **P** 15 22 39.5 +0.5
baz=49,SNR=5.1
MYLDM Lahad Datu 50.60 288 ⇓P **P** 15 22 51.6 +3.1
TSM Tawau 50.88 286 ⇓P **P** 15 22 51.9 +1.2
JAGI Jajag, Banyuwa 51.21 269 P **P** 15 22 52.4 -0.7
baz=51,SNR=7.8

BTM Bintulu 55.04 283 ⇑P **P 15 23 23.1 +1.8**
SBUM Sibu 55.63 282 ⇑P **P 15 23 27.1 +1.5**
MJAR Matsushiro Arr 55.75 333 P **P 15 23 26.1 +0.1**
MJAR Matsushiro Arr 55.75 333 P **P 15 23 26.1 +0.1**
comp=Z,9.3nm,0.7s,baz=170,slow=8.7,SNR=49
MAJO Matsushiro 55.75 333 ⇑*i*P **P 15 23 26.4 +0.4**
MAJO pmax pmax
comp=Z,423nm,1.2s
MAJO Matsushiro 55.75 333 *e*P **P 15 23 25.2 -0.8**
comp=Z,126nm,1.6s
MAT Matsushiro 55.75 333 P **P 15 23 26.2 +0.2**
MAT S **S 15 31 07.6 -3.4**
RKT Rikitea 56.62 109 *e*S **S 15 31 22.1 -0.9**
comp=Z,434nm,30.0s
RKT *e*LQ LQ 15 37 43.9
comp=Z,271nm,23.8s
RKT *e*LR LR 15 40 07.1
comp=Z,1μm,32.5s
JNU Nakatsue 56.77 325 *e*P **P 15 23 33.4 0.0**
comp=Z,25nm,1.2s
NACB Ninganchiao 56.99 310 *e*P **P 15 23 35.1 +0.1**
comp=Z,280nm,1.9s
KSM Kuching 57.19 280 *e*P **P 15 23 37.4 +0.7**
comp=Z,174nm,1.6s
KSM LR LR
comp=Z,288nm,20.0s
KSM Kuching 57.19 280 P **P 15 23 37.6 +1.0**
baz=57,SNR=8.8
KSM Kuching 57.19 280 ⇓P **P 15 23 37.7 +1.0**
TPUB Ta-pu 57.22 309 *e*P **P 15 23 36.7 0.0**
comp=Z,54nm,1.1s
YHNB Yeheng 57.44 311 *e*P **P 15 23 39.1 +0.8**
comp=Z,71nm,1.1s
YHNB LR LR
comp=Z,500nm,20.0s
TATO Taipei 57.53 311 PFAKE 15 23 50.0 +11
TATO LR LR
comp=Z,791nm,20.0s
CISI Cisompet, Garu 57.55 269 P **P 15 23 39.1 -0.2**
baz=58,SNR=3.8
LEM Lembang 57.87 270 P **P 15 23 42.9 +1.1**
baz=58,SNR=4.8
ERM Erimo 58.56 340 ⇑*e*P **P 15 23 45.7 0.0**
ERM pmax pmax
comp=Z,88nm,1.7s
ERM Erimo 58.56 340 PFAKE 15 24 00.0 +14
ERM LR LR
comp=Z,577nm,21.0s
YUK Yuzh-Kuril'sk 59.56 343 *c i*P **P 15 23 50.1 -2.5**
YUK *i* 15 24 45.0
YUK *e* 15 26 05.5
YUK *i*S **S 15 31 57.7 -2.9**
YUK MLR MLR
comp=N,632nm,21.0s
YUK MLR MLR
comp=E,436nm,21.0s
YUK MLR MLR
comp=Z,1μm,21.0s
QZH Quanzhou 59.68 309 ⇓*i*P **P 15 23 50.8 -3.0**
QZH S **S 15 32 00.1 -2.7**
QZH pmax pmax
comp=Z,1μm,5.8s
QZH LR LR
comp=Z,640nm,18.9s
ASAJ Asahikawa 60.62 341 P **P 15 24 01.2 +1.3**
ASAJ Asahikawa 60.62 341 P **P 15 24 01.2 +1.3**
comp=Z,30nm,0.5s,baz=208,slow=7.6,SNR=47
ASAJ LR LR 15 49 03.3
comp=Z,476nm,19.0s,baz=177,slow=35
SSE Sheshan 61.42 316 P **P 15 24 06.5 +0.9**
SSE sP **sP 15 24 23.0 +4.8**
SSE pmax pmax
comp=Z,42nm,0.9s
SSE pmax pmax
comp=Z,350nm,6.0s
SSE LR LR
comp=Z,150nm,17.0s
SSE LR LR
comp=Z,230nm,17.0s
SSE LR LR
comp=Z,350nm,14.3s
KSRS Korea Array 61.58 326 P **P 15 24 07.8 +1.2**
comp=Z,12nm,1.0s,baz=145,slow=7.1,SNR=24
KSRS LR LR 15 48 45.3
comp=Z,145nm,18.1s,baz=238,slow=34
KSAR Wonju Array Be 61.59 326 P **P 15 24 07.8 +1.1**
INCN Inchon 62.31 325 *e*P **P 15 24 12.2 +0.7**
comp=Z,30nm,1.0s
INCN LR LR
comp=Z,425nm,19.0s
YSS Yuzh-Sakhalins 63.12 342 ⇑*i*P **P 15 24 17.2 +0.5**
YSS *e*S **S 15 32 48.0 +2.3**
YSS MLR MLR
comp=Z,900nm,18.0s
YSS MLR MLR
comp=N,1μm,19.0s
MYKOM **Kota Tinggi 63.48 279** ⇑P **P 15 24 21.1 +1.3**
NJ2 Nanjing 63.58 316 *e*P **P 15 24 21.4 +1.4**
NJ2 sP **sP 15 24 30.6 -2.0**
NJ2 pmax pmax
comp=N,50nm,1.0s
NJ2 pmax pmax
comp=N,490nm,6.0s
NJ2 LR LR
comp=N,400nm,26.4s
NJ2 LR LR
comp=N,420nm,24.5s
NJ2 LR LR
comp=N,260nm,26.8s
QIZ Qiongzhong 63.88 299 P **P 15 24 19.8 -2.5**
QIZ sP **sP 15 24 32.7 -2.2**
QIZ S **S 15 32 58.6 +2.4**
QIZ sS **sS 15 33 09.1 -2.3**
QIZ pmax pmax
comp=N,36nm,1.4s
QIZ pmax pmax
comp=N,330nm,5.0s
QIZ LR LR
comp=N,120nm,22.1s
QIZ LR LR
comp=N,430nm,27.9s
QIZ Qiongzhong 63.88 299 PFAKE 15 24 30.0 +7.7
QIZ LR LR
comp=Z,384nm,20.0s
VLA Vladivostok 63.92 333 ⇓*i*P **P 15 24 20.4 -1.6**
VLA *e* 15 24 55.0
VLA *e* 15 26 41.1
VLA S **S 15 32 54.6 -1.2**
VLA pmax pmax
comp=Z,40nm,1.2s
KGM Kluang 64.06 279 ⇓P **P 15 24 25.3 +1.7**
VNDA Vanda 64.70 181 *e*P **P 15 24 25.3 -1.4**
VNDA Vanda 64.70 181 P **P 15 24 25.1 -1.6**
comp=Z,5.2nm,0.8s,baz=351,slow=5.8,SNR=14
VNDA LR LR 15 51 36.8
comp=Z,485nm,18.3s,baz=8.1,slow=35
USRK Ussuriysk Arra 64.73 333 P **P 15 24 28.9 +1.6**
comp=Z,14nm,0.7s,baz=124,slow=6.3,SNR=24
CASY Casey 64.84 202 PFAKE 15 24 40.0 +12
CASY LR LR
comp=Z,614nm,19.0s
SBA Scott Base 65.00 180 PFAKE 15 24 40.0 +11
SBA LR LR
comp=Z,677nm,19.0s
KTGM Kuala Trenggan 65.14 282 ⇑P **P 15 24 32.4 +1.8**
WHN Wuhan 65.88 312 ⇑P **P 15 24 36.0 +0.9**
WHN LR LR
comp=Z,740nm,14.2s
PET Petropavlovsk 65.93 355 *e*P **P 15 24 36.3 +1.4**
PET *e*S **S 15 33 21.8 +1.6**
PET *e*SS **SS 15 37 40.1 +4.1**
PETK Petropavlovsk- 66.10 354 P **P 15 24 36.2 +0.2**
PETK Petropavlovsk- 66.10 354 P **P 15 24 36.2 +0.2**
PETK Petropavlovsk- 66.10 354 P **P 15 24 36.2 +0.2**
comp=Z,6.0nm,0.7s,baz=152,slow=6.7,SNR=5.8
MDJ Mudanjiang 66.12 332 P **P 15 24 36.8 +0.5**
MDJ pP **pP 15 24 43.2 -2.4**
MDJ sP **sP 15 24 45.8 -3.2**
MDJ PcP **PcP 15 25 07.1 +0.6**
MDJ PP **PP 15 26 59.0 -3.3**
MDJ S **S 15 33 24.2 +1.3**
MDJ sS **sS 15 33 35.1 -3.0**
MDJ pmax pmax
comp=Z,60nm,1.6s
MDJ pmax pmax
comp=Z,390nm,4.8s
MDJ LR LR
comp=Z,320nm,17.7s
MDJ LR LR
comp=Z,270nm,15.4s
MDJ LR LR
comp=Z,280nm,20.6s
MDJ Mudanjiang 66.12 332 *e*P **P 15 24 36.7 +0.3**
comp=Z,102nm,1.4s
MDJ *e* 15 24 44.8
UBPT Khong Chiam 66.22 293 P **P 15 24 39.2 +1.6**
comp=Z,67nm,1.3s,comp=Z,862nm
IPM Ipoh 66.92 281 *e*P **P 15 24 42.5 +0.4**
comp=Z,92nm,1.1s
HABR Khabarovsk 67.00 338 *e*P **P 15 24 41.3 -0.5**
HABR *e**PP **pP 15 24 50.3 -0.8**
HABR *e**SP **sP 15 24 54.4 -0.1**
HABR 15 25 08.0
HABR 15 27 08.6
HABR *e*PPP PPP 15 28 44.7
HABR S **S 15 33 32.9 -0.4**
HABR *e**SS **sS 15 33 49.8 +1.3**
HABR *e* 15 34 35.4
HABR pmax pmax
comp=E,38nm,2.2s
HABR pmax pmax
comp=N,34nm,2.2s
HABR pmax pmax
comp=Z,116nm,2.2s
HABR pmax pmax
comp=Z,368nm,1.7s
HABR MLR MLR
comp=Z,212nm,18.0s
CN2 Changchun 67.49 329 *e*P **P 15 24 46.4 +1.4**
CN2 *e*pP **pP 15 24 54.1 -0.2**
CN2 *e*sP **sP 15 24 57.1 -0.6**
CN2 *e*S **S 15 33 40.3 +0.9**
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,16.0s
KULM Kulim 67.50 281 *e*P **P 15 24 45.9 +0.1**
comp=Z,146nm,1.8s
KULM *e* 15 24 54.5
KULM LR LR
comp=Z,165nm,21.0s
CHBT CHBT 68.19 289 P **P 15 24 51.6 +1.5**
comp=Z,56nm,0.8s,comp=Z,1μm
PSI Prapat 68.50 278 P **P 15 24 52.4 +0.2**
baz=69,SNR=6.0
KLR Kul'dur 68.86 337 *e*P **P 15 24 50.5 -3.1**
KLR *e*S **S 15 33 51.5 -4.2**
KLR *e* 15 34 53.0
KLR pmax pmax
comp=E,62nm,1.6s
KLR pmax pmax
comp=Z,170nm,1.6s
KLR pmax pmax
comp=Z,1μm,5.5s
ENH Enshi 69.33 309 *e*P **P 15 24 56.6 -0.3**
comp=Z,38nm,0.9s
SRIT Nakonsritamara 69.44 284 P **P 15 24 59.8 +1.9**
comp=Z,144nm,1.1s
CHAI Chaiyaphum 69.58 292 P **P 15 24 59.3 +0.6**
comp=Z,8.2nm,0.9s,comp=Z,106nm
PATY Pattaya 69.60 289 P **P 15 25 01.1 +2.3**
comp=Z,8.3nm,1.2s,comp=Z,963nm
GYA Guiyang 69.75 305 ⇑*i*P **P 15 25 01.0 +1.3**
GYA *i*pP **pP 15 25 10.0 +1.0**
GYA PP **PP 15 27 38.5 +4.1**
GYA ScP 15 29 25.6
GYA S **S 15 34 08.2 +0.9**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,1μm,19.5s
GYA LR LR
comp=Z,3μm,20.7s
GYA LR LR
comp=Z,1μm,20.0s
BJT Baijiatuau 70.12 321 *e*P **P 15 25 02.7 +1.2**
comp=Z,170nm,1.6s
BJI Beijing 70.13 321 P **P 15 25 02.4 +0.8**
BJI PP **PP 15 27 37.8 +0.6**
BJI pmax pmax
comp=Z,46nm,1.2s
BJI pmax pmax
comp=Z,550nm,4.9s
BJI LR LR
comp=Z,430nm,18.7s
BJI LR LR
comp=Z,350nm,22.9s
BJI LR LR
comp=Z,310nm,34.3s
PBKT Sadao Pong 70.72 293 P **P 15 25 07.0 +1.3**
comp=Z,38nm,1.6s,comp=Z,934nm
XAN Xi'an 71.62 313 P **P 15 25 11.8 +0.9**
XAN pP **pP 15 25 20.0 -0.2**
XAN PP **PP 15 27 52.3 +2.0**
XAN S **S 15 34 27.6 -1.1**
XAN sS **sS 15 34 40.2 -3.8**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,110nm,4.7s
XAN LR LR
comp=Z,170nm,15.0s
XAN LR LR
comp=Z,72nm,16.0s
XAN LR LR
comp=Z,74nm,16.5s
NANT Nan 71.75 295 P **P 15 25 12.7 +0.8**
comp=Z,64nm,1.2s,comp=Z,1μm
KMI Kunming 72.39 302 P **P 15 25 16.5 +0.6**
KMI pP **pP 15 25 25.9 +0.7**
KMI sP **sP 15 25 29.2 +0.6**
KMI PP **PP 15 28 00.2 +2.9**
KMI SKS **SKSac 15 35 15.3 -3.9**
KMI pmax pmax
comp=Z,71nm,1.4s
KMI pmax pmax
comp=Z,630nm,4.8s
KMI LR LR
comp=Z,210nm,17.4s
KMI LR LR
comp=Z,240nm,21.0s
KMI LR LR
comp=Z,300nm,19.2s
LAMP Lampang 72.60 294 P **P 15 25 18.4 +1.4**
comp=Z,22nm,0.9s,comp=Z,178nm
CM31 Chiang Mai Arr 73.19 294 *e*P **P 15 25 20.9 +0.4**
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 73.19 294 P **P 15 25 21.8 +1.3**
CMAR Chiang Mai Arr 73.19 294 P **P 15 25 21.8 +1.3**
comp=Z,28nm,0.9s,baz=121,slow=4.4,SNR=136
CMAR LR LR 15 53 28.3
comp=Z,194nm,20.6s,baz=275,slow=32
HHC Hu-ho-hao-te 73.45 320 *e*P **P 15 25 22.6 +0.9**
HHC pP **pP 15 25 30.9 -0.1**
HHC sP **sP 15 25 34.0 -0.5**
HHC PP **PP 15 28 09.7 +3.8**
HHC pmax pmax
comp=Z,69nm,1.3s
HHC pmax pmax
comp=Z,1μm,6.3s
HHC LR LR
comp=Z,690nm,15.5s
HHC LR LR
comp=Z,710nm,11.4s
HHC LR LR
comp=Z,770nm,16.3s
CMAI Chiengmai2 73.61 295 P **P 15 25 24.3 +1.2**
comp=Z,37nm,1.7s
MHMT Maesarieng 74.00 293 P **P 15 25 26.9 +1.7**
comp=Z,18nm,1.7s,comp=Z,289nm
CD2 Chengdu 74.00 308 ⇑*i*P **P 15 25 26.4 +1.3**
CD2 PP **PP 15 28 14.0 +3.3**
CD2 S **S 15 34 56.8 +0.9**
CD2 sS **sS 15 35 10.7 -0.6**
CD2 pmax pmax
comp=Z,50nm,1.7s
CD2 LR LR
comp=Z,470nm,14.2s
CD2 LR LR
comp=Z,360nm,16.6s
HIA Hailar 74.13 330 *e*P **P 15 25 25.4 +0.1**
comp=Z,80nm,1.3s
LZH Lanzhou 76.25 312 ⇓P **P 15 25 40.0 +1.9**
LZH pP **PcP 15 25 49.0 -1.0**
LZH sP **sP 15 25 52.0 +1.1**
LZH PP **PP 15 28 34.2 +4.4**
LZH S **S 15 35 20.0 -1.0**
LZH sS **sS 15 35 32.1 -4.3**
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,620nm,4.0s
LZH LR LR
comp=Z,780nm,17.0s
LZH LR LR
comp=Z,510nm,15.4s
LZH LR LR
comp=Z,890nm,18.2s
SEY Seymchan 76.31 354 P **P 15 25 37.3 -0.2**
SEY Seymchan 76.31 354 P **P 15 25 37.3 -0.2**
SEY Seymchan 76.31 354 P **P 15 25 37.3 -0.2**
comp=Z,13nm,0.9s,baz=164,slow=6.7,SNR=36
QSPA South Pole Qui 77.16 180 *e*P **P 15 25 41.0 -1.7**
comp=Z,59nm,1.1s
QSPA LR LR
comp=Z,531nm,19.0s
QSPA South Pole Qui 77.16 180 P **P 15 25 41.6 -1.1**
comp=Z,26nm,0.9s,baz=353,slow=1.2,SNR=38
KDAK Kodiak Island 78.12 21 PFAKE 15 26 00.0 +12
KDAK LR LR
comp=Z,1μm,21.0s
CIT Chita 78.91 330 *e*P **P 15 25 53.1 +0.7**
CIT *e* 15 26 00.5
CIT *e* 15 26 08.5
CIT pmax pmax
comp=Z,215nm,1.8s
YAK Yakutsk 79.93 343 *e*P **P 15 25 56.6 -1.1**
YAK *e* 15 26 04.7
YAK *e**PP **pP 15 26 10.0 +2.9**
YAK *e* 15 28 57.0
YAK *e*S **S 15 35 56.6 -2.5**
YAK *e**SS **SKSac 15 36 11.7 -0.7**
YAK *e* 15 36 21.3
YAK *e*SSS SSS 15 44 29.6
YAK pmax pmax
comp=Z,29nm,1.2s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,54nm,3.2s
YAK pmax pmax
comp=N,194nm,5.1s
YAK pmax pmax
comp=E,154nm,4.8s
YAK smax smax
comp=N,296nm,5.3s
YAK smax smax
comp=E,121nm,4.6s
YAK MLR MLR
comp=Z,768nm,21.0s
YAK MLR MLR
comp=N,440nm,20.0s
YAK MLR MLR
comp=E,324nm,20.0s
YAK Yakutsk 79.93 343 *e*P **P 15 25 57.4 -0.3**
comp=E,34nm,0.9s
ULN Ulaanbaatar 79.98 324 *e*P **P 15 25 59.0 +0.5**
comp=E,69nm,1.4s
ULN LR LR
comp=Z,372nm,19.0s
SONM Songino Array 80.35 324 P **P 15 26 01.5 +1.1**
SONM Songino Array 80.35 324 P **P 15 26 01.5 +1.1**
comp=Z,4.8nm,0.6s,baz=130,slow=4.6,SNR=52
SONM LR LR 16 00 50.0
comp=Z,271nm,18.4s,baz=158,slow=35
GTA Gaotai 80.58 314 ⇓P **P 15 26 02.9 +1.0**
GTA pP **pP 15 26 10.9 -0.4**
GTA sP **sP 15 26 14.1 -0.6**
GTA PP **PP 15 29 05.4 -0.5**
GTA S **S 15 36 06.5 -0.8**
GTA SKS **SKSac 15 36 14.1 -4.3**
GTA sS **SKKSac 15 36 19.6 -1.0**
GTA pmax pmax
comp=Z,45nm,1.4s
GTA pmax pmax
comp=Z,520nm,6.2s
GTA LR LR
comp=Z,190nm,16.2s
GTA LR LR
comp=Z,260nm,18.1s
GTA LR LR
comp=Z,250nm,18.5s
SHL Shillong 81.71 299 ⇑*i*P **P 15 26 10.5 +2.2**
SHL *e*S S 15 36 28.0 +8.3
KTH Kantishna Hill 83.00 18 *e*P **P 15 26 15.4 +1.4**
comp=Z,4.0nm,0.8s
ZAK Zakamensk 83.40 325 *e*P **P 15 26 15.5 -0.9**
ZAK pmax pmax
comp=Z,11nm,1.8s
LSA Lhasa 83.64 302 *e*P **P 15 26 19.0 +0.4**
LSA pmax pmax
comp=Z,31nm,1.4s
LSA Lhasa 83.64 302 *e*P **P 15 26 19.0 +0.4**
comp=Z,31nm,1.4s
IRK Irkutsk 83.78 327 ⇑*i*P **P 15 26 18.4 +0.2**
IRK pmax pmax
comp=Z,103nm,1.9s
TLY Talaya 83.83 326 P **P 15 26 18.4 -0.1**
comp=Z,174nm,1.2s,SNR=8.0
TLY Talaya 83.83 326 *e*P **P 15 26 18.9 +0.4**
TLY *e*S S 15 36 31.6 -8.3
TLY *e* 15 37 27.4
TLY *e*SS **SS 15 42 04.5 -3.6**
TLY pmax pmax
comp=Z,79nm,1.5s
TLY MLR MLR
comp=Z,210nm,15.0s
TLY Talaya 83.83 326 *e*P **P 15 26 18.2 -0.3**
comp=Z,100nm,1.5s
TLY LR LR
comp=Z,273nm,20.0s
IM04 Indian Mountai 84.04 15 *e*P **P 15 26 18.9 -0.4**
PAX Paxson 84.31 20 P **P 15 26 21.4 +0.6**
PAX pmax pmax
comp=Z,26nm,1.5s
PAX Paxson 84.31 20 P **P 15 26 21.4 +0.6**
comp=Z,26nm,1.5s
N02D Trinity Center 84.60 46 ⇓P **P 15 26 24.3 +1.5**
baz=85
M02C Callahan 84.66 46 ⇑P **P 15 26 24.4 +1.3**
baz=85
COLA College 84.88 18 P **P 15 26 22.5 -0.9**
COLA pmax pmax
comp=Z,46nm,1.4s
COLA MLR MLR
comp=Z,485nm,20.0s
COLA College 84.88 18 P **P 15 26 22.5 -0.9**
comp=Z,46nm,1.4s
COLA LR LR
comp=Z,485nm,20.0s
ILAR Eielson Array 85.10 18 P **P 15 26 23.1 -1.5**
ILAR PKKP **PKKPdf 15 44 29.9 +2.9**
ILAR P'P' 15 52 39.8
ILAR Eielson Array 85.10 18 P **P 15 26 23.1 -1.5**
comp=Z,6.4nm,0.8s,baz=240,slow=4.7,SNR=36
ILAR PKKP **PKKPdf 15 44 29.9 +2.9**
comp=Z,0.9nm,0.6s,baz=12,slow=2.6,SNR=15
ILAR PKPPKP **P'P'df 15 52 39.8 +4.9**
comp=Z,0.5nm,1.0s,baz=3.6,slow=2.4,SNR=4.4
ILAR LR LR 16 00 51.0
comp=Z,490nm,18.3s,baz=107,slow=33
MOY Mondy 85.28 325 *e*P **P 15 26 25.7 -0.2**
MOY pmax pmax
comp=Z,95nm,2.9s
VES Vestal, Richgr 85.46 52 ⇓P **P 15 26 27.9 +0.8**
baz=86
M04C Macdoel 85.51 46 ⇓P **P 15 26 27.6 +0.2**
baz=86
WRAK Wrangell Islan 85.72 29 PFAKE 15 26 40.0 +12

WRAK LR LR
comp=Z,735nm,19.0s
TAPN Taplejung 85.82 299 *e*P **P 15 26 29.7 +0.3**
J04D Umpqua Nationa 85.86 44 ⇓P **P 15 26 30.7 +1.6**
baz=86
ISA Isabella 85.87 52 ⇑P **P 15 26 30.7 +1.5**
baz=86
COLD Coldfoot 85.93 16 *e*P **P 15 26 29.5 +0.8**
comp=Z,5.5nm,1.0s
ODAN Odare 85.95 299 *e*P **P 15 26 29.9 -0.1**
comp=Z,74nm,1.0s
EDW2 Edwards Air Fo 86.00 53 ⇑P **P 15 26 29.7 -0.1**
baz=86,SNR=7.1
BFSC Mount Baldy Ra 86.05 54 ⇓P **P 15 26 30.2 0.0**
baz=86
NLWA Neilton Lookou 86.30 40 PFAKE 15 26 40.0 +9.0
NLWA LR LR
comp=Z,815nm,20.0s
LRMC Laurel Mountai 86.42 53 ⇓P **P 15 26 31.4 -0.6**
baz=86,SNR=6.2
J05D Fort Rock, OR 86.47 44 ⇑P **P 15 26 32.3 +0.2**
baz=87
MONP Monument Peak 86.62 55 ⇑P **P 15 26 33.2 0.0**
baz=87
RAMN Ramite 86.65 298 *e*P **P 15 26 33.2 -0.3**
MPMC Manual Prospec 86.76 52 ⇓P **P 15 26 34.3 +0.6**
baz=87
PFO Pinyon Flat Ob 86.81 55 PFAKE 15 26 50.0 +16
PFO LR LR
comp=Z,1μm,20.0s
NVAR Mina Array Bea 86.90 50 P **P 15 26 34.3 -0.1**
NVAR Mina Array Bea 86.90 50 P **P 15 26 34.3 -0.1**
comp=Z,1.9nm,0.7s,baz=235,slow=7.9,SNR=14
NVAR LR LR 16 00 05.4
comp=Z,1μm,18.7s,baz=77,slow=32
EGAK Eagle 86.94 20 *e*P **P 15 26 33.5 -0.2**
comp=Z,10nm,1.0s
EGAK LR LR
comp=Z,648nm,20.0s
GSC Goldstone 87.05 53 ⇓P **P 15 26 35.1 0.0**
baz=87
G05D Wamic, OR 87.12 42 ⇑P **P 15 26 36.8 +1.7**
baz=87
JIRN Jiri 87.20 299 *e*P **P 15 26 36.1 -0.2**
HEC Hector,Ludlow 87.28 54 ⇓P **P 15 26 36.1 0.0**
baz=87,SNR=5.6
BELC Belle Mtn. Jos 87.29 54 ⇑P **P 15 26 36.6 +0.3**
baz=87,SNR=6.1
FURC Furnace Creek, 87.37 52 ⇓P **P 15 26 36.8 +0.4**
baz=88
GUN Gumba 87.53 299 *e*P **P 15 26 37.5 -0.4**
SHOC Shoshone 87.64 53 ⇓P **P 15 26 39.3 +1.6**
baz=88
TUQ Turquoise Moun 87.78 53 ⇓P **P 15 26 39.5 +0.9**
baz=88
GMRC Granite Mounta 87.79 54 ⇑P **P 15 26 39.7 +1.0**
baz=88
PKI Pulchoki 87.84 299 *e*P **P 15 26 38.8 -0.5**
comp=Z,22nm,0.5s
WVOR Wild Horse Val 87.97 46 PFAKE 15 26 50.0 +11
WVOR LR LR
comp=Z,582nm,20.0s
TPNV Topopah Spring 87.98 52 ⇑P **P 15 26 39.7 +0.1**
baz=88
KKN Kakani 88.01 299 *e*P **P 15 26 39.4 -0.6**
comp=Z,31nm,0.7s
IRM Iron Mountain 88.01 54 ⇓P **P 15 26 40.9 +1.3**
baz=88,SNR=7.3
DMN Daman 88.11 299 *e*P **P 15 26 40.3 -0.2**
comp=Z,58nm,0.7s
Y12C Blythe 88.39 55 ⇓P **P 15 26 42.8 +1.5**
baz=88
NEE2 Needles Airpor 88.61 54 ⇓P **P 15 26 43.3 +0.9**
baz=89
GKN Gorkha 88.61 299 *e*P **P 15 26 41.9 -0.9**
comp=Z,72nm,1.0s
SHPR Sheep Range 88.68 52 *e*P **P 15 26 44.2 +1.3**
comp=Z,14nm,1.3s
HAWA Hanford 88.70 42 PFAKE 15 26 50.0 +7.5
HAWA LR LR
comp=Z,394nm,19.0s
113A Mohawk Valley, 88.73 56 ⇑P **P 15 26 44.1 +1.2**
baz=89
PDMCI Parker Dam,Lak 88.85 55 ⇑P **P 15 26 45.0 +1.5**
baz=89,SNR=5.5
R11A Troy Canyon, C 88.90 50 ⇓P **P 15 26 45.1 +1.2**
baz=89
W13A Hualapai Mount 89.28 54 ⇑P **P 15 26 46.4 +0.6**
baz=89,SNR=8.2
214A Organ Pipe Nat 89.28 57 ⇓P **P 15 26 46.5 +0.8**
baz=89,SNR=5.4
KOLN Koldanda 89.44 299 *e*P **P 15 26 46.2 -0.5**
comp=Z,27nm,0.9s
DANN Dangsing 89.45 299 *e*P **P 15 26 46.3 -0.6**
comp=Z,40nm,0.7s
Z14A Wintersburg 89.55 56 ⇓P **P 15 26 47.7 +0.8**
baz=90
Y14A Wickenburg 89.66 55 ⇓P **P 15 26 49.1 +1.7**
baz=90
PYUN Piuthan 90.05 299 *e*P **P 15 26 48.7 -0.8**
comp=Z,39nm,1.0s
ARUT Antelope Range 90.36 51 *e*P **P 15 26 52.7 +1.9**
ARUT pmax pmax
comp=Z,81nm,1.0s
ARUT Antelope Range 90.36 51 *e*P **P 15 26 52.7 +1.9**
comp=Z,80nm,1.0s
WMQ Urumqi 90.64 315 P **P 15 26 53.6 +1.8**
WMQ pP **pP 15 27 04.2 +2.9**
WMQ sP **sP 15 27 08.1 +3.4**
WMQ pmax pmax
comp=Z,21nm,1.4s
WMQ pmax pmax
comp=Z,3μm,6.1s
WMQ LR LR
comp=Z,2μm,24.3s
WMQ LR LR
comp=Z,2μm,19.7s
WMQ LR LR
comp=Z,2μm,20.8s
NEW Newport 90.86 41 PFAKE 15 27 00.0 +7.3
NEW LR LR
comp=Z,284nm,19.0s
NEW Newport 90.86 41 ⇑P **P 15 26 54.3 +1.6**
baz=91
U15A North Rim 90.89 53 ⇓P **P 15 26 54.5 +1.1**
baz=91
X16A Lo Mia Camp, P 91.04 55 ⇑P **P 15 26 54.5 +0.5**
baz=91,SNR=6.2
TUC Tucson 91.04 57 *e*P **P 15 26 55.0 +1.1**
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC MLR MLR
comp=Z,1μm,19.0s
TUC Tucson 91.04 57 *e*P **P 15 26 55.0 +1.1**
comp=Z,9.6nm,1.1s
TUC LR LR
comp=Z,1μm,19.0s
HLID Hailey 91.26 46 ⇓P **P 15 26 54.4 -0.4**
baz=91
WUAZ Wupatki 91.37 54 PFAKE 15 27 10.0 +15
WUAZ LR LR
comp=Z,750nm,19.0s
WUAZ Wupatki 91.37 54 ⇓P **P 15 26 56.8 +1.3**
baz=92,SNR=6.7
DUG Dugway 91.49 49 PFAKE 15 27 10.0 +14
DUG LR LR
comp=Z,932nm,19.0s
DUG Dugway 91.49 49 ⇓P **P 15 26 57.0 +1.1**
baz=92
HYB Hyderabad 91.52 287 *i* P **P 15 26 55.0 -1.4**
319A Douglas 92.05 58 ⇓P **P 15 26 59.6 +0.9**
baz=92,SNR=10
BSMT Bassoo Peak 92.23 41 *e*P **P 15 26 58.6 -0.6**
comp=Z,4.3nm,1.2s
X18A Snowflake 92.26 55 ⇓P **P 15 27 00.5 +0.9**
baz=92,SNR=7.1
320A Kipp Ranch, An 92.67 59 ⇑P **P 15 27 02.5 +0.9**
baz=93,SNR=8.3
AHID Auburn Hatcher 93.39 47 PFAKE 15 27 20.0 +15
AHID LR LR
comp=Z,588nm,19.0s
121A Cookes Peak, D 93.55 58 ⇑P **P 15 27 06.2 +0.6**
baz=94
BOZ Bozeman (W) 93.73 44 PFAKE 15 27 20.0 +14
BOZ LR LR
comp=Z,663nm,19.0s
222A Williams Famil 94.03 58 ⇑P **P 15 27 08.2 +0.4**
baz=94
MVCO Mesa Verde 94.03 53 PFAKE 15 27 20.0 +12
MVCO LR LR
comp=Z,923nm,19.0s
Z22A Elephant Butte 94.39 57 ⇑P **P 15 27 10.7 +1.3**
baz=94
BW06 Boulder Array 94.49 47 PFAKE 15 27 20.0 +10
BW06 LR LR
comp=Z,563nm,19.0s
PDAR Pinedale Array 94.49 47 P **P 15 27 10.7 +0.9**
PDAR Pinedale Array 94.49 47 P **P 15 27 10.7 +0.9**
comp=Z,0.4nm,0.6s,baz=202,slow=6.3,SNR=4.2
PDAR LR LR 16 05 32.4
comp=Z,338nm,18.6s,baz=94,slow=33
MK31 Makanchi Array 95.10 317 *e*P **P 15 27 11.4 -0.8**
MK31 Makanchi Array 95.10 317 *e*P **P 15 27 11.4 -0.8**
MKAR Makanchi Array 95.10 317 P **P 15 27 11.9 -0.3**
MKAR 15 31 00.0
MKAR Makanchi Array 95.10 317 P **P 15 27 11.9 -0.3**
MKAR PP **PP 15 30 60.0 -2.2**
MKAR Makanchi Array 95.10 317 P **P 15 27 11.9 -0.3**
comp=Z,14nm,0.7s,baz=97,slow=6.2,SNR=131
MKAR PP **PP 15 30 60.0 -2.2**
comp=Z,2.1nm,1.1s,baz=104,slow=10,SNR=5.8
MKAR LR LR 16 12 49.7
comp=Z,196nm,18.1s,baz=329,slow=37
ZAA0 Zalesovo Array 95.24 324 *e*P **P 15 27 11.3 -1.3**
ZALV Zalesovo Beam 95.24 324 *i* P **P 15 27 12.1 -0.5**
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 95.24 324 P **P 15 27 12.2 -0.5**
ZALV Zalesovo Beam 95.24 324 P **P 15 27 12.2 -0.5**
comp=Z,10nm,0.7s,baz=108,slow=4.8,SNR=53
ZALV LR LR 16 09 54.5
comp=Z,263nm,18.1s,baz=78,slow=35
X23A Hourglass Bar 95.30 56 ⇑P **P 15 27 13.7 0.0**
baz=95
MNTX Cornudas Mount 95.37 59 PFAKE 15 27 20.0 +6.2
MNTX LR LR
comp=Z,414nm,20.0s
S22A 4UR Ranch, Cre 95.44 53 ⇓P **P 15 27 14.6 +0.3**
baz=96
425A Indio Mountain 95.52 60 ⇑P **P 15 27 14.2 -0.5**
baz=96
V23A Ortiz Mt. (NFS 95.54 55 ⇑P **P 15 27 14.2 -0.6**
baz=96
EGMT Eagleton 95.55 42 PFAKE 15 27 30.0 +16
EGMT LR LR
comp=Z,312nm,19.0s
325A Bean Ranch, Si 95.65 59 ⇑P **P 15 27 15.4 +0.1**
baz=96
TXAR Lajitas Array 96.36 61 P **P 15 27 19.7 +1.2**
TXAR PKKP **PKKPbc 15 44 04.9 +0.4**
TXAR Lajitas Array 96.36 61 P **P 15 27 19.7 +1.2**
comp=Z,0.9nm,0.8s,baz=232,slow=5.8,SNR=11
TXAR PKKP **PKKPbc 15 44 04.9 +0.4**
comp=Z,0.2nm,0.5s,baz=97,slow=5.0,SNR=3.5
TXAR LR LR 16 02 48.4
comp=Z,441nm,18.8s,baz=5.0,slow=30
YKA Yellowknife Ar 96.40 27 P **P 15 27 15.5 -2.2**
YKA Yellowknife Ar 96.40 27 P **P 15 27 15.5 -2.2**
comp=Z,0.6nm,0.7s,baz=259,slow=4.7,SNR=9.1
SDCO Great Sand Dun 96.47 53 PFAKE 15 27 30.0 +11
SDCO LR LR
comp=Z,735nm,19.0s
ISCO Idaho Springs 96.78 51 PFAKE 15 27 30.0 +10
ISCO LR LR
comp=Z,1μm,19.0s
KSH Kashi 98.18 309 *e*P Pdif 15 27 33.1 +6.5
KSH *es*P sP 15 27 44.4 +5.0
KSH pmax pmax
comp=Z,4.0nm,1.5s
KSH pmax pmax
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,180nm,5.2s
KSH LR LR
comp=Z,170nm,9.8s
KSH LR LR
comp=Z,200nm,8.7s
KURK Kurchatov 98.27 320 P **P 15 27 25.8 -0.6**
KURK Kurchatov 98.27 320 P **P 15 27 25.8 -0.6**
KURBB Kurchatov Arra 98.31 320 P **P 15 27 25.8 -0.8**
comp=Z,0.8nm,0.4s,baz=103,slow=3.3,SNR=9.5
USHA Ushuaia 98.44 152 LR LR 15 59 48.5
comp=Z,232nm,20.0s,slow=28
AAK Ala-Archa 99.78 312 ⇓*e*P **Pdif 15 27 32.6 -1.0**
AAK pmax pmax
comp=Z,9.0nm,1.7s
JCT Junction City 99.86 61 PFAKE 15 27 50.0 +16
JCT LR LR
comp=Z,663nm,20.0s
WMOK Wichita Mounta 101.34 57 PFAKE 15 27 50.0 +9.4
WMOK LR LR
comp=Z,1μm,20.0s
KSU1 Kansas State U 103.57 53 PFAKE 15 28 00.0 +10
KSU1 LR LR
comp=Z,910nm,19.0s
BVAR Borovoye Array 103.61 322 P **Pdif 15 27 49.7 -0.5**
BVAR *i* 15 32 06.5
BVAR Borovoye Array 103.61 322 Pdif **Pdif 15 27 49.7 -0.5**
BVAR PKiKP **PP 15 32 06.5 -0.3**
BVAR Borovoye Array 103.61 322 Pdiff **Pdif 15 27 49.7 -0.5**
comp=Z,1.3nm,0.7s,baz=94,slow=5.3,SNR=11
BVAR PKiKP **PP 15 32 06.5 -0.3**
comp=Z,0.7nm,0.8s,baz=90,slow=3.3,SNR=3.6
ECSD EROS Data Cent 103.98 48 PFAKE 15 28 00.0 +7.9
ECSD LR LR
comp=Z,538nm,19.0s
NATX Nacogdoches 104.40 60 PFAKE 15 28 10.0 +16
NATX LR LR
comp=Z,1μm,21.0s
AGMN Agassiz Nation 104.79 43 PFAKE 15 28 10.0 +14
AGMN LR LR
comp=Z,643nm,20.0s
MIAR Mount Ida 105.58 57 PFAKE 15 32 20.0
MIAR LR LR
comp=Z,713nm,20.0s
SCIA State Center 106.36 50 PFAKE 15 32 30.0
SCIA LR LR
comp=Z,2μm,19.0s
EYMN Ely 107.70 44 PFAKE 15 32 30.0
EYMN LR LR
comp=Z,514nm,19.0s
TGUH Tegucigalpa,Un 108.88 79 PFAKE 15 32 30.0
TGUH LR LR
comp=Z,398nm,19.0s
HDIL Hopedale 109.28 51 PFAKE 15 32 30.0
HDIL LR LR
comp=Z,678nm,19.0s
ARU Arti 110.33 326 *e*PKIKP **PKiKP 15 32 20.8 -0.1**
ARCES ARCESS Array B 118.17 345 PKP **PKPdf 15 32 33.7 -1.9**
ARCES ARCESS Array B 118.17 345 PKP **PKPdf 15 32 33.7 -1.9**
comp=Z,5.1nm,0.8s,baz=83,slow=1.2,SNR=14
LPAZ La Paz 119.03 117 PKP **PKPdf 15 32 37.9 -1.7**
LPAZ La Paz 119.03 117 PKP **PKPdf 15 32 37.9 -1.7**
comp=Z,0.9nm,0.6s,baz=207,slow=3.8,SNR=3.5
VRHR Novokhopersk 121.34 323 *e*PKIKP **PKPdf 15 32 41.1 -1.0**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 122.54 328 ⇓*i*PKIKP **PKPdf 15 32 44.2 -0.1**
OBN *e* 15 34 22.8
OBN pmax pmax
comp=Z,25nm,1.4s
VSR Storozhevoye 122.74 323 *e*PKIKP **PKPdf 15 32 41.8 -3.0**
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=E,7.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 122.77 314 ⇓*i*PKIKP **PKPdf 15 32 45.5 +0.2**
KIV *e* 15 34 25.4
KIV *es*PS **PS 15 44 24.5 +5.0**
KIV pmax pmax
comp=Z,20nm,1.7s
FINES FINESS Array B 123.59 338 PKP **PKPdf 15 32 45.5 -0.7**
FINES FINESS Array B 123.59 338 PKP **PKPdf 15 32 45.5 -0.7**
comp=Z,6.1nm,1.1s,baz=252,slow=0.6,SNR=7.4
AKASG Malin Array Be 128.58 326 PKIKP **PKPdf 15 32 55.2 -0.8**
AKASG 15 35 02.6
AKASG Malin Array Be 128.58 326 PKP **PKPdf 15 32 55.1 -0.8**
AKASG PP **PP 15 35 02.6 +1.1**
AKASG Malin Array Be 128.58 326 PKP **PKPdf 15 32 55.1 -0.8**
comp=Z,2.3nm,0.7s,baz=53,slow=1.7,SNR=22
AKASG PP **PP 15 35 02.6 +1.1**
comp=Z,1.1nm,0.8s,baz=46,slow=6.3,SNR=5.9
KIEV Kiev 128.59 326 ⇓*i*PKIKP **PKPdf 15 32 55.7 -0.3**
LSZ Lusaka 129.87 237 *e*PKPdf **PKPdf 15 32 59.2 -0.5**
BRTR Keskin Array B 130.46 312 PKP **PKPdf 15 32 60.0 -0.2**
BRTR PP **PP 15 35 09.4 -5.0**
BRTR SKP 15 36 35.5
BRTR Keskin Array B 130.46 312 PKP **PKPdf 15 32 60.0 -0.2**
comp=Z,1.5nm,0.8s,baz=142,slow=3.3,SNR=6.4
BRTR PP **PP 15 35 09.4 -5.0**
comp=Z,1.9nm,1.1s,baz=11,slow=8.0,SNR=3.9
BRTR SKP 15 36 35.5
comp=Z,1.5nm,1.0s,baz=145,slow=4.5,SNR=4.0
LVV L'vov 131.83 328 *e*PKIKP PKPpre 15 32 55.7
BUR08 Bucovina Ar. S 132.45 325 *e*PKPdf **PKPdf 15 33 03.5 -0.1**
KOLS Kolonicke sedl 133.28 328 *e*PKIKP **PKPdf 15 33 01.8 -3.2**
KOLS Kolonicke sedl 133.28 328 *e*PKP **PKPdf 15 33 01.8 -3.2**
DPC Dobruska-Polom 135.22 333 *e*PKIKP **PKPdf 15 33 10.5 +1.8**
DPC *e* 15 35 45.3
DPC Dobruska-Polom 135.22 333 *e*PKPdf **PKPdf 15 33 10.5 +1.8**
DPC *e*PP **PP 15 35 45.3 +1.3**
UPC Upice 135.25 333 *e*PKIKP **PKPdf 15 33 10.9 +2.2**
UPC Upice 135.25 333 *e*PKPdf **PKPdf 15 33 10.9 +2.2**
TSUM Tsumeb 135.56 225 PKP **PKPdf 15 33 10.6 +0.2**
TSUM Tsumeb 135.56 225 PKP **PKPdf 15 33 10.6 +0.2**
comp=Z,3.7nm,0.9s,baz=159,slow=2.1,SNR=5.5
BRG Berggiesshubel 135.86 335 *e*PKP **PKPdf 15 33 11.8 +2.0**
comp=Z,11nm,1.2s
BRG Berggiesshubel 135.86 335 *e*PKIKP **PKPdf 15 33 11.8 +2.0**
BRG pmax pmax
comp=Z,11nm,1.1s
CLL Collm 135.91 336 *e*PKIKP **PKPdf 15 33 12.0 +2.2**
CLL Collm 135.91 336 *e*PKPdf **PKPdf 15 33 12.0 +2.2**
CLL *e*PP **PP 15 35 46.0 -2.2**
CLL *e*SKPbc **SKPbc 15 36 41.0 +1.4**
PRA Prague 136.26 334 PKPdf **PKPdf 15 33 13.0 +2.5**
PRU Pruhonice 136.27 334 *e*PKIKP **PKPdf 15 33 12.7 +2.1**
PRU Pruhonice 136.27 334 *e*PKPdf **PKPdf 15 33 12.7 +2.1**
KHC Kasperske Hory 137.33 333 *e*PKIKP **PKPdf 15 33 11.7 -0.9**
KHC *e* 15 35 58.8
KHC Kasperske Hory 137.33 333 *e*PKPpre PKPpre 15 33 01.5
KHC *e*PKPdf **PKPdf 15 33 11.7 -0.9**
KHC *ex* x 15 33 30.3
KHC *e*PP **PP 15 35 58.8 +1.6**
GERES GERESS Array B 137.49 333 PKPpre PKPpre 15 33 03.0
GERES GERESS Array B 137.49 333 PKhKP PKPpre 15 33 03.0
comp=Z,0.7nm,0.7s,baz=95,slow=2.8,SNR=6.8
WTTA Wattenberg 139.59 333 ⇓*i*PKPdf PKPpre 15 33 09.8
comp=Z,15nm,1.4s
FETA Feichten 140.17 334 ⇑*i*PKPdf PKPpre 15 33 10.5
comp=Z,5.1nm,1.1s
DAVOX Davos/Dischmat 140.73 334 PKPpre PKPpre 15 33 13.9
DAVOX Davos/Dischmat 140.73 334 PKhKP PKPpre 15 33 13.9
comp=Z,5.1nm,0.5s,baz=45,slow=3.0,SNR=16
TUE Stuetta 141.19 334 *e*PKPpre PKPpre 15 33 13.6
CEL Celeste 143.41 319 *e*PKPpre PKPpre 15 33 22.1
BNI Bardonecchia 143.45 335 *e*PKIKP PKPbc 15 33 20.8 -0.4
BNI Bardonecchia 143.45 335 *e*PKPpre PKPab 15 33 20.8 +0.7
GDM Grand'Maison 143.55 336 PKP PKPbc 15 33 22.1 +0.6
GRN Grenoble 143.66 336 PKP PKPbc 15 33 22.8 +1.1
SURF Saint Ours 143.86 335 PKP PKPbc 15 33 23.1 +0.6
SAOF Saorge 143.94 333 PKP PKPab 15 33 22.2 +0.3
AUTN L'Aution 143.99 334 PKP PKPbc 15 33 23.1 +0.2
TOUF Mont Tournerai 144.05 334 PKP PKPbc 15 33 22.9 -0.2
SSB Saint Sauveur 144.09 338 *e*PKIKP PKPbc 15 33 22.8 -0.1
SSB Saint Sauveur 144.09 338 PKP PKPbc 15 33 23.4 +0.5
SSB Saint Sauveur 144.09 338 *e*PKPpre PKPbc 15 33 22.8 -0.2
MVIF Mont Vial 144.19 334 PKP PKPbc 15 33 23.3 -0.1
REVF Revere 144.22 333 PKP PKPbc 15 33 23.3 -0.1
PYM Petit Puy Mans 144.23 340 PKP PKPbc 15 33 24.1 +0.7
OG25 Le Caire 144.25 335 PKP PKPbc 15 33 23.5 0.0
OG26 St.-Nazaire-De 144.39 336 PKP PKPbc 15 33 24.5 +0.6
VERF Verneugheol 144.40 340 PKP **PKPdf 15 33 25.1 -0.4**
CALN Calern 144.41 334 PKP PKPbc 15 33 24.4 +0.3
LBL Lubilhac 144.60 339 PKP PKPbc 15 33 25.2 +0.6
FRNF Fournols 144.70 340 PKP **PKPdf 15 33 25.6 -0.4**
CLTB Caltabellotta 145.50 320 *e*PKPdf **PKPab 15 33 28.7 +0.7**
VSL Villasalto 146.46 326 *e*PKPbc **PKPbc 15 33 30.1 -0.4**
MLS Moulis 147.34 339 PKP **PKPdf 15 33 28.9 -1.6**
VALF Valcebollere 147.50 338 PKP **PKPdf 15 33 30.4 -0.6**
RESF Ens 147.72 340 PKP **PKPdf 15 33 30.2 -1.1**
VIEF Viey 147.76 341 PKP **PKPdf 15 33 30.1 -1.2**
KEST Kesra 149.07 321 *e*PKPbc **PKPbc 15 33 37.8 0.0**
KEST Kesra 149.07 321 PKPbc **PKPbc 15 33 38.1 +0.3**
comp=Z,27nm,0.7s,baz=24,slow=0.2,SNR=69
CMAH Djebel Manchou 149.59 325 P **PKPbc 15 33 39.0 0.0**
CAEH 'Ain El Ouahch 149.79 326 P **PKPbc 15 33 39.0 -0.5**
ABSA Djebel Ababsia 149.80 324 P **PKPbc 15 33 40.0 +0.4**
CKFL Kef-Lekhel 150.14 325 P **PKPbc 15 33 40.0 -0.5**
SHEL Horse Pasture 150.26 196 *e*PKIKP **PKPbc 15 33 41.6 +0.4**
SHEL Horse Pasture 150.26 196 *e*PKPbc **PKPbc 15 33 41.6 +0.4**
CASM Ain Smara 150.37 325 P **PKPbc 15 33 41.0 +0.1**
DFRA Djebel Bou Aff 150.50 326 P **PKPbc 15 33 42.0 +0.7**
PBRG Braganca 150.50 349 *e*PKPab **PKPab 15 33 47.6 0.0**
SET Setif 151.01 327 P **PKPbc 15 33 42.0 -0.5**
POLO Lamas de Olo 151.10 351 *e*PKPbc **PKPbc 15 33 42.3 -0.3**
MVO Moncorvo 151.17 349 *e*PKPbc **PKPbc 15 33 42.9 +0.2**
MVO Moncorvo 151.17 349 *e*PKPab **PKPab 15 33 48.8 -1.6**
PVRL Vila Real 151.18 350 *e*PKPbc **PKPbc 15 33 42.8 +0.1**
ESDC Sonseca Array 151.90 344 PKPbc **PKPbc 15 33 43.9 -0.5**
ESDC Sonseca Array 151.90 344 PKPbc **PKPbc 15 33 43.9 -0.5**
comp=Z,2.6nm,0.8s,baz=16,slow=1.7,SNR=9.5
PTOM Tomar 152.91 351 *e*PKPbc **PKPbc 15 33 46.1 -0.5**
PTOM Tomar 152.91 351 *e*PKPab **PKPab 15 33 58.2 +0.6**
PMRV Marv??o 152.92 349 *e*PKPbc **PKPbc 15 33 47.4 +0.8**
PESTR Estremoz 153.50 349 *e*PKPab **PKPab 15 34 01.3 +1.1**
PBEJ Beja 154.37 349 *e*PKPab **PKPab 15 34 04.5 +0.7**
TOAO Torodi Ar. Sit 164.84 273 *e*PKPdf **PKPdf 15 33 52.9 -1.1**
TORD Torodi Ar. Bea 164.84 273 PKP **PKPdf 15 33 52.9 -1.2**
TORD PKPab **PKPab 15 34 50.5 +0.3**
TORD PP **PP 15 38 39.8 +2.9**
TORD Torodi Ar. Bea 164.84 273 PKP **PKPdf 15 33 52.9 -1.2**
comp=Z,2.9nm,0.9s,baz=339,slow=2.0,SNR=13
TORD PKPab **PKPab 15 34 50.5 +0.3**
comp=Z,4.9nm,0.7s,baz=85,slow=5.0,SNR=15
TORD PP **PP 15 38 39.8 +2.9**
comp=Z,0.8nm,1.2s,baz=2.4,slow=3.6,SNR=3.5
KIC Kosan Boka 168.93 235 *e*P **PKPab 15 35 08.3 +0.2**
comp=Z,150nm,1.6s
LIC Lamto 169.08 234 *e*P **PKPab 15 35 08.8 0.0**
comp=Z,103nm,1.9s
DBIC Dimbokro 169.21 236 PKP **PKPdf 15 33 55.8 -1.5**
DBIC *e*PKPdf PKPdf 15 33 56.3 -1.0
DBIC Dimbokro 169.21 236 PKP **PKPdf 15 33 55.8 -1.5**
comp=Z,4.7nm,1.0s,baz=332,slow=1.6,SNR=4.5
TIC Toumodi 169.32 236 *e*P **PKPab 15 35 10.0 +0.1**
comp=Z,8.8nm,0.2s

*IDC **03** 15:27:15.7±1.1, 15°.58N×120°.46E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, Error ellipse: s-maj=57.2km s-min=17.6km az=62.0*

ISC 03 15:27:21.2±0.8, 15°.78N±0°.06×120°.5E±0°.2, h32km, n12, σ1°39/12, mb3.6/7, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s ISC
BCPH	**Baguio City Da**	**0.61**	**9**	⇑*i*P	Pb	15 27 27.2	-6.5
BCPH				*i* S	**Sn**	**15 27 42.6**	**0.0**
NBP	**Mount Natib**	**1.03**	**184**	⇓*e*P	**Pn**	**15 27 39.8**	**+0.3**
NBP				*e*S	**Sb**	**15 27 55.0**	**+1.2**
LQP	**Lukban**	**1.94**	**148**	*e*P	**Pb**	**15 27 57.2**	**+1.1**
GQP	**Guinayangan**	**2.66**	**134**	*e*P	Pb	15 28 13.5	+5.4
CMAR	**Chiang Mai Arr**	**20.76**	**280**	P	**P**	**15 31 58.8**	**-0.8**
	2.7nm,1.1s,baz=98,slow=7.6,SNR=10						
SONM	**Songino Array**	**34.02**	**343**	P	**P**	**15 34 04.0**	**+1.7**
	0.5nm,0.6s,baz=163,slow=9.0,SNR=3.3						
WRA	**Warramunga Arr**	**38.02**	**159**	P	**P**	**15 34 34.1**	**-2.6**
	1.4nm,0.7s,baz=337,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**41.34**	**161**	P	**P**	**15 35 02.2**	**-2.1**
	0.3nm,0.3s,baz=337,slow=7.2,SNR=15						
MKAR	**Makanchi Array**	**44.26**	**323**	P	**P**	**15 35 28.1**	**+0.3**
	0.4nm,0.7s,baz=134,slow=8.6,SNR=5.0						
KURBB	**Kurchatov Arra**	**48.37**	**325**	P	**P**	**15 36 00.0**	**+0.1**
	0.6nm,0.7s,baz=121,slow=8.2,SNR=5.6						
BVAR	**Borovoye Array**	**53.96**	**325**	P	**P**	**15 36 41.9**	**0.0**
	0.3nm,0.6s,baz=94,slow=5.8,SNR=2.5						
FINES	**FINESS Array B**	**78.38**	**331**	P	**P**	**15 39 18.2**	**-0.2**
	2.3nm,1.0s,baz=62,slow=3.3,SNR=3.7						

*IDC **03** 15:39:46.4±3.5,0.°87S×99.°98E,h81km±26km,mb3.7/12, mb1 3.7/14,mb1mx3.5/27,mbtmp3.7/14, Error ellipse: s-maj=42.9km s-min=16.6km az=52.0*

*DJA **03** 15:39:49.3±1.0,1.°5S×10.°0E±.°,h54km±9km,M4.0/8, mb4.2/1,MLv3.9/8*

ISC 03 15:39:41.5±1.3,1.2S±0.1×99.43E±0.08,h35km,n38, σ1§50/31,mb4.2/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.06**	**77**	P	**Pn**	**15 40 02.9**	**+3.0**
PDSI				S	**Sn**	**15 40 14.0**	**+0.5**
PPI	**Padang Panjang**	**1.19**	**55**	P	**Pn**	**15 40 03.3**	**+1.6**
PPI				S	**Sn**	**15 40 14.5**	**-2.1**
MNSI	**Mandailing Nat**	**1.94**	**5**	P	**Pn**	**15 40 15.1**	**+3.1**
BKNI	**Bangkinang**	**2.18**	**48**	P	**Pn**	**15 40 16.8**	**+1.5**
GSI	**Gunungsitoli**	**3.06**	**323**	P	Pn	15 40 35.9	+8.5
PSI	**Prapat** 3.3nm,0.3s,baz=149,slow=14,SNR=5.5	**3.96**	**353**	P	**Pn**	**15 40 41.8**	**+1.9**
PSI	1.6nm,0.3s,baz=352,slow=23,SNR=1.2			S	**Sn**	**15 41 24.2**	**-0.9**
KCSI	**Kotacane, Aceh**	**4.93**	**340**	P	Pn	15 40 59.6	+6.5
KCSI				S	**Sn**	**15 41 48.8**	**-0.1**
MYKOM	**Kota Tinggi**	**5.30**	**57**	P	x	15 40 57.7	
IPM	**Ipoh**	**5.81**	**16**	P	x	15 41 06.4	
CMAR	**Chiang Mai Arr**	**19.49**	**359**	P	**P**	**15 44 04.4**	**-1.3**
	0.2nm,0.3s,baz=189,slow=9.9,SNR=6.6						
H08S2	**Diego Garcia H** baz=77,slow=76,SNR=16	**27.61**	**256**	T	T	16 13 47.6	
H08S3	**Diego Garcia H** baz=77,slow=76,SNR=11	**27.61**	**256**	T	T	16 13 47.3	
H08S1	**Diego Garcia H** baz=77,slow=76,SNR=10	**27.62**	**256**	T	T	16 13 50.9	
ODAN	**Odare** 6.4nm,0.5s	**30.17**	**338**	*eP*	**P**	**15 45 49.6**	**+0.8**
TAPN	**Taplejung** 4.7nm,0.3s	**30.50**	**339**	*eP*	**P**	**15 45 52.7**	**+0.9**
RAMN	**Ramite** 4.0nm,0.3s	**30.55**	**337**	*eP*	**P**	**15 45 53.6**	**+1.4**
JIRN	**Jiri** 14nm,0.4s	**31.34**	**337**	*eP*	**P**	**15 46 00.4**	**+1.1**
PKI	**Pulchoki**	**31.58**	**336**	*eP*	**P**	**15 46 02.0**	**+0.7**
GUN	**Gumba** 26nm,0.4s	**31.69**	**337**	*eP*	**P**	**15 46 03.3**	**+1.0**
DMN	**Daman**	**31.74**	**335**	*eP*	**P**	**15 46 04.4**	**+1.8**
KKN	**Kakani** 9.2nm,0.4s	**31.82**	**336**	*eP*	**P**	**15 46 04.1**	**+0.7**
GKN	**Gorkha** 6.0nm,0.4s	**32.28**	**335**	*eP*	**P**	**15 46 08.2**	**+0.9**
KOLN	**Koldanda** 12nm,0.7s	**32.53**	**333**	*eP*	**P**	**15 46 10.9**	**+1.4**
DANN	**Dangsing** 9.0nm,0.5s	**32.96**	**334**	*eP*	**P**	**15 46 14.3**	**+0.9**
PYUN	**Piuthan**	**33.09**	**333**	*eP*	**P**	**15 46 16.4**	**+2.0**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=303,slow=8.9,SNR=1.6	**38.92**	**121**	P	P	15 47 01.5	-2.7
ASAR	**Alice Springs** 0.2nm,0.5s,baz=302,slow=7.6,SNR=5.3	**40.21**	**126**	P	P	15 47 13.1	-2.0
KSRS	**Korea Array** 0.9nm,0.5s,baz=227,slow=8.0,SNR=7.6	**46.59**	**32**	P	P	15 48 01.9	-4.2
AAK	**Ala-Archa** 0.4nm,0.4s,baz=135,slow=5.7,SNR=2.2	**49.03**	**336**	P	**P**	**15 48 26.1**	**+0.9**
SONM	**Songino Array** 1.3nm,0.7s,baz=187,slow=9.6,SNR=14	**49.16**	**6**	P	P	15 48 23.6	-2.5
SONM	0.3nm,0.5s,baz=169,slow=4.1,SNR=2.9			PcP	**PcP**	**15 49 47.5**	**-1.6**
MKAR	**Makanchi Array** 3.3nm,0.5s,baz=160,slow=8.5,SNR=63	**50.06**	**345**	P	**P**	**15 48 32.2**	**-0.7**
USRK	**Ussuriysk Arra** 2.6nm,0.7s,baz=183,slow=0.6,SNR=7.0	**53.69**	**29**	P	P	15 48 56.3	-3.6
KURBB	**Kurchatov Arra** 1.8nm,0.6s,baz=162,slow=7.1,SNR=30	**54.58**	**344**	P	**P**	**15 49 05.6**	**-0.7**
ZALV	**Zalesovo Beam** 1.9nm,0.2s,baz=181,slow=7.2,SNR=20	**56.23**	**350**	P	**P**	**15 49 16.7**	**-1.4**
BVAR	**Borovoye Array** 1.5nm,0.5s,baz=136,slow=8.7,SNR=20	**59.19**	**340**	P	**P**	**15 49 37.8**	**-1.1**
FINES	**FINESS Array B** 1.1nm,0.7s,baz=108,slow=6.2,SNR=9.1	**83.10**	**332**	P	**P**	**15 52 03.3**	**-0.1**
ARCES	**ARCESS Array B** 3.2nm,0.9s,baz=98,slow=5.7,SNR=5.6	**85.48**	**340**	P	**P**	**15 52 14.5**	**-0.9**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=270,slow=1.3,SNR=6.1	**144.37**	**36**	PKP	**PKPab**	**15 59 11.3**	**-1.7**

*IDC **03** 15:45:39.4±0.8, 16.°42N×122.°36E, h0km, mb3.8/13, mb1 3.9/13,mb1mx3.8/27,mbtmp3.8/13, Error ellipse: s-maj=40.9km s-min=17.2km az=70.0*

*ISCJB **03** 15:45:42.0±0.8, 16.°56N±0.°03×122.°63E±0.°05, h25km±6km, mb3.8/13, Error ellipse: s-maj=8.9km s-min=4.8km az=162.7*

*MAN **03** 15:45:42, 16.°55N×122.°62E, h15km, mb4.9, ML3.8, MS3.8*

ISC 03 15:45:41.9±2.0, 16.°53N±0.°04×122.°51E±0.°05, h13km±13km, n36, σ1§05/37, mb3.9/13, 6C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.54**	**351**	*eP*	**Pb**	**15 45 53.5**	**+0.2**
PALP				*eS*	**Sg**	**15 45 59.9**	**0.0**
CAUP	**Cauayan**	**0.78**	**302**	*eP*	**Pb**	**15 45 57.0**	**-0.4**
BALP	**Baler**	**1.19**	**229**	*eP*	**Pn**	**15 46 03.4**	**-0.9**
CVP	**Callao Caves**	**1.34**	**331**	*eP*	**Pn**	**15 46 05.8**	**-0.6**
CVP				*eS*	**Sb**	**15 46 24.9**	**+0.7**
APYP	**Conner**	**1.80**	**318**	*eP*	**Pn**	**15 46 12.8**	**+0.1**
BCPH	**Baguio City Da**	**1.86**	**266**	*↑iP*	**Pn**	**15 46 14.6**	**+1.0**
BCPH				*i S*	**Sb**	**15 46 40.0**	**+0.9**
ABRA	**Dolores**	**2.05**	**303**	*eP*	**Pn**	**15 46 16.1**	**0.0**
SIPP	**Brgy, Tapao**	**2.41**	**306**	*↑iP*	**Pn**	**15 46 22.4**	**+1.4**
SIPP				*eS*	**Sg**	**15 46 58.0**	**-1.4**
BOLP	**Bolinao**	**2.50**	**267**	*eP*	**Pn**	**15 46 25.0**	**+2.7**
PIP	**Pasuquin**	**2.54**	**315**	*↑iP*	**Pn**	**15 46 24.4**	**+1.5**
PIP				*eS*	**Pn**	**15 46 24.4**	**+1.5**
LQP	**Lukban**	**2.58**	**202**	*↓eP*	**Pn**	**15 46 23.1**	**-0.5**
GQP	**Guinayangan**	**2.61**	**181**	*↑eP*	**Pn**	**15 46 24.4**	**+0.6**
GQP				*eS*	**Sn**	**15 46 55.4**	**+0.1**
NBP	**Mount Natib**	**2.69**	**229**	*↑eP*	**Pn**	**15 46 25.9**	**+1.0**
NBP				*eS*	Sn	15 46 51.1	-6.3
BOAC	**Boac**	**3.12**	**192**	*eP*	**Pn**	**15 46 32.7**	**+2.0**
PVCP	**Virac**	**3.31**	**151**	*↑iP*	**Pn**	**15 46 33.6**	**+0.1**
PVCP				*eS*	**Sn**	**15 47 12.2**	**-0.5**
OTRP	**Odiongan**	**4.17**	**187**	*eP*	**Pn**	**15 46 46.7**	**+1.4**
CNP	**Catarman**	**4.50**	**152**	*eP*	**Pn**	**15 46 51.4**	**+1.6**
KSRS	**Korea Array** 1.4nm,0.7s,baz=198,slow=12,SNR=5.7	**21.39**	**12**	P	**P**	**15 50 29.8**	**+0.5**
SONM	**Songino Array** 0.9nm,0.6s,baz=156,slow=9.3,SNR=8.2	**33.93**	**340**	P	**P**	**15 52 24.6**	**-0.2**
WRA	**Warramunga Arr** 1.3nm,0.8s,baz=343,slow=9.4,SNR=5.1	**38.06**	**162**	P	**P**	**15 52 59.0**	**-1.4**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=350,slow=7.8,SNR=11	**41.47**	**164**	P	**P**	**15 53 28.1**	**-0.7**
H11S3	**WAKE ISLAND Hy 42.10** baz=276,slow=72,SNR=299	**81**		T	T	16 38 36.8	
H11S1	**WAKE ISLAND Hy 42.11** baz=276,slow=72,SNR=116	**81**		T	T	16 38 40.0	
H11S2	**WAKE ISLAND Hy 42.11** baz=276,slow=72,SNR=95	**81**		T	T	16 38 36.6	
H11N1	**WAKE ISLAND Hy 42.21** baz=276,slow=75,SNR=102	**79**		T	T	16 38 50.9	
H11N2	**WAKE ISLAND Hy 42.21** baz=276,slow=75,SNR=129	**79**		T	T	16 38 51.3	
H11N3	**WAKE ISLAND Hy 42.23** baz=276,slow=75,SNR=95	**79**		T	T	16 38 48.1	
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=112,slow=9.3,SNR=7.3	**44.88**	**321**	P	**P**	**15 53 56.1**	**0.0**
PETK	**Petropavlovsk-** 1.5nm,0.7s,baz=239,slow=8.1,SNR=1.4	**45.72**	**29**	P	**P**	**15 54 04.1**	**+1.4**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=125,slow=9.5,SNR=2.6	**47.42**	**331**	P	**P**	**15 54 15.7**	**-0.3**
KURBB	**Kurchatov Arra** 1.5nm,0.7s,baz=120,slow=8.5,SNR=17	**48.89**	**324**	P	**P**	**15 54 27.0**	**-0.3**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=113,slow=6.9,SNR=6.6	**54.48**	**324**	P	**P**	**15 55 09.0**	**-0.2**
ARCES	**ARCESS Array B** 1.6nm,0.8s,baz=59,slow=5.8,SNR=4.0	**77.09**	**339**	P	**P**	**15 57 34.5**	**-0.1**
FINES	**FINESS Array B** 3.4nm,1.0s,baz=51,slow=6.9,SNR=12	**78.68**	**331**	P	**P**	**15 57 42.8**	**-0.8**
NOA	**NORSAR Array B** 0.8nm,0.8s,baz=70,slow=9.9,SNR=1.9	**85.56**	**333**	P	**P**	**15 58 18.7**	**-1.1**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=293,slow=6.6,SNR=2.2	**89.51**	**23**	P	**P**	**15 58 38.7**	**0.0**

*KRNET **03** 15:58:45.5±0.1, 40.°84N×79.°16E, h3km, mb3.6*

*NNC **03** 15:58:49.7±3.0, 41.°11N×79.°07E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=28.9km s-min=11.5km az=162.0*

ISC 03 15:58:51.1±3.6, 40.°9N±0.°2×78.°9E±0.°1, h28km, n5, σ1§51/7, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo** baz=331	**2.07**	**333**	*i P*	**Pb**	**15 59 26.8**	**-1.3**
NRN	**Naryn** baz=285	**2.26**	**284**	*eP*	**Pb**	**15 59 30.0**	**-1.5**
TKM2	**Tokmak 2** 2.0nm,0.6s	**3.18**	**310**	*↑Pn*	**Pn**	**15 59 41.6**	**+2.2**
TKM2	10nm,0.6s			Lg	Lg	16 00 31.1	
AAK	**Ala-Archa** 2.2nm,0.6s	**3.72**	**299**	Pg	**Pb**	**15 59 55.9**	**-0.4**
AAK	11nm,0.8s			Lg	Lg	16 00 48.7	
MK31	**Makanchi Array** 0.2nm,0.4s,baz=202,slow=13,SNR=9.6	**6.34**	**21**	*↓Pn*	**Pn**	**16 00 22.4**	**-0.2**
MK31	1.2nm,0.9s			*↑Pg*	**Pb**	**16 00 40.9**	**+0.3**
MK31	0.4nm,0.5s,baz=203,slow=24			*↓Sn*	**Sn**	**16 01 33.7**	**-0.4**
MK31	1.0nm,0.6s			*↑Lg*	Lg	16 02 02.7	

WEL 03 16:01:31.9±0.2, 38.°83S×178.°37E, h40km±2km, ML4.1/17, 9C-9D, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.36**	**340**	*↑PN*	Pn	16 01 40.6	-0.2
PRGZ	**Paritu Road**	**0.39**	**256**	*↓PN*	Pn	16 01 40.7	-0.4
PRGZ				SN	Sn	16 01 48.2	+0.4
MHGZ	**Mahia Peninsul**	**0.48**	**228**	*↓PN*	Pn	16 01 42.5	+0.1
RIGZ	**Rimuhau**	**0.49**	**284**	*↑PN*	Pn	16 01 41.9	-0.6
RIGZ				SN	Sn	16 01 49.5	-0.5
KNZ	**Kokohu**	**0.57**	**250**	*↑PN*	Pn	16 01 43.1	-0.5
SNGZ	**Shannon Statio**	**0.80**	**273**	*↑PN*	Pn	16 01 46.3	-0.5
SNGZ				SN	Sn	16 01 57.1	-0.5
MWZ	**Matawai**	**0.82**	**307**	PN	Pn	16 01 46.4	-0.6
MWZ				SN	Sn	16 01 56.8	-1.2
MWZ				AML	AML	16 01 57.4	
MWZ				AML	AML	16 01 57.5	
MWZ				AML	AML	16 01 57.5	
WHHZ	**Waihua**	**0.92**	**254**	PN	Pn	16 01 48.2	-0.1
WHHZ				SN	Sn	16 02 01.2	+0.9
RAHZ	**Arahi**	**1.00**	**265**	*↑PN*	Pn	16 01 49.2	-0.3
RAHZ				SN	Sn	16 02 02.3	-0.1
URZ	**Urewera**	**1.14**	**300**	PN	Pn	16 01 50.8	-0.5
URZ				AML	AML	16 02 07.0	
URZ				AML	AML	16 02 08.0	
NMHZ	**Naumai**	**1.25**	**257**	PN	Pn	16 01 52.8	-0.1
MXZ	**Matakaoa Point**	**1.26**	**358**	*↓PN*	Pn	16 01 53.2	+0.2
MXZ				AML	AML	16 02 10.8	
MXZ				AML	AML	16 02 10.9	
MXZ				AML	AML	16 02 11.5	
MXZ				AML	AML	16 02 11.5	
CKHZ	**Cape Kidnapper**	**1.30**	**230**	*↓PN*	Pn	16 01 53.1	-0.4
MCHZ	**McNeill Hill**	**1.44**	**244**	PN	Pn	16 01 55.4	-0.1
EDRZ	**Edgecumbe**	**1.47**	**299**	*↑PN*	Pn	16 01 56.0	+0.1
BKZ	**Black Stump Fm**	**1.50**	**256**	*↓PN*	Pn	16 01 56.2	-0.2
BKZ				AML	AML	16 02 14.9	
BKZ				AML	AML	16 02 15.6	
KAHZ	**Kahuranaki**	**1.51**	**230**	PN	Pn	16 01 55.8	-0.6
RRRZ	**Republican Roa**	**1.53**	**288**	*↓PN*	Pn	16 01 56.6	-0.2
TARZ	**Mount Tarawera**	**1.58**	**291**	PN	Pn	16 01 57.6	+0.1
PRRZ	**Plateau Road**	**1.58**	**281**	*↓PN*	Pn	16 01 57.2	-0.2
ALRZ	**Allen Road**	**1.61**	**279**	PN	Pn	16 01 57.5	-0.3
PXZ	**Pawanui**	**1.68**	**224**	*↓PN*	Pn	16 01 57.4	-1.2
PXZ				AML	AML	16 02 19.3	
PXZ				AML	AML	16 02 19.3	
PXZ				AML	AML	16 02 19.7	
PXZ				AML	AML	16 02 19.8	
HRRZ	**Handcock Road**	**1.69**	**284**	PN	Pn	16 01 58.6	-0.4
OMRZ	**Omania**	**1.72**	**294**	PN	Pn	16 01 59.3	-0.1
OPRZ	**Ohinepanea**	**1.73**	**304**	*↑PN*	Pn	16 01 58.8	-0.6
LIRZ	**Lichensteins R**	**1.76**	**297**	PN	Pn	16 01 59.8	-0.1
KARZ	**Kaharoa**	**1.85**	**295**	PN	Pn	16 02 00.7	-0.5
BHHZ	**Black Hill Sta**	**1.91**	**249**	PN	Pn	16 02 01.5	-0.5
BHHZ				SN	Sn	16 02 22.9	-2.0
WPHZ	**Waipukurau**	**1.94**	**230**	PN	Pn	16 02 01.3	-1.0
RITZ	**Rihia Road**	**1.96**	**265**	*↑PN*	Pn	16 02 03.1	+0.4
PRHZ	**Porangahau**	**1.96**	**222**	PN	Pn	16 02 01.2	-1.5
TGRZ	**Tauranga**	**1.99**	**303**	PN	Pn	16 02 02.4	-0.6
PNHZ	**Pukenui**	**2.00**	**236**	PN	Pn	16 02 02.0	-1.2
KATZ	**Kakaramea**	**2.09**	**265**	PN	Pn	16 02 04.9	+0.3
MOVZ	**Moawhango**	**2.12**	**253**	PN	Pn	16 02 05.1	+0.3
OTVZ	**Oturere**	**2.13**	**260**	PN	Pn	16 02 05.4	+0.2
KRVZ	**Karewarewa**	**2.14**	**262**	PN	Pn	16 02 05.1	-0.2
WTVZ	**West Tongariro**	**2.19**	**262**	PN	Pn	16 02 05.9	0.0
ANWZ	**Angora Road**	**2.19**	**221**	PN	Pn	16 02 04.1	-1.6
WHVZ	**Whangaehu Hut**	**2.21**	**257**	PN	Pn	16 02 06.4	+0.1
WNVZ	**Wahianoa**	**2.21**	**256**	PN	Pn	16 02 06.5	+0.2
WPVZ	**Whakapapa**	**2.23**	**259**	PN	Pn	16 02 06.8	+0.3
COVZ	**Chateau Observ**	**2.23**	**260**	*↑PN*	Pn	16 02 06.7	+0.2
TSZ	**Takapari Road**	**2.23**	**236**	PN	Pn	16 02 05.0	-1.4
TSZ				AML	AML	16 02 32.0	
TSZ				AML	AML	16 02 32.3	
TRVZ	**Turoa**	**2.25**	**257**	PN	Pn	16 02 07.0	+0.2
DVHZ	**Dannevirke**	**2.25**	**228**	PN	Pn	16 02 05.1	-1.5
MTVZ	**Mangateitei**	**2.32**	**255**	PN	Pn	16 02 08.5	+0.9
BFZ	**Birch Farm**	**2.47**	**221**	PN	Pn	16 02 07.3	-2.3
TOZ	**Tahuroa Road**	**2.51**	**295**	PN	Pn	16 02 09.5	-0.5
PRWZ	**Pori Road**	**2.53**	**226**	PN	Pn	16 02 09.0	-1.4
POWZ	**Post Office Ro**	**2.54**	**231**	PN	Pn	16 02 09.7	-0.9
CPWZ	**Castlepoint**	**2.66**	**218**	PN	Pn	16 02 10.6	-1.6
TIWZ	**Tintock**	**2.73**	**224**	PN	Pn	16 02 11.3	-1.9
TIWZ				AML	AML	16 02 46.8	
TIWZ				AML	AML	16 02 47.0	
HIZ	**Hauiti**	**2.77**	**275**	PN	Pn	16 02 14.2	+0.5
WAZ	**Wanganui**	**2.78**	**249**	PN	Pn	16 02 14.5	+0.6
MRZ	**Mangatainoka R**	**2.82**	**229**	PN	Pn	16 02 12.7	-1.8
MRZ				AML	AML	16 02 45.7	
MRZ				AML	AML	16 02 45.8	
VRZ	**Vera Road**	**2.83**	**263**	*↓PN*	Pn	16 02 15.0	+0.5
KUZ	**Kuaotunu**	**2.95**	**314**	PN	Pn	16 02 14.9	-1.3
TMWZ	**Te Maipa**	**2.97**	**219**	PN	Pn	16 02 13.6	-2.9
HOWZ	**Holdsworth Sta**	**3.02**	**226**	PN	Pn	16 02 14.4	-2.8
MKAZ	**Moumakai**	**3.06**	**303**	PN	Pn	16 02 17.3	-0.3
MHEZ	**Mangahewa**	**3.16**	**264**	PN	Pn	16 02 20.8	+1.7
OGWZ	**Otaki Gorge**	**3.16**	**230**	PN	Pn	16 02 16.8	-2.3
MTW	**Mount Morrison**	**3.20**	**222**	PN	Pn	16 02 16.7	-3.0
MTW				AML	AML	16 02 55.9	
MTW				AML	AML	16 02 56.5	
TRWZ	**Traveller**	**3.29**	**218**	PN	Pn	16 02 17.6	-3.3
TRWZ				AML	AML	16 02 56.5	
TRWZ				AML	AML	16 02 56.6	
KIW	**Kapiti Island**	**3.35**	**232**	PN	Pn	16 02 19.8	-1.9
KIW				AML	AML	16 02 58.6	
KIW				AML	AML	16 02 59.2	
PAWZ	**Paruwai Farm**	**3.41**	**221**	PN	Pn	16 02 19.3	-3.1
PAWZ				AML	AML	16 02 59.3	
PAWZ				AML	AML	16 03 01.1	
CAW	**Cannon Point**	**3.41**	**227**	PN	Pn	16 02 20.2	-2.3
CAW				AML	AML	16 02 59.8	
CAW				AML	AML	16 03 00.2	
PKE	**Pukeiti**	**3.43**	**263**	PN	Pn	16 02 24.7	+1.8
MSWZ	**Moikau Station**	**3.52**	**222**	PN	Pn	16 02 20.6	-3.4
MSWZ				AML	AML	16 03 02.6	
MSWZ				AML	AML	16 03 05.3	
PLWZ	**Palliser**	**3.63**	**220**	PN	Pn	16 02 21.8	-3.8
WEL	**Wellington**	**3.69**	**227**	PN	Pn	16 02 23.9	-2.5
SNZO	**South Karori**	**3.75**	**227**	PN	Pn	16 02 24.3	-2.8
SNZO				AML	AML	16 03 07.1	
SNZO				AML	AML	16 03 07.3	
TCW	**Tory Channel**	**3.94**	**232**	PN	Pn	16 02 26.9	-2.9
TCW				AML	AML	16 03 14.6	
TCW				AML	AML	16 03 15.3	
DUWZ	**D'Urville Isla**	**3.95**	**239**	PN	Pn	16 02 27.5	-2.5
TUWZ	**Tuamarina**	**4.27**	**231**	PN	Pn	16 02 31.0	-3.3
TUWZ				AML	AML	16 03 21.6	
TUWZ				AML	AML	16 03 24.2	
BSWZ	**Blackbirch Sta**	**4.49**	**229**	PN	Pn	16 02 34.1	-3.2
NNZ	**Nelson**	**4.51**	**236**	PN	Pn	16 02 34.8	-2.8
QRZ	**Quartz Range**	**4.92**	**244**	PN	Pn	16 02 40.3	-3.0
THZ	**Tophouse**	**5.10**	**233**	PN	Pn	16 02 42.4	-3.5
DSZ	**Denniston Nort**	**5.80**	**238**	PN	Pn	16 02 52.3	-3.2
LTZ	**Lake Taylor**	**6.08**	**228**	PN	Pn	16 02 56.0	-3.3
CTZ	**Chatham Island**	**6.19**	**144**	PN	Pn	16 03 01.6	+0.9
CRLZ	**Canterbury Las**	**6.42**	**221**	PN	Pn	16 03 00.2	-3.7
MQZ	**McQueen's Vall**	**6.50**	**220**	PN	Pn	16 03 00.2	-4.8
OXZ	**Oxford**	**6.56**	**225**	PN	Pn	16 03 01.8	-4.0
LBZ	**Lake Benmore**	**8.27**	**225**	PN	Pn	16 03 25.1	-4.1
ODZ	**Otahua Downs**	**8.46**	**220**	PN	Pn	16 03 27.5	-4.4
TUZ	**Tuapeka**	**9.61**	**219**	PN	Pn	16 03 43.9	-3.7
SYZ	**Scrubby Hill**	**10.27**	**218**	PN	Pn	16 03 53.5	-3.0

*IDC **03** 16:07:02.9±0.7, 8.°73S×157.°36E, h0km, mb4.1/12, mb1 4.3/12,mb1mx4.2/18,mbtmp4.1/12, MS3.8/7, Ms1 3.8/7,ms1mx3.4/24, Error ellipse: s-maj=19.9km s-min=14.1km az=10.0*

ISC 03 16:07:04.7±0.6, 8.°9S±0.°1×157.°50E±0.°07, h17km, n21, σ1§46/17, mb4.1/12, MS3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 23nm,0.3s,baz=232,slow=3.4,SNR=43	**2.47**	**103**	Pn	**Pn**	**16 07 42.9**	**-1.4**
HNR	108nm,0.3s,baz=240,slow=5.0,SNR=30			Pg	**Pg**	**16 07 51.5**	**-0.8**
HNR	comp=Z,1μm,18.9s,baz=246,slow=26			LR	LR	16 08 10.8	
HNR	281nm,0.3s,baz=166,slow=23,SNR=10			Lg	Lg	16 08 27.7	
HNR	**Honiara**	**2.47**	**103**	*eP*	**Pn**	**16 07 42.0**	**-2.3**
HNR				*i S*	**Sg**	**16 08 26.6**	**+2.2**
CTA	**Charters Tower** 0.2nm,0.3s,baz=61,slow=12,SNR=4.3	**15.56**	**223**	Pn	**P**	**16 10 46.7**	**-1.0**
DZM	**Mont Dzumac** comp=Z,223nm,18.2s,baz=14,slow=34	**15.67**	**148**	LR	LR	16 16 08.9	
WRA	**Warramunga Arr** 4.2nm,0.9s,baz=66,slow=9.4,SNR=12	**24.94**	**241**	P	**P**	**16 12 27.7**	**+0.2**
WRA				LR	LR	16 21 11.8	
ASAR	**Alice Springs** 0.2nm,0.5s,baz=22,slow=9.7,SNR=4.6	**26.93**	**234**	P	**P**	**16 12 44.8**	**-0.7**
ASAR	comp=Z,201nm,18.3s,baz=337,slow=37			LR	LR	16 23 40.0	
STKA	**Stephens Creek** 3.8nm,0.7s,baz=26,slow=12,SNR=9.1	**27.23**	**211**	P	**P**	**16 12 50.4**	**+2.4**
STKA	comp=Z,172nm,18.0s,baz=27,slow=39			LR	LR	16 24 35.9	
H11S3	**WAKE ISLAND Hy 28.68** baz=198	**18**		T	T	16 41 36.6	
H11S2	**WAKE ISLAND Hy 28.68** baz=198,slow=75,SNR=13	**18**		T	T	16 41 33.1	
H11S1	**WAKE ISLAND Hy 28.70** baz=198,slow=75,SNR=9.4	**18**		T	T	16 41 33.9	
PPT	**Papeete** comp=Z,121nm,19.5s,baz=17,slow=32	**52.09**	**105**	LR	LR	16 35 03.6	
KSRS	**Korea Array** 1.5nm,0.8s,baz=147,slow=7.7,SNR=6.2	**53.78**	**331**	P	**P**	**16 16 25.9**	**-0.5**
PETK	**Petropavlovsk-** 4.3nm,1.0s,baz=188,slow=8.7,SNR=2.4	**61.76**	**0**	P	**P**	**16 17 23.3**	**+1.1**
CMAR	**Chiang Mai Arr** 1.0nm,0.8s,baz=114,slow=6.1,SNR=8.1	**63.84**	**296**	P	**P**	**16 17 36.8**	**0.0**
CMAR	comp=Z,50nm,18.1s,baz=117,slow=34			LR	LR	16 43 05.6	
SONM	**Songino Array** 2.0nm,1.1s,baz=129,slow=5.6,SNR=8.7	**72.27**	**327**	P	**P**	**16 18 30.0**	**+0.7**
ILAR	**Eielson Array** 0.5nm,0.5s,baz=247,slow=5.4,SNR=12	**84.23**	**21**	P	**P**	**16 19 33.8**	**-1.3**
MKAR	**Makanchi Array** 1.6nm,0.6s,baz=98,slow=5.6,SNR=31	**86.46**	**318**	P	**P**	**16 19 46.8**	**+0.1**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=116,slow=5.4,SNR=4.3	**87.13**	**326**	P	**P**	**16 19 47.9**	**-1.8**
NVAR	**Mina Array Bea** 1.4nm,0.9s,baz=251,slow=7.2,SNR=8.4	**90.95**	**51**	P	**P**	**16 20 10.0**	**+1.6**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=259,slow=4.3,SNR=4.7	**96.84**	**28**	P	**P**	**16 20 35.1**	**+0.6**
BDFB	**Brasilia** 7.1nm,0.7s,baz=305,slow=2.0,SNR=10	**144.89**	**134**	PKPbc	PKPbc	16 26 41.3	+0.1

IDC 03 16:15:52.7±1.9, 13.°08S×166.°07E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML4.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=46.8km s-min=33.2km az=149.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 5.9nm,0.3s,baz=181,slow=8.3,SNR=7.0	**7.02**	**300**	Pn	**Pn**	**16 17 38.1**	**+1.3**
HNR	1.8nm,0.3s,baz=41,slow=20,SNR=2.6			Sn	Sn	16 18 58.3	+0.8
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=77,slow=8.7,SNR=2.8	**31.14**	**253**	P	P	16 22 13.3	-0.2
ASAR	**Alice Springs** 1

	0.2nm,0.5s,baz=90,slow=3.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.12 315**	P	**P**	**16 31 59.2**	**+1.6**
	0.4nm,0.5s,baz=101,slow=6.0,SNR=2.6						
ZALV			PcP	**PcP**	**16 33 45.8**	**-0.7**
	1.0nm,0.5s,baz=91,slow=4.3,SNR=4.8						
MKAR	**Makanchi Array**	**44.83 304**	P	**P**	**16 32 11.5**	**+0.1**
	0.3nm,0.5s,baz=86,slow=9.2,SNR=5.8						
ILAR	**Eielson Array**	**52.35 31**	P	**P**	**16 33 09.6**	**+0.7**
	0.7nm,1.1s,baz=269,slow=6.6,SNR=6.4						
WRA	**Warramunga Arr**	**54.19 187**	P	**P**	**16 33 21.5**	**-1.3**
	5.4nm,0.7s,baz=5.4,slow=7.7,SNR=29						
ASAR	**Alice Springs**	**57.92 187**	P	**P**	**16 33 48.0**	**-1.4**
	1.1nm,0.5s,baz=21,slow=11,SNR=42						
YKA	**Yellowknife Ar**	**66.69 29**	P	**P**	**16 34 48.4**	**+0.8**
	0.1nm,0.5s,baz=301,slow=7.2,SNR=2.8						
AKASG	**Malin Array Be**	**75.90 322**	P	**P**	**16 35 42.3**	**-1.1**
	0.3nm,0.4s,baz=49,slow=5.7,SNR=7.0						
NVAR	**Mina Array Bea**	**77.43 52**	P	**P**	**16 35 54.1**	**+1.5**
	0.1nm,0.4s,baz=302,slow=7.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**118.56 313**	PKP	**PKPdf**	**16 42 43.4**	**-1.8**
	0.2nm,0.4s,baz=45,slow=2.2,SNR=3.0						

WEL 03 16:37:26.4±0.3, 39°10S×174°78E, h198km±2km, ML3.7/11, 3C-5D, Error ellipse: s-maj=3.7km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.68**	**167**	⇑PN	Pn	16 37 55.1	+1.1
MOVZ	**Moawhango**	**0.82**	**113**	PN	Pn	16 37 54.8	0.0
MOVZ				SN	Sn	16 38 16.0	-0.8
BHHZ	**Black Hill Sta**	**1.07**	**112**	PN	Pn	16 37 56.3	-0.2
BHHZ				SN	Sn	16 38 18.4	-1.4
TSZ	**Takapari Road**	**1.33**	**137**	PN	Pn	16 37 58.1	-0.3
TSZ				SN	Sn	16 38 23.0	-0.3
TSZ				AML	AML	16 38 24.1	
BKZ	**Black Stump Fm**	**1.33**	**94** ⇓PN		Pn	16 37 57.8	-0.7
BKZ				AML	AML	16 38 21.9	
BKZ				AML	AML	16 38 22.0	
PNHZ	**Pukenui**	**1.37**	**127**	PN	Pn	16 37 59.0	+0.2
POWZ	**Post Office Ro**	**1.50**	**150**	PN	Pn	16 37 59.8	0.0
MCHZ	**McNeill Hill**	**1.53**	**104**	PN	Pn	16 38 00.4	+0.3
WPHZ	**Waipukurau**	**1.61**	**128**	PN	Pn	16 38 00.8	0.0
WPHZ				SN	Sn	16 38 27.0	-0.7
DVHZ	**Dannevirke**	**1.61**	**139**	PN	Pn	16 37 58.5	-2.4
MRZ	**Mangatainoka R**	**1.68**	**159**	PN	Pn	16 38 01.2	-0.3
MRZ				AML	AML	16 38 28.4	
MRZ				AML	AML	16 38 28.6	
OGWZ	**Otaki Gorge**	**1.75**	**170**	PN	Pn	16 38 02.2	+0.1
OGWZ				SN	Sn	16 38 29.3	-0.8
KAHZ	**Kahuranaki**	**1.77**	**114** ⇓PN		Pn	16 38 02.4	0.0
KIW	**Kapiti Island**	**1.77**	**177** ⇑PN		Pn	16 38 02.2	-0.1
KIW				AML	AML	16 38 30.7	
KIW				AML	AML	16 38 32.0	
DUWZ	**D'Urville Isla**	**1.83**	**201**	PN	Pn	16 38 03.0	0.0
PRHZ	**Porangahau**	**1.85**	**130**	PN	Pn	16 38 02.9	-0.2
PXZ	**Pawanui**	**1.86**	**121** ⇓PN		Pn	16 38 02.8	-0.4
PXZ				AML	AML	16 38 31.3	
PXZ				AML	AML	16 38 33.7	
CKHZ	**Cape Kidnapper**	**1.87**	**108**	PN	Pn	16 38 03.1	-0.2
ANWZ	**Angora Road**	**1.89**	**137**	PN	Pn	16 38 06.2	+2.7
WHHZ	**Waihua**	**1.91**	**90**	PN	Pn	16 38 03.0	-0.8
URZ	**Urewera**	**2.00**	**66** ⇓PN		Pn	16 38 02.5	-2.3
SNGZ	**Shannon Statio**	**2.02**	**82**	PN	Pn	16 38 03.7	-1.2
CAW	**Cannon Point**	**2.02**	**174**	PN	Pn	16 38 04.5	-0.4
CAW				AML	AML	16 38 34.8	
CAW				AML	AML	16 38 37.3	
MTW	**Mount Morrison**	**2.13**	**165**	PN	Pn	16 38 05.2	-0.9
TCW	**Tory Channel**	**2.15**	**190** ⇑PN		Pn	16 38 06.1	-0.1
TCW				AML	AML	16 38 38.7	
TCW				AML	AML	16 38 39.2	
WEL	**Wellington**	**2.19**	**180**	PN	Pn	16 38 05.9	-0.7
SNZO	**South Karori**	**2.21**	**181**	PN	Pn	16 38 06.2	-0.7
SNZO				AML	AML	16 38 38.6	
SNZO				AML	AML	16 38 39.4	
KNZ	**Kokohu**	**2.25**	**89** ⇓PN		Pn	16 38 05.9	-1.4
MWZ	**Matawai**	**2.28**	**71**	PN	Pn	16 38 05.6	-2.2
MWZ				AML	AML	16 38 38.7	
MWZ				AML	AML	16 38 38.8	
MSWZ	**Moikau Station**	**2.34**	**171**	PN	Pn	16 38 07.5	-0.9
MSWZ				AML	AML	16 38 41.4	
RIGZ	**Rimuhau**	**2.36**	**81**	PN	Pn	16 38 07.0	-1.6
NNZ	**Nelson**	**2.38**	**206**	PN	Pn	16 38 07.8	-0.9
TUWZ	**Tuamarina**	**2.42**	**195**	PN	Pn	16 38 08.7	-0.5
TUWZ				AML	AML	16 38 42.7	
TUWZ				AML	AML	16 38 44.1	
MHGZ	**Mahia Peninsul**	**2.43**	**92**	PN	Pn	16 38 08.2	-1.2
QRZ	**Quartz Range**	**2.45**	**224**	PN	Pn	16 38 08.3	-1.2
PLWZ	**Palliser**	**2.50**	**172**	PN	Pn	16 38 08.9	-1.2
BSWZ	**Blackbirch Sta**	**2.71**	**195**	PN	Pn	16 38 12.1	-0.4
THZ	**Tophouse**	**3.02**	**208**	PN	Pn	16 38 14.9	-1.3
DSZ	**Dennison Nort**	**3.49**	**220**	PN	Pn	16 38 19.8	-1.9
LTZ	**Lake Taylor**	**4.14**	**207**	PN	Pn	16 38 28.0	-1.9
OXZ	**Oxford**	**4.71**	**205**	PN	Pn	16 38 34.0	-2.9
CRLZ	**Canterbury Las**	**4.76**	**199**	PN	Pn	16 38 34.4	-3.2
MQZ	**McQueen's Vall**	**4.88**	**198**	PN	Pn	16 38 35.7	-3.4

*IDC **03** 17:00:31.5±35.0, 7°88N×125°54E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.5/3, MS4.0/2, Ms1 4.0/2, ms1mx3.0/26, Error ellipse: s-maj=607.6km s-min=117.2km az=159.0*

*ISCJB **03** 17:00:53.1±0.9, 6°5N±0°1×126°0E±0°1, h97km, mb3.4/4, Error ellipse: s-maj=24.4km s-min=8.0km az=144.7*

*MAN **03** 17:00:54, 6°82N×126°00E, h1km, mb4.6, ML3.5, MS3.5*

ISC 03 17:00:54.3±1.1, 6°5N±0°1×126°0E±0°1, h97km, n11, σ1§74/10, mb3.5/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.49**	**36**	*eP*	Pn	17 01 00.3	-9.5
KCP	**Kidapawan**	**0.99**	**298** ⇓	*iP*	**Pn**	**17 01 13.2**	**-1.2**
KCP				*iS*	**Sn**	**17 01 20.0**	**-0.5**
BUKP	**Musuan**	**1.60**	**326**	*eP*	**Pn**	**17 01 20.6**	**-1.1**
BUKP				*eS*	**Sn**	**17 01 40.9**	**-1.6**
BUTP	**Butuan**	**2.43**	**352**	*eP*	**Pn**	**17 01 34.2**	**+1.8**
PAGZ	**Pagadian**	**2.87**	**297**	*eP*	**Pn**	**17 01 41.3**	**+3.0**
FITZ	**Fitzroy Crossi**	**24.49**	**181**	P	**P**	**17 06 05.5**	**+0.9**
	2.3nm,0.8s,baz=350,slow=12,SNR=3.6						
PMG	**Port Moresby**	**26.40**	**127**	LR	LR	17 17 19.1	
	comp=Z,395nm,19.5s,baz=117,slow=37						
WRA	**Warramunga Arr**	**27.58**	**163**	P	**P**	**17 06 33.6**	**+1.2**
	0.3nm,0.8s,baz=342,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**31.01**	**166**	P	**P**	**17 07 01.8**	**-1.1**
	0.3nm,0.5s,baz=341,slow=7.4,SNR=9.6						
HNR	**Honiara**	**37.39**	**115**	LR	LR	17 22 53.1	
	comp=Z,151nm,19.1s,baz=334,slow=35						
STKA	**Stephens Creek**	**41.01**	**160**	P	**P**	**17 08 27.9**	**-0.1**
	0.9nm,0.7s,baz=315,slow=10.0,SNR=2.5						

*IDC **03** 17:07:32.0±0.8, 1°86S×138°95E, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, ML4.5/2, MS3.7/5, Ms1 3.8/5, ms1mx3.2/33, Error ellipse: s-maj=28.7km s-min=14.6km az=72.0*

*BJI **03** 17:07:32.5, 1°80S×139°00E, h20km, mB5.0/3, mb4.4/9*

*ISCJB **03** 17:07:34.7±0.3, 1°89S±0°04×139°04E±0°04, h29km, mb4.4/14, MS3.7/4, Error ellipse: s-maj=6.1km s-min=4.8km az=33.7*

*DJA **03** 17:07:36.6±0.6, 2°S±9°×13°9E±°, h10km, M4.7/15, mB5.1/4, mb4.8/15, MLv4.8/4, Mw(mB)4.5/4*

ISC 03 17:07:36.2±0.5, 1°85S±0°06×139°02E±0°04, h29km, n65, σ1§74/60, mb4.4/13, MS3.9/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.36**	**123**	P	**Pn**	**17 07 58.3**	**-1.0**
GENI				S	**Sb**	**17 08 20.6**	**+2.4**
JAY	**Jayapura**	**1.81**	**112**	P	**Pn**	**17 08 03.0**	**-2.5**
	baz=1.8,SNR=77						
JAY				S	**Sn**	**17 08 26.5**	**-1.0**
	baz=1.8,SNR=5.2						
SRPI	**Serui, Papua**	**2.78**	**269**	P	**Pn**	**17 08 18.8**	**0.0**
SRPI				S	**Sb**	**17 08 56.9**	**-2.0**
BAKI	**Biak**	**2.98**	**283**	P	**Pn**	**17 08 20.3**	**-1.3**
MWPI	**Manokwari, Pap**	**5.06**	**280**	P	x	17 08 50.8	
	227nm,0.7s,3µm1.0nm						
FAKI	**Fak Fak**	**6.85**	**261**	P	**Pn**	**17 09 16.3**	**+1.5**
	60nm,0.8s,0.2nm						

PMG	**Port Moresby**	**11.04**	**133**	Pn	**Pn**	**17 10 13.8**	**+1.5**
	0.6nm,0.3s,baz=236,slow=22,SNR=4.2						
KDU	**Kakadu**	**12.57**	**211**	S	**Sn**	**17 12 52.5**	**0.0**
	baz=12,SNR=3.5						
MTN	**Manton Dam**	**13.43**	**215**	P	**Pn**	**17 10 45.3**	**+0.2**
	baz=13,SNR=36						
SOEI	**Soe**	**16.64**	**241**	P	**P**	**17 11 30.1**	**+0.2**
	111nm,1.1s						
SOEI	**Soe**	**16.64**	**241**	P	**P**	**17 11 32.0**	**+2.1**
	baz=17,SNR=5.3						
KNRA	**Kununurra**	**17.06**	**216**	S	**Sn**	**17 14 39.0**	**-2.8**
	baz=17,SNR=3.7						
MRSI	**Marisa**	**17.23**	**278**	P	**P**	**17 11 37.8**	**+1.5**
	18nm,1.0s						
APSI	**Ampana**	**17.39**	**273**	P	**P**	**17 11 38.5**	**+0.4**
	42nm,1.1s,444nm						
KKSI	**Kolaka, Sulawe**	**17.50**	**262**	P	x	17 11 41.1	
	23nm,0.9s,1µm						
WRA	**Warramunga Arr**	**18.56**	**194**	P	**P**	**17 11 49.0**	**-1.9**
	2.4nm,0.3s,baz=18,slow=12,SNR=42						
WRA				S	Sn	17 15 07.8	-10
	0.3nm,0.3s,baz=8.9,slow=21,SNR=5.1						
QIS	**Mount Isa**	**18.61**	**178**	P	**Pn**	**17 11 51.9**	**0.0**
	baz=19,SNR=5.5						
BNSI	**Bone**	**19.05**	**262**	P	**Pn**	**17 12 00.5**	**+3.2**
	28nm,1.2s						
TTSI	**Tana Toraja**	**19.22**	**266**	P	**Pn**	**17 12 02.6**	**+3.3**
	20nm,1.7s,855nm						
CTA	**Charters Tower**	**19.46**	**159**	P	**Pn**	**17 12 02.0**	**-0.1**
	0.4nm,0.3s,baz=324,slow=10,SNR=6.3						
CTA				LR	LR	17 20 00.0	
	comp=Z,249nm,19.9s,baz=339,slow=38						
MMSI	**Mamuju**	**20.11**	**267**	P	x	17 12 08.9	
	31nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.82**	**218**	P	**P**	**17 12 15.7**	**+0.1**
	6.4nm,0.9s,baz=237,slow=7.0,SNR=3.1						
FITZ				S	**S**	**17 16 00.5**	**-6.1**
	6.9nm,0.8s,baz=147,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.25**	**192**	P	**P**	**17 12 30.1**	**-0.8**
	13nm,0.8s,baz=17,slow=11,SNR=106						
ASAR				S	**S**	**17 16 33.1**	**-1.3**
	2.5nm,0.8s,baz=14,slow=24,SNR=8.0						
MTNI	**Mataram**	**23.72**	**253**	P	x	17 12 46.8	
	59nm,1.0s						
BBKI	**Banjar Baru**	**24.21**	**266**	P	**P**	**17 12 52.3**	**+1.6**
	109nm,1.0s						
WRKA	**Warakurna**	**25.27**	**203**	P	**P**	**17 12 59.4**	**-0.9**
	baz=25,SNR=16						
KMMI	**Kalianget**	**25.50**	**258**	P	**P**	**17 13 04.3**	**+1.9**
	86nm,1.0s						
EIDS	**Eidsvold**	**26.12**	**155**	P	**P**	**17 13 10.3**	**+2.5**
	baz=26,SNR=5.5						
RMQ	**Roma**	**26.23**	**160**	P	**P**	**17 13 11.9**	**+3.1**
	baz=26,SNR=9.8						
STKA	**Stephens Creek**	**29.97**	**176**	P	**P**	**17 13 42.6**	**+0.4**
	2.5nm,0.6s,baz=326,slow=8.6,SNR=7.2						
STKA				LR	LR	17 26 54.5	
	comp=Z,251nm,20.1s,baz=189,slow=39						
HTT	**Hallett**	**31.42**	**180**	P	**P**	**17 13 56.1**	**+1.1**
	baz=32,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**33.90**	**52**	T	T	17 49 55.0	
	baz=236,slow=75,SNR=271						
H11S2	**WAKE ISLAND Hy**	**33.92**	**52**	T	T	17 49 55.8	
	baz=236,slow=75,SNR=233						
H11S1	**WAKE ISLAND Hy**	**33.92**	**52**	T	T	17 49 57.7	
	baz=236,slow=75,SNR=220						
H11N1	**WAKE ISLAND Hy**	**34.75**	**51**	T	T	17 51 05.8	
	baz=232,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**34.76**	**51**	T	T	17 51 11.9	
	baz=232,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**34.76**	**51**	T	T	17 51 06.4	
	baz=232,slow=75,SNR=15						
MORW	**Morawa**	**34.82**	**217**	P	**P**	**17 14 24.5**	**-0.2**
	baz=35,SNR=3.2						
KLBR	**Kellerberrin**	**35.76**	**212**	P	**P**	**17 14 32.5**	**-0.3**
	baz=36,SNR=5.5						
NWAO	**Narrogin (SRO)**	**37.07**	**211**	LR	LR	17 31 22.6	
	comp=Z,219nm,19.3s,baz=248,slow=39						
PSI	**Prapat**	**40.35**	**276**	P	**P**	**17 15 11.2**	**-0.8**
	14nm,0.8s,baz=201,slow=2.3,SNR=4.2						
PSI	**Prapat**	**40.35**	**276**	P	**P**	**17 15 12.0**	**+0.1**
	baz=40,SNR=3.9						
CMAR	**Chiang Mai Arr**	**44.29**	**299**	P	**P**	**17 15 44.0**	**+0.2**
	2.9nm,0.9s,baz=120,slow=6.4,SNR=19						
CMAR				LR	LR	17 34 07.4	
	comp=Z,18nm,20.1s,baz=120,slow=36						
GTA	**Gaotai**	**54.57**	**323**	*eP*	**P**	**17 17 02.6**	**+0.5**
GTA				pP	**pP**	**17 17 07.4**	**-3.6**
GTA				sP	**sP**	**17 17 09.7**	**-4.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**57.08**	**334**	P	**P**	**17 17 20.8**	**+0.9**
	0.5nm,0.6s,baz=152,slow=6.8,SNR=5.4						
TAPN	**Taplejung**	**57.24**	**304**	*eP*	**P**	**17 17 22.2**	**+0.5**
	7.3nm,0.8s						
ODAN	**Odare**	**57.33**	**304**	*eP*	**P**	**17 17 22.7**	**+0.4**
	16nm,0.9s						
RAMN	**Ramite**	**58.02**	**303**	*eP*	**P**	**17 17 27.7**	**+0.6**
	11nm,0.7s						
JIRN	**Jiri**	**58.61**	**304**	*eP*	**P**	**17 17 31.9**	**+0.5**
GUN	**Gumba**	**58.96**	**304**	*eP*	**P**	**17 17 34.4**	**+0.6**
	14nm,0.8s						
PKI	**Pulchoki**	**59.23**	**304**	*eP*	**P**	**17 17 35.7**	**0.0**
KKN	**Kakani**	**59.41**	**304**	*eP*	**P**	**17 17 37.1**	**+0.3**
	15nm,0.8s						
DMN	**Daman**	**59.49**	**304**	*eP*	**P**	**17 17 37.9**	**+0.5**
GKN	**Gorkha**	**60.02**	**304**	*eP*	**P**	**17 17 41.3**	**+0.4**
	19nm,0.7s						
KOLN	**Koldanda**	**60.80**	**303**	*eP*	**P**	**17 17 46.8**	**+0.5**
	12nm,0.8s						
DANN	**Dangsing**	**60.87**	**304**	*eP*	**P**	**17 17 47.2**	**+0.4**
	13nm,0.7s						
PYUN	**Piuthan**	**61.42**	**303**	*eP*	**P**	**17 17 50.9**	**+0.4**
	54nm,0.9s						
MKAR	**Makanchi Array**	**69.30**	**322**	P	**P**	**17 18 41.9**	**+0.9**
	2.5nm,0.7s,baz=111,slow=7.6,SNR=28						
ZALV	**Zalesovo Beam**	**71.35**	**330**	P	**P**	**17 18 53.0**	**-0.2**
	1.0nm,0.6s,baz=105,slow=5.5,SNR=7.6						
VNDA	**Vanda**	**76.61**	**175**	P	**P**	**17 19 23.8**	**+0.1**
	2.1nm,0.5s,baz=348,slow=8.2,SNR=11						
VNDA				LR	LR	17 52 53.7	
	comp=Z,97nm,19.5s,baz=247,slow=36						
MAW	**Mawson**	**83.04**	**202**	P	**P**	**17 19 57.3**	**-1.3**
	2.8nm,0.7s,baz=156,slow=5.4,SNR=5.7						
ILAR	**Eielson Array**	**84.92**	**24**	P	**P**	**17 20 07.5**	**-0.8**
	2.0nm,1.1s,baz=278,slow=5.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**136.31**	**287**	PKP	**PKPdf**	**17 26 55.5**	**-0.6**
	0.4nm,0.6s,baz=48,slow=2.2,SNR=3.2						
DBIC	**Dimbokro**	**143.67**	**279**	PKP	PKPbc	17 27 07.3	+0.2
	0.2nm,0.6s,baz=70,slow=6.3,SNR=5.0						
LPAZ	**La Paz**	**147.69**	**125**	PKPbc	**PKPbc**	**17 27 21.1**	**+1.2**
	1.8nm,0.8s,baz=241,slow=3.0,SNR=6.7						

*ISCJB **03** 17:14:57.4±1.5, 12°66N±0°07×89°12W±0°05, h16km±9km, mb3.1/3, Error ellipse: s-maj=13.4km s-min=6.2km az=31.2*

*IDC **03** 17:14:59.3±2.0, 13°81N×88°27W, h0km, mb3.1/3, mb1 3.5/5, mb1mx3.4/24, mbtmp3.1/5, ML2.7/2, Error ellipse: s-maj=72.8km s-min=25.9km az=38.0*

*CASC **03** 17:15:00.2±2.1, 12°81N×89°09W, h28km±6km, MD3.4, ML3.5*

ISC 03 17:14:59.6±1.7, 12°81N±0°07×89°10W±0°05, h24km±13km, n17, σ1§40/28, mb3.2/3, 3C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.81**	**3**	⇓*iP*	**Pb**	**17 15 15.3**	**+0.1**
SNVI	**San Vicente**	**0.84**	**18**	⇓*iP*	**Pn**	**17 15 15.5**	**-0.7**
SNVI				*eS*	**Sn**	**17 15 30.1**	**+2.2**
SNET	**Serv Nac Est T**	**0.89**	**352**	*iP*	**Pn**	**17 15 16.5**	**-0.2**
SNET				*eS*	**Sn**	**17 15 28.6**	**-0.2**
SNET				AML	AML	17 15 33.1	
	comp=Z,1µm,0.4s						
LFU	**La Fuente**	**0.94**	**359**	⇓*iP*	**Pn**	**17 15 17.4**	**+0.1**
LFU				*eS*	**Sn**	**17 15 30.6**	**+0.5**
BOQS	**Boqueron**	**0.94**	**349**	⇑*iP*	**Pn**	**17 15 17.6**	**+0.1**
BOQS				*eS*	**Sb**	**17 15 30.2**	**+0.7**
VSM	**San Miguel**	**1.02**	**52**	*iP*	**Pn**	**17 15 18.3**	**-0.4**
SBLS	**San Blas**	**1.15**	**334**	⇓*iP*	**Pn**	**17 15 20.7**	**+0.3**
SBLS				*eS*	**Sb**	**17 15 37.6**	**+2.1**
SNJE	**San Jose**	**1.16**	**335**	⇓*iP*	**Pn**	**17 15 20.9**	**+0.3**
SNJE				*eS*	**Sn**	**17 15 35.7**	**-0.1**
RTR	**El Retiro**	**1.21**	**334**	⇑*iP*	**Pn**	**17 15 21.7**	**+0.5**
RTR				*eS*	**Sn**	**17 15 37.0**	**+0.1**

CNCH	**Conchagua**	**1.32**	**69** ⇑	*iP*	**Pn**	**17 15 22.1**	**-0.7**
CNCH				*eS*	**Sb**	**17 15 40.3**	**-0.2**
IXG	**Ixpaco**	**1.89**	**316**	*eP*	**Pn**	**17 15 31.3**	**+0.7**
IXG				*eP*	**Pb**	**17 15 32.1**	**-1.5**
MRL	**Marmol**	**2.32**	**346**	*eP*	**Pn**	**17 15 38.8**	**+2.3**
APG	**El Apazote**	**2.55**	**329**	Pn	**Pn**	**17 15 39.2**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=11,slow=22,SNR=5.5						
APG				Sn	**Sb**	**17 16 13.9**	**-2.1**
	comp=Z,1.9nm,0.3s,baz=268,slow=17,SNR=2.5						
JTS	**JuntasAbangare**	**4.77**	**121**	Pn	**Pn**	**17 16 12.8**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=310,slow=21,SNR=6.2						
JTS				Sn	**Sn**	**17 17 03.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=296,slow=21,SNR=1.0						
JTS				Lg	Lg	17 17 26.8	
	comp=Z,0.4nm,0.3s,baz=148,slow=23,SNR=7.9						
TXAR	**Lajitas Array**	**21.30**	**323**	P	**P**	**17 19 45.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=148,slow=10,SNR=6.6						
NVAR	**Mina Array Bea**	**36.38**	**320**	P	**P**	**17 22 04.6**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=134,slow=8.9,SNR=2.7						
YKA	**Yellowknife Ar**	**52.85**	**345**	P	**P**	**17 24 10.3**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=141,slow=8.0,SNR=7.1						

*SZGRF **03** 17:37:03.1, 18°50S×173°60W, h33km, Tonga Islands*

*NEIC **03** 17:37:10.3±1.4, 18°20S×174°72W, h96km±12km, mb4.7/2, Error ellipse: s-maj=17.6km s-min=8.8km az=133.0*

*IDC **03** 17:37:16.2±3.5, 18°26S×174°80W, h145km±30km, mb3.9/11, mb1 4.2/11, mb1mx3.9/19, mbtmp3.9/11, Error ellipse: s-maj=23.8km s-min=12.4km az=140.0*

ISC 03 17:37:14.0±0.5, 18°0S±0°1×174°7W±0°1, h132km, n70, σ1§64/73, mb4.4/13, 2C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.96**	**34**	*ePn*	**Pn**	**17 38 24.4**	**-2.2**
	874nm,0.6s						
AFI				*eSn*	**Sn**	**17 39 18.3**	**-4.9**
AFI	**Afiamalu**	**4.96**	**34**	P	**Pn**	**17 38 24.6**	**-2.1**
	47nm,0.3s,baz=271,slow=3.3,SNR=44						
AFI				S	**Sn**	**17 39 18.3**	**-4.9**
	96nm,0.3s,baz=42,slow=23,SNR=19						
URZ	**Urewera**	**21.39**	**198**	*eP*	**P**	**17 41 48.2**	**-2.9**
URZ	**Urewera**	**21.39**	**198**	P	**P**	**17 41 47.7**	**-3.4**
	34nm,0.6s,baz=26,slow=5.6,SNR=30						
URZ				S	S	17 45 29.3	-11
	10nm,0.8s,baz=153,slow=23,SNR=1.7						
EIDS	**Eidsvold**	**32.58**	**251**	*eP*	**P**	**17 43 31.2**	**-1.8**
RMQ	**Roma**	**34.78**	**249**	P	**P**	**17 43 52.5**	**+0.4**
	baz=36,SNR=7.9						
CTAO	**Charters Tower**	**36.94**	**260**	*eP*	**P**	**17 44 10.9**	**+0.4**
	3.9nm,0.6s						
STKA	**Stephens Creek**	**41.70**	**242**	P	**P**	**17 44 49.5**	**-0.5**
STKA	**Stephens Creek**	**41.70**	**242**	P	**P**	**17 44 49.5**	**-0.5**
	1.0nm,0.5s,baz=123,slow=8.2,SNR=6.8						
WRA	**Warramunga Arr**	**48.11**	**259**	P	**P**	**17 45 40.5**	**-0.4**
WRA	**Warramunga Arr**	**48.11**	**259**	P	**P**	**17 45 40.5**	**-0.4**
	4.2nm,0.5s,baz=96,slow=7.0,SNR=210						
AS31	**Alice Springs**	**48.18**	**254**	*eP*	**P**	**17 45 40.3**	**-1.1**
ASAR	**Alice Springs**	**48.19**	**254**	P	**P**	**17 45 41.0**	**-0.4**
ASAR				pP	pP	17 46 17.1	+5.3
ASAR				S	**S**	**17 52 27.9**	**-3.0**
ASAR	**Alice Springs**	**48.19**	**254**	P	**P**	**17 45 41.0**	**-0.4**
	14nm,0.8s,baz=90,slow=8.2,SNR=175						
ASAR				pP	pP	17 46 17.1	+5.3
	6.2nm,0.8s,baz=87,slow=8.5,SNR=9.1						
ASAR				S	**S**	**17 52 27.9**	**-3.0**
	0.3nm,0.6s,baz=93,slow=15,SNR=5.8						
WRKA	**Warakurna**	**53.19**	**252**	P	**P**	**17 46 18.5**	**-0.5**
	baz=55,SNR=15						
KNRA	**Kununurra**	**54.02**	**263**	P	**P**	**17 46 25.3**	**+0.3**
	baz=56,SNR=4.2						
VNDA	**Vanda**	**60.64**	**186**	P	**P**	**17 47 10.9**	**+0.4**
VNDA	**Vanda**	**60.64**	**186**	P	**P**	**17 47 10.9**	**+0.4**
	2.7nm,0.7s,baz=348,slow=5.8,SNR=11						
QSPA	**South Pole Qui**	**72.02**	**180**	*eP*	**P**	**17 48 22.1**	**-1.3**
	23nm,1.3s						
NVAR	**Mina Array Bea**	**77.09**	**42**	P	**P**	**17 48 55.1**	**+2.0**
NVAR	**Mina Array Bea

BCPH	**Baguio City Da**	**1.42 276**	⇑*iP*	Pn	17 39 20.6	+1.0
BCPH			*i*S	Sn	17 39 38.7	+1.4
APYP	**Conner**	**1.79 335**	*eP*	Pn	17 39 24.4	0.0
ABRA	**Dolores**	**1.90 318**	*eP*	Pn	17 39 26.8	+0.8
SGCP	**Mt. Cagua**	**1.99 360**	*eP*	Pn	17 39 28.8	+1.6
BOLP	**Bolinao**	**2.06 274**	*eP*	Pn	17 39 30.0	+1.9
PVCP	**Virac**	**3.33 142**	*eP*	Pn	17 39 48.0	+2.4

*ISCJB **03** 17:46:59.6±0.4, 36.36N±0.03×71.59E±0.06, h114km, mb3.7/15, Error ellipse: s-maj=6.7km s-min=3.2km az=160.8*

*IDC **03** 17:46:59.6±3.6, 36.22N×71.34E, h103km±32km, mb3.5/15, mb1 3.8/17, mb1mx3.6/28, mbtmp4.0/17, MS2.7/1, Ms1 2.7/1, ms1mx2.3/33, Error ellipse: s-maj=22.4km s-min=12.5km az=19.0*

*NNC **03** 17:47:06.3±3.7, 36.92N×70.99E, h165km±39km, mb4.1, mpv5.2, Error ellipse: s-maj=31.4km s-min=20.1km az=29.0*

ISC 03 17:47:01.0±0.6, **36.37N**±0.05×**71.58E**±0.07, **h114**km, **n66**, σ1§**66**/76, **mb3.7**/15, **7C-11D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.55**	**174**	⇓P	**Pn**	**17 47 42.6**	**+1.2**
CEP				S	**Sn**	**17 48 14.0**	**+1.7**
CHCP	**Chirah Chowk**	**3.03**	**152**	⇓P	**Pn**	**17 47 50.0**	**+2.4**
THW	**Thamme Wali**	**3.56**	**178**	⇓P	**Pn**	**17 47 55.3**	**+0.6**
DLH	**Dalhousie**	**5.26**	**135**	*eP*	**Pn**	**17 48 18.0**	**+0.4**
DLH				*eS*	**Sn**	**17 49 17.0**	**-0.2**
DHRM	**DHARAMSHALA**	**5.66**	**135**	*eP*	**Pn**	**17 48 24.8**	**+1.7**
DHRM				*eS*	**Sn**	**17 49 26.4**	**-0.6**
DHRM				AML	AML	17 49 30.7	
	comp=N,448nm,0.2s						
DHRM				AML	AML	17 49 31.0	
	comp=E,756nm,0.4s						
AML	**Almayashu**	**5.99**	**15**	P	**Pn**	**17 48 27.8**	**+0.3**
	SNR=841						
UCH	**Uchtor**	**6.28**	**20**	P	**Pn**	**17 48 32.2**	**+0.7**
	SNR=220						
BHK	**Bhakra**	**6.36**	**139**	*ex*	**Sn**	**17 49 43.6**	**0.0**
KZA	**Kyzart**	**6.37**	**25**	P	**Pn**	**17 48 33.3**	**+0.5**
	SNR=116						
EKS2	**Erkin-Say**	**6.51**	**14**	P	**Pn**	**17 48 34.8**	**+0.5**
	SNR=153						
AAK	**Ala-Archa**	**6.65**	**19**	⇓P	**Pn**	**17 48 36.9**	**+0.6**
	comp=E,82nm,0.4s						
AAK				⇑S	**Sn**	**17 49 50.0**	**-0.7**
	comp=E,138nm,0.8s						
AAK	**Ala-Archa**	**6.65**	**19**	P	**Pn**	**17 48 37.2**	**+1.0**
	SNR=159						
AAK	**Ala-Archa**	**6.65**	**19**	P	**Pn**	**17 48 37.2**	**+1.0**
	comp=E,48nm,0.3s,baz=173,slow=6.0,SNR=800						
AAK				S	**Sn**	**17 49 50.9**	**+0.2**
	comp=E,10nm,0.3s,baz=328,slow=20,SNR=12						
AAK				LR	LR	17 51 45.3	
	comp=E,64nm,21.9s,baz=271,slow=42						
KK31	**Karatay Array**	**6.78**	**353**	⇓P	**Pn**	**17 48 36.2**	**-1.7**
	comp=E,171nm,0.4s,baz=178,slow=12,SNR=6772						
KK31				⇓S	Sn	17 49 46.0	-7.6
	comp=E,37nm,0.5s						
KBK	**Karagaybulak**	**6.80**	**21**	P	**Pn**	**17 48 39.5**	**+1.2**
	SNR=85						
ULHL	**Ulahol**	**6.89**	**30**	P	**Pn**	**17 48 40.6**	**+1.0**
	SNR=31						
SMLA	**Simla**	**6.99**	**137**	*eP*	**Pn**	**17 48 41.1**	**+0.3**
SMLA				*eP*	**Pn**	**17 48 41.2**	**+0.4**
SMLA				*eS*	**Sn**	**17 49 55.6**	**-3.2**
SMLA				*eS*	**Sn**	**17 49 57.9**	**-0.9**
SMLA				AML	AML	17 50 00.1	
	comp=E,261nm,0.6s						
SMLA				AML	AML	17 50 02.3	
	comp=N,201nm,0.4s						
CHMS	**Chumysh**	**7.06**	**19**	P	**Pn**	**17 48 42.1**	**+0.5**
	SNR=150						
TKM2	**Tokmak 2**	**7.24**	**24**	⇓P	**Pn**	**17 48 44.5**	**+0.2**
	comp=N,54nm,0.5s						
TKM2				⇑S	**Sn**	**17 50 05.6**	**+0.6**
	comp=N,24nm,0.8s						
TKM2	**Tokmak 2**	**7.24**	**24**	P	**Pn**	**17 48 45.3**	**+1.0**
	SNR=115						
USP	**Ospenovka**	**7.25**	**17**	P	**Pn**	**17 48 43.9**	**-0.3**
	SNR=275						
KNDC	**Almaty**	**8.00**	**30**	P	**Pn**	**17 48 56.7**	**+2.3**
DDI	**Dehra Dun**	**8.10**	**136**	*eP*	**Pn**	**17 48 56.4**	**+0.5**
DDI				*eS*	**Sn**	**17 50 21.3**	**-4.6**
DDI				AML	AML	17 50 28.2	
	comp=N,222nm,0.7s						
DDI				AML	AML	17 50 29.4	
	comp=E,158nm,0.2s						
NDI	**New Delhi**	**9.01**	**147**	*eP*	**Pn**	**17 49 07.0**	**-1.2**
NDI				*ex*	**Sn**	**17 50 46.0**	**-1.9**
LGTI	**Lohaghat**	**10.02**	**131**	*eS*	**Sn**	**17 51 08.9**	**-3.5**
PYUN	**Piuthan**	**12.69**	**127**	*eP*	**Pn**	**17 49 56.2**	**-1.3**
	comp=E,23nm,0.3s						
DANN	**Dangsing**	**13.02**	**124**	*eP*	**Pn**	**17 50 00.3**	**-1.7**
	comp=E,63nm,0.8s						
MK31	**Makanchi Array**	**13.13**	**34**	⇑P	**Pn**	**17 50 03.1**	**+0.1**
	comp=E,8.1nm,1.0s						
MKAR	**Makanchi Array**	**13.13**	**34**	P	**Pn**	**17 50 03.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=224,slow=12,SNR=45						
KOLN	**Koldanda**	**13.30**	**127**	*eP*	**Pn**	**17 50 03.9**	**-1.7**
	comp=E,15nm,0.4s						
GKN	**Gorkha**	**13.84**	**123**	*eP*	**Pn**	**17 50 10.5**	**-1.9**
	comp=E,26nm,0.4s						
BHPL	**Bhopal**	**14.02**	**157**	*eP*	**Pn**	**17 50 12.1**	**-2.6**
BHPL				*eS*	Sn	17 52 40.6	-8.8
DMN	**Daman**	**14.41**	**123**	*eP*	**Pn**	**17 50 18.1**	**-1.7**
	comp=E,36nm,0.8s						
KKN	**Kakani**	**14.41**	**123**	*eP*	**Pn**	**17 50 18.3**	**-1.5**
	comp=E,21nm,0.4s						
PKI	**Pulchoki**	**14.63**	**123**	*eP*	**Pn**	**17 50 21.3**	**-1.5**
	comp=E,25nm,0.5s						
GUN	**Gumba**	**14.74**	**121**	*eP*	**Pn**	**17 50 22.0**	**-2.2**
	comp=E,18nm,0.5s						
KURBB	**Kurchatov Arra**	**15.11**	**17**	⇓P	**Pn**	**17 50 25.5**	**-2.7**
	comp=E,14nm,0.6s						
KURBB	**Kurchatov Arra**	**15.11**	**17**	P	**Pn**	**17 50 24.3**	**-3.9**
	comp=E,0.2nm,0.3s,baz=210,slow=12,SNR=22						
JIRN	**Jiri**	**15.11**	**121**	*eP*	**Pn**	**17 50 27.7**	**-1.2**
	comp=E,28nm,0.3s						
KURK	**Kurchatov**	**15.21**	**17**	⇓P	**Pn**	**17 50 25.7**	**-3.8**
	comp=E,5.5nm,0.7s						
AB31	**Akbulak array**	**15.43**	**330**	⇑P	Pn	17 50 26.7	-5.6
	comp=E,9.7nm,0.4s,baz=140,slow=12,SNR=525						
AB31				⇑S	Sn	17 53 05.9	-17
	comp=E,5.9nm,0.6s,baz=148,slow=24,SNR=6.3						
RAMN	**Ramite**	**15.85**	**122**	*eP*	**Pn**	**17 50 35.9**	**-2.0**
	comp=E,28nm,0.5s						
TAPN	**Taplejung**	**16.37**	**119**	*eP*	**Pn**	**17 50 43.8**	**-0.6**
	comp=E,44nm,0.8s						
ODAN	**Odare**	**16.45**	**121**	*eP*	**Pn**	**17 50 44.0**	**-1.3**
	comp=E,13nm,0.5s						
BVA0	**Borovoye Array**	**16.68**	**357**	⇓P	**Pn**	**17 50 45.1**	**-2.6**
	comp=E,5.1nm,0.5s,baz=166,slow=11,SNR=6.1						
BVAR	**Borovoye Array**	**16.68**	**357**	P	**Pn**	**17 50 45.4**	**-2.3**
	comp=E,1.8nm,0.3s,baz=159,slow=12,SNR=33						
BVAR				S	**Sn**	**17 53 52.4**	**-0.5**
	baz=171,slow=22,SNR=3.7						
BRVK	**Borovoye**	**16.72**	**357**	⇑P	**Pn**	**17 50 44.7**	**-3.4**
	comp=E,18nm,0.7s						
AKTO	**Aktyubinsk**	**17.13**	**329**	⇑P	**P**	**17 50 51.3**	**-1.9**
	comp=E,23nm,0.6s						
AKTO				⇓S	Sn	17 53 48.7	-15
	comp=E,9.2nm,1.4s						
AKTO	**Aktyubinsk**	**17.13**	**329**	P	**P**	**17 50 51.5**	**-1.7**
	comp=E,4.5nm,0.3s,baz=140,slow=13,SNR=44						
ZALV	**Zalesovo Beam**	**19.85**	**23**	P	**P**	**17 51 23.3**	**+0.6**
	comp=E,7.8nm,0.4s,baz=216,slow=9.1,SNR=54						
GNI	**Garni**	**21.38**	**288**	P	**P**	**17 51 40.9**	**+1.4**
	comp=E,5.9nm,0.5s,baz=197,slow=0.9,SNR=5.1						
KBZ	**Khabaz**	**23.08**	**297**	P	**P**	**17 51 57.2**	**+0.6**
	comp=E,2.3nm,0.7s,baz=137,slow=8.5,SNR=6.9						
SONM	**Songino Array**	**28.03**	**55**	P	**P**	**17 52 43.4**	**+2.0**
	comp=E,0.6nm,0.7s,baz=262,slow=9.3,SNR=6.2						
BRTR	**Keskin Array B**	**29.92**	**288**	P	**P**	**17 52 57.7**	**-0.6**
	comp=E,0.6nm,0.7s,baz=106,slow=9.2,SNR=4.0						
CMAR	**Chiang Mai Arr**	**29.98**	**119**	P	**P**	**17 53 01.1**	**+2.4**
	comp=E,0.3nm,0.7s,baz=292,slow=9.4,SNR=4.6						
AKASG	**Malin Array Be**	**33.40**	**309**	P	**P**	**17 53 28.0**	**-0.4**
	comp=E,1.1nm,0.5s,baz=80,slow=7.4,SNR=19						
FINES	**FINESS Array B**	**37.86**	**326**	P	**P**	**17 54 06.7**	**+0.4**
	comp=E,1.2nm,0.5s,baz=120,slow=8.8,SNR=20						
ARCES	**ARCESS Array B**	**41.45**	**337**	P	**P**	**17 54 36.6**	**+0.6**
	comp=E,1.5nm,0.4s,baz=113,slow=6.4,SNR=41						
KSRS	**Korea Array**	**44.48**	**71**	P	**P**	**17 55 02.7**	**+1.8**
	comp=E,0.4nm,0.6s,baz=282,slow=5.9,SNR=6.0						
NB2	**NORSAR Subarra**	**44.77**	**323**	P	**P**	**17 55 02.3**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.77**	**323**	P	**P**	**17 55 02.4**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=96,slow=7.8,SNR=14						
TORD	**Torodi Ar. Bea**	**66.19**	**269**	P	P	17 57 33.5	-3.3
	comp=Z,0.9nm,0.4s,baz=51,slow=5.9,SNR=19						
ILAR	**Eielson Array**	**74.78**	**16**	P	**P**	**17 58 28.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=306,slow=6.2,SNR=3.9						
YKA	**Yellowknife Ar**	**81.36**	**3**	P	**P**	**17 59 05.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=349,slow=5.5,SNR=22						
WRA	**Warramunga Arr**	**81.52**	**122**	P	**P**	**17 59 06.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=324,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**83.79**	**125**	P	**P**	**17 59 17.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=311,slow=5.0,SNR=14						

IDC 03 18:02:40.0±8.4, **22.09S**×**169.71E**, **h59**km±56km, **mb3.2**/3, **mb1 3.4**/4, **mb1mx3.2**/18, **mbtmp3.4**/4, **ML2.5**/1, **Error ellipse: s-maj=100.7km s-min=57.4km az=3.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.03**	**270**	P	Pn	18 03 25.8	+0.1
	0.7nm,0.3s,baz=85,slow=17,SNR=46						
DZM				S	Sn	18 04 01.2	+0.3
	2.7nm,0.3s,baz=119,slow=19,SNR=3.6						
STKA	**Stephens Creek**	**26.82**	**243**	P	P	18 08 13.8	-0.9
	1.0nm,0.7s,baz=59,slow=5.9,SNR=3.2						
ASAR	**Alice Springs**	**32.98**	**260**	P	P	18 09 09.8	+0.3
	0.4nm,0.7s,baz=95,slow=9.5,SNR=5.9						
WRA	**Warramunga Arr**	**33.04**	**267**	P	P	18 09 10.4	+0.4
	0.2nm,0.9s,baz=98,slow=8.2,SNR=3.5						

IDC 03 18:08:09.9±1.6, **8.63S**×**157.51E**, **h0**km, **mb3.5**/4, **mb1 3.6**/5, **mb1mx3.4**/19, **mbtmp3.5**/5, **ML3.4**/1, **Error ellipse: s-maj=40.7km s-min=16.5km az=9.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.53**	**108**	Pn	Pn	18 08 51.2	-1.1
	6.9nm,0.3s,baz=250,slow=12,SNR=12						
HNR				Lg	Lg	18 09 30.8	
	19nm,0.3s,baz=108,slow=20,SNR=3.9						
HNR	**Honiara**	**2.53**	**108**	*eP*	Pb	18 08 57.0	+0.7
HNR				*eS*	Sg	18 09 36.0	+4.6
WRA	**Warramunga Arr**	**25.07**	**241**	P	P	18 13 35.7	-0.7
	0.6nm,0.6s,baz=68,slow=9.7,SNR=7.7						
ASAR	**Alice Springs**	**27.09**	**234**	P	P	18 13 54.0	-0.7
	0.3nm,0.9s,baz=58,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**27.45**	**210**	P	P	18 13 58.7	+1.0
	1.1nm,0.8s,baz=25,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**86.28**	**318**	P	P	18 20 54.4	+0.7
	0.4nm,0.7s,baz=107,slow=5.9,SNR=4.7						

*IDC **03** 18:20:37.3±3.1, 2.27S×100.74E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=133.7km s-min=19.4km az=57.0*

*ISCJB **03** 18:20:46.5±0.5, 2.14S±0.04×100.68E±0.05, h56km, mb3.7/5, Error ellipse: s-maj=7.5km s-min=4.7km az=142.9*

*KLM **03** 18:20:46.9, 2.27S×100.68E, h27km, mb4.4, ML4.0*

*DJA **03** 18:20:49.1±0.4, 2.3S±3×10-1E±1, h46km±28km, M4.2/15, mb4.3/2, MLv4.1/15*

ISC 03 18:20:46.7±0.9, **2.15S**±0.06×**100.67E**±0.07, **h56**km, **n42**, σ1§**59**/36, **mb4.0**/5, **4C-4D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.24**	**350**	P	**Pn**	**18 21 09.1**	**+1.2**
PDSI				S	**Sn**	**18 21 24.0**	**+0.3**
PPI	**Padang Panjang**	**1.70**	**351**	P	**Pn**	**18 21 15.1**	**+1.1**
RGRI	**Rengat**	**2.44**	**43**	P	**Pn**	**18 21 24.3**	**+0.2**
RGRI				S	**Sn**	**18 21 51.9**	**-0.9**
BKNI	**Bangkinang**	**2.48**	**9**	P	**Pn**	**18 21 25.4**	**+0.7**
BKNI				S	**Sn**	**18 21 53.8**	**-0.1**
JMBI	**JAMBI**	**3.01**	**80**	S	**Sn**	**18 22 07.8**	**+0.9**
MNSI	**Mandailing Nat**	**3.12**	**340**	P	**Pn**	**18 21 35.1**	**+1.7**
MNAI	**Manna**	**3.17**	**134**	P	**Pn**	**18 21 35.9**	**+1.7**
LHSI	**Lahat**	**3.30**	**120**	P	**Pn**	**18 21 37.4**	**+1.4**
MDSI	**Maura Dua**	**4.21**	**124**	P	**Pn**	**18 21 49.2**	**+0.9**
LWLI	**Liwa**	**4.43**	**130**	P	**Pn**	**18 21 53.0**	**+1.5**
GSI	**Gunungsitoli**	**4.62**	**318**	P	**Pn**	**18 21 56.3**	**+2.3**
KLSI		**4.78**	**122**	P	**Pn**	**18 21 57.7**	**+1.5**
KGM	**Kluang**	**4.91**	**33**	⇓P	**Pn**	**18 22 00.2**	**+2.1**
TPRI	**Tanjung Pinang**	**4.91**	**52**	P	**Pn**	**18 21 57.7**	**-0.3**
MYKOM	**Kota Tinggi**	**5.04**	**39**	P	x	18 21 59.8	
MYKOM	**Kota Tinggi**	**5.04**	**39**	⇓P	**Pn**	**18 22 00.4**	**+0.6**
KASI	**Kota Agung**	**5.08**	**131**	P	**Pn**	**18 22 02.5**	**+2.1**
	44nm,1.0s,0.3nm						
FRIM	**Kepong**	**5.43**	**10**	⇑P	**Pn**	**18 22 08.2**	**+3.0**
IPM	**Ipoh**	**6.59**	**3**	P	x	18 22 21.7	
IPM	**Ipoh**	**6.59**	**3**	⇑P	Pn	18 22 25.7	+4.6
KULM	**Kulim**	**7.38**	**360**	⇓P	Pn	18 22 35.9	+3.9
KTGM	**Kuala Trenggan**	**7.82**	**18**	⇓P	Pn	18 22 41.8	+3.9
BTM	**Bintulu**	**13.50**	**67**	⇑P	**Pn**	**18 23 58.4**	**+2.8**
KDM	**Kudat**	**18.47**	**61**	⇑P	**Pn**	**18 25 01.4**	**+2.5**
CMAR	**Chiang Mai Arr**	**20.54**	**355**	P	**P**	**18 25 19.0**	**-1.8**
	0.2nm,0.4s,baz=186,slow=9.8,SNR=3.4						
H08S2	**Diego Garcia H**	**28.59**	**258**	T	T	18 55 49.1	
	baz=81,slow=75,SNR=6.5						
H08S3	**Diego Garcia H**	**28.59**	**258**	T	T	18 55 45.4	
	baz=81,slow=75,SNR=8.6						
H08S1	**Diego Garcia H**	**28.61**	**258**	T	T	18 55 59.2	
	baz=81,slow=75,SNR=8.1						
ODAN	**Odare**	**31.55**	**337**	*eP*	**P**	**18 27 04.9**	**+0.7**
	7.0nm,0.4s						
TAPN	**Taplejung**	**31.87**	**338**	*eP*	**P**	**18 27 08.1**	**+1.0**
	2.6nm,0.3s						
RAMN	**Ramite**	**31.95**	**336**	*eP*	**P**	**18 27 09.2**	**+1.5**
	4.0nm,0.4s						
JIRN	**Jiri**	**32.75**	**336**	*eP*	**P**	**18 27 15.9**	**+1.1**
	7.7nm,0.3s						
GUN	**Gumba**	**33.10**	**336**	*eP*	**P**	**18 27 19.1**	**+1.3**
	14nm,0.4s						
KKN	**Kakani**	**33.24**	**335**	*eP*	**P**	**18 27 20.0**	**+1.0**
	4.3nm,0.4s						
GKN	**Gorkha**	**33.71**	**334**	*eP*	**P**	**18 27 24.6**	**+1.7**
	4.1nm,0.5s						
DANN	**Dangsing**	**34.40**	**333**	*eP*	**P**	**18 27 30.2**	**+1.1**
	9.3nm,0.4s						
WRA	**Warramunga Arr**	**37.34**	**121**	P	P	18 27 50.3	-3.8
	0.3nm,0.8s,baz=301,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**38.63**	**126**	P	**P**	**18 28 02.2**	**-2.7**
	1.2nm,0.6s,baz=303,slow=7.4,SNR=36						
SONM	**Songino Array**	**50.02**	**5**	P	**P**	**18 29 34.5**	**-1.2**
	0.2nm,0.4s,baz=181,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**51.35**	**344**	P	**P**	**18 29 45.0**	**-0.5**
	1.1nm,0.4s,baz=160,slow=8.9,SNR=28						
ZALV	**Zalesovo Beam**	**57.44**	**349**	P	**P**	**18 30 28.4**	**-1.1**
	0.7nm,0.4s,baz=170,slow=7.7,SNR=5.2						
TXAR	**Lajitas Array**	**144.41**	**38**	PKP	**PKPab**	**18 40 14.2**	**-1.6**
	0.3nm,0.7s,baz=300,slow=2.0,SNR=3.6						

*IDC **03** 18:25:27.4±0.6, 8.72S×157.49E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML3.8/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/27, Error ellipse: s-maj=17.9km s-min=12.7km az=15.0*

ISC 03 18:25:29.9±0.5, **8.75S**±0.1×**157.57E**±0.06, **h16**km, **n30**, σ1§**14**/32, **mb4.1**/13, **MS3.3**/4, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.45**	**107**	Pn	**Pn**	**18 26 07.6**	**-1.6**
	16nm,0.3s,baz=161,slow=23,SNR=24						
HNR				Pg	**Pb**	**18 26 14.7**	**+1.0**
	74nm,0.3s,baz=258,slow=9.3,SNR=22						
HNR				Lg	Lg	18 26 48.5	
	119nm,0.3s,baz=330,slow=20,SNR=5.4						
HNR				LR	LR	18 26 55.2	
	comp=Z,192nm,20.0s,baz=232,slow=35						
HNR	**Honiara**	**2.45**	**107**	*eP*	**Pg**	**18 26 16.0**	**-1.0**
HNR				*i*S	**Sg**	**18 26 49.9**	**+1.1**
PMG	**Port Moresby**	**10.30**	**265**	LR	LR	18 31 49.4	
	comp=Z,219nm,18.9s,baz=104,slow=37						
CTA	**Charters Tower**	**15.73**	**223**	Pn	**Pn**	**18 29 11.8**	**+0.8**
	0.3nm,0.3s,baz=40,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**25.08**	**241**	P	**P**	**18 30 52.5**	**-1.5**
	3.7nm,0.8s,baz=68,slow=9.9,SNR=23						
WRA				PcP	**PcP**	**18 34 30.0**	**+1.5**
	0.6nm,0.7s,baz=70,slow=2.9,SNR=7.3						
WRA				LR	LR	18 40 07.0	
	comp=Z,136nm,18.9s,baz=55,slow=35						
ASAR	**Alice Springs**	**27.09**	**234**	P	**P**	**18 31 09.6**	**-2.6**
	0.9nm,0.8s,baz=58,slow=10,SNR=8.2						
ASAR				PcP	**PcP**	**18 34 36.0**	**+2.8**
	0.4nm,0.7s,baz=67,slow=1.8,SNR=4.4						
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**	**18 31 15.8**	**+0.9**
	3.9nm,0.6s,baz=38,slow=13,SNR=10						
STKA				LR	LR	18 41 34.0	
	comp=Z,42nm,18.6s,baz=27,slow=35						
MJAR	**Matsushiro Arr**	**48.55**	**339**	P	**P**	**18 34 11.7**	**-0.8**
	0.9nm,0.7s,baz=142,slow=5.2,SNR=4.5						
JNU	**Nakatsue**	**48.75**	**330**	P	**P**	**18 34 14.2**	**+0.2**
	7.6nm,0.8s,baz=348,slow=4.9,SNR=4.4						
PPT	**Papeete**	**52.08**	**105**	LR	LR	18 54 15.9	
	comp=Z,18nm,20.4s,baz=3.0,slow=33						
KSRS	**Korea Array**	**53.66**	**331**	P	**P**	**18 34 50.5**	**-0.3**
	0.9nm,0.5s,baz=145,slow=7.3,SNR=6.2						
CMAR	**Chiang Mai Arr**	**63.82**	**295**	P	**P**	**18 36 02.7**	**+0.7**
	1.8nm,0.8s,baz=122,slow=5.0,SNR=10						
SONM	**Songino Array**	**72.16**	**327**	P	**P**	**18 36 54.7**	**+0.7**
	1.5nm,0.8s,baz=129,slow=5.6,SNR=10						
TAPN	**Taplejung**	**76.47**	**301**	*eP*	**P**	**18 37 20.5**	**+0.7**
	20nm,1.3s						
ODAN	**Odare**	**76.60**	**300**	*eP*	**P**	**18 37 19.8**	**-0.6**
	13nm,1.0s						
GUN	**Gumba**	**78.18**	**301**	*eP*	**P**	**18 37 29.8**	**+0.4**
	11nm,0.8s						
KKN	**Kakani**	**78.66**	**301**	*eP*	**P**	**18 37 32.5**	**+0.6**
	7.1nm,0.9s						
DMN	**Daman**	**78.76**	**300**	*eP*	**P**	**18 37 32.9**	**+0.4**
	14nm,0.8s						
GKN	**Gorkha**	**79.27**	**301**	*eP*	**P**	**18 37 35.5**	**+0.3**
	9.6nm,0.8s						
KOLN	**Koldanda**	**80.09**	**300**	*eP*	**P**	**18 37 38.9**	**-0.8**
	8.7nm,0.8s						
DANN	**Dangsing**	**80.10**	**301**	*eP*	**P**	**18 37 39.6**	**-0.3**
	7.1nm,0.7s						
ILAR	**Eielson Array**	**84.05**	**21**	P	**P**	**18 37 58.6**	**-0.8**
	0.5nm,0.6s,baz=246,slow=5.4,SNR=9.9						
MKAR	**Makanchi Array**	**86.37**	**318**	P	**P**	**18 38 11.5**	**0.0**
	2.3nm,0.6s,baz=96,slow=5.4,SNR=39						
ZALV	**Zalesovo Beam**	**87.03**	**326**	P	**P**	**18 38 13.5**	**-1.0**
	1.0nm,0.5s,baz=127,slow=4.0,SNR=6.3						
NVAR	**Mina Array Bea**	**90.79**	**51**	P	**P**	**18 38 34.6**	**+1.7**
	1.5nm,0.9s,baz=251,slow=5.5,SNR=8.3						
NVAR				LR	LR	19 16 10.3	
	comp=Z,24nm,18.2s,baz=48,slow=33						
YKA	**Yellowknife Ar**	**96.66**	**28**	P	**P**	**18 38 59.4**	**+0.4**
	0.3nm,0.9s,baz=264,slow=5.3,SNR=4.8						
AKASG	**Malin Array Be**	**120.41**	**325**	PKP	**PKPdf**	**18 44 20.1**	**-0.4**
	0.8nm,0.7s,baz=55,slow=1.6,SNR=6.5						
BDFB	**Brasilia**	**144.96**	**134**	PKPbc	**PKPab**	**18 45 06.0**	**-0.8**
	9.7nm,0.8s,baz=218,slow=3.4,SNR=14						
ESDC	**Sonseca Array**	**145.03**	**335**	PKPbc	**PKPbc**	**18 45 04.8**	**-1.4**
	0.8nm,0.7s,baz=29,slow=2.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**155.91**	**283**	PKP	**PKPdf**	**18 45 24.0**	**-0.4**
	0.7nm,1.0s,baz=96,slow=1.4,SNR=3.3						

*CSEM **03** 18:30:29.8±0.6, 38.11N×27.13E, h16km±3km, MD2.7, Error ellipse: s-maj=12.7km s-min=7.9km az=3.0*

*DDA **03** 18:30:32.8, 38.21N×27.29E, h7km, MD2.7*

*ISCJB **03** 18:30:33.1±1.0, 38.22N±0.06×27.31E±0.06, h9km±8km, Error ellipse: s-maj=11.1km s-min=6.2km az=38.7*

ISC 03 18:30:30.7±1.3, **38.12N**±0.06×**27.21E**±0.04, **h10**km±11km, **n12**, σ1§**32**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.28**	**9**	PG	**Pg**	**18 30 36.7**	**+0.4**
IZM				SG	**Sg**	**18 30 40.0**	**-0.1**
IZM	**Izmir**	**0.28**	**9**	*i*Pg	**Pg**	**18 30 36.7**	**+0.4**
IZM				*i*Sg

Error ellipse: s-maj=15.5km s-min=9.4km az=154.1
*MAN **03** 18:47:10.6˚52.N×123˚.98E,h30km,mb4.4,ML3.3,MS3.1*
ISC 03 18:47:09.9±1.2,6˚.4N±0˚.1×123˚.95E±0˚.09,h35km,n8,
σ1ᵍ10/9,mb3.1/3,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.85**	**20**	*i* P	**Pn**	**18 47 24.4**	**-1.1**
PAGZ	**Pagadian**	**1.53**	**338**	*e* P	**Pn**	**18 47 35.1**	**+0.3**
PAGZ				*e* S	**Sn**	**18 47 52.5**	**-1.0**
BUKP	**Musuan**	**1.82**	**37**	*e* P	**Pn**	**18 47 40.3**	**+1.4**
IPIL	**Ipil**	**1.93**	**315**	*e* P	**Pn**	**18 47 41.0**	**+0.7**
MATI	**Mati**	**2.35**	**77**	*e* P	**Pn**	**18 47 46.5**	**+0.5**
WRA	**Warramunga Arr**	**28.12**	**159**	P	**P**	**18 52 57.8**	**-1.0**
	0.3nm,0.7s,baz=343,slow=9.5,SNR=4.5						
ASAR	**Alice Springs**	**31.44**	**162**	P	**P**	**18 53 27.6**	**-0.6**
	0.2nm,0.7s,baz=344,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**53.79**	**326**	P	**P**	**18 56 30.1**	**+1.0**
	0.2nm,0.5s,baz=128,slow=6.7,SNR=5.7						

MEX 03 18:56:08.2±0.5,15˚.90N×96˚.61W,h12km±7km,MD3.6,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**105**	*e* P	Pg	18 56 16.8	-1.3
HUIG				*i* S	Sg	18 56 24.2	-0.7
VHO	**Vista Hermosa**	**1.17**	**354**	*i* P	Pb	18 56 26.9	-3.8
VHO				*i* S	Sb	18 56 41.2	-4.8
PNIG	**Pinotepa**	**1.54**	**289**	*i* P	Pn	18 56 32.1	-3.3
PNIG				*e* S	Sn	18 56 49.6	-5.8
PCIG		**3.27**	**93**	*i* P	Pn	18 56 51.9	-7.4
PCIG				*i* S	Sn	18 57 29.2	-9.0

FUNV 03 19:23:49.1,6˚.73N×73˚.18W,h168km,MW4.0,1D,
Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.42**	**37**	*i* P	Pn	19 24 19.2	-0.4
CAPV				*e* S	Sn	19 24 40.6	-2.5
SOCV	**Socops**	**2.78**	**56**	*e* P	Pn	19 24 33.2	-1.3
SOCV				*e* S	Sn	19 25 05.7	-4.1
ELOV	**Elorza**	**3.68**	**86**	*e* P	Pn	19 24 45.2	-0.6
VIRV	**Villa del Rosa**	**3.83**	**12**	*e* P	Pn	19 24 45.9	-1.7
VIRV				*e* S	Sn	19 25 28.4	-5.1
QARV	**Quebrada Arrib**	**4.34**	**37**	*e* P	Pn	19 24 53.4	-1.0
QARV				*e* S	Sn	19 25 40.3	-5.1
SANV	**Sanarito**	**4.54**	**52**	*e* P	Pn	19 24 55.5	-1.5
SANV				*e* S	Sn	19 25 44.5	-5.6
CURV	**Curarigua**	**4.56**	**44**	*e* P	Pn	19 24 55.7	-1.5
CURV				*e* S	Sn	19 25 45.1	-5.4
TEPV	**Terepaima**	**5.09**	**51**	*e* P	Pn	19 25 02.8	-1.3
TEPV				*e* S	Sn	19 25 57.2	-5.7
SIQV	**Siquisique**	**5.13**	**40**	*e* P	Pn	19 25 02.4	-2.2
SIQV				*e* S	Sn	19 25 57.8	-6.0
BAUV	**El Baul**	**5.55**	**66**	*e* P	Pn	19 25 07.3	-2.7
BAUV				*e* S	Sn	19 26 06.3	-7.3
MAPV	**Macapo**	**5.60**	**56**	*e* P	Pn	19 25 08.8	-1.9

*IDC **03** 19:38:16.1±1.4,3˚.11S×139˚.98E,h0km,mb3.7/7,*
mb1 3.9/8,mb1mx3.8/17,mbtmp3.7/8,ML3.7/1,Error
ellipse: s-maj=47.2km s-min=20.0km az=98.0
*ISCJB **03** 19:38:21.7±1.0,3˚.17S±0˚.07×139˚.6E±0˚.2,h46km,mb3.6/7,*
Error ellipse: s-maj=35.2km s-min=9.2km az=5.1
ISC 03 19:38:22.9±1.1,3˚.21S±0˚.08×139˚.7E±0˚.3,h46km,n13,
σ2ᵍ06/13,mb3.5/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIS	**Mount Isa**	**17.25**	**180**	P	**P**	**19 42 24.0**	**+2.4**
	baz=18,SNR=4.2						
WRA	**Warramunga Arr**	**17.44**	**197**	P	**Pn**	**19 42 22.1**	**-0.9**
	0.3nm,0.3s,baz=17,slow=13,SNR=17						
WRA				S	**Sn**	**19 45 32.0**	**-4.4**
	0.1nm,0.3s,baz=18,slow=22,SNR=4.3						
FITZ	**Fitzroy Crossi**	**20.23**	**222**	P	Pn	19 42 55.5	-1.0
	2.6nm,0.6s,baz=56,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.10**	**195**	P	**P**	**19 43 05.2**	**+1.5**
	2.2nm,0.5s,baz=25,slow=9.8,SNR=34						
ASAR				S	**S**	**19 46 57.9**	**+1.6**
	0.5nm,0.7s,baz=17,slow=20,SNR=4.5						
WRKA	**Warakurna**	**24.33**	**206**	P	**P**	**19 43 38.5**	**+2.0**
	baz=25,SNR=7.1						
XMIS	**Christmas Isla**	**34.55**	**256**	P	P	19 44 58.5	-8.9
	baz=35,SNR=3.1						
KSRS	**Korea Array**	**41.91**	**346**	P	**P**	**19 46 07.3**	**-1.7**
	0.8nm,0.7s,baz=160,slow=8.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**45.55**	**300**	P	**P**	**19 46 38.7**	**+0.1**
	1.0nm,0.8s,baz=122,slow=6.4,SNR=9.7						
SONM	**Songino Array**	**58.59**	**334**	P	**P**	**19 48 16.7**	**+1.4**
	0.2nm,0.5s,baz=151,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**70.79**	**322**	P	**P**	**19 49 35.4**	**+0.7**
	0.3nm,0.5s,baz=103,slow=6.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**72.86**	**330**	P	**P**	**19 49 47.2**	**+0.3**
	0.2nm,0.4s,baz=111,slow=8.0,SNR=2.1						
ILAR	**Eielson Array**	**85.87**	**24**	P	**P**	**19 50 56.2**	**-1.3**
	0.9nm,1.1s,baz=243,slow=4.0,SNR=3.7						
DBIC	**Dimbokro**	**144.53**	**277**	PKP	**PKPdf**	**19 57 54.6**	**-0.8**
	1.3nm,0.5s,baz=76,slow=4.2,SNR=4.1						

*IDC **03** 19:54:47.2±0.5,8˚.75S×157˚.47E,h0km,mb4.3/14,*
mb1 4.4/17,mb1mx4.4/21,mbtmp4.3/17,ML3.6/3,MS3.9/13,
Ms1 3.9/13,ms1mx3.7/31,Error ellipse: s-maj=16.1km
s-min=12.5km az=21.0
*ISCJB **03** 19:54:48.1±0.4,8˚.73S±0˚.05×157˚.37E±0˚.07,h16km,*
mb4.4/24,MS3.7/11,Error ellipse: s-maj=9.9km
s-min=7.0km az=11.1
*NEIC **03** 19:54:49.8±3.6,8˚.80S×157˚.49E,h22km±26km,mb4.7/13,*
Error ellipse: s-maj=12.6km s-min=9.8km az=169.0
ISC 03 19:54:49.5±0.4,8.72S±0˚.07×157˚.43E±0˚.05,h16km,n91,
σ1ᵍ34/81,mb4.5/24,MS3.7/11,Bougainville - Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.59**	**106**	Pn	**Pn**	**19 55 27.9**	**-2.8**
HNR				Lg	Lg	19 56 07.6	
HNR	**Honiara**	**2.59**	**106**	Pn	**Pn**	**19 55 27.9**	**-2.8**
	36nm,0.3s,baz=157,slow=3.5,SNR=19						
HNR				Pg	**Pb**	**19 55 33.4**	**-2.2**
	92nm,0.3s,baz=225,slow=5.7,SNR=30						
HNR				Lg	Lg	19 56 07.6	
	91nm,0.3s,baz=73,slow=20,SNR=5.5						
HNR				LR	LR	19 56 27.3	
	comp=Z,2μm,20.1s,baz=188,slow=40						
HNR	**Honiara**	**2.59**	**106**	*e* P	**Pb**	**19 55 37.0**	**+1.4**
HNR				*i* S	**Sg**	**19 56 17.8**	**+5.0**
PMG	**Port Moresby**	**10.16**	**265**	LR	LR	20 00 58.7	
	comp=Z,2μm,19.4s,baz=90,slow=36						
COEN	**Coen**	**14.91**	**248**	*e* Pn	**Pn**	**19 58 21.8**	**+2.0**
	177nm,1.4s						
COEN	**Coen**	**14.91**	**248**	P	**P**	**19 58 28.3**	**+2.9**
	baz=13,SNR=4.3						
CTA	**Charters Tower**	**15.64**	**223**	Pn	**Pn**	**19 58 28.5**	**-1.0**
CTA	**Charters Tower**	**15.64**	**223**	Pn	**Pn**	**19 58 28.5**	**-1.0**
	0.1nm,0.3s,baz=42,slow=16,SNR=3.2						
CTAO	**Charters Tower**	**15.64**	**223**	*e* Pn	**Pn**	**19 58 27.9**	**-1.5**
	10nm,0.8s						
DZM	**Mont Dzumac**	**15.86**	**148**	*e* P	**P**	**19 58 34.4**	**-1.6**
	73nm,1.6s						
DZM				*e* LR	LR	20 02 21.3	
	442nm,25.8s						
DZM	**Mont Dzumac**	**15.86**	**148**	Pn	**Pn**	**19 58 32.4**	**0.0**
DZM	**Mont Dzumac**	**15.86**	**148**	Pn	**Pn**	**19 58 32.4**	**0.0**
	0.2nm,0.3s,baz=336,slow=9.3,SNR=3.5						
DZM				LR	LR	20 03 57.0	
	comp=Z,466nm,19.5s,baz=358,slow=35						
EIDS	**Eidsvold**	**17.63**	**199**	*e* Pn	**Pn**	**19 58 53.2**	**-1.4**
	18nm,0.8s						
EIDS	**Eidsvold**	**17.63**	**199**	P	**P**	**19 58 56.5**	**+1.0**
	baz=16,SNR=6.4						
RMQ	**Roma**	**19.49**	**204**	P	**Pn**	**19 59 17.6**	**+0.3**
	baz=18,SNR=4.3						
QIS	**Mount Isa**	**20.85**	**234**	P	**P**	**19 59 31.7**	**+0.8**
	baz=19,SNR=20						
QLP	**Quilpie**	**21.73**	**214**	P	**P**	**19 59 40.4**	**+0.1**
	baz=20,SNR=7.5						
ARMA	**Armidale**	**22.26**	**193**	P	**P**	**19 59 46.7**	**+0.6**
	baz=21,SNR=3.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.95**	**241**	*e* P	**P**	**20 00 11.3**	**-1.2**
WRA	**Warramunga Arr**	**24.96**	**241**	P	**P**	**20 00 11.9**	**-0.6**
WRA				PcP	**PcP**	**20 03 49.2**	**+1.3**
WRA	**Warramunga Arr**	**24.96**	**241**	P	**P**	**20 00 11.9**	**-0.6**
	10nm,0.8s,baz=69,slow=10,SNR=50						
WRA				PcP	**PcP**	**20 03 49.2**	**+1.3**
	1.2nm,0.7s,baz=69,slow=2.6,SNR=8.0						
WRA				LR	LR	20 09 46.4	
	comp=Z,881nm,18.9s,baz=65,slow=36						
CMSA	**Cobar Meteorol**	**25.20**	**204**	P	**P**	**20 00 14.5**	**-0.1**
	baz=24,SNR=17						
AS31	**Alice Springs**	**26.97**	**234**	*e* P	**P**	**20 00 28.6**	**-2.2**
ASAR	**Alice Springs**	**26.97**	**234**	P	**P**	**20 00 29.8**	**-1.0**
ASAR	**Alice Springs**	**26.97**	**234**	P	**P**	**20 00 29.8**	**-1.0**
	2.2nm,0.7s,baz=62,slow=9.6,SNR=20						
ASAR				LR	LR	20 10 58.8	
	comp=Z,556nm,18.9s,baz=54,slow=36						
STKA	**Stephens Creek**	**27.34**	**210**	*e* P	**P**	**20 00 33.5**	**-0.4**
	4.4nm,0.7s						
STKA	**Stephens Creek**	**27.34**	**210**	P	**P**	**20 00 35.1**	**+1.2**
	21nm,0.7s,baz=30,slow=11,SNR=53						
STKA				LR	LR	20 10 42.3	
	comp=Z,308nm,20.6s,baz=28,slow=35						
H11S3	**WAKE ISLAND Hy**	**28.54**	**19**	T	T	20 29 18.6	
	baz=200,slow=78,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.55**	**19**	T	T	20 29 18.0	
	baz=200,slow=78,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.56**	**19**	T	T	20 29 32.3	
	baz=200,slow=78,SNR=12						
HTT	**Hallett**	**29.94**	**212**	P	P	20 01 02.7	+5.5
	baz=28,SNR=4.2						
WRKA	**Warakurna**	**32.14**	**236**	P	**P**	**20 01 15.6**	**-1.1**
	baz=30,SNR=5.8						
FITZ	**Fitzroy Crossi**	**32.25**	**250**	LR	LR	20 13 42.4	
	comp=Z,353nm,21.3s,slow=35						
MEEK	**Meekatharra**	**40.83**	**239**	P	**P**	**20 02 30.8**	**0.0**
	baz=39,SNR=4.5						
JAGI	**Jajag, Banyuwa**	**42.77**	**267**	P	**P**	**20 02 46.1**	**-0.8**
	baz=41,SNR=5.3						
JOW	**Kunigami**	**45.26**	**322**	LR	LR	20 18 08.2	
	comp=Z,6.7nm,21.9s,baz=161,slow=31						
MJAR	**Matsushiro Arr**	**48.51**	**339**	P	**P**	**20 03 30.8**	**-1.0**
MJAR	**Matsushiro Arr**	**48.51**	**339**	P	**P**	**20 03 30.8**	**-1.0**
	1.3nm,0.7s,baz=170,slow=9.3,SNR=8.3						
MJAR				LR	LR	20 25 38.2	
	comp=Z,32nm,18.1s,baz=185,slow=38						
PPT	**Papeete**	**52.21**	**105**	LR	LR	20 22 10.9	
	comp=Z,33nm,19.5s,baz=318,slow=32						
PPT2	**Papeete2**	**52.21**	**105**	*e* S	**S**	**20 11 24.6**	**-0.3**
	51nm,27.0s						
PPT2				*e* LR	LR	20 19 04.7	
	316nm,30.2s						
PMBI	**Palembang**	**52.66**	**273**	P	P	20 04 14.0	+10
	baz=51,SNR=3.8						
TBI	**Tubuai**	**52.79**	**113**	*e* LR	LR	20 19 29.7	
	239nm,29.8s						
KSRS	**Korea Array**	**53.59**	**331**	P	**P**	**20 04 10.9**	**+0.9**
	1.5nm,0.6s,baz=142,slow=6.7,SNR=7.3						
KSRS				LR	LR	20 25 23.2	
	comp=Z,59nm,20.0s,baz=132,slow=34						
KSAR	**Wonju Array Be**	**53.60**	**331**	P	**P**	**20 04 10.9**	**+0.8**
ASAJ	**Asahikawa**	**54.28**	**347**	LR	LR	20 24 49.5	
	comp=Z,100nm,21.4s,baz=168,slow=33						
USRK	**Ussuriysk Arra**	**57.49**	**339**	P	**P**	**20 04 39.4**	**+1.5**
	2.5nm,0.7s,baz=140,slow=5.4,SNR=7.1						
ENH	**Enshi**	**60.17**	**312**	*e* P	**P**	**20 04 56.8**	**-0.1**
	4.7nm,0.7s						
SLVN	**Son La**	**60.43**	**300**	*e* P	**P**	**20 04 59.0**	**+0.1**
	23nm,1.7s						
PETK	**Petropavlovsk-**	**61.59**	**0**	LR	LR	20 27 48.8	
	comp=Z,60nm,21.7s,baz=176,slow=32						
CM31	**Chiang Mai Arr**	**63.70**	**295**	*e* P	**P**	**20 05 21.0**	**+0.2**
	3.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.70**	**295**	P	**P**	**20 05 22.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**63.70**	**295**	P	**P**	**20 05 22.2**	**+1.4**
	2.6nm,0.7s,baz=124,slow=5.2,SNR=17						
CMAR				LR	LR	20 34 23.5	
	comp=Z,40nm,18.1s,baz=305,slow=37						
CHTO	**Chiang Mai**	**63.82**	**296**	*e* P	**P**	**20 05 20.4**	**-1.2**
	15nm,1.5s						
RKT	**Rikitea**	**66.07**	**111**	*e* LR	LR	20 25 41.1	
	235nm,35.2s						
VNDA	**Vanda**	**68.81**	**179**	P	**P**	**20 05 52.5**	**-0.1**
VNDA	**Vanda**	**68.81**	**179**	P	**P**	**20 05 52.5**	**-0.1**
	3.2nm,0.9s,baz=340,slow=12,SNR=2.7						
ULN	**Ulaanbaatar**	**71.75**	**327**	*e* P	**P**	**20 06 10.6**	**-0.7**
	10nm,1.5s						
SONM	**Songino Array**	**72.09**	**327**	P	**P**	**20 06 14.4**	**+1.1**
SONM	**Songino Array**	**72.09**	**327**	P	**P**	**20 06 14.4**	**+1.1**
	1.5nm,0.7s,baz=133,slow=5.4,SNR=13						
YAK	**Yakutsk**	**73.76**	**347**	*e* P	**P**	**20 06 21.2**	**-1.4**
	12nm,0.6s						
LSA	**Lhasa**	**74.23**	**304**	*e* P	**P**	**20 06 27.4**	**+0.6**
	4.0nm,0.8s						
TAPN	**Taplejung**	**76.35**	**301**	*e* P	**P**	**20 06 41.2**	**+2.4**
	28nm,1.3s						
ODAN	**Odare**	**76.48**	**300**	*e* P	**P**	**20 06 41.2**	**+1.8**
	39nm,1.2s						
RAMN	**Ramite**	**77.18**	**300**	*e* P	**P**	**20 06 45.5**	**+2.1**
GUN	**Gumba**	**78.07**	**301**	*e* P	**P**	**20 06 49.7**	**+1.2**
	30nm,1.1s						
PKI	**Pulchoki**	**78.37**	**300**	*e* P	**P**	**20 06 51.7**	**+1.5**
GKN	**Gorkha**	**79.15**	**301**	*e* P	**P**	**20 06 54.6**	**+0.4**
	20nm,0.8s						
QSPA	**South Pole Qui**	**81.27**	**180**	*e* P	P	20 07 00.8	-4.1
	17nm,1.1s						
MCK	**McKinley**	**82.77**	**21**	*e* P	**P**	**20 07 11.5**	**-1.0**
	12nm,1.0s						
COLA	**College**	**83.82**	**21**	*e* P	**P**	**20 07 16.1**	**-1.8**
	4.9nm,0.6s						
ILAR	**Eielson Array**	**84.10**	**21**	P	**P**	**20 07 18.3**	**-1.1**
ILAR	**Eielson Array**	**84.10**	**21**	P	**P**	**20 07 18.3**	**-1.1**
	0.4nm,0.5s,baz=235,slow=6.3,SNR=9.1						
MK31	**Makanchi Array**	**86.28**	**318**	*e* P	**P**	**20 07 29.3**	**-1.5**
MKAR	**Makanchi Array**	**86.28**	**318**	P	**P**	**20 07 31.0**	**+0.2**
MKAR	**Makanchi Array**	**86.28**	**318**	P	**P**	**20 07 31.0**	**+0.2**
	3.7nm,0.6s,baz=98,slow=6.0,SNR=55						
ZALV	**Zalesovo Beam**	**86.95**	**326**	P	**P**	**20 07 33.1**	**-0.7**
ZALV	**Zalesovo Beam**	**86.95**	**326**	P	**P**	**20 07 33.1**	**-0.7**
	1.6nm,0.6s,baz=106,slow=6.3,SNR=12						
NVAR	**Mina Array Bea**	**90.90**	**51**	P	**P**	**20 07 54.5**	**+1.4**
NVAR	**Mina Array Bea**	**90.90**	**51**	P	**P**	**20 07 54.5**	**+1.4**
	0.8nm,0.7s,baz=252,slow=4.4,SNR=7.8						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**20 08 20.0**	**+1.0**
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**20 08 20.0**	**+1.0**
	0.3nm,0.8s,baz=260,slow=4.7,SNR=5.5						
AKASG	**Malin Array Be**	**120.33**	**325**	PKP	**PKPdf**	**20 13 39.0**	**-1.1**
AKASG	**Malin Array Be**	**120.33**	**325**	PKP	**PKPdf**	**20 13 39.0**	**-1.1**
	0.8nm,0.7s,baz=69,slow=1.8,SNR=5.4						
GERES	**GERESS Array B**	**129.76**	**329**	PKP	**PKPdf**	**20 13 59.1**	**+0.7**
GERES	**GERESS Array B**	**129.76**	**329**	PKP	**PKPdf**	**20 13 59.1**	**+0.7**
	0.5nm,0.6s,baz=54,slow=2.5,SNR=4.4						
ESDC	**Sonseca Array**	**144.97**	**335**	PKPbc	**PKPab**	**20 14 24.9**	**-0.8**
ESDC	**Sonseca Array**	**144.97**	**335**	PKPbc	**PKPab**	**20 14 24.9**	**-0.8**
	0.8nm,0.7s,baz=54,slow=2.6,SNR=5.6						
BDFB	**Brasilia**	**145.06**	**134**	PKPbc	**PKPbc**	**20 14 26.6**	**-0.2**
BDFB	**Brasilia**	**145.06**	**134**	PKPbc	**PKPbc**	**20 14 26.6**	**-0.2**
	0.7nm,0.7s,baz=279,slow=2.6,SNR=17						
TORD	**Torodi Ar. Bea**	**155.78**	**283**	PKP	**PKPdf**	**20 14 44.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**155.78**	**283**	PKP	**PKPdf**	**20 14 44.1**	**+0.2**
	0.6nm,0.7s,baz=116,slow=3.4,SNR=3.7						

IDC 03 19:58:43.3±4.8,2˚.21S×131˚.81E,h0km,mb3.6/2,
mb1 3.8/3,mb1mx3.5/20,mbtmp3.6/3,ML3.4/1,Error
ellipse: s-maj=319.4km s-min=27.4km az=73.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.80**	**172**	P	Pn	20 02 51.0	-1.6
	0.1nm,0.3s,baz=352,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**21.42**	**175**	P	P	20 03 33.7	+0.6
	2.5nm,0.7s,baz=350,slow=11,SNR=18						
MKAR	**Makanchi Array**	**65.30**	**325**	P	P	20 09 27.2	0.0
	0.1nm,0.3s,baz=115,slow=8.2,SNR=6.1						

MEX 03 20:15:05.3±0.6,16˚.33N×99˚.55W,h20km±17km,MD4.0,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.37**	**87**	*e* P	Pn	20 15 25.7	-3.6
PNIG				*i* S	Sn	20 15 43.2	-3.8
TLIG	**Tlapa**	**1.54**	**37**	*e* P	Pn	20 15 28.5	-3.4
TLIG				*i* S	Sn	20 15 47.2	-4.3
PLIG	**Platanillo**	**2.05**	**1**	*i* P	Pn	20 15 35.7	-3.1
PLIG				*e* S	Sn	20 15 59.9	-4.0
ARIG	**Puente Sto Nin**	**2.08**	**339**	*e* P	Pn	20 15 36.5	-2.7
ARIG				*i* S	Sn	20 16 01.1	-3.5
ZIIG	**Zihuatanejo**	**2.23**	**305**	*e* P	Pn	20 15 39.3	-1.8
ZIIG				*i* S	Sn	20 16 04.7	-3.4
YAIG	**Yautepec**	**2.56**	**10**	*e* P	Pn	20 15 43.9	-2.0
YAIG				*i* S	Sn	20 16 13.3	-3.3
VHO	**Vista Hermosa**	**2.80**	**74**	*e* P	Pn	20 15 46.8	-2.5
VHO				*i* S	Sn	20 16 19.3	-3.4
HUIG	**Huatulco**	**3.36**	**99**	*i* P	Pn	20 15 53.7	-3.0
HUIG				*i* S	Sn	20 16 33.1	-2.9

MEX 03 20:24:50.9±0.8,18˚.57N×101˚.25W,h49km±18km,MD4.0,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.91**	**109**	*i* P	Pn	20 25 05.1	-2.3
ARIG				*i* S	Sn	20 25 17.6	-1.9
ZIIG	**Zihuatanejo**	**0.98**	**192**	*i* P	Pn	20 25 06.4	-1.9
ZIIG				*i* S	Sn	20 25 19.8	-1.5
MOIG	**Morelia**	**1.10**	**3**	*i* P	Pn	20 25 08.8	-1.5
MOIG				*e* S	Sn	20 25 22.2	-2.5
PLIG	**Platanillo**	**1.67**	**96**	*e* P	Pn	20 25 16.3	-1.5
PLIG				*i* S	Sn	20 25 36.8	-1.5
MMIG	**Aquila**	**2.01**	**262**	*e* P	Pn	20 25 21.6	-0.7
MMIG				*e* S	Sn	20 25 42.9	-3.4
YAIG	**Yautepec**	**2.09**	**82**	*i* P	Pn	20 25 22.4	-1.3
YAIG				*i* S	Sn	20 25 47.4	-1.3
TLIG	**Tlapa**	**2.75**	**111**	*i* P	Pn	20 25 31.5	-1.1
TLIG				*i* S	Sn	20 26 02.8	-2.0

IDC 03 20:30:33.3±2.7,6˚.71S×133˚.64E,h0km,mb3.5/2,
mb1 3.6/5,mb1mx3.4/18,mbtmp3.5/5,ML3.2/3,Error
ellipse: s-maj=112.5km s-min=28.0km az=85.0,Aru
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.18**	**177**	Pn	Pn	20 33 41.9	0.0
	0.1nm,0.3s,baz=355,slow=13,SNR=13						
WRA				Sn	Sn	20 35 57.4	-12
	0.3nm,0.3s,baz=359,slow=23,SNR=4.3						
FITZ	**Fitzroy Crossi**	**13.75**	**214**	Pn	Pn	20 33 49.9	+0.2
	0.1nm,0.3s,baz=360,slow=19,SNR=14						
FITZ				Sn	Sn	20 36 13.8	-10
	0.2nm,0.3s,baz=34,slow=3.6,SNR=2.7						
ASAR	**Alice Springs**	**16.87**	**179**	Pn	Pn	20 34 30.9	-0.2
	0.1nm,0.3s,baz=360,slow=12,SNR=5.3						
ASAR				Sn	S	20 37 44.9	-5.3
	0.2nm,0.3s,baz=0.2,slow=24,SNR=5.2						
STKA	**Stephens Creek**	**26.12**	**164**	P	P	20 36 18.0	+8.8
	0.7nm,0.8s,baz=340,slow=13,SNR=3.4						
MKAR	**Makanchi Array**	**70.00**	**325**	P	P	20 41 47.4	+0.4
	0.4nm,0.5s,baz=122,slow=8.0,SNR=8.7						
KURBB	**Kurchatov Arra**	**74.19**	**327**	P	P	20 42 11.3	-0.6
	0.3nm,0.6s,baz=125,slow=5.1,SNR=3.9						

IDC 03 20:35:11.1±5.7,8˚.15S×118˚.29E,h160km±65km,mb3.2/5,
mb1 3.3/6,mb1mx3.1/20,mbtmp3.7/6,Error ellipse:
s-maj=115.2km s-min=12.5km az=50.0,Sumbawa
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.46**	**129**	P	P	20 39 25.1	-0.5
	0.3nm,0.3s,baz=302,slow=12,SNR=5.3						
WRA				S	S	20 42 57.8	+0.6
	0.1nm,0.3s,baz=307,slow=25,SNR=3.6						
ASAR	**Alice Springs**	**21.49**	**138**	P	P	20 39 47.2	-0.2
	1.4nm,0.4s,baz=315,slow=9.0,SNR=15						
STKA	**Stephens Creek**	**32.05**	**141**	P	P	20 41 23.6	+0.9
	1.1nm,0.7s,baz=310,slow=13,SNR=3.5						
SONM	**Songino Array**	**56.73**	**350**	P	P	20 44 39.0	+0.8
	0.4nm,0.6s,baz=161,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**63.39**	**333**	P	P	20 45 23.2	-0.3
	0.3nm,0.7s,baz=147,slow=8.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**68.00**	**339**	P	P	20 45 51.9	-0.9
	0.3nm,0.3s,baz=112,slow=6.4,SNR=3.3						

*MOS **03** 20:39:06.0±1.0,8˚.69S×77˚.83W,h59km,mb6.1/96,*
MS4.5/16,Error ellipse: s-maj=7.5km s-min=4.6km
az=97.5
*ISCJB **03**

4.4nm,0.3s,baz=252,slow=19,SNR=2.1
SAML Samuel 14.40 91 *e*Pn Pn 20 42 27.2 -4.1
PAYG Puerto Ayora 14.93 303 *e*Pn **Pn** **20 42 37.1 -0.9**
393nm,0.9s
LVC Limon Verde 16.04 149 *e*Pn **Pn** **20 42 52.0 -0.1**
550nm,1.1s
LVC *e*pP **pP** **20 43 12.7 -1.1**
LVC *e*sP **sP** **20 43 25.7 -2.5**
LVC *e*Sn **Sn** **20 45 47.0 -3.1**
SIV San Ignacio 17.73 115 P **P** **20 43 12.0 +0.3**
SIV San Ignacio 17.73 115 P **P** **20 43 12.0 +0.3**
11nm,0.3s,baz=300,slow=14,SNR=394
BCIP Isla Barro Col 18.10 353 *e*P **P** **20 43 12.7 -3.0**
616nm,1.1s
PTGA Pitinga 19.50 66 *e*P **P** **20 43 31.4 +0.3**
234nm,0.9s
PTGA *e*S **S** **20 47 02.7 -2.7**
PTGA Pitinga 19.50 66 P **P** **20 43 31.9 +0.8**
19nm,0.3s,baz=247,slow=14,SNR=110
PTGA S S 20 46 51.5 -14
2.6nm,0.3s,baz=45,slow=19,SNR=1.6
JTS JuntasAbangare 20.39 339 *e*P **P** **20 43 39.5 -1.2**
45nm,1.1s
JTS LR LR
comp=Z,1µm,22.0s
JTS JuntasAbangare 20.39 339 P Pn 20 43 42.3 -1.5
comp=Z,171nm,1.0s,baz=156,slow=2.4,SNR=62
LCO Las Campanas 21.05 163 *e*P **P** **20 43 48.6 +0.7**
comp=Z,375nm,1.3s
CFAA Coronel Fontan 24.24 160 P **P** **20 44 19.6 +0.6**
CFAA PcP **PcP** **20 47 57.3 +0.7**
CFAA Coronel Fontan 24.24 160 P **P** **20 44 19.6 +0.6**
comp=Z,7.2nm,0.9s,baz=340,slow=10,SNR=70
CFAA PcP **PcP** **20 47 57.3 +0.7**
comp=Z,2.3nm,0.8s,baz=63,slow=2.3,SNR=5.9
CFAA LR LR 20 52 49.4
comp=Z,106nm,20.3s,baz=318,slow=34
H03N2 Juan Fernandez 24.42 182 T T 21 08 46.9
baz=0.4,slow=76,SNR=37
H03N1 Juan Fernandez 24.42 182 T T 21 08 47.0
baz=0.4,slow=76,SNR=35
H03N3 Juan Fernandez 24.43 182 T T 21 08 51.5
baz=0.4,slow=76,SNR=33
TGUH Tegucigalpa,Un 24.71 337 *e*P **P** **20 44 21.6 -1.8**
comp=Z,244nm,0.9s
TGUH *e*pP **pP** **20 44 46.9 -1.0**
TGUH *e*sP **sP** **20 44 59.8 -1.5**
TGUH LR LR
comp=Z,2µm,22.0s
TPP Pointe-a-Pierr 25.08 41 *e* **P** **20 44 30.1 +3.3**
TRN Trinidad (W) 25.36 40 *e* **P** **20 44 32.1 +2.7**
TBH Brigand Hill 25.45 41 *e* **P** **20 44 33.7 +3.5**
CPUP Villa Florida 25.98 134 *e*P **P** **20 44 33.3 -1.6**
comp=Z,9.2nm,0.9s
CPUP *e*pP **pP** **20 44 58.2 -1.3**
CPUP *e*sP **sP** **20 45 11.7 -1.0**
CPUP *e*PcP **PcP** **20 48 00.7 +0.1**
CPUP PcP PcP 20 48 01.3 +0.7
CPUP Villa Florida 25.98 134 P **P** **20 44 35.3 +0.4**
comp=Z,23nm,0.7s,baz=300,slow=10,SNR=18
CPUP PcP **PcP** **20 48 01.3 +0.7**
comp=Z,16nm,0.8s,baz=314,slow=5.1,SNR=4.4
TPR Prospect 26.17 41 *e* **P** **20 44 40.0 +3.3**
GRGR Grenville 26.34 38 *e*P **P** **20 44 33.8 -4.5**
comp=Z,2µm,1.4s
GRGR LR LR
comp=Z,2µm,22.0s
GRSS Sisters 26.50 38 *e* **P** **20 44 40.8 +1.1**
YHJ Yallahs 26.68 3 *i*P **P** **20 44 43.8 +2.5**
YHJ Yallahs 26.68 3 *i*P **P** **20 44 43.9 +2.5**
YHJ Yallahs 26.68 3 *i*P **P** **20 44 43.9 +2.5**
MCJ Malvern 26.68 0 *i*P **P** **20 44 44.0 +2.7**
MCJ Malvern 26.68 0 *i*P **P** **20 44 43.9 +2.5**
MCJ Malvern 26.68 0 *i*P **P** **20 44 43.9 +2.5**
HOJ Hope 26.78 2 *i*P **P** **20 44 45.0 +2.9**
HOJ Hope 26.78 2 *i*P **P** **20 44 45.6 +3.5**
HOJ Hope 26.78 2 *i*P **P** **20 44 45.6 +3.5**
GWJ Greenwich 26.85 2 *i*P **P** **20 44 44.9 +2.0**
GWJ Greenwich 26.85 2 *i*P **P** **20 44 45.4 +2.5**
GWJ Greenwich 26.85 2 *i*P **P** **20 44 45.4 +2.5**
STH Stony Hill 26.85 2 *i*P **P** **20 44 44.8 +2.0**
STH Stony Hill 26.85 2 *i*P **P** **20 44 45.1 +2.3**
STH Stony Hill 26.85 2 *i*P **P** **20 44 45.1 +2.3**
APG El Apazote 26.91 332 P **P** **20 44 42.1 -1.5**
APG pP **pP** **20 45 09.3 +1.0**
APG El Apazote 26.91 332 P **P** **20 44 42.1 -1.5**
comp=Z,41nm,0.9s,baz=154,slow=11,SNR=25
APG pP **pP** **20 45 09.3 +1.0**
comp=Z,61nm,1.1s,baz=185,slow=16,SNR=5.1
CVJ Coleyville 26.98 0 *i*P **P** **20 44 47.0 +2.9**
CVJ Coleyville 26.98 0 *i*P **P** **20 44 46.8 +2.7**
CVJ *e* 20 44 46.8
CVJ Coleyville 26.98 0 *i*P **P** **20 44 46.8 +2.7**
CVJ *e* 20 44 46.8
MTDJ Mount Denham 26.98 0 *e*P **P** **20 44 42.6 -1.4**
comp=Z,482nm,1.1s
MTDJ *e*pP **pP** **20 45 07.3 -1.5**
MTDJ *e*sP **sP** **20 45 19.2 -2.8**
MTDJ LR LR
comp=Z,2µm,19.0s
BBGH Gun Hill 28.42 40 PFAKE 20 45 10.0 +13
BBGH LR LR
comp=Z,3µm,19.0s
SDDR Presa de Saban 28.46 13 *e*P **P** **20 44 54.8 -2.3**
comp=Z,318nm,0.9s
SDDR LR LR
comp=Z,964nm,21.0s
FDF Fort de France 28.70 35 *e*P P 20 44 54.1 -5.2
FDF pmax pmax
comp=Z,204nm,1.1s
FDF Fort de France 28.70 35 *e*P **P** **20 44 57.9 -1.4**
FDF Fort de France 28.70 35 *e*P P 20 44 54.1 -5.2
comp=Z,204nm,1.1s
CRPR Cabo Rojo, PR 28.76 21 *e*P **P** **20 44 57.3 -2.4**
comp=Z,70nm,0.8s
CRPR *e*PcP **PcP** **20 48 07.2 -0.1**
GTBY Guantanamo Bay 28.79 5 P **P** **20 44 58.3 -1.7**
comp=Z,415nm,0.9s
GTBY LR LR
comp=Z,1µm,19.0s
LSP Las Mesas 28.92 21 *e*P **P** **20 45 00.1 -1.1**
LSP *e*pP **pP** **20 45 24.0 -2.1**
LSP *e*sP **sP** **20 45 36.5 -2.8**
OBIP Obispado Ponce 28.98 22 *e*P **P** **20 44 58.6 -3.0**
comp=Z,207nm,1.1s
OBIP *e*PcP **PcP** **20 48 07.6 -0.2**
CELP Cerrillos 29.01 22 P **P** **20 44 59.5 -2.5**
CELP *e*PcP **PcP** **20 48 08.4 +0.4**
BBL Barber's Block 29.17 34 *e*P **P** **20 45 03.2 -0.2**
AGPR Aguadilla, PR 29.18 21 *e*P P 20 44 59.8 -3.7
comp=Z,346nm,1.0s
AGPR *e*PcP **PcP** **20 48 08.3 -0.1**
AOPR Arecibo Observ 29.20 22 *e*P **P** **20 45 03.3 -0.4**
comp=Z,324nm,0.9s
TBG Guadaloupe-3 29.34 33 *e*P **P** **20 45 04.2 -0.7**
HUMP Col San Antoni 29.36 24 *e*P **P** **20 45 05.4 +0.4**
HMG Houelmont 29.42 33 *e*P **P** **20 45 05.7 0.0**
CDVI St. Croix 29.45 26 P **P** **20 45 03.8 -2.1**
comp=Z,524nm,0.9s
CDVI *e*PcP **PcP** **20 48 09.3 +0.2**
PHG Guadaloupe-2 29.48 33 *e*P **P** **20 45 06.7 +0.4**
TAG Tarade 29.49 33 *e*P **P** **20 45 06.4 0.0**
FNG Fond-Bernard 29.49 33 *e*P **P** **20 45 06.5 +0.1**
ECG Echelle 29.49 33 *e*P **P** **20 45 06.4 -0.1**
DOG Dongo Capester 29.50 33 *e*P **P** **20 45 06.5 +0.1**
SSG Sans Toucher 29.52 33 *e*P **P** **20 45 06.8 +0.2**
BDFB Brasilia 29.79 106 *e*P **P** **20 45 09.1 -0.1**
BDFB Brasilia 29.79 106 P **P** **20 45 10.1 +0.9**
comp=Z,38nm,0.9s,baz=271,slow=11,SNR=46
BDFB LR LR 20 58 45.6
comp=Z,1µm,18.2s,baz=266,slow=39
SABA Saba 30.03 29 *e*P **P** **20 45 11.1 0.0**
comp=Z,124nm,0.8s
BB16B Bebedouro 30.58 116 ⇑*i*P P 20 45 09.1 -6.9
BB16B *i* 20 45 14.4
BB16B *i* 20 45 19.9
BB16B *i* 20 45 24.4
BB16B *i* 20 45 31.8
BB16B *i* 20 45 45.3
BB16B *i* 20 45 55.3
TEIG Tepich 30.77 340 *e*P **P** **20 45 16.3 -1.2**
TEIG *e*PcP **PcP** **20 48 11.5 -1.0**
TEIG PcP PcP 20 48 12.4 0.0
TEIG LR LR
comp=Z,840nm,20.0s
TEIG Tepich 30.77 340 P **P** **20 45 15.7 -1.8**
comp=Z,98nm,1.2s,baz=135,slow=8.6,SNR=11
TEIG PcP **PcP** **20 48 12.4 0.0**
comp=Z,8.3nm,0.5s,baz=164,slow=1.6,SNR=4.1
ANWB Willy Bob 30.78 31 *e*P **P** **20 45 16.3 -1.3**
ANWB Willy Bob 30.78 31 *e*P **P** **20 45 14.5 -3.2**
comp=Z,475nm,1.0s
ANWB *e*pP **pP** **20 45 40.9 -1.7**
ANWB *e*PcP **PcP** **20 48 11.7 -0.9**
ANWB LR LR
comp=Z,864nm,19.0s
GRTK Grand Turk 30.94 12 *e*P **P** **20 45 16.7 -2.3**
comp=Z,494nm,0.9s
GRTK LR LR
comp=Z,975nm,20.0s
LPA La Plata 31.60 148 *ce*P **P** **20 45 24.0 -0.7**
LPA sP **sP** **20 46 04.0 +1.2**
LPA PCP **PcP** **20 48 14.0 -0.5**
LPA S **S** **20 50 28.0 +2.7**
LPA SS **SnSn** **20 52 22.0 -1.9**
LPA SS(2) 20 52 44.0
LPA SKIKP 20 59 04.0
TRQA Tornquist 32.30 156 *e*P **P** **20 45 30.2 -0.6**
comp=Z,97nm,1.6s
TRQA *e*PcP **PcP** **20 48 17.4 +1.0**
TRQA LR LR
comp=Z,1µm,22.0s
PLCA Paso Flores 32.31 170 *e*P **P** **20 45 29.0 -2.0**
comp=Z,81nm,1.2s
PLCA pP **pP** **20 45 58.1 +2.0**
PLCA PcP **PcP** **20 48 17.9 +1.5**
PLCA Paso Flores 32.31 170 P **P** **20 45 31.8 +0.9**
comp=Z,66nm,1.1s,baz=351,slow=9.4,SNR=28
PLCA pP **pP** **20 45 58.1 +2.0**
comp=Z,36nm,0.9s,baz=351,slow=11,SNR=5.4
PLCA PcP **PcP** **20 48 17.9 +1.5**
comp=Z,39nm,0.8s,baz=344,slow=5.0,SNR=13
PLCA LR LR 20 56 30.7
comp=Z,601nm,19.5s,baz=354,slow=32
TIGA Tifton 40.53 352 *e*P P 20 46 37.4 -3.3
TIGA Tifton 40.53 352 ⇑P **P** **20 46 41.2 +0.5**
baz=41,SNR=7.5
BRAL Brewton 40.70 348 *e*P **P** **20 46 40.4 -1.7**
comp=Z,385nm,1.0s
BRAL LR LR
comp=Z,798nm,19.0s
934A Benavides 41.51 332 ⇑P **P** **20 46 49.6 +0.7**
baz=42,SNR=35
934A ⇑P **PcP** **20 48 46.8 +2.4**
baz=42,SNR=5.3
RCBR Riachuelo 41.61 89 *e*P **P** **20 46 47.6 -2.3**
comp=Z,20nm,1.3s
RCBR pP **pP** **20 47 19.3 +3.4**
RCBR LR LR
comp=Z,2µm,20.0s
RCBR Riachuelo 41.61 89 P **P** **20 46 50.6 +0.7**
comp=Z,19nm,0.8s,baz=248,slow=7.4,SNR=7.4
RCBR pP **pP** **20 47 19.3 +3.4**
comp=Z,14nm,0.8s,baz=290,slow=15,SNR=2.7
RGRS Roger Stewart 41.67 357 *e*P **P** **20 46 49.7 -0.3**
CSU Charleston Sou 41.74 357 *e*P **P** **20 46 50.7 +0.1**
835A Beeville 41.78 333 ⇓P **P** **20 46 52.6 +1.6**
baz=42,SNR=13
835A ⇓P **PcP** **20 48 45.5 +0.3**
baz=42,SNR=7.4
NHSC New Hope 41.87 357 PFAKE 20 47 00.0 +8.4
NHSC LR LR
comp=Z,1µm,22.0s
834A Tilden 41.97 332 ⇑P **P** **20 46 53.4 +0.8**
baz=42,SNR=40
834A ⇓P **PcP** **20 48 47.7 +1.8**
baz=42
735A Kenedy 42.26 333 ⇓P **P** **20 46 55.8 +1.0**
baz=42,SNR=21
735A ⇓P **PcP** **20 48 47.5 +0.7**
baz=42
HKT Hockley 42.39 336 *e*P **P** **20 46 55.6 -0.3**
HKT *e* 20 48 48.4
HKT pmax pmax
comp=Z,192nm,1.0s
HKT Hockley 42.39 336 *e*P **P** **20 46 55.6 -0.3**
comp=Z,192nm,1.0s
HKT *e*PcP **PcP** **20 48 48.4 +1.2**
GOGA Godfrey 42.45 353 *e*P **P** **20 46 54.1 -2.3**
GOGA pmax pmax
comp=Z,176nm,1.3s
GOGA Godfrey 42.45 353 *e*P **P** **20 46 54.1 -2.3**
comp=Z,176nm,1.3s
GOGA LR LR
comp=Z,515nm,21.0s
833A Chaparral WMA, 42.53 331 ⇓P **P** **20 46 58.0 +0.8**
baz=43,SNR=49
833A ⇓P **PcP** **20 48 49.0 +1.2**
baz=43,SNR=9.3
734A La Parita Cree 42.59 333 ⇑P **P** **20 46 58.3 +0.7**
baz=43,SNR=29
734A ⇓P **PcP** **20 48 49.3 +1.4**
baz=43,SNR=6.0
LRAL Lakeview Retre 42.65 349 *e*P **P** **20 46 55.2 -2.8**
comp=Z,206nm,1.1s
LRAL *e*PcP **PcP** **20 48 47.4 -0.6**
VBMS Vicksburg 42.69 344 *e*P **P** **20 46 58.4 0.0**
comp=Z,718nm,1.7s
635A Leesville 42.70 334 ⇑P **P** **20 46 59.4 +0.9**
baz=43,SNR=30
635A ⇑P **PcP** **20 48 48.6 +0.3**
baz=43,SNR=6.5
832A Faith Ranch, C 42.78 331 ⇑P **P** **20 46 60.0 +0.9**
baz=43,SNR=56
832A ⇑P **PcP** **20 48 49.8 +1.2**
baz=43
733A Divot King Ran 42.82 332 ⇓P **P** **20 46 60.0 +0.6**
baz=43,SNR=49
733A ⇓P **PcP** **20 48 49.9 +1.2**
baz=43,SNR=6.3
634A China Grove, S 42.95 333 ⇑P **P** **20 47 01.2 +0.7**
baz=43,SNR=14
634A ⇓P **PcP** **20 48 50.3 +1.1**
baz=43,SNR=6.4
JSC Jenkinsville 43.10 356 *e*P **P** **20 47 01.1 -0.5**
JSC Jenkinsville 43.10 356 *e*P **P** **20 47 01.1 -0.5**
732A Laxson Ranch, 43.15 331 ⇑P **P** **20 47 03.0 +0.9**
baz=43,SNR=37
732A ⇓P **PcP** **20 48 51.1 +1.3**
baz=43,SNR=5.7
535A Dale 43.17 335 ⇓P **P** **20 47 03.2 +1.0**
baz=43,SNR=15
633A Saathoff Ranch 43.39 332 ⇑P **P** **20 47 04.7 +0.7**
baz=44,SNR=88
633A ⇓P **PcP** **20 48 52.2 +1.5**
baz=44
534A Blanco 43.56 334 ⇑P **P** **20 47 05.8 +0.3**
baz=44,SNR=102
534A ⇑P **PcP** **20 48 52.2 +1.0**
baz=44,SNR=8.8
NATX Nacogdoches 43.57 339 *e*P **P** **20 47 03.9 -1.6**
comp=Z,582nm,0.9s
NATX LR LR
comp=Z,988nm,21.0s
632A Uvalde 43.71 332 ⇓P **P** **20 47 07.5 +0.8**
baz=44,SNR=211
632A ⇓P **PcP** **20 48 52.8 +1.0**
baz=44
533A Kerrville 43.84 333 ⇓P **P** **20 47 08.3 +0.5**
baz=44,SNR=67
533A ⇓P **PcP** **20 48 52.8 +0.6**
baz=44,SNR=6.0
KMSC Kings Mountain 43.96 356 *e*P P 20 47 05.3 -3.2
KMSC *e*PcP **PcP** **20 48 52.0 -0.5**
KMSC Kings Mountain 43.96 356 ⇑P **P** **20 47 08.2 -0.3**
baz=44,SNR=41
631A Perdido Creek 44.01 331 ⇓P **P** **20 47 09.4 +0.4**
baz=44,SNR=250
434A Burnet 44.15 334 ⇑P **P** **20 47 10.8 +0.7**
baz=44,SNR=80
434A ⇑P **PcP** **20 48 53.7 +0.5**
baz=44
335A Moody 44.20 336 ⇓P **P** **20 47 11.2 +0.7**
baz=44,SNR=75
335A ⇓P **PcP** **20 48 53.8 +0.5**
baz=44
532A Rocksprings 44.29 332 ⇓P **P** **20 47 11.9 +0.6**
baz=44,SNR=87
532A ⇓P **PcP** **20 48 54.8 +1.0**
baz=44
433A Art 44.45 333 ⇓P **P** **20 47 13.2 +0.6**
baz=45,SNR=181
433A ⇑P **PcP** **20 48 55.2 +0.9**
baz=45
JCT Junction City 44.54 332 *e*P **P** **20 47 11.9 -1.4**
JCT *e* 20 48 54.9
JCT pmax pmax
comp=Z,72nm,0.9s
JCT MLR MLR
comp=Z,328nm,22.0s
JCT Junction City 44.54 332 *e*P **P** **20 47 11.9 -1.4**
comp=Z,72nm,0.9s
JCT *e*PcP **PcP** **20 48 54.9 +0.2**
JCT LR LR
comp=Z,328nm,22.0s
JCT Junction City 44.54 332 ⇑P **P** **20 47 13.6 +0.4**
baz=45,SNR=28
JCT ⇑P **PcP** **20 48 55.4 +0.8**
baz=45,SNR=5.5
SWET Sewanee 44.58 350 *e*P **P** **20 47 11.6 -1.9**
comp=Z,114nm,0.9s
SWET *e*pP **pP** **20 47 38.2 -1.5**
SWET *e*PcP **PcP** **20 48 54.3 -0.4**
334A Lometa 44.58 335 ⇑P **P** **20 47 14.0 +0.4**
baz=45,SNR=102
334A ⇑P **PcP** **20 48 55.2 +0.5**
baz=45
OXF Oxford 44.59 346 *e*P **P** **20 47 11.0 -2.5**
OXF *e* 20 48 54.6
OXF pmax pmax
comp=Z,215nm,1.0s
OXF Oxford 44.59 346 *e*P **P** **20 47 11.0 -2.5**
comp=Z,214nm,1.0s
OXF *e*PcP **PcP** **20 48 54.5 -0.1**
CPCT Cooper Cave 44.60 352 *e*P **P** **20 47 11.3 -2.3**
CPCT *e*PcP **PcP** **20 48 55.0 +0.3**
531A Rocksprings 44.62 331 ⇓P **P** **20 47 14.9 +1.0**
baz=45,SNR=222
TKL Tuckaleechee C 44.71 353 *e*P P 20 47 10.8 -3.6
TKL Tuckaleechee C 44.71 353 P **P** **20 47 13.5 -1.0**
comp=Z,113nm,1.0s,baz=152,slow=6.8,SNR=44
WHTX Lake Witney 44.84 336 *e*P **P** **20 47 13.8 -1.7**
comp=Z,257nm,1.0s
WHTX *e*PcP **PcP** **20 48 56.1 +0.6**
WHTX Lake Whitney 44.84 336 ⇑P **P** **20 47 16.1 +0.5**
baz=45
WHTX ⇓P **PcP** **20 48 56.4 +0.8**
baz=45
432A Menard 44.87 333 ⇓P **P** **20 47 16.1 +0.1**
baz=45,SNR=51
432A ⇑P **PcP** **20 48 56.3 +0.6**
baz=45
333A Richland Sprin 44.90 334 ⇑P **P** **20 47 16.2 +0.1**
baz=45,SNR=74
333A ⇓P **PcP** **20 48 56.4 +0.6**
baz=45,SNR=8.5
530A J-C Ranch, Com 44.98 331 ⇑P **P** **20 47 17.4 +0.6**
baz=45,SNR=126
431A Sonora 45.08 332 ⇓P **P** **20 47 18.2 +0.6**
baz=45,SNR=111
234A Clairette 45.12 335 ⇓P **P** **20 47 18.1 +0.2**
baz=45,SNR=45
234A ⇑P **PcP** **20 48 57.3 +0.7**
baz=45
628A Black Gap, Mar 45.22 329 ⇓P **P** **20 47 19.0 +0.3**
baz=45,SNR=107
332A Millersview 45.28 333 ⇓P **P** **20 47 19.3 +0.2**
baz=45,SNR=168
332A ⇓P **PcP** **20 48 57.6 +0.5**
baz=45
135A Vickery Place, 45.32 336 ⇑P **P** **20 47 19.6 +0.3**
baz=45,SNR=51
135A ⇑P **PcP** **20 48 58.1 +0.9**
baz=45
529A Stev Forest Ra 45.40 330 ⇑P **P** **20 47 20.4 +0.3**
baz=46,SNR=230
627A Terlingua Ranc 45.45 328 ⇓P **P** **20 47 21.2 +0.5**
baz=46,SNR=88
233A Rising Star 45.46 335 ⇓P **P** **20 47 20.9 +0.4**
baz=46,SNR=75
233A ⇓P **PcP** **20 48 58.6 +0.8**
baz=46,SNR=9.2
430A Baggett Ranch, 45.46 331 ⇓P **P** **20 47 21.0 +0.3**
baz=46,SNR=58
TXAR Lajitas Array 45.50 328 P **P** **20 47 21.6 +0.6**
TXAR PcP **PcP** **20 48 58.7 +0.6**
TXAR Lajitas Array 45.50 328 P **P** **20 47 21.6 +0.6**
comp=Z,63nm,0.8s,baz=147,slow=8.4,SNR=350
TXAR PcP **PcP** **20 48 58.7 +0.6**
comp=Z,23nm,0.8s,baz=134,slow=5.2,SNR=8.5
331A San Angelo 45.52 332 ⇓P **P** **20 47 21.4 +0.4**
baz=46,SNR=128
TZTN Tazewell 45.56 353 *e*P **P** **20 47 20.2 -1.0**
comp=Z,141nm,0.9s
EFI East Falkland 45.58 163 *c i*P **P** **20 47 22.7 +1.6**
EFI pmax pmax
comp=Z,249nm,2.5s
134A White-Moore Ra 45.60 336 ⇑P **P** **20 47 22.3 +0.7**
baz=46,SNR=153
134A ⇑P **PcP** **20 48 59.3 +1.1**
baz=46,SNR=6.4
UALR University of 45.61 343 *e*P **P** **20 47 21.3 -0.3**
comp=Z,347nm,0.8s
UALR *e*PcP **PcP** **20 48 57.8 -0.3**
429A Davenport Ranc 45.65 330 ⇓P **P** **20 47 22.7 +0.7**
baz=46,SNR=115
232A Coleman 45.67 334 ⇓P **P** **20 47 22.8 +0.6**
baz=46,SNR=161
232A ⇑P **PcP** **20 48 59.5 +1.0**
baz=46,SNR=7.5
MIAR Mount Ida 45.76 342 *e*P **P** **20 47 23.1 +0.3**
MIAR *e* 20 48 58.7
MIAR pmax pmax
comp=Z,530nm,0.9s
MIAR MLR MLR
comp=Z,696nm,21.0s
MIAR Mount Ida 45.76 342 *e*P **P** **20 47 23.1 +0.3**
comp=Z,530nm,0.9s
MIAR *e*PcP **PcP** **20 48 58.7 0.0**
MIAR LR LR
comp=Z,696nm,21.0s
WVT Waverly 45.81 349 *e*P **P** **20 47 21.2 -1.9**
WVT *e* 20 48 58.7
WVT pmax pmax
comp=Z,98nm,0.9s
WVT Waverly 45.81 349 *e*P **P** **20 47 21.2 -1.9**
comp=Z,98nm,0.9s
WVT *e*PcP **PcP** **20 48 58.7 -0.1**
HALT Halls 45.92 347 *e*P P 20 47 20.6 -3.4
626A Big Bend Ranch 45.93 327 ⇓P **P** **20 47 25.0 +0.7**
baz=46,SNR=454
Z35A Perchaven, San 45.94 337 ⇑P **P** **20 47 25.1 +0.9**
baz=46,SNR=68
330A Mertzon 45.95 332 ⇓P **P** **20 47 24.6 +0.1**
baz=46,SNR=79
BLA Blacksburg 45.97 357 *e*P **P** **20 47 22.7 -1.7**
BLA pmax pmax
comp=Z,129nm,1.0s
BLA MLR MLR
comp=Z,759nm,19.0s
BLA Blacksburg 45.97 357 *e*P **P** **20 47 22.7 -1.7**
comp=Z,129nm,1.0s
BLA LR LR
comp=Z,759nm,19.0s
133A Hamilton Ranch 45.97 335 ⇑P **P** **20 47 25.1 +0.5**
baz=46,SNR=81
133A ⇓P **PcP** **20 49 00.2 +0.7**
baz=46
VWCC Virginia Weste 45.98 358 *e*P **P** **20 47 22.3 -2.2**
231A Bronte 46.00 333 ⇓P **P** **20 47 25.0 +0.2**
baz=46,SNR=47
428A Kincaid Ranch, 46.12 330 ⇑P **P** **20 47 26.5 +0.7**
baz=46,SNR=70
527A Woodward Ranch 46.12 328 ⇑P **P** **20 47 26.2 +0.3**
baz=46,SNR=187
GNAR Gosnell 46.12 346 *e*P P 20 47 22.4 -3.2
comp=Z,5µm,1.1s
Z34A Collier Ranch, 46.23 336 ⇑P **P** **20 47 27.1 +0.5**
baz=46,SNR=50
GLAT Glass 46.25 347 *e*P **P** **20 47 23.6 -3.0**
GLAT *e*PcP **PcP** **20 48 59.9 -0.4**
ABTX Abilene, Hawle 46.30 334 *e*P **P** **20 47 27.7 +0.6**
ABTX *e*PcP **PcP** **20 49 01.2 +0.6**
ABTX Abilene, Hawle 46.30 334 ⇑P **P** **20 47 27.5 +0.4**
baz=46,SNR=156
526A Mary Lane Ranc 46.30 328 ⇑P **P** **20 47 27.7 +0.4**
baz=46,SNR=208
230A Sterling City 46.33 332 ⇑P **P** **20 47 27.5 +0.2**

baz=46,SNR=100
JSRW J. Sargeant Re 46.38 360 *e*P P **20 47 27.7 +0.1**
JSRW *e*PcP **PcP 20 49 01.4 +0.6**
USHA Ushuaia 46.38 173 P P **20 47 28.8 +1.5**
USHA pP **pP 20 47 55.4 +1.7**
USHA Ushuaia 46.38 173 P P **20 47 28.8 +1.5**
comp=Z,53nm,0.9s,baz=313,slow=4.7,SNR=18
USHA pP **pP 20 47 55.4 +1.7**
comp=Z,50nm,0.9s,baz=306,slow=5.6,SNR=5.7
329A Wagon Wheel Ra 46.40 331 ⇑P P **20 47 28.3 +0.3**
baz=46,SNR=166
Z33A Whitaker Ranch 46.50 336 ⇑P P **20 47 29.4 +0.7**
baz=47,SNR=236
Z33A ⇓P **PcP 20 49 02.8 +1.5**
baz=47
427A Hayter Ranch, 46.58 329 ⇑P P **20 47 29.9 +0.5**
baz=47,SNR=56
131A Roby 46.66 334 ⇓P P **20 47 30.7 +0.8**
baz=47,SNR=106
Y34A Reagan Ranch, 46.69 337 ⇑P P **20 47 30.4 +0.3**
baz=47,SNR=76
Y34A ⇓P **PcP 20 49 03.1 +1.1**
baz=47
328A Wristen Ranch, 46.72 330 ⇓P P **20 47 30.9 +0.5**
baz=47,SNR=234
229A Bryant Ranch, 46.72 332 ⇓P P **20 47 30.8 +0.4**
baz=47,SNR=46
PARMO Parma 46.73 347 *e*P P **20 47 28.1 -2.2**
426A McDonald Obser 46.76 328 ⇓P P **20 47 31.3 +0.3**
baz=47,SNR=95
Z32A Haskell 46.81 335 ⇑P P **20 47 31.7 +0.6**
baz=47,SNR=140
Z32A ⇓P **PcP 20 49 03.8 +1.4**
baz=47,SNR=8.1
130A Snyder 46.85 333 ⇑P P **20 47 31.9 +0.5**
baz=47,SNR=80
CBN Corbin 46.89 0 *e*P P 20 47 26.7 -4.9
PBMO Poplar Bluff 47.00 346 *e*P P **20 47 31.4 -1.0**
comp=Z,238nm,0.9s
327A Balmorhea Ranc 47.04 330 ⇑P P **20 47 33.5 +0.5**
baz=47,SNR=18
Y33A Hilltop Ranch, 47.07 336 ⇑P P **20 47 33.6 +0.5**
baz=47,SNR=32
Y33A ⇓P **PcP 20 49 04.3 +1.0**
baz=47,SNR=6.2
Z31A Sharp Cattle R 47.10 334 ⇑P P **20 47 34.1 +0.7**
baz=47,SNR=258
228A UT Block 9, Go 47.21 331 ⇓P P **20 47 35.0 +0.7**
baz=47,SNR=53
326A Caldwell Ranch 47.25 329 ⇓P P **20 47 35.3 +0.7**
baz=47,SNR=71
X34A Smith Ranch, M 47.28 337 ⇓P P **20 47 35.6 +0.9**
baz=47,SNR=199
129A Stewart Farms, 47.29 332 ⇑P P **20 47 35.2 +0.3**
baz=47,SNR=10
425A Indio Mountain 47.35 328 ⇓P P **20 47 35.8 +0.3**
baz=47,SNR=132
Y32A R-V Farms, Ver 47.40 335 ⇓P P **20 47 36.5 +0.9**
baz=48,SNR=117
Y32A ⇑P **PcP 20 49 05.6 +1.0**
baz=48
227A Bennet, Jal 47.47 330 ⇑P P **20 47 37.1 +0.8**
baz=48,SNR=71
X33A Lawton 47.49 337 ⇑P P **20 47 36.7 +0.3**
baz=48,SNR=63
X33A ⇓P **PcP 20 49 05.8 +1.0**
baz=48,SNR=7.0
Z30A Sanderson Ranc 47.51 333 ⇓P P **20 47 37.0 +0.5**
baz=48,SNR=329
USIN University of 47.56 349 *e*P P 20 47 32.2 -4.6
comp=Z,244nm,0.9s
128A Castleberry Fa 47.58 331 ⇑P P **20 47 37.4 +0.3**
baz=48,SNR=96
WCI Wyandotte Cave 47.59 351 *e*P P 20 47 32.9 -4.1
WCI *e* 20 49 05.2
WCI pmax pmax
comp=Z,136nm,1.0s
WCI Wyandotte Cave 47.59 351 *e*P P 20 47 32.9 -4.1
comp=Z,136nm,1.0s
WCI *e*PcP **PcP 20 49 05.2 +0.1**
SIUC Southern Illin 47.62 348 *e*P P **20 47 34.8 -2.4**
comp=Z,289nm,0.8s
SIUC *e*PcP **PcP 20 49 05.2 0.0**
X32A Elmer 47.70 336 ⇑P P **20 47 38.5 +0.5**
baz=48,SNR=102
Y31A Rekieta Farm, 47.71 335 ⇓P P **20 47 38.8 +0.8**
baz=48,SNR=266
TUL1 Tulsa 47.73 340 *e*P P **20 47 38.1 -0.1**
TUL1 Tulsa 47.73 340 ⇓P P **20 47 38.7 +0.6**
baz=48,SNR=216
Z29A Hungry Hill Ra 47.75 333 ⇑P P **20 47 38.6 +0.2**
baz=48,SNR=139
WMOK Wichita Mounta 47.77 336 *e*P P 20 47 34.6 -3.9
WMOK *e* 20 49 06.3
WMOK pmax pmax
comp=Z,158nm,1.1s
WMOK MLR MLR
comp=Z,512nm,22.0s
WMOK Wichita Mounta 47.77 336 *e*P P 20 47 34.6 -3.9
comp=Z,158nm,1.1s
WMOK *e*PcP **PcP 20 49 06.2 +0.4**
WMOK LR LR
comp=Z,512nm,22.0s
325A Bean Ranch, Si 47.80 328 ⇓P P **20 47 39.4 +0.4**
baz=48,SNR=80
W34A Bridge Creek, 47.83 338 ⇓P P **20 47 39.6 +0.7**
baz=48,SNR=38
W34A ⇑P **PcP 20 49 07.2 +1.2**
baz=48
Y30A Stafford Cattl 47.91 334 ⇓P P **20 47 40.4 +0.8**
baz=48,SNR=46
226B Tecolote Peak, 47.95 329 ⇑P P **20 47 40.7 +0.7**
baz=48,SNR=241
W33A Caddo, Fort Co 48.02 337 ⇓P P **20 47 41.3 +1.0**
baz=48,SNR=46
W33A ⇓P **PcP 20 49 09.0 +2.3**
baz=48
127A Arkansas Junct 48.04 331 ⇑P P **20 47 41.2 +0.4**
baz=48,SNR=100
Z28A Tucker Farm, M 48.08 332 ⇓P P **20 47 41.5 +0.5**
baz=48,SNR=79
SDMD Soldier's Deli 48.10 1 *e*P P **20 47 39.3 -1.6**
comp=Z,123nm,1.0s
SDMD *e*PcP **PcP 20 49 07.7 +0.8**
324A Moseley Ranch, 48.13 328 ⇓P P **20 47 41.6 +0.1**
baz=48,SNR=197
X31A McDonald Ranch 48.16 335 ⇑P P **20 47 41.9 +0.4**
baz=48,SNR=183
Y29A Porterfield Fa 48.23 333 ⇓P P **20 47 42.5 +0.3**
baz=48,SNR=137
V34A Guthrie 48.26 338 ⇑P P **20 47 42.4 +0.1**
baz=48,SNR=74
V34A ⇓P **PcP 20 49 06.3 -1.2**
baz=48
MNTX Cornudas Mount 48.27 328 *e*P P **20 47 42.1 -0.3**
comp=Z,106nm,1.1s
MNTX *e*PcP **PcP 20 49 07.7 0.0**
MNTX LR LR
comp=Z,873nm,21.0s
225A Deer Hill, Car 48.31 329 ⇓P P **20 47 43.4 +0.5**
baz=48,SNR=153
126A Clayton Basin, 48.34 330 ⇓P P **20 47 43.6 +0.6**
baz=48,SNR=47
X30A Coker Ranch, T 48.38 334 ⇓P P **20 47 43.6 +0.3**
baz=48,SNR=143
Z27A Tatum 48.49 331 ⇑P P **20 47 44.4 +0.2**
baz=49,SNR=210
V33A Lossen Ranch, 48.54 338 ⇑P P **20 47 44.5 +0.2**
baz=49,SNR=102
V33A ⇓P **PcP 20 49 10.2 +1.6**
baz=49
Y28A McKinney Farm, 48.54 333 ⇓P P **20 47 44.5 0.0**
baz=49,SNR=93
BLO Bloomington 48.54 351 *e*P P 20 47 40.7 -3.6
BLO *e* 20 49 08.2
BLO pmax pmax
comp=Z,474nm,1.6s
BLO Bloomington 48.54 351 *e*P P 20 47 40.7 -3.6
comp=Z,474nm,1.6s
BLO *e*PcP **PcP 20 49 08.2 -0.3**
W31A Holland Ranch, 48.63 336 ⇓P P **20 47 45.2 +0.1**
baz=49,SNR=42
224A Cornudas Mount 48.65 328 ⇓P P **20 47 44.9 -0.5**
baz=49,SNR=121
125A Gardner Draw, 48.67 329 ⇓P P **20 47 45.9 +0.3**
baz=49,SNR=180
MVL Millersville 48.70 1 *e*P P **20 47 45.3 -0.2**
comp=Z,379nm,1.0s
SLM Saint Louis 48.73 347 *e*P P 20 47 41.2 -4.5
SLM Saint Louis 48.73 347 *e*P P 20 47 41.2 -4.5
V32A Arapaho 48.74 337 ⇑P P **20 47 46.4 +0.5**
baz=49,SNR=90
X29A Tulia 48.74 334 ⇓P P **20 47 46.3 +0.3**
baz=49,SNR=94
U34A Anderson Ranch 48.81 339 ⇑P P **20 47 46.7 +0.3**
baz=49,SNR=86
U34A ⇑P **PcP 20 49 10.1 +0.6**
baz=49
Z26A Caprock 48.83 331 ⇑P P **20 47 47.3 +0.6**
baz=49,SNR=212
MSTX Muleshoe 48.83 332 *e*P P **20 47 45.7 -1.1**
MSTX Muleshoe 48.83 332 ⇓P P **20 47 46.9 +0.2**
baz=49,SNR=78
W30A Crocket Farms 48.89 335 ⇑P P **20 47 47.9 +0.7**
baz=49,SNR=7.5
Y27A Causey 48.94 332 ⇑P P **20 47 47.4 -0.2**
baz=49,SNR=118
U33A Lingo Farm, Me 49.02 338 ⇑P P **20 47 48.1 +0.1**
baz=49
U33A ⇓P **PcP 20 49 11.0 +0.7**
baz=49
X28A Dimmitt 49.02 333 ⇑P P **20 47 48.3 0.0**
baz=49,SNR=13
223A Chaparral, Ant 49.07 327 ⇑P P **20 47 48.8 +0.2**
baz=49
V31A Spring Creek L 49.10 336 ⇓P P **20 47 49.3 +0.6**
baz=49,SNR=57
AMTX Amarillo 49.10 334 *e*P P **20 47 48.5 -0.3**
comp=Z,120nm,0.8s
AMTX Amarillo 49.10 334 ⇓P P **20 47 49.2 +0.4**
baz=49
ACSO Alum Creek Sta 49.15 355 *e*P P **20 47 46.6 -2.3**
comp=Z,404nm,0.9s
Z25A Roswell 49.19 330 ⇑P P **20 47 50.1 +0.5**
baz=49,SNR=118
Y26A Elida 49.28 331 ⇑P P **20 47 50.4 +0.2**
baz=49,SNR=82
W29A Amraillo 49.29 334 ⇓P P **20 47 50.2 0.0**
baz=49,SNR=31
U32A Winter Ranch, 49.30 337 ⇑P P **20 47 50.6 +0.4**
baz=49,SNR=76
U32A ⇑P **PcP 20 49 12.4 +1.0**
baz=49
V30A Spur Ranch, Mi 49.43 335 ⇑P P **20 47 52.1 +0.9**
baz=50,SNR=7.9
BRNJ Basking Ridge 49.45 3 *e*P P 20 47 47.5 -3.7
comp=Z,34nm,0.7s
123A Bell Site, Whi 49.47 328 ⇓P P **20 47 52.5 +0.9**
baz=50,SNR=27
222A Williams Famil 49.51 327 ⇑P P **20 47 52.6 +0.7**
baz=50,SNR=48
X27A F and S Farms, 49.54 332 ⇑P P **20 47 52.6 +0.4**
baz=50,SNR=47
Z24A Sheeppen Canyo 49.56 329 ⇓P P **20 47 52.7 +0.3**
baz=50,SNR=327
U31A Nine Bar Ranch 49.62 337 ⇓P P **20 47 53.5 +0.8**
baz=50,SNR=8.4
T33A Patterson Ranc 49.64 338 ⇑P P **20 47 53.2 +0.5**
baz=50,SNR=46
T33A ⇓P **PcP 20 49 13.6 +1.0**
baz=50,SNR=7.6
W28A Vega 49.65 334 ⇓P P **20 47 53.2 +0.2**
baz=50,SNR=35
Y25A Mesa, Roswell 49.70 330 ⇓P P **20 47 53.8 +0.4**
baz=50,SNR=138
320A Kipp Ranch, An 49.71 325 ⇑P P **20 47 53.9 +0.3**
baz=50,SNR=89
X26A CR and CF Fran 49.79 332 P P **20 47 54.2 +0.1**
baz=50,SNR=211
221A Mesquite Ranch 49.80 326 ⇑P P **20 47 55.4 +1.2**
baz=50,SNR=16
PAL Palisades 49.81 4 *e*P P **20 47 51.3 -2.6**
PAL pmax pmax
comp=Z,155nm,1.1s
PAL Palisades 49.81 4 *e*P P **20 47 51.2 -2.6**
comp=Z,155nm,1.1s
SFIN Scholer Farm 49.81 351 *e*P P 20 47 48.8 -5.2
SFIN Scholer Farm 49.81 351 ⇑P P **20 47 52.9 -1.1**
baz=50,SNR=34
SFIN ⇑P **PcP 20 49 12.7 -0.4**
baz=50
ODNJ Ogdensburg 49.85 3 *e*P P **20 47 54.8 +0.6**
comp=Z,69nm,0.8s
W27A Bowe Ranch, En 49.87 333 P P **20 47 54.7 +0.1**
baz=50,SNR=202
V29A Stinnett 49.88 335 ⇓P P **20 47 54.9 +0.3**
baz=50,SNR=11
Z23A Rita Site, Whi 49.95 329 ⇑P P **20 47 55.9 +0.6**
baz=50,SNR=96
T32A Hudler Ranch, 49.98 338 ⇑P P **20 47 55.8 +0.5**
baz=50,SNR=140
T32A ⇑P **PcP 20 49 14.7 +0.9**
baz=50
S33A Kaszmaul Farm, 50.01 339 ⇑P P **20 47 56.1 +0.6**
baz=50,SNR=27
S33A ⇓P **PcP 20 49 14.7 +0.8**
baz=50,SNR=5.1
V28A Channing 50.07 334 ⇓P P **20 47 56.8 +0.6**
baz=50,SNR=14
U30A WK&E Inc. Balk 50.08 336 ⇓P P **20 47 56.8 +0.7**
baz=50,SNR=41
319A Douglas 50.17 324 ⇑P P **20 47 57.8 +0.8**
baz=50,SNR=80
X25A Clemmons Ranch 50.17 331 ⇑P P **20 47 57.6 +0.6**
baz=50,SNR=8.9
T31A Randall Ranch, 50.19 337 ⇑P P **20 47 57.5 +0.6**
baz=50,SNR=43
YLE Yale 50.19 5 *e*P P **20 47 58.0 +1.2**
121A Cookes Peak, D 50.20 327 *e*P P **20 47 56.8 -0.5**
comp=Z,148nm,0.9s
121A *e*PcP **PcP 20 49 15.2 +0.3**
121A Cookes Peak, D 50.20 327 ⇑P P **20 47 57.8 +0.5**
baz=50,SNR=115
W26A Owens Ranch, T 50.21 332 ⇑P P **20 47 57.6 +0.3**
baz=50,SNR=56
U29A Oasis Ranch, S 50.26 335 ⇓P P **20 47 58.1 +0.5**
baz=50,SNR=28
KSPA Keystone Colle 50.27 2 *e*P P **20 47 58.1 +0.7**
Z22A Elephant Butte 50.32 328 ⇓P P **20 47 58.6 +0.5**
baz=50,SNR=94
V27A Dan Oppiter Fa 50.34 333 ⇑P P **20 47 58.7 +0.4**
baz=50,SNR=35
HDIL Hopedale 50.38 349 *e*P P 20 47 53.5 -4.7
comp=Z,412nm,0.9s
Y23A Lovelace Mesa, 50.38 329 ⇓P P **20 47 59.1 +0.4**
baz=50,SNR=160
S32A Newby Ranch, P 50.44 338 ⇓P P **20 47 59.7 +0.9**
baz=51,SNR=110
S32A ⇓P **PcP 20 49 17.0 +1.5**
baz=51
T30A Plains 50.48 336 ⇓P P **20 47 59.7 +0.6**
baz=51,SNR=15
S31A Mullinville 50.57 338 ⇑P P **20 48 00.5 +0.7**
baz=51,SNR=77
X24A Lazy VL Ranch, 50.58 330 ⇑P P **20 48 00.6 +0.5**
baz=51,SNR=129
U28A Mallet 50.60 334 ⇓P P **20 48 00.6 +0.4**
baz=51,SNR=31
W25A X Bar L Ranch, 50.64 332 ⇑P P **20 48 00.6 +0.1**
baz=51,SNR=127
R33A Olander Ranch, 50.64 339 ⇓P P **20 48 00.4 +0.1**
baz=51,SNR=88
R33A ⇓P **PcP 20 49 12.4 -3.8**
baz=51
V26A Tequesquite Ra 50.80 333 ⇑P P **20 48 01.8 +0.1**
baz=51,SNR=190
ERPA Erie 50.84 358 *e*P P 20 47 57.5 -4.1
comp=Z,182nm,1.0s
BNM Barren Site 50.85 329 *e*P P **20 48 00.2 -2.0**
comp=Z,29nm,0.8s
BNM *e*PcP **PcP 20 49 17.5 +0.1**
T29A Hugoton 50.88 336 ⇑P P **20 48 02.4 +0.3**
baz=51,SNR=114
U27A Thompson Grove 50.90 334 ⇓P P **20 48 02.4 0.0**
baz=51,SNR=58
KSU1 Kansas State U 50.90 341 *e*P P **20 48 00.3 -1.8**
comp=Z,268nm,1.1s
KSU1 LR LR
comp=Z,751nm,21.0s
KSU1 Kansas State U 50.90 341 ⇓P P **20 48 02.4 +0.3**
baz=51,SNR=43
BINY Binghamton 50.91 2 *e*P P **20 48 00.7 -1.4**
comp=Z,436nm,0.8s
Y22D IRIS PASSCAL I 50.94 329 ⇓P P **20 48 03.1 +0.3**
baz=51
S30A Montezuma 50.97 337 ⇓P P **20 48 03.3 +0.5**
baz=51,SNR=79
S30A ⇓P **PcP 20 49 18.9 +1.4**
baz=51,SNR=6.1
X23A Hourglass Bar 50.97 330 ⇓P P **20 48 03.3 +0.3**
baz=51,SNR=82
LPM Los Pinos Moun 50.98 329 *e*P P **20 48 00.1 -3.0**
R32A Long Quarter, 51.00 339 ⇑P P **20 48 03.5 +0.5**
baz=51,SNR=193
R32A ⇑P **PcP 20 49 18.0 +0.4**
baz=51,SNR=5.9
LENM Lemitar 51.04 329 *e*P P **20 48 02.0 -1.5**
LENM *e*PcP **PcP 20 49 19.4 +1.4**
W24A Lazy 6 Ranch, 51.09 331 ⇓P P **20 48 04.3 +0.4**
baz=51,SNR=64
R31A Burdett 51.18 338 ⇑P P **20 48 04.5 +0.2**
baz=51,SNR=168
R31A ⇓P **PcP 20 49 19.3 +1.0**
baz=51,SNR=7.3
T28A Walsh 51.19 335 ⇓P P **20 48 04.7 +0.2**
baz=51,SNR=26
S29A Ulysses 51.21 336 ⇑P P **20 48 05.1 +0.5**
baz=51,SNR=192
Q33A Connelly Farm, 51.21 340 ⇓P P **20 48 05.0 +0.4**
baz=51,SNR=45
V25A Rancho No Teng 51.22 332 ⇓P P **20 48 05.2 +0.3**
baz=51,SNR=181
AAM Ann Arbor 51.27 354 *e*P P 20 47 59.5 -5.3
AAM pmax pmax
comp=Z,137nm,0.9s
AAM Ann Arbor 51.27 354 *e*P P 20 47 59.5 -5.3
comp=Z,137nm,0.9s
U26A Atchley Ranch, 51.28 333 ⇑P P **20 48 05.6 +0.2**
baz=51,SNR=97
LAZ Ladron 51.31 329 *e*P P **20 48 04.5 -1.1**
comp=Z,76nm,1.1s
LAZ *e*PcP **PcP 20 49 19.4 +0.4**
ANMO Albuquerque 51.39 330 P P **20 48 06.7 +0.5**
ANMO PcP **PcP 20 49 19.8 +0.4**
ANMO LR LR
comp=Z,655nm,22.0s
ANMO Albuquerque 51.39 330 P P **20 48 06.7 +0.5**
comp=Z,102nm,0.9s,baz=143,slow=8.6,SNR=261
ANMO PcP **PcP 20 49 19.8 +0.4**
comp=Z,35nm,0.9s,baz=148,slow=6.7,SNR=4.9
T27A Campo 51.39 334 ⇑P P **20 48 06.5 +0.5**
baz=52,SNR=76
WES Weston 51.40 6 *e*P P **20 48 06.6 +0.7**
WES Weston 51.40 6 *e*P P **20 48 06.6 +0.7**
W23A Werner Place, 51.41 330 ⇑P P **20 48 06.7 +0.4**
baz=52,SNR=37
MMNY Mt. Morris Dam 51.41 360 *e*P P **20 48 06.0 +0.1**
comp=Z,574nm,0.9s
V24A Rampart Ranch, 51.44 331 ⇑P P **20 48 06.8 +0.2**
baz=52,SNR=93
Q32A Meitler Ranch, 51.45 339 ⇓P P **20 48 06.6 +0.2**
baz=52,SNR=139
Q32A ⇓P **PcP 20 49 20.0 +0.8**
baz=52
R30A Dighton 51.46 337 ⇑P P **20 48 06.6 +0.1**
baz=52,SNR=146
S28A Manter 51.50 335 ⇓P P **20 48 06.7 -0.1**
baz=52,SNR=172
HRV Adam Dziewonsk 51.50 6 *e*P P **20 48 04.3 -2.3**
HRV pmax pmax
comp=Z,190nm,1.0s
HRV Adam Dziewonsk 51.50 6 *e*P P **20 48 04.3 -2.3**
comp=Z,190nm,1.0s
TRY Troy 51.55 4 *e*P P **20 48 08.4 +1.5**
P33A Williams Farm, 51.56 340 ⇓P P **20 48 07.3 +0.2**
baz=52,SNR=48
U25A Circle Dot Ran 51.59 332 ⇓P P **20 48 07.6 0.0**
baz=52,SNR=121
TUC Tucson 51.73 324 *e*P P **20 48 08.2 -0.4**
TUC pmax pmax
comp=Z,583nm,2.1s
TUC MLR MLR
comp=Z,531nm,19.0s
TUC Tucson 51.73 324 *e*P P **20 48 08.2 -0.4**
comp=Z,583nm,2.1s
TUC LR LR
comp=Z,531nm,19.0s
Q31A Ellis 51.76 339 ⇓P P **20 48 08.8 +0.1**
baz=52,SNR=99
Q31A ⇓P **PcP 20 49 21.7 +1.3**
baz=52,SNR=5.2
T26A Comanche Natio 51.86 334 ⇓P P **20 48 09.8 +0.1**
baz=52,SNR=51
V23A Ortiz Mt. (NFS 51.89 331 ⇓P P **20 48 10.1 +0.1**
baz=52,SNR=48
R29A Marienthal 51.91 337 ⇑P P **20 48 10.2 +0.4**
baz=52,SNR=117
S27A Las Animas 51.99 335 ⇑P P **20 48 10.8 +0.3**
baz=52,SNR=9.1
U24A Moreno Valley 51.99 332 ⇓P P **20 48 11.0 +0.2**
baz=52,SNR=26
P32A Huiting Farm, 52.03 340 ⇓P P **20 48 10.6 -0.1**
baz=52,SNR=65
P32A ⇑P **PcP 20 49 22.6 +1.2**
baz=52,SNR=7.2
Q30A Quinter 52.04 338 ⇑P P **20 48 11.1 +0.3**
baz=52,SNR=189
R28A Tribune 52.11 336 ⇓P P **20 48 11.4 +0.1**
baz=52,SNR=64
S26A Kim 52.19 334 ⇓P P **20 48 12.2 +0.3**
baz=52,SNR=287
ACCN Adirondack Com 52.20 4 *e*P P **20 48 09.8 -1.9**
comp=Z,272nm,1.0s
ACCN *e*PcP **PcP 20 49 21.6 -0.3**
T25A Trinidad 52.20 333 ⇓P P **20 48 12.3 +0.1**
baz=52,SNR=126
P31A Stockton 52.21 339 ⇓P P **20 48 12.3 +0.3**
baz=52,SNR=106
P31A ⇓P **PcP 20 49 23.0 +0.9**
baz=52
Q29A Oakley 52.25 337 ⇑P P **20 48 12.8 +0.4**
baz=52,SNR=29
U23A El Rito 52.36 331 ⇑P P **20 48 13.8 +0.3**
baz=52,SNR=98
V22A San Miguel Ran 52.38 330 ⇑P P **20 48 14.0 +0.5**
baz=52,SNR=207
R27A Eads 52.46 335 ⇑P P **20 48 14.0 0.0**
baz=53,SNR=68
O32A Brockman Farm, 52.49 340 ⇓P P **20 48 14.4 +0.3**
baz=53,SNR=66
O32A ⇑P **PcP 20 49 23.7 +0.6**
baz=53
SCIA State Center 52.54 345 *e*P P **20 48 11.2 -3.1**
comp=Z,191nm,1.0s
SCIA *e*PcP **PcP 20 49 20.8 -2.4**
SCIA LR LR
comp=Z,433nm,19.0s
P30A Selden 52.55 338 ⇓P P **20 48 14.9 +0.4**
baz=53,SNR=108
P30A ⇓P **PcP 20 49 24.5 +1.1**
baz=53,SNR=5.4
T24B San Luis 52.58 332 ⇑P P **20 48 15.3 +0.3**
baz=53,SNR=35
HNH Hanover 52.62 5 *e*P P **20 48 16.0 +1.1**
S25A Robets Cordova 52.64 333 ⇓P P **20 48 15.8 +0.4**
baz=53,SNR=168
214A Organ Pipe Nat 52.68 322 *e*P P **20 48 13.7 -1.9**
comp=Z,192nm,1.0s
214A Organ Pipe Nat 52.68 322 ⇓P P **20 48 16.0 +0.4**
baz=53,SNR=93
U22A Llaves 52.72 330 ⇑P P **20 48 16.5 +0.4**
baz=53,SNR=104
Q28A Sharon Springs 52.73 336 ⇑P P **20 48 16.6 +0.6**
baz=53,SNR=78
R26A Arlington 52.74 335 ⇓P P **20 48 16.6 +0.6**
baz=53,SNR=70
O31A Woolen Ranch, 52.76 339 ⇓P P **20 48 16.5 +0.5**
baz=53,SNR=37
O31A ⇓P **PcP 20 49 25.2 +1.1**
baz=53,SNR=5.9
JFWS Jewell Farm 52.84 348 *e*P P **20 48 14.4 -2.1**
JFWS *e* 20 49 24.3
JFWS pmax pmax
comp=Z,90nm,1.1s
JFWS Jewell Farm 52.84 348 *e*P P **20 48 14.3 -2.1**
comp=Z,90nm,1.1s
JFWS *e*pP **pP 20 48 43.3 -0.2**
JFWS *e*PcP **PcP 20 49 24.3 -0.1**
MDV Middlebury 52.84 4 *e*P P 20 48 11.4 -5.1
P29A Atwood 52.85 338 ⇓P P **20 48 17.2 +0.4**
baz=53,SNR=85
T23A Casias Ranch, 52.86 332 ⇑P P **20 48 17.6 +0.5**

baz=53,SNR=28
X18A Snowflake 52.89 327 ⇑P P 20 48 17.7 +0.4
baz=53,SNR=77
N32A Stulken Farm, 52.95 340 ⇓P P 20 48 17.8 +0.4
baz=53,SNR=8.3
N32A ⇓P PcP 20 49 25.7 +0.8
baz=53
S24A Houchin Ranch, 52.97 333 ⇑P P 20 48 18.1 +0.2
baz=53,SNR=92
R25A Fountain Ranch 52.98 334 ⇑P P 20 48 18.0 +0.2
baz=53,SNR=49
KSCO Kaye Shedlock' 53.01 336 eP P 20 48 16.4 -1.6
KSCO Kaye Shedlock' 53.01 336 ⇑P P 20 48 18.3 +0.3
baz=53,SNR=27
O30A MW Ranch, Wils 53.04 339 ⇓P P 20 48 18.4 +0.3
baz=53,SNR=90
P28A Saint Francis 53.14 337 ⇓P P 20 48 19.1 +0.1
baz=53,SNR=93
LBNH Lisbon 53.18 5 eP P 20 48 16.7 -2.3
LBNH pmax pmax
comp=Z,189nm,1.1s
LBNH Lisbon 53.18 5 eP P 20 48 16.7 -2.3
comp=Z,188nm,1.1s
SDCO Great Sand Dun 53.19 333 eP P 20 48 19.9 +0.3
comp=Z,295nm,1.2s
SDCO LR LR
comp=Z,526nm,21.0s
W18A Petrified Fore 53.22 327 ⇓P P 20 48 20.1 +0.4
baz=53,SNR=60
N31A Bailey Ranch, 53.23 340 ⇓P P 20 48 19.9 +0.5
baz=53,SNR=27
N31A ⇓P PcP 20 49 27.1 +1.2
baz=53
O29A 4D Ranch, Culb 53.26 338 ⇓P P 20 48 20.1 +0.4
baz=53,SNR=147
Q26A Hugo 53.30 335 ⇓P P 20 48 20.6 +0.4
baz=53,SNR=47
PTN Potsdam (NY) 53.31 2 eP P 20 48 19.7 -0.2
PTN pmax pmax
comp=Z,453nm,0.9s
PTN Potsdam (NY) 53.31 2 eP P 20 48 19.7 -0.2
comp=Z,453nm,0.9s
LONY Lake Ozonia 53.38 3 eP P 20 48 16.8 -3.6
comp=Z,183nm,1.0s
S23A Nye Farm, Mont 53.38 332 ⇑P P 20 48 21.1 +0.1
baz=54,SNR=5.2
R24A Sanders Place, 53.41 333 ⇓P P 20 48 21.1 0.0
baz=54,SNR=37
P27A Ficken Ranch, 53.45 336 ⇑P P 20 48 21.6 +0.3
baz=54,SNR=49
BGNE Belgrade 53.48 341 eP P 20 48 18.4 -2.9
BGNE ePcP PcP 20 49 27.5 +0.6
BGNE Belgrade 53.48 341 ⇓P P 20 48 21.5 +0.2
baz=54,SNR=45
BGNE ⇓P PcP 20 49 28.0 +1.2
baz=54
N30A Hueftle Ranch, 53.60 339 ⇓P P 20 48 22.4 +0.2
baz=54,SNR=71
Q25A Bedland, Calha 53.60 334 ⇑P P 20 48 22.2 -0.2
baz=54,SNR=39
O28A Krutsinger Ran 53.63 337 ⇓P P 20 48 22.9 +0.4
baz=54,SNR=69
X16A Lo Mia Camp, P 53.63 325 ⇑P P 20 48 23.5 +0.7
baz=54,SNR=198
FRNY Flat Rock 53.65 4 eP P 20 48 22.4 0.0
comp=Z,282nm,0.9s
M31A Lambtecht Ranc 53.70 340 ⇑P P 20 48 23.7 +0.8
baz=54,SNR=77
R23A Moffat 53.70 333 ⇑P P 20 48 23.7 +0.4
baz=54,SNR=54
Z14A Wintersburg 53.74 323 ⇓P P 20 48 23.9 +0.6
baz=54,SNR=25
WVL Waterville 53.75 7 eP P 20 48 24.2 +1.2
P26A Davis Ranch, A 53.77 336 ⇓P P 20 48 24.0 +0.4
baz=54,SNR=32
S22A 4UR Ranch, Cre 53.80 331 ⇑P P 20 48 24.3 +0.2
baz=54,SNR=51
N29A Votaw Ranch, W 53.81 339 ⇓P P 20 48 24.4 +0.6
baz=54,SNR=29
N29A ⇓P PcP 20 49 28.8 +0.6
baz=54
113A Mohawk Valley, 53.82 322 ⇑P P 20 48 24.2 +0.4
baz=54,SNR=36
O27A Beecher Island 53.96 337 ⇓P P 20 48 25.4 +0.6
baz=54,SNR=37
N28A Pribbeno Ranch 54.03 338 ⇓P P 20 48 25.7 +0.3
baz=54,SNR=50
Q24A Divide 54.03 334 ⇑P P 20 48 26.1 +0.4
baz=54,SNR=65
P25A Willow Gulch B 54.07 335 ⇓P P 20 48 26.1 +0.3
baz=54,SNR=45
M30A Dale-Ortello V 54.17 340 ⇓P P 20 48 26.8 +0.4
baz=54,SNR=13
Y14A Wickenburg 54.19 324 ⇑P P 20 48 26.9 +0.2
baz=54,SNR=26
MVCO Mesa Verde 54.19 330 eP P 20 48 25.0 -1.8
comp=Z,454nm,2.0s
MVCO ePcP PcP 20 49 30.3 +0.4
MVCO LR LR
comp=Z,473nm,22.0s
MVCO Mesa Verde 54.19 330 ⇓P P 20 48 26.8 0.0
baz=54,SNR=34
Q23A Hartsel 54.28 333 ⇓P P 20 48 27.7 +0.2
baz=54,SNR=9.0
O26A Horse Wrangler 54.33 336 ⇑P P 20 48 28.3 +0.7
baz=54,SNR=17
M29A Burnside Ranch 54.38 339 ⇓P P 20 48 28.9 +1.1
baz=54,SNR=25
P24A Kohler Place, 54.38 334 ⇑P P 20 48 29.1 +1.0
baz=54,SNR=26
L31A Butterfield Fa 54.40 341 ⇑P P 20 48 28.4 +0.4
baz=54,SNR=44
WUAZ Wupatki 54.41 326 PFAKE 20 48 40.0 +12
WUAZ LR LR
comp=Z,663nm,19.0s
WUAZ Wupatki 54.41 326 ⇓P P 20 48 28.7 +0.4
baz=54,SNR=133
OGNE Ogallala 54.44 337 eP P 20 48 26.1 -2.2
comp=Z,585nm,1.4s
OGNE ePcP PcP 20 49 30.7 +0.1
OGNE LR LR
comp=Z,244nm,21.0s
OGNE Ogallala 54.44 337 ⇓P P 20 48 28.6 +0.3
baz=55,SNR=63
PKME Peaks-Kenny Pk 54.48 7 eP P 20 48 25.3 -3.1
comp=Z,183nm,0.8s
L30A Spencer Herefo 54.49 340 ⇓P P 20 48 29.1 +0.4
baz=55,SNR=90
L30A ⇓P PcP 20 49 31.7 +1.0
baz=55
N27A Anderson Farm, 54.51 337 ⇑P P 20 48 29.1 +0.2
baz=55,SNR=39
O25A Wiggins 54.55 335 ⇑P P 20 48 29.7 +0.5
baz=55,SNR=30
M28A Bar X Bar Ranc 54.58 338 ⇓P P 20 48 30.0 +0.6
baz=55,SNR=28
GLA Glamis 54.66 322 eP P 20 48 28.2 -1.8
GLA pmax pmax
comp=Z,23nm,1.1s
GLA Glamis 54.66 322 eP P 20 48 28.2 -1.8
comp=Z,23nm,1.1s
GLA Glamis 54.66 322 ⇑P P 20 48 30.5 +0.4
baz=55,SNR=12
P23A Jefferson 54.67 333 ⇑P P 20 48 30.7 +0.3
baz=55,SNR=116
N26A Koester Ranch, 54.80 336 ⇑P P 20 48 31.5 +0.5
baz=55,SNR=13
L29A Maesberg Ranch 54.85 339 ⇑P P 20 48 31.5 +0.2
baz=55,SNR=57
ISCO Idaho Springs 54.92 334 eP P 20 48 32.2 0.0
ISCO pmax pmax
comp=Z,123nm,0.9s
ISCO MLR MLR
comp=Z,273nm,20.0s
ISCO Idaho Springs 54.92 334 eP P 20 48 32.2 0.0
comp=Z,123nm,0.9s
ISCO LR LR
comp=Z,273nm,20.0s
ISCO Idaho Springs 54.92 334 ⇓P P 20 48 32.1 0.0
baz=55,SNR=141
PV01 Paradox Valley 54.95 330 eP P 20 48 30.2 -2.0
PV01 ePcP PcP 20 49 32.4 -0.4
Y12C Blythe 54.96 322 ⇓P P 20 48 32.5 +0.4
baz=55,SNR=40
O24A Longmont 54.96 335 ⇓P P 20 48 32.7 +0.5
baz=55,SNR=63
SMCO Snowmass 55.02 332 eP P 20 48 33.8 +0.8
comp=Z,123nm,1.0s

M27A Reverse DX Ran 55.08 338 ⇓P P 20 48 33.4 +0.5
baz=55,SNR=74
K30A Basset 55.10 340 ⇓P P 20 48 33.3 +0.3
baz=55,SNR=86
PDMCI Parker Dam,Lak 55.11 323 ⇓P P 20 48 33.7 +0.5
baz=55,SNR=27
N25A Grover 55.13 336 ⇓P P 20 48 33.8 +0.3
baz=55,SNR=6.0
ECSD EROS Data Cent 55.14 343 eP P 20 48 30.2 -3.0
comp=Z,89nm,0.8s
ECSD ePcP PcP 20 49 33.1 -0.1
ECSD EROS Data Cent 55.14 343 ⇑P P 20 48 32.8 -0.5
baz=55,SNR=63
ECSD ⇓P PcP 20 49 33.4 +0.2
baz=55,SNR=5.8
L28A Connealy Angus 55.17 339 ⇓P P 20 48 34.0 +0.4
baz=55
SWSC Sam W. Stewart 55.19 321 ⇑P P 20 48 34.0 +0.2
baz=55,SNR=16
DVTC Desert V Tower 55.19 320 ⇓P P 20 48 34.5 +0.6
baz=55,SNR=27
P22A Eagle 55.26 333 ⇓P P 20 48 34.8 +0.3
baz=55,SNR=151
M26A McRoberts Ranc 55.31 337 ⇓P P 20 48 35.2 +0.5
baz=55,SNR=26
PV04 Paradox Valley 55.31 330 eP P 20 48 33.2 -1.6
O23A Lake Granby, G 55.40 334 ⇑P P 20 48 35.9 +0.4
baz=56,SNR=335
K29A Lazy Trails An 55.41 340 ⇓P P 20 48 35.9 +0.6
baz=56,SNR=56
BC3 Big Chuckawall 55.46 322 ⇑P P 20 48 36.3 +0.5
baz=56,SNR=58
N24A Carr 55.47 335 ⇑P P 20 48 36.4 +0.5
baz=56,SNR=76
W13A Hualapai Mount 55.52 324 ⇓P P 20 48 36.9 +0.5
baz=56
L27A T5 Ranch, Ells 55.53 338 ⇓P P 20 48 36.9 +0.7
baz=56,SNR=11
MONP Monument Peak 55.54 320 ⇑P P 20 48 36.8 +0.2
baz=56,SNR=29
BAR Barrett 55.56 320 eP P 20 48 35.8 -0.7
comp=Z,88nm,0.9s
U15A North Rim 55.58 326 ⇓P P 20 48 37.3 +0.5
baz=56,SNR=87
SPMN St. Paul 55.58 347 eP P 20 48 34.6 -1.8
SPMN ePcP PcP 20 49 34.1 -0.7
SPMN St. Paul 55.58 347 ⇓P P 20 48 35.7 -0.7
baz=56,SNR=34
IRM Iron Mountain 55.62 322 ⇑P P 20 48 37.4 +0.5
baz=56,SNR=192
O22A Kremmling 55.63 333 ⇓P P 20 48 37.4 +0.2
baz=56,SNR=193
M25A Palm-Egli Farm 55.64 336 ⇑P P 20 48 37.2 +0.2
baz=56,SNR=23
J30A Dallas 55.64 341 ⇑P P 20 48 36.7 -0.2
baz=56,SNR=184
NEE2 Needles Airpor 55.72 323 ⇑P P 20 48 38.1 +0.6
baz=56,SNR=20
K28A Ten Mile Ranch 55.73 339 ⇑P P 20 48 38.4 +0.8
baz=56,SNR=104
L26A Underwood Farm 55.77 337 ⇓P P 20 48 38.7 +0.8
baz=56,SNR=32
N23A Red Feather La 55.97 334 ⇓P P 20 48 39.8 +0.3
baz=56,SNR=61
109C Camp Elliot, M 55.98 320 ⇑P P 20 48 40.0 +0.6
baz=56,SNR=25
M24A Cheyenne 55.98 336 ⇓P P 20 48 39.9 +0.4
baz=56,SNR=77
J29A Okreek 55.99 340 ⇓P P 20 48 39.7 +0.3
baz=56,SNR=190
BELC Belle Mtn. Jos 56.02 322 ⇑P P 20 48 40.2 +0.3
baz=56,SNR=67
K27A Flueckinger Fa 56.04 338 ⇑P P 20 48 40.6 +0.8
baz=56,SNR=14
PFO Pinyon Flat Ob 56.04 321 eP P 20 48 40.8 +0.8
comp=Z,102nm,1.0s
PFO PcP PcP 20 49 36.9 -0.1
PFO Pinyon Flat Ob 56.04 321 P P 20 48 40.6 +0.6
comp=Z,73nm,1.0s,baz=122,slow=5.9,SNR=82
PFO PcP PcP 20 49 36.9 -0.1
comp=Z,36nm,1.1s,baz=120,slow=3.9,SNR=6.7
PFO Pinyon Flat Ob 56.04 321 ⇓P P 20 48 40.5 +0.4
baz=56,SNR=53
PHWY Pilot Hill 56.10 335 eP P 20 48 40.5 0.0
comp=Z,189nm,1.4s
N22A Wattenberg Ran 56.11 334 ⇑P P 20 48 41.3 +0.7
baz=56,SNR=65
L25A Engebretsen Ra 56.22 337 ⇓P P 20 48 42.0 +0.8
baz=56,SNR=47
LDFC Landfair 56.22 323 eP P 20 48 39.9 -1.4
comp=Z,182nm,0.9s
J28A Allard Ranch, 56.31 340 ⇓P P 20 48 42.4 +0.7
baz=56,SNR=42
GMRC Granite Mounta 56.35 323 ⇑P P 20 48 42.7 +0.5
baz=56,SNR=111
M23A Laramie 56.35 335 ⇑P P 20 48 42.6 +0.4
baz=56,SNR=86
O20A White River Ci 56.37 332 eP P 20 48 42.1 -0.2
O20A White River Ci 56.37 332 ⇓P P 20 48 43.1 +0.7
baz=56,SNR=30
K26A Motz Farm, Whi 56.38 338 ⇓P P 20 48 42.9 +0.7
baz=56,SNR=49
J27A Elkhorn Farm, 56.43 339 ⇑P P 20 48 43.6 +1.0
baz=57,SNR=17
RKT Rikitea 56.44 248 eS S 20 56 20.9 -4.7
comp=Z,1μm,27.0s
RKT eLQ LQ 21 02 43.2
comp=Z,2μm,28.8s
RKT eLR LR 21 05 04.4
comp=Z,2μm,29.2s,baz=83
BRSD Miller 56.48 342 eP P 20 48 40.3 -2.5
BRSD Miller 56.48 342 ⇑P P 20 48 42.8 -0.1
baz=57,SNR=52
MURC Murrieta 56.50 321 ⇑P P 20 48 43.5 +0.3
baz=57,SNR=26
L24A Wheatland 56.51 336 ⇓P P 20 48 43.4 +0.2
baz=57,SNR=54
I29A Vivian Onida 56.53 341 ⇓P P 20 48 43.2 0.0
baz=57,SNR=100
K25A Mack Ranch, Ha 56.57 337 ⇑P P 20 48 43.9 +0.2
baz=57,SNR=36
M22A Cedar Creek Ra 56.67 334 ⇑P P 20 48 44.8 +0.3
baz=57,SNR=46
SRU San Rafael 56.67 330 eP P 20 48 42.9 -1.6
SRU e 20 49 39.8
SRU pmax pmax
comp=Z,115nm,1.0s
SRU San Rafael 56.67 330 eP P 20 48 42.9 -1.6
comp=Z,115nm,1.0s
SRU ePcP PcP 20 49 39.8 +0.4
BBRC Big Bear Solar 56.77 321 ⇑P P 20 48 46.3 +1.0
baz=57,SNR=15
HEC Hector,Ludlow 56.78 322 ⇓P P 20 48 46.4 +1.1
baz=57,SNR=84
I28A Midland 56.80 340 ⇓P P 20 48 45.3 +0.2
baz=57,SNR=65
J26A Sides Ranch, S 56.87 338 ⇓P P 20 48 46.1 +0.4
baz=57,SNR=224
L23A Garrett 56.88 335 ⇓P P 20 48 46.2 +0.3
baz=57,SNR=64
N20A Spence Gulch, 56.94 333 ⇑P P 20 48 47.2 +0.7
baz=57,SNR=98
TUQ Turquoise Moun 56.95 323 ⇑P P 20 48 47.0 +0.5
baz=57,SNR=70
SCI San Clemente I 56.96 319 ⇓P P 20 48 47.1 +0.7
baz=57,SNR=10
CCUT Cedar City 56.98 327 eP P 20 48 48.0 +1.3
comp=Z,136nm,1.1s
K24A Anderson Ranch 57.03 336 ⇓P P 20 48 47.8 +0.9
baz=57,SNR=33
H29A Onida 57.04 341 ⇑P P 20 48 46.7 -0.1
baz=57,SNR=64
L22A Ellis Ranch, M 57.12 335 ⇑P P 20 48 48.2 +0.6
baz=57,SNR=119
CIS Catalina Islan 57.14 320 ⇓P P 20 48 48.3 +0.6
baz=57,SNR=13
TMUT Trail Mountain 57.15 329 eP P 20 48 45.3 -2.8
comp=Z,65nm,1.0s
TMUT ePcP PcP 20 49 41.7 +0.3
G30A Faulkton 57.16 342 ⇑P P 20 48 47.4 -0.2
baz=57,SNR=291
I27A Quinn 57.16 339 ⇑P P 20 48 47.8 +0.1
baz=57,SNR=129
ARUT Antelope Range 57.20 327 eP P 20 48 47.7 -0.5
ARUT Antelope Range 57.20 327 eP P 20 48 47.7 -0.5
comp=Z,3μm,1.1s
BFSC Mount Baldy Ra 57.21 321 ⇓P P 20 48 48.2 -0.1
baz=57,SNR=53

J25A Sunshine Ranch 57.21 338 ⇑P P 20 48 48.4 +0.3
baz=57,SNR=29
RRX Edison Barstow 57.23 322 ⇑P P 20 48 48.5 +0.2
baz=57,SNR=11
SHPR Sheep Range 57.24 324 eP P 20 48 46.5 -2.1
SHPR ePcP PcP 20 49 42.5 +0.8
FMP Fort Macarthur 57.27 320 ⇑P P 20 48 48.9 +0.3
baz=57
H28A Mission Ridge 57.35 340 ⇓P P 20 48 49.2 +0.3
baz=58,SNR=60
K23A Bowen Ranch, D 57.38 336 ⇑P P 20 48 50.0 +0.6
baz=58,SNR=109
GSC Goldstone 57.39 322 eP P 20 48 49.3 -0.2
GSC pmax pmax
comp=Z,146nm,1.0s
GSC Goldstone 57.39 322 eP P 20 48 49.3 -0.2
comp=Z,146nm,1.0s
GSC Goldstone 57.39 322 ⇓P P 20 48 50.0 +0.5
baz=58,SNR=109
I26A New Underwood 57.41 339 ⇓P P 20 48 50.1 +0.6
baz=58,SNR=51
MWC Mount Wilson 57.45 321 eP P 20 48 48.1 -2.0
MWC pmax pmax
comp=Z,206nm,1.1s
MWC Mount Wilson 57.45 321 eP P 20 48 48.1 -2.0
comp=Z,206nm,1.1s
G29A Hoven 57.45 342 ⇑P P 20 48 49.5 -0.1
baz=58,SNR=24
SHOC Shoshone 57.48 323 ⇓P P 20 48 50.8 +0.8
baz=58,SNR=10.0
J24A Dixon Ranch, L 57.49 337 ⇑P P 20 48 50.6 +0.6
baz=58,SNR=61
PASC Pasadena Art C 57.49 320 eP P 20 48 49.1 -1.1
comp=Z,222nm,1.2s
PASC ePcP PcP 20 49 42.7 +0.1
DECC Green Verdugo 57.64 320 ⇓P P 20 48 52.1 +0.9
baz=58,SNR=27
K22A Casper 57.66 335 eP P 20 48 49.8 -1.6
K22A Casper 57.66 335 ⇑P P 20 48 51.3 -0.1
baz=58,SNR=110
H27A Howes 57.66 340 ⇑P P 20 48 51.4 +0.2
baz=58,SNR=26
G28A Parade 57.67 341 ⇑P P 20 48 51.4 +0.3
baz=58
I25A Rochford 57.72 338 ⇑P P 20 48 52.5 +0.7
baz=58,SNR=261
F30A Leola 57.76 343 ⇑P P 20 48 52.0 +0.2
baz=58,SNR=18
EDW2 Edwards Air Fo 57.84 321 ⇑P P 20 48 53.1 +0.6
baz=58,SNR=122
H26A Fairpoint 57.89 339 ⇓P P 20 48 53.1 +0.3
baz=58
J23A Dilts Ranch, B 57.90 336 ⇑P P 20 48 53.9 +0.9
baz=58,SNR=8.2
EYMN Ely 57.92 349 eP P 20 48 47.6 -5.2
comp=Z,146nm,1.0s
I24A Kuemmerle Ranc 57.92 337 ⇑P P 20 48 53.7 +0.6
baz=58,SNR=58
RSSD Black Hills 57.92 338 eP P 20 48 53.4 +0.2
RSSD e 20 49 43.7
RSSD pmax pmax
comp=Z,68nm,0.9s
RSSD Black Hills 57.92 338 eP P 20 48 53.4 +0.2
comp=Z,68nm,0.9s
RSSD ePcP PcP 20 49 43.6 -0.6
K21A Alcova 57.95 335 ⇓P P 20 48 54.0 +0.6
baz=58,SNR=146
F29A Eureka 58.00 342 ⇑P P 20 48 53.6 +0.2
baz=58,SNR=52
DAU Daniels Canyon 58.03 330 eP P 20 48 53.9 -0.2
DAU e 20 49 45.5
DAU Daniels Canyon 58.03 330 eP P 20 48 53.9 -0.2
DAU ePcP PcP 20 49 45.5 +0.6
LRMC Laurel Mountai 58.04 322 ⇓P P 20 48 55.3 +1.1
baz=58,SNR=76
OSI Osito Adit 58.12 320 eP P 20 48 53.8 -0.8
comp=Z,285nm,1.2s
OSI Osito Adit 58.12 320 ⇑P P 20 48 55.9 +1.4
baz=58,SNR=10
TPNV Topopah Spring 58.18 324 eP P 20 48 56.2 +1.1
TPNV pmax pmax
comp=Z,98nm,1.0s
TPNV Topopah Spring 58.18 324 eP P 20 48 56.1 +1.1
comp=Z,98nm,1.0s
TPNV Topopah Spring 58.18 324 ⇑P P 20 48 55.9 +0.8
baz=58,SNR=93
H25A Fruitdale 58.19 339 ⇓P P 20 48 55.6 +0.7
baz=58,SNR=128
FURC Furnace Creek, 58.21 323 ⇑P P 20 48 55.9 +0.9
baz=58,SNR=42
G27A Dupree 58.27 340 ⇓P P 20 48 55.4 0.0
baz=58,SNR=26
J22A Midwest 58.28 336 ⇓P P 20 48 55.4 -0.2
baz=58,SNR=175
BSC Santa Cruz Isl 58.30 319 ⇑P P 20 48 56.6 +0.8
baz=58,SNR=8.4
MPMC Manual Prospec 58.31 323 ⇑P P 20 48 56.5 +0.5
baz=58,SNR=59
F28A McLaughlin 58.32 341 ⇓P P 20 48 56.0 +0.3
baz=58,SNR=21
I23A Meade Ranch, G 58.33 337 ⇑P P 20 48 56.4 +0.5
baz=58,SNR=5.3
E30A Jud 58.33 343 ⇑P P 20 48 55.6 -0.2
baz=58,SNR=53
ARVC Arvin 58.52 321 ⇑P P 20 48 57.8 +0.5
baz=59,SNR=20
E29A Napoleon 58.61 342 ⇓P P 20 48 57.3 -0.4
baz=59,SNR=44
J21A Lysite 58.62 335 ⇑P P 20 48 58.2 +0.1
baz=59,SNR=374
G25A Newell 58.62 339 ⇑P P 20 48 57.9 +0.1
baz=59,SNR=36
SBC Santa Barbara 58.64 320 ⇑P P 20 48 58.5 +0.4
baz=59
DUG Dugway 58.64 329 eP P 20 48 59.0 +0.8
DUG pmax pmax
comp=Z,168nm,0.9s
DUG MLR MLR
comp=Z,572nm,19.0s
DUG Dugway 58.64 329 eP P 20 48 59.0 +0.8
comp=Z,168nm,0.9s
DUG LR LR
comp=Z,572nm,19.0s
DUG Dugway 58.64 329 ⇑P P 20 48 58.1 -0.1
baz=59,SNR=212
ISA Isabella 58.65 322 eP P 20 48 57.2 -1.1
ISA e 20 49 47.4
ISA pmax pmax
comp=Z,20nm,1.0s
ISA Isabella 58.65 322 eP P 20 48 57.2 -1.1
comp=Z,20nm,1.0s
ISA ePcP PcP 20 49 47.4 +0.3
ISA Isabella 58.65 322 ⇑P P 20 48 59.1 +0.8
baz=59,SNR=75
H24A Dirks Ranch, A 58.65 338 ⇑P P 20 48 57.9 -0.2
baz=59,SNR=101
I22A 9 Mile Ranch, 58.68 336 ⇑P P 20 48 58.3 -0.1
baz=59,SNR=128
F27A Lemmon 58.73 340 ⇓P P 20 48 58.4 -0.2
baz=59,SNR=108
R11A Troy Canyon, C 58.78 326 ⇑P P 20 48 59.4 +0.2
baz=59,SNR=74
H23A Clabaugh Cattl 58.81 337 ⇑P P 20 48 59.2 0.0
baz=59,SNR=17
D30A Buchanan 58.84 343 ⇓P P 20 48 59.3 +0.1
baz=59,SNR=95
GRAC Grapevine Rang 58.87 323 ⇓P P 20 48 59.6 -0.2
baz=59,SNR=6.1
J20A Shoshoni 58.90 335 ⇑P P 20 49 00.1 +0.2
baz=59,SNR=174
CWC Cottonwood Cre 58.92 322 ⇑P P 20 49 00.1 -0.2
baz=59,SNR=44
E28A Huff 58.93 342 ⇑P P 20 49 00.2 +0.2
baz=59,SNR=82
F26A Lodgepole 58.93 340 ⇓P P 20 48 59.8 -0.2
baz=59,SNR=130
I21A Big Trails, Te 58.94 335 ⇑P P 20 49 00.1 -0.1
baz=59,SNR=170
PKM Peak Mountain 58.99 320 ⇑P P 20 49 00.4 -0.4
baz=59,SNR=67
D29A Pettibone, Tap 59.04 343 ⇓P P 20 49 00.2 -0.4
baz=59,SNR=41
BW06 Boulder Array 59.07 333 PFAKE 20 49 10.0 +8.8
BW06 LR LR
comp=Z,426nm,21.0s
PDAR Pinedale Array 59.07 333 P P 20 49 00.8 -0.4
PDAR PcP PcP 20 49 48.2 -0.7

PDAR P'P' 21 18 32.9
PDAR e 21 26 06.5
PDAR Pinedale Array 59.07 333 P **P** **20 49 00.8 -0.4**
comp=Z,88nm,0.9s,baz=138,slow=8.6,SNR=308
PDAR PcP **PcP** **20 49 48.2 -0.7**
comp=Z,48nm,0.9s,baz=166,slow=4.2,SNR=9.8
PDAR LR LR 21 14 54.2
comp=Z,193nm,19.7s,baz=150,slow=36
PDAR PKPPKP **P'P'df** **21 18 32.9 +0.1**
comp=Z,1.3nm,1.1s,baz=0.0,slow=1.5,SNR=4.0
PDAR P4KPbc 21 26 06.5
comp=Z,1.9nm,1.0s,baz=145,slow=5.4,SNR=7.1
E27A Carson 59.08 341 ⇑P **P** **20 49 01.2 +0.3**
baz=59,SNR=27
G24A Alzada 59.10 338 ⇓P **P** **20 49 01.3 +0.1**
baz=59,SNR=31
VES Vestal, Richgr 59.14 321 ⇑P **P** **20 49 01.5 0.0**
baz=59,SNR=55
AGMN Agassiz Nation 59.18 346 *e*P **P** **20 48 59.6 -2.0**
comp=Z,166nm,0.9s
AGMN *e*PcP **PcP** **20 49 48.2 -0.7**
AGMN Agassiz Nation 59.18 346 ⇓P **P** **20 49 01.0 -0.6**
baz=59,SNR=79
H22A Clearmont 59.21 337 ⇑P **P** **20 49 01.8 -0.2**
baz=59,SNR=36
J19A Crowheart 59.24 334 ⇑P **P** **20 49 02.1 -0.2**
baz=59,SNR=204
F25A Bowman 59.27 339 ⇓P **P** **20 49 02.4 +0.1**
baz=59,SNR=40
SPUT South Promonto 59.30 330 *e*P **P** **20 49 01.0 -1.8**
comp=Z,146nm,1.0s
SPUT *e*PcP **PcP** **20 49 49.5 -0.2**
BGU Big Grassy Mou 59.30 329 *e*P **P** **20 48 59.5 -3.2**
comp=Z,52nm,1.0s
C30A Mose, Pekin 59.30 344 ⇓P **P** **20 49 02.5 +0.1**
baz=59,SNR=44
G23A Biddle 59.35 338 ⇑P **P** **20 49 02.9 0.0**
baz=60,SNR=121
SMMC Simmler 59.37 320 ⇑P **P** **20 49 04.1 +0.9**
baz=60,SNR=55
I20A Worland 59.40 335 ⇑P **P** **20 49 03.5 +0.1**
baz=60,SNR=173
E26A Carlson Angus 59.41 340 ⇑P **P** **20 49 03.2 0.0**
baz=60,SNR=109
TIN Tinemaha 59.42 323 ⇑P **P** **20 49 04.2 +0.7**
baz=60,SNR=27
D28A Regan 59.45 342 ⇑P **P** **20 49 03.3 -0.2**
baz=60,SNR=61
H21A Big Horn, Sher 59.51 336 ⇓P **P** **20 49 03.7 -0.4**
baz=60,SNR=80
TPH Tonopah 59.52 324 *e*P **P** **20 49 03.5 -0.9**
TPH *e* 20 49 51.2
TPH pmax pmax
comp=Z,100nm,1.0s
TPH Tonopah 59.52 324 *e*P **P** **20 49 03.5 -0.9**
comp=Z,100nm,1.0s
TPH *e*PcP **PcP** **20 49 51.2 +0.5**
RCTC Rector, Farmer 59.54 322 ⇓P **P** **20 49 04.7 +0.5**
baz=60,SNR=17
F24A Ekalaka 59.55 339 ⇓P **P** **20 49 04.4 +0.1**
baz=60,SNR=140
D27A Center 59.67 341 ⇓P **P** **20 49 05.3 +0.3**
baz=60,SNR=41
G22A Birney 59.71 337 ⇓P **P** **20 49 05.4 0.0**
baz=60,SNR=64
E25A Miller Ranch, ⇑P **P** **20 49 06.0 +0.4**
baz=60,SNR=46
MDND Maddock 59.75 343 *e*P **P** **20 49 04.5 -1.0**
MDND *e*PcP **PcP** **20 49 51.5 +0.4**
MDND Maddock 59.75 343 ⇓P **P** **20 49 05.5 -0.1**
baz=60,SNR=52
H20A Greybull 59.78 335 ⇓P **P** **20 49 05.5 -0.4**
baz=60,SNR=276
F23A Volborg 59.80 338 ⇓P **P** **20 49 05.6 -0.3**
baz=60,SNR=83
HVU Hansel Valley 59.81 330 *e*P **P** **20 49 04.9 -1.3**
HVU *e* 20 49 50.3
HVU pmax pmax
comp=Z,175nm,0.9s
HVU Hansel Valley 59.81 330 *e*P **P** **20 49 04.9 -1.3**
comp=Z,175nm,0.9s
HVU *e*PcP **PcP** **20 49 50.3 -1.5**
MTUM Tungsten Hills 59.81 323 *e*P **P** **20 49 07.2 +0.8**
I19A Meeteetse 59.84 334 ⇑P **P** **20 49 06.2 -0.2**
baz=60,SNR=80
C28A Hausauer Farms 59.86 343 ⇓P **P** **20 49 06.6 +0.3**
baz=60,SNR=5.4
D26A Manning 59.89 341 ⇑P **P** **20 49 06.8 +0.3**
baz=60,SNR=79
B30A Myrvik Farm, E 59.95 344 ⇓P **P** **20 49 06.9 +0.1**
baz=60,SNR=160
G21A Lodge Grass 60.07 336 ⇓P **P** **20 49 07.7 -0.2**
baz=60,SNR=109
E24A Baker 60.12 339 ⇓P **P** **20 49 08.4 +0.3**
baz=60,SNR=64
REDW Red Top Meadow 60.12 333 *e*P **P** **20 49 08.1 -0.3**
comp=Z,176nm,1.1s
MLAC Mammoth Lakes 60.16 323 ⇓P **P** **20 49 09.0 +0.2**
baz=60,SNR=11
F22A Rosebud 60.16 337 ⇑P **P** **20 49 08.6 +0.1**
baz=60,SNR=68
C27A Sayler Ranch, 60.20 342 ⇑P **P** **20 49 09.0 +0.4**
baz=60,SNR=24
LOHW Long Hollow 60.20 333 *e*P **P** **20 49 08.8 -0.2**
comp=Z,105nm,1.0s
B29A Wagenman Farm, 60.24 344 ⇑P **P** **20 49 09.1 +0.3**
baz=60,SNR=196
D25A Fairfield 60.29 340 ⇓P **P** **20 49 10.0 +0.7**
baz=60,SNR=127
NV11 Mina Array Sit 60.30 324 *e*P **P** **20 49 08.4 -1.2**
ELK Elko 60.30 328 *e*P **P** **20 49 10.1 +0.4**
comp=Z,100nm,1.0s
H19A Powell 60.34 335 ⇓P **P** **20 49 09.6 -0.2**
baz=60,SNR=32
MOOW Moose Ponds 60.37 333 *e*P **P** **20 49 09.8 -0.4**
comp=Z,132nm,1.5s
NVAR Mina Array Bea 60.38 324 P **P** **20 49 11.0 +0.7**
NVAR P'P' 21 18 32.1
NVAR ⇑*e* 21 18 40.4
NVAR *e* 21 26 14.0
NVAR Mina Array Bea 60.38 324 P **P** **20 49 11.0 +0.7**
comp=Z,56nm,0.8s,baz=137,slow=5.2,SNR=293
NVAR LR LR 21 14 05.9
comp=Z,190nm,19.7s,baz=230,slow=35
NVAR PKPPKP **P'P'df** **21 18 32.1 +0.9**
comp=Z,1.1nm,0.8s,baz=298,slow=1.9,SNR=4.9
NVAR PKP2bc 21 18 40.4
comp=Z,3.2nm,0.8s,baz=290,slow=2.6,SNR=13
NVAR P4KPbc 21 26 14.0
comp=Z,0.7nm,0.7s,baz=116,slow=4.1,SNR=6.8
A30A Hoffart Farm, 60.39 345 ⇓P **P** **20 49 09.9 +0.1**
baz=60,SNR=112
E23A Ismay 60.42 338 ⇑P **P** **20 49 10.2 +0.1**
baz=60,SNR=41
I17A Pilgrim Ck. 60.43 333 ⇑P **P** **20 49 10.5 0.0**
baz=60,SNR=130
G20A Bridger 60.47 336 ⇓P **P** **20 49 10.3 -0.4**
baz=61,SNR=135
C26A Wahner Farm, P 60.48 341 ⇓P **P** **20 49 10.6 0.0**
baz=61,SNR=43
B28A Dugan Ranch, T 60.51 343 ⇓P **P** **20 49 10.8 +0.1**
baz=61,SNR=26
F21A Absaloka Mine, 60.53 337 ⇓P **P** **20 49 10.9 -0.1**
baz=61,SNR=24
D24A Glendive 60.60 339 ⇑P **P** **20 49 11.9 +0.5**
baz=61,SNR=65
E22A Miles City 60.60 338 ⇑P **P** **20 49 11.4 0.0**
baz=61,SNR=50
FLWY Flagg Ranch 60.62 333 *e*P **P** **20 49 12.1 +0.3**
comp=Z,353nm,1.0s
A29A Manning Farm, 60.62 344 ⇑P **P** **20 49 11.5 +0.1**
baz=61,SNR=106
H18A Shoshone NF, C 60.64 334 ⇑P **P** **20 49 11.5 -0.4**
baz=61,SNR=159
B27A Peters Farms, ⇓P **P** **20 49 12.6 +0.4**
baz=61,SNR=14
C25A Freed Ranch, W 60.76 341 ⇑P **P** **20 49 13.0 +0.5**
baz=61,SNR=37
H17A Grant Village 60.81 334 *e*P **P** **20 49 11.1 -2.0**
H17A *e*PP **PP** **20 51 27.4 -1.1**
H17A Grant Village 60.81 334 ⇑P **P** **20 49 14.0 +0.9**
baz=61,SNR=46
RLMT Red Lodge 60.83 335 *e*P **P** **20 49 11.8 -1.4**
comp=Z,173nm,1.0s
RLMT *e*PcP **PcP** **20 49 55.4 -0.4**
A28A Rude Farm, Bot 60.90 343 ⇓P **P** **20 49 13.4 +0.1**
baz=61,SNR=21

LAO LASA Array 60.92 338 *e*P **P** **20 49 12.9 -0.7**
comp=Z,225nm,1.1s
LAO *e*PcP **PcP** **20 49 55.9 0.0**
LAO LR LR
comp=Z,500nm,21.0s
F20A Billings 60.92 336 ⇓P **P** **20 49 13.7 0.0**
baz=61,SNR=112
D23A Lindsay 60.96 339 ⇑P **P** **20 49 14.2 +0.4**
baz=61,SNR=152
YFT Old Faithful 60.97 333 *e*P **P** **20 49 13.2 -1.0**
comp=Z,175nm,1.0s
C24A Savage 60.99 340 ⇓P **P** **20 49 14.8 +0.8**
baz=61,SNR=20
B26A Jensen Ranch, 61.01 342 ⇓P **P** **20 49 14.7 +0.6**
baz=61,SNR=15
ULM Lac du Bonnet 61.01 347 *e*P **P** **20 49 12.6 -1.4**
comp=Z,385nm,1.3s
ULM PcP **PcP** **20 49 56.0 -0.1**
ULM Lac du Bonnet 61.01 347 P **P** **20 49 13.0 -1.0**
comp=Z,197nm,1.0s,baz=161,slow=6.8,SNR=121
ULM PcP **PcP** **20 49 56.0 -0.1**
comp=Z,56nm,0.9s,baz=175,slow=6.2,SNR=6.4
ULM LR LR 21 15 31.6
comp=Z,254nm,21.2s,baz=158,slow=36
WAKR Walker 61.09 323 *e*P **P** **20 49 13.6 -1.5**
E21A Keefer Ranch, ⇑P **P** **20 49 15.1 +0.3**
baz=61
BMN Battle Mountai 61.14 326 *e*P **P** **20 49 13.3 -2.0**
BMN pmax pmax
comp=Z,91nm,0.9s
BMN Battle Mountai 61.14 326 *e*P **P** **20 49 13.3 -2.0**
comp=Z,91nm,0.9s
SAO San Andreas Ge 61.20 321 *e*P **P** **20 49 16.3 +0.7**
SAO pmax pmax
comp=Z,614nm,2.8s
SAO San Andreas Ge 61.20 321 *e*P **P** **20 49 16.3 +0.7**
comp=Z,614nm,2.8s
YMR Madison River 61.20 334 *e*P **P** **20 49 14.1 -1.6**
comp=Z,273nm,1.1s
YMR *e*PcP **PcP** **20 49 58.4 +1.0**
B25A Knox Farm, Ray 61.22 341 ⇑P **P** **20 49 15.9 +0.4**
baz=61,SNR=26
F19A Roth Farm, Mol 61.28 336 ⇓P **P** **20 49 16.0 -0.1**
baz=61,SNR=410
D22A Cohagen 61.29 338 ⇓P **P** **20 49 16.6 +0.6**
baz=61,SNR=284
CMB Columbia Colle 61.35 322 *e*P **P** **20 49 14.2 -2.5**
CMB pmax pmax
comp=Z,57nm,1.0s
CMB Columbia Colle 61.35 322 *e*P **P** **20 49 14.2 -2.5**
comp=Z,57nm,1.0s
A26A Wade Farm, Ken 61.41 342 ⇓P **P** **20 49 17.1 +0.2**
baz=62,SNR=51
C23A Lambert 61.49 339 ⇑P **P** **20 49 17.6 +0.2**
baz=62,SNR=96
E20A Meyer Farm, Mu 61.49 337 ⇓P **P** **20 49 17.5 0.0**
baz=62,SNR=441
D21A La Casta Ranch 61.52 338 ⇑P **P** **20 49 18.2 +0.5**
baz=62,SNR=318
C22A Vida 61.69 339 ⇑P **P** **20 49 19.3 +0.6**
baz=62,SNR=86
E19A Rath Farm, Rou 61.72 336 ⇑P **P** **20 49 19.3 +0.3**
baz=62,SNR=404
DGMT Dagmar 61.73 340 *e*P **P** **20 49 17.9 -1.1**
comp=Z,306nm,1.0s
DGMT LR LR
comp=Z,494nm,21.0s
DGMT Dagmar 61.73 340 ⇓P **P** **20 49 19.5 +0.6**
baz=62,SNR=40
A25A Svangstu Ranch 61.78 341 ⇓P **P** **20 49 19.9 +0.6**
baz=62,SNR=84
HLID Hailey 61.95 331 *e*P **P** **20 49 19.4 -1.3**
comp=Z,100nm,0.9s
HLID LR LR
comp=Z,557nm,22.0s
HLID Hailey 61.95 331 ⇓P **P** **20 49 21.2 +0.5**
baz=62,SNR=162
D20A Manuel Ranch, 61.98 337 ⇓P **P** **20 49 21.1 +0.5**
baz=62,SNR=300
B23A Brockton 61.99 340 ⇑P **P** **20 49 21.4 +0.7**
baz=62,SNR=218
A24A Westby 62.06 341 ⇑P **P** **20 49 22.1 +1.0**
baz=62,SNR=189
B22A Reddig Ranch S 62.20 339 ⇑P **P** **20 49 22.9 +0.8**
baz=62,SNR=12
BOZ Bozeman (W) 62.25 334 *e*P **P** **20 49 22.5 -0.2**
BOZ pmax pmax
comp=Z,315nm,1.1s
BOZ MLR MLR
comp=Z,612nm,19.0s
BOZ Bozeman (W) 62.25 334 *e*P **P** **20 49 22.5 -0.2**
comp=Z,315nm,1.1s
BOZ LR LR
comp=Z,612nm,19.0s
D19A Cripps Ranch, ⇓P **P** **20 49 23.4 +0.4**
baz=62,SNR=101
A23A Redstone ⇑P **P** **20 49 24.2 +0.9**
baz=62,SNR=49
C20A Veseth Ranch, ⇓P **P** **20 49 24.2 +0.5**
baz=63,SNR=36
DLMT Dillon 62.46 333 *e*P **P** **20 49 24.3 +0.3**
comp=Z,183nm,1.1s
BEKR Beckworth 62.53 324 *e*P **P** **20 49 25.2 +0.5**
comp=Z,64nm,1.0s
MFID Camas Ranch 62.53 330 *e*P **P** **20 49 25.1 +0.5**
comp=Z,337nm,1.0s
B21A Ellsworth Farm 62.67 339 ⇑P **P** **20 49 26.1 +0.9**
baz=63,SNR=16
LRM Limekiln Ridge 62.75 333 *e*P **P** **20 49 26.1 0.0**
A22A Carney Farms, ⇓P **P** **20 49 26.6 +0.8**
baz=63,SNR=187
OHCM Honcut 62.85 323 *e*P **P** **20 49 27.6 +1.1**
C19A Slack Wire Ran 62.86 337 ⇑P **P** **20 49 26.9 +0.4**
baz=63,SNR=221
MCCM Marconi Confer 62.95 321 *e*P **P** **20 49 27.5 +0.3**
comp=Z,122nm,0.9s
B20A Solberg Farm, ⇑P **P** **20 49 27.9 +0.1**
baz=63,SNR=84
A21A Bergtoll Ranch ⇑P **P** **20 49 28.3 +0.2**
baz=63,SNR=132
HRY Holter Researc 63.17 334 *e*P **P** **20 49 28.9 +0.1**
WVOR Wild Horse Val 63.30 327 *e*P **P** **20 49 30.0 +0.4**
WVOR pmax pmax
comp=Z,121nm,1.1s
WVOR MLR MLR
comp=Z,288nm,19.0s
WVOR Wild Horse Val 63.30 327 *e*P **P** **20 49 30.0 +0.4**
comp=Z,121nm,1.1s
WVOR LR LR
comp=Z,288nm,19.0s
EGMT Eagleton 63.37 337 *e*P **P** **20 49 29.8 -0.1**
comp=Z,315nm,1.0s
EGMT Eagleton 63.37 337 ⇓P **P** **20 49 29.9 -0.1**
baz=64,SNR=134
A20A Cobblestone Ra 63.38 338 ⇑P **P** **20 49 30.1 +0.1**
baz=64,SNR=64
B19A Brinkman Farms 63.41 337 ⇓P **P** **20 49 30.6 +0.4**
baz=64,SNR=69
HOPS Hopland 63.59 322 *e*P **P** **20 49 31.7 +0.2**
comp=Z,120nm,1.4s
A19A Klindworth Far 63.72 338 ⇓P **P** **20 49 32.6 +0.4**
baz=64,SNR=189
MOD Modoc 63.84 326 *e*P **P** **20 49 33.7 +0.5**
comp=Z,47nm,0.9s
J08A Circle Bar Ran 63.85 328 *e*P **P** **20 49 33.2 0.0**
comp=Z,51nm,0.8s
CHMT Chamberlain Mo 63.95 334 *e*P **P** **20 49 33.6 -0.3**
comp=Z,58nm,1.2s
SCHQ Schefferville 64.18 7 *e*P **P** **20 49 35.1 0.0**
SCHQ PcP **PcP** **20 50 09.7 +0.7**
SCHQ Schefferville 64.18 7 P **P** **20 49 35.0 0.0**
comp=Z,150nm,0.9s,baz=200,slow=4.6,SNR=69
SCHQ PcP **PcP** **20 50 09.7 +0.7**
comp=Z,57nm,0.8s,baz=192,slow=6.7,SNR=10
MSO Missoula 64.19 333 *e*P **P** **20 49 35.7 +0.4**
comp=Z,432nm,1.0s
MSO Missoula 64.19 333 ⇑P **P** **20 49 35.9 +0.5**
baz=64,SNR=310
WDC Whiskeytown Da 64.27 323 *e*P **P** **20 49 34.5 -1.4**
WDC pmax pmax
comp=Z,43nm,0.9s
WDC Whiskeytown Da 64.27 323 *e*P **P** **20 49 34.5 -1.4**
comp=Z,44nm,0.9s
SLMT Seeley Lake 64.31 334 *e*P **P** **20 49 36.3 +0.2**
KCPM Cahto Peak 64.33 322 *e*P **P** **20 49 36.6 +0.1**
comp=Z,103nm,1.1s
KCPM *e*PcP **PcP** **20 50 10.5 +0.3**

KIPM Iron Peak 64.34 322 *e*P **P** **20 49 36.1 -0.4**
comp=Z,153nm,1.0s
KIPM *e*PcP **PcP** **20 50 09.8 -0.4**
N02D Trinity Center 64.61 324 ⇑P **P** **20 49 37.8 -0.4**
baz=65
M04C Macdoel 64.63 325 ⇑P **P** **20 49 38.6 +0.2**
baz=65
K05A Summer Lake 64.72 326 *e*P **P** **20 49 39.8 +0.7**
comp=Z,259nm,1.0s
SWMT Swartz Lake 64.73 334 *e*P **P** **20 49 39.2 +0.3**
I07A Izee 64.89 328 *e*P **P** **20 49 40.7 +0.7**
comp=Z,206nm,1.0s
M02C Callahan 64.96 324 ⇑P **P** **20 49 40.7 +0.2**
baz=65
JTMT Jette 65.04 334 *e*P **P** **20 49 41.4 +0.5**
BBTS Babade 65.07 69 P **P** **20 49 42.4 +0.8**
BBTS Babade 65.07 69 P **P** **20 49 42.4 +0.8**
comp=Z,154nm,1.0s,baz=285,slow=1.6,SNR=20
BBTS LR LR 21 16 27.0
comp=Z,666nm,19.7s,baz=252,slow=34
F10A Beach Ranch, E 65.08 331 *e*P **P** **20 49 41.6 +0.5**
comp=Z,167nm,0.9s
YBH Yreka Blue Hor 65.10 324 P **P** **20 49 40.4 -0.9**
YBH Yreka Blue Hor 65.10 324 P **P** **20 49 40.4 -0.9**
comp=Z,84nm,0.8s,baz=79,slow=2.9,SNR=222
K04D Chiloquin, OR 65.13 326 ⇓P **P** **20 49 42.2 +0.6**
baz=65
KHMM Horse Mountain *e*P **P** **20 49 43.0 +1.2**
comp=Z,176nm,0.9s
BLMT Blacktail Moun 65.27 334 *e*P **P** **20 49 43.2 +0.7**
J05D Fort Rock, OR 65.28 326 ⇓P **P** **20 49 42.9 +0.3**
baz=65
BSMT Bassoo Peak 65.34 333 *e*P **P** **20 49 43.5 +0.6**
PINOR Pine Mountain 65.43 327 *e*P **P** **20 49 44.7 +1.4**
G08A Pilot Rock 65.45 329 *e*P **P** **20 49 44.0 +0.4**
comp=Z,125nm,1.2s
KRMB Red Mountain 65.66 324 *e*P **P** **20 49 46.1 +1.0**
comp=Z,674nm,1.2s
J04D Umpqua Nationa 65.73 326 ⇓P **P** **20 49 45.9 +0.4**
baz=66
HUMO Hull Mountain 65.80 325 *e*P **P** **20 49 45.2 -0.5**
comp=Z,24nm,1.0s
WALA Waterton Lakes 65.88 335 *e*P **P** **20 49 46.6 +0.3**
comp=Z,8.3nm,0.9s
E09A Wood Farm, Sta 65.91 331 *e*P **P** **20 49 46.7 +0.4**
comp=Z,128nm,1.0s
I05D Terrebonne, OR 66.03 327 ⇓P **P** **20 49 48.1 +0.8**
baz=66
HBO Huckleberry Mo 66.24 326 P **P** **20 49 48.6 -0.1**
I04A Tendick Farm, ⇓P **P** **20 49 49.1 +0.4**
baz=66
G06A Carlson Farm, *e*P **P** **20 49 50.1 +1.4**
comp=Z,591nm,2.3s
KBO Bosley Butte 66.28 324 *e*PcP **PcP** **20 50 19.5 +1.4**
HAWA Hanford 66.50 330 *e*P **P** **20 49 47.5 -2.6**
comp=Z,152nm,1.4s
BROR Big Rock Looko 66.59 327 P **P** **20 49 50.7 -0.1**
FFC Flin Flon 66.60 345 *e*P **P** **20 49 48.7 -1.9**
FFC pmax pmax
comp=Z,75nm,1.0s
FFC Flin Flon 66.60 345 *e*P **P** **20 49 48.7 -1.9**
comp=Z,75nm,1.0s
G05D Wamic, OR 66.63 328 ⇓P **P** **20 49 52.0 +1.0**
baz=67
D08A Wollman Farm, 66.67 331 *e*P **P** **20 49 51.5 +0.2**
comp=Z,784nm,2.6s
NEW Newport 66.69 333 *e*P **P** **20 49 51.3 0.0**
comp=Z,180nm,0.9s
NEW LR LR
comp=Z,245nm,19.0s
NEW Newport 66.69 333 ⇑P **P** **20 49 51.7 +0.3**
baz=67,SNR=136
I03D Drain, OR 66.71 326 ⇑P **P** **20 49 52.1 +0.6**
baz=67
H04A Detroit Lake 66.72 327 *e*P **P** **20 49 51.5 -0.2**
comp=Z,123nm,0.9s
KEBM Edson Butte *e*P P 20 49 46.7 -5.2
comp=Z,255nm,1.1s
VFP Flag Point 66.76 328 P **P** **20 49 53.4 +1.4**
E07A Sunnyside 66.78 330 *e*P **P** **20 49 52.8 +0.9**
comp=Z,208nm,1.0s
OD2 Odessa Site #2 66.80 331 P **P** **20 49 52.5 +0.4**
C09A Chrisman Ranch 66.89 332 *e*P **P** **20 49 53.5 +0.8**
comp=Z,84nm,1.0s
TRW Toppenish Ridg 66.94 329 P **P** **20 49 54.5 +1.5**
VLL Laurance Lake 66.97 328 P **P** **20 49 54.6 +1.3**
COR Corvallis 67.26 326 *e*P **P** **20 49 53.1 -1.8**
COR pmax pmax
comp=Z,44nm,1.0s
COR Corvallis 67.26 326 *e*P **P** **20 49 53.1 -1.8**
comp=Z,44nm,1.0s
SAW Saint Andrews 67.36 331 P **P** **20 49 56.1 +0.6**
WTV Waterville 67.62 331 P **P** **20 49 57.9 +0.6**
G03D McMinnville, O 67.64 327 ⇓P **P** **20 49 58.2 +0.9**
baz=68
F04A Amboy 67.67 328 *e*P **P** **20 49 58.1 +0.7**
comp=Z,177nm,0.9s
LTY Liberty 67.67 330 *e*P **P** **20 49 58.0 +0.4**
comp=Z,497nm,2.0s
ETW Entiat 67.74 330 P **P** **20 49 58.9 +0.8**
LON Longmire 67.89 329 *e*P **P** **20 49 56.2 -2.8**
LON pmax pmax
comp=Z,56nm,0.9s
LON Longmire 67.89 329 *e*P **P** **20 49 56.2 -2.8**
comp=Z,56nm,0.9s
NLW Nelson Butte 68.07 331 P **P** **20 50 00.8 +0.7**
F04D Rainier, OR 68.07 328 ⇑P **P** **20 50 00.8 +0.8**
baz=68
D05A Enumclaw 68.28 329 *e*P **P** **20 50 02.0 +0.7**
comp=Z,244nm,0.9s
VAH Vaihoa 68.38 257 *e*P **P** **20 50 04.4 +1.8**
comp=Z,90nm,1.1s
VAH *e*pP **PcP** **20 50 28.4 +1.1**
comp=Z,132nm,1.2s
BMW Boistfort Moun 68.44 328 P **P** **20 50 03.0 +0.5**
BMW Boistfort Moun 68.44 328 P **P** **20 50 03.0 +0.5**
PMOR Pomariorio Ree 68.65 257 *e*P **P** **20 50 06.3 +2.0**
comp=Z,207nm,1.1s
E03A Lebam 68.67 328 *e*P **P** **20 50 04.9 +1.2**
comp=Z,240nm,1.1s
FCC Fort Churchill 68.74 351 *e*P **P** **20 50 03.4 -0.5**
FCC pmax pmax
comp=Z,14nm,0.9s
FCC Fort Churchill 68.74 351 *e*P **P** **20 50 03.4 -0.5**
comp=Z,14nm,0.9s
EDM Edmonton 68.91 338 *e*P **P** **20 50 04.0 -1.2**
EDM Edmonton 68.91 338 *e*P **P** **20 50 04.0 -1.2**
B06A Marblemount 68.93 330 *e*P **P** **20 50 05.7 +0.4**
comp=Z,187nm,0.9s
NLWA Neilton Lookou 69.38 328 *e*P **P** **20 50 05.9 -2.2**
comp=Z,205nm,0.9s
NLWA LR LR
comp=Z,344nm,20.0s
A05A Maple Falls 69.55 331 *e*P **P** **20 50 09.2 +0.1**
comp=Z,282nm,1.0s
TBI Tubuai 69.77 248 *e*S **S** **20 59 09.3 -2.2**
comp=Z,1μm,25.8s
TBI *e*LQ LQ 21 08 10.2
comp=Z,2μm,30.5s
TBI *e*LR LR 21 11 16.2
comp=Z,1μm,29.2s,baz=80
TVO Taravao 69.78 254 *e*P **P** **20 50 13.6 +2.3**
comp=Z,39nm,1.2s
TIAR Tiarei 69.88 255 *e*P **P** **20 50 14.0 +2.1**
comp=Z,62nm,1.8s
PGC Sidney 69.99 330 *e*P P 20 50 08.5 -3.3
comp=Z,11nm,0.9s
PPT2 Papeete2 70.10 255 *e*S **S** **20 59 13.5 -2.3**
comp=Z,803nm,28.5s
PPT2 *e*LQ LQ 21 07 52.7
comp=Z,1μm,32.0s
PPT2 *e*LR LR 21 11 25.1
comp=Z,2μm,27.2s,baz=97
PPT Papeete 70.10 255 LR LR 21 13 51.1
comp=Z,686nm,18.6s,baz=85,slow=30
LIC Lamto 74.04 81 ⇑*i*P **P** **20 50 37.4 +0.6**
comp=Z,228nm,1.1s,baz=254
LIC *e*R
comp=Z,877nm,22.0s
LIC Lamto 74.04 81 *e*P **P** **20 50 37.6 +0.8**
comp=Z,268nm,1.1s
LIC Lamto 74.04 81 ⇑*i*P **P** **20 50 37.4 +0.6**
comp=Z,228nm,1.1s
TIC Toumodi 74.13 80 *e*P **P** **20 50 38.3 +1.0**
comp=Z,294nm,1.0s
DBIC Dimbokro 74.29 80 P **P** **20 50 39.0 +0.8**
DBIC Dimbokro 74.29 80 P **P** **20 50 39.0 +0.8**

comp=Z,104nm,0.7s,baz=236,slow=5.7,SNR=146
DBIC LR LR 21 21 26.3
comp=Z,422nm,20.3s,baz=236,slow=34
NRS Narsarsuaq 74.34 16 *i* P **P 20 50 37.8 +0.3**
NRS pmax pmax
comp=Z,100nm,0.9s
KIC Kosan Boka 74.34 81 *e*P **P 20 50 39.1 +0.5**
comp=Z,404nm,0.9s
BBB Bella Bella 74.54 331 LR LR 21 26 08.6
comp=Z,150nm,18.2s,baz=112,slow=38
YKA Yellowknife Ar 76.67 343 P **P 20 50 50.2 -0.6**
YKA PKKP **PKKPdf 21 09 51.5 +0.5**
YKA P'P' 21 17 55.5
YKA Yellowknife Ar 76.67 343 P **P 20 50 50.2 -0.6**
comp=Z,62nm,0.8s,baz=139,slow=6.2,SNR=499
YKA PKKP **PKKPdf 21 09 51.5 +0.5**
comp=Z,0.2nm,0.6s,baz=276,slow=2.5,SNR=3.8
YKA PKPPKP P'P'df 21 17 55.4 -6.6
comp=Z,0.2nm,0.8s,baz=310,slow=1.9,SNR=3.6
YKW3 Yellowknife Ar 76.73 343 *e*P **P 20 50 50.4 -0.7**
comp=Z,3.0nm,1.0s
SNAA Sanae 76.84 162 *e*P **P 20 50 52.3 +0.4**
comp=Z,171nm,1.4s
SNAA pP **pP 20 51 22.7 +2.1**
SNAA Sanae 76.84 162 P **P 20 50 52.6 +0.8**
comp=Z,22nm,0.8s,baz=287,slow=5.0,SNR=67
SNAA pP **pP 20 51 22.7 +2.1**
comp=Z,14nm,0.8s,baz=278,slow=3.0,SNR=6.9
SFJD Kangerlussuaq 78.24 11⇑ *i*P **P 20 50 59.2 -0.2**
comp=Z,51nm,1.0s
PFVI Vila Bisbo 78.98 49 *e*P **P 20 51 06.5 +2.4**
comp=Z,176nm,0.8s
WRAK Wrangell Islan 79.05 333 *e*P P 20 51 00.8 -3.2
comp=Z,105nm,0.9s
MORF Marmelete 79.17 49 *e*P **P 20 51 07.8 +2.5**
comp=Z,282nm,1.9s
MORF Marmelete 79.17 49 *e*P **P 20 51 04.8 -0.5**
MORF *e*S **S 21 00 55.9 -0.1**
PTEO Sao Teotonio 79.20 49 *e*P **P 20 51 07.8 +2.5**
comp=Z,298nm,1.4s
DLBC Dease Lake 79.23 335 *e*P **P 20 51 04.7 -0.5**
DLBC *e*PcP **PcP 20 51 13.3 +0.3**
DLBC Dease Lake 79.23 335 LR LR 21 27 46.8
comp=Z,155nm,20.8s,baz=94,slow=37
PNCL Nicolau / Gran 79.54 49 *e*P **P 20 51 09.1 +2.0**
comp=Z,160nm,1.7s
PCVE Castro Verde 79.74 49 *e*P **P 20 51 10.6 +2.3**
comp=Z,210nm,1.4s
PVAQ Vaqueiros 79.90 49 *e*P **P 20 51 10.8 +1.6**
comp=Z,92nm,1.8s
EVOP Sao Brissos 79.98 48 *e*P **P 20 51 10.4 +0.9**
EVOP pmax pmax
comp=Z,345nm,1.2s
EVOP Sao Brissos 79.98 48 *e*P **P 20 51 10.4 +0.9**
comp=Z,345nm,1.2s
PBEJ Beja 80.00 49 *e*P **P 20 51 11.7 +2.0**
comp=Z,119nm,1.4s
EVO Evora 80.06 48 *e*P **P 20 51 10.4 +0.4**
comp=Z,345nm,1.2s
EVO *e*R
comp=Z,390nm,21.0s
EVO Evora 80.06 48 *e*P **P 20 51 11.7 +1.7**
comp=Z,158nm,1.3s
PTOM Tomar 80.14 47 *e*P **P 20 51 12.1 +1.7**
comp=Z,141nm,1.4s
ILULI Ilulissat 80.14 9⇑ *i*P **P 20 51 09.8 +0.1**
ILULI pmax pmax
comp=Z,91nm,1.0s
ILULI Ilulissat 80.14 9⇑ *i*P **P 20 51 09.8 +0.1**
comp=Z,91nm,1.0s
ILULI *i* 20 51 53.2
PESTR Estremoz 80.48 48 *e*P **P 20 51 13.9 +1.6**
comp=Z,151nm,1.3s
PMRV Marv??o 80.82 48 *e*P **P 20 51 15.1 +1.1**
comp=Z,49nm,1.2s
PVIS Viseu 80.89 46 *e*P **P 20 51 15.7 +1.3**
comp=Z,167nm,1.3s
PCBR Castelo Branco 80.89 47 *e*P **P 20 51 15.8 +1.4**
comp=Z,58nm,1.3s
MTE Manteigas 81.03 47 *e*P **P 20 51 16.4 +1.2**
comp=Z,92nm,1.1s
MTE Manteigas 81.03 47 *e*P P 20 51 10.2 -5.1
comp=Z,61nm,1.0s
PGAV Gavieira, Arco 81.06 45 *e*P **P 20 51 17.2 +1.8**
comp=Z,98nm,1.4s
PCAB Cabril 81.14 45 *e*P **P 20 51 17.1 +1.4**
comp=Z,80nm,1.5s
QSPA South Pole Qui 81.18 180 *e*P **P 20 51 16.6 +1.0**
comp=Z,308nm,1.2s
QSPA pP **pP 20 51 46.5 +1.9**
QSPA South Pole Qui 81.18 180 P **P 20 51 17.2 +1.5**
comp=Z,165nm,1.0s,baz=156,slow=3.6,SNR=265
QSPA pP **pP 20 51 46.5 +1.9**
comp=Z,83nm,1.1s,baz=189,slow=3.6,SNR=4.3
POLO Lamas de Olo 81.19 46 *e*P **P 20 51 17.3 +1.2**
comp=Z,52nm,1.4s
PVRL Vila Real 81.21 46 *e*P **P 20 51 17.7 +1.6**
comp=Z,95nm,1.2s
POHA Pohakuloa 81.65 292 *e*P **P 20 51 20.0 +0.9**
comp=Z,67nm,0.9s
MVO Moncorvo 81.66 46 *e*P **P 20 51 19.8 +1.3**
comp=Z,118nm,1.1s
TOA0 Torodi Ar. Sit 81.88 75 *e*P **P 20 51 20.4 +0.3**
TORD Torodi Ar. Bea 81.88 75 P **P 20 51 20.4 +0.3**
TORD pP **pP 20 51 53.5 +4.3**
TORD PKKPbc **PKKPbc 21 09 49.9 -0.2**
TORD P'P' 21 17 45.8
TORD Torodi Ar. Bea 81.88 75 P **P 20 51 20.4 +0.3**
comp=Z,66nm,0.8s,baz=289,slow=5.7,SNR=319
TORD pP **pP 20 51 53.5 +4.3**
comp=Z,42nm,1.0s,baz=275,slow=5.8,SNR=4.4
TORD PKKPbc **PKKPbc 21 09 49.9 -0.2**
comp=Z,1.9nm,0.8s,baz=82,slow=2.1,SNR=11
TORD PKPPKP P'P'df 21 17 45.8 -11
comp=Z,0.6nm,1.0s,baz=90,slow=3.2,SNR=2.2
TORD LR LR 21 26 38.3
comp=Z,269nm,18.2s,baz=265,slow=35
SKAG Skagway 82.07 334 *e*P **P 20 51 18.3 -1.8**
PBRG Braganca 82.08 46 *e*P **P 20 51 22.0 +1.3**
comp=Z,93nm,1.9s
PAB San Pablo 83.09 48 *e*P **P 20 51 25.6 -0.4**
PAB San Pablo 83.09 48 *e*P **P 20 51 25.6 -0.4**
ESDC Sonseca Array 83.41 48 P **P 20 51 28.8 +1.1**
ESDC P'P' 21 17 50.4
ESDC Sonseca Array 83.41 48 P **P 20 51 28.8 +1.1**
comp=Z,119nm,0.9s,baz=261,slow=5.2,SNR=298
ESDC PKPPKP **P'P'df 21 17 50.4 -1.5**
comp=Z,0.5nm,0.7s,baz=19,slow=1.9,SNR=3.5
ESDC LR LR 21 25 52.6
comp=Z,117nm,19.1s,baz=240,slow=34
ESLA Sonseca Array 83.41 48 *e*P **P 20 51 25.2 -2.4**
comp=Z,46nm,1.0s
VAL Valentia 83.52 35⇑ *i*P **P 20 51 29.8 +2.0**
HYT Haines Junctio 83.71 335 *e*P **P 20 51 25.9 -2.9**
RES Resolute Bay 84.13 355 LR LR 21 29 55.1
comp=Z,222nm,20.2s,baz=152,slow=36
KIP Kipapa 84.27 293⇑ *i*P **P 20 51 34.1 +1.8**
KIP pmax pmax
comp=Z,130nm,1.2s
KULLO Kullorsuaq 84.32 5⇑ *i*P **P 20 51 31.9 +0.5**
KULLO pmax pmax
comp=Z,65nm,0.9s
KULLO Kullorsuaq 84.32 5⇑ *i*P **P 20 51 31.9 +0.5**
comp=Z,65nm,0.9s
BORG Borgarnes 84.55 21 *e*P **P 20 51 30.8 -1.9**
comp=Z,226nm,1.0s
BORG Borgarnes 84.55 21 P **P 20 51 33.9 +1.1**
comp=Z,151nm,0.9s,baz=217,slow=5.1,SNR=40
SUMG Summit 85.22 11⇑ *i*P **P 20 51 37.5 +1.0**
SUMG Summit 85.22 11⇑ *i*P **P 20 51 37.5 +1.0**
SUMG *i* pP **sP 20 52 21.4 +3.6**
SUMG Summit 85.22 11 *e*P **P 20 51 36.0 -0.4**
comp=Z,479nm,1.0s
DAWY Dawson 86.11 337 *e*P **P 20 51 39.3 -1.3**
DSB Dublin 86.20 35 *e*P **P 20 51 38.8 -2.4**
comp=Z,98nm,1.1s
INK Inuvik 86.36 342 *e*P **P 20 51 41.5 -0.2**
comp=Z,469nm,1.1s
INK Inuvik 86.36 342 LR LR 21 31 50.1
comp=Z,144nm,19.9s,baz=122,slow=37
SJPF Ste Jean 86.36 46 *e*P **P 20 51 43.1 +0.8**
comp=Z,122nm,0.8s
SJPF Ste Jean 86.36 46 *e*P **P 20 51 43.1 +0.8**
SJPF pmax pmax
comp=Z,122nm,0.8s
SJPF Ste Jean 86.36 46 *e*P **P 20 51 43.1 +0.8**
comp=Z,122nm,0.8s

OSSF Osses 86.37 45⇑ *e*P **P 20 51 43.1 +0.8**
QUIF Quistinic 86.42 41 *e*P **P 20 51 42.4 0.0**
comp=Z,83nm,0.9s
QUIF Quistinic 86.42 41 *e*P **P 20 51 42.4 0.0**
QUIF pmax pmax
comp=Z,83nm,0.9s
QUIF Quistinic 86.42 41 *e*P **P 20 51 42.4 0.0**
comp=Z,83nm,0.9s
ROSF Rostrenen 86.47 40 *e*P **P 20 51 42.7 0.0**
comp=Z,76nm,1.0s
ROSF Rostrenen 86.47 40 *e*P **P 20 51 42.7 0.0**
ROSF pmax pmax
comp=Z,76nm,1.0s
ROSF Rostrenen 86.47 40 *e*P **P 20 51 42.7 0.0**
comp=Z,76nm,1.0s
LARF Larrau 86.51 46⇑ *e*P **P 20 51 44.6 +1.6**
SBA Scott Base 86.52 191 *e*P **P 20 51 44.5 +2.0**
SBA MLR MLR
comp=Z,473nm,20.0s
SBA Scott Base 86.52 191 *e*P **P 20 51 44.5 +2.0**
SBA LR LR
comp=Z,473nm,20.0s
ORDF Ordiarp 86.59 45⇑ *e*P **P 20 51 44.0 +0.6**
ATE Arette 86.72 46⇑ *e*P **P 20 51 45.3 +1.2**
ETSF Etsaut 86.77 46 *e*P **P 20 51 45.1 +0.7**
comp=Z,90nm,1.0s
ETSF Etsaut 86.77 46 *e*P **P 20 51 45.1 +0.7**
ETSF pmax pmax
comp=Z,90nm,1.0s
ETSF Etsaut 86.77 46 *e*P **P 20 51 45.1 +0.7**
comp=Z,90nm,1.0s
BMRM Bremner River 86.85 333 *e*P **P 20 51 43.2 -1.1**
comp=Z,261nm,1.1s
SGMF Saint Gilles 86.91 40 *e*P **P 20 51 44.6 -0.2**
comp=Z,110nm,1.0s
SGMF Saint Gilles 86.91 40 *e*P **P 20 51 44.6 -0.2**
SGMF pmax pmax
comp=Z,110nm,1.0s
SGMF Saint Gilles 86.91 40 *e*P **P 20 51 44.6 -0.2**
comp=Z,110nm,1.0s
REYF Montagne du Re 86.94 46⇑ *e*P **P 20 51 45.5 +0.3**
EGAK Eagle 87.12 337 *e*P **P 20 51 45.3 -0.1**
comp=Z,490nm,1.0s
VIEF Viey 87.18 46⇑ *e*P **P 20 51 47.7 +1.3**
LABF Labassere 87.26 46⇑ *e*P **P 20 51 48.1 +1.4**
TAM Tamanrasset 87.29 67 *e*P **P 20 51 46.3 -1.1**
TAM pmax pmax
comp=Z,32nm,0.9s
TAM MLR MLR
comp=Z,505nm,19.0s
TAM Tamanrasset 87.29 67 *e*P **P 20 51 46.3 -1.1**
comp=Z,32nm,0.9s
TAM LR LR
comp=Z,505nm,19.0s
RESF Ens 87.39 46⇑ *e*P **P 20 51 48.9 +1.5**
DIV Divide 87.44 333 *e*P **P 20 51 44.4 -2.7**
comp=Z,200nm,1.0s
EPF Esparros 87.45 46 *e*P **P 20 51 48.1 +0.5**
comp=Z,140nm,1.1s
EPF Esparros 87.45 46 *e*P **P 20 51 48.1 +0.5**
EPF pmax pmax
comp=Z,140nm,1.1s
EPF Esparros 87.45 46 *e*P **P 20 51 48.1 +0.5**
comp=Z,140nm,1.1s
VNDA Vanda 87.61 191 *e*P **P 20 51 47.6 0.0**
VNDA Vanda 87.61 191 P **P 20 51 49.2 +1.5**
comp=Z,29nm,0.8s,baz=122,slow=3.5,SNR=54
SCO Scoresbysund 87.63 16 *i* P **P 20 51 47.9 +0.2**
SCO pmax pmax
comp=Z,64nm,0.9s
SCO Scoresbysund 87.63 16 *i* P **P 20 51 47.9 +0.2**
comp=Z,64nm,0.9s
LCHF La Chataignera 87.65 42⇑ *e*P **P 20 51 49.8 +1.4**
MELF Melles 87.70 46⇑ *e*P **P 20 51 50.4 +1.5**
DOT Dot Lake 87.75 336 *e*P **P 20 51 48.5 0.0**
MLS Moulis 87.96 46⇑ *e*P **P 20 51 51.0 +1.0**
MFF Saint Martin d 88.03 42 *e*P **P 20 51 50.2 0.0**
comp=Z,233nm,1.1s
MFF Saint Martin d 88.03 42 *e*P **P 20 51 50.2 0.0**
MFF pmax pmax
comp=Z,233nm,1.1s
MFF Saint Martin d 88.03 42 *e*P **P 20 51 50.2 0.0**
comp=Z,233nm,1.1s
GRR Gorron 88.03 41 *e*P **P 20 51 50.0 -0.2**
comp=Z,217nm,0.9s
GRR Gorron 88.03 41 *e*P **P 20 51 50.0 -0.2**
GRR pmax pmax
comp=Z,217nm,0.9s
GRR Gorron 88.03 41 *e*P **P 20 51 50.0 -0.2**
comp=Z,217nm,0.9s
PAX Paxson 88.05 335 *e*P **P 20 51 49.6 -0.5**
PAX pmax pmax
comp=Z,372nm,1.0s
PAX Paxson 88.05 335 *e*P **P 20 51 49.6 -0.5**
comp=Z,372nm,1.0s
LFF La Frestale 88.20 44 *e*P **P 20 51 51.1 +0.1**
comp=Z,154nm,0.8s
LFF La Frestale 88.20 44 *e*P **P 20 51 51.1 +0.1**
LFF pmax pmax
comp=Z,154nm,0.8s
LFF La Frestale 88.20 44 *e*P **P 20 51 51.1 +0.1**
comp=Z,154nm,0.8s
FLN La Foliniere 88.37 40 *e*P **P 20 51 51.9 +0.1**
comp=Z,345nm,0.9s
FLN *e*R
comp=Z,157nm,19.0s
FLN La Foliniere 88.37 40 *e*P **P 20 51 51.9 +0.1**
FLN pmax pmax
comp=Z,345nm,0.9s
FLN La Foliniere 88.37 40 *e*P **P 20 51 51.9 +0.1**
comp=Z,345nm,0.9s
VALF Valcebollere 88.49 47⇑ *e*P **P 20 51 53.9 +1.2**
LDF La Druitiere 88.56 40 *e*P **P 20 51 52.6 0.0**
comp=Z,268nm,0.9s
LDF La Druitiere 88.56 40 *e*P **P 20 51 52.6 0.0**
LDF pmax pmax
comp=Z,268nm,0.9s
LDF La Druitiere 88.56 40 *e*P **P 20 51 52.6 0.0**
comp=Z,268nm,0.9s
CARF Carcanieres 88.63 47⇑ *e*P **P 20 51 54.2 +0.9**
ESK Eskdalemuir 88.63 33 *i* P **P 20 51 54.0 +1.2**
ESK Eskdalemuir 88.63 33 *e*P **P 20 51 50.8 -2.1**
comp=Z,140nm,1.1s
EKA Eskdalemuir Ar 88.66 33 P **P 20 51 53.0 0.0**
EKA Eskdalemuir Ar 88.66 33 P **P 20 51 53.0 0.0**
comp=Z,67nm,0.8s,baz=239,slow=4.8,SNR=96
SEW Seward 88.74 332 *e*P P 20 51 49.5 -3.7
RJF Les Rejaudoux 88.82 44 *e*P **P 20 51 53.8 -0.2**
comp=Z,118nm,1.0s
RJF *e*R
comp=Z,362nm,18.5s
RJF Les Rejaudoux 88.82 44 *e*P **P 20 51 53.8 -0.2**
RJF pmax pmax
comp=Z,119nm,1.0s
RJF Les Rejaudoux 88.82 44 *e*P **P 20 51 53.8 -0.2**
comp=Z,118nm,1.0s
MTLF Montolieu 88.85 46 *e*P **P 20 51 54.1 -0.1**
comp=Z,191nm,1.2s
MTLF Montolieu 88.85 46 *e*P **P 20 51 54.1 -0.1**
MTLF pmax pmax
comp=Z,191nm,1.2s
MTLF Montolieu 88.85 46 *e*P **P 20 51 54.1 -0.1**
comp=Z,191nm,1.2s
CAF Calviac 89.11 44 *e*P **P 20 51 55.3 -0.1**
comp=Z,141nm,1.1s
CAF Calviac 89.11 44 *e*P **P 20 51 55.3 -0.1**
CAF pmax pmax
comp=Z,141nm,1.1s
CAF Calviac 89.11 44 *e*P **P 20 51 55.3 -0.1**
comp=Z,141nm,1.1s
PMR Palmer 89.11 333 *e*P **P 20 51 51.8 -3.1**
PMR pmax pmax
comp=Z,141nm,1.4s
PMR Palmer 89.11 333 *e*P **P 20 51 51.8 -3.1**
comp=Z,141nm,1.4s
RC01 Rabbit Creek A 89.21 332 *e*P P 20 51 51.4 -4.1
comp=Z,142nm,0.9s
ILAR Eielson Array 89.34 336 P **P 20 51 55.4 -0.6**
ILAR PP **PP 20 55 25.1 -3.3**
ILAR Eielson Array 89.34 336 P **P 20 51 55.4 -0.6**
comp=Z,39nm,0.9s,baz=146,slow=3.4,SNR=280
ILAR PP **PP 20 55 25.1 -3.3**
comp=Z,15nm,0.9s,baz=109,slow=7.0,SNR=13
KDAK Kodiak Island 89.52 329 *e*P **P 20 51 54.0 -2.9**
comp=Z,92nm,0.8s
TCF Toulx Ste Croi 89.53 43 *e*P **P 20 51 57.0 -0.3**

comp=Z,80nm,1.0s
TCF Toulx Ste Croi 89.53 43 *e*P **P 20 51 57.0 -0.3**
TCF pmax pmax
comp=Z,80nm,1.0s
TCF Toulx Ste Croi 89.53 43 *e*P **P 20 51 57.0 -0.3**
comp=Z,80nm,1.0s
OHAK Old Harbor 89.72 328 *e*P **P 20 51 57.9 +0.1**
comp=Z,159nm,1.0s
COLA College 89.76 336 *c i*P **P 20 51 57.9 0.0**
COLA College 89.76 336 *e*P **P 20 51 57.9 0.0**
COLA LR LR
comp=Z,424nm,19.0s
MCK McKinley 89.78 335 *e*P **P 20 51 57.7 -0.4**
MCK McKinley 89.78 335 *e*P **P 20 51 57.7 -0.4**
PYM Petit Puy Mans 89.95 44⇑ *e*P **P 20 52 00.0 +0.7**
LBL Lubilhac 90.00 44⇑ *e*P **P 20 52 00.6 +1.0**
BGF Bois d'Agland 90.02 43 *e*P **P 20 51 59.4 -0.1**
comp=Z,238nm,1.1s
BGF Bois d'Agland 90.02 43 *e*P **P 20 51 59.4 -0.1**
BGF pmax pmax
comp=Z,238nm,1.1s
BGF Bois d'Agland 90.02 43 *e*P **P 20 51 59.4 -0.1**
comp=Z,238nm,1.1s
HYF Humbligny 90.04 42 *e*P **P 20 51 59.8 +0.2**
HYF Humbligny 90.04 42 *e*P **P 20 51 59.8 +0.2**
LASF Ste Croix 90.17 45 *e*P **P 20 52 00.8 +0.4**
comp=Z,121nm,1.0s
LASF Ste Croix 90.17 45 *e*P **P 20 52 00.8 +0.4**
comp=Z,121nm,1.0s
TRF Thorofare Moun 90.26 335 *e*P **P 20 52 00.1 -0.3**
SPU Mount Spurr 90.31 332 *e*P **P 20 52 00.9 +0.3**
AVF Avril sur Loir 90.41 43 *e*P **P 20 52 00.9 -0.4**
comp=Z,114nm,1.1s
AVF Avril sur Loir 90.41 43 *e*P **P 20 52 00.9 -0.4**
AVF pmax pmax
comp=Z,114nm,1.1s
AVF Avril sur Loir 90.41 43 *e*P **P 20 52 00.9 -0.4**
comp=Z,114nm,1.1s
RSO Redoubt South 90.41 331 *e*P **P 20 51 58.6 -2.7**
comp=Z,350nm,0.7s
KTH Kantishna Hill 90.56 335 *e*P **P 20 52 01.6 -0.1**
SSF Saint Saulge 90.57 43 *e*P **P 20 52 01.5 -0.6**
comp=Z,91nm,1.1s
SSF Saint Saulge 90.57 43 *e*P **P 20 52 01.5 -0.6**
SSF pmax pmax
comp=Z,91nm,1.1s
SSF Saint Saulge 90.57 43 *e*P **P 20 52 01.5 -0.6**
comp=Z,91nm,1.1s
SMF Signal de Mont 90.71 43 *e*P **P 20 52 02.5 -0.3**
comp=Z,172nm,1.1s
SMF Signal de Mont 90.71 43 *e*P **P 20 52 02.5 -0.3**
SMF pmax pmax
comp=Z,172nm,1.1s
SMF Signal de Mont 90.71 43 *e*P **P 20 52 02.5 -0.3**
comp=Z,172nm,1.1s
LOR Lormes 90.85 42 *e*P **P 20 52 02.9 -0.5**
comp=Z,72nm,1.0s
LOR *e*R
comp=Z,307nm,21.0s
LOR Lormes 90.85 42 *e*P **P 20 52 02.9 -0.5**
comp=Z,72nm,1.0s
PPLA Purkeypile 90.89 334 *e*P **P 20 52 02.1 -1.4**
comp=Z,445nm,1.3s
SSB Saint Sauveur 90.90 44 *e*P P 20 51 59.8 -3.9
SSB pmax pmax
comp=Z,60nm,1.1s
SSB Saint Sauveur 90.90 44⇑ *e*P **P 20 52 04.6 +0.9**
SSB Saint Sauveur 90.90 44 *e*P P 20 51 59.8 -3.9
comp=Z,60nm,1.1s
VIVF Saint-Julien-l 90.91 45 *e*P **P 20 52 04.2 +0.4**
comp=Z,132nm,1.1s
VIVF Saint-Julien-l 90.91 45 *e*P **P 20 52 04.2 +0.4**
VIVF pmax pmax
comp=Z,132nm,1.1s
VIVF Saint-Julien-l 90.91 45 *e*P **P 20 52 04.2 +0.4**
comp=Z,132nm,1.1s
CAST Castle Rocks 91.01 334 *e*P **P 20 52 03.3 -0.5**
SYO Syowa Base 91.13 161⇓ *e*P **P 20 52 03.6 -0.7**
SMRF Simiane la Rot 91.37 46 *e*P **P 20 52 06.7 +0.8**
comp=Z,148nm,1.3s
SMRF Simiane la Rot 91.37 46 *e*P **P 20 52 06.7 +0.8**
comp=Z,148nm,1.3s
COLD Coldfoot 91.49 338 *e*P **P 20 52 07.0 +1.0**
comp=Z,90nm,0.9s
BAIF Baives 91.66 40 *e*P **P 20 52 07.0 0.0**
comp=Z,51nm,1.0s
BAIF Baives 91.66 40 *e*P **P 20 52 07.0 0.0**
BAIF pmax pmax
comp=Z,51nm,1.0s
BAIF Baives 91.66 40 *e*P **P 20 52 07.0 0.0**
comp=Z,51nm,1.0s
ORIF Oris-en-Rattie 91.76 45 *e*P **P 20 52 08.5 +0.7**
comp=Z,124nm,1.0s
ORIF *e*R
comp=Z,297nm,18.0s
ORIF Oris-en-Rattie 91.76 45 *e*P **P 20 52 08.5 +0.7**
ORIF pmax pmax
comp=Z,124nm,1.0s
ORIF Oris-en-Rattie 91.76 45 *e*P **P 20 52 08.5 +0.7**
comp=Z,124nm,1.0s
OG25 Le Caire 91.80 46⇑ *e*P **P 20 52 09.1 +1.1**
SNF Seneffe 91.80 39 P **P 20 52 08.2 +0.6**
SFTF Sexfontaines 91.82 42 *e*P **P 20 52 07.6 -0.3**
comp=Z,184nm,1.4s
SFTF Sexfontaines 91.82 42 *e*P **P 20 52 07.6 -0.3**
comp=Z,184nm,1.4s
MEZF Maizieres J'vi 91.89 41 *e*P **P 20 52 08.0 -0.1**
comp=Z,120nm,1.2s
MEZF Maizieres J'vi 91.89 41 *e*P **P 20 52 08.0 -0.1**
comp=Z,120nm,1.2s
DAG Danmarks Havn 91.90 11⇑ *i*P **P 20 52 07.8 +0.2**
DAG pmax pmax
comp=Z,43nm,0.9s
DAG Danmarks Havn 91.90 11⇑ *i*P **P 20 52 07.8 +0.2**
comp=Z,52nm,0.9s
DOU Dourbes 91.91 40 P **P 20 52 08.9 +0.7**
comp=Z,49nm,1.3s
LMR La Mourre 91.92 47 *e*P **P 20 52 08.7 +0.3**
comp=Z,278nm,1.5s
LMR La Mourre 91.92 47 *e*P **P 20 52 08.7 +0.3**
LMR pmax pmax
comp=Z,278nm,1.5s
LMR La Mourre 91.92 47 *e*P **P 20 52 08.7 +0.3**
comp=Z,278nm,1.5s
SVW2 Sparrevohn 91.92 332 *e*P **P 20 52 08.0 -0.1**
comp=Z,77nm,1.3s
GIVF Givet 92.05 40 *e*P **P 20 52 09.1 +0.2**
comp=Z,162nm,0.9s
GIVF Givet 92.05 40 *e*P **P 20 52 09.1 +0.2**
GIVF pmax pmax
comp=Z,162nm,0.9s
GIVF Givet 92.05 40 *e*P **P 20 52 09.1 +0.2**
comp=Z,162nm,0.9s
TSUM Tsumeb 92.09 110 *e*P **P 20 52 09.3 -0.7**
comp=Z,42nm,0.9s
TSUM LR LR
comp=Z,546nm,21.0s
CABF La Chapelle 92.22 43 *e*P **P 20 52 09.9 0.0**
comp=Z,116nm,1.1s
CABF La Chapelle 92.22 43 *e*P **P 20 52 09.9 0.0**
CABF pmax pmax
comp=Z,116nm,1.1s
CABF La Chapelle 92.22 43 *e*P **P 20 52 09.9 0.0**
comp=Z,116nm,1.1s
CALN Calern 92.26 46⇑ *e*P **P 20 52 11.1 +0.9**
PAGF Fort de Pagny 92.33 41 *e*P **P 20 52 10.4 +0.2**
comp=Z,38nm,1.2s
PAGF Fort de Pagny 92.33 41 *e*P **P 20 52 10.4 +0.2**
comp=Z,38nm,1.2s
BNI Bardonecchia 92.34 45 *e*P **P 20 52 08.6 -1.9**
BNI pmax pmax
comp=Z,77nm,1.5s
BNI Bardonecchia 92.34 45 *e*P **P 20 52 08.6 -1.9**
comp=Z,77nm,1.5s
MBDF Montbardon 92.35 45 *e*P **P 20 52 11.0 +0.4**
comp=Z,47nm,1.0s
MBDF Montbardon 92.35 45 *e*P **P 20 52 11.0 +0.4**
MBDF pmax pmax
comp=Z,47nm,1.0s
MBDF Montbardon 92.35 45 *e*P **P 20 52 11.0 +0.4**
comp=Z,47nm,1.0s
BCLA Clavier 92.42 39 P **P 20 52 11.2 +0.6**
comp=Z,31nm,1.5s
RSL Roselend 92.42 44⇑ *e*P **P 20 52 11.7 +0.8**
THEF They Montfort 92.45 42⇑ *e*P **P 20 52 11.4 +0.6**
LPL La Plagne 92.46 44 *e*P **P 20 52 11.8 +0.6**
comp=Z,86nm,1.1s

LPL	**La Plagne**	**92.46**	**44**	*e*P	**P**		**20 52 11.8**	**+0.6**
LPL				pmax	pmax				
	comp=Z,86nm,1.1s								
LPL	**La Plagne**	**92.46**	**44**	*e*P	**P**		**20 52 11.8**	**+0.6**
	comp=Z,86nm,1.1s								
IM04	**Indian Mountai**	**92.46**	**337**	*e*P	**P**		**20 52 09.0**	**-1.5**
LPG	**La Plagne**	**92.47**	**44**	*e*P	**P**		**20 52 12.1**	**+0.8**
	comp=Z,72nm,0.9s								
LPG	**La Plagne**	**92.47**	**44**	*e*P	**P**		**20 52 12.1**	**+0.8**
LPG				pmax	pmax				
	comp=Z,73nm,0.9s								
LPG	**La Plagne**	**92.47**	**44**	*e*P	**P**		**20 52 12.1**	**+0.8**
	comp=Z,72nm,0.9s								
MVIF	**Mont Vial**	**92.47**	**46**⇑	*e*P	**P**		**20 52 12.0**	**+0.8**
TOUF	**Mont Tournerai**	**92.56**	**46**⇑	*e*P	**P**		**20 52 12.4**	**+0.7**
REVF	**Revere**	**92.60**	**46**⇑	*e*P	**P**		**20 52 12.4**	**+0.7**
LUCF	**Luceram**	**92.61**	**46**⇑	*e*P	**P**		**20 52 12.8**	**+1.0**
HAU	**Haudompre**	**92.64**	**42**	*e*P	**P**		**20 52 11.3**	**-0.4**
HAU				*e*R					
	comp=Z,229nm,19.2s								
HAU	**Haudompre**	**92.64**	**42**	*e*P	**P**		**20 52 11.3**	**-0.4**
HAU	**Haudompre**	**92.64**	**42**	*e*P	**P**		**20 52 11.3**	**-0.4**
SBF	**Sospel**	**92.67**	**46**	*e*P	**P**		**20 52 12.0**	**0.0**
	comp=Z,182nm,1.4s								
SBF	**Sospel**	**92.67**	**46**	*e*P	**P**		**20 52 12.0**	**0.0**
SBF				pmax	pmax				
	comp=Z,182nm,1.4s								
SBF	**Sospel**	**92.67**	**46**	*e*P	**P**		**20 52 12.0**	**0.0**
	comp=Z,182nm,1.4s								
AUTN	**L'Aution**	**92.69**	**46**⇑	*e*P	**P**		**20 52 13.1**	**+0.8**
BEBN	**Eben Emael**	**92.72**	**39**	P	**P**		**20 52 12.7**	**+0.8**
	comp=Z,16nm,1.1s								
KEST	**Kesra**	**92.81**	**54**	*e*P	**P**		**20 52 11.6**	**-1.2**
KEST	**Kesra**	**92.81**	**54**	P	**P**		**20 52 14.0**	**+1.1**
	comp=Z,8.8nm,0.9s,baz=242,slow=1.4,SNR=15								
WLF	**Walferdange**	**92.81**	**40**	P	**P**		**20 52 13.1**	**+0.7**
	comp=Z,86nm,1.7s								
WLF	**Walferdange**	**92.81**	**40**	*e*P	P		20 52 08.9	-3.5	
WLF				MLR	MLR				
	comp=Z,399nm,21.0s								
WLF	**Walferdange**	**92.81**	**40**	*e*Pdiff	**P**		**20 52 14.0**	**+1.6**
WLF	**Walferdange**	**92.81**	**40**	*e*P	P		20 52 08.9	-3.5	
WLF				LR	LR				
	comp=Z,399nm,21.0s								
LOMF	**Lomont**	**92.85**	**43**⇑	*e*P	**P**		**20 52 12.8**	**+0.1**
HGN	**Heimansgroeve**	**92.88**	**39**	*e*P	**P**		**20 52 13.1**	**+0.5**
	comp=Z,82nm,1.1s								
HGN	**Heimansgroeve**	**92.88**	**39**	*e*S	**S**		**21 03 12.0**	**+3.4**
MEM	**Membach**	**92.89**	**39**	P	**P**		**20 52 13.3**	**+0.5**
	comp=Z,26nm,1.6s								
MEM	**Membach**	**92.89**	**39**	*e*P	**P**		**20 52 13.9**	**+1.1**
MEM	**Membach**	**92.89**	**39**	*e*P	**P**		**20 52 13.9**	**+1.1**
HINF	**Hinteralfeld**	**92.94**	**42**	*e*P	**P**		**20 52 12.7**	**-0.4**
	comp=Z,118nm,1.6s								
HINF	**Hinteralfeld**	**92.94**	**42**	*e*P	**P**		**20 52 12.7**	**-0.4**
HINF				pmax	pmax				
	comp=Z,118nm,1.6s								
HINF	**Hinteralfeld**	**92.94**	**42**	*e*P	**P**		**20 52 12.7**	**-0.4**
	comp=Z,118nm,1.6s								
SENIN	**Lac Senin/Sane**	**93.00**	**44**	*e*P	**P**		**20 52 14.4**	**+0.8**
	comp=Z,89nm,2.0s								
MOF	**Molkenrain**	**93.14**	**42**⇑	*e*P	**P**		**20 52 14.4**	**+0.3**
SDPT	**Sand Point**	**93.16**	**325**	*e*P	**P**		**20 52 14.7**	**+0.9**
	comp=Z,308nm,1.0s								
ECH	**Echery**	**93.22**	**42**⇑	*e*P	**P**		**20 52 15.0**	**+0.7**
CDF	**Champ du Feu**	**93.33**	**42**	*e*P	**P**		**20 52 14.6**	**-0.3**
	comp=Z,73nm,1.0s								
CDF	**Champ du Feu**	**93.33**	**42**	*e*P	**P**		**20 52 14.6**	**-0.3**
CDF				pmax	pmax				
	comp=Z,73nm,1.0s								
CDF	**Champ du Feu**	**93.33**	**42**	*e*P	**P**		**20 52 14.6**	**-0.3**
	comp=Z,73nm,1.0s								
VSL	**Villasalto**	**93.41**	**51**	*e*P	**P**		**20 52 16.6**	**+1.2**
	comp=Z,291nm,2.1s								
PGF	**Pioggiola**	**93.59**	**48**	*e*P	**P**		**20 52 16.4**	**+0.1**
	comp=Z,124nm,1.5s								
PGF	**Pioggiola**	**93.59**	**48**	*e*P	**P**		**20 52 16.4**	**+0.1**
PGF				pmax	pmax				
	comp=Z,124nm,1.5s								
PGF	**Pioggiola**	**93.59**	**48**	*e*P	**P**		**20 52 16.4**	**+0.1**
	comp=Z,124nm,1.5s								
WTSB	**Winterswijk**	**93.62**	**38**	*e*P	**P**		**20 52 17.0**	**+0.9**
	comp=Z,114nm,1.0s								
LANF	**Langenberg**	**93.76**	**41**⇑	*e*P	**P**		**20 52 17.6**	**+0.8**
BUG	**Bochum--Univer**	**93.82**	**39**	*e*Pdiff	**P**		**20 52 18.4**	**+1.4**
BFO	**Black Forest**	**94.01**	**42**	*i* P	**P**		**20 52 18.8**	**+0.8**
BFO	**Black Forest**	**94.01**	**42**	*e*Pdiff	**P**		**20 52 18.6**	**+0.6**
BFO	**Black Forest**	**94.01**	**42**	*e*P	**P**		**20 52 16.7**	**-1.3**
	comp=Z,10.0nm,1.0s								
IBBN	**Ibbenburen**	**94.26**	**38**	*e*Pdiff	**P**		**20 52 20.5**	**+1.5**
TNS	**Taunus Mts**	**94.37**	**40**	*e*Pdiff	**P**		**20 52 20.9**	**+1.3**
TUE	**Stuetta**	**94.41**	**44**	*e*P	**P**		**20 52 18.6**	**-1.6**
	comp=Z,23nm,1.0s								
HLG	**Helgoland**	**94.62**	**36**	*e*Pdiff	**P**		**20 52 22.6**	**+2.0**
STU	**Stuttgart**	**94.64**	**42**	*e*P	**P**		**20 52 19.4**	**-1.5**
STU				pmax	pmax				
	comp=Z,49nm,1.2s								
STU	**Stuttgart**	**94.64**	**42**	*e*Pdiff	**P**		**20 52 21.9**	**+1.1**
STU	**Stuttgart**	**94.64**	**42**	*e*P	**P**		**20 52 19.4**	**-1.5**
	comp=Z,49nm,1.2s								
DAVOX	**Davos/Dischmat**	**94.82**	**44**	P	**P**		**20 52 22.8**	**+0.8**
DAVOX				PKKPbc	**PKKPdf**		**21 09 18.3**	**-1.2**	
DAVOX	**Davos/Dischmat**	**94.82**	**44**	P	**P**		**20 52 22.8**	**+0.8**
	comp=Z,16nm,0.9s,baz=274,slow=3.8,SNR=43								
DAVOX				PKKPbc	**PKKPdf**		**21 09 18.3**	**-1.2**	
	comp=Z,2.2nm,0.7s,baz=252,slow=6.4,SNR=7.5								
VLC	**Villacollemand**	**94.82**	**46**	PFAKE			20 52 30.0	+8.2	
VLC				LR	LR				
	comp=Z,298nm,19.0s								
DAVA	**Damuels**	**94.89**	**43**⇑	*i*PcP	**P**		**20 52 23.2**	**+1.0**
	comp=Z,32nm,1.0s,SNR=8.8								
FETA	**Feichten**	**95.43**	**43**⇑	*i*PcP	**P**		**20 52 25.6**	**+0.8**
	comp=Z,40nm,1.2s,SNR=11								
UBBA	**Unterbreizbach**	**95.43**	**40**	*e*Pdiff	**P**		**20 52 25.5**	**+1.2**
RETA	**Reutte**	**95.51**	**43**⇑	*i*PcP	**P**		**20 52 25.6**	**+0.7**
	comp=Z,29nm,1.3s,SNR=6.8								
MUD	**Monsted U'grnd**	**95.67**	**34**	*i* P	**P**		**20 52 27.1**	**+1.8**
MUD				pmax	pmax				
	comp=Z,100nm,0.9s								
MUD	**Monsted U'grnd**	**95.67**	**34**	*i* P	**P**		**20 52 27.1**	**+1.8**
	comp=Z,100nm,0.8s								
NRDL	**Niedersach Rie**	**95.71**	**38**	*e*Pdiff	**P**		**20 52 27.4**	**+1.9**
MOTA	**Moosalm**	**95.72**	**43**⇓	*i*PcP	**P**		**20 52 26.5**	**+0.5**
	comp=Z,33nm,1.0s,SNR=22								
CLZ	**Clausthal**	**95.79**	**39**	*e*Pdiff	**P**		**20 52 27.8**	**+1.7**
FUR	**Furstenfeldbru**	**95.94**	**42**	*e*Pdiff	**P**		**20 52 28.2**	**+1.4**
BSEG	**Bad Segeberg**	**96.01**	**36**	*e*Pdiff	**P**		**20 52 28.7**	**+1.8**
WATA	**Walderalm**	**96.04**	**43**⇑	*i*PcP	**P**		**20 52 28.1**	**+0.7**
	comp=Z,41nm,1.3s,SNR=13								
WTTA	**Wattenberg**	**96.07**	**43**⇓	*i*PcP	**P**		**20 52 28.3**	**+0.6**
	comp=Z,60nm,1.1s,SNR=21								
GRF	**Grafenberg Arr**	**96.08**	**41**	*e*Pdiff	**P**		**20 52 29.0**	**+1.6**
NEUB	**Neuenburg**	**96.59**	**39**	*e*Pdiff	**P**		**20 52 31.3**	**+1.7**
ABTA	**Abfaltersbach**	**96.61**	**44**⇑	*i*PcP	**P**		**20 52 30.2**	**+0.2**
	comp=Z,50nm,1.2s,SNR=17								
MANZ	**Manzenberg**	**96.68**	**41**	*e*Pdiff	**P**		**20 52 31.9**	**+1.8**
ROTZ	**Rotzenmuhle**	**96.72**	**41**	*e*Pdiff	**P**		**20 52 32.2**	**+1.9**
RJOB	**Jochberg**	**96.91**	**43**	*e*Pdiff	**P**		**20 52 32.5**	**+1.2**
NKC	**Novy Kostel**	**96.92**	**40**	*e*P	**P**		**20 52 32.6**	**+1.4**
NKC	**Novy Kostel**	**96.92**	**40**	*e*P	**P**		**20 52 32.6**	**+1.4**
TANN	**Tannenbergstha**	**96.95**	**40**	*e*Pdiff	**P**		**20 52 33.2**	**+1.8**
WDD	**Wield Dalam**	**97.00**	**55**	PFAKE			20 52 40.0	+8.1	
WDD				LR	LR				
	comp=Z,379nm,21.0s								
KBA	**Koelnbreinsper**	**97.21**	**44**	*i* PcP	Pdif		20 52 33.0	+0.2	
	comp=Z,26nm,0.9s,SNR=12								
NB2	**NORSAR Subarra**	**97.24**	**29**	P	Pdif		20 52 32.9	+0.4	
	comp=Z,1.1nm,0.8s,baz=263,slow=4.3								
NOA	**NORSAR Array B**	**97.24**	**29**	P	Pdif		20 52 33.3	+0.8	
NOA	**NORSAR Array B**	**97.24**	**29**	P	Pdif		20 52 33.3	+0.8	
	comp=Z,16nm,0.9s,baz=267,slow=4.7,SNR=20								
LLD	**Lille Linde**	**97.25**	**35**⇑	*i*P	Pdif		20 52 34.4	+1.8	
LLD	**Lille Linde**	**97.25**	**35**⇑	*i*P	Pdif		20 52 34.4	+1.8	
CLL	**Collm**	**97.37**	**39**⇑	*i*P	Pdif		20 52 34.2	+1.0	
CLL				pmax	pmax				
	comp=Z,28nm,1.0s								
CLL	**Collm**	**97.37**	**39**	*e*Pdiff	Pdif		20 52 34.7	+1.5	
CLL	**Collm**	**97.37**	**39**⇑	*i*P	Pdif		20 52 34.2	+1.0	
	comp=Z,28nm,1.0s								
CLL				*e*			20 53 28.0		
CLL				*e*PP	**PP**		**20 56 30.0**	**-1.5**	
CLL				*e*(PKiKP)			20 57 05.0		
CLL				*e*PPPP			21 00 06.0		
CLL				*e*SKSac	**SKSac**		**21 03 05.0**	**+5.1**	
CLL				*e*S	**ScS**		**21 03 50.0**	**+2.2**	
CLL				*e*PPS	PPS		21 06 07.0		
CLL				*e*SS	**SS**		**21 10 30.0**	**+1.3**	
CLL				*es*PSPS			21 11 31.0		
CLL				*e*SSS	SSS		21 14 21.0		
CLL				*e*			21 19 00.0		
MYKA	**Terra Mystica**	**97.38**	**44**⇑	*i*PcP	**P**		**20 52 33.4**	**-0.1**
	comp=Z,29nm,0.8s,SNR=12								
CADS	**Cadrg**	**97.41**	**44**	*i* P	Pdif		20 52 34.5	+0.9	
COP	**Copenhagen**	**97.41**	**35**	*i* P	Pdif		20 52 34.9	+1.7	
COP				pmax	pmax				
	comp=Z,26nm,0.9s								
COP	**Copenhagen**	**97.41**	**35**	*i* P	Pdif		20 52 34.9	+1.7	
	comp=Z,26nm,0.9s								
KHC	**Kasperske Hory**	**97.55**	**41**	*i* P	Pdif		20 52 35.3	+1.1	
KHC				*e**PP	pP		20 53 01.0	-2.7	
KHC				*e*			20 56 33.0		
KHC	**Kasperske Hory**	**97.55**	**41**	*i* P	Pdif		20 52 35.3	+1.1	
KHC				*e*pP	pP		20 53 01.0	-2.7	
KHC				*ex*	x		20 53 09.4		
KHC				*e*PP	**PP**		**20 56 33.0**	**0.0**	
KHC	**Kasperske Hory**	**97.55**	**41**	*e*P	**P**		**20 52 32.9**	**-1.2**
GEC2	**GERESS Array S**	**97.61**	**42**	*e*Pdiff	Pdif		20 52 35.5	+1.0	
GERES	**GERESS Array B**	**97.61**	**42**	P	**P**		**20 52 34.4**	**0.0**
GERES				PP	**PP**		**20 56 33.1**	**-0.5**	
GERES				PKKP	**PKKPbc**		**21 09 10.7**	**-1.7**	
GERES	**GERESS Array B**	**97.61**	**42**	P	**P**		**20 52 34.4**	**0.0**
	comp=Z,6.2nm,1.0s,baz=247,slow=2.8,SNR=29								
GERES				PP	**PP**		**20 56 33.1**	**-0.5**	
	comp=Z,3.9nm,1.1s,baz=248,slow=5.2,SNR=7.4								
GERES				PKKP	**PKKPbc**		**21 09 10.7**	**-1.7**	
	comp=Z,2.3nm,0.8s,baz=68,slow=2.6,SNR=17								
BRG	**Berggiesshubel**	**97.92**	**40**	*i* P	Pdif		20 52 36.8	+1.0	
	comp=Z,43nm,1.3s								
BRG				*es*P	sP		20 53 14.6	-2.7	
	comp=Z,12nm,1.4s								
BRG				PP	**PP**		**20 56 35.0**	**-0.8**	
BRG				SS	SS		21 10 50.0	+13	
BRG	**Berggiesshubel**	**97.92**	**40**	*i* P	Pdif		20 52 36.8	+1.1	
BRG							20 56 35.0		
BRG				SS	SS		21 10 50.0	+13	
BRG				pmax	pmax				
	comp=Z,43nm,1.2s								
BRG				pmax	pmax				
	comp=N,12nm,1.4s								
BRG	**Berggiesshubel**	**97.92**	**40**	*e*Pdiff	Pdif		20 52 37.4	+1.7	
LJU	**Ljubljana**	**97.94**	**45**	*e*P	Pdif		20 52 36.9	+1.0	
RUE	**Ruedersdorf**	**97.94**	**38**	*e*Pdiff	Pdif		20 52 37.4	+1.7	
OBKA	**Obir**	**97.99**	**44**	*i* PcP	Pdif		20 52 36.7	+0.4	
	comp=N,21nm,0.8s,SNR=7.8								
TNA	**Tin City**	**98.13**	**335**	*e*P	**P**		**20 52 34.2**	**-2.0**
	comp=N,22nm,1.3s								
LBTB	**Lobatse**	**98.18**	**117**	*e*P	Pdif		20 52 38.8	+1.2	
PRA	**Prague**	**98.18**	**41**	PDIFF	Pdif		20 52 39.0	+2.2	
PRU	**Pruhonice**	**98.24**	**41**	*e*P	Pdif		20 52 38.2	+1.1	
PRU	**Pruhonice**	**98.24**	**41**	*e*PDIFF	Pdif		20 52 38.2	+1.1	
PVCC	**Panska Ves**	**98.30**	**40**	*e*P	Pdif		20 52 38.5	+1.1	
PVCC	**Panska Ves**	**98.30**	**40**	*e*PDIFF	Pdif		20 52 38.5	+1.1	
CEL	**Celeste**	**98.32**	**53**	PFAKE			20 52 50.0	+12	
CEL				LR	LR				
	comp=Z,413nm,20.0s								
SOKA	**Soboth**	**98.33**	**44**⇑	*i*Pdiff	Pdif		20 52 38.0	+0.3	
	comp=Z,12nm,0.9s,SNR=6.4								
PERS	**Pernice**	**98.39**	**44**	*i* P	Pdif		20 52 38.4	+0.4	
MAW	**Mawson**	**98.64**	**166**	P	Pdif		20 52 38.8	+0.3	
MAW	**Mawson**	**98.64**	**166**	P	Pdif		20 52 38.8	+0.3	
	comp=Z,5.1nm,0.7s,baz=206,slow=7.3,SNR=7.7								
ARSA	**Arzberg**	**98.71**	**43**	*i* Pdiff	Pdif		20 52 40.2	+0.8	
	comp=Z,31nm,1.3s,SNR=10								
TREC	**Trest**	**98.81**	**41**	*e*P	Pdif		20 52 40.7	+1.0	
TREC				*e*			20 56 42.4		
TREC	**Trest**	**98.81**	**41**	*e*PDIFF	Pdif		20 52 40.7	+1.0	
TREC				*e*PP	**PP**		**20 56 42.4**	**-0.2**	
CONA	**Conrad Observa**	**98.98**	**43**⇑	*i*Pdiff	Pdif		20 52 40.9	+0.3	
	comp=Z,47nm,1.5s,SNR=13								
KOGS	**Kog**	**99.16**	**44**	*i* P	**Pdif**		**20 52 42.5**	**+1.2**	
UPC	**Upice**	**99.22**	**40**	*e*P	**Pdif**		**20 52 42.8**	**+1.3**	
UPC	**Upice**	**99.22**	**40**	*e*PDIFF	**Pdif**		**20 52 42.8**	**+1.3**	
DPC	**Dobruska-Polom**	**99.41**	**40**	*e*P	**Pdif**		**20 52 43.9**	**+1.5**	
DPC	**Dobruska-Polom**	**99.41**	**40**	*e*PDIFF	**Pdif**		**20 52 43.9**	**+1.5**	
KSP	**Ksiaz**	**99.41**	**40**	*e*P	**Pdif**		**20 52 43.7**	**+1.4**	
KSP	**Ksiaz**	**99.41**	**40**	*e*P	**Pdif**		**20 52 43.5**	**+1.2**	
VRAC	**Vranov**	**99.53**	**41**	P	**Pdif**		**20 52 43.9**	**+1.0**	
VRAC	**Vranov**	**99.53**	**41**	P	**Pdif**		**20 52 43.9**	**+1.0**	
	comp=Z,14nm,1.0s,baz=267,slow=6.0,SNR=19								
KRLC	**Kraliky**	**99.69**	**41**	*e*P	**Pdif**		**20 52 45.3**	**+1.6**	
KRLC	**Kraliky**	**99.69**	**41**	*e*PDIFF	**Pdif**		**20 52 45.3**	**+1.6**	
GAMB	**Gambell**	**99.69**	**333**	*e*Pdif	**Pdif**		**20 52 40.2**	**-3.0**	
	comp=Z,33nm,0.9s								
GKP	**Gorka Klasztor**	**100.08**	**37**	*e*P	**Pdif**		**20 52 46.4**	**+1.2**	
GKP	**Gorka Klasztor**	**100.08**	**37**	*e*P	**Pdif**		**20 52 46.3**	**+1.1**	
MORC	**Moravsky Berou**	**100.17**	**41**	*e*P	**Pdif**		**20 52 43.0**	**-2.8**	
MORC				pmax	pmax				
	comp=Z,37nm,1.4s								
MORC	**Moravsky Berou**	**100.17**	**41**	*e*Pdif	**Pdif**		**20 52 43.0**	**-2.8**	
	comp=Z,37nm,1.4s								
OKC	**Ostrava-Krasne**	**100.56**	**41**	*e*P	**Pdif**		**20 52 49.5**	**+2.0**	
OKC	**Ostrava-Krasne**	**100.56**	**41**	*e*PDIFF	**Pdif**		**20 52 49.5**	**+2.0**	
STHS	**Stebnicka Huta**	**102.58**	**41**	*e*P	**Pdif**		**20 52 58.1**	**+1.6**	
STHS				pmax	pmax				
	comp=Z,4.0nm,1.1s								
STHS	**Stebnicka Huta**	**102.58**	**41**	*e*	**Pdif**		**20 52 58.1**	**+1.6**	
CRVS	**Cervenica-Dubn**	**102.73**	**42**	*e*P	**Pdif**		**20 52 58.8**	**+1.6**	
CRVS	**Cervenica-Dubn**	**102.73**	**42**	PDIF	**Pdif**		**20 52 58.8**	**+1.6**	
ARCES	**ARCESS Array B**	**102.95**	**21**	P	**Pdif**		**20 52 56.7**	**-0.9**	
ARCES				PKKPbc	**PKKPbc**		**21 08 53.6**	**-4.0**	
ARCES	**ARCESS Array B**	**102.95**	**21**	P	**Pdif**		**20 52 56.7**	**-0.9**	
	comp=Z,8.5nm,0.7s,baz=276,slow=3.4,SNR=16								
ARCES				PKKPbc	**PKKPbc**		**21 08 53.6**	**-4.0**	
	comp=Z,4.1nm,1.0s,baz=78,slow=2.2,SNR=5.2								
KOLS	**Kolonicke sedl**	**103.26**	**42**	*e*P	**Pdif**		**20 52 57.3**	**-2.2**	
KOLS				pmax	pmax				
	comp=Z,411nm,5.1s								
KOLS	**Kolonicke sedl**	**103.26**	**42**	PDIF	**Pdif**		**20 52 57.3**	**-2.2**	
UZH	**Uzhgorod**	**103.28**	**42**	*e*P	**Pdif**		**20 53 01.1**	**+1.5**	
FINES	**FINESS Array B**	**104.40**	**29**	Pdif	**Pdif**		**20 53 04.4**	**+0.1**	
FINES				PKKPbc	**PKKPbc**		**21 08 50.6**	**-2.3**	
FINES	**FINESS Array B**	**104.40**	**29**	Pdiff	**Pdif**		**20 53 04.4**	**+0.1**	
	comp=Z,6.1nm,0.9s,baz=251,slow=4.3,SNR=9.3								
FINES				PKKPbc	**PKKPbc**		**21 08 50.6**	**-2.3**	
	comp=Z,2.5nm,0.6s,baz=97,slow=4.8,SNR=15								
BUR08	**Bucovina Ar. S**	**105.27**	**43**	*e*Pdif	**Pdif**		**20 53 06.4**	**-2.2**	
MLR	**Muntele Rosu**	**105.92**	**45**	Pdif	**Pdif**		**20 53 12.1**	**+0.5**	
MLR	**Muntele Rosu**	**105.92**	**45**	Pdiff	**Pdif**		**20 53 12.1**	**+0.5**	
	comp=Z,0.7nm,0.9s,baz=100,slow=18,SNR=3.7								
AKASG	**Malin Array Be**	**107.61**	**40**	PKiKP	**PKiKP**		**20 57 24.9**	**-1.3**	
AKASG				PP	**PP**		**20 57 45.1**	**-3.0**	
AKASG				PKKPbc	**PKKPbc**		**21 08 40.9**	**-1.8**	
AKASG				PKKP	**PKKPab**		**21 08 55.2**	**0.0**	
AKASG	**Malin Array Be**	**107.61**	**40**	PKiKP	**PKiKP**		**20 57 24.9**	**-1.3**	
	comp=Z,1.7nm,0.6s,baz=273,slow=3.0,SNR=13								
AKASG				PP	**PP**		**20 57 45.1**	**-3.0**	
	comp=Z,2.3nm,0.9s,baz=277,slow=6.8,SNR=10.0								
AKASG				PKKPbc	**PKKPbc**		**21 08 40.9**	**-1.8**	
	comp=Z,2.5nm,0.7s,baz=78,slow=3.5,SNR=16								
AKASG				PKKP	**PKKPab**		**21 08 55.2**	**0.0**	
	comp=Z,1.6nm,0.7s,baz=82,slow=4.3,SNR=7.7								
DZM	**Mont Dzumac**	**109.95**	**243**	*e*LR	LR		21 29 52.9		
	comp=Z,431nm,22.9s								
OBN	**Obninsk**	**111.10**	**34**⇓	*i*PKIKP	**PKiKP**		**20 57 32.5**	**-0.2**	
OBN				*i*			20 58 11.8		
OBN				pmax	pmax				
	comp=Z,18nm,1.0s								
VSR	**Storozhevoye**	**113.66**	**38**	*e*PKIKP	**PKiKP**		**20 57 36.6**	**-1.1**	
VSR				pmax	pmax				
	comp=N,3.0nm,0.9s								
VSR				pmax	pmax				
	comp=E,6.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VORD	**Divnogorie**	**113.80**	**38**	*e*PKIKP	**PKiKP**		**20 57 35.7**	**-2.2**	
VORD				pmax	pmax				
	comp=Z,9.0nm,1.3s								
VORD				pmax	pmax				
	comp=N,8.0nm,1.1s								
VORD				pmax	pmax				
	comp=E,10.0nm,0.9s								
ANN	**Anapa**	**114.06**	**45**	*e*P	**Pdif**		**20 53 47.7**	**+0.1**	
ANN				pmax	pmax				
	comp=Z,104nm,1.3s								
MMAI	**Mount Meron Ar**	**114.21**	**58**	PKKPbc	PKKPbc		21 08 21.2	+0.5	
MMAI	**Mount Meron Ar**	**114.21**	**58**	PKKPbc	PKKPbc		21 08 21.2	+0.5	
	comp=Z,5.4nm,0.7s,baz=74,slow=6.2,SNR=4.7								
KMBO	**Kilima Mbogo**	**114.50**	**95**	PKP	PKPdf		20 57 42.5	+1.7	
KMBO				LR	LR				
	comp=Z,344nm,19.0s								
KMBO	**Kilima Mbogo**	**114.50**	**95**	PKP	PKPdf		20 57 42.5	+1.7	
	comp=Z,2.8nm,0.7s,baz=323,slow=3.8,SNR=5.1								
VRHR	**Novokhopersk**	**115.17**	**37**	*e*PKIKP	**PKPdf**		**20 57 39.8**	**-0.8**	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,20nm,0.9s								
VRHR				pmax	pmax				
	comp=E,20nm,0.7s								
SEY	**Seymchan**	**115.27**	**337**	PKIKP	**PKPdf**		**20 57 40.4**	**-0.1**	
SEY				pmax	pmax				
	comp=Z,13nm,0.8s								
SEY	**Seymchan**	**115.27**	**337**	PKP	**PKPdf**		**20 57 40.4**	**-0.1**	
SEY	**Seymchan**	**115.27**	**337**	PKP	**PKPdf**		**20 57 40.4**	**-0.1**	
	comp=Z,13nm,0.8s,baz=141,slow=4.4,SNR=27								
H11N3	**WAKE ISLAND Hyl**	**116.74**	**288**	T	T		23 04 08.8		
	baz=96,slow=75								
H11N2	**WAKE ISLAND Hyl**	**116.75**	**288**	T	T		23 04 10.7		
	baz=96								
H11N1	**WAKE ISLAND Hyl**	**116.76**	**288**	T	T		23 04 07.9		
	baz=96,slow=75								
H11S2	**WAKE ISLAND Hyl**	**116.92**	**286**	T	T		23 04 19.5		
	baz=87								
H11S1	**WAKE ISLAND Hyl**	**116.93**	**286**	T	T		23 04 27.1		
	baz=87								
H11S3	**WAKE ISLAND Hyl**	**116.94**	**286**	T	T		23 04 25.6		
	baz=87								
PETK	**Petropavlovsk-**	**117.44**	**326**	PKIKP	**PKPdf**		**20 57 44.0**	**-0.9**	
PETK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
PETK	**Petropavlovsk-**	**117.44**	**326**	PKP	**PKPdf**		**20 57 44.0**	**-0.9**	
PETK	**Petropavlovsk-**	**117.44**	**326**	PKP	**PKPdf**		**20 57 44.0**	**-0.9**	
	comp=Z,6.9nm,0.8s,baz=86,slow=1.9,SNR=5.7								
GOF	**Gofitskoye**	**117.86**	**44**	*e*PKIKP	**PKPdf**		**20 57 46.1**	**+0.1**	
KIV	**Kislovodsk**	**117.92**	**45**	*d*PKIKP	**PKPdf**		**20

BANOM	**Banah**	133.30	63	⇑	*e*PKiKP	**PKPdf**	**20 58 16.3**	**+0.2**
ASHO	**Ashiyiah**	133.34	64	⇑	*e*PKPdf	**PKPdf**	**20 58 15.8**	**-0.4**
HATD	**Hatta, Dubai**	133.38	64	⇑	*e*PKiKP	**PKPdf**	**20 58 16.1**	**-0.1**
COEN	**Coen**	133.45	241		*e*PKPdf	**PKPdf**	**20 58 16.9**	**+0.3**
KURK	**Kurchatov**	133.99	21		PKiKP	**PKPdf**	**20 58 17.6**	**+1.0**
KURK	**Kurchatov**	133.99	21		PKP	**PKPdf**	**20 58 17.6**	**+1.0**
KURK					PP	**PP**	**21 00 42.8**	**-4.4**
KURK					SKPbc	**SKPbc**	**21 01 34.7**	**-0.9**
KURK					SKKPbc	SKKPbc	21 10 35.6	-15
KURBB	**Kurchatov Arra**	134.03	21		PKhKP	PKPpre	20 58 00.9	
	comp=N,1.0nm,0.7s,baz=312,slow=3.3,SNR=9.8							
KURBB					PKP	**PKiKP**	**20 58 17.5**	**-0.5**
	comp=N,26nm,0.7s,baz=318,slow=2.5,SNR=100							
KURBB					PP	**PP**	**21 00 42.8**	**-4.7**
	comp=N,7.1nm,1.0s,baz=324,slow=5.7,SNR=5.0							
KURBB					SKPbc	**SKPbc**	**21 01 34.7**	**-1.0**
	comp=N,2.3nm,0.8s,baz=318,slow=3.0,SNR=4.1							
KURBB					SKKPbc	SKKPbc	21 10 35.6	-15
	comp=N,1.7nm,1.2s,baz=144,slow=4.1,SNR=4.4							
AS31	**Alice Springs**	135.20	223		*e*PKPdf	**PKPdf**	**20 58 19.8**	**0.0**
ASAR	**Alice Springs**	135.20	223		PKP	**PKPdf**	**20 58 20.1**	**+0.3**
ASAR					PKKP	**PKKPdf**	**21 08 06.9**	**+4.3**
ASAR					SKKPbc	SKKPbc	21 10 38.8	-5.7
ASAR	**Alice Springs**	135.20	223		PKhKP	PKPpre	20 58 07.0	
	comp=N,1.6nm,0.7s,baz=139,slow=2.6,SNR=14							
ASAR					PKP	**PKPdf**	**20 58 20.1**	**+0.3**
	comp=N,33nm,0.8s,baz=125,slow=2.1,SNR=65							
ASAR					PKKP	**PKKPdf**	**21 08 06.9**	**+4.3**
	comp=N,0.4nm,0.8s,baz=32,slow=3.6,SNR=3.0							
ASAR					SKKPbc	SKKPbc	21 10 38.8	-5.7
	comp=N,1.6nm,0.8s,baz=318,slow=5.3,SNR=4.0							
NWAO	**Narrogin (SRO)**	135.99	198		PKP	**PKPdf**	**20 58 21.2**	**+0.3**
NWAO	**Narrogin (SRO)**	135.99	198		PKP	**PKPdf**	**20 58 21.2**	**+0.3**
	comp=N,31nm,1.0s,baz=145,slow=4.3,SNR=6.8							
CIT	**Chita**	136.05	350		*e*PKiKP	**PKPdf**	**20 58 21.3**	**+0.8**
CIT					*e*		21 00 59.2	
KK31	**Karatay Array**	136.09	34		*i* PKiKP	**PKPdf**	**20 58 20.6**	**-0.2**
KK31					pmax	pmax		
	comp=Z,18nm,1.1s							
KKAR	**Karatay Array**	136.09	34		*e*PKiKP	**PKPdf**	**20 58 20.4**	**-0.4**
KKAR	**Karatay Array**	136.09	34		*e*PKPdf	**PKPdf**	**20 58 20.4**	**-0.4**
USRK	**Ussuriysk Arra**	136.40	329		PKhKP	PKPpre	20 58 07.2	
	comp=Z,2.6nm,0.7s,baz=60,slow=3.8,SNR=6.9							
USRK					PKP	**PKPdf**	**20 58 21.9**	**+0.6**
	comp=Z,29nm,0.8s,baz=27,slow=1.8,SNR=36							
USRK					SKP		21 01 42.9	
	comp=Z,7.1nm,0.9s,baz=53,slow=0.7,SNR=5.9							
IRK	**Irkutsk**	136.78	358		*e*PKHKP	PKPpre	20 58 11.0	
IRK					*e*		21 01 02.4	
IRK					pmax	pmax		
	comp=Z,81nm,2.1s							
MDJ	**Mudanjiang**	137.28	331		PKP	**PKPdf**	**20 58 22.8**	**-0.1**
MDJ	**Mudanjiang**	137.28	331		*e*PKPdf	**PKPdf**	**20 58 22.9**	**-0.1**
WRAB	**Tennant Creek**	137.32	228	*c*	*i* PKiKP	**PKPdf**	**20 58 24.3**	**+0.5**
WRAB	**Tennant Creek**	137.32	228		*e*PKPdf	**PKPdf**	**20 58 23.9**	**+0.2**
WRA	**Warramunga Arr**	137.32	228		PKP	**PKPdf**	**20 58 24.2**	**+0.5**
WRA					SKP		21 01 47.2	
WRA	**Warramunga Arr**	137.32	228		PKhKP	PKPpre	20 58 13.4	
	comp=Z,2.1nm,0.8s,baz=130,slow=2.0,SNR=14							
WRA					PKP	**PKPdf**	**20 58 24.2**	**+0.5**
	comp=Z,67nm,0.9s,baz=122,slow=2.0,SNR=99							
WRA					SKP		21 01 47.2	
	comp=Z,4.6nm,1.1s,baz=130,slow=3.5,SNR=4.6							
MJAR	**Matsushiro Arr**	137.34	316		PKP	**PKPdf**	**20 58 23.4**	**+0.1**
MJAR					pPKP	**pPKPdf**	**20 58 57.3**	**+3.1**
MJAR					SKP		21 01 44.9	
MJAR	**Matsushiro Arr**	137.34	316		PKhKP	PKPpre	20 58 10.9	
	comp=Z,6.8nm,1.0s,baz=93,slow=2.1,SNR=11							
MJAR					PKP	**PKPdf**	**20 58 23.4**	**+0.1**
	comp=Z,23nm,0.9s,baz=81,slow=0.9,SNR=24							
MJAR					pPKP	pPKPdf	20 58 57.3	+3.1
	comp=Z,7.0nm,0.9s,baz=131,slow=1.4,SNR=2.4							
MJAR					SKP		21 01 44.9	
	comp=Z,10.0nm,0.9s,baz=98,slow=2.0,SNR=11							
MAJO	**Matsushiro**	137.34	316	*d*	*i* PKiKP	**PKPdf**	**20 58 23.4**	**+0.1**
MAJO	**Matsushiro**	137.34	316		*e*PKPdf	**PKPdf**	**20 58 23.2**	**-0.1**
MAT	**Matsushiro**	137.34	316		PKP	PKPpre	20 58 12.8	
MOY	**Mondy**	137.38	1		*e*PKiKP	**PKPdf**	**20 58 24.6**	**+1.5**
MOY					pmax	pmax		
	comp=Z,88nm,2.6s							
USP	**Ospenovka**	138.08	31		P	PKPpre	20 58 15.2	
	SNR=6.3							
EKS2	**Erkin-Say**	138.14	32		*i* PKiKP	**PKPdf**	**20 58 26.6**	**+1.9**
EKS2	**Erkin-Say**	138.14	32		P	**PKPdf**	**20 58 26.7**	**+1.9**
	SNR=14							
CHMS	**Chumysh**	138.40	31		P	**PKPdf**	**20 58 26.6**	**+1.4**
	SNR=8.3							
FRU	**Bishkek**	138.45	31		*i* PKiKP	**PKPdf**	**20 58 27.0**	**+1.8**
FRU					*e*		20 58 48.0	
FRU					*i*		21 01 20.0	
AML	**Almayashu**	138.47	32		P	**PKPdf**	**20 58 22.9**	**-2.9**
	SNR=8.7							
AAK	**Ala-Archa**	138.53	31	*c*	*i* PKiKP	**PKPdf**	**20 58 27.0**	**+1.4**
AAK	**Ala-Archa**	138.53	31		P	PKPpre	20 58 17.1	
	SNR=7.2							
AAK	**Ala-Archa**	138.53	31		*e*PKPdf	**PKPdf**	**20 58 26.9**	**+1.4**
MK31	**Makanchi Array**	138.60	21		*e*PKiKP	**PKPdf**	**20 58 25.2**	**-0.1**
MK31	**Makanchi Array**	138.60	21		*e*PKPdf	**PKPdf**	**20 58 25.2**	**-0.1**
MKAR	**Makanchi Array**	138.60	21		PKHKP	PKPpre	20 58 15.3	
MKAR							20 58 25.7	
MKAR					pmax	pmax		
	comp=Z,8.0nm,0.8s							
MKAR					pmax	pmax		
	comp=Z,21nm,0.7s							
MKAR	**Makanchi Array**	138.60	21		PKP	**PKPdf**	**20 58 25.7**	**+0.4**
MKAR	**Makanchi Array**	138.60	21		PKhKP	PKPpre	20 58 15.3	
	comp=Z,7.5nm,0.8s,baz=345,slow=2.9,SNR=23							
MKAR					PKP	**PKPdf**	**20 58 25.7**	**+0.4**
	comp=Z,21nm,0.7s,baz=325,slow=1.9,SNR=33							
ZAK	**Zakamensk**	138.67	359		*e*PKHKP	PKPpre	20 58 14.8	
ZAK					pmax	pmax		
	comp=Z,10.0nm,1.3s							
UCH	**Uchtor**	138.84	32		P	**PKPdf**	**20 58 28.9**	**+2.4**
	SNR=12							
TKM2	**Tokmak 2**	138.88	30		*e*PKiKP	**PKPdf**	**20 58 25.5**	**-0.7**
TKM2	**Tokmak 2**	138.88	30		P	**PKPdf**	**20 58 22.7**	**-3.6**
	SNR=11							
TKM2	**Tokmak 2**	138.88	30		*e*PKPdf	**PKPdf**	**20 58 25.4**	**-0.7**
KZA	**Kyzart**	139.32	31		P	**PKPdf**	**20 58 26.2**	**-1.1**
	SNR=12							
ULHL	**Ulahol**	139.70	30		P	**PKPdf**	**20 58 29.8**	**+2.1**
	SNR=16							
CN2	**Changchun**	139.81	334		*e*PKP	**PKPdf**	**20 58 25.4**	**-2.2**
CN2					PP	**PP**	**21 01 26.7**	**+2.9**
KBL	**Kabul**	140.31	45		*e*PKiKP	**PKPdf**	**20 58 28.7**	**-0.4**
KBL	**Kabul**	140.31	45		*e*PKPdf	**PKPdf**	**20 58 28.7**	**-0.4**
SONM	**Songino Array**	141.07	356		PKhKP	PKPpre	20 58 22.7	
	comp=Z,15nm,0.7s,baz=342,slow=2.7,SNR=124							
SONM					PP	**PP**	**21 01 28.7**	**-2.5**
	comp=Z,12nm,1.1s,baz=352,slow=6.0,SNR=7.6							
KSH	**Kashi**	141.54	33		PKP	**PKPdf**	**20 58 28.1**	**-2.9**
KSH					*e*SKKS		21 08 18.0	
KSH					*e*SS	**SS**	**21 19 52.7**	**-3.5**
KSH					AMB	AMB		
	comp=Z,210nm,6.6s							
KSH					LR	LR		
	comp=Z,110nm,6.4s							
KSH					LR	LR		
	comp=Z,220nm,6.3s							
KSH					LR	LR		
	comp=Z,160nm,5.7s							
WMQ	**Urumqi**	143.00	18		PKP	**PKPdf**	**20 58 34.2**	**+0.8**
WMQ					LR	LR		
	comp=Z,7μm,30.6s							
WMQ					LR	LR		
	comp=Z,7μm,27.5s							
WMQ					LR	LR		
	comp=Z,9μm,27.5s							
KSYOW	**Yeongwol**	143.21	324		P	PKPbc	20 58 31.7	+0.5
	SNR=7.2							
KSYOW	**Yeongwol**	143.21	324		P	PKPbc	20 58 31.7	+0.5
	SNR=7.2							
KSWJU	**Wonju**	143.28	325		P	PKPbc	20 58 31.9	+0.5
	SNR=5.4							
KSWJU	**Wonju**	143.28	325		P	PKPbc	20 58 31.9	+0.5
	SNR=5.4							
KSRS	**Korea Array**	143.32	325		PKP	PKPbc	20 58 31.4	0.0
	comp=Z,146nm,0.8s,baz=51,slow=3.0,SNR=253							
KSAR	**Wonju Array Be**	143.35	325		PKP	PKPbc	20 58 31.4	-0.1
KSICN	**Icheon**	143.72	325		P	PKPbc	20 58 33.2	+0.6
	SNR=6.9							
KSICN	**Icheon**	143.72	325		P	PKPbc	20 58 33.2	+0.6
	SNR=6.9							
KSSWO	**Suwon**	143.99	325		P	PKPbc	20 58 33.5	+0.1
	SNR=6.2							
KSCPR	**CHUPUNGNYEONG**	144.14	323		P	PKPbc	20 58 34.3	+0.4
	SNR=6.2							
KSCPR	**CHUPUNGNYEONG**	144.14	323		P	PKPbc	20 58 34.3	+0.4
	SNR=6.2							
KSCEA	**Cheonan**	144.14	325		P	PKPbc	20 58 34.4	+0.6
	SNR=7.6							
KSCEA	**Cheonan**	144.14	325		P	PKPbc	20 58 34.4	+0.6
	SNR=7.6							
FITZ	**Fitzroy Crossi**	144.57	221		PKP	PKPbc	20 58 35.9	+0.2
FITZ	**Fitzroy Crossi**	144.57	221		PKP	PKPbc	20 58 35.9	+0.2
	comp=Z,130nm,0.9s,baz=165,slow=5.6,SNR=82							
KSJEU	**Jeongeup**	145.25	323		P	**PKPab**	**20 58 37.6**	**0.0**
	SNR=7.8							
BJT	**Baijiatuan**	146.64	340		*e*PKPdf	**PKPdf**	**20 58 40.1**	**+0.4**
HHC	**Hu-ho-hao-te**	147.15	347		*e*PKPbc	**PKPdf**	**20 58 41.3**	**+0.6**
HHC					pPKP	**pPKPdf**	**20 59 10.7**	**-0.9**
HHC					sPKP		20 59 22.6	
HHC					PP	**PP**	**21 02 07.0**	**-0.6**
HHC					SKS	**SKSdf**	**21 05 38.0**	**-1.3**
HHC					SKKS	**SKKSac**	**21 08 50.4**	**+0.5**
HHC					SS	**SS**	**21 21 02.4**	**+3.2**
HHC					AMB	AMB		
	comp=Z,570nm,7.4s							
HHC					LR	LR		
	comp=Z,360nm,19.7s							
HHC					LR	LR		
	comp=Z,610nm,17.3s							
HHC					LR	LR		
	comp=Z,350nm,19.7s							
BHK	**Bhakra**	147.18	43		*e*P	**PKPbc**	**20 58 42.5**	**-0.8**
BTO	**Baotou**	147.71	349		*e*PKPbc	**PKPdf**	**20 58 43.0**	**+1.4**
GTA	**Gaotai**	149.57	4		PKPbc	**PKPdf**	**20 58 45.8**	**+1.1**
GTA					PKPab	**PKPab**	**20 58 57.7**	**+3.1**
GTA					PP	**PP**	**21 02 26.3**	**+4.7**
GTA					SKS	**SKSdf**	**21 05 42.3**	**-0.4**
GTA					SKKS	**SKKSac**	**21 09 04.4**	**+1.0**
GTA					SS	**SS**	**21 21 30.1**	**+3.9**
GTA					AMB	AMB		
	comp=Z,230nm,8.1s							
JOW	**Kunigami**	149.60	309		*e*PKPbc	**PKPbc**	**20 58 49.7**	**+0.1**
JOW	**Kunigami**	149.60	309		PKPbc	**PKPbc**	**20 58 50.1**	**+0.4**
	comp=Z,8.5nm,0.8s,baz=82,slow=3.8,SNR=4.0							
SSE	**Sheshan**	151.75	324		PKPbc	**PKPdf**	**20 58 48.5**	**+0.4**
SSE					PP	**PP**	**21 02 38.8**	**+4.0**
SSE					SS	SS	21 21 53.8	+2.3
SSE					AMB	AMB		
	comp=Z,78nm,11.3s							
SSE					LR	LR		
	comp=Z,530nm,19.5s							
SSE					LR	LR		
	comp=Z,270nm,19.5s							
SSE					LR	LR		
	comp=Z,560nm,22.1s							
NJ2	**Nanjing**	152.31	329		*e*PKPbc	**PKPdf**	**20 58 49.3**	**+0.4**
LZH	**Lanzhou**	152.93	357		*e*PKPbc	**PKPdf**	**20 58 51.5**	**+1.5**
LZH					PKS	**PKSdf**	**21 02 23.3**	**-1.3**
LZH					PP	**PP**	**21 02 45.5**	**+4.7**
LZH					SKKS		21 09 16.0	
LZH					*e*SS	**SS**	**21 22 06.5**	**+3.2**
LZH					AMB	AMB		
	comp=Z,640nm,5.2s							
LZH					LR	LR		
	comp=Z,1μm,18.5s							
LZH					LR	LR		
	comp=Z,1μm,19.0s							
LZH					LR	LR		
	comp=Z,1μm,20.4s							
PYUN	**Piuthan**	153.68	41		*e*P	**PKPdf**	**20 58 51.8**	**+0.4**
	comp=Z,440nm,1.0s							
DANN	**Dangsing**	154.00	40		*e*P	**PKPdf**	**20 58 52.2**	**+0.3**
	comp=Z,331nm,0.9s							
XAN	**Xi'an**	154.26	347		PKPbc	**PKPdf**	**20 58 52.2**	**+0.4**
XAN					PKPab	**PKPab**	**20 59 12.9**	**-1.4**
XAN					sPKP		20 59 30.7	
XAN					PKS	**PKSdf**	**21 02 25.2**	**-0.9**
XAN					PP	**PP**	**21 02 46.1**	**-2.2**
XAN					SKS	**SKSdf**	**21 05 48.0**	**-0.5**
XAN					SKKS	**SKKSac**	**21 09 24.0**	**-5.0**
XAN					AMB	AMB		
	comp=Z,57nm,6.2s							
XAN					LR	LR		
	comp=Z,750nm,26.7s							
XAN					LR	LR		
	comp=Z,280nm,22.6s							
XAN					LR	LR		
	comp=Z,430nm,21.4s							
KOLN	**Koldanda**	154.30	41		*e*P	**PKPdf**	**20 58 52.4**	**+0.2**
	comp=Z,128nm,1.2s							
GKN	**Gorkha**	154.79	39		*e*P	**PKPdf**	**20 58 53.2**	**+0.3**
	comp=Z,198nm,1.0s							
KKN	**Kakani**	155.34	38		*e*P	**PKPdf**	**20 58 53.2**	**-0.5**
	comp=Z,79nm,0.9s							
DMN	**Daman**	155.36	39		*e*P	**PKPdf**	**20 58 53.7**	**-0.1**
	comp=Z,96nm,1.3s							
HYB	**Hyderabad**	155.46	67		*i* PKP	**PKPdf**	**20 58 53.0**	**-0.9**
HYB					*e*		20 59 02.5	
HYB					*e*		20 59 19.0	
HYB					*e*PP	PP	21 03 08.0	+11
PKI	**Pulchoki**	155.57	38		*e*P	**PKPdf**	**20 58 54.0**	**-0.2**
	comp=Z,83nm,1.1s							
GUN	**Gumba**	155.61	37		*e*P	**PKPdf**	**20 58 54.4**	**+0.2**
	comp=Z,70nm,0.9s							
WHN	**Wuhan**	155.70	334		PKP	**PKPdf**	**20 58 54.4**	**+0.6**
WHN					PKPab	**PKPab**	**20 59 20.1**	**-0.3**
WHN					PP	**PP**	**21 02 54.0**	**-2.6**
WHN					AMB	AMB		
	comp=Z,1μm,5.9s							
WHN					LR	LR		
	comp=Z,2μm,19.3s							
JIRN	**Jiri**	155.98	37		*e*P	**PKPdf**	**20 58 54.7**	**0.0**
	comp=Z,41nm,0.9s							
RAMN	**Ramite**	156.75	38		*e*P	**PKPdf**	**20 58 55.4**	**-0.2**
	comp=Z,216nm,0.9s							
SSLB	**Suanglung**	156.79	312		*e*PKPdf	**PKPdf**	**20 58 55.2**	**-0.2**
LSA	**Lhasa**	156.87	25		*e*PKiKP	**PKPdf**	**20 58 56.5**	**+0.5**
LSA	**Lhasa**	156.87	25		*e*PKPdf	**PKPdf**	**20 58 56.5**	**+0.5**
TAPN	**Taplejung**	157.10	35		*e*P	**PKPdf**	**20 58 56.0**	**-0.1**
ODAN	**Odare**	157.29	36		*e*P	**PKPdf**	**20 58 56.5**	**+0.2**
	comp=Z,88nm,1.0s							
ENH	**Enshi**	157.71	343		*e*PKPdf	**PKPdf**	**20 58 56.2**	**-0.2**
KAPI	**Kappang**	157.72	232		*e*PKPdf	**PKPdf**	**20 58 56.4**	**-0.4**
CD2	**Chengdu**	158.09	357		*e*PKP	**PKPdf**	**20 58 55.1**	**-1.8**
CD2					SKS	**SKSdf**	**21 05 49.1**	**-3.5**
CD2					SKKS	**SKKSac**	**21 09 48.6**	**-0.7**
CD2					SS	**SS**	**21 22 59.6**	**+1.0**
CD2					LR	LR		
	comp=Z,1μm,22.6s							
CD2					LR	LR		
	comp=Z,990nm,21.4s							
SHL	**Shillong**	160.74	29	⇑	*i* x	**PKPdf**	**20 59 01.5**	**+1.2**
SHL					*ex*	**PP**	**21 03 29.0**	**+4.5**
GYA	**Guiyang**	162.07	347		*i* PKP	**PKPdf**	**20 59 01.2**	**-0.4**
GYA					pPKP	**pPKPdf**	**20 59 28.8**	**-3.8**
GYA					sPKP		20 59 40.0	
GYA					PKPab	**PKPab**	**20 59 49.4**	**+1.1**
GYA					PKS	**PKSdf**	**21 02 32.0**	**-3.0**
GYA					PP	**PP**	**21 03 33.8**	**+2.8**
GYA					SKKS		21 10 10.0	
GYA					SS	**SS**	**21 23 41.2**	**+0.3**
GYA					AMB	AMB		
	comp=Z,160nm,8.0s							
GYA					LR	LR		
	comp=Z,290nm,25.2s							
GYA					LR	LR		
	comp=Z,260nm,24.7s							
GYA					LR	LR		
	comp=Z,330nm,24.0s							
KMI	**Kunming**	163.89	358		PKP	**PKPdf**	**20 59 03.1**	**-0.4**
KMI					PP	**PP**	**21 03 38.4**	**-2.3**
KMI					AMB	AMB		
	comp=Z,400nm,8.6s							
QIZ	**Qiongzhong**	167.55	325		PKP	**PKPdf**	**20 59 06.0**	**-0.3**
QIZ					pPKP	**pPKPdf**	**20 59 33.4**	**-4.0**
QIZ					PP	**PP**	**21 04 00.6**	**+0.4**
QIZ					SS	SS	21 24 40.4	+2.4
QIZ					AMB	AMB		
	comp=Z,220nm,11.9s							
SLVN	**Son La**	167.56	353		*e*PKPdf	**PKPdf**	**20 59 06.2**	**-0.1**
CMAR	**Chiang Mai Arr**	170.00	18		PKP	**PKPdf**	**20 59 08.2**	**+0.3**
CMAR					PP	**PP**	**21 04 09.2**	**-2.8**
CMAR	**Chiang Mai Arr**	170.00	18		PKP	**PKPdf**	**20 59 08.2**	**+0.3**
	comp=Z,18nm,0.9s,baz=278,slow=1.7,SNR=125							
CMAR					PP	**PP**	**21 04 09.2**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=326,slow=5.6,SNR=4.2							
UBPT	**Khong Chiam**	172.94	334		PKP	**PKPdf**	**20 59 12.3**	**+2.9**
PSI	**Prapat**	173.07	151		PKP	**PKPdf**	**20 59 08.6**	**-1.1**
PSI	**Prapat**	173.07	151		PKP	**PKPdf**	**20 59 08.6**	**-1.1**
	comp=Z,33nm,1.0s,baz=208,slow=5.6,SNR=12							
KHLT	**Khaolaem Dam**	173.16	31		PKP	**PKPdf**	**20 59 10.9**	**+1.4**
SRDT	**SRDT**	173.81	29		PKP	**PKPdf**	**20 59 10.3**	**+0.6**
PATY	**Pattaya**	175.81	19		PKP	**PKPdf**	**20 59 11.1**	**+0.8**
CHBT	**CHBT**	176.20	359		PKP	**PKPdf**	**20 59 12.0**	**+1.6**

IDC ***03*** *21:08:09.7±1.6, 26°68N×94°07E, h0km, mb3.3/7, mb1 3.5/8, mb1mx3.4/27, mbtmp3.3/8, ML3.3/1, Error ellipse: s-maj=73.0km s-min=18.8km az=66.0*
ISCJB ***03*** *21:08:12.7±0.7, 26°64N±0°08×94°12E±0°09, h33km, mb3.3/7, Error ellipse: s-maj=12.4km s-min=9.6km az=137.9*

ISC 03 21:08:14.7±0.9, 26°7N±0°1×94°0E±0°1, h35km, n9, σ0°38/9, mb3.3/7, Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.22**	**241**		*e*PN		Pn	21 08 43.0	-6.2
SHL					*e*PG			21 08 50.0	
SHL					*e*SN		**Sn**	**21 09 15.5**	**0.0**
CMAR	**Chiang Mai Arr**	**9.34**	**150**		Pn		**Pn**	**21 10 26.7**	**-0.1**
	0.1nm,0.3s,baz=321,slow=11,SNR=4.6								
MKAR	**Makanchi Array**	**22.14**	**338**		P		**P**	**21 13 06.9**	**-0.4**
	0.7nm,0.8s,baz=144,slow=12,SNR=7.9								
SONM	**Songino Array**	**23.26**	**21**		P		**P**	**21 13 19.0**	**0.0**
	0.3nm,0.8s,baz=219,slow=11,SNR=3.0								
KURBB	**Kurchatov Arra**	**26.71**	**338**		P		**P**	**21 13 50.4**	**-0.1**
	0.4nm,0.9s,baz=146,slow=9.9,SNR=3.6								
ZALV	**Zalesovo Beam**	**28.10**	**348**		P		**P**	**21 14 03.6**	**+0.7**
	0.3nm,0.4s,baz=157,slow=7.8,SNR=2.9								
WRA	**Warramunga Arr**	**60.61**	**136**		P		**P**	**21 18 22.2**	**0.0**
	0.5nm,0.8s,baz=323,slow=7.4,SNR=4.6								
ASAR	**Alice Springs**	**63.15**	**139**		P		**P**	**21 18 39.6**	**+0.3**
	0.2nm,0.4s,baz=321,slow=6.8,SNR=4.1								
ILAR	**Eielson Array**	**77.48**	**23**		P		**P**	**21 20 05.9**	**-0.3**
	0.4nm,0.9s,baz=308,slow=4.4,SNR=3.1								

MEX 03 21:17:57.5±0.8, 16°59N×98°68W, h20km±11km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**111**		*i* P		Pb	21 18 06.6	-2.1
PNIG					*i* S		Sb	21 18 14.3	-2.1
TLIG	**Tlapa**	**0.97**	**6**		*i* P		Pb	21 18 12.7	-3.2
TLIG					*i* S		Sb	21 18 24.7	-3.7
VHO	**Vista Hermosa**	**1.92**	**75**		*i* P		Pn	21 18 26.4	-3.0
VHO					*i* S		Sn	21 18 50.5	-2.6
PLIG	**Platanillo**	**1.96**	**336**		*i* P		Pn	21 18 26.1	-3.6
PLIG					*i* S		Sn	21 18 48.7	-5.1
YAIG	**Yautepec**	**2.29**	**351**	*i*	PG		Pn	21 18 34.3	0.0
YAIG					*e*S		Sn	21 18 59.0	-3.1
ARIG	**Puente Sto Nin**	**2.32**	**317**		*e*P		Pn	21 18 32.9	-1.7
ARIG					*e*S		Sn	21 18 57.5	-5.1
HUIG	**Huatulco**	**2.60**	**108**		*i* P		Pn	21 18 35.9	-2.5
HUIG					*i* S		Sn	21 19 06.0	-3.4
ZIIG	**Zihuatanejo**	**2.85**	**291**		*i* P		Pn	21 18 38.5	-3.4
ZIIG					*i* S		Sn	21 19 11.9	-3.8

IDC ***03*** *21:32:04.3±2.9, 16°04N×97°09W, h0km, mb3.7/8, mb1 4.0/11, mb1mx3.8/28, mbtmp3.7/11, ML3.2/3, MS3.2/3, Ms1 3.2/3, ms1mx3.0/38, Error ellipse: s-maj=64.6km s-min=22.7km az=19.0*
MEX ***03*** *21:32:07.7±0.6, 15°86N×97°29W, h10km±8km, MD4.1*

ISC 03 21:32:04.5±1.6, 15°97N±0°08×97°20W±0°05, h2km±11km, n24, σ1°34/32, mb3.8/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.98**	**295**		*e*P		**Pg**	**21 32 23.2**	**-0.1**
PNIG					*i* S		**Sg**	**21 32 35.3**	**-0.8**
**HUI

h47km:pP-P,n401,σ1$42/432,mb5.0/121,MS4.7/15, 26C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**355**	**eP**	**Pn**	**21 38 50.4 -2.1**
MATI				eS	Sn	21 38 58.5 -2.5
DAV	**Davao City (W)**	**1.00**	**313**	**ePn**	**Pn**	**21 38 57.5 -0.7**
DAV				eSn	Sn	21 39 12.3 +1.1
KCP	**Kidapawan**	**1.36**	**297**	**iP**	**Pn**	**21 39 01.3 -1.9**
KCP				iS	Sn	21 39 18.9 -1.3
GSPH	**General Santos**	**1.39**	**258**	**eP**	Pn	21 38 59.2 -4.4
GSPH				eS	Sn	21 39 15.2 -5.6
BIPH	**Bislig**	**1.79**	**2**	**iP**	**Pn**	**21 39 08.9 -0.1**
BIPH				iS	**Sn**	**21 39 31.4 +0.8**
BUKP	**Musuan**	**1.94**	**320**	**eP**	**Pn**	**21 39 10.3 -0.7**
CTBH	**Cotabato--PC H**	**2.21**	**292**	**iP**	**Pn**	**21 39 13.7 -1.1**
CGP	**Cagayan de Oro**	**2.61**	**322**	**eP**	**Pn**	**21 39 20.6 +0.3**
CGP				eS	**Sn**	**21 39 52.9 +2.1**
BUTP	**Butuan**	**2.66**	**345**	**eP**	**Pn**	**21 39 21.9 +0.9**
SGSI	**Sangihe**	**2.79**	**196**	P	**Pn**	**21 39 23.2 +0.5**
SGSI				S	**Sn**	**21 39 56.5 +1.3**
SCPH	**Surigao**	**3.48**	**347**	**eP**	**Pn**	**21 39 31.1 -1.1**
IPIL	**Ipil**	**3.97**	**291**	**eP**	**Pn**	**21 39 39.9 +1.0**
MSLP	**Maasin**	**4.00**	**339**	**eP**	**Pn**	**21 39 39.8 +0.5**
LLP	**Lapu-Lapu**	**4.55**	**329**	**eP**	Pn	21 39 43.6 -3.2
PLP	**Palo**	**4.93**	**345**	**eP**	**Pn**	**21 39 51.5 -0.7**
PLP				eS	**Sn**	**21 40 51.2 +3.2**
OCLP	**Ormoc**	**4.94**	**340**	**eP**	**Pn**	**21 39 52.8 +0.5**
GUIM	**Jordan**	**5.60**	**319**	**eP**	**Pn**	**21 40 01.5 +0.2**
TNTI	**Ternate** 1μm,1.2s,13μm5.2nm	**5.67**	**169**	P	**Pn**	**21 40 04.8 +2.5**
TNTI	**Ternate**	**5.67**	**169**	**ePn**	**Pn**	**21 40 03.7 +1.4**
KMSI	**Cibinong** 1μm,1.0s,11μm7.4nm	**6.22**	**202**	P	**Pn**	**21 40 10.6 +0.8**
RCP	**Roxas**	**6.24**	**326**	**eP**	**Pn**	**21 40 10.3 +0.2**
GTOI	**Gorontalo** 954nm,0.6s,9μm3.2nm	**6.59**	**210**	P	**Pn**	**21 40 13.1 -1.8**
LBMI	**Labuha** 568nm,0.9s,6μm2.9nm	**7.07**	**170**	P	**Pn**	**21 40 24.1 +2.5**
MRSI	**Marisa** 369nm,0.7s,7μm3.0nm	**7.31**	**217**	P	**Pn**	**21 40 24.0 -0.8**
TOLI	**Toli-Toli**	**7.59**	**227**	P	x	21 40 25.6
MYLDM	**Lahad Datu** 198nm,1.0s,3μm1.2nm	**7.86**	**262**	P	x	21 40 34.8
MYLDM	**Lahad Datu**	**7.86**	**262**	**ePn**	**Pn**	**21 40 34.7 +2.3**
MYLDM	**Lahad Datu**	**7.86**	**262**	**iP**	**Pn**	**21 40 34.6 +2.2**
PALU	**Palau** baz=8.0,SNR=11	**8.16**	**83**	P	**Pn**	**21 40 34.9 -1.6**
LUWI	**Luwuk** 871nm,1.1s,8μm	**8.18**	**206**	P	**Pn**	**21 40 38.9 +2.2**
LUWI	**Luwuk** baz=8.4,SNR=86	**8.18**	**206**	P	**Pn**	**21 40 39.0 +2.2**
I39PW	**PALAU INFRASON** baz=264,slow=298,SNR=0.5	**8.26**	**82**	*i*		22 31 50.0
APSI	**Ampana** 564nm,1.0s,4μm	**8.61**	**213**	P	Pn	21 40 46.1 +3.5
TSM	**Tawau**	**8.65**	**257**	**iP**	**Pn**	**21 40 46.0 +2.7**
SWI	**Sorong** 161nm,0.8s,2μm	**8.73**	**145**	P	**Pn**	**21 40 47.2 +2.9**
SDKM	**Sandakan**	**9.10**	**266**	**iP**	**Pn**	**21 40 50.0 +0.7**
KDM	**Kudat**	**9.43**	**274**	**iP**	**Pn**	**21 40 52.5 -1.4**
NLAI	**Namlea** 249nm,0.6s,4μm	**9.59**	**175**	P	**Pn**	**21 40 55.6 -0.5**
MSAI	**Masohi** 44nm,0.8s,635nm	**10.01**	**165**	P	Pn	21 41 08.1 +6.3
MWPI	**Manokwari, Pap** 181nm,0.9s,3μm	**10.60**	**133**	P	x	21 41 16.3
FAKI	**Fak Fak** baz=11,SNR=6.9	**10.98**	**147**	P	**Pn**	**21 41 17.1 +2.0**
TTSI	**Tana Toraja** 116nm,0.8s,2μm	**11.39**	**215**	P	**Pn**	**21 41 22.4 +1.7**
KKSI	**Kolaka, Sulawe** 65nm,1.1s,217μm	**11.47**	**204**	P	x	21 41 24.4
MMSI	**Mamuju** 78nm,0.8s,1μm	**11.65**	**220**	P	x	21 41 24.8
BKB	**Balikpapan**	**12.08**	**231**	P	**P**	**21 41 39.9 -1.9**
SPSI	**Sidrap Palu** 59nm,0.8s,1μm	**12.18**	**213**	P	Pn	21 41 35.1 +3.6
BAKI	**Biak** 293nm,1.6s,5μm	**12.34**	**127**	P	Pn	21 41 37.3 +3.6
BNSI	**Bone** 152nm,1.3s,2μm	**12.37**	**210**	P	Pn	21 41 37.4 +3.3
SRPI	**Serui, Papua** 136nm,1.3s,7μm	**12.86**	**129**	P	P	21 41 46.9 -3.6
KAPI	**Kappang** 395nm,0.8s,SNR=9.1	**13.08**	**210**	Pn	**Pn**	**21 41 45.6 +1.8**
KAPI	**Kappang**	**13.08**	**210**	**ePn**	**Pn**	**21 41 45.1 +1.3**
BKSI	**Bulukumba** 50nm,1.3s,702nm	**13.16**	**208**	P	Pn	21 41 48.2 +3.2
BTM	**Bintulu**	**13.55**	**257**	**iP**	**Pn**	**21 41 51.0 +0.7**
KBKI	**Kotabaru** 88nm,1.3s,1μm	**13.97**	**227**	P	**Pn**	**21 41 57.2 +1.3**
SBUM	**Sibu** 344nm,1.2s,3μm	**14.58**	**255**	P	x	21 42 06.0
SBUM	**Sibu**	**14.58**	**255**	**ePn**	**Pn**	**21 42 05.3 +1.1**
SBUM	**Sibu**	**14.58**	**255**	**iP**	**Pn**	**21 42 05.5 +1.4**
BBKI	**Banjar Baru** 422nm,1.7s,6μm	**15.06**	**230**	P	**Pn**	**21 42 12.3 +1.9**
MMRI	**Maumere** 170nm,0.8s,4μm	**15.46**	**195**	P	**P**	**21 42 20.3 +0.9**
STKI	**Sintang** 164nm,1.5s,32μm	**16.08**	**248**	P	**P**	**21 42 28.0 +1.8**
LBFI	**Labuhan Bajo,** 146nm,1.2s,2μm	**16.09**	**204**	P	x	21 42 27.9
SOEI	**Soe** 193nm,1.0s,3μm	**16.16**	**187**	P	**P**	**21 42 29.3 +2.1**
SOEI	**Soe** baz=16,SNR=4.6	**16.16**	**187**	P	**P**	**21 42 29.5 +2.3**
KSM	**Kuching** 79nm,1.1s,2μm	**16.69**	**254**	P	x	21 42 35.9
KSM	**Kuching** 105nm,1.3s	**16.69**	**254**	**ePn**	**Pn**	**21 42 31.5 +0.3**
KSM	**Kuching** baz=17,SNR=6.1	**16.69**	**254**	**iP**	**P**	**21 42 34.1 +1.0**
KSM	**Kuching**	**16.69**	**254**	**iP**	**P**	**21 42 33.5 +0.5**
SSLB	**Suanglung** 27nm,0.9s	**18.06**	**344**	**ePn**	**P**	**21 42 47.0 -1.1**
DLV	**T Lat** 264nm,1.6s	**18.44**	**289**	**eP**	**P**	**21 42 52.1 -0.5**
YHNB	**Yeheng**	**18.79**	**346**	**eP**	**P**	**21 42 56.1 -0.1**
JAGI	**Jajag, Banyuwa** 54nm,0.9s	**19.09**	**220**	**ePn**	**Pn**	**21 43 01.3 +0.5**
JAGI	**Jajag, Banyuwa** baz=19,SNR=8.1	**19.09**	**220**	P	**Pn**	**21 43 01.9 +1.2**
MTN	**Manton Dam** baz=20,SNR=9.4	**19.69**	**166**	P	**Pn**	**21 43 07.0 -0.8**
QZH	**Quanzhou**	**19.88**	**339**	P	**P**	**21 43 07.9 -0.1**
QZH				S	**S**	**21 46 47.4 -2.0**
QZH	comp=Z,1μm,3.9s			pmax	pmax	
QZH	comp=N,2μm,16.8s			LR	LR	
QZH	comp=E,620nm,9.5s			LR	LR	
QZH	comp=Z,2μm,21.8s			LR	LR	
KDU	**Kakadu** baz=20,SNR=32	**19.91**	**162**	P	**P**	**21 43 09.0 +0.6**
PWJI	**Pagerwojo** 79nm,1.9s	**20.35**	**226**	P	Pn	21 43 15.5 -0.1
QIZ	**Qiongzhong**	**20.37**	**310**	P	**P**	**21 43 13.1 -0.3**
QIZ				sP	**sP**	**21 43 28.5 -2.0**
QIZ				S	**S**	**21 46 57.9 -1.4**
QIZ	comp=Z,41nm,2.0s			pmax	pmax	
QIZ	comp=N,1μm,17.7s			LR	LR	
QIZ	comp=Z,2μm,22.2s			LR	LR	
QIZ	**Qiongzhong** 100nm,1.4s	**20.37**	**310**	**eP**	**P**	**21 43 13.0 -0.5**
JOW	**Kunigami** 25nm,1.1s	**20.42**	**5**	**eP**	**P**	**21 43 13.5 -0.4**
JOW	comp=Z,400nm,20.6s			LR	LR	
JOW	**Kunigami** comp=Z,4.7nm,1.0s,baz=185,slow=6.2,SNR=5.8	**20.42**	**5**	P	**P**	**21 43 14.3 +0.4**
SMRI	**Semarang** comp=Z,542nm,1.6s	**20.70**	**230**	**ePn**	Pn	21 43 18.7 -1.1
TPI	**Tanjungpandan** comp=Z,85nm,1.7s,comp=Z,1μm	**20.72**	**245**	P	**P**	**21 43 18.0 +0.7**
GZH	**Guangzhou**	**20.78**	**324**	P	Pn	21 43 22.9 +2.2
GZH				S	Sn	21 47 12.6 -1.8
GZH	comp=Z,1μm,19.0s			LR	LR	
GZH	comp=Z,1μm,18.4s			LR	LR	
BJII	**Banjamegara** comp=Z,314nm,1.8s,comp=Z,5μm	**21.45**	**231**	P	x	21 43 28.3
TGJI	**Tegal** comp=Z,176nm,1.9s,comp=Z,3μm	**21.62**	**233**	P	x	21 43 30.3
KNRA	**Kununurra** baz=22,SNR=66	**22.05**	**174**	P	**P**	**21 43 31.1 -0.3**
KNRA	baz=22,SNR=19			P	pP	21 43 31.5 -11
KPJI	**Karang Pucung** comp=Z,145nm,1.8s	**22.05**	**232**	P	**P**	**21 43 34.5 +3.0**
UBPT	**Khong Chiam** comp=Z,93nm,1.6s,comp=Z,2μm	**22.28**	**295**	P	**P**	**21 43 34.3 +0.3**
TPRI	**Tanjung Pinang** comp=Z,102nm,1.1s,comp=Z,4μm	**22.40**	**257**	P	**P**	**21 43 37.0 +1.7**
LEM	**Lembang** comp=Z,380nm,2.2s,comp=Z,7μm	**22.80**	**235**	P	**P**	**21 43 41.4 +1.6**
MYKOM	**Kota Tinggi** comp=Z,134nm,1.8s,comp=Z,3μm	**22.86**	**259**	P	x	21 43 42.2
MYKOM	**Kota Tinggi** comp=Z,216nm,1.3s	**22.86**	**259**	**eP**	**P**	**21 43 40.8 +0.6**
MYKOM	**Kota Tinggi**	**22.86**	**259**	**iP**	**P**	**21 43 41.1 +0.9**
BTDF	**Bukit Timah Da** baz=23,SNR=8.0	**23.03**	**258**	P	**P**	**21 43 43.3 +1.4**
CISI	**Cisompet, Garu** comp=Z,119nm,1.7s,comp=Z,2μm	**23.07**	**233**	P	**P**	**21 43 43.2 +0.9**
CISI	**Cisompet, Garu** comp=Z,125nm,1.1s	**23.07**	**233**	**eP**	**P**	**21 43 42.2 -0.1**
CISI	**Cisompet, Garu** baz=23,SNR=3.8	**23.07**	**233**	P	**P**	**21 43 43.0 +0.7**
CBJI	**Citeko** comp=Z,559nm,1.8s	**23.21**	**237**	P	**P**	**21 43 46.5 +2.8**
KGM	**Kluang**	**23.33**	**260**	**iP**	**P**	**21 43 46.1 +1.2**
DBJI	**Dramaga** comp=Z,291nm,2.2s,comp=Z,7μm	**23.37**	**237**	P	**P**	**21 43 47.2 +2.0**
SBJI	**Serang** comp=Z,376nm,1.8s,comp=Z,6μm	**23.66**	**239**	P	**P**	**21 43 50.5 +2.5**
JMBI	**JAMBI** comp=Z,480nm,1.0s,comp=Z,5μm	**23.99**	**251**	P	**P**	**21 43 54.1 +3.1**
KLI	**Kotabumi** comp=Z,387nm,1.1s,comp=Z,3μm	**24.16**	**243**	P	**P**	**21 43 54.4 +1.8**
KLSI	comp=Z,466nm,1.4s,comp=Z,7μmcomp=Z,78μm	**24.19**	**243**	P	**P**	**21 43 54.2 +1.3**
CGJI	**Cibinong** comp=Z,167nm,1.0s,comp=Z,3μm	**24.29**	**238**	P	**P**	**21 43 55.0 +1.2**
FITZ	**Fitzroy Crossi**	**24.34**	**182**	P	**P**	**21 43 53.8 -0.3**
FITZ	**Fitzroy Crossi** comp=Z,26nm,0.4s,baz=358,slow=9.7,SNR=42	**24.34**	**182**	P	**P**	**21 43 53.8 -0.3**
CHBT	**CHBT** comp=Z,75nm,1.6s,comp=Z,2μm	**24.47**	**287**	P	**P**	**21 43 56.0 +0.6**
MDSI	**Maura Dua** comp=Z,133nm,1.1s,comp=Z,2μm	**24.59**	**244**	P	**P**	**21 43 57.7 +1.2**
KASI	**Kota Agung** comp=Z,216nm,0.9s	**24.78**	**242**	P	**P**	**21 44 00.3 +2.1**
FRIM	**Kepong**	**24.79**	**264**	**iP**	**P**	**21 43 59.1 +0.7**
LHSI	**Lahat** comp=Z,324nm,1.5s,comp=Z,3μm	**24.91**	**247**	P	**P**	**21 44 01.3 +1.9**
LWLI	**Liwa** comp=Z,221nm,1.5s,comp=Z,4μm	**24.93**	**243**	P	**P**	**21 44 01.5 +1.7**
IPM	**Ipoh** comp=Z,111nm,1.5s,comp=Z,2μm	**25.24**	**267**	P	x	21 44 03.6
IPM	**Ipoh** comp=Z,152nm,1.2s	**25.24**	**267**	**eP**	**P**	**21 44 02.1 -0.4**
IPM	**Ipoh**	**25.24**	**267**	**iP**	**P**	**21 44 03.0 +0.5**
CBIJ	**Chichi jima**	**25.54**	**34**	P	**P**	**21 44 05.0 0.0**
JCJ	**Chichijima** comp=Z,73nm,0.5s,baz=293,slow=11,SNR=6.1	**25.54**	**34**	P	**P**	**21 44 05.0 -0.1**
KULM	**Kulim** comp=Z,102nm,1.2s,comp=Z,2μm	**25.55**	**269**	P	x	21 44 06.4
KULM	**Kulim** comp=Z,134nm,1.2s	**25.55**	**269**	**eP**	**P**	**21 44 06.1 +0.8**
KULM	**Kulim**	**25.55**	**269**	**iP**	**P**	**21 44 05.2 -0.1**
PATY	**Pattaya** comp=Z,5.4nm,0.9s,comp=Z,841nm	**25.90**	**286**	P	**P**	**21 44 11.1 +2.7**
BKNI	**Bangkinang** comp=Z,129nm,1.1s,comp=Z,1μm	**25.92**	**258**	P	**P**	**21 44 09.5 +0.8**
COEN	**Coen** comp=Z,142nm,0.9s	**26.24**	**140**	**eP**	**P**	**21 44 10.9 -0.6**
COEN	**Coen** baz=26,SNR=4.8	**26.24**	**140**	P	**P**	**21 44 12.1 +0.7**
SLVN	**Son La** comp=Z,113nm,1.6s	**26.29**	**307**	**eP**	**P**	**21 44 11.8 -0.1**
NJ2	**Nanjing**	**26.47**	**346**	**eP**	**P**	**21 44 14.1 +0.7**
NJ2				pP	**pP**	**21 44 24.5 -1.1**
NJ2				sP	**sP**	**21 44 30.0 -1.3**
NJ2				S	**S**	**21 48 46.0 +1.9**
NJ2				sS	**sS**	**21 49 06.0 +1.2**
NJ2	comp=Z,320nm,8.1s			pmax	pmax	
NJ2	comp=Z,510nm,20.8s			LR	LR	
NJ2	comp=Z,700nm,23.4s			LR	LR	
NJ2	comp=Z,710nm,21.7s			LR	LR	
WHN	**Wuhan**	**26.53**	**336**	P	**P**	**21 44 16.2 +2.3**
WHN				S	**S**	**21 48 40.6 -4.5**
WHN	comp=Z,820nm,12.0s			LR	LR	
WHN	comp=Z,2μm,19.3s			LR	LR	
WHN	comp=Z,2μm,19.3s			LR	LR	
SRIT	**Nakonsritamara** comp=Z,70nm,1.6s,comp=Z,12μm	**26.57**	**276**	P	**P**	**21 44 15.5 +1.0**
PPI	**Padang Panjang** comp=Z,120nm,1.5s,comp=Z,2μm	**26.74**	**256**	P	**P**	**21 44 16.5 +0.5**
PPI	**Padang Panjang** baz=27,SNR=6.0	**26.74**	**256**	P	**P**	**21 44 16.8 +0.8**
PBKT	**Sadao Pong** comp=Z,48nm,1.2s,comp=Z,1μm	**26.79**	**294**	P	**P**	**21 44 16.9 +0.5**
JNU	**Nakatsue**	**26.94**	**8**	**eP**	**P**	**21 44 16.9 -0.8**
WRAB	**Tennant Creek** comp=Z,250nm,0.7s,SNR=6.3	**27.32**	**163**	P	**P**	**21 44 21.9 +0.8**
WRAB	**Tennant Creek**	**27.32**	**163**	**ceP**	**P**	**21 44 21.1 0.0**
WRAB	comp=Z,133nm,1.2s			pmax	pmax	
WRAB	**Tennant Creek** comp=Z,88nm,1.3s	**27.32**	**163**	**eP**	**P**	**21 44 21.8 +0.6**
WRA	**Warramunga Arr**	**27.32**	**163**	P	**P**	**21 44 21.0 -0.2**
WRA	**Warramunga Arr** comp=Z,9.1nm,0.5s,baz=342,slow=10.0,SNR=28	**27.32**	**163**	P	**P**	**21 44 21.0 -0.2**
GYA	**Guiyang**	**27.37**	**319**	**iP**	**P**	**21 44 26.4 +4.7**
GYA				pP	**pP**	**21 44 35.0 +1.0**
GYA				sP	**sP**	**21 44 40.2 +0.6**
GYA				PP	**PnPn**	**21 45 12.8 +5.1**
GYA				PcP	**PcP**	**21 47 40.7 +0.6**
GYA				S	**S**	**21 48 57.8 -1.0**
GYA				sS	**sS**	**21 49 19.0 -0.5**
GYA				ScP	**ScP**	**21 51 15.4 -1.5**
GYA				ScS	**ScS**	**21 55 06.9 -1.8**
GYA	comp=Z,20nm,0.8s			pmax	pmax	
GYA	comp=Z,250nm,8.1s			pmax	pmax	
GYA	comp=Z,900nm,19.3s			LR	LR	
GYA	comp=Z,1μm,16.2s			LR	LR	
GYA	comp=Z,2μm,18.0s			LR	LR	
SURT	**Suratani** comp=Z,18nm,1.4s	**27.39**	**277**	P	**P**	**21 44 23.4 +1.6**
PHIT	**Phitsanulok** comp=Z,44nm,1.0s	**27.49**	**295**	P	**P**	**21 44 24.3 +1.6**
PSI	**Prapat** comp=Z,42nm,1.5s	**27.52**	**264**	P	x	21 44 23.9
PSI	**Prapat**	**27.52**	**264**	P	**P**	**21 44 22.6 -0.7**
PSI	**Prapat** comp=Z,16nm,0.9s,baz=149,slow=1.4,SNR=11	**27.52**	**264**	P	**P**	**21 44 22.6 -0.7**
PSI	**Prapat** baz=28,SNR=9.9	**27.52**	**264**	P	**P**	**21 44 23.5 +0.2**
SRDT	**SRDT** comp=Z,112nm,1.4s,comp=Z,4μm	**27.87**	**289**	P	**P**	**21 44 27.3 +1.2**
KHLT	**Khaolaem Dam** comp=Z,18nm,1.5s	**28.48**	**289**	P	**P**	**21 44 33.1 +1.6**
ENH	**Enshi** comp=Z,25nm,0.8s	**28.55**	**328**	**eP**	**P**	**21 44 31.6 -0.5**
KCSI	**Kotacane, Aceh** comp=Z,76nm,1.8s,comp=Z,1μm	**28.57**	**266**	P	**P**	**21 44 32.3 -0.1**
LAMP	**Lampang** comp=Z,7.3nm,1.3s,comp=Z,81nm	**28.66**	**297**	P	**P**	**21 44 34.6 +1.5**
GSI	**Gunungsitoli**	**29.10**	**261**	P	**P**	**21 44 36.5 -0.6**
GSI	**Gunungsitoli** comp=Z,148nm,1.2s	**29.10**	**261**	**eP**	**P**	**21 44 36.8 -0.4**
CM31	**Chiang Mai Arr**	**29.25**	**297**	**eP**	**P**	**21 44 37.4 -1.0**
	comp=Z,26nm,1.1s					
CMAR	**Chiang Mai Arr**	**29.25**	**297**	P	**P**	**21 44 38.4 0.0**
CMAR				PcP	**PcP**	**21 47 44.9 +0.2**
CMAR				ScP	**ScP**	**21 51 22.9 +0.2**
CMAR	**Chiang Mai Arr** comp=Z,13nm,1.0s,baz=108,slow=6.7,SNR=61	**29.25**	**297**	P	**P**	**21 44 38.4 0.0**
CMAR	comp=Z,1.8nm,0.7s,baz=125,slow=0.9,SNR=8.0			PcP	**PcP**	**21 47 44.9 +0.2**
CMAR	comp=Z,3.2nm,1.0s,baz=120,slow=1.8,SNR=12			ScP	**ScP**	**21 51 22.9 +0.2**
KMI	**Kunming**	**29.26**	**312**	P	**P**	**21 44 39.6 +0.9**
KMI				pP	**pP**	**21 44 48.2 -2.8**
KMI				sP	**sP**	**21 44 54.1 -2.5**
KMI				S	S	21 49 35.3 +6.6
KMI				sS	sS	21 49 55.3 +5.8
KMI				SS	**SnSn**	**21 51 02.6 +5.1**
KMI	comp=Z,16nm,1.2s			pmax	pmax	
KMI	comp=Z,110nm,4.1s			pmax	pmax	
KMI	comp=Z,880nm,18.8s			LR	LR	
KMI	comp=Z,610nm,20.0s			LR	LR	
KMI	comp=Z,1μm,18.8s			LR	LR	
QIS	**Mount Isa** baz=30,SNR=14	**29.79**	**154**	P	**P**	**21 44 43.4 +0.3**
MHMT	**Maesarieng** comp=Z,29nm,1.4s,comp=Z,363nm	**30.05**	**296**	P	**P**	**21 44 46.6 +1.1**
ASAR	**Alice Springs**	**30.77**	**166**	P	**P**	**21 44 51.3 -0.5**
ASAR	**Alice Springs** comp=Z,19nm,0.6s,baz=341,slow=7.0,SNR=54	**30.77**	**166**	P	**P**	**21 44 51.3 -0.5**
KSAR	**Wonju Array Be**	**30.95**	**2**	P	**P**	**21 44 53.3 +0.1**
KSAR				PcP	**PcP**	**21 47 49.0 +0.3**
KSAR				ScP	**ScP**	**21 51 30.3 +2.4**
KSRS	**Korea Array** comp=Z,0.8nm,0.5s,baz=192,slow=10,SNR=5.6	**30.96**	**2**	P	**P**	**21 44 53.3 0.0**
KSRS	comp=Z,2.0nm,0.6s,baz=191,slow=3.0,SNR=7.0			PcP	**PcP**	**21 47 49.0 +0.3**
KSRS	comp=Z,2.6nm,1.0s,baz=188,slow=1.8,SNR=4.5			ScP	**ScP**	**21 51 30.3 +2.4**
WRKA	**Warakurna** baz=32,SNR=41	**31.29**	**177**	P	**P**	**21 44 56.4 0.0**
XAN	**Xi'an** comp=Z,7.0nm,0.9s	**31.89**	**332**	P	**P**	**21 45 02.2 +0.7**
XAN				pmax	pmax	
MJAR	**Matsushiro Arr** comp=Z,2.2nm,0.9s,baz=191,slow=4.8,SNR=5.2	**31.93**	**18**	ScP	**ScP**	**21 51 33.6 +2.4**
CD2	**Chengdu**	**32.29**	**322**	**eP**	**P**	**21 45 06.3 +1.2**
CD2				PP	**PnPn**	**21 46 15.3 +2.4**
CD2				S	**S**	**21 50 16.0 +0.3**
CD2	comp=Z,810nm,21.4s			LR	LR	
CD2	comp=Z,990nm,17.8s			LR	LR	
CD2	comp=Z,1μm,21.4s			LR	LR	
CTA	**Charters Tower**	**32.81**	**144**	P	**P**	**21 45 10.2 +0.4**
CTA	**Charters Tower** comp=Z,14nm,1.1s,baz=334,slow=6.9,SNR=8.1	**32.81**	**144**	P	**P**	**21 45 10.2 +0.4**
CTAO	**Charters Tower**	**32.81**	**144**	**eP**	**P**	**21 45 10.5 +0.8**
CTAO	comp=Z,50nm,1.5s			pmax	pmax	
CTAO	**Charters Tower** comp=Z,50nm,1.5s	**32.81**	**144**	**eP**	**P**	**21 45 10.5 +0.8**
MEEK	**Meekatharra** baz=34,SNR=12	**33.66**	**192**	P	**P**	**21 45 16.6 -0.4**
BJT	**Baijiatuao** comp=Z,59nm,0.9s	**34.71**	**346**	**eP**	**P**	**21 45 24.6 -1.4**
BJI	**Beijing**	**34.73**	**346**	P	**P**	**21 45 26.2 +0.1**
BJI				pP	**pP**	**21 45 37.5 -1.1**
BJI				S	**S**	**21 50 55.1 +2.0**
BJI				sS	**sS**	**21 51 14.0 0.0**
BJI	comp=Z,33nm,1.4s			pmax	pmax	
BJI	comp=Z,230nm,3.8s			pmax	pmax	
BJI	comp=Z,2μm,6.2s			LR	LR	
BJI	comp=Z,2μm,6.6s			LR	LR	
BJI	comp=Z,1μm,24.7s			LR	LR	
SNY	**Shenyang**	**35.38**	**356**	**iP**	**P**	**21 45 32.2 +0.5**
SNY				S	**S**	**21 51 05.3 +2.2**
SNY	comp=Z,20nm,1.7s			pmax	pmax	
SNY	comp=Z,2μm,12.8s			LR	LR	
SNY	comp=Z,900nm,9.6s			LR	LR	
SNY	comp=Z,4μm,10.4s			LR	LR	
LZH	**Lanzhou**	**36.03**	**328**	P	**P**	**21 45 40.0 +2.4**
LZH				pP	**pP**	**21 45 51.8 +1.7**
LZH				sP	**sP**	**21 45 56.7 +1.0**
LZH				PP	**PP**	**21 47 02.0 +1.8**
LZH				S	**S**	**21 51 14.4 +0.8**
LZH				sS	**sS**	**21 51 37.0 +2.4**
LZH	comp=Z,68nm,1.2s			pmax	pmax	
LZH	comp=Z,240nm,4.0s			pmax	pmax	
LZH	comp=Z,630nm,11.0s			LR	LR	
LZH	comp=Z,800nm,12.6s			LR	LR	
LZH	comp=Z,920nm,13.4s			LR	LR	
MORW	**Morawa** baz=37,SNR=6.9	**36.60**	**195**	P	**P**	**21 45 42.5 +0.1**
HHC	**Hu-ho-hao-te**	**36.77**	**341**	**eP**	**P**	**21 45 44.2 +0.4**
HHC				pP	**pP**	**21 45 56.4 +0.1**
HHC				sP	**sP**	**21 46 01.7 -0.2**
HHC				PP	**PnPn**	**21 47 09.9 +1.4**
HHC				S	**S**	**21 51 24.0 -0.6**
HHC				sS	**sS**	**21 51 43.7 -1.9**
HHC	comp=Z,40nm,1.2s			pmax	pmax	
HHC	comp=Z,640nm,5.1s			pmax	pmax	
HHC	comp=Z,2μm,14.8s			LR	LR	
HHC	comp=Z,2μm,16.0s			LR	LR	
HHC	comp=Z,2μm,17.3s			LR	LR	
FORT	**Forrest** comp=Z,48nm,0.7s	**36.99**	**177**	**eP**	**P**	**21 45 45.9 +0.4**
FORT	**Forrest** baz=37,SNR=9.3	**36.99**	**177**	P	**P**	**21 45 46.0 +0.5**
QLP	**Quilpie** baz=37,SNR=7.0	**37.09**	**153**	P	**P**	**21 45 46.3 -0.2**
KMBL	**Kambalda** baz=38,SNR=14	**37.77**	**186**	P	**P**	**21 45 52.4 +0.2**
BLDU	**Ballidu** baz=38,SNR=12	**37.92**	**194**	P	**P**	**21 45 53.7 +0.2**
USRK	**Ussuriysk Arra** comp=Z,2.5nm,0.7s,baz=189,slow=9.0,SNR=11	**38.00**	**7**	P	**P**	**21 45 53.4 -0.5**
MDJ	**Mudanjiang**	**38.19**	**4**	P	**P**	**21 45 56.1 +0.5**
MDJ				pP	**pP**	**21 46 07.3 -0.9**
MDJ				sP	**sP**	**21 46 12.3 -1.5**
MDJ	comp=Z,13nm,1.0s			pmax	pmax	
MDJ	comp=Z,120nm,5.0s			pmax	pmax	
ERM	**Erimo**	**38.51**	**20**	**eP**	**P**	**21 45 56.3 -2.0**
ERM	comp=Z,76nm,1.2s			pmax	pmax	
EIDS	**Eidsvold** comp=Z,52nm,1.5s	**39.70**	**144**	**eP**	**P**	**21 46 08.9 +0.4**
EIDS	**Eidsvold** baz=40,SNR=3.5	**39.70**	**144**	P	**P**	**21 46 09.0 +0.4**
NWAO	**Narrogin (SRO)**	**40.03**	**192**	P	**P**	**21 46 10.5 -0.6**
NWAO	**Narrogin (SRO)** comp=Z,19nm,0.4s,baz=21,slow=8.6,SNR=28	**40.03**	**192**	P	**P**	**21 46 10.5 -0.6**
BBOO	**Buckleboo** comp=Z,992nm,0.9s	**40.06**	**167**	**eP**	**P**	**21 46 11.7 +0.3**
BBOO	**Buckleboo** baz=40,SNR=50	**40.06**	**167**	P	**P**	**21 46 11.5 +0.1**
ASAJ	**Asahikawa**	**40.21**	**18**	P	**P**	**21 46 12.5 +0.1**
ASAJ	**Asahikawa** comp=Z,4.3nm,0.4s,baz=269,slow=14,SNR=12	**40.21**	**18**	P	**P**	**21 46 12.5 +0.1**
LSA	**Lhasa**	**40.41**	**309**	**eP**	**P**	**21 46 14.7 -0.3**
LSA				pmax	pmax	

	comp=Z,60nm,1.4s								
LSA	**Lhasa**	**40.41**	**309**	*e*P		**P**	**21 46 14.7**	**-0.3**
	comp=Z,60nm,1.4s								
GTA	**Gaotai**	**40.63**	**328**	*e*P		**P**	**21 46 16.6**	**+0.4**
GTA				pP		**pP**	**21 46 29.0**	**+0.1**
GTA				sP		**sP**	**21 46 34.3**	**-0.1**
GTA				PP		**PnPn**	**21 47 53.7**	**-1.1**
GTA				PcP		**PcP**	**21 48 18.6**	**+1.1**
GTA				ScP		**ScP**	**21 52 02.0**	**-1.4**
GTA				S		**S**	**21 52 23.0**	**+0.1**
GTA				sS		**sS**	**21 52 43.5**	**-0.6**
GTA				pmax		pmax			
	comp=Z,6.0nm,1.9s								
GTA				pmax		pmax			
	comp=Z,130nm,6.4s								
STKA	**Stephens Creek**	**40.74**	**160**	*e*P		**P**	**21 46 17.6**	**+0.5**
	comp=Z,6.9nm,0.8s								
STKA	**Stephens Creek**	**40.74**	**160**	P		**P**	**21 46 17.1**	**+0.1**
	comp=Z,14nm,0.5s,baz=335,slow=9.4,SNR=43								
H11S3	**WAKE ISLAND Hy**	**41.12**	**69**	T		T	22 30 18.2		
	baz=252,slow=50,SNR=21								
H11S1	**WAKE ISLAND Hy**	**41.13**	**69**	T		T	22 30 25.9		
	baz=252,slow=50,SNR=29								
H11S2	**WAKE ISLAND Hy**	**41.13**	**69**	T		T	22 30 19.1		
	baz=252,slow=50,SNR=29								
HTT	**Hallett**	**41.36**	**164**	P		**P**	**21 46 22.9**	**+0.7**
	baz=42,SNR=30								
RKGY	**Rocky Gully**	**41.71**	**192**	P		**P**	**21 46 25.6**	**+0.7**
	baz=42,SNR=20								
CMSA	**Cobar Meteorol**	**42.01**	**155**	P		**P**	**21 46 29.1**	**+1.7**
	baz=42,SNR=12								
TAPN	**Taplejung**	**42.16**	**304**	*e*P		**P**	**21 46 28.9**	**-0.2**
	comp=Z,96nm,1.2s								
ODAN	**Odare**	**42.23**	**303**	*e*P		**P**	**21 46 29.4**	**-0.3**
	comp=Z,45nm,0.8s								
RAMN	**Ramite**	**42.92**	**303**	*e*P		**P**	**21 46 35.1**	**-0.2**
	comp=Z,84nm,1.1s								
HIA	**Hailar**	**43.10**	**354**	*e*P		**P**	**21 46 35.4**	**-0.7**
	comp=Z,11nm,0.8s								
HIA				*e*PcP		**PcP**	**21 48 24.9**	**-0.4**
JIRN	**Jiri**	**43.52**	**304**	*e*P		**P**	**21 46 40.3**	**0.0**
GUN	**Gumba**	**43.87**	**304**	*e*P		**P**	**21 46 42.6**	**-0.4**
	comp=Z,118nm,1.1s								
ARMA	**Armidale**	**43.91**	**148**	*e*P		**P**	**21 46 43.4**	**+0.5**
	comp=Z,64nm,1.5s								
ARMA	**Armidale**	**43.91**	**148**	P		**P**	**21 46 44.0**	**+1.1**
	baz=44,SNR=7.8								
PKI	**Pulchoki**	**44.14**	**303**	*e*P		**P**	**21 46 44.5**	**-0.7**
	comp=Z,40nm,1.0s								
KKN	**Kakani**	**44.32**	**304**	*e*P		**P**	**21 46 46.4**	**-0.1**
	comp=Z,51nm,1.0s								
DMN	**Daman**	**44.40**	**303**	*e*P		**P**	**21 46 47.1**	**-0.1**
	comp=Z,54nm,1.1s								
ULN	**Ulaanbaatar**	**44.49**	**342**	*e*P		**P**	**21 46 47.5**	**+0.1**
	comp=Z,36nm,1.0s								
SONM	**Songino Array**	**44.67**	**341**	P		**P**	**21 46 49.6**	**+0.7**
SONM				PcP		**PcP**	**21 48 30.9**	**+0.1**
SONM	**Songino Array**	**44.67**	**341**	P		**P**	**21 46 49.6**	**+0.7**
	comp=Z,11nm,1.0s,baz=160,slow=8.6,SNR=31								
SONM				PcP		**PcP**	**21 48 30.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=157,slow=2.7,SNR=5.6								
GKN	**Gorkha**	**44.93**	**304**	*e*P		**P**	**21 46 51.0**	**-0.3**
	comp=Z,48nm,1.3s								
ARPS	**Mount Arapiles**	**45.32**	**162**	P		**P**	**21 46 54.7**	**+0.8**
	baz=46,SNR=47								
KOLN	**Koldanda**	**45.71**	**303**	*e*P		**P**	**21 46 57.0**	**-0.5**
	comp=Z,68nm,0.9s								
DANN	**Dangsing**	**45.77**	**304**	*e*P		**P**	**21 46 57.2**	**-0.9**
	comp=Z,54nm,0.8s								
PYUN	**Piuthan**	**46.33**	**303**	*e*P		**P**	**21 47 01.7**	**-0.7**
	comp=Z,112nm,1.0s								
CAN	**Canberra**	**46.66**	**154**	*e*P		**P**	**21 47 04.2**	**-0.4**
CAN	**Canberra**	**46.66**	**154**	*e*P		**P**	**21 47 04.2**	**-0.4**
CIT	**Chita**	**46.70**	**349**	*e*P		**P**	**21 47 05.3**	**+0.6**
CIT				*e*			21 47 11.0		
TOO	**Toolangi**	**47.25**	**159**	P		**P**	**21 47 10.6**	**+1.4**
	baz=48,SNR=7.3								
HYB	**Hyderabad**	**47.88**	**288**	*i* P		**P**	**21 47 14.0**	**-0.4**
ZAK	**Zakamensk**	**47.90**	**340**	*e*P		**P**	**21 47 14.6**	**+0.4**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.4s								
DZM	**Mont Dzumac**	**48.42**	**127**	*e*P		**P**	**21 47 17.8**	**-0.8**
	comp=Z,27nm,1.0s								
DZM	**Mont Dzumac**	**48.42**	**127**	P		**P**	**21 47 19.2**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=295,slow=10,SNR=5.5								
TLY	**Talaya**	**48.90**	**341**	*e*P		**P**	**21 47 22.0**	**+0.3**
TLY				pmax		pmax			
	comp=Z,21nm,1.0s								
TLY	**Talaya**	**48.90**	**341**	*e*P		**P**	**21 47 22.0**	**+0.3**
	comp=Z,21nm,1.0s								
IRK	**Irkutsk**	**49.19**	**342**	*e*P		**P**	**21 47 25.0**	**+1.1**
IRK				pmax		pmax			
	comp=Z,50nm,2.1s								
MOY	**Mondy**	**49.77**	**340**	*e*P		**P**	**21 47 29.2**	**+0.7**
MOY				pmax		pmax			
	comp=Z,32nm,2.3s								
WMQ	**Urumqi**	**50.34**	**324**	P		**P**	**21 47 33.7**	**+0.8**
WMQ				pP		**pP**	**21 47 46.1**	**+0.2**
WMQ				sP		**sP**	**21 47 51.4**	**+0.1**
WMQ				PcP		**PcP**	**21 48 52.3**	**+1.3**
WMQ				PP		**PP**	**21 49 30.3**	**+1.6**
WMQ				S		**S**	**21 54 41.7**	**-0.9**
WMQ				pmax		pmax			
	comp=Z,19nm,1.2s								
PETK	**Petropavlovsk-**	**53.16**	**23**	P		**P**	**21 47 52.8**	**-0.9**
PETK	**Petropavlovsk-**	**53.16**	**23**	P		**P**	**21 47 52.8**	**-0.9**
PETK	**Petropavlovsk-**	**53.16**	**23**	P		**P**	**21 47 52.7**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=187,slow=5.7,SNR=8.8								
MK31	**Makanchi Array**	**55.16**	**324**	*e*P		**P**	**21 48 07.2**	**-1.2**
MK31				pmax		pmax			
	comp=Z,24nm,1.0s								
MK31	**Makanchi Array**	**55.16**	**324**	*e*P		**P**	**21 48 06.9**	**-1.5**
MKAR	**Makanchi Array**	**55.16**	**324**	*e*P		**P**	**21 48 07.1**	**-1.3**
MKAR	**Makanchi Array**	**55.16**	**324**	*e*P		**P**	**21 48 07.1**	**-1.3**
MKAR	**Makanchi Array**	**55.16**	**324**	P		**P**	**21 48 07.0**	**-1.4**
	comp=Z,7.5nm,0.6s,baz=119,slow=7.2,SNR=97								
YAK	**Yakutsk**	**55.59**	**2**	*e*P		**P**	**21 48 13.9**	**+2.8**
YAK				*e**PP		**pP**	**21 48 29.1**	**+4.8**
YAK				*e*			21 49 13.4		
YAK				*e*			21 50 12.0		
YAK				*e*PPP		PPP	21 51 29.5		
YAK				*e*S		**S**	**21 55 57.6**	**+4.3**
YAK				*e**SS		**sS**	**21 56 14.6**	**-0.6**
YAK				*e*			21 57 53.5		
YAK				*e*SS		**SS**	**21 59 44.4**	**+5.5**
YAK				pmax		pmax			
	comp=Z,48nm,1.3s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.2s								
YAK				pmax		pmax			
	comp=N,22nm,1.4s								
YAK				pmax		pmax			
	comp=Z,187nm,5.6s								
YAK				pmax		pmax			
	comp=N,162nm,4.4s								
YAK				pmax		pmax			
	comp=E,96nm,2.8s								
YAK				smax		smax			
	comp=N,288nm,6.8s								
YAK				smax		smax			
	comp=E,121nm,3.7s								
YAK				MLR		MLR			
	comp=Z,1μm,12.0s								
YAK				MLR		MLR			
	comp=N,954nm,13.0s								
YAK				MLR		MLR			
	comp=E,3μm,17.0s								
YAK	**Yakutsk**	**55.59**	**2**	*e*P		P	21 48 14.4	+3.3	
	comp=E,45nm,0.9s								
KSH	**Kashi**	**55.90**	**314**	P		**P**	**21 48 15.4**	**+1.4**
KSH				*e*sP		**sP**	**21 48 33.1**	**+0.6**
KSH				*e*PP		**PP**	**21 50 21.1**	**+2.1**
KSH				*e*PcS		**PcS**	**21 53 08.0**	**-4.7**
KSH				*e*S		**S**	**21 55 56.4**	**-2.1**
KSH				*e*ScS		**ScS**	**21 57 56.5**	**-3.1**
KSH				pmax		pmax			
	comp=E,13nm,1.5s								
KSH				pmax		pmax			
	comp=E,130nm,5.8s								
KSH				LR		LR			
	comp=E,740nm,10.9s								
KSH				LR		LR			
	comp=E,520nm,9.3s								
KSH				LR		LR			
	comp=E,510nm,9.5s								
ZAA0	**Zalesovo Array**	**58.05**	**333**	*e*P		**P**	**21 48 26.7**	**-2.0**
ZALV	**Zalesovo Beam**	**58.05**	**333**	P		**P**	**21 48 26.9**	**-1.9**
ZALV	**Zalesovo Beam**	**58.05**	**333**	P		**P**	**21 48 26.9**	**-1.9**
ZALV	**Zalesovo Beam**	**58.05**	**333**	P		**P**	**21 48 26.9**	**-1.9**
	comp=E,2.0nm,0.5s,baz=113,slow=6.5,SNR=11								
FRU	**Bishkek**	**58.13**	**317**	*e*P		pP	21 48 44.0	+1.2	
AAK	**Ala-Archa**	**58.14**	**317**	*e*P		**P**	**21 48 28.0**	**-1.8**
AAK				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AAK	**Ala-Archa**	**58.14**	**317**	*e*P		**P**	**21 48 28.0**	**-1.8**
	comp=Z,8.3nm,1.0s								
AAK	**Ala-Archa**	**58.14**	**317**	P		**P**	**21 48 29.8**	**0.0**
	comp=Z,1.7nm,0.7s,baz=124,slow=9.6,SNR=6.8								
KURK	**Kurchatov**	**59.30**	**327**	P		**P**	**21 48 36.4**	**-1.1**
	comp=Z,92nm,0.5s,SNR=19								
KURK	**Kurchatov**	**59.30**	**327**	*e*P		**P**	**21 48 35.7**	**-1.8**
KURK				pmax		pmax			
	comp=Z,20nm,1.0s								
KURK	**Kurchatov**	**59.30**	**327**	*e*P		**P**	**21 48 35.7**	**-1.8**
	comp=Z,20nm,1.0s								
KURBB	**Kurchatov Array**	**59.30**	**327**	P		**P**	**21 48 36.0**	**-1.5**
	comp=Z,16nm,1.1s,baz=124,slow=7.2,SNR=42								
KBL	**Kabul**	**59.61**	**306**	*e*P		**P**	**21 48 39.7**	**-0.5**
KBL				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KBL	**Kabul**	**59.61**	**306**	*e*P		**P**	**21 48 39.7**	**-0.5**
	comp=Z,8.9nm,0.8s								
KK31	**Karatay Array**	**61.03**	**316**	*i* P		**P**	**21 48 47.3**	**-2.3**
KK31				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**61.03**	**316**	*e*P		**P**	**21 48 47.2**	**-2.3**
KKAR	**Karatay Array**	**61.03**	**316**	*e*P		**P**	**21 48 47.2**	**-2.3**
BVA0	**Borovoye Array**	**64.89**	**326**	*i* P		**P**	**21 49 13.4**	**-1.6**
BVA0				pmax		pmax			
	comp=Z,59nm,1.1s								
BRVK	**Borovoye**	**64.96**	**326**	P		**P**	**21 49 13.5**	**-1.9**
	comp=Z,154nm,0.7s,SNR=16								
BRVK	**Borovoye**	**64.96**	**326**	*e*P		**P**	**21 49 13.5**	**-1.9**
BRVK				pmax		pmax			
	comp=Z,23nm,1.2s								
BRVK	**Borovoye**	**64.96**	**326**	*e*P		**P**	**21 49 13.9**	**-1.5**
IKOO	**Kooshah**	**67.47**	**302**	*e*P		**P**	**21 49 32.1**	**-0.1**
AB31	**Akbulak array**	**69.85**	**320**	*i* P		**P**	**21 49 44.6**	**-1.8**
AB31				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ABKAR	**Akbulak array**	**69.85**	**320**	*e*P		**P**	**21 49 44.8**	**-1.7**
AKTO	**Aktyubinsk**	**71.34**	**321**	P		**P**	**21 49 54.2**	**-1.3**
AKTO	**Aktyubinsk**	**71.34**	**321**	P		**P**	**21 49 54.1**	**-1.3**
AKTO	**Aktyubinsk**	**71.34**	**321**	P		**P**	**21 49 54.1**	**-1.3**
	comp=Z,8.0nm,0.7s,baz=94,slow=9.1,SNR=32								
SVE	**Sverdlovsk**	**71.50**	**328**	*i* P		**P**	**21 49 54.5**	**-1.8**
SVE				pmax		pmax			
	comp=Z,57nm,1.3s								
IPAR	**Pars**	**72.34**	**299**	*e*P		P	21 49 58.5	-3.8	
ARU	**Arti**	**72.49**	**327**	P		**P**	**21 50 01.5**	**-0.7**
	comp=Z,137nm,0.6s,SNR=8.9								
ARU	**Arti**	**72.49**	**327**	*c* P		**P**	**21 50 02.0**	**-0.2**
ARU				S		**S**	**21 59 26.6**	**+3.7**
ARU				SS		**SS**	**22 04 00.3**	**-1.9**
ARU				pmax		pmax			
	comp=Z,14nm,0.8s								
ARU	**Arti**	**72.49**	**327**	*e*P		**P**	**21 50 00.9**	**-1.3**
	comp=Z,116nm,1.9s								
RAYN	**Ar Rayn**	**79.07**	**293**	P		**P**	**21 50 38.9**	**-1.7**
	comp=Z,148nm,0.9s,SNR=7.1								
PRGR	**Permogore**	**79.99**	**331**	*e*P		**P**	**21 50 44.5**	**-0.2**
PRGR				pmax		pmax			
	comp=Z,14nm,0.8s								
PRGR				pmax		pmax			
	comp=Z,23nm,1.9s								
IM04	**Indian Mountai**	**80.09**	**24**	*e*P		**P**	**21 50 44.6**	**-0.6**
ZEI	**Tsey**	**80.13**	**312**	*e*P		**P**	**21 50 44.0**	**-2.2**
ZEI				pmax		pmax			
	comp=Z,13nm,1.2s								
KBZ	**Khabaz**	**80.87**	**313**	P		**P**	**21 50 50.5**	**+0.7**
KBZ	**Khabaz**	**80.87**	**313**	P		**P**	**21 50 50.5**	**+0.7**
KBZ	**Khabaz**	**80.87**	**313**	P		**P**	**21 50 50.5**	**+0.7**
	comp=Z,5.2nm,1.2s,baz=108,slow=9.6,SNR=5.0								
KIV	**Kislovodsk**	**81.02**	**313**	*e*P		**P**	**21 50 51.5**	**+0.7**
KIV				*e*			21 53 58.5		
KIV				*e*SS		SS	22 06 19.3	+7.5	
KIV				pmax		pmax			
	comp=Z,13nm,1.2s								
KTH	**Kantishna Hill**	**81.10**	**27**	*e*P		**P**	**21 50 49.3**	**-1.4**
	comp=Z,13nm,1.0s								
TRF	**Thorofare Moun**	**81.38**	**27**	*e*P		P	21 50 56.5	+4.2	
	comp=Z,20nm,1.0s								
RC01	**Rabbit Creek A**	**81.53**	**29**	*e*P		**P**	**21 50 51.6**	**-1.4**
COLD	**Coldfoot**	**81.63**	**23**	*e*P		**P**	**21 50 55.8**	**+2.4**
VRHR	**Novokhopersk**	**81.74**	**321**	*e*P		**P**	**21 50 53.4**	**-0.8**
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VRHR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.9s								
PMR	**Palmer**	**81.83**	**29**	*e*P		P	21 51 01.9	+7.4	
PMR				pmax		pmax			
	comp=Z,30nm,1.3s								
PMR	**Palmer**	**81.83**	**29**	*e*P		P	21 51 01.9	+7.4	
	comp=Z,30nm,1.3s								
MCK	**McKinley**	**81.99**	**27**	*e*P		**P**	**21 50 56.6**	**+1.2**
MCK	**McKinley**	**81.99**	**27**	*e*P		**P**	**21 50 56.5**	**+1.2**
ILAR	**Eielson Array**	**82.91**	**26**	P		**P**	**21 50 58.9**	**-1.2**
ILAR	**Eielson Array**	**82.91**	**26**	P		**P**	**21 50 58.9**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=247,slow=5.1,SNR=12								
VORD	**Divnogorie**	**83.21**	**321**	*e*P		**P**	**21 51 01.0**	**-0.9**
VORD				pmax		pmax			
	comp=N,20nm,0.8s								
VORD				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VORD				pmax		pmax			
	comp=E,10.0nm,0.7s								
VSR	**Storozhevoye**	**83.28**	**321**	*e*P		**P**	**21 51 02.0**	**-0.3**
VSR				pmax		pmax			
	comp=N,2.0nm,0.8s								
VSR				pmax		pmax			
	comp=E,8.0nm,0.8s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
DIV	**Divide**	**83.45**	**29**	*e*P		P	21 51 10.3	+7.3	
	comp=Z,61nm,1.5s								
PAX	**Paxson**	**83.55**	**27**	*e*P		P	21 51 08.1	+4.5	
PAX	**Paxson**	**83.55**	**27**	*e*P		P	21 51 08.1	+4.5	
BMRM	**Bremner River**	**84.02**	**29**	*e*P		P	21 51 13.0	+7.0	
DOT	**Dot Lake**	**84.16**	**27**	*e*P		P	21 51 11.8	+5.1	
OBN	**Obninsk**	**84.67**	**325**	*c**e*P		**P**	**21 51 08.6**	**-0.6**
OBN				pmax		pmax			
	comp=Z,29nm,1.3s								
OBN	**Obninsk**	**84.67**	**325**	*e*P		P	21 51 13.3	+4.1	
	comp=Z,47nm,1.2s								
ANN	**Anapa**	**84.76**	**314**	*e*P		**P**	**21 51 10.4**	**+0.5**
ANN				pmax		pmax			
	comp=Z,50nm,0.8s								
APA	**Apatity**	**85.26**	**337**	*i* P		**pP**	**21 51 27.6**	**+1.7**
APA				MLR		MLR			
	comp=Z,2μm,21.0s								
MAW	**Mawson**	**86.08**	**200**	P		**P**	**21 51 14.7**	**-1.2**
MAW	**Mawson**	**86.08**	**200**	P		**P**	**21 51 14.7**	**-1.2**
	comp=Z,4.3nm,0.7s,baz=78,slow=7.3,SNR=5.1								
VNDA	**Vanda**	**86.09**	**173**	*e*P		P	21 51 19.3	+3.4	
VNDA	**Vanda**	**86.09**	**173**	P		**P**	**21 51 15.4**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=318,slow=7.0,SNR=11								
JOF	**Joensuu**	**86.64**	**333**	*e*P		**P**	**21 51 18.5**	**-0.4**
JOF	**Joensuu**	**86.64**	**333**	*e*p		**P**	**21 51 18.5**	**-0.4**
SIM	**Simferopol'**	**87.09**	**315**	P		P	21 51 28.6	+7.1	
SIM				pmax		pmax			
	comp=Z,14nm,1.1s								
KEV	**Kevo**	**87.27**	**340**	*e*P		**P**	**21 51 24.7**	**+2.9**
KEV	**Kevo**	**87.27**	**340**	*e*p		**P**	**21 51 24.7**	**+2.9**
ARCES	**ARCESS Array B**	**87.83**	**340**	P		**P**	**21 51 23.6**	**-1.0**
ARCES	**ARCESS Array B**	**87.83**	**340**	P		**P**	**21 51 23.6**	**-1.0**
	comp=Z,3.4nm,0.5s,baz=88,slow=5.6,SNR=19								
INK	**Inuvik**	**87.86**	**21**	P		**P**	**21 51 24.3**	**-0.4**
INK	**Inuvik**	**87.86**	**21**	P		**P**	**21 51 24.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=298,slow=6.0,SNR=4.7								
KAF	**Kangasniemi**	**89.07**	**332**	*e*P		**P**	**21 51 31.6**	**+1.1**
KAF				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KAF	**Kangasniemi**	**89.07**	**332**	*e*p		**P**	**21 51 31.6**	**+1.1**
	comp=Z,7.8nm,0.8s								
FINES	**FINESS Array B**	**89.31**	**332**	P		**P**	**21 51 30.9**	**-0.7**
FINES	**FINESS Array B**	**89.31**	**332**	P		**P**	**21 51 30.9**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=83,slow=4.8,SNR=21								
AKASG	**Malin Array Be**	**89.59**	**321**	P		**P**	**21 51 33.2**	**0.0**
AKASG	**Malin Array Be**	**89.59**	**321**	P		**P**	**21 51 33.2**	**0.0**
AKASG	**Malin Array Be**	**89.59**	**321**	P		**P**	**21 51 33.2**	**0.0**
	comp=Z,3.3nm,0.8s,baz=70,slow=4.6,SNR=18								
AK01	**Malin Array Si**	**89.59**	**321**	*e*P		**P**	**21 51 32.4**	**-0.8**
KIEV	**Kiev**	**89.60**	**321**	*e*P		**P**	**21 51 33.1**	**-0.1**
KIEV	**Kiev**	**89.60**	**321**	*e*P		P	21 51 37.8	+4.6	
	comp=Z,22nm,1.5s								
KOLS	**Kolonicke sedl**	**94.36**	**320**	*e*P		P	21 51 50.3	-5.1	
KOLS	**Kolonicke sedl**	**94.36**	**320**	*e*		P	21 51 50.3	-5.1	
UZH	**Uzhgorod**	**94.42**	**320**	*e*P		pP	21 52 05.9	-3.7	
CRVS	**Cervenica-Dubn**	**94.88**	**320**	*e*P		**P**	**21 52 00.2**	**+2.4**
CRVS				pmax		pmax			
	comp=Z,10.0nm,1.5s								
CRVS	**Cervenica-Dubn**	**94.88**	**320**	*e*P		**P**	**21 52 00.2**	**+2.4**
STHS	**Stebnicka Huta**	**94.88**	**321**	*e*P		**P**	**21 52 00.6**	**+2.8**
STHS				pmax		pmax			
	comp=Z,13nm,2.2s								
STHS	**Stebnicka Huta**	**94.88**	**321**	*e*P		**P**	**21 52 00.6**	**+2.8**
NB2	**NORSAR Subarra**	**96.24**	**334**	P		**P**	**21 52 03.1**	**-0.6**
	comp=Z,7.9nm,1.1s,baz=65,slow=4.6								
NB2	**NORSAR Subarra**	**96.24**	**334**	P		**P**	**21 52 03.1**	**-0.6**
	baz=65,slow=4.6								
NOA	**NORSAR Array B**	**96.24**	**334**	P		**P**	**21 52 02.0**	**-1.7**
NOA	**NORSAR Array B**	**96.24**	**334**	P		**P**	**21 52 02.0**	**-1.7**
	comp=Z,2.9nm,1.0s,baz=66,slow=4.6,SNR=4.6								
OKC	**Ostrava-Krasne**	**96.69**	**322**	*e*pP		pP	21 52 17.8	-2.1	
YKA	**Yellowknife Ar**	**97.27**	**24**	P		**P**	**21 52 07.8**	**-0.4**
YKA				PKiKP		**PKiKP**	**21 56 43.6**	**+0.3**
YKA				PKKP		**PKKPbc**	**22 08 46.6**	**-2.7**
YKA	**Yellowknife Ar**	**97.27**	**24**	P		**P**	**21 52 07.8**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=300,slow=4.5,SNR=13								
YKA				PKiKP		**PKiKP**	**21 56 43.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=299,slow=1.8,SNR=7.9								
YKA				PKKP		**PKKPbc**	**22 08 46.6**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=123,slow=3.4,SNR=9.9								
DPC	**Dobruska-Polom**	**97.64**	**323**	*e*P		**P**	**21 52 09.3**	**-1.0**
DPC	**Dobruska-Polom**	**97.64**	**323**	*e*P		**P**	**21 52 09.3**	**-1.0**
TREC	**Trest**	**98.50**	**322**	*e*pP		pP	21 52 27.8	-0.4	
BRG	**Berggiesshubel**	**98.87**	**324**	*e*P		Pdif	21 52 25.7	+10	
	comp=Z,15nm,1.6s								
BRG	**Berggiesshubel**	**98.87**	**324**	*e*P		Pdif	21 52 25.7	+10	
BRG				pmax		pmax			
	comp=Z,15nm,1.6s								
CLL	**Collm**	**99.26**	**324**	*e*PP		PP	21 56 18.0	-2.3	
GERES	**GERESS Array B**	**99.76**	**322**	P		**Pdif**	**21 52 20.1**	**+0.2**
GERES				PKiKP		**PKiKP**	**21 56 47.7**	**-0.6**
GERES	**GERESS Array B**	**99.76**	**322**	P		**Pdif**	**21 52 20.1**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=46,slow=4.2,SNR=3.7								
GERES				PKiKP		**PKiKP**	**21 56 47.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=50,slow=3.1,SNR=2.5								
SCHQ	**Schefferville**	**118.03**	**9**	PKP		**PKPdf**	**21 57 22.4**	**+0.2**
SCHQ	**Schefferville**	**118.03**	**9**	PKP		**PKPdf**	**21 57 22.4**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=297,slow=2.3,SNR=5.7								
427A	**Hayter Ranch,**	**119.76**	**49**	P		**PKPdf**	**21 57 26.2**	**-0.2**
	baz=120								
KSU1	**Kansas State U**	**119.80**	**38**	P		**PKPdf**	**21 57 26.1**	**+0.1**
	baz=120								
328A	**Wristen Ranch,**	**119.94**	**48**	P		**PKPdf**	**21 57 26.2**	**-0.5**
	baz=120								
527A	**Woodward Ranch**	**119.94**	**50**	P		**PKPdf**	**21 57 27.0**	**+0.2**
	baz=120								
Z30A	**Sanderson Ranc**	**120.18**	**46**	P		**PKPdf**	**21 57 26.9**	**-0.1**
	baz=120								
TXAR	**Lajitas Array**	**120.28**	**51**	PKP		**PKPdf**	**21 57 28.1**	**+0.7**
TXAR	**Lajitas Array**	**120.28**	**51**	PKP		**PKPdf**	**21 57 28.1**	**+0.7**
	comp=Z,8.9nm,0.7s,baz=195,slow=1.3,SNR=12								
428A	**Kincaid Ranch,**	**120.36**	**49**	P		**PKPdf**	**21 57 27.2**	**-0.3**
	baz=120								
627A	**Terlingua Ranc**	**120.44**	**50**	P		**PKPdf**	**21 57 27.6**	**-0.1**
	baz=120								
429A	**Davenport Ranc**	**121.00**	**49**	P		**PKPdf**	**21 57 28.9**	**+0.1**
	baz=121								
529A	**Stev Forest Ra**	**121.00**	**49**	P		**PKPdf**	**21 57 28.7**	**0.0**
	baz=121								
430A	**

MKAR	**Makanchi Array**	**79.61 319**	P		**P**	**21 51 01.9**	**-1.1**
MKAR	**Makanchi Array**	**79.61 319**	P		**P**	**21 51 01.9**	**-1.1**
	2.0nm,0.5s,baz=117,slow=7.0,SNR=4.9						
NVAR	**Mina Array Bea**	**93.62 52**	P		**P**	**21 52 12.3**	**+0.2**
NVAR	**Mina Array Bea**	**93.62 52**	P		**P**	**21 52 12.3**	**+0.2**
	0.9nm,0.8s,baz=264,slow=6.3,SNR=6.3						
PDAR	**Pinedale Array**	**100.33 48**	P		**Pdif**	**21 52 41.2**	**-1.1**
PDAR	**Pinedale Array**	**100.33 48**	P		**Pdif**	**21 52 41.2**	**-1.1**
	0.2nm,0.5s,baz=200,slow=2.4,SNR=4.0						
PLCA	**Paso Flores**	**120.37 144**	PKP		**PKPdf**	**21 57 45.7**	**-0.6**
PLCA	**Paso Flores**	**120.37 144**	PKP		**PKPdf**	**21 57 45.7**	**-0.6**
	2.0nm,0.8s,baz=175,slow=3.9,SNR=3.5						
CLL	**Collm**	**122.45 330**	*e*PKPdf		**PKPdf**	**21 57 50.0**	**+0.2**
GERES	**GERESS Array B**	**123.58 328**	PKP		**PKPdf**	**21 57 52.0**	**-0.2**
GERES	**GERESS Array B**	**123.58 328**	PKP		**PKPdf**	**21 57 52.0**	**-0.2**
	0.2nm,0.5s,baz=84,slow=3.1,SNR=3.2						
LPAZ	**La Paz**	**135.61 120**	PKP		**PKPdf**	**21 58 17.0**	**+0.4**
LPAZ	**La Paz**	**135.61 120**	PKP		**PKPdf**	**21 58 17.0**	**+0.4**
	1.3nm,0.6s,baz=270,slow=2.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.91 287**	PKPbc		**PKPbc**	**21 58 43.4**	**0.0**
TORD	**Torodi Ar. Bea**	**148.91 287**	PKPbc		**PKPbc**	**21 58 43.4**	**0.0**
	1.9nm,0.6s,baz=67,slow=2.5,SNR=3.7						
BDFB	**Brasilia**	**151.85 138**	PKPbc		**PKPbc**	**21 58 50.1**	**-0.4**
BDFB			PKPab		**PKPab**	**21 59 00.1**	**+0.1**
BDFB	**Brasilia**	**151.85 138**	PKPbc		**PKPbc**	**21 58 50.1**	**-0.4**
	6.5nm,0.7s,baz=229,slow=2.6,SNR=9.4						
BDFB			PKPab		**PKPab**	**21 59 00.1**	**+0.1**
	4.4nm,0.8s,baz=207,slow=7.9,SNR=5.8						

JMA 03 21:44:05.2±0.1, 36°06'N×139°92'E, h44km±1km, M3.6, 1C-5D Broadband fault plane solution: P waves. NP1: φ=43.00000°, δ=75.00000°, λ=88.00000°. **NP2:** φ=229.00000°, δ=15.00000°, λ=97.00000°. **Principal axes:** T Plg60.0000°, Azm310.0000°; N Plg2.0000°, Azm43.0000°; P Plg30.0000°, Azm134.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.28**	**53**	⇑P			Pn	21 44 13.6	0.0
JYT				S			Sn	21 44 19.6	+0.2
TOK	**Tokyo**	**0.40**	**199**	P			Pn	21 44 15.7	+0.9
JAG	**Ashikaga**	**0.52**	**314**	⇓P			Pn	21 44 16.5	0.0
JAG				S			Sn	21 44 24.4	-0.1
JRY	**Ryogami san**	**0.83**	**267**	⇓P			Pn	21 44 20.2	-0.3
JRY				S			Sn	21 44 30.9	-0.7
JKT	**Katashina**	**0.89**	**323**	⇓P			Pn	21 44 21.1	-0.3
JKT				S			Sn	21 44 33.9	+0.6
JOD2	**Odawara 2**	**1.04**	**221**	S			Sn	21 44 36.8	-0.1
JYN	**Shimob**	**1.25**	**244**	P			Pn	21 44 27.4	+1.1
BSO3	**Boso 3**	**1.34**	**159**	⇓P			Pn	21 44 26.9	-0.3
BSO3				S			Sn	21 44 45.0	+1.4
JFY	**Yanaizu**	**1.35**	**353**	⇓P			Pn	21 44 28.1	+0.4
JHK	**Hiroka**	**1.39**	**329**	P			Pn	21 44 28.4	+0.2
JIM2	**Oshima 3**	**1.40**	**197**	P			Pn	21 44 27.6	-0.7
JIM2				S			Sn	21 44 45.0	-0.6
MAT	**Matsushiro**	**1.47**	**290**	P			Pn	21 44 29.7	+0.5
MAT				S			Sn	21 44 48.8	+1.6

*ISCJB **03** 21:46:16.4±1.2, 5°.3S±0°.2×151°.5E±0°.2, h57km, mb4.0/11 Error ellipse: s-maj=37.1km s-min=9.5km az=36.5*
*IDC **03** 21:46:18.1±5.2, 5°.45S×151°.66E, h65km±44km, mb3.7/10, mb1 3.9/11,mb1mx3.7/20, mbtmp3.7/11, ML3.0/1, Error ellipse: s-maj=33.3km s-min=28.0km az=111.0*
ISC 03 21:46:17.2±1.1, **5°.4S**±0°.2×**151°.7E**±0°.2, **h57**km, **n15, σ0.80/16, mb4.0/11, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.01**	**228**	P			**Pn**	**21 47 44.9**	**+1.2**
	2.7nm,0.3s,baz=35,slow=11,SNR=12								
PMG				S			**Sn**	**21 48 50.4**	**-0.7**
	6.1nm,0.3s,baz=180,slow=20,SNR=6.3								
WRA	**Warramunga Arr**	**22.23**	**228**	P			**P**	**21 51 08.9**	**-0.5**
	3.7nm,0.6s,baz=52,slow=10,SNR=13								
FITZ	**Fitzroy Crossi**	**28.41**	**241**	P			**P**	**21 52 06.0**	**-0.7**
	7.6nm,0.8s,baz=51,slow=9.2,SNR=13								
CMAR	**Chiang Mai Arr**	**57.12**	**296**	P			**P**	**21 55 58.7**	**+0.2**
	0.9nm,0.9s,baz=128,slow=5.7,SNR=5.1								
SONM	**Songino Array**	**66.23**	**328**	P			**P**	**21 57 00.3**	**+0.9**
	0.8nm,0.4s,baz=143,slow=5.0,SNR=20								
MKAR	**Makanchi Array**	**80.03**	**319**	P			**P**	**21 58 21.6**	**+0.7**
	0.7nm,0.7s,baz=102,slow=6.1,SNR=5.3								
ZALV	**Zalesovo Beam**	**81.02**	**327**	P			**P**	**21 58 25.1**	**-0.7**
	0.7nm,0.4s,baz=119,slow=6.4,SNR=5.9								
ILAR	**Eielson Array**	**83.11**	**22**	P			**P**	**21 58 35.5**	**-1.1**
	0.8nm,0.8s,baz=256,slow=4.9,SNR=6.5								
KURBB	**Kurchatov Arra**	**83.57**	**322**	P			**P**	**21 58 39.1**	**-0.1**
	0.2nm,0.4s,baz=116,slow=4.0,SNR=4.3								
AAK	**Ala-Archa**	**84.26**	**314**	P			**P**	**21 58 42.8**	**-0.4**
	1.3nm,0.8s,baz=68,slow=2.2,SNR=6.3								
BVAR	**Borovoye Array**	**89.04**	**323**	P			**P**	**21 59 05.5**	**-0.5**
	0.7nm,0.7s,baz=108,slow=4.7,SNR=4.6								
NVAR	**Mina Array Bea**	**93.31**	**52**	P			**P**	**21 59 27.7**	**+1.2**
	1.0nm,0.7s,baz=266,slow=6.3,SNR=7.7								
GERES	**GERESS Array B**	**123.96**	**328**	PKP			**PKPdf**	**22 05 09.6**	**+0.2**
	0.8nm,0.6s,baz=64,slow=2.3,SNR=11								
TORD	**Torodi Ar. Bea**	**149.42**	**287**	PKPbc			**PKPbc**	**22 06 01.1**	**0.0**
	4.7nm,0.7s,baz=91,slow=2.6,SNR=28								
BDFB	**Brasilia**	**151.42**	**137**	PKPbc			**PKPbc**	**22 06 05.2**	**-0.8**
	1.3nm,0.4s,baz=112,slow=5.4,SNR=3.9								

*IDC **03** 21:47:13.2±1.6, 6°.45N×126°.65E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, Error ellipse: s-maj=79.4km s-min=28.1km az=65.0*
*MAN **03** 21:47:17, 6°.33N×126°.51E, h32km, mb5.1, ML4.1, MS4.2*
ISC 03 21:47:15.5±2.1, **6°.23N**±0°.08×**126°.24E**±0°.09, **h12**km±11km, **n17, σ1.50/21, mb3.7/6, 1C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.71**	**1**	*e*P			**Pg**	**21 47 30.3**	**+1.0**
MATI				*e*S			**Sg**	**21 47 36.2**	**-2.4**
GSPH	**General Santos**	**1.29**	**264**	*e*P			**Pn**	**21 47 39.2**	**-0.3**
GSPH				*e*S			**Sn**	**21 47 55.4**	**-1.5**
KCP	**Kidapawan**	**1.38**	**304**	⇓*e*P			**Pn**	**21 47 41.1**	**+0.4**
KCP				*i* S			**Sn**	**21 47 57.4**	**-1.6**
BIPH	**Bislig**	**1.94**	**3**	⇓*e*P			**Pn**	**21 47 49.5**	**+1.1**
BIPH				*e*S			**Sn**	**21 48 10.8**	**-1.9**
BUKP	**Musuan**	**2.01**	**324**	*e*P			**Pn**	**21 47 50.2**	**+0.8**
CTBH	**Cotabato--PC H**	**2.21**	**296**	⇑*i*P			**Pn**	**21 47 54.4**	**+2.3**
CGP	**Cagayan de Oro**	**2.69**	**325**	⇓*i*P			**Pn**	**21 47 59.7**	**+1.1**
CGP				*i* S			**Sn**	**21 48 32.9**	**+1.7**
BUTP	**Butuan**	**2.79**	**347**	*e*P			**Pn**	**21 48 02.4**	**+2.4**
PAGZ	**Pagadian**	**3.26**	**300**	*e*P			Pn	21 48 10.3	+3.8
SCPH	**Surigao**	**3.60**	**348**	⇓*e*P			**Pn**	**21 48 11.6**	**+0.3**
PLP	**Palo**	**5.06**	**346**	⇓*e*P			**Pn**	**21 48 31.1**	**-0.2**
PLP				*e*S			Sn	21 49 19.1	-11
WRA	**Warramunga Arr**	**27.20**	**163**	P			**P**	**21 52 59.7**	**+0.2**
	0.5nm,0.4s,baz=344,slow=9.6,SNR=2.6								
CMAR	**Chiang Mai Arr**	**29.25**	**297**	P			**P**	**21 53 19.3**	**+1.5**
	0.7nm,0.7s,baz=121,slow=7.1,SNR=5.0								
SONM	**Songino Array**	**44.79**	**341**	P			**P**	**21 55 27.5**	**-1.8**
	0.3nm,0.9s,baz=156,slow=7.3,SNR=2.8								
MKAR	**Makanchi Array**	**55.24**	**325**	P			**P**	**21 56 48.5**	**-0.1**
	1.1nm,0.7s,baz=121,slow=7.7,SNR=13								
KURBB	**Kurchatov Arra**	**59.39**	**327**	P			**P**	**21 57 17.9**	**+0.1**
	1.1nm,0.9s,baz=124,slow=6.4,SNR=7.3								
BVAR	**Borovoye Array**	**64.97**	**327**	P			**P**	**21 57 55.3**	**+0.1**
	0.6nm,0.7s,baz=111,slow=7.9,SNR=3.6								

*BJI **03** 21:47:56.9, 9°.17S×158°.26E, h10km, mB6.3/53, mb5.5/46, Ms6.5/71, Ms7 6.2/65*
*ISCJB **03** 21:48:00.9±1.0, 8°.67S±0°.03×157°.58E±0°.02, h1km±6km, mb5.8/264, MS6.4/373, Error ellipse: s-maj=4.9km s-min=3.3km az=178.1*
*IDC **03** 21:48:01.7±0.4, 8°.63S×157°.36E, h0km, mb4.9/30, mb1 4.9/34, mb1mx4.9/34, mbtmp4.9/34, ML4.1/3, MS6.1/26, Ms1 6.1/26, ms1mx6.1/31, Error ellipse: s-maj=12.7km s-min=9.7km az=43.0*
*NEIC **03** 21:48:02.9±0.1, 8°.73S×157°.49E, h10km, mb6.0/167, ME6.5, MS6.4/297, MW6.5, MW6.6, Error ellipse: s-maj=5.2km s-min=4.2km az=158.0, Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Gizo and Honiara. A small tsunami with a wave height [peak-to-trough] of less than 2 cm was recorded at Honiara.
*MOS **03** 21:48:04.9±1.2, 8°.75S×157°.40E, h33km, mb6.1/51, MS6.3/64, Error ellipse: s-maj=7.4km s-min=6.2km az=60.5*
*GCMT **03** 21:48:05.3±0.1, 9°.12S×157°.45E, h12km, MW6.6/133, Moment Tensor Solution. s130,c306; s133,c574; Duration: 5s1 Moment tensor: Scale 10^19Nm; Mrr0.72±.00; Mθθ-0.33±.00; Mφφ-0.39±.00; Mrθ0.62±.01; Mrφ0.37±.00; Mθφ-0.58±.01; Best double couple: M=1.11700×10^19 NP1:φ=134.00000°, δ70.00000°, λ88.00000°. NP2:φ=321.00000°, δ20.00000°, λ96.00000°. Principal axes: T 1.1140, Plg65.0000°, Azm40.0000°; N 0.0070, Plg2.0000°, Azm135.0000°; P -1.1200, Plg25.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 21:48:05.0±0.0, 8°.77S×157°.27E, h15km Best double couple: NP1:φ=126.00000°, δ75.00000°, λ68.00000°. NP2:φ=5.00000°, δ25.00000°, λ146.00000°. Principal axes: T 8.4400, Plg53.0000°, Azm10.0000°; N -1.0800, Plg21.0000°, Azm132.0000°; P -7.3500, Plg27.0000°, Azm234.0000°;*
*NEIC **03** 21:48:33.9±0.0, 8°.65S×157°.21E, h10km, Moment Tensor Solution. s156 Moment tensor: Scale 10^18Nm; Mrr7.23; Mθθ-2.65; Mφφ-4.58; Mrθ4.25; Mrφ3.33; Mθφ-4.49; Best double couple: M=9.50000×10^18 NP1:φ=139.00000°, δ65.00000°, λ87.00000°. NP2:φ=327.00000°, δ25.00000°, λ97.00000°. Principal axes: T 9.5500, Plg69.0000°, Azm42.0000°; N -0.1900, Plg3.0000°, Azm140.0000°; P -9.3600, Plg20.0000°, Azm231.0000°;*
ISC 03 21:48:05.0±0.3, **8°.82S**±0°.03×**157°.53E**±0°.03, **h18**km±1km, **h17**km: **pP-P, n980, σ2.10/846, mb5.8/256, MS6.4/374, 52C-34D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**105**	*e*Pn			**Pn**	**21 48 42.1**	**-2.2**
HNR				*e*Sn			**Sn**	**21 49 11.7**	**-2.3**
HNR				Lg			Lg	21 49 24.5	
HNR	**Honiara**	**2.46**	**105**	Pn			**Pn**	**21 48 45.6**	**+1.3**
	91nm,0.3s,baz=199,slow=3.4,SNR=45								
HNR				LR			LR	21 49 21.5	
	comp=Z,172μm,21.6s,baz=234,slow=30								
HNR				Lg			Lg	21 49 24.5	
	2μm,0.3s,baz=6.0,slow=19,SNR=4.8								
HNR	**Honiara**	**2.46**	**105**	*i* P			**Pg**	**21 48 52.0**	**-0.2**
HNR				*i* S			Sg	21 49 37.1	+13
RABL	**Rabaul**	**7.04**	**310**	P			Pb	21 49 57.5	-9.3
	baz=7.1,SNR=4.0								
PMG	**Port Moresby**	**10.26**	**266**	P			x	21 50 38.5	
	486nm,1.7s,38μm368μm								
PMG	**Port Moresby**	**10.26**	**266**	*e*Pn			**Pn**	**21 50 32.3**	**+0.9**
PMG	**Port Moresby**	**10.26**	**266**	Pn			**Pn**	**21 50 29.6**	**-1.9**
	baz=79,slow=16,SNR=1.4								
COEN	**Coen**	**14.97**	**249**	*e*Pn			**Pn**	**21 51 35.8**	**0.0**
	2μm,2.3s								
COEN				*e*				21 51 41.4	
CTA	**Charters Tower**	**15.63**	**223**	Pn			**Pn**	**21 51 42.9**	**-1.7**
CTA	**Charters Tower**	**15.63**	**223**	Pn			**Pn**	**21 51 42.9**	**-1.7**
	0.3nm,0.3s,baz=48,slow=14,SNR=9.2								
CTA				LR			LR	21 57 27.3	
	comp=Z,243μm,18.5s,baz=48,slow=36								
CTAO	**Charters Tower**	**15.63**	**223**	*e*P			**Pn**	**21 51 42.4**	**-2.2**
CTAO				pmax			pmax		
	comp=Z,903nm,1.5s								
CTAO	**Charters Tower**	**15.63**	**223**	*e*Pn			**Pn**	**21 51 42.4**	**-2.2**
	comp=Z,903nm,1.5s								
DZM	**Mont Dzumac**	**15.72**	**148**	*e*P			**Pn**	**21 51 46.1**	**+0.3**
	comp=Z,2μm,1.6s								
DZM				*e*LR			LR	21 55 33.5	
	comp=Z,203μm,26.9s								
DZM	**Mont Dzumac**	**15.72**	**148**	Pn			**Pn**	**21 51 46.8**	**+1.0**
DZM	**Mont Dzumac**	**15.72**	**148**	Pn			**Pn**	**21 51 46.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=349,slow=11,SNR=18								
DZM				LR			LR	21 57 02.8	
	comp=Z,107μm,19.6s,baz=338,slow=34								
EIDS	**Eidsvold**	**17.57**	**200**	*e*Pn			**Pn**	**21 52 05.4**	**-3.6**
	comp=Z,525nm,1.2s								
EIDS	**Eidsvold**	**17.57**	**200**	⇑P			**P**	**21 52 10.0**	**0.0**
	baz=17,SNR=17								
GENI	**Genyem**	**18.34**	**289**	P			**Pn**	**21 52 22.0**	**+3.3**
	comp=Z,554nm,1.5s,comp=Z,34μm								
TARA	**Tarawa**	**18.37**	**57**	*e*P			**P**	**21 52 17.7**	**-1.3**
	comp=Z,974nm,1.2s								
RMQ	**Roma**	**19.44**	**204**	P			**Pn**	**21 52 31.4**	**-0.5**
	baz=19,SNR=9.6								
KWAJ	**Kwajalein Atol**	**20.18**	**30**	*e*P			**P**	**21 52 37.6**	**-1.2**
KWAJ				pmax			pmax		
	comp=Z,4μm,1.7s								
KWAJ				MLR			MLR		
	comp=Z,41μm,19.7s								
KWAJ	**Kwajalein Atol**	**20.18**	**30**	*e*P			**P**	**21 52 37.6**	**-1.2**
	comp=Z,4μm,1.7s								
KWAJ				LR			LR		
	comp=Z,41μm,19.7s								
QIS	**Mount Isa**	**20.88**	**234**	P			**P**	**21 52 45.7**	**-0.7**
	baz=20,SNR=29								
QLP	**Quilpie**	**21.70**	**214**	P			**P**	**21 52 54.2**	**-0.9**
	baz=21,SNR=19								
ARMA	**Armidale**	**22.19**	**194**	*e*P			**P**	**21 52 60.0**	**-0.5**
	comp=Z,4μm,2.8s								
ARMA				*e*S			**S**	**21 57 07.0**	**+2.7**
ARMA				LR			LR		
	comp=Z,136μm,20.6s								
ARMA	**Armidale**	**22.19**	**194**	P			**P**	**21 53 01.2**	**+0.7**
	baz=22,SNR=6.0								
ARMA				P			**pP**	**21 53 02.9**	**-2.6**
	baz=22,SNR=14								
SRPI	**Serui, Papua**	**22.28**	**287**	P			P	21 53 13.3	+12
BAKI	**Biak**	**22.63**	**288**	P			P	21 53 10.1	+4.8
	comp=Z,469nm,2.0s,comp=Z,21μm								
MWPI	**Manokwari, Pap**	**24.66**	**287**	P			x	21 53 31.8	
	comp=Z,573nm,0.9s,comp=Z,47μm								
KDU	**Kakadu**	**24.91**	**259**	P			**P**	**21 53 29.2**	**+2.0**
	baz=24,SNR=15								
MGCD	**Mangrove Creek**	**24.99**	**193**	P			**P**	**21 53 29.1**	**+1.4**
	baz=25,SNR=6.6								
WRAB	**Tennant Creek**	**24.99**	**241**	P			**P**	**21 53 26.0**	**-2.0**
	comp=Z,877nm,1.0s,SNR=7.6								
WRAB	**Tennant Creek**	**24.99**	**241**	*e*P			**P**	**21 53 26.2**	**-1.7**
WRAB				*e*				21 57 06.3	
WRAB				*e*S			**S**	**21 57 49.7**	**-1.5**
WRAB				pmax			pmax		
	comp=Z,160nm,0.8s								
WRAB				MLR			MLR		
	comp=Z,267μm,20.0s								
WRAB	**Tennant Creek**	**24.99**	**241**	*e*P			**P**	**21 53 26.2**	**-1.7**
	comp=Z,160nm,0.8s								
WRAB				*e*PcP			**PcP**	**21 57 06.3**	**+3.2**
WRAB				*e*S			**S**	**21 57 49.7**	**-1.5**
WRAB				LR			LR		
	comp=Z,267μm,20.0s								
WRA	**Warramunga Arr**	**25.00**	**241**	P			**P**	**21 53 25.8**	**-2.3**
WRA				PcP			**PcP**	**21 57 03.8**	**+0.7**
WRA	**Warramunga Arr**	**25.00**	**241**	P			**P**	**21 53 25.8**	**-2.3**
	comp=Z,24nm,0.7s,baz=66,slow=8.6,SNR=23								
WRA				PcP			**PcP**	**21 57 03.8**	**+0.7**
	comp=Z,6.6nm,1.0s,baz=67,slow=2.6,SNR=2.3								
WRA				LR			LR	22 02 51.0	
	comp=Z,259μm,19.8s,baz=65,slow=36								
CMSA	**Cobar Meteorol**	**25.15**	**204**	P			**P**	**21 53 31.3**	**+2.0**
	baz=25,SNR=36								
GUMO	**Guam**	**25.57**	**330**	PFAKE				21 53 40.0	+6.9
GUMO				LR			LR		
	comp=Z,5μm,20.0s								
FAKI	**Fak Fak**	**25.81**	**282**	P			**P**	**21 53 37.0**	**+1.5**
	comp=Z,258nm,2.6s,comp=Z,20μm				comp=Z,108μm				
SAUI	**Saumlaki**	**25.96**	**270**	P			P	21 53 47.8	+11
MTN	**Manton Dam**	**26.23**	**259**	P			**P**	**21 53 42.3**	**+3.1**
	baz=26,SNR=6.7								
AS01	**Alice Springs**	**26.96**	**234**	*e*P			**P**	**21 53 43.6**	**-2.2**
AS01				*e*PcP			**PcP**	**21 57 12.2**	**+4.6**
AS01				*e*ScP			**ScP**	**22 00 43.6**	**-3.6**
STKA	**Stephens Creek**	**27.31**	**211**	*e*P			**P**	**21 53 47.4**	**-1.4**
	comp=Z,48nm,0.9s								
STKA				S			**S**	**21 58 25.5**	**-2.1**
STKA	**Stephens Creek**	**27.31**	**211**	P			**P**	**21 53 49.5**	**+0.7**
	comp=Z,32nm,0.7s,baz=39,slow=13,SNR=33								
STKA				LR			LR	22 04 05.4	
	comp=Z,101μm,21.4s,baz=30,slow=35								
SWI	**Sorong**	**27.32**	**285**	P			**P**	**21 53 52.2**	**+3.1**
	comp=Z,176nm,1.8s,comp=Z,10μm								

H11S3	**WAKE ISLAND Hy**	**28.60**	**18**	T		T		22 22 43.6
	baz=200,slow=77,SNR=792							
H11S2	**WAKE ISLAND Hy**	**28.61**	**18**	T		T		22 23 00.5
	baz=200,slow=77,SNR=1125							
H11S1	**WAKE ISLAND Hy**	**28.62**	**18**	T		T		22 22 44.8
	baz=200,slow=77,SNR=101							
KNRA	**Kununurra**	**28.91**	**254**	P		**P**		**21 54 03.4**	**+0.2**
	baz=28,SNR=20							
H11N1	**WAKE ISLAND Hy**	**29.81**	**18**	T		T		22 24 15.1
	baz=198,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**29.82**	**18**	T		T		22 24 29.9
	baz=198,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hy**	**29.83**	**18**	T		T		22 24 44.1
	baz=198,slow=75,SNR=5.4							
OUZ	**Omahuta**	**30.11**	**153**	*e*P		**P**		**21 54 13.7**	**0.0**
	comp=Z,72nm,1.4s							
OUZ				LR		LR		
	comp=Z,37μm,18.0s							
AFI	**Afiamalu**	**30.50**	**102**	*e*P		**P**		**21 54 16.9**	**-0.5**
	comp=Z,46nm,1.3s							
AFI	**Afiamalu**	**30.50**	**102**	P		**P**		**21 54 19.1**	**+1.7**
	comp=Z,44nm,0.9s,baz=275,slow=15,SNR=3.0							
AFI				LR		LR		22 04 27.3
	comp=Z,59μm,21.2s,baz=284,slow=32							
RAO	**Raoul Island**	**30.73**	**135**	*e*P		**P**		**21 54 20.9**	**+1.7**
	comp=Z,585nm,0.8s							
RAO	**Raoul Island**	**30.73**	**135**	P		**P**		**21 54 21.9**	**+2.7**
	comp=Z,126nm,0.4s,baz=75,slow=20,SNR=5.7							
RAO				LR		LR		22 04 09.2
	comp=Z,20μm,21.8s,baz=306,slow=31							
LBMI	**Labuha**	**30.99**	**284**	P		P		21 54 25.9	+4.2
	comp=Z,460nm,2.4s,comp=Z,17μm							
BBOO	**Buckleboo**	**31.06**	**217**	*e*P		**P**		**21 54 22.4**	**+0.4**
	comp=Z,98nm,1.3s							
BBOO				LR		LR		
	comp=Z,59μm,18.5s							
BBOO	**Buckleboo**	**31.06**	**217**	P		P		**21 54 23.0**	**+1.0**
	baz=30,SNR=6.7							
KNTN	**Kanton**	**31.16**	**81**	*e*P		**P**		**21 54 23.7**	**+0.5**
	comp=Z,476nm,1.4s							
KNTN				LR		LR		
	comp=Z,29μm,22.0s							
ARPS	**Mount Arapiles**	**31.26**	**205**	P		P		21 54 27.5	+3.6
	baz=31,SNR=28							
TNTI	**Ternate**	**31.53**	**286**	*e*P		**P**		**21 54 25.7**	**-0.7**
	comp=Z,340nm,1.3s							
TNTI				LR		LR		
	comp=Z,44μm,19.0s							
FITZ	**Fitzroy Crossi**	**32.31**	**250**	P		**P**		**21 54 32.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**32.31**	**250**	P		**P**		**21 54 32.2**	**-1.1**
	comp=Z,22nm,1.0s,baz=76,slow=8.0,SNR=7.5								
FITZ				LR		LR		22 07 06.6	
	comp=Z,108μm,21.8s,baz=76,slow=36								
SOEI	**Soe**	**32.83**	**266**	P		P		**21 54 40.9**	**+2.8**
	comp=Z,276nm,1.2s,comp=Z,18μm								
URZ	**Urewera**	**34.21**	**152**	*e*P		**P**		**21 54 51.0**	**+1.4**
	comp=Z,185nm,1.1s								
URZ				*e*S		**S**		**22 00 14.8**	**-0.7**
URZ	**Urewera**	**34.21**	**152**	P		**P**		**21 54 51.7**	**+2.1**
	comp=Z,48nm,1.2s,baz=262,slow=18,SNR=4.7								
URZ				LR		LR		22 06 44.2	
	comp=Z,34μm,19.6s,baz=334,slow=33								
BKZ	**Black Stump Fm**	**34.67**	**154**	*e*P		**P**		**21 54 55.9**	**+2.2**
	comp=Z,86nm,0.9s								
BKZ				LR		LR			
	comp=Z,44μm,21.0s								
MMRI	**Maumere**	**34.88**	**268**	P		**P**		**21 54 58.5**	**+2.8**
	comp=Z,475nm,1.5s,comp=Z,15μm				comp=Z,81μm				
MMRI	**Maumere**	**34.88**	**268**	*e*P		**P**		**21 54 54.7**	**-1.0**
	comp=Z,1μm,1.7s								
MMRI				LR		LR			
	comp=Z,73μm,21.0s								
FORT	**Forrest**	**35.11**	**227**	*e*P		**P**		**21 54 57.5**	**+0.1**
	comp=Z,206nm,1.0s								
FORT				LR		LR			
	comp=Z,227μm,19.0s								
TAU	**Tasmania Unive**	**35.12**	**193**	*e*P		**P**		**21 54 57.8**	**+0.4**
TAU				*e*S		**S**		**22 00 28.5**	**-0.9**
TAU				pmax		pmax			
	comp=Z,369nm,1.8s								
TAU				MLR		MLR			
	comp=Z,37μm,22.0s								
TAU	**Tasmania Unive**	**35.12**	**193**	*e*P		**P**		**21 54 57.8**	**+0.4**
	comp=Z,371nm,1.8s								
TAU				*e*S		**S**		**22 00 28.5**	**-0.9**
TAU				LR		LR			

TSM **Tawau** 41.63 287 ⇑P P 21 55 55.5 +2.9
SRBI **Singaraja** 41.85 268 P P 21 55 58.1 +3.7
comp=Z,206nm,2.2s,comp=Z,14µm
BYJI **Banyuwangi** 42.69 267 P x 21 56 04.7
comp=Z,872nm,1.0s,comp=Z,101µm
SDKM **Sandakan** 42.70 288 ⇑P P 21 56 05.1 +3.7
BBKI **Banjar Baru** 42.75 274 P P 21 56 02.5 +0.7
comp=Z,484nm,1.3s,comp=Z,21µm
ABJI **Asem Bagus** 42.84 268 P P 21 56 05.1 +2.7
comp=Z,276nm,1.6s,comp=Z,16µm
JAGI **Jajag, Banyuwa** 42.87 267 eP P 21 56 00.7 -2.1
comp=Z,505nm,0.9s
JAGI LR LR
comp=Z,66µm,22.0s
JAGI **Jajag, Banyuwa** 42.87 267 P P 21 56 03.3 +0.5
baz=42,SNR=23
RAR **Rarotonga** 42.90 112 eP P 21 56 04.0 +1.1
comp=Z,198nm,1.6s
RAR **Rarotonga** 42.90 112 P P 21 56 05.4 +2.5
comp=Z,43nm,1.1s,baz=61,slow=0.0,SNR=3.4
RAR LR LR 22 10 48.2
comp=Z,9µm,21.9s,baz=49,slow=32
KMMI **Kalianget** 43.17 269 P P 21 56 09.0 +3.9
comp=Z,171nm,1.8s,comp=Z,15µm
KLBR **Kellerberrin** 43.31 233 P P 21 56 07.1 +1.0
baz=43,SNR=5.3
KDM **Kudat** 43.47 290 ⇓P P 21 56 12.3 +4.7
GMJI **Gumukmas** 43.58 267 P P 21 56 10.9 +2.4
comp=Z,190nm,1.7s,comp=Z,11µm
MIDW **Midway** 44.09 33 PFAKE
MIDW LR LR
comp=Z,36µm,21.0s
NWAO **Narrogin (SRO)** 44.25 231 P P 21 56 13.7 +0.1
NWAO **Narrogin (SRO)** 44.25 231 P P 21 56 13.7 +0.1
comp=Z,30nm,0.9s,baz=68,slow=8.4,SNR=7.3
NWAO LR LR 22 14 21.2
comp=Z,123µm,21.2s,baz=58,slow=36
BCPH **Baguio City Da** 44.32 304 ⇓iP P 21 56 20.1 +5.7
BWJI **Bawean** 44.58 271 P P 21 56 21.1 +4.6
comp=Z,80nm,1.3s,comp=Z,4µm
SZP **Santa** 45.04 306 eP P 21 56 19.6 -0.4
PWJI **Pagerwojo** 45.22 267 P P 21 56 22.1 +0.5
comp=Z,369nm,1.4s,comp=Z,14µm
JOW **Kunigami** 45.40 322 eP P 21 56 22.6 -0.2
comp=Z,923nm,1.9s
JOW **Kunigami** 45.40 322 P P 21 56 19.4 -3.4
comp=Z,2.1nm,0.7s,baz=131,slow=9.3,SNR=4.4
JOW LR LR 22 13 35.1
comp=Z,1µm,20.4s,baz=146,slow=34
MCQ **Macquarie Isla** 45.57 179 eP P 21 56 27.2 +3.5
MCQ **Macquarie Isla** 45.57 179 eP P 21 56 27.1 +3.5
comp=Z,4µm,1.4s
MCQ LR LR
comp=Z,3024µm,21.3s
NGJI **Ngawi** 45.61 268 P P 21 56 28.0 +3.3
comp=Z,392nm,2.2s,comp=Z,24µm
PCJI **Pacitan** 45.83 267 P P 21 56 25.2 -1.2
BTM **Bintulu** 45.89 283 ⇓P P 21 56 29.5 +2.6
PBKI **Pangkalan Bun** 46.00 275 P P 21 56 31.4 +3.6
comp=Z,526nm,1.1s,comp=Z,17µm
UGM **Wanagama** 46.49 267 P P 21 56 34.3 +2.6
comp=Z,642nm,2.6s,comp=Z,24µm
UGM **Wanagama** 46.49 267 eP P 21 56 31.3 -0.4
comp=Z,7µm,2.7s
UGM LR LR
comp=Z,30µm,22.0s
SBUM **Sibu** 46.53 282 P x 21 56 34.7
comp=Z,114nm,3.0s,comp=Z,10µm
SBUM **Sibu** 46.53 282 eP P 21 56 31.7 -0.3
comp=Z,2µm,3.0s
SBUM LR LR
comp=Z,33µm,21.0s
SBUM **Sibu** 46.53 282 ⇓P P 21 56 34.9 +2.9
SMRI **Semarang** 46.65 269 eP P 21 56 33.1 +0.2
comp=Z,2µm,2.0s
SMRI LR LR
comp=Z,51µm,22.0s
SMRI **Semarang** 46.65 269 P P 21 56 36.4 +3.5
baz=46,SNR=4.2
BJII **Banjamegara** 47.35 268 P x 21 56 41.0
comp=Z,695nm,2.8s,comp=Z,25µm
TWG **Pinlang** 47.57 312 eP P 21 56 38.5 -1.4
comp=Z,1µm,2.2s
TWG LR LR
comp=Z,99µm,19.3s
YULB **Yu-li** 47.75 313 eP P 21 56 41.9 +0.6
comp=Z,1µm,2.8s
YULB LR LR
comp=Z,20µm,21.1s
TGJI **Tegal** 47.97 269 P x 21 56 44.4
comp=Z,392nm,2.4s,comp=Z,21µmcomp=Z,41µm
NACB **Ninganchiao** 48.02 314 eP P 21 56 44.0 +0.7
comp=Z,1µm,2.0s
NACB LR LR
comp=Z,20µm,19.5s
KPJI **Karang Pucung** 48.12 268 P P 21 56 47.0 +2.7
comp=Z,309nm,1.0s,comp=Z,18µm
KSM **Kuching** 48.16 280 P x 21 56 46.4
comp=Z,198nm,1.1s,comp=Z,9µm
KSM **Kuching** 48.16 280 eP P 21 56 44.5 -0.1
comp=Z,229nm,1.2s
KSM LR LR
comp=Z,16µm,19.0s
KSM **Kuching** 48.16 280 P P 21 56 47.9 +3.3
baz=48,SNR=9.1
TPUB **Ta-pu** 48.18 312 eP P 21 56 44.1 -0.6
comp=Z,405nm,1.9s
TPUB LR LR
comp=Z,20µm,19.0s
SSLB **Suanglung** 48.24 313 eP P 21 56 44.9 -0.2
comp=Z,90nm,1.1s
SSLB LR LR
comp=Z,20µm,21.3s
YHNB **Yeheng** 48.49 314 eP P 21 56 47.4 +0.4
comp=Z,363nm,1.4s
YHNB LR LR
comp=Z,29µm,22.0s
CMJI **Cimerak** 48.55 267 P P 21 56 50.2 +2.5
comp=Z,271nm,1.3s,comp=Z,12µm
TATO **Taipei** 48.60 315 PFAKE
TATO LR LR
comp=Z,25µm,20.0s
MJAR **Matsushiro Arr** 48.64 339 P P 21 56 45.2 -2.7
MJAR **Matsushiro Arr** 48.64 339 P P 21 56 45.2 -2.7
comp=Z,5.4nm,0.8s,baz=168,slow=9.3,SNR=14
MJAR LR LR 22 14 29.8
comp=Z,10µm,21.8s,baz=135,slow=33
MAJO **Matsushiro** 48.64 339 ⇑eP P 21 56 48.4 +0.5
MAJO pmax pmax
comp=Z,447nm,2.2s
MAJO **Matsushiro** 48.64 339 eP P 21 56 48.2 +0.3
comp=Z,82nm,1.4s
MAT **Matsushiro** 48.64 339 P P 21 56 45.8 -2.1
MAT S S 22 03 52.2 +2.9
JNU **Nakatsue** 48.82 330 eP P 21 56 49.0 -0.4
comp=Z,762nm,1.7s
JNU LR LR
comp=Z,14µm,20.6s
JNU **Nakatsue** 48.82 330 P P 21 56 47.3 -2.1
comp=Z,57nm,1.0s,baz=90,slow=4.8,SNR=12
JCJI **Jatiwangi** 48.85 269 P P 21 56 53.3 +3.3
comp=Z,896nm,1.1s,comp=Z,24µm
CISI **Cisompet, Garu** 49.20 268 P P 21 56 55.3 +2.6
comp=Z,453nm,0.9s,comp=Z,14µm
CISI **Cisompet, Garu** 49.20 268 eP P 21 56 51.5 -1.2
comp=Z,342nm,0.8s
CISI LR LR
comp=Z,36µm,20.0s
CISI **Cisompet, Garu** 49.20 268 P P 21 56 54.7 +2.0
baz=49,SNR=7.1
LEM **Lembang** 49.46 269 P P 21 56 56.4 +1.5
QZH **Quanzhou** 50.65 312 P P 21 57 04.0 +0.5
QZH pmax pmax
comp=Z,260nm,1.2s
QZH pmax pmax
comp=Z,10µm,8.0s
QZH LR LR
comp=Z,18µm,14.7s
QZH LR LR
comp=Z,25µm,17.2s
QZH LR LR
comp=Z,39µm,17.6s
XMIS **Christmas Isla** 51.13 264 eP P 21 57 07.9 +0.6
comp=Z,4µm,2.2s
XMIS LR LR
comp=Z,96µm,19.4s
XMIS **Christmas Isla** 51.13 264 P P 21 57 10.7 +3.5
baz=51,SNR=3.9
PPT **Papeete** 52.09 105 eP P 21 57 14.9 +0.5
PPT **Papeete** 52.09 105 P P 21 57 17.4 +3.0
comp=Z,65nm,0.9s,baz=331,slow=9.6,SNR=4.5
PPT LR LR 22 14 56.2
comp=Z,17µm,20.9s,baz=276,slow=31
PAE **Paea** 52.09 105 eP P 21 57 17.7 +3.3
comp=Z,51nm,1.3s
PPT2 **Papeete2** 52.09 105 eP P 21 57 18.1 +3.6
comp=Z,176nm,1.3s
PPT2 eS S 22 04 42.3 +4.2
comp=Z,25µm,31.0s
PPT2 eLQ LQ 22 10 13.4
comp=Z,74µm,30.5s
PPT2 eLR LR 22 12 27.0
comp=Z,135µm,32.8s,baz=278
ERM **Erimo** 52.27 346 eP P 21 57 12.3 -3.0
ERM **Erimo** 52.27 346 eP P 21 57 12.3 -3.0
TIAR **Tiarei** 52.30 105 eP P 21 57 19.6 +3.6
comp=Z,80nm,1.3s
TVO **Taravao** 52.40 106 eP P 21 57 20.4 +3.6
comp=Z,76nm,1.2s
TBI **Tubuai** 52.66 113 eP P 21 57 22.0 +3.4
comp=Z,657nm,1.3s
TBI eS S 22 04 50.2 +4.6
comp=Z,16µm,30.8s
TBI eLQ LQ 22 10 28.1
comp=Z,131µm,32.0s
TBI eLR LR 22 12 45.1
comp=Z,67µm,33.5s,baz=289
SSE **Sheshan** 52.80 320 P P 21 57 21.0 +1.6
SSE sP sP 21 57 25.2 -2.0
SSE S S 22 04 49.6 +2.4
SSE pmax pmax
comp=Z,49nm,1.0s
SSE pmax pmax
comp=Z,3µm,8.3s
SSE LR LR
comp=Z,12µm,18.7s
SSE LR LR
comp=Z,6µm,18.7s
SSE LR LR
comp=Z,19µm,18.6s
KIP **Kipapa** 52.98 55 PFAKE 21 57 30.0 +9.0
KIP LR LR
comp=Z,21µm,20.0s
OPA **Opana** 53.12 55 eP P 21 57 23.3 +1.3
OPA **Opana** 53.12 55 eP P 21 57 23.3 +1.3
MEH **Mehetia** 53.54 106 eP P 21 57 28.7 +3.6
comp=Z,96nm,1.2s
PMOR **Pomariorio Ree** 53.65 102 eP P 21 57 29.6 +3.7
YUK **Yuzh-Kuril'sk** 53.66 350 ciP P 21 57 21.0 -4.4
YUK e 21 58 29.3
YUK iS S 22 04 51.7 -6.7
YUK iSSS SSS 22 10 19.1
KSRS **Korea Array** 53.73 331 P P 21 57 24.9 -1.2
comp=Z,21nm,1.1s,baz=145,slow=7.3,SNR=14
KSRS LR LR 22 18 47.3
comp=Z,11µm,20.4s,baz=136,slow=34
KSAR **Wonju Array Be** 53.74 331 P P 21 57 24.9 -1.2
KS01 **Wonju Array Si** 53.76 331 eP P 21 57 25.2 -1.1
VAH **Vaihoa** 53.90 102 eP P 21 57 31.2 +3.4
comp=Z,225nm,1.1s
POHA **Pohakuloa** 54.24 58 eP P 21 57 31.1 +0.6
comp=Z,217nm,1.2s
POHA LR LR
comp=Z,30µm,20.0s
MNAI **Manna** 54.36 271 PFAKE 21 57 40.0 +8.8
MNAI LR LR
comp=Z,40µm,21.0s
INCN **Inchon** 54.38 330 eP P 21 57 29.0 -2.0
INCN LR LR
comp=Z,18µm,19.0s
ASAJ **Asahikawa** 54.40 347 eP P 21 57 29.5 -1.3
comp=Z,495nm,2.0s
ASAJ **Asahikawa** 54.40 347 P P 21 57 29.4 -1.5
comp=Z,4.6nm,0.5s,baz=180,slow=7.1,SNR=6.7
ASAJ LR LR 22 17 53.4
comp=Z,24µm,21.9s,baz=182,slow=33
MYKOM **Kota Tinggi** 54.52 279 eP P 21 57 31.8 -0.6
comp=Z,266nm,1.9s
MYKOM LR LR
comp=Z,28µm,20.0s
MYKOM **Kota Tinggi** 54.52 279 ⇑P P 21 57 36.5 +4.1
QIZ **Qiongzhong** 54.55 301 P P 21 57 33.7 +1.3
QIZ pP pP 21 57 36.8 -1.3
QIZ S S 22 05 13.3 +2.0
QIZ SS SS 22 08 55.3 +1.0
QIZ pmax pmax
comp=Z,28nm,1.3s
QIZ pmax pmax
comp=Z,5µm,8.8s
QIZ LR LR
comp=Z,10µm,20.4s
QIZ LR LR
comp=Z,26µm,31.5s
QIZ **Qiongzhong** 54.55 301 eP P 21 57 31.9 -0.5
comp=Z,180nm,1.1s
QIZ LR LR
comp=Z,21µm,19.0s
NJ2 **Nanjing** 54.92 320 eP P 21 57 36.2 +1.3
NJ2 pP pP 21 57 41.4 +0.8
NJ2 S S 22 05 20.0 +4.1
NJ2 pmax pmax
comp=Z,130nm,1.2s
NJ2 pmax pmax
comp=Z,5µm,8.6s
NJ2 LR LR
comp=Z,17µm,21.0s
NJ2 LR LR
comp=Z,21µm,19.2s
NJ2 LR LR
comp=Z,20µm,24.7s
KTGM **Kuala Trenggan** 56.02 282 ⇓P P 21 57 45.2 +2.0
VLA **Vladivostok** 56.72 338 ⇓eP P 21 57 48.6 +1.0
VLA i 21 58 42.8
VLA 21 59 52.8
VLA eS S 22 05 39.5 -0.1
VLA pmax pmax
comp=Z,157nm,1.6s
UBPT **Khong Chiam** 56.87 295 P P 21 57 53.3 +4.1
comp=Z,114nm,1.8s
WHN **Wuhan** 56.99 315 P P 21 57 49.8 0.0
WHN S S 22 05 45.1 +1.5
WHN LR LR
comp=Z,17µm,13.1s
WHN LR LR
comp=Z,15µm,14.4s
WHN LR LR
comp=Z,32µm,19.6s
FRIM **Kepong** 57.00 280 ⇑P P 21 57 52.1 +1.9
YSS **Yuzh-Sakhalins** 57.06 348 eP P 21 57 55.0 +5.1
YSS e 21 58 48.0
YSS ePPP PPP 22 01 13.0
YSS eS S 22 05 47.0 +3.1
YSS ePS PnS 22 05 58.0 +2.4
YSS pmax pmax
comp=Z,4µm,10.0s
PPI **Padang Panjang** 57.48 275 P P 21 57 55.5 +1.9
baz=57,SNR=5.4
USRK **Ussuriysk Arra** 57.62 338 P P 21 57 52.3 -1.6
comp=Z,44nm,1.1s,baz=167,slow=6.6,SNR=17
IPM **Ipoh** 57.86 281 eP P 21 57 56.6 +0.3
comp=Z,263nm,1.6s
DL2 **Dalian** 58.04 327 P P 21 58 04.3 +7.3
DL2 S S 22 06 06.9 +10
DL2 pmax pmax
comp=Z,190nm,2.1s
DL2 pmax pmax
comp=Z,4µm,8.2s
DL2 LR LR
comp=N,10µm,15.9s
DL2 LR LR
comp=E,5µm,14.0s
DL2 LR LR
comp=Z,8µm,18.0s
KULM **Kulim** 58.41 282 eP P 21 58 00.3 +0.1
comp=Z,112nm,1.3s
KULM LR LR
comp=Z,19µm,21.0s
KULM **Kulim** 58.41 282 ⇑P P 21 58 02.6 +2.5
TIA **Tai'an** 58.73 322 eP P 21 58 03.6 +1.7
TIA S S 22 06 15.1 +8.9
TIA SS SS 22 10 11.0 +11
TIA pmax pmax
comp=Z,80nm,1.9s
TIA pmax pmax
comp=Z,6µm,7.7s
TIA LR LR
comp=Z,16µm,17.0s
TIA LR LR
comp=Z,14µm,17.5s
TIA LR LR
comp=Z,17µm,19.0s
MDJ **Mudanjiang** 58.87 337 P P 21 58 04.9 +2.2
MDJ pP pP 21 58 08.1 -0.3
MDJ sP sP 21 58 09.3 -1.3
MDJ PcP PcP 21 58 53.6 +1.6
MDJ PP PP 22 00 13.6 +0.5
MDJ S S 22 06 11.3 +3.6
MDJ SS SS 22 10 03.2 +1.6
MDJ pmax pmax
comp=Z,660nm,6.2s
MDJ LR LR
comp=Z,13µm,19.0s
MDJ LR LR
comp=Z,11µm,17.8s
MDJ LR LR
comp=Z,17µm,29.4s
MDJ **Mudanjiang** 58.87 337 eP P 21 58 02.0 -0.7
comp=Z,911nm,2.5s
MDJ LR LR
comp=Z,10µm,20.0s
SNY **Shenyang** 59.23 331 ⇑P P 21 58 07.1 +1.8
SNY PP PP 22 00 23.9 +7.5
SNY S S 22 06 08.5 -4.0
SNY pmax pmax
comp=Z,1µm,6.9s
SNY LR LR
comp=Z,18µm,22.9s
SNY LR LR
comp=Z,16µm,22.0s
SNY LR LR
comp=Z,20µm,39.2s
PSI **Prapat** 59.55 278 P P 21 58 06.8 -1.4
PSI **Prapat** 59.55 278 P P 21 58 06.8 -1.4
comp=Z,2.8nm,0.4s,baz=127,slow=5.1,SNR=4.6
PSI LR LR 22 27 18.0
comp=Z,1µm,21.9s,baz=108,slow=40
PSI **Prapat** 59.55 278 P P 21 58 10.0 +1.8
baz=59,SNR=5.9
CN2 **Changchun** 59.91 334 eP P 21 58 09.7 -0.2
CN2 epP pP 21 58 19.7 +4.0
CN2 esP sP 21 58 23.9 +6.1
CN2 PcP PcP 21 58 54.7 -1.5
CN2 PP PP 22 00 24.1 +1.7
CN2 eS S 22 06 18.9 -2.3
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 LR LR
comp=Z,9µm,16.0s
CN2 LR LR
comp=Z,12µm,16.0s
CN2 LR LR
comp=Z,1µm,16.0s
SRIT **Nakonsritamara** 60.24 285 P P 21 58 19.8 +7.0
comp=Z,159nm,1.7s
PATY **Pattaya** 60.28 290 P P 21 58 15.4 +2.4
comp=Z,44nm,1.0s,comp=Z,550nm
ENH **Enshi** 60.31 312 eP P 21 58 11.2 -1.8
comp=Z,412nm,1.9s
ENH LR LR
comp=Z,20µm,21.0s
HABR **Khabarovsk** 60.39 343 deP P 21 58 12.2 -0.9
HABR e 21 58 56.8
HABR e 22 00 25.2
HABR PPP PPP 22 01 48.2
HABR eS S 22 06 27.7 +0.6
HABR e*SS sS 22 06 33.1 -3.5
HABR e 22 08 02.0
HABR eSS SS 22 10 26.4 +1.1
HABR pmax pmax
comp=N,16nm,1.9s
HABR pmax pmax
comp=E,60nm,1.9s
HABR pmax pmax
comp=Z,60nm,1.9s
HABR pmax pmax
comp=Z,3µm,7.7s
HABR MLR MLR
comp=N,8µm,19.0s
HABR MLR MLR
comp=Z,11µm,19.0s
GYA **Guiyang** 60.55 307 ⇓iP P 21 58 17.2 +2.4
GYA PP PP 22 00 34.0 +5.5
GYA S S 22 06 33.9 +3.6
GYA SS SS 22 10 32.2 +3.3
GYA pmax pmax
comp=Z,70nm,1.2s
GYA pmax pmax
comp=Z,4µm,9.6s
GYA LR LR
comp=Z,7µm,17.2s
GYA LR LR
comp=Z,10µm,17.8s
GYA LR LR
comp=Z,15µm,20.3s
GSI **Gunungsitoli** 60.58 276 eP P 21 58 14.8 -0.2
comp=Z,323nm,1.1s
GSI LR LR
comp=Z,23µm,22.0s
SURT **Suratani** 61.10 285 P P 21 58 25.4 +6.8
comp=Z,59nm,1.6s,comp=Z,2µm
PKDT **Phuket** 61.27 284 P P 21 58 29.5 +10
PBKT **Sadao Pong** 61.37 294 P P 21 58 21.6 +1.2
comp=Z,112nm,2.1s,comp=Z,9µm
TAOE **Nuku Hiva Isla** 61.51 95 eS S 22 06 48.0 +5.1
comp=Z,21µm,34.7s
TAOE eLQ LQ 22 14 07.0
comp=Z,16µm,25.3s
TAOE eLR LR 22 16 35.9
comp=Z,66µm,31.9s
PET **Petropavlovsk** 61.61 1 ciP P 21 58 21.9 +0.7
PET e 22 00 41.1
PET eS S 22 06 41.0 -1.4
PET pmax pmax
comp=Z,4µm,15.2s
PET pmax pmax
comp=Z,4µm,10.1s
PET pmax pmax
comp=Z,44nm,0.9s
PET pmax pmax
comp=Z,2µm,15.1s
PEA0 **Petropavlovsk-** 61.68 0 eP P 21 58 24.0 +2.2
PETK **Petropavlovsk-** 61.68 0 P P 21 58 21.5 -0.3
PETK **Petropavlovsk-** 61.68 0 P P 21 58 21.5 -0.3
PETK **Petropavlovsk-** 61.68 0 P P 21 58 21.5 -0.3
comp=Z,7.3nm,1.0s,baz=170,slow=8.3,SNR=7.9
PETK LR LR 22 22 25.4
comp=Z,10µm,21.7s,baz=172,slow=34
BJT **Baijiatuau** 61.83 325 eP P 21 58 21.6 -1.5
comp=Z,173nm,1.4s
BJT LR LR
comp=Z,20µm,18.0s
BJI **Beijing** 61.84 325 P P 21 58 26.7 +3.6
BJI S S 22 06 48.9 +3.0
BJI SS SS 22 10 51.1 +2.8
BJI pmax pmax
comp=Z,55nm,2.0s
BJI pmax pmax
comp=Z,1µm,7.2s
BJI LR LR
comp=Z,16µm,21.7s
BJI LR LR
comp=Z,15µm,19.0s
BJI LR LR
comp=Z,19µm,29.9s
KLR **Kul'dur** 62.07 341 eP P 21 58 20.0 -4.5
KLR eS S 22 06 48.5 0.0
KLR pmax pmax
comp=N,2µm,10.0s
KLR pmax pmax
comp=Z,8µm,10.0s
PHIT **Phitsanulok** 62.08 295 P P 21 58 28.9 +3.7
comp=Z,88nm,1.0s,comp=Z,1µm
SRDT **SRDT** 62.34 291 P P 21 58 29.6 +2.7
comp=Z,489nm,1.1s,comp=Z,19µm
NANT **Nan** 62.39 297 P P 21 58 26.4 -0.8
comp=Z,397nm,0.9s,comp=Z,3µm
TIY **Taiyuan** 62.58 321 eP P 21 58 32.7 +4.5
TIY S S 22 06 55.3 -0.2
TIY pmax pmax

comp=Z,4μm,7.5s
TIY LR LR
comp=Z,13μm,14.7s
TIY LR LR
comp=Z,14μm,17.2s
TIY LR LR
comp=Z,17μm,17.3s
XAN Xi'an 62.76 316 P **P** **21 58 27.3 -2.2**
XAN pP **pP** **21 58 31.3 -3.9**
XAN PP **PP** **22 00 48.5 +0.7**
XAN S **S** **22 06 58.9 +1.1**
XAN SS **SS** **22 11 08.0 +4.9**
XAN pmax pmax
comp=Z,410nm,7.6s
XAN LR LR
comp=Z,4μm,21.2s
FX1 Attu Island--F 62.89 11 *e*P **P** **21 58 29.7 -0.1**
SMY Shemya 62.92 11 PFAKE 21 58 40.0 +10
SMY LR LR
comp=Z,16μm,21.0s
KHLT Khaolaem Dam 62.96 292 P P 21 58 35.5 +4.4
comp=Z,65nm,1.8s,comp=Z,3μm
KMI Kunming 63.11 304 P **P** **21 58 32.2 0.0**
KMI pP **pP** **21 58 37.7 -0.3**
KMI sP **sP** **21 58 40.2 +0.1**
KMI S **S** **22 07 03.3 +0.3**
KMI sS **sS** **22 07 13.6 +1.2**
KMI SKS **SKSac** **22 08 24.8 -0.2**
KMI SS **SS** **22 11 10.7 +1.4**
KMI pmax pmax
comp=Z,35nm,1.1s
KMI pmax pmax
comp=Z,290nm,4.1s
KMI LR LR
comp=Z,8μm,18.6s
KMI LR LR
comp=Z,11μm,19.4s
KMI LR LR
comp=Z,19μm,22.1s
LAMP Lampang 63.24 296 P **P** **21 58 35.4 +2.5**
comp=Z,31nm,0.9s,comp=Z,401nm
CM01 Chiang Mai Arr 63.80 295 *e*P **P** **21 58 35.7 -0.9**
CMAR Chiang Mai Arr 63.83 295 P **P** **21 58 35.2 -1.6**
CMAR P'P' 22 27 32.1
CMAR Chiang Mai Arr 63.83 295 P **P** **21 58 35.2 -1.6**
comp=Z,4.4nm,0.9s,baz=123,slow=5.0,SNR=29
CMAR PKPPKP **P'P'df** **22 27 32.1 +0.8**
comp=Z,1.4nm,0.3s,baz=298,slow=1.9,SNR=6.6
CMAR LR LR 22 28 06.6
comp=Z,6μm,18.1s,baz=119,slow=38
CHTO Chiang Mai 63.95 296 *e*P **P** **21 58 36.6 -1.0**
CHTO pmax pmax
comp=Z,192nm,1.3s
CHTO MLR MLR
comp=Z,11μm,20.0s
CHTO Chiang Mai 63.95 296 *e*P **P** **21 58 36.6 -1.0**
comp=Z,192nm,1.3s
CHTO LR LR
comp=Z,11μm,20.0s
MHMT Maesarieng 64.64 295 P P 21 58 48.3 +6.2
comp=Z,60nm,0.8s,comp=Z,3μm
CD2 Chengdu 64.90 310 ⇓ *i*P **P** **21 58 46.2 +2.5**
CD2 sP **sP** **21 58 53.5 +1.9**
CD2 PcP **PcP** **21 59 19.4 +2.6**
CD2 PP **PP** **22 01 10.4 +3.7**
CD2 S **S** **22 07 25.2 +0.6**
CD2 ScS **ScS** **22 08 39.0 +0.9**
CD2 SS **SS** **22 11 38.0 +1.3**
CD2 pmax pmax
comp=Z,330nm,1.1s
CD2 pmax pmax
comp=Z,7μm,9.5s
CD2 LR LR
comp=Z,15μm,16.6s
CD2 LR LR
comp=Z,15μm,17.8s
CD2 LR LR
comp=Z,18μm,20.2s
HHC Hu-ho-hao-te 65.05 323 *e*P **P** **21 58 43.2 -1.3**
HHC sP **sP** **21 58 53.5 +1.1**
HHC PP PP 22 01 13.2 +5.4
HHC S **S** **22 07 23.9 -2.3**
HHC sS **sS** **22 07 39.2 +3.5**
HHC ScS **SKSac** **22 08 38.4 -0.4**
HHC SS **SS** **22 11 39.7 +1.0**
HHC pmax pmax
comp=Z,84nm,1.3s
HHC pmax pmax
comp=Z,2μm,6.8s
HHC LR LR
comp=Z,21μm,17.3s
HHC LR LR
comp=Z,28μm,17.3s
HHC LR LR
comp=Z,24μm,16.0s
CMBY CAMPBELL BAY 65.31 282 *e*P **P** **21 58 44.9 -1.7**
CASY Casey 65.67 199 PFAKE 21 59 00.0 +12
CASY LR LR
comp=Z,69μm,21.0s
BTO Baotou 65.82 322 *e*P P 21 58 54.3 +4.8
RKT Rikitea 65.94 111 *e*P **P** **21 58 53.0 +2.5**
comp=Z,128nm,1.1s
RKT *e*S **S** **22 07 40.9 +3.3**
comp=Z,6μm,33.0s
RKT *e*LQ LQ 22 15 37.8
comp=Z,31μm,31.2s
RKT *e*LR LR 22 18 55.4
comp=Z,56μm,34.5s,baz=276
HIA Hailar 66.64 334 *e*P **P** **21 58 54.0 -0.4**
comp=Z,952nm,2.8s
HIA LR LR
comp=Z,16μm,18.0s
LZH Lanzhou 67.37 315 P **P** **21 58 59.4 -0.2**
LZH pP **pP** **21 59 04.2 -1.2**
LZH sP **sP** **21 59 07.4 -0.1**
LZH S **S** **22 07 57.2 +2.5**
LZH sS **sS** **22 08 09.2 +4.9**
LZH pmax pmax
comp=Z,180nm,1.2s
LZH pmax pmax
comp=Z,1μm,6.1s
LZH LR LR
comp=Z,9μm,14.8s
LZH LR LR
comp=Z,11μm,14.6s
LZH LR LR
comp=Z,13μm,16.6s
PBA Port Blair 67.55 286 *e*P P 21 58 59.5 -1.4
DGPR DIGLIPUR 67.77 288 *e*P **P** **21 59 00.0 -2.2**
VNDA Vanda 68.71 179 *e*P **P** **21 59 07.6 +0.4**
comp=Z,661nm,2.6s
VNDA Vanda 68.71 179 P **P** **21 59 07.0 -0.1**
comp=Z,19nm,0.9s,baz=339,slow=7.3,SNR=8.7
VNDA LR LR 22 23 20.0
comp=Z,30μm,21.6s,baz=2.0,slow=31
SBA Scott Base 69.18 178 *e*P **P** **21 59 10.8 +0.8**
SBA pmax pmax
comp=Z,282nm,1.6s
SBA MLR MLR
comp=Z,28μm,21.0s
SBA Scott Base 69.18 178 *e*P **P** **21 59 10.8 +0.8**
comp=Z,282nm,1.6s
SBA LR LR
comp=Z,28μm,21.0s
UNV Unalaska Valle 69.43 22 *e*P **P** **21 59 11.8 -0.1**
comp=Z,139nm,1.2s
UNV LR LR
comp=Z,16μm,19.7s
AKUT Akutan 69.93 22 *e*P **P** **21 59 15.1 +0.2**
comp=Z,672nm,1.6s
AKUT LR LR
comp=Z,14μm,20.5s
SPIA Saint Paul Isl 70.88 18 PFAKE 21 59 30.0 +9.4
SPIA LR LR
comp=Z,8μm,18.0s
CIT Chita 71.35 333 *e*P **P** **21 59 26.8 +3.1**
CIT pmax pmax
comp=Z,467nm,3.4s
FALS False Pass 71.37 23 PFAKE 21 59 30.0 +6.4
FALS LR LR
comp=Z,20μm,21.4s
SEY Seymchan 71.65 358 P **P** **21 59 23.8 -1.4**
SEY Seymchan 71.65 358 P **P** **21 59 23.8 -1.4**
SEY Seymchan 71.65 358 P **P** **21 59 23.8 -1.4**
comp=Z,5.9nm,1.0s,baz=196,slow=23,SNR=3.7
SEY LR LR 22 26 42.8

comp=Z,12μm,21.4s,baz=158,slow=32
GTA Gaotai 71.78 316 ⇑ P **P** **21 59 26.0 -0.7**
GTA pP **pP** **21 59 30.9 -1.6**
GTA sP **sP** **21 59 33.1 -1.6**
GTA S **S** **22 08 43.7 -2.8**
GTA SKS **SKSac** **22 09 24.1 -5.9**
GTA pmax pmax
comp=Z,2μm,7.1s
GTA LR LR
comp=Z,10μm,19.0s
GTA LR LR
comp=Z,10μm,20.9s
GTA LR LR
comp=Z,12μm,21.9s
ULN Ulaanbaatar 71.89 327 *e*P **P** **21 59 27.5 +0.3**
comp=Z,136nm,1.3s
ULN LR LR
comp=Z,10μm,19.0s
MIR Mirnyy 71.96 202 ⇑ *i*P P 21 59 35.0 +7.9
MIR *e*S **S** **22 08 52.0 +4.7**
MIR *e*PS PnS 22 09 29.0 +11
MIR *e*SS **SS** **22 13 22.0 -1.9**
MIR *e*SSS SSS 22 16 38.0
MIR pmax pmax
comp=Z,126nm,1.0s
MIR pmax pmax
comp=Z,8μm,10.0s
SONM Songino Array 72.22 327 P **P** **21 59 27.8 -1.3**
SONM P'P' 22 27 16.4
SONM Songino Array 72.22 327 P **P** **21 59 27.8 -1.3**
comp=Z,10nm,1.1s,baz=138,slow=6.2,SNR=25
SONM PKPPKP **P'P'df** **22 27 16.4 +1.9**
comp=Z,0.6nm,0.9s,baz=297,slow=0.3,SNR=4.4
SONM LR LR 22 30 46.6
comp=Z,8μm,19.8s,baz=124,slow=36
SONA1 Songino Array 72.23 327 *e*P **P** **21 59 28.2 -1.0**
SHL Shillong 72.38 300 ⇑ *i*P **P** **21 59 30.5 -0.1**
SHL AMB AMB 21 59 50.5
comp=Z,336nm,1.7s
SHL *i* x x 22 09 00.0
SDPT Sand Point 72.87 24 PFAKE 21 59 40.0 +7.4
SDPT LR LR
comp=Z,13μm,21.9s
YAK Yakutsk 73.88 347 *e*P **P** **21 59 36.7 -1.7**
YAK *e**PP **pP** **21 59 46.8 +2.5**
YAK *e* 21 59 52.1
YAK *e*PPP PPP 22 04 03.0
YAK *e*S **SKiKP** **22 09 07.8 +1.0**
YAK *e* 22 09 53.5
YAK *e*SS **SS** **22 13 53.6 -0.2**
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,19nm,1.4s
YAK pmax pmax
comp=Z,1μm,6.8s
YAK smax smax
comp=N,3μm,11.5s
YAK smax smax
comp=E,5μm,12.3s
YAK MLR MLR
comp=E,2μm,13.0s
LSA Lhasa 74.37 304 P **P** **21 59 42.3 -0.4**
LSA S **S** **22 09 15.1 -1.9**
LSA pmax pmax
comp=E,2μm,8.5s
LSA LR LR
comp=E,3μm,24.1s
LSA LR LR
comp=E,7μm,26.2s
LSA LR LR
comp=E,15μm,27.3s
LSA Lhasa 74.37 304 *e*P **P** **21 59 42.4 -0.3**
LSA pmax pmax
comp=Z,319nm,1.7s
LSA MLR MLR
comp=Z,12μm,21.0s
LSA Lhasa 74.37 304 *e*P **P** **21 59 42.4 -0.3**
comp=Z,319nm,1.7s
LSA LR LR
comp=Z,12μm,21.0s
ZAK Zakamensk 75.36 328 *e*P **P** **21 59 45.6 -1.9**
ZAK pmax pmax
comp=Z,53nm,1.4s
TLY Talaya 75.91 329 P **P** **21 59 52.5 +2.0**
comp=Z,117nm,1.1s,SNR=5.3
IRK Irkutsk 75.91 329 *e*P **P** **21 59 52.6 +2.1**
IRK *e* 22 09 48.2
IRK pmax pmax
comp=Z,140nm,2.8s
GAMB Gambell 76.06 14 *e*P **P** **21 59 51.0 0.0**
comp=Z,266nm,1.7s
GAMB LR LR
comp=Z,37μm,22.0s
TAPN Taplejung 76.49 301 *e*P **P** **21 59 53.7 -1.0**
comp=Z,621nm,1.3s
ODAN Odare 76.61 300 *e*P **P** **21 59 54.4 -0.9**
comp=Z,556nm,1.3s
BOK Bokaro 77.06 297 *e*P **P** **21 59 55.4 -2.2**
OHAK Old Harbor 77.08 25 *e*P **P** **21 59 56.6 -0.3**
comp=Z,145nm,1.2s
OHAK LR LR
comp=Z,13μm,21.8s
MOY Mondy 77.28 328 *e*P **P** **21 59 57.2 -1.2**
MOY pmax pmax
comp=Z,269nm,3.9s
RAMN Ramite 77.32 300 *e*P **P** **21 59 57.9 -1.4**
comp=Z,344nm,1.4s
KDAK Kodiak Island 77.73 25 *e*P **P** **22 00 00.5 0.0**
comp=Z,193nm,1.4s
KDAK LR LR
comp=Z,13μm,20.0s
VIS Vishakhapatnam 77.86 290 *e*P **P** **22 00 00.1 -2.0**
JIRN Jiri 77.87 301 *e*P **P** **22 00 01.5 -1.0**
comp=Z,92nm,0.7s
GUN Gumba 78.20 301 *e*P **P** **22 00 03.2 -1.2**
PALK Pallekele 78.21 279 P **P** **22 00 07.4 +3.1**
comp=Z,559nm,1.6s,SNR=5.5
PALK Pallekele 78.21 279 *e*P **P** **22 00 03.4 -0.9**
comp=Z,368nm,1.6s
PALK LR LR
comp=Z,12μm,20.0s
TNA Tin City 78.45 14 *e*P **P** **22 00 05.1 +0.7**
comp=Z,981nm,2.7s
TNA LR LR
comp=Z,13μm,20.9s
PKI Pulchoki 78.51 300 *e*P **P** **22 00 04.3 -1.7**
comp=Z,503nm,1.3s
KKN Kakani 78.68 301 *e*P **P** **22 00 05.2 -1.6**
comp=Z,226nm,1.1s
SVW2 Sparrevohn 78.75 21 *e*P **P** **22 00 05.9 -0.3**
comp=Z,679nm,1.8s
DMN Daman 78.78 300 *e*P **P** **22 00 06.1 -1.3**
comp=Z,604nm,1.2s
GKN Gorkha 79.28 301 *e*P **P** **22 00 08.6 -1.5**
comp=Z,552nm,1.3s
RSO Redoubt South 79.38 23 *e*P **P** **22 00 09.6 -0.2**
MDRS Chennai 79.76 285 *e*P **P** **22 00 11.8 -0.9**
KOLN Koldanda 80.11 300 *e*P **P** **22 00 12.9 -1.7**
comp=Z,452nm,1.1s
DANN Dangsing 80.12 301 *e*P **P** **22 00 12.7 -2.1**
comp=Z,679nm,1.4s
SEW Seward 80.44 24 *e*P **P** **22 00 17.3 +2.0**
comp=Z,520nm,1.7s
SEW LR LR
comp=Z,16μm,21.8s
PYUN Piuthan 80.71 300 *e*P **P** **22 00 15.9 -2.0**
comp=Z,514nm,1.1s
RC01 Rabbit Creek A 80.92 23 *e*P P 22 00 14.1 -3.8
comp=Z,693nm,1.8s
RC01 LR LR
comp=Z,10μm,18.9s
PPLA Purkeypile 81.15 21 *e*P **P** **22 00 17.9 -1.4**
comp=Z,547nm,1.7s
PPLA LR LR
comp=Z,16μm,20.2s
QSPA South Pole Qui 81.17 180 PFAKE 22 00 30.0 +11
QSPA LR LR
comp=Z,21μm,22.0s
MID Middleton Isla 81.33 25 PFAKE 22 00 30.0 +10
MID LR LR
comp=Z,9μm,19.6s
PMR Palmer 81.46 23 *e*P **P** **22 00 20.4 -0.4**
PMR pmax pmax

comp=Z,860nm,1.9s
PMR MLR MLR
comp=Z,8μm,19.7s
PMR Palmer 81.46 23 *e*P **P** **22 00 20.4 -0.4**
comp=Z,860nm,1.9s
PMR LR LR
comp=Z,8μm,19.7s
CAST Castle Rocks 81.52 21 *e*P **P** **22 00 19.6 -1.5**
comp=Z,54nm,0.8s
CAST LR LR
comp=Z,11μm,20.8s
SML Sawmill 81.90 23 *e*P P 22 00 13.3 -10
SML pmax pmax
comp=Z,191nm,1.6s
SML MLR MLR
comp=Z,2μm,19.4s
SML Sawmill 81.90 23 *e*P P 22 00 13.3 -10
comp=Z,191nm,1.6s
SML LR LR
comp=Z,2μm,19.4s
KTH Kantishna Hill 82.01 21 *e*P **P** **22 00 21.1 -2.7**
comp=Z,3μm,2.0s
KTH LR LR
comp=Z,14μm,21.3s
TRD Trivandrum 82.08 280 *e*P **P** **22 00 24.4 -0.7**
TRF Thorofare Moun 82.17 21 *e*P **P** **22 00 22.1 -2.7**
comp=Z,2μm,2.7s
TRF LR LR
comp=Z,17μm,20.0s
HYB Hyderabad 82.24 289 *i*P **P** **22 00 26.5 +0.6**
comp=Z,100nm,1.0s
HYB *e*PcP **PcP** **22 00 30.0 -1.2**
HYB *e*PP **PP** **22 03 35.0 +0.4**
HYB *e*S **S** **22 10 42.0 +0.9**
HYB LR LR 22 22 00.0
comp=Z,90nm,30.0s
HYB Hyderabad 82.24 289 *e*P P 22 00 22.1 -3.8
TIXI Tiksi 82.52 351 *e*P **P** **22 00 24.6 -1.5**
TIXI pmax pmax
comp=Z,305nm,1.8s
TIXI Tiksi 82.52 351 *e*P **P** **22 00 24.6 -1.5**
comp=Z,305nm,1.8s
DIV Divide 82.52 24 *e*P **P** **22 00 26.5 +0.1**
comp=Z,291nm,1.6s
DIV LR LR
comp=Z,12μm,21.7s
NGP Nagpur 82.55 293 *e*P **P** **22 00 25.5 -1.9**
NGP *ex* x 22 10 51.8
RAGM Ragged Mountai 82.56 25 *e*P **P** **22 00 25.6 -1.1**
comp=Z,280nm,1.0s
RAGM LR LR
comp=Z,11μm,20.6s
IM04 Indian Mountai 82.63 18 *e*P **P** **22 00 25.8 -1.1**
IM04 *e*PP **PP** **22 03 35.0 -1.8**
MCK McKinley 82.82 21 *e*P **P** **22 00 25.8 -2.1**
MCK pmax pmax
comp=Z,563nm,1.4s
MCK MLR MLR
comp=Z,17μm,20.6s
MCK McKinley 82.82 21 *e*P **P** **22 00 25.8 -2.1**
comp=Z,563nm,1.4s
MCK LR LR
comp=Z,17μm,20.6s
BMRM Bremner River 82.91 25 *e*P **P** **22 00 29.6 +1.1**
comp=Z,487nm,1.7s
BMRM LR LR
comp=Z,12μm,20.3s
PAX Paxson 83.66 23 *e*P **P** **22 00 31.5 -0.9**
PAX pmax pmax
comp=Z,678nm,2.4s
PAX MLR MLR
comp=Z,9μm,19.1s
PAX Paxson 83.66 23 *e*P **P** **22 00 31.5 -0.9**
comp=Z,678nm,2.4s
PAX LR LR
comp=Z,9μm,19.1s
MAW Mawson 83.69 203 *e*P **P** **22 00 32.7 +0.3**
comp=Z,46nm,1.4s
MAW Mawson 83.69 203 P **P** **22 00 32.7 +0.3**
comp=Z,4.7nm,1.0s,baz=113,slow=7.7,SNR=3.3
MAW LR LR 22 36 10.3
comp=Z,15μm,18.1s,baz=118,slow=34
COLA College 83.88 20 *e*P **P** **22 00 31.2 -2.1**
COLA pmax pmax
comp=Z,107nm,1.5s
COLA MLR MLR
comp=Z,11μm,20.0s
COLA College 83.88 20 *e*P **P** **22 00 31.2 -2.1**
comp=Z,107nm,1.5s
COLA LR LR
comp=Z,11μm,20.0s
DGAR Diego Garcia 84.05 263 *e*P **P** **22 00 34.6 -0.8**
DGAR MLR MLR
comp=Z,16μm,22.0s
DGAR Diego Garcia 84.05 263 *e*P **P** **22 00 34.6 -0.8**
DGAR LR LR
comp=Z,16μm,22.0s
IL1 Eielson Array 84.16 21 *e*P **P** **22 00 32.0 -2.7**
ILAR Eielson Array 84.16 21 P **P** **22 00 32.2 -2.6**
ILAR PKKPbc **PKKPbc** **22 18 51.7 +0.1**
ILAR Eielson Array 84.16 21 P **P** **22 00 32.2 -2.6**
comp=Z,2.9nm,0.7s,baz=254,slow=5.2,SNR=18
ILAR PKKPbc **PKKPbc** **22 18 51.7 +0.1**
comp=Z,1.4nm,1.0s,baz=344,slow=1.8,SNR=5.7
ILAR LR LR 22 35 43.9
comp=Z,10μm,20.1s,baz=203,slow=34
MENT Mentasta 84.31 23 *e*P **P** **22 00 34.8 -0.8**
BHPL Bhopal 84.47 294 *e*P **P** **22 00 36.4 -0.9**
COLD Coldfoot 84.54 18 *e*P **P** **22 00 36.5 -0.2**
comp=Z,387nm,1.8s
COLD LR LR
comp=Z,14μm,20.5s
DOT Dot Lake 84.56 22 *e*P **P** **22 00 36.6 -0.3**
comp=Z,111nm,1.0s
DOT LR LR
comp=Z,9μm,20.3s
DHAK Deception Hill 84.77 28 PFAKE 22 00 50.0 +12
DHAK LR LR
comp=Z,13μm,20.5s
SIT Sitka 85.28 30 PFAKE 22 00 50.0 +9.5
SIT LR LR
comp=Z,21μm,19.8s
DDI Dehra Dun 85.43 301 *e*P **P** **22 00 38.9 -3.1**
DDI AMB AMB 22 01 00.7
comp=Z,313nm,5.7s
CRAG Craig 85.80 32 PFAKE 22 00 50.0 +6.9
CRAG LR LR
comp=Z,17μm,19.8s
HYT Haines Junctio 85.86 26 *e*P **P** **22 00 42.4 -1.1**
EGAK Eagle 86.23 22 *e*P **P** **22 00 44.2 -0.9**
comp=Z,917nm,2.2s
EGAK LR LR
comp=Z,13μm,21.0s
SKAG Skagway 86.27 28 *e*P **P** **22 00 44.3 -1.1**
comp=Z,186nm,1.4s
SKAG LR LR
comp=Z,12μm,21.5s
GOA Goa 86.33 286 *e*P P 22 00 42.6 -4.0
SMLA Simla 86.36 302 *e*P **P** **22 00 44.3 -2.2**
MK01 Makanchi Array 86.41 318 *e*P **P** **22 00 44.7 -1.8**
MK31 Makanchi Array 86.42 318 *e*P **P** **22 00 44.6 -1.9**
MK31 Makanchi Array 86.42 318 *e*P **P** **22 00 44.6 -1.9**
MKAR Makanchi Array 86.42 318 *e*P **P** **22 00 44.8 -1.8**
MKAR Makanchi Array 86.42 318 *e*P **P** **22 00 44.8 -1.8**
MKAR Makanchi Array 86.42 318 P **P** **22 00 44.1 -2.4**
comp=Z,6.5nm,0.6s,baz=97,slow=4.9,SNR=62
WRAK Wrangell Islan 86.55 32 PFAKE 22 01 00.0 +13
WRAK LR LR
comp=Z,21μm,22.0s
DAWY Dawson 86.56 23 *e*P **P** **22 00 45.7 -1.2**
POO Poona 86.84 289 *e*P **P** **22 00 46.9 -2.3**
ZAA0 Zalesovo Array 87.09 326 *e*P P 22 00 46.2 -3.4
ZALV Zalesovo Beam 87.09 326 P **P** **22 00 47.0 -2.6**
ZALV Zalesovo Beam 87.09 326 P **P** **22 00 47.0 -2.6**
ZALV P'P' 22 26 51.7
ZALV Zalesovo Beam 87.09 326 P **P** **22 00 47.0 -2.6**
comp=Z,3.3nm,0.5s,baz=114,slow=5.7,SNR=17
ZALV PKPPKP **P'P'df** **22 26 51.7 +4.0**
comp=Z,0.6nm,0.6s,baz=285,slow=2.8,SNR=3.0
ZALV LR LR 22 41 07.9
comp=Z,6μm,19.9s,baz=118,slow=37
KCPM Cahto Peak 87.13 49 *e*P **P** **22 00 48.9 -1.4**
comp=Z,129nm,1.7s
KCPM LR LR
comp=Z,6μm,20.3s
KMRM Mail Ridge 87.16 49 *e*P **P** **22 00 49.6 -0.8**

comp=Z,460nm,2.0s
KMRM LR LR
comp=Z,11µm,20.6s
KIPM Iron Peak 87.23 49 eP P 22 00 50.0 -0.8
KBO Bosley Butte 87.27 47 eP P 22 00 50.4 -0.4
comp=Z,182nm,1.6s
KBO LR LR
comp=Z,16µm,21.9s
MCCM Marconi Confer 87.30 51 PFAKE 22 01 00.0 +9.1
MCCM LR LR
comp=Z,8µm,18.0s
KHMM Horse Mountain 87.30 48 eP P 22 00 50.6 -0.5
comp=Z,176nm,1.7s
KHMM LR LR
comp=Z,9µm,19.5s
DHRM DHARAMSHALA 87.32 303 eP P 22 00 51.1 -0.4
KRMB Red Mountain 87.33 47 eP P 22 00 51.3 +0.1
comp=Z,656nm,2.5s
KRMB LR LR
comp=Z,11µm,18.6s
HOPS Hopland 87.35 50 eP P 22 00 51.6 +0.4
comp=Z,147nm,2.5s
HOPS LR LR
comp=Z,9µm,18.0s
KEBM Edson Butte 87.36 46 PFAKE 22 01 00.0 +8.8
KEBM LR LR
comp=Z,20µm,21.8s
M02C Callahan 88.07 48 P **P 22 00 56.9 +2.2**
baz=88
N02D Trinity Center 88.08 48 P **P 22 00 57.2 +2.5**
baz=88
SAO San Andreas Ge 88.10 53 eP P 22 00 54.2 -0.7
SAO pmax pmax
comp=Z,58nm,1.2s
SAO MLR MLR
comp=Z,14µm,21.0s
SAO San Andreas Ge 88.10 53 eP P 22 00 54.2 -0.7
comp=Z,15nm,1.2s
SAO LR LR
comp=Z,14µm,21.0s
WDC Whiskeytown Da 88.11 49 eP P 22 00 54.9 +0.1
WDC pmax pmax
comp=Z,164nm,1.8s
WDC MLR MLR
comp=Z,10µm,20.0s
WDC Whiskeytown Da 88.11 49 eP P 22 00 54.9 +0.1
comp=Z,164nm,1.8s
WDC LR LR
comp=Z,10µm,20.0s
YBH Yreka Blue Hor 88.25 47 eP P 22 00 54.7 -0.8
comp=Z,167nm,2.0s
YBH LR LR
comp=Z,9µm,19.0s
I03D Drain, OR 88.25 45 P **P 22 00 56.8 +1.4**
baz=88
HUMO Hull Mountain 88.28 47 eP P 22 00 55.6 0.0
comp=Z,251nm,2.3s
HUMO LR LR
comp=Z,22µm,22.0s
DLBC Dease Lake 88.44 30 eP P 22 00 55.9 -0.1
COR Corvallis 88.50 45 PFAKE 22 01 10.0 +13
COR LR LR
comp=Z,21µm,22.0s
G03D McMinnville, O 88.67 44 P **P 22 00 59.0 +1.7**
baz=89
E03A Lebam 88.79 43 eP P 22 00 58.0 +0.1
comp=Z,40nm,0.8s
NLWA Neilton Lookou 88.80 42 PFAKE 22 01 10.0 +12
NLWA LR LR
comp=Z,15µm,20.0s
PTRM Twissleman Ran 88.85 54 eP P 22 00 59.0 +0.5
M04C Macdoel 88.90 48 P **P 22 00 59.7 +1.0**
baz=89
I04A Tendick Farm, 88.94 46 P **P 22 00 59.9 +1.2**
baz=89
SMMC Simmler 88.95 54 P **P 22 00 59.5 +0.5**
baz=89
PKM Peak Mountain 89.01 55 P **P 22 01 00.2 +0.7**
baz=89
KSH Kashi 89.10 310 P **P 22 01 02.2 +2.5**
KSH ePP PP 22 04 35.6 +5.6
KSH eSKS **SKSac 22 11 29.7 +0.7**
KSH S **S 22 11 48.9 +0.9**
KSH sS **sS 22 11 58.6 +0.8**
KSH pmax pmax
comp=Z,12nm,1.3s
KSH pmax pmax
comp=Z,2µm,6.5s
KSH LR LR
comp=Z,8µm,18.0s
KSH LR LR
comp=Z,5µm,15.1s
KSH LR LR
comp=Z,4µm,15.4s
CMB Columbia Colle 89.19 51 eP P 22 00 58.7 -1.3
CMB pmax pmax
comp=Z,184nm,1.9s
CMB MLR MLR
comp=Z,16µm,21.0s
CMB Columbia Colle 89.19 51 eP P 22 00 58.7 -1.3
comp=Z,184nm,1.9s
CMB LR LR
comp=Z,16µm,21.0s
H04A Detroit Lake 89.30 45 eP P 22 00 58.9 -1.5
comp=Z,228nm,2.5s
H04A LR LR
comp=Z,16µm,21.5s
F04A Amboy 89.42 43 eP P 22 00 59.2 -1.6
comp=Z,29nm,1.0s
F04A LR LR
comp=Z,11µm,19.9s
BLG Laguna Peak 89.47 56 ⇑P P 22 01 01.8 +0.4
baz=90
BEKR Beckworth 89.59 50 eP P 22 01 00.5 -1.5
comp=Z,53nm,1.5s
BEKR LR LR
comp=Z,3µm,20.0s
J05D Fort Rock, OR 89.66 46 P **P 22 01 02.4 +0.2**
baz=90
K05A Summer Lake 89.78 47 eP P 22 01 02.7 -0.2
comp=Z,252nm,1.8s
K05A LR LR
comp=Z,12µm,19.7s
VES Vestal, Richgr 89.79 54 ⇓P P 22 01 02.0 -0.8
baz=90,SNR=8.7
KURK Kurchatov 89.81 321 P **P 22 01 03.5 +1.0**
comp=Z,42nm,1.5s,SNR=5.6
KURK Kurchatov 89.81 321 eP P 22 01 01.3 -1.2
KURK 22 04 33.3
KURK pmax pmax
comp=Z,156nm,2.1s
KURK Kurchatov 89.81 321 eP P 22 01 01.3 -1.2
comp=Z,315nm,2.1s
KURK PP **PP 22 04 33.3 -1.8**
KURBB Kurchatov Arra 89.84 321 P **P 22 01 00.6 -2.1**
comp=Z,2.3nm,0.8s,baz=100,slow=3.7,SNR=13
OSI Osito Adit 89.85 55 eP P 22 01 02.3 -0.9
comp=Z,55nm,1.6s
OSI LR LR
comp=Z,3µm,19.5s
OSI Osito Adit 89.85 55 P **P 22 01 03.5 +0.3**
baz=90
ARVC Arvin 89.86 55 ⇓P P 22 01 03.2 0.0
baz=90
CIS Catalina Islan 89.89 56 ⇓P P 22 01 02.7 -0.7
baz=90,SNR=11
D05A Enumclaw 89.99 42 eP P 22 01 01.8 -1.7
comp=Z,91nm,1.5s
D05A LR LR
comp=Z,16µm,21.9s
LON Longmire 90.02 43 eP P 22 01 02.9 -0.8
LON pmax pmax
comp=Z,39nm,1.8s
LON Longmire 90.02 43 eP P 22 01 02.9 -0.8
comp=Z,39nm,1.8s
WAKR Walker 90.02 51 eP P 22 01 02.5 -1.6
PINOR Pine Mountain 90.03 46 eP P 22 01 03.1 -0.6
PINOR LR LR
comp=Z,20µm,21.9s
MOD Modoc 90.04 48 eP P 22 01 03.4 -0.6
comp=Z,82nm,2.3s
MOD LR LR
comp=Z,10µm,18.0s
TKM2 Tokmak 2 90.08 313 eP P 22 01 02.4 -1.9
TKM2 pmax pmax
comp=Z,33nm,1.1s
TKM2 MLR MLR
comp=Z,9µm,22.0s
TKM2 Tokmak 2 90.08 313 eP P 22 01 02.4 -1.9
comp=Z,33nm,1.1s
TKM2 LR LR
comp=Z,9µm,22.0s
PASC Pasadena Art C 90.20 56 eP P 22 01 04.6 -0.2
comp=Z,229nm,1.7s
PASC LR LR
comp=Z,16µm,21.0s
ISA Isabella 90.24 54 eP P 22 01 04.0 -1.0
ISA pmax pmax
comp=Z,25nm,1.5s
ISA MLR MLR
comp=Z,4µm,21.9s
ISA Isabella 90.24 54 eP P 22 01 04.0 -1.0
comp=Z,25nm,1.5s
ISA LR LR
comp=Z,4µm,21.9s
ISA Isabella 90.24 54 ⇑P P 22 01 04.6 -0.4
baz=90,SNR=16
MWC Mount Wilson 90.31 56 eP P 22 01 03.4 -2.2
MWC pmax pmax
comp=Z,298nm,1.5s
MWC MLR MLR
comp=Z,17µm,21.7s
MWC Mount Wilson 90.31 56 eP P 22 01 03.4 -2.2
comp=Z,298nm,1.5s
MWC LR LR
comp=Z,17µm,21.7s
A05A Maple Falls 90.34 40 PFAKE 22 01 10.0 +5.0
A05A LR LR
comp=Z,13µm,20.9s
EDW2 Edwards Air Fo 90.49 55 ⇓P P 22 01 06.2 +0.1
baz=91,SNR=22
G06A Carlson Farm, 90.49 44 eP P 22 01 06.4 +0.5
comp=Z,236nm,2.7s
G06A LR LR
comp=Z,17µm,19.9s
INK Inuvik 90.54 20 eP P 22 01 04.3 -1.2
comp=Z,486nm,2.2s
INK PKKPbc **PKKPdf 22 18 34.0 +1.7**
INK LR LR
comp=Z,15µm,20.6s
INK Inuvik 90.54 20 PKKPbc PKKPbc 22 18 34.0 -2.0
comp=Z,2.8nm,1.0s,baz=18,slow=3.9,SNR=4.9
B06A Marblemount 90.62 41 eP P 22 01 04.0 -2.3
comp=Z,21nm,1.2s
B06A LR LR
comp=Z,14µm,18.7s
BFSC Mount Baldy Ra 90.64 56 ⇓P P 22 01 06.5 -0.5
baz=91,SNR=9.0
TIN Tinemaha 90.69 53 ⇓P P 22 01 07.3 +0.2
baz=91,SNR=7.8
CWC Cottonwood Cre 90.69 53 ⇑P P 22 01 07.2 0.0
baz=91,SNR=22
FRU Bishkek 90.77 313 *i* P P 22 01 12.0 +4.7
FRU *e* 22 11 29.0
FRU pmax pmax
comp=Z,180nm,2.2s
FRU MLR MLR
comp=Z,6µm,17.0s
FRU MLR MLR
comp=E,8µm,18.0s
AAK Ala-Archa 90.82 313 P **P 22 01 06.0 -1.7**
comp=E,63nm,1.1s,SNR=5.2
AAK Ala-Archa 90.82 313 eP P 22 01 05.6 -2.1
AAK pmax pmax
comp=Z,216nm,2.3s
AAK MLR MLR
comp=Z,11µm,18.0s
AAK Ala-Archa 90.82 313 eP P 22 01 05.6 -2.1
comp=Z,216nm,2.3s
AAK LR LR
comp=Z,11µm,18.0s
AAK Ala-Archa 90.82 313 P **P 22 01 06.4 -1.3**
comp=Z,3.5nm,0.7s,baz=140,slow=5.8,SNR=11
LRMC Laurel Mountai 90.84 54 ⇓P P 22 01 08.3 +0.4
baz=91,SNR=28
NV01 Mina Array Sit 90.88 51 eP P 22 01 08.3 +0.2
NVAR Mina Array Bea 90.88 51 P **P 22 01 07.7 -0.4**
NVAR ScS S 22 12 11.7 +7.0
NVAR P'P' 22 26 45.5
NVAR Mina Array Bea 90.88 51 P **P 22 01 07.7 -0.4**
comp=Z,30nm,0.9s,baz=255,slow=7.2,SNR=31
NVAR ScS S 22 12 11.7 +7.0
comp=Z,1.3nm,0.9s,baz=248,slow=6.6,SNR=5.3
NVAR PKPPKP **P'P'df 22 26 45.5 +3.1**
comp=Z,0.7nm,0.9s,baz=54,slow=4.7,SNR=5.2
LTY Liberty 90.89 42 eP P 22 01 06.0 -1.8
comp=Z,149nm,2.6s
LTY LR LR
comp=Z,16µm,21.6s
MURC Murrieta 90.91 56 P **P 22 01 08.5 +0.3**
baz=91
I07A Izee 91.05 46 eP P 22 01 06.8 -1.9
comp=Z,38nm,1.2s
I07A LR LR
comp=Z,26µm,21.5s
MPMC Manual Prospec 91.10 54 ⇑P P 22 01 08.7 -0.5
baz=91,SNR=17
BAR Barrett 91.19 57 eP P 22 01 10.5 +1.1
comp=Z,32nm,1.8s
BAR LR LR
comp=Z,6µm,20.0s
EKS2 Erkin-Say 91.35 313 eP P 22 01 09.8 -0.3
EKS2 pmax pmax
comp=Z,224nm,2.3s
EKS2 MLR MLR
comp=Z,12µm,20.0s
EKS2 Erkin-Say 91.35 313 eP P 22 01 09.8 -0.3
comp=Z,224nm,2.3s
EKS2 LR LR
comp=Z,12µm,20.0s
GRAC Grapevine Rang 91.36 53 ⇓P P 22 01 10.0 -0.1
baz=91,SNR=15
WVOR Wild Horse Val 91.36 47 eP P 22 01 09.2 -1.0
WVOR pmax pmax
comp=Z,54nm,1.3s
WVOR MLR MLR
comp=Z,11µm,20.0s
WVOR Wild Horse Val 91.36 47 eP P 22 01 09.2 -1.0
comp=Z,54nm,1.3s
WVOR LR LR
comp=Z,11µm,20.0s
SYO Syowa Base 91.42 199 ⇑ePcP PcP 22 01 11.0 +0.3
SYO Syowa Base 91.42 199 ⇓epP pP 22 01 20.6 +4.9
MONP Monument Peak 91.43 57 P **P 22 01 10.4 -0.5**
baz=92
HAWA Hanford 91.48 43 eP P 22 01 10.7 +0.2
comp=Z,16nm,0.9s
HAWA LR LR
comp=Z,14µm,20.0s
BHJ Bhuj 91.50 293 eP P 22 01 08.2 -2.8
BHJ AMB AMB 22 01 30.5
comp=Z,179nm,2.5s
GSC Goldstone 91.52 55 eP P 22 01 10.8 -0.2
GSC pmax pmax
comp=Z,176nm,2.0s
GSC MLR MLR
comp=Z,12µm,19.3s
GSC Goldstone 91.52 55 eP P 22 01 10.8 -0.2
comp=Z,176nm,2.0s
GSC LR LR
comp=Z,12µm,19.3s
GSC Goldstone 91.52 55 ⇓P P 22 01 11.6 +0.6
baz=92
PFO Pinyon Flat Ob 91.52 56 eP P 22 01 09.9 -1.2
comp=Z,156nm,1.8s
PFO LR LR
comp=Z,22µm,21.0s
PFO Pinyon Flat Ob 91.52 56 P **P 22 01 10.9 -0.2**
baz=92
J08A Circle Bar Ran 91.65 47 eP P 22 01 10.9 -0.6
comp=Z,35nm,1.0s
J08A LR LR
comp=Z,19µm,22.0s
TPH Tonopah 91.66 52 eP P 22 01 11.6 -0.1
TPH pmax pmax
comp=Z,96nm,1.3s
TPH MLR MLR
comp=Z,9µm,21.0s
TPH Tonopah 91.66 52 eP P 22 01 11.6 -0.1
comp=Z,96nm,1.3s
TPH LR LR
comp=Z,9µm,21.0s
G08A Pilot Rock 91.66 45 eP P 22 01 10.5 -1.0
comp=Z,34nm,1.4s
G08A LR LR
comp=Z,18µm,19.5s
FURC Furnace Creek, 91.67 54 ⇓P P 22 01 11.6 +0.1
baz=92,SNR=13
HEC Hector,Ludlow 91.82 55 ⇑P P 22 01 12.4 0.0
baz=92,SNR=13
BELC Belle Mtn. Jos 91.96 56 P **P 22 01 13.4 +0.3**
baz=92
D08A Wollman Farm, 92.02 43 eP P 22 01 11.7 -1.3
comp=Z,38nm,1.4s
D08A LR LR
comp=Z,13µm,19.4s
SHOC Shoshone 92.04 54 ⇓P P 22 01 12.7 -0.6
baz=92
BMN Battle Mountai 92.06 50 eP P 22 01 11.7 -1.8
BMN pmax pmax
comp=Z,90nm,1.5s
BMN MLR MLR
comp=Z,14µm,18.0s
BMN Battle Mountai 92.06 50 eP P 22 01 11.7 -1.8
comp=Z,90nm,1.5s
BMN LR LR
comp=Z,14µm,18.0s
TPNV Topopah Spring 92.23 53 eP P 22 01 14.2 -0.2
TPNV Topopah Spring 92.23 53 eP P 22 01 14.2 -0.2
TPNV Topopah Spring 92.23 53 ⇓P P 22 01 14.3 -0.1
baz=92,SNR=25
TUQ Turquoise Moun 92.25 55 P **P 22 01 14.6 +0.2**
baz=92
GMRC Granite Mounta 92.36 55 P **P 22 01 14.8 -0.2**
baz=92
E09A Wood Farm, Sta 92.44 43 eP P 22 01 13.8 -1.1
comp=Z,51nm,1.4s
E09A LR LR
comp=Z,12µm,18.6s
C09A Chrisman Ranch 92.58 42 eP P 22 01 14.3 -1.2
comp=Z,32nm,1.5s
C09A LR LR
comp=Z,17µm,21.1s
IRM Iron Mountain 92.68 56 P **P 22 01 16.9 +0.5**
baz=93
GLA Glamis 92.78 57 eP P 22 01 15.7 -1.1
GLA pmax pmax
comp=Z,8.0nm,1.0s
GLA MLR MLR
comp=Z,6µm,20.3s
GLA Glamis 92.78 57 eP P 22 01 15.7 -1.1
comp=Z,8.0nm,1.0s
GLA LR LR
comp=Z,6µm,20.3s
LDFC Landfair 92.85 55 eP P 22 01 17.5 +0.3
comp=Z,164nm,1.1s
LDFC LR LR
comp=Z,15µm,21.1s
R11A Troy Canyon, C 92.97 52 eP P 22 01 18.0 +0.2
R11A Troy Canyon, C 92.97 52 ⇑P P 22 01 17.8 0.0
baz=93,SNR=25
F10A Beach Ranch, E 92.98 44 eP P 22 01 15.9 -1.6
comp=Z,343nm,2.8s
F10A LR LR
comp=Z,16µm,20.0s
SHPR Sheep Range 93.03 54 eP P 22 01 18.4 +0.3
NEW Newport 93.42 42 eP P 22 01 18.2 -1.2
comp=Z,29nm,1.3s
NEW LR LR
comp=Z,16µm,21.0s
NEW Newport 93.42 42 ⇓P P 22 01 21.2 +1.8
baz=94,SNR=6.8
MFID Camas Ranch 93.56 47 eP P 22 01 18.9 -1.4
comp=Z,125nm,2.0s
MFID LR LR
comp=Z,17µm,22.0s
ELK Elko 93.60 49 eP P 22 01 20.4 -0.2
comp=Z,42nm,1.4s
ELK LR LR
comp=Z,7µm,18.5s
KBL Kabul 93.69 304 eP P 22 01 21.5 +0.2
KBL pmax pmax
comp=Z,26nm,1.1s
KBL MLR MLR
comp=Z,8µm,21.4s
KBL Kabul 93.69 304 eP P 22 01 21.4 +0.2
comp=Z,26nm,1.1s
KBL LR LR
comp=Z,8µm,21.4s
KBL Kabul 93.69 304 P P 22 01 24.6 +3.4
baz=94,SNR=8.3
KKAR Karatay Array 93.79 313 eP P 22 01 19.5 -1.7
KKAR Karatay Array 93.79 313 eP P 22 01 19.5 -1.7
ARUT Antelope Range 94.57 53 eP P 22 01 25.8 +0.6
ARUT Antelope Range 94.57 53 eP P 22 01 25.8 +0.6
CCUT Cedar City 94.60 53 eP P 22 01 24.5 -0.8
comp=Z,44nm,1.2s
CCUT LR LR
comp=Z,20µm,20.9s
HLID Hailey 94.60 47 eP P 22 01 24.1 -1.0
comp=Z,46nm,1.4s
HLID LR LR
comp=Z,18µm,22.0s
HLID Hailey 94.60 47 ⇑P P 22 01 25.2 +0.1
baz=95,SNR=15
BSMT Bassoo Peak 94.91 42 eP P 22 01 23.9 -2.6
KNB Kanab 94.96 53 eP P 22 01 27.5 +0.6
KNB pmax pmax
comp=Z,140nm,1.5s
KNB MLR MLR
comp=Z,21µm,21.7s
KNB Kanab 94.96 53 eP P 22 01 27.5 +0.6
comp=Z,140nm,1.5s
KNB LR LR
comp=Z,21µm,21.7s
BVAR Borovoye Array 95.26 323 P **P 22 01 24.8 -2.9**
BVAR Borovoye Array 95.26 323 P **P 22 01 24.8 -2.9**
BVAR Borovoye Array 95.26 323 P **P 22 01 24.8 -2.9**
comp=Z,4.8nm,0.8s,baz=106,slow=5.2,SNR=15
BVAR LR LR 22 46 14.6
comp=Z,2µm,18.9s,baz=92,slow=37
BGU Big Grassy Mou 95.28 50 eP P 22 01 28.7 +0.4
comp=Z,42nm,1.4s
BGU LR LR
comp=Z,6µm,18.7s
BRVK Borovoye 95.32 323 ⇓eP P 22 01 28.4 +0.4
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK MLR MLR
comp=Z,7µm,18.0s
BRVK Borovoye 95.32 323 eP P 22 01 25.7 -2.3
comp=Z,53nm,1.5s
BRVK LR LR
comp=Z,10µm,20.0s
MSO Missoula 95.35 44 eP P 22 01 26.9 -1.5
comp=Z,24nm,1.7s
MSO LR LR
comp=Z,12µm,20.0s
DUG Dugway 95.36 50 eP P 22 01 28.4 -0.2
DUG pmax pmax
comp=Z,119nm,2.2s
DUG MLR MLR
comp=Z,10µm,22.0s
DUG Dugway 95.36 50 eP P 22 01 28.4 -0.2
comp=Z,118nm,2.2s
DUG LR LR
comp=Z,10µm,22.0s
SWMT Swartz Lake 95.40 43 eP P 22 01 27.6 -1.1
HVU Hansel Valley 95.57 49 eP P 22 01 29.8 +0.2
HVU pmax pmax
comp=Z,205nm,2.0s
HVU MLR MLR
comp=Z,10µm,20.0s
HVU Hansel Valley 95.57 49 eP P 22 01 29.8 +0.2
comp=Z,170nm,2.0s
HVU LR LR
comp=Z,10µm,20.0s
MVU Marysvale 95.62 52 eP P 22 01 28.4 -1.6
comp=Z,92nm,1.8s
MVU LR LR
comp=Z,11µm,19.0s
WALA Waterton Lakes 95.64 41 eP P 22 01 28.5 -1.2
SLMT Seeley Lake 95.71 43 eP P 22 01 28.4 -1.7
SPUT South Promonto 95.76 49 eP P 22 01 30.1 -0.4
comp=Z,149nm,2.4s
SPUT LR LR
comp=Z,6µm,19.1s
CHMT Chamberlain Mo 95.83 44 eP P 22 01 31.8 +1.1
NLU North Lily Min 95.89 51 eP P 22 01 31.2 0.0
comp=Z,48nm,1.4s
NLU LR LR

WUAZ Wupatki 95.94 55 *e*P **P 22 01 31.4 0.0**
comp=Z,9µm,19.9s
WUAZ LR LR
comp=Z,111nm,2.2s

TUC Tucson 96.06 58 *e*P **P 22 01 31.2 -0.7**
TUC pmax pmax
comp=Z,126nm,1.8s

TUC MLR MLR
comp=Z,17µm,20.0s

TUC Tucson 96.06 58 *e*P **P 22 01 31.2 -0.7**
comp=Z,126nm,1.8s
TUC LR LR
comp=Z,17µm,20.0s

DLMT Dillon 96.11 45 *e*P **P 22 01 31.2 -0.8**
comp=Z,68nm,1.9s
DLMT LR LR
comp=Z,13µm,19.9s

MPU Maple Canyon 96.23 51 *e*P **P 22 01 32.4 -0.3**
comp=Z,178nm,2.5s
MPU LR LR
comp=Z,10µm,19.1s

LRM Limekiln Ridge 96.26 45 *e*P **P 22 01 32.3 -0.4**
EDM Edmonton 96.46 37 *e*P **P 22 01 33.9 +0.7**
EDM Edmonton 96.46 37 *e*P **P 22 01 33.9 +0.7**
TMUT Trail Mountain 96.48 51 *e*P **P 22 01 31.6 -2.5**
comp=Z,43nm,1.2s
TMUT LR LR
comp=Z,6µm,19.3s

TCUT Toone Canyon 96.52 49 PFAKE 22 01 40.0 +5.9
TCUT LR LR
comp=Z,9µm,22.0s

DAU Daniels Canyon 96.56 50 *e*P **P 22 01 33.6 -0.8**
DAU Daniels Canyon 96.56 50 *e*P **P 22 01 33.6 -0.8**
YKA Yellowknife Ar 96.76 28 P **P 22 01 33.5 -0.7**
YKA PKKPbc **PKKPdf 22 18 21.2 +0.3**
YKA Yellowknife Ar 96.76 28 P **P 22 01 33.5 -0.7**
comp=Z,0.9nm,0.8s,baz=260,slow=4.7,SNR=11
YKA PKKPbc **PKKPdf 22 18 21.2 +0.3**
comp=Z,0.5nm,0.6s,baz=72,slow=2.7,SNR=4.5

YKB5 Yellowknife Ar 96.76 28 *e*P **P 22 01 32.7 -1.6**
BOZ Bozeman (W) 96.82 45 *e*P **P 22 01 32.0 -3.2**
BOZ pmax pmax
comp=Z,120nm,2.2s

BOZ MLR MLR
comp=Z,10µm,20.0s

BOZ Bozeman (W) 96.82 45 *e*P **P 22 01 32.0 -3.2**
comp=Z,105nm,2.2s
BOZ LR LR
comp=Z,10µm,20.0s

AHID Auburn Hatcher 96.92 48 PFAKE 22 01 40.0 +4.2
AHID LR LR
comp=Z,10µm,21.0s

SRU San Rafael 96.99 52 *e*P P 22 01 31.1 -5.1
SRU pmax pmax
comp=Z,44nm,1.8s

SRU MLR MLR
comp=Z,10µm,18.0s

SRU San Rafael 96.99 52 *e*P P 22 01 31.1 -5.1
comp=Z,44nm,1.8s
SRU LR LR
comp=Z,10µm,18.0s

REDW Red Top Meadow 97.15 47 *e*P **P 22 01 34.2 -2.7**
comp=Z,114nm,2.1s
REDW LR LR
comp=Z,11µm,18.3s

YMR Madison River 97.19 46 *e*P Pdif 22 01 37.2 +0.1
comp=Z,18nm,1.0s
YMR LR LR
comp=Z,24µm,20.8s

SNOW Snow King Moun 97.23 47 *e*P **P 22 01 37.0 -0.2**
comp=Z,28nm,1.3s
SNOW LR LR
comp=Z,11µm,18.7s

YFT Old Faithful 97.27 46 *e*P P 22 01 32.8 -4.6
comp=Z,66nm,1.8s
YFT LR LR
comp=Z,32µm,19.8s

MOOW Moose Ponds 97.27 47 *e*P **P 22 01 36.2 -1.2**
comp=Z,129nm,2.6s
MOOW LR LR
comp=Z,14µm,21.6s

FLWY Flagg Ranch 97.33 47 *e*P **P 22 01 35.5 -2.1**
comp=Z,105nm,2.1s
FLWY LR LR
comp=Z,16µm,21.1s

LOHW Long Hollow 97.36 47 *e*P **P 22 01 36.5 -1.3**
comp=Z,15nm,1.3s
LOHW LR LR
comp=Z,14µm,21.9s

H17A Grant Village 97.44 46 *e*P **P 22 01 37.8 -0.4**
H17A LR LR
comp=Z,29µm,21.4s

PV05 Paradox Valley 98.01 53 *e*P **P 22 01 40.4 -0.5**
PV09 Paradox Valley 98.02 52 *e*P **P 22 01 38.0 -3.0**
BW06 Boulder Array 98.05 48 *e*P **P 22 01 39.1 -1.8**
comp=Z,39nm,1.8s
BW06 LR LR
comp=Z,11µm,22.0s

PDAR Pinedale Array 98.05 48 P **P 22 01 40.5 -0.4**
PDAR Pinedale Array 98.05 48 P **P 22 01 40.5 -0.4**
comp=Z,1.1nm,0.8s,baz=237,slow=2.7,SNR=6.5

PV04 Paradox Valley 98.19 52 *e*P **P 22 01 40.9 -0.7**
GCMT Greycliff 98.20 45 *e*P P 22 01 38.1 -3.3
EGMT Eagleton 98.30 43 PFAKE 22 01 50.0 +8.3
EGMT LR LR
comp=Z,11µm,19.0s

MVCO Mesa Verde 98.42 54 *e*P **P 22 01 42.0 -0.7**
comp=Z,24nm,1.4s
MVCO LR LR
comp=Z,12µm,18.0s

PV01 Paradox Valley 98.43 53 *e*P **P 22 01 41.4 -1.4**
RLMT Red Lodge 98.43 46 PFAKE 22 01 50.0 +7.4
RLMT LR LR
comp=Z,11µm,20.0s

SNAA Sanae 98.63 186 *e*P **P 22 01 41.0 -1.8**
comp=Z,39nm,1.4s
SNAA LR LR
comp=Z,20µm,18.0s

O20A White River Ci 98.84 51 *e*P **P 22 01 43.6 -0.9**
comp=Z,58nm,1.5s
O20A LR LR
comp=Z,10µm,18.9s

RWWY Rawlins 99.72 49 PFAKE 22 02 00.0 +12
RWWY LR LR
comp=Z,7µm,21.4s

SMCO Snowmass 99.75 52 PFAKE 22 02 00.0 +11
SMCO LR LR
comp=Z,15µm,20.2s

ANMO Albuquerque 99.90 56 PFAKE 22 02 00.0 +11
ANMO LR LR
comp=Z,19µm,22.0s

PMSA Palmer Station 100.33 163 PFAKE 22 02 00.0 +10
PMSA LR LR
comp=Z,10µm,19.0s

MNTX Cornudas Mount 100.58 59 PFAKE 22 02 00.0 +7.8
MNTX LR LR
comp=Z,18µm,21.0s

LAO LASA Array 100.63 44 PFAKE 22 02 00.0 +7.9
LAO LR LR
comp=Z,12µm,20.0s

SDCO Great Sand Dun 100.83 53 PFAKE 22 02 00.0 +6.5
SDCO LR LR
comp=Z,15µm,18.0s

ISCO Idaho Springs 100.83 51 PFAKE 22 02 00.0 +6.5
ISCO LR LR
comp=Z,12µm,22.0s

PHWY Pilot Hill 101.01 50 PFAKE 22 02 00.0 +5.7
PHWY LR LR
comp=Z,7µm,20.0s

TXAR Lajitas Array 101.90 62 P **Pdif 22 01 59.0 +0.7**
TXAR PKKP **PKKPdf 22 18 07.5 -3.3**
TXAR Lajitas Array 101.90 62 P **Pdif 22 01 59.0 +0.7**
comp=Z,0.6nm,1.0s,baz=266,slow=5.4,SNR=3.4
TXAR PKKP **PKKPdf 22 18 07.5 -3.3**
comp=Z,1.4nm,0.8s,baz=106,slow=5.7,SNR=10

DGMT Dagmar 102.02 42 PFAKE 22 02 10.0 +12
DGMT LR LR
comp=Z,8µm,20.0s

RSSD Black Hills 102.12 47 PFAKE 22 02 10.0 +11
RSSD LR LR
comp=Z,12µm,20.0s

ARU Arti 102.25 326*d* *i*P **Pdif 22 02 01.2 +2.2**
ARU 22 06 13.8
ARU PPP PPP 22 08 25.4
ARU SP SP 22 15 19.7 +5.2

ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU MLR MLR
comp=Z,11µm,19.0s

KSCO Kaye Shedlock' 103.12 52 PFAKE 22 02 10.0 +6.5
KSCO LR LR
comp=Z,16µm,19.3s

FFC Flin Flon 103.20 36 PFAKE 22 02 10.0 +6.7
FFC LR LR
comp=Z,9µm,20.0s

MDND Maddock 105.12 43 PFAKE 22 06 40.0
MDND LR LR
comp=Z,13µm,21.5s

JCT Junction City 105.31 61 PFAKE 22 06 40.0
JCT LR LR
comp=Z,16µm,21.0s

ABTX Abilene, Hawle 105.48 59 PFAKE 22 06 40.0
ABTX LR LR
comp=Z,23µm,19.6s

BRSD Miller 105.76 46 PFAKE 22 06 40.0
BRSD LR LR
comp=Z,10µm,21.8s

WMOK Wichita Mounta 106.20 56 PFAKE 22 06 40.0
WMOK LR LR
comp=Z,16µm,20.0s

BGNE Belgrade 106.51 49 PFAKE 22 06 40.0
BGNE LR LR
comp=Z,11µm,19.3s

WHTX Lake Whitney 107.33 59 PFAKE 22 06 40.0
WHTX LR LR
comp=Z,21µm,20.5s

ULM Lac du Bonnet 107.33 40 PFAKE 22 06 40.0
ULM LR LR
comp=Z,12µm,18.3s

ECSD EROS Data Cent 107.50 47 PFAKE 22 06 40.0
ECSD LR LR
comp=Z,13µm,20.0s

AGMN Agassiz Nation 107.58 42 PFAKE 22 06 40.0
AGMN LR LR
comp=Z,11µm,20.0s

KSU1 Kansas State U 107.81 52 PFAKE 22 06 40.0
KSU1 LR LR
comp=Z,12µm,21.0s

KBS Kingsbay 107.88 353 PFAKE 22 06 40.0
KBS LR LR
comp=Z,8µm,18.0s

HKT Hockley 108.74 61 PFAKE 22 06 40.0
HKT LR LR
comp=Z,16µm,20.0s

NATX Nacogdoches 109.71 59 PFAKE 22 06 40.0
NATX LR LR
comp=Z,15µm,20.0s

SPMN St. Paul 110.05 45 PFAKE 22 06 40.0
SPMN LR LR
comp=Z,9µm,19.7s

SCIA State Center 110.16 49 PFAKE 22 06 50.0
SCIA LR LR
comp=Z,16µm,20.0s

MIAR Mount Ida 110.50 56 PFAKE 22 06 50.0
MIAR LR LR
comp=Z,22µm,22.0s

EYMN Ely 110.52 42 PFAKE 22 06 50.0
EYMN LR LR
comp=Z,11µm,22.0s

MAK Makhachkala 110.60 313 *e*P **Pdif 22 02 29.6 -6.8**
MAK *i* 22 06 32.6
MAK *e*PPP PPP 22 09 30.8
MAK *e* 22 13 10.4
MAK *e*SS SS 22 22 49.7 +8.2
MAK *e*SSS SSS 22 26 42.9
MAK pmax pmax
comp=Z,27nm,0.9s
MAK MLR MLR
comp=Z,6µm,17.0s

KEV Kevo 111.49 343 PFAKE 22 06 50.0
KEV LR LR
comp=Z,9µm,22.0s

UALR University of 111.49 56 PFAKE 22 06 50.0
UALR LR LR
comp=Z,20µm,20.8s

PAYG Puerto Ayora 111.80 94 PFAKE 22 06 50.0
PAYG LR LR
comp=Z,7µm,22.0s

ARCES ARCESS Array B 112.04 344 PKKPbc PKKPbc 22 17 32.4 -0.9
ARCES ARCESS Array B 112.04 344 PKKPbc PKKPbc 22 17 32.4 -0.9
comp=Z,3.0nm,0.9s,baz=247,slow=6.7,SNR=4.2

JFWS Jewell Farm 112.20 47 PFAKE 22 06 50.0
JFWS LR LR
comp=Z,11µm,20.0s

SLM Saint Louis 112.80 52 PFAKE 22 06 50.0
SLM LR LR
comp=Z,8µm,18.9s

VRHR Novokhopersk 112.98 322 *e*PKIKP PKiKP 22 06 28.6 -12
VRHR *e* 22 07 35.8
VRHR *e*SP SP 22 17 02.5 +0.2
VRHR *e*SS SS 22 23 24.1 +12
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,50nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=Z,360nm,2.4s
VRHR pmax pmax
comp=N,230nm,2.2s
VRHR pmax pmax
comp=E,110nm,2.4s
VRHR MLR MLR
comp=N,8µm,26.0s
VRHR MLR MLR
comp=E,4µm,26.0s
VRHR MLR MLR
comp=Z,11µm,26.0s

GNI Garni 113.03 310 PFAKE 22 06 50.0
GNI LR LR
comp=Z,6µm,21.0s

PVMO Portageville 113.49 54 PFAKE 22 06 50.0
PVMO LR LR
comp=Z,19µm,21.9s

SIUC Southern Illin 113.72 53 PFAKE 22 06 50.0
SIUC LR LR
comp=Z,11µm,19.6s

PLCA Paso Flores 113.75 142 PFAKE 22 06 50.0
PLCA LR LR
comp=Z,4µm,19.4s

MOS Moscow 113.85 328 *i* PKIKP **PKiKP 22 06 43.0 +0.4**
MOS *e* 22 13 52.1
MOS *e*PS **PS 22 17 10.8 -2.2**
MOS *e*SS SS 22 23 16.4 -7.2
MOS pmax pmax
comp=Z,40nm,1.1s

KIV Kislovodsk 113.91 314 *i* PKIKP **PKiKP 22 06 44.9 +1.7**
KIV *e* 22 06 56.2
KIV *i* 22 13 52.1
KIV *i* SS SS 22 23 37.5 +12
KIV pmax pmax
comp=Z,18nm,2.5s
KIV MLR MLR
comp=Z,6µm,23.0s

VORD Divnogorie 114.44 322 *e*PKIKP PKPdf 22 06 47.7 +3.9
VORD *e*SS SS 22 23 39.9 +8.2
VORD pmax pmax
comp=N,5.0nm,0.8s
VORD pmax pmax
comp=E,9.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
VORD pmax pmax
comp=N,130nm,3.2s
VORD pmax pmax
comp=E,390nm,3.2s
VORD pmax pmax
comp=Z,530nm,3.2s
VORD MLR MLR
comp=N,7µm,29.0s
VORD MLR MLR
comp=E,7µm,29.0s
VORD MLR MLR
comp=Z,10µm,29.0s

VSR Storozhevoye 114.44 323 *e*PKIKP PKPdf 22 06 42.1 -1.7
VSR *e* 22 07 36.4
VSR *e*SP SP 22 17 12.1 -3.5
VSR *e*SS **SS 22 23 30.0 -1.8**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,5.0nm,0.9s
VSR pmax pmax
comp=N,230nm,3.0s
VSR pmax pmax
comp=E,180nm,3.0s
VSR pmax pmax
comp=Z,570nm,3.0s

OBN Obninsk 114.63 327 *i* PKIKP PKPdf 22 06 44.1 0.0
OBN *e* 22 07 00.4
OBN *e* 22 07 38.7
OBN *i* 22 13 47.4
OBN *i* SS SS 22 23 52.9 +19
OBN pmax pmax
comp=Z,25nm,2.1s
OBN MLR MLR
comp=Z,7µm,20.0s

USIN University of 114.90 52 PFAKE 22 06 50.0 +4.8
USIN LR LR
comp=Z,11µm,21.1s

SFIN Scholer Farm 114.95 50 PFAKE 22 06 50.0 +4.8
SFIN LR LR
comp=Z,17µm,19.6s

WVT Waverly 115.02 54 PFAKE 22 06 50.0 +4.5
WVT LR LR
comp=Z,10µm,20.0s

SUMG Summit 115.56 5 *i* P **PP 22 07 49.1 +1.4**
SUMG Summit 115.56 5 *i* P **PKKPab 22 17 21.4 -2.9**
SUMG Summit 115.56 5 PFAKE 22 07 00.0 +14
SUMG LR LR
comp=Z,7µm,18.0s

TEIG Tepich 115.64 72 PFAKE 22 07 00.0 +13
TEIG LR LR
comp=Z,10µm,22.0s

WCI Wyandotte Cave 115.92 52 PFAKE 22 07 00.0 +13
WCI LR LR
comp=Z,13µm,18.0s

SOC Sochi 116.09 314 *i* P **Pdif 22 03 01.1 +0.3**
SOC *e* 22 06 45.5
SOC *e* 22 07 47.2
SOC *e*PS **PS 22 17 34.6 +0.6**
SOC *e*SS SS 22 23 56.5 +2.5
SOC pmax pmax
comp=Z,46nm,1.1s
SOC MLR MLR
comp=Z,9µm,23.0s

BRAL Brewton 116.25 60 PFAKE 22 07 00.0 +12
BRAL LR LR
comp=Z,13µm,22.0s

TGUH Tegucigalpa,Un 116.43 79 PFAKE 22 07 00.0 +11
TGUH LR LR
comp=Z,29µm,20.0s

FINES FINESS Array B 116.61 336 PKP **PKPdf 22 06 45.7 -2.0**
FINES FINESS Array B 116.61 336 PKP **PKPdf 22 06 45.7 -2.0**
comp=Z,3.3nm,1.0s,baz=66,slow=1.7,SNR=3.2

SWET Sewanee 116.68 55 PFAKE 22 07 00.0 +11
SWET LR LR
comp=Z,20µm,20.0s

AAM Ann Arbor 117.10 47 PFAKE 22 07 00.0 +11
AAM LR LR
comp=Z,15µm,20.0s

ANN Anapa 117.37 316 *i* PKIKP **PKPdf 22 06 47.7 -2.0**
ANN *e* 22 08 07.1
ANN *e* 22 13 38.1
ANN *e*PS **PS 22 17 47.8 +2.2**
ANN *e*SS SS 22 24 24.8 +14
ANN *e*SSS SSS 22 28 30.8
ANN pmax pmax
comp=Z,72nm,1.3s

ACSO Alum Creek Sta 118.06 49 PFAKE 22 07 00.0 +8.8
ACSO LR LR
comp=Z,17µm,22.0s

TZTN Tazewell 118.37 53 PFAKE 22 07 00.0 +8.1
TZTN LR LR
comp=Z,16µm,21.4s

SFJD Kangerlussuaq 118.85 12 PFAKE 22 07 00.0 +8.1
SFJD LR LR
comp=Z,17µm,21.0s

GOGA Godfrey 118.97 57 PFAKE 22 07 00.0 +6.9
GOGA LR LR
comp=Z,40µm,21.0s

TIGA Tifton 119.15 59 PFAKE 22 07 00.0 +6.5
TIGA LR LR
comp=Z,46µm,21.0s

MICGM Minsk 119.44 329 *e*PKP **PKPdf 22 06 52.0 -1.4**
MNK Minsk 119.47 329 *e*PKIKP **PKPdf 22 06 52.0 -1.4**
MNK *e* 22 08 15.0
MNK *e* 22 13 38.0
MNK MLR MLR
comp=Z,19µm,22.0s

SIM Simferopol' 119.58 317 *i* PKIKP PKPpre 22 06 40.5
SIM pmax pmax
comp=Z,14nm,1.3s
SIM MLR MLR
comp=Z,5µm,19.0s

FURI Furi 119.65 275 *e*PKPdf **PKPdf 22 06 54.4 -1.0**
FURI LR LR
comp=Z,33µm,19.0s

KMBO Kilima Mbogo 119.69 264 *e*PKPdf **PKPdf 22 06 53.4 -2.0**
KMBO LR LR
comp=Z,22µm,20.0s

KMBO Kilima Mbogo 119.69 264 PKP **PKPdf 22 06 57.4 +2.0**
comp=Z,0.8nm,0.3s,baz=12,slow=5.5,SNR=13

ERPA Erie 119.78 46 PFAKE 22 07 00.0 +5.6
ERPA LR LR
comp=Z,27µm,20.0s

ALLY Alegheny Colle 119.79 47 PFAKE 22 07 00.0 +5.5
ALLY LR LR
comp=Z,26µm,21.2s

NACGM Naroch 119.80 330 *e*PKP PKPdf 22 07 01.0 +7.0
LCO Las Campanas 120.21 131 PFAKE 22 07 10.0 +14
LCO LR LR
comp=Z,7µm,22.0s

KMSC Kings Mountain 120.40 54 PFAKE 22 07 10.0 +14
KMSC LR LR
comp=Z,19µm,20.5s

AKASG Malin Array Be 120.47 325 PKIKP **PKPdf 22 06 53.0 -2.5**
AKASG Malin Array Be 120.47 325 PKP **PKPdf 22 06 53.0 -2.5**
AKASG PKKPab **PKKPab 22 17 02.3 -0.3**
AKASG Malin Array Be 120.47 325 PKP **PKPdf 22 06 52.9 -2.5**
comp=Z,5.1nm,0.6s,baz=51,slow=2.5,SNR=14
AKASG PKKPab **PKKPab 22 17 02.3 -0.3**
comp=Z,1.0nm,0.8s,baz=259,slow=2.9,SNR=4.1

KIEV Kiev 120.48 325 *e*PKIKP **PKPdf 22 06 55.4 -0.1**
KIEV MLR MLR
comp=Z,17µm,22.0s

KIEV Kiev 120.48 325 *e*PKPdf **PKPdf 22 06 55.4 -0.1**
KIEV LR LR
comp=Z,17µm,22.0s

AK11 Malin Array Si 120.51 325 *e*PKPdf **PKPdf 22 06 53.3 -2.2**
AK11 *e*PKKPab **PKKPbc 22 17 03.4 +0.5**
TRQA Tornquist 120.56 144 PKPdf **PKPdf 22 06 53.2 -2.9**
TRQA LR LR
comp=Z,7µm,19.0s

BLA Blacksburg 120.69 52 PFAKE 22 07 10.0 +14
BLA LR LR
comp=Z,26µm,21.0s

MMNY Mt. Morris Dam 121.07 45 PFAKE 22 07 10.0 +13
MMNY LR LR
comp=Z,57µm,19.6s

NHSC New Hope 121.73 57 PFAKE 22 07 10.0 +12
NHSC LR LR
comp=Z,25µm,21.0s

ANTO Ankara 122.05 312 PFAKE 22 07 10.0 +11
ANTO LR LR
comp=Z,10µm,20.0s

SUW Suwalki 122.05 330 *e*PKIKP **PKPdf 22 07 01.4 +3.0**
SUW Suwalki 122.05 330 *e*PKPdf **PKPdf 22 07 01.4 +3.0**
SUW Suwalki 122.05 330 PFAKE 22 07 10.0 +12
SUW LR LR
comp=Z,10µm,19.0s

NNA Nana 122.13 110 PFAKE 22 07 10.0 +10
NNA LR LR
comp=Z,12µm,21.0s

SCHQ Schefferville 122.21 29 PFAKE 22 07 10.0 +11
SCHQ LR LR
comp=Z,16µm,19.5s

NB2 NORSAR Subarra122.23 341 PKPdf **PKPdf 22 06 58.3 -0.4**
comp=Z,13nm,1.1s,baz=40,slow=1.9
NB2 NORSAR Subarra122.23 341 PKPdf **PKPdf 22 06 58.3 -0.4**
baz=40,slow=1.9

NOA NORSAR Array B122.23 341 PKP **PKPdf 22 06 58.3 -0.4**

NOA NORSAR Array B 122.23 341 PKP **PKPdf 22 06 58.3 -0.4**
comp=Z,0.8nm,0.8s,baz=33,slow=7.0,SNR=3.1
KIS Kishinev 122.28 321 *e*PP PP 22 08 52.0 +18
KIS *e*SKS SKS 22 13 13.0
KIS *e*SKKS **SKKSac 22 15 28.0 -5.2**
LBTB Lobatse 122.36 233 PFAKE 22 07 10.0 +10
LBTB LR LR
comp=Z,31µm,21.0s
PTN Potsdam (NY) 122.44 42 PFAKE 22 07 10.0 +11
PTN LR LR
comp=Z,24µm,21.3s
BINY Binghamton 122.59 45 PFAKE 22 07 10.0 +10
BINY LR LR
comp=Z,18µm,18.5s
LONY Lake Ozonia 122.69 42 PFAKE 22 07 10.0 +10
LONY LR LR
comp=Z,12µm,22.0s
CBN Corbin 122.78 50 PFAKE 22 07 10.0 +10
CBN LR LR
comp=Z,21µm,21.0s
CSS Prodhromos 122.90 306 PFAKE 22 07 10.0 +9.3
CSS LR LR
comp=Z,10µm,21.0s
MVL Millersville 123.03 48 PFAKE 22 07 10.0 +9.3
MVL LR LR
comp=Z,16µm,19.8s
FRNY Flat Rock 123.26 41 PFAKE 22 07 10.0 +9.0
FRNY LR LR
comp=Z,12µm,20.3s
BCIP Isla Barro Col 123.39 85 PFAKE 22 07 10.0 +7.9
BCIP LR LR
comp=Z,11µm,22.0s
CFR Carcaliu 123.46 319 ⇑PKIKP **PKPdf 22 07 01.9 +0.5**
CFR Carcaliu 123.46 319 ⇑*i*P **PKPdf 22 07 01.9 +0.5**
LUPA Lehigh Univers 123.55 47 PFAKE 22 07 10.0 +8.3
LUPA LR LR
comp=Z,12µm,18.5s
TIRR Tirgusor 123.56 318 PFAKE 22 07 10.0 +8.4
TIRR LR LR
comp=Z,10µm,19.0s
OTAV Otavalo 123.61 96 PFAKE 22 07 10.0 +6.8
OTAV LR LR
comp=Z,8µm,20.0s
TLB Topalu 123.75 318 ⇓PKIKP **PKPdf 22 07 06.8 +4.8**
TLB Topalu 123.75 318 ⇓*i*P **PKPdf 22 07 06.8 +4.8**
ACCN Adirondack Com 123.76 43 PFAKE 22 07 10.0 +7.9
ACCN LR LR
comp=Z,11µm,20.4s
HARR Harsova 123.79 319 ⇑PKIKP PKPdf 22 07 07.4 +5.4
HARR Harsova 123.79 319 ⇑*i*P PKPdf 22 07 07.4 +5.4
KONO Kongsberg 123.81 341 PFAKE 22 07 10.0 +8.4
KONO LR LR
comp=Z,13µm,21.0s
LVV L'vov 123.83 326 *i* PKIKP **PKPdf 22 06 59.7 -2.3**
LVV *e* 22 08 48.1
TESR Tescani 123.84 321 ⇑*i*P **PKPdf 22 07 05.0 +2.9**
ODNJ Ogdensburg 123.94 46 PFAKE 22 07 10.0 +7.6
ODNJ LR LR
comp=Z,13µm,20.4s
VRI Vrincioaia 124.07 320 ⇑PKIKP **PKPdf 22 07 05.4 +2.8**
VRI Vrincioaia 124.07 320 ⇑*i*P **PKPdf 22 07 05.4 +2.8**
BORG Borgarnes 124.16 359 PFAKE 22 07 10.0 +7.9
BORG LR LR
comp=Z,10µm,22.0s
BURAR Bucovina Array 124.22 323 ⇑PKIKP **PKPdf 22 07 03.2 +0.3**
BURAR Bucovina Array 124.22 323 ⇑*i*P **PKPdf 22 07 03.2 +0.3**
BUR04 Bucovina Ar. S 124.22 323 *e*PKPdf **PKPdf 22 07 01.8 -1.1**
LSZ Lusaka 124.39 245 *e*PKPdf **PKPdf 22 07 05.1 +0.9**
LSZ LR LR
comp=Z,15µm,19.0s
PAL Palisades 124.46 46 PFAKE 22 07 10.0 +6.6
PAL LR LR
comp=Z,70µm,21.0s
BEL Belsk 124.47 329 *e*PKIKP **PKPdf 22 07 06.7 +3.6**
BEL Belsk 124.47 329 *e*PKPdf **PKPdf 22 07 06.6 +3.5**
CPNY Central Park 124.50 46 PFAKE 22 07 10.0 +6.5
CPNY LR LR
comp=Z,15µm,21.1s
ISR Istrita 124.51 320 ⇑PKIKP **PKPdf 22 07 08.5 +5.0**
ISR Istrita 124.51 320 ⇑*i*P **PKPdf 22 07 08.5 +5.0**
LBNH Lisbon 124.59 42 PFAKE 22 07 10.0 +6.4
LBNH LR LR
comp=Z,14µm,18.0s
KWP Kalwaria Pacla 124.66 326 ⇑PKIKP **PKPdf 22 07 05.3 +1.7**
KWP Kalwaria Pacla 124.66 326 *e*PKPdf **PKPdf 22 07 06.0 +2.4**
KWP *e*PP PP 22 08 58.2 +7.9
KWP Kalwaria Pacla 124.66 326 ⇑*i*P **PKPdf 22 07 05.3 +1.7**
KWP Kalwaria Pacla 124.66 326 PFAKE 22 07 10.0 +6.4
KWP LR LR
comp=Z,14µm,19.0s
MLR Muntele Rosu 124.73 320 ⇑*i*P **PKPdf 22 07 05.8 +1.8**
LVC Limon Verde 124.83 125 PFAKE 22 07 10.0 +4.9
LVC LR LR
comp=Z,7µm,18.0s
LPA La Plata 125.09 144 *ce*PDIFF **Pdif 22 03 39.0 -2.1**
LPA PP **PP 22 08 55.0 +1.9**
LPA pPP 22 09 40.0
LPA SKIKP 22 10 36.0
LPA PPP PPP 22 11 32.0
LPA PSP PSP 22 20 33.0
KOLS Kolonicke sedl 125.27 325 *e*PKIKP **PKPdf 22 07 09.4 +4.6**
KOLS Kolonicke sedl 125.27 325 *e* **PKPdf 22 07 09.4 +4.6**
VOIR 125.32 320 ⇑PKIKP **PKPdf 22 07 04.9 -0.2**
VOIR 125.32 320 ⇑*i*P **PKPdf 22 07 04.9 -0.2**
GKP Gorka Klasztor 125.34 332 *e*PKIKP **PKPdf 22 07 08.7 +4.0**
GKP Gorka Klasztor 125.34 332 *e*PKPdf **PKPdf 22 07 08.7 +4.0**
UZH Uzhgorod 125.42 325 *e*PKIKP PKPdf 22 07 11.1 +6.1
UZH *e* 22 07 17.1
UZH *e* 22 07 24.9
UZH *e* 22 25 55.1
HRV Adam Dziewonsk 125.53 43 PFAKE 22 07 10.0 +4.5
HRV LR LR
comp=Z,16µm,18.0s
STHS Stebnicka Huta 125.58 326 *e*PKIKP PKPdf 22 07 11.0 +5.6
STHS Stebnicka Huta 125.58 326 *e* PKPdf 22 07 11.0 +5.6
ARR Arges 125.61 321 ⇑*i*P **PKPdf 22 07 09.4 +3.8**
CRVS Cervenica-Dubn 125.74 326 *e*PKIKP PKPdf 22 07 12.4 +6.7
CRVS Cervenica-Dubn 125.74 326 *e* PKPdf 22 07 12.4 +6.7
HUMR Humele 125.77 320 ⇑*i*P **PKPdf 22 07 08.3 +2.5**
MTDJ Mount Denham 125.82 74 PFAKE 22 07 20.0 +13
MTDJ LR LR
comp=Z,10µm,22.0s
PKME Peaks-Kenny Pk 125.83 39 PFAKE 22 07 20.0 +14
PKME LR LR
comp=Z,14µm,20.0s
OJC Ojcow 125.91 328 *e*PKIKP **PKPdf 22 07 04.5 -1.5**
OJC MLR MLR
comp=Z,8µm,19.5s
OJC Ojcow 125.91 328 *e*PKPdf **PKPdf 22 07 04.5 -1.5**
OJC LR LR
comp=Z,8µm,19.5s
RGN Rugen 126.22 335 PFAKE 22 07 20.0 +14
RGN LR LR
comp=Z,12µm,20.0s
KDZ Kurdzhali 126.69 316 ⇓PKIKP **PKPdf 22 07 10.1 +2.4**
KDZ Kurdzhali 126.69 316 ⇓*i*P **PKPdf 22 07 10.1 +2.4**
OKC Ostrava-Krasne 127.00 328 *e*PKIKP **PKPdf 22 07 11.1 +3.1**
OKC *e*SS SS 22 26 15.0 +2.6
OKC MLR MLR
comp=Z,5µm,26.5s
OKC Ostrava-Krasne 127.00 328 *e*PKP **PKPdf 22 07 11.1 +3.1**
OKC *ep*PKP **pPKPdf 22 07 14.8 +0.6**
OKC *ex* x 22 09 23.5
OKC *e*SS SS 22 26 15.0 +2.6
OKC AMS AMS 22 53 20.0
comp=Z,5µm,26.5s
PSZ Piszkesteto 127.15 325 *e*PKIKP **PKPdf 22 07 04.9 -3.6**
PSZ MLR MLR
comp=Z,11µm,20.0s
PSZ Piszkesteto 127.15 325 ⇑*i*P PKPdf 22 07 15.0 +6.5
PSZ Piszkesteto 127.15 325 *e*PKPdf **PKPdf 22 07 04.9 -3.6**
PSZ LR LR
comp=Z,11µm,20.0s
PSZ Piszkesteto 127.15 325 *e* PKPdf 22 07 13.7 +5.2
KSP Ksiaz 127.33 330 *e*PKIKP **PKPdf 22 07 11.3 +2.6**
KSP *e* 22 09 11.0
KSP *e*SS SS 22 26 18.0 +1.6
KSP Ksiaz 127.33 330 *e*PKPdf **PKPdf 22 07 11.9 +3.2**
KSP *ep*PKPdf **pPKPdf 22 07 21.2 +6.4**
MORC Moravsky Berou 127.35 328 ⇑PKIKP **PKPdf 22 07 08.4 -0.4**
MORC Moravsky Berou 127.35 328 ⇑*i*P **PKPdf 22 07 08.4 -0.4**
MORC Moravsky Berou 127.35 328 *e*PKPdf **PKPdf 22 07 06.2 -2.6**
MORC LR LR
comp=Z,10µm,21.0s
BZS Buzias 127.35 322 ⇑PKIKP **PKPdf 22 07 08.1 -0.8**
BZS Buzias 127.35 322 ⇑*i*P **PKPdf 22 07 08.1 -0.8**
RUE Ruedersdorf 127.44 333 *e*PKP PKPdf 22 07 16.5 +7.7
RUE Ruedersdorf 127.44 333 *e*PKPdf **PKPdf 22 07 08.0 -0.8**
RUE LR LR
comp=Z,15µm,18.0s
KRLC Kraliky 127.56 329 *e*PKIKP **PKPdf 22 07 09.2 0.0**
KRLC Kraliky 127.56 329 *e*PKP **PKPdf 22 07 09.2 0.0**
DPC Dobruska-Polom 127.62 330 *e*PKIKP **PKPdf 22 07 12.5 +3.2**
DPC *e* 22 07 16.8
DPC Dobruska-Polom 127.62 330 *e*PKP **PKPdf 22 07 12.5 +3.2**
DPC *ep*PKP **pPKPdf 22 07 16.8 +1.4**
DPC *ex* x 22 09 19.9
DPC *e*SS SS 22 26 26.5 +6.3
DPC AMS AMS 22 56 20.0
DPC Dobruska-Polom 127.62 330 *e*PKPdf **PKPdf 22 07 09.3 0.0**
DPC LR LR
comp=Z,82µm,19.0s
UPC Upice 127.68 330 *e*PKIKP **PKPdf 22 07 12.4 +3.1**
UPC Upice 127.68 330 *e*PKP **PKPdf 22 07 12.4 +3.1**
UPC *ep*PKP **pPKPdf 22 07 16.5 +1.1**
VTS Vitosha 127.78 318 ⇑PKIKP **PKPdf 22 07 06.4 -3.6**
VTS Vitosha 127.78 318 ⇑*i*P **PKPdf 22 07 06.4 -3.6**
MMB Musomiste 127.87 317 ⇓PKIKP **PKPdf 22 07 12.2 +2.2**
MMB Musomiste 127.87 317 ⇓*i*P **PKPdf 22 07 12.2 +2.2**
BSEG Bad Segeberg 127.89 336 *e*PKP PKPdf 22 07 17.3 +7.7
GTBY Guantanamo Bay 128.01 72 PFAKE 22 07 20.0 +9.2
GTBY LR LR
comp=Z,12µm,22.0s
VRAC Vranov 128.13 328 ⇑*i*P **PKPdf 22 07 12.8 +2.6**
PKSG 128.29 326 *e* **PKPdf 22 07 11.9 +1.3**
PVCC Panska Ves 128.37 331 *e*PKIKP **PKPdf 22 07 13.7 +3.1**
PVCC *e* 22 07 18.1
PVCC *e* 22 09 18.6
PVCC *e*SS SS 22 26 33.3 +4.0
PVCC Panska Ves 128.37 331 *e*PKP **PKPdf 22 07 13.7 +3.1**
PVCC *ep*PKP **pPKPdf 22 07 18.1 +1.3**
PVCC *e*PP **PP 22 09 18.6 +3.9**
PVCC *e*SS SS 22 26 33.3 +4.0
LPAZ La Paz 128.38 119 *e*PKPdf **PKPdf 22 07 09.3 -3.2**
LPAZ LR LR
comp=Z,6µm,19.5s
LPAZ La Paz 128.38 119 PKP **PKPdf 22 07 12.7 +0.3**
comp=Z,5.4nm,0.9s,baz=243,slow=4.5,SNR=8.4
ROSC El Rosal 128.39 91 *e*PKPpre PKPpre 22 07 06.7
ROSC PKP **PKPdf 22 07 12.0 -0.3**
ROSC El Rosal 128.39 91 PKP **PKPdf 22 07 12.0 -0.3**
comp=Z,3.1nm,0.5s,baz=287,slow=19,SNR=2.5
BRG Berggiesshubel 128.44 331 *e*PKP **PKPdf 22 07 14.3 +3.5**
comp=Z,48nm,2.0s
BRG PP **PP 22 09 12.0 -3.2**
BRG *i* 22 10 47.6
comp=Z,41nm,1.9s
BRG SS SS 22 26 29.0 -1.1
BRG Berggiesshubel 128.44 331 *e*PKIKP **PKPdf 22 07 14.3 +3.5**
BRG 22 09 12.0
BRG SS SS 22 26 29.0 -1.1
BRG pmax pmax
comp=Z,48nm,2.0s
BRG pmax pmax
comp=Z,41nm,1.9s
BRG Berggiesshubel 128.44 331 *e*PKP PKPdf 22 07 18.2 +7.4
PKST T"s 128.56 326 *e*PKPdf **PKPdf 22 07 14.5 +3.4**
CLL Collm 128.59 332 *e*PKIKP **PKPdf 22 07 15.0 +4.0**
CLL *e* 22 07 28.0
CLL pmax pmax
comp=Z,19nm,1.0s
CLL MLR MLR
comp=Z,10µm,20.4s
CLL Collm 128.59 332 *e*PKP PKPdf 22 07 18.3 +7.3
CLL Collm 128.59 332 *e*PKPdf **PKPdf 22 07 11.0 0.0**
CLL *ep*PKPdf **pPKPdf 22 07 16.0 -1.1**
comp=Z,19nm,1.0s
CLL *e* 22 07 28.0
CLL *e*PP **PP 22 09 17.0 +0.9**
CLL *e*PKSdf **PKSdf 22 10 47.0 -0.4**
CLL *e* 22 16 29.0
CLL *e*Sdif Sdif 22 17 22.0 +0.4
CLL *e*PSKS 22 19 13.0
CLL *e* 22 22 13.0
CLL *e*SS **SS 22 26 30.0 -1.9**
CLL *e* 22 28 12.0
CLL *e*SSS SSS 22 31 11.0
CLL *e* 22 32 52.0
CLL LmV 23 05 00.0
comp=Z,10µm,20.4s
SANT Santorini 128.64 310 PFAKE 22 07 20.0 +8.3
SANT LR LR
comp=Z,7µm,18.0s
FBE Freiberg 128.69 332 *e*PKP PKPdf 22 07 19.0 +7.8
TREC Trest 128.70 329 *e*PKIKP **PKPdf 22 07 14.4 +3.0**
TREC *e* 22 09 26.2
TREC Trest 128.70 329 *e*PKP **PKPdf 22 07 14.4 +3.0**
TREC *ep*PKP **pPKPdf 22 07 18.5 +1.0**
TREC *ex* x 22 09 26.2
TREC *e*SS SS 22 26 38.3 +4.7
TREC AMS AMS 22 55 50.0
PRU Pruhonice 128.74 330 *e*PKIKP **PKPdf 22 07 13.8 +2.4**
PRU *e* 22 09 19.8
PRU Pruhonice 128.74 330 *e*PKP **PKPdf 22 07 13.8 +2.4**
PRU *ep*PKP **pPKPdf 22 07 17.5 0.0**
PRU *e*PP **PP 22 09 19.8 +2.7**
PRU *e*SS SS 22 26 39.1 +5.3
PRA Prague 128.74 330 PKP **PKPdf 22 07 14.0 +2.7**
PRA PP **PP 22 09 21.0 +3.9**
PKS9 Tamasi 128.81 325 *e*PKPdf **PKPdf 22 07 12.7 +1.1**
PKSM Moragy 128.81 324 ⇓PKIKP **PKPdf 22 07 09.7 -1.9**
PKSM Moragy 128.81 324 ⇓*i*P **PKPdf 22 07 09.7 -1.9**
PKSM Moragy 128.81 324 *e*PKPdf **PKPdf 22 07 10.9 -0.7**
NRDL Niedersach Rie 129.03 335 *e*PKP PKPdf 22 07 19.5 +7.8
NEUB Neuenburg 129.22 333 *e*PKP PKPdf 22 07 19.8 +7.6
CONA Conrad Observa 129.35 327 ⇑*i*PKiKP **PKiKP 22 07 13.8 +0.3**
comp=Z,15nm,1.5s
CLZ Clausthal 129.39 334 *e*PKP PKPdf 22 07 20.3 +7.7
TANN Tannenbergstha 129.45 332 *e*PKP PKPdf 22 07 20.2 +7.4
WERD Werda 129.50 332 *e*PKP PKPdf 22 07 20.3 +7.5
PLN Plauen 129.55 332 *e*PKP PKPdf 22 07 20.4 +7.5
GUNZ Gunzen 129.55 332 *e*PKP PKPdf 22 07 20.5 +7.5
NKC Novy Kostel 129.58 332 *e*PKIKP PKPdf 22 07 19.5 +6.5
NKC Novy Kostel 129.58 332 *ep*PKP **PKPdf 22 07 19.5 +6.5**
NKC *ex* x 22 09 35.4
NKC *e*SS SS 22 26 50.4 +6.2
KHC Kasperske Hory 129.77 330 *e*PKIKP **PKPdf 22 07 16.2 +2.8**
KHC *e* 22 07 26.5
KHC *e* 22 09 28.4
KHC *e*SS SS 22 26 49.7 +3.0
KHC MLR MLR
comp=Z,4µm,24.4s
KHC Kasperske Hory 129.77 330 *e*PKP **PKPdf 22 07 10.0 -3.4**
KHC *ex* x 22 07 16.2
KHC *ep*PKP **pPKPdf 22 07 20.4 +0.9**
KHC *ex* x 22 07 26.5
KHC *e*PP **PP 22 09 28.4 +4.4**
KHC *e*SS SS 22 26 49.7 +3.0
KHC AMS AMS 22 55 00.0
comp=Z,4µm,24.4s
KHC Kasperske Hory 129.77 330 *e*PKPdf **PKPdf 22 07 10.7 -2.7**
KHC LR LR
comp=Z,12µm,20.8s
GEC2 GERESS Array S 129.90 329 *e*PKP PKPdf 22 07 21.0 +7.3
GERES GERESS Array B 129.90 329 PKP **PKPdf 22 07 12.8 -0.9**
GERES GERESS Array B 129.90 329 PKP **PKPdf 22 07 12.9 -0.9**
comp=Z,2.0nm,0.8s,baz=43,slow=1.9,SNR=11
MANZ Manzenberg 129.91 331 *e*PKP PKPdf 22 07 21.2 +7.6
DRLN Deer Lake 130.19 29 PFAKE 22 07 20.0 +5.9
DRLN LR LR
comp=Z,32µm,20.4s
GRF Grafenberg Arr 130.53 332 *e*PKP PKPdf 22 07 22.1 +7.3
GCIS Gornji Cirnik 130.72 325 *e*PKPdf **PKPdf 22 07 17.4 +2.1**
LJU Ljubljana 131.23 326 *e*PKPdf **PKPdf 22 07 15.8 +0.5**
LJU *e* 22 09 38.0
LJU *e* 22 09 51.6
LJU *e* 22 10 45.0
LJU *e* 22 10 50.4
LJU *e* 22 27 15.6
LJU *e* 22 42 03.4
CPUP Villa Florida 131.35 137 *e*PKPdf **PKPdf 22 07 12.3 -4.7**
CPUP Villa Florida 131.35 137 PKP **PKPdf 22 07 17.0 -0.1**
comp=Z,0.7nm,0.4s,baz=241,slow=3.9,SNR=3.1
GRTK Grand Turk 131.56 69 PFAKE 22 07 30.0 +12
GRTK LR LR
comp=Z,14µm,19.0s
SDDR Presa de Saban 131.69 72 *e*PKPpre PKPpre 22 07 09.9
SDDR LR LR
comp=Z,15µm,19.0s
TSUM Tsumeb 131.69 235 *e*PKPdf **PKPdf 22 07 15.9 -2.2**
TSUM LR LR
comp=Z,33µm,19.0s
TRI Trieste 131.86 326 PFAKE 22 07 30.0 +13
TRI LR LR
comp=Z,9µm,18.5s
ABTA Abfaltersbach 131.87 328 P PKPpre 22 07 05.6
comp=Z,13nm,1.0s
STU Stuttgart 132.12 332 *e*PKIKP **PKPdf 22 07 16.7 -1.1**
STU MLR MLR
comp=Z,9µm,19.0s
STU Stuttgart 132.12 332 *e*PKPdf **PKPdf 22 07 16.7 -1.1**
STU LR LR
comp=Z,9µm,19.0s
MEM Membach 132.14 336 APKP pPKPdf 22 07 27.1 +3.3
MOTA Moosalm 132.19 329 ⇑*i*PKiKP **PKPdf 22 07 17.5 -0.7**
comp=Z,7.9nm,0.7s
SDV Santo Domingo 132.44 86 *e*PKPdf **PKPdf 22 07 17.2 -2.5**
SDV *e*SKPbc **SKPab 22 10 47.6 +0.6**
SDV LR LR
comp=Z,13µm,21.0s
WLF Walferdange 132.80 335 PFAKE 22 07 30.0 +11
WLF LR LR
comp=Z,13µm,19.0s
GIVF Givet 133.01 336 *e*PKIKP **PKPdf 22 07 15.4 -4.0**
comp=Z,76nm,1.3s
GIVF Givet 133.01 336 *e*PKIKP **PKPdf 22 07 15.4 -4.0**
GIVF Givet 133.01 336 *e*PKPdf **PKPdf 22 07 15.4 -4.0**
CDF Champ du Feu 133.26 333 *e*PKIKP **PKPdf 22 07 16.8 -3.3**
CDF Champ du Feu 133.26 333 *e*PKIKP **PKPdf 22 07 16.8 -3.3**
CDF Champ du Feu 133.26 333 *e*PKPdf **PKPdf 22 07 16.8 -3.3**
BAIF Baives 133.29 337 *e*PKIKP **PKPdf 22 07 16.0 -4.0**
comp=Z,38nm,1.4s
BAIF Baives 133.29 337 *e*PKIKP **PKPdf 22 07 16.0 -4.0**
BAIF Baives 133.29 337 *e*PKPdf **PKPdf 22 07 16.0 -4.0**
TRIS Tristan da Cun 133.37 191 PFAKE 22 07 30.0 +9.4
TRIS LR LR
comp=Z,11µm,20.0s
TUE Stuetta 133.67 330 *e*PKPdf **PKPdf 22 07 20.5 -0.6**
TUE LR LR
comp=Z,13µm,19.0s
TIP Timpagrande 133.70 317 PFAKE 22 07 30.0 +8.8
TIP LR LR
comp=Z,10µm,20.9s
PAGF Fort de Pagny 133.83 334 *e*PKIKP **PKPdf 22 07 17.0 -4.1**
PAGF Fort de Pagny 133.83 334 *e*PKPdf **PKPdf 22 07 17.0 -4.1**
CUC Castrocucco 133.91 319 PFAKE 22 07 30.0 +8.5
CUC LR LR
comp=Z,9µm,21.0s
MEZF Maizieres J'vi 134.16 335 *e*PKIKP **PKPdf 22 07 18.1 -3.6**
MEZF Maizieres J'vi 134.16 335 *e*PKPdf **PKPdf 22 07 18.1 -3.6**
SFTF Sexfontaines 134.40 334 *e*PKIKP **PKPdf 22 07 18.3 -3.8**
SFTF Sexfontaines 134.40 334 *e*PKPdf **PKPdf 22 07 18.3 -3.8**
VLC Villacollemand 134.69 327 PFAKE 22 07 30.0 +7.2
VLC LR LR
comp=Z,16µm,21.0s
SENIN Lac Senin/Sane 134.75 331 *e*PKPdf **PKPdf 22 07 22.2 -0.9**
SENIN LR LR
comp=Z,11µm,19.5s
CEL Celeste 134.75 317 PFAKE 22 07 30.0 +6.8
CEL LR LR
comp=Z,8µm,22.0s
CABF La Chapelle 135.13 332 *e*PKIKP **PKPdf 22 07 19.0 -4.7**
comp=Z,58nm,1.1s
CABF La Chapelle 135.13 332 *e*PKIKP **PKPdf 22 07 19.0 -4.7**
CABF La Chapelle 135.13 332 *e*PKPdf **PKPdf 22 07 19.0 -4.7**
LOR Lormes 135.62 334 *e*PKIKP **PKPdf 22 07 20.6 -3.9**
comp=Z,140nm,1.7s
LOR *e*R
comp=Z,10µm,20.8s
LOR Lormes 135.62 334 *e*PKPdf **PKPdf 22 07 20.6 -3.9**
LPL La Plagne 135.63 331 *e*PKIKP **PKPdf 22 07 21.1 -3.7**
comp=Z,58nm,1.3s
LPL La Plagne 135.63 331 *e*PKIKP **PKPdf 22 07 21.1 -3.7**
LPL La Plagne 135.63 331 *e*PKPdf **PKPdf 22 07 21.1 -3.7**
LPG La Plagne 135.64 331 *e*PKIKP **PKPdf 22 07 21.1 -3.8**
comp=Z,43nm,1.2s
LPG La Plagne 135.64 331 *e*PKIKP **PKPdf 22 07 21.1 -3.8**
LPG La Plagne 135.64 331 *e*PKPdf **PKPdf 22 07 21.1 -3.8**
AGP Aguadilla 135.65 73 PFAKE 22 07 30.0 +4.7
AGP LR LR
comp=Z,9µm,18.5s
MPR Mayaguez 135.68 73 PFAKE 22 07 30.0 +4.7
MPR LR LR
comp=Z,6µm,20.2s
CRPR Cabo Rojo, PR 135.73 73 PFAKE 22 07 30.0 +4.6
CRPR LR LR
comp=Z,11µm,19.1s
SAML Samuel 135.78 112 *e*PKPdf **PKPdf 22 07 22.5 -3.2**
SAML LR LR
comp=Z,5µm,19.0s
SSF Saint Saulge 135.94 334 *e*PKIKP **PKPdf 22 07 21.4 -3.6**
comp=Z,65nm,1.3s
SSF Saint Saulge 135.94 334 *e*PKIKP **PKPdf 22 07 21.4 -3.6**
SSF Saint Saulge 135.94 334 *e*PKPdf **PKPdf 22 07 21.4 -3.6**
BNI Bardonecchia 135.99 330 *e*PKIKP **PKPdf 22 07 23.7 -1.7**
BNI MLR MLR
comp=Z,14µm,21.0s
BNI Bardonecchia 135.99 330 *e*PKPdf **PKPdf 22 07 23.6 -1.7**
BNI LR LR
comp=Z,14µm,21.0s
AOPR Arecibo Observ 136.03 73 PFAKE 22 07 40.0 +14
AOPR LR LR
comp=Z,8µm,19.9s
SMF Signal de Mont 136.12 334 *e*PKIKP **PKPdf 22 07 21.5 -3.9**
comp=Z,46nm,1.2s
SMF Signal de Mont 136.12 334 *e*PKIKP **PKPdf 22 07 21.5 -3.9**
SMF Signal de Mont 136.12 334 *e*PKPdf **PKPdf 22 07 21.5 -3.9**
OBIP Obispado Ponce 136.20 73 PFAKE 22 07 40.0 +14
OBIP LR LR
comp=Z,6µm,19.7s
AVF Avril sur Loir 136.21 334 *e*PKIKP **PKPdf 22 07 20.9 -4.6**
AVF Avril sur Loir 136.21 334 *e*PKIKP **PKPdf 22 07 20.9 -4.6**
AVF Avril sur Loir 136.21 334 *e*PKPdf **PKPdf 22 07 20.9 -4.6**
SBF Sospel 136.46 328 *e*PKIKP **PKPdf 22 07 22.0 -4.2**
comp=Z,53nm,1.0s
SBF Sospel 136.46 328 *e*PKIKP **PKPdf 22 07 22.0 -4.2**
SBF Sospel 136.46 328 *e*PKPdf **PKPdf 22 07 22.0 -4.2**
ORIF Oris-en-Rattie 136.48 331 *e*PKIKP **PKPdf 22 07 22.4 -3.9**
comp=Z,25nm,0.9s
ORIF *e*R
comp=Z,16µm,21.8s
ORIF Oris-en-Rattie 136.48 331 *e*PKIKP **PKPdf 22 07 22.4 -3.9**
ORIF Oris-en-Rattie 136.48 331 *e*PKPdf **PKPdf 22 07 22.4 -3.9**
PGF Pioggiola 136.51 326 *e*PKIKP **PKPdf 22 07 22.2 -4.2**
comp=Z,83nm,1.1s
PGF Pioggiola 136.51 326 *e*PKIKP **PKPdf 22 07 22.2 -4.2**
PGF Pioggiola 136.51 326 *e*PKPdf **PKPdf 22 07 22.2 -4.2**
BGF Bois d'Agland 136.61 335 *e*PKIKP **PKPdf 22 07 22.2 -4.1**
comp=Z,43nm,1.0s
BGF Bois d'Agland 136.61 335 *e*PKIKP **PKPdf 22 07 22.2 -4.1**
BGF Bois d'Agland 136.61 335 *e*PKPdf **PKPdf 22 07 22.2 -4.1**
WDD Wield Dalam 136.89 314 PFAKE 22 07 40.0 +13
WDD LR LR
comp=Z,7µm,19.0s
HUMP Col San Antoni 136.90 73 *e*PKPdf **PKPdf 22 07 25.7 -1.9**
HUMP LR LR
comp=Z,11µm,19.5s
TCF Toulx Ste Croi 137.09 335 *e*PKIKP **PKPdf 22 07 23.6 -3.7**
comp=Z,53nm,1.1s
TCF Toulx Ste Croi 137.09 335 *e*PKIKP **PKPdf 22 07 23.6 -3.7**
TCF Toulx Ste Croi 137.09 335 *e*PKPdf **PKPdf 22 07 23.6 -3.7**
VIVF Saint-Julien-l 137.10 332 *e*PKIKP **PKPdf 22 07 23.7 -3.6**
comp=Z,3nm,1.2s
VIVF Saint-Julien-l 137.10 332 *e*PKIKP **PKPdf 22 07 23.7 -3.6**
VIVF Saint-Julien-l 137.10 332 *e*PKPdf **PKPdf 22 07 23.7 -3.6**
CDVI St. Croix 137.97 73 PFAKE 22 07 40.0 +10
CDVI LR LR
comp=Z,9µm,20.6s
LASF Ste Croix 138.07 331 *e*PKIKP **PKPdf 22 07 25.0 -4.1**
LASF Ste Croix 138.07 331 *e*PKPdf **PKPdf 22 07 25.0 -4.1**
SABA Saba 139.43 73 PFAKE 22 07 40.0 +7.7
SABA LR LR
comp=Z,19µm,19.2s
EPF Esparros 140.50 333 *e*PKIKP **PKPdf 22 07 30.0 -3.6**
comp=Z,88nm,1.7s
EPF Esparros 140.50 333 *e*PKIKP **PKPdf 22 07 30.0 -3.6**
EPF Esparros 140.50 333 *e*PKPdf **PKPdf 22 07 30.0 -3.6**
KEST Kesra 140.52 318 PKPpre PKPpre 22 07 28.9
KEST Kesra 140.52 318 PKhKP PKPpre 22 07 28.9

comp=Z,2.2nm,1.1s,baz=90,slow=1.0,SNR=2.3
BB16B Bebedouro 140.78 139 (P) **PKPdf 22 07 30.4 -4.4**
BB16B *i* 22 07 32.0
BB16B *i* 22 07 36.5
ANWB Willy Bob 140.80 73 PFAKE 22 07 40.0 +5.2
ANWB LR LR
comp=Z,9µm,19.0s
GRGR Grenville 141.35 82 PFAKE 22 07 50.0 +14
GRGR LR LR
comp=Z,20µm,22.0s
FDF Fort de France 141.72 77 *e*PKIKP **PKPdf 22 07 35.4 -1.1**
FDF Fort de France 141.72 77 *e*PKPdf **PKPdf 22 07 35.4 -1.1**
MSKU Masuku 142.57 256 *e*PKPdf **PKPdf 22 07 36.4 -1.8**
MSKU LR LR
comp=Z,14µm,20.0s
SET Setif 142.77 321 P PKPdf 22 07 44.0 +6.0
BBGH Gun Hill 143.36 80 PFAKE 22 07 50.0 +11
BBGH LR LR
comp=Z,16µm,20.0s
ADJB Djebel Djouab 143.99 323 P PKPbc 22 07 38.2 +0.2
EMHD Djebel Mahouad 144.25 324 P **PKPdf 22 07 40.0 -0.6**
PBRG Braganca 144.33 340 *e*PKP **PKPdf 22 07 42.4 +1.9**
PGAV Gavieira, Arco 144.69 342 *e*PKP **PKPab 22 07 39.3 -0.5**
PCAB Cabril 144.84 341 *e*PKP **PKPdf 22 07 46.1 +4.8**
BDFB Brasilia 144.92 134 *e*PKPbc **PKPab 22 07 39.9 -1.5**
BDFB Brasilia 144.92 134 PKPbc **PKPab 22 07 40.4 -1.0**
comp=Z,20nm,0.7s,baz=210,slow=3.4,SNR=26
MVO Moncorvo 145.00 339 *e*PKP **PKPab 22 07 39.6 -1.3**
EBNR Beni Rached 145.00 325 P **PKPdf 22 07 44.0 +2.2**
ES19 SONSECA Array 145.05 335 *e*PKPab **PKPbc 22 07 39.2 -1.9**
POLO Lamas de Olo 145.07 341 *e*PKP **PKPbc 22 07 41.1 -0.1**
ESDC Sonseca Array 145.10 335 PKP **PKPbc 22 07 39.8 -1.6**
ESDC Sonseca Array 145.10 335 PKP **PKPbc 22 07 39.8 -1.6**
comp=Z,2.1nm,0.7s,baz=14,slow=3.3,SNR=12
PVRL Vila Real 145.13 340 *e*PKP **PKPbc 22 07 40.3 -1.0**
ECHA Ech Chlef 145.20 325 P **PKPdf 22 07 46.0 +4.0**
PAB San Pablo 145.37 335 *e*PKP2 **PKPbc 22 07 39.4 -2.8**
PAB MLR MLR
comp=Z,18µm,21.0s
PAB San Pablo 145.37 335 *e*PKPbc **PKPbc 22 07 39.4 -2.8**
PAB LR LR
comp=Z,18µm,21.0s
EANR 'Ain N'Sour 145.49 325 P **PKPab 22 07 45.5 +2.6**
PTO Porto 145.54 341 *e*PKP **PKPbc 22 07 42.5 -0.1**
PVIS Viseu 145.69 340 *e*PKP **PKPdf 22 07 42.2 -0.7**
ETRT Tiaret 145.78 324 P **PKPdf 22 07 42.5 -0.8**
MTE Manteigas 145.86 339 *e*PKP **PKPdf 22 07 43.2 0.0**
MTE Manteigas 145.86 339 *e*PKPdf **PKPdf 22 07 40.4 -2.7**
MTE LR LR
comp=Z,15µm,22.0s
PCBR Castelo Branco 146.33 339 *e*PKP **PKPdf 22 07 43.9 0.0**
ODJA Bouhanifia 146.64 326 P **PKPab 22 07 51.0 +3.7**
PMRV Marv??o 146.66 338 *e*PKP **PKPdf 22 07 45.0 +0.5**
PTOM Tomar 146.85 340 *e*PKP **PKPbc 22 07 45.7 -0.9**
PESTR Estremoz 147.23 338 *e*PKP **PKPdf 22 07 46.0 +0.5**
OLHC Oulhaca 147.40 327 P **PKPbc 22 07 49.0 +0.7**
EVO Evora 147.68 339 *e*PKIKP **PKPdf 22 07 44.2 -2.0**
comp=Z,227nm,1.6s
EVO Evora 147.68 339 *e*PKP **PKPbc 22 07 48.1 -0.8**
EVOP Sao Brissos 147.72 339 *e*PKIKP **PKPdf 22 07 44.2 -2.0**
EVOP Sao Brissos 147.72 339 *e*PKPdf **PKPdf 22 07 44.2 -2.0**
LIS Lisbon 147.91 340 *e*P **PKPdf 22 07 45.2 -1.3**
LIS eSS SS 22 30 20.8 +0.9
LIS Lisbon 147.91 340 *e*P **PKPdf 22 07 45.2 -1.3**
PBEJ Beja 148.07 338 *e*PKP **PKPbc 22 07 51.0 +1.0**
PNCL Nicolau / Gran 148.24 339 *e*PKP **PKPbc 22 07 51.8 +1.4**
PCVE Castro Verde 148.49 338 *e*PKP **PKPab 22 07 54.8 +0.4**
PVAQ Vaqueiros 148.56 337 *e*PKP PKPab 22 08 01.2 +6.5
PTEO Sao Teotonio 148.81 339 *e*PKP **PKPab 22 07 57.8 +2.1**
MORF Marmelete 149.00 338 *e*PKP **PKPab 22 07 56.9 +0.4**
PFVI Vila Bisbo 149.22 338 *e*PKP **PKPab 22 07 57.5 +0.2**
SHEL Horse Pasture 150.33 214 PKIKP **PKPdf 22 07 49.4 -1.8**
SHEL Horse Pasture 150.33 214 PKPdf **PKPdf 22 07 49.4 -1.8**
RTC Rabat Centre 151.12 332 PFAKE 22 08 00.0 +2.4
RTC LR LR
comp=Z,11µm,20.0s
TOA0 Torodi Ar. Sit 155.90 282 *e*PKPdf **PKPdf 22 07 58.6 -0.6**
TOA0 *e*PP **PP 22 12 06.2 +2.7**
TORD Torodi Ar. Bea 155.90 282 PKP **PKPdf 22 07 58.6 -0.5**
TORD PP **PP 22 12 04.5 +1.1**
TORD Torodi Ar. Bea 155.90 282 PKP **PKPdf 22 07 58.6 -0.5**
comp=Z,2.3nm,0.8s,baz=56,slow=2.6,SNR=7.2
TORD PP **PP 22 12 04.5 +1.1**
comp=Z,5.5nm,1.1s,baz=73,slow=5.0,SNR=2.6
KIC Kosan Boka 162.26 263 *e*PKP **PKPdf 22 08 09.0 +2.3**
comp=Z,58nm,1.1s
DBIC Dimbokro 162.42 264 *e*PKPdf **PKPdf 22 08 06.0 -0.8**
DBIC PKPab **PKPab 22 08 52.5 -1.9**
DBIC Dimbokro 162.42 264 PKP **PKPdf 22 08 08.2 +1.3**
comp=Z,18nm,1.1s,baz=38,slow=1.0,SNR=11
DBIC PKPab **PKPab 22 08 52.5 -1.9**
comp=Z,7.9nm,1.0s,baz=64,slow=2.9,SNR=3.1
LIC Lamto 162.52 263 *e*PKIKP **PKPdf 22 08 08.9 +1.9**
comp=Z,45nm,1.1s
LIC Lamto 162.52 263 *e*P **PKPdf 22 08 07.5 +0.5**
comp=Z,139nm,2.0s
LIC Lamto 162.52 263 *e*PKPdf **PKPdf 22 08 08.9 +1.9**
TIC Toumodi 162.57 264 *e*P **PKPdf 22 08 08.0 +1.0**
comp=Z,62nm,1.4s
SACV Santiago Islan 173.78 10 *e*PKPdf **PKPdf 22 08 13.0 -1.6**

*IDC **03** 21:56:44.8±0.7, 8.°65S×157.°42E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, ML4.0/2, MS5.6/1, Ms1 5.6/1, ms1mx4.6/38, Error ellipse: s-maj=22.9km s-min=15.7km az=13.0*
*ISCJB **03** 21:56:45.5±0.4, 8.°71S±0.°06×157.°39E±0.°08, h16km, mb4.3/14, MS5.6/1, Error ellipse: s-maj=11.0km s-min=8.7km az=167.2*
*NEIC **03** 21:56:49.2±3.2, 8.°75S×157.°43E, h32km±24km, mb4.6/6, Error ellipse: s-maj=10.7km s-min=8.3km az=159.0*
ISC 03 21:56:47.0±0.5, 8.°71S±0.°09×157.°43E±0.°09, h16km, n47, σ0§82/45, mb4.2/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.59**	**106**		Pn	**Pn**	**21 57 28.4**	**+0.1**
HNR					Lg	Lg	21 58 07.5	
HNR	**Honiara**	**2.59**	**106**		Pn	**Pn**	**21 57 28.4**	**+0.1**
	64nm,0.3s,baz=207,slow=4.5,SNR=2.5							
HNR					Lg	Lg	21 58 07.4	
	268nm,0.3s,baz=252,slow=20,SNR=4.4							
CTA	**Charters Tower**	**15.65**	**222**		Pn	**Pn**	**22 00 28.5**	**+1.6**
CTA	**Charters Tower**	**15.65**	**222**		Pn	**Pn**	**22 00 28.5**	**+1.6**
	0.2nm,0.3s,baz=38,slow=12,SNR=3.1							
CTAO	**Charters Tower**	**15.65**	**222**		Pn	**Pn**	**22 00 27.2**	**+0.3**
DZM	**Mont Dzumac**	**15.87**	**148**		Pn	**Pn**	**22 00 29.6**	**-0.4**
EIDS	**Eidsvold**	**17.64**	**199**		*e*Pn	**Pn**	**22 00 52.3**	**+0.1**
	39nm,1.0s							
ARMA	**Armidale**	**22.27**	**193**		*e*P	**P**	**22 01 42.9**	**-0.8**
	16nm,1.1s							
WRAB	**Tennant Creek**	**24.95**	**241**		*e*P	**P**	**22 02 09.3**	**-0.6**
WRA	**Warramunga Arr**	**24.97**	**241**		P	**P**	**22 02 09.0**	**-1.0**
WRA	**Warramunga Arr**	**24.97**	**241**		P	**P**	**22 02 09.0**	**-1.0**
	16nm,1.0s,baz=67,slow=8.1,SNR=7.8							
GUMO	**Guam**	**25.42**	**330**		P	**P**	**22 02 13.8**	**-0.3**
STKA	**Stephens Creek**	**27.35**	**210**		*e*P	**P**	**22 02 30.7**	**-0.8**
	1.4nm,0.7s							
STKA	**Stephens Creek**	**27.35**	**210**		P	**P**	**22 02 33.0**	**+1.5**
	6.3nm,0.7s,baz=33,slow=14,SNR=7.3							
JNU	**Nakatsue**	**48.67**	**330**		LR	LR	22 24 25.5	
	comp=Z,6µm,20.0s,slow=34							
KSRS	**Korea Array**	**53.58**	**331**		P	**P**	**22 06 07.4**	**+0.1**
	2.6nm,0.9s,baz=147,slow=9.3,SNR=3.7							
KSAR	**Wonju Array Be**	**53.59**	**331**		P	**P**	**22 06 07.4**	**0.0**
ENH	**Enshi**	**60.16**	**312**		*e*P	P	22 06 49.6	-4.6
	29nm,0.7s							
SLVN	**Son La**	**60.42**	**300**		*e*P	**P**	**22 06 56.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**63.69**	**295**		P	**P**	**22 07 19.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**63.69**	**295**		P	**P**	**22 07 19.4**	**+1.2**
	1.1nm,0.6s,baz=128,slow=5.5,SNR=7.1							
VNDA	**Vanda**	**68.83**	**179**		*e*P	**P**	**22 07 50.0**	**-0.2**
ULN	**Ulaanbaatar**	**71.74**	**327**		*e*P	**P**	**22 08 08.1**	**-0.5**
	18nm,1.7s							
SONM	**Songino Array**	**72.07**	**327**		P	**P**	**22 08 11.4**	**+0.9**
SONM	**Songino Array**	**72.07**	**327**		P	**P**	**22 08 11.4**	**+0.9**
	0.8nm,0.8s,baz=136,slow=5.2,SNR=3.6							
TAPN	**Taplejung**	**76.34**	**301**		*e*P	**P**	**22 08 34.8**	**-1.3**
	28nm,1.3s							
ODAN	**Odare**	**76.47**	**300**		*e*P	**P**	**22 08 36.1**	**-0.7**
	18nm,1.0s							
RAMN	**Ramite**	**77.17**	**300**		*e*P	**P**	**22 08 40.4**	**-0.4**
GUN	**Gumba**	**78.06**	**301**		*e*P	**P**	**22 08 45.6**	**-0.2**
PKI	**Pulchoki**	**78.36**	**300**		*e*P	**P**	**22 08 47.6**	**+0.1**
KKN	**Kakani**	**78.53**	**301**		*e*P	**P**	**22 08 48.6**	**+0.3**
	9.1nm,0.8s							
DMN	**Daman**	**78.63**	**300**		*e*P	**P**	**22 08 49.2**	**+0.3**
	46nm,1.4s							
GKN	**Gorkha**	**79.14**	**301**		*e*P	**P**	**22 08 51.7**	**+0.1**
	15nm,0.8s							
KOLN	**Koldanda**	**79.96**	**300**		*e*P	**P**	**22 08 56.4**	**+0.3**
MCK	**McKinley**	**82.75**	**21**		*e*P	**P**	**22 09 09.8**	**-0.1**
	6.4nm,0.8s							
ILAR	**Eielson Array**	**84.09**	**21**		P	**P**	**22 09 16.8**	**+0.1**
ILAR	**Eielson Array**	**84.09**	**21**		P	**P**	**22 09 16.8**	**+0.1**
	0.6nm,0.9s,baz=261,slow=4.1,SNR=4.2							
MKAR	**Makanchi Array**	**86.27**	**318**		P	**P**	**22 09 28.4**	**+0.3**
MKAR	**Makanchi Array**	**86.27**	**318**		P	**P**	**22 09 28.4**	**+0.3**
	1.1nm,0.6s,baz=107,slow=4.2,SNR=7.5							
NVAR	**Mina Array Bea**	**90.89**	**51**		P	**P**	**22 09 52.0**	**+1.5**
NVAR	**Mina Array Bea**	**90.89**	**51**		P	**P**	**22 09 52.0**	**+1.5**
	1.0nm,1.0s,baz=218,slow=5.3,SNR=3.3							
BVAR	**Borovoye Array**	**95.10**	**323**		P	**P**	**22 10 07.8**	**-1.5**
BVAR	**Borovoye Array**	**95.10**	**323**		P	**P**	**22 10 07.8**	**-1.5**
	0.9nm,0.9s,baz=93,slow=5.8,SNR=2.3							
YKA	**Yellowknife Ar**	**96.71**	**28**		P	**P**	**22 10 15.8**	**-0.6**
YKA	**Yellowknife Ar**	**96.71**	**28**		P	**P**	**22 10 15.8**	**-0.6**
	0.8nm,1.1s,baz=278,slow=4.3,SNR=3.2							
BDFB	**Brasilia**	**145.07**	**134**		PKPbc	**PKPbc**	**22 16 23.8**	**-0.4**
BDFB	**Brasilia**	**145.07**	**134**		PKPbc	**PKPbc**	**22 16 23.8**	**-0.4**
	4.3nm,0.7s,baz=275,slow=3.7,SNR=4.7							

MEX 03 21:58:33.4±0.7, 16.°47N×99.°50W, h7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.32**	**93**		*e*P	Pn	21 58 53.6	-4.7
PNIG					*e*S	Sb	21 59 09.8	-5.9
TLIG	**Tlapa**	**1.40**	**39**		*e*P	Pn	21 58 55.1	-4.5
TLIG					*e*S	Sb	21 59 13.7	-4.7
PLIG	**Platanillo**	**1.91**	**360**		*e*P	Pn	21 59 02.8	-3.7
PLIG					*i* S	Sn	21 59 26.3	-4.6
ARIG	**Puente Sto Nin**	**1.97**	**336**		*e*P	Pn	21 59 03.9	-3.4
ARIG					*i* S	Sn	21 59 27.5	-4.8
ZIIG	**Zihuatanejo**	**2.19**	**301**		*e*P	Pn	21 59 07.6	-2.7
ZIIG					*i* S	Sn	21 59 33.2	-4.5
YAIG	**Yautepec**	**2.41**	**10**		*e*P	Pn	21 59 09.9	-3.6
YAIG					*i* S	Sn	21 59 39.2	-4.3
VHO	**Vista Hermosa**	**2.71**	**77**		*e*P	Pn	21 59 15.0	-2.8
VHO					*i* S	Sn	21 59 48.1	-3.0
UNM	**Universidad Na**	**2.86**	**6**		*e*P	Pn	21 59 16.8	-3.0
UNM					*i* S	Sn	21 59 50.1	-4.6
HUIG	**Huatulco**	**3.33**	**102**		*e*P	Pn	21 59 24.1	-1.9
HUIG					*i* S	Sn	22 00 03.7	-2.1
PCIG		**6.08**	**96**		*i* P	Pn	22 00 01.4	-2.4
PCIG					*i* S	Sn	22 01 11.7	-2.0

*IDC **03** 22:02:26.3±0.6, 8.°71S×157.°42E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/21, mbtmp4.2/17, ML4.3/1, Error ellipse: s-maj=18.8km s-min=13.1km az=22.0*
*ISCJB **03** 22:02:27.3±0.5, 8.°76S±0.°09×157.°47E±0.°10, h17km, mb4.2/20, Error ellipse: s-maj=13.6km s-min=12.2km az=10.4*
*NEIC **03** 22:02:31.0±0.4, 8.°79S×157.°49E, h35km, mb4.5/6, Error ellipse: s-maj=10.6km s-min=9.8km az=46.0*
ISC 03 22:02:28.8±0.5, 8.°8S±0.°1×157.°47E±0.°08, h17km, n55, σ1§12/53, mb4.3/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.53**	**105**		Pn	**Pn**	**22 03 08.1**	**-1.1**
HNR					Lg	Lg	22 03 49.1	
HNR	**Honiara**	**2.53**	**105**		Pn	**Pn**	**22 03 08.1**	**-1.1**
	53nm,0.3s,baz=217,slow=10,SNR=3.0							
HNR					Pg	**Pb**	**22 03 14.6**	**+0.7**
	185nm,0.3s,baz=217,slow=7.2,SNR=6.4							
HNR					Lg	Lg	22 03 49.1	
	245nm,0.3s,baz=342,slow=20,SNR=7.9							
DZM	**Mont Dzumac**	**15.79**	**148**		*e*Pn	Pn	22 06 02.9	-7.7
WRAB	**Tennant Creek**	**24.96**	**241**		*e*P	**P**	**22 07 51.2**	**-0.5**
	16nm,1.1s							
WRA	**Warramunga Arr**	**24.97**	**241**		P	**P**	**22 07 51.3**	**-0.5**
WRA	**Warramunga Arr**	**24.97**	**241**		P	**P**	**22 07 51.3**	**-0.5**
	11nm,1.0s,baz=67,slow=9.7,SNR=7.5							
GUMO	**Guam**	**25.49**	**330**		*e*P	**P**	**22 07 55.6**	**-0.8**
STKA	**Stephens Creek**	**27.32**	**210**		*e*P	**P**	**22 08 12.0**	**-0.9**
	9.9nm,1.3s							
STKA	**Stephens Creek**	**27.32**	**210**		P	**P**	**22 08 14.0**	**+1.2**
	11nm,0.8s,baz=34,slow=14,SNR=8.4							
NWAO	**Narrogin (SRO)**	**44.23**	**231**		P	**P**	**22 10 36.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**44.23**	**231**		P	**P**	**22 10 37.1**	**-0.3**
	14nm,1.1s,baz=315,slow=11,SNR=3.1							
MJAR	**Matsushiro Arr**	**48.57**	**339**		P	**P**	**22 11 09.9**	**-1.5**
MJAR	**Matsushiro Arr**	**48.57**	**339**		P	**P**	**22 11 09.9**	**-1.5**
	1.3nm,0.9s,baz=73,slow=1.4,SNR=4.3							
KSRS	**Korea Array**	**53.66**	**331**		P	**P**	**22 11 49.4**	**-0.2**
	1.9nm,0.8s,baz=154,slow=6.4,SNR=3.8							
KSAR	**Wonju Array Be**	**53.67**	**331**		P	**P**	**22 11 49.4**	**-0.2**
USRK	**Ussuriysk Arra**	**57.55**	**338**		P	**P**	**22 12 17.8**	**+0.4**
	3.3nm,1.1s,baz=130,slow=5.9,SNR=3.2							
ENH	**Enshi**	**60.24**	**312**		*e*P	**P**	**22 12 35.8**	**-0.7**
	4.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.76**	**296**		P	**P**	**22 13 01.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**63.76**	**296**		P	**P**	**22 13 01.4**	**+1.1**
	2.0nm,0.7s,baz=127,slow=4.9,SNR=4.8							
CHTO	**Chiang Mai**	**63.88**	**296**		*e*P	**P**	**22 13 01.4**	**+0.2**
	4.3nm,1.0s							
VNDA	**Vanda**	**68.76**	**179**		*e*P	**P**	**22 13 31.7**	**+0.2**
	4.4nm,1.0s							
VNDA	**Vanda**	**68.76**	**179**		P	**P**	**22 13 31.6**	**+0.2**
	3.1nm,1.1s,baz=319,slow=7.4,SNR=3.4							
ULN	**Ulaanbaatar**	**71.81**	**327**		*e*P	**P**	**22 13 50.4**	**-0.4**
SONM	**Songino Array**	**72.15**	**327**		P	**P**	**22 13 52.8**	**0.0**
SONM	**Songino Array**	**72.15**	**327**		P	**P**	**22 13 52.8**	**0.0**
	2.0nm,1.1s,baz=140,slow=5.8,SNR=6.6							
TAPN	**Taplejung**	**76.41**	**301**		*e*P	**P**	**22 14 19.8**	**+1.6**
	30nm,1.4s							
ODAN	**Odare**	**76.54**	**300**		*e*P	**P**	**22 14 21.7**	**+2.8**
	25nm,1.1s							
JIRN	**Jiri**	**77.79**	**301**		*e*P	**P**	**22 14 28.6**	**+2.5**
	8.6nm,0.6s							
GUN	**Gumba**	**78.13**	**301**		*e*P	**P**	**22 14 29.5**	**+1.6**
	19nm,0.9s							
KKN	**Kakani**	**78.60**	**301**		*e*P	**P**	**22 14 31.9**	**+1.5**
	13nm,0.9s							
DMN	**Daman**	**78.70**	**300**		*e*P	**P**	**22 14 32.6**	**+1.6**
	19nm,0.9s							
GKN	**Gorkha**	**79.21**	**301**		*e*P	**P**	**22 14 34.9**	**+1.2**
	16nm,0.8s							
DANN	**Dangsing**	**80.05**	**301**		*e*P	**P**	**22 14 39.4**	**+1.0**
ILAR	**Eielson Array**	**84.13**	**21**		P	**P**	**22 15 00.4**	**+1.8**
ILAR	**Eielson Array**	**84.13**	**21**		P	**P**	**22 15 00.4**	**+1.8**
	1.3nm,1.0s,baz=248,slow=4.8,SNR=4.6							
MKAR	**Makanchi Array**	**86.35**	**318**		P	**P**	**22 15 10.0**	**-0.2**
MKAR	**Makanchi Array**	**86.35**	**318**		P	**P**	**22 15 10.0**	**-0.2**
	1.9nm,0.8s,baz=95,slow=5.7,SNR=9.7							
ZALV	**Zalesovo Beam**	**87.02**	**326**		P	**P**	**22 15 11.9**	**-1.3**
ZALV	**Zalesovo Beam**	**87.02**	**326**		P	**P**	**22 15 11.9**	**-1.3**
	0.6nm,0.5s,baz=114,slow=6.5,SNR=3.5							
KURK	**Kurchatov**	**89.74**	**321**		*e*P	**P**	**22 15 26.0**	**-0.2**
	1.1nm,1.0s							
KURBB	**Kurchatov Arra**	**89.77**	**321**		P	**P**	**22 15 24.5**	**-1.8**
	0.5nm,0.9s,baz=101,slow=3.5,SNR=3.1							
NVAR	**Mina Array Bea**	**90.90**	**51**		P	**P**	**22 15 32.2**	**0.0**
NVAR	**Mina Array Bea**	**90.90**	**51**		P	**P**	**22 15 32.2**	**0.0**
	0.4nm,0.8s,baz=269,slow=4.1,SNR=3.1							
BVAR	**Borovoye Array**	**95.18**	**323**		P	**P**	**22 15 49.6**	**-1.7**
BVAR	**Borovoye Array**	**95.18**	**323**		P	**P**	**22 15 49.6**	**-1.7**
	0.7nm,0.6s,baz=116,slow=6.7,SNR=4.0							
YKA	**Yellowknife Ar**	**96.75**	**28**		P	**P**	**22 15 58.3**	**+0.1**
YKA	**Yellowknife Ar**	**96.75**	**28**		P	**P**	**22 15 58.3**	**+0.1**
	0.3nm,1.0s,baz=272,slow=6.7,SNR=2.8							
AKASG	**Malin Array Be**	**120.40**	**325**		PKP	**PKPdf**	**22 21 19.9**	**+0.5**
AKASG	**Malin Array Be**	**120.40**	**325**		PKP	**PKPdf**	**22 21 19.9**	**+0.5**
	0.2nm,0.4s,baz=49,slow=0.8,SNR=2.7							
BDFB	**Brasilia**	**144.99**	**134**		PKPbc	PKPbc	22 22 05.9	+0.2
BDFB	**Brasilia**	**144.99**	**134**		PKPbc	PKPbc	22 22 05.9	+0.2
	4.4nm,0.8s,baz=37,slow=0.6,SNR=5.2							
ESDC	**Sonseca Array**	**145.03**	**335**		PKP	**PKPbc**	**22 22 04.8**	**-0.3**
ESDC	**Sonseca Array**	**145.03**	**335**		PKP	**PKPbc**	**22 22 04.8**	**-0.3**
	0.8nm,0.9s,baz=23,slow=3.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**155.83**	**283**		PKPab	**PKPab**	**22 22 50.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**155.83**	**283**		PKPab	**PKPab**	**22 22 50.2**	**+0.4**
	0.2nm,0.7s,baz=90,slow=2.9,SNR=2.8							

*IDC **03** 22:03:36.2±0.7, 8.°63S×157.°41E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/19, mbtmp4.3/14, Error ellipse: s-maj=27.1km s-min=19.1km az=96.0*
*ISCJB **03** 22:03:37.1±0.7, 8.°6S±0.°1×157.°3E±0.°1, h16km, mb4.3/15, Error ellipse: s-maj=22.5km s-min=13.7km az=23.6*
*NEIC **03** 22:03:41.2±0.5, 8.°67S×157.°37E, h35km, mb4.4/2, Error ellipse: s-maj=18.3km s-min=12.7km az=116.0*
ISC 03 22:03:38.6±0.7, 8.°7S±0.°1×157.°4E±0.°2, h16km, n40, σ1§01/38, mb4.3/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.96**	**241**		*e*P	**P**	**22 09 00.7**	**-0.9**
	30nm,1.2s							
WRA	**Warramunga Arr**	**24.97**	**241**		P	**P**	**22 09 00.3**	**-1.4**
WRA	**Warramunga Arr**	**24.97**	**241**		P	**P**	**22 09 00.3**	**-1.4**
	10nm,0.8s,baz=66,slow=9.7,SNR=6.4							
STKA	**Stephens Creek**	**27.39**	**210**		*e*P	**P**	**22 09 24.1**	**+0.7**
	3.0nm,0.7s							
STKA	**Stephens Creek**	**27.39**	**210**		P	**P**	**22 09 24.3**	**+0.9**
	16nm,0.7s,baz=34,slow=13,SNR=15							
KSRS	**Korea Array**	**53.52**	**331**		P	**P**	**22 12 58.4**	**-0.1**
	2.1nm,0.9s,baz=151,slow=8.2,SNR=4.6							
KSAR	**Wonju Array Be**	**53.53**	**331**		P	**P**	**22 12 58.4**	**-0.2**
USRK	**Ussuriysk Arra**	**57.42**	**339**		P	**P**	**22 13 28.0**	**+1.5**
	3.3nm,0.9s,baz=179,slow=12,SNR=3.4							
CMAR	**Chiang Mai Arr**	**63.65**	**295**		P	**P**	**22 14 10.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**63.65**	**295**		P	**P**	**22 14 10.3**	**+0.8**
	2.0nm,0.8s,baz=130,slow=5.2,SNR=3.5							
VNDA	**Vanda**	**68.88**	**179**		P	**P**	**22 14 42.0**	**-0.1**
VNDA	**Vanda**	**68.88**	**179**		P	**P**	**22 14 43.2**	**+1.1**
	1.8nm,0.8s,baz=340,slow=8.1,SNR=3.9							
ULN	**Ulaanbaatar**	**71.68**	**327**		P	**P**	**22 14 58.4**	**-1.5**
SONM	**Songino Array**	**72.02**	**327**		P	**P**	**22 15 03.2**	**+1.4**
SONM	**Songino Array**	**72.02**	**327**		P	**P**	**22 15 03.3**	**+1.4**
	2.4nm,0.9s,baz=139,slow=4.7,SNR=4.4							
ILAR	**Eielson Array**	**84.05**	**21**		P	**P**	**22 16 07.9**	**-0.2**
ILAR	**Eielson Array**	**84.05**	**21**		P	**P**	**22 16 07.9**	**-0.2**
	1.5nm,1.0s,baz=272,slow=4.7,SNR=3.3							
MKAR	**Makanchi Array**	**86.22**	**318**		P	**P**	**22 16 19.6**	**+0.1**
MKAR	**Makanchi Array**	**86.22**	**318**		P	**P**	**22 16 19.6**	**+0.1**
	2.0nm,0.7s,baz=107,slow=6.1,SNR=8.2							
ZALV	**Zalesovo Beam**	**86.88**	**326**		P	**P**	**22 16 21.7**	**-0.8**
ZALV	**Zalesovo Beam**	**86.88**	**326**		P	**P**	**22 16 21.7**	**-0.8**
	0.8nm,0.9s,baz=104,slow=5.2,SNR=3.3							
KURK	**Kurchatov**	**89.61**	**321**		*e*P	**P**	**22 16 35.0**	**-0.6**
KURBB	**Kurchatov Arra**	**89.64**	**321**		P	**P**	**22 16 34.9**	**-0.8**
	0.9nm,0.2s,baz=107,slow=3.1,SNR=5.7							
INK	**Inuvik**	**90.43**	**20**		*e*P	**P**	**22 16 38.6**	**-0.4**
NVAR	**Mina Array Bea**	**90.88**	**51**		P	**P**	**22 16 42.2**	**+0.1**
NVAR	**Mina Array Bea**	**90.88**	**51**		P	**P**	**22 16 42.2**	**+0.1**
	1.5nm,1.0s,baz=251,slow=5.6,SNR=3.5							
BVAR	**Borovoye Array**	**95.05**	**323**		P	**P**	**22 16 59.8**	**-0.9**
BVAR	**Borovoye Array**	**95.05**	**323**		P	**P**	**22 16 59.8**	**-0.9**
	1.2nm,0.7s,baz=108,slow=4.7,SNR=5.2							
YKA	**Yellowknife Ar**	**96.68**	**28**		P	**P**	**22 17 07.5**	**-0.3**
YKA	**Yellowknife Ar**	**96.68**	**28**		P	**P**	**22 17 07.5**	**-0.3**
	0.1nm,0.3s,baz=268,slow=4.8,SNR=7.9							
AKASG	**Malin Array Be**	**120.27**	**325**		PKP	**PKPdf**	**22 22 27.1**	**-1.9**
AKASG	**Malin Array Be**	**120.27**	**325**		PKP	**PKPdf**	**22 22 27.1**	**-1.9**
	0.1nm,0.3s,baz=153,slow=0.2,SNR=3.2							
GERES	**GERESS Array B**	**129.69**	**329**		PKP	**PKPdf**

AKASG	Malin Array Be	120.53 325	PKP	PKPdf	22 24 30.3	-0.2	
	0.5nm,0.7s,baz=64,slow=2.1,SNR=3.8						
GERES	GERESS Array B	129.94 329	PKP	PKPdf	22 24 49.4	+0.6	
GERES	GERESS Array B	129.94 329	PKP	PKPdf	22 24 49.4	+0.6	
	0.1nm,0.3s,baz=52,slow=5.1,SNR=2.5						
BDFB	Brasilia	144.85 134	PKP	PKPdf	22 25 17.4	+0.3	
BDFB	Brasilia	144.85 134	PKP	PKPdf	22 25 17.4	+0.3	
	7.1nm,0.7s,baz=225,slow=3.8,SNR=8.4						
ESDC	Sonseca Array	145.15 335	PKPbc	PKPbc	22 25 15.2	-1.2	
ESDC	Sonseca Array	145.15 335	PKPbc	PKPbc	22 25 15.2	-1.2	
	0.2nm,0.4s,baz=29,slow=3.6,SNR=3.5						
TORD	Torodi Ar. Bea	155.97 282	PKPab	PKPab	22 26 00.5	-0.9	
TORD	Torodi Ar. Bea	155.97 282	PKPab	PKPab	22 26 00.5	-0.9	
	0.8nm,0.9s,baz=59,slow=3.0,SNR=3.5						

IDC ***03*** *22:07:05.7±0.7,8.60S×157.42E,h0km,mb4.1/14, mb1 4.3/16,mb1mx4.2/21,mbtmp4.1/16,ML3.6/1, Error ellipse: s-maj=21.1km s-min=15.6km az=22.0*

ISCJB ***03*** *22:07:06.4±0.5,8.63S±0.08×157.39E±0.08,h16km, mb4.2/17, Error ellipse: s-maj=13.5km s-min=10.6km az=137.8*

NEIC ***03*** *22:07:10.4±0.5,8.71S×157.46E,h35km,mb4.7/5, Error ellipse: s-maj=13.7km s-min=10.1km az=137.0*

IDC 03 22:07:07.9±0.5,8.6S±0.1×157.45E±0.0,09,h16km,n42, σ1§05/44,mb4.1/17,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.59**	**108**	Pn	**Pn**		**22 07 48.2**	**-0.9**
HNR				Lg	Lg		22 08 30.7	
HNR	**Honiara**	**2.59**	**108**	Pn	**Pn**		**22 07 48.2**	**-0.9**
	baz=236,slow=11,SNR=3.6							
HNR				Lg	Lg		22 08 30.7	
	287nm,0.3s,baz=129,slow=23,SNR=3.6							
COEN	**Coen**	**14.97**	**248**	Pn	**Pn**		**22 10 37.6**	**-1.3**
	210nm,1.4s							
CTA	**Charters Tower**	**15.72**	**222**	Pn	**Pn**		**22 10 50.0**	**+1.2**
CTA	**Charters Tower**	**15.72**	**222**	Pn	**Pn**		**22 10 50.0**	**+1.2**
	0.2nm,0.3s,baz=36,slow=16,SNR=2.8							
CTAO	**Charters Tower**	**15.72**	**222**	*e*Pn	**Pn**		**22 10 48.7**	**-0.1**
	56nm,1.3s							
WRAB	**Tennant Creek**	**25.01**	**241**	*e*P	**P**		**22 12 30.0**	**-1.4**
	13nm,0.9s							
WRA	**Warramunga Arr**	**25.03**	**241**	P	**P**		**22 12 30.4**	**-1.1**
WRA				PcP	**PcP**		**22 16 07.3**	**+0.9**
WRA	**Warramunga Arr**	**25.03**	**241**	P	**P**		**22 12 30.4**	**-1.1**
	6.8nm,0.8s,baz=66,slow=9.3,SNR=5.7							
WRA				PcP	**PcP**		**22 16 07.3**	**+0.9**
	1.1nm,1.0s,baz=72,slow=2.8,SNR=2.8							
STKA	**Stephens Creek**	**27.43**	**210**	*e*P	**P**		**22 12 53.7**	**+0.6**
	12nm,1.5s							
STKA	**Stephens Creek**	**27.43**	**210**	P	**P**		**22 12 53.9**	**+0.8**
	10nm,0.8s,baz=34,slow=13,SNR=8.2							
MJAR	**Matsushiro Arr**	**48.44**	**339**	P	**P**		**22 15 48.8**	**-0.8**
MJAR	**Matsushiro Arr**	**48.44**	**339**	P	**P**		**22 15 48.8**	**-0.8**
	0.9nm,0.6s,baz=164,slow=8.1,SNR=2.6							
KSRS	**Korea Array**	**53.53**	**331**	P	**P**		**22 16 28.8**	**+1.0**
	0.7nm,0.6s,baz=151,slow=7.0,SNR=2.6							
KSAR	**Wonju Array Be**	**53.54**	**331**	P	**P**		**22 16 28.8**	**+0.9**
USRK	**Ussuriysk Arra**	**57.42**	**338**	P	**P**		**22 16 55.7**	**0.0**
	1.9nm,0.9s,baz=165,slow=7.4,SNR=2.6							
CMAR	**Chiang Mai Arr**	**63.68**	**295**	P	**P**		**22 17 40.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**63.68**	**295**	P	**P**		**22 17 40.1**	**+1.1**
	4.0nm,1.0s,baz=129,slow=5.5,SNR=7.0							
CHTO	**Chiang Mai**	**63.80**	**296**	*e*P	**P**		**22 17 39.1**	**-0.8**
	16nm,1.5s							
ULN	**Ulaanbaatar**	**71.69**	**327**	*e*P	**P**		**22 18 27.6**	**-1.6**
SONM	**Songino Array**	**72.03**	**327**	P	**P**		**22 18 32.7**	**+1.5**
SONM	**Songino Array**	**72.03**	**327**	P	**P**		**22 18 32.7**	**+1.5**
	1.1nm,0.8s,baz=145,slow=5.3,SNR=4.0							
LSA	**Lhasa**	**74.20**	**304**	*e*P	**P**		**22 18 45.6**	**+0.7**
	27nm,1.4s							
ILAR	**Eielson Array**	**84.01**	**21**	P	**P**		**22 19 36.3**	**-0.9**
ILAR	**Eielson Array**	**84.01**	**21**	P	**P**		**22 19 36.3**	**-0.9**
	0.5nm,0.9s,baz=252,slow=5.2,SNR=4.3							
MKAR	**Makanchi Array**	**86.24**	**318**	P	**P**		**22 19 49.0**	**+0.2**
MKAR	**Makanchi Array**	**86.24**	**318**	P	**P**		**22 19 49.0**	**+0.2**
	0.9nm,0.7s,baz=103,slow=5.3,SNR=5.9							
ZALV	**Zalesovo Beam**	**86.89**	**326**	P	**P**		**22 19 52.6**	**+0.8**
ZALV	**Zalesovo Beam**	**86.89**	**326**	P	**P**		**22 19 52.6**	**+0.8**
	0.9nm,0.8s,baz=125,slow=4.2,SNR=2.5							
KURBB	**Kurchatov Arra**	**89.65**	**321**	P	**P**		**22 20 04.5**	**-0.5**
	0.7nm,0.2s,baz=100,slow=3.7,SNR=4.9							
NVAR	**Mina Array Bea**	**90.82**	**51**	P	**P**		**22 20 12.2**	**+1.1**
NVAR	**Mina Array Bea**	**90.82**	**51**	P	**P**		**22 20 12.2**	**+1.1**
	0.8nm,0.9s,baz=249,slow=7.5,SNR=2.4							
BVAR	**Borovoye Array**	**95.06**	**323**	P	**P**		**22 20 28.6**	**-1.4**
BVAR	**Borovoye Array**	**95.06**	**323**	P	**P**		**22 20 28.6**	**-1.4**
	0.6nm,0.7s,baz=120,slow=5.3,SNR=3.6							
YKA	**Yellowknife Ar**	**96.64**	**28**	P	**P**		**22 20 38.7**	**+1.8**
YKA	**Yellowknife Ar**	**96.64**	**28**	P	**P**		**22 20 38.7**	**+1.8**
	0.2nm,0.8s,baz=267,slow=4.6,SNR=3.3							
AKASG	**Malin Array Be**	**120.28**	**325**	PKP	**PKPdf**		**22 25 57.3**	**-1.0**
AKASG	**Malin Array Be**	**120.28**	**325**	PKP	**PKPdf**		**22 25 57.3**	**-1.0**
	0.1nm,0.3s,baz=71,slow=1.6,SNR=2.7							
ESDC	**Sonseca Array**	**144.90**	**335**	PKP	**PKPdf**		**22 26 44.8**	**0.0**
ESDC	**Sonseca Array**	**144.90**	**335**	PKP	**PKPdf**		**22 26 44.8**	**0.0**
	0.1nm,0.3s,baz=17,slow=1.2,SNR=3.1							
BDFB	**Brasilia**	**145.10**	**134**	PKPbc	**PKPbc**		**22 26 44.4**	**-0.8**
BDFB	**Brasilia**	**145.10**	**134**	PKPbc	**PKPbc**		**22 26 44.4**	**-0.8**
	5.3nm,0.9s,baz=188,slow=5.0,SNR=4.5							

IDC 03 22:09:42.6±1.9,8.31S×156.86E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/17,mbtmp3.8/4,Error ellipse: s-maj=82.0km s-min=31.9km az=119.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**240**	P	P		22 15 06.0	+0.5
	3.1nm,1.0s,baz=65,slow=9.6,SNR=3.6							
STKA	**Stephens Creek**	**27.41**	**209**	P	P		22 15 29.7	-0.4
	2.1nm,0.7s,baz=61,slow=11,SNR=3.1							
ILAR	**Eielson Array**	**83.92**	**21**	P	P		22 22 14.1	-0.1
	0.9nm,1.0s,baz=240,slow=5.1,SNR=4.9							
MKAR	**Makanchi Array**	**85.61**	**318**	P	P		22 22 23.3	+0.1
	0.2nm,0.5s,baz=106,slow=4.8,SNR=2.9							

IDC ***03*** *22:15:14.4±0.7,8.69S×157.39E,h0km,mb4.1/10, mb1 4.2/11,mb1mx4.1/19,mbtmp4.0/11,ML3.9/1,Error ellipse: s-maj=24.9km s-min=13.7km az=15.0*

ISCJB ***03*** *22:15:15.3±0.6,8.8S±0.1×157.4E±0.1,h17km,mb4.0/11, Error ellipse: s-maj=19.6km s-min=14.6km az=154.9*

NEIC ***03*** *22:15:19.1±0.5,8.87S×157.44E,h35km,mb4.0/2,Error ellipse: s-maj=17.9km s-min=13.4km az=172.0*

IDC 03 22:15:16.9±0.6,8.8S±0.1×157.44E±0.0,09,h17km,n28, σ1§16/31,mb4.0/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.55**	**104**	Pn	**Pn**		**22 15 56.5**	**-0.9**
HNR				Lg	Lg		22 16 37.5	
HNR	**Honiara**	**2.55**	**104**	Pn	**Pn**		**22 15 56.5**	**-0.9**
	24nm,0.3s,baz=165,slow=17,SNR=4.7							
HNR				Pg	**Pb**		**22 16 02.2**	**0.0**
	57nm,0.3s,baz=268,slow=7.2,SNR=7.9							
HNR				Lg	Lg		22 16 37.5	
	59nm,0.3s,baz=105,slow=20,SNR=4.9							
WRAB	**Tennant Creek**	**24.92**	**241**	*e*P	**P**		**22 20 38.2**	**-1.1**
	5.2nm,0.9s							
WRA	**Warramunga Arr**	**24.93**	**241**	P	**P**		**22 20 38.9**	**-0.6**
WRA				PcP	**PcP**		**22 24 16.8**	**+1.8**
WRA	**Warramunga Arr**	**24.93**	**241**	P	**P**		**22 20 38.9**	**-0.6**
	3.1nm,0.9s,baz=68,slow=9.9,SNR=6.0							
WRA				PcP	**PcP**		**22 24 16.8**	**+1.8**
	0.5nm,0.6s,baz=68,slow=2.9,SNR=5.4							
STKA	**Stephens Creek**	**27.28**	**210**	*e*P	**P**		**22 21 00.5**	**0.0**
	4.1nm,1.4s							
STKA	**Stephens Creek**	**27.28**	**210**	P	**P**		**22 21 02.0**	**+1.5**
	3.9nm,0.9s,baz=67,slow=17,SNR=6.4							
CMAR	**Chiang Mai Arr**	**63.75**	**296**	P	**P**		**22 25 47.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**63.75**	**296**	P	**P**		**22 25 47.1**	**-1.3**
	0.7nm,0.3s,baz=129,slow=5.1,SNR=7.6							
SONM	**Songino Array**	**72.16**	**327**	P	**P**		**22 26 41.6**	**+0.8**
SONM	**Songino Array**	**72.16**	**327**	P	**P**		**22 26 41.6**	**+0.8**
	0.7nm,0.9s,baz=140,slow=4.6,SNR=6.0							
ILAR	**Eielson Array**	**84.17**	**21**	P	**P**		**22 27 45.6**	**-1.3**
ILAR	**Eielson Array**	**84.17**	**21**	P	**P**		**22 27 45.6**	**-1.3**
	0.4nm,0.9s,baz=269,slow=5.4,SNR=4.3							
MK31	**Makanchi Array**	**86.36**	**318**	*e*P	**P**		**22 27 58.0**	**-0.2**
MKAR	**Makanchi Array**	**86.36**	**318**	P	**P**		**22 27 58.4**	**+0.1**
MKAR	**Makanchi Array**	**86.36**	**318**	P	**P**		**22 27 58.4**	**+0.1**
	1.4nm,0.6s,baz=98,slow=5.0,SNR=14							
ZALV	**Zalesovo Beam**	**87.03**	**326**	P	**P**		**22 27 59.8**	**-1.5**
ZALV	**Zalesovo Beam**	**87.03**	**326**	P	**P**		**22 27 59.8**	**-1.5**
	0.5nm,0.5s,baz=103,slow=6.2,SNR=2.7							
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**		**22 28 21.9**	**+1.5**
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**		**22 28 21.9**	**+1.5**
	1.4nm,0.9s,baz=226,slow=4.8,SNR=3.3							
BVAR	**Borovoye Array**	**95.19**	**323**	P	**P**		**22 28 37.9**	**-1.5**
BVAR	**Borovoye Array**	**95.19**	**323**	P	**P**		**22 28 37.9**	**-1.5**
	0.5nm,0.6s,baz=92,slow=8.7,SNR=2.9							
YKA	**Yellowknife Ar**	**96.79**	**28**	P	**P**		**22 28 47.8**	**+1.3**
YKA	**Yellowknife Ar**	**96.79**	**28**	P	**P**		**22 28 47.8**	**+1.3**
	0.2nm,0.8s,baz=264,slow=4.8,SNR=3.8							
AKASG	**Malin Array Be**	**120.41**	**325**	PKP	**PKPdf**		**22 34 07.8**	**+0.4**
AKASG	**Malin Array Be**	**120.41**	**325**	PKP	**PKPdf**		**22 34 07.8**	**+0.4**
	0.3nm,0.4s,baz=60,slow=1.2,SNR=4.0							
BDFB	**Brasilia**	**144.99**	**134**	PKPbc	**PKPab**		**22 34 53.3**	**-0.4**
BDFB	**Brasilia**	**144.99**	**134**	PKPbc	**PKPab**		**22 34 53.3**	**-0.4**
	8.1nm,0.7s,baz=248,slow=2.3,SNR=13							

IDC ***03*** *22:17:42.2±1.0,8.54S×157.47E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.8/18,mbtmp3.7/7,ML4.1/1,Error ellipse: s-maj=28.9km s-min=15.7km az=17.0*

IDC 03 22:17:44.5±0.9,8.6S±0.2×157.6E±0.1,h16km,n7,σ1§70/8, mb3.6/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.50**	**109**	Pn	**Pn**		**22 18 24.2**	**-0.5**
	39nm,0.3s,baz=139,slow=20,SNR=2.8							
HNR				Pg	**Pb**		**22 18 28.7**	**-0.5**
	62nm,0.3s,baz=58,slow=19,SNR=4.0							
HNR				Lg	Lg		22 19 05.0	
	27nm,0.3s,baz=90,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**25.11**	**241**	P	**P**		**22 23 07.5**	**-1.4**
	2.1nm,1.0s,baz=65,slow=9.8,SNR=3.4							
STKA	**Stephens Creek**	**27.48**	**210**	P	**P**		**22 23 32.2**	**+2.0**
	2.0nm,0.8s,baz=44,slow=14,SNR=3.2							
SONM	**Songino Array**	**72.07**	**327**	P	**P**		**22 29 08.4**	**+0.2**
	0.3nm,0.8s,baz=108,slow=4.7,SNR=1.8							
ILAR	**Eielson Array**	**83.97**	**21**	P	**P**		**22 30 13.9**	**+0.2**
	0.1nm,0.6s,baz=234,slow=3.1,SNR=2.5							
MKAR	**Makanchi Array**	**86.29**	**318**	P	**P**		**22 30 23.9**	**-1.9**
	0.3nm,0.6s,baz=112,slow=4.4,SNR=4.1							
NVAR	**Mina Array Bea**	**90.74**	**51**	P	**P**		**22 30 49.4**	**+2.0**
	0.3nm,0.8s,baz=227,slow=3.6,SNR=2.7							

ISCJB ***03*** *22:23:20.8±0.5,8.69S±0.07×157.44E±0.09,h16km, mb4.1/15, Error ellipse: s-maj=12.7km s-min=10.4km az=172.9*

IDC ***03*** *22:23:20.4±0.6,8.64S×157.42E,h0km,mb4.1/14, mb1 4.3/16,mb1mx4.3/20,mbtmp4.1/16,ML3.8/2, Error ellipse: s-maj=18.4km s-min=13.3km az=26.0*

NEIC ***03*** *22:23:25.1±0.3,8.77S×157.48E,h35km,mb4.3/3, Error ellipse: s-maj=9.4km s-min=8.4km az=101.0*

IDC 03 22:23:22.6±0.5,8.70S±0.09×157.47E±0.08,h16km,n47, σ0§85/45,mb4.2/15,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.55**	**107**	Pn	**Pn**		**22 24 02.4**	**-0.9**
HNR				Lg	Lg		22 24 44.5	
HNR	**Honiara**	**2.55**	**107**	Pn	**Pn**		**22 24 02.4**	**-0.9**
	16nm,0.3s,baz=204,slow=10.0,SNR=2.7							
HNR				Pg	**Pb**		**22 24 08.7**	**+0.6**
	36nm,0.3s,baz=246,slow=11,SNR=4.6							
HNR				Lg	Lg		22 24 44.5	
	56nm,0.3s,baz=158,slow=7.3,SNR=4.6							
CTA	**Charters Tower**	**15.68**	**223**	Pn	**Pn**		**22 27 03.2**	**+0.2**
CTA	**Charters Tower**	**15.68**	**223**	Pn	**Pn**		**22 27 03.2**	**+0.2**
	0.3nm,0.3s,baz=51,slow=14,SNR=5.1							
CTAO	**Charters Tower**	**15.68**	**223**	*e*Pn	**Pn**		**22 27 02.6**	**-0.5**
DZM	**Mont Dzumac**	**15.85**	**148**	Pn	**Pn**		**22 27 04.8**	**-0.5**
WRAB	**Tennant Creek**	**25.00**	**241**	*e*P	**P**		**22 28 45.3**	**-0.6**
	109nm,2.0s							
WRA	**Warramunga Arr**	**25.01**	**241**	P	**P**		**22 28 45.0**	**-1.0**
WRA				PcP	**PcP**		**22 32 21.4**	**+0.3**
WRA	**Warramunga Arr**	**25.01**	**241**	P	**P**		**22 28 45.0**	**-1.0**
	5.1nm,0.8s,baz=66,slow=9.5,SNR=17							
WRA				PcP	**PcP**		**22 32 21.4**	**+0.3**
	0.6nm,0.8s,baz=72,slow=2.7,SNR=4.4							
STKA	**Stephens Creek**	**27.38**	**210**	*e*P	**P**		**22 29 07.2**	**-0.2**
	1.8nm,0.8s							
STKA	**Stephens Creek**	**27.38**	**210**	P	**P**		**22 29 08.5**	**+1.2**
	7.8nm,0.8s,baz=35,slow=13,SNR=19							
H11S3	**WAKE ISLAND Hy**	**28.51**	**19**	T	T		22 57 52.4	
	baz=206,slow=7							
H11S2	**WAKE ISLAND Hy**	**28.51**	**19**	T	T		22 57 54.3	
	baz=206,slow=77							
H11S1	**WAKE ISLAND Hy**	**28.52**	**19**	T	T		22 57 58.8	
	baz=206,slow=77							
MJAR	**Matsushiro Arr**	**48.50**	**339**	P	**P**		**22 32 04.0**	**-0.9**
MJAR	**Matsushiro Arr**	**48.50**	**339**	P	**P**		**22 32 04.0**	**-0.9**
	0.9nm,0.6s,baz=164,slow=8.3,SNR=3.8							
KSRS	**Korea Array**	**53.59**	**331**	P	**P**		**22 32 43.2**	**+0.2**
	2.4nm,0.7s,baz=144,slow=7.0,SNR=4.9							
KSAR	**Wonju Array Be**	**53.60**	**331**	P	**P**		**22 32 43.2**	**+0.1**
USRK	**Ussuriysk Arra**	**57.48**	**338**	P	**P**		**22 33 10.7**	**-0.2**
	2.0nm,0.9s,baz=150,slow=3.9,SNR=3.8							
CMAR	**Chiang Mai Arr**	**63.73**	**295**	P	**P**		**22 33 55.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**63.73**	**295**	P	**P**		**22 33 55.0**	**+0.9**
	2.0nm,0.6s,baz=129,slow=5.6,SNR=13							
VNDA	**Vanda**	**68.84**	**179**	*e*P	**P**		**22 34 25.4**	**-0.4**
	1.7nm,0.8s							
VNDA	**Vanda**	**68.84**	**179**	P	**P**		**22 34 26.4**	**+0.6**
	1.9nm,0.8s,baz=157,slow=7.9,SNR=4.4							
ULN	**Ulaanbaatar**	**71.75**	**327**	*e*P	**P**		**22 34 44.2**	**-0.1**
SONM	**Songino Array**	**72.09**	**327**	P	**P**		**22 34 47.2**	**+0.9**
SONM	**Songino Array**	**72.09**	**327**	P	**P**		**22 34 47.2**	**+0.9**
	1.0nm,0.8s,baz=136,slow=6.1,SNR=6.3							
ILAR	**Eielson Array**	**84.06**	**21**	P	**P**		**22 35 50.9**	**-1.3**
ILAR	**Eielson Array**	**84.06**	**21**	P	**P**		**22 35 50.9**	**-1.3**
	0.5nm,1.0s,baz=237,slow=8.3,SNR=4.0							
MK31	**Makanchi Array**	**86.30**	**318**	*e*P	**P**		**22 36 03.4**	**-0.4**
MKAR	**Makanchi Array**	**86.30**	**318**	P	**P**		**22 36 04.0**	**+0.2**
MKAR	**Makanchi Array**	**86.30**	**318**	P	**P**		**22 36 04.0**	**+0.2**
	1.9nm,0.6s,baz=98,slow=6.1,SNR=24							
ZALV	**Zalesovo Beam**	**86.96**	**326**	P	**P**		**22 36 05.7**	**-1.2**
ZALV	**Zalesovo Beam**	**86.96**	**326**	P	**P**		**22 36 05.7**	**-1.2**
	0.7nm,0.8s,baz=108,slow=4.8,SNR=4.2							
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**		**22 36 27.6**	**+1.7**
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**		**22 36 27.6**	**+1.7**
	1.1nm,0.9s,baz=250,slow=6.4,SNR=5.2							
BVAR	**Borovoye Array**	**95.12**	**323**	P	**P**		**22 36 43.8**	**-1.3**
BVAR	**Borovoye Array**	**95.12**	**323**	P	**P**		**22 36 43.8**	**-1.3**
	0.8nm,0.6s,baz=106,slow=4.7,SNR=7.5							
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**		**22 36 52.7**	**+0.8**
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**		**22 36 52.7**	**+0.8**
	0.3nm,0.8s,baz=263,slow=4.5,SNR=4.2							
AKASG	**Malin Array Be**	**120.34**	**325**	PKP	**PKPdf**		**22 42 12.8**	**-0.4**
AKASG	**Malin Array Be**	**120.34**	**325**	PKP	**PKPdf**		**22 42 12.8**	**-0.4**
	0.4nm,0.6s,baz=58,slow=3.1,SNR=3.8							
GERES	**GERESS Array B**	**129.76**	**329**	PKP	**PKPdf**		**22 42 32.2**	**+0.8**
GERES	**GERESS Array B**	**129.76**	**329**	PKP	**PKPdf**		**22 42 32.2**	**+0.8**
	0.1nm,0.3s,baz=329,slow=3.4,SNR=3.7							
ESDC	**Sonseca Array**	**144.97**	**335**	PKP	PKPbc		22 42 59.0	+0.2
ESDC	**Sonseca Array**	**144.97**	**335**	PKP	PKPbc		22 42 59.0	+0.2
	0.4nm,0.6s,baz=20,slow=5.2,SNR=4.7							
BDFB	**Brasilia**	**145.04**	**134**	PKPbc	**PKPbc**		**22 42 59.6**	**-0.1**
BDFB	**Brasilia**	**145.04**	**134**	PKPbc	**PKPbc**		**22 42 59.6**	**-0.1**
	4.8nm,0.9s,baz=263,slow=3.0,SNR=6.3							

IDC ***03*** *22:29:55.7±0.7,8.60S×157.59E,h0km,mb4.0/9, mb1 4.3/11,mb1mx4.1/20,mbtmp4.1/11,ML4.0/2,Error ellipse: s-maj=22.6km s-min=13.6km az=18.0*

ISCJB ***03*** *22:29:56.9±0.6,8.6S±0.1×157.5E±0.1,h16km,mb4.0/9, Error ellipse: s-maj=16.6km s-min=14.3km az=148.8*

IDC 03 22:29:57.6±0.7,8.7S±0.1×157.60E±0.0,09,h16km,n12, σ1§25/13,mb4.0/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.42**	**107**	Pn	**Pn**		**22 30 36.6**	**+0.1**
	51nm,0.3s,baz=191,slow=16,SNR=4.5							
HNR				Pg	**Pb**		**22 30 39.9**	**-0.8**
	52nm,0.3s,baz=247,slow=16,SNR=4.8							
HNR				Lg	Lg		22 31 13.3	
	185nm,0.3s,baz=17,slow=19,SNR=6.4							
CTA	**Charters Tower**	**15.74**	**223**	Pn	**P**		**22 33 40.9**	**-1.8**
	0.3nm,0.3s,baz=41,slow=17,SNR=7.4							
WRA	**Warramunga Arr**	**25.10**	**241**	P	**P**		**22 35 21.6**	**-0.4**
	13nm,1.0s,baz=66,slow=9.7,SNR=17							
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**		**22 35 44.8**	**+2.1**
	5.1nm,0.7s,baz=31,slow=13,SNR=9.4							
KSRS	**Korea Array**	**53.70**	**331**	P	**P**		**22 39 18.9**	**+0.1**
	1.3nm,0.7s,baz=139,slow=7.5,SNR=3.3							
CMAR	**Chiang Mai Arr**	**63.86**	**295**	P	**P**		**22 40 30.1**	**+0.1**
	0.7nm,0.4s,baz=95,slow=3.9,SNR=6.1							
SONM	**Songino Array**	**72.20**	**327**	P	**P**		**22 41 22.3**	**+0.3**
	0.6nm,0.8s,baz=114,slow=6.8,SNR=4.8							
ILAR	**Eielson Array**	**84.06**	**21**	P	**P**		**22 42 26.4**	**-0.8**
	0.7nm,0.9s,baz=256,slow=3.6,SNR=4.7							
MKAR	**Makanchi Array**	**86.41**	**318**	P	**P**		**22 42 38.8**	**-0.7**
	0.6nm,0.7s,baz=95,slow=6.2,SNR=6.2							
NVAR	**Mina Array Bea**	**90.78**	**51**	P	**P**		**22 43 02.0**	**+1.4**
	0.6nm,0.8s,baz=255,slow=2.4,SNR=4.6							
BVAR	**Borovoye Array**	**95.24**	**323**	P	**P**		**22 43 19.9**	**-0.7**
	0.3nm,0.8s,baz=120,slow=8.7,SNR=2.4							
BDFB	**Brasilia**	**144.92**	**134**	PKPbc	**PKPdf**		**22 49 37.1**	**+1.8**
	3.4nm,0.8s,baz=261,slow=4.5,SNR=4.3							

IDC 03 22:32:18.8±15.0,4.80S×104.13W,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.5/16,mbtmp3.3/3,Error ellipse: s-maj=560.9km s-min=181.9km az=115.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**47.60**	**355**	P	P		22 40 56.6	-0.2
	0.7nm,0.8s,baz=170,slow=9.1,SNR=5.6							
YKA	**Yellowknife Ar**	**67.58**	**355**	P	P		22 43 17.1	+0.2
	0.1nm,0.8s,baz=166,slow=5.5,SNR=2.8							
ILAR	**Eielson Array**	**76.20**	**343**	P	P		22 44 08.7	0.0
	0.2nm,0.6s,baz=147,slow=5.3,SNR=2.6							
H11S2	**WAKE ISLAND Hy**	**90.71**	**288**	T	T		00 26 14.7	
	baz=97							
H11S1	**WAKE ISLAND Hy**	**90.72**	**288**	T	T		00 26 12.7	
	baz=97							
H11S3	**WAKE ISLAND Hy**	**90.73**	**288**	T	T		00 26 15.9	
	baz=97							

IDC 03 22:35:23.5±5.3,4.83S×152.74E,h92km±45km,mb3.7/3, mb1 4.0/4,mb1mx3.5/18,mbtmp4.1/4,Error ellipse: s-maj=62.7km s-min=32.0km az=134.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.17**	**230**	P	**P**		**22 37 07.6**	**+1.9**
	3.4nm,0.3s,baz=57,slow=10,SNR=7.3							
PMG				S	Sn		22 38 24.4	-1.3
	4.2nm,0.3s,baz=314,slow=23,SNR=7.4							
WRA	**Warramunga Arr**	**23.39**	**228**	P	P		22 40 24.4	+0.1
	3.7nm,0.6s,baz=53,slow=9.8,SNR=31							
CMAR	**Chiang Mai Arr**	**57.84**	**295**	P	P		22 45 06.2	+0.2
	0.7nm,0.3s,baz=93,slow=4.5,SNR=5.1							
ILAR	**Eielson Array**	**82.20**	**22**	P	P		22 47 33.2	-0.9
	0.7nm,0.7s,baz=246,slow=5.3,SNR=9.1							
TORD	**Torodi Ar. Bea**	**150.26**	**288**	PKPbc	PKPbc		22 55 05.3	+0.3
	0.4nm,0.3s,baz=74,slow=2.5,SNR=17							
TORD				PKPab	PKPab

CTAO pmax pmax
comp=Z,2µm,1.4s
CTAO Charters Tower 15.51 223 *e*Pn **Pn 22 40 04.9 -1.5**
comp=Z,2µm,1.4s
CTAO *e*Sn **Sn 22 42 57.9 +0.5**
DZM Mont Dzumac 15.73 148 *e*P **Pn 22 40 10.6 +1.4**
comp=Z,1µm,1.6s
DZM *e*LR LR 22 43 49.4
comp=Z,213µm,22.4s
DZM Mont Dzumac 15.73 148 Pn **Pn 22 40 11.1 +1.9**
DZM Mont Dzumac 15.73 148 Pn **Pn 22 40 11.1 +1.9**
comp=Z,0.4nm,0.3s,baz=347,slow=14,SNR=15
EIDS Eidsvold 17.47 199 *e*Pn **Pn 22 40 30.8 -0.4**
comp=Z,822nm,1.1s
EIDS *e*Sn **Sn 22 43 45.6 +0.6**
EIDS Eidsvold 17.47 199 ⇑P **Pn 22 40 31.6 +0.5**
baz=17,SNR=55
GENI Genyem 18.26 289 P **P 22 40 39.1 -1.8**
comp=Z,1µm,1.1s,comp=Z,91µmcomp=Z,960µm
TARA Tarawa 18.50 57 *e*P **Pn 22 40 44.8 +1.0**
comp=Z,16µm,2.1s
TARA *e*S **S 22 44 13.4 +0.3**
RMQ Roma 19.34 204 P **Pn 22 40 53.6 -0.3**
baz=19,SNR=60
KWAJ Kwajalein Atol 20.29 30 *e*P **P 22 41 03.3 +0.2**
KWAJ pmax pmax
comp=Z,3µm,1.2s
KWAJ MLR MLR
comp=Z,293µm,19.5s
KWAJ Kwajalein Atol 20.29 30 *e*P **P 22 41 03.3 +0.2**
comp=Z,3µm,1.2s
KWAJ LR LR
comp=Z,293µm,19.5s
QIS Mount Isa 20.75 234 P **P 22 41 07.6 -0.5**
baz=20,SNR=107
QLP Quilpie 21.59 214 P **P 22 41 16.4 -0.7**
baz=21,SNR=113
ARMA Armidale 22.10 193 *e*P **P 22 41 22.6 -0.1**
ARMA *e*S **S 22 45 24.1 -0.8**
ARMA LR LR
comp=Z,134µm,20.0s
ARMA Armidale 22.10 193 P **P 22 41 24.2 +1.6**
baz=22,SNR=14
SRPI Serui, Papua 22.19 287 P **P 22 41 25.5 +1.8**
comp=Z,867nm,1.9s,comp=Z,57µmcomp=Z,551µm
MWPI Manokwari, Pap 24.57 287 P x 22 41 47.6
comp=Z,1µm,3.3s,comp=Z,76µm
KDU Kakadu 24.79 259 ⇓P **P 22 41 48.6 -0.6**
baz=24,SNR=8.0
WRAB Tennant Creek 24.86 241 P **P 22 41 49.2 -0.6**
comp=Z,815nm,1.8s,SNR=29
WRAB Tennant Creek 24.86 241 ⇓*e*P **P 22 41 49.4 -0.4**
WRAB pmax pmax
comp=Z,2µm,2.7s
WRAB MLR MLR
comp=Z,2922µm,24.0s
WRAB Tennant Creek 24.86 241 *e*P **P 22 41 49.0 -0.8**
comp=Z,3µm,1.9s
WRAB *e*S **S 22 46 08.8 -2.4**
WRAB LR LR
comp=Z,909µm,20.0s
WRA Warramunga Arr 24.87 241 P **P 22 41 48.0 -2.0**
WRA S S 22 46 23.5 +12
WRA Warramunga Arr 24.87 241 P **P 22 41 48.0 -2.0**
comp=Z,123nm,0.9s,baz=66,slow=9.6,SNR=146
WRA S S 22 46 23.5 +12
comp=Z,5.4nm,0.8s,baz=72,slow=14,SNR=1.6
WRA LR LR 22 51 07.2
comp=Z,948µm,21.4s,baz=65,slow=36
MGCD Mangrove Creek 24.91 193 P **P 22 41 51.9 +1.8**
baz=25,SNR=10
CMSA Cobar Meteorol 25.05 204 P **P 22 41 50.5 -0.8**
baz=25,SNR=143
GUMO Guam 25.56 331 PFAKE 22 42 00.0 +3.9
GUMO LR LR
comp=Z,341µm,22.0s
FAKI Fak Fak 25.71 282 P **P 22 42 00.2 +2.6**
comp=Z,886nm,1.4s,comp=Z,51µmcomp=Z,438µm
FAKI Fak Fak 25.71 282 P **P 22 42 00.3 +2.7**
baz=26,SNR=14
SAUI Saumlaki 25.85 270 P **P 22 42 00.8 +2.0**
comp=Z,2µm,2.4s,comp=Z,111µm
MTN Manton Dam 26.11 259 ⇑P **P 22 42 00.4 -0.7**
baz=26,SNR=4.3
YNG Young 26.62 197 P **P 22 42 08.2 +2.5**
baz=26,SNR=23
AS01 Alice Springs 26.83 234 *e*P **P 22 42 05.1 -2.6**
STKA Stephens Creek 27.20 210 *e*P **P 22 42 11.1 +0.3**
comp=Z,556nm,2.1s
STKA Stephens Creek 27.20 210 P **P 22 42 11.6 +0.8**
comp=Z,91nm,0.9s,baz=22,slow=9.6,SNR=70
STKA LR LR 22 53 10.6
comp=Z,131µm,19.1s,baz=34,slow=37
SWI Sorong 27.23 286 P **P 22 42 10.3 -1.0**
comp=Z,354nm,0.8s,comp=Z,36µm
CNB Canberra Magne 27.33 194 P **P 22 42 14.6 +2.7**
baz=27,SNR=16
BNDI Bandanaira 27.66 277 P **P 22 42 17.1 +2.0**
comp=Z,1µm,2.0s,comp=Z,51µmcomp=Z,349µm
PALU Palau 27.97 304 ⇑P P 22 42 23.0 +5.1
baz=28,SNR=3.4
H11S3 WAKE ISLAND Hy 28.70 19 T T 23 11 06.6
baz=200,slow=77,SNR=195
H11S2 WAKE ISLAND Hy 28.70 19 T T 23 11 03.8
baz=200,slow=77,SNR=148
H11S1 WAKE ISLAND Hy 28.71 19 T T 23 11 09.6
baz=200,slow=77,SNR=218
KNRA Kununurra 28.78 254 P **P 22 42 24.4 -0.7**
baz=28,SNR=14
MSAI Masohi 28.84 279 P **P 22 42 28.0 +2.3**
comp=Z,57nm,1.4s,comp=Z,6µmcomp=Z,66µm
HTT Hallett 29.80 212 P **P 22 42 34.9 +0.9**
baz=30,SNR=7.4
H11N1 WAKE ISLAND Hy 29.91 18 T T 23 12 35.9
baz=196,slow=74,SNR=18
H11N3 WAKE ISLAND Hy 29.91 18 T T 23 12 31.3
baz=196,slow=74,SNR=21
H11N2 WAKE ISLAND Hy 29.92 18 T T 23 12 39.0
baz=196,slow=74,SNR=80
OUZ Omahuta 30.11 153 *e*P **P 22 42 37.7 +1.0**
comp=Z,652nm,2.7s
OUZ LR LR
comp=Z,194µm,19.0s
TOO Toolangi 30.53 199 P **P 22 42 42.2 +1.8**
baz=30,SNR=9.9
AFI Afiamalu 30.59 102 *e*P **P 22 42 40.9 -0.3**
comp=Z,87nm,1.3s
AFI Afiamalu 30.59 102 P **P 22 42 42.4 +1.1**
comp=Z,33nm,0.7s,baz=260,slow=17,SNR=4.3
AFI LR LR 22 53 24.7
comp=Z,118µm,20.6s,baz=286,slow=33
NLAI Namlea 30.65 279 P P 22 42 35.1 -6.6
RAO Raoul Island 30.76 135 *e*P **P 22 42 43.4 +0.8**
comp=Z,3µm,1.5s
RAO Raoul Island 30.76 135 P **P 22 42 44.0 +1.5**
comp=Z,179nm,0.5s,baz=260,slow=23,SNR=6.0
RAO LR LR 22 52 12.6
comp=Z,53µm,20.6s,baz=310,slow=30
LBMI Labuha 30.89 284 P **P 22 42 45.4 +1.6**
comp=Z,1µm,2.8s,comp=Z,59µm
BBOO Buckleboo 30.94 217 *e*P **P 22 42 44.3 +0.3**
comp=Z,1µm,2.6s
BBOO LR LR
comp=Z,63µm,20.7s
BBOO Buckleboo 30.94 217 P **P 22 42 43.4 -0.6**
baz=31,SNR=18
ARPS Mount Arapiles 31.16 205 P **P 22 42 46.8 +0.9**
baz=31,SNR=12
KNTN Kanton 31.28 81 *e*P **P 22 42 46.8 -0.5**
comp=Z,965nm,1.3s
KNTN LR LR
comp=Z,137µm,22.0s
TNTI Ternate 31.44 286 P **P 22 42 51.7 +3.1**
comp=Z,659nm,1.7s,comp=Z,30µmcomp=Z,266µm
TNTI Ternate 31.44 286 *e*P **P 22 42 48.4 -0.2**
comp=Z,3µm,1.9s
TNTI LR LR
comp=Z,236µm,20.0s
FITZ Fitzroy Crossi 32.19 250 P **P 22 42 54.2 -1.0**
FITZ Fitzroy Crossi 32.19 250 P **P 22 42 54.2 -1.0**
comp=Z,9.8nm,0.6s,baz=89,slow=9.4,SNR=17
FITZ LR LR 22 55 42.4
comp=Z,418µm,21.6s,baz=75,slow=36
SOEI Soe 32.72 266 P **P 22 43 02.2 +2.2**
comp=Z,315nm,3.2s,comp=Z,41µm
NIUE Niue 33.21 111 P **P 22 43 06.4 +2.3**
baz=33,SNR=3.2
SGSI Sangihe 34.15 290 P **P 22 43 11.1 -1.3**
comp=Z,2µm,1.7s,comp=Z,42µm
URZ Urewera 34.21 152 *e*P **P 22 43 12.7 +0.1**
URZ *e*PP **PP 22 44 31.7 +1.3**
URZ Urewera 34.21 152 P **P 22 43 14.9 +2.3**
comp=Z,70nm,1.1s,baz=82,slow=2.0,SNR=5.8
URZ LR LR 22 55 20.8
comp=Z,134µm,19.4s,baz=331,slow=33
URZ Urewera 34.21 152 *e*P* P 22 43 16.6 +4.0
KMSI Cibinong 34.61 284 P P 22 43 22.6 +6.3
BKZ Black Stump Fm 34.67 153 *e*P **P 22 43 19.8 +3.2**
comp=Z,319nm,1.3s
BKZ LR LR
comp=Z,198µm,18.0s
MMRI Maumere 34.76 268 P **P 22 43 16.9 -0.8**
comp=Z,889nm,1.5s,comp=Z,28µm
MMRI Maumere 34.76 268 *e*P **P 22 43 15.7 -2.0**
comp=Z,2µm,1.4s
MMRI LR LR
comp=Z,381µm,21.0s
FORT Forrest 34.98 227 *e*P **P 22 43 18.5 -0.9**
comp=Z,427nm,1.0s
FORT LR LR
comp=Z,615µm,20.8s
FORT Forrest 34.98 227 P **P 22 43 19.0 -0.4**
baz=35,SNR=9.7
TAU Tasmania Unive 35.04 193 P **P 22 43 22.6 +2.9**
comp=Z,760nm,1.9s,SNR=5.7
TAU Tasmania Unive 35.04 193 PFAKE 22 43 30.0 +10
TAU LR LR
comp=Z,68µm,18.0s
TSZ Takapari Road 35.18 155 *e*P* P 22 43 25.8 +4.8
LUWI Luwuk 35.35 281 P **P 22 43 25.2 +2.4**
comp=Z,363nm,3.1s,comp=Z,27µm
KIW Kapiti Island 35.44 157 *e*P* P 22 43 30.4 +7.3
DAV Davao City (W) 35.47 296 *e*P **P 22 43 23.1 -0.7**
comp=Z,2µm,2.0s
DAV LR LR
comp=Z,274µm,18.0s
THZ Tophouse 35.49 160 *e*P* **P 22 43 26.1 +2.4**
TCW Tory Channel 35.50 158 *e*P* P 22 43 27.6 +3.9
OGWZ Otaki Gorge 35.50 157 *e*P* P 22 43 28.4 +4.7
TUWZ Tuamarina 35.57 158 *e*P* P 22 43 29.5 +5.2
HOWZ Holdsworth Sta 35.71 156 *e*P* P 22 43 29.5 +4.0
CAW Cannon Point 35.71 157 *e*P* P 22 43 29.8 +4.3
SNZO South Karori 35.74 157 *e*P **P 22 43 25.7 -0.1**
SNZO *e*PP **PP 22 44 47.6 +0.3**
SNZO LR LR
comp=Z,46µm,20.0s
BFZ Birch Farm 35.82 155 *e*P **P 22 43 26.6 +0.1**
comp=Z,2µm,2.2s
BFZ LR LR
comp=Z,125µm,18.0s
KKSI Kolaka, Sulawe 35.83 275 P x 22 43 27.8
comp=Z,283nm,1.7s,comp=Z,21µm
BUKP Musuan 36.28 296 *e*P **P 22 43 32.9 +2.1**
KHZ Kahutara 36.29 160 *e*P **P 22 43 30.2 -0.2**
KHZ *e*PP **PnPn 22 44 52.7 -0.1**
KHZ LR LR
comp=Z,88µm,18.0s
APSI Ampana 36.48 281 P **P 22 43 33.0 +0.6**
comp=Z,438nm,2.7s,comp=Z,20µm
MRSI Marisa 36.54 283 P **P 22 43 36.1 +3.1**
comp=Z,162nm,3.6s,comp=Z,15µm
WSI Waingapu 36.63 266 P **P 22 43 36.5 +2.8**
comp=Z,774nm,1.8s,comp=Z,38µm
RPZ Rata Peaks 36.69 163 *e*P **P 22 43 34.4 +0.6**
comp=Z,1µm,1.9s
RPZ Rata Peaks 36.69 163 P P 22 43 37.1 +3.3
comp=Z,40nm,1.1s,baz=334,slow=11,SNR=4.7
RPZ LR LR 22 57 42.0
comp=Z,108µm,19.5s,baz=329,slow=35
CTBH Cotabato--PC H 36.72 295 ⇑*i*P P 22 43 35.9 +1.4
LBFI Labuhan Bajo, 37.09 268 P x 22 43 35.0
comp=Z,321nm,0.9s,comp=Z,21µm
MQZ McQueen's Vall 37.16 162 *e*P* P 22 43 41.2 +3.5
BKSI Bulukumba 37.16 273 P **P 22 43 38.0 -0.3**
comp=Z,163nm,2.1s,comp=Z,17µm
BNSI Bone 37.31 274 P **P 22 43 38.3 -1.2**
comp=Z,326nm,2.8s,comp=Z,30µm
DCZ Deep Cove 37.42 169 *e*P **P 22 43 42.2 +2.3**
comp=Z,3µm,2.9s
DCZ LR LR
comp=Z,66µm,20.0s
MSLP Maasin 37.51 300 *e*P **P 22 43 42.1 +0.9**
KAPI Kappang 37.57 273 P **P 22 43 42.0 +0.3**
comp=Z,890nm,1.0s,SNR=14
KAPI Kappang 37.57 273 *e*P **P 22 43 40.0 -1.7**
SPSI Sidrap Palu 37.71 275 P **P 22 43 41.4 -1.5**
comp=Z,143nm,2.1s,comp=Z,17µm
PAGZ Pagadian 37.77 295 *e*P **P 22 43 46.1 +2.8**
ODZ Otahua Downs 37.80 165 *e*P **P 22 43 44.4 +1.1**
comp=Z,436nm,1.8s
ODZ LR LR
comp=Z,126µm,18.0s
TOLI Toli-Toli 37.82 283 P x 22 43 43.9
comp=Z,305nm,1.2s,comp=Z,18µm
TOLI Toli-Toli 37.82 283 *e*P P 22 43 40.4 -3.5
comp=Z,168nm,0.7s
TTSI Tana Toraja 37.82 276 P **P 22 43 43.7 -0.1**
comp=Z,172nm,3.1s,comp=Z,22µm
PLP Palo 37.92 301 ⇓*e*P P 22 43 48.4 +3.8
WHZ Wether Hill Ro 37.98 168 *e*P **P 22 43 46.2 +1.4**
WHZ LR LR
comp=Z,113µm,18.0s
MJSI Majene 38.56 275 P x 22 43 50.2
comp=Z,246nm,2.3s,comp=Z,24µm
CBIJ Chichi jima 38.69 338 P **P 22 43 48.9 -2.0**
JCJ Chichijima 38.69 338 P **P 22 43 48.9 -2.0**
comp=Z,124nm,0.9s,baz=18,slow=20,SNR=2.1
JCJ LR LR 22 58 05.3
comp=Z,179µm,21.1s,baz=148,slow=34
MMSI Mamuju 38.78 277 P x 22 43 53.8
GUIM Jordan 39.70 298 *e*P **P 22 44 01.8 +2.2**
PVCP Virac 39.86 304 *e*P P 22 44 04.2 +3.3
KMBL Kambalda 39.89 231 P **P 22 44 00.8 -0.2**
baz=40,SNR=38
RCP Roxas 40.01 300 ⇑*e*P **P 22 44 04.1 +2.0**
MEEK Meekatharra 40.74 239 P **P 22 44 06.3 -1.9**
baz=40,SNR=27
AUQP San Andres 40.95 302 *e*P P 22 44 22.8 +13
OTRP Odiongan 41.02 300 *e*P **P 22 44 12.4 +1.9**
BKB Balikpapan 41.03 278 P P 22 44 14.0 +3.4
comp=Z,357nm,3.4s,comp=Z,32µm
CUYO Cuyo Island 41.18 298 *e*P **P 22 44 14.4 +2.6**
MYLDM Lahad Datu 41.23 288 P x 22 44 14.6
comp=Z,415nm,2.2s,comp=Z,30µm
MYLDM Lahad Datu 41.23 288 *e*P **P 22 44 11.6 -0.7**
comp=Z,1µm,1.7s
MYLDM Lahad Datu 41.23 288 ⇓P P 22 44 15.6 +3.3
KHKI Kahang-Kahang 41.32 267 P x 22 44 11.7
comp=Z,306nm,2.2s,comp=Z,20µm
KBKI Kotabaru 41.37 275 P **P 22 44 13.7 +0.3**
comp=Z,152nm,3.5s,comp=Z,18µmcomp=Z,140µm
TSM Tawau 41.54 287 ⇑P P 22 44 18.3 +3.5
DNP Denpasar 41.70 267 P **P 22 44 14.4 -1.7**
comp=Z,662nm,1.9s,comp=Z,46µm
SRBI Singaraja 41.73 268 P **P 22 44 17.6 +1.2**
comp=Z,267nm,2.1s,comp=Z,22µm
SJMP San Jose 41.84 300 *e*P P 22 44 21.1 +3.9
BYJI Banyuwangi 42.57 268 P x 22 44 23.3
comp=Z,1µm,1.5s,comp=Z,39µm
BBKI Banjar Baru 42.65 275 P **P 22 44 23.3 -0.6**
comp=Z,728nm,1.9s,comp=Z,41µm
ABJI Asem Bagus 42.72 268 P **P 22 44 24.1 -0.4**
comp=Z,377nm,2.2s,comp=Z,36µmcomp=Z,128µm
ENPP El Nido 42.73 297 *e*P P 22 44 28.1 +3.6
JAGI Jajag, Banyuwa 42.75 267 *e*P **P 22 44 22.6 -2.1**
comp=Z,915nm,1.1s
JAGI LR LR
comp=Z,287µm,21.0s
RAR Rarotonga 42.98 112 *e*P **P 22 44 27.1 +0.7**
comp=Z,654nm,2.6s
RAR Rarotonga 42.98 112 P **P 22 44 29.3 +2.8**
comp=Z,42nm,1.0s,baz=346,slow=0.0,SNR=4.4
RAR LR LR 23 00 17.0
comp=Z,25µm,20.4s,baz=50,slow=33
KMMI Kalianget 43.05 269 P **P 22 44 25.4 -1.7**
comp=Z,301nm,1.9s,comp=Z,30µm
MTKI Muara Teweh, K 43.05 278 P **P 22 44 27.5 +0.3**
comp=Z,209nm,3.0s,comp=Z,21µm
KLBR Kellerberrin 43.19 233 P **P 22 44 27.2 -0.8**
baz=43,SNR=15
LUBP Lubang 43.20 301 *e*P **P 22 44 28.0 -0.2**
BLJI Banyuglugur 43.36 268 P **P 22 44 31.5 +1.9**
comp=Z,255nm,2.5s,comp=Z,19µm
GMJI Gumukmas 43.47 267 P **P 22 44 29.8 -0.7**
comp=Z,243nm,1.7s,comp=Z,19µm
BLDU Ballidu 43.66 235 P **P 22 44 31.7 -0.2**
baz=43,SNR=13
MORW Morawa 43.68 237 P **P 22 44 30.8 -1.3**
baz=43,SNR=6.5
NWAO Narrogin (SRO) 44.12 231 P **P 22 44 34.5 -1.0**
NWAO Narrogin (SRO) 44.12 231 P **P 22 44 34.5 -1.0**
comp=Z,50nm,1.1s,baz=54,slow=8.7,SNR=9.3
NWAO LR LR 23 02 59.2
comp=Z,360µm,21.2s,baz=54,slow=36
MIDW Midway 44.20 33 *e*P **P 22 44 34.6 -1.6**
comp=Z,886nm,1.3s
MIDW LR LR
comp=Z,218µm,20.0s
BCPH Baguio City Da 44.26 304 ⇓*i*P **P 22 44 37.4 +0.5**
KRKI Karangkates 44.45 267 P x 22 44 38.1
comp=Z,1µm,1.9s,comp=Z,45µm
BWJI Bawean 44.47 271 P P 22 44 42.3 +3.7
comp=Z,124nm,1.2s,comp=Z,7µm
GRJI Gresik 44.53 269 P **P 22 44 40.2 +1.1**
comp=Z,162nm,1.4s,comp=Z,2µm
PWJI Pagerwojo 45.10 268 P **P 22 44 41.6 -2.0**
comp=Z,771nm,1.4s,comp=Z,22µmcomp=Z,111µm
JOW Kunigami 45.38 322 *e*P **P 22 44 44.9 -0.7**
comp=Z,5µm,2.6s
JOW Kunigami 45.38 322 P **P 22 44 43.2 -2.4**
comp=Z,3.8nm,0.9s,baz=148,slow=8.5,SNR=5.9
JOW LR LR 23 00 26.7
comp=Z,10µm,20.1s,baz=142,slow=32
NGJI Ngawi 45.50 268 P **P 22 44 46.7 0.0**
comp=Z,755nm,2.1s,comp=Z,42µm
MCQ Macquarie Isla 45.51 179 *e*P **P 22 44 47.6 +1.4**
MCQ Macquarie Isla 45.51 179 *e*P **P 22 44 47.6 +1.4**
PCJI Pacitan 45.71 267 P **P 22 44 47.7 -0.7**
comp=Z,2µm,1.5s,comp=Z,36µm
BTM Bintulu 45.79 283 ⇑P **P 22 44 51.7 +2.6**
PBKI Pangkalan Bun 45.89 275 P **P 22 44 50.8 +0.9**
comp=Z,1µm,1.5s,comp=Z,33µm
UWJI Ujung Watu 46.10 270 P **P 22 44 53.2 +1.7**
comp=Z,974nm,1.6s,comp=Z,30µmcomp=Z,96µm
XMAS Kiritimati 46.28 79 *e*P **P 22 44 51.9 -1.0**
comp=Z,443nm,1.1s
XMAS LR LR
comp=Z,88µm,20.0s
UGM Wanagama 46.38 268 P **P 22 44 55.0 +1.3**
comp=Z,1µm,1.3s,comp=Z,42µm
UGM Wanagama 46.38 268 *e*P **P 22 44 52.3 -1.5**
comp=Z,21µm,3.0s
UGM LR LR
comp=Z,145µm,22.0s
SBUM Sibu 46.43 282 P x 22 44 55.9
comp=Z,220nm,3.4s,comp=Z,22µm
SBUM Sibu 46.43 282 *e*P **P 22 44 53.9 -0.2**
comp=Z,1µm,2.2s
SBUM Sibu 46.43 282 ⇓P **P 22 44 56.4 +2.3**
SMRI Semarang 46.54 269 P **P 22 44 56.2 +1.2**
comp=Z,976nm,2.5s,comp=Z,66µm
SMRI Semarang 46.54 269 *e*P **P 22 44 54.2 -0.8**
comp=Z,6µm,2.2s
SMRI LR LR
comp=Z,251µm,22.0s
STKI Sintang 46.60 279 P **P 22 44 56.4 +0.9**
comp=Z,363nm,1.9s,comp=Z,24µm
BJII Banjamegara 47.23 268 P x 22 45 00.7
comp=Z,1µm,2.5s,comp=Z,48µm
TWG Pinlang 47.53 312 *e*P **P 22 45 00.7 -1.8**
comp=Z,6µm,3.0s
YULB Yu-li 47.71 313 *e*P **P 22 45 02.5 -1.5**
comp=Z,1µm,2.5s
YULB LR LR
comp=Z,137µm,20.5s
TGJI Tegal 47.86 269 P x 22 45 05.1
comp=Z,685nm,1.9s,comp=Z,46µmcomp=Z,115µm
CLJI Cilicap 47.88 268 P x 22 45 05.5
comp=Z,365nm,2.0s,comp=Z,17µm
NACB Ninganchiao 47.98 314 *e*P **P 22 45 05.6 -0.4**
comp=Z,497nm,1.5s
NACB LR LR
comp=Z,130µm,20.4s
KPJI Karang Pucung 48.00 268 P **P 22 45 06.2 -0.1**
comp=Z,502nm,1.2s,comp=Z,32µm
KSM Kuching 48.05 280 P x 22 45 07.3
comp=Z,297nm,1.6s,comp=Z,19µm
KSM Kuching 48.05 280 *e*P **P 22 45 05.8 -1.0**
comp=Z,442nm,1.3s
KSM Kuching 48.05 280 P **P 22 45 07.5 +0.7**
baz=48,SNR=8.2
KSM Kuching 48.05 280 ⇓P **P 22 45 07.7 +0.9**
TPUB Ta-pu 48.14 312 *e*P **P 22 45 05.3 -2.0**
comp=Z,477nm,1.6s
TPUB LR LR
comp=Z,146µm,19.0s
SSLB Suanglung 48.20 313 *e*P **P 22 45 06.3 -1.5**
comp=Z,774nm,2.1s
SSLB LR LR
comp=Z,157µm,20.4s
CMJI Cimerak 48.44 267 P **P 22 45 09.9 +0.2**
comp=Z,938nm,2.1s,comp=Z,23µm
YHNB Yeheng 48.45 314 *e*P **P 22 45 08.5 -1.2**
comp=Z,703nm,1.5s
YHNB LR LR
comp=Z,150µm,20.0s
TATO Taipei 48.56 315 *e*P **P 22 45 09.3 -1.1**
comp=Z,310nm,1.8s
TATO LR LR
comp=Z,131µm,20.0s
MJAR Matsushiro Arr 48.65 339 P **P 22 45 08.4 -2.6**
MJAR Matsushiro Arr 48.65 339 P **P 22 45 08.4 -2.6**
comp=Z,11nm,0.9s,baz=171,slow=8.4,SNR=19
MJAR LR LR 23 07 15.3
comp=Z,47µm,18.1s,baz=155,slow=38
MAJO Matsushiro 48.66 339 ⇑*e*P **P 22 45 08.2 -2.8**
MAJO pmax pmax
comp=Z,1µm,2.7s
MAJO MLR MLR
comp=Z,673µm,18.0s
MAJO Matsushiro 48.66 339 *e*P **P 22 45 09.7 -1.3**
comp=Z,246nm,1.5s
MAT Matsushiro 48.66 339 P P 22 45 07.3 -3.7
MAT S **S 22 52 16.5 +5.1**
JCJI Jatiwangi 48.74 269 P **P 22 45 11.2 -0.8**
comp=Z,2µm,2.7s,comp=Z,50µm
JNU Nakatsue 48.81 330 *e*P **P 22 45 10.5 -1.8**
comp=Z,340nm,1.0s
CISI Cisompet, Garu 49.08 268 P **P 22 45 12.2 -2.6**
comp=Z,1µm,1.8s,comp=Z,28µm
CISI Cisompet, Garu 49.08 268 *e*P **P 22 45 13.2 -1.5**
comp=Z,6µm,2.2s
CISI LR LR
comp=Z,149µm,21.0s
LEM Lembang 49.35 269 P **P 22 45 15.6 -1.3**
comp=Z,1µm,2.4s,comp=Z,34µm
LEM Lembang 49.35 269 P **P 22 45 17.2 +0.3**
baz=49,SNR=12
TPI Tanjungpandan 49.84 274 P **P 22 45 20.9 +0.4**
comp=Z,350nm,2.5s,comp=Z,19µm
CBJI Citeko 50.15 269 P **P 22 45 21.4 -1.4**
comp=Z,2µm,1.1s,comp=Z,62µm
DBJI Dramaga 50.23 269 P **P 22 45 21.7 -1.8**
comp=Z,582nm,1.9s,comp=Z,36µm
SKJI Sukabumi 50.38 268 P P 22 45 19.6 -5.0
QZH Quanzhou 50.61 313 P **P 22 45 26.2 +0.1**
QZH S **S 22 52 37.5 -1.6**
QZH pmax pmax
comp=Z,700nm,1.4s
QZH pmax pmax
comp=Z,29µm,10.4s
QZH LR LR
comp=Z,91µm,13.7s
QZH LR LR
comp=Z,126µm,16.4s
QZH LR LR
comp=Z,229µm,19.4s
XMIS Christmas Isla 51.01 264 *e*P **P 22 45 27.8 -1.6**
comp=Z,446nm,1.1s
XMIS LR LR
comp=Z,130µm,21.4s
CGJI Cibinong 51.27 269 P **P 22 45 29.3 -2.0**
comp=Z,1µm,1.2s,comp=Z,23µm
BLSI Bandar Lampung 51.85 270 P **P 22 45 34.9 -0.8**
comp=Z,149nm,2.3s,comp=Z,11µm
KSPHA Pohang 52.02 331 P **P 22 45 36.1 -0.3**
SNR=8.9
PAE Paea 52.18 105 *e*P **P 22 45 40.1 +2.1**
comp=Z,110nm,1.2s
PPT Papeete 52.18 105 *e*P **P 22 45 38.9 +0.9**
PPT Papeete 52.18 105 P **P 22 45 40.6 +2.6**
comp=Z,149nm,1.0s,baz=30,slow=8.7,SNR=6.5

PPT LR LR 23 03 32.9
comp=Z,45µm,21.1s,baz=276,slow=31
PPT2 Papeete2 52.18 105 *e*P **P** **22 45 40.6 +2.5**
comp=Z,387nm,1.3s
PPT2 *e*S **S** **22 53 04.1 +2.9**
comp=Z,122µm,27.8s
PPT2 *e*LQ LQ 22 58 42.0
comp=Z,349µm,29.8s
PPT2 *e*LR LR 23 00 36.0
comp=Z,515µm,33.5s
KLI Kotabumi 52.30 271 P P 22 45 50.5 +12
TIAR Tiarei 52.40 105 *e*P **P** **22 45 42.1 +2.4**
comp=Z,214nm,1.2s
KSULJ Uljin 52.42 332 P P 22 45 48.5 +9.1
SNR=9.7
KLSI 52.45 271 P **P** **22 45 38.6 -1.5**
comp=Z,244nm,2.0s,comp=Z,20µm
TVO Taravao 52.50 106 *e*P **P** **22 45 42.9 +2.5**
comp=Z,296nm,1.4s
KASI Kota Agung 52.57 270 P **P** **22 45 37.9 -3.1**
comp=Z,234nm,2.0s,comp=Z,13µm
TBI Tubuai 52.74 113 *e*P **P** **22 45 44.5 +2.4**
comp=Z,1µm,1.4s
TBI *e*S **S** **22 53 11.2 +2.6**
comp=Z,36µm,35.8s
TBI *e*LQ LQ 22 58 47.3
comp=Z,647µm,33.2s
TBI *e*LR LR 23 01 00.5
comp=Z,207µm,36.2s
SSE Sheshan 52.77 320 P **P** **22 45 43.0 +0.9**
SSE sP **sP** **22 45 55.9 +1.2**
SSE S **S** **22 53 10.1 +1.5**
SSE sS **sS** **22 53 25.8 +2.2**
SSE pmax pmax
comp=Z,120nm,1.1s
SSE pmax pmax
comp=Z,12µm,9.5s
SSE LR LR
comp=Z,70µm,21.0s
SSE LR LR
comp=Z,32µm,21.0s
SSE LR LR
comp=Z,135µm,17.2s
MDSI Maura Dua 53.02 271 P **P** **22 45 41.9 -2.4**
comp=Z,238nm,2.4s,comp=Z,10µm
LWLI Liwa 53.07 270 P **P** **22 45 43.7 -1.1**
comp=Z,204nm,0.8s,comp=Z,8µm
HON Honolulu 53.07 55 *e*P **P** **22 45 43.8 -0.7**
HON Honolulu 53.07 55 *e*P **P** **22 45 43.8 -0.7**
KIP Kipapa 53.11 55⇓ *e*P **P** **22 45 46.2 +1.4**
KIP pmax pmax
comp=Z,241nm,2.5s
KIP Kipapa 53.11 55 *e*P **P** **22 45 43.6 -1.2**
comp=Z,613nm,1.4s
KIP LR LR
comp=Z,159µm,22.0s
TJN Taejon 53.15 330 *e*P **P** **22 45 44.2 -0.6**
KSYOW Yeongwol 53.25 331 P P 22 45 54.7 +9.2
SNR=9.0
OPA Opana 53.25 55 *e*P **P** **22 45 46.2 +0.4**
OPA Opana 53.25 55 *e*P **P** **22 45 46.1 +0.4**
GZH Guangzhou 53.56 307 P P 22 45 54.0 +5.9
GZH S S 22 53 27.4 +7.8
GZH pmax pmax
comp=Z,25µm,6.9s
GZH LR LR
comp=Z,96µm,17.2s
GZH LR LR
comp=Z,111µm,19.0s
GZH LR LR
comp=Z,230µm,19.4s
TPRI Tanjung Pinang 53.58 278 P **P** **22 45 48.4 0.0**
comp=Z,188nm,3.3s
MEH Mehetia 53.63 106 *e*P **P** **22 45 51.0 +2.3**
comp=Z,160nm,1.4s
KSJMJ Jumunjin 53.68 332 P P 22 45 58.0 +9.4
SNR=10
YUK Yuzh-Kuril'sk 53.70 350 *d* iP P 22 45 56.9 +8.3
YUK *i* S S 22 53 35.1 +14
YUK pmax pmax
comp=Z,8µm,5.5s
YUK pmax pmax
comp=E,279nm,1.5s
YUK pmax pmax
comp=Z,687nm,1.5s
YUK pmax pmax
comp=N,60nm,0.5s
KSRS Korea Array 53.73 331 P **P** **22 45 47.1 -1.9**
comp=N,28nm,1.0s,baz=152,slow=8.0,SNR=33
KSRS LR LR 23 07 10.1
comp=N,110µm,19.9s,baz=136,slow=34
KSAR Wonju Array Be 53.74 331 P **P** **22 45 47.1 -1.9**
PMOR Pomariorio Ree 53.74 102 *e*P **P** **22 45 52.1 +2.5**
comp=N,1µm,1.3s
LHSI Lahat 53.76 272 P **P** **22 45 47.9 -1.8**
comp=N,161nm,3.3s,comp=N,16µm
KS01 Wonju Array Si 53.76 331 *e*P **P** **22 45 47.6 -1.6**
JMBI JAMBI 53.98 274 P **P** **22 45 54.3 +3.0**
comp=N,498nm,1.9s,comp=N,40µm
VAH Vaihoa 54.00 102 *e*P **P** **22 45 53.7 +2.3**
comp=N,564nm,1.1s
KSSWO Suwon 54.05 330 P P 22 46 00.5 +9.1
SNR=9.4
HPO Honuapo 54.05 59 *e*P **P** **22 45 50.7 -1.0**
KSIJA INJE 54.06 331 P P 22 46 00.7 +9.2
SNR=9.2
KSSKC Sokcho 54.11 332 P P 22 46 01.0 +9.2
SNR=8.6
HKL Haleakala 54.20 57 *e*P **P** **22 45 52.5 -0.8**
HKL Haleakala 54.20 57 *e*P **P** **22 45 52.5 -0.8**
HLK Haleakala 54.23 57 *e*P **P** **22 45 55.0 +1.6**
KSSEO Seoul 54.24 330 P P 22 46 02.3 +10
SNR=6.0
MNAI Manna 54.24 271 *e*P **P** **22 45 51.5 -1.8**
comp=N,315nm,1.0s
MNAI LR LR
comp=Z,226µm,22.0s
POHA Pohakuloa 54.37 58 *e*P **P** **22 45 53.3 -1.0**
comp=Z,2µm,1.6s
POHA LR LR
comp=Z,140µm,19.0s
INCN Inchon 54.38 330 *e*P **P** **22 45 53.0 -0.8**
comp=Z,872nm,1.1s
INCN LR LR
comp=Z,99µm,18.0s
MYKOM Kota Tinggi 54.42 279 P x 22 45 56.2
comp=Z,154nm,3.2s,comp=Z,16µm
MYKOM Kota Tinggi 54.42 279 *e*P **P** **22 45 53.7 -0.9**
comp=Z,1µm,2.5s
MYKOM LR LR
comp=Z,127µm,21.0s
MYKOM Kota Tinggi 54.42 279⇓P **P** **22 45 55.4 +0.9**
KSCWO Cheorwon 54.42 331 P P 22 46 03.9 +10
SNR=7.4
ASAJ Asahikawa 54.43 347 *e*P **P** **22 45 54.1 0.0**
comp=Z,3µm,2.8s
ASAJ Asahikawa 54.43 347 P **P** **22 45 52.6 -1.4**
comp=Z,9.1nm,0.9s,baz=231,slow=22,SNR=17
ASAJ LR LR 23 06 14.3
comp=Z,208µm,21.9s,baz=184,slow=33
QIZ Qiongzhong 54.48 301 P **P** **22 45 55.8 +0.9**
QIZ pP **pP** **22 46 04.8 +0.8**
QIZ S **S** **22 53 33.1 +0.9**
QIZ sS **sS** **22 53 48.8 +1.6**
QIZ SS **SS** **22 57 17.0 +1.8**
QIZ LR LR
comp=Z,79µm,17.8s
QIZ LR LR
comp=Z,135µm,19.2s
QIZ Qiongzhong 54.48 301 *e*P **P** **22 45 53.3 -1.5**
comp=Z,943nm,2.0s
QIZ LR LR
comp=Z,137µm,19.0s
KSDDC Dongducheon 54.50 331 P P 22 46 03.8 +9.1
SNR=9.6
STCH Steam Cracks 54.54 59 *e*P **P** **22 45 55.7 +0.3**
NJ2 Nanjing 54.89 320 *e*P **P** **22 45 57.7 +0.1**
NJ2 pP **pP** **22 46 09.0 +2.3**
NJ2 S S 22 53 45.0 +7.7
NJ2 sS **sS** **22 53 55.0 +2.7**
NJ2 pmax pmax
comp=Z,490nm,1.0s
NJ2 pmax pmax
comp=Z,15µm,10.9s
NJ2 LR LR
comp=Z,245µm,21.6s
NJ2 LR LR
comp=Z,252µm,25.6s
NJ2 LR LR
comp=Z,230µm,24.0s
KTGM Kuala Trenggan 55.92 283⇑P **P** **22 46 06.9 +1.5**
VLA Vladivostok 56.74 338⇑ *i*P **P** **22 46 10.2 -0.4**
VLA *e* 22 47 04.9
VLA 22 48 15.7
VLA *e*S **S** **22 54 00.3 -1.2**
VLA pmax pmax
comp=Z,399nm,1.5s
BKNI Bangkinang 56.89 276 P **P** **22 46 15.2 +2.9**
comp=Z,350nm,1.9s,comp=Z,23µm
FRIM Kepong 56.90 280⇓P **P** **22 46 14.0 +1.6**
WHN Wuhan 56.96 315 P **P** **22 46 11.7 -0.7**
WHN S **S** **22 54 05.1 +0.2**
WHN LR LR
comp=Z,152µm,16.4s
WHN LR LR
comp=Z,93µm,16.1s
WHN LR LR
comp=Z,182µm,17.7s
YSS Yuzh-Sakhalins 57.10 348 *e*P **P** **22 46 15.0 +1.9**
YSS *e* 22 46 27.0
YSS *e*S **S** **22 54 03.0 -3.1**
YSS *e*PS **PnS** **22 54 19.0 -0.6**
PDSI Padang 57.23 275 P P 22 46 11.3 -3.5
comp=Z,124nm,2.3s,comp=Z,9µm
PPI Padang Panjang 57.38 275 P **P** **22 46 14.8 -1.0**
comp=Z,306nm,2.1s,comp=Z,17µm
PPI Padang Panjang 57.38 275 P **P** **22 46 17.2 +1.4**
baz=57,SNR=5.9
USRK Ussuriysk Arra 57.63 339 P **P** **22 46 15.1 -1.9**
comp=Z,41nm,1.2s,baz=142,slow=3.7,SNR=23
USRK LR LR 23 08 23.6
comp=Z,78µm,21.3s,baz=135,slow=33
USRK PKP2ab 23 16 30.1
comp=Z,1.5nm,0.7s,baz=332,slow=1.7,SNR=4.1
IPM Ipoh 57.76 281 P x 22 46 21.0
comp=Z,215nm,3.2s,comp=Z,17µm
IPM Ipoh 57.76 281 *e*P **P** **22 46 17.9 -0.6**
comp=Z,254nm,1.2s
IPM Ipoh 57.76 281⇓P **P** **22 46 19.7 +1.2**
DL2 Dalian 58.03 327⇓P P 22 46 27.5 +7.7
DL2 S S 22 54 29.6 +11
DL2 pmax pmax
comp=Z,290nm,2.4s
DL2 pmax pmax
comp=Z,13µm,9.0s
DL2 LR LR
comp=N,62µm,15.1s
DL2 LR LR
comp=E,28µm,15.4s
DL2 LR LR
comp=Z,52µm,16.4s
KULM Kulim 58.31 282 P x 22 46 24.2
comp=Z,210nm,2.8s,comp=Z,13µm
KULM Kulim 58.31 282 *e*P **P** **22 46 21.9 -0.4**
comp=Z,422nm,1.5s
KULM Kulim 58.31 282⇑P **P** **22 46 23.6 +1.3**
MNSI Mandailing Nat 58.41 276 P **P** **22 46 21.5 -1.5**
comp=Z,315nm,1.2s,comp=Z,15µm
TIA Tai'an 58.71 322 *e*P P 22 46 28.3 +3.6
TIA S **S** **22 54 32.1 +4.4**
TIA pmax pmax
comp=Z,14µm,11.0s
TIA LR LR
comp=Z,86µm,18.0s
TIA LR LR
comp=Z,112µm,19.0s
TIA LR LR
comp=Z,121µm,18.0s
CHBT CHBT 58.79 291 P **P** **22 46 27.4 +1.8**
comp=Z,249nm,3.6s,comp=Z,14µm
MDJ Mudanjiang 58.88 337 P **P** **22 46 25.4 -0.3**
MDJ pP **pP** **22 46 31.5 -3.4**
MDJ sP **sP** **22 46 34.3 -4.1**
MDJ PcP **PcP** **22 47 14.5 -0.3**
MDJ PP **PP** **22 48 33.6 -2.6**
MDJ S **S** **22 54 27.5 -2.1**
MDJ ScS **ScS** **22 56 12.9 -0.6**
MDJ SS **SS** **22 58 26.9 +3.2**
MDJ pmax pmax
comp=Z,10µm,5.8s
MDJ LR LR
comp=Z,122µm,23.0s
MDJ LR LR
comp=Z,84µm,22.6s
MDJ LR LR
comp=Z,131µm,27.0s
MDJ Mudanjiang 58.88 337 *e*P **P** **22 46 25.0 -0.7**
comp=Z,451nm,1.1s
MDJ LR LR
comp=Z,81µm,19.0s
SNY Shenyang 59.23 331⇑P **P** **22 46 27.3 -0.8**
SNY PP **PP** **22 48 43.3 +3.9**
SNY S S 22 54 43.1 +8.9
SNY pmax pmax
comp=Z,11µm,4.3s
SNY LR LR
comp=Z,147µm,20.6s
SNY LR LR
comp=Z,139µm,20.4s
SNY LR LR
comp=Z,139µm,26.5s
SKR Severo-Kuril's 59.33 359 *e*P **P** **22 46 29.5 +0.9**
PSI Prapat 59.44 279 P x 22 46 32.7
comp=Z,214nm,3.4s,comp=Z,17µm
PSI Prapat 59.44 279 P **P** **22 46 29.3 -1.0**
PSI Prapat 59.44 279 P **P** **22 46 29.3 -1.0**
comp=Z,24nm,1.0s,baz=153,slow=4.8,SNR=7.5
PSI LR LR 23 13 37.1
comp=Z,130µm,21.7s,baz=111,slow=38
CN2 Changchun 59.92 334 *e*P **P** **22 46 32.3 -0.6**
CN2 epP **pP** **22 46 42.2 +0.1**
CN2 esP **sP** **22 46 46.6 +1.0**
CN2 PcP **PcP** **22 47 18.5 -0.5**
CN2 eS **S** **22 54 39.5 -3.5**
CN2 LR LR
comp=Z,66µm,15.0s
CN2 LR LR
comp=Z,88µm,15.0s
TSI Tuntungan 59.94 279 P **P** **22 46 33.4 -0.2**
comp=Z,259nm,3.1s,comp=Z,14µm
CHAI Chaiyaphum 60.15 294 P **P** **22 46 35.4 +0.4**
comp=Z,38nm,0.9s,comp=Z,426nm
PATY Pattaya 60.20 290 P **P** **22 46 36.4 +1.1**
comp=Z,64nm,1.0s,comp=Z,1000nm
ENH Enshi 60.27 312 *e*P **P** **22 46 33.8 -1.8**
comp=Z,138nm,1.0s
ENH *e*PcP PcP 22 47 15.6 -5.2
ENH LR LR
comp=Z,106µm,19.0s
HABR Khabarovsk 60.42 343 *e*P **P** **22 46 33.5 -2.7**
HABR *e**PP **pP** **22 46 43.5 -1.9**
HABR *e**SP **sP** **22 46 47.7 -1.2**
HABR *e* 22 47 18.2
HABR *e* 22 48 46.8
HABR eS **S** **22 54 46.1 -3.1**
HABR *e**SS **sS** **22 55 03.4 -1.0**
HABR *e* 22 56 20.8
HABR eSS **SS** **22 58 45.1 -2.6**
HABR pmax pmax
comp=E,70nm,2.3s
HABR pmax pmax
comp=N,67nm,2.3s
HABR pmax pmax
comp=Z,151nm,2.3s
HABR pmax pmax
comp=Z,8µm,6.5s
HABR MLR MLR
comp=E,33µm,17.0s
HABR MLR MLR
comp=N,22µm,16.0s
HABR MLR MLR
comp=Z,70µm,19.0s
GSI Gunungsitoli 60.47 277 P **P** **22 46 38.0 +0.7**
comp=Z,523nm,1.6s,comp=Z,19µm
GSI Gunungsitoli 60.47 277 *e*P **P** **22 46 36.0 -1.2**
comp=Z,637nm,1.2s
GSI LR LR
comp=Z,98µm,22.0s
GYA Guiyang 60.49 307⇑ *i*P **P** **22 46 37.4 +0.1**
GYA PP **PP** **22 48 56.0 +5.0**
GYA ScP **ScP** **22 51 22.8 +1.6**
GYA S S 22 54 57.8 +6.5
GYA SS **SS** **22 58 51.2 +1.2**
GYA pmax pmax
comp=Z,130nm,1.8s
GYA pmax pmax
comp=Z,11µm,9.9s
GYA LR LR
comp=Z,51µm,18.3s
GYA LR LR
comp=Z,40µm,18.3s
GYA LR LR
comp=Z,47µm,18.9s
KCSI Kotacane, Aceh 60.72 279 P **P** **22 46 36.7 -2.3**
SURT Suratani 61.01 285 P **P** **22 46 42.2 +1.3**
comp=Z,55nm,3.6s,comp=Z,5µm
PKDT Phuket 61.18 284 P **P** **22 46 44.5 +2.5**
comp=Z,156nm,3.2s,comp=Z,11µm
PBKT Sadao Pong 61.29 294 P **P** **22 46 43.7 +1.0**
comp=Z,260nm,2.5s,comp=Z,17µm
TAOE Nuku Hiva Isla 61.62 95 *e*P **P** **22 46 44.5 -0.6**
comp=Z,249nm,0.7s
PET Petropavlovsk 61.67 1 *e*P P 22 46 48.5 +4.0
PET *e*S **S** **22 55 07.6 +2.6**
PET *e*SS **SS** **22 59 10.1 +3.0**
PET pmax pmax
comp=Z,26µm,16.1s
PET pmax pmax
comp=Z,212nm,1.7s
PET pmax pmax
comp=Z,18µm,11.6s
PET smax smax
comp=E,65µm,18.4s
PET smax smax
comp=E,40µm,15.0s
PEA0 Petropavlovsk- 61.74 0 *e*P **P** **22 46 43.8 -1.3**
PETK Petropavlovsk- 61.74 0 P **P** **22 46 43.6 -1.5**
PETK Petropavlovsk- 61.74 0 P **P** **22 46 43.6 -1.5**
PETK Petropavlovsk- 61.74 0 P **P** **22 46 43.6 -1.5**
comp=E,29nm,1.1s,baz=157,slow=8.0,SNR=9.5
PETK LR LR 23 09 49.5
comp=E,167µm,21.9s,baz=173,slow=33
BJT Baijiatuau 61.81 325 *e*P **P** **22 46 44.6 -1.2**
comp=E,2µm,2.4s
BJT LR LR
comp=Z,105µm,19.0s
BJI Beijing 61.82 325 P **P** **22 46 47.8 +1.9**
BJI pP **pP** **22 46 57.1 +2.0**
BJI PP **PP** **22 49 07.2 +4.9**
BJI S **S** **22 55 11.9 +4.5**
BJI SS **SS** **22 59 11.7 +1.7**
BJI LR LR
comp=Z,108µm,22.9s
BJI LR LR
comp=Z,85µm,26.8s
BJI LR LR
comp=Z,131µm,31.4s
LHMI Lhok Sumawe 61.89 281 P P 22 47 00.1 +13
PHIT Phitsanulok 62.00 295 P P 22 46 51.8 +4.3
comp=Z,116nm,1.3s,comp=Z,2µm
KLR Kul'dur 62.09 341 *e*P P 22 46 41.3 -6.2
KLR *e*S S 22 55 18.8 +8.3
SRDT SRDT 62.25 291 P **P** **22 46 50.7 +1.5**
comp=Z,858nm,2.4s,comp=Z,48µm
NANT Nan 62.32 297 P **P** **22 46 49.5 -0.1**
comp=Z,600nm,0.7s,comp=Z,6µm
TIY Taiyuan 62.55 321 *e*P **P** **22 46 53.5 +2.5**
TIY S **S** **22 55 17.4 +0.4**
TIY pmax pmax
comp=Z,6µm,4.4s
TIY LR LR
comp=Z,50µm,13.5s
TIY LR LR
comp=Z,84µm,17.4s
TIY LR LR
comp=Z,109µm,16.9s
XAN Xi'an 62.72 316 P **P** **22 46 50.8 -1.3**
XAN pP **pP** **22 47 01.0 -0.3**
XAN sP **sP** **22 47 04.8 -0.1**
XAN PP **PP** **22 49 14.0 +3.6**
XAN S **S** **22 55 24.6 +5.5**
XAN pmax pmax
comp=Z,2µm,5.2s
XAN LR LR
comp=Z,62µm,21.5s
XAN LR LR
comp=Z,25µm,23.1s
XAN LR LR
comp=Z,20µm,28.8s
KHLT Khaolaem Dam 62.88 292 P P 22 46 57.2 +3.8
comp=Z,121nm,1.6s,comp=Z,7µm
FX1 Attu Island--F 62.97 11 *e*P **P** **22 46 52.8 -0.5**
SMY Shemya 63.00 11 *e*P **P** **22 46 53.2 -0.3**
SMY pmax pmax
comp=Z,472nm,1.3s
SMY Shemya 63.00 11 *e*P **P** **22 46 53.2 -0.3**
comp=Z,472nm,1.3s
KMI Kunming 63.05 304 P **P** **22 46 55.3 +0.6**
KMI pP **pP** **22 47 04.4 +0.4**
KMI sP **sP** **22 47 07.9 +0.4**
KMI S **S** **22 55 28.6 +4.6**
KMI SKS **SKSac** **22 56 44.2 -1.9**
KMI pmax pmax
comp=Z,89nm,1.7s
KMI pmax pmax
comp=Z,10µm,4.9s
KMI LR LR
comp=Z,93µm,21.4s
KMI LR LR
comp=Z,55µm,19.2s
KMI LR LR
comp=Z,90µm,23.5s
LAMP Lampang 63.16 296 P **P** **22 46 56.4 +1.1**
comp=Z,61nm,0.9s,comp=Z,757nm
CM01 Chiang Mai Arr 63.73 296 *e*P **P** **22 46 58.6 -0.5**
CMAR Chiang Mai Arr 63.76 296 P **P** **22 46 58.4 -0.8**
CMAR ⇑ *e* 23 16 02.0
CMAR Chiang Mai Arr 63.76 296 P **P** **22 46 58.4 -0.8**
comp=Z,9.2nm,0.6s,baz=126,slow=5.1,SNR=31
CMAR LR LR 23 13 49.6
comp=Z,47µm,20.0s,baz=111,slow=35
CMAR PKP2bc 23 16 02.0
comp=Z,1.3nm,0.6s,baz=275,slow=4.5,SNR=5.1
CHTO Chiang Mai 63.88 296 *e*P **P** **22 46 59.5 -0.5**
CHTO pmax pmax
comp=Z,142nm,1.5s
CHTO MLR MLR
comp=Z,59µm,20.0s
CHTO Chiang Mai 63.88 296 *e*P **P** **22 46 59.5 -0.5**
comp=Z,142nm,1.5s
CHTO LR LR
comp=Z,59µm,20.0s
MHMT Maesarieng 64.57 295 P P 22 47 08.0 +3.5
comp=Z,105nm,1.7s,comp=Z,6µm
CD2 Chengdu 64.85 310 P **P** **22 47 08.8 +2.6**
CD2 pP **pP** **22 47 18.2 +2.7**
CD2 sP **sP** **22 47 21.9 +2.9**
CD2 PcP **PcP** **22 47 40.8 +1.4**
CD2 PP **PP** **22 49 33.6 +4.3**
CD2 S **S** **22 55 46.5 +0.7**
CD2 ScS **SKSac** **22 56 57.4 -1.8**
CD2 SS **SS** **23 00 00.2 +2.3**
CD2 pmax pmax
comp=Z,240nm,1.3s
CD2 pmax pmax
comp=Z,19µm,8.3s
CD2 LR LR
comp=Z,79µm,17.8s
CD2 LR LR
comp=Z,75µm,17.8s
CD2 LR LR
comp=Z,88µm,19.0s
HHC Hu-ho-hao-te 65.03 323 *e*P **P** **22 47 07.5 +0.3**
HHC pP **pP** **22 47 17.7 +1.2**
HHC sP **sP** **22 47 21.6 +1.6**
HHC PP **PP** **22 49 33.4 +2.7**
HHC S **S** **22 55 51.6 +3.9**
HHC ScS **SKSac** **22 56 59.7 -0.5**
HHC SS **SS** **22 59 59.7 -0.6**
HHC pmax pmax
comp=Z,14µm,6.3s
HHC LR LR
comp=Z,67µm,16.0s
HHC LR LR
comp=Z,186µm,17.3s
HHC LR LR
comp=Z,182µm,16.0s
CMBY CAMPBELL BAY 65.21 282 *e*P **P** **22 47 10.0 +1.2**
CASY Casey 65.58 199 *e*P **P** **22 47 10.9 +0.7**

comp=Z,623nm,1.6s
CASY LR LR
comp=Z,60µm,18.0s
BTO Baotou 65.80 322 *e*P **P** **22 47 12.7 +0.4**
RKT Rikitea 66.02 111 *e*P **P** **22 47 15.8 +1.9**
comp=Z,255nm,1.4s
RKT *e*S **S** **22 56 01.8 +1.5**
comp=Z,62µm,31.2s
RKT *e*LQ LQ 23 04 23.3
comp=Z,131µm,33.0s
HIA Hailar 66.64 334 *e*P **P** **22 47 16.8 -0.6**
comp=Z,4µm,2.8s
HIA LR LR
comp=Z,96µm,21.0s
LZH Lanzhou 67.33 315 ⇓P **P** **22 47 22.2 0.0**
LZH pP **pP** **22 47 29.0 -2.5**
LZH sP **sP** **22 47 31.6 -3.4**
LZH PP **PP** **22 49 50.1 -0.9**
LZH S **S** **22 56 18.1 +2.1**
LZH sS **sS** **22 56 36.0 +4.6**
LZH SS **SS** **23 00 36.3 -0.2**
LZH pmax pmax
comp=Z,490nm,1.4s
LZH pmax pmax
comp=Z,6µm,4.5s
LZH LR LR
comp=Z,66µm,16.2s
LZH LR LR
comp=Z,70µm,15.5s
LZH LR LR
comp=Z,92µm,16.6s
PBA Port Blair 67.46 287 *e*P P 22 47 20.0 -3.2
DGPR DIGLIPUR 67.68 288 *e*P **P** **22 47 22.5 -2.0**
VNDA Vanda 68.66 179 *e*P **P** **22 47 30.4 +0.7**
comp=Z,1µm,2.0s
VNDA ⇑*e* 23 15 46.7
VNDA Vanda 68.66 179 P **P** **22 47 30.5 +0.9**
comp=Z,22nm,1.1s,baz=340,slow=7.7,SNR=11
VNDA LR LR 23 13 40.4
comp=Z,30µm,18.5s,baz=0.0,slow=32
VNDA PKP2bc 23 15 46.7
comp=Z,3.2nm,1.0s,baz=0.7,slow=5.5,SNR=3.4
SBA Scott Base 69.12 178 *e*P **P** **22 47 31.0 -1.5**
SBA pmax pmax
comp=Z,2µm,2.3s
SBA MLR MLR
comp=Z,46µm,22.0s
SBA Scott Base 69.12 178 *e*P **P** **22 47 31.0 -1.5**
comp=Z,2µm,2.3s
SBA LR LR
comp=Z,46µm,22.0s
UNV Unalaska Valle 69.53 22 *e*P **P** **22 47 33.9 -1.4**
comp=Z,141nm,1.0s
UNV LR LR
comp=Z,138µm,20.2s
AKUT Akutan 70.03 22 *e*P **P** **22 47 38.0 -0.3**
comp=Z,1µm,1.7s
CLNS Chul'man 70.74 342 *e*P **P** **22 47 42.4 -0.4**
CLNS *e* 22 48 05.0
CLNS *e*S **S** **22 56 55.7 +0.4**
CLNS *e*SS **SS** **23 01 31.0 +3.0**
CLNS pmax pmax
comp=E,26nm,1.1s
CLNS pmax pmax
comp=N,107nm,1.4s
CLNS pmax pmax
comp=Z,131nm,1.3s
CLNS smax smax
comp=N,4µm,12.1s
CLNS smax smax
comp=E,36µm,13.0s
CLNS MLR MLR
comp=N,36µm,16.0s
CLNS MLR MLR
comp=E,32µm,13.0s
CLNS MLR MLR
comp=Z,33µm,15.0s
SPIA Saint Paul Isl 70.97 18 *e*P **P** **22 47 45.2 +1.2**
comp=Z,1µm,1.5s
SPIA LR LR
comp=Z,67µm,18.2s
CIT Chita 71.36 333 *e*P **P** **22 47 46.4 -0.2**
CIT pmax pmax
comp=Z,2µm,2.9s
FALS False Pass 71.47 23 *e*P **P** **22 47 46.8 -0.3**
comp=Z,204nm,0.8s
SEY Seymchan 71.70 358 P **P** **22 47 47.4 -1.0**
SEY Seymchan 71.70 358 P **P** **22 47 47.4 -1.0**
SEY Seymchan 71.70 358 P **P** **22 47 47.4 -1.0**
comp=Z,9.5nm,0.9s,baz=248,slow=22,SNR=9.5
GTA Gaotai 71.75 316 ⇑P **P** **22 47 48.3 -1.1**
GTA pP **pP** **22 47 58.8 +0.1**
GTA sP **sP** **22 48 02.7 +0.5**
GTA PP **PP** **22 50 29.5 +0.5**
GTA S **S** **22 57 06.5 -1.3**
GTA sS **sS** **22 57 23.8 +0.5**
GTA SKS **SKSac** **22 57 45.6 -5.7**
GTA SS **SS** **23 01 45.1 +0.7**
GTA pmax pmax
comp=Z,6µm,8.3s
GTA LR LR
comp=Z,62µm,19.0s
GTA LR LR
comp=Z,61µm,17.6s
GTA LR LR
comp=Z,62µm,20.9s
MIR Mirnyy 71.86 202 *e*P **P** **22 47 52.0 +2.6**
MIR *e* 22 48 07.0
MIR pmax pmax
comp=Z,385nm,1.5s
ULN Ulaanbaatar 71.88 327 *e*P **P** **22 47 48.7 -1.3**
comp=Z,2µm,2.2s
ULN LR LR
comp=Z,66µm,19.0s
SONM Songino Array 72.21 327 P **P** **22 47 50.7 -1.3**
SONM Songino Array 72.21 327 P **P** **22 47 50.7 -1.3**
comp=Z,10nm,0.9s,baz=137,slow=4.8,SNR=41
SONM LR LR 23 19 19.2
comp=Z,39µm,19.5s,baz=122,slow=36
SONA1 Songino Array 72.22 327 *e*P **P** **22 47 50.6 -1.4**
SHL Shillong 72.31 300 *e*P **P** **22 47 53.0 -0.1**
SHL AMB AMB 22 48 07.7
comp=Z,838nm,1.3s
SHL *ex* x 22 57 24.0
SDPT Sand Point 72.97 24 *e*P **P** **22 47 55.8 -0.3**
comp=Z,1µm,2.0s
YAK Yakutsk 73.91 347 *e*P **P** **22 48 00.6 -0.9**
YAK *e**PP **pP** **22 48 12.1 +1.2**
YAK *e* 22 48 17.6
YAK *e*PPP PPP 22 52 37.4
YAK *e*S **SKiKP** **22 57 27.9 -0.4**
YAK *e* 22 58 11.1
YAK pmax pmax
comp=Z,138nm,0.9s
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,32nm,1.2s
YAK smax smax
comp=E,55µm,13.1s
YAK smax smax
comp=N,9µm,10.9s
LSA Lhasa 74.31 304 P **P** **22 48 05.9 +0.7**
LSA S **S** **22 57 40.0 +2.0**
LSA pmax pmax
comp=N,50nm,1.0s
LSA pmax pmax
comp=N,5µm,5.4s
LSA LR LR
comp=N,20µm,21.4s
LSA LR LR
comp=N,39µm,26.5s
LSA LR LR
comp=N,70µm,28.0s
LSA Lhasa 74.31 304 *e*P **P** **22 48 03.6 -1.6**
LSA pmax pmax
comp=Z,402nm,1.4s
LSA MLR MLR
comp=Z,54µm,20.0s
LSA Lhasa 74.31 304 *e*P **P** **22 48 03.6 -1.6**
comp=Z,402nm,1.4s
LSA LR LR
comp=Z,54µm,20.0s
ZAK Zakamensk 75.35 328 *e*P **P** **22 48 08.2 -2.1**
ZAK pmax pmax
comp=Z,160nm,2.1s

TLY Talaya 75.90 329 P **P** **22 48 14.5 +1.2**
comp=Z,226nm,2.7s,SNR=16
TLY Talaya 75.90 329 *e*P **P** **22 48 14.8 +1.5**
IRK Irkutsk 75.91 330 *e*P **P** **22 48 11.0 -2.3**
IRK *e* 22 51 08.8
IRK *e*S **S** **22 57 59.0 +5.1**
IRK pmax pmax
comp=Z,615nm,2.9s
GAMB Gambell 76.15 14 *e*P **P** **22 48 14.3 -0.1**
comp=Z,403nm,1.6s
GAMB LR LR
comp=Z,260µm,21.9s
TAPN Taplejung 76.42 301 *e*P **P** **22 48 16.8 -0.3**
comp=Z,2µm,1.5s
ODAN Odare 76.55 300 *e*P **P** **22 48 16.3 -1.5**
comp=Z,938nm,1.1s
BOK Bokaro 76.98 297 *e*P **P** **22 48 20.2 +0.2**
BOK AMB AMB 22 48 36.9
comp=Z,714nm,2.3s
OHAK Old Harbor 77.18 25 *e*P **P** **22 48 19.4 -0.9**
comp=Z,1µm,2.0s
RAMN Ramite 77.25 300 *e*P **P** **22 48 20.4 -1.4**
comp=Z,2µm,2.0s
MOY Mondy 77.27 328 *e*P **P** **22 48 21.1 -0.1**
MOY pmax pmax
comp=Z,1µm,4.1s
VIS Vishakhapatnam 77.77 290 *e*P **P** **22 48 23.9 -0.6**
JIRN Jiri 77.80 301 *e*P **P** **22 48 24.5 -0.5**
comp=Z,2µm,1.7s
KDAK Kodiak Island 77.83 25 *e*P **P** **22 48 23.4 -0.6**
comp=Z,728nm,2.0s
KDAK LR LR
comp=Z,105µm,22.0s
PALK Pallekele 78.11 279 *e*P **P** **22 48 26.6 0.0**
comp=Z,569nm,1.1s
PALK LR LR
comp=Z,45µm,21.0s
GUN Gumba 78.14 301 *e*P **P** **22 48 25.2 -1.6**
comp=Z,2µm,1.8s
PKI Pulchoki 78.44 300 *e*P **P** **22 48 26.4 -2.1**
comp=Z,813nm,1.3s
TNA Tin City 78.54 14 *e*P **P** **22 48 27.3 -0.4**
comp=Z,740nm,2.2s
TNA LR LR
comp=Z,148µm,20.8s
KKN Kakani 78.61 301 *e*P **P** **22 48 28.2 -1.1**
comp=Z,2µm,1.8s
DMN Daman 78.71 300 *e*P **P** **22 48 27.9 -2.0**
comp=Z,4µm,1.7s
SVW2 Sparrevohn 78.85 21 *e*P **P** **22 48 29.2 -0.4**
comp=Z,1µm,1.9s
GKN Gorkha 79.22 301 *e*P **P** **22 48 30.7 -1.8**
comp=Z,756nm,1.0s
RSO Redoubt South 79.47 23 *e*P **P** **22 48 32.5 -0.8**
MDRS Chennai 79.67 285 *e*P **P** **22 48 33.9 -1.1**
KOLN Koldanda 80.04 300 *e*P **P** **22 48 35.0 -2.1**
comp=Z,2µm,1.7s
DANN Dangsing 80.06 301 *e*P **P** **22 48 35.7 -1.6**
comp=Z,3µm,1.7s
SPU Mount Spurr 80.20 22 *e*P **P** **22 48 38.3 +1.3**
SEW Seward 80.55 24 *e*P **P** **22 48 38.2 -0.5**
comp=Z,1µm,2.1s
SEW LR LR
comp=Z,116µm,21.9s
PYUN Piuthan 80.65 300 *e*P **P** **22 48 37.6 -2.7**
comp=Z,950nm,1.1s
RC01 Rabbit Creek A 81.03 23 *e*P **P** **22 48 40.8 -0.5**
comp=Z,4µm,3.0s
RC01 LR LR
comp=Z,90µm,20.8s
QSPA South Pole Qui 81.11 180 P **P** **22 48 42.3 +0.4**
QSPA LR LR
comp=Z,30µm,18.0s
QSPA South Pole Qui 81.11 180 P **P** **22 48 42.3 +0.4**
comp=Z,12nm,0.7s,baz=347,slow=1.9,SNR=28
PPLA Purkeypile 81.25 21 *e*P **P** **22 48 43.7 +1.1**
comp=Z,705nm,1.8s
PPLA LR LR
comp=Z,109µm,20.3s
PMR Palmer 81.56 23 *e*P **P** **22 48 43.5 -0.6**
PMR pmax pmax
comp=Z,1µm,2.0s
PMR Palmer 81.56 23 *e*P **P** **22 48 43.5 -0.6**
comp=Z,1µm,2.0s
CAST Castle Rocks 81.62 21 *e*P **P** **22 48 43.4 -1.0**
comp=Z,102nm,0.9s
CAST LR LR
comp=Z,84µm,20.2s
WMQ Urumqi 81.83 317 P **P** **22 48 45.1 -1.0**
WMQ pP **pP** **22 48 55.5 -0.1**
WMQ sP **sP** **22 48 59.4 +0.3**
WMQ PP **PP** **22 51 52.7 -1.0**
WMQ S **S** **22 58 54.5 -3.2**
WMQ SKS **SKSac** **22 58 58.0 -6.3**
WMQ sS **sS** **22 59 11.9 -1.5**
WMQ pmax pmax
comp=Z,340nm,1.3s
WMQ pmax pmax
comp=Z,16µm,9.6s
WMQ LR LR
comp=Z,64µm,16.6s
WMQ LR LR
comp=Z,43µm,17.7s
WMQ LR LR
comp=Z,11µm,23.4s
TRD Trivandrum 81.98 280 *e*P **P** **22 48 46.4 -1.1**
SML Sawmill 82.00 23 *e*P **P** **22 48 44.2 -2.3**
SML pmax pmax
comp=Z,84nm,1.0s
SML MLR MLR
comp=Z,22µm,20.0s
SML Sawmill 82.00 23 *e*P **P** **22 48 44.2 -2.3**
comp=Z,84nm,1.0s
SML LR LR
comp=Z,22µm,20.0s
KTH Kantishna Hill 82.11 21 *e*P **P** **22 48 45.5 -1.6**
comp=Z,948nm,1.1s
KTH LR LR
comp=Z,519µm,20.2s
HYB Hyderabad 82.15 289 *i*P **P** **22 48 48.0 -0.3**
HYB *e*S **S** **22 59 02.0 +0.2**
HYB Hyderabad 82.15 289 *e*P **P** **22 48 47.1 -1.2**
HYB AMB AMB 22 49 05.6
comp=Z,460nm,5.5s
TRF Thorofare Moun 82.27 21 *e*P **P** **22 48 46.8 -1.2**
comp=Z,149nm,0.9s
TRF *e*ScS S 22 59 12.0 +10
TRF LR LR
comp=Z,132µm,19.3s
NGP Nagpur 82.47 293 *e*P **P** **22 48 48.0 -1.9**
NGP *ex* x 22 59 16.9
DIV Divide 82.62 24 *e*P **P** **22 48 48.9 -1.0**
comp=Z,3µm,2.9s
DIV LR LR
comp=Z,119µm,21.7s
RAGM Ragged Mountai 82.67 25 *e*P **P** **22 48 48.2 -1.8**
comp=Z,363nm,1.6s
RAGM LR LR
comp=Z,110µm,21.3s
MCK McKinley 82.92 21 *e*P **P** **22 48 48.7 -2.6**
MCK *e*S **S** **22 59 09.0 +1.1**
MCK pmax pmax
comp=Z,449nm,1.0s
MCK MLR MLR
comp=Z,142µm,20.7s
MCK McKinley 82.92 21 *e*P **P** **22 48 48.6 -2.6**
comp=Z,449nm,1.0s
MCK *e*S **S** **22 59 09.0 +1.1**
MCK LR LR
comp=Z,142µm,20.7s
BMRM Bremner River 83.01 25 *e*P **P** **22 48 51.9 +0.1**
comp=Z,423nm,1.4s
BMRM *e*S **S** **22 59 09.4 +0.5**
BMRM LR LR
comp=Z,71µm,19.3s
LGTI Lohaghat 83.32 301 *ex* P **P** **22 48 56.4 +2.4**
MAW Mawson 83.59 203 *e*P **P** **22 48 54.9 +0.2**
MAW Mawson 83.59 203 P **P** **22 48 55.2 +0.5**
comp=Z,26nm,0.8s,baz=94,slow=6.3,SNR=12
MAW LR LR 23 25 07.5
comp=Z,19µm,18.9s,baz=83,slow=35
PAX Paxson 83.76 23 *e*P **P** **22 48 55.3 -0.4**
PAX pmax pmax
comp=Z,676nm,2.0s
PAX MLR MLR
comp=Z,72µm,19.6s

PAX Paxson 83.76 23 *e*P **P** **22 48 55.2 -0.4**
comp=Z,676nm,2.0s
PAX LR LR
comp=Z,72µm,19.6s
DGAR Diego Garcia 83.93 263 PFAKE 22 49 10.0 +12
DGAR LR LR
comp=Z,77µm,22.0s
COLA College 83.98 21 *c i*P **P** **22 48 55.5 -1.1**
COLA pmax pmax
comp=Z,2µm,2.2s
COLA College 83.98 21 *e*P **P** **22 48 55.5 -1.1**
comp=Z,67nm,0.9s
COLA LR LR
comp=Z,97µm,20.0s
IL1 Eielson Array 84.25 21 *e*P **P** **22 48 55.7 -2.4**
ILAR Eielson Array 84.25 21 P **P** **22 48 55.4 -2.7**
ILAR PKKPbc **PKKPbc** **23 07 11.6 -2.6**
ILAR P'P' 23 15 22.9
ILAR Eielson Array 84.25 21 P **P** **22 48 55.4 -2.7**
comp=Z,6.8nm,0.9s,baz=244,slow=5.4,SNR=31
ILAR PKKPbc **PKKPbc** **23 07 11.6 -2.6**
comp=Z,0.6nm,0.9s,baz=9.5,slow=0.7,SNR=3.7
ILAR PKPPKP P'P'df 23 15 22.9 +7.9
comp=Z,1.0nm,1.0s,baz=350,slow=2.0,SNR=6.8
ILAR LR LR 23 23 36.0
comp=Z,100µm,20.2s,baz=254,slow=34
BHPL Bhopal 84.39 294 *e*P **P** **22 48 58.3 -1.4**
MENT Mentasta 84.41 23 *e*P **P** **22 48 57.5 -1.4**
COLD Coldfoot 84.63 18 *e*P **P** **22 48 59.9 -0.1**
comp=Z,368nm,1.8s
COLD LR LR
comp=Z,150µm,20.0s
DOT Dot Lake 84.66 22 *e*P **P** **22 48 59.3 -0.9**
comp=Z,176nm,0.9s
DOT LR LR
comp=Z,91µm,20.5s
DHAK Deception Hill 84.88 28 *e*P P 22 48 56.3 -5.1
comp=Z,741nm,1.9s
DHAK LR LR
comp=Z,95µm,20.4s
DDI Dehra Dun 85.37 302 *e*P **P** **22 49 03.9 -0.7**
SIT Sitka 85.39 30 *e*P **P** **22 49 04.0 +0.1**
SIT pmax pmax
comp=Z,799nm,2.1s
SIT Sitka 85.39 30 *e*P **P** **22 49 04.0 +0.1**
comp=Z,799nm,2.1s
CRAG Craig 85.91 32 *e*P **P** **22 49 04.6 -1.9**
comp=Z,256nm,1.5s
HYT Haines Junctio 85.97 26 *e*P **P** **22 49 06.4 -0.5**
GOA Goa 86.24 286 *e*P **P** **22 49 08.8 -0.2**
GOA *ex* x 22 59 44.1
SMLA Simla 86.30 302 *e*P **P** **22 49 07.5 -1.5**
EGAK Eagle 86.33 22 *e*P **P** **22 49 07.6 -0.8**
comp=Z,2µm,2.5s
EGAK LR LR
comp=Z,106µm,20.0s
SKAG Skagway 86.37 28 *e*P **P** **22 49 08.0 -0.7**
comp=Z,1µm,2.3s
MK01 Makanchi Array 86.38 318 *e*P **P** **22 49 07.3 -1.8**
MKAR Makanchi Array 86.40 318 *e*P **P** **22 49 06.2 -3.0**
MKAR Makanchi Array 86.40 318 *e*P **P** **22 49 06.2 -3.0**
MKAR PKKPbc **PKKPbc** **23 07 13.2 +4.9**
MKAR P'P' 23 15 20.3
MKAR Makanchi Array 86.40 318 P **P** **22 49 06.8 -2.4**
comp=Z,18nm,0.6s,baz=98,slow=5.3,SNR=65
MKAR PKKPbc **PKKPbc** **23 07 13.2 +4.9**
comp=Z,0.8nm,0.8s,baz=311,slow=3.3,SNR=3.6
MKAR PKPPKP P'P'df 23 15 20.3 +7.8
comp=Z,0.6nm,0.7s,baz=10,slow=0.5,SNR=3.8
MKAR LR LR 23 28 54.2
comp=Z,34µm,19.1s,baz=94,slow=37
DAWY Dawson 86.66 23 *e*P **P** **22 49 09.4 -0.7**
WRAK Wrangell Islan 86.66 32 *e*P **P** **22 49 10.6 +0.4**
comp=Z,231nm,1.4s
WRAK LR LR
comp=Z,188µm,22.0s
POO Poona 86.75 289 *e*P **P** **22 49 08.6 -3.0**
BHK Bhakra 86.98 302 *ex* pP 22 49 21.6 -0.4
ZAA0 Zalesovo Array 87.08 326 *e*P P 22 49 08.8 -3.5
ZALV Zalesovo Beam 87.08 326 P **P** **22 49 10.0 -2.3**
ZALV Zalesovo Beam 87.08 326 P **P** **22 49 09.9 -2.3**
ZALV PKKPbc **PKKPbc** **23 07 08.5 +1.6**
ZALV P'P' 23 15 13.1
ZALV Zalesovo Beam 87.08 326 P **P** **22 49 09.9 -2.3**
comp=Z,10nm,0.7s,baz=104,slow=6.3,SNR=25
ZALV PKKPbc **PKKPbc** **23 07 08.5 +1.6**
comp=Z,0.8nm,0.6s,baz=298,slow=4.1,SNR=2.9
ZALV PKPPKP **P'P'df** **23 15 13.1 +2.5**
comp=Z,0.5nm,0.5s,baz=246,slow=2.5,SNR=4.9
ZALV LR LR 23 29 30.1
comp=Z,32µm,19.9s,baz=112,slow=37
KCPM Cahto Peak 87.25 49 *e*P **P** **22 49 13.1 -0.6**
comp=Z,233nm,1.8s
KCPM LR LR
comp=Z,26µm,21.7s
DHRM DHARAMSHALA 87.26 303 *e*P **P** **22 49 13.2 -0.8**
KIPM Iron Peak 87.36 49 *e*P **P** **22 49 15.0 +0.8**
KBO Bosley Butte 87.39 47 *e*P **P** **22 49 13.4 -0.9**
comp=Z,1µm,2.7s
KBO LR LR
comp=Z,87µm,22.0s
MCCM Marconi Confer 87.42 51 *e*P **P** **22 49 12.2 -2.2**
comp=Z,679nm,2.0s
MCCM LR LR
comp=Z,50µm,20.0s
KHMM Horse Mountain 87.42 48 *e*P **P** **22 49 13.9 -0.7**
comp=Z,471nm,1.9s
KHMM LR LR
comp=Z,55µm,18.0s
KRMB Red Mountain 87.45 47 *e*P **P** **22 49 14.4 -0.2**
comp=Z,2µm,2.9s
KRMB LR LR
comp=Z,60µm,18.4s
HOPS Hopland 87.47 50 *e*P **P** **22 49 14.2 -0.4**
comp=Z,235nm,2.4s
HOPS LR LR
comp=Z,57µm,21.0s
KEBM Edson Butte 87.48 46 *e*P **P** **22 49 14.1 -0.6**
comp=Z,120nm,1.3s
KEBM LR LR
comp=Z,93µm,20.9s
BBB Bella Bella 87.59 36 LR LR 23 20 38.4
comp=Z,115µm,21.6s,baz=280,slow=30
DLH Dalhousie 87.59 303 *ex* pP 22 49 25.0 -0.2
M02C Callahan 88.19 48 ⇑P **P** **22 49 19.2 +1.1**
baz=88
N02D Trinity Center 88.20 48 ⇓P **P** **22 49 18.1 -0.1**
baz=88
SAO San Andreas Ge 88.23 53 *e*P **P** **22 49 18.3 0.0**
SAO pmax pmax
comp=Z,446nm,1.8s
SAO MLR MLR
comp=Z,56µm,21.0s
SAO San Andreas Ge 88.23 53 *e*P **P** **22 49 18.3 0.0**
comp=Z,114nm,1.8s
SAO LR LR
comp=Z,56µm,21.0s
WDC Whiskeytown Da 88.24 49 *e*P **P** **22 49 18.1 -0.1**
WDC pmax pmax
comp=Z,723nm,2.4s
WDC MLR MLR
comp=Z,43µm,20.0s
WDC Whiskeytown Da 88.24 49 *e*P **P** **22 49 18.1 -0.1**
comp=Z,723nm,2.4s
WDC LR LR
comp=Z,43µm,20.0s
YBH Yreka Blue Hor 88.38 47 *e*P **P** **22 49 19.5 +0.5**
comp=Z,293nm,1.8s
YBH PP **PP** **22 52 49.1 +2.1**
YBH LR LR
comp=Z,74µm,22.0s
YBH Yreka Blue Hor 88.38 47 P **P** **22 49 19.5 +0.5**
comp=Z,8.6nm,1.1s,baz=255,slow=1.6,SNR=12
YBH PP **PP** **22 52 49.1 +2.1**
comp=Z,6.1nm,1.1s,baz=215,slow=8.0,SNR=2.1
I03D Drain, OR 88.38 45 ⇑P **P** **22 49 19.6 +0.8**
baz=88
HUMO Hull Mountain 88.40 47 *e*P **P** **22 49 18.0 -1.0**
comp=Z,719nm,2.6s
HUMO LR LR
comp=Z,118µm,22.0s
DLBC Dease Lake 88.55 30 *e*P **P** **22 49 20.0 +0.7**
DLBC Dease Lake 88.55 30 LR LR 23 22 19.3
comp=Z,197µm,21.1s,baz=268,slow=31
COR Corvallis 88.62 45 *e*P **P** **22 49 17.7 -2.2**
COR pmax pmax

COR MLR MLR
comp=Z,31nm,1.5s
COR MLR MLR
comp=Z,131μm,21.0s
COR Corvallis 88.62 45 *e*P **P 22 49 17.7 -2.2**
comp=Z,31nm,1.5s
COR LR LR
comp=Z,131μm,21.0s
G03D McMinnville, O 88.80 44 ⇓P **P 22 49 21.5 +0.8**
baz=89
RPN Rapa Nui 88.88 117 PFAKE 22 49 30.0 +8.4
RPN LR LR
comp=Z,22μm,18.0s
E03A Lebam 88.91 43 *e*P **P 22 49 20.2 -1.0**
comp=Z,95nm,1.0s
E03A LR LR
comp=Z,131μm,21.5s
NLWA Neilton Lookou 88.92 42 PFAKE 22 49 30.0 +8.7
NLWA LR LR
comp=Z,101μm,20.0s
PTRM Twissleman Ran 88.98 54 *e*P **P 22 49 21.1 -0.8**
M04C Macdoel 89.02 48 ⇓P **P 22 49 23.0 +0.9**
baz=89
KSH Kashi 89.05 310 P **P 22 49 23.8 +1.5**
KSH PP **PP 22 52 55.1 +2.6**
KSH S **S 23 00 06.5 -2.6**
KSH sS **sS 23 00 25.8 +0.8**
KSH *e*SS **SS 23 06 00.8 -2.2**
KSH pmax pmax
comp=Z,2μm,8.5s
KSH LR LR
comp=Z,36μm,16.3s
KSH LR LR
comp=Z,26μm,15.2s
KSH LR LR
comp=Z,52μm,15.8s
I04A Tendick Farm, 89.06 46 ⇓P **P 22 49 22.5 +0.4**
baz=89
SMMC Simmler 89.08 54 ⇑P **P 22 49 22.8 +0.4**
baz=89
BSC Santa Cruz Isl 89.12 56 ⇑P **P 22 49 23.2 +0.6**
baz=89
SBC Santa Barbara 89.14 55 ⇑P **P 22 49 23.2 +0.7**
baz=89
PKM Peak Mountain 89.14 55 ⇑P **P 22 49 23.0 +0.2**
baz=89
J04D Umpqua Nationa 89.15 46 ⇓P **P 22 49 23.2 +0.4**
baz=89
AAA Alma-Ata 89.15 314 *i* P P 22 49 35.1 +13
AAA pmax pmax
comp=Z,15μm,7.0s
AAA MLR MLR
comp=Z,47μm,14.0s
K04D Chiloquin, OR 89.27 47 ⇑P **P 22 49 23.4 +0.2**
baz=89
CMB Columbia Colle 89.32 51 *e*P **P 22 49 23.8 +0.3**
CMB pmax pmax
comp=Z,494nm,2.1s
CMB MLR MLR
comp=Z,89μm,22.0s
CMB Columbia Colle 89.32 51 *e*P **P 22 49 23.8 +0.3**
comp=Z,494nm,2.1s
CMB LR LR
comp=Z,89μm,22.0s
H04A Detroit Lake 89.42 45 *e*P **P 22 49 23.2 -0.6**
comp=Z,199nm,2.1s
H04A LR LR
comp=Z,115μm,20.9s
PGC Sidney 89.50 41 *e*P **P 22 49 22.4 -1.4**
F04A Amboy 89.54 43 *e*P **P 22 49 22.0 -2.2**
comp=Z,344nm,2.3s
BLG Laguna Peak 89.60 56 ⇓P **P 22 49 24.9 +0.1**
baz=90
BEKR Beckworth 89.71 50 *e*P **P 22 49 23.7 -1.7**
comp=Z,303nm,2.0s
BEKR LR LR
comp=Z,30μm,22.0s
J05D Fort Rock, OR 89.78 46 ⇓P **P 22 49 26.2 +0.6**
baz=90
KURK Kurchatov 89.79 321 P **P 22 49 25.0 -0.2**
comp=Z,106nm,0.9s,SNR=12
KURK Kurchatov 89.79 321 *e*P **P 22 49 23.7 -1.5**
KURK pmax pmax
comp=Z,320nm,1.9s
KURK Kurchatov 89.79 321 *e*P **P 22 49 23.7 -1.5**
comp=Z,644nm,1.9s
KURK PP PP 22 52 47.4 -10
SCI San Clemente I 89.81 57 ⇑P **P 22 49 26.0 +0.2**
baz=90
KURBB Kurchatov Arra 89.82 321 PKPPKP P'P'df 23 15 11.6 +5.7
comp=Z,1.6nm,1.1s,baz=285,slow=2.4,SNR=4.6
K05A Summer Lake 89.91 47 *e*P **P 22 49 26.5 +0.2**
K05A LR LR
comp=Z,65μm,21.5s
VES Vestal, Richgr 89.91 54 ⇓P **P 22 49 26.6 +0.4**
baz=90
I05D Terrebonne, OR 89.93 45 ⇑P **P 22 49 26.6 +0.4**
baz=90
OSI Osito Adit 89.97 55 *e*P **P 22 49 27.4 +0.8**
comp=Z,193nm,1.8s
OSI LR LR
comp=Z,17μm,19.3s
OSI Osito Adit 89.97 55 ⇓P **P 22 49 27.0 +0.4**
baz=90
ARVC Arvin 89.98 55 ⇓P **P 22 49 26.9 +0.4**
baz=90
CIS Catalina Islan 90.01 56 ⇑P **P 22 49 27.3 +0.6**
baz=90
TKM2 Tokmak 2 90.04 313 *e*P **P 22 49 25.0 -1.9**
TKM2 pmax pmax
comp=Z,395nm,1.9s
TKM2 MLR MLR
comp=Z,52μm,18.0s
TKM2 Tokmak 2 90.04 313 P **P 22 49 26.7 -0.2**
SNR=14
TKM2 Tokmak 2 90.04 313 *e*P **P 22 49 25.0 -1.9**
comp=Z,395nm,1.9s
TKM2 LR LR
comp=Z,52μm,18.0s
WCN Washoe City 90.06 50 *e*P **P 22 49 27.3 +0.2**
WCN pmax pmax
comp=Z,9.0nm,0.7s
WCN Washoe City 90.06 50 *e*P **P 22 49 27.3 +0.2**
comp=Z,8.5nm,0.7s
WCN LR LR
comp=Z,100nm,21.0s
D05A Enumclaw 90.11 42 *e*P **P 22 49 25.5 -1.3**
comp=Z,160nm,1.4s
D05A LR LR
comp=Z,94μm,20.7s
KZA Kyzart 90.12 312 *i* P **P 22 49 29.0 +1.5**
KZA Kyzart 90.12 312 P **P 22 49 29.1 +1.5**
SNR=67
LON Longmire 90.14 43 *e*P **P 22 49 26.3 -0.8**
LON pmax pmax
comp=Z,28nm,1.3s
LON MLR MLR
comp=Z,79μm,19.8s
LON Longmire 90.14 43 *e*P **P 22 49 26.3 -0.8**
comp=Z,28nm,1.3s
LON LR LR
comp=Z,79μm,19.8s
WAKR Walker 90.15 51 *e*P **P 22 49 27.3 -0.2**
PINOR Pine Mountain 90.15 46 *e*P **P 22 49 27.3 +0.2**
FMP Fort Macarthur 90.16 56 ⇓P **P 22 49 28.6 +1.3**
baz=90
MOD Modoc 90.17 48 *e*P **P 22 49 26.8 -0.6**
comp=Z,102nm,2.1s
MOD LR LR
comp=Z,50μm,19.0s
DECC Green Verdugo 90.23 56 ⇓P **P 22 49 28.9 +1.2**
baz=90
PASC Pasadena Art C 90.33 56 *e*P **P 22 49 27.4 -0.8**
comp=Z,525nm,1.5s
PASC LR LR
comp=Z,52μm,20.0s
ISA Isabella 90.37 54 *e*P **P 22 49 27.6 -0.8**
ISA pmax pmax
comp=Z,80nm,1.8s
ISA MLR MLR
comp=Z,16μm,20.6s
ISA Isabella 90.37 54 *e*P **P 22 49 27.6 -0.8**
comp=Z,80nm,1.8s
ISA LR LR
comp=Z,16μm,20.6s
ISA Isabella 90.37 54 ⇑P **P 22 49 29.7 +1.3**
baz=90,SNR=16
MWC Mount Wilson 90.44 56 *e*P **P 22 49 28.7 -0.3**
MWC pmax pmax
comp=Z,626nm,1.4s
MWC MLR MLR
comp=Z,61μm,21.3s
MWC Mount Wilson 90.44 56 *e*P **P 22 49 28.7 -0.3**
comp=Z,626nm,1.4s
MWC LR LR
comp=Z,61μm,21.3s
MLAC Mammoth Lakes 90.45 52 ⇓P **P 22 49 29.2 +0.3**
baz=90
A05A Maple Falls 90.46 41 *e*P **P 22 49 26.9 -1.4**
comp=Z,164nm,2.0s
A05A LR LR
comp=Z,49μm,19.6s
KBK Karagaybulak 90.46 313 *i* P **P 22 49 28.2 -0.6**
KBK Karagaybulak 90.46 313 P **P 22 49 28.2 -0.6**
SNR=7.3
MTUM Tungsten Hills 90.61 52 *e*P **P 22 49 30.7 +1.0**
G06A Carlson Farm, 90.61 44 *e*P **P 22 49 27.7 -1.6**
comp=Z,153nm,1.8s
G06A LR LR
comp=Z,110μm,21.0s
EDW2 Edwards Air Fo 90.61 55 ⇑P **P 22 49 30.3 +0.7**
baz=91,SNR=42
INK Inuvik 90.63 20 *e*P **P 22 49 27.6 -1.1**
comp=Z,289nm,1.6s
INK Inuvik 90.63 20 LR LR 23 28 46.6
comp=Z,75μm,19.2s,baz=248,slow=35
CHMS Chumysh 90.67 313 *i* P **P 22 49 29.0 -0.6**
CHMS Chumysh 90.67 313 P **P 22 49 29.1 -0.6**
SNR=8.0
UCH Uchtor 90.69 313 *i* P **P 22 49 30.9 +0.6**
UCH Uchtor 90.69 313 P **P 22 49 30.9 +0.6**
SNR=11
FRU Bishkek 90.73 313 *i* P **P 22 49 33.0 +3.1**
FRU *i* 22 49 46.0
FRU *e* 23 00 30.0
FRU MLR MLR
comp=Z,50μm,16.0s
FRU MLR MLR
comp=E,60μm,17.5s
B06A Marblemount 90.74 41 *e*P **P 22 49 30.4 +0.7**
comp=E,38nm,1.0s
B06A LR LR
comp=Z,51μm,19.4s
BFSC Mount Baldy Ra 90.77 56 ⇑P **P 22 49 31.2 +0.8**
baz=91,SNR=12
AAK Ala-Archa 90.78 313 P **P 22 49 31.0 +0.7**
comp=Z,117nm,0.7s,SNR=6.9
AAK Ala-Archa 90.78 313 *de*P **P 22 49 30.4 +0.1**
AAK pmax pmax
comp=Z,121nm,2.5s
AAK Ala-Archa 90.78 313 P **P 22 49 31.8 +1.4**
SNR=12
AAK Ala-Archa 90.78 313 *e*P **P 22 49 29.6 -0.7**
comp=Z,342nm,1.8s
AAK PKKPbc PKKPbc 23 07 03.2 +5.8
AAK LR LR
comp=Z,78μm,18.0s
AAK Ala-Archa 90.78 313 PKKPbc PKKPbc 23 07 03.2 +5.8
comp=Z,1.2nm,0.6s,baz=197,slow=11,SNR=3.7
TIN Tinemaha 90.82 53 ⇓P **P 22 49 31.6 +1.1**
baz=91
CWC Cottonwood Cre 90.82 53 ⇑P **P 22 49 31.2 +0.6**
baz=91,SNR=25
USP Ospenovka 90.90 314 *i* P **P 22 49 30.0 -0.7**
USP Ospenovka 90.90 314 P **P 22 49 30.1 -0.7**
SNR=11
LRMC Laurel Mountai 90.96 54 ⇑P **P 22 49 31.8 +0.5**
baz=91,SNR=16
109C Camp Elliot, M 90.99 57 ⇓P **P 22 49 32.4 +1.1**
baz=91
NV01 Mina Array Sit 91.01 51 *e*P **P 22 49 30.5 -1.0**
NVAR Mina Array Bea 91.01 51 P **P 22 49 30.9 -0.6**
NVAR PKKPbc PKKPbc 23 07 02.1 +5.4
NVAR P'P' 23 15 06.4
NVAR Mina Array Bea 91.01 51 P **P 22 49 30.9 -0.6**
comp=Z,27nm,1.1s,baz=248,slow=5.9,SNR=31
NVAR PKKPbc PKKPbc 23 07 02.1 +5.4
comp=Z,1.1nm,0.9s,baz=50,slow=1.4,SNR=3.5
NVAR PKPPKP **P'P'df** **23 15 06.4 +1.3**
comp=Z,0.5nm,0.7s,baz=79,slow=1.4,SNR=3.5
NVAR LR LR 23 24 37.2
comp=Z,71μm,21.0s,baz=82,slow=32
LTY Liberty 91.01 42 *e*P **P 22 49 29.6 -1.5**
comp=Z,51nm,1.3s
LTY *e*PP **PP 22 53 08.0 +0.2**
LTY LR LR
comp=Z,97μm,21.2s
MURC Murrieta 91.04 56 ⇓P **P 22 49 31.9 +0.3**
baz=91,SNR=7.7
NV11 Mina Array Sit 91.12 51 *e*P **P 22 49 30.8 -1.2**
I07A Izee 91.17 46 *e*P **P 22 49 32.0 -0.1**
comp=Z,56nm,1.1s
I07A LR LR
comp=Z,120μm,21.1s
MPMC Manual Prospec 91.22 54 ⇑P **P 22 49 33.3 +0.7**
baz=91,SNR=19
AML Almayashu 91.27 312 *i* P **P 22 49 31.6 -1.3**
AML Almayashu 91.27 312 P **P 22 49 31.6 -1.3**
SNR=9.6
EKS2 Erkin-Say 91.31 313 *e*P **P 22 49 31.7 -1.0**
EKS2 pmax pmax
comp=Z,212nm,1.5s
EKS2 MLR MLR
comp=Z,62μm,20.0s
EKS2 Erkin-Say 91.31 313 P **P 22 49 34.2 +1.5**
SNR=9.5
EKS2 Erkin-Say 91.31 313 *e*P **P 22 49 31.7 -1.0**
comp=Z,212nm,1.5s
EKS2 LR LR
comp=Z,62μm,20.0s
BAR Barrett 91.32 57 *e*P **P 22 49 33.0 +0.2**
comp=Z,62nm,1.6s
BAR LR LR
comp=Z,23μm,21.1s
SYO Syowa Base 91.33 199 *e*P **P 22 49 34.6 +2.5**
SYO Syowa Base 91.33 199 ⇓pP pP 22 49 39.4 -2.3
BBRC Big Bear Solar 91.38 56 ⇑P **P 22 49 33.9 +0.5**
baz=92
E07A Sunnyside 91.41 43 *e*P **P 22 49 33.3 +0.3**
comp=Z,38nm,1.0s
BHJ Bhuj 91.42 293 *e*P **P 22 49 32.5 -1.0**
RRX Edison Barstow 91.42 55 ⇓P **P 22 49 34.0 +0.7**
baz=92
GRAC Grapevine Rang 91.48 53 ⇑P **P 22 49 34.3 +0.7**
baz=92,SNR=8.9
WVOR Wild Horse Val 91.49 47 *e*P **P 22 49 33.1 -0.5**
WVOR pmax pmax
comp=Z,201nm,1.5s
WVOR MLR MLR
comp=Z,58μm,19.0s
WVOR Wild Horse Val 91.49 47 *e*P **P 22 49 33.1 -0.5**
comp=Z,201nm,1.5s
WVOR LR LR
comp=Z,58μm,19.0s
MONP Monument Peak 91.56 57 ⇑P **P 22 49 35.0 +0.8**
baz=92,SNR=8.5
HAWA Hanford 91.60 43 *e*P **P 22 49 33.2 -0.6**
comp=Z,333nm,2.3s
HAWA LR LR
comp=Z,78μm,21.0s
GSC Goldstone 91.64 55 *e*P **P 22 49 33.5 -0.9**
GSC pmax pmax
comp=Z,188nm,1.5s
GSC MLR MLR
comp=Z,70μm,18.5s
GSC Goldstone 91.64 55 *e*P **P 22 49 33.5 -0.9**
comp=Z,188nm,1.5s
GSC LR LR
comp=Z,70μm,18.5s
GSC Goldstone 91.64 55 ⇑P **P 22 49 34.9 +0.5**
baz=92
PFO Pinyon Flat Ob 91.65 56 P **P 22 49 34.5 0.0**
comp=Z,91nm,1.4s,SNR=5.0
PFO Pinyon Flat Ob 91.65 56 *e*P **P 22 49 34.1 -0.5**
comp=Z,143nm,1.4s
PFO Pinyon Flat Ob 91.65 56 P **P 22 49 34.9 +0.3**
comp=Z,3.2nm,0.6s,baz=321,slow=6.5,SNR=4.6
PFO LR LR 23 26 24.9
comp=Z,61μm,18.6s,baz=283,slow=33
PFO Pinyon Flat Ob 91.65 56 ⇑P **P 22 49 35.2 +0.7**
baz=92
J08A Circle Bar Ran 91.77 47 *e*P **P 22 49 34.8 -0.1**
comp=Z,526nm,2.5s
TPH Tonopah 91.78 52 *e*P **P 22 49 34.1 -1.0**
TPH pmax pmax
comp=Z,205nm,1.4s
TPH MLR MLR
comp=Z,56μm,21.0s
TPH Tonopah 91.78 52 *e*P **P 22 49 34.1 -1.0**
comp=Z,205nm,1.4s
TPH LR LR
comp=Z,56μm,21.0s
G08A Pilot Rock 91.78 45 *e*P **P 22 49 34.6 -0.2**
comp=Z,307nm,2.4s
DVTC Desert V Tower 91.79 57 ⇑P **P 22 49 35.9 +0.7**
baz=92
FURC Furnace Creek, 91.80 54 ⇓P **P 22 49 35.2 +0.3**
baz=92,SNR=9.7
HEC Hector,Ludlow 91.95 55 ⇑P **P 22 49 36.0 +0.2**
baz=92,SNR=14
SWSC Sam W. Stewart 92.09 57 ⇓P **P 22 49 36.9 +0.6**
baz=92
BELC Belle Mtn. Jos 92.09 56 ⇓P **P 22 49 36.5 0.0**
baz=92,SNR=7.3
D08A Wollman Farm, 92.14 43 *e*P **P 22 49 34.0 -2.3**
comp=Z,333nm,2.5s
D08A LR LR
comp=Z,84μm,20.8s
SHOC Shoshone 92.17 54 ⇑P **P 22 49 37.1 +0.4**
baz=92
BMN Battle Mountai 92.18 50 *e*P **P 22 49 35.6 -1.3**
BMN pmax pmax
comp=Z,310nm,1.9s
BMN MLR MLR
comp=Z,46μm,22.0s
BMN Battle Mountai 92.18 50 *e*P **P 22 49 35.6 -1.3**
comp=Z,310nm,1.9s
BMN LR LR
comp=Z,46μm,22.0s
TPNV Topopah Spring 92.36 53 *e*P **P 22 49 36.3 -1.5**
TPNV Topopah Spring 92.36 53 *e*P **P 22 49 36.3 -1.5**
TPNV Topopah Spring 92.36 53 ⇑P **P 22 49 37.9 +0.2**
baz=92,SNR=26
TUQ Turquoise Moun 92.38 55 ⇓P **P 22 49 37.9 0.0**
baz=92,SNR=15
BC3 Big Chuckawall 92.48 56 ⇑P **P 22 49 38.4 0.0**
baz=93
GMRC Granite Mounta 92.49 55 ⇑P **P 22 49 38.4 0.0**
baz=93,SNR=10
E09A Wood Farm, Sta 92.56 43 *e*P **P 22 49 37.5 -0.7**
comp=Z,234nm,2.0s
E09A LR LR
comp=Z,95μm,22.0s
C09A Chrisman Ranch 92.70 42 *e*P **P 22 49 37.5 -1.4**
comp=Z,173nm,2.2s
C09A LR LR
comp=Z,106μm,21.0s
IRM Iron Mountain 92.81 56 ⇑P **P 22 49 39.9 +0.1**
baz=93,SNR=37
GLA Glamis 92.91 57 *e*P **P 22 49 40.4 +0.2**
GLA pmax pmax
comp=Z,30nm,1.3s
GLA MLR MLR
comp=Z,27μm,21.5s
GLA Glamis 92.91 57 *e*P **P 22 49 40.4 +0.2**
comp=Z,30nm,1.3s
GLA LR LR
comp=Z,27μm,21.5s
GLA Glamis 92.91 57 ⇓P **P 22 49 40.2 -0.1**
baz=93
LDFC Landfair 92.98 55 *e*P **P 22 49 40.0 -0.7**
comp=Z,749nm,1.4s
LDFC LR LR
comp=Z,54μm,19.6s
R11A Troy Canyon, C 93.10 52 *e*P **P 22 49 39.5 -1.7**
R11A LR LR
comp=Z,52μm,21.0s
R11A Troy Canyon, C 93.10 52 ⇓P **P 22 49 41.5 +0.3**
baz=93,SNR=18
F10A Beach Ranch, E 93.10 44 *e*P **P 22 49 40.2 -0.7**
comp=Z,591nm,2.5s
F10A LR LR
comp=Z,65μm,20.3s
SHPR Sheep Range 93.15 54 *e*P **P 22 49 40.8 -0.6**
Y12C Blythe 93.26 57 ⇑P **P 22 49 41.9 +0.1**
baz=93
NEE2 Needles Airpor 93.33 56 ⇓P **P 22 49 42.8 +0.7**
baz=93
NEW Newport 93.54 42 *e*P **P 22 49 41.0 -1.8**
comp=Z,56nm,1.4s
NEW LR LR
comp=Z,75μm,20.0s
NEW Newport 93.54 42 ⇑P **P 22 49 43.7 +0.9**
baz=94
KBL Kabul 93.63 304 *e*P **P 22 49 41.7 -2.1**
KBL pmax pmax
comp=Z,30nm,0.9s
KBL MLR MLR
comp=Z,34μm,21.9s
KBL Kabul 93.63 304 *e*P **P 22 49 41.7 -2.1**
comp=Z,30nm,0.9s
KBL LR LR
comp=Z,34μm,21.9s
PDMCI Parker Dam,Lak 93.66 56 ⇓P **P 22 49 43.9 +0.3**
baz=94
MFID Camas Ranch 93.68 47 *e*P **P 22 49 42.3 -1.3**
comp=Z,342nm,2.2s
MFID LR LR
comp=Z,97μm,22.0s
ELK Elko 93.72 50 *e*P **P 22 49 44.8 +0.7**
comp=Z,173nm,1.8s
ELK LR LR
comp=Z,34μm,21.3s
KKAR Karatay Array 93.75 313 *e*P **P 22 49 41.9 -1.9**
KKAR Karatay Array 93.75 313 *e*P **P 22 49 41.9 -1.9**
113A Mohawk Valley, 93.75 58 ⇓P **P 22 49 44.3 +0.2**
baz=94
W13A Hualapai Mount 93.98 55 ⇑P **P 22 49 45.7 +0.4**
baz=94
214A Organ Pipe Nat 94.44 58 ⇑P **P 22 49 47.8 +0.5**
baz=94
Z14A Wintersburg 94.51 57 ⇑P **P 22 49 48.3 +0.7**
baz=95
Y14A Wickenburg 94.54 57 ⇑P **P 22 49 47.8 0.0**
baz=95
ARUT Antelope Range 94.69 53 *e*P **P 22 49 48.6 +0.1**
ARUT Antelope Range 94.69 53 *e*P **P 22 49 48.6 +0.1**
HLID Hailey 94.72 47 *e*P **P 22 49 48.3 -0.2**
comp=Z,277nm,2.2s
HLID LR LR
comp=Z,101μm,22.0s
HLID Hailey 94.72 47 ⇑P **P 22 49 49.4 +0.9**
baz=95,SNR=11
CCUT Cedar City 94.72 53 *e*P **P 22 49 48.2 -0.5**
comp=Z,289nm,1.7s
CCUT LR LR
comp=Z,87μm,20.4s
BSMT Bassoo Peak 95.03 43 *e*P **P 22 49 48.2 -1.7**
KNB Kanab 95.08 53 *e*P **P 22 49 50.0 -0.3**
KNB pmax pmax
comp=Z,305nm,1.6s
KNB MLR MLR
comp=Z,108μm,21.4s
KNB Kanab 95.08 53 *e*P **P 22 49 50.0 -0.3**
comp=Z,305nm,1.6s
KNB LR LR
comp=Z,108μm,21.4s
BVAR Borovoye Array 95.24 323 P **P 22 49 47.6 -2.8**
BVAR 22 53 47.3
BVAR Borovoye Array 95.24 323 P **P 22 49 47.6 -2.8**
BVAR PP PP 22 53 47.3 +6.6
BVAR Borovoye Array 95.24 323 P **P 22 49 47.6 -2.8**
comp=Z,12nm,0.7s,baz=105,slow=4.6,SNR=32
BVAR PP PP 22 53 47.3 +6.6
comp=Z,6.7nm,1.0s,baz=123,slow=7.1,SNR=3.2
BRVK Borovoye 95.30 323 P **P 22 49 49.4 -1.3**
comp=Z,146nm,0.8s,SNR=9.8
BRVK Borovoye 95.30 323 *ce*P **P 22 49 51.4 +0.7**
BRVK pmax pmax
comp=Z,237nm,2.7s
BRVK Borovoye 95.30 323 *e*P **P 22 49 48.0 -2.7**
comp=Z,1μm,3.0s
BLMT Blacktail Moun 95.34 42 *e*P **P 22 49 49.4 -1.9**
JTMT Jette 95.36 43 *e*P **P 22 49 48.1 -3.2**
BGU Big Grassy Mou 95.41 50 *e*P **P 22 49 52.2 +0.5**
comp=Z,151nm,1.6s
U15A North Rim 95.44 54 ⇓P **P 22 49 52.6 +0.6**
baz=96
MSO Missoula 95.47 44 *e*P **P 22 49 50.5 -1.2**
comp=Z,27nm,1.4s
MSO LR LR
comp=Z,66μm,22.0s

MSO	Missoula	95.47	44	⇓P		P		22 49 52.8	+1.0
	baz=96								
DUG	Dugway	95.48	50	*eP*		P		22 49 52.3	+0.3
DUG				pmax		pmax			
	comp=Z,228nm,2.0s								
DUG				MLR		MLR			
	comp=Z,44µm,22.0s								
DUG	Dugway	95.48	50	*eP*		P		22 49 52.3	+0.3
	comp=Z,228nm,2.0s								
DUG				LR		LR			
	comp=Z,44µm,22.0s								
DUG	Dugway	95.48	50	⇓P		P		22 49 53.1	+1.0
	baz=96								
SWMT	Swartz Lake	95.52	43	*eP*		P		22 49 51.8	-0.2
HVU	Hansel Valley	95.70	49	*eP*		P		22 49 53.3	+0.3
HVU				pmax		pmax			
	comp=Z,494nm,1.9s								
HVU	Hansel Valley	95.70	49	*eP*		P		22 49 53.3	+0.3
	comp=Z,410nm,1.9s								
MVU	Marysvale	95.74	52	*eP*		P		22 49 53.9	+0.5
	comp=Z,189nm,2.0s								
MVU				LR		LR			
	comp=Z,58µm,18.0s								
WALA	Waterton Lakes	95.76	41	*eP*		P		22 49 53.8	+0.7
SLMT	Seeley Lake	95.83	43	*eP*		P		22 49 50.9	-2.5
X16A	Lo Mia Camp, P	95.89	56	⇑P		P		22 49 54.8	+0.7
	baz=96								
SPUT	South Promonto	95.89	49	*eP*		P		22 49 54.0	+0.1
	comp=Z,317nm,2.3s								
SPUT				LR		LR			
	comp=Z,42µm,21.4s								
CHMT	Chamberlain Mo	95.95	44	*eP*		P		22 49 51.3	-2.8
MCMT	McKenzie Canyo	96.00	46	*eP*		P		22 49 53.3	-1.1
NLU	North Lily Min	96.02	51	*eP*		P		22 49 53.9	-0.7
	comp=Z,251nm,2.2s								
NLU				LR		LR			
	comp=Z,39µm,18.4s								
WUAZ	Wupatki	96.07	55	*eP*		P		22 49 54.2	-0.7
	comp=Z,290nm,2.3s								
WUAZ				LR		LR			
	comp=Z,42µm,18.0s								
WUAZ	Wupatki	96.07	55	⇓P		P		22 49 55.5	+0.7
	baz=96								
MRIV	Mauritius Mete	96.14	248	*eP*		P		22 49 49.5	-5.8
TUC	Tucson	96.19	58	*eP*		P		22 49 52.3	-3.1
TUC				pmax		pmax			
	comp=Z,189nm,2.8s								
TUC				MLR		MLR			
	comp=Z,125µm,22.0s								
TUC	Tucson	96.19	58	*eP*		P		22 49 52.3	-3.1
	comp=Z,189nm,2.8s								
TUC				LR		LR			
	comp=Z,125µm,22.0s								
DLMT	Dillon	96.23	45	*eP*		P		22 49 53.5	-1.9
	comp=Z,46nm,1.3s								
DLMT				LR		LR			
	comp=Z,62µm,20.5s								
MPU	Maple Canyon	96.36	51	*eP*		P		22 49 53.9	-2.2
	comp=Z,431nm,2.4s								
MPU				LR		LR			
	comp=Z,43µm,22.0s								
LRM	Limekiln Ridge	96.39	45	*eP*		P		22 49 53.6	-2.5
EDM	Edmonton	96.58	37	*eP*		P		22 49 54.3	-2.3
EDM	Edmonton	96.58	37	*eP*		P		22 49 54.3	-2.3
TMUT	Trail Mountain	96.61	51	*eP*		P		22 49 57.7	+0.3
	comp=Z,913nm,2.9s								
TMUT				LR		LR			
	comp=Z,37µm,19.8s								
TCUT	Toone Canyon	96.65	50	PFAKE				22 50 10.0	+13
TCUT				LR		LR			
	comp=Z,37µm,21.9s								
DAU	Daniels Canyon	96.69	50	*eP*		P		22 49 57.4	-0.3
DAU	Daniels Canyon	96.69	50	*eP*		P		22 49 57.4	-0.3
YKA	Yellowknife Ar	96.87	28	P		P		22 49 56.8	-0.8
YKA				PKKPbc		PKKPbc		23 06 40.2	-1.7
YKA				P'P'				23 14 51.5	
YKA	Yellowknife Ar	96.87	28	P		P		22 49 56.7	-0.8
	comp=Z,4.6nm,0.9s,baz=262,slow=4.5,SNR=36								
YKA				PKKPbc		PKKPbc		23 06 40.2	-1.7
	comp=Z,1.2nm,0.9s,baz=87,slow=2.4,SNR=4.7								
YKA				PKPPKP		P'P'df		23 14 51.5	-0.5
	comp=Z,0.1nm,0.7s,baz=56,slow=2.3,SNR=2.9								
YKB5	Yellowknife Ar	96.87	28	*eP*		P		22 49 55.8	-1.8
HRY	Holter Researc	96.90	44	*eP*		P		22 49 55.0	-3.3
BOZ	Bozeman (W)	96.94	45	*eP*		P		22 49 54.8	-3.7
BOZ				pmax		pmax			
	comp=Z,213nm,2.4s								
BOZ				MLR		MLR			
	comp=Z,60µm,21.0s								
BOZ	Bozeman (W)	96.94	45	*eP*		P		22 49 54.8	-3.7
	comp=Z,213nm,2.4s								
BOZ				LR		LR			
	comp=Z,60µm,21.0s								
AHID	Auburn Hatcher	97.04	48	PFAKE				22 50 10.0	+11
AHID				LR		LR			
	comp=Z,90µm,22.0s								
SRU	San Rafael	97.12	52	*eP*		P		22 49 59.5	0.0
SRU				pmax		pmax			
	comp=Z,409nm,2.7s								
SRU				MLR		MLR			
	comp=Z,41µm,20.4s								
SRU	San Rafael	97.12	52	*eP*		P		22 49 59.5	0.0
	comp=Z,409nm,2.7s								
SRU				LR		LR			
	comp=Z,41µm,20.4s								
X18A	Snowflake	97.12	56	⇓P		Pdif		22 50 00.6	+0.8
	baz=97								
REDW	Red Top Meadow	97.28	47	*eP*		P		22 49 59.7	-0.5
	comp=Z,125nm,1.8s								
REDW				LR		LR			
	comp=Z,83µm,21.8s								
YMR	Madison River	97.32	46	*eP*		P		22 49 59.0	-1.4
	comp=Z,36nm,1.2s								
YMR				LR		LR			
	comp=Z,107µm,20.1s								
SNOW	Snow King Moun	97.36	47	*eP*		Pdif		22 50 00.8	0.0
	comp=Z,302nm,2.5s								
SNOW				LR		LR			
	comp=Z,89µm,21.5s								
W18A	Petrified Fore	97.36	56	*eP*		P		22 49 59.1	-1.6
	comp=Z,91nm,1.8s								
W18A	Petrified Fore	97.36	56	⇓P		Pdif		22 50 01.7	+0.9
	baz=97								
319A	Douglas	97.36	59	⇑P		Pdif		22 50 01.6	+0.8
	baz=97								
YFT	Old Faithful	97.39	46	*eP*		P		22 49 57.9	-2.8
	comp=Z,39nm,1.2s								
YFT				LR		LR			
	comp=Z,126µm,19.7s								
MOOW	Moose Ponds	97.39	47	*eP*		P		22 49 59.0	-1.7
	comp=Z,36nm,1.5s								
MOOW				LR		LR			
	comp=Z,87µm,21.9s								
FLWY	Flagg Ranch	97.45	47	*eP*		P		22 49 59.2	-1.7
	comp=Z,153nm,2.0s								
FLWY				LR		LR			
	comp=Z,83µm,21.5s								
LOHW	Long Hollow	97.48	47	*eP*		P		22 49 58.7	-2.4
	comp=Z,141nm,2.5s								
LOHW				LR		LR			
	comp=Z,87µm,21.8s								
I17A	Pilgrim Ck.	97.53	47	⇓P		Pdif		22 50 02.4	+1.0
	baz=98								
H17A	Grant Village	97.57	46	*eP*		P		22 50 00.8	-0.7
H17A				LR		LR			
	comp=Z,106µm,21.3s								
H17A	Grant Village	97.57	46	⇑P		Pdif		22 50 02.0	+0.4
	baz=98								
320A	Kipp Ranch, An	98.00	60	⇑P		Pdif		22 50 03.9	+0.2
	baz=98								
PV05	Paradox Valley	98.14	53	*eP*		P		22 50 03.6	-0.6
PV09	Paradox Valley	98.15	52	*eP*		P		22 50 04.2	-0.2
BW06	Boulder Array	98.17	48	*eP*		P		22 50 03.2	-1.1
BW06				LR		LR			
	comp=Z,91µm,22.0s								
PDAR	Pinedale Array	98.17	48	P		P		22 50 04.0	-0.3
PDAR				P'P'				23 14 53.5	
PDAR	Pinedale Array	98.17	48	P		P		22 50 04.0	-0.3
	comp=Z,2.6nm,0.9s,baz=197,slow=1.5,SNR=12								
PDAR				PKPPKP		P'P'df		23 14 53.5	+2.1
	comp=Z,0.5nm,1.0s,baz=108,slow=2.9,SNR=2.0								
PDAR				LR		LR		23 28 34.7	
	comp=Z,66µm,21.7s,baz=280,slow=32								
PV10	Paradox Valley	98.21	52	*eP*		P		22 50 03.2	-1.4
H18A	Shoshone NF, C	98.24	46	⇓P		Pdif		22 50 04.7	+0.1
	baz=98								
PV04	Paradox Valley	98.32	52	*eP*		P		22 50 04.4	-0.6
GCMT	Greycliff	98.32	45	*eP*		P		22 50 04.0	-0.7
EGMT	Eagleton	98.42	43	*eP*		P		22 50 04.6	-0.4
	comp=Z,136nm,2.0s								
EGMT				LR		LR			
	comp=Z,59µm,22.0s								
EGMT	Eagleton	98.42	43	⇑P		Pdif		22 50 06.1	+1.0
	baz=98								
MVCO	Mesa Verde	98.54	54	*eP*		P		22 50 03.8	-2.2
	comp=Z,59nm,1.6s								
MVCO				LR		LR			
	comp=Z,62µm,22.0s								
MVCO	Mesa Verde	98.54	54	⇓P		P		22 50 06.1	0.0
	baz=99								
RLMT	Red Lodge	98.56	46	*eP*		P		22 50 03.5	-2.4
	comp=Z,179nm,2.6s								
RLMT				LR		LR			
	comp=Z,42µm,20.0s								
SNAA	Sanae	98.56	186	*eP*		P		22 50 04.8	-0.4
	comp=Z,350nm,1.9s								
SNAA				LR		LR			
	comp=Z,44µm,20.0s								
PV01	Paradox Valley	98.56	53	*eP*		P		22 50 04.4	-1.7
J19A	Crowheart	98.58	48	⇑P		Pdif		22 50 06.8	+0.7
	baz=99								
I19A	Meeteetse	98.67	47	⇑P		Pdif		22 50 06.6	+0.1
	baz=99								
H19A	Powell	98.72	46	⇓P		Pdif		22 50 06.7	+0.1
	baz=99								
121A	Cookes Peak, D	98.74	58	⇓P		P		22 50 06.8	-0.2
	baz=99								
F19A	Roth Farm, Mol	98.83	45	⇓P		Pdif		22 50 07.3	+0.3
	baz=99								
C19A	Slack Wire Ran	98.87	43	⇑P		Pdif		22 50 07.5	+0.4
	baz=99								
D19A	Cripps Ranch,	98.95	44	⇓P		Pdif		22 50 08.1	+0.7
	baz=99								
O20A	White River Ci	98.96	51	*eP*		P		22 50 06.2	-1.6
	comp=Z,198nm,1.8s								
O20A	White River Ci	98.96	51	⇑P		Pdif		22 50 07.9	+0.1
	baz=99								
E19A	Rath Farm, Rou	98.98	44	⇓P		Pdif		22 50 08.3	+0.7
	baz=99								
B19A	Brinkman Farms	98.98	42	⇓P		Pdif		22 50 08.4	+0.8
	baz=99								
N20A	Spence Gulch,	99.00	50	⇓P		Pdif		22 50 08.0	0.0
	baz=99								
A19A	Klindworth Far	99.14	42	⇓P		Pdif		22 50 08.8	+0.5
	baz=99								
J20A	Shoshoni	99.29	47	⇑P		Pdif		22 50 09.8	+0.7
	baz=99								
I20A	Worland	99.29	47	⇓P		Pdif		22 50 09.9	+0.8
	baz=99								
G20A	Bridger	99.31	46	⇓P		Pdif		22 50 09.9	+0.7
	baz=99								
F20A	Billings	99.38	45	⇓P		Pdif		22 50 10.8	+1.4
	baz=99								
H20A	Greybull	99.42	46	⇓P		Pdif		22 50 10.7	+1.1
	baz=100								
LAZ	Ladron	99.42	57	*eP*		Pdif		22 50 10.3	+0.3
E20A	Meyer Farm, Mu	99.43	44	⇑P		Pdif		22 50 10.6	+1.0
	baz=100								
D20A	Manuel Ranch,	99.46	44	⇓P		Pdif		22 50 09.7	0.0
	baz=100								
Z22A	Elephant Butte	99.48	58	⇑P		Pdif		22 50 10.2	0.0
	baz=100								
C20A	Veseth Ranch,	99.58	43	⇑P		Pdif		22 50 10.6	+0.4
	baz=100								
Y22D	IRIS PASSCAL I	99.58	57	⇓P		Pdif		22 50 10.4	-0.2
	baz=100								
B20A	Solberg Farm,	99.60	42	⇓P		Pdif		22 50 11.2	+0.9
	baz=100								
A20A	Cobblestone Ra	99.68	42	⇑P		Pdif		22 50 11.2	+0.5
	baz=100								
V22A	San Miguel Ran	99.72	55	⇓P		Pdif		22 50 11.0	-0.3
	baz=100								
J21A	Lysite	99.75	47	⇑P		Pdif		22 50 11.7	+0.4
	baz=100								
U22A	Llaves	99.80	55	⇑P		Pdif		22 50 11.9	+0.2
	baz=100								
RWWY	Rawlins	99.84	49	PFAKE				22 50 20.0	+8.2
RWWY				LR		LR			
	comp=Z,38µm,19.4s								
K21A	Alcova	99.86	48	⇑P		Pdif		22 50 12.1	+0.3
	baz=100								
SMCO	Snowmass	99.88	52	PFAKE				22 50 20.0	+7.8
SMCO				LR		LR			
	comp=Z,60µm,18.6s								
I21A	Big Trails, Te	99.89	47	⇑P		Pdif		22 50 12.1	+0.3
	baz=100								
S22A	4UR Ranch, Cre	99.91	53	⇑P		Pdif		22 50 12.7	+0.4
	baz=100								
G21A	Lodge Grass	100.02	46	⇑P		Pdif		22 50 13.3	+1.1
	baz=100								
ANMO	Albuquerque	100.02	56	P		Pdif		22 50 14.5	+1.8
ANMO				PP		PP		22 54 27.6	+9.3
ANMO				LR		LR			
	comp=Z,78µm,22.0s								
ANMO	Albuquerque	100.02	56	P		Pdif		22 50 14.5	+1.8
	comp=Z,1.0nm,0.8s,baz=274,slow=16,SNR=1.9								
ANMO				PP		PP		22 54 27.6	+9.3
	comp=Z,2.0nm,0.9s,baz=271,slow=4.2,SNR=5.1								
123A	Bell Site, Whi	100.03	58	⇑P		Pdif		22 50 12.2	-0.4
	baz=100								
P22A	Eagle	100.07	51	⇑P		Pdif		22 50 13.6	+0.8
	baz=100								
Z23A	Rita Site, Whi	100.10	58	⇑P		Pdif		22 50 12.7	-0.2
	baz=100								
F21A	Absaloka Mine,	100.10	45	⇓P		Pdif		22 50 12.8	+0.2
	baz=100								
H21A	Big Horn, Sher	100.11	46	⇓P		Pdif		22 50 12.7	-0.1
	baz=100								
E21A	Keefer Ranch,	100.16	44	⇑P		Pdif		22 50 13.2	+0.4
	baz=100								
X23A	Hourglass Bar	100.22	56	⇓P		Pdif		22 50 13.7	+0.1
	baz=100								
D21A	La Casta Ranch	100.24	44	⇑P		Pdif		22 50 13.7	+0.6
	baz=100								
O22A	Kremmling	100.26	51	⇓P		Pdif		22 50 13.6	-0.1
	baz=100								
B21A	Ellsworth Farm	100.27	42	⇑P		Pdif		22 50 13.9	+0.7
	baz=100								
M22A	Cedar Creek Ra	100.29	49	⇑P		Pdif		22 50 13.4	-0.4
	baz=100								
W23A	Werner Place,	100.29	56	⇓P		Pdif		22 50 13.7	-0.2
	baz=100								
Y23A	Lovelace Mesa,	100.29	57	⇓P		Pdif		22 50 14.0	+0.1
	baz=100								
PMSA	Palmer Station	100.30	163	PFAKE				22 50 20.0	+7.0
PMSA				LR		LR			
	comp=Z,23µm,19.0s								
V23A	Ortiz Mt. (NFS	100.30	55	⇑P		Pdif		22 50 14.1	+0.2
	baz=100								
U23A	El Rito	100.33	55	⇑P		Pdif		22 50 13.7	-0.3
	baz=100								
A21A	Bergtoll Ranch	100.34	42	⇑P		Pdif		22 50 14.6	+1.0
	baz=100								
N22A	Wattenberg Ran	100.36	50	⇓P		Pdif		22 50 14.0	-0.1
	baz=100								
K22A	Casper	100.40	48	PFAKE				22 50 20.0	+5.9
K22A				LR		LR			
	comp=Z,49µm,21.9s								
K22A	Casper	100.40	48	⇑P		Pdif		22 50 14.6	+0.5
	baz=100								
L22A	Ellis Ranch, M	100.44	49	⇑P		Pdif		22 50 14.9	+0.5
	baz=100								
J22A	Midwest	100.46	47	⇓P		Pdif		22 50 14.9	+0.6
	baz=100								
I22A	9 Mile Ranch,	100.48	47	⇑P		Pdif		22 50 15.5	+1.1
	baz=100								
T23A	Casias Ranch,	100.49	54	⇓P		Pdif		22 50 14.5	-0.3
	baz=100								
S23A	Nye Farm, Mont	100.56	53	⇓P		Pdif		22 50 15.4	+0.4
	baz=101								
H22A	Clearmont	100.60	46	⇓P		Pdif		22 50 15.6	+0.7
	baz=101								
324A	Moseley Ranch,	100.60	60	⇓P		Pdif		22 50 15.1	-0.2
	baz=101								
224A	Cornudas Mount	100.61	59	⇑P		Pdif		22 50 15.8	+0.5
	baz=101								
G22A	Birney	100.66	46	⇓P		Pdif		22 50 16.2	+1.0
	baz=101								
F22A	Rosebud	100.70	45	⇑P		Pdif		22 50 15.8	+0.5
	baz=101								
MNTX	Cornudas Mount	100.71	59	PFAKE				22 50 20.0	+4.5
MNTX				LR		LR			
	comp=Z,71µm,21.0s								
R23A	Moffat	100.72	53	⇓P		Pdif		22 50 16.0	+0.2
	baz=101								
O23A	Lake Granby, G	100.75	51	⇓P		Pdif		22 50 16.0	+0.1
	baz=101								
LAO	LASA Array	100.75	44	PFAKE				22 50 20.0	+4.5
LAO				LR		LR			
	comp=Z,62µm,20.0s								
N23A	Red Feather La	100.75	50	⇑P		Pdif		22 50 16.5	+0.6
	baz=101								
P23A	Jefferson	100.77	52	⇓P		Pdif		22 50 16.2	+0.1
	baz=101								
D22A	Cohagen	100.80	44	⇓P		Pdif		22 50 16.3	+0.7
	baz=101								
Z24A	Sheeppen Canyo	100.83	58	⇑P		Pdif		22 50 16.3	0.0
	baz=101								
W24A	Lazy 6 Ranch,	100.90	56	⇑P		Pdif		22 50 16.4	-0.2
	baz=101								
E22A	Miles City	100.94	44	⇓P		Pdif		22 50 16.7	+0.5
	baz=101								
M23A	Laramie	100.94	49	⇓P		Pdif		22 50 16.8	+0.1
	baz=101								
SDCO	Great Sand Dun	100.96	53	PFAKE				22 50 30.0	+13
SDCO				LR		LR			
	comp=Z,73µm,22.0s								
ISCO	Idaho Springs	100.96	51	PFAKE				22 50 30.0	+13
ISCO				LR		LR			
	comp=Z,65µm,19.0s								
ISCO	Idaho Springs	100.96	51	⇑P		Pdif		22 50 16.6	-0.3
	baz=101								
L23A	Garrett	100.98	49	⇑P		Pdif		22 50 16.6	-0.3
	baz=101								
A22A	Carney Farms,	101.01	42	⇓P		Pdif		22 50 16.9	+0.4
	baz=101								
C22A	Vida	101.01	43	⇓P		Pdif		22 50 17.2	+0.7
	baz=101								
T24B	San Luis	101.02	54	⇑P		Pdif		22 50 17.0	-0.2
	baz=101								
325A	Bean Ranch, Si	101.03	60	⇓P		Pdif		22 50 16.9	-0.3
	baz=101								
V24A	Rampart Ranch,	101.04	55	⇓P		Pdif		22 50 17.1	-0.1
	baz=101								
K23A	Bowen Ranch, D	101.06	48	⇓P		Pdif		22 50 17.3	+0.2
	baz=101								
U24A	Moreno Valley	101.07	55	⇑P		Pdif		22 50 17.3	-0.1
	baz=101								
SVE	Sverdlovsk	101.08	326	*eP*		Pdif		22 50 22.1	+5.5
SVE				*e*PPP		PPP		22 56 44.1	
SVE				*e*				23 01 52.4	
SVE				pmax		pmax			
	comp=Z,70nm,2.4s								
SVE				MLR		MLR			
	comp=E,53µm,17.0s								
SVE				MLR		MLR			
	comp=Z,63µm,18.0s								
SVE				MLR		MLR			
	comp=N,26µm,15.0s								
J23A	Dilts Ranch, B	101.14	47	⇑P		Pdif		22 50 17.7	+0.4
	baz=101								
PHWY	Pilot Hill	101.14	50	PFAKE				22 50 30.0	+12
PHWY				LR		LR			
	comp=Z,44µm,21.5s								
S24A	Houchin Ranch,	101.18	53	⇑P		Pdif		22 50 18.1	+0.2
	baz=101								
225A	Deer Hill, Car	101.21	59	⇑P		Pdif		22 50 18.3	+0.3
	baz=101								
I23A	Meade Ranch, G	101.22	47	⇑P		Pdif		22 50 17.6	-0.1
	baz=101								
H23A	Clabaugh Cattl	101.28	46	⇓P		Pdif		22 50 18.0	+0.1
	baz=101								
Q24A	Divide	101.29	52	⇑P		Pdif		22 50 17.9	-0.5
	baz=101								
R24A	Sanders Place,	101.29	53	⇑P		Pdif		22 50 18.5	+0.3
	baz=101								
F23A	Volborg	101.30	45	⇑P		Pdif		22 50 18.9	+1.0
	baz=101								
G23A	Biddle	101.30	46	⇓P		Pdif		22 50 18.7	+0.8
	baz=101								
Z25A	Roswell	101.36	58	⇓P		Pdif		22 50 18.6	+0.1
	baz=101								
125A	Gardner Draw,	101.38	58	⇑P		Pdif		22 50 18.7	+0.1
	baz=101								
O24A	Longmont	101.39	51	⇑P		Pdif		22 50 18.2	-0.3
	baz=101								
Y25A	Mesa, Roswell	101.42	57	⇓P		Pdif		22 50 18.7	-0.2
	baz=102								
X25A	Clemmons Ranch	101.48	57	⇓P		Pdif		22 50 19.1	0.0
	baz=102								
C23A	Lambert	101.48	43	⇓P		Pdif		22 50 19.0	+0.4
	baz=102								
P24A	Kohler Place,	101.49	51	⇑P		Pdif		22 50 18.9	-0.2
	baz=102								
L24A	Wheatland	101.56	49	⇑P		Pdif		22 50 19.5	+0.3
	baz=102								
N24A	Carr	101.56	50	⇓P		Pdif		22 50 19.4	+0.1
	baz=102								
V25A	Rancho No Teng	101.58	55	⇑P		Pdif		22 50 19.2	-0.4
	baz=102								
B23A	Brockton	101.61	42	⇑P		Pdif		22 50 19.8	+0.6
	baz=102								
M24A	Cheyenne	101.62	49	⇓P		Pdif		22 50 19.4	-0.2
	baz=102								
626A	Big Bend Ranch	101.64	62	⇑P		Pdif		22 50 19.3	-0.6
	baz=102								
K24A	Anderson Ranch	101.66	48	⇓P		Pdif		22 50 19.6	-0.2
	baz=102								
W25A	X Bar L Ranch,	101.67	56	⇓P		Pdif		22 50 19.8	-0.1
	baz=102								
A23A	Redstone	101.69	42	⇑P		Pdif		22 50 20.1	+0.5
	baz=102								
526A	Mary Lane Ranc	101.71	61	⇓P		Pdif		22 50 19.8	-0.4
	baz=102								
226B	Tecolote Peak,	101.76	59	⇑P		Pdif		22 50 20.1	-0.3
	baz=102								
U25A	Circle Dot Ran	101.77	55	⇓P		Pdif		22 50 19.9	-0.5
	baz=102								
J24A	Dixon Ranch, L	101.78	48	⇑P		Pdif		22 50 20.5	+0.3
	baz=102								
T25A	Trinidad	101.80	54	⇑P		Pdif		22 50 20.8	+0.2
	baz=102								
S25A	Robets Cordova	101.80	53	⇑P		Pdif		22 50 20.3	-0.2
	baz=102								
426A	McDonald Obser	101.80	61	⇑P		Pdif		22 50 20.2	-0.5
	baz=102								
326A	Caldwell Ranch	101.88	60	⇓P		Pdif		22 50 20.7	-0.2
	baz=102								
H24A	Dirks Ranch, A	101.89	46	⇑P		Pdif		22 50 20.8	+0.2
	baz=102								
126A	Clayton Basin,	101.92	58	⇓P		Pdif		22 50 21.0	0.0
	baz=102								
R25A	Fountain Ranch	101.93	53	⇑P		Pdif		22 50 21.1	+0.1
	baz=102								
F24A

	baz=102								
W26A	Owens Ranch, T	102.24	56	⇑P		Pdif	22 50 22.4	0.0	
	baz=102								
ARU	Arti	102.24	326	*c i* P		Pdif	22 50 24.4	+2.7	
ARU							22 54 38.8		
ARU				S		SKSac	23 01 01.4	+2.3	
ARU				PS		PS	23 03 34.5	-5.9	
ARU				SSS		SSS	23 13 00.7		
ARU				pmax		pmax			
	comp=Z,19nm,2.5s								
ARU				MLR		MLR			
	comp=Z,85µm,18.0s								
RSSD	Black Hills	102.25	47	PFAKE			22 50 30.0	+7.6	
RSSD				LR		LR			
	comp=Z,43µm,20.0s								
V26A	Tequesquite Ra	102.25	55	⇓P		Pdif	22 50 22.5	0.0	
	baz=102								
A24A	Westby	102.27	42	⇓P		Pdif	22 50 22.4	+0.3	
	baz=102								
627A	Terlingua Ranc	102.28	62	⇑P		Pdif	22 50 22.6	-0.2	
	baz=102								
U26A	Atchley Ranch,	102.30	55	⇑P		Pdif	22 50 22.7	-0.1	
	baz=102								
427A	Hayter Ranch,	102.35	60	⇑P		Pdif	22 50 22.6	-0.3	
	baz=102								
K25A	Mack Ranch, Ha	102.35	48	⇑P		Pdif	22 50 22.6	-0.1	
	baz=102								
J25A	Sunshine Ranch	102.41	48	⇑P		Pdif	22 50 23.0	0.0	
	baz=102								
T26A	Comanche Natio	102.45	54	⇑P		Pdif	22 50 23.0	-0.4	
	baz=102								
I25A	Rochford	102.47	47	⇑P		Pdif	22 50 23.5	+0.2	
	baz=102								
227A	Bennet, Jal	102.50	59	⇑P		Pdif	22 50 23.5	-0.1	
	baz=103								
Q26A	Hugo	102.56	52	⇑P		Pdif	22 50 24.0	+0.2	
	baz=103								
S26A	Kim	102.56	53	⇑P		Pdif	22 50 24.3	+0.5	
	baz=103								
H25A	Fruitdale	102.56	46	⇓P		Pdif	22 50 24.2	+0.6	
	baz=103								
R26A	Arlington	102.60	53	⇑P		Pdif	22 50 24.1	+0.2	
	baz=103								
Z27A	Tatum	102.62	58	⇓P		Pdif	22 50 23.8	-0.4	
	baz=103								
F25A	Bowman	102.66	45	⇑P		Pdif	22 50 24.2	+0.2	
	baz=103								
Y27A	Causey	102.69	57	⇑P		Pdif	22 50 24.4	0.0	
	baz=103								
G25A	Newell	102.69	46	⇓P		Pdif	22 50 24.1	0.0	
	baz=103								
E25A	Miller Ranch,	102.70	44	⇑P		Pdif	22 50 24.1	0.0	
	baz=103								
P26A	Davis Ranch, A	102.70	51	⇓P		Pdif	22 50 24.2	-0.2	
	baz=103								
628A	Black Gap, Mar	102.72	62	⇓P		Pdif	22 50 24.3	-0.3	
	baz=103								
O26A	Horse Wrangler	102.74	51	⇑P		Pdif	22 50 24.3	-0.2	
	baz=103								
D25A	Fairfield	102.75	44	⇓P		Pdif	22 50 24.5	+0.2	
	baz=103								
X27A	F and S Farms,	102.77	56	⇑P		Pdif	22 50 24.5	-0.3	
	baz=103								
C25A	Freed Ranch, W	102.78	43	⇓P		Pdif	22 50 24.5	+0.1	
	baz=103								
W27A	Bowe Ranch, En	102.81	56	⇑P		Pdif	22 50 24.9	-0.1	
	baz=103								
N26A	Koester Ranch,	102.82	50	⇓P		Pdif	22 50 24.7	-0.2	
	baz=103								
B25A	Knox Farm, Ray	102.84	43	⇑P		Pdif	22 50 25.0	+0.3	
	baz=103								
A25A	Svangstu Ranch	102.86	42	⇑P		Pdif	22 50 25.0	+0.3	
	baz=103								
K26A	Motz Farm, Whi	102.86	48	⇓P		Pdif	22 50 25.0	0.0	
	baz=103								
328A	Wristen Ranch,	102.88	60	⇑P		Pdif	22 50 25.3	0.0	
	baz=103								
M26A	McRoberts Ranc	102.88	50	⇓P		Pdif	22 50 25.5	+0.4	
	baz=103								
L26A	Underwood Farm	102.94	49	⇓P		Pdif	22 50 25.2	-0.1	
	baz=103								
J26A	Sides Ranch, S	102.94	48	⇑P		Pdif	22 50 25.6	+0.3	
	baz=103								
428A	Kincaid Ranch,	102.96	61	⇓P		Pdif	22 50 25.5	-0.2	
	baz=103								
MSTX	Muleshoe	103.02	57	⇓P		Pdif	22 50 25.7	-0.1	
	baz=103								
V27A	Dan Oppiter Fa	103.02	55	⇑P		Pdif	22 50 25.9	0.0	
	baz=103								
U27A	Thompson Grove	103.05	55	⇓P		Pdif	22 50 26.0	0.0	
	baz=103								
I26A	New Underwood	103.10	47	⇓P		Pdif	22 50 26.1	+0.2	
	baz=103								
228A	UT Block 9, Go	103.10	59	⇑P		Pdif	22 50 26.2	-0.1	
	baz=103								
R27A	Eads	103.11	53	⇓P		Pdif	22 50 26.3	+0.1	
	baz=103								
T27A	Campo	103.14	54	⇑P		Pdif	22 50 26.1	-0.3	
	baz=103								
H26A	Fairpoint	103.15	46	⇓P		Pdif	22 50 26.5	+0.3	
	baz=103								
128A	Castleberry Fa	103.21	59	⇓P		Pdif	22 50 26.5	-0.3	
	baz=103								
F26A	Lodgepole	103.21	45	⇓P		Pdif	22 50 26.6	+0.1	
	baz=103								
KSCO	Kaye Shedlock'	103.25	52	⇓P		Pdif	22 50 26.6	-0.3	
	baz=103								
P27A	Ficken Ranch,	103.30	51	⇑P		Pdif	22 50 26.7	-0.3	
	baz=103								
Z28A	Tucker Farm, M	103.31	58	⇓P		Pdif	22 50 26.9	-0.3	
	baz=103								
FFC	Flin Flon	103.32	36	PFAKE			22 50 40.0	+13	
FFC				LR		LR			
	comp=Z,88µm,21.0s								
529A	Stev Forest Ra	103.33	61	⇓P		Pdif	22 50 27.1	-0.2	
	baz=103								
N27A	Anderson Farm,	103.34	50	⇓P		Pdif	22 50 27.1	-0.1	
	baz=103								
E26A	Carlson Angus	103.35	44	⇓P		Pdif	22 50 27.6	+0.6	
	baz=103								
D26A	Manning	103.35	44	⇓P		Pdif	22 50 27.4	+0.4	
	baz=103								
O27A	Beecher Island	103.38	51	⇓P		Pdif	22 50 27.5	+0.1	
	baz=103								
Y28A	McKinney Farm,	103.45	57	⇑P		Pdif	22 50 27.8	0.0	
	baz=104								
M27A	Reverse DX Ran	103.45	49	⇓P		Pdif	22 50 28.5	+0.9	
	baz=104								
B26A	Jensen Ranch,	103.45	42	⇑P		Pdif	22 50 28.5	+1.1	
	baz=104								
X28A	Dimmitt	103.51	57	⇓P		Pdif	22 50 28.7	+0.6	
	baz=104								
V28A	Channing	103.52	55	⇓P		Pdif	22 50 28.1	0.0	
	baz=104								
W28A	Vega	103.52	56	⇓P		Pdif	22 50 28.7	+0.6	
	baz=104								
U28A	Mallet	103.53	55	⇑P		Pdif	22 50 28.8	+0.7	
	baz=104								
C26A	Wahner Farm, P	103.56	43	⇑P		Pdif	22 50 28.6	+0.7	
	baz=104								
A26A	Wade Farm, Ken	103.56	42	⇓P		Pdif	22 50 28.3	+0.5	
	baz=104								
329A	Wagon Wheel Ra	103.59	60	⇓P		Pdif	22 50 28.2	-0.3	
	baz=104								
T28A	Walsh	103.63	54	⇑P		Pdif	22 50 28.7	+0.2	
	baz=104								
429A	Davenport Ranc	103.63	61	⇑P		Pdif	22 50 28.2	-0.4	
	baz=104								
I27A	Quinn	103.68	47	⇑P		Pdif	22 50 28.7	+0.2	
	baz=104								
OGNE	Ogallala	103.72	50	⇓P		Pdif	22 50 28.7	-0.2	
	baz=104								
J27A	Elkhorn Farm,	103.72	48	⇓P		Pdif	22 50 28.9	+0.1	
	baz=104								
129A	Stewart Farms,	103.73	59	⇓P		Pdif	22 50 28.6	-0.5	
	baz=104								
229A	Bryant Ranch,	103.75	59	⇑P		Pdif	22 50 29.1	0.0	
	baz=104								
S28A	Manter	103.81	53	⇓P		Pdif	22 50 29.4	+0.1	
	baz=104								
Q28A	Sharon Springs	103.87	52	⇓P		Pdif	22 50 29.6	0.0	
	baz=104								
Z29A	Hungry Hill Ra	103.88	58	⇓P		Pdif	22 50 29.6	-0.1	
	baz=104								
R28A	Tribune	103.89	53	⇓P		Pdif	22 50 29.5	-0.1	
	baz=104								
X29A	Tulia	103.92	57	⇑P		Pdif	22 50 29.6	-0.2	
	baz=104								
O28A	Krutsinger Ran	103.92	51	⇑P		Pdif	22 50 29.5	-0.2	
	baz=104								
Y29A	Porterfield Fa	103.93	57	⇑P		Pdif	22 50 29.7	-0.3	
	baz=104								
P28A	Saint Francis	103.93	51	⇑P		Pdif	22 50 29.5	-0.3	
	baz=104								
AMTX	Amarillo	103.94	56	⇓P		Pdif	22 50 29.6	-0.3	
	baz=104								
C27A	Sayler Ranch,	103.97	43	⇓P		Pdif	22 50 30.0	+0.3	
	baz=104								
D27A	Center	103.97	44	⇑P		Pdif	22 50 29.8	+0.1	
	baz=104								
W29A	Amraillo	103.97	56	⇓P		Pdif	22 50 30.1	0.0	
	baz=104								
V29A	Stinnett	104.09	55	⇓P		Pdif	22 50 30.6	+0.1	
	baz=104								
N28A	Pribbeno Ranch	104.09	50	⇑P		Pdif	22 50 30.7	+0.2	
	baz=104								
530A	J-C Ranch, Com	104.10	61	⇓P		Pdif	22 50 30.2	-0.5	
	baz=104								
L28A	Connealy Angus	104.10	49	⇑P		Pdif	22 50 30.3	-0.2	
	baz=104								
B27A	Peters Farms,	104.10	42	⇓P		Pdif	22 50 30.6	+0.4	
	baz=104								
K28A	Ten Mile Ranch	104.20	48	⇑P		Pdif	22 50 31.1	+0.2	
	baz=104								
430A	Baggett Ranch,	104.21	61	⇓P		Pdif	22 50 30.6	-0.6	
	baz=104								
M28A	Bar X Bar Ranc	104.22	50	⇑P		Pdif	22 50 31.7	+0.7	
	baz=104								
330A	Mertzon	104.28	60	⇑P		Pdif	22 50 31.1	-0.4	
	baz=104								
J28A	Allard Ranch,	104.28	47	⇓P		Pdif	22 50 32.1	+0.8	
	baz=104								
T29A	Hugoton	104.29	54	⇑P		Pdif	22 50 31.8	+0.4	
	baz=104								
U29A	Oasis Ranch, S	104.30	55	⇑P		Pdif	22 50 31.8	+0.3	
	baz=104								
I28A	Midland	104.32	47	⇑P		Pdif	22 50 32.1	+0.7	
	baz=104								
230A	Sterling City	104.35	59	⇑P		Pdif	22 50 31.4	-0.4	
	baz=104								
Z30A	Sanderson Ranc	104.37	58	⇓P		Pdif	22 50 31.5	-0.3	
	baz=104								
H28A	Mission Ridge	104.40	46	⇑P		Pdif	22 50 32.0	+0.3	
	baz=104								
R29A	Marienthal	104.41	53	⇓P		Pdif	22 50 31.7	-0.3	
	baz=104								
S29A	Ulysses	104.43	53	⇓P		Pdif	22 50 32.0	0.0	
	baz=104								
G28A	Parade	104.47	46	⇑P		Pdif	22 50 31.9	-0.1	
	baz=104								
130A	Snyder	104.49	59	⇓P		Pdif	22 50 32.0	-0.3	
	baz=104								
F28A	McLaughlin	104.52	45	⇓P		Pdif	22 50 32.1	-0.1	
	baz=104								
E28A	Huff	104.56	44	⇓P		Pdif	22 50 32.8	+0.4	
	baz=105								
P29A	Atwood	104.57	51	⇑P		Pdif	22 50 32.6	-0.1	
	baz=105								
Y30A	Stafford Cattl	104.57	57	⇑P		Pdif	22 50 33.3	+0.6	
	baz=105								
X30A	Coker Ranch, T	104.60	57	⇓P		Pdif	22 50 32.9	0.0	
	baz=105								
D28A	Regan	104.62	44	⇑P		Pdif	22 50 33.4	+0.8	
	baz=105								
O29A	4D Ranch, Culb	104.67	51	⇓P		Pdif	22 50 33.5	+0.5	
	baz=105								
B28A	Dugan Ranch, T	104.70	42	⇑P		Pdif	22 50 33.5	+0.6	
	baz=105								
C28A	Hausauer Farms	104.72	43	⇓P		Pdif	22 50 33.0	0.0	
	baz=105								
M29A	Burnside Ranch	104.73	50	⇑P		Pdif	22 50 33.1	-0.2	
	baz=105								
631A	Perdido Creek	104.73	62	⇓P		Pdif	22 50 33.3	-0.2	
	baz=105								
A28A	Rude Farm, Bot	104.73	42	⇑P		Pdif	22 50 33.2	+0.1	
	baz=105								
431A	Sonora	104.74	61	⇑P		Pdif	22 50 33.2	-0.4	
	baz=105								
V30A	Spur Ranch, Mi	104.77	55	⇑P		Pdif	22 50 33.4	-0.2	
	baz=105								
531A	Rocksprings	104.78	61	⇑P		Pdif	22 50 33.4	-0.3	
	baz=105								
N29A	Votaw Ranch, W	104.79	50	⇑P		Pdif	22 50 33.4	-0.2	
	baz=105								
L29A	Maesberg Ranch	104.87	49	⇑P		PKiKP	22 54 48.6	-0.4	
	baz=105								
T30A	Plains	104.90	54	⇑P		PKiKP	22 54 48.9	-0.3	
	baz=105								
331A	San Angelo	104.92	60	⇓P		PKiKP	22 54 48.8	-0.6	
	baz=105								
I29A	Vivian Onida	104.94	47	⇑P		PKiKP	22 54 47.7	-1.3	
	baz=105								
J29A	Okreek	104.94	47	⇓P		PKiKP	22 54 48.4	-0.6	
	baz=105								
S30A	Montezuma	104.95	53	⇓P		PKiKP	22 54 47.4	-1.9	
	baz=105								
K29A	Lazy Trails An	104.97	48	⇓P		PKiKP	22 54 48.0	-1.1	
	baz=105								
131A	Roby	104.98	59	⇓P		PKiKP	22 54 48.0	-1.4	
	baz=105								
H29A	Onida	104.98	46	⇑P		PKiKP	22 54 48.0	-1.0	
	baz=105								
231A	Bronte	105.02	59	⇑P		PKiKP	22 54 47.7	-1.9	
	baz=105								
R30A	Dighton	105.09	53	⇑P		PKiKP	22 54 48.0	-1.5	
	baz=105								
P30A	Selden	105.10	51	⇑P		PKiKP	22 54 48.4	-1.1	
	baz=105								
Y31A	Rekieta Farm,	105.10	57	⇑P		PKiKP	22 54 47.7	-1.9	
	baz=105								
Q30A	Quinter	105.13	52	⇑P		PKiKP	22 54 48.7	-0.9	
	baz=105								
G29A	Hoven	105.16	46	⇓P		PKiKP	22 54 48.7	-0.7	
	baz=105								
N30A	Hueftle Ranch,	105.19	50	⇓P		PKiKP	22 54 49.2	-0.4	
	baz=105								
Z31A	Sharp Cattle R	105.19	58	⇓P		PKiKP	22 54 48.8	-1.0	
	baz=105								
F29A	Eureka	105.20	45	⇓P		PKiKP	22 54 48.8	-0.7	
	baz=105								
832A	Faith Ranch, C	105.22	63	⇑P		PKiKP	22 54 49.3	-0.7	
	baz=105								
O30A	MW Ranch, Wils	105.23	51	⇑P		PKiKP	22 54 49.4	-0.3	
	baz=105								
732A	Laxson Ranch,	105.24	63	⇓P		PKiKP	22 54 49.2	-0.8	
	baz=105								
MDND	Maddock	105.24	43	⇓P		PKiKP	22 54 49.2	-0.2	
	baz=105								
E29A	Napoleon	105.29	44	⇑P		PKiKP	22 54 48.6	-1.0	
	baz=105								
D29A	Pettibone, Tap	105.29	44	⇓P		PKiKP	22 54 49.2	-0.4	
	baz=105								
532A	Rocksprings	105.34	61	⇑P		PKiKP	22 54 48.7	-1.5	
	baz=105								
M30A	Dale-Ortello V	105.34	49	⇑P		PKiKP	22 54 49.1	-0.7	
	baz=105								
X31A	McDonald Ranch	105.34	57	⇑P		PKiKP	22 54 49.4	-0.7	
	baz=105								
B29A	Wagenman Farm,	105.36	42	⇓P		PKiKP	22 54 49.2	-0.4	
	baz=105								
W31A	Holland Ranch,	105.37	56	⇑P		PKiKP	22 54 48.7	-1.4	
	baz=105								
A29A	Manning Farm,	105.41	42	⇓P		PKiKP	22 54 48.4	-1.3	
	baz=105								
632A	Uvalde	105.42	62	⇑P		PKiKP	22 54 49.3	-1.1	
	baz=106								
JCT	Junction City	105.43	61	PFAKE			22 55 00.0		
JCT				LR		LR			
	comp=Z,102µm,22.0s								
JCT	Junction City	105.43	61	⇓P		PKiKP	22 54 48.5	-1.9	
	baz=106								
L30A	Spencer Herefo	105.44	49	⇓P		PKiKP	22 54 48.5	-1.5	
	baz=106								
U31A	Nine Bar Ranch	105.44	55	⇓P		PKiKP	22 54 48.5	-1.7	
	baz=106								
432A	Menard	105.45	60	⇑P		PKiKP	22 54 48.5	-1.8	
	baz=106								
V31A	Spring Creek L	105.45	55	⇓P		PKiKP	22 54 49.0	-1.2	
	baz=106								
K30A	Basset	105.49	48	⇓P		PKiKP	22 54 49.0	-1.2	
	baz=106								
332A	Millersview	105.50	60	⇓P		PKiKP	22 54 49.0	-1.5	
	baz=106								
J30A	Dallas	105.56	48	⇓P		PKiKP	22 54 49.1	-1.1	
	baz=106								
T31A	Randall Ranch,	105.58	54	⇓P		PKiKP	22 54 49.9	-0.5	
	baz=106								
232A	Coleman	105.59	59	⇑P		PKiKP	22 54 48.9	-1.7	
	baz=106								
ABTX	Abilene, Hawle	105.61	59	⇓P		PKiKP	22 54 48.8	-1.8	
	baz=106								
R31A	Burdett	105.68	53	⇑P		PKiKP	22 54 48.9	-1.7	
	baz=106								
G30A	Faulkton	105.72	46	⇑P		PKiKP	22 54 48.9	-1.5	
	baz=106								
S31A	Mullinville	105.73	53	⇑P		PKiKP	22 54 50.0	-0.7	
	baz=106								
833A	Chaparral WMA,	105.73	63	⇑P		PKiKP	22 54 50.2	-0.7	
	baz=106								
Z32A	Haskell	105.75	58	⇓P		PKiKP	22 54 50.2	-0.6	
	baz=106								
F30A	Leola	105.76	45	⇓P		PKiKP	22 54 50.2	-0.3	
	baz=106								
Q31A	Ellis	105.77	52	⇓P		PKiKP	22 54 50.4	-0.3	
	baz=106								
P31A	Stockton	105.77	51	⇑P		PKiKP	22 54 49.6	-1.1	
	baz=106								
Y32A	R-V Farms, Ver	105.78	57	⇓P		PKiKP	22 54 50.0	-0.9	
	baz=106								
O31A	Woolen Ranch,	105.79	51	⇑P		PKiKP	22 54 49.1	-1.6	
	baz=106								
E30A	Jud	105.80	44	⇓P		PKiKP	22 54 49.5	-1.0	
	baz=106								
733A	Divot King Ran	105.83	63	⇓P		PKiKP	22 54 49.9	-1.1	
	baz=106								
D30A	Buchanan	105.86	44	⇑P		PKiKP	22 54 50.3	-0.3	
	baz=106								
BRSD	Miller	105.89	46	⇓P		PKiKP	22 54 50.4	-0.4	
	baz=106								
X32A	Elmer	105.91	57	⇓P		PKiKP	22 54 50.3	-0.8	
	baz=106								
633A	Saathoff Ranch	105.95	62	⇑P		PKiKP	22 54 50.7	-0.6	
	baz=106								
C30A	Mose, Pekin	106.01	43	⇑P		PKiKP	22 54 50.6	-0.2	
	baz=106								
M31A	Lambtecht Ranc	106.02	50	⇑P		PKiKP	22 54 50.6	-0.5	
	baz=106								
A30A	Hoffart Farm,	106.02	42	⇓P		PKiKP	22 54 50.3	-0.5	
	baz=106								
B30A	Myrvik Farm, E	106.05	42	⇓P		PKiKP	22 54 50.6	-0.3	
	baz=106								
433A	Art	106.05	61	⇑P		PKiKP	22 54 50.0	-1.5	
	baz=106								
N31A	Bailey Ranch,	106.06	50	⇓P		PKiKP	22 54 51.0	-0.2	
	baz=106								
L31A	Butterfield Fa	106.09	49	⇑P		PKiKP	22 54 50.8	-0.5	
	baz=106								
533A	Kerrville	106.09	61	⇓P		PKiKP	22 54 50.8	-0.7	
	baz=106								
V32A	Arapaho	106.10	55	⇓P		PKiKP	22 54 50.8	-0.7	
	baz=106								
U32A	Winter Ranch,	106.13	55	⇓P		PKiKP	22 54 50.6	-0.9	
	baz=106								
333A	Richland Sprin	106.15	60	⇑P		PKiKP	22 54 51.0	-0.7	
	baz=106								
S32A	Newby Ranch, P	106.16	53	⇑P		PKiKP	22 54 50.1	-1.4	
	baz=106								
T32A	Huddler Ranch,	106.18	54	⇓P		PKiKP	22 54 50.0	-1.5	
	baz=106								
133A	Hamilton Ranch	106.22	59	⇓P		PKiKP	22 54 50.2	-1.5	
	baz=106								
233A	Rising Star	106.23	59	⇓P		PKiKP	22 54 50.6	-1.2	
	baz=106								
R32A	Long Quarter,	106.32	53	⇓P		PKiKP	22 54 51.6	-0.1	
	baz=106								
WMOK	Wichita Mounta	106.33	56	PFAKE			22 55 00.0		
WMOK				LR		LR			
	comp=Z,84µm,22.0s								
Z33A	Whitaker Ranch	106.35	58	⇑P		PKiKP	22 54 51.6	-0.4	
	baz=106								
P32A	Huiting Farm,	106.37	51	⇓P		PKiKP	22 54 51.2	-0.6	
	baz=106								
Q32A	Meitler Ranch,	106.42	52	⇑P		PKiKP	22 54 51.3	-0.7	
	baz=106								
Y33A	Hilltop Ranch,	106.46	57	⇑P		PKiKP	22 54 51.0	-1.1	
	baz=106								
834A	Tilden	106.47	63	⇓P		PKiKP	22 54 51.5	-0.7	
	baz=106								
734A	La Parita Cree	106.48	63	⇓P		PKiKP	22 54 51.6	-0.7	
	baz=106								
934A	Benavides	106.49	64	⇑P		PKiKP	22 54 51.4	-1.0	
	baz=106								
N32A	Stulken Farm,	106.56	50	⇓P		PKiKP	22 54 51.4	-0.7	
	baz=107								
X33A	Lawton	106.56	57	⇑P		PKiKP	22 54 51.5	-0.8	
	baz=107								
534A	Blanco	106.57	61	⇑P		PKiKP	22 54 52.1	-0.4	
	baz=107								
W33A	Caddo, Fort Co	106.58	56	⇑P		PKiKP	22 54 51.8	-0.5	
	baz=107								
O32A	Brockman Farm,	106.59	51	⇑P		PKiKP	22 54 52.0	-0.2	
	baz=107								
BGNE	Belgrade	106.64	49	⇑P		PKiKP	22 54 52.0	-0.2	
	baz=107								
634A	China Grove, S	106.67	62	⇑P		PKiKP	22 54 52.0	-0.6	
	baz=107								
V33A	Lossen Ranch,	106.72	55	⇓P		PKiKP	22 54 52.4	-0.1	
	baz=107								
T33A	Patterson Ranc	106.72	54	⇑P		PKiKP	22 54 51.7	-0.8	
	baz=107								
434A	Burnet	106.76	61	⇑P		PKiKP	22 54 52.1	-0.7	
	baz=107								
334A	Lometa	106.79	60	⇑P		PKiKP	22 54 52.1	-0.7	
	baz=107								
U33A	Lingo Farm, Me	106.85	55	⇑P		PKiKP	22 54 52.5	-0.3	
	baz=107								
234A	Clairette	106.88	59	⇑P		PKiKP	22 54 52.3	-0.6	
	baz=107								
R33A	Olander Ranch,	106.89	53	⇑P		PKiKP	22 54 52.4	-0.5	
	baz=107								
134A	White-Moore Ra	106.92	59	⇓P		PKiKP	22 54 52.6	-0.4	
	baz=107								
Q33A	Connelly Farm,	106.99	52	⇑P		PKiKP	22 54 52.8	-0.2	
	baz=107								
Z34A	Collier Ranch,	107.06	58	⇑P		PKiKP	22 54 52.9	-0.4	
	baz=107								
P33

PRGR pmax pmax
comp=Z,9.0nm,0.8s
TUL1 Tulsa 108.74 55 ⇑P **PKiKP 22 54 56.6 +0.3**
baz=109
HKT Hockley 108.86 61 PFAKE 22 55 10.0
HKT LR LR
comp=Z,64µm,21.0s
NATX Nacogdoches 109.84 60 PFAKE 22 55 10.0
NATX LR LR
comp=Z,81µm,20.0s
SPMN St. Paul 110.17 45 PFAKE 22 55 10.0
SPMN LR LR
comp=Z,41µm,19.4s
SPMN St. Paul 110.17 45 ⇑P **PKiKP 22 54 58.5 -0.2**
baz=110
SCIA State Center 110.28 49 PFAKE 22 55 10.0
SCIA LR LR
comp=Z,54µm,20.0s
MAK Makhachkala 110.56 313 *i* PKIKP PKiKP 22 55 04.7 +5.3
MAK *e*PPP PPP 22 57 50.9
MAK *e*SS SS 23 11 12.7 +10
MAK *e*SSS SSS 23 15 02.6
MAK MLR MLR
comp=E,63µm,21.0s
MIAR Mount Ida 110.62 56 PFAKE 22 55 10.0
MIAR LR LR
comp=Z,124µm,22.0s
EYMN Ely 110.64 42 PFAKE 22 55 10.0
EYMN LR LR
comp=Z,52µm,21.0s
APA Apatity 110.72 340 ⇓*i* PKIKP **PKiKP 22 55 00.0 +1.0**
APA *i* 22 55 42.0
APA *i* 23 01 38.0
APA *i* SS SS 23 11 20.0 +17
APA MLR MLR
comp=Z,74µm,20.0s
KEV Kevo 111.51 343 PFAKE 22 55 10.0
KEV LR LR
comp=Z,40µm,20.0s
UALR University of 111.62 56 PFAKE 22 55 10.0
UALR LR LR
comp=Z,113µm,21.5s
PAYG Puerto Ayora 111.91 94 PFAKE 22 55 10.0
PAYG LR LR
comp=Z,26µm,20.0s
ARCES ARCESS Array B 112.07 344 PKiKP **PKiKP 22 55 06.2 +4.6**
ARCES PKKPbc **PKKPbc 23 05 57.0 +1.0**
ARCES ARCESS Array B 112.07 344 PKiKP **PKiKP 22 55 06.2 +4.6**
comp=Z,3.8nm,0.9s,baz=343,slow=0.9,SNR=3.5
ARCES PKKPbc **PKKPbc 23 05 57.0 +1.0**
comp=Z,1.2nm,0.6s,baz=212,slow=5.0,SNR=2.4
JFWS Jewell Farm 112.33 47 PFAKE 22 55 10.0
JFWS LR LR
comp=Z,45µm,20.0s
EFI East Falkland 112.40 157 PFAKE 22 55 10.0
EFI LR LR
comp=Z,16µm,20.0s
SLM Saint Louis 112.93 52 PFAKE 22 55 10.0
SLM LR LR
comp=Z,71µm,21.7s
VRHR Novokhopersk 112.96 322 *e*PKIKP PKiKP 22 55 09.9 +6.1
VRHR *e*SS SS 23 11 28.0 -6.1
RAYN Ar Rayn 113.54 292 PFAKE 22 55 10.0
RAYN LR LR
comp=Z,40µm,19.0s
PVMO Portageville 113.61 54 PFAKE 22 55 10.0
PVMO LR LR
comp=Z,79µm,20.0s
KBZ Khabaz 113.76 314 PP PP 22 56 04.2 +5.7
KBZ Khabaz 113.76 314 PP PP 22 56 04.2 +5.7
comp=Z,7.2nm,1.1s,baz=338,slow=2.8,SNR=8.0
PLCA Paso Flores 113.77 142 PKKPbc PKKPbc 23 05 50.2 +0.6
PLCA LR LR
comp=Z,13µm,18.5s
PLCA Paso Flores 113.77 142 PKKPbc PKKPbc 23 05 50.2 +0.6
comp=Z,5.1nm,1.1s,baz=28,slow=5.1,SNR=4.1
MOS Moscow 113.84 328 *i* PKIKP PKiKP 22 55 15.4 +10
MOS *i* SS SS 23 11 51.1 +5.8
MOS MLR MLR
comp=Z,71µm,18.0s
MOS MLR MLR
comp=N,55µm,17.0s
MOS MLR MLR
comp=E,54µm,21.0s
SIUC Southern Illin 113.84 53 PFAKE 22 55 20.0
SIUC LR LR
comp=Z,48µm,21.4s
KIV Kislovodsk 113.87 314 ⇑*i* PKIKP **PKiKP 22 55 05.5 -0.4**
KIV *i* 22 56 09.2
KIV *i* PS **PS 23 05 35.9 -1.1**
KIV *i* SS SS 23 11 54.1 +7.3
KIV MLR MLR
comp=Z,42µm,24.0s
VORD Divnogorie 114.41 322 *e*PKIKP PKPdf 22 55 22.5 +16
VORD *e* 22 56 11.8
VORD *e*SS SS 23 12 04.2 +11
VORD pmax pmax
comp=N,450nm,4.3s
VORD pmax pmax
comp=E,1µm,4.3s
VORD pmax pmax
comp=Z,3µm,4.3s
VORD MLR MLR
comp=N,19µm,17.0s
VORD MLR MLR
comp=E,25µm,17.0s
VORD MLR MLR
comp=Z,46µm,17.0s
VSR Storozhevoye 114.42 323 *e*PKIKP PKPdf 22 55 12.9 +6.3
VSR *e*SS SS 23 11 53.2 -0.1
OBN Obninsk 114.62 327 ⇓*i* PKIKP PKPdf 22 55 07.5 +0.7
OBN *i* 22 58 35.5
OBN *i* 23 02 12.1
OBN *i* PS **PS 23 05 42.3 -0.8**
OBN MLR MLR
comp=Z,59µm,18.0s
USIN University of 115.02 52 PFAKE 22 55 20.0 +12
USIN LR LR
comp=Z,69µm,21.8s
SFIN Scholer Farm 115.07 50 *e*PP PP 22 56 11.0 +3.1
SFIN LR LR
comp=Z,43µm,18.5s
SFIN Scholer Farm 115.07 50 ⇑P **PKPdf 22 55 07.8 -0.4**
baz=115
WVT Waverly 115.15 54 *e*PP PP 22 56 15.4 +6.8
WVT LR LR
comp=Z,50µm,21.0s
SUMG Summit 115.63 5 *e*PKIKP **PKPdf 22 55 06.4 -2.5**
SUMG *e* 22 56 10.0
SUMG MLR MLR
comp=Z,54µm,20.0s
SUMG Summit 115.63 5 *i* P PKPdf 22 55 21.8 +13
SUMG *i* 23 06 02.4
SUMG
comp=Z,74µm,24.0s
SUMG Summit 115.63 5 *i* P **PS 23 05 53.9 +1.4**
SUMG Summit 115.63 5 *e*PKPdf **PKPdf 22 55 06.4 -2.5**
SUMG *e*PP **PP 22 56 10.0 -1.1**
SUMG LR LR
comp=Z,54µm,20.0s
BLO Bloomington 115.72 51 PFAKE 22 55 20.0 +11
BLO LR LR
comp=Z,73µm,21.4s
TEIG Tepich 115.77 72 PFAKE 22 55 20.0 +10
TEIG LR LR
comp=Z,64µm,22.0s
SOC Sochi 116.05 314 *i* PKIKP **PKPdf 22 55 08.6 -1.3**
SOC *e* 22 56 16.1
SOC *e*SS SS 23 12 13.0 -2.2
SOC MLR MLR
comp=Z,48µm,21.0s
SOC MLR MLR
comp=E,20µm,21.0s
SOC MLR MLR
comp=N,20µm,20.0s
WCI Wyandotte Cave 116.05 52 PFAKE 22 55 20.0 +10
WCI LR LR
comp=Z,51µm,20.0s
BRAL Brewton 116.37 60 PFAKE 22 55 20.0 +9.1
BRAL LR LR
comp=Z,61µm,21.0s
TGUH Tegucigalpa,Un 116.55 79 *e*PP PP 22 56 22.8 +3.7
TGUH LR LR
comp=Z,28µm,21.0s
FINES FINESS Array B 116.62 336 PKP **PKPdf 22 55 10.1 -0.4**
FINES PKKPbc **PKKPab 23 05 44.5 +2.5**
FINES FINESS Array B 116.62 336 PKP **PKPdf 22 55 10.0 -0.4**
comp=Z,4.4nm,0.8s,baz=70,slow=2.2,SNR=6.2
FINES PKKPbc **PKKPab 23 05 44.5 +2.5**
comp=Z,3.0nm,0.8s,baz=134,slow=4.0,SNR=4.3
SWET Sewanee 116.81 55 *e*PP PP 22 56 24.0 +3.7
SWET LR LR
comp=Z,61µm,20.5s
AAM Ann Arbor 117.22 47 PFAKE 22 55 20.0 +7.8
AAM LR LR
comp=Z,69µm,22.0s
ANN Anapa 117.34 316 *i* PKIKP **PKPdf 22 55 13.2 +0.8**
ANN *e* 22 56 22.6
ANN *e*SS SS 23 12 25.4 -6.5
CPCT Cooper Cave 117.91 55 *e*PP PP 22 56 23.0 -5.0
ACSO Alum Creek Sta 118.19 49 *e*PP PP 22 56 20.9 -8.8
ACSO LR LR
comp=Z,37µm,19.0s
TKL Tuckaleechee C 118.48 54 *e*PP PP 22 56 24.8 -7.1
TZTN Tazewell 118.50 53 *e*PP PP 22 56 27.8 -4.2
TZTN LR LR
comp=Z,112µm,20.8s
JTS JuntasAbangare 118.57 83 PP PP 22 56 42.3 +9.0
JTS JuntasAbangare 118.57 83 PP PP 22 56 42.3 +9.0
comp=Z,9.5nm,1.0s,baz=309,slow=6.6,SNR=5.7
SFJD Kangerlussuaq 118.93 12 *i* P PKPdf 22 55 21.8 +7.0
SFJD *i* 23 06 32.5
SFJD
comp=Z,43µm,20.0s
SFJD Kangerlussuaq 118.93 12 *e*PP PP 22 56 26.8 -6.8
SFJD LR LR
comp=Z,62µm,20.0s
GOGA Godfrey 119.09 57 *e*PP PP 22 56 30.5 -5.7
GOGA LR LR
comp=Z,101µm,22.0s
TIGA Tifton 119.27 59 *e*PP PP 22 56 36.6 -0.9
TIGA LR LR
comp=Z,69µm,21.5s
TIGA Tifton 119.27 59 ⇑P **PKPdf 22 55 15.9 -0.6**
baz=119
MICGM Minsk 119.44 329 *e*PKP **PKPdf 22 55 20.0 +3.9**
MNK Minsk 119.46 329 *e*PKIKP **PKPdf 22 55 20.0 +3.8**
MNK *e* 22 56 44.0
MNK *e* 23 02 08.0
MNK *e*SS SS 23 13 12.0 +13
MNK MLR MLR
comp=E,66µm,20.0s
MNK MLR MLR
comp=Z,129µm,20.0s
MNK MLR MLR
comp=N,51µm,20.0s
FURI Furi 119.54 275 *e*pPKPdf **pPKPdf 22 55 23.1 -4.7**
FURI LR LR
comp=Z,31µm,21.0s
KMBO Kilima Mbogo 119.57 264 PKP **PKPdf 22 55 17.0 -0.9**
KMBO *e*pPKPdf **pPKPdf 22 55 23.9 -3.9**
KMBO LR LR
comp=Z,43µm,20.0s
KMBO Kilima Mbogo 119.57 264 PKP **PKPdf 22 55 17.0 -0.9**
comp=Z,2.1nm,0.8s,baz=50,slow=17,SNR=3.4
IDID Didziasalis 119.60 330 *e*P PKPdf 22 55 25.1 +8.7
IDID AMB AMB 22 55 35.7
comp=Z,20nm,1.0s
ISAL Salakas 119.77 331 *e*P PKPdf 22 55 23.8 +7.0
ISAL AMB AMB 22 55 35.1
comp=Z,14nm,1.1s
NACGM Naroch 119.79 330 *e*PKP **PKPdf 22 55 18.0 +1.2**
IIGN Ignalina 119.84 330 *e*P PKPdf 22 55 23.8 +6.9
IIGN AMB AMB 22 55 32.4
comp=Z,23nm,1.2s
ERPA Erie 119.90 46 PFAKE 22 55 30.0 +13
ERPA LR LR
comp=Z,76µm,22.0s
ALLY Alegheny Colle 119.92 47 PFAKE 22 55 30.0 +13
ALLY LR LR
comp=Z,48µm,19.4s
LCO Las Campanas 120.25 131 *e*pPKPdf pPKPdf 22 55 30.8 +2.1
AKASG Malin Array Be 120.46 325 PKIKP **PKPdf 22 55 17.9 -0.3**
AKASG 22 56 50.9
AKASG Malin Array Be 120.46 325 PKP **PKPdf 22 55 17.9 -0.3**
AKASG PP PP 22 56 50.9 +6.1
AKASG PKKPbc **PKKPbc 23 05 26.3 +0.4**
AKASG Malin Array Be 120.46 325 PKP **PKPdf 22 55 17.9 -0.3**
comp=Z,7.1nm,0.8s,baz=64,slow=2.4,SNR=20
AKASG PP PP 22 56 50.9 +6.1
comp=Z,5.9nm,0.9s,baz=56,slow=6.2,SNR=3.4
AKASG PKKPbc **PKKPbc 23 05 26.3 +0.4**
comp=Z,1.3nm,1.0s,baz=258,slow=4.3,SNR=3.7
KIEV Kiev 120.47 325 ⇓*e*PKIKP **PKPdf 22 55 18.0 -0.2**
KIEV Kiev 120.47 325 *e*PKPdf **PKPdf 22 55 16.6 -1.6**
KIEV LR LR
comp=Z,76µm,20.0s
AK11 Malin Array Si 120.50 325 *e*PKPdf **PKPdf 22 55 16.0 -2.2**
KMSC Kings Mountain 120.53 54 *e*PP PP 22 56 43.2 -2.8
KMSC Kings Mountain 120.53 54 ⇓P **PKPdf 22 55 15.0 -3.9**
baz=120
TRQA Tornquist 120.58 144 *e*pPKPdf **pPKPdf 22 55 25.8 -3.0**
TRQA LR LR
comp=Z,16µm,19.0s
BLA Blacksburg 120.82 52 PFAKE 22 55 30.0 +11
BLA LR LR
comp=Z,76µm,22.0s
MMNY Mt. Morris Dam 121.19 45 PFAKE 22 55 30.0 +10
MMNY LR LR
comp=Z,122µm,19.6s
NHSC New Hope 121.86 57 PFAKE 22 55 30.0 +8.6
NHSC LR LR
comp=Z,92µm,22.0s
ANTO Ankara 122.01 312 ⇓PKIKP **PKPdf 22 55 22.3 +0.6**
ANTO Ankara 122.01 312 ⇓*i* P **PKPdf 22 55 22.3 +0.6**
ANTO Ankara 122.01 312 *e*PKPdf **PKPdf 22 55 22.2 +0.6**
ANTO LR LR
comp=Z,24µm,21.0s
SUW Suwalki 122.05 330 *e*PKIKP **PKPdf 22 55 23.6 +2.5**
SUW *e* 22 56 59.4
SUW *e* 23 02 08.4
SUW *e*SS SS 23 13 41.8 +10
SUW MLR MLR
comp=Z,83µm,19.9s
SUW Suwalki 122.05 330 *e*PKPdf **PKPdf 22 55 23.6 +2.5**
SUW *e*PP **PP 22 56 59.4 +4.0**
SUW *e*SKSac SKSac 23 02 08.3 -11
SUW *e*SS SS 23 13 41.8 +10
SUW LMZ LR 23 50 45.2
SUW Suwalki 122.05 330 *e*PKPdf **PKPdf 22 55 20.9 -0.2**
SUW LR LR
comp=Z,83µm,20.0s
ATAH Atahualpa 122.15 104 PKP **PKPdf 22 55 25.0 +1.9**
ATAH Atahualpa 122.15 104 PKP **PKPdf 22 55 25.0 +1.9**
comp=Z,3.9nm,0.7s,baz=301,slow=16,SNR=3.5
NNA Nana 122.22 110 PFAKE 22 55 30.0 +7.3
NNA LR LR
comp=Z,18µm,19.0s
LBTB Lobatse 122.23 233 *e*PKPdf **PKPdf 22 55 19.8 -2.8**
LBTB LR LR
comp=Z,92µm,21.2s
NB2 NORSAR Subarra 122.25 341 PKPdf **PKPdf 22 55 23.2 +1.8**
comp=Z,7.8nm,0.9s,baz=39,slow=1.9
NB2 NORSAR Subarra 122.25 341 PKPdf **PKPdf 22 55 23.2 +1.8**
baz=39,slow=1.9
NOA NORSAR Array B 122.25 341 PKP **PKPdf 22 55 20.9 -0.5**
NOA PP **PP 22 56 57.0 +0.5**
NOA NORSAR Array B 122.25 341 PKP **PKPdf 22 55 20.9 -0.5**
comp=Z,4.7nm,0.9s,baz=39,slow=1.8,SNR=8.4
NOA PP **PP 22 56 57.0 +0.5**
comp=Z,5.2nm,0.9s,baz=34,slow=8.0,SNR=2.3
KIS Kishinev 122.26 321 *e*PKIKP PKPdf 22 55 32.0 +10
KIS MLR MLR
comp=E,37µm,18.0s
KIS MLR MLR
comp=Z,44µm,18.0s
KIS MLR MLR
comp=N,41µm,17.0s
KIS MLR MLR
comp=Z,38µm,20.0s
KIS Kishinev 122.26 321 *e*PKP PKPdf 22 55 32.0 +10
KIS Kishinev 122.26 321 *e*PP PP 22 56 50.0 -7.2
KIS LRM MLR 23 49 40.0
comp=Z,44µm,18.0s
SCHQ Schefferville 122.32 29 *e*PKPdf **PKPdf 22 55 20.8 -0.9**
SCHQ LR LR
comp=Z,102µm,21.8s
NBO02 NORSAR Array S 122.36 341 *e*PKPdf **PKPdf 22 55 19.8 -1.8**
EIL Elat 122.49 299 PKKPbc PKKPbc 23 05 24.5 +6.8
EIL Elat 122.49 299 PKKPbc PKKPbc 23 05 24.5 +6.8
comp=Z,5.2nm,1.1s,baz=233,slow=20,SNR=2.4
PTN Potsdam (NY) 122.56 42 PFAKE 22 55 30.0 +7.6
PTN LR LR
comp=Z,94µm,20.4s
BINY Binghamton 122.71 45 PFAKE 22 55 30.0 +7.1
BINY LR LR
comp=Z,75µm,21.0s
LONY Lake Ozonia 122.81 42 PFAKE 22 55 30.0 +7.0
LONY LR LR
comp=Z,46µm,20.0s
LEOM Leova 122.83 320 ⇑PKIKP **PKPdf 22 55 21.3 -1.6**
LEOM Leova 122.83 320 ⇑*i* P **PKPdf 22 55 21.3 -1.6**
CSS Prodhromos 122.84 306 PFAKE 22 55 30.0 +6.7
CSS LR LR
comp=Z,29µm,21.0s
CBN Corbin 122.91 50 PFAKE 22 55 30.0 +6.7
CBN LR LR
comp=Z,72µm,22.0s
MVL Millersville 123.15 48 PFAKE 22 55 30.0 +6.3
MVL LR LR
comp=Z,57µm,19.2s
FRNY Flat Rock 123.38 41 PFAKE 22 55 30.0 +6.0
FRNY LR LR
comp=Z,40µm,20.4s
CFR Carcaliu 123.43 319 ⇑PKIKP **PKPdf 22 55 26.4 +2.3**
CFR Carcaliu 123.43 319 ⇑*i* P **PKPdf 22 55 26.4 +2.3**
BCIP Isla Barro Col 123.51 85 PFAKE 22 55 30.0 +4.9
BCIP LR LR
comp=Z,40µm,21.0s
TIRR Tirgusor 123.53 318 PFAKE 22 55 30.0 +5.7
TIRR LR LR
comp=Z,57µm,19.0s
LUPA Lehigh Univers 123.67 47 PFAKE 22 55 30.0 +5.3
LUPA LR LR
comp=Z,65µm,21.1s
OTAV Otavalo 123.72 96 *e*PKPdf **PKPdf 22 55 25.0 -1.2**
OTAV LR LR
comp=Z,23µm,18.0s
TLB Topalu 123.73 318 ⇓PKIKP **PKPdf 22 55 24.3 -0.4**
TLB Topalu 123.73 318 ⇓*i* P **PKPdf 22 55 24.3 -0.4**
LVV L'vov 123.81 325 *i* PKIKP **PKPdf 22 55 29.8 +5.1**
LVV *e* 22 57 12.8
LVV *e*PPP PPP 22 59 42.8
LVV *e* 23 07 09.6
LVV *e*SS SS 23 14 06.6 +12
LVV MLR MLR
comp=Z,63µm,22.0s
LVV MLR MLR
comp=N,64µm,18.0s
LVV MLR MLR
comp=E,20µm,18.0s
TESR Tescani 123.82 321 ⇑*i* P **PKPdf 22 55 21.7 -3.1**
KONO Kongsberg 123.84 341 PFAKE 22 55 30.0 +5.6
KONO LR LR
comp=Z,119µm,22.0s
ACCN Adirondack Com 123.88 43 PFAKE 22 55 30.0 +5.0
ACCN LR LR
comp=Z,71µm,18.8s
VRI Vrincioaia 124.05 320 ⇓PKIKP **PKPdf 22 55 26.3 +1.0**
VRI Vrincioaia 124.05 320 ⇓*i* P **PKPdf 22 55 26.3 +1.0**
ODNJ Ogdensburg 124.06 46 PFAKE 22 55 30.0 +4.6
ODNJ LR LR
comp=Z,49µm,20.3s
PLOR Plostina 124.10 320 ⇑PKIKP PKPdf 22 55 32.2 +6.8
PLOR Plostina 124.10 320 ⇑*i* P PKPdf 22 55 32.2 +6.8
BURAR Bucovina Array 124.19 323 ⇓PKIKP **PKPdf 22 55 26.2 +0.6**
BURAR Bucovina Array 124.19 323 ⇓*i* P **PKPdf 22 55 26.2 +0.6**
BURR4 Bucovina Ar. S 124.20 323 *e*PKPdf **PKPdf 22 55 25.4 -0.2**
BORG Borgarnes 124.22 359 PFAKE 22 55 30.0 +5.0
BORG LR LR
comp=Z,38µm,20.0s
LSZ Lusaka 124.26 245 *e*PKPdf **PKPdf 22 55 26.1 -0.6**
LSZ LR LR
comp=Z,43µm,22.0s
LSZ Lusaka 124.26 245 PKP **PKPdf 22 55 28.1 +1.4**
comp=Z,3.4nm,0.9s,baz=61,slow=4.9
ISP Isparta 124.29 310 *e*PP PP 22 57 11.1 -0.5
BEL Belsk 124.47 329 *e*PKIKP **PKPdf 22 55 27.5 +1.6**
BEL *e* 22 57 16.6
BEL *e* 23 02 24.7
BEL *e*SS SS 23 14 15.5 +13
BEL MLR MLR
comp=Z,72µm,23.5s
BEL Belsk 124.47 329 *e*PKPdf **PKPdf 22 55 27.5 +1.6**
BEL *e*PP **PP 22 57 16.6 +4.8**
BEL *e*SKSac **SKSac 23 02 24.6 -2.3**
BEL *e*SS SS 23 14 15.5 +13
BEL LMZ LR 23 48 33.5
ISR Istrita 124.48 319 ⇓PKIKP PKPdf 22 55 33.5 +7.3
ISR Istrita 124.48 319 ⇓*i* P PKPdf 22 55 33.5 +7.3
PAL Palisades 124.58 46 PFAKE 22 55 40.0 +14
PAL LR LR
comp=Z,279µm,21.0s
CPNY Central Park 124.62 46 PFAKE 22 55 40.0 +14
CPNY LR LR
comp=Z,42µm,18.3s
KWP Kalwaria Pacla 124.65 326 ⇑PKIKP **PKPdf 22 55 27.2 +0.9**
KWP Kalwaria Pacla 124.65 326 *e*PKPdf **PKPdf 22 55 29.1 +2.8**
KWP *e*PP PP 22 57 19.5 +6.4
KWP *e*SS SS 23 14 13.9 +9.0
KWP LMZ LR 23 50 17.9
KWP Kalwaria Pacla 124.65 326 ⇑*i* P **PKPdf 22 55 27.2 +0.9**
KWP Kalwaria Pacla 124.65 326 *e*PKPdf **PKPdf 22 55 26.0 -0.3**
KWP *e*PP **PP 22 57 17.4 +4.3**
KWP LR LR
comp=Z,86µm,20.0s
PRD Provadia 124.70 317 ⇓PKIKP **PKPdf 22 55 26.0 -0.6**
MLR Muntele Rosu 124.70 320 ⇓*i* P **PKPdf 22 55 27.1 +0.4**
MLR Muntele Rosu 124.70 320 PKKPbc PKKPbc 23 05 19.4 +10
comp=Z,1.2nm,0.7s,baz=281,slow=7.3,SNR=4.0
LBNH Lisbon 124.71 42 PFAKE 22 55 40.0 +13
LBNH LR LR
comp=Z,81µm,22.0s
LVC Limon Verde 124.88 125 *e*pPKPdf **pPKPdf 22 55 37.6 -0.2**
LVC LR LR
comp=Z,23µm,20.0s
BSD Bornholm Skovb 125.17 335 *i* PKIKP PKPdf 22 55 32.3 +5.2
BSD *i* 22 57 19.3
BSD MLR MLR
comp=Z,64µm,18.0s
BSD Bornholm Skovb 125.17 335 *i* P PKPdf 22 55 32.3 +5.2
BSD *i* 22 57 19.3
BSD
comp=Z,64µm,18.0s
KOLS Kolonicke sedl 125.25 325 *e*PKIKP **PKPdf 22 55 29.8 +2.3**
KOLS Kolonicke sedl 125.25 325 *e*PKP **PKPdf 22 55 29.8 +2.3**
VOIR 125.29 320 ⇑PKIKP **PKPdf 22 55 30.6 +2.8**
VOIR 125.29 320 ⇑*i* P **PKPdf 22 55 30.6 +2.8**
GKP Gorka Klasztor 125.34 332 *e*PKIKP **PKPdf 22 55 28.5 +1.0**
GKP *e* 22 57 25.4
GKP *e*SS SS 23 14 29.2 +16
GKP MLR MLR
comp=Z,109µm,22.1s
GKP Gorka Klasztor 125.34 332 *e*PKPdf **PKPdf 22 55 28.5 +1.0**
GKP *e*PP PP 22 57 25.4 +7.9
GKP *e*SS SS 23 14 29.1 +16
GKP LMZ LR 23 51 32.8
UZH Uzhgorod 125.40 325 *e*PKIKP **PKPdf 22 55 29.1 +1.3**
UZH *e* 22 55 41.5
UZH *e* 23 02 18.9
UZH *e* 23 14 16.7
UZH MLR MLR
comp=N,38µm,19.0s
UZH MLR MLR
comp=E,38µm,19.0s
UZH MLR MLR
comp=Z,8µm,19.0s
STHS Stebnicka Huta 125.57 326 *e*PKIKP **PKPdf 22 55 28.7 +0.6**
STHS Stebnicka Huta 125.57 326 *e*PKP **PKPdf 22 55 28.7 +0.6**
ARR Arges 125.58 320 ⇑*i* P **PKPdf 22 55 30.0 +1.7**
HRV Adam Dziewonsk 125.65 43 PFAKE 22 55 40.0 +12
HRV LR LR
comp=Z,64µm,18.0s
CRVS Cervenica-Dubn 125.73 326 *e*PKIKP **PKPdf 22 55 30.9 +2.5**
CRVS Cervenica-Dubn 125.73 326 *e*PKP **PKPdf 22 55 30.9 +2.5**
HUMR Humele 125.74 319 ⇑*i* P **PKPdf 22 55 28.1 -0.4**
COP Copenhagen 125.78 336 *i* PKIKP PKPdf 22 55 35.3 +7.1
COP MLR MLR
comp=Z,28µm,22.0s
COP Copenhagen 125.78 336 *i* P PKPdf 22 55 35.3 +7.1
COP
comp=Z,28µm,22.0s

OJC Ojcow 125.90 328 ePKIKP PKPdf 22 55 28.2 -0.5
OJC e 22 57 21.9
OJC MLR MLR
comp=Z,49µm,19.9s
OJC Ojcow 125.90 328 ePKPdf PKPdf 22 55 36.1 +7.4
OJC ePP PP 22 57 37.1 +16
OJC eSS SS 23 14 31.5 +11
OJC L L 23 49 50.0
comp=Z,66µm,21.5s
OJC Ojcow 125.90 328 ePKPdf PKPdf 22 55 28.1 -0.5
OJC ePP PP **22 57 21.9 +0.5**
OJC LR LR
comp=Z,49µm,19.9s
MTDJ Mount Denham 125.95 74 PFAKE 22 55 40.0 +10
MTDJ LR LR
comp=Z,25µm,21.0s
PKME Peaks-Kenny Pk 125.95 39 ePP PP 22 57 21.5 -0.5
PKME LR LR
comp=Z,91µm,22.0s
NIE Niedzica 126.08 327 ePKIKP PKPdf 22 55 37.0 +7.9
NIE eSS SS 23 14 36.4 +14
NIE MLR MLR
comp=Z,69µm,21.5s
NIE Niedzica 126.08 327 ePKPdf PKPdf 22 55 37.0 +7.9
NIE ePP PP 22 57 38.7 +16
NIE eSS SS 23 14 36.4 +14
NIE L L 23 53 58.0
comp=Z,69µm,21.5s
LLD Lille Linde 126.12 336 *i* PKIKP **PKPdf 22 55 33.4 +4.5**
LLD Lille Linde 126.12 336 *i* P **PKPdf 22 55 33.4 +4.5**
RGN Rugen 126.22 335 PFAKE 22 55 40.0 +11
RGN LR LR
comp=Z,59µm,21.0s
MUD Monsted U'grnd 126.44 339 ePKIKP PKPdf 22 55 32.2 +2.7
MUD MLR MLR
comp=Z,59µm,24.0s
MUD Monsted U'grnd 126.44 339 *i* P **PKPdf 22 55 32.2 +2.7**
MUD
comp=Z,59µm,23.0s
OKC Ostrava-Krasne 126.99 328 ePKIKP PKPdf 22 55 31.2 +0.4
OKC e 22 55 44.3
OKC eSS SS 23 14 40.3 +6.3
OKC MLR MLR
comp=Z,56µm,20.8s
OKC Ostrava-Krasne 126.99 328 ePKPdf PKPdf 22 55 31.2 +0.4
OKC ex x 22 55 44.3
OKC ex x 22 57 42.6
OKC eSS SS 23 14 40.3 +6.3
OKC AMS AMS 23 50 50.0
comp=Z,56µm,20.8s
PSZ Piszkesteto 127.14 325 ⇓PKIKP **PKPdf 22 55 29.5 -1.7**
PSZ Piszkesteto 127.14 325 ⇓*i*P **PKPdf 22 55 29.5 -1.7**
PSZ Piszkesteto 127.14 325 ePKPdf PKPdf 22 55 29.8 -1.4
PSZ ePP **PP 22 57 30.3 +0.5**
PSZ LR LR
comp=Z,101µm,21.0s
PSZ Piszkesteto 127.14 325 *e* **PKPdf 22 55 29.1 -2.1**
KSP Ksiaz 127.32 330 ePKIKP PKPdf 22 55 32.3 +0.9
KSP MLR MLR
comp=Z,460µm,22.7s
KSP Ksiaz 127.32 330 ePKPdf PKPdf 22 55 33.9 +2.5
KSP ePP PP 22 57 43.4 +13
KSP eSS SS 23 14 53.2 +15
KSP LMZ LR 23 50 45.0
BZS Buzias 127.33 322 ⇑PKIKP **PKPdf 22 55 31.2 -0.4**
BZS Buzias 127.33 322 ⇑*i*P **PKPdf 22 55 31.2 -0.4**
MORC Moravsky Berou 127.34 328 ePKIKP PKPdf 22 55 30.2 -1.3
MORC MLR MLR
comp=Z,89µm,22.0s
MORC Moravsky Berou 127.34 328 ⇑*i*P **PKPdf 22 55 32.8 +1.3**
MORC Moravsky Berou 127.34 328 ePKPdf PKPdf 22 55 30.2 -1.3
MORC ePP PP 22 57 25.4 -5.6
MORC LR LR
comp=Z,89µm,22.0s
RUE Ruedersdorf 127.44 333 ePKPdf PKPdf 22 55 32.0 +0.5
RUE Ruedersdorf 127.44 333 ePKPdf PKPdf 22 55 30.4 -1.1
RUE LR LR
comp=Z,68µm,22.0s
KRLC Kraliky 127.55 329 ePKIKP PKPdf 22 55 32.5 +0.6
KRLC *e* 22 55 45.5
KRLC Kraliky 127.55 329 ePKPdf PKPdf 22 55 32.5 +0.6
KRLC ex x 22 55 45.5
DPC Dobruska-Polom 127.62 329 ePKIKP PKPdf 22 55 30.5 -1.6
DPC Dobruska-Polom 127.62 329 ePKPdf PKPdf 22 55 32.7 +0.7
DPC *ep*PKP **pPKPdf 22 55 40.2 -1.7**
DPC ex x 22 55 45.4
DPC ePP **PP 22 57 35.5 +2.7**
DPC ex x 23 14 52.4
DPC AMS AMS 23 50 50.0
DPC Dobruska-Polom 127.62 329 ePKPdf PKPdf 22 55 30.4 -1.6
DPC ePP PP 22 57 24.3 -8.5
UPC Upice 127.67 330 ePKIKP PKPdf 22 55 33.1 +1.0
UPC *e* 22 55 41.7
UPC *e* 22 55 45.7
UPC Upice 127.67 330 ePKPdf PKPdf 22 55 33.1 +1.0
UPC *ep*PKP **pPKPdf 22 55 41.7 -0.2**
UPC ex x 22 55 45.7
VTS Vitosha 127.75 318 ⇑PKIKP **PKPdf 22 55 35.1 +2.4**
VTS Vitosha 127.75 318 ⇑*i*P **PKPdf 22 55 35.1 +2.4**
MMB Musomiste 127.84 317 ⇑PKIKP **PKPdf 22 55 34.3 +1.6**
MMB Musomiste 127.84 317 ⇑*i*P **PKPdf 22 55 34.3 +1.6**
BSEG Bad Segeberg 127.90 336 ePKPdf PKPdf 22 55 33.1 +0.8
BSEG ePP **PP 22 57 35.8 +1.5**
VRAC Vranov 128.12 328 ⇑*i*P **PKPdf 22 55 32.6 -0.4**
GTBY Guantanamo Bay 128.14 72 PFAKE 22 55 40.0 +6.2
GTBY LR LR
comp=Z,34µm,19.0s
PKSG 128.27 325 ePKPdf PKPdf 22 55 33.9 +0.6
PVCC Panska Ves 128.37 331 ePKIKP PKPdf 22 55 34.2 +0.8
PVCC *e* 22 55 47.0
PVCC MLR MLR
comp=Z,94µm,20.2s
PVCC Panska Ves 128.37 331 ePKPdf PKPdf 22 55 34.2 +0.8
PVCC *ex* x 22 55 47.0
PVCC *ex* x 22 57 54.0
PVCC eSS SS 23 14 57.4 +6.4
PVCC AMS AMS 23 51 50.0
comp=Z,94µm,20.2s
BRG Berggiesshubel 128.44 331 *e*PKP **PKPdf 22 55 33.8 +0.3**
comp=Z,9.0nm,1.1s
BRG *e* 22 57 37.1
comp=Z,1.3nm,2.1s
BRG SS SS 23 15 03.0 +11
BRG
comp=N,70µm,21.0s
BRG
comp=E,30µm,17.0s
BRG
comp=Z,73µm,19.7s
BRG Berggiesshubel 128.44 331 ePKIKP PKPdf 22 55 33.8 +0.3
BRG *e* 22 57 37.1
BRG MLR MLR
comp=N,70µm,21.0s
BRG MLR MLR
comp=E,30µm,17.0s
BRG MLR MLR
comp=Z,73µm,19.7s
BRG Berggiesshubel 128.44 331 ePKPdf PKPdf 22 55 34.0 +0.5
BRG ePP **PP 22 57 36.4 -1.7**
LPAZ La Paz 128.45 119 ePKPdf PKPdf 22 55 33.7 -1.6
LPAZ LR LR
comp=Z,15µm,20.3s
LPAZ La Paz 128.45 119 PKP **PKPdf 22 55 36.6 +1.3**
comp=Z,14nm,1.1s,baz=14,slow=3.3,SNR=18
ROSC El Rosal 128.50 91 ePKPdf PKPdf 22 55 32.6 -2.6
ROSC El Rosal 128.50 91 PKP **PKPdf 22 55 36.1 +0.9**
comp=Z,9.6nm,0.7s,baz=276,slow=10,SNR=6.3
PKST T"s 128.55 325 ePKPdf PKPdf 22 55 34.2 +0.3
SANT Santorini 128.59 310 PFAKE 22 55 40.0 +5.7
SANT LR LR
comp=Z,23µm,20.0s
CLL Collm 128.59 332 ePKIKP PKPdf 22 55 34.0 +0.2
CLL *e* 22 55 42.0
CLL *e* 22 57 38.0
CLL MLR MLR
comp=Z,85µm,21.1s
CLL Collm 128.59 332 ePKPdf PKPdf 22 55 34.0 +0.2
CLL ePP **PP 22 57 37.0 -2.0**
CLL Collm 128.59 332 ePKPdf PKPdf 22 55 34.0 +0.2
comp=Z,19nm,1.1s
CLL *e*(pPKPdf) 22 55 42.0
CLL *i* PKPmax 22 55 47.0
CLL *i* 22 55 51.6
comp=Z,69nm,1.0s
CLL *e* 22 56 00.0
CLL ePP **PP 22 57 38.0 -1.0**
CLL ePPmax 22 57 52.0
CLL ePPP PPP 23 00 21.0
CLL ePKKSbc PKKSbc 23 08 44.0 -4.8
CLL esPKKSbc 23 08 59.0
CLL eSS SS 23 15 00.0 +6.3
CLL eSSS SSS 23 19 36.0
CLL *e* 23 21 18.0
CLL Lm MLR 23 54 00.0
comp=N,71µm,21.0s
CLL Lm MLR 23 54 00.0
comp=E,35µm,20.1s
CLL Lm MLR 23 54 00.0
comp=Z,85µm,21.1s
FBE Freiberg 128.69 332 ePKPdf PKPdf 22 55 34.7 +0.7
FBE ePP **PP 22 57 38.0 -1.7**
TREC Trest 128.70 329 ePKIKP PKPdf 22 55 35.1 +1.0
TREC *e* 22 55 47.6
TREC MLR MLR
comp=Z,116µm,21.3s
TREC Trest 128.70 329 ePKPdf PKPdf 22 55 35.1 +1.0
TREC *ex* x 22 55 47.6
TREC *ex* x 22 57 51.1
TREC eSS SS 23 15 03.6 +8.4
TREC AMS AMS 23 51 30.0
comp=Z,116µm,21.3s
PRU Pruhonice 128.73 330 ePKIKP PKPdf 22 55 35.0 +0.9
PRU *e* 22 55 43.0
PRU *e* 22 55 47.4
PRU *e* 22 57 43.9
PRU MLR MLR
comp=Z,85µm,20.3s
PRU Pruhonice 128.73 330 ePKPdf PKPdf 22 55 35.0 +0.9
PRU *ep*PKP **pPKPdf 22 55 43.0 -1.0**
PRU *ex* x 22 55 47.4
PRU ePP **PP 22 57 43.9 +3.9**
PRU eSS SS 23 15 04.3 +8.8
PRU AMS AMS 23 55 40.0
comp=Z,85µm,20.3s
PRA Prague 128.73 330 PKPdf **PKPdf 22 55 36.0 +1.9**
PRA PP **PP 22 57 45.0 +5.0**
VAY Valandovo 128.74 317 *e*PKP PKPdf 22 55 41.0 +6.7
PKSM Moragy 128.79 324 ⇑PKIKP **PKPdf 22 55 35.2 +0.9**
PKSM Moragy 128.79 324 ⇑*i*P **PKPdf 22 55 35.2 +0.9**
PKSM Moragy 128.79 324 *e*PKPdf **PKPdf 22 55 33.9 -0.4**
PKS9 Tamasi 128.79 325 *e* **PKPdf 22 55 34.0 -0.3**
NRDL Niedersach Rie 129.04 335 *e*PKPdf **PKPdf 22 55 35.3 +0.8**
NRDL ePP **PP 22 57 42.7 +1.0**
SOP Sopron 129.12 327 *e* **PKPdf 22 55 35.3 +0.4**
SKO Skopje 129.20 318 *e*PKP **PKPdf 22 55 37.3 +2.1**
NEUB Neuenburg 129.22 333 *e*PKPdf **PKPdf 22 55 35.5 +0.5**
NEUB ePP **PP 22 57 44.1 +1.0**
CONA Conrad Observa 129.34 327 ⇓*i*PKiKP **PKiKP 22 55 36.6 +0.4**
comp=Z,57nm,1.9s
CLZ Clausthal 129.40 334 *e*PKPdf **PKPdf 22 55 36.1 +0.7**
CLZ ePP **PP 22 57 45.7 +1.4**
TANN Tannenbergstha 129.45 332 *e*PKPdf **PKPdf 22 55 36.2 +0.7**
TANN ePP **PP 22 57 46.3 +1.6**
WERD Werda 129.50 332 *e*PKPdf **PKPdf 22 55 36.3 +0.7**
WERD ePP **PP 22 57 46.4 +1.4**
GUNZ Gunzen 129.55 332 *e*PKPdf **PKPdf 22 55 36.4 +0.7**
GUNZ ePP **PP 22 57 47.1 +1.8**
NKC Novy Kostel 129.58 331 *e*PKIKP **PKPdf 22 55 36.8 +1.0**
NKC *e* 22 55 49.5
NKC *e* 22 57 44.8
NKC MLR MLR
comp=Z,48µm,19.8s
NKC Novy Kostel 129.58 331 *e*PKPdf **PKPdf 22 55 36.8 +1.0**
NKC *ex* x 22 55 49.5
NKC ePP **PP 22 57 44.8 -0.7**
NKC eSS SS 23 15 12.6 +6.6
NKC AMS AMS 23 51 50.0
comp=Z,48µm,19.8s
BIA Bitola 129.71 317 *e*PKP **PKPdf 22 55 39.8 +3.5**
KHC Kasperske Hory 129.77 330 *e*PKIKP **PKPdf 22 55 36.4 +0.2**
KHC *e* 22 55 45.7
KHC *e* 22 55 48.7
KHC *e* 22 57 51.5
KHC eSS SS 23 15 09.9 +1.5
KHC MLR MLR
comp=Z,75µm,21.2s
KHC Kasperske Hory 129.77 330 *e*PKPdf **PKPdf 22 55 36.4 +0.2**
KHC *ep*PKP **pPKPdf 22 55 45.7 -0.3**
KHC *ex* x 22 55 48.7
KHC ePP **PP 22 57 51.5 +4.7**
KHC *ex* x 22 58 39.0
KHC eSS SS 23 15 09.9 +1.5
KHC AMS AMS 23 52 10.0
comp=Z,75µm,21.2s
KHC Kasperske Hory 129.77 330 *e*PKPdf **PKPdf 22 55 35.9 -0.3**
KHC LR LR
comp=Z,72µm,19.1s
GEC2 GERESS Array S 129.89 329 *e*PKIKP **PKPdf 22 55 35.2 -1.3**
GEC2 GERESS Array S 129.89 329 *e*PKPdf **PKPdf 22 55 36.8 +0.3**
GEC2 ePP **PP 22 57 49.6 +1.9**
GEC2 GERESS Array S 129.89 329 *e*PKPdf **PKPdf 22 55 35.2 -1.3**
GERES GERESS Array B 129.89 329 PKP **PKPdf 22 55 37.0 +0.5**
GERES GERESS Array B 129.89 329 PKP **PKPdf 22 55 37.0 +0.5**
comp=Z,3.7nm,0.9s,baz=50,slow=2.1,SNR=15
MANZ Manzenberg 129.91 331 *e*PKPdf **PKPdf 22 55 37.1 +0.7**
MANZ ePP **PP 22 57 49.5 +1.8**
ROTZ Rotzenmuhle 130.01 331 *e*PKPdf **PKPdf 22 55 37.2 +0.6**
ROTZ ePP **PP 22 57 50.2 +1.9**
KOGS Kog 130.02 326 *e*PKPdf **PKPdf 22 55 36.6 0.0**
WET Wettzell 130.10 330 *e*PP PP 22 57 52.3 +3.3
IBBN Ibbenburen 130.14 336 *e*PKPdf **PKPdf 22 55 37.4 +0.7**
IBBN ePP **PP 22 57 52.5 +3.5**
UBBA Unterbreizbach 130.29 333 *e*PKPdf **PKPdf 22 55 37.5 +0.6**
UBBA ePP **PP 22 57 54.1 +4.2**
DRLN Deer Lake 130.29 29 PFAKE 22 55 50.0 +13
DRLN LR LR
comp=Z,208µm,21.8s
GRF Grafenberg Arr 130.53 332 *e*PKPdf **PKPdf 22 55 38.1 +0.5**
GRF ePP **PP 22 57 56.2 +4.5**
GRF *e*L L 23 55 22.5
comp=Z,50µm,21.9s
PERS Pernice 130.53 326 *e*PKPdf **PKPdf 22 55 36.6 -1.1**
PERS eSS SS 23 15 33.2 +15
WTSB Winterswijk 130.78 336 *e*PKP **PKPdf 22 55 42.0 +4.1**
BUG Bochum--Univer 131.00 336 *e*PKPdf **PKPdf 22 55 38.9 +0.6**
BUG ePP **PP 22 57 55.5 +1.0**
RJOB Jochberg 131.07 329 *e*PKPdf **PKPdf 22 55 38.6 -0.1**
RJOB ePP **PP 22 57 57.2 +1.9**
ESK Eskdalemuir 131.20 345 PFAKE 22 55 50.0 +11
ESK LR LR
comp=Z,43µm,22.0s
KBA Koelnbreinsper 131.21 328 ⇓*i*PKiKP **PKPdf 22 55 39.4 +0.3**
comp=Z,26nm,1.2s
LJU Ljubljana 131.22 326 *e*PKPdf **PKPdf 22 55 37.7 -1.3**
LJU *e* 22 55 54.2
LJU *e* 22 58 09.3
LJU *e* 22 59 13.3
LJU *e* 23 09 40.0
LJU eSS SS 23 15 41.0 +15
LJU *e* 23 30 27.4
LJU *e* 23 31 28.9
CPUP Villa Florida 131.38 137 *e*PKPdf **PKPdf 22 55 38.9 -0.9**
CPUP Villa Florida 131.38 137 PKP **PKPdf 22 55 41.6 +1.8**
comp=Z,2.1nm,0.6s,baz=263,slow=4.2,SNR=4.7
TNS Taunus Mts 131.41 334 *e*PKPdf **PKPdf 22 55 40.0 +0.7**
FUR Furstenfeldbru 131.55 330 *e*PKPdf **PKPdf 22 55 39.9 +0.3**
TSUM Tsumeb 131.57 235 *e*PKPdf **PKPdf 22 55 40.7 +0.1**
TSUM LR LR
comp=Z,79µm,22.0s
TSUM Tsumeb 131.57 235 PKP **PKPdf 22 55 41.0 +0.4**
comp=Z,1.5nm,0.3s,baz=292,slow=8.1,SNR=3.0
GRTK Grand Turk 131.68 69 PFAKE 22 55 50.0 +9.5
GRTK LR LR
comp=Z,36µm,22.0s
SDDR Presa de Saban 131.81 73 *e*PKPdf **PKPdf 22 55 37.1 -3.7**
SDDR LR LR
comp=Z,34µm,20.0s
TRI Trieste 131.84 326 *e*PKIKP **PKPdf 22 55 38.5 -1.6**
TRI MLR MLR
comp=Z,70µm,21.2s
TRI Trieste 131.84 326 *e*PKPdf **PKPdf 22 55 38.5 -1.6**
TRI LR LR
comp=Z,70µm,21.2s
ABTA Abfaltersbach 131.86 328 ⇑*i*PKiKP **PKPdf 22 55 40.5 +0.2**
comp=Z,50nm,1.3s
WATA Walderalm 131.96 329 ⇑*i*PKiKP **PKPdf 22 55 40.3 -0.3**
comp=Z,29nm,1.1s
WTTA Wattenberg 131.97 329 ⇓*i*PKiKP **PKPdf 22 55 41.1 +0.5**
comp=Z,37nm,0.9s,SNR=12
HGN Heimansgroeve 132.06 336 *e*PKP **PKPdf 22 55 42.6 +2.2**
HGN Heimansgroeve 132.06 336 *e*SS SS 23 15 13.1 -23
STU Stuttgart 132.12 332 *e*PKIKP **PKPdf 22 55 38.8 -1.8**
STU MLR MLR
comp=Z,39µm,21.0s
STU Stuttgart 132.12 332 *e*PKPdf **PKPdf 22 55 41.3 +0.7**
STU ePP **PP 22 58 04.0 +2.1**
STU Stuttgart 132.12 332 *e*PKPdf **PKPdf 22 55 38.8 -1.8**
STU LR LR
comp=Z,39µm,21.0s
MEM Membach 132.15 336 PKP **PKPdf 22 55 42.2 +1.7**
MEM Membach 132.15 336 *e*PKIKP **PKPdf 22 55 37.1 -3.5**
MEM MLR MLR
comp=Z,73µm,20.8s
MEM Membach 132.15 336 *e*PKPdf **PKPdf 22 55 37.1 -3.5**
MEM LR LR
comp=Z,73µm,20.8s
MOTA Moosalm 132.19 329 ⇑*i*PKiKP **PKPdf 22 55 40.5 -0.5**
comp=Z,30nm,0.8s,SNR=18
SDV Santo Domingo 132.55 86 *e*PKPdf **PKPdf 22 55 39.9 -2.7**
SDV LR LR
comp=Z,19µm,20.0s
BCLA Clavier 132.58 336 APKP pPKPdf 22 55 49.4 -1.8
FETA Feichten 132.60 329 ⇑*i*PKiKP **PKiKP 22 55 42.5 -0.4**
comp=Z,34nm,1.0s,SNR=11
LANF Langenberg 132.60 333 PKP **PKPdf 22 55 43.2 +1.7**
WLF Walferdange 132.81 335 PKP **PKPdf 22 55 41.5 -0.4**
WLF Walferdange 132.81 335 *e*PKIKP **PKPdf 22 55 40.2 -1.6**
WLF MLR MLR
comp=Z,75µm,21.0s
WLF Walferdange 132.81 335 *e*PKPdf **PKPdf 22 55 43.3 +1.5**
WLF Walferdange 132.81 335 *e*PKPdf **PKPdf 22 55 40.2 -1.6**
WLF LR LR
comp=Z,75µm,21.0s
DAVA Damuels 132.84 330 ⇑*i*PKiKP **PKPdf 22 55 41.7 -0.5**
comp=Z,34nm,0.8s
BFO Black Forest 132.84 332 *e*PP PP 22 58 08.1 +1.5
SNF Seneffe 132.91 337 PKP **PKPdf 22 55 45.4 +3.4**
GIVF Givet 133.02 336 *e*PKIKP **PKPdf 22 55 40.3 -1.9**
comp=Z,131nm,1.2s
GIVF Givet 133.02 336 *e*PKIKP **PKPdf 22 55 40.3 -1.9**
GIVF Givet 133.02 336 *e*PKPdf **PKPdf 22 55 40.3 -1.9**
DOU Dourbes 133.11 336 PKP **PKPdf 22 55 44.3 +1.9**
CDF Champ du Feu 133.26 333 *e*PKIKP **PKPdf 22 55 41.0 -1.9**
comp=Z,87nm,1.5s
CDF Champ du Feu 133.26 333 *e*PKIKP **PKPdf 22 55 41.0 -1.9**
CDF Champ du Feu 133.26 333 *e*PKPdf **PKPdf 22 55 41.0 -1.9**
TRIS Tristan da Cun 133.29 191 PFAKE 22 55 50.0 +6.8
TRIS LR LR
comp=Z,23µm,19.0s
BAIF Baives 133.30 336 *e*PKIKP **PKPdf 22 55 40.9 -1.8**
comp=Z,95nm,1.3s
BAIF Baives 133.30 336 *e*PKIKP **PKPdf 22 55 40.9 -1.8**
BAIF Baives 133.30 336 *e*PKPdf **PKPdf 22 55 40.9 -1.8**
TUE Stuetta 133.66 330 *e*PKPdf **PKPdf 22 55 43.1 -0.8**
TUE LR LR
comp=Z,84µm,22.0s
TIP Timpagrande 133.67 317 *e*PKPdf **PKPdf 22 55 43.4 -0.5**
TIP LR LR
comp=Z,33µm,19.3s
MOF Molkenrain 133.74 332 PKP **PKPdf 22 55 45.1 +1.3**
PAGF Fort de Pagny 133.84 334 *e*PKIKP **PKPdf 22 55 41.8 -2.0**
comp=Z,18nm,1.1s
PAGF Fort de Pagny 133.84 334 *e*PKPdf **PKPdf 22 55 41.8 -2.0**
CUC Castrocucco 133.88 319 PFAKE 22 55 50.0 +5.8
CUC LR LR
comp=Z,37µm,21.0s
HINF Hinteralfeld 133.89 333 *e*PKIKP **PKPdf 22 55 41.6 -2.4**
comp=Z,116nm,1.2s
HINF Hinteralfeld 133.89 333 *e*PKIKP **PKPdf 22 55 41.6 -2.4**
HINF Hinteralfeld 133.89 333 *e*PKPdf **PKPdf 22 55 41.6 -2.4**
THEF They Montfort 133.97 334 PKP **PKPdf 22 55 46.4 +2.3**
HAU Haudompre 133.98 333 *e*PKIKP **PKPdf 22 55 41.9 -2.2**
comp=Z,52nm,0.9s
HAU *e*R
comp=Z,96µm,22.0s
HAU Haudompre 133.98 333 *e*PKIKP **PKPdf 22 55 41.9 -2.2**
HAU Haudompre 133.98 333 *e*PKPdf **PKPdf 22 55 41.9 -2.2**
MEZF Maizieres J'vi 134.17 335 *e*PKIKP **PKPdf 22 55 42.6 -1.8**
comp=Z,90nm,1.0s
MEZF Maizieres J'vi 134.17 335 *e*PKPdf **PKPdf 22 55 42.6 -1.8**
LOMF Lomont 134.25 332 PKP **PKPdf 22 55 44.9 +0.2**
SFTF Sexfontaines 134.40 334 *e*PKIKP **PKPdf 22 55 42.8 -2.1**
comp=Z,155nm,1.6s
SFTF Sexfontaines 134.40 334 *e*PKPdf **PKPdf 22 55 42.8 -2.1**
VLC Villacollemand 134.68 327 PFAKE 22 55 50.0 +4.4
VLC LR LR
comp=Z,90µm,22.0s
CEL Celeste 134.71 316 PFAKE 22 55 50.0 +4.1
CEL LR LR
comp=Z,37µm,20.0s
SENIN Lac Senin/Sane 134.75 331 *e*PKPdf **PKPdf 22 55 44.9 -1.0**
SENIN ePP **PP 22 58 15.4 -3.6**
SENIN LR LR
comp=Z,44µm,20.3s
CABF La Chapelle 135.14 332 *e*PKIKP **PKPdf 22 55 44.0 -2.4**
comp=Z,170nm,1.0s
CABF La Chapelle 135.14 332 *e*PKIKP **PKPdf 22 55 44.0 -2.4**
CABF La Chapelle 135.14 332 *e*PKPdf **PKPdf 22 55 44.0 -2.4**
LPL La Plagne 135.63 331 *e*PKIKP **PKPdf 22 55 45.5 -2.1**
comp=Z,90nm,1.1s
LPL La Plagne 135.63 331 *e*PKIKP **PKPdf 22 55 45.5 -2.1**
LPL La Plagne 135.63 331 *e*PKPdf **PKPdf 22 55 45.5 -2.1**
LOR Lormes 135.63 334 *e*PKIKP **PKPdf 22 55 45.4 -1.8**
comp=Z,102nm,1.2s
LOR *e*R
comp=Z,92µm,23.0s
LOR Lormes 135.63 334 *e*PKPdf **PKPdf 22 55 45.4 -1.8**
LPG La Plagne 135.63 330 *e*PKIKP **PKPdf 22 55 45.7 -2.0**
comp=Z,104nm,1.1s
LPG La Plagne 135.63 330 *e*PKIKP **PKPdf 22 55 45.7 -2.0**
LPG La Plagne 135.63 330 *e*PKPdf **PKPdf 22 55 45.7 -2.0**
AGP Aguadilla 135.78 73 PFAKE 22 56 00.0 +12
AGP LR LR
comp=Z,28µm,21.4s
CRPR Cabo Rojo, PR 135.85 73 PFAKE 22 56 00.0 +12
CRPR LR LR
comp=Z,28µm,20.3s
SAML Samuel 135.85 113 *e*PKPdf **PKPdf 22 55 47.3 -1.2**
SAML ePP **PP 22 58 27.6 +0.5**
VAL Valentia 135.89 349 *e*PP PP 22 58 43.1 +18
SSF Saint Saulge 135.94 334 *e*PKIKP **PKPdf 22 55 46.1 -1.7**
comp=Z,140nm,1.1s
SSF Saint Saulge 135.94 334 *e*PKIKP **PKPdf 22 55 46.1 -1.7**
SSF Saint Saulge 135.94 334 *e*PKPdf **PKPdf 22 55 46.1 -1.7**
BNI Bardonecchia 135.99 330 *e*PKIKP **PKPdf 22 55 46.5 -1.6**
BNI *e* 22 58 31.7
BNI MLR MLR
comp=Z,87µm,21.0s
BNI Bardonecchia 135.99 330 *e*PKPdf **PKPdf 22 55 46.5 -1.6**
BNI ePP **PP 22 58 31.7 +4.9**
BNI LR LR
comp=Z,87µm,21.0s
FLN La Foliniere 136.12 339 *e*PKIKP **PKPdf 22 55 45.9 -2.2**
comp=Z,141nm,1.2s
FLN *e*R
comp=Z,98µm,21.2s
FLN La Foliniere 136.12 339 *e*PKIKP **PKPdf 22 55 45.9 -2.2**
FLN La Foliniere 136.12 339 *e*PKPdf **PKPdf 22 55 45.9 -2.2**
SMF Signal de Mont 136.12 334 *e*PKIKP **PKPdf 22 55 46.2 -2.0**
comp=Z,70nm,1.1s
SMF Signal de Mont 136.12 334 *e*PKIKP **PKPdf 22 55 46.2 -2.0**
SMF Signal de Mont 136.12 334 *e*PKPdf **PKPdf 22 55 46.2 -2.0**
LDF La Druitiere 136.13 339 *e*PKIKP **PKPdf 22 55 46.3 -1.8**
comp=Z,168nm,1.5s
LDF La Druitiere 136.13 339 *e*PKIKP **PKPdf 22 55 46.3 -1.8**
LDF La Druitiere 136.13 339 *e*PKPdf **PKPdf 22 55 46.3 -1.8**
HYF Humbligny 136.14 335 *e*PKIKP **PKPdf 22 55 46.3 -1.9**
HYF Humbligny 136.14 335 *e*PKPdf **PKPdf 22 55 46.3 -1.9**
AOPR Arecibo Observ 136.15 73 *e*PKPdf **PKPdf 22 55 45.6 -3.4**
AOPR LR LR
comp=Z,20µm,20.5s
GDM Grand'Maison 136.16 331 PKP **PKPdf 22 55 52.2 +3.7**
MBDF Montbardon 136.18 330 *e*PKIKP **PKPdf 22 55 47.1 -1.4**
comp=Z,41nm,1.0s
MBDF Montbardon 136.18 330 *e*PKIKP **PKPdf 22 55 47.1 -1.4**
MBDF Montbardon 136.18 330 *e*PKPdf **PKPdf 22 55 47.1 -1.4**
AVF Avril sur Loir 136.22 334 *e*PKIKP **PKPdf 22 55 46.1 -2.2**
comp=Z,55nm,1.1s
AVF Avril sur Loir 136.22 334 *e*PKIKP **PKPdf 22 55 46.1 -2.2**

AVF	**Avril sur Loir**	**136.22**	**334**	*e*PKPdf	**PKPdf**	**22**	**55**	**46.1**	**-2.2**
GRN	**Grenoble**	**136.31**	**331**	PKP	**PKPdf**	**22**	**55**	**51.2**	**+2.5**
OBIP	**Obispado Ponce**	**136.32**	**73**	*e*PKPdf	**PKPdf**	**22**	**55**	**47.0**	**-2.3**
OBIP				*e*PP	PP	22	58	36.2	+5.9
SURF	**Saint Ours**	**136.33**	**329**	PKP	**PKP**	**22**	**55**	**51.7**	**+2.8**
CELP	**Cerrillos**	**136.35**	**73**	*e*PKPdf	**PKPdf**	**22**	**55**	**46.6**	**-2.7**
SBF	**Sospel**	**136.45**	**328**	*e*PKIKP	**PKPdf**	**22**	**55**	**46.6**	**-2.3**
	comp=Z,95nm,0.9s								
SBF	**Sospel**	**136.45**	**328**	*e*PKIKP	**PKPdf**	**22**	**55**	**46.6**	**-2.3**
SBF	**Sospel**	**136.45**	**328**	*e*PKPdf	**PKPdf**	**22**	**55**	**46.6**	**-2.3**
ORIF	**Oris-en-Rattie**	**136.48**	**331**	*e*PKIKP	**PKPdf**	**22**	**55**	**47.2**	**-1.8**
	comp=Z,56nm,0.9s								
ORIF				*e*R					
	comp=Z,97µm,22.0s								
ORIF	**Oris-en-Rattie**	**136.48**	**331**	*e*PKIKP	**PKPdf**	**22**	**55**	**47.2**	**-1.8**
ORIF	**Oris-en-Rattie**	**136.48**	**331**	*e*PKPdf	**PKPdf**	**22**	**55**	**47.2**	**-1.8**
PGF	**Pioggiola**	**136.50**	**326**	*e*PKIKP	**PKPdf**	**22**	**55**	**46.8**	**-2.3**
	comp=Z,214nm,1.0s								
PGF	**Pioggiola**	**136.50**	**326**	*e*PKIKP	**PKPdf**	**22**	**55**	**46.8**	**-2.3**
PGF	**Pioggiola**	**136.50**	**326**	*e*PKPdf	**PKPdf**	**22**	**55**	**46.8**	**-2.3**
GRR	**Gorron**	**136.57**	**339**	*e*PKIKP	**PKPdf**	**22**	**55**	**46.8**	**-2.1**
	comp=Z,119nm,1.2s								
GRR	**Gorron**	**136.57**	**339**	*e*PKIKP	**PKPdf**	**22**	**55**	**46.8**	**-2.1**
GRR	**Gorron**	**136.57**	**339**	*e*PKPdf	**PKPdf**	**22**	**55**	**46.8**	**-2.1**
BGF	**Bois d'Agland**	**136.62**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**47.0**	**-2.1**
	comp=Z,150nm,1.2s								
BGF	**Bois d'Agland**	**136.62**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**47.0**	**-2.1**
BGF	**Bois d'Agland**	**136.62**	**334**	*e*PKPdf	**PKPdf**	**22**	**55**	**47.0**	**-2.1**
WDD	**Wield Dalam**	**136.85**	**314**	PFAKE		22	56	00.0	+10
WDD				LR	LR				
	comp=Z,20µm,20.0s								
HUMP	**Col San Antoni**	**137.03**	**73**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.7**	**-1.9**
HUMP				LR	LR				
	comp=Z,25µm,19.8s								
TCF	**Toulx Ste Croi**	**137.10**	**335**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.0**	**-2.0**
	comp=Z,134nm,1.2s								
TCF	**Toulx Ste Croi**	**137.10**	**335**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.0**	**-2.0**
TCF	**Toulx Ste Croi**	**137.10**	**335**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.0**	**-2.0**
VIVF	**Saint-Julien-l**	**137.10**	**331**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.0**	**-2.1**
	comp=Z,71nm,1.0s								
VIVF	**Saint-Julien-l**	**137.10**	**331**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.0**	**-2.1**
VIVF	**Saint-Julien-l**	**137.10**	**331**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.0**	**-2.1**
SGMF	**Saint Gilles**	**137.27**	**340**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.3**	**-1.9**
	comp=Z,146nm,1.5s								
SGMF	**Saint Gilles**	**137.27**	**340**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.3**	**-1.9**
SGMF	**Saint Gilles**	**137.27**	**340**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.3**	**-1.9**
LMR	**La Mourre**	**137.30**	**328**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.2**	**-2.2**
	comp=Z,172nm,1.4s								
LMR	**La Mourre**	**137.30**	**328**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.2**	**-2.2**
LMR	**La Mourre**	**137.30**	**328**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.2**	**-2.2**
SMRF	**Simiane la Rot**	**137.31**	**330**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.1**	**-2.4**
	comp=Z,187nm,1.4s								
SMRF	**Simiane la Rot**	**137.31**	**330**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.1**	**-2.4**
ROSF	**Rostrenen**	**137.43**	**341**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.4**	**-2.1**
ROSF	**Rostrenen**	**137.43**	**341**	*e*PKIKP	**PKPdf**	**22**	**55**	**48.4**	**-2.1**
ROSF	**Rostrenen**	**137.43**	**341**	*e*PKPdf	**PKPdf**	**22**	**55**	**48.4**	**-2.1**
FRNF	**Fournols**	**137.66**	**334**	PKP	**PKPdf**	**22**	**55**	**53.3**	**+2.2**
QUIF	**Quistinic**	**137.76**	**341**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.6**	**-1.5**
	comp=Z,222nm,1.6s								
QUIF	**Quistinic**	**137.76**	**341**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.6**	**-1.5**
QUIF	**Quistinic**	**137.76**	**341**	*e*PKPdf	**PKPdf**	**22**	**55**	**49.6**	**-1.5**
MFF	**Saint Martin d**	**137.80**	**337**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.0**	**-2.2**
	comp=Z,107nm,1.2s								
MFF	**Saint Martin d**	**137.80**	**337**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.0**	**-2.2**
MFF	**Saint Martin d**	**137.80**	**337**	*e*PKPdf	**PKPdf**	**22**	**55**	**49.0**	**-2.2**
LASF	**Ste Croix**	**138.07**	**331**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.7**	**-2.2**
	comp=Z,111nm,1.1s								
LASF	**Ste Croix**	**138.07**	**331**	*e*PKPdf	**PKPdf**	**22**	**55**	**49.7**	**-2.2**
CDVI	**St. Croix**	**138.10**	**73**	*e*PKPdf	**PKPdf**	**22**	**55**	**50.7**	**-1.9**
CDVI				*e*PP	PP	22	58	47.0	+5.7
RJF	**Les Rejaudoux**	**138.18**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.7**	**-2.3**
	comp=Z,85nm,1.4s								
RJF				*e*R					
	comp=Z,96µm,22.5s								
RJF	**Les Rejaudoux**	**138.18**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.7**	**-2.3**
RJF	**Les Rejaudoux**	**138.18**	**334**	*e*PKPdf	**PKPdf**	**22**	**55**	**49.7**	**-2.3**
CAF	**Calviac**	**138.24**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.9**	**-2.3**
	comp=Z,74nm,1.3s								
CAF	**Calviac**	**138.24**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**49.9**	**-2.3**
CAF	**Calviac**	**138.24**	**334**	*e*PKPdf	**PKPdf**	**22**	**55**	**49.9**	**-2.3**
LFF	**La Frestale**	**138.80**	**335**	*e*PKIKP	**PKPdf**	**22**	**55**	**51.4**	**-1.7**
	comp=Z,257nm,1.6s								
LFF	**La Frestale**	**138.80**	**335**	*e*PKIKP	**PKPdf**	**22**	**55**	**51.4**	**-1.7**
LFF	**La Frestale**	**138.80**	**335**	*e*PKPdf	**PKPdf**	**22**	**55**	**51.4**	**-1.7**
MTLF	**Montolieu**	**139.41**	**332**	*e*PKIKP	**PKPdf**	**22**	**55**	**52.9**	**-1.4**
	comp=Z,192nm,1.7s								
MTLF	**Montolieu**	**139.41**	**332**	*e*PKIKP	**PKPdf**	**22**	**55**	**52.9**	**-1.4**
MTLF	**Montolieu**	**139.41**	**332**	*e*PKPdf	**PKPdf**	**22**	**55**	**52.9**	**-1.4**
SABA	**Saba**	**139.56**	**73**	*e*PKPdf	**PKPdf**	**22**	**55**	**51.7**	**-3.5**
SABA				LR	LR				
	comp=Z,38µm,21.5s								
KEST	**Kesra**	**140.49**	**317**	*e*PKPdf	**PKPdf**	**22**	**55**	**55.1**	**-1.5**
KEST				*e*PP	**PP**	**22**	**58**	**54.7**	**-0.4**
KEST	**Kesra**	**140.49**	**317**	PKP	**PKPdf**	**22**	**55**	**56.3**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=353,slow=2.8,SNR=3.5								
KEST				PP	**PP**	**22**	**58**	**56.1**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=145,slow=6.9,SNR=3.5								
EPF	**Esparros**	**140.50**	**333**	*e*PKIKP	**PKPdf**	**22**	**55**	**54.4**	**-2.0**
	comp=Z,74nm,1.1s								
EPF	**Esparros**	**140.50**	**333**	*e*PKIKP	**PKPdf**	**22**	**55**	**54.4**	**-2.0**
EPF	**Esparros**	**140.50**	**333**	*e*PKPdf	**PKPdf**	**22**	**55**	**54.4**	**-2.0**
BB16B	**Bebedouro**	**140.80**	**140**	(P)	**PKPdf**	**22**	**55**	**53.5**	**-4.0**
BB16B				*i*		22	55	58.4	
BB16B				*i*		22	56	00.2	
BB16B				*i*		22	56	14.1	
BB16B				*i*		22	56	20.6	
BB16B				*i*		22	56	25.6	
ANWB	**Willy Bob**	**140.93**	**73**	*e*PKPdf	**PKPdf**	**22**	**55**	**54.7**	**-3.0**
ANWB				LR	LR				
	comp=Z,23µm,21.0s								
ETSF	**Etsaut**	**141.00**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**54.8**	**-2.5**
	comp=Z,134nm,1.1s								
ETSF	**Etsaut**	**141.00**	**334**	*e*PKIKP	**PKPdf**	**22**	**55**	**54.8**	**-2.5**
ETSF	**Etsaut**	**141.00**	**334**	*e*PKPdf	**PKPdf**	**22**	**55**	**54.8**	**-2.5**
SJPF	**Ste Jean**	**141.11**	**335**	*e*PKIKP	**PKPdf**	**22**	**55**	**55.3**	**-2.1**
	comp=Z,197nm,1.6s								
SJPF	**Ste Jean**	**141.11**	**335**	*e*PKIKP	**PKPdf**	**22**	**55**	**55.3**	**-2.1**
SJPF	**Ste Jean**	**141.11**	**335**	*e*PKPdf	**PKPdf**	**22**	**55**	**55.3**	**-2.1**
MLG	**Mont-d'or**	**141.19**	**75**	*e*P	**PKPdf**	**22**	**56**	**02.7**	**+4.4**
CMAH	**Djebel Manchou**	**141.22**	**320**	P	**PKPdf**	**22**	**56**	**00.0**	**+2.1**
ABSA	**Djebel Ababsia**	**141.39**	**320**	P	**PKPdf**	**22**	**55**	**58.7**	**+0.4**
GRGR	**Grenville**	**141.47**	**82**	PFAKE		22	56	10.0	+11
GRGR				LR	LR				
	comp=Z,25µm,21.9s								
CKFL	**Kef-Lekhel**	**141.80**	**320**	P	**PKPdf**	**22**	**56**	**02.3**	**+3.3**
CASM	**Ain Smara**	**142.03**	**320**	P	**PKPdf**	**22**	**56**	**03.6**	**+4.3**
CTEI	**Djebel Teioual**	**142.21**	**320**	P	PKPdf	22	56	05.9	+6.1
MSKU	**Masuku**	**142.44**	**256**	*e*PKPdf	**PKPdf**	**22**	**55**	**57.8**	**-2.9**
MSKU				LR	LR				
	comp=Z,54µm,22.0s								
MSKU	**Masuku**	**142.44**	**256**	PKP	**PKPdf**	**22**	**55**	**58.1**	**-2.5**
	comp=Z,17nm,0.8s,baz=352,slow=0.3,SNR=7.0								
SET	**Setif**	**142.75**	**321**	P	**PKPdf**	**22**	**56**	**04.0**	**+3.3**
CKHR	**Kef el Ahmar**	**142.80**	**321**	P	PKPdf	22	56	08.0	+7.2
BBGH	**Gun Hill**	**143.48**	**80**	PFAKE		22	56	10.0	+7.6
BBGH				LR	LR				
	comp=Z,46µm,22.0s								
ADJB	**Djebel Djouab**	**143.97**	**323**	P	**PKPdf**	**22**	**56**	**03.3**	**+0.5**
EMHD	**Djebel Mahouad**	**144.23**	**323**	P	PKPdf	22	56	09.0	+5.7
PBRG	**Braganca**	**144.35**	**340**	*e*PKP	**PKPdf**	**22**	**56**	**02.7**	**-0.6**
PGAV	**Gavieira, Arco**	**144.71**	**341**	*e*PKP	**PKPab**	**22**	**56**	**02.3**	**-0.4**
PGAV	**Gavieira, Arco**	**144.71**	**341**	*e*SS	SS	23	18	12.4	+7.0
PGAV	**Gavieira, Arco**	**144.71**	**341**	*e*LQ	LQ	23	39	15.6	
PGAV				*e*LR	LR	23	45	48.5	
	comp=Z,30µm,22.0s								
PCAB	**Cabril**	**144.86**	**341**	*e*PKP	**PKPdf**	**22**	**56**	**05.0**	**+0.9**
BDFB	**Brasilia**	**144.96**	**134**	*e*PKPab	**PKPab**	**22**	**56**	**02.4**	**-1.9**
BDFB	**Brasilia**	**144.96**	**134**	PKPbc	**PKPab**	**22**	**56**	**03.4**	**-0.9**
	comp=Z,58nm,0.8s,baz=221,slow=1.9,SNR=36								
EBNR	**Beni Rached**	**144.99**	**325**	P	PKPdf	22	56	12.0	+7.5
MVO	**Moncorvo**	**145.01**	**339**	*e*PKP	**PKPbc**	**22**	**56**	**03.3**	**-0.5**
MVO	**Moncorvo**	**145.01**	**339**	*e*SS	SS	23	18	16.6	+7.7
MVO	**Moncorvo**	**145.01**	**339**	*e*LQ	LQ	23	40	52.5	
MVO				*e*LR	LR	23	45	56.3	
	comp=Z,41µm,20.0s								
ES19	**SONSECA Array**	**145.06**	**334**	*e*PKPbc	**PKPbc**	**22**	**56**	**01.4**	**-2.5**
POLO	**Lamas de Olo**	**145.09**	**340**	*e*PKP	**PKPbc**	**22**	**56**	**03.2**	**-0.8**
ESDC	**Sonseca Array**	**145.11**	**334**	PKP	**PKPbc**	**22**	**56**	**02.4**	**-1.7**
ESDC	**Sonseca Array**	**145.11**	**334**	PKP	**PKPbc**	**22**	**56**	**02.4**	**-1.7**
	comp=Z,13nm,1.0s,baz=23,slow=3.4,SNR=30								
PVRL	**Vila Real**	**145.15**	**340**	*e*PKP	**PKPbc**	**22**	**56**	**03.8**	**-0.4**
ECHA	**Ech Chlef**	**145.18**	**325**	P	PKPdf	22	56	14.0	+9.2
PAB	**San Pablo**	**145.38**	**335**	*e*PKIKP	**PKPbc**	**22**	**56**	**03.5**	**-1.5**
PAB				MLR	MLR				
	comp=Z,55µm,21.0s								
PAB	**San Pablo**	**145.38**	**335**	*e*PKPbc	**PKPbc**	**22**	**56**	**03.5**	**-1.5**
PAB				LR	LR				
	comp=Z,55µm,21.0s								
EANR	**'Ain N'Sour**	**145.48**	**325**	P	**PKPab**	**22**	**56**	**06.0**	**+0.4**
PTO	**Porto**	**145.56**	**341**	*e*PKP	**PKPab**	**22**	**56**	**06.2**	**+0.5**
OKGL	**Djebel Kef Gue**	**145.67**	**325**	P	PKPab	22	56	12.0	+5.7
PVIS	**Viseu**	**145.71**	**340**	*e*PKP	**PKPdf**	**22**	**56**	**05.2**	**-0.4**
MTE	**Manteigas**	**145.87**	**339**	*e*PKP	**PKPbc**	**22**	**56**	**06.3**	**-0.2**
MTE	**Manteigas**	**145.87**	**339**	*e*SS	SS	23	18	27.0	+8.3
MTE	**Manteigas**	**145.87**	**339**	*e*LQ	LQ	23	40	32.7	
MTE				*e*LR	LR	23	45	33.7	
	comp=Z,44µm,20.0s								
MTE	**Manteigas**	**145.87**	**339**	*e*PKPdf	**PKPdf**	**22**	**56**	**03.9**	**-2.0**
MTE				LR	LR				
	comp=Z,44µm,20.0s								
PCBR	**Castelo Branco**	**146.35**	**339**	*e*PKP	**PKPbc**	**22**	**56**	**08.0**	**+0.1**
USTO	**Oran**	**146.56**	**326**	P	PKPab	22	56	15.0	+5.4
ODJA	**Bouhanifia**	**146.63**	**325**	P	**PKPdf**	**22**	**56**	**07.0**	**-0.4**
PMRV	**Marv??o**	**146.68**	**338**	*e*PKP	**PKPdf**	**22**	**56**	**07.6**	**+0.3**
PMRV	**Marv??o**	**146.68**	**338**	*e*SS	SS	23	18	37.0	+9.2
PMRV	**Marv??o**	**146.68**	**338**	*e*LQ	LQ	23	39	08.1	
PMRV				*e*LR	LR	23	46	48.8	
	comp=Z,42µm,20.0s								
PTOM	**Tomar**	**146.87**	**340**	*e*PKP	**PKPbc**	**22**	**56**	**08.7**	**-0.7**
PESTR	**Estremoz**	**147.25**	**338**	*e*PKP	**PKPdf**	**22**	**56**	**09.0**	**+0.8**
ALMR	**Almeirim**	**147.34**	**340**	*e*P	**PKPdf**	**22**	**56**	**08.9**	**+0.6**
ALMR	**Almeirim**	**147.34**	**340**	*e*P	**PKPdf**	**22**	**56**	**08.9**	**+0.6**
ALMR	**Almeirim**	**147.34**	**340**	*e*PKP2	**PKPdf**	**22**	**56**	**08.9**	**+0.6**
OLHC	**Oulhaca**	**147.39**	**327**	P	**PKPdf**	**22**	**56**	**09.0**	**+0.4**
EVO	**Evora**	**147.70**	**338**	*e*PKIKP	**PKPdf**	**22**	**56**	**08.3**	**-0.7**
	comp=Z,294nm,1.2s								
EVO				*e*R					
	comp=Z,32µm,22.8s								
EVO	**Evora**	**147.70**	**338**	*e*PKP	**PKPbc**	**22**	**56**	**11.6**	**-0.1**
EVOP	**Sao Brissos**	**147.74**	**338**	*e*PKIKP	**PKPdf**	**22**	**56**	**08.3**	**-0.7**
EVOP	**Sao Brissos**	**147.74**	**338**	*e*PKPdf	**PKPdf**	**22**	**56**	**08.3**	**-0.7**
LIS	**Lisbon**	**147.93**	**340**	*e*P	**PKPdf**	**22**	**56**	**09.8**	**+0.5**
LIS				*e*SS	SS	23	18	47.2	+5.5
LIS				AMS	AMS	00	05	27.7	
	comp=Z,40µm,20.4s								
LIS	**Lisbon**	**147.93**	**340**	*e*P	**PKPdf**	**22**	**56**	**09.8**	**+0.5**
LIS	**Lisbon**	**147.93**	**340**	A	A	00	05	27.7	
	comp=Z,40µm,20.4s								
LIS	**Lisbon**	**147.93**	**340**	*e*PKIKP	**PKPdf**	**22**	**56**	**09.8**	**+0.5**
LIS				*e*SS	SS	23	18	47.2	+5.5
PBEJ	**Beja**	**148.09**	**338**	*e*PKP	**PKPbc**	**22**	**56**	**13.0**	**+0.2**
PNCL	**Nicolau / Gran**	**148.25**	**339**	*e*PKP	**PKPbc**	**22**	**56**	**13.5**	**+0.3**
PCVE	**Castro Verde**	**148.50**	**339**	*e*PKP	**PKPbc**	**22**	**56**	**12.8**	**-1.1**
PVAQ	**Vaqueiros**	**148.57**	**337**	*e*PKP	**PKPab**	**22**	**56**	**17.0**	**-0.5**
PVAQ	**Vaqueiros**	**148.57**	**337**	*e*SS	SS	23	18	38.5	-11
PVAQ	**Vaqueiros**	**148.57**	**337**	*e*LR	LR	23	51	24.2	
	comp=Z,46µm,24.0s								
H07S1	**FLORES T-PHASE**	**148.66**	**13**	*e*LR	LR	23	46	00.8	
PTEO	**Sao Teotonio**	**148.83**	**338**	*e*PKP	**PKPbc**	**22**	**56**	**14.7**	**0.0**
MORF	**Marmelete**	**149.01**	**338**	*e*PKP	**PKPab**	**22**	**56**	**17.9**	**-1.5**
MORF	**Marmelete**	**149.01**	**338**	*e*PKIKP	**PKPdf**	**22**	**56**	**11.6**	**+0.4**
PFVI	**Vila Bisbo**	**149.23**	**338**	*e*PKP	**PKPab**	**22**	**56**	**20.3**	**+0.1**
PGRA	**Graciosa**	**149.59**	**8**	*e*PKP	PKPab	22	56	31.1	+10
PGRA	**Graciosa**	**149.59**	**8**	*e*LR	LR	23	47	00.3	
	comp=Z,7µm,22.6s								
ROSA	**Rosais**	**149.86**	**9**	*e*PKP	PKPab	22	56	30.6	+7.9
ROSA	**Rosais**	**149.86**	**9**	*e*LR	LR	23	47	03.6	
	comp=Z,16µm,19.3s								
PSET	**Sete Cidades**	**151.04**	**5**	*e*PKP	**PKPab**	**22**	**56**	**32.1**	**+4.5**
PSET	**Sete Cidades**	**151.04**	**5**	*e*LR	LR	23	47	01.9	
	comp=Z,8µm,16.1s								
RTC	**Rabat Centre**	**151.12**	**332**	*e*PKPbc	**PKPbc**	**22**	**56**	**19.2**	**-1.2**
RTC				LR	LR				
	comp=Z,38µm,22.0s								
TOA0	**Torodi Ar. Sit**	**155.80**	**282**	*e*PKPdf	**PKPdf**	**22**	**56**	**19.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**155.80**	**282**	PKP	**PKPdf**	**22**	**56**	**21.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**155.80**	**282**	PKP	**PKPdf**	**22**	**56**	**21.0**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=37,slow=1.5,SNR=16								
RCBR	**Riachuelo**	**160.26**	**137**	*e*PKPdf	**PKPdf**	**22**	**56**	**29.3**	**+1.9**
KIC	**Kosan Boka**	**162.14**	**263**	*e*P	**PKPdf**	**22**	**56**	**30.8**	**+1.5**
	comp=Z,156nm,1.4s								
DBIC	**Dimbokro**	**162.30**	**264**	*e*PKPdf	**PKPdf**	**22**	**56**	**29.9**	**+0.5**
DBIC				PKPab	**PKPab**	**22**	**57**	**17.1**	**+0.4**
DBIC				*e*PP	PP	23	01	06.6	+5.4
DBIC	**Dimbokro**	**162.30**	**264**	PKP	**PKPdf**	**22**	**56**	**30.7**	**+1.2**
	comp=Z,5.4nm,0.9s,baz=159,slow=1.7,SNR=7.8								
DBIC				PKPab	**PKPab**	**22**	**57**	**17.1**	**+0.4**
	comp=Z,13nm,0.8s,baz=109,slow=2.7,SNR=4.7								
DBIC				PP	**PP**	**23**	**01**	**05.8**	**+4.6**
	comp=Z,13nm,1.2s,baz=73,slow=5.3,SNR=4.6								
LIC	**Lamto**	**162.40**	**263**	*e*PKIKP	**PKPdf**	**22**	**56**	**31.2**	**+1.6**
	comp=Z,39nm,0.9s								
LIC				*e*R					
	comp=Z,85µm,23.0s								
LIC	**Lamto**	**162.40**	**263**	*e*P	**PKPdf**	**22**	**56**	**28.4**	**-1.2**
	comp=Z,84nm,1.0s								
LIC	**Lamto**	**162.40**	**263**	*e*PKPdf	**PKPdf**	**22**	**56**	**31.2**	**+1.6**
TIC	**Toumodi**	**162.46**	**264**	*e*P	**PKPdf**	**22**	**56**	**28.7**	**-1.0**
	comp=Z,518nm,2.4s								

*IDC **03** 22:37:23.8±11.0, 4°.01S×103°.86W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.6/6, Error ellipse: s-maj=216.9km s-min=124.3km az=178.0*

ISC 03 22:37:26.4±9.7, 4°S±1°×103°.8W±0°.9, h18km, n12, σ1§10/6, mb3.8/6, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**33.15**	**0**	P	**P**	**22 44 01.6**	**-0.5**
	0.2nm,0.8s,baz=187,slow=11,SNR=3.1						
H03N2	**Juan Fernandez**	**37.37**	**145**	T	T	23 24 32.9	
	baz=308						
H03N1	**Juan Fernandez**	**37.38**	**145**	T	T	23 24 36.3	
	baz=308						
H03N3	**Juan Fernandez**	**37.39**	**145**	T	T	23 24 34.2	
	baz=308						
NVAR	**Mina Array Bea**	**44.30**	**344**	P	**P**	**22 45 37.0**	**+1.4**
	0.3nm,0.6s,baz=174,slow=9.6,SNR=2.5						
PDAR	**Pinedale Array**	**46.85**	**354**	P	**P**	**22 45 55.6**	**-0.1**
	1.1nm,0.8s,baz=159,slow=7.7,SNR=10						
YBH	**Yreka Blue Hor**	**48.67**	**341**	P	**P**	**22 46 09.2**	**-0.4**
	0.6nm,0.8s,baz=131,slow=8.1,SNR=2.3						
ULM	**Lac du Bonnet**	**54.48**	**6**	P	**P**	**22 46 53.9**	**+1.0**
	4.4nm,0.8s,baz=192,slow=7.2,SNR=5.3						
YKA	**Yellowknife Ar**	**66.83**	**355**	P	**P**	**22 48 16.5**	**-0.3**
	0.9nm,0.8s,baz=162,slow=6.6,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**90.75**	**288**	T	T	00 31 17.6	
	baz=95						
H11S1	**WAKE ISLAND Hy**	**90.75**	**288**	T	T	00 31 05.7	
	baz=95						
H11S3	**WAKE ISLAND Hy**	**90.77**	**288**	T	T	00 31 06.5	
	baz=95						

WEL 03 22:42:09.2±0.3, 39°.30S×175°.00E, h204km±4km, ML3.6/7, 1C-1D, Error ellipse: s-maj=5.7km s-min=5.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**1.06**	**136**	PN	Pn	22 42 39.9	0.0
TSZ				SN	S	22 43 02.9	-0.7
TSZ				AML	AML	22 43 54.2	
OGWZ	**Otaki Gorge**	**1.52**	**175**	PN	Pn	22 42 43.8	+0.3
OGWZ				SN	S	22 43 09.8	-0.1
KIW	**Kapiti Island**	**1.56**	**182**	PN	Pn	22 42 43.7	-0.1
KIW				SN	S	22 43 09.7	-0.8
PXZ	**Pawanui**	**1.61**	**118**	⇓PN	Pn	22 42 44.2	-0.1
PXZ				SN	S	22 43 11.2	+0.1
PXZ				AML	AML	22 44 24.7	
HOWZ	**Holdsworth Sta**	**1.65**	**166**	PN	Pn	22 42 44.5	-0.1
HOWZ				SN	S	22 43 11.6	-0.3
CAW	**Cannon Point**	**1.81**	**178**	PN	Pn	22 42 46.2	0.0
CAW				AML	AML	22 43 17.1	
URZ	**Urewera**	**1.95**	**59**	PN	Pn	22 42 43.6	-3.9
URZ				SN	S	22 43 10.1	-6.6
URZ				AML	AML	22 44 36.4	
TCW	**Tory Channel**	**1.99**	**196**	PN	Pn	22 42 47.9	+0.1
TCW				AML	AML	22 43 48.5	
TCW				AML	AML	22 44 02.6	
TUWZ	**Tuamarina**	**2.28**	**200**	PN	Pn	22 42 50.5	-0.4
TUWZ				AML	AML	22 44 46.1	
NNZ	**Nelson**	**2.28**	**212**	⇑PN	Pn	22 42 49.9	-1.1
THZ	**Tophouse**	**2.94**	**212**	PN	Pn	22 42 57.3	-1.1
MQZ	**McQueen's Vall**	**4.75**	**201**	PN	Pn	22 43 18.1	-2.3

*IDC **03** 22:44:25.2±0.8, 8°.55S×157°.44E, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.6/18, mbtmp4.5/15, Error ellipse: s-maj=29.8km s-min=19.0km az=94.0*

*ISCJB **03** 22:44:26.6±0.7, 8°.49S±0°.09×157°.3E±0°.1, h16km, mb4.5/15, Error ellipse: s-maj=21.4km s-min=12.4km az=14.4*

*NEIC **03** 22:44:30.3±0.6, 8°.59S×157°.34E, h35km, mb4.0/1, Error ellipse: s-maj=18.0km s-min=12.1km az=113.0*

ISC 03 22:44:27.7±0.7, 8°.6S±0°.1×157°.4E±0°.2, h16km, n37, σ0§86/37, mb4.5/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.97**	**241**	*e*P	**P**	**22 49 50.1**	**-0.8**
WRA	**Warramunga Arr**	**24.99**	**241**	P	**P**	**22 49 51.2**	**+0.2**
WRA	**Warramunga Arr**	**

baz=199,slow=78,SNR=25
H11S1 WAKE ISLAND Hy 28.49 19 T T 23 24 45.3
baz=199,slow=78,SNR=33
H11N1 WAKE ISLAND Hy 29.68 18 T T 23 26 38.4
baz=197,slow=74,SNR=7.6
H11N3 WAKE ISLAND Hy 29.70 18 T T 23 26 41.2
baz=197,slow=74,SNR=10
H11N2 WAKE ISLAND Hy 29.70 18 T T 23 26 33.1
baz=197,slow=74,SNR=9.8
FITZ Fitzroy Crossi 32.29 250 P **P** **22 56 35.5 +0.4**
2.4nm,0.8s,baz=41,slow=9.5,SNR=4.4
MJAR Matsushiro Arr 48.46 339 P **P** **22 58 48.6 +0.1**
MJAR Matsushiro Arr 48.46 339 P **P** **22 58 48.6 +0.1**
3.1nm,0.9s,baz=164,slow=8.6,SNR=5.8
KSRS Korea Array 53.55 331 P **P** **22 59 27.1 +0.3**
4.3nm,0.9s,baz=153,slow=8.6,SNR=8.6
KSAR Wonju Array Be 53.56 331 P **P** **22 59 27.1 +0.2**
USRK Ussuriysk Arra 57.44 338 P **P** **22 59 54.1 -0.5**
6.8nm,1.0s,baz=141,slow=9.3,SNR=5.3
PETK Petropavlovsk- 61.52 0 P **P** **23 00 24.2 +1.6**
PETK Petropavlovsk- 61.52 0 P **P** **23 00 24.2 +1.6**
7.6nm,1.0s,baz=150,slow=10,SNR=2.9
CMAR Chiang Mai Arr 63.69 295 P **P** **23 00 38.4 +0.6**
CMAR Chiang Mai Arr 63.69 295 P **P** **23 00 38.4 +0.6**
2.7nm,0.8s,baz=121,slow=4.7,SNR=9.9
CHTO Chiang Mai 63.81 296 *eP* **P** **23 00 38.1 -0.6**
16nm,1.3s
VNDA Vanda 68.88 179 *eP* **P** **23 01 10.3 +0.2**
7.7nm,1.0s
VNDA Vanda 68.88 179 P **P** **23 01 10.2 +0.1**
6.1nm,0.9s,baz=339,slow=6.1,SNR=9.6
ULN Ulaanbaatar 71.71 327 *eP* **P** **23 01 28.7 +0.6**
SONM Songino Array 72.05 327 P **P** **23 01 30.5 +0.4**
SONM Songino Array 72.05 327 P **P** **23 01 30.5 +0.4**
4.4nm,0.9s,baz=133,slow=6.2,SNR=9.3
YAK Yakutsk 73.70 347 *eP* **P** **23 01 38.4 -1.0**
LSA Lhasa 74.22 304 *eP* **P** **23 01 43.8 +0.1**
10nm,1.0s
ILAR Eielson Array 84.03 21 P **P** **23 02 35.2 -0.9**
ILAR Eielson Array 84.03 21 P **P** **23 02 35.2 -0.9**
2.7nm,0.9s,baz=260,slow=5.2,SNR=13
MK31 Makanchi Array 86.26 318 *eP* **P** **23 02 47.0 -0.7**
MKAR Makanchi Array 86.26 318 P **P** **23 02 47.4 -0.3**
MKAR Makanchi Array 86.26 318 P **P** **23 02 47.4 -0.3**
3.5nm,0.7s,baz=97,slow=6.0,SNR=14
ZALV Zalesovo Beam 86.92 326 P **P** **23 02 49.2 -1.5**
ZALV Zalesovo Beam 86.92 326 P **P** **23 02 49.2 -1.5**
1.2nm,0.7s,baz=100,slow=5.3,SNR=4.0
J05D Fort Rock, OR 89.60 46 P **P** **23 03 04.4 +0.5**
baz=90
KURBB Kurchatov Arra 89.67 321 P **P** **23 03 02.7 -1.1**
0.6nm,0.3s,baz=113,slow=2.9,SNR=3.0
VES Vestal, Richgr 89.75 54 P **P** **23 03 05.7 +1.1**
baz=90
ARVC Arvin 89.83 55 P **P** **23 03 06.1 +1.2**
baz=90
ISA Isabella 90.21 54 P **P** **23 03 07.1 +0.3**
baz=90
MWC Mount Wilson 90.29 56 *eP* **P** **23 03 07.7 +0.3**
24nm,1.3s
INK Inuvik 90.42 20 *eP* **P** **23 03 06.3 -0.6**
EDW2 Edwards Air Fo 90.46 55 P **P** **23 03 08.1 +0.1**
baz=90
AAK Ala-Archa 90.66 313 P **P** **23 03 09.0 +0.1**
AAK Ala-Archa 90.66 313 P **P** **23 03 09.0 +0.1**
1.7nm,0.7s,baz=125,slow=8.2,SNR=6.9
CWC Cottonwood Cre 90.66 53 P **P** **23 03 09.1 +0.1**
baz=91
LRMC Laurel Mountai 90.81 54 P **P** **23 03 10.3 +0.6**
baz=91
NVAR Mina Array Bea 90.84 51 P **P** **23 03 10.7 +0.7**
NVAR Mina Array Bea 90.84 51 P **P** **23 03 10.7 +0.7**
5.1nm,1.0s,baz=263,slow=7.0,SNR=9.8
NV11 Mina Array Sit 90.95 51 *eP* **P** **23 03 09.5 -0.8**
MPMC Manual Prospec 91.07 54 P **P** **23 03 11.6 +0.7**
baz=91
FURC Furnace Creek, 91.64 54 P **P** **23 03 14.4 +1.1**
baz=92
HEC Hector,Ludlow 91.80 55 P **P** **23 03 14.8 +0.6**
baz=92
BELC Belle Mtn. Jos 91.94 56 P **P** **23 03 15.2 +0.3**
baz=92
TPNV Topopah Spring 92.20 53 P **P** **23 03 16.5 +0.4**
baz=92
GMRC Granite Mounta 92.33 55 P **P** **23 03 17.0 +0.2**
baz=92
IRM Iron Mountain 92.66 56 P **P** **23 03 18.3 +0.1**
baz=93
NEW Newport 93.36 42 P **P** **23 03 21.9 +0.8**
baz=94
YKA Yellowknife Ar 96.66 28 P **P** **23 03 36.8 +1.1**
YKA Yellowknife Ar 96.66 28 P **P** **23 03 36.8 +1.1**
1.6nm,1.0s,baz=264,slow=4.8,SNR=8.8
AKASG Malin Array Be 120.30 325 PKP **PKPdf** **23 08 55.9 -1.2**
AKASG Malin Array Be 120.30 325 PKP **PKPdf** **23 08 55.9 -1.2**
0.2nm,0.3s,baz=67,slow=1.9,SNR=6.8
MLR Muntele Rosu 124.56 320 PKP **PKPdf** **23 09 06.1 +0.5**
MLR Muntele Rosu 124.56 320 PKP **PKPdf** **23 09 06.1 +0.5**
0.7nm,0.6s,baz=305,slow=9.4,SNR=2.1
GERES GERESS Array B 129.72 329 PKP **PKPdf** **23 09 15.7 +0.3**
GERES GERESS Array B 129.72 329 PKP **PKPdf** **23 09 15.6 +0.3**
2.3nm,1.1s,baz=54,slow=2.5,SNR=2.5
ESDC Sonseca Array 144.93 335 PKP **PKPab** **23 09 41.9 -0.7**
ESDC Sonseca Array 144.93 335 PKP **PKPab** **23 09 41.9 -0.7**
2.7nm,0.9s,baz=28,slow=2.9,SNR=5.5
BDFB Brasilia 145.08 134 PKPbc **PKPbc** **23 09 43.2 -0.7**
BDFB Brasilia 145.08 134 PKPbc **PKPbc** **23 09 43.2 -0.7**
8.6nm,0.8s,baz=150,slow=2.9,SNR=6.9
MDT Midelt 150.79 328 PKPbc **PKPbc** **23 09 59.0 0.0**
MDT Midelt 150.79 328 PKPbc **PKPbc** **23 09 59.0 0.0**
4.8nm,0.9s,baz=29,slow=4.2,SNR=7.1

*IDC **03** 22:50:54.6±1.3,8.4°S×157.07E,h0km,mb4.5/7, mb1 4.7/7,mb1mx4.3/18,mbtmp4.5/7,Error ellipse: s-maj=43.9km s-min=28.6km az=120.0*
*ISCJB **03** 22:50:55.4±0.6,8.5S±0.1×157.1E±0.1,h19km,mb4.3/9, Error ellipse: s-maj=16.2km s-min=13.8km az=41.7*
*NEIC **03** 22:50:59.1±0.5,8.60S×157.13E,h35km,mb4.4/4,Error ellipse: s-maj=12.9km s-min=11.8km az=129.0*
ISC 03 22:50:57.1±0.7,8.5S±0.1×157.1E±0.1,h19km,n24, σ0s73/21,mb4.4/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.17**	**147**	*eP*n	**Pn**	**22 54 43.4**	**-0.1**
	45nm,1.3s						
TARA	**Tarawa**	**18.55**	**59**	*eP*	**P**	**22 55 13.1**	**+0.1**
	368nm,1.4s						
WRA	**Warramunga Arr**	**24.80**	**240**	P	**P**	**22 56 18.2**	**0.0**
WRA	**Warramunga Arr**	**24.80**	**240**	P	**P**	**22 56 18.2**	**0.0**
	15nm,0.8s,baz=65,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**26.85**	**233**	P	**P**	**22 56 36.1**	**-0.7**
ASAR	**Alice Springs**	**26.85**	**233**	P	**P**	**22 56 36.1**	**-0.7**
	4.8nm,0.9s,baz=63,slow=9.6						
STKA	**Stephens Creek**	**27.36**	**210**	*eP*	**P**	**22 56 39.2**	**-1.9**
	2.6nm,0.9s						
STKA	**Stephens Creek**	**27.36**	**210**	P	**P**	**22 56 42.0**	**+0.8**
	10nm,0.8s,baz=22,slow=11,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**28.46**	**19**	T	T	23 26 50.4	
	baz=199						
H11S2	**WAKE ISLAND Hy**	**28.46**	**19**	T	T	23 26 55.1	
	baz=199						
H11S1	**WAKE ISLAND Hy**	**28.48**	**19**	T	T	23 26 57.3	
	baz=199						
CMAR	**Chiang Mai Arr**	**63.35**	**296**	P	**P**	**23 01 25.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**63.35**	**296**	P	**P**	**23 01 25.8**	**+0.2**
	1.8nm,0.8s,baz=124,slow=4.6,SNR=2.3						
ULN	**Ulaanbaatar**	**71.43**	**327**	*eP*	**P**	**23 02 15.6**	**-0.8**
	3.0nm,0.8s						
MAW	**Mawson**	**83.80**	**203**	P	**P**	**23 03 26.0**	**+1.0**
	7.8nm,1.0s,baz=102,slow=9.3,SNR=3.9						
MKAR	**Makanchi Array**	**85.95**	**318**	P	**P**	**23 03 36.9**	**+0.7**
MKAR	**Makanchi Array**	**85.95**	**318**	P	**P**	**23 03 36.9**	**+0.7**
	2.6nm,0.9s,baz=113,slow=6.1,SNR=3.9						
BRVK	**Borovoye**	**94.86**	**323**	*eP*	**P**	**23 04 17.6**	**-0.2**
	1.2nm,0.5s						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**23 04 25.3**	**-0.6**
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**23 04 25.3**	**-0.6**
	0.6nm,0.8s,baz=261,slow=4.4,SNR=2.7						
ESDC	**Sonseca Array**	**144.67**	**334**	PKP	**PKPdf**	**23 10 33.6**	**+0.5**
ESDC	**Sonseca Array**	**144.67**	**334**	PKP	**PKPdf**	**23 10 33.6**	**+0.5**
	0.7nm,0.7s,baz=5.9,slow=2.7,SNR=3.3						
BDFB	**Brasilia**	**145.40**	**134**	PKPbc	**PKPab**	**23 10 35.2**	**+0.1**
BDFB	**Brasilia**	**145.40**	**134**	PKPbc	**PKPab**	**23 10 35.2**	**+0.1**
	3.4nm,0.8s,baz=146,slow=3.6,SNR=1.4						

*ISCJB **03** 22:52:22.7±0.8,8.58S±0.09×157.5E±0.2,h16km, mb4.3/13,Error ellipse: s-maj=23.4km s-min=12.4km az=14.5*
*IDC **03** 22:52:22.3±1.0,8.55S×157.53E,h0km,mb4.3/10, mb1 4.4/10,mb1mx4.3/17,mbtmp4.3/10,Error ellipse: s-maj=34.2km s-min=25.6km az=106.0*
*NEIC **03** 22:52:27.2±0.5,8.60S×157.50E,h35km,mb4.8/4,Error ellipse: s-maj=15.4km s-min=9.9km az=102.0*
ISC 03 22:52:24.4±0.7,8.6S±0.1×157.6E±0.2,h16km,n34, σ0s79/34,mb4.5/13,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAO	**Charters Tower**	**15.81**	**223**	*eP*n	**Pn**	**22 56 06.8**	**+0.2**
WRA	**Warramunga Arr**	**25.13**	**241**	P	**P**	**22 57 48.9**	**-0.1**
WRA	**Warramunga Arr**	**25.13**	**241**	P	**P**	**22 57 48.9**	**-0.1**
	12nm,0.9s,baz=65,slow=9.5,SNR=4.3						
GUMO	**Guam**	**25.38**	**330**	P	**P**	**22 57 50.4**	**-0.8**
STKA	**Stephens Creek**	**27.51**	**210**	*eP*	**P**	**22 58 10.5**	**+0.1**
	144nm,2.7s						
STKA	**Stephens Creek**	**27.51**	**210**	P	**P**	**22 58 11.2**	**+0.9**
	7.0nm,1.0s,baz=54,slow=13,SNR=4.2						
KSRS	**Korea Array**	**53.54**	**331**	P	**P**	**23 01 45.1**	**+0.6**
	6.5nm,1.1s,baz=144,slow=9.1,SNR=6.2						
KSAR	**Wonju Array Be**	**53.55**	**331**	P	**P**	**23 01 45.1**	**+0.5**
USRK	**Ussuriysk Arra**	**57.41**	**338**	P	**P**	**23 02 13.1**	**+0.8**
	6.4nm,1.1s,baz=114,slow=6.5,SNR=4.3						
SLVN	**Son La**	**60.47**	**300**	*eP*	**P**	**23 02 33.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**63.75**	**295**	P	**P**	**23 02 56.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**63.75**	**295**	P	**P**	**23 02 56.7**	**+0.6**
	7.2nm,1.1s,baz=110,slow=5.1,SNR=7.4						
VNDA	**Vanda**	**68.94**	**179**	*eP*	**P**	**23 03 27.1**	**-1.1**
	5.5nm,1.1s						
ULN	**Ulaanbaatar**	**71.71**	**327**	*eP*	**P**	**23 03 45.5**	**-0.4**
	4.5nm,0.9s						
SONM	**Songino Array**	**72.05**	**327**	P	**P**	**23 03 47.5**	**-0.4**
SONM	**Songino Array**	**72.05**	**327**	P	**P**	**23 03 47.5**	**-0.4**
	2.3nm,1.0s,baz=134,slow=6.1,SNR=2.3						
LSA	**Lhasa**	**74.26**	**304**	*eP*	**P**	**23 04 01.5**	**-0.3**
	23nm,1.3s						
MK31	**Makanchi Array**	**86.27**	**318**	*eP*	**P**	**23 05 05.0**	**-0.6**
MKAR	**Makanchi Array**	**86.27**	**318**	P	**P**	**23 05 03.9**	**-1.6**
MKAR	**Makanchi Array**	**86.27**	**318**	P	**P**	**23 05 03.9**	**-1.6**
	1.5nm,0.8s,baz=106,slow=6.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**86.91**	**326**	P	**P**	**23 05 08.9**	**+0.4**
ZALV	**Zalesovo Beam**	**86.91**	**326**	P	**P**	**23 05 08.9**	**+0.4**
	0.7nm,0.7s,baz=103,slow=3.1,SNR=3.0						
KURK	**Kurchatov**	**89.65**	**321**	*eP*	**P**	**23 05 21.5**	**0.0**
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**23 05 27.7**	**+0.5**
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**23 05 27.7**	**+0.5**
	0.3nm,0.7s,baz=267,slow=1.8,SNR=1.8						
BRVK	**Borovoye**	**95.15**	**323**	*eP*	**P**	**23 05 46.0**	**-1.0**
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**23 05 52.5**	**-0.6**
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**23 05 52.5**	**-0.6**
	0.5nm,0.9s,baz=275,slow=4.3,SNR=2.8						
AKASG	**Malin Array Be**	**120.30**	**325**	PKP	**PKPdf**	**23 11 16.2**	**+1.3**
AKASG	**Malin Array Be**	**120.30**	**325**	PKP	**PKPdf**	**23 11 16.2**	**+1.3**
	0.3nm,0.5s,baz=117,slow=1.0,SNR=3.1						
ESDC	**Sonseca Array**	**144.91**	**335**	PKP	**PKPdf**	**23 12 02.3**	**+0.9**
ESDC	**Sonseca Array**	**144.91**	**335**	PKP	**PKPdf**	**23 12 02.3**	**+0.9**
	2.2nm,1.1s,baz=48,slow=3.8,SNR=5.4						
BDFB	**Brasilia**	**145.06**	**133**	PKPbc	**PKPbc**	**23 12 01.5**	**-0.2**
BDFB	**Brasilia**	**145.06**	**133**	PKPbc	**PKPbc**	**23 12 01.5**	**-0.2**
	6.3nm,0.8s,baz=165,slow=1.2,SNR=5.2						

*IDC **03** 22:55:50.3±0.7,8.55S×157.22E,h0km,mb4.1/10, mb1 4.2/11,mb1mx4.1/19,mbtmp4.1/11,ML4.0/1,Error ellipse: s-maj=22.9km s-min=14.0km az=16.0*
*ISCJB **03** 22:55:51.5±0.6,8.6S±0.1×157.2E±0.1,h19km,mb4.0/12, Error ellipse: s-maj=15.8km s-min=15.2km az=4.8*
*NEIC **03** 22:55:56.6±1.9,8.64S×157.32E,h48km±18km,mb4.0/3, Error ellipse: s-maj=16.7km s-min=14.1km az=116.0*
ISC 03 22:55:53.1±0.6,8.6S±0.1×157.25E±0.09,h19km,n31, σ0s89/32,mb4.1/12,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.80**	**108**	Pn	**Pn**	**22 56 37.9**	**+1.0**
HNR				Lg	Lg	22 57 21.9	
HNR	**Honiara**	**2.80**	**108**	Pn	**Pn**	**22 56 37.9**	**+1.0**
	26nm,0.3s,baz=220,slow=7.9,SNR=2.5						
HNR				Pg	**Pb**	**22 56 42.5**	**0.0**
	60nm,0.3s,baz=253,slow=19,SNR=3.5						
HNR				Lg	Lg	22 57 21.8	
	89nm,0.3s,baz=30,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**24.88**	**241**	P	**P**	**23 01 14.4**	**-0.5**
WRA	**Warramunga Arr**	**24.88**	**241**	P	**P**	**23 01 14.4**	**-0.5**
	4.7nm,0.8s,baz=65,slow=9.8,SNR=7.2						
STKA	**Stephens Creek**	**27.38**	**210**	P	**P**	**23 01 36.9**	**-0.4**
	1.0nm,0.9s						
STKA	**Stephens Creek**	**27.38**	**210**	P	**P**	**23 01 37.9**	**+0.6**
	1.5nm,0.5s,baz=327,slow=15,SNR=5.6						
FITZ	**Fitzroy Crossi**	**32.13**	**250**	P	**P**	**23 02 19.2**	**-0.5**
	5.0nm,0.9s,baz=86,slow=15,SNR=3.7						
KSRS	**Korea Array**	**53.38**	**331**	P	**P**	**23 05 11.8**	**+0.3**
	1.7nm,0.7s,baz=143,slow=7.4,SNR=4.3						
KSAR	**Wonju Array Be**	**53.39**	**331**	P	**P**	**23 05 11.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**63.48**	**295**	P	**P**	**23 06 23.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**63.48**	**295**	P	**P**	**23 06 23.9**	**+1.5**
	0.8nm,0.3s,baz=129,slow=5.4,SNR=6.7						
VNDA	**Vanda**	**68.96**	**179**	*eP*	**P**	**23 06 56.8**	**+0.2**
	10nm,1.6s						
ULN	**Ulaanbaatar**	**71.53**	**327**	*eP*	**P**	**23 07 12.4**	**-0.6**
	1.7nm,0.9s						
SONM	**Songino Array**	**71.87**	**327**	P	**P**	**23 07 16.5**	**+1.5**
SONM	**Songino Array**	**71.87**	**327**	P	**P**	**23 07 16.5**	**+1.5**
	0.7nm,0.6s,baz=140,slow=5.0,SNR=5.5						
ILAR	**Eielson Array**	**84.03**	**21**	P	**P**	**23 08 21.0**	**-1.1**
ILAR	**Eielson Array**	**84.03**	**21**	P	**P**	**23 08 21.0**	**-1.1**
	0.2nm,0.4s,baz=256,slow=5.3,SNR=5.6						
MKAR	**Makanchi Array**	**86.06**	**318**	P	**P**	**23 08 33.1**	**+0.4**
MKAR	**Makanchi Array**	**86.06**	**318**	P	**P**	**23 08 33.1**	**+0.4**
	1.1nm,0.6s,baz=96,slow=5.2,SNR=12						
ZALV	**Zalesovo Beam**	**86.73**	**326**	P	**P**	**23 08 34.9**	**-0.8**
ZALV	**Zalesovo Beam**	**86.73**	**326**	P	**P**	**23 08 34.9**	**-0.8**
	0.6nm,0.5s,baz=126,slow=5.9,SNR=2.5						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**23 09 21.4**	**-0.4**
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**23 09 21.4**	**-0.4**
	0.3nm,0.8s,baz=259,slow=4.8,SNR=4.3						
AKASG	**Malin Array Be**	**120.11**	**325**	PKP	**PKPdf**	**23 14 41.8**	**-0.9**
AKASG	**Malin Array Be**	**120.11**	**325**	PKP	**PKPdf**	**23 14 41.8**	**-0.9**
	0.2nm,0.5s,baz=215,slow=16,SNR=4.8						
GERES	**GERESS Array B**	**129.54**	**329**	PKP	**PKPdf**	**23 15 01.3**	**+0.3**
GERES	**GERESS Array B**	**129.54**	**329**	PKP	**PKPdf**	**23 15 01.3**	**+0.3**
	0.3nm,0.6s,baz=79,slow=2.1,SNR=4.1						
DAVOX	**Davos/Dischmat**	**132.84**	**330**	PKP	**PKPdf**	**23 15 07.5**	**+0.1**
DAVOX	**Davos/Dischmat**	**132.84**	**330**	PKP	**PKPdf**	**23 15 07.5**	**+0.1**
	1.1nm,0.7s,baz=149,slow=18,SNR=3.6						
BDFB	**Brasilia**	**145.28**	**134**	PKPbc	**PKPbc**	**23 15 29.1**	**-1.4**
BDFB	**Brasilia**	**145.28**	**134**	PKPbc	**PKPbc**	**23 15 29.1**	**-1.4**
	2.2nm,0.6s,baz=192,slow=9.1,SNR=3.3						

*IDC **03** 22:57:07.6±1.2,8.48S×156.83E,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.0/18,mbtmp4.1/7,Error ellipse: s-maj=39.6km s-min=31.3km az=109.0*
*ISCJB **03** 22:57:09.7±1.2,8.5S±0.2×156.7E±0.3,h19km,mb4.0/7, Error ellipse: s-maj=39.8km s-min=22.5km az=27.1*
ISC 03 22:57:10.7±1.2,8.5S±0.2×156.8E±0.3,h19km,n8,σ1s27/8, mb4.1/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.54**	**240**	P	**P**	**23 02 28.7**	**-0.8**
	4.1nm,0.7s,baz=65,slow=9.4,SNR=3.3						
STKA	**Stephens Creek**	**27.22**	**209**	P	**P**	**23 02 54.7**	**+1.2**
	1.6nm,0.5s,baz=33,slow=13,SNR=2.5						
CMAR	**Chiang Mai Arr**	**63.07**	**296**	P	**P**	**23 07 37.1**	**-0.2**
	1.4nm,0.8s,baz=115,slow=5.2,SNR=6.0						
SONM	**Songino Array**	**71.59**	**327**	P	**P**	**23 08 32.6**	**+1.6**
	1.6nm,1.0s,baz=132,slow=2.1,SNR=3.7						
MKAR	**Makanchi Array**	**85.74**	**318**	P	**P**	**23 09 47.3**	**-1.4**
	1.6nm,0.7s,baz=110,slow=4.5,SNR=6.4						
KURBB	**Kurchatov Arra**	**89.18**	**321**	P	**P**	**23 10 04.9**	**-0.2**
	0.6nm,0.9s,baz=91,slow=4.8,SNR=2.4						
NVAR	**Mina Array Bea**	**91.24**	**51**	P	**P**	**23 10 15.4**	**+0.1**
	0.6nm,0.8s,baz=224,slow=3.8,SNR=2.5						
BDFB	**Brasilia**	**145.62**	**134**	PKPbc	**PKPdf**	**23 16 48.0**	**-1.0**
	2.2nm,0.6s,baz=240,slow=4.9,SNR=3.9						

IDC 03 22:59:33.0±4.5,8.22S×156.22E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.8/17,mbtmp3.8/5,Error ellipse: s-maj=112.9km s-min=39.2km az=117.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**239**	P	**P**	**23 04 50.5**	**-0.8**
	2.2nm,0.8s,baz=63,slow=9.5,SNR=4.6						
KSRS	**Korea Array**	**52.58**	**332**	P	**P**	**23 08 47.9**	**-0.6**
	0.8nm,0.5s,baz=142,slow=6.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**62.40**	**296**	P	**P**	**23 10 00.2**	**+1.9**
	1.5nm,0.7s,baz=124,slow=5.5,SNR=6.7						
SONM	**Songino Array**	**71.01**	**327**	P	**P**	**23 10 53.3**	**+0.4**
	0.4nm,0.8s,baz=132,slow=6.4,SNR=2.4						
MKAR	**Makanchi Array**	**85.11**	**318**	P	**P**	**23 12 09.2**	**-1.9**
	0.7nm,0.8s,baz=91,slow=5.5,SNR=4.0						

IDC 03 23:00:06.0±1.8,8.32S×157.17E,h0km,mb4.1/3, mb1 4.2/4,mb1mx3.8/18,mbtmp4.2/4,ML3.9/1,Error ellipse: s-maj=42.7km s-min=18.5km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.96**	**112**	Pn	Pn	23 00 55.7	+1.5
	16nm,0.3s,baz=214,slow=7.3,SNR=2.0						
HNR				Lg	Lg	23 01 38.4	
	16nm,0.3s,baz=240,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**24.93**	**240**	P	P	23 05 29.9	-1.2
	1.6nm,0.5s,baz=66,slow=10,SNR=6.2						
STKA	**Stephens Creek**	**27.55**	**210**	P	P	23 05 55.5	+0.8
	2.6nm,0.5s,baz=37,slow=15,SNR=8.9						
MKAR	**Makanchi Array**	**85.82**	**318**	P	P	23 12 47.6	+0.1
	0.6nm,0.9s,baz=111,slow=4.1,SNR=3.5						

*IDC **03** 23:04:01.1±1.0,8.44S×157.19E,h0km,mb4.0/9, mb1 4.1/10,mb1mx4.0/20,mbtmp4.0/10,ML4.4/1,Error ellipse: s-maj=28.7km s-min=25.9km az=145.0*
ISC 03 23:04:04.0±0.7,8.5S±0.2×157.23E±0.09,h19km,n18, σ1s28/17,mb4.1/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.85**	**109**	Pn	**Pn**	**23 04 48.6**	**+0.2**
	50nm,0.3s,baz=256,slow=2.1,SNR=11						
HNR	**Honiara**	**2.85**	**109**	*i* P	**Pg**	**23 04 57.1**	**-1.5**
HNR				*i* S	**Sb**	**23 05 30.5**	**+1.8**
WRA	**Warramunga Arr**	**24.90**	**240**	P	**P**	**23 09 24.5**	**-1.5**
	3.7nm,0.8s,baz=66,slow=9.6,SNR=6.5						
STKA	**Stephens Creek**	**27.44**	**210**	*eP*	**P**	**23 09 49.6**	**+0.8**
	4.7nm,0.8s						
STKA	**Stephens Creek**	**27.44**	**210**	P	**P**	**23 09 50.0**	**+1.2**
	3.3nm,0.8s,baz=36,slow=13,SNR=5.1						
KS01	**Wonju Array Si**	**53.33**	**331**	*eP*	P	23 13 18.0	-4.0
CM01	**Chiang Mai Arr**	**63.39**	**295**	*eP*	**P**	**23 14 32.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**63.42**	**295**	P	**P**	**23 14 32.9**	**-0.1**
	2.9nm,1.0s,baz=120,slow=5.2,SNR=9.8						
SONM	**Songino Array**	**71.78**	**327**	P	**P**	**23 15 27.1**	**+1.8**
	0.7nm,0.9s,baz=152,slow=5.8,SNR=3.4						
SONA1	**Songino Array**	**71.79**	**327**	*eP*	**P**	**23 15 27.4**	**+2.0**
ILAR	**Eielson Array**	**83.95**	**21**	P	**P**	**23 16 31.3**	**-1.2**
	0.3nm,0.8s,baz=252,slow=5.5,SNR=3.8						
MK01	**Makanchi Array**	**85.97**	**318**	*eP*	**P**	**23 16 41.6**	**-1.5**
MK31	**Makanchi Array**	**85.98**	**318**	*eP*	**P**	**23 16 42.3**	**-0.8**
MKAR	**Makanchi Array**	**85.98**	**318**	P	**P**	**23 16 43.0**	**-0.1**
	2.7nm,0.9s,baz=103,slow=4.8,SNR=8.8						
KURBB	**Kurchatov Arra**	**89.40**	**321**	P	**P**	**23 16 58.7**	**-0.7**
	0.2nm,0.5s,baz=92,slow=2.8,SNR=3.3						
AAK	**Ala-Archa**	**90.38**	**313**	P	**P**	**23 17 03.9**	**-0.6**
	0.7nm,0.6s,baz=122,slow=9.2,SNR=3.4						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**23 17 32.9**	**+0.5**
	0.1nm,0.5s,baz=260,slow=4.7,SNR=4.6						
YKB5	**Yellowknife Ar**	**96.61**	**28**	*eP*	P	23 17 27.6	-4.8

*BJI **03** 23:04:07.7,8.77S×158.52E,h42km,mB5.8/2,mb5.0/14, Ms6.1/4,Ms7 6.1/4*
*IDC **03** 23:04:08.4±0.5,8.68S×157.43E,h0km,mb4.4/17, mb1 4.6/20,mb1mx4.6/22,mbtmp4.4/20,ML4.2/3,Error ellipse: s-maj=16.0km s-min=13.4km az=26.0*
*ISCJB **03** 23:04:09.2±0.4,8.79S±0.05×157.33E±0.06,h17km, mb4.7/28,MS5.8/1,Error ellipse: s-maj=8.5km s-min=7.4km az=9.8*
*NEIC **03** 23:04:13.0±0.5,8.80S×157.42E,h35km,mb4.8/7,Error ellipse: s-maj=11.8km s-min=10.7km az=125.0*
ISC 03 23:04:10.7±0.4,8.93S±0.07×157.50E±0.07,h17km,n105, σ1s41/91,mb4.8/27,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

UGM	Wanagama	46.46	268	P		P	23 12 39.9	+2.5
SMRI	Semarang	46.62	269	P		P	23 12 46.5	+7.9
STKI	Sintang	46.70	279	P		P	23 12 40.0	+0.8
	366nm,0.7s,30μm							
STKI	Sintang	46.70	279	P		P	23 12 39.7	+0.5
BJII	Banjamegara	47.32	268	P		x	23 12 42.4	
BJII	Banjamegara	47.32	268	P		x	23 12 46.0	
TGJI	Tegal	47.94	269	P		x	23 12 47.9	
TGJI	Tegal	47.94	269	P		x	23 12 50.0	
TGJI	Tegal	47.94	269	P		P	23 12 47.5	-1.4
MJAR	Matsushiro Arr	48.73	339	P		P	23 12 52.6	-1.9
MJAR	Matsushiro Arr	48.73	339	P		P	23 12 52.6	-1.9
	1.3nm,0.7s,baz=164,slow=8.5,SNR=4.9							
JCJI	Jatiwangi	48.82	269	P		P	23 12 55.3	-0.4
LEM	Lembang	49.43	269	P		P	23 12 59.3	-1.2
LEM	Lembang	49.43	269	P		P	23 13 00.0	-0.5
TPI	Tanjungpandan	49.93	274	P		P	23 13 03.9	-0.3
KSRS	Korea Array	53.81	331	P		P	23 13 31.6	-1.1
	3.3nm,1.0s,baz=145,slow=6.8,SNR=5.1							
KSAR	Wonju Array Be	53.82	331	P		P	23 13 31.6	-1.2
USRK	Ussuriysk Arra	57.71	338	P		P	23 13 58.3	-2.2
	3.5nm,0.8s,baz=153,slow=9.7,SNR=5.1							
MNSI	Mandailing Nat	58.50	276	P		P	23 14 04.3	-2.3
ENH	Enshi	60.37	312	*e*P		P	23 14 16.3	-3.0
	3.0nm,0.4s							
KMI	Kunming	63.15	304	P		P	23 14 38.9	+0.5
KMI				pmax	pmax			
	comp=Z,23nm,1.3s							
CMAR	Chiang Mai Arr	63.85	296	P		P	23 14 43.4	+0.5
CMAR	Chiang Mai Arr	63.85	296	P		P	23 14 43.4	+0.5
	4.4nm,0.8s,baz=119,slow=4.7,SNR=13							
LZH	Lanzhou	67.43	315	*e*P		P	23 15 06.2	+0.3
LZH				pP		pP	23 15 15.2	+3.8
LZH				sP		sP	23 15 19.3	+5.8
LZH				pmax	pmax			
	comp=Z,23nm,1.2s							
LZH				pmax	pmax			
	comp=Z,93nm,4.5s							
VNDA	Vanda	68.60	179	*e*P		P	23 15 10.9	-1.4
VNDA	Vanda	68.60	179	P		P	23 15 13.6	+1.2
	4.5nm,0.9s,baz=334,slow=5.7,SNR=6.0							
GTA	Gaotai	71.84	316	⇑P		P	23 15 33.8	+0.8
GTA				pP		pP	23 15 41.7	+3.1
GTA				sP		sP	23 15 45.0	+4.4
GTA				pmax	pmax			
	comp=Z,14nm,1.7s							
SONM	Songino Array	72.30	327	P		P	23 15 33.8	-1.8
SONM	Songino Array	72.30	327	P		P	23 15 33.8	-1.8
	2.6nm,0.9s,baz=138,slow=6.0,SNR=11							
WMQ	Urumqi	81.93	317	P		P	23 16 26.1	-3.6
WMQ				pP		pP	23 16 36.5	+1.2
WMQ				sP		sP	23 16 40.4	+3.0
WMQ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
WMQ				LR	LR			
	comp=N,2μm,19.5s							
WMQ				LR	LR			
	comp=E,1μm,22.4s							
WMQ				LR	LR			
	comp=Z,9μm,19.5s							
MAW	Mawson	83.58	203	P		P	23 16 38.5	+0.8
MAW	Mawson	83.58	203	P		P	23 16 38.5	+0.8
	7.7nm,1.1s,baz=73,slow=6.4,SNR=4.6							
ILAR	Eielson Array	84.27	21	P		P	23 16 39.8	-1.5
ILAR	Eielson Array	84.27	21	P		P	23 16 39.8	-1.5
	1.0nm,0.8s,baz=246,slow=5.1,SNR=5.7							
IL1	Eielson Array	84.27	21	*e*P		P	23 16 32.7	-8.6
MKAR	Makanchi Array	86.49	318	P		P	23 16 52.5	-0.3
MKAR	Makanchi Array	86.49	318	P		P	23 16 52.5	-0.3
	3.8nm,0.7s,baz=116,slow=5.5,SNR=14							
ZALV	Zalesovo Beam	87.17	326	P		P	23 16 53.2	-2.6
ZALV	Zalesovo Beam	87.17	326	P		P	23 16 53.2	-2.6
	1.0nm,0.5s,baz=104,slow=6.1,SNR=3.7							
KURK	Kurchatov	89.88	321	P		P	23 17 07.8	-1.0
KURBB	Kurchatov Arra	89.91	321	P		P	23 17 07.8	-1.2
	1.0nm,0.8s,baz=102,slow=3.5,SNR=7.5							
NV01	Mina Array Sit	90.97	51	*e*P		P	23 17 10.4	-4.0
NVAR	Mina Array Bea	90.97	51	P		P	23 17 15.8	+1.4
NVAR	Mina Array Bea	90.97	51	P		P	23 17 15.8	+1.4
	2.1nm,0.9s,baz=258,slow=6.0,SNR=8.5							
YKA	Yellowknife Ar	96.87	28	P		P	23 17 40.2	-0.5
YKA	Yellowknife Ar	96.87	28	P		P	23 17 40.2	-0.5
	0.3nm,0.7s,baz=263,slow=4.6,SNR=4.5							
PDAR	Pinedale Array	98.14	48	P		Pdif	23 17 47.3	0.0
PDAR	Pinedale Array	98.14	48	P		Pdif	23 17 47.3	0.0
	0.4nm,0.8s,baz=256,slow=2.7,SNR=2.4							
AKASG	Malin Array Be	120.55	325	PKP		PKPdf	23 23 00.7	-0.9
AKASG	Malin Array Be	120.55	325	PKP		PKPdf	23 23 00.7	-0.9
	0.7nm,0.6s,baz=48,slow=2.4,SNR=7.2							
CLL	Collm	128.68	332	*e*PKPdf		PKPdf	23 23 19.0	+1.9
GERES	GERESS Array B	129.98	329	PKP		PKPdf	23 23 20.6	+0.8
GERES	GERESS Array B	129.98	329	PKP		PKPdf	23 23 20.6	+0.8
	0.5nm,0.7s,baz=80,slow=1.6,SNR=6.0							
BDFB	Brasilia	144.86	134	PKPbc		PKPbc	23 23 47.3	+0.1
BDFB	Brasilia	144.86	134	PKPbc		PKPbc	23 23 47.3	+0.1
	13nm,0.7s,baz=224,slow=3.2,SNR=16							
ESDC	Sonseca Array	145.19	335	PKP		PKPbc	23 23 46.8	-0.7
ESDC	Sonseca Array	145.19	335	PKP		PKPbc	23 23 46.8	-0.7
	1.9nm,0.9s,baz=27,slow=3.7,SNR=8.3							
MDT	Midelt	151.04	328	PKPbc		PKPbc	23 24 04.7	+1.1
MDT	Midelt	151.04	328	PKPbc		PKPbc	23 24 04.7	+1.1
	5.4nm,0.9s,baz=356,slow=2.8,SNR=8.0							
TORD	Torodi Ar. Bea	155.90	282	PKP		PKPdf	23 24 05.2	+0.1
TORD				PKPab		PKPab	23 24 31.8	-0.2
TORD	Torodi Ar. Bea	155.90	282	PKP		PKPdf	23 24 05.2	+0.1
	1.8nm,1.1s,baz=351,slow=1.3,SNR=5.0							
TORD				PKPab		PKPab	23 24 31.8	-0.2
	1.8nm,0.9s,baz=86,slow=5.4,SNR=6.3							
DBIC	Dimbokro	162.38	264	PKPab		PKPab	23 25 00.4	+0.2
DBIC	Dimbokro	162.38	264	PKPab		PKPab	23 25 00.4	+0.2
	3.0nm,0.9s,baz=85,slow=3.7,SNR=4.4							

IDC 03 23:11:52.5±1.9, 8°50S×157°69E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/18, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=47.0km s-min=16.5km az=15.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.41	113	Pn	Pn	23 12 32.0	-1.2
	34nm,0.3s,baz=87,slow=21,SNR=4.2						
HNR				Lg	Lg	23 13 09.1	
	49nm,0.3s,baz=272,slow=32,SNR=2.2						
WRA	Warramunga Arr	25.30	241	P	P	23 17 19.0	-1.9
	4.4nm,1.0s,baz=65,slow=9.6,SNR=9.2						
STKA	Stephens Creek	27.66	211	P	P	23 17 43.3	+1.1
	1.1nm,0.5s,baz=21,slow=12,SNR=5.5						
CMAR	Chiang Mai Arr	63.84	295	P	P	23 22 28.6	+1.3
	0.2nm,0.3s,baz=107,slow=5.8,SNR=3.7						

*ISCJB **03** 23:13:55.2±0.7, 52°4N±0°1×170°75W±0°08, h55km, mb3.7/18, Error ellipse: s-maj=18.9km s-min=4.9km az=162.7*

*NEIC **03** 23:13:57.8, 52°30N×170°30W, h26km, ML3.5(AEIC), After AEIC.*

*IDC **03** 23:14:02.8±6.4, 52°51N×170°59W, h110km±62km, mb3.4/18, mb1 3.6/19, mb1mx3.6/29, mbtmp3.8/19, Error ellipse: s-maj=28.0km s-min=12.5km az=0.0*

ISC 03 23:13:56.7±1.0, 52°4N±0°2×170°67W±0°08, h55km, n46, σ1§04/38, mb3.7/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.25	62	P	Pn	23 14 16.9	-0.9
NIKH				S	Sn	23 14 31.5	-2.1
OKFG	Magazine Ridge	1.96	57	P	Pn	23 14 28.1	+0.6
OKFG				S	Sn	23 14 51.8	+1.0
MSOM	Makushin Julie	2.66	56	P	Pn	23 14 37.5	+0.6
MREP	Makushin Rep't	2.76	57	P	Pn	23 14 39.4	+1.0
MSW	Makushin Switc	2.79	55	P	Pn	23 14 39.6	+0.8
MSW				S	Sn	23 15 12.8	+1.5
MTBL	Makushin Table	2.88	55	P	Pn	23 14 41.7	+1.7
UNV	Unalaska Valle	2.90	58	P	Pn	23 14 41.1	+0.8
UNV				S	Sn	23 15 14.4	+0.5
ZRO	Akutan Zero	3.29	57	P	Pn	23 14 47.0	+1.3
GSMY	Great Sitkin M	3.33	266	P	Pn	23 14 52.3	+6.1
AHB	Akutan Harbor	3.39	57	P	Pn	23 14 48.2	+1.2
GSCK	Great Sitkin C	3.40	266	P	Pn	23 14 52.4	+5.2
AKUT	Akutan	3.42	57	P	Pn	23 14 48.7	+1.3
AKSA	Akutan Strait	3.46	58	P	Pn	23 14 48.8	+0.8
WESE	West Dahl East	4.19	58	P	Pn	23 14 59.5	+1.4
WESN	West Dahl Nort	4.24	57	P	Pn	23 15 00.4	+1.7
SPIA	Saint Paul Isl	4.80	3	P	Pn	23 15 10.2	+3.9
FALS	False Pass	4.97	57	P	Pn	23 15 09.9	+1.3
PETK	Petropavlovsk-	19.09	285	P	Pn	23 18 16.4	+0.7
	1.2nm,0.3s,baz=90,slow=13,SNR=28						
INK	Inuvik	23.77	34	P	P	23 19 03.2	-0.4
	0.7nm,0.3s,baz=241,slow=9.0,SNR=7.8						
YKA	Yellowknife Ar	30.83	49	P	P	23 20 06.6	-0.3
	0.1nm,0.4s,baz=274,slow=9.0,SNR=4.1						
H11N2	WAKE ISLAND Hy	36.98	217	T	T	00 00 43.3	
	baz=26,slow=75,SNR=5.0						
H11N3	WAKE ISLAND Hy	36.99	217	T	T	00 00 58.6	
	baz=26,slow=75,SNR=6.3						
H11N1	WAKE ISLAND Hy	37.00	217	T	T	00 00 40.7	
	baz=26,slow=75,SNR=4.8						
H11S1	WAKE ISLAND Hy	38.18	216	T	T	00 02 14.6	
	baz=23,slow=77,SNR=72						
H11S2	WAKE ISLAND Hy	38.19	216	T	T	00 02 15.3	
	baz=23,slow=77,SNR=83						
H11S3	WAKE ISLAND Hy	38.20	216	T	T	00 02 15.5	
	baz=23,slow=77,SNR=56						
NVAR	Mina Array Bea	38.46	90	P	P	23 21 13.7	+0.5
	0.4nm,0.5s,baz=307,slow=8.1,SNR=4.7						
MJAR	Matsushiro Arr	38.90	267	P	P	23 21 17.1	+0.4
	0.5nm,0.4s,baz=37,slow=6.4,SNR=4.8						
PDAR	Pinedale Array	41.18	78	P	P	23 21 36.0	+0.2
	0.8nm,0.6s,baz=302,slow=4.1,SNR=7.3						
KSRS	Korea Array	44.61	276	P	P	23 22 05.0	+1.8
	1.1nm,0.6s,baz=55,slow=7.3,SNR=3.7						
SONM	Songino Array	50.60	300	P	P	23 22 50.8	+1.1
	0.5nm,0.5s,baz=62,slow=6.5,SNR=16						
TXAR	Lajitas Array	53.54	88	P	P	23 23 11.6	-0.2
	0.7nm,0.6s,baz=301,slow=6.1,SNR=14						
ZALV	Zalesovo Beam	56.87	317	PcP	PcP	23 24 30.5	+0.3
	0.4nm,0.4s,baz=20,slow=4.7,SNR=3.9						
ARCES	ARCESS Array B	57.81	353	P	P	23 23 41.6	-0.1
	4.8nm,0.9s,baz=7.3,slow=5.7,SNR=6.9						
KURBB	Kurchatov Arra	61.93	318	P	P	23 24 09.4	-0.8
	0.3nm,0.7s,baz=38,slow=7.3,SNR=4.4						
MKAR	Makanchi Array	63.21	313	P	P	23 24 18.4	-0.4
	0.2nm,0.6s,baz=45,slow=7.1,SNR=5.1						
FINES	FINESS Array B	65.73	351	P	P	23 24 34.5	-0.5
	2.7nm,0.9s,baz=4.0,slow=8.1,SNR=11						
NOA	NORSAR Array B	66.91	359	P	P	23 24 42.4	-0.2
	0.8nm,0.6s,baz=2.9,slow=6.6,SNR=3.0						
AKTO	Aktyubinsk	69.59	329	P	P	23 24 59.5	0.0
	1.5nm,0.6s,baz=58,slow=7.8,SNR=6.9						
EKA	Eskdalemuir Ar	72.14	7	P	P	23 25 14.0	-0.9
	0.3nm,0.4s,baz=350,slow=3.6,SNR=4.0						
CMAR	Chiang Mai Arr	75.83	282	P	P	23 25 36.9	-0.1
	0.8nm,0.6s,baz=24,slow=7.0,SNR=5.3						
AKASG	Malin Array Be	75.91	347	P	P	23 25 35.0	-1.9
	0.3nm,0.3s,baz=13,slow=5.4,SNR=6.0						
GERES	GERESS Array B	79.07	357	P	P	23 25 54.4	-0.4
	0.4nm,0.6s,baz=359,slow=5.9,SNR=4.8						
H03N2	Juan Fernandez	116.68	111	T	T	01 40 00.5	
	baz=324						
H03N1	Juan Fernandez	116.69	111	T	T	01 39 58.3	
	baz=324						
H03N3	Juan Fernandez	116.69	111	T	T	01 40 00.7	
	baz=324						

IDC 03 23:14:35.0±2.9, 8°25S×156°40E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=89.9km s-min=29.7km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.31	239	P	P	23 19 55.0	+0.4
	1.6nm,0.6s,baz=65,slow=9.4,SNR=6.4						
STKA	Stephens Creek	27.25	208	P	P	23 20 20.8	-0.2
	1.3nm,0.9s,baz=36,slow=14,SNR=2.2						
SONM	Songino Array	71.14	327	P	P	23 25 55.9	+0.3
	0.5nm,0.9s,baz=132,slow=9.9,SNR=3.5						
MKAR	Makanchi Array	85.26	318	P	P	23 27 13.2	-0.6
	0.2nm,0.6s,baz=102,slow=6.7,SNR=4.2						

IDC 03 23:16:10.0±1.7, 8°63S×157°15E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=48.7km s-min=41.7km az=94.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.88	106	Lg	Lg	23 17 40.2	
	42nm,0.3s,baz=75,slow=20,SNR=4.6						
WRA	Warramunga Arr	24.76	241	P	P	23 21 33.6	-0.1
	3.1nm,0.8s,baz=65,slow=9.3,SNR=7.8						
H11S3	WAKE ISLAND Hy	28.55	19	T	T	23 53 31.5	
	baz=191						
H11S2	WAKE ISLAND Hy	28.55	19	T	T	23 53 24.1	
	baz=191						
H11S1	WAKE ISLAND Hy	28.57	19	T	T	23 53 27.4	
	baz=191						
CMAR	Chiang Mai Arr	63.41	296	P	P	23 26 42.0	0.0
	0.8nm,0.4s,baz=116,slow=5.1,SNR=5.5						
SONM	Songino Array	71.86	327	P	P	23 27 35.5	+0.5
	0.8nm,0.9s,baz=125,slow=5.5,SNR=5.5						
MKAR	Makanchi Array	86.03	318	P	P	23 28 52.5	-0.2
	0.7nm,0.7s,baz=97,slow=5.8,SNR=5.8						
BDFB	Brasilia	145.32	134	PKPbc	PKPbc	23 35 49.4	-1.4
	0.8nm,0.3s,baz=232,slow=6.9,SNR=4.0						

*IDC **03** 23:19:00.1±0.7, 8°63S×157°33E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/21, mbtmp4.0/15, ML4.2/1, Error ellipse: s-maj=21.9km s-min=15.2km az=20.0*

*ISCJB **03** 23:19:01.1±0.5, 8°63S±0°07×157°21E±0°09, h16km, mb4.0/15, Error ellipse: s-maj=13.1km s-min=9.4km az=25.4*

*NEIC **03** 23:19:05.2±0.4, 8°70S×157°30E, h35km, mb4.1/2, Error ellipse: s-maj=12.9km s-min=11.2km az=185.0*

ISC 03 23:19:02.7±0.6, 8°7S±0°1×157°3E±0°1, h16km, n43, σ0§92/41, mb4.1/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.73	106	Pn	Pn	23 19 46.4	+0.5
HNR				Lg	Lg	23 20 25.5	
HNR	Honiara	2.73	106	Pn	Pn	23 19 46.3	+0.5
	44nm,0.3s,baz=267,slow=19,SNR=3.1						
HNR				Lg	Lg	23 20 25.5	
	41nm,0.3s,baz=49,slow=23,SNR=3.7						
RMQ	Roma	19.46	204	P	Pn	23 23 30.4	+0.4
	baz=19,SNR=6.4						
QIS	Mount Isa	20.75	233	P	Pn	23 23 44.7	-0.8
	baz=20,SNR=5.2						
QIS				S	S	23 27 09.9	-24
	baz=20,SNR=4.3						
QLP	Quilpie	21.68	213	P	P	23 23 53.0	+0.1
	baz=21,SNR=8.7						
WRAB	Tennant Creek	24.84	241	*e*P	P	23 24 24.1	-0.5
	8.2nm,1.0s						
WRA	Warramunga Arr	24.85	241	P	P	23 24 24.6	-0.1
WRA	Warramunga Arr	24.85	241	P	P	23 24 24.6	-0.1
	9.2nm,0.9s,baz=66,slow=9.6,SNR=13						
CMSA	Cobar Meteorol	25.16	204	P	P	23 24 27.1	-0.3
	baz=25,SNR=10.0						
CMSA				S	S	23 29 01.0	+9.1
	baz=25,SNR=6.1						
STKA	Stephens Creek	27.29	210	*e*P	P	23 24 47.6	+1.0
	5.1nm,1.5s						
STKA	Stephens Creek	27.29	210	P	P	23 24 48.2	+1.6
	5.2nm,0.9s,baz=44,slow=16,SNR=8.5						
PALU	Palau	27.76	304	P	P	23 24 58.5	+7.5
	baz=28,SNR=3.9						
WRKA	Warakurna	32.04	236	P	P	23 25 27.6	-1.3
	baz=32,SNR=3.2						
MEEK	Meekatharra	40.73	239	P	P	23 26 42.7	-0.4
	baz=40,SNR=3.1						
MJAR	Matsushiro Arr	48.44	339	P	P	23 27 45.1	+0.8
MJAR	Matsushiro Arr	48.44	339	P	P	23 27 45.1	+0.8
	1.4nm,0.8s,baz=163,slow=9.5,SNR=3.7						
KSRS	Korea Array	53.50	331	P	P	23 28 21.4	-1.0
	0.5nm,0.5s,baz=143,slow=8.3,SNR=2.7						
KSAR	Wonju Array Be	53.51	331	P	P	23 28 21.4	-1.1
CMAR	Chiang Mai Arr	63.56	296	P	P	23 29 34.6	+1.6
CMAR	Chiang Mai Arr	63.56	296	P	P	23 29 34.6	+1.6
	0.9nm,0.5s,baz=127,slow=5.3,SNR=7.5						
SONM	Songino Array	71.99	327	P	P	23 30 26.8	+1.1
SONM	Songino Array	71.99	327	P	P	23 30 26.8	+1.1
	1.5nm,0.8s,baz=141,slow=5.5,SNR=9.2						
ILAR	Eielson Array	84.12	21	P	P	23 31 32.2	-0.4
ILAR	Eielson Array	84.12	21	P	P	23 31 32.2	-0.4
	0.7nm,0.8s,baz=253,slow=5.2,SNR=4.8						
MK31	Makanchi Array	86.17	318	*e*P	P	23 31 42.7	-0.6
MKAR	Makanchi Array	86.17	318	P	P	23 31 43.1	-0.2
MKAR	Makanchi Array	86.17	318	P	P	23 31 43.1	-0.2
	1.2nm,0.6s,baz=100,slow=5.9,SNR=12						
ZALV	Zalesovo Beam	86.85	326	P	P	23 31 45.2	-1.2
ZALV	Zalesovo Beam	86.85	326	P	P	23 31 45.2	-1.2
	1.0nm,0.6s,baz=108,slow=5.2,SNR=5.3						
KURK	Kurchatov	89.56	321	P	P	23 31 58.3	-1.1
KURBB	Kurchatov Arra	89.60	321	P	P	23 31 58.3	-1.3
	0.2nm,0.6s,baz=107,slow=3.1,SNR=3.9						
AAK	Ala-Archa	90.56	313	P	P	23 32 03.1	-1.4
AAK	Ala-Archa	90.56	313	P	P	23 32 03.1	-1.4
	0.7nm,0.7s,baz=58,slow=9.5,SNR=2.6						
NVAR	Mina Array Bea	90.99	51	P	P	23 32 06.4	-0.2
NVAR	Mina Array Bea	90.99	51	P	P	23 32 06.4	-0.2
	0.1nm,0.3s,baz=235,slow=3.2,SNR=3.1						
BVAR	Borovoye Array	95.01	323	P	P	23 32 23.9	-0.7
BVAR	Borovoye Array	95.01	323	P	P	23 32 23.9	-0.7
	0.7nm,0.7s,baz=104,slow=5.3,SNR=4.3						
YKA	Yellowknife Ar	96.77	28	P	P	23 32 32.8	+0.5
YKA	Yellowknife Ar	96.77	28	P	P	23 32 32.8	+0.5
	0.4nm,0.8s,baz=260,slow=4.3,SNR=4.3						
AKASG	Malin Array Be	120.23	325	PKP	PKPdf	23 37 52.7	-0.3
AKASG	Malin Array Be	120.23	325	PKP	PKPdf	23 37 52.7	-0.3
	0.3nm,0.6s,baz=70,slow=2.5,SNR=2.9						
BDFB	Brasilia	145.18	134	PKPbc	PKPbc	23 38 39.0	-1.2
BDFB	Brasilia	145.18	134	PKPbc	PKPbc	23 38 39.0	-1.2
	2.9nm,0.7s,baz=174,slow=7.0,SNR=6.1						

*IDC **03** 23:22:25.9±0.7, 8°59S×157°31E, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML4.0/1, Error ellipse: s-maj=24.4km s-min=15.9km az=23.0*

*ISCJB **03** 23:22:26.6±0.7, 8°6S±0°1×157°3E±0°1, h16km, mb3.9/10, Error ellipse: s-maj=19.7km s-min=15.3km az=20.0*

ISC 03 23:22:28.2±0.8, 8°7S±0°2×157°4E±0°1, h16km, n15, σ1§18/13, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.64	107	Pn	Pn	23 23 09.8	-0.4
	23nm,0.3s,baz=270,slow=10,SNR=3.1						
HNR				Lg	Lg	23 23 52.9	
	75nm,0.3s,baz=11,slow=19,SNR=3.9						
WRA	Warramunga Arr	24.96	241	P	P	23 27 49.5	-1.7
	5.1nm,0.9s,baz=65,slow=9.3,SNR=8.8						
WRA				PcP	PcP	23 31 26.9	+0.3
	1.5nm,0.8s,baz=55,slow=2.1,SNR=4.9						
STKA	Stephens Creek	27.38	210	P	P	23 28 14.7	+1.8
	1.4nm,0.6s,baz=45,slow=14,SNR=6.1						
H11S3	WAKE ISLAND Hy	28.49	19	T	T	23 57 59.6	
	baz=200,slow=77,SNR=4.5						
H11S2	WAKE ISLAND Hy	28.49	19	T	T	23 57 59.8	
	baz=200,slow=77,SNR=5.7						
H11S1	WAKE ISLAND Hy	28.51	19	T	T	23 58 00.9	
	baz=200,slow=77,SNR=4.3						
KSRS	Korea Array	53.52	331	P	P	23 31 48.4	+0.4
	2.9nm,1.1s,baz=151,slow=6.8,SNR=3.4						
CMAR	Chiang Mai Arr	63.63	295	P	P	23 32 59.6	+0.6
	0.6nm,0.4s,baz=120,slow=4.9,SNR=5.6						
SONM	Songino Array	72.01	327	P	P	23 33 51.8	+0.4
	1.2nm,0.8s,baz=134,slow=5.6,SNR=8.4						
ILAR	Eielson Array	84.05	21	P	P	23 34 58.7	+0.9
	1.1nm,1.0s,baz=254,slow=4.4,SNR=4.9						
MKAR	Makanchi Array	86.21	318	P	P	23 35 08.8	-0.2
	0.9nm,0.6s,baz=99,slow=5.9,SNR=9.3						
ZALV	Zalesovo Beam	86.87	326	P	P	23 35 10.5	-1.5
	0.4nm,0.6s,baz=108,slow=4.7,SNR=2.2						
KURBB	Kurchatov Arra	89.63	321	P	P	23 35 23.7	-1.5
	0.2nm,0.6s,baz=102,slow=4.0,SNR=3.9						
BVAR	Borovoye Array	95.04	323	P	P	23 35 49.0	-1.3
	0.5nm,0.6s,baz=118,slow=2.1,SNR=3.3						
BDFB	Brasilia	145.13	134	PKPbc	PKPbc	23 42 05.6	0.0
	2.6nm,0.7s,baz=233,slow=5.8,SNR=5.5						

*IDC **03** 23:23:33.0±0.7, 8°68S×157°52E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.2/11, ML4.1/1, Error ellipse: s-maj=24.5km s-min=15.7km az=12.0*

*ISCJB **03** 23:23:34.3±0.6, 8°7S±0°1×157°6E±0°1, h17km, mb4.1/10, Error ellipse: s-maj=17.4km s-min=13.9km az=158.9*

ISC 03 23:23:35.4±0.7, 8°8S±0°2×157°6E±0°1, h17km, n13, σ0§98/13, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.44	106	Pn	Pn	23 24 13.9	-0.5
	40nm,0.3s,baz=237,slow=16,SNR=4.4						
HNR				Lg	Lg	23 24 53.1	
	167nm,0.3s,baz=102,slow=20,SNR=3.5						
CTA	Charters

0.9nm,0.3s,baz=118,slow=5.1,SNR=12
CHTO Chiang Mai 63.72 296 *e*P **P 23 39 39.1 +0.4**
4.3nm,0.9s
ULN Ulaanbaatar 71.64 327 *e*P **P 23 40 28.0 -0.3**
1.8nm,0.7s
SONM Songino Array 71.98 327 P **P 23 40 31.5 +1.1**
SONM Songino Array 71.98 327 P **P 23 40 31.5 +1.1**
2.3nm,1.1s,baz=120,slow=5.5,SNR=8.1
LSA Lhasa 74.13 304 *e*P **P 23 40 43.7 -0.1**
1.9nm,0.5s
ILAR Eielson Array 84.05 21 P **P 23 41 36.2 -0.6**
ILAR Eielson Array 84.05 21 P **P 23 41 36.2 -0.6**
0.8nm,0.9s,baz=253,slow=4.9,SNR=4.2
MK31 Makanchi Array 86.18 318 *e*P **P 23 41 47.5 -0.4**
MKAR Makanchi Array 86.18 318 P **P 23 41 47.6 -0.3**
MKAR Makanchi Array 86.18 318 P **P 23 41 47.6 -0.3**
2.0nm,0.8s,baz=102,slow=5.7,SNR=14
ZALV Zalesovo Beam 86.84 326 P **P 23 41 50.5 -0.5**
ZALV Zalesovo Beam 86.84 326 P **P 23 41 50.5 -0.5**
0.3nm,0.5s,baz=89,slow=7.9,SNR=4.8
KURK Kurchatov 89.56 321 P **P 23 42 03.4 -0.6**
KURBB Kurchatov Arra 89.60 321 P **P 23 42 03.4 -0.8**
0.4nm,0.9s,baz=88,slow=3.6,SNR=4.2
AAK Ala-Archa 90.58 313 P **P 23 42 09.0 -0.2**
AAK Ala-Archa 90.58 313 P **P 23 42 09.0 -0.2**
0.7nm,0.6s,baz=114,slow=12,SNR=3.5
NVAR Mina Array Bea 90.90 51 P **P 23 42 11.6 +0.8**
NVAR Mina Array Bea 90.90 51 P **P 23 42 11.6 +0.8**
0.9nm,0.9s,baz=246,slow=6.4,SNR=7.0
BVAR Borovoye Array 95.01 323 P **P 23 42 28.2 -1.0**
BVAR Borovoye Array 95.01 323 P **P 23 42 28.2 -1.0**
0.8nm,0.7s,baz=99,slow=9.2,SNR=5.6
YKA Yellowknife Ar 96.68 28 P **P 23 42 37.2 +0.7**
YKA Yellowknife Ar 96.68 28 P **P 23 42 37.2 +0.7**
0.4nm,0.9s,baz=266,slow=4.9,SNR=4.8
ESDC Sonseca Array 144.87 335 PKP **PKPab 23 48 42.8 -0.4**
ESDC Sonseca Array 144.87 335 PKP **PKPab 23 48 42.8 -0.4**
0.5nm,0.7s,baz=16,slow=3.6,SNR=6.6
BDFB Brasilia 145.16 134 PKPbc **PKPdf 23 48 45.1 -0.2**
BDFB Brasilia 145.16 134 PKPbc **PKPdf 23 48 45.1 -0.2**
3.7nm,0.8s,baz=149,slow=9.4
TORD Torodi Ar. Bea 155.69 283 PKPab **PKPab 23 49 27.4 -0.5**
TORD Torodi Ar. Bea 155.69 283 PKPab **PKPab 23 49 27.4 -0.5**
2.0nm,1.2s,baz=93,slow=3.5,SNR=4.0

IDC 03 23:30:43.2±1.4, 8°57S×157°05E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=63.9km s-min=30.1km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.71 240**		P	P	23 36 05.8	-0.6
	1.3nm,0.7s,baz=68,slow=9.2,SNR=3.4						
STKA	**Stephens Creek**	**27.28 210**		P	P	23 36 29.6	+0.1
	1.1nm,0.7s,baz=32,slow=16,SNR=2.8						
MKAR	**Makanchi Array**	**85.93 318**		P	P	23 43 24.9	-0.5
	0.4nm,0.6s,baz=102,slow=4.1,SNR=4.6						
NVAR	**Mina Array Bea**	**91.10 51**		P	P	23 43 49.4	-1.1
	1.2nm,1.0s,baz=255,slow=7.1,SNR=4.5						
GERES	**GERESS Array B**	**129.44 329**		PKP	PKPdf	23 49 55.7	+1.5
	0.2nm,0.6s,baz=31,slow=2.3,SNR=7.0						

*IDC **03** 23:32:02.3±0.6, 8°69S×157°49E, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.3/22, mbtmp4.2/16, ML4.1/2, Error ellipse: s-maj=20.4km s-min=14.4km az=17.0*
*ISCJB **03** 23:32:03.4±0.6, 8°73S±0°09×157°41E±0°10, h17km, mb4.2/17, Error ellipse: s-maj=15.5km s-min=11.7km az=37.6*
*NEIC **03** 23:32:06.9±0.3, 8°84S×157°55E, h35km, mb4.5/4, Error ellipse: s-maj=10.7km s-min=9.1km az=150.0*
ISC 03 23:32:04.7±0.5, 8°8S±0°1×157°53E±0°06, h17km, n53, σ0s84/45, mb4.3/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.47 105**		Pn	**Pn**	**23 32 43.7**	**-0.5**
HNR				Lg	Lg	23 33 24.1	
HNR	**Honiara**	**2.47 105**		Pn	**Pn**	**23 32 43.7**	**-0.5**
	46nm,0.3s,baz=270,slow=19,SNR=1.9						
HNR				Lg	Lg	23 33 24.0	
	152nm,0.3s,baz=90,slow=20,SNR=3.4						
HNR	**Honiara**	**2.47 105**		*i* P	**Pb**	**23 32 49.4**	**+0.7**
HNR				*i* S	**Sg**	**23 33 24.0**	**-0.3**
CTA	**Charters Tower**	**15.66 223**		Pn	**Pn**	**23 35 44.3**	**-0.5**
CTA	**Charters Tower**	**15.66 223**		Pn	**Pn**	**23 35 44.3**	**-0.5**
	0.4nm,0.3s,baz=40,slow=14,SNR=3.7						
WRAB	**Tennant Creek**	**25.01 241**		*e*P	**P**	**23 37 27.2**	**-0.8**
	7.0nm,0.7s						
WRA	**Warramunga Arr**	**25.02 241**		P	**P**	**23 37 27.4**	**-0.7**
WRA	**Warramunga Arr**	**25.02 241**		P	**P**	**23 37 27.4**	**-0.7**
	14nm,1.0s,baz=68,slow=9.6,SNR=18						
STKA	**Stephens Creek**	**27.34 211**		*e*P	**P**	**23 37 49.3**	**+0.4**
	1.3nm,0.7s						
STKA	**Stephens Creek**	**27.34 211**		P	**P**	**23 37 50.7**	**+1.8**
	8.3nm,0.8s,baz=32,slow=13,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.56 18**		T	T	00 06 40.6	
	baz=198						
H11S2	**WAKE ISLAND Hy**	**28.57 18**		T	T	00 06 38.7	
	baz=198						
H11S1	**WAKE ISLAND Hy**	**28.58 18**		T	T	00 06 36.3	
	baz=198						
H11N1	**WAKE ISLAND Hy**	**29.77 18**		T	T	00 08 26.2	
	baz=200						
H11N3	**WAKE ISLAND Hy**	**29.78 18**		T	T	00 08 26.6	
	baz=200						
H11N2	**WAKE ISLAND Hy**	**29.79 18**		T	T	00 08 35.3	
	baz=200						
JNU	**Nakatsue**	**48.78 330**		P	**P**	**23 40 48.4**	**-0.6**
JNU	**Nakatsue**	**48.78 330**		P	**P**	**23 40 48.4**	**-0.6**
	6.7nm,1.0s,baz=96,slow=10,SNR=2.8						
KSRS	**Korea Array**	**53.69 331**		P	**P**	**23 41 26.4**	**+0.8**
	1.8nm,0.8s,baz=150,slow=6.9,SNR=3.7						
KSAR	**Wonju Array Be**	**53.70 331**		P	**P**	**23 41 26.4**	**+0.7**
ENH	**Enshi**	**60.28 312**		*e*P	**P**	**23 42 12.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**63.81 295**		P	**P**	**23 42 37.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**63.81 295**		P	**P**	**23 42 37.9**	**+1.4**
	3.7nm,0.9s,baz=123,slow=5.3,SNR=8.5						
CHTO	**Chiang Mai**	**63.93 296**		*e*P	**P**	**23 42 37.3**	**-0.1**
	5.0nm,1.0s						
ULN	**Ulaanbaatar**	**71.85 327**		*e*P	**P**	**23 43 26.6**	**-0.2**
SONM	**Songino Array**	**72.19 327**		P	**P**	**23 43 29.9**	**+1.1**
SONM	**Songino Array**	**72.19 327**		P	**P**	**23 43 29.9**	**+1.1**
	2.5nm,0.9s,baz=138,slow=6.5,SNR=4.7						
LSA	**Lhasa**	**74.34 304**		*e*P	P	23 43 46.2	+3.9
	6.9nm,1.1s						
ILAR	**Eielson Array**	**84.12 21**		P	**P**	**23 44 33.5**	**-0.8**
ILAR	**Eielson Array**	**84.12 21**		P	**P**	**23 44 33.5**	**-0.8**
	0.8nm,0.9s,baz=261,slow=5.0,SNR=4.8						
MK31	**Makanchi Array**	**86.39 318**		*e*P	**P**	**23 44 45.2**	**-1.1**
MKAR	**Makanchi Array**	**86.39 318**		P	**P**	**23 44 45.5**	**-0.7**
MKAR	**Makanchi Array**	**86.39 318**		P	**P**	**23 44 45.5**	**-0.7**
	1.9nm,0.7s,baz=95,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**87.05 326**		P	**P**	**23 44 47.9**	**-1.3**
ZALV	**Zalesovo Beam**	**87.05 326**		P	**P**	**23 44 47.9**	**-1.3**
	0.6nm,0.5s,baz=114,slow=7.1,SNR=3.3						
KURK	**Kurchatov**	**89.78 321**		P	**P**	**23 45 01.8**	**-0.4**
KURBB	**Kurchatov Arra**	**89.81 321**		P	**P**	**23 45 01.8**	**-0.5**
	0.7nm,1.0s,baz=103,slow=3.7,SNR=4.3						
NVAR	**Mina Array Bea**	**90.85 51**		P	**P**	**23 45 09.1**	**+1.3**
NVAR	**Mina Array Bea**	**90.85 51**		P	**P**	**23 45 09.1**	**+1.3**
	2.7nm,0.9s,baz=251,slow=7.1,SNR=13						
BVAR	**Borovoye Array**	**95.22 323**		P	**P**	**23 45 26.4**	**-1.0**
BVAR	**Borovoye Array**	**95.22 323**		P	**P**	**23 45 26.4**	**-1.0**
	0.4nm,0.6s,baz=102,slow=4.7,SNR=3.5						
YKA	**Yellowknife Ar**	**96.73 28**		P	**P**	**23 45 33.4**	**-0.5**
YKA	**Yellowknife Ar**	**96.73 28**		P	**P**	**23 45 33.4**	**-0.5**
	0.3nm,0.8s,baz=274,slow=4.4,SNR=3.6						
PDAR	**Pinedale Array**	**98.02 48**		P	Pdif	23 45 40.8	+0.2
PDAR	**Pinedale Array**	**98.02 48**		P	Pdif	23 45 40.8	+0.2
	0.6nm,0.9s,baz=243,slow=1.7,SNR=3.9						
AKASG	**Malin Array Be**	**120.44 325**		PKP	**PKPdf**	**23 50 54.4**	**-0.8**
AKASG	**Malin Array Be**	**120.44 325**		PKP	**PKPdf**	**23 50 54.4**	**-0.8**
	0.2nm,0.3s,baz=62,slow=1.5,SNR=4.6						
GERES	**GERESS Array B**	**129.86 329**		PKP	**PKPdf**	**23 51 14.2**	**+0.7**
GERES	**GERESS Array B**	**129.86 329**		PKP	**PKPdf**	**23 51 14.2**	**+0.7**
	0.2nm,0.4s,baz=33,slow=2.3,SNR=3.4						
BDFB	**Brasilia**	**144.95 134**		PKPbc	**PKPab**	**23 51 41.1**	**-0.2**
BDFB	**Brasilia**	**144.95 134**		PKPbc	**PKPab**	**23 51 41.1**	**-0.2**
	5.4nm,0.8s,baz=204,slow=4.2,SNR=7.6						
ESDC	**Sonseca Array**	**145.06 335**		PKP	**PKPab**	**23 51 41.1**	**+0.1**
ESDC	**Sonseca Array**	**145.06 335**		PKP	**PKPab**	**23 51 41.1**	**+0.1**
	0.7nm,0.9s,baz=42,slow=2.2,SNR=3.4						

IDC 03 23:35:45.4±4.7, 8°55S×156°22E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=131.6km s-min=41.1km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.01 240**		P	P	23 41 02.0	-0.1
	1.0nm,0.8s,baz=65,slow=9.5,SNR=3.7						
SONM	**Songino Array**	**71.29 327**		P	P	23 47 07.1	+0.2
	0.4nm,0.8s,baz=116,slow=3.4,SNR=2.7						
MKAR	**Makanchi Array**	**85.36 319**		P	P	23 48 24.6	-0.1
	0.9nm,0.8s,baz=102,slow=6.4,SNR=6.6						

*IDC **03** 23:42:22.8±0.6, 8°75S×157°43E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.1/1, Error ellipse: s-maj=22.6km s-min=14.8km az=14.0*
*NEIC **03** 23:42:28.1±0.4, 8°69S×157°50E, h35km, mb4.6/4, Error ellipse: s-maj=11.4km s-min=10.5km az=225.0*
ISC 03 23:42:25.5±0.5, 8°75S±0°10×157°46E±0°06, h16km, n48, σ0s85/45, mb4.2/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.55 106**		Pn	**Pn**	**23 43 05.5**	**-0.7**
HNR				Lg	Lg	23 43 43.2	
HNR	**Honiara**	**2.55 106**		Pn	**Pn**	**23 43 05.5**	**-0.7**
	37nm,0.3s,baz=227,slow=12,SNR=4.8						
HNR				Lg	Lg	23 43 43.2	
	139nm,0.3s,baz=107,slow=31,SNR=5.3						
HNR	**Honiara**	**2.55 106**		*i* P	**Pg**	**23 43 15.8**	**+1.3**
HNR				*i* S	**Sg**	**23 43 46.0**	**-1.6**
CTA	**Charters Tower**	**15.64 223**		Pn	**P**	**23 46 09.4**	**-0.1**
CTA	**Charters Tower**	**15.64 223**		Pn	**P**	**23 46 09.4**	**-0.1**
	0.2nm,0.3s,baz=40,slow=15,SNR=3.7						
DZM	**Mont Dzumac**	**15.82 148**		*e*Pn	**Pn**	**23 46 08.3**	**+0.5**
DZM	**Mont Dzumac**	**15.82 148**		Pn	**P**	**23 46 11.8**	**+0.3**
	baz=0.7,slow=15,SNR=4.9						
WRAB	**Tennant Creek**	**24.96 241**		*e*P	**P**	**23 47 47.5**	**-1.0**
	9.0nm,0.8s						
WRA	**Warramunga Arr**	**24.97 241**		P	**P**	**23 47 47.6**	**-1.0**
WRA	**Warramunga Arr**	**24.97 241**		P	**P**	**23 47 47.6**	**-1.0**
	13nm,0.9s,baz=66,slow=9.4,SNR=30						
STKA	**Stephens Creek**	**27.33 210**		*e*P	**P**	**23 48 10.9**	**+1.1**
	5.5nm,1.6s						
STKA	**Stephens Creek**	**27.33 210**		P	**P**	**23 48 10.2**	**+0.5**
	3.8nm,0.8s,baz=35,slow=12,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**28.56 19**		T	T	00 16 47.7	
	baz=200,slow=78,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.56 19**		T	T	00 17 13.3	
	baz=200,slow=78,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.58 19**		T	T	00 17 01.8	
	baz=200,slow=78,SNR=6.7						
KSRS	**Korea Array**	**53.63 331**		P	**P**	**23 51 46.9**	**+0.7**
	1.0nm,0.7s,baz=171,slow=8.9,SNR=4.9						
KSAR	**Wonju Array Be**	**53.64 331**		P	**P**	**23 51 46.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**63.73 295**		P	**P**	**23 52 56.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**63.73 295**		P	**P**	**23 52 56.3**	**-0.7**
	1.9nm,0.8s,baz=118,slow=5.0,SNR=10						
CHTO	**Chiang Mai**	**63.85 296**		*e*P	**P**	**23 52 57.5**	**-0.3**
	4.3nm,1.1s						
ULN	**Ulaanbaatar**	**71.79 327**		*e*P	P	23 53 42.1	-5.3
SONM	**Songino Array**	**72.12 327**		P	**P**	**23 53 50.0**	**+0.6**
SONM	**Songino Array**	**72.12 327**		P	**P**	**23 53 50.0**	**+0.6**
	1.8nm,0.9s,baz=139,slow=6.2,SNR=10						
SHL	**Shillong**	**72.28 300**		*e*P	**P**	**23 53 52.5**	**+1.6**
QSPA	**South Pole Qui**	**81.24 180**		*e*P	**P**	**23 54 40.9**	**+0.2**
	12nm,1.1s						
ILAR	**Eielson Array**	**84.12 21**		P	**P**	**23 54 54.9**	**-0.5**
ILAR	**Eielson Array**	**84.12 21**		P	**P**	**23 54 54.9**	**-0.5**
	0.9nm,0.9s,baz=269,slow=4.0,SNR=6.0						
MK31	**Makanchi Array**	**86.32 318**		*e*P	**P**	**23 55 06.1**	**-0.7**
MKAR	**Makanchi Array**	**86.32 318**		P	**P**	**23 55 06.4**	**-0.5**
MKAR	**Makanchi Array**	**86.32 318**		P	**P**	**23 55 06.4**	**-0.5**
	2.9nm,0.7s,baz=101,slow=6.0,SNR=36						
ZALV	**Zalesovo Beam**	**86.99 326**		P	**P**	**23 55 08.3**	**-1.6**
ZALV	**Zalesovo Beam**	**86.99 326**		P	**P**	**23 55 08.3**	**-1.6**
	1.1nm,0.6s,baz=126,slow=5.5,SNR=6.1						
KURK	**Kurchatov**	**89.71 321**		P	**P**	**23 55 22.0**	**-0.9**
KURBB	**Kurchatov Arra**	**89.74 321**		P	**P**	**23 55 22.0**	**-1.1**
	0.5nm,0.7s,baz=103,slow=3.8,SNR=7.2						
NVAR	**Mina Array Bea**	**90.89 51**		P	**P**	**23 55 30.3**	**+1.3**
NVAR	**Mina Array Bea**	**90.89 51**		P	**P**	**23 55 30.3**	**+1.3**
	1.6nm,1.1s,baz=244,slow=6.8,SNR=5.6						
YKA	**Yellowknife Ar**	**96.73 28**		P	**P**	**23 55 55.0**	**0.0**
YKA	**Yellowknife Ar**	**96.73 28**		P	**P**	**23 55 55.0**	**0.0**
	0.6nm,0.9s,baz=266,slow=4.5,SNR=8.8						
AKASG	**Malin Array Be**	**120.37 325**		PKP	**PKPdf**	**00 01 15.2**	**-0.9**
AKASG	**Malin Array Be**	**120.37 325**		PKP	**PKPdf**	**00 01 15.2**	**-0.9**
	0.5nm,0.5s,baz=60,slow=2.3,SNR=6.9						
GERES	**GERESS Array B**	**129.80 329**		PKP	**PKPdf**	**00 01 34.7**	**+0.3**
GERES	**GERESS Array B**	**129.80 329**		PKP	**PKPdf**	**00 01 34.7**	**+0.3**
	0.3nm,0.6s,baz=95,slow=1.6,SNR=3.9						
ESDC	**Sonseca Array**	**145.01 335**		PKPbc	**PKPab**	**00 02 01.4**	**-0.4**
ESDC	**Sonseca Array**	**145.01 335**		PKPbc	**PKPab**	**00 02 01.4**	**-0.4**
	0.1nm,0.3s,baz=9.1,slow=4.8,SNR=6.7						
BDFB	**Brasilia**	**145.02 134**		PKPbc	**PKPbc**	**00 02 02.4**	**-0.2**
BDFB	**Brasilia**	**145.02 134**		PKPbc	**PKPbc**	**00 02 02.4**	**-0.2**
	7.9nm,0.8s,baz=219,slow=2.1,SNR=12						
TORD	**Torodi Ar. Bea**	**155.81 283**		PKPab	**PKPab**	**00 02 45.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**155.81 283**		PKPab	**PKPab**	**00 02 45.9**	**-0.6**
	1.4nm,1.0s,baz=85,slow=4.5,SNR=5.2						

IDC 03 23:43:08.3±3.8, 8°33S×157°13E, h0km, mb4.3/3, mb1 4.5/4, mb1mx4.0/18, mbtmp4.3/4, ML3.8/1, Error ellipse: s-maj=103.5km s-min=39.4km az=101.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.73 221**		Pn	Pn	23 46 51.6	+0.1
	0.3nm,0.3s,baz=37,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**24.90 240**		P	P	23 48 33.3	+0.1
	13nm,1.0s,baz=66,slow=9.3,SNR=9.4						
STKA	**Stephens Creek**	**27.53 210**		P	P	23 48 56.6	-0.2
	5.0nm,0.7s,baz=34,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**85.80 318**		P	P	23 55 49.8	+0.1
	0.8nm,0.8s,baz=106,slow=6.3,SNR=3.9						

*IDC **03** 23:44:43.4±0.8, 8°77S×157°37E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=27.6km s-min=16.7km az=14.0*
*ISCJB **03** 23:44:44.2±0.7, 8°85S±0°2×157°4E±0°1, h17km, mb3.8/7, Error ellipse: s-maj=21.9km s-min=15.7km az=4.6*
ISC 03 23:44:45.7±0.9, 8°9S±0°2×157°5E±0°1, h17km, n12, σ1s08/8, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.50 103**		Pn	**Pn**	**23 45 25.3**	**-0.4**
	54nm,0.3s,baz=190,slow=12,SNR=3.0						
HNR				Lg	Lg	23 46 07.7	
	108nm,0.3s,baz=105,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**24.94 241**		P	**P**	**23 50 07.7**	**-0.6**
	3.2nm,1.1s,baz=66,slow=9.5,SNR=4.4						
STKA	**Stephens Creek**	**27.24 211**		P	**P**	**23 50 30.0**	**+1.0**
	1.9nm,0.7s,baz=21,slow=13,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**28.66 18**		T	T	00 19 23.8	
	baz=203						
H11S2	**WAKE ISLAND Hy**	**28.66 19**		T	T	00 19 31.9	
	baz=203						
H11S1	**WAKE ISLAND Hy**	**28.68 18**		T	T	00 19 26.5	
	baz=203						
CMAR	**Chiang Mai Arr**	**63.80 296**		P	**P**	**23 55 17.6**	**+0.1**
	0.6nm,0.4s,baz=121,slow=5.6,SNR=4.4						
SONM	**Songino Array**	**72.23 327**		P	**P**	**23 56 10.2**	**+0.2**
	0.8nm,1.1s,baz=143,slow=6.6,SNR=2.3						
ILAR	**Eielson Array**	**84.21 21**		P	**P**	**23 57 17.1**	**+1.2**
	1.3nm,1.1s,baz=252,slow=9.2,SNR=4.7						
MKAR	**Makanchi Array**	**86.42 318**		P	**P**	**23 57 27.1**	**-0.3**
	0.7nm,0.6s,baz=100,slow=5.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**89.84 321**		P	**P**	**23 57 41.9**	**-1.7**
	0.1nm,0.7s,baz=95,slow=4.2,SNR=3.9						
BDFB	**Brasilia**	**144.93 134**		PKPbc	PKPbc	00 04 22.6	+0.3
	4.8nm,0.9s,baz=168,slow=3.0,SNR=3.4						

*IDC **03** 23:53:56.2±1.0, 8°52S×157°30E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=28.1km s-min=17.2km az=8.0*
ISC 03 23:53:58.4±0.9, 8°7S±0°2×157°5E±0°1, h16km, n8, σ1s67/8, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.53 107**		Pn	**Pb**	**23 54 43.2**	**-0.2**
	12nm,0.3s,baz=270,slow=18,SNR=2.4						
HNR				Lg	Lg	23 55 22.8	
	23nm,0.3s,baz=103,slow=18,SNR=3.0						
WRA	**Warramunga Arr**	**25.03 241**		P	**P**	**23 59 21.3**	**-0.8**
	2.7nm,0.8s,baz=65,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**27.05 234**		P	**P**	**23 59 38.9**	**-1.4**
	baz=70,slow=8.2						
STKA	**Stephens Creek**	**27.39 210**		P	**P**	**23 59 45.2**	**+1.9**
	0.8nm,0.6s,baz=13,slow=15,SNR=3.8						
CMAR	**Chiang Mai Arr**	**63.75 295**		P	**P**	**00 04 29.8**	**-0.3**
	0.8nm,0.4s,baz=124,slow=5.3,SNR=5.2						
SONM	**Songino Array**	**72.11 327**		P	**P**	**00 05 24.3**	**+2.1**
	0.5nm,0.8s,baz=129,slow=5.0,SNR=2.6						
ILAR	**Eielson Array**	**84.05 21**		P	**P**	**00 06 28.1**	**+0.1**
	0.7nm,1.0s,baz=238,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**86.31 318**		P	**P**	**00 06 38.0**	**-1.8**
	0.5nm,0.6s,baz=100,slow=5.7,SNR=6.5						

*ISCJB **03** 23:54:02.9±0.5, 1°50N±0°05×67°86E±0°08, h10km, mb4.2/11, Error ellipse: s-maj=11.1km s-min=7.4km az=169.6*
*IDC **03** 23:54:03.5±0.8, 1°53N×67°78E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/25, mbtmp4.1/9, Error ellipse: s-maj=24.4km s-min=21.8km az=155.0*
*NEIC **03** 23:54:05.3±0.4, 1°60N×67°81E, h10km, mb4.5/2, Error ellipse: s-maj=10.7km s-min=8.6km az=145.0*
ISC 03 23:54:05.1±0.6, 1°56N±0°09×67°83E±0°09, h10km, n34, σ0s76/31, mb4.3/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.45 158**		Pn	**Pn**	**23 56 06.8**	**-0.6**
H08N2				T	T	00 04 41.3	
	baz=336,slow=75,SNR=770						
H08N3	**Diego Garcia H**	**8.46 158**		Pn	**Pn**	**23 56 06.9**	**-0.7**
H08N3				T	T	00 04 44.2	
	baz=336,slow=75,SNR=1645						
H08N1	**Diego Carcia H**	**8.47 158**		Pn	**Pn**	**23 56 07.1**	**-0.6**
H08N1				T	T	00 04 39.1	
	baz=336,slow=75,SNR=826						
DGAR	**Diego Garcia**	**10.04 153**		*e*Pn	**Pn**	**23 56 30.4**	**+0.9**
	153nm,0.7s						
H08S3	**Diego Garcia H**	**10.24 153**		Pn	**Pn**	**23 56 31.8**	**-0.3**
H08S3				T	T	00 07 12.2	
	baz=300,SNR=5.1						
H08S1	**Diego Carcia H**	**10.25 153**		Pn	**Pn**	**23 56 32.4**	**+0.2**
H08S1				T	T	00 07 09.5	
	baz=300,SNR=6.9						
H08S2	**Diego Carcia H**	**10.26 153**		Pn	**Pn**	**23 56 32.3**	**0.0**
H08S2				T	T	00 07 14.0	
	baz=300,SNR=4.7						
MSEY	**Mahe Island**	**13.80 243**		*e*Pn	**Pn**	**23 57 22.2**	**+1.1**
PALK	**Pallekele**	**14.03 66**		*e*Pn	**Pn**	**23 57 24.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**34.83 59**		P	**P**	**00 00 58.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**34.83 59**		P	**P**	**00 00 58.4**	**+1.7**
	0.5nm,0.3s,baz=246,slow=8.8,SNR=5.5						
CHTO	**Chiang Mai**	**34.99 59**		*e*P	**P**	**00 00 58.3**	**+0.4**
	4.6nm,0.8s						
LSZ	**Lusaka**	**42.62 245**		P	**P**	**00 02 01.8**	**-0.4**
LSZ	**Lusaka**	**42.62 245**		P	**P**	**00 02 01.8**	**-0.4**
	2.8nm,0.9s,baz=54,slow=8.4,SNR=6.6						
MKAR	**Makanchi Array**	**46.79 14**		P	**P**	**00 02 35.0**	**+0.1**
MKAR	**Makanchi Array**	**46.79 14**		P	**P**	**00 02 35.0**	**+0.1**
	0.9nm,0.9s,baz=192,slow=6.5,SNR=7.3						
KBZ	**Khabaz**	**47.49 336**		P	**P**	**00 02 39.0**	**-1.3**
KBZ	**Khabaz**	**47.49 336**		P	**P**	**00 02 39.0**	**-1.3**
	3.1nm,0.9s,baz=161,slow=7.0,SNR=5.0						
KURK	**Kurchatov**	**49.83 9**		*e*P	**P**	**00 02 57.6**	**-0.6**
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**54.06 12**		P	**P**	**00 03 29.4**	**-0.3**
ZALV	**Zalesovo Beam**	**54.06 12**		P	**P**	**00 03 29.4**	**-0.3**
	2.8nm,0.7s,baz=209,slow=8

KSAR	Wonju Array Be	53.71	331	P	P	00 09 58.2	+0.1
CMAR	Chiang Mai Arr	63.79	296	P	P	00 11 08.3	-0.3
CMAR	Chiang Mai Arr	63.79	296	P	P	00 11 08.3	-0.3
	1.2nm,0.6s,baz=123,slow=4.7,SNR=7.9						
SONM	Songino Array	72.20	327	P	P	00 12 01.5	+0.3
SONM	Songino Array	72.20	327	P	P	00 12 01.5	+0.3
	0.7nm,0.9s,baz=132,slow=4.3,SNR=4.0						
QSPA	South Pole Qui	81.17	180	*e*P	P	00 12 52.0	+0.5
	5.3nm,1.0s						
ILAR	Eielson Array	84.17	21	P	P	00 13 07.1	+0.2
ILAR	Eielson Array	84.17	21	P	P	00 13 07.1	+0.2
	0.2nm,0.6s,baz=233,slow=5.4,SNR=4.0						
MK31	Makanchi Array	86.39	318	*e*P	P	00 13 18.0	-0.5
MKAR	Makanchi Array	86.39	318	P	P	00 13 18.5	0.0
MKAR	Makanchi Array	86.39	318	P	P	00 13 18.5	0.0
	1.6nm,0.6s,baz=100,slow=5.0,SNR=18						
ZALV	Zalesovo Beam	87.06	326	P	P	00 13 20.4	-1.2
ZALV	Zalesovo Beam	87.06	326	P	P	00 13 20.4	-1.2
	0.3nm,0.4s,baz=107,slow=6.4,SNR=4.3						
NVAR	Mina Array Bea	90.92	51	P	P	00 13 41.4	+1.0
NVAR	Mina Array Bea	90.92	51	P	P	00 13 41.4	+1.0
	1.0nm,1.1s,baz=264,slow=3.4,SNR=3.5						
BDFB	Brasilia	144.95	134	PKPbc	PKPdf	00 20 14.2	-0.3
BDFB	Brasilia	144.95	134	PKPbc	PKPdf	00 20 14.2	-0.3
	7.8nm,0.7s,baz=217,slow=1.5,SNR=13						

*ISCJB **04** 00:02:17.2±0.3,32°.17N±0°.02×116°.66W±0°.02,h22km±2km, Error ellipse: s-maj=3.7km s-min=2.3km az=144.2*
*ECX **04** 00:02:18.4±0.6,32°.18N×116°.62W,h8km,MD3.8,ML3.9, Fault plane solution: NP1:ϕs120.00000°,δ90.00000°, λ30.00000°.*
*NEIC **04** 00:02:18.4,32°.18N×116°.62W,h8km,ML3.8(PAS), ML3.9(ECX),After ECX.*
NEIC Felt [III] at Rosarito and Tecate and [II] at Tijuana. Also felt at El Sauzal. Felt [III] at Alpine, Campo, Chula Vista, El Cajon, Jamul, Potrero and Tecate; [II] at Boulevard, Coronado, Escondido, Imperial Beach, Julian, La Mesa, Lakeside, Pine Valley, Poway, Ramona, San Diego, Santee and Spring Valley, California. Also felt at Anaheim, Costa Mesa, Descanso, Dulzura, Jacumba, La Jolla, La Quinta, Lemon Grove, Menifee, Mountain Center, San Marcos, Santa Ysabel and Valley Center.
*MEX **04** 00:02:19.9±0.7,32°.08N×116°.76W,h14km±690km,MD3.7*
*IDC **04** 00:02:19.4±2.7,32°.31N×116°.41W,h0km,mb1 3.8/4, mb1mx3.4/28,mbtmp3.4/4,ML3.6/4,Error ellipse: s-maj=39.8km s-min=12.3km az=53.0*

ISC 04 00:02:17.2±0.9,32°.17N±0°.02×116°.65W±0°.03,h16km±6km, n79,σ1ᵗ43/109,10C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBX	Cerro Bola	0.15	356	⇓*i*P		Pg	00 02 21.9	+0.5
CBX				*e*S		Sg	00 02 24.2	+0.1
CBX				⇑*e*			00 02 25.2	
	comp=N,36μm,0.2s							
CBX				⇓*e*			00 02 25.6	
	comp=E,27μm,0.3s							
PBX	Punta Banda	0.43	188	⇓*e*P		Pb	00 02 26.5	+0.1
PBX				*e*S		Sb	00 02 32.6	0.0
ECNX	Esteban Cantu	0.51	175	⇓*e*P		Pb	00 02 27.7	-0.2
ECNX				*e*S		Sb	00 02 35.0	-0.1
BAR	Barrett	0.51	358	*i* P		Pg	00 02 27.2	-0.3
BAR	Barrett	0.51	358	*e*Pg		Pg	00 02 27.2	-0.3
BAR				*e*Sg		Sg	00 02 33.6	-0.8
RDX	Rancho Dawling	0.65	111	⇑*i*P		Pg	00 02 29.5	-0.5
RDX				*i* S		Sg	00 02 38.2	-0.5
RMX	La Rumorosa	0.65	48	⇑*i*P		Pg	00 02 29.6	-0.4
RMX				⇑*e*P		Pg	00 02 29.6	-0.4
RMX				*e*S		Sg	00 02 37.9	-0.9
RMX				⇑*e*			00 02 39.3	
	comp=E,7μm,0.2s							
DVTC	Desert V Tower	0.68	43	P		Pg	00 02 30.1	-0.5
	baz=0.6							
DVTC				S		Sg	00 02 38.9	-0.6
	baz=0.6							
ZAX	El Zacaton	0.73	154	⇓*e*P		Pg	00 02 31.0	-0.5
ZAX				*e*S		Sg	00 02 41.0	-0.1
EML	El Monte Cty P	0.74	347	⇓*i*P		Pg	00 02 30.9	-0.8
MONP	Monument Peak	0.75	15	P		Pg	00 02 31.3	-0.6
	baz=0.7							
MONP				S		Sg	00 02 40.5	-1.4
	baz=0.7							
YUH	Yuha Desert	0.78	52	⇑*i*P		Pg	00 02 31.9	-0.6
109C	Camp Elliot, M	0.81	332	P		Pg	00 02 32.2	-1.0
	baz=0.8							
109C				S		Sg	00 02 42.6	-1.3
	baz=0.8							
SWSC	Sam W. Stewart	1.06	43	P		Pg	00 02 37.0	-0.7
	baz=1.0							
SWSC				S		Sg	00 02 50.8	-0.7
	baz=1.0							
EMX	El Mayor	1.21	98	⇑*e*P		Pb	00 02 38.3	-1.4
EMX				*e*S		Sg	00 02 54.1	-2.3
EMX				⇑*e*			00 02 59.6	
	comp=E,3μm,0.4s							
MBIG	Mexicali	1.25	79	*i* P		Pn	00 02 40.3	+0.2
MBIG				*i* S		Sb	00 02 57.4	+1.0
PFO	Pinyon Flat Ob	1.45	7	*e*Pn		Pn	00 02 43.2	+0.3
PFO				Pg		Pn	00 02 43.4	+0.6
PFO				*e*Sn		Sn	00 03 01.1	-0.5
PFO				Lg		Lg	00 03 01.4	
PFO	Pinyon Flat Ob	1.45	7	Pg		Pn	00 02 43.4	+0.6
	comp=E,80nm,0.3s,baz=183,slow=15,SNR=291							
PFO				Lg		Lg	00 03 01.4	
	comp=E,43nm,0.3s,baz=178,slow=15,SNR=9.8							
PFO	Pinyon Flat Ob	1.45	7	P		Pn	00 02 43.2	+0.3
	baz=1.4							
PFO				S		Sn	00 03 01.6	0.0
	baz=1.4							
MURC	Murrieta	1.50	342	P		Pn	00 02 43.5	0.0
	baz=1.5							
SPIG	San Pedro Mart	1.51	138	*e*P		Pn	00 02 44.0	+0.1
SPIG				*i* S		Sn	00 03 01.1	-2.3
SPX	San Pedro Mart	1.51	137	⇓*e*P		Pn	00 02 44.0	+0.2
SPX				*e*S		Sn	00 03 04.2	+0.8
SPX				⇓*e*			00 03 08.6	
	comp=E,906nm,0.8s							
ECBX	El Chinero	1.53	117	⇑*e*P		Pn	00 02 42.9	-0.9
ECBX				*e*S		Sn	00 03 03.0	-0.4
ECBX				⇑*e*			00 03 09.3	
	comp=E,2μm,1.2s							
GLA	Glamis	1.77	60	*e*Pn		Pn	00 02 47.0	-0.2
GLA				*e*Sn		Sn	00 03 08.0	-1.6
GLA	Glamis	1.77	60	P		Pn	00 02 47.3	0.0
	baz=1.7							
BC3	Big Chuckawall	1.79	34	P		Pn	00 02 47.8	+0.2
	baz=1.8							
BC3				S		Sn	00 03 09.3	-0.8
	baz=1.8							
SCI	San Clemente I	1.79	297	P		Pn	00 02 46.3	-1.2
	baz=1.8							
SCI				Sb		Sb	00 03 12.7	+0.8
	baz=1.8							
BELC	Belle Mtn. Jos	1.91	17	P		Pn	00 02 49.5	+0.3
	baz=1.9							
CIS	Catalina Islan	1.93	310	P		Pn	00 02 47.9	-1.4
	baz=1.9							
CIS				S		Sn	00 03 11.9	-1.3
	baz=1.9							
BBRC	Big Bear Solar	2.10	354	Pb		Pn	00 02 53.4	+1.5
	baz=2.1							
BBRC				Sb		Sb	00 03 21.1	+0.1
	baz=2.1							
BFSC	Mount Baldy Ra	2.23	338	Pb		Pn	00 02 56.1	+2.4
	baz=2.2							
BFSC				Sb		Sb	00 03 24.2	-0.5
	baz=2.2							
IRM	Iron Mountain	2.35	32	P		Pn	00 02 56.0	+0.8
	baz=2.3							
MWC	Mount Wilson	2.37	330	*e*Pn		Pn	00 02 55.6	0.0
MWC				*e*Sn		Sn	00 03 25.4	+1.1
PASC	Pasadena Art C	2.38	328	*e*Pn		Pn	00 02 55.3	-0.2
PASC				*e*Sn		Sn	00 03 23.5	-0.9
Y12C	Blythe	2.39	48	P		Pn	00 02 56.2	+0.6
	baz=2.4							
DECC	Green Verdugo	2.51	326	S		Sn	00 03 27.8	+0.2
	baz=2.5							
113A	Mohawk Valley,	2.51	75	P		Pn	00 02 57.9	+0.6
	baz=2.5							
RRX	Edison Barstow	2.72	354	Sb		Sb	00 03 40.4	+1.7
	baz=2.7							
GMRC	Granite Mounta	2.73	17	P		Pn	00 03 01.5	+0.9
	baz=2.7							
OSI	Osito Adit	2.99	325	*e*Pn		Pn	00 03 02.2	-1.8
OSI				*e*Sn		Sn	00 03 39.0	-0.6
GSC	Goldstone	3.13	358	*e*Pn		Pn	00 03 07.0	+1.0
GSC				*e*Sn		Sn	00 03 44.0	+1.0
214A	Organ Pipe Nat	3.27	93	*e*Pn		Pn	00 03 07.2	-0.6
214A	Organ Pipe Nat	3.27	93	P		Pn	00 03 07.8	0.0
	baz=3.3							
Z14A	Wintersburg	3.34	68	P		Pn	00 03 09.6	+0.8
	baz=3.3							
ARVC	Arvin	3.47	329	P		Pn	00 03 12.3	+1.8
	baz=3.4							
Y14A	Wickenburg	3.54	59	Pb		Pb	00 03 19.4	0.0
	baz=3.5							
W13A	Hualapai Mount	3.73	38	P		Pn	00 03 15.7	+1.4
	baz=3.7							
ISA	Isabella	3.80	337	*e*Pn		Pn	00 03 15.3	+0.1
ISA				*e*Sn		Sb	00 04 10.4	+0.6
SHPR	Sheep Range	4.50	16	*e*Pn		Pn	00 03 26.7	+1.8
SHPR				*e*Sg		Sg	00 04 39.0	-2.7
X16A	Lo Mia Camp, P	4.91	61	P		Pn	00 03 32.6	+2.1
	baz=4.9							
TUC	Tucson	4.97	87	*e*Pn		Pn	00 03 31.3	0.0
WUAZ	Wupatki	5.52	51	*e*Pn		Pn	00 03 38.2	-0.7
	comp=E,8.6nm,0.6s							
WUAZ	Wupatki	5.52	51	P		Pn	00 03 41.4	+2.5
	baz=5.5							
U15A	North Rim	5.58	39	P		Pn	00 03 42.3	+2.6
	baz=5.5							
HSIG		5.83	121	*i* P		Pn	00 03 43.8	+0.7
HSIG				*i* S		Sn	00 04 51.0	+1.4
TPH	Tonopah	5.91	356	Pn		Pn	00 03 47.3	+3.0
	comp=E,4.6nm,0.7s							
SAO	San Andreas Ge	6.06	321	*e*Pn		Pn	00 03 46.7	+0.5
X18A	Snowflake	6.08	65	P		Pn	00 03 48.9	+2.2
	baz=6.1							
ARUT	Antelope Range	6.20	24	*e*Pn		Pn	00 03 49.1	+0.9
	comp=E,130nm,0.5s							
R11A	Troy Canyon, C	6.23	8	*e*Pn		Pn	00 03 50.3	+1.7
	comp=E,2.7nm,0.8s							
R11A				*e*Sg		Sg	00 05 31.8	-5.3
319A	Douglas	6.33	95	P		Pn	00 03 51.6	+1.6
	baz=6.3							
NVAR	Mina Array Bea	6.39	348	Pn		Pn	00 03 55.4	+4.5
NVAR				Lg		Lg	00 05 37.9	
NVAR	Mina Array Bea	6.39	348	Pn		Pn	00 03 55.4	+4.5
	comp=E,0.3nm,0.3s,baz=172,slow=14,SNR=13							
NVAR				Lg		Lg	00 05 37.9	
	comp=E,0.3nm,0.3s,baz=161,slow=28,SNR=2.9							
W18A	Petrified Fore	6.47	61	*e*Pn		Pn	00 03 54.1	+2.0
	comp=E,30nm,0.5s							
W18A	Petrified Fore	6.47	61	P		Pn	00 03 54.6	+2.6
	baz=6.4							
CMB	Columbia Colle	6.61	333	*e*Pn		Pn	00 03 52.6	-1.0
MVU	Marysvale	7.29	29	*e*Pn		Pn	00 04 05.3	+2.1
	comp=E,5.9nm,0.4s							
121A	Cookes Peak, D	7.51	85	P		Pn	00 04 07.9	+1.6
	baz=7.5							
CGIG		7.64	101	*i* P		Pn	00 04 09.7	+1.7
CGIG				*i* S		Sn	00 05 36.9	+2.6
222A	Williams Famil	8.10	88	P		Pn	00 04 16.4	+2.1
	baz=8.1							
Z22A	Elephant Butte	8.24	80	P		Pn	00 04 18.0	+1.8
	baz=8.2							
PV01	Paradox Valley	8.90	46	*e*Pn		Pn	00 04 30.0	+4.7
	comp=E,292nm,0.5s							
ANMO	Albuquerque	8.95	69	*e*Pn		Pn	00 04 28.7	+2.7
	comp=E,1.5nm,0.6s							
ANMO	Albuquerque	8.95	69	Pn		Pn	00 04 28.4	+2.4
	comp=E,0.3nm,0.3s,baz=264,slow=16,SNR=10							
MNTX	Cornudas Mount	9.59	90	*e*Pn		Pn	00 04 36.4	+1.8
TXAR	Lajitas Array	11.52	101	Pn		Pn	00 05 04.2	+3.0
TXAR	Lajitas Array	11.52	101	Pn		Pn	00 05 04.2	+3.0
	comp=E,0.4nm,0.3s,baz=280,slow=12,SNR=17							
PDAR	Pinedale Array	11.98	26	Pn		Pn	00 05 13.9	+6.4
PDAR	Pinedale Array	11.98	26	Pn		Pn	00 05 13.9	+6.4
	comp=E,0.0nm,0.3s,baz=192,slow=12,SNR=7.1							

*IDC **04** 00:08:04.8±0.6,8°.45S×157°.31E,h0km,mb4.2/12, mb1 4.4/13,mb1mx4.3/20,mbtmp4.2/13,ML4.5/1,Error ellipse: s-maj=22.1km s-min=15.5km az=22.0*
*ISCJB **04** 00:08:06.3±0.5,8°.55S±0°.1×157°.31E±0°.10,h16km, mb4.2/14,Error ellipse: s-maj=15.6km s-min=13.6km az=175.7*
*NEIC **04** 00:08:09.7±0.4,8°.54S×157°.35E,h35km,mb4.3/3,Error ellipse: s-maj=11.7km s-min=9.7km az=7.0*

ISC 04 00:08:07.4±0.5,8°.55S±0°.1×157°.30E±0°.08,h16km,n46, σ1ᵗ05/46,mb4.2/14,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	Honiara	2.77	110	Pn		Pn	00 08 50.2	-0.9
HNR				Lg		Lg	00 09 33.5	
HNR	Honiara	2.77	110	Pn		Pn	00 08 50.2	-0.9
	82nm,0.3s,baz=247,slow=7.7,SNR=6.5							
HNR				Lg		Lg	00 09 33.5	
	156nm,0.3s,baz=216,slow=19,SNR=4.1							
HNR	Honiara	2.77	110	*i* P		Pb	00 08 54.6	-2.0
HNR				*i* S		Sg	00 09 40.2	+3.6
WRAB	Tennant Creek	24.95	240	*e*P		P	00 13 29.8	-0.5
	4.1nm,0.6s							
WRA	Warramunga Arr	24.96	240	P		P	00 13 30.0	-0.4
WRA				PcP		PcP	00 17 06.1	+0.3
WRA	Warramunga Arr	24.96	240	P		P	00 13 30.0	-0.4
	7.8nm,1.0s,baz=66,slow=9.8,SNR=19							
WRA				PcP		PcP	00 17 06.1	+0.3
	0.8nm,0.7s,baz=71,slow=2.8,SNR=7.8							
STKA	Stephens Creek	27.47	210	*e*P		P	00 13 53.8	+0.9
	1.5nm,0.9s							
STKA	Stephens Creek	27.47	210	P		P	00 13 54.0	+1.0
	6.3nm,0.8s,baz=23,slow=11,SNR=13							
H11S3	WAKE ISLAND Hy	28.37	19	T		T	00 42 32.4	
	baz=200,slow=78,SNR=9.1							
H11S2	WAKE ISLAND Hy	28.37	19	T		T	00 42 31.8	
	baz=200,slow=78,SNR=13							
H11S1	WAKE ISLAND Hy	28.39	19	T		T	00 42 31.7	
	baz=200,slow=78,SNR=6.9							
KSRS	Korea Array	53.34	331	P		P	00 17 26.8	+0.9
	1.4nm,0.7s,baz=147,slow=7.0,SNR=4.2							
KSAR	Wonju Array Be	53.35	331	P		P	00 17 26.8	+0.8
CMAR	Chiang Mai Arr	63.49	295	P		P	00 18 36.8	-0.5
CMAR	Chiang Mai Arr	63.49	295	P		P	00 18 36.8	-0.5
	4.5nm,0.3s,baz=116,slow=5.1,SNR=15							
CHTO	Chiang Mai	63.61	296	*e*P		P	00 18 37.4	-0.8
	2.6nm,0.4s							
SONM	Songino Array	71.83	327	P		P	00 19 29.9	+0.3
SONM	Songino Array	71.83	327	P		P	00 19 29.9	+0.3
	1.0nm,0.9s,baz=130,slow=5.5,SNR=7.2							
TAPN	Taplejung	76.13	301	*e*P		P	00 19 57.0	+1.6
	14nm,1.2s							
ODAN	Ocre	76.26	300	*e*P		P	00 19 57.7	+1.6
	7.0nm,0.6s							
JIRN	Jiri	77.51	301	*e*P		P	00 20 04.8	+1.5
	10nm,0.8s							
GUN	Gumba	77.85	301	*e*P		P	00 20 06.3	+1.2
	8.7nm,0.6s							
PKI	Pulchoki	78.15	300	*e*P		P	00 20 08.1	+1.3
DMN	Daman	78.42	300	*e*P		P	00 20 09.7	+1.5
	5.3nm,0.3s							
GKN	Gorkha	78.93	301	*e*P		P	00 20 12.2	+1.3
	9.8nm,0.7s							
KOLN	Koldanda	79.75	300	*e*P		P	00 20 16.4	+1.0
	9.4nm,0.7s							
DANN	Dangsing	79.77	301	*e*P		P	00 20 16.3	+0.7
	8.1nm,0.6s							
ILAR	Eielson Array	83.93	21	P		P	00 20 35.9	-0.5
ILAR	Eielson Array	83.93	21	P		P	00 20 35.9	-0.5
	0.6nm,0.9s,baz=246,slow=5.8,SNR=4.7							
MK31	Makanchi Array	86.04	318	*e*P		P	00 20 46.2	-1.2
MKAR	Makanchi Array	86.04	318	P		P	00 20 47.2	-0.2
MKAR	Makanchi Array	86.04	318	P		P	00 20 47.2	-0.2
	2.1nm,0.6s,baz=98,slow=5.8,SNR=24							
ZALV	Zalesovo Beam	86.70	326	P		P	00 20 49.6	-0.8
ZALV	Zalesovo Beam	86.70	326	P		P	00 20 49.6	-0.8
	1.0nm,0.5s,baz=122,slow=6.4,SNR=6.0							
KURK	Kurchatov	89.42	321	P		P	00 21 03.6	+0.2
KURBB	Kurchatov Arra	89.45	321	P		P	00 21 03.6	0.0
	0.3nm,0.6s,baz=104,slow=3.9,SNR=5.9							
NVAR	Mina Array Bea	90.85	51	P		P	00 21 11.1	+0.3
NVAR	Mina Array Bea	90.85	51	P		P	00 21 11.1	+0.3
	0.9nm,0.9s,baz=235,slow=7.0,SNR=5.9							
BVAR	Borovoye Array	94.86	323	P		P	00 21 27.9	-0.7
BVAR	Borovoye Array	94.86	323	P		P	00 21 27.9	-0.7
	1.0nm,0.6s,baz=111,slow=6.5,SNR=9.1							
YKA	Yellowknife Ar	96.58	28	P		P	00 21 36.4	+0.1
YKA	Yellowknife Ar	96.58	28	P		P	00 21 36.4	+0.1
	0.1nm,0.4s,baz=266,slow=4.0,SNR=4.3							
AKASG	Malin Array Be	120.08	325	PKP		PKPdf	00 26 57.1	-0.4
AKASG	Malin Array Be	120.08	325	PKP		PKPdf	00 26 57.1	-0.4
	0.3nm,0.5s,baz=64,slow=1.8,SNR=4.2							
BDFB	Brasilia	145.30	134	PKPbc		PKPbc	00 27 44.3	-1.1
BDFB	Brasilia	145.30	134	PKPbc		PKPbc	00 27 44.3	-1.1
	5.2nm,0.8s,baz=219,slow=4.0,SNR=10							

*IDC **04** 00:13:15.6±0.7,8°.67S×157°.15E,h0km,mb4.0/9, mb1 4.2/11,mb1mx4.1/19,mbtmp4.0/11,ML3.7/2,Error ellipse: s-maj=21.9km s-min=14.0km az=13.0*

ISC 04 00:13:18.6±0.6,8°.75S±0°.1×157°.19E±0°.07,h19km,n19, σ0ᵗ82/15,mb4.2/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	Honiara	2.82	106	Pn		Pn	00 14 03.5	+0.8
	17nm,0.3s,baz=270,slow=8.1,SNR=3.7							
HNR				Pg		Pb	00 14 08.2	-0.2
	61nm,0.3s,baz=280,slow=12,SNR=6.2							
HNR				Lg		Lg	00 14 45.6	
	138nm,0.3s,baz=223,slow=19,SNR=12							
HNR	Honiara	2.82	106	*i* P		Pg	00 14 11.4	-1.4
HNR				*i* S		Sb	00 14 43.8	+1.2
CTA	Charters Tower	15.52	222	Pn		Pn	00 16 57.6	+1.1
	0.1nm,0.3s,baz=38,slow=7.4,SNR=2.9							
WRA	Warramunga Arr	24.78	241	P		P	00 18 39.1	-0.5
	4.7nm,0.8s,baz=66,slow=9.4,SNR=8.8							
STKA	Stephens Creek	27.26	210	P		P	00 19 01.6	-0.3
	4.7nm,0.8s,baz=19,slow=11,SNR=12							
H11S3	WAKE ISLAND Hy	28.57	19	T		T	00 47 46.0	
	baz=200,slow=78,SNR=22							
H11S2	WAKE ISLAND Hy	28.58	19	T		T	00 47 45.6	
	baz=200,slow=78,SNR=20							
H11S1	WAKE ISLAND Hy	28.59	19	T		T	00 47 47.0	
	baz=200,slow=78,SNR=12							
H11N1	WAKE ISLAND Hy	29.78	19	T		T	00 49 10.7	
	baz=180							
H11N3	WAKE ISLAND Hy	29.79	19	T		T	00 49 12.6	
	baz=180							
H11N2	WAKE ISLAND Hy	29.80	19	T		T	00 49 12.6	
	baz=180							
KSRS	Korea Array	53.44	331	P		P	00 22 37.6	+0.2
	1.2nm,0.8s,baz=153,slow=6.1,SNR=3.0							
CMAR	Chiang Mai Arr	63.47	296	P		P	00 23 47.4	-0.5
	0.8nm,0.3s,baz=123,slow=8.0,SNR=7.8							
SONM	Songino Array	71.92	327	P		P	00 24 41.2	+0.3
	1.1nm,1.0s,baz=136,slow=5.6,SNR=5.0							
ILAR	Eielson Array	84.14	21	P		P	00 25 48.2	+0.1
	0.3nm,0.9s,baz=258,slow=5.4,SNR=3.0							
MKAR	Makanchi Array	86.10	318	P		P	00 25 58.2	-0.2
	1.6nm,0.8s,baz=103,slow=6.2,SNR=6.1							
NVAR	Mina Array Bea	91.05	51	P		P	00 26 23.2	+0.9
	0.5nm,0.8s,baz=253,slow=5.6,SNR=4.0							
YKA	Yellowknife Ar	96.79	28	P		P	00 26 47.6	-0.2
	0.8nm,1.1s,baz=262,slow=4.2,SNR=4.1							
BDFB	Brasilia	145.26	134	PKPbc		PKPbc	00 32 54.8	-1.2
	4.7nm,1.0s,baz=152,slow=3.2,SNR=4.4							

*IDC **04** 00:14:14.3±1.7,9°.01S×125°.46E,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.8/16,mbtmp3.9/3,ML4.2/1,Error ellipse: s-maj=124.4km s-min=38.7km az=62.0*
*DJA **04** 00:14:17.0±1.8,10°.S±25°×12°.5E±1°.4,h10km,M4.5/2, mb5.0/1,MLv4.3/2*

ISC 04 00:14:19.4±0.8,9°.5S±0°.1×124°.73E±0°.08,h25km,n13, σ2ᵗ13/14,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMRI	Maumere	2.59	288	P		Pn	00 15 00.9	+1.1
MMRI				S		Sb	00 15 40.7	+4.0
LBFI	Labuhan Bajo,	4.88	281	P		x	00 15 35.5	
LBFI				S		x	00 16 33.6	
MTN	Manton Dam	7.12	119	P		Pn	00 16 03.3	+1.3
	baz=6.8,SNR=67							
MTN				S		Sn	00 17 22.6	+0.4
	baz=6.8,SNR=5.4							
KNRA	Kununurra	7.32	148	P		Pn	00 16 05.5	+0.7
	baz=7.1,SNR=39							
KNRA				S		Sn	00 17 25.3	-1.7
	baz=7.1,SNR=3.5							
KDU	Kakadu	8.25	113	P		Pn	00 16 18.4	+1.0
	baz=8.0,SNR=20							
WRA	Warramunga Arr	13.95	139	Pn		Pn	00 17 32.3	-3.3
	1.3nm,0.3s,baz=322,slow=13,SNR=42							
WRA				Sn		Sn	00 20 01.2	-8.6
	1.5nm,0.3s,baz=310,slow=22,SNR=7.3							
UGM	Wanagama	14.13	275	P		P	00 17 43.5	-2.0
	baz=14,SNR=3.9							
WRKA	Warakurna	15.85	168	P		Pn	00 17 59.4	-1.6
	baz=16,SNR=4.5							
QIS	Mount Isa	18.09	129	P		P	00 18 32.7	+3.3
	baz=18,SNR=3.9							
COEN	Coen	18.60	106	P		Pn	00 18 36.6	+1.2
	baz=18,SNR=14							
SONM	Songino Array	59.33	346	P		P	00 24 17.5	-1.8
	0.5nm,0.5s,baz=164,slow=8.7,SNR=5.2							
MKAR	Makanchi Array	67.58	330	P		P	00

ILAR	**Eielson Array**	**83.97**	**21**	P		**P**	**00 27 32.4**	**-1.0**
	1.6nm,1.1s,baz=252,slow=4.4,SNR=4.9							
MK31	**Makanchi Array**	**85.98**	**318**	*eP*		**P**	**00 27 42.3**	**-1.7**
MKAR	**Makanchi Array**	**85.98**	**318**	P		**P**	**00 27 43.6**	**-0.3**
MKAR	**Makanchi Array**	**85.98**	**318**	P		**P**	**00 27 43.6**	**-0.3**
	3.8nm,0.9s,baz=101,slow=6.5,SNR=10.0							
ZALV	**Zalesovo Beam**	**86.65**	**326**	P		**P**	**00 27 45.5**	**-1.5**
ZALV	**Zalesovo Beam**	**86.65**	**326**	P		**P**	**00 27 45.5**	**-1.5**
	0.7nm,0.6s,baz=116,slow=5.0,SNR=5.3							
NVAR	**Mina Array Bea**	**90.93**	**51**	P		**P**	**00 28 09.0**	**+1.0**
NVAR	**Mina Array Bea**	**90.93**	**51**	P		**P**	**00 28 09.0**	**+1.0**
	0.9nm,1.0s,baz=242,slow=7.1,SNR=4.6							
YKA	**Yellowknife Ar**	**96.63**	**28**	P		**P**	**00 28 33.1**	**-0.1**
YKA	**Yellowknife Ar**	**96.63**	**28**	P		**P**	**00 28 33.1**	**-0.1**
	0.8nm,0.9s,baz=258,slow=4.9,SNR=7.4							
BDFB	**Brasilia**	**145.37**	**134**	PKPbc		**PKPbc**	**00 34 41.9**	**-0.6**
BDFB	**Brasilia**	**145.37**	**134**	PKPbc		**PKPbc**	**00 34 41.9**	**-0.6**
	4.1nm,0.7s,baz=211,slow=3.0,SNR=8.3							

*IDC **04** 00:15:25.8±0.9, 8.51S×157.28E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/19, mbtmp4.3/13, ML3.6/1, Error ellipse: s-maj=31.3km s-min=21.6km az=112.0*
*ISCJB **04** 00:15:27.0±0.6, 8.53S±0.08×157.2E±0.1, h19km, mb4.3/15, Error ellipse: s-maj=16.4km s-min=11.6km az=6.4*
*NEIC **04** 00:15:30.7±0.4, 8.56S×157.25E, h35km, mb4.4/4, Error ellipse: s-maj=13.9km s-min=10.7km az=98.0*

ISC 04 00:15:28.5±0.6, 8.6S±0.1×157.2E±0.1, h19km, n36, σ0s83/36, mb4.4/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.58**	**222**	Pn		**P**		**00 19 10.3**	**-1.1**
CTA	**Charters Tower**	**15.58**	**222**	Pn		**P**		**00 19 10.3**	**-1.1**
	0.2nm,0.3s,baz=14,slow=15,SNR=2.3								
DZM	**Mont Dzumac**	**16.08**	**147**	*e*Pn		**Pn**		**00 19 13.6**	**-0.1**
	12nm,1.0s								
WRAB	**Tennant Creek**	**24.81**	**241**	*e*P		**P**		**00 20 47.8**	**-1.9**
	7.2nm,0.6s								
WRA	**Warramunga Arr**	**24.83**	**241**	P		**P**		**00 20 50.1**	**+0.2**
WRA				PcP		**PcP**		**00 24 26.7**	**+0.6**
WRA	**Warramunga Arr**	**24.83**	**241**	P		**P**		**00 20 50.1**	**+0.2**
	2.3nm,0.5s,baz=65,slow=9.5,SNR=4.7								
WRA				PcP		**PcP**		**00 24 26.7**	**+0.6**
	2.1nm,0.9s,baz=61,slow=2.1,SNR=5.0								
STKA	**Stephens Creek**	**27.33**	**210**	P		**P**		**00 21 14.1**	**+1.7**
STKA	**Stephens Creek**	**27.33**	**210**	P		**P**		**00 21 14.1**	**+1.7**
	9.6nm,0.7s,baz=41,slow=13,SNR=7.3								
KSRS	**Korea Array**	**53.38**	**331**	P		**P**		**00 24 47.5**	**+0.6**
	2.6nm,0.9s,baz=153,slow=6.9,SNR=4.2								
KSAR	**Wonju Array Be**	**53.39**	**331**	P		**P**		**00 24 47.5**	**+0.5**
USRK	**Ussuriysk Arra**	**57.30**	**339**	P		**P**		**00 25 16.0**	**+1.0**
	3.4nm,0.9s,baz=133,slow=10,SNR=3.4								
CMAR	**Chiang Mai Arr**	**63.45**	**296**	P		**P**		**00 25 58.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**63.45**	**296**	P		**P**		**00 25 58.5**	**+0.9**
	2.6nm,0.8s,baz=126,slow=5.0,SNR=8.4								
CHTO	**Chiang Mai**	**63.57**	**296**	*e*P		**P**		**00 25 58.0**	**-0.4**
	1.6nm,0.6s								
ULN	**Ulaanbaatar**	**71.53**	**327**	*e*P		**P**		**00 26 47.6**	**-0.7**
	3.8nm,0.8s								
SONM	**Songino Array**	**71.86**	**327**	P		**P**		**00 26 51.0**	**+0.7**
SONM	**Songino Array**	**71.86**	**327**	P		**P**		**00 26 51.0**	**+0.7**
	3.9nm,0.8s,baz=130,slow=5.8,SNR=12								
ILAR	**Eielson Array**	**84.07**	**21**	P		**P**		**00 27 56.9**	**-0.8**
ILAR	**Eielson Array**	**84.07**	**21**	P		**P**		**00 27 56.9**	**-0.8**
	0.5nm,0.8s,baz=248,slow=3.9,SNR=4.8								
MK31	**Makanchi Array**	**86.05**	**318**	*e*P		**P**		**00 28 07.8**	**-0.3**
MKAR	**Makanchi Array**	**86.05**	**318**	P		**P**		**00 28 08.1**	**0.0**
MKAR	**Makanchi Array**	**86.05**	**318**	P		**P**		**00 28 08.1**	**0.0**
	5.0nm,0.9s,baz=108,slow=5.2,SNR=8.4								
ZALV	**Zalesovo Beam**	**86.73**	**326**	P		**P**		**00 28 10.6**	**-0.5**
ZALV	**Zalesovo Beam**	**86.73**	**326**	P		**P**		**00 28 10.6**	**-0.5**
	0.8nm,0.6s,baz=104,slow=4.7,SNR=3.7								
NVAR	**Mina Array Bea**	**91.00**	**51**	P		**P**		**00 28 32.2**	**+0.2**
NVAR	**Mina Array Bea**	**91.00**	**51**	P		**P**		**00 28 32.2**	**+0.2**
	0.8nm,0.9s,baz=238,slow=5.2,SNR=3.4								
BVAR	**Borovoye Array**	**94.89**	**323**	P		**P**		**00 28 48.3**	**-1.1**
BVAR	**Borovoye Array**	**94.89**	**323**	P		**P**		**00 28 48.3**	**-1.1**
	1.6nm,0.9s,baz=160,slow=4.6,SNR=4.1								
YKA	**Yellowknife Ar**	**96.72**	**28**	P		**P**		**00 28 57.7**	**+0.3**
YKA	**Yellowknife Ar**	**96.72**	**28**	P		**P**		**00 28 57.7**	**+0.3**
	0.8nm,0.9s,baz=263,slow=4.6,SNR=6.4								
AKASG	**Malin Array Be**	**120.11**	**325**	PKP		**PKPdf**		**00 34 17.5**	**-0.6**
AKASG	**Malin Array Be**	**120.11**	**325**	PKP		**PKPdf**		**00 34 17.5**	**-0.6**
	0.3nm,0.5s,baz=67,slow=1.9,SNR=4.0								
ESDC	**Sonseca Array**	**144.77**	**334**	PKP		PKPbc		00 35 03.8	+0.2
ESDC	**Sonseca Array**	**144.77**	**334**	PKP		PKPbc		00 35 03.8	+0.2
	0.5nm,0.8s,baz=19,slow=2.5,SNR=4.1								
BDFB	**Brasilia**	**145.30**	**134**	PKPbc		**PKPdf**		**00 35 06.1**	**-0.2**
BDFB	**Brasilia**	**145.30**	**134**	PKPbc		**PKPdf**		**00 35 06.1**	**-0.2**
	4.9nm,0.7s,baz=230,slow=4.8,SNR=5.9								

*IDC **04** 00:18:04.6±0.7, 8.71S×157.41E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, ML3.7/2, Error ellipse: s-maj=22.8km s-min=15.4km az=19.0*
*ISCJB **04** 00:18:05.6±0.7, 8.7S±0.1×157.4E±0.1, h17km, mb4.0/10, Error ellipse: s-maj=20.0km s-min=14.6km az=29.1*

ISC 04 00:18:07.2±0.6, 8.8S±0.1×157.32E±0.07, h17km, n19, σ1s08/18, mb4.1/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.66**	**103**	Pn		**Pn**		**00 18 48.2**	**-1.1**
	13nm,0.3s,baz=345,slow=16,SNR=2.9								
HNR				Lg		Lg		00 19 27.2	
	57nm,0.3s,baz=252,slow=16,SNR=2.5								
HNR	**Honiara**	**2.66**	**103**	*i* P		**Pg**		**00 18 58.5**	**+0.3**
HNR				*i* S		**Sg**		**00 19 33.7**	**+1.0**
CTA	**Charters Tower**	**15.47**	**223**	Pn		**P**		**00 21 47.4**	**-1.9**
	0.3nm,0.3s,baz=38,slow=14,SNR=1.9								
WRA	**Warramunga Arr**	**24.81**	**241**	P		**P**		**00 23 29.4**	**+0.7**
	6.5nm,0.8s,baz=66,slow=9.4,SNR=7.6								
WRA				PcP		**PcP**		**00 27 06.2**	**+1.1**
	1.0nm,0.9s,baz=70,slow=1.9,SNR=4.7								
STKA	**Stephens Creek**	**27.18**	**210**	P		**P**		**00 23 51.3**	**+1.4**
	2.4nm,0.6s,baz=49,slow=14,SNR=6.9								
H11S3	**WAKE ISLAND Hy**	**28.69**	**19**	T		T		00 52 28.5	
	baz=194								
H11S2	**WAKE ISLAND Hy**	**28.70**	**19**	T		T		00 52 28.0	
	baz=194								
H11S1	**WAKE ISLAND Hy**	**28.71**	**19**	T		T		00 52 28.5	
	baz=194								
KSRS	**Korea Array**	**53.65**	**331**	P		**P**		**00 27 28.9**	**+1.1**
	1.7nm,0.7s,baz=143,slow=6.8,SNR=5.9								
CMAR	**Chiang Mai Arr**	**63.66**	**296**	P		**P**		**00 28 39.1**	**+1.0**
	1.2nm,0.7s,baz=123,slow=4.6,SNR=4.3								
SONM	**Songino Array**	**72.13**	**327**	P		**P**		**00 29 31.3**	**+0.3**
	1.0nm,0.7s,baz=131,slow=5.9,SNR=4.7								
ILAR	**Eielson Array**	**84.25**	**21**	P		**P**		**00 30 37.0**	**-0.6**
	0.4nm,0.8s,baz=247,slow=5.5,SNR=5.4								
MKAR	**Makanchi Array**	**86.31**	**318**	P		**P**		**00 30 48.3**	**0.0**
	1.3nm,0.7s,baz=89,slow=7.0,SNR=6.0								
ZALV	**Zalesovo Beam**	**86.99**	**326**	P		**P**		**00 30 50.5**	**-1.0**
	0.7nm,0.7s,baz=127,slow=6.3,SNR=2.7								
KURBB	**Kurchatov Arra**	**89.73**	**321**	P		**P**		**00 31 03.6**	**-1.0**
	0.2nm,0.3s,baz=108,slow=4.4,SNR=3.4								
BVAR	**Borovoye Array**	**95.15**	**323**	P		**P**		**00 31 27.9**	**-1.7**
	0.6nm,0.7s,baz=108,slow=4.8,SNR=4.4								
AKASG	**Malin Array Be**	**120.37**	**325**	PKP		**PKPdf**		**00 36 56.9**	**-0.7**
	0.2nm,0.3s,baz=82,slow=1.3,SNR=5.9								
ESDC	**Sonseca Array**	**145.04**	**334**	PKP		**PKPdf**		**00 37 44.0**	**-0.2**
	0.7nm,0.8s,baz=29,slow=2.9,SNR=3.8								
BDFB	**Brasilia**	**145.05**	**134**	PKPbc		**PKPdf**		**00 37 44.7**	**-0.2**
	3.1nm,0.8s,baz=204,slow=1.9,SNR=4.6								

*IDC **04** 00:19:45.0±3.3, 36.30N×70.95E, h164km±28km, mb3.6/15, mb1 3.7/20, mb1mx3.6/29, mbtmp4.1/20, Error ellipse: s-maj=22.4km s-min=13.6km az=180.0*
*ISCJB **04** 00:19:47.4±0.3, 36.53N±0.03×70.92E±0.05, h188km, mb3.8/17, Error ellipse: s-maj=6.4km s-min=3.0km az=155.2*
*NNC **04** 00:19:57.9±2.6, 37.29N×71.11E, h236km±28km, mb3.2, mpv4.0, Error ellipse: s-maj=25.1km s-min=17.0km az=22.0*

ISC 04 00:19:48.2±0.5, 36.60N±0.05×71.12E±0.06, h188km, n64, σ1s93/80, mb3.9/17, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.84**	**167**	⇑P		**Pn**		**00 20 37.9**	**+2.4**
CEP				S		**Sn**		**00 21 14.0**	**+1.6**
CHCP	**Chirah Chowk**	**3.42**	**148**	P		**Pn**		**00 20 45.2**	**+2.8**
CHCP				S		**Sn**		**00 21 27.0**	**+2.3**
THW	**Thamme Wali**	**3.83**	**172**	⇑P		**Pn**		**00 20 49.2**	**+1.7**
THW				S		**Sn**		**00 21 34.0**	**+0.1**
DLH	**Dalhousie**	**5.69**	**134**	*e*P		**Pn**		**00 21 12.0**	**+0.5**
DLH				*e*S		**Sn**		**00 22 15.0**	**-2.1**
AML	**Almayashu**	**5.88**	**19**	P		**Pn**		**00 21 16.1**	**+2.1**
	SNR=42								
DHRM	**DHARAMSHALA**	**6.09**	**134**	*e*P		**Pn**		**00 21 18.6**	**+1.8**
DHRM				*e*S		**Sn**		**00 22 25.6**	**-1.0**
DHRM				AML		AML		00 22 29.4	
	comp=N,857nm,0.3s								
DHRM				AML		AML		00 22 29.6	
	comp=E,1μm,0.4s								
UCH	**Uchtor**	**6.21**	**24**	P		**Pn**		**00 21 20.7**	**+2.3**
	SNR=24								
KZA	**Kyzart**	**6.34**	**29**	P		**Pn**		**00 21 21.9**	**+1.9**
	SNR=7.0								
EKS2	**Erkin-Say**	**6.39**	**18**	P		**Pn**		**00 21 23.0**	**+2.6**
	SNR=42								
KK31	**Karatay Array**	**6.51**	**356**	⇓P		**Pn**		**00 21 23.3**	**+1.4**
	comp=E,5.0nm,0.2s,baz=184,slow=12,SNR=110								
KK31				⇑S		**Sn**		**00 22 32.7**	**-3.4**
	comp=E,47nm,0.5s,baz=171,slow=14,SNR=22								
AAK	**Ala-Archa**	**6.57**	**22**	⇑P		**Pn**		**00 21 25.1**	**+2.4**
	comp=E,3.3nm,0.3s								
AAK				⇑S		**Sn**		**00 22 35.8**	**-1.8**
	comp=E,46nm,0.9s								
AAK	**Ala-Archa**	**6.57**	**22**	P		**Pn**		**00 21 25.4**	**+2.6**
	SNR=12								
AAK	**Ala-Archa**	**6.57**	**22**	P		**Pn**		**00 21 25.1**	**+2.4**
	comp=E,2.6nm,0.3s,baz=147,slow=3.4,SNR=23								
AAK				S		**Sn**		**00 22 39.8**	**+2.3**
	comp=E,3.2nm,0.3s,baz=309,slow=23,SNR=13								
KBK	**Karagaybulak**	**6.73**	**25**	P		Pn		00 21 28.3	+3.4
	SNR=9.9								
ULHL	**Ulahol**	**6.89**	**34**	P		**Pn**		**00 21 29.6**	**+2.5**
	SNR=7.7								
CHMS	**Chumysh**	**6.98**	**22**	P		**Pn**		**00 21 30.7**	**+2.7**
	SNR=5.0								
SDNR	**Sundarnagar**	**7.03**	**135**	*e*P		**Pn**		**00 21 30.6**	**+1.8**
SDNR				*e*S		**Sn**		**00 22 45.0**	**-3.4**
USP	**Ospenovka**	**7.15**	**20**	P		**Pn**		**00 21 32.5**	**+2.2**
	SNR=19								
TKM2	**Tokmak 2**	**7.19**	**27**	⇓P		**Pn**		**00 21 33.3**	**+2.3**
	comp=E,8.8nm,0.5s								
TKM2				⇑S		**Sn**		**00 22 48.6**	**-3.8**
	comp=E,16nm,1.1s								
TKM2	**Tokmak 2**	**7.19**	**27**	P		**Pn**		**00 21 33.6**	**+2.5**
	SNR=23								
SMLA	**Simla**	**7.42**	**136**	*e*P		**Pn**		**00 21 35.0**	**+1.1**
SMLA				*e*P		**Pn**		**00 21 35.4**	**+1.6**
SMLA				*e*S		**Sn**		**00 22 54.0**	**-3.5**
SMLA				*e*S		**Sn**		**00 22 55.2**	**-2.3**
SMLA				AML		AML		00 22 57.9	
	comp=E,370nm,0.5s								
SMLA				AML		AML		00 23 00.2	
	comp=N,270nm,0.3s								
DDI	**Dehra Dun**	**8.53**	**135**	*ex*		**Sn**		**00 23 20.1**	**-4.0**
NDI	**New Delhi**	**9.42**	**145**	*e*P		**Pn**		**00 21 57.0**	**-3.0**
NDI				*e*S		Sn		00 23 36.0	-9.2
LGTI	**Lohaghat**	**10.46**	**130**	*e*S		**Sn**		**00 24 05.1**	**-5.0**
PYUN	**Piuthan**	**13.12**	**127**	*e*P		**Pn**		**00 22 48.5**	**+0.6**
	comp=N,60nm,0.5s								
MK31	**Makanchi Array**	**13.16**	**36**	⇓P		**Pn**		**00 22 49.6**	**+1.7**
	comp=N,4.0nm,0.7s,baz=101,slow=3.1,SNR=41								
MKAR	**Makanchi Array**	**13.16**	**36**	P		**Pn**		**00 22 49.3**	**+1.4**
	comp=N,0.5nm,0.3s,baz=214,slow=10,SNR=20								
DANN	**Dangsing**	**13.46**	**124**	*e*P		**Pn**		**00 22 52.9**	**+0.7**
	comp=N,86nm,0.4s								
KOLN	**Koldanda**	**13.74**	**126**	*e*P		**Pn**		**00 22 55.6**	**0.0**
	comp=N,29nm,0.5s								
GKN	**Gorkha**	**14.28**	**123**	*e*P		**Pn**		**00 23 02.8**	**+0.6**
	comp=N,88nm,0.5s								
BHPL	**Bhopal**	**14.38**	**156**	*e*P		**Pn**		**00 23 00.8**	**-2.6**
BHPL				*e*S		Sn		00 25 34.5	-10
DMN	**Daman**	**14.85**	**123**	*e*P		**P**		**00 23 10.3**	**-0.2**
	comp=N,25nm,0.5s								
KKN	**Kakani**	**14.85**	**122**	*e*P		**P**		**00 23 10.2**	**-0.2**
	comp=N,96nm,0.5s								
KURBB	**Kurchatov Arra**	**15.00**	**19**	P		**P**		**00 23 11.5**	**-0.1**
	comp=N,0.3nm,0.3s,baz=200,slow=12,SNR=5.6								
AB31	**Akbulak array**	**15.04**	**331**	P		**Pn**		**00 23 10.6**	**-0.7**
	comp=N,10nm,0.8s,baz=146,slow=12,SNR=56								
AB31				⇑S		Sn		00 25 50.9	-8.4
	comp=N,1.2nm,0.5s,baz=158,slow=23,SNR=6.0								
PKI	**Pulchoki**	**15.08**	**123**	*e*P		**P**		**00 23 12.9**	**-0.2**
	comp=N,94nm,0.9s								
GUN	**Gumba**	**15.18**	**121**	*e*P		**P**		**00 23 14.4**	**+0.1**
	comp=N,32nm,0.4s								
JIRN	**Jiri**	**15.55**	**121**	*e*P		**P**		**00 23 19.8**	**+1.4**
	comp=N,93nm,0.4s								
RAMN	**Ramite**	**16.29**	**122**	*e*P		**Pn**		**00 23 27.9**	**+1.1**
	comp=N,70nm,0.7s								
BVA0	**Borovoye Array**	**16.43**	**358**	⇑P		**P**		**00 23 27.6**	**+0.2**
	comp=N,3.5nm,0.6s,baz=159,slow=12,SNR=28								
BVAR	**Borovoye Array**	**16.43**	**358**	P		**Pn**		**00 23 27.9**	**-0.2**
	comp=N,1.1nm,0.3s,baz=172,slow=11,SNR=20								
BVAR				S		**S**		**00 26 28.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=171,slow=22,SNR=4.6								
AKTO	**Aktyubinsk**	**16.74**	**330**	⇓P		**Pn**		**00 23 32.1**	**+0.3**
	comp=N,27nm,0.9s								
AKTO	**Aktyubinsk**	**16.74**	**330**	P		**Pn**		**00 23 31.9**	**+0.1**
	comp=N,1.8nm,0.3s,baz=138,slow=11,SNR=54								
AKTO				S		**S**		**00 26 33.5**	**-2.3**
	comp=N,0.2nm,0.3s,baz=162,slow=20,SNR=5.8								
TAPN	**Taplejung**	**16.81**	**119**	*e*P		**Pn**		**00 23 34.9**	**+1.8**
	comp=N,34nm,0.4s								
ODAN	**Odare**	**16.89**	**120**	*e*P		**Pn**		**00 23 35.5**	**+1.5**
	comp=N,46nm,0.6s								
ZALV	**Zalesovo Beam**	**19.79**	**24**	P		**P**		**00 24 05.8**	**+1.9**
	comp=N,3.6nm,0.5s,baz=222,slow=11,SNR=24								
ZALV				S		**S**		**00 27 33.6**	**-2.7**
	comp=N,1.1nm,0.6s,baz=224,slow=22,SNR=2.7								
KBZ	**Khabaz**	**22.64**	**297**	P		**P**		**00 24 32.9**	**-0.3**
	comp=N,1.8nm,0.8s,baz=78,slow=7.8,SNR=4.2								
SONM	**Songino Array**	**28.20**	**55**	P		**P**		**00 25 25.7**	**+2.4**
	comp=N,1.7nm,0.8s,baz=267,slow=8.9,SNR=11								
AKASG	**Malin Array Be**	**32.96**	**309**	P		**P**		**00 26 04.8**	**-0.1**
	comp=N,1.5nm,0.4s,baz=81,slow=7.6,SNR=13								
AKASG				PP		**PnPn**		**00 27 21.9**	**+0.2**
	comp=N,1.1nm,0.7s,baz=83,slow=9.9,SNR=4.2								
JOF	**Joensuu**	**35.83**	**330**	*ep*		**P**		**00 26 30.7**	**+1.4**
	comp=N,5.9nm,0.4s								
FINES	**FINESS Array B**	**37.46**	**326**	P		**P**		**00 26 43.6**	**+0.5**
	comp=N,3.4nm,0.6s,baz=120,slow=9.0,SNR=20								
KAF	**Kangasniemi**	**37.60**	**327**	*ep*		**P**		**00 26 45.3**	**+1.0**
	comp=N,0.3nm,0.4s								
KEV	**Kevo**	**40.75**	**338**	*ep*		**P**		**00 27 11.4**	**+1.2**
	comp=N,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**41.09**	**338**	P		**P**		**00 27 13.9**	**+0.8**
	comp=N,5.8nm,0.6s,baz=108,slow=8.4,SNR=31								
NB2	**NORSAR Subarra**	**44.36**	**323**	P		**P**		**00 27 39.3**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.36**	**323**	P		**P**		**00 27 39.9**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=96,slow=7.8,SNR=14								
KEST	**Kesra**	**49.09**	**288**	P		**P**		**00 28 16.7**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=201,slow=1.9,SNR=5.0								
ESDC	**Sonseca Array**	**57.50**	**298**	P		**P**		**00 29 16.6**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=52,slow=8.1,SNR=3.3								
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P		**P**		**00 30 11.3**	**-2.3**
	comp=Z,2.4nm,0.7s,baz=50,slow=5.8,SNR=24								
INK	**Inuvik**	**73.79**		9	P	**P**		**00 31 02.7**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=335,slow=5.7,SNR=9.8								
ILAR	**Eielson Array**	**74.66**	**16**	P		**P**		**00 31 07.0**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=308,slow=4.9,SNR=3.3								
DBIC	**Dimbokro**	**74.80**	**267**	P		**P**		**00 31 05.8**	**-2.2**
	comp=Z,3.8nm,1.2s,baz=18,slow=6.4,SNR=3.6								
YKA	**Yellowknife Ar**	**81.14**	**3**	P		**P**		**00 31 42.9**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=352,slow=5.5,SNR=21								
WRA	**Warramunga Arr**	**81.96**	**122**	P		**P**		**00 31 46.3**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=326,slow=4.9,SNR=26								

*IDC **04** 00:24:09.0±0.8, 8.55S×157.21E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/19, mbtmp4.1/11, ML4.0/2, MS4.9/1, Ms1 4.9/1, ms1mx4.1/32, Error ellipse: s-maj=22.6km s-min=15.8km az=12.0*

ISC 04 00:24:11.2±0.7, 8.6S±0.1×157.32E±0.07, h16km, n17, σ0s89/14, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.72**	**107**	Pn		**Pn**		**00 24 55.2**	**+1.0**
	37nm,0.3s,baz=238,slow=6.0,SNR=9.2								
HNR				Lg		Lg		00 25 39.8	
	163nm,0.3s,baz=112,slow=17,SNR=14								
HNR	**Honiara**	**2.72**	**107**	*i* P		**Pg**		**00 25 01.9**	**-1.4**
HNR				*i* S		**Sg**		**00 25 39.0**	**+0.4**
PMG	**Port Moresby**	**10.07**	**265**	LR		LR		00 29 30.5	
	comp=Z,7μm,0.15s,baz=41,slow=32								
CTA	**Charters Tower**	**15.64**	**222**	Pn		**Pn**		**00 27 51.5**	**+0.4**
	0.3nm,0.3s,baz=46,slow=14,SNR=4.8								
WRA	**Warramunga Arr**	**24.92**	**241**	P		**P**		**00 29 32.5**	**-1.3**
	6.7nm,0.8s,baz=66,slow=9.4,SNR=22								
STKA	**Stephens Creek**	**27.37**	**210**	P		**P**		**00 29 56.7**	**+0.9**
	5.0nm,0.7s,baz=38,slow=14,SNR=16								
H11S3	**WAKE ISLAND Hy**	**28.48**	**19**	T		T		00 58 37.6	
	baz=200,slow=77,SNR=17								
H11S2	**WAKE ISLAND Hy**	**28.49**	**19**	T		T		00 58 37.1	
	baz=200,slow=77,SNR=16								
H11S1	**WAKE ISLAND Hy**	**28.50**	**19**	T		T		00 58 37.5	
	baz=200,slow=77,SNR=9.3								
CMAR	**Chiang Mai Arr**	**63.56**	**295**	P		**P**		**00 34 41.3**	**-0.3**
	2.1nm,0.9s,baz=118,slow=5.3,SNR=6.2								
SONM	**Songino Array**	**71.95**	**327**	P		**P**		**00 35 34.2**	**+0.1**
	1.4nm,0.9s,baz=135,slow=5.9,SNR=9.5								
ILAR	**Eielson Array**	**84.05**	**21**	P		**P**		**00 36 41.2**	**+0.4**
	0.4nm,0.7s,baz=232,slow=5.5,SNR=4.1								
MKAR	**Makanchi Array**	**86.14**	**318**	P		**P**		**00 36 50.9**	**-0.8**
	1.2nm,0.9s,baz=99,slow=4.8,SNR=8.3								
ZALV	**Zalesovo Beam**	**86.81**	**326**	P		**P**		**00 36 55.5**	**+0.8**
	0.5nm,0.6s,baz=96,slow=4.3,SNR=3.3								
NVAR	**Mina Array Bea**	**90.92**	**51**	P		**P**		**00 37 15.7**	**+0.8**
	0.3nm,0.6s,baz=250,slow=4.7,SNR=3.4								
YKA	**Yellowknife Ar**	**96.69**	**28**	P		**P**		**00 37 39.7**	**-0.8**
	0.3nm,0.8s,baz=257,slow=4.5,SNR=3.3								
BDFB	**Brasilia**	**145.20**	**134**	PKPbc		**PKPbc**		**00 43 48.7**	**-0.2**
	2.6nm,0.8s,baz=147,slow=3.5,SNR=3.4								

*IDC **04** 00:26:10.2±0.8, 8.76S×157.21E, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/18, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=25.5km s-min=16.8km az=15.0*

ISC 04 00:26:11.9±0.8, 8.8S±0.2×157.4E±0.1, h17km, n13, σ1s36/9, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58**	**105**	Pn		**Pb**		**00 26 57.8**	**+0.1**
	21nm,0.3s,baz=225,slow=10.0,SNR=2.0								

1.0nm,0.7s,baz=104,slow=5.0,SNR=11
NVAR Mina Array Bea 90.92 51 P P 01 04 28.8 +0.2
0.6nm,0.9s,baz=261,slow=5.2,SNR=2.7
YKA Yellowknife Ar 96.73 28 P P 01 04 54.6 +0.2
0.2nm,0.7s,baz=263,slow=4.9,SNR=3.3
AKASG Malin Array Be 120.32 325 PKP PKPdf 01 10 13.9 -1.5
0.3nm,0.6s,baz=67,slow=17,SNR=3.2
BDFB Brasilia 145.08 134 PKPbc PKPbc 01 11 02.2 0.0
4.4nm,0.9s,baz=178,slow=4.8,SNR=5.0

*IDC **04** 00:58:40.4±0.9, 8.46S×157.22E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=27.9km s-min=16.7km az=17.0*
*ISCJB **04** 00:58:41.9±0.7, 8.55S±0.2×157.2E±0.1, h19km, mb3.8/7, Error ellipse: s-maj=22.7km s-min=16.0km az=11.5*
ISC 04 00:58:43.4±0.9, 8.55S±0.2×157.3E±0.1, h19km, n8, σ1§08/8, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.83**	**109**	Pn	**Pn**		**00 59 27.8**	**+0.3**
	16nm,0.3s,baz=209,slow=10,SNR=2.2							
HNR				Lg	Lg		01 00 11.6	
	31nm,0.3s,baz=270,slow=18,SNR=7.3							
WRA	**Warramunga Arr**	**24.91**	**240**	P	**P**		**01 04 04.0**	**-1.5**
	2.8nm,0.8s,baz=64,slow=9.8,SNR=11							
STKA	**Stephens Creek**	**27.44**	**210**	P	**P**		**01 04 29.1**	**+0.9**
	1.5nm,0.9s,baz=35,slow=15,SNR=4.9							
CMAR	**Chiang Mai Arr**	**63.44**	**295**	P	**P**		**01 09 13.1**	**+0.6**
	1.5nm,0.6s,baz=123,slow=3.9,SNR=7.0							
SONM	**Songino Array**	**71.80**	**327**	P	**P**		**01 10 05.8**	**+0.9**
	0.6nm,0.8s,baz=133,slow=5.7,SNR=2.7							
MKAR	**Makanchi Array**	**86.00**	**318**	P	**P**		**01 11 22.6**	**-0.1**
	0.4nm,0.5s,baz=108,slow=5.0,SNR=13							
ZALV	**Zalesovo Beam**	**86.67**	**326**	P	**P**		**01 11 25.1**	**-0.6**
	0.3nm,0.4s,baz=119,slow=5.1,SNR=2.5							
NVAR	**Mina Array Bea**	**90.90**	**51**	P	**P**		**01 11 45.5**	**-1.0**
	0.2nm,0.7s,baz=236,slow=7.5,SNR=2.9							

*IDC **04** 00:59:33.0±1.9, 21.86S×170.19E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/17, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=84.6km s-min=23.8km az=157.0*
*ISCJB **04** 00:59:34.9±1.3, 22.05S±0.3×170.25E±0.1, h25km, mb3.8/5, Error ellipse: s-maj=51.2km s-min=11.9km az=168.0*
ISC 04 00:59:36.6±1.6, 21.95S±0.4×170.25E±0.2, h25km, n9, σ1§04/10, mb3.7/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.47**	**266**	Pn	**Pn**		**01 00 28.4**	**-0.7**
	14nm,0.3s,baz=89,slow=19,SNR=452							
DZM				Sn	**Sn**		**01 01 09.8**	**+0.2**
	11nm,0.3s,baz=74,slow=17,SNR=5.8							
STKA	**Stephens Creek**	**27.30**	**243**	P	**P**		**01 05 19.7**	**+0.4**
	1.6nm,0.8s,baz=93,slow=12,SNR=4.3							
WRA	**Warramunga Arr**	**33.49**	**267**	P	**P**		**01 06 13.9**	**-0.2**
	0.5nm,0.5s,baz=100,slow=8.3,SNR=10							
SONM	**Songino Array**	**89.85**	**323**	P	**P**		**01 12 35.1**	**+1.8**
	0.6nm,0.8s,baz=132,slow=4.0,SNR=3.8							
NVAR	**Mina Array Bea**	**89.89**	**48**	P	**P**		**01 12 34.0**	**+0.2**
	0.3nm,0.7s,baz=229,slow=8.2,SNR=3.2							
ILAR	**Eielson Array**	**92.48**	**17**	P	**P**		**01 12 43.4**	**-1.5**
	0.2nm,0.6s,baz=223,slow=5.1,SNR=4.4							
CLL	**Collm**	**145.67**	**334**	*e*PKP	**PKPab**		**01 19 14.0**	**+0.7**
	comp=Z,4.0nm,1.0s							
GERES	**GERESS Array B**	**147.22**	**331**	PKPbc	**PKPab**		**01 19 18.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=49,slow=3.0,SNR=10							
DAVOX	**Davos/Dischmat**	**150.47**	**332**	PKPbc	**PKPbc**		**01 19 26.2**	**0.0**
	comp=Z,1.5nm,0.6s,baz=53,slow=5.1,SNR=6.4							

*ISCJB **04** 01:03:46.5±0.7, 26.37N±0.07×127.34E±0.05, h54km±5km, mb3.5/4, Error ellipse: s-maj=12.0km s-min=6.4km az=155.3*
*JMA **04** 01:03:46.7±0.2, 26.31N×127.33E, h53km±2km, M3.5*
JMA Felt I J1.
*IDC **04** 01:03:48.0±4.8, 26.40N×127.40E, h53km±30km, mb3.4/4, mb1 3.5/4, mb1mx3.2/22, mbtmp3.7/4, Error ellipse: s-maj=78.5km s-min=35.2km az=175.0*
ISC 04 01:03:46.8±1.0, 26.28N±0.07×127.36E±0.05, h52km±8km, n14, σ1§13/23, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.33**	**341**	P	**Pn**		**01 03 56.1**	**-0.2**
JAGN				S	**Sn**		**01 04 02.4**	**-0.6**
JJT2	**Tamagusuku 2**	**0.38**	**112**	P	**Pn**		**01 03 57.1**	**+0.4**
JJT2				S	**Sn**		**01 04 04.8**	**+0.9**
JKE	**Kume jima 2**	**0.52**	**275**	P	**Pn**		**01 03 57.9**	**-0.4**
JKE				S	**Sn**		**01 04 05.6**	**-1.1**
JIH	**Iheya**	**0.93**	**36**	P	**Pn**		**01 04 03.5**	**0.0**
JIH				*e*S	**Sn**		**01 04 14.1**	**-1.8**
JOW	**Kunigami**	**0.98**	**56**	P	**Pn**		**01 04 04.7**	**+0.4**
JOW				*e*S	**Sn**		**01 04 17.3**	**0.0**
JOW	**Kunigami**	**0.98**	**56**	P	**Pn**		**01 04 05.0**	**+0.6**
	4.9nm,0.3s,baz=171,slow=13,SNR=95							
JOW				S	**Sn**		**01 04 17.3**	**0.0**
	25nm,0.3s,baz=131,slow=20,SNR=58							
JTK	**Tokunoshima**	**2.06**	**43**	P	**Pn**		**01 04 19.1**	**+0.1**
JTK				*e*S	**Sn**		**01 04 42.3**	**-1.2**
JAMN	**Amaminishikomi**	**2.54**	**39**	P	**Pn**		**01 04 25.4**	**0.0**
JAMN				*e*S	**Sn**		**01 04 53.1**	**-2.0**
JAM	**Amami Oshima**	**2.91**	**43**	P	**Pn**		**01 04 31.7**	**+1.1**
JAM				*e*S	**Sn**		**01 05 03.0**	**-1.4**
JMZ	**Minamidaito 2**	**3.50**	**97**	P	**Pn**		**01 04 36.2**	**-2.5**
JMZ				*e*S	Sn		01 05 12.1	-6.8
SONM	**Songino Array**	**27.09**	**328**	P	**P**		**01 09 26.0**	**+1.3**
	0.8nm,0.6s,baz=145,slow=9.9,SNR=6.8							
ZALV	**Zalesovo Beam**	**41.74**	**323**	P	**P**		**01 11 30.7**	**+0.1**
	0.4nm,0.4s,baz=108,slow=9.4,SNR=3.5							
FINES	**FINESS Array B**	**72.44**	**330**	P	**P**		**01 15 06.9**	**-0.5**
	1.6nm,0.9s,baz=46,slow=4.0,SNR=4.0							
YKA	**Yellowknife Ar**	**78.81**	**25**	P	**P**		**01 15 44.9**	**+1.1**
	0.2nm,0.7s,baz=297,slow=5.5,SNR=3.3							

*IDC **04** 01:04:45.8±1.0, 8.43S×157.10E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=28.5km s-min=17.2km az=21.0*
*ISCJB **04** 01:04:47.2±0.9, 8.55S±0.2×157.1E±0.1, h19km, mb4.1/5, Error ellipse: s-maj=25.0km s-min=16.5km az=14.7*
ISC 04 01:04:48.8±1.0, 8.55S±0.2×157.1E±0.1, h19km, n9, σ0§93/6, mb4.1/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.98**	**109**	Pn	**Pn**		**01 05 34.9**	**-0.2**
	44nm,0.3s,baz=296,slow=3.3,SNR=9.7							
HNR				Lg	Lg		01 06 19.3	
	32nm,0.3s,baz=20,slow=30,SNR=8.0							
WRA	**Warramunga Arr**	**24.79**	**240**	P	**P**		**01 10 09.2**	**-0.6**
	6.3nm,0.8s,baz=65,slow=9.7,SNR=32							
STKA	**Stephens Creek**	**27.39**	**210**	P	**P**		**01 10 34.0**	**+0.8**
	2.3nm,0.5s,baz=48,slow=15,SNR=15							
H11S3	**WAKE ISLAND Hy**	**28.41**	**19**	T	T		01 39 05.2	
	baz=255,slow=75,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**28.41**	**19**	T	T		01 39 05.5	
	baz=255,slow=75							
H11S1	**WAKE ISLAND Hy**	**28.43**	**19**	T	T		01 39 07.1	
	baz=255							
CMAR	**Chiang Mai Arr**	**63.28**	**295**	P	**P**		**01 15 16.3**	**-0.5**
	0.9nm,0.3s,baz=124,slow=4.4,SNR=4.6							
SONM	**Songino Array**	**71.69**	**327**	P	**P**		**01 16 10.6**	**+1.0**
	1.1nm,0.8s,baz=136,slow=4.6,SNR=7.8							
MKAR	**Makanchi Array**	**85.87**	**318**	P	**P**		**01 17 26.9**	**-0.5**
	0.9nm,0.9s,baz=96,slow=6.2,SNR=6.6							

IDC 04 01:07:57.9±1.2, 8.04S×157.25E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/18, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=33.6km s-min=18.7km az=29.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.00**	**118**	Pn	Pn		01 08 48.8	+2.0
	23nm,0.3s,baz=288,slow=19,SNR=2.6							
HNR				Lg	Lg		01 09 31.5	
	40nm,0.3s,baz=96,slow=19,SNR=3.3							
WRA	**Warramunga Arr**	**25.14**	**240**	P	P		01 13 23.7	-1.2
	0.9nm,0.8s,baz=66,slow=9.8,SNR=4.7							
STKA	**Stephens Creek**	**27.83**	**209**	P	P		01 13 50.2	+1.1
	1.1nm,0.8s,baz=42,slow=15,SNR=2.7							
SONM	**Songino Array**	**71.43**	**327**	P	P		01 19 20.9	+0.7
	0.5nm,1.1s,baz=134,slow=4.2,SNR=2.6							
MKAR	**Makanchi Array**	**85.66**	**318**	P	P		01 20 37.4	-1.2
	0.2nm,0.7s,baz=95,slow=7.2,SNR=2.4							

*BJI **04** 01:08:46.3, 18.40N×68.80W, h168km*
*ISCJB **04** 01:08:47.4±0.2, 18.28N±0.04×68.86W±0.02, h175km±2km, mb4.0/35, Error ellipse: s-maj=6.7km s-min=3.2km az=17.7*
*RSPR **04** 01:08:47.6, 18.42N×68.79W, h185km±5km, MD4.0/15*
*NEIC **04** 01:08:48.2±0.3, 18.32N×68.86W, h169km±4km, mb4.6/8, Error ellipse: s-maj=6.4km s-min=4.7km az=196.0*
*IDC **04** 01:08:49.3±0.9, 18.27N×68.93W, h182km±8km, mb3.7/26, mb1 3.9/29, mb1mx3.8/34, mbtmp4.2/29, Error ellipse: s-maj=11.9km s-min=9.5km az=29.0*
ISC 04 01:08:49.0±0.4, 18.34N±0.05×68.86W±0.04, h178km±4km, n462, σ1§14/482, mb4.1/35, 178C-164D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.66**	**312**	*e*P	**Pn**		**01 09 13.4**	**-1.0**
IMO	**Isla Mona**	**0.94**	**104**	*e*P	**Pn**		**01 09 15.4**	**-0.6**
IMO				*e*S	**Sn**		**01 09 34.0**	**-2.8**
IDE	**Isla Desecheo**	**1.32**	**88**	*e*P	**Pn**		**01 09 18.7**	**-0.4**
IDE	**Isla Desecheo**	**1.32**	**88**	*e*S	**Sn**		**01 09 42.9**	**+0.5**
MPR	**Mayaguez**	**1.64**	**94**	*e*P	**Pn**		**01 09 21.4**	**-0.7**
AGPR	**Aguadilla, PR**	**1.67**	**85**	*e*Pn	**Pn**		**01 09 21.9**	**-0.5**
AGPR				*e*S	**Sn**		**01 09 46.2**	**-2.1**
AGPR	**Aguadilla, PR**	**1.67**	**85**	*e*P	**Pn**		**01 09 22.2**	**-0.2**
AGPR	**Aguadilla, PR**	**1.67**	**85**	*e*S	**Sn**		**01 09 47.5**	**-0.7**
LSP	**Las Mesas**	**1.70**	**95**	*e*Pn	**Pn**		**01 09 21.9**	**-0.9**
LSP	**Las Mesas**	**1.70**	**95**	*e*P	**Pn**		**01 09 21.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.70**	**101**	*e*Pn	**Pn**		**01 09 21.4**	**-1.3**
CRPR				*e*S	**Sn**		**01 09 46.5**	**-2.4**
CRPR	**Cabo Rojo, PR**	**1.70**	**101**	*e*P	**Pn**		**01 09 21.6**	**-1.1**
LRS	**Lares**	**1.92**	**91**	*e*Pn	Pn		01 09 15.2	-10
LRS				*e*S	Sn		01 09 35.2	-18
GBPR	**Guanica, Bosqu**	**1.92**	**101**	*e*P	**Pn**		**01 09 24.5**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.92**	**101**	*e*S	**Sn**		**01 09 51.7**	**-1.2**
AOPR	**Arecibo Observ**	**2.00**	**90**	*e*P	**Pn**		**01 09 25.1**	**-0.9**
AOPR	**Arecibo Observ**	**2.00**	**90**	*e*S	**Sn**		**01 09 52.9**	**-1.7**
OBIP	**Obispado Ponce**	**2.17**	**98**	*e*Pn	**Pn**		**01 09 26.9**	**-0.8**
OBIP				*e*S	**Sn**		**01 09 56.1**	**-1.7**
OBIP	**Obispado Ponce**	**2.17**	**98**	*e*P	**Pn**		**01 09 26.9**	**-0.8**
OBIP	**Obispado Ponce**	**2.17**	**98**	*e*S	**Sn**		**01 09 55.8**	**-2.0**
CELP	**Cerrillos**	**2.19**	**97**	*e*Pn	**Pn**		**01 09 27.2**	**-0.8**
CELP				*e*S	**Sn**		**01 09 53.3**	**-5.0**
CELP	**Cerrillos**	**2.19**	**97**	*e*P	**Pn**		**01 09 27.3**	**-0.6**
CELP				*e*S	**Sn**		**01 09 58.8**	**+0.6**
SDDR	**Presa de Saban**	**2.38**	**286**	*e*Pn	**Pn**		**01 09 29.6**	**-0.7**
SDDR				*e*S	**Sn**		**01 10 01.9**	**-0.4**
SDDR	**Presa de Saban**	**2.38**	**286**	*e*P	**Pn**		**01 09 29.7**	**-0.6**
SJG	**San Juan**	**2.59**	**95**	*e*P	**Pn**		**01 09 31.2**	**-1.4**
SJG				*e*S	**Sn**		**01 10 05.1**	**-1.3**
HUMP	**Col San Antoni**	**2.87**	**93**	*e*S	**Sn**		**01 10 09.9**	**-2.6**
HUMP	**Col San Antoni**	**2.87**	**93**	*e*P	**Pn**		**01 09 34.6**	**-1.3**
GRTK	**Grand Turk**	**3.81**	**326**	*e*Pn	**Pn**		**01 09 45.8**	**-1.8**
GRTK				*e*S	**Sn**		**01 10 29.6**	**-3.9**
CDVI	**St. Croix**	**3.94**	**98**	*e*Pn	**Pn**		**01 09 47.0**	**-2.3**
CDVI				*e*S	**Sn**		**01 10 31.2**	**-5.2**
TBVI	**Tortola**	**4.03**	**88**	*e*P	**Pn**		**01 09 48.3**	**-2.1**
TBVI				*e*S	**Sn**		**01 10 33.5**	**-5.0**
MASC	**Masc**	**5.39**	**291**	*e*P	**Pn**		**01 10 05.3**	**-2.6**
MASC				*e*S	**Sn**		**01 11 05.7**	**-4.3**
SABA	**Saba**	**5.40**	**97**	*e*P	**Pn**		**01 10 07.3**	**-0.8**
SABA	**Saba**	**5.40**	**97**	*e*P	**Pn**		**01 10 07.0**	**-1.1**
GTBY	**Guantanamo Bay**	**6.11**	**286**	*e*Pn	**Pn**		**01 10 14.6**	**-2.8**
	154nm,0.8s							
MOAC	**Moa**	**6.20**	**293**	*e*P	Pn		01 10 14.7	-3.8
MOAC				*e*S	Sn		01 11 22.8	-6.3
	comp=N,112nm,0.7s							
MOAC				*e*				
	comp=E,144nm,0.7s							
RCC	**Rio Carpintero**	**6.66**	**285**	*e*P	**Pn**		**01 10 22.2**	**-2.5**
RCC				*e*S	**Sn**		**01 11 35.3**	**-4.8**
	comp=N,19nm,0.6s							
RCC				*e*				
	comp=E,25nm,0.5s							
ANWB	**Willy Bob**	**6.77**	**95**	*e*P	Pn		01 10 22.4	-3.7
ANWB				*e*S	Sn		01 11 34.0	-8.6
ANWB	**Willy Bob**	**6.77**	**95**	*e*Pn	Pn		01 10 22.3	-3.7
	comp=E,231nm,0.9s							
ANWB				*e*S	Sn		01 11 30.3	-12
LZG	**Guadaloupe-1**	**7.12**	**107**	*e*P	**Pn**		**01 10 31.1**	**+0.5**
MLG	**Mont-d'or**	**7.20**	**107**	*e*P	**Pn**		**01 10 30.5**	**-1.4**
FNG	**Fond-Bernard**	**7.22**	**107**	*e*P	**Pn**		**01 10 30.7**	**-1.5**
HMG	**Houelmont**	**7.24**	**108**	*e*P	**Pn**		**01 10 30.6**	**-1.7**
SCG	**Saint Claude**	**7.24**	**107**	*e*P	**Pn**		**01 10 30.9**	**-1.5**
ECG	**Echelle**	**7.26**	**107**	*e*P	**Pn**		**01 10 31.3**	**-1.5**
BCG	**Bois Riant Cap**	**7.28**	**107**	*e*P	**Pn**		**01 10 33.4**	**+0.6**
PHG	**Guadaloupe-2**	**7.28**	**107**	*e*P	**Pn**		**01 10 31.6**	**-1.3**
SEG	**Port Louis**	**7.29**	**104**	*e*P	**Pn**		**01 10 31.9**	**-1.0**
TBG	**Guadaloupe-3**	**7.33**	**109**	*e*P	**Pn**		**01 10 32.1**	**-1.4**
MGG	**Marie-Galante**	**7.61**	**107**	*e*P	**Pn**		**01 10 36.4**	**-0.7**
BBL	**Barber's Block**	**7.61**	**110**	*e*P	**Pn**		**01 10 35.9**	**-1.3**
DEG	**La Desirade**	**7.72**	**104**	*e*P	**Pn**		**01 10 36.9**	**-1.8**
LMGC	**Las Mercedes**	**7.88**	**284**	*e*P	**Pn**		**01 10 38.5**	**-2.2**
LMGC				*e*S	**Sn**		**01 12 04.7**	**-4.4**
	comp=N,16nm,0.6s							
LMGC				*e*				
	comp=E,20nm,0.7s							
FDF	**Fort de France**	**8.22**	**115**	*e*Pn	**Pn**		**01 10 43.6**	**-1.7**
MTDJ	**Mount Denham**	**8.24**	**271**	*e*Pn	**Pn**		**01 10 45.3**	**-0.3**
SDV	**Santo Domingo**	**9.55**	**191**	*e*Pn	**Pn**		**01 11 03.7**	**+0.7**
	comp=E,11nm,0.8s							
BBGH	**Gun Hill**	**10.34**	**119**	*e*Pn	**Pn**		**01 11 13.3**	**+0.3**
ROSC	**El Rosal**	**14.43**	**202**	*e*Pn	**Pn**		**01 12 05.5**	**0.0**
ROSC				*e*S	**S**		**01 14 50.8**	**+1.1**
ROSC	**El Rosal**	**14.43**	**202**	P	**Pn**		**01 12 05.9**	**+0.3**
	comp=E,1.1nm,0.3s,baz=77,slow=6.1,SNR=19							
ROSC				S	**Sn**		**01 14 48.6**	**+1.9**
	comp=E,0.5nm,0.3s,baz=108,slow=20,SNR=4.1							
JTS	**JuntasAbangare**	**17.51**	**245**	*e*P	**Pn**		**01 12 42.1**	**-0.5**
JTS	**JuntasAbangare**	**17.51**	**245**	P	**P**		**01 12 41.7**	**+0.6**
	comp=E,0.4nm,0.3s,baz=58,slow=8.1,SNR=13							
TEIG	**Tepich**	**18.42**	**279**	P	**P**		**01 12 50.9**	**0.0**
TEIG	**Tepich**	**18.42**	**279**	P	**P**		**01 12 50.9**	**0.0**
	comp=E,2.0nm,0.3s,baz=66,slow=10.0,SNR=7.4							
KMSC	**Kings Mountain**	**20.07**	**329**	↑P	**P**		**01 13 09.3**	**+0.7**
	baz=20							
OTAV	**Otavalo**	**20.31**	**209**	*e*P	**P**		**01 13 12.7**	**+0.9**
	comp=E,9.9nm,1.3s							
APG	**El Apazote**	**20.95**	**264**	P	**P**		**01 13 16.9**	**-1.6**
APG	**El Apazote**	**20.95**	**264**	P	**P**		**01 13 16.9**	**-1.6**
	comp=E,6.1nm,0.7s,baz=82,slow=14,SNR=7.3							
TKL	**Tuckaleechee C**	**21.72**	**326**	P	**P**		**01 13 25.6**	**-0.5**
TKL	**Tuckaleechee C**	**21.72**	**326**	P	**P**		**01 13 25.6**	**-0.5**
	comp=E,6.7nm,0.9s,baz=152,slow=8.8,SNR=6.0							
LRAL	**Lakeview Retre**	**21.88**	**315**	*e*P	**P**		**01 13 28.5**	**+0.7**
	comp=E,17nm,1.1s							
WVT	**Waverly**	**24.38**	**320**	*e*P	**P**		**01 13 51.1**	**+0.3**
	comp=E,15nm,0.7s							
SFIN	**Scholer Farm**	**27.00**	**328**	↓P	**P**		**01 14 15.2**	**+1.0**
	baz=27							
SAML	**Samuel**	**27.69**	**168**	*e*P	**P**		**01 14 18.9**	**-1.7**
	comp=E,2.9nm,0.5s							
SAML				*e*pP	**pP**		**01 14 59.1**	**+1.9**
635A	**Leesville**	**28.56**	**298**	↑P	**P**		**01 14 28.7**	**+0.5**
	baz=29							
335A	**Moody**	**28.86**	**302**	↑P	**P**		**01 14 31.8**	**+0.9**
	baz=29							
834A	**Tilden**	**28.90**	**295**	↓P	**P**		**01 14 31.7**	**+0.4**
	baz=29							
534A	**Blanco**	**29.32**	**299**	↓P	**P**		**01 14 35.5**	**+0.4**
	baz=29							
434A	**Burnet**	**29.39**	**301**	↑P	**P**		**01 14 36.1**	**+0.5**
	baz=29							
334A	**Lometa**	**29.53**	**302**	↑P	**P**		**01 14 36.9**	**+0.1**
	baz=30							
TUL1	**Tulsa**	**29.53**	**312**	↑P	**P**		**01 14 37.9**	**+1.2**
	baz=30,SNR=5.9							
833A	**Chaparral WMA,**	**29.67**	**295**	↓P	**P**		**01 14 39.1**	**+1.0**
	baz=30							
234A	**Clairette**	**29.67**	**303**	↓P	**P**		**01 14 38.7**	**+0.6**
	baz=30							
633A	**Saathoff Ranch**	**29.75**	**298**	↑P	**P**		**01 14 39.2**	**+0.3**
	baz=30							
134A	**White-Moore Ra**	**29.82**	**304**	↑P	**P**		**01 14 40.2**	**+0.8**
	baz=30							
Z34A	**Collier Ranch,**	**30.00**	**306**	↑P	**P**		**01 14 41.5**	**+0.5**
	baz=30							
433A	**Art**	**30.04**	**300**	↓P	**P**		**01 14 41.8**	**+0.4**
	baz=30							
Y34A	**Reagan Ranch,**	**30.10**	**307**	↓P	**P**		**01 14 43.2**	**+1.3**
	baz=30,SNR=9.8							
333A	**Richland Sprin**	**30.13**	**301**	↑P	**P**		**01 14 42.6**	**+0.4**
	baz=30							
832A	**Faith Ranch, C**	**30.16**	**295**	↓P	**P**		**01 14 42.6**	**+0.1**
	baz=30							
732A	**Laxson Ranch,**	**30.25**	**296**	↑P	**P**		**01 14 43.6**	**+0.4**
	baz=30							
632A	**Uvalde**	**30.28**	**297**	↑P	**P**		**01 14 44.5**	**+1.0**
	baz=30							
233A	**Rising Star**	**30.28**	**303**	↑P	**P**		**01 14 44.3**	**+0.8**
	baz=30							
X34A	**Smith Ranch, M**	**30.43**	**308**	↓P	**P**		**01 14 46.0**	**+1.3**
	baz=30							
133A	**Hamilton Ranch**	**30.50**	**304**	↓P	**P**		**01 14 46.5**	**+1.1**
	baz=30							
532A	**Rocksprings**	**30.54**	**298**	↑P	**P**		**01 14 46.6**	**+0.7**
	baz=30							
JCT	**Junction City**	**30.55**	**299**	↓P	**P**		**01 14 46.4**	**+0.5**
	baz=31							
Z33A	**Whitaker Ranch**	**30.62**	**305**	↓P	**P**		**01 14 47.6**	**+1.1**
	baz=31							
W34A	**Bridge Creek,**	**30.65**	**309**	↓P	**P**		**01 14 47.5**	**+0.8**
	baz=31							
432A	**Menard**	**30.66**	**300**	↓P	**P**		**01 14 47.3**	**+0.5**
	baz=31							
V34A	**Guthrie**	**30.73**	**310**	↑P	**P**		**01 14 48.2**	**+0.8**
	baz=31							
332A	**Millersview**	**30.76**	**301**	↑P	**P**		**01 14 48.4**	**+0.7**
	baz=31							
Y33A	**Hilltop Ranch,**	**30.79**	**306**	↓P	**P**		**01 14 48.8**	**+0.9**
	baz=31							
232A	**Coleman**	**30.84**	**302**	↓P	**P**		**01 14 48.7**	**+0.3**
	baz=31							
X33A	**Lawton**	**30.90**	**307**	↑P	**P**		**01 14 49.2**	**+0.3**
	baz=31,SNR=6.2							
631A	**Perdido Creek**	**30.93**	**297**	↓P	**P**		**01 14 49.1**	**-0.1**
	baz=31							
U34A	**Anderson Ranch**	**31.02**	**311**	↓P	**P**		**01 14 51.0**	**+1.1**
	baz=31							
ABTX	**Abilene, Hawle**	**31.08**	**303**	↑P	**P**		**01 14 50.8**	**+0.3**
	baz=31,SNR=5.6							
531A	**Rocksprings**	**31.09**	**298**	↓P	**P**		**01 14 51.3**	**+0.7**
	baz=31							
W33A	**Caddo, Fort Co**	**31.13**	**308**	↑P	**P**		**01 14 53.6**	**+2.7**
	baz=31							
Z32A	**Haskell**	**31.19**	**305**	↓P	**P**		**01 14 52.5**	**+1.1**
	baz=31							
431A	**Sonora**	**31.27**	**299**	↑P	**P**		**01 14 53.2**	**+1.0**
	baz=31							
V33A	**Lossen Ranch,**	**31.28**	**310**	↓P	**P**		**01 14 53.7**	**+1.4**
	baz=31							
331A	**San Angelo**	**31.30**	**300**	↓P	**P**		**01 14 53.2**	**+0.7**
	baz=31							
231A	**Bronte**	**31.40**	**302**	↓P	**P**		**01 14 53.8**	**+0.5**
	baz=31							
Y32A	**R-V Farms, Ver**	**31.41**	**306**	↑P	**P**		**01 14 53.9**	**+0.5**
	baz=31							
X32A	**Elmer**	**31.45**	**307**	↑P	**P**		**01 14 54.4**	**+0.6**
	baz=32							
131A	**Roby**	**31.69**	**303**	↓P	**P**		**01 14 56.3**	**+0.4**
	baz=32							
Z31A	**Sharp Cattle R**	**31.71**	**304**	↓P	**P**		**01 14 56.5**	**+0.4**
	baz=32							
KSU1	**Kansas State U**	**31.73**	**316**	↑P	**P**		**01 14 56.9**	**+0.8**
	baz=32							
530A	**J-C Ranch, Com**	**31.75**	**298**	↑P	**P**		**01 14 56.9**	**+0.4**
	baz=32							
V32A	**Arapaho**	**31.80**	**309**	↑P	**P**		**01 14 57.7**	**+1.0**
	baz=32							
T33A	**Patterson Ranc**	**31.82**	**312**	↓P	**P**		**01 14 57.4**	**+0.5**
	baz=32							
430A	**Baggett Ranch,**	**31.82**	**299**	↓P	**P**		**

baz=34,SNR=7.4
S30A Montezuma 33.65 311 ⇓P P 01 15 14.1 +1.2
baz=34
V29A Stinnett 33.70 308 ⇓P P 01 15 14.4 +1.0
baz=34
X28A Dimmitt 33.73 305 ⇓P P 01 15 14.2 +0.5
baz=34
P31A Stockton 33.78 315 ⇑P P 01 15 14.5 +0.6
baz=34,SNR=5.5
R30A Dighton 33.81 313 ⇑P P 01 15 15.2 +1.0
baz=34
227A Bennet, Jal 33.84 300 ⇑P P 01 15 15.1 +0.5
baz=34
BGNE Belgrade 33.98 319 ⇑P P 01 15 16.8 +1.1
baz=34
626A Big Bend Ranch 33.99 296 ⇓P P 01 15 16.6 +0.7
baz=34
W28A Vega 33.99 306 ⇑P P 01 15 16.2 +0.3
baz=34
MSTX Muleshoe 33.99 304 ⇑P P 01 15 16.5 +0.5
baz=34
T29A Hugoton 34.04 310 ⇓P P 01 15 17.3 +1.0
baz=34
526A Mary Lane Ranc 34.05 297 ⇓P P 01 15 17.0 +0.5
baz=34,SNR=5.8
O31A Woolen Ranch, 34.06 316 ⇓P P 01 15 16.8 +0.5
baz=34
127A Arkansas Junct 34.08 302 ⇑P P 01 15 17.0 +0.4
baz=34
Q30A Quinter 34.09 314 ⇓P P 01 15 17.5 +0.9
baz=34,SNR=5.7
S29A Ulysses 34.11 311 ⇑P P 01 15 18.0 +1.2
baz=34
426A McDonald Obser 34.13 298 ⇑P P 01 15 18.0 +0.7
baz=34,SNR=5.7
Z27A Tatum 34.15 303 ⇑P P 01 15 16.9 -0.4
baz=34
Y27A Causey 34.28 304 ⇓P P 01 15 18.8 +0.4
baz=34
P30A Selden 34.38 315 ⇑P P 01 15 19.9 +0.8
baz=34
U28A Mallet 34.42 308 ⇑P P 01 15 20.2 +0.6
baz=34
ECSD EROS Data Cent 34.43 323 ⇓P P 01 15 20.1 +0.6
baz=34
M31A Lambtecht Ranc 34.46 318 ⇓P P 01 15 20.0 +0.2
baz=34
R29A Marienthal 34.48 312 ⇑P P 01 15 20.7 +0.7
baz=34
O30A MW Ranch, Wils 34.56 316 ⇑P P 01 15 21.3 +0.7
baz=35
Q29A Oakley 34.57 313 ⇑P P 01 15 21.5 +0.7
baz=35
226B Tecolote Peak, 34.58 300 ⇑P P 01 15 21.4 +0.5
baz=35
W27A Bowe Ranch, En 34.58 306 ⇓P P 01 15 21.8 +0.8
baz=35
126A Clayton Basin, 34.61 301 ⇑P P 01 15 21.7 +0.5
baz=35
T28A Walsh 34.63 310 ⇓P P 01 15 22.2 +0.9
baz=35
S28A Manter 34.66 310 ⇓P P 01 15 21.9 +0.3
baz=35
Z26A Caprock 34.75 302 ⇑P P 01 15 22.2 -0.3
baz=35
L31A Butterfield Fa 34.83 319 ⇑P P 01 15 23.3 +0.4
baz=35
U27A Thompson Grove 34.88 308 ⇓P P 01 15 23.9 +0.3
baz=35,SNR=5.6
R28A Tribune 34.91 312 ⇓P P 01 15 24.6 +0.8
baz=35,SNR=8.3
425A Indio Mountain 34.96 298 ⇑P P 01 15 25.2 +0.9
baz=35
SIV San Ignacio 34.97 167 P P 01 15 22.9 -1.4
SIV San Ignacio 34.97 167 P P 01 15 22.9 -1.4
comp=E,1.3nm,0.8s,baz=357,slow=9.8,SNR=3.7
X26A CR and CF Fran 34.99 304 ⇑P P 01 15 25.2 +0.6
baz=35
O29A 4D Ranch, Culb 35.03 315 ⇑P P 01 15 25.5 +0.8
baz=35
T27A Campo 35.05 309 ⇓P P 01 15 25.4 +0.4
baz=35
325A Bean Ranch, Si 35.07 299 ⇑P P 01 15 26.2 +0.8
baz=35
225A Deer Hill, Car 35.12 300 ⇓P P 01 15 26.2 +0.5
baz=35
125A Gardner Draw, 35.13 301 ⇓P P 01 15 26.3 +0.6
baz=35
Q28A Sharon Springs 35.24 313 ⇓P P 01 15 27.4 +0.8
baz=35
N29A Votaw Ranch, W 35.26 316 ⇓P P 01 15 27.0 +0.4
baz=35
L30A Spencer Herefo 35.26 318 ⇓P P 01 15 27.2 +0.6
baz=35
Z25A Roswell 35.34 302 ⇓P P 01 15 28.2 +0.7
baz=35
V26A Tequesquite Ra 35.39 307 ⇓P P 01 15 28.7 +0.8
baz=35
Y25A Mesa, Roswell 35.50 303 ⇑P P 01 15 29.9 +0.9
baz=36
324A Moseley Ranch, 35.52 299 ⇓P P 01 15 29.9 +0.9
baz=36
U26A Atchley Ranch, 35.56 308 ⇓P P 01 15 30.0 +0.6
baz=36,SNR=7.0
K30A Basset 35.59 320 ⇓P P 01 15 29.8 +0.4
baz=36
R27A Eads 35.59 311 ⇓P P 01 15 30.0 +0.4
baz=36
M29A Burnside Ranch 35.61 317 ⇑P P 01 15 30.1 +0.4
baz=36
X25A Clemmons Ranch 35.66 304 ⇑P P 01 15 30.9 +0.7
baz=36
O28A Krutsinger Ran 35.69 314 ⇑P P 01 15 30.9 +0.6
baz=36
224A Cornudas Mount 35.69 300 ⇑P P 01 15 31.1 +0.5
baz=36,SNR=7.8
W25A X Bar L Ranch, 35.71 305 ⇑P P 01 15 31.8 +1.1
baz=36
N28A Pribbeno Ranch 35.80 315 ⇓P P 01 15 31.7 +0.5
baz=36
L29A Maesberg Ranch 35.80 318 ⇑P P 01 15 31.7 +0.4
baz=36
S26A Kim 35.82 310 ⇓P P 01 15 32.6 +1.0
baz=36
J30A Dallas 35.88 321 ⇓P P 01 15 32.0 +0.1
baz=36
Z24A Sheeppen Canyo 35.88 302 ⇑P P 01 15 33.5 +1.3
baz=36
M28A Bar X Bar Ranc 36.03 317 ⇑P P 01 15 34.1 +0.9
baz=36
V25A Rancho No Teng 36.04 306 ⇑P P 01 15 34.0 +0.5
baz=36
U25A Circle Dot Ran 36.07 307 ⇑P P 01 15 34.6 +0.8
baz=36
R26A Arlington 36.07 311 ⇓P P 01 15 34.2 +0.6
baz=36
O27A Beecher Island 36.20 314 ⇓P P 01 15 35.6 +0.9
baz=36
T25A Trinidad 36.33 308 ⇑P P 01 15 36.9 +0.9
baz=36
Q26A Hugo 36.37 312 ⇓P P 01 15 37.6 +1.3
baz=36
J29A Okreek 36.42 320 ⇓P P 01 15 36.7 +0.2
baz=36
W24A Lazy 6 Ranch, 36.45 305 ⇑P P 01 15 38.4 +1.4
baz=36
SCHQ Schefferville 36.46 2 P P 01 15 36.8 +0.2
SCHQ Schefferville 36.46 2 P P 01 15 36.8 +0.2
comp=E,7.1nm,0.5s,baz=179,slow=8.3,SNR=19
V24A Rampart Ranch, 36.50 306 ⇑P P 01 15 39.2 +1.7
baz=36
S25A Robets Cordova 36.54 309 ⇓P P 01 15 38.6 +0.8
baz=37
Z23A Rita Site, Whi 36.56 301 ⇓P P 01 15 38.9 +1.0
baz=37
Y23A Lovelace Mesa, 36.59 303 ⇑P P 01 15 39.2 +1.0
baz=37
R25A Fountain Ranch 36.61 310 ⇓P P 01 15 39.3 +1.0
baz=37
K28A Ten Mile Ranch 36.70 318 ⇑P P 01 15 39.2 +0.3
baz=37
G30A Faulkton 36.72 323 ⇓P P 01 15 40.1 +1.2
baz=37
O26A Horse Wrangler 36.79 314 ⇑P P 01 15 40.1 +0.4
baz=37
Q25A Bedland, Calha 36.89 311 ⇓P P 01 15 41.9 +1.2
baz=37
N26A Koester Ranch, 36.99 315 ⇓P P 01 15 42.5 +1.0
baz=37
222A Williams Famil 37.01 299 ⇓P P 01 15 42.3 +0.6
baz=37
W23A Werner Place, 37.01 304 ⇓P P 01 15 43.0 +1.2
baz=37
T24B San Luis 37.03 308 ⇓P P 01 15 42.8 +0.8
baz=37,SNR=5.9
H29A Onida 37.04 322 ⇓P P 01 15 42.7 +1.0
baz=37
AGMN Agassiz Nation 37.06 330 ⇑P P 01 15 41.6 -0.2
baz=37
P25A Willow Gulch B 37.08 312 ⇑P P 01 15 43.2 +1.0
baz=37
F30A Leola 37.08 324 ⇑P P 01 15 42.9 +0.9
baz=37
S24A Houchin Ranch, 37.11 309 ⇓P P 01 15 43.9 +1.2
baz=37
V23A Ortiz Mt. (NFS 37.21 305 ⇑P P 01 15 44.6 +1.1
baz=37
R24A Sanders Place, 37.25 310 ⇑P P 01 15 44.7 +0.9
baz=37,SNR=6.2
I28A Midland 37.26 320 ⇓P P 01 15 43.7 +0.1
baz=37
SDCO Great Sand Dun 37.36 309 eP P 01 15 45.6 +0.8
comp=E,4.0nm,0.7s
U23A El Rito 37.40 306 ⇑P P 01 15 46.5 +1.5
baz=37
E30A Jud 37.43 325 ⇑P P 01 15 45.5 +0.6
baz=38
F29A Eureka 37.53 324 ⇓P P 01 15 46.3 +0.6
baz=38
H28A Mission Ridge 37.55 321 ⇑P P 01 15 46.7 +0.7
baz=38
Q24A Divide 37.55 311 ⇑P P 01 15 47.2 +0.8
baz=38
121A Cookes Peak, D 37.66 300 ⇑P P 01 15 48.4 +1.2
baz=38
G28A Parade 37.71 322 ⇑P P 01 15 47.9 +0.6
baz=38,SNR=7.0
S23A Nye Farm, Mont 37.72 308 ⇓P P 01 15 49.0 +1.2
baz=38
D30A Buchanan 37.73 326 ⇑P P 01 15 47.6 +0.2
baz=38
R23A Moffat 37.76 309 ⇑P P 01 15 49.2 +1.1
baz=38
V22A San Miguel Ran 37.83 305 ⇓P P 01 15 50.2 +1.6
baz=38
I27A Quinn 37.84 320 ⇑P P 01 15 49.0 +0.6
baz=38
E29A Napoleon 37.87 325 ⇓P P 01 15 49.2 +0.6
baz=38
U22A Llaves 37.92 306 ⇑P P 01 15 50.9 +1.4
baz=38
C30A Mose, Pekin 37.96 327 ⇓P P 01 15 50.1 +0.8
baz=38
J26A Sides Ranch, S 38.08 318 ⇓P P 01 15 50.7 +0.2
baz=38
D29A Pettibone, Tap 38.15 326 ⇓P P 01 15 51.6 +0.7
baz=38
H27A Howes 38.15 321 ⇑P P 01 15 51.6 +0.6
baz=38
ISCO Idaho Springs 38.21 312 ⇓P P 01 15 52.7 +0.8
baz=38
K25A Mack Ranch, Ha 38.25 317 ⇑P P 01 15 52.9 +0.9
baz=38
S22A 4UR Ranch, Cre 38.35 308 ⇑P P 01 15 54.1 +1.0
baz=38
M24A Cheyenne 38.36 315 ⇑P P 01 15 54.3 +1.3
baz=38
B30A Myrvik Farm, E 38.38 328 ⇑P P 01 15 53.1 +0.3
baz=38
E28A Huff 38.45 324 ⇓P P 01 15 54.1 +0.7
baz=38
ULM Lac du Bonnet 38.46 332 P P 01 15 52.5 -1.0
ULM Lac du Bonnet 38.46 332 P P 01 15 52.5 -1.0
comp=E,2.3nm,0.7s,baz=127,slow=10,SNR=3.3
G27A Dupree 38.47 322 ⇓P P 01 15 54.3 +0.6
baz=38,SNR=9.1
J25A Sunshine Ranch 38.58 318 ⇓P P 01 15 55.1 +0.4
baz=39
319A Douglas 38.69 297 ⇑P P 01 15 57.1 +1.3
baz=39
A30A Hoffart Farm, 38.69 329 ⇑P P 01 15 55.4 0.0
baz=39
L24A Wheatland 38.69 315 ⇑P P 01 15 57.0 +1.3
baz=39
D28A Regan 38.75 325 ⇑P P 01 15 56.6 +0.7
baz=39
F27A Lemmon 38.80 322 ⇓P P 01 15 57.4 +1.0
baz=39,SNR=5.1
I25A Rutford 38.85 319 ⇓P P 01 15 57.5 +0.5
baz=39
E27A Carson 38.85 323 ⇑P P 01 15 58.0 +1.1
baz=39
P22A Eagle 38.95 311 ⇑P P 01 15 59.6 +1.6
baz=39
O22A Kremmling 39.01 312 ⇑P P 01 15 59.3 +0.7
baz=39
H25A Fruitdale 39.07 320 ⇑P P 01 15 59.0 +0.3
baz=39
A29A Manning Farm, 39.14 328 ⇑P P 01 15 59.4 +0.3
baz=39
F26A Lodgepole 39.17 322 ⇑P P 01 16 00.2 +0.7
baz=39,SNR=6.4
N22A Wattenberg Ran 39.20 313 ⇓P P 01 16 00.3 +0.3
baz=39
L23A Garrett 39.23 315 ⇑P P 01 16 01.0 +0.7
baz=39
G25A Newell 39.26 321 ⇑P P 01 16 00.9 +0.7
baz=39
E26A Carlson Angus 39.39 323 ⇑P P 01 16 02.4 +1.1
baz=39
B28A Dugan Ranch, T 39.41 327 ⇓P P 01 16 01.9 +0.5
baz=40
MVCO Mesa Verde 39.44 307 ⇑P P 01 16 02.7 +0.7
baz=39
BDFB Brasilia 39.52 147 pP pP 01 16 43.3 +2.3
BDFB Brasilia 39.52 147 pP pP 01 16 43.3 +2.3
comp=E,1.5nm,0.7s,baz=147,slow=7.8,SNR=3.4
M22A Cedar Creek Ra 39.54 314 ⇓P P 01 16 03.8 +0.9
baz=40
C27A Sayler Ranch, 39.57 325 ⇑P P 01 16 03.7 +0.9
baz=40
D26A Manning 39.69 324 ⇑P P 01 16 04.5 +0.7
baz=40
H24A Dirks Ranch, A 39.72 319 ⇑P P 01 16 04.3 +0.2
baz=40
E25A Mille Ranch, 39.95 322 ⇑P P 01 16 06.7 +0.8
baz=40
C26A Wahner Farm, P 39.96 325 ⇑P P 01 16 06.6 +0.7
baz=40
K22A Casper 40.01 315 ⇑P P 01 16 07.2 +0.5
baz=40
F24A Ekalaka 40.21 321 ⇑P P 01 16 08.5 +0.4
baz=40
D25A Fairfield 40.26 323 ⇑P P 01 16 09.2 +0.7
baz=40
J22A Midwest 40.32 317 ⇑P P 01 16 09.4 +0.3
baz=40
G23A Biddle 40.46 320 ⇑P P 01 16 10.7 +0.5
baz=40
N20A Spence Gulch, 40.48 312 ⇑P P 01 16 11.6 +1.0
baz=40
K21A Alcova 40.49 315 ⇓P P 01 16 11.2 +0.6
baz=40,SNR=8.3
I22A 9 Mile Ranch, 40.53 317 ⇓P P 01 16 11.0 +0.1
baz=41
F23A Volborg 40.73 320 ⇑P P 01 16 12.6 +0.2
baz=41
D24A Glendive 40.81 323 ⇓P P 01 16 14.1 +1.1
baz=41
J21A Lysite 40.92 316 ⇑P P 01 16 14.9 +0.8
baz=41
I21A Big Trails, Te 41.02 317 ⇑P P 01 16 14.7 -0.2
baz=41
G22A Birney 41.03 319 ⇓P P 01 16 15.7 +0.8
baz=41
A25A Svangstu Ranch 41.16 326 ⇑P P 01 16 17.3 +1.5
baz=41
WUAZ Wupatki 41.23 303 ⇓P P 01 16 17.8 +1.1
baz=41
F22A Rosebud 41.28 320 ⇑P P 01 16 17.3 +0.5
baz=41,SNR=10
J20A Shoshoni 41.35 316 ⇓P P 01 16 19.0 +1.4
baz=41
D23A Lindsay 41.35 322 ⇑P P 01 16 18.6 +1.2
baz=41
E22A Miles City 41.41 321 ⇑P P 01 16 18.2 +0.3
baz=41
DGMT Dagmar 41.48 324 ⇑P P 01 16 19.3 +0.9
baz=42
G21A Lodge Grass 41.60 319 ⇓P P 01 16 19.4 -0.1
baz=42
I20A Worland 41.63 317 ⇓P P 01 16 19.9 +0.1
baz=42
A24A Westby 41.63 325 ⇑P P 01 16 21.4 +1.7
baz=42
C23A Lambert 41.67 323 ⇑P P 01 16 20.9 +0.9
baz=42
214A Organ Pipe Nat 41.75 298 ⇓P P 01 16 22.5 +1.6
baz=42
H20A Greybull 41.77 317 ⇓P P 01 16 21.1 +0.1
baz=42
B23A Brockton 41.92 324 ⇑P P 01 16 23.3 +1.3
baz=42,SNR=6.1
J19A Crowheart 41.96 315 ⇓P P 01 16 23.1 +0.6
baz=42
C22A Vida 42.05 323 ⇑P P 01 16 24.2 +1.2
baz=42
PDAR Pinedale Array 42.10 314 P P 01 16 23.8 0.0
PDAR PcP PcP 01 18 14.5 -0.6
PDAR Pinedale Array 42.10 314 P P 01 16 23.8 0.0
comp=E,0.9nm,0.9s,baz=110,slow=11,SNR=6.8
PDAR PcP PcP 01 18 14.5 -0.6
comp=E,0.6nm,0.6s,baz=100,slow=5.0,SNR=4.0
U15A North Rim 42.16 304 ⇑P P 01 16 25.8 +1.4
baz=42
Y14A Wickenburg 42.23 301 ⇓P P 01 16 25.9 +1.3
baz=42
I19A Meeteetse 42.23 316 ⇑P P 01 16 25.2 +0.5
baz=42
G20A Bridger 42.24 318 ⇑P P 01 16 24.7 0.0
baz=42
D21A La Casta Ranch 42.35 321 ⇓P P 01 16 27.0 +1.5
baz=42,SNR=11
B22A Reddig Ranch S 42.40 323 ⇓P P 01 16 27.5 +1.7
baz=42
F20A Billings 42.45 319 ⇓P P 01 16 27.2 +0.8
baz=42
DAU Daniels Canyon 42.47 310 eP P 01 16 27.8 +0.9
H19A Powell 42.49 317 ⇑P P 01 16 28.1 +1.3
baz=42
A22A Carney Farms, 42.72 324 ⇓P P 01 16 29.8 +1.3
baz=43,SNR=5.8
E20A Meyer Farm, Mu 42.77 320 ⇓P P 01 16 29.7 +0.8
baz=43,SNR=11
H18A Shoshone NF, C 42.93 317 ⇑P P 01 16 30.6 +0.2
baz=43
F19A Roth Farm, Mol 42.98 319 ⇑P P 01 16 31.3 +0.6
baz=43
D20A Manuel Ranch, 43.05 321 ⇓P P 01 16 32.0 +0.9
baz=43
E19A Rath Farm, Rou 43.15 320 ⇑P P 01 16 33.0 +1.1
baz=43,SNR=9.1
W13A Hualapai Mount 43.15 302 ⇑P P 01 16 33.5 +1.2
baz=43
I17A Pilgrim Ck. 43.23 315 ⇓P P 01 16 33.6 +0.8
baz=43
C20A Veseth Ranch, 43.27 322 ⇑P P 01 16 34.2 +1.4
baz=43
A21A Bergtoll Ranch 43.29 324 ⇓P P 01 16 34.4 +1.4
baz=43,SNR=8.3
Y12C Blythe 43.44 300 ⇓P P 01 16 35.1 +0.7
baz=43
D19A Cripps Ranch, 43.53 320 ⇓P P 01 16 36.2 +1.2
baz=44
DUG Dugway 43.54 309 ⇓P P 01 16 36.4 +1.2
baz=44
B20A Solberg Farm, 43.63 322 ⇓P P 01 16 37.4 +1.6
baz=44,SNR=5.7
A20A Cobblestone Ra 43.80 323 ⇑P P 01 16 38.1 +1.0
baz=44
C19A Slack Wire Ran 43.90 321 ⇑P P 01 16 38.5 +0.6
baz=44
IRM Iron Mountain 44.02 300 ⇑P P 01 16 40.6 +1.6
baz=44,SNR=6.3
B19A Brinkman Farms 44.18 322 ⇓P P 01 16 41.6 +1.5
baz=44
BC3 Big Chuckawall 44.19 300 ⇑P P 01 16 41.6 +1.0
baz=44
A19A Kindworth Far 44.29 323 ⇓P P 01 16 42.5 +1.5
baz=44
EGMT Eagleton 44.45 321 ⇓P P 01 16 43.5 +1.2
baz=44
GMRC Granite Mounta 44.53 301 ⇓P P 01 16 44.7 +1.5
baz=44
TUQ Turquoise Moun 44.85 302 ⇓P P 01 16 47.5 +1.8
baz=45
MONP Monument Peak 44.90 298 ⇓P P 01 16 47.4 +1.1
baz=45
PFO Pinyon Flat Ob 45.02 299 ⇓P P 01 16 47.1 0.0
baz=45
HEC Hector,Ludlow 45.09 301 ⇓P P 01 16 49.3 +1.7
baz=45
R11A Troy Canyon, C 45.15 306 ⇓P P 01 16 50.0 +1.9
baz=45,SNR=6.8
TPNV Topopah Spring 45.38 304 ⇑P P 01 16 51.9 +2.0
baz=45,SNR=8.2
GSC Goldstone 45.54 302 ⇓P P 01 16 52.1 +0.9
baz=46
HLID Hailey 45.71 314 ⇑P P 01 16 53.7 +1.3
baz=46
FURC Furnace Creek, 45.78 303 ⇓P P 01 16 54.9 +2.1
baz=46
CPUP Villa Florida 45.80 166 P P 01 16 52.0 -1.0
CPUP pP pP 01 17 33.2 +1.1
CPUP Villa Florida 45.80 166 P P 01 16 52.0 -1.0
comp=E,1.9nm,0.7s,baz=348,slow=11,SNR=3.7
CPUP pP pP 01 17 33.2 +1.1
comp=E,3.6nm,0.7s,baz=333,slow=7.8,SNR=4.2
MPMC Manual Prospec 46.21 303 ⇓P P 01 16 58.0 +1.6
baz=46
GRAC Grapevine Rang 46.27 304 ⇑P P 01 16 58.6 +1.9
baz=46
LRMC Laurel Mountai 46.28 302 ⇓P P 01 16 57.9 +1.0
baz=46
EDW2 Edwards Air Fo 46.44 301 ⇓P P 01 16 59.6 +1.5
baz=46,SNR=6.3
MSO Missoula 46.53 318 ⇓P P 01 16 59.8 +1.1
baz=46
CIS Catalina Islan 46.61 299 ⇓P P 01 16 59.7 +0.3
baz=47
SCI San Clemente I 46.69 298 ⇑P P 01 16 59.9 -0.1
baz=47
ISA Isabella 46.94 302 ⇑P P 01 17 03.5 +1.4
baz=47
ARVC Arvin 47.16 301 ⇓P P 01 17 05.3 +1.7
baz=47
NVAR Mina Array Bea 47.26 306 P P 01 17 05.6 +1.0
NVAR pP pP 01 17 45.4 +1.4
NVAR Mina Array Bea 47.26 306 P P 01 17 05.6 +1.0
comp=E,2.1nm,0.8s,baz=98,slow=6.5,SNR=13
NVAR pP pP 01 17 45.4 +1.4
comp=E,1.0nm,0.8s,baz=116,slow=5.1,SNR=2.9
VES Vestal, Richgr 47.46 302 ⇑P P 01 17 07.5 +1.6
baz=47
BSC Santa Cruz Isl 47.69 300 ⇑P P 01 17 08.9 +1.1
baz=48
PKM Peak Mountain 47.94 301 ⇓P P 01 17 11.5 +1.6
baz=48
NEW Newport 49.06 319 ⇑P P 01 17 18.2 +0.1
baz=49,SNR=7.3
CFAA Coronel Fontan 49.66 179 P P 01 17 21.2 -1.5
CFAA Coronel Fontan 49.66 179 P P 01 17 21.2 -1.5
comp=E,0.2nm,0.7s,baz=358,slow=9.2,SNR=3.9
SFJD Kangerlussuaq 50.05 9 P P 01 17 25.4 +0.4
SFJD Kangerlussuaq 50.05 9 P P 01 17 25.4 +0.4
comp=E,3.5nm,0.5s,baz=180,slow=6.1,SNR=3.2
J05D Fort Rock, OR 50.42 311 ⇓P P 01 17 29.0 +0.5
baz=50
I05D Terrebonne, OR 50.73 313 ⇓P P 01 17 31.8 +1.1
baz=51
J04D Umpqua Nationa 51.03 311 ⇑P P 01 17 34.1 +0.9
baz=51
YBH Yreka Blue Hor 51.18 309 P P 01 17 33.6 -0.5
YBH Yreka Blue Hor 51.18 309 P P 01 17 33.6 -0.5
comp=E,2.0nm,0.8s,baz=83,slow=4.8,SNR=9.4
M02C Callahan 51.23 309 ⇑P P 01 17 34.3 -0.2
baz=51
I04A Tendick Farm, 51.36 312 ⇑P P 01 17 36.1 +0.7
baz=51
I03D Drain, OR 52.01 311 ⇓P P 01 17 41.3 +1.2
baz=52
YKA Yellowknife Ar 54.21 336 P P 01 17 55.2 -0.6
YKA pP pP 01 18 35.7 -0.6
YKA Yellowknife Ar 54.21 336 P P 01 17 55.2 -0.6

comp=E,1.9nm,0.6s,baz=114,slow=7.3,SNR=31
YKA pP **pP** **01 18 35.7 -0.6**
comp=E,0.4nm,0.7s,baz=115,slow=7.2,SNR=2.1
SUMG Summit 56.97 10 *e*P **P** **01 18 17.0 +1.1**
comp=E,4.6nm,0.8s
MDT Midelt 58.92 62 P **P** **01 18 32.1 +2.3**
MDT Midelt 58.92 62 P **P** **01 18 32.1 +2.3**
comp=E,1.9nm,0.9s,baz=274,slow=8.1,SNR=4.1
ESDC Sonseca Array 59.35 54 P **P** **01 18 33.3 +0.8**
ESDC Sonseca Array 59.35 54 P **P** **01 18 33.3 +0.8**
comp=E,0.9nm,0.7s,baz=275,slow=7.4,SNR=7.5
TIC Toumodi 63.14 92 *e*P **P** **01 18 58.0 -0.3**
comp=E,2.8nm,0.2s
LIC Lamto 63.25 92 *e*P **P** **01 18 58.5 -0.6**
comp=E,21nm,1.0s
DBIC Dimbokro 63.28 92 P **P** **01 18 59.0 -0.2**
DBIC Dimbokro 63.28 92 P **P** **01 18 59.0 -0.2**
comp=E,3.0nm,0.7s,baz=269,slow=8.0,SNR=10
KIC Kosan Boka 63.48 92 *e*P **P** **01 19 00.7 +0.1**
comp=E,10nm,0.6s
TORD Torodi Ar. Bea 67.75 83 P **P** **01 19 27.8 -0.1**
TORD Torodi Ar. Bea 67.75 83 P **P** **01 19 27.8 -0.1**
comp=E,2.9nm,0.8s,baz=295,slow=6.4,SNR=58
ILAR Eielson Array 68.46 333 P **P** **01 19 31.3 -0.2**
ILAR Eielson Array 68.46 333 P **P** **01 19 31.3 -0.2**
comp=E,1.6nm,0.7s,baz=101,slow=4.5,SNR=24
DAVOX Davos/Dischmat 69.23 46 P **P** **01 19 37.1 +0.3**
DAVOX Davos/Dischmat 69.23 46 P **P** **01 19 37.1 +0.3**
comp=E,1.2nm,0.5s,baz=225,slow=4.3,SNR=6.2
NOA NORSAR Array B 69.34 31 P **P** **01 19 37.4 +0.4**
NOA NORSAR Array B 69.34 31 P **P** **01 19 37.4 +0.4**
comp=E,1.7nm,0.8s,baz=271,slow=6.3,SNR=3.6
COLD Coldfoot 69.89 336 *e*P **P** **01 19 41.0 +0.7**
comp=E,37nm,2.1s
KEST Kesra 70.14 58 P **P** **01 19 43.6 +1.2**
KEST Kesra 70.14 58 P **P** **01 19 43.6 +1.2**
comp=E,1.6nm,1.0s,baz=182,slow=1.0,SNR=4.1
GERES GERESS Array B 71.58 44 P **P** **01 19 51.1 +0.3**
GERES GERESS Array B 71.58 44 P **P** **01 19 51.1 +0.3**
comp=E,0.8nm,0.9s,baz=310,slow=6.1,SNR=4.2
ARCES ARCESS Array B 74.49 21 P **P** **01 20 08.0 +0.5**
ARCES ARCESS Array B 74.49 21 P **P** **01 20 08.0 +0.5**
comp=E,2.4nm,0.6s,baz=292,slow=4.8,SNR=8.3
FINES FINESS Array B 76.41 30 P **P** **01 20 19.2 +0.7**
FINES FINESS Array B 76.41 30 P **P** **01 20 19.2 +0.7**
comp=E,3.1nm,0.6s,baz=280,slow=4.5,SNR=19
AKASG Malin Array Be 81.00 40 P **P** **01 20 44.0 +0.3**
AKASG Malin Array Be 81.00 40 P **P** **01 20 44.0 +0.3**
comp=E,0.2nm,0.4s,baz=285,slow=4.6,SNR=4.4
IDI Anoyia 82.59 55 P **P** **01 20 53.4 +0.9**
IDI Anoyia 82.59 55 P **P** **01 20 53.4 +0.9**
comp=E,5.6nm,0.5s,baz=292,slow=13,SNR=3.7
SEY Seymchan 92.78 342 P **P** **01 21 41.9 +1.1**
SEY Seymchan 92.78 342 P **P** **01 21 41.9 +1.1**
comp=E,1.5nm,0.2s,baz=162,slow=3.2,SNR=4.8
KSH Kashi 113.73 29 *e*PKP **PKiKP** **01 27 06.1 -0.7**
KSH *es*PKP 01 28 05.1
KSH *e*SKS **SKSdf** **01 34 01.0 -1.4**
KSH LR LR
comp=E,73nm,5.5s
KSH LR LR
comp=E,63nm,5.4s
KSH LR LR
comp=E,130nm,5.5s
WMQ Urumqi 114.52 18 PKP PKPdf 01 27 08.9 +0.8
MDJ Mudanjiang 115.12 346 PKP **PKPdf** **01 27 09.4 +0.3**
HHC Hu-ho-hao-te 121.11 360 SS SS 01 45 06.4 -3.1
HHC AMB AMB
comp=Z,3μm,19.6s
LZH Lanzhou 125.43 7 *e*PKP **PKPdf** **01 27 29.1 -0.3**
LZH sPKP 01 28 28.7
LZH LR LR
comp=Z,150nm,15.2s
LZH LR LR
comp=Z,170nm,18.2s
LZH LR LR
comp=Z,170nm,19.5s
CD2 Chengdu 130.52 8 *e*PKP **PKPdf** **01 27 38.2 -0.9**
GYA Guiyang 135.26 6 *e*Pdif **Pdif** **01 24 50.0 -1.3**
GYA PKP **PKPdf** **01 27 46.5 -1.7**
GYA sPKP 01 28 49.8
GYA PP **PP** **01 30 27.4 +3.1**
GYA AMB AMB
comp=Z,90nm,7.8s

*ISCJB **04** 01:09:21.1±0.5, 37.°07N±0.°04×4.°41W±0.°03, h59km±9km, Error ellipse: s-maj=6.3km s-min=3.4km az=168.5*
*INMG **04** 01:09:22.9±1.3, 37.°04N×4.°35W, h44km±13km, ML2.2, Error ellipse: s-maj=2.9km s-min=2.6km az=166.0*
*SFS **04** 01:09:22.0, 37.°05N×4.°35W, h39km, ML3.8*
*CSEM **04** 01:09:22.3±0.2, 37.°04N×4.°37W, h40km, mb3.5, Error ellipse: s-maj=4.1km s-min=3.0km az=171.0*
*MDD **04** 01:09:22.6±0.6, 37.°02N×4.°34W, h51km±9km, mb3.5/18, Error ellipse: s-maj=6.4km s-min=3.5km az=165.0, PRXIMO*

ISC 04 01:09:20.7±1.3, 37.°00N±0.°04×4.°34W±0.°02, h66km±9km, n91, σ1s52/146, 3C-4D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.25**	**197**	⇓P		**Pn**	**Pn**	**01 09 31.0**	**-0.1**
EMAL				S		**Sn**	**Sn**	**01 09 38.0**	**-0.7**
EMAL	**Malaga-Limoner**	**0.25**	**197**	P		**Pn**	**Pn**	**01 09 31.0**	**-0.1**
EMAL				S		**Sn**	**Sn**	**01 09 38.0**	**-0.7**
EMIJ	**Mijas**	**0.56**	**219**	P		**Pn**	**Pn**	**01 09 34.1**	**+0.3**
	7.9nm,0.1s,SNR=18								
EMIJ				S		**Sn**	**Sn**	**01 09 43.2**	**-0.2**
	15nm,0.2s,SNR=12								
EMIJ	**Mijas**	**0.56**	**219**	P		**Pn**	**Pn**	**01 09 34.1**	**+0.3**
	7.9nm,0.1s,SNR=18								
EMIJ				S		**Sn**	**Sn**	**01 09 43.2**	**-0.2**
	15nm,0.2s,SNR=12								
EQUE	**Quentar**	**0.74**	**74**	⇑P		**Pn**	**Pn**	**01 09 36.4**	**+0.4**
	4.4nm,0.1s,SNR=18								
EQUE				S		**Sn**	**Sn**	**01 09 46.8**	**-0.4**
	16nm,0.2s,SNR=7.9								
EQUE	**Quentar**	**0.74**	**74**	P		**Pn**	**Pn**	**01 09 36.4**	**+0.4**
	4.4nm,0.1s,SNR=18								
EQUE				S		**Sn**	**Sn**	**01 09 46.8**	**-0.4**
	16nm,0.2s,SNR=7.9								
EBER	**Berja**	**1.16**	**95**	P		**Pn**	**Pn**	**01 09 41.6**	**+0.3**
	1.6nm,0.3s,SNR=9.0								
EBER				S		**Sn**	**Sn**	**01 09 57.0**	**+0.4**
	9.7nm,0.3s,SNR=5.8								
EBER	**Berja**	**1.16**	**95**	P		**Pn**	**Pn**	**01 09 41.6**	**+0.3**
	1.6nm,0.3s,SNR=9.0								
EBER				S		**Sn**	**Sn**	**01 09 57.0**	**+0.4**
	9.7nm,0.3s,SNR=5.8								
EADA	**Adamuz**	**1.18**	**351**	⇑P		**Pn**	**Pn**	**01 09 42.3**	**+1.0**
	2.5nm,0.1s,SNR=18								
EADA				S		**Sn**	**Sn**	**01 09 56.6**	**-0.1**
	20nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**1.18**	**351**	P		**Pn**	**Pn**	**01 09 42.3**	**+1.0**
	2.5nm,0.1s,SNR=18								
EADA				S		**Sn**	**Sn**	**01 09 56.6**	**-0.1**
	20nm,0.1s,SNR=7.9								
ESPR	**Espera**	**1.23**	**264**	P		**Pn**	**Pn**	**01 09 43.2**	**+1.3**
	1.2nm,0.3s,SNR=4.5								
ESPR				S		**Sn**	**Sn**	**01 09 57.5**	**-0.2**
	15nm,0.3s,SNR=7.9								
ESPR	**Espera**	**1.23**	**264**	P		**Pn**	**Pn**	**01 09 43.2**	**+1.3**
	1.2nm,0.3s,SNR=4.5								
ESPR				S		**Sn**	**Sn**	**01 09 57.5**	**-0.2**
	15nm,0.3s,SNR=7.9								
EQES	**Quesada**	**1.28**	**51**	⇑P		**Pn**	**Pn**	**01 09 43.4**	**+0.6**
	4.8nm,0.2s,SNR=18								
EQES				S		**Sn**	**Sn**	**01 09 59.0**	**-0.3**
	6.6nm,0.1s,SNR=15								
EQES	**Quesada**	**1.28**	**51**	P		**Pn**	**Pn**	**01 09 43.4**	**+0.6**
	4.8nm,0.2s,SNR=18								
EQES				S		**Sn**	**Sn**	**01 09 59.0**	**-0.3**
	6.6nm,0.1s,SNR=15								
ECAB	**El Cabril**	**1.37**	**322**	P		**Pn**	**Pn**	**01 09 44.4**	**+0.5**
	1.4nm,0.4s,SNR=13								
ECAB				S		**Sn**	**Sn**	**01 10 00.7**	**-0.6**
	3.1nm,0.7s,SNR=6.8								
ECAB	**El Cabril**	**1.37**	**322**	P		**Pn**	**Pn**	**01 09 44.4**	**+0.5**
	1.4nm,0.4s,SNR=13								
ECAB				S		**Sn**	**Sn**	**01 10 00.7**	**-0.6**
	3.1nm,0.7s,SNR=6.8								
ECEU	**Ceuta**	**1.39**	**218**	P		**Pn**	**Pn**	**01 09 46.0**	**+2.0**
	3.0nm,0.3s,SNR=4.7								
ECEU	**Ceuta**	**1.39**	**218**	P		**Pn**	**Pn**	**01 09 46.0**	**+2.0**
	3.0nm,0.3s,SNR=4.7								
EMIN	**Mina Concepcio**	**2.01**	**293**	⇓P		**Pn**	**Pn**	**01 09 52.7**	**+0.3**
	1.2nm,0.1s,SNR=18								
EMIN				S		**Sn**	**Sn**	**01 10 15.2**	**-1.4**
	2.7nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**2.01**	**293**	P		**Pn**	**Pn**	**01 09 52.7**	**+0.3**
	1.2nm,0.1s,SNR=18								
EMIN				S		**Sn**	**Sn**	**01 10 15.2**	**-1.4**
	2.7nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**2.57**	**283**	P		**Pn**	**Pn**	**01 10 01.1**	**+1.2**
	0.5nm,0.0s,SNR=7.9								
EGRO				S		**Sn**	**Sn**	**01 10 28.1**	**-1.9**
	4.3nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**2.57**	**283**	P		**Pn**	**Pn**	**01 10 01.1**	**+1.2**
	0.5nm,0.0s,SNR=7.9								
EGRO				S		**Sn**	**Sn**	**01 10 28.1**	**-1.9**
	4.3nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**2.68**	**6**	P		**Pn**	**Pn**	**01 10 03.2**	**+1.6**
	0.6nm,0.2s,baz=189,slow=12,SNR=15								
ESDC				S		**Sn**	**Sn**	**01 10 31.0**	**-2.0**
	1.1nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**2.68**	**6**	P		**Pn**	**Pn**	**01 10 03.2**	**+1.6**
	0.6nm,0.2s,SNR=15								
PVAQ	**Vaqueiros**	**2.73**	**279**	*e*P		**Pn**	**Pn**	**01 10 02.7**	**+0.6**
PVAQ				*e*S		**Sn**	**Sn**	**01 10 32.3**	**-1.7**
PVAQ				A		A	A	01 10 33.8	
	9.9nm,0.1s								
PVAQ	**Vaqueiros**	**2.73**	**279**	P		**Pn**	**Pn**	**01 10 02.7**	**+0.6**
PVAQ				S		**Sn**	**Sn**	**01 10 32.3**	**-1.7**
	9.9nm,0.1s								
PVAQ	**Vaqueiros**	**2.73**	**279**	P		**Pn**	**Pn**	**01 10 02.7**	**+0.6**
PVAQ				*e*S		**Sn**	**Sn**	**01 10 32.3**	**-1.7**
	9.9nm,0.1s								
EBAD	**Badajoz**	**2.75**	**310**	⇓P		**Pn**	**Pn**	**01 10 03.1**	**+0.7**
	4.7nm,1.0s,SNR=18								
EBAD				S		**Sn**	**Sn**	**01 10 33.5**	**-0.9**
	2.2nm,0.0s,SNR=8.3								
EBAD	**Badajoz**	**2.75**	**310**	P		**Pn**	**Pn**	**01 10 03.1**	**+0.7**
	4.7nm,1.0s,SNR=18								
EBAD				S		**Sn**	**Sn**	**01 10 33.5**	**-0.9**
	2.2nm,0.0s,SNR=8.3								
ETOB	**Tobarra**	**2.75**	**53**	⇓P		**Pn**	**Pn**	**01 10 02.9**	**+0.4**
	2.7nm,0.2s,SNR=18								
ETOB				S		**Sn**	**Sn**	**01 10 31.6**	**-3.0**
	1.7nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**2.75**	**53**	P		**Pn**	**Pn**	**01 10 02.9**	**+0.4**
	2.7nm,0.2s,SNR=18								
PBEJ	**Beja**	**2.99**	**291**	*e*P		**Pn**	**Pn**	**01 10 06.8**	**+1.1**
PBEJ				*e*S		**Sn**	**Sn**	**01 10 38.3**	**-2.0**
PBEJ				A		A	A	01 10 40.5	
	3.6nm,0.1s								
PBEJ	**Beja**	**2.99**	**291**	P		**Pn**	**Pn**	**01 10 06.8**	**+1.1**
PBEJ				S		**Sn**	**Sn**	**01 10 38.3**	**-2.0**
	1.8nm,0.1s								
PBEJ	**Beja**	**2.99**	**291**	P		**Pn**	**Pn**	**01 10 06.8**	**+1.1**
PBEJ				*e*S		**Sn**	**Sn**	**01 10 38.3**	**-2.0**
	3.6nm,0.1s								
PCVE	**Castro Verde**	**3.02**	**283**	*e*P		**Pn**	**Pn**	**01 10 07.1**	**+1.0**
PCVE				*e*S		**Sn**	**Sn**	**01 10 39.4**	**-1.7**
PCVE				A		A	A	01 10 40.8	
	2.2nm,0.4s								
PCVE	**Castro Verde**	**3.02**	**283**	P		**Pn**	**Pn**	**01 10 07.1**	**+1.0**
PCVE				S		**Sn**	**Sn**	**01 10 39.4**	**-1.7**
	2.2nm,0.4s								
PCVE	**Castro Verde**	**3.02**	**283**	P		**Pn**	**Pn**	**01 10 07.1**	**+1.0**
PCVE				*e*S		**Sn**	**Sn**	**01 10 39.4**	**-1.7**
	2.2nm,0.4s								
PESTR	**Estremoz**	**3.18**	**307**	*e*P		**Pn**	**Pn**	**01 10 09.8**	**+1.6**
PESTR				*e*S		**Sn**	**Sn**	**01 10 43.3**	**-1.6**
PESTR				A		A	A	01 10 45.8	
	1.6nm,0.4s								
PESTR	**Estremoz**	**3.18**	**307**	*e*P		**Pn**	**Pn**	**01 10 09.8**	**+1.6**
PESTR				*e*S		**Sn**	**Sn**	**01 10 43.3**	**-1.6**
	1.6nm,0.4s								
EVO	**Evora**	**3.29**	**299**	*e*P		**Pn**	**Pn**	**01 10 11.4**	**+1.6**
EVO				*e*S		**Sn**	**Sn**	**01 10 46.1**	**-1.6**
EVO				A		A	A	01 10 48.0	
	4.2nm,0.5s								
EVO	**Evora**	**3.29**	**299**	P		**Pn**	**Pn**	**01 10 11.4**	**+1.6**
EVO				S		**Sn**	**Sn**	**01 10 46.1**	**-1.6**
	4.2nm,0.5s								
EVO	**Evora**	**3.29**	**299**	P		**Pn**	**Pn**	**01 10 11.4**	**+1.6**
EVO				*e*S		**Sn**	**Sn**	**01 10 46.1**	**-1.6**
	4.2nm,0.5s								
PMRV	**Marv??o**	**3.41**	**316**	*e*P		**Pn**	**Pn**	**01 10 13.3**	**+1.8**
PMRV				*e*S		**Sn**	**Sn**	**01 10 49.9**	**-0.9**
PMRV	**Marv??o**	**3.41**	**316**	P		**Pn**	**Pn**	**01 10 13.3**	**+1.8**
PMRV				S		**Sn**	**Sn**	**01 10 49.9**	**-0.9**
PMRV	**Marv??o**	**3.41**	**316**	P		**Pn**	**Pn**	**01 10 13.3**	**+1.8**
PMRV				S		**Sn**	**Sn**	**01 10 49.9**	**-0.9**
MORF	**Marmelete**	**3.46**	**276**	*e*S		**Sn**	**Sn**	**01 10 51.3**	**-0.7**
MORF				A		A	A	01 10 53.0	
	10nm,0.2s								
MORF	**Marmelete**	**3.46**	**276**	S		**Sn**	**Sn**	**01 10 51.3**	**-0.7**
	10nm,0.2s								
MORF	**Marmelete**	**3.46**	**276**	*e*S		**Sn**	**Sn**	**01 10 51.3**	**-0.7**
	10nm,0.2s								
PNCL	**Nicolau / Gran**	**3.51**	**290**	*e*P		**Pn**	**Pn**	**01 10 13.9**	**+1.1**
PNCL				*e*S		**Sn**	**Sn**	**01 10 50.5**	**-2.6**
PNCL				A		A	A	01 10 52.8	
	3.1nm,0.2s								
PNCL	**Nicolau / Gran**	**3.51**	**290**	*e*P		**Pn**	**Pn**	**01 10 13.9**	**+1.1**
PNCL				*e*S		**Sn**	**Sn**	**01 10 50.5**	**-2.6**
	3.1nm,0.2s								
PTEO	**Sao Teotonio**	**3.54**	**280**	*e*S		**Sn**	**Sn**	**01 10 51.7**	**-2.2**
PTEO				A		A	A	01 10 53.9	
	7.9nm,0.8s								
PTEO	**Sao Teotonio**	**3.54**	**280**	S		**Sn**	**Sn**	**01 10 51.7**	**-2.2**
	4.0nm,0.8s								
PTEO	**Sao Teotonio**	**3.54**	**280**	*e*S		**Sn**	**Sn**	**01 10 51.7**	**-2.2**
	7.9nm,0.8s								
PFVI	**Vila Bisbo**	**3.59**	**273**	*e*P		**Pn**	**Pn**	**01 10 15.5**	**+1.6**
PFVI				*e*S		**Sn**	**Sn**	**01 10 52.6**	**-2.6**
PFVI				A		A	A	01 10 59.1	
	7.0nm,0.6s								
PFVI	**Vila Bisbo**	**3.59**	**273**	P		**Pn**	**Pn**	**01 10 15.5**	**+1.6**
	1.7nm,0.1s,SNR=7.9								
PFVI				S		**Sn**	**Sn**	**01 10 51.4**	**-3.7**
	8.0nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**3.59**	**273**	P		**Pn**	**Pn**	**01 10 15.5**	**+1.6**
	1.7nm,0.1s,SNR=7.9								
PFVI				*e*S		**Sn**	**Sn**	**01 10 52.6**	**-2.6**
	7.0nm,0.6s								
GUD	**Guadarrama**	**3.64**	**2**	P		**Pn**	**Pn**	**01 10 16.4**	**+1.7**
	0.6nm,0.2s,SNR=7.4								
GUD				S		**Sn**	**Sn**	**01 10 54.1**	**-2.3**
	0.3nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**3.64**	**2**	P		**Pn**	**Pn**	**01 10 16.4**	**+1.7**
	0.6nm,0.2s,SNR=7.4								
PCBR	**Castelo Branco**	**3.76**	**320**	*e*P		**Pn**	**Pn**	**01 10 17.8**	**+1.7**
PCBR				*e*S		**Sn**	**Sn**	**01 10 58.5**	**-0.6**
PCBR	**Castelo Branco**	**3.76**	**320**	P		**Pn**	**Pn**	**01 10 17.8**	**+1.7**
PCBR				S		**Sn**	**Sn**	**01 10 58.5**	**-0.6**
PCBR	**Castelo Branco**	**3.76**	**320**	P		**Pn**	**Pn**	**01 10 17.8**	**+1.7**
PCBR				S		**Sn**	**Sn**	**01 10 58.5**	**-0.6**
PTOM	**Tomar**	**4.13**	**310**	*e*P		**Pn**	**Pn**	**01 10 22.8**	**+1.5**
PTOM				*e*S		**Sn**	**Sn**	**01 11 07.4**	**-1.0**
PTOM				A		A	A	01 11 13.9	
	3.5nm,0.6s								
PTOM	**Tomar**	**4.13**	**310**	P		**Pn**	**Pn**	**01 10 22.8**	**+1.5**
PTOM				S		**Sn**	**Sn**	**01 11 07.4**	**-1.0**
	1.8nm,0.6s								
PTOM	**Tomar**	**4.13**	**310**	P		**Pn**	**Pn**	**01 10 22.8**	**+1.5**
PTOM				*e*S		**Sn**	**Sn**	**01 11 07.4**	**-1.0**
	3.5nm,0.6s								
ETOR	**Torete**	**4.21**	**24**	P		**Pn**	**Pn**	**01 10 23.3**	**+0.9**
	8.6nm,0.1s,SNR=12								
ETOR				S		**Sn**	**Sn**	**01 11 07.4**	**-2.9**
	5.6nm,0.3s,SNR=9.4								
ETOR	**Torete**	**4.21**	**24**	P		**Pn**	**Pn**	**01 10 23.3**	**+0.9**
	8.6nm,0.1s,SNR=12								
MTE	**Manteigas**	**4.22**	**324**	*e*P		**Pn**	**Pn**	**01 10 24.4**	**+1.9**
MTE	**Manteigas**	**4.22**	**324**	P		**Pn**	**Pn**	**01 10 24.4**	**+1.9**
MTE	**Manteigas**	**4.22**	**324**	P		**Pn**	**Pn**	**01 10 24.4**	**+1.9**
EMOS	**Mosqueruela**	**4.52**	**41**	P		**Pn**	**Pn**	**01 10 28.1**	**+1.4**
	0.8nm,0.2s,SNR=7.9								
EMOS				S		**Sn**	**Sn**	**01 11 14.3**	**-3.7**
	0.5nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**4.52**	**41**	P		**Pn**	**Pn**	**01 10 28.1**	**+1.4**
	0.8nm,0.2s,SNR=7.9								
PVIS	**Viseu**	**4.63**	**324**	*e*P		**Pn**	**Pn**	**01 10 29.8**	**+1.6**
PVIS	**Viseu**	**4.63**	**324**	P		**Pn**	**Pn**	**01 10 29.8**	**+1.6**
PVIS	**Viseu**	**4.63**	**324**	P		**Pn**	**Pn**	**01 10 29.8**	**+1.6**
MVO	**Moncorvo**	**4.65**	**334**	*e*P		**Pn**	**Pn**	**01 10 30.4**	**+2.0**
MVO	**Moncorvo**	**4.65**	**334**	P		**Pn**	**Pn**	**01 10 30.5**	**+2.0**
	3.1nm,0.1s,SNR=6.4								
MVO	**Moncorvo**	**4.65**	**334**	*e*P		**Pn**	**Pn**	**01 10 30.4**	**+2.0**
PVRL	**Vila Real**	**5.01**	**329**	*e*P		**Pn**	**Pn**	**01 10 35.3**	**+2.0**
PVRL	**Vila Real**	**5.01**	**329**	P		**Pn**	**Pn**	**01 10 35.3**	**+2.0**
PVRL	**Vila Real**	**5.01**	**329**	P		**Pn**	**Pn**	**01 10 35.3**	**+2.0**
POLO	**Lamas de Olo**	**5.12**	**329**	*e*P		**Pn**	**Pn**	**01 10 36.4**	**+1.5**
POLO	**Lamas de Olo**	**5.12**	**329**	*e*P		**Pn**	**Pn**	**01 10 36.4**	**+1.5**
PBRG	**Braganca**	**5.14**	**340**	*e*P		**Pn**	**Pn**	**01 10 37.1**	**+1.9**
PBRG	**Braganca**	**5.14**	**340**	P		**Pn**	**Pn**	**01 10 37.1**	**+1.9**
PBRG	**Braganca**	**5.14**	**340**	P		**Pn**	**Pn**	**01 10 37.1**	**+1.9**
ELAN	**Lanestosa**	**6.26**	**6**	P		**Pn**	**Pn**	**01 10 52.1**	**+1.8**
	0.5nm,0.2s,SNR=9.6								
ELAN	**Lanestosa**	**6.26**	**6**	P		**Pn**	**Pn**	**01 10 52.1**	**+1.8**
	0.5nm,0.2s,SNR=9.6								
IELO	**Elcoad**	**6.30**	**21**	P		**Pn**	**Pn**	**01 10 52.3**	**+1.3**
	1.3nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**6.30**	**21**	P		**Pn**	**Pn**	**01 10 52.3**	**+1.3**
	1.3nm,0.2s,SNR=7.9								
EALK	**Alkurruntz**	**6.58**	**18**	P		**Pn**	**Pn**	**01 10 56.6**	**+1.9**
	4.0nm,0.5s,SNR=5.3								
EALK	**Alkurruntz**	**6.58**	**18**	P		**Pn**	**Pn**	**01 10 56.6**	**+1.9**
	4.0nm,0.5s,SNR=5.3								

IDC 04 01:10:15.1±1.3, 8.°44S×157.°24E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=35.3km s-min=18.4km az=17.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.85**	**111**	Pn		Pn	Pn	01 11 03.3	+1.5
	14nm,0.3s,baz=298,slow=17,SNR=2.4								
HNR				Lg		Lg	Lg	01 11 44.4	
	25nm,0.3s,baz=252,slow=18,SNR=4.2								
WRA	**Warramunga Arr**	**24.94**	**240**	P		P	P	01 15 39.5	-0.8
	0.4nm,0.5s,baz=66,slow=9.5,SNR=5.8								
STKA	**Stephens Creek**	**27.49**	**210**	P		P	P	01 16 03.6	+0.4
	1.2nm,0.7s,baz=44,slow=11,SNR=3.4								
MKAR	**Makanchi Array**	**85.95**	**318**	P		P	P	01 22 57.8	+0.5
	0.7nm,0.6s,baz=104,slow=5.9,SNR=8.1								
ZALV	**Zalesovo Beam**	**86.61**	**326**	P		P	P	01 22 59.7	-0.6
	0.3nm,0.4s,baz=109,slow=7.8,SNR=2.5								

*IDC **04** 01:21:09.3±0.7, 8.°75S×157.°67E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.1/11, ML4.5/1, Error ellipse: s-maj=21.6km s-min=14.2km az=3.0*

ISC 04 01:21:12.4±0.7, 8.°9S±0.°2×157.°78E±0.°08, h23km, n17, σ1s26/14, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.22**	**105**	Pn		Pn	**Pb**	**01 21 49.9**	**-2.0**
	111nm,0.3s,baz=288,slow=9.6,SNR=9.1								
HNR				Lg		Lg		01 22 23.8	
	171nm,0.3s,baz=249,slow=22,SNR=15								
HNR	**Honiara**	**2.22**	**105**	*i* P		**Pb**	**Pb**	**01 21 50.1**	**-1.7**
HNR				*i* S		**Sb**	**Sb**	**01 22 21.3**	**+2.4**
WRA	**Warramunga Arr**	**25.20**	**241**	P		**P**	**P**	**01 26 36.3**	**-0.3**
	3.1nm,0.8s,baz=67,slow=9.8,SNR=12								
ASAR	**Alice Springs**	**27.18**	**234**	P		**P**	**P**	**01 26 53.8**	**-0.7**
	1.0nm,1.0s,baz=66,slow=9.2,SNR=5.1								
STKA	**Stephens Creek**	**27.41**	**211**	P		**P**	**P**	**01 26 57.5**	**+1.2**
	5.0nm,0.7s,baz=34,slow=11,SNR=14								
H11S3	**WAKE ISLAND Hy**	**28.55**	**18**	T		T		01 55 43.6	
	baz=199,slow=78,SNR=12								
H11S2	**WAKE ISLAND Hy**	**28.55**	**18**	T		T		01 55 46.1	
	baz=199,slow=78,SNR=14								
H11S1	**WAKE ISLAND Hy**	**28.57**	**18**	T		T		01 55 42.9	
	baz=199,slow=78,SNR=5.3								
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P		**P**	**P**	**01 31 45.6**	**+0.6**
	0.8nm,0.4s,baz=115,slow=4.4,SNR=5.9								
SONM	**Songino Array**	**72.38**	**326**	P		**P**	**P**	**01 32 37.0**	**+0.3**
	0.5nm,0.9s,baz=103,slow=3.3,SNR=3.4								
ILAR	**Eielson Array**	**84.09**	**21**	P		**P**	**P**	**01 33 40.9**	**-0.2**
	1.1nm,0.4s,baz=250,slow=5

comp=Z,150nm,1.1s
MEEK Meekatharra 41.05 240 ⇓P P 01 54 59.8 -1.7
baz=39,SNR=5.4
MYLDM Lahad Datu 41.66 288 ⇑P P 01 55 08.2 +1.6
TSM Tawau 41.96 287 ⇓P P 01 55 09.9 +0.8
SDKM Sandakan 43.03 288 ⇓P P 01 55 20.8 +2.9
BBKI Banjar Baru 43.06 275 P P 01 55 20.8 +2.7
comp=Z,92nm,1.3s
PWJI Pagerwojo 45.51 268 P P 01 55 38.9 +1.2
comp=Z,72nm,2.5s
JOW Kunigami 45.71 322 P P 01 55 37.8 -1.2
JOW Kunigami 45.71 322 P P 01 55 37.8 -1.2
comp=Z,1.8nm,0.9s,baz=110,slow=8.2,SNR=5.2
PCJI Pacitan 46.12 267 P P 01 55 45.6 +3.1
comp=Z,204nm,1.4s
BTM Bintulu 46.22 283 ⇓P P 01 55 44.1 +0.8
SBUM Sibu 46.86 282 P x 01 55 49.9
comp=Z,32nm,2.0s,comp=Z,1μm
SBUM Sibu 46.86 282 ⇓P P 01 55 49.0 +0.7
BJII Banjamegara 47.64 268 P x 01 55 56.3
comp=Z,66nm,1.8s,comp=Z,2μm
YULB Yu-li 48.08 313 *eP* **P 01 55 57.2 -0.5**
comp=Z,12nm,0.8s
TGJI Tegal 48.27 269 P x 01 56 02.2
comp=Z,57nm,1.5s
NACB Ninganchiao 48.35 314 *eP* **P 01 55 59.6 -0.1**
KSM Kuching 48.48 280 P x 01 56 04.3
comp=Z,32nm,1.9s
KSM Kuching 48.48 280 *eP* **P 01 55 59.1 -1.8**
comp=Z,44nm,1.2s
SSLB Suanglung 48.57 313 *eP* **P 01 56 01.3 -0.1**
comp=Z,15nm,0.9s
YHNB Yeheng 48.81 314 *eP* **P 01 56 02.6 -0.7**
comp=Z,83nm,1.2s
MJAR Matsushiro Arr 48.89 339 P P 01 56 00.5 -3.1
MJAR Matsushiro Arr 48.89 339 P P 01 56 00.5 -3.1
comp=Z,2.0nm,0.7s,baz=166,slow=9.0,SNR=6.6
JNU Nakatsue 49.11 330 P P 01 56 04.0 -1.3
JNU Nakatsue 49.11 330 P P 01 56 04.0 -1.3
comp=Z,15nm,0.9s
CISI Cisompet, Garu 49.49 268 P P 01 56 10.2 +1.5
comp=Z,77nm,1.5s
LEM Lembang 49.76 269 P P 01 56 13.8 +2.9
comp=Z,102nm,1.4s
TPI Tanjungpandan 50.26 274 P P 01 56 18.5 +4.0
KSRS Korea Array 54.01 331 P P 01 56 41.4 -0.6
comp=Z,2.0nm,0.7s,baz=147,slow=7.4,SNR=5.3
KSAR Wonju Array Be 54.02 331 P P 01 56 41.4 -0.6
ASAJ Asahikawa 54.62 347 LR LR 02 19 10.9
comp=Z,77nm,19.1s,baz=186,slow=35
QIZ Qiongzhong 54.88 301 P P 01 56 49.0 +0.3
QIZ S **S 02 04 29.0 -0.1**
NJ2 Nanjing 55.23 319 *eP* **P 01 56 51.6 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 57.87 338 P P 01 57 08.6 -0.9
comp=Z,6.2nm,1.0s,baz=146,slow=8.8,SNR=5.2
MDJ Mudanjiang 59.13 337 P P 01 57 18.7 +0.4
MDJ pP **pP 01 57 25.2 -0.4**
MDJ PcS **PcS 02 02 09.1 +0.6**
MDJ S **S 02 05 24.5 +0.2**
MDJ SS **SS 02 09 19.8 +0.7**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ pmax pmax
comp=Z,460nm,8.3s
MDJ LR LR
comp=Z,990nm,17.3s
MDJ LR LR
comp=Z,750nm,15.3s
MDJ LR LR
comp=Z,910nm,17.3s
CN2 Changchun 60.19 333 ⇑P P 01 57 28.9 +3.3
CN2 *es*P sP 01 57 40.9 +5.3
CN2 *eS* **S 02 05 40.0 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CHAI Chaiyaphum 60.56 294 P P 01 57 34.0 +5.3
comp=Z,3.4nm,0.9s
ENH Enshi 60.64 312 *eP* **P 01 57 28.2 -0.8**
comp=Z,11nm,0.6s
GYA Guiyang 60.88 307⇑ *iP* **P 01 57 32.5 +1.7**
GYA pP **pP 01 57 42.8 +4.7**
GYA PP **PP 01 59 50.2 +5.0**
GYA S **S 02 05 47.8 0.0**
GYA SS **SS 02 09 49.5 +2.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,920nm,19.6s
GYA LR LR
comp=Z,710nm,20.4s
GYA LR LR
comp=Z,800nm,18.9s
SLVN Son La 60.91 300 *eP* **P 01 57 31.1 +0.1**
PBKT Sadao Pong 61.71 294 P P 01 57 38.2 +1.8
comp=Z,20nm,1.6s,comp=Z,2μm
PETK Petropavlovsk- 61.84 360 P P 01 57 35.5 -1.1
PETK Petropavlovsk- 61.84 360 P P 01 57 35.5 -1.1
PETK Petropavlovsk- 61.84 360 P P 01 57 35.5 -1.1
comp=Z,9.0nm,1.0s,baz=318,slow=2.0,SNR=4.0
PETK LR LR 02 19 57.6
comp=Z,2μm,21.7s,baz=161,slow=32
BJI Beijing 62.14 325 P P 01 57 34.7 -4.2
BJI pmax pmax
comp=Z,7.0nm,1.3s
KLR Kul'dur 62.32 341 *eP* P 01 57 33.4 -6.5
KLR pmax pmax
comp=Z,70nm,2.2s
SRDT SRDT 62.67 291 P P 01 57 46.9 +4.0
comp=Z,70nm,1.2s
XAN Xi'an 63.08 315 P P 01 57 44.0 -1.4
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,40nm,12.4s
KMI Kunming 63.45 304 P P 01 57 48.2 0.0
KMI pmax pmax
comp=Z,17nm,1.4s
LAMP Lampang 63.58 296 P P 01 57 50.8 +1.9
comp=Z,5.1nm,0.7s,comp=Z,147nm
CMAR Chiang Mai Arr 64.17 295 P P 01 57 52.5 -0.4
CMAR Chiang Mai Arr 64.17 295 P P 01 57 52.5 -0.4
comp=Z,1.9nm,0.4s,baz=123,slow=5.2,SNR=14
CHTO Chiang Mai 64.29 296 *eP* **P 01 57 53.7 +0.1**
CHTO pmax pmax
comp=Z,27nm,1.3s
CHTO Chiang Mai 64.29 296 *eP* **P 01 57 53.6 +0.1**
comp=Z,27nm,1.3s
CD2 Chengdu 65.23 310 *eP* **P 01 58 02.0 +2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 65.35 323 *eP* **P 01 58 02.0 +1.8**
HHC pP **pP 01 58 12.3 +4.7**
HHC sP **sP 01 58 15.0 +4.7**
HHC PP **PP 02 00 27.3 +3.0**
HHC pmax pmax
comp=Z,14nm,1.4s
LZH Lanzhou 67.69 315 P P 01 58 16.0 +0.6
LZH pP pP 01 58 29.2 +6.4
LZH PP **PP 02 00 47.2 +2.3**
LZH S **S 02 07 10.3 -1.6**
LZH SS **SS 02 11 33.5 0.0**
LZH pmax pmax
comp=Z,38nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.5s
LZH LR LR
comp=Z,840nm,13.8s
LZH LR LR
comp=Z,900nm,13.4s
LZH LR LR
comp=Z,1μm,14.8s
VNDA Vanda 68.55 179 *eP* **P 01 58 20.9 +1.0**
VNDA Vanda 68.55 179 P P 01 58 20.5 +0.6
comp=Z,6.8nm,1.2s,baz=10,slow=6.1,SNR=3.8
VNDA LR LR 02 22 45.0
comp=Z,1μm,21.6s,baz=2.5,slow=31
SEY Seymchan 71.82 357 *eP* **P 01 58 39.0 -1.0**
GTA Gaotai 72.10 316 *eP* **P 01 58 41.8 -0.6**
GTA pP **pP 01 58 49.6 -0.2**
GTA S **S 02 08 01.7 -1.7**
GTA SS **SS 02 12 41.5 +0.3**
GTA pmax pmax
comp=Z,9.0nm,2.0s
GTA pmax pmax
comp=Z,1μm,6.4s
GTA LR LR
comp=Z,480nm,18.0s
GTA LR LR
comp=Z,470nm,18.5s
GTA LR LR
comp=Z,810nm,19.9s
ULN Ulaanbaatar 72.18 327 *eP* **P 01 58 42.0 -0.7**
comp=Z,10.0nm,1.2s
SONM Songino Array 72.52 326 P P 01 58 44.2 -0.5
SONM Songino Array 72.52 326 P P 01 58 44.2 -0.5
comp=Z,1.9nm,0.7s,baz=133,slow=5.5,SNR=11
SHL Shillong 72.72 300 *eP* **P 01 58 44.5 -1.9**
YAK Yakutsk 74.10 347 *eP* **P 01 58 52.5 -1.0**
YAK pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 74.70 304 *eP* **P 01 58 58.0 -0.3**
LSA Lhasa 74.70 304 *eP* **P 01 58 58.0 -0.3**
ZAK Zakamensk 75.66 327 *eP* **P 01 59 01.2 -1.7**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
TLY Talaya 76.20 329 *i* P **P 01 59 04.7 -1.2**
TAPN Taplejung 76.83 301 *eP* **P 01 59 09.7 -0.6**
comp=Z,60nm,1.4s
ODAN Odare 76.95 300 *eP* **P 01 59 10.2 -0.8**
comp=Z,30nm,0.9s
MOY Mondy 77.57 328 *eP* **P 01 59 13.6 -0.1**
RAMN Ramite 77.65 300 *eP* **P 01 59 13.8 -1.1**
comp=Z,60nm,1.7s
JIRN Jiri 78.21 301 *eP* **P 01 59 17.5 -0.6**
comp=Z,97nm,1.8s
TNA Tin City 78.53 14 *eP* **P 01 59 17.6 -1.0**
comp=Z,9.4nm,0.9s
GUN Gumba 78.54 301 *eP* **P 01 59 18.6 -1.4**
comp=Z,126nm,1.7s
PKI Pulchoki 78.85 300 *eP* **P 01 59 20.0 -1.6**
comp=Z,16nm,0.8s
KKN Kakani 79.02 301 *eP* **P 01 59 21.0 -1.4**
comp=Z,7.0nm,0.5s
DMN Daman 79.12 300 *eP* **P 01 59 22.2 -0.8**
comp=Z,33nm,0.9s
GKN Gorkha 79.62 301 *eP* **P 01 59 24.4 -1.2**
comp=Z,101nm,1.4s
KOLN Koldanda 80.44 300 *eP* **P 01 59 28.9 -1.3**
comp=Z,25nm,0.9s
DANN Dangsing 80.46 301 *eP* **P 01 59 28.7 -1.6**
comp=Z,59nm,1.5s
QSPA South Pole Qui 81.01 180 *eP* **P 01 59 31.8 -0.5**
comp=Z,30nm,1.4s
PYUN Piuthan 81.05 300 *eP* **P 01 59 31.7 -1.7**
comp=Z,28nm,0.9s
PMR Palmer 81.49 23 *eP* **P 01 59 35.1 +0.4**
PMR pmax pmax
comp=Z,37nm,1.4s
PMR Palmer 81.49 23 *eP* **P 01 59 35.1 +0.4**
comp=Z,37nm,1.4s
KTH Kantishna Hill 82.05 21 *eP* **P 01 59 35.7 -2.0**
comp=Z,19nm,0.9s
WMQ Urumqi 82.19 317 P P 01 59 38.5 -0.4
WMQ pP **pP 01 59 48.9 +2.5**
WMQ sP **sP 01 59 52.8 +3.7**
WMQ S **S 02 09 49.4 -3.5**
WMQ pmax pmax
comp=Z,15nm,0.8s
WMQ pmax pmax
comp=Z,830nm,7.2s
WMQ LR LR
comp=Z,310nm,16.8s
WMQ LR LR
comp=Z,620nm,22.2s
WMQ LR LR
comp=Z,490nm,20.4s
TRF Thorofare Moun 82.21 21 *eP* **P 01 59 37.7 -1.0**
comp=Z,18nm,0.9s
IM04 Indian Mountai 82.69 18 *eP* **P 01 59 40.0 -0.9**
MCK McKinley 82.86 21 *eP* **P 01 59 40.3 -1.6**
MCK pmax pmax
comp=Z,77nm,1.1s
MCK McKinley 82.86 21 *eP* **P 01 59 40.3 -1.6**
comp=Z,77nm,1.1s
MAW Mawson 83.66 203 *eP* **P 01 59 46.2 +0.3**
MAW Mawson 83.66 203 P P 01 59 45.9 -0.1
comp=Z,8.3nm,1.1s,baz=90,slow=6.1,SNR=3.4
MAW LR LR 02 33 45.1
comp=Z,1μm,20.4s,baz=91,slow=33
COLA College 83.92 20⇓ *iP* **P 01 59 45.8 -1.4**
COLA pmax pmax
comp=Z,148nm,1.0s
COLA College 83.92 20 *eP* **P 01 59 45.4 -1.8**
comp=Z,28nm,0.9s
ILAR Eielson Array 84.20 21 P P 01 59 46.9 -1.8
ILAR Eielson Array 84.20 21 P P 01 59 46.9 -1.8
comp=Z,7.3nm,0.9s,baz=263,slow=4.2,SNR=48
COLD Coldfoot 84.60 18 *eP* **P 01 59 49.2 -1.5**
comp=Z,39nm,1.8s
HYT Haines Junctio 85.87 26 *eP* **P 01 59 57.1 -0.2**
SKAG Skagway 86.26 28 *eP* **P 01 59 59.7 +0.6**
comp=Z,47nm,1.5s
EGAK Eagle 86.27 22 *eP* **P 01 59 59.0 0.0**
comp=Z,131nm,2.0s
MK31 Makanchi Array 86.74 318 *eP* **P 02 00 00.0 -1.8**
MK31 Makanchi Array 86.74 318 *eP* **P 02 00 00.0 -1.8**
MKAR Makanchi Array 86.74 318 P P 02 00 00.0 -1.8
MKAR Makanchi Array 86.74 318 P P 02 00 00.0 -1.8
MKAR Makanchi Array 86.74 318 P P 02 00 00.0 -1.8
comp=Z,3.9nm,1.0s,baz=100,slow=5.3,SNR=16
ZALV Zalesovo Beam 87.39 326 P P 02 00 02.2 -2.6
ZALV Zalesovo Beam 87.39 326 P P 02 00 02.2 -2.6
ZALV Zalesovo Beam 87.39 326 P P 02 00 02.2 -2.6
comp=Z,0.7nm,0.5s,baz=119,slow=5.6,SNR=4.9
M02C Callahan 87.95 48 ⇓P P 02 00 09.3 +1.5
baz=88
N02D Trinity Center 87.96 48 ⇓P P 02 00 09.1 +1.2
baz=88
YBH Yreka Blue Hor 88.14 47 P P 02 00 09.0 +0.2
YBH Yreka Blue Hor 88.14 47 P P 02 00 09.0 +0.2
comp=Z,4.8nm,0.9s,baz=256,slow=4.2,SNR=18
I03D Drain, OR 88.15 45 ⇑P P 02 00 09.2 +0.5
baz=88
G03D McMinnville, O 88.58 44 ⇓P P 02 00 11.4 +0.8
baz=89
M04C Macdoel 88.78 48 ⇑P P 02 00 12.7 +0.9
baz=89
BSC Santa Cruz Isl 88.83 55 ⇑P P 02 00 11.8 -0.3
baz=89
I04A Tendick Farm, 88.83 45 ⇑P P 02 00 13.5 +1.5
baz=89
PKM Peak Mountain 88.86 55 ⇑P P 02 00 13.7 +1.3
baz=89,SNR=6.5
J04D Umpqua Nationa 88.92 46 ⇓P P 02 00 13.5 +1.0
baz=89
KSH Kashi 89.43 310 *eP* **P 02 00 15.7 +0.8**
KSH *e*PP **PP 02 03 49.0 +2.6**
KSH *e*SKS **SKSac 02 10 42.6 -1.5**
KSH *eS* **S 02 11 00.6 -3.7**
KSH pmax pmax
comp=Z,17nm,1.7s
KSH pmax pmax
comp=Z,400nm,5.0s
KSH LR LR
comp=Z,200nm,5.8s
KSH LR LR
comp=Z,180nm,6.1s
KSH LR LR
comp=Z,260nm,7.3s
BEKR Beckworth 89.46 50 *eP* **P 02 00 15.4 +0.2**
comp=Z,31nm,1.8s
SCI San Clemente I 89.52 57 ⇑P P 02 00 16.6 +1.2
baz=90
J05D Fort Rock, OR 89.55 46 ⇑P P 02 00 16.2 +0.8
baz=90
RCTC Rector, Farmer 89.61 53 ⇑P P 02 00 16.3 +0.7
baz=90
VES Vestal, Richgr 89.64 54 ⇑P P 02 00 15.7 -0.1
baz=90,SNR=5.1
ARVC Arvin 89.70 55 ⇓P P 02 00 16.7 +0.5
baz=90,SNR=6.2
I05D Terrebonne, OR 89.71 45 ⇑P P 02 00 16.5 +0.4
baz=90
CIS Catalina Islan 89.72 56 ⇓P P 02 00 17.7 +1.4
baz=90,SNR=7.2
WAKR Walker 89.89 51 *eP* **P 02 00 17.6 +0.4**
comp=Z,76nm,1.9s

BJI ***04*** *01:47:15.8,8.89S×158.30E,h27km,mB5.6/23,mb4.9/40, Ms5.3/21,Ms7 5.1/21*
IDC ***04*** *01:47:15.1±0.4,8.92S×157.73E,h0km,mb4.6/20, mb1 4.7/23,mb1mx4.7/24,mbtmp4.5/23,ML4.1/3,MS5.0/11, Ms1 5.0/11,ms1mx4.7/30,Error ellipse: s-maj=12.6km s-min=10.7km az=159.0*
ISCJB ***04*** *01:47:18.1±0.1,8.95S±0.04×157.71E±0.03,h23km, mb5.0/85,MS5.0/14,Error ellipse: s-maj=5.3km s-min=4.0km az=151.3*
NEIC ***04*** *01:47:19.0±2.1,8.95S×157.76E,h23km±15km,mb5.4/36, Error ellipse: s-maj=7.1km s-min=5.8km az=152.0*
MOS ***04*** *01:47:19.1±0.9,8.87S×157.55E,h33km,mb5.3/13,Error ellipse: s-maj=11.1km s-min=8.7km az=56.7*

ISC 04 01:47:19.5±0.3, 8°98S±0.05×157°83E±0.05, h23km, n302, σ1°45/304, mb5.0/82, MS5.0/14, 45C-64D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.13**	**102**	Pn		**Pn**		**01 47 52.3**	**-1.5**
HNR				Lg		Lg		01 48 27.3	
HNR				Sn		**Sb**		**01 48 27.5**	**+3.9**
HNR	**Honiara**	**2.13**	**102**	Pn		**Pn**		**01 47 52.2**	**-1.5**
	312nm,0.3s,baz=228,slow=4.6,SNR=38								
HNR				Lg		Lg		01 48 27.3	
	649nm,0.3s,baz=262,slow=23,SNR=9.5								
PMG	**Port Moresby**	**10.55**	**267**	P		x		01 49 55.8	
	103nm,2.0s								
PMG	**Port Moresby**	**10.55**	**267**	*e*Pn		**Pn**		**01 49 49.0**	**-0.4**
	101nm,1.2s								
PMG	**Port Moresby**	**10.55**	**267**	Pn		**Pn**		**01 49 49.3**	**-0.1**
	0.4nm,0.3s,baz=128,slow=18,SNR=2.3								
PMG				LR		LR		01 53 29.2	
	comp=Z,10μm,20.0s,baz=80,slow=36								
COEN	**Coen**	**15.19**	**250**	*e*Pn		**Pn**		**01 50 53.2**	**+0.4**
	1μm,1.5s								
DZM	**Mont Dzumac**	**15.43**	**149**	*e*Pn		**Pn**		**01 50 56.9**	**+1.0**
DZM	**Mont Dzumac**	**15.43**	**149**	Pn		**Pn**		**01 50 55.7**	**-0.2**
	0.1nm,0.3s,baz=351,slow=12,SNR=9.5								
CTA	**Charters Tower**	**15.73**	**224**	Pn		**Pn**		**01 50 57.3**	**-2.5**
CTA	**Charters Tower**	**15.73**	**224**	Pn		**Pn**		**01 50 57.3**	**-2.5**
	0.6nm,0.3s,baz=39,slow=13,SNR=14								
CTA				LR		LR		01 56 18.4	
	comp=Z,7μm,20.3s,baz=76,slow=35								
CTA	**Charters Tower**	**15.73**	**224**	⇑P		**Pn**		**01 50 56.2**	**-3.5**
	baz=14								
CTAO	**Charters Tower**	**15.73**	**224**	*e*P		**Pn**		**01 50 57.2**	**-2.5**
CTAO				pmax		pmax			
	comp=Z,265nm,1.8s								
CTAO	**Charters Tower**	**15.73**	**224**	*e*Pn		**Pn**		**01 50 57.1**	**-2.5**
	comp=Z,265nm,1.8s								
EIDS	**Eidsvold**	**17.52**	**201**	*e*Pn		**Pn**		**01 51 21.2**	**-1.2**
	comp=Z,522nm,1.9s								
EIDS	**Eidsvold**	**17.52**	**201**	⇓P		**Pn**		**01 51 22.6**	**+0.2**
	baz=16,SNR=7.5								
TARA	**Tarawa**	**18.20**	**56**	*e*P		**P**		**01 51 32.7**	**+1.7**
	comp=Z,245nm,1.3s								
RMQ	**Roma**	**19.43**	**205**	⇓P		**Pn**		**01 51 45.2**	**-0.4**
	baz=18,SNR=32								
KWAJ	**Kwajalein Atol**	**20.17**	**29**	P		**P**		**01 51 50.5**	**-2.0**
KWAJ				pmax		pmax			
	comp=Z,41nm,0.7s								
KWAJ	**Kwajalein Atol**	**20.17**	**29**	P		**P**		**01 51 50.5**	**-2.0**
	comp=Z,41nm,0.7s								
QLP	**Quilpie**	**21.74**	**215**	⇓P		**P**		**01 52 09.1**	**-0.3**
	baz=20,SNR=14								
ARMA	**Armidale**	**22.11**	**194**	*e*P		**P**		**01 52 13.8**	**+0.3**
	comp=Z,304nm,1.8s								
ARMA	**Armidale**	**22.11**	**194**	⇓P		**P**		**01 52 16.5**	**+3.0**
	baz=21,SNR=4.6								
BAKI	**Biak**	**22.97**	**288**	P		**P**		**01 52 25.3**	**+2.7**
	comp=Z,79nm,1.9s,comp=Z,3μm								
CMSA	**Cobar Meteorol**	**25.13**	**205**	⇑P		**P**		**01 52 42.7**	**-0.1**
	baz=24,SNR=26								
WRAB	**Tennant Creek**	**25.18**	**242**	P		**P**		**01 52 41.6**	**-1.9**
	comp=Z,168nm,0.8s,SNR=12								
WRAB	**Tennant Creek**	**25.18**	**242**	*de*P		**P**		**01 52 41.7**	**-1.8**
WRAB				pmax		pmax			
	comp=Z,158nm,1.6s								
WRAB	**Tennant Creek**	**25.18**	**242**	*e*P		**P**		**01 52 41.6**	**-1.9**
	comp=Z,207nm,1.8s								
WRA	**Warramunga Arr**	**25.19**	**242**	P		**P**		**01 52 41.8**	**-1.8**
WRA				PcP		**PcP**		**01 56 16.4**	**-0.9**
WRA				S		**S**		**01 57 09.5**	**+1.7**
WRA	**Warramunga Arr**	**25.19**	**242**	P		**P**		**01 52 41.8**	**-1.8**
	comp=Z,7.7nm,0.7s,baz=67,slow=9.3,SNR=28								
WRA				PcP		**PcP**		**01 56 16.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=66,slow=2.0,SNR=5.4								
WRA				S		**S**		**01 57 09.5**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=69,slow=16,SNR=3.1								
WRA				LR		LR		02 01 42.6	
	comp=Z,5μm,20.8s,baz=50,slow=34								
YNG	**Young**	**26.65**	**198**	⇓P		**P**		**01 52 59.7**	**+3.0**
	baz=26,SNR=13								
AS31	**Alice Springs**	**27.15**	**235**	*e*P		**P**		**01 52 58.9**	**-2.4**
ASAR	**Alice Springs**	**27.15**	**235**	P		**P**		**01 52 58.9**	**-2.4**
ASAR				PcP		**PcP**		**01 56 20.8**	**-1.0**
ASAR				S		**S**		**01 57 39.6**	**+0.8**
ASAR	**Alice Springs**	**27.15**	**235**	P		**P**		**01 52 58.9**	**-2.4**
	comp=Z,3.0nm,0.9s,baz=66,slow=9.2,SNR=22								
ASAR				PcP		**PcP**		**01 56 20.8**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=64,slow=2.6,SNR=3.1								
ASAR				S		**S**		**01 57 39.6**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=55,slow=18,SNR=2.5								
ASAR				LR		LR		02 03 14.1	
	comp=Z,4μm,19.6s,baz=72,slow=35								
STKA	**Stephens Creek**	**27.32**	**211**	*e*P		**P**		**01 53 03.5**	**+0.7**
STKA	**Stephens Creek**	**27.32**	**211**	P		**P**		**01 53 02.5**	**-0.3**
	comp=Z,11nm,0.9s,baz=24,slow=9.5,SNR=22								
STKA				LR		LR		02 03 58.6	
	comp=Z,3μm,19.8s,baz=11,slow=37								
CNB	**Canberra Magne**	**27.34**	**195**	⇓P		**P**		**01 53 06.4**	**+3.6**
	baz=26,SNR=6.0								
CAN	**Canberra**	**27.44**	**196**	*e*P		**P**		**01 53 05.3**	**+1.5**
CAN				pmax		pmax			
	comp=Z,122nm,1.6s								
CAN	**Canberra**	**27.44**	**196**	*e*P		**P**		**01 53 05.3**	**+1.5**
	comp=Z,122nm,1.6s								
H11S3	**WAKE ISLAND Hy**	**28.66**	**18**	T		T		02 21 49.0	
	baz=199,slow=77,SNR=92								
H11S2	**WAKE ISLAND Hy**	**28.66**	**18**	T		T		02 21 57.3	
	baz=199,slow=77,SNR=136								
H11S1	**WAKE ISLAND Hy**	**28.68**	**18**	T		T		02 21 53.4	
	baz=199,slow=77,SNR=63								
KNRA	**Kununurra**	**29.15**	**254**	⇑P		**P**		**01 53 18.0**	**-1.1**
	baz=28								
H11N1	**WAKE ISLAND Hy**	**29.87**	**17**	T		T		02 23 53.5	
	baz=197,slow=75,SNR=19								
H11N3	**WAKE ISLAND Hy**	**29.88**	**17**	T		T		02 23 50.7	
	baz=197,slow=75,SNR=15								
H11N2	**WAKE ISLAND Hy**	**29.89**	**17**	T		T		02 23 56.0	
	baz=197,slow=75,SNR=25								
HTT	**Hallett**	**29.94**	**213**	⇑P		**P**		**01 53 26.5**	**+0.4**
	baz=28,SNR=4.0								
AFI	**Afiamalu**	**30.17**	**102**	LR		LR		02 05 00.6	
	comp=Z,1μm,18.9s,baz=264,slow=35								
TOO	**Toolangi**	**30.58**	**200**	⇓P		**P**		**01 53 33.5**	**+1.9**
	baz=29,SNR=4.8								
BBOO	**Buckleboo**	**31.11**	**217**	*e*P		**P**		**01 53 35.2**	**-1.2**
	comp=Z,4μm,1.8s								
BBOO	**Buckleboo**	**31.11**	**217**	P		**P**		**01 53 35.9**	**-0.5**
	baz=30,SNR=16								
ARPS	**Mount Arapiles**	**31.25**	**205**	⇓P		**P**		**01 53 38.3**	**+0.8**
	baz=30,SNR=4.9								
WRKA	**Warakurna**	**32.34**	**237**	P		**P**		**01 53 44.7**	**-2.6**
	baz=31,SNR=16								
FITZ	**Fitzroy Crossi**	**32.54**	**250**	LR		LR		02 06 30.4	
	comp=Z,2μm,19.1s,slow=36								
URZ	**Urewera**	**33.93**	**152**	P		**P**		**01 54 01.6**	**+0.6**
URZ	**Urewera**	**33.93**	**152**	P		**P**		**01 54 01.6**	**+0.6**
	comp=Z,10.0nm,0.9s,baz=338,slow=11,SNR=2.8								
FORT	**Forrest**	**35.22**	**228**	*e*P		**P**		**01 54 10.6**	**-1.7**
	comp=Z,88nm,1.4s								
KAPI	**Kappang**	**37.99**	**273**	*e*P		**P**		**01 54 35.9**	**-0.2**

PASC	Pasadena Art C	90.04	56	*e*P	P	02 00 18.3	+0.5
	comp=Z,28nm,1.4s						
ISA	Isabella	90.09	54	⇑P	P	02 00 18.6	+0.5
	baz=90,SNR=9.7						
MWC	Mount Wilson	90.16	56	*e*P	P	02 00 18.4	-0.2
MWC				pmax	pmax		
	comp=Z,90nm,1.5s						
MWC	Mount Wilson	90.16	56	*e*P	P	02 00 18.4	-0.2
	comp=Z,90nm,1.5s						
MLAC	Mammoth Lakes	90.18	52	⇑P	P	02 00 19.1	+0.5
	baz=90						
EDW2	Edwards Air Fo	90.33	55	⇑P	P	02 00 19.7	+0.5
	baz=90,SNR=14						
BFSC	Mount Baldy Ra	90.49	56	⇑P	P	02 00 20.2	+0.2
	baz=91,SNR=7.8						
TIN	Tinemaha	90.55	53	⇑P	P	02 00 20.9	+0.7
	baz=91,SNR=7.3						
CWC	Cottonwood Cre	90.55	53	⇓P	P	02 00 21.0	+0.7
	baz=91						
LRMC	Laurel Mountai	90.69	54	⇓P	P	02 00 21.6	+0.7
	baz=91,SNR=17						
NVAR	Mina Array Bea	90.75	51	P	P	02 00 21.3	+0.1
NVAR	Mina Array Bea	90.75	51	P	P	02 00 21.3	+0.1
	comp=Z,12nm,0.8s,baz=248,slow=7.2,SNR=70						
MURC	Murrieta	90.75	56	⇓P	P	02 00 21.4	+0.3
	baz=91						
NV11	Mina Array Sit	90.86	51	*e*P	P	02 00 22.1	+0.5
MPMC	Manual Prospec	90.95	54	⇓P	P	02 00 22.6	+0.4
	baz=91,SNR=10						
AAK	Ala-Archa	91.15	313	⇓*e*P	P	02 00 21.8	-1.1
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
AAK	Ala-Archa	91.15	313	*e*P	P	02 00 22.0	-0.9
	comp=Z,22nm,1.9s						
GRAC	Grapevine Rang	91.21	53	⇓P	P	02 00 24.0	+0.8
	baz=91,SNR=9.2						
WVOR	Wild Horse Val	91.25	47	*e*P	P	02 00 23.5	+0.2
WVOR				pmax	pmax		
	comp=Z,18nm,1.2s						
WVOR	Wild Horse Val	91.25	47	*e*P	P	02 00 23.5	+0.2
	comp=Z,18nm,1.2s						
MONP	Monument Peak	91.27	57	⇓P	P	02 00 24.5	+0.7
	baz=91,SNR=7.6						
PFO	Pinyon Flat Ob	91.36	56	P	P	02 00 24.4	+0.3
PFO	Pinyon Flat Ob	91.36	56	P	P	02 00 24.4	+0.3
	comp=Z,3.0nm,0.9s,baz=245,slow=4.9,SNR=7.1						
PFO	Pinyon Flat Ob	91.36	56	⇓P	P	02 00 24.6	+0.5
	baz=92						
GSC	Goldstone	91.36	55	⇓P	P	02 00 24.2	+0.2
	baz=92,SNR=8.5						
TPH	Tonopah	91.52	52	*e*P	P	02 00 25.1	+0.3
TPH				pmax	pmax		
	comp=Z,16nm,1.0s						
TPH	Tonopah	91.52	52	*e*P	P	02 00 25.1	+0.3
	comp=Z,16nm,1.0s						
FURC	Furnace Creek,	91.52	53	⇓P	P	02 00 25.3	+0.8
	baz=92,SNR=17						
HEC	Hector,Ludlow	91.67	55	⇓P	P	02 00 25.9	+0.4
	baz=92						
SWSC	Sam W. Stewart	91.79	57	⇓P	P	02 00 26.5	+0.5
	baz=92						
BELC	Belle Mtn. Jos	91.80	56	⇓P	P	02 00 26.7	+0.6
	baz=92,SNR=9.2						
SHOC	Shoshone	91.89	54	⇑P	P	02 00 27.0	+0.7
	baz=92,SNR=5.8						
TPNV	Topopah Spring	92.09	53	⇓P	P	02 00 27.3	-0.1
	baz=92,SNR=18						
TUQ	Turquoise Moun	92.10	55	⇑P	P	02 00 27.7	+0.3
	baz=92,SNR=6.6						
BC3	Big Chuckawall	92.19	56	⇓P	P	02 00 27.9	0.0
	baz=92						
GMRC	Granite Mounta	92.20	55	⇑P	P	02 00 27.9	-0.1
	baz=92,SNR=9.5						
IRM	Iron Mountain	92.52	56	⇑P	P	02 00 29.3	0.0
	baz=93,SNR=6.4						
R11A	Troy Canyon, C	92.83	52	⇓P	P	02 00 31.0	+0.1
	baz=93						
SHPR	Sheep Range	92.88	54	*e*P	P	02 00 31.7	+0.6
	comp=Z,61nm,1.9s						
NEW	Newport	93.34	42	⇑P	P	02 00 32.7	-0.1
	baz=93						
113A	Mohawk Valley,	93.45	58	⇑P	P	02 00 34.2	+0.6
	baz=94						
W13A	Hualapai Mount	93.69	55	⇓P	P	02 00 35.3	+0.3
	baz=94						
214A	Organ Pipe Nat	94.14	58	⇓P	P	02 00 37.6	+0.7
	baz=94						
HLID	Hailey	94.49	47	⇓P	P	02 00 38.7	+0.3
	baz=95						
U15A	North Rim	95.16	54	⇓P	P	02 00 42.1	+0.4
	baz=95						
DUG	Dugway	95.23	50	⇑P	P	02 00 42.4	+0.6
	baz=95						
BRVK	Borovoye	95.63	323	⇑*e*P	P	02 00 41.3	-1.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MCMT	McKenzie Canyo	95.77	46	*e*P	P	02 00 45.0	+0.8
	comp=Z,1.2nm,1.1s						
DAU	Daniels Canyon	96.44	50	*e*P	P	02 00 46.3	-1.2
DAU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DAU	Daniels Canyon	96.44	50	*e*P	P	02 00 46.3	-1.2
	comp=Z,5.0nm,1.1s						
YKA	Yellowknife Ar	96.76	28	P	P	02 00 47.1	-0.9
YKA	Yellowknife Ar	96.76	28	P	P	02 00 47.1	-0.9
	comp=Z,2.3nm,0.8s,baz=261,slow=4.4,SNR=37						
I17A	Pilgrim Ck.	97.29	47	⇑P	Pdif	02 00 51.3	0.0
	baz=97						
H17A	Grant Village	97.34	46	⇑P	Pdif	02 00 52.2	+0.7
	baz=97						
PDAR	Pinedale Array	97.93	48	P	P	02 00 53.7	-0.4
PDAR	Pinedale Array	97.93	48	P	P	02 00 53.7	-0.4
	comp=Z,2.4nm,0.9s,baz=238,slow=1.6,SNR=18						
H18A	Shoshone NF, C	98.01	46	⇓P	Pdif	02 00 54.7	+0.3
	baz=98						
MVCO	Mesa Verde	98.27	54	⇓Pdif	Pdif	02 00 56.4	+0.6
	baz=98						
J19A	Crowheart	98.34	47	⇓Pdif	Pdif	02 00 56.7	+0.8
	baz=98						
121A	Cookes Peak, D	98.44	58	⇓Pdif	P	02 00 56.5	0.0
	baz=98						
I19A	Meeteetse	98.44	47	⇑Pdif	Pdif	02 00 56.5	+0.2
	baz=98						
H19A	Powell	98.49	46	⇓Pdif	Pdif	02 00 56.7	+0.3
	baz=99						
F19A	Roth Farm, Mol	98.61	45	⇓Pdif	Pdif	02 00 57.5	+0.6
	baz=99						
D19A	Cripps Ranch,	98.74	44	⇓Pdif	Pdif	02 00 57.7	+0.3
	baz=99						
N20A	Spence Gulch,	98.74	50	⇓Pdif	P	02 00 57.7	-0.1
	baz=99						
E19A	Rath Farm, Rou	98.76	44	⇑Pdif	Pdif	02 00 57.9	+0.4
	baz=99						
B19A	Brinkman Farms	98.78	42	⇑Pdif	Pdif	02 00 57.6	+0.1
	baz=99						
A19A	Klindworth Far	98.94	42	⇓Pdif	Pdif	02 00 58.5	+0.2
	baz=99						
J20A	Shoshoni	99.05	47	⇓Pdif	Pdif	02 00 59.5	+0.5
	baz=99						
H20A	Greybull	99.19	46	⇓Pdif	Pdif	02 00 59.4	-0.1
	baz=99						
A20A	Cobblestone Ra	99.48	42	⇑Pdif	Pdif	02 01 00.1	-0.6
	baz=100						
J21A	Lysite	99.52	47	⇑Pdif	Pdif	02 01 01.2	0.0
	baz=100						
K21A	Alcova	99.62	48	⇓Pdif	Pdif	02 01 01.5	-0.1
	baz=100						
I21A	Big Trails, Te	99.65	47	⇓Pdif	Pdif	02 01 01.6	-0.1
	baz=100						
G21A	Lodge Grass	99.79	46	⇓Pdif	Pdif	02 01 02.7	+0.5
	baz=100						
O22A	Kremmling	100.00	51	⇓Pdif	Pdif	02 01 03.7	+0.2
	baz=100						
V23A	Ortiz Mt. (NFS	100.02	55	⇓Pdif	Pdif	02 01 03.6	+0.1
	baz=100						
D21A	La Casta Ranch	100.02	44	⇓Pdif	Pdif	02 01 03.6	+0.5
	baz=100						
A21A	Bergtoll Ranch	100.14	42	⇓Pdif	Pdif	02 01 03.8	+0.2
	baz=100						
K22A	Casper	100.15	48	⇓Pdif	Pdif	02 01 04.2	+0.3
	baz=100						
J22A	Midwest	100.22	47	⇑Pdif	Pdif	02 01 03.5	-0.7
	baz=100						
I22A	9 Mile Ranch,	100.24	47	⇑Pdif	Pdif	02 01 04.7	+0.5
	baz=100						
224A	Cornudas Mount	100.31	59	⇑Pdif	Pdif	02 01 04.9	+0.1
	baz=100						
N23A	Red Feather La	100.50	50	⇑Pdif	Pdif	02 01 05.8	+0.1
	baz=101						
ISCO	Idaho Springs	100.70	51	⇓Pdif	Pdif	02 01 06.4	-0.2
	baz=101						
L23A	Garrett	100.74	49	⇑Pdif	Pdif	02 01 06.9	+0.3
	baz=101						
V24A	Rampart Ranch,	100.75	55	⇑Pdif	Pdif	02 01 06.5	-0.3
	baz=101						
G23A	Biddle	101.07	46	⇓Pdif	Pdif	02 01 08.4	+0.5
	baz=101						
J26A	Sides Ranch, S	102.70	48	⇓Pdif	Pdif	02 01 15.7	+0.6
	baz=103						
F27A	Lemmon	103.44	45	⇑Pdif	Pdif	02 01 18.9	+0.5
	baz=104						
I27A	Quinn	103.44	47	⇓Pdif	Pdif	02 01 19.1	+0.7
	baz=104						
R30A	Dighton	104.82	53	⇑Pdif	Pdif	02 01 25.7	+1.0
	baz=105						
AKASG	Malin Array Be	120.77	325	PKIKP	PKPdf	02 06 07.2	-2.5
AKASG	Malin Array Be	120.77	325	PKP	PKPdf	02 06 07.2	-2.5
AKASG	Malin Array Be	120.77	325	PKP	PKPdf	02 06 07.2	-2.5
	comp=Z,0.2nm,0.4s,baz=57,slow=2.6,SNR=3.7						
LPAZ	La Paz	128.04	119	PKP	PKPdf	02 06 23.4	-2.1
LPAZ	La Paz	128.04	119	PKP	PKPdf	02 06 23.4	-2.1
	comp=Z,0.9nm,0.8s,baz=264,slow=1.3,SNR=2.6						
GERES	GERESS Array B	130.18	330	PKP	PKPdf	02 06 27.1	-0.9
GERES	GERESS Array B	130.18	330	PKP	PKPdf	02 06 27.1	-0.9
	comp=Z,0.4nm,0.8s,baz=48,slow=2.0,SNR=4.1						
BDFB	Brasilia	144.59	134	PKP	PKPab	02 06 53.3	-0.6
BDFB	Brasilia	144.59	134	PKP	PKPab	02 06 53.3	-0.6
	comp=Z,19nm,0.7s,baz=210,slow=4.0,SNR=29						
POLO	Lamas de Olo	145.32	341	*e*PKP	PKPdf	02 06 56.1	+0.1
ESDC	Sonseca Array	145.37	335	PKPbc	PKPbc	02 06 54.5	-1.4
ESDC	Sonseca Array	145.37	335	PKPbc	PKPbc	02 06 54.5	-1.4
	comp=Z,1.5nm,0.8s,baz=13,slow=3.4,SNR=9.0						
MTE	Manteigas	146.11	340	*e*PKP	PKPab	02 07 02.5	+3.7
PCBR	Castelo Branco	146.58	339	*e*PKP	PKPbc	02 07 00.0	+0.5
PMRV	Marv??o	146.92	339	*e*PKP	PKPab	02 07 02.4	+0.5
PTOM	Tomar	147.10	340	*e*PKP	PKPbc	02 07 00.3	-0.7
EVO	Evora	147.94	339	*e*PKP	PKPab	02 07 08.7	+2.8
PCVE	Castro Verde	148.74	338	*e*PKP	PKPab	02 07 07.7	-1.4
TAM	Tamanrasset	150.11	301	*e*PKP2	PKPbc	02 07 09.7	+0.2
TAM	Tamanrasset	150.11	301	*e*PKPbc	PKPbc	02 07 09.7	+0.2
TORD	Torodi Ar. Bea	156.22	282	PKP	PKPdf	02 07 12.1	-1.3
TORD				PKPbc	PKPbc	02 07 21.8	
TORD				PKPab	PKPab	02 07 40.5	-0.7
TORD	Torodi Ar. Bea	156.22	282	PKP	PKPdf	02 07 12.1	-1.3
	comp=Z,0.7nm,1.0s,baz=121,slow=1.3,SNR=3.8						
TORD				PKPbc	PKPbc	02 07 21.8	
	comp=Z,1.5nm,1.0s,baz=70,slow=1.7,SNR=5.4						
TORD				PKPab	PKPab	02 07 40.5	-0.7
	comp=Z,3.7nm,1.0s,baz=77,slow=4.7,SNR=9.5						

ISCJB ***04*** *01:55:33.9±0.7,3.90S±0.09×103.6W±0.1,h10km, mb4.4/27,MS4.7/7,Error ellipse: s-maj=19.1km s-min=6.8km az=144.8*

IDC ***04*** *01:55:33.2±0.9,3.84S×103.62W,h0km,mb3.9/12, mb1 4.2/12,mb1mx4.1/19,mbtmp3.9/12,MS4.8/7, Ms1 4.8/7,ms1mx4.5/27,Error ellipse: s-maj=37.2km s-min=14.8km az=55.0*

NEIC ***04*** *01:55:35.1±0.6,3.85S×103.57W,h10km,mb4.7/14,Error ellipse: s-maj=18.4km s-min=7.8km az=55.0*

ISC 04 01:55:35.0±0.8,3.9S±0.1×103.6W±0.2,h10km,n165, σ1§06/145,mb4.4/27,MS4.7/7,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	El Apazote	22.84	34	P		P	P	02 00 37.9	-0.9
APG	El Apazote	22.84	34	P		P	P	02 00 37.9	-0.9
	6.3nm,1.0s,baz=234,slow=4.8,SNR=4.3								
APG				LR		LR	LR	02 07 33.9	
	comp=Z,3μm,18.6s,baz=206,slow=32								
JTS	JuntasAbangare	23.31	53	LR		LR	LR	02 07 18.4	
	comp=Z,3μm,19.9s,baz=65,slow=30								
ATAH	Atahualpa	25.30	98	P		P	P	02 01 04.3	+1.9
ATAH	Atahualpa	25.30	98	P		P	P	02 01 04.3	+1.9
	4.3nm,0.6s,baz=306,slow=14,SNR=4.3								
ATAH				LR		LR	LR	02 08 11.0	
	comp=Z,1μm,21.2s,baz=108,slow=30								
TEIG	Tepich	28.29	32	LR		LR	LR	02 11 11.9	
	comp=Z,2μm,18.4s,baz=52,slow=33								
832A	Faith Ranch, C	32.17	6	P		P	P	02 02 03.1	0.0
	baz=32								
TXAR	Lajitas Array	33.02	360	P		P	P	02 02 09.7	-1.0
TXAR	Lajitas Array	33.02	360	P		P	P	02 02 09.7	-1.0
	0.3nm,0.9s,baz=168,slow=15,SNR=2.3								
632A	Uvalde	33.40	6	P		P	P	02 02 14.8	+1.0
	baz=34								
633A	Saathoff Ranch	33.42	7	P		P	P	02 02 15.4	+1.3
	baz=34								
527A	Woodward Ranch	33.83	360	P		P	P	02 02 19.2	+1.4
	baz=34								
530A	J-C Ranch, Com	33.90	4	P		P	P	02 02 20.4	+2.1
	baz=34								
531A	Rocksprings	33.98	5	P		P	P	02 02 20.7	+1.7
	baz=34								
534A	Blanco	34.07	8	P		P	P	02 02 20.4	+0.6
	baz=34								
426A	McDonald Obser	34.35	359	P		P	P	02 02 24.4	+2.0
	baz=34								
428A	Kincaid Ranch,	34.42	1	P		P	P	02 02 24.5	+1.6
	baz=35								
425A	Indio Mountain	34.49	358	P		P	P	02 02 24.7	+1.2
	baz=35								
SDV	Santo Domingo	35.23	69	*e*P		P	P	02 02 30.5	+0.3
	2.2nm,0.8s								
332A	Millersview	35.26	6	P		P	P	02 02 30.7	+0.7
	baz=35								
230A	Sterling City	35.65	4	P		P	P	02 02 33.8	+0.4
	baz=36								
226B	Tecolote Peak,	35.76	359	P		P	P	02 02 35.0	+0.7
	baz=36								
224A	Cornudas Mount	35.80	357	P		P	P	02 02 36.1	+1.3
	baz=36								
RKT	Rikitea	35.85	235	*e*LR		LR	LR	02 12 15.9	
	2μm,27.8s,baz=62								
RKT	Rikitea	35.85	235	*e*T		T	T	02 40 20.3	
	2.6nm,0.3s								
234A	Clairette	36.06	8	P		P	P	02 02 37.5	+0.7
	baz=36								
125A	Gardner Draw,	36.35	359	P		P	P	02 02 39.9	+0.4
	baz=36								
121A	Cookes Peak, D	36.43	354	P		P	P	02 02 41.6	+1.4
	baz=37								
ABTX	Abilene, Hawle	36.49	6	P		P	P	02 02 41.5	+0.9
	baz=37								
Z26A	Caprock	36.95	359	P		P	P	02 02 44.8	+0.2
	baz=37								
LPAZ	La Paz	36.96	112	P		P	P	02 02 44.3	-1.2
LPAZ	La Paz	36.96	112	P		P	P	02 02 44.3	-1.2
	0.4nm,0.4s,baz=297,slow=9.0,SNR=3.5								
LPAZ				LR		LR	LR	02 15 58.7	
	comp=Z,1μm,19.1s,baz=257,slow=33								
Z25A	Roswell	36.97	358	P		P	P	02 02 45.1	+0.3
	baz=37								
Z28A	Tucker Farm, M	36.98	2	P		P	P	02 02 46.2	+1.4
	baz=37								
Z27A	Tatum	36.99	1	P		P	P	02 02 45.2	+0.3
	baz=37								
Z30A	Sanderson Ranc	37.04	3	P		P	P	02 02 44.8	-0.4
	baz=37								
Z22A	Elephant Butte	37.07	355	P		P	P	02 02 45.9	+0.3
	baz=37								
Z32A	Haskell	37.19	6	P		P	P	02 02 47.0	+0.5
	baz=37								
Z33A	Whitaker Ranch	37.24	7	P		P	P	02 02 47.2	+0.2
	baz=37								
H03N2	Juan Fernandez	37.35	145	T		T	T	02 42 40.1	
	baz=314								
H03N1	Juan Fernandez	37.36	145	T		T	T	02 42 46.1	
	baz=314								
H03N3	Juan Fernandez	37.37	145	T		T	T	02 42 42.6	
	baz=314								
Y27A	Causey	37.56	1	P		P	P	02 02 50.5	+0.7
	baz=38								
Y29A	Porterfield Fa	37.58	3	P		P	P	02 02 51.1	+1.2
	baz=38								
Y28A	McKinney Farm,	37.60	2	P		P	P	02 02 51.3	+1.2
	baz=38								
Y25A	Mesa, Roswell	37.61	359	P		P	P	02 02 50.8	+0.5
	baz=38								
MSTX	Muleshoe	37.65	1	P		P	P	02 02 51.5	+1.0
	baz=38								
113A	Mohawk Valley,	37.70	346	P		P	P	02 02 50.7	0.0
	baz=38								
Y31A	Rekieta Farm,	37.77	5	P		P	P	02 02 52.1	+0.6
	baz=38								
Y22D	IRIS PASSCAL I	37.88	356	P		P	P	02 02 53.2	+0.7
	baz=38								
X32A	Elmer	38.31	6	P		P	P	02 02 57.0	+1.0
	baz=38								
X31A	McDonald Ranch	38.45	5	P		P	P	02 02 58.2	+1.0
	baz=39								
Y14A	Wickenburg	38.65	347	P		P	P	02 02 59.8	+0.9
	baz=39								
W23A	Werner Place,	38.91	357	P		P	P	02 03 02.2	+1.0
	baz=39								
W24A	Lazy 6 Ranch,	38.92	358	P		P	P	02 03 01.9	+0.6
	baz=39								
PFO	Pinyon Flat Ob	39.21	343	P		P	P	02 03 03.8	+0.1
PFO	Pinyon Flat Ob	39.21	343	P		P	P	02 03 03.8	+0.1
	1.6nm,1.0s,baz=191,slow=5.2,SNR=2.1								
MIAR	Mount Ida	39.37	13	*e*P		P	P	02 03 04.8	0.0
	15nm,1.0s								
BELC	Belle Mtn. Jos	39.45	344	P		P	P	02 03 06.2	+0.6
	baz=40								
V25A	Rancho No Teng	39.52	359	P		P	P	02 03 07.1	+0.8
	baz=40								
V22A	San Miguel Ran	39.70	356	P		P	P	02 03 08.3	+0.5
	baz=40								
V33A	Lossen Ranch,	39.80	7	P		P	P	02 03 08.7	+0.3
	baz=40								
WUAZ	Wupatki	39.86	350	*e*P		P	P	02 03 12.4	+3.3
	9.9nm,1.1s								
LCO	Las Campanas	39.99	132	*e*P		P	P	02 03 11.9	+1.5
	7.2nm,1.0s								
U23A	El Rito	40.07	357	P		P	P	02 03 11.9	+1.0
	baz=40								
U25A	Circle Dot Ran	40.08	359	P		P	P	02 03 11.2	+0.3
	baz=40								
U22A	Llaves	40.16	356	P		P	P	02 03 13.0	+1.3
	baz=40								
HEC	Hector,Ludlow	40.32	344	P		P	P	02 03 14.8	+1.9
	baz=40								
SAML	Samuel	40.46	99	*e*P		P	P	02 03 13.0	-1.3
	12nm,1.2s								
T23A	Casias Ranch,	40.77	357	P		P	P	02 03 16.6	-0.2
	baz=41								
T25A	Trinidad	40.81	359	P		P	P	02 03 17.8	+0.8
	baz=41								
T26A	Comanche Natio	40.84	0	P		P	P	02 03 17.3	+0.1
	baz=41								
GSC	Goldstone	40.90	343	P		P	P	02 03 17.8	+0.2
	baz=41								
MVCO	Mesa Verde	41.13	354	*e*P		P	P	02 03 24.7	+5.0
	18nm,1.1s								
S26A	Kim	41.29	0	P		P	P	02 03 21.4	+0.5
	baz=42								
LRMC	Laurel Mountai	41.32	342	P		P	P	02 03 22.5	+1.4
	baz=42								
S23A	Nye Farm, Mont	41.43	357	P		P	P	02 03 23.5	+1.3
	baz=42								
SDCO	Great Sand Dun	41.45	358	*e*P		P	P	02 03 24.3	+2.0
	21nm,1.8s								
S22A	4UR Ranch, Cre	41.52	356	P		P	P	02 03 24.6	+1.6
	baz=42								
ISA	Isabella	41.73	342	P		P	P	02 03 24.8	+0.3
	baz=42								
MPMC	Manual Prospec	41.80	343	P		P	P	02 03 25.3	+0.1
	baz=42								
R23A	Moffat	41.91	357	P		P	P	02 03 26.7	+0.6
	baz=42								
R27A	Eads	41.96	1	P		P	P	02 03 26.4	+0.1
	baz=42								
R26A	Arlington	41.97	0	P		P	P	02 03 26.9	+0.5
	baz=42								
PV01	Paradox Valley	42.05	354	*e*P		P	P	02 03 32.1	+4.9
	588nm,1.2s								
WVT	Waverly	42.45	19	*e*P		P	P	02 03 29.5	-0.7
	20nm,1.3s								
Q30A	Quinter	42.76	4	P		P	P	02 03 34.7	+2.0
	baz=43								
P23A	Jefferson	43.09	357	P		P	P	02 03 36.3	+0.6
	baz=43								
CFAA	Coronel Fontan	43.18	134	P		P	P	02 03 36.4	+0.1
CFAA	Coronel Fontan	43.18	134	P		P	P	02 03 36.4	+0.1
	0.7nm,0.8s,baz=306,slow=6.3,SNR=8.9								
P25A	Willow Gulch B	43.18	359	P		P	P	02 03 38.1	+1.8
	baz=43								
P28A	Saint Francis	43.27	2	P		P	P	02 03 38.3	+1.4
	baz=44								
P22A	Eagle	43.35	356	P		P	P	02 03 39.4	+1.6
	baz=44								
P31A	Stockton	43.36	5	P		P	P	02 03 39.4	+1.8
	baz=44								
R11A	Troy Canyon, C	43.46	346	P		P	P	02 03 40.2	+1.6
	baz=44								
ISCO	Idaho Springs	43.50	358	P		P	P	02 03 39.7	+0.6
	baz=44								
PTGA	Pitinga	43.71	87	*e*P		P	P	02 03 40.4	-0.5
	38nm,1.5s								
O22A	Kremmling	43.91	357	P		P	P	02 03 43.2	+0.8
	baz=44								
O23A	Lake Granby, G	43.92	357	P		P	P	02 03 42.7	+0.3
	baz=44								
NVAR	Mina Array Bea	44.24	343	P		P	P	02 03 45.3	+0.3
NVAR	Mina Array Bea	44.24	343	P		P	P	02 03 45.3	+0.3
	1.1nm,1.0s,baz=174,slow=9.1,SNR=2.4								
N23A	Red Feather La	44.61	357	P		P	P	02 03 49.0	+1.2
	baz=45								
DAU	Daniels Canyon	44.63	352	*e*P		P	P	02 03 48.3	+0.2
	12nm,1.2s								
WAKR	Walker	44.65	342	*e*P		P	P	02 03 49.7	+1.5
N20A	Spence Gulch,	44.70	355	P		P	P	02 03 49.2	+0.6
	baz=45								
L23A	Garrett	45.81	358	P		P	P	02 03 57.7	+0.3
	baz=46								
K21A	Alcova	46.41	356	P		P	P	02 04 02.2	+0.2
	baz=47								
K23A	Bowen Ranch, D	46.45	358	P		P	P	02 04 03.7	+1.4
	baz=47								
PDAR	Pinedale Array	46.74	354	P		P	P	02 04 03.8	-0.9
PDAR	Pinedale Array	46.74	354	P		P	P	02 04 03.8	-0

D20A	**Manuel Ranch,** baz=51	**50.91**	**356**	P	**P**	**02 04 36.1**	**-0.3**
D19A	**Cripps Ranch,** baz=51	**51.04**	**355**	P	**P**	**02 04 37.2**	**-0.2**
CHMT	**Chamberlain Mo**	**51.29**	**352**	*eP*	**P**	**02 04 39.4**	**-0.1**
C30A	**Mose, Pekin** baz=52	**51.56**	**4**	P	**P**	**02 04 43.2**	**+1.9**
HAWA	**Hanford** 9.1nm,1.2s	**52.01**	**346**	*eP*	P	02 04 49.1	+4.5
B28A	**Dugan Ranch, T** baz=52	**52.19**	**3**	P	**P**	**02 04 48.0**	**+2.1**
B30A	**Myrvik Farm, E** baz=52	**52.31**	**4**	P	**P**	**02 04 48.7**	**+1.8**
A28A	**Rude Farm, Bot** baz=53	**52.65**	**3**	P	**P**	**02 04 51.4**	**+2.0**
A20A	**Cobblestone Ra** baz=53	**52.68**	**356**	P	**P**	**02 04 51.9**	**+2.3**
A22A	**Carney Farms,** baz=53	**52.69**	**358**	P	**P**	**02 04 52.0**	**+2.3**
A29A	**Manning Farm,** baz=53	**52.72**	**4**	P	**P**	**02 04 52.4**	**+2.5**
NEW	**Newport** baz=53	**53.26**	**349**	P	**P**	**02 04 56.4**	**+2.5**
BDFB	**Brasilia**	**55.86**	**106**	P	**P**	**02 05 11.8**	**-1.7**
BDFB	**Brasilia** 6.4nm,1.1s,baz=231,slow=6.5,SNR=4.1	**55.86**	**106**	P	**P**	**02 05 11.8**	**-1.7**
ILAR	**Eielson Array**	**75.49**	**342**	P	**P**	**02 07 18.1**	**-1.1**
ILAR	**Eielson Array** 1.1nm,0.7s,baz=159,slow=5.4,SNR=17	**75.49**	**342**	P	**P**	**02 07 18.1**	**-1.1**
H11N3	**WAKE ISLAND Hy** baz=98,slow=75,SNR=26	**90.81**	**290**	T	T	03 49 14.9	
H11N2	**WAKE ISLAND Hy** baz=98,slow=75,SNR=38	**90.82**	**290**	T	T	03 49 06.1	
H11N1	**WAKE ISLAND Hy** baz=98,slow=75,SNR=22	**90.82**	**290**	T	T	03 49 06.4	
H11S2	**WAKE ISLAND Hy** baz=96,slow=72,SNR=58	**90.92**	**288**	T	T	03 49 11.4	
H11S1	**WAKE ISLAND Hy** baz=96,slow=72,SNR=65	**90.92**	**288**	T	T	03 49 10.3	
H11S3	**WAKE ISLAND Hy** baz=96,slow=72,SNR=68	**90.94**	**288**	T	T	03 49 09.6	
SONM	**Songino Array**	**129.18**	**334**	PKP	**PKPdf**	**02 14 43.3**	**-0.6**
SONM	**Songino Array** 0.1nm,0.3s,baz=80,slow=1.6,SNR=2.2	**129.18**	**334**	PKP	**PKPdf**	**02 14 43.3**	**-0.6**
ZALV	**Zalesovo Beam**	**129.61**	**354**	PKP	**PKPdf**	**02 14 43.9**	**-0.5**
ZALV	**Zalesovo Beam** 0.3nm,0.5s,baz=5.0,slow=3.3,SNR=2.2	**129.61**	**354**	PKP	**PKPdf**	**02 14 43.9**	**-0.5**
MKAR	**Makanchi Array**	**136.94**	**354**	PKP	**PKPdf**	**02 14 58.8**	**+0.4**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=54,slow=2.5,SNR=3.0	**136.94**	**354**	PKP	**PKPdf**	**02 14 58.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**153.61**	**305**	PKPbc	**PKPbc**	**02 15 34.4**	**-0.8**
CMAR	**Chiang Mai Arr** 1.0nm,0.5s,baz=166,slow=0.7,SNR=4.0	**153.61**	**305**	PKPbc	**PKPbc**	**02 15 34.4**	**-0.8**

*IDC **04** 02:03:56.9±0.7, 6°53.N×126°39.E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/23, mbtmp3.9/9, Error ellipse: s-maj=45.0km s-min=15.0km az=70.0*
*ISCJB **04** 02:04:02.5±0.9, 6°31.N±0.0°6×126°29.E±0.0°7, h53km±8km, mb3.8/10, Error ellipse: s-maj=12.4km s-min=10.7km az=165.3*
*MAN **04** 02:04:03, 6°39.N×126°28.E, h18km, mb4.7, ML3.6, MS3.6*
ISC 04 02:04:03.7±1.4, 6°35.N±0.0°9×126°29.E±0.0°8, h47km±13km, n20, σ1°42/27, mb3.9/10, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.59**	**357**	*eP*		**Pn**	**02 04 15.0**	**-1.0**
MATI				*eS*		**Sn**	**02 04 23.8**	**-1.0**
DMPH	**Davao City--Mi**	**1.06**	**313**	*eP*		**Pn**	**02 04 22.2**	**0.0**
DMPH				*eS*		**Sn**	**02 04 36.7**	**+0.8**
GSPH	**General Santos**	**1.36**	**259**	*eP*		Pn	02 04 23.5	-2.9
KCP	**Kidapawan**	**1.36**	**299**	*eP*		**Pn**	**02 04 25.4**	**-1.0**
KCP				*i*	S	**Sn**	**02 04 43.2**	**0.0**
BIPH	**Bislig**	**1.82**	**2**	*iP*		**Pn**	**02 04 33.2**	**+0.5**
BIPH				*eS*		**Sn**	**02 04 58.1**	**+3.5**
BUKP	**Musuan**	**1.94**	**321**	*eP*		**Pn**	**02 04 34.6**	**+0.3**
CTBH	**Cotabato--PC H**	**2.20**	**293**	*iP*		**Pn**	**02 04 38.4**	**+0.5**
CGP	**Cagayan de Oro**	**2.62**	**323**	*eP*		**Pn**	**02 04 45.0**	**+1.4**
CGP				*eS*		**Sn**	**02 05 17.4**	**+3.3**
FITZ	**Fitzroy Crossi** 1.6nm,0.5s,baz=18,slow=16,SNR=4.6	**24.30**	**181**	P		**P**	**02 09 16.6**	**-0.4**
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=346,slow=10,SNR=11	**27.30**	**163**	P		**P**	**02 09 44.7**	**+0.5**
WRA				PcP		**PcP**	**02 13 04.9**	**+1.8**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=122,slow=6.5,SNR=4.7	**29.24**	**297**	P		**P**	**02 10 01.1**	**-0.4**
ASAR	**Alice Springs** 0.7nm,0.4s,baz=342,slow=6.9,SNR=14	**30.75**	**166**	P		**P**	**02 10 15.2**	**+0.5**
ASAR				PcP		**PcP**	**02 13 12.6**	**+0.9**
STKA	**Stephens Creek** 1.8nm,0.6s,baz=337,slow=12,SNR=5.7	**40.72**	**160**	P		**P**	**02 11 41.7**	**+1.6**
SONM	**Songino Array** 0.1nm,0.3s,baz=162,slow=6.6,SNR=2.4	**44.69**	**341**	P		**P**	**02 12 11.0**	**-1.3**
SONM				PcP		**PcP**	**02 13 53.2**	**-0.9**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=158,slow=3.2,SNR=3.0	**55.17**	**324**	P		**P**	**02 13 31.1**	**-0.6**
ILAR	**Eielson Array** 0.8nm,0.5s,baz=121,slow=6.9,SNR=13	**82.94**	**26**	P		**P**	**02 16 21.9**	**-1.5**
ARCES	**ARCESS Array B** 0.3nm,0.9s,baz=240,slow=5.0,SNR=3.8	**87.85**	**340**	P		**P**	**02 16 45.9**	**-1.9**
FINES	**FINESS Array B** 1.9nm,0.8s,baz=71,slow=7.8,SNR=3.9	**89.33**	**332**	P		**P**	**02 16 55.1**	**+0.2**
TORD	**Torodi Ar. Bea** 0.8nm,0.7s,baz=254,slow=12,SNR=4.0	**121.66**	**290**	PKP		**PKPdf**	**02 22 53.0**	**-0.4**
DBIC	**Dimbokro** 1.0nm,0.6s,baz=72,slow=1.3,SNR=18	**129.56**	**284**	PKP		**PKPdf**	**02 23 09.2**	**+0.6**
	1.6nm,0.8s,baz=124,slow=5.5,SNR=3.2							

MEX 04 02:06:45.6±0.6, 16°27.N×99°52.W, h9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.34**	**85**	*iP*		Pn	02 07 07.8	-2.7
PNIG				*i*	S	Sb	02 07 22.9	-5.4
TLIG	**Tlapa**	**1.57**	**35**	*eP*		Pn	02 07 10.1	-3.8
TLIG				*i*	S	Sn	02 07 30.0	-4.6
PLIG	**Platanillo**	**2.11**	**0**	*eP*		Pn	02 07 18.1	-3.2
PLIG				*eS*		Sn	02 07 43.3	-4.4
ARIG	**Puente Sto Nin**	**2.15**	**338**	*eP*		Pn	02 07 18.2	-3.5
ARIG				*i*	S	Sn	02 07 44.1	-4.5
ZIIG	**Zihuatanejo**	**2.29**	**306**	*iP*		Pn	02 07 20.0	-3.5
ZIIG				*i*	S	Sn	02 07 47.1	-4.8
YAIG	**Yautepec**	**2.61**	**9**	*eP*		Pn	02 07 25.6	-2.7
YAIG				*eS*		Sn	02 07 56.2	-4.1
VHO	**Vista Hermosa**	**2.79**	**73**	*iP*		Pn	02 07 27.3	-3.4
VHO				*i*	S	Sn	02 08 01.6	-3.0

*IDC **04** 02:08:06.2±0.4, 8°88S×157°73E, h0km, mb4.6/20, mb1 4.8/24, mb1mx4.8/25, mbtmp4.6/24, ML3.5/3, MS4.4/3, Ms1 4.4/3, ms1mx4.0/29, Error ellipse: s-maj=13.1km s-min=12.2km az=21.0*
*ISCJB **04** 02:08:08.0±0.1, 8°90S±0.0°4×157°61E±0.0°3, h17km, mb5.0/92, MS4.8/8, Error ellipse: s-maj=5.9km s-min=3.7km az=139.3*
*MOS **04** 02:08:10.2±0.9, 8°84S×157°52E, h33km, mb5.4/19, Error ellipse: s-maj=11.5km s-min=7.8km az=52.5*
*NEIC **04** 02:08:12.1±1.1, 8°92S×157°62E, h38km±10km, mb5.2/64, Error ellipse: s-maj=6.5km s-min=5.4km az=136.0*
ISC 04 02:08:09.4±0.3, 8°97S±0.0°5×157°74E±0.0°5, h17km, n330, σ1°35/322, mb5.0/94, MS4.8/8, 52C-49D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.23**	**102**	Pn		**Pn**	**02 08 43.0**	**-2.5**
HNR				Sn		**Sn**	**02 09 12.0**	**-0.7**
HNR				Lg		Lg	02 09 17.9	
HNR	**Honiara** 226nm,0.3s,baz=212,slow=3.2,SNR=21	**2.23**	**102**	Pn		**Pn**	**02 08 43.0**	**-2.5**
HNR				Lg		Lg	02 09 17.9	
HNR	360nm,0.3s,baz=104,slow=23,SNR=12			LR		LR	02 09 37.1	
HNR	comp=Z,5μm,18.0s,baz=194,slow=40 **Honiara**	**2.23**	**102**	*i*	P	**Pg**	**02 08 54.3**	**+2.1**
HNR				*i*	S	Sg	02 09 33.0	+12
PMG	**Port Moresby** 108nm,1.1s	**10.46**	**267**	P		x	02 10 43.0	
PMG	**Port Moresby**	**10.46**	**267**	*e*	P	**Pn**	**02 10 39.4**	**+0.8**
PMG	**Port Moresby** 0.5nm,0.3s,baz=96,slow=15,SNR=8.4	**10.46**	**267**	P	n	**Pn**	**02 10 39.5**	**+0.9**
PMG	comp=Z,2μm,18.8s,baz=76,slow=37			LR		LR	02 14 29.1	
COEN	**Coen**	**15.11**	**250**	*e*	P	**Pn**	**02 11 44.1**	**+1.9**
COEN	558nm,0.8s **Coen** baz=15,SNR=23	**15.11**	**250**	⇓	P	**Pn**	**02 11 43.6**	**+1.4**
DZM	**Mont Dzumac** 62nm,1.2s	**15.48**	**148**	*e*	Pn	**Pn**	**02 11 48.2**	**+1.0**
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=271,slow=23,SNR=5.8	**15.48**	**148**	P	n	**Pn**	**02 11 48.2**	**+1.0**
CTA	**Charters Tower**	**15.66**	**224**	P	n	**Pn**	**02 11 48.3**	**-1.3**
CTA	**Charters Tower** 0.7nm,0.3s,baz=46,slow=14,SNR=16	**15.66**	**224**	P	n	**Pn**	**02 11 48.3**	**-1.3**
CTA	**Charters Tower** baz=15	**15.66**	**224**	⇑	P	**Pn**	**02 11 48.7**	**-0.9**
CTAO	**Charters Tower**	**15.66**	**224**	*e*	P	**Pn**	**02 11 48.2**	**-1.3**
CTAO	comp=Z,100nm,1.1s				pmax	pmax		
CTAO	**Charters Tower** comp=Z,100nm,1.1s	**15.66**	**224**	*e*	Pn	**Pn**	**02 11 48.2**	**-1.3**
EIDS	**Eidsvold** comp=Z,103nm,1.1s	**17.50**	**200**	*e*	Pn	**P**	**02 12 13.3**	**-0.5**
EIDS	**Eidsvold** baz=17,SNR=11	**17.50**	**200**	⇓	P	**P**	**02 12 13.3**	**-0.5**
GENI	**Genyem**	**18.59**	**289**	P		Pn	02 12 34.2	+8.0
RMQ	**Roma** baz=19,SNR=60	**19.39**	**205**	P		**Pn**	**02 12 36.7**	**+0.9**
KWAJ	**Kwajalein Atol**	**20.21**	**29**	*e*	P	**P**	**02 12 43.8**	**+0.2**
KWAJ	comp=Z,1μm,2.3s				pmax	pmax		
KWAJ	**Kwajalein Atol** comp=Z,1μm,2.3s	**20.21**	**29**	*e*	P	**P**	**02 12 43.8**	**+0.2**
QIS	**Mount Isa** baz=21,SNR=44	**20.95**	**235**	⇓	P	**P**	**02 12 52.8**	**+1.1**
QLP	**Quilpie** baz=21,SNR=19	**21.70**	**214**	⇑	P	**P**	**02 13 00.6**	**+1.0**
ARMA	**Armidale**	**22.09**	**194**	*e*	Pn	**P**	**02 13 04.7**	**+0.7**
ARMA	**Armidale** baz=22,SNR=8.2	**22.09**	**194**	⇑	P	**P**	**02 13 06.6**	**+2.7**
BAKI	**Biak**	**22.88**	**289**	P		P	02 13 21.8	+9.4
KDU	**Kakadu** baz=25,SNR=6.8	**25.09**	**259**	⇑	P	**P**	**02 13 33.4**	**0.0**
CMSA	**Cobar Meteorol** baz=25,SNR=14	**25.09**	**205**	⇑	P	**P**	**02 13 33.8**	**+0.5**
WRAB	**Tennant Creek** comp=Z,429nm,0.8s,SNR=30	**25.10**	**242**	P		**P**	**02 13 33.2**	**-0.3**
WRAB	**Tennant Creek**	**25.10**	**242**	*d*	*i*P	**P**	**02 13 33.1**	**-0.4**
WRAB	comp=Z,220nm,1.2s				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,53nm,0.8s	**25.10**	**242**	*e*	Pn	**P**	**02 13 32.9**	**-0.6**
WRA	**Warramunga Arr**	**25.11**	**242**	P		**P**	**02 13 32.2**	**-1.4**
WRA				PcP		**PcP**	**02 17 08.1**	**+0.2**
WRA	**Warramunga Arr** comp=Z,37nm,0.8s,baz=67,slow=9.4,SNR=92	**25.11**	**242**	P		**P**	**02 13 32.2**	**-1.4**
WRA	comp=Z,4.9nm,1.1s,baz=69,slow=2.4,SNR=3.4			PcP		**PcP**	**02 17 08.1**	**+0.2**
WRA				LR		LR	02 22 32.9	
FAKI	comp=Z,1μm,18.6s,baz=60,slow=34 **Fak Fak** baz=26,SNR=5.3	**26.05**	**282**	⇓	P	**P**	**02 13 44.0**	**+1.8**
YNG	**Young** baz=26,SNR=7.3	**26.63**	**197**	⇑	P	**P**	**02 13 49.1**	**+1.9**
AS31	**Alice Springs**	**27.08**	**234**	*e*	P	**P**	**02 13 50.4**	**-1.1**
ASAR	**Alice Springs**	**27.08**	**234**	P		**P**	**02 13 50.3**	**-1.1**
ASAR				PcP		**PcP**	**02 17 13.3**	**+0.8**
ASAR	**Alice Springs** comp=Z,10nm,0.9s,baz=63,slow=9.2,SNR=74	**27.08**	**234**	P		**P**	**02 13 50.3**	**-1.1**
ASAR	comp=Z,2.0nm,0.8s,baz=66,slow=2.2,SNR=3.0			PcP		**PcP**	**02 17 13.3**	**+0.8**
STKA	**Stephens Creek** comp=Z,9.1nm,0.9s	**27.28**	**211**	*e*	P	**P**	**02 13 53.5**	**+0.4**
STKA	**Stephens Creek** comp=Z,24nm,0.8s,baz=36,slow=11,SNR=30	**27.28**	**211**	P		**P**	**02 13 53.4**	**+0.3**
CNB	**Canberra Magne** baz=27,SNR=5.9	**27.32**	**195**	⇑	P	**P**	**02 13 55.5**	**+2.0**
CAN	**Canberra**	**27.42**	**196**	*e*	P	**P**	**02 13 55.3**	**+1.0**
CAN	comp=Z,10.0nm,1.1s				pmax	pmax		
CAN	**Canberra** comp=Z,9.7nm,1.1s	**27.42**	**196**	*e*	P	**P**	**02 13 55.3**	**+1.0**
H11S3	**WAKE ISLAND Hy** baz=199,slow=77,SNR=97	**28.68**	**18**	T		T	02 42 35.9	
H11S2	**WAKE ISLAND Hy** baz=199,slow=77,SNR=128	**28.69**	**18**	T		T	02 42 52.6	
H11S1	**WAKE ISLAND Hy** baz=199,slow=77,SNR=67	**28.70**	**18**	T		T	02 42 51.7	
KNRA	**Kununurra** baz=29,SNR=4.1	**29.06**	**254**	⇓	P	**P**	**02 14 09.4**	**+0.2**
H11N1	**WAKE ISLAND Hy** baz=197,slow=75,SNR=7.6	**29.89**	**17**	T		T	02 44 22.0	
HTT	**Hallett** baz=30,SNR=9.3	**29.89**	**213**	P		**P**	**02 14 16.5**	**+0.1**
H11N3	**WAKE ISLAND Hy** baz=197,slow=75,SNR=8.3	**29.91**	**18**	T		T	02 44 33.2	
H11N2	**WAKE ISLAND Hy** baz=197,slow=75,SNR=12	**29.91**	**17**	T		T	02 44 41.4	
TOO	**Toolangi** baz=30,SNR=6.8	**30.55**	**199**	⇓	P	**P**	**02 14 22.9**	**+0.7**
BBOO	**Buckleboo** comp=Z,584nm,0.9s	**31.06**	**217**	*e*	P	**P**	**02 14 26.1**	**-0.6**
BBOO	**Buckleboo** baz=31,SNR=16	**31.06**	**217**	P		**P**	**02 14 26.5**	**-0.1**
ARPS	**Mount Arapiles** baz=31,SNR=12	**31.21**	**205**	⇑	P	**P**	**02 14 28.5**	**+0.6**
WRKA	**Warakurna** baz=32,SNR=17	**32.26**	**237**	P		**P**	**02 14 36.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**32.45**	**250**	P		**P**	**02 14 37.6**	**-1.5**
FITZ	**Fitzroy Crossi** comp=Z,12nn,0.9s,baz=119,slow=5.0,SNR=8.9	**32.45**	**250**	P		**P**	**02 14 37.6**	**-1.5**
FORT	**Forrest** comp=Z,49nm,1.0s	**35.16**	**228**	*e*	P	**P**	**02 15 02.0**	**-0.5**
FORT	**Forrest** baz=35,SNR=6.2	**35.16**	**228**	⇑	P	**P**	**02 15 02.1**	**-0.4**
RPZ	**Rata Peaks**	**36.51**	**164**	P		**P**	**02 15 14.3**	**+0.4**
RPZ	**Rata Peaks** comp=Z,22nn,0.9s,baz=11,slow=5.2,SNR=3.3	**36.51**	**164**	P		**P**	**02 15 14.3**	**+0.4**
KAPI	**Kappang** comp=Z,291nm,1.1s	**37.90**	**273**	*e*	P	**P**	**02 15 26.3**	**+0.2**
KMBL	**Kambalda** baz=40,SNR=6.8	**40.08**	**231**	⇓	P	**P**	**02 15 44.1**	**-0.1**
MEEK	**Meekatharra** baz=41,SNR=5.4	**40.97**	**239**	⇓	P	**P**	**02 15 51.1**	**-0.6**
JAGI	**Jajag, Banyuwa** comp=Z,154nm,1.1s	**43.07**	**267**	*e*	P	**P**	**02 16 06.6**	**-2.3**
JAGI	**Jajag, Banyuwa** baz=43,SNR=7.1	**43.07**	**267**	⇑	P	**P**	**02 16 07.3**	**-1.6**
KLBR	**Kellerberrin** baz=43	**43.39**	**233**	⇑	P	**P**	**02 16 10.5**	**-0.8**
BLDU	**Ballidu** baz=44	**43.86**	**235**	⇑	P	**P**	**02 16 14.3**	**-0.8**
MORW	**Morawa** baz=44	**43.90**	**237**	⇑	P	**P**	**02 16 15.1**	**-0.3**
KSM	**Kuching** comp=Z,55nm,1.3s	**48.38**	**280**	*e*	P	**P**	**02 16 49.3**	**-1.6**
MJAR	**Matsushiro Arr**	**48.85**	**339**	P		**P**	**02 16 51.9**	**-2.2**
MJAR	**Matsushiro Arr** comp=Z,1.9nm,0.8s,baz=156,slow=6.4,SNR=4.9	**48.85**	**339**	P		**P**	**02 16 51.9**	**-2.2**
PPT2	**Papeete2** comp=Z,2μm,24.5s,baz=74	**51.85**	**105**	*e*	LR	LR	02 17 24.9	
TBI	**Tubuai** comp=Z,2μm,26.5s,baz=72	**52.41**	**113**	*e*	LR	LR	02 18 01.4	
KSRS	**Korea Array** comp=Z,2.0nm,0.8s,baz=129,slow=11,SNR=5.6	**53.96**	**331**	P		**P**	**02 17 31.2**	**-1.1**
KSAR	**Wonju Array Be**	**53.97**	**331**	P		**P**	**02 17 31.2**	**-1.2**
NJ2	**Nanjing**	**55.17**	**319**	*e*	P	**P**	**02 17 41.9**	**+0.6**
NJ2				S		**S**	**02 25 26.5**	**+2.6**
NJ2	comp=Z,20nm,1.0s			pmax		pmax		
NJ2	comp=Z,640nm,23.2s			LR		LR		
NJ2	comp=Z,510nm,23.8s			LR		LR		
NJ2	comp=Z,5μm,24.2s			LR		LR		
USRK	**Ussuriysk Arra** comp=Z,5.1nm,1.0s,baz=154,slow=6.7,SNR=5.8	**57.83**	**338**	P		**P**	**02 17 58.6**	**-1.4**
MDJ	**Mudanjiang**	**59.09**	**337**	P		**P**	**02 18 10.3**	**+1.5**
MDJ				pP		pP	02 18 19.6	+5.3
MDJ				sP		sP	02 18 23.2	+6.9
MDJ				ScP		**ScP**	**02 22 56.6**	**-1.0**
MDJ				PcS		**PcS**	**02 23 00.3**	**+1.1**
MDJ				S		**S**	**02 26 16.6**	**+1.4**
MDJ	comp=Z,6.0nm,1.2s			pmax		pmax		
MDJ	comp=Z,120nm,4.5s			LR		LR		
MDJ	comp=Z,400nm,18.6s			LR		LR		
MDJ	comp=Z,160nm,17.3s			LR		LR		
MDJ	comp=Z,640nm,19.8s			LR		LR		
CN2	**Changchun**	**60.14**	**334**	*e*	P	P	02 18 20.9	+4.8
CN2				*e*	S	**S**	**02 26 32.0**	**+3.2**
CN2	comp=Z,10.0nm,1.0s			pmax		pmax		
CN2	comp=Z,200nm,5.0s			pmax		pmax		
GYA	**Guiyang**	**60.81**	**307**	⇑	*i*P	**P**	**02 18 22.0**	**+0.9**
GYA				pP		pP	02 18 34.8	+8.2
GYA				PP		**PP**	**02 20 38.6**	**+3.3**
GYA				ScP		**ScP**	**02 23 01.2**	**-4.6**
GYA				S		**S**	**02 26 35.0**	**-3.2**
GYA				SS		**SS**	**02 30 36.4**	**-1.1**
GYA	comp=Z,20nm,0.8s			pmax		pmax		
GYA	comp=Z,130nm,4.9s			pmax		pmax		
GYA	comp=Z,680nm,19.7s			LR		LR		
GYA	comp=Z,580nm,20.0s			LR		LR		
GYA	comp=Z,660nm,18.8s			LR		LR		
PETK	**Petropavlovsk-**	**61.84**	**360**	P		**P**	**02 18 26.4**	**-1.0**
PETK	**Petropavlovsk-**	**61.84**	**360**	P		**P**	**02 18 26.4**	**-1.0**
PETK	**Petropavlovsk-** comp=Z,12nn,1.0s,baz=158,slow=9.3,SNR=5.1	**61.84**	**360**	P		**P**	**02 18 26.4**	**-1.0**
BJI	**Beijing**	**62.08**	**325**	P		P	02 18 25.5	-3.8
BJI	comp=Z,4.0nm,0.7s			pmax		pmax		
XAN	**Xi'an**	**63.01**	**315**	P		**P**	**02 18 35.0**	**-0.7**
XAN	comp=Z,3.0nm,0.9s			pmax		pmax		
XAN	comp=Z,40nm,7.3s			pmax		pmax		
KMI	**Kunming**	**63.37**	**304**	P		**P**	**02 18 39.4**	**+0.9**
KMI	comp=Z,8.0nm,1.5s			pmax		pmax		
CMAR	**Chiang Mai Arr**	**64.08**	**295**	P		**P**	**02 18 43.5**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,3.0nm,0.5s,baz=117,slow=5.1,SNR=14	**64.08**	**295**	P		**P**	**02 18 43.5**	**+0.4**
CHTO	**Chiang Mai**	**64.20**	**296**	*e*	P	**P**	**02 18 44.3**	**+0.5**
CHTO	comp=Z,26nm,1.3s			pmax		pmax		
CHTO	**Chiang Mai** comp=Z,26nm,1.3s	**64.20**	**296**	*e*	P	**P**	**02 18 44.3**	**+0.5**
CD2	**Chengdu**	**65.16**	**310**	*e*	P	**P**	**02 18 50.5**	**+0.6**
CD2	comp=Z,10.0nm,1.2s			pmax		pmax		
HHC	**Hu-ho-hao-te**	**65.29**	**323**	*e*	P	**P**	**02 18 51.2**	**+0.6**
HHC				PP		**PP**	**02 21 17.5**	**+3.0**
HHC				S		**S**	**02 27 32.3**	**-1.5**
HHC	comp=Z,14nm,0.8s			pmax		pmax		
HHC	comp=Z,770nm,10.7s			pmax		pmax		
HHC	comp=Z,620nm,15.7s			LR		LR		
HHC	comp=Z,750nm,22.6s			LR		LR		
HHC	comp=Z,610nm,14.3s			LR		LR		
LZH	**Lanzhou**	**67.62**	**315**	*e*	P	**P**	**02 19 06.0**	**+0.2**
LZH				pP		pP	02 19 17.0	+5.7
LZH				sS		S	02 28 09.1	+6.7
LZH	comp=Z,34nm,1.2s			pmax		pmax		
LZH	comp=Z,150nm,4.5s			pmax		pmax		
LZH	comp=Z,720nm,13.8s			LR		LR		
LZH	comp=Z,730nm,15.0s			LR		LR		
LZH	comp=Z,920nm,15.9s			LR		LR		
VNDA	**Vanda**	**68.56**	**179**	P		**P**	**02 19 11.1**	**+0.4**
VNDA	**Vanda** comp=Z,5.3nm,1.0s,baz=12,slow=8.4,SNR=5.6	**68.56**	**179**	P		**P**	**02 19 11.1**	**+0.4**
SEY	**Seymchan**	**71.81**	**357**	P		**P**	**02 19 29.8**	**-0.9**
SEY	**Seymchan**	**71.81**	**357**	P		**P**	**02 19 29.8**	**-0.9**
SEY	**Seymchan** comp=Z,2.1nm,0.7s,baz=13,slow=21,SNR=12	**71.81**	**357**	P		**P**	**02 19 29.8**	**-0.9**
GTA	**Gaotai**	**72.03**	**316**	*e*	P	**P**	**02 19 32.9**	**+0.1**
GTA				pP		**pP**	**02 19 43.3**	**+4.9**
GTA				sP		sP	02 19 47.2	+6.8
GTA				S		**S**	**02 28 52.3**	**-1.8**
GTA				sS		**SKiKP**	**02 29 09.2**	**-0.4**
GTA				SS		**SS**	**02 33 31.2**	**-0.3**
GTA	comp=Z,4.0nm,1.3s			pmax		pmax		
GTA	comp=Z,390nm,5.9s			pmax		pmax		
GTA	comp=Z,210nm,19.5s			LR		LR		
GTA	comp=Z,240nm,18.1s			LR		LR		
GTA	comp=Z,460nm,17.6s			LR		LR		
ULN	**Ulaanbaatar** comp=Z,6.2nm,1.1s	**72.13**	**327**	*e*	P	**P**	**02 19 33.2**	**0.0**
SONM	**Songino Array**	**72.47**	**327**	P		**P**	**02 19 35.2**	**0.0**
SONM	**Songino Array** comp=Z,2.2nm,1.0s,baz=125,slow=3.8,SNR=11	**72.47**	**327**	P		**P**	**02 19 35.2**	**0.0**
YAK	**Yakutsk**	**74.07**	**347**	*e*	P	**P**	**02 19 42.6**	**-1.6**
YAK	comp=Z,14nm,0.8s			pmax		pmax		
ZAK	**Zakamensk**	**75.60**	**327**	*e*	P	**P**	**02 19 51.4**	**-2.1**
TAPN	**Taplejung** comp=Z,52nm,1.3s	**76.74**	**301**	*e*	P	**P**	**02 20 02.7**	**+2.0**
ODAN	**Odare** comp=Z,24nm,0.7s	**76.87**	**300**	*e*	P	P	02 20 05.3	+4.0
RAMN	**Ramite** comp=Z,7.7nm,0.7s	**77.57**	**300**	*e*	P	**P**	**02 20 08.4**	**+3.1**
JIRN	**Jiri** comp=Z,8.7nm,0.6s	**78.12**	**301**	*e*	P	**P**	**02 20 08.3**	**-0.2**
GUN	**Gumba** comp=Z,45nm,1.1s	**78.46**	**301**	*e*	P	**P**	**02 20 09.3**	**-1.0**
TNA	**Tin City** comp=Z,12nn,0.9s	**78.55**	**14**	*e*	P	**P**	**02 20 08.5**	**-1.0**
PKI	**Pulchoki** comp=Z,26nn,1.1s	**78.76**	**300**	*e*	P	**P**	**02 20 12.4**	**+0.4**
SVW2	**Sparrevohn** comp=Z,35nn,1.4s	**78.82**	**21**	*e*	P	**P**	**02 20 11.0**	**-0.2**
KKN	**Kakani** comp=Z,5.6nn,0.3s	**78.94**	**301**	*e*	P	**P**	**02 20 12.4**	**-0.4**
DMN	**Daman** comp=Z,36nn,0.9s	**79.03**	**300**	*e*	P	**P**	**02 20 13.4**	**0.0**
GKN	**Gorkha** comp=Z,36nn,1.0s	**79.54**	**301**	*e*	P	**P**	**02 20 15.8**	**-0.2**
KOLN	**Koldanda** comp=Z,29nn,0.9s	**80.36**	**300**	*e*	P	**P**	**02 20 19.9**	**-0.6**
DANN	**Dangsing** comp=Z,40nn,1.3s	**80.38**	**301**	*e*	P	**P**	**02 20 19.2**	**-1.

WMQ LR LR
comp=Z,260nm,17.9s
TRF Thorofare Moun 82.24 21 *e*P **P 02 20 27.6 -2.0**
comp=Z,20nm,0.9s
HYB Hyderabad 82.48 289 *i* P **P 02 20 30.0 -1.7**
IM04 Indian Mountai 82.72 18 *e*P **P 02 20 31.0 -0.9**
MCK McKinley 82.89 21 *e*P **P 02 20 31.4 -1.5**
MCK pmax pmax
comp=Z,66nm,1.0s
MCK McKinley 82.89 21 *e*P **P 02 20 31.4 -1.5**
comp=Z,66nm,1.0s
MAW Mawson 83.63 203 *e*P **P 02 20 36.9 +0.2**
comp=Z,2.1nm,0.9s
MAW Mawson 83.63 203 P **P 02 20 36.9 +0.2**
comp=Z,9.0nm,0.9s,baz=91,slow=5.6,SNR=6.3
COLA College 83.95 20*c i*P **P 02 20 36.2 -2.0**
COLA pmax pmax
comp=Z,192nm,1.2s
COLA College 83.95 20 *e*P **P 02 20 36.5 -1.7**
comp=Z,8.5nm,0.9s
ILAR Eielson Array 84.22 21 P **P 02 20 37.9 -1.8**
ILAR Eielson Array 84.22 21 P **P 02 20 37.9 -1.8**
comp=Z,8.8nm,1.0s,baz=261,slow=4.4,SNR=48
COLD Coldfoot 84.62 18 *e*P **P 02 20 41.8 +0.2**
comp=Z,12nm,1.4s
DOT Dot Lake 84.62 22 *e*P **P 02 20 40.7 -1.0**
comp=Z,26nm,1.0s
HYT Haines Junctio 85.91 26 *e*P **P 02 20 48.0 -0.3**
EGAK Eagle 86.30 22 *e*P **P 02 20 49.6 -0.5**
comp=Z,49nm,1.6s
MK31 Makanchi Array 86.68 318 *e*P **P 02 20 51.1 -1.3**
MK31 Makanchi Array 86.68 318 *e*P **P 02 20 51.1 -1.3**
MKAR Makanchi Array 86.68 318 *e*P **P 02 20 51.3 -1.1**
MKAR Makanchi Array 86.68 318 *e*P **P 02 20 51.3 -1.1**
MKAR Makanchi Array 86.68 318 P **P 02 20 50.8 -1.6**
comp=Z,2.3nm,0.9s,baz=93,slow=5.7,SNR=17
KHMM Horse Mountain 87.25 48 *e*P **P 02 20 56.9 +1.4**
comp=Z,20nm,1.3s
ZALV Zalesovo Beam 87.33 326 P **P 02 20 53.1 -2.2**
ZALV Zalesovo Beam 87.33 326 P **P 02 20 53.1 -2.2**
ZALV Zalesovo Beam 87.33 326 P **P 02 20 53.1 -2.2**
comp=Z,0.5nm,0.6s,baz=145,slow=5.4,SNR=3.9
M02C Callahan 88.02 48 ⇓P **P 02 20 59.8 +0.7**
baz=88
N02D Trinity Center 88.03 48 ⇑P **P 02 20 59.8 +0.7**
baz=88
WDC Whiskeytown Da 88.06 49 *e*P **P 02 20 59.9 +0.8**
WDC pmax pmax
comp=Z,11nm,1.4s
WDC Whiskeytown Da 88.06 49 *e*P **P 02 20 59.9 +0.8**
comp=Z,11nm,1.4s
YBH Yreka Blue Hor 88.20 47 *e*P **P 02 21 00.7 +0.8**
comp=Z,85nm,2.9s
I03D Drain, OR 88.21 45 ⇓P **P 02 21 00.3 +0.6**
baz=88
HUMO Hull Mountain 88.23 47 *e*P **P 02 21 00.6 +0.6**
comp=Z,114nm,3.0s
E03A Lebam 88.77 43 *e*P **P 02 21 02.7 +0.4**
comp=Z,31nm,1.2s
M04C Macdoel 88.85 48 ⇓P **P 02 21 03.2 +0.2**
baz=89
I04A Tendick Farm, 88.90 45 ⇑P **P 02 21 02.9 -0.2**
baz=89
BSC Santa Cruz Isl 88.91 55 ⇓P **P 02 21 04.1 +0.7**
baz=89
PKM Peak Mountain 88.93 55 ⇑P **P 02 21 03.9 +0.2**
baz=89
J04D Umpqua Nationa 88.98 46 ⇓P **P 02 21 03.9 +0.2**
baz=89
CMB Columbia Colle 89.13 51 *e*P **P 02 21 04.7 +0.4**
CMB pmax pmax
comp=Z,53nm,2.1s
CMB Columbia Colle 89.13 51 *e*P **P 02 21 04.7 +0.4**
comp=Z,53nm,2.1s
KSH Kashi 89.36 310 *e*P **P 02 21 07.1 +1.7**
KSH *e*PP **PP 02 24 40.1 +3.5**
KSH *e*S **S 02 31 51.4 -3.6**
KSH sS sS 02 32 12.8 +8.3
KSH pmax pmax
comp=Z,5.0nm,1.2s
KSH pmax pmax
comp=Z,160nm,5.8s
KSH LR LR
comp=Z,180nm,7.1s
KSH LR LR
comp=Z,150nm,5.7s
KSH LR LR
comp=Z,240nm,7.0s
J05D Fort Rock, OR 89.62 46 ⇓P **P 02 21 06.9 +0.3**
baz=90
VES Vestal, Richgr 89.71 54 ⇓P **P 02 21 06.8 -0.2**
baz=90,SNR=5.8
K05A Summer Lake 89.74 47 *e*P **P 02 21 07.9 +0.6**
comp=Z,58nm,2.0s
I05D Terrebonne, OR 89.77 45 ⇑P **P 02 21 07.0 -0.2**
baz=90
ARVC Arvin 89.78 55 ⇓P **P 02 21 07.9 +0.5**
baz=90,SNR=6.6
CIS Catalina Islan 89.80 56 ⇑P **P 02 21 08.1 +0.5**
baz=90
WAKR Walker 89.95 51 *e*P **P 02 21 08.9 +0.5**
PINOR Pine Mountain 89.99 46 *e*P **P 02 21 08.9 +0.8**
comp=Z,148nm,3.0s
MOD Modoc 89.99 48 *e*P **P 02 21 08.9 +0.5**
comp=Z,15nm,1.6s
KURK Kurchatov 90.06 321 *e*P **P 02 21 06.5 -1.8**
PASC Pasadena Art C 90.12 56 *e*P **P 02 21 09.3 +0.3**
comp=Z,31nm,1.4s
ISA Isabella 90.16 54 *e*P **P 02 21 09.5 +0.3**
ISA pmax pmax
comp=Z,10.0nm,1.1s
ISA Isabella 90.16 54 *e*P **P 02 21 09.5 +0.3**
comp=Z,9.7nm,1.1s
ISA Isabella 90.16 54 ⇓P **P 02 21 09.3 +0.1**
baz=90,SNR=8.7
MWC Mount Wilson 90.23 56 *e*P **P 02 21 10.0 +0.3**
MWC pmax pmax
comp=Z,40nm,1.1s
MWC Mount Wilson 90.23 56 *e*P **P 02 21 10.0 +0.3**
comp=Z,40nm,1.1s
MLAC Mammoth Lakes 90.25 52 ⇑P **P 02 21 10.1 +0.3**
baz=90
EDW2 Edwards Air Fo 90.41 55 ⇓P **P 02 21 10.9 +0.5**
baz=90,SNR=8.5
BFSC Mount Baldy Ra 90.56 56 ⇓P **P 02 21 11.3 +0.1**
baz=91,SNR=9.8
TIN Tinemaha 90.62 53 ⇑P **P 02 21 11.9 +0.5**
baz=91
CWC Cottonwood Cre 90.62 53 ⇑P **P 02 21 12.1 +0.6**
baz=91
LRMC Laurel Mountai 90.76 54 ⇓P **P 02 21 12.3 +0.3**
baz=91,SNR=18
109C Camp Elliot, M 90.77 57 ⇑P **P 02 21 12.4 +0.4**
baz=91
NVAR Mina Array Bea 90.81 51 P **P 02 21 12.8 +0.4**
NVAR Mina Array Bea 90.81 51 P **P 02 21 12.8 +0.4**
comp=Z,12nm,0.9s,baz=248,slow=6.9,SNR=62
MURC Murrieta 90.82 56 ⇑P **P 02 21 12.5 +0.2**
baz=91
NV11 Mina Array Sit 90.93 51 *e*P **P 02 21 13.0 +0.2**
I07A Izee 91.01 46 *e*P **P 02 21 13.3 +0.2**
comp=Z,12nm,1.0s
MPMC Manual Prospec 91.02 54 ⇑P **P 02 21 13.5 +0.1**
baz=91,SNR=9.7
AAK Ala-Archa 91.08 313⇑ *e*P **P 02 21 12.1 -1.4**
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 91.08 313 P **P 02 21 12.7 -0.7**
AAK Ala-Archa 91.08 313 P **P 02 21 12.7 -0.7**
comp=Z,0.5nm,0.5s,baz=142,slow=17,SNR=2.4
BAR Barrett 91.10 57 *e*P **P 02 21 14.4 +0.8**
comp=Z,10nm,1.2s
E07A Sunnyside 91.26 43 *e*P **P 02 21 13.9 -0.1**
comp=Z,6.4nm,0.9s
GRAC Grapevine Rang 91.28 53 ⇑P **P 02 21 14.6 +0.2**
baz=91,SNR=11
WVOR Wild Horse Val 91.31 47 *e*P **P 02 21 14.6 +0.1**
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 91.31 47 *e*P **P 02 21 14.6 +0.1**
comp=Z,13nm,1.1s
MONP Monument Peak 91.34 57 ⇓P **P 02 21 15.3 +0.3**
baz=92,SNR=6.6
PFO Pinyon Flat Ob 91.44 56 *e*P **P 02 21 15.6 +0.3**
comp=Z,14nm,1.3s
PFO Pinyon Flat Ob 91.44 56 ⇑P **P 02 21 15.3 0.0**
baz=92
GSC Goldstone 91.44 55 *e*P **P 02 21 15.9 +0.7**
GSC pmax pmax
comp=Z,22nm,0.9s
GSC Goldstone 91.44 55 *e*P **P 02 21 15.9 +0.7**
comp=Z,22nm,0.9s
GSC Goldstone 91.44 55 ⇑P **P 02 21 15.5 +0.3**
baz=92,SNR=6.4
HAWA Hanford 91.45 43 *e*P **P 02 21 14.6 -0.2**
comp=Z,5.4nm,0.8s
TPH Tonopah 91.59 52 *e*P **P 02 21 16.4 +0.4**
TPH pmax pmax
comp=Z,19nm,1.0s
TPH Tonopah 91.59 52 *e*P **P 02 21 16.4 +0.4**
comp=Z,19nm,1.0s
FURC Furnace Creek, 91.59 53 ⇓P **P 02 21 16.2 +0.4**
baz=92,SNR=14
J08A Circle Bar Ran 91.60 46 *e*P **P 02 21 15.8 0.0**
comp=Z,13nm,0.9s
G08A Pilot Rock 91.63 45 *e*P **P 02 21 15.6 -0.3**
comp=Z,67nm,2.5s
HEC Hector,Ludlow 91.74 55 ⇑P **P 02 21 16.7 +0.1**
baz=92,SNR=9.7
BELC Belle Mtn. Jos 91.88 56 ⇑P **P 02 21 17.6 +0.3**
baz=92,SNR=9.6
SHOC Shoshone 91.96 54 ⇑P **P 02 21 17.6 +0.1**
baz=92,SNR=5.1
D08A Wollman Farm, 91.99 43 *e*P **P 02 21 16.9 -0.5**
comp=Z,6.6nm,1.0s
TPNV Topopah Spring 92.16 53 *e*P **P 02 21 19.4 +0.8**
TPNV pmax pmax
comp=Z,19nm,1.0s
TPNV Topopah Spring 92.16 53 *e*P **P 02 21 19.4 +0.8**
comp=Z,19nm,1.0s
TPNV Topopah Spring 92.16 53 ⇓P **P 02 21 18.8 +0.2**
baz=92,SNR=16
TUQ Turquoise Moun 92.17 55 ⇑P **P 02 21 18.8 +0.2**
baz=92,SNR=9.7
BC3 Big Chuckawall 92.27 56 ⇓P **P 02 21 19.7 +0.5**
baz=92
GMRC Granite Mounta 92.28 55 ⇓P **P 02 21 19.3 +0.2**
baz=92,SNR=9.7
E09A Wood Farm, Sta 92.41 43 *e*P **P 02 21 19.1 -0.2**
comp=Z,8.0nm,1.0s
IRM Iron Mountain 92.59 56 ⇓P **P 02 21 21.1 +0.5**
baz=93,SNR=5.2
R11A Troy Canyon, C 92.90 52 *e*P **P 02 21 22.2 +0.2**
comp=Z,15nm,1.1s
R11A Troy Canyon, C 92.90 52 ⇓P **P 02 21 22.3 +0.2**
baz=93
F10A Beach Ranch, E 92.94 44 *e*P **P 02 21 21.4 -0.6**
comp=Z,6.0nm,0.9s
SHPR Sheep Range 92.95 54 *e*P **P 02 21 22.8 +0.5**
Y12C Blythe 93.05 56 ⇓P **P 02 21 23.2 +0.7**
baz=93
NEW Newport 93.40 42 ⇑P **P 02 21 23.6 -0.3**
baz=94
MFID Camas Ranch 93.51 47 *e*P **P 02 21 24.9 +0.3**
comp=Z,12nm,1.3s
ELK Elko 93.54 49 *e*P **P 02 21 25.8 +0.8**
comp=Z,5.5nm,1.1s
W13A Hualapai Mount 93.77 55 ⇓P **P 02 21 26.4 +0.3**
baz=94
CCUT Cedar City 94.53 53 *e*P **P 02 21 30.9 +1.3**
comp=Z,11nm,1.3s
HLID Hailey 94.55 47 *e*P **P 02 21 29.5 0.0**
comp=Z,6.8nm,1.1s
HLID Hailey 94.55 47 ⇑P **P 02 21 29.7 +0.2**
baz=95
BGU Big Grassy Mou 95.22 50 *e*P **P 02 21 33.1 +0.5**
comp=Z,3.3nm,1.3s
U15A North Rim 95.23 54 ⇓P **P 02 21 32.9 0.0**
baz=95
DUG Dugway 95.30 50 ⇓P **P 02 21 33.1 +0.1**
baz=95
HVU Hansel Valley 95.52 49 *e*P **P 02 21 34.6 +0.6**
HVU pmax pmax
comp=Z,11nm,1.1s
HVU Hansel Valley 95.52 49 *e*P **P 02 21 34.6 +0.6**
comp=Z,10nm,1.1s
BRVK Borovoye 95.57 323⇑ *i*P **P 02 21 31.6 -2.1**
BRVK pmax pmax
comp=Z,5.0nm,1.6s
NLU North Lily Min 95.83 51 *e*P **P 02 21 36.8 +1.3**
comp=Z,7.1nm,1.1s
TUC Tucson 95.97 58 *e*P **P 02 21 36.6 +0.5**
TUC pmax pmax
comp=Z,5.0nm,1.2s
TUC Tucson 95.97 58 *e*P **P 02 21 36.6 +0.5**
comp=Z,5.3nm,1.2s
EDM Edmonton 96.46 37 *e*P **P 02 21 36.6 -1.2**
EDM Edmonton 96.46 37 *e*P **P 02 21 36.5 -1.2**
YKA Yellowknife Ar 96.80 28 P **P 02 21 37.9 -1.2**
YKA Yellowknife Ar 96.80 28 P **P 02 21 37.8 -1.2**
comp=Z,2.0nm,0.8s,baz=260,slow=4.5,SNR=24
I17A Pilgrim Ck. 97.36 47⇑P **P 02 21 42.2 -0.1**
baz=98
H17A Grant Village 97.40 46 ⇓P Pdif 02 21 43.1 +0.5
baz=98
BW06 Boulder Array 98.00 48 *e*P **P 02 21 44.7 -0.6**
comp=Z,6.5nm,1.4s
PDAR Pinedale Array 98.00 48 P **P 02 21 44.0 -1.2**
PDAR Pinedale Array 98.00 48 P **P 02 21 44.0 -1.2**
comp=Z,2.5nm,0.9s,baz=251,slow=2.5,SNR=16
J19A Crowheart 98.41 47⇑Pdiff **P 02 21 46.6 -0.4**
baz=98
121A Cookes Peak, D 98.51 58 ⇓Pdiff Pdif 02 21 47.9 +0.1
baz=99
H19A Powell 98.56 46 ⇓Pdiff **P 02 21 47.4 -0.2**
baz=99
F19A Roth Farm, Mol 98.67 45 ⇓Pdiff **P 02 21 47.8 -0.3**
baz=99
C19A Slack Wire Ran 98.72 43 ⇓Pdiff **P 02 21 48.1 -0.1**
baz=99
D19A Cripps Ranch, 98.80 44 ⇓Pdiff **P 02 21 47.9 -0.6**
baz=99
N20A Spence Gulch, 98.81 50⇑Pdiff **P 02 21 48.7 -0.3**
baz=99
E19A Rath Farm, Rou 98.82 44⇑Pdiff **P 02 21 48.4 -0.2**
baz=99
E20A Meyer Farm, Mu 99.28 44⇑Pdiff **Pdif 02 21 50.3 -0.4**
baz=99
D20A Manuel Ranch, 99.30 44 ⇓Pdiff **Pdif 02 21 50.7 -0.1**
baz=99
J21A Lysite 99.58 47 ⇓Pdiff **Pdif 02 21 52.3 0.0**
baz=100
K21A Alcova 99.68 48 ⇓Pdiff **Pdif 02 21 52.3 -0.5**
baz=100
G21A Lodge Grass 99.85 46 ⇓Pdiff **Pdif 02 21 53.4 0.0**
baz=100
O22A Kremmling 100.07 51⇑Pdiff **Pdif 02 21 54.9 +0.2**
baz=100
A21A Bergtoll Ranch 100.20 42 ⇓Pdiff **Pdif 02 21 54.1 -0.6**
baz=100
J22A Midwest 100.29 47 ⇓Pdiff **Pdif 02 21 54.7 -0.7**
baz=100
I22A 9 Mile Ranch, 100.31 47 ⇓Pdiff **Pdif 02 21 54.9 -0.5**
baz=100
M23A Laramie 100.76 49 ⇓Pdiff **Pdif 02 21 56.9 -0.7**
baz=101
E22A Miles City 100.78 44⇑Pdiff **Pdif 02 21 56.8 -0.5**
baz=101
L23A Garrett 100.81 49⇑Pdiff **Pdif 02 21 57.4 -0.4**
baz=101
F23A Volborg 101.14 45⇑Pdiff **Pdif 02 21 58.5 -0.4**
baz=101
M24A Cheyenne 101.44 49⇑Pdiff **Pdif 02 22 00.3 -0.3**
baz=102
Q26A Hugo 102.36 52⇑Pdiff **Pdif 02 22 05.6 +0.9**
baz=102
H25A Fruitdale 102.40 46⇑Pdiff **Pdif 02 22 04.3 -0.3**
baz=102
J26A Sides Ranch, S 102.77 48⇑Pdiff **Pdif 02 22 07.0 +0.7**
baz=103
U27A Thompson Grove 102.84 55 ⇓Pdiff **Pdif 02 22 07.3 +0.4**
baz=103
F26A Lodgepole 103.05 45 ⇓Pdiff **Pdif 02 22 08.0 +0.5**
baz=103
AKASG Malin Array Be 120.72 325 PKIKP **PKPdf 02 26 59.8 -0.7**
AKASG Malin Array Be 120.72 325 PKP **PKPdf 02 26 59.8 -0.7**
AKASG Malin Array Be 120.72 325 PKP **PKPdf 02 26 59.8 -0.7**
comp=Z,1.2nm,0.8s,baz=60,slow=2.5,SNR=3.7
LPAZ La Paz 128.13 119 PKP **PKPdf 02 27 16.5 0.0**
LPAZ La Paz 128.13 119 PKP **PKPdf 02 27 16.5 0.0**
comp=Z,2.5nm,1.1s,baz=1.7,slow=2.4,SNR=5.3
BRG Berggiesshubel 128.68 331 *e*PKP PKPdf 02 27 21.5 +5.7
comp=Z,8.0nm,1.2s
BRG Berggiesshubel 128.68 331 *e*PKIKP PKPdf 02 27 21.5 +5.7
BRG pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 128.82 332 *e*PKIKP **PKPdf 02 27 21.0 +5.0**
CLL Collm 128.82 332 *e*PKPdf **PKPdf 02 27 21.0 +5.0**
CLL LmV 02 59 00.0
comp=Z,900nm,22.0s
GERES GERESS Array B 130.13 330 PKP **PKPdf 02 27 17.6 -1.1**
GERES GERESS Array B 130.13 330 PKP **PKPdf 02 27 17.6 -1.1**
comp=Z,0.7nm,1.0s,baz=81,slow=4.2,SNR=5.1
MOTA Moosalm 132.43 330⇓ *i*PKIKP **PKiKP 02 27 28.2 +3.8**
comp=Z,1.6nm,0.8s
FETA Feichten 132.84 329⇑ *i*pPKPdf pPKPdf 02 27 29.3 -0.6
comp=Z,4.9nm,1.2s
DAVA Damuels 133.08 330⇑ *i*PKIKP **PKiKP 02 27 29.0 +3.4**
comp=Z,5.3nm,0.9s
CDF Champ du Feu 133.49 333 *e*PKIKP PKPdf 02 27 16.9 -8.2
comp=Z,43nm,1.6s
CDF Champ du Feu 133.49 333 *e*PKIKP PKPdf 02 27 16.9 -8.2
CDF Champ du Feu 133.49 333 *e*PKPdf PKPdf 02 27 16.9 -8.2
LPL La Plagne 135.87 331 *e*PKIKP PKPdf 02 27 21.4 -8.4
comp=Z,93nm,1.9s
LPL La Plagne 135.87 331 *e*PKIKP PKPdf 02 27 21.4 -8.4
LPL La Plagne 135.87 331 *e*PKPdf PKPdf 02 27 21.4 -8.4
LPG La Plagne 135.87 331 *e*PKIKP PKPdf 02 27 22.0 -7.9
comp=Z,30nm,1.6s
LPG La Plagne 135.87 331 *e*PKIKP PKPdf 02 27 22.0 -7.9
LPG La Plagne 135.87 331 *e*PKPdf PKPdf 02 27 22.0 -7.9
SSF Saint Saulge 136.16 335 *e*PKIKP PKPdf 02 27 22.6 -7.4
comp=Z,39nm,1.5s
SSF Saint Saulge 136.16 335 *e*PKIKP PKPdf 02 27 22.6 -7.4
SSF Saint Saulge 136.16 335 *e*PKPdf PKPdf 02 27 22.6 -7.4
PBRG Braganca 144.54 340 *e*PKP **PKPdf 02 27 49.6 +4.2**
BDFB Brasilia 144.66 134 PKP **PKPab 02 27 44.5 -0.5**
BDFB Brasilia 144.66 134 PKP **PKPab 02 27 44.5 -0.5**
comp=Z,20nm,0.8s,baz=240,slow=3.0,SNR=38
MVO Moncorvo 145.21 340 *e*PKP **PKPbc 02 27 45.9 -0.3**
POLO Lamas de Olo 145.28 341 *e*PKP **PKPbc 02 27 45.8 -0.6**
ESDC Sonseca Array 145.33 335 PKPbc **PKPbc 02 27 45.3 -1.3**
ESDC Sonseca Array 145.33 335 PKPbc **PKPbc 02 27 45.3 -1.3**
comp=Z,1.7nm,0.9s,baz=12,slow=3.2,SNR=9.0
MTE Manteigas 146.07 340 *e*PKP PKPab 02 27 55.0 +5.5
PCBR Castelo Branco 146.55 339 *e*PKP **PKPab 02 27 56.3 +5.1**
PMRV Marv??o 146.88 339 *e*PKP **PKPab 02 27 57.2 +4.6**
PTOM Tomar 147.07 340 *e*PKP **PKPab 02 27 56.0 +2.8**
EVO Evora 147.90 339 *e*PKP **PKPab 02 27 55.5 -1.1**
TAM Tamanrasset 150.03 301 *e*PKP2 **PKPbc 02 28 00.3 +0.1**
TAM Tamanrasset 150.03 301 *e*PKPbc **PKPbc 02 28 00.3 +0.1**
TAM *e*PKPab **PKPab 02 28 06.0 0.0**
TORD Torodi Ar. Bea 156.13 282 PKP **PKPdf 02 28 03.9 -0.1**
TORD Torodi Ar. Bea 156.13 282 PKP **PKPdf 02 28 03.9 -0.1**
comp=Z,1.6nm,1.1s,baz=64,slow=2.2,SNR=2.8
KIC Kosan Boka 162.45 263 *e*P **PKPab 02 28 59.4 +0.2**
comp=Z,55nm,1.7s
LIC Lamto 162.70 262 *e*P **PKPab 02 28 55.9 -4.4**
comp=Z,21nm,1.0s
TIC Toumodi 162.76 264 *e*P **PKPab 02 28 58.4 -2.2**
comp=Z,3.9nm,0.2s

IDC ***04*** *02:17:33.3±0.6,8˚.91S×157˚.69E,h0km,mb4.4/11, mb1 4.6/13,mb1mx4.4/19,mbtmp4.3/13,ML3.9/2,MS4.1/2, Ms1 4.1/2,ms1mx3.0/28,Error ellipse: s-maj=20.6km s-min=13.6km az=177.0*

NEIC ***04*** *02:17:38.2±0.4,9˚.06S×157˚.78E,h35km,mb4.5/6,Error ellipse: s-maj=14.1km s-min=8.5km az=144.0*

ISC 04 02:17:35.8±0.5,9˚.0S±0˚.1×157˚.72E±0˚.05,h17km,n53, σ0s97/44,mb4.4/19,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HNR	**Honiara**	**2.25**	**102**	Pn	**Pn**	**Sg**	**02 18 10.4**	**-1.9**
HNR				Sn		**Sg**	**02 18 49.6**	**+1.5**
HNR	**Honiara**	**2.25**	**102**	Pn	**Pn**	**Sg**	**02 18 10.4**	**-1.9**
	70nm,0.3s,baz=252,slow=3.8,SNR=11							
HNR				Lg		Lg	02 18 47.6	
	582nm,0.3s,baz=313,slow=21,SNR=12							
HNR				LR		LR	02 19 10.8	
	comp=Z,1μm,19.6s,baz=321,slow=43							
HNR	**Honiara**	**2.25**	**102**	*i* P		**Pg**	**02 18 19.1**	**+0.1**
HNR				*i* S		**Sg**	**02 18 49.5**	**+1.3**
DZM	**Mont Dzumac**	**15.50**	**148**	Pn		**P**	**02 21 17.9**	**-0.3**
DZM	**Mont Dzumac**	**15.50**	**148**	Pn		**P**	**02 21 17.9**	**-0.3**
	0.1nm,0.3s,baz=21,slow=7.1,SNR=4.9							
CTA	**Charters Tower**	**15.66**	**224**	Pn		**Pn**	**02 21 14.7**	**-1.1**
CTA	**Charters Tower**	**15.66**	**224**	Pn		**Pn**	**02 21 14.7**	**-1.1**
	0.2nm,0.3s,baz=48,slow=14,SNR=4.2							
CTAO	**Charters Tower**	**15.66**	**224**	*e*Pn		**Pn**	**02 21 14.8**	**-1.1**
WRAB	**Tennant Creek**	**25.09**	**242**	*e*P		**P**	**02 22 59.9**	**+0.1**
	21nm,1.3s							
WRA	**Warramunga Arr**	**25.10**	**242**	P		**P**	**02 22 59.4**	**-0.5**
WRA	**Warramunga Arr**	**25.10**	**242**	P		**P**	**02 22 59.4**	**-0.5**
	11nm,1.0s,baz=69,slow=9.8,SNR=16							
ASAR	**Alice Springs**	**27.07**	**234**	P		**P**	**02 23 17.2**	**-0.5**
ASAR	**Alice Springs**	**27.07**	**234**	P		**P**	**02 23 17.2**	**-0.5**
	6.8nm,1.0s,baz=69,slow=9.2,SNR=14							
STKA	**Stephens Creek**	**27.28**	**211**	*e*P		**P**	**02 23 21.3**	**+1.8**
	3.1nm,0.9s							
STKA	**Stephens Creek**	**27.28**	**211**	P		**P**	**02 23 20.9**	**+1.4**
	10nm,0.8s,baz=34,slow=12,SNR=13							
H11S3	**WAKE ISLAND Hy**	**28.68**	**18**	T		T	02 52 19.5	
	baz=199,slow=77,SNR=15							
H11S2	**WAKE ISLAND Hy**	**28.68**	**18**	T		T	02 52 01.7	
	baz=199,slow=77,SNR=20							
H11S1	**WAKE ISLAND Hy**	**28.70**	**18**	T		T	02 52 11.9	
	baz=199,slow=77,SNR=10							
H11N1	**WAKE ISLAND Hy**	**29.89**	**18**	T		T	02 54 04.5	
	baz=192,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.90**	**18**	T		T	02 54 01.2	
	baz=192							
H11N2	**WAKE ISLAND Hy**	**29.91**	**18**	T		T	02 54 03.8	
	baz=192,slow=75							
RPZ	**Rata Peaks**	**36.52**	**164**	LR		LR	02 38 12.0	
	comp=Z,837nm,19.5s,baz=40,slow=34							
KSM	**Kuching**	**48.36**	**280**	*e*P		**P**	**02 26 17.8**	**+0.6**
	4.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P		**P**	**02 28 10.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P		**P**	**02 28 10.2**	**+0.8**
	2.3nm,0.8s,baz=117,slow=4.8,SNR=8.0							
VNDA	**Vanda**	**68.57**	**179**	P		P	02 28 40.9	+3.7
VNDA	**Vanda**	**68.57**	**179**	P		P	02 28 40.9	+3.7
	3.2nm,1.2s,baz=344,slow=4.5,SNR=4.2							
SONM	**Songino Array**	**72.45**	**327**	P		**P**	**02 29 02.6**	**+1.1**
SONM	**Songino Array**	**72.45**	**327**	P		**P**	**02 29 02.6**	**+1.1**
	1.4nm,0.9s,baz=122,slow=3.6,SNR=6.7							
QSPA	**South Pole Qui**	**81.03**	**180**	*e*P		**P**	**02 29 50.2**	**+0.5**
	0.9nm,0.4s							
MCK	**McKinley**	**82.89**	**21**	*e*P		**P**	**02 29 58.7**	**-0.6**
	42nm,1.1s							
COLA	**College**	**83.95**	**20**	*e*P		**P**	**02 30 04.3**	**-0.3**
	17nm,1.0s							
ILAR	**Eielson Array**	**84.22**	**21**	P		**P**	**02 30 05.4**	**-0.7**
ILAR	**Eielson Array**	**84.22**	**21**	P		**P**	**02 30 05.4**	**-0.7**
	4.7nm,1.0s,baz=263,slow=4.4,SNR=23							
MK31	**Makanchi Array**	**86.66**	**318**	*e*P		**P**	**02 30 18.8**	**+0.1**
MKAR	**Makanchi Array**	**86.66**	**318**	P		**P**	**02 30 18.7**	**0.0**
MKAR	**Makanchi Array**	**86.66**	**318**	P		**P**	**02 30 18.7**	**0.0**
	1.1nm,0.8s,baz=101,slow=5.8,SNR=9.8							
ZALV	**Zalesovo Beam**	**87.31**	**326**	P		**P**	**02 30 20.2**	**-1.4**
ZALV	**Zalesovo Beam**	**87.31**	**326**	P		**P**	**02 30 20.2**	**-1.4**
	0.5nm,0.7s,baz=95,slow=3.2,SNR=3.3							
NVAR	**Mina Array Bea**	**90.82**	**51**	P		**P**	**02 30 40.2**	**+1.4**
NVAR	**Mina Array Bea**	**90.82**	**51**	P		**P**	**02 30 40.2**	**+1.4**
	8.1nm,1.0s,baz=248,slow=6.9,SNR=33							
TPH	**Tonopah**	**91.60**	**52**	*e*P		**P**	**02 30 43.7**	**+1.2**
	11nm,1.1s							
SHPR	**Sheep Range**	**92.96**	**54**	*e*P		**P**	**02 30 49.2**	**+0.5**
	1.4nm,0.9s							
YKA	**Yellowknife Ar**	**96.80**	**28**	P		**P**	**02 31 04.5**	**-1.0**
YKA	**Yellowknife Ar**	**96.80**	**28**	P		**P**	**02 31 04.4**	**-1.0**
	1.0nm,0.8s,baz=262,slow=4.4,SNR=15							
PDAR	**Pinedale Array**	**98.00**	**48**	P		**P**	**02 31 11.6**	**-0.1**
PDAR	**Pinedale Array**	**98.00**	**48**	P		**P**	**02 31 11.6**	**-0.1**
	1.0nm,0.9s,baz=222,slow=2.0,SNR=7.6							
BDFB	**Brasilia**	**144.68**	**134**	PKP		PKPbc	02 37 11.6	0.0
BDFB	**Brasilia**	**144.68**	**134**	PKP		PKPbc	02 37 11.6	0.0
	9.7nm,0.8s,baz=209,slow=1.8,SNR=15							
ESDC	**Sonseca Array**	**145.31**	**335**	PKPbc		**PKPbc**	**02 37 12.7**	**-0.3**
ESDC	**Sonseca Array**	**145.31**	**335**	PKPbc		**PKPbc**	**02 37 12.7**	**-0.3**
	0.3nm,0.5s,baz=39,slow=2.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**156.11**	**282**	PKPab		**PKPab**	**02 37 58.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**156.11**	**282**	PKPab		**PKPab**	**02 37 58.1**	**+0.1**
	1.0nm,0.9s,baz=90,slow=4.8,SNR=5.6							

IDC 04 02:32:45.2±1.8, 17°.94S×173°.85W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/21, mbtmp3.9/6, ML2.1/1, Error ellipse: s-maj=79.4km s-min=23.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
AFI	**Afiamalu**	**4.47**	**27**	Pn	Pn	02 33 52.8	-1.6
	5.2nm,0.3s,baz=16,slow=18,SNR=5.4						
AFI				Sn	Sn	02 34 37.6	-10
	14nm,0.3s,baz=189,slow=19,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**41.92**	**332**	T	T	03 25 49.0	
	baz=154,slow=78,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**41.92**	**332**	T	T	03 25 49.3	
	baz=154,slow=78,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**41.93**	**332**	T	T	03 25 50.4	
	baz=154,slow=78,SNR=4.0						
WRA	**Warramunga Arr**	**48.89**	**259**	P	P	02 41 32.4	-0.9
	0.6nm,0.4s,baz=97,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**48.96**	**254**	P	P	02 41 33.6	-0.2
	3.6nm,0.7s,baz=88,slow=8.6,SNR=48						
PETK	**Petropavlovsk-**	**74.90**	**343**	P	P	02 44 28.5	+0.8
	2.2nm,0.7s,baz=142,slow=8.2,SNR=3.2						
PDAR	**Pinedale Array**	**84.43**	**42**	P	P	02 45 19.8	-0.2
	0.4nm,0.7s,baz=211,slow=5.1,SNR=2.5						
ILAR	**Eielson Array**	**85.00**	**11**	P	P	02 45 21.4	-0.7
	0.3nm,0.6s,baz=224,slow=6.1,SNR=7.4						
ARCES	**ARCESS Array B**	**127.04**	**352**	PKP	PKPdf	02 51 50.6	-0.1
	1.3nm,0.6s,baz=46,slow=3.5,SNR=5.9						
FINES	**FINESS Array B**	**134.31**	**347**	PKP	PKPdf	02 52 05.4	+0.7
	1.9nm,0.9s,baz=30,slow=4.5,SNR=2.9						
CLL	**Collm**	**146.26**	**352**	*e*PKP	PKPab	02 52 28.0	-0.3
CLL				*e*		02 52 31.0	
GERES	**GERESS Array B**	**148.56**	**350**	PKPbc	PKPbc	02 52 34.3	0.0
	0.4nm,0.5s,baz=8.5,slow=2.7,SNR=4.9						

*IDC **04** 02:33:37.9±0.6, 1°.79S×81°.75W, h0km, mb4.3/15, mb1 4.4/19, mb1mx4.3/26, mbtmp4.2/19, ML3.9/3, MS4.3/7, Ms1 4.3/7, ms1mx4.1/27, Error ellipse: s-maj=23.7km s-min=12.0km az=50.0*

*IGQ **04** 02:33:37±1.3, 1°.67S×81°.85W, h5km±10km, Mb4.8, Error ellipse: s-maj=8.3km s-min=3.4km az=24.7*

*ISCJB **04** 02:33:41.7±0.2, 1°.80S±0°.03×81°.65W±0°.02, h33km, mb4.7/92, MS4.6/7, Error ellipse: s-maj=4.1km s-min=2.2km az=20.1*

*NEIC **04** 02:33:44.6±0.6, 1°.75S×81°.57W, h42km±5km, mb4.8/81, MD4.8(IGQ), Error ellipse: s-maj=6.4km s-min=3.7km az=50.0*

NEIC Felt at Bahia de Caraquez.

*BJI **04** 02:33:45.6, 1°.70S×81°.50W, h35km, mB5.1/3, Ms5.4/4, Ms7 5.0/4*

ISC 04 02:33:43.9±0.3, 1°.73S±0°.04×81°.61W±0°.05, h35km, n548, σ0°86/547, mb4.8/92, MS4.7/7, 181C-158D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
ISPT	**Isla de la Pla**	**0.71**	**49**	⇑S	**Sn**	**02 34 05.7**	**-1.6**
ISPT	**Isla de la Pla**	**0.71**	**49**	⇑P	Pn	02 33 53.1	-4.5
PECV	**Mancha de Ca P**	**1.83**	**59**	P	Pn	02 34 06.4	-6.5
JAMA	**Jama**	**2.03**	**44**	P	**Pn**	**02 34 13.7**	**-2.0**
JAMA	**Jama**	**2.03**	**44**	S	**Sn**	**02 34 38.5**	**-1.4**
ARNL	**Arenillas**	**2.38**	**139**	⇑P	**Pn**	**02 34 18.2**	**-2.2**
ARNL	**Arenillas**	**2.38**	**139**	⇑S	**Sn**	**02 34 45.4**	**-3.0**
MAG1	**Magdalena**	**2.47**	**48**	P	**Pn**	**02 34 20.2**	**-1.6**
RIOE	**Riobamba**	**2.98**	**90**	P	**Pn**	**02 34 28.7**	**-0.4**
IGUA	**Igualata**	**2.98**	**85**	P	**Pn**	**02 34 28.3**	**-1.0**
BMAS	**Trigal station**	**3.14**	**86**	⇑P	**Pn**	**02 34 31.6**	**+0.3**
PAST	**Pastocalle**	**3.15**	**71**	S	Sn	02 35 14.4	+6.4
PAST	**Pastocalle**	**3.15**	**71**	P	**Pn**	**02 34 32.8**	**+1.3**
JUI6	**Juive**	**3.16**	**35**	P	**Pn**	**02 34 31.3**	**-0.1**
ARRY	**Arrayan**	**3.17**	**86**	⇓P	**Pn**	**02 34 31.6**	**-0.1**
PAT1	**Patacocha**	**3.18**	**86**	P	**Pn**	**02 34 31.3**	**-0.7**
BPAT	**Tungurahua Vol**	**3.19**	**86**	⇑P	**Pn**	**02 34 31.4**	**-0.6**
RUN5	**Runtun**	**3.20**	**84**	P	**Pn**	**02 34 31.1**	**-1.0**
ULBA	**Ulba**	**3.22**	**85**	P	**Pn**	**02 34 32.1**	**-0.3**
CAMI	**Rancho Maria**	**3.28**	**71**	P	**Pn**	**02 34 33.4**	**+0.1**
PISA	**Pisayambo**	**3.30**	**78**	P	**Pn**	**02 34 34.5**	**+1.0**
BNAS	**Cotopaxi Volca**	**3.31**	**71**	⇑P	**Pn**	**02 34 34.5**	**+0.9**
NAS2	**Nasa**	**3.33**	**71**	P	**Pn**	**02 34 35.3**	**+1.4**
MOV1	**Cotopaxi Vol s**	**3.33**	**72**	P	**Pn**	**02 34 35.7**	**+1.6**
BREF	**Cotopaxi Volca**	**3.34**	**72**	P	**Pn**	**02 34 34.5**	**+0.1**
JUA2	**San Juan 2**	**3.36**	**63**	P	**Pn**	**02 34 33.5**	**-1.0**
BVC2	**Cotopaxi Volca**	**3.37**	**72**	P	**Pn**	**02 34 35.7**	**+1.0**
BTAM	**Cotopaxi Volca**	**3.38**	**72**	⇑P	**Pn**	**02 34 35.6**	**+0.8**
TERV	**Terraza Guagua**	**3.38**	**63**	P	**Pn**	**02 34 34.5**	**-0.3**
PINO	**Pino**	**3.39**	**63**	P	**Pn**	**02 34 33.8**	**-1.1**
PITA	**Cotopaxi Volc**	**3.39**	**70**	P	**Pn**	**02 34 34.5**	**-0.3**
VC1	**Cotopaxi 1**	**3.39**	**71**	P	**Pn**	**02 34 35.3**	**+0.5**
GGP	**Refugio Guagua**	**3.39**	**63**	P	**Pn**	**02 34 34.5**	**-0.4**
TAMB	**Tambo**	**3.41**	**72**	P	**Pn**	**02 34 36.6**	**+1.5**
COV1	**Cotopaxi Volc**	**3.44**	**72**	P	**Pn**	**02 34 35.6**	**0.0**
MACE	**Macas**	**3.45**	**99**	P	**Pn**	**02 34 34.4**	**-1.0**
ANTI	**Antisana**	**3.68**	**70**	P	**Pn**	**02 34 39.1**	**+0.2**
OTAV	**Otavalo**	**3.72**	**58**	*e*Pn	**Pn**	**02 34 36.9**	**-2.4**
OTAV				*e*S	**Sn**	02 35 19.7	-2.5
OTAV	**Otavalo**	**3.72**	**58**	⇑P	**Pn**	**02 34 37.5**	**-1.8**
CAYR	**Refugio Cayamb**	**4.00**	**64**	P	**Pn**	**02 34 44.2**	**+0.8**
ANGU	**Angureal**	**4.01**	**64**	P	Pn	02 34 47.8	+4.2
CAYA	**Cayambe**	**4.04**	**64**	P	**Pn**	**02 34 44.3**	**+0.5**
LITE	**Lita**	**4.11**	**52**	P	**Pn**	**02 34 43.8**	**-0.7**
ATAH	**Atahualpa**	**6.25**	**149**	Pn	**Pn**	**02 35 13.9**	**-0.2**
ATAH				Sn	**Sn**	**02 36 26.1**	**+1.5**
ATAH	**Atahualpa**	**6.25**	**149**	Pn	**Pn**	**02 35 13.9**	**-0.2**
	6.3nm,0.3s,baz=330,slow=8.3,SNR=19						
ATAH				Sn	**Sn**	**02 36 26.1**	**+1.5**
	7.2nm,0.3s,baz=163,slow=24,SNR=6.1						
PAYG	**Puerto Ayora**	**8.73**	**277**	*e*Pn	**Pn**	**02 35 49.3**	**+1.4**
	85nm,1.0s						
PAYG				*e*S	Sn	02 37 16.4	-8.7
ROSC	**El Rosal**	**9.79**	**48**	*e*Pn	**Pn**	**02 36 04.6**	**+1.9**
ROSC					**Sn**	**02 37 56.6**	**+5.1**
ROSC	**El Rosal**	**9.79**	**48**	Pn	**Pn**	**02 36 02.6**	**0.0**
	0.8nm,0.3s,baz=342,slow=17,SNR=4.1						
ROSC				Sn	**Sn**	**02 37 56.6**	**+5.1**
	0.8nm,0.3s,baz=264,slow=18,SNR=2.1						
BCIP	**Isla Barro Col**	**10.97**	**9**	*e*Pn	Pn	02 36 12.5	-6.0
NNA	**Nana**	**11.23**	**155**	*e*Pn	**Pn**	**02 36 21.7**	**-0.5**
NNA				*e*S	**Sn**	**02 38 25.3**	**-1.3**
JTS	**JuntasAbangare**	**12.40**	**345**	*e*Pn	**Pn**	**02 36 40.8**	**+2.7**
JTS	**JuntasAbangare**	**12.40**	**345**	Pn	**Pn**	**02 36 36.7**	**-1.3**
	0.2nm,0.3s,baz=306,slow=19,SNR=2.2						
JTS				LR	LR	02 40 11.3	
	comp=Z,2μm,20.1s,baz=169,slow=32						
SDV	**Santo Domingo**	**15.20**	**46**	*e*Pn	**Pn**	**02 37 15.6**	**-0.7**
	13nm,1.1s						
TGUH	**Tegucigalpa,Un**	**16.66**	**340**	*e*Pn	**Pn**	**02 37 32.8**	**-2.0**
	189nm,1.6s						
APG	**El Apazote**	**18.79**	**333**	LR	LR	02 43 43.8	
	comp=Z,1μm,18.8s,baz=69,slow=32						
LPAZ	**La Paz**	**19.64**	**138**	*e*P	**P**	**02 38 08.5**	**-1.9**
	72nm,1.9s						
LPAZ	**La Paz**	**19.64**	**138**	P	**P**	**02 38 10.4**	**0.0**
	0.3nm,0.3s,baz=321,slow=9.9,SNR=14						
LPAZ				LR	LR	02 45 12.2	
	comp=Z,235nm,21.3s,baz=302,slow=35						
SAML	**Samuel**	**19.69**	**112**	*e*P	**P**	**02 38 09.3**	**-1.0**
	16nm,0.9s						
PTGA	**Pitinga**	**21.66**	**88**	*e*P	**P**	**02 38 30.4**	**-1.3**
	38nm,1.1s						
PTGA	**Pitinga**	**21.66**	**88**	P	**P**	**02 38 31.4**	**-0.3**
	28nm,0.9s,baz=266,slow=9.4,SNR=22						
PTGA				LR	LR	02 46 55.5	
	comp=Z,732nm,18.1s,baz=270,slow=37						
TEIG	**Tepich**	**22.78**	**344**	*e*P	**P**	**02 38 44.9**	**+1.3**
	13nm,1.0s						
TEIG	**Tepich**	**22.78**	**344**	P	**P**	**02 38 42.5**	**-1.0**
	6.4nm,0.7s,baz=147,slow=10,SNR=3.0						
LVC	**Limon Verde**	**24.15**	**150**	*e*P	**P**	**02 38 59.4**	**+2.2**
	47nm,1.6s						
LSP	**Las Mesas**	**24.41**	**35**	*e*P	**P**	**02 38 59.6**	**+0.3**
CELP	**Cerrillos**	**24.63**	**36**	*e*P	**P**	**02 39 02.2**	**+0.9**
SIV	**San Ignacio**	**24.71**	**126**	P	**P**	**02 39 02.5**	**+0.3**
SIV	**San Ignacio**	**24.71**	**126**	P	**P**	**02 39 02.5**	**+0.3**
	5.5nm,0.7s,baz=304,slow=10.0,SNR=14						
SIV				LR	LR	02 49 58.6	
	comp=Z,699nm,21.8s,slow=40						
AOPR	**Arecibo Observ**	**24.74**	**36**	*e*P	**P**	**02 39 02.3**	**0.0**
	87nm,1.3s						
CDVI	**St. Croix**	**25.50**	**40**	*e*P	**P**	**02 39 09.8**	**+0.6**
	78nm,0.9s						
H03N2	**Juan Fernandez**	**31.64**	**176**	T	T	03 14 29.6	
	baz=354,slow=75,SNR=310						
H03N1	**Juan Fernandez**	**31.65**	**176**	T	T	03 14 29.8	
	baz=354,slow=75,SNR=330						
H03N3	**Juan Fernandez**	**31.66**	**176**	T	T	03 14 30.9	
	baz=354,slow=75,SNR=350						
835A	**Beeville**	**33.66**	**334**	⇓P	**P**	**02 40 21.6**	**0.0**
	baz=34						
CPUP	**Villa Florida**	**33.81**	**138**	LR	LR	02 56 46.2	
	comp=Z,228nm,18.9s,baz=306,slow=41						
834A	**Tilden**	**33.85**	**332**	⇑P	**P**	**02 40 23.3**	**0.0**
	baz=34						
833A	**Chaparral WMA,**	**34.41**	**332**	⇑P	**P**	**02 40 28.3**	**+0.2**
	baz=35						
832A	**Faith Ranch, C**	**34.66**	**331**	⇑P	**P**	**02 40 30.4**	**+0.1**
	baz=35						
LRAL	**Lakeview Retre**	**34.95**	**352**	*e*P	**P**	**02 40 33.5**	**+0.8**
	13nm,0.8s						
535A	**Dale**	**35.06**	**335**	⇓P	**P**	**02 40 34.0**	**+0.3**
	baz=35						
633A	**Saathoff Ranch**	**35.27**	**333**	⇑P	**P**	**02 40 35.6**	**0.0**
	baz=36						
534A	**Blanco**	**35.45**	**334**	⇓P	**P**	**02 40 37.5**	**+0.4**
	baz=36						
632A	**Uvalde**	**35.59**	**332**	⇑P	**P**	**02 40 38.2**	**-0.1**
	baz=36,SNR=6.2						
533A	**Kerrville**	**35.73**	**334**	⇑P	**P**	**02 40 40.0**	**+0.5**
	baz=36						
631A	**Perdido Creek**	**35.89**	**331**	⇓P	**P**	**02 40 40.6**	**-0.3**
	baz=36,SNR=7.4						
BDFB	**Brasilia**	**35.89**	**115**	P	**P**	**02 40 39.8**	**-1.3**
BDFB	**Brasilia**	**35.89**	**115**	P	**P**	**02 40 39.8**	**-1.3**
	3.0nm,0.8s,baz=275,slow=11,SNR=4.7						
BDFB				LR	LR	02 57 22.8	
	comp=Z,1μm,18.0s,baz=24,slow=40						
434A	**Burnet**	**36.04**	**335**	⇓P	**P**	**02 40 42.4**	**+0.3**
	baz=36						
335A	**Moody**	**36.11**	**337**	⇓P	**P**	**02 40 43.4**	**+0.7**
	baz=36						
532A	**Rocksprings**	**36.17**	**333**	⇓P	**P**	**02 40 43.6**	**+0.3**
	baz=36,SNR=7.0						
433A	**Art**	**36.34**	**334**	⇑P	**P**	**02 40 45.0**	**+0.3**
	baz=36,SNR=8.7						
JCT	**Junction City**	**36.42**	**333**	*e*P	**P**	**02 40 45.7**	**+0.2**
	15nm,1.0s						
JCT	**Junction City**	**36.42**	**333**	⇑P	**P**	**02 40 45.7**	**+0.2**
	baz=37,SNR=6.5						
334A	**Lometa**	**36.48**	**336**	⇑P	**P**	**02 40 46.0**	**+0.2**
	baz=37						
531A	**Rocksprings**	**36.50**	**332**	⇓P	**P**	**02 40 46.8**	**+0.7**
	baz=37,SNR=10						
KMSC	**Kings Mountain**	**36.68**	**0**	⇓P	**P**	**02 40 47.5**	**0.0**
	baz=37						
WHTX	**Lake Whitney**	**36.75**	**337**	⇑P	**P**	**02 40 48.5**	**+0.3**
	baz=37						
432A	**Menard**	**36.76**	**333**	⇑P	**P**	**02 40 48.6**	**+0.3**
	baz=37						
333A	**Richland Sprin**	**36.79**	**335**	⇑P	**P**	**02 40 48.8**	**+0.3**
	baz=37						
530A	**J-C Ranch, Com**	**36.87**	**331**	⇑P	**P**	**02 40 49.4**	**+0.2**
	baz=37,SNR=7.9						
431A	**Sonora**	**36.97**	**332**	⇑P	**P**	**02 40 50.3**	**+0.2**
	baz=37,SNR=7.2						
234A	**Clairette**	**37.03**	**336**	⇑P	**P**	**02 40 51.2**	**+0.7**
	baz=37						
628A	**Black Gap, Mar**	**37.12**	**328**	⇑P	**P**	**02 40 51.9**	**+0.5**
	baz=37						
332A	**Millersview**	**37.17**	**334**	⇑P	**P**	**02 40 52.1**	**+0.4**
	baz=37						
529A	**Stev Forest Ra**	**37.29**	**330**	⇑P	**P**	**02 40 53.6**	**+0.8**
	baz=38						
430A	**Baggett Ranch,**	**37.35**	**332**	⇓P	**P**	**02 40 54.1**	**+0.8**
	baz=38						
233A	**Rising Star**	**37.35**	**335**	⇓P	**P**	**02 40 53.7**	**+0.4**
	baz=38						
627A	**Terlingua Ranc**	**37.35**	**328**	⇓P	**P**	**02 40 53.8**	**+0.3**
	baz=38						
331A	**San Angelo**	**37.41**	**333**	⇑P	**P**	**02 40 54.4**	**+0.6**
	baz=38						
TXAR	**Lajitas Array**	**37.41**	**327**	P	**P**	**02 40 53.8**	**-0.2**
TXAR				PcP	**PcP**	**02 43 12.4**	**+0.1**
TXAR	**Lajitas Array**	**37.41**	**327**	P	**P**	**02 40 53.8**	**-0.2**
	0.5nm,0.7s,baz=150,slow=7.3,SNR=3.3						
TXAR				PcP	**PcP**	**02 43 12.4**	**+0.1**
	0.7nm,0.6s,baz=162,slow=5.3,SNR=4.0						
134A	**White-Moore Ra**	**37.51**	**337**	⇓P	**P**	**02 40 54.9**	**+0.3**
	baz=38						
429A	**Davenport Ranc**	**37.53**	**331**	⇑P	**P**	**02 40 55.4**	**+0.5**
	baz=38						
232A	**Coleman**	**37.56**	**334**	⇑P	**P**	**02 40 55.3**	**+0.2**
	baz=38						
626A	**Big Bend Ranch**	**37.83**	**327**	⇑P	**P**	**02 40 57.9**	**+0.4**
	baz=38						
330A	**Mertzon**	**37.84**	**332**	⇓P	**P**	**02 40 58.2**	**+0.8**
	baz=38						
133A	**Hamilton Ranch**	**37.87**	**336**	⇑P	**P**	**02 40 58.1**	**+0.4**
	baz=38						
231A	**Bronte**	**37.89**	**334**	⇑P	**P**	**02 40 57.6**	**-0.3**
	baz=38						
428A	**Kincaid Ranch,**	**38.01**	**330**	⇑P	**P**	**02 40 59.3**	**+0.3**
	baz=38,SNR=7.5						
527A	**Woodward Ranch**	**38.02**	**328**	⇑P	**P**	**02 40 59.1**	**0.0**
	baz=38						
Z34A	**Collier Ranch,**	**38.15**	**338**	⇑P	**P**	**02 41 00.4**	**+0.4**
	baz=38						
ABTX	**Abilene, Hawle**	**38.19**	**335**	*e*P	**P**	**02 41 00.9**	**+0.6**
	34nm,1.6s						
ABTX	**Abilene, Hawle**	**38.19**	**335**	⇑P	**P**	**02 41 00.2**	**-0.1**
	baz=38						
526A	**Mary Lane Ranc**	**38.21**	**328**	⇑P	**P**	**02 41 01.2**	**+0.5**
	baz=38,SNR=6.8						
230A	**Sterling City**	**38.21**	**333**	⇓P	**P**	**02 41 00.8**	**+0.2**
	baz=38						
329A	**Wagon Wheel Ra**	**38.28**	**331**	⇑P	**P**	**02 41 01.5**	**+0.3**
	baz=38,SNR=11						
Z33A	**Whitaker Ranch**	**38.41**	**337**	⇑P	**P**	**02 41 02.7**	**+0.5**
	baz=39						
427A	**Hayter Ranch,**	**38.47**	**329**	⇑P	**P**	**02 41 03.2**	**+0.3**
	baz=39,SNR=5.5						
131A	**Roby**	**38.55**	**334**	⇑P	**P**	**02 41 03.4**	**0.0**
	baz=39						
229A	**Bryant Ranch,**	**38.60**	**332**	⇓P	**P**	**02 41 03.9**	**0.0**
	baz=39						
328A	**Wristen Ranch,**	**38.60**	**330**	⇑P	**P**	**02 41 04.2**	**+0.3**
	baz=39,SNR=8.8						
Y34A	**Reagan Ranch,**	**38.61**	**338**	⇑P	**P**	**02 41 04.1**	**+0.2**
	baz=39						
426A	**McDonald Obser**	**38.65**	**328**	⇓P	**P**	**02 41 04.6**	**0.0**
	baz=39,SNR=8.5						
Z32A	**Haskell**	**38.71**	**336**	⇑P	**P**	**02 41 04.8**	**0.0**
	baz=39						
130A	**Snyder**	**38.74**	**333**	⇓P	**P**	**02 41 05.0**	**-0.1**
	baz=39,SNR=6.8						
Y33A	**Hilltop Ranch,**	**38.99**	**337**	⇑P	**P**	**02 41 07.4**	**+0.4**
	baz=39						
Z31A	**Sharp Cattle R**	**39.00**	**335**	⇑P	**P**	**02 41 07.3**	**+0.1**
	baz=39						
228A	**UT Block 9, Go**	**39.10**	**331**	⇑P	**P**	**02 41 07.7**	**-0.4**
	baz=39						
326A	**Caldwell Ranch**	**39.14**	**329**	⇑P	**P**	**02 41 08.5**	**+0.1**
	baz=39,SNR=8.0						
129A	**Stewart Farms,**	**39.18**	**332**	⇓P	**P**	**02 41 08.6**	**-0.1**
	baz=39,SNR=6.6						
X34A	**Smith Ranch, M**	**39.22**	**339**	⇓P	**P**	**02 41 08.9**	**-0.1**
	baz=39						
425A	**Indio Mountain**	**39.25**	**327**	⇓P	**P**	**02 41 09.5**	**0.0**
	baz=39,SNR=8.0						
Y32A	**R-V Farms, Ver**	**39.30**	**336**	⇑P	**P**	**02 41 09.7**	**0.0**
	baz=40						
227A	**Bennet, Jal**	**39.35**	**330**	⇓P	**P**	**02 41 10.2**	**0.0**
	baz=40						
Z30A	**Sanderson Ranc**	**39.40**	**334**	⇓P	**P**	**02 41 10.3**	**-0.2**
	baz=40,SNR=6.8						
X33A	**Lawton**	**39.41**	**338**	⇓P	**P**	**02 41 10.4**	**-0.2**
	baz=40						
128A	**Castleberry Fa**	**39.46**	**332**	⇑P	**P**	**02 41 11.3**	**+0.2**
	baz=40						
Y31A	**Rekieta Farm,**	**39.60**	**335**	⇑P	**P**	**02 41 12.4**	**+0.2**
	baz=40,SNR=7.9						
X32A	**Elmer**	**39.61**	**337**	⇓P	**P**	**02 41 12.6**	**+0.4**
	baz=40						
Z29A	**Hungry Hill Ra**	**39.63**	**333**	⇓P	**P**	**02 41 12.2**	**-0.4**
	baz=40,SNR=8.1						
325A	**Bean Ranch, Si**	**39.70**	**328**	⇑P	**P**	**02 41 12.9**	**-0.3**
	baz=40,SNR=6.9						
TUL1	**Tulsa**	**39.72**	**342**	*e*P	**P**	**02 41 12.7**	**-0.4**
	19nm,1.3s						
TUL1	**Tulsa**	**39.72**	**342**	⇓P	**P**	**02 41 13.2**	**+0.1**
	baz=40						
W34A	**Bridge Creek,**	**39.76**	**339**	⇓P	**P**	**02 41 13.5**	**0.0**
	baz=40						
Y30A	**Stafford Cattl**	**39.80**	**335**	⇑P	**P**	**02 41 14.6**	**+0.7**
	baz=40,SNR=6.1						
226B	**Tecolote Peak,**	**39.84**	**329**	⇑P	**P**	**02 41 14.7**	**+0.4**
	baz=40,SNR=9.6						
127A	**Arkansas Junct**	**39.92**	**331**	⇑P	**P**	**02 41 14.8**	**-0.2**
	baz=40						
W33A	**Caddo, Fort Co**	**39.94**	**338**	⇓P	**P**	**02 41 15.0**	**0.0**
	baz=40						
Z28A	**Tucker Farm, M**	**39.97**	**332**	⇑P	**P**	**02 41 15.3**	**0.0**
	baz=40						
324A	**Moseley Ranch,**	**40.03**	**327**	⇑P	**P**	**02 41 15.5**	**-0.4**
	baz=40,SNR=8.6						
X31A	**McDonald Ranch**	**40.07**	**336**	⇑P	**P**	**02 41 16.2**	**+0.1**
	baz=40						
PLCA	**Paso Flores**	**40.10**	**167**	*e*P	**P**	**02 41 15.8**	**-0.5**
	22nm,1.7s						
PLCA	**Paso Flores**	**40.10**	**167**	P	**P**	**02 41 14.8**	**-1.4**
	1.4nm,0.6s,baz=1.9,slow=7.1,SNR=3.4						
Y29A	**Porterfield Fa**	**40.12**	**334**	⇓P	**P**	**02 41 16.6**	**0.0**
	baz=40						
225A	**Deer Hill, Car**	**40.20**	**329**	⇑P	**P**	**02 41 17.7**	**+0.3**
	baz=40,SNR=10						
V34A	**Guthrie**	**40.21**	**340**	⇑P	**P**	**02 41 17.0**	**-0.2**
	baz=40						
126A	**Clayton Basin,**	**40.23**	**330**	⇓P	**P**	**02 41 17.6**	**+0.1**
	baz=40						
X30A	**Coker Ranch, T**	**40.28**	**335**	⇑P	**P**	**02 41 18.1**	**+0.3**
	baz=40,SNR=7.7						
Z27A	**Tatum**	**40.38**	**332**	⇓P	**P**	**02 41 18.4**	**-0.3**
	baz=41,SNR=12						
TRQA	**Tornquist**	**40.40**	**156**	*e*P	**P**	**02 41 18.0**	**-0.7**
	10nm,1.3s						
Y28A	**McKinney Farm,**	**40.42**	**333**	⇓P	**P**	**02 41 18.7**	**-0.4**
	baz=41						
V33A	**Lossen Ranch,**	**40.47**	**339**	⇓P	**P**	**02 41 19.4**	**0.0**
	baz=41						
224A	**Cornudas Mount**	**40.55**	**328**	⇑P	**P**	**02 41 19.9**	**-0.3**
	baz=41,SNR=8.6						
125A	**Gardner Draw,**	**40.56**	**329**	⇑P	**P**	**02 41 20.5**	**+0.3**
	baz=41,SNR=6.5						
V32A	**Arapaho**	**40.66**	**338**	⇓P	**P**	**02 41 20.7**	**-0.2**
	baz=41						
MSTX	**Muleshoe**	**40.71**	**333**	*e*P	**P**	**02 41 21.2**	**-0.2**
	16nm,0.9s						
MSTX	**Muleshoe**	**40.71**	**333**	⇓P	**P**	**02 41 21.6**	**+0.1**
	baz=41,SNR=7.6						
Z26A	**Caprock**	**40.71**	**331**	⇓P	**P**	**02 41 21.9**	**+0.4**
	baz=41,SNR=17						
U34A	**Anderson Ranch**	**40.77**	**340**	⇓P	**P**	**02 41 22.1**	**+0.3**
	baz=41						
Y27A	**Causey**	**40.82**	**332**	⇓P	**P**	**02 41 22.4**	**-0.1**
	baz=41,SNR=12						
X28A	**Dimmitt**	**40.91**	**334**	⇓P	**P**	**02 41 23.4**	**+0.2**
	baz=41						
U33A	**Lingo Farm, Me**	**40.96**	**340**	⇓P	**P**	**02 41 23.6**	**+0.2**
	baz=41						
AMTX	**Amarillo**	**40.99**	**335**	*e*P	**P**	**02 41 23.7**	**-0.1**
	76nm,1.8s						
AMTX	**Amarillo**	**40.99**	**335**	⇑P	**P**	**02 41 23.8**	**0.0**
	baz=41						
V31A	**Spring Creek L**	**41.01**	**337**	⇑P	**P**	**02 41 24.1**	**+0.2**
	baz=41						
Z25A	**Roswell**	**41.08**	**330**	⇑P	**P**	**02 41 25.0**	**+0.4**
	baz=41,SNR=9.0						
Y26A	**Elida**	**41.17**	**331**	⇑P	**P**	**02 41 25.7**	**+0.4**
	baz=41						
W29A	**Amraillo**	**41.18**	**335**	⇓P	**P**	**02 41 25.1**	**-0.2**
	baz=41						
U32A	**Winter Ranch,**	**41.23**	**339**	⇑P	**P**	**02 41 25.5**	**-0.1**
	baz=41						
123A	**Bell Site, Whi**	**41.37**	**328**	⇓P	**P**	**02 41 27.1**	**+0.1**
	baz=42						
222A	**Williams Famil**	**41.42**	**326**	⇑P	**P**	**02 41 28.5**	**+1.1**
	baz=42,SNR=6.5						
X27A	**F and S Farms,**	**41.42**	**333**	⇑P	**P**	**02 41 27.8**	**+0.4**
	baz=42						
Z24A	**Sheeppen Canyo**	**41.45**	**329**	⇑P	**P**	**02 41 28.2**	**+0.5**
	baz=42,SNR=13						
U31A	**Nine Bar Ranch**	**41.54**	**338**	⇓

U25A	Circle Dot Ran baz=44	43.47 333	⇓P	P	02 41 44.7 +0.6
TUC	Tucson 5.8nm,0.9s	43.69 323	eP	P	02 41 45.6 -0.2
Q31A	Ellis baz=44	43.71 340	⇓P	P	02 41 46.2 +0.4
V23A	Ortiz Mt. (NFS baz=44	43.78 331	⇓P	P	02 41 46.7 +0.1
R29A	Marienthal baz=44	43.83 338	⇓P	P	02 41 46.8 0.0
U24A	Moreno Valley baz=44	43.88 332	⇑P	P	02 41 47.6 +0.1
Q30A	Quinter baz=44	43.98 339	⇑P	P	02 41 48.5 +0.6
R28A	Tribune baz=44,SNR=6.5	44.02 337	⇓P	P	02 41 48.6 +0.3
S26A	Kim baz=44	44.08 335	⇑P	P	02 41 48.9 +0.1
T25A	Trinidad baz=44,SNR=5.6	44.08 334	⇓P	P	02 41 50.0 +0.9
P31A	Stockton baz=44	44.17 340	⇓P	P	02 41 49.7 +0.2
Q29A	Oakley baz=44	44.18 338	⇓P	P	02 41 49.8 +0.2
U23A	El Rito baz=44,SNR=6.9	44.25 331	⇓P	P	02 41 51.4 +1.0
V22A	San Miguel Ran baz=44	44.27 330	⇓P	P	02 41 50.8 +0.2
R27A	Eads baz=45,SNR=8.5	44.36 336	⇓P	P	02 41 51.2 +0.1
T24B	San Luis baz=45	44.46 333	⇓P	P	02 41 52.5 +0.3
O32A	Brockman Farm, baz=45	44.48 342	⇑P	P	02 41 52.7 +0.8
P30A	Selden baz=45	44.49 339	⇑P	P	02 41 52.5 +0.5
S25A	Robets Cordova baz=45,SNR=7.4	44.53 334	⇓P	P	02 41 53.2 +0.7
U22A	Llaves baz=45	44.61 331	⇓P	P	02 41 53.5 +0.2
R26A	Arlington baz=45,SNR=6.2	44.64 335	⇑P	P	02 41 54.1 +0.7
Q28A	Sharon Springs baz=45	44.65 337	⇑P	P	02 41 53.9 +0.5
214A	Organ Pipe Nat 8.0nm,0.8s	44.68 321	eP	P	02 41 54.0 +0.3
214A	Organ Pipe Nat baz=45	44.68 321	⇑P	P	02 41 54.1 +0.4
T23A	Casias Ranch, baz=45,SNR=9.1	44.74 332	⇑P	P	02 41 54.9 +0.6
X18A	Snowflake baz=45,SNR=8.0	44.81 326	⇓P	P	02 41 55.6 +0.7
S24A	Houchin Ranch, baz=45	44.86 333	⇑P	P	02 41 55.9 +0.6
R25A	Fountain Ranch baz=45	44.87 334	⇑P	P	02 41 55.7 +0.5
KSCO	Kaye Shedlock' 26nm,1.4s	44.92 337	eP	P	02 41 55.8 +0.3
KSCO	Kaye Shedlock' baz=45	44.92 337	⇑P	P	02 41 56.2 +0.7
O30A	MW Ranch, Wils baz=45	44.99 340	⇓P	P	02 41 56.7 +0.7
P28A	Saint Francis baz=45	45.07 338	⇑P	P	02 41 57.4 +0.8
SDCO	Great Sand Dun 13nm,1.3s	45.07 333	eP	P	02 41 57.2 +0.2
W18A	Petrified Fore 20nm,1.1s	45.13 327	eP	P	02 41 58.1 +0.8
W18A	Petrified Fore baz=45	45.13 327	⇑P	P	02 41 57.7 +0.3
Q26A	Hugo baz=45	45.20 336	⇓P	P	02 41 58.4 +0.5
O29A	4D Ranch, Culb baz=45	45.20 339	⇓P	P	02 41 58.4 +0.7
R24A	Sanders Place, baz=46	45.30 334	⇑P	P	02 41 59.1 +0.4
P27A	Ficken Ranch, baz=46	45.37 337	⇓P	P	02 42 00.1 +1.0
Q25A	Bedland, Calha baz=46	45.49 335	⇓P	P	02 42 00.7 +0.5
O28A	Krutsinger Ran baz=46	45.56 338	⇓P	P	02 42 01.1 +0.5
X16A	Lo Mia Camp, P baz=46	45.57 325	⇓P	P	02 42 00.9 0.0
R23A	Moffat baz=46	45.58 333	⇓P	P	02 42 01.2 +0.2
P26A	Davis Ranch, A baz=46	45.67 336	⇓P	P	02 42 02.2 +0.7
M31A	Lambtecht Ranc baz=46	45.69 342	⇑P	P	02 42 01.7 +0.2
S22A	4UR Ranch, Cre baz=46	45.69 332	⇑P	P	02 42 02.3 +0.4
Z14A	Wintersburg baz=46	45.72 323	⇓P	P	02 42 02.1 +0.2
O27A	Beecher Island baz=46	45.88 338	⇓P	P	02 42 03.6 +0.5
N28A	Pribbeno Ranch baz=46	45.96 339	⇑P	P	02 42 04.4 +0.7
P25A	Willow Gulch B baz=46	45.97 336	⇓P	P	02 42 04.0 +0.1
MVCO	Mesa Verde 30nm,1.8s	46.08 330	eP	P	02 42 05.1 +0.3
MVCO	Mesa Verde baz=46	46.08 330	⇓P	P	02 42 04.5 -0.4
Y14A	Wickenburg baz=46	46.16 323	⇑P	P	02 42 05.4 0.0
WUAZ	Wupatki 18nm,0.9s	46.33 326	eP	P	02 42 07.5 +0.7
WUAZ	Wupatki baz=46,SNR=9.4	46.33 326	⇑P	P	02 42 07.8 +1.0
M29A	Burnside Ranch baz=46	46.34 340	⇑P	P	02 42 07.2 +0.5
L31A	Butterfield Fa baz=47	46.40 342	⇓P	P	02 42 07.5 +0.4
N27A	Anderson Farm, baz=47	46.43 338	⇓P	P	02 42 07.7 +0.2
P23A	Jefferson baz=47,SNR=10	46.56 334	⇑P	P	02 42 09.6 +0.8
ISCO	Idaho Springs 6.8nm,1.1s	46.81 335	eP	P	02 42 11.0 +0.3
ISCO	Idaho Springs baz=47	46.81 335	⇑P	P	02 42 11.0 +0.3
O24A	Longmont baz=47	46.85 335	⇓P	P	02 42 11.4 +0.5
SMCO	Snowmass 5.4nm,1.0s	46.91 333	eP	P	02 42 12.5 +1.0
Y12C	Blythe baz=47	46.95 322	⇑P	P	02 42 11.9 +0.3
K30A	Basset baz=47	47.09 342	⇑P	P	02 42 13.4 +0.8
P22A	Eagle baz=47	47.15 333	⇑P	P	02 42 13.4 +0.1
PV04	Paradox Valley	47.20 331	eP	P	02 42 14.3 +0.7
ECSD	EROS Data Cent baz=47	47.22 345	⇓P	P	02 42 13.4 -0.1
O23A	Lake Granby, G baz=48	47.29 335	⇓P	P	02 42 14.7 +0.3
L27A	T5 Ranch, Ells baz=48	47.47 339	⇑P	P	02 42 16.0 +0.5
BC3	Big Chuckawall baz=48	47.47 321	⇓P	P	02 42 16.2 +0.5
W13A	Hualapai Mount baz=48,SNR=14	47.48 324	⇓P	P	02 42 16.5 +0.6
U15A	North Rim baz=48	47.50 326	⇑P	P	02 42 16.9 +0.8
O22A	Kremmling baz=48	47.52 334	⇑P	P	02 42 16.4 +0.2
M25A	Palm-Egli Farm baz=48	47.55 337	⇓P	P	02 42 16.6 +0.3
MONP	Monument Peak baz=48	47.60 319	⇓P	P	02 42 17.5 +0.6
IRM	Iron Mountain baz=48,SNR=6.6	47.62 322	⇑P	P	02 42 17.3 +0.6
BAR	Barrett 4.9nm,0.9s	47.63 319	eP	P	02 42 16.9 +0.1
K28A	Ten Mile Ranch baz=48	47.70 340	⇑P	P	02 42 18.0 +0.8
J29A	Okreek baz=48	47.98 342	⇓P	P	02 42 19.6 +0.2
K27A	Fluecking Fa baz=48	47.98 340	⇓P	P	02 42 20.3 +0.7
N22A	Wattenberg Ran baz=48	48.01 335	⇑P	P	02 42 20.1 +0.2
BELC	Belle Mtn. Jos baz=48	48.04 321	⇓P	P	02 42 20.5 +0.3
PFO	Pinyon Flat Ob 7.6nm,1.0s	48.08 320	eP	P	02 42 20.8 +0.3
PFO	Pinyon Flat Ob baz=48	48.08 320	⇓P	P	02 42 21.2 +0.7
O20A	White River Ci 60nm,2.3s	48.26 333	eP	P	02 42 24.1 +2.2
O20A	White River Ci baz=48	48.26 333	⇓P	P	02 42 22.4 +0.6
J28A	Allard Ranch, baz=48	48.28 341	⇑P	P	02 42 22.7 +0.9
K26A	Motz Farm, Whi baz=48	48.32 339	⇓P	P	02 42 22.8 +0.7
GMRC	Granite Mounta baz=48	48.34 322	⇑P	P	02 42 23.1 +0.6
J27A	Elkhorn Farm, baz=49	48.39 340	⇑P	P	02 42 23.1 +0.5
I28A	Midland baz=49	48.78 341	⇓P	P	02 42 25.9 +0.3
HEC	Hector,Ludlow baz=49,SNR=10	48.79 321	⇑P	P	02 42 26.7 +0.8
J26A	Sides Ranch, S baz=49	48.81 339	⇑P	P	02 42 26.4 +0.5
N20A	Spence Gulch, baz=49	48.83 333	⇑P	P	02 42 26.3 +0.1
CCUT	Cedar City 5.7nm,1.0s	48.90 326	eP	P	02 42 27.6 +0.8
TUQ	Turquoise Moun baz=49	48.94 322	⇓P	P	02 42 27.2 +0.1
MVU	Marysvale 5.1nm,0.9s	48.97 328	eP	P	02 42 27.9 +0.6
L22A	Ellis Ranch, M baz=49	49.01 336	⇓P	P	02 42 28.3 +0.7
ARUT	Antelope Range 175nm,0.9s	49.11 326	eP	P	02 42 29.2 +0.8
I27A	Quinn baz=49	49.13 341	⇑P	P	02 42 28.7 +0.4
J25A	Sunshine Ranch baz=49	49.14 339	⇓P	P	02 42 28.7 +0.2
SHPR	Sheep Range	49.20 324	eP	P	02 42 29.7 +0.6
CIS	Catalina Islan baz=49	49.22 319	⇓P	P	02 42 29.7 +0.6
BFSC	Mount Baldy Ra baz=49	49.25 320	⇑P	P	02 42 29.9 +0.4
I26A	New Underwood baz=50	49.37 340	⇓P	P	02 42 30.7 +0.6
GSC	Goldstone 30nm,1.0s	49.39 322	eP	P	02 42 30.8 +0.3
GSC	Goldstone baz=50,SNR=6.1	49.39 322	⇑P	P	02 42 31.0 +0.5
J24A	Dixon Ranch, L baz=50	49.41 338	⇑P	P	02 42 31.4 +0.9
SHOC	Shoshone baz=50	49.46 323	⇑P	P	02 42 31.0 +0.1
K22A	Casper baz=50	49.57 336	⇓P	P	02 42 31.7 0.0
H27A	Howes baz=50	49.64 341	⇓P	P	02 42 32.4 +0.3
I25A	Rochford baz=50,SNR=6.0	49.66 339	⇓P	P	02 42 33.0 +0.5
G28A	Parade baz=50	49.66 342	⇓P	P	02 42 32.6 +0.3
MPU	Maple Canyon 59nm,2.5s	49.80 330	eP	P	02 42 33.8 +0.1
I24A	Kuemmerle Ranc baz=50	49.85 338	⇑P	P	02 42 34.3 +0.4
K21A	Alcova baz=50	49.85 335	⇓P	P	02 42 34.3 +0.3
H26A	Fairpoint baz=50	49.85 340	⇑P	P	02 42 33.8 0.0
RSSD	Black Hills 2.0nm,1.0s	49.86 339	eP	P	02 42 34.3 +0.2
EDW2	Edwards Air Fo baz=50,SNR=7.9	49.87 320	⇓P	P	02 42 34.4 +0.3
DAU	Daniels Canyon	49.91 330	eP	P	02 42 34.8 +0.2
LRMC	Laurel Mountai baz=50	50.05 321	⇑P	P	02 42 35.8 +0.2
H25A	Fruitdale baz=50,SNR=5.2	50.14 340	⇓P	P	02 42 36.0 0.0
TPNV	Topopah Spring 64nm,2.5s	50.14 324	eP	P	02 42 37.1 +0.9
TPNV	Topopah Spring baz=50	50.14 324	⇓P	P	02 42 36.7 +0.5
J22A	Midwest baz=50	50.18 336	⇑P	P	02 42 36.3 -0.1
FURC	Furnace Creek, baz=50	50.19 323	⇓P	P	02 42 36.6 +0.2
MPMC	Manual Prospec baz=50	50.31 322	⇑P	P	02 42 37.2 -0.4
F28A	McLaughlin baz=50	50.33 343	⇓P	P	02 42 37.0 -0.3
E30A	Jud baz=51	50.39 345	⇑P	P	02 42 37.6 -0.1
J21A	Lysite baz=51	50.52 336	⇓P	P	02 42 39.2 +0.2
DUG	Dugway 48nm,2.3s	50.53 329	eP	P	02 42 39.4 +0.3
DUG	Dugway baz=51	50.53 329	⇓P	P	02 42 39.1 0.0
ARVC	Arvin baz=51	50.56 320	⇓P	P	02 42 39.4 +0.2
H24A	Dirks Ranch, A baz=51	50.59 339	⇑P	P	02 42 39.4 0.0
E29A	Napoleon baz=51	50.65 344	⇑P	P	02 42 39.5 -0.3
ISA	Isabella 3.5nm,0.9s	50.67 321	eP	P	02 42 40.7 +0.6
ISA	Isabella baz=51	50.67 321	⇓P	P	02 42 39.8 -0.4
R11A	Troy Canyon, C 51nm,2.6s	50.71 325	eP	P	02 42 41.2 +0.6
R11A	Troy Canyon, C baz=51	50.71 325	⇑P	P	02 42 40.9 +0.4
F27A	Lemmon baz=51	50.72 342	⇓P	P	02 42 40.5 +0.2
J20A	Shoshoni baz=51	50.79 335	⇑P	P	02 42 41.2 +0.2
GRAC	Grapevine Rang baz=51	50.85 323	⇑P	P	02 42 41.8 +0.4
D30A	Buchanan baz=51,SNR=5.0	50.91 345	⇑P	P	02 42 41.3 -0.4
BW06	Boulder Array 30nm,2.1s	50.95 334	eP	P	02 42 42.3 -0.1
PDAR	Pinedale Array	50.95 334	P	P	02 42 41.4 -1.0
PDAR	Pinedale Array 1.7nm,1.0s,baz=134,slow=8.4,SNR=8.9	50.95 334	P	P	02 42 41.4 -1.0
E28A	Huff baz=51	50.95 343	⇓P	P	02 42 42.2 +0.2
G24A	Alzada baz=51	51.04 339	⇑P	P	02 42 42.9 +0.1
PKM	Peak Mountain baz=51	51.06 319	⇓P	P	02 42 42.7 -0.5
E27A	Carson baz=51	51.08 342	⇓P	P	02 42 43.3 +0.3
J19A	Crowheart baz=51	51.13 334	⇑P	P	02 42 43.4 -0.2
VES	Vestal, Richgr baz=51	51.16 321	⇓P	P	02 42 43.7 0.0
BGU	Big Grassy Mou 3.7nm,1.0s	51.19 330	eP	P	02 42 44.2 +0.2
G23A	Biddle baz=52	51.28 339	⇑P	P	02 42 44.3 -0.3
I20A	Worland baz=52	51.30 336	⇑P	P	02 42 44.8 0.0
AGMN	Agassiz Nation 16nm,1.0s	51.35 348	eP	P	02 42 44.3 -0.6
AGMN	Agassiz Nation baz=52	51.35 348	⇓P	P	02 42 45.0 +0.1
C30A	Mose, Pekin baz=52	51.39 345	⇓P	P	02 42 44.1 -1.1
H21A	Big Horn, Sher baz=52	51.42 337	⇓P	P	02 42 45.6 -0.1
TPH	Tonopah 5.1nm,0.9s	51.47 324	eP	P	02 42 46.9 +0.6
D28A	Regan baz=52	51.48 344	⇑P	P	02 42 46.3 +0.3
F24A	Ekalaka baz=52	51.50 340	⇓P	P	02 42 45.9 -0.3
H20A	Greybull baz=52	51.69 336	⇓P	P	02 42 47.8 +0.1
HVU	Hansel Valley 102nm,2.9s	51.70 330	eP	P	02 42 48.1 +0.3
I19A	Meeteetse baz=52	51.73 335	⇓P	P	02 42 48.4 +0.3
F23A	Volborg baz=52	51.73 339	⇓P	P	02 42 47.9 0.0
MDND	Maddock 17nm,1.0s	51.82 345	eP	P	02 42 48.4 0.0
MDND	Maddock baz=52	51.82 345	⇑P	P	02 42 48.5 +0.1
D26A	Manning baz=52	51.89 342	⇑P	P	02 42 49.1 +0.1
REDW	Red Top Meadow 17nm,1.2s	52.01 333	eP	P	02 42 50.1 -0.1
B30A	Myrvik Farm, E baz=52	52.05 346	⇓P	P	02 42 50.8 +0.6
LOHW	Long Hollow 36nm,2.3s	52.09 334	eP	P	02 42 50.6 -0.3
F22A	Rosebud baz=52	52.09 338	⇑P	P	02 42 50.7 +0.1
ELK	Elko 6.8nm,1.0s	52.20 328	eP	P	02 42 52.2 +0.4
NV11	Mina Array Sit	52.26 324	eP	P	02 42 52.2 +0.1
MOOW	Moose Ponds 58nm,2.4s	52.26 334	eP	P	02 42 51.7 -0.4
D25A	Fairfield baz=52	52.27 341	⇑P	P	02 42 52.2 +0.3
B29A	Wagenman Farm, baz=52	52.32 345	⇑P	P	02 42 52.1 0.0
I17A	Pilgrim Ck. baz=52	52.32 334	⇑P	P	02 42 52.7 +0.2
NVAR	Mina Array Bea	52.34 324	P	P	02 42 52.6 -0.2
NVAR	Mina Array Bea 5.6nm,1.1s,baz=140,slow=6.7,SNR=23	52.34 324	P	P	02 42 52.6 -0.2
G20A	Bridger baz=53	52.38 336	⇓P	P	02 42 52.2 -0.6
A30A	Hoffart Farm, baz=53	52.50 346	⇑P	P	02 42 53.4 -0.1
FLWY	Flagg Ranch 11nm,1.1s	52.50 334	eP	P	02 42 54.0 +0.2
H18A	Shoshone NF, C baz=53,SNR=5.3	52.53 335	⇑P	P	02 42 53.4 -0.7
E22A	Miles City baz=53	52.54 339	⇑P	P	02 42 53.2 -0.7
D24A	Glendive baz=53	52.57 341	⇑P	P	02 42 54.4 +0.3
B28A	Dugan Ranch, T baz=53	52.57 344	⇓P	P	02 42 55.0 +1.0
H17A	Grant Village 101nm,2.7s	52.70 334	eP	P	02 42 56.6 +1.2
H17A	Grant Village baz=53	52.70 334	⇑P	P	02 42 56.0 +0.7
A29A	Manning Farm, baz=53	52.71 345	⇓P	P	02 42 55.2 +0.1
F20A	Billings baz=53	52.83 337	⇑P	P	02 42 56.3 +0.2
D23A	Lindsay baz=53	52.91 340	⇑P	P	02 42 56.9 +0.2
C24A	Savage baz=53	52.96 341	⇑P	P	02 42 57.0 0.0
B26A	Jensen Ranch, baz=53	53.03 343	⇓P	P	02 42 57.6 +0.2
WAKR	Walker	53.07 323	eP	P	02 42 58.2 +0.1
YMR	Madison River 33nm,1.6s	53.08 334	eP	P	02 42 59.9 +1.7
F19A	Roth Farm, Mol baz=53	53.19 336	⇓P	P	02 42 58.7 -0.1
ULM	Lac du Bonnet 36nm,1.6s	53.21 349	eP	P	02 42 57.9 -0.8
ULM	Lac du Bonnet 9.0nm,0.9s,baz=159,slow=7.4,SNR=10	53.21 349	P	P	02 42 57.8 -0.8
D22A	Cohagen baz=53	53.23 339	⇓P	P	02 42 59.0 0.0
E20A	Meyer Farm, Mu baz=54	53.41 337	⇓P	P	02 43 00.5 +0.2
C23A	Lambert baz=54	53.45 340	⇓P	P	02 43 01.3 +0.8
D21A	La Casta Ranch baz=54	53.45 339	⇑P	P	02 43 00.7 +0.1
E19A	Rath Farm, Rou baz=54	53.63 337	⇑P	P	02 43 02.1 +0.2
C22A	Vida baz=54,SNR=5.3	53.64 340	⇓P	P	02 43 01.9 -0.1
HLID	Hailey 6.2nm,0.8s	53.83 331	eP	P	02 43 03.9 +0.3
HLID	Hailey baz=54,SNR=7.0	53.83 331	⇓P	P	02 43 03.9 +0.3
D20A	Manuel Ranch, baz=54,SNR=5.5	53.90 338	⇓P	P	02 43 04.2 +0.3
B23A	Brockton baz=54	53.97 341	⇑P	P	02 43 04.6 +0.3
MCMT	McKenzie Canyo 1.2nm,0.6s	54.05 333	eP	P	02 43 05.4 +0.2
A24A	Westby baz=54	54.05 342	⇑P	P	02 43 05.4 +0.4
BOZ	Bozeman (W) 25nm,1.4s	54.14 334	eP	P	02 43 06.2 +0.4
D19A	Cripps Ranch, baz=54,SNR=5.2	54.24 337	⇑P	P	02 43 06.6 +0.2
MFID	Camas Ranch 76nm,2.3s	54.42 330	eP	P	02 43 07.9 0.0
BEKR	Beckworth 2.8nm,0.8s	54.49 324	eP	P	02 43 08.8 +0.3
A22A	Carney Farms, baz=55	54.73 341	⇓P	P	02 43 09.4 -0.5
C19A	Slack Wire Ran baz=55,SNR=5.9	54.78 338	⇓P	P	02 43 10.6 +0.3
B20A	Solberg Farm, baz=55	54.99 339	⇑P	P	02 43 11.8 +0.1
A21A	Bergtoll Ranch baz=55	55.07 340	⇓P	P	02 43 12.2 -0.1
HRY	Holter Researc	55.07 335	eP	P	02 43 12.2 -0.3
EGMT	Eagleton 12nm,1.1s	55.29 337	eP	P	02 43 13.9 -0.1
EGMT	Eagleton baz=56	55.29 337	⇑P	P	02 43 13.5 -0.5
B19A	Brinkman Farms baz=56	55.34 338	⇓P	P	02 43 13.9 -0.4
A19A	Klindworth Far baz=56	55.66 339	⇓P	P	02 43 16.3 -0.3
MOD	Modoc 5.8nm,0.9s	55.77 326	eP	P	02 43 17.7 0.0
MSO	Missoula 52nm,2.3s	56.07 334	eP	P	02 43 19.7 0.0
MSO	Missoula baz=56	56.07 334	⇓P	P	02 43 20.0 +0.3
M04C	Macdoel baz=57	56.57 325	⇓P	P	02 43 23.6 +0.2
N02D	Trinity Center baz=57	56.58 323	⇑P	P	02 43 21.7 -1.6
K05A	Summer Lake 16nm,0.9s	56.64 326	eP	P	02 43 24.3 +0.4
I07A	Izee 9.6nm,0.9s	56.79 328	eP	P	02 43 24.7 -0.2
M02C	Callahan baz=57	56.92 324	⇑P	P	02 43 25.8 0.0
YBH	Yreka Blue Hor 6.4nm,0.8s	57.05 324	eP	P	02 43 25.4 -1.3
J05D	Fort Rock, OR baz=57	57.20 326	⇓P	P	02 43 27.9 +0.1
BSMT	Bassoo Peak	57.23 334	eP	P	02 43 27.7 -0.3
G08A	Pilot Rock 14nm,0.8s	57.34 329	eP	P	02 43 29.0 +0.3
J04D	Umpqua Nationa baz=58	57.66 326	⇑P	P	02 43 31.1 0.0
WALA	Waterton Lakes 5.1nm,2.8s	57.78 335	eP	P	02 43 31.3 -0.5
E09A	Wood Farm, Sta 12nm,0.8s	57.79 331	eP	P	02 43 31.7 -0.1
I05D	Terrebonne, OR baz=58	57.94 327	⇑P	P	02 43 33.1 +0.2
G06A	Carlson Farm, 12nm,0.9s	58.16 328	eP	P	02 43 35.4 +0.9
I04A	Tendick Farm, baz=58	58.18 326	⇑P	P	02 43 34.7 +0.2
HAWA	Hanford 82nm,2.5s	58.39 330	eP	P	02 43 36.1 +0.2
NEW	Newport 11nm,1.4s	58.58 333	eP	P	02 43 37.4 +0.1
NEW	Newport baz=59,SNR=5.7	58.58 333	⇑P	P	02 43 37.9 +0.7
H04A	Detroit Lake 8.3nm,0.9s	58.63 327	eP	P	02 43 37.9 +0.3
I03D	Drain, OR baz=59	58.64 326	⇓P	P	02 43 38.1 +0.4
E07A	Sunnyside 7.5nm,0.8s	58.67 330	eP	P	02 43 38.4 +0.5
G03D	McMinnville, O baz=60	59.55 327	⇓P	P	02 43 44.3 +0.3
D05A	Enumclaw 14nm,1.0s	60.17 329	eP	P	02 43 48.4 +0.2
EDM	Edmonton	60.84 339	eP	P	02 43 51.7 -1.1
FCC	Fort Churchill 0.6nm,1.3s	61.12 353	eP	P	02 43 53.9 -0.5
A05A	Maple Falls 34nm,1.6s	61.43 331	eP	P	02 43 56.6 -0.1
YKA	Yellowknife Ar	68.73 344	P	P	02 44 42.9 -1.0
YKA	Yellowknife Ar 1.2nm,0.9s,baz=137,slow=6.1,SNR=16	68.73 344	P	P	02 44 42.8 -1.0
LIC	Lamto	76.86 83	eP	P	02 45 32.5 -0.7

	16nm,0.9s							
TIC	**Toumodi**	**76.89**	**83**	*e*P		**P**	**02 45 32.8**	**-0.6**
	19nm,1.0s							
DBIC	**Dimbokro**	**77.06**	**83**	*e*P		**P**	**02 45 35.2**	**+0.9**
	11nm,1.0s							
DBIC	**Dimbokro**	**77.06**	**83**	P		**P**	**02 45 33.7**	**-0.5**
	9.6nm,1.1s,baz=248,slow=3.9,SNR=7.2							
KIC	**Kosan Boka**	**77.15**	**83**	*e*P		**P**	**02 45 33.9**	**-0.9**
	23nm,0.9s							
ILAR	**Eielson Array**	**81.25**	**337**	P		**P**	**02 45 55.0**	**-1.2**
ILAR	**Eielson Array**	**81.25**	**337**	P		**P**	**02 45 55.0**	**-1.2**
	1.8nm,0.9s,baz=131,slow=3.8,SNR=14							
ESDC	**Sonseca Array**	**81.61**	**50**	P		**P**	**02 46 00.4**	**+1.7**
ESDC	**Sonseca Array**	**81.61**	**50**	P		**P**	**02 46 00.4**	**+1.7**
	2.5nm,0.9s,baz=270,slow=5.4,SNR=13							
KTH	**Kantishna Hill**	**82.45**	**335**	*e*P		**P**	**02 46 01.9**	**-0.7**
	11nm,1.0s							
PPLA	**Purkeypile**	**82.78**	**334**	*e*P		**P**	**02 46 03.6**	**-0.8**
	14nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.88**	**77**	P		**P**	**02 46 11.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**83.88**	**77**	P		**P**	**02 46 11.7**	**+0.8**
	4.0nm,1.2s,baz=278,slow=4.4,SNR=12							
GERES	**GERESS Array B**	**94.80**	**41**	P		**P**	**02 47 02.6**	**+0.4**
GERES	**GERESS Array B**	**94.80**	**41**	P		**P**	**02 47 02.6**	**+0.4**
	1.0nm,0.8s,baz=242,slow=2.9,SNR=8.6							
H11S2	**WAKE ISLAND Hyl**	**11.09**	**289**	T		T	04 52 35.1	
	baz=87,slow=73,SNR=173							
H11S1	**WAKE ISLAND Hyl**	**11.10**	**289**	T		T	04 52 15.0	
	baz=87,slow=73,SNR=129							
H11S3	**WAKE ISLAND Hyl**	**11.11**	**289**	T		T	04 52 33.9	
	baz=87,slow=73,SNR=163							
ZALV	**Zalesovo Beam**	**126.77**	**10**	PKP		**PKPdf**	**02 52 42.3**	**-1.6**
ZALV	**Zalesovo Beam**	**126.77**	**10**	PKP		**PKPdf**	**02 52 42.3**	**-1.6**
	0.7nm,0.6s,baz=29,slow=3.4,SNR=6.0							
STKA	**Stephens Creek**	**127.16**	**227**	PKP		**PKPdf**	**02 52 44.8**	**-0.5**
STKA	**Stephens Creek**	**127.16**	**227**	PKP		**PKPdf**	**02 52 44.8**	**-0.5**
	1.4nm,0.8s,baz=31,slow=4.0,SNR=3.7							
USRK	**Ussuriysk Arra**	**128.29**	**330**	PKP		**PKPdf**	**02 52 45.2**	**-1.8**
	1.3nm,0.8s,baz=90,slow=2.9,SNR=3.7							
MDJ	**Mudanjiang**	**129.17**	**331**	PKP		**PKPdf**	**02 52 48.3**	**-0.4**
MDJ				AMB		AMB		
	comp=Z,120nm,3.3s							
CN2	**Changchun**	**131.70**	**334**	*e*PKP		**PKPdf**	**02 52 53.6**	**+0.1**
MKAR	**Makanchi Array**	**132.97**	**15**	PKP		**PKPdf**	**02 52 55.8**	**-0.2**
MKAR	**Makanchi Array**	**132.97**	**15**	PKP		**PKPdf**	**02 52 55.8**	**-0.2**
	0.3nm,0.8s,baz=349,slow=3.1,SNR=3.2							
SONM	**Songino Array**	**133.55**	**353**	PKP		**PKPdf**	**02 52 55.9**	**-1.2**
SONM				SKPbc		**SKPab**	**02 56 24.7**	**-0.6**
SONM	**Songino Array**	**133.55**	**353**	PKP		**PKPdf**	**02 52 55.9**	**-1.2**
	0.6nm,0.8s,baz=326,slow=1.1,SNR=3.9							
SONM				SKPbc		**SKPab**	**02 56 24.7**	**-0.6**
	1.4nm,1.2s,baz=18,slow=1.8,SNR=6.6							
KSRS	**Korea Array**	**135.25**	**326**	PKP		**PKPdf**	**02 53 00.2**	**-0.1**
	2.3nm,0.9s,baz=50,slow=3.1,SNR=4.7							
KSAR	**Wonju Array Be**	**135.28**	**326**	PKP		**PKPdf**	**02 53 00.2**	**-0.2**
WMQ	**Urumqi**	**137.02**	**11**	PKP		**PKPdf**	**02 53 02.9**	**-0.7**
WMQ				LR		LR		
	comp=N,130nm,24.2s							
WMQ				LR		LR		
	comp=E,57nm,18.9s							
WMQ				LR		LR		
	comp=Z,170nm,19.9s							
ASAR	**Alice Springs**	**137.22**	**232**	PKP		**PKPdf**	**02 53 03.6**	**-0.9**
ASAR	**Alice Springs**	**137.22**	**232**	PKP		**PKPdf**	**02 53 03.6**	**-0.9**
	1.1nm,0.9s,baz=105,slow=2.2,SNR=7.6							
BJI	**Beijing**	**138.58**	**339**	PKP		**PKPdf**	**02 53 05.5**	**-1.0**
WRA	**Warramunga Arr**	**138.68**	**237**	PKP		**PKPdf**	**02 53 07.0**	**-0.3**
WRA	**Warramunga Arr**	**138.68**	**237**	PKP		**PKPdf**	**02 53 07.0**	**-0.3**
	1.4nm,0.9s,baz=116,slow=2.5,SNR=5.9							
HHC	**Hu-ho-hao-te**	**139.27**	**345**	*e*PKP		**PKPdf**	**02 53 05.3**	**-2.6**
HHC				sPKP			02 53 19.0	
HHC				PP		**PP**	**02 56 05.2**	**+4.9**
HHC				LR		LR		
	comp=N,260nm,25.5s							
HHC				LR		LR		
	comp=E,550nm,28.4s							
HHC				LR		LR		
	comp=Z,270nm,21.1s							
H01W1	**Cape Leeuwin H**	**140.68**	**201**	T		T	05 31 18.5	
	baz=150,slow=76,SNR=8.0							
H01W2	**Cape Leeuwin H**	**140.69**	**201**	T		T	05 31 05.2	
	baz=150,slow=76,SNR=9.9							
H01W3	**Cape Leeuwin H**	**140.70**	**201**	T		T	05 31 15.4	
	baz=150,slow=76,SNR=7.8							
GTA	**Gaotai**	**142.47**	**358**	*e*PKP		**PKPdf**	**02 53 17.2**	**+3.4**
GTA				pPKP		**pPKPdf**	**02 53 28.0**	**+2.8**
GTA				sPKP			02 53 32.0	
LZH	**Lanzhou**	**145.44**	**352**	*e*PKPbc		**PKPbc**	**02 53 17.3**	**-1.7**
LZH				pPKP		**pPKPdf**	**02 53 28.4**	**-2.2**
LZH				sPKP			02 53 31.6	
LZH				LR		LR		
	comp=N,170nm,17.6s							
LZH				LR		LR		
	comp=E,170nm,18.8s							
LZH				LR		LR		
	comp=Z,200nm,20.0s							
XAN	**Xi'an**	**146.38**	**344**	PKPbc		**PKPdf**	**02 53 20.6**	**0.0**
XAN				AMB		AMB		
	comp=Z,21nm,6.1s							
PYUN	**Piuthan**	**149.93**	**28**	*e*P		**PKPdf**	**02 53 28.6**	**+1.8**
	32nm,1.1s							
DANN	**Dangsing**	**150.07**	**26**	*e*P		**PKPdf**	**02 53 29.0**	**+1.9**
	36nm,0.9s							
KOLN	**Koldanda**	**150.49**	**27**	*e*P		**PKPbc**	**02 53 31.8**	**-1.2**
	11nm,0.8s							
CD2	**Chengdu**	**150.54**	**351**	*e*PKPbc		**PKPdf**	**02 53 25.3**	**-2.1**
GKN	**Gorkha**	**150.75**	**25**	*e*P		**PKPbc**	**02 53 32.5**	**-1.1**
	28nm,1.0s							
KKN	**Kakani**	**151.21**	**25**	*e*P		**PKPbc**	**02 53 34.2**	**-0.5**
GUN	**Gumba**	**151.35**	**24**	*e*P		**PKPbc**	**02 53 35.2**	**0.0**
	22nm,0.8s							
PKI	**Pulchoki**	**151.46**	**25**	*e*P		**PKPbc**	**02 53 35.8**	**+0.4**
	9.7nm,0.6s							
TAPN	**Taplejung**	**152.55**	**21**	*e*P		**PKPbc**	**02 53 41.2**	**+3.3**
GYA	**Guiyang**	**154.16**	**343**	*e*PKPbc		**PKPdf**	**02 53 30.8**	**-2.2**
GYA				PKS		**PKSdf**	**02 57 03.2**	**-4.3**
GYA				PP		**PP**	**02 57 31.6**	**+3.5**
GYA				AMB		AMB		
	comp=Z,110nm,7.8s							
KMI	**Kunming**	**156.37**	**350**	PKP		**PKPdf**	**02 53 36.1**	**-0.1**

*SJA **04** 02:37:36.4±0.4, 30.29S×70.26W, h76km±4km, MD3.3, ML2.6, MW3.4*

*GUC **04** 02:37:36.3±0.3, 31.92S×71.66W, h18km±2km, ML3.1*

ISC 04 02:37:33.4±3.1, **31.90S**±0.05×**71.72W**±0.09, **h5**km±20km, **n15**,σ1§**27**/22, **2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMCH	**Combarbala**	**0.95**	**40**	↑*i*	P	**Pb**	**02 37 52.6**	**+0.1**
CMCH				*i*	S	**Sb**	**02 38 04.8**	**-0.6**
IHA	**Instituto Hidr**	**1.12**	**177**	*e*	P	**Pn**	**02 37 55.1**	**-0.7**
IHA				*i*	S	**Sb**	**02 38 09.6**	**-0.6**
ROCH	**El Roble**	**1.22**	**151**	*i*	P	**Pn**	**02 37 56.8**	**-0.6**
ROCH				*i*	S	**Sb**	**02 38 12.5**	**-0.9**
ROCH				AML		AML	02 38 16.6	
	comp=N,503nm,0.4s							
JACH	**Jahuel**	**1.23**	**129**	*e*	P	**Pn**	**02 37 56.5**	**-0.9**
JACH				*i*	S	**Sb**	**02 38 11.9**	**-1.6**
PEL	**Peldehue**	**1.52**	**145**	*e*	P	**Pn**	**02 38 01.1**	**-0.2**
PEL				*i*	S	**Sn**	**02 38 20.0**	**-1.5**
PEL				AML		AML	02 38 21.2	
	comp=N,735nm,0.3s							
CLCH	**Cerro Calan**	**1.79**	**146**	*e*	P	**Pn**	**02 38 05.5**	**+0.4**
CLCH				*e*	S	**Sn**	**02 38 27.8**	**-0.5**
CLCH				AML		AML	02 38 28.9	
	comp=N,368nm,0.6s							
TACH	**Talagante**	**1.87**	**159**	↑*i*	P	**Pn**	**02 38 06.8**	**+0.7**
AUSP	**Upsallata**	**2.01**	**100**	*i*	P	**Pb**	**02 38 11.3**	**+0.8**
AUSP				*i*	S	**Sb**	**02 38 37.6**	**+1.6**
AUSP				AML		AML	02 38 42.0	
	comp=Z,335μm,5.4s							
CHCH	**Chadas Angostu**	**2.21**	**156**	*e*	P	**Pn**	**02 38 12.2**	**+1.3**
CHCH				*i*	S	**Sn**	**02 38 39.8**	**+1.1**
LMEL	**Las Melosas**	**2.32**	**147**	AML		AML	02 38 47.9	
	comp=N,140nm,0.3s							
CACH	**El Canelo**	**2.40**	**157**	↓*i*	P	**Pn**	**02 38 15.5**	**+2.0**
CACH				*i*	S	**Sb**	**02 38 45.6**	**-1.6**
ARCO	**CERRO ARCO**	**2.54**	**112**	*i*	P	**Pb**	**02 38 21.0**	**+1.4**
ARCO				*i*	S	**Sg**	**02 38 53.6**	**-1.4**
	comp=Z,28nm,0.7s							
AAGR	**Agrelo**	**2.71**	**117**	*i*	P	**Pb**	**02 38 24.4**	**+1.8**
CFAA	**Coronel Fontan**	**2.98**	**85**	*i*	P	Pn	02 38 12.4	-9.1
AVFE	**Valle Fertil**	**3.86**	**72**	AML		AML	02 39 39.6	
	comp=Z,25nm,0.5s							

IDC 04 02:43:15.0±36.0, **20.74S**×**179.49W**, **h650**km±306km, **mb3.1**/4, **mb1 3.2**/4, **mb1mx2.9**/19, **mbtmp3.1**/4, **Error ellipse: s-maj=339.9km s-min=95.4km az=74.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**32.08**	**265**	P		P	02 48 52.9	+0.8
	2.6nm,0.4s,baz=90,slow=9.6,SNR=6.7							
STKA	**Stephens Creek**	**36.43**	**244**	P		P	02 49 27.9	0.0
	1.1nm,0.5s,baz=90,slow=10,SNR=7.4							
ASAR	**Alice Springs**	**43.11**	**257**	P		P	02 50 21.1	0.0
	3.0nm,0.5s,baz=97,slow=7.6,SNR=55							
ASAR				PcP		PcP	02 51 55.2	-0.2
	0.3nm,0.6s,baz=97,slow=4.0,SNR=3.7							
WRA	**Warramunga Arr**	**43.19**	**263**	P		P	02 50 21.4	-0.3
	1.7nm,0.5s,baz=97,slow=7.7,SNR=33							

IDC 04 02:51:52.4±1.6, **8.41S**×**157.43E**, **h0**km, **mb3.7**/4, **mb1 3.8**/5, **mb1mx3.6**/19, **mbtmp3.7**/5, **ML3.8**/1, **Error ellipse: s-maj=39.2km s-min=15.1km az=11.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.68**	**112**	Pn		Pn	02 52 37.9	+1.1
	16nm,0.3s,baz=256,slow=7.1,SNR=2.8							
HNR				Pg		Pg	02 52 43.3	-0.6
	39nm,0.3s,baz=260,slow=4.7,SNR=5.3							
HNR				Lg		Lg	02 53 14.9	
	51nm,0.3s,baz=112,slow=19,SNR=4.7							
WRA	**Warramunga Arr**	**25.12**	**240**	P		P	02 57 18.1	-1.2
	1.5nm,0.9s,baz=66,slow=9.7,SNR=6.8							
ASAR	**Alice Springs**	**27.16**	**233**	P		P	02 57 37.8	0.0
	0.4nm,0.3s,baz=68,slow=10,SNR=3.1							
STKA	**Stephens Creek**	**27.61**	**210**	P		P	02 57 42.3	+0.7
	1.5nm,0.7s,baz=33,slow=9.9,SNR=7.8							
MKAR	**Makanchi Array**	**86.06**	**318**	P		P	03 04 35.2	0.0
	0.5nm,0.8s,baz=90,slow=6.7,SNR=4.4							

GUC 04 03:06:46.9±0.3, **36.27S**×**71.39W**, **h72**km±5km, **ML3.7, 4D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.90**	**347**	↓*i*	P	Pn	03 07 03.9	-0.3
TALC				*i*	S	Sn	03 07 16.6	-0.5
COCH	**Cobquecura**	**1.14**	**277**	↓*i*	P	Pn	03 07 07.0	-0.3
COCH				*i*	S	Sn	03 07 22.2	-0.3
CTCH	**Constitucion**	**1.25**	**318**	*e*	P	Pn	03 07 08.2	-0.5
CTCH				*i*	S	Sn	03 07 24.8	-0.3
NICH	**Los Niches**	**1.27**	**6**	*e*	P	Pn	03 07 08.7	-0.3
NICH				*i*	S	Sn	03 07 25.2	-0.3
CCSP	**San Pedro de C**	**1.50**	**247**	*i*	P	Pn	03 07 11.8	-0.1
CCSP				*i*	S	Sn	03 07 30.2	-0.5
CACH	**El Canelo**	**2.25**	**17**	*i*	P	Pn	03 07 22.0	-0.1
CACH				*i*	S	Sn	03 07 48.6	-0.4
LNV	**Longovilo**	**2.31**	**360**	*i*	P	Pn	03 07 22.0	-0.8
LNV				*i*	S	Sn	03 07 49.1	-1.2
CHCH	**Chadas Angostu**	**2.41**	**15**	*i*	P	Pn	03 07 24.0	-0.2
ANTU	**Antumapu**	**2.77**	**13**	AML		AML	03 08 20.9	
	comp=N,258nm,0.4s							
CLCH	**Cerro Calan**	**2.95**	**14**	↓*i*	P	Pn	03 07 31.0	-0.7
CLCH				*i*	S	Sn	03 08 05.0	-1.1
CLCH				AML		AML	03 08 18.2	
	comp=E,167nm,0.3s							
PEL	**Peldehue**	**3.17**	**11**	↓*i*	P	Pn	03 07 33.9	-0.7
PEL				*i*	S	Sn	03 08 10.3	-1.1
PEL				AML		AML	03 08 18.6	
	comp=E,203nm,0.7s							
PEL				AML		AML	03 08 33.4	
	comp=N,201nm,0.5s							

*IDC **04** 03:09:50.9±0.9, 8.82S×157.71E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=25.0km s-min=13.6km az=2.0*

*ISCJB **04** 03:09:53.5±0.7, 8.8S±0.1×157.51E±0.07, h23km, mb3.6/7, Error ellipse: s-maj=20.1km s-min=9.9km az=3.7*

ISC 04 03:09:54.8±0.9, **8.8S**±0.2×**157.64E**±0.09, **h23**km, **n15**, σ1§**44**/9, **mb3.6**/7, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.36**	**106**	Pn		Pn	03 10 28.2	-4.0
	25nm,0.3s,baz=25,slow=17,SNR=5.0							
HNR				Pg		Pb	03 10 32.5	-4.2
	54nm,0.3s,baz=229,slow=5.7,SNR=12							
HNR				Lg		Lg	03 11 05.0	
	210nm,0.3s,baz=313,slow=22,SNR=18							
HNR	**Honiara**	**2.36**	**106**	*e*	P	**Pb**	**03 10 38.0**	**+1.3**
HNR				*e*	S	**Sb**	**03 11 04.0**	**-1.5**
WRA	**Warramunga Arr**	**25.11**	**241**	P		**P**	**03 15 18.8**	**+0.6**
	0.9nm,0.7s,baz=67,slow=9.7,SNR=7.8							
ASAR	**Alice Springs**	**27.10**	**234**	P		**P**	**03 15 35.0**	**-1.2**
	0.4nm,0.8s,baz=61,slow=11,SNR=3.6							
STKA	**Stephens Creek**	**27.38**	**211**	P		**P**	**03 15 38.5**	**-0.1**
	1.1nm,0.7s,baz=30,slow=12,SNR=2.7							
H11S3	**WAKE ISLAND Hy**	**28.55**	**18**	T		T	03 44 37.5	
	baz=199,slow=77,SNR=25							
H11S2	**WAKE ISLAND Hy**	**28.55**	**18**	T		T	03 44 30.0	
	baz=199,slow=77,SNR=27							
H11S1	**WAKE ISLAND Hy**	**28.56**	**18**	T		T	03 44 30.6	
	baz=199,slow=77,SNR=13							
H11N1	**WAKE ISLAND Hy**	**29.76**	**18**	T		T	03 46 27.8	
	baz=198,slow=75,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**29.77**	**18**	T		T	03 46 25.8	
	baz=198,slow=75,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**29.77**	**18**	T		T	03 46 27.3	
	baz=198,slow=75,SNR=4.0							
ILAR	**Eielson Array**	**84.09**	**21**	P		**P**	**03 22 23.1**	**-0.4**
	0.9nm,1.0s,baz=263,slow=4.8,SNR=5.8							
MKAR	**Makanchi Array**	**86.48**	**318**	P		**P**	**03 22 36.5**	**+0.7**
	0.5nm,1.1s,baz=98,slow=6.0,SNR=2.9							
NVAR	**Mina Array Bea**	**90.78**	**51**	P		**P**	**03 22 58.2**	**+1.5**
	0.9nm,0.9s,baz=254,slow=7.3,SNR=5.5							
YKA	**Yellowknife Ar**	**96.69**	**28**	P		**P**	**03 23 21.0**	**-2.0**
	0.2nm,0.9s,baz=265,slow=4.9,SNR=3.4							

IDC 04 03:14:10.2±5.4, **8.18S**×**157.64E**, **h0**km, **mb3.6**/3, **mb1 3.7**/4, **mb1mx3.5**/19, **mbtmp3.6**/4, **ML3.4**/1, **Error ellipse: s-maj=110.5km s-min=17.4km az=13.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.60**	**119**	Pn		Pn	03 14 53.7	+0.2
	7.3nm,0.3s,baz=288,slow=6.4,SNR=1.5							
HNR				Lg		Lg	03 15 32.6	
	31nm,0.3s,baz=131,slow=20,SNR=4.6							
WRA	**Warramunga Arr**	**25.41**	**240**	P		P	03 19 38.3	-1.4
	0.9nm,0.6s,baz=68,slow=9.8,SNR=7.9							
ASAR	**Alice Springs**	**27.46**	**233**	P		P	03 19 59.4	+1.2
	0.2nm,0.7s,baz=61,slow=9.6,SNR=3.0							
STKA	**Stephens Creek**	**27.91**	**210**	P		P	03 20 02.2	+0.1
	1.2nm,0.7s,baz=54,slow=15,SNR=4.3							

IDC 04 03:16:54.8±5.2, **8.35S**×**157.72E**, **h0**km, **mb3.5**/3, **mb1 3.7**/4, **mb1mx3.4**/19, **mbtmp3.6**/4, **ML3.8**/1, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.9**/21, **Error ellipse: s-maj=109.9km s-min=16.8km az=11.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.45**	**116**	Pn		Pn	03 17 35.2	-0.7
	22nm,0.3s,baz=236,slow=7.3,SNR=5.4							
HNR				Lg		Lg	03 18 13.2	
	86nm,0.3s,baz=41,slow=19,SNR=7.9							
HNR				LR		LR	03 18 23.1	
	comp=Z,320nm,20.0s,baz=91,slow=36							
WRA	**Warramunga Arr**	**25.39**	**241**	P		P	03 22 24.4	+0.3
	1.1nm,0.8s,baz=67,slow=9.1,SNR=3.8							
ASAR	**Alice Springs**	**27.43**	**234**	P		P	03 22 42.4	-0.1
	0.3nm,0.9s,baz=62,slow=11,SNR=3.3							
STKA	**Stephens Creek**	**27.80**	**210**	P		P	03 22 45.5	-0.2
	0.8nm,0.8s,baz=38,slow=16,SNR=2.4							

IDC 04 03:27:17.9±1.4, **8.86S**×**157.01E**, **h0**km, **mb3.9**/4, **mb1 4.0**/5, **mb1mx3.7**/19, **mbtmp4.0**/5, **ML4.2**/1, **Error ellipse: s-maj=35.7km s-min=17.4km az=1.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.96**	**101**	Pn		Pn	03 28 05.3	-0.9
	31nm,0.3s,baz=191,slow=5.2,SNR=6.0							
HNR				Lg		Lg	03 28 50.9	
	48nm,0.3s,baz=187,slow=17,SNR=7.0							
WRA	**Warramunga Arr**	**24.53**	**241**	P		P	03 32 38.2	-1.4
	0.9nm,0.7s,baz=65,slow=9.7,SNR=4.6							
ASAR	**Alice Springs**	**26.56**	**234**	P		P	03 32 56.7	-1.2
	0.8nm,1.1s,baz=66,slow=10,SNR=4.0							
STKA	**Stephens Creek**	**27.01**	**210**	P		P	03 33 03.7	+1.9
	0.7nm,0.5s,baz=31,slow=14,SNR=6.9							
MKAR	**Makanchi Array**	**86.11**	**318**	P		P	03 40 01.6	+0.6
	2.0nm,0.4s,baz=113,slow=5.4,SNR=17							

*IDC **04** 03:34:00.6±0.6, 8.63S×157.24E, h0km, mb4.2/11, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, ML4.1/1, Error ellipse: s-maj=18.4km s-min=13.4km az=11.0*

ISC 04 03:34:02.8±0.6, **8.7S**±0.1×**157.33E**±0.07, **h16**km, **n21**, σ1§**00**/18, **mb4.1**/11, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.69**	**106**	Pn		**Pn**	**03 34 45.1**	**-0.3**
	31nm,0.3s,baz=243,slow=6.8,SNR=5.3							
HNR				Pg		**Pb**	**03 34 51.7**	**+1.2**
	105nm,0.3s,baz=286,slow=1.6,SNR=16							
HNR				Lg		Lg	03 35 29.9	
	128nm,0.3s,baz=304,slow=20,SNR=8.6							
HNR	**Honiara**	**2.69**	**106**	*i*	P	**Pb**	**03 34 51.0**	**+0.4**
HNR				*i*	S	**Sg**	**03 35 28.0**	**-1.3**
CTA	**Charters Tower**	**15.59**	**222**	Pn		**Pn**	**03 37 41.2**	**-0.9**
	baz=67,slow=12,SNR=3.2							
WRA	**Warramunga Arr**	**24.89**	**241**	P		**P**	**03 39 24.6**	**-0.6**
	9.4nm,0.8s,baz=65,slow=9.5,SNR=29							
WRA				PcP		**PcP**	**03 43 01.4**	**+0.4**
	1.8nm,0.9s,baz=67,slow=1.6,SNR=5.9							
ASAR	**Alice Springs**	**26.91**	**234**	P		**P**	**03 39 42.8**	**-0.7**
	4.1nm,1.0s,baz=64,slow=9.9,SNR=18							
STKA	**Stephens Creek**	**27.31**	**210**	P		**P**	**03 39 47.7**	**+0.7**
	5.8nm,0.8s,baz=23,slow=11,SNR=16							
H11S3	**WAKE ISLAND Hy**	**28.55**	**19**	T		T	04 08 28.8	
	baz=200,slow=77,SNR=31							
H11S2	**WAKE ISLAND Hy**	**28.55**	**19**	T		T	04 08 29.0	
	baz=200,slow=77,SNR=26							
H11S1	**WAKE ISLAND Hy**	**28.57**	**19**	T		T	04 08 39.4	
	baz=200,slow=77,SNR=15							
H11N1	**WAKE ISLAND Hy**	**29.76**	**18**	T		T	04 10 15.8	
	baz=202,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.77**	**18**	T		T	04 09 56.6	
	baz=202,slow=75							
H11N2	**WAKE ISLAND Hy**	**29.77**	**18**	T		T	04 10 12.1	
	baz=202							
KSRS	**Korea Array**	**53.52**	**331**	P		**P**	**03 43 22.5**	**-0.3**
	3.2nm,1.0s,baz=258,slow=33,SNR=3.8							
CMAR	**Chiang Mai Arr**	**63.60**	**296**	P		**P**	**03 44 34.1**	**+0.7**
	1.7nm,0.5s,baz=123,slow=5.0,SNR=11							
SONM	**Songino Array**	**72.01**	**327**	P		**P**	**03 45 26.4**	**+0.4**
	1.6nm,1.0s,baz=140,slow=6.5,SNR=10.0							
QSPA	**South Pole Qui**	**81.29**	**180**	P		**P**	**03 46 19.0**	**+0.7**
	8.2nm,1.0s,baz=356,slow=3.9,SNR=7.1							
ILAR	**Eielson Array**	**84.11**	**21**	P		**P**	**03 46 31.4**	**-1.3**
	1.3nm,1.1s,baz=251,slow=5.7,SNR=4.2							
ZALV	**Zalesovo Beam**	**86.88**	**326**	P		**P**	**03 46 45.0**	**-1.6**
	0.4nm,0.4s,baz=121,slow=5.5,SNR=2.4							
NVAR	**Mina Array Bea**	**90.96**	**51**	P		**P**	**03 47 06.5**	**-0.1**
	0.3nm,0.8s,baz=223,slow=4.9,SNR=2.7							
YKA	**Yellowknife Ar**	**96.75**	**28**	P		**P**	**03 47 34.2**	**+1.8**
	0.4nm,0.8s,baz=278,slow=4.7,SNR=6.0							
BDFB	**Brasilia**	**145.15**	**134**	PKPbc		**PKPdf**	**03 53 41.6**	**+0.7**
	3.6nm,0.8s,baz=179,slow=3.1,SNR=6.2							

*IDC **04** 03:38:49.4±0.8, 55.49S×26.22W, h0km, mb4.2/4, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, ML2.7/1, Error ellipse: s-maj=40.4km s-min=21.7km az=81.0*

*ISCJB **04** 03:38:52.5±1.1, 55.6S±0.1×26.1W±0.5, h32km, mb4.2/4, Error ellipse: s-maj=41.2km s-min=18.5km az=162.9*

ISC 04 03:38:53.9±0.9, **55.

ellipse: s-maj=27.7km s-min=19.0km az=80.0
*ISCJB **04** 03:41:09.6±0.6, 55°.53S±0°.10×26°.9W±0°.2, h25km, mb4.1/8, Error ellipse: s-maj=17.6km s-min=12.5km az=149.5*
*NEIC **04** 03:41:10.0±0.4, 55°.51S×26°.89W, h10km, mb4.4/4, Error ellipse: s-maj=14.9km s-min=11.4km az=55.0*

ISC 04 03:41:11.5±0.6, 55°.6S±0°.1×26°.9W±0°.1, h25km, n30, σ0s67/32, mb4.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFI	**East Falkland**	**18.81**	**269**	Pn	**P**	**03 45 28.0**	**-0.9**
SNAA	**Sanae**	**19.13**	**157**	*e*P	**Pn**	**03 45 33.0**	**-0.4**
	7.5nm,1.0s						
SNAA	**Sanae**	**19.13**	**157**	P	**P**	**03 45 31.8**	**-0.6**
	0.1nm,0.3s,baz=318,slow=15,SNR=3.6						
QSPA	**South Pole Qui**	**34.70**	**180**	P	**P**	**03 47 58.5**	**-0.4**
QSPA	**South Pole Qui**	**34.70**	**180**	P	**P**	**03 47 58.5**	**-0.4**
	2.6nm,0.6s,baz=223,slow=6.7,SNR=6.5						
CFAA	**Coronel Fontan**	**37.53**	**292**	P	**P**	**03 48 22.9**	**-0.4**
CFAA	**Coronel Fontan**	**37.53**	**292**	P	**P**	**03 48 22.9**	**-0.4**
	0.4nm,0.7s,baz=144,slow=8.8,SNR=5.6						
LVC	**Limon Verde**	**45.20**	**299**	*e*P	**P**	**03 49 27.0**	**+0.4**
VNDA	**Vanda**	**47.08**	**183**	*e*P	**P**	**03 49 41.9**	**+1.4**
	6.2nm,0.9s						
VNDA	**Vanda**	**47.08**	**183**	P	**P**	**03 49 41.1**	**+0.7**
	3.5nm,0.7s,baz=201,slow=6.6,SNR=8.4						
LPAZ	**La Paz**	**50.23**	**305**	*e*P	**P**	**03 50 07.3**	**+1.2**
	3.4nm,0.8s						
LPAZ	**La Paz**	**50.23**	**305**	P	**P**	**03 50 07.3**	**+1.2**
	2.8nm,0.6s,baz=138,slow=5.9,SNR=6.1						
SAML	**Samuel**	**54.58**	**314**	*e*P	**P**	**03 50 37.5**	**0.0**
	4.3nm,1.2s						
DBIC	**Dimbokro**	**64.64**	**24**	P	**P**	**03 51 46.4**	**-0.4**
DBIC	**Dimbokro**	**64.64**	**24**	P	**P**	**03 51 46.4**	**-0.4**
	1.1nm,0.6s,baz=243,slow=6.8,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**72.53**	**29**	*e*P	**P**	**03 52 36.1**	**0.0**
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P	**P**	**03 52 35.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P	**P**	**03 52 35.8**	**-0.3**
	1.8nm,0.6s,baz=200,slow=5.4,SNR=13						
ASAR	**Alice Springs**	**99.41**	**162**	P	**Pdif**	**03 54 52.9**	**+1.0**
ASAR	**Alice Springs**	**99.41**	**162**	P	**Pdif**	**03 54 52.9**	**+1.0**
	0.2nm,0.6s,baz=194,slow=3.8,SNR=3.9						
FINES	**FINESS Array B**	**123.86**	**28**	PKP	**PKPdf**	**04 00 05.9**	**+0.2**
FINES	**FINESS Array B**	**123.86**	**28**	PKP	**PKPdf**	**04 00 05.9**	**+0.2**
	1.3nm,0.8s,baz=174,slow=1.4,SNR=3.1						
BVAR	**Borovoye Array**	**134.37**	**57**	PKP	**PKPdf**	**04 00 26.4**	**+0.4**
BVAR	**Borovoye Array**	**134.37**	**57**	PKP	**PKPdf**	**04 00 26.4**	**+0.4**
	0.4nm,0.6s,baz=247,slow=1.1,SNR=2.6						
INK	**Inuvik**	**145.52**	**321**	PKPbc	**PKPab**	**04 00 46.2**	**+0.1**
INK	**Inuvik**	**145.52**	**321**	PKPbc	**PKPab**	**04 00 46.2**	**+0.1**
	1.7nm,0.6s,baz=93,slow=3.8,SNR=7.8						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**04 00 58.3**	**+0.3**
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**04 00 58.3**	**+0.3**
	1.6nm,0.7s,baz=131,slow=1.8,SNR=12						
SONM	**Songino Array**	**150.52**	**85**	PKPbc	**PKPbc**	**04 00 59.2**	**-0.9**
SONM				PKPab	**PKPab**	**04 01 07.6**	**+0.6**
SONM	**Songino Array**	**150.52**	**85**	PKPbc	**PKPbc**	**04 00 59.2**	**-0.9**
	0.7nm,0.8s,baz=220,slow=2.8,SNR=4.4						
SONM				PKPab	**PKPab**	**04 01 07.6**	**+0.6**
	1.0nm,0.8s,baz=225,slow=2.8,SNR=5.9						

NNC 04 03:41:52.9±2.9, 59°.48N×60°.94E, h0km, mb3.8, mpv3.9, 5C-2D, Error ellipse: s-maj=24.6km s-min=15.2km az=154.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**8.33**	**137**	Pn	Pn	03 43 55.9	+1.0
	7.3nm,1.1s,baz=333,slow=14,SNR=24						
BVA0				⇑Sn	Sn	03 45 30.1	+0.5
	4.3nm,0.6s,baz=326,slow=24,SNR=8.8						
AKTO	**Aktyubinsk**	**9.22**	**192**	⇓Pn	Pn	03 44 06.5	-0.5
	1.1nm,0.7s						
AKTO				⇑Sn	Sn	03 45 52.6	+1.2
	1.3nm,0.5s						
AKTO				⇓Lg	Lg	03 46 48.3	
	8.3nm,1.0s						
AB31	**Akbulak array**	**10.26**	**184**	⇑Pn	Pn	03 44 20.9	-0.4
	0.4nm,0.4s,baz=29,slow=22,SNR=26						
AB31				⇑Sn	Sn	03 46 18.6	+1.6
	0.4nm,0.5s,baz=10.0,slow=12,SNR=7.3						
AB31				⇑Lg	Lg	03 47 19.4	
	3.3nm,0.7s,baz=4.3,slow=27,SNR=5.6						

*IDC **04** 03:56:00.9±0.7, 8°.90S×157°.52E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.1/20, mbtmp4.1/10, ML3.6/2, Error ellipse: s-maj=22.5km s-min=13.2km az=179.0*
*ISCJB **04** 03:56:02.6±0.6, 8°.9S±0°.1×157°.35E±0°.06, h17km, mb3.9/8, Error ellipse: s-maj=16.5km s-min=8.8km az=177.1*

ISC 04 03:56:03.4±0.7, 8°.9S±0°.1×157°.55E±0°.07, h17km, n15, σ0s65/14, mb4.2/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.42**	**102**	Pn	**Pn**	**03 56 41.7**	**-0.5**
	17nm,0.3s,baz=270,slow=4.0,SNR=5.3						
HNR				Pg	**Pb**	**03 56 46.2**	**-0.3**
	61nm,0.3s,baz=268,slow=4.6,SNR=9.1						
HNR				Lg	Lg	03 57 18.7	
	311nm,0.3s,baz=253,slow=21,SNR=16						
HNR	**Honiara**	**2.42**	**102**	*e*P	**Pb**	**03 56 46.0**	**-0.5**
HNR				*e*S	**Sb**	**03 57 17.0**	**+1.0**
CTA	**Charters Tower**	**15.56**	**223**	Pn	**Pn**	**03 59 42.3**	**+0.1**
	0.2nm,0.3s,baz=38,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	**24.96**	**241**	P	**P**	**04 01 26.9**	**+0.5**
	6.0nm,0.6s,baz=68,slow=9.6,SNR=45						
WRA				PcP	**PcP**	**04 05 02.5**	**+0.8**
	0.8nm,0.9s,baz=73,slow=2.6,SNR=7.9						
ASAR	**Alice Springs**	**26.94**	**234**	P	**P**	**04 01 44.0**	**-0.2**
	0.9nm,0.7s,baz=65,slow=9.6,SNR=9.5						
STKA	**Stephens Creek**	**27.21**	**211**	P	**P**	**04 01 46.2**	**-0.3**
	3.9nm,0.7s,baz=40,slow=13,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.71**	**18**	T	T	04 30 31.1	
	baz=199,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.71**	**18**	T	T	04 30 27.3	
	baz=199,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.73**	**18**	T	T	04 30 31.9	
	baz=199						
SONM	**Songino Array**	**72.34**	**327**	P	**P**	**04 07 28.5**	**0.0**
	0.4nm,0.8s,baz=148,slow=5.7,SNR=3.0						
ILAR	**Eielson Array**	**84.26**	**21**	P	**P**	**04 08 33.1**	**-0.8**
	0.4nm,0.8s,baz=247,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**04 08 45.8**	**+0.1**
	0.9nm,0.3s,baz=99,slow=4.4,SNR=12						
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**	**04 09 08.1**	**+1.0**
	1.2nm,0.8s,baz=252,slow=6.6,SNR=9.1						
PDAR	**Pinedale Array**	**98.11**	**48**	P	Pdif	04 09 40.0	+0.1
	0.5nm,0.9s,baz=213,slow=4.4,SNR=4.0						
BDFB	**Brasilia**	**144.82**	**134**	PKP	**PKPab**	**04 15 39.2**	**-0.5**
	4.7nm,0.7s,baz=207,slow=4.2,SNR=9.1						

KRSC 04 04:01:10.1±0.6, 55°.13N×160°.19E, h-1km±2km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.06**	**103**	*i* P	Pg	04 01 12.6	+1.1
TUMR	**Tumrok**	**0.16**	**351**	*i* P	Pg	04 01 15.3	+2.0
TUMR				*e*S	Sg	04 01 18.9	+3.3
KMNR	**Kamenistaya**	**0.63**	**2**	*e*P	Pb	04 01 23.7	-0.5
KMNR				*i* S	Sb	04 01 34.9	+1.2
BZMR	**Bezymyannaya**	**0.83**	**12**	*e*P	Pb	04 01 26.9	-0.7
BZMR				*i* S	Sb	04 01 39.7	+0.3
KIRR	**Kirishev**	**0.83**	**6**	*e*P	Pb	04 01 27.1	-0.6
KIRR				*e*S	Sb	04 01 40.9	+1.3
KPT	**Kopyto**	**0.84**	**1**	P	Pb	04 01 28.0	+0.3
KPT				*e*S	Sn	04 01 41.9	-0.6
BZWR	**Bezymyannyi-We**	**0.86**	**12**	*e*P	Pb	04 01 27.7	-0.4
BZWR				*e*S	Sb	04 01 41.5	+1.2
KOZ	**Kozyrevsk**	**0.95**	**349**	*e*P	Pb	04 01 29.8	+0.3
KOZ				*e*S	Sn	04 01 45.5	+0.4
ZLN	**Zelenaya**	**0.96**	**21**	*e*P	Pb	04 01 29.5	-0.2
KRSR	**Krestovskiy**	**1.11**	**11**	*e*P	Pb	04 01 32.5	+0.1
ESO	**Esso**	**1.17**	**314**	*e*P	Pb	04 01 32.9	-0.3
ESO				*e*S	Sn	04 01 50.1	-0.3
KII	**Karymskiy**	**1.18**	**202**	*e*P	Pb	04 01 33.3	-0.1
KII				*e*S	Sb	04 01 49.9	+0.7
KLY	**Klyuchi**	**1.22**	**12**	*e*P	Pn	04 01 34.5	+0.2
KLY				*e*S	Sn	04 01 53.1	+1.6
SRDR	**Sredinnyy**	**1.22**	**348**	P	Pg	04 01 33.5	-0.2
SRDR				*e*S	Sn	04 01 51.3	-0.6
BDR	**Baidarnaya**	**1.56**	**21**	*e*P	Pb	04 01 39.5	-0.4
SMKR	**Semkarok**	**1.63**	**26**	*e*P	Pg	04 01 41.4	0.0
SMKR				*e*S	Sg	04 02 05.5	+2.9
SRKR	**Sorokina**	**1.63**	**19**	*e*P	Pn	04 01 40.4	+0.3
SRKR				*e*S	Sg	04 02 04.1	+1.5
KBTR	**Krutoberegovo**	**1.84**	**53**	*e*P	Pn	04 01 42.9	0.0
GNL	**Ganaly**	**1.95**	**223**	*e*P	Pn	04 01 45.5	+1.0
GNL				*e*S	Sg	04 02 12.3	-0.6
KRX	**Arik**	**1.99**	**208**	*e*P	Pb	04 01 47.1	-0.2
KRX				*e*S	Sg	04 02 13.6	-0.7
SDLR	**Sedlovina**	**2.00**	**203**	*e*P	Pb	04 01 46.5	-1.1
SDLR				*e*S	Sb	04 02 13.9	+0.7
KRER	**Koryakskii**	**2.01**	**205**	*e*P	Pb	04 01 47.3	-0.5
NLC	**Nalytchevo**	**2.02**	**195**	*e*P	Pn	04 01 45.9	+0.5
NLC				*e*S	Sg	04 02 14.2	-0.8
SMAR	**Somma**	**2.04**	**204**	*e*P	Pn	04 01 46.9	+1.0
SMAR				*e*S	Sg	04 02 15.4	-0.7
AVH	**Avacha**	**2.05**	**205**	*e*P	Pb	04 01 47.8	-0.5
KOK	**Koryaka**	**2.05**	**207**	*e*P	Pb	04 01 47.6	-0.8
UGLR	**Uglovaya**	**2.08**	**203**	*e*P	Pb	04 01 47.9	-1.0
PET	**Petropavlovsk**	**2.29**	**204**	P	Pb	04 01 51.2	-1.1
APC	**Apacha**	**2.84**	**220**	*e*P	Pn	04 01 58.4	+1.8
APC				*e*S	Sb	04 02 34.8	-2.1
MTVR	**Mutnovka**	**2.90**	**205**	*e*P	Pb	04 02 00.9	-2.0
ASAK	**Asacha**	**3.07**	**207**	*e*P	Pb	04 02 03.5	-2.1

*ISCJB **04** 04:04:31.5±0.4, 24°.35N±0°.03×122°.34E±0°.02, h59km±7km, Error ellipse: s-maj=4.7km s-min=2.7km az=169.3*
*TAP **04** 04:04:31.5, 24°.36N×122°.29E, h66km, ML4.1, C*
*JMA **04** 04:04:31.1±0.1, 24°.28N×122°.29E, h61km±3km, M3.3*

ISC 04 04:04:32.1±1.3, 24°.34N±0°.04×122°.34E±0°.02, h54km±12km, n51, σ0s73/90, 7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.52**	**301**	P	**Pn**	**04 04 43.7**	**-0.1**
	baz=305						
TWC				S	**Sn**	**04 04 52.6**	**+0.3**
	baz=305						
EHP	**Heping Village**	**0.55**	**267**	*e*P	**Pn**	**04 04 44.6**	**+0.5**
	baz=264						
ENA	**Nanau**	**0.55**	**279**	⇓P	**Pn**	**04 04 44.0**	**-0.2**
	baz=280						
ENA				*e*S	**Sn**	**04 04 53.6**	**+0.6**
	baz=280						
YOJ	**Yonaguni jima**	**0.62**	**79**	P	**Pn**	**04 04 45.4**	**+0.3**
YOJ				*e*S	**Sn**	**04 04 55.2**	**+0.8**
EGS		**0.62**	**324**	⇓*i*P	**Pn**	**04 04 44.9**	**-0.2**
	baz=326						
EGS				S	**Sn**	**04 04 54.4**	**-0.1**
	baz=326						
ILA	**Ilan**	**0.69**	**308**	*e*P	**Pn**	**04 04 45.0**	**-0.9**
	baz=316						
TWE	**Neicheng**	**0.72**	**302**	⇓*i*P	**Pn**	**04 04 46.4**	**+0.1**
	baz=307						
TWE				S	**Sn**	**04 04 57.3**	**+0.7**
	baz=307						
TWD	**Chiawan**	**0.73**	**249**	⇓P	**Pn**	**04 04 45.9**	**-0.5**
	baz=239						
TWD				S	**Sn**	**04 04 56.5**	**-0.3**
	baz=239						
TWB1	**Santiao Chiao**	**0.74**	**334**	*i* P	**Pn**	**04 04 46.1**	**-0.4**
	baz=329						
TWB1				S	**Sn**	**04 04 56.2**	**-0.8**
	baz=329						
HWA	**Hwalien**	**0.76**	**242**	P	**Pn**	**04 04 46.8**	**-0.1**
	baz=238						
HWA				S	**Sn**	**04 04 58.0**	**+0.5**
	baz=238						
ENTT	**Nioudou**	**0.77**	**293**	⇓*i*P	**Pn**	**04 04 47.2**	**+0.3**
	baz=287						
ENTT				S	**Sn**	**04 04 58.2**	**+0.5**
	baz=287						
NWF	**Wu-fen Shan**	**0.89**	**325**	*i* P	**Pn**	**04 04 48.1**	**-0.4**
	baz=327						
NWF				*i* S	**Sn**	**04 04 59.9**	**-0.7**
	baz=327						
NNS	**Nan Shan**	**0.89**	**277**	P	**Pn**	**04 04 48.3**	**-0.3**
	baz=276						
NNS				*e*S	**Sn**	**04 05 00.3**	**-0.3**
	baz=276						
ESF	**Shoufeng Towns**	**0.89**	**239**	*e*P	**Pn**	**04 04 48.3**	**-0.2**
	baz=236						
TWA	**Mucha**	**0.94**	**313**	*e*P	**Pn**	**04 04 48.8**	**-0.3**
	baz=323						
TWA				*e*S	**Sn**	**04 05 01.1**	**-0.6**
	baz=323						
NSK	**Sanguang**	**0.95**	**291**	⇓*i*P	**Pn**	**04 04 49.4**	**0.0**
	baz=283						
NSK				S	**Sn**	**04 05 02.2**	**+0.1**
	baz=283						
WHF	**Hehuan Shan**	**1.00**	**259**	⇓*i*P	**Pn**	**04 04 49.8**	**-0.5**
	baz=257						
WHF				S	**Sn**	**04 05 02.8**	**-1.0**
	baz=257						
TAP1	**Taipei**	**1.02**	**313**	*e*P	**Pn**	**04 04 51.5**	**+1.3**
	baz=324						
TWT	**Tachien**	**1.07**	**266**	P	**Pn**	**04 04 51.4**	**+0.4**
	baz=259						
TWT				S	**Sn**	**04 05 05.0**	**+0.1**
	baz=259						
TWS1	**Kuangyinshan**	**1.13**	**312**	*e*P	**Pn**	**04 04 51.1**	**-0.5**
	baz=322						
TWS1				*e*S	**Sn**	**04 05 05.6**	**-0.6**
	baz=322						
TWY	**Chenhua**	**1.15**	**324**	*e*P	**Pn**	**04 04 51.0**	**-0.9**
	baz=326						
TWY				*e*S	**Sn**	**04 05 05.5**	**-1.1**
	baz=326						
NCU	**National Centr**	**1.22**	**301**	*e*P	**Pn**	**04 04 52.8**	**-0.1**
	baz=302						
NCU				*e*S	**Sn**	**04 05 08.3**	**-0.2**
	baz=302						
NSTT	**Nanjuang**	**1.25**	**284**	P	**Pn**	**04 04 53.7**	**+0.4**
	baz=284						
NSTT				S	**Sn**	**04 05 09.4**	**+0.2**
	baz=284						
IRIF	**Iriomote-Funau**	**1.27**	**90**	P	**Pn**	**04 04 53.3**	**-0.2**
IRIF				*e*S	**Sn**	**04 05 09.7**	**+0.2**
HATJ	**Hateruma jima**	**1.37**	**102**	P	**Pn**	**04 04 55.2**	**+0.3**
HATJ				*e*S	**Sn**	**04 05 13.1**	**+1.2**
TWF1	**Yuli**	**1.37**	**224**	*e*P	**Pn**	**04 04 54.3**	**-0.7**
	baz=232						
SMLT	**Sun Moon Lake**	**1.39**	**251**	*e*P	**Pn**	**04 04 56.4**	**+1.0**
	baz=244						
SMLT				*e*S	**Sn**	**04 05 12.4**	**-0.3**
	baz=244						
TYC	**Yuchr**	**1.42**	**253**	*e*P	**Pn**	**04 04 55.8**	**+0.2**
	baz=246						
TYC				S	**Sn**	**04 05 13.0**	**-0.3**
	baz=246						
TWQ1	**Liyutan**	**1.43**	**271**	*e*P	**Pn**	**04 04 55.7**	**0.0**
	baz=270						
TWQ1				*e*S	**Sn**	**04 05 13.9**	**+0.4**
	baz=270						
NSY	**Sanyi**	**1.44**	**273**	*e*P	**Pn**	**04 04 57.8**	**+1.9**
	baz=273						
CHKT	**Chengkung**	**1.53**	**216**	*e*P	**Pn**	**04 04 55.7**	**-1.3**
	baz=207						
JKRS	**Kuro-shima**	**1.53**	**94**	P	**Pn**	**04 04 57.5**	**+0.5**
JKRS				*e*S	**Sn**	**04 05 16.5**	**+0.7**
YUS	**Yu-Shan**	**1.53**	**237**	P	**Pn**	**04 04 57.6**	**+0.1**
	baz=228						
YUS				*e*S	**Sn**	**04 05 16.1**	**-0.5**
	baz=228						
TCU	**Taichung**	**1.53**	**263**	*e*P	**Pn**	**04 04 57.6**	**+0.5**
	baz=274						
TCU				*e*S	**Sn**	**04 05 16.7**	**+0.8**
	baz=274						
WNT	**Mingjian**	**1.58**	**253**	*e*P	**Pn**	**04 04 58.9**	**+1.1**
	baz=252						
WNT				*e*S	**Sn**	**04 05 18.5**	**+1.3**
	baz=252						
ALS	**Alishan**	**1.63**	**240**	*e*P	**Pn**	**04 04 59.0**	**+0.3**
	baz=231						
JIJ	**Ishigaki jima**	**1.64**	**89**	P	**Pn**	**04 04 58.3**	**-0.3**
JIJ				*e*S	**Sn**	**04 05 17.6**	**-1.1**
ELDTW	**Lidau**	**1.67**	**227**	*e*P	**Pn**	**04 04 58.3**	**-0.8**
	baz=221						
ELDTW				*e*S	**Sn**	**04 05 17.3**	**-2.2**
	baz=221						
CHN5	**Tsauling**	**1.69**	**244**	P	**Pn**	**04 05 00.1**	**+0.7**
	baz=234						
CHN5				*e*S	**Sn**	**04 05 20.8**	**+0.8**
	baz=234						
WGK	**Gukeng**	**1.75**	**249**	*e*P	**Pn**	**04 05 01.0**	**+0.9**
	baz=248						
STYT	**Tauyuan**	**1.87**	**231**	*e*P	**Pn**	**04 05 02.1**	**+0.3**
	baz=226						
STYT				*e*S	**Sn**	**04 05 24.1**	**-0.1**
	baz=226						
TWG	**Pinlang**	**1.91**	**218**	*e*P	**Pn**	**04 05 01.1**	**-1.2**
	baz=216						
CHY	**Chiayi**	**1.94**	**245**	*e*P	**Pn**	**04 05 03.3**	**+0.5**
	baz=244						
TWK	**Hsinying**	**2.01**	**238**	P	**Pn**	**04 05 04.2**	**+0.5**
	baz=236						
TWK				*e*S	**Sn**	**04 05 27.6**	**-0.1**
	baz=236						
CHN1	**Nanshi**	**2.02**	**236**	*e*P	**Pn**	**04 05 04.5**	**+0.7**
	baz=234						
CHN1				*e*S	**Sn**	**04 05 28.4**	**+0.5**
	baz=234						
SGST	**Jiashian**	**2.04**	**232**	*e*P	**Pn**	**04 05 04.6**	**+0.5**
	baz=230						
SGST				*e*S	**Sn**	**04 05 30.0**	**+1.6**
	baz=230						
JTJ	**Tarama**	**2.17**	**82**	P	**Pn**	**04 05 06.2**	**+0.4**
JTJ				*e*S	**Sn**	**04 05 31.2**	**-0.4**
SSD	**Sandimen**	**2.23**	**225**	*e*P	**Pn**	**04 05 07.5**	**+0.8**
	baz=223						
SSD				*e*S	**Sn**	**04 05 33.6**	**+0.6**
	baz=223						
EAST	**Anshuo**	**2.38**	**215**	*e*P	**Pn**	**04 05 07.8**	**-1.0**
	baz=207						
EAST				*e*S	**Sn**	**04 05 35.8**	**-1.0**
	baz=207						
LAY	**Lan-yu**	**2.40**	**198**	*e*P	**Pn**	**04 05 07.5**	**-1.5**
	baz=189						
SCZT	**Fangliau**	**2.52**	**219**	*e*P	**Pn**	**04 05 10.9**	**+0.3**
	baz=230						
SCZT				*e*S	**Sn**	**04 05 40.4**	**+0.3**
	baz=230						

*ISCJB **04** 04:10:17.1±0.8, 5°.47N±0°.07×126°.0E±0°.1, h116km, mb3.6/4, Error ellipse: s-maj=19.7km s-min=8.8km az=169.5*
*MAN **04** 04:10:23, 5°.90N×125°.80E, h89km, mb4.4, ML3.3, MS3.1*
*IDC **04** 04:10:24.1±10.0, 3°.69N×127°.89E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, Error ellipse: s-maj=174.9km s-min=93.0km az=149.0*

ISC 04 04:10:17.7±1.0, 5°.55N±0°.08×125°.9E±0°.1, h116km, n10, σ2s23/12, mb3.6/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.43**	**13**	*e*P	**Pn**	**04 10 44.8**	**+0.7**
MATI				*e*S	**Sn**	**04 11 05.4**	**+1.3**
DMPH	**Davao City--Mi**	**1.58**	**345**	⇑*e*P	**Pn**	**04 10 47.3**	**+1.4**
DMPH				*e*S	**Sn**	**04 11 03.0**	**-4.3**
CTBH	**Cotabato--PC H**	**2.35**	**315**	⇓*i*P	**Pn**	**04 10 56.5**	**+1.0**
BUKP	**Musuan**	**2.47**	**340**	*e*P	**Pn**	**04 10 58.1**	**+1.1**
CGP	**Cagayan de Oro**	**3.13**	**337**	*e*P	**Pn**	**04 11 07.3**	**+1.6**
PAGZ	**Pagadian**	**3.40**	**312**	*e*P	**Pn**	**04 11 10.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.50**	**181**	P	**P**	**04 15 17.4**	**+0.1**
	7.6nm,1.2s,baz=4.8,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**26.65**	**162**	P	**P**	**04 15 41.9**	**-4.0**
	0.3nm,0.5s,baz=346,slow=10.0,SNR=8.9						
ASAR	**Alice Springs**	**30.06**	**165**	P	**P**	**04 16 16.2**	**+0.1**
	0.3nm,0.3s,baz=346,slow=7.4,SNR=9.2						
STKA	**Stephens Creek**	**40.10**	**159**	P	**P**	**04 17 42.1**	**0.0**
	1.3nm,0.7s,baz=323,slow=11,SNR=5.4						

*IDC **04** 04:17:45.7±0.3, 8°.94S×157°.65E, h0km, mb5.2/33, mb1 5.3/36, mb1mx5.3/36, mbtmp5.2/36, ML4.4/3, MS4.9/33, Ms1 4.9/33, ms1mx4.9/37, Error ellipse: s-maj=10.7km s-min=9.1km az=29.0*
*BJI **04** 04:17:47.3, 8°.46S×157°.82E, h13km, mB5.7/45, mb5.4/62, Ms5.3/57, Ms7 4.9/52*
*MOS **04** 04:17:49.9±1.1, 8°.88S×157°.59E, h33km, mb5.8/47, MS4.9/22, Error ellipse: s-maj=6.9km s-min=6.1km az=79.9*
*ISCJB **04** 04:17:49.9±0.1, 8°.93S±0°.03×157°.62E±0°.02, h33km, mb5.6/202, MS5.0/159, Error ellipse: s-maj=3.7km s-min=2.7km az=172.7*
*GCMT **04** 04:17:50.6±0.2, 9°.06S×157°.72E, h17km, MW5.6/110, Moment Tensor Solution. s50,c60; s110,c184; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr 2.80±.12; Mθθ -1.36±.07; Mϕϕ -1.45±.07; Mrθ 0.59±.22; Mrϕ 1.28±.04; Mθϕ -1.58±.21; Best double couple: Mo 3.21600×10^17 NP1:ϕs 147.00000°, δ61.00000°, λ101.00000°. NP2:ϕs 306.00000°, δ31.00000°, λ72.00000°. Principal axes: T 3.3290, Plg72.0000°, Azm83.0000°; N -0.2360, Plg9.0000°, Azm322.0000°; P -3.1030, Plg15.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 04:17:50.6±1.7, 8°.92S×157°.61E, h30km±11km, mb5.8/122, MS5.1/109 Error ellipse: s-maj=4.2km s-min=3.7km az=172.0*

ISC 04 04:17:49.0±0.2, 8°.92S±0°.04×157°.72E±0°.03, h21km±2km, h21km:pP-P, n921, σ1s43/909, mb5.6/194, MS5.1/160, 177C-155D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.26**	**103**	Pn	**Pn**	**04 18 23.2**	**-2.0**
HNR				Pg	**Pb**	**04 18 28.5**	**-0.6**
HNR				Sn	**Sn**	**04 18 53.0**	**+0.6**
HNR				Lg	Lg	04 19 00.4	
HNR	**Honiara**	**2.26**	**103**	Pn	**Pn**	**04 18 23.2**	**-2.0**
	463nm,0.3s,baz=235,slow=3.2,SNR=45						
HNR				P

KWAJ pmax pmax
comp=Z,344nm,0.9s
KWAJ Kwajalein Atol 20.17 29 *e*P **P 04 22 23.2 +0.9**
comp=Z,344nm,0.9s
QIS Mount Isa 20.97 235 ⇑P **P 04 22 32.1 +1.1**
baz=21,SNR=57
QLP Quilpie 21.73 214 ⇑P **P 04 22 39.6 +0.5**
baz=22,SNR=35
ARMA Armidale 22.14 194 *e*P **P 04 22 43.9 +0.4**
comp=Z,824nm,2.1s
ARMA Armidale 22.14 194 ⇓P **P 04 22 44.6 +1.1**
baz=22,SNR=20
BAKI Biak 22.84 288 P **P 04 22 53.3 +2.2**
comp=Z,180nm,1.2s,comp=Z,3μm
KDU Kakadu 25.08 259 ⇑P **P 04 23 12.6 +0.3**
baz=25,SNR=4.7
WRAB Tennant Creek 25.11 242 P **P 04 23 12.5 -0.1**
comp=Z,453nm,1.0s,SNR=18
WRAB Tennant Creek 25.11 242 *d*/P **P 04 23 11.8 -0.8**
WRAB pmax pmax
comp=Z,444nm,1.7s
WRAB Tennant Creek 25.11 242 *e*P **P 04 23 12.1 -0.5**
comp=Z,174nm,1.3s
WRAB *e*PcP **PcP 04 26 48.2 +1.3**
WRAB LR LR
comp=Z,7μm,20.0s
WRA Warramunga Arr 25.12 242 P **P 04 23 12.3 -0.5**
WRA PcP **PcP 04 26 46.9 -0.1**
WRA S **S 04 27 37.6 +0.9**
WRA ScP **ScP 04 30 24.4 -0.8**
WRA Warramunga Arr 25.12 242 P **P 04 23 12.3 -0.5**
comp=Z,42nm,1.0s,baz=68,slow=9.0,SNR=67
WRA PcP **PcP 04 26 46.9 -0.1**
comp=Z,9.8nm,1.0s,baz=66,slow=1.7,SNR=6.4
WRA S **S 04 27 37.6 +0.9**
comp=Z,6.1nm,1.2s,baz=66,slow=15,SNR=2.7
WRA ScP **ScP 04 30 24.4 -0.8**
comp=Z,2.4nm,1.1s,baz=66,slow=1.4,SNR=5.5
WRA LR LR 04 32 22.0
comp=Z,8μm,20.9s,baz=70,slow=35
CMSA Cobar Meteorol 25.14 205 ⇓P **P 04 23 13.3 +0.5**
baz=25,SNR=92
GUMO Guam 25.74 330 *e*P **P 04 23 18.6 +0.2**
FAKI Fak Fak 26.02 282 P **P 04 23 22.4 +1.5**
comp=Z,80nm,1.3s,comp=Z,2μm
YNG Young 26.68 197 ⇑P **P 04 23 29.5 +2.8**
baz=27,SNR=18
AS31 Alice Springs 27.09 234 *e*P **P 04 23 29.7 -0.9**
ASAR Alice Springs 27.09 234 P **P 04 23 29.6 -1.0**
ASAR PcP **PcP 04 26 50.1 -1.4**
ASAR ScP **ScP 04 30 33.2 +2.4**
ASAR Alice Springs 27.09 234 P **P 04 23 29.6 -1.0**
comp=Z,11nm,1.0s,baz=68,slow=9.1,SNR=47
ASAR PcP **PcP 04 26 50.1 -1.4**
comp=Z,5.3nm,1.0s,baz=56,slow=2.2,SNR=4.2
ASAR ScP **ScP 04 30 33.2 +2.4**
comp=Z,2.7nm,1.2s,baz=57,slow=4.6,SNR=3.5
ASAR LR LR 04 33 52.4
comp=Z,4μm,18.6s,baz=338,slow=36
STKA Stephens Creek 27.32 211 *e*P **P 04 23 32.8 +0.3**
comp=Z,89nm,1.4s
STKA PcP **PcP 04 26 51.7 -0.1**
STKA S **S 04 28 13.7 +2.5**
STKA Stephens Creek 27.32 211 P **P 04 23 33.0 +0.5**
comp=Z,62nm,1.0s,baz=25,slow=11,SNR=33
STKA PcP **PcP 04 26 51.7 -0.1**
comp=Z,19nm,1.1s,baz=338,slow=5.4,SNR=4.3
STKA S **S 04 28 13.7 +2.5**
comp=Z,2.1nm,0.9s,baz=0.1,slow=18,SNR=1.6
STKA LR LR 04 33 43.3
comp=Z,5μm,19.3s,baz=27,slow=35
CNB Canberra Magne 27.37 195 ⇓P **P 04 23 34.2 +1.2**
baz=28,SNR=11
CAN Canberra 27.47 196 *e*P **P 04 23 33.7 -0.2**
CAN pmax pmax
comp=Z,102nm,1.4s
CAN MLR MLR
comp=Z,4μm,19.0s
CAN Canberra 27.47 196 *e*P **P 04 23 33.6 -0.2**
comp=Z,102nm,1.4s
CAN LR LR
comp=Z,4μm,19.0s
CAN Canberra 27.47 196 ⇑P **P 04 23 36.6 +2.8**
baz=28
SWI Sorong 27.53 285 P **P 04 23 38.7 +4.1**
comp=Z,56nm,1.4s,comp=Z,1μm
KNRA Kununurra 29.06 254 ⇓P **P 04 23 47.1 -1.1**
baz=29,SNR=3.0
H11N1 WAKE ISLAND Hy 29.85 18 T T 04 54 01.8
baz=197,slow=75,SNR=64
H11N3 WAKE ISLAND Hy 29.86 18 T T 04 54 04.4
baz=197,slow=71,SNR=71
H11N2 WAKE ISLAND Hy 29.87 18 T T 04 54 21.2
baz=197,slow=75,SNR=83
HTT Hallett 29.93 213 ⇑P **P 04 23 55.9 +0.1**
baz=30,SNR=8.3
OUZ Omahuta 29.94 153 *e*P **P 04 23 57.3 +1.5**
comp=Z,27nm,0.9s
AFI Afiamalu 30.29 102 *e*P **P 04 23 59.9 +0.7**
comp=Z,267nm,1.2s
AFI Afiamalu 30.29 102 P **P 04 24 00.0 +0.7**
comp=Z,118nm,1.0s,baz=0.7,slow=1.4,SNR=8.0
AFI LR LR 04 33 41.0
comp=Z,1μm,20.5s,baz=282,slow=32
RAO Raoul Island 30.52 135 *e*P **P 04 24 01.8 +0.8**
comp=Z,1μm,1.5s
RAO Raoul Island 30.52 135 P **P 04 24 00.9 -0.1**
comp=Z,97nm,0.3s,baz=240,slow=21,SNR=3.9
TOO Toolangi 30.60 199 ⇓P **P 04 24 02.7 +1.0**
baz=31,SNR=7.6
KNTN Kanton 30.99 81 *e*P **P 04 24 05.3 -0.1**
comp=Z,363nm,1.4s
BBOO Buckleboo 31.09 217 *e*P **P 04 24 05.2 -0.8**
comp=Z,704nm,0.9s
BBOO Buckleboo 31.09 217 ⇓P **P 04 24 05.7 -0.3**
baz=31,SNR=28
LBMI Labuha 31.19 284 P P 04 24 14.1 +7.0
ARPS Mount Arapiles 31.25 205 P **P 04 24 07.8 +0.5**
baz=31,SNR=26
WRKA Warakurna 32.28 237 ⇓P **P 04 24 15.1 -1.5**
baz=32,SNR=20
FITZ Fitzroy Crossi 32.45 250 P **P 04 24 17.0 -1.1**
FITZ Fitzroy Crossi 32.45 250 P **P 04 24 17.0 -1.1**
comp=Z,8.9nm,0.9s,baz=71,slow=12,SNR=6.5
FITZ LR LR 04 36 59.2
comp=Z,3μm,21.1s,baz=70,slow=36
URZ Urewera 34.04 152 *e*P **P 04 24 32.6 +0.9**
comp=Z,115nm,1.2s
URZ Urewera 34.04 152 P **P 04 24 30.2 -1.5**
comp=Z,30nm,1.2s,baz=268,slow=2.6,SNR=4.3
URZ LR LR 04 36 21.4
comp=Z,3μm,18.7s,baz=329,slow=33
BKZ Black Stump Fm 34.50 154 *e*P **P 04 24 38.7 +2.8**
comp=Z,143nm,1.6s
MMRI Maumere 35.06 268 P **P 04 24 41.4 +0.5**
comp=Z,237nm,1.2s
TAU Tasmania Unive 35.07 193 *e*P **P 04 24 41.8 +1.2**
TAU pmax pmax
comp=Z,28nm,1.0s
TAU MLR MLR
comp=Z,1μm,19.0s
TAU Tasmania Unive 35.07 193 *e*P **P 04 24 41.8 +1.2**
comp=Z,28nm,1.0s
TAU LR LR
comp=Z,1μm,19.0s
FORT Forrest 35.18 228 *e*P **P 04 24 40.9 -0.8**
comp=Z,131nm,1.2s
FORT Forrest 35.18 228 ⇓P **P 04 24 41.7 0.0**
baz=35,SNR=8.0
SNZO South Karori 35.59 158 PFAKE 04 25 00.0 +15
SNZO LR LR
comp=Z,952nm,19.0s
DAV Davao City (W) 35.75 295 PFAKE
DAV LR LR
comp=Z,2μm,20.0s
GTOI Gorontalo 35.86 284 P P 04 24 52.5 +4.8
comp=Z,108nm,1.0s,comp=Z,2μm
RPZ Rata Peaks 36.57 164 *e*P **P 04 24 54.0 +0.6**
comp=Z,769nm,2.2s
RPZ Rata Peaks 36.57 164 P **P 04 24 53.1 -0.3**
comp=Z,8.8nm,0.4s,baz=313,slow=3.0,SNR=4.8
RPZ LR LR 04 38 30.2
comp=Z,2μm,18.2s,baz=321,slow=34
APSI Ampana 36.78 280 P **P 04 24 56.9 +1.3**
comp=Z,115nm,1.5s,comp=Z,2μm
MRSI Marisa 36.84 283 P P 04 25 10.4 +14
LBFI Labuhan Bajo, 37.39 268 P x 04 25 01.7
comp=Z,150nm,1.3s,comp=Z,2μm
BKSI Bulukumba 37.47 273 P **P 04 25 02.2 +0.7**
comp=Z,51nm,1.9s,comp=Z,1μm
BNSI Bone 37.61 274 P **P 04 25 03.8 +1.1**
comp=Z,98nm,1.5s,comp=Z,2μm
KAPI Kappang 37.87 273 P **P 04 25 05.8 +0.9**
comp=Z,484nm,1.2s,SNR=9.8
KAPI Kappang 37.87 273 *e*P **P 04 25 04.5 -0.5**
comp=Z,238nm,1.0s
KAPI LR LR
comp=Z,2μm,22.0s
SPSI Sidrap Palu 38.01 275 P **P 04 25 05.7 -0.4**
comp=Z,34nm,1.5s,comp=Z,807nm
TTSI Tana Toraja 38.12 276 P P 04 25 13.1 +6.1
JCJ Chichijima 38.84 338 LR LR 04 39 22.6
comp=Z,1μm,18.4s,baz=130,slow=33
KMBL Kambalda 40.10 231 ⇑P **P 04 25 23.0 -0.4**
baz=40,SNR=8.4
MEEK Meekatharra 40.98 239 ⇑P **P 04 25 29.8 -1.0**
baz=41,SNR=5.3
MTNI Mataram 41.05 267 P x 04 25 32.3
comp=Z,117nm,1.1s,comp=Z,2μm
BKB Balikpapan 41.33 278 P P 04 25 42.9 +9.1
MYLDM Lahad Datu 41.53 288 P x 04 25 39.2
comp=Z,44nm,1.2s
MYLDM Lahad Datu 41.53 288 *e*P P 04 25 39.1 +3.7
MYLDM Lahad Datu 41.53 288 ⇓P **P 04 25 37.9 +2.5**
KHKI Kahang-Kahang 41.62 267 P x 04 25 35.7
comp=Z,66nm,1.2s
KBKI Kotabaru 41.67 275 P P 04 25 40.7 +4.2
comp=Z,74nm,1.4s,comp=Z,4μm
TSM Tawau 41.84 287 ⇑P P 04 25 41.7 +3.8
SRBI Singaraja 42.03 268 P **P 04 25 39.8 +0.3**
comp=Z,64nm,1.6s,comp=Z,1μm
RAR Rarotonga 42.69 112 *e*P **P 04 25 46.2 +1.4**
RAR Rarotonga 42.69 112 P **P 04 25 44.9 +0.2**
comp=Z,88nm,1.0s,baz=254,slow=0.0,SNR=6.3
RAR LR LR 04 38 33.5
comp=Z,439nm,19.2s,baz=225,slow=29
SDKM Sandakan 42.91 288 ⇑P **P 04 25 49.7 +3.0**
BBKI Banjar Baru 42.95 274 P **P 04 25 48.8 +1.8**
comp=Z,156nm,1.4s
ABJI Asem Bagus 43.02 268 P P 04 25 52.0 +4.4
comp=Z,142nm,1.3s
JAGI Jajag, Banyuwa 43.05 267 *e*P **P 04 25 46.6 -1.2**
JAGI Jajag, Banyuwa 43.05 267 P **P 04 25 46.6 -1.2**
baz=43,SNR=6.0
MORW Morawa 43.91 237 ⇓P **P 04 25 53.7 -0.9**
baz=44,SNR=4.3
NWAO Narrogin (SRO) 44.33 231 P **P 04 25 57.5 -0.3**
comp=Z,0.1nm,0.2s
NWAO Narrogin (SRO) 44.33 231 P **P 04 25 58.0 +0.1**
comp=Z,25nm,1.1s,baz=42,slow=7.2,SNR=3.8
NWAO LR LR 04 44 32.2
comp=Z,3μm,19.2s,baz=69,slow=36
KRKI Karangkates 44.75 267 P x 04 26 06.6
JOW Kunigami 45.60 322 *e*P **P 04 26 08.5 +0.6**
comp=Z,86nm,1.3s
XMAS Kiritimati 45.99 78 *e*P **P 04 26 12.1 +0.8**
PCJI Pacitan 46.01 267 P P 04 26 12.2 +0.8
BTM Bintulu 46.09 283 ⇑P **P 04 26 14.1 +2.0**
SBUM Sibu 46.73 282 ⇑P **P 04 26 19.2 +2.1**
SMRI Semarang 46.84 269 *e*P **P 04 26 19.1 +1.1**
YULB Yu-li 47.96 313 *e*P **P 04 26 26.3 -0.2**
comp=Z,45nm,1.0s
NACB Ninganchiao 48.22 314 *e*P **P 04 26 28.5 -0.1**
comp=Z,151nm,1.4s
KSM Kuching 48.36 280 *e*P **P 04 26 30.6 +0.8**
comp=Z,246nm,1.6s
KSM Kuning 48.36 280 ⇓P **P 04 26 31.3 +1.5**
TPUB Ta-pu 48.39 312 *e*P **P 04 26 28.9 -1.0**
comp=Z,246nm,1.6s
SSLB Suanglung 48.45 313 *e*P **P 04 26 30.2 -0.1**
comp=Z,27nm,0.9s
YHNB Yeheng 48.69 314 *e*P **P 04 26 32.1 -0.1**
comp=Z,127nm,1.0s
YHNB LR LR
comp=Z,1μm,21.0s
MJAR Matsushiro Arr 48.80 339 P **P 04 26 31.4 -1.3**
MJAR Matsushiro Arr 48.80 339 P **P 04 26 31.4 -1.3**
comp=Z,11nm,0.9s,baz=167,slow=8.5,SNR=26
MJAR LR LR 04 43 49.6
comp=Z,890nm,19.9s,baz=145,slow=32
MAJO Matsushiro 48.80 339*c*/P **P 04 26 31.3 -1.4**
MAJO pmax pmax
comp=Z,247nm,1.7s
MAJO Matsushiro 48.80 339 *e*P **P 04 26 31.4 -1.4**
comp=Z,62nm,1.5s
MAJO LR LR
comp=Z,1μm,21.0s
MAT Matsushiro 48.80 339 P **P 04 26 31.5 -1.3**
MAT S **S 04 33 39.4 +4.5**
TATO Taipei 48.80 315 PFAKE 04 26 40.0 +7.0
TATO LR LR
comp=Z,1μm,20.0s
JNU Nakatsue 49.00 330 *e*P **P 04 26 34.0 -0.4**
comp=Z,71nm,1.3s
JNU S **S 04 33 38.9 +1.0**
JNU Nakatsue 49.00 330 P **P 04 26 34.6 +0.2**
comp=Z,79nm,1.0s
JNU S **S 04 33 38.9 +1.0**
QZH Quanzhou 50.86 312⇑/P **P 04 26 45.7 -2.9**
QZH S **S 04 34 01.1 -2.9**
QZH pmax pmax
comp=Z,160nm,1.0s
QZH LR LR
comp=Z,890nm,10.6s
QZH LR LR
comp=Z,800nm,15.4s
QZH LR LR
comp=Z,1μm,24.2s
PPT Papeete 51.88 105 P **P 04 26 58.3 +1.8**
PPT Papeete 51.88 105 P **P 04 26 58.3 +1.8**
comp=Z,54nm,0.9s,baz=353,slow=20,SNR=3.8
PPT LR LR 04 44 11.8
comp=Z,270nm,18.8s,baz=286,slow=30
PAE Paea 51.88 105 *e*P **P 04 26 57.1 +0.7**
comp=Z,41nm,1.3s
PPT2 Papeete2 51.88 105 *e*P **P 04 26 57.5 +0.9**
comp=Z,118nm,1.4s
PPT2 *e*S **S 04 34 19.1 +0.5**
comp=Z,704nm,25.8s
PPT2 *e*LQ LQ 04 39 40.4
comp=Z,3μm,29.5s
PPT2 *e*LR LR 04 41 51.6
comp=Z,4μm,29.2s,baz=274
PPT2 Papeete2 51.88 105 *e*LQ LQ 04 26 04.3
comp=Z,1μm,25.5s
PPT2 *e*LR LR 04 27 04.3
comp=Z,834nm,26.8s,baz=263
TIAR Tiarei 52.10 105 *e*P **P 04 26 59.2 +1.1**
comp=Z,58nm,1.1s
TVO Taravao 52.20 106 *e*P **P 04 27 00.0 +1.1**
comp=Z,85nm,1.5s
ERM Erimo 52.41 346 PFAKE 04 27 10.0 +10
ERM LR LR
comp=Z,1μm,19.0s
TBI Tubuai 52.45 113 *e*P **P 04 27 01.6 +1.0**
comp=Z,441nm,1.3s
TBI *e*S **S 04 34 26.3 +0.2**
comp=Z,558nm,25.0s
TBI *e*LQ LQ 04 39 54.8
comp=Z,5μm,30.5s
TBI *e*LR LR 04 42 07.6
comp=Z,2μm,31.8s
TBI Tubuai 52.45 113 *e*LQ LQ 04 26 25.6
comp=Z,1μm,27.0s
TBI *e*LR LR 04 27 20.0
comp=Z,553nm,27.8s,baz=287
KIP Kipapa 52.89 55⇓*e*P **P 04 27 04.4 +0.6**
KIP pmax pmax
comp=Z,64nm,1.2s
KIP Kipapa 52.89 55 PFAKE 04 27 20.0 +16
KIP LR LR
comp=Z,2μm,20.0s
SSE Sheshan 52.99 320 ⇑P **P 04 27 04.7 +0.3**
SSE pP **pP 04 27 09.1 -1.9**
SSE S **S 04 34 35.6 +2.4**
SSE sS **sS 04 34 44.3 +0.3**
SSE pmax pmax
comp=Z,44nm,0.8s
SSE pmax pmax
comp=Z,370nm,6.6s
SSE LR LR
comp=Z,600nm,19.0s
SSE LR LR
comp=Z,250nm,19.0s
SSE LR LR
comp=Z,710nm,18.0s
DLV T Lat 53.15 292 *e*P **P 04 27 07.2 +1.0**
MEH Mehetia 53.33 106 *e*P **P 04 27 08.2 +1.0**
comp=Z,88nm,1.3s
TJN Taejon 53.33 329 *i* P **P 04 27 06.9 +0.1**
PMOR Pomariorio Ree 53.44 102 *e*P **P 04 27 09.3 +1.3**
comp=Z,500nm,1.1s
VAH Vaihoa 53.70 102 *e*P **P 04 27 10.8 +0.9**
comp=Z,251nm,1.1s
YUK Yuzh-Kuril'sk 53.79 349*d*/P P 04 27 06.0 -4.0
YUK *i* 04 29 12.1
YUK *i*S **S 04 34 44.6 +1.1**
YUK *i*SS **SKiKP 04 38 19.1 -4.2**
YUK *i*SSS SSS 04 40 17.8
GZH Guangzhou 53.82 307 P **P 04 27 12.2 +1.5**
GZH S **S 04 34 47.4 +2.7**
KSRS Korea Array 53.91 331 P **P 04 27 10.7 -0.4**
comp=Z,21nm,1.2s,baz=154,slow=7.1,SNR=17
KSRS LR LR 04 48 54.3
comp=Z,908nm,18.6s,baz=132,slow=35
KSAR Wonju Array Be 53.91 331 P **P 04 27 10.7 -0.4**
POHA Pohakuloa 54.13 58 *e*P **P 04 27 14.1 +0.8**
comp=Z,163nm,1.0s
POHA LR LR
comp=Z,2μm,19.0s
ASAJ Asahikawa 54.53 347 LR LR 04 48 03.1
comp=Z,1μm,19.7s,baz=173,slow=33
INCN Inchon 54.56 330 PFAKE 04 27 30.0 +14
INCN LR LR
comp=Z,924nm,19.0s
MYKOM Kota Tinggi 54.72 279 ⇑P **P 04 27 20.4 +2.9**
QIZ Qiongzhong 54.76 301 P **P 04 27 17.5 -0.1**
QIZ pP **pP 04 27 19.7 -4.5**
QIZ S **S 04 34 58.8 +1.3**
QIZ sS **sS 04 35 05.0 -3.3**
QIZ pmax pmax
comp=Z,33nm,1.4s
QIZ pmax pmax
comp=Z,400nm,7.2s
QIZ LR LR
comp=Z,670nm,19.4s
QIZ LR LR
comp=Z,690nm,21.0s
QIZ Qiongzhong 54.76 301 *e*P **P 04 27 16.8 -0.8**
comp=Z,132nm,1.4s
QIZ LR LR
comp=Z,772nm,19.0s
NJ2 Nanjing 55.11 319 *e*P **P 04 27 21.1 +1.2**
NJ2 pP **pP 04 27 23.6 -2.9**
NJ2 S **S 04 35 06.0 +4.2**
NJ2 pmax pmax
comp=Z,290nm,1.0s
NJ2 pmax pmax
comp=Z,440nm,11.0s
NJ2 LR LR
comp=Z,820nm,21.0s
NJ2 LR LR
comp=Z,710nm,21.0s
NJ2 LR LR
comp=Z,700nm,19.0s
KGM Kluang 55.29 279 ⇓P P 04 27 25.3 +3.7
KTGM Kuala Trenggan 56.23 283 ⇓P **P 04 27 30.2 +1.9**
UBPT Khong Chiam 57.08 295 P **P 04 27 35.7 +1.4**
comp=Z,58nm,1.6s
WHN Wuhan 57.19 315 ⇓P **P 04 27 35.8 +1.0**
WHN S **S 04 35 30.3 +0.8**
WHN pmax pmax
comp=Z,210nm,1.2s
WHN LR LR
comp=Z,920nm,10.7s
WHN LR LR
comp=Z,700nm,10.3s
WHN LR LR
comp=Z,2μm,14.6s
YSS Yuzh-Sakhalins 57.20 348 *e*P **P 04 27 34.8 +0.3**
YSS *e*S **S 04 35 34.0 +5.0**
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=Z,1μm,15.0s
FRIM Kepong 57.20 280 ⇑P **P 04 27 37.9 +2.7**
USRK Ussuriysk Arra 57.78 338 P **P 04 27 39.3 +0.6**
comp=Z,35nm,1.1s,baz=145,slow=7.0,SNR=35
USRK LR LR 04 49 13.5
comp=Z,460nm,18.3s,baz=130,slow=33
IPM Ipoh 58.06 281 *e*P **P 04 27 42.6 +1.3**
comp=Z,83nm,1.4s
IPM Ipoh 58.06 281 ⇑P **P 04 27 43.1 +1.8**
KULM Kulim 58.62 282 PFAKE 04 28 00.0 +15
KULM LR LR
comp=Z,413nm,19.0s
MDJ Mudanjiang 59.03 337 P **P 04 27 47.7 +0.3**
MDJ pP **pP 04 27 50.8 -3.3**
MDJ sP **sP 04 27 52.0 -4.6**
MDJ ScP **ScP 04 32 37.0 +1.1**
MDJ PcS **PcS 04 32 38.3 +0.4**
MDJ ScS **ScS 04 37 37.5 +1.2**
MDJ pmax pmax
comp=Z,58nm,1.6s
MDJ pmax pmax
comp=Z,430nm,5.5s
MDJ LR LR
comp=Z,980nm,19.3s
MDJ LR LR
comp=Z,680nm,17.7s
MDJ LR LR
comp=Z,600nm,16.2s
MDJ Mudanjiang 59.03 337 *e*P **P 04 27 47.2 -0.3**
comp=Z,139nm,1.8s
MDJ LR LR
comp=Z,454nm,19.0s
CHBT CHBT 59.09 291 P **P 04 27 50.1 +1.8**
comp=Z,53nm,1.3s
PSI Prapat 59.75 278 P **P 04 27 52.9 -0.3**
PSI PcP **PcP 04 28 39.8 -0.1**
PSI Prapat 59.75 278 P **P 04 27 52.9 -0.3**
comp=Z,19nm,1.1s,baz=148,slow=4.1,SNR=11
PSI PcP **PcP 04 28 39.8 -0.1**
comp=Z,12nm,0.9s,baz=285,slow=3.6,SNR=4.2
CN2 Changchun 60.09 334 ⇓P **P 04 27 55.1 +0.4**
CN2 *e*sP **sP 04 28 05.3 +1.4**
CN2 *e*S **S 04 36 06.7 0.0**
CN2 pmax pmax
comp=Z,40nm,1.6s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
CHAI Chaiyaphum 60.44 294 P **P 04 27 58.8 +1.1**
comp=Z,9.2nm,1.0s
PATY Pattaya 60.49 290 P P 04 28 03.8 +5.8
comp=Z,10nm,1.0s,comp=Z,836nm
ENH Enshi 60.52 312 *e*P **P 04 27 58.0 0.0**
comp=Z,92nm,1.0s
ENH LR LR
comp=Z,21nm,22.0s
HABR Khabarovsk 60.54 343 *e*P **P 04 27 56.5 -1.2**
HABR *e**SP **sP 04 28 10.6 +3.7**
HABR *e* 04 28 40.8
HABR *e*S **S 04 36 09.8 -2.5**
HABR *e**SS **sS 04 36 27.2 +3.9**
HABR *e* 04 37 44.2
HABR *e*SSS SSS 04 40 09.8
HABR pmax pmax
comp=E,48nm,2.5s
HABR pmax pmax
comp=N,75nm,2.3s
HABR pmax pmax
comp=Z,184nm,2.3s
HABR MLR MLR
comp=Z,526nm,19.0s
GYA Guiyang 60.76 307⇑/P **P 04 28 00.9 +1.1**
GYA ScP **ScP 04 32 43.2 -1.0**
GYA S **S 04 36 19.0 +2.8**
GYA pmax pmax
comp=Z,60nm,1.1s
GYA pmax pmax
comp=Z,180nm,5.4s
GYA LR LR
comp=Z,3μm,19.2s
GYA LR LR

comp=Z,2µm,20.0s
GYA LR LR
comp=Z,3µm,18.5s
GSI Gunungsitoli 60.77 277 ⇓P P 04 27 59.8 -0.3
baz=61
SLVN Son La 60.78 300 *e*P **P 04 28 01.1 +1.1**
SURT Suratani 61.31 285 P P 04 28 07.6 +3.9
comp=Z,13nm,1.7s
PBKT Sadao Pong 61.58 294 P **P 04 28 06.9 +1.5**
comp=Z,41nm,1.2s,comp=Z,1µm
PET Petropavlovsk 61.70 1 *e*P P 04 28 11.7 +6.2
PET *e*S **S 04 36 30.9 +4.0**
PET pmax pmax
comp=Z,300nm,12.1s
PET Petropavlovsk 61.70 1 PFAKE 04 28 20.0 +15
PET LR LR
comp=Z,1µm,19.0s
PEA0B Petropavlovsk- 61.78 360 *e*P **P 04 28 05.9 -0.1**
PETK Petropavlovsk- 61.78 360 P **P 04 28 06.5 +0.4**
PETK Petropavlovsk- 61.78 360 P **P 04 28 06.5 +0.4**
PETK Petropavlovsk- 61.78 360 P **P 04 28 06.5 +0.4**
comp=Z,47nm,1.1s,baz=158,slow=6.1,SNR=13
PETK LR LR 04 51 30.9
comp=Z,977nm,19.5s,baz=172,slow=33
BJT Baijiatuan 62.02 325 *e*P **P 04 28 07.4 -0.5**
comp=Z,39nm,1.2s
BJT LR LR
comp=Z,652nm,20.0s
BJI Beijing 62.03 325 P **P 04 28 06.6 -1.4**
BJI PP PP 04 30 30.7 +6.0
BJI S **S 04 36 31.6 0.0**
BJI SS **SS 04 40 31.8 -2.8**
BJI pmax pmax
comp=Z,21nm,1.7s
BJI pmax pmax
comp=Z,490nm,5.2s
BJI LR LR
comp=Z,1µm,14.8s
BJI LR LR
comp=Z,650nm,21.2s
BJI LR LR
comp=Z,490nm,27.7s
KLR Kul'dur 62.22 341 *e*P P 04 28 05.5 -3.6
KLR *e*S **S 04 36 31.5 -2.2**
KLR *e* 04 37 55.0
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s
KLR pmax pmax
comp=Z,1µm,8.5s
SRDT SRDT 62.55 291 P **P 04 28 13.8 +1.9**
comp=Z,174nm,1.6s,comp=Z,18µm
FX1 Attu Island--F 62.95 10 *e*P **P 04 28 14.1 +0.2**
FX1 Attu Island--F 62.95 10 P **P 04 28 14.3 +0.4**
comp=Z,194nm,0.9s,baz=179,slow=0.8,SNR=14
FX1 LR LR 04 50 20.4
comp=Z,2µm,20.2s,baz=203,slow=31
XAN Xi'an 62.96 315 P **P 04 28 14.0 -0.4**
XAN pP **pP 04 28 18.2 -2.9**
XAN PP **PP 04 30 35.0 +1.8**
XAN S **S 04 36 44.8 +1.1**
XAN sS **sS 04 36 50.4 -4.3**
XAN SS **SS 04 40 52.5 +2.9**
XAN pmax pmax
comp=Z,23nm,1.2s
XAN pmax pmax
comp=Z,84nm,5.1s
XAN LR LR
comp=Z,370nm,20.4s
XAN LR LR
comp=Z,150nm,24.9s
XAN LR LR
comp=Z,190nm,20.4s
KHLT Khaolaem Dam 63.17 292 P **P 04 28 18.4 +2.3**
comp=Z,22nm,1.4s,comp=Z,389nm
KMI Kunming 63.32 304 P **P 04 28 18.6 +1.4**
KMI sP **sP 04 28 29.8 +3.4**
KMI S **S 04 36 52.3 +3.4**
KMI SKS **SKSac 04 38 06.6 -3.3**
KMI pmax pmax
comp=Z,89nm,1.3s
KMI pmax pmax
comp=Z,660nm,7.2s
KMI LR LR
comp=Z,370nm,17.5s
KMI LR LR
comp=Z,440nm,18.4s
KMI LR LR
comp=Z,560nm,16.4s
LAMP Lampang 63.45 296 P P 04 28 32.5 +15
CM31 Chiang Mai Arr 64.04 295 *e*P **P 04 28 23.2 +1.4**
comp=Z,19nm,0.8s
CMAR Chiang Mai Arr 64.04 295 P **P 04 28 23.3 +1.5**
CMAR ⇑*e* 04 57 19.4
CMAR Chiang Mai Arr 64.04 295 P **P 04 28 23.3 +1.5**
comp=Z,17nm,0.9s,baz=113,slow=4.9,SNR=41
CMAR LR LR 04 56 14.6
comp=Z,330nm,18.5s,baz=125,slow=36
CMAR PKP2bc 04 57 19.4
comp=Z,1.0nm,0.3s,baz=274,slow=3.2,SNR=7.4
CHTO Chiang Mai 64.16 296 *e*P **P 04 28 22.9 +0.3**
CHTO pmax pmax
comp=Z,83nm,1.4s
CHTO MLR MLR
comp=Z,400nm,19.0s
CHTO Chiang Mai 64.16 296 *e*P **P 04 28 22.9 +0.3**
comp=Z,83nm,1.4s
CHTO LR LR
comp=Z,400nm,19.0s
MHMT Maesarieng 64.85 295 P P 04 28 32.1 +5.0
comp=Z,18nm,1.2s,comp=Z,631nm
CD2 Chengdu 65.11 310 ⇑*i*P **P 04 28 29.4 +0.8**
CD2 pP **pP 04 28 40.4 +5.1**
CD2 PcP **PcP 04 29 01.8 +0.5**
CD2 PP **PP 04 30 55.1 +3.0**
CD2 S **S 04 37 10.4 -0.1**
CD2 sS **sS 04 37 24.8 +3.3**
CD2 ScS **ScS 04 38 23.0 0.0**
CD2 SS **SS 04 41 21.4 -1.9**
CD2 pmax pmax
comp=Z,90nm,1.1s
CD2 pmax pmax
comp=Z,700nm,8.3s
CD2 LR LR
comp=Z,450nm,19.0s
CD2 LR LR
comp=Z,570nm,15.5s
CD2 LR LR
comp=Z,1µm,17.8s
HHC Hu-ho-hao-te 65.24 323 *e*P **P 04 28 29.4 +0.1**
HHC sP **sP 04 28 43.4 +4.9**
HHC S **S 04 37 17.1 +5.3**
HHC ScS **SKSac 04 38 22.6 -0.9**
HHC SS **SS 04 41 26.1 +1.1**
HHC pmax pmax
comp=Z,43nm,1.4s
HHC pmax pmax
comp=Z,890nm,9.4s
HHC LR LR
comp=Z,1µm,15.7s
HHC LR LR
comp=Z,1µm,15.3s
HHC LR LR
comp=Z,1µm,18.8s
CASY Casey 65.64 199 PFAKE 04 28 40.0 +8.6
CASY LR LR
comp=Z,3µm,21.0s
RKT Rikitea 65.73 111 *e*P **P 04 28 32.8 +0.1**
comp=Z,164nm,1.3s
RKT Rikitea 65.73 111 *e*LQ LQ 04 45 25.6
RKT comp=Z,1µm,31.2s *e*LR LR 04 48 16.8
comp=Z,1µm,32.0s
HIA Hailar 66.81 334 *e*P **P 04 28 39.2 +0.1**
HIA comp=Z,48nm,1.3s LR LR
comp=Z,598nm,20.0s
LZH Lanzhou 67.57 315 P **P 04 28 46.1 +1.6**
LZH pP **pP 04 28 50.7 -0.5**
LZH sP **sP 04 28 53.4 -0.3**
LZH PP **PP 04 31 13.5 -0.2**
LZH S **S 04 37 42.2 +1.7**
LZH sS **sS 04 37 51.0 -0.5**
LZH SS **SS 04 42 03.5 +1.9**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,550nm,4.3s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,2µm,16.5s
LZH LR LR
comp=Z,2µm,17.2s
VNDA Vanda 68.61 179 *e*P **P 04 28 50.3 +0.2**
comp=Z,233nm,2.2s
VNDA Vanda 68.61 179 P **P 04 28 50.4 +0.3**
comp=Z,14nm,1.0s,baz=338,slow=7.2,SNR=8.5
VNDA LR LR 04 52 42.1
comp=Z,1µm,20.6s,baz=358,slow=31
SBA Scott Base 69.07 178 PFAKE 04 29 10.0 +17
SBA LR LR
comp=Z,1µm,21.0s
CLNS Chul'man 70.87 342 *e*P **P 04 29 04.9 +0.6**
CLNS *e**PP **pP 04 29 14.0 +2.9**
CLNS *e* 04 29 26.3
CLNS *e* 04 31 40.8
CLNS *e*PPP PPP 04 33 22.8
CLNS *e*S **S 04 38 17.2 -1.2**
CLNS *e* 04 38 56.8
CLNS *e*SSS SSS 04 46 03.3
CLNS pmax pmax
comp=Z,45nm,1.2s
CLNS pmax pmax
comp=N,19nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,3.0nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS smax smax
comp=E,331nm,11.0s
CLNS smax smax
comp=N,249nm,10.7s
CIT Chita 71.53 333 *e*P **P 04 29 09.6 +1.2**
CIT *e* 04 29 18.8
CIT *e* 04 29 28.5
CIT pmax pmax
comp=Z,135nm,2.5s
SEY Seymchan 71.75 357 P **P 04 29 09.2 -0.2**
SEY Seymchan 71.75 357 P **P 04 29 09.2 -0.2**
SEY Seymchan 71.75 357 P **P 04 29 09.2 -0.2**
comp=Z,14nm,1.1s,baz=171,slow=6.5,SNR=14
MIR Mirnyy 71.94 202 *e*P **P 04 29 12.0 +1.4**
MIR *e* 04 29 32.0
MIR pmax pmax
comp=Z,319nm,2.0s
GTA Gaotai 71.98 316 ⇑P **P 04 29 12.3 +0.8**
GTA pP **pP 04 29 17.1 -1.2**
GTA sP **sP 04 29 19.3 -1.5**
GTA sS **sS 04 38 42.4 -0.9**
GTA SKS **SKSac 04 39 11.3 -3.4**
GTA pmax pmax
comp=Z,47nm,1.4s
GTA pmax pmax
comp=Z,510nm,6.2s
GTA LR LR
comp=Z,420nm,18.1s
GTA LR LR
comp=Z,410nm,17.6s
GTA LR LR
comp=Z,400nm,18.5s
ULN Ulaanbaatar 72.07 327 *e*P **P 04 29 12.6 +0.7**
comp=Z,122nm,1.8s
ULN LR LR
comp=Z,495nm,19.0s
SONM Songino Array 72.41 327 P **P 04 29 14.8 +1.0**
SONM Songino Array 72.41 327 P **P 04 29 14.8 +1.0**
comp=Z,13nm,1.1s,baz=123,slow=4.0,SNR=59
SONM LR LR 05 00 47.7
comp=Z,560nm,18.4s,baz=132,slow=36
YAK Yakutsk 74.02 347*c i*P **P 04 29 22.5 -0.3**
YAK *e**PP **pP 04 29 31.6 +2.0**
YAK *e* 04 29 37.4
YAK *e* 04 32 10.1
YAK *e*PPP PPP 04 33 55.3
YAK *e*S **S 04 38 53.2 -0.8**
YAK *e**SS sS 04 39 16.0 +11
YAK *e* 04 39 30.6
YAK *e*SS SS 04 43 32.0 -7.2
YAK pmax pmax
comp=N,21nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=Z,208nm,5.3s
YAK smax smax
comp=N,603nm,6.6s
YAK smax smax
comp=E,1µm,9.1s
YAK MLR MLR
comp=N,344nm,11.0s
YAK MLR MLR
comp=Z,473nm,16.0s
YAK MLR MLR
comp=E,354nm,16.0s
YAK Yakutsk 74.02 347 *e*P **P 04 29 23.1 +0.3**
comp=E,30nm,0.8s
YAK LR LR
comp=Z,795nm,21.0s
LSA Lhasa 74.58 304 *e*P **P 04 29 28.2 +0.7**
LSA pmax pmax
comp=Z,111nm,1.6s
LSA MLR MLR
comp=Z,395nm,21.0s
LSA Lhasa 74.58 304 *e*P **P 04 29 28.2 +0.7**
comp=Z,111nm,1.6s
LSA LR LR
comp=Z,395nm,21.0s
ZAK Zakamensk 75.55 327 *e*P **P 04 29 32.3 +0.1**
ZAK pmax pmax
comp=Z,18nm,1.7s
TLY Talaya 76.09 329 *e*P **P 04 29 35.3 +0.2**
TLY pmax pmax
comp=Z,41nm,1.6s
TLY MLR MLR
comp=Z,409nm,19.0s
TLY Talaya 76.09 329 *e*P **P 04 29 35.3 +0.2**
comp=Z,41nm,1.6s
TLY LR LR
comp=Z,409nm,19.0s
IRK Irkutsk 76.09 329 *e*P **P 04 29 34.2 -0.9**
IRK *e* 04 29 54.2
IRK pmax pmax
comp=Z,60nm,2.0s
GAMB Gambell 76.11 13 *e*P **P 04 29 35.1 +0.2**
comp=Z,155nm,1.5s
TAPN Taplejung 76.70 301 *e*P **P 04 29 39.9 +0.4**
comp=Z,136nm,1.2s
ODAN Odare 76.83 300 *e*P **P 04 29 40.6 +0.5**
comp=Z,267nm,1.6s
OHAK Old Harbor 77.09 25 *e*P **P 04 29 40.9 +0.3**
comp=Z,78nm,1.2s
MOY Mondy 77.46 328 *e*P **P 04 29 43.5 +0.5**
RAMN Ramite 77.53 300 *e*P **P 04 29 44.3 +0.2**
comp=Z,98nm,1.4s
KDAK Kodiak Island 77.74 25 PFAKE 04 30 00.0 +16
KDAK LR LR
comp=Z,1µm,20.0s
JIRN Jiri 78.08 301 *e*P **P 04 29 47.7 +0.4**
comp=Z,262nm,1.7s
PALK Pallekele 78.41 279 *e*P **P 04 29 48.1 -0.9**
comp=Z,193nm,1.3s
GUN Gumba 78.42 301 *e*P **P 04 29 49.4 +0.3**
comp=Z,330nm,1.7s
TNA Tin City 78.50 14 *e*P **P 04 29 48.2 0.0**
comp=Z,160nm,1.6s
PKI Pulchoki 78.72 300 *e*P **P 04 29 50.8 0.0**
comp=Z,228nm,1.7s
KKN Kakani 78.89 301 *e*P **P 04 29 51.6 0.0**
comp=Z,106nm,1.3s
DMN Daman 78.99 300 *e*P **P 04 29 52.4 +0.2**
comp=Z,200nm,1.2s
RSO Redoubt South 79.39 23 *e*P **P 04 29 52.4 -1.2**
comp=Z,51nm,0.9s
GKN Gorkha 79.50 301 *e*P **P 04 29 54.8 0.0**
comp=Z,278nm,1.4s
KOLN Koldanda 80.32 300 *e*P **P 04 29 59.2 -0.1**
comp=Z,164nm,1.2s
DANN Dangsing 80.33 301 *e*P **P 04 29 59.0 -0.5**
comp=Z,255nm,1.6s
SEW Seward 80.46 24 *e*P **P 04 29 58.7 -0.3**
comp=Z,130nm,1.4s
PYUN Piuthan 80.92 300 *e*P **P 04 30 02.1 -0.5**
comp=Z,123nm,1.0s
RC01 Rabbit Creek A 80.94 23 *e*P **P 04 30 01.7 +0.1**
comp=Z,369nm,1.7s
QSPA South Pole Qui 81.07 180 *e*P **P 04 30 02.3 -0.2**
comp=Z,61nm,1.2s
QSPA LR LR
comp=Z,659nm,21.0s
QSPA South Pole Qui 81.07 180 P **P 04 30 02.6 +0.1**
comp=Z,20nm,0.9s,baz=6.7,slow=1.6,SNR=27
PPLA Purkeypile 81.17 21 *e*P **P 04 30 02.3 -0.7**
comp=Z,358nm,1.8s
PMR Palmer 81.48 23 *e*P **P 04 30 04.2 -0.3**
PMR pmax pmax
comp=Z,329nm,1.6s
PMR Palmer 81.48 23 *e*P **P 04 30 04.2 -0.3**
comp=Z,329nm,1.6s
KTH Kantishna Hill 82.03 21 *e*P **P 04 30 06.5 -1.0**
comp=Z,270nm,1.5s
WMQ Urumqi 82.06 317 P **P 04 30 07.2 -0.9**
WMQ pP **PcP 04 30 11.9 -1.6**
WMQ sP **sP 04 30 14.2 -3.2**
WMQ PP **PP 04 33 17.0 +0.7**
WMQ S **S 04 40 19.6 -2.1**
WMQ SS **SS 04 45 41.7 +0.3**
WMQ pmax pmax
comp=Z,31nm,2.4s
WMQ pmax pmax
comp=Z,630nm,5.0s
WMQ LR LR
comp=Z,680nm,17.5s
WMQ LR LR
comp=Z,510nm,14.5s
WMQ LR LR
comp=Z,240nm,21.6s
TRF Thorofare Moun 82.19 21 *e*P **P 04 30 07.7 -0.7**
comp=Z,76nm,1.0s
HYB Hyderabad 82.44 289 *i* P **P 04 30 10.0 -0.6**
HYB *e*PP PP 04 33 28.0 +8.1
HYB *e*S **S 04 40 24.0 -2.5**
DIV Divide 82.53 24 *e*P **P 04 30 10.4 +0.3**
comp=Z,414nm,2.0s
TIXI Tiksi 82.64 351 *e*P **P 04 30 10.0 -0.4**
TIXI pmax pmax
comp=Z,145nm,1.7s
TIXI MLR MLR
comp=Z,392nm,19.0s
TIXI Tiksi 82.64 351 *e*P **P 04 30 10.0 -0.4**
comp=Z,145nm,1.7s
TIXI LR LR
comp=Z,392nm,19.0s
IM04 Indian Mountai 82.67 18 *e*P **P 04 30 10.7 0.0**
MCK McKinley 82.84 21 *e*P **P 04 30 11.0 -0.6**
MCK pmax pmax
comp=Z,442nm,1.2s
MCK McKinley 82.84 21 *e*P **P 04 30 11.0 -0.6**
comp=Z,442nm,1.2s
BMRM Bremner River 82.92 25 *e*P **P 04 30 12.7 +0.5**
comp=Z,204nm,1.6s
MAW Mawson 83.67 203 *e*P **P 04 30 14.2 -1.7**
comp=Z,56nm,1.8s
MAW Mawson 83.67 203 P **P 04 30 14.2 -1.7**
comp=Z,24nm,1.0s,baz=95,slow=6.3,SNR=15
MAW LR LR 05 06 05.7
comp=Z,603nm,18.1s,baz=87,slow=35
PAX Paxson 83.68 23 *e*P **P 04 30 15.9 -0.1**
PAX pmax pmax
comp=Z,151nm,1.7s
PAX Paxson 83.68 23 *e*P **P 04 30 15.9 -0.1**
comp=Z,151nm,1.7s
COLA College 83.91 20*c i*P **P 04 30 15.7 -1.3**
COLA pmax pmax
comp=Z,1µm,1.7s
COLA College 83.91 20 *e*P **P 04 30 16.2 -0.8**
comp=Z,156nm,1.0s
COLA LR LR
comp=Z,682nm,21.0s
ILAR Eielson Array 84.18 21 P **P 04 30 17.3 -1.2**
ILAR PP **PP 04 33 30.6 -2.5**
ILAR Eielson Array 84.18 21 P **P 04 30 17.3 -1.2**
comp=Z,42nm,1.0s,baz=258,slow=3.8,SNR=148
ILAR PP **PP 04 33 30.6 -2.5**
comp=Z,6.9nm,1.2s,baz=239,slow=7.4,SNR=5.8
ILAR LR LR 05 03 21.2
comp=Z,677nm,19.1s,baz=48,slow=32
COLD Coldfoot 84.57 18 *e*P **P 04 30 21.1 +0.7**
comp=Z,155nm,1.7s
DOT Dot Lake 84.58 22 *e*P **P 04 30 20.9 +0.4**
comp=Z,386nm,1.6s
NDI New Delhi 86.00 300 *e*P **P 04 30 27.0 -1.4**
EGAK Eagle 86.25 22 *e*P **P 04 30 29.3 +0.5**
comp=Z,297nm,1.6s
EGAK LR LR
comp=Z,1µm,20.0s
SKAG Skagway 86.26 28 *e*P **P 04 30 30.3 +1.3**
comp=Z,189nm,1.5s
WRAK Wrangell Islan 86.54 32 *e*P **P 04 30 31.5 +1.1**
comp=Z,66nm,1.2s
WRAK LR LR
comp=Z,2µm,19.0s
MK31 Makanchi Array 86.62 318 *e*P **P 04 30 30.6 -0.5**
MK31 Makanchi Array 86.62 318 *e*P **P 04 30 30.6 -0.5**
MKAR Makanchi Array 86.62 318 P **P 04 30 30.5 -0.6**
MKAR Makanchi Array 86.62 318 P **P 04 30 30.4 -0.6**
MKAR PKKPbc **PKKPbc 04 48 28.1 -0.5**
MKAR Makanchi Array 86.62 318 P **P 04 30 30.4 -0.6**
comp=Z,3.5nm,0.5s,baz=104,slow=4.0,SNR=38
MKAR PKKPbc **PKKPbc 04 48 28.1 -0.5**
comp=Z,0.9nm,0.4s,baz=318,slow=4.9,SNR=6.3
MKAR LR LR 05 10 20.8
comp=Z,277nm,19.6s,baz=180,slow=36
MKAR Makanchi Array 86.62 318 ⇓P **P 04 30 31.2 0.0**
baz=87
KCPM Cahto Peak 87.05 49 *e*P **P 04 30 35.2 +1.8**
comp=Z,94nm,1.4s
KIPM Iron Peak 87.15 49 *e*P **P 04 30 34.9 +0.9**
comp=Z,132nm,1.3s
KHMM Horse Mountain 87.23 48 *e*P **P 04 30 36.0 +1.7**
comp=Z,128nm,1.4s
KRMB Red Mountain 87.26 47 *e*P **P 04 30 35.6 +1.2**
comp=Z,108nm,1.5s
HOPS Hopland 87.27 50 *e*P **P 04 30 34.9 +0.5**
comp=Z,100nm,1.3s
ZAA0 Zalesovo Array 87.28 326 *e*P **P 04 30 32.7 -1.3**
ZALV Zalesovo Beam 87.28 326 *i* P **P 04 30 33.0 -1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 87.28 326 P **P 04 30 33.0 -1.1**
ZALV Zalesovo Beam 87.28 326 P **P 04 30 33.0 -1.1**
comp=Z,4.6nm,0.9s,baz=108,slow=4.8,SNR=18
ZALV LR LR 05 10 09.8
comp=Z,347nm,18.7s,baz=273,slow=36
BBB Bella Bella 87.44 36 LR LR 05 00 44.6
comp=Z,897nm,21.3s,baz=244,slow=30
M02C Callahan 87.99 48 ⇓P **P 04 30 39.5 +1.6**
baz=88
N02D Trinity Center 88.01 48 ⇑P **P 04 30 39.3 +1.3**
baz=88
SAO San Andreas Ge 88.01 52 *e*P **P 04 30 38.6 +0.6**
SAO pmax pmax
comp=Z,232nm,1.9s
SAO San Andreas Ge 88.01 52 *e*P **P 04 30 38.6 +0.6**
comp=Z,232nm,1.9s
WDC Whiskeytown Da 88.03 49 *e*P **P 04 30 39.1 +1.1**
WDC pmax pmax
comp=Z,101nm,1.5s
WDC Whiskeytown Da 88.03 49 *e*P **P 04 30 39.1 +1.1**
comp=Z,101nm,1.5s
YBH Yreka Blue Hor 88.18 47 *e*P **P 04 30 39.5 +0.7**
comp=Z,45nm,1.3s
YBH PP **PP 04 34 06.0 -0.1**
YBH Yreka Blue Hor 88.18 47 P **P 04 30 40.2 +1.4**
comp=Z,18nm,0.9s,baz=206,slow=2.4,SNR=39
YBH PP **PP 04 34 06.0 -0.1**
comp=Z,1.2nm,0.9s,baz=166,slow=3.2,SNR=4.5
YBH LR LR 05 03 01.3
comp=Z,488nm,21.5s,baz=236,slow=31
I03D Drain, OR 88.19 45 ⇓P **P 04 30 39.7 +1.0**
baz=88
HUMO Hull Mountain 88.21 47 *e*P **P 04 30 39.9 +1.0**

comp=Z,30nm,1.1s
DLBC Dease Lake 88.43 30 LR LR 05 02 30.7
comp=Z,2µm,21.4s,baz=250,slow=30
G03D McMinnville, O 88.61 44 ⇓P P **04 30 41.3 +0.6**
baz=89
NLWA Neilton Lookou 88.75 42 *e*P P **04 30 41.9 +0.6**
comp=Z,49nm,1.5s
NLWA LR LR
comp=Z,1µm,20.0s
M04C Macdoel 88.83 48 ⇑P P **04 30 43.0 +1.1**
baz=89
SMMC Simmler 88.86 54 ⇓P P **04 30 43.5 +1.4**
baz=89,SNR=14
I04A Tendick Farm, 88.87 45 ⇑P P **04 30 42.4 +0.4**
baz=89
BSC Santa Cruz Isl 88.89 56 ⇑P P **04 30 43.2 +0.9**
baz=89,SNR=14
SBC Santa Barbara 88.91 55 ⇓P P **04 30 44.3 +2.0**
baz=89
PKM Peak Mountain 88.92 55 ⇑P P **04 30 43.8 +1.2**
baz=89,SNR=47
J04D Umpqua Nationa 88.96 46 ⇓P P **04 30 43.4 +0.8**
baz=89
K04D Chiloquin, OR 89.08 47 ⇓P P **04 30 44.2 +1.1**
baz=89
CMB Columbia Colle 89.11 51 *e*P P **04 30 44.1 +0.9**
CMB pmax pmax
comp=Z,133nm,1.7s
CMB Columbia Colle 89.11 51 *e*P P **04 30 44.1 +0.9**
comp=Z,132nm,1.7s
KSH Kashi 89.31 310 P P **04 30 46.1 +1.9**
KSH *es*P sP 04 31 00.2 +6.6
KSH *e*PP **PP 04 34 18.1 +2.9**
KSH *e*SKS **SKSac 04 41 11.2 -2.3**
KSH S **S 04 41 30.2 -3.0**
KSH *e*SS **SS 04 47 24.1 -4.1**
KSH pmax pmax
comp=Z,73nm,1.6s
KSH pmax pmax
comp=Z,380nm,8.0s
KSH LR LR
comp=Z,720nm,18.7s
KSH LR LR
comp=Z,620nm,18.5s
KSH LR LR
comp=Z,200nm,5.6s
BEKR Beckworth 89.51 50 *e*P P **04 30 46.1 +0.9**
comp=Z,100nm,1.7s
SCI San Clemente I 89.58 57 ⇑P P **04 30 47.0 +1.5**
baz=90,SNR=9.9
J05D Fort Rock, OR 89.59 46 ⇑P P **04 30 46.6 +1.1**
baz=90
TDL Tradedollar La 89.60 43 P P **04 30 46.5 +1.0**
RCTC Rector, Farmer 89.66 53 ⇓P P **04 30 46.3 +0.5**
baz=90,SNR=12
VES Vestal, Richgr 89.69 54 ⇓P P **04 30 46.6 +0.6**
baz=90,SNR=44
I05D Terrebonne, OR 89.75 45 ⇓P P **04 30 46.7 +0.6**
baz=90
OSI Osito Adit 89.75 55 ⇑P P **04 30 47.7 +1.4**
baz=90
ARVC Arvin 89.76 55 ⇓P P **04 30 47.6 +1.3**
baz=90,SNR=39
CIS Catalina Islan 89.78 56 ⇓P P **04 30 47.5 +1.1**
baz=90,SNR=36
VFP Flag Point 89.88 44 P P **04 30 47.0 +0.2**
FMP Fort Macarthur 89.93 56 ⇓P P **04 30 48.3 +1.2**
baz=90
WAKR Walker 89.94 51 *e*P P **04 30 48.6 +1.3**
comp=Z,190nm,1.7s
LON Longmire 89.96 43 *e*P P **04 30 46.6 -0.4**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 89.96 43 *e*P P **04 30 46.6 -0.4**
comp=Z,7.2nm,1.0s
G05D Wamic, OR 89.96 44 P P **04 30 48.0 +0.9**
baz=90
PINOR Pine Mountain 89.96 46 *e*P P **04 30 48.4 +1.5**
MOD Modoc 89.97 48 *e*P P **04 30 47.7 +0.4**
comp=Z,127nm,1.7s
DECC Green Verdugo 90.00 55 ⇓P P **04 30 48.6 +1.1**
baz=90
KURK Kurchatov 90.00 321 P P **04 30 46.7 -0.3**
comp=Z,54nm,1.4s,SNR=12
KURK Kurchatov 90.00 321 *e*P P **04 30 45.9 -1.1**
KURK *e* 04 34 16.4
KURK pmax pmax
comp=Z,36nm,1.6s
KURK MLR MLR
comp=Z,289nm,19.0s
KURK Kurchatov 90.00 321 *e*P P **04 30 45.9 -1.1**
comp=Z,36nm,1.6s
KURK *e*PP **PP 04 34 16.4 -3.9**
KURK LR LR
comp=Z,289nm,19.0s
PASC Pasadena Art C 90.10 56 *e*P P **04 30 49.1 +1.2**
comp=Z,219nm,1.5s
WPW White Pass 90.12 43 P P **04 30 47.9 +0.1**
ISA Isabella 90.15 54 *e*P P **04 30 49.4 +1.2**
ISA pmax pmax
comp=Z,21nm,1.3s
ISA Isabella 90.15 54 *e*P P **04 30 49.4 +1.2**
comp=Z,21nm,1.3s
ISA Isabella 90.15 54 ⇑P P **04 30 49.4 +1.2**
baz=90,SNR=58
MWC Mount Wilson 90.22 56 *e*P P **04 30 50.0 +1.3**
MWC pmax pmax
comp=Z,347nm,1.4s
MWC Mount Wilson 90.22 56 *e*P P **04 30 50.0 +1.3**
comp=Z,347nm,1.4s
MLAC Mammoth Lakes 90.23 52 ⇑P P **04 30 50.3 +1.6**
baz=90
TKM2 Tokmak 2 90.29 313 *e*P P **04 30 48.9 +0.1**
TKM2 *e* 04 34 21.4
TKM2 pmax pmax
comp=Z,17nm,1.4s
TKM2 MLR MLR
comp=Z,406nm,19.0s
TKM2 Tokmak 2 90.29 313 P P **04 30 49.1 +0.3**
SNR=7.8
TKM2 Tokmak 2 90.29 313 *e*P P **04 30 48.9 +0.1**
comp=Z,17nm,1.4s
TKM2 *e*PP **PP 04 34 21.4 -1.6**
TKM2 LR LR
comp=Z,406nm,19.0s
KZA Kyzart 90.37 312 *i*P P **04 30 50.7 +1.2**
KZA Kyzart 90.37 312 P P **04 30 50.7 +1.2**
SNR=18
EDW2 Edwards Air Fo 90.39 55 ⇑P P **04 30 50.7 +1.3**
baz=90,SNR=93
BFSC Mount Baldy Ra 90.54 56 ⇑P P **04 30 51.3 +1.1**
baz=91
INK Inuvik 90.56 20 *e*P P **04 30 48.9 -0.3**
comp=Z,322nm,2.1s
INK Inuvik 90.56 20 P P **04 30 49.1 -0.1**
comp=Z,25nm,1.1s,baz=244,slow=6.2,SNR=29
INK LR LR 05 05 38.9
comp=Z,637nm,20.0s,baz=67,slow=32
TIN Tinemaha 90.60 53 ⇓P P **04 30 51.8 +1.4**
baz=91,SNR=38
CWC Cottonwood Cre 90.60 53 ⇓P P **04 30 51.5 +1.1**
baz=91,SNR=14
KBK Karagaybulak 90.70 313 *i*P P **04 30 50.9 +0.1**
KBK Karagaybulak 90.70 313 P P **04 30 50.9 +0.1**
SNR=5.3
TRW Toppenish Ridg 90.72 43 P P **04 30 51.3 +0.8**
LRMC Laurel Mountai 90.74 54 ⇓P P **04 30 52.4 +1.4**
baz=91,SNR=67
109C Camp Elliot, M 90.76 57 ⇑P P **04 30 52.5 +1.5**
baz=91,SNR=14
NVAR Mina Array Bea 90.80 51 P P **04 30 52.7 +1.4**
NVAR Mina Array Bea 90.80 51 P P **04 30 52.7 +1.4**
comp=Z,65nm,1.0s,baz=248,slow=6.5,SNR=272
NVAR LR LR 05 05 06.8
comp=Z,446nm,20.8s,baz=120,slow=31
MURC Murrieta 90.81 56 ⇓P P **04 30 52.4 +1.1**
baz=91,SNR=18
NV11 Mina Array Sit 90.91 51 *e*P P **04 30 53.0 +1.2**
CHMS Chumysh 90.91 313 *i*P P **04 30 51.7 +0.2**
CHMS Chumysh 90.91 313 P P **04 30 51.7 +0.2**
SNR=8.7
UCH Uchtor 90.93 312 *i*P P **04 30 53.2 +1.0**
UCH Uchtor 90.93 312 P P **04 30 53.2 +1.0**
SNR=19
FRU Bishkek 90.98 313 ⇓*i*P P **04 30 51.8 0.0**
FRU pmax pmax
comp=Z,143nm,2.2s
MPMC Manual Prospec 91.00 54 ⇑P P **04 30 53.6 +1.3**
baz=91,SNR=62
AAK Ala-Archa 91.03 313 P P **04 30 52.2 0.0**
comp=Z,47nm,1.2s,SNR=5.2
AAK Ala-Archa 91.03 313 *c*P P **04 30 51.5 -0.7**
AAK pmax pmax
comp=Z,74nm,2.1s
AAK Ala-Archa 91.03 313 P P **04 30 52.3 0.0**
SNR=5.9
AAK Ala-Archa 91.03 313 *e*P P **04 30 52.1 -0.1**
comp=Z,43nm,1.8s
AAK LR LR
comp=Z,331nm,19.0s
AAK Ala-Archa 91.03 313 P P **04 30 51.5 -0.7**
comp=Z,3.6nm,0.9s,baz=115,slow=1.7,SNR=12
BAR Barrett 91.08 57 *e*P P **04 30 54.0 +1.5**
comp=Z,89nm,1.4s
USP Ospenovka 91.14 313 *i*P P **04 30 52.8 +0.2**
USP Ospenovka 91.14 313 P P **04 30 52.9 +0.2**
SNR=11
BBRC Big Bear Solar 91.15 56 ⇓P P **04 30 54.1 +1.0**
baz=91
RRX Edison Barstow 91.19 55 ⇓P P **04 30 54.3 +1.3**
baz=91
NLW Nelson Butte 91.22 42 P P **04 30 53.1 +0.1**
GRAC Grapevine Rang 91.27 53 ⇓P P **04 30 55.0 +1.7**
baz=91,SNR=49
WVOR Wild Horse Val 91.29 47 *e*P P **04 30 54.4 +1.0**
WVOR pmax pmax
comp=Z,86nm,1.2s
WVOR MLR MLR
comp=Z,731nm,19.0s
WVOR Wild Horse Val 91.29 47 *e*P P **04 30 54.4 +1.0**
comp=Z,86nm,1.2s
WVOR LR LR
comp=Z,731nm,19.0s
MONP Monument Peak 91.33 57 ⇓P P **04 30 55.2 +1.3**
baz=92,SNR=34
SYO Syowa Base 91.39 199 ⇑*e*X P 04 30 49.6 -3.6
WTV Waterville 91.40 42 P P **04 30 53.5 -0.2**
GBB Gable Butte 91.40 43 P P **04 30 54.4 +0.8**
GSC Goldstone 91.42 55 *e*P P **04 30 55.4 +1.3**
GSC pmax pmax
comp=Z,58nm,1.2s
GSC Goldstone 91.42 55 *e*P P **04 30 55.4 +1.3**
comp=Z,58nm,1.2s
GSC Goldstone 91.42 55 ⇓P P **04 30 55.6 +1.4**
baz=92,SNR=40
HAWA Hanford 91.42 43 *e*P P **04 30 54.1 +0.4**
comp=Z,24nm,0.9s
HAWA LR LR
comp=Z,946nm,20.0s
PFO Pinyon Flat Ob 91.42 56 P P **04 30 55.8 +1.6**
comp=Z,170nm,1.3s,SNR=12
PFO Pinyon Flat Ob 91.42 56 *e*P P **04 30 55.4 +1.1**
comp=Z,59nm,1.4s
PFO Pinyon Flat Ob 91.42 56 P P **04 30 55.6 +1.4**
comp=Z,21nm,1.1s,baz=268,slow=3.2,SNR=26
PFO LR LR 05 02 39.1
comp=Z,2µm,22.0s,baz=188,slow=29
PFO Pinyon Flat Ob 91.42 56 ⇓P P **04 30 55.3 +1.1**
baz=92,SNR=20
AML Almayashu 91.51 312 *i*P P **04 30 55.1 +0.3**
AML Almayashu 91.51 312 P P **04 30 55.1 +0.3**
SNR=14
EKS2 Erkin-Say 91.55 313 *e*P P **04 30 54.7 +0.1**
EKS2 pmax pmax
comp=Z,45nm,1.7s
EKS2 MLR MLR
comp=Z,230nm,19.0s
EKS2 Erkin-Say 91.55 313 P P **04 30 55.1 +0.5**
SNR=7.0
EKS2 Erkin-Say 91.55 313 *e*P P **04 30 54.7 +0.1**
comp=Z,45nm,1.7s
EKS2 LR LR
comp=Z,230nm,19.0s
DVTC Desert V Tower 91.56 57 ⇑P P **04 30 56.0 +1.2**
baz=92,SNR=22
TPH Tonopah 91.57 52 *e*P P **04 30 56.0 +1.1**
TPH pmax pmax
comp=Z,96nm,1.1s
TPH Tonopah 91.57 52 *e*P P **04 30 56.0 +1.1**
comp=Z,96nm,1.1s
FURC Furnace Creek, 91.58 53 ⇑P P **04 30 56.4 +1.7**
baz=92,SNR=92
HEC Hector,Ludlow 91.73 55 ⇓P P **04 30 56.9 +1.4**
baz=92,SNR=57
SAW Saint Andrews 91.77 42 P P **04 30 55.5 +0.1**
SWSC Sam W. Stewart 91.86 57 ⇑P P **04 30 57.6 +1.5**
baz=92,SNR=14
BELC Belle Mtn. Jos 91.86 56 ⇓P P **04 30 57.7 +1.4**
baz=92,SNR=50
SHOC Shoshone 91.94 54 ⇑P P **04 30 57.7 +1.3**
baz=92,SNR=36
BMN Battle Mountai 91.98 50 *e*P P **04 30 57.7 +1.0**
BMN pmax pmax
comp=Z,127nm,1.5s
BMN Battle Mountai 91.98 50 *e*P P **04 30 57.7 +1.0**
comp=Z,127nm,1.5s
TPNV Topopah Spring 92.14 53 ⇓P P **04 30 59.0 +1.5**
baz=92,SNR=98
TUQ Turquoise Moun 92.15 55 ⇓P P **04 30 58.6 +1.0**
baz=92,SNR=24
BC3 Big Chuckawall 92.25 56 ⇑P P **04 30 59.4 +1.3**
baz=92,SNR=16
GMRC Granite Mounta 92.26 55 ⇑P P **04 30 59.3 +1.2**
baz=92,SNR=54
IRM Iron Mountain 92.58 56 ⇓P P **04 31 00.9 +1.4**
baz=93,SNR=53
GLA Glamis 92.68 57 *e*P P **04 31 01.8 +1.9**
GLA pmax pmax
comp=Z,6.0nm,1.1s
GLA Glamis 92.68 57 *e*P P **04 31 01.8 +1.9**
comp=Z,5.5nm,1.1s
GLA Glamis 92.68 57 ⇑P P **04 31 01.8 +1.9**
baz=93
LDFC Landfair 92.76 55 *e*P P **04 31 02.1 +1.8**
comp=Z,238nm,1.4s
R11A Troy Canyon, C 92.89 52 *e*P P **04 31 02.1 +1.2**
R11A Troy Canyon, C 92.89 52 ⇓P P **04 31 02.3 +1.3**
baz=93,SNR=98
SHPR Sheep Range 92.94 54 *e*P P **04 31 02.9 +1.6**
comp=Z,197nm,1.6s
SHPR *e*PP **PP 04 34 42.6 -1.5**
Y12C Blythe 93.03 56 ⇓P P **04 31 03.1 +1.6**
baz=93,SNR=12
NEE2 Needles Airpor 93.11 55 ⇓P P **04 31 03.3 +1.5**
baz=93
NEW Newport 93.37 42 *e*P P **04 31 02.5 -0.3**
comp=Z,25nm,1.2s
NEW LR LR
comp=Z,1µm,20.0s
NEW Newport 93.37 42 ⇑P P **04 31 02.8 0.0**
baz=94
PDMCI Parker Dam,Lak 93.43 56 ⇑P P **04 31 04.5 +1.2**
baz=94,SNR=9.4
MFID Camas Ranch 93.49 47 *e*P P **04 31 04.3 +0.8**
comp=Z,106nm,1.5s
113A Mohawk Valley, 93.52 58 ⇑P P **04 31 04.9 +1.2**
baz=94,SNR=9.1
ELK Elko 93.52 49 P P 04 31 09.9 +6.0
ELK Elko 93.52 49 P P 04 31 09.9 +6.0
comp=Z,16nm,1.0s,baz=182,slow=1.7,SNR=54
W13A Hualapai Mount 93.75 55 ⇑P P **04 31 06.1 +1.1**
baz=94,SNR=19
KBL Kabul 93.90 304 *e*P P **04 31 04.8 -1.0**
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 93.90 304 *e*P P **04 31 04.8 -1.0**
comp=Z,3.8nm,0.6s
KKAR Karatay Array 93.99 313 *e*P P **04 31 05.2 -0.6**
KKAR pmax pmax
comp=Z,39nm,1.6s
KKAR Karatay Array 93.99 313 *e*P P **04 31 05.2 -0.6**
comp=Z,39nm,1.6s
214A Organ Pipe Nat 94.20 58 *e*P P **04 31 08.7 +1.7**
214A *e*PP **PP 04 34 52.6 -1.4**
214A Organ Pipe Nat 94.20 58 ⇓P P **04 31 08.3 +1.3**
baz=94
Z14A Wintersburg 94.28 57 ⇑P P **04 31 08.4 +1.1**
baz=94
Y14A Wickenburg 94.31 56 ⇓P P **04 31 08.3 +0.8**
baz=94,SNR=5.8
ARUT Antelope Range 94.48 53 *e*P P **04 31 09.5 +1.2**
ARUT pmax pmax
comp=Z,2µm,1.5s
ARUT Antelope Range 94.48 53 *e*P P **04 31 09.5 +1.2**
comp=Z,2µm,1.5s
CCUT Cedar City 94.51 53 *e*P P **04 31 10.0 +1.5**
comp=Z,95nm,1.6s
HLID Hailey 94.53 47 *e*P P **04 31 09.2 +0.8**
comp=Z,62nm,1.4s
HLID LR LR
comp=Z,1µm,22.0s
HLID Hailey 94.53 47 ⇓P P **04 31 09.4 +1.0**
baz=95
BSMT Bassoo Peak 94.86 42 *e*P P **04 31 09.9 +0.1**
comp=Z,20nm,1.6s
BGU Big Grassy Mou 95.20 50 *e*P P **04 31 12.5 +0.9**
comp=Z,17nm,1.2s
U15A North Rim 95.21 54 ⇓P P **04 31 12.9 +1.1**
baz=95,SNR=11
DUG Dugway 95.28 50 *e*P P **04 31 12.9 +1.0**
DUG pmax pmax
comp=Z,26nm,1.3s
DUG MLR MLR
comp=Z,567nm,19.0s
DUG Dugway 95.28 50 *e*P P **04 31 12.9 +1.0**
comp=Z,26nm,1.3s
DUG LR LR
comp=Z,567nm,19.0s
DUG Dugway 95.28 50 ⇓P P **04 31 12.8 +1.0**
baz=95
MSO Missoula 95.30 44 ⇓P P **04 31 12.4 +0.6**
baz=95
BVAR Borovoye Array 95.45 323 P P **04 31 10.6 -1.6**
BVAR Borovoye Array 95.45 323 P P **04 31 10.6 -1.6**
BVAR Borovoye Array 95.45 323 P P **04 31 10.6 -1.6**
comp=Z,8.8nm,1.0s,baz=99,slow=4.5,SNR=34
HVU Hansel Valley 95.50 49 *e*P P **04 31 14.0 +1.2**
HVU pmax pmax
comp=Z,77nm,1.2s
HVU Hansel Valley 95.50 49 *e*P P **04 31 14.0 +1.2**
comp=Z,77nm,1.2s
BRVK Borovoye 95.52 323 *c*P P **04 31 10.9 -1.5**
BRVK pmax pmax
comp=Z,40nm,1.9s
BRVK Borovoye 95.52 323 *e*P P **04 31 11.2 -1.2**
BRVK *e*PP **PP 04 34 59.2 -4.4**
BRVK LR LR
comp=Z,405nm,20.0s
MVU Marysvale 95.53 52 *e*P P **04 31 14.8 +1.6**
comp=Z,68nm,1.7s
SPUT South Promonto 95.69 49 *e*P P **04 31 14.6 +0.8**
comp=Z,116nm,1.8s
CHMT Chamberlain Mo 95.77 44 *e*P P **04 31 13.1 -1.0**
comp=Z,12nm,1.6s
NLU North Lily Min 95.81 51 *e*P P **04 31 15.5 +1.1**
comp=Z,44nm,1.2s
WUAZ Wupatki 95.84 55 *e*P P **04 31 16.4 +1.8**
comp=Z,18nm,1.4s
WUAZ *e*PP **PP 04 35 06.5 -0.3**
WUAZ LR LR
comp=Z,1µm,22.0s
WUAZ Wupatki 95.84 55 ⇓P P **04 31 15.7 +1.2**
baz=96,SNR=5.0
TUC Tucson 95.95 58 *e*P P **04 31 16.0 +1.0**
TUC *e* 04 35 06.0
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC MLR MLR
comp=Z,1µm,22.0s
TUC Tucson 95.95 58 *e*P P **04 31 16.0 +1.0**
comp=Z,6.3nm,1.0s
TUC *e*PP **PP 04 35 06.0 -1.7**
TUC LR LR
comp=Z,1µm,22.0s
LRM Limekiln Ridge 96.20 45 *e*P P **04 31 15.8 -0.2**
comp=Z,78nm,1.1s
TMUT Trail Mountain 96.40 51 *e*P P **04 31 19.1 +1.9**
comp=Z,81nm,1.5s
EDM Edmonton 96.43 37 *e*P P **04 31 16.0 -0.7**
EDM *e* 04 35 09.8
EDM Edmonton 96.43 37 *e*P P **04 31 16.0 -0.7**
EDM *e*PP **PP 04 35 09.8 -0.9**
DAU Daniels Canyon 96.48 50 *e*P P **04 31 18.6 +1.0**
DAU pmax pmax
comp=Z,24nm,1.2s
DAU Daniels Canyon 96.48 50 *e*P P **04 31 18.6 +1.0**
comp=Z,24nm,1.2s
BOZ Bozeman (W) 96.75 45 PFAKE 04 31 30.0 +12
BOZ LR LR
comp=Z,1µm,22.0s
YKA Yellowknife Ar 96.76 28 P P **04 31 17.8 0.0**
YKA PKKPbc **PKKPbc 04 47 59.8 -3.2**
YKA Yellowknife Ar 96.76 28 P P **04 31 17.8 0.0**
comp=Z,11nm,1.0s,baz=261,slow=4.4,SNR=95
YKA PKKPbc **PKKPbc 04 47 59.8 -3.2**
comp=Z,0.8nm,1.0s,baz=83,slow=3.0,SNR=5.7
YKW3 Yellowknife Ar 96.77 28 *e*P P **04 31 17.6 -0.3**
comp=Z,1.5nm,1.5s
AHID Auburn Hatcher 96.84 48 PFAKE 04 31 30.0 +11
AHID LR LR
comp=Z,1µm,20.0s
319A Douglas 97.12 59 ⇓P Pdif 04 31 21.2 +0.7
baz=97
I17A Pilgrim Ck. 97.33 47 ⇑P Pdif 04 31 21.9 +0.6
baz=98,SNR=9.1
H17A Grant Village 97.38 46 *e*P Pdif 04 31 23.3 +1.8
H17A Grant Village 97.38 46 ⇑P Pdif 04 31 23.1 +1.6
baz=98
320A Kipp Ranch, An 97.76 60 ⇑P Pdif 04 31 24.5 +1.1
baz=98
BW06 Boulder Array 97.97 48 PFAKE 04 31 40.0 +16
BW06 LR LR
comp=Z,898nm,22.0s
PDAR Pinedale Array 97.97 48 P Pdif 04 31 24.6 +0.4
PDAR Pinedale Array 97.97 48 P Pdif 04 31 24.6 +0.4
comp=Z,10nm,0.9s,baz=246,slow=2.6,SNR=59
PDAR LR LR 05 08 20.1
comp=Z,655nm,21.0s,baz=314,slow=31
H18A Shoshone NF, C 98.05 46 ⇑P Pdif 04 31 24.7 +0.2
baz=98,SNR=6.6
EGMT Eagleton 98.24 43 PFAKE 04 31 40.0 +15
EGMT LR LR
comp=Z,815nm,20.0s
EGMT Eagleton 98.24 43 ⇑P Pdif 04 31 25.1 0.0
baz=98
MVCO Mesa Verde 98.32 54 PFAKE 04 31 40.0 +14
MVCO LR LR
comp=Z,634nm,19.0s
MVCO Mesa Verde 98.32 54 ⇓Pdiff Pdif 04 31 28.2 +2.3
baz=98
PV01 Paradox Valley 98.34 53 *e*P Pdif 04 31 27.0 +1.1
comp=Z,2µm,1.6s
J19A Crowheart 98.38 47 ⇑Pdiff Pdif 04 31 26.8 +0.9
baz=98
I19A Meeteetse 98.48 47 ⇑Pdiff Pdif 04 31 27.1 +0.7
baz=99
121A Cookes Peak, D 98.50 58 *e*P Pdif 04 31 27.6 +0.9
121A Cookes Peak, D 98.50 58 ⇑Pdiff Pdif 04 31 27.7 +1.0
baz=99
H19A Powell 98.53 46 ⇓Pdiff Pdif 04 31 27.7 +1.2
baz=99
F19A Roth Farm, Mol 98.64 45 ⇑Pdiff Pdif 04 31 27.7 +0.8
baz=99
C19A Slack Wire Ran 98.70 43 ⇑Pdiff Pdif 04 31 27.6 +0.5
baz=99
O20A White River Ci 98.75 51 ⇑Pdiff Pdif 04 31 28.7 +1.0
baz=99
D19A Cripps Ranch, 98.77 44 ⇑Pdiff Pdif 04 31 27.8 +0.3
baz=99
N20A Spence Gulch, 98.79 50 ⇑Pdiff Pdif 04 31 28.4 +0.5
baz=99
E19A Rath Farm, Rou 98.79 44 ⇑Pdiff Pdif 04 31 28.6 +1.1
baz=99
B19A Brinkman Farms 98.81 42 ⇑Pdiff Pdif 04 31 27.8 +0.3
baz=99
A19A Klindworth Far 98.97 42 ⇓Pdiff Pdif 04 31 28.3 0.0
baz=99
222A Williams Famil 99.04 59 ⇓Pdiff **Pdif 04 31 30.0 +1.0**
baz=99
J20A Shoshoni 99.09 47 ⇓Pdiff **Pdif 04 31 29.4 +0.3**
baz=99
I20A Worland 99.10 47 ⇑Pdiff **Pdif 04 31 29.4 +0.3**
baz=99
G20A Bridger 99.12 46 ⇑Pdiff **Pdif 04 31 29.9 +0.9**
baz=99
F20A Billings 99.20 45 ⇓Pdiff **Pdif 04 31 30.3 +0.9**
baz=99
H20A Greybull 99.22 46 ⇓Pdiff **Pdif 04 31 30.1 +0.5**
baz=99
E20A Meyer Farm, Mu 99.25 44 ⇑Pdiff **Pdif 04 31 30.7 +1.1**
baz=99

Z22A **Elephant Butte** 99.25 58 ⇓Pdiff Pdif 04 31 31.3 +1.3
baz=99
D20A **Manuel Ranch,** 99.28 44 ⇑Pdiff Pdif 04 31 30.1 +0.5
baz=99
C20A **Veseth Ranch,** 99.40 43 ⇑Pdiff Pdif 04 31 30.4 +0.3
baz=100
B20A **Solberg Farm,** 99.42 42 ⇓Pdiff Pdif 04 31 30.2 -0.1
baz=100
A20A **Cobblestone Ra** 99.51 42 ⇓Pdiff Pdif 04 31 30.7 0.0
baz=100
J21A **Lysite** 99.56 47 ⇓Pdiff Pdif 04 31 32.2 +1.0
baz=100
BNM **Barren Site** 99.60 57 *e*Pdif Pdif 04 31 33.0 +1.4
comp=Z,8.6nm,1.1s
K21A **Alcova** 99.66 48 ⇑Pdiff Pdif 04 31 32.5 +0.8
baz=100
I21A **Big Trails, Te** 99.70 47 ⇑Pdiff Pdif 04 31 32.5 +0.8
baz=100
ANMO **Albuquerque** 99.80 56 P Pdif 04 31 33.7 +1.3
ANMO LR LR
comp=Z,1μm,22.0s
ANMO **Albuquerque** 99.80 56 P Pdif 04 31 33.7 +1.3
comp=Z,1.2nm,0.8s,baz=284,slow=1.8,SNR=4.6
G21A **Lodge Grass** 99.83 46 ⇑Pdiff Pdif 04 31 33.3 +1.1
baz=100
P22A **Eagle** 99.86 51 ⇓Pdiff Pdif 04 31 33.9 +1.2
baz=100
H21A **Big Horn, Sher** 99.92 46 ⇑Pdiff Pdif 04 31 33.6 +1.0
baz=100
O22A **Kremmling** 100.05 51 ⇑Pdiff Pdif 04 31 34.4 +0.8
baz=100
D21A **La Casta Ranch** 100.06 44 ⇑Pdiff Pdif 04 31 33.7 +0.6
baz=100
Y23A **Lovelace Mesa,** 100.06 57 ⇓Pdiff Pdif 04 31 35.0 +1.4
baz=100
M22A **Cedar Creek Ra** 100.08 49 ⇑Pdiff Pdif 04 31 34.6 +1.0
baz=100
B21A **Ellsworth Farm** 100.09 42 ⇑Pdiff Pdif 04 31 34.0 +0.8
baz=100
N22A **Wattenberg Ran** 100.16 50 ⇓Pdiff Pdif 04 31 35.1 +1.1
baz=100
A21A **Bergtoll Ranch** 100.17 42 ⇓Pdiff Pdif 04 31 34.3 +0.8
baz=100
K22A **Casper** 100.20 48 ⇓Pdiff Pdif 04 31 35.1 +1.1
baz=100
L22A **Ellis Ranch, M** 100.23 49 ⇓Pdiff Pdif 04 31 35.4 +1.2
baz=100
J22A **Midwest** 100.27 47 ⇓Pdiff Pdif 04 31 35.3 +1.0
baz=100
I22A **9 Mile Ranch,** 100.28 47 ⇓Pdiff Pdif 04 31 35.4 +1.0
baz=100
324A **Moseley Ranch,** 100.36 60 ⇓Pdiff Pdif 04 31 36.2 +1.3
baz=100
224A **Cornudas Mount** 100.37 59 ⇓Pdiff Pdif 04 31 36.4 +1.4
baz=100
H22A **Clearmont** 100.41 46 ⇓Pdiff Pdif 04 31 35.7 +0.8
baz=100
MNTX **Cornudas Mount** 100.47 59 PFAKE 04 31 50.0 +15
MNTX LR LR
comp=Z,1μm,22.0s
G22A **Birney** 100.47 46 ⇓Pdiff Pdif 04 31 35.9 +0.9
baz=101
R23A **Moffat** 100.50 53 ⇑Pdiff Pdif 04 31 36.5 +0.9
baz=101
F22A **Rosebud** 100.52 45 ⇓Pdiff Pdif 04 31 36.3 +1.1
baz=101
O23A **Lake Granby, G** 100.54 51 ⇓Pdiff Pdif 04 31 36.9 +1.1
baz=101
N23A **Red Feather La** 100.55 50 ⇓Pdiff Pdif 04 31 37.0 +1.3
baz=101
P23A **Jefferson** 100.56 52 ⇓Pdiff Pdif 04 31 37.2 +1.3
baz=101
LAO **LASA Array** 100.57 44 *e*Pdif Pdif 04 31 36.1 +0.7
comp=Z,28nm,1.0s
Z24A **Sheeppen Canyo** 100.59 58 ⇑Pdiff Pdif 04 31 36.8 +0.7
baz=101
D22A **Cohagen** 100.61 44 ⇓Pdiff Pdif 04 31 36.2 +0.6
baz=101
W24A **Lazy 6 Ranch,** 100.67 56 ⇓Pdiff Pdif 04 31 37.5 +1.1
baz=101
SDCO **Great Sand Dun** 100.74 53 PFAKE 04 31 50.0 +13
SDCO LR LR
comp=Z,758nm,19.0s
425A **Indio Mountain** 100.74 60 ⇑Pdiff Pdif 04 31 38.1 +1.4
baz=101
ISCO **Idaho Springs** 100.75 51 PFAKE 04 31 50.0 +13
ISCO LR LR
comp=Z,1μm,19.0s
ISCO **Idaho Springs** 100.75 51 ⇑Pdiff Pdif 04 31 37.6 +0.9
baz=101
E22A **Miles City** 100.75 44 ⇑Pdiff Pdif 04 31 36.6 +0.3
baz=101
L23A **Garrett** 100.78 49 ⇓Pdiff Pdif 04 31 37.7 +1.0
baz=101
325A **Bean Ranch, Si** 100.79 60 ⇑Pdiff Pdif 04 31 38.3 +1.4
baz=101
V24A **Rampart Ranch,** 100.81 55 ⇓Pdiff Pdif 04 31 38.7 +1.7
baz=101
A22A **Carney Farms,** 100.84 42 ⇑Pdiff Pdif 04 31 37.2 +0.6
baz=101
K23A **Bowen Ranch, D** 100.86 48 ⇑Pdiff Pdif 04 31 37.9 +1.0
baz=101
225A **Deer Hill, Car** 100.97 59 ⇑Pdiff Pdif 04 31 38.2 +0.5
baz=101
R24A **Sanders Place,** 101.07 53 ⇑Pdiff Pdif 04 31 39.2 +1.2
baz=101
H23A **Clabaugh Cattl** 101.08 46 ⇓Pdiff Pdif 04 31 38.8 +1.0
baz=101
G23A **Biddle** 101.11 46 ⇓Pdiff Pdif 04 31 39.0 +1.1
baz=101
F23A **Volborg** 101.11 45 ⇑Pdiff Pdif 04 31 38.6 +0.8
baz=101
O24A **Longmont** 101.18 51 ⇑Pdiff Pdif 04 31 39.3 +0.9
baz=101
Y25A **Mesa, Roswell** 101.19 57 ⇑Pdiff Pdif 04 31 39.5 +1.0
baz=101
E23A **Ismay** 101.20 44 ⇓Pdiff Pdif 04 31 39.4 +1.2
baz=101
X25A **Clemmons Ranch** 101.25 57 ⇑Pdiff Pdif 04 31 39.5 +0.7
baz=101
D23A **Lindsay** 101.28 44 ⇓Pdiff Pdif 04 31 39.5 +0.9
baz=101
C23A **Lambert** 101.30 43 ⇑Pdiff Pdif 04 31 39.5 +0.8
baz=101
MSEY **Mahe Island** 101.32 263 PFAKE 04 31 50.0 +10
MSEY LR LR
comp=Z,489nm,21.0s
626A **Big Bend Ranch** 101.39 62 ⇓Pdiff Pdif 04 31 40.3 +0.8
baz=102
M24A **Cheyenne** 101.42 49 ⇓Pdiff Pdif 04 31 40.6 +1.2
baz=102
B23A **Brockton** 101.44 42 ⇑Pdiff Pdif 04 31 39.8 +0.6
baz=102
W25A **X Bar L Ranch,** 101.45 56 ⇓Pdiff Pdif 04 31 40.4 +0.7
baz=102
A23A **Redstone** 101.52 42 ⇑Pdiff Pdif 04 31 39.8 +0.3
baz=102
426A **McDonald Obser** 101.56 60 ⇓Pdiff Pdif 04 31 41.2 +0.8
baz=102
S25A **Robets Cordova** 101.58 53 ⇓Pdiff Pdif 04 31 41.9 +1.6
baz=102
J24A **Dixon Ranch, L** 101.59 48 ⇓Pdiff Pdif 04 31 40.9 +0.8
baz=102
I24A **Kuemmerle Ranc** 101.62 47 ⇑Pdiff Pdif 04 31 41.2 +0.9
baz=102
326A **Caldwell Ranch** 101.64 60 ⇓Pdiff Pdif 04 31 41.7 +1.1
baz=102
H24A **Dirks Ranch, A** 101.69 46 ⇑Pdiff Pdif 04 31 41.5 +1.0
baz=102
Z26A **Caprock** 101.75 58 ⇓Pdiff Pdif 04 31 42.1 +1.1
baz=102
ABKAR **Akbulak array** 101.77 318 *e*Pdif Pdif 04 31 38.7 -1.9
comp=Z,0.9nm,0.8s
F24A **Ekalaka** 101.79 45 ⇑Pdiff Pdif 04 31 41.5 +0.6
baz=102
TXAR **Lajitas Array** 101.79 62 P Pdif 04 31 43.0 +1.7
TXAR PP PP 04 35 51.2 -1.1
TXAR PKKPbc PKKPbc 04 47 47.9 +0.1
TXAR **Lajitas Array** 101.79 62 P Pdif 04 31 43.0 +1.7
comp=Z,0.7nm,0.7s,baz=243,slow=6.0,SNR=4.9
TXAR PP PP 04 35 51.2 -1.1
comp=Z,2.9nm,0.9s,baz=266,slow=7.4,SNR=10
TXAR PKKPbc PKKPbc 04 47 47.9 +0.1
G24A **Alzada** 101.80 46 P Pdif 04 31 41.4 +0.4
baz=102
C24A **Savage** 101.81 43 ⇑Pdiff Pdif 04 31 41.6 +0.7
baz=102
D24A **Glendive** 101.88 44 ⇓Pdiff Pdif 04 31 42.0 +0.8
baz=102
527A **Woodward Ranch** 101.88 61 ⇓Pdiff Pdif 04 31 43.4 +1.6
baz=102
E24A **Baker** 101.89 44 ⇓Pdiff Pdif 04 31 42.0 +0.7
baz=102
DGMT **Dagmar** 101.97 42 PFAKE 04 31 50.0 +8.4
DGMT LR LR
comp=Z,673nm,19.0s
DGMT **Dagmar** 101.97 42 ⇑Pdiff Pdif 04 31 42.2 +0.6
baz=102
627A **Terlingua Ranc** 102.03 62 ⇓Pdiff Pdif 04 31 42.7 +0.3
baz=102
U26A **Atchley Ranch,** 102.08 55 ⇓Pdiff Pdif 04 31 43.2 +0.7
baz=102
A24A **Westby** 102.10 42 ⇓Pdiff Pdif 04 31 42.6 +0.5
baz=102
427A **Hayter Ranch,** 102.11 60 ⇑Pdiff Pdif 04 31 43.0 +0.3
baz=102
J25A **Sunshine Ranch** 102.22 48 ⇑Pdiff Pdif 04 31 43.5 +0.7
baz=102
I25A **Rochford** 102.27 47 ⇑Pdiff Pdif 04 31 43.9 +0.7
baz=102
Q26A **Hugo** 102.34 52 ⇓Pdiff Pdif 04 31 45.2 +1.6
baz=102
H25A **Fruitdale** 102.37 46 ⇑Pdiff Pdif 04 31 44.6 +1.1
baz=102
R26A **Arlington** 102.38 53 ⇓Pdiff Pdif 04 31 45.5 +1.8
baz=102
ARU **Arti** 102.44 326 PFAKE 04 31 50.0 +6.6
ARU LR LR
comp=Z,274nm,20.0s
Y27A **Causey** 102.45 57 ⇓Pdiff Pdif 04 31 45.1 +0.9
baz=103
F25A **Bowman** 102.48 45 ⇑Pdiff Pdif 04 31 44.8 +0.9
baz=103
P26A **Davis Ranch, A** 102.49 51 ⇑Pdiff Pdif 04 31 45.3 +1.0
baz=103
G25A **Newell** 102.50 46 ⇓Pdiff Pdif 04 31 44.7 +0.6
baz=103
E25A **Miller Ranch,** 102.51 44 ⇑Pdiff Pdif 04 31 45.1 +1.0
baz=103
O26A **Horse Wrangler** 102.53 51 ⇓Pdiff Pdif 04 31 46.2 +1.8
baz=103
D25A **Fairfield** 102.57 44 ⇓Pdiff Pdif 04 31 45.7 +1.4
baz=103
C25A **Freed Ranch, W** 102.61 43 ⇓Pdiff Pdif 04 31 45.2 +0.8
baz=103
328A **Wristen Ranch,** 102.64 60 ⇑Pdiff Pdif 04 31 46.1 +1.1
baz=103
B25A **Knox Farm, Ray** 102.66 43 ⇓Pdiff Pdif 04 31 45.6 +1.0
baz=103
A25A **Svangstu Ranch** 102.68 42 ⇓Pdiff Pdif 04 31 45.2 +0.5
baz=103
428A **Kincaid Ranch,** 102.72 61 ⇓Pdiff Pdif 04 31 46.3 +0.9
baz=103
J26A **Sides Ranch, S** 102.75 48 ⇑Pdiff Pdif 04 31 46.3 +1.1
baz=103
R27A **Eads** 102.89 53 ⇑Pdiff Pdif 04 31 47.4 +1.4
baz=103
I26A **New Underwood** 102.90 47 ⇑Pdiff Pdif 04 31 47.0 +1.1
baz=103
128A **Castleberry Fa** 102.97 59 ⇓Pdiff Pdif 04 31 47.4 +1.0
baz=103
F26A **Lodgepole** 103.03 45 ⇓Pdiff Pdif 04 31 46.7 +0.4
baz=103
529A **Stev Forest Ra** 103.09 61 ⇑Pdiff Pdif 04 31 48.2 +1.2
baz=103
E26A **Carlson Angus** 103.16 44 ⇑Pdiff Pdif 04 31 47.8 +0.9
baz=103
D26A **Manning** 103.17 44 ⇑Pdiff Pdif 04 31 47.5 +0.5
baz=103
329A **Wagon Wheel Ra** 103.35 60 ⇑Pdiff Pdif 04 31 48.8 +0.6
baz=104
C26A **Wahner Farm, P** 103.39 43 ⇓Pdiff Pdif 04 31 48.7 +0.8
baz=104
429A **Davenport Ranc** 103.39 61 ⇓Pdiff Pdif 04 31 49.4 +1.1
baz=104
H27A **Howes** 103.46 46 ⇑Pdiff Pdif 04 31 49.5 +1.2
baz=104
F27A **Lemmon** 103.48 45 ⇓Pdiff Pdif 04 31 49.1 +0.8
baz=104
I27A **Quinn** 103.48 47 ⇑Pdiff Pdif 04 31 49.5 +1.1
baz=104
OGNE **Ogallala** 103.51 50 PFAKE 04 32 00.0 +11
OGNE LR LR
comp=Z,622nm,21.0s
J27A **Elkhorn Farm,** 103.53 48 ⇓Pdiff Pdif 04 31 50.1 +1.4
baz=104
G27A **Dupree** 103.55 45 ⇑Pdiff Pdif 04 31 49.6 +0.9
baz=104
R28A **Tribune** 103.67 53 ⇓Pdiff Pdif 04 31 50.7 +1.3
baz=104
X29A **Tulia** 103.69 57 ⇓Pdiff Pdif 04 31 50.8 +1.2
baz=104
Y29A **Porterfield Fa** 103.69 57 ⇓Pdiff Pdif 04 31 51.3 +1.6
baz=104
E27A **Carson** 103.78 44 ⇑Pdiff Pdif 04 31 50.6 +0.9
baz=104
C27A **Sayler Ranch,** 103.79 43 ⇑Pdiff Pdif 04 31 50.5 +0.8
baz=104
D27A **Center** 103.79 44 ⇑Pdiff Pdif 04 31 50.7 +1.0
baz=104
530A **J-C Ranch, Com** 103.85 61 ⇑Pdiff Pdif 04 31 50.3 0.0
baz=104
K28A **Ten Mile Ranch** 104.00 48 ⇑Pdiff Pdif 04 31 51.2 +0.4
baz=104
J28A **Allard Ranch,** 104.09 47 ⇑Pdiff Pdif 04 31 51.2 +0.1
baz=104
230A **Sterling City** 104.11 59 ⇓Pdiff Pdif 04 31 52.2 +0.7
baz=104
I28A **Midland** 104.12 47 ⇑Pdiff Pdif 04 31 52.2 +1.0
baz=104
Z30A **Sanderson Ranc** 104.13 58 ⇑Pdiff Pdif 04 31 52.3 +0.7
baz=104
R29A **Marienthal** 104.20 53 ⇓Pdiff Pdif 04 31 54.3 +2.5
baz=104
H28A **Mission Ridge** 104.21 46 ⇓Pdiff Pdif 04 31 52.6 +1.0
baz=104
G28A **Parade** 104.28 46 ⇑Pdiff Pdif 04 31 52.4 +0.5
baz=104
Q29A **Oakley** 104.32 52 ⇑Pdiff Pdif 04 31 54.4 +2.1
baz=104
F28A **McLaughlin** 104.33 45 ⇑Pdiff Pdif 04 31 52.6 +0.5
baz=104
D28A **Regan** 104.44 44 ⇓Pdiff Pdif 04 31 53.2 +0.7
baz=105
431A **Sonora** 104.50 61 ⇓Pdiff Pdif 04 31 54.6 +1.3
baz=105
B28A **Dugan Ranch, T** 104.52 42 ⇓Pdiff Pdif 04 31 53.5 +0.6
baz=105
531A **Rocksprings** 104.54 61 ⇓Pdiff Pdif 04 31 54.1 +0.7
baz=105
A28A **Rude Farm, Bot** 104.56 42 ⇓Pdiff Pdif 04 31 53.5 +0.4
baz=105
J29A **Okreek** 104.75 48 ⇑Pdiff Pdif 04 31 54.5 +0.5
baz=105
K29A **Lazy Trails An** 104.77 48 ⇓Pdiff Pdif 04 31 55.0 +0.8
baz=105
R30A **Dighton** 104.88 53 ⇑Pdiff Pdif 04 31 57.0 +2.2
baz=105
832A **Faith Ranch, C** 104.97 63 ⇓Pdiff Pdif 04 31 56.7 +1.4
baz=105
F29A **Eureka** 105.01 45 ⇑Pdiff Pdif 04 31 56.0 +0.9
baz=105
532A **Rocksprings** 105.09 61 ⇓Pdiff Pdif 04 31 56.7 +0.8
baz=105
632A **Uvalde** 105.18 62 ⇓Pdiff Pdif 04 31 57.3 +1.0
baz=105
JCT **Junction City** 105.19 61 PFAKE 04 36 20.0
JCT LR LR
comp=Z,1μm,22.0s
JCT **Junction City** 105.19 61 ⇑Pdiff Pdif 04 31 57.3 +1.0
baz=105
432A **Menard** 105.21 60 ⇑Pdiff Pdif 04 31 57.5 +1.1
baz=105
A29A **Manning Farm,** 105.24 42 ⇑Pdiff Pdif 04 31 56.2 +0.2
baz=105
332A **Millersview** 105.26 60 ⇓Pdiff Pdif 04 31 57.2 +0.6
baz=105
232A **Coleman** 105.35 59 ⇑Pdiff Pdif 04 31 57.0 0.0
baz=106
ABTX **Abilene, Hawle** 105.37 59 ⇑Pdiff Pdif 04 31 58.0 +0.9
baz=106
Y32A **R-V Farms, Ver** 105.55 57 ⇑Pdiff Pdif 04 31 58.7 +0.9
baz=106
D30A **Buchanan** 105.68 44 ⇑Pdiff Pdif 04 31 58.5 +0.5
baz=106
433A **Art** 105.81 61 ⇑Pdiff Pdif 04 31 59.7 +0.7
baz=106
A30A **Hoffart Farm,** 105.85 42 ⇑Pdiff Pdif 04 31 59.0 +0.2
baz=106
B30A **Myrvik Farm, E** 105.87 42 ⇓Pdiff Pdif 04 31 59.1 +0.2
baz=106
WMOK **Wichita Mounta** 106.10 56 PFAKE 04 36 20.0
WMOK LR LR
comp=Z,1μm,19.0s
ABPO **Ambohimpanom** 106.11 247 PFAKE 04 36 20.0
ABPO LR LR
comp=Z,595nm,20.0s
ULM **Lac du Bonnet** 107.29 40 Pdif Pdif 04 32 04.5 -0.6
ULM **Lac du Bonnet** 107.29 40 Pdiff Pdif 04 32 04.5 -0.6
comp=Z,0.7nm,0.3s,baz=144,slow=21,SNR=3.3
ECSD **EROS Data Cent** 107.43 47 ⇓Pdiff Pdif 04 32 06.0 +0.1
baz=108
AGMN **Agassiz Nation** 107.52 42 PFAKE 04 36 30.0
AGMN LR LR
comp=Z,683nm,20.0s
KSU1 **Kansas State U** 107.72 52 PFAKE 04 36 30.0
KSU1 LR LR
comp=Z,801nm,22.0s
KBS **Kingsbay** 108.00 353 PFAKE 04 36 30.0
KBS LR LR
comp=Z,371nm,19.0s
NATX **Nacogdoches** 109.60 60 PFAKE 04 36 30.0
NATX LR LR
comp=Z,1μm,19.0s
SCIA **State Center** 110.08 49 PFAKE 04 36 30.0
SCIA LR LR
comp=Z,551nm,20.0s
MIAR **Mount Ida** 110.40 57 PFAKE 04 36 30.0
MIAR LR LR
comp=Z,1μm,20.0s
APA **Apatity** 110.85 340 ⇓*i*P Pdif 04 32 18.4 -2.2
APA *i* PS PS 04 46 20.0 -8.6
APA *i* SS SS 04 52 20.0 -6.5
APA MLR MLR
comp=Z,2μm,24.0s
GNI **Garni** 113.24 310 PFAKE 04 36 40.0
GNI LR LR
comp=Z,240nm,19.0s
KBZ **Khabaz** 114.00 314 PP PP 04 37 19.3 -1.6
KBZ **Khabaz** 114.00 314 PP PP 04 37 19.3 -1.6
comp=Z,3.8nm,1.0s,baz=59,slow=8.3,SNR=3.5
KIV **Kislovodsk** 114.11 314 PFAKE 04 36 40.0 +13
KIV LR LR
comp=Z,317nm,21.0s
TEIG **Tepich** 115.49 72 PFAKE 04 36 40.0 +10
TEIG LR LR
comp=Z,483nm,20.0s
TGUH **Tegucigalpa,Un** 116.26 79 PFAKE 04 36 40.0 +8.1
TGUH LR LR
comp=Z,438nm,20.0s
FINES **FINESS Array B** 116.78 336 PKP PKPdf 04 36 31.4 -0.2
FINES **FINESS Array B** 116.78 336 PKP PKPdf 04 36 31.4 -0.2
comp=Z,5.2nm,1.0s,baz=134,slow=11,SNR=3.8
ACSO **Alum Creek Sta** 117.98 49 PFAKE 04 36 50.0 +15
ACSO LR LR
comp=Z,622nm,20.0s
JTS **JuntasAbangare** 118.28 83 PFAKE 04 36 50.0 +14
JTS LR LR
comp=Z,900nm,21.0s
GOGA **Godfrey** 118.86 57 PFAKE 04 36 50.0 +14
GOGA LR LR
comp=Z,2μm,22.0s
SFJD **Kangerlussuaq** 118.91 12 PFAKE 04 36 50.0 +14
SFJD LR LR
comp=Z,645nm,20.0s
KMBO **Kilima Mbogo** 119.86 264 PKP PKPdf 04 36 39.6 +0.3
KMBO *e*PKPdf PKiKP 04 36 39.9 +0.6
KMBO LR LR
comp=Z,460nm,19.0s
KMBO **Kilima Mbogo** 119.86 264 PKP PKPdf 04 36 39.6 +0.3
comp=Z,2.7nm,0.9s,baz=36,slow=22,SNR=4.4
LCO **Las Campanas** 120.00 131 PFAKE 04 36 50.0 +11
LCO LR LR
comp=Z,479nm,19.0s
TRQA **Tornquist** 120.37 144 PFAKE 04 36 50.0 +11
TRQA LR LR
comp=Z,281nm,19.0s
CFAA **Coronel Fontan** 120.38 135 PKP PKPdf 04 36 39.0 -0.6
CFAA **Coronel Fontan** 120.38 135 PKP PKPdf 04 36 39.0 -0.6
comp=Z,0.2nm,0.8s,baz=182,slow=3.5,SNR=7.4
BLA **Blacksburg** 120.60 52 PFAKE 04 36 50.0 +10
BLA LR LR
comp=Z,1μm,20.0s
AKASG **Malin Array Be** 120.66 325 *c i*PKIKP PKPdf 04 36 39.0 -0.4
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG **Malin Array Be** 120.66 325 PKP PKPdf 04 36 38.3 -1.1
AKASG PKKPbc PKKPab 04 46 45.6 +0.3
AKASG **Malin Array Be** 120.66 325 PKP PKPdf 04 36 38.3 -1.1
comp=Z,3.6nm,0.9s,baz=60,slow=2.4,SNR=15
AKASG PKKPbc PKKPab 04 46 45.6 +0.3
comp=Z,0.2nm,0.5s,baz=261,slow=3.3,SNR=5.9
AK01 **Malin Array Si** 120.67 325 *e*PKPdf PKPdf 04 36 38.8 -0.6
KIEV **Kiev** 120.67 325 ⇓*i*PKIKP PKPdf 04 36 38.9 -0.5
KIEV **Kiev** 120.67 325 PFAKE 04 36 50.0 +11
KIEV LR LR
comp=Z,399nm,20.0s
AK02 **Malin Array Si** 120.69 325 *e*PKPdf PKPdf 04 36 38.8 -0.6
NHSC **New Hope** 121.63 57 PFAKE 04 36 50.0 +8.2
NHSC LR LR
comp=Z,2μm,22.0s
NNA **Nana** 121.92 110 PFAKE 04 36 50.0 +7.0
NNA LR LR
comp=Z,323nm,19.0s
ANTO **Ankara** 122.26 312 ⇑PKIKP PKPdf 04 36 43.5 +0.6
ANTO **Ankara** 122.26 312 ⇑*i*P PKPdf 04 36 43.5 +0.6
ANTO **Ankara** 122.26 312 PFAKE 04 36 50.0 +7.1
ANTO LR LR
comp=Z,185nm,20.0s
NOA **NORSAR Array B** 122.38 341 PKP PKPdf 04 36 40.4 -2.1
NOA **NORSAR Array B** 122.38 341 PKP PKPdf 04 36 40.4 -2.1
comp=Z,3.6nm,1.0s,baz=20,slow=20,SNR=3.6
CBN **Corbin** 122.70 50 PFAKE 04 37 00.0 +16
CBN LR LR
comp=Z,1μm,20.0s
CSS **Prodhromos** 123.11 306 PFAKE 04 37 00.0 +15
CSS LR LR
comp=Z,104nm,22.0s
BCIP **Isla Barro Col** 123.21 85 PFAKE 04 37 00.0 +15
BCIP LR LR
comp=Z,405nm,20.0s
OTAV **Otavalo** 123.42 96 PFAKE 04 37 00.0 +14
OTAV LR LR
comp=Z,375nm,20.0s
VRI **Vrincioaia** 124.27 320 ⇑PKIKP PKPdf 04 36 46.4 -0.1
VRI **Vrincioaia** 124.27 320 ⇑*i*P PKPdf 04 36 46.4 -0.1
BURAR **Bucovina Array** 124.41 323 ⇑PKIKP PKPdf 04 36 48.7 +1.8
BURAR **Bucovina Array** 124.41 323 ⇑*i*P PKPdf 04 36 48.7 +1.8
LSZ **Lusaka** 124.52 245 *e*PKPdf PKPdf 04 36 47.6 -0.4
LSZ LR LR
comp=Z,431nm,21.0s
ISP **Isparta** 124.55 310 PFAKE 04 37 00.0 +13
ISP LR LR
comp=Z,404nm,21.0s
LVC **Limon Verde** 124.62 125 PFAKE 04 37 00.0 +12
LVC LR LR
comp=Z,362nm,21.0s
KWP **Kalwaria Pacla** 124.85 326 ⇑PKIKP PKPdf 04 36 47.4 -0.1
KWP **Kalwaria Pacla** 124.85 326 ⇑*i*P PKPdf 04 36 47.4 -0.1
MLR **Muntele Rosu** 124.92 320 ⇓*i*P PKPdf 04 36 48.3 +0.3
KOLS **Kolonicke sedl** 125.46 325 *e*PKIKP PKPdf 04 36 49.3 +0.5
KOLS **Kolonicke sedl** 125.46 325 *e*PKP PKPdf 04 36 49.2 +0.5
UZH **Uzhgorod** 125.60 325 *e*PKIKP PKPdf 04 36 48.9 -0.1
UZH *i* 04 36 54.1
UZH *i* 04 37 02.1
STHS **Stebnicka Huta** 125.77 326 *e*PKIKP PKPdf 04 36 49.6 +0.3
STHS **Stebnicka Huta** 125.77 326 *e*PKP PKPdf 04 36 49.6 +0.3
ARR **Arges** 125.81 321 ⇑*i*P PKPdf 04 36 50.9 +1.3
CRVS **Cervenica-Dubn** 125.93 326 *e*PKIKP PKPdf 04 36 50.0 +0.4
CRVS **Cervenica-Dubn** 125.93 326 *e*PKP PKPdf 04 36 50.0 +0.4
DRGR 126.30 323 ⇑PKIKP PKPdf 04 36 51.0 +0.5
DRGR 126.30 323 ⇑*i*P PKPdf 04 36 51.0 +0.5
OKC **Ostrava-Krasne** 127.18 328 *e*PKIKP PKPdf 04 36 52.4 +0.4
OKC **Ostrava-Krasne** 127.18 328 *e*PKPdf PKPdf 04 36 52.4 +0.4
PSZ **Piszkesteto** 127.34 325 PFAKE 04 37 00.0 +7.6
PSZ LR LR
comp=Z,426nm,19.0s
PSZ **Piszkesteto** 127.34 325 ⇓*e* PKPdf 04 36 52.9 +0.5
KSP **Ksiaz** 127.51 330 *e*PKIKP PKPdf 04 36 52.9 +0.3

KSP	**Ksiaz**	**127.51**	**330**	*e*PKP	**PKPdf**	**04 36 53.7**	**+1.1**
MORC	**Moravsky Berou**	**127.53**	**328**	⇑PKIKP	**PKPdf**	**04 36 52.9**	**+0.2**
MORC	**Moravsky Berou**	**127.53**	**328**	⇑*i*P	**PKPdf**	**04 36 52.8**	**+0.1**
MORC	**Moravsky Berou**	**127.53**	**328**	*e*PKPdf	**PKPdf**	**04 36 53.1**	**+0.4**
BZS	**Buzias**	**127.55**	**322**	⇑PKIKP	**PKPdf**	**04 36 53.5**	**+0.7**
BZS	**Buzias**	**127.55**	**322**	⇑*i*P	**PKPdf**	**04 36 53.5**	**+0.7**
RUE	**Ruedersdorf**	**127.61**	**333**	*e*PKPdf	**PKPdf**	**04 36 53.6**	**+0.9**
KRLC	**Kraliky**	**127.74**	**329**	*e*PKIKP	**PKPdf**	**04 36 53.6**	**+0.5**
KRLC	**Kraliky**	**127.74**	**329**	*e*PKPdf	**PKPdf**	**04 36 53.6**	**+0.5**
DPC	**Dobruska-Polom**	**127.80**	**330**	*e*PKIKP	**PKPdf**	**04 36 53.9**	**+0.7**
DPC				*e*		04 36 58.4	
DPC	**Dobruska-Polom**	**127.80**	**330**	*e*PKPdf	**PKPdf**	**04 36 53.9**	**+0.7**
DPC				*ex*	x	04 36 58.4	
UPC	**Upice**	**127.86**	**330**	*e*PKIKP	**PKPdf**	**04 36 53.9**	**+0.7**
UPC	**Upice**	**127.86**	**330**	*e*PKPdf	**PKPdf**	**04 36 53.9**	**+0.7**
GTBY	**Guantanamo Bay**	**127.87**	**72**	PFAKE		04 37 10.0	+16
GTBY				LR	LR		
	comp=Z,547nm,19.0s						
PKSN	**Nyarlorinc**	**127.91**	**324**	⇑*e*PKPdf	**PKPdf**	**04 36 55.1**	**+1.7**
VTS	**Vitosha**	**127.98**	**318**	⇑PKIKP	**PKPdf**	**04 36 52.2**	**-1.7**
VTS	**Vitosha**	**127.98**	**318**	⇑*i*P	**PKPdf**	**04 36 52.2**	**-1.7**
BSEG	**Bad Segeberg**	**128.05**	**336**	*e*PKIKP	**PKPdf**	**04 36 54.5**	**+1.0**
LPAZ	**La Paz**	**128.17**	**119**	*e*PKPdf	**PKPdf**	**04 36 55.6**	**0.0**
LPAZ				PKP	**PKPdf**	**04 36 56.0**	**+0.4**
LPAZ	**La Paz**	**128.17**	**119**	PKP	**PKPdf**	**04 36 56.0**	**+0.4**
	comp=Z,16nm,1.2s,baz=351,slow=2.1,SNR=21						
ROSC	**El Rosal**	**128.20**	**91**	PKP	**PKPdf**	**04 36 55.9**	**+0.4**
ROSC	**El Rosal**	**128.20**	**91**	PKP	**PKPdf**	**04 36 55.9**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=280,slow=23,SNR=5.6						
VRAC	**Vranov**	**128.31**	**328**	⇑*i*P	**PKPdf**	**04 36 55.1**	**+0.9**
PKSG		**128.47**	**326**	⇓*e*PKPdf	**PKPdf**	**04 36 54.8**	**+0.3**
APE	**Apeiranthos**	**128.55**	**311**	⇑PKIKP	PKPdf	04 36 47.8	-7.2
APE	**Apeiranthos**	**128.55**	**311**	⇑*i*P	PKPdf	04 36 47.8	-7.2
PVCC	**Panska Ves**	**128.55**	**331**	*e*PKIKP	**PKPdf**	**04 36 55.3**	**+0.7**
PVCC	**Panska Ves**	**128.55**	**331**	*e*PKPdf	**PKPdf**	**04 36 55.3**	**+0.7**
CSKK	**Cs˘tkako**	**128.56**	**326**	⇓*e*PKPdf	**PKPdf**	**04 36 54.6**	**-0.1**
BRG	**Berggiesshubel**	**128.62**	**331**	*e*PKP	**PKPdf**	**04 36 54.8**	**+0.1**
	comp=Z,49nm,1.5s						
BRG	**Berggiesshubel**	**128.62**	**331**	*e*PKIKP	**PKPdf**	**04 36 54.8**	**+0.1**
BRG				pmax	pmax		
	comp=Z,49nm,1.5s						
BRG	**Berggiesshubel**	**128.62**	**331**	*e*PKPdf	**PKPdf**	**04 36 55.1**	**+0.4**
PKST	**T˜˜s**	**128.75**	**326**	⇓*e*PKPdf	**PKPdf**	**04 36 55.4**	**+0.3**
CLL	**Collm**	**128.77**	**332**	*e*PKIKP	**PKPdf**	**04 36 54.0**	**-0.9**
CLL				pmax	pmax		
	comp=Z,27nm,1.4s						
CLL				MLR	MLR		
	comp=Z,400nm,18.5s						
CLL	**Collm**	**128.77**	**332**	*e*PKPdf	**PKPdf**	**04 36 55.5**	**+0.6**
CLL	**Collm**	**128.77**	**332**	*e*PKPdf	**PKPdf**	**04 36 54.0**	**-0.9**
	comp=Z,27nm,1.4s						
CLL				*e*		04 37 15.0	
CLL				*e*PP	**PP**	**04 39 04.0**	**+3.1**
CLL				*e*SS	SS	04 56 18.0	+0.7
CLL				*e*SSS	SSS	05 01 00.0	
CLL				LmV		05 35 00.0	
	comp=Z,400nm,18.5s						
PRA	**Prague**	**128.91**	**330**	PKPdf	**PKPdf**	**04 36 56.0**	**+0.8**
PRU	**Pruhonice**	**128.91**	**330**	*e*PKIKP	**PKPdf**	**04 36 55.8**	**+0.5**
PRU	**Pruhonice**	**128.91**	**330**	*e*PKPdf	**PKPdf**	**04 36 55.8**	**+0.5**
PKS9	**Tamasi**	**128.99**	**325**	⇑*e*PKPdf	**PKPdf**	**04 36 56.7**	**+1.2**
PKSM	**Moragy**	**129.00**	**324**	⇑PKIKP	**PKPdf**	**04 36 56.1**	**+0.6**
PKSM	**Moragy**	**129.00**	**324**	⇑*i*P	**PKPdf**	**04 36 56.1**	**+0.6**
PKSM	**Moragy**	**129.00**	**324**	⇓*e*PKPdf	**PKPdf**	**04 36 56.1**	**+0.6**
NRDL	**Niedersach Rie**	**129.20**	**335**	*e*PKPdf	**PKPdf**	**04 36 56.5**	**+0.9**
NEUB	**Neuenburg**	**129.39**	**333**	*e*PKPdf	**PKPdf**	**04 36 57.2**	**+1.1**
CONA	**Conrad Observ**	**129.54**	**327**	⇓*i*PKIKP	**PKPdf**	**04 36 56.6**	**-0.1**
	comp=Z,23nm,1.8s,SNR=7.9						
CLZ	**Clausthal**	**129.56**	**334**	*e*PKPdf	**PKPdf**	**04 36 57.5**	**+1.0**
TANN	**Tannenbergstha**	**129.63**	**332**	*e*PKPdf	**PKPdf**	**04 36 57.5**	**+0.8**
NKC	**Novy Kostel**	**129.76**	**332**	*e*PKIKP	**PKPdf**	**04 36 57.5**	**+0.6**
NKC	**Novy Kostel**	**129.76**	**332**	*e*PKPdf	**PKPdf**	**04 36 57.5**	**+0.6**
KHC	**Kasperske Hory**	**129.95**	**330**	*e*PKIKP	**PKPdf**	**04 36 57.8**	**+0.5**
KHC				*e*		04 37 02.7	
KHC	**Kasperske Hory**	**129.95**	**330**	*e*PKPdf	**PKPdf**	**04 36 57.8**	**+0.5**
KHC				*ex*	x	04 37 02.7	
KHC	**Kasperske Hory**	**129.95**	**330**	*e*PKPdf	**PKPdf**	**04 36 57.5**	**+0.2**
GEC2	**GERESS Array S**	**130.07**	**330**	*e*PKPdf	**PKPdf**	**04 36 58.3**	**+0.6**
GERES	**GERESS Array B**	**130.07**	**330**	PKP	**PKPdf**	**04 36 57.5**	**-0.2**
GERES	**GERESS Array B**	**130.07**	**330**	PKP	**PKPdf**	**04 36 57.5**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=48,slow=2.0,SNR=21						
MANZ	**Manzenberg**	**130.09**	**332**	*e*PKPdf	**PKPdf**	**04 36 58.4**	**+0.8**
ROTZ	**Rotzenmuhle**	**130.19**	**331**	*e*PKPdf	**PKPdf**	**04 36 58.7**	**+1.0**
UBBA	**Unterbreizbach**	**130.46**	**334**	*e*PKPdf	**PKPdf**	**04 36 58.6**	**+0.6**
GRF	**Grafenberg Arr**	**130.71**	**332**	*e*L	L	05 35 16.0	
	comp=Z,303nm,19.4s						
SOKA	**Soboth**	**130.75**	**327**	⇓*i*PKIKP	**PKPdf**	**04 36 59.0**	**0.0**
	comp=Z,17nm,1.6s,SNR=5.6						
LEGS	**Legarje**	**131.03**	**326**	*e*PKPdf	**PKPdf**	**04 36 59.2**	**-0.3**
CPUP	**Villa Florida**	**131.15**	**137**	PKP	**PKPdf**	**04 37 00.5**	**+0.3**
CPUP	**Villa Florida**	**131.15**	**137**	PKP	**PKPdf**	**04 37 00.5**	**+0.3**
	comp=Z,11nm,1.1s,baz=260,slow=2.9,SNR=4.5						
VISS	**Visnje**	**131.39**	**326**	*e*PKPdf	**PKPdf**	**04 36 59.7**	**-0.4**
GRTK	**Grand Turk**	**131.42**	**69**	PFAKE		04 37 10.0	+9.2
GRTK				LR	LR		
	comp=Z,1μm,20.0s						
SDDR	**Presa de Saban**	**131.54**	**73**	PFAKE		04 37 10.0	+8.8
SDDR				LR	LR		
	comp=Z,489nm,20.0s						
TSUM	**Tsumeb**	**131.79**	**234**	*e*PKPdf	**PKPdf**	**04 37 02.7**	**+0.9**
TSUM				LR	LR		
	comp=Z,762nm,19.0s						
ABTA	**Abfaltersbach**	**132.05**	**328**	*i* PKPdf	**PKPdf**	**04 37 01.1**	**-0.4**
	comp=Z,16nm,1.4s,SNR=5.9						
WTTA	**Wattenberg**	**132.16**	**329**	⇑*i*PKiKP	**PKPdf**	**04 37 01.7**	**-0.1**
	comp=Z,32nm,1.6s,SNR=8.0						
SDV	**Santo Domingo**	**132.26**	**86**	*e*PKPdf	**PKPdf**	**04 37 02.4**	**-0.5**
SDV				LR	LR		
	comp=Z,194nm,21.0s						
MEM	**Membach**	**132.30**	**336**	PKP	**PKPdf**	**04 37 02.3**	**+0.6**
WLF	**Walferdange**	**132.97**	**335**	PKP	**PKPdf**	**04 37 03.8**	**+0.8**
BFO	**Black Forest**	**133.01**	**332**	*i* PKIKP	**PKPdf**	**04 37 04.6**	**+1.5**
BFO	**Black Forest**	**133.01**	**332**	PFAKE		04 37 10.0	+6.9
BFO				LR	LR		
	comp=Z,209nm,19.0s						
GIVF	**Givet**	**133.17**	**336**	*e*PKIKP	PKPdf	04 36 58.0	-5.3
	comp=Z,104nm,1.5s						
GIVF	**Givet**	**133.17**	**336**	*e*PKIKP	PKPdf	04 36 58.0	-5.3
GIVF	**Givet**	**133.17**	**336**	*e*PKPdf	PKPdf	04 36 58.0	-5.3
DOU	**Dourbes**	**133.27**	**336**	PKP	**PKPdf**	**04 37 04.2**	**+0.7**
CDF	**Champ du Feu**	**133.43**	**333**	*e*PKIKP	PKPdf	04 36 58.2	-5.8
CDF	**Champ du Feu**	**133.43**	**333**	*e*PKIKP	PKPdf	04 36 58.2	-5.8
CDF	**Champ du Feu**	**133.43**	**333**	*e*PKPdf	PKPdf	04 36 58.2	-5.8
BAIF	**Baives**	**133.45**	**337**	*e*PKIKP	**PKPdf**	**04 36 58.7**	**-5.1**
	comp=Z,28nm,1.1s						
BAIF	**Baives**	**133.45**	**337**	*e*PKIKP	**PKPdf**	**04 36 58.7**	**-5.1**
BAIF	**Baives**	**133.45**	**337**	*e*PKPdf	**PKPdf**	**04 36 58.7**	**-5.1**
TUE	**Stuetta**	**133.85**	**330**	*e*PKPdf	**PKPdf**	**04 37 03.2**	**-1.8**
TUE				LR	LR		
	comp=Z,703nm,20.0s						
TIP	**Timpagrande**	**133.90**	**317**	PFAKE		04 37 20.0	+15
TIP				LR	LR		
	comp=Z,209nm,21.0s						
HINF	**Hinteralfeld**	**134.06**	**333**	*e*PKIKP	PKPdf	04 36 59.4	-5.7
	comp=Z,141nm,1.9s						
HINF	**Hinteralfeld**	**134.06**	**333**	*e*PKIKP	PKPdf	04 36 59.4	-5.7
HINF	**Hinteralfeld**	**134.06**	**333**	*e*PKPdf	PKPdf	04 36 59.4	-5.7
CUC	**Castrocucco**	**134.10**	**319**	PFAKE		04 37 20.0	+15
CUC				LR	LR		
	comp=Z,279nm,20.0s						
HAU	**Haudompre**	**134.15**	**333**	*e*PKIKP	PKPdf	04 36 59.7	-5.6
	comp=Z,158nm,1.8s						
HAU	**Haudompre**	**134.15**	**333**	*e*PKIKP	PKPdf	04 36 59.7	-5.6
HAU	**Haudompre**	**134.15**	**333**	*e*PKPdf	PKPdf	04 36 59.7	-5.6
MEZF	**Maizieres J'vi**	**134.33**	**335**	*e*PKIKP	**PKPdf**	**04 37 00.7**	**-4.8**
	comp=Z,71nm,1.3s						
MEZF	**Maizieres J'vi**	**134.33**	**335**	*e*PKPdf	**PKPdf**	**04 37 00.7**	**-4.8**
SFTF	**Sexfontaines**	**134.56**	**334**	*e*PKIKP	PKPdf	04 37 00.3	-5.7
SFTF	**Sexfontaines**	**134.56**	**334**	*e*PKPdf	PKPdf	04 37 00.3	-5.7
VLC	**Villacollemand**	**134.88**	**327**	PFAKE		04 37 20.0	+13
VLC				LR	LR		
	comp=Z,474nm,20.0s						
CEL	**Celeste**	**134.95**	**317**	PFAKE		04 37 20.0	+13
CEL				LR	LR		
	comp=Z,350nm,21.0s						
SAML	**Samuel**	**135.56**	**112**	*e*PKPdf	**PKPdf**	**04 37 07.1**	**-1.8**
SAML				*e*PP	**PP**	**04 39 45.2**	**-0.9**
SAML				LR	LR		
	comp=Z,591nm,20.0s						
BNI	**Bardonecchia**	**136.17**	**330**	PFAKE		04 37 20.0	+11
BNI				LR	LR		
	comp=Z,609nm,19.0s						
ORIF	**Oris-en-Rattie**	**136.66**	**331**	*e*PKIKP	**PKPdf**	**04 37 05.1**	**-5.1**
	comp=Z,66nm,1.6s						
ORIF	**Oris-en-Rattie**	**136.66**	**331**	*e*PKIKP	**PKPdf**	**04 37 05.1**	**-5.1**
ORIF	**Oris-en-Rattie**	**136.66**	**331**	*e*PKPdf	**PKPdf**	**04 37 05.1**	**-5.1**
WDD	**Wield Dalam**	**137.09**	**314**	PFAKE		04 37 20.0	+8.9
WDD				LR	LR		
	comp=Z,342nm,21.0s						
CLTB	**Caltabellotta**	**137.11**	**317**	PFAKE		04 37 20.0	+8.8
CLTB				LR	LR		
	comp=Z,445nm,21.0s						
PTGA	**Pitinga**	**141.25**	**102**	*e*PKPdf	**PKPdf**	**04 37 20.0**	**+0.6**
PTGA				LR	LR		
	comp=Z,236nm,19.0s						
ADJB	**Djebel Djouab**	**144.18**	**323**	P	**PKPdf**	**04 37 23.4**	**-0.6**
EMHD	**Djebel Mahouad**	**144.44**	**324**	P	PKPbc	04 37 23.0	0.0
PBRG	**Braganca**	**144.49**	**340**	*e*PKP	PKPbc	04 37 22.9	+0.1
BDFB	**Brasilia**	**144.71**	**134**	PKP	PKPbc	04 37 24.3	-0.1
BDFB	**Brasilia**	**144.71**	**134**	PKP	PKPbc	04 37 24.3	-0.1
	comp=Z,67nm,0.8s,baz=228,slow=2.8,SNR=108						
PGAV	**Gavieira, Arco**	**144.84**	**342**	*e*PKP	**PKPdf**	**04 37 24.7**	**-0.3**
PCAB	**Cabril**	**145.00**	**341**	*e*PKP	**PKPdf**	**04 37 25.1**	**-0.1**
POLO	**Lamas de Olo**	**145.22**	**341**	*e*PKP	**PKPdf**	**04 37 25.6**	**-0.1**
ESDC	**Sonseca Array**	**145.27**	**335**	PKPbc	**PKPbc**	**04 37 25.4**	**0.0**
ESDC	**Sonseca Array**	**145.27**	**335**	PKPbc	**PKPbc**	**04 37 25.4**	**0.0**
	comp=Z,7.3nm,1.0s,baz=21,slow=3.6,SNR=32						
ESLA	**Sonseca Array**	**145.27**	**335**	*e*PKPdf	**PKPbc**	**04 37 25.2**	**-0.3**
PVRL	**Vila Real**	**145.29**	**341**	*e*PKP	**PKPdf**	**04 37 25.8**	**+0.1**
PAB	**San Pablo**	**145.54**	**335**	*e*PKIKP	**PKPdf**	**04 37 26.1**	**-0.1**
PAB				MLR	MLR		
	comp=Z,551nm,20.0s						
PAB	**San Pablo**	**145.54**	**335**	*e*PKPbc	**PKPdf**	**04 37 26.1**	**-0.1**
PAB				LR	LR		
	comp=Z,551nm,20.0s						
EANR	**`Ain N'Sour**	**145.68**	**325**	P	**PKPdf**	**04 37 26.0**	**-0.6**
PVIS	**Viseu**	**145.85**	**340**	*e*PKP	**PKPab**	**04 37 28.3**	**+0.7**
ETRT	**Tiaret**	**145.96**	**324**	P	**PKPbc**	**04 37 28.0**	**+0.2**
MTE	**Manteigas**	**146.01**	**340**	*e*PKP	**PKPbc**	**04 37 28.0**	**+0.2**
MTE	**Manteigas**	**146.01**	**340**	*e*PKPbc	**PKPab**	**04 37 28.6**	**+0.4**
PCBR	**Castelo Branco**	**146.49**	**339**	*e*PKP	**PKPbc**	**04 37 28.7**	**-0.4**
PMRV	**Marv??o**	**146.82**	**339**	*e*PKP	**PKPbc**	**04 37 29.3**	**-0.8**
PTOM	**Tomar**	**147.01**	**340**	*e*PKP	**PKPbc**	**04 37 31.3**	**+0.7**
PESTR	**Estremoz**	**147.39**	**338**	*e*PKP	**PKPbc**	**04 37 32.1**	**+0.4**
EVO	**Evora**	**147.84**	**339**	⇑*i*PKIKP	**PKPbc**	**04 37 33.0**	**+0.1**
	comp=Z,167nm,1.6s						
EVO	**Evora**	**147.84**	**339**	*e*PKP	**PKPdf**	**04 37 30.3**	**+0.3**
EVOP	**Sao Brissos**	**147.88**	**339**	⇑*i*PKP2	**PKPbc**	**04 37 33.0**	**0.0**
EVOP	**Sao Brissos**	**147.88**	**339**	⇑*i*PKPdf	**PKPbc**	**04 37 33.0**	**0.0**
PBEJ	**Beja**	**148.24**	**338**	*e*PKP	**PKPbc**	**04 37 33.6**	**-0.4**
PNCL	**Nicolau / Gran**	**148.40**	**339**	*e*PKP	**PKPbc**	**04 37 35.5**	**+1.1**
PVAQ	**Vaqueiros**	**148.73**	**337**	*e*PKP	**PKPbc**	**04 37 35.9**	**+0.6**
TAM	**Tamanrasset**	**149.98**	**301**	*e*PKPdf	**PKPdf**	**04 37 35.0**	**+0.9**
TAM				*e*PKPbc	**PKiKP**	**04 37 39.7**	**-0.2**
TAM				LR	LR		
	comp=Z,291nm,20.0s						
SHEL	**Horse Pasture**	**150.35**	**214**	*e*PKIKP	**PKPbc**	**04 37 41.0**	**+1.0**
SHEL	**Horse Pasture**	**150.35**	**214**	*e*PKPbc	**PKPbc**	**04 37 41.0**	**+1.0**
TOA0	**Torodi Ar. Sit**	**156.10**	**282**	*e*PKPdf	**PKPdf**	**04 37 42.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**156.10**	**282**	PKP	**PKPdf**	**04 37 42.9**	**-0.1**
TORD				PKPab	**PKPab**	**04 38 10.1**	**-0.5**
TORD				PP	**PP**	**04 41 49.9**	**+1.7**
TORD	**Torodi Ar. Bea**	**156.10**	**282**	PKP	**PKPdf**	**04 37 42.9**	**-0.1**
	comp=Z,4.6nm,1.1s,baz=17,slow=1.6,SNR=18						
TORD				PKPab	**PKPab**	**04 38 10.1**	**-0.5**
	comp=Z,8.6nm,1.0s,baz=68,slow=3.9,SNR=8.3						
TORD				PP	**PP**	**04 41 49.9**	**+1.7**
	comp=Z,2.2nm,1.1s,baz=342,slow=4.3,SNR=3.9						
ASCN	**Ascension**	**161.50**	**205**	PFAKE		04 38 00.0	+11
ASCN				LR	LR		
	comp=Z,1μm,19.0s						
KIC	**Kosan Boka**	**162.43**	**263**	*e*P	**PKPdf**	**04 37 49.6**	**-0.8**
	comp=Z,56nm,1.5s						
DBIC	**Dimbokro**	**162.59**	**264**	*e*PKPdf	**PKPdf**	**04 37 47.1**	**-3.4**
DBIC				PKP	**PKPdf**	**04 37 50.0**	**-0.5**
DBIC				PKPab	**PKPab**	**04 38 39.0**	**+0.2**
DBIC				*e*PKPab	PKPab	04 38 39.5	+0.7
DBIC	**Dimbokro**	**162.59**	**264**	PKP	**PKPdf**	**04 37 50.0**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=151,slow=2.4,SNR=3.3						
DBIC				PKPab	**PKPab**	**04 38 39.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=101,slow=4.5,SNR=4.5						
LIC	**Lamto**	**162.69**	**262**	*e*PKIKP	**PKPdf**	**04 37 47.8**	**-2.9**
	comp=Z,27nm,1.4s						
LIC	**Lamto**	**162.69**	**262**	*e*P	**PKPdf**	**04 37 48.0**	**-2.7**
	comp=Z,34nm,1.5s						
LIC	**Lamto**	**162.69**	**262**	*e*PKPdf	**PKPdf**	**04 37 47.8**	**-2.9**
TIC	**Toumodi**	**162.75**	**264**	*e*P	**PKPdf**	**04 37 47.1**	**-3.7**
	comp=Z,5.0nm,0.3s						
SACV	**Santiago Islan**	**173.84**	**12**	PFAKE		04 38 10.0	+12
SACV				LR	LR		
	comp=Z,234nm,21.0s						

*IDC **04** 04:28:50.4±0.7, 8.˚58S×157.˚31E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML4.1/1, Error ellipse: s-maj=24.7km s-min=13.4km az=10.0*
*ISCJB **04** 04:28:51.5±0.7, 8.˚6S±0.˚1×157.˚3E±0.˚1, h16km, mb3.9/10, Error ellipse: s-maj=22.1km s-min=16.0km az=152.1*

ISC 04 04:28:53.0±0.7, 8.˚5S±0.˚2×157.˚41E±0.˚09, h16km, n13, σ1§29/14, mb3.9/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.66**	**110**	Pn	**Pn**	**04 29 34.9**	**-0.3**
	32nm,0.3s,baz=192,slow=9.3,SNR=4.0						
HNR				Pg	**Pb**	**04 29 40.6**	**+0.4**
	81nm,0.3s,baz=240,slow=5.1,SNR=10						
HNR				Lg	Lg	04 30 19.3	
	41nm,0.3s,baz=288,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**25.03**	**241**	P	**P**	**04 34 15.7**	**-1.0**
	4.2nm,0.9s,baz=65,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**27.07**	**233**	P	**P**	**04 34 32.5**	**-2.5**
	1.6nm,1.0s,baz=61,slow=9.0,SNR=9.1						
STKA	**Stephens Creek**	**27.49**	**210**	P	**P**	**04 34 41.0**	**+2.3**
	1.9nm,0.6s,baz=29,slow=12,SNR=8.6						
FITZ	**Fitzroy Crossi**	**32.30**	**250**	P	**P**	**04 35 21.2**	**-0.2**
	1.8nm,0.8s,baz=103,slow=19,SNR=3.0						
CMAR	**Chiang Mai Arr**	**63.60**	**295**	P	**P**	**04 39 24.4**	**+0.7**
	0.9nm,0.4s,baz=118,slow=4.9,SNR=6.3						
SONM	**Songino Array**	**71.92**	**327**	P	**P**	**04 40 16.8**	**+1.1**
	1.0nm,0.9s,baz=139,slow=5.9,SNR=5.5						
ILAR	**Eielson Array**	**83.94**	**21**	P	**P**	**04 41 21.1**	**-0.8**
	0.3nm,0.8s,baz=201,slow=4.7,SNR=4.0						
MKAR	**Makanchi Array**	**86.14**	**318**	P	**P**	**04 41 33.5**	**+0.1**
	2.0nm,0.3s,baz=107,slow=4.8,SNR=11						
ZALV	**Zalesovo Beam**	**86.79**	**326**	P	**P**	**04 41 36.7**	**+0.2**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=3.0						
NVAR	**Mina Array Bea**	**90.80**	**51**	P	**P**	**04 41 56.2**	**+0.1**
	0.4nm,0.8s,baz=297,slow=6.0,SNR=2.9						
AKASG	**Malin Array Be**	**120.17**	**325**	PKP	**PKPdf**	**04 47 41.5**	**-1.7**
	0.1nm,0.3s,baz=62,slow=2.8,SNR=2.7						
BDFB	**Brasilia**	**145.20**	**134**	PKPbc	**PKPbc**	**04 48 30.6**	**0.0**
	3.9nm,0.8s,baz=202,slow=6.9,SNR=6.0						

*IDC **04** 04:36:24.4±0.7, 8.˚67S×157.˚11E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/19, mbtmp3.9/10, Error ellipse: s-maj=22.4km s-min=14.2km az=5.0*

ISC 04 04:36:27.2±0.7, 8.˚7S±0.˚2×157.˚15E±0.˚09, h19km, n11, σ1§36/13, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.84**	**104**	Pn	**Pn**	**04 37 09.9**	**-1.7**
	baz=30,slow=20,SNR=1.4						
HNR				Pg	**Pb**	**04 37 17.2**	**-0.1**
	56nm,0.3s,baz=324,slow=2.1,SNR=4.4						
HNR				Lg	Lg	04 37 53.8	
	175nm,0.3s,baz=233,slow=22,SNR=8.0						
WRA	**Warramunga Arr**	**24.72**	**241**	P	**P**	**04 41 47.3**	**-0.2**
	0.9nm,0.6s,baz=65,slow=9.8,SNR=7.0						
WRA				PcP	**PcP**	**04 45 24.9**	**+0.4**
	1.4nm,0.9s,baz=64,slow=2.2,SNR=5.1						
ASAR	**Alice Springs**	**26.75**	**234**	P	**P**	**04 42 04.7**	**-1.2**
	0.5nm,0.9s,baz=66,slow=9.2,SNR=4.0						
STKA	**Stephens Creek**	**27.19**	**210**	P	**P**	**04 42 11.4**	**+1.7**
	3.0nm,1.0s,baz=40,slow=14,SNR=3.4						
CMAR	**Chiang Mai Arr**	**63.46**	**296**	P	**P**	**04 46 55.1**	**-1.2**
	0.8nm,0.3s,baz=128,slow=5.8,SNR=4.3						
SONM	**Songino Array**	**71.95**	**327**	P	**P**	**04 47 48.7**	**-0.8**
	0.7nm,0.8s,baz=138,slow=6.8,SNR=6.1						
ILAR	**Eielson Array**	**84.21**	**21**	P	**P**	**04 48 57.6**	**+0.6**
	0.5nm,1.0s,baz=211,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**86.11**	**318**	P	**P**	**04 49 05.7**	**-1.3**
	2.5nm,0.4s,baz=89,slow=7.2,SNR=10						
NVAR	**Mina Array Bea**	**91.12**	**51**	P	**P**	**04 49 32.5**	**+1.2**
	0.1nm,0.3s,baz=267,slow=7.2,SNR=2.9						
YKA	**Yellowknife Ar**	**96.86**	**28**	P	**P**	**04 49 58.4**	**+1.7**
	0.2nm,0.7s,baz=265,slow=4.8,SNR=3.6						
BDFB	**Brasilia**	**145.24**	**134**	PKPbc	**PKPdf**	**04 56 06.4**	**+1.6**
	2.4nm,1.0s,baz=193,slow=1.7,SNR=2.4						

*IDC **04** 04:37:51.5±0.8, 8.˚88S×157.˚62E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.1/9, MS4.0/1, Ms1 4.0/1, ms1mx3.1/31, Error ellipse: s-maj=24.3km s-min=14.8km az=5.0*

ISC 04 04:37:54.1±0.8, 9.˚0S±0.˚2×157.˚8E±0.˚1, h23km, n11, σ1§12/9, mb4.2/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.13**	**103**	Pn	**Pb**	**04 38 32.0**	**0.0**
	baz=187,slow=17,SNR=1.6						
HNR				Lg	Lg	04 39 06.6	
	124nm,0.3s,baz=37,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**25.21**	**242**	P	**P**	**04 43 17.5**	**-0.9**
	5.3nm,0.8s,baz=67,slow=9.6,SNR=8.3						
ASAR	**Alice Springs**	**27.17**	**235**	P	**P**	**04 43 34.2**	**-1.9**
	1.2nm,0.9s,baz=67,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**	**04 43 39.0**	**+1.5**
	7.8nm,0.9s,baz=40,slow=14,SNR=8.1						
URZ	**Urewera**	**33.95**	**152**	LR	LR	04 55 14.8	
	comp=Z,205nm,18.3s,baz=215,slow=31						
CMAR	**Chiang Mai Arr**	**64.17**	**295**	P	**P**	**04 48 28.4**	**+1.0**
	0.8nm,0.3s,baz=103,slow=4.0,SNR=3.3						
SONM	**Songino Array**	**72.51**	**326**	P	**P**	**04 49 19.0**	**-

MJAR	Matsushiro Arr	39.48	20	P		P	04 54 05.0	-1.4
MJAR	Matsushiro Arr	39.48	20	P		P	04 54 05.0	-1.4
	2.6nm,0.8s,baz=192,slow=9.5,SNR=9.4							
ARPS	Mount Arapiles	40.25	156	P		P	04 54 14.1	+1.4
	baz=40,SNR=8.7							
LSA	Lhasa	42.50	318	*eP*		P	04 54 33.9	+2.0
	6.5nm,0.6s							
ODAN	Odare	43.53	311	*eP*		P	04 54 40.6	+0.7
	19nm,0.8s							
TAPN	Taplejung	43.55	312	*eP*		P	04 54 40.7	+0.5
	10nm,0.5s							
RAMN	Ramite	44.17	311	*eP*		P	04 54 46.3	+1.2
	17nm,0.5s							
JIRN	Jiri	44.85	311	*eP*		P	04 54 51.4	+0.7
	17nm,0.5s							
GTA	Gaotai	44.87	335	*eP*		P	04 54 52.4	+2.0
GTA				pP		pP	04 54 59.1	-10
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
USRK	Ussuriysk Arra	45.19	9	P		P	04 54 51.7	-0.9
	1.5nm,0.6s,baz=194,slow=6.8,SNR=5.5							
GUN	Gumba	45.22	312	*eP*		P	04 54 54.5	+0.9
	20nm,0.5s							
PKI	Pulchoki	45.40	311	*eP*		P	04 54 55.5	+0.5
	8.2nm,0.6s							
DMN	Daman	45.65	311	*eP*		P	04 54 57.6	+0.8
	8.7nm,0.5s							
GKN	Gorkha	46.20	311	*eP*		P	04 55 01.8	+0.7
	10nm,0.5s							
KOLN	Koldanda	46.88	310	*eP*		P	04 55 07.3	+0.9
	21nm,0.8s							
DANN	Dangsing	47.05	311	*eP*		P	04 55 08.5	+0.6
	24nm,0.5s							
PYUN	Piuthan	47.51	310	*eP*		P	04 55 12.4	+1.1
	27nm,0.5s							
ASAJ	Asahikawa	47.75	19	P		P	04 55 12.1	-0.6
ASAJ	Asahikawa	47.75	19	P		P	04 55 12.1	-0.6
	9.0nm,0.8s,baz=283,slow=18,SNR=5.2							
ULN	Ulaanbaatar	50.01	346	*eP*		P	04 55 30.3	+0.2
	3.2nm,0.8s							
SONM	Songino Array	50.14	346	P		P	04 55 31.9	+0.9
SONM	Songino Array	50.14	346	P		P	04 55 31.9	+0.9
	2.5nm,0.8s,baz=165,slow=7.9,SNR=18							
KSH	Kashi	58.34	319	P		P	04 56 33.1	+2.3
KSH				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,140nm,7.0s							
KSH				LR		LR		
	comp=N,84nm,6.1s							
KSH				LR		LR		
	comp=E,85nm,4.1s							
MK31	Makanchi Array	58.85	329	*eP*		P	04 56 34.0	-0.1
MKAR	Makanchi Array	58.85	329	P		P	04 56 34.3	+0.2
MKAR	Makanchi Array	58.85	329	P		P	04 56 34.3	+0.2
	3.2nm,0.4s,baz=122,slow=8.8,SNR=9.3							
AAK	Ala-Archa	60.91	321	P		P	04 56 49.9	+1.4
AAK	Ala-Archa	60.91	321	P		P	04 56 49.9	+1.4
	1.0nm,0.4s,baz=159,slow=6.6,SNR=3.5							
ZALV	Zalesovo Beam	62.60	336	P		P	04 56 57.9	-1.5
ZALV	Zalesovo Beam	62.60	336	P		P	04 56 57.9	-1.5
	0.9nm,0.7s,baz=124,slow=7.2,SNR=2.9							
KURBB	Kurchatov Arra	63.21	330	P		P	04 57 02.8	-0.7
	1.0nm,0.7s,baz=137,slow=5.8,SNR=13							
KURK	Kurchatov	63.23	330	*eP*		P	04 57 03.0	-0.6
	2.0nm,0.6s							
BVAR	Borovoye Array	68.72	329	P		P	04 57 38.5	-0.4
BVAR	Borovoye Array	68.72	329	P		P	04 57 38.5	-0.4
	0.4nm,0.4s,baz=146,slow=4.0,SNR=3.3							
VNDA	Vanda	79.86	172	P		P	04 58 44.7	+1.7
VNDA	Vanda	79.86	172	P		P	04 58 44.7	+1.7
	5.2nm,0.7s,baz=314,slow=6.5,SNR=14							
ILAR	Eielson Array	90.53	25	P		P	04 59 34.0	-2.6
ILAR	Eielson Array	90.53	25	P		P	04 59 34.0	-2.6
	0.3nm,0.6s,baz=244,slow=5.6,SNR=5.8							
AKASG	Malin Array Be	92.58	321	P		P	04 59 44.6	-1.7
AKASG	Malin Array Be	92.58	321	P		P	04 59 44.7	-1.7
	0.1nm,0.3s,baz=79,slow=4.7,SNR=4.1							
PDAR	Pinedale Array	117.07	41	PKP		PKPdf	05 05 19.7	-0.4
PDAR	Pinedale Array	117.07	41	PKP		PKPdf	05 05 19.7	-0.4
	0.5nm,0.9s,baz=298,slow=1.9,SNR=2.9							
TORD	Torodi Ar. Bea	120.29	285	PKP		PKPdf	05 05 25.6	-1.2
TORD	Torodi Ar. Bea	120.29	285	PKP		PKPdf	05 05 25.6	-1.2
	0.5nm,0.7s,baz=81,slow=3.7,SNR=3.5							

*ISCJB **04** 04:51:01.9±0.6,52°27'N±0'.09×171°21'W±0'.05,h57km±4km, mb4.0/30,Error ellipse: s-maj=15.8km s-min=3.4km az=163.4*

*IDC **04** 04:51:03.0±2.9,52°28'N×171°30'W,h49km±25km,mb3.8/24, mb1 4.0/26,mb1mx3.9/33,mbtmp3.8/26,ML4.0/2,Error ellipse: s-maj=20.6km s-min=11.2km az=175.0*

*NEIC **04** 04:51:02.9±0.6,52°15'N×171°18'W,h54km±5km,mb4.3/3, ML3.9(AEIC),Error ellipse: s-maj=12.1km s-min=4.4km az=164.0*

ISC 04 04:51:03.1±1.3,52°2'N±0'.1×171°18'W±0'.04,h52km±9km, n88,σ1°93/100,mb4.1/30,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.61	61	P	Pn	04 51 27.2	-1.9
NIKH				S	Sn	04 51 46.4	-2.3
OKFG	Magazine Ridge	2.31	58	P	Pn	04 51 38.5	-0.2
OKFG				S	Sn	04 52 05.3	-0.7
GSMY	Great Sitkin M	3.01	269	P	Pn	04 51 48.5	+0.2
GSMY				S	Sn	04 52 23.0	-0.1
MSOM	Makushin Julie	3.02	56	P	Pn	04 51 48.2	-0.1
MSOM				S	Sn	04 52 21.8	-1.4
GSTD	Great Sitkin T	3.06	269	P	Pn	04 51 49.0	-0.1
GSTD				S	Sn	04 52 24.6	+0.2
GSCK	Great Sitkin C	3.08	268	P	Pn	04 51 48.5	-0.7
GSCK				S	Sn	04 52 24.5	-0.2
MSW	Makushin Switc	3.15	56	P	Pn	04 51 49.1	-1.1
MSW				S	Sn	04 52 26.5	0.0
ETKA	Kagalaska Isla	3.25	266	P	Pn	04 51 51.5	-0.1
UNV	Unalaska Valle	3.26	58	*e*Pn	Pn	04 51 53.4	+1.7
UNV				*e*S	Sn	04 52 31.0	+1.9
ADAG	Mount Adagdak	3.35	268	P	Pn	04 51 53.5	+0.5
ADAG				S	Sn	04 52 33.2	+1.7
ZRO	Akutan Zero	3.65	57	P	Pn	04 51 56.3	-0.8
AKGG	Akutan Green G	3.70	56	P	Pn	04 51 58.3	+0.6
AHB	Akutan Harbor	3.75	57	P	Pn	04 51 57.9	-0.5
AKUT	Akutan	3.78	57	Pn	Pn	04 51 55.2	-3.5
AKUT				*e*S	Sn	04 52 45.2	+3.4
GAMB	Gambell	11.59	359	*e*Pn	Pn	04 53 47.7	+2.1
TNA	Tin City	13.48	6	*e*Pn	P	04 54 14.6	-4.5
	7.7nm,0.9s						
TRF	Thorofare Moun	15.73	36	*e*Pn	P	04 54 45.3	+1.0
ILAR	Eielson Array	17.71	35	P	Pn	04 55 04.1	-1.6
ILAR	Eielson Array	17.71	35	P	Pn	04 55 04.1	-1.6
	0.2nm,0.3s,baz=232,slow=10,SNR=12						
PETK	Petropavlovsk-	18.82	285	P	P	04 55 17.6	-0.7
PETK	Petropavlovsk-	18.82	285	P	P	04 55 17.6	-0.7
	0.6nm,0.3s,baz=92,slow=14,SNR=7.9						
HYT	Haines Junctio	20.27	52	*e*P	Pn	04 55 35.8	-0.7
SEY	Seymchan	21.96	313	P	P	04 55 52.0	0.0
SEY	Seymchan	21.96	313	P	P	04 55 52.0	0.0
	4.1nm,0.8s,baz=94,slow=12,SNR=11						
DLBC	Dease Lake	23.91	59	P	P	04 56 13.2	+1.3
DLBC	Dease Lake	23.91	59	P	P	04 56 13.2	+1.3
	2.0nm,0.4s,baz=256,slow=7.3,SNR=14						
INK	Inuvik	24.09	34	*e*P	P	04 56 13.1	-0.2
INK				PcP	PcP	04 59 53.5	+0.5
INK	Inuvik	24.09	34	P	P	04 56 12.7	-0.5
	2.6nm,0.4s,baz=257,slow=7.6,SNR=32						
INK				PcP	PcP	04 59 53.5	+0.5
	0.5nm,0.4s,baz=270,slow=3.9,SNR=5.7						
YKA	Yellowknife Ar	31.18	48	P	P	04 57 17.2	+0.5
YKA				PcP	PcP	05 00 11.2	+1.0
YKA	Yellowknife Ar	31.18	48	P	P	04 57 17.2	+0.5
	0.7nm,0.3s,baz=273,slow=7.8,SNR=25						
YKA				PcP	PcP	05 00 11.2	+1.0
	0.5nm,0.7s,baz=279,slow=2.7,SNR=8.9						
H11N2	WAKE ISLAND Hy	36.66	216	T	T	05 36 41.5	
	baz=17						
H11N3	WAKE ISLAND Hy	36.67	216	T	T	05 36 41.3	
	baz=17						
H11N1	WAKE ISLAND Hy	36.68	216	T	T	05 36 46.9	
	baz=17						
H11S1	WAKE ISLAND Hy	37.86	216	T	T	05 38 50.3	
	baz=23,slow=78,SNR=16						
H11S2	WAKE ISLAND Hy	37.87	216	T	T	05 38 34.8	
	baz=23,slow=78,SNR=11						
H11S3	WAKE ISLAND Hy	37.87	216	T	T	05 38 31.8	
	baz=23,slow=78,SNR=14						
MJAR	Matsushiro Arr	38.58	266	P	P	04 58 20.4	-0.4
MJAR	Matsushiro Arr	38.58	266	P	P	04 58 20.4	-0.4
	1.1nm,0.7s,baz=62,slow=7.0,SNR=4.0						
NVAR	Mina Array Bea	38.78	89	P	P	04 58 24.2	+1.5
NVAR				ScP	ScP	05 04 17.6	+1.0
NVAR	Mina Array Bea	38.78	89	P	P	04 58 24.2	+1.5
	0.3nm,0.6s,baz=283,slow=8.2,SNR=3.0						
NVAR				ScP	ScP	05 04 17.6	+1.0
	0.1nm,0.4s,baz=288,slow=4.9,SNR=4.3						
PDAR	Pinedale Array	41.52	78	P	P	04 58 46.0	+0.6
PDAR	Pinedale Array	41.52	78	P	P	04 58 46.0	+0.6
	1.0nm,0.7s,baz=301,slow=4.2,SNR=8.2						
FCC	Fort Churchill	41.89	50	*e*P	P	04 58 48.3	+0.5
	0.3nm,0.9s						
KSRS	Korea Array	44.31	276	P	P	04 59 07.8	+0.1
	2.6nm,0.9s,baz=44,slow=9.5,SNR=5.2						
KSAR	Wonju Array Be	44.34	276	P	P	04 59 07.8	-0.1
SONM	Songino Array	50.41	300	P	P	04 59 54.9	-0.2
SONM				PcP	PcP	05 01 12.6	-0.2
SONM	Songino Array	50.41	300	P	P	04 59 54.9	-0.2
	0.7nm,0.3s,baz=59,slow=6.1,SNR=17						
SONM				PcP	PcP	05 01 12.6	-0.2
	0.3nm,0.3s,baz=99,slow=2.4,SNR=4.7						
TXAR	Lajitas Array	53.87	87	P	P	05 00 20.9	0.0
TXAR	Lajitas Array	53.87	87	P	P	05 00 20.9	0.0
	0.6nm,0.8s,baz=268,slow=4.5,SNR=3.9						
SCHQ	Schefferville	56.30	42	P	P	05 00 37.9	-0.1
SCHQ	Schefferville	56.30	42	P	P	05 00 37.9	-0.1
	5.2nm,0.8s,baz=242,slow=15,SNR=3.9						
ZALV	Zalesovo Beam	56.77	317	P	P	05 00 39.8	-1.6
ZALV				PcP	PcP	05 01 36.3	-0.4
ZALV	Zalesovo Beam	56.77	317	P	P	05 00 39.8	-1.6
	0.6nm,0.5s,baz=38,slow=7.4,SNR=3.7						
ZALV				PcP	PcP	05 01 36.3	-0.4
	1.0nm,0.6s,baz=46,slow=6.4,SNR=4.4						
KEV	Kevo	57.61	353	*ep*	P	05 00 46.2	-0.8
	0.4nm,0.3s						
ARCES	ARCESS Array B	57.94	353	P	P	05 00 49.0	-0.4
ARCES				PcP	PcP	05 01 40.6	-0.4
ARCES	ARCESS Array B	57.94	353	P	P	05 00 49.0	-0.4
	4.1nm,0.8s,baz=17,slow=7.6,SNR=15						
ARCES				PcP	PcP	05 01 40.6	-0.4
	1.4nm,0.5s,baz=14,slow=4.6,SNR=5.4						
KURK	Kurchatov	61.74	317	*e*P	P	05 01 15.3	-0.4
	1.6nm,0.5s						
KURK				PcP	PcP	05 01 56.7	+0.3
KURBB	Kurchatov Arra	61.84	317	P	P	05 01 16.1	-0.3
	1.5nm,0.4s,baz=44,slow=8.0,SNR=18						
KURBB				PcP	PcP	05 01 56.7	-0.2
	0.6nm,0.4s,baz=34,slow=3.6,SNR=7.1						
MKAR	Makanchi Array	63.09	312	P	P	05 01 24.1	-0.7
MKAR	Makanchi Array	63.09	312	P	P	05 01 24.1	-0.7
	1.4nm,0.3s,baz=71,slow=7.9,SNR=9.2						
JOF	Joensuu	63.84	349	*ep*	P	05 01 28.7	-0.8
	2.5nm,0.4s						
KAF	Kangasniemi	65.17	351	*ep*	P	05 01 37.9	-0.2
	0.9nm,0.4s						
FINES	FINESS Array B	65.85	351	P	P	05 01 41.7	-0.8
FINES				PcP	PcP	05 02 12.9	-0.2
FINES	FINESS Array B	65.85	351	P	P	05 01 41.7	-0.8
	1.0nm,0.4s,baz=22,slow=7.9,SNR=13						
FINES				PcP	PcP	05 02 12.9	-0.2
	2.2nm,0.9s,baz=57,slow=7.0,SNR=5.1						
NOA	NORSAR Array B	67.07	359	P	P	05 01 50.4	0.0
NOA	NORSAR Array B	67.07	359	P	P	05 01 50.4	0.0
	0.6nm,0.6s,baz=2.2,slow=6.4,SNR=3.0						
AAK	Ala-Archa	69.82	314	*eP*	P	05 02 08.1	+0.1
	1.7nm,0.4s						
AAK	Ala-Archa	69.82	314	P	P	05 02 08.2	+0.1
	3.3nm,0.3s,baz=108,slow=3.1,SNR=12						
ABKAR	Akbulak array	69.96	327	*eP*	P	05 02 08.0	-0.5
	1.9nm,0.4s						
CMAR	Chiang Mai Arr	75.56	281	P	P	05 02 42.8	+0.5
CMAR	Chiang Mai Arr	75.56	281	P	P	05 02 42.8	+0.5
	4.7nm,0.6s,baz=25,slow=6.4,SNR=18						
AKASG	Malin Array Be	76.01	347	P	P	05 02 42.9	-1.3
AKASG	Malin Array Be	76.01	347	P	P	05 02 42.9	-1.3
	0.8nm,0.4s,baz=16,slow=5.8,SNR=11						
GERES	GERESS Array B	79.22	357	P	P	05 03 02.6	+0.2
GERES	GERESS Array B	79.22	357	P	P	05 03 02.6	+0.2
	0.6nm,0.8s,baz=15,slow=5.5,SNR=5.4						
BUR08	Bucovina Ar. S	79.53	349	*eP*	P	05 03 03.8	-0.3
WRA	Warramunga Arr	86.05	230	P	P	05 03 36.4	-1.6
WRA	Warramunga Arr	86.05	230	P	P	05 03 36.4	-1.6
	0.6nm,0.7s,baz=35,slow=6.0,SNR=5.2						
ESDC	Sonseca Array	87.81	10	P	P	05 03 46.6	+0.1
ESDC	Sonseca Array	87.81	10	P	P	05 03 46.6	+0.1
	0.8nm,0.6s,baz=354,slow=4.3,SNR=6.0						
ASAR	Alice Springs	89.45	229	P	P	05 03 53.4	-0.8
ASAR	Alice Springs	89.45	229	P	P	05 03 53.4	-0.8
	2.1nm,0.6s,baz=26,slow=4.9,SNR=34						
TORD	Torodi Ar. Bea	114.61	8	PKP	PKPdf	05 09 36.4	-1.2
TORD	Torodi Ar. Bea	114.61	8	PKP	PKPdf	05 09 36.4	-1.2
	0.2nm,0.4s,baz=352,slow=3.1,SNR=6.9						
H03N2	Juan Fernandez	116.91	110	T	T	07 17 24.2	
	baz=319,slow=75						
H03N1	Juan Fernandez	116.92	110	T	T	07 17 46.6	
	baz=319,slow=75						
H03N3	Juan Fernandez	116.93	110	T	T	07 17 46.9	
	baz=319						
LBTB	Lobatse	149.99	328	*e*PKPbc	PKPbc	05 10 48.3	+0.6

*IDC **04** 05:01:40.8±0.9,8°.65S×157°.10E,h0km,mb4.3/6, mb1 4.4/7,mb1mx4.1/19,mbtmp4.3/7,ML4.2/1,MS3.7/2, Ms1 3.7/2,ms1mx3.1/28,Error ellipse: s-maj=26.1km s-min=16.5km az=12.0*

*ISCJB **04** 05:01:42.6±0.7,8°.6S±0°.1×156°.99E±0°.09,h19km,mb4.3/9, MS3.6/2,Error ellipse: s-maj=15.9km s-min=12.4km az=170.5*

*NEIC **04** 05:01:46.0±0.5,8°.66S×157°.08E,h35km,mb4.6/4,Error ellipse: s-maj=12.1km s-min=9.2km az=173.0*

ISC 04 05:01:43.6±0.7,8°.7S±0°.1×157°.18E±0°.06,h19km,n24, σ1°07/26,mb4.5/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.84	106	Pn	Pn	05 02 30.1	+2.2
HNR				Lg	Lg	05 03 11.9	
HNR	Honiara	2.84	106	Pn	Pn	05 02 30.1	+2.2
	32nm,0.3s,baz=295,slow=2.2,SNR=9.3						
HNR				Lg	Lg	05 03 11.9	
	33nm,0.3s,baz=232,slow=19,SNR=4.1						
HNR	Honiara	2.84	106	*i*P	Pb	05 02 32.0	-1.7
HNR				*i*S	Sg	05 03 14.0	-1.0
PMG	Port Moresby	9.92	265	*e*Pn	Pn	05 04 04.8	-0.4
CTAO	Charters Tower	15.51	222	*e*Pn	Pn	05 05 21.7	+0.3
WRAB	Tennant Creek	24.76	241	*e*P	P	05 07 04.3	+0.1
	9.7nm,0.8s						
WRA	Warramunga Arr	24.77	241	P	P	05 07 02.6	-1.8
WRA				PcP	PcP	05 10 41.7	+0.7
WRA	Warramunga Arr	24.77	241	P	P	05 07 02.6	-1.8
	12nm,0.9s,baz=66,slow=9.6,SNR=25						
WRA				PcP	PcP	05 10 41.7	+0.7
	1.0nm,0.9s,baz=72,slow=2.1,SNR=5.6						
WRA				LR	LR	05 15 47.1	
	comp=Z,234nm,19.3s,baz=10.0,slow=34						
ASAR	Alice Springs	26.81	233	P	P	05 07 22.2	-0.7
ASAR	Alice Springs	26.81	233	P	P	05 07 22.2	-0.7
	3.8nm,0.9s,baz=63,slow=8.9,SNR=7.5						
STKA	Stephens Creek	27.26	210	*e*P	P	05 07 26.9	+0.1
	1.7nm,0.9s						
STKA	Stephens Creek	27.26	210	P	P	05 07 27.5	+0.7
	5.5nm,0.7s,baz=28,slow=12,SNR=14						
URZ	Urewera	34.51	152	LR	LR	05 20 16.8	
	comp=Z,86nm,18.6s,baz=296,slow=32						
CMAR	Chiang Mai Arr	63.45	296	P	P	05 12 13.4	+0.7
CMAR	Chiang Mai Arr	63.45	296	P	P	05 12 13.4	+0.7
	0.8nm,0.4s,baz=118,slow=4.2,SNR=8.7						
SONM	Songino Array	71.90	327	P	P	05 13 05.8	+0.1
SONM	Songino Array	71.90	327	P	P	05 13 05.7	+0.1
	0.8nm,0.8s,baz=124,slow=6.4,SNR=6.6						
QSPA	South Pole Qui	81.32	180	*e*P	P	05 13 59.2	+0.5
	12nm,1.2s						
MK31	Makanchi Array	86.08	318	*e*P	P	05 14 23.0	-0.2
MKAR	Makanchi Array	86.08	318	P	P	05 14 22.2	-1.1
MKAR	Makanchi Array	86.08	318	P	P	05 14 22.2	-1.1
	2.4nm,0.5s,baz=101,slow=2.9,SNR=8.3						
KURK	Kurchatov	89.47	321	*e*P	P	05 14 38.8	-0.6
	12nm,2.1s						
BDFB	Brasilia	145.28	134	PKPbc	PKPbc	05 21 20.8	-0.2
BDFB	Brasilia	145.28	134	PKPbc	PKPbc	05 21 20.8	-0.2
	4.9nm,0.8s,baz=184,slow=9.7,SNR=8.5						

*IDC **04** 05:04:42.8±1.2,3°.45S×103°.34W,h0km,mb3.7/10, mb1 4.0/10,mb1mx3.9/22,mbtmp3.8/10,MS4.0/5, Ms1 4.1/5,ms1mx3.7/28,Error ellipse: s-maj=48.9km s-min=23.6km az=64.0*

ISC 04 05:04:44.2±1.2,3°.5S±0°.2×103°.3W±0°.3,h10km,n24, σ1°66/12,mb4.0/10,MS4.1/5,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	22.38	34	P	P	05 09 43.7	+0.6
	4.9nm,0.9s,baz=206,slow=16,SNR=4.0						
APG				LR	LR	05 16 21.8	
	comp=Z,529nm,21.0s,baz=294,slow=31						
H03N2	Juan Fernandez	37.49	145	T	T	05 51 54.6	
	baz=322,slow=74,SNR=10						
H03N1	Juan Fernandez	37.51	145	T	T	05 51 52.6	
	baz=322,slow=74,SNR=15						
H03N3	Juan Fernandez	37.51	145	T	T	05 51 55.2	
	baz=322,slow=74,SNR=15						
CFAA	Coronel Fontan	43.23	134	P	P	05 12 44.9	-1.0
	0.1nm,0.4s,baz=278,slow=7.0,SNR=2.8						
NVAR	Mina Array Bea	43.97	343	P	P	05 12 50.2	-1.8
	0.1nm,0.4s,baz=160,slow=16,SNR=3.1						
NVAR				LR	LR	05 27 13.8	
	comp=Z,262nm,18.3s,baz=359,slow=31						
PDAR	Pinedale Array	46.41	354	P	P	05 13 10.8	-0.4
	1.3nm,0.9s,baz=163,slow=5.6,SNR=7.7						
PLCA	Paso Flores	47.37	146	LR	LR	05 27 26.3	
	comp=Z,185nm,19.0s,baz=103,slow=29						
YBH	Yreka Blue Hor	48.36	341	P	P	05 13 24.8	-1.5
	0.4nm,0.3s,baz=102,slow=5.0,SNR=9.0						
ULM	Lac du Bonnet	53.94	6	P	P	05 14 09.1	+1.2
	2.5nm,0.8s,baz=252,slow=6.4,SNR=3.0						
DLBC	Dease Lake	65.34	345	P	P	05 15 28.2	+1.7
	3.4nm,0.9s,baz=157,slow=3.6,SNR=5.4						
YKA	Yellowknife Ar	66.39	354	P	P	05 15 32.0	-1.0
	0.5nm,0.7s,baz=164,slow=5.8,SNR=5.1						
INK	Inuvik	74.68	349	P	P	05 16 23.0	-0.6
	0.8nm,0.8s,baz=142,slow=3.6,SNR=2.5						
ILAR	Eielson Array	75.22	342	P	P	05 16 25.2	-1.7
	2.2nm,0.7s,baz=153,slow=6.0,SNR=6.5						
QSPA	South Pole Qui	86.54	180	LR	LR	05 50 06.5	
	comp=Z,106nm,18.7s,baz=189,slow=32						
SNAA	Sanae	89.99	162	LR	LR	05 50 12.0	
	comp=Z,34nm,18.6s,baz=24,slow=30						
H11N3	WAKE ISLAND Hy	90.94	290	T	T	06 58 05.2	
	baz=100						
H11N2	WAKE ISLAND Hy	90.95	290	T	T	06 58 05.4	
	baz=100						
H11N1	WAKE ISLAND Hy	90.96	290	T	T	06 58 05.7	
	baz=100						
H11S2	WAKE ISLAND Hy	91.06	288	T	T	06 58 11.3	
	baz=96,slow=72,SNR=16						
H11S1	WAKE ISLAND Hy	91.07	288	T	T	06 58 14.6	
	baz=96,slow=72,SNR=10						
H11S3	WAKE ISLAND Hy	91.08	288	T	T	06 58 13.8	
	baz=96,slow=72,SNR=18						
ZALV	Zalesovo Beam	129.28	354	PKP	PKPdf	05 23 55.3	+2.4
	0.3nm,0.4s,baz=327,slow=6.9,SNR=3.1						
CMAR	Chiang Mai Arr	153.62	306	PKPbc	PKPbc	05 24 46.2	+1.9
	1.1nm,0.4s,baz=343,slow=0.6,SNR=8.9						

*IDC **04** 05:09:25.4±0.7,8°.54S×157°.11E,h0km,mb4.3/9, mb1 4.4/10,mb1mx4.2/19,mbtmp4.3/10,ML4.3/1,Error ellipse: s-maj=20.3km s-min=16.1km az=15.0*

*ISCJB **04** 05:09:27.1±0.6,8°.6S±0°.1×157°.01E±0°.10,h19km, mb4.2/11,Error ellipse: s-maj=15.1km s-min=13.2km az=154.2*

*NEIC **04** 05:09:30.4±0.4,8°.59S×157°.08E,h35km,mb4.3/3,Error ellipse: s-maj=12.7km s-min=10.5km az=166.0*

ISC 04 05:09:28.6±0.6,8°.5S±0°.1×157°.1E±0°.1,h19km,n31, σ1°13/31,mb4.3/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.96	108	Pn	Pn	05 10 15.7	+1.1
HNR				Lg	Lg	05 10 58.5	
HNR	Honiara	2.96	108	Pn	Pn	05 10 15.7	+1.1
	41nm,0.3s,baz=224,slow=8.9,SNR=7.4						
HNR				Lg	Lg	05 10 58.5	
	66nm,0.3s,baz=126,slow=22,SNR=7.4						
CTA	Charters Tower	15.57	221	Pn	P	05 13 13.1	+1.7
CTA	Charters Tower	15.57	221	Pn	P	05 13 13.1	+1.7
	0.1nm,0.3s,baz=54,slow=15,SNR=4.5						
WRAB	Tennant Creek	24.76	240	*e*P	P	05 14 49.2	-0.2
	18nm,0.8s						
WRA	Warramunga Arr	24.78	240	P	P	05 14 49.0	-0.5
WRA				PcP	PcP	05 18 25.9	-0.1
WRA	Warramunga Arr	24.78	240	P	P	05 14 49.0	-0.5
	16nm,0.8s,baz=65,slow=9

*BJI **04** 05:41:21.2,8.45S×157.57E,h42km,mB5.2/15,mb4.8/22, Ms5.0/9,Ms7 4.8/7*

ISC 04 05:41:17.0±0.4,8.92S±0.08×157.74E±0.05,h17km,n101, σ1§94/109,mb4.9/36,MS4.1/10,1C-1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.23**	**103**	*e*Pn	**Pn**	**05 41 50.8**	**-2.5**
HNR				Sn	**Sn**	**05 42 14.9**	**-5.6**
HNR				Lg	Lg	05 42 27.2	
HNR	**Honiara**	**2.23**	**103**	*i* Pn	**Pn**	**05 41 50.9**	**-2.4**
	46nm,0.3s,baz=261,slow=5.7,SNR=22						
HNR				Lg	Lg	05 42 27.2	
	317nm,0.3s,baz=146,slow=18,SNR=12						
HNR				LR	LR	05 42 50.7	
	comp=Z,757nm,18.6s,baz=311,slow=43						
HNR	**Honiara**	**2.23**	**103**	*i* P	Pg	05 42 10.1	+10
HNR				*i* S	**Sg**	**05 42 33.6**	**+4.6**
PMG	**Port Moresby**	**10.46**	**267**	*e*Pn	Pn	05 43 50.5	+4.2
PMG	**Port Moresby**	**10.46**	**267**	LR	LR	05 47 38.4	
	comp=Z,335nm,20.3s,baz=96,slow=37						
COEN	**Coen**	**15.13**	**249**	*e*Pn	**Pn**	**05 44 51.0**	**+0.8**
COEN				*e*Sn	Sn	05 47 26.2	-11
CTA	**Charters Tower**	**15.70**	**224**	Pn	**Pn**	**05 44 56.2**	**-1.4**
CTA	**Charters Tower**	**15.70**	**224**	Pn	**Pn**	**05 44 56.2**	**-1.4**
	0.2nm,0.3s,baz=44,slow=12,SNR=4.0						
CTAO	**Charters Tower**	**15.70**	**224**	*e*Pn	**Pn**	**05 44 56.4**	**-1.2**
	20nm,1.4s						
TARA	**Tarawa**	**18.25**	**57**	*e*P	**Pn**	**05 45 30.4**	**+0.6**
	26nm,0.3s						
WRAB	**Tennant Creek**	**25.12**	**242**	P	**P**	**05 46 41.0**	**-0.3**
	108nm,0.7s,SNR=11						
WRAB	**Tennant Creek**	**25.12**	**242**	*e*P	**P**	**05 46 41.2**	**-0.1**
	137nm,2.2s						
WRA	**Warramunga Arr**	**25.14**	**242**	P	**P**	**05 46 41.4**	**-0.1**
WRA				PcP	**PcP**	**05 50 17.7**	**+2.0**
WRA	**Warramunga Arr**	**25.14**	**242**	P	**P**	**05 46 41.4**	**-0.1**
	5.8nm,0.7s,baz=67,slow=9.7,SNR=20						
WRA				PcP	**PcP**	**05 50 17.7**	**+2.0**
	1.6nm,1.0s,baz=92,slow=2.9,SNR=4.8						
WRA				LR	LR	05 55 51.3	
	comp=Z,212nm,21.4s,baz=25,slow=35						
AS31	**Alice Springs**	**27.11**	**234**	*e*P	**P**	**05 46 58.8**	**-0.5**
ASAR	**Alice Springs**	**27.11**	**234**	P	**P**	**05 46 58.0**	**-1.3**
ASAR	**Alice Springs**	**27.11**	**234**	P	**P**	**05 46 58.0**	**-1.3**
	1.5nm,0.9s,baz=69,slow=8.9,SNR=13						
ASAR				LR	LR	05 57 48.2	
	comp=Z,115nm,19.6s,baz=70,slow=37						
STKA	**Stephens Creek**	**27.32**	**211**	*e*P	**P**	**05 47 03.0**	**+1.9**
	17nm,2.1s						
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**05 47 03.2**	**+2.1**
	6.4nm,0.7s,baz=26,slow=9.4,SNR=23						
STKA				LR	LR	05 58 10.6	
	comp=Z,115nm,18.7s,baz=18,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.64**	**18**	T	T	06 15 53.2	
	baz=199,slow=78,SNR=30						
H11S2	**WAKE ISLAND Hy**	**28.64**	**18**	T	T	06 15 44.8	
	baz=199,slow=78,SNR=38						
H11S1	**WAKE ISLAND Hy**	**28.65**	**18**	T	T	06 15 50.1	
	baz=199,slow=78,SNR=19						
FITZ	**Fitzroy Crossi**	**32.47**	**250**	LR	LR	06 00 28.2	
	comp=Z,137nm,18.4s,baz=98,slow=36						
SNZO	**South Karori**	**35.58**	**158**	*e*P	**P**	**05 48 12.0**	**-1.6**
	229nm,1.3s						
RPZ	**Rata Peaks**	**36.55**	**164**	LR	LR	06 02 39.4	
	comp=Z,234nm,20.6s,baz=142,slow=35						
NJ2	**Nanjing**	**55.13**	**319**	*e*P	**P**	**05 50 48.7**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	**Mudanjiang**	**59.05**	**337**	P	**P**	**05 51 16.4**	**+0.3**
MDJ				pP	**pP**	**05 51 25.6**	**+4.0**
MDJ				sP	sP	05 51 29.5	+5.8
MDJ				ScP	**ScP**	**05 56 03.4**	**-1.6**
MDJ				PcS	**PcS**	**05 56 07.1**	**+0.5**
MDJ				S	**S**	**05 59 21.2**	**-1.1**
MDJ				sS	sS	05 59 36.9	+5.6
MDJ				pmax	pmax		
	comp=Z,150nm,5.5s						
CN2	**Changchun**	**60.10**	**333**	⇓P	**P**	**05 51 23.6**	**+0.2**
CN2				*e*sP	sP	05 51 38.5	+7.5
CN2				*e*S	**S**	**05 59 32.1**	**-3.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,17.0s						
CN2				LR	LR		
	comp=E,500nm,17.0s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
GYA	**Guiyang**	**60.78**	**307**	⇑*i*P	**P**	**05 51 29.0**	**+0.4**
GYA				pP	pP	05 51 39.6	+5.5
GYA				PP	**PP**	**05 53 45.8**	**+3.1**
GYA				ScP	**ScP**	**05 56 09.4**	**-3.9**
GYA				S	**S**	**05 59 41.2**	**-4.3**
GYA				SS	**SS**	**06 03 40.3**	**-4.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.1s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,650nm,19.0s						
GYA				LR	LR		
	comp=E,540nm,20.2s						
GYA				LR	LR		
	comp=Z,620nm,18.9s						
PETK	**Petropavlovsk-**	**61.79**	**360**	P	P	05 51 32.4	-2.3
PETK	**Petropavlovsk-**	**61.79**	**360**	P	P	05 51 32.4	-2.3
	5.9nm,0.9s,baz=151,slow=3.4,SNR=4.2						
BJI	**Beijing**	**62.04**	**325**	P	**P**	**05 51 35.5**	**-1.2**
BJI				S	**S**	**05 59 56.2**	**-4.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KMI	**Kunming**	**63.34**	**304**	P	**P**	**05 51 48.6**	**+2.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P	**P**	**05 51 50.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P	**P**	**05 51 50.2**	**-0.3**
	1.5nm,0.8s,baz=123,slow=4.2,SNR=6.9						
CD2	**Chengdu**	**65.13**	**310**	*e*P	**P**	**05 51 58.0**	**+0.6**
CD2				pP	pP	05 52 09.0	+6.1
CD2				sP	sP	05 52 13.0	+8.1
CD2				PP	**PP**	**05 54 22.8**	**+1.9**
CD2				S	**S**	**06 00 35.5**	**-4.2**
CD2				sS	**sS**	**06 00 53.1**	**+4.3**
CD2				SS	**SS**	**06 04 49.0**	**-3.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,70nm,6.0s						
CD2				LR	LR		
	comp=E,130nm,13.1s						
CD2				LR	LR		
	comp=Z,100nm,13.1s						
HHC	**Hu-ho-hao-te**	**65.25**	**323**	*e*P	**P**	**05 51 57.2**	**-0.8**
HHC				PP	**PP**	**05 54 19.7**	**-2.2**
HHC				S	S	06 00 33.0	-8.0
HHC				ScS	**SKSac**	**06 01 49.5**	**-3.2**
HHC				SS	SS	06 04 48.3	-5.9
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.4s						
HHC				LR	LR		
	comp=N,210nm,9.6s						
HHC				LR	LR		
	comp=E,260nm,14.9s						
HHC				LR	LR		
	comp=Z,190nm,12.6s						
LZH	**Lanzhou**	**67.59**	**315**	*e*P	**P**	**05 52 14.3**	**+1.1**
LZH				pP	pP	05 52 24.8	+6.1
LZH				sP	sP	05 52 28.5	+7.7
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,5.0s						
GTA	**Gaotai**	**72.00**	**316**	*e*P	P	05 52 47.2	+7.0
GTA				pP	**PcP**	**05 52 57.6**	**-1.2**
GTA				sP	sP	05 53 01.7	+14
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
SONM	**Songino Array**	**72.43**	**327**	P	**P**	**05 52 43.7**	**+1.1**
SONM	**Songino Array**	**72.43**	**327**	P	**P**	**05 52 43.7**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=275,slow=16,SNR=8.8						
TNA	**Tin City**	**78.50**	**14**	*e*P	**P**	**05 53 17.6**	**+0.7**
	comp=Z,80nm,2.8s						
QSPA	**South Pole Qui**	**81.06**	**180**	P	**P**	**05 53 30.9**	**-0.2**
QSPA	**South Pole Qui**	**81.06**	**180**	P	**P**	**05 53 30.9**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=53,slow=1.3,SNR=5.0						
KTH	**Kantishna Hill**	**82.03**	**21**	*e*P	**P**	**05 53 35.1**	**-1.0**
	comp=Z,393nm,2.2s						
WMQ	**Urumqi**	**82.08**	**317**	P	**P**	**05 53 37.1**	**+0.3**
WMQ				pP	**pP**	**05 53 47.5**	**+5.0**
WMQ				sP	sP	05 53 51.5	+7.0
WMQ				LR	LR		
	comp=Z,59nm,18.3s						
WMQ				LR	LR		
	comp=Z,71nm,14.7s						
TRF	**Thorofare Moun**	**82.19**	**21**	*e*P	**P**	**05 53 36.1**	**-1.0**
	comp=Z,97nm,2.4s						
MCK	**McKinley**	**82.84**	**21**	*e*P	**P**	**05 53 40.0**	**-0.2**
	comp=Z,29nm,1.0s						
COLA	**College**	**83.90**	**20**	*e*P	**P**	**05 53 45.2**	**-0.4**
	comp=Z,4.1nm,0.9s						
ILAR	**Eielson Array**	**84.18**	**21**	P	**P**	**05 53 46.0**	**-1.0**
ILAR	**Eielson Array**	**84.18**	**21**	P	**P**	**05 53 46.0**	**-1.0**
	comp=Z,5.1nm,1.0s,baz=268,slow=4.7,SNR=28						
DAWY	**Dawson**	**86.57**	**23**	*e*P	**P**	**05 54 01.0**	**+1.9**
MK31	**Makanchi Array**	**86.64**	**318**	*e*P	**P**	**05 53 59.5**	**-0.3**
MKAR	**Makanchi Array**	**86.64**	**318**	*e*P	**P**	**05 53 59.9**	**+0.1**
MKAR	**Makanchi Array**	**86.64**	**318**	P	**P**	**05 53 59.7**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=103,slow=6.5,SNR=5.5						
M02C	**Callahan**	**87.98**	**48**	P	**P**	**05 54 08.5**	**+2.0**
	baz=88						
J04D	**Umpqua Nationa**	**88.95**	**46**	P	**P**	**05 54 12.2**	**+1.0**
	baz=89						
KSH	**Kashi**	**89.33**	**310**	*e*P	P	05 54 20.4	+7.5
KSH				*e*PP	PP	05 57 55.9	+12
KSH	**Kashi**	**89.33**	**310**	*e*SKS	**SKSac**	**06 04 46.4**	**+3.7**
KSH	**Kashi**	**89.33**	**310**	*e*S	S	06 05 09.5	+7.1
KSH	**Kashi**	**89.33**	**310**	*e*SS	SS	06 11 12.6	+15
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,71nm,5.3s						
KSH				LR	LR		
	comp=N,170nm,6.2s						
KSH				LR	LR		
	comp=E,80nm,5.8s						
KSH				LR	LR		
	comp=Z,130nm,4.4s						
J05D	**Fort Rock, OR**	**89.58**	**46**	P	**P**	**05 54 15.0**	**+0.9**
	baz=90						
VES	**Vestal, Richgr**	**89.68**	**54**	P	**P**	**05 54 15.2**	**+0.7**
	baz=90						
ARVC	**Arvin**	**89.75**	**55**	P	**P**	**05 54 15.8**	**+1.0**
	baz=90						
ISA	**Isabella**	**90.13**	**54**	P	**P**	**05 54 17.4**	**+0.7**
	baz=90						
MWC	**Mount Wilson**	**90.20**	**56**	*e*P	**P**	**05 54 18.7**	**+1.5**
	comp=Z,10nm,1.0s						
EDW2	**Edwards Air Fo**	**90.38**	**55**	P	**P**	**05 54 18.9**	**+1.0**
	baz=90						
MTUM	**Tungsten Hills**	**90.38**	**52**	*e*P	**P**	**05 54 19.7**	**+1.7**
BFSC	**Mount Baldy Ra**	**90.53**	**56**	P	**P**	**05 54 19.8**	**+1.1**
	baz=91						
LRMC	**Laurel Mountai**	**90.73**	**54**	P	**P**	**05 54 20.8**	**+1.2**
	baz=91						
NVAR	**Mina Array Bea**	**90.78**	**51**	P	**P**	**05 54 21.2**	**+1.4**
NVAR	**Mina Array Bea**	**90.78**	**51**	P	**P**	**05 54 21.3**	**+1.4**
	comp=Z,5.1nm,0.9s,baz=254,slow=7.5,SNR=28						
NV11	**Mina Array Sit**	**90.90**	**51**	*e*P	**P**	**05 54 21.5**	**+1.2**
I07A	**Izee**	**90.97**	**46**	*e*P	**P**	**05 54 21.6**	**+1.1**
	comp=Z,39nm,2.3s						
MPMC	**Manual Prospec**	**90.99**	**54**	P	**P**	**05 54 22.2**	**+1.4**
	baz=91						
WVOR	**Wild Horse Val**	**91.28**	**47**	*e*P	**P**	**05 54 23.9**	**+1.9**
	comp=Z,10.0nm,1.3s						
MONP	**Monument Peak**	**91.31**	**57**	P	**P**	**05 54 24.1**	**+1.6**
	baz=91						
GSC	**Goldstone**	**91.41**	**55**	P	**P**	**05 54 24.1**	**+1.4**
	baz=92						
TPH	**Tonopah**	**91.56**	**52**	*e*P	**P**	**05 54 25.0**	**+1.5**
	comp=Z,11nm,1.3s						
FURC	**Furnace Creek,**	**91.56**	**53**	P	**P**	**05 54 24.8**	**+1.6**
	baz=92						
J08A	**Circle Bar Ran**	**91.57**	**46**	*e*P	**P**	**05 54 24.5**	**+1.2**
	comp=Z,8.8nm,1.0s						
HEC	**Hector,Ludlow**	**91.71**	**55**	P	**P**	**05 54 25.4**	**+1.3**
	baz=92						
BELC	**Belle Mtn. Jos**	**91.85**	**56**	P	**P**	**05 54 26.2**	**+1.4**
	baz=92						
SHOC	**Shoshone**	**91.93**	**54**	P	**P**	**05 54 26.3**	**+1.3**
	baz=92						
TPNV	**Topopah Spring**	**92.13**	**53**	*e*P	**P**	**05 54 27.6**	**+1.4**
	comp=Z,4.8nm,0.9s						
TPNV	**Topopah Spring**	**92.13**	**53**	P	**P**	**05 54 27.5**	**+1.4**
	baz=92						
GMRC	**Granite Mounta**	**92.25**	**55**	P	**P**	**05 54 27.4**	**+0.7**
	baz=92						
IRM	**Iron Mountain**	**92.57**	**56**	P	**P**	**05 54 28.6**	**+0.6**
	baz=93						
R11A	**Troy Canyon, C**	**92.87**	**52**	*e*P	**P**	**05 54 30.9**	**+1.4**
	comp=Z,6.8nm,1.3s						
R11A	**Troy Canyon, C**	**92.87**	**52**	P	**P**	**05 54 30.8**	**+1.3**
	baz=93						
HLID	**Hailey**	**94.52**	**47**	P	**P**	**05 54 37.8**	**+0.9**
	baz=95						
DUG	**Dugway**	**95.26**	**50**	P	**P**	**05 54 41.6**	**+1.1**
	baz=95						
MSO	**Missoula**	**95.28**	**44**	P	**P**	**05 54 41.5**	**+1.2**
	baz=95						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**05 54 46.2**	**-0.3**
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**05 54 46.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=262,slow=4.5,SNR=12						
PDAR	**Pinedale Array**	**97.96**	**48**	P	**P**	**05 54 52.9**	**+0.2**
PDAR	**Pinedale Array**	**97.96**	**48**	P	**P**	**05 54 52.9**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=228,slow=3.8,SNR=5.4						
BDFB	**Brasilia**	**144.69**	**134**	PKP	**PKPab**	**06 00 52.9**	**+0.1**
BDFB	**Brasilia**	**144.69**	**134**	PKP	**PKPab**	**06 00 52.9**	**+0.1**
	comp=Z,7.9nm,0.8s,baz=208,slow=1.5,SNR=14						
TORD	**Torodi Ar. Bea**	**156.12**	**282**	PKPbc	PKPdf	06 01 23.4	+12
TORD				PKPab	**PKPab**	**06 01 39.3**	**0.0**
TORD	**Torodi Ar. Bea**	**156.12**	**282**	PKPbc	PKPdf	06 01 23.4	+12
	comp=Z,0.9nm,1.0s,baz=72,slow=1.8,SNR=3.0						
TORD				PKPab	**PKPab**	**06 01 39.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=77,slow=4.4,SNR=3.5						

*IDC **04** 05:46:54.2±1.3,32.06N×84.99E,h0km,mb3.2/4, mb1 3.6/5,mb1mx3.3/25,mbtmp3.4/5,ML3.8/1,MS3.8/1, Ms1 3.9/1,ms1mx2.9/18,Error ellipse: s-maj=38.2km s-min=31.1km az=72.0*

*ISCJB **04** 05:46:59.9±0.9,32.50N±0.07×85.2E±0.2,h16km,mb3.2/4, MS3.8/1,Error ellipse: s-maj=23.2km s-min=9.8km az=7.0*

ISC 04 05:46:58.2±1.0,32.7N±0.1×85.0E±0.1,h16km,n16, σ1§69/14,mb3.3/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**4.45**	**195**	*e*P	**Pn**	**05 48 07.1**	**+1.8**
	80nm,0.5s						
GKN	**Gorkha**	**4.67**	**184**	*e*P	**Pn**	**05 48 10.4**	**+2.2**
	7.8nm,0.3s						
GUN	**Gumba**	**4.81**	**171**	*e*P	**Pn**	**05 48 11.3**	**+1.0**
	9.0nm,0.3s						
PYUN	**Puthan**	**4.89**	**202**	*e*P	**Pn**	**05 48 11.9**	**+0.6**
KOLN	**Koldanda**	**5.05**	**195**	*e*P	**Pn**	**05 48 14.7**	**+1.3**
	26nm,0.5s						
DMN	**Daman**	**5.05**	**179**	*e*P	**Pn**	**05 48 14.0**	**+0.4**
	15nm,0.6s						
PKI	**Pulchoki**	**5.10**	**176**	*e*P	**Pn**	**05 48 15.2**	**+0.9**
	13nm,0.4s						
JIRN	**Jiri**	**5.10**	**168**	*e*P	**Pn**	**05 48 15.8**	**+1.5**
	11nm,0.2s						
TAPN	**Taplejung**	**5.80**	**156**	*e*P	**Pn**	**05 48 24.0**	**+0.2**
	6.2nm,0.3s						
RAMN	**Ramite**	**5.87**	**166**	*e*P	**Pn**	**05 48 24.9**	**+0.1**
	12nm,0.2s						
MKAR	**Makanchi Array**	**14.25**	**352**	Pn	**P**	**05 50 26.3**	**-0.2**
	0.4nm,0.3s,baz=171,slow=14,SNR=9.0						
SONM	**Songino Array**	**22.14**	**41**	P	**P**	**05 51 56.4**	**+3.2**
	0.4nm,0.7s,baz=235,slow=12,SNR=4.3						
NOA	**NORSAR Array B**	**54.28**	**325**	LR	LR	06 21 10.8	
	comp=Z,81nm,20.2s,baz=80,slow=38						
WRA	**Warramunga Arr**	**70.42**	**131**	P	P	05 58 07.5	-4.3
	0.3nm,0.3s,baz=329,slow=5.9,SNR=10.0						
ASAR	**Alice Springs**	**72.90**	**134**	P	**P**	**05 58 24.4**	**-2.3**
	0.2nm,0.5s,baz=332,slow=7.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.48**	**278**	P	**P**	**05 58 51.9**	**-1.4**
	0.1nm,0.4s,baz=70,slow=5.3,SNR=3.3						

IDC 04 05:58:02.1±2.2,16.55S×174.38W,h0km,mb3.8/5, mb1 4.1/7,mb1mx3.9/21,mbtmp3.9/7,ML2.7/2,Error ellipse: s-maj=145.0km s-min=20.4km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.63**	**44**	Pn	Pn	05 58 58.9	-0.8
	5.0nm,0.3s,baz=35,slow=16,SNR=5.2						
DZM	**Mont Dzumac**	**18.91**	**250**	P	Pn	06 02 26.2	+1.1
	0.2nm,0.3s,baz=80,slow=19,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**39.48**	**331**	T	T	06 46 44.0	
	baz=150,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**39.50**	**331**	T	T	06 46 41.6	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**39.50**	**331**	T	T	06 46 46.0	
	baz=150,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**40.46**	**332**	T	T	06 47 55.0	
	baz=154,slow=77,SNR=30						
H11N1	**WAKE ISLAND Hy**	**40.47**	**332**	T	T	06 47 53.2	
	baz=154,slow=77,SNR=56						
H11N2	**WAKE ISLAND Hy**	**40.48**	**332**	T	T	06 47 54.5	
	baz=154,slow=77,SNR=57						
STKA	**Stephens Creek**	**42.66**	**241**	P	P	06 06 00.5	-0.2
	1.4nm,1.0s,baz=121,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**48.87**	**253**	P	P	06 06 49.0	-0.9
	1.6nm,0.7s,baz=86,slow=8.3,SNR=17						
NVAR	**Mina Array Bea**	**75.81**	**42**	P	P	06 09 50.5	+0.1
	0.7nm,0.8s,baz=222,slow=8.3,SNR=5.4						
PDAR	**Pinedale Array**	**83.74**	**42**	P	P	06 10 33.8	+0.3
	1.0nm,1.1s,baz=132,slow=2.2,SNR=3.8						
ILAR	**Eielson Array**	**83.75**	**11**	P	P	06 10 32.9	+0.2
	0.2nm,0.8s,baz=225,slow=5.6,SNR=4.4						

*IDC **04** 06:01:54.7±0.7,14.94S×173.63W,h0km,mb4.2/10, mb1 4.5/10,mb1mx4.2/20,mbtmp4.2/10,MS4.2/15, Ms1 4.2/15,ms1mx4.0/30,Error ellipse: s-maj=37.6km s-min=16.6km az=135.0*

*ISCJB **04** 06:01:57.4±0.3,15.5S±0.1×173.36W±0.07,h33km, mb4.7/60,MS4.3/20,Error ellipse: s-maj=16.1km s-min=7.4km az=155.6*

*BJI **04** 06:01:57.0,15.40S×173.40W,h35km,mB5.5/4,mb4.9/11, Ms5.1/5,Ms7 4.8/5*

*NEIC **04** 06:01:59.0±0.3,15.49S×173.38W,h35km,mb4.8/44, Error ellipse: s-maj=17.7km s-min=6.4km az=141.0*

ISC 04 06:02:00.3±0.5,15.3S±0.1×173.50W±0.10,h42km,n366, σ0§87/348,mb4.8/62,MS4.2/20,96C-148D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**51**	*e*Pn	Pn	06 02 24.4	-9.5
AFI				Sn	Sn	06 02 43.5	-16
AFI	**Afiamalu**	**2.15**	**51**	Pn	Pn	06 02 24.3	-9.5
	16nm,0.3s,baz=102,slow=21,SNR=5.7						
AFI				Sn	Sn	06 02 43.5	-16
	2µm,0.3s,baz=107,slow=21,SNR=31						
RAR	**Rarotonga**	**14.30**	**116**	Pn	Pn	06 05 10.8	-9.5
RAR	**Rarotonga**	**14.30**	**116**	Pn	Pn	06 05 10.8	-9.5
	4.1nm,0.3s,baz=133,slow=0.0,SNR=7.0						
RAR				LR	LR	06 09 19.4	
	comp=Z,710nm,21.2s,baz=135,slow=30						
RAO	**Raoul Island**	**14.49**	**196**	LR	LR	06 09 45.4	
	comp=Z,372nm,21.9s,baz=53,slow=32						
TARA	**Tarawa**	**21.30**	**320**	*e*P	P	06 06 34.9	-8.7
OUZ	**Omahuta**	**22.99**	**208**	PFAKE		06 07 10.0	+8.6
OUZ				LR	LR		
	comp=Z,400nm,19.0s						
PPT	**Papeete**	**23.05**	**99**	LR	LR	06 12 53.6	
	comp=Z,561nm,20.2s,baz=203,slow=28						
URZ	**Urewera**	**24.35**	**198**	*e*P	**P**	**06 07 12.6**	**-1.7**
	comp=Z,42nm,1.2s						
URZ	**Urewera**	**24.35**	**198**	P	**P**	**06 07 17.9**	**+3.6**
	comp=Z,9.7nm,0.8s,baz=0.0,slow=7.1,SNR=3.9						
URZ				LR	LR	06 15 53.1	
	comp=Z,543nm,19.1s,baz=24,slow=34						
HNR	**Honiara**	**26.57**	**280**	*e*P	P	06 07 24.0	-11
HNR	**Honiara**	**26.57**	**280**	LR	LR	06 16 32.4	
	comp=Z,377nm,18.3s,baz=40,slow=33						
SNZO	**South Karori**	**27.88**	**199**	PFAKE		06 08 00.0	+14
SNZO				LR	LR		
	comp=Z,600nm,19.0s						
KHZ	**Kahutara**	**29.25**	**200**	PFAKE		06 08 10.0	+12
KHZ				LR	LR		
	comp=Z,798nm,20.9s						
RPZ	**Rata Peaks**	**31.26**	**202**	LR	LR	06 20 12.0	
	comp=Z,439nm,19.4s,baz=18,slow=35						
H11S2	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	06 50 45.7	
	baz=152,slow=77,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	06 50 48.2	
	baz=152,slow=77,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	06 50 47.2	
	baz=152,slow=77,SNR=19						
H11N3	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	06 51 54.6	
	baz=152,slow=77,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	06 51 51.4	
	baz=152,slow=77,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.78**	**330**	T	T	06 51 56.0	
	baz=152,slow=77,SNR=11						
STKA	**Stephens Creek**	**44.02**	**240**	*e*P	**P**	**06 10 02.4**	**-1.6**
	comp=Z,3.6nm,1.4s						
STKA	**Stephens Creek**	**44.02**	**240**	P	**P**	**06 10 04.0**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=55,slow=9.6,SNR=9.9						
WRAB	**Tennant Creek**	**49.77**	**257**	*e*P	**P**	**06 10 49.5**	**+0.3**
	comp=Z,2.5nm,0.7s						
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**06 10 49.2**	**0.0**
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**06 10 49.2**	**0.0**
	comp=Z,2.2nm,0.9s,baz=91,slow=6.9,SNR=9.9						
WRA				LR	LR	06 30 10.8	
	comp=Z,249nm,20.5s,baz=60,slow=34						
AS31	**Alice Springs**	**50.06**	**252**	*e*P	**P**	**06

baz=75
I04A **Tendick Farm,** 75.03 36 ⇓P P 06 13 38.2 +0.6
baz=75
MOD **Modoc** 75.09 38 eP P 06 13 37.3 -0.8
comp=Z,1.6nm,1.0s
K05A **Summer Lake** 75.23 37 eP P 06 13 39.4 +0.3
comp=Z,15nm,1.3s
J05D **Fort Rock, OR** 75.38 37 ⇓P P 06 13 40.6 +0.8
baz=76
W13A **Hualapai Mount** 75.50 47 ⇑P P 06 13 40.7 0.0
baz=76
PINOR **Pine Mountain** 75.91 36 eP P 06 13 43.5 +0.9
comp=Z,11nm,1.1s
I05D **Terrebonne, OR** 75.97 36 ⇓P P 06 13 44.2 +1.1
baz=76
KSRS **Korea Array** 76.01 316 LR LR 06 40 56.3
comp=Z,115nm,20.8s,baz=254,slow=31
R11A **Troy Canyon, C** 76.04 43 ⇓P P 06 13 44.2 +0.4
baz=76
TUC **Tucson** 76.39 51 eP P 06 13 45.8 +0.1
comp=Z,49nm,2.6s
WVOR **Wild Horse Val** 76.40 39 eP P 06 13 46.0 +0.4
comp=Z,8.7nm,1.3s
I07A **Izee** 76.86 37 eP P 06 13 48.5 +0.3
comp=Z,9.2nm,1.4s
X16A **Lo Mia Camp, P** 76.91 49 ⇑P P 06 13 49.0 +0.3
baz=77
J08A **Circle Bar Ran** 77.03 38 eP P 06 13 49.4 +0.2
comp=Z,8.7nm,1.1s
319A **Douglas** 77.09 52 ⇓P P 06 13 49.6 -0.2
baz=77
CCUT **Cedar City** 77.11 45 eP P 06 13 50.0 +0.1
comp=Z,21nm,1.9s
ARUT **Antelope Range** 77.18 45 eP P 06 13 50.4 +0.2
comp=Z,112nm,1.4s
USRK **Ussuriysk Arra** 77.23 323 LR LR 06 41 47.3
comp=Z,247nm,19.7s,baz=326,slow=31
U15A **North Rim** 77.29 46 ⇑P P 06 13 51.1 +0.1
baz=78
WUAZ **Wupatki** 77.49 48 ⇓P P 06 13 52.2 +0.3
baz=78
320A **Kipp Ranch, An** 77.65 53 ⇑P P 06 13 52.9 -0.1
baz=78
G08A **Pilot Rock** 77.89 36 eP P 06 13 54.0 0.0
comp=Z,7.1nm,1.1s
X18A **Snowflake** 78.04 49 ⇑P P 06 13 55.1 0.0
baz=78
E07A **Sunnyside** 78.16 35 eP P 06 13 55.9 +0.7
comp=Z,12nm,1.3s
MVU **Marysvale** 78.38 45 eP P 06 13 57.7 +0.8
comp=Z,5.1nm,1.0s
MFID **Camas Ranch** 78.65 39 eP P 06 13 58.0 -0.1
comp=Z,41nm,2.5s
121A **Cookes Peak, D** 78.75 52 ⇑P P 06 13 58.7 -0.2
baz=79
DUG **Dugway** 78.84 43 eP P 06 13 59.3 0.0
comp=Z,17nm,1.8s
DUG **Dugway** 78.84 43 ⇓P P 06 13 59.3 0.0
baz=79
MDJ **Mudanjiang** 78.88 322 P P 06 14 01.3 +2.1
MDJ pP **pP** 06 14 10.7 -1.1
MDJ sP **sP** 06 14 14.4 -2.1
MDJ S **S** 06 23 59.7 +5.4
MDJ sS **sS** 06 24 16.0 +0.7
MDJ pmax pmax
comp=Z,8.0nm,1.6s
MDJ pmax pmax
comp=Z,65nm,2.7s
MDJ LR LR
comp=Z,81nm,23.0s
MDJ LR LR
comp=Z,100nm,23.3s
MDJ LR LR
comp=Z,160nm,23.8s
F10A **Beach Ranch, E** 79.28 36 eP P 06 14 01.1 -0.4
comp=Z,63nm,2.3s
TMUT **Trail Mountain** 79.45 44 eP P 06 14 03.4 +0.5
comp=Z,84nm,2.4s
HLID **Hailey** 79.59 39 eP P 06 14 03.3 -0.1
comp=Z,4.8nm,1.0s
HLID **Hailey** 79.59 39 ⇑P P 06 14 03.7 +0.3
baz=80,SNR=10
HVU **Hansel Valley** 79.68 42 eP P 06 14 04.0 +0.1
Z22A **Elephant Butte** 79.68 51 ⇓P P 06 14 03.5 -0.5
baz=80
SRU **San Rafael** 79.83 45 eP P 06 14 04.7 0.0
comp=Z,12nm,1.5s
123A **Bell Site, Whi** 79.95 52 ⇓P P 06 14 05.0 -0.5
baz=80
NJ2 **Nanjing** 80.02 307 eP P 06 14 03.2 -2.5
NJ2 pmax pmax
comp=Z,20nm,1.1s
324A **Moseley Ranch,** 80.05 54 ⇑P P 06 14 05.7 -0.4
baz=80
425A **Indio Mountain** 80.16 54 ⇑P P 06 14 06.4 -0.3
baz=80
Z23A **Rita Site, Whi** 80.24 52 ⇑P P 06 14 06.7 -0.3
baz=80
224A **Cornudas Mount** 80.28 53 ⇑P P 06 14 07.1 -0.2
baz=80
MVCO **Mesa Verde** 80.33 47 ⇓P P 06 14 07.7 +0.1
baz=80
626A **Big Bend Ranch** 80.34 56 ⇓P P 06 14 07.6 0.0
baz=80,SNR=5.3
325A **Bean Ranch, Si** 80.41 54 ⇑P P 06 14 07.8 -0.3
baz=81,SNR=5.0
526A **Mary Lane Ranc** 80.57 55 ⇑P P 06 14 08.8 -0.2
baz=81
PV04 **Paradox Valley** 80.59 46 eP P 06 14 09.3 +0.4
TXAR **Lajitas Array** 80.62 56 P P 06 14 09.3 +0.2
TXAR **Lajitas Array** 80.62 56 P P 06 14 09.3 +0.2
comp=Z,3.4nm,1.0s,baz=213,slow=4.3,SNR=14
Y23A **Lovelace Mesa,** 80.66 51 ⇓P P 06 14 09.3 0.0
baz=81
NEW **Newport** 80.66 34 ⇓P P 06 14 09.8 +1.0
baz=81
PV01 **Paradox Valley** 80.71 46 eP P 06 14 09.6 0.0
comp=Z,414nm,1.1s
ANMO **Albuquerque** 80.80 50 eP P 06 14 09.2 -0.9
comp=Z,13nm,1.5s
225A **Deer Hill, Car** 80.83 53 ⇑P P 06 14 10.1 -0.2
baz=81
X23A **Hourglass Bar** 80.84 50 ⇑P P 06 14 10.4 +0.1
baz=81
426A **McDonald Obser** 80.87 55 ⇓P P 06 14 10.5 -0.1
baz=81,SNR=8.2
V22A **San Miguel Ran** 80.89 49 ⇑P P 06 14 10.5 -0.1
baz=81
627A **Terlingua Ranc** 80.89 56 ⇓P P 06 14 10.6 0.0
baz=81,SNR=5.9
Z24A **Sheeppen Canyo** 80.92 52 ⇓P P 06 14 10.7 -0.1
baz=81
CN2 **Changchun** 80.94 320 eP P 06 14 08.0 -2.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
527A **Woodward Ranch** 80.99 55 ⇓P P 06 14 10.9 -0.2
baz=81
MCK **McKinley** 81.02 11 eP P 06 14 10.4 0.0
comp=Z,15nm,1.1s
W23A **Werner Place,** 81.12 50 ⇑P P 06 14 11.8 0.0
baz=81,SNR=5.1
U22A **Llaves** 81.13 49 ⇑P P 06 14 11.9 0.0
baz=81
326A **Caldwell Ranch** 81.17 54 ⇓P P 06 14 11.6 -0.4
baz=81
125A **Gardner Draw,** 81.19 53 ⇓P P 06 14 12.2 +0.1
baz=81
MCMT **McKenzie Canyo** 81.22 39 eP P 06 14 12.6 +0.4
comp=Z,2.6nm,1.0s
GDL2 **Guadalupe Moun** 81.22 53 eP P 06 14 12.7 +0.4
comp=Z,1.6nm,0.6s
628A **Black Gap, Mar** 81.31 56 ⇓P P 06 14 12.7 -0.1
baz=82
226B **Tecolote Peak,** 81.33 53 ⇑P P 06 14 12.8 0.0
baz=82,SNR=7.7
V23A **Ortiz Mt. (NFS** 81.34 49 ⇑P P 06 14 13.2 +0.2
baz=82
Z25A **Roswell** 81.40 52 ⇑P P 06 14 13.4 +0.2
baz=82
427A **Hayter Ranch,** 81.43 55 ⇑P P 06 14 13.4 0.0
baz=82
U23A **El Rito** 81.59 49 ⇑P P 06 14 13.9 -0.4
baz=82
MSO **Missoula** 81.64 37 eP P 06 14 13.5 -0.7
comp=Z,7.9nm,1.3s
MSO **Missoula** 81.64 37 ⇓P P 06 14 13.9 -0.3
baz=82
DLMT **Dillon** 81.65 39 eP P 06 14 14.6 +0.2
comp=Z,80nm,2.9s
126A **Clayton Basin,** 81.67 53 ⇓P P 06 14 14.3 -0.4
baz=82
Y25A **Mesa, Roswell** 81.68 52 ⇓P P 06 14 14.3 -0.5
baz=82
W24A **Lazy 6 Ranch,** 81.69 50 ⇓P P 06 14 14.4 -0.5
baz=82
BSMT **Basso Peak** 81.72 36 eP P 06 14 14.2 -0.4
S22A **4UR Ranch, Cre** 81.76 47 ⇓P P 06 14 15.6 +0.4
baz=82,SNR=9.6
O20A **White River Ci** 81.86 45 ⇑P P 06 14 14.3 -1.4
baz=82
428A **Kincaid Ranch,** 81.95 55 ⇑P P 06 14 16.2 0.0
baz=82
X25A **Clemmons Ranch** 81.96 51 ⇑P P 06 14 15.2 -1.0
baz=82
Z26A **Caprock** 81.96 52 ⇓P P 06 14 16.0 -0.2
baz=82,SNR=6.5
MOOW **Moose Ponds** 81.97 41 eP P 06 14 16.1 -0.1
comp=Z,8.7nm,1.4s
227A **Bennet, Jal** 81.98 54 ⇑P P 06 14 15.9 -0.3
baz=82
LOHW **Long Hollow** 81.99 41 eP P 06 14 16.4 +0.2
comp=Z,9.4nm,1.4s
V24A **Rampart Ranch,** 82.01 50 ⇓P P 06 14 16.3 -0.3
baz=82
T23A **Casias Ranch,** 82.01 48 ⇑P P 06 14 16.6 +0.1
baz=82
CHMT **Chamberlain Mo** 82.09 37 eP P 06 14 16.0 -0.7
529A **Stev Forest Ra** 82.09 56 ⇓P P 06 14 16.4 -0.5
baz=82,SNR=6.2
328A **Wristen Ranch,** 82.11 55 ⇓P P 06 14 16.2 -0.8
baz=82
I17A **Pilgrim Ck.** 82.16 41 ⇑P P 06 14 17.7 +0.6
baz=82
FLWY **Flagg Ranch** 82.16 40 eP P 06 14 17.6 +0.5
comp=Z,79nm,2.5s
N20A **Spence Gulch,** 82.17 44 ⇓P P 06 14 17.1 -0.2
baz=82
127A **Arkansas Junct** 82.19 53 ⇓P P 06 14 16.8 -0.6
baz=82
BW06 **Boulder Array** 82.24 42 eP P 06 14 16.8 -0.8
comp=Z,70nm,2.9s
PDAR **Pinedale Array** 82.24 42 P P 06 14 17.0 -0.6
PDAR **Pinedale Array** 82.24 42 P P 06 14 17.0 -0.6
comp=Z,2.7nm,1.1s,baz=217,slow=3.7,SNR=10.0
COLA **College** 82.26 11 eP P 06 14 16.6 -0.2
comp=Z,2.5nm,0.9s
YMR **Madison River** 82.29 40 eP P 06 14 18.1 +0.3
comp=Z,30nm,1.6s
SMCO **Snowmass** 82.30 46 eP P 06 14 18.1 -0.1
comp=Z,128nm,3.0s
S23A **Nye Farm, Mont** 82.33 48 ⇑P P 06 14 17.8 -0.4
baz=82
ILAR **Eielson Array** 82.35 11 P P 06 14 16.9 -0.5
ILAR **Eielson Array** 82.35 11 P P 06 14 16.9 -0.5
comp=Z,0.8nm,0.4s,baz=231,slow=4.6,SNR=14
ILAR LR LR 06 48 50.4
comp=Z,133nm,19.4s,baz=224,slow=34
BOZ **Bozeman (W)** 82.38 39 eP P 06 14 18.2 +0.1
comp=Z,18nm,1.6s
W25A **X Bar L Ranch,** 82.39 50 ⇓P P 06 14 17.7 -0.7
baz=83
H17A **Grant Village** 82.39 40 ⇑P P 06 14 18.4 0.0
baz=83
T24B **San Luis** 82.50 48 ⇓P P 06 14 19.1 0.0
baz=83
V25A **Rancho No Teng** 82.54 50 ⇓P P 06 14 19.0 -0.3
baz=83,SNR=6.8
429A **Davenport Ranc** 82.54 56 ⇑P P 06 14 18.7 -0.5
baz=83,SNR=9.8
X26A **CR and CF Fran** 82.61 51 ⇑P P 06 14 18.6 -0.9
baz=83
P22A **Eagle** 82.63 46 ⇓P P 06 14 19.7 -0.1
baz=83
SDCO **Great Sand Dun** 82.70 48 eP P 06 14 20.2 0.0
comp=Z,11nm,1.5s
QIZ **Qiongzhong** 82.78 292 P P 06 14 22.4 +1.8
QIZ S **S** 06 24 39.1 +3.0
329A **Wagon Wheel Ra** 82.80 55 ⇑P P 06 14 20.1 -0.5
baz=83,SNR=5.5
J19A **Crowheart** 82.80 42 ⇑P P 06 14 20.4 0.0
baz=83
530A **J-F Ranch, Com** 82.81 56 ⇓P P 06 14 19.5 -1.1
baz=83
HRY **Holter Researc** 82.81 38 eP P 06 14 20.3 0.0
Y27A **Causey** 82.83 52 ⇓P P 06 14 20.0 -0.7
baz=83
128A **Castleberry Fa** 82.85 54 ⇑P P 06 14 19.9 -0.9
baz=83
W26A **Owens Ranch, T** 82.86 51 ⇑P P 06 14 20.5 -0.4
baz=83
S24A **Houchin Ranch,** 82.86 48 ⇓P P 06 14 20.9 -0.2
baz=83,SNR=6.3
U25A **Circle Dot Ran** 82.92 49 ⇑P P 06 14 21.1 -0.2
baz=83,SNR=7.7
O22A **Kremmling** 83.03 45 ⇓P P 06 14 22.1 +0.2
baz=83,SNR=5.5
229A **Bryant Ranch,** 83.12 54 ⇑P P 06 14 21.7 -0.5
baz=83
430A **Baggett Ranch,** 83.13 56 ⇓P P 06 14 21.5 -0.7
baz=83
V26A **Tequesquite Ra** 83.13 50 ⇑P P 06 14 21.5 -0.8
baz=83
631A **Perdido Creek** 83.14 57 ⇓P P 06 14 21.9 -0.4
baz=83,SNR=6.8
MSTX **Muleshoe** 83.16 52 eP P 06 14 22.2 -0.2
comp=Z,22nm,1.5s
MSTX **Muleshoe** 83.16 52 ⇓P P 06 14 21.9 -0.5
baz=83
P23A **Jefferson** 83.17 46 ⇓P P 06 14 22.9 +0.2
baz=83
X27A **F and S Farms,** 83.18 51 ⇑P P 06 14 22.2 -0.4
baz=83
Z28A **Tucker Farm, M** 83.19 53 ⇓P P 06 14 22.1 -0.4
baz=83
R24A **Sanders Place,** 83.19 48 ⇓P P 06 14 22.9 +0.3
baz=83,SNR=6.3
I19A **Meeteetse** 83.21 41 ⇓P P 06 14 22.8 +0.2
baz=84
832A **Faith Ranch, C** 83.22 58 ⇓P P 06 14 21.7 -1.0
baz=83
T25A **Trinidad** 83.23 49 ⇓P P 06 14 22.4 -0.4
baz=83
DAWY **Dawson** 83.33 14 eP P 06 14 22.9 +0.4
W27A **Bowe Ranch, En** 83.38 51 ⇓P P 06 14 23.2 -0.3
baz=84,SNR=7.0
N22A **Wattenberg Ran** 83.38 45 ⇓P P 06 14 23.4 -0.2
baz=84
732A **Laxson Ranch,** 83.39 58 ⇓P P 06 14 22.7 -0.8
baz=84
330A **Mertzon** 83.41 55 ⇑P P 06 14 23.0 -0.7
baz=84
U26A **Atchley Ranch,** 83.41 50 ⇓P P 06 14 23.3 -0.5
baz=84,SNR=6.3
S25A **Robets Cordova** 83.43 48 ⇓P P 06 14 23.8 0.0
baz=84,SNR=5.2
531A **Rocksprings** 83.45 56 ⇑P P 06 14 23.2 -0.7
baz=84,SNR=8.2
J20A **Shoshoni** 83.47 42 ⇓P P 06 14 24.0 +0.2
baz=84,SNR=9.8
Q24A **Divide** 83.48 47 ⇓P P 06 14 23.9 -0.3
baz=84
O23A **Lake Granby, G** 83.48 45 ⇓P P 06 14 23.7 -0.5
baz=84
ISCO **Idaho Springs** 83.51 46 ⇑P P 06 14 24.1 -0.3
baz=84
H19A **Powell** 83.52 40 ⇓P P 06 14 24.3 +0.3
baz=84,SNR=8.0
M22A **Cedar Creek Ra** 83.55 44 ⇓P P 06 14 24.0 -0.5
baz=84
230A **Sterling City** 83.64 55 ⇑P P 06 14 24.6 -0.3
baz=84
GCMT **Greycliff** 83.64 39 eP P 06 14 25.1 +0.4
comp=Z,7.4nm,1.3s
K21A **Alcova** 83.68 43 ⇓P P 06 14 24.8 -0.2
baz=84,SNR=7.4
Z29A **Hungry Hill Ra** 83.70 53 ⇓P P 06 14 24.7 -0.5
baz=84
833A **Chaparral WMA,** 83.72 59 ⇓P P 06 14 24.1 -1.2
baz=84
I20A **Worland** 83.72 41 ⇓P P 06 14 25.2 +0.1
baz=84,SNR=7.0
R25A **Fountain Ranch** 83.75 48 ⇑P P 06 14 25.1 -0.3
baz=84
N23A **Red Feather La** 83.77 45 ⇑P P 06 14 25.3 -0.3
baz=84
X28A **Dimmitt** 83.81 52 ⇓P P 06 14 25.1 -0.7
baz=84
632A **Uvalde** 83.82 57 ⇓P P 06 14 25.2 -0.6
baz=84
V27A **Dan Oppiter Fa** 83.82 51 ⇓P P 06 14 25.6 -0.2
baz=84
T26A **Comanche Natio** 83.84 49 ⇓P P 06 14 25.4 -0.6
baz=84
J21A **Lysite** 83.88 42 ⇓P P 06 14 25.9 -0.1
baz=84,SNR=8.8
733A **Divot King Ran** 83.94 58 ⇓P P 06 14 25.5 -0.9
baz=84
L22A **Ellis Ranch, M** 83.94 44 ⇑P P 06 14 26.5 +0.1
baz=84
532A **Rocksprings** 83.95 57 ⇑P P 06 14 26.0 -0.5
baz=84,SNR=5.5
Y29A **Porterfield Fa** 83.96 53 ⇓P P 06 14 26.0 -0.5
baz=84,SNR=6.5
331A **San Angelo** 83.97 55 ⇑P P 06 14 25.6 -0.9
baz=84
130A **Snyder** 84.02 54 ⇓P P 06 14 26.0 -0.8
baz=84
O24A **Longmont** 84.03 46 ⇓P P 06 14 27.2 +0.4
baz=84
H20A **Greybull** 84.05 41 ⇑P P 06 14 26.5 -0.3
baz=84,SNR=7.3
Q25A **Bedland, Calha** 84.09 47 ⇓P P 06 14 26.9 -0.3
baz=84
W28A **Vega** 84.10 51 ⇓P P 06 14 26.8 -0.4
baz=84
U27A **Thompson Grove** 84.10 50 ⇑P P 06 14 27.0 -0.2
baz=84
S26A **Kim** 84.11 49 ⇑P P 06 14 27.0 -0.3
baz=84
F19A **Roth Farm, Mol** 84.12 39 ⇓P P 06 14 27.0 -0.1
baz=84,SNR=5.1
Z30A **Sanderson Ranc** 84.16 53 ⇑P P 06 14 26.7 -0.8
baz=84,SNR=7.3
JCT **Junction City** 84.16 56 ⇓P P 06 14 26.7 -0.8
baz=84
K22A **Casper** 84.16 43 eP P 06 14 27.0 -0.4
comp=Z,14nm,1.4s
K22A **Casper** 84.16 43 ⇑P P 06 14 27.3 -0.1
baz=84
X29A **Tulia** 84.16 52 ⇓P P 06 14 27.1 -0.5
baz=84
M23A **Laramie** 84.17 44 ⇓P P 06 14 26.9 -0.6
baz=84
I21A **Big Trails, Te** 84.19 42 ⇓P P 06 14 27.1 -0.4
baz=84,SNR=9.9
G20A **Bridger** 84.27 40 ⇓P P 06 14 27.7 -0.2
baz=84
PHWY **Pilot Hill** 84.28 45 eP P 06 14 27.8 -0.4
comp=Z,95nm,3.0s
V28A **Channing** 84.28 51 ⇑P P 06 14 27.6 -0.5
baz=84
231A **Bronte** 84.28 55 ⇓P P 06 14 27.1 -1.0
baz=84
633A **Saathoff Ranch** 84.30 58 ⇓P P 06 14 27.9 -0.3
baz=84
432A **Menard** 84.31 56 ⇓P P 06 14 27.2 -1.1
baz=84
834A **Tilden** 84.34 59 ⇓P P 06 14 28.3 -0.1
baz=84
AMTX **Amarillo** 84.35 52 eP P 06 14 27.9 -0.6
comp=Z,18nm,1.0s
AMTX **Amarillo** 84.35 52 ⇓P P 06 14 27.9 -0.6
baz=84
P25A **Willow Gulch B** 84.40 47 ⇓P P 06 14 28.0 -0.7
baz=85
R26A **Arlington** 84.41 48 ⇑P P 06 14 28.0 -0.7
baz=85
T27A **Campo** 84.43 49 ⇑P P 06 14 28.5 -0.4
baz=85
N24A **Carr** 84.46 45 ⇓P P 06 14 28.5 -0.5
baz=85
W29A **Amarillo** 84.46 51 ⇑P P 06 14 28.5 -0.6
baz=85,SNR=5.5
L23A **Garrett** 84.47 44 ⇓P P 06 14 28.7 -0.4
baz=85,SNR=6.2
131A **Roby** 84.50 54 ⇓P P 06 14 28.3 -1.0
baz=85
E19A **Rath Farm, Rou** 84.50 39 ⇓P P 06 14 29.1 +0.2
baz=85
J22A **Midwest** 84.53 42 ⇓P P 06 14 29.1 -0.2
baz=85,SNR=7.2
332A **Millersview** 84.54 56 ⇓P P 06 14 28.1 -1.3
baz=85
Y30A **Stafford Cattl** 84.56 53 ⇑P P 06 14 28.7 -0.8
baz=85,SNR=5.8
F20A **Billings** 84.58 40 ⇓P P 06 14 29.4 0.0
baz=85
Q26A **Hugo** 84.61 47 ⇑P P 06 14 29.4 -0.4
baz=85
533A **Kerrville** 84.63 57 ⇑P P 06 14 28.9 -1.1
baz=85
EGMT **Eagleton** 84.69 37 ⇑P P 06 14 29.7 -0.1
baz=85
H21A **Big Horn, Sher** 84.72 41 ⇑P P 06 14 29.8 -0.4
baz=85
I22A **9 Mile Ranch,** 84.75 42 ⇑P P 06 14 30.4 +0.1
baz=85,SNR=5.9
M24A **Cheyenne** 84.78 45 ⇑P P 06 14 30.2 -0.4
baz=85
D19A **Cripps Ranch,** 84.79 38 ⇓P P 06 14 30.4 +0.1
baz=85,SNR=6.6
X30A **Coker Ranch, T** 84.79 52 ⇓P P 06 14 30.0 -0.6
baz=85
232A **Coleman** 84.80 55 ⇓P P 06 14 30.0 -0.7
baz=85,SNR=6.0
K23A **Bowen Ranch, D** 84.80 43 ⇓P P 06 14 30.2 -0.4
baz=85
433A **Art** 84.83 56 ⇓P P 06 14 29.9 -1.0
baz=85
V29A **Stinnett** 84.85 51 ⇑P P 06 14 30.7 -0.3
baz=85
G21A **Lodge Grass** 84.90 41 ⇓P P 06 14 30.8 -0.2
baz=85
E20A **Meyer Farm, Mu** 84.92 39 ⇓P P 06 14 31.3 +0.3
baz=85
Z31A **Sharp Cattle R** 84.93 54 ⇑P P 06 14 30.8 -0.6
baz=85,SNR=5.7
L24A **Wheatland** 84.95 44 ⇑P P 06 14 31.6 +0.2
baz=85
C19A **Slack Wire Ran** 84.96 38 ⇓P P 06 14 31.7 +0.4
baz=85
ABTX **Abilene, Hawle** 85.07 54 eP P 06 14 31.4 -0.6
ABTX **Abilene, Hawle** 85.07 54 ⇓P P 06 14 31.8 -0.3
baz=85,SNR=10
534A **Blanco** 85.07 57 ⇓P P 06 14 31.0 -1.1
baz=85
Y31A **Rekieta Farm,** 85.08 53 ⇓P P 06 14 31.2 -0.9
baz=85
333A **Richland Sprin** 85.12 56 ⇓P P 06 14 31.5 -0.9
baz=85
H22A **Clearmont** 85.15 41 ⇑P P 06 14 32.1 -0.2
baz=85
D20A **Manuel Ranch,** 85.20 39 ⇓P P 06 14 32.7 +0.3
baz=86,SNR=5.9
U29A **Oasis Ranch, S** 85.26 50 ⇓P P 06 14 32.2 -0.8
baz=85
KSCO **Kaye Shedlock'** 85.28 48 ⇓P P 06 14 32.7 -0.4
baz=86
BJI **Beijing** 85.32 314 P P 06 14 32.2 -0.9
BJI S **S** 06 25 03.0 +2.3
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,200nm,23.0s
BJI LR LR
comp=Z,170nm,20.4s
BJI LR LR
comp=Z,73nm,23.0s
B19A **Brinkman Farms** 85.38 37 ⇓P P 06 14 33.8 +0.6
baz=86
635A **Leesville** 85.42 58 ⇑P P 06 14 33.2 -0.6
baz=86
V30A **Spur Ranch, Mi** 85.43 51 ⇓P P 06 14 34.0 +0.1
baz=86
233A **Rising Star** 85.44 55 ⇑P P 06 14 33.5 -0.4
baz=86
Z32A **Haskell** 85.45 54 ⇑P P 06 14 33.7 -0.2
baz=86,SNR=20
434A **Burnet** 85.51 57 ⇓P P 06 14 34.1 -0.2
baz=86,SNR=7.2
X31A **McDonald Ranch** 85.55 52 ⇓P P 06 14 33.5 -0.9
baz=86
C20A **Veseth Ranch,** 85.57 38 ⇑P P 06 14 34.8 +0.5
baz=86

E21A	Keefer Ranch, baz=86	85.58	39	⇓P		P	06 14 34.7	+0.3
R28A	Tribune baz=86	85.60	48	⇑P		P	06 14 34.1	-0.6
133A	Hamilton Ranch baz=86,SNR=5.8	85.63	55	⇓P		P	06 14 34.4	-0.5
334A	Lometa baz=86,SNR=5.1	85.72	56	⇓P		P	06 14 34.9	-0.4
A19A	Klindworth Far baz=86	85.72	37	⇓P		P	06 14 34.9	-0.1
Y32A	R-V Farms, Ver baz=86,SNR=8.6	85.73	53	⇑P		P	06 14 34.8	-0.5
D21A	La Casta Ranch baz=86	85.88	39	⇓P		P	06 14 35.7	-0.1
Z33A	Whitaker Ranch baz=86,SNR=5.6	86.00	54	⇑P		P	06 14 36.0	-0.7
X32A	Elmer baz=86,SNR=7.9	86.00	53	⇓P		P	06 14 35.8	-0.8
G23A	Biddle baz=86	86.03	41	⇓P		P	06 14 36.6	0.0
234A	Clairette baz=86,SNR=5.7	86.04	55	⇓P		P	06 14 36.1	-0.8
V31A	Spring Creek L baz=86	86.08	51	⇑P		P	06 14 37.6	+0.6
R29A	Marienthal baz=86	86.12	49	⇑P		P	06 14 37.1	-0.2
A20A	Cobblestone Ra baz=86	86.17	37	⇑P		P	06 14 37.2	0.0
F23A	Volborg baz=86	86.25	41	⇓P		P	06 14 38.5	+0.8
J25A	Sunshine Ranch baz=86	86.28	43	⇓P		P	06 14 38.0	+0.1
134A	White-Moore Ra baz=86	86.28	55	⇓P		P	06 14 37.8	-0.3
S30A	Montezuma baz=86	86.31	50	⇓P		P	06 14 38.2	0.0
335A	Moody baz=86	86.35	56	⇑P		P	06 14 37.7	-0.8
Y33A	Hilltop Ranch, baz=86	86.36	53	⇑P		P	06 14 37.7	-0.7
H24A	Dirks Ranch, A baz=87,SNR=6.9	86.37	42	⇓P		P	06 14 37.7	-0.6
K26A	Motz Farm, Whi baz=87	86.41	44	⇑P		P	06 14 38.2	-0.3
B21A	Ellsworth Farm baz=87	86.49	38	⇓P		P	06 14 38.9	+0.2
I25A	Rochford baz=87	86.59	43	⇓P		P	06 14 39.1	-0.4
V32A	Arapaho baz=87	86.66	52	⇓P		P	06 14 39.6	-0.3
R30A	Dighton baz=87	86.69	49	⇑P		P	06 14 39.3	-0.7
J26A	Sides Ranch, S baz=87	86.73	44	⇑P		P	06 14 39.6	-0.5
135A	Vickery Place, baz=87	86.81	55	⇑P		P	06 14 40.4	-0.2
X34A	Smith Ranch, M baz=87	87.19	53	⇑P		P	06 14 42.4	0.0
Z35A	Perchaven, San baz=87	87.20	55	⇓P		P	06 14 42.3	-0.2
C23A	Lambert baz=88	87.31	39	⇑P		P	06 14 42.6	-0.1
W34A	Bridge Creek, baz=88	87.45	53	⇓P		P	06 14 43.4	-0.3
B23A	Brockton baz=88	87.71	38	⇓P		P	06 14 44.9	+0.2
R32A	Long Quarter, baz=88	87.89	49	⇓P		P	06 14 45.6	-0.1
GYA	Guiyang	87.91	298	*e*P		P	06 14 45.9	-0.3
GYA	comp=Z,10.0nm,1.0s			pmax	pmax			
J28A	Allard Ranch, baz=88	88.00	44	⇑P		P	06 14 46.0	-0.2
DGMT	Dagmar baz=88	88.19	39	⇓P		P	06 14 47.3	+0.3
K29A	Lazy Trails An baz=89	88.37	45	⇑P		P	06 14 47.9	0.0
J29A	Okreek baz=89	88.61	44	⇓P		P	06 14 49.4	+0.4
B25A	Knox Farm, Ray baz=89	88.73	39	⇓P		P	06 14 49.8	+0.3
Q33A	Connelly Farm, baz=89	88.73	49	⇓P		P	06 14 49.1	-0.6
K30A	Basset baz=89	88.81	45	⇑P		P	06 14 50.2	+0.2
HHC	Hu-ho-hao-te	88.88	313	*e*P		P	06 14 51.9	+1.4
HHC				pP		pP	06 15 05.1	+1.9
HHC				PP		PP	06 18 19.8	-0.6
HHC				S		S	06 25 35.2	-0.1
HHC				sS		sS	06 25 53.6	-3.0
HHC	comp=Z,25nm,0.6s			pmax	pmax			
HHC	comp=Z,190nm,4.1s			pmax	pmax			
HHC	comp=Z,310nm,19.6s			LR	LR			
HHC	comp=Z,360nm,15.2s			LR	LR			
HHC	comp=Z,300nm,15.2s			LR	LR			
J30A	Dallas baz=89	89.14	45	⇓P		P	06 14 51.1	-0.4
YKA	Yellowknife Ar	90.03	23	P		P	06 14 54.6	-0.5
YKA	Yellowknife Ar	90.03	23	P		P	06 14 54.6	-0.5
KMI	comp=Z,0.5nm,0.8s,baz=236,slow=4.6,SNR=6.7 Kunming	90.89	296	P		P	06 15 02.1	+1.7
KMI				pP		pP	06 15 11.6	-1.6
KMI	comp=Z,12nm,1.5s			pmax	pmax			
ECSD	EROS Data Cent baz=91	91.24	45	⇓P		P	06 15 01.4	+0.1
CD2	Chengdu	91.67	301	*e*P		P	06 14 57.1	-6.5
CD2				sP		sP	06 15 04.2	-17
CD2				PP		PP	06 18 38.5	-4.3
CD2	Chengdu	91.67	301	SKS		SKSac	06 25 28.2	-5.2
CD2	Chengdu	91.67	301	S		S	06 25 55.3	-6.0
CD2	Chengdu	91.67	301	sS		S	06 26 02.9	+1.6
CD2	Chengdu	91.67	301	SS		SS	06 32 06.2	-3.3
CD2	comp=Z,10.0nm,1.2s			pmax	pmax			
CD2	comp=Z,150nm,9.6s			pmax	pmax			
CD2	comp=E,210nm,14.3s			LR	LR			
CD2	comp=Z,160nm,14.3s			LR	LR			
CMAR	Chiang Mai Arr comp=Z,92nm,18.2s,baz=350,slow=35	92.49	288	LR		LR	06 55 36.3	
LZH	Lanzhou	93.08	306	*e*P		P	06 15 11.7	+1.5
LZH				pP		pP	06 15 22.1	-0.9
LZH	comp=Z,16nm,1.0s			pmax	pmax			
PARMO	Parma	94.08	53	*e*P		P	06 15 09.2	-5.4
SONM	Songino Array comp=Z,135nm,20.8s,baz=11,slow=31	94.70	318	LR		LR	06 51 05.8	
AKASG	Malin Array Be	140.19	337	PKP		PKPdf	06 21 24.7	+0.2
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=65,slow=0.3,SNR=3.8	140.19	337	PKP		PKPdf	06 21 24.7	+0.2
KHC	Kasperske Hory	145.75	352	*e*PKP		PKPdf	06 21 34.5	+0.1
KHC				*ex*		x	06 21 39.0	
KHC	Kasperske Hory	145.75	352	*e*PKPdf		PKPdf	06 21 34.3	-0.1
GERES	GERESS Array B	146.01	351	PKPbc		PKPab	06 21 36.3	0.0
GERES	GERESS Array B comp=Z,1.0nm,0.8s,baz=8.5,slow=2.7,SNR=8.5	146.01	351	PKPbc		PKPab	06 21 36.3	0.0
CONA	Conrad Observa comp=Z,4.1nm,0.9s	146.54	349	⇑*i*PKiKP		PKiKP	06 21 40.4	+0.2
SOKA	Soboth comp=Z,6.4nm,1.6s	147.90	349	⇓*i*PKiKP		PKPbc	06 21 41.9	+0.8
TORD	Torodi Ar. Bea	174.88	114	PKP		PKPdf	06 22 05.3	-1.3
TORD	Torodi Ar. Bea comp=Z,1.9nm,1.2s,baz=325,slow=2.1,SNR=4.4	174.88	114	PKP		PKPdf	06 22 05.3	-1.3

*IDC **04** 06:15:40.3±2.0,36°.53N×69°.31E,h0km,mb3.5/6, mb1 3.5/10,mb1mx3.4/29,mbtmp3.4/10,ML3.3/4,Error ellipse: s-maj=44.1km s-min=18.1km az=145.0*
*ISCJB **04** 06:15:45.3±1.4,36°.8N±0°.2×69°.2E±0°.2,h43km,mb3.3/5, Error ellipse: s-maj=29.8km s-min=10.4km az=143.8*
ISC 04 06:15:47.1±1.7,36.7N±0.2×69.2E±0.2,h43km,n16, σ1§62/17,mb3.3/5,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu SNR=8.6	6.44	32	P	Pn	06 17 20.5	+0.8
UCH	Uchtor	6.88	35	P	Pn	06 17 27.1	+1.3
AAK	Ala-Archa SNR=9.8	7.19	33	P	Pn	06 17 30.8	+0.9
AAK	Ala-Archa 2.3nm,0.3s,baz=194,slow=6.9,SNR=20	7.19	33	Pn	Pn	06 17 29.0	-0.8
AAK	baz=162,slow=21,SNR=1.4			Sn	Sn	06 18 51.8	+1.5
CHMS	Chumysh SNR=5.1	7.60	33	P	Pn	06 17 36.0	+0.7
USP	Ospenovka SNR=5.8	7.71	30	P	Pn	06 17 37.0	+0.1
MKAR	Makanchi Array 0.1nm,0.3s,baz=226,slow=15,SNR=3.4	14.03	40	Pn	Pn	06 19 01.7	-1.4
KURBB	Kurchatov Arra 0.0nm,0.3s,baz=210,slow=9.6,SNR=3.4	15.44	23	Pn	Pn	06 19 18.1	-3.7
BVAR	Borovoye Array 0.1nm,0.3s,baz=160,slow=7.4,SNR=2.5	16.33	3	Pn	Pn	06 19 30.3	-2.8
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=211,slow=9.8,SNR=4.9	20.36	27	P	P	06 20 18.1	-1.7
SONM	Songino Array 0.4nm,0.9s,baz=251,slow=4.5,SNR=4.1	29.43	56	P	P	06 21 47.1	+0.4
AKASG	Malin Array Be 0.2nm,0.4s,baz=85,slow=6.8,SNR=4.3	31.66	309	P	P	06 22 07.1	+1.0
NB2	NORSAR Subarra comp=Z,0.5nm,0.5s,baz=97,slow=8.6	43.32	323	P	P	06 23 45.1	+0.6
NOA	NORSAR Array B comp=Z,0.6nm,0.4s,baz=97,slow=8.1,SNR=3.7	43.32	323	P	P	06 23 45.3	+0.8
TORD	Torodi Ar. Bea comp=Z,0.2nm,0.5s,baz=42,slow=5.7,SNR=2.7	64.25	267	P	P	06 26 17.2	-0.9
YKA	Yellowknife Ar comp=Z,0.2nm,0.6s,baz=351,slow=5.8,SNR=6.0	81.08	2	P	P	06 27 58.2	+0.9

*IDC **04** 06:18:44.3±0.6,8°.94S×157°.70E,h0km,mb4.3/14, mb1 4.5/17,mb1mx4.4/21,mbtmp4.3/17,ML3.8/3,MS3.8/2, Ms1 3.8/2,ms1mx3.1/27,Error ellipse: s-maj=17.0km s-min=13.4km az=180.0*
*ISCJB **04** 06:18:45.9±0.4,8°.94S±0°.06×157°.72E±0°.06,h23km, mb4.4/22,MS3.8/2,Error ellipse: s-maj=10.3km s-min=7.9km az=136.0*
*NEIC **04** 06:18:49.0±0.3,8°.98S×157°.76E,h35km,mb4.7/11,Error ellipse: s-maj=10.3km s-min=7.4km az=134.0*
ISC 04 06:18:47.7±0.5,8°.97S±0°.08×157°.78E±0°.08,h23km,n50, σ1§22/48,mb4.5/21,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.19	102	Pn	Pn	06 19 21.7	-1.1
HNR				Lg	Lg	06 19 58.2	
HNR	Honiara 117nm,0.3s,baz=221,slow=4.6,SNR=20	2.19	102	Pn	Pn	06 19 21.7	-1.1
HNR	1µm,0.3s,baz=236,slow=23,SNR=20			Lg	Lg	06 19 58.2	
HNR	Honiara 135nm,0.9s	2.19	102	*i* P	Pn	06 19 21.0	-1.8
COEN	Coen	15.14	250	*e*Pn	Pn	06 22 18.2	-2.1
DZM	Mont Dzumac	15.47	148	*e*Pn	Pn	06 22 25.3	+0.6
DZM	Mont Dzumac 0.1nm,0.3s,baz=105,slow=8.8,SNR=2.7	15.47	148	Pn	Pn	06 22 25.1	+0.4
CTA	Charters Tower	15.69	224	Pn	Pn	06 22 26.2	-1.3
CTA	Charters Tower 0.2nm,0.3s,baz=24,slow=12,SNR=3.0	15.69	224	Pn	Pn	06 22 26.2	-1.3
CTAO	Charters Tower 36nm,1.3s	15.69	224	*e*Pn	Pn	06 22 26.2	-1.3
TARA	Tarawa	18.25	57	P	P	06 22 59.2	-0.5
ARMA	Armidale 69nm,1.7s	22.10	194	*e*P	P	06 23 42.5	+0.9
WRAB	Tennant Creek 55nm,1.4s	25.13	242	*e*P	P	06 24 10.9	-0.4
WRA	Warramunga Arr	25.14	242	P	P	06 24 10.7	-0.7
WRA				PcP	PcP	06 27 48.3	+3.0
WRA	Warramunga Arr 8.7nm,0.7s,baz=67,slow=9.6,SNR=28	25.14	242	P	P	06 24 10.7	-0.7
WRA	1.2nm,0.9s,baz=71,slow=3.2,SNR=2.4			PcP	PcP	06 27 48.3	+3.0
ASAR	Alice Springs	27.11	235	P	P	06 24 27.9	-1.3
ASAR	Alice Springs 2.5nm,0.8s,baz=64,slow=8.8,SNR=23	27.11	235	P	P	06 24 27.9	-1.3
STKA	Stephens Creek	27.30	211	*e*P	P	06 24 32.4	+1.6
STKA	Stephens Creek 9.7nm,0.7s,baz=30,slow=10,SNR=30	27.30	211	P	P	06 24 30.6	-0.2
STKA	comp=Z,172nm,20.2s,baz=28,slow=36			LR	LR	06 35 04.2	
MJAR	Matsushiro Arr	48.86	339	P	P	06 27 29.6	-2.1
MJAR	Matsushiro Arr 2.0nm,1.0s,baz=161,slow=8.6,SNR=4.2	48.86	339	P	P	06 27 29.6	-2.1
USRK	Ussuriysk Arra 1.8nm,0.8s,baz=193,slow=5.9,SNR=3.6	57.84	338	P	P	06 28 38.3	+0.7
SLVN	Son La 5.3nm,1.1s	60.85	300	*e*P	P	06 28 59.1	+0.3
PETK	Petropavlovsk-	61.83	360	P	P	06 29 06.2	+1.4
PETK	Petropavlovsk- 2.7nm,0.7s,baz=166,slow=7.4,SNR=2.7	61.83	360	P	P	06 29 06.2	+1.4
CMAR	Chiang Mai Arr	64.11	295	P	P	06 29 21.2	+0.5
CMAR	Chiang Mai Arr 3.9nm,0.8s,baz=112,slow=4.9,SNR=15	64.11	295	P	P	06 29 21.2	+0.5
CHTO	Chiang Mai 4.7nm,1.0s	64.23	296	*e*P	P	06 29 22.0	+0.5
SONM	Songino Array	72.48	326	P	P	06 30 13.5	+0.8
SONM	Songino Array 1.7nm,0.9s,baz=126,slow=4.8,SNR=9.8	72.48	326	P	P	06 30 13.5	+0.8
QSPA	South Pole Qui 1.1nm,0.4s	81.02	180	*e*P	P	06 31 01.0	+0.3
PMR	Palmer 5.4nm,0.8s	81.50	23	*e*P	P	06 31 02.8	-0.2
TRF	Thorofare Moun	82.22	21	*e*P	P	06 31 06.7	-0.3
IM04	Indian Mountai	82.70	18	*e*P	P	06 31 09.3	+0.1
MCK	McKinley 20nm,1.0s	82.87	21	*e*P	P	06 31 09.2	-1.0
MAW	Mawson 0.7nm,1.0s	83.65	203	*e*P	P	06 31 14.6	+0.5
MAW	Mawson 4.1nm,1.0s,baz=101,slow=10,SNR=3.4	83.65	203	P	P	06 31 14.6	+0.5
COLA	College 8.8nm,0.9s	83.93	20	*e*P	P	06 31 14.5	-1.0
ILAR	Eielson Array	84.21	21	P	P	06 31 15.6	-1.4
ILAR	Eielson Array 1.8nm,0.6s,baz=257,slow=4.9,SNR=13	84.21	21	P	P	06 31 15.6	-1.4
ILAR	comp=Z,53nm,18.7s,baz=164,slow=34			LR	LR	07 06 35.1	
MK31	Makanchi Array	86.70	318	*e*P	P	06 31 29.1	-0.8
MKAR	Makanchi Array	86.70	318	P	P	06 31 29.3	-0.5
MKAR	Makanchi Array 1.1nm,0.9s,baz=97,slow=5.8,SNR=6.6	86.70	318	P	P	06 31 29.3	-0.5
NVAR	Mina Array Bea	90.78	51	P	P	06 31 50.6	+1.0
NVAR	Mina Array Bea 2.6nm,0.9s,baz=260,slow=6.0,SNR=17	90.78	51	P	P	06 31 50.6	+1.0
YKA	Yellowknife Ar	96.78	28	P	P	06 32 15.8	-0.5
YKA	Yellowknife Ar 0.3nm,0.6s,baz=264,slow=4.8,SNR=5.4	96.78	28	P	P	06 32 15.8	-0.5
PDAR	Pinedale Array	97.97	48	P	Pdif	06 32 22.2	-0.3
PDAR	Pinedale Array 0.6nm,0.8s,baz=247,slow=3.1,SNR=5.1	97.97	48	P	Pdif	06 32 22.2	-0.3
BDFB	Brasilia	144.64	134	PKP	PKPbc	06 38 21.5	-1.0
BDFB	Brasilia 2.0nm,0.5s,baz=357,slow=4.4,SNR=5.3	144.64	134	PKP	PKPbc	06 38 21.5	-1.0

IDC 04 06:21:54.6±3.6,8°.43S×156°.81E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.6/18,mbtmp3.8/4,Error ellipse: s-maj=111.5km s-min=30.2km az=102.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.8nm,0.6s,baz=64,slow=8.9,SNR=3.7	24.57	240	P	P	06 27 16.7	+0.1
STKA	Stephens Creek 1.9nm,0.7s,baz=34,slow=14,SNR=3.5	27.29	209	P	P	06 27 40.8	-0.2
SONM	Songino Array 0.3nm,0.8s,baz=110,slow=4.6,SNR=3.0	71.51	327	P	P	06 33 18.1	+0.5
MKAR	Makanchi Array 0.6nm,0.6s,baz=96,slow=6.1,SNR=5.1	85.67	318	P	P	06 34 34.8	-0.6

IDC 04 06:28:51.7±5.1,34°.00N×13°.88E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.2/28,mbtmp3.4/4,ML2.9/1,MS3.9/1, Ms1 3.9/1,ms1mx2.6/21,Error ellipse: s-maj=117.9km s-min=37.0km az=1.0,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	Kesra 0.7nm,0.3s,baz=59,slow=22,SNR=28	4.10	296	Pn	Pn	06 29 55.7	-0.1
KEST	1.0nm,0.3s,baz=261,slow=23,SNR=2.1			Sn	Sn	06 30 39.2	-5.3
AKASG	Malin Array Be 0.9nm,0.7s,baz=224,slow=11,SNR=6.6	20.11	29	P	P	06 33 26.7	-0.2
MKAR	Makanchi Array 0.4nm,0.7s,baz=291,slow=5.6,SNR=4.4	52.09	54	P	P	06 38 02.8	-0.6
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=272,slow=8.5,SNR=2.7	52.46	45	P	P	06 38 06.6	+0.6
ZALV	comp=Z,95nm,18.0s,baz=76,slow=38			LR	LR	07 01 47.9	

*IDC **04** 06:41:01.8±0.6,6°.02S×152°.41E,h0km,mb4.4/14, mb1 4.6/15,mb1mx4.5/19,mbtmp4.4/15,ML3.5/1,MS3.8/1, Ms1 3.8/1,ms1mx2.8/27,Error ellipse: s-maj=22.7km s-min=14.8km az=109.0*
*ISCJB **04** 06:41:06.2±0.4,6°.09S±0°.05×152°.41E±0°.08,h38km, mb4.5/24,MS3.6/1,Error ellipse: s-maj=11.4km s-min=5.9km az=17.5*
*NEIC **04** 06:41:07.3±0.3,6°.05S×152°.39E,h35km,mb4.8/10,Error ellipse: s-maj=10.8km s-min=6.8km az=118.0*
ISC 04 06:41:07.5±0.5,6°.04S±0°.06×152°.49E±0°.09,h38km,n68, σ1§05/73,mb4.5/24,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul baz=2.0,SNR=16	1.87	350	P	Pn	06 41 35.8	-1.2
RABL	baz=2.0,SNR=6.0			S	Sn	06 42 00.9	+1.6
PMG	Port Moresby 56nm,0.8s	6.25	237	*e*Pn	Pn	06 42 34.5	-2.7
PMG				*e*Sn	Sn	06 43 51.2	+3.8
PMG	Port Moresby 7.4nm,0.3s,baz=76,slow=4.9,SNR=12	6.25	237	Pn	Pn	06 42 36.8	-0.4
PMG	2.5nm,0.3s,baz=23,slow=16,SNR=2.0			Sn	Sn	06 43 46.8	-0.6
RMQ	Roma baz=21,SNR=5.5	20.64	190	P	Pn	06 45 45.7	-0.7
KDU	Kakadu baz=21,SNR=17	20.81	250	P	P	06 45 45.2	-0.6
DZM	Mont Dzumac	20.88	141	P	P	06 45 47.2	+0.6
DZM	Mont Dzumac 8.7nm,0.8s,baz=283,slow=22,SNR=5.3	20.88	141	P	P	06 45 47.2	+0.6
DZM	comp=Z,255nm,18.9s,baz=357,slow=32			LR	LR	06 52 22.7	
QLP	Quilpie baz=22,SNR=3.1	21.89	200	P	P	06 45 58.0	+0.7
MTN	Manton Dam baz=22,SNR=5.4	22.11	251	S	S	06 50 05.5	+4.0
PALU	Palau baz=23,SNR=5.5	22.36	306	S	Sn	06 50 17.5	-2.2
WRAB	Tennant Creek 7.9nm,0.8s	22.39	230	*e*P	P	06 46 03.7	+0.9
WRA	Warramunga Arr	22.40	230	P	P	06 46 01.9	-1.0
WRA				PcP	PcP	06 49 57.6	+0.5
WRA	Warramunga Arr 12nm,0.7s,baz=55,slow=9.8,SNR=39	22.40	230	P	P	06 46 01.9	-1.0
WRA	0.9nm,0.8s,baz=60,slow=2.7,SNR=3.5			PcP	PcP	06 49 57.6	+0.5
AS31	Alice Springs	25.03	224	*e*P	P	06 46 28.0	-0.3
ASAR	Alice Springs	25.03	224	P	P	06 46 27.6	-0.7
ASAR				PcP	PcP	06 50 02.9	+0.2
ASAR	Alice Springs 6.3nm,0.8s,baz=56,slow=8.7,SNR=57	25.03	224	P	P	06 46 27.6	-0.7
ASAR	0.3nm,0.7s,baz=82,slow=2.2,SNR=4.2			PcP	PcP	06 50 02.9	+0.2
KNRA	Kununurra baz=25,SNR=12	25.16	246	P	P	06 46 29.2	-0.2
STKA	Stephens Creek	27.65	200	*e*P	P	06 46 50.5	-1.2
STKA	Stephens Creek 2.9nm,0.7s,baz=30,slow=13,SNR=12	27.65	200	P	P	06 46 50.2	-1.6
WRKA	Warakurna baz=30,SNR=10	29.89	228	P	P	06 47 10.4	-1.5
MEEK	Meekatharra baz=38,SNR=8.9	38.21	234	P	P	06 48 23.1	-0.9
MJAR	Matsushiro Arr	44.42	344	P	P	06 49 11.2	-3.5
MJAR	Matsushiro Arr 1.3nm,1.0s,baz=156,slow=9.3,SNR=3.9	44.42	344	P	P	06 49 11.2	-3.5
USRK	Ussuriysk Arra 1.0nm,0.5s,baz=153,slow=8.1,SNR=3.2	53.32	342	P	P	06 50 22.1	-0.7
CMAR	Chiang Mai Arr	58.13	296	P	P	06 50 57.8	0.0
CMAR	Chiang Mai Arr 2.4nm,0.7s,baz=118,slow=5.5,SNR=12	58.13	296	P	P	06 50 57.8	0.0
PETK	Petropavlovsk-	59.09	4	P	P	06 51 03.3	-0.6
PETK	Petropavlovsk- 3.1nm,0.6s,baz=175,slow=7.9,SNR=12	59.09	4	P	P	06 51 03.3	-0.6
SONM	Songino Array	67.21	328	P	P	06 51 57.9	-0.1
SONM	Songino Array 1.2nm,0.5s,baz=144,slow=5.1,SNR=11	67.21	328	P	P	06 51 57.9	-0.1
TIXI	Tiksi 6.1nm,1.0s	79.08	353	*e*P	P	06 53 06.7	-0.7
MK31	Makanchi Array	81.05	319	*e*P	P	06 53 18.8	+0.1
MKAR	Makanchi Array	81.05	319	P	P	06 53 18.8	+0.1
MKAR	Makanchi Array 3.3nm,0.8s,baz=104,slow=6.0,SNR=33	81.05	319	P	P	06 53 18.8	+0.1
ZAA0	Zalesovo Array	82.01	326	*e*P	P	06 53 22.8	-0.7
ZALV	Zalesovo Beam	82.01	326	P	P	06 53 22.8	-0.7
ZALV	Zalesovo Beam 8.1nm,0.6s,baz=110,slow=5.8,SNR=30	82.01	326	P	P	06 53 22.8	-0.7
MCK	McKinley 12nm,0.9s	82.12	23	*e*P	P	06 53 24.0	0.0
COLA	College 8.5nm,0.8s	83.11	22	*e*P	P	06 53 28.8	-0.2
ILAR	Eielson Array	83.42	22	P	P	06 53 30.1	-0.6
ILAR	Eielson Array 4.1nm,0.7s,baz=255,slow=5.2,SNR=34	83.42	22	P	P	06 53 30.1	-0.6
MAW	Mawson	84.31	203	P	P	06 53 35.1	-0.1
MAW	Mawson 4.0nm,1.0s,baz=287,slow=23,SNR=4.0	84.31	203	P	P	06 53 35.1	-0.1
KURK	Kurchatov 9.1nm,1.2s	84.55	322	*e*P	P	06 53 36.5	-0.2
TKM2	Tokmak 2 SNR=10	84.56	314	P	P	06 53 37.6	+0.3
TKM2	Tokmak 2 8.6nm,0.9s	84.56	314	*e*P	P	06 53 37.6	+0.3
KZA	Kyzart SNR=11	84.62	313	P	P	06 53 38.9	+1.1
KBK	Karagaybulak SNR=6.0	84.97	314	P	P	06 53 40.1	+0.9
CHMS	Chumysh SNR=8.7	85.19	314	P	P	06 53 40.5	+0.4
UCH	Uchtor SNR=12	85.19	313	P	P	06 53 41.7	+1.0
AAK	Ala-Archa SNR=11	85.29	314	P	P	06 53 41.5	+0.6
AAK	Ala-Archa 9.3nm,0.9s	85.29	314	*e*P	P	06 53 41.2	+0.3
USP	Ospenovka SNR=15	85.42	314	P	P	06 53 41.9	+0.5
EGAK	Eagle 8.7nm,1.1s	85.62	23	*e*P	P	06 53 43.0	+1.2
AML	Almayashu SNR=18	85.76	313	P	P	06 53 44.1	+0.6
EKS2	Erkin-Say SNR=10	85.81	314	P	P	06 53 44.3	+0.9
EKS2	Erkin-Say 17nm,1.1s	85.81	314	*e*P	P	06 53 44.3	+0.9
NVAR	Mina Array Bea	93.09	52	P	P	06 54 19.7	+1.7
NVAR	Mina Array Bea 1.8nm,0.7s,baz=263,slow=6.9,SNR=16	93.09	52	P	P	06 54 19.7	+1.7
ABKAR	Akbulak array 0.3nm,0.5s	96.20	319	*e*P	P	06 54 30.9	-0.8
YKA	Yellowknife Ar	96.67	28	P	P	06 54 34.5	+1.0
YKA	Yellowknife Ar 0.3nm,0.7s,baz=271,slow=4.7,SNR=8.0	96.67	28	P	P	06 54 34.5	+1.0
CLL	Collm	123.78	331	*e*PKPdf	PKPdf	07 00 02.0	+0.6
TOA0	Torodi Ar. Sit	150.37	286	*e*PKPdf	PKPdf	07 00 51.5	+0.8
TOA0				*e*PKPbc	PKPbc	07 00 55.4	-0.5
TOA0				*e*PKPab	PKPab	07 01 02.0	-0.3
TORD	Torodi Ar. Bea	150.37	286	PKPbc	PKPbc	07 00 55.4	-0.6
TORD	Torodi Ar. Bea 9.6nm,0.7s,baz=70,slow=2.8,SNR=60	150.37	286	PKPbc	PKPbc	07 00 55.4	-0.6
BDFB	Brasilia	150.39	137	PKPbc	PKPbc	07 00 56.0	-0.1
BDFB	Brasilia 1.7nm,0.6s,baz=132,slow=7.0,SNR=4.2	150.39	137	PKPbc	PKPbc	07 00 56.0	-0.1

JMA 04 06:49:44.4,32°.53N×139°.60E,h10km±3km,M2.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	0.57	17	P	Pg	06 49 55.4	0.0
JHCJ				S	Sg	06 50 02.9	0.0
JHJ2	Mitsune	0.61	17	P	P

JHJ				S	Sg	06 50 04.5	+0.3	
MAT	**Matsushiro**	**4.17**	**344**	P	Pn	06 50 52.3	+4.3	

IDC 04 06:50:21.4±2.5, 1°77'S×138°54'E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/27, Error ellipse: s-maj=125.4km s-min=21.6km az=80.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.52**	**193**	P	P	06 54 39.0	-0.6
	0.2nm,0.3s,baz=15,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**22.23**	**191**	P	P	06 55 19.9	-0.1
	2.2nm,0.9s,baz=23,slow=9.8,SNR=14						
STKA	**Stephens Creek**	**30.09**	**175**	P	P	06 56 32.9	+0.2
	0.8nm,0.7s,baz=351,slow=8.0,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**34.24**	**53**	T	T	07 32 45.3	
	baz=236,slow=75,SNR=61						
H11S2	**WAKE ISLAND Hy**	**34.25**	**53**	T	T	07 32 47.1	
	baz=236,slow=75,SNR=72						
H11S1	**WAKE ISLAND Hy**	**34.26**	**53**	T	T	07 32 46.7	
	baz=236,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**35.07**	**51**	T	T	07 33 49.9	
	baz=233,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**35.08**	**51**	T	T	07 33 56.0	
	baz=233,slow=75,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**35.09**	**51**	T	T	07 33 55.1	
	baz=233,slow=75,SNR=4.7						
KSRS	**Korea Array**	**40.25**	**347**	LR	LR	07 12 14.3	
	comp=Z,42nm,18.1s,baz=143,slow=33						
MKAR	**Makanchi Array**	**68.95**	**322**	P	P	07 01 27.5	-1.1
	0.4nm,0.8s,baz=122,slow=6.1,SNR=3.3						
BVAR	**Borovoye Array**	**78.45**	**325**	P	P	07 02 25.3	+1.1
	0.2nm,0.4s,baz=95,slow=9.0,SNR=3.6						

*IDC **04** 07:04:19.6±1.0, 8°.64S×157°.37E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=27.6km s-min=17.0km az=10.0*
*ISCJB **04** 07:04:20.9±0.9, 8°.7S±0°.2×157°.3E±0°.1, h16km, mb3.7/6, Error ellipse: s-maj=24.0km s-min=16.7km az=177.8*

ISC 04 07:04:21.6±1.0, 8°.7S±0°.2×157°.5E±0°.1, h16km, n8, σ0s70/8, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**107**	Pn	**Pn**	**07 05 03.1**	**+0.9**
	12nm,0.3s,baz=255,slow=12,SNR=3.5						
HNR				Lg	Lg	07 05 45.1	
	23nm,0.3s,baz=63,slow=22,SNR=3.7						
HNR	**Honiara**	**2.54**	**107**	P	**Pb**	**07 05 06.0**	**-0.8**
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**07 09 45.4**	**+0.1**
	4.1nm,0.8s,baz=67,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**27.04**	**234**	P	**P**	**07 10 02.7**	**-0.7**
	0.8nm,0.8s,baz=67,slow=9.3,SNR=7.5						
STKA	**Stephens Creek**	**27.39**	**210**	P	**P**	**07 10 06.8**	**+0.4**
	1.2nm,0.6s,baz=40,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**86.31**	**318**	P	**P**	**07 17 03.3**	**+0.3**
	0.6nm,0.6s,baz=97,slow=6.0,SNR=9.3						
KURBB	**Kurchatov Arra**	**89.72**	**321**	P	**P**	**07 17 19.2**	**+0.1**
	0.2nm,0.6s,baz=112,slow=3.0,SNR=3.3						
BVAR	**Borovoye Array**	**95.14**	**323**	P	**P**	**07 17 43.7**	**-0.4**
	0.3nm,0.6s,baz=92,slow=7.5,SNR=3.3						

KRSC 04 07:08:28.9±2.2, 50°.47N×157°.13E, h30km±12km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.68**	**289**	*e*P	Pb	07 08 41.8	-0.4
SKR				*e*S	Sb	07 08 50.5	-0.9
PAU	**Pauzhetka**	**1.02**	**349**	*e*P	Pb	07 08 48.6	+0.7
PAU				*e*S	Sb	07 09 02.2	+1.3
ASAK	**Asacha**	**1.97**	**14**	P	Pb	07 09 03.3	-0.9
ASAK				S	Sb	07 09 27.6	-0.9
MTVR	**Mutnovka**	**2.12**	**18**	*e*P	Pb	07 09 04.7	-2.1
MTVR				*e*S	Sb	07 09 30.4	-2.4
RUS	**Russkaya**	**2.15**	**23**	*e*S	Sn	07 09 29.1	+1.0
APC	**Apacha**	**2.46**	**0**	S	Sb	07 09 41.0	-1.1
PET	**Petropavlovsk**	**2.73**	**20**	S	Sn	07 09 45.0	+2.6
UGLR	**Uglovaya**	**2.94**	**20**	P	Pb	07 09 17.4	-3.2
AVH	**Avacha**	**2.97**	**19**	P	Pn	07 09 17.4	+3.4
AVH				S	Sn	07 09 51.7	+3.1
KOK	**Koryaka**	**2.98**	**18**	P	Pb	07 09 18.4	-2.9
KOK				S	Sb	07 09 53.6	-3.6
SMAR	**Somma**	**2.98**	**20**	P	Pb	07 09 18.4	-3.1
KRER	**Koryakskii**	**3.01**	**19**	P	Pn	07 09 18.2	+3.5
KRER				S	Sn	07 09 53.5	+3.6
SDLR	**Sedlovina**	**3.01**	**20**	P	Pn	07 09 17.7	+3.1
SDLR				S	Sn	07 09 52.0	+2.2
KRX	**Arik**	**3.04**	**17**	P	Pb	07 09 19.0	-3.5
KRX				S	Sn	07 09 54.5	+4.0
SPN	**Mys Shipunski**	**3.19**	**33**	*e*S	Sn	07 09 55.0	+1.3
GNL	**Ganaly**	**3.27**	**8**	P	Pn	07 09 20.1	+2.0

IDC 04 07:19:31.2±1.5, 8°.54S×157°.47E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, ML3.9/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/34, Error ellipse: s-maj=37.4km s-min=16.7km az=10.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.60**	**110**	Pn	Pn	07 20 14.5	-0.1
	25nm,0.3s,baz=214,slow=11,SNR=4.6						
HNR				Lg	Lg	07 20 53.5	
	98nm,0.3s,baz=75,slow=20,SNR=13						
PMG	**Port Moresby**	**10.22**	**264**	LR	LR	07 25 43.1	
	comp=Z,141nm,18.4s,baz=124,slow=36						
WRA	**Warramunga Arr**	**25.09**	**241**	P	P	07 24 56.9	-1.0
	3.9nm,1.0s,baz=66,slow=9.6,SNR=6.6						
ASAR	**Alice Springs**	**27.12**	**234**	P	P	07 25 15.6	-0.6
	1.2nm,1.0s,baz=61,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**27.52**	**210**	P	P	07 25 20.8	+1.1
	1.5nm,0.8s,baz=22,slow=13,SNR=3.4						
STKA				LR	LR	07 34 50.6	
	comp=Z,100nm,19.0s,baz=22,slow=33						
H11S3	**WAKE ISLAND Hy**	**28.36**	**19**	T	T	07 54 15.8	
	baz=200,slow=77,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.36**	**19**	T	T	07 54 18.0	
	baz=200,slow=77,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.38**	**19**	T	T	07 54 19.3	
	baz=200,slow=77,SNR=12						
MKAR	**Makanchi Array**	**86.18**	**318**	P	P	07 32 15.0	+0.4
	0.6nm,0.6s,baz=102,slow=5.8,SNR=7.0						
DLBC	**Dease Lake**	**88.22**	**30**	LR	LR	08 07 23.6	
	comp=Z,89nm,18.3s,baz=188,slow=33						

*IDC **04** 07:31:17.6±0.6, 8°.70S×157°.23E, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.4/20, mbtmp4.3/14, ML3.7/2, Error ellipse: s-maj=17.9km s-min=14.9km az=8.0*
*ISCJB **04** 07:31:18.9±0.5, 8°.69S±0°.09×157°.20E±0°.08, h19km, mb4.3/15, Error ellipse: s-maj=13.6km s-min=10.1km az=142.9*
*NEIC **04** 07:31:22.6±0.4, 8°.70S×157°.20E, h35km, mb4.6/5, Error ellipse: s-maj=13.5km s-min=9.1km az=143.0*

ISC 04 07:31:20.6±0.5, 8°.7S±0°.1×157°.24E±0°.09, h19km, n44, σ0s97/42, mb4.3/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.77**	**106**	*e*Pn	**Pn**	**07 32 03.8**	**-0.2**
HNR				Lg	Lg	07 32 45.5	
HNR	**Honiara**	**2.77**	**106**	Pn	**Pn**	**07 32 02.4**	**-1.6**
	26nm,0.3s,baz=219,slow=11,SNR=10						
HNR				Lg	Lg	07 32 45.4	
	160nm,0.3s,baz=288,slow=23,SNR=6.2						
COEN	**Coen**	**14.75**	**248**	Pn	**Pn**	**07 34 46.9**	**-1.5**
	200nm,1.4s						
CTA	**Charters Tower**	**15.54**	**222**	Pn	**Pn**	**07 34 59.9**	**+1.1**
CTA	**Charters Tower**	**15.54**	**222**	Pn	**Pn**	**07 34 59.9**	**+1.1**
	0.1nm,0.3s,baz=51,slow=12,SNR=4.1						
CTAO	**Charters Tower**	**15.54**	**222**	*e*Pn	**Pn**	**07 34 57.5**	**-1.4**
	20nm,1.3s						
WRAB	**Tennant Creek**	**24.80**	**241**	*e*P	**P**	**07 36 42.4**	**+0.7**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.82**	**241**	P	**P**	**07 36 40.5**	**-1.3**
WRA				PcP	**PcP**	**07 40 19.4**	**+1.2**
WRA	**Warramunga Arr**	**24.82**	**241**	P	**P**	**07 36 40.5**	**-1.3**
	17nm,0.9s,baz=65,slow=9.4,SNR=39						
WRA				PcP	**PcP**	**07 40 19.4**	**+1.2**
	2.4nm,1.1s,baz=60,slow=2.1,SNR=11						
ASAR	**Alice Springs**	**26.85**	**234**	P	**P**	**07 36 58.4**	**-1.9**
ASAR				PcP	**PcP**	**07 40 23.4**	**+0.6**
ASAR	**Alice Springs**	**26.85**	**234**	P	**P**	**07 36 58.4**	**-1.9**
	5.4nm,1.0s,baz=64,slow=8.7,SNR=8.0						
ASAR				PcP	**PcP**	**07 40 23.4**	**+0.6**
	0.7nm,0.9s,baz=67,slow=2.8,SNR=4.1						
STKA	**Stephens Creek**	**27.28**	**210**	*e*P	**P**	**07 37 03.8**	**-0.1**
	3.3nm,1.1s						
STKA	**Stephens Creek**	**27.28**	**210**	P	**P**	**07 37 03.9**	**-0.1**
	8.0nm,0.9s,baz=17,slow=12,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	08 05 57.4	
	baz=201,slow=77,SNR=91						
H11S2	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	08 05 41.7	
	baz=201,slow=77,SNR=83						
H11S1	**WAKE ISLAND Hy**	**28.59**	**19**	T	T	08 05 58.6	
	baz=201,slow=77,SNR=40						
H11N1	**WAKE ISLAND Hy**	**29.77**	**19**	T	T	08 07 13.4	
	baz=200,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**29.79**	**19**	T	T	08 07 34.2	
	baz=200,SNR=12						
H11N2	**WAKE ISLAND Hy**	**29.79**	**19**	T	T	08 07 18.0	
	baz=200,SNR=10						
USRK	**Ussuriysk Arra**	**57.39**	**339**	P	**P**	**07 41 08.7**	**+1.0**
	3.1nm,0.8s,baz=187,slow=11,SNR=4.5						
CMAR	**Chiang Mai Arr**	**63.52**	**296**	P	**P**	**07 41 50.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**63.52**	**296**	P	**P**	**07 41 50.8**	**+0.6**
	6.2nm,1.0s,baz=108,slow=4.9,SNR=21						
VNDA	**Vanda**	**68.85**	**179**	P	**P**	**07 42 24.3**	**+0.9**
VNDA	**Vanda**	**68.85**	**179**	P	**P**	**07 42 24.3**	**+0.9**
	2.1nm,0.8s,baz=351,slow=6.0,SNR=4.4						
SONM	**Songino Array**	**71.96**	**327**	P	**P**	**07 42 43.8**	**+0.8**
SONM	**Songino Array**	**71.96**	**327**	P	**P**	**07 42 43.8**	**+0.8**
	3.0nm,1.0s,baz=119,slow=3.3,SNR=14						
SHL	**Shillong**	**72.07**	**300**	*e*P	**P**	**07 42 44.5**	**+0.3**
QSPA	**South Pole Qui**	**81.30**	**180**	*e*P	**P**	**07 43 36.9**	**+1.3**
	16nm,1.1s						
MCK	**McKinley**	**82.80**	**21**	*e*P	**P**	**07 43 42.0**	**-1.2**
	18nm,1.2s						
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**07 43 49.3**	**-0.8**
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**07 43 49.3**	**-0.8**
	1.5nm,1.1s,baz=274,slow=4.7,SNR=6.4						
MK31	**Makanchi Array**	**86.14**	**318**	*e*P	**P**	**07 44 00.4**	**-0.1**
MKAR	**Makanchi Array**	**86.14**	**318**	P	**P**	**07 44 00.0**	**-0.5**
MKAR	**Makanchi Array**	**86.14**	**318**	P	**P**	**07 44 00.0**	**-0.5**
	2.1nm,0.9s,baz=100,slow=6.5,SNR=15						
ZALV	**Zalesovo Beam**	**86.82**	**326**	P	**P**	**07 44 02.7**	**-1.0**
ZALV	**Zalesovo Beam**	**86.82**	**326**	P	**P**	**07 44 02.7**	**-1.0**
	0.4nm,0.5s,baz=85,slow=6.4,SNR=4.5						
NVAR	**Mina Array Bea**	**91.02**	**51**	P	**P**	**07 44 23.6**	**-0.6**
NVAR	**Mina Array Bea**	**91.02**	**51**	P	**P**	**07 44 23.6**	**-0.6**
	1.2nm,1.0s,baz=253,slow=7.2,SNR=5.4						
YKA	**Yellowknife Ar**	**96.78**	**28**	P	**P**	**07 44 50.4**	**+0.6**
YKA	**Yellowknife Ar**	**96.78**	**28**	P	**P**	**07 44 50.3**	**+0.6**
	0.3nm,0.7s,baz=262,slow=4.3,SNR=6.6						
BDFB	**Brasilia**	**145.21**	**134**	PKPbc	**PKPdf**	**07 50 58.2**	**0.0**
BDFB	**Brasilia**	**145.21**	**134**	PKPbc	**PKPdf**	**07 50 58.2**	**0.0**
	7.4nm,0.8s,baz=177,slow=4.2,SNR=12						
TORD	**Torodi Ar. Bea**	**155.59**	**283**	PKPab	**PKPab**	**07 51 39.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**155.59**	**283**	PKPab	**PKPab**	**07 51 39.7**	**-0.5**
	1.0nm,0.9s,baz=79,slow=4.5,SNR=4.4						

IDC 04 07:34:50.7±6.8, 12°.58S×165°.45E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/31, Error ellipse: s-maj=207.7km s-min=53.3km az=114.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.48**	**174**	LR	LR	07 40 00.0	
	comp=Z,225nm,18.1s,baz=5.7,slow=33						
STKA	**Stephens Creek**	**29.14**	**225**	P	P	07 40 53.5	-0.1
	1.5nm,1.0s,baz=55,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**31.87**	**245**	P	P	07 41 17.9	0.0
	0.8nm,0.8s,baz=73,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**94.44**	**317**	P	P	07 48 12.7	-0.1
	0.4nm,0.8s,baz=97,slow=5.2,SNR=3.6						

*IDC **04** 07:36:27.1±0.6, 8°.54S×157°.30E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, ML4.0/1, Error ellipse: s-maj=18.1km s-min=13.5km az=18.0*
*ISCJB **04** 07:36:28.2±0.6, 8°.52S±0°.10×157°.3E±0°.1, h16km, mb4.1/15, Error ellipse: s-maj=17.3km s-min=12.8km az=31.9*
*NEIC **04** 07:36:32.3±0.6, 8°.57S×157°.35E, h35km, mb4.6/2, Error ellipse: s-maj=16.1km s-min=14.9km az=144.0*

ISC 04 07:36:29.8±0.5, 8°.5S±0°.1×157°.37E±0°.08, h16km, n41, σ1s19/36, mb4.0/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.71**	**110**	Pn	**Pn**	**07 37 11.8**	**-1.0**
HNR				Lg	Lg	07 37 54.0	
HNR	**Honiara**	**2.71**	**110**	Pn	**Pn**	**07 37 11.7**	**-1.0**
	25nm,0.3s,baz=228,slow=11,SNR=5.8						
HNR				Pg	**Pb**	**07 37 18.7**	**+0.7**
	84nm,0.3s,baz=270,slow=1.9,SNR=4						
HNR				Lg	Lg	07 37 54.0	
	50nm,0.3s,baz=203,slow=16,SNR=3.1						
HNR	**Honiara**	**2.71**	**110**	*e*P	**Pb**	**07 37 18.0**	**0.0**
CTA	**Charters Tower**	**15.76**	**222**	Pn	**P**	**07 40 15.6**	**+0.5**
CTA	**Charters Tower**	**15.76**	**222**	Pn	**P**	**07 40 15.6**	**+0.5**
	0.4nm,0.3s,baz=45,slow=12,SNR=8.6						
WRAB	**Tennant Creek**	**25.00**	**240**	*e*P	**P**	**07 41 51.9**	**-1.3**
	17nm,0.8s						
WRA	**Warramunga Arr**	**25.02**	**240**	P	**P**	**07 41 51.7**	**-1.6**
WRA	**Warramunga Arr**	**25.02**	**240**	P	**P**	**07 41 51.7**	**-1.6**
	12nm,0.8s,baz=65,slow=9.4,SNR=26						
ASAR	**Alice Springs**	**27.06**	**233**	P	**P**	**07 42 09.3**	**-2.5**
ASAR	**Alice Springs**	**27.06**	**233**	P	**P**	**07 42 09.3**	**-2.5**
	3.2nm,0.8s,baz=62,slow=9.4,SNR=13						
STKA	**Stephens Creek**	**27.50**	**210**	P	**P**	**07 42 16.2**	**+0.6**
STKA	**Stephens Creek**	**27.50**	**210**	P	**P**	**07 42 16.2**	**+0.6**
	5.2nm,0.6s,baz=40,slow=13,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.35**	**19**	T	T	08 10 49.1	
	baz=201,slow=77,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.35**	**19**	T	T	08 10 49.4	
	baz=201,slow=77,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.37**	**19**	T	T	08 10 50.6	
	baz=201,slow=77,SNR=22						
H11N1	**WAKE ISLAND Hy**	**29.56**	**18**	T	T	08 12 16.3	
	baz=196,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**29.57**	**18**	T	T	08 12 19.2	
	baz=196,slow=75,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**29.58**	**18**	T	T	08 12 17.7	
	baz=196,slow=75,SNR=4.3						
MJAR	**Matsushiro Arr**	**48.28**	**339**	P	**P**	**07 45 11.9**	**+1.6**
MJAR	**Matsushiro Arr**	**48.28**	**339**	P	**P**	**07 45 11.9**	**+1.6**
	0.9nm,0.8s,baz=173,slow=7.7,SNR=4.1						
KSRS	**Korea Array**	**53.37**	**331**	P	**P**	**07 45 49.1**	**+0.5**
	1.2nm,0.7s,baz=146,slow=7.2,SNR=3.1						
KSAR	**Wonju Array Be**	**53.38**	**331**	P	**P**	**07 45 49.1**	**+0.4**
PETK	**Petropavlovsk-**	**61.36**	**0**	P	**P**	**07 46 44.2**	**-0.6**
PETK	**Petropavlovsk-**	**61.36**	**0**	P	**P**	**07 46 44.2**	**-0.6**
	3.7nm,0.8s,baz=198,slow=9.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**63.55**	**295**	P	**P**	**07 47 00.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**63.55**	**295**	P	**P**	**07 47 00.6**	**+0.5**
	0.9nm,0.5s,baz=113,slow=4.6,SNR=4.8						
SONM	**Songino Array**	**71.87**	**327**	P	**P**	**07 47 52.9**	**+0.7**
SONM	**Songino Array**	**71.87**	**327**	P	**P**	**07 47 52.9**	**+0.7**
	1.2nm,0.8s,baz=137,slow=5.5,SNR=11						
QSPA	**South Pole Qui**	**81.49**	**180**	*e*P	**P**	**07 48 48.6**	**+2.3**
	8.5nm,1.2s						
ILAR	**Eielson Array**	**83.91**	**21**	P	**P**	**07 48 57.6**	**-1.1**
ILAR	**Eielson Array**	**83.91**	**21**	P	**P**	**07 48 57.6**	**-1.1**
	0.6nm,0.9s,baz=258,slow=5.3,SNR=5.7						
MKAR	**Makanchi Array**	**86.08**	**318**	P	**P**	**07 49 09.7**	**-0.3**
MKAR	**Makanchi Array**	**86.08**	**318**	P	**P**	**07 49 09.7**	**-0.3**
	0.8nm,0.6s,baz=98,slow=6.5,SNR=9.2						
ZALV	**Zalesovo Beam**	**86.73**	**326**	P	**P**	**07 49 11.2**	**-1.8**
ZALV	**Zalesovo Beam**	**86.73**	**326**	P	**P**	**07 49 11.2**	**-1.8**
	0.5nm,0.6s,baz=98,slow=6.0,SNR=2.4						
NVAR	**Mina Array Bea**	**90.81**	**51**	P	**P**	**07 49 34.0**	**+1.0**
NVAR	**Mina Array Bea**	**90.81**	**51**	P	**P**	**07 49 34.0**	**+1.0**
	0.1nm,0.3s,baz=267,slow=7.7,SNR=3.8						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**07 49 58.3**	**-0.2**
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**07 49 58.3**	**-0.2**
	0.3nm,0.6s,baz=263,slow=5.0,SNR=4.6						
BDFB	**Brasilia**	**145.25**	**134**	PKPbc	**PKPdf**	**07 56 07.9**	**-0.1**
BDFB	**Brasilia**	**145.25**	**134**	PKPbc	**PKPdf**	**07 56 07.9**	**-0.1**
	2.6nm,0.7s,baz=154,slow=2.3,SNR=5.3						

*IDC **04** 07:38:58.2±0.6, 8°.56S×157°.23E, h0km, mb4.4/13, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML3.3/3, MS4.0/12, Ms1 4.0/12, ms1mx3.9/21, Error ellipse: s-maj=16.7km s-min=12.9km az=24.0*
*ISCJB **04** 07:38:59.7±0.3, 8°.56S±0°.04×157°.14E±0°.05, h16km, mb4.8/47, MS4.3/22, Error ellipse: s-maj=7.7km s-min=5.9km az=13.0*
*MOS **04** 07:39:01.6±1.1, 8°.57S×157°.19E, h33km, mb5.3/15, Error ellipse: s-maj=11.8km s-min=10.1km az=48.3*
*BJI **04** 07:39:02.0, 8°.10S×157°.52E, h28km, mB5.3/29, mb4.9/40, Ms5.2/18, Ms7 4.9/17*
*NEIC **04** 07:39:03.6±0.3, 8°.61S×157°.26E, h35km, mb5.2/18, Error ellipse: s-maj=9.6km s-min=7.7km az=125.0*

ISC 04 07:39:01.4±0.3, 8°.59S±0°.06×157°.27E±0°.05, h16km, n133, σ1s95/150, mb4.9/48, MS4.2/22, 6C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.77**	**108**	Pn	**Pn**	**07 39 43.8**	**-1.4**
HNR				Lg	Lg	07 40 26.7	
HNR				*e*Sn	**Sg**	**07 40 32.2**	**+1.6**
HNR	**Honiara**	**2.77**	**108**	Pn	**Pn**	**07 39 43.7**	**-1.4**
	19nm,0.3s,baz=247,slow=12,SNR=6.4						
HNR				Pg	**Pb**	**07 39 50.4**	**-0.2**
	156nm,0.3s,baz=230,slow=4.7,SNR=11						
HNR				Lg	Lg	07 40 26.7	
	101nm,0.3s,baz=43,slow=19,SNR=4.0						
HNR	**Honiara**	**2.77**	**108**	*i* P	Pn	07 39 40.0	-5.2
COEN	**Coen**	**14.81**	**248**	*e*Pn	**Pn**	**07 42 32.8**	**+2.4**
COEN	**Coen**	**14.81**	**248**	P	**P**	**07 42 34.0**	**-2.2**
	baz=14,SNR=4.3						
CTA	**Charters Tower**	**15.63**	**222**	Pn	**Pn**	**07 42 39.6**	**-1.5**
CTA	**Charters Tower**	**15.63**	**222**	Pn	**Pn**	**07 42 39.6**	**-1.5**
	0.1nm,0.3s,baz=47,slow=14,SNR=4.5						
CTAO	**Charters Tower**	**15.63**	**222**	*e*P	**Pn**	**07 42 40.1**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,96nm,1.6s						
CTAO	**Charters Tower**	**15.63**	**222**	*e*Pn	**Pn**	**07 42 40.1**	**-1.1**
	comp=Z,96nm,1.6s						
DZM	**Mont Dzumac**	**16.05**	**148**	*e*P	**P**	**07 42 47.4**	**+0.8**
	comp=Z,63nm,1.8s						
DZM				*e*LR	LR	07 46 34.8	
	comp=Z,949nm,26.6s						
DZM	**Mont Dzumac**	**16.05**	**148**	*e*Pn	**Pn**	**07 42 47.3**	**+0.6**
	comp=Z,74nm,1.8s						
DZM	**Mont Dzumac**	**16.05**	**148**	Pn	**Pn**	**07 42 47.4**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=358,slow=13,SNR=7.1						
RMQ	**Roma**	**19.54**	**203**	P	**Pn**	**07 43 30.0**	**+0.2**
	baz=19,SNR=6.8						
QIS	**Mount Isa**	**20.80**	**233**	P	**P**	**07 43 42.6**	**+0.3**
	baz=20,SNR=5.7						
QLP	**Quilpie**	**21.75**	**213**	P	**P**	**07 43 52.2**	**-0.1**
	baz=21,SNR=12						
ARMA	**Armidale**	**22.35**	**193**	*e*P	**P**	**07 43 59.9**	**+1.1**
	comp=Z,58nm,1.3s						
ARMA	**Armidale**	**22.35**	**193**	P	**P**	**07 44 01.4**	**+2.5**
	baz=22,SNR=5.0						
WRAB	**Tennant Creek**	**24.87**	**241**	P	**P**	**07 44 22.2**	**-1.4**
	comp=Z,82nm,2.0s,SNR=6.3						
WRAB	**Tennant Creek**	**24.87**	**241**	*c*eP	**P**	**07 44 21.5**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,64nm,1.7s						
WRAB	**Tennant Creek**	**24.87**	**241**	*e*P	**P**	**07 44 22.4**	**-1.2**
	comp=Z,373nm,2.7s						
WRA	**Warramunga Arr**	**24.89**	**241**	P	**P**	**07 44 22.6**	**-1.2**
WRA				PcP	**PcP**	**07 47 59.6**	**0.0**
WRA	**Warramunga Arr**	**24.89**	**241**	P	**P**	**07 44 22.6**	**-1.2**
	comp=Z,12nm,0.9s,baz=65,slow=9.5,SNR=19						
WRA				PcP	**PcP**	**07 47 59.6**	**0.0**
	comp=Z,3.9nm,1.0s,baz=64,slow=1.6,SNR=8.6						
WRA				LR	LR	07 53 27.4	
	comp=Z,751nm,20.2s,baz=70,slow=35						
CMSA	**Cobar Meteorol**	**25.25**	**204**	P	**P**	**07 44 26.4**	**-0.4**
	baz=24,SNR=26						
ASAR	**Alice Springs**	**26.92**	**233**	P	**P**	**07 44 40.4**	**-1.9**
ASAR	**Alice Springs**	**26.92**	**233**	P	**P**	**07 44 40.4**	**-1.9**
	comp=Z,5.5nm,1.0s,baz=64,slow=9.0,SNR=21						
STKA	**Stephens Creek**	**27.37**	**210**	*e*P	**P**	**07 44 45.3**	**-0.7**
STKA

GYA				S	**S**	**07 57 20.2**	**-2.6**	
GYA				SS	**SS**	**08 01 19.9**	**-0.5**	
GYA				pmax	pmax			
	comp=Z,30nm,1.1s							
GYA				pmax	pmax			
	comp=Z,140nm,5.6s							
GYA				LR	LR			
	comp=Z,690nm,19.2s							
GYA				LR	LR			
	comp=Z,560nm,20.6s							
GYA				LR	LR			
	comp=Z,660nm,19.0s							
BJI	**Beijing**	**61.51**	**325**	P	**P**	**07 49 15.2**	**-2.4**	
BJI				pmax	pmax			
	comp=Z,14nm,1.6s							
BJI				pmax	pmax			
	comp=Z,180nm,3.4s							
KMI	**Kunming**	**62.77**	**304**	P	**P**	**07 49 24.9**	**-1.8**	
KMI				pP	**pP**	**07 49 36.0**	**+4.1**	
KMI				sP	sP	07 49 41.1	+7.3	
KMI				pmax	pmax			
	comp=Z,12nm,0.6s							
KMI				pmax	pmax			
	comp=Z,170nm,4.8s							
KMI				LR	LR			
	comp=Z,140nm,21.2s							
CM31	**Chiang Mai Arr**	**63.50**	**295**	*e*P	**P**	**07 49 31.9**	**+0.5**	
	comp=Z,9.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**63.50**	**295**	P	**P**	**07 49 31.1**	**-0.3**	
CMAR	**Chiang Mai Arr**	**63.50**	**295**	P	**P**	**07 49 31.1**	**-0.3**	
	comp=Z,4.5nm,0.9s,baz=114,slow=5.1,SNR=22							
CHTO	**Chiang Mai**	**63.62**	**296**	*e*P	**P**	**07 49 31.5**	**-0.7**	
CHTO				pmax	pmax			
	comp=Z,36nm,1.6s							
CHTO	**Chiang Mai**	**63.62**	**296**	*e*P	**P**	**07 49 31.5**	**-0.7**	
	comp=Z,36nm,1.6s							
CD2	**Chengdu**	**64.56**	**310**	*e*P	**P**	**07 49 39.1**	**+0.9**	
CD2				sP	sP	07 49 54.0	+8.7	
CD2				PP	**PP**	**07 52 03.2**	**+2.8**	
CD2				S	**S**	**07 58 14.7**	**-2.7**	
CD2				sS	sS	07 58 32.5	+6.6	
CD2				SS	**SS**	**08 02 27.3**	**-1.0**	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CD2				pmax	pmax			
	comp=Z,220nm,7.1s							
CD2				LR	LR			
	comp=Z,150nm,17.8s							
CD2				LR	LR			
	comp=Z,140nm,17.8s							
HHC	**Hu-ho-hao-te**	**64.71**	**323**	*e*P	**P**	**07 49 39.0**	**-0.1**	
HHC				sP	**sP**	**07 49 51.1**	**+4.9**	
HHC				S	**S**	**07 58 18.7**	**-0.3**	
HHC				ScS	SKSac	07 59 22.5	-11	
HHC				pmax	pmax			
	comp=Z,24nm,1.3s							
HHC				pmax	pmax			
	comp=Z,240nm,4.3s							
HHC				LR	LR			
	comp=Z,170nm,11.8s							
HHC				LR	LR			
	comp=Z,230nm,13.7s							
HHC				LR	LR			
	comp=Z,180nm,14.8s							
LZH	**Lanzhou**	**67.03**	**315**	*e*P	**P**	**07 49 56.0**	**+1.8**	
LZH				pP	pP	07 50 06.8	+7.4	
LZH				sP	sP	07 50 10.8	+9.5	
LZH				PP	**PP**	**07 52 24.5**	**+2.4**	
LZH				*e*S	**S**	**07 58 43.7**	**-3.9**	
LZH				sS	**sS**	**07 58 58.2**	**+2.0**	
LZH				SS	**SS**	**08 03 06.2**	**-0.6**	
LZH				pmax	pmax			
	comp=Z,36nm,1.0s							
LZH				pmax	pmax			
	comp=Z,180nm,4.5s							
LZH				LR	LR			
	comp=Z,730nm,13.8s							
LZH				LR	LR			
	comp=Z,700nm,13.5s							
LZH				LR	LR			
	comp=Z,850nm,14.8s							
VNDA	**Vanda**	**68.94**	**179**	P	**P**	**07 50 05.9**	**+0.6**	
VNDA	**Vanda**	**68.94**	**179**	P	**P**	**07 50 05.9**	**+0.6**	
	comp=Z,4.4nm,1.0s,baz=346,slow=10,SNR=4.2							
VNDA				LR	LR	08 18 04.5		
	comp=Z,99nm,18.4s,baz=334,slow=34							
GTA	**Gaotai**	**71.44**	**316**	⇑P	**P**	**07 50 21.8**	**+0.4**	
GTA				pP	**pP**	**07 50 31.1**	**+4.4**	
GTA				sP	sP	07 50 35.6	+7.0	
GTA				S	**S**	**07 59 40.9**	**+1.4**	
GTA				pmax	pmax			
	comp=Z,19nm,1.8s							
GTA				pmax	pmax			
	comp=Z,100nm,6.4s							
GTA				LR	LR			
	comp=Z,100nm,15.9s							
GTA				LR	LR			
	comp=Z,110nm,14.3s							
GTA				LR	LR			
	comp=Z,95nm,15.2s							
ULN	**Ulaanbaatar**	**71.56**	**327**	*e*P	**P**	**07 50 22.1**	**+0.1**	
	comp=Z,97nm,2.5s							
SONM	**Songino Array**	**71.90**	**327**	P	**P**	**07 50 23.9**	**-0.1**	
SONM	**Songino Array**	**71.90**	**327**	P	**P**	**07 50 23.9**	**-0.1**	
	comp=Z,2.7nm,1.0s,baz=130,slow=6.1,SNR=13							
SONM				LR	LR	08 18 04.2		
	comp=Z,97nm,20.3s,baz=112,slow=33							
SHL	**Shillong**	**72.04**	**300**	*e*P	**P**	**07 50 24.5**	**-0.9**	
MIR	**Mirnyy**	**72.07**	**202**	⇑*i*P	**P**	**07 50 25.5**	**+1.0**	
MIR				pmax	pmax			
	comp=Z,72nm,1.8s							
YAK	**Yakutsk**	**73.60**	**347**	*e*P	**P**	**07 50 30.4**	**-3.2**	
YAK				pmax	pmax			
	comp=Z,14nm,1.3s							
LSA	**Lhasa**	**74.03**	**304**	*e*P	**P**	**07 50 37.9**	**+0.5**	
LSA				pmax	pmax			
	comp=Z,62nm,1.7s							
LSA	**Lhasa**	**74.03**	**304**	*e*P	**P**	**07 50 37.9**	**+0.5**	
	comp=Z,62nm,1.7s							
ZAK	**Zakamensk**	**75.04**	**328**	*e*P	**P**	**07 50 41.3**	**-1.1**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.9s							
TLY	**Talaya**	**75.58**	**329**	*e*P	**P**	**07 50 44.7**	**-0.7**	
TLY				pmax	pmax			
	comp=Z,8.0nm,1.2s							
QSPA	**South Pole Qui**	**81.39**	**180**	*e*P	**P**	**07 51 17.3**	**-0.1**	
	comp=Z,31nm,1.2s							
QSPA	**South Pole Qui**	**81.39**	**180**	LR	LR	08 22 57.3		
	comp=Z,127nm,18.3s,baz=301,slow=32							
WMQ	**Urumqi**	**81.53**	**317**	P	**P**	**07 51 18.6**	**+0.2**	
WMQ				pP	**PcP**	**07 51 29.0**	**+4.6**	
WMQ				sP	sP	07 51 32.9	+7.3	
WMQ				S	**S**	**08 01 26.4**	**-3.4**	
WMQ				pmax	pmax			
	comp=Z,18nm,1.6s							
WMQ				pmax	pmax			
	comp=Z,180nm,4.7s							
WMQ				LR	LR			
	comp=Z,43nm,19.2s							
WMQ				LR	LR			
	comp=Z,65nm,19.2s							
TIXI	**Tiksi**	**82.26**	**351**	*e*P	**P**	**07 51 19.3**	**-2.2**	
TIXI				pmax	pmax			
	comp=Z,13nm,1.4s							
TIXI	**Tiksi**	**82.26**	**351**	*e*P	**P**	**07 51 19.3**	**-2.2**	
	comp=Z,13nm,1.4s							
MCK	**McKinley**	**82.70**	**21**	*e*P	**P**	**07 51 22.4**	**-1.7**	
MCK				pmax	pmax			
	comp=Z,17nm,1.1s							
MCK	**McKinley**	**82.70**	**21**	*e*P	**P**	**07 51 22.4**	**-1.7**	
	comp=Z,17nm,1.1s							
COLA	**College**	**83.76**	**21**	*i* P	**P**	**07 51 27.4**	**-2.0**	
COLA				pmax	pmax			
	comp=Z,20nm,1.5s							
ILAR	**Eielson Array**	**84.04**	**21**	P	**P**	**07 51 29.1**	**-1.9**	
ILAR	**Eielson Array**	**84.04**	**21**	P	**P**	**07 51 29.1**	**-1.9**	
	comp=Z,1.1nm,0.9s,baz=247,slow=5.0,SNR=5.7							
DOT	**Dot Lake**	**84.45**	**23**	*e*P	**P**	**07 51 32.4**	**-0.7**	
	comp=Z,66nm,2.0s							
HYT	**Haines Junctio**	**85.78**	**26**	*e*P	**P**	**07 51 41.1**	**+1.2**	
MK31	**Makanchi Array**	**86.09**	**318**	*e*P	**P**	**07 51 40.5**	**-1.2**	
MK31	**Makanchi Array**	**86.09**	**318**	*e*P	**P**	**07 51 40.5**	**-1.2**	
MKAR	**Makanchi Array**	**86.09**	**318**	P	**P**	**07 51 40.6**	**-1.1**	
MKAR	**Makanchi Array**	**86.09**	**318**	P	**P**	**07 51 40.6**	**-1.1**	
MKAR	**Makanchi Array**	**86.09**	**318**	P	**P**	**07 51 40.6**	**-1.1**	
	comp=Z,5.9nm,1.0s,baz=101,slow=6.5,SNR=32							
DAWY	**Dawson**	**86.46**	**23**	*e*P	**P**	**07 51 43.2**	**+0.1**	
ZALV	**Zalesovo Beam**	**86.76**	**326**	P	**P**	**07 51 42.6**	**-2.2**	
ZALV	**Zalesovo Beam**	**86.76**	**326**	P	**P**	**07 51 42.5**	**-2.2**	
ZALV	**Zalesovo Beam**	**86.76**	**326**	P	**P**	**07 51 42.5**	**-2.2**	
	comp=Z,0.7nm,0.4s,baz=127,slow=3.9,SNR=7.5							
KSH	**Kashi**	**88.76**	**310**	P	**P**	**07 51 56.1**	**+1.3**	
KSH				*e*sP	sP	07 52 10.5	+8.4	
KSH				*e*PP	**PP**	**07 55 26.0**	**+2.0**	
KSH				*e*SKS	**SKSac**	**08 02 20.2**	**-3.8**	
KSH				*e*S	**SKKSac**	**08 02 37.7**	**+2.5**	
KSH				*e*sS	**sS**	**08 02 55.2**	**+4.6**	
KSH				*e*SS	**SS**	**08 08 31.0**	**-2.8**	
KSH				pmax	pmax			
	comp=Z,29nm,1.7s							
KSH				pmax	pmax			
	comp=Z,200nm,5.3s							
KSH				LR	LR			
	comp=Z,160nm,8.6s							
KSH				LR	LR			
	comp=Z,170nm,5.7s							
KSH				LR	LR			
	comp=Z,170nm,6.4s							
KURK	**Kurchatov**	**89.48**	**321**	*e*P	**P**	**07 51 56.0**	**-1.8**	
KURK				pmax	pmax			
	comp=Z,11nm,1.7s							
KURK	**Kurchatov**	**89.48**	**321**	*e*P	**P**	**07 51 56.0**	**-1.8**	
	comp=Z,11nm,1.7s							
VES	**Vestal, Richgr**	**89.86**	**54**	P	**P**	**07 51 56.9**	**-3.0**	
	baz=90							
ISA	**Isabella**	**90.32**	**54**	P	**P**	**07 52 02.3**	**+0.1**	
	baz=90							
MWC	**Mount Wilson**	**90.40**	**56**	*e*P	**P**	**07 52 03.5**	**+0.8**	
MWC				pmax	pmax			
	comp=Z,27nm,1.5s							
MWC	**Mount Wilson**	**90.40**	**56**	*e*P	**P**	**07 52 03.5**	**+0.8**	
	comp=Z,27nm,1.5s							
AAK	**Ala-Archa**	**90.48**	**313**	*ce*P	**P**	**07 52 01.6**	**-1.3**	
AAK				pmax	pmax			
	comp=Z,20nm,1.6s							
AAK	**Ala-Archa**	**90.48**	**313**	*e*P	**P**	**07 52 02.3**	**-0.6**	
	comp=Z,25nm,2.0s							
MTUM	**Tugsten Hills**	**90.55**	**52**	*e*P	P	07 52 08.9	+5.6	
EDW2	**Edwards Air Fo**	**90.57**	**55**	P	**P**	**07 52 03.5**	**+0.2**	
	baz=91							
BFSC	**Mount Baldy Ra**	**90.73**	**56**	P	**P**	**07 52 04.7**	**+0.5**	
	baz=91							
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**	**07 52 05.5**	**+0.3**	
NVAR	**Mina Array Bea**	**90.94**	**51**	P	**P**	**07 52 05.5**	**+0.3**	
	comp=Z,0.8nm,0.7s,baz=262,slow=7.3,SNR=5.8							
MPMC	**Manual Prospec**	**91.17**	**54**	P	**P**	**07 52 06.3**	**0.0**	
	baz=91							
TPH	**Tonopah**	**91.72**	**52**	*e*P	**P**	**07 52 09.3**	**+0.5**	
TPH				pmax	pmax			
	comp=Z,59nm,3.0s							
TPH	**Tonopah**	**91.72**	**52**	*e*P	**P**	**07 52 09.3**	**+0.5**	
	comp=Z,59nm,3.0s							
FURC	**Furnace Creek,**	**91.74**	**54**	P	**P**	**07 52 09.4**	**+0.7**	
	baz=92							
TPNV	**Topopah Spring**	**92.30**	**53**	*e*P	**P**	**07 52 12.1**	**+0.6**	
TPNV				pmax	pmax			
	comp=Z,71nm,2.6s							
TPNV	**Topopah Spring**	**92.30**	**53**	*e*P	**P**	**07 52 12.1**	**+0.6**	
	comp=Z,71nm,2.6s							
TPNV	**Topopah Spring**	**92.30**	**53**	P	**P**	**07 52 10.6**	**-0.9**	
	baz=92							
GMRC	**Granite Mounta**	**92.44**	**55**	P	**P**	**07 52 12.2**	**+0.1**	
	baz=92							
R11A	**Troy Canyon, C**	**93.04**	**52**	P	**P**	**07 52 15.7**	**+0.8**	
	baz=93							
HLID	**Hailey**	**94.63**	**47**	P	**P**	**07 52 22.5**	**+0.4**	
	baz=95							
BRVK	**Borovoye**	**94.99**	**323**	*ce*P	**P**	**07 52 20.1**	**-3.1**	
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.5s							
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**07 52 29.0**	**-1.7**	
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**07 52 29.0**	**-1.7**	
	comp=Z,1.0nm,1.0s,baz=264,slow=4.4,SNR=8.5							
PDAR	**Pinedale Array**	**98.09**	**48**	LR	LR	08 37 29.7		
	comp=Z,81nm,18.3s,baz=256,slow=36							
APA	**Apatity**	**110.40**	**340**	*e*P	**Pdif**	**07 53 39.0**	**+7.3**	
APA				MLR	MLR			
	comp=Z,1μm,16.0s							
ESK	**Eskdalemuir**	**130.89**	**345**	*i* PKIKP	**PKPdf**	**07 58 10.1**	**-1.9**	
ESDC	**Sonseca Array**	**144.79**	**334**	PKP	**PKPab**	**07 58 36.2**	**-0.7**	
ESDC	**Sonseca Array**	**144.79**	**334**	PKP	**PKPab**	**07 58 36.2**	**-0.7**	
	comp=Z,0.3nm,0.4s,baz=348,slow=1.8,SNR=6.3							
BDFB	**Brasilia**	**145.26**	**134**	PKPbc	**PKPbc**	**07 58 38.9**	**-0.4**	
BDFB	**Brasilia**	**145.26**	**134**	PKPbc	**PKPbc**	**07 58 38.9**	**-0.4**	
	comp=Z,15nm,1.0s,baz=198,slow=2.8,SNR=12							
TAM	**Tamanrasset**	**149.44**	**301**	*e*PKP2	**PKPbc**	**07 58 50.9**	**0.0**	
TAM	**Tamanrasset**	**149.44**	**301**	*e*PKPbc	**PKPbc**	**07 58 50.9**	**0.0**	

*BJI **04** 07:58:32.7,9.°69S×158.°56E,h30km,mB5.2/18,mb4.7/23, Ms5.0/11,Ms7 4.7/11*

*IDC **04** 07:58:35.6±0.6,8.°76S×157.°60E,h0km,mb4.3/12, mb1 4.5/14,mb1mx4.3/21,mbtmp4.2/14,ML3.9/2,MS3.9/14, Ms1 3.9/14,ms1mx3.7/27,Error ellipse: s-maj=18.7km s-min=14.3km az=0.0*

*ISCJB **04** 07:58:38.1±0.3,8.°91S±0.°05×157.°53E±0.°06,h17km, mb4.6/33,MS4.2/15,Error ellipse: s-maj=8.8km s-min=6.5km az=27.0*

*NEIC **04** 07:58:41.6±0.4,8.°79S×157.°50E,h35km,mb4.7/11,Error ellipse: s-maj=13.2km s-min=8.4km az=137.0*

ISC 04 07:58:39.5±0.4,8.°91S±0.°07×157.°71E±0.°07,h17km,n89, σ1s96/92,mb4.7/33,MS4.1/15,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.27**	**104**	Pn	**Pn**		**07 59 16.8**	**+0.6**
HNR				Lg	Lg		07 59 51.5	
HNR	**Honiara**	**2.27**	**104**	Pn	**Pn**		**07 59 16.8**	**+0.6**
	20nm,0.3s,baz=188,slow=11,SNR=4.0							
HNR				Lg	Lg		07 59 51.5	
	102nm,0.3s,baz=330,slow=20,SNR=4.5							
HNR				LR	LR		08 00 09.0	
	comp=Z,993nm,18.2s,baz=279,slow=39							
HNR	**Honiara**	**2.27**	**104**	*e*P	**Pn**		**07 59 17.0**	**+0.8**
PMG	**Port Moresby**	**10.43**	**266**	Pn	Pn		08 01 04.4	-4.0
PMG	**Port Moresby**	**10.43**	**266**	LR	LR		08 04 02.4	
	comp=Z,145nm,19.4s,baz=76,slow=32							
COEN	**Coen**	**15.11**	**249**	*e*Pn	**Pn**		**08 02 10.6**	**-1.7**
	109nm,1.0s							
COEN	**Coen**	**15.11**	**249**	P	**P**		**08 02 18.5**	**+1.1**
	baz=16,SNR=7.5							
DZM	**Mont Dzumac**	**15.55**	**148**	LR	LR		08 06 40.7	
	comp=Z,346nm,19.3s,baz=196,slow=31							
CTA	**Charters Tower**	**15.69**	**224**	Pn	**Pn**		**08 02 18.7**	**-1.2**
CTA	**Charters Tower**	**15.69**	**224**	Pn	**Pn**		**08 02 18.7**	**-1.2**
	0.4nm,0.3s,baz=39,slow=18,SNR=4.0							
CTA				LR	LR		08 07 22.3	
	comp=Z,480nm,18.7s,baz=48,slow=34							
CTAO	**Charters Tower**	**15.69**	**224**	*e*Pn	**Pn**		**08 02 21.8**	**+1.8**
	18nm,1.3s							
EIDS	**Eidsvold**	**17.55**	**200**	*e*Pn	**P**		**08 02 45.1**	**+0.7**
	55nm,1.5s							
EIDS	**Eidsvold**	**17.55**	**200**	P	**P**		**08 02 45.8**	**+1.4**
	baz=18,SNR=4.7							
RMQ	**Roma**	**19.44**	**205**	P	**P**		**08 03 05.3**	**0.0**
	baz=20,SNR=15							
QIS	**Mount Isa**	**20.97**	**234**	P	**P**		**08 03 21.5**	**-0.5**
	baz=22,SNR=5.3							
QLP	**Quilpie**	**21.73**	**214**	P	**P**		**08 03 28.5**	**-1.6**
	baz=22,SNR=8.7							
ARMA	**Armidale**	**22.15**	**194**	*e*P	**P**		**08 03 35.3**	**+0.7**
	17nm,0.8s							
ARMA	**Armidale**	**22.15**	**194**	P	**P**		**08 03 35.5**	**+0.9**
	baz=23,SNR=7.1							
WRAB	**Tennant Creek**	**25.11**	**242**	*e*P	**P**		**08 04 01.4**	**-2.2**
	31nm,1.1s							
WRA	**Warramunga Arr**	**25.12**	**242**	P	**P**		**08 04 01.5**	**-2.3**
WRA				PcP	**PcP**		**08 07 37.5**	**-0.6**
WRA	**Warramunga Arr**	**25.12**	**242**	P	**P**		**08 04 01.5**	**-2.3**
	19nm,1.1s,baz=66,slow=9.7,SNR=22							
WRA				PcP	**PcP**		**08 07 37.5**	**-0.6**
	0.6nm,0.7s,baz=53,slow=2.4,SNR=5.4							
WRA				LR	LR		08 13 28.0	
	comp=Z,356nm,18.5s,baz=80,slow=36							
CMSA	**Cobar Meteorol**	**25.14**	**205**	P	**P**		**08 04 02.8**	**-1.0**
	baz=26,SNR=7.0							
ASAR	**Alice Springs**	**27.09**	**234**	P	**P**		**08 04 19.2**	**-2.4**
ASAR				PcP	**PcP**		**08 07 41.8**	**-0.8**
ASAR	**Alice Springs**	**27.09**	**234**	P	**P**		**08 04 19.2**	**-2.4**
	3.0nm,0.9s,baz=66,slow=8.8,SNR=20							
ASAR				PcP	**PcP**		**08 07 41.8**	**-0.8**
	0.6nm,0.7s,baz=40,slow=4.1,SNR=4.7							
ASAR				LR	LR		08 14 28.4	
	comp=Z,276nm,18.3s,baz=66,slow=35							
STKA	**Stephens Creek**	**27.32**	**211**	*e*P	**P**		**08 04 23.0**	**-0.5**
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**		**08 04 22.8**	**-0.8**
	14nm,0.8s,baz=28,slow=11,SNR=22							
STKA				LR	LR		08 14 27.9	
	comp=Z,234nm,20.8s,baz=21,slow=35							
PALU	**Palau**	**28.23**	**304**	S	**S**		**08 09 18.3**	**+1.1**
	baz=29,SNR=4.4							
H11S3	**WAKE ISLAND Hy**	**28.63**	**18**	T	T		08 33 12.6	
	baz=200,slow=75,SNR=3.8							
H11S2	**WAKE ISLAND Hy**	**28.63**	**18**	T	T		08 33 00.5	
	baz=200,slow=75,SNR=5.9							
H11S1	**WAKE ISLAND Hy**	**28.65**	**18**	T	T		08 33 16.8	
	baz=200							
HTT	**Hallett**	**29.94**	**213**	P	**P**		**08 04 47.9**	**+1.0**
	baz=30,SNR=3.6							
RAO	**Raoul Island**	**30.54**	**135**	LR	LR		08 14 31.5	
	comp=Z,285nm,18.0s,baz=53,slow=31							
BBOO	**Buckleboo**	**31.09**	**217**	*e*P	**P**		**08 04 55.3**	**-1.7**
	380nm,1.4s							
BBOO	**Buckleboo**	**31.09**	**217**	P	**P**		**08 04 55.5**	**-1.6**
	baz=32,SNR=6.4							
ARPS	**Mount Arapiles**	**31.26**	**205**	P	**P**		**08 04 59.0**	**+0.6**
	baz=32,SNR=7.6							
WRKA	**Warakurna**	**32.28**	**237**	P	**P**		**08 05 05.1**	**-2.5**
	baz=33,SNR=5.2							
JNU	**Nakatsue**	**48.98**	**330**	*e*P	**P**		**08 07 24.4**	**-0.9**
JNU	**Nakatsue**	**48.98**	**330**	LR	LR		08 24 44.9	
	comp=Z,76nm,21.7s,baz=176,slow=32							
PPT	**Papeete**	**51.89**	**105**	LR	LR		08 23 33.4	
	comp=Z,91nm,21.3s,baz=240,slow=29							
PMBI	**Palembang**	**52.95**	**273**	P	**P**		**08 07 56.9**	**+1.4**
	baz=54,SNR=12							
KSRS	**Korea Array**	**53.89**	**331**	LR	LR		08 28 37.9	
	comp=Z,53nm,18.4s,baz=327,slow=34							
ASAJ	**Asahikawa**	**54.52**	**347**	LR	LR		08 28 33.5	
	comp=Z,217nm,18.5s,baz=160,slow=33							
NJ2	**Nanjing**	**55.10**	**319**	*e*P	**P**		**08 08 13.3**	**+2.5**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MDJ	**Mudanjiang**	**59.02**	**337**	P	**P**		**08 08 39.8**	**+1.4**
MDJ				pmax	pmax			
	comp=Z,3.0nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,140nm,4.7s							
CN2	**Changchun**	**60.07**	**334**	*e*P	P		08 08 49.2	+3.5
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**60.74**	**307**	P	**P**		**08 08 52.8**	**+2.0**
GYA				pP	pP		08 09 02.6	+6.3
GYA				PP	**PP**		**08 11 08.0**	**+3.1**
GYA				ScP	**ScP**		**08 13 32.2**	**-3.4**
GYA				S	**S**		**08 17 04.9**	**-2.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,110nm,5.2s							
GYA				LR	LR			
	comp=N,460nm,19.4s							
GYA				LR	LR			
	comp=E,380nm,20.3s							
GYA				LR	LR			
	comp=Z,440nm,19.6s							
BJI	**Beijing**	**62.01**	**325**	P	**P**		**08 08 58.8**	**-0.1**
BJI				pmax	pmax			
	comp=Z,7.0nm,1.3s							
BJI				pmax	pmax			
	comp=Z,100nm,4.1s							
KMI	**Kunming**	**63.31**	**304**	P	**P**		**08 09 09.4**	**+1.2**
KMI				pP	pP		08 09 20.7	+7.0
KMI				sP	sP		08 09 25.8	+10
KMI				pmax	pmax			
	comp=Z,9.0nm,1.6s							
CMAR	**Chiang Mai Arr**	**64.03**	**295**	P	**P**		**08 09 11.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**64.03**	**295**	P	**P**		**08 09 11.8**	**-1.0**
	1.5nm,0.4s,baz=116,slow=4.9,SNR=10							
CD2	**Chengdu**	**65.09**	**310**	P	**P**		**08 09 19.4**	**-0.2**
CD2				PP	**PP**		**08 11 45.0**	**+2.0**
CD2				S	**S**		**08 17 57.8**	**-3.9**
CD2				pmax	pmax			
	comp=Z,20nm,0.8s							
CD2				pmax	pmax			
	comp=Z,150nm,6.0s							
CD2				LR	LR			
	comp=E,130nm,16.6s							
CD2				LR	LR			
	comp=Z,130nm,15.5s							
HHC	**Hu-ho-hao-te**	**65.22**	**323**	*e*P	**P**		**08 09 20.6**	**+0.3**
HHC				S	**S**		**08 18 06.8**	**+3.7**
HHC				ScS	**SKSac**		**08 19 10.7**	**-4.2**
HHC				pmax	pmax			
	comp=Z,21nm,0.6s							
HHC				pmax	pmax			
	comp=Z,280nm,5.1s							
HHC				LR	LR			
	comp=N,170nm,19.6s							
HHC				LR	LR			
	comp=E,220nm,14.7s							
HHC				LR	LR			
	comp=Z,170nm,16.3s							
LZH	**Lanzhou**	**67.56**	**315**	*e*P	**P**		**08 09 36.1**	**+0.7**
LZH				pP	**pP**		**08 09 44.6**	**+3.6**
LZH				sP	**sP**		**08 09 47.3**	**+4.3**
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,89nm,4.5s							
VNDA	**Vanda**	**68.62**	**179**	*e*P	**P**		**08 09 42.5**	**+1.3**
	444nm,2.5s							
VNDA	**Vanda**	**68.62**	**179**	P	**P**		**08 09 42.5**	**+1.3**
	5.3nm,1.0s,baz=335,slow=8.8,SNR=6.6							
VNDA				LR	LR		08 35 26.3	
	comp=Z,107nm,19.1s,baz=320,slow=32							
GTA	**Gaotai**	**71.97**	**316**	*e*P	**P**		**08 10 02.8**	**+0.3**
GTA				pP	**pP**		**08 10 13.1**	**+5.0**
GTA				sP	sP		08 10 17.0	+6.9
GTA				S	**S**		**08 19 21.2**	**-2.2**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.6s							
GTA				pmax	pmax			
	comp=Z,64nm,5.5s							
GTA				LR	LR			
	comp=N,100nm,16.2s							
GTA				LR	LR			
	comp=E,160nm,16.9s							
GTA				LR	LR			
	comp=Z,170nm,18.5s							
SONM	**Songino Array**	**72.40**	**327**	P	**P**

KSH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,94nm,5.4s						
KSH				LR	LR		
	comp=N,54nm,5.4s						
KSH				LR	LR		
	comp=E,66nm,7.1s						
KSH				LR	LR		
	comp=Z,74nm,5.6s						
KURK	**Kurchatov**	**89.99**	**321**	*e*P	**P**	**08 11 36.0**	**-2.0**
	1.0nm,1.1s						
ISA	**Isabella**	**90.15**	**54**	*e*P	**P**	**08 11 40.0**	**+0.7**
MWC	**Mount Wilson**	**90.22**	**56**	*e*P	**P**	**08 11 40.4**	**+0.7**
	22nm,1.4s						
NVAR	**Mina Array Bea**	**90.79**	**51**	P	**P**	**08 11 42.4**	**0.0**
NVAR	**Mina Array Bea**	**90.79**	**51**	P	**P**	**08 11 42.4**	**0.0**
	5.0nm,1.1s,baz=254,slow=6.9,SNR=13						
TPH	**Tonopah**	**91.57**	**52**	*e*P	**P**	**08 11 46.7**	**+0.7**
TPNV	**Topopah Spring**	**92.14**	**53**	*e*P	**P**	**08 11 49.3**	**+0.7**
	6.9nm,1.3s						
R11A	**Troy Canyon, C**	**92.88**	**52**	*e*P	**P**	**08 11 52.7**	**+0.7**
HLID	**Hailey**	**94.53**	**47**	*e*P	**P**	**08 12 00.4**	**+1.0**
	8.3nm,1.6s						
BVAR	**Borovoye Array**	**95.43**	**323**	P	P	08 11 59.7	-3.4
BVAR	**Borovoye Array**	**95.43**	**323**	P	P	08 11 59.7	-3.4
	0.4nm,0.7s,baz=72,slow=4.7,SNR=3.1						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**08 12 05.9**	**-3.0**
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**08 12 05.9**	**-3.0**
	0.3nm,0.8s,baz=263,slow=4.9,SNR=3.8						
PDAR	**Pinedale Array**	**97.97**	**48**	P	**P**	**08 12 14.1**	**-1.1**
PDAR	**Pinedale Array**	**97.97**	**48**	P	**P**	**08 12 14.1**	**-1.1**
	0.5nm,0.9s,baz=244,slow=3.9,SNR=3.2						
BDFB	**Brasilia**	**144.73**	**134**	PKP	**PKPab**	**08 18 13.3**	**-2.0**
BDFB	**Brasilia**	**144.73**	**134**	PKP	**PKPab**	**08 18 13.3**	**-2.0**
	4.9nm,0.9s,baz=301,slow=2.9,SNR=5.6						

IDC 04 08:13:46.5±5.5**, 8°.90S**×**156°.19E, h0^{km}, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/18**, mbtmp3.6**/3**, Error ellipse: s-maj=94.1km s-min=72.9km az=8.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**240**	P	P	08 19 00.9	-0.4
	2.1nm,0.9s,baz=66,slow=9.8,SNR=8.6						
ASAR	**Alice Springs**	**25.88**	**233**	P	P	08 19 21.1	+0.7
	0.4nm,0.9s,baz=70,slow=8.4,SNR=3.3						
STKA	**Stephens Creek**	**26.58**	**209**	P	P	08 19 26.0	-0.5
	1.2nm,0.7s,baz=44,slow=15,SNR=6.9						

*IDC **04** 08:18:33.2±0.7, 55°.61S×26°.44W, h0^{km}, mb4.3/6, mb1 4.4/6, mb1mx4.2/15, mbtmp4.3/6, ML2.8/1, MS3.7/2, Ms1 3.7/2, ms1mx3.4/17, Error ellipse: s-maj=34.4km s-min=19.4km az=73.0*

*NEIC **04** 08:18:34.8±0.5, 55°.55S×26°.54W, h10^{km}, mb4.5/5, Error ellipse: s-maj=23.8km s-min=11.8km az=69.0*

*ISCJB **04** 08:18:37.4±0.7, 55°.6S±0°.1×26°.5W±0°.3, h38^{km}, mb4.3/7, MS3.6/2, Error ellipse: s-maj=27.7km s-min=14.3km az=160.6*

ISC 04 08:18:38.8±0.6**, 55°.6S**±0°.1×**26°.5W**±0°.2**, h38^{km}, n31, σ0^{s}97**/26**, mb4.5**/6**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.97**	**157**	*e*P	**Pn**	**08 22 57.0**	**-0.4**
	14nm,1.2s						
SNAA	**Sanae**	**18.97**	**157**	P	**P**	**08 22 54.6**	**-1.9**
	0.0nm,0.3s,baz=15,slow=9.6,SNR=2.2						
QSPA	**South Pole Qui**	**34.62**	**180**	*e*P	**P**	**08 25 24.3**	**+0.4**
	12nm,1.0s						
QSPA	**South Pole Qui**	**34.62**	**180**	P	**P**	**08 25 24.3**	**+0.4**
	3.9nm,0.6s,baz=207,slow=1.8,SNR=11						
CPUP	**Villa Florida**	**36.84**	**310**	P	**P**	**08 25 43.9**	**+0.8**
CPUP	**Villa Florida**	**36.84**	**310**	P	**P**	**08 25 43.9**	**+0.8**
	2.1nm,0.8s,baz=117,slow=14,SNR=2.9						
CPUP				LR	LR	08 39 50.0	
	comp=Z,113nm,20.0s,baz=156,slow=35						
MAW	**Mawson**	**40.25**	**144**	*e*P	**P**	**08 26 12.3**	**+1.1**
	1.1nm,0.9s						
MAW	**Mawson**	**40.25**	**144**	P	P	08 26 15.0	+3.7
	5.6nm,1.0s,baz=256,slow=7.6,SNR=6.3						
VNDA	**Vanda**	**47.01**	**182**	*e*P	**P**	**08 27 06.0**	**+0.5**
	4.8nm,0.8s						
VNDA	**Vanda**	**47.01**	**182**	P	**P**	**08 27 05.4**	**0.0**
	2.6nm,0.7s,baz=163,slow=6.0,SNR=8.9						
H10S2	**ASCENSION HYDR**	**47.49**	**16**	T	T	09 18 15.2	
	baz=189,slow=75,SNR=6.3						
H10S3	**ASCENSION HYDR**	**47.50**	**16**	T	T	09 18 18.1	
	baz=189,slow=75,SNR=7.1						
H10S1	**ASCENSION HYDR**	**47.51**	**16**	T	T	09 18 15.6	
	baz=189,slow=75,SNR=6.5						
H10N1	**ASCENSION HYDR**	**48.61**	**16**	T	T	09 19 53.7	
	baz=214						
H10N3	**ASCENSION HYDR**	**48.61**	**16**	T	T	09 19 38.4	
	baz=214,slow=75,SNR=5.0						
H10N2	**ASCENSION HYDR**	**48.63**	**16**	T	T	09 19 40.1	
	baz=214,slow=75,SNR=5.1						
LPAZ	**La Paz**	**50.46**	**304**	*e*P	**P**	**08 27 32.6**	**-0.7**
	11nm,1.3s						
LPAZ	**La Paz**	**50.46**	**304**	P	**P**	**08 27 33.0**	**-0.3**
	3.9nm,0.8s,baz=153,slow=6.8,SNR=20						
LPAZ				LR	LR	08 47 17.5	
	comp=Z,58nm,18.6s,baz=39,slow=34						
TOA0	**Torodi Ar. Sit**	**72.50**	**29**	*e*P	**P**	**08 30 01.4**	**0.0**
TOA0				*e*		08 30 12.4	
TORD	**Torodi Ar. Bea**	**72.50**	**29**	P	**P**	**08 30 01.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.50**	**29**	P	**P**	**08 30 01.5**	**+0.2**
	4.3nm,0.7s,baz=200,slow=6.7,SNR=25						
ASAR	**Alice Springs**	**99.27**	**162**	P	**Pdif**	**08 32 18.6**	**+2.0**
ASAR	**Alice Springs**	**99.27**	**162**	P	**Pdif**	**08 32 18.6**	**+2.0**
	0.4nm,0.7s,baz=188,slow=3.3,SNR=4.6						
BVAR	**Borovoye Array**	**134.23**	**57**	PKP	**PKPdf**	**08 37 50.7**	**-0.3**
BVAR	**Borovoye Array**	**134.23**	**57**	PKP	**PKPdf**	**08 37 50.7**	**-0.3**
	1.4nm,0.9s,baz=204,slow=3.3,SNR=7.4						
YKA	**Yellowknife Ar**	**136.12**	**318**	PKP	**PKPdf**	**08 37 52.7**	**-1.6**
YKA	**Yellowknife Ar**	**136.12**	**318**	PKP	**PKPdf**	**08 37 52.7**	**-1.6**
	0.5nm,0.8s,baz=128,slow=2.5,SNR=8.9						
ILAR	**Eielson Array**	**150.13**	**312**	PKPbc	**PKPbc**	**08 38 23.4**	**-0.5**
ILAR	**Eielson Array**	**150.13**	**312**	PKPbc	**PKPbc**	**08 38 23.4**	**-0.5**
	2.8nm,0.8s,baz=125,slow=1.5,SNR=25						
SONM	**Songino Array**	**150.31**	**85**	PKP	**PKPdf**	**08 38 20.2**	**+0.5**
SONM				PKPbc	**PKPbc**	**08 38 25.1**	**+0.1**
SONM	**Songino Array**	**150.31**	**85**	PKP	**PKPdf**	**08 38 20.2**	**+0.5**
	0.8nm,0.8s,baz=246,slow=2.5,SNR=2.4						
SONM				PKPbc	**PKPbc**	**08 38 25.1**	**+0.1**
	1.8nm,1.0s,baz=224,slow=2.3,SNR=7.0						

IDC 04 08:25:02.5±5.3**, 8°.74S**×**156°.26E, h0^{km}, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/18**, mbtmp3.5**/3**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.5**/18**, Error ellipse: s-maj=92.7km s-min=72.0km az=0.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.70**	**101**	LR	LR	08 26 57.3	
	comp=Z,125nm,19.4s,baz=8.5,slow=31						
WRA	**Warramunga Arr**	**23.95**	**240**	P	P	08 30 19.5	+0.8
	0.7nm,0.7s,baz=66,slow=9.6,SNR=6.6						
ASAR	**Alice Springs**	**26.04**	**233**	P	P	08 30 36.8	-1.0
	0.4nm,0.8s,baz=72,slow=9.8,SNR=3.1						
STKA	**Stephens Creek**	**26.75**	**209**	P	P	08 30 44.5	+0.4
	1.2nm,0.7s,baz=42,slow=12,SNR=7.1						

IDC 04 08:37:07.8±2.3**, 53°.99N**×**86°.59E, h0^{km}, mb1 2.6**/2**, mb1mx2.6**/28**, mbtmp2.6**/2**, ML2.8**/2**, Error ellipse: s-maj=19.7km s-min=2.2km az=88.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**269**	*i*		08 43 01.5	
	baz=87,slow=335,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.04**	**269**	Pg	Pg	08 37 26.4	-1.4
	0.7nm,0.3s,baz=85,slow=18,SNR=9.0						
ZALV				Lg	Lg	08 37 42.8	
	1.5nm,0.3s,baz=96,slow=28,SNR=11						
ZALV				Rg	Rg	08 37 48.8	
	30nm,1.1s,baz=85,slow=25,SNR=34						
KURBB	**Kurchatov Arra**	**5.98**	**239**	Pn	Pn	08 38 38.6	+1.1
	0.2nm,0.3s,baz=56,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**7.71**	**203**	Pn	Pn	08 39 02.0	+0.8
	0.1nm,0.3s,baz=25,slow=14,SNR=5.2						

IDC 04 08:38:41.8±2.4**, 53°.98N**×**86°.59E, h0^{km}, mb1 3.4**/2**, mb1mx3.1**/28**, mbtmp3.4**/2**, ML2.9**/2**, Error ellipse: s-maj=20.2km s-min=2.2km az=89.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**269**	*i*		08 44 31.9	
	baz=88,slow=333,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.05**	**269**	Pg	Pg	08 39 00.4	-1.5
	0.9nm,0.3s,baz=90,slow=12,SNR=7.8						
ZALV				Lg	Lg	08 39 17.0	
	2.9nm,0.3s,baz=91,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**5.98**	**239**	Pn	Pn	08 40 12.6	+1.2
	0.3nm,0.3s,baz=54,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**7.70**	**203**	Pn	Pn	08 40 36.1	+0.9
	0.1nm,0.3s,baz=24,slow=12,SNR=4.0						

*IDC **04** 08:51:35.4±0.6, 31°.47S×178°.94W, h0^{km}, mb4.6/11, mb1 4.7/13, mb1mx4.5/22, mbtmp4.6/13, ML3.6/2, Error ellipse: s-maj=20.9km s-min=18.2km az=5.0*

*ISCJB **04** 08:51:41.5±0.4, 31°.78S±0°.03×179°.20W±0°.08, h50^{km}, mb4.5/17, Error ellipse: s-maj=9.3km s-min=3.8km az=13.0*

*NEIC **04** 08:51:44.9±1.2, 31°.59S×179°.14W, h70^{km}±10^{km}, mb4.5/9, Error ellipse: s-maj=12.0km s-min=10.3km az=138.0*

ISC 04 08:51:43.1±0.4**, 31°.64S**±0°.05×**179°.14W**±0°.09**, h50^{km}, n170, σ1^{s}49**/137**, mb4.6**/16**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.61**	**24**	Pn	**Pn**	**08 52 24.9**	**+2.2**
RAO				Sn	**Sn**	**08 52 56.7**	**+3.5**
RAO	**Raoul Island**	**2.61**	**24**	Pn	**Pn**	**08 52 24.9**	**+2.2**
	69nm,0.3s,baz=66,slow=22,SNR=5.5						
RAO				Sn	**Sn**	**08 52 56.7**	**+3.5**
	241nm,0.3s,baz=68,slow=23,SNR=9.6						
MXZ	**Matakaoa Point**	**6.27**	**199**	P*	**Pn**	**08 53 14.5**	**+1.5**
MXZ	**Matakaoa Point**	**6.27**	**199**	PN	**Pn**	**08 53 14.5**	**+1.5**
MXZ				SN	**Sn**	**08 54 28.0**	**+4.8**
OUZ	**Omahuta**	**7.04**	**238**	*e*Pn	Pn	08 53 33.6	+10
	24nm,0.7s						
OPRZ	**Ohinepanea**	**7.13**	**209**	P*	Pn	08 53 29.0	+4.2
OPRZ	**Ohinepanea**	**7.13**	**209**	PN	Pn	08 53 28.5	+3.7
CNGZ	**Carnagh Statio**	**7.16**	**197**	Pn	**Pn**	**08 53 26.0**	**+0.8**
CNGZ	**Carnagh Statio**	**7.16**	**197**	PN	**Pn**	**08 53 25.9**	**+0.7**
MWZ	**Matawai**	**7.21**	**201**	P*	**Pn**	**08 53 26.4**	**+0.5**
MWZ	**Matawai**	**7.21**	**201**	PN	**Pn**	**08 53 26.2**	**+0.3**
URZ	**Urewera**	**7.28**	**204**	Pn	**Pn**	**08 53 27.9**	**+1.1**
URZ				Sn	**Sn**	**08 54 49.1**	**+1.0**
URZ	**Urewera**	**7.28**	**204**	*e*Pn	**Pn**	**08 53 27.9**	**+1.1**
URZ				P*		08 53 27.9	
URZ	**Urewera**	**7.28**	**204**	Pn	**Pn**	**08 53 28.0**	**+1.1**
	2.5nm,0.3s,baz=297,slow=4.7,SNR=66						
URZ				Sn	**Sn**	**08 54 49.1**	**+1.0**
	27nm,0.3s,baz=325,slow=22,SNR=16						
URZ	**Urewera**	**7.28**	**204**	PN	**Pn**	**08 53 27.8**	**+1.0**
RIGZ	**Rimuhau**	**7.49**	**199**	PN	**Pn**	**08 53 29.9**	**+0.1**
PRGZ	**Paritu Road**	**7.66**	**198**	Pn	**Pn**	**08 53 31.7**	**-0.4**
PRGZ	**Paritu Road**	**7.66**	**198**	PN	**Pn**	**08 53 31.7**	**-0.4**
SNGZ	**Shannon Statio**	**7.68**	**201**	PN	**Pn**	**08 53 32.7**	**+0.4**
SNGZ				SN	**Sn**	**08 54 59.8**	**+1.8**
KNZ	**Kokohu**	**7.81**	**199**	Pn	**Pn**	**08 53 32.9**	**-1.2**
KNZ	**Kokohu**	**7.81**	**199**	PN	**Pn**	**08 53 32.9**	**-1.2**
ALRZ	**Allen Road**	**7.83**	**207**	Pn	**Pn**	**08 53 36.7**	**+2.3**
ALRZ	**Allen Road**	**7.83**	**207**	PN	**Pn**	**08 53 36.9**	**+2.5**
MHGZ	**Mahia Peninsul**	**7.87**	**197**	Pn	**Pn**	**08 53 34.7**	**-0.2**
MHGZ	**Mahia Peninsul**	**7.87**	**197**	PN	**Pn**	**08 53 34.7**	**-0.2**
RAHZ	**Arahi**	**7.89**	**202**	Pn	**Pn**	**08 53 35.4**	**+0.3**
RAHZ	**Arahi**	**7.89**	**202**	PN	**Pn**	**08 53 35.4**	**+0.3**
WHHZ	**Waihua**	**7.99**	**201**	PN	**Pn**	**08 53 37.4**	**+0.9**
NMHZ	**Naumai**	**8.14**	**203**	Pn	**Pn**	**08 53 38.6**	**-0.1**
NMHZ	**Naumai**	**8.14**	**203**	PN	**Pn**	**08 53 38.6**	**-0.1**
NMHZ				SN	**Sn**	**08 55 11.6**	**+2.3**
BKZ	**Black Stump Fm**	**8.31**	**204**	SN	**Sn**	**08 55 14.6**	**+1.2**
MCHZ	**McNeill Hill**	**8.49**	**202**	Pn	**Pn**	**08 53 43.6**	**+0.2**
MCHZ	**McNeill Hill**	**8.49**	**202**	PN	**Pn**	**08 53 43.3**	**-0.1**
BHHZ	**Black Hill Sta**	**8.75**	**205**	Pn	**Pn**	**08 53 47.4**	**+0.4**
BHHZ	**Black Hill Sta**	**8.75**	**205**	PN	**Pn**	**08 53 46.8**	**-0.2**
KAHZ	**Kahuranaki**	**8.76**	**201**	Pn	**Pn**	**08 53 45.5**	**-1.6**
KAHZ	**Kahuranaki**	**8.76**	**201**	PN	**Pn**	**08 53 45.5**	**-1.6**
MOVZ	**Moawhango**	**8.79**	**207**	Pn	**Pn**	**08 53 49.1**	**+1.5**
MOVZ	**Moawhango**	**8.79**	**207**	PN	**Pn**	**08 53 49.1**	**+1.5**
PNHZ	**Pukenui**	**9.08**	**203**	Pn	**Pn**	**08 53 51.5**	**0.0**
PNHZ	**Pukenui**	**9.08**	**203**	PN	**Pn**	**08 53 51.5**	**0.0**
WPHZ	**Waipukurau**	**9.14**	**202**	Pn	**Pn**	**08 53 52.3**	**+0.1**
WPHZ	**Waipukurau**	**9.14**	**202**	PN	**Pn**	**08 53 52.3**	**+0.1**
TSZ	**Takapari Road**	**9.29**	**204**	Pn	**Pn**	**08 53 51.8**	**-2.6**
TSZ	**Takapari Road**	**9.29**	**204**	PN	**Pn**	**08 53 51.8**	**-2.6**
MRZ	**Mangatainoka R**	**9.96**	**204**	Pn	Pn	08 54 00.3	-3.2
MRZ	**Mangatainoka R**	**9.96**	**204**	PN	Pn	08 54 00.3	-3.2
TIWZ	**Tintock**	**9.96**	**202**	Pn	**Pn**	**08 54 00.9**	**-2.6**
TIWZ	**Tintock**	**9.96**	**202**	PN	**Pn**	**08 54 00.9**	**-2.6**
HOWZ	**Holdsworth Sta**	**10.19**	**204**	Pn	Pn	08 54 03.4	-3.4
HOWZ	**Holdsworth Sta**	**10.19**	**204**	PN	Pn	08 54 03.3	-3.4
OGWZ	**Otaki Gorge**	**10.24**	**205**	Pn	Pn	08 54 03.9	-3.5
OGWZ	**Otaki Gorge**	**10.24**	**205**	PN	Pn	08 54 03.9	-3.5
TMWZ	**Te Maipa**	**10.26**	**202**	Pn	Pn	08 54 04.2	-3.4
TMWZ	**Te Maipa**	**10.26**	**202**	PN	Pn	08 54 04.2	-3.4
KIW	**Kapiti Island**	**10.38**	**206**	Pn	Pn	08 54 06.1	-3.1
KIW	**Kapiti Island**	**10.38**	**206**	PN	Pn	08 54 06.1	-3.1
MTW	**Mount Morrison**	**10.43**	**203**	Pn	Pn	08 54 06.5	-3.5
MTW	**Mount Morrison**	**10.43**	**203**	PN	Pn	08 54 06.4	-3.5
CAW	**Cannon Point**	**10.53**	**205**	Pn	Pn	08 54 08.3	-3.1
CAW	**Cannon Point**	**10.53**	**205**	PN	Pn	08 54 08.3	-3.1
TRWZ	**Traveller**	**10.59**	**202**	Pn	Pn	08 54 09.0	-3.1
TRWZ	**Traveller**	**10.59**	**202**	PN	Pn	08 54 09.0	-3.1
PAWZ	**Paruwai Farm**	**10.65**	**203**	Pn	**Pn**	**08 54 10.7**	**-2.4**
PAWZ	**Paruwai Farm**	**10.65**	**203**	PN	**Pn**	**08 54 10.5**	**-2.5**
DUWZ	**D'Urville Isla**	**10.72**	**210**	Pn	**Pn**	**08 54 12.0**	**-1.9**
DUWZ	**D'Urville Isla**	**10.72**	**210**	PN	**Pn**	**08 54 12.0**	**-1.9**
MSWZ	**Moikau Station**	**10.74**	**203**	Pn	**Pn**	**08 54 12.5**	**-1.7**
MSWZ	**Moikau Station**	**10.74**	**203**	PN	**Pn**	**08 54 12.5**	**-1.7**
WEL	**Wellington**	**10.80**	**205**	Pn	Pn	08 54 11.1	-3.9
WEL	**Wellington**	**10.80**	**205**	PN	Pn	08 54 11.1	-3.9
PLWZ	**Palliser**	**10.88**	**203**	Pn	Pn	08 54 12.5	-3.6
PLWZ	**Palliser**	**10.88**	**203**	PN	Pn	08 54 12.5	-3.6
TCW	**Tory Channel**	**10.92**	**207**	Pn	Pn	08 54 12.4	-4.3
TCW	**Tory Channel**	**10.92**	**207**	PN	Pn	08 54 12.4	-4.3
TUWZ	**Tuamarina**	**11.24**	**208**	Pn	Pn	08 54 17.4	-3.5
TUWZ	**Tuamarina**	**11.24**	**208**	PN	Pn	08 54 17.4	-3.5
NNZ	**Nelson**	**11.29**	**210**	Pn	Pn	08 54 17.9	-3.8
NNZ	**Nelson**	**11.29**	**210**	PN	Pn	08 54 17.9	-3.8
QRZ	**Quartz Range**	**11.36**	**214**	Pn	**Pn**	**08 54 20.8**	**-1.9**
QRZ	**Quartz Range**	**11.36**	**214**	PN	**Pn**	**08 54 20.8**	**-1.9**
NFK	**Norfolk Island**	**11.46**	**280**	S	Sn	08 56 42.8	+12
	baz=11,SNR=3.7						
BSWZ	**Blackbirch Sta**	**11.51**	**207**	Pn	**Pn**	**08 54 22.5**	**-2.2**
BSWZ	**Blackbirch Sta**	**11.51**	**207**	PN	**Pn**	**08 54 22.5**	**-2.2**
THZ	**Tophouse**	**11.94**	**210**	Pn	Pn	08 54 27.4	-3.2
THZ	**Tophouse**	**11.94**	**210**	PN	Pn	08 54 27.4	-3.2
DSZ	**Denniston Nort**	**12.42**	**213**	Pn	**Pn**	**08 54 35.8**	**-1.3**
DSZ	**Denniston Nort**	**12.42**	**213**	PN	**Pn**	**08 54 35.8**	**-1.3**
LTZ	**Lake Taylor**	**13.05**	**209**	Pn	Pn	08 54 41.6	-4.2
LTZ	**Lake Taylor**	**13.05**	**209**	PN	Pn	08 54 41.6	-4.2
MQZ	**McQueen's Vall**	**13.68**	**206**	Pn	Pn	08 54 48.1	-6.1
MQZ	**McQueen's Vall**	**13.68**	**206**	PN	Pn	08 54 48.1	-6.1
RPZ	**Rata Peaks**	**14.32**	**210**	Pn	Pn	08 54 54.0	-9.0
RPZ				Sn	Sn	08 57 27.3	-13
RPZ	**Rata Peaks**	**14.32**	**210**	Pn	Pn	08 54 54.0	-9.0
	0.5nm,0.3s,baz=3.4,slow=19,SNR=1.9						
RPZ				Sn	Sn	08 57 27.3	-13
	3.4nm,0.3s,baz=59,slow=9.7,SNR=6.9						
ODZ	**Otahua Downs**	**15.58**	**208**	Pn	Pn	08 55 13.2	-6.2
ODZ	**Otahua Downs**	**15.58**	**208**	PN	**Pn**	**08 55 15.0**	**-4.3**
DZM	**Mont Dzumac**	**16.00**	**303**	*e*Pn	**Pn**	**08 55 23.2**	**-1.8**
	22nm,1.0s						
DZM	**Mont Dzumac**	**16.00**	**303**	Pn	**Pn**	**08 55 24.4**	**-0.5**
	0.1nm,0.3s,baz=327,slow=18,SNR=2.2						
CMSA	**Cobar Meteorol**	**29.88**	**261**	P	**P**	**08 57 48.1**	**+2.1**
	baz=29,SNR=9.3						
CTA	**Charters Tower**	**33.06**	**282**	P	**P**	**08 58 15.8**	**+1.7**
CTA	**Charters Tower**	**33.06**	**282**	P	**P**	**08 58 15.8**	**+1.7**
	3.3nm,0.4s,baz=109,slow=11,SNR=8.0						
CTAO	**Charters Tower**	**33.06**	**282**	*e*P	**P**	**08 58 15.8**	**+1.7**
	4.4nm,0.4s						
STKA	**Stephens Creek**	**33.27**	**259**	*e*P	**P**	**08 58 17.2**	**+1.5**
	1.1nm,0.9s						
STKA	**Stephens Creek**	**33.27**	**259**	P	**P**	**08 58 16.9**	**+1.1**
	3.5nm,0.7s,baz=101,slow=9.6,SNR=13						
HTT	**Hallett**	**35.23**	**256**	P	P	08 58 28.0	-4.9
	baz=34,SNR=3.8						
BBOO	**Buckleboo**	**37.71**	**256**	P	**P**	**08 58 54.1**	**+0.2**
	baz=37,SNR=15						
PMG	**Port Moresby**	**38.29**	**298**	*e*P	**P**	**08 58 59.8**	**+0.9**
	7.3nm,0.5s						
COEN	**Coen**	**38.70**	**288**	P	**P**	**08 59 03.5**	**+1.1**
	baz=39,SNR=8.7						
AS31	**Alice Springs**	**42.09**	**269**	*e*P	**P**	**08 59 30.2**	**-0.1**
ASAR	**Alice Springs**	**42.09**	**269**	P	**P**	**08 59 30.2**	**-0.1**
ASAR				PcP	**PcP**	**09 01 24.1**	**-0.3**
ASAR	**Alice Springs**	**42.09**	**269**	P	**P**	**08 59 30.2**	**-0.1**
	7.0nm,0.3s,baz=107,slow=7.3,SNR=170						
ASAR				PcP	**PcP**	**09 01 24.1**	**-0.3**
	0.5nm,0.6s,baz=108,slow=5.9,SNR=3.7						
WRAB	**Tennant Creek**	**43.18**	**274**	*e*P	**P**	**08 59 38.9**	**-0.4**
	6.2nm,0.5s						
WRA	**Warramunga Arr**	**43.19**	**274**	P	**P**	**08 59 39.1**	**-0.2**
WRA	**Warramunga Arr**	**43.19**	**274**	P	**P**	**08 59 39.1**	**-0.2**
	10nm,0.6s,baz=112,slow=7.8,SNR=98						
FORT	**Forrest**	**44.80**	**257**	P	**P**	**08 59 53.0**	**+0.9**
	baz=44,SNR=7.1						
WRKA	**Warakurna**	**46.37**	**264**	P	**P**	**09 00 03.7**	**-1.0**
	baz=46,SNR=36						
KDU	**Kakadu**	**48.19**	**282**	P	**P**	**09 00 18.0**	**-0.8**
	baz=48,SNR=3.4						
MTN	**Manton Dam**	**49.23**	**281**	P	**P**	**09 00 26.5**	**-0.4**
	baz=49,SNR=3.5						
KNRA	**Kununurra**	**49.84**	**276**	P	**P**	**09 00 31.5**	**+0.1**
	baz=50,SNR=12						
FITZ	**Fitzroy Crossi**	**51.40**	**271**	P	**P**	**09 00 43.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.40**	**271**	P	**P**	**09 00 43.0**	**-0.2**
	4.0nm,0.5s,baz=168,slow=6.1,SNR=8.8						
KLBR	**Kellerberrin**	**53.03**	**252**	P	**P**	**09 00 54.5**	**-0.6**
	baz=52,SNR=5.3						
MEEK	**Meekatharra**	**53.97**	**258**	P	**P**	**09 01 02.0**	**-0.1**
	baz=53,SNR=4.3						
MORW	**Morawa**	**55.25**	**255**	P	**P**	**09 01 10.7**	**-0.6**
	baz=54,SNR=3.4						
QSPA	**South Pole Qui**	**58.47**	**180**	*e*P	**P**	**09 01 35.0**	**+1.2**
	8.7nm,0.6s						
QSPA	**South Pole Qui**	**58.47**	**180**	P	**P**	**09 01 34.9**	**+1.2**
	10nm,0.7s,baz=52,slow=0.9,SNR=20						
MAW	**Mawson**	**70.80**	**201**	*e*P	**P**	**09 02 52.9**	**-1.0**
SNAA	**Sanae**	**76.94**	**179**	*e*P	**P**	**09 03 30.7**	**+0.9**
	1.8nm,0.5s						
H03N3	**Juan Fernandez**	**80.79**	**124**	T	T	10 32 43.2	
	baz=237,slow=74,SNR=45						
H03N2	**Juan Fernandez**	**80.79**	**124**	T	T	10 32 43.3	
	baz=237,slow=74,SNR=29						
H03N1	**Juan Fernandez**	**80.81**	**124**	T	T	10 32 45.7	
	baz=237,slow=74,SNR=45						
PLCA	**Paso Flores**	**82.37**	**133**	P	**P**	**09 04 00.0**	**+0.1**
PLCA	**Paso Flores**	**82.37**	**133**	P	**P**	**09 04 00.0**	**+0.1**
	3.8nm,0.7s,baz=239,slow=5.8,SNR=13						
PETK	**Petropavlovsk-**	**86.78**	**346**	P	**P**	**09 04 21.5**	**+0.1**
PETK	**Petropavlovsk-**	**86.78**	**346**	P	**P**	**09 04 21.5**	**+0.1**
	6.5nm,0.6s,baz=129,slow=6.5,SNR=6.0						
USRK	**Ussuriysk Arra**	**87.66**	**327**	P	**P**	**09 04 26.3**	**+0.4**
	2.2nm,0.9s,baz=175,slow=4.4,SNR=3.9						
GSC	**Goldstone**	**88.65**	**46**	*e*P	**P**	**09 04 31.0**	**+0.1**
	0.8nm,0.4s						
NVAR	**Mina Array Bea**	**89.81**	**43**	P	**P**	**09 04 35.8**	**-0.8**
NVAR	**Mina Array Bea**	**89.81**	**43**	P	**P**	**09 04 35.8**	**-0.8**
	1.3nm,1.0s,baz=222,slow=8.0,SNR=8.3						
TXAR	**Lajitas Array**	**93.88**	**58**	P	**P**	**09 04 55.1**	**-0.3**
TXAR	**Lajitas Array**	**93.88**	**58**	P	**P**	**09 04 55.1**	**-0.3**
	0.6nm,0.9s,baz=210,slow=7.2,SNR=4.5						
HIA	**Hailar**	**97.16**	**325**	*e*P	**P**	**09 05 08.7**	**-1.1**
	9.3nm,0.8s						
ILAR	**Eielson Array**	**99.36**	**13**	P	**Pdif**	**09 05 18.6**	**-0.6**
ILAR	**Eielson Array**	**99.36**	**13**	P	**Pdif**	**09 05 18.6**	**-0.6**
	0.3nm,0.8s,baz=226,slow=5.9,SNR=5.2						
MK31	**Makanchi Array**	**117.82**	**310**	*e*PKPdf	**PKPdf**	**09 10 21.7**	**-2.0**
MKAR	**Makanchi Array**	**117.82**	**310**	PKP	**PKPdf**	**09 10 21.8**	**-1.9**
MKAR	**Makanchi Array**	**117.82**	**310**	PKP	**PKPdf**	**09 10 21.8**	**-1.9**
	0.9nm,0.5s,baz=194,slow=1.0,SNR=14						
ZALV	**Zalesovo Beam**	**118.31**	**318**	PKP	**PKPdf**	**09 10 22.2**	**-2.0**
ZALV	**Zalesovo Beam**	**118.31**	**318**	PKP	**PKPdf**	**09 10 22.2**	**-2.0**
	0.8nm,0.4s,baz=164,slow=4.3,SNR=5.0						
KURK	**Kurchatov**	**121.20**	**313**	*e*PKPdf	**PKPdf**	**09 10 28.2**	**-1.7**
BRVK	**Borovoye**	**126.67**	**315**	*e*PKPdf	**PKPdf**	**09 10 39.2**	**-1.2**
ARCES	**ARCESS Array B**	**139.59**	**347**	PKPpre	PKPpre	09 10 56.0	
ARCES				PKP	**PKPdf**	**09 11 05.4**	**+1.2**
ARCES	**ARCESS Array B**	**139.59**	**347**	PKhKP	PKPpre	09 10 56.0	
	1.9nm,0.7s,baz=25,slow=1.9,SNR=10						
ARCES				PKP	**PKPdf**	**09 11 05.4**	**+1.2**
	1.2nm,0.5s,baz=58,slow=1.8,SNR=7.9						
JOF	**Joensuu**	**143.20**	**337**	*e*p	PKPab	09 11 06.2	-0.3
	0.6nm,0.3s						
KBZ	**Khabaz**	**144.97**	**302**	PKPbc	PKPbc	09 11 12.6	-1.3
KBZ	**Khabaz**	**144.97**	**302**	PKPbc	PKPbc	09 11 12.6	-1.3
	1.9nm,0.5s,baz=296,slow=12,SNR=8.6						
KAF	**Kangasniemi**	**145.38**	**339**	*e*p	**PKPbc**	**09 11 12.7**	**-1.9**
	14nm,0.5s						
FINES	**FINESS Array B**	**145.96**	**339**	PKPbc	**PKPdf**	**09 11 13.8**	**-1.8**
FINES	**FINESS Array B**	**145.96**	**339**	PKPbc	**PKPdf**	**09 11 13.8**	**-1.8**
	16nm,0.4s,baz=56,slow=3.3,SNR=11						
NOA	**NORSAR Array B**	**149.82**	**350**	PKPbc	**PKPdf**	**09 11 24.6**	**+2.5**
NOA	**NORSAR Array B**	**149.82**	**350**	PKPbc	**PKPdf**	**09 11 24.6**	**+2.5**
	4.1nm,0.6s,baz=16,slow=4.2,SNR=3.8						
AKASG	**Malin Array Be**	**151.66**	**320**	PKPbc	**PKPbc**	**09 11 29.5**	**-2.0**
AKASG	**Malin Array Be**	**151.66**	**320**	PKPbc	**PKPbc**	**09 11 29.5**	**-2.0**
	2.2nm,0.5s,baz=49,slow=2.8,SNR=12						
CLL	**Collm**	**158.40**	**339**	*e*PKPab	**PKPab**	**09 12 08.0**	**-1.1**
GERES	**GERESS Array B**	**160.27**	**334**	PKP	**PKPdf**	**09 11 36.2**	**-0.5**
GERES				PKPab	**PKPab**	**09 12 16.3**	**-1.1**
GERES	**GERESS Array B**	**160.27**	**334**	PKP	**PKPdf**	**09 11 36.2**	**-0.5**
	0.6nm,0.8s,baz=240,slow=2.6,SNR=4.3						
GERES				PKPab	**PKPab**	**09 12 16.3**	**-1.1**
	0.5nm,0.6s,baz=0.0,slow=4.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**161.57**	**183**	PKP	**PKPdf**	**09 11 38.8**	**-0.3**
TORD				PKPab	**PKPab**	**09 12 21.6**	**-2.1**
TORD	**Torodi Ar. Bea**	**161.57**	**183**	PKP	**PKPdf**	**09 11 38.8**	**-0.3**
	0.5nm,0.8s,baz=151,slow=3.3,SNR=3.5						
TORD				PKPab	**PKPab**	**09 12 21.6**	**-2.1**
	0.8nm,0.5s,baz=164,slow=4.5,SNR=8.6						
ESDC	**Sonseca Array**	**171.08**	**25**	PKP	**PKPdf**	**09 11 46.3**	**+0.5**
ESDC	**Sonseca Array**	**171.08**	**25**	PKP	**PKPdf**	**09 11 46.3**	**+0.5**
	0.5nm,0.6s,baz=340,slow=2.2,SNR=4.2						

MEX 04 08:58:02.4±0.5**, 17°.44N**×**100°.73W, h20^{km}**±483^{km}**, MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.72**	**283**	*e*P	Pb	08 58 13.9	-2.4
ZIIG				*i* S	Sb	08 58 23.1	-2.6
ARIG	**Puente Sto Nin**	**0.91**	**24**	*e*P	Pb	08 58 16.9	-2.6
ARIG				*i* S	Sb	08 58 27.9	-3.4
PLIG	**Platanillo**	**1.50**	**51**	*i* P	Pn	08 58 24.9	-3.5
PLIG				*i* S	Sn	08 58 42.5	-5.0
TLIG	**Tlapa**	**2.07**	**86**	*e*P	Pn	08 58 33.9	-2.3
TLIG				*i* S	Sn	08 58 58.4	-3.1

*IDC **04** 09:03:51.0±0.9, 8°.73S×157°.82E, h0^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=26.2km s-min=15.5km az=2.0*

*ISCJB **04** 09:03:53.2±0.9, 8°.9S±0°.2×157°.9E±0°.1, h23^{km}, mb3.6/6, Error ellipse: s-maj=28.5km s-min=17.4km az=152.1*

ISC 04 09:03:54.6±0.9**, 8°.8S**±0°.2×**157°.9E**±0°.1**, h23^{km}, n10, σ1^{s}53**/8**, mb3.7**/6**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.12**	**107**	Pn	**Pn**	**09 04 27.6**	**-1.1**
	16nm,0.3s,baz=231,slow=2.3,SNR=4.2						
HNR				Lg	Lg	09 05 02.2	
	143nm,0.3s,baz=55,slow=22,SNR=5.9						
HNR	**Honiara**	**2.12**	**107**	*e*P	**Pb**	**09 04 33.0**	**+0.6**
PMG	**Port Moresby**	**10.62**	**266**	LR	LR	09 10 13.2	
	comp=Z,83nm,20.0s,baz=49,slow=36						
WRA	**Warramunga Arr**	**25.32**	**242**	P	**P**	**09 09 18.4**	**-1.4**
	1.3nm,0.7s,baz=67,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**27.29**	**234**	P	**P**	**09 09 39.0**	**+1.3**
	0.7nm,1.0s,baz=70,slow=9.0,SNR=4.8						
STKA	**Stephens Creek**	**27.50**	**211**	P	**P**	**09 09 39.3**	**-0.1**
	1.5nm,0.8s,baz=44,slow=14,SNR=3.6						

ILAR Eielson Array 84.02 21 P P 09 16 21.3 -1.6
0.9nm,0.9s,baz=265,slow=5.5,SNR=6.8
MKAR Makanchi Array 86.66 318 P P 09 16 36.9 +0.3
0.2nm,0.7s,baz=104,slow=6.1,SNR=2.9
NVAR Mina Array Bea 90.60 51 P P 09 16 57.6 +1.9
1.1nm,0.8s,baz=252,slow=7.1,SNR=7.4
BDFB Brasilia 144.66 133 PKP PKPbc 09 23 29.6 +0.1
1.7nm,0.5s,baz=207,slow=4.5,SNR=2.9

*IDC **04** 09:10:16.9±2.5,0˚.52N×67˚.20E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.5/25,mbtmp3.7/5,MS3.4/1,Ms1 3.6/1, ms1mx3.0/27,Error ellipse: s-maj=92.3km s-min=27.5km az=65.0*

ISC 04 09:10:13.8±3.2,0˚.1N±0˚.4×66˚.2E±0˚.7,h10km,n10,σ0s73/6, mb3.9/5,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**8.01**	**143**	T	T		T	09 20 13.4	
baz=330,slow=76,SNR=366									
H08N3	**Diego Garcia H**	**8.02**	**143**	T	T		T	09 20 12.5	
baz=330,slow=76,SNR=360									
H08N1	**Diego Carcia H**	**8.03**	**143**	T	T		T	09 20 13.3	
baz=330,slow=76,SNR=1223									
CMAR	**Chiang Mai Arr**	**36.97**	**59**	LR	LR		LR	09 29 19.4	
comp=Z,52nm,19.9s,baz=146,slow=32									
MKAR	**Makanchi Array**	**48.57**	**15**	P	**P**		**P**	**09 18 56.9**	**-0.6**
0.6nm,0.9s,baz=210,slow=7.8,SNR=4.7									
KURBB	**Kurchatov Arra**	**51.40**	**10**	P	**P**		**P**	**09 19 19.2**	**+0.4**
0.5nm,0.6s,baz=206,slow=7.5,SNR=4.5									
ZALV	**Zalesovo Beam**	**55.81**	**13**	P	**P**		**P**	**09 19 51.3**	**+0.2**
0.8nm,0.7s,baz=202,slow=7.5,SNR=4.2									
WRA	**Warramunga Arr**	**69.55**	**111**	P	**P**		**P**	**09 21 24.3**	**+0.8**
1.5nm,0.9s,baz=286,slow=6.1,SNR=5.6									
ASAR	**Alice Springs**	**69.70**	**115**	P	**P**		**P**	**09 21 23.8**	**-0.7**
0.6nm,0.6s,baz=288,slow=5.5,SNR=10									
TXAR	**Lajitas Array**	**149.15**	**343**	PKPbc	**PKPab**		**PKPab**	**09 30 07.5**	**-0.1**
0.6nm,0.8s,baz=8.1,slow=1.3,SNR=4.0									

IDC 04 09:17:40.3±2.1,3˚.80N×127˚.27E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/22,mbtmp3.5/3,Error ellipse: s-maj=167.0km s-min=28.4km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**164**	P	P		P	09 23 02.0	-0.4
1.3nm,0.7s,baz=344,slow=10,SNR=7.8									
STKA	**Stephens Creek**	**38.01**	**160**	P	P		P	09 25 00.6	+0.3
0.4nm,0.6s,baz=333,slow=11,SNR=2.9									
MKAR	**Makanchi Array**	**57.80**	**325**	P	P		P	09 27 33.4	-0.1
0.2nm,0.6s,baz=114,slow=8.1,SNR=4.3									

*IDC **04** 09:20:15.9±0.6,8˚.94S×157˚.52E,h0km,mb4.3/14, mb1 4.4/16,mb1mx4.4/21,mbtmp4.2/16,ML4.0/2,MS3.7/9, Ms1 3.7/9,ms1mx3.5/29,Error ellipse: s-maj=17.0km s-min=12.3km az=2.0*

*ISCJB **04** 09:20:16.7±0.5,8˚.94S±0˚.07×157˚.53E±0˚.09,h17km, mb4.2/17,MS3.7/8,Error ellipse: s-maj=14.3km s-min=9.2km az=30.4*

*NEIC **04** 09:20:20.7±0.3,9˚.02S×157˚.61E,h35km,mb4.7/3,Error ellipse: s-maj=9.7km s-min=6.7km az=131.0*

ISC 04 09:20:18.4±0.5,8˚.98S±0˚.10×157˚.59E±0˚.07,h17km,n55, σ0s77/52,mb4.3/17,MS3.7/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.37**	**101**	Pn	**Pn**		**Pn**	**09 20 55.9**	**-0.6**
HNR				Pg	Pg		**Pb**	**09 21 01.0**	**+0.4**
HNR				Lg	Lg		Lg	09 21 33.5	
HNR	**Honiara**	**2.37**	**101**	Pn	**Pn**		**Pn**	**09 20 55.9**	**-0.6**
77nm,0.3s,baz=302,slow=5.9,SNR=15									
HNR				Pg	**Pb**		**Pb**	**09 21 01.0**	**+0.4**
97nm,0.3s,baz=270,slow=8.1,SNR=21									
HNR				Lg	Lg		Lg	09 21 33.4	
231nm,0.3s,baz=145,slow=16,SNR=5.8									
HNR	**Honiara**	**2.37**	**101**	*i* P	**Pn**		**Pn**	**09 20 55.0**	**-1.5**
COEN	**Coen**	**14.97**	**249**	*e*Pn	**Pn**		**Pn**	**09 23 50.6**	**+1.2**
91nm,1.0s									
CTA	**Charters Tower**	**15.56**	**224**	Pn	**Pn**		**Pn**	**09 23 56.4**	**-0.8**
CTA	**Charters Tower**	**15.56**	**224**	Pn	**Pn**		**Pn**	**09 23 56.4**	**-0.8**
0.3nm,0.3s,baz=34,slow=17,SNR=2.5									
CTA				LR	LR		LR	09 28 52.4	
comp=Z,223nm,18.6s,baz=43,slow=33									
CTAO	**Charters Tower**	**15.56**	**224**	*e*Pn	**Pn**		**Pn**	**09 23 57.1**	**0.0**
EIDS	**Eidsvold**	**17.44**	**200**	*e*Pn	**Pn**		**Pn**	**09 24 21.0**	**0.0**
55nm,1.3s									
WRAB	**Tennant Creek**	**24.97**	**242**	*e*P	**P**		**P**	**09 25 40.8**	**-0.5**
37nm,1.4s									
WRA	**Warramunga Arr**	**24.98**	**242**	P	**P**		**P**	**09 25 41.6**	**+0.2**
WRA				Pg	PcP		**PcP**	**09 29 17.6**	**+1.0**
WRA	**Warramunga Arr**	**24.98**	**242**	P	**P**		**P**	**09 25 41.6**	**+0.2**
24nm,1.2s,baz=68,slow=9.7,SNR=39									
WRA				PcP	**PcP**		**PcP**	**09 29 17.6**	**+1.0**
1.3nm,0.8s,baz=64,slow=2.1,SNR=6.4									
WRA				LR	LR		LR	09 34 47.5	
comp=Z,254nm,19.6s,baz=50,slow=35									
ASAR	**Alice Springs**	**26.95**	**234**	P	**P**		**P**	**09 25 58.5**	**-0.8**
ASAR				PcP	**PcP**		**PcP**	**09 29 21.8**	**+0.6**
ASAR	**Alice Springs**	**26.95**	**234**	P	**P**		**P**	**09 25 58.5**	**-0.8**
4.5nm,1.1s,baz=66,slow=8.8,SNR=18									
ASAR				PcP	**PcP**		**PcP**	**09 29 21.8**	**+0.6**
0.8nm,0.8s,baz=64,slow=2.9,SNR=4.8									
ASAR				LR	LR		LR	09 36 17.8	
comp=Z,159nm,18.4s,baz=16,slow=36									
STKA	**Stephens Creek**	**27.20**	**211**	P	**P**		**P**	**09 26 01.2**	**-0.1**
STKA	**Stephens Creek**	**27.20**	**211**	P	**P**		**P**	**09 26 01.2**	**-0.1**
13nm,0.9s,baz=17,slow=8.9,SNR=25									
H11S3	**WAKE ISLAND Hy**	**28.73**	**18**	T	T		T	09 55 04.8	
baz=200,slow=77,SNR=12									
H11S2	**WAKE ISLAND Hy**	**28.74**	**18**	T	T		T	09 54 56.1	
baz=200,slow=77,SNR=13									
H11S1	**WAKE ISLAND Hy**	**28.75**	**18**	T	T		T	09 54 47.7	
baz=200,slow=77,SNR=7.5									
AFI	**Afiamalu**	**30.40**	**102**	LR	LR		LR	09 36 00.9	
comp=Z,201nm,20.5s,baz=286,slow=31									
FITZ	**Fitzroy Crossi**	**32.31**	**250**	P	**P**		**P**	**09 26 46.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**32.31**	**250**	P	**P**		**P**	**09 26 46.4**	**-0.5**
2.5nm,0.7s,baz=103,slow=14,SNR=2.4									
FITZ				LR	LR		LR	09 38 38.6	
comp=Z,147nm,21.9s,baz=93,slow=34									
MJAR	**Matsushiro Arr**	**48.80**	**339**	P	**P**		**P**	**09 29 01.3**	**-1.5**
MJAR	**Matsushiro Arr**	**48.80**	**339**	P	**P**		**P**	**09 29 01.3**	**-1.5**
1.3nm,0.8s,baz=173,slow=8.5,SNR=5.6									
KSRS	**Korea Array**	**53.90**	**331**	P	**P**		**P**	**09 29 40.5**	**-0.3**
3.7nm,1.1s,baz=134,slow=8.9,SNR=4.2									
KSRS				LR	LR		LR	09 51 44.2	
comp=Z,59nm,18.6s,baz=343,slow=35									
KSAR	**Wonju Array Be**	**53.90**	**331**	P	**P**		**P**	**09 29 40.5**	**-0.4**
ASAJ	**Asahikawa**	**54.56**	**347**	LR	LR		LR	09 53 58.5	
comp=Z,108nm,18.0s,baz=18,slow=37									
USRK	**Ussuriysk Arra**	**57.78**	**338**	P	**P**		**P**	**09 30 08.7**	**+0.1**
5.6nm,1.0s,baz=134,slow=8.3,SNR=3.7									
ENH	**Enshi**	**60.46**	**312**	*e*P	**P**		**P**	**09 30 27.4**	**-0.2**
SLVN	**Son La**	**60.70**	**301**	*e*P	**P**		**P**	**09 30 29.4**	**0.0**
PETK	**Petropavlovsk-**	**61.84**	**0**	LR	LR		LR	09 52 48.4	
comp=Z,55nm,20.1s,baz=228,slow=32									
CMAR	**Chiang Mai Arr**	**63.95**	**296**	P	**P**		**P**	**09 30 51.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**63.95**	**296**	P	**P**		**P**	**09 30 51.6**	**+0.5**
2.3nm,0.7s,baz=112,slow=5.0,SNR=12									
CHTO	**Chiang Mai**	**64.07**	**296**	*e*P	**P**		**P**	**09 30 52.1**	**+0.1**
7.7nm,1.1s									
SONM	**Songino Array**	**72.39**	**327**	P	**P**		**P**	**09 31 44.1**	**+0.3**
SONM	**Songino Array**	**72.39**	**327**	P	**P**		**P**	**09 31 44.1**	**+0.3**
1.8nm,0.8s,baz=140,slow=5.4,SNR=11									
ILAR	**Eielson Array**	**84.28**	**21**	P	**P**		**P**	**09 32 48.8**	**-0.2**
ILAR	**Eielson Array**	**84.28**	**21**	P	**P**		**P**	**09 32 48.8**	**-0.2**
1.0nm,0.8s,baz=255,slow=4.5,SNR=10									
MK31	**Makanchi Array**	**86.58**	**318**	*e*P	**P**		**P**	**09 33 00.6**	**-0.3**
MKAR	**Makanchi Array**	**86.58**	**318**	P	**P**		**P**	**09 33 00.8**	**-0.1**
MKAR	**Makanchi Array**	**86.58**	**318**	P	**P**		**P**	**09 33 00.8**	**-0.1**
1.3nm,0.6s,baz=98,slow=5.5,SNR=19									
ZALV	**Zalesovo Beam**	**87.25**	**326**	P	**P**		**P**	**09 33 02.4**	**-1.5**
ZALV	**Zalesovo Beam**	**87.25**	**326**	P	**P**		**P**	**09 33 02.4**	**-1.5**
0.3nm,0.3s,baz=98,slow=6.0,SNR=2.7									
KURK	**Kurchatov**	**89.97**	**321**	P	**P**		**P**	**09 33 16.3**	**-0.5**
KURBB	**Kurchatov Arra**	**90.00**	**321**	P	**P**		**P**	**09 33 16.3**	**-0.7**
0.3nm,0.8s,baz=105,slow=3.5,SNR=3.8									
NVAR	**Mina Array Bea**	**90.93**	**51**	P	**P**		**P**	**09 33 23.3**	**+1.4**
NVAR	**Mina Array Bea**	**90.93**	**51**	P	**P**		**P**	**09 33 23.3**	**+1.4**
2.7nm,1.0s,baz=252,slow=6.8,SNR=12									
YKA	**Yellowknife Ar**	**96.88**	**28**	P	**P**		**P**	**09 33 49.1**	**+0.8**

YKA Yellowknife Ar 96.88 28 P P 09 33 49.1 +0.8
0.3nm,0.7s,baz=270,slow=5.2,SNR=3.2
SNAA Sanae 98.48 186 LR LR 10 16 42.6
comp=Z,21nm,21.8s,baz=205,slow=34
AKASG Malin Array Be 120.63 325 PKP **PKPdf 09 39 08.9 -0.4**
AKASG Malin Array Be 120.63 325 PKP **PKPdf 09 39 08.9 -0.4**
0.3nm,0.3s,baz=52,slow=2.8,SNR=4.2
GERES GERESS Array B 130.06 329 PKP **PKPdf 09 39 28.7 +1.1**
GERES GERESS Array B 130.06 329 PKP **PKPdf 09 39 28.7 +1.1**
0.4nm,0.6s,baz=117,slow=2.1,SNR=4.5
BDFB Brasilia 144.76 134 PKP PKPbc 09 39 54.6 +0.1
BDFB Brasilia 144.76 134 PKP PKPbc 09 39 54.6 +0.1
9.6nm,0.8s,baz=216,slow=3.1,SNR=15

IDC 04 09:24:51.9±5.8,7˚.89S×157˚.57E,h0km,mb3.8/3, mb1 3.9/4,mb1mx3.7/19,mbtmp3.8/4,ML3.5/1,Error ellipse: s-maj=113.9km s-min=18.4km az=17.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.81**	**123**	Pn	Pn		Pn	09 25 39.5	+1.4
7.9nm,0.3s,baz=228,slow=12,SNR=2.9									
HNR				Lg	Lg		Lg	09 26 19.8	
22nm,0.3s,baz=268,slow=18,SNR=3.6									
WRA	**Warramunga Arr**	**25.49**	**240**	P	P		P	09 30 22.4	+0.3
2.0nm,0.9s,baz=65,slow=9.7,SNR=5.4									
ASAR	**Alice Springs**	**27.58**	**233**	P	P		P	09 30 40.1	-1.0
0.5nm,0.9s,baz=59,slow=9.9,SNR=3.9									
STKA	**Stephens Creek**	**28.12**	**210**	P	P		P	09 30 46.3	+0.5
1.6nm,0.7s,baz=40,slow=14,SNR=4.9									

*IDC **04** 09:39:17.5±0.7,8˚.92S×157˚.55E,h0km,mb4.1/8, mb1 4.3/10,mb1mx4.1/20,mbtmp4.1/10,ML3.9/2,MS3.4/3, Ms1 3.3/3,ms1mx3.0/25,Error ellipse: s-maj=23.1km s-min=14.9km az=176.0*

*ISCJB **04** 09:39:18.8±0.6,8˚.9S±0˚.1×157˚.46E±0˚.09,h17km,mb4.0/9, MS3.3/3,Error ellipse: s-maj=16.0km s-min=10.2km az=148.3*

*NEIC **04** 09:39:22.7±0.4,8˚.96S×157˚.52E,h35km,mb4.2/1,Error ellipse: s-maj=12.8km s-min=7.7km az=145.0*

ISC 04 09:39:20.3±0.6,8˚.9S±0˚.1×157˚.51E±0˚.10,h17km,n29, σ0s64/29,mb4.0/9,MS3.2/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**102**	Pn	**Pn**		**Pn**	**09 39 59.3**	**-0.3**
HNR				Lg	Lg		Lg	09 40 33.5	
HNR	**Honiara**	**2.46**	**102**	Pn	**Pn**		**Pn**	**09 39 59.3**	**-0.3**
26nm,0.3s,baz=295,slow=3.4,SNR=11									
HNR				Lg	Lg		Lg	09 40 33.5	
30nm,0.3s,baz=267,slow=22,SNR=4.1									
COEN	**Coen**	**14.92**	**249**	Pn	**Pn**		**Pn**	**09 42 49.7**	**-0.9**
CTA	**Charters Tower**	**15.55**	**223**	Pn	**Pn**		**Pn**	**09 43 00.1**	**+1.1**
CTA	**Charters Tower**	**15.55**	**223**	Pn	**Pn**		**Pn**	**09 43 00.1**	**+1.1**
0.3nm,0.3s,baz=42,slow=14,SNR=4.6									
CTAO	**Charters Tower**	**15.55**	**223**	Pn	**Pn**		**Pn**	**09 42 59.0**	**0.0**
EIDS	**Eidsvold**	**17.48**	**200**	*e*Pn	**Pn**		**Pn**	**09 43 23.3**	**0.0**
WRAB	**Tennant Creek**	**24.93**	**241**	*e*P	**P**		**P**	**09 44 42.2**	**-0.7**
4.3nm,0.6s									
WRA	**Warramunga Arr**	**24.94**	**241**	P	**P**		**P**	**09 44 42.8**	**-0.1**
WRA				Pg	PcP		**PcP**	**09 48 18.8**	**+0.3**
WRA	**Warramunga Arr**	**24.94**	**241**	P	**P**		**P**	**09 44 42.8**	**-0.1**
1.8nm,0.6s,baz=68,slow=9.7,SNR=18									
WRA				PcP	**PcP**		**PcP**	**09 48 18.8**	**+0.3**
0.6nm,0.7s,baz=68,slow=2.6,SNR=5.1									
ASAR	**Alice Springs**	**26.93**	**234**	P	**P**		**P**	**09 44 59.8**	**-1.2**
ASAR	**Alice Springs**	**26.93**	**234**	P	**P**		**P**	**09 44 59.8**	**-1.2**
1.0nm,1.0s,baz=68,slow=10,SNR=7.1									
STKA	**Stephens Creek**	**27.22**	**211**	*e*P	**P**		**P**	**09 45 04.3**	**+0.9**
STKA	**Stephens Creek**	**27.22**	**211**	P	**P**		**P**	**09 45 03.8**	**+0.4**
4.6nm,0.8s,baz=21,slow=12,SNR=12									
STKA				LR	LR		LR	09 54 04.4	
comp=Z,55nm,18.9s,baz=20,slow=33									
FITZ	**Fitzroy Crossi**	**32.26**	**250**	LR	LR		LR	09 58 03.0	
comp=Z,47nm,19.4s,baz=88,slow=35									
NWAO	**Narrogin (SRO)**	**44.17**	**231**	LR	LR		LR	10 05 19.3	
comp=Z,78nm,20.3s,baz=240,slow=35									
CMAR	**Chiang Mai Arr**	**63.86**	**296**	P	**P**		**P**	**09 49 53.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**63.86**	**296**	P	**P**		**P**	**09 49 53.0**	**+0.6**
1.3nm,0.3s,baz=113,slow=4.8,SNR=4.2									
SONM	**Songino Array**	**72.29**	**327**	P	**P**		**P**	**09 50 45.3**	**+0.3**
SONM	**Songino Array**	**72.29**	**327**	P	**P**		**P**	**09 50 45.3**	**+0.3**
0.7nm,0.8s,baz=134,slow=5.8,SNR=4.3									
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**		**P**	**09 51 49.9**	**-0.7**
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**		**P**	**09 51 49.9**	**-0.7**
1.1nm,1.1s,baz=256,slow=3.6,SNR=4.0									
MKAR	**Makanchi Array**	**86.48**	**318**	P	**P**		**P**	**09 52 02.5**	**+0.2**
MKAR	**Makanchi Array**	**86.48**	**318**	P	**P**		**P**	**09 52 02.5**	**+0.2**
0.7nm,0.6s,baz=101,slow=5.9,SNR=10									
NVAR	**Mina Array Bea**	**90.95**	**51**	P	**P**		**P**	**09 52 24.4**	**+0.5**
NVAR	**Mina Array Bea**	**90.95**	**51**	P	**P**		**P**	**09 52 24.4**	**+0.5**
1.8nm,1.0s,baz=243,slow=6.2,SNR=10									
NV11	**Mina Array Sit**	**91.06**	**51**	*e*P	**P**		**P**	**09 52 24.3**	**-0.1**
BDFB	**Brasilia**	**144.87**	**134**	PKP	**PKPdf**		**PKPdf**	**09 58 57.6**	**-0.1**
BDFB	**Brasilia**	**144.87**	**134**	PKP	**PKPdf**		**PKPdf**	**09 58 57.6**	**-0.1**
4.0nm,0.7s,baz=156,slow=1.9,SNR=5.3									

*SZGRF **04** 10:03:32.4,22˚.52S×177˚.86W,h33km,South of Fiji Islands*

*ISCJB **04** 10:04:38.0±0.5,21˚.03S±0˚.03×178˚.92W±0˚.02, h585km±7km,mb5.1/222,Error ellipse: s-maj=5.2km s-min=3.1km az=165.6*

*MOS **04** 10:04:39.5±0.9,20˚.83S×178˚.98W,h596km,mb5.2/30, Error ellipse: s-maj=8.7km s-min=7.2km az=54.4*

*IDC **04** 10:04:40.3±0.6,20˚.94S×178˚.91W,h599km±6km,mb4.6/30, mb1 4.7/33,mb1mx4.7/33,mbtmp5.5/33,Error ellipse: s-maj=8.1km s-min=7.1km az=151.0*

*BJI **04** 10:04:40.7,20˚.53S×178˚.74W,h610km,mB5.3/27, mb5.4/43*

*GCMT **04** 10:04:41.9±0.3,20˚.87S×178˚.88W,h610km±2km, MW5.4/73,Moment Tensor Solution. s73,c106; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr-1.07±.04; Mθθ0.84±.06; Mϕϕ0.23±.06; Mrθ-0.72±.06; Mθϕ-0.54±.06; Mϕr-0.60±.06; Best double couple: M0 1.41600×10^17^ NP1:φs90.00000°,δ62.00000°, λ-122.00000°. NP2:φs323.00000°,δ42.00000°, λ-45.00000°. Principal axes: T 1.2170, Plg11.0000°, Azm203.0000°; N 0.4020, Plg28.0000°, Azm107.0000°; P -1.6150, Plg60.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s.*

*NEIC **04** 10:04:41.9±0.4,20˚.96S×178˚.98W,h620km±4km, mb5.2/166 Error ellipse: s-maj=5.1km s-min=3.2km az=148.0*

ISC 04 10:04:40.7±0.3,21˚.02S±0˚.04×178˚.88W±0˚.04, h610km±2km,h610km:pP-P,n1451,σ1s08/1644,mb5.2/221, 275C-301D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.24**	**174**	P	**P**		**P**	**10 06 41.2**	**-1.4**
RAO				S	**S**		**S**	**10 08 20.2**	**-2.2**
RAO	**Raoul Island**	**8.24**	**174**	P	**P**		**P**	**10 06 41.2**	**-1.4**
103nm,0.3s,baz=75,slow=20,SNR=3.4									
RAO				S	**S**		**S**	**10 08 20.2**	**-2.2**
195nm,0.3s,baz=97,slow=22,SNR=11									
NIUE	**Niue**	**8.63**	**79**	P	**P**		**P**	**10 06 44.7**	**-1.7**
baz=8.5,SNR=13									
AFI	**Afiamalu**	**9.79**	**45**	*e*P	P		P	10 06 53.5	-4.4
AFI				S	S		S	10 08 39.5	-11
AFI	**Afiamalu**	**9.79**	**45**	P	P		P	10 06 53.6	-4.3
133nm,0.3s,baz=4.0,slow=2.0,SNR=102									
AFI				S	S		S	10 08 39.5	-11
12nm,0.3s,baz=330,slow=20,SNR=4.1									
DZM	**Mont Dzumac**	**13.70**	**263**	*e*P	**P**		**P**	**10 07 36.4**	**-0.2**
147nm,1.2s									
DZM	**Mont Dzumac**	**13.70**	**263**	*e*P	**P**		**P**	**10 07 35.9**	**-0.6**
DZM				S	**S**		**S**	**10 09 59.6**	**-0.8**
DZM	**Mont Dzumac**	**13.70**	**263**	P	**P**		**P**	**10 07 34.9**	**-1.7**
6.3nm,0.3s,baz=80,slow=17,SNR=31									
DZM				S	**S**		**S**	**10 09 59.6**	**-0.8**
0.3nm,0.3s,baz=127,slow=20,SNR=4.9									
NFK	**Norfolk Island**	**14.36**	**234**	P	**P**		**P**	**10 07 44.5**	**+1.8**
baz=15,SNR=20									
OUZ	**Omahuta**	**15.62**	**203**	*e*P	**P**		**P**	**10 07 56.7**	**+2.8**
955nm,0.8s									
OUZ	**Omahuta**	**15.62**	**203**	⇑PN	**P**		**P**	**10 07 56.6**	**+2.6**

WCZ Waipu Caves 16.00 200 PN **P 10 08 00.3 +2.8**
ABAZ Army Bay 16.46 198 PN **P 10 08 04.2 +2.5**
RVAZ Riverhead Bore 16.70 199 PN **P 10 08 05.7 +1.9**
HBAZ Herne Bay Bore 16.73 198 PN **P 10 08 06.1 +2.1**
MKAZ Moumakai 16.85 197 PN **P 10 08 07.1 +1.9**
WTAZ Waiatarua 16.85 198 PN **P 10 08 07.5 +2.3**
KBAZ Karaka Road Bo 16.91 197 PN **P 10 08 08.0 +2.2**
OPRZ Ohinepanea 17.23 192 PN **P 10 08 07.6 -1.0**
TOZ Tahuroa Road 17.35 195 PN **P 10 08 11.2 +1.4**
URZ Urewera 17.52 191 P **P 10 08 08.4 -3.0**
URZ *eP* P 10 08 09.0 -2.3
URZ S **S 10 10 57.0 -5.5**
URZ ScP **ScP 10 14 55.5 +0.6**
URZ Urewera 17.52 191 P **P 10 08 08.4 -3.0**
31nm,0.3s,baz=345,slow=2.2,SNR=118
URZ S **S 10 10 57.0 -5.5**
3.2nm,0.3s,baz=156,slow=20,SNR=5.7
URZ ScP **ScP 10 14 55.5 +0.6**
1.1nm,0.3s,baz=288,slow=3.2,SNR=4.3
URZ Urewera 17.52 191 PN **P 10 08 08.3 -3.1**
URZ SN **S 10 10 56.7 -5.7**
MWZ Matawai 17.53 189 PN **P 10 08 09.1 -2.4**
MWZ SN **S 10 10 57.2 -5.5**
RRRZ Republican Roa 17.71 192 PN **P 10 08 11.7 -1.5**
RAR Rarotonga 17.83 94 *eP* **P 10 08 14.8 +0.4**
RAR Rarotonga 17.83 94 P **P 10 08 14.6 +0.2**
0.9nm,0.3s,baz=348,slow=0.0,SNR=6.7
RIGZ Rimuhau 17.86 189 PN **P 10 08 12.7 -1.8**
SNGZ Shannon Statio 18.00 190 PN **P 10 08 12.6 -3.1**
RAHZ Arahi 18.17 190 PN **P 10 08 14.9 -2.4**
KNZ Kokohu 18.18 189 PN **P 10 08 16.3 -1.1**
HIZ Hauiti 18.25 196 PN **P 10 08 19.5 +1.5**
WHHZ Waihua 18.30 190 PN **P 10 08 18.0 -0.5**
RATZ Rangitukua 18.37 193 PN **P 10 08 18.8 -0.4**
BKZ Black Stump Fm 18.52 191 *eP* **P 10 08 18.7 -1.7**
56nm,0.6s
BKZ Black Stump FM 18.52 191 PN **P 10 08 18.1 -2.4**
TRVZ Turoa 18.84 194 PN **P 10 08 22.3 -1.3**
VRZ Vera Road 18.85 195 PN **P 10 08 25.1 +1.6**
MOVZ Moawhango 18.89 193 PN **P 10 08 21.7 -2.2**
BHHZ Black Hill Sta 18.91 192 PN **P 10 08 21.0 -3.0**
MTVZ Mangateitei 18.93 194 PN **P 10 08 23.1 -1.2**
KAHZ Kahuranaki 19.06 190 PN **P 10 08 24.5 -0.8**
PNHZ Pukenui 19.30 192 PN **P 10 08 25.5 -2.0**
KNTN Kanton 19.43 22 *eP* **P 10 08 27.0 -2.0**
294nm,0.8s
TSZ Takapari Road 19.48 192 PN **P 10 08 27.0 -2.1**
DVHZ Dannevirke 19.68 191 PN **P 10 08 29.4 -1.5**
ANWZ Angora Road 19.78 191 PN **P 10 08 30.2 -1.6**
BFZ Birch Farm 20.03 191 *eP* **P 10 08 33.3 -0.8**
132nm,0.5s
MRZ Mangatainoka R 20.14 192 PN **P 10 08 33.1 -2.0**
MRZ SN **S 10 11 37.8 -6.4**
OGWZ Otaki Gorge 20.37 193 PN **P 10 08 35.7 -2.0**
HOWZ Holdsworth Sta 20.38 192 PN **P 10 08 35.5 -1.7**
KIW Kapiti Island 20.47 194 PN **P 10 08 36.7 -1.4**
MTW Mount Morrison 20.63 192 PN **P 10 08 37.6 -1.9**
DUWZ D'Urville Isla 20.65 196 PN **P 10 08 38.5 -1.2**
CAW Cannon Point 20.67 193 PN **P 10 08 38.3 -1.5**
CAW SN **S 10 11 47.7 -4.9**
SNZO South Karori 20.94 194 *eP* **P 10 08 41.5 -0.7**
213nm,0.6s
SNZO South Karori 20.94 194 PN **P 10 08 40.9 -1.3**
TCW Tory Channel 20.95 195 PN **P 10 08 41.0 -1.3**
QRZ Quartz Range 21.05 198 PN **P 10 08 43.6 +0.4**
PLWZ Palliser 21.08 192 PN **P 10 08 41.7 -1.8**
NNZ Nelson 21.18 196 PN **P 10 08 42.9 -1.4**
NNZ SN **S 10 11 57.8 -2.8**
THZ Tophouse 21.81 197 PN **P 10 08 48.7 -1.5**
THZ SN **S 10 12 06.6 -4.1**
DSZ Denniston Nort 22.11 199 PN **P 10 08 52.1 -0.7**
LHI Lord Howe Isla 22.33 238 ⇑P **P 10 08 56.4 +1.6**
baz=22,SNR=6.1
LTZ Lake Taylor 22.93 197 PN **P 10 08 58.4 -1.6**
HNR Honiara 23.42 296 P **P 10 09 04.3 -0.4**
HNR Honiara 23.42 296 P **P 10 09 04.3 -0.4**
123nm,0.6s,baz=196,slow=1.8,SNR=10.0
OXZ Oxford 23.50 197 PN **P 10 09 03.6 -1.4**
TARA Tarawa 23.64 339 *eP* **P 10 09 05.8 -0.8**
505nm,1.1s
WVZ Waitaha Valley 23.65 199 PN **P 10 09 05.6 -0.7**
MOQZ McQueen's Vall 23.70 195 PN **P 10 09 05.5 -1.2**
RPZ Rata Peaks 24.14 198 *eP* **P 10 09 11.3 +0.7**

baz=34,SNR=40
PMG Port Moresby 34.67 284 *e*P P 10 10 41.6 +0.1
comp=Z,332nm,1.0s
PMG Port Moresby 34.67 284 P P 10 10 41.7 +0.1
comp=Z,221nm,0.8s,baz=91,slow=5.6,SNR=50
TOO Toolangi 34.93 234 P P 10 10 44.3 +0.9
baz=35,SNR=82
MOO Moorlands 35.55 225 P P 10 10 49.7 +1.2
baz=36,SNR=8.6
PATS Pohnpei 35.62 319 ⇑P P 10 10 49.5 +0.2
baz=36
TAU Tasmania Unive 35.68 224 P P 10 10 50.0 +0.6
comp=Z,445nm,0.7s,SNR=9.6
TAU Tasmania Unive 35.68 224 *e*P P 10 10 49.5 +0.1
TAU pmax pmax
comp=Z,48nm,0.7s
TAU Tasmania Unive 35.68 224 *e*P P 10 10 49.5 +0.1
comp=Z,48nm,0.7s
COEN Coen 36.80 275 ⇓P P 10 10 59.7 +0.6
baz=37,SNR=50
STKA Stephens Creek 36.82 245 P P 10 11 00.1 +1.1
STKA PcP **PcP** 10 13 05.0 +1.1
STKA ScP **ScP** 10 15 56.3 +2.5
STKA PKiKP **PKiKP** 10 20 18.4 -1.6
STKA Stephens Creek 36.82 245 P P 10 11 00.1 +1.1
comp=Z,46nm,0.5s,baz=92,slow=9.9,SNR=204
STKA PcP **PcP** 10 13 05.0 +1.1
comp=Z,9.4nm,0.7s,baz=32,slow=7.9,SNR=2.8
STKA ScP **ScP** 10 15 56.3 +2.5
comp=Z,8.9nm,0.7s,baz=113,slow=2.5,SNR=4.9
STKA PKiKP **PKiKP** 10 20 18.4 -1.6
comp=Z,1.3nm,0.7s,baz=111,slow=8.6,SNR=2.9
MCQ Macquarie Isla 37.41 201 *e*P P 10 11 05.3 +2.0
MCQ Macquarie Isla 37.41 201 *e*P P 10 11 05.3 +2.0
comp=Z,33µm,0.9s
MCQ Macquarie Isla 37.41 201 P P 10 11 05.3 +2.0
baz=38,SNR=18
ARPS Mount Arapiles 37.51 237 P P 10 11 05.1 +0.5
baz=38,SNR=25
MANU Manus Island 37.92 295 ⇓P P 10 11 08.7 +0.5
baz=38
QIS Mount Isa 38.74 263 P P 10 11 14.5 -0.3
baz=39,SNR=22
HTT Hallett 39.26 243 P P 10 11 19.4 +0.7
baz=39,SNR=78
BBOO Buckleboo 41.58 244 *e*P P 10 11 37.6 +0.5
comp=Z,1µm,0.6s
BBOO Buckleboo 41.58 244 P P 10 11 37.6 +0.5
baz=42,SNR=211
JAY Jayapura 43.44 290 P P 10 11 51.9 +0.1
baz=44,SNR=58
ASAR Alice Springs 43.60 257 P P 10 11 53.3 +0.3
ASAR PcP **PcP** 10 13 26.9 +0.3
ASAR ScP **ScP** 10 16 24.4 +3.7
ASAR S **S** 10 17 37.9 -1.9
ASAR PKiKP **PKiKP** 10 20 24.4 -1.8
ASAR Alice Springs 43.60 257 P P 10 11 53.3 +0.3
comp=Z,65nm,0.4s,baz=91,slow=8.4,SNR=1451
ASAR PcP **PcP** 10 13 26.9 +0.3
comp=Z,29nm,0.7s,baz=103,slow=3.8,SNR=19
ASAR ScP **ScP** 10 16 24.4 +3.7
comp=Z,11nm,0.7s,baz=102,slow=4.6,SNR=9.7
ASAR S **S** 10 17 37.9 -1.9
comp=Z,49nm,0.9s,baz=90,slow=15,SNR=59
ASAR PKiKP **PKiKP** 10 20 24.4 -1.8
comp=Z,0.6nm,0.5s,baz=108,slow=1.2,SNR=5.9
WRAB Tennant Creek 43.71 263 P P 10 11 53.0 -0.8
comp=Z,599nm,0.5s
WRAB Tennant Creek 43.71 263 ⇓*i*P P 10 11 53.2 -0.6
WRAB pmax pmax
comp=Z,408nm,1.5s
WRAB Tennant Creek 43.71 263 *e*P P 10 11 52.5 -1.3
comp=Z,108nm,1.0s
WRA Warramunga Arr 43.72 263 P P 10 11 53.4 -0.5
WRA PcP **PcP** 10 13 27.6 +0.6
WRA ScP **ScP** 10 16 24.9 +3.6
WRA S **S** 10 17 38.0 -3.4
WRA PKiKP **PKiKP** 10 20 25.0 -1.4
WRA Warramunga Arr 43.72 263 P P 10 11 53.4 -0.5
comp=Z,38nm,0.4s,baz=97,slow=7.6,SNR=1463
WRA PcP **PcP** 10 13 27.6 +0.6
comp=Z,15nm,0.9s,baz=95,slow=3.7,SNR=8.7
WRA ScP **ScP** 10 16 24.9 +3.6
comp=Z,4.3nm,1.0s,baz=86,slow=5.8,SNR=4.5
WRA S **S** 10 17 38.0 -3.4
comp=Z,20nm,0.8s,baz=98,slow=13,SNR=12
WRA PKiKP **PKiKP** 10 20 25.0 -1.4
comp=Z,0.7nm,0.7s,baz=53,slow=0.4,SNR=5.3
KDU Kakadu 47.14 272 ⇑P P 10 12 19.8 -0.1
baz=47,SNR=43
FORT Forrest 48.34 247 *e*P P 10 12 27.7 -0.9
comp=Z,126nm,0.6s
FORT Forrest 48.34 247 P P 10 12 28.6 0.0
baz=48,SNR=76
MTN Manton Dam 48.35 271 ⇑P P 10 12 28.6 -0.3
baz=48,SNR=22
WRKA Warakurna 48.53 255 P P 10 12 30.4 +0.2
baz=49,SNR=446
GUMO Guam 49.51 311 *e*P P 10 12 37.4 0.0
comp=Z,96nm,1.1s
KNRA Kununurra 49.81 267 P P 10 12 39.7 +0.1
baz=50,SNR=31
FAKI Fak Fak 50.82 284 P P 10 12 46.7 -0.3
baz=51,SNR=7.9
FITZ Fitzroy Crossi 52.15 263 P P 10 12 56.8 +0.4
FITZ S **S** 10 19 35.8 -0.9
FITZ Fitzroy Crossi 52.15 263 P P 10 12 56.8 +0.4
comp=Z,21nm,0.3s,baz=107,slow=3.1,SNR=91
FITZ S **S** 10 19 35.8 -0.9
comp=Z,10nm,1.0s,baz=267,slow=21,SNR=7.0
SWI Sorong 52.59 286 ⇑P P 10 12 59.8 +0.2
baz=53
KMBL Kambalda 53.60 246 P P 10 13 06.9 +0.4
baz=54,SNR=6.1
PALU Palau 53.78 297 P P 10 13 08.5 +0.4
baz=54,SNR=6.1
SOEI Soe 55.70 272 P P 10 13 23.1 +1.6
baz=56,SNR=29
TNTI Ternate 56.80 285 *e*P P 10 13 29.2 +0.2
comp=Z,366nm,0.9s
MEEK Meekatharra 56.97 251 P P 10 13 29.6 -0.4
baz=57,SNR=47
KLBR Kellerberrin 57.09 245 P P 10 13 30.9 +0.2
baz=57,SNR=37
SBA Scott Base 57.30 184 *e*P P 10 13 34.0 +2.7
SBA pmax pmax
comp=Z,163nm,1.5s
SBA Scott Base 57.30 184 *e*P P 10 13 34.0 +2.7
comp=Z,163nm,1.5s
VNDA Vanda 57.32 185 P P 10 13 33.8 +2.4
VNDA ScP **ScP** 10 17 21.2 +2.5
VNDA Vanda 57.32 185 P P 10 13 33.8 +2.4
comp=Z,14nm,0.7s,baz=357,slow=7.4,SNR=72
VNDA ScP **ScP** 10 17 21.2 +2.5
comp=Z,6.5nm,0.7s,baz=357,slow=4.4,SNR=5.2
NWAO Narrogin (SRO) 57.40 244 P P 10 13 33.5 +0.7
NWAO Narrogin (SRO) 57.40 244 P P 10 13 33.5 +0.7
comp=Z,39nm,1.0s,baz=111,slow=5.4,SNR=14
RKGY Rocky Gully 57.47 242 ⇓P P 10 13 34.3 +1.1
baz=58,SNR=18
BLDU Ballidu 58.09 246 P P 10 13 37.6 +0.1
baz=58,SNR=25
MORW Morawa 58.87 248 P P 10 13 42.9 +0.1
baz=59,SNR=12
LUWI Luwuk 60.23 281 P P 10 13 52.4 +0.5
baz=60,SNR=4.5
JCJ Chichijima 60.91 320 P P 10 13 55.5 -0.6
comp=Z,114nm,0.5s,baz=267,slow=6.3,SNR=11
CBIJ Chichi jima 60.91 320 P P 10 13 55.5 -0.6
KAPI Kappang 61.52 276 *e*P P 10 14 00.2 -0.2
comp=Z,715nm,1.9s
BUKP Musuan 62.09 292 *e*P P 10 14 03.2 -0.8
MSLP Maasin 63.35 294 *e*P P 10 14 11.8 -0.2
PAGZ Pagadian 63.53 291 *e*P P 10 14 13.7 +0.4
JAGI Jajag, Banyuwa 65.56 270 *e*P P 10 14 23.3 -2.8
comp=Z,135nm,0.9s
JAGI Jajag, Banyuwa 65.56 270 P P 10 14 25.1 -1.0
baz=66,SNR=11
MYLDM Lahad Datu 66.68 286 *e*P P 10 14 34.9 +2.0
comp=Z,64nm,0.8s
JHJ2 Mitsune 66.73 323 *e*P P 10 14 33.0 +0.2
comp=Z,218nm,1.1s
TSM Tawau 66.87 284 ⇓P P 10 14 35.3 +1.2
SDKM Sandakan 68.05 285 ⇓P P 10 14 41.0 -0.4
QSPA South Pole Qui 69.05 180 P P 10 14 48.1 +1.6
QSPA South Pole Qui 69.05 180 P P 10 14 48.1 +1.6
comp=Z,30nm,0.6s,baz=25,slow=1.2,SNR=101

UGM Wanagama 69.14 269 ⇑P P 10 14 47.7 -0.2
baz=69,SNR=12
SMRI Semarang 69.50 270 ⇓P P 10 14 50.6 +0.6
baz=70
JOW Kunigami 69.88 311 *e*P P 10 14 52.5 +0.6
comp=Z,38nm,0.8s
MJAR Matsushiro Arr 70.15 324 P P 10 14 52.8 -0.6
MJAR Matsushiro Arr 70.15 324 P P 10 14 52.8 -0.6
comp=Z,48nm,0.8s,baz=156,slow=6.1,SNR=160
MAJO Matsushiro 70.15 324 *d*⇓*i*P P 10 14 52.8 -0.6
MAJO pmax pmax
comp=Z,652nm,1.3s
MAJO Matsushiro 70.15 324 *e*P P 10 14 53.0 -0.4
comp=Z,59nm,0.8s
MAT Matsushiro 70.15 324 P P 10 14 52.9 -0.5
SZP Santa 70.75 298 *e*P P 10 14 57.9 +0.6
comp=Z,32nm,0.4s
SBUM Sibu 71.29 280 *e*P P 10 15 01.4 +0.9
comp=Z,52nm,1.0s
SBUM Sibu 71.29 280 ⇓P P 10 15 01.6 +1.0
CISI Cisompet, Garu 71.78 269 ⇓P P 10 15 02.8 -0.7
baz=72
JNU Nakatsue 72.10 317 *e*P P 10 15 04.7 -0.1
comp=Z,83nm,1.2s
JNU Nakatsue 72.10 317 P P 10 15 04.7 -0.1
comp=Z,80nm,0.9s,baz=95,slow=2.6,SNR=17
LEM Lembang 72.21 269 P P 10 15 06.8 +0.8
baz=72,SNR=6.1
YUK Yuzh-Kuril'sk 72.35 334 *i* PP 10 17 55.7 -3.0
YUK S **SKiKP** 10 23 34.4 -2.4
YOJ Yonaguni jima 72.37 306 *e*P P 10 15 06.3 -0.2
YOJ pmax pmax
comp=Z,79nm,0.9s
YOJ Yonaguni jima 72.37 306 *e*P P 10 15 06.3 -0.2
comp=Z,79nm,0.9s
KSM Kuching 72.67 278 *e*P P 10 15 09.2 +0.7
comp=Z,153nm,0.9s
KSM Kuching 72.67 278 P P 10 15 09.3 +0.7
baz=73,SNR=41
XMI Christmas Isla 72.82 265 ⇓P P 10 15 10.0 +0.6
baz=73
TWG Pinlang 72.98 303 *e*P P 10 15 08.1 -2.0
comp=Z,450nm,0.6s
YULB Yu-li 73.11 304 *e*P P 10 15 09.4 -1.4
comp=Z,71nm,0.8s
NACB Ninganchiao 73.29 305 *e*P P 10 15 11.1 -0.7
comp=Z,224nm,1.0s
TPUB Ta-pu 73.58 303 *e*P P 10 15 12.1 -1.4
comp=Z,337nm,0.8s
SSLB Suanglung 73.58 304 *e*P P 10 15 11.7 -1.8
comp=Z,117nm,0.6s
YHNB Yeheng 73.73 305 *e*P P 10 15 13.8 -0.6
comp=Z,136nm,0.9s
ASAJ Asahikawa 73.80 332 *e*P P 10 15 15.5 +1.3
ASAJ Asahikawa 73.80 332 P P 10 15 15.3 +1.1
comp=Z,83nm,0.9s,baz=214,slow=5.6,SNR=31
TATO Taipei 73.81 305 *e*P P 10 15 14.2 -0.5
comp=Z,169nm,0.8s
YSS Yuzh-Sakhalins 76.00 334 ⇓*e*P P 10 15 26.3 -0.1
YSS *e* 10 15 34.0
YSS Yuzh-Sakhalins 76.00 334 *e*P P 10 15 27.2 +0.9
comp=Z,402nm,2.0s
PET Petropavlovsk 76.28 346 ⇑*i*P P 10 15 27.2 -0.5
PET pmax pmax
comp=Z,90nm,1.7s
PETK Petropavlovsk- 76.57 346 P P 10 15 29.0 -0.4
PETK Petropavlovsk- 76.57 346 P P 10 15 29.0 -0.4
PETK Petropavlovsk- 76.57 346 P P 10 15 29.0 -0.4
comp=Z,64nm,0.7s,baz=157,slow=5.8,SNR=121
KSRS Koa Array 76.74 319 P P 10 15 31.4 +0.7
comp=Z,18nm,0.8s,baz=130,slow=5.9,SNR=26
KSAR Wonju Array Be 76.76 319 P P 10 15 31.4 +0.6
MNAI Manna 77.41 270 ⇓P P 10 15 35.4 +0.5
baz=78
INCN Inchon 77.55 318 *e*P P 10 15 35.0 -0.1
comp=Z,1µm,2.9s
DLV T Lat 78.49 288 *e*P P 10 15 41.8 +0.9
comp=Z,101nm,1.0s
BSC Santa Cruz Isl 78.55 47 ⇓P P 10 15 41.7 +1.1
baz=79
BTDF Bukit Timah Da 78.69 276 ⇑P P 10 15 42.5 +0.8
baz=79
SCI San Clemente I 78.73 48 ⇓P P 10 15 42.5 +1.1
baz=79
SBC Santa Barbara 78.75 46 ⇑P P 10 15 42.9 +1.4
baz=79
MYKOM Kota Tinggi 78.78 276 *e*P P 10 15 43.0 +0.8
comp=Z,103nm,0.8s
USRK Ussuriysk Arra 78.94 326 P P 10 15 43.5 +1.2
comp=Z,80nm,0.9s,baz=123,slow=3.1,SNR=162
PKM Peak Mountain 78.95 46 ⇓P P 10 15 43.9 +1.0
baz=79,SNR=6.3
SAO San Andreas Ge 78.97 44 *e*P P 10 15 43.7 +1.0
SAO pmax pmax
comp=Z,40nm,0.9s
SAO San Andreas Ge 78.97 44 *e*P P 10 15 43.7 +1.0
comp=Z,40nm,0.9s
SMMC Simler 79.06 45 ⇓P P 10 15 44.3 +1.0
baz=79
CIS Catalina Islan 79.07 48 ⇓P P 10 15 43.8 +0.5
baz=79,SNR=6.9
PTRM Twissleman Ran 79.12 45 *e*P P 10 15 44.9 +1.3
HOPS Hopland 79.30 41 *e*P P 10 15 45.1 +0.8
comp=Z,65nm,1.0s
FMP Fort Macarthur 79.31 48 ⇓P P 10 15 45.7 +1.2
baz=80
KCPM Cahto Peak 79.42 40 *e*P P 10 15 46.1 +0.9
comp=Z,34nm,0.9s
KIPM Iron Peak 79.56 40 *e*P P 10 15 46.8 +0.9
comp=Z,74nm,0.8s
NJ2 Nanjing 79.58 310 *e*P P 10 15 46.2 +0.2
NJ2 pmax pmax
comp=Z,110nm,1.0s
NJ2 pmax pmax
comp=Z,310nm,5.5s
DECC Green Verdugo 79.59 47 ⇓P P 10 15 46.6 +0.6
baz=80,SNR=5.6
PASC Pasadena Art C 79.64 47 *e*P P 10 15 47.2 +0.9
comp=Z,24nm,0.8s
109C Camp Elliot, M 79.69 49 ⇓P P 10 15 47.2 +0.7
baz=80,SNR=7.0
ARVC Arvin 79.74 46 ⇓P P 10 15 47.4 +0.7
baz=80,SNR=12
MWC Mount Wilson 79.76 47 *e*P P 10 15 47.6 +0.5
MWC pmax pmax
comp=Z,30nm,0.8s
MWC Mount Wilson 79.76 47 *e*P P 10 15 47.6 +0.5
comp=Z,30nm,0.8s
BAR Barrett 79.88 49 *e*P P 10 15 48.2 +0.7
comp=Z,84nm,2.0s
VES Vestal, Richgr 79.98 45 ⇓P P 10 15 48.4 +0.5
baz=80,SNR=24
MURC Murrieta 80.01 48 ⇓P P 10 15 48.9 +0.7
baz=80,SNR=14
BFSC Mount Baldy Ra 80.04 47 ⇑P P 10 15 48.9 +0.4
baz=80,SNR=15
KHMM Horse Mountain 80.08 39 *e*P P 10 15 50.2 +1.6
comp=Z,50nm,0.9s
RCTC Rector, Farmer 80.14 45 ⇓P P 10 15 49.4 +0.6
baz=80,SNR=5.1
MONP Monument Peak 80.17 49 ⇑P P 10 15 50.3 +1.0
baz=80,SNR=43
EDW2 Edwards Air Fo 80.17 47 ⇓P P 10 15 49.9 +0.8
baz=80,SNR=35
DVTC Desert V Tower 80.27 50 ⇑P P 10 15 50.9 +1.2
baz=80,SNR=20
ISA Isabella 80.29 46 *e*P P 10 15 50.6 +0.9
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella 80.29 46 *e*P P 10 15 50.5 +0.9
comp=Z,9.9nm,1.0s
ISA Isabella 80.29 46 ⇑P P 10 15 50.6 +0.9
baz=80,SNR=46
KRMB Red Mountain 80.38 39 *e*P P 10 15 51.7 +1.6
comp=Z,263nm,1.3s
CMB Columbia Colle 80.40 43 *e*P P 10 15 50.7 +0.5
CMB pmax pmax
comp=Z,87nm,1.4s
CMB Columbia Colle 80.40 43 *e*P P 10 15 50.7 +0.5
comp=Z,87nm,1.4s
MDJ Mudanjiang 80.48 325 P P 10 15 51.1 +0.8
MDJ pP **pP** 10 17 58.5 +0.4
MDJ sP **sP** 10 19 00.5 +0.8
MDJ S **S** 10 25 07.8 +0.1
MDJ ScS **ScS** 10 25 21.8 0.0
MDJ sS **sS** 10 28 56.2 +0.9
MDJ SS **SS** 10 30 36.9 -2.1

MDJ pmax pmax
comp=Z,89nm,1.0s
MDJ pmax pmax
comp=Z,220nm,3.8s
MDJ Mudanjiang 80.48 325 *e*P P 10 15 50.5 +0.2
comp=Z,88nm,0.9s
OHCM Honcut 80.49 41 *e*P P 10 15 51.1 +0.6
HABR Khabarovsk 80.50 331 *e*P P 10 15 49.7 -0.6
HABR *e**PP **pP** 10 17 54.5 -3.6
HABR *e**SP **sP** 10 18 55.8 -3.8
HABR *e* 10 19 02.8
HABR *e*PPP PPP 10 20 57.8
HABR *e*S **S** 10 25 08.1 +0.4
HABR *e*SS **SS** 10 30 36.7 -2.4
HABR *e*SSS SSS 10 34 10.9
HABR pmax pmax
comp=N,10.0nm,0.7s
HABR pmax pmax
comp=E,13nm,0.7s
HABR pmax pmax
comp=Z,74nm,0.7s
HABR MLR MLR
comp=Z,51nm,16.0s
PFO Pinyon Flat Ob 80.53 49 P P 10 15 51.0 -0.1
comp=Z,102nm,0.9s,SNR=15
PFO Pinyon Flat Ob 80.53 49 *e*P P 10 15 51.8 +0.7
comp=Z,16nm,0.9s
PFO Pinyon Flat Ob 80.53 49 P P 10 15 51.8 +0.7
comp=Z,11nm,0.8s,baz=275,slow=3.1,SNR=38
PFO Pinyon Flat Ob 80.53 49 ⇑P P 10 15 51.9 +0.8
baz=81,SNR=20
BBRC Big Bear Solar 80.57 48 ⇑P P 10 15 52.2 +0.9
baz=81
WDC Whiskeytown Da 80.60 40 *e*P P 10 15 52.1 +1.0
WDC pmax pmax
comp=Z,63nm,1.0s
WDC Whiskeytown Da 80.60 40 *e*P P 10 15 52.1 +1.0
comp=Z,63nm,1.0s
KBO Bosley Butte 80.63 38 *e*P P 10 15 52.2 +0.9
comp=Z,21nm,1.0s
SWSC Sam W. Stewart 80.64 49 ⇓P P 10 15 52.4 +1.0
baz=81,SNR=18
LRMC Laurel Mountai 80.71 46 ⇑P P 10 15 52.7 +0.7
baz=81,SNR=20
N02D Trinity Center 80.75 40 ⇓P P 10 15 53.3 +1.3
baz=81
MAW Mawson 80.80 200 P P 10 15 52.8 +1.1
MAW Mawson 80.80 200 P P 10 15 52.8 +1.1
comp=Z,3.8nm,0.5s,baz=118,slow=5.3,SNR=7.4
M02C Callahan 80.92 39 ⇓P P 10 15 54.3 +1.5
baz=81
CWC Cottonwood Cre 80.99 45 ⇓P P 10 15 54.4 +1.0
baz=81
KEBM Edson Butte 80.99 37 *e*P P 10 15 54.8 +1.7
comp=Z,85nm,1.2s
BELC Belle Mtn. Jos 81.07 48 ⇓P P 10 15 54.8 +1.0
baz=81,SNR=43
MLAC Mammoth Lakes 81.17 44 ⇑P P 10 15 55.5 +1.1
baz=81,SNR=16
MPMC Manual Prospec 81.17 46 ⇓P P 10 15 55.2 +0.8
baz=81,SNR=45
PPI Padang Panjang 81.18 273 ⇑P P 10 15 55.2 +0.5
baz=81
MTUM Tungsten Hills 81.19 44 *e*P P 10 15 55.4 +0.9
YBH Yreka Blue Hor 81.21 39 *e*P P 10 15 55.7 +1.4
comp=Z,59nm,0.8s
GSC Goldstone 81.22 47 ⇑P P 10 15 55.2 +0.7
baz=81,SNR=36
TIN Tinemaha 81.24 45 ⇑P P 10 15 55.7 +1.1
baz=82,SNR=18
BC3 Big Chuckawall 81.26 49 ⇑P P 10 15 56.0 +1.2
baz=82,SNR=20
WAKR Walker 81.28 43 *e*P P 10 15 55.9 +1.0
HEC Hector,Ludlow 81.28 48 ⇑P P 10 15 55.6 +0.7
baz=82,SNR=59
GLA Glamis 81.39 50 *e*P P 10 15 57.0 +1.6
GLA pmax pmax
comp=Z,15nm,0.8s
GLA Glamis 81.39 50 *e*P P 10 15 57.0 +1.6
comp=Z,15nm,0.8s
GLA Glamis 81.39 50 ⇓P P 10 15 56.9 +1.6
baz=82,SNR=10
BEKR Beckworth 81.50 42 *e*P P 10 15 56.5 +0.5
comp=Z,22nm,1.0s
HUMO Hull Mountain 81.61 38 *e*P P 10 15 57.6 +1.3
comp=Z,85nm,1.1s
GMRC Granite Mounta 81.72 48 ⇓P P 10 15 57.9 +0.8
baz=82,SNR=27
IRM Iron Mountain 81.75 49 ⇓P P 10 15 58.4 +1.2
baz=82,SNR=26
M04C Macdoel 81.75 39 ⇑P P 10 15 58.4 +1.3
baz=82
GRAC Grapevine Rang 81.77 45 ⇑P P 10 15 58.3 +1.1
baz=82,SNR=33
FURC Furnace Creek, 81.82 46 ⇓P P 10 15 58.2 +0.8
baz=82,SNR=35
TUQ Turquoise Moun 81.89 47 ⇓P P 10 15 58.8 +0.8
baz=82,SNR=34
SHOC Shoshone 81.90 47 ⇓P P 10 15 58.5 +0.7
baz=82,SNR=5.4
NVAR Mina Array Bea 81.97 44 P P 10 15 59.1 +0.7
NVAR pP **pP** 10 18 09.8 +3.0
NVAR PKKPbc **PKKPbc** 10 34 24.3 0.0
NVAR Mina Array Bea 81.97 44 P P 10 15 59.1 +0.7
comp=Z,34nm,0.7s,baz=227,slow=7.9,SNR=298
NVAR pP **pP** 10 18 09.8 +3.0
comp=Z,1.8nm,0.8s,baz=224,slow=6.3,SNR=3.2
NVAR PKKPbc **PKKPbc** 10 34 24.3 0.0
comp=Z,1.4nm,0.7s,baz=77,slow=2.8,SNR=14
Y12C Blythe 81.97 49 ⇓P P 10 15 59.5 +1.2
baz=82,SNR=19
113A Mohawk Valley, 82.00 51 ⇑P P 10 15 59.5 +1.1
baz=82,SNR=34
NV11 Mina Array Sit 82.06 44 *e*P P 10 15 59.4 +0.6
I03D Drain, OR 82.07 37 ⇑P P 10 15 59.7 +1.3
baz=82
WHN Wuhan 82.10 307 ⇓P P 10 15 59.6 +0.7
WHN pmax pmax
comp=Z,76nm,0.7s
CN2 Changchun 82.22 323 ⇓P P 10 15 59.4 +0.2
CN2 *e*sP **sP** 10 19 11.5 +2.4
CN2 *e*S **S** 10 25 26.3 +1.2
CN2 pmax pmax
comp=Z,90nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
LDFC Landfair 82.26 48 *e*P P 10 16 01.6 +1.8
comp=Z,119nm,0.9s
214A Organ Pipe Nat 82.28 52 *e*P P 10 16 00.6 +0.7
comp=Z,54nm,1.4s
214A Organ Pipe Nat 82.28 52 ⇓P P 10 16 01.2 +1.3
baz=82,SNR=12
K04D Chiloquin, OR 82.32 39 ⇓P P 10 16 01.1 +1.2
baz=82
IPM Ipoh 82.39 278 *e*P P 10 16 01.4 +0.6
comp=Z,139nm,0.8s
NEE2 Needles Airpor 82.44 48 ⇓P P 10 16 01.7 +1.1
baz=83
TPH Tonopah 82.47 44 *e*P P 10 16 01.6 +0.7
TPH pmax pmax
comp=Z,55nm,0.8s
TPH Tonopah 82.47 44 *e*P P 10 16 01.6 +0.7
comp=Z,55nm,0.8s
J04D Umpqua Nationa 82.49 38 ⇑P P 10 16 02.2 +1.3
baz=83
TPNV Topopah Spring 82.49 46 *e*P P 10 16 01.8 +0.8
TPNV pmax pmax
comp=Z,47nm,0.8s
TPNV Topopah Spring 82.49 46 *e*P P 10 16 01.8 +0.8
comp=Z,46nm,0.8s
TPNV Topopah Spring 82.49 46 ⇑P P 10 16 01.8 +0.8
baz=83,SNR=68
PDMCI Parker Dam,Lak 82.53 49 ⇑P P 10 16 02.2 +1.1
baz=83,SNR=18
KLR Kul'dur 82.56 330 ⇑*i*P P 10 15 57.8 -3.0
KLR pmax pmax
comp=E,28nm,1.0s
KLR pmax pmax
comp=Z,72nm,1.0s
COR Corvallis 82.65 36 *e*P P 10 16 02.7 +1.3
COR pmax pmax
comp=Z,9.0nm,0.9s
COR Corvallis 82.65 36 *e*P P 10 16 02.7 +1.3
comp=Z,9.3nm,0.9s
I04A Tendick Farm, 82.66 37 ⇑P P 10 16 02.5 +0.9
baz=83
MOD Modoc 82.74 40 *e*P P 10 16 02.9 +0.8

comp=Z,13nm,0.7s
K05A **Summer Lake** 82.89 39 *e*P P 10 16 04.1 +1.2
comp=Z,127nm,0.9s
Z14A **Wintersburg** 82.90 50 ⇓P P 10 16 04.4 +1.5
baz=83,SNR=29
SHPR **Sheep Range** 82.99 47 *e*P P 10 16 04.3 +0.8
J05D **Fort Rock, OR** 83.02 38 ⇑P P 10 16 04.9 +1.4
baz=83
KULM **Kulim** 83.03 278 *e*P P 10 16 05.0 +0.9
comp=Z,86nm,1.0s
G03D **McMinnville, O** 83.07 36 ⇓P P 10 16 04.8 +1.4
baz=83
W13A **Hualapai Mount** 83.12 48 ⇑P P 10 16 05.2 +0.9
baz=83,SNR=41
Y14A **Wickenburg** 83.15 50 ⇑P P 10 16 05.2 +1.0
baz=83,SNR=31
H04A **Detroit Lake** 83.34 37 *e*P P 10 16 05.5 +0.6
comp=Z,61nm,0.9s
PINOR **Pine Mountain** 83.55 38 *e*P P 10 16 07.3 +1.4
I05D **Terrebonne, OR** 83.60 38 ⇑P P 10 16 07.3 +1.1
baz=84
R11A **Troy Canyon, C** 83.70 45 *e*P P 10 16 07.2 +0.2
comp=Z,20nm,1.5s
R11A **Troy Canyon, C** 83.70 45 ⇓P P 10 16 07.7 +0.7
baz=84
PSI **Prapat** 83.72 275 P P 10 16 07.0 -0.6
PSI **Prapat** 83.72 275 P P 10 16 07.0 -0.6
comp=Z,71nm,0.9s,baz=120,slow=3.0,SNR=28
PSI **Prapat** 83.72 275 P P 10 16 07.1 -0.6
baz=84,SNR=26
E03A **Lebam** 83.75 35 *e*P P 10 16 07.9 +1.2
comp=Z,129nm,1.0s
BMN **Battle Mountai** 83.79 43 *e*P P 10 16 08.2 +0.8
BMN pmax pmax
comp=Z,42nm,1.1s
BMN **Battle Mountai** 83.79 43 *e*P P 10 16 08.2 +0.8
comp=Z,42nm,1.1s
RSO **Redoubt South** 83.92 13 *e*P P 10 16 06.5 -1.1
TUC **Tucson** 83.95 52 *e*P P 10 16 09.5 +1.2
TUC pmax pmax
comp=Z,31nm,0.8s
TUC **Tucson** 83.95 52 *e*P P 10 16 09.5 +1.2
comp=Z,31nm,0.8s
SVW2 **Sparrevohn** 83.97 11 *e*P P 10 16 06.3 -1.2
comp=Z,16nm,0.7s
F04A **Amboy** 83.98 36 *e*P P 10 16 08.7 +0.8
comp=Z,41nm,0.6s
WVOR **Wild Horse Val** 84.06 40 *e*P P 10 16 09.3 +0.7
WVOR pmax pmax
comp=Z,36nm,0.9s
WVOR **Wild Horse Val** 84.06 40 *e*P P 10 16 09.3 +0.7
comp=Z,36nm,0.9s
NLWA **Neilton Lookou** 84.13 34 *e*P P 10 16 09.8 +1.1
comp=Z,53nm,0.9s
G05D **Wamic, OR** 84.17 37 P P 10 16 09.8 +0.8
baz=84
SEW **Seward** 84.32 14 *e*P P 10 16 09.0 -0.3
comp=Z,79nm,1.0s
TDL **Tradedollar La** 84.35 36 P P 10 16 11.0 +1.1
GSI **Gunungsitoli** 84.44 274 *e*P P 10 16 12.3 +1.3
comp=Z,233nm,1.0s
GSI **Gunungsitoli** 84.44 274 ⇑P P 10 16 12.1 +1.1
baz=85
I07A **Izee** 84.51 39 *e*P P 10 16 11.8 +1.0
comp=Z,49nm,0.9s
X16A **Lo Mia Camp, P** 84.51 50 ⇓P P 10 16 12.2 +1.1
baz=85
G06A **Carlson Farm,** 84.55 37 *e*P P 10 16 11.5 +0.7
comp=Z,40nm,1.1s
319A **Douglas** 84.62 54 ⇑P P 10 16 13.3 +1.7
baz=85,SNR=42
J08A **Circle Bar Ran** 84.69 40 *e*P P 10 16 12.5 +0.8
comp=Z,88nm,1.4s
GAMB **Gambell** 84.71 3 *e*P P 10 16 11.3 +0.3
comp=Z,74nm,1.2s
HDW **Hoodsport** 84.72 34 P P 10 16 12.8 +1.1
SPU **Mount Spurr** 84.72 13 *e*P P 10 16 09.9 -1.4
CCUT **Cedar City** 84.76 47 *e*P P 10 16 13.3 +1.0
comp=Z,18nm,0.9s
CCUT *e*pP pP 10 18 26.8 +5.0
LON **Longmire** 84.82 35 *e*P P 10 16 12.4 +0.3
LON pmax pmax
comp=Z,64nm,1.7s
LON **Longmire** 84.82 35 *e*P P 10 16 12.4 +0.3
comp=Z,64nm,1.7s
U15A **North Rim** 84.92 48 ⇓P P 10 16 14.4 +1.2
baz=85
D05A **Enumclaw** 84.99 35 *e*P P 10 16 14.0 +1.1
comp=Z,119nm,1.2s
WUAZ **Wupatki** 85.10 49 *e*P P 10 16 14.6 +0.7
comp=Z,31nm,1.1s
WUAZ **Wupatki** 85.10 49 ⇓P P 10 16 14.8 +0.9
baz=85
RC01 **Rabbit Creek A** 85.14 14 *e*P P 10 16 12.7 -0.5
comp=Z,158nm,1.4s
PGC **Sidney** 85.15 33 *e*P P 10 16 13.7 +0.2
comp=Z,2.3nm,0.8s
320A **Kipp Ranch, An** 85.17 54 ⇓P P 10 16 16.2 +2.0
baz=85,SNR=48
ELK **Elko** 85.22 43 *e*P P 10 16 14.9 +0.5
comp=Z,13nm,0.9s
G08A **Pilot Rock** 85.53 38 *e*P P 10 16 16.3 +0.7
comp=Z,57nm,0.9s
G08A *e*pP pP 10 18 33.8 +8.3
X18A **Snowflake** 85.64 51 ⇓P P 10 16 17.5 +1.0
baz=86
ENH **Enshi** 85.66 305 *e*P P 10 16 16.4 0.0
comp=Z,104nm,0.9s
BJT **Baijiatuau** 85.68 316 *e*P P 10 16 16.0 -0.3
comp=Z,24nm,0.6s
BJI **Beijing** 85.69 316 P P 10 16 16.6 +0.3
BJI pP pP 10 18 23.0 -3.3
BJI S S 10 26 02.2 +3.3
BJI pmax pmax
comp=Z,76nm,0.7s
PATY **Pattaya** 85.71 285 P P 10 16 19.1 +2.1
comp=Z,42nm,0.8s,comp=Z,767nm
PMR **Palmer** 85.72 14 *e*P P 10 16 15.4 -0.5
PMR pmax pmax
comp=Z,186nm,1.5s
PMR **Palmer** 85.72 14 *e*P P 10 16 15.3 -0.5
comp=Z,186nm,1.5s
RAGM **Ragged Mountai** 85.75 16 *e*P P 10 16 16.0 -0.2
comp=Z,75nm,1.2s
LTY **Liberty** 85.75 35 *e*P P 10 16 17.0 +0.4
comp=Z,47nm,1.1s
E07A **Sunnyside** 85.78 36 *e*P P 10 16 17.7 +1.0
comp=Z,68nm,0.9s
CHAI **Chaiyaphum** 85.85 289 P P 10 16 18.3 +0.6
comp=Z,19nm,0.8s,comp=Z,238nm
HAWA **Hanford** 85.86 37 *e*P P 10 16 18.0 +1.0
comp=Z,68nm,0.9s
MVU **Marysvale** 86.03 46 *e*P P 10 16 19.6 +1.2
comp=Z,9.8nm,0.8s
SYO **Syowa Base** 86.03 193 ⇑*e*P P 10 16 16.2 -1.3
221A **Mesquite Ranch** 86.05 54 ⇓P P 10 16 20.1 +1.7
baz=86,SNR=9.8
A05A **Maple Falls** 86.07 34 *e*P P 10 16 18.2 +0.4
comp=Z,17nm,0.8s
W18A **Petrified Fore** 86.08 50 *e*P P 10 16 16.1 -2.4
W18A **Petrified Fore** 86.08 50 ⇑P P 10 16 19.5 +0.9
baz=86
B06A **Marblemount** 86.08 34 *e*P P 10 16 18.4 +0.4
comp=Z,37nm,0.9s
SURT **Suratani** 86.10 281 P P 10 16 20.6 +1.7
comp=Z,47nm,1.1s,comp=Z,524nm
DIV **Divide** 86.10 15 *e*P P 10 16 17.6 -0.3
comp=Z,102nm,1.1s
ETW **Entiat** 86.14 35 P P 10 16 19.1 +0.6
GYA **Guiyang** 86.20 300 ⇓*i*P P 10 16 19.6 +0.4
GYA pP pP 10 18 32.2 +2.8
GYA sP sP 10 19 32.7 +2.3
GYA PP PP 10 19 54.0 +2.0
GYA SKS SKSac 10 25 46.8 -1.5
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.8s
PPLA **Purkeypile** 86.26 12 *e*P P 10 16 16.9 -1.8
comp=Z,104nm,1.8s
BMRM **Bremner River** 86.26 16 *e*P P 10 16 18.5 -0.1
comp=Z,104nm,1.1s
121A **Cookes Peak, D** 86.28 53 *e*P P 10 16 20.5 +0.9
comp=Z,41nm,1.1s
121A **Cookes Peak, D** 86.28 53 ⇑P P 10 16 20.9 +1.4
baz=86,SNR=18
MFID **Camas Ranch** 86.31 41 *e*P P 10 16 20.0 +0.6
comp=Z,36nm,0.9s
SLVN **Son La** 86.35 294 *e*P P 10 16 20.4 +0.5
comp=Z,25nm,1.1s
WTV **Waterville** 86.40 35 P P 10 16 20.1 +0.5
LHMI **Lhok Sumawe** 86.44 277 ⇑P P 10 16 21.8 +1.3
baz=87
DUG **Dugway** 86.50 45 *e*P P 10 16 21.0 +0.6
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG **Dugway** 86.50 45 *e*P P 10 16 21.0 +0.6
comp=Z,5.1nm,0.8s
DUG **Dugway** 86.50 45 ⇑P P 10 16 21.2 +0.8
baz=87
D08A **Wollman Farm,** 86.59 36 *e*P P 10 16 20.6 +0.1
comp=Z,74nm,0.9s
SEY **Seymchan** 86.70 347 P P 10 16 20.5 -0.1
SEY **Seymchan** 86.70 347 P P 10 16 20.4 -0.1
SEY **Seymchan** 86.70 347 P P 10 16 20.4 -0.1
comp=Z,65nm,0.8s,baz=148,slow=5.2,SNR=153
E09A **Wood Farm, Sta** 86.70 37 *e*P P 10 16 21.4 +0.4
comp=Z,65nm,1.1s
TNA **Tin City** 86.72 5 *e*P P 10 16 19.9 -0.7
comp=Z,25nm,0.8s
BGU **Big Grassy Mou** 86.74 44 *e*P P 10 16 22.1 +0.6
comp=Z,34nm,2.6s
CAST **Castle Rocks** 86.75 12 *e*P P 10 16 19.3 -1.5
comp=Z,50nm,0.8s
NLU **North Lily Min** 86.86 45 *e*P P 10 16 23.2 +1.0
comp=Z,14nm,1.3s
OD2 **Odessa Site #2** 86.90 36 P P 10 16 22.6 +0.7
F10A **Beach Ranch, E** 86.92 38 *e*P P 10 16 22.5 +0.3
comp=Z,113nm,0.8s
PBKT **Sadao Pong** 87.01 289 P P 10 16 24.4 +1.3
comp=Z,76nm,1.1s,comp=Z,1μm
223A **Chaparral, Ant** 87.06 54 ⇑P P 10 16 24.7 +1.5
baz=87,SNR=9.1
KTH **Kantishna Hill** 87.10 12 *e*P P 10 16 21.0 -1.5
comp=Z,318nm,0.9s
TRF **Thorofare Moun** 87.13 12 *e*P P 10 16 21.8 -1.1
comp=Z,132nm,0.8s
MPU **Maple Canyon** 87.19 45 *e*P P 10 16 24.7 +1.1
comp=Z,121nm,2.3s
Z22A **Elephant Butte** 87.23 53 ⇓P P 10 16 25.1 +1.1
baz=87,SNR=26
HLID **Hailey** 87.26 41 *e*P P 10 16 24.9 +1.0
comp=Z,38nm,0.9s
HLID **Hailey** 87.26 41 ⇑P P 10 16 24.9 +1.0
baz=88,SNR=59
SPUT **South Promonto** 87.31 44 *e*P P 10 16 24.3 +0.2
comp=Z,38nm,1.3s
HVU **Hansel Valley** 87.34 43 *e*P P 10 16 25.0 +0.7
HVU pmax pmax
comp=Z,32nm,1.0s
HVU **Hansel Valley** 87.34 43 *e*P P 10 16 25.0 +0.7
comp=Z,32nm,1.0s
C09A **Chrisman Ranch** 87.38 36 *e*P P 10 16 24.7 +0.6
comp=Z,54nm,0.8s
123A **Bell Site, Whi** 87.47 54 ⇑P P 10 16 26.4 +1.3
baz=88,SNR=6.0
SNAA **Sanae** 87.51 179 P P 10 16 24.2 -0.3
SNAA pP pP 10 18 34.7 -0.5
SNAA *e*pP pwP 10 18 35.2 +0.1
SNAA **Sanae** 87.51 179 P P 10 16 24.2 -0.3
comp=Z,0.5nm,0.5s,baz=210,slow=8.1,SNR=11
SNAA pP pP 10 18 34.7 -0.5
comp=Z,3.0nm,1.1s,baz=236,slow=15,SNR=4.1
324A **Moseley Ranch,** 87.53 55 ⇑P P 10 16 26.3 +0.8
baz=88,SNR=28
425A **Indio Mountain** 87.62 56 ⇓P P 10 16 27.0 +1.2
baz=88,SNR=43
Y22D **IRIS PASSCAL I** 87.63 52 ⇑P P 10 16 27.0 +1.2
baz=88,SNR=5.7
DAU **Daniels Canyon** 87.64 45 *e*P P 10 16 27.1 +1.2
DAU **Daniels Canyon** 87.64 45 *e*P P 10 16 27.1 +1.2
LENM **Lemitar** 87.64 52 *e*P P 10 16 26.8 +0.9
MCK **McKinley** 87.66 13 *e*P P 10 16 24.2 -0.9
MCK pmax pmax
comp=Z,77nm,0.8s
MCK **McKinley** 87.66 13 *e*P P 10 16 24.2 -0.9
comp=Z,77nm,0.8s
MNTX **Cornudas Mount** 87.72 55 *e*P P 10 16 26.7 +0.5
comp=Z,23nm,0.9s
626A **Big Bend Ranch** 87.75 57 ⇓P P 10 16 27.8 +1.3
baz=88,SNR=45
SKAG **Skagway** 87.76 21 *e*P P 10 16 26.5 +1.0
comp=Z,63nm,1.5s
PAX **Paxson** 87.76 15 *e*P P 10 16 24.9 -0.8
PAX pmax pmax
comp=Z,25nm,1.0s
PAX **Paxson** 87.76 15 *e*P P 10 16 24.9 -0.8
comp=Z,25nm,1.0s
Z23A **Rita Site, Whi** 87.78 53 ⇓P P 10 16 27.6 +1.0
baz=88,SNR=13
224A **Cornudas Mount** 87.78 54 ⇑P P 10 16 27.8 +1.2
baz=88
XAN **Xi'an** 87.80 308 P P 10 16 27.4 +0.9
XAN pmax pmax
comp=Z,32nm,1.0s
XAN pmax pmax
comp=Z,35nm,4.5s
BNM **Barren Site** 87.88 52 *e*P P 10 16 27.3 +0.1
comp=Z,28nm,1.5s
325A **Bean Ranch, Si** 87.89 55 ⇓P P 10 16 27.9 +0.7
baz=88,SNR=33
LPM **Los Pinos Moun** 87.95 52 *e*P P 10 16 28.2 +0.8
MVCO **Mesa Verde** 87.95 49 *e*P P 10 16 27.6 +0.2
comp=Z,5.6nm,0.8s
MVCO **Mesa Verde** 87.95 49 ⇑P P 10 16 27.6 +0.2
baz=88
UTHA **Uthaitani** 87.98 287 P P 10 16 29.1 +1.5
comp=Z,24nm,0.9s,comp=Z,212nm
526A **Mary Lane Ranc** 88.01 57 ⇓P P 10 16 28.8 +1.1
baz=88,SNR=32
TXAR **Lajitas Array** 88.03 58 P P 10 16 28.9 +1.2
TXAR pP pP 10 18 37.8 -0.8
TXAR PKKPbc PKKPbc 10 34 10.3 +0.9
TXAR **Lajitas Array** 88.03 58 P P 10 16 28.9 +1.2
comp=Z,22nm,0.8s,baz=224,slow=6.1,SNR=158
TXAR pP pP 10 18 37.8 -0.8
comp=Z,4.0nm,1.1s,baz=203,slow=5.4,SNR=4.8
TXAR PKKPbc PKKPbc 10 34 10.3 +0.9
comp=Z,1.6nm,0.7s,baz=100,slow=1.6,SNR=13
HYT **Haines Junctio** 88.13 19 *e*P P 10 16 27.8 +0.3
MENT **Mentasta** 88.16 15 *e*P P 10 16 27.2 -0.3
Y23A **Lovelace Mesa,** 88.21 53 ⇑P P 10 16 29.2 +0.6
baz=88,SNR=17
PV04 **Paradox Valley** 88.23 48 *e*P P 10 16 22.7 -5.9
NEW **Newport** 88.28 36 *e*P P 10 16 28.4 0.0
comp=Z,18nm,0.9s
NEW **Newport** 88.28 36 ⇑P P 10 16 28.6 +0.2
baz=88,SNR=15
627A **Terlingua Ranc** 88.30 58 ⇓P P 10 16 30.1 +1.1
baz=88,SNR=36
426A **McDonald Obser** 88.32 56 ⇑P P 10 16 30.2 +1.0
baz=88,SNR=49
225A **Deer Hill, Car** 88.33 55 ⇑P P 10 16 30.1 +0.9
baz=88,SNR=28
PV01 **Paradox Valley** 88.34 48 *e*P P 10 16 29.0 -0.2
comp=Z,1μm,1.1s
ANMO **Albuquerque** 88.37 52 *e*P P 10 16 29.1 -0.2
comp=Z,28nm,1.1s
ANMO *e*pP pP 10 18 43.6 +3.3
X23A **Hourglass Bar** 88.40 52 ⇑P P 10 16 30.2 +0.7
baz=89,SNR=19
527A **Woodward Ranch** 88.42 57 ⇑P P 10 16 30.3 +0.7
baz=89,SNR=33
Z24A **Sheeppen Canyo** 88.46 53 ⇑P P 10 16 30.4 +0.6
baz=89,SNR=15
V22A **San Miguel Ran** 88.48 51 ⇑P P 10 16 30.5 +0.6
baz=89,SNR=6.7
326A **Caldwell Ranch** 88.63 56 ⇑P P 10 16 30.9 +0.4
baz=89
HIA **Hailar** 88.65 325 *e*P P 10 16 29.6 -0.4
comp=Z,37nm,1.0s
DOT **Dot Lake** 88.67 15 *e*P P 10 16 29.5 -0.3
comp=Z,53nm,0.8s
W23A **Werner Place,** 88.69 52 ⇓P P 10 16 31.4 +0.6
baz=89
125A **Gardner Draw,** 88.69 54 ⇓P P 10 16 31.5 +0.7
baz=89,SNR=14
628A **Black Gap, Mar** 88.71 58 ⇑P P 10 16 31.8 +1.0
baz=89,SNR=18
GDL2 **Guadalupe Moun** 88.72 55 *e*P P 10 16 31.9 +1.0
GDL2 *e*pP pP 10 18 43.6 +1.6
U22A **Llaves** 88.73 50 ⇑P P 10 16 31.6 +0.6
baz=89
IM04 **Indian Mountai** 88.80 10 *e*P P 10 16 29.6 -0.7
226B **Tecolote Peak,** 88.82 55 ⇑P P 10 16 32.1 +0.8
baz=89,SNR=32
DLBC **Dease Lake** 88.85 23 *e*P P 10 16 31.0 +0.2
KMI **Kunming** 88.86 297 P P 10 16 33.4 +1.6
KMI pmax pmax
comp=Z,72nm,1.0s
427A **Hayter Ranch,** 88.88 56 ⇓P P 10 16 32.8 +1.1
baz=89,SNR=78
MCMT **McKenzie Canyo** 88.88 41 *e*P P 10 16 32.3 +0.8
comp=Z,28nm,1.1s
COLA **College** 88.89 13 *d*/*i*P P 10 16 29.5 -1.2
COLA pmax pmax
comp=Z,525nm,1.1s
COLA **College** 88.89 13 *e*P P 10 16 29.6 -1.2
comp=Z,24nm,0.8s
Z25A **Roswell** 88.92 54 ⇑P P 10 16 32.7 +0.8
baz=89,SNR=17
V23A **Ortiz Mt. (NFS** 88.93 51 ⇑P P 10 16 32.9 +0.9
baz=89,SNR=14
LAMP **Lampang** 88.94 290 P P 10 16 33.5 +1.4
comp=Z,44nm,0.9s,comp=Z,350nm
X24A **Lazy VL Ranch,** 88.95 52 ⇓P P 10 16 32.3 +0.3
baz=89,SNR=10
ILAR **Eielson Array** 89.01 13 P P 10 16 30.2 -1.1
ILAR pP pP 10 18 40.6 -1.9
ILAR PKiKP PKiKP 10 21 25.1 -0.7
ILAR PKKP PKKPdf 10 34 04.8 +1.3
ILAR **Eielson Array** 89.01 13 P P 10 16 30.2 -1.1
comp=Z,28nm,0.8s,baz=223,slow=5.2,SNR=280
ILAR pP pP 10 18 40.6 -1.9
comp=Z,2.6nm,0.9s,baz=231,slow=5.7,SNR=2.7
ILAR PKiKP PKiKP 10 21 25.1 -0.7
comp=Z,0.6nm,0.4s,baz=246,slow=3.6,SNR=8.4
ILAR PKKP PKKPdf 10 34 04.8 +1.3
comp=Z,0.3nm,0.6s,baz=350,slow=2.0,SNR=5.7
327A **Balmorhea Ranc** 89.03 56 ⇓P P 10 16 32.9 +0.6
baz=89
HHC **Hu-ho-hao-te** 89.13 315 *i*P P 10 16 33.2 +0.6
HHC pP pP 10 18 42.0 -1.8
HHC SKS SKSac 10 26 04.9 -0.1
HHC S ScS 10 26 33.7 -0.1
HHC sS sS 10 30 23.0 -2.2
HHC SS SS 10 32 43.6 -1.2
HHC pmax pmax
comp=Z,91nm,1.0s
HHC pmax pmax
comp=Z,550nm,4.6s
126A **Clayton Basin,** 89.17 55 ⇓P P 10 16 33.4 +0.4
baz=89,SNR=8.8
U23A **El Rito** 89.19 50 ⇓P P 10 16 33.7 +0.6
baz=89,SNR=16
Y25A **Mesa, Roswell** 89.22 53 ⇑P P 10 16 33.6 +0.4
baz=89,SNR=25
W24A **Lazy 6 Ranch,** 89.26 52 ⇓P P 10 16 33.8 +0.3
baz=90,SNR=15
MSO **Missoula** 89.29 38 *e*P P 10 16 32.8 -0.4
comp=Z,44nm,1.8s
MSO **Missoula** 89.29 38 ⇑P P 10 16 33.4 +0.2
baz=90,SNR=11
DLMT **Dillon** 89.31 40 *e*P P 10 16 34.2 +0.8
comp=Z,18nm,0.9s
BSMT **Bassoo Peak** 89.35 37 *e*P P 10 16 33.3 -0.2
REDW **Red Top Meadow** 89.37 43 *e*P P 10 16 34.3 +0.5
comp=Z,61nm,1.0s
S22A **4UR Ranch, Cre** 89.38 49 ⇓P P 10 16 34.7 +0.6
baz=90,SNR=30
428A **Kincaid Ranch,** 89.39 57 ⇑P P 10 16 34.8 +0.8
baz=90,SNR=9.3
227A **Bennet, Jal** 89.46 55 ⇓P P 10 16 34.8 +0.5
baz=90
Z26A **Caprock** 89.47 54 ⇑P P 10 16 34.7 +0.4
baz=90,SNR=26
529A **Stev Forest Ra** 89.50 57 ⇑P P 10 16 35.0 +0.5
baz=90,SNR=15
PLCA **Paso Flores** 89.51 134 P P 10 16 36.4 +1.9
PLCA PKKPbc PKKPbc 10 34 05.7 -0.5
PLCA **Paso Flores** 89.51 134 P P 10 16 36.4 +1.9
comp=Z,3.9nm,0.6s,baz=239,slow=3.9,SNR=18
PLCA PKKPbc PKKPbc 10 34 05.7 -0.5
comp=Z,2.6nm,0.8s,baz=237,slow=1.8,SNR=6.0
X25A **Clemmons Ranch** 89.51 53 ⇓P P 10 16 34.9 +0.4
baz=90
O20A **White River Ci** 89.51 46 *e*P P 10 16 34.3 -0.2
O20A **White River Ci** 89.51 46 ⇑P P 10 16 35.0 +0.5
baz=90,SNR=21
CM31 **Chiang Mai Arr** 89.52 290 *e*P P 10 16 36.2 +1.4
comp=Z,68nm,1.0s
CMAR **Chiang Mai Arr** 89.52 290 P P 10 16 36.5 +1.7
CMAR PKKPbc PKKPbc 10 34 05.2 -0.2
CMAR **Chiang Mai Arr** 89.52 290 P P 10 16 36.5 +1.7
comp=Z,52nm,0.9s,baz=122,slow=2.9,SNR=202
CMAR PKKPbc PKKPbc 10 34 05.2 -0.2
comp=Z,1.6nm,0.6s,baz=288,slow=4.2,SNR=5.8
328A **Wristen Ranch,** 89.57 56 ⇓P P 10 16 35.2 +0.5
baz=90,SNR=14
JTMT **Jette** 89.58 38 *e*P P 10 16 34.2 -0.4
V24A **Rampart Ranch,** 89.59 51 ⇓P P 10 16 35.7 +0.6
baz=90,SNR=20
T23A **Casias Ranch,** 89.62 50 ⇓P P 10 16 36.0 +0.8
baz=90,SNR=6.2
MOOW **Moose Ponds** 89.63 42 *e*P P 10 16 35.4 +0.4
comp=Z,9.9nm,0.9s
LRM **Limekiln Ridge** 89.64 40 *e*P P 10 16 35.7 +0.7
CHTO **Chiang Mai** 89.65 290 *e*P P 10 16 36.3 +0.9
CHTO pmax pmax
comp=Z,64nm,0.8s
CHTO **Chiang Mai** 89.65 290 *e*P P 10 16 36.3 +0.9
comp=Z,64nm,0.8s
LOHW **Long Hollow** 89.65 42 *e*P P 10 16 35.5 +0.4
comp=Z,18nm,0.6s
BLMT **Blacktail Moun** 89.68 37 *e*P P 10 16 34.6 -0.5
comp=Z,6.9nm,0.7s
127A **Arkansas Junct** 89.69 55 ⇑P P 10 16 35.9 +0.5
baz=90,SNR=16
CHMT **Chamberlain Mo** 89.73 39 *e*P P 10 16 35.2 -0.2
SLMT **Seeley Lake** 89.77 38 *e*P P 10 16 35.1 -0.3
I17A **Pilgrim Ck.** 89.82 42 ⇓P P 10 16 37.1 +1.2
baz=90,SNR=23
FLWY **Flagg Ranch** 89.83 42 *e*P P 10 16 36.9 +1.0
comp=Z,40nm,1.0s
N20A **Spence Gulch,** 89.83 46 ⇑P P 10 16 36.6 +0.6
baz=90,SNR=40
Y26A **Elida** 89.87 53 ⇓P P 10 16 36.4 +0.2
baz=90,SNR=10
BW06 **Boulder Array** 89.90 44 *e*P P 10 16 36.2 -0.1
comp=Z,28nm,0.8s
PDAR **Pinedale Array** 89.90 44 P P 10 16 36.2 -0.1
PDAR PKKPbc PKKPbc 10 34 04.7 -0.9
PDAR **Pinedale Array** 89.90 44 P P 10 16 36.2 -0.1
comp=Z,26nm,0.7s,baz=209,slow=3.3,SNR=225
PDAR PKKPbc PKKPbc 10 34 04.7 -0.9
comp=Z,1.4nm,0.8s,baz=78,slow=5.0,SNR=10
YFT **Old Faithful** 89.93 42 *e*P P 10 16 38.8 +2.4
comp=Z,26nm,1.1s
SMCO **Snowmass** 89.93 48 *e*P P 10 16 37.2 +0.5
comp=Z,14nm,0.8s
S23A **Nye Farm, Mont** 89.94 49 ⇑P P 10 16 37.4 +0.7
baz=90,SNR=7.5
YMR **Madison River** 89.95 41 *e*P P 10 16 37.9 +1.5
comp=Z,50nm,1.4s
W25A **X Bar L Ranch,** 89.96 52 ⇑P P 10 16 36.7 0.0
baz=90,SNR=22
429A **Davenport Ranc** 89.97 57 ⇑P P 10 16 37.0 +0.4
baz=90,SNR=70
CMAI **Chiengmai2** 89.98 291 P P 10 16 38.2 +1.1
comp=Z,81nm,1.0s,comp=Z,784nm
BOZ **Bozeman (W)** 90.04 40 *e*P P 10 16 37.1 +0.3
BOZ pmax pmax
comp=Z,26nm,0.9s
BOZ **Bozeman (W)** 90.04 40 *e*P P 10 16 37.1 +0.3
comp=Z,26nm,0.9s
228A **UT Block 9, Go** 90.04 56 ⇓P P 10 16 37.3 +0.3
baz=90,SNR=9.3
H17A **Grant Village** 90.06 42 *e*P P 10 16 39.0 +1.9
comp=Z,21nm,1.0s
H17A **Grant Village** 90.06 42 ⇑P P 10 16 38.8 +1.8
baz=90,SNR=14
Z27A **Tatum** 90.07 54 ⇓P P 10 16 37.1 0.0
baz=90,SNR=9.9
T24B **San Luis** 90.10 50 ⇓P P 10 16 38.3 +0.9
baz=90,SNR=7.6
V25A **Rancho No Teng** 90.11 51 ⇑P P 10 16 37.7 +0.3
baz=90,SNR=18
X26A **CR and CF Fran** 90.15 53 ⇓P P 10 16 37.5 0.0
baz=90
DAWY **Dawson** 90.19 16 *e*P P 10 16 36.8 0.0
530A **J-C Ranch, Com** 90.21 58 ⇓P P 10 16 38.1 +0.3

	baz=90,SNR=6.7									
329A	**Wagon Wheel Ra**	90.25	56	⇑P		P		10 16 38.4	+0.4	
	baz=90,SNR=12									
P22A	**Eagle**	90.27	47	⇑P		P		10 16 38.4	+0.3	
	baz=90,SNR=11									
R23A	**Moffat**	90.29	49	P		P		10 16 38.6	+0.4	
	baz=90									
SDCO	**Great Sand Dun**	90.32	49	*e*P		P		10 16 38.5	+0.1	
	comp=Z,13nm,1.0s									
EGAK	**Eagle**	90.32	15	*e*P		P		10 16 37.1	-0.3	
	comp=Z,44nm,0.8s									
128A	**Castleberry Fa**	90.34	55	⇓P		P		10 16 38.8	+0.4	
	baz=90,SNR=14									
Y27A	**Causey**	90.35	54	⇓P		P		10 16 38.7	+0.2	
	baz=90,SNR=13									
CD2	**Chengdu**	90.38	303	P		P		10 16 39.1	+0.5	
CD2				pP		pP		10 18 52.2	+2.2	
CD2				sP		sP		10 19 52.4	+1.8	
CD2				PP		PP		10 20 27.8	+3.1	
CD2				SKS		SKSac		10 26 11.6	-0.8	
CD2				S		S		10 26 40.6	-2.0	
CD2				sS		sS		10 30 37.0	-0.5	
CD2				SS		SS		10 33 05.2	+2.3	
CD2				pmax		pmax				
	comp=Z,30nm,0.8s									
CD2				pmax		pmax				
	comp=Z,220nm,5.4s									
W26A	**Owens Ranch, T**	90.42	52	⇓P		P		10 16 38.8	+0.1	
	baz=91,SNR=6.8									
J19A	**Crowheart**	90.47	43	⇑P		P		10 16 39.1	+0.3	
	baz=91,SNR=19									
S24A	**Houchin Ranch,**	90.48	50	⇑P		P		10 16 39.8	+0.6	
	baz=91,SNR=14									
WALA	**Waterton Lakes**	90.49	37	*e*P		P		10 16 38.8	+0.1	
	comp=Z,0.6nm,0.8s									
U25A	**Circle Dot Ran**	90.51	51	⇑P		P		10 16 39.4	+0.2	
	baz=91,SNR=13									
631A	**Perdido Creek**	90.51	59	⇓P		P		10 16 39.7	+0.5	
	baz=91,SNR=45									
COLD	**Coldfoot**	90.54	11	*e*P		P		10 16 38.4	+0.1	
	comp=Z,36nm,1.0s									
832A	**Faith Ranch, C**	90.55	60	⇑P		P		10 16 39.6	+0.3	
	baz=91,SNR=22									
430A	**Baggett Ranch,**	90.55	57	⇓P		P		10 16 39.5	+0.2	
	baz=91,SNR=9.0									
229A	**Bryant Ranch,**	90.58	56	⇓P		P		10 16 39.7	+0.2	
	baz=91,SNR=7.7									
Q23A	**Hartsel**	90.60	48	⇓P		P		10 16 40.2	+0.4	
	baz=91									
O22A	**Kremmling**	90.68	47	⇑P		P		10 16 40.4	+0.4	
	baz=91,SNR=21									
MSTX	**Muleshoe**	90.68	54	*e*pP		pP		10 18 54.0	+2.5	
MSTX	**Muleshoe**	90.68	54	⇓P		P		10 16 40.1	+0.1	
	baz=91,SNR=14									
Z28A	**Tucker Farm, M**	90.69	55	⇑P		P		10 16 39.9	-0.1	
	baz=91,SNR=5.9									
V26A	**Tequesquite Ra**	90.70	52	⇑P		P		10 16 40.1	+0.1	
	baz=91									
X27A	**F and S Farms,**	90.72	53	⇑P		P		10 16 40.4	+0.2	
	baz=91,SNR=7.9									
732A	**Laxson Ranch,**	90.73	60	⇓P		P		10 16 40.6	+0.5	
	baz=91,SNR=12									
H18A	**Shoshone NF, C**	90.77	42	P		P		10 16 40.8	+0.5	
	baz=91									
P23A	**Jefferson**	90.81	48	⇓P		P		10 16 41.5	+0.8	
	baz=91,SNR=6.3									
R24A	**Sanders Place,**	90.81	49	⇑P		P		10 16 41.2	+0.6	
	baz=91,SNR=10									
129A	**Stewart Farms,**	90.81	55	⇑P		P		10 16 40.8	+0.3	
	baz=91,SNR=14									
T25A	**Trinidad**	90.83	50	⇓P		P		10 16 41.0	+0.3	
	baz=91,SNR=12									
531A	**Rocksprings**	90.84	58	⇑P		P		10 16 41.4	+0.7	
	baz=91,SNR=20									
330A	**Mertzon**	90.85	57	⇓P		P		10 16 40.5	-0.2	
	baz=91,SNR=6.9									
I19A	**Meeteetse**	90.88	43	⇑P		P		10 16 41.2	+0.5	
	baz=91,SNR=8.2									
W27A	**Bowe Ranch, En**	90.93	53	⇓P		P		10 16 41.0	-0.1	
	baz=91,SNR=6.5									
U26A	**Atchley Ranch,**	90.99	51	⇑P		P		10 16 41.6	+0.1	
	baz=91,SNR=13									
431A	**Sonora**	91.00	58	⇓P		P		10 16 41.4	0.0	
	baz=91									
N22A	**Wattenberg Ran**	91.03	46	⇓P		P		10 16 42.4	+0.8	
	baz=91,SNR=30									
833A	**Chaparral WMA,**	91.03	60	⇑P		P		10 16 42.0	+0.5	
	baz=91,SNR=11									
S25A	**Robets Cordova**	91.04	50	⇓P		P		10 16 42.0	+0.4	
	baz=91,SNR=17									
Y28A	**McKinney Farm,**	91.05	54	⇑P		P		10 16 42.0	+0.3	
	baz=91,SNR=7.8									
230A	**Sterling City**	91.09	56	⇑P		P		10 16 41.9	0.0	
	baz=91,SNR=7.2									
Q24A	**Divide**	91.11	48	⇓P		P		10 16 42.5	+0.4	
	baz=91,SNR=11									
O23A	**Lake Granby, G**	91.13	47	⇓P		P		10 16 42.6	+0.5	
	baz=91,SNR=11									
J20A	**Shoshoni**	91.13	44	⇓P		P		10 16 42.4	+0.6	
	baz=91,SNR=24									
ISCO	**Idaho Springs**	91.15	48	*e*P		P		10 16 42.6	+0.4	
ISCO				pmax		pmax				
	comp=Z,8.0nm,0.9s									
ISCO	**Idaho Springs**	91.15	48	*e*P		P		10 16 42.6	+0.4	
	comp=Z,8.0nm,0.9s									
ISCO	**Idaho Springs**	91.15	48	⇑P		P		10 16 42.6	+0.4	
	baz=91,SNR=7.6									
632A	**Uvalde**	91.18	59	⇑P		P		10 16 43.0	+0.8	
	baz=91,SNR=24									
H19A	**Powell**	91.19	42	⇓P		P		10 16 42.9	+0.8	
	baz=91,SNR=11									
Z29A	**Hungry Hill Ra**	91.20	55	⇓P		P		10 16 42.4	+0.1	
	baz=91,SNR=8.5									
M22A	**Cedar Creek Ra**	91.21	46	⇑P		P		10 16 42.8	+0.4	
	baz=91,SNR=24									
733A	**Divot King Ran**	91.27	60	⇓P		P		10 16 43.4	+0.8	
	baz=91,SNR=7.1									
GCMT	**Greycliff**	91.31	41	*e*P		P		10 16 42.9	+0.4	
	comp=Z,17nm,1.5s									
532A	**Rocksprings**	91.33	58	⇑P		P		10 16 43.4	+0.4	
	baz=92,SNR=18									
K21A	**Alcova**	91.34	44	⇑P		P		10 16 43.1	+0.2	
	baz=92,SNR=20									
X28A	**Dimmitt**	91.34	53	⇓P		P		10 16 42.9	-0.1	
	baz=92,SNR=6.0									
R25A	**Fountain Ranch**	91.36	49	⇓P		P		10 16 43.2	+0.2	
	baz=92,SNR=9.8									
I20A	**Worland**	91.39	43	⇑P		P		10 16 43.2	+0.3	
	baz=92									
V27A	**Dan Oppiter Fa**	91.39	52	⇑P		P		10 16 43.1	0.0	
	baz=92,SNR=5.7									
331A	**San Angelo**	91.39	57	⇓P		P		10 16 43.2	0.0	
	baz=92,SNR=11									
N23A	**Red Feather La**	91.42	46	⇓P		P		10 16 43.8	+0.4	
	baz=92,SNR=14									
T26A	**Comanche Natio**	91.43	51	⇑P		P		10 16 43.2	-0.2	
	baz=92,SNR=5.4									
934A	**Benavides**	91.46	61	⇑P		P		10 16 44.6	+1.1	
	baz=92									
Y29A	**Porterfield Fa**	91.47	54	⇑P		P		10 16 43.8	+0.2	
	baz=92,SNR=9.9									
130A	**Snyder**	91.49	56	⇑P		P		10 16 43.9	+0.3	
	baz=92									
P24A	**Kohler Place,**	91.52	48	⇓P		P		10 16 44.2	+0.4	
	baz=92									
J21A	**Lysite**	91.54	44	⇑P		P		10 16 44.4	+0.6	
	baz=92,SNR=20									
JCT	**Junction City**	91.56	58	*e*P		P		10 16 43.9	-0.1	
JCT				pmax		pmax				
	comp=Z,14nm,0.7s									
JCT	**Junction City**	91.56	58	*e*P		P		10 16 43.9	-0.1	
	comp=Z,14nm,0.7s									
JCT	**Junction City**	91.56	58	⇓P		P		10 16 44.1	+0.2	
	baz=92,SNR=9.0									
L22A	**Ellis Ranch, M**	91.60	45	⇓P		P		10 16 44.9	+0.8	
	baz=92,SNR=17									
W28A	**Vega**	91.64	53	⇑P		P		10 16 44.1	-0.3	
	baz=92									
Z30A	**Sanderson Ranc**	91.65	55	⇓P		P		10 16 44.3	0.0	
	baz=92,SNR=8.6									
633A	**Saathoff Ranch**	91.65	59	⇓P		P		10 16 45.0	+0.6	
	baz=92,SNR=23									
O24A	**Longmont**	91.67	47	⇑P		P		10 16 44.8	+0.4	
	baz=92,SNR=6.9									
U27A	**Thompson Grove**	91.67	52	⇓P		P		10 16 44.2	-0.3	
	baz=92,SNR=5.7									
X29A	**Tulia**	91.69	54	⇑P		P		10 16 44.4	-0.1	
	baz=92									
S26A	**Kim**	91.71	50	⇑P		P		10 16 44.7	0.0	
	baz=92,SNR=17									
Q25A	**Bedland, Calha**	91.72	49	⇑P		P		10 16 44.6	-0.1	
	baz=92,SNR=6.9									
432A	**Menard**	91.72	58	⇑P		P		10 16 44.7	0.0	
	baz=92,SNR=26									
H20A	**Greybull**	91.72	43	⇓P		P		10 16 44.5	+0.1	
	baz=92,SNR=9.7									
231A	**Bronte**	91.73	56	⇑P		P		10 16 44.6	-0.1	
	baz=92,SNR=32									
F19A	**Roth Farm, Mol**	91.78	41	⇓P		P		10 16 45.0	+0.3	
	baz=92,SNR=9.0									
K22A	**Casper**	91.82	45	*e*P		P		10 16 45.3	+0.2	
K22A	**Casper**	91.82	45	⇑P		P		10 16 45.1	+0.1	
	baz=92,SNR=8.1									
M23A	**Laramie**	91.82	46	⇓P		P		10 16 45.4	+0.2	
	baz=92,SNR=14									
I21A	**Big Trails, Te**	91.86	43	⇑P		P		10 16 45.2	0.0	
	baz=92,SNR=16									
AMTX	**Amarillo**	91.88	53	*e*P		P		10 16 45.8	+0.4	
	comp=Z,10nm,0.9s									
734A	**La Parita Cree**	91.91	60	⇓P		P		10 16 46.4	+0.9	
	baz=92									
PHWY	**Pilot Hill**	91.93	46	*e*P		P		10 16 45.8	0.0	
	comp=Z,13nm,0.9s									
G20A	**Bridger**	91.93	42	⇑P		P		10 16 46.0	+0.5	
	baz=92									
332A	**Millersview**	91.96	57	⇑P		P		10 16 46.0	+0.2	
	baz=92,SNR=32									
131A	**Roby**	91.97	56	⇓P		P		10 16 45.9	+0.1	
	baz=92,SNR=11									
W29A	**Amraillo**	92.00	53	⇓P		P		10 16 46.0	0.0	
	baz=92									
533A	**Kerrville**	92.00	59	⇓P		P		10 16 46.3	+0.3	
	baz=92,SNR=28									
T27A	**Campo**	92.02	51	⇓P		P		10 16 45.8	-0.2	
	baz=92,SNR=6.8									
R26A	**Arlington**	92.02	50	⇑P		P		10 16 46.2	+0.2	
	baz=92,SNR=23									
P25A	**Willow Gulch B**	92.03	48	⇑P		P		10 16 46.4	+0.3	
	baz=92,SNR=18									
Y30A	**Stafford Cattl**	92.06	55	⇓P		P		10 16 46.2	0.0	
	baz=92,SNR=6.7									
U28A	**Mallet**	92.10	52	⇓P		P		10 16 46.6	+0.2	
	baz=92									
N24A	**Carr**	92.11	47	⇓P		P		10 16 47.0	+0.6	
	baz=92,SNR=7.1									
L23A	**Garrett**	92.13	45	⇑P		P		10 16 46.8	+0.3	
	baz=92,SNR=21									
S27A	**Las Animas**	92.15	50	⇑P		P		10 16 46.6	-0.1	
	baz=92									
E19A	**Rath Farm, Rou**	92.17	41	⇓P		P		10 16 47.1	+0.7	
	baz=92,SNR=7.5									
J22A	**Midwest**	92.20	44	⇓P		P		10 16 46.9	+0.1	
	baz=92,SNR=18									
433A	**Art**	92.23	58	⇓P		P		10 16 47.2	+0.2	
	baz=92,SNR=23									
Q26A	**Hugo**	92.23	49	⇓P		P		10 16 47.2	+0.2	
	baz=92,SNR=11									
232A	**Coleman**	92.23	57	⇑P		P		10 16 47.2	+0.2	
	baz=92,SNR=14									
F20A	**Billings**	92.24	41	⇑P		P		10 16 47.2	+0.3	
	baz=92									
634A	**China Grove, S**	92.28	59	⇓P		P		10 16 48.0	+0.7	
	baz=92									
YAK	**Yakutsk**	92.29	338	*d* iP		P		10 16 45.5	-1.0	
YAK				pmax		pmax				
	comp=Z,94nm,1.3s									
YAK				pmax		pmax				
	comp=E,17nm,1.5s									
YAK				pmax		pmax				
	comp=N,18nm,1.8s									
YAK	**Yakutsk**	92.29	338	*e*P		P		10 16 45.5	-1.0	
	comp=N,79nm,0.8s									
X30A	**Coker Ranch, T**	92.31	54	⇑P		P		10 16 47.9	+0.6	
	baz=92									
O25A	**Wiggins**	92.32	48	⇑P		P		10 16 47.6	+0.2	
	baz=92									
EGMT	**Eagleton**	92.34	39	*e*P		P		10 16 47.4	+0.2	
	comp=N,18nm,1.4s									
EGMT	**Eagleton**	92.34	39	⇑P		P		10 16 47.4	+0.2	
	baz=92,SNR=6.0									
H21A	**Big Horn, Sher**	92.39	43	⇑P		P		10 16 48.0	+0.4	
	baz=93,SNR=5.6									
I22A	**9 Mile Ranch,**	92.41	44	⇑P		P		10 16 48.0	+0.3	
	baz=93,SNR=13									
Z31A	**Sharp Cattle R**	92.42	55	⇑P		P		10 16 47.9	+0.1	
	baz=93,SNR=6.4									
M24A	**Cheyenne**	92.43	46	⇑P		P		10 16 48.3	+0.4	
	baz=93,SNR=6.3									
534A	**Blanco**	92.44	59	⇓P		P		10 16 48.4	+0.4	
	baz=93,SNR=53									
LZH	**Lanzhou**	92.44	308	⇓P		P		10 16 49.0	+1.0	
LZH				pP		pP		10 18 59.7	-0.1	
LZH				sP		sP		10 20 00.1	-0.1	
LZH				SKS		SKSac		10 26 26.0	+2.1	
LZH				*e*S		S		10 26 59.0	-1.6	
LZH				sS		sS		10 30 53.6	-3.4	
LZH				pmax		pmax				
	comp=N,60nm,1.0s									
LZH				pmax		pmax				
	comp=N,220nm,4.0s									
D19A	**Cripps Ranch,**	92.44	40	⇓P		P		10 16 48.2	+0.5	
	baz=93,SNR=8.7									
K23A	**Bowen Ranch, D**	92.46	45	⇑P		P		10 16 48.1	+0.1	
	baz=93,SNR=5.2									
R27A	**Eads**	92.47	50	⇑P		P		10 16 48.1	0.0	
	baz=93,SNR=16									
T28A	**Walsh**	92.48	51	⇓P		P		10 16 47.9	-0.3	
	baz=93,SNR=7.2									
735A	**Kenedy**	92.52	60	⇓P		P		10 16 49.0	+0.6	
	baz=93									
ABTX	**Abilene, Hawle**	92.53	56	*e*pP		pP		10 19 01.8	+1.8	
ABTX	**Abilene, Hawle**	92.53	56	⇑P		P		10 16 48.4	0.0	
	baz=93,SNR=10									
333A	**Richland Sprin**	92.53	57	⇑P		P		10 16 48.3	-0.1	
	baz=93,SNR=8.3									
G21A	**Lodge Grass**	92.56	42	⇓P		P		10 16 48.5	+0.2	
	baz=93									
Y31A	**Rekieta Farm,**	92.58	55	⇓P		P		10 16 48.6	0.0	
	baz=93									
E20A	**Meyer Farm, Mu**	92.59	41	⇑P		P		10 16 49.0	+0.7	
	baz=93,SNR=7.8									
L24A	**Wheatland**	92.61	46	⇑P		P		10 16 48.9	+0.3	
	baz=93									
C19A	**Slack Wire Ran**	92.62	39	⇓P		P		10 16 49.3	+0.8	
	baz=93,SNR=12									
P26A	**Davis Ranch, A**	92.62	49	⇑P		P		10 16 49.1	+0.3	
	baz=93									
635A	**Leesville**	92.75	60	⇓P		P		10 16 50.1	+0.7	
	baz=93,SNR=5.2									
H22A	**Clearmont**	92.81	43	⇑P		P		10 16 49.8	+0.3	
	baz=93,SNR=6.3									
U29A	**Oasis Ranch, S**	92.83	52	⇓P		P		10 16 49.8	+0.1	
	baz=93									
S28A	**Manter**	92.83	51	⇓P		P		10 16 49.9	+0.2	
	baz=93,SNR=5.2									
D20A	**Manuel Ranch,**	92.86	40	⇑P		P		10 16 50.2	+0.6	
	baz=93,SNR=10									
233A	**Rising Star**	92.87	57	⇓P		P		10 16 50.3	+0.3	
	baz=93,SNR=8.6									
KSCO	**Kaye Shedlock'**	92.90	49	*e*P		P		10 16 50.8	+0.8	
KSCO	**Kaye Shedlock'**	92.90	49	⇑P		P		10 16 50.6	+0.5	
	baz=93,SNR=9.9									
434A	**Burnet**	92.90	58	⇓P		P		10 16 50.2	+0.1	
	baz=93,SNR=11									
Z32A	**Haskell**	92.92	56	⇓P		P		10 16 50.4	+0.3	
	baz=93,SNR=8.9									
M25A	**Palm-Egli Farm**	92.94	47	⇓P		P		10 16 50.7	+0.5	
	baz=93									
O26A	**Hoe Wrangler**	92.94	48	⇓P		P		10 16 50.7	+0.5	
	baz=93									
EDM	**Edmonton**	93.00	33	*e*P		P		10 16 49.6	-0.4	
EDM	**Edmonton**	93.00	33	*e*P		P		10 16 49.6	-0.4	
B19A	**Brinkman Farms**	93.02	39	⇑P		P		10 16 50.9	+0.6	
	baz=93,SNR=12									
X31A	**McDonald Ranch**	93.06	54	⇓P		P		10 16 50.5	-0.2	
	baz=93									
133A	**Hamilton Ranch**	93.09	56	⇑P		P		10 16 51.3	+0.4	
	baz=93,SNR=6.5									
T29A	**Hugoton**	93.10	51	⇓P		P		10 16 51.1	+0.2	
	baz=93									
334A	**Lometa**	93.12	58	⇓P		P		10 16 51.3	+0.2	
	baz=93,SNR=14									
G22A	**Birney**	93.14	42	⇑P		P		10 16 51.4	+0.5	
	baz=93									
535A	**Dale**	93.16	59	⇑P		P		10 16 51.4	+0.1	
	baz=93									
P27A	**Ficken Ranch,**	93.16	49	⇑P		P		10 16 51.5	+0.3	
	baz=93,SNR=5.6									
R28A	**Tribune**	93.20	50	⇓P		P		10 16 51.9	+0.5	
	baz=93,SNR=22									
Y32A	**R-V Farms, Ver**	93.22	55	⇑P		P		10 16 51.6	+0.1	
	baz=93									
C20A	**Veseth Ranch,**	93.23	40	⇓P		P		10 16 52.0	+0.8	
	baz=93,SNR=12									
N26A	**Koester Ranch,**	93.25	47	⇓P		P		10 16 51.8	+0.2	
	baz=93									
E21A	**Keefer Ranch,**	93.25	41	⇑P		P		10 16 52.3	+0.9	
	baz=93									
L25A	**Engebretsen Ra**	93.31	46	⇓P		P		10 16 52.6	+0.7	
	baz=94									
W31A	**Holland Ranch,**	93.31	54	⇓P		P		10 16 52.1	+0.2	
	baz=94									
J24A	**Dixon Ranch, L**	93.35	45	⇑P		P		10 16 52.5	+0.5	
	baz=94									
A19A	**Klindworth Far**	93.37	38	⇓P		P		10 16 52.1	+0.3	
	baz=94,SNR=8.5									
F22A	**Rosebud**	93.41	42	⇓P		P		10 16 52.6	+0.5	
	baz=94									
S29A	**Ulysses**	93.41	51	⇓P		P		10 16 52.8	+0.4	
	baz=94									
234A	**Clairette**	93.46	57	⇑P		P		10 16 52.7	+0.1	
	baz=94,SNR=5.3									
Z33A	**Whitaker Ranch**	93.47	56	⇓P		P		10 16 52.7	+0.1	
	baz=94,SNR=6.2									
Q28A	**Sharon Springs**	93.49	49	⇑P		P		10 16 53.0	+0.3	
	baz=94,SNR=6.5									
O27A	**Beecher Island**	93.49	48	⇓P		P		10 16 53.3	+0.6	
	baz=94									
X32A	**Elmer**	93.51	55	⇓P		P		10 16 52.8	+0.1	
	baz=94									
D21A	**La Casita Ranch**	93.54	41	⇓P		P		10 16 53.3	+0.7	
	baz=94,SNR=11									
B20A	**Solberg Farm,**	93.56	39	⇓P		P		10 16 53.2	+0.5	
	baz=94									
V31A	**Spring Creek L**	93.62	53	⇓P		P		10 16 54.0	+0.7	
	baz=94									
G23A	**Biddle**	93.70	43	⇑P		P		10 16 53.7	+0.2	
	baz=94,SNR=8.8									
N27A	**Anderson Farm,**	93.71	48	⇓P		P		10 16 54.1	+0.4	
	baz=94									
R29A	**Marienthal**	93.72	50	⇓P		P		10 16 54.1	+0.4	
	baz=94,SNR=14									
134A	**White-Moore Ra**	93.72	57	⇑P		P		10 16 53.9	+0.1	
	baz=94									
335A	**Moody**	93.75	58	⇓P		P		10 16 54.1	+0.2	
	baz=94									
P28A	**Saint Francis**	93.75	49	⇑P		P		10 16 54.5	+0.6	
	baz=94,SNR=19									
A20A	**Cobblestone Ra**	93.82	39	⇑P		P		10 16 54.4	+0.5	
	baz=94,SNR=13									
LAO	**LASA Array**	93.84	41	*e*P		P		10 16 54.5	+0.5	
	comp=N,15nm,0.9s									
U31A	**Nine Bar Ranch**	93.84	53	⇑P		P		10 16 54.5	+0.1	
	baz=94									
S30A	**Montezuma**	93.89	51	⇓P		P		10 16 54.9	+0.3	
	baz=94									
E22A	**Miles City**	93.90	42	⇑P		P		10 16 54.8	+0.5	
	baz=94,SNR=7.4									
F23A	**Volborg**	93.92	42	⇓P		P		10 16 54.9	+0.4	
	baz=94,SNR=12									
J25A	**Sunshine Ranch**	93.94	45	⇓P		P		10 16 54.9	+0.2	
	baz=94									
O28A	**Krutsinger Ran**	93.96	49	⇓P		P		10 16 55.2	+0.4	
	baz=94,SNR=8.4									
Q29A	**Oakley**	94.02	50	⇓P		P		10 16 55.4	+0.3	
	baz=94,SNR=10									
H24A	**Dirks Ranch, A**	94.03	43	⇓P		P		10 16 54.9	-0.1	
	baz=94,SNR=18									
K26A	**Motz Farm, Whi**	94.06	46	⇓P		P		10 16 55.8	+0.6	
	baz=94,SNR=16									
D22A	**Cohagen**	94.07	41	⇓P		P		10 16 55.8	+0.8	
	baz=94,SNR=6.6									
B21A	**Ellsworth Farm**	94.15	39	⇑P		P		10 16 56.1	+0.7	
	baz=94,SNR=5.4									
X33A	**Lawton**	94.15	55	⇑P		P		10 16 55.7	0.0	
	baz=94									
V32A	**Arapaho**	94.19	53	⇓P		P		10 16 56.4	+0.5	
	baz=94									
I25A	**Rochford**	94.25	44	⇑P		P		10 16 56.5	+0.3	
	baz=94,SNR=14									
T31A	**Randall Ranch,**	94.26	52	⇓P		P		10 16 56.5	+0.3	
	baz=94									
R30A	**Dighton**	94.29	51	⇑P		P		10 16 56.8	+0.5	
	baz=94,SNR=6.8									
E23A	**Ismay**	94

P31A Stockton 95.41 50 ⇑P P 10 17 02.0 +0.6
baz=96
R32A Long Quarter, 95.47 51 ⇓P P 10 17 02.0 +0.3
baz=96,SNR=10
E25A Miller Ranch, 95.51 42 ⇑P P 10 17 02.2 +0.6
baz=96
H27A Howes 95.59 44 ⇓P P 10 17 02.1 +0.1
baz=96,SNR=5.8
U34A Anderson Ranch 95.59 53 ⇓P P 10 17 03.2 +1.1
baz=96
SONM Songino Array 95.61 319 P P 10 17 01.6 -0.5
SONM PKiKP **PKiKP** 10 21 37.3 -0.4
SONM PKKPbc **PKKPbc** 10 33 48.3 -2.7
SONM Songino Array 95.61 319 P P 10 17 01.6 -0.5
comp=N,3.2nm,0.9s,baz=118,slow=2.5,SNR=19
SONM PKiKP **PKiKP** 10 21 37.3 -0.4
comp=N,0.5nm,0.6s,baz=158,slow=1.0,SNR=4.4
SONM PKKPbc **PKKPbc** 10 33 48.3 -2.7
comp=N,0.9nm,0.6s,baz=252,slow=1.4,SNR=5.9
A23A Redstone 95.65 40 ⇑P P 10 17 03.1 +0.9
baz=96
J28A Allard Ranch, 95.66 46 ⇑P P 10 17 03.0 +0.7
baz=96
O31A Woolen Ranch, 95.69 49 ⇑P P 10 17 03.1 +0.5
baz=96
F26A Lodgepole 95.70 43 ⇓P P 10 17 02.7 +0.2
baz=96
Q32A Meitler Ranch, 95.80 51 ⇑P P 10 17 03.4 +0.3
baz=96,SNR=5.3
D25A Fairfield 95.83 42 ⇑P P 10 17 03.9 +0.8
baz=96
DGMT Dagmar 95.85 40 *e*P P 10 17 03.9 +0.9
comp=N,279nm,2.5s
DGMT Dagmar 95.85 40 ⇑Pdiff P 10 17 03.7 +0.6
baz=96
I28A Midland 95.93 45 ⇑Pdiff P 10 17 04.0 +0.5
baz=96
R33A Olander Ranch, 95.96 51 ⇑Pdiff P 10 17 04.2 +0.4
baz=96
G27A Dupree 95.99 44 ⇑Pdiff P 10 17 04.2 +0.4
baz=96
P32A Huiting Farm, 96.01 50 ⇑Pdiff P 10 17 04.5 +0.5
baz=96
K29A Lazy Trails An 96.02 47 ⇓Pdiff P 10 17 04.6 +0.6
baz=96
E26A Carlson Angus 96.09 43 ⇓Pdiff P 10 17 04.6 +0.4
baz=96
C25A Freed Ranch, W 96.11 41 ⇓Pdiff P 10 17 04.8 +0.6
baz=96
L30A Spencer Herefo 96.11 47 ⇓Pdiff P 10 17 04.8 +0.3
baz=96
F27A Lemmon 96.13 43 ⇓Pdiff P 10 17 04.6 +0.2
baz=96
A24A Westby 96.16 40 ⇓Pdiff P 10 17 05.0 +0.6
baz=96
N31A Bailey Ranch, 96.21 49 ⇓Pdiff P 10 17 05.3 +0.4
baz=96
J29A Okreek 96.26 46 ⇑Pdiff P 10 17 05.4 +0.3
baz=96
H28A Mission Ridge 96.30 45 ⇑Pdiff P 10 17 05.7 +0.5
baz=96
Q33A Connelly Farm, 96.33 51 ⇓Pdiff P 10 17 05.9 +0.5
baz=96
D26A Manning 96.33 42 ⇓Pdiff P 10 17 06.0 +0.8
baz=96
M31A Lambtecht Ranc 96.39 48 ⇑Pdiff P 10 17 06.7 +1.0
baz=97
B25A Knox Farm, Ray 96.39 41 ⇑Pdiff P 10 17 06.2 +0.7
baz=97
K30A Basset 96.46 47 ⇑Pdiff P 10 17 06.6 +0.7
baz=97
O32A Brockman Farm, 96.48 49 ⇑Pdiff P 10 17 06.6 +0.5
baz=97
I29A Vivian Onida 96.52 45 ⇓Pdiff P 10 17 06.5 +0.4
baz=97
G28A Parade 96.52 44 ⇑Pdiff P 10 17 06.5 +0.4
baz=97
P33A Williams Farm, 96.59 50 ⇑Pdiff P 10 17 07.3 +0.7
baz=97
E27A Carson 96.64 43 ⇓Pdiff P 10 17 07.3 +0.6
baz=97
N32A Stulken Farm, 96.65 49 ⇓Pdiff P 10 17 07.2 +0.4
baz=97
GTA Gaotai 96.67 310 P P 10 17 07.6 +0.5
GTA pmax pmax
comp=N,13nm,1.4s
GTA pmax pmax
comp=N,150nm,5.7s
J30A Dallas 96.79 46 ⇑Pdiff P 10 17 08.0 +0.6
baz=97
L31A Butterfield Fa 96.80 48 ⇓Pdiff P 10 17 08.2 +0.7
baz=97
H29A Onida 96.81 45 ⇑Pdiff P 10 17 07.7 +0.3
baz=97
C26A Wahner Farm, P 96.87 41 ⇑Pdiff P 10 17 08.2 +0.6
baz=97
F28A McLaughlin 96.90 44 ⇓Pdiff P 10 17 08.1 +0.2
baz=97
BGNE Belgrade 96.99 48 ⇓Pdiff P 10 17 09.2 +0.8
baz=97
B26A Jensen Ranch, 97.00 41 ⇓Pdiff P 10 17 08.6 +0.4
baz=97
C27A Sayler Ranch, 97.19 42 ⇑Pdiff P 10 17 09.3 +0.3
baz=97
KSU1 Kansas State U 97.25 51 ⇓Pdiff P 10 17 10.3 +0.7
baz=97
YKA Yellowknife Ar 97.33 25 P Pdif 10 17 08.7 -0.6
YKA pP pP 10 19 20.4 -1.1
YKA PKiKP **PKiKP** **10 21 39.2 -0.9**
YKA PKKPbc PKKPbc 10 33 33.5 -13
YKA Yellowknife Ar 97.33 25 P Pdif 10 17 08.6 -0.6
comp=N,3.5nm,0.7s,baz=246,slow=4.4,SNR=55
YKA pP pP 10 19 20.4 -1.1
comp=N,0.7nm,1.0s,baz=243,slow=4.1,SNR=2.8
YKA PKiKP **PKiKP** **10 21 39.2 -0.9**
comp=N,0.5nm,0.5s,baz=236,slow=1.2,SNR=8.1
YKA PKKPbc PKKPbc 10 33 33.5 -13
comp=N,0.2nm,0.6s,baz=47,slow=3.6,SNR=3.9
A26A Wade Farm, Ken 97.33 40 ⇓Pdiff P 10 17 10.1 +0.4
baz=98
F29A Eureka 97.52 44 ⇓Pdiff P 10 17 10.6 0.0
baz=98
BRSD Miller 97.57 45 ⇓Pdiff P 10 17 10.9 +0.1
baz=98
G30A Faulkton 97.70 45 ⇓Pdiff Pdif 10 17 11.2 -0.2
baz=98
B28A Dugan Ranch, T 98.18 41 ⇑Pdiff P 10 17 13.9 +0.4
baz=98
A28A Rude Farm, Bot 98.41 41 ⇑Pdiff P 10 17 14.9 +0.4
baz=99
MDND Maddock 98.42 42 ⇓Pdiff P 10 17 14.7 +0.2
baz=99
ZAK Zakamensk 98.51 321 *e*P Pdif 10 17 13.9 -1.1
ZAK *e* 10 21 23.0
ZAK pmax pmax
comp=Z,3.0nm,1.8s
D30A Buchanan 98.68 43 ⇓Pdiff Pdif 10 17 15.3 -0.4
baz=99
ECSD EROS Data Cent 98.89 47 *e*Pdif Pdif 10 17 16.6 -0.1
comp=Z,103nm,3.0s
ECSD EROS Data Cent 98.89 47 ⇓Pdiff Pdif 10 17 16.4 -0.3
baz=99
A29A Manning Farm, 99.05 41 ⇑Pdiff **Pdif** **10 17 17.3 0.0**
baz=99
C30A Mose, Pekin 99.08 42 ⇑Pdiff **Pdif** **10 17 17.3 -0.1**
baz=99
A30A Hoffart Farm, 99.63 41 ⇓Pdiff **Pdif** **10 17 19.7 -0.1**
baz=100
AGMN Agassiz Nation 100.93 42 ⇓Pdiff **Pdif** **10 17 26.1 +0.4**
baz=101
ODAN Odare 102.39 294 *e*P **PKiKP** **10 21 50.5 -0.2**
comp=Z,34nm,0.9s
LPAZ La Paz 102.61 113 P **Pdif** **10 17 38.2 +3.5**
LPAZ PKKPbc **PKKPbc** **10 33 31.2 -0.2**
LPAZ La Paz 102.61 113 P **Pdif** **10 17 38.2 +3.5**
comp=Z,1.4nm,0.7s,baz=198,slow=6.5,SNR=5.0
LPAZ PKKPbc **PKKPbc** **10 33 31.2 -0.2**
comp=Z,1.9nm,0.7s,baz=34,slow=3.3,SNR=8.9
RAMN Ramite 103.09 294 *e*P **PKiKP** **10 21 51.5 -0.5**
comp=Z,26nm,0.7s
JIRN Jiri 103.65 295 *e*P **PKiKP** **10 21 52.1 -1.0**
comp=Z,23nm,0.6s
GUN Gumba 103.98 295 *e*P **PKiKP** **10 21 52.5 -1.2**
PKI Pulchoki 104.29 294 *e*P **PKiKP** **10 21 52.9 -1.3**
comp=Z,21nm,0.6s
KKN Kakani 104.46 294 *e*P **PKiKP** **10 21 53.0 -1.4**
DMN Daman 104.56 294 *e*P **PKiKP** **10 21 53.5 -1.1**
comp=Z,13nm,0.6s

GKN Gorkha 105.06 295 *e*P **PKiKP** **10 21 53.9 -1.5**
KOLN Koldanda 105.88 294 *e*P **PKiKP** **10 21 55.5 -1.5**
comp=Z,16nm,0.8s
DANN Dangsing 105.90 295 *e*P **PKiKP** **10 21 56.0 -1.2**
comp=Z,21nm,0.6s
ZALV Zalesovo Beam 110.39 321 P **Pdif** **10 18 09.6 +2.1**
ZALV *i* 10 22 03.0
ZALV Zalesovo Beam 110.39 321 Pdif **Pdif** **10 18 09.6 +2.1**
ZALV PKiKP **PKiKP** **10 22 03.0 -1.4**
ZALV Zalesovo Beam 110.39 321 Pdiff **Pdif** **10 18 09.6 +2.1**
comp=Z,0.3nm,0.3s,baz=99,slow=7.4,SNR=2.8
ZALV PKiKP **PKiKP** **10 22 03.0 -1.4**
comp=Z,10nm,0.6s,baz=161,slow=1.0,SNR=47
MK31 Makanchi Array 110.96 313 *i* PKiKP **PKiKP** **10 22 04.3 -1.5**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 110.96 313 P **Pdif** **10 18 11.1 +0.8**
MKAR *i* 10 22 04.6
MKAR Makanchi Array 110.96 313 Pdif **Pdif** **10 18 11.1 +0.8**
MKAR PKiKP **PKiKP** **10 22 04.5 -1.2**
MKAR PKKPbc **PKKPbc** **10 33 05.2 -0.6**
MKAR Makanchi Array 110.96 313 Pdiff **Pdif** **10 18 11.1 +0.8**
comp=Z,1.9nm,0.8s,baz=86,slow=7.0,SNR=12
MKAR PKiKP **PKiKP** **10 22 04.5 -1.2**
comp=Z,3.8nm,0.4s,baz=163,slow=0.7,SNR=55
MKAR PKKPbc **PKKPbc** **10 33 05.2 -0.6**
comp=Z,1.5nm,0.6s,baz=270,slow=2.6,SNR=6.3
KURK Kurchatov 113.82 317 PKiKP **PKiKP** **10 22 10.1 -0.9**
KURBB Kurchatov Arra 113.87 317 PKiKP **PKiKP** **10 22 10.1 -1.0**
comp=Z,9.5nm,0.7s,baz=105,slow=1.7,SNR=66
KSH Kashi 114.51 305 *e*PKP Pdif 10 22 13.2 +0.3
KSH *es*PKP 10 25 29.1
KSH *e*SKS **SKSdf** **10 28 29.0 +0.9**
KSH AMB AMB
comp=Z,110nm,4.3s
ULHL Ulahol 114.65 308 P PKPdf 10 22 12.8 -0.4
SNR=7.7
TKM2 Tokmak 2 115.20 309 PKiKP **PKPdf** **10 22 13.4 -0.8**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 115.20 309 P **PKPdf** **10 22 13.1 -1.1**
SNR=12
TKM2 Tokmak 2 115.20 309 *e*PKPdf **PKPdf** **10 22 12.8 -1.5**
KZA Kyzart 115.36 308 P **PKPdf** **10 22 14.7 -0.2**
SNR=8.6
KBK Karagaybulak 115.64 308 P **PKPdf** **10 22 14.5 -0.6**
SNR=7.0
CHMS Chumysh 115.82 309 P **PKPdf** **10 22 14.5 -0.7**
SNR=7.3
UCH Uchtor 115.92 308 P **PKPdf** **10 22 15.8 -0.1**
SNR=16
AAK Ala-Archa 115.97 308 *d i* PKiKP **PKPdf** **10 22 14.6 -1.1**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 115.97 308 P **PKPdf** **10 22 15.1 -0.7**
SNR=7.3
AAK Ala-Archa 115.97 308 *e*PKPdf **PKPdf** **10 22 14.6 -1.1**
AAK PKP **PKPdf** **10 22 15.0 -0.7**
AAK Ala-Archa 115.97 308 PKP **PKPdf** **10 22 15.0 -0.7**
comp=Z,6.0nm,0.8s,baz=148,slow=2.9,SNR=19
USP Ospenovka 116.03 309 P **PKPdf** **10 22 14.8 -0.8**
SNR=12
EKS2 Erkin-Say 116.50 308 *e*PKiKP **PKPdf** **10 22 15.8 -0.8**
EKS2 Erkin-Say 116.50 308 P **PKPdf** **10 22 16.2 -0.5**
SNR=9.5
EKS2 Erkin-Say 116.50 308 *e*PKPdf **PKPdf** **10 22 15.8 -0.8**
AML Almayashu 116.52 308 P **PKPdf** **10 22 16.6 -0.4**
SNR=20
KK31 Karatay Array 118.93 308 *i* PKiKP **PKPdf** **10 22 20.1 -1.1**
KK31 pmax pmax
comp=Z,19nm,0.8s
BVA0 Borovoye Array 118.95 320 *i* PKiKP **PKPdf** **10 22 19.7 -1.2**
BVA0 pmax pmax
comp=Z,44nm,1.1s
BVAR Borovoye Array 118.95 320 PKiKP **PKPdf** **10 22 20.0 -0.9**
BVAR Borovoye Array 118.95 320 PKP **PKPdf** **10 22 20.0 -0.9**
BVAR SKP 10 24 59.0
BVAR Borovoye Array 118.95 320 PKP **PKPdf** **10 22 20.0 -0.9**
comp=Z,19nm,0.4s,baz=124,slow=2.2,SNR=157
BVAR SKP 10 24 59.0
comp=Z,2.0nm,0.8s,baz=135,slow=0.2,SNR=3.6
BRVK Borovoye 119.01 320 *d i* PKiKP **PKPdf** **10 22 19.8 -1.2**
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 119.01 320 *e*PKPdf **PKPdf** **10 22 19.0 -2.0**
BDFB Brasilia 119.56 123 PKP **PKPdf** **10 22 22.6 -0.7**
BDFB Brasilia 119.56 123 PKP **PKPdf** **10 22 22.6 -0.7**
comp=Z,1.4nm,0.5s,baz=188,slow=7.1,SNR=4.4
SCHQ Schefferville 119.59 38 PKP **PKPdf** **10 22 20.5 -1.5**
SCHQ Schefferville 119.59 38 PKP **PKPdf** **10 22 20.5 -1.5**
comp=Z,13nm,1.0s,baz=260,slow=4.6,SNR=8.4
ILULI Ilulissat 122.51 20 ⇓ *i* PKiKP **PKPdf** **10 22 26.3 -0.9**
ILULI pmax pmax
comp=Z,46nm,0.8s
ILULI Ilulissat 122.51 20 ⇓ *i* P **PKPdf** **10 22 26.3 -0.9**
comp=Z,46nm,0.8s
DAG Danmarks Havn 123.33 5 ⇓ *i* PKiKP **PKPdf** **10 22 27.0 -1.6**
DAG pmax pmax
comp=Z,13nm,0.8s
DAG Danmarks Havn 123.33 5 ⇓ *i* P **PKPdf** **10 22 27.0 -1.6**
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 123.73 22 *i* P **PKPdf** **10 22 28.5 -1.1**
comp=Z,16nm,0.7s
SFJD Kangerlussuaq 123.73 22 *e*PKPdf **PKPdf** **10 22 28.0 -1.5**
SUMG Summit 123.85 13 ⇓ *i* PKiKP **PKPdf** **10 22 29.9 -0.3**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 123.85 13 ⇓ *i* P **PKPdf** **10 22 29.9 -0.3**
comp=Z,23nm,0.9s
SUMG Summit 123.85 13 *e*PKPdf **PKPdf** **10 22 29.9 -0.3**
SVE Sverdlovsk 123.95 325 *de*PKiKP **PKPdf** **10 22 30.2 -0.1**
SVE pmax pmax
comp=Z,54nm,0.8s
ARU Arti 125.16 325 *i* PKiKP **PKPdf** **10 22 31.8 -0.8**
ARU 10 24 30.7
ARU 10 28 38.8
ARU Arti 125.16 325 *e*PKPdf **PKPdf** **10 22 32.0 -0.6**
AB31 Akbulak array 125.90 316 *i* PKiKP **PKPdf** **10 22 33.7 -0.6**
AB31 pmax pmax
comp=Z,28nm,1.1s
AKTO Aktyubinsk 126.91 318 PKiKP **PKPdf** **10 22 35.3 -0.9**
AKTO pmax pmax
comp=Z,28nm,0.8s
AKTO Aktyubinsk 126.91 318 PKP **PKPdf** **10 22 35.9 -0.3**
AKTO Aktyubinsk 126.91 318 PKP **PKPdf** **10 22 35.9 -0.3**
comp=Z,19nm,0.7s,baz=84,slow=3.8,SNR=63
LVZ Lovozero 128.67 344 *e i* PKiKP **PKPdf** **10 22 38.5 -0.6**
LVZ pmax pmax
comp=Z,86nm,2.5s
LVZ Lovozero 128.67 344 *e*PKPdf **PKPdf** **10 22 38.3 -0.8**
KEV Kevo 128.82 349 *e*PKiKP **PKPdf** **10 22 38.5 -0.7**
KEV pmax pmax
comp=Z,18nm,0.8s
KEV Kevo 128.82 349 *ep* **PKPdf** **10 22 38.5 -0.7**
comp=Z,18nm,0.8s
KEV Kevo 128.82 349 *e*PKPdf **PKPdf** **10 22 38.7 -0.6**
PRGR Permogore 129.16 334 *e*PKiKP **PKPdf** **10 22 37.4 -2.7**
PRGR pmax pmax
comp=Z,44nm,0.9s
ARCES ARCESS Array B 129.28 349 PKP **PKPdf** **10 22 39.8 -0.4**
ARCES SKPbc SKPbc 10 25 07.8 +2.0
ARCES ARCESS Array B 129.28 349 PKP **PKPdf** **10 22 39.8 -0.4**
comp=Z,33nm,0.6s,baz=9.7,slow=1.1,SNR=80
ARCES SKPbc SKPbc 10 25 07.8 +2.0
comp=Z,11nm,0.8s,baz=28,slow=5.5,SNR=7.4
ARE0 ARCESS Array S 129.28 349 *e*PKPdf **PKPdf** **10 22 39.1 -1.0**
JOF Joensuu 133.37 342 *e*PKiKP **PKPdf** **10 22 47.5 -0.5**
JOF pmax pmax
comp=Z,37nm,0.6s
JOF Joensuu 133.37 342 *ep* **PKPdf** **10 22 47.5 -0.5**
comp=Z,37nm,0.6s
LSZ Lusaka 135.20 219 *e*PKPdf **PKPdf** **10 22 52.9 -0.2**
LSZ *e*SKPbc **SKPbc** **10 25 29.6 +1.9**
KAF Kangasniemi 135.42 343 *e*PKiKP **PKPdf** **10 22 52.7 +0.8**
KAF pmax pmax
comp=Z,36nm,0.6s
KAF Kangasniemi 135.42 343 *ep* **PKPdf** **10 22 52.7 +0.8**
comp=Z,36nm,0.6s
MOS Moscow 135.96 331 *e*PKiKP **PKPdf** **10 22 51.7 -1.4**
MOS pmax pmax
comp=Z,61nm,0.9s
FIA1 FINESS Array S 136.03 343 *e*PKPdf **PKPdf** **10 22 51.7 -1.4**
FINES FINESS Array B 136.04 343 PKPpre PKPpre 10 22 45.1
FINES PKP **PKPdf** **10 22 52.0 -1.1**
FINES SKPbc **SKPbc** **10 25 29.9 +1.3**

FINES FINESS Array B 136.04 343 PKhKP PKPpre 10 22 45.1
comp=Z,2.6nm,0.5s,baz=46,slow=4.0,SNR=14
FINES PKP **PKPdf** **10 22 52.0 -1.1**
comp=Z,31nm,0.8s,baz=90,slow=3.1,SNR=21
FINES SKPbc **SKPbc** **10 25 29.9 +1.3**
comp=Z,12nm,0.8s,baz=41,slow=3.5,SNR=9.4
VRHR Novokhopersk 136.45 324 *e*PKiKP **PKPdf** **10 22 52.4 -1.7**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=E,20nm,1.1s
OBN Obninsk 136.82 331 ⇑PKHKP PKPpre 10 22 44.0
OBN *i* 10 22 54.1
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN pmax pmax
comp=Z,128nm,1.7s
OBN Obninsk 136.82 331 *e*PKPdf **PKPdf** **10 22 54.4 -0.3**
OBN *e*SKPbc **SKPbc** **10 25 32.2 +1.2**
TSUM Tsumeb 136.90 203 *e*PKPdf **PKPdf** **10 22 56.8 +0.6**
TSUM *e*SKPbc **SKPbc** **10 25 34.8 +2.0**
VSR Storozhevoye 137.73 325 *e*PKiKP **PKPdf** **10 22 54.8 -1.7**
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=E,20nm,1.4s
VORD Divnogorie 137.79 324 *e*PKiKP **PKPdf** **10 22 54.3 -2.3**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s
GOF Gofitskoye 138.10 315 *e*PKHKP PKPpre 10 22 47.9
GOF pmax pmax
comp=Z,30nm,0.9s
ZEI Tsey 138.26 311 *i* PKiKP **PKPdf** **10 22 59.1 +1.1**
ZEI pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 138.37 243 PKPpre PKPpre 10 22 51.6
KMBO *e*PKPdf **PKPdf** **10 22 57.9 -1.2**
KMBO PKP **PKPdf** **10 22 58.1 -1.0**
KMBO SKP 10 25 39.4
KMBO *e*SKPbc **SKiKP** **10 25 39.6 -0.9**
KMBO Kilima Mbogo 138.37 243 PKhKP PKPpre 10 22 51.6
comp=Z,1.1nm,0.3s,baz=35,slow=7.2,SNR=7.7
KMBO PKP **PKPdf** **10 22 58.1 -1.0**
comp=Z,6.4nm,0.8s,baz=81,slow=2.4,SNR=7.4
KMBO SKP 10 25 39.4
comp=Z,6.9nm,0.9s,baz=31,slow=2.6,SNR=6.9
GNI Garni 138.37 307 PKPpre PKPpre 10 22 52.4
GNI PKP **PKPdf** **10 22 58.1 -0.2**
GNI Garni 138.37 307 PKhKP PKPpre 10 22 52.4
comp=Z,2.0nm,0.3s,baz=330,slow=8.1,SNR=2.3
GNI PKP **PKPdf** **10 22 58.1 -0.2**
comp=Z,14nm,0.8s,baz=349,slow=9.6,SNR=8.3
KBZ Khabaz 138.66 313 PKHKP PKPpre 10 22 50.6
KBZ 10 22 56.7
KBZ Khabaz 138.66 313 PKPpre PKPpre 10 22 50.5
KBZ PKP **PKPdf** **10 22 56.7 -1.7**
KBZ Khabaz 138.66 313 PKhKP PKPpre 10 22 50.5
comp=Z,2.5nm,0.7s,baz=166,slow=4.9,SNR=4.4
KBZ PKP **PKPdf** **10 22 56.7 -1.7**
comp=Z,7.5nm,0.8s,baz=70,slow=5.1,SNR=7.0
KIV Kislovodsk 138.72 313 ⇓PKHKP PKPpre 10 22 53.0
KIV *i* 10 22 58.9
KIV 10 26 02.0
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV pmax pmax
comp=Z,32nm,1.7s
NB2 NORSAR Subarra 139.40 352 PKP PKPpre 10 22 50.9
comp=Z,5.1nm,0.5s,baz=16,slow=3.2
NB2 NORSAR Subarra 139.40 352 PKP PKPpre 10 22 50.9
baz=16,slow=3.2
NOA NORSAR Array B 139.40 352 PKPpre PKPpre 10 22 50.8
NOA SKP 10 25 39.9
NOA NORSAR Array B 139.40 352 PKhKP PKPpre 10 22 50.8
comp=Z,16nm,0.8s,baz=16,slow=4.7,SNR=42
NOA SKP 10 25 39.9
comp=Z,9.2nm,0.9s,baz=13,slow=4.4,SNR=8.8
MNK Minsk 140.94 335 *e*PKHKP PKPpre 10 22 57.0
KONO Kongsberg 140.94 353 *e*PKHKP PKPpre 10 22 56.1
KONO Kongsberg 140.94 353 *e*P PKPpre 10 22 55.9
KONO IAmb IAmb 10 22 58.1
comp=Z,44nm,0.8s
KONO Kongsberg 140.94 353 *e*PKPdf PKPpre 10 22 56.1
ODD1 Odda 140.95 356 *e*P PKPpre 10 22 56.4
ODD1 IAmb IAmb 10 23 01.2
comp=Z,28nm,2.2s
BLS5 Blasjo 141.45 356 *e*P PKPpre 10 22 57.9
BLS5 IAmb IAmb 10 23 04.7
comp=Z,12nm,0.7s
KMY Karmoy 141.74 357 *e*P PKPpre 10 22 59.5
KMY IAmb IAmb 10 23 00.1
comp=Z,61nm,0.9s
ANN Anapa 141.85 317 *i* PKHKP PKPpre 10 22 59.8
ANN pmax pmax
comp=Z,89nm,1.1s
HOMB Homborsund 142.41 354 *e*P PKPpre 10 23 01.3
HOMB IAmb IAmb 10 23 02.6
comp=Z,140nm,1.0s
SNART Snartemo 142.47 355 *e*P PKPpre 10 23 01.3
SNART IAmb IAmb 10 23 02.0
comp=Z,34nm,1.0s
SHEL Horse Pasture 142.63 169 *i* PKiKP **PKPdf** **10 23 06.1 -0.3**
MVH1 Achvaich 142.94 5 *e*P **PKPdf** **10 23 02.8 -2.8**
SUW Suwalki 143.03 338 ⇓ *i* PKiKP PKPab 10 23 03.6 -0.2
SUW Suwalki 143.03 338 *i* PKPdf PKPab 10 23 03.5 -0.3
SUW Suwalki 143.03 338 *e*PKPdf PKPab 10 23 03.5 -0.2
AKASG Malin Array Be 143.06 330 PKHKP PKPpre 10 23 03.2
AKASG Malin Array Be 143.06 330 PKPpre PKPpre 10 23 03.2
AKASG SKP 10 25 46.8
AKASG Malin Array Be 143.06 330 PKhKP PKPpre 10 23 03.2
comp=Z,239nm,0.6s,baz=43,slow=4.3,SNR=860
AKASG SKP 10 25 46.8
comp=Z,4.5nm,0.7s,baz=41,slow=2.6,SNR=8.8
KIEV Kiev 143.08 330 *d i* PKHKP PKPab 10 23 03.1 -1.0
ELZG Elazig 143.12 307 *i* P **PKPdf** **10 23 06.1 -0.7**
ILIC ilic-Erzincan 143.13 308 *e*P **PKPdf** **10 23 06.1 -0.6**
SUSE Susehri 143.14 310 *i* P PKPab 10 23 05.1 +0.1
KEMA Kemaliye 143.24 308 *i* P PKPbc 10 23 05.6 0.0
KAC Achnashellach 143.27 6 *e*P PKPab 10 23 04.0 -0.6
MCD Coleburn Disti 143.35 4 *e*P PKPab 10 23 03.3 -1.6
KPL Plockton 143.39 6 *e*P PKPab 10 23 03.7 -1.3
MDO Dochfour 143.41 5 *e*P PKPab 10 23 04.0 -1.2
KSB Sheil Bridge 143.54 6 *e*P PKPab 10 23 04.4 -1.2
RSDY Resadiye-TOKAT 143.70 310 *e*P PKPbc 10 23 05.7 -1.1
SIM Simferopol' 143.86 319 *d i* PKiKP PKPab 10 23 07.3 0.0
SIM pmax pmax
comp=Z,210nm,0.5s
SIM pmax pmax
comp=Z,100nm,7.0s
SCER sogukcermik 144.04 310 *i* P **PKPab** **10 23 09.0 +0.7**
MUD Monsted U'grnd 144.12 352 ⇓ *i* PKiKP PKPbc 10 23 07.1 -0.3
MUD pmax pmax
comp=Z,180nm,1.0s
MUD Monsted U'grnd 144.12 352 ⇓ *i* P PKPbc 10 23 07.1 -0.3
comp=Z,177nm,0.9s
KVT Kavak 144.34 312 *e*P **PKPdf** **10 23 08.3 -0.4**
COP Copenhagen 144.37 349 ⇓ *i* PKiKP **PKPdf** **10 23 07.8 -0.3**
COP pmax pmax
comp=Z,50nm,0.9s
COP Copenhagen 144.37 349 ⇓ *i* P **PKPdf** **10 23 07.8 -0.3**
comp=Z,50nm,0.9s
BSD Bornholm Skovb 144.41 346 ⇓ *i* PKiKP **PKPdf** **10 23 07.8 -0.4**
BSD pmax pmax
comp=Z,120nm,0.9s
BSD Bornholm Skovb 144.41 346 ⇓ *i* P **PKPdf** **10 23 07.8 -0.4**
comp=Z,117nm,0.9s
SLMH Al Salmeh 144.56 303 *i* P **PKPab** **10 23 10.3 -0.1**
HAVZ Havza 144.57 312 *i* P PKPbc 10 23 09.7 +0.2
EAB Aberfoyle 144.65 5 *e*P **PKPdf** **10 23 07.0 -1.6**
KMRS Kahramanmaras 144.99 306 *e*P **PKPdf** **10 23 10.2 +0.3**
PGBU Gleniffer braes 145.01 4 *e*P **PKPdf** **10 23 06.8 -2.4**
ESY Stoneypath 145.04 4 *e*P **PKPdf** **10 23 08.5 -0.9**
KUZU Kuzuini 145.07 305 *i* P **PKPbc** **10 23 11.6 +0.4**
EBL Broad Law 145.16 4 *e*P **PKPdf** **10 23 08.7 -0.9**
SORM Soroca 145.21 328 ⇓PKiKP **PKPbc** **10 23 10.8 -0.2**
SORM Soroca 145.21 328 ⇓ *i* P **PKPbc** **10 23 10.8 -0.2**

BZK Bozkurt 145.36 315 eP PKPdf 10 23 10.7 +0.4
YOZ Yozgat 145.42 310 eP PKPab 10 23 23.2 +9.5
GKP Gorka Klasztor 145.51 343 ⇓iPKIKP PKPbc 10 23 11.6 -0.1
GKP Gorka Klasztor 145.51 343 i PKPdf PKPbc 10 23 11.6 -0.1
EKA Eskdalemuir Ar 145.59 4 PKPbc PKPbc 10 23 11.2 -0.7
EKA Eskdalemuir Ar 145.59 4 PKPbc PKPbc 10 23 11.2 -0.7
comp=Z,61nm,0.7s,baz=355,slow=2.7,SNR=130
ESK Eskdalemuir 145.60 4 ePKIKP PKPdf 10 23 10.7 +0.4
ESK Eskdalemuir 145.60 4 eP PKPdf 10 23 10.2 -0.1
ESK Eskdalemuir 145.60 4 ePKPdf PKPdf 10 23 10.7 +0.4
BEL Belsk 145.64 338 ⇓iPKP2 PKPbc 10 23 12.6 +0.4
BEL Belsk 145.64 338 i PKPdf PKPbc 10 23 12.5 +0.4
BEL e 10 23 14.6
KIS Kishinev 145.71 326 αiPKIKP PKPbc 10 23 12.0 -0.5
KIS pmax pmax
comp=Z,600nm,1.0s
KIS pmax pmax
comp=Z,500nm,1.5s
KIS Kishinev 145.71 326 ⇓iPKP PKPbc 10 23 12.0 -0.5
KIS M 10 23 13.0
comp=Z,600nm,1.0s
BTCH Batrach 145.75 304 i P PKPbc 10 23 13.1 0.0
TOS Tosya 145.76 313 eP PKPdf 10 23 11.7 +0.5
ZALF Zalf 145.78 298 i P PKPbc 10 23 14.0 +0.7
GAL1 Galloway 145.92 6 eP PKPdf 10 23 10.8 0.0
LVV L'vov 146.01 333 i PKIKP PKPbc 10 23 12.8 -0.5
CDAG Cicekdag 146.10 311 i P PKPbc 10 23 13.6 -0.4
XAL Allendale 146.12 3 eP PKPdf 10 23 11.3 +0.1
YURE YUREGIR 146.16 305 i P PKPbc 10 23 14.9 +0.7
CANT Cankiri 146.22 313 eP PKPbc 10 23 13.8 -0.5
IAS Iasi 146.24 327 ⇑PKP2 PKPbc 10 23 14.1 +0.1
IAS Iasi 146.24 327 ⇑iP PKPbc 10 23 14.1 +0.1
ASF Jabal al Asfar 146.28 297 PKPbc PKPbc 10 23 15.3 +0.5
ASF Jabal al Asfar 146.28 297 PKPbc PKPbc 10 23 15.3 +0.5
comp=Z,54nm,0.8s,baz=68,slow=2.3,SNR=42
KESW Keswick, Cumbr 146.34 4 eP PKPbc 10 23 13.5 -0.5
LEOM Leova 146.35 325 ⇑PKP2 PKPbc 10 23 14.7 +0.4
LEOM Leova 146.35 325 ⇑iP PKPbc 10 23 14.7 +0.4
ELDT Eldivan 146.40 313 i P PKPbc 10 23 14.9 +0.1
BSEG Bad Segeberg 146.40 350 ePKPdf PKPdf 10 23 12.5 +0.5
BSEG ePKPbc PKPbc 10 23 14.3 +0.1
GMM Mts of Mourne 146.40 8 eP PKPbc 10 23 13.2 -1.0
KAMT Kaman 146.67 311 eP PKPbc 10 23 15.1 -0.5
KWP Kalwaria Pacla 146.70 334 ⇓iPKP2 PKPbc 10 23 15.1 -0.1
KWP Kalwaria Pacla 146.70 334 i PKPdf PKPbc 10 23 15.1 -0.1
KWP e 10 23 18.1
KWP Kalwaria Pacla 146.70 334 ⇓iP PKPbc 10 23 15.4 +0.2
KWP Kalwaria Pacla 146.70 334 ePKPbc PKPbc 10 23 15.0 -0.1
PRAR RASCA 146.79 328 ⇓iP PKPbc 10 23 15.9 +0.4
HPK Haverah Park 147.05 3 eP PKPbc 10 23 15.4 -0.6
BURAR Bucovina Array 147.10 329 ⇑PKP2 PKPbc 10 23 17.3 +0.9
BURAR Bucovina Array 147.10 329 ⇑iP PKPbc 10 23 17.3 +0.9
ANTO Ankara 147.10 312 ⇑PKP2 PKPbc 10 23 17.2 +0.5
ANTO Ankara 147.10 312 ⇑iP PKPbc 10 23 17.2 +0.5
ANTO Ankara 147.10 312 ePKPdf PKPdf 10 23 13.9 +0.4
RUE Ruedersdorf 147.11 346 ePKPdf PKPdf 10 23 13.4 +0.5
RUE ePKPbc PKPbc 10 23 16.3 +0.2
RUE Ruedersdorf 147.11 346 ePKPdf PKPdf 10 23 10.7 -0.2
RUE ePKPbc PKPbc 10 23 15.7 -0.4
TESR Tescani 147.16 327 ⇓iP PKPbc 10 23 16.5 0.0
CFR Carcaliu 147.23 324 ⇑PKP2 PKPbc 10 23 17.0 +0.3
CFR Carcaliu 147.23 324 ⇑iP PKPbc 10 23 17.0 +0.3
DSB Dublin 147.32 8 ePKPbc PKPbc 10 23 15.8 -0.9
OJC Ojcow 147.34 338 ePKP2 PKPbc 10 23 16.6 -0.2
OJC Ojcow 147.34 338 ePKP PKPbc 10 23 16.6 -0.2
OJC e 10 23 20.8
MMAI Mount Meron Ar 147.35 299 PKPbc PKPbc 10 23 18.1 +0.6
MMAI Mount Meron Ar 147.35 299 PKPbc PKPbc 10 23 18.1 +0.6
comp=Z,114nm,0.6s,baz=65,slow=4.8,SNR=80
PETR Petresti 147.37 325 ⇑iP PKPbc 10 23 18.0 +1.0
WME Myndd Eilian 147.41 6 eP PKPdf 10 23 13.2 -0.1
KOLS Kolonicke sedl 147.43 334 ePKIKP PKPdf 10 23 13.8 +0.2
KOLS Kolonicke sedl 147.43 334 ePKP PKPdf 10 23 13.8 +0.2
STHS Stebnicka Huta 147.46 335 ePKIKP PKPdf 10 23 13.6 0.0
STHS Stebnicka Huta 147.46 335 ePKP PKPdf 10 23 13.6 0.0
STHS e 10 23 14.2
TIRR Tirgusor 147.51 322 ⇓PKP2 PKPbc 10 23 17.4 0.0
TIRR Tirgusor 147.51 322 ⇓iP PKPbc 10 23 17.4 0.0
TIRR Tirgusor 147.51 322 ePKPdf PKPbc 10 23 17.4 0.0
WLF1 Llynfaes 147.51 6 eP PKPdf 10 23 13.4 -0.1
YRC Rhoscolyn 147.53 6 eP PKPdf 10 23 14.9 +1.4
VRI Vrincioaia 147.55 326 ⇑PKP2 PKPbc 10 23 17.6 +0.1
VRI Vrincioaia 147.55 326 i P PKPbc 10 23 16.8 -0.7
VRI Vrincioaia 147.55 326 ⇑iP PKPbc 10 23 17.6 +0.1
WPM1 Penmaenmawr 147.59 6 eP PKPdf 10 23 13.6 -0.1
PLOR Plostina 147.60 326 ⇑PKP2 PKPbc 10 23 17.7 0.0
PLOR Plostina 147.60 326 ⇑iP PKPbc 10 23 17.7 0.0
EFOR EFORIE 147.61 322 ⇓iP PKPbc 10 23 18.7 +1.0
HARR Harsova 147.64 323 ⇑PKP2 PKPbc 10 23 18.2 +0.4
HARR Harsova 147.64 323 ⇑iP PKPbc 10 23 18.2 +0.4
TLB Topalu 147.64 323 ⇓PKP2 PKPbc 10 23 17.9 +0.1
TLB Topalu 147.64 323 ⇓iP PKPbc 10 23 17.9 +0.1
UZH Uzhgorod 147.65 333 i PKIKP PKPbc 10 23 17.1 -0.6
UZH i 10 23 22.3
UZH e 10 26 36.5
YLL Llanberis 147.68 6 eP PKPbc 10 23 16.6 -1.0
GRER 147.73 325 ⇑iP PKPbc 10 23 19.1 +1.1
KBI1 Birley Grange 147.76 3 eP PKPdf 10 23 14.2 +0.2
CRVS Cervenica-Dubn 147.78 335 ePKIKP PKPdf 10 23 14.0 -0.2
CRVS Cervenica-Dubn 147.78 335 ePKP PKPdf 10 23 14.0 -0.2
NIE Niedzica 147.81 336 ePKP2 PKPbc 10 23 18.5 +0.4
NIE Niedzica 147.81 336 ePKP PKPbc 10 23 18.5 +0.4
NIE e 10 23 22.8
YRE Yr Eifl 147.81 6 eP PKPdf 10 23 13.4 -0.6
NRDL Niedersach Rie 147.82 350 ePKPdf PKPdf 10 23 14.3 +0.3
NRDL ePKPbc PKPbc 10 23 18.0 +0.1
BMR Baia Mare 147.86 331 ⇓PKP2 PKPbc 10 23 18.5 +0.3
BMR Baia Mare 147.86 331 ⇓iP PKPbc 10 23 18.5 +0.3
ARCR ARCALIA 147.89 330 ⇑iP PKPbc 10 23 18.8 +0.5
VAL Valentia 147.90 13 ⇓iP PKPbc 10 23 18.6 +0.5
TRPA Tarpa 147.94 333 ⇓iP PKPbc 10 23 18.5 +0.1
TRPA Tarpa 147.94 333 ⇓e PKPbc 10 23 18.3 -0.1
KSP Ksiaz 147.94 342 ePKIKP PKPdf 10 23 14.3 0.0
KSP Ksiaz 147.94 342 i PKPdf PKPbc 10 23 18.5 +0.2
KSP e 10 23 23.8
AMRR Amara 148.03 323 ⇑PKP2 PKPbc 10 23 18.8 +0.1
AMRR Amara 148.03 323 ⇑iP PKPbc 10 23 18.8 +0.1
PGOR Pogoanele 148.03 324 ⇑iP PKPbc 10 23 19.5 +0.8
PSN Preselentsi 148.11 321 ⇓PKP2 PKPbc 10 23 19.6 +0.6
PSN Preselentsi 148.11 321 i P PKPbc 10 23 19.3 +0.3
PSN Preselentsi 148.11 321 ⇓iP PKPbc 10 23 19.6 +0.6
DOPR Dopca 148.17 327 ⇑iP PKPbc 10 23 19.6 +0.5
MLR Muntele Rosu 148.21 326 PKPbc PKPbc 10 23 19.4 +0.1
MLR Muntele Rosu 148.21 326 PKPbc PKPbc 10 23 19.4 +0.1
comp=Z,19nm,0.6s,baz=7.2,slow=4.8,SNR=26
OKC Ostrava-Krasne 148.23 339 ePKPDF PKPdf 10 23 14.7 -0.1
OKC ⇑iPKP PKPbc 10 23 19.1 0.0
OKC ePKPAB PKPab 10 23 24.9 +0.4
UPC Upice 148.32 342 i PKP2 PKPbc 10 23 19.7 +0.4
UPC Upice 148.32 342 ⇑iPKP PKPbc 10 23 19.7 +0.4
UPC ePKPAB PKPab 10 23 25.4 +0.5
EIL Elat 148.33 293 PKP PKPdf 10 23 15.2 -0.4
EIL PKPbc PKPbc 10 23 20.3 +0.3
EIL Elat 148.33 293 PKP PKPdf 10 23 15.2 -0.4
comp=Z,23nm,1.2s,baz=71,slow=1.5,SNR=4.8
EIL PKPbc PKPbc 10 23 20.3 +0.3
comp=Z,53nm,0.7s,baz=352,slow=1.7,SNR=37
IBBN Ibbenburen 148.35 352 ePKPdf PKPdf 10 23 15.5 +0.6
IBBN ePKPbc PKPbc 10 23 19.4 +0.1
DPC Dobruska-Polom 148.37 341 ePKPDF PKPdf 10 23 15.2 +0.1
DPC ⇑iPKP PKPbc 10 23 20.0 +0.5
DPC ePKPAB PKPab 10 23 26.0 +0.9
DPC epPKP pPKPdf 10 25 43.9 +7.7
DPC Dobruska-Polom 148.37 341 ePKPdf PKPdf 10 23 14.9 -0.2
CLL Collm 148.38 346 ePKPdf PKPdf 10 23 15.2 +0.2
CLL ePKPbc PKPbc 10 23 19.4 +0.1
CLL ePKPab PKPab 10 23 25.0 0.0
CLL Collm 148.38 346 ePKPdf PKPdf 10 23 15.0 0.0
comp=Z,21nm,1.2s
CLL ⇓iPKPbc PKPbc 10 23 19.5 +0.1
comp=Z,180nm,1.0s
CLL i PKPab PKPab 10 23 24.8 -0.2
comp=Z,72nm,0.8s
CLL epPKPab pPKPab 10 25 41.0 +1.5
CLZ Clausthal 148.41 349 ePKPdf PKPdf 10 23 15.5 +0.4
CLZ ePKPbc PKPbc 10 23 19.8 +0.3
CLZ ePKPab PKPab 10 23 25.2 0.0
HLM1 Long Mynd 148.41 5 eP PKPdf 10 23 14.6 -0.5
SECR 148.44 325 ⇓iP PKPbc 10 23 20.1 +0.3
KRLC Kraliky 148.47 341 i PKP2 PKPbc 10 23 20.0 +0.3
KRLC ePKPAB PKPab 10 23 25.8 +0.2
MORC Moravsky Berou 148.49 339 ePKIKP PKPdf 10 23 14.8 -0.5
MORC e 10 23 25.4
MORC Moravsky Berou 148.49 339 ⇓iP PKPbc 10 23 20.0 +0.2
MORC Moravsky Berou 148.49 339 ePKPdf PKPdf 10 23 14.8 -0.5
MORC ePKPbc PKPbc 10 23 19.5 -0.3
MORC ePKPab PKPab 10 23 25.4 -0.3
CSS Prodhromos 148.51 303 ePKPdf PKPbc 10 23 19.6 -0.7
CJR Cluj-Napoca 148.52 330 ⇓PKP2 PKPbc 10 23 20.5 +0.5
CJR Cluj-Napoca 148.52 330 ⇓iP PKPbc 10 23 20.5 +0.5
BRG Berggiesshubel 148.55 344 i PKP PKPdf 10 23 15.5 +0.1
comp=Z,51nm,1.7s
BRG Berggiesshubel 148.55 344 ⇑iPKP PKPbc 10 23 19.7 -0.2
comp=Z,227nm,1.5s
BRG i 10 23 25.2
comp=Z,102nm,1.4s
BRG epPKP pPKPdf 10 25 39.4 +3.0
comp=Z,26nm,1.7s
BRG Berggiesshubel 148.55 344 ePKPdf PKPdf 10 23 15.6 +0.3
BRG ePKPbc PKPbc 10 23 20.0 +0.2
BRG ePKPab PKPab 10 23 25.9 +0.1
MDB Medias 148.55 328 ⇓PKP2 PKPbc 10 23 20.9 +0.9
MDB Medias 148.55 328 ⇓iP PKPbc 10 23 20.9 +0.9
FBE Freiberg 148.65 345 ePKPdf PKPdf 10 23 16.2 +0.7
FBE ePKPbc PKPbc 10 23 20.5 +0.4
FBE ePKPab PKPab 10 23 26.6 +0.4
PVCC Panska Ves 148.70 343 ⇑iPKP PKPbc 10 23 20.6 +0.4
LPW Lampeter 148.71 6 eP PKPdf 10 23 14.9 -0.6
VOIR 148.71 327 ⇑iP PKPbc 10 23 20.7 +0.2
NEUB Neuenburg 148.74 347 ePKPdf PKPdf 10 23 16.1 +0.5
NEUB ePKPbc PKPbc 10 23 20.4 +0.1
NEUB ePKPab PKPab 10 23 26.4 -0.1
WTSB Winterswijk 148.80 353 ePKPdf PKPdf 10 23 15.8 +0.2
WTSB ePKPbc PKPbc 10 23 20.3 0.0
WTSB ePKPab PKPab 10 23 26.1 -0.6
PRD Provadia 148.85 321 ⇑PKP2 PKPbc 10 23 21.7 +0.9
DRGR 148.87 331 i P PKPbc 10 23 20.6 -0.3
MCH1 Michaelchurch 148.92 5 eP PKPdf 10 23 15.4 -0.5
ARR Arges 148.97 327 ⇑iP PKPbc 10 23 22.7 +1.6
MONM Monmouth 149.09 5 eP PKPdf 10 23 16.1 0.0
PRA Prague 149.16 343 i PKPDF PKPdf 10 23 17.0 +0.7
PRA ⇑PKP PKiKP 10 23 22.0 -0.1
PRA PKPAB PKPab 10 23 29.0 +0.7
PRA pPKP pPKPdf 10 25 44.0 +6.6
GOLR 149.16 326 ⇑iP PKPbc 10 23 22.1 +0.6
PSZ Piszkesteto 149.19 335 ⇑iP PKPbc 10 23 21.9 +0.3
PSZ Piszkesteto 149.19 335 ePKPdf PKPdf 10 23 16.3 -0.3
PSZ Piszkesteto 149.19 335 ⇓e PKPbc 10 23 21.5 -0.1
VRAC Vranov 149.20 340 PKP PKPdf 10 23 15.0 -1.5
VRAC PKPbc PKPbc 10 23 21.6 +0.1
VRAC Vranov 149.20 340 PKP PKPdf 10 23 15.0 -1.5
comp=Z,2.2nm,0.3s,baz=252,slow=18,SNR=3.6
VRAC PKPbc PKPbc 10 23 21.6 +0.1
comp=Z,42nm,0.9s,baz=23,slow=1.2,SNR=38
PRU Pruhonice 149.20 343 ePKIKP PKPdf 10 23 16.4 0.0
PRU e 10 23 28.7
PRU Pruhonice 149.20 343 ePKPDF PKPdf 10 23 16.4 0.0
PRU ⇑iPKP PKPbc 10 23 21.6 +0.2
PRU ePKPAB PKPab 10 23 28.7 +0.2
PRU epPKP pPKPdf 10 25 43.0 +5.5
BUG Bochum--Univer 149.26 352 ePKPdf PKPdf 10 23 16.5 +0.1
BUG ePKPbc PKPbc 10 23 21.5 0.0
TANN Tannenbergstha 149.33 346 ePKPdf PKPdf 10 23 17.2 +0.5
TANN ePKPbc PKPbc 10 23 22.1 +0.3
TANN ePKPab PKPab 10 23 29.2 +0.1
PLN Plauen 149.34 346 ePKPdf PKPdf 10 23 17.0 +0.4
PLN ePKPbc PKPbc 10 23 21.9 +0.1
PLN ePKPab PKPab 10 23 29.2 +0.1
WERD Werda 149.34 346 ePKPbc PKPbc 10 23 22.1 +0.3
WERD ePKPab PKPab 10 23 29.2 +0.1
GUNZ Gunzen 149.41 346 ePKPdf PKPdf 10 23 17.3 +0.5
GUNZ ePKPbc PKiKP 10 23 22.5 -0.2
GUNZ ePKPab PKPab 10 23 29.8 +0.4
DEV Deva 149.45 329 ⇑iP PKPbc 10 23 22.5 -0.3
UBBA Unterbreizbach 149.46 349 ePKPdf PKPdf 10 23 17.1 +0.5
UBBA ePKPbc PKPbc 10 23 21.7 -0.2
NKC Novy Kostel 149.51 346 ⇑iPKP PKPbc 10 23 22.4 +0.2
NKC ePKPAB PKPab 10 23 29.3 -0.5
TREC Trest 149.55 341 ⇑iPKP PKPbc 10 23 22.4 +0.1
ISP Isparta 149.58 310 ePKPdf PKPbc 10 23 22.0 -0.9
ZIMR 149.73 324 ⇓PKHKP PKPbc 10 23 23.2 +0.3
SIRR Siria 149.75 331 ⇓iP PKPbc 10 23 23.1 +0.2
JMB Yambol 149.78 321 ⇓PKHKP PKPbc 10 23 23.7 +0.7
MANZ Manzenberg 149.81 346 ePKPdf PKPdf 10 23 17.8 +0.4
MANZ ePKPbc PKPbc 10 23 23.0 +0.1
BUD Budapest 149.89 335 ⇓e PKPbc 10 23 23.1 0.0
ROTZ Rotzenmuhle 150.00 346 ePKPbc PKPbc 10 23 23.7 +0.4
PKSN Nyarlorinc 150.03 334 ⇓e PKPbc 10 23 23.3 -0.2
BEBN Eben Emael 150.07 354 PKP PKPdf 10 23 18.0 +0.3
BEBN PKPbc PKPbc 10 23 23.3 -0.1
BEBN PKPab PKPab 10 23 31.8 +0.2
HGN Heimansgroeve 150.08 354 ePKPdf PKPdf 10 23 17.8 +0.1
comp=Z,23nm,1.2s
HGN ePKPbc PKPbc 10 23 23.4 -0.1
comp=Z,90nm,0.9s
HGN ePKPab PKPab 10 23 31.7 -0.4
comp=Z,82nm,0.8s
BNT Bandirma 150.15 316 eP PKPdf 10 23 18.4 +0.2
PKSG 150.21 336 ⇓e PKPbc 10 23 23.5 -0.4
MEM Membach 150.22 354 PKP PKPdf 10 23 18.0 +0.1
MEM PKPbc PKPbc 10 23 23.7 -0.2
MEM PKPab PKPab 10 23 32.4 -0.3
MEM Membach 150.22 354 ePKIKP PKPdf 10 23 18.6 +0.6
MEM Membach 150.22 354 ePKPdf PKPdf 10 23 18.6 +0.6
KHC Kasperske Hory 150.24 343 ePKIKP PKPdf 10 23 17.7 -0.4
KHC e 10 23 33.3
KHC Kasperske Hory 150.24 343 ePKPDF PKPdf 10 23 17.7 -0.4
KHC ⇑iPKP PKPbc 10 23 24.2 +0.2
KHC ePKPAB PKPab 10 23 33.3 +0.3
KHC epPKP pPKPdf 10 25 45.9 +6.6
KHC Kasperske Hory 150.24 343 ePKPdf PKPdf 10 23 17.8 -0.4
BZS Buzias 150.26 330 ⇓PKIKP PKPbc 10 23 24.0 -0.1
CSKK Cs˘‡kako 150.28 336 ⇓e PKPbc 10 23 23.7 -0.4
GRF Grafenberg Arr 150.29 347 ePKPab PKPab 10 23 33.7 +0.6
TNS Taunus Mts 150.29 350 ePKPdf PKPdf 10 23 18.4 +0.2
TNS ePKPbc PKPbc 10 23 24.2 +0.1
WET Wettzell 150.41 344 ePKPab PKPab 10 23 35.4 +1.7
PKST T˘s 150.45 336 ⇓e PKPbc 10 23 23.9 -0.6
SNF Seneffe 150.47 356 PKP PKPdf 10 23 18.4 +0.1
SNF PKPbc PKPbc 10 23 24.2 -0.1
SNF PKPab PKPab 10 23 33.5 -0.3
GEC2 GERESS Array S 150.47 343 ePKPbc PKPbc 10 23 24.5 -0.2
GERES GERESS Array B 150.47 343 PKP PKPdf 10 23 18.4 -0.2
GERES PKPbc PKPbc 10 23 24.4 -0.2
GERES GERESS Array B 150.47 343 PKP PKPdf 10 23 18.4 -0.2
comp=Z,2.4nm,0.7s,baz=78,slow=1.0,SNR=24
GERES PKPbc PKPbc 10 23 24.4 -0.2
comp=Z,45nm,0.7s,baz=24,slow=2.5,SNR=164
BCLA Clavier 150.48 355 PKP PKPdf 10 23 18.4 0.0
BCLA PKPbc PKPbc 10 23 24.1 -0.3
BCLA PKPab PKPab 10 23 33.0 -0.9
MENF Mencas 150.51 359 PKP PKPdf 10 23 15.7 -2.7
PKS2 Kecel 150.62 334 ⇓e PKPbc 10 23 25.0 +0.2
SOP Sopron 150.62 338 ⇓e PKPbc 10 23 25.0 +0.2
CONA Conrad Observa 150.64 340 ⇑iPKPdf PKPdf 10 23 18.6 -0.2
comp=Z,8.4nm,1.1s
CONA i PKiKP PKPbc 10 23 25.1 +0.1
comp=Z,94nm,0.7s,SNR=30
CONA ⇑iPKPab PKPab 10 23 35.6 +0.9
comp=Z,63nm,1.0s
GIVF Givet 150.84 355 ePKIKP PKPdf 10 23 18.2 -0.7
GIVF Givet 150.84 355 ePKIKP PKPdf 10 23 18.2 -0.7
GIVF Givet 150.84 355 ePKPdf PKPdf 10 23 18.2 -0.7
DOU Dourbes 150.86 355 PKP PKPdf 10 23 18.2 -0.7
DOU PKPbc PKPbc 10 23 25.4 +0.1
DOU PKPab PKPab 10 23 34.6 -0.8
AKAS Kas 150.90 308 i P PKPbc 10 23 25.3 -0.7
PKS9 Tamasi 150.92 335 ⇓e PKPbc 10 23 25.1 -0.4
BAIF Baives 150.92 356 ePKIKP PKPdf 10 23 18.3 -0.7
BAIF Baives 150.92 356 ePKIKP PKPdf 10 23 18.3 -0.7
BAIF Baives 150.92 356 ePKPdf PKPdf 10 23 18.3 -0.7
KDZ Kurdzhali 150.96 321 ⇓PKIKP PKPbc 10 23 25.8 0.0
PKSM Moragy 151.08 334 ⇑PKIKP PKPbc 10 23 26.0 +0.1
PKSM Moragy 151.08 334 ⇑iP PKPbc 10 23 26.0 +0.1
PKSM Moragy 151.08 334 ⇓e PKPbc 10 23 25.6 -0.3
FETY Fethiye 151.12 309 eP PKPbc 10 23 23.1 -3.2
WLF Walferdange 151.14 353 PKP PKPdf 10 23 20.1 +0.8
WLF PKPbc PKiKP 10 23 26.5 +0.2
WLF PKPab PKPab 10 23 36.7 0.0
WLF Walferdange 151.14 353 ePKIKP PKPdf 10 23 20.2 +0.8
WLF Walferdange 151.14 353 ePKPdf PKPdf 10 23 20.4 +1.0
WLF ePKPbc PKiKP 10 23 26.4 +0.1
WLF Walferdange 151.14 353 ePKPdf PKPdf 10 23 20.2 +0.8
ARSA Arzberg 151.35 339 ⇓iPKPdf PKPdf 10 23 20.4 +0.6
comp=Z,5.5nm,0.9s
ARSA i PKPbc PKPbc 10 23 26.0 -0.5
comp=Z,27nm,0.9s,SNR=7.6
ARSA ⇑iPKPab PKPab 10 23 38.1 +0.5
comp=Z,37nm,1.0s
AYDB Zeytinkoy-Aydi 151.38 312 eP PKPbc 10 23 25.6 -1.5
STU Stuttgart 151.57 349 ePKIKP PKPdf 10 23 20.3 +0.2
STU Stuttgart 151.57 349 ePKPdf PKPdf 10 23 20.2 +0.2
STU ePKPbc PKPbc 10 23 26.8 -0.1
STU ePKPab PKPab 10 23 38.2 -0.3
STU Stuttgart 151.57 349 ePKPdf PKPdf 10 23 20.3 +0.2
BEHE Becsehely 151.59 337 ⇓e PKPbc 10 23 27.0 -0.1
IZM Izmir 151.59 313 eP PKPbc 10 23 25.3 -2.1
LANF Langenberg 151.60 351 PKP PKPdf 10 23 20.7 +0.6
VTS Vitosha 151.62 324 ⇓PKIKP PKPbc 10 23 27.5 0.0
FUR Furstenfeldbru 151.71 346 ePKPab PKPab 10 23 39.5 +0.3
RJOB Jochberg 151.73 343 ePKPbc PKPbc 10 23 27.0 -0.4
RJOB ePKPab PKPab 10 23 39.9 +0.6
PRK Paraskevi 151.81 316 eP PKPbc 10 23 27.4 -0.4
MMB Musomiste 151.98 322 ⇓PKIKP PKPbc 10 23 27.9 -0.3
ARG Arkhangelos 152.00 309 eP PKPbc 10 23 25.8 -2.5
SOKA Soboth 152.01 339 ⇑iPKPdf PKPdf 10 23 20.1 -0.8
comp=Z,6.2nm,1.2s
SOKA i PKPbc PKPbc 10 23 27.4 -0.7
comp=Z,48nm,1.0s,SNR=13
SOKA ⇓iPKPab PKPab 10 23 39.8 -0.8
comp=Z,54nm,1.2s
PERS Pernice 152.02 339 ePKPdf PKPdf 10 23 20.2 -0.7
PERS i PKPbc PKPbc 10 23 27.3 -0.8
PERS i PKPab PKPab 10 23 40.2 -0.4
BFO Black Forest 152.15 350 ePKIKP PKPdf 10 23 21.0 0.0
BFO e 10 23 27.5
BFO Black Forest 152.15 350 ePKPbc PKPbc 10 23 28.0 -0.3
BFO ePKPab PKPab 10 23 40.1 -0.3
BFO Black Forest 152.15 350 ePKPdf PKPdf 10 23 21.0 0.0
BFO ePKPbc PKPbc 10 23 27.5 -0.8
DIVS Divibare 152.16 330 P PKPbc 10 23 28.0 -0.5
KBA Koelnbreinsper 152.18 342 ⇑iPKPdf PKPdf 10 23 20.2 -1.1
comp=Z,12nm,1.3s
KBA i PKPbc PKPbc 10 23 27.3 -1.2
comp=Z,60nm,1.0s,SNR=8.7
KBA ⇓iPKPab PKPab 10 23 42.3 +1.0
comp=Z,21nm,0.6s
BODT Bodrum 152.21 311 eP PKPbc 10 23 27.3 -1.5
SMG Samos 152.23 312 eP PKPbc 10 23 28.1 -0.7
CDF Champ du Feu 152.23 351 ePKIKP PKPdf 10 23 21.4 +0.2
CDF Champ du Feu 152.23 351 ePKIKP PKPdf 10 23 21.4 +0.2
CDF Champ du Feu 152.23 351 ePKPdf PKPdf 10 23 21.4 +0.2
PAGF Fort de Pagny 152.28 353 ePKIKP PKPdf 10 23 21.8 +0.7
PAGF Fort de Pagny 152.28 353 ePKPdf PKPdf 10 23 21.8 +0.7
FLN La Foliniere 152.29 2 ePKIKP PKPdf 10 23 21.1 0.0
FLN La Foliniere 152.29 2 ePKIKP PKPdf 10 23 21.1 0.0
FLN La Foliniere 152.29 2 ePKPdf PKPdf 10 23 21.1 0.0
OBKA Obir 152.32 340 ⇑iPKPbc PKPbc 10 23 28.3 -0.5
comp=Z,17nm,0.8s
SRS Serrai 152.37 321 P PKPab 10 23 41.9 -0.3
MEZF Maizieres J'vi 152.40 354 ePKIKP PKPdf 10 23 22.2 +0.9
MEZF Maizieres J'vi 152.40 354 ePKPdf PKPdf 10 23 22.2 +0.9
CHOS Chios island 152.41 314 eP PKPbc 10 23 28.8 -0.4
WATA Walderalm 152.42 345 ⇑iPKPdf PKPdf 10 23 21.0 -0.6
comp=Z,14nm,1.1s
WATA i PKPbc PKPbc 10 23 28.6 -0.5
comp=Z,58nm,1.0s,SNR=11
WATA ⇓iPKPab PKPab 10 23 41.8 -0.6
comp=Z,44nm,1.0s
RETA Reutte 152.47 346 ⇑iPKPdf PKPdf 10 23 20.6 -0.9
comp=Z,8.4nm,1.1s
RETA i PKPbc PKPbc 10 23 28.8 -0.3
comp=Z,22nm,0.7s,SNR=5.4
RETA ⇓iPKPab PKPab 10 23 42.1 -0.4
comp=Z,71nm,1.1s
LDF La Druitiere 152.47 2 ePKIKP PKPdf 10 23 21.3 -0.1
LDF La Druitiere 152.47 2 ePKIKP PKPdf 10 23 21.3 -0.1
LDF La Druitiere 152.47 2 ePKPdf PKPdf 10 23 21.3 -0.1
MYKA Terra Mystica 152.49 341 ⇑iPKPdf PKPdf 10 23 20.3 -1.3
comp=Z,7.3nm,1.0s
MYKA i PKPbc PKPbc 10 23 28.2 -1.0
comp=Z,36nm,0.6s,SNR=11
MYKA ⇑iPKPab PKPab 10 23 41.9 -0.7
comp=Z,30nm,0.8s
ROSF Rostrenen 152.52 6 ePKIKP PKPdf 10 23 21.2 -0.3
comp=Z,91nm,1.4s
ROSF Rostrenen 152.52 6 ePKIKP PKPdf 10 23 21.2 -0.3
ROSF Rostrenen 152.52 6 ePKPdf PKPdf 10 23 21.2 -0.3
MOTA Moosalm 152.52 345 ⇓iPKPdf PKPdf 10 23 20.3 -1.5
comp=Z,14nm,1.0s
MOTA i PKiKP PKPbc 10 23 29.0 -0.3
comp=Z,55nm,0.9s,SNR=10
MOTA ⇑iPKPab PKPab 10 23 42.7 -0.1
comp=Z,43nm,0.8s
THEF They Montfort 152.58 353 PKP PKPdf 10 23 22.0 +0.4
GRR Gorron 152.65 3 ePKIKP PKPdf 10 23 21.8 +0.2
GRR Gorron 152.65 3 ePKIKP PKPdf 10 23 21.8 +0.2
GRR Gorron 152.65 3 ePKPdf PKPdf 10 23 21.8 +0.2
SGMF Saint Gilles 152.67 5 ePKIKP PKPdf 10 23 21.8 +0.1
comp=Z,73nm,1.3s
SGMF Saint Gilles 152.67 5 ePKIKP PKPdf 10 23 21.8 +0.1
SGMF Saint Gilles 152.67 5 ePKPdf PKPdf 10 23 21.8 +0.1
SFTF Sexfontaines 152.70 354 ePKIKP PKPdf 10 23 22.5 +0.8
comp=Z,43nm,0.9s
SFTF Sexfontaines 152.70 354 ePKPdf PKPdf 10 23 22.5 +0.8
ABTA Abfaltersbach 152.71 343 ⇑iPKPdf PKPdf 10 23 21.0 -0.9
comp=Z,30nm,1.1s
ABTA ⇓iPKPbc PKPbc 10 23 28.8 -0.8
comp=Z,71nm,0.6s
ABTA ⇑iPKPab PKPab 10 23 42.3 -1.2
comp=Z,59nm,1.2s
KNT Kendrikon 152.74 322 P PKPab 10 23 43.7 -0.1
LJU Ljubljana 152.74 339 ePKPdf PKPdf 10 23 21.9 0.0
LJU i PKPbc PKPbc 10 23 29.3 -0.3
LJU i 10 23 36.7
LJU i PKPab PKPab 10 23 42.9 -0.7
HAU Haudompre 152.75 352 ePKIKP PKPdf 10 23 22.2 +0.3
HAU Haudompre 152.75 352 ePKIKP PKPdf 10 23 22.2 +0.3
HAU Haudompre 152.75 352 ePKPdf PKPdf 10 23 22.2 +0.3
MOF Molkenrain 152.80 351 PKP PKPdf 10 23 20.5 -1.5
VAY Valandovo 152.82 323 P PKPbc 10 23 43.7 -0.4
VAY Valandovo 152.82 323 ePKP PKPdf 10 23 23.6 +1.5
DAVA Damuels 152.85 347 ⇑iPKPdf PKPdf 10 23 22.0 -0.2
comp=Z,14nm,1.0s
DAVA i PKPbc PKPbc 10 23 29.6 -0.4
comp=Z,47nm,1.1s,SNR=5.2
DAVA ⇑iPKPab PKPab 10 23 44.2 0.0
comp=Z,47nm,0.8s
HINF Hinteralfeld 152.87 352 ePKIKP PKPdf 10 23 22.3 +0.2
HINF Hinteralfeld 152.87 352 ePKIKP PKPdf 10 23 22.3 +0.2
HINF Hinteralfeld 152.87 352 ePKPdf PKPdf 10 23 22.3 +0.2
FETA Feichten 152.92 345 ⇓iPKPdf PKPdf 10 23 22.1 -0.3
comp=Z,28nm,1.0s,SNR=20
FETA ⇑iPKiKP PKiKP 10 23 30.3 +0.1
comp=Z,40nm,0.9s
FETA ⇑iPKPab PKPab 10 23 44.4 -0.1
comp=Z,49nm,1.2s
PLG Polygyros 152.92 320 eP PKPbc 10 23 28.9 -1.3
BOJS Bojanci 152.96 338 i PKPdf PKPdf 10 23 22.1 -0.1
BOJS i PKPbc PKiKP 10 23 30.2 0.0
BOJS ePKPab PKPab 10 23 43.9 -0.6
SKO Skopje 152.99 325 P PKPbc 10 23 29.0 -1.3
SKO Skopje 152.99 325 i PKP PKPbc 10 23 29.9 -0.4
LOMF Lomont 153.33 351 PKP PKPdf 10 23 18.8 -4.0
DAVOX Davos/Dischmat 153.34 347 PKP PKPdf 10 23 22.9 -0.1
DAVOX PKPbc PKiKP 10 23 31.4 +0.3
DAVOX PKPab PKPab 10 23 46.3 -0.1
DAVOX Davos/Dischmat 153.34 347 PKP PKPdf 10 23 22.9 -0.1
comp=Z,11nm,0.8s,baz=139,slow=1.8,SNR=18
DAVOX PKPbc PKiKP 10 23 31.4 +0.3
comp=Z,52nm,0.6s,baz=275

NVLJ	Novalja	153.91	337	P		PKPbc	10 23 31.4	-0.7
SSF	Saint Saulge	153.95	356	*e*PKIKP		PKPdf	10 23 24.5	+0.9
	comp=Z,24nm,0.9s							
SSF	Saint Saulge	153.95	356	*e*PKP1		PKPbc	10 23 32.0	-0.2
SSF	Saint Saulge	153.95	356	*e*PKP2		PKPab	10 23 47.9	-0.8
SSF	Saint Saulge	153.95	356	*e*PKIKP		PKPdf	10 23 24.5	+0.9
SSF				*e*			10 23 47.9	
SSF	Saint Saulge	153.95	356	*e*PKPdf		PKPdf	10 23 24.5	+0.9
SSF				*e*PKPbc		PKPbc	10 23 32.0	-0.2
SSF				*e*PKPab		PKPab	10 23 47.9	-0.8
SMIA	Simia	153.98	318	*e*P		PKPbc	10 23 30.9	-1.6
CABF	La Chapelle	154.16	352	*e*PKIKP		PKPdf	10 23 24.5	+0.5
	comp=Z,50nm,1.0s							
CABF	La Chapelle	154.16	352	*e*PKIKP		PKPdf	10 23 24.5	+0.5
CABF	La Chapelle	154.16	352	*e*PKPdf		PKPdf	10 23 24.5	+0.5
STON	Ston	154.16	331	P		PKPbc	10 23 31.0	-1.7
SENIN	Lac Senin/Sane	154.22	350	*e*PKPab		PKPab	10 23 49.7	-0.4
NPS	Neapolis	154.25	309	*e*P		PKPbc	10 23 32.5	-0.7
NEST	Nestorio	154.28	323	P		PKPab	10 23 50.2	-0.3
OG01	Vacheresse	154.35	351	PKP		PKPdf	10 23 26.4	+2.2
AXAR	Agios Charalam	154.39	318	P		PKPbc	10 23 31.8	-1.6
AGG	Agios Georgios	154.44	319	*e*P		PKPbc	10 23 32.3	-1.2
NAIG	Nisos Aigina	154.45	316	*e*P		PKPbc	10 23 30.4	-3.1
MFF	Saint Martin d	154.46	2	*e*PKIKP		PKPdf	10 23 24.6	+0.3
	comp=Z,35nm,1.0s							
MFF	Saint Martin d	154.46	2	*e*PKIKP		PKPdf	10 23 24.6	+0.3
MFF	Saint Martin d	154.46	2	*e*PKPdf		PKPdf	10 23 24.6	+0.3
BGF	Bois d'Agland	154.49	357	*e*PKIKP		PKPdf	10 23 24.3	0.0
BGF	Bois d'Agland	154.49	357	*e*PKIKP		PKPdf	10 23 24.3	0.0
BGF	Bois d'Agland	154.49	357	*e*PKPdf		PKPdf	10 23 24.3	0.0
MAKR	Makrakomi, Fth	154.56	319	P		PKPbc	10 23 32.8	-1.0
MAKR	Makrakomi, Fth	154.56	319	*e*P		PKPbc	10 23 32.8	-1.0
MEV	Metsovon	154.60	322	P		PKPbc	10 23 34.0	0.0
LTK	Loutraki	154.64	317	*e*P		PKPbc	10 23 32.6	-1.3
DSF	Desfina	154.69	318	*e*P		PKPbc	10 23 32.9	-1.2
DID	Didima	154.76	315	*e*P		PKPbc	10 23 32.8	-1.4
IDI	Anoyia	154.77	309	PKP		PKPdf	10 23 25.0	-0.1
IDI				PKPbc		PKPbc	10 23 34.7	+0.4
IDI	Anoyia	154.77	309	PKP		PKPdf	10 23 25.0	-0.1
	comp=Z,18nm,1.0s,baz=105,slow=12,SNR=3.2							
IDI				PKPbc		PKPbc	10 23 34.7	+0.4
	comp=Z,14nm,0.7s,baz=59,slow=7.5,SNR=7.1							
TCF	Toulx Ste Croi	154.78	358	*e*PKIKP		PKPdf	10 23 24.7	-0.1
TCF	Toulx Ste Croi	154.78	358	*e*PKIKP		PKPdf	10 23 24.7	-0.1
TCF	Toulx Ste Croi	154.78	358	*e*PKPdf		PKPdf	10 23 24.7	-0.1
EVR	Evrytania	154.82	320	*e*P		PKPbc	10 23 32.2	-2.2
KALE	Kalithea	154.94	318	*e*P		PKPbc	10 23 33.9	-0.7
EFP	Efpalio	155.06	319	*e*P		PKPdf	10 23 34.7	+9.4
LAKA	Lakka	155.13	318	*e*P		PKPdf	10 23 34.6	+9.1
LPL	La Plagne	155.14	351	*e*PKIKP		PKPdf	10 23 26.2	+0.7
LPL	La Plagne	155.14	351	*e*PKIKP		PKPdf	10 23 26.2	+0.7
LPL	La Plagne	155.14	351	*e*PKPdf		PKPdf	10 23 26.2	+0.7
LPG	La Plagne	155.15	351	*e*PKIKP		PKPdf	10 23 26.3	+0.7
	comp=Z,11nm,0.9s							
LPG	La Plagne	155.15	351	*e*PKIKP		PKPdf	10 23 26.3	+0.7
LPG	La Plagne	155.15	351	*e*PKPdf		PKPdf	10 23 26.3	+0.7
PYM	Petit Puy Mans	155.29	357	PKP		PKPdf	10 23 25.0	-0.5
PDO	Prodromos	155.40	320	*e*P		PKPdf	10 23 34.9	+9.1
DRO	Drossia	155.48	318	*e*P		PKPdf	10 23 36.7	+11
BNI	Bardonecchia	155.60	350	*e*PKIKP		PKPdf	10 23 26.3	+0.3
BNI				*e*			10 23 56.3	
BNI	Bardonecchia	155.60	350	*e*PKPdf		PKPdf	10 23 26.3	+0.3
BNI				*e*PKPab		PKPab	10 23 56.3	+0.3
SSB	Saint Sauveur	155.65	354	*e*PKIKP		PKPdf	10 23 25.7	-0.2
SSB	Saint Sauveur	155.65	354	*e*PKPdf		PKPdf	10 23 25.7	-0.2
RJF	Les Rejaudoux	155.78	359	*e*PKIKP		PKPdf	10 23 25.3	-0.8
	comp=Z,29nm,1.0s							
RJF	Les Rejaudoux	155.78	359	*e*PKIKP		PKPdf	10 23 25.3	-0.8
RJF	Les Rejaudoux	155.78	359	*e*PKPdf		PKPdf	10 23 25.3	-0.8
LBL	Lubilhac	155.79	356	PKP		PKPdf	10 23 26.6	+0.4
ITM	Ithomi	155.80	316	*e*P		PKPdf	10 23 35.6	+9.2
ORIF	Oris-en-Rattie	155.85	352	*e*PKIKP		PKPdf	10 23 25.6	-0.7
	comp=Z,9.3nm,0.8s							
ORIF	Oris-en-Rattie	155.85	352	*e*PKIKP		PKPdf	10 23 25.6	-0.7
ORIF	Oris-en-Rattie	155.85	352	*e*PKPdf		PKPdf	10 23 25.6	-0.7
MBDF	Montbardon	155.90	350	*e*PKIKP		PKPdf	10 23 26.9	+0.4
MBDF	Montbardon	155.90	350	*e*PKIKP		PKPdf	10 23 26.9	+0.4
MBDF	Montbardon	155.90	350	*e*PKPdf		PKPdf	10 23 26.9	+0.4
VIVF	Saint-Julien-l	156.05	354	*e*PKIKP		PKPdf	10 23 25.9	-0.6
	comp=Z,30nm,1.1s							
VIVF	Saint-Julien-l	156.05	354	*e*PKIKP		PKPdf	10 23 25.9	-0.6
VIVF	Saint-Julien-l	156.05	354	*e*PKPdf		PKPdf	10 23 25.9	-0.6
PYL	PYLOS	156.09	316	*e*P		PKPdf	10 23 35.7	+9.0
CAF	Calviac	156.15	358	*e*PKIKP		PKPdf	10 23 27.4	+0.8
	comp=Z,42nm,1.2s							
CAF	Calviac	156.15	358	*e*PKIKP		PKPdf	10 23 27.4	+0.8
CAF	Calviac	156.15	358	*e*PKPdf		PKPdf	10 23 27.4	+0.8
SMRF	Simiane la Rot	156.81	352	*e*PKIKP		PKPdf	10 23 27.2	-0.3
	comp=Z,43nm,1.1s							
SMRF	Simiane la Rot	156.81	352	*e*PKPdf		PKPdf	10 23 27.2	-0.3
LASF	Ste Croix	156.90	355	*e*PKIKP		PKPdf	10 23 27.1	-0.5
	comp=Z,44nm,1.1s							
LASF	Ste Croix	156.90	355	*e*PKPdf		PKPdf	10 23 27.1	-0.5
LMR	La Mourre	157.30	350	*e*PKIKP		PKPdf	10 23 28.1	+0.1
	comp=Z,63nm,1.2s							
LMR	La Mourre	157.30	350	*e*PKIKP		PKPdf	10 23 28.1	+0.1
LMR	La Mourre	157.30	350	*e*PKPdf		PKPdf	10 23 28.1	+0.1
TIP	Timpagrande	157.47	327	*e*PKPdf		PKPdf	10 23 28.1	-0.4
TIP				*e*PKPab		PKPab	10 24 04.2	0.0
MTLF	Montolieu	157.73	358	*e*PKIKP		PKPdf	10 23 27.8	-0.8
	comp=Z,43nm,1.3s							
MTLF	Montolieu	157.73	358	*e*PKIKP		PKPdf	10 23 27.8	-0.8
MTLF	Montolieu	157.73	358	*e*PKPdf		PKPdf	10 23 27.8	-0.8
PCAB	Cabril	157.97	19	*e*PKPab		PKPab	10 24 06.5	+0.2
EPF	Esparros	158.05	2	*e*PKIKP		PKPdf	10 23 29.7	+0.6
EPF	Esparros	158.05	2	*e*PKIKP		PKPdf	10 23 29.7	+0.6
EPF	Esparros	158.05	2	*e*PKPdf		PKPdf	10 23 29.7	+0.6
ETSF	Etsaut	158.14	3	*e*PKIKP		PKPdf	10 23 29.7	+0.5
	comp=Z,22nm,1.0s							
ETSF	Etsaut	158.14	3	*e*PKIKP		PKPdf	10 23 29.7	+0.5
ETSF	Etsaut	158.14	3	*e*PKPdf		PKPdf	10 23 29.7	+0.5
PBRG	Braganca	158.24	16	*e*PKPab		PKPab	10 24 07.6	+0.1
POLO	Lamas de Olo	158.35	18	*e*PKPab		PKPab	10 24 08.1	+0.1
PVRL	Vila Real	158.47	18	*e*PKPab		PKPab	10 24 09.1	+0.6
MVO	Moncorvo	158.76	17	*e*PKPdf		PKPdf	10 23 30.7	+0.7
MVO	Moncorvo	158.76	17	*e*PKPab		PKPab	10 24 09.8	0.0
PTOM	Tomar	159.75	22	*e*PKPab		PKPab	10 24 13.7	-0.3
PCBR	Castelo Branco	159.85	20	*e*PKPdf		PKPdf	10 23 31.6	+0.5
PMRV	Marv??o	160.25	20	*e*PKPdf		PKPdf	10 23 32.0	+0.4
PMRV	Marv??o	160.25	20	*e*PKPab		PKPab	10 24 16.1	-0.2
PMTG	Montargil	160.30	22	*e*PKPdf		PKPdf	10 23 31.7	0.0
PMTG	Montargil	160.30	22	*e*PKPab		PKPab	10 24 15.8	-0.7
PESTR	Estremoz	160.70	21	*e*PKPab		PKPab	10 24 17.8	-0.5
EVOP	Sao Brissos	160.82	23	*e*PKIKP		PKPdf	10 23 32.0	-0.2
EVOP	Sao Brissos	160.82	23	*e*PKPdf		PKPdf	10 23 32.0	-0.2
EVO	Evora	160.85	22	*e*PKIKP		PKPdf	10 23 32.0	-0.3
	comp=Z,21nm,1.0s							
EVO	Evora	160.85	22	*e*PKPab		PKPab	10 24 18.6	-0.3
ESDC	Sonseca Array	160.91	12	PKP		PKPdf	10 23 32.5	+0.1
ESDC				PKPab		PKPab	10 24 18.8	-0.4
ESDC	Sonseca Array	160.91	12	PKP		PKPdf	10 23 32.5	+0.1
	comp=Z,0.8nm,0.5s,baz=350,slow=3.0,SNR=5.9							
ESDC				PKPab		PKPab	10 24 18.8	-0.4
	comp=Z,15nm,1.0s,baz=345,slow=4.1,SNR=24							
PAB	San Pablo	160.95	13	*e*PKIKP		PKPdf	10 23 33.1	+0.6
PAB	San Pablo	160.95	13	*e*PKPdf		PKPdf	10 23 33.1	+0.6
PNCL	Nicolau / Gran	161.03	24	*e*PKPdf		PKPdf	10 23 33.1	+0.6
PNCL	Nicolau / Gran	161.03	24	*e*PKPab		PKPab	10 24 19.2	-0.5
PBEJ	Beja	161.36	23	*e*PKPdf		PKPdf	10 23 34.3	+1.5
PCVE	Castro Verde	161.64	24	*e*PKPab		PKPab	10 24 22.4	0.0
MORF	Marmelete	161.69	26	*e*PKPdf		PKPdf	10 23 34.4	+1.2
PVAQ	Vaqueiros	161.96	23	*e*PKPab		PKPab	10 24 23.8	0.0
PBDV	Barranco-do-Ve	162.02	24	*e*PKPdf		PKPdf	10 23 34.9	+1.3
KEST	Kesra	163.67	336	PKPab		PKPab	10 24 31.2	-0.2
KEST	Kesra	163.67	336	PKPab		PKPab	10 24 31.2	-0.2
	comp=Z,14nm,0.9s,baz=335,slow=1.4,SNR=21							
LIC	Lamto	164.13	157	*e*PKIKP		PKPdf	10 23 35.3	-0.9
	comp=Z,74nm,1.0s							
LIC	Lamto	164.13	157	*e*PKIKP		PKPdf	10 23 35.4	-0.8
	comp=Z,96nm,1.0s							
LIC	Lamto	164.13	157	*e*PKPdf		PKPdf	10 23 35.3	-0.9
KIC	Kosan Boka	164.35	158	*e*PKIKP		PKPdf	10 23 35.4	-1.0
	comp=Z,67nm,0.9s							
TIC	Toumodi	164.52	157	*e*PKIKP		PKPdf	10 23 35.7	-0.8
	comp=Z,66nm,0.9s							
DBIC	Dimbokro	164.60	157	PKP		PKPdf	10 23 36.2	-0.3
DBIC	Dimbokro	164.60	157	PKP		PKPdf	10 23 36.2	-0.3
	comp=Z,20nm,0.9s,baz=148,slow=1.0,SNR=20							
MDT	Midelt	167.19	22	PKP		PKPdf	10 23 38.7	+0.4
MDT				PKPab		PKPab	10 24 47.7	+0.5
MDT	Midelt	167.19	22	PKP		PKPdf	10 23 38.7	+0.4
	comp=Z,11nm,1.0s,baz=317,slow=2.0,SNR=7.9							
MDT				PKPab		PKPab	10 24 47.7	+0.5
	comp=Z,9.3nm,0.9s,baz=310,slow=5.8,SNR=8.0							
TORD	Torodi Ar. Bea	172.15	184	PKP		PKPdf	10 23 40.4	-1.0
TORD				PKPab		PKPab	10 25 08.9	-0.3
TORD				pPKPab		pPKPab	10 27 20.6	-1.1
TORD	Torodi Ar. Bea	172.15	184	PKP		PKPdf	10 23 40.4	-1.0
	comp=Z,12nm,0.8s,baz=335,slow=0.7,SNR=71							
TORD				PKPab		PKPab	10 25 08.9	-0.3
	comp=Z,1.3nm,0.9s,baz=143,slow=5.9,SNR=3.5							
TORD				pPKPab		pPKPab	10 27 20.6	-1.1
	comp=Z,4.6nm,1.1s,baz=168,slow=2.4,SNR=4.9							
TAM	Tamanrasset	175.55	294	*e*PKIKP		PKPdf	10 23 43.0	+0.4
TAM	Tamanrasset	175.55	294	*e*PKPdf		PKPdf	10 23 43.0	+0.4

*IDC **04** 10:46:07.2±4.8, 36°.30N×71°.41E, h151km±41km, mb3.4/6, mb1 3.4/11, mb1mx3.2/30, mbtmp3.3/11, Error ellipse: s-maj=50.7km s-min=28.6km az=144.0*
*NNC **04** 10:46:16.7±3.4, 37°.04N×71°.27E, h107km±109km, mb3.5, mpv4.2, Error ellipse: s-maj=29.1km s-min=25.2km az=143.0*

ISC 04 10:46:09.3±1.9, 36°.6N±0°.2×71°.3E±0°.2, h150km, n28, σ1§79/30, mb3.8/6, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	Almayashu	5.82	18	P		Pn	10 47 35.1	+1.2
	SNR=124							
UCH	Uchtor	6.14	23	P		Pn	10 47 39.6	+1.4
	SNR=42							
KZA	Kyzart	6.26	28	P		Pn	10 47 41.9	+2.1
	SNR=10							
EKS2	Erkin-Say	6.34	17	P		Pn	10 47 42.4	+1.8
	SNR=27							
AAK	Ala-Archa	6.51	21	⇑P		Pn	10 47 44.9	+2.0
	4.7nm,0.3s							
AAK				⇓S		Sn	10 48 54.3	-1.8
	21nm,1.1s							
AAK	Ala-Archa	6.51	21	P		Pn	10 47 45.0	+2.2
	SNR=18							
AAK	Ala-Archa	6.51	21	P		Pn	10 47 45.1	+2.2
	6.1nm,0.3s,baz=161,slow=5.2,SNR=57							
AAK				S		Sn	10 48 53.7	-2.4
	0.7nm,0.3s,baz=134,slow=22,SNR=10.0							
KK31	Karatay Array	6.52	355	⇓P		Pn	10 47 44.3	+1.5
	6.4nm,0.2s,baz=182,slow=14,SNR=138							
KK31				S		Sn	10 48 52.9	-3.3
	15nm,0.6s,baz=180,slow=20,SNR=12							
KBK	Karagaybulak	6.67	24	P		Pn	10 47 47.4	+2.4
	SNR=9.0							
ULHL	Ulahol	6.81	33	P		Pn	10 47 48.9	+2.0
	SNR=6.7							
CHMS	Chumysh	6.92	22	P		Pn	10 47 49.7	+1.5
	SNR=6.5							
USP	Usenovka	7.09	19	P		Pn	10 47 52.0	+1.5
	SNR=6.2							
TKM2	Tokmak 2	7.12	26	⇓P		Pn	10 47 52.8	+1.7
	13nm,0.6s							
TKM2				⇑S		Sn	10 49 08.8	-2.2
	7.6nm,0.8s							
TKM2	Tokmak 2	7.12	26	P		Pn	10 47 53.3	+2.2
	SNR=13							
MK31	Makanchi Array	13.07	35	⇑P		P	10 49 13.9	-0.1
	0.7nm,0.5s,baz=206,slow=10,SNR=14							
MKAR	Makanchi Array	13.07	35	P		Pn	10 49 09.9	+0.7
	0.3nm,0.3s,baz=212,slow=11,SNR=9.5							
KURBB	Kurchatov Arra	14.95	18	⇓P		Pn	10 49 30.6	-2.3
	3.9nm,1.0s							
KURBB	Kurchatov Arra	14.95	18	P		Pn	10 49 30.7	-2.1
	0.2nm,0.3s,baz=208,slow=11,SNR=10.0							
KURK	Kurchatov	15.06	18	⇑P		Pn	10 49 30.6	-3.6
	1.6nm,1.3s							
BVAR	Borovoye Array	16.43	358	P		P	10 49 50.8	-0.3
	0.5nm,0.3s,baz=153,slow=9.5,SNR=14							
AKTO	Aktyubinsk	16.81	329	P		P	10 49 56.6	+1.3
	0.6nm,0.3s,baz=147,slow=6.9,SNR=7.5							
ZALV	Zalesovo Beam	19.72	24	P		P	10 50 26.7	-0.2
	0.5nm,0.3s,baz=216,slow=10,SNR=10.0							
GNI	Garni	21.09	288	P		P	10 50 40.9	-1.0
	2.1nm,0.3s,baz=84,slow=10,SNR=3.1							
AKASG	Malin Array Be	33.06	309	P		P	10 52 31.0	+0.6
	0.2nm,0.3s,baz=80,slow=7.9,SNR=4.5							
FINES	FINESS Array B	37.53	326	P		P	10 53 08.6	+0.2
	1.5nm,0.8s,baz=126,slow=9.7,SNR=4.5							
ARCES	ARCESS Array B	41.14	337	P		P	10 53 39.2	+1.0
	5.2nm,1.2s,baz=114,slow=10.0,SNR=4.2							
NOA	NORSAR Array B	44.44	323	P		P	10 54 04.8	-0.2
	0.6nm,0.7s,baz=102,slow=7.6,SNR=3.1							
TORD	Torodi Ar. Bea	65.96	269	P		P	10 56 38.1	-1.6
	0.8nm,0.6s,baz=49,slow=5.8,SNR=9.2							

IDC 04 10:49:41.1±1.3, 20°.52N×145°.14E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=60.8km s-min=25.1km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.59	195	P		P	10 57 30.7	-0.2
	0.6nm,0.5s,baz=17,slow=8.7,SNR=9.5							
ASAR	Alice Springs	45.27	195	P		P	10 58 00.5	-0.2
	0.4nm,0.3s,baz=13,slow=6.6,SNR=12							
KURBB	Kurchatov Arra	59.62	317	P		P	10 59 46.9	+0.1
	0.1nm,0.4s,baz=92,slow=7.7,SNR=3.3							
YKA	Yellowknife Ar	76.63	28	P		P	11 01 33.4	0.0
	0.3nm,0.6s,baz=291,slow=5.6,SNR=4.2							

*DJA **04** 10:50:40.6±0.7, 8°.5S×10°.7E±°, h22km±8km, M3.5/11, MLv3.5/11*
*ISCJB **04** 10:50:41.9±1.9, 8°.1S±0°.2×107°.30E±0°.07, h62km, Error ellipse: s-maj=26.8km s-min=6.6km az=15.8*

ISC 04 10:50:40.5±1.3, 8°.22S±0°.07×107°.31E±0°.05, h62km, n15, σ0§95/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.82	38	P		Pn	10 50 55.2	-1.3
CISI	Cisompet, Garu	0.82	38	P		Pn	10 50 55.3	-1.1
	baz=0.2,SNR=36							
CISI				S		Sn	10 50 59.1	-9.1
	baz=0.2,SNR=6.4							
CMJI	Cimerak	1.21	69	P		Pn	10 51 00.6	-0.7
LEM	Lembang	1.41	13	P		Pn	10 51 04.8	+0.6
LEM	Lembang	1.41	13	P		Pn	10 51 04.9	+0.7
	baz=0.6,SNR=17							
SKJI	Sukabumi	1.41	328	P		Pn	10 51 04.7	+0.6
DBJI	Dramaga	1.74	341	P		Pn	10 51 08.8	+0.3
KPJI	Karang Pucung	1.83	62	P		Pn	10 51 10.5	+0.8
KPJI				S		Sn	10 51 32.2	+0.3
TGJI	Tegal	2.24	53	P		x	10 51 17.4	
CGJI	Cibinong	2.26	315	P		Pn	10 51 16.3	+0.8
CGJI				S		Sn	10 51 41.1	-1.2
BJII	Banjamegara	2.54	70	P		x	10 51 23.5	
XMI	Christmas Isla	2.74	216	P		Sn	10 51 53.8	-0.1
	baz=3.8,SNR=6.2							
XMIS	Christmas Isla	2.78	216	P		Sn	10 51 54.2	-1.0
	baz=3.9,SNR=6.5							
UGM	Wanagama	3.20	85	P		Pn	10 51 29.6	+1.2
UGM	Wanagama	3.20	85	P		Pn	10 51 33.5	+5.1
	baz=2.6,SNR=4.5							

*ISCJB **04** 11:06:48.8±0.4, 0°.98N±0°.06×100°.01E±0°.07, h214km±4km, mb3.5/10, Error ellipse: s-maj=13.3km s-min=7.1km az=136.0*
*IDC **04** 11:06:49.0±1.2, 0°.92N×100°.07E, h202km±8km, mb3.3/9, mb1 3.4/10, mb1mx3.3/25, mbtmp3.8/10, Error ellipse: s-maj=33.3km s-min=11.8km az=53.0*
*DJA **04** 11:06:52.0±0.5, 1°.1N±5°×10°.0E±°, h187km±7km, M3.5/10, MLv3.5/10*

ISC 04 11:06:49.6±0.8, 0°.98N±0°.08×100°.04E±0°.08, h207km±7km, n22, σ0§94/26, mb3.6/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.49	248	P		Pn	11 07 17.7	+0.2
MNSI				S		S	11 07 39.2	0.0
BKNI	Bangkinang	1.19	123	P		Pn	11 07 22.2	+0.7
PPI	Padang Panjang	1.47	166	P		Pn	11 07 24.0	+0.3
PDSI	Padang	1.93	167	P		Pn	11 07 28.0	0.0
PDSI				S		S	11 07 57.7	+0.1
PSI	Prapat	2.12	328	P		x	11 07 30.2	
PSI	Prapat	2.12	328	P		Pn	11 07 30.1	+0.1
	6.4nm,0.3s,baz=144,slow=8.7,SNR=26							
PSI				S		S	11 08 00.0	-1.2
	0.9nm,0.3s,baz=150,slow=20,SNR=7.0							
GSI	Gunungsitoli	2.48	277	P		Pn	11 07 35.3	+1.5
GSI				S		S	11 08 08.4	+0.7
KCSI	Kotacane, Aceh	3.39	318	P		Pn	11 07 45.2	+0.9
KCSI				S		S	11 08 24.9	-1.8
IPM	Ipoh	3.61	16	P		x	11 07 48.4	
TPTI		3.65	306	P		Pn	11 07 48.8	+1.5
MYKOM	Kota Tinggi	3.89	78	P		x	11 07 50.5	
TPRI	Tanjung Pinang	4.49	91	P		Pn	11 07 59.7	+1.9
WRA	Warramunga Arr	39.53	124	P		P	11 14 00.2	-0.5
	2.0nm,0.6s,baz=303,slow=9.0,SNR=26							
ASAR	Alice Springs	41.02	129	P		P	11 14 11.9	-1.1
	0.3nm,0.4s,baz=300,slow=7.5,SNR=15							
ASAR				ScP		ScP	11 19 38.2	-0.8
	0.3nm,1.0s,baz=306,slow=4.1,SNR=4.5							
KSRS	Korea Array	44.47	32	P		P	11 14 40.0	-0.3
	2.4nm,0.9s,baz=207,slow=7.5,SNR=4.0							
SONM	Songino Array	46.99	6	P		P	11 15 00.2	+0.2
	0.1nm,0.3s,baz=187,slow=10.0,SNR=2.6							
SONM				PcP		PcP	11 16 28.0	-0.9
	0.3nm,0.8s,baz=207,slow=0.3,SNR=3.9							
JCJ	Chichijima	48.04	54	P		P	11 15 08.2	-0.1
	56nm,0.8s,baz=342,slow=21,SNR=2.4							
MKAR	Makanchi Array	48.19	344	P		P	11 15 10.1	+0.9
	1.2nm,0.6s,baz=146,slow=8.1,SNR=14							
KURBB	Kurchatov Arra	52.73	343	P		P	11 15 43.7	+0.7
	0.8nm,0.6s,baz=159,slow=7.2,SNR=10							
ZALV	Zalesovo Beam	54.27	349	P		P	11 15 54.1	0.0
	0.5nm,0.4s,baz=162,slow=7.1,SNR=2.8							
BVAR	Borovoye Array	57.42	339	P		P	11 16 16.5	0.0
	1.2nm,0.5s,baz=132,slow=8.9,SNR=7.1							
FINES	FINESS Array B	81.51	332	P		P	11 18 44.2	+0.5
	1.6nm,0.9s,baz=129,slow=5.2,SNR=4.0							

IDC 04 11:07:21.5±46.0, 16°.00S×175°.87W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/19, mbtmp4.3/3, Error ellipse: s-maj=866.7km s-min=153.3km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.68	240	P		P	11 15 12.3	+0.2
	1.6nm,0.5s,baz=89,slow=12,SNR=16							
WRA	Warramunga Arr	47.39	257	P		P	11 15 57.6	-0.3
	1.0nm,0.5s,baz=94,slow=7.6,SNR=26							
ASAR	Alice Springs	47.66	252	P		P	11 15 59.6	-0.4
	10nm,0.5s,baz=88,slow=8.1,SNR=240							

*ISCJB **04** 11:09:42.0±0.8, 34°.32N±0°.07×70°.5E±0°.1, h50km, mb3.7/8, MS3.1/1, Error ellipse: s-maj=14.5km s-min=8.8km az=18.8*
*IDC **04** 11:09:44.6±5.3, 34°.29N×70°.60E, h61km±46km, mb3.5/8, mb1 3.5/12, mb1mx3.3/30, mbtmp3.4/12, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=

Plg19.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

BJI ***04*** *11:28:20.8, 7.˚94S×157.˚10E, h21km, mB6.1/35, mb5.7/66, Ms5.5/74, Ms7 5.3/65*

ISCJB ***04*** *11:28:21.8±0.1, 8.˚39S±0.˚02×157.˚04E±0.˚02, h33km, mb5.8/293, MS5.5/212, Error ellipse: s-maj=3.4km s-min=2.4km az=170.5*

MOS ***04*** *11:28:22.3±1.0, 8.˚28S×157.˚01E, h33km, mb6.2/58, MS5.5/45, Error ellipse: s-maj=6.9km s-min=5.9km az=90.0*

NEIC ***04*** *11:28:35.9±0.0, 8.˚22S×156.˚72E, h10km, Moment Tensor Solution. s102 Moment tensor: Scale 10^{17}Nm; M_{rr}3.78; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$-2.38; $M_{r\theta}$1.06; $M_{\theta\phi}$1.74; $M_{\phi r}$-1.72; Best double couple: M_o4.20000×10^{17} NP1:ϕ_s145.00000°, δ59.00000°, λ93.00000°. NP2:ϕ_s320.00000°, δ31.00000°, λ86.00000°. Principal axes: T 4.2900, Plg75.0000°, Azm62.0000°; N -0.1000, Plg2.0000°, Azm324.0000°; P -4.2100, Plg14.0000°, Azm233.0000°;*

ISC 04 11:28:22.3±0.3, 8.˚29S±0.˚03×157.˚21E±0.˚03, h28km±1km, h28km:pP-P, n1167, σ1s41/1189, mb5.9/275, MS5.5/212, 228C-173D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res	ISC
HNR	**Honiara**	**2.93**	**113**	Pn		**Pn**		**11 29 05.3**	**-1.7**	
HNR				Sn		**Sb**		**11 29 49.3**	**0.0**	
HNR	**Honiara**	**2.93**	**113**	Pn		**Pn**		**11 29 05.3**	**-1.7**	
	79nm,0.3s,baz=214,slow=8.5,SNR=24									
HNR				Sn		**Sb**		**11 29 49.3**	**0.0**	
	942nm,0.3s,baz=289,slow=23,SNR=15									
PMG	**Port Moresby**	**10.00**	**263**	P		x		11 30 46.4		
	228nm,1.3s,6μm23μm									
PMG	**Port Moresby**	**10.00**	**263**	*e*Pn		**Pn**		**11 30 43.8**	**-0.3**	
PMG	**Port Moresby**	**10.00**	**263**	Pn		Pn		11 30 39.9	-4.2	
	0.3nm,0.3s,baz=77,slow=13,SNR=1.9									
PMG				LR		LR		11 34 23.3		
	comp=Z,30μm,19.5s,baz=74,slow=37									
COEN	**Coen**	**14.88**	**247**	*e*Pn		**Pn**		**11 31 49.9**	**-0.9**	
COEN	**Coen**	**14.88**	**247**	*e*P		**Pn**		**11 31 50.2**	**-0.6**	
	baz=15,SNR=85									
PATS	**Pohnpei**	**15.07**	**4**	⇓P		**Pn**		**11 31 52.3**	**-1.0**	
	baz=15,SNR=29									
CTA	**Charters Tower**	**15.81**	**221**	Pn		**Pn**		**11 32 00.6**	**-2.5**	
CTA	**Charters Tower**	**15.81**	**221**	Pn		**Pn**		**11 32 00.6**	**-2.5**	
	0.3nm,0.3s,baz=47,slow=15,SNR=26									
CTA	**Charters Tower**	**15.81**	**221**	⇑P		**Pn**		**11 32 01.1**	**-1.9**	
	baz=16									
CTAO	**Charters Tower**	**15.81**	**221**	*e*P		**Pn**		**11 32 00.6**	**-2.5**	
CTAO				pmax		pmax				
	comp=Z,2μm,1.6s									
CTAO	**Charters Tower**	**15.81**	**221**	*e*Pn		**Pn**		**11 32 00.6**	**-2.5**	
	comp=Z,2μm,1.6s									
DZM	**Mont Dzumac**	**16.33**	**148**	*e*P		**Pn**		**11 32 09.7**	**-0.1**	
	comp=Z,730nm,1.2s									
DZM				*e*S		**Sn**		**11 35 07.4**	**-2.9**	
	comp=Z,35μm,26.2s									
DZM				*e*LR		LR		11 35 56.2		
	comp=Z,14μm,27.8s									
DZM	**Mont Dzumac**	**16.33**	**148**	*e*Pn		**Pn**		**11 32 09.3**	**-0.4**	
	comp=Z,410nm,1.3s									
DZM				Sn		**Sn**		**11 35 14.1**	**+3.9**	
DZM	**Mont Dzumac**	**16.33**	**148**	Pn		**Pn**		**11 32 09.9**	**+0.2**	
	comp=Z,0.4nm,0.3s,baz=355,slow=12,SNR=37									
DZM				Sn		**Sn**		**11 35 14.1**	**+3.9**	
	comp=Z,0.1nm,0.3s,baz=327,slow=23,SNR=1.9									
JAY	**Jayapura**	**17.40**	**288**	⇓P		**Pn**		**11 32 22.2**	**-1.0**	
	baz=18,SNR=16									
GENI	**Genyem**	**17.88**	**288**	P		**Pn**		**11 32 27.6**	**-1.5**	
	comp=Z,466nm,1.3s,comp=Z,8μmcomp=Z,22μm									
EIDS	**Eidsvold**	**17.96**	**198**	*e*Pn		**Pn**		**11 32 27.8**	**-2.2**	
	comp=Z,2μm,1.9s									
EIDS	**Eidsvold**	**17.96**	**198**	P		**Pn**		**11 32 27.8**	**-2.2**	
	baz=18,SNR=35									
TARA	**Tarawa**	**18.36**	**59**	*e*P		**Pn**		**11 32 36.8**	**+1.8**	
	comp=Z,4μm,1.9s									
RMQ	**Roma**	**19.80**	**203**	P		**P**		**11 32 50.4**	**-0.1**	
	baz=20,SNR=98									
QIS	**Mount Isa**	**20.93**	**232**	⇓P		**P**		**11 33 02.3**	**-0.6**	
	baz=21,SNR=55									
SRPI	**Serui, Papua**	**21.83**	**286**	P		**P**		**11 33 12.7**	**+0.1**	
	comp=Z,297nm,1.8s,comp=Z,8μm									
QLP	**Quilpie**	**21.97**	**213**	⇓P		**P**		**11 33 13.0**	**-1.0**	
	baz=22,SNR=230									
BAKI	**Biak**	**22.17**	**287**	P		**P**		**11 33 16.1**	**-0.2**	
	comp=Z,527nm,1.2s,comp=Z,9μm									
ARMA	**Armidale**	**22.63**	**193**	*e*P		**P**		**11 33 20.0**	**-1.1**	
	comp=Z,577nm,1.4s									
ARMA	**Armidale**	**22.63**	**193**	⇑P		**P**		**11 33 19.9**	**-1.3**	
	baz=23,SNR=27									
LHI	**Lord Howe Isla**	**23.18**	**176**	⇓P		**P**		**11 33 24.9**	**-1.8**	
	baz=23									
MWPI	**Manokwari, Pap**	**24.21**	**286**	P		x		11 33 02.7		
KDU	**Kakadu**	**24.71**	**258**	P		**P**		**11 33 40.5**	**-0.8**	
	baz=25,SNR=13									
GUMO	**Guam**	**24.95**	**330**	*e*P		**P**		**11 33 44.8**	**+1.3**	
	comp=Z,363nm,1.4s									
GUMO				LR		LR				
	comp=Z,4μm,20.0s									
WRAB	**Tennant Creek**	**24.97**	**240**	*d iP*		**P**		**11 33 42.2**	**-1.5**	
WRAB				pmax		pmax				
	comp=Z,998nm,2.5s									
WRAB	**Tennant Creek**	**24.97**	**240**	*e*P		**P**		**11 33 42.2**	**-1.5**	
	comp=Z,180nm,0.9s									
WRAB				LR		LR				
	comp=Z,15μm,22.0s									
WRA	**Warramunga Arr**	**24.98**	**240**	P		**P**		**11 33 42.3**	**-1.5**	
WRA				PcP		**PcP**		**11 37 19.1**	**+0.4**	
WRA				S		**S**		**11 38 08.2**	**+2.1**	
WRA				ScP		**ScP**		**11 40 59.2**	**+3.3**	
WRA	**Warramunga Arr**	**24.98**	**240**	P		**P**		**11 33 42.3**	**-1.5**	
	comp=Z,101nm,0.9s,baz=66,slow=9.8,SNR=173									
WRA				PcP		**PcP**		**11 37 19.1**	**+0.4**	
	comp=Z,47nm,1.1s,baz=64,slow=2.4,SNR=9.1									
WRA				S		**S**		**11 38 08.2**	**+2.1**	
	comp=Z,9.5nm,1.3s,baz=68,slow=16,SNR=2.4									
WRA				ScP		**ScP**		**11 40 59.2**	**+3.3**	
	comp=Z,16nm,1.3s,baz=101,slow=2.0,SNR=6.8									
WRA				LR		LR		11 42 50.3		
	comp=Z,12μm,20.2s,baz=65,slow=35									
FAKI	**Fak Fak**	**25.40**	**281**	P		P		11 33 41.9	-5.7	
	comp=Z,480nm,1.1s,comp=Z,7μm									
MGCD	**Mangrove Creek**	**25.43**	**192**	⇑P		**P**		**11 33 46.5**	**-1.1**	
	baz=26,SNR=24									
CMSA	**Cobar Meteorol**	**25.50**	**203**	⇑P		**P**		**11 33 47.4**	**-0.9**	
	baz=26,SNR=165									
SAUI	**Saumlaki**	**25.65**	**269**	P		**P**		**11 33 51.4**	**+1.5**	
	comp=Z,1μm,1.6s,comp=Z,20μm									
SWI	**Sorong**	**26.88**	**285**	P		**P**		**11 34 01.2**	**+0.2**	
	comp=Z,213nm,1.4s,comp=Z,4μm									
ASAR	**Alice Springs**	**27.06**	**233**	P		**P**		**11 33 60.0**	**-2.6**	
ASAR				PcP		**PcP**		**11 37 23.5**	**0.0**	
ASAR				S		**S**		**11 38 42.9**	**+4.0**	
ASAR				ScP		**ScP**		**11 41 04.8**	**+2.8**	
ASAR	**Alice Springs**	**27.06**	**233**	P		**P**		**11 33 60.0**	**-2.6**	
	comp=Z,58nm,1.1s,baz=63,slow=9.0,SNR=147									
ASAR				PcP		**PcP**		**11 37 23.5**	**0.0**	
	comp=Z,16nm,1.0s,baz=77,slow=2.8,SNR=7.4									
ASAR				S		**S**		**11 38 42.9**	**+4.0**	
	comp=Z,1.0nm,0.8s,baz=63,slow=23,SNR=2.3									
ASAR				ScP		**ScP**		**11 41 04.8**	**+2.8**	
	comp=Z,2.2nm,1.0s,baz=54,slow=4.7,SNR=4.1									
ASAR				LR		LR		11 44 14.6		
	comp=Z,11μm,19.1s,baz=48,slow=36									
YNG	**Young**	**27.12**	**196**	⇓P		**P**		**11 34 02.8**	**-0.1**	
	baz=27,SNR=17									
BNDI	**Bandanaira**	**27.39**	**276**	P		**P**		**11 34 06.7**	**+1.2**	
	comp=Z,905nm,1.6s,comp=Z,14μm									
STKA	**Stephens Creek**	**27.60**	**210**	P		**P**		**11 34 05.6**	**-1.6**	
STKA				PcP		**PcP**		**11 37 24.8**	**+0.2**	
STKA				S		**S**		**11 38 53.1**	**+5.9**	
STKA	**Stephens Creek**	**27.60**	**210**	P		**P**		**11 34 05.6**	**-1.6**	
	comp=Z,126nm,1.1s,baz=13,slow=8.7,SNR=60									
STKA				PcP		**PcP**		**11 37 24.8**	**+0.2**	
	comp=Z,46nm,1.1s,baz=3.7,slow=3.7,SNR=3.9									
STKA				S		**S**		**11 38 53.1**	**+5.9**	
	comp=Z,6.5nm,1.0s,baz=30,slow=20,SNR=1.8									
STKA				LR		LR		11 45 02.2		
	comp=Z,9μm,18.1s,baz=18,slow=36									
CNB	**Canberra Magne**	**27.84**	**194**	⇓P		**P**		**11 34 08.9**	**-0.6**	
	baz=28,SNR=29									
CAN	**Canberra**	**27.94**	**194**	*e*P		**P**		**11 34 09.7**	**-0.6**	
CAN				pmax		pmax				
	comp=Z,593nm,1.6s									
CAN				MLR		MLR				
	comp=Z,13μm,21.0s									
CAN	**Canberra**	**27.94**	**194**	*e*P		**P**		**11 34 09.7**	**-0.6**	
	comp=Z,593nm,1.6s									
CAN				LR		LR				
	comp=Z,13μm,21.0s									
CAN	**Canberra**	**27.94**	**194**	⇓P		**P**		**11 34 08.8**	**-1.5**	
	baz=28									
H11S3	**WAKE ISLAND Hy**	**28.21**	**19**	T		T		12 02 36.0		
	baz=200,slow=77,SNR=919									
H11S2	**WAKE ISLAND Hy**	**28.21**	**19**	T		T		12 03 00.8		
	baz=200,slow=77,SNR=1203									
H11S1	**WAKE ISLAND Hy**	**28.23**	**19**	T		T		12 02 37.3		
	baz=200,slow=77,SNR=555									
MSAI	**Masohi**	**28.55**	**278**	P		**P**		**11 34 18.5**	**+2.5**	
	comp=Z,38nm,1.6s,comp=Z,714nm									
KNRA	**Kununurra**	**28.75**	**253**	⇑P		**P**		**11 34 16.8**	**-0.9**	
	baz=29,SNR=15									
WAKE	**Wake Island**	**28.94**	**19**	PFAKE				11 34 30.0	+11	
WAKE				LR		LR				
	comp=Z,7μm,20.0s									
H11N1	**WAKE ISLAND Hy**	**29.42**	**19**	T		T		12 04 05.3		
	baz=203,slow=75,SNR=53									
H11N3	**WAKE ISLAND Hy**	**29.43**	**19**	T		T		12 04 04.6		
	baz=203,slow=75,SNR=69									
H11N2	**WAKE ISLAND Hy**	**29.43**	**19**	T		T		12 04 32.1		
	baz=203,slow=75,SNR=22									
HTT	**Hallett**	**30.19**	**211**	⇑P		**P**		**11 34 29.0**	**-1.3**	
	baz=30,SNR=22									
NLAI	**Namlea**	**30.37**	**278**	P		**P**		**11 34 31.2**	**-0.8**	
	comp=Z,168nm,2.1s,comp=Z,4μm									
LBMI	**Labuha**	**30.56**	**283**	P		**P**		**11 34 34.4**	**+0.7**	
	comp=Z,877nm,2.2s,comp=Z,15μm									
AFI	**Afiamalu**	**30.92**	**103**	*e*P		**P**		**11 34 37.0**	**0.0**	
	comp=Z,199nm,1.4s									
AFI	**Afiamalu**	**30.92**	**103**	P		**P**		**11 34 37.9**	**+0.9**	
	comp=Z,45nm,1.0s,baz=292,slow=12,SNR=3.3									
AFI				LR		LR		11 45 21.1		
	comp=Z,7μm,18.5s,baz=286,slow=33									
TOO	**Toolangi**	**31.02**	**198**	⇑P		**P**		**11 34 37.2**	**-0.4**	
	baz=31,SNR=18									
TNTI	**Ternate**	**31.08**	**285**	P		**P**		**11 34 38.0**	**-0.4**	
	comp=Z,336nm,1.7s,comp=Z,5μm									
TNTI	**Ternate**	**31.08**	**285**	*e*P		**P**		**11 34 38.5**	**+0.1**	
	comp=Z,542nm,1.3s									
BBOO	**Buckleboo**	**31.29**	**216**	*e*P		**P**		**11 34 38.1**	**-1.9**	
	comp=Z,5μm,1.3s									
BBOO	**Buckleboo**	**31.29**	**216**	⇓P		**P**		**11 34 38.4**	**-1.6**	
	baz=31,SNR=23									
RAO	**Raoul Island**	**31.32**	**135**	*e*P		**P**		**11 34 40.2**	**0.0**	
	comp=Z,1μm,1.4s									
RAO	**Raoul Island**	**31.32**	**135**	P		**P**		**11 34 41.2**	**+1.0**	
	comp=Z,140nm,0.3s,baz=113,slow=22,SNR=6.2									
RAO				LR		LR		11 44 25.6		
	comp=Z,3μm,20.3s,baz=128,slow=31									
ARPS	**Mount Arapiles**	**31.61**	**204**	⇑P		**P**		**11 34 41.9**	**-0.8**	
	baz=32,SNR=21									
FITZ	**Fitzroy Crossi**	**32.20**	**249**	LR		LR		11 47 52.9		
	comp=Z,7μm,18.7s,baz=78,slow=37									
SGSI	**Sangihe**	**33.77**	**289**	P		**P**		**11 35 02.4**	**+0.5**	
	comp=Z,1μm,1.1s,comp=Z,16μm									
KMSI	**Cibinong**	**34.27**	**283**	P		**P**		**11 35 06.5**	**+0.2**	
	comp=Z,2μm,1.1s,comp=Z,16μm									
BBSI	**Bau Bau**	**34.50**	**272**	P		**P**		**11 35 08.6**	**+0.4**	
	comp=Z,318nm,1.6s,comp=Z,5μm									
MMRI	**Maumere**	**34.59**	**267**	P		**P**		**11 35 07.7**	**-1.3**	
	comp=Z,535nm,1.4s,comp=Z,7μm									
URZ	**Urewera**	**34.82**	**152**	*e*P		**P**		**11 35 09.6**	**-1.1**	
	comp=Z,790nm,2.4s									
URZ	**Urewera**	**34.82**	**152**	P		**P**		**11 35 10.4**	**-0.3**	
	comp=Z,34nm,1.1s,baz=357,slow=7.0,SNR=3.6									
DAV	**Davao City (W)**	**35.03**	**295**	PFAKE				11 35 20.0	+7.1	
DAV				LR		LR				
	comp=Z,4μm,21.0s									
LUWI	**Luwuk**	**35.05**	**280**	P		**P**		**11 35 13.0**	**0.0**	
	comp=Z,337nm,2.0s,comp=Z,7μm									
MOO	**Moorlands**	**35.14**	**193**	⇑P		**P**		**11 35 14.4**	**+1.0**	
	baz=35,SNR=5.3									
GTOI	**Gorontalo**	**35.22**	**283**	P		**P**		**11 35 14.8**	**+0.3**	
	comp=Z,506nm,1.1s,comp=Z,7μm									
FORT	**Forrest**	**35.23**	**227**	*e*P		**P**		**11 35 12.5**	**-1.9**	
	comp=Z,578nm,1.3s									
FORT	**Forrest**	**35.23**	**227**	P		**P**		**11 35 12.4**	**-1.9**	
	baz=35,SNR=26									
BKZ	**Black Stump Fm**	**35.28**	**154**	*e*P		**P**		**11 35 14.7**	**-0.1**	
	comp=Z,155nm,1.4s									
TAU	**Tasmania Unive**	**35.56**	**193**	*e*P		**P**		**11 35 17.5**	**+0.5**	
TAU				pmax		pmax				
	comp=Z,592nm,1.6s									
TAU				MLR		MLR				
	comp=Z,4μm,21.0s									
TAU	**Tasmania Unive**	**35.56**	**193**	*e*P		**P**		**11 35 17.4**	**+0.5**	
	comp=Z,592nm,1.6s									
TAU				LR		LR				
	comp=Z,4μm,21.0s									
KKSI	**Kolaka, Sulawe**	**35.57**	**274**	P		x		11 35 17.2		
	comp=Z,118nm,1.4s,comp=Z,3μm									
APSI	**Ampana**	**36.17**	**280**	P		**P**		**11 35 21.8**	**-0.9**	
	comp=Z,212nm,1.9s,comp=Z,3μm									
MRSI	**Marisa**	**36.22**	**282**	P		**P**		**11 35 21.1**	**-1.9**	
	comp=Z,140nm,1.2s,comp=Z,2μm									
CTBH	**Otabato--PC H**	**36.30**	**294**	⇑P		**P**		**11 35 22.8**	**-0.9**	
SNZO	**South Karori**	**36.36**	**158**	PFAKE				11 35 40.0	+16	
SNZO				LR		LR				
	comp=Z,4μm,19.0s									
WSI	**Waingapu**	**36.48**	**265**	P		**P**		**11 35 26.9**	**+1.6**	
	comp=Z,569nm,1.1s,comp=Z,17μm									
LBFI	**Labuhan Bajo,**	**36.91**	**267**	P		x		11 35 27.1		
	comp=Z,267nm,1.0s,comp=Z,3μm									
BKSI	**Bulukumba**	**36.94**	**272**	P		**P**		**11 35 28.6**	**-0.6**	
	comp=Z,62nm,1.5s,comp=Z,1μm									
BNSI	**Bone**	**37.07**	**274**	P		**P**		**11 35 30.5**	**+0.2**	
	comp=Z,108nm,1.6s,comp=Z,3μm									
RPZ	**Rata Peaks**	**37.30**	**163**	*e*P		**P**		**11 35 31.0**	**-1.0**	
	comp=Z,131nm,1.2s									
RPZ	**Rata Peaks**	**37.30**	**163**	P		**P**		**11 35 32.1**	**+0.1**	
	comp=Z,32nm,0.9s,baz=292,slow=4.0,SNR=6.6									
KAPI	**Kappang**	**37.34**	**273**	*e*P		**P**		**11 35 31.4**	**-1.3**	
	comp=Z,1μm,1.4s									
KAPI				LR		LR				
	comp=Z,5μm,19.0s									
SPSI	**Sidrap Palu**	**37.46**	**274**	P		**P**		**11 35 31.8**	**-1.9**	
	comp=Z,77nm,1.4s,comp=Z,1μm									
TOLI	**Toli-Toli**	**37.49**	**283**	P		x		11 35 37.1		
	comp=Z,472nm,0.8s									
TTSI	**Tana Toraja**	**37.55**	**276**	P		**P**		**11 35 35.1**	**+0.7**	
	comp=Z,85nm,1.6s									
DCZ	**Deep Cove**	**38.03**	**169**	*e*P		**P**		**11 35 37.6**	**-0.4**	
	comp=Z,119nm,1.1s									
CBIJ	**Chichi jima**	**38.07**	**338**	P		**P**		**11 35 36.8**	**-1.8**	
JCJ	**Chichijima**	**38.07**	**338**	P		**P**		**11 35 36.8**	**-1.8**	
	comp=Z,35nm,0.5s,baz=280,slow=16,SNR=3.9									
WHZ	**Wether Hill Ro**	**38.59**	**168**	*e*P		**P**		**11 35 42.0**	**-0.8**	
	comp=Z,150nm,1.4s									
RCP	**Roxas**	**39.55**	**299**	⇓*e*P		**P**		**11 35 51.2**	**+0.1**	
KMBL	**Kambalda**	**40.10**	**230**	⇓P		**P**		**11 35 54.0**	**-1.6**	
	baz=40,SNR=31									
MTNI	**Mataram**	**40.58**	**266**	P		x		11 35 58.5		
	comp=Z,278nm,1.2s,comp=Z,4μm									
MYLDM	**Lahad Datu**	**40.86**	**288**	P		x		11 36 03.6		
	comp=Z,175nm,2.0s,comp=Z,4μm									
MYLDM	**Lahad Datu**	**40.86**	**288**	*e*P		**P**		**11 36 02.7**	**+0.6**	
	comp=Z,312nm,1.4s									
MYLDM	**Lahad Datu**	**40.86**	**288**	⇑P		**P**		**11 36 02.8**	**+0.8**	
MEEK	**Meekatharra**	**40.87**	**239**	⇓P		**P**		**11 36 00.2**	**-1.8**	
	baz=41,SNR=15									
TSM	**Tawau**	**41.18**	**286**	⇑P		**P**		**11 36 04.9**	**+0.2**	
DNP	**Denpasar**	**41.53**	**266**	P		P		11 36 11.9	+4.3	
	comp=Z,713nm,1.3s,comp=Z,24μm									
SRBI	**Singaraja**	**41.56**	**267**	P		**P**		**11 36 06.8**	**-1.0**	
	comp=Z,162nm,1.2s,comp=Z,2μm									
SDKM	**Sandakan**	**42.24**	**288**	⇓P		**P**		**11 36 13.8**	**+0.3**	
BYJI	**Banyuwangi**	**42.40**	**267**	P		x		11 36 15.1		
	comp=Z,786nm,1.1s,comp=Z,13μm									
ABJI	**Asem Bagus**	**42.54**	**267**	P		**P**		**11 36 16.1**	**+0.2**	
	comp=Z,225nm,1.8s,comp=Z,4μm									
JAGI	**Jajag, Banyuwa**	**42.58**	**267**	*e*P		**P**		**11 36 13.7**	**-2.5**	
	comp=Z,472nm,0.9s									
KMMI	**Kalianget**	**42.86**	**269**	P		**P**		**11 36 18.8**	**+0.4**	
	comp=Z,121nm,1.5s,comp=Z,3μm									
BLJI	**Banyuglugur**	**43.18**	**268**	P		**P**		**11 36 20.3**	**-0.7**	
	comp=Z,158nm,2.3s,comp=Z,3μm									
GMJI	**Gumukmas**	**43.29**	**267**	P		**P**		**11 36 22.2**	**+0.2**	
	comp=Z,148nm,1.1s,comp=Z,2μm									
KLBR	**Kellerberrin**	**43.38**	**232**	⇓P		**P**		**11 36 20.6**	**-1.8**	
	baz=43,SNR=32									
RAR	**Rarotonga**	**43.39**	**112**	*e*P		**P**		**11 36 23.0**	**+0.3**	
	comp=Z,148nm,1.1s									
RAR	**Rarotonga**	**43.39**	**112**	P		**P**		**11 36 22.9**	**+0.3**	
	comp=Z,105nm,1.0s,baz=282,slow=0.0,SNR=6.5									
RAR				LR		LR		11 51 13.0		
	comp=Z,2μm,19.5s,baz=225,slow=32									
MIDW	**Midway**	**43.83**	**33**	PFAKE				11 36 40.0	+14	
MIDW				LR		LR				
	comp=Z,8μm,20.0s									
MORW	**Morawa**	**43.83**	**236**	P		**P**		**11 36 24.8**	**-1.3**	
	baz=44,SNR=10.0									
BLDU	**Ballidu**	**43.83**	**234**	⇑P		**P**		**11 36 24.7**	**-1.4**	
	baz=44,SNR=11									
BWJI	**Bawean**	**44.27**	**270**	P		P		11 36 38.2	+8.4	
KRKI	**Karangkates**	**44.28**	**267**	P		x		11 36 29.3		
	comp=Z,687nm,1.2s,comp=Z,22μm									
GRJI	**Gresik**	**44.34**	**269**	P		**P**		**11 36 31.1**	**+0.7**	
	comp=Z,107nm,1.0s,comp=Z,821nm									
JOW	**Kunigami**	**44.80**	**322**	*e*P		**P**		**11 36 34.4**	**+0.6**	
	comp=Z,118nm,1.1s									
PWJI	**Pagerwojo**	**44.93**	**267**	P		**P**		**11 36 34.2**	**-0.9**	
	comp=Z,505nm,1.2s,comp=Z,6μm									
NGJI	**Ngawi**	**45.31**	**268**	P		**P**		**11 36 39.0**	**+0.9**	
	comp=Z,231nm,1.8s									
BTM	**Bintulu**	**45.47**	**283**	⇑P		**P**		**11 36 41.1**	**+1.7**	
PCJI	**Pacitan**	**45.54**	**267**	P		**P**		**11 36 39.4**	**-0.5**	
	comp=Z,1μm,0.8s,comp=Z,13μm									
PBKI	**Pangkalan Bun**	**45.64**	**274**	P		**P**		**11 36 42.0**	**+1.2**	
	comp=Z,771nm,1.1s,comp=Z,8μm									
UWJI	**Ujung Watu**	**45.90**	**269**	P		P		11 36 48.9	+6.1	
MCQ	**Macquarie Isla**	**46.10**	**179**	*e*P		**P**		**11 36 44.8**	**+1.1**	
MCQ	**Macquarie Isla**	**46.10**	**179**	*e*P		**P**		**11 36 44.8**	**+1.1**	
	comp=Z,71μm,1.8s									
SBUM	**Sibu**	**46.12**	**281**	P		x		11 36 45.3		
	comp=Z,94nm,0.8s,comp=Z,2μm									
SBUM	**Sibu**	**46.12**	**281**	*e*P		**P**		**11 36 45.3**	**+0.8**	
	comp=Z,196nm,1.5s									
SBUM	**Sibu**	**46.12**	**281**	⇑P		**P**		**11 36 46.2**	**+1.7**	
UGM	**Wanagama**	**46.20**	**267**	P		**P**		**11 36 45.7**	**+0.5**	
	comp=Z,736nm,1.2s,comp=Z,12μm									
UGM	**Wanagama**	**46.20**	**267**	⇑P		**P**		**11 36 44.9**	**-0.3**	
	baz=46,SNR=8.5									
SMRI	**Semarang**	**46.35**	**268**	P		**P**		**11 36 46.4**	**0.0**	
	comp=Z,656nm,1.4s,comp=Z,11μm									
SMRI	**Semarang**	**46.35**	**268**	*e*P		**P**		**11 36 46.4**	**0.0**	
	comp=Z,626nm,1.1s									
SMRI	**Semarang**	**46.35**	**268**	⇑P		**P**		**11 36 46.8**	**+0.4**	
	baz=46,SNR=6.9									
XMAS	**Kiritimati**	**46.36**	**79**	*e*P		**P**		**11 36 47.3**	**+0.9**	
	comp=Z,242nm,1.4s									
XMAS				LR		LR				
	comp=Z,4μm,19.0s									
YOJ	**Yonaguni jima**	**46.61**	**315**	*e*P		**P**		**11 36 48.7**	**+0.5**	
YOJ				pmax		pmax				
	comp=Z,144nm,1.4s									
YOJ	**Yonaguni jima**	**46.61**	**315**	*e*P		**P**		**11 36 48.7**	**+0.5**	
	comp=Z,144nm,1.4s									
BJII	**Banjamegara**	**47.05**	**268**	P		x		11

	comp=Z,99nm,1.2s								
PPT2				*e*S		**S**	**11 44 54.9**	**-4.1**	
	comp=Z,3μm,25.5s								
PPT2				*e*LQ		LQ	11 50 33.1		
	comp=Z,7μm,26.2s								
PPT2				*e*LR		LR	11 52 45.0		
	comp=Z,3μm,21.2s								
PAE	**Paea**	**52.53**	**106**	*e*P		**P**	**11 37 33.8**	**+0.3**	
	comp=Z,44nm,1.2s								
TJN	**Taejon**	**52.54**	**330**	*i* P		**P**	**11 37 33.6**	**+0.4**	
TIAR	**Tiarei**	**52.75**	**106**	*e*P		**P**	**11 37 35.8**	**+0.7**	
	comp=Z,40nm,1.0s								
MDSI	**Maura Dua**	**52.81**	**271**	P		**P**	**11 37 33.8**	**-1.8**	
	comp=Z,138nm,1.1s,comp=Z,2μm								
TVO	**Taravao**	**52.85**	**106**	*e*P		**P**	**11 37 36.8**	**+0.9**	
	comp=Z,65nm,1.3s								
LWLI	**Liwa**	**52.86**	**270**	P		P	11 37 40.9	+4.7	
	comp=Z,164nm,1.2s								
KIP	**Kipapa**	**52.95**	**55**⇓	*i*P		**P**	**11 37 37.2**	**+0.8**	
KIP				pmax		pmax			
	comp=Z,520nm,2.5s								
KIP	**Kipapa**	**52.95**	**55**	*e*P		**P**	**11 37 38.0**	**+1.5**	
	comp=Z,463nm,1.5s								
KIP				LR		LR			
	comp=Z,6μm,19.0s								
GZH	**Guangzhou**	**53.05**	**307**	P		**P**	**11 37 37.4**	**+0.3**	
GZH				S		**S**	**11 45 08.2**	**+2.6**	
GZH				LR		LR			
	comp=Z,2μm,15.4s								
GZH				LR		LR			
	comp=Z,3μm,21.0s								
GZH				LR		LR			
	comp=Z,5μm,19.7s								
YUK	**Yuzh-Kuril'sk**	**53.09**	**350***d*	*i*P		**P**	**11 37 35.4**	**-1.6**	
YUK				*i*			11 39 35.7		
YUK				*i* S		**S**	**11 45 03.6**	**-1.8**	
YUK				*i*			11 47 22.9		
YUK				*i* SSS		SSS	11 50 33.1		
YUK				pmax		pmax			
	comp=N,219nm,1.5s								
YUK				pmax		pmax			
	comp=E,292nm,1.5s								
YUK				pmax		pmax			
	comp=Z,488nm,1.5s								
KSRS	**Korea Array**	**53.12**	**331**	P		**P**	**11 37 38.1**	**+0.7**	
	comp=Z,81nm,1.2s,baz=151,slow=7.8,SNR=38								
KSRS				LR		LR	11 58 59.2		
	comp=Z,3μm,18.3s,baz=236,slow=35								
KSAR	**Wonju Array Be**	**53.13**	**331**	P		**P**	**11 37 38.1**	**+0.6**	
TBI	**Tubuai**	**53.15**	**113**	*e*P		**P**	**11 37 38.4**	**+0.4**	
	comp=Z,688nm,1.3s								
TBI				*e*S		**S**	**11 45 04.3**	**-2.9**	
	comp=Z,893nm,23.0s								
TBI				*e*LQ		LQ	11 50 53.7		
	comp=Z,17μm,30.0s								
TBI				*e*LR		LR	11 53 03.9		
	comp=Z,2μm,25.8s								
TPRI	**Tanjung Pinang**	**53.30**	**277**	P		**P**	**11 37 39.0**	**-0.2**	
	comp=Z,136nm,1.2s								
LHSI	**Lahat**	**53.54**	**271**	P		**P**	**11 37 40.4**	**-0.6**	
	comp=Z,152nm,1.1s								
JMBI	**JAMBI**	**53.73**	**274**	P		P	11 37 50.4	+8.0	
INCN	**Inchon**	**53.77**	**330**	*e*P		**P**	**11 37 43.2**	**+0.9**	
	comp=Z,769nm,1.4s								
INCN				LR		LR			
	comp=Z,3μm,19.0s								
ASAJ	**Asahikawa**	**53.81**	**347**	*e*P		**P**	**11 37 43.2**	**+0.8**	
	comp=Z,222nm,2.2s								
ASAJ	**Asahikawa**	**53.81**	**347**	P		**P**	**11 37 43.2**	**+0.8**	
	comp=Z,5.4nm,0.4s,baz=231,slow=11,SNR=7.4								
ASAJ				LR		LR	11 57 29.1		
	comp=Z,6μm,19.0s,baz=186,slow=32								
MEH	**Mehetia**	**53.98**	**106**	*e*P		**P**	**11 37 44.8**	**+0.6**	
	comp=Z,53nm,1.3s								
QIZ	**Qiongzhong**	**54.01**	**301**	P		**P**	**11 37 44.5**	**+0.2**	
QIZ				pP		**pP**	**11 37 51.2**	**-1.8**	
QIZ				sP		**sP**	**11 37 56.5**	**+0.1**	
QIZ				PcP		**PcP**	**11 38 51.2**	**+1.9**	
QIZ				S		**S**	**11 45 19.3**	**+0.5**	
QIZ				sS		**sS**	**11 45 33.9**	**+0.7**	
QIZ				pmax		pmax			
	comp=Z,36nm,1.4s								
QIZ				pmax		pmax			
	comp=Z,1μm,8.4s								
QIZ				LR		LR			
	comp=Z,1μm,18.9s								
QIZ				LR		LR			
	comp=Z,2μm,19.5s								
QIZ	**Qiongzhong**	**54.01**	**301**	*e*P		**P**	**11 37 44.3**	**0.0**	
	comp=Z,127nm,1.6s								
QIZ				LR		LR			
	comp=Z,2μm,19.0s								
HKL	**Haleakala**	**54.05**	**57**	*e*P		**P**	**11 37 47.1**	**+2.1**	
HKL	**Haleakala**	**54.05**	**57**	*e*P		**P**	**11 37 47.1**	**+2.1**	
PMOR	**Pomariorio Ree**	**54.07**	**102**	*e*P		**P**	**11 37 45.6**	**+0.8**	
	comp=Z,734nm,1.2s								
MYKOM	**Kota Tinggi**	**54.13**	**278**	*e*P		**P**	**11 37 44.7**	**-0.6**	
	comp=Z,186nm,1.6s								
MYKOM	**Kota Tinggi**	**54.13**	**278**	⇑P		**P**	**11 37 45.8**	**+0.5**	
POHA	**Pohakuloa**	**54.23**	**58**	*e*P		**P**	**11 37 47.5**	**+1.3**	
	comp=Z,394nm,1.2s								
POHA				LR		LR			
	comp=Z,5μm,20.0s								
NJ2	**Nanjing**	**54.31**	**320**	*e*P		**P**	**11 37 46.2**	**-0.1**	
NJ2				S		**S**	**11 45 27.0**	**+4.5**	
NJ2				pmax		pmax			
	comp=Z,270nm,1.4s								
NJ2				pmax		pmax			
	comp=Z,2μm,8.4s								
NJ2				LR		LR			
	comp=Z,1μm,16.1s								
NJ2				LR		LR			
	comp=Z,1μm,15.5s								
VAH	**Vaihoa**	**54.33**	**103**	*e*P		**P**	**11 37 47.2**	**+0.5**	
	comp=Z,256nm,1.2s								
KGM	**Kluang**	**54.70**	**278**	⇓P		**P**	**11 37 49.6**	**+0.1**	
KTGM	**Kuala Trenggan**	**55.60**	**282**	⇓P		**P**	**11 37 56.4**	**+0.4**	
UBPT	**Khong Chiam**	**56.36**	**294**	P		**P**	**11 38 01.6**	**+0.3**	
	comp=Z,107nm,1.5s								
WHN	**Wuhan**	**56.40**	**315**	P		**P**	**11 38 01.9**	**+0.6**	
WHN				S		**S**	**11 45 54.2**	**+3.7**	
WHN				LR		LR			
	comp=Z,2μm,12.5s								
WHN				LR		LR			
	comp=Z,2μm,13.4s								
WHN				LR		LR			
	comp=Z,4μm,19.4s								
YSS	**Yuzh-Sakhalins**	**56.49**	**348**⇑	*e*P		**P**	**11 38 00.0**	**-1.6**	
YSS				*e*			11 38 06.8		
YSS				*e*			11 40 16.0		
YSS				*e*PPP		PPP	11 41 22.0		
YSS				*e*S		S	11 46 00.0	+9.0	
YSS				*e*PS		**PnS**	**11 46 08.0**	**+4.0**	
YSS				pmax		pmax			
	comp=Z,70nm,1.1s								
YSS				pmax		pmax			
	comp=N,60nm,1.2s								
YSS				pmax		pmax			
	comp=E,50nm,1.2s								
YSS				MLR		MLR			
	comp=Z,4μm,16.0s								
YSS				MLR		MLR			
	comp=N,3μm,17.0s								
YSS				MLR		MLR			
	comp=E,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**56.49**	**348**	*e*P		**P**	**11 38 02.2**	**+0.6**	
	comp=E,150nm,1.3s								
YSS				LR		LR			
	comp=Z,1μm,19.0s								
BKNI	**Bangkinang**	**56.62**	**276**	P		**P**	**11 38 03.8**	**+0.5**	
USRK	**Ussuriysk Arra**	**57.01**	**339**	P		**P**	**11 38 06.0**	**+0.5**	
	comp=Z,126nm,1.1s,baz=152,slow=5.6,SNR=91								
USRK				LR		LR	12 00 34.1		
	comp=Z,1μm,19.2s,baz=26,slow=34								
PPI	**Padang Panjang**	**57.12**	**275**	P		**P**	**11 38 05.3**	**-1.5**	
PPI	**Padang Panjang**	**57.12**	**275**	⇓P		**P**	**11 38 05.7**	**-1.2**	
	baz=57,SNR=4.9								
DL2	**Dalian**	**57.43**	**327**	⇑P		**P**	**11 38 08.5**	**+0.1**	
DL2				S		**S**	**11 46 02.0**	**-1.7**	
DL2				pmax		pmax			
	comp=Z,250nm,1.2s								
DL2				pmax		pmax			
	comp=Z,970nm,6.9s								
DL2				LR		LR			
	comp=Z,2μm,13.7s								
DL2				LR		LR			
	comp=Z,1μm,16.2s								
IPM	**Ipoh**	**57.45**	**281**	*e*P		**P**	**11 38 07.9**	**-1.3**	
	comp=Z,246nm,1.4s								
KULM	**Kulim**	**58.00**	**282**	*e*P		**P**	**11 38 11.8**	**-1.2**	
	comp=Z,193nm,1.1s								
KULM				LR		LR			
	comp=Z,1μm,21.0s								
TIA	**Tai'an**	**58.12**	**322**⇑	*i*P		**P**	**11 38 12.9**	**-0.6**	
TIA				PP		**PP**	**11 40 24.7**	**+2.2**	
TIA				S		**S**	**11 46 13.6**	**+0.5**	
TIA				pmax		pmax			
	comp=Z,190nm,1.3s								
TIA				LR		LR			
	comp=Z,1μm,20.0s								
TIA				LR		LR			
	comp=Z,1μm,18.0s								
TIA				LR		LR			
	comp=Z,2μm,23.0s								
MDJ	**Mudanjiang**	**58.27**	**337**	P		**P**	**11 38 14.1**	**-0.2**	
MDJ				pP		**pP**	**11 38 23.3**	**+0.2**	
MDJ				sP		**sP**	**11 38 27.1**	**+0.7**	
MDJ				ScP		**ScP**	**11 43 03.2**	**-0.5**	
MDJ				PcS		**PcS**	**11 43 07.0**	**+0.4**	
MDJ				S		**S**	**11 46 13.5**	**-1.0**	
MDJ				sS		**sS**	**11 46 28.8**	**-0.3**	
MDJ				ScS		**ScS**	**11 48 01.4**	**-0.6**	
MDJ				pmax		pmax			
	comp=Z,180nm,1.8s								
MDJ				pmax		pmax			
	comp=Z,1μm,8.1s								
MDJ				LR		LR			
	comp=Z,2μm,17.8s								
MDJ				LR		LR			
	comp=Z,950nm,16.7s								
MDJ				LR		LR			
	comp=Z,1μm,20.7s								
MDJ	**Mudanjiang**	**58.27**	**337**	*e*P		**P**	**11 38 14.1**	**-0.2**	
	comp=Z,408nm,1.5s								
MDJ				LR		LR			
	comp=Z,2μm,19.0s								
SNY	**Shenyang**	**58.62**	**331**	⇑P		**P**	**11 38 16.6**	**-0.2**	
SNY				pmax		pmax			
	comp=Z,78nm,1.5s								
SNY				LR		LR			
	comp=Z,2μm,21.1s								
SNY				LR		LR			
	comp=Z,2μm,18.7s								
SNY				LR		LR			
	comp=Z,1μm,42.0s								
PSI	**Prapat**	**59.16**	**278**	⇑P		**P**	**11 38 19.4**	**-1.8**	
	baz=59,SNR=16								
CN2	**Changchun**	**59.30**	**334**	⇑P		**P**	**11 38 21.7**	**+0.2**	
CN2				*e*sP		**sP**	**11 38 35.0**	**+1.3**	
CN2				*e*S		**S**	**11 46 29.7**	**+1.6**	
CN2				pmax		pmax			
	comp=Z,500nm,5.0s								
CN2				LR		LR			
	comp=Z,2μm,17.0s								
CN2				LR		LR			
	comp=Z,1μm,17.0s								
CN2				LR		LR			
	comp=Z,2μm,18.0s								
COCO	**West Island**	**59.45**	**261**	PFAKE			11 38 30.0	+7.0	
COCO				LR		LR			
	comp=Z,2μm,19.0s								
CHAI	**Chaiyaphum**	**59.73**	**294**	P		**P**	**11 38 24.8**	**-0.1**	
	comp=Z,17nm,1.1s,comp=Z,228nm								
ENH	**Enshi**	**59.73**	**312**	*e*P		**P**	**11 38 23.6**	**-1.1**	
	comp=Z,51nm,0.9s								
ENH				LR		LR			
	comp=Z,53nm,20.0s								
HABR	**Khabarovsk**	**59.80**	**343***c*	*i*P		**P**	**11 38 24.1**	**-0.7**	
HABR				*e**PP		**pP**	**11 38 33.1**	**-0.5**	
HABR				*e**SP		**sP**	**11 38 37.3**	**+0.3**	
HABR				*e*			11 39 10.1		
HABR							11 40 34.6		
HABR				S		**S**	**11 46 32.3**	**-2.0**	
HABR				*e**SS		**sS**	**11 46 47.8**	**-1.0**	
HABR				*e*			11 48 10.6		
HABR				*e*SS		**SS**	**11 50 28.1**	**-2.8**	
HABR				SSS		SSS	11 53 06.8		
HABR				pmax		pmax			
	comp=E,27nm,2.3s								
HABR				pmax		pmax			
	comp=Z,274nm,2.3s								
HABR				pmax		pmax			
	comp=N,56nm,2.3s								
HABR				pmax		pmax			
	comp=Z,884nm,1.8s								
HABR				MLR		MLR			
	comp=Z,2μm,17.0s								
HABR				MLR		MLR			
	comp=E,1μm,17.0s								
HABR				MLR		MLR			
	comp=N,2μm,17.0s								
PATY	**Pattaya**	**59.81**	**290**	P		**P**	**11 38 26.2**	**+0.7**	
	comp=N,55nm,1.0s								
GYA	**Guiyang**	**59.98**	**307**⇑	*i*P		**P**	**11 38 26.0**	**-0.7**	
GYA				PP		**PP**	**11 40 44.4**	**+5.1**	
GYA				ScP		**ScP**	**11 43 11.0**	**-1.0**	
GYA				S		**S**	**11 46 42.6**	**+4.9**	
GYA				ScS		**ScS**	**11 48 12.2**	**-3.6**	
GYA				SS		**SS**	**11 50 36.0**	**+1.1**	
GYA				pmax		pmax			
	comp=N,50nm,1.0s								
GYA				pmax		pmax			
	comp=N,1μm,8.4s								
GYA				LR		LR			
	comp=N,1μm,20.8s								
GYA				LR		LR			
	comp=N,1μm,19.6s								
GYA				LR		LR			
	comp=N,750nm,16.8s								
SLVN	**Son La**	**60.03**	**300**	*e*P		**P**	**11 38 26.8**	**-0.2**	
	comp=N,178nm,1.7s								
GSI	**Gunungsitoli**	**60.20**	**276**	*e*P		**P**	**11 38 27.1**	**-1.2**	
	comp=N,259nm,1.1s								
SURT	**Suratani**	**60.66**	**285**	P		**P**	**11 38 30.9**	**-0.5**	
	comp=N,52nm,1.1s,comp=N,844nm								
PKDT	**Phuket**	**60.84**	**284**	P		**P**	**11 38 32.3**	**-0.3**	
	comp=N,172nm,1.1s,comp=N,4μm								
PBKT	**Sadao Pong**	**60.87**	**294**	P		**P**	**11 38 32.9**	**+0.2**	
	comp=N,135nm,2.4s,comp=N,6μm								
PET	**Petropavlovsk**	**61.09**	**1**⇑	*i*P		**P**	**11 38 33.2**	**-0.3**	
PET				*e*S		**S**	**11 46 52.5**	**+1.9**	
PET				pmax		pmax			
	comp=Z,107nm,1.4s								
PET				pmax		pmax			
	comp=Z,2μm,7.3s								
PET				pmax		pmax			
	comp=Z,1μm,14.0s								
PET	**Petropavlovsk**	**61.09**	**1**	*e*P		**P**	**11 38 34.0**	**+0.5**	
	comp=Z,200nm,1.4s								
PET				LR		LR			
	comp=Z,5μm,20.0s								
PETK	**Petropavlovsk-**	**61.16**	**0**	P		**P**	**11 38 34.4**	**+0.4**	
PETK	**Petropavlovsk-**	**61.16**	**0**	P		**P**	**11 38 34.4**	**+0.4**	
PETK	**Petropavlovsk-**	**61.16**	**0**	P		**P**	**11 38 34.4**	**+0.4**	
	comp=Z,44nm,0.9s,baz=165,slow=7.6,SNR=50								
PETK				LR		LR	12 02 37.5		
	comp=Z,3μm,18.6s,baz=174,slow=34								
BJT	**Baijiatuau**	**61.22**	**325**	*e*P		**P**	**11 38 34.4**	**-0.3**	
	comp=Z,186nm,1.2s								
BJT				LR		LR			
	comp=Z,2μm,20.0s								
BJI	**Beijing**	**61.23**	**325**	P		**P**	**11 38 34.1**	**-0.6**	
BJI				pP		**pP**	**11 38 46.2**	**+2.6**	
BJI				PP		**PP**	**11 40 51.6**	**+1.7**	
BJI				PcS		**PcS**	**11 43 20.1**	**+0.2**	
BJI				S		**S**	**11 46 54.2**	**+1.3**	
BJI				SS		**SS**	**11 50 53.5**	**-0.2**	
BJI				pmax		pmax			
	comp=Z,130nm,1.7s								
BJI				LR		LR			
	comp=Z,1μm,19.2s								
BJI				LR		LR			
	comp=Z,1μm,24.1s								
BJI				LR		LR			
	comp=Z,1μm,25.4s								
KLR	**Kul'dur**	**61.47**	**341**⇓	*i*P		P	11 38 32.8	-3.4	
KLR				*e*S		**S**	**11 46 56.0**	**+0.3**	
KLR				pmax		pmax			
	comp=N,110nm,1.8s								
KLR				pmax		pmax			
	comp=E,160nm,1.8s								
KLR				pmax		pmax			
	comp=Z,520nm,1.8s								
KLR				pmax		pmax			
	comp=Z,4μm,10.0s								
KLR				smax		smax			
	comp=N,1μm,10.5s								
KLR				smax		smax			
	comp=E,2μm,10.5s								
PHIT	**Phitsanulok**	**61.58**	**295**	P		**P**	**11 38 38.8**	**+1.3**	
	comp=E,76nm,1.1s								
SRDT	**SRDT**	**61.85**	**291**	P		**P**	**11 38 40.2**	**+0.8**	
	comp=E,587nm,1.4s								
TIY	**Taiyuan**	**61.97**	**321**⇑	*i*P		**P**	**11 38 40.1**	**+0.2**	
TIY				pmax		pmax			
	comp=E,170nm,1.2s								
TIY				LR		LR			
	comp=E,2μm,13.6s								
TIY				LR		LR			
	comp=E,920nm,14.1s								
TIY				LR		LR			
	comp=E,1μm,14.4s								
XAN	**Xi'an**	**62.16**	**315**	P		**P**	**11 38 40.6**	**-0.6**	
XAN				pP		**pP**	**11 38 50.8**	**+0.7**	
XAN				sP		**sP**	**11 38 54.8**	**+1.3**	
XAN				PP		**PP**	**11 40 59.4**	**+1.0**	
XAN				S		**S**	**11 47 01.5**	**-3.6**	
XAN				sS		**sS**	**11 47 18.0**	**-1.7**	
XAN				SS		**SS**	**11 51 05.4**	**-3.3**	
XAN				pmax		pmax			
	comp=E,17nm,1.5s								
XAN				pmax		pmax			
	comp=E,400nm,6.7s								
XAN				LR		LR			
	comp=E,970nm,20.0s								
XAN				LR		LR			
	comp=E,580nm,18.5s								
XAN				LR		LR			
	comp=E,550nm,18.5s								
KMI	**Kunming**	**62.56**	**304**	P		**P**	**11 38 45.0**	**+0.7**	
KMI				pP		**pP**	**11 38 50.3**	**-2.9**	
KMI				sP		**sP**	**11 38 52.5**	**-4.0**	
KMI				S		**S**	**11 47 14.1**	**+3.3**	
KMI				SKS		**SKSac**	**11 48 33.4**	**-2.0**	
KMI				pmax		pmax			
	comp=E,36nm,2.0s								
KMI				pmax		pmax			
	comp=E,2μm,6.6s								
KMI				LR		LR			
	comp=E,2μm,21.3s								
KMI				LR		LR			
	comp=E,700nm,18.5s								
KMI				LR		LR			
	comp=E,2μm,19.1s								
UMPA	**Umpang Tak**	**62.66**	**293**	P		P	11 38 53.3	+8.4	
LAMP	**Lampang**	**62.73**	**296**	P		**P**	**11 38 45.8**	**+0.6**	
	comp=E,33nm,0.9s,comp=E,320nm								
CMAR	**Chiang Mai Arr**	**63.32**	**295**	P		**P**	**11 38 49.8**	**+0.6**	
CMAR				P'P'			12 07 46.0		
CMAR				⇑*e*			12 07 55.6		
CMAR	**Chiang Mai Arr**	**63.32**	**295**	P		**P**	**11 38 49.8**	**+0.6**	
	comp=E,48nm,1.1s,baz=111,slow=4.9,SNR=148								
CMAR				LR		LR	12 06 56.4		
	comp=E,1μm,19.3s,baz=293,slow=37								
CMAR				PKPPKP		**P'P'df**	**12 07 46.0**	**-1.8**	
	comp=E,0.6nm,0.6s,baz=298,slow=3.9,SNR=4.6								
CMAR				PKP2bc			12 07 55.6		
	comp=E,16nm,1.3s,baz=287,slow=3.7,SNR=12								
CHTO	**Chiang Mai**	**63.44**	**296**	*e*P		**P**	**11 38 49.9**	**-0.1**	
CHTO				pmax		pmax			
	comp=Z,192nm,1.4s								
CHTO				MLR		MLR			
	comp=Z,1μm,20.0s								
CHTO	**Chiang Mai**	**63.44**	**296**	*e*P		**P**	**11 38 49.9**	**-0.1**	
	comp=Z,192nm,1.4s								
CHTO				LR		LR			
	comp=Z,1μm,20.0s								
CMAI	**Chiengmai2**	**63.73**	**297**	P		**P**	**11 38 52.6**	**+0.5**	
	comp=Z,76nm,1.9s								
CD2	**Chengdu**	**64.32**	**310**⇑	*i*P		**P**	**11 38 55.7**	**+0.1**	
CD2				pP		**pP**	**11 39 06.2**	**+1.7**	
CD2				sP		**sP**	**11 39 10.6**	**+2.7**	
CD2				PcP		**PcP**	**11 39 29.8**	**-0.3**	
CD2				PP		**PP**	**11 41 19.2**	**+1.7**	
CD2				S		**S**	**11 47 30.4**	**-1.8**	
CD2				sS		**sS**	**11 47 47.8**	**+0.9**	
CD2				ScS		**SKSac**	**11 48 43.2**	**-5.0**	
CD2				SS		**SS**	**11 51 41.6**	**-1.0**	
CD2				pmax		pmax			
	comp=Z,100nm,1.8s								
CD2				pmax		pmax			
	comp=Z,2μm,9.5s								
CD2				LR		LR			
	comp=Z,2μm,20.2s								
CD2				LR		LR			
	comp=Z,1μm,17.8s								
CD2				LR		LR			
	comp=Z,2μm,21.4s								
HHC	**Hu-ho-hao-te**	**64.44**	**323**	*i* P		**P**	**11 38 57.2**	**+0.9**	
HHC				pP		**pP**	**11 39 06.6**	**+1.4**	
HHC				S		**S**	**11 47 37.6**	**+4.2**	
HHC				sS		**sS**	**11 47 47.8**	**-0.3**	
HHC				ScS		**SKSac**	**11 48 47.8**	**-1.0**	
HHC				pmax		pmax			
	comp=Z,84nm,1.1s								
HHC				LR		LR			
	comp=Z,2μm,17.6s								
HHC				LR		LR			
	comp=Z,2μm,17.1s								
HHC				LR		LR			
	comp=Z,3μm,15.1s								
BTO	**Baotou**	**65.22**	**322**	*e*P		**P**	**11 39 00.4**	**-0.9**	
HIA	**Hailar**	**66.03**	**334**	*e*P		**P**	**11 39 06.3**	**0.0**	
	comp=Z,339nm,1.5s								
HIA				LR		LR			
	comp=Z,2μm,20.0s								
CASY	**Casey**	**66.06**	**199**	*e*P		**P**	**11 39 04.0**	**-2.3**	
	comp=Z,344nm,1.7s								
CASY				LR		LR			
	comp=Z,6μm,20.0s								
RKT	**Rikitea**	**66.42**	**112**	*e*P		**P**	**11 39 09.1**	**-0.3**	
	comp=Z,175nm,1.4s								
RKT				*e*S		**S**	**11 47 56.5**	**-1.7**	
	comp=Z,1μm,27.8s								
RKT				*e*LQ		LQ	11 56 24.2		
	comp=Z,3μm,34.2s								
RKT				*e*LR		LR	11 59 18.6		
	comp=Z,2μm,26.8s								
LZH	**Lanzhou**	**66.78**	**315**	⇑P		**P**	**11 39 12.5**	**+1.0**	
LZH				pP		**pP**	**11 39 23.7**	**+3.2**	
LZH				sP		**sP**	**11 39 26.4**	**+2.6**	
LZH				PP		**PP**	**11 41 39.0**	**0.0**	
LZH				S		**S**	**11 48 01.1**	**-1.2**	
LZH				sS		**sS**	**11 48 13.0**	**-4.0**	
LZH				SS		**SS**	**11 52 17.1**	**-3.7**	
LZH				pmax		pmax			
	comp=Z,170nm,1.4s								
LZH				pmax		pmax			
	comp=Z,1μm,4.3s								
LZH				LR		LR			
	comp=Z,3μm,15.1s								
LZH				LR		LR			
	comp=Z,2μm,13.2s								
LZH				LR		LR			
	comp=Z,3μm,15.4s								
DGPR	**DIGLIPUR**	**67.30**	**288**	*e*P		**P**	**11 39 15.0**	**0.0**	
VNDA	**Vanda**	**69.24**	**179**	P		**P**	**11 39 26.6**	**+0.5**	
VNDA	**Vanda**	**69.24**	**179**	P		**P**	**11 39 26.6**	**+0.5**	
	comp=Z,46nm,1.2s,baz=338,slow=7.1,SNR=19								
VNDA				LR		LR	12 05 00.2		
	comp=Z,3μm,19.1s,baz=1.3,slow=32								
SBA	**Scott Base**	**69.71**	**178**	*e*P		**P**	**11 39 30.3**	**+1.3**	
SBA				pmax		pmax			
	comp=Z,278nm,1.4s								
SBA				MLR		MLR			
	comp=Z,2μm,20.0s								
SBA	**Scott Base**	**69.71**	**178**	*e*P		**P**	**11 39 30.3**	**+1.3**	
	comp=Z,278nm,1.4s								
SBA				LR		LR			
	comp=Z,2μm,20.0s								
CLNS	**Chul'man**	**70.12**	**342**	*e*P		**P**	**11 39 32.9**	**+1.0**	
CLNS				*e**PP		**pP**	**11 39 43.1**	**+2.2**	
CLNS				*e*			11 39 50.3		
CLN

comp=Z,146nm,1.3s
CLNS pmax pmax
comp=N,102nm,1.5s
CLNS pmax pmax
comp=E,57nm,1.5s
CLNS pmax pmax
comp=E,22nm,1.5s
CLNS pmax pmax
comp=N,21nm,1.3s
CLNS pmax pmax
comp=Z,10.0nm,1.2s
CLNS smax smax
comp=N,744nm,11.4s
CLNS smax smax
comp=E,1μm,11.4s
CLNS MLR MLR
comp=Z,1μm,15.0s
CLNS MLR MLR
comp=N,956nm,15.0s
CLNS MLR MLR
comp=E,315nm,14.0s
CIT Chita 70.74 333 *e*P **P** **11 39 36.4 +0.6**
SEY Seymchan 71.11 358 P **P** **11 39 37.9 +0.2**
SEY Seymchan 71.11 358 P **P** **11 39 37.9 +0.2**
SEY Seymchan 71.11 358 P **P** **11 39 37.9 +0.2**
comp=E,91nm,1.2s,baz=168,slow=5.8,SNR=46
GTA Gaotai 71.18 316 ⇑P **P** **11 39 39.8 +1.0**
GTA pP **pP** **11 39 44.7 -3.1**
GTA sP **sP** **11 39 46.9 -4.3**
GTA S **S** **11 48 57.8 +3.5**
GTA sS **sS** **11 49 06.0 -3.2**
GTA pmax pmax
comp=E,130nm,1.8s
GTA LR LR
comp=E,1μm,17.6s
GTA LR LR
comp=E,940nm,17.6s
GTA LR LR
comp=E,1μm,16.1s
ULN Ulaanbaatar 71.28 327 *e*P **P** **11 39 39.9 +0.7**
comp=E,540nm,1.6s
ULN LR LR
comp=Z,2μm,21.0s
SONM Songino Array 71.61 327 P **P** **11 39 42.0 +0.7**
SONM P'P' 12 07 33.6
SONM Songino Array 71.61 327 P **P** **11 39 42.0 +0.7**
comp=Z,42nm,1.1s,baz=134,slow=4.8,SNR=186
SONM PKPPKP **P'P'df** **12 07 33.6 +2.2**
comp=Z,3.4nm,1.2s,baz=296,slow=1.1,SNR=6.3
SONM LR LR 12 08 45.4
comp=Z,2μm,21.0s,baz=272,slow=34
SHL Shillong 71.84 300 *e*P **P** **11 39 43.5 +0.4**
SHL *e*S **S** **11 49 04.5 +2.0**
MIR Mirnyy 72.32 202 ⇑*i*P **P** **11 39 46.0 +1.0**
MIR *e* 11 40 10.0
MIR *e*PPP PPP 11 44 11.0
MIR *e*S **S** **11 49 10.0 +3.8**
MIR *e*PS PnS 11 49 50.0 +11
MIR pmax pmax
comp=Z,324nm,1.5s
MIR pmax pmax
comp=Z,2μm,4.0s
YAK Yakutsk 73.30 347 *c i*P **P** **11 39 50.9 +0.2**
YAK *e**PP **pP** **11 39 59.2 -0.6**
YAK *e* 11 40 06.1
YAK *e* 11 42 34.6
YAK *e*PPP PPP 11 44 19.3
YAK *e*S **SKiKP** **11 49 20.2 -0.2**
YAK *e* 11 50 02.9
YAK pmax pmax
comp=Z,171nm,1.1s
YAK pmax pmax
comp=N,92nm,1.4s
YAK pmax pmax
comp=E,38nm,1.2s
YAK pmax pmax
comp=N,254nm,3.3s
YAK pmax pmax
comp=Z,202nm,4.6s
YAK pmax pmax
comp=E,109nm,1.7s
YAK smax smax
comp=N,345nm,3.0s
YAK smax smax
comp=E,395nm,3.0s
YAK MLR MLR
comp=E,714nm,14.0s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK Yakutsk 73.30 347 *e*P **P** **11 39 50.9 +0.2**
comp=N,193nm,0.9s
YAK LR LR
comp=Z,2μm,20.0s
LSA Lhasa 73.81 304 P **P** **11 39 55.8 +0.7**
LSA pmax pmax
comp=Z,90nm,1.6s
LSA Lhasa 73.81 304 *e*P **P** **11 39 55.2 0.0**
LSA pmax pmax
comp=Z,278nm,1.5s
LSA MLR MLR
comp=Z,842nm,20.0s
LSA Lhasa 73.81 304 *e*P **P** **11 39 55.1 0.0**
comp=Z,278nm,1.5s
LSA LR LR
comp=Z,842nm,20.0s
ZAK Zakamensk 74.75 328 ⇓*i*P **P** **11 39 59.9 +0.2**
ZAK *e* 11 40 08.6
ZAK pmax pmax
comp=Z,88nm,1.4s
TLY Talaya 75.30 329 *c i*P **P** **11 40 03.0 +0.3**
TLY *e* 11 40 10.9
TLY *e* 11 42 47.1
TLY *e*S **S** **11 49 41.9 +1.7**
TLY *e* 11 50 15.5
TLY *e*PS PnS 11 50 40.5 +22
TLY *e*SS **SS** **11 54 30.9 +0.2**
TLY pmax pmax
comp=Z,120nm,1.3s
TLY MLR MLR
comp=Z,856nm,15.0s
TLY Talaya 75.30 329 *e*P **P** **11 40 03.0 +0.3**
comp=Z,133nm,1.3s
TLY LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 75.30 330 *e*P **P** **11 40 02.4 -0.3**
IRK pmax pmax
comp=Z,229nm,1.5s
GAMB Gambell 75.63 14 *e*P **P** **11 40 05.4 +1.1**
comp=Z,140nm,1.4s
TAPN Taplejung 75.95 301 ⇑*i*P **P** **11 40 07.4 +0.1**
comp=Z,583nm,1.4s
ODAN Odare 76.08 300 ⇑*i*P **P** **11 40 08.2 +0.2**
comp=Z,1μm,1.6s
BOK Bokaro 76.54 297 *e*P **P** **11 40 11.2 +0.8**
BOK AMB AMB 11 40 11.7
comp=Z,180nm,1.5s
MOY Mondy 76.67 328 *e*P **P** **11 40 11.0 +0.4**
MOY pmax pmax
comp=Z,279nm,4.0s
RAMN Ramite 76.78 300 ⇑*i*P **P** **11 40 12.0 0.0**
comp=Z,589nm,1.7s
JIRN Jiri 77.33 301 ⇑*i*P **P** **11 40 15.4 +0.2**
comp=Z,715nm,1.7s
VIS Vishakhapatnam 77.38 290 *e*P **P** **11 40 15.6 +0.4**
VIS AMB AMB 11 40 16.3
comp=Z,134nm,1.6s
KDAK Kodiak Island 77.39 25 PFAKE 11 40 30.0 +16
KDAK LR LR
comp=Z,3μm,19.0s
GUN Gumba 77.66 301 ⇑*i*P **P** **11 40 17.2 +0.1**
comp=Z,2μm,1.9s
PALK Pallekele 77.82 279 *e*P **P** **11 40 19.0 +1.2**
comp=Z,849nm,1.5s
PKI Pulchoki 77.97 300 ⇑*i*P **P** **11 40 18.7 -0.1**
comp=Z,829nm,1.6s
TNA Tin City 78.02 14 *e*P **P** **11 40 18.2 +0.5**
comp=Z,82nm,1.4s
KKN Kakani 78.14 301 ⇑*i*P **P** **11 40 19.7 +0.1**
comp=Z,649nm,1.7s
DMN Daman 78.24 300 ⇑*i*P **P** **11 40 20.2 0.0**
comp=Z,916nm,1.4s
SVW2 Sparrevohn 78.38 21 *e*P **P** **11 40 20.6 +0.7**
comp=Z,274nm,1.5s
GKN Gorkha 78.75 301 ⇑*i*P **P** **11 40 22.8 0.0**
comp=Z,1μm,1.5s
RSO Redoubt South 79.01 23 *e*P **P** **11 40 23.7 +0.1**
KOLN Koldanda 79.57 300 ⇑*i*P **P** **11 40 27.1 -0.3**
comp=Z,893nm,1.4s
DANN Dangsing 79.58 301 ⇑*i*P **P** **11 40 27.1 -0.5**
comp=Z,1μm,1.6s
SPU Mount Spurr 79.74 22 *e*P **P** **11 40 27.1 -0.2**
SEW Seward 80.09 24 *e*P **P** **11 40 30.1 +0.9**
comp=Z,279nm,1.7s
PYUN Piuthan 80.18 300 ⇑*i*P **P** **11 40 30.2 -0.5**
comp=Z,688nm,1.1s
RC01 Rabbit Creek A 80.57 23 *e*P **P** **11 40 32.1 +0.3**
comp=Z,248nm,1.4s
PPLA Purkeypile 80.77 21 *e*P **P** **11 40 32.7 -0.4**
comp=Z,172nm,1.6s
PMR Palmer 81.10 23 *e*P **P** **11 40 34.2 -0.4**
PMR pmax pmax
comp=Z,304nm,1.6s
PMR Palmer 81.10 23 *e*P **P** **11 40 34.1 -0.4**
comp=Z,304nm,1.6s
CAST Castle Rocks 81.14 21 *e*P **P** **11 40 34.8 0.0**
comp=Z,302nm,2.1s
WMQ Urumqi 81.27 317 P **P** **11 40 36.3 +0.3**
WMQ pP **pP** **11 40 46.7 +1.6**
WMQ sP **sP** **11 40 50.6 +2.2**
WMQ PP **PP** **11 43 42.7 +0.8**
WMQ S **S** **11 50 45.2 +0.4**
WMQ SKS **SKSac** **11 50 48.2 -5.3**
WMQ SS **SS** **11 56 01.4 +0.4**
WMQ pmax pmax
comp=Z,240nm,1.4s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,830nm,22.3s
WMQ LR LR
comp=Z,1μm,22.0s
KTH Kantishna Hill 81.63 21 *e*P **P** **11 40 36.8 -0.7**
comp=Z,779nm,1.5s
TRD Trivandrum 81.68 280 *e*P **P** **11 40 39.0 +0.3**
TRD AMB AMB 11 40 40.4
comp=Z,127nm,1.9s
TRD ⇓*ex* x 11 40 44.6
QSPA South Pole Qui 81.69 180 PFAKE 11 40 50.0 +12
QSPA LR LR
comp=Z,2μm,20.0s
HYB Hyderabad 81.77 289 *i* P **P** **11 40 37.5 -1.6**
HYB *e*S **S** **11 50 52.0 +1.1**
HYB Hyderabad 81.77 289 *e*P **P** **11 40 36.2 -2.9**
HYB AMB AMB 11 40 39.5
comp=Z,131nm,1.6s
TRF Thorofare Moun 81.79 21 *e*P **P** **11 40 37.8 -0.7**
comp=Z,87nm,1.4s
PAF Port-aux-Franc 81.82 221 PFAKE 11 40 50.0 +11
PAF LR LR
comp=Z,3μm,20.0s
TIXI Tiksi 81.95 351 *e*P **P** **11 40 38.2 -0.7**
TIXI pmax pmax
comp=Z,401nm,1.8s
TIXI MLR MLR
comp=Z,2μm,19.0s
TIXI Tiksi 81.95 351 *e*P **P** **11 40 38.2 -0.7**
comp=Z,401nm,1.8s
TIXI LR LR
comp=Z,2μm,19.0s
NGP Nagpur 82.06 293 *e*P **P** **11 40 39.7 -0.8**
NGP AMB AMB 11 40 40.5
comp=Z,209nm,1.8s
NGP *ex* x 11 50 53.1
DIV Divide 82.17 24 *e*P **P** **11 40 41.5 +1.1**
comp=Z,156nm,1.4s
IM04 Indian Mountai 82.23 18 *e*P **P** **11 40 40.7 +0.1**
MCK McKinley 82.45 21 *e*P **P** **11 40 41.4 -0.3**
MCK pmax pmax
comp=Z,298nm,1.3s
MCK McKinley 82.45 21 *e*P **P** **11 40 41.4 -0.3**
comp=Z,298nm,1.3s
BMRM Bremner River 82.56 25 *e*P **P** **11 40 43.4 +1.0**
comp=Z,233nm,1.5s
LGTI Lohaghat 82.84 301 *e*P **P** **11 40 46.8 +2.3**
PAX Paxson 83.30 23 *e*P **P** **11 40 46.3 +0.1**
PAX pmax pmax
comp=Z,151nm,1.8s
PAX Paxson 83.30 23 *e*P **P** **11 40 46.3 +0.1**
comp=Z,150nm,1.8s
COLA College 83.50 21 *c i*P **P** **11 40 46.5 -0.6**
COLA pmax pmax
comp=Z,562nm,1.4s
COLA College 83.50 21 *e*P **P** **11 40 46.5 -0.6**
comp=Z,60nm,1.5s
COLA LR LR
comp=Z,2μm,19.0s
ILAR Eielson Array 83.78 21 P **P** **11 40 47.8 -0.7**
ILAR PKKPbc **PKKPbc** **11 59 05.1 -3.1**
ILAR P'P' 12 07 07.8
ILAR Eielson Array 83.78 21 P **P** **11 40 47.8 -0.7**
comp=Z,27nm,1.1s,baz=260,slow=4.5,SNR=81
ILAR PKKPbc **PKKPbc** **11 59 05.1 -3.1**
comp=Z,0.7nm,0.8s,baz=349,slow=1.7,SNR=6.4
ILAR PKPPKP **P'P'df** **12 07 07.8 -1.0**
comp=Z,1.2nm,1.2s,baz=327,slow=2.5,SNR=4.4
ILAR LR LR 12 17 08.8
comp=Z,2μm,18.5s,baz=255,slow=35
DGAR Diego Garcia 83.80 263 PFAKE 11 41 00.0 +10
DGAR LR LR
comp=Z,1μm,19.0s
MENT Mentasta 83.96 23 *e*P **P** **11 40 50.2 +0.7**
BHPL Bhopal 83.96 294 *e*P **P** **11 40 49.9 -0.5**
BHPL AMB AMB 11 40 50.5
comp=Z,182nm,1.5s
MAW Mawson 84.05 203 P **P** **11 40 49.5 -0.5**
MAW Mawson 84.05 203 P **P** **11 40 49.5 -0.5**
comp=Z,163nm,1.3s,baz=88,slow=7.1,SNR=19
MAW LR LR 12 16 40.9
comp=Z,1μm,18.4s,baz=84,slow=35
COLD Coldfoot 84.14 18 *e*P **P** **11 40 51.6 +1.3**
comp=Z,128nm,1.7s
DOT Dot Lake 84.20 23 *e*P **P** **11 40 51.3 +0.6**
comp=Z,256nm,1.5s
DDI Dehra Dun 84.89 302 *e*P **P** **11 40 52.5 -2.5**
DDI AMB AMB 11 40 55.5
comp=Z,347nm,3.6s
SIT Sitka 84.99 30 *e*P **P** **11 40 55.9 +1.1**
SIT pmax pmax
comp=Z,163nm,1.6s
SIT Sitka 84.99 30 *e*P **P** **11 40 55.9 +1.1**
comp=Z,163nm,1.6s
NDI New Delhi 85.26 300 *e*P **P** **11 40 55.0 -1.8**
NDI *ex* x 11 51 24.0
HYT Haines Junctio 85.53 27 *e*P **P** **11 40 58.8 +1.1**
SMLA Simla 85.81 302 *e*P **P** **11 40 58.5 -1.0**
SMLA AMB AMB 11 40 59.8
comp=Z,323nm,4.4s
MK31 Makanchi Array 85.83 318 *i* P **P** **11 40 58.8 -0.5**
MK31 pmax pmax
comp=Z,254nm,1.1s
MK31 Makanchi Array 85.83 318 *e*P **P** **11 40 59.2 0.0**
MKAR Makanchi Array 85.83 318 *ce*P **P** **11 40 59.2 0.0**
MKAR pmax pmax
comp=Z,39nm,0.7s
MKAR Makanchi Array 85.83 318 P **P** **11 40 59.2 0.0**
MKAR PKKPbc **PKKPbc** **11 59 00.4 -2.2**
MKAR P'P' 12 07 08.3
MKAR Makanchi Array 85.83 318 P **P** **11 40 59.2 0.0**
comp=Z,39nm,0.7s,baz=98,slow=5.0,SNR=234
MKAR PKKPbc **PKKPbc** **11 59 00.4 -2.2**
comp=Z,1.2nm,1.0s,baz=342,slow=3.1,SNR=5.7
MKAR PKPPKP **P'P'df** **12 07 08.3 +1.7**
comp=Z,3.8nm,1.2s,baz=298,slow=2.6,SNR=11
MKAR LR LR 12 20 34.0
comp=Z,845nm,20.7s,baz=312,slow=37
EGAK Eagle 85.87 22 *e*P **P** **11 41 00.1 +1.0**
comp=Z,227nm,1.5s
EGAK LR LR
comp=Z,2μm,20.0s
SKAG Skagway 85.95 28 *e*P **P** **11 41 01.4 +1.9**
comp=Z,138nm,1.3s
DAWY Dawson 86.20 23 *e*P **P** **11 41 01.8 +1.0**
WRAK Wrangell Islan 86.27 32 PFAKE 11 41 10.0 +8.8
WRAK LR LR
comp=Z,3μm,19.0s
POO Poona 86.37 289 ⇑*i*P **P** **11 41 01.0 -1.6**
comp=Z,357nm,1.5s
POO *e*P **PcP** **11 41 01.6 -3.5**
POO AMB AMB 11 41 02.6
comp=Z,125nm,2.2s
ZALV Zalesovo Beam 86.48 326 *i* P **P** **11 41 01.2 -1.1**
ZALV pmax pmax
comp=Z,28nm,1.0s
ZALV Zalesovo Beam 86.48 326 P **P** **11 41 01.1 -1.1**
ZALV PKKPbc **PKKPbc** **11 59 02.4 +1.2**
ZALV P'P' 12 07 09.3
ZALV Zalesovo Beam 86.48 326 P **P** **11 41 01.1 -1.1**
comp=Z,28nm,1.0s,baz=108,slow=4.8,SNR=92
ZALV PKKPbc **PKKPbc** **11 59 02.4 +1.2**
comp=Z,0.3nm,0.3s,baz=338,slow=1.6,SNR=4.5
ZALV PKPPKP **P'P'df** **12 07 09.3 +4.7**
comp=Z,0.8nm,0.6s,baz=267,slow=2.7,SNR=4.5
ZALV LR LR 12 16 48.9
comp=Z,1μm,19.1s,baz=111,slow=34
DHRM DHARAMSHALA 86.77 303 *e*P **P** **11 41 03.3 -1.2**
DHRM AMB AMB 11 41 04.1
comp=Z,285nm,3.0s
KCPM Cahto Peak 87.03 49 *e*P **P** **11 41 06.2 +0.8**
comp=Z,133nm,2.0s
KIPM Iron Peak 87.13 49 *e*P **P** **11 41 06.7 +0.8**
comp=Z,142nm,1.7s
KHMM Horse Mountain 87.19 48 *e*P **P** **11 41 08.6 +2.3**
comp=Z,56nm,1.3s
HOPS Hopland 87.25 50 *e*P **P** **11 41 06.8 +0.3**
comp=Z,70nm,1.4s
M02C Callahan 87.95 48 ⇑P **P** **11 41 11.5 +1.6**
baz=88
N02D Trinity Center 87.97 48 ⇓P **P** **11 41 11.9 +2.0**
baz=88
WDC Whiskeytown Da 88.00 49 *e*P **P** **11 41 11.3 +1.3**
WDC pmax pmax
comp=Z,443nm,2.8s
WDC Whiskeytown Da 88.00 49 *e*P **P** **11 41 11.3 +1.3**
comp=Z,443nm,2.8s
SAO San Andreas Ge 88.04 53 *e*P **P** **11 41 12.2 +2.0**
SAO pmax pmax
comp=Z,575nm,2.8s
SAO San Andreas Ge 88.04 53 *e*P **P** **11 41 12.2 +2.0**
comp=Z,575nm,2.8s
I03D Drain, OR 88.11 46 ⇑P **P** **11 41 11.9 +1.5**
baz=88
YBH Yreka Blue Hor 88.13 48 *e*P **P** **11 41 11.9 +1.2**
comp=Z,82nm,1.8s
YBH PP **PP** **11 44 38.8 +0.9**
YBH Yreka Blue Hor 88.13 48 P **P** **11 41 11.9 +1.2**
comp=Z,5.6nm,0.9s,baz=177,slow=2.4,SNR=12
YBH PP **PP** **11 44 38.8 +0.9**
comp=Z,15nm,1.4s,baz=200,slow=5.8,SNR=3.9
DLBC Dease Lake 88.14 30 *e*P **P** **11 41 10.9 +0.6**
HUMO Hull Mountain 88.14 47 *e*P **P** **11 41 12.0 +1.3**
comp=Z,182nm,2.3s
G03D McMinnville, O 88.52 44 ⇓P **P** **11 41 14.3 +2.0**
baz=89
KSH Kashi 88.52 310 P **P** **11 41 14.3 +1.7**
KSH sP **sP** **11 41 28.6 +3.5**
KSH *e*PP **PP** **11 44 42.5 +1.4**
KSH *e*SKS **SKSac** **11 51 41.7 +1.6**
KSH S **S** **11 51 55.3 -1.8**
KSH sS **sS** **11 52 12.3 -0.1**
KSH *e*SS **SS** **11 57 49.2 +0.9**
KSH pmax pmax
comp=Z,250nm,1.4s
KSH LR LR
comp=Z,820nm,16.0s
KSH LR LR
comp=Z,510nm,9.8s
KSH LR LR
comp=Z,1μm,16.3s
OHCM Honcut 88.53 50 *e*P **P** **11 41 13.5 +1.0**
AAA Alma-Ata 88.60 314 *i* P **P** **11 41 13.4 +0.6**
AAA *e*S **S** **11 52 00.9 +3.3**
AAA pmax pmax
comp=Z,2μm,7.6s
AAA smax smax
comp=N,2μm,12.1s
AAA MLR MLR
comp=Z,1μm,17.0s
NLWA Neilton Lookou 88.62 42 PFAKE 11 41 20.0 +7.2
NLWA LR LR
comp=Z,2μm,20.0s
E03A Lebam 88.62 43 *e*P **P** **11 41 13.9 +1.2**
comp=Z,98nm,1.4s
M04C Macdoel 88.78 48 ⇓P **P** **11 41 15.1 +1.3**
baz=89
I04A Tendick Farm, 88.80 46 ⇑P **P** **11 41 14.4 +0.7**
baz=89
PTRM Twissleman Ran 88.80 54 *e*P **P** **11 41 15.9 +2.0**
ULHL Ulahol 88.89 313 *i* P **P** **11 41 14.8 +0.4**
ULHL Ulahol 88.89 313 P **P** **11 41 14.8 +0.4**
SNR=54
J04D Umpqua Nationa 88.89 46 ⇑P **P** **11 41 15.6 +1.2**
baz=89
SMMC Simmler 88.90 54 ⇓P **P** **11 41 16.4 +2.0**
baz=89,SNR=27
BSC Santa Cruz Isl 88.95 56 ⇑P **P** **11 41 16.3 +1.6**
baz=89,SNR=5.9
PKM Peak Mountain 88.97 55 ⇓P **P** **11 41 17.0 +2.1**
baz=89,SNR=39
SBC Santa Barbara 88.97 55 ⇑P **P** **11 41 16.7 +2.1**
baz=89
K04D Chiloquin, OR 89.02 47 ⇑P **P** **11 41 15.8 +1.0**
baz=89
CMB Columbia Colle 89.12 52 *e*P **P** **11 41 16.6 +1.2**
CMB pmax pmax
comp=Z,225nm,2.0s
CMB Columbia Colle 89.12 52 *e*P **P** **11 41 16.6 +1.2**
comp=Z,225nm,2.0s
H04A Detroit Lake 89.15 45 *e*P **P** **11 41 15.6 +0.3**
comp=Z,83nm,2.1s
KURK Kurchatov 89.20 321 P **P** **11 41 13.6 -1.8**
KURK pmax pmax
comp=Z,52nm,1.4s
KURK Kurchatov 89.20 321 P **P** **11 41 14.6 -0.8**
KURK LR LR
comp=Z,793nm,19.0s
KURBB Kurchatov Arra 89.24 321 P **P** **11 41 14.6 -0.9**
comp=Z,20nm,1.0s,baz=109,slow=4.4,SNR=105
F04A Amboy 89.26 43 *e*P **P** **11 41 16.7 +1.0**
comp=Z,38nm,1.1s
RPN Rapa Nui 89.32 117 *e*P **P** **11 41 19.1 +2.5**
comp=Z,291nm,1.2s
RPN LR LR
comp=Z,2μm,21.0s
BLG Laguna Peak 89.44 56 ⇓P **P** **11 41 18.1 +1.2**
baz=90
BEKR Beckworth 89.49 50 *e*P **P** **11 41 18.1 +0.9**
comp=Z,125nm,1.9s
TKM2 Tokmak 2 89.50 313 *e*P **P** **11 41 16.8 -0.4**
TKM2 pmax pmax
comp=Z,55nm,1.1s
TKM2 MLR MLR
comp=Z,605nm,20.0s
TKM2 Tokmak 2 89.50 313 P **P** **11 41 17.1 -0.1**
SNR=50
TKM2 Tokmak 2 89.50 313 *e*P **P** **11 41 16.8 -0.4**
comp=Z,55nm,1.1s
TKM2 LR LR
comp=Z,605nm,20.0s
J05D Fort Rock, OR 89.53 46 ⇓P **P** **11 41 18.7 +1.4**
baz=90
KZA Kyzart 89.58 313 *i* P **P** **11 41 18.7 +0.8**
KZA Kyzart 89.58 313 P **P** **11 41 18.7 +0.8**
SNR=123
K05A Summer Lake 89.66 47 *e*P **P** **11 41 19.2 +1.2**
comp=Z,223nm,2.1s
SCI San Clemente I 89.67 57 ⇓P **P** **11 41 19.7 +1.7**
baz=90,SNR=6.9
I05D Terrebonne, OR 89.67 45 ⇓P **P** **11 41 18.9 +1.1**
baz=90
RCTC Rector, Farmer 89.69 53 ⇓P **P** **11 41 19.0 +0.9**
baz=90,SNR=7.8
VES Vestal, Richgr 89.73 54 ⇑P **P** **11 41 19.4 +1.2**
baz=90,SNR=38
OSI Osito Adit 89.81 55 *e*P **P** **11 41 19.9 +1.2**
comp=Z,260nm,1.5s
OSI Osito Adit 89.81 55 ⇓P **P** **11 41 20.6 +1.9**
baz=90
ARVC Arvin 89.81 55 ⇓P **P** **11 41 20.3 +1.6**
baz=90,SNR=39
D05A Enumclaw 89.82 42 *e*P **P** **11 41 19.6 +1.3**
comp=Z,99nm,1.4s
LON Longmire 89.84 43 *e*P **P** **11 41 19.7 +1.1**
LON pmax pmax
comp=Z,83nm,2.1s
LON Longmire 89.84 43 *e*P **P** **11 41 19.7 +1.1**
comp=Z,83nm,2.1s
CIS Catalina Islan 89.86 56 ⇓P **P** **11 41 20.2 +1.3**

baz=90,SNR=31
PINOR Pine Mountain 89.89 46 *e*P **P 11 41 20.6 +1.9**
KBK Karagaybulak 89.91 313 *i* P **P 11 41 19.2 0.0**
KBK Karagaybulak 89.91 313 P **P 11 41 19.2 0.0**
SNR=20
MOD Modoc 89.92 48 *e*P **P 11 41 20.2 +1.0**
comp=Z,44nm,2.0s
WAKR Walker 89.94 51 *e*P **P 11 41 20.9 +1.5**
FMP Fort Macarthur 90.00 56 ⇓P **P 11 41 21.1 +1.6**
baz=90
DECC Green Verdugo 90.06 56 ⇓P **P 11 41 20.9 +1.1**
baz=90,SNR=7.3
CHMS Chumysh 90.12 313 *i* P **P 11 41 19.6 -0.3**
CHMS Chumysh 90.12 313 P **P 11 41 19.7 -0.3**
SNR=47
UCH Uchtor 90.14 313 *i* P **P 11 41 21.1 +0.5**
UCH Uchtor 90.14 313 P **P 11 41 21.2 +0.5**
SNR=101
INK Inuvik 90.16 20 *e*P **P 11 41 19.5 +0.1**
comp=Z,177nm,1.9s
PASC Pasadena Art C 90.17 56 *e*P **P 11 41 21.8 +1.5**
FRU Bishkek 90.18 313 ⇑*i*P **P 11 41 20.0 -0.2**
FRU *i* 11 41 26.0
FRU pmax pmax
comp=Z,368nm,1.8s
ISA Isabella 90.19 54 *e*P **P 11 41 21.7 +1.2**
ISA pmax pmax
comp=Z,30nm,1.5s
ISA Isabella 90.19 54 *e*P **P 11 41 21.7 +1.2**
comp=Z,30nm,1.5s
ISA Isabella 90.19 54 ⇑P **P 11 41 21.8 +1.2**
baz=90,SNR=43
AAK Ala-Archa 90.23 313*c i*P **P 11 41 20.6 -0.1**
AAK pmax pmax
comp=Z,240nm,1.7s
AAK Ala-Archa 90.23 313 P **P 11 41 20.8 +0.1**
SNR=36
AAK Ala-Archa 90.23 313 *e*P **P 11 41 20.6 -0.1**
comp=Z,110nm,1.4s
AAK LR LR
comp=Z,869nm,19.0s
AAK Ala-Archa 90.23 313 P **P 11 41 20.7 +0.1**
comp=Z,8.7nm,0.5s,baz=110,slow=3.8,SNR=65
MLAC Mammoth Lakes 90.25 52 ⇑P **P 11 41 22.4 +1.5**
baz=90
MWC Mount Wilson 90.28 56 *e*P **P 11 41 22.6 +1.5**
MWC pmax pmax
comp=Z,338nm,1.4s
MWC Mount Wilson 90.28 56 *e*P **P 11 41 22.6 +1.5**
comp=Z,338nm,1.4s
G06A Carlson Farm, 90.34 44 *e*P **P 11 41 21.6 +0.7**
comp=Z,84nm,2.0s
USP Ospenovka 90.35 314 *i* P **P 11 41 20.9 -0.1**
USP Ospenovka 90.35 314 P **P 11 41 20.9 -0.1**
SNR=78
MTUM Tungsten Hills 90.41 52 *e*P **P 11 41 23.2 +1.5**
B06A Marblemount 90.43 41 *e*P **P 11 41 22.2 +1.1**
comp=Z,89nm,1.8s
EDW2 Edwards Air Fo 90.45 55 ⇓P **P 11 41 23.3 +1.6**
baz=91,SNR=79
BFSC Mount Baldy Ra 90.61 56 ⇓P **P 11 41 23.5 +0.9**
baz=91,SNR=47
TIN Tinemaha 90.62 53 ⇑P **P 11 41 24.0 +1.5**
baz=91,SNR=10
CWC Cottonwood Cre 90.64 53 ⇑P **P 11 41 24.1 +1.4**
baz=91,SNR=10
LTY Liberty 90.71 42 *e*P **P 11 41 23.0 +0.4**
comp=Z,58nm,1.6s
AML Almayashu 90.72 312 *i* P **P 11 41 23.4 +0.2**
AML Almayashu 90.72 312 P **P 11 41 23.4 +0.2**
SNR=94
EKS2 Erkin-Say 90.76 313 *e*P **P 11 41 22.9 -0.2**
EKS2 pmax pmax
comp=Z,16nm,1.1s
EKS2 MLR MLR
comp=Z,816nm,19.0s
EKS2 Erkin-Say 90.76 313 P **P 11 41 23.3 +0.2**
SNR=44
EKS2 Erkin-Say 90.76 313 *e*P **P 11 41 22.9 -0.2**
comp=Z,16nm,1.1s
EKS2 LR LR
comp=Z,816nm,19.0s
LRMC Laurel Mountai 90.79 54 ⇓P **P 11 41 25.0 +1.6**
baz=91
NVAR Mina Array Bea 90.80 51 P **P 11 41 24.8 +1.4**
NVAR PP **PP 11 44 59.5 0.0**
NVAR PKKPbc **PKKPbc 11 58 50.3 +0.1**
NVAR P'P' 12 06 56.2
NVAR Mina Array Bea 90.80 51 P **P 11 41 24.8 +1.4**
comp=Z,33nm,1.1s,baz=246,slow=5.5,SNR=126
NVAR PP **PP 11 44 59.5 0.0**
comp=Z,11nm,1.4s,baz=260,slow=7.0,SNR=4.1
NVAR PKKPbc **PKKPbc 11 58 50.3 +0.1**
comp=Z,0.7nm,0.8s,baz=61,slow=1.1,SNR=4.3
NVAR PKPPKP **P'P'df 12 06 56.2 -2.1**
comp=Z,1.4nm,1.1s,baz=92,slow=4.5,SNR=6.4
NVAR LR LR 12 20 36.7
comp=Z,2µm,18.1s,baz=93,slow=34
109C Camp Elliot, M 90.84 57 ⇑P **P 11 41 25.2 +1.7**
baz=91,SNR=12
MURC Murrieta 90.88 56 ⇑P **P 11 41 25.0 +1.3**
baz=91,SNR=16
I07A Izee 90.91 46 *e*P **P 11 41 24.7 +1.0**
comp=Z,74nm,1.4s
BHJ Bhuj 91.00 293 *e*P **P 11 41 23.6 -0.8**
BHJ AMB AMB 11 41 25.1
comp=Z,177nm,0.0s
MPMC Manual Prospec 91.04 54 ⇓P **P 11 41 26.1 +1.5**
baz=91,SNR=59
E07A Sunnyside 91.13 43 *e*P **P 11 41 25.5 +1.0**
comp=Z,96nm,1.7s
BAR Barrett 91.17 57 *e*P **P 11 41 26.5 +1.4**
comp=Z,80nm,1.4s
BBRC Big Bear Solar 91.22 56 ⇓P **P 11 41 26.6 +1.1**
baz=91,SNR=13
WVOR Wild Horse Val 91.24 47 *e*P **P 11 41 26.2 +0.9**
WVOR pmax pmax
comp=Z,101nm,1.5s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 91.24 47 *e*P **P 11 41 26.2 +0.9**
comp=Z,101nm,1.5s
WVOR LR LR
comp=Z,2µm,19.0s
RRX Edison Barstow 91.25 55 ⇓P **P 11 41 26.9 +1.6**
baz=92
GRAC Grapevine Rang 91.29 53 ⇓P **P 11 41 27.1 +1.6**
baz=92,SNR=22
HAWA Hanford 91.31 43 *e*P **P 11 41 25.9 +0.6**
comp=Z,76nm,1.6s
HAWA LR LR
comp=Z,3µm,19.0s
MONP Monument Peak 91.41 57 ⇑P **P 11 41 27.9 +1.5**
baz=92,SNR=33
GSC Goldstone 91.47 55 *e*P **P 11 41 27.8 +1.3**
GSC pmax pmax
comp=Z,119nm,1.6s
GSC Goldstone 91.47 55 *e*P **P 11 41 27.8 +1.3**
comp=Z,119nm,1.6s
GSC Goldstone 91.47 55 ⇑P **P 11 41 27.8 +1.3**
baz=92,SNR=36
PFO Pinyon Flat Ob 91.50 56 *e*P **P 11 41 27.9 +1.2**
comp=Z,85nm,1.4s
PFO LR LR
comp=Z,5µm,20.0s
PFO Pinyon Flat Ob 91.50 56 ⇑P **P 11 41 27.9 +1.2**
baz=92,SNR=33
G08A Pilot Rock 91.51 45 *e*P **P 11 41 27.1 +0.6**
comp=Z,81nm,1.6s
J08A Circle Bar Ran 91.52 47 *e*P **P 11 41 27.5 +0.9**
comp=Z,103nm,1.5s
TPH Tonopah 91.58 52 *e*P **P 11 41 28.4 +1.4**
TPH pmax pmax
comp=Z,85nm,1.3s
TPH Tonopah 91.58 52 *e*P **P 11 41 28.4 +1.4**
comp=Z,85nm,1.3s
FURC Furnace Creek, 91.61 54 ⇑P **P 11 41 28.5 +1.5**
baz=92,SNR=105
DVTC Desert V Tower 91.64 57 ⇑P **P 11 41 28.7 +1.4**
baz=92,SNR=15
HEC Hector,Ludlow 91.78 55 ⇓P **P 11 41 29.0 +1.1**
baz=92,SNR=12
SYO Syowa Base 91.82 199 ⇓*e*P P 11 41 24.0 -3.2
SYO Syowa Base 91.82 199 ⇓*e*P P 11 41 37.8 +11
D08A Wollman Farm, 91.85 43 *e*P **P 11 41 28.6 +0.7**
comp=Z,102nm,1.8s
BELC Belle Mtn. Jos 91.93 56 ⇓P **P 11 41 30.2 +1.5**
baz=92,SNR=66
SWSC Sam W. Stewart 91.94 57 ⇓P **P 11 41 30.2 +1.7**
baz=92,SNR=18
BMN Battle Mountai 91.96 50 *e*P **P 11 41 30.7 +2.0**
BMN pmax pmax
comp=Z,179nm,1.9s
BMN Battle Mountai 91.96 50 *e*P **P 11 41 30.7 +2.0**
comp=Z,179nm,1.9s
SHOC Shoshone 91.99 54 ⇑P **P 11 41 30.0 +1.2**
baz=92,SNR=52
TPNV Topopah Spring 92.17 53 *e*P **P 11 41 31.1 +1.4**
TPNV pmax pmax
comp=Z,173nm,1.5s
TPNV Topopah Spring 92.17 53 *e*P **P 11 41 31.1 +1.4**
comp=Z,173nm,1.5s
TPNV Topopah Spring 92.17 53 ⇓P **P 11 41 31.2 +1.4**
baz=92,SNR=52
TUQ Turquoise Moun 92.20 55 ⇑P **P 11 41 31.3 +1.4**
baz=92,SNR=19
E09A Wood Farm, Sta 92.28 43 *e*P **P 11 41 30.3 +0.4**
comp=Z,133nm,1.7s
GMRC Granite Mounta 92.32 55 ⇓P **P 11 41 31.9 +1.4**
baz=92,SNR=58
BC3 Big Chuckawall 92.33 56 ⇓P **P 11 41 32.3 +1.8**
baz=92,SNR=23
C09A Chrisman Ranch 92.41 42 *e*P **P 11 41 30.8 +0.3**
comp=Z,49nm,1.6s
IRM Iron Mountain 92.65 56 ⇓P **P 11 41 33.6 +1.7**
baz=93,SNR=56
GLA Glamis 92.76 57 *e*P **P 11 41 35.0 +2.6**
GLA pmax pmax
comp=Z,19nm,1.4s
GLA Glamis 92.76 57 *e*P **P 11 41 35.0 +2.6**
comp=Z,18nm,1.4s
GLA Glamis 92.76 57 ⇓P **P 11 41 34.4 +1.9**
baz=93,SNR=7.4
LDFC Landfair 92.81 55 *e*P **P 11 41 35.1 +2.4**
comp=Z,227nm,1.3s
F10A Beach Ranch, E 92.82 44 *e*P **P 11 41 32.6 +0.1**
comp=Z,125nm,1.8s
R11A Troy Canyon, C 92.90 52 *e*P **P 11 41 34.3 +1.2**
R11A Troy Canyon, C 92.90 52 ⇑P **P 11 41 34.5 +1.4**
baz=93,SNR=46
SHPR Sheep Range 92.97 54 *e*P **P 11 41 35.1 +1.6**
Y12C Blythe 93.11 57 ⇓P **P 11 41 35.5 +1.5**
baz=93,SNR=16
KBL Kabul 93.14 304 ⇓P **P 11 41 33.7 -0.7**
baz=93
NEE2 Needles Airpor 93.17 55 ⇓P **P 11 41 35.9 +1.7**
baz=93,SNR=8.6
KK31 Karatay Array 93.20 313 *i* P **P 11 41 33.2 -1.0**
KK31 pmax pmax
comp=Z,118nm,1.4s
NEW Newport 93.25 42 *e*P **P 11 41 34.1 -0.2**
comp=Z,79nm,1.8s
NEW LR LR
comp=Z,3µm,19.0s
NEW Newport 93.25 42 ⇓P **P 11 41 34.2 -0.1**
baz=94,SNR=10
MFID Camas Ranch 93.43 47 *e*P **P 11 41 36.3 +0.9**
comp=Z,92nm,1.5s
ELK Elko 93.50 50 *e*P **P 11 41 37.4 +1.5**
comp=Z,79nm,1.6s
PDMCI Parker Dam,Lak 93.50 56 ⇑P **P 11 41 37.4 +1.6**
baz=94,SNR=11
113A Hawk Valley, 93.61 58 ⇓P **P 11 41 37.7 +1.5**
baz=94
W13A Hualapai Mount 93.81 55 ⇑P **P 11 41 38.9 +1.5**
baz=94,SNR=23
214A Organ Pipe Nat 94.31 58 *e*P **P 11 41 41.1 +1.5**
comp=Z,29nm,1.4s
214A Organ Pipe Nat 94.31 58 ⇓P **P 11 41 41.2 +1.6**
baz=94
Z14A Wintersburg 94.37 57 ⇓P **P 11 41 41.6 +1.8**
baz=95
Y14A Wickenburg 94.39 56 ⇓P **P 11 41 41.7 +1.8**
baz=95
HLID Hailey 94.47 47 *e*P **P 11 41 41.1 +0.9**
comp=Z,65nm,1.5s
HLID LR LR
comp=Z,3µm,21.0s
HLID Hailey 94.47 47 ⇑P **P 11 41 41.4 +1.2**
baz=95,SNR=35
ARUT Antelope Range 94.50 53 *e*P **P 11 41 41.7 +1.2**
ARUT Antelope Range 94.50 53 *e*P **P 11 41 41.7 +1.2**
comp=Z,2µm,1.6s
CCUT Cedar City 94.53 53 *e*P **P 11 41 42.6 +1.9**
comp=Z,94nm,1.6s
BVA0 Borovoye Array 94.65 323 *i* P **P 11 41 38.8 -1.8**
BVA0 pmax pmax
comp=Z,126nm,1.5s
BRVK Borovoye 94.72 323*c i*P **P 11 41 39.6 -1.3**
BRVK pmax pmax
comp=Z,125nm,1.7s
BRVK Bovoye 94.72 323 *e*P **P 11 41 39.5 -1.3**
comp=Z,94nm,1.2s
BRVK LR LR
comp=Z,1µm,22.0s
BSMT Bassoo Peak 94.74 42 *e*P **P 11 41 41.8 +0.4**
MSO Missoula 95.19 44 *e*P P 11 41 49.5 +6.2
comp=Z,105nm,3.0s
SWMT Swartz Lake 95.23 43 *e*P **P 11 41 43.0 -0.6**
comp=Z,8.3nm,1.7s
U15A North Rim 95.26 54 ⇑P **P 11 41 45.9 +1.7**
baz=96,SNR=15
DUG Dugway 95.27 50 *e*P **P 11 41 44.7 +0.8**
DUG pmax pmax
comp=Z,35nm,1.5s
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway 95.27 50 *e*P **P 11 41 44.7 +0.8**
comp=Z,35nm,1.5s
DUG LR LR
comp=Z,1µm,19.0s
DUG Dugway 95.27 50 ⇓P **P 11 41 45.3 +1.4**
baz=96
WALA Waterton Lakes 95.46 41 *e*P **P 11 41 45.4 +0.8**
comp=Z,1.6nm,1.5s
HVU Hansel Valley 95.47 49 *e*P **P 11 41 46.0 +1.2**
HVU pmax pmax
comp=Z,182nm,1.8s
HVU Hansel Valley 95.47 49 *e*P **P 11 41 46.0 +1.2**
comp=Z,182nm,1.8s
MVU Mesvale 95.55 52 *e*P **P 11 41 46.9 +1.6**
comp=Z,78nm,1.9s
SPUT South Promonto 95.66 49 *e*P **P 11 41 46.7 +1.0**
comp=Z,116nm,2.0s
CHMT Chamberlain Mo 95.67 44 *e*P **P 11 41 45.6 -0.1**
X16A Lo Mia Camp, P 95.73 56 ⇑P **P 11 41 48.0 +1.8**
baz=96
MCMT McKenzie Canyo 95.73 46 *e*P **P 11 41 46.4 +0.3**
comp=Z,4.1nm,1.1s
NLU Non Lily Min 95.80 51 *e*P **P 11 41 48.3 +1.9**
comp=Z,37nm,1.3s
WUAZ Wupatki 95.90 55 *e*P **P 11 41 49.5 +2.6**
comp=Z,16nm,1.3s
WUAZ LR LR
comp=Z,3µm,22.0s
WUAZ Wupatki 95.90 55 ⇓P **P 11 41 49.1 +2.2**
baz=96
DLMT Dillon 95.97 45 *e*P **P 11 41 47.9 +0.9**
comp=Z,40nm,1.8s
TUC Tucson 96.06 58 *e*P **P 11 41 49.0 +1.4**
TUC pmax pmax
comp=Z,12nm,1.3s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 96.06 58 *e*P **P 11 41 49.0 +1.4**
comp=Z,12nm,1.3s
TUC LR LR
comp=Z,3µm,20.0s
LRM Limekiln Ridge 96.11 45 *e*P **P 11 41 48.3 +0.5**
MPU Maple Canyon 96.15 51 *e*P **P 11 41 49.9 +1.9**
comp=Z,115nm,2.1s
EDM Edmonton 96.24 37 *e*P **P 11 41 47.0 -0.9**
EDM Edmonton 96.24 37 *e*P **P 11 41 47.0 -0.9**
TMUT Trail Mountain 96.40 51 *e*P **P 11 41 51.1 +1.7**
comp=Z,38nm,1.3s
YKA Yellowknife Ar 96.45 28 P **P 11 41 48.6 +0.1**
YKA PKKPbc **PKKPbc 11 58 32.9 -3.1**
YKA PKKP **PKKPdf 11 58 38.7 +1.5**
YKA Yellowknife Ar 96.45 28 P **P 11 41 48.6 +0.1**
comp=Z,18nm,1.1s,baz=264,slow=4.5,SNR=106
YKA PKKPbc **PKKPbc 11 58 32.9 -3.1**
comp=Z,3.7nm,1.2s,baz=82,slow=2.8,SNR=15
YKA PKKP **PKKPdf 11 58 38.7 +1.5**
comp=Z,1.9nm,0.9s,baz=82,slow=2.8,SNR=12
DAU Daniels Canyon 96.47 50 *e*P **P 11 41 51.4 +1.8**
DAU Daniels Canyon 96.47 50 *e*P **P 11 41 51.4 +1.8**
BOZ Bozeman (W) 96.67 45 *e*P **P 11 41 51.0 +0.8**
BOZ MLR MLR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 96.67 45 *e*P **P 11 41 51.0 +0.8**
BOZ LR LR
comp=Z,3µm,19.0s
AHID Auburn Hatcher 96.80 48 PFAKE 11 42 00.0 +9.1
AHID LR LR
comp=Z,2µm,20.0s
SRU San Rafael 96.92 52 *e*P **P 11 41 53.1 +1.6**
SRU pmax pmax
comp=Z,37nm,1.7s
SRU San Rafael 96.92 52 *e*P **P 11 41 53.1 +1.6**
comp=Z,37nm,1.7s
X18A Snowflake 96.97 56 ⇓P **P 11 41 52.9 +1.1**
baz=97
REDW Red Top Meadow 97.03 47 *e*P Pdif 11 41 52.7 +0.6
YMR Madison River 97.06 46 *e*P Pdif 11 41 53.9 +1.7
comp=Z,25nm,1.3s
YFT Old Faithful 97.13 46 *e*P Pdif 11 41 55.2 +2.7
comp=Z,27nm,1.3s
MOOW Moose Ponds 97.14 47 *e*P Pdif 11 41 53.5 +1.0
comp=Z,72nm,2.3s
W18A Petrified Fore 97.19 56 *e*P Pdif 11 41 56.3 +3.3
W18A Petrified Fore 97.19 56 ⇓P Pdif 11 41 54.8 +1.9
baz=97
FLWY Flagg Ranch 97.20 47 *e*P Pdif 11 41 54.1 +1.3
comp=Z,27nm,1.4s
LOHW Long Hollow 97.23 47 *e*P Pdif 11 41 53.5 +0.5
comp=Z,25nm,1.7s
319A Douglas 97.24 59 ⇑P Pdif 11 41 53.5 +0.4
baz=97
I17A Pilgrim Ck. 97.28 47 ⇑P Pdif 11 41 54.2 +1.0
baz=98,SNR=7.3
H17A Grant Village 97.31 46 *e*P Pdif 11 41 55.6 +2.3
comp=Z,9.5nm,1.1s
H17A Grant Village 97.31 46 ⇑P Pdif 11 41 55.1 +1.7
baz=98
320A Kipp Ranch, An 97.88 59 ⇑P Pdif 11 41 58.0 +2.0
baz=98
BW06 Boulder Array 97.93 48 *e*P Pdif 11 41 56.1 0.0
comp=Z,25nm,1.4s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 97.93 48 P Pdif 11 41 56.1 0.0
PDAR PP **PP 11 45 56.1 +1.1**
PDAR P'P' 12 06 46.5
PDAR Pinedale Array 97.93 48 P Pdif 11 41 56.1 0.0
comp=Z,3.8nm,0.9s,baz=250,slow=3.0,SNR=25
PDAR PP **PP 11 45 56.1 +1.1**
comp=Z,4.1nm,1.2s,baz=270,slow=3.0,SNR=3.6
PDAR PKPPKP **P'P'df 12 06 46.5 +1.8**
comp=Z,0.3nm,0.8s,baz=64,slow=3.4,SNR=4.3
PDAR LR LR 12 25 17.1
comp=Z,1µm,18.1s,baz=263,slow=35
GCMT Greycliff 98.05 45 *e*P Pdif 11 41 56.9 +0.5
comp=Z,22nm,1.7s
PV04 Paradox Valley 98.12 52 *e*P Pdif 11 41 58.9 +1.9
EGMT Eagleton 98.12 43 *e*P Pdif 11 41 57.0 +0.4
comp=Z,137nm,2.5s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 98.12 43 ⇑Pdiff Pdif 11 41 56.8 +0.2
baz=98
RLMT Red Lodge 98.29 46 PFAKE 11 42 10.0 +12
RLMT LR LR
comp=Z,2µm,19.0s
J19A Crowheart 98.33 47 ⇑Pdiff Pdif 11 41 58.5 +0.7
baz=98
MVCO Mesa Verde 98.36 54 *e*P Pdif 11 42 00.2 +2.1
comp=Z,51nm,1.9s
MVCO LR LR
comp=Z,2µm,19.0s
MVCO Mesa Verde 98.36 54 ⇓Pdiff Pdif 11 41 58.5 +0.4
baz=99
PV01 Paradox Valley 98.37 53 *e*P Pdif 11 41 58.2 0.0
comp=Z,1µm,1.4s
I19A Meeteetse 98.42 47 ⇑Pdiff Pdif 11 41 59.0 +0.8
baz=99
H19A Powell 98.47 46 ⇑Pdiff Pdif 11 41 59.2 +0.9
baz=99
F19A Roth Farm, Mol 98.56 45 ⇓Pdiff Pdif 11 41 59.4 +0.7
baz=99
C19A Slack Wire Ran 98.58 43 ⇓Pdiff Pdif 11 41 59.2 +0.6
baz=99
121A Cookes Peak, D 98.60 58 ⇓Pdiff Pdif 11 42 00.2 +0.9
baz=99
D19A Cripps Ranch, 98.67 44 ⇓Pdiff Pdif 11 41 59.7 +0.7
baz=99
B19A Brinkman Farms 98.69 42 ⇑Pdiff Pdif 11 41 59.7 +0.6
baz=99
E19A Rath Farm, Rou 98.70 44 ⇓Pdiff Pdif 11 42 00.2 +1.0
baz=99
O20A White River Ci 98.75 51 *e*P Pdif 11 42 01.4 +1.6
O20A White River Ci 98.75 51 ⇑Pdiff Pdif 11 42 00.9 +1.1
baz=99
N20A Spence Gulch, 98.78 50 ⇑Pdiff Pdif 11 42 00.7 +0.8
baz=99
A19A Klindworth Far 98.84 42 ⇑Pdiff Pdif 11 42 00.2 +0.4
baz=99
G20A Bridger 99.04 46 ⇑Pdiff **Pdif 11 42 01.6 +0.8**
baz=99
I20A Worland 99.04 47 ⇑Pdiff **Pdif 11 42 01.8 +0.9**
baz=99
J20A Shoshoni 99.04 47 ⇑Pdiff **Pdif 11 42 01.9 +1.0**
baz=99
F20A Billings 99.11 45 ⇑Pdiff **Pdif 11 42 01.9 +0.8**
baz=99
E20A Meyer Farm, Mu 99.16 44 ⇓Pdiff **Pdif 11 42 02.1 +0.9**
baz=99
H20A Greybull 99.16 46 ⇓Pdiff **Pdif 11 42 02.0 +0.7**
baz=99
D20A Manuel Ranch, 99.17 44 ⇑Pdiff **Pdif 11 42 02.2 +0.9**
baz=99
C20A Veseth Ranch, 99.29 43 ⇓Pdiff **Pdif 11 42 02.2 +0.4**
baz=100
B20A Solberg Farm, 99.30 42 ⇓Pdiff **Pdif 11 42 02.2 +0.3**
baz=100
Z22A Elephant Butte 99.34 58 ⇓Pdiff **Pdif 11 42 02.9 +0.4**
baz=100
A20A Cobblestone Ra 99.38 42 ⇓Pdiff **Pdif 11 42 02.7 +0.6**
baz=100
J21A Lysite 99.51 47 ⇓Pdiff **Pdif 11 42 03.6 +0.5**
baz=100
K21A Alcova 99.62 48 ⇑Pdiff **Pdif 11 42 04.3 +0.8**
baz=100
U22A Llaves 99.62 55 ⇓Pdiff **Pdif 11 42 04.7 +0.9**
baz=100
I21A Big Trails, Te 99.64 47 ⇑Pdiff **Pdif 11 42 04.4 +0.8**
baz=100
SMCO Snowmass 99.67 52 *e*Pdif Pdif **11 42 06.1 +1.9**
comp=Z,89nm,2.5s
S22A 4UR Ranch, Cre 99.72 53 ⇓Pdiff **Pdif 11 42 05.5 +1.3**
baz=100
G21A Lodge Grass 99.75 46 ⇓Pdiff **Pdif 11 42 05.3 +1.3**
baz=100
H21A Big Horn, Sher 99.85 46 ⇑Pdiff **Pdif 11 42 05.5 +1.0**
baz=100
P22A Eagle 99.86 51 ⇑Pdiff **Pdif 11 42 05.9 +1.1**
baz=100
ANMO Albuquerque 99.87 56 *e*Pdif **Pdif 11 42 09.6 +4.7**
comp=Z,115nm,3.0s
ANMO LR LR
comp=Z,2µm,22.0s
E21A Keefer Ranch, 99.88 44 ⇓Pdiff **Pdif 11 42 05.5 +1.0**
baz=100
D21A La Casta Ranch 99.95 44 ⇑Pdiff **Pdif 11 42 05.4 +0.6**
baz=100
Z23A Rita Site, Whi 99.96 58 ⇓Pdiff **Pdif 11 42 05.5 +0.3**
baz=100
B21A Ellsworth Farm 99.97 42 ⇑Pdiff **Pdif 11 42 05.7 +1.0**
baz=100
A21A Bergtoll Ranch 100.04 42 ⇑Pdiff **Pdif 11 42 05.6 +0.5**
baz=100
O22A Kremmling 100.05 51 ⇓Pdiff **Pdif 11 42 06.5 +0.8**
baz=100
M22A Cedar Creek Ra 100.06 49 ⇓Pdiff **Pdif 11 42 06.3 +0.6**
baz=100
V23A Ortiz Mt. (NFS 100.13 55 ⇑Pdiff **Pdif 11 42 07.1 +1.1**
baz=100
Y23A Lovelace Mesa, 100.14 57 ⇑Pdiff **Pdif 11 42 07.0 +0.9**
baz=100
N22A Wattenberg Ran 100.14 50 ⇑Pdiff **Pdif 11 42 06.7 +0.6**
baz=100
K22A Casper 100.16 48 *e*Pdif **Pdif 11 42 06.9 +1.0**
K22A Casper 100.16 48 ⇓Pdiff **Pdif 11 42 06.5 +0.5**

baz=100
L22A Ellis Ranch, M 100.20 49 ⇓Pdiff Pdif 11 42 06.9 +0.7
baz=100
J22A Midwest 100.22 47 ⇑Pdiff Pdif 11 42 07.0 +0.8
baz=100
I22A 9 Mile Ranch, 100.23 47 ⇓Pdiff Pdif 11 42 07.1 +1.0
baz=100
H22A Clearmont 100.34 46 ⇓Pdiff Pdif 11 42 07.9 +1.3
baz=100
G22A Birney 100.40 46 ⇑Pdiff Pdif 11 42 08.1 +1.3
baz=101
F22A Rosebud 100.44 45 ⇑Pdiff Pdif 11 42 08.2 +1.2
baz=101
LAO LASA Array 100.47 44 PFAKE 11 42 20.0 +13
LAO LR LR
comp=Z,3μm,19.0s
324A Moseley Ranch, 100.48 60 ⇓Pdiff Pdif 11 42 08.4 +0.8
baz=101
SVE Sverdlovsk 100.48 326 eP Pdif 11 42 05.5 -1.3
SVE pmax pmax
comp=Z,25nm,1.5s
224A Cornudas Mount 100.48 59 ⇑Pdiff Pdif 11 42 08.0 +0.4
baz=101
D22A Cohagen 100.51 44 ⇓Pdiff Pdif 11 42 08.0 +0.8
baz=101
O23A Lake Granby, G 100.53 51 ⇑Pdiff Pdif 11 42 08.6 +0.8
baz=101
N23A Red Feather La 100.53 50 ⇑Pdiff Pdif 11 42 08.9 +1.1
baz=101
MNTX Cornudas Mount 100.58 59 PFAKE 11 42 20.0 +12
MNTX LR LR
comp=Z,2μm,19.0s
B22A Reddig Ranch S 100.65 42 ⇑Pdiff Pdif 11 42 08.5 +0.7
baz=101
Z24A Sheeppen Canyo 100.68 58 ⇓Pdiff Pdif 11 42 09.3 +0.8
baz=101
A22A Carney Farms, 100.71 42 ⇑Pdiff Pdif 11 42 08.0 -0.1
baz=101
C22A Vida 100.72 43 ⇑Pdiff Pdif 11 42 08.3 +0.2
baz=101
W24A Lazy 6 Ranch, 100.74 56 ⇓Pdiff Pdif 11 42 08.9 +0.2
baz=101
ISCO Idaho Springs 100.75 51 PFAKE 11 42 20.0 +11
ISCO LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 100.75 51 ⇑Pdiff Pdif 11 42 09.3 +0.5
baz=101
L23A Garrett 100.75 49 ⇑Pdiff Pdif 11 42 09.0 +0.3
baz=101
SDCO Great Sand Dun 100.77 53 ePdif Pdif 11 42 16.9 +8.0
SDCO LR LR
comp=Z,2μm,19.0s
K23A Bowen Ranch, D 100.82 48 ⇓Pdiff Pdif 11 42 09.5 +0.7
baz=101
425A Indio Mountain 100.87 60 ⇓Pdiff Pdif 11 42 09.8 +0.4
baz=101
V24A Rampart Ranch, 100.87 55 ⇓Pdiff Pdif 11 42 10.0 +0.7
baz=101
MSEY Mahe Island 100.89 264 PFAKE 11 42 20.0 +10
MSEY LR LR
comp=Z,2μm,21.0s
PHWY Pilot Hill 100.91 50 ePdif Pdif 11 42 10.8 +1.4
325A Bean Ranch, Si 100.92 60 ⇑Pdiff Pdif 11 42 10.3 +0.8
baz=101
PMSA Palmer Station 100.92 163 PFAKE 11 42 20.0 +11
PMSA LR LR
comp=Z,2μm,20.0s
AB31 Akbulak array 100.97 319 i P Pdif 11 42 06.9 -2.2
AB31 pmax pmax
comp=Z,3.0nm,0.5s
S24A Houchin Ranch, 100.99 53 ⇑Pdiff Pdif 11 42 11.2 +1.2
baz=101
F23A Volborg 101.03 45 ⇑Pdiff Pdif 11 42 10.6 +1.0
baz=101
G23A Biddle 101.03 46 ⇓Pdiff Pdif 11 42 10.6 +0.9
baz=101
225A Deer Hill, Car 101.08 59 ⇑Pdiff Pdif 11 42 10.3 0.0
baz=101
R24A Sanders Place, 101.10 53 ⇑Pdiff Pdif 11 42 11.0 +0.7
baz=101
E23A Ismay 101.11 44 ⇓Pdiff Pdif 11 42 11.1 +1.2
baz=101
C23A Lambert 101.19 43 ⇑Pdiff Pdif 11 42 10.9 +0.7
baz=101
Z25A Roswell 101.22 58 ⇑Pdiff Pdif 11 42 11.6 +0.7
baz=101
Y25A Mesa, Roswell 101.27 57 ⇑Pdiff Pdif 11 42 11.9 +0.9
baz=102
B23A Brockton 101.32 42 ⇓Pdiff Pdif 11 42 11.3 +0.5
baz=102
A23A Redstone 101.39 42 ⇓Pdiff Pdif 11 42 11.8 +0.7
baz=102
K24A Anderson Ranch 101.42 48 ⇓Pdiff Pdif 11 42 12.5 +1.0
baz=102
J24A Dixon Ranch, L 101.54 48 ⇓Pdiff Pdif 11 42 12.4 +0.5
baz=102
626A Big Bend Ranch 101.54 62 ⇓Pdiff Pdif 11 42 12.9 +0.6
baz=102
I24A Kuemmerle Ranc 101.57 47 ⇓Pdiff Pdif 11 42 12.6 +0.5
baz=102
U25A Circle Dot Ran 101.60 55 ⇑Pdiff Pdif 11 42 12.2 -0.3
baz=102
526A Mary Lane Ranc 101.61 61 ⇓Pdiff Pdif 11 42 12.3 -0.4
baz=102
S25A Robets Cordova 101.61 53 ⇑Pdiff Pdif 11 42 12.7 +0.1
baz=102
T25A Trinidad 101.62 54 ⇑Pdiff Pdif 11 42 12.8 +0.2
baz=102
H24A Dirks Ranch, A 101.63 46 ⇓Pdiff Pdif 11 42 12.8 +0.5
baz=102
226B Tecolote Peak, 101.64 59 ⇓Pdiff Pdif 11 42 12.9 +0.3
baz=102
ARU Arti 101.64 326 c i P Pdif 11 42 10.0 -1.9
ARU 11 46 19.4
ARU S SKSac 11 52 46.6 -2.7
ARU SP SP 11 55 19.2 -3.5
ARU PS PS 11 55 28.9 +2.0
ARU pmax pmax
comp=Z,30nm,1.5s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 101.64 326 ePdif Pdif 11 42 10.2 -1.8
ARU LR LR
comp=Z,1μm,19.0s
426A McDonald Obser 101.69 60 ⇓Pdiff Pdif 11 42 13.0 -0.1
baz=102
F24A Ekalaka 101.70 45 ⇑Pdiff Pdif 11 42 13.2 +0.5
baz=102
G24A Alzada 101.72 45 ⇓Pdiff Pdif 11 42 13.6 +0.9
baz=102
R25A Fountain Ranch 101.74 53 ⇑Pdiff Pdif 11 42 14.0 +0.9
baz=102
326A Caldwell Ranch 101.76 60 ⇑Pdiff Pdif 11 42 13.3 +0.1
baz=102
D24A Glendive 101.78 44 ⇑Pdiff Pdif 11 42 13.9 +1.0
baz=102
Q25A Bedland, Calha 101.79 52 ⇑Pdiff Pdif 11 42 14.2 +0.9
baz=102
E24A Baker 101.80 44 ⇑Pdiff Pdif 11 42 13.7 +0.7
baz=102
Z26A Caprock 101.84 58 ⇓Pdiff Pdif 11 42 14.3 +0.7
baz=102
DGMT Dagmar 101.85 42 PFAKE 11 42 30.0 +17
DGMT LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 101.85 42 ⇑Pdiff Pdif 11 42 14.2 +1.0
baz=102
P25A Willow Gulch B 101.86 51 ⇓Pdiff Pdif 11 42 14.0 +0.4
baz=102
O25A Wiggins 101.91 51 ⇓Pdiff Pdif 11 42 14.3 +0.6
baz=102
TXAR Lajitas Array 101.94 62 P Pdif 11 42 14.2 +0.2
TXAR PP PP 11 46 21.5 -4.1
TXAR PKKPbc PKKPbc 11 58 18.9 -0.5
TXAR PKKP PKKPdf 11 58 25.3 -1.1
TXAR Lajitas Array 101.94 62 P Pdif 11 42 14.2 +0.2
comp=Z,1.4nm,1.1s,baz=261,slow=3.2,SNR=4.0
TXAR PP PP 11 46 21.5 -4.1
comp=Z,4.8nm,1.2s,baz=255,slow=3.8,SNR=5.4
TXAR PKKPbc PKKPbc 11 58 18.9 -0.5
comp=Z,1.6nm,1.1s,baz=106,slow=4.4,SNR=5.6
TXAR PKKP PKKPdf 11 58 25.3 -1.1
comp=Z,1.9nm,0.9s,baz=52,slow=2.1,SNR=8.5
A24A Westby 101.97 42 ⇓Pdiff Pdif 11 42 14.1 +0.4
baz=102
RSSD Black Hills 102.00 47 eP Pdif 11 42 15.0 +0.9
RSSD Black Hills 102.00 47 ePdif Pdif 11 42 15.0 +0.9

527A Woodward Ranch 102.02 61 ⇓Pdiff Pdif 11 42 14.9 +0.4
baz=102
X26A CR and CF Fran 102.03 56 ⇓Pdiff Pdif 11 42 15.1 +0.7
baz=102
V26A Tequesquite Ra 102.08 55 ⇑Pdiff Pdif 11 42 15.2 +0.6
baz=102
627A Terlingua Ranc 102.18 62 ⇑Pdiff Pdif 11 42 15.6 +0.4
baz=102
AKTO Aktyubinsk 102.20 320 P Pdif 11 42 12.4 -2.2
AKTO pmax pmax
comp=Z,17nm,1.5s
I25A Rochford 102.22 47 ⇑Pdiff Pdif 11 42 15.6 +0.5
baz=102
H25A Fruitdale 102.31 46 ⇑Pdiff Pdif 11 42 16.2 +0.9
baz=102
Q26A Hugo 102.36 52 ⇓Pdiff Pdif 11 42 16.7 +0.9
baz=102
227A Bennet, Jal 102.37 59 ⇑Pdiff Pdif 11 42 16.9 +1.0
baz=103
S26A Kim 102.38 53 ⇓Pdiff Pdif 11 42 17.0 +1.2
baz=103
F25A Bowman 102.39 45 ⇓Pdiff Pdif 11 42 16.6 +0.9
baz=103
E25A Miller Ranch, 102.42 44 ⇑Pdiff Pdif 11 42 16.2 +0.5
baz=103
G25A Newell 102.43 46 ⇓Pdiff Pdif 11 42 16.9 +1.0
baz=103
D25A Fairfield 102.46 44 ⇓Pdiff Pdif 11 42 17.0 +1.1
baz=103
P26A Davis Ranch, A 102.50 51 ⇓Pdiff Pdif 11 42 17.3 +0.9
baz=103
O26A Horse Wrangler 102.53 51 ⇓Pdiff Pdif 11 42 17.2 +0.7
baz=103
Y27A Causey 102.54 57 ⇑Pdiff Pdif 11 42 17.2 +0.5
baz=103
B25A Knox Farm, Ray 102.54 42 ⇑Pdiff Pdif 11 42 16.9 +0.6
baz=103
A25A Svangstu Ranch 102.56 42 ⇓Pdiff Pdif 11 42 17.0 +0.8
baz=103
628A Black Gap, Mar 102.62 62 ⇓Pdiff Pdif 11 42 18.3 +1.2
baz=103
J26A Sides Ranch, S 102.70 48 ⇓Pdiff Pdif 11 42 18.6 +1.5
baz=103
L26A Underwood Farm 102.70 49 ⇑Pdiff Pdif 11 42 18.5 +1.3
baz=103
328A Wristen Ranch, 102.76 60 ⇓Pdiff Pdif 11 42 18.8 +1.1
baz=103
I26A New Underwood 102.84 47 ⇓Pdiff Pdif 11 42 19.3 +1.6
baz=103
428A Kincaid Ranch, 102.85 60 ⇓Pdiff Pdif 11 42 19.1 +1.1
baz=103
R27A Eads 102.92 53 ⇑Pdiff Pdif 11 42 19.3 +1.1
baz=103
F26A Lodgepole 102.94 45 ⇑Pdiff Pdif 11 42 19.0 +0.9
baz=103
FFC Flin Flon 102.97 36 eP Pdif 11 42 18.8 +0.9
FFC MLR MLR
comp=Z,3μm,21.0s
FFC Flin Flon 102.97 36 ePdif Pdif 11 42 18.8 +0.9
FFC LR LR
comp=Z,3μm,21.0s
228A UT Block 9, Go 102.97 59 ⇑Pdiff Pdif 11 42 19.7 +1.1
baz=103
E26A Carlson Angus 103.07 44 ⇓Pdiff Pdif 11 42 19.2 +0.6
baz=103
D26A Manning 103.07 44 ⇓Pdiff Pdif 11 42 19.3 +0.7
baz=103
A26A Wade Farm, Ken 103.27 42 ⇓Pdiff Pdif 11 42 19.9 +0.5
baz=103
C26A Wahner Farm, P 103.27 43 ⇑Pdiff Pdif 11 42 20.3 +0.9
baz=104
K27A Flueckinger Fa 103.32 48 ⇑Pdiff Pdif 11 42 20.2 +0.3
baz=104
H27A Howes 103.39 46 ⇑Pdiff Pdif 11 42 21.1 +1.0
baz=104
F27A Lemmon 103.40 45 ⇑Pdiff Pdif 11 42 20.9 +0.8
baz=104
I27A Quinn 103.43 47 ⇑Pdiff Pdif 11 42 21.0 +0.8
baz=104
G27A Dupree 103.47 45 ⇑Pdiff Pdif 11 42 21.4 +0.9
baz=104
J27A Elkhorn Farm, 103.48 48 ⇑Pdiff Pdif 11 42 21.9 +1.3
baz=104
429A Davenport Ranc 103.52 61 ⇑Pdiff Pdif 11 42 22.1 +1.1
baz=104
C27A Sayler Ranch, 103.68 43 ⇑Pdiff Pdif 11 42 22.6 +1.4
baz=104
D27A Center 103.69 44 ⇓Pdiff Pdif 11 42 22.7 +1.3
baz=104
E27A Carson 103.69 44 ⇑Pdiff Pdif 11 42 22.6 +1.2
baz=104
L28A Connealy Angus 103.87 49 ⇓Pdiff Pdif 11 42 23.5 +1.2
baz=104
N28A Pribbeno Ranch 103.88 50 ⇓Pdiff Pdif 11 42 23.5 +1.1
baz=104
530A J-C Ranch, Com 103.99 61 ⇓Pdiff Pdif 11 42 24.7 +1.6
baz=104
J28A Allard Ranch, 104.04 47 ⇑Pdiff Pdif 11 42 24.4 +1.4
baz=104
I28A Midland 104.06 47 ⇓Pdiff Pdif 11 42 24.2 +1.1
baz=104
430A Baggett Ranch, 104.09 60 ⇑Pdiff Pdif 11 42 24.3 +0.7
baz=104
H28A Mission Ridge 104.15 46 ⇓Pdiff Pdif 11 42 24.3 +0.9
baz=104
G28A Parade 104.20 46 ⇓Pdiff Pdif 11 42 24.7 +1.0
baz=104
Z30A Sanderson Ranc 104.23 58 ⇓Pdiff Pdif 11 42 24.8 +0.7
baz=104
F28A McLaughlin 104.25 45 ⇑Pdiff Pdif 11 42 24.9 +1.1
baz=104
E28A Huff 104.29 44 ⇓Pdiff Pdif 11 42 25.1 +1.1
baz=104
Q29A Oakley 104.34 52 ⇑Pdiff Pdif 11 42 25.7 +1.2
baz=104
B28A Dugan Ranch, T 104.40 42 ⇓Pdiff Pdif 11 42 25.9 +1.5
baz=105
A28A Rude Farm, Bot 104.43 42 ⇓Pdiff Pdif 11 42 26.1 +1.5
baz=105
431A Sonora 104.63 60 ⇓Pdiff Pdif 11 42 27.7 +1.7
baz=105
631A Perdido Creek 104.64 62 ⇓Pdiff Pdif 11 42 27.2 +1.3
baz=105
L29A Maesberg Ranch 104.64 49 ⇑Pdiff Pdif 11 42 27.0 +1.3
baz=105
K29A Lazy Trails An 104.73 48 ⇓Pdiff Pdif 11 42 27.1 +1.0
baz=105
331A San Angelo 104.80 60 ⇓Pdiff Pdif 11 42 27.8 +1.1
baz=105
W31A Holland Ranch, 105.21 56 ⇑Pdiff Pdif 11 42 29.4 +0.9
baz=105
632A Uvalde 105.33 62 ⇑Pdiff Pdif 11 42 30.1 +1.1
baz=106
JCT Junction City 105.33 61 eP Pdif 11 42 31.8 +2.8
JCT MLR MLR
comp=Z,2μm,20.0s
JCT Junction City 105.33 61 ePdif Pdif 11 42 31.8 +2.8
JCT LR LR
comp=Z,2μm,20.0s
JCT Junction City 105.33 61 ⇑Pdiff Pdif 11 42 29.7 +0.7
baz=106
332A Millersview 105.39 60 ⇑Pdiff Pdif 11 42 30.4 +1.2
baz=106
ABPO Ambohimpanom 105.88 248 PFAKE 11 47 00.0
ABPO LR LR
comp=Z,2μm,20.0s
WMOK Wichita Mounta 106.17 56 PFAKE 11 47 00.0
WMOK LR LR
comp=Z,3μm,21.0s
KBS Kingsbay 107.33 353 PFAKE 11 47 00.0
KBS LR LR
comp=Z,987nm,19.0s
ECSD EROS Data Cent 107.37 47 PFAKE 11 47 00.0
ECSD LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 107.40 42 PFAKE 11 47 00.0
AGMN LR LR
comp=Z,2μm,20.0s
PRGR Permogore 107.44 332 P Pdif 11 42 34.7 -2.9
PRGR pmax pmax
comp=Z,6.0nm,0.3s
KSU1 Kansas State U 107.73 52 PFAKE 11 47 00.0
KSU1 LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 109.52 340 PFAKE 11 47 00.0
LVZ LR LR
comp=Z,1μm,19.0s
NATX Nacogdoches 109.72 59 PFAKE 11 47 00.0

NATX LR LR
comp=Z,3μm,22.0s
MAK Makhachkala 110.02 313 eP Pdif 11 42 52.1 +2.6
MAK e 11 47 24.7
MAK ePPP PPP 11 49 40.8
MAK e 11 53 26.0
MAK ePS PS 11 56 43.6 -11
MAK eSP SP 11 56 50.0 -0.1
MAK eSS SS 12 02 52.3 +3.9
MAK pmax pmax
comp=Z,106nm,1.0s
SCIA State Center 110.05 48 PFAKE 11 47 00.0
SCIA LR LR
comp=Z,2μm,20.0s
APA Apatity 110.10 340 ⇑i PKIKP PKiKP 11 46 56.0 +5.3
APA i PS PS 11 56 52.0 -1.9
APA i SS SS 12 02 52.0 +4.1
APA MLR MLR
comp=Z,1μm,18.0s
EYMN Ely 110.34 42 PFAKE 11 47 00.0
EYMN LR LR
comp=Z,2μm,19.0s
MIAR Mount Ida 110.47 56 PFAKE 11 47 00.0
MIAR LR LR
comp=Z,3μm,21.0s
KEV Kevo 110.90 343 PFAKE 11 47 00.0
KEV LR LR
comp=Z,2μm,22.0s
ARCES ARCESS Array B 111.45 344 PKiKP PKiKP 11 46 53.6 +0.3
ARCES ARCESS Array B 111.45 344 PKiKP PKiKP 11 46 53.6 +0.3
comp=Z,4.9nm,1.1s,baz=13,slow=1.9,SNR=6.3
JFWS Jewell Farm 112.08 47 PFAKE 11 47 10.0
JFWS LR LR
comp=Z,2μm,20.0s
VRHR Novokhopersk 112.38 322 eP KIKP PKiKP 11 46 56.2 +0.7
VRHR pmax pmax
comp=N,40nm,1.8s
VRHR pmax pmax
comp=Z,10.0nm,1.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
EFI East Falkland 113.02 157 PFAKE 11 47 10.0
EFI LR LR
comp=Z,964nm,19.0s
KIV Kislovodsk 113.31 314 PFAKE 11 47 10.0
KIV LR LR
comp=Z,945nm,19.0s
VORD Divnogorie 113.83 322 eP KIKP PKiKP 11 46 56.9 -1.4
VORD e 11 47 48.4
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD pmax pmax
comp=Z,5.0nm,1.3s
VORD pmax pmax
comp=E,9.0nm,0.9s
VORD pmax pmax
comp=N,570nm,4.9s
VORD pmax pmax
comp=E,420nm,4.9s
VORD pmax pmax
comp=Z,880nm,4.9s
VSR Storozhevoye 113.83 323 eP KIKP PKiKP 11 46 57.0 -1.3
VSR pmax pmax
comp=Z,6.0nm,1.0s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.4s
OBN Obninsk 114.02 327 i PKIKP PKiKP 11 46 59.0 +0.5
OBN e 11 47 11.7
OBN e 11 47 51.7
OBN ePS PS 11 57 23.6 -6.8
OBN eSS SS 12 03 41.3 +0.6
OBN pmax pmax
comp=Z,8.0nm,1.4s
OBN Obninsk 114.02 327 PFAKE 11 47 10.0 +11
OBN LR LR
comp=Z,2μm,20.0s
PLCA Paso Flores 114.36 142 PKP PKPdf 11 46 59.8 -0.1
PLCA PKKPbc PKKPbc 11 57 38.0 -2.5
PLCA PKKPab PKKPab 11 57 45.9 -1.2
PLCA Paso Flores 114.36 142 PKP PKPdf 11 46 59.8 -0.1
comp=Z,2.4nm,1.1s,baz=18,slow=9.2,SNR=2.9
PLCA PKKPbc PKKPbc 11 57 38.0 -2.5
comp=Z,6.5nm,1.2s,baz=50,slow=4.2,SNR=3.2
PLCA PKKPab PKKPab 11 57 45.9 -1.2
comp=Z,2.3nm,0.7s,baz=49,slow=9.0,SNR=4.6
TEIG Tepich 115.77 72 PFAKE 11 47 10.0 +7.1
TEIG LR LR
comp=Z,1μm,20.0s
FINES FINESS Array B 116.01 336 PKP PKPdf 11 47 02.5 +0.4
FINES FINESS Array B 116.01 336 PKP PKPdf 11 47 02.5 +0.4
comp=Z,2.8nm,1.0s,baz=61,slow=7.0,SNR=3.9
BRAL Brewton 116.25 60 PFAKE 11 47 20.0 +16
BRAL LR LR
comp=Z,2μm,20.0s
TGUH Tegucigalpa,Un 116.63 78 PFAKE 11 47 20.0 +15
TGUH LR LR
comp=Z,1μm,19.0s
ANN Anapa 116.78 316 eP KIKP PKPdf 11 46 59.3 -4.9
ANN e 11 48 10.9
ANN pmax pmax
comp=Z,121nm,2.1s
AAM Ann Arbor 116.97 47 PFAKE 11 47 20.0 +15
AAM LR LR
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 117.95 49 PFAKE 11 47 20.0 +13
ACSO LR LR
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 118.41 12 PFAKE 11 47 20.0 +13
SFJD LR LR
comp=Z,2μm,19.0s
JTS JuntasAbangare 118.70 83 PFAKE 11 47 20.0 +11
JTS LR LR
comp=Z,1μm,19.0s
MICGM Minsk 118.83 329 e PP 11 48 24.0 -2.3
GOGA Godfrey 118.94 56 PFAKE 11 47 20.0 +11
GOGA LR LR
comp=Z,3μm,21.0s
SIM Simferopol' 118.99 317 PKIKP PKPdf 11 47 11.7 +3.2
SIM e 11 48 32.0
SIM ePPP PPP 11 51 06.0
SIM ePS PS 11 58 18.0 +1.9
SIM eSS SS 12 05 03.0 +17
SIM pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 119.43 264 PKP PKPdf 11 47 10.4 -0.1
KMBO ePKPdf PKiKP 11 47 11.2 +0.6
KMBO LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 119.43 264 PKP PKPdf 11 47 10.4 -0.1
comp=Z,3.8nm,0.9s,baz=59,slow=6.3,SNR=5.3
ERPA Erie 119.64 46 PFAKE 11 47 20.0 +10
ERPA LR LR
comp=Z,2μm,19.0s
AKASG Malin Array Be 119.86 325 PKIKP PKPdf 11 47 09.5 -0.5
AKASG 11 48 32.4
AKASG Malin Array Be 119.86 325 PKP PKPdf 11 47 09.4 -0.5
AKASG PP PP 11 48 32.4 -1.1
AKASG PKKPbc PKKPab 11 57 19.4 -1.6
AKASG Malin Array Be 119.86 325 PKP PKPdf 11 47 09.4 -0.5
comp=Z,7.5nm,0.9s,baz=59,slow=2.0,SNR=28
AKASG PP PP 11 48 32.4 -1.1
comp=Z,4.1nm,1.0s,baz=52,slow=5.8,SNR=9.0
AKASG PKKPbc PKKPab 11 57 19.4 -1.6
comp=Z,0.1nm,0.3s,baz=259,slow=4.4,SNR=6.9
KIEV Kiev 119.87 325 eP KIKP PKPdf 11 47 09.2 -0.8
KIEV MLR MLR
comp=Z,2μm,19.0s
KIEV Kiev 119.87 325 ePKPdf PKPdf 11 47 09.2 -0.8
KIEV LR LR
comp=Z,2μm,19.0s
BLA Blacksburg 120.61 52 PFAKE 11 47 20.0 +8.1
BLA LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 120.79 131 ePKPdf PKPdf 11 47 12.7 -0.1
LCO LR LR
comp=Z,536nm,19.0s
TRQA Tornquist 121.17 144 PFAKE 11 47 20.0 +7.0
TRQA LR LR
comp=Z,725nm,21.0s
SUW Suwalki 121.44 330 eP KIKP PKPdf 11 47 11.0 -1.9
SUW Suwalki 121.44 330 eP KP PKPdf 11 47 10.9 -1.9
SUW Suwalki 121.44 330 eP KPdf PKPdf 11 47 12.8 -0.1
ANTO Ankara 121.47 312 eP KIKP PKPdf 11 47 13.3 -0.2

ANTO MLR MLR
comp=Z,622nm,20.0s
ANTO Ankara 121.47 312 *e*PKPdf **PKPdf 11 47 13.3 -0.2**
ANTO LR LR
comp=Z,622nm,20.0s
NB2 NORSAR Subarra121.63 341 PKPdf **PKPdf 11 47 11.9 -1.2**
comp=Z,21nm,1.7s,baz=39,slow=1.9
NB2 NORSAR Subarra121.63 341 PKPdf **PKPdf 11 47 11.9 -1.2**
baz=39,slow=1.9
NOA NORSAR Array B121.63 341 PKP **PKPdf 11 47 12.0 -1.1**
NOA PP PP 11 48 50.7 +5.5
NOA NORSAR Array B121.63 341 PKP **PKPdf 11 47 12.0 -1.1**
comp=Z,12nm,1.1s,baz=38,slow=2.0,SNR=5.7
NOA PP PP 11 48 50.7 +5.5
comp=Z,4.5nm,1.1s,baz=49,slow=6.2,SNR=3.6
KIS Kishinev 121.68 321 *e*PKIKP **PKPdf 11 47 12.0 -1.5**
KIS *e* 11 48 45.0
KIS *e* 11 51 22.0
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,22.0s
KIS Kishinev 121.68 321 *e*PKP **PKPdf 11 47 12.0 -1.5**
KIS Kishinev 121.68 321 *e*PP PP 11 48 45.0 -1.1
KIS *e*SKKS 11 55 50.0
KIS LRM MLR 12 41 54.0
comp=Z,1μm,22.0s
NHSC New Hope 121.70 56 PFAKE 11 47 30.0 +16
NHSC LR LR
comp=Z,2μm,20.0s
SUR Sutherland 122.01 223 PFAKE 11 47 30.0 +15
SUR LR LR
comp=Z,2μm,21.0s
CSS Prodhromos 122.33 306 PFAKE 11 47 30.0 +15
CSS LR LR
comp=Z,219nm,22.0s
BINY Binghamton 122.44 45 PFAKE 11 47 30.0 +15
BINY LR LR
comp=Z,3μm,21.0s
LONY Lake Ozonia 122.51 42 PFAKE 11 47 30.0 +15
LONY LR LR
comp=Z,2μm,20.0s
NNA Nana 122.61 110 PFAKE 11 47 30.0 +14
NNA LR LR
comp=Z,671nm,19.0s
CBN Corbin 122.69 50 PFAKE 11 47 30.0 +14
CBN LR LR
comp=Z,2μm,21.0s
CFR Carcaliu 122.85 319 ⇓PKIKP **PKPdf 11 47 15.6 -0.2**
CFR Carcaliu 122.85 319 ⇓*i*P **PKPdf 11 47 15.6 -0.2**
KONO Kongsberg 123.22 341 PFAKE 11 47 30.0 +14
KONO LR LR
comp=Z,2μm,19.0s
LVV L'vov 123.22 326 *e*PKIKP **PKPdf 11 47 16.2 -0.2**
VRI Vrincioaia 123.47 320 ⇓PKIKP **PKPdf 11 47 16.7 -0.4**
VRI Vrincioaia 123.47 320 ⇓*i*P **PKPdf 11 47 16.7 -0.4**
PLOR Plostina 123.52 320 ⇓PKIKP PKPdf 11 47 23.3 +6.1
PLOR Plostina 123.52 320 ⇓*i*P PKPdf 11 47 23.3 +6.1
BURAR Bucovina Array 123.61 323 ⇑PKIKP **PKPdf 11 47 18.2 +0.8**
BURAR Bucovina Array 123.61 323 ⇑*i*P **PKPdf 11 47 18.1 +0.7**
BORG Borgarnes 123.63 359 PFAKE 11 47 30.0 +13
BORG LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 123.66 85 PFAKE 11 47 30.0 +12
BCIP LR LR
comp=Z,1μm,21.0s
ISP Isparta 123.76 310 PFAKE 11 47 30.0 +12
ISP LR LR
comp=Z,682nm,19.0s
BEL Belsk 123.86 329 *e*PKIKP **PKPdf 11 47 18.4 +0.8**
BEL Belsk 123.86 329 *e*PKP **PKPdf 11 47 18.4 +0.8**
OTAV Otavalo 123.97 95 *e*PKPdf **PKPdf 11 47 19.7 +0.2**
OTAV LR LR
comp=Z,977nm,21.0s
KWP Kalwaria Pacla 124.05 326 *e*PKIKP **PKPdf 11 47 17.5 -0.5**
KWP MLR MLR
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 124.05 326 *e*PKP **PKPdf 11 47 18.7 +0.6**
KWP Kalwaria Pacla 124.05 326 *e*PKPdf **PKPdf 11 47 17.5 -0.5**
KWP LR LR
comp=Z,2μm,20.0s
MLR Muntele Rosu 124.12 320 ⇑*i*P **PKPdf 11 47 18.7 +0.2**
LSZ Lusaka 124.33 245 *e*PKPdf **PKPdf 11 47 19.8 +0.1**
LSZ LR LR
comp=Z,1μm,21.0s
LBNH Lisbon 124.40 41 PFAKE 11 47 30.0 +11
LBNH LR LR
comp=Z,3μm,19.0s
KOLS Kolonicke sedl 124.66 325 *e*PKIKP **PKPdf 11 47 20.0 +0.7**
KOLS Kolonicke sedl 124.66 325 *e*PKP **PKPdf 11 47 20.0 +0.7**
VOIR 124.71 321 ⇑PKIKP **PKPdf 11 47 24.4 +4.8**
VOIR 124.71 321 ⇑*i*P **PKPdf 11 47 24.4 +4.8**
GKP Gorka Klasztor 124.73 332 *e*PKIKP **PKPdf 11 47 19.4 +0.2**
GKP Gorka Klasztor 124.73 332 *e*PKP **PKPdf 11 47 19.3 +0.1**
UZH Uzhgorod 124.81 325 *e*PKIKP PKPpre 11 47 03.9
UZH *i* **PKiKP 11 47 18.7 -1.1**
STHS Stebnicka Huta 124.97 326 *e*PKIKP **PKPdf 11 47 20.2 +0.3**
STHS Stebnicka Huta 124.97 326 *e*PKP **PKPdf 11 47 20.2 +0.3**
ARR Arges 125.00 321 ⇓*i*P **PKPdf 11 47 20.8 +0.7**
CRVS Cervenica-Dubn 125.13 326 *e*PKIKP **PKPdf 11 47 20.1 -0.1**
CRVS Cervenica-Dubn 125.13 326 *e*PKP **PKPdf 11 47 20.1 -0.1**
LVC Limon Verde 125.39 125 *e*PKPdf **PKPdf 11 47 21.8 0.0**
LVC LR LR
comp=Z,872nm,19.0s
MTDJ Mount Denham 125.98 74 PFAKE 11 47 30.0 +7.3
MTDJ LR LR
comp=Z,743nm,19.0s
OKC Ostrava-Krasne 126.39 328 *i* PKIKP **PKPdf 11 47 23.0 +0.5**
OKC MLR MLR
comp=Z,1μm,18.6s
OKC Ostrava-Krasne 126.39 328 *i* PKPdf **PKPdf 11 47 23.0 +0.5**
OKC AMS AMS 12 47 40.0
comp=Z,1μm,18.6s
SIRR Siria 126.39 323 ⇓*i*P **PKPdf 11 47 22.7 0.0**
PSZ Piszkesteto 126.54 325 ⇓PKIKP **PKPdf 11 47 23.6 +0.6**
PSZ Piszkesteto 126.54 325 ⇓*i*P **PKPdf 11 47 23.6 +0.6**
PSZ Piszkesteto 126.54 325 *e*PKPdf **PKPdf 11 47 22.4 -0.6**
PSZ LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 126.54 325 ⇑*e*PKPdf **PKPdf 11 47 22.2 -0.8**
KSP Ksiaz 126.72 330 *e*PKIKP **PKPdf 11 47 23.2 +0.1**
KSP *e* 11 49 16.0
KSP *e*SP SP 11 59 19.5 0.0
KSP *e*SS **SS 12 06 28.0 +4.5**
KSP MLR MLR
comp=Z,8μm,22.2s
KSP Ksiaz 126.72 330 *e*PKP **PKPdf 11 47 23.5 +0.4**
MORC Moravsky Berou 126.74 328 ⇓PKIKP **PKPdf 11 47 24.1 +0.8**
MORC Moravsky Berou 126.74 328 ⇓*i*P **PKPdf 11 47 24.1 +0.8**
MORC Moravsky Berou 126.74 328 *e*PKPdf **PKPdf 11 47 23.2 0.0**
BZS Buzias 126.75 322 ⇓PKIKP **PKPdf 11 47 23.5 +0.2**
BZS Buzias 126.75 322 ⇓*i*P **PKPdf 11 47 23.5 +0.2**
RUE Ruedersdorf 126.83 323 *e*PKPdf **PKPdf 11 47 24.1 +0.9**
KRLC Kraliky 126.95 329 *i* PKIKP **PKPdf 11 47 23.7 0.0**
KRLC Kraliky 126.95 329 *i* PKPdf **PKPdf 11 47 23.7 0.0**
DPC Dobruska-Polom 127.01 330 *i* PKIKP **PKPdf 11 47 24.5 +0.7**
DPC *e* 11 49 22.3
DPC Dobruska-Polom 127.01 330 *i* PKPdf **PKPdf 11 47 24.5 +0.7**
DPC *ex* x 11 49 03.7
DPC *e*PP **PP 11 49 22.3 +0.7**
DPC *ex* x 12 06 40.0
DPC AMS AMS 12 50 30.0
UPC Upice 127.07 330 *i* PKIKP **PKPdf 11 47 24.4 +0.6**
UPC *e* 11 49 21.6
UPC Upice 127.07 330 *i* PKPdf **PKPdf 11 47 24.4 +0.6**
UPC *e*PP **PP 11 49 21.6 -0.3**
PKSN Nyarlorinc 127.11 324 ⇓*e*PKPdf **PKPdf 11 47 25.2 +1.2**
VTS Vitosha 127.18 318 ⇑PKIKP **PKPdf 11 47 23.7 -0.8**
VTS Vitosha 127.18 318 ⇑*i*P **PKPdf 11 47 23.7 -0.8**
BSEG Bad Segeberg 127.28 336 *e*PKPdf **PKPdf 11 47 25.0 +1.0**
PKS6 Bocsa 127.45 324 ⇓*e*PKPdf **PKPdf 11 47 25.7 +1.1**
VRAC Vranov 127.52 328 ⇑*i*P **PKPdf 11 47 25.6 +0.9**
PKSG 127.68 326 ⇓*e*PKPdf **PKPdf 11 47 25.4 +0.4**
PKS2 Kecel 127.71 324 ⇓*e* **PKPdf 11 47 26.2 +1.1**
PVCC Panska Ves 127.76 331 *i* PKIKP **PKPdf 11 47 25.6 +0.5**
PVCC *e* 11 49 28.9
PVCC MLR MLR
comp=Z,2μm,17.9s
PVCC Panska Ves 127.76 331 *i* PKPdf **PKPdf 11 47 25.6 +0.5**
PVCC *e*PP **PP 11 49 28.9 +2.4**
PVCC AMS AMS 12 45 50.0
comp=Z,2μm,17.9s
BRG Berggiesshubel 127.83 331 *e*PKP **PKPdf 11 47 25.5 +0.3**
comp=Z,85nm,1.5s
BRG PP **PP 11 49 26.0 -0.9**
BRG *e* 11 59 29.0
BRG SS SS 12 06 40.0 +2.7
BRG
comp=N,1μm,18.9s
BRG
comp=E,695nm,14.5s
BRG
comp=Z,2μm,20.4s
BRG Berggiesshubel 127.83 331 *e*PKIKP **PKPdf 11 47 25.5 +0.3**
BRG 11 49 26.0
BRG *e* 11 59 29.0
BRG SS SS 12 06 40.0 +2.7
BRG pmax pmax
comp=Z,85nm,1.4s
BRG MLR MLR
comp=N,1μm,18.9s
BRG MLR MLR
comp=E,695nm,14.5s
BRG MLR MLR
comp=Z,2μm,20.4s
BRG Berggiesshubel 127.83 331 *e*PKPdf **PKPdf 11 47 26.0 +0.8**
PKST T˜˜s 127.95 326 ⇓*e*PKPdf **PKPdf 11 47 25.9 +0.3**
CLL Collm 127.98 332 *i* PKIKP **PKPdf 11 47 25.5 0.0**
CLL *e* 11 47 32.0
CLL *e* 11 49 27.0
CLL pmax pmax
comp=Z,49nm,1.5s
CLL MLR MLR
comp=Z,1μm,19.2s
CLL Collm 127.98 332 *e*PKPdf **PKPdf 11 47 26.1 +0.6**
CLL Collm 127.98 332 *i* PKPdf **PKPdf 11 47 25.5 0.0**
comp=Z,49nm,1.5s
CLL *e*(pPKPdf) 11 47 32.0
CLL *e* 11 47 34.0
CLL *e*PP **PP 11 49 27.0 -0.9**
CLL *e*PPlp 11 49 29.0
comp=Z,400nm,19.4s
CLL *e*pPP 11 49 32.0
CLL *e*(PKSdf) 11 50 52.0
CLL *e*PPP PPP 11 52 24.0
CLL *e*SKKSac SKKSac 11 56 30.0 +6.2
CLL *e*PSKS 11 59 27.0
CLL *e*PPS PPS 12 01 11.0
CLL *e*SS **SS 12 06 39.0 0.0**
CLL *e*SSS SSS 12 11 24.0
CLL Lm MLR 12 49 00.0
comp=Z,1μm,19.2s
SANT Santorini 128.06 310 PFAKE 11 47 40.0 +14
SANT LR LR
comp=Z,446nm,19.0s
FBE Freiberg 128.08 332 *e*PKPdf **PKPdf 11 47 26.8 +1.1**
TREC Trest 128.09 329 *i* PKIKP **PKPdf 11 47 26.4 +0.6**
TREC MLR MLR
comp=Z,2μm,18.9s
TREC Trest 128.09 329 *i* PKPdf **PKPdf 11 47 26.4 +0.6**
TREC AMS AMS 12 43 00.0
comp=Z,2μm,18.9s
PRA Prague 128.12 330 PKPdf **PKPdf 11 47 27.0 +1.2**
PRA PP **PP 11 49 29.0 +0.1**
PRU Pruhonice 128.12 330 *i* PKIKP **PKPdf 11 47 26.2 +0.4**
PRU *e* 11 49 28.3
PRU *e* 11 59 38.8
PRU MLR MLR
comp=Z,1μm,18.5s
PRU Pruhonice 128.12 330 *i* PKPdf **PKPdf 11 47 26.2 +0.4**
PRU *e*PP **PP 11 49 28.3 -0.6**
PRU *e*SP SP 11 59 38.8 +7.0
PRU *e*SS SS 12 06 50.5 +10
PRU AMS AMS 12 50 20.0
comp=Z,1μm,18.5s
GTBY Guantanamo Bay128.15 71 PFAKE 11 47 40.0 +13
GTBY LR LR
comp=Z,917nm,20.0s
VAY Valandovo 128.17 317 *e*PKP **PKPdf 11 47 26.1 -0.1**
PKS9 Tamasi 128.20 325 ⇓*e*PKPdf **PKPdf 11 47 26.3 +0.2**
PKSM Moragy 128.20 324 ⇓PKIKP **PKPdf 11 47 26.1 0.0**
PKSM Moragy 128.20 324 ⇓*i*P **PKPdf 11 47 26.1 0.0**
PKSM Moragy 128.20 324 ⇓*e*PKPdf **PKPdf 11 47 25.7 -0.4**
NRDL Niedersach Rie 128.42 335 *e*PKPdf **PKPdf 11 47 27.3 +1.1**
SOP Sopron 128.52 327 ⇓*e* **PKPdf 11 47 26.3 -0.3**
NEUB Neuenburg 128.61 333 *e*PKPdf **PKPdf 11 47 27.6 +0.9**
SKO Skopje 128.63 318 *e*PKP **PKPdf 11 47 27.8 +0.7**
ROSC El Rosal 128.71 90 PKP **PKPdf 11 47 28.5 0.0**
ROSC El Rosal 128.71 90 PKP **PKPdf 11 47 28.5 0.0**
comp=Z,3.3nm,0.3s,baz=93,slow=22,SNR=9.2
CONA Conrad Observa 128.74 327 ⇑*i*PKPdf **PKPdf 11 47 26.3 -0.9**
comp=Z,38nm,1.5s,SNR=10.0
CLZ Clausthal 128.78 334 *e*PKPdf **PKPdf 11 47 28.1 +1.0**
TANN Tannenbergstha 128.84 332 *e*PKPdf **PKPdf 11 47 28.0 +0.7**
WERD Werda 128.89 332 *e*PKPdf **PKPdf 11 47 28.1 +0.8**
LPAZ La Paz 128.91 119 PKP **PKPdf 11 47 29.3 +0.2**
LPAZ La Paz 128.91 119 PKP **PKPdf 11 47 29.3 +0.2**
comp=Z,36nm,1.2s,baz=346,slow=1.4,SNR=55
GUNZ Gunzen 128.94 332 *e*PKPdf **PKPdf 11 47 28.4 +1.0**
NKC Novy Kostel 128.97 332 *i* PKIKP **PKPdf 11 47 28.0 +0.5**
NKC *e* 11 49 38.2
NKC Novy Kostel 128.97 332 *i* PKPdf **PKPdf 11 47 28.0 +0.5**
NKC *e*PP **PP 11 49 38.2 +3.8**
BIA Bitola 129.15 317 *e*PKP **PKPdf 11 47 28.0 -0.1**
KHC Kasperske Hory 129.16 330 *i* PKIKP **PKPdf 11 47 28.3 +0.4**
KHC *e* 11 49 34.3
KHC MLR MLR
comp=Z,2μm,18.8s
KHC Kasperske Hory 129.16 330 *i* PKPdf **PKPdf 11 47 28.3 +0.4**
KHC *ex* x 11 47 39.5
KHC *e*PP **PP 11 49 34.3 -1.4**
KHC AMS AMS 12 51 00.0
comp=Z,2μm,18.8s
KHC Kasperske Hory 129.16 330 *e*PKPdf **PKPdf 11 47 27.9 0.0**
GEC2 GERESS Array S 129.28 330 *e*PKPdf **PKPdf 11 47 28.7 +0.5**
GERES GERESS Array B 129.28 330 PKP **PKPdf 11 47 28.4 +0.2**
GERES GERESS Array B 129.28 330 PKP **PKPdf 11 47 28.4 +0.2**
comp=Z,16nm,1.2s,baz=48,slow=2.0,SNR=33
MANZ Manzenberg 129.30 331 *e*PKPdf **PKPdf 11 47 29.0 +0.9**
ARSA Arzberg 129.34 327 ⇑*i*PKPdf **PKPdf 11 47 27.9 -0.3**
comp=Z,10nm,1.3s
ROTZ Rotzenmuhle 129.40 331 *e*PKPdf **PKPdf 11 47 29.1 +0.8**
WET Wettzell 129.50 330 *e*PKPdf **PKPdf 11 47 30.6 +2.1**
IBBN Ibbenburen 129.53 336 *e*PKPdf **PKPdf 11 47 29.2 +0.8**
UBBA Unterbreizbach 129.68 333 *e*PKPdf **PKPdf 11 47 29.4 +0.8**
GRF Grafenberg Arr 129.92 332 *e*L L 12 48 49.1
comp=Z,889nm,21.3s
SOKA Soboth 129.95 327 ⇑*i*PKPdf **PKPdf 11 47 29.3 -0.2**
comp=Z,26nm,1.3s
GOLS Golise 130.03 326 *e*PKPdf **PKPdf 11 47 29.6 0.0**
BUG Bochum--Univer 130.38 336 *e*PKPdf **PKPdf 11 47 30.6 +0.6**
RJOB Jochberg 130.47 329 *e*PKPdf **PKPdf 11 47 30.5 +0.1**
BOJS Bojanci 130.54 325 *e*PKPdf **PKPdf 11 47 30.7 +0.1**
ESK Eskdalemuir 130.58 345 PFAKE 11 47 40.0 +10
ESK LR LR
comp=Z,900nm,19.0s
LJU Ljubljana 130.62 326 *e*PKPdf **PKPdf 11 47 30.6 -0.1**
TNS Taunus Mts 130.79 334 *e*PKPdf **PKPdf 11 47 31.9 +0.9**
FUR Furstenfeldbru 130.94 330 *e*PKPdf **PKPdf 11 47 31.8 +0.5**
ABTA Abfaltersbach 131.26 328 ⇑*i*PKPdf **PKPdf 11 47 30.7 -1.3**
comp=Z,32nm,1.4s,SNR=8.0
STU Stuttgart 131.51 332 *e*PKIKP **PKPdf 11 47 32.6 +0.3**
STU Stuttgart 131.51 332 *e*PKPdf **PKPdf 11 47 33.0 +0.7**
STU Stuttgart 131.51 332 *e*PKPdf **PKPdf 11 47 32.6 +0.3**
MEM Membach 131.53 336 PKP **PKPdf 11 47 32.8 +0.5**
GRTK Grand Turk 131.66 69 PFAKE 11 47 50.0 +17
GRTK LR LR
comp=Z,2μm,19.0s
TSUM Tsumeb 131.74 235 *e*PKPdf **PKPdf 11 47 32.1 -1.7**
TSUM LR LR
comp=Z,2μm,20.0s
SDDR Presa de Saban 131.83 72 PFAKE 11 47 50.0 +16
SDDR LR LR
comp=Z,1μm,19.0s
CPUP Villa Florida 131.94 137 PKP **PKPdf 11 47 34.3 +0.5**
CPUP SKPbc **SKPab 11 51 01.4 +2.5**
CPUP Villa Florida 131.94 137 PKP **PKPdf 11 47 34.3 +0.5**
comp=Z,26nm,1.1s,baz=170,slow=1.1,SNR=10
CPUP SKPbc **SKPab 11 51 01.4 +2.5**
comp=Z,1.6nm,0.6s,baz=292,slow=1.4,SNR=5.0
BCLA Clavier 131.96 336 PKP **PKPdf 11 47 34.1 +1.0**
FETA Feichten 131.99 329 ⇑*i*PKPdf **PKPdf 11 47 33.0 -0.5**
comp=Z,28nm,1.5s,SNR=8.0
WLF Walferdange 132.20 335 PKP **PKPdf 11 47 34.7 +1.2**
WLF Walferdange 132.20 335 *e*PKIKP **PKPdf 11 47 34.5 +1.0**
WLF MLR MLR
comp=Z,1μm,19.0s
WLF Walferdange 132.20 335 *e*PKPdf **PKPdf 11 47 34.8 +1.2**
WLF Walferdange 132.20 335 *e*PKPdf **PKPdf 11 47 34.5 +1.0**
WLF LR LR
comp=Z,1μm,19.0s
BFO Black Forest 132.23 332 PFAKE 11 47 50.0 +16
BFO LR LR
comp=Z,883nm,19.0s
SNF Seneffe 132.29 337 PKP **PKPdf 11 47 36.2 +2.5**
GIVF Givet 132.40 336 ⇑*i*PKIKP **PKPdf 11 47 34.2 +0.3**
comp=Z,229nm,1.8s
GIVF Givet 132.40 336 ⇑*i*PKIKP **PKPdf 11 47 34.2 +0.3**
GIVF Givet 132.40 336 ⇑*i*PKPdf **PKPdf 11 47 34.2 +0.3**
DOU Dourbes 132.50 336 PKP **PKPdf 11 47 34.4 +0.3**
CDF Champ du Feu 132.65 333 ⇑*i*PKIKP **PKPdf 11 47 34.0 -0.6**
comp=Z,70nm,1.6s
CDF Champ du Feu 132.65 333 ⇑*i*PKIKP **PKPdf 11 47 34.0 -0.6**
CDF Champ du Feu 132.65 333 ⇑*i*PKPdf **PKPdf 11 47 34.0 -0.6**
BAIF Baives 132.68 337 ⇑*i*PKIKP **PKPdf 11 47 34.6 +0.1**
BAIF Baives 132.68 337 ⇑*i*PKIKP **PKPdf 11 47 34.6 +0.1**
BAIF Baives 132.68 337 ⇑*i*PKPdf **PKPdf 11 47 34.6 +0.1**
SDV Santo Domingo 132.71 86 *e*PKPdf **PKPdf 11 47 35.4 -0.4**
SDV LR LR
comp=Z,164nm,22.0s
TUE Stuetta 133.06 330 *e*PKPdf **PKPdf 11 47 34.6 -1.0**
TUE LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 133.10 317 PFAKE 11 47 50.0 +14
TIP LR LR
comp=Z,621nm,22.0s
PAGF Fort de Pagny 133.22 334 ⇑*i*PKIKP **PKPdf 11 47 35.6 0.0**
PAGF Fort de Pagny 133.22 334 ⇑*i*PKPdf **PKPdf 11 47 35.6 0.0**
HINF Hinteralfeld 133.28 333 ⇑*i*PKIKP **PKPdf 11 47 35.2 -0.5**
comp=Z,179nm,1.9s
HINF Hinteralfeld 133.28 333 ⇑*i*PKIKP **PKPdf 11 47 35.2 -0.5**
HINF Hinteralfeld 133.28 333 ⇑*i*PKPdf **PKPdf 11 47 35.2 -0.5**
CUC Castrocucco 133.30 319 PFAKE 11 47 50.0 +14
CUC LR LR
comp=Z,853nm,19.0s
HAU Haudompre 133.37 333 ⇑*i*PKIKP **PKPdf 11 47 35.5 -0.4**
comp=Z,47nm,1.3s
HAU Haudompre 133.37 333 ⇑*i*PKIKP **PKPdf 11 47 35.5 -0.4**
HAU Haudompre 133.37 333 ⇑*i*PKPdf **PKPdf 11 47 35.5 -0.4**
MEZF Maizieres J'vi 133.55 335 *e*PKIKP **PKPdf 11 47 35.4 -0.8**
MEZF Maizieres J'vi 133.55 335 *e*PKPdf **PKPdf 11 47 35.4 -0.8**
SFTF Sexfontaines 133.79 334 ⇑*i*PKIKP **PKPdf 11 47 36.5 -0.1**
comp=Z,207nm,1.7s
SFTF Sexfontaines 133.79 334 ⇑*i*PKPdf **PKPdf 11 47 36.5 -0.1**
VLC Villacollemand 134.08 327 PFAKE 11 47 50.0 +13
VLC LR LR
comp=Z,1μm,20.0s
CEL Celeste 134.15 317 PFAKE 11 47 50.0 +12
CEL LR LR
comp=Z,823nm,19.0s
BBSR BB Station 134.40 52 PFAKE 11 47 50.0 +12
BBSR LR LR
comp=Z,2μm,20.0s
CABF La Chapelle 134.52 332 ⇑*i*PKIKP **PKPdf 11 47 38.4 +0.2**
comp=Z,176nm,1.6s
CABF La Chapelle 134.52 332 ⇑*i*PKIKP **PKPdf 11 47 38.4 +0.2**
CABF La Chapelle 134.52 332 ⇑*i*PKPdf **PKPdf 11 47 38.4 +0.2**
LOR Lormes 135.02 334 ⇑*i*PKIKP **PKPdf 11 47 38.7 -0.3**
comp=Z,40nm,1.1s
LOR Lormes 135.02 334 ⇑*i*PKPdf **PKPdf 11 47 38.7 -0.3**
LPL La Plagne 135.02 331 *e*PKIKP **PKPdf 11 47 40.1 +0.8**
comp=Z,59nm,1.3s
LPL La Plagne 135.02 331 *e*PKIKP **PKPdf 11 47 40.1 +0.8**
LPL La Plagne 135.02 331 *e*PKPdf **PKPdf 11 47 40.1 +0.8**
LPG La Plagne 135.03 331 *e*PKIKP **PKPdf 11 47 40.1 +0.7**
comp=Z,122nm,1.6s
LPG La Plagne 135.03 331 *e*PKIKP **PKPdf 11 47 40.1 +0.7**
LPG La Plagne 135.03 331 *e*PKPdf **PKPdf 11 47 40.1 +0.7**
SSF Saint Saulge 135.33 334 ⇑*i*PKIKP **PKPdf 11 47 39.4 -0.1**
comp=Z,75nm,1.4s
SSF Saint Saulge 135.33 334 ⇑*i*PKIKP **PKPdf 11 47 39.4 -0.1**
SSF Saint Saulge 135.33 334 ⇑*i*PKPdf **PKPdf 11 47 39.4 -0.1**
BNI Bardonecchia 135.38 330 *e*PKIKP **PKPdf 11 47 38.4 -1.5**
BNI MLR MLR
comp=Z,2μm,21.0s
BNI Bardonecchia 135.38 330 *e*PKPdf **PKPdf 11 47 38.4 -1.5**
BNI LR LR
comp=Z,2μm,21.0s
SMF Signal de Mont 135.51 334 ⇑*i*PKIKP **PKPdf 11 47 39.1 -0.8**
comp=Z,72nm,1.4s
SMF Signal de Mont 135.51 334 ⇑*i*PKIKP **PKPdf 11 47 39.1 -0.8**
SMF Signal de Mont 135.51 334 ⇑*i*PKPdf **PKPdf 11 47 39.1 -0.8**
AVF Avril sur Loir 135.61 334 ⇑*i*PKIKP **PKPdf 11 47 39.5 -0.5**
comp=Z,72nm,1.6s
AVF Avril sur Loir 135.61 334 ⇑*i*PKIKP **PKPdf 11 47 39.5 -0.5**
AVF Avril sur Loir 135.61 334 ⇑*i*PKPdf **PKPdf 11 47 39.5 -0.5**
BGF Bois d'Agland 136.00 335 ⇑*i*PKIKP **PKPdf 11 47 39.8 -1.0**
comp=Z,55nm,1.2s
BGF Bois d'Agland 136.00 335 ⇑*i*PKIKP **PKPdf 11 47 39.8 -1.0**
BGF Bois d'Agland 136.00 335 ⇑*i*PKPdf **PKPdf 11 47 39.8 -1.0**
SSB Saint Sauveur 136.24 332 PFAKE 11 47 50.0 +8.6
SSB LR LR
comp=Z,901nm,21.0s
SAML Samuel 136.26 112 *e*PKPdf **PKPdf 11 47 41.7 -0.6**
SAML LR LR
comp=Z,679nm,20.0s
WDD Wield Dalam 136.30 315 PFAKE 11 47 50.0 +8.3
WDD LR LR
comp=Z,624nm,21.0s
CLTB Caltabellotta 136.31 317 PFAKE 11 47 50.0 +8.2
CLTB LR LR
comp=Z,388nm,22.0s
TCF Toulx Ste Croi 136.49 335 ⇑*i*PKIKP **PKPdf 11 47 41.5 -0.3**
comp=Z,74nm,1.3s
TCF Toulx Ste Croi 136.49 335 ⇑*i*PKIKP **PKPdf 11 47 41.5 -0.3**
TCF Toulx Ste Croi 136.49 335 ⇑*i*PKPdf **PKPdf 11 47 41.5 -0.3**
ROSF Rostrenen 136.81 341 *e*PKIKP **PKPdf 11 47 41.3 -0.9**
comp=Z,111nm,1.5s
ROSF Rostrenen 136.81 341 *e*PKIKP **PKPdf 11 47 41.3 -0.9**
ROSF Rostrenen 136.81 341 *e*PKPdf **PKPdf 11 47 41.3 -0.9**
MFF Saint Martin d 137.18 337 *e*PKIKP **PKPdf 11 47 42.9 -0.1**
comp=Z,137nm,1.5s
MFF Saint Martin d 137.18 337 *e*PKIKP **PKPdf 11 47 42.9 -0.1**
MFF Saint Martin d 137.18 337 *e*PKPdf **PKPdf 11 47 42.9 -0.1**
VSL Villasalto 137.65 322 PFAKE 11 48 00.0 +16
VSL LR LR
comp=Z,650nm,19.0s
MTLF Montolieu 138.79 332 *e*PKIKP **PKPdf 11 47 44.5 -1.6**
comp=Z,132nm,1.8s
MTLF Montolieu 138.79 332 *e*PKIKP **PKPdf 11 47 44.5 -1.6**
MTLF Montolieu 138.79 332 *e*PKPdf **PKPdf 11 47 44.5 -1.6**
EPF Esparros 139.89 333 *e*PKIKP **PKPdf 11 47 48.1 -0.1**
comp=Z,60nm,1.4s
EPF Esparros 139.89 333 *e*PKIKP **PKPdf 11 47 48.1 -0.1**
EPF Esparros 139.89 333 *e*PKPdf **PKPdf 11 47 48.1 -0.1**
KEST Kesra 139.92 318 PKP **PKPdf 11 47 48.6 +0.1**
KEST Kesra 139.92 318 PKP **PKPdf 11 47 48.6 +0.1**
comp=Z,4.1nm,1.0s,baz=8.9,slow=2.9,SNR=4.6
ETSF Etsaut 140.39 334 *e*PKIKP **PKPdf 11 47 47.5 -1.6**
comp=Z,80nm,1.5s
ETSF Etsaut 140.39 334 *e*PKIKP **PKPdf 11 47 47.5 -1.6**
ETSF Etsaut 140.39 334 *e*PKPdf **PKPdf 11 47 47.5 -1.6**
ANWB Willy Bob 140.94 72 PFAKE 11 48 00.0 +9.4
ANWB LR LR
comp=Z,988nm,22.0s
BB16B Bebedouro 141.38 139 *e*P **PKPdf 11 47 50.5 -1.0**
BB16B *i* 11 47 59.8
BB16B *i* 11 48 04.4
BB16B *i* 11 48 12.3
GRGR Grenville 141.58 81 PFAKE 11 48 00.0 +8.1
GRGR LR LR
comp=Z,804nm,22.0s
PTGA Pitinga 141.88 102 *e*PKPdf **PKPdf 11 47 52.2 -0.3**
PTGA LR LR
comp=Z,908nm,19.0s
FDF Fort de France 141.91 77 PFAKE 11 48 00.0 +7.5
FDF LR LR
comp=Z,657nm,19.0s
MSKU Masuku 142.39 256 PFAKE 11 48 10.0 +17
MSKU LR LR
comp=Z,2.0nm,20.0s
BBGH Gun Hill 143.58 79 PFAKE 11 48 10.0 +15
BBGH LR LR
comp=Z,1μm,20.0s
EMHD Djebel Mahouad 143.64 324 P **PKPdf 11 47 54.2 -1.0**
PGAV Gavieira, Arco 144.09 341 *e*PKP PKPbc 11 47 54.1 +0.4
PGAV Gavieira, Arco 144.09 341 *e*LR LR 12 46 52.0
comp=Z,784nm,20.0s
EBNR Beni Rached 144.40 325 P PKPbc 11 47 55.5 +0.7
MVO Moncorvo 144.40 339 *e*PKP **PKPdf 11 47 55.9 -0.4**

MVO	**Moncorvo**	**144.40**	**339**	*e*LR	LR	12 47 28.8	
	comp=Z,818nm,20.0s						
POLO	**Lamas de Olo**	**144.47**	**340**	*e*PKP	**PKPdf**	**11 47 56.2**	**-0.2**
ESDC	**Sonseca Array**	**144.50**	**335**	PKP	**PKPab**	**11 47 54.7**	**0.0**
ESDC				PP	**PP**	**11 51 14.3**	**+2.8**
ESDC	**Sonseca Array**	**144.50**	**335**	PKP	**PKPab**	**11 47 54.7**	**0.0**
	comp=Z,6.7nm,1.0s,baz=27,slow=3.0,SNR=26						
ESDC				PP	**PP**	**11 51 14.3**	**+2.8**
	comp=Z,7.0nm,1.1s,baz=19,slow=5.8,SNR=4.3						
PVRL	**Vila Real**	**144.53**	**340**	*e*PKP	**PKPdf**	**11 47 56.1**	**-0.4**
PAB	**San Pablo**	**144.76**	**335**	*e*PKIKP	PKPbc	11 47 56.1	+0.2
PAB				MLR	MLR		
	comp=Z,922nm,20.0s						
PAB	**San Pablo**	**144.76**	**335**	*e*PKPdf	PKPbc	11 47 56.0	+0.1
PAB				LR	LR		
	comp=Z,922nm,20.0s						
EANR	**'Ain N'Sour**	**144.88**	**325**	P	**PKPab**	**11 47 56.3**	**0.0**
OKGL	**Djebel Kef Gue**	**145.07**	**326**	P	**PKPbc**	**11 47 56.0**	**-1.0**
PVIS	**Viseu**	**145.09**	**340**	*e*PKP	**PKPdf**	**11 47 57.8**	**+0.3**
ETRT	**Tiaret**	**145.17**	**324**	P	**PKPdf**	**11 47 57.7**	**-0.1**
MTE	**Manteigas**	**145.25**	**339**	*e*PKP	**PKPdf**	**11 47 57.8**	**0.0**
MTE	**Manteigas**	**145.25**	**339**	*e*PKPdf	**PKPbc**	**11 47 57.5**	**+0.1**
MTE				LR	LR		
	comp=Z,1μm,19.0s						
OJGS	**Djebel Guires**	**145.40**	**325**	P	**PKPab**	**11 47 59.0**	**+0.7**
BDFB	**Brasilia**	**145.51**	**134**	PKPbc	**PKPdf**	**11 47 58.9**	**-0.1**
BDFB	**Brasilia**	**145.51**	**134**	PKPbc	**PKPdf**	**11 47 58.9**	**-0.1**
	comp=Z,255nm,1.1s,baz=232,slow=2.8,SNR=133						
PCBR	**Castelo Branco**	**145.73**	**339**	*e*PKP	**PKPab**	**11 47 59.5**	**+0.3**
USTO	**Oran**	**145.96**	**327**	P	**PKPab**	**11 48 03.0**	**+2.8**
PMRV	**Marv??o**	**146.06**	**338**	*e*PKP	**PKPab**	**11 48 00.3**	**-0.2**
PMRV	**Marv??o**	**146.06**	**338**	*e*LR	LR	12 44 12.1	
	comp=Z,796nm,20.0s						
PTOM	**Tomar**	**146.25**	**340**	*e*PKP	**PKPab**	**11 48 00.9**	**-0.3**
PESTR	**Estremoz**	**146.63**	**338**	*e*PKP	**PKPbc**	**11 48 01.7**	**+0.1**
OLHC	**Oulhaca**	**146.79**	**327**	P	**PKPdf**	**11 47 57.0**	**-3.5**
EVO	**Evora**	**147.08**	**338**	*e*PKIKP	**PKPdf**	**11 48 00.3**	**-0.5**
	comp=Z,282nm,1.6s						
EVO	**Evora**	**147.08**	**338**	*e*PKP	**PKPbc**	**11 48 02.9**	**0.0**
EVOP	**Sao Brissos**	**147.12**	**339**	*e*PKIKP	**PKPdf**	**11 48 00.3**	**-0.6**
EVOP	**Sao Brissos**	**147.12**	**339**	*e*PKPdf	**PKPdf**	**11 48 00.3**	**-0.6**
LIS	**Lisbon**	**147.31**	**340**	*e*P	**PKPdf**	**11 48 00.7**	**-0.5**
LIS				AMS	AMS	12 57 15.8	
	comp=Z,1μm,16.7s						
LIS	**Lisbon**	**147.31**	**340**	*e*P	**PKPdf**	**11 48 00.7**	**-0.5**
LIS	**Lisbon**	**147.31**	**340**	A	A	12 57 15.8	
	comp=Z,1μm,16.7s						
PBEJ	**Beja**	**147.47**	**338**	*e*PKP	**PKPab**	**11 48 05.2**	**-0.8**
PNCL	**Nicolau / Gran**	**147.64**	**339**	*e*PKP	**PKPbc**	**11 48 05.0**	**+0.6**
PCVE	**Castro Verde**	**147.88**	**338**	*e*PKP	**PKPbc**	**11 48 05.7**	**+0.6**
PVAQ	**Vaqueiros**	**147.96**	**337**	*e*PKP	**PKPdf**	**11 48 02.8**	**+0.5**
PVAQ	**Vaqueiros**	**147.96**	**337**	*e*LR	LR	12 45 40.2	
	comp=Z,808nm,20.0s						
PTEO	**Sao Teotonio**	**148.21**	**338**	*e*PKP	**PKPbc**	**11 48 07.3**	**+1.3**
MORF	**Marmelete**	**148.40**	**338**	*e*PKP	**PKPbc**	**11 48 07.8**	**+1.2**
MORF	**Marmelete**	**148.40**	**338**	*e*PKIKP	**PKPdf**	**11 48 02.4**	**-0.7**
PFVI	**Vila Bisbo**	**148.61**	**338**	*e*PKP	**PKPbc**	**11 48 06.1**	**-1.0**
TAM	**Tamanrasset**	**149.23**	**301**	*e*PKIKP	**PKPdf**	**11 48 04.5**	**-0.5**
TAM				*e*		11 48 09.8	
TAM				MLR	MLR		
	comp=Z,835nm,20.0s						
TAM	**Tamanrasset**	**149.23**	**301**	*e*PKPdf	**PKPdf**	**11 48 04.5**	**-0.5**
TAM				*e*PKPbc	**PKPbc**	**11 48 09.8**	**+0.5**
TAM				LR	LR		
	comp=Z,835nm,20.0s						
RTC	**Rabat Centre**	**150.51**	**332**	PFAKE		11 48 20.0	+1.6
RTC				LR	LR		
	comp=Z,1μm,20.0s						
SHEL	**Horse Pasture**	**150.58**	**215**	*e*PKIKP	**PKPdf**	**11 48 08.0**	**+0.8**
SHEL				MLR	MLR		
	comp=Z,1μm,19.0s						
SHEL	**Horse Pasture**	**150.58**	**215**	*e*PKPdf	**PKPdf**	**11 48 08.0**	**+0.8**
SHEL				LR	LR		
	comp=Z,1μm,19.0s						
TORD	**Torodi Ar. Bea**	**155.47**	**283**	PKP	**PKPdf**	**11 48 12.9**	**-1.4**
TORD				PKPbc	PKPbc	11 48 22.8	
TORD				PKPab	**PKPab**	**11 48 37.6**	**-2.3**
TORD				PP	**PP**	**11 52 16.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**155.47**	**283**	PKP	**PKPdf**	**11 48 12.9**	**-1.4**
	comp=Z,7.6nm,1.2s,baz=60,slow=0.2,SNR=20						
TORD				PKPbc	PKPbc	11 48 22.8	
	comp=Z,19nm,1.1s,baz=2.1,slow=0.7,SNR=21						
TORD				PKPab	**PKPab**	**11 48 37.6**	**-2.3**
	comp=Z,19nm,1.1s,baz=71,slow=1.9,SNR=8.9						
TORD				PP	**PP**	**11 52 16.7**	**-0.1**
	comp=Z,3.7nm,1.1s,baz=44,slow=4.6,SNR=3.8						
RCBR	**Riachuelo**	**160.82**	**137**	PFAKE		11 48 30.0	+9.1
RCBR				LR	LR		
	comp=Z,1μm,20.0s						
ASCN	**Ascension**	**161.83**	**208**	PFAKE		11 48 30.0	+8.1
ASCN				LR	LR		
	comp=Z,1μm,20.0s						
KIC	**Kosan Boka**	**162.00**	**265**	*e*P	**PKPdf**	**11 48 21.4**	**-0.7**
	comp=Z,140nm,1.7s						
DBIC	**Dimbokro**	**162.15**	**266**	PKP	**PKPdf**	**11 48 22.2**	**0.0**
DBIC				PKPab	**PKPab**	**11 49 09.0**	**0.0**
DBIC				PP	**PP**	**11 52 55.0**	**+1.7**
DBIC	**Dimbokro**	**162.15**	**266**	PKP	**PKPdf**	**11 48 22.2**	**0.0**
	comp=Z,13nm,1.2s,baz=102,slow=6.7,SNR=6.5						
DBIC				PKPab	**PKPab**	**11 49 09.0**	**0.0**
	comp=Z,17nm,1.0s,baz=78,slow=6.2,SNR=6.8						
DBIC				PP	**PP**	**11 52 55.0**	**+1.7**
	comp=Z,4.1nm,1.0s,baz=93,slow=5.3,SNR=3.6						
LIC	**Lamto**	**162.26**	**265**	*e*PKP2	**PKPab**	**11 49 08.7**	**-0.8**
	comp=Z,173nm,1.4s						
LIC	**Lamto**	**162.26**	**265**	*e*P	**PKPdf**	**11 48 19.1**	**-3.2**
	comp=Z,55nm,1.5s						
TIC	**Toumodi**	**162.31**	**266**	*e*P	**PKPdf**	**11 48 21.1**	**-1.3**
	comp=Z,5.8nm,0.3s						
SACV	**Santiago Islan**	**173.31**	**7**	PFAKE		11 48 40.0	+10
SACV				LR	LR		
	comp=Z,2μm,21.0s						

*IDC **04** 11:37:58.9±1.1,8°.19S×156°.92E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.8/19,mbtmp3.8/7,ML4.4/1,Error ellipse: s-maj=25.0km s-min=19.7km az=159.0*
*ISCJB **04** 11:38:02.3±0.9,8°.3S±0°.2×156°.87E±0°.08,h33km,mb3.6/6, Error ellipse: s-maj=23.7km s-min=9.9km az=12.3*
ISC 04 11:38:04.1±1.0,8°.1S±0°.2×156°.98E±0°.10,h35km,n7, σ2§05/9,mb3.8/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.21**	**114**	Pn	**Pn**	**11 38 50.7**	**-1.4**
	46nm,0.3s,baz=283,slow=2.7,SNR=5.8						
HNR				Sn	**Sn**	**11 39 31.3**	**+2.1**
	26nm,0.3s,baz=209,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**24.86**	**239**	P	**P**	**11 43 22.4**	**-1.4**
	1.7nm,0.9s,baz=66,slow=10,SNR=7.2						
WRA				S	**S**	**11 47 48.0**	**+3.4**
	0.5nm,1.1s,baz=71,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**26.97**	**232**	P	**P**	**11 43 40.5**	**-2.2**
	0.4nm,0.8s,baz=64,slow=8.5,SNR=3.2						
STKA	**Stephens Creek**	**27.63**	**209**	P	**P**	**11 43 48.3**	**-0.2**
	2.9nm,0.9s,baz=37,slow=15,SNR=6.7						
VNDA	**Vanda**	**69.41**	**179**	P	**P**	**11 49 08.1**	**0.0**
	2.1nm,1.1s,baz=34,slow=3.6,SNR=3.6						
SONM	**Songino Array**	**71.35**	**327**	P	**P**	**11 49 20.9**	**+0.3**
	0.3nm,0.6s,baz=135,slow=4.9,SNR=3.4						
MKAR	**Makanchi Array**	**85.55**	**318**	P	**P**	**11 50 39.5**	**+0.6**
	0.7nm,0.7s,baz=104,slow=4.1,SNR=5.1						

IDC 04 11:38:29.0±60.0,17°.55S×177°.46W,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.5/19,mbtmp3.4/3,Error ellipse: s-maj=1102.0km s-min=160.6km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.59**	**241**	P	P	11 46 03.0	+0.6
	1.4nm,0.9s,baz=63,slow=8.8,SNR=2.2						
WRA	**Warramunga Arr**	**45.59**	**259**	P	P	11 46 50.6	-0.6
	0.5nm,1.0s,baz=95,slow=8.1,SNR=6.6						
ASAR	**Alice Springs**	**45.76**	**254**	P	P	11 46 52.1	-0.5
	0.2nm,0.5s,baz=95,slow=8.6,SNR=6.0						

IDC 04 11:43:41.9±4.0,2°.00S×138°.33E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.4/18,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=182.8km s-min=23.6km az=86.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.26**	**192**	P	Pn	11 47 56.8	-0.1
	0.2nm,0.3s,baz=16,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.96**	**191**	P	P	11 48 37.8	+0.2
	0.8nm,0.7s,baz=18,slow=11,SNR=23						
H11S3	**WAKE ISLAND Hy**	**34.54**	**53**	T	T	12 26 03.8	
	baz=235,slow=71,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**34.56**	**53**	T	T	12 26 05.5	
	baz=235,slow=71,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**34.56**	**53**	T	T	12 26 04.9	
	baz=235,slow=71,SNR=6.2						
SONM	**Songino Array**	**56.92**	**335**	P	P	11 53 30.4	+1.4
	0.1nm,0.4s,baz=135,slow=6.9,SNR=2.9						
MKAR	**Makanchi Array**	**69.00**	**322**	P	P	11 54 47.9	-1.4
	0.3nm,0.8s,baz=116,slow=6.6,SNR=3.0						

*IDC **04** 11:50:32.1±1.2,8°.17S×157°.02E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.5/19,mbtmp3.6/6,ML3.8/1,Error ellipse: s-maj=28.6km s-min=25.9km az=21.0*
*ISCJB **04** 11:50:35.5±1.0,8°.2S±0°.2×156°.98E±0°.08,h33km,mb3.4/5, Error ellipse: s-maj=25.0km s-min=10.2km az=14.0*
ISC 04 11:50:37.2±1.1,8°.2S±0°.2×157°.0E±0°.1,h35km,n6,σ1§83/7, mb3.5/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.14**	**113**	Pn	**Pn**	**11 51 22.4**	**-1.8**
	12nm,0.3s,baz=273,slow=3.6,SNR=7.4						
HNR				Sn	**Sn**	**11 52 02.4**	**+1.9**
	8.6nm,0.3s,baz=52,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**24.88**	**240**	P	**P**	**11 55 55.1**	**-1.8**
	0.9nm,0.8s,baz=65,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**26.98**	**233**	P	**P**	**11 56 16.4**	**+0.5**
	0.2nm,0.8s,baz=67,slow=7.1,SNR=3.5						
STKA	**Stephens Creek**	**27.60**	**209**	P	**P**	**11 56 22.5**	**+1.2**
	1.1nm,0.7s,baz=43,slow=12,SNR=3.9						
SONM	**Songino Array**	**71.42**	**327**	P	**P**	**12 01 55.2**	**+1.1**
	0.3nm,0.6s,baz=141,slow=5.7,SNR=3.0						
MKAR	**Makanchi Array**	**85.62**	**318**	P	**P**	**12 03 11.8**	**-0.4**
	0.5nm,0.6s,baz=91,slow=6.2,SNR=5.3						

*IDC **04** 12:09:15.2±1.1,8°.50S×156°.90E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.7/19,mbtmp3.7/8,ML3.8/1,Error ellipse: s-maj=25.1km s-min=18.8km az=145.0*
*ISCJB **04** 12:09:16.8±0.7,8°.5S±0°.1×156°.88E±0°.07,h19km,mb3.6/7, Error ellipse: s-maj=20.9km s-min=9.1km az=13.4*
ISC 04 12:09:18.0±0.9,8°.5S±0°.2×157°.05E±0°.08,h19km,n11, σ1§39/10,mb3.8/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.00**	**108**	Pn	**Pn**	**12 10 06.2**	**+1.6**
	11nm,0.3s,baz=263,slow=4.9,SNR=6.6						
HNR				Sn	**Sb**	**12 10 45.7**	**-1.4**
	33nm,0.3s,baz=252,slow=20,SNR=11						
WRA	**Warramunga Arr**	**24.74**	**240**	P	**P**	**12 14 38.4**	**-0.1**
	1.2nm,0.8s,baz=66,slow=9.5,SNR=5.2						
WRA				S	**S**	**12 18 60.0**	**+0.1**
	0.2nm,0.9s,baz=64,slow=18,SNR=3.4						
ASAR	**Alice Springs**	**26.80**	**233**	P	**P**	**12 14 57.4**	**+0.2**
	0.4nm,0.9s,baz=82,slow=7.7,SNR=3.8						
STKA	**Stephens Creek**	**27.33**	**210**	P	**P**	**12 15 01.2**	**-0.6**
	1.6nm,0.7s,baz=36,slow=14,SNR=2.2						
H11S3	**WAKE ISLAND Hy**	**28.47**	**19**	T	T	12 43 32.0	
	baz=199,slow=77,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.48**	**19**	T	T	12 43 40.2	
	baz=199,slow=77,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.49**	**19**	T	T	12 43 44.1	
	baz=199,slow=77,SNR=5.0						
CMAR	**Chiang Mai Arr**	**63.27**	**296**	P	**P**	**12 19 47.1**	**+1.1**
	0.3nm,0.4s,baz=100,slow=10,SNR=3.2						
SONM	**Songino Array**	**71.71**	**327**	P	**P**	**12 20 39.7**	**+0.8**
	0.7nm,0.8s,baz=144,slow=6.8,SNR=4.0						
MKAR	**Makanchi Array**	**85.89**	**318**	P	**P**	**12 21 54.7**	**-2.0**
	0.6nm,0.7s,baz=99,slow=5.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**86.57**	**326**	P	**P**	**12 21 58.2**	**-1.7**
	0.2nm,0.3s,baz=127,slow=3.8,SNR=2.6						

*IDC **04** 12:17:17.8±0.7,8°.48S×157°.03E,h0km,mb4.0/11, mb1 4.2/12,mb1mx4.1/19,mbtmp4.0/12,ML4.1/1,Error ellipse: s-maj=20.2km s-min=12.7km az=125.0*
*ISCJB **04** 12:17:19.5±0.5,8°.38S±0°.07×157°.00E±0°.06,h19km, mb4.0/12,Error ellipse: s-maj=10.7km s-min=8.1km az=2.4*
*NEIC **04** 12:17:22.9±0.4,8°.43S×157°.05E,h35km,mb4.1/1,Error ellipse: s-maj=12.7km s-min=9.7km az=135.0*
ISC 04 12:17:21.0±0.5,8°.34S±0°.09×157°.08E±0°.07,h19km,n32, σ1§56/44,mb4.0/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.04**	**111**	Pn	**Pn**	**12 18 08.8**	**+0.6**
HNR				Sn	**Sn**	**12 18 45.1**	**+1.1**
HNR	**Honiara**	**3.04**	**111**	Pn	**Pn**	**12 18 08.7**	**+0.6**
	26nm,0.3s,baz=288,slow=3.0,SNR=11						
HNR				Sn	**Sn**	**12 18 45.1**	**+1.1**
	22nm,0.3s,baz=303,slow=22,SNR=2.6						
HNR	**Honiara**	**3.04**	**111**	*e*P	**Pn**	**12 18 10.0**	**+1.9**
CTA	**Charters Tower**	**15.69**	**221**	Pn	**Pn**	**12 21 01.5**	**+0.3**
CTA	**Charters Tower**	**15.69**	**221**	Pn	**Pn**	**12 21 01.5**	**+0.3**
	baz=41,slow=15,SNR=2.3						
EIDS	**Eidsvold**	**17.88**	**198**	*e*P	**Pn**	**12 21 27.1**	**-1.7**
WRAB	**Tennant Creek**	**24.83**	**240**	*e*P	**P**	**12 22 41.2**	**-1.2**
	3.9nm,0.6s						
WRA	**Warramunga Arr**	**24.85**	**240**	P	**P**	**12 22 41.5**	**-1.1**
WRA				PcP	**PcP**	**12 26 18.3**	**-0.4**
WRA				S	**S**	**12 27 10.1**	**+5.3**
WRA	**Warramunga Arr**	**24.85**	**240**	P	**P**	**12 22 41.5**	**-1.1**
	6.4nm,0.8s,baz=66,slow=9.9,SNR=26						
WRA				PcP	**PcP**	**12 26 18.3**	**-0.4**
	1.1nm,0.8s,baz=64,slow=2.4,SNR=6.5						
WRA				S	**S**	**12 27 10.1**	**+5.3**
	2.1nm,1.0s,baz=68,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**26.92**	**233**	P	**P**	**12 22 59.5**	**-1.9**
ASAR				PcP	**PcP**	**12 26 23.1**	**-0.2**
ASAR				S	**S**	**12 27 38.5**	**+0.8**
ASAR	**Alice Springs**	**26.92**	**233**	P	**P**	**12 22 59.5**	**-1.9**
	1.7nm,0.8s,baz=64,slow=8.9,SNR=15						
ASAR				PcP	**PcP**	**12 26 23.1**	**-0.2**
	0.4nm,0.8s,baz=72,slow=2.5,SNR=4.5						
ASAR				S	**S**	**12 27 38.5**	**+0.8**
	0.4nm,0.9s,baz=60,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**27.50**	**209**	P	**P**	**12 23 06.0**	**-0.4**
STKA				PcP	**PcP**	**12 26 23.8**	**-0.7**
STKA				S	**S**	**12 27 45.8**	**-0.6**
STKA	**Stephens Creek**	**27.50**	**209**	P	**P**	**12 23 05.9**	**-0.4**
	6.5nm,0.8s,baz=22,slow=10,SNR=18						
STKA				PcP	**PcP**	**12 26 23.8**	**-0.7**
	2.2nm,1.0s,baz=338,slow=5.4,SNR=3.7						
STKA				S	**S**	**12 27 45.8**	**-0.6**
	1.0nm,0.8s,baz=351,slow=19,SNR=2.1						
USRK	**Ussuriysk Arra**	**57.01**	**339**	P	**P**	**12 27 07.3**	**+1.8**
	1.5nm,0.7s,baz=149,slow=5.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**63.22**	**295**	P	**P**	**12 27 49.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**63.22**	**295**	P	**P**	**12 27 49.4**	**+0.7**
	0.5nm,0.4s,baz=123,slow=4.5,SNR=7.0						
SONM	**Songino Array**	**71.58**	**327**	P	**P**	**12 28 42.3**	**+1.1**
SONM	**Songino Array**	**71.58**	**327**	P	**P**	**12 28 42.3**	**+1.1**
	0.5nm,0.5s,baz=205,slow=5.7,SNR=4.7						
ILAR	**Eielson Array**	**83.87**	**21**	P	**P**	**12 29 48.1**	**-1.1**
ILAR	**Eielson Array**	**83.87**	**21**	P	**P**	**12 29 48.1**	**-1.1**
	0.6nm,1.1s,baz=210,slow=6.9,SNR=3.0						
MKAR	**Makanchi Array**	**85.77**	**318**	P	**P**	**12 29 59.0**	**-0.2**
MKAR	**Makanchi Array**	**85.77**	**318**	P	**P**	**12 29 59.0**	**-0.2**
	1.3nm,0.7s,baz=102,slow=5.7,SNR=13						
ZALV	**Zalesovo Beam**	**86.44**	**326**	P	**P**	**12 30 01.3**	**-0.9**
ZALV	**Zalesovo Beam**	**86.44**	**326**	P	**P**	**12 30 01.3**	**-0.9**
	0.6nm,0.6s,baz=78,slow=3.5,SNR=3.5						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**12 30 48.8**	**-0.4**
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**12 30 48.8**	**-0.4**
	0.2nm,0.6s,baz=264,slow=4.7,SNR=3.5						
PDAR	**Pinedale Array**	**98.06**	**48**	P	Pdif	12 30 58.0	+1.1
PDAR	**Pinedale Array**	**98.06**	**48**	P	Pdif	12 30 58.0	+1.1
	0.2nm,0.7s,baz=276,slow=3.5,SNR=2.4						
BDFB	**Brasilia**	**145.57**	**134**	PKPbc	**PKPdf**	**12 36 58.0**	**-1.3**
BDFB	**Brasilia**	**145.57**	**134**	PKPbc	**PKPdf**	**12 36 58.0**	**-1.3**
	6.1nm,1.0s,baz=13,slow=3.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**155.35**	**283**	PKPab	**PKPab**	**12 37 38.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**155.35**	**283**	PKPab	**PKPab**	**12 37 38.6**	**-1.1**
	0.8nm,1.1s,baz=80,slow=1.6,SNR=2.7						

*IDC **04** 12:22:24.4±0.6,8°.57S×157°.17E,h0km,mb4.3/15, mb1 4.5/16,mb1mx4.4/20,mbtmp4.3/16,ML4.3/1,MS4.2/1, Ms1 4.2/1,ms1mx3.5/23,Error ellipse: s-maj=17.4km s-min=13.3km az=151.0*
*ISCJB **04** 12:22:26.3±0.3,8°.54S±0°.06×157°.16E±0°.05,h19km, mb4.2/16,Error ellipse: s-maj=9.0km s-min=7.0km az=11.0*
*NEIC **04** 12:22:29.6±0.4,8°.56S×157°.19E,h35km,mb4.4/1,Error ellipse: s-maj=11.2km s-min=8.6km az=136.0*
ISC 04 12:22:27.5±0.4,8°.54S±0°.08×157°.16E±0°.06,h19km,n57, σ1§19/67,mb4.2/16,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.89**	**108**	Pn	**Pn**	**12 23 12.5**	**0.0**
HNR				Sn	**Sn**	**12 23 47.2**	**+0.5**
HNR	**Honiara**	**2.89**	**108**	Pn	**Pn**	**12 23 12.5**	**0.0**
	47nm,0.3s,baz=332,slow=7.9,SNR=8.2						
HNR				Sn	**Sn**	**12 23 47.2**	**+0.5**
	34nm,0.3s,baz=339,slow=23,SNR=3.0						
HNR	**Honiara**	**2.89**	**108**	*e*P	**Pn**	**12 23 14.0**	**+1.5**
COEN	**Coen**	**14.74**	**247**	*e*Pn	**Pn**	**12 25 55.3**	**+0.2**
CTA	**Charters Tower**	**15.60**	**221**	Pn	**P**	**12 26 08.5**	**-2.0**
CTA	**Charters Tower**	**15.60**	**221**	Pn	**P**	**12 26 08.5**	**-2.0**
	0.1nm,0.3s,baz=55,slow=16,SNR=2.4						
CTA				LR	LR	12 30 29.9	
	comp=Z,754nm,18.6s,baz=32,slow=31						
EIDS	**Eidsvold**	**17.71**	**198**	*e*Pn	**Pn**	**12 26 33.2**	**0.0**
ARMA	**Armidale**	**22.38**	**193**	*e*P	**P**	**12 27 24.9**	**+0.1**
WRAB	**Tennant Creek**	**24.81**	**240**	*e*P	**P**	**12 27 48.0**	**-0.6**
	9.2nm,0.9s						
WRA	**Warramunga Arr**	**24.82**	**240**	P	**P**	**12 27 48.3**	**-0.4**
WRA				PcP	**PcP**	**12 31 26.1**	**+1.0**
WRA				S	**S**	**12 32 12.9**	**+2.1**
WRA	**Warramunga Arr**	**24.82**	**240**	P	**P**	**12 27 48.3**	**-0.4**
	8.7nm,0.9s,baz=66,slow=9.2,SNR=18						
WRA				PcP	**PcP**	**12 31 26.1**	**+1.0**
	0.7nm,0.7s,baz=76,slow=2.8,SNR=5.6						
WRA				S	**S**	**12 32 12.9**	**+2.1**
	0.4nm,0.7s,baz=66,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**26.87**	**233**	P	**P**	**12 28 06.0**	**-1.3**
ASAR				PcP	**PcP**	**12 31 29.1**	**-0.5**
ASAR	**Alice Springs**	**26.87**	**233**	P	**P**	**12 28 06.0**	**-1.3**
	2.1nm,1.0s,baz=63,slow=8.9,SNR=9.3						
ASAR				PcP	**PcP**	**12 31 29.1**	**-0.5**
	0.6nm,0.9s,baz=81,slow=2.6,SNR=3.5						
STKA	**Stephens Creek**	**27.36**	**210**	P	**P**	**12 28 12.5**	**+0.9**
STKA	**Stephens Creek**	**27.36**	**210**	P	**P**	**12 28 12.5**	**+0.9**
	6.2nm,0.8s,baz=40,slow=14,SNR=12						
AFI	**Afiamalu**	**30.91**	**103**	P	**P**	**12 28 44.6**	**+1.2**
AFI	**Afiamalu**	**30.91**	**103**	P	**P**	**12 28 44.6**	**+1.2**
	25nm,0.9s,baz=261,slow=22,SNR=3.5						
MJAR	**Matsushiro Arr**	**48.25**	**339**	P	**P**	**12 31 06.8**	**-0.4**
MJAR	**Matsushiro Arr**	**48.25**	**339**	P	**P**	**12 31 06.9**	**-0.4**
	0.8nm,0.6s,baz=140,slow=8.9,SNR=3.6						
KSRS	**Korea Array**	**53.31**	**331**	P	**P**	**12 31 47.0**	**+1.6**
	16nm,1.3s,baz=141,slow=8.1,SNR=6.1						
KSAR	**Wonju Array Be**	**53.32**	**331**	P	**P**	**12 31 47.0**	**+1.5**
USRK	**Ussuriysk Arra**	**57.22**	**339**	P	**P**	**12 32 14.7**	**+1.2**
	6.6nm,1.1s,baz=134,slow=5.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**63.38**	**296**	P	**P**	**12 32 57.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**63.38**	**296**	P	**P**	**12 32 57.9**	**+1.7**
	1.5nm,0.8s,baz=110,slow=4.6,SNR=13						
SONM	**Songino Array**	**71.79**	**327**	P	**P**	**12 33 49.7**	**+0.8**
SONM	**Songino Array**	**71.79**	**327**	P	**P**	**12 33 49.7**	**+0.8

ASAR	**Alice Springs**	**26.71**	**234**	P		**P**	**12 37 44.9**	**-0.8**
	0.3nm,1.0s,baz=71,slow=8.9,SNR=3.0							
STKA	**Stephens Creek**	**27.14**	**210**	P		**P**	**12 37 50.9**	**+1.5**
	0.7nm,0.6s,baz=32,slow=9.5,SNR=3.7							
SONM	**Songino Array**	**72.00**	**327**	P		**P**	**12 43 31.2**	**+1.3**
	0.2nm,0.2s,baz=123,slow=5.3,SNR=4.6							
MKAR	**Makanchi Array**	**86.15**	**318**	P		**P**	**12 44 46.4**	**-0.9**
	0.1nm,0.4s,baz=123,slow=5.3,SNR=3.0							

WEL 04 12:45:51.9±0.6, 44°29S×166°98E, h12km, ML3.7/13, 2C, Error ellipse: s-maj=5.2km s-min=3.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.78**	**120**	⇑P*	Pg	12 46 06.7	-0.3
MSZ				S*	Sg	12 46 15.9	-1.3
MSZ				AML	AML	12 46 16.8	
MSZ				AML	AML	12 46 20.2	
MSZ				AML	AML	12 46 20.2	
DCZ	**Deep Cove**	**1.20**	**174**	P*	Pn	12 46 12.6	-1.8
DCZ				AML	AML	12 46 32.6	
DCZ				AML	AML	12 46 43.0	
DCZ				AML	AML	12 46 43.9	
JCZ	**Jackson Bay**	**1.30**	**81**	PN	Pn	12 46 15.0	-0.9
JCZ				AML	AML	12 46 36.1	
JCZ				AML	AML	12 46 40.2	
MLZ	**Mavora Lakes**	**1.36**	**142**	⇑PN	Pn	12 46 16.3	-0.4
MLZ				SN	Sb	12 46 33.7	-1.0
MLZ				AML	AML	12 46 38.3	
WKZ	**Wanaka**	**1.55**	**111**	PN	Pb	12 46 20.1	-0.5
WKZ				SN	Sn	12 46 39.3	-0.2
WKZ				AML	AML	12 46 41.9	
WKZ				AML	AML	12 46 44.9	
WKZ				AML	AML	12 46 44.9	
WHZ	**Wether Hill Ro**	**1.75**	**157**	PN	Pn	12 46 22.0	0.0
WHZ				SN	Sn	12 46 43.2	-1.0
WHZ				AML	AML	12 46 55.1	
EAZ	**Earnscleugh**	**1.91**	**121**	PN	Pn	12 46 25.0	+0.7
EAZ				AML	AML	12 46 51.0	
EAZ				AML	AML	12 46 53.7	
EAZ				AML	AML	12 46 55.9	
EAZ				AML	AML	12 46 55.9	
FOZ	**Fox Glacier**	**2.08**	**71**	PN	Pn	12 46 26.8	+0.2
FOZ				AML	AML	12 47 08.1	
FOZ				AML	AML	12 47 08.1	
FOZ				AML	AML	12 47 11.1	
FOZ				AML	AML	12 47 11.1	
LBZ	**Lake Benmore**	**2.30**	**94**	PN	Pn	12 46 30.3	+0.6
LBZ				AML	AML	12 47 07.4	
LBZ				AML	AML	12 47 10.7	
TUZ	**Tuapeka**	**2.51**	**133**	PN	Pb	12 46 36.4	-0.5
TUZ				AML	AML	12 47 11.7	
TUZ				AML	AML	12 47 11.9	
SYZ	**Scrubby Hill**	**2.72**	**147**	AML	AML	12 47 18.1	
WVZ	**Waitaha Valley**	**2.98**	**67**	AML	AML	12 47 32.7	
RPZ	**Rata Peaks**	**2.99**	**80**	AML	AML	12 47 23.1	
RPZ				AML	AML	12 47 30.0	

*IDC **04** 12:46:38.0±1.0, 8.36S×157.08E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=24.2km s-min=18.6km az=146.0*

ISC 04 12:46:40.9±0.8, 8°4S±0.2°×157°19E±0.0°, 09, h19km, n12, σ1§60/12, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.92**	**111**	Pn	**Pn**	**12 47 28.3**	**+2.0**
	37nm,0.3s,baz=210,slow=0.9,SNR=11						
HNR				Sn	**Sb**	**12 48 06.8**	**-1.1**
	67nm,0.3s,baz=321,slow=8.7,SNR=6.9						
HNR	**Honiara**	**2.92**	**111**	*eP*	**Pn**	**12 47 27.0**	**+0.6**
WRA	**Warramunga Arr**	**24.92**	**240**	P	**P**	**12 52 01.3**	**-1.7**
	1.8nm,0.7s,baz=64,slow=9.2,SNR=9.9						
WRA				S	**S**	**12 56 28.8**	**+3.1**
	9.9nm,1.0s,baz=54,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**26.98**	**233**	P	**P**	**12 52 20.0**	**-1.7**
	0.4nm,0.8s,baz=62,slow=8.5,SNR=3.9						
ASAR				PcP	**PcP**	**12 55 42.2**	**-1.2**
	0.6nm,0.9s,baz=61,slow=1.8,SNR=5.6						
STKA	**Stephens Creek**	**27.51**	**210**	P	**P**	**12 52 26.1**	**-0.2**
	1.7nm,0.7s,baz=31,slow=13,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**28.30**	**19**	T	T	13 21 03.0	
	baz=200,slow=77,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.30**	**19**	T	T	13 21 06.9	
	baz=200,slow=77,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.32**	**19**	T	T	13 21 02.9	
	baz=200,slow=77,SNR=8.5						
CMAR	**Chiang Mai Arr**	**63.33**	**295**	P	**P**	**12 57 09.8**	**+0.5**
	0.9nm,0.7s,baz=117,slow=5.4,SNR=6.8						
SONM	**Songino Array**	**71.67**	**327**	P	**P**	**12 58 02.0**	**+0.4**
	0.9nm,0.8s,baz=141,slow=3.1,SNR=6.7						
MKAR	**Makanchi Array**	**85.87**	**318**	P	**P**	**12 59 19.1**	**-0.5**
	0.8nm,0.7s,baz=100,slow=6.0,SNR=8.5						
ZALV	**Zalesovo Beam**	**86.54**	**326**	P	**P**	**12 59 22.2**	**-0.4**
	0.3nm,0.5s,baz=120,slow=7.5,SNR=2.1						

IDC 04 12:52:51.3±1.2, 8.64S×157.01E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML4.1/1, MS4.2/3, Ms1 4.2/3, ms1mx3.5/22, Error ellipse: s-maj=33.9km s-min=24.4km az=1.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.01**	**105**	Pn	Pn	12 53 40.0	-0.2
	28nm,0.3s,baz=280,slow=2.7,SNR=18						
HNR				Sn	Sn	12 54 17.9	+0.8
	17nm,0.3s,baz=64,slow=22,SNR=2.4						
WRA	**Warramunga Arr**	**24.63**	**240**	P	P	12 58 14.0	+0.2
	0.8nm,0.9s,baz=66,slow=9.4,SNR=3.1						
ASAR	**Alice Springs**	**26.68**	**233**	P	P	12 58 32.3	-0.1
	0.3nm,0.9s,baz=57,slow=9.0,SNR=3.5						
RAO	**Raoul Island**	**31.21**	**134**	LR	LR	13 07 53.5	
	comp=Z,966nm,19.1s,baz=112,slow=29						
RAR	**Rarotonga**	**43.45**	**112**	LR	LR	13 15 58.9	
	comp=Z,170nm,19.0s,baz=315,slow=32						
PPT	**Papeete**	**52.63**	**105**	LR	LR	13 20 12.5	
	comp=Z,212nm,20.0s,baz=356,slow=31						
SONM	**Songino Array**	**71.80**	**327**	P	P	13 04 16.8	+0.9
	0.5nm,0.8s,baz=125,slow=5.7,SNR=5.1						
MKAR	**Makanchi Array**	**85.95**	**318**	P	P	13 05 32.3	-1.3
	0.6nm,0.8s,baz=97,slow=6.0,SNR=4.3						

*IDC **04** 12:55:11.6±1.0, 12.76N×121.05E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/26, mbtmp3.6/8, Error ellipse: s-maj=28.8km s-min=15.2km az=43.0*

*MAN **04** 12:55:13, 12.41N×120.35E, h20km, mb4.5, ML3.4, MS3.3*

*ISCJB **04** 12:55:14.3±0.4, 12.48N±0.04°×120.40E±0.04°, h23km, mb3.6/8, Error ellipse: s-maj=5.7km s-min=5.3km az=15.9*

ISC 04 12:55:15.1±0.7, 12.47N±0.04°×120.50E±0.04°, h23km, n21, σ1§21/24, mb3.7/8, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.55**	**212**	*eP*	**Pb**	**12 55 24.6**	**-1.5**
BUSP				*eS*	**Sb**	**12 55 32.9**	**-0.6**
SJMP	**San Jose**	**0.61**	**90**	*eP*	**Pn**	**12 55 27.6**	**-0.8**
SJMP				*eS*	**Sn**	**12 55 37.1**	**-0.4**
PGP	**Puerto Galera**	**1.12**	**23**	⇓*iP*	**Pn**	**12 55 34.6**	**-0.9**
LUBP	**Lubang**	**1.28**	**349**	*eP*	**Pn**	**12 55 36.2**	**-1.5**
OTRP	**Odiongan**	**1.49**	**94**	*eP*	**Pb**	**12 55 41.0**	**-1.2**
ENPP	**El Nido**	**1.63**	**220**	*eP*	**Pn**	**12 55 42.7**	**+0.2**
BOAC	**Boac**	**1.64**	**53**	*eP*	**Pb**	**12 55 44.2**	**-0.6**
TGY	**Tagaytay City**	**1.68**	**15**	⇓*eP*	**Pb**	**12 55 44.4**	**-1.1**
CUYO	**Cuyo Island**	**1.69**	**162**	*eP*	**Pn**	**12 55 42.2**	**-1.0**
LQP	**Lukban**	**1.93**	**32**	*eP*	**Pn**	**12 55 48.0**	**+1.3**
NBP	**Mount Natib**	**2.26**	**358**	⇑*eP*	**Pn**	**12 55 50.8**	**-0.4**
RCP	**Roxas**	**2.38**	**112**	⇑*eP*	**Pn**	**12 55 54.3**	**+1.6**
RCP				*eS*	**Sb**	**12 56 24.8**	**-1.4**
GUIM	**Jordan**	**2.75**	**132**	*eP*	**Pn**	**12 55 58.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.60**	**289**	P	**P**	**13 00 06.8**	**+3.1**
	0.4nm,0.3s,baz=105,slow=8.4,SNR=5.5						
CMAR				S	Sn	13 04 13.6	+2.4
	0.6nm,0.3s,baz=109,slow=24,SNR=3.8						
WRA	**Warramunga Arr**	**34.97**	**157**	P	**P**	**13 02 05.5**	**-0.3**
	1.0nm,1.0s,baz=338,slow=9.4,SNR=4.9						
SONM	**Songino Array**	**37.18**	**344**	P	**P**	**13 02 24.4**	**-0.2**
	1.3nm,0.7s,baz=159,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**38.23**	**160**	P	**P**	**13 02 35.1**	**+1.5**
	0.3nm,0.6s,baz=342,slow=6.5,SNR=9.6						
MKAR	**Makanchi Array**	**46.91**	**324**	P	**P**	**13 03 44.7**	**+0.8**
	0.5nm,0.8s,baz=123,slow=8.8,SNR=6.1						
ZALV	**Zalesovo Beam**	**50.06**	**333**	P	**P**	**13 04 07.7**	**-0.3**
	0.4nm,0.3s,baz=129,slow=6.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**51.10**	**327**	P	**P**	**13 04 16.7**	**+0.7**
	0.3nm,0.2s,baz=116,slow=9.4,SNR=6.0						
BVAR	**Borovoye Array**	**56.68**	**326**	P	**P**	**13 04 55.7**	**-1.0**
	0.3nm,0.6s,baz=108,slow=9.3,SNR=2.6						

*ISCJB **04** 13:06:29.6±0.2, 29.96S±0.03°×179.01W±0.06°, h187km, mb4.5/27, Error ellipse: s-maj=8.0km s-min=2.5km az=26.5*

*MOS **04** 13:06:33.2±0.9, 29.73S×179.10W, h220km, mb4.9/8, Error ellipse: s-maj=15.9km s-min=14.2km az=1.2*

*NEIC **04** 13:06:35.0±0.9, 29.81S×178.92W, h230km±7km, mb4.6/13, Error ellipse: s-maj=15.8km s-min=9.6km az=165.0*

*IDC **04** 13:06:41.0±1.1, 29.76S×179.10W, h280km±9km, mb4.1/15, mb1 4.2/15, mb1mx4.1/19, mbtmp4.6/15, Error ellipse: s-maj=15.7km s-min=13.4km az=93.0*

ISC 04 13:06:29.7±0.3, 29°97S±0.06°×178°90W±0.09, h187km, n352, σ1§43/346, mb4.5/27, 48C-45D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.11**	**50**	*e*Pn	Pn	13 07 06.6	+7.6
RAO				S	**Sn**	**13 07 26.1**	**+4.6**
RAO	**Raoul Island**	**1.11**	**50**	P	Pn	13 07 06.9	+7.9
	1µm,0.3s,baz=177,slow=2.4,SNR=93						
RAO				S	**Sn**	**13 07 26.1**	**+4.6**
	4µm,0.3s,baz=90,slow=20,SNR=20						
MXZ	**Matakaoa Point**	**7.92**	**196**	PN	**Pn**	**13 08 24.4**	**+2.5**
WCZ	**Waipu Caves**	**8.22**	**222**	PN	Pn	13 08 35.0	+9.1
OPRZ	**Ohinepanea**	**8.72**	**204**	PN	**Pn**	**13 08 33.7**	**+1.5**
CNGZ	**Carnagh Statio**	**8.83**	**195**	PN	**Pn**	**13 08 35.2**	**+1.5**
MWZ	**Matawai**	**8.85**	**199**	PN	**Pn**	**13 08 34.5**	**+0.3**
URZ	**Urewera**	**8.91**	**201**	*e*P	**Pn**	**13 08 35.6**	**+0.9**
	57nm,0.7s						
URZ				S	**Sn**	**13 10 15.0**	**+0.7**
URZ	**Urewera**	**8.91**	**201**	P	**Pn**	**13 08 35.9**	**+1.1**
	2.2nm,0.3s,baz=319,slow=2.9,SNR=26						
URZ				S	**Sn**	**13 10 15.0**	**+0.7**
	40nm,0.3s,baz=192,slow=20,SNR=20						
URZ	**Urewera**	**8.91**	**201**	PN	**Pn**	**13 08 35.4**	**+0.7**
RIGZ	**Rimuhau**	**9.14**	**197**	PN	**Pn**	**13 08 38.0**	**+0.1**
SNGZ	**Shannon Statio**	**9.32**	**198**	PN	**Pn**	**13 08 40.0**	**-0.2**
SNGZ				SN	**Sn**	**13 10 24.5**	**+0.2**
PRRZ	**Plateau Road**	**9.36**	**203**	PN	Pn	13 08 45.1	+4.5
KNZ	**Kokohu**	**9.46**	**196**	PN	**Pn**	**13 08 42.5**	**+0.5**
KNZ				SN	**Sn**	**13 10 27.1**	**-0.4**
RAHZ	**Arahi**	**9.52**	**199**	PN	**Pn**	**13 08 43.5**	**+0.7**
WHHZ	**Waihua**	**9.63**	**198**	PN	**Pn**	**13 08 44.0**	**-0.1**
WHHZ				SN	**Sn**	**13 10 32.4**	**+0.9**
NMHZ	**Naumai**	**9.77**	**200**	PN	**Pn**	**13 08 46.0**	**-0.1**
NMHZ				SN	**Sn**	**13 10 37.2**	**+2.1**
BKZ	**Black Stump Fm**	**9.93**	**201**	PN	**Pn**	**13 08 47.0**	**-1.2**
BKZ				SN	**Sn**	**13 10 40.6**	**+1.8**
OTVZ	**Oturere**	**10.21**	**205**	PN	**Pn**	**13 08 51.9**	**0.0**
NGZ	**Ngauruhoe**	**10.24**	**205**	PN	P	13 08 56.4	-4.2
NGZ				SN	**S**	**13 10 49.8**	**+2.8**
WPVZ	**Whakapapa**	**10.29**	**205**	PN	P	13 08 57.3	-3.8
TUVZ	**Tukino**	**10.30**	**204**	PN	Pn	13 08 56.7	+3.6
BHHZ	**Black Hill Sta**	**10.36**	**202**	PN	**Pn**	**13 08 53.1**	**-0.7**
TRVZ	**Turoa**	**10.37**	**205**	PN	P	13 08 57.8	-4.3
WNVZ	**Wahianoa**	**10.38**	**204**	PN	Pn	13 08 56.9	+2.8
MOVZ	**Moawhango**	**10.39**	**204**	PN	**Pn**	**13 08 55.9**	**+1.7**
MOVZ				SN	**S**	**13 10 49.4**	**-1.2**
KAHZ	**Kahuranaki**	**10.40**	**198**	PN	**Pn**	**13 08 54.4**	**+0.1**
PKVZ	**Pokaka**	**10.43**	**205**	PN	P	13 08 58.8	-3.8
PXZ	**Pawanui**	**10.62**	**198**	PN	**Pn**	**13 08 55.0**	**-2.1**
PNHZ	**Pukenui**	**10.70**	**201**	PN	**Pn**	**13 08 59.6**	**+1.3**
PNHZ				SN	**Sn**	**13 10 54.1**	**-3.2**
PRHZ	**Porangahau**	**10.90**	**198**	PN	**Pn**	**13 08 58.9**	**-1.8**
TSZ	**Takapari Road**	**10.91**	**201**	PN	**Pn**	**13 08 58.2**	**-2.7**
WAZ	**Wanganui**	**10.98**	**206**	PN	**Pn**	**13 09 04.1**	**+2.4**
DVHZ	**Dannevirke**	**11.07**	**200**	PN	**Pn**	**13 09 03.2**	**+0.3**
ANWZ	**Angora Road**	**11.13**	**199**	PN	**Pn**	**13 09 02.5**	**-1.1**
POWZ	**Post Office Ro**	**11.28**	**201**	PN	**Pn**	**13 09 06.3**	**+0.7**
PRWZ	**Pori Road**	**11.36**	**200**	PN	**Pn**	**13 09 07.5**	**+0.9**
BFZ	**Birch Farm**	**11.40**	**199**	*e*PN	**Pn**	**13 09 08.2**	**+1.1**
MRZ	**Mangatainoka R**	**11.58**	**201**	PN	Pn	13 09 05.5	-4.0
HOWZ	**Holdsworth Sta**	**11.81**	**201**	PN	Pn	13 09 08.9	-3.5
OGWZ	**Otaki Gorge**	**11.85**	**202**	PN	**Pn**	**13 09 09.9**	**-3.1**
KIW	**Kapiti Island**	**11.98**	**203**	PN	**Pn**	**13 09 12.0**	**-2.6**
MTW	**Mount Morrison**	**12.06**	**201**	PN	**Pn**	**13 09 14.2**	**-1.3**
CAW	**Cannon Point**	**12.15**	**202**	PN	Pn	13 09 13.4	-3.4
PAWZ	**Paruwai Farm**	**12.28**	**200**	PN	**Pn**	**13 09 18.1**	**-0.3**
PAWZ				SN	Sn	13 11 27.0	-7.6
DUWZ	**D'Urville Isla**	**12.29**	**206**	*e*PN	**Pn**	**13 09 20.3**	**+1.8**
MSWZ	**Moikau Station**	**12.37**	**201**	PN	**Pn**	**13 09 19.5**	**0.0**
WEL	**Wellington**	**12.41**	**203**	PN	**Pn**	**13 09 16.9**	**-3.1**
PLWZ	**Palliser**	**12.51**	**201**	PN	**Pn**	**13 09 19.2**	**-2.1**
TCW	**Tory Channel**	**12.51**	**204**	PN	**Pn**	**13 09 19.8**	**-1.5**
TUWZ	**Tuamarina**	**12.82**	**205**	PN	**Pn**	**13 09 24.4**	**-0.9**
NNZ	**Nelson**	**12.86**	**207**	PN	**Pn**	**13 09 22.7**	**-3.0**
QRZ	**Quartz Range**	**12.88**	**210**	PN	**Pn**	**13 09 25.6**	**-0.4**
BSWZ	**Blackbirch Sta**	**13.10**	**205**	PN	**Pn**	**13 09 28.6**	**-0.1**
THZ	**Tophouse**	**13.51**	**207**	PN	**Pn**	**13 09 32.8**	**-1.1**
DSZ	**Denniston Nort**	**13.95**	**210**	PN	**Pn**	**13 09 39.1**	**-0.3**
LTZ	**Lake Taylor**	**14.62**	**207**	PN	**Pn**	**13 09 45.3**	**-2.5**
OXZ	**Oxford**	**15.17**	**206**	PN	**Pn**	**13 09 50.4**	**-4.0**
MQZ	**McQueen's Vall**	**15.28**	**204**	PN	**Pn**	**13 09 53.5**	**-2.2**
DZM	**Mont Dzumac**	**15.33**	**297**	*e*P	**P**	**13 10 01.3**	**+4.0**
	41nm,0.8s						
DZM				*e*		13 10 10.2	
RPZ	**Rata Peaks**	**15.88**	**208**	P	**Pn**	**13 10 00.0**	**-3.1**
RPZ				S	S	13 12 46.6	-13
RPZ	**Rata Peaks**	**15.88**	**208**	P	**Pn**	**13 10 00.0**	**-3.1**
	2.1nm,0.3s,baz=347,slow=4.5,SNR=6.4						
RPZ				S	S	13 12 46.6	-13
	9.1nm,0.3s,baz=133,slow=19,SNR=19						
ODZ	**Otahua Downs**	**17.16**	**206**	PN	**Pn**	**13 10 17.8**	**-0.5**
AFI	**Afiamalu**	**17.29**	**24**	P	**P**	**13 10 16.5**	**-2.2**
AFI				S	S	13 13 14.3	-15
AFI	**Afiamalu**	**17.29**	**24**	P	**P**	**13 10 16.5**	**-2.2**
	6.5nm,0.3s,baz=0.0,slow=7.1,SNR=8.0						
AFI				S	S	13 13 14.3	-15
	4.4nm,0.3s,baz=53,slow=20,SNR=5.1						
ARMA	**Armidale**	**25.45**	**262**	*e*P	**P**	**13 11 43.8**	**+3.2**
ARMA	**Armidale**	**25.45**	**262**	P	P	13 11 45.8	+5.3
	baz=27,SNR=5.8						
EIDS	**Eidsvold**	**26.94**	**272**	*e*P	**P**	**13 11 55.9**	**+2.1**
	12nm,0.9s						
EIDS	**Eidsvold**	**26.94**	**272**	P	**P**	**13 11 56.6**	**+2.8**
	baz=28,SNR=3.3						
RMQ	**Roma**	**28.65**	**269**	P	P	13 12 13.3	+4.3
	baz=30,SNR=6.3						
CMSA	**Cobar Meteorol**	**30.39**	**258**	P	P	13 12 28.7	+4.4
	baz=32,SNR=6.1						
QLP	**Quilpie**	**32.55**	**267**	P	P	13 12 46.1	+2.8
	baz=34,SNR=4.2						
CTAO	**Charters Tower**	**32.96**	**279**	*e*P	**P**	**13 12 49.4**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	**Charters Tower**	**32.96**	**279**	*e*P	**P**	**13 12 49.4**	**+2.5**
	comp=Z,24nm,0.9s						
STKA	**Stephens Creek**	**33.82**	**257**	P	**P**	**13 12 55.4**	**+1.2**
STKA				pP	pP	13 13 52.2	+19
STKA	**Stephens Creek**	**33.82**	**257**	P	**P**	**13 12 55.4**	**+1.2**
	comp=Z,11nm,1.0s,baz=84,slow=8.9,SNR=12						
STKA				pP	pP	13 13 52.2	+19
	comp=Z,12nm,1.0s,baz=90,slow=10,SNR=3.9						
HTT	**Hallett**	**35.88**	**253**	P	**P**	**13 13 14.1**	**+2.3**
	baz=37,SNR=13						
ASAR	**Alice Springs**	**42.35**	**267**	P	**P**	**13 14 06.2**	**+0.5**
ASAR				pP	pP	13 15 03.7	+18
ASAR				PP	**PcP**	**13 15 51.6**	**-4.0**
ASAR				ScP	ScP	13 19 20.6	-7.8
ASAR	**Alice Springs**	**42.35**	**267**	P	**P**	**13 14 06.2**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=105,slow=6.9,SNR=64						
ASAR				pP	pP	13 15 03.7	+18
	comp=Z,2.0nm,0.6s,baz=108,slow=7.7,SNR=2.8						
ASAR				PP	**PcP**	**13 15 51.6**	**-4.0**
	comp=Z,1.6nm,0.4s,baz=103,slow=7.6,SNR=4.8						
ASAR				ScP	ScP	13 19 20.6	-7.8
	comp=Z,1.9nm,0.8s,baz=109,slow=4.4,SNR=8.0						
WRAB	**Tennant Creek**	**43.30**	**272**	*e*P	**P**	**13 14 12.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,30nm,1.1s						
WRAB	**Tennant Creek**	**43.30**	**272**	*e*P	**P**	**13 14 13.6**	**+0.4**
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**43.30**	**272**	P	**P**	**13 14 13.7**	**+0.4**
WRA				pP	pP	13 15 13.6	+20
WRA				ScP	**ScP**	**13 19 25.1**	**-7.2**
WRA	**Warramunga Arr**	**43.30**	**272**	P	**P**	**13 14 13.7**	**+0.4**
	comp=Z,6.8nm,0.5s,baz=111,slow=7.5,SNR=54						
WRA				pP	pP	13 15 13.6	+20
	comp=Z,8.7nm,1.0s,baz=112,slow=7.9,SNR=4.0						
WRA				ScP	**ScP**	**13 19 25.1**	**-7.2**
	comp=Z,1.3nm,0.6s,baz=101,slow=3.9,SNR=7.9						
WRKA	**Warakurna**	**46.76**	**263**	P	**P**	**13 14 40.0**	**-0.5**
	baz=48,SNR=3.6						
VNDA	**Vanda**	**48.45**	**185**	P	P	13 14 56.6	+4.0
VNDA	**Vanda**	**48.45**	**185**	P	P	13 14 56.6	+4.0
	comp=Z,2.9nm,0.8s,baz=16,slow=7.9,SNR=6.2						
QSPA	**South Pole Qui**	**60.14**	**180**	*e*P	P	13 16 20.9	+3.6
QSPA	**South Pole Qui**	**60.14**	**180**	P	P	13 16 20.8	+3.6
	comp=Z,32nm,0.7s,baz=37,slow=1.9,SNR=80						
SYO	**Syowa Base**	**77.36**	**193**	⇑*eP*	**P**	**13 18 03.4**	**+0.1**
MJAR	**Matsushiro Arr**	**77.45**	**326**	P	**P**	**13 18 03.4**	**-0.9**
MJAR	**Matsushiro Arr**	**77.45**	**326**	P	**P**	**13 18 03.4**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=144,slow=5.8,SNR=9.0						
H03N3	**Juan Fernandez**	**81.55**	**124**	T	T	14 48 36.2	
	baz=239,slow=75,SNR=15						
H03N2	**Juan Fernandez**	**81.55**	**124**	T	T	14 48 41.5	
	baz=239,slow=75,SNR=11						
H03N1	**Juan Fernandez**	**81.56**	**124**	T	T	14 48 47.6	
	baz=239,slow=75,SNR=14						
ASAJ	**Asahikawa**	**81.70**	**333**	P	**P**	**13 18 28.4**	**+1.4**
ASAJ	**Asahikawa**	**81.70**	**333**	P	**P**	**13 18 28.4**	**+1.4**
	comp=Z,11nm,1.0s,baz=214,slow=3.6,SNR=5.6						
KSRS	**Korea Array**	**83.52**	**320**	P	**P**	**13 18 36.9**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=124,slow=5.4,SNR=4.6						
KSAR	**Wonju Array Be**	**83.53**	**320**	P	**P**	**13 18 36.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**84.02**	**335**	⇑*eP*	**P**	**13 18 39.9**	**+1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**84.02**	**335**	*eP*	**P**	**13 18 40.2**	**+1.4**
	comp=Z,36nm,1.0s						
PSI	**Prapat**	**84.61**	**276**	P	P	13 18 36.7	-6.1
	baz=86,SNR=13						
PET	**Petropavlovsk**	**84.93**	**347**	⇓*iP*	**P**	**13 18 43.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,30nm,0.6s						
SBC	**Santa Barbara**	**84.98**	**45**	⇓P	**P**	**13 18 46.8**	**+3.0**
	baz=85						
PETK	**Petropavlovsk-**	**85.20**	**346**	P	**P**	**13 18 45.0**	**+0.4**
PETK	**Petropavlovsk-**	**85.20**	**346**	P	**P**	**13 18 45.0**	**+0.4**
PETK	**Petropavlovsk-**	**85.20**	**346**	P	**P**	**13 18 45.0**	**+0.4**
	comp=Z,38nm,0.8s,baz=123,slow=8.0,SNR=76						
PKM	**Peak Mountain**	**85.21**	**45**	⇑P	**P**	**13 18 46.3**	**+1.0**
	baz=85						
ARVC	**Arvin**	**85.97**	**45**	⇑P	**P**	**13 18 50.3**	**+1.5**
	baz=86						
MURC	**Murrieta**	**86.01**	**47**	⇑P	**P**	**13 18 50.8**	**+1.7**
	baz=86						
MONP	**Monument Peak**	**86.06**	**48**	⇑P	**P**	**13 18 51.1**	**+1.6**
	baz=86						
BFSC	**Mount Baldy Ra**	**86.13**	**47**	⇓P	**P**	**13 18 50.4**	**+0.6**
	baz=86,SNR=5.4						
VES	**Vestal, Richgr**	**86.29**	**45**	⇓P	**P**	**13 18 51.0**	**+0.7**
	baz=86						
EDW2	**Edwards Air Fo**	**86.34**	**46**	⇓P	**P**	**13 18 51.9**	**+1.2**
	baz=86,SNR=10.0						
USRK	**Ussuriysk Arra**	**86.37**	**327**	P	**P**	**13 18 50.1**	**-0.4**
	comp=Z,7.4nm,1.0s,baz=129,slow=4.6,SNR=6.9						
PFO	**Pinyon Flat Ob**	**86.49**	**48**	*eP*	**P**	**13 18 52.8**	**+1.2**
	comp=Z,2.9nm,1.

X16A	Lo Mia Camp, P	90.27	50	⇑P		P		13 19 11.3	+1.9
	baz=90,SNR=5.5								
KLR	Kul'dur	90.27	330	*e*P		P		13 19 05.9	-2.9
320A	Kipp Ranch, An	90.45	54	⇑P		P		13 19 12.8	+2.4
	baz=91								
PINOR	Pine Mountain	90.59	38	*e*P		P		13 19 11.9	+1.5
	comp=Z,6.3nm,0.8s								
I05D	Terrebonne, OR	90.70	37	⇓P		P		13 19 11.7	+0.7
	baz=91								
U15A	North Rim	90.92	48	⇑P		P		13 19 13.9	+1.4
	baz=91,SNR=8.4								
WUAZ	Wupatki	90.97	49	⇓P		P		13 19 14.1	+1.5
	baz=91,SNR=5.3								
X18A	Snowflake	91.33	50	⇑P		P		13 19 16.3	+1.9
	baz=91								
121A	Cookes Peak, D	91.65	53	⇓P		P		13 19 16.7	+0.8
	baz=92								
CMAR	Chiang Mai Arr	92.52	290	P		P		13 19 20.9	+0.9
CMAR	Chiang Mai Arr	92.52	290	P		P		13 19 20.9	+0.9
	comp=Z,2.5nm,0.9s,baz=136,slow=4.0,SNR=12								
626A	Big Bend Ranch	92.59	57	⇓P		P		13 19 20.9	+0.7
	baz=93								
Z22A	Elephant Butte	92.63	53	⇓P		P		13 19 21.7	+1.3
	baz=93								
425A	Indio Mountain	92.65	56	⇓P		P		13 19 21.8	+1.2
	baz=93								
324A	Moseley Ranch,	92.66	55	⇑P		P		13 19 21.5	+1.0
	baz=93								
TXAR	Lajitas Array	92.82	58	P		P		13 19 22.0	+0.7
TXAR	Lajitas Array	92.82	58	P		P		13 19 22.0	+0.7
	comp=Z,0.6nm,0.8s,baz=196,slow=7.8,SNR=6.1								
526A	Mary Lane Ranc	92.90	57	⇓P		P		13 19 22.8	+1.1
	baz=93								
224A	Cornudas Mount	92.98	55	⇑P		P		13 19 22.9	+0.9
	baz=93								
325A	Bean Ranch, Si	92.98	55	⇓P		P		13 19 23.5	+1.4
	baz=93								
627A	Terlingua Ranc	93.08	58	⇓P		P		13 19 23.8	+1.3
	baz=93								
426A	McDonald Obser	93.28	56	⇓P		P		13 19 24.8	+1.3
	baz=93								
628A	Black Gap, Mar	93.47	58	⇑P		P		13 19 25.3	+1.1
	baz=94								
225A	Deer Hill, Car	93.49	55	⇑P		P		13 19 25.6	+1.2
	baz=94								
Y23A	Lovelace Mesa,	93.63	53	⇓P		P		13 19 25.7	+0.7
	baz=94								
427A	Hayter Ranch,	93.83	57	⇓P		P		13 19 27.6	+1.7
	baz=94								
125A	Gardner Draw,	93.91	54	⇑P		P		13 19 27.6	+1.4
	baz=94								
HLID	Hailey	93.99	41	⇓P		P		13 19 27.5	+1.1
	baz=94								
Z25A	Roswell	94.20	54	⇑P		P		13 19 29.0	+1.4
	baz=94								
Y25A	Mesa, Roswell	94.57	53	⇓P		P		13 19 30.0	+0.7
	baz=95								
Z26A	Caprock	94.72	54	⇑P		P		13 19 30.5	+0.6
	baz=95								
429A	Davenport Ranc	94.80	57	⇑P		P		13 19 30.9	+0.6
	baz=95								
X26A	CR and CF Fran	95.53	53	⇓P		P		13 19 34.9	+1.3
	baz=96								
531A	Rocksprings	95.55	58	⇓P		P		13 19 35.5	+1.8
	baz=96								
O20A	White River Ci	95.67	47	⇓P		P		13 19 34.6	+0.4
	baz=96								
Z28A	Tucker Farm, M	95.86	55	⇓P		P		13 19 36.2	+1.1
	baz=96								
MSTX	Muleshoe	95.94	54	⇑P		P		13 19 36.2	+0.7
	baz=96								
532A	Rocksprings	96.01	59	⇓P		P		13 19 36.7	+0.9
	baz=96								
N20A	Spence Gulch,	96.05	46	⇓P		P		13 19 36.5	+0.5
	baz=96								
PDAR	Pinedale Array	96.36	44	P		P		13 19 37.1	-0.2
PDAR					PKKPbc	PKKPbc		13 36 21.8	-1.1
PDAR	Pinedale Array	96.36	44	P		P		13 19 37.1	-0.2
	comp=Z,0.7nm,0.8s,baz=218,slow=5.7,SNR=5.3								
PDAR					PKKPbc	PKKPbc		13 36 21.8	-1.1
	comp=Z,0.6nm,0.7s,baz=79,slow=4.7,SNR=5.7								
O22A	Kremmling	96.76	47	⇑P		P		13 19 39.9	+0.7
	baz=97								
332A	Millersview	96.78	58	⇓P		P		13 19 39.4	+0.2
	baz=97								
ILAR	Eielson Array	97.68	13	P		P		13 19 41.5	-0.9
ILAR	Eielson Array	97.68	13	P		P		13 19 41.5	-0.9
	comp=Z,0.5nm,0.7s,baz=206,slow=4.8,SNR=7.1								
YKA	Yellowknife Ar	105.39	26	PKiKP		PKiKP		13 24 29.0	-0.4
YKA				PKKPbc		PKKPbc		13 35 55.5	-1.7
YKA	Yellowknife Ar	105.39	26	PKiKP		PKiKP		13 24 29.0	-0.4
	comp=Z,0.2nm,0.6s,baz=242,slow=1.3,SNR=5.5								
YKA				PKKPbc		PKKPbc		13 35 55.4	-1.7
	comp=Z,0.4nm,0.7s,baz=39,slow=3.0,SNR=6.6								
MK31	Makanchi Array	116.90	310	*i* PKiKP		PKPdf		13 24 50.4	-1.4
MK31				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MKAR	Makanchi Array	116.90	310	*c i* PKiKP		PKPdf		13 24 50.9	-0.9
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
MKAR	Makanchi Array	116.90	310	PKP		PKPdf		13 24 50.7	-1.1
MKAR				PKKPbc		PKKPbc		13 35 19.6	+0.9
MKAR	Makanchi Array	116.90	310	PKP		PKPdf		13 24 50.7	-1.1
	comp=Z,2.8nm,0.7s,baz=101,slow=1.5,SNR=34								
MKAR				PKKPbc		PKKPbc		13 35 19.6	+0.9
	comp=Z,0.4nm,0.6s,baz=273,slow=3.7,SNR=7.0								
RES	Resolute Bay	117.07	17	PKP		PKPdf		13 24 50.0	-1.2
RES	Resolute Bay	117.07	17	PKP		PKPdf		13 24 50.0	-1.2
	comp=Z,0.5nm,0.3s,baz=292,slow=3.7,SNR=5.0								
ZALV	Zalesovo Beam	117.19	319	PKIKP		PKPdf		13 24 50.4	-1.7
ZALV	Zalesovo Beam	117.19	319	PKP		PKPdf		13 24 50.4	-1.7
ZALV	Zalesovo Beam	117.19	319	PKP		PKPdf		13 24 50.4	-1.7
	comp=Z,1.4nm,0.6s,baz=116,slow=3.4,SNR=11								
ULHL	Ulahol	119.88	304	P		PKPdf		13 24 57.5	-0.5
	SNR=12								
KURK	Kurchatov	120.19	314	*e*PKIKP		PKPdf		13 24 56.3	-1.6
KURK	Kurchatov	120.19	314	*e*PKPdf		PKPdf		13 24 56.3	-1.6
KURK				PKP		PKiKP		13 24 56.9	-1.1
KURBB	Kurchatov Arra	120.23	314	PKP		PKPdf		13 24 56.9	-1.1
	comp=Z,8.7nm,0.7s,baz=109,slow=1.8,SNR=109								
TKM2	Tokmak 2	120.50	305	*e*PKIKP		PKPdf		13 24 58.3	-0.8
TKM2	Tokmak 2	120.50	305	P		PKPdf		13 24 58.4	-0.7
	SNR=11								
TKM2	Tokmak 2	120.50	305	*e*PKPdf		PKPdf		13 24 58.2	-0.8
KZA	Kyzart	120.55	304	P		PKPdf		13 24 59.9	+0.4
	SNR=12								
KBK	Karagaybulak	120.91	304	P		PKPdf		13 24 59.5	-0.4
	SNR=12								
UCH	Uchtor	121.12	304	P		PKPdf		13 25 00.6	0.0
	SNR=21								
CHMS	Chumysh	121.13	305	P		PKPdf		13 24 59.8	-0.2
	SNR=7.9								
AAK	Ala-Archa	121.22	304	*c i* PKIKP		PKPdf		13 25 00.1	-0.3
AAK				pmax		pmax			
	comp=Z,16nm,0.8s								
AAK	Ala-Archa	121.22	304	P		PKPdf		13 25 00.1	-0.3
	SNR=7.5								
AAK	Ala-Archa	121.22	304	PKP		PKPdf		13 24 59.9	-0.5
AAK	Ala-Archa	121.22	304	PKP		PKPdf		13 24 59.9	-0.5
	comp=Z,5.4nm,0.7s,baz=146,slow=3.6,SNR=30								
USP	Ospenovka	121.37	305	P		PKPdf		13 25 00.1	-0.4
	SNR=12								
AML	Almayashu	121.69	303	P		PKPdf		13 25 01.9	+0.3
	SNR=23								
EKS2	Erkin-Say	121.75	304	*e*PKIKP		PKPdf		13 25 01.2	-0.2
EKS2	Erkin-Say	121.75	304	P		PKPdf		13 25 01.2	-0.2
	SNR=12								
EKS2	Erkin-Say	121.75	304	*e*PKPdf		PKPdf		13 25 01.2	-0.2
KBL	Kabul	123.33	294	*e*PKIKP		PKPdf		13 25 04.2	-0.6
KBL	Kabul	123.33	294	*e*PKPdf		PKPdf		13 25 04.2	-0.6
KK31	Karatay Array	124.19	304	*i* PKIKP		PKPdf		13 25 05.4	-0.5
KK31				pmax		pmax			
	comp=Z,11nm,0.6s								
BVA0	Borovoye Array	125.55	316	*i* PKIKP		PKPdf		13 25 07.3	-0.9
BVA0				pmax		pmax			
	comp=Z,12nm,0.7s								
BVAR	Borovoye Array	125.55	316	PKIKP		PKPdf		13 25 07.7	-0.4
BVAR	Borovoye Array	125.55	316	PKP		PKPdf		13 25 07.7	-0.4
BVAR	Borovoye Array	125.55	316	PKP		PKPdf		13 25 07.7	-0.4
	comp=Z,12nm,0.7s,baz=90,slow=1.4,SNR=91								
BRVK	Borovoye	125.62	316	PKIKP		PKPdf		13 25 07.1	-1.2
BRVK				pmax		pmax			
	comp=Z,23nm,0.9s								
BRVK	Borovoye	125.62	316	*e*PKPdf		PKPdf		13 25 07.5	-0.8
SVE	Sverdlovsk	131.07	321	*e*PKIKP		PKPdf		13 25 18.2	-0.3
SVE				pmax		pmax			
	comp=Z,11nm,1.0s								
AB31	Akbulak array	132.04	311	*i* PKIKP		PKPdf		13 25 19.1	-1.5
AB31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ARU	Arti	132.26	321	*e*PKIKP		PKPdf		13 25 20.1	-0.7
ARU	Arti	132.26	321	*e*PKPdf		PKPdf		13 25 20.1	-0.7
AKTO	Aktyubinsk	133.24	313	PKIKP		PKPdf		13 25 22.6	-0.2
AKTO				pmax		pmax			
	comp=Z,7.0nm,0.8s								
AKTO	Aktyubinsk	133.24	313	PKP		PKPdf		13 25 22.7	-0.1
AKTO	Aktyubinsk	133.24	313	PKP		PKPdf		13 25 22.7	-0.1
	comp=Z,8.2nm,0.8s,baz=78,slow=2.6,SNR=19								
PRGR	Permogore	137.06	331	*e*PKIKP		PKPdf		13 25 27.7	-1.9
PRGR				pmax		pmax			
	comp=Z,11nm,0.8s								
KEV	Kevo	137.53	347	*e*PKIKP		PKPdf		13 25 29.1	-1.1
KEV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KEV	Kevo	137.53	347	*ep*		PKPdf		13 25 29.1	-1.1
	comp=Z,1.0nm,0.4s								
ARCES	ARCESS Array B	138.00	347	PKPpre		PKPpre		13 25 22.1	
ARCES				PKP		PKPdf		13 25 29.9	-1.3
ARCES	ARCESS Array B	138.00	347	PKhKP		PKPpre		13 25 22.2	
	comp=Z,3.7nm,0.7s,baz=51,slow=1.9,SNR=14								
ARCES				PKP		PKPdf		13 25 29.9	-1.3
	comp=Z,5.6nm,0.6s,baz=90,slow=1.2,SNR=8.0								
JOF	Joensuu	141.73	338	*ep*		PKPdf		13 25 32.9	-5.2
	comp=Z,2.4nm,0.4s								
GNI	Garni	143.18	298	PKP		PKPdf		13 25 41.4	-0.2
GNI	Garni	143.18	298	PKP		PKPdf		13 25 41.4	-0.2
	comp=Z,1.9nm,0.3s,baz=192,slow=6.0,SNR=5.4								
VRHR	Novokhopersk	143.29	317	*e*PKIKP		PKPdf		13 25 40.9	-0.3
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VRHR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.7s								
ZEI	Tsey	143.62	303	*e*PKIKP		PKPab		13 25 40.0	+0.6
ZEI				pmax		pmax			
	comp=Z,13nm,0.9s								
KAF	Kangasniemi	143.88	340	*e*PKIKP		PKPab		13 25 38.9	-0.6
KAF				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KAF	Kangasniemi	143.88	340	*ep*		PKPab		13 25 38.9	-0.6
	comp=Z,5.7nm,0.5s								
GOF	Gofitskoye	143.91	306	*e*PKIKP		PKPbc		13 25 41.6	+0.8
KBZ	Khabaz	144.22	304	PKIKP		PKPbc		13 25 41.9	+0.1
KBZ	Khabaz	144.22	304	PKP		PKPbc		13 25 41.9	+0.1
KBZ	Khabaz	144.22	304	PKP		PKPbc		13 25 41.9	+0.1
	comp=Z,11nm,1.0s,baz=139,slow=1.5,SNR=11								
KIV	Kislovodsk	144.34	305	*e*PKIKP		PKPab		13 25 42.3	+0.3
KIV	Kislovodsk	144.34	305	*e*PKP		PKPab		13 25 42.3	+0.3
OBN	Obninsk	144.37	325	*α i* PKIKP		PKPab		13 25 41.4	-0.1
OBN				pmax		pmax			
	comp=Z,146nm,1.7s								
OBN	Obninsk	144.37	325	*e*PKIKP		PKPab		13 25 41.5	-0.1
FINES	FINESS Array B	144.47	340	PKP		PKPab		13 25 41.1	-0.7
FINES	FINESS Array B	144.47	340	PKP		PKPab		13 25 41.1	-0.7
	comp=Z,81nm,0.5s,baz=67,slow=3.6,SNR=588								
VSR	Storozhevoye	144.69	318	*e*PKIKP		PKPab		13 25 41.6	-1.4
VSR				pmax		pmax			
	comp=Z,40nm,0.8s								
VSR				pmax		pmax			
	comp=N,7.0nm,0.6s								
VSR				pmax		pmax			
	comp=E,20nm,0.9s								
ANN	Anapa	147.85	308	*i* PKP2		PKPbc		13 25 52.0	-0.4
ANN				pmax		pmax			
	comp=Z,83nm,1.0s								
NB2	NORSAR Subarra	148.21	351	PKP		PKPbc		13 25 52.2	-0.7
	comp=Z,32nm,0.8s,baz=14,slow=2.8								
NB2	NORSAR Subarra	148.21	351	PKP		PKPbc		13 25 52.2	-0.7
	baz=14,slow=2.8								
NOA	NORSAR Array B	148.21	351	PKPbc		PKPbc		13 25 52.0	-0.9
NOA	NORSAR Array B	148.21	351	PKPbc		PKPbc		13 25 52.0	-0.9
	comp=Z,23nm,0.8s,baz=15,slow=4.3,SNR=48								
IDID	Didziasalis	148.76	332	*e*P		PKPbc		13 25 52.8	-1.6
IDID				AMB		AMB		13 25 54.3	
	comp=Z,14nm,0.9s								
ISAL	Salakas	148.83	332	*e*P		PKPbc		13 25 54.2	-0.4
ISAL				AMB		AMB		13 25 55.6	
	comp=Z,17nm,0.8s								
IIGN	Ignalina	148.95	332	*e*P		PKPbc		13 25 53.9	-1.0
IIGN				AMB		AMB		13 25 55.4	
	comp=Z,24nm,0.9s								
ZALF	Zalf	149.04	285	⇓*i* P		PKPbc		13 25 55.2	-0.7
KONO	Kongsberg	149.77	351	*e*PKP2		PKPbc		13 25 56.4	-0.3
KONO	Kongsberg	149.77	351	*e*PKPbc		PKPbc		13 25 56.4	-0.3
TOTH	TOTAH	149.83	286	*i* P		PKPbc		13 25 58.9	+1.1
BTCH	Batrach	149.85	291	*i* P		PKPbc		13 25 57.5	-0.3
WRDH	Warideh	149.89	290	*i* P		PKPbc		13 25 57.0	-0.9
BIDA	Albida	149.97	289	*i* P		PKPbc		13 25 58.7	+0.5
TCHB	Talchebab	150.17	284	*i* P		PKPbc		13 26 02.0	+3.3
BRBR	Barbar	150.23	286	*i* P		PKPbc		13 26 01.1	+2.1
ARNB	Al Arnab	150.25	291	⇓*i* P		PKPbc		13 25 58.6	-0.2
AKASG	Malin Array Be	150.49	323	PKIKP		PKPbc		13 25 58.1	-0.7
AKASG	Malin Array Be	150.49	323	PKPbc		PKPbc		13 25 58.0	-0.7
AKASG	Malin Array Be	150.49	323	PKPbc		PKPbc		13 25 58.0	-0.7
	comp=Z,46nm,0.7s,baz=48,slow=2.7,SNR=90								
KIEV	Kiev	150.50	323	*e*PKIKP		PKPbc		13 25 58.2	-0.5
KIEV	Kiev	150.50	323	*e*PKPbc		PKPbc		13 25 58.2	-0.5
MMAI	Mount Meron Ar	150.67	285	PKPbc		PKPbc		13 26 01.0	+1.1
MMAI	Mount Meron Ar	150.67	285	PKPbc		PKPbc		13 26 01.0	+1.1
	comp=Z,30nm,0.5s,baz=74,slow=5.1,SNR=26								
SUW	Suwalki	151.14	333	*e*PKIKP		PKPbc		13 25 59.9	-0.2
SUW	Suwalki	151.14	333	*e*PKPbc		PKPbc		13 25 59.9	-0.2
ANTO	Ankara	152.32	299	*e*PKIKP		PKPbc		13 26 03.5	+0.1
ANTO	Ankara	152.32	299	*e*PKPbc		PKPbc		13 26 03.5	+0.1
EKA	Eskdalemuir Ar	154.47	6	PKPbc		PKPbc		13 26 06.2	-1.2
EKA				PKPab		PKPab		13 26 22.0	-0.6
EKA	Eskdalemuir Ar	154.47	6	PKPbc		PKPbc		13 26 06.2	-1.2
	comp=Z,0.6nm,0.4s,baz=328,slow=2.4,SNR=5.6								
EKA				PKPab		PKPab		13 26 22.0	-0.6
	comp=Z,0.9nm,0.5s,baz=334,slow=2.7,SNR=6.5								
KOLS	Kolonicke sedl	155.12	326	*e*PKIKP		PKPdf		13 26 10.0	+10
KOLS	Kolonicke sedl	155.12	326	*e*PKP		PKPdf		13 26 10.0	+10
STHS	Stebnicka Huta	155.29	327	*e*PKP2		PKPab		13 26 27.0	+0.6
STHS	Stebnicka Huta	155.29	327	*e*PKP		PKPab		13 26 27.0	+0.6
CRVS	Cervenica-Dubn	155.54	326	*e*PKP2		PKPab		13 26 27.7	+0.2
CRVS	Cervenica-Dubn	155.54	326	*e*PKP		PKPab		13 26 27.7	+0.2
DBIC	Dimbokro	156.16	165	PKP		PKPdf		13 26 03.1	+0.7
DBIC				PKPab		PKPab		13 26 31.5	+0.6
DBIC	Dimbokro	156.16	165	PKP		PKPdf		13 26 03.1	+0.7
	comp=Z,2.8nm,0.8s,baz=210,slow=5.5,SNR=4.2								
DBIC				PKPab		PKPab		13 26 31.5	+0.6
	comp=Z,2.9nm,0.8s,baz=166,slow=4.9,SNR=3.9								
KSP	Ksiaz	156.25	336	*e*PKP2		PKPab		13 26 30.6	+0.2
OKC	Ostrava-Krasne	156.34	332	*e*PKP2		PKPab		13 26 30.7	-0.1
OKC	Ostrava-Krasne	156.34	332	*e*PKPAB		PKPab		13 26 30.7	-0.1
UPC	Upice	156.62	336	*e*PKP2		PKPab		13 26 32.5	+0.5
UPC	Upice	156.62	336	*e*PKPAB		PKPab		13 26 32.5	+0.5
DPC	Dobruska-Polom	156.64	335	*e*PKP2		PKPab		13 26 32.6	+0.4
DPC	Dobruska-Polom	156.64	335	*e*PKPAB		PKPab		13 26 32.6	+0.4
KRLC	Kraliky	156.69	334	*e*PKP2		PKPab		13 26 32.6	+0.2
KRLC	Kraliky	156.69	334	*e*PKPAB		PKPab		13 26 32.6	+0.2
CLL	Collm	156.91	341	⇑*i* PKIKP		PKPdf		13 26 12.7	+10
CLL				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CLL				pmax		pmax			
	comp=Z,26nm,0.8s								
CLL	Collm	156.91	341	*i* PKPdiff		PKPdf		13 26 12.7	+10
	comp=Z,8.0nm,1.0s								
CLL				⇑*i* PKPab		PKPab		13 26 32.9	-0.3
	comp=Z,26nm,0.8s								
CLL				*e*				13 26 37.0	
BRG	Berggiesshubel	157.01	339	*i* P		PKPab		13 26 33.4	-0.3
	comp=Z,18nm,0.9s								
BRG	Berggiesshubel	157.01	339	*i* PKP2		PKPab		13 26 33.4	-0.3
BRG				pmax		pmax			
	comp=Z,18nm,0.9s								
PVCC	Panska Ves	157.10	338	*e*PKP2		PKPab		13 26 34.4	+0.3
PVCC	Panska Ves	157.10	338	*e*PKPAB		PKPab		13 26 34.4	+0.3
VRAC	Vranov	157.38	333	PKPab		PKPab		13 26 33.2	-2.2
VRAC	Vranov	157.38	333	PKPab		PKPab		13 26 33.2	-2.2
	comp=Z,10nm,1.2s,baz=37,slow=3.1,SNR=5.0								
PRU	Pruhonice	157.57	337	*e*PKP2		PKPab		13 26 36.6	+0.5
PRU	Pruhonice	157.57	337	*e*PKPAB		PKPab		13 26 36.6	+0.5
TREC	Trest	157.81	334	*e*PKP2		PKPab		13 26 37.2	-0.1
TREC	Trest	157.81	334	*e*PKPAB		PKPab		13 26 37.2	-0.1
NKC	Novy Kostel	158.03	340	*e*PKP2		PKPab		13 26 38.3	+0.2
NKC	Novy Kostel	158.03	340	*e*PKPAB		PKPab		13 26 38.3	+0.2
KHC	Kasperske Hory	158.63	337	*e*PKP2		PKPab		13 26 41.0	+0.2
KHC	Kasperske Hory	158.63	337	*e*PKPAB		PKPab		13 26 41.0	+0.2
CONA	Conrad Observa	158.77	332	⇑*i* PKPab		PKPab		13 26 41.8	+0.3
	comp=Z,7.9nm,0.9s								
GERES	GERESS Array B	158.84	336	PKP		PKPdf		13 26 03.2	-1.7
GERES				PKPab		PKPab		13 26 41.6	-0.2
GERES	GERESS Array B	158.84	336	PKP		PKPdf		13 26 03.2	-1.7
	comp=Z,0.4nm,0.7s,baz=11,slow=1.0,SNR=4.1								
GERES				PKPab		PKPab		13 26 41.6	-0.2
	comp=Z,3.2nm,0.7s,baz=30,slow=4.5,SNR=18								
RETA	Reutte	160.98	340	⇑*i* PKPab		PKPab		13 26 51.2	+0.1
	comp=Z,20nm,1.0s								
MOTA	Moosalm	161.00	339	⇑*i* PKPab		PKPab		13 26 51.3	0.0
	comp=Z,13nm,0.8s								
ABTA	Abfaltersbach	161.04	335	⇑*i* PKPab		PKPab		13 26 51.2	-0.3
	comp=Z,16nm,1.1s								
FETA	Feichten	161.41	339	⇑*i* PKPab		PKPab		13 26 53.2	+0.1
	comp=Z,14nm,1.1s								
DAVA	Damuels	161.42	341	⇓*i* PKPab		PKPab		13 26 53.3	+0.1
	comp=Z,16nm,0.7s								
DAVOX	Davos/Dischmat	161.88	340	PKPab		PKPab		13 26 55.3	+0.1
DAVOX	Davos/Dischmat	161.88	340	PKPab		PKPab		13 26 55.3	+0.1
	comp=Z,14nm,0.6s,baz=12,slow=2.6,SNR=25								
TORD	Torodi Ar. Bea	163.25	182	PKP		PKPdf		13 26 10.6	+0.2
TORD				PKPab		PKPab		13 27 02.8	+1.1
TORD	Torodi Ar. Bea	163.25	182	PKP		PKPdf		13 26 10.6	+0.2
	comp=Z,1.9nm,0.9s,baz=187,slow=2.5,SNR=9.6								
TORD				PKPab		PKPab		13 27 02.8	+1.1
	comp=Z,11nm,0.8s,baz=176,slow=3.6,SNR=42								
ESDC	Sonseca Array	169.46	22	PKP		PKPdf		13 26 14.9	+0.2
ESDC	Sonseca Array	169.46	22	PKP		PKPdf		13 26 14.9	+0.2
	comp=Z,1.8nm,0.9s,baz=336,slow=2.8,SNR=5.7								

IDC 04 13:12:49.2±5.4, 18°.18N×39°.84E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.3/24, mbtmp3.5/5, Error ellipse: s-maj=228.7km s-min=27.0km az=155.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TORD	**Torodi Ar. Bea**	**37.02**	**268**	P		P		13 20 00.9	-0.1
	0.9nm,0.9s,baz=72,slow=7.4,SNR=5.8								
KURBB	**Kurchatov Arra**	**44.62**	**35**	P		P		13 21 03.7	+0.4
	0.6nm,0.9s,baz=235,slow=8.0,SNR=8.1								
MKAR	**Makanchi Array**	**44.98**	**41**	P		P		13 21 06.0	-0.3
	0.3nm,0.7s,baz=260,slow=8.3,SNR=4.0								
ZALV	**Zalesovo Beam**	**49.63**	**33**	P		P		13 21 41.7	-0.7
	0.6nm,0.7s,baz=237,slow=8.1,SNR=4.5								
SONM	**Songino Array**	**61.05**	**45**	P		P		13 23 05.0	0.0
	0.3nm,0.7s,baz=258,slow=7.2,SNR=3.0								

**IDC 04 13:15:42.6±1.6, 2.77N×127°.15E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.

FOZ	**Fox Glacier**	**2.10**	**70**	PN	Pn	13 23 08.4	-1.1
FOZ				AML	AML	13 23 47.6	
FOZ				AML	AML	13 23 47.6	
FOZ				AML	AML	13 23 50.3	
FOZ				AML	AML	13 23 50.3	
LBZ	**Lake Benmore**	**2.29**	**93**	PN	Pn	13 23 12.5	+0.1
LBZ				AML	AML	13 23 49.5	
LBZ				AML	AML	13 23 51.7	
TUZ	**Tuapeka**	**2.48**	**132**	AML	AML	13 23 53.7	
TUZ				AML	AML	13 23 55.5	
APZ	**The Paps**	**2.60**	**165**	AML	AML	13 24 07.1	
SYZ	**Scrubby Hill**	**2.68**	**146**	PN	Pn	13 23 17.7	+0.1
SYZ				AML	AML	13 24 04.4	
SYZ				AML	AML	13 24 07.3	
ODZ	**Otahua Downs**	**2.71**	**107**	PN	Pn	13 23 17.9	0.0
WVZ	**Waitaha Valley**	**2.99**	**67**	AML	AML	13 24 26.3	
HHSZ	**Highcliff Hill**	**3.00**	**123**	PN	Pn	13 23 21.8	-0.1
RPZ	**Rata Peaks**	**3.00**	**80**	PN	Pn	13 23 20.6	-1.4
RPZ				AML	AML	13 24 11.9	
RPZ				AML	AML	13 24 21.4	
OXZ	**Oxford**	**3.79**	**76**	PN	Pn	13 23 29.8	-3.1
CRLZ	**Canterbury Las**	**4.14**	**82**	PN	Pn	13 23 35.0	-2.6
DSZ	**Denniston Nort**	**4.37**	**56**	PN	Pn	13 23 38.7	-2.2
THZ	**Tophouse**	**5.04**	**61**	PN	Pn	13 23 49.4	-0.7
THZ				AML	AML	13 24 54.2	
THZ				AML	AML	13 24 57.0	

*IDC **04** 13:22:40.9±0.9, 8°.71S×157°.40E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/30, Error ellipse: s-maj=25.5km s-min=14.4km az=7.0*

ISC 04 13:22:43.4±0.8, 8°.8S±0°.2×157°.51E±0°.10, h17km, n10, σ0°.82/10, mb3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.49**	**105**	Pn	**Pn**	**13 23 22.8**	**-0.3**
	14nm,0.3s,baz=165,slow=20,SNR=7.1						
HNR				Pg	**Pb**	**13 23 28.0**	**+0.3**
	20nm,0.3s,baz=229,slow=1.6,SNR=6.8						
HNR				Lg	Lg	13 24 05.0	
	91nm,0.3s,baz=241,slow=21,SNR=10						
HNR	**Honiara**	**2.49**	**105**	*eP*	**Pb**	**13 23 27.0**	**-0.7**
WRA	**Warramunga Arr**	**24.98**	**241**	P	**P**	**13 28 06.0**	**-0.5**
	2.2nm,1.0s,baz=67,slow=9.5,SNR=5.8						
ASAR	**Alice Springs**	**26.98**	**234**	P	**P**	**13 28 23.8**	**-0.8**
	0.7nm,1.0s,baz=54,slow=9.3,SNR=4.7						
ASAR				LR	LR	13 38 43.8	
	comp=Z,122nm,18.0s,baz=42,slow=36						
STKA	**Stephens Creek**	**27.30**	**211**	P	**P**	**13 28 28.5**	**+1.2**
	2.0nm,0.9s,baz=36,slow=14,SNR=1.9						
FX1	**Attu Island--F**	**62.89**	**11**	LR	LR	13 56 21.7	
	comp=Z,57nm,19.4s,baz=43,slow=32						
SONM	**Songino Array**	**72.20**	**327**	P	**P**	**13 34 07.8**	**+0.1**
	0.6nm,0.9s,baz=132,slow=5.1,SNR=3.3						
ILAR	**Eielson Array**	**84.16**	**21**	P	**P**	**13 35 13.7**	**+0.3**
	0.3nm,0.9s,baz=260,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**86.40**	**318**	P	**P**	**13 35 24.1**	**-1.0**
	0.8nm,0.8s,baz=106,slow=4.8,SNR=8.7						
NVAR	**Mina Array Bea**	**90.89**	**51**	P	**P**	**13 35 47.6**	**+0.9**
	0.3nm,0.7s,baz=238,slow=5.2,SNR=3.2						

*CSEM **04** 13:23:33.6, 59°.37N×11°.36E, h0km, ML1.2, Suspected Mining explosion. After UPP*

UPP 04 13:23:33.6, 59°.37N×11°.36E, h0km, ML1.2, Suspected Mining explosion., Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STRU	**Stroemstad**	**0.35**	**195**	P	Pg	13 23 40.4	+0.1
STRU				S	Sg	13 23 45.3	+0.4
FINU	**Finntorp**	**0.57**	**87**	P	Pg	13 23 44.4	-0.1
NASU	**Vaermlandsnaes**	**1.04**	**115**	P	Pg	13 23 53.1	-0.4
NASU				S	Sg	13 24 07.3	+0.3
UDD	**Uddeholm**	**1.34**	**57**	P	Pg	13 23 58.5	-0.9
TJOU	**Tjoern**	**1.35**	**174**	P	Pg	13 23 58.6	-0.9
FKPU	**Falk**	**1.73**	**134**	P	Pn	13 24 04.7	-0.2
ASKU	**Askersund**	**1.85**	**104**	P	Pn	13 24 06.6	+0.1

BUC 04 13:24:58.6±1.2, 44°.36N×28°.52E, h18km±3km, MD2.0/3, 2C-4D, Error ellipse: s-maj=11.4km s-min=7.2km az=15.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIRR	**Tirgusor**	**0.12**	**321**	↑*iP*	Pg	13 25 01.8	-0.7
TIRR				S	Sg	13 25 04.9	-0.1
TIRR	**Tirgusor**	**0.12**	**321**	↑*iP*	Pg	13 25 01.8	-0.7
TIRR				*i* S	Sg	13 25 04.9	-0.1
TLB	**Topalu**	**0.41**	**303**	↓*iP*	Pb	13 25 07.3	0.0
TLB				S	Sb	13 25 14.0	+0.7
TLB	**Topalu**	**0.41**	**303**	↓*iP*	Pb	13 25 07.3	0.0
TLB				*i* S	Sb	13 25 14.0	+0.7
TLCR		**0.85**	**14**	S	Sg	13 25 26.7	+0.3
TLCR		**0.85**	**14**	*i* S	Sg	13 25 26.7	+0.3
CFR	**Carcaliu**	**0.86**	**342**	↓*iP*	Pb	13 25 15.1	+0.1
CFR	**Carcaliu**	**0.86**	**342**	↓*iP*	Pb	13 25 15.1	+0.1
CFR				*i* S	Sb	13 25 26.5	+0.2

IDC 04 13:25:22.6±2.0, 5°.82S×133°.62E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=88.3km s-min=25.7km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.05**	**177**	Pn	Pn	13 28 42.2	-1.0
	0.4nm,0.3s,baz=352,slow=14,SNR=38						
WRA				Sn	Sn	13 31 14.7	-5.3
	0.2nm,0.3s,baz=2.9,slow=23,SNR=4.8						
FITZ	**Fitzroy Crossi**	**14.48**	**212**	Pn	Pn	13 28 50.1	+1.1
	0.4nm,0.3s,baz=42,slow=14,SNR=34						
ASAR	**Alice Springs**	**17.74**	**179**	P	Pn	13 29 30.6	-0.7
	0.1nm,0.3s,baz=357,slow=11,SNR=14						
ASAR				S	Sn	13 32 43.3	-6.5
	0.1nm,0.3s,baz=358,slow=28,SNR=3.3						
STKA	**Stephens Creek**	**26.97**	**165**	P	P	13 31 06.4	+0.3
	0.4nm,0.5s,baz=344,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**69.27**	**325**	P	P	13 36 31.7	0.0
	0.1nm,0.5s,baz=108,slow=7.7,SNR=3.9						

*ISCJB **04** 13:34:16.9±1.9, 6°.15N±0°.08×126°.20E±0°.07, h15km±18km, mb3.6/4, Error ellipse: s-maj=14.9km s-min=9.6km az=147.8*

*MAN **04** 13:34:19, 6°.50N×126°.28E, h56km, mb4.7, ML3.6, MS3.5*

*IDC **04** 13:34:55.5±1.5, 2°.17N×128°.03E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=101.9km s-min=19.1km az=69.0*

ISC 04 13:34:17.3±2.0, 6°.25N±0°.06×126°.09E±0°.07, h8km±14km, n10, σ1°.29/15, mb3.7/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.71**	**13**	*eP*	**Pg**	**13 34 31.1**	**0.0**
MATI				*eS*	**Sb**	**13 34 42.3**	**+0.3**
DMPH	**Davao City--Mi**	**1.01**	**325**	↑*eP*	**Pn**	**13 34 38.5**	**+0.8**
DMPH				*eS*	**Sn**	**13 34 53.3**	**+1.1**
GSPH	**General Santos**	**1.15**	**262**	↑*eP*	**Pn**	**13 34 39.8**	**+0.1**
GSPH				*eS*	**Sb**	**13 34 55.2**	**+0.8**
KCP	**Kidapawan**	**1.25**	**307**	↓*iP*	**Pb**	**13 34 41.7**	**+0.6**
KCP				*i* S	**Sn**	**13 34 58.8**	**+0.7**
BUKP	**Musuan**	**1.92**	**328**	*eP*	**Pn**	**13 34 50.9**	**+0.7**
BUKP				*eS*	**Sn**	**13 35 11.3**	**-3.2**
PAGZ	**Pagadian**	**3.12**	**301**	*eP*	**Pb**	**13 35 11.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**24.20**	**181**	P	**P**	**13 39 34.5**	**0.0**
	3.2nm,0.9s,baz=14,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**27.26**	**163**	P	**P**	**13 40 01.1**	**-1.2**
	1.1nm,0.5s,baz=340,slow=11,SNR=10						
ASAR	**Alice Springs**	**30.70**	**166**	P	**P**	**13 40 33.0**	**+0.2**
	0.4nm,0.6s,baz=344,slow=7.3,SNR=7.7						
STKA	**Stephens Creek**	**40.70**	**160**	P	**P**	**13 41 58.4**	**0.0**
	0.7nm,0.5s,baz=336,slow=12,SNR=3.8						

IDC 04 13:36:05.6±2.0, 8°.50S×130°.77E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/18, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=63.6km s-min=26.2km az=85.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.77**	**207**	Pn	Pn	13 38 43.1	+1.9
	0.2nm,0.3s,baz=36,slow=14,SNR=11						
FITZ				Sn	Sn	13 40 43.5	+0.9
	0.1nm,0.3s,baz=30,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**11.89**	**163**	Pn	Pn	13 38 55.6	-1.0
	0.1nm,0.3s,baz=344,slow=14,SNR=11						
WRA				Sn	Sn	13 41 02.2	-7.9
	0.2nm,0.3s,baz=158,slow=29,SNR=4.7						
ASAR	**Alice Springs**	**15.38**	**169**	Pn	Pn	13 39 43.2	-0.9
	0.1nm,0.3s,baz=344,slow=9.2,SNR=6.7						
MKAR	**Makanchi Array**	**69.89**	**327**	P	P	13 47 18.4	-0.1
	0.2nm,0.6s,baz=133,slow=6.7,SNR=3.1						

*IDC **04** 13:44:01.2±0.6, 8°.55S×157°.09E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.3/22, mbtmp4.2/18, ML3.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.1/35, Error ellipse: s-maj=17.2km s-min=15.1km az=16.0*

*ISCJB **04** 13:44:02.5±0.5, 8°.56S±0°.09×157°.07E±0°.09, h19km, mb4.2/16, MS3.5/1, Error ellipse: s-maj=13.5km s-min=11.6km az=40.2*

ISC 04 13:44:04.1±0.6, 8°.6S±0°.1×157°.11E±0°.09, h19km, n24, σ0°.97/24, mb4.2/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.94**	**107**	Pn	**Pn**	**13 44 49.9**	**+0.1**
	25nm,0.3s,baz=190,slow=6.5,SNR=9.0						
HNR				Pg	**Pb**	**13 44 55.7**	**-0.2**
	78nm,0.3s,baz=204,slow=8.5,SNR=67						
HNR				Lg	Lg	13 45 38.0	
	90nm,0.3s,baz=96,slow=19,SNR=9.3						
HNR	**Honiara**	**2.94**	**107**	*eP*	**Pn**	**13 44 50.0**	**+0.2**
DZM	**Mont Dzumac**	**16.16**	**147**	Pn	**Pn**	**13 47 51.0**	**+0.5**
	0.2nm,0.3s,baz=22,slow=13,SNR=3.6						
DZM				LR	LR	13 52 59.0	
	comp=Z,157nm,18.0s,baz=258,slow=33						
WRA	**Warramunga Arr**	**24.76**	**240**	P	**P**	**13 49 24.7**	**-0.2**
	6.4nm,0.8s,baz=66,slow=9.6,SNR=26						
WRA				PcP	**PcP**	**13 53 02.0**	**+0.4**
	2.6nm,0.9s,baz=67,slow=2.6,SNR=15						
ASAR	**Alice Springs**	**26.82**	**233**	P	**P**	**13 49 42.7**	**-0.8**
	2.1nm,0.9s,baz=61,slow=8.9,SNR=15						
ASAR				PcP	**PcP**	**13 53 06.2**	**0.0**
	0.5nm,0.7s,baz=75,slow=2.2,SNR=4.8						
STKA	**Stephens Creek**	**27.32**	**210**	P	**P**	**13 49 48.0**	**+0.1**
	6.8nm,0.9s,baz=17,slow=9.5,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.50**	**19**	T	T	14 18 46.4	
	baz=200,slow=77,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.50**	**19**	T	T	14 18 23.8	
	baz=200,slow=77,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.51**	**19**	T	T	14 18 35.5	
	baz=200,slow=77,SNR=11						
AFI	**Afiamalu**	**30.96**	**103**	P	**P**	**13 50 21.3**	**+0.8**
	7.0nm,0.3s,baz=258,slow=23,SNR=10.0						
AFI				LR	LR	13 59 47.2	
	comp=Z,120nm,21.3s,baz=95,slow=30						
KSRS	**Korea Array**	**53.30**	**331**	P	**P**	**13 53 23.8**	**+1.9**
	2.7nm,0.9s,baz=155,slow=6.5,SNR=3.9						
USRK	**Ussuriysk Arra**	**57.22**	**339**	P	**P**	**13 53 51.9**	**+1.8**
	4.9nm,1.0s,baz=153,slow=9.7,SNR=4.4						
PETK	**Petropavlovsk-**	**61.43**	**0**	P	**P**	**13 54 18.7**	**-0.4**
	6.8nm,1.0s,baz=180,slow=7.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**63.34**	**296**	P	**P**	**13 54 33.2**	**+0.6**
	3.2nm,0.9s,baz=125,slow=5.5,SNR=23						
SONM	**Songino Array**	**71.78**	**327**	P	**P**	**13 55 26.0**	**+0.5**
	1.0nm,0.8s,baz=144,slow=8.2,SNR=7.8						
ILAR	**Eielson Array**	**84.06**	**21**	P	**P**	**13 56 31.7**	**-1.6**
	0.3nm,0.4s,baz=266,slow=5.0,SNR=6.2						
MKAR	**Makanchi Array**	**85.95**	**318**	P	**P**	**13 56 43.3**	**+0.1**
	4.7nm,0.9s,baz=104,slow=5.3,SNR=35						
ZALV	**Zalesovo Beam**	**86.64**	**326**	P	**P**	**13 56 45.1**	**-1.2**
	0.5nm,0.4s,baz=100,slow=6.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**89.38**	**321**	P	**P**	**13 56 58.1**	**-1.4**
	0.4nm,0.7s,baz=100,slow=4.7,SNR=6.0						
NVAR	**Mina Array Bea**	**91.05**	**51**	P	**P**	**13 57 08.7**	**+0.8**
	0.8nm,0.8s,baz=245,slow=3.9,SNR=5.4						
YKA	**Yellowknife Ar**	**96.73**	**28**	P	**P**	**13 57 33.0**	**-0.1**
	0.7nm,0.9s,baz=261,slow=4.1,SNR=6.5						
PDAR	**Pinedale Array**	**98.19**	**48**	P	**P**	**13 57 39.3**	**-1.2**
	0.3nm,0.7s,baz=280,slow=5.4,SNR=2.9						
BDFB	**Brasilia**	**145.40**	**134**	PKPbc	**PKPab**	**14 03 42.2**	**+0.2**
	6.0nm,0.8s,baz=169,slow=5.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**155.43**	**283**	PKP	**PKPdf**	**14 03 56.0**	**-1.5**
	0.3nm,1.0s,baz=109,slow=1.9,SNR=2.7						

NNC 04 13:44:31.8±4.3, 36°.63N×70°.09E, h89km±68km, mb3.2, mpv3.5, 2C-2D, Error ellipse: s-maj=34.6km s-min=32.4km az=132.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.47**	**3**	↓*P*	Pn	13 46 05.1	+0.6
	2.1nm,0.4s,baz=192,slow=13,SNR=23						
KK31				↑*S*	Sn	13 47 17.9	+1.0
	0.4nm,0.2s,baz=195,slow=23,SNR=5.4						
AAK	**Ala-Archa**	**6.89**	**28**	↓*P*	Pn	13 46 09.7	-0.6
	1.3nm,0.5s						
AAK				↑*S*	Sn	13 47 27.2	-0.2
	3.3nm,0.7s						
MK31	**Makanchi Array**	**13.63**	**38**	P	Pn	13 47 42.4	+1.1
	0.9nm,0.8s,baz=212,slow=9.4,SNR=8.4						
AB31	**Akbulak array**	**14.62**	**333**	P	Pn	13 47 51.9	-2.1
	0.8nm,0.3s,baz=148,slow=12,SNR=81						
BVA0	**Borovoye Array**	**16.40**	**1**	P	P	13 48 17.3	-0.3
	0.7nm,0.6s,baz=164,slow=10,SNR=5.9						

*IDC **04** 13:48:48.6±1.7, 5°.16N×125°.16E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=110.8km s-min=22.9km az=67.0*

*ISCJB **04** 13:49:09.2±0.6, 4°.98N±0°.06×125°.4E±0°.2, h200km, mb3.3/5, Error ellipse: s-maj=26.1km s-min=7.4km az=170.3*

*MAN **04** 13:49:09, 5°.00N×125°.49E, h197km, mb4.8, ML3.7, MS3.7*

ISC 04 13:49:10.4±0.9, 5°.05N±0°.09×125°.5E±0°.2, h200km, n10, σ0°.79/13, mb3.4/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.15**	**334**	*eP*	**Pn**	**13 49 41.2**	**-0.1**
GSPH				*eS*	**Sn**	**13 50 04.5**	**-0.9**
DMPH	**Davao City--Mi**	**2.02**	**2**	↑*eP*	**Pn**	**13 49 49.6**	**+0.5**
DMPH				*eS*	**Sn**	**13 50 19.6**	**+0.1**
MATI	**Mati**	**2.05**	**23**	*eP*	**Pn**	**13 49 48.5**	**-0.9**
BUKP	**Musuan**	**2.84**	**352**	*eP*	**Pn**	**13 49 59.3**	**+1.1**
BUKP				*eS*	**Sn**	**13 50 36.5**	**+0.8**
PAGZ	**Pagadian**	**3.46**	**324**	*eP*	**Pn**	**13 50 05.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.00**	**180**	P	**P**	**13 53 58.3**	**+0.5**
	2.3nm,0.6s,baz=6.1,slow=7.2,SNR=27						
WRA	**Warramunga Arr**	**26.33**	**161**	P	**P**	**13 54 27.3**	**-0.7**
	0.3nm,0.4s,baz=334,slow=11,SNR=10						
ASAR	**Alice Springs**	**29.71**	**164**	P	**P**	**13 54 57.8**	**-0.1**
	0.2nm,0.3s,baz=344,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**39.81**	**158**	P	**P**	**13 56 25.0**	**+0.8**
	1.1nm,0.6s,baz=346,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**55.75**	**325**	P	**P**	**13 58 25.4**	**-1.0**
	0.1nm,0.4s,baz=118,slow=8.0,SNR=3.1						

*IDC **04** 13:56:51.9±0.6, 8°.74S×157°.44E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.3/19, mbtmp4.2/14, ML4.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/35, Error ellipse: s-maj=17.6km s-min=13.1km az=15.0*

*ISCJB **04** 13:56:52.8±0.5, 8°.74S±0°.09×157°.51E±0°.09, h16km, mb4.3/18, MS3.6/3, Error ellipse: s-maj=13.3km s-min=11.9km az=31.3*

*NEIC **04** 13:56:53.6±7.3, 8°.73S×157°.54E, h13km±46km, mb4.8/5, Error ellipse: s-maj=16.2km s-min=10.9km az=147.0*

ISC 04 13:56:54.2±0.5, 8°.7S±0°.1×157°.51E±0°.08, h16km, n53, σ0°.86/51, mb4.4/18, MS3.6/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.51**	**106**	*eP*	**Pn**	**13 57 33.8**	**-0.6**
HNR				Pg	**Pb**	**13 57 39.1**	**+0.2**
	46nm,0.3s,baz=214,slow=4.8,SNR=23						
HNR				Pg	**Pb**	**13 57 39.1**	**+0.2**
	80nm,0.3s,baz=18,slow=19,SNR=21						
HNR				Lg	Lg	13 58 15.9	
	50nm,0.3s,baz=271,slow=19,SNR=3.5						
HNR				LR	LR	13 58 18.8	
	comp=Z,266nm,19.9s,baz=206,slow=34						
HNR	**Honiara**	**2.51**	**106**	*eP*	**Pn**	**13 57 35.0**	**+0.6**
PMG	**Port Moresby**	**10.24**	**265**	LR	LR	14 03 02.1	
	comp=Z,270nm,20.6s,baz=94,slow=36						
DZM	**Mont Dzumac**	**15.80**	**148**	LR	LR	14 05 45.0	
	comp=Z,155nm,18.0s,baz=342,slow=34						
WRAB	**Tennant Creek**	**25.01**	**241**	*eP*	**P**	**14 02 17.5**	**-0.1**
	15nm,1.1s						
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**14 02 17.6**	**-0.2**
WRA				PcP	**PcP**	**14 05 53.6**	**+0.8**
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**14 02 17.6**	**-0.2**
	8.7nm,1.0s,baz=64,slow=9.7,SNR=20						
WRA				PcP	**PcP**	**14 05 53.6**	**+0.8**
	0.6nm,0.7s,baz=70,slow=2.9,SNR=7.8						
WRA				LR	LR	14 11 24.7	
	comp=Z,210nm,22.0s,baz=115,slow=35						
ASAR	**Alice Springs**	**27.02**	**234**	P	**P**	**14 02 35.0**	**-0.9**
ASAR	**Alice Springs**	**27.02**	**234**	P	**P**	**14 02 35.0**	**-0.9**
	2.8nm,1.1s,baz=63,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**27.36**	**210**	P	**P**	**14 02 39.7**	**+0.9**
STKA	**Stephens Creek**	**27.36**	**210**	P	**P**	**14 02 39.7**	**+0.9**
	4.5nm,0.8s,baz=29,slow=14,SNR=12						
STKA				LR	LR	14 12 58.0	
	comp=Z,158nm,19.9s,baz=207,slow=35						
H11S3	**WAKE ISLAND Hy**	**28.54**	**18**	T	T	14 31 22.9	
	baz=200,slow=78,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.54**	**19**	T	T	14 31 14.2	
	baz=200,slow=78,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.55**	**18**	T	T	14 31 17.9	
	baz=200,slow=78,SNR=11						
URZ	**Urewera**	**34.29**	**152**	LR	LR	14 15 46.1	
	comp=Z,128nm,18.9s,baz=208,slow=33						
KSRS	**Korea Array**	**53.65**	**331**	P	**P**	**14 06 15.4**	**+0.3**
	3.3nm,1.0s,baz=144,slow=6.6,SNR=4.5						
KSAR	**Wonju Array Be**	**53.66**	**331**	P	**P**	**14 06 15.4**	**+0.2**
USRK	**Ussuriysk Arra**	**57.54**	**338**	P	**P**	**14 06 43.6**	**+0.6**
	5.6nm,1.1s,baz=181,slow=9.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**63.78**	**295**	P	**P**	**14 07 26.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**63.78**	**295**	P	**P**	**14 07 26.6**	**+0.5**
	2.1nm,0.8s,baz=113,slow=4.5,SNR=16						
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**14 07 56.3**	**-0.9**
VNDA	**Vanda**	**68.79**	**179**	P	**P**	**14 07 56.3**	**-0.9**
	0.9nm,0.3s,baz=350,slow=7.6,SNR=11						
ULN	**Ulaanbaatar**	**71.81**	**327**	*eP*	**P**	**14 08 17.1**	**+0.8**
SONM	**Songino Array**	**72.15**	**327**	P	**P**	**14 08 19.1**	**+0.8**
SONM	**Songino Array**	**72.15**	**327**	P	**P**	**14 08 19.1**	**+0.8**
	2.5nm,1.1s,baz=130,slow=5.4,SNR=11						
LSA	**Lhasa**	**74.31**	**304**	*eP*	**P**	**14 08 32.4**	**+0.6**
	5.5nm,0.9s						
TAPN	**Taplejung**	**76.43**	**301**	*eP*	**P**	**14 08 44.3**	**+0.4**
	21nm,1.3s						
ODAN	**Odare**	**76.56**	**300**	*eP*	**P**	**14 08 45.0**	**+0.4**
RAMN	**Ramite**	**77.26**	**300**	*eP*	**P**	**14 08 48.8**	**+0.3**
JIRN	**Jiri**	**77.81**	**301**	*eP*	**P**	**14 08 52.1**	**+0.3**
	6.5nm,0.6s						
GUN	**Gumba**	**78.14**	**301**	*eP*	**P**	**14 08 53.9**	**+0.3**
	10nm,0.7s						
PKI	**Pulchoki**	**78.45**	**300**	*eP*	**P**	**14 08 55.4**	**+0.1**
KKN	**Kakani**	**78.62**	**301**	*eP*	**P**	**14 08 56.3**	**+0.2**
DMN	**Daman**	**78.72**	**300**	*eP*	**P**	**14 08 57.2**	**+0.5**
	18nm,0.8s						
GKN	**Gorkha**	**79.22**	**301**	*eP*	**P**	**14 08 59.5**	**+0.2**
	14nm,0.7s						
KOLN	**Koldanda**	**80.05**	**300**	*eP*	**P**	**14 09 03.7**	**-0.2**
	13nm,0.8s						
DANN	**Dangsing**	**80.06**	**301**	*eP*	**P**	**14 09 03.7**	**-0.3**
	9.5nm,0.7s						
PPLA	**Purkeypile**	**81.08**	**21**	*eP*	**P**	**14 09 06.5**	**-2.0**
	55nm,1.7s						
QSPA	**South Pole Qui**	**81.25**	**180**	*eP*	**P**	**14 09 10.3**	**+0.9**
	11nm,1.2s						
MCK	**McKinley**	**82.76**	**21**	*eP*	**P**	**14 09 16.6**	**-0.6**
	12nm,1.2s						
ILAR	**Eielson Array**	**84.09**	**21**	P	**P**	**14 09 22.8**	**-1.3**
ILAR	**Eielson Array**	**84.09**	**21**	P	**P**	**14 09 22.8**	**-1.3**
	1.3nm,1.1s,baz=240,slow=5.2,SNR=5.4						
MKAR	**Makanchi Array**	**86.35**	**318**	P	**P**	**14 09 35.9**	**+0.1**
MKAR	**Makanchi Array**	**86.35**	**318**	P	**P**	**14 09 35.9**	**+0.1**
	1.7nm,0.6s,baz=91,slow=6.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**87.01**	**326**	P	**P**	**14 09 37.3**	**-1.4**
ZALV	**Zalesovo Beam**	**87.01**	**326**	P	**P**	**14 09 37.3**	**-1.4**
	0.6nm,0.4s,baz=117,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**	**14 09 58.2**	**+0.6**
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**	**14 09 58.2**	**+0.6**
	2.2nm,1.1s,baz=260,slow=5.4,SNR=9.2						
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**14 10 24.2**	**+0.6**
YKA	**Yellowknife Ar**

FAKI	**Fak Fak**	**2.59**	**89**	P		**Pn**	**14 12 25.8**	**+1.5**
SWI	**Sorong**	**2.64**	**37**	P		**Pn**	**14 12 25.0**	**0.0**
LBMI	**Labuha**	**3.17**	**317**	P		**Pn**	**14 12 34.4**	**+2.1**
WRA	**Warramunga Arr**	**17.47**	**165**	P		**Pn**	**14 15 46.7**	**+0.6**
	0.3nm,0.3s,baz=348,slow=11,SNR=4.7							
WRA				LR	LR		14 21 20.5	
	comp=Z,175nm,21.0s,baz=220,slow=33							
ASAR	**Alice Springs**	**20.98**	**169**	P		**P**	**14 16 24.6**	**-0.9**
	2.3nm,0.4s,baz=350,slow=12,SNR=12							
STKA	**Stephens Creek**	**30.87**	**160**	P		**P**	**14 17 56.9**	**-1.5**
	0.6nm,0.4s,baz=325,slow=9.1,SNR=4.9							
RAO	**Raoul Island**	**56.13**	**123**	LR		LR	14 40 33.1	
	comp=Z,317nm,21.4s,baz=5.9,slow=31							
MKAR	**Makanchi Array**	**64.71**	**326**	P		**P**	**14 22 19.9**	**-0.1**
	0.3nm,0.8s,baz=124,slow=7.2,SNR=3.9							
KURBB	**Kurchatov Arra**	**68.93**	**328**	P		**P**	**14 22 46.5**	**-0.2**
	0.8nm,0.9s,baz=129,slow=5.8,SNR=7.7							

*IDC **04** 14:14:36.0±2.4, 37°.89N×71°.61E, h0km, mb3.8/3, mb1 3.7/8, mb1mx3.5/30, mbtmp3.7/8, ML3.2/6, Error ellipse: s-maj=43.0km s-min=18.0km az=142.0*

*ISCJB **04** 14:14:38.3±1.2, 38°.24N±0°.09×71°.4E±0°.1, h10km, mb3.8/3, Error ellipse: s-maj=15.5km s-min=10.5km az=139.9*

*NNC **04** 14:14:46.7±1.9, 38°.60N×71°.61E, h5km±7km, mb3.7, mpv3.3, Error ellipse: s-maj=14.9km s-min=10.6km az=179.0*

ISC 04 14:14:39.6±1.7, 38°.1N±0°.1×71°.4E±0°.1, h10km, n16, σ2s08/23, mb3.9/3, 9C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**5.06**	**352**	Pn		**Pn**	**14 15 55.2**	**-0.3**
	1.2nm,0.3s,baz=179,slow=13,SNR=28							
KK31				⇓Pg		**Pb**	**14 16 11.2**	**+3.0**
	4.7nm,0.7s,baz=177,slow=17,SNR=5.0							
KK31				⇓Sn		**Sn**	**14 16 51.9**	**-2.2**
	2.2nm,0.5s,baz=180,slow=13,SNR=8.4							
KK31				⇑Lg		Lg	14 17 09.5	
	3.5nm,0.5s							
AAK	**Ala-Archa**	**5.11**	**26**	⇑Pn		**Pn**	**14 15 56.9**	**+0.6**
	3.3nm,0.8s							
AAK				⇑Pg		**Pb**	**14 16 10.2**	**+1.1**
	4.9nm,0.8s							
AAK				⇑Sn		**Sn**	**14 16 51.3**	**-4.1**
	6.2nm,0.7s							
AAK				⇓Lg		Lg	14 17 11.7	
	7.5nm,0.8s							
AAK	**Ala-Archa**	**5.11**	**26**	Pn		**Pn**	**14 15 58.3**	**+1.9**
	0.7nm,0.3s,baz=187,slow=7.2,SNR=13							
AAK				Pg		**Pb**	**14 16 11.0**	**+1.9**
	2.1nm,0.3s,baz=353,slow=0.5,SNR=10							
AAK				Sn		**Sn**	**14 16 57.2**	**+1.7**
	0.5nm,0.3s,baz=127,slow=20,SNR=3.6							
TKM2	**Tokmak 2**	**5.78**	**32**	⇑Pn		**Pn**	**14 16 07.2**	**+1.6**
	1.8nm,0.5s							
TKM2				⇑Pg		**Pb**	**14 16 23.3**	**+2.7**
	2.6nm,0.6s							
TKM2				⇑Sn		**Sn**	**14 17 08.4**	**-3.6**
	3.5nm,0.9s							
TKM2				⇑Lg		Lg	14 17 34.2	
	2.8nm,0.7s							
MK31	**Makanchi Array**	**11.83**	**39**	⇑P		**Pn**	**14 17 29.4**	**+1.2**
	1.3nm,0.8s,baz=215,slow=13,SNR=10							
MKAR	**Makanchi Array**	**11.83**	**39**	Pn		**Pn**	**14 17 29.4**	**+1.1**
	0.1nm,0.3s,baz=226,slow=14,SNR=8.7							
KURBB	**Kurchatov Arra**	**13.52**	**20**	Pn		**Pn**	**14 17 50.4**	**-0.9**
	0.0nm,0.3s,baz=215,slow=12,SNR=2.6							
AB31	**Akbulak array**	**13.90**	**327**	⇓P		Pn	14 17 52.1	-4.4
	1.8nm,0.9s,baz=167,slow=11,SNR=4.4							
BVA0	**Borovoye Array**	**14.96**	**358**	P		**Pn**	**14 18 12.8**	**+1.8**
	3.1nm,1.6s,baz=158,slow=11,SNR=5.3							
BVAR	**Borovoye Array**	**14.96**	**358**	Pn		**Pn**	**14 18 09.5**	**-1.5**
	0.1nm,0.3s,baz=160,slow=11,SNR=4.8							
AKTO	**Aktyubinsk**	**15.61**	**327**	⇓P		**Pn**	**14 18 21.9**	**+2.3**
	4.4nm,1.3s							
AKTO	**Aktyubinsk**	**15.61**	**327**	Pn		**Pn**	**14 18 18.1**	**-1.5**
	0.1nm,0.3s,baz=86,slow=14,SNR=2.2							
ZALV	**Zalesovo Beam**	**18.34**	**26**	P		**P**	**14 18 52.3**	**-1.6**
	0.1nm,0.3s,baz=218,slow=9.1,SNR=3.6							
FINES	**FINESS Array B**	**36.38**	**325**	P		**P**	**14 21 42.3**	**-1.3**
	0.8nm,0.4s,baz=111,slow=8.9,SNR=8.6							
ARCES	**ARCESS Array B**	**39.82**	**337**	P		**P**	**14 22 11.5**	**-1.1**
	2.3nm,0.9s,baz=108,slow=7.8,SNR=7.4							
TORD	**Torodi Ar. Bea**	**66.11**	**268**	P		**P**	**14 25 26.8**	**-0.4**
	0.3nm,0.5s,baz=51,slow=5.6,SNR=6.5							

*IDC **04** 14:15:43.8±4.1, 5°.28S×147°.10E, h144km±54km, mb3.3/5, mb1 3.6/8, mb1mx3.4/20, mbtmp3.9/8, Error ellipse: s-maj=75.2km s-min=26.5km az=115.0*

ISC 04 14:15:48.9±1.4, 5°.5S±0°.1×147°.1E±0°.2, h195km, n17, σ1s79/15, mb3.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.88**	**180**	P		Pn	14 16 46.8	-2.3
	12nm,0.3s,baz=24,slow=5.3,SNR=75							
PMG				S		**Sn**	**14 17 32.3**	**-4.1**
	8.0nm,0.3s,baz=216,slow=19,SNR=6.6							
CTA	**Charters Tower**	**14.53**	**183**	P		**P**	**14 19 07.4**	**+0.4**
	0.3nm,0.3s,baz=355,slow=16,SNR=3.5							
KDU	**Kakadu**	**16.14**	**243**	P		**Pn**	**14 19 24.6**	**-0.7**
	baz=15,SNR=4.8							
QIS	**Mount Isa**	**16.66**	**205**	P		**Pn**	**14 19 32.3**	**+0.7**
	baz=16,SNR=5.2							
WRA	**Warramunga Arr**	**19.00**	**220**	P		**P**	**14 19 56.6**	**+0.6**
	1.8nm,0.3s,baz=46,slow=12,SNR=50							
KNRA	**Kununurra**	**20.68**	**239**	P		**P**	**14 20 15.6**	**+1.6**
	baz=20,SNR=4.7							
RMQ	**Roma**	**20.93**	**176**	P		**P**	**14 20 19.5**	**+2.9**
	baz=21,SNR=4.5							
QLP	**Quilpie**	**21.15**	**187**	P		**P**	**14 20 20.5**	**+1.6**
	baz=21,SNR=3.2							
ASAR	**Alice Springs**	**22.11**	**214**	P		**P**	**14 20 29.6**	**+0.8**
	3.0nm,0.5s,baz=46,slow=8.4,SNR=62							
FITZ	**Fitzroy Crossi**	**24.45**	**237**	P		**P**	**14 20 49.5**	**-0.5**
	2.8nm,0.7s,baz=54,slow=6.3,SNR=11							
ARMA	**Armidale**	**25.14**	**171**	P		**P**	**14 20 58.3**	**+1.9**
	baz=26,SNR=4.7							
WRKA	**Warakurna**	**26.53**	**221**	P		**P**	**14 21 09.1**	**+0.3**
	baz=26,SNR=8.9							
PMBI	**Palembang**	**42.32**	**272**	P		P	14 23 15.5	-8.6
	baz=41,SNR=4.4							
SONM	**Songino Array**	**64.04**	**331**	P		**P**	**14 26 00.7**	**-1.2**
	0.3nm,0.5s,baz=130,slow=5.2,SNR=2.7							
MKAR	**Makanchi Array**	**77.20**	**320**	P		**P**	**14 27 21.0**	**-0.4**
	0.1nm,0.5s,baz=101,slow=7.5,SNR=4.9							
ZALV	**Zalesovo Beam**	**78.67**	**328**	P		**P**	**14 27 28.7**	**-0.5**
	0.3nm,0.3s,baz=132,slow=2.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**145.10**	**285**	PKPbc		PKPbc	14 35 03.9	-0.2
	0.2nm,0.5s,baz=67,slow=4.1,SNR=3.6							

IDC 04 14:18:26.4±1.9, 7°.08S×129°.13E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=88.7km s-min=26.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**11.47**	**197**	Pn		Pn	14 21 12.3	+0.7
	0.1nm,0.3s,baz=29,slow=19,SNR=6.9							
FITZ				Sn		Sn	14 23 07.3	-13
	0.4nm,0.3s,baz=184,slow=15,SNR=4.9							
WRA	**Warramunga Arr**	**13.75**	**159**	Pn		Pn	14 21 42.2	-0.6
	0.3nm,0.3s,baz=340,slow=14,SNR=4.9							
WRA				Sn		Sn	14 24 01.1	-15
	0.2nm,0.3s,baz=335,slow=19,SNR=5.0							
ASAR	**Alice Springs**	**17.12**	**165**	P		Pn	14 22 26.9	-0.4
	0.1nm,0.3s,baz=341,slow=11,SNR=4.0							
ASAR				S		Sn	14 25 22.0	-16
	0.0nm,0.3s,baz=325,slow=23,SNR=2.3							
MKAR	**Makanchi Array**	**67.82**	**327**	P		P	14 29 26.3	-0.1
	0.2nm,0.4s,baz=115,slow=7.8,SNR=7.6							
KURBB	**Kurchatov Arra**	**72.13**	**329**	P		P	14 29 52.9	+0.1
	0.2nm,0.7s,baz=124,slow=4.8,SNR=4.1							

*CRAAG **04** 14:20:01.2, 35°.90N×0°.10E, Ml3.3*

*MDD **04** 14:20:04.1±1.2, 35°.23N×0°.35E, h0km, mb4.0/7, Error ellipse: s-maj=14.1km s-min=5.5km az=158.0, PRXIMO*

*CSEM **04** 14:20:07.4±0.9, 35°.47N×0°.16E, h0km±7km, mb4.0, Error ellipse: s-maj=33.0km s-min=11.2km az=148.0*

*ISCJB **04** 14:20:10.2±0.8, 35°.55N±0°.05×0°.11W±0°.06, h10km, Error ellipse: s-maj=7.3km s-min=6.2km az=39.7*

ISC 04 14:20:01.0±0.8, 35°.67N±0°.04×0°.05E±0°.03, h10km, n40, σ2s00/48, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJBR	**Djebel Berber**	**0.25**	**109**	P		**Pb**	**14 20 10.0**	**+2.3**
OJBR	**Djebel Berber**	**0.25**	**109**	P		**Pb**	**14 20 10.0**	**+2.3**
OJBR	**Djebel Berber**	**0.25**	**109**	P		**Pb**	**14 20 10.0**	**+2.3**
ODJA	**Bouhanifia**	**0.37**	**206**	P		**Pn**	**14 20 13.0**	**+0.5**
ODJA	**Bouhanifia**	**0.37**	**206**	P		**Pn**	**14 20 13.0**	**+0.5**
ODJA	**Bouhanifia**	**0.37**	**206**	P		**Pn**	**14 20 13.0**	**+0.5**
USTO	**Oran**	**0.49**	**278**	P		Pn	14 20 21.0	+6.9
USTO	**Oran**	**0.49**	**278**	P		Pn	14 20 21.0	+6.9
USTO	**Oran**	**0.49**	**278**	P		Pn	14 20 21.0	+6.9
OJGS	**Djebel Guires**	**0.59**	**106**	P		**Pg**	**14 20 12.0**	**-0.5**
OJGS	**Djebel Guires**	**0.59**	**106**	P		**Pg**	**14 20 12.0**	**-0.5**
OJGS	**Djebel Guires**	**0.59**	**106**	P		**Pg**	**14 20 12.0**	**-0.5**
OKGL	**Djebel Kef Gue**	**0.61**	**52**	P		**Pg**	**14 20 11.0**	**-1.8**
OKGL	**Djebel Kef Gue**	**0.61**	**52**	P		**Pg**	**14 20 11.0**	**-1.8**
OKGL	**Djebel Kef Gue**	**0.61**	**52**	P		**Pg**	**14 20 11.0**	**-1.8**
EANR	**'Ain N'Sour**	**0.90**	**71**	P		**Sn**	**14 20 34.8**	**+2.0**
EANR	**'Ain N'Sour**	**0.90**	**71**	P		**Sn**	**14 20 34.8**	**+2.0**
EANR	**'Ain N'Sour**	**0.90**	**71**	P		**Sn**	**14 20 34.8**	**+2.0**
ETRT	**Tiaret**	**1.05**	**105**	P		**Sn**	**14 20 33.2**	**-3.6**
ETRT	**Tiaret**	**1.05**	**105**	P		**Sn**	**14 20 33.2**	**-3.6**
ETRT	**Tiaret**	**1.05**	**105**	P		**Sn**	**14 20 33.2**	**-3.6**
OLHC	**Oulhaca**	**1.27**	**251**	P		Pn	14 20 14.0	-11
OLHC	**Oulhaca**	**1.27**	**251**	P		Pn	14 20 14.0	-11
OLHC	**Oulhaca**	**1.27**	**251**	P		Pn	14 20 14.0	-11
EBER	**Berja**	**2.67**	**298**	P		**Pg**	**14 20 52.5**	**+0.2**
	3.0nm,0.1s,SNR=18							
EBER				S		**Sg**	**14 21 25.3**	**-1.6**
	4.0nm,0.2s							
EBER	**Berja**	**2.67**	**298**	P		**Pg**	**14 20 52.5**	**+0.2**
	3.0nm,0.1s,SNR=18							
EBER				S		**Sg**	**14 21 25.3**	**-1.6**
	4.0nm,0.2s							
EHUE	**Huescar**	**3.02**	**316**	P		**Pg**	**14 20 58.9**	**+0.1**
	1.6nm,0.1s,SNR=7.9							
EHUE				S		**Sg**	**14 21 35.3**	**-2.6**
	1.3nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**3.02**	**316**	P		**Pg**	**14 20 58.9**	**+0.1**
	1.6nm,0.1s,SNR=7.9							
EHUE				S		**Sg**	**14 21 35.3**	**-2.6**
	1.3nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**3.04**	**356**	P		Pg	14 21 01.8	+2.6
	0.1nm,0.2s,SNR=7.9							
EBEN				S		**Sg**	**14 21 38.6**	**0.0**
	0.4nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**3.04**	**356**	P		Pg	14 21 01.8	+2.6
	0.1nm,0.2s,SNR=7.9							
EBEN				S		**Sg**	**14 21 38.6**	**0.0**
	0.4nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**3.21**	**300**	P		**Pg**	**14 21 01.3**	**-1.1**
	3.2nm,0.2s,SNR=4.6							
EQUE				S		**Sb**	**14 21 38.8**	**+1.6**
	0.5nm,0.1s							
EQUE	**Quentar**	**3.21**	**300**	P		**Pg**	**14 21 01.3**	**-1.1**
	3.2nm,0.2s,SNR=4.6							
EQUE				S		**Sb**	**14 21 38.8**	**+1.6**
	0.5nm,0.1s							
ETOB	**Tobarra**	**3.23**	**337**	P		**Pg**	**14 21 03.4**	**+0.4**
	2.4nm,0.2s,SNR=10							
ETOB				S		**Sg**	**14 21 42.7**	**-2.2**
	1.2nm,0.1s,SNR=5.7							
ETOB	**Tobarra**	**3.23**	**337**	P		**Pg**	**14 21 03.4**	**+0.4**
	2.4nm,0.2s,SNR=10							
ETOB				S		**Sg**	**14 21 42.7**	**-2.2**
	1.2nm,0.1s,SNR=5.7							
EQES	**Quesada**	**3.29**	**311**	P		**Pg**	**14 21 03.7**	**-0.4**
	4.7nm,0.1s,SNR=25							
EQES				S		**Sg**	**14 21 42.9**	**-3.8**
	4.7nm,0.2s							
EQES	**Quesada**	**3.29**	**311**	P		**Pg**	**14 21 03.7**	**-0.4**
	4.7nm,0.1s,SNR=25							
EQES				S		**Sg**	**14 21 42.9**	**-3.8**
	4.7nm,0.2s							
EIBI	**Ibiza**	**3.51**	**17**	P		**Pg**	**14 21 08.8**	**+0.6**
	2.6nm,0.1s,SNR=6.6							
EIBI				S		**Sg**	**14 21 50.4**	**-3.2**
	0.3nm,0.0s							
EIBI	**Ibiza**	**3.51**	**17**	P		**Pg**	**14 21 08.8**	**+0.6**
	2.6nm,0.1s,SNR=6.6							
EIBI				S		**Sg**	**14 21 50.4**	**-3.2**
	0.3nm,0.0s							
EVIA	**Vianos**	**3.60**	**326**	P		**Pg**	**14 21 07.6**	**-2.4**
	2.6nm,0.1s,SNR=7.9							
EVIA				S		**Sb**	**14 21 50.2**	**+1.6**
	9.7nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**3.60**	**326**	P		**Pg**	**14 21 07.6**	**-2.4**
	2.6nm,0.1s,SNR=7.9							
EVIA				S		**Sb**	**14 21 50.2**	**+1.6**
	9.7nm,0.3s,SNR=7.9							

*IDC **04** 14:24:17.0±0.4, 8°.42S×157°.23E, h0km, mb4.7/23, mb1 4.8/27, mb1mx4.8/28, mbtmp4.7/27, ML4.2/3, MS4.6/29, Ms1 4.6/29, ms1mx4.6/31, Error ellipse: s-maj=13.6km s-min=11.9km az=96.0*

*ISCJB **04** 14:24:18.7±0.2, 8°.44S±0°.03×157°.10E±0°.03, h19km, mb5.1/93, MS4.7/43, Error ellipse: s-maj=4.7km s-min=4.1km az=24.3*

*MOS **04** 14:24:20.3±1.0, 8°.43S×157°.16E, h33km, mb5.4/29, MS4.9/4, Error ellipse: s-maj=9.5km s-min=8.1km az=86.8*

*BJI **04** 14:24:21.7, 8°.08S×157°.41E, h37km, mB5.5/32, mb5.1/50, Ms5.1/41, Ms7 4.9/22*

*NEIC **04** 14:24:22.1±0.2, 8°.47S×157°.14E, h35km, mb5.3/43, Error ellipse: s-maj=5.7km s-min=4.5km az=135.0*

*GCMT **04** 14:24:22.1±0.2, 8°.63S×157°.23E, h18km, MW5.3/95, Moment Tensor Solution. s63,c89; s95,c152; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.61±.03; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-0.65±.02; $M_{r\theta}$0.46±.05; $M_{\theta\phi}$0.64±.01; $M_{\phi r}$-0.65±.05; Best double couple: M_o1.14500×10^{17} NP1:ϕ_s144.00000°, δ67.00000°, λ84.00000°. NP2: ϕ_s339.00000°, δ23.00000°, λ104.00000°. Principal axes: T 0.9350, Plg67.0000°, Azm43.0000°; N 0.4210, Plg5.0000°, Azm146.0000°; P -1.3560, Plg22.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **04** 14:24:58.1±3.2, 10°.5S±13°×15°.6E±2°.5, h259km±21km, M4.9/14, mb4.8/14, mB5.4/12, MLv5.0/1, Mw(mB)4.8/12*

ISC 04 14:24:20.3±0.3, 8°.53S±0°.04×157°.20E±0°.05, h19km, n289, σ1s60/319, mb5.1/93, MS4.8/43, 24C-11D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**2.85**	**109**	*e*Pn		**Pn**	**14 25 03.4**	**-1.5**
HNR				Pg		**Pb**	**14 25 08.7**	**-2.0**
HNR				Lg		Lg	14 25 45.0	
HNR	**Honiara**	**2.85**	**109**	Pn		**Pn**	**14 25 02.8**	**-2.0**
	88nm,0.3s,baz=238,slow=6.4,SNR=33							
HNR				Pg		**Pb**	**14 25 08.7**	**-2.0**
	758nm,0.3s,baz=249,slow=5.4,SNR=99							
HNR				Lg		Lg	14 25 45.0	
	1µm,0.3s,baz=235,slow=23,SNR=13							
HNR				LR		LR	14 26 12.0	
	comp=Z,8µm,18.4s,baz=110,slow=40							
HNR	**Honiara**	**2.85**	**109**	*i*P		Pn	14 25 02.0	-2.9
RABL	**Rabaul**	**6.61**	**310**	⇑P		Pn	14 26 00.7	+4.2
	baz=6.8,SNR=20							
PMG	**Port Moresby**	**9.96**	**264**	P		x	14 26 57.1	
	73nm,0.8s,2µm0.3nm							
PMG	**Port Moresby**	**9.96**	**264**	*e*Pn		**Pn**	**14 26 40.0**	**-2.5**
PMG	**Port Moresby**	**9.96**	**264**	Pn		**Pn**	**14 26 41.3**	**-1.2**
	0.3nm,0.3s,baz=352,slow=14,SNR=2.3							
PMG				LR		LR	14 30 25.0	
	comp=Z,8µm,19.1s,baz=82,slow=37							
COEN	**Coen**	**14.78**	**247**	*e*P		**Pn**	**14 27 50.9**	**+2.4**
COEN	**Coen**	**14.78**	**247**	⇑P		**P**	**14 27 52.1**	**-2.2**
	baz=15,SNR=24							
PATS	**Pohnpei**	**15.30**	**4**	⇑P		**Pn**	**14 27 54.1**	**-1.4**
	baz=15,SNR=4.3							
CTA	**Charters Tower**	**15.63**	**222**	Pn		**Pn**	**14 27 59.5**	**-0.2**
CTA	**Charters Tower**	**15.63**	**222**	Pn		**Pn**	**14 27 59.5**	**-0.2**
	0.7nm,0.3s,baz=39,slow=14,SNR=8.5							
CTA				LR		LR	14 33 42.1	
	comp=Z,5µm,18.2s,baz=48,slow=36							
CTA	**Charters Tower**	**15.63**	**222**	⇓P		**Pn**	**14 27 59.9**	**+0.2**
	baz=16							

CTAO	**Charters Tower**	**15.63**	**222**	*e*P		**Pn**	**14 27 58.6**	**-1.1**
CTAO				pmax		pmax		
	comp=Z,585nm,2.3s							
CTAO	**Charters Tower**	**15.63**	**222**	*e*Pn		**Pn**	**14 27 58.6**	**-1.1**
	comp=Z,585nm,2.3s							
DZM	**Mont Dzumac**	**16.14**	**148**	*e*P		**Pn**	**14 28 07.9**	**+1.6**
	comp=Z,515nm,1.6s							
DZM				*e*LR		LR	14 31 52.6	
	comp=Z,2µm,23.9s							
DZM	**Mont Dzumac**	**16.14**	**148**	*e*P		**Pn**	**14 28 07.7**	**+1.4**
DZM	**Mont Dzumac**	**16.14**	**148**	Pn		**Pn**	**14 28 06.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=348,slow=10,SNR=27							
DZM				LR		LR	14 33 45.5	
	comp=Z,2µm,18.3s,baz=326,slow=35							
JAY	**Jayapura**	**17.47**	**289**	⇑P		**Pn**	**14 28 23.1**	**0.0**
	baz=18,SNR=7.2							
EIDS	**Eidsvold**	**17.74**	**198**	*e*P		**Pn**	**14 28 26.2**	**-0.1**
	comp=Z,256nm,1.6s							
EIDS	**Eidsvold**	**17.74**	**198**	⇑P		**Pn**	**14 28 27.0**	**+0.7**
	baz=18,SNR=5.4							
GENI	**Genyem**	**17.95**	**288**	P		P	14 28 35.5	+6.0
	comp=Z,102nm,0.7s,comp=Z,2µm							
TARA	**Tarawa**	**18.49**	**59**	*e*P		**P**	**14 28 36.4**	**+0.9**
	comp=Z,70nm,1.1s							
RMQ	**Roma**	**19.58**	**203**	P		**Pn**	**14 28 49.4**	**+0.7**
	baz=20,SNR=11							
QIS	**Mount Isa**	**20.79**	**233**	⇑P		**P**	**14 29 01.6**	**+1.0**
	baz=21,SNR=34							
QLP	**Quilpie**	**21.77**	**213**	⇓P		**P**	**14 29 11.9**	**+0.9**
	baz=22,SNR=30							
ARMA	**Armidale**	**22.40**	**193**	*e*P		**P**	**14 29 17.6**	**-0.3**
	comp=Z,526nm,1.9s							
ARMA	**Armidale**	**22.40**	**193**	⇑P		**P**	**14 29 18.5**	**+0.7**
	baz=23,SNR=24							
MWPI	**Manokwari, Pap**	**24.27**	**287**	P		x	14 29 58.4	
KDU	**Kakadu**	**24.65**	**258**	P		**P**	**14 29 41.1**	**+1.1**
	baz=25,SNR=4.8							
WRAB	**Tennant Creek**	**24.85**	**240**	P		**P**	**14 29 41.6**	**-0.2**
	comp=Z,567nm,0.7s,SNR=43							
WRAB	**Tennant Creek**	**24.85**	**240**	*d* iP		**P**	**14 29 41.6**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,156nm,0.7s							
WRAB	**Tennant Creek**	**24.85**	**240**	*e*P		**P**	**14 29 41.2**	**-0.6**
	comp=Z,70nm,0.7s							
WRA	**Warramunga Arr**	**24.86**	**240**	P		**P**	**14 29 41.8**	**-0.1**
WRA				PcP		**PcP**	**14 33 18.3**	**+0.3**
WRA	**Warramunga Arr**	**24.86**	**240**	P		**P**	**14 29 41.8**	**-0.1**
	comp=Z,74nm,0.8s,baz=65,slow=9.5,SNR=144							
WRA				PcP		**PcP**	**14 33 18.3**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=64,slow=2.3,SNR=8.0							
WRA				LR		LR	14 38 51.0	
	comp=Z,3µm,21.2s,baz=50,slow=35							
MGCD	**Mangrove Creek**	**25.20**	**192**	⇓P		**P**	**14 29 46.3**	**+1.4**
	baz=25,SNR=5.2							
CMSA	**Cobar Meteorol**	**25.28**	**204**	⇑P		**P**	**14 29 46.0**	**+0.4**
	baz=26,SNR=96							
YNG	**Young**	**26.90**	**196**	⇓P		**P**	**14 30 01.5**	**+1.3**
	baz=27,SNR=8.1							
ASAR	**Alice Springs**	**26.91**	**233**	P		**P**	**14 29 59.4**	**-1.2**
ASAR				PcP		**PcP**	**14 33 23.0**	**+0.4**
ASAR	**Alice Springs**	**26.91**	**233**	P		**P**	**14 29 59.4**	**-1.2**
	comp=Z,11nm,0.8s,baz=63,slow=9.0,SNR=82							
ASAR				PcP		**PcP**	**14 33 23.0**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=73,slow=2.2,SNR=5.3							
ASAR				LR		LR	14 40 05.4	
	comp=Z,3µm,20.8s,baz=56,slow=35							
STKA	**Stephens Creek**	**27.39**	**210**	P		**P**	**14 30 06.2**	**+1.5**
STKA	**Stephens Creek**	**27.39**	**210**	P		**P**	**14 30 06.2**	**+1.5**
	comp=Z,40nm,0.6s,baz=44,slow=13,SNR=98							
STKA				LR		LR	14 40 50.7	
	comp=Z,2µm,18.5s,baz=29,slow=36							
CNB	**Canberra Magne**	**27.61**	**194**	⇑P		**P**	**14 30 07.6**	**+0.9**
	baz=28,SNR=6.9							
CAN	**Canberra**	**27.71**	**195**	⇓P		**P**	**14 30 08.2**	**+0.7**
	baz=28							
H11S3	**WAKE ISLAND Hy**	**28.43**	**19**	T		T	14 58 42.1	
	baz=201,slow=77,SNR=28							
H11S2	**WAKE ISLAND Hy**	**28.44**	**19**	T		T	14 58 42.2	
	baz=201,slow=77,SNR=117							
H11S1	**WAKE ISLAND Hy**	**28.45**	**19**	T		T	14 58 42.3	
	baz=201,slow=77,SNR=149							

YUK *i* 14 35 36.4
YUK *i* S **S** **14 41 10.7 +1.9**
YUK *i* 14 43 22.8
YUK *i* SSS SSS 14 46 35.6
KSRS Korea Array 53.32 331 P **P** **14 33 37.4 -0.8**
comp=Z,6.9nm,0.8s,baz=155,slow=7.9,SNR=12
KSRS LR LR 14 55 03.7
comp=Z,352nm,19.6s,baz=133,slow=35
KSAR Wonju Array Be 53.33 331 P **P** **14 33 37.4 -0.9**
INCN Inchon 53.97 330 *e*P **P** **14 33 43.4 +0.3**
comp=Z,64nm,0.9s
PMOR Pomariorio Ree 54.02 102 *e*P **P** **14 33 45.9 +2.1**
comp=Z,205nm,1.2s
ASAJ Asahikawa 54.04 347 LR LR 14 57 12.2
comp=Z,746nm,18.8s,baz=174,slow=37
QIZ Qiongzhong 54.12 301 P **P** **14 33 43.4 -1.1**
QIZ sP **sP** **14 33 57.2 +4.3**
QIZ S **S** **14 41 18.0 -2.6**
QIZ ScS **ScS** **14 43 28.7 -4.8**
QIZ pmax pmax
comp=Z,13nm,1.5s
QIZ pmax pmax
comp=Z,290nm,9.5s
NJ2 Nanjing 54.49 320 *e*P **P** **14 33 47.6 +0.7**
NJ2 pP **pP** **14 33 56.7 +3.7**
NJ2 sP **sP** **14 33 59.6 +4.3**
NJ2 S **S** **14 41 23.0 -2.1**
NJ2 sS **sS** **14 41 37.0 +1.9**
NJ2 pmax pmax
comp=Z,20nm,1.0s
NJ2 LR LR
comp=Z,870nm,20.8s
NJ2 LR LR
comp=Z,510nm,22.8s
NJ2 LR LR
comp=Z,10μm,16.4s
WHN Wuhan 56.56 315 P **P** **14 34 04.7 +2.8**
WHN S **S** **14 41 50.2 -2.7**
WHN LR LR
comp=Z,1μm,18.6s
YSS Yuzh-Sakhalins 56.71 348 *e*P **P** **14 34 02.0 -0.6**
YSS MLR MLR
comp=Z,700nm,15.0s
YSS MLR MLR
comp=N,1μm,19.0s
USRK Ussuriysk Arra 57.23 339 P **P** **14 34 06.0 -0.4**
comp=N,7.0nm,0.7s,baz=158,slow=5.2,SNR=17
USRK LR LR 14 55 09.9
comp=N,297nm,21.6s,baz=136,slow=32
KULM Kulim 58.04 282 *e*P P 14 34 16.6 +4.0
comp=N,12nm,0.8s
MDJ Mudanjiang 58.48 337 P **P** **14 34 15.7 +0.6**
MDJ pP **pP** **14 34 24.6 +3.4**
MDJ sP **sP** **14 34 28.7 +5.2**
MDJ ScP **ScP** **14 39 03.7 -1.5**
MDJ PcS **PcS** **14 39 07.2 +0.2**
MDJ S **S** **14 42 18.0 +0.4**
MDJ sS sS 14 42 33.5 +5.9
MDJ pmax pmax
comp=N,12nm,1.5s
MDJ LR LR
comp=N,160nm,18.0s
MDJ LR LR
comp=N,200nm,19.1s
CN2 Changchun 59.51 334 ⇑P **P** **14 34 22.2 -0.1**
CN2 *e*S **S** **14 42 28.9 -2.1**
CN2 pmax pmax
comp=N,20nm,0.7s
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=N,800nm,18.0s
CHAI Chaiyaphum 59.81 294 P **P** **14 34 26.4 +1.5**
comp=N,4.9nm,0.8s
ENH Enshi 59.88 312 P **P** **14 34 24.0 -1.2**
comp=N,23nm,0.8s
GYA Guiyang 60.12 307 P **P** **14 34 27.0 0.0**
GYA pP pP 14 34 38.6 +5.5
GYA PP **PP** **14 36 42.0 +2.2**
GYA ScP **ScP** **14 39 10.2 -2.9**
GYA S **S** **14 42 35.4 -4.3**
GYA SS **SS** **14 46 33.8 -3.3**
GYA pmax pmax
comp=N,30nm,1.0s
GYA pmax pmax
comp=N,130nm,5.4s
GYA LR LR
comp=N,960nm,19.1s
GYA LR LR
comp=N,740nm,20.5s
GYA LR LR
comp=N,820nm,19.8s
SLVN Son La 60.14 300 P **P** **14 34 26.5 -0.7**
GSI Gunungsitoli 60.22 276 *e*P **P** **14 34 25.7 -2.1**
comp=N,27nm,0.8s
PBKT Sadao Pong 60.96 294 P **P** **14 34 33.4 +0.7**
comp=N,19nm,1.4s,comp=N,602nm
PET Petropavlovsk 61.32 1 *e*P P 14 34 38.8 +4.3
PET *e*S **S** **14 42 56.4 +2.6**
PET pmax pmax
comp=Z,200nm,19.1s
PETK Petropavlovsk- 61.40 0 P **P** **14 34 34.2 -0.8**
PETK Petropavlovsk- 61.40 0 P **P** **14 34 34.2 -0.8**
PETK Petropavlovsk- 61.40 0 P **P** **14 34 34.2 -0.8**
comp=Z,8.1nm,0.8s,baz=161,slow=7.0,SNR=9.6
PETK LR LR 14 57 38.1
comp=Z,651nm,21.4s,baz=172,slow=33
BJT Baijiatuau 61.41 325 *e*P **P** **14 34 35.0 -0.3**
comp=Z,6.6nm,0.4s
BJI Beijing 61.42 325 P **P** **14 34 34.5 -0.9**
BJI PcS **PcS** **14 39 21.0 +0.8**
BJI S **S** **14 42 53.1 -2.5**
BJI ScS **SKKSac** **14 44 23.3 -2.7**
BJI SS **SS** **14 46 54.0 -2.8**
BJI pmax pmax
comp=Z,17nm,1.4s
BJI pmax pmax
comp=Z,350nm,4.4s
BJI LR LR
comp=Z,640nm,17.1s
BJI LR LR
comp=Z,320nm,17.1s
KLR Kul'dur 61.69 341 *e*P P 14 34 32.3 -4.8
KLR pmax pmax
comp=Z,80nm,2.0s
XAN Xi'an 62.32 316 P **P** **14 34 40.8 -0.9**
XAN pP **pP** **14 34 51.0 +3.1**
XAN PP **PP** **14 37 00.5 +1.4**
XAN S **S** **14 43 03.8 -3.6**
XAN sS **sS** **14 43 20.5 +3.0**
XAN SS **SS** **14 47 09.3 -2.0**
XAN pmax pmax
comp=Z,74nm,7.0s
XAN LR LR
comp=Z,280nm,25.1s
XAN LR LR
comp=Z,130nm,20.9s
KMI Kunming 62.68 304 P **P** **14 34 45.0 +0.5**
KMI pP **pP** **14 34 53.6 +2.9**
KMI sP sP 14 34 58.5 +5.5
KMI PP **PP** **14 37 03.4 +0.8**
KMI S **S** **14 43 14.4 +1.8**
KMI SS **SS** **14 47 15.6 -2.0**
KMI pmax pmax
comp=Z,10.0nm,1.2s
KMI pmax pmax
comp=Z,220nm,5.5s
KMI LR LR
comp=Z,480nm,20.1s
KMI LR LR
comp=Z,190nm,21.0s
UMPA Umpang Tak 62.75 293 P P 14 34 53.3 +8.4
LAMP Lampang 62.82 296 P **P** **14 34 46.6 +1.3**
comp=Z,8.5nm,0.7s,comp=Z,71nm
CM31 Chiang Mai Arr 63.41 295 *e*P **P** **14 34 47.1 -2.1**
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 63.41 295 P **P** **14 34 49.5 +0.3**
CMAR Chiang Mai Arr 63.41 295 P **P** **14 34 49.5 +0.3**
comp=Z,6.5nm,0.8s,baz=116,slow=5.0,SNR=32
CMAR LR LR 15 02 22.0
comp=Z,212nm,18.9s,baz=114,slow=36
CHTO Chiang Mai 63.53 296 *e*P **P** **14 34 50.1 +0.1**
CHTO pmax pmax
comp=Z,27nm,1.2s
CHTO Chiang Mai 63.53 296 P **P** **14 34 50.4 +0.4**
comp=Z,67nm,1.4s
CHTO Chiang Mai 63.53 296 *e*P **P** **14 34 50.0 +0.1**
comp=Z,27nm,1.2s
MHMT Maesarieng 64.23 295 P P 14 34 59.1 +4.5
comp=Z,8.6nm,1.1s,comp=Z,634nm
CD2 Chengdu 64.47 310 P **P** **14 34 55.6 -0.4**
CD2 pP **pP** **14 35 06.6 +4.4**
CD2 sP sP 14 35 10.6 +6.1
CD2 PcP **PcP** **14 35 29.7 -0.5**
CD2 PP **PP** **14 37 19.4 +1.4**
CD2 S **S** **14 43 30.2 -4.1**
CD2 sS **sS** **14 43 48.2 +3.7**
CD2 ScS SKSac 14 44 43.2 -6.5
CD2 SS **SS** **14 47 42.2 -2.8**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,380nm,7.1s
CD2 LR LR
comp=Z,440nm,15.5s
CD2 LR LR
comp=Z,420nm,22.6s
CD2 LR LR
comp=Z,920nm,19.0s
HHC Hu-ho-hao-te 64.62 323 *e*P **P** **14 34 56.0 -0.9**
HHC pP pP 14 35 10.4 +7.4
HHC S **S** **14 43 37.4 +1.5**
HHC sS **sS** **14 43 49.0 +2.9**
HHC ScS SKSac 14 44 39.3 -11
HHC SS **SS** **14 47 43.2 -3.9**
HHC pmax pmax
comp=Z,19nm,1.3s
HHC pmax pmax
comp=Z,580nm,8.7s
HHC LR LR
comp=Z,570nm,14.7s
HHC LR LR
comp=Z,710nm,14.7s
HIA Hailar 66.23 334 *e*P **P** **14 35 05.1 -2.0**
comp=Z,8.2nm,0.6s
RKT Rikitea 66.34 111 *e*LQ LQ 14 52 20.8
RKT *e*LR LR 14 54 58.6
comp=Z,452nm,30.8s
LZH Lanzhou 66.94 315 *e*P **P** **14 35 12.7 +0.7**
LZH pP **pP** **14 35 20.8 +2.6**
LZH sP **sP** **14 35 23.9 +3.4**
LZH S **S** **14 44 00.4 -4.1**
LZH SS **SS** **14 48 21.1 -2.3**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,1μm,13.2s
LZH LR LR
comp=Z,900nm,13.5s
LZH LR LR
comp=Z,1μm,15.4s
VNDA Vanda 69.01 179 P **P** **14 35 24.7 +0.6**
VNDA Vanda 69.01 179 P **P** **14 35 24.7 +0.6**
comp=Z,7.4nm,0.9s,baz=351,slow=6.9,SNR=7.6
VNDA LR LR 15 01 29.0
comp=Z,535nm,19.6s,baz=0.5,slow=32
CLNS Chul'man 70.34 342 *e*P **P** **14 35 32.2 -0.4**
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.8s
SEY Seymchan 71.34 358 P **P** **14 35 37.3 -1.2**
SEY Seymchan 71.34 358 P **P** **14 35 37.3 -1.2**
SEY Seymchan 71.34 358 P **P** **14 35 37.3 -1.2**
comp=E,4.2nm,1.0s,baz=176,slow=8.2,SNR=8.7
GTA Gaotai 71.35 316 ⇑P **P** **14 35 39.9 +0.6**
GTA pP **pP** **14 35 50.2 +4.7**
GTA sP sP 14 35 54.4 +6.6
GTA S **S** **14 44 59.5 +3.0**
GTA sS **SKiKP** **14 45 16.9 -2.0**
GTA pmax pmax
comp=E,18nm,1.8s
GTA pmax pmax
comp=E,360nm,5.2s
GTA LR LR
comp=E,260nm,16.1s
GTA LR LR
comp=E,250nm,16.6s
GTA LR LR
comp=E,330nm,17.6s
ULN Ulaanbaatar 71.47 327 *e*P **P** **14 35 39.8 -0.1**
SONM Songino Array 71.81 327 P **P** **14 35 42.1 +0.3**
SONM Songino Array 71.81 327 P **P** **14 35 42.1 +0.3**
comp=E,8.9nm,0.8s,baz=134,slow=5.4,SNR=49
SONM LR LR 15 07 14.1
comp=E,239nm,19.0s,baz=118,slow=36
SHL Shillong 71.95 300 *e*P **P** **14 35 43.2 0.0**
MIR Mirnyy 72.10 202 ⇓*i*P P 14 35 49.0 +5.9
MIR pmax pmax
comp=Z,94nm,1.5s
YAK Yakutsk 73.52 347 *e*P **P** **14 35 49.4 -2.1**
YAK pmax pmax
comp=Z,17nm,0.7s
YAK Yakutsk 73.52 347 *e*P **P** **14 35 49.2 -2.3**
comp=Z,28nm,0.7s
LSA Lhasa 73.94 304 *e*P **P** **14 35 55.4 +0.1**
LSA pmax pmax
comp=Z,25nm,1.2s
LSA Lhasa 73.94 304 *e*P **P** **14 35 55.4 +0.1**
comp=Z,25nm,1.2s
ZAK Zakamensk 74.95 328 ⇓*i*P **P** **14 35 59.7 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TLY Talaya 75.49 329 P **P** **14 36 03.6 +0.3**
comp=Z,41nm,0.9s,SNR=5.9
TLY Talaya 75.49 329 *e*P **P** **14 36 03.4 +0.1**
TLY *e*S S 14 45 36.6 -6.1
TLY *e* 14 46 08.1
TLY pmax pmax
comp=Z,13nm,1.5s
TLY MLR MLR
comp=Z,247nm,16.0s
TLY Talaya 75.49 329 *e*P **P** **14 36 02.6 -0.6**
comp=Z,7.4nm,1.0s
IRK Irkutsk 75.50 330 *e*P **P** **14 36 02.5 -0.8**
IRK pmax pmax
comp=Z,27nm,2.0s
TAPN Taplejung 76.06 301 *e*P **P** **14 36 07.7 +0.3**
comp=Z,144nm,1.5s
ODAN Odare 76.19 300 *e*P **P** **14 36 08.2 +0.1**
comp=Z,134nm,1.3s
MOY Mondy 76.86 328 *e*P **P** **14 36 11.1 -0.1**
RAMN Ramite 76.89 300 *e*P **P** **14 36 12.1 +0.1**
comp=Z,94nm,1.5s
JIRN Jiri 77.44 301 *e*P **P** **14 36 15.5 +0.2**
comp=Z,28nm,0.7s
GUN Gumba 77.78 301 *e*P **P** **14 36 17.3 +0.2**
comp=Z,56nm,0.8s
PKI Pulchoki 78.08 300 *e*P **P** **14 36 18.6 -0.2**
comp=Z,52nm,1.0s
KKN Kakani 78.25 301 *e*P **P** **14 36 19.7 +0.1**
comp=Z,18nm,0.6s
DMN Daman 78.35 300 *e*P **P** **14 36 20.5 +0.3**
comp=Z,53nm,0.7s
GKN Gorkha 78.86 301 *e*P **P** **14 36 22.8 -0.1**
comp=Z,62nm,0.9s
KOLN Koldanda 79.68 300 *e*P **P** **14 36 27.2 -0.2**
comp=Z,41nm,0.7s
DANN Dangsing 79.70 301 *e*P **P** **14 36 27.2 -0.4**
comp=Z,28nm,0.8s
PPLA Purkeypile 80.99 21 *e*P **P** **14 36 32.3 -1.4**
comp=Z,84nm,1.8s
CAST Castle Rocks 81.36 21 *e*P **P** **14 36 34.1 -1.3**
comp=Z,14nm,0.8s
WMQ Urumqi 81.43 317 P **P** **14 36 36.0 -0.3**
WMQ pP **pP** **14 36 46.4 +3.8**
WMQ sP sP 14 36 50.3 +5.4
WMQ PP **PP** **14 39 44.3 +1.7**
WMQ S **S** **14 46 46.8 -0.1**
WMQ SKS SKSac 14 46 47.9 -7.2
WMQ sS **SKKSac** **14 46 59.7 +1.9**
WMQ SS **SS** **14 52 01.1 -2.6**
WMQ pmax pmax
comp=Z,210nm,2.2s
WMQ LR LR
comp=Z,120nm,21.0s
WMQ LR LR
comp=Z,310nm,24.5s
QSPA South Pole Qui 81.46 180 *e*P **P** **14 36 36.2 +0.1**
comp=Z,381nm,2.0s
QSPA South Pole Qui 81.46 180 P **P** **14 36 36.2 +0.1**
baz=342,slow=4.9
HYB Hyderabad 81.84 289 *i*P **P** **14 36 38.0 -0.9**
KTH Kantishna Hill 81.85 21 *e*P **P** **14 36 36.8 -1.3**
comp=Z,94nm,2.0s
TRF Thorofare Moun 82.01 21 *e*P **P** **14 36 37.2 -1.9**
comp=Z,127nm,2.1s
TIXI Tiksi 82.18 351 *e*P P 14 36 37.1 -2.4
TIXI pmax pmax
comp=Z,36nm,1.5s
TIXI Tiksi 82.18 351 *e*P P 14 36 37.1 -2.4
comp=Z,36nm,1.5s
IM04 Indian Mountai 82.46 18 *e*P **P** **14 36 40.2 -0.9**
MCK McKinley 82.67 21 *e*P **P** **14 36 40.6 -1.7**
MCK pmax pmax
comp=Z,33nm,0.9s
MCK McKinley 82.67 21 *e*P **P** **14 36 40.6 -1.7**
comp=Z,33nm,0.9s
COLA College 83.72 21⇑*e*P **P** **14 36 45.7 -1.9**
COLA pmax pmax
comp=Z,39nm,0.7s
COLA College 83.72 21 *e*P **P** **14 36 45.8 -1.9**
comp=Z,6.7nm,0.8s
MAW Mawson 83.83 203 P **P** **14 36 48.1 -0.2**
MAW Mawson 83.83 203 P **P** **14 36 48.1 -0.2**
comp=Z,8.8nm,1.0s,baz=95,slow=5.8,SNR=4.7
MAW LR LR 15 11 35.3
comp=Z,206nm,18.2s,baz=84,slow=34
ILAR Eielson Array 84.00 21 P **P** **14 36 47.1 -2.0**
ILAR Eielson Array 84.00 21 P **P** **14 36 47.1 -2.0**
comp=Z,2.7nm,1.0s,baz=256,slow=5.3,SNR=23
ILAR LR LR 15 13 10.5
comp=Z,350nm,18.5s,baz=252,slow=35
MENT Mentasta 84.17 23 *e*P **P** **14 36 50.4 +0.3**
NDI New Delhi 85.37 300 *e*P **P** **14 36 57.0 +0.2**
HYT Haines Junctio 85.75 27 *e*P **P** **14 36 58.1 -0.1**
MK31 Makanchi Array 86.00 318 *i*P **P** **14 36 58.6 -1.0**
MK31 pmax pmax
comp=Z,32nm,1.3s
MKAR Makanchi Array 86.00 318 *e*P **P** **14 36 59.3 -0.3**
MKAR Makanchi Array 86.00 318 *e*P **P** **14 36 59.2 -0.3**
MKAR Makanchi Array 86.00 318 P **P** **14 36 59.2 -0.4**
comp=Z,4.5nm,0.6s,baz=97,slow=5.9,SNR=44
MKAR LR LR 15 13 47.8
comp=Z,129nm,20.9s,baz=95,slow=35
MKAR Makanchi Array 86.00 318 ⇑P **P** **14 36 59.5 -0.1**
baz=86
EGAK Eagle 86.09 22 *e*P **P** **14 36 59.1 -0.5**
comp=Z,25nm,1.2s
DAWY Dawson 86.42 23 *e*P **P** **14 37 00.2 -1.1**
ZALV Zalesovo Beam 86.67 326 *i*P **P** **14 37 01.1 -1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 86.67 326 P **P** **14 37 01.2 -1.5**
ZALV Zalesovo Beam 86.67 326 P **P** **14 37 01.2 -1.5**
comp=Z,1.7nm,0.6s,baz=118,slow=5.8,SNR=8.0
ZALV LR LR 15 15 31.6
comp=Z,169nm,21.2s,baz=87,slow=36
YBH Yreka Blue Hor 88.29 48 P **P** **14 37 10.0 -0.9**
YBH Yreka Blue Hor 88.29 48 P **P** **14 37 10.0 -0.9**
comp=Z,3.8nm,1.1s,baz=225,slow=2.9,SNR=4.5
KSH Kashi 88.67 310 P **P** **14 37 14.4 +1.6**
KSH *e*sP sP 14 37 29.1 +7.7
KSH *e*PP **PP** **14 40 46.3 +4.7**
KSH S **S** **14 47 58.2 -0.7**
KSH sS sS 14 48 15.8 +6.4
KSH *e*SS **SS** **14 53 53.3 +2.7**
KSH pmax pmax
comp=Z,12nm,1.2s
KSH pmax pmax
comp=Z,220nm,5.9s
KSH LR LR
comp=Z,150nm,6.4s
KSH LR LR
comp=Z,150nm,5.9s
KSH LR LR
comp=Z,130nm,5.9s
KURK Kurchatov 89.38 321 P **P** **14 37 13.8 -1.8**
KURK pmax pmax
comp=Z,2.0nm,1.2s
KURK Kurchatov 89.38 321 *e*P **P** **14 37 13.9 -1.8**
comp=Z,13nm,1.8s
TKM2 Tokmak 2 89.65 313 *e*P **P** **14 37 15.7 -1.8**
TKM2 pmax pmax
comp=Z,63nm,2.6s
TKM2 Tokmak 2 89.65 313 *e*P **P** **14 37 15.7 -1.8**
comp=Z,63nm,2.6s
OSI Osito Adit 89.94 55 *e*P **P** **14 37 18.7 -0.1**
comp=Z,762nm,1.2s
ISA Isabella 90.33 54 *e*P **P** **14 37 20.0 -0.6**
ISA pmax pmax
comp=Z,6.0nm,1.8s
ISA Isabella 90.33 54 *e*P **P** **14 37 20.0 -0.6**
comp=Z,6.0nm,1.8s
ISA Isabella 90.33 54 P **P** **14 37 20.9 +0.3**
baz=90
FRU Bishkek 90.34 313 *e*P **P** **14 37 20.0 -0.4**
FRU pmax pmax
comp=Z,34nm,1.8s
INK Inuvik 90.38 20 *e*P **P** **14 37 18.7 -1.2**
comp=Z,50nm,2.3s
INK Inuvik 90.38 20 P **P** **14 37 19.1 -0.8**
comp=Z,2.1nm,0.9s,baz=224,slow=6.5,SNR=5.2
AAK Ala-Archa 90.39 313*ce*P **P** **14 37 20.3 -0.5**
AAK pmax pmax
comp=Z,21nm,2.0s
AAK Ala-Archa 90.39 313 *e*P **P** **14 37 20.0 -0.9**
comp=Z,37nm,2.2s
MWC Mount Wilson 90.42 56 *e*P **P** **14 37 21.3 +0.1**
MWC pmax pmax
comp=Z,35nm,1.3s
MWC Mount Wilson 90.42 56 *e*P **P** **14 37 21.3 +0.1**
comp=Z,34nm,1.3s
MTUM Tungsten Hills 90.56 52 *e*P **P** **14 37 22.8 +1.0**
EDW2 Edwards Air Fo 90.59 55 P **P** **14 37 22.3 +0.5**
baz=91
BFSC Mount Baldy Ra 90.75 56 P **P** **14 37 22.8 +0.1**
baz=91
CWC Cottonwood Cre 90.78 53 P **P** **14 37 23.1 +0.3**
baz=91
EKS2 Erkin-Say 90.91 313 *e*P **P** **14 37 21.7 -1.5**
EKS2 pmax pmax
comp=Z,55nm,2.6s
EKS2 Erkin-Say 90.91 313 *e*P **P** **14 37 21.7 -1.5**
comp=Z,55nm,2.6s
LRMC Laurel Mountai 90.93 54 P **P** **14 37 24.0 +0.6**
baz=91
NVAR Mina Array Bea 90.95 51 P **P** **14 37 24.1 +0.4**
NVAR Mina Array Bea 90.95 51 P **P** **14 37 24.1 +0.4**
comp=Z,2.9nm,1.0s,baz=245,slow=5.8,SNR=8.1
NVAR LR LR 15 12 19.6
comp=Z,607nm,20.2s,baz=92,slow=32
NV11 Mina Array Sit 91.07 51 *e*P **P** **14 37 23.9 -0.2**
MPMC Manual Prospec 91.19 54 P **P** **14 37 25.4 +0.7**
baz=91
WVOR Wild Horse Val 91.40 47 *e*P **P** **14 37 25.0 -0.5**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR Wild Horse Val 91.40 47 *e*P **P** **14 37 25.0 -0.5**
comp=Z,10nm,1.1s
MONP Monument Peak 91.55 57 P **P** **14 37 25.9 -0.6**
baz=92
SYO Syowa Base 91.59 199⇑*e*pP pP 14 37 38.6 +6.6
PFO Pinyon Flat Ob 91.63 56 *e*P **P** **14 37 26.3 -0.4**
comp=Z,18nm,1.4s
PFO Pinyon Flat Ob 91.63 56 LR LR 15 11 57.5
comp=Z,697nm,19.3s,baz=204,slow=31
PFO Pinyon Flat Ob 91.63 56 P **P** **14 37 26.9 +0.1**
baz=92
J08A Circle Bar Ran 91.68 47 *e*P **P** **14 37 27.1 +0.3**
comp=Z,6.6nm,0.9s
TPH Tonopah 91.73 52 *e*P **P** **14 37 26.6 -0.6**
TPH pmax pmax
comp=Z,12nm,1.2s
TPH Tonopah 91.73 52 *e*P **P** **14 37 26.6 -0.6**
comp=Z,12nm,1.2s
DVTC Desert V Tower 91.78 57 P **P** **14 37 29.6 +2.2**
baz=92
HEC Hector,Ludlow 91.92 55 P **P** **14 37 28.2 +0.2**
baz=92

BELC	**Belle Mtn. Jos**	**92.07**	**56**	P		**P**	**14 37 29.2**	**+0.4**
	baz=92							
SWSC	**Sam W. Stewart**	**92.07**	**57**	P		**P**	**14 37 29.6**	**+0.9**
	baz=92							
TPNV	**Topopah Spring**	**92.32**	**53**	*e*P		**P**	**14 37 30.0**	**+0.1**
TPNV				pmax	pmax			
	comp=Z,19nm,1.3s							
TPNV	**Topopah Spring**	**92.32**	**53**	*e*P		**P**	**14 37 30.0**	**+0.1**
	comp=Z,19nm,1.3s							
TPNV	**Topopah Spring**	**92.32**	**53**	P		**P**	**14 37 30.2**	**+0.3**
	baz=92							
TUQ	**Turquoise Moun**	**92.35**	**55**	P		**P**	**14 37 30.4**	**+0.3**
	baz=92							
GMRC	**Granite Mounta**	**92.46**	**55**	P		**P**	**14 37 31.1**	**+0.5**
	baz=92							
BC3	**Big Chuckawall**	**92.46**	**57**	P		**P**	**14 37 30.9**	**+0.3**
	baz=92							
IRM	**Iron Mountain**	**92.79**	**56**	P		**P**	**14 37 32.5**	**+0.5**
	baz=93							
GLA	**Glamis**	**92.89**	**57**	P		**P**	**14 37 32.9**	**+0.4**
	baz=93							
R11A	**Troy Canyon, C**	**93.05**	**52**	*e*P		**P**	**14 37 32.6**	**-0.7**
R11A	**Troy Canyon, C**	**93.05**	**52**	P		**P**	**14 37 33.8**	**+0.5**
	baz=93							
SHPR	**Sheep Range**	**93.12**	**54**	*e*P		**P**	**14 37 33.5**	**-0.1**
W13A	**Hualapai Mount**	**93.95**	**55**	P		**P**	**14 37 38.3**	**+0.8**
	baz=94							
HLID	**Hailey**	**94.64**	**47**	P		**P**	**14 37 40.6**	**+0.1**
	baz=95							
BVA0	**Borovoye Array**	**94.83**	**323**	*i* P		P	14 37 37.4	-3.5
BVA0				pmax	pmax			
	comp=Z,5.0nm,1.5s							
BRVK	**Borovoye**	**94.90**	**323**	*i* P		**P**	**14 37 39.4**	**-1.8**
BRVK				pmax	pmax			
	comp=Z,9.0nm,1.5s							
LPIG	**La Paz**	**95.68**	**67**	LR		LR	15 12 00.0	
	comp=Z,151nm,19.3s,baz=241,slow=30							
YKA	**Yellowknife Ar**	**96.66**	**28**	P		**P**	**14 37 48.3**	**-0.7**
YKA	**Yellowknife Ar**	**96.66**	**28**	P		**P**	**14 37 48.3**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=262,slow=4.4,SNR=15							
PDAR	**Pinedale Array**	**98.09**	**48**	P		**P**	**14 37 55.8**	**-0.5**
PDAR	**Pinedale Array**	**98.09**	**48**	P		**P**	**14 37 55.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=248,slow=4.8,SNR=3.2							
PDAR				LR		LR	15 15 42.7	
	comp=Z,266nm,20.6s,baz=286,slow=32							
G20A	**Bridger**	**99.21**	**46**	P		**Pdif**	**14 38 00.1**	**-0.9**
	baz=99							
AB31	**Akbulak array**	**101.14**	**319**	*i* P		**Pdif**	**14 38 06.3**	**-3.0**
TXAR	**Lajitas Array**	**102.05**	**62**	PKKPbc		PKKPbc	14 54 19.5	+1.0
TXAR	**Lajitas Array**	**102.05**	**62**	PKKPbc		PKKPbc	14 54 19.5	+1.0
	comp=Z,0.3nm,0.6s,baz=113,slow=2.9,SNR=4.2							
APA	**Apatity**	**110.31**	**340**	*i* PKIKP		PKiKP	14 42 56.2	+5.5
FINES	**FINESS Array B**	**116.22**	**336**	PKP		**PKPdf**	**14 43 00.6**	**-1.5**
FINES	**FINESS Array B**	**116.22**	**336**	PKP		**PKPdf**	**14 43 00.6**	**-1.5**
	comp=Z,4.4nm,1.0s,baz=104,slow=4.4,SNR=4.6							
AKASG	**Malin Array Be**	**120.05**	**325**	*c i* PKIKP		**PKPdf**	**14 43 07.6**	**-2.1**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**120.05**	**325**	PKP		**PKPdf**	**14 43 07.7**	**-2.1**
AKASG	**Malin Array Be**	**120.05**	**325**	PKP		**PKPdf**	**14 43 07.7**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=51,slow=2.2,SNR=5.4							
NB2	**NORSAR Subarra**	**121.85**	**341**	PKPdf		**PKPdf**	**14 43 12.3**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=45,slow=1.9							
NOA	**NORSAR Array B**	**121.85**	**341**	PKP		**PKPdf**	**14 43 11.4**	**-1.6**
NOA	**NORSAR Array B**	**121.85**	**341**	PKP		**PKPdf**	**14 43 11.4**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=50,slow=2.2,SNR=4.0							
BRG	**Berggiesshubel**	**128.04**	**331**	*e*PKP		**PKPdf**	**14 43 26.3**	**+1.2**
	comp=Z,14nm,1.4s							
BRG								
	comp=N,463nm,18.9s							
BRG								
	comp=E,367nm,24.2s							
BRG								
	comp=Z,507nm,20.2s							
BRG	**Berggiesshubel**	**128.04**	**331**	*e*PKIKP		**PKPdf**	**14 43 26.3**	**+1.2**
BRG				pmax	pmax			
	comp=Z,14nm,1.4s							
BRG				MLR	MLR			
	comp=N,463nm,18.9s							
BRG				MLR	MLR			
	comp=E,367nm,24.2s							
BRG				MLR	MLR			
	comp=Z,507nm,20.2s							
CLL	**Collm**	**128.19**	**332**	*e*PKIKP		**PKPdf**	**14 43 26.0**	**+0.6**
CLL				pmax	pmax			
	comp=Z,9.0nm,1.3s							
CLL				MLR	MLR			
	comp=Z,300nm,18.5s							
CLL	**Collm**	**128.19**	**332**	*e*PKPdf		**PKPdf**	**14 43 26.0**	**+0.6**
	comp=Z,9.0nm,1.3s							
CLL				*e*			14 43 56.0	
CLL				*e*PP		**PP**	**14 45 33.0**	**+4.4**
CLL				*e*			14 47 18.0	
CLL				*e*(SKKSac)			14 52 06.0	
CLL				*e*PSKS			14 55 30.0	
CLL				*e*SS		SS	15 02 42.0	+0.1
CLL				Lm		MLR	15 45 00.0	
	comp=Z,300nm,18.5s							
LPAZ	**La Paz**	**128.81**	**119**	PKP		**PKPdf**	**14 43 29.3**	**+0.9**
LPAZ	**La Paz**	**128.81**	**119**	PKP		**PKPdf**	**14 43 29.3**	**+0.9**
	comp=Z,6.9nm,1.0s,baz=112,slow=0.8,SNR=7.1							
GERES	**GERESS Array B**	**129.48**	**329**	PKP		**PKPdf**	**14 43 27.9**	**-0.2**
GERES	**GERESS Array B**	**129.48**	**329**	PKP		**PKPdf**	**14 43 27.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=45,slow=1.5,SNR=5.7							
CPUP	**Villa Florida**	**131.78**	**137**	PKP		**PKPdf**	**14 43 33.1**	**+0.2**
CPUP	**Villa Florida**	**131.78**	**137**	PKP		**PKPdf**	**14 43 33.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=89,slow=3.1,SNR=3.8							
ESDC	**Sonseca Array**	**144.70**	**334**	PKP		**PKPab**	**14 43 55.9**	**+0.8**
ESDC	**Sonseca Array**	**144.70**	**334**	PKP		**PKPab**	**14 43 55.9**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=37,slow=4.2,SNR=6.0							
BDFB	**Brasilia**	**145.35**	**134**	PKPbc		**PKPbc**	**14 43 57.7**	**-0.2**
BDFB	**Brasilia**	**145.35**	**134**	PKPbc		**PKPbc**	**14 43 57.7**	**-0.2**
	comp=Z,40nm,1.0s,baz=197,slow=3.2,SNR=18							
TAM	**Tamanrasset**	**149.35**	**301**	*e*PKP2		**PKPbc**	**14 44 08.4**	**-0.7**
TAM	**Tamanrasset**	**149.35**	**301**	*e*PKPbc		**PKPbc**	**14 44 08.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**155.52**	**283**	PKP		**PKPdf**	**14 44 14.2**	**+0.4**
TORD				PKPbc		PKPbc	14 44 26.3	
TORD				PKPab		**PKPab**	**14 44 41.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**155.52**	**283**	PKP		**PKPdf**	**14 44 14.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=1.4,SNR=4.2							
TORD				PKPbc		PKPbc	14 44 26.3	
	comp=Z,1.1nm,0.9s,baz=62,slow=1.6,SNR=4.5							
TORD				PKPab		**PKPab**	**14 44 41.0**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=89,slow=3.5,SNR=5.6							
DBIC	**Dimbokro**	**162.12**	**265**	*e*PKPab		**PKPab**	**14 45 08.3**	**0.0**
DBIC	**Dimbokro**	**162.12**	**265**	PKPab		**PKPab**	**14 45 08.2**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=101,slow=5.2,SNR=8.3							

*BJI **04** 14:24:50.3,40˚.20N×123˚.90W,h16km,mb4.1/3*
*IDC **04** 14:24:50.5±2.2,40˚.31N×123˚.84W,h0km,mb3.5/2,*
mb1 3.9/7,mb1mx3.7/30,mbtmp3.6/7,ML3.7/5,MS3.1/2,
Ms1 3.2/2,ms1mx2.8/37,Error ellipse: s-maj=28.7km
s-min=8.7km az=94.0
*NEIC **04** 14:24:54.4,40˚.28N×123˚.87W,h31km,mb4.3/1,*
MW4.1(BRK),After NCEDC.
NEIC Felt [III] at Myers Flat and Redway; [II] at Bridgeville,
Ferndale, Fortuna, Garberville, Rio Dell and Whitethorn.
Also felt at Carlotta, Eureka, Hydesville, Laytonville,
Leggett, Piercy, Redcrest, Scotia and Zenia.

ISC 04 14:24:51.7±1.5,40˚.27N±0˚.03×123˚.89W±0˚.06,
h13km±10km,n203,σ1§54/196,mb3.9/4,75C-65D,Northern
California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIPM	**Iron Peak**	**0.56**	**146**	*e*Pn	**Pg**	**14 25 03.3**	**+0.5**
KHMM	**Horse Mountain**	**0.61**	**11**	*e*Pg	**Pg**	**14 25 03.5**	**-0.2**
KHMM				*e*Pn	**Pn**	**14 25 05.7**	**-0.6**
KCPM	**Cahto Peak**	**0.63**	**158**	*e*Pg	**Pg**	**14 25 03.8**	**-0.3**
KCPM				*e*Pn	**Pn**	**14 25 06.1**	**-0.5**
KCPM				*e*S	**Sb**	**14 25 14.4**	**+0.8**
WDC	**Whiskeytown Da**	**1.07**	**73**	*e*Pg	**Pb**	**14 25 09.6**	**-2.5**
WDC				*e*Pn	**Pn**	**14 25 11.8**	**-0.7**
WDC				*e*S	**Sb**	**14 25 25.2**	**-0.9**
N02D	**Trinity Center**	**1.14**	**52**	⇑P	**Pn**	**14 25 13.3**	**-0.2**
	baz=1.1						
N02D				⇑S	**Sb**	**14 25 27.8**	**-0.4**
	baz=1.1						
KRMB	**Red Mountain**	**1.25**	**359**	*e*Pn	**Pn**	**14 25 14.3**	**-0.7**
M02C	**Callahan**	**1.37**	**35**	⇓P	**Pn**	**14 25 16.5**	**-0.1**
	baz=1.4						
M02C				⇑S	**Sn**	**14 25 33.4**	**-1.2**
	baz=1.4						
HOPS	**Hopland**	**1.43**	**153**	*e*Pn	**Pn**	**14 25 16.5**	**-0.8**
YBH	**Yreka Blue Hor**	**1.71**	**31**	*e*Pn	**Pn**	**14 25 21.6**	**+0.3**
YBH				*e*Sn	**Sn**	**14 25 42.1**	**-1.0**
YBH	**Yreka Blue Hor**	**1.71**	**31**	Pn	**Pn**	**14 25 21.5**	**+0.2**
	130nm,0.3s,baz=212,slow=9.8,SNR=1076						
YBH				Lg	Lg	14 25 42.1	
	157nm,0.3s,baz=163,slow=17,SNR=16						
YBH				LR	LR	14 26 12.8	
	comp=Z,154nm,18.6s,baz=24,slow=50						
KBO	**Bosley Butte**	**1.95**	**353**	*e*Pn	**Pn**	**14 25 24.3**	**-0.4**
M04C	**Macdoel**	**2.16**	**45**	⇓P	**Pn**	**14 25 28.5**	**+0.8**
	baz=2.2						
M04C				⇓S	**Sn**	**14 25 55.3**	**+1.0**
	baz=2.2						
MCCM	**Marconi Confer**	**2.27**	**159**	*e*Pn	**Pn**	**14 25 27.8**	**-1.1**
HUMO	**Hull Mountain**	**2.43**	**16**	*e*Pn	**Pn**	**14 25 31.7**	**+0.5**
KEBM	**Edson Butte**	**2.62**	**353**	*e*Pn	**Pn**	**14 25 33.5**	**-0.3**
BEKR	**Beckworth**	**2.74**	**97**	*e*Pn	**Pn**	**14 25 35.9**	**+0.3**
K04D	**Chiloquin, OR**	**2.84**	**34**	⇓P	**Pn**	**14 25 38.2**	**+1.2**
	baz=2.9						
K04D				⇑S	**Sn**	**14 26 11.2**	**0.0**
	baz=2.9						
SAC	**San Andreas**	**2.92**	**156**	*e*Pn	**Pn**	**14 25 37.3**	**-0.6**
SAC				*e*Sn	**Sn**	**14 26 10.8**	**-2.1**
MOD	**Modoc**	**3.16**	**58**	*e*Pn	**Pn**	**14 25 41.0**	**-0.3**
J04D	**Umpqua Nationa**	**3.25**	**24**	⇓P	**Pn**	**14 25 44.2**	**+1.6**
	baz=3.3						
I03D	**Drain, OR**	**3.44**	**7**	⇓P	**Pn**	**14 25 45.9**	**+0.9**
	baz=3.5						
I03D				⇓S	**Sn**	**14 26 27.8**	**+2.1**
	baz=3.5						
CMB	**Columbia Colle**	**3.52**	**128**	*e*Pn	**Pn**	**14 25 46.7**	**+0.5**
J05D	**Fort Rock, OR**	**3.60**	**33**	⇓P	**Pn**	**14 25 49.1**	**+1.7**
	baz=3.6						
I04A	**Tendick Farm,**	**3.69**	**17**	⇓P	**Pn**	**14 25 49.8**	**+1.3**
	baz=3.7						
I04A				⇑S	**Sn**	**14 26 31.2**	**-0.6**
	baz=3.7						
WAKR	**Walker**	**3.88**	**116**	*e*Pn	**Pn**	**14 25 52.9**	**+1.7**
SAO	**San Andreas Ge**	**3.99**	**151**	*e*Pn	**Pn**	**14 25 52.2**	**-0.4**
PINOR	**Pine Mountain**	**4.19**	**31**	*e*Pn	**Pn**	**14 25 57.5**	**+2.2**
COR	**Corvallis**	**4.33**	**6**	*e*Pn	**Pn**	**14 25 59.7**	**+2.4**
I05D	**Terrebonne, OR**	**4.48**	**24**	⇑P	**Pn**	**14 26 01.1**	**+1.8**
	baz=4.5						
WVOR	**Wild Horse Val**	**4.50**	**60**	*e*Pn	**Pn**	**14 25 59.0**	**-0.7**
NVAR	**Mina Array Bea**	**4.71**	**111**	Pn	**Pn**	**14 26 03.9**	**+1.2**
NVAR	**Mina Array Bea**	**4.71**	**111**	Pn	**Pn**	**14 26 03.9**	**+1.2**
	9.9nm,0.3s,baz=292,slow=15,SNR=295						
NVAR				LR	LR	14 28 21.8	
	comp=Z,174nm,18.7s,baz=62,slow=44						
NV11	**Mina Array St**	**4.81**	**111**	*e*Pn	**Pn**	**14 26 05.1**	**+1.0**
G03D	**McMinnville, O**	**4.96**	**5**	⇓P	**Pn**	**14 26 07.9**	**+2.0**
	baz=5.0						
BMN	**Battle Mountai**	**5.10**	**86**	*e*P	**Pn**	**14 26 07.7**	**-0.2**
	7.8nm,0.4s						
G05D	**Wamic, OR**	**5.31**	**20**	P	**Pn**	**14 26 13.1**	**+2.3**
	baz=5.3						
TPH	**Tonopah**	**5.63**	**111**	*e*Pn	**Pn**	**14 26 16.4**	**+1.2**
	7.8nm,0.6s						
SMMC	**Simmler**	**5.83**	**147**	⇓P	**Pn**	**14 26 18.8**	**+0.8**
	baz=5.8						
PKM	**Peak Mountain**	**6.27**	**148**	⇓P	**Pn**	**14 26 24.8**	**+0.8**
	baz=6.2						
PKM				⇓S	**Sn**	**14 27 34.3**	**-1.3**
	baz=6.2						
ISA	**Isabella**	**6.28**	**135**	*e*Pn	**Pn**	**14 26 26.4**	**+2.2**
	4.1nm,0.4s						
ISA	**Isabella**	**6.28**	**135**	⇑P	**Pn**	**14 26 26.7**	**+2.5**
	baz=6.2,SNR=41						
ARVC	**Arvin**	**6.52**	**140**	⇓P	**Pn**	**14 26 29.2**	**+1.8**
	baz=6.5,SNR=14						
ELK	**Elko**	**6.61**	**83**	Pn	Pn	14 26 24.6	-4.2
ELK	**Elko**	**6.61**	**83**	Pn	Pn	14 26 24.6	-4.2
	baz=58,slow=1.9						
ELK				LR	LR	14 29 23.9	
	comp=Z,210nm,19.1s,baz=178,slow=42						
LON	**Longmire**	**6.65**	**12**	*e*Pn	**Pn**	**14 26 30.7**	**+1.5**
	19nm,0.7s						
R11A	**Troy Canyon, C**	**6.72**	**104**	*e*Pn	**Pn**	**14 26 31.0**	**+0.7**
	3.0nm,0.4s						
R11A	**Troy Canyon, C**	**6.72**	**104**	⇓P	**Pn**	**14 26 31.2**	**+1.0**
	baz=6.7,SNR=11						
TPNV	**Topopah Spring**	**6.84**	**117**	⇓P	**Pn**	**14 26 34.3**	**+2.4**
	baz=6.8,SNR=7.0						
HAWA	**Hanford**	**6.89**	**26**	*e*Pn	**Pn**	**14 26 35.0**	**+2.6**
	30nm,0.6s						
OSI	**Osito Adit**	**6.99**	**142**	*e*Pn	**Pn**	**14 26 36.0**	**+2.2**
	39nm,0.5s						
OSI	**Osito Adit**	**6.99**	**142**	⇓P	**Pn**	**14 26 36.1**	**+2.4**
	baz=7.0,SNR=8.9						
EDW2	**Edwards Air Fo**	**7.14**	**137**	⇓P	**Pn**	**14 26 37.9**	**+2.0**
	baz=7.1,SNR=15						
BFSC	**Mount Baldy Ra**	**7.81**	**139**	⇑P	**Pn**	**14 26 47.1**	**+2.0**
	baz=7.8,SNR=5.9						
SHPR	**Sheep Range**	**7.82**	**116**	*e*P	**Pn**	**14 26 48.1**	**+2.7**
	3.0nm,0.4s						
DUG	**Dugway**	**8.47**	**87**	*e*Pn	**Pn**	**14 26 56.2**	**+1.9**
	26nm,1.0s						
DUG	**Dugway**	**8.47**	**87**	⇓P	**Pn**	**14 26 56.4**	**+2.1**
	baz=8.4,SNR=24						
BELC	**Belle Mtn. Jos**	**8.88**	**132**	⇑P	**Pn**	**14 27 02.2**	**+2.3**
	baz=8.8,SNR=5.5						
PFO	**Pinyon Flat Ob**	**8.92**	**136**	Pn	**Pn**	**14 27 01.8**	**+1.3**
PFO	**Pinyon Flat Ob**	**8.92**	**136**	Pn	**Pn**	**14 27 01.8**	**+1.3**
	0.6nm,0.3s,baz=308,slow=12,SNR=7.6						
PFO	**Pinyon Flat Ob**	**8.92**	**136**	⇑P	**Pn**	**14 27 02.4**	**+1.9**
	baz=8.9						
MVU	**Marysvale**	**9.21**	**97**	*e*Pn	**Pn**	**14 27 06.6**	**+2.1**
	5.8nm,0.4s						
MCMT	**McKenzie Canyo**	**9.33**	**57**	*e*Pn	**Pn**	**14 27 06.8**	**+0.6**
	1.4nm,0.9s						
NEW	**Newport**	**9.34**	**29**	*e*Pn	**Pn**	**14 27 09.0**	**+2.8**
	4.3nm,0.6s						
NEW	**Newport**	**9.34**	**29**	⇓P	**Pn**	**14 27 08.9**	**+2.8**
	baz=9.3						
MONP	**Monument Peak**	**9.50**	**139**	⇑P	**Pn**	**14 27 10.6**	**+2.1**
	baz=9.5						
MSO	**Missoula**	**9.75**	**44**	⇓P	Pn	14 27 15.1	+3.4
	baz=7.7,SNR=7.6						
TMUT	**Trail Mountain**	**9.81**	**92**	*e*P	Pn	14 27 17.2	+4.4
	7.0nm,0.7s						
U15A	**North Rim**	**9.88**	**109**	⇓P	Pn	14 27 17.2	+3.5
	baz=9.8,SNR=8.0						
BSMT	**Bassoo Peak**	**10.01**	**38**	*e*P	**Pn**	**14 27 17.9**	**+2.5**
	3.3nm,0.7s						
SWMT	**Swartz Lake**	**10.16**	**41**	*e*P	Pn	14 27 21.5	+4.2
	4.0nm,0.7s						
SRU	**San Rafael**	**10.37**	**92**	*e*P	Pn	14 27 25.1	+4.8
	32nm,1.0s						
WUAZ	**Wupatki**	**10.97**	**112**	⇑P	Pn	14 27 31.9	+3.4
	baz=11						
PDAR	**Pinedale Array**	**11.03**	**72**	Pn	Pn	14 27 32.8	+3.4
PDAR	**Pinedale Array**	**11.03**	**72**	Pn	Pn	14 27 32.8	+3.4
	0.1nm,0.3s,baz=260,slow=10.0,SNR=2.3						
J19A	**Crowheart**	**11.48**	**70**	⇑P	**Pn**	**14 27 38.2**	**+2.8**
	baz=11						
N20A	**Spence Gulch,**	**11.90**	**82**	⇑P	**Pn**	**14 27 43.3**	**+1.9**
	baz=12						
O20A	**White River Ci**	**11.97**	**86**	⇑P	**Pn**	**14 27 44.7**	**+2.4**
	baz=12						
PV01	**Paradox Valley**	**12.08**	**95**	*e*P	Pn	14 27 47.4	+3.7
	303nm,0.7s						
J20A	**Shoshoni**	**12.19**	**70**	⇑P	**Pn**	**14 27 47.0**	**+1.8**
	baz=12						
I20A	**Worland**	**12.27**	**67**	⇑P	**Pn**	**14 27 48.2**	**+2.0**
	baz=12						
W18A	**Petrified Fore**	**12.33**	**110**	⇑P	Pn	14 27 51.2	+4.0
MVCO	**Mesa Verde**	**12.40**	**99**	⇓P	**Pn**	**14 27 50.9**	**+2.7**
	baz=12						
X18A	**Snowflake**	**12.47**	**113**	⇑P	**Pn**	**14 27 52.1**	**+3.0**
	baz=12						
G20A	**Bridger**	**12.53**	**62**	⇑P	**Pn**	**14 27 52.7**	**+2.8**
	baz=12						
E19A	**Rath Farm, Rou**	**12.60**	**56**	⇓P	**Pn**	**14 27 53.2**	**+2.4**
	baz=13						
K21A	**Alcova**	**12.71**	**74**	⇓P	**Pn**	**14 27 53.9**	**+1.6**
	baz=13						
EGMT	**Eagleton**	**12.76**	**48**	⇓P	**Pn**	**14 27 53.3**	**+0.5**
	baz=13						
I21A	**Big Trails, Te**	**12.83**	**69**	⇓P	**Pn**	**14 27 54.3**	**+0.3**
	baz=13						
E20A	**Meyer Farm, Mu**	**13.04**	**56**	⇓P	Pn	14 28 00.4	+3.8
	baz=13						
M22A	**Cedar Creek Ra**	**13.15**	**79**	⇓P	Pn	14 28 01.7	+3.4
	baz=13						
P22A	**Eagle**	**13.17**	**87**	⇑P	Pn	14 28 02.3	+3.7
	baz=13						
O22A	**Kremmling**	**13.26**	**85**	⇓P	**Pn**	**14 28 02.5**	**+2.5**
	baz=13						
J22A	**Midwest**	**13.36**	**71**	⇑P	**Pn**	**14 28 02.2**	**+1.1**
	baz=13						
I22A	**9 Mile Ranch,**	**13.42**	**69**	⇓P	**Pn**	**14 28 05.0**	**+3.0**
	baz=13						
S22A	**4UR Ranch, Cre**	**13.51**	**95**	⇓P	Pn	14 28 07.5	+4.2
	baz=13,SNR=8.0						
N23A	**Red Feather La**	**13.66**	**82**	⇑P	**Pn**	**14 28 07.3**	**+2.0**
	baz=14						
O23A	**Lake Granby, G**	**13.73**	**84**	⇓P	**Pn**	**14 28 08.6**	**+2.2**
	baz=14						
M23A	**Laramie**	**13.80**	**79**	⇑P	**Pn**	**14 28 08.8**	**+1.5**
	baz=14						
L23A	**Garrett**	**13.82**	**76**	⇑P	**Pn**	**14 28 08.0**	**+0.5**
	baz=14						
P23A	**Jefferson**	**13.91**	**88**	⇓P	**Pn**	**14 28 11.3**	**+2.5**
	baz=14						
ISCO	**Idaho Springs**	**14.02**	**86**	⇓P	**Pn**	**14 28 13.3**	**+3.0**
	baz=14,SNR=5.1						
V22A	**San Miguel Ran**	**14.06**	**103**	⇑P	**Pn**	**14 28 12.2**	**+1.4**
	baz=14						
G23A	**Biddle**	**14.45**	**64**	⇑P	**Pn**	**14 28 17.9**	**+1.9**
	baz=14						
M24A	**Cheyenne**	**14.48**	**79**	⇓P	**Pn**	**14 28 17.4**	**+0.9**
	baz=14						
Q24A	**Divide**	**14.51**	**89**	⇓P	**Pn**	**14 28 19.2**	**+2.2**
	baz=14,SNR=7.9						
SDCO	**Great Sand Dun**	**14.52**	**94**	*e*P	**Pn**	**14 28 20.1**	**+3.0**
	19nm,1.1s						
R24A	**Sanders Place,**	**14.70**	**92**	⇓P	**Pn**	**14 28 22.7**	**+3.2**
	baz=15,SNR=5.6						
I24A	**Kuemmerle Ranc**	**14.75**	**70**	⇑P	**Pn**	**14 28 20.7**	**+0.7**
	baz=15						
S24A	**Houchin Ranch,**	**14.77**	**94**	⇑P	**Pn**	**14 28 23.8**	**+3.2**
	baz=15,SNR=6.0						
319A	**Douglas**	**14.79**	**122**	⇓P	**Pn**	**14 28 22.5**	**+1.7**
	baz=15						
ANMO	**Albuquerque**	**14.80**	**106**	Pn	**Pn**	**14 28 22.8**	**+1.9**
ANMO	**Albuquerque**	**14.80**	**106**	Pn	**Pn**	**14 28 22.8**	**+1.9**
	0.1nm,0.3s,baz=302,slow=11,SNR=5.1						
EDM	**Edmonton**	**14.81**	**25**	*e*P	**Pn**	**14 28 19.4**	**-1.4**
H24A	**Dirks Ranch, A**	**14.94**	**66**	⇑P	**Pn**	**14 28 21.1**	**-1.5**
	baz=15,SNR=5.1						
BNM	**Barren Site**	**15.04**	**109**	Pn	**Pn**	**14 28 25.3**	**+1.1**
G24A	**Alzada**	**15.15**	**64**	⇓P	**Pn**	**14 28 25.0**	**-0.5**
	baz=15						
P25A	**Willow Gulch B**	**15.16**	**87**	⇑P	**Pn**	**14 28 27.4**	**+1.7**
	baz=15						
Q25A	**Bedland, Calha**	**15.21**	**89**	⇓P	**P**	**14 28 29.4**	**-2.0**
	baz=15						
F24A	**Ekalaka**	**15.25**	**62**	⇓P	**Pn**	**14 28 26.6**	**-0.2**
	baz=15						
J25A	**Sunshine Ranch**	**15.29**	**72**	⇑P	**Pn**	**14 28 27.6**	**+0.2**
	baz=15						
R25A	**Fountain Ranch**	**15.35**	**92**	⇑P	**Pn**	**14 28 29.6**	**+1.5**
	baz=15						
S25A	**Robets Cordova**	**15.36**	**94**	⇓P	**Pn**	**14 28 30.1**	**+1.7**
	baz=15,SNR=9.1						
V24A	**Rampart Ranch,**	**15.36**	**101**	⇑P	**Pn**	**14 28 30.2**	**+1.8**
	baz=15,SNR=9.4						
C23A	**Lambert**	**15.39**	**55**	⇑P	**Pn**	**14 28 28.7**	**+0.2**
	baz=15						
I25A	**Rochford**	**15.41**	**69**	⇓P	**Pn**	**14 28 29.3**	**+0.4**
	baz=15						
W24A	**Lazy 6 Ranch,**	**15.46**	**103**	⇑P	**P**	**14 28 32.4**	**-1.9**
	baz=15						
T25A	**Trinidad**	**15.53**	**95**	⇑P	**P**	**14 28 33.2**	**-1.7**
	baz=16,SNR=5.2						
Y23A	**Lovelace Mesa,**	**15.56**	**108**	⇑P	**P**	**14 28 33.5**	**-1.8**
	baz=16,SNR=5.7						
H25A	**Fruitdale**	**15.59**	**67**	⇓P	**Pn**	**14 28 30.9**	**-0.3**
	baz=16						
U25A	**Circle Dot Ran**	**15.77**	**98**	⇑P	**Pn**	**14 28 35.6**	**

	baz=21								
332A	**Millersview**	21.45	107	⇓P		**P**		**14 29 38.2**	**-1.6**
	baz=21								
531A	**Rocksprings**	21.52	111	⇑P		**P**		**14 29 40.5**	**-0.1**
	baz=22								
AGMN	**Agassiz Nation**	21.52	59	⇓P		**P**		**14 29 38.8**	**-1.5**
	baz=22								
631A	**Perdido Creek**	21.93	112	⇑P		**P**		**14 29 44.6**	**-0.2**
	baz=22								
ULM	**Lac du Bonnet**	21.98	54	P		**P**		**14 29 45.8**	**+0.5**
ULM	**Lac du Bonnet**	21.98	54	P		**P**		**14 29 45.8**	**+0.5**
	1.5nm,0.6s,baz=259,slow=5.2,SNR=3.2								
532A	**Rocksprings**	22.00	110	⇑P		**P**		**14 29 44.8**	**-0.9**
	baz=22								
333A	**Richland Sprin**	22.03	106	⇑P		**P**		**14 29 43.8**	**-2.2**
	baz=22								
433A	**Art**	22.25	108	⇑P		**P**		**14 29 48.0**	**-0.3**
	baz=22								
632A	**Uvalde**	22.43	111	⇓P		**P**		**14 29 50.5**	**+0.2**
	baz=22								
732A	**Laxson Ranch,**	22.76	113	⇑P		**P**		**14 29 54.4**	**+0.6**
	baz=23								
434A	**Burnet**	22.82	106	⇓P		**P**		**14 29 54.5**	**0.0**
	baz=23								
YKA	**Yellowknife Ar**	22.95	11	P		**P**		**14 29 56.5**	**+1.1**
YKA	**Yellowknife Ar**	22.95	11	P		**P**		**14 29 56.4**	**+1.1**
	1.1nm,0.9s,baz=198,slow=10,SNR=7.5								
832A	**Faith Ranch, C**	23.02	114	⇓P		**P**		**14 29 57.1**	**+0.6**
	baz=23								
534A	**Blanco**	23.09	108	⇓P		**P**		**14 29 57.1**	**-0.1**
	baz=23								
H11N3	**WAKE ISLAND Hy**	61.84	273	T		T		15 42 24.8	
	baz=57,slow=75,SNR=21								
H11N2	**WAKE ISLAND Hy**	61.84	273	T		T		15 42 23.5	
	baz=57,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hy**	61.86	273	T		T		15 42 25.5	
	baz=57,slow=75,SNR=20								
H11S1	**WAKE ISLAND Hy**	62.71	272	T		T		15 43 27.6	
	baz=54,slow=75,SNR=149								
H11S2	**WAKE ISLAND Hy**	62.72	272	T		T		15 43 26.9	
	baz=54,slow=75,SNR=95								
H11S3	**WAKE ISLAND Hy**	62.73	272	T		T		15 43 29.0	
	baz=54,slow=75,SNR=71								
MDJ	**Mudanjiang**	72.82	314	P		**P**		**14 36 18.3**	**-1.7**
MDJ				pmax		pmax			
	comp=Z,4.0nm,2.4s								
CN2	**Changchun**	75.60	316	*e*P		**P**		**14 36 36.5**	**+0.3**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
HHC	**Hu-ho-hao-te**	84.81	321	*e*P		**P**		**14 37 25.4**	**-0.6**
HHC				sP		sP		14 37 32.2	+0.3
HHC				PP		**PP**		**14 40 38.8**	**-2.8**
WMQ	**Urumqi**	**91.57**	**338**	*e*P		**P**		**14 38 00.7**	**+2.4**

*ISCJB **04** 14:29:37.9±0.6, 18˚.18N±0˚.05×107˚.09W±0˚.03, h10km, mb4.4/31, MS3.8/10, Error ellipse: s-maj=7.8km s-min=3.5km az=174.4*

*IDC **04** 14:29:40.5±1.1, 18˚.46N×107˚.25W, h0km, mb4.2/9, mb1 4.5/14, mb1mx4.3/31, mbtmp4.3/14, ML4.0/4, MS3.9/15, Ms1 3.9/15, ms1mx3.7/45, Error ellipse: s-maj=25.0km s-min=20.1km az=58.0*

*GCMT **04** 14:29:42.3±0.4, 18˚.73N×107˚.23W, h26km±1km, MW5.0/72, Moment Tensor Solution. s31,c34; s72,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr=0.17±.15; Mθθ=2.66±.15; Mϕϕ=2.83±.16; Mrθ=-1.20±.24; Mrϕ=2.64±.10; Mθϕ=1.36±.25; Best double couple: M=4.17900×10^{16} NP1:ϕs292.00000°, δ83.00000°, λ158.00000°. NP2: ϕs25.00000°, δ68.00000°, λ7.00000°. Principal axes: T 4.5220, Plg20.0000°, Azm247.0000°; N -0.6880, Plg67.0000°, Azm96.0000°; P -3.8350, Plg10.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 14:29:42.3±0.5, 18˚.48N×107˚.04W, h10km, mb4.5/43, MD4.3(MEX) Error ellipse: s-maj=8.0km s-min=5.1km az=206.0*

*MEX **04** 14:29:47.3±0.5, 18˚.70N×106˚.88W, h10km, MD4.3*

ISC 04 14:29:45.6±0.7, 18˚.59N±0˚.08×106˚.93W±0˚.06, h30km, n387, σ1$29/350, mb4.5/30, MS3.9/10, 127C-120D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.00**	**63**	*i* P	**Pn**	**14 30 16.8**	**-0.5**
CJM				*e*S	**Sn**	**14 30 39.3**	**-2.1**
CJM	**Chamela**	**2.00**	**63**	*i* P	**Pn**	**14 30 16.8**	**-0.5**
CJM				*e*S	**Sn**	**14 30 39.3**	**-2.1**
ANIG	**Ahuacatlan**	**3.34**	**42**	*e*P	**Pn**	**14 30 35.0**	**-0.9**
ANIG				*e*S	**Sn**	**14 31 13.2**	**-1.4**
ANIG	**Ahuacatlan**	**3.34**	**42**	*e*P	**Pn**	**14 30 35.0**	**-0.9**
ANIG				*e*S	**Sn**	**14 31 13.2**	**-1.4**
MMIG	**Aquila**	**3.42**	**94**	*e*P	**Pn**	**14 30 36.8**	**0.0**
MMIG				*i* S	**Sn**	**14 31 16.3**	**0.0**
MMIG	**Aquila**	**3.42**	**94**	*e*P	**Pn**	**14 30 36.8**	**0.0**
MMIG				*i* S	**Sn**	**14 31 16.3**	**0.0**
H06E1	**SOCORRO T-PHAS**	**3.79**	**273**	Pn	Pn	14 30 34.6	-7.4
H06E1				Sn	Sn	14 31 14.0	-12
H06E1				T	T	14 34 12.5	
	SNR=290						
H06S1	**SOCORRO T**	**3.82**	**273**	Pn	Pn	14 30 34.5	-7.9
H06S1				Sn	Sn	14 31 13.2	-13
H06S1				T	T	14 34 13.5	
	SNR=3137						
H06N1	**SOCORRO T-PHAS**	**3.85**	**275**	Pn	Pn	14 30 36.8	-6.0
	SNR=6.2						
H06N1				T	T	14 34 16.8	
	SNR=20						
LPIG	**La Paz**	**6.32**	**331**	Pn	**Pn**	**14 31 15.9**	**-0.9**
LPIG	**La Paz**	**6.32**	**331**	Pn	**Pn**	**14 31 15.9**	**-0.9**
	baz=73,slow=14,SNR=6.8						
LPIG				LR	LR	14 33 06.8	
	comp=Z,3μm,18.1s,baz=198,slow=33						
TXAR	**Lajitas Array**	**11.10**	**15**	Pn	**Pn**	**14 32 23.9**	**+1.5**
TXAR	**Lajitas Array**	**11.10**	**15**	Pn	**Pn**	**14 32 23.9**	**+1.5**
	0.7nm,0.3s,baz=197,slow=14,SNR=38						
626A	**Big Bend Ranch**	**11.21**	**13**	⇑P	**Pn**	**14 32 26.3**	**+2.4**
	baz=11,SNR=61						
627A	**Terlingua Ranc**	**11.29**	**16**	⇑P	**Pn**	**14 32 27.0**	**+2.1**
	baz=12,SNR=16						
628A	**Black Gap, Mar**	**11.46**	**18**	⇑P	**Pn**	**14 32 28.4**	**+1.2**
	baz=12,SNR=27						
832A	**Faith Ranch, C**	**11.56**	**32**	⇓P	Pn	14 32 32.2	+3.6
	baz=12,SNR=10						
526A	**Mary Lane Ranc**	**11.71**	**12**	⇑P	**Pn**	**14 32 33.5**	**+2.8**
	baz=12,SNR=53						
934A	**Benavides**	**11.84**	**39**	⇓P	**Pn**	**14 32 35.2**	**+2.8**
	baz=12						
527A	**Woodward Ranch**	**11.89**	**14**	⇑P	**Pn**	**14 32 36.1**	**+2.8**
	baz=12,SNR=30						
833A	**Chaparral WMA,**	**11.90**	**34**	⇑P	Pn	14 32 37.0	+3.8
	baz=12,SNR=10						
732A	**Laxson Ranch,**	**11.93**	**31**	⇓P	Pn	14 32 37.4	+3.7
	baz=12,SNR=6.5						
834A	**Tilden**	**12.21**	**37**	⇑P	Pn	14 32 41.0	+3.5
	baz=12						
631A	**Perdido Creek**	**12.23**	**27**	⇓P	Pn	14 32 41.3	+3.5
	baz=12,SNR=18						
529A	**Stev Forest Ra**	**12.26**	**20**	⇓P	Pn	14 32 42.6	+4.5
	baz=12,SNR=14						
425A	**Indio Mountain**	**12.27**	**8**	⇑P	**Pn**	**14 32 41.1**	**+2.7**
	baz=12,SNR=28						
426A	**McDonald Obser**	**12.31**	**12**	⇓P	**Pn**	**14 32 42.1**	**+3.1**
	baz=12,SNR=30						
530A	**J-C Ranch, Com**	**12.58**	**23**	⇑P	Pn	14 32 45.8	+3.3
	baz=13,SNR=8.1						
427A	**Hayter Ranch,**	**12.62**	**14**	⇑P	**Pn**	**14 32 46.1**	**+3.0**
	baz=13,SNR=12						
632A	**Uvalde**	**12.67**	**30**	⇑P	Pn	14 32 47.2	+3.4
	baz=13,SNR=12						
428A	**Kincaid Ranch,**	**12.68**	**17**	⇓P	Pn	14 32 47.9	+3.9
	baz=13,SNR=6.5						
835A	**Beeville**	**12.76**	**39**	⇑P	Pn	14 32 48.3	+3.3
	baz=13						
734A	**La Parita Cree**	**12.76**	**35**	⇑P	Pn	14 32 48.5	+3.5
	baz=13						
320A	**Kipp Ranch, An**	**12.77**	**354**	⇑P	**Pn**	**14 32 47.2**	**+1.9**
	baz=13,SNR=16						
429A	**Davenport Ranc**	**12.82**	**20**	⇓P	Pn	14 32 49.4	+3.5
	baz=13,SNR=21						
325A	**Bean Ranch, Si**	**12.85**	**8**	⇑P	**Pn**	**14 32 48.0**	**+1.6**
	baz=13,SNR=19						
324A	**Moseley Ranch,**	**12.86**	**6**	⇓P	**Pn**	**14 32 48.1**	**+1.6**
	baz=13,SNR=9.8						
531A	**Rocksprings**	**12.90**	**26**	⇓P	**Pn**	**14 32 50.0**	**+3.0**
	baz=13,SNR=6.1						
319A	**Douglas**	**12.90**	**351**	⇓P	**Pn**	**14 32 48.8**	**+1.7**
	baz=13,SNR=23						
633A	**Saathoff Ranch**	**12.93**	**32**	⇓P	**Pn**	**14 32 49.1**	**+1.9**
	baz=13						
326A	**Caldwell Ranch**	**12.95**	**11**	⇓P	**Pn**	**14 32 49.4**	**+1.7**
	baz=13,SNR=15						
MNTX	**Cornudas Mount**	**13.13**	**6**	*e*P	**Pn**	**14 32 50.5**	**+0.5**
	4.0nm,0.6s						
532A	**Rocksprings**	**13.14**	**28**	⇓P	Pn	14 32 53.8	+3.5
	baz=13,SNR=25						
735A	**Kenedy**	**13.19**	**38**	⇓P	Pn	14 32 54.1	+3.2
	baz=13						
430A	**Baggett Ranch,**	**13.19**	**22**	⇓P	Pn	14 32 54.4	+3.4
	baz=13,SNR=21						
328A	**Wristen Ranch,**	**13.27**	**16**	⇑P	**Pn**	**14 32 55.0**	**+2.9**
	baz=14,SNR=7.9						
431A	**Sonora**	**13.34**	**24**	⇓P	**Pn**	**14 32 56.0**	**+3.1**
	baz=14,SNR=8.7						
221A	**Mesquite Ranch**	**13.38**	**357**	⇓P	**Pn**	**14 32 55.9**	**+2.3**
	baz=14,SNR=12						
222A	**Williams Famil**	**13.46**	**359**	⇓P	**Pn**	**14 32 55.8**	**+1.2**
	baz=14						
224A	**Cornudas Mount**	**13.49**	**5**	⇓P	**Pn**	**14 32 57.0**	**+2.0**
	baz=14,SNR=24						
JCT	**Junction City**	**13.49**	**27**	*e*P	**Pn**	**14 32 57.9**	**+2.9**
	137nm,1.4s						
JCT	**Junction City**	**13.49**	**27**	⇑P	**Pn**	**14 32 58.1**	**+3.1**
	baz=14,SNR=21						
533A	**Kerrville**	**13.50**	**31**	⇓P	**Pn**	**14 32 57.5**	**+2.4**
	baz=14						
225A	**Deer Hill, Car**	**13.60**	**8**	⇑P	**Pn**	**14 32 58.5**	**+1.9**
	baz=14						
329A	**Wagon Wheel Ra**	**13.60**	**18**	⇓P	**Pn**	**14 32 58.9**	**+2.4**
	baz=14						
635A	**Leesville**	**13.61**	**36**	⇓P	**Pn**	**14 32 58.2**	**+1.5**
	baz=14						
226B	**Tecolote Peak,**	**13.66**	**10**	⇑P	**Pn**	**14 32 59.6**	**+2.3**
	baz=14,SNR=13						
534A	**Blanco**	**13.74**	**32**	⇑P	**Pn**	**14 33 00.1**	**+1.7**
	baz=14						
330A	**Mertzon**	**13.78**	**21**	⇑P	**Pn**	**14 33 01.6**	**+2.6**
	baz=14						
432A	**Menard**	**13.84**	**27**	⇓P	Pn	14 33 03.2	+3.5
	baz=14,SNR=17						
121A	**Cookes Peak, D**	**13.90**	**357**	*e*P	**Pn**	**14 33 02.4**	**+1.6**
	29nm,1.0s						
121A	**Cookes Peak, D**	**13.90**	**357**	⇑P	**Pn**	**14 33 02.3**	**+1.6**
	baz=14,SNR=20						
331A	**San Angelo**	**13.96**	**24**	⇓P	**Pn**	**14 33 04.5**	**+3.0**
	baz=14,SNR=10						
228A	**UT Block 9, Go**	**14.03**	**15**	⇓P	**Pn**	**14 33 05.2**	**+2.8**
	baz=14,SNR=6.4						
433A	**Art**	**14.04**	**29**	⇑P	**Pn**	**14 33 05.4**	**+2.9**
	baz=14						
TUC	**Tucson**	**14.09**	**346**	*e*P	**Pn**	**14 33 04.2**	**+0.9**
	67nm,1.1s						
229A	**Bryant Ranch,**	**14.10**	**18**	⇓P	**Pn**	**14 33 06.2**	**+2.9**
	baz=14						
125A	**Gardner Draw,**	**14.16**	**8**	⇓P	**Pn**	**14 33 06.8**	**+2.6**
	baz=14,SNR=17						
535A	**Dale**	**14.22**	**35**	⇓P	Pn	14 33 08.3	+3.4
	baz=14						
126A	**Clayton Basin,**	**14.24**	**10**	⇑P	**Pn**	**14 33 08.2**	**+2.9**
	baz=14						
230A	**Sterling City**	**14.24**	**21**	⇓P	**Pn**	**14 33 08.2**	**+2.9**
	baz=14						
332A	**Millersview**	**14.30**	**26**	⇓P	**Pn**	**14 33 08.6**	**+2.5**
	baz=14,SNR=11						
214A	**Organ Pipe Nat**	**14.33**	**339**	*e*P	**Pn**	**14 33 06.8**	**+0.4**
	89nm,1.1s						
214A	**Organ Pipe Nat**	**14.33**	**339**	⇑P	**Pn**	**14 33 07.0**	**+0.6**
	baz=14,SNR=42						
434A	**Burnet**	**14.48**	**31**	⇓P	**Pn**	**14 33 10.2**	**+1.7**
	baz=15						
128A	**Castleberry Fa**	**14.53**	**15**	⇓P	**Pn**	**14 33 11.0**	**+1.7**
	baz=15,SNR=6.2						
231A	**Bronte**	**14.56**	**23**	⇑P	**Pn**	**14 33 12.2**	**+2.6**
	baz=15						
333A	**Richland Sprin**	**14.57**	**28**	⇑P	**Pn**	**14 33 11.8**	**+2.1**
	baz=15,SNR=7.4						
Z22A	**Elephant Butte**	**14.60**	**360**	⇑P	**Pn**	**14 33 11.9**	**+1.6**
	baz=15						
Z23A	**Rita Site, Whi**	**14.62**	**2**	⇓P	**Pn**	**14 33 12.8**	**+2.3**
	baz=15,SNR=6.2						
129A	**Stewart Farms,**	**14.70**	**17**	⇓P	**Pn**	**14 33 13.5**	**+1.9**
	baz=15,SNR=6.8						
Z24A	**Sheeppen Canyo**	**14.74**	**5**	⇑P	**Pn**	**14 33 13.9**	**+1.6**
	baz=15,SNR=12						
Z25A	**Roswell**	**14.76**	**7**	⇓P	**P**	**14 33 16.1**	**-2.0**
	baz=15,SNR=5.6						
232A	**Coleman**	**14.78**	**25**	⇑P	**Pn**	**14 33 14.4**	**+1.9**
	baz=15,SNR=8.6						
Z26A	**Caprock**	**14.86**	**10**	⇑P	**Pn**	**14 33 15.4**	**+1.7**
	baz=15						
334A	**Lometa**	**14.93**	**30**	⇑P	**Pn**	**14 33 16.2**	**+1.6**
	baz=15,SNR=8.8						
Z27A	**Tatum**	**15.04**	**12**	⇑P	**Pn**	**14 33 17.4**	**+1.3**
	baz=15,SNR=11						
HKT	**Hockley**	**15.16**	**40**	*e*P	**Pn**	**14 33 16.5**	**-1.1**
	190nm,2.1s						
Z28A	**Tucker Farm, M**	**15.19**	**15**	⇑P	**Pn**	**14 33 19.4**	**+1.2**
	baz=15						
233A	**Rising Star**	**15.20**	**27**	⇑P	**Pn**	**14 33 20.4**	**+2.2**
	baz=15,SNR=12						
131A	**Roby**	**15.21**	**21**	⇓P	**P**	**14 33 20.9**	**-2.1**
	baz=15,SNR=5.3						
335A	**Moody**	**15.28**	**32**	⇑P	**Pn**	**14 33 20.6**	**+1.4**
	baz=16						
Y23A	**Lovelace Mesa,**	**15.30**	**3**	⇑P	**Pn**	**14 33 21.6**	**+2.0**
	baz=16,SNR=13						
Z29A	**Hungry Hill Ra**	**15.34**	**17**	P	**Pn**	**14 33 21.7**	**+1.7**
	baz=16,SNR=6.2						
113A	**Mohawk Valley,**	**15.40**	**338**	⇑P	**Pn**	**14 33 21.4**	**+0.7**
	baz=16,SNR=7.7						
Y25A	**Mesa, Roswell**	**15.40**	**7**	⇓P	**Pn**	**14 33 22.6**	**+1.7**
	baz=15,SNR=6.8						
ABTX	**Abilene, Hawle**	**15.43**	**24**	*e*P	**Pn**	**14 33 20.4**	**-0.8**
	15nm,0.9s						
ABTX	**Abilene, Hawle**	**15.43**	**24**	⇑P	**Pn**	**14 33 23.0**	**+1.8**
	baz=16						
BNM	**Barren Site**	**15.50**	**1**	*e*P	**Pn**	**14 33 23.4**	**+1.1**
	21nm,1.1s						
LENM	**Lemitar**	**15.51**	**360**	P	**Pn**	**14 33 22.0**	**-0.3**
	16nm,1.0s						
Z30A	**Sanderson Ranc**	**15.53**	**18**	⇑P	**Pn**	**14 33 24.3**	**+1.8**
	baz=15,SNR=8.3						
234A	**Clairette**	**15.53**	**29**	⇓P	**P**	**14 33 24.5**	**-2.0**
	baz=16						
Y27A	**Causey**	**15.60**	**12**	⇓P	**Pn**	**14 33 25.3**	**+1.8**
	baz=16,SNR=6.1						
LPM	**Los Pinos Moun**	**15.66**	**1**	*e*P	**Pn**	**14 33 24.9**	**+0.6**
	7.8nm,1.0s						
Z14A	**Wintersburg**	**15.67**	**341**	⇓P	**Pn**	**14 33 24.2**	**0.0**
	baz=16						
133A	**Hamilton Ranch**	**15.71**	**26**	⇑P	**P**	**14 33 26.9**	**-1.6**
	baz=16						
LAZ	**Ladron**	**15.75**	**359**	*e*P	**Pn**	**14 33 26.6**	**+1.2**
	12nm,1.1s						
MSTX	**Muleshoe**	**15.76**	**13**	P	**Pn**	**14 33 25.9**	**+0.4**
	40nm,1.1s						
MSTX	**Muleshoe**	**15.76**	**13**	⇑P	**Pn**	**14 33 26.9**	**+1.4**
	baz=16						
Y28A	**McKinney Farm,**	**15.82**	**14**	⇓P	**Pn**	**14 33 27.6**	**+1.4**
	baz=16						
Z31A	**Sharp Cattle R**	**15.88**	**21**	⇓P	**P**	**14 33 28.7**	**-1.7**
	baz=16						
Y29A	**Porterfield Fa**	**15.92**	**16**	⇓P	**P**	**14 33 30.2**	**-0.7**
	baz=16						
X23A	**Hourglass Bar**	**15.94**	**2**	⇓P	**P**	**14 33 31.7**	**+0.4**
	baz=16,SNR=5.8						
134A	**White-Moore Ra**	**16.04**	**28**	⇓P	**Pn**	**14 33 30.5**	**+1.5**
	baz=16						
GLA	**Glamis**	**16.05**	**335**	*e*P	**Pn**	**14 33 29.6**	**+0.4**
	30nm,1.4s						
GLA	**Glamis**	**16.05**	**335**	⇓P	**Pn**	**14 33 29.5**	**+0.3**
	baz=16,SNR=28						
X18A	**Snowflake**	**16.10**	**351**	⇓P	**P**	**14 33 31.8**	**-1.3**
	baz=16						
Z32A	**Haskell**	**16.10**	**23**	⇑P	**Pn**	**14 33 31.2**	**+1.4**
	baz=16						
X26A	**CR and CF Fran**	**16.14**	**9**	⇓P	**P**	**14 33 31.8**	**-1.6**
	baz=16						
Y30A	**Stafford Cattl**	**16.15**	**18**	⇑P	**Pn**	**14 33 31.8**	**+1.3**
	baz=16						
APG	**El Apazote**	**16.16**	**100**	Pn	**P**	**14 33 33.0**	**-0.9**
APG	**El Apazote**	**16.16**	**100**	Pn	**P**	**14 33 33.0**	**-0.9**
	0.8nm,0.3s,baz=258,slow=14,SNR=4.3						
APG				LR	LR	14 39 59.0	
	comp=Z,270nm,18.4s,baz=304,slow=38						
Y14A	**Wickenburg**	**16.22**	**342**	P	**Pn**	**14 33 32.5**	**+1.2**
	baz=16,SNR=14						
DVTC	**Desert V Tower**	**16.25**	**331**	P	**Pn**	**14 33 32.3**	**+0.5**
	baz=16,SNR=25						
X16A	**Lo Mia Camp, P**	**16.27**	**347**	P	**P**	**14 33 33.5**	**-1.4**
	baz=16,SNR=21						
ANMO	**Albuquerque**	**16.30**	**1**	*e*P	**Pn**	**14 33 33.0**	**+0.5**
	15nm,1.1s						
ANMO	**Albuquerque**	**16.30**	**1**	Pn	**Pn**	**14 33 33.7**	**+1.3**
	0.2nm,0.3s,baz=180,slow=13,SNR=15						
ANMO				LR	LR	14 39 26.9	
	comp=Z,534nm,19.5s,baz=190,slow=36						
SWSC	**Sam W. Stewart**	**16.36**	**333**	P	**Pn**	**14 33 33.8**	**+0.8**
	baz=16,SNR=17						
Z33A	**Whitaker Ranch**	**16.36**	**25**	⇑P	**P**	**14 33 34.5**	**-1.3**
	baz=17						
Y31A	**Rekieta Farm,**	**16.43**	**20**	⇓P	**P**	**14 33 36.0**	**-0.4**
	baz=17						
X29A	**Tulia**	**16.46**	**15**	⇑P	**P**	**14 33 36.1**	**-0.9**
	baz=17						
W23A	**Werner Place,**	**16.52**	**2**	⇑P	**P**	**14 33 37.5**	**-0.2**
	baz=17,SNR=6.5						
BAR	**Barrett**	**16.54**	**330**	*e*P	**Pn**	**14 33 35.2**	**-0.1**
	24nm,1.3s						
Y12C	**Blythe**	**16.55**	**337**	⇓P	**Pn**	**14 33 36.2**	**+0.7**
	baz=17,SNR=12						
MONP	**Monument Peak**	**16.59**	**331**	⇑P	**Pn**	**14 33 36.5**	**+0.2**
	baz=17,SNR=21						
W24A	**Lazy 6 Ranch,**	**16.61**	**4**	⇑P	**P**	**14 33 40.5**	**+1.8**
	baz=17,SNR=15						
W18A	**Petrified Fore**	**16.65**	**352**	*e*P	**Pn**	**14 33 37.3**	**+0.4**
	38nm,1.2s						
W18A	**Petrified Fore**	**16.65**	**352**	⇑P	**P**	**14 33 38.4**	**-0.8**
	baz=17,SNR=7.5						
W26A	**Owens Ranch, T**	**16.67**	**9**	⇑P	**P**	**14 33 38.5**	**-0.8**
	baz=17						
X30A	**Coker Ranch, T**	**16.69**	**18**	⇑P	**P**	**14 33 39.4**	**0.0**
	baz=17,SNR=7.1						
W25A	**X Bar L Ranch,**	**16.70**	**7**	⇑P	**P**	**14 33 39.9**	**+0.2**
	baz=17						
Y32A	**R-V Farms, Ver**	**16.74**	**22**	⇓P	**P**	**14 33 39.5**	**-0.5**
	baz=17						
W27A	**Bowe Ranch, En**	**16.76**	**11**	⇑P	**P**	**14 33 39.6**	**-0.7**
	baz=17						
BC3	**Big Chuckawall**	**16.83**	**335**	P	**Pn**	**14 33 39.9**	**+0.8**
	baz=17,SNR=17						
AMTX	**Amarillo**	**16.89**	**15**	⇑P	**P**	**14 33 41.5**	**-0.2**
	baz=17						
PDMCI	**Parker Dam,Lak**	**16.91**	**339**	P	**P**	**14 33 40.9**	**-0.9**
	baz=17,SNR=7.1						
109C	**Camp Elliot, M**	**16.92**	**329**	⇓P	**Pn**	**14 33 39.8**	**-0.2**
	baz=17						
Z35A	**Perchaven, San**	**17.05**	**29**	⇓P	**P**	**14 33 44.0**	**+0.7**
	baz=17						
Y33A	**Hilltop Ranch,**	**17.05**	**24**	⇑P	**P**	**14 33 42.9**	**-0.4**
	baz=17						
V23A	**Ortiz Mt. (NFS**	**17.10**	**2**	⇑P	**P**	**14 33 45.0**	**+0.9**
	baz=17,SNR=6.1						
W29A	**Amraillo**	**17.12**	**15**	⇓P	**P**	**14 33 44.2**	**0.0**
	baz=17						
W28A	**Vega**	**17.12**	**13**	⇓P	**P**	**14 33 44.1**	**-0.1**
	baz=17						
V24A	**Rampart Ranch,**	**17.13**	**5**	⇑P	**P**	**14 33 44.2**	**-0.3**
	baz=17						
X31A	**McDonald Ranch**	**17.13**	**20**	⇑P	**P**	**14 33 44.7**	**+0.4**
	baz=17						
IRM	**Iron Mountain**	**17.15**	**336**	⇓P	**P**	**14 33 43.9**	**-0.6**
	baz=17,SNR=19						
X32A	**Elmer**	**17.18**	**22**	⇑P	**P**	**14 33 44.7**	**0.0**
	baz=17						
PFO	**Pinyon Flat Ob**	**17.21**	**332**	P	**Pn**	**14 33 43.9**	**-0.1**
PFO	**Pinyon Flat Ob**	**17.21**	**332**	P	**Pn**	**14 33 43.9**	**-0.1**
	0.2nm,0.3s,baz=156,slow=15,SNR=48						
PFO				LR	LR	14 39 37.6	
	comp=Z,681nm,18.4s,baz=180,slow=35						
PFO	**Pinyon Flat Ob**	**17.21**	**332**	P	**P**	**14 33 45.1**	**-0.2**
	baz=17,SNR=45						
V22A	**San Miguel Ran**	**17.25**	**0**	⇑P	**P**	**14 33 47.6**	**+1.7**
	baz=17,SNR=16						
V25A	**Rancho No Teng**	**17.30**	**6**	⇓P	**P**	**14 33 46.4**	**+0.1**
	baz=18,SNR=5.4						
WUAZ	**Wupatki**	**17.31**	**348**	*e*P	**Pn**	**14 33 44.9**	**-0.3**
	39nm,1.0s						
WUAZ	**Wupatki**	**17.31**	**348**	P	**P**	**14 33 46.4**	**-0.1**
	baz=18,SNR=27						
BELC	**Belle Mtn. Jos**	**17.35**	**334**	P	**P**	**14 33 46.7**	**-0.2**
	baz=18,SNR=43						
Y34A	**Reagan Ranch,**	**17.36**	**26**	⇓P	**P**	**14 33 46.8**	**+0.1**
	baz=18						
V26A	**Tequesquite Ra**	**17.36**	**9**	⇓P	**P**	**14 33 46.6**	**-0.3**
	baz=18						
V27A	**Dan Oppiter Fa**	**17.48**	**11**	⇑P	**P**	**14 33 50.3**	**+2.1**
	baz=18						
NEE2	**Needles Airp

EDW2 **Edwards Air Fo** 18.97 331 ⇓P P 14 34 04.8 +0.3
baz=19,SNR=12
S24A **Houchin Ranch,** 19.04 4 ⇓P Pn 14 34 07.0 +0.5
baz=19
S22A **4UR Ranch, Cre** 19.08 0 ⇓P Pn 14 34 07.2 +0.2
baz=19
SHOC **Shoshone** 19.12 336 ⇓P Pn 14 34 06.7 -0.4
baz=19
S25A **Robets Cordova** 19.12 6 ⇓P Pn 14 34 08.5 +1.1
baz=19
S26A **Kim** 19.20 8 ⇑P Pn 14 34 09.0 +0.8
baz=19,SNR=8.2
SHPR **Sheep Range** 19.26 340 *eP* P 14 34 08.0 +0.1
18nm,1.0s
LRMC **Laurel Mountai** 19.33 333 ⇓P P 14 34 08.7 0.0
baz=19
U33A **Lingo Farm, Me** 19.40 22 ⇑P Pn 14 34 12.4 +2.0
baz=20
PV01 **Paradox Valley** 19.52 356 P Pn 14 34 11.6 -0.6
1um,1.2s
ARVC **Arvin** 19.57 330 ⇓P Pn 14 34 11.7 -0.8
baz=20
U34A **Anderson Ranch** 19.61 23 ⇓P Pn 14 34 13.5 +0.5
baz=20
R25A **Fountain Ranch** 19.62 6 ⇓P Pn 14 34 13.3 0.0
baz=20
R24A **Sanders Place,** 19.63 4 ⇑P Pn 14 34 14.0 +0.5
baz=20
MPMC **Manual Prospec** 19.74 334 P P 14 34 13.6 +0.4
baz=20,SNR=19
S30A **Montezuma** 19.80 15 ⇓P Pn 14 34 16.0 +0.6
baz=20
T32A **Huddler Ranch,** 19.81 19 ⇑P Pn 14 34 15.6 +0.3
baz=20
ISA **Isabella** 19.84 331 *eP* P 14 34 14.0 0.0
5.0nm,1.2s
ISA **Isabella** 19.84 331 ⇑P P 14 34 14.3 +0.2
baz=20,SNR=14
FURC **Furnace Creek,** 19.84 336 P P 14 34 14.7 +0.7
baz=20,SNR=7.9
TUL1 **Tulsa** 19.86 27 *eP* Pn 14 34 15.4 -0.6
42nm,1.3s
TUL1 **Tulsa** 19.86 27 ⇑P Pn 14 34 16.5 +0.5
baz=20
PKM **Peak Mountain** 19.87 327 ⇑P P 14 34 14.0 -0.6
baz=20
R26A **Arlington** 19.87 8 ⇓P Pn 14 34 16.4 +0.2
baz=20,SNR=7.3
R27A **Eads** 19.95 10 P Pn 14 34 17.6 +0.4
baz=20,SNR=6.7
TPNV **Topopah Spring** 20.04 338 P Pn 14 34 17.6 -0.7
baz=20,SNR=27
R28A **Tribune** 20.18 12 ⇑P Pn 14 34 19.5 -0.4
baz=20
VES **Vestal, Richgr** 20.27 330 ⇓P P 14 34 19.3 +0.6
baz=20,SNR=14
CWC **Cottonwood Cre** 20.32 333 ⇑P P 14 34 19.4 +0.1
baz=20,SNR=6.6
Q24A **Divide** 20.36 4 ⇓P Pn 14 34 21.6 -0.7
baz=21
MVU **Marysvale** 20.37 348 *eP* P 14 34 21.0 +1.0
34nm,1.3s
Q25A **Bedland, Calha** 20.39 6 ⇓P Pn 14 34 22.1 -0.4
baz=21,SNR=6.9
R29A **Marienthal** 20.40 13 ⇑P Pn 14 34 21.3 -1.0
baz=21
R30A **Dighton** 20.46 15 ⇓P Pn 14 34 22.0 -1.2
baz=21
GRAC **Grapevine Rang** 20.50 336 ⇑P P 14 34 21.8 +0.6
baz=21
R31A **Burdett** 20.66 17 ⇓P Pn 14 34 24.2 -1.2
baz=21
KSCO **Kaye Shedlock'** 20.69 10 ⇑P Pn 14 34 24.9 -0.9
baz=21
UALR **University of** 20.69 36 *eP* P 14 34 23.8 +0.6
66nm,1.4s
P23A **Jefferson** 20.73 2 ⇑P Pn 14 34 26.0 -0.6
baz=21,SNR=11
Q28A **Sharon Springs** 20.87 11 ⇑P Pn 14 34 27.0 -1.0
baz=21
Q29A **Oakley** 20.88 13 ⇑P P 14 34 26.4 +1.1
baz=21
TIN **Tinemaha** 20.90 334 ⇑P P 14 34 26.8 +1.1
baz=21,SNR=6.6
P22A **Eagle** 20.93 0 P Pn 14 34 27.5 -1.3
baz=21,SNR=12
P25A **Willow Gulch B** 20.98 6 ⇓P Pn 14 34 28.0 -1.3
baz=21
R11A **Troy Canyon, C** 21.08 341 *eP* P 14 34 28.1 +0.5
23nm,1.0s
R11A **Troy Canyon, C** 21.08 341 P P 14 34 28.5 +0.9
baz=21,SNR=38
ISCO **Idaho Springs** 21.16 3 *eP* P 14 34 28.5 -0.2
14nm,1.0s
ISCO **Idaho Springs** 21.16 3 P P 14 34 30.1 +1.5
baz=21,SNR=12
P28A **Saint Francis** 21.38 11 ⇓P P 14 34 32.4 +1.6
baz=22
TPH **Tonopah** 21.39 337 *eP* P 14 34 30.6 -0.4
30nm,1.1s
O20A **White River Ci** 21.50 357 *eP* P 14 34 31.2 -0.9
46nm,1.1s
O20A **White River Ci** 21.50 357 P P 14 34 33.6 +1.5
baz=22,SNR=19
O22A **Kremmling** 21.50 1 P P 14 34 33.5 +1.3
baz=22,SNR=16
O24A **Longmont** 21.52 4 ⇑P P 14 34 34.0 +1.8
baz=22
O23A **Lake Granby, G** 21.56 2 P P 14 34 34.6 +1.7
baz=22,SNR=17
P30A **Selden** 21.67 14 ⇓P P 14 34 35.9 +2.1
baz=22
O26A **Horse Wrangler** 21.80 7 ⇑P P 14 34 36.7 +1.4
baz=22
O27A **Beecher Island** 21.86 9 ⇓P P 14 34 37.6 +1.7
baz=22
O28A **Krutsinger Ran** 21.92 11 ⇑P P 14 34 38.6 +2.1
baz=22
NV11 **Mina Array Sit** 22.06 336 *eP* P 14 34 38.3 +0.2
NVAR **Mina Array Bea** 22.11 336 P P 14 34 39.2 +0.5
NVAR **Mina Array Bea** 22.11 336 P P 14 34 39.2 +0.5
8.5nm,1.0s,baz=153,slow=10,SNR=47
NVAR LR LR 14 42 30.5
comp=Z,284nm,18.8s,baz=210,slow=35
DUG **Dugway** 22.12 348 *eP* P 14 34 39.7 +1.0
51nm,1.3s
DUG **Dugway** 22.12 348 P P 14 34 40.2 +1.5
baz=22,SNR=13
N22A **Wattenberg Ran** 22.14 1 ⇓P P 14 34 40.7 +1.6
baz=22,SNR=9.6
N20A **Spence Gulch,** 22.20 357 P P 14 34 40.5 +0.9
baz=22,SNR=17
HBAR **Harrisburg** 22.20 37 P P 14 34 41.2 +1.7
N24A **Carr** 22.23 4 ⇑P P 14 34 41.3 +1.3
baz=22
N23A **Red Feather La** 22.25 2 P P 14 34 41.5 +1.3
baz=22,SNR=11
N25A **Grover** 22.28 6 ⇓P P 14 34 42.0 +1.5
baz=22
WAKR **Walker** 22.63 334 *eP* P 14 34 44.9 +0.5
32nm,1.1s
M23A **Laramie** 22.82 2 ⇑P P 14 34 47.2 +0.9
baz=23
M24A **Cheyenne** 22.87 4 ⇑P P 14 34 47.5 +0.7
baz=23,SNR=6.7
LRAL **Lakeview Retre** 22.94 47 *eP* P 14 34 50.2 +2.9
18nm,1.0s
ELK **Elko** 23.20 344 P P 14 34 44.9 -5.4
ELK **Elko** 23.20 344 P P 14 34 44.9 -5.4
8.7nm,1.0s,baz=285,slow=0.1,SNR=30
L22A **Ellis Ranch, M** 23.37 1 ⇓P P 14 34 52.8 +1.0
baz=24,SNR=5.9
L23A **Garrett** 23.47 2 ⇑P P 14 34 53.2 +0.3
baz=24,SNR=7.1
BMN **Battle Mountai** 23.50 340 *eP* P 14 34 53.4 +0.3
40nm,1.4s
K21A **Alcova** 23.97 359 ⇑P P 14 34 58.0 +0.4
baz=24,SNR=8.3
K22A **Casper** 23.99 1 *eP* P 14 34 57.9 +0.2
24nm,1.3s
K22A **Casper** 23.99 1 ⇓P P 14 34 58.1 +0.4
baz=24,SNR=6.7
K23A **Bowen Ranch, D** 24.11 2 ⇑P P 14 34 59.6 +0.8
baz=24
BEKR **Beckworth** 24.17 334 *eP* P 14 34 58.9 -0.6
PDAR **Pinedale Array** 24.20 355 P P 14 34 59.1 -0.7
PDAR **Pinedale Array** 24.20 355 P P 14 34 59.1 -0.7
2.9nm,0.8s,baz=167,slow=8.3,SNR=22
PDAR LR LR 14 43 53.1
comp=Z,386nm,20.1s,baz=190,slow=35
WVT **Waverly** 24.27 40 *eP* P 14 35 00.6 +0.4
27nm,1.4s
J19A **Crowheart** 24.66 356 ⇓P P 14 35 04.5 +0.7
baz=25,SNR=11
J20A **Shoshoni** 24.70 358 ⇑P P 14 35 04.6 +0.4
baz=25
J22A **Midwest** 24.75 1 ⇓P P 14 35 04.7 +0.1
baz=25
J26A **Sides Ranch, S** 24.86 7 ⇓P P 14 35 06.4 +0.9
baz=25
J25A **Sunshine Ranch** 24.86 5 ⇑P P 14 35 06.8 +1.2
baz=25
I21A **Big Trails, Te** 25.15 359 ⇑P P 14 35 08.8 +0.6
baz=25,SNR=18
J28A **Allard Ranch,** 25.22 10 ⇑P P 14 35 09.4 +0.6
baz=25
I22A **9 Mile Ranch,** 25.23 1 ⇑P P 14 35 09.7 +0.8
baz=25,SNR=18
I20A **Worland** 25.30 358 ⇑P P 14 35 10.8 +1.2
baz=26,SNR=13
I19A **Meeteetse** 25.43 357 ⇓P P 14 35 11.9 +1.1
baz=26,SNR=6.0
I25A **Rochford** 25.49 5 ⇓P P 14 35 12.9 +1.5
baz=26
USIN **University of** 25.60 37 *eP* P 14 35 14.1 +1.9
21nm,0.6s
GOGA **Godfrey** 25.66 50 *eP* P 14 35 14.0 +1.2
HLID **Hailey** 25.68 347 *eP* P 14 35 13.7 +0.6
6.5nm,0.9s
HLID **Hailey** 25.68 347 P P 14 35 13.8 +0.6
baz=26,SNR=14
WVOR **Wild Horse Val** 25.76 340 *eP* P 14 35 13.9 +0.1
26nm,1.1s
I28A **Midland** 25.79 10 ⇓P P 14 35 15.8 +1.9
baz=26
H20A **Greybull** 25.83 358 ⇓P P 14 35 16.1 +1.7
baz=26,SNR=9.6
MFID **Camas Ranch** 25.86 345 *eP* P 14 35 15.5 +0.8
12nm,1.0s
MOD **Modoc** 25.88 337 *eP* P 14 35 15.3 +0.4
22nm,1.1s
H17A **Grant Village** 25.91 354 ⇓P P 14 35 16.1 +0.9
baz=26
I29A **Vivian Onida** 25.96 11 ⇑P P 14 35 16.9 +1.5
baz=26
H19A **Powell** 26.06 357 ⇑P P 14 35 16.7 +0.2
baz=26,SNR=8.7
M04C **Macdoel** 26.38 334 ⇑P P 14 35 19.8 +0.3
baz=26
G22A **Birney** 26.56 1 ⇑P P 14 35 21.0 +0.1
baz=27
G21A **Lodge Grass** 26.56 360 ⇓P P 14 35 21.1 +0.1
baz=27
G23A **Biddle** 26.56 2 ⇑P P 14 35 20.8 -0.1
baz=27
G20A **Bridger** 26.57 358 P P 14 35 21.5 +0.4
baz=27,SNR=6.1
TKL **Tuckaleechee C** 26.61 46 LR LR 14 48 28.2
comp=Z,103nm,19.3s,baz=230,slow=42
MCMT **McKenzie Canyo** 26.62 351 *eP* P 14 35 22.7 +1.0
4.3nm,1.0s
YBH **Yreka Blue Hor** 26.71 333 P P 14 35 20.9 -1.4
YBH **Yreka Blue Hor** 26.71 333 P P 14 35 20.9 -1.4
2.1nm,0.8s,baz=92,slow=7.1,SNR=4.7
YBH LR LR 14 45 31.2
comp=Z,296nm,20.6s,baz=168,slow=36
G24A **Alzada** 26.74 4 ⇑P P 14 35 23.2 +0.6
baz=27
F23A **Volborg** 27.08 2 ⇓P P 14 35 25.6 0.0
baz=27
F22A **Rosebud** 27.12 1 ⇑P P 14 35 25.9 0.0
baz=27
F20A **Billings** 27.15 358 ⇓P P 14 35 26.7 +0.4
baz=27,SNR=5.3
F24A **Ekalaka** 27.25 4 ⇑P P 14 35 27.6 +0.4
baz=27
J05D **Fort Rock, OR** 27.42 337 ⇓P P 14 35 28.9 +0.1
baz=28
LRM **Limekiln Ridge** 27.54 352 *eP* P 14 35 30.0 +0.1
64nm,1.1s
J04D **Umpqua Nationa** 27.72 336 ⇓P P 14 35 31.3 -0.2
baz=28
E19A **Rath Farm, Rou** 27.84 357 ⇑P P 14 35 33.0 +0.7
baz=28,SNR=12
E20A **Meyer Farm, Mu** 27.85 358 P P 14 35 33.5 +1.0
baz=28,SNR=12
E21A **Keefer Ranch,** 27.87 360 ⇓P P 14 35 33.1 +0.4
baz=28
HRY **Holter Researc** 28.33 353 *eP* P 14 35 37.2 +0.4
13nm,0.9s
D21A **La Casta Ranch** 28.40 360 ⇓P P 14 35 38.1 +0.8
baz=29,SNR=5.9
D20A **Manuel Ranch,** 28.44 358 P P 14 35 38.6 +0.9
baz=29,SNR=11
D22A **Cohagen** 28.49 1 ⇑P P 14 35 39.0 +0.8
baz=29,SNR=12
D24A **Glendive** 28.53 4 ⇓P P 14 35 39.0 +0.5
baz=29
D19A **Dipps Ranch,** 28.54 357 ⇑P P 14 35 39.2 +0.5
baz=29,SNR=13
I03D **Drain, OR** 28.59 335 ⇑P P 14 35 39.3 +0.3
baz=29
D26A **Manning** 28.60 6 ⇑P P 14 35 40.0 +0.9
baz=29
MSO **Missoula** 28.75 350 P P 14 35 40.9 +0.4
baz=29,SNR=11
C20A **Veseth Ranch,** 29.06 359 ⇑P P 14 35 43.8 +0.6
baz=29,SNR=23
C22A **Vida** 29.09 1 ⇓P P 14 35 43.9 +0.5
baz=29,SNR=5.8
C19A **Slack Wire Ran** 29.12 357 ⇑P P 14 35 44.2 +0.4
baz=29
C23A **Lambert** 29.17 2 ⇑P P 14 35 44.8 +0.6
baz=29,SNR=5.0
SWMT **Swartz Lake** 29.42 350 *eP* P 14 35 46.2 -0.3
7.1nm,1.1s
C26A **Wahner Farm, P** 29.43 7 ⇑P P 14 35 47.3 +0.9
baz=30
EGMT **Eagleton** 29.45 356 ⇓P P 14 35 47.2 +0.5
baz=30,SNR=6.0
B22A **Reddig Ranch S** 29.64 1 ⇓P P 14 35 49.4 +1.1
baz=30
B20A **Solberg Farm,** 29.79 359 P P 14 35 50.5 +0.9
baz=30,SNR=20
G03D **McMinnville, O** 29.83 336 ⇑P P 14 35 49.9 0.0
baz=30
B23A **Brockton** 29.84 3 ⇓P P 14 35 50.6 +0.5
baz=30
A20A **Cobblestone Ra** 30.22 359 ⇓P P 14 35 53.6 +0.1
baz=30,SNR=8.7
A19A **Klindworth Far** 30.30 358 ⇑P P 14 35 54.1 -0.1
baz=30,SNR=5.5
A21A **Bergtoll Ranch** 30.32 0 ⇓P P 14 35 54.7 +0.3
baz=30
A22A **Carney Farms,** 30.34 1 ⇑P P 14 35 54.8 +0.3
baz=30,SNR=10
A24A **Westby** 30.35 4 ⇑P P 14 35 55.4 +0.8
baz=30
A26A **Wade Farm, Ken** 30.49 6 ⇑P P 14 35 56.8 +1.0
baz=31
B30A **Myrvik Farm, E** 30.59 11 ⇑P P 14 35 57.5 +0.8
baz=31
A28A **Rude Farm, Bot** 30.72 9 ⇓P P 14 35 57.8 -0.1
baz=31
A30A **Hoffart Farm,** 31.07 11 ⇑P P 14 36 01.2 +0.3
baz=31
ULM **Lac du Bonnet** 32.80 13 P P 14 36 15.5 -0.6
ULM **Lac du Bonnet** 32.80 13 P P 14 36 15.5 -0.6
3.2nm,0.8s,baz=186,slow=9.7,SNR=5.3
ULM LR LR 14 49 22.8
comp=Z,308nm,19.4s,baz=212,slow=36
EDM **Edmonton** 34.92 353 *eP* P 14 36 34.3 -0.2
DLBC **Dease Lake** 43.25 342 P P 14 37 44.6 +0.5
DLBC **Dease Lake** 43.25 342 P P 14 37 44.6 +0.5
5.4nm,1.0s,baz=131,slow=9.3,SNR=4.6
LPAZ **La Paz** 51.57 130 P P 14 38 50.5 +0.5
LPAZ **La Paz** 51.57 130 P P 14 38 50.5 +0.5
2.0nm,0.8s,baz=315,slow=6.6,SNR=2.5
LPAZ LR LR 14 59 41.7
comp=Z,100nm,18.0s,baz=312,slow=35
INK **Inuvik** 52.45 348 P P 14 38 54.7 -0.4
INK **Inuvik** 52.45 348 P P 14 38 54.7 -0.4
7.0nm,1.0s,baz=148,slow=7.2,SNR=6.7
ILAR **Eielson Array** 53.28 340 P P 14 39 00.9 -0.4
ILAR **Eielson Array** 53.28 340 P P 14 39 00.9 -0.4
2.4nm,0.9s,baz=140,slow=6.4,SNR=8.3
SIV **San Ignacio** 56.73 124 LR LR 15 00 41.4
comp=Z,167nm,18.5s,baz=261,slow=33
H03N2 **Juan Fernandez** 58.24 153 T T 15 42 53.7
baz=329,slow=76,SNR=158
H03N1 **Juan Fernandez** 58.25 152 T T 15 42 59.0
baz=329,slow=76,SNR=135
H03N3 **Juan Fernandez** 58.25 153 T T 15 42 54.9
baz=329,slow=76,SNR=178
CFAA **Coronel Fontan** 62.20 143 LR LR 15 01 22.1
comp=Z,11nm,20.7s,slow=30
RCBR **Riachuelo** 74.05 102 LR LR 15 13 55.9
comp=Z,49nm,21.4s,baz=296,slow=36
SEY **Seymchan** 78.39 333 P P 14 41 43.6 +0.7
SEY **Seymchan** 78.39 333 P P 14 41 43.6 +0.7
2.1nm,0.8s,baz=304,slow=3.6,SNR=4.8
TIXI **Tiksi** 82.43 345 P P 14 42 03.0 -1.6
2.3nm,0.4s
MJAR **Matsushiro Arr** 97.66 312 LR LR 15 17 18.2
comp=Z,69nm,21.9s,baz=175,slow=29
WRA **Warramunga Arr** 122.44 258 PKP PKPdf 14 48 38.5 -0.3
WRA **Warramunga Arr** 122.44 258 PKP PKPdf 14 48 38.5 -0.3
0.6nm,0.8s,baz=83,slow=3.0,SNR=5.1
ASAR **Alice Springs** 123.39 254 PKP PKPdf 14 48 40.0 -0.6
ASAR **Alice Springs** 123.39 254 PKP PKPdf 14 48 39.9 -0.6
0.3nm,0.7s,baz=71,slow=1.8,SNR=4.9

*IDC **04** 14:30:54.3±0.8, 6°38N×71°97W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/24, mbtmp3.9/8, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/36, Error ellipse: s-maj=18.3km s-min=16.0km az=158.0*
*FUNV **04** 14:30:57.9, 6°24N×72°18W, h1km, MW4.0*
ISC 04 14:30:57.3±2.0, 6°27N±0°06×72°16W±0°07, h11km±14km, n24, σ1§49/32, mb3.9/6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.59**	**354**	*eP*	**Pb**	**14 31 27.8**	**+0.9**
CAPV				*eS*	**Sb**	**14 31 49.2**	**+2.1**
SOCV	**Socops**	**2.38**	**33**	⇓*eP*	**Pn**	**14 31 37.0**	**+0.6**
SOCV				*eS*	**Sn**	**14 32 07.5**	**+1.9**
ROSC	**El Rosal**	**2.58**	**237**	Pn	**Pn**	**14 31 41.8**	**+2.4**
	18nm,0.3s,baz=89,slow=11,SNR=82						
ROSC				Pg	**Pg**	**14 31 45.9**	**-0.9**
	60nm,0.3s,baz=84,slow=15,SNR=81						
ROSC				Lg	Lg	14 32 24.0	
	72nm,0.3s,baz=72,slow=20,SNR=5.9						
ROSC				LR	LR	14 32 47.5	
	comp=Z,242nm,20.1s,baz=185,slow=41						
ELOV	**Elorza**	**2.75**	**75**	*eP*	**Pn**	**14 31 43.0**	**+1.5**
ELOV				*eS*	**Sn**	**14 32 16.1**	**+1.3**
SANV	**Sanarito**	**4.13**	**39**	*eP*	**Pn**	**14 32 01.6**	**+1.1**
SANV				*eS*	**Sn**	**14 32 48.9**	**0.0**
VIRV	**Villa del Rosa**	**4.21**	**357**	*eP*	**Pn**	**14 32 01.8**	**+0.2**
QARV	**Quebrada Arrib**	**4.23**	**22**	*eP*	**Pn**	**14 32 03.1**	**+1.2**
QARV				*eS*	**Sn**	**14 32 50.2**	**-1.2**
CURV	**Curarigua**	**4.31**	**30**	*eP*	**Pn**	**14 32 04.2**	**+1.2**
TEPV	**Terepaima**	**4.70**	**38**	*eP*	**Pn**	**14 32 09.7**	**+1.4**
DABV	**Dabajuro**	**4.86**	**18**	*eP*	**Pn**	**14 32 11.4**	**+0.9**
DABV				*eS*	**Sn**	**14 33 04.6**	**-2.3**
BAUV	**El Baul**	**4.87**	**57**	*eP*	**Pn**	**14 32 10.2**	**-0.4**
BAUV				*eS*	**Sn**	**14 33 04.8**	**-2.3**
MAPV	**Macapo**	**5.09**	**46**	*eP*	**Pn**	**14 32 14.2**	**+0.5**
TURV	**Turiamo**	**5.96**	**46**	*eP*	**Pn**	**14 32 25.9**	**+0.3**
MONV	**Montecano**	**6.05**	**21**	*eP*	**Pn**	**14 32 26.8**	**0.0**
MONV				*eS*	**Sn**	**14 33 33.8**	**-2.3**
CUPV	**Cœpira**	**7.34**	**59**	*eP*	**Pn**	**14 32 44.3**	**-0.4**
PTGA	**Pitinga**	**14.02**	**119**	Pn	Pn	14 34 12.4	-3.6
	1.2nm,0.3s,baz=315,slow=21,SNR=8.1						
PTGA				Sn	Sn	14 36 43.2	-8.7
	1.9nm,0.3s,baz=329,slow=22,SNR=4.9						
PTGA				Lg	Lg	14 38 17.4	
	5.4nm,0.3s,baz=11,slow=24,SNR=7.2						
LPAZ	**La Paz**	**22.77**	**170**	P	**P**	**14 36 00.1**	**-0.5**
	8.8nm,0.7s,baz=350,slow=9.1,SNR=33						
SIV	**San Ignacio**	**24.69**	**154**	P	**P**	**14 36 17.8**	**-0.9**
	2.8nm,0.8s,baz=337,slow=15,SNR=6.8						
TXAR	**Lajitas Array**	**37.54**	**311**	P	**P**	**14 38 11.4**	**-0.5**
	0.5nm,0.7s,baz=119,slow=9.4,SNR=3.1						
NVAR	**Mina Array Bea**	**52.55**	**314**	P	**P**	**14 40 11.1**	**-0.2**
	0.1nm,0.4s,baz=119,slow=7.3,SNR=2.0						
YKA	**Yellowknife Ar**	**64.11**	**340**	P	**P**	**14 41 30.0**	**-1.4**
	1.0nm,0.7s,baz=129,slow=6.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**72.91**	**78**	P	**P**	**14 42 26.3**	**-1.0**
	0.9nm,1.0s,baz=284,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**149.55**	**233**	PKPbc	**PKPdf**	**14 50 45.2**	**+1.8**
	1.3nm,0.7s,baz=115,slow=3.0,SNR=18						
WRA	**Warramunga Arr**	**150.90**	**240**	PKPbc	**PKPdf**	**14 50 48.7**	**+3.2**
	1.4nm,0.8s,baz=109,slow=2.6,SNR=11						

IDC 04 14:57:05.5±2.3, 1°91N×99°08E, h131km±5km, mb3.4/5, mb1 3.6/6, mb1mx3.3/24, mbtmp3.4/6, MS3.8/2, Ms1 3.8/2, ms1mx3.2/19, Error ellipse: s-maj=94.3km s-min=15.8km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.90**	**350**	P	Pn	14 57 28.0	+0.2
	29nm,0.3s,baz=167,slow=14,SNR=102						
PSI				S	Sn	14 57 43.9	-0.8
	8.5nm,0.3s,baz=275,slow=16,SNR=41						
CMAR	**Chiang Mai Arr**	**16.45**	**360**	P	P	15 00 49.8	+0.6
	0.4nm,0.3s,baz=190,slow=11,SNR=21						
WRA	**Warramunga Arr**	**40.84**	**124**	P	P	15 04 35.0	+0.2
	3.7nm,0.5s,baz=302,slow=9.1,SNR=45						
ASAR	**Alice Springs**	**42.35**	**129**	P	P	15 04 46.3	-0.7
	0.2nm,0.3s,baz=300,slow=7.5,SNR=11						
JNU	**Nakatsue**	**43.05**	**40**	LR	LR	15 23 59.0	
	comp=Z,91nm,20.4s,baz=288,slow=38						
SONM	**Songino Array**	**46.18**	**7**	P	P	15 05 17.4	+0.1
	0.4nm,0.9s,baz=188,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**47.04**	**344**	P	P	15 05 23.6	-0.2
	0.6nm,0.4s,baz=158,slow=8.3,SNR=31						
STKA	**Stephens Creek**	**52.46**	**134**	LR	LR	15 31 46.3	
	comp=Z,129nm,19.0s,baz=24,slow=40						
ZALV	**Zalesovo Beam**	**53.18**	**350**	P	P	15 06 09.5	-0.4
	0.9nm,0.4s,baz=172,slow=5.7,SNR=5.8						

*ISCJB **04** 14:58:41.6±0.3, 6°82N±0°04×73°04W±0°04, h168km±4km, mb3.6/8, Error ellipse: s-maj=8.0km s-min=4.6km az=40.9*
*FUNV **04** 14:58:41.9, 6°74N×73°17W, h174km, MW4.1*
*IDC **04** 14:58:42.4±1.9, 6°71N×72°92W, h166km±19km, mb3.4/8, mb1 3.8/9, mb1mx3.5/22, mbtmp3.5/9, Error ellipse: s-maj=26.8km s-min=19.7km az=67.0*
*NEIC **04** 14:58:43.0, 6°79N×73°09W, h152km, mb4.3/1, After RSNC.*
NEIC Felt at Cucuta.
ISC 04 14:58:42.5±0.7, 6°80N±0°04×73°03W±0°05, h163km±6km, n40, σ1§04/48, mb3.6/8, 7C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUSC	**La Rusia**	**0.86**	**183**	*i* P	**Pn**	**14 59 08.1**	**0.0**
RUSC				*eS*	**Sn**	**14 59 26.4**	**-1.4**
CAPV	**Capacho**	**1.28**	**34**	⇑*iP*	**Pn**	**14 59 12.1**	**+0.9**
CAPV				*eS*	**Sn**	**14 59 34.4**	**+1.1**
OCAC	**Ocana**	**1.46**	**349**	*i* P	**Pn**	**14 59 12.5**	**-0.4**
OCAC				*eS*	**Sn**	**14 59 34.8**	**-1.5**
CHIC	**Chingaza**	**2.26**	**198**	*i* P	**Pn**	**14 59 21.7**	**-0.1**
ROSC	**El Rosal**	**2.32**	**214**	P	**Pn**	**14 59 23.8**	**+1.3**
	154nm,0.3s,baz=81,slow=20,SNR=276						
ROSC				S	**Sn**	**14 59 53.7**	**+0.1**
	131nm,0.3s,baz=79,slow=20,SNR=8.7						
HELC	**Santa Helena**	**2.56**	**258**	*eP*	**Pn**	**14 59 24.1**	**-1.3**
SOCV	**Socops**	**2.62**	**55**	⇑*eP*	**Pn**	**14 59 26.1**	**+0.5**
SOCV				*eS*	**Sn**	**14 59 58.8**	**-0.4**
SDV	**Santo Domingo**	**3.16**	**49**	*eP*	**Pn**	**14 59 33.3**	**+0.7**
TOLC	**Tolima**	**3.18**	**226**	*eP*	**Pn**	**14 59 32.7**	**-0.2**
ELOV	**Elorza**	**3.53**	**87**	⇑*eP*	**Pn**	**14 59 38.1**	**+1.0**
ELOV				*eS*	**Sn**	**15 00 18.7**	**-0.8**
PRAC	**Prado**	**3.60**	**211**	*eP*	**Pn**	**14 59 37.0**	**-1.0**
VIRV	**Villa del Rosa**	**3.73**	**10**	⇑*eP*	**Pn**	**14 59 38.8**	**-0.9**
VIRV				*eS*	**Sn**	**15 00 21.6**	**-2.8**
QARV	**Quebrada Arrib**	**4.20**	**36**	⇑*iP*	**Pn**	**14 59 46.4**	**+0.6**
QARV				*eS*	**Sn**	**15 00 33.5**	**-1.7**
SANV	**Sanarito**	**4.38**	**52**	*eP*	**Pn**	**14 59 48.1**	**-0.1**
CURV	**Curarigua**	**4.41**	**43**	*eP*	**Pn**	**14 59 48.6**	**+0.1**
DABV	**Dabajuro**	**4.73**	**30**	*eP*	**Pn**	**14 59 52.7**	**+0.1**
TEPV	**Terepaima**	**4.93**	**50**	*eP*	**Pn**	**14 59 55.3**	**0.0**
SIQV	**Siquisique**	**4.98**	**40**	*eP*	**Pn**	**14 59 55.8**	**-0.2**
BAUV	**El Baul**	**5.38**	**66**	⇑*iP*	**Pn**	**15 00 00.1**	**-1.1**

MAPV	Macapo	5.44	56⇑	*e*P	Pn	15 00 01.8	-0.1
MONV	Montecano	5.95	30	*e*P	Pn	15 00 07.9	-0.8
TURV	Turiamo	6.29	54	*e*P	Pn	15 00 12.6	-0.5
BCIP	Isla Barro Col	7.14	290	*e*Pn	Pn	15 00 22.7	-1.8
CUPV	Cœpira	7.86	65	*e*P	Pn	15 00 33.0	-1.1
OTAV	Otavalo	8.47	220	*e*P	Pn	15 00 41.5	-1.1
MTDJ	Mount Denham	12.18	339	*e*P	Pn	15 01 33.5	+2.6
SDDR	Presa de Saban	12.23	8	P	P	15 01 36.0	-1.1
SAML	Samuel 2.3nm,0.6s	18.47	148	P	P	15 02 44.5	-1.5
TEIG	Tepich 7.4nm,0.4s,baz=303,slow=20,SNR=5.8	19.92	314	P	Pn	15 03 05.9	+0.7
LPAZ	La Paz	23.44	168	*e*P	P	15 03 37.9	0.0
TXAR	Lajitas Array 0.5nm,0.4s,baz=129,slow=9.8,SNR=7.7	36.54	312	P	P	15 05 33.4	+0.7
ULM	Lac du Bonnet 3.4nm,0.4s,baz=154,slow=9.4,SNR=7.5	47.34	340	P	P	15 06 59.7	0.0
PDAR	Pinedale Array 1.0nm,0.6s,baz=122,slow=8.6,SNR=9.1	48.15	324	P	P	15 07 07.0	+0.6
SCHQ	Schefferville 4.2nm,0.8s,baz=186,slow=9.2,SNR=3.7	48.16	5	P	P	15 07 06.8	+0.8
NVAR	Mina Array Bea 0.4nm,0.6s,baz=118,slow=7.2,SNR=3.7	51.56	315	P	P	15 07 33.2	+1.0
YKA	Yellowknife Ar 2.1nm,0.5s,baz=133,slow=6.8,SNR=48	63.32	340	P	P	15 08 54.2	+0.5
TORD	Torodi Ar. Bea 0.1nm,0.3s,baz=285,slow=6.6,SNR=3.4	73.66	78	P	P	15 09 57.7	-1.1
ILAR	Eielson Array 0.2nm,0.5s,baz=116,slow=4.0,SNR=4.3	77.02	335	P	P	15 10 17.2	+0.1
ASAR	Alice Springs 0.8nm,0.7s,baz=115,slow=3.7,SNR=9.3	149.17	234	PKPbc	PKPbc	15 18 12.1	-0.4
WRA	Warramunga Arr 0.6nm,0.5s,baz=107,slow=2.7,SNR=13	150.40	241	PKPbc	PKPbc	15 18 15.0	-0.5

IDC 04 15:02:40.4±1.4, 8.60S×157.49E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=36.7km s-min=14.7km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 16nm,0.3s,baz=272,slow=5.2,SNR=11	**2.56**	**109**	Pn	Pn	15 03 21.5	-1.7
HNR	 47nm,0.3s,baz=251,slow=6.9,SNR=17			Pg	Pb	15 03 27.0	-0.3
HNR	 62nm,0.3s,baz=284,slow=21,SNR=6.3			Lg	Lg	15 04 02.8	
HNR	**Honiara**	**2.56**	**109**	*e*P	Pg	15 03 36.0	+6.4
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=67,slow=9.7,SNR=8.7	**25.07**	**241**	P	P	15 08 06.2	-0.6
ASAR	**Alice Springs** 0.3nm,0.9s,baz=58,slow=10,SNR=2.9	**27.09**	**234**	P	P	15 08 24.6	-0.6
STKA	**Stephens Creek** 1.6nm,0.8s,baz=27,slow=14,SNR=3.9	**27.47**	**210**	P	P	15 08 29.4	+1.0
H11S3	**WAKE ISLAND Hy** baz=196	**28.41**	**19**	T	T	15 37 13.2	
H11S2	**WAKE ISLAND Hy** baz=196	**28.42**	**19**	T	T	15 37 21.9	
H11S1	**WAKE ISLAND Hy** baz=196	**28.43**	**19**	T	T	15 37 14.7	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=121,slow=4.5,SNR=2.6	**86.24**	**318**	P	P	15 15 24.6	+0.6

*IDC **04** 15:04:45.0±0.6, 8.39S×157.23E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.2/20, mbtmp4.1/15, ML3.3/2, Error ellipse: s-maj=17.6km s-min=14.1km az=25.0*
*ISCJB **04** 15:04:46.3±0.6, 8.36S±0.09×157.2E±0.1, h16km, mb4.1/13, Error ellipse: s-maj=15.6km s-min=12.2km az=25.8*
ISC 04 15:04:47.1±0.6, 8.4S±0.1×157.36E±0.10, h16km, n34, σ0s81/30, mb4.2/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 4.4nm,0.3s,baz=284,slow=4.3,SNR=3.3	**2.75**	**111**	Pn	Pn	15 05 30.8	+0.3
HNR	 119nm,0.3s,baz=268,slow=4.5,SNR=8.5			Pg	Pb	15 05 36.9	+1.0
HNR	 279nm,0.3s,baz=129,slow=23,SNR=7.3			Lg	Lg	15 06 17.7	
HNR	**Honiara**	**2.75**	**111**	*e*P	Pb	15 05 34.0	-1.9
CTA	**Charters Tower** 0.1nm,0.3s,baz=53,slow=18,SNR=2.7	**15.80**	**222**	Pn	Pn	15 08 29.9	+0.6
WRA	**Warramunga Arr** 5.7nm,0.8s,baz=66,slow=9.6,SNR=27	**25.04**	**240**	P	P	15 10 09.7	-1.2
WRA	 1.4nm,0.7s,baz=70,slow=2.6,SNR=14			PcP	PcP	15 13 45.9	+0.1
ASAR	**Alice Springs** 0.9nm,0.9s,baz=60,slow=9.4,SNR=7.3	**27.09**	**233**	P	P	15 10 27.4	-2.0
ASAR	 0.4nm,0.7s,baz=62,slow=2.4,SNR=5.4			PcP	PcP	15 13 50.5	+0.1
STKA	**Stephens Creek** 7.9nm,0.8s,baz=38,slow=13,SNR=20	**27.55**	**210**	P	P	15 10 34.7	+1.2
H11S3	**WAKE ISLAND Hy** baz=200,slow=77,SNR=48	**28.29**	**19**	T	T	15 39 24.0	
H11S2	**WAKE ISLAND Hy** baz=200,slow=77,SNR=55	**28.29**	**19**	T	T	15 39 16.3	
H11S1	**WAKE ISLAND Hy** baz=200,slow=77,SNR=26	**28.31**	**19**	T	T	15 39 23.9	
H11N1	**WAKE ISLAND Hy** baz=200	**29.50**	**18**	T	T	15 40 50.5	
H11N3	**WAKE ISLAND Hy** baz=200,SNR=4.1	**29.51**	**19**	T	T	15 40 59.0	
H11N2	**WAKE ISLAND Hy** baz=200	**29.52**	**18**	T	T	15 41 01.7	
MJAR	**Matsushiro Arr** 0.9nm,0.7s,baz=153,slow=7.4,SNR=3.4	**48.21**	**339**	P	P	15 13 25.6	-1.5
KSRS	**Korea Array** 1.6nm,0.9s,baz=142,slow=7.4,SNR=3.0	**53.31**	**331**	P	P	15 14 05.8	+0.3
USRK	**Ussuriysk Arra** 3.1nm,0.8s,baz=132,slow=8.5,SNR=4.5	**57.19**	**338**	P	P	15 14 32.8	-0.6
PETK	**Petropavlovsk-** 3.2nm,0.9s,baz=154,slow=8.1,SNR=4.6	**61.30**	**0**	P	P	15 15 02.1	+0.4
CMAR	**Chiang Mai Arr** 1.7nm,0.7s,baz=128,slow=5.4,SNR=11	**63.51**	**295**	P	P	15 15 17.8	+0.6
SONM	**Songino Array** 1.9nm,0.8s,baz=142,slow=6.1,SNR=14	**71.81**	**327**	P	P	15 16 09.5	+0.3
TAPN	**Taplejung** 7.0nm,0.8s	**76.14**	**301**	*e*P	P	15 16 35.3	+0.1
ODAN	**Odare** 11nm,0.8s	**76.27**	**300**	*e*P	P	15 16 35.9	0.0
RAMN	**Ramite**	**76.97**	**300**	*e*P	P	15 16 40.4	+0.5
JIRN	**Jiri** 4.8nm,0.6s	**77.52**	**301**	*e*P	P	15 16 43.2	+0.1
GUN	**Gumba**	**77.86**	**301**	*e*P	P	15 16 45.1	+0.2
PKI	**Pulchoki**	**78.16**	**300**	*e*P	P	15 16 46.4	-0.2
KKN	**Kakani** 6.8nm,0.6s	**78.33**	**301**	*e*P	P	15 16 47.6	+0.2
DMN	**Daman** 17nm,0.8s	**78.43**	**300**	*e*P	P	15 16 48.3	+0.3
GKN	**Gorkha** 14nm,0.7s	**78.94**	**301**	*e*P	P	15 16 50.5	-0.2
KOLN	**Koldanda** 12nm,0.8s	**79.76**	**300**	*e*P	P	15 16 54.9	-0.3
DANN	**Dangsing** 9.2nm,0.6s	**79.78**	**301**	*e*P	P	15 16 55.0	-0.4
MKAR	**Makanchi Array** 1.6nm,0.6s,baz=98,slow=6.1,SNR=18	**86.02**	**318**	P	P	15 17 27.0	-0.1
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=108,slow=5.8,SNR=3.1	**86.67**	**326**	P	P	15 17 29.4	-0.7
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=265,slow=4.4,SNR=3.5	**96.50**	**28**	P	P	15 18 16.3	+0.7
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=308,slow=4.4,SNR=2.1	**97.92**	**48**	P	Pdif	15 18 23.7	+0.8
GERES	**GERESS Array B** 0.1nm,0.3s,baz=48,slow=2.9,SNR=4.0	**129.47**	**330**	PKP	PKPdf	15 23 55.1	-0.3

*IDC **04** 15:10:58.0±0.6, 8.44S×157.27E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.1/20, mbtmp4.0/14, ML3.1/2, Error ellipse: s-maj=18.2km s-min=13.4km az=16.0*
ISC 04 15:11:00.3±0.6, 8.5S±0.1×157.27E±0.08, h16km, n21, σ1s00/20, mb4.0/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 15nm,0.3s,baz=252,slow=3.9,SNR=8.0	**2.81**	**110**	Pn	Pn	15 11 44.3	-0.3
HNR	 137nm,0.3s,baz=240,slow=4.5,SNR=36			Pg	Pb	15 11 49.2	-0.9
HNR	 74nm,0.3s,baz=95,slow=21,SNR=12			Lg	Lg	15 12 25.9	
PMG	**Port Moresby** 0.2nm,0.3s,baz=174,slow=19,SNR=3.2	**10.03**	**264**	Pn	Pn	15 13 23.3	-0.6
CTA	**Charters Tower** 0.2nm,0.3s,baz=33,slow=17,SNR=2.7	**15.70**	**222**	Pn	P	15 14 44.5	-0.5
WRA	**Warramunga Arr** 5.5nm,0.8s,baz=66,slow=9.9,SNR=18	**24.94**	**240**	P	P	15 16 23.1	-0.1
WRA	 0.5nm,0.7s,baz=69,slow=2.7,SNR=5.1			PcP	PcP	15 19 58.1	-0.6
ASAR	**Alice Springs** 1.3nm,0.9s,baz=66,slow=9.2,SNR=6.8	**26.99**	**233**	P	P	15 16 41.0	-0.8
STKA	**Stephens Creek** 3.8nm,0.6s,baz=42,slow=14,SNR=19	**27.46**	**210**	P	P	15 16 47.9	+2.1
H11S3	**WAKE ISLAND Hy** baz=203,slow=75	**28.38**	**19**	T	T	15 45 20.6	
H11S2	**WAKE ISLAND Hy** baz=203,slow=75	**28.38**	**19**	T	T	15 45 17.8	
H11S1	**WAKE ISLAND Hy** baz=203	**28.39**	**19**	T	T	15 45 19.6	
USRK	**Ussuriysk Arra** 2.4nm,0.9s,baz=194,slow=5.3,SNR=3.0	**57.22**	**339**	P	P	15 20 46.8	0.0
PETK	**Petropavlovsk-** 5.8nm,0.9s,baz=142,slow=7.3,SNR=3.7	**61.36**	**0**	P	P	15 21 16.1	+0.8
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=113,slow=4.4,SNR=4.0	**63.46**	**295**	P	P	15 21 29.2	-0.9
VNDA	**Vanda** 2.4nm,1.0s,baz=297,slow=2.3,SNR=3.2	**69.05**	**179**	P	P	15 22 06.0	+1.1
SONM	**Songino Array** 1.0nm,0.8s,baz=140,slow=5.1,SNR=8.9	**71.81**	**327**	P	P	15 22 23.5	+1.1
ILAR	**Eielson Array** 0.9nm,1.0s,baz=242,slow=4.9,SNR=4.1	**83.94**	**21**	P	P	15 23 27.9	-1.4
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=103,slow=5.9,SNR=6.3	**86.01**	**318**	P	P	15 23 40.0	-0.2
NVAR	**Mina Array Bea** 0.1nm,0.5s,baz=282,slow=4.5,SNR=2.9	**90.88**	**51**	P	P	15 24 05.2	+1.4
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=271,slow=4.3,SNR=2.4	**96.59**	**28**	P	P	15 24 29.4	+0.2
GERES	**GERESS Array B** 0.2nm,0.6s,baz=49,slow=1.8,SNR=2.6	**129.48**	**329**	PKP	PKPdf	15 30 08.9	+0.3
BDFB	**Brasilia** 2.6nm,0.5s,baz=185,slow=12,SNR=2.5	**145.33**	**134**	PKPbc	PKPdf	15 30 38.9	+0.2
TORD	**Torodi Ar. Bea** 0.4nm,1.0s,baz=86,slow=4.5,SNR=2.2	**155.57**	**283**	PKPab	PKPab	15 31 19.0	-1.4

IDC 04 15:16:30.0±1.1, 8.22S×157.29E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=31.9km s-min=18.0km az=26.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 18nm,0.3s,baz=242,slow=3.1,SNR=5.2	**2.88**	**115**	Pn	Pn	15 17 19.2	+1.9
HNR	 17nm,0.3s,baz=49,slow=19,SNR=3.5			Lg	Lg	15 17 60.0	
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=66,slow=9.9,SNR=5.9	**25.09**	**240**	P	P	15 21 55.4	-1.3
STKA	**Stephens Creek** 1.3nm,0.8s,baz=36,slow=12,SNR=3.8	**27.70**	**210**	P	P	15 22 21.1	+0.9
SONM	**Songino Array** 0.4nm,0.9s,baz=123,slow=5.3,SNR=2.7	**71.60**	**327**	P	P	15 27 53.5	+0.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=106,slow=5.1,SNR=3.6	**85.83**	**318**	P	P	15 29 11.7	0.0

IDC 04 15:18:49.1±1.5, 8.46S×157.27E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=44.6km s-min=18.1km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 5.3nm,0.3s,baz=249,slow=8.6,SNR=2.6	**2.82**	**110**	Pn	Pn	15 19 33.7	-1.8
HNR	 21nm,0.3s,baz=242,slow=15,SNR=3.8			Lg	Lg	15 20 19.4	
WRA	**Warramunga Arr** 1.2nm,0.9s,baz=64,slow=9.8,SNR=5.3	**24.95**	**240**	P	P	15 24 13.7	-0.8
ASAR	**Alice Springs** 0.3nm,0.8s,baz=67,slow=8.2,SNR=3.1	**27.01**	**233**	P	P	15 24 33.3	+0.2
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=112,slow=3.9,SNR=4.4	**85.98**	**318**	P	P	15 31 32.2	+0.7

*IDC **04** 15:27:34.1±4.4, 6.42S×128.98E, h285km±70km, mb3.4/1, mb1 3.6/4, mb1mx3.0/18, mbtmp4.2/4, Error ellipse: s-maj=82.9km s-min=44.2km az=95.0*
ISC 04 15:27:27.5±1.3, 5.9S±0.1×128.04E±0.10, h300km, n13, σ2s70/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak** baz=5.1,SNR=6.2	**5.11**	**56**	S	S	15 29 51.3	+1.6
MTN	**Manton Dam** baz=7.8,SNR=15	**7.60**	**156**	P	Pn	15 29 17.0	+0.8
KDU	**Kakadu** baz=8.3,SNR=6.4	**8.09**	**148**	P	Pn	15 29 22.9	+0.8
KNRA	**Kununurra** baz=10.0,SNR=12	**9.80**	**176**	P	Pn	15 29 44.4	+1.3
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=16,slow=12,SNR=14	**12.40**	**191**	P	Pn	15 30 15.7	+0.8
FITZ	 0.1nm,0.3s,baz=300,slow=20,SNR=1.8			S	S	15 32 36.8	+4.0
WRA	**Warramunga Arr** 1.2nm,0.3s,baz=338,slow=12,SNR=116	**15.29**	**157**	P	P	15 30 46.9	-1.0
WRA	 0.3nm,0.3s,baz=340,slow=21,SNR=8.4			S	S	15 33 24.2	-10
COEN	**Coen** baz=17,SNR=26	**16.94**	**120**	P	P	15 31 06.1	+0.2
QIS	**Mount Isa** baz=19,SNR=14	**18.44**	**144**	P	P	15 31 21.7	-0.3
ASAR	**Alice Springs** 1.4nm,0.3s,baz=344,slow=10,SNR=225	**18.60**	**163**	P	P	15 31 24.0	+0.4
ASAR	 0.3nm,0.3s,baz=348,slow=22,SNR=14			S	S	15 34 32.6	-7.1
WRKA	**Warakurna** baz=19,SNR=8.8	**19.09**	**179**	P	P	15 31 29.8	+1.0
XMIS	**Christmas Isla** baz=23,SNR=3.5	**22.62**	**257**	S	S	15 35 49.5	+0.8
PMBI	**Palembang** baz=23,SNR=4.8	**23.37**	**276**	S	S	15 35 57.2	-3.4
STKA	**Stephens Creek** 1.6nm,0.6s,baz=341,slow=7.3,SNR=6.5	**28.84**	**156**	P	P	15 32 57.9	-0.9

*ISCJB **04** 15:36:13.9±0.6, 8.1N±0.1×37.9W±0.1, h16km, mb3.9/9, MS3.3/2, Error ellipse: s-maj=20.1km s-min=12.5km az=32.7*
*IDC **04** 15:36:13.4±0.9, 8.19N×37.97W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, MS3.3/2, Ms1 3.3/2, ms1mx2.9/39, Error ellipse: s-maj=39.9km s-min=20.4km az=133.0*
*NEIC **04** 15:36:14.7±0.5, 8.13N×37.97W, h10km, mb4.8/2, Error ellipse: s-maj=15.6km s-min=9.8km az=121.0*
ISC 04 15:36:15.7±0.7, 8.1N±0.1×38.0W±0.1, h16km, n27, σ0s61/17, mb4.0/9, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**14.01**	**172**	P	Pn	15 39 33.4	-0.3
H05S1	**Guadeloupe/Mar** SNR=19	**23.29**	**288**	T	T	16 05 15.9	
PTGA	**Pitinga** 3.4nm,0.8s	**23.64**	**249**	*e*P	P	15 41 26.0	-0.5
H05N1	**Guadeloupe/Mar**	**23.98**	**292**	T	T	16 06 13.6	
BDFB	**Brasilia**	**25.63**	**203**	P	P	15 41 44.8	0.0
BDFB	**Brasilia** 3.0nm,0.6s,baz=34,slow=7.3,SNR=3.9	**25.63**	**203**	P	P	15 41 44.8	0.0
H10N3	**ASCENSION HYDR** baz=303,slow=75,SNR=32	**28.25**	**124**	T	T	16 11 44.0	
H10N2	**ASCENSION HYDR** baz=303,slow=75,SNR=42	**28.25**	**124**	T	T	16 11 44.2	
H10N1	**ASCENSION HYDR** baz=303,slow=75,SNR=53	**28.27**	**124**	T	T	16 11 45.5	
H10S3	**ASCENSION HYDR** baz=305,slow=75,SNR=18	**28.74**	**126**	T	T	16 12 16.4	
H10S1	**ASCENSION HYDR** baz=305,slow=75,SNR=19	**28.75**	**126**	T	T	16 12 16.8	
H10S2	**ASCENSION HYDR** baz=305,slow=75,SNR=20	**28.76**	**126**	T	T	16 12 17.9	
SAML	**Samuel** 7.1nm,1.1s	**30.32**	**237**	*e*P	P	15 42 27.1	+0.3
LPAZ	**La Paz**	**38.48**	**231**	*e*P	P	15 43 37.8	-0.2
LPAZ	**La Paz** 3.7nm,0.8s,baz=41,slow=7.1,SNR=14	**38.48**	**231**	P	P	15 43 38.6	+0.7
CPUP	**Villa Florida** comp=Z,55nm,20.6s,baz=325,slow=37	**39.08**	**208**	LR	LR	16 00 06.8	
TORD	**Torodi Ar. Bea**	**39.26**	**79**	P	P	15 43 44.7	+0.8
TORD	**Torodi Ar. Bea** 1.3nm,0.6s,baz=267,slow=8.5,SNR=14	**39.26**	**79**	P	P	15 43 44.7	+0.8
TKL	**Tuckaleechee C** comp=Z,27nm,21.5s,slow=29	**49.95**	**310**	LR	LR	16 00 04.2	
NOA	**NORSAR Array B**	**64.04**	**24**	P	P	15 46 47.7	-0.8
NOA	**NORSAR Array B** 1.5nm,0.9s,baz=201,slow=8.5,SNR=3.2	**64.04**	**24**	P	P	15 46 47.7	-0.8
AKASG	**Malin Array Be**	**69.36**	**39**	P	P	15 47 22.0	-0.6
AKASG	**Malin Array Be** 0.6nm,0.6s,baz=256,slow=6.5,SNR=5.4	**69.36**	**39**	P	P	15 47 22.0	-0.6
ARCES	**ARCESS Array B**	**73.32**	**19**	P	P	15 47 46.3	+0.1
ARCES	**ARCESS Array B** 0.8nm,0.6s,baz=248,slow=4.8,SNR=4.1	**73.32**	**19**	P	P	15 47 46.3	+0.1
YKA	**Yellowknife Ar**	**76.68**	**332**	P	P	15 48 06.4	+0.7
YKA	**Yellowknife Ar** 0.4nm,0.9s,baz=94,slow=5.4,SNR=3.7	**76.68**	**332**	P	P	15 48 06.4	+0.7

IDC 04 15:36:20.6±5.9, 7.98S×157.19E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=120.7km s-min=19.5km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 2.9nm,0.3s,baz=153,slow=4.5,SNR=1.9	**3.09**	**118**	Pn	Pn	15 37 12.8	+2.1
HNR	 9.7nm,0.3s,baz=150,slow=20,SNR=4.5			Lg	Lg	15 37 56.8	
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=64,slow=9.4,SNR=5.2	**25.12**	**239**	P	P	15 41 47.8	+0.3
ASAR	**Alice Springs** 0.6nm,0.9s,baz=64,slow=9.4,SNR=4.2	**27.23**	**232**	P	P	15 42 05.3	-1.3
STKA	**Stephens Creek** 1.4nm,0.9s,baz=17,slow=14,SNR=2.9	**27.86**	**209**	P	P	15 42 12.8	+0.7

*IDC **04** 15:40:50.9±1.6, 15.61S×177.22W, h407km±18km, mb3.7/14, mb1 3.9/16, mb1mx3.7/25, mbtmp4.4/16, Error ellipse: s-maj=37.9km s-min=9.3km az=151.0*
ISC 04 15:40:50.1±0.5, 15.6S±0.1×177.11W±0.10, h400km, n45, σ1s43/41, mb4.1/17, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 42nm,0.3s,baz=264,slow=0.6,SNR=82	**5.42**	**73**	P	Pn	15 42 17.0	+0.3
AFI	 4.0nm,0.3s,baz=24,slow=20,SNR=3.6			S	S	15 43 26.1	-0.9
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=75,slow=21,SNR=9.6	**16.84**	**245**	P	P	15 44 23.1	+0.6
URZ	**Urewera** 12nm,0.7s,baz=7.6,slow=19,SNR=10	**23.14**	**192**	P	P	15 45 19.4	-3.5
EIDS	**Eidsvold** baz=32,SNR=3.7	**31.27**	**247**	P	P	15 46 37.0	+2.0
RMQ	**Roma** baz=34,SNR=5.5	**33.55**	**246**	P	P	15 46 57.3	+2.7
MGCD	**Mangrove Creek** baz=34,SNR=6.9	**33.66**	**233**	P	P	15 46 57.0	+1.6
CTA	**Charters Tower** 18nm,0.7s,baz=90,slow=11,SNR=19	**35.12**	**257**	P	P	15 47 08.4	+0.4
PMG	**Port Moresby** 8.1nm,0.8s,baz=146,slow=18,SNR=3.3	**35.39**	**276**	P	P	15 47 10.4	+0.1
CMSA	**Cobar Meteorol** baz=38,SNR=10	**37.40**	**238**	P	P	15 47 26.2	-0.6
QLP	**Quilpie** baz=38,SNR=13	**37.55**	**247**	P	P	15 47 30.1	+1.9
COEN	**Coen** baz=39,SNR=12	**38.40**	**267**	P	P	15 47 35.8	+0.4
TOO	**Toolangi** baz=40,SNR=8.0	**39.60**	**229**	P	P	15 47 47.3	+2.4
STKA	**Stephens Creek** 5.2nm,0.8s,baz=80,slow=7.9,SNR=17	**40.85**	**239**	P	P	15 47 53.6	-1.5
QIS	**Mount Isa** baz=42,SNR=3.5	**41.36**	**257**	P	P	15 48 04.3	+5.0
ARPS	**Mount Arapiles** baz=42,SNR=5.1	**42.03**	**232**	S	S	15 53 57.2	+4.0
HTT	**Hallett** baz=44,SNR=8.2	**43.41**	**238**	P	P	15 48 15.2	-0.2
BBOO	**Buckleboo** baz=46,SNR=10	**45.63**	**239**	P	P	15 48 32.4	-0.3
WRA	**Warramunga Arr** 3.7nm,0.7s,baz=92,slow=6.6,SNR=125	**46.32**	**257**	P	P	15 48 37.1	-1.2
ASAR	**Alice Springs** 80nm,0.5s,baz=85,slow=7.8,SNR=2618	**46.46**	**252**	P	P	15 48 40.5	-0.4
ASAR	 0.8nm,0.8s,baz=82,slow=15,SNR=6.6			S	S	15 54 56.6	-3.0
KDU	**Kakadu** baz=49,SNR=8.3	**48.89**	**267**	P	P	15 48 57.6	-0.2
MTN	**Manton Dam** baz=51,SNR=6.1	**50.16**	**266**	P	P	15 49 06.8	-0.4
MTN	 baz=51,SNR=5.7			S	S	15 56 05.4	+17
WRKA	**Warakurna** baz=52,SNR=127	**51.77**	**250**	P	P	15 49 18.7	-0.3
KNRA	**Kununurra** baz=52,SNR=5.4	**52.00**	**262**	P	P	15 49 25.3	+4.6
FORT	**Forrest** baz=53,SNR=16	**52.14**	**243**	P	P	15 49 21.0	-0.6
FITZ	**Fitzroy Crossi** 8.0nm,0.7s,baz=115,slow=8.6,SNR=21	**54.67**	**259**	P	P	15 49 44.3	+4.4
MEEK	**Meekatharra** baz=61,SNR=5.6	**60.43**	**248**	P	P	15 50 18.8	-0.8
PETK	**Petropavlovsk-** 2.1nm,0.9s,baz=152,slow=7.4,SNR=2.7	**71.79**	**344**	P	P	15 51 29.9	-0.2
YBH	**Yreka Blue Hor** 0.9nm,0.4s,baz=227,slow=2.7,SNR=7.8	**75.96**	**39**	P	P	15 51 55.8	+1.4
NVAR	**Mina Array Bea** 3.1nm,0.7s,baz=229,slow=8.7,SNR=24	**76.90**	**44**	P	P	15 52 00.4	+0.5
SEY	**Seymchan** 2.4nm,0.6s,baz=21,slow=22,SNR=9.1	**81.83**	**346**	P	P	15 52 24.9	-0.4
DLBC	**Dease Lake** 0.6nm,0.3s,baz=331,slow=24,SNR=3.4	**83.23**	**23**	P	P	15 52 32.2	-0.5
ILAR	**Eielson Array** 3.3nm,0.6s,baz=216,slow=5.5,SNR=60	**83.37**	**13**	P	P	15 52 32.4	-0.8
TXAR	**Lajitas Array** 3.2nm,0.8s,baz=224,slow=6.3,SNR=25	**83.71**	**57**	P	P	15 52 37.6	+1.8
PDAR	**Pinedale Array** 1.3nm,0.8s,baz=221,slow=4.2,SNR=9.6	**84.83**	**43**	P	P	15 52 41.6	+0.4
YKA	**Yellowknife Ar** 0.6nm,0.7s,baz=242,slow=4.3,SNR=7.6	**91.73**	**24**	P	P	15 53 12.7	-0.2
SONM	**Songino Array** 0.5nm,0.9s,baz=129,slow=3.9,SNR=3.1	**92.63**	**319**	P	P	15 53 17.1	-0.6
ARCES	**ARCESS Array B** 0.7nm,0.5s,baz=346,slow=0.5,SNR=7.8	**124.27**	**351**	PKP	PKPdf	15 59 00.8	-0.7
FINES	**FINESS Array B** 1.2nm,0.7s,baz=252,slow=2.8,SNR=4.3	**131.30**	**345**	PKP	PKPdf	15 59 15.2	+0.2
MLR	**Muntele Rosu** 1.0nm,0.7s	**144.46**	**332**	PKP	PKPbc	15 59 39.0	-0.3
VRAC	**Vranov** 3.8nm,0.8s	**144.57**	**344**	PKP	PKPbc	15 59 39.7	+0.3
GERES	**GERESS Array B** 1.1nm,0.6s,baz=28,slow=3.2,SNR=11	**145.68**	**347**	PKPbc	PKPdf	15 59 42.8	+1.0
MMAI	**M

OJGS	**Djebel Guires**	**0.64**	**86**	P		Pg	15 47 14.0	-10
OKGL	**Djebel Kef Gue**	**0.80**	**43**	P		Pg	15 47 14.0	-13
OKGL	**Djebel Kef Gue**	**0.80**	**43**	P		Pg	15 47 14.0	-13
OKGL	**Djebel Kef Gue**	**0.80**	**43**	P		Pg	15 47 14.0	-13
EANR	**'Ain N'Sour**	**1.04**	**62**	P		**Pb**	**15 47 32.6**	**+0.4**
EANR	**'Ain N'Sour**	**1.04**	**62**	P		**Pb**	**15 47 32.6**	**+0.4**
EANR	**'Ain N'Sour**	**1.04**	**62**	P		**Pb**	**15 47 32.6**	**+0.4**
ETRT	**Tiaret**	**1.09**	**93**	P		**Pb**	**15 47 33.5**	**+0.5**
ETRT	**Tiaret**	**1.09**	**93**	P		**Pb**	**15 47 33.5**	**+0.5**
ETRT	**Tiaret**	**1.09**	**93**	P		**Pb**	**15 47 33.5**	**+0.5**
OLHC	**Oulhaca**	**1.15**	**260**	P		Pg	15 47 07.0	-27
OLHC	**Oulhaca**	**1.15**	**260**	P		Pg	15 47 07.0	-27
OLHC	**Oulhaca**	**1.15**	**260**	P		Pg	15 47 07.0	-27
ECHF	**Ech Chlef**	**1.31**	**58**	P		**Pg**	**15 47 35.0**	**-2.2**
ECHF	**Ech Chlef**	**1.31**	**58**	P		**Pg**	**15 47 35.0**	**-2.2**
ECHA	**Ech Chlef**	**1.33**	**58**	P		**Pg**	**15 47 35.0**	**-2.5**
ECHA	**Ech Chlef**	**1.33**	**58**	P		**Pg**	**15 47 35.0**	**-2.5**
EBNR	**Beni Rached**	**1.52**	**56**	P		**Pg**	**15 47 42.0**	**+0.9**
EBNR	**Beni Rached**	**1.52**	**56**	P		**Pg**	**15 47 42.0**	**+0.9**
ZAI	**Zaio**	**2.27**	**258**	P		Pg	15 47 58.0	+2.4
ZAI				S		**Sn**	**15 48 18.0**	**+0.1**
EMHD	**Djebel Mahouad**	**2.54**	**72**	P		**Pn**	**15 47 53.0**	**-0.3**
EMHD	**Djebel Mahouad**	**2.54**	**72**	P		**Pn**	**15 47 53.0**	**-0.3**
EMHD	**Djebel Mahouad**	**2.54**	**72**	P		**Pn**	**15 47 53.0**	**-0.3**
EBER	**Berja**	**2.72**	**303**	P		**Pn**	**15 47 54.8**	**-1.2**
	0.6nm,0.1s,SNR=18							
EBER				S		**Sn**	**15 48 29.0**	**-0.1**
	24nm,0.3s,SNR=6.5							
EBER	**Berja**	**2.72**	**303**	P		**Pn**	**15 47 54.8**	**-1.2**
	0.6nm,0.1s,SNR=18							
EBER				S		**Sn**	**15 48 29.0**	**-0.1**
	24nm,0.3s,SNR=6.5							
ADJB	**Djebel Djouab**	**2.91**	**75**	P		**Pn**	**15 47 58.6**	**+0.2**
ADJB	**Djebel Djouab**	**2.91**	**75**	P		**Pn**	**15 47 58.6**	**+0.2**
ADJB	**Djebel Djouab**	**2.91**	**75**	P		**Pn**	**15 47 58.6**	**+0.2**
TOU	**Touzarine**	**3.09**	**262**	P		**Pg**	**15 48 11.0**	**-0.1**
TOU				S		**Sn**	**15 48 40.0**	**+2.0**
EHUE	**Huescar**	**3.13**	**320**	P		**Pn**	**15 48 02.1**	**+0.6**
	0.6nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**15 48 37.8**	**-1.1**
	7.5nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**3.13**	**320**	P		**Pn**	**15 48 02.1**	**+0.6**
	0.6nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**15 48 37.8**	**-1.1**
	7.5nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**3.25**	**357**	P		**Pn**	**15 48 04.1**	**+1.1**
	0.1nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**15 48 38.6**	**-3.2**
	1.5nm,0.2s,SNR=8.7							
EBEN	**Beniarda**	**3.25**	**357**	P		**Pn**	**15 48 04.1**	**+1.1**
	0.1nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**15 48 38.6**	**-3.2**
	1.5nm,0.2s,SNR=8.7							
EQUE	**Quentar**	**3.26**	**303**	P		**Pn**	**15 48 03.9**	**+0.7**
	2.9nm,0.2s,SNR=18							
EQUE				S		Sn	15 48 37.7	-4.5
	9.0nm,0.3s,SNR=4.1							
EQUE	**Quentar**	**3.26**	**303**	P		**Pn**	**15 48 03.9**	**+0.7**
	2.9nm,0.2s,SNR=18							
EQUE				S		Sn	15 48 37.7	-4.5
	9.0nm,0.3s,SNR=4.1							
ECOG	**Cogollos-Vega**	**3.38**	**304**	P		**Pn**	**15 48 06.4**	**+1.4**
	3.6nm,0.2s,SNR=4.0							
ECOG	**Cogollos-Vega**	**3.38**	**304**	P		**Pn**	**15 48 06.4**	**+1.4**
	3.6nm,0.2s,SNR=4.0							
EQES	**Quesada**	**3.38**	**315**	P		**Pn**	**15 48 06.1**	**+1.1**
	3.9nm,0.1s,SNR=638							
EQES				S		**Sn**	**15 48 45.8**	**+0.5**
	76nm,0.4s,SNR=5.1							
EQES	**Quesada**	**3.38**	**315**	P		**Pn**	**15 48 06.1**	**+1.1**
	3.9nm,0.1s,SNR=638							
EQES				S		**Sn**	**15 48 45.8**	**+0.5**
	76nm,0.4s,SNR=5.1							
ETOB	**Tobarra**	**3.41**	**340**	P		**Pn**	**15 48 05.9**	**+0.7**
	0.4nm,0.1s,SNR=80							
ETOB				S		**Sn**	**15 48 43.8**	**-1.9**
	20nm,0.4s,SNR=12							
ETOB	**Tobarra**	**3.41**	**340**	P		**Pn**	**15 48 05.9**	**+0.7**
	0.4nm,0.1s,SNR=80							
ETOB				S		**Sn**	**15 48 43.8**	**-1.9**
	20nm,0.4s,SNR=12							
EIBI	**Ibiza**	**3.73**	**17**	P		**Pn**	**15 48 11.4**	**+1.8**
	1.1nm,0.1s,SNR=21							
EIBI				S		**Sn**	**15 48 53.5**	**-0.1**
	6.0nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**3.73**	**17**	P		**Pn**	**15 48 11.4**	**+1.8**
	1.1nm,0.1s,SNR=21							
EIBI				S		**Sn**	**15 48 53.5**	**-0.1**
	6.0nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**3.74**	**329**	P		**Pn**	**15 48 10.2**	**+0.3**
	1.9nm,0.1s,SNR=6.5							
EVIA				S		**Sn**	**15 48 53.4**	**-0.7**
	65nm,0.3s,SNR=8.6							
EVIA	**Vianos**	**3.74**	**329**	P		**Pn**	**15 48 10.2**	**+0.3**
	1.9nm,0.1s,SNR=6.5							
EVIA				S		**Sn**	**15 48 53.4**	**-0.7**
	65nm,0.3s,SNR=8.6							
EMIJ	**Mijas**	**4.00**	**287**	P		Pn	15 48 10.5	-2.9
	0.2nm,0.1s,SNR=4.0							
EMIJ				S		Sn	15 48 53.7	-6.7
	1.7nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.00**	**287**	P		Pn	15 48 10.5	-2.9
	0.2nm,0.1s,SNR=4.0							
EJIF	**Jimena Fronter**	**4.52**	**284**	P		**Pn**	**15 48 21.0**	**+0.5**
	8.0nm,0.4s,SNR=7.9							
EJIF	**Jimena Fronter**	**4.52**	**284**	P		**Pn**	**15 48 21.0**	**+0.5**
	8.0nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**4.54**	**308**	P		Pn	15 48 24.2	+3.4
	0.3nm,0.1s,SNR=4.0							
EADA				S		**Sn**	**15 49 12.5**	**-1.2**
	6.0nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**4.54**	**308**	P		Pn	15 48 24.2	+3.4
	0.3nm,0.1s,SNR=4.0							
EADA				S		**Sn**	**15 49 12.5**	**-1.2**
	6.0nm,0.4s,SNR=7.9							
MDT	**Midelt**	**4.62**	**237**	Pn		**Pn**	**15 48 20.7**	**-1.3**
	0.7nm,0.3s,baz=189,slow=12,SNR=6.5							
MDT				Pg		**Pb**	**15 48 33.0**	**-0.3**
	1.3nm,0.3s,baz=66,slow=19,SNR=11							
MDT				Lg		Lg	15 49 40.0	
	3.1nm,0.3s,baz=334,slow=20,SNR=4.9							
ETOS	**Mallorca**	**4.86**	**27**	P		**Pn**	**15 48 26.1**	**+0.9**
	0.1nm,0.1s,SNR=4.0							
ETOS				S		**Sn**	**15 49 21.1**	**-0.4**
	0.9nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**4.86**	**27**	P		**Pn**	**15 48 26.1**	**+0.9**
	0.1nm,0.1s,SNR=4.0							
ETOS				S		**Sn**	**15 49 21.1**	**-0.4**
	0.9nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**4.91**	**356**	P		**Pn**	**15 48 28.2**	**+2.2**
	0.1nm,0.1s,SNR=8.3							
EMOS				S		**Sn**	**15 49 23.1**	**0.0**
	0.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.91**	**356**	P		**Pn**	**15 48 28.2**	**+2.2**
	0.1nm,0.1s,SNR=8.3							
EMOS				S		**Sn**	**15 49 23.0**	**0.0**
	0.4nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**5.24**	**325**	P		**Pn**	**15 48 31.2**	**+0.7**
	2.5nm,0.1s,baz=142,slow=13,SNR=4.0							
ESDC				S		**Sn**	**15 49 27.4**	**-3.6**
	7.8nm,0.3s,baz=142,slow=23,SNR=7.9							
ESDC	**Sonseca Array**	**5.24**	**325**	Pn		**Pn**	**15 48 31.1**	**+0.7**
	2.4nm,0.3s,baz=142,slow=13,SNR=14							
ESDC	**Sonseca Array**	**5.24**	**325**	P		**Pn**	**15 48 31.2**	**+0.7**
	2.5nm,0.1s,SNR=4.0							
ESDC				S		**Sn**	**15 49 27.4**	**-3.6**
	7.8nm,0.3s,SNR=7.9							
ETOR	**Torete**	**5.59**	**344**	P		**Pn**	**15 48 36.0**	**+0.8**
	0.5nm,0.1s,SNR=4.0							
ETOR	**Torete**	**5.59**	**344**	P		**Pn**	**15 48 36.0**	**+0.8**
	0.5nm,0.1s,SNR=4.0							
GUD	**Guadarrama**	**6.11**	**329**	P		**Pn**	**15 48 42.1**	**-0.4**
	0.2nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.11**	**329**	P		**Pn**	**15 48 42.1**	**-0.4**
	0.2nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**6.48**	**303**	P		**Pn**	**15 48 45.6**	**-1.8**
	1.4nm,0.3s,SNR=7.9							
EBAD				S		Sn	15 49 56.9	-4.4
	1.8nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**6.48**	**303**	P		**Pn**	**15 48 45.6**	**-1.8**
	1.4nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**8.80**	**334**	P		**Pn**	**15 49 20.8**	**+1.5**
	11nm,0.9s,SNR=5.7							
EARI	**Arriondas**	**8.80**	**334**	P		**Pn**	**15 49 20.8**	**+1.5**
	11nm,0.9s,SNR=5.7							
GERES	**GERESS Array B**	**16.77**	**33**	Pn		**Pn**	**15 51 07.8**	**+0.8**
	0.0nm,0.3s,baz=215,slow=9.6,SNR=4.6							
GERES				Lg		Lg	15 56 00.9	
	1.3nm,0.3s,baz=33,slow=28,SNR=9.1							
TORD	**Torodi Ar. Bea**	**22.27**	**176**	P		**P**	**15 52 08.1**	**-1.2**
	0.7nm,0.6s,baz=354,slow=11,SNR=5.0							
AKASG	**Malin Array Be**	**26.02**	**45**	P		**P**	**15 52 43.3**	**-1.8**
	0.2nm,0.3s,baz=242,slow=11,SNR=4.5							
FINES	**FINESS Array B**	**30.83**	**24**	P		**P**	**15 53 27.5**	**-0.3**
	3.7nm,1.0s,baz=228,slow=15,SNR=2.7							
ZALV	**Zalesovo Beam**	**59.39**	**43**	P		**P**	**15 57 15.2**	**+0.8**
	0.3nm,0.4s,baz=296,slow=7.9,SNR=2.6							
MKAR	**Makanchi Array**	**60.36**	**52**	P		**P**	**15 57 22.1**	**+0.9**
	0.7nm,0.7s,baz=286,slow=6.3,SNR=9.0							

IDC 04 15:50:58.7±5.3, 15.70S×172.82W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, Error ellipse: s-maj=230.6km s-min=23.1km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.04**	**30**	Pn	Pn	15 51 32.6	-1.8
	baz=24,slow=10.0						
AFI				Sn	Sn	15 51 51.8	-8.9
	baz=41,slow=19						
DZM	**Mont Dzumac**	**20.61**	**249**	*e*LR	LR	16 00 53.1	
	141nm,26.4s						
PPT2	**Papeete2**	**22.34**	**98**	*e*LR	LR	16 01 19.0	
	105nm,23.2s						
TBI	**Tubuai**	**23.27**	**113**	*e*LR	LR	16 01 52.8	
	159nm,30.0s						
H11S2	**WAKE ISLAND Hy**	**39.51**	**329**	T	T	16 40 11.1	
	baz=143						
H11S3	**WAKE ISLAND Hy**	**39.52**	**329**	T	T	16 40 03.1	
	baz=143						
H11S1	**WAKE ISLAND Hy**	**39.52**	**329**	T	T	16 40 09.4	
	baz=143						
H11N3	**WAKE ISLAND Hy**	**40.45**	**330**	T	T	16 41 20.3	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**40.45**	**330**	T	T	16 41 14.9	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**40.47**	**330**	T	T	16 41 18.5	
	baz=156						
STKA	**Stephens Creek**	**44.38**	**240**	P	P	15 59 10.2	-1.0
	2.0nm,0.8s,baz=45,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	15 59 57.5	-0.2
	0.7nm,0.7s,baz=93,slow=8.4,SNR=4.0						
ASAR	**Alice Springs**	**50.56**	**252**	P	P	15 59 59.5	+0.1
	1.2nm,0.6s,baz=89,slow=7.4,SNR=8.6						
ILAR	**Eielson Array**	**82.63**	**11**	P	P	16 03 24.6	+1.1
	0.5nm,1.1s,baz=207,slow=7.1,SNR=4.0						

*IDC **04** 15:51:02.9±1.0, 10.85S×119.24E, h0km, mb4.1/4, mb1 3.8/7, mb1mx3.6/20, mbtmp3.8/7, ML3.3/3, Error ellipse: s-maj=55.9km s-min=19.2km az=60.0*
*ISCJB **04** 15:51:03.3±0.4, 11.50S±0.04×118.64E±0.03, h26km, mb4.0/4, Error ellipse: s-maj=6.0km s-min=3.9km az=37.6*
*AUST **04** 15:51:03.4, 11.49S×118.43E, h0km*
*DJA **04** 15:51:09.7±1.0, 11.5S±8.1×11.9E±.1, h69km±27km, M4.4/8, mb4.3/2, mB5.0/1, MLv4.4/8, Mw(mB)4.3/1*

ISC 04 15:51:05.4±0.6, 11.56S±0.05×118.70E±0.05, h26km, n27, σ28.12/32, mb4.2/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.45**	**40**	P	**Pn**	**15 51 43.2**	**-0.6**
WSI				S	**Sn**	**15 52 11.2**	**-1.7**
WSI	**Waingapu**	**2.45**	**40**	P	**Pn**	**15 51 43.6**	**-0.1**
	baz=2.6,SNR=5.6						
LBFI	**Labuhan Bajo,**	**3.28**	**21**	P	x	15 51 54.6	
MTNI	**Mataram**	**3.83**	**319**	P	x	15 52 05.7	
DNP	**Denpasar**	**4.47**	**310**	P	Pn	15 52 17.3	+5.8
DNP				S	**Sn**	**15 53 00.3**	**-2.4**
MMRI	**Maumere**	**4.54**	**51**	P	**Pn**	**15 52 12.0**	**-0.5**
MMRI				S	Sn	15 52 58.1	-6.4
SRBI	**Singaraja**	**4.87**	**315**	P	**Pn**	**15 52 18.6**	**+1.6**
SRBI				S	**Sn**	**15 53 11.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**5.43**	**304**	P	**Pn**	**15 52 23.1**	**-1.6**
	baz=5.2,SNR=26						
JAGI				S	Sn	15 53 20.2	-6.1
	baz=5.2,SNR=6.6						
SOEI	**Soe**	**5.76**	**72**	P	**Pn**	**15 52 31.0**	**+1.6**
	baz=6.0,SNR=19						
GMJI	**Gumukmas**	**6.12**	**302**	P	**Pn**	**15 52 32.7**	**-1.5**
	40nm,1.5s,0.2nm						
GMJI				S	**Sn**	**15 53 41.6**	**-1.8**
	40nm,1.5s,0.2nm						
BKSI	**Bulukumba**	**6.36**	**13**	P	**Pn**	**15 52 38.7**	**+1.2**
BKSI				S	**Sn**	**15 53 46.7**	**-2.6**
UGM	**Wanagama**	**8.83**	**294**	P	**Pn**	**15 53 12.2**	**+0.7**
	baz=8.6,SNR=5.3						
UGM				S	**Sn**	**15 54 49.4**	**-0.9**
	baz=8.6,SNR=4.0						
FITZ	**Fitzroy Crossi**	**9.34**	**135**	Pn	**Pn**	**15 53 20.6**	**+2.1**
	0.2nm,0.3s,baz=357,slow=16,SNR=22						
FITZ				Sn	**Sn**	**15 54 59.5**	**-3.3**
	0.4nm,0.3s,baz=195,slow=21,SNR=3.2						
KNRA	**Kununurra**	**10.61**	**114**	P	**Pn**	**15 53 37.7**	**+2.0**
	baz=11,SNR=4.0						
GIRL	**Giralia**	**11.81**	**201**	P	**Pn**	**15 53 55.0**	**+2.7**
	baz=12,SNR=12						
GIRL				S	**Sn**	**15 56 00.6**	**-2.7**
	baz=12,SNR=4.3						
MTN	**Manton Dam**	**12.22**	**97**	P	**Pn**	**15 53 59.2**	**+1.3**
	baz=12,SNR=4.0						
MEEK	**Meekatharra**	**15.00**	**180**	P	**Pn**	**15 54 36.7**	**+1.0**
	baz=15,SNR=24						
MEEK				S	Sn	15 57 09.2	-12
	baz=15,SNR=16						
WRKA	**Warakurna**	**16.20**	**147**	P	**P**	**15 54 54.0**	**-0.3**
	baz=16,SNR=11						
WRKA				S	**Sn**	**15 57 47.7**	**-2.6**
	baz=16,SNR=3.2						
WRA	**Warramunga Arr**	**17.20**	**121**	Pn	**Pn**	**15 55 04.1**	**+0.1**
	0.1nm,0.3s,baz=296,slow=13,SNR=9.2						
WRA				Sn	Sn	15 58 07.5	-7.2
	0.1nm,0.3s,baz=297,slow=25,SNR=3.8						
MORW	**Morawa**	**17.59**	**188**	P	**P**	**15 55 10.4**	**+0.7**
	baz=18,SNR=13						
MORW				S	Sn	15 58 10.9	-13
	baz=18,SNR=10						
ASAR	**Alice Springs**	**18.82**	**132**	P	**Pn**	**15 55 26.7**	**+2.8**
	0.1nm,0.3s,baz=318,slow=12,SNR=9.7						
ASAR				S	**Sn**	**15 58 49.0**	**-5.0**
	0.1nm,0.3s,baz=308,slow=24,SNR=4.1						
BLDU	**Ballidu**	**19.05**	**185**	P	Pn	15 55 33.0	+6.4
	baz=19,SNR=6.9						
BLDU				S	Sn	15 58 46.0	-13
	baz=19,SNR=6.5						
NWAO	**Narrogin (SRO)**	**21.31**	**183**	P	P	15 55 59.0	+8.8
	6.3nm,0.5s,baz=10,slow=13,SNR=6.8						
JAY	**Jayapura**	**23.60**	**69**	P	**P**	**15 56 18.8**	**+4.3**
	baz=24,SNR=4.2						
MKAR	**Makanchi Array**	**66.59**	**334**	P	**P**	**16 01 53.0**	**-0.5**
	1.3nm,0.6s,baz=147,slow=7.7,SNR=20						
AAK	**Ala-Archa**	**67.41**	**326**	P	**P**	**16 01 58.6**	**-0.3**
	0.7nm,0.5s,baz=151,slow=10,SNR=5.5						
ZALV	**Zalesovo Beam**	**71.32**	**340**	P	**P**	**16 02 20.7**	**-1.9**
	0.7nm,0.6s,baz=159,slow=4.6,SNR=4.4						

*IDC **04** 15:52:47.9±1.4, 13.10S×166.08E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML4.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/35, Error ellipse: s-maj=37.8km s-min=22.7km az=125.0*
*ISCJB **04** 15:52:49.7±0.8, 13.02S±0.09×166.07E±0.10, h20km, mb4.0/10, MS3.9/6, Error ellipse: s-maj=15.7km s-min=10.3km az=141.9*

ISC 04 15:52:51.5±0.9, 13.0S±0.1×166.1E±0.1, h20km, n23, σ18.35/16, mb4.1/10, MS3.8/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.01**	**300**	Pn	**Pn**	**15 54 32.4**	**-0.7**
	8.7nm,0.3s,baz=127,slow=5.1,SNR=3.5						
HNR				Sn	**Sn**	**15 55 53.5**	**+1.2**
	baz=204,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**9.04**	**178**	*e*Pn	**Pn**	**15 55 01.5**	**+0.4**
	24nm,0.4s						
DZM				*e*LR	LR	15 57 01.0	
	378nm,24.5s						
DZM	**Mont Dzumac**	**9.04**	**178**	Pn	**Pn**	**15 55 02.7**	**+1.7**
	0.5nm,0.3s,baz=54,slow=19,SNR=6.3						
DZM				LR	LR	15 57 24.1	
	comp=Z,131nm,19.5s,baz=332,slow=31						
PMG	**Port Moresby**	**18.94**	**279**	P	**Pn**	**15 57 13.8**	**+1.7**
	0.2nm,0.3s,baz=280,slow=16,SNR=3.3						
CTA	**Charters Tower**	**20.30**	**247**	P	Pn	15 57 29.6	+1.2
	2.5nm,0.8s,baz=63,slow=14,SNR=2.3						
AFI	**Afiamalu**	**21.51**	**95**	LR	LR	16 04 44.2	
	comp=Z,260nm,18.4s,baz=108,slow=33						
STKA	**Stephens Creek**	**29.33**	**226**	P	**P**	**15 58 53.0**	**0.0**
	1.5nm,0.7s,baz=39,slow=8.8,SNR=5.2						
STKA				LR	LR	16 09 57.2	
	comp=Z,176nm,20.6s,baz=24,slow=35						
WRA	**Warramunga Arr**	**31.22**	**253**	P	**P**	**15 59 08.1**	**-1.8**
	0.6nm,0.8s,baz=83,slow=8.8,SNR=2.6						
ASAR	**Alice Springs**	**32.30**	**246**	P	**P**	**15 59 17.3**	**-2.1**
	1.9nm,0.8s,baz=71,slow=10.0,SNR=13						
ASAR				LR	LR	16 11 58.8	
	comp=Z,292nm,20.0s,baz=53,slow=36						
RAR	**Rarotonga**	**33.55**	**109**	LR	LR	16 11 11.6	
	comp=Z,163nm,18.8s,baz=45,slow=33						
PPT	**Papeete**	**42.91**	**102**	LR	LR	16 14 16.2	
	comp=Z,142nm,19.4s,baz=171,slow=30						
PPT2	**Papeete2**	**42.91**	**102**	*e*LR	LR	16 13 10.8	
	146nm,24.2s						
TBI	**Tubuai**	**43.29**	**110**	*e*LR	LR	16 13 22.0	
	128nm,25.8s						
MJAR	**Matsushiro Arr**	**55.85**	**333**	P	**P**	**16 02 29.1**	**+1.4**
	1.2nm,0.7s,baz=169,slow=8.7,SNR=3.9						
RKT	**Rikitea**	**56.59**	**109**	*e*LR	LR	16 19 17.1	
	395nm,33.2s						
ASAJ	**Asahikawa**	**60.73**	**341**	P	**P**	**16 03 01.0**	**-0.7**
	7.3nm,1.1s,baz=108,slow=19,SNR=5.9						
CMAR	**Chiang Mai Arr**	**73.23**	**294**	P	**P**	**16 04 22.5**	**+0.7**
	0.8nm,0.3s,baz=113,slow=5.1,SNR=9.9						
SONM	**Songino Array**	**80.44**	**324**	P	**P**	**16 05 02.6**	**+0.7**
	0.4nm,0.3s,baz=133,slow=5.5,SNR=5.0						
ILAR	**Eielson Array**	**85.22**	**18**	P	**P**	**16 05 26.9**	**+0.7**
	0.5nm,0.7s,baz=240,slow=5.8,SNR=9.5						
NVAR	**Mina Array Bea**	**86.99**	**50**	LR	LR	16 37 40.8	
	comp=Z,103nm,21.3s,baz=76,slow=31						
MKAR	**Makanchi Array**	**95.18**	**317**	P	**P**	**16 06 12.9**	**-0.7**
	0.8nm,0.7s,baz=95,slow=6.5,SNR=8.9						
ZALV	**Zalesovo Beam**	**95.33**	**324**	P	**P**	**16 06 12.5**	**-1.6**
	0.3nm,0.4s,baz=138,slow=5.2,SNR=2.7						
KEST	**Kesra**	**149.16**	**321**	PKPbc	**PKPbc**	**16 12 38.0**	**-1.2**
	1.2nm,0.8s,baz=34,slow=3.6,SNR=3.4						

*IDC **04** 15:59:15.8±0.9, 8.46S×157.27E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=23.7km s-min=14.7km az=12.0*

ISC 04 15:59:17.0±0.8, 8.8S±0.2×157.40E±0.08, h17km, n13, σ0.75/10, mb3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.59**	**104**	Pn	**Pb**	**16 00 03.4**	**+0.3**
	baz=253,slow=6.7						
HNR				Pg	**Pg**	**16 00 07.0**	**+0.2**
	baz=255,slow=8.7						
HNR				Lg	Lg	16 00 43.6	
	53nm,0.3s,baz=296,slow=23,SNR=5.1						
HNR	**Honiara**	**2.59**	**104**	*e*P	**Pg**	**16 00 06.0**	**-0.8**
CTA	**Charters Tower**	**15.56**	**223**	Pn	**P**	**16 02 59.1**	**-0.9**
	0.2nm,0.3s,baz=50,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**24.90**	**241**	P	**P**	**16 04 40.5**	**+1.1**
	4.2nm,0.9s,baz=66,slow=9.6,SNR=25						
ASAR	**Alice Springs**	**26.91**	**234**	P	**P**	**16 04 58.2**	**+0.8**
	0.7nm,0.9s,baz=65,slow=8.4,SNR=4.7						
STKA	**Stephens Creek**	**27.26**	**210**	P	P	16 05 05.5	+5.0
	2.2nm,0.6s,baz=43,slow=13,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.62**	**19**	T	T	16 33 35.3	
	baz=201,slow=77,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.62**	**19**	T	T	16 33 36.8	
	baz=201,slow=77,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.64**	**19**	T	T	16 33 35.1	
	baz=201,slow=77,SNR=7.7						
CMAR	**Chiang Mai Arr**	**63.70**	**296**	P	**P**	**16 09 47.8**	**-0.3**
	0.2nm,0.3s,baz=106,slow=5.2,SNR=2.3						
SONM	**Songino Array**	**72.13**	**327**	P	**P**	**16 10 40.9**	**+0.1**
	0.4nm,0.6s,baz=148,slow=4.8,SNR=4.2						
ILAR	**Eielson Array**	**84.18**	**21**	P	**P**	**16 11 47

George. Also felt at Central, La Verkin and Monroe.
ISC 04 16:24:02.9±1.0, 37°53N±0°02×113°07W±0°02, h6km±7km, n120, σ1§51/143, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCUT	**Cedar City**	**0.23**	**275**	*e*Pg	**Pg**	**16 24 08.6**	**+1.0**
CCUT				*e*Sg	**Sg**	**16 24 11.4**	**+0.7**
MVU	**Marysvale**	**1.19**	**35**	*e*Pg	**Pb**	**16 24 24.1**	**-2.0**
MVU				*e*Sg	**Sb**	**16 24 39.5**	**-2.2**
U15A	**North Rim** baz=1.3	**1.27**	**150**	P	**Pn**	**16 24 27.0**	**-0.4**
U15A	baz=1.3			S	**Sb**	**16 24 43.4**	**-0.6**
SHPR	**Sheep Range**	**1.96**	**239**	*e*Pn	**Pn**	**16 24 37.7**	**+0.8**
SHPR				*e*Sn	**Sb**	**16 25 02.9**	**-1.0**
R11A	**Troy Canyon, C**	**2.15**	**293**	*e*Pn	**Pn**	**16 24 39.0**	**-0.5**
R11A				*e*Sn	**Sn**	**16 25 06.8**	**+0.2**
R11A	**Troy Canyon, C** baz=2.2	**2.15**	**293**	P	**Pn**	**16 24 39.0**	**-0.5**
R11A	baz=2.2			Sb	**Sb**	**16 25 10.6**	**+1.3**
TMUT	**Trail Mountain**	**2.29**	**39**	*e*Pn	**Pn**	**16 24 41.5**	**-0.1**
TMUT				*e*Sn	**Sb**	**16 25 13.0**	**-0.6**
WUAZ	**Wupatki**	**2.43**	**145**	*e*Pn	**Pn**	**16 24 44.5**	**+1.2**
WUAZ				*e*Sn	**Sn**	**16 25 13.7**	**+0.2**
WUAZ	**Wupatki** baz=2.5	**2.43**	**145**	Pb	**Pb**	**16 24 46.9**	**-0.3**
WUAZ	baz=2.5			Sb	**Sb**	**16 25 18.2**	**+0.7**
W13A	**Hualapai Mount** baz=2.6	**2.51**	**195**	Pb	**Pb**	**16 24 49.8**	**+1.2**
W13A	baz=2.6			Sb	**Sb**	**16 25 20.9**	**+1.0**
NLU	**North Lily Min**	**2.54**	**18**	*e*Pn	**Pn**	**16 24 45.0**	**0.0**
SRU	**San Rafael**	**2.55**	**51**	*e*Pn	**Pn**	**16 24 45.6**	**+0.6**
SRU				*e*Sn	**Sn**	**16 25 17.2**	**+0.7**
TPNV	**Topopah Spring**	**2.60**	**258**	*e*Pn	**Pn**	**16 24 46.2**	**+0.5**
TPNV	**Topopah Spring** baz=2.6	**2.60**	**258**	P	**Pn**	**16 24 46.2**	**+0.5**
DUG	**Dugway** baz=2.6	**2.67**	**4**	P	**Pn**	**16 24 45.5**	**-1.2**
DUG	baz=2.6			Sb	**Sb**	**16 25 25.2**	**+0.9**
MPU	**Maple Canyon**	**2.73**	**24**	*e*Pn	**Pn**	**16 24 47.7**	**+0.2**
MPU				*e*Sn	**Sn**	**16 25 20.8**	**-0.1**
LDFC	**Landfair**	**2.95**	**215**	*e*Pn	**Pn**	**16 24 51.8**	**+1.4**
NEE2	**Needles Airpor** baz=3.1	**3.03**	**205**	P	**Pn**	**16 24 52.2**	**+0.8**
NEE2	baz=3.1			Sb	**Sg**	**16 25 39.4**	**-0.7**
SHOC	**Shoshone** baz=3.1	**3.05**	**239**	P	**Pn**	**16 24 53.3**	**+1.6**
TUQ	**Turquoise Moun** baz=3.2	**3.11**	**229**	P	**Pn**	**16 24 53.6**	**+1.0**
DAU	**Daniels Canyon**	**3.21**	**26**	*e*Pn	**Pn**	**16 24 54.8**	**+0.6**
DAU				*e*Sn	**Sn**	**16 25 32.0**	**-0.9**
FURC	**Furnace Creek,** baz=3.3	**3.21**	**252**	Pb	**Pg**	**16 25 03.3**	**-1.2**
FURC	baz=3.3			Sb	**Sg**	**16 25 44.3**	**-1.8**
TPH	**Tonopah**	**3.33**	**281**	*e*Pn	**Pn**	**16 24 57.1**	**+1.3**
TPH				*e*Sn	**Sn**	**16 25 37.1**	**+1.3**
PDMCI	**Parker Dam,Lak** baz=3.4	**3.34**	**195**	Sb	**Sg**	**16 25 47.3**	**-2.8**
X16A	**Lo Mia Camp, P** baz=3.4	**3.38**	**156**	P	**Pn**	**16 24 57.9**	**+1.6**
X16A	baz=3.4			Sb	**Sb**	**16 25 46.6**	**+2.0**
BGU	**Big Grassy Mou**	**3.39**	**1**	*e*Pn	**Pn**	**16 24 57.7**	**+1.2**
BGU				*e*Sn	**Sn**	**16 25 37.6**	**+0.4**
PV04	**Paradox Valley**	**3.41**	**74**	*e*Pn	**Pn**	**16 24 58.3**	**+1.5**
PV04				*e*Sn	**Sn**	**16 25 38.0**	**+0.5**
GMRC	**Granite Mounta** baz=3.5	**3.45**	**218**	P	**Pn**	**16 24 57.9**	**+0.5**
GRAC	**Grapevine Rang** baz=3.5	**3.47**	**263**	Sb	**Sg**	**16 25 53.5**	**-0.9**
W18A	**Petrified Fore** baz=3.6	**3.61**	**131**	P	**Pn**	**16 25 01.4**	**+1.8**
ELK	**Elko**	**3.63**	**333**	*e*Pn	**Pn**	**16 24 59.0**	**-0.9**
ELK				Pg	**Pb**	**16 25 06.4**	**-1.2**
ELK				Lg	Lg	16 25 49.5	
ELK	**Elko**	**3.63**	**333**	Pn	Pn	16 24 54.5	-5.3
ELK				Pg	**Pb**	**16 25 06.4**	**-1.2**
ELK	23nm,0.3s,baz=360,slow=22,SNR=8.0			Lg	Lg	16 25 49.5	
ELK	comp=Z,187nm,21.2s,baz=180,slow=42			LR	LR	16 26 35.6	
MVCO	**Mesa Verde**	**3.66**	**94**	*e*Pn	**Pn**	**16 25 01.7**	**+1.4**
MVCO	**Mesa Verde** baz=3.6	**3.66**	**94**	P	**Pn**	**16 25 01.0**	**+0.7**
GSC	**Goldstone**	**3.74**	**235**	*e*Pn	**Pn**	**16 25 02.9**	**+1.5**
GSC	**Goldstone** baz=3.8	**3.74**	**235**	P	**Pn**	**16 25 02.6**	**+1.2**
IRM	**Iron Mountain** baz=3.8	**3.76**	**207**	P	**Pn**	**16 25 02.5**	**+0.9**
HEC	**Hector,Ludlow** baz=3.8	**3.77**	**225**	P	**Pn**	**16 25 02.4**	**+0.7**
SPUT	**South Promonto**	**3.81**	**7**	*e*Pn	**Pn**	**16 25 03.3**	**+1.0**
SPUT				*e*Sn	**Sn**	**16 25 48.4**	**+1.0**
MPMC	**Manual Prospec** baz=3.9	**3.84**	**249**	P	**Pn**	**16 25 03.6**	**+0.9**
X18A	**Snowflake** baz=3.9	**3.92**	**139**	P	**Pn**	**16 25 05.1**	**+1.2**
Y12C	**Blythe** baz=4.0	**3.95**	**198**	P	**Pn**	**16 25 05.7**	**+1.6**
NVAR	**Mina Array Bea**	**4.23**	**284**	Pn	**Pn**	**16 25 09.3**	**+1.2**
NVAR				Pg	**Pb**	**16 25 18.2**	**+0.3**
NVAR				Lg	Lg	16 26 17.4	
NVAR	**Mina Array Bea** 1.9nm,0.3s,baz=105,slow=14,SNR=30	**4.23**	**284**	Pn	**Pn**	**16 25 09.3**	**+1.2**
NVAR	50nm,0.3s,baz=102,slow=16,SNR=138			Pg	**Pb**	**16 25 18.2**	**+0.3**
NVAR	30nm,0.3s,baz=75,slow=31,SNR=4.1			Lg	Lg	16 26 17.4	
NVAR	comp=Z,191nm,18.6s,baz=272,slow=42			LR	LR	16 26 57.5	
BELC	**Belle Mtn. Jos** baz=4.3	**4.25**	**215**	P	**Pn**	**16 25 09.2**	**+0.9**
HVU	**Hansel Valley**	**4.25**	**3**	*e*Pn	**Pn**	**16 25 07.9**	**-0.5**
HVU				*e*Sn	**Sn**	**16 25 59.5**	**+1.1**
BC3	**Big Chuckawall** baz=4.4	**4.33**	**207**	P	**Pn**	**16 25 10.5**	**+1.1**
BMN	**Battle Mountai**	**4.34**	**313**	*e*Pn	**Pn**	**16 25 10.8**	**+1.2**
BMN				*e*Sn	**Sn**	**16 26 01.6**	**+1.0**
O20A	**White River Ci**	**4.58**	**54**	*e*Pn	**Pn**	**16 25 15.2**	**+2.2**
O20A				*e*Sn	**Sn**	**16 26 07.0**	**+0.4**
O20A	**White River Ci** baz=4.5	**4.58**	**54**	P	**Pn**	**16 25 15.0**	**+2.1**
GLA	**Glamis**	**4.69**	**198**	*e*Pn	**Pn**	**16 25 15.9**	**+1.6**
GLA				*e*Sn	**Sn**	**16 26 08.8**	**-0.3**
GLA	**Glamis** baz=4.8	**4.69**	**198**	P	**Pn**	**16 25 16.0**	**+1.7**
ISA	**Isabella**	**4.73**	**248**	*e*Pn	**Pn**	**16 25 16.3**	**+1.4**
ISA				*e*Sn	**Sn**	**16 26 11.8**	**+1.7**
ISA	**Isabella** baz=4.8	**4.73**	**248**	P	**Pn**	**16 25 16.2**	**+1.4**
EDW2	**Edwards Air Fo** baz=4.8	**4.78**	**238**	P	**Pn**	**16 25 16.8**	**+1.3**
PFO	**Pinyon Flat Ob**	**4.79**	**216**	*e*Pn	**Pn**	**16 25 16.4**	**+0.7**
PFO				Pg	**Pg**	**16 25 32.1**	**-2.5**
PFO				*e*Sn	**Sn**	**16 26 10.5**	**-1.0**
PFO				Lg	Lg	16 26 36.5	
PFO	**Pinyon Flat Ob** 1.6nm,0.3s,baz=36,slow=13,SNR=14	**4.79**	**216**	Pn	**Pn**	**16 25 16.8**	**+1.1**
PFO	5.5nm,0.3s,baz=30,slow=16,SNR=18			Pg	**Pg**	**16 25 32.1**	**-2.5**
PFO	8.3nm,0.3s,baz=243,slow=8.8,SNR=6.3			Lg	Lg	16 26 36.5	
PFO	comp=Z,141nm,20.8s,baz=10.0,slow=41			LR	LR	16 27 19.8	
PFO	**Pinyon Flat Ob** baz=4.9	**4.79**	**216**	P	**Pn**	**16 25 16.8**	**+1.1**
S22A	**4UR Ranch, Cre** baz=4.9	**4.96**	**86**	P	**Pn**	**16 25 19.8**	**+1.5**
N20A	**Spence Gulch,** baz=4.9	**4.99**	**47**	P	**Pn**	**16 25 20.7**	**+2.2**
SMCO	**Snowmass**	**5.07**	**69**	*e*Pn	**Pn**	**16 25 21.4**	**+1.6**
SWSC	**Sam W. Stewart** baz=5.2	**5.09**	**207**	P	**Pn**	**16 25 20.6**	**+0.9**
WAKR	**Walker**	**5.12**	**283**	*e*Pn	**Pn**	**16 25 23.1**	**+2.8**
V22A	**San Miguel Ran** baz=5.2	**5.21**	**106**	P	**Pn**	**16 25 23.3**	**+1.7**
MWC	**Mount Wilson**	**5.22**	**232**	*e*Pn	**Pn**	**16 25 24.2**	**+2.4**
MONP	**Monument Peak** baz=5.5	**5.38**	**212**	P	**Pn**	**16 25 25.1**	**+1.2**
TUC	**Tucson**	**5.54**	**159**	*e*Pn	**Pn**	**16 25 27.9**	**+2.0**
BAR	**Barrett**	**5.67**	**212**	*e*Pn	**Pn**	**16 25 29.3**	**+1.6**
O22A	**Kremmling** baz=5.7	**5.73**	**61**	P	**Pn**	**16 25 30.2**	**+1.4**
LAZ	**Ladron** 29nm,0.4s	**5.74**	**121**	*e*Pn	**Pn**	**16 25 30.3**	**+1.5**
CMB	**Columbia Colle**	**5.82**	**277**	*e*Pg	Pg	16 25 51.4	-3.0
BW06	**Boulder Array**	**5.88**	**26**	*e*Pn	**Pn**	**16 25 31.5**	**+0.7**
PDAR	**Pinedale Array**	**5.88**	**26**	Pn	**Pn**	**16 25 31.8**	**+0.9**
PDAR				Pg	**Pb**	**16 25 48.4**	**+2.4**
PDAR	**Pinedale Array** 0.5nm,0.3s,baz=200,slow=13,SNR=20	**5.88**	**26**	Pn	**Pn**	**16 25 31.8**	**+0.9**
PDAR	2.2nm,0.3s,baz=207,slow=13,SNR=18			Pg	**Pb**	**16 25 48.4**	**+2.4**
ANMO	**Albuquerque**	**5.94**	**114**	*e*Pn	**Pn**	**16 25 32.8**	**+1.2**
ANMO				Pg	**Pg**	**16 25 54.1**	**-2.6**
ANMO				Lg	Lg	16 27 10.9	
ANMO	**Albuquerque** 2.2nm,0.3s,baz=304,slow=16,SNR=27	**5.94**	**114**	Pn	**Pn**	**16 25 33.3**	**+1.7**
ANMO	13nm,0.3s,baz=314,slow=15,SNR=22			Pg	**Pg**	**16 25 54.1**	**-2.6**
ANMO	4.7nm,0.3s,baz=41,slow=19,SNR=3.2			Lg	Lg	16 27 10.9	
LENM	**Lemitar**	**5.98**	**122**	*e*Pn	**Pn**	**16 25 34.2**	**+2.0**
SDCO	**Great Sand Dun**	**6.01**	**86**	*e*Pn	**Pn**	**16 25 34.0**	**+1.2**
PTRM	**Twissleman Ran**	**6.04**	**254**	*e*Pg	**Pg**	**16 25 55.9**	**-2.7**
W23A	**Werner Place,** baz=6.0	**6.07**	**111**	P	**Pn**	**16 25 34.7**	**+1.3**
REDW	**Red Top Meadow**	**6.07**	**16**	*e*Pn	**Pn**	**16 25 36.3**	**+2.9**
N22A	**Wattenberg Ran** baz=6.0	**6.09**	**56**	P	**Pn**	**16 25 35.4**	**+1.6**
HLID	**Hailey**	**6.11**	**351**	*e*Pn	**Pn**	**16 25 35.6**	**+1.6**
LPM	**Los Pinos Moun**	**6.13**	**120**	*e*Pg	Pg	16 25 55.9	-4.5
O23A	**Lake Granby, G** baz=6.1	**6.19**	**62**	P	**Pn**	**16 25 37.2**	**+2.0**
BNM	**Barren Site** 38nm,0.4s	**6.23**	**121**	*e*Pn	**Pn**	**16 25 34.9**	**-0.7**
ISCO	**Idaho Springs**	**6.26**	**66**	*e*Pn	Pn	16 25 44.4	+8.3
LOHW	**Long Hollow**	**6.36**	**16**	*e*Pn	**Pn**	**16 25 39.5**	**+2.1**
BSC	**Santa Cruz Isl** baz=6.4	**6.39**	**238**	P	**Pn**	**16 25 39.9**	**+2.2**
MOOW	**Moose Ponds**	**6.46**	**15**	*e*Pn	**Pn**	**16 25 41.7**	**+3.0**
N23A	**Red Feather La** baz=6.4	**6.47**	**57**	P	**Pn**	**16 25 40.3**	**+1.3**
J19A	**Crowheart** baz=6.4	**6.50**	**27**	P	**Pn**	**16 25 40.8**	**+1.5**
V24A	**Rampart Ranch,** baz=6.5	**6.53**	**104**	P	**Pn**	**16 25 40.5**	**+0.7**
W24A	**Lazy 6 Ranch,** baz=6.6	**6.60**	**108**	P	**Pn**	**16 25 41.9**	**+1.2**
121A	**Cookes Peak, D** 163nm,0.7s	**6.61**	**137**	*e*Pg	Pg	16 26 05.6	-3.9
SAO	**San Andreas Ge**	**6.73**	**266**	*e*Pg	**Pg**	**16 26 10.3**	**-1.6**
Y23A	**Lovelace Mesa,** baz=6.7	**6.74**	**120**	P	**Pn**	**16 25 44.3**	**+1.6**
K21A	**Alcova** baz=6.7	**6.77**	**39**	P	**Pn**	**16 25 44.0**	**+0.9**
FLWY	**Flagg Ranch**	**6.79**	**15**	*e*Pn	Pn	16 25 46.8	+3.5
OHCM	**Honcut**	**6.84**	**288**	*e*Pg	Pg	16 26 09.2	-4.8
PHWY	**Pilot Hill**	**7.00**	**55**	*e*Pb	Pb	16 25 58.2	-6.8
MOD	**Modoc**	**7.08**	**310**	*e*Pn	**Pn**	**16 25 49.1**	**+1.9**
J08A	**Circle Bar Ran**	**7.13**	**326**	*e*Pn	**Pn**	**16 25 50.5**	**+2.6**
K22A	**Casper**	**7.17**	**42**	*e*Pn	**Pn**	**16 25 50.2**	**+1.8**
I07A	**Izee**	**8.16**	**325**	*e*Pn	Pn	16 26 05.4	+3.4
YBH	**Yreka Blue Hor**	**8.54**	**302**	Pn	Pn	16 26 10.6	+3.4
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=126,slow=18,SNR=2.2	**8.54**	**302**	Pn	Pn	16 26 10.6	+3.4
YBH	comp=Z,135nm,19.2s,baz=108,slow=37			LR	LR	16 29 21.7	
MNTX	**Cornudas Mount** 21nm,1.0s	**8.60**	**130**	*e*Pn	**Pn**	**16 26 07.7**	**-0.3**
GDL2	**Guadalupe Moun** 2.1nm,0.5s	**8.91**	**124**	*e*P	Pn	16 26 15.6	+3.2
TXAR	**Lajitas Array**	**11.33**	**133**	Pn	Pn	16 26 50.6	+5.2
TXAR				Lg	Lg	16 30 04.6	
TXAR	**Lajitas Array** baz=330,slow=10,SNR=3.5	**11.33**	**133**	Pn	Pn	16 26 50.6	+5.2
TXAR	0.3nm,0.3s,baz=314,slow=31,SNR=5.5			Lg	Lg	16 30 04.6	
YKA	**Yellowknife Ar**	**25.01**	**358**	P	**P**	**16 29 27.2**	**-0.1**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=179,slow=9.2,SNR=4.0	**25.01**	**358**	P	**P**	**16 29 27.2**	**-0.1**
MDJ	**Mudanjiang**	**80.57**	**320**	P	**P**	**16 36 15.4**	**-0.8**
MDJ	comp=Z,5.0nm,1.5s			pmax	pmax		
MDJ	comp=Z,64nm,4.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**91.94**	**328**	*e*P	**P**	**16 37 10.3**	**-2.3**
HHC				PP	**PP**	**16 40 49.6**	**-1.4**
HHC	**Hu-ho-hao-te**	**91.94**	**328**	SKS	**SKSac**	**16 47 45.3**	**-1.0**
HHC	**Hu-ho-hao-te**	**91.94**	**328**	S	**S**	**16 48 09.8**	**-5.0**
HHC	**Hu-ho-hao-te**	**91.94**	**328**	ScS	**S**	**16 48 16.0**	**+1.2**
HHC	**Hu-ho-hao-te**	**91.94**	**328**	SS	SS	16 54 17.0	-4.5
HHC	comp=Z,11nm,0.4s			pmax	pmax		
HHC	comp=Z,260nm,5.3s			pmax	pmax		
HHC	comp=N,210nm,15.7s			LR	LR		
HHC	comp=E,190nm,12.3s			LR	LR		
HHC	comp=Z,130nm,20.6s			LR	LR		
WMQ	**Urumqi**	**96.86**	**345**	*e*P	**P**	**16 37 37.5**	**+2.5**

IDC 04 16:25:45.0±1.5, 8°40S×157°33E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=44.4km s-min=15.6km az=14.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 2.2nm,0.3s,baz=237,slow=10,SNR=7.9	**2.78**	**112**	Pn	Pn	16 26 29.0	-1.8
HNR	10nm,0.3s,baz=246,slow=4.5,SNR=8.5			Pg	Pb	16 26 34.2	-1.5
HNR	21nm,0.3s,baz=199,slow=22,SNR=6.4			Lg	Lg	16 27 15.6	
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=63,slow=9.5,SNR=5.7	**25.03**	**240**	P		16 31 09.7	-1.4
ASAR	**Alice Springs** 0.4nm,1.0s,baz=57,slow=12,SNR=2.9	**27.08**	**233**	P		16 31 30.8	+1.1
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=98,slow=4.4,SNR=2.9	**85.99**	**318**	P		16 38 28.3	+0.9

*IDC **04** 16:27:33.3±3.4, 8°56S×156°64E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, Error ellipse: s-maj=96.1km s-min=26.5km az=103.0*
ISC 04 16:27:36.5±3.7, 8°6S±0°2×156°6E±0°7, h21km, n6, σ1§14/6, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 3.0nm,0.8s,baz=60,slow=9.4,SNR=12	**24.35**	**240**	P	**P**	**16 32 53.6**	**+0.3**
ASAR	**Alice Springs** 1.2nm,0.9s,baz=65,slow=9.9,SNR=7.1	**26.43**	**233**	P	**P**	**16 33 11.8**	**-0.3**
STKA	**Stephens Creek** 1.3nm,0.5s,baz=43,slow=13,SNR=6.9	**27.07**	**209**	P	**P**	**16 33 18.1**	**+0.3**
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=125,slow=5.5,SNR=5.1	**62.93**	**296**	P	**P**	**16 38 01.8**	**-0.2**
SONM	**Songino Array** 0.4nm,0.8s,baz=106,slow=4.7,SNR=4.1	**71.54**	**327**	P	**P**	**16 38 57.5**	**+1.3**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=104,slow=6.1,SNR=3.4	**85.66**	**318**	P	**P**	**16 40 12.5**	**-1.4**

*ISCJB **04** 16:32:22.2±0.2, 25°50N±0°04×122°36E±0°03, h273km±2km, mb3.7/19, Error ellipse: s-maj=6.3km s-min=3.9km az=150.6*
*TAP **04** 16:32:22.6, 25°49N×122°46E, h281km, ML4.5, C*
*IDC **04** 16:32:22.8±2.3, 25°56N×122°36E, h269km±24km, mb3.4/18, mb1 3.4/20, mb1mx3.4/30, mbtmp4.0/20, Error ellipse: s-maj=17.6km s-min=9.0km az=68.0*
*JMA **04** 16:32:26.0±0.3, 25°46N×122°34E, h244km±4km, M4.3*
ISC 04 16:32:22.7±0.6, 25°49N±0°05×122°36E±0°04, h270km±5km, n86, σ1§03/137, mb3.7/19, 17C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=221	**0.59**	**215**	⇑*i*P	**Pn**	**16 32 59.2**	**+1.0**
TWB1	baz=221			S	**S**	**16 33 26.5**	**+0.2**
NWF	**Wu-fen Shan** baz=247	**0.67**	**232**	P	**Pn**	**16 32 59.3**	**+0.7**
NWF	baz=247			S	**S**	**16 33 26.3**	**-0.6**
TWY	**Chenhua** baz=245	**0.72**	**253**	*e*P	**Pn**	**16 32 59.8**	**+1.2**
TWY	baz=245			*e*S	**S**	**16 33 26.8**	**-0.2**
EGS	baz=206	**0.75**	**211**	P	**Pn**	**16 32 59.3**	**+0.5**
EGS	baz=206			S	**S**	**16 33 27.1**	**-0.2**
TWA	**Mucha** baz=245	**0.87**	**234**	P	**Pn**	**16 33 00.1**	**+0.8**
TWA	baz=245			S	**S**	**16 33 27.7**	**-0.5**
ILA	**Ilan** baz=227	**0.91**	**218**	*e*P	**Pn**	**16 32 59.8**	**+0.3**
TWS1	**Kuangyinshan** baz=248	**0.94**	**246**	*e*P	**Pn**	**16 33 00.5**	**+0.9**
TWS1	baz=248			*e*S	**S**	**16 33 29.1**	**+0.4**
TWC	**Suao** baz=208	**0.99**	**208**	⇑*i*P	**Pn**	**16 33 00.4**	**+0.5**
TWC	baz=208			*e*S	**S**	**16 33 27.7**	**-1.6**
ENTT	**Nioudou** baz=231	**1.11**	**221**	⇑P	**Pn**	**16 33 01.4**	**+0.9**
ENTT	baz=231			S	**S**	**16 33 29.5**	**-1.0**
YOJ	**Yonaguni jima**	**1.18**	**150**	P	**Pn**	**16 33 01.1**	**+0.2**
YOJ				*e*S	**S**	**16 33 29.4**	**-1.8**
NCU	**National Centr** baz=248	**1.19**	**244**	*e*P	**Pn**	**16 33 01.9**	**+1.0**
NCU	baz=248			*e*S	**S**	**16 33 29.9**	**-1.3**
ENA	**Nanau** baz=208	**1.20**	**208**	⇑*i*P	**Pn**	**16 33 02.0**	**+1.0**
ENA	baz=208			S	**S**	**16 33 30.6**	**-0.8**
NSK	**Sanguang** baz=231	**1.22**	**229**	P	**Pn**	**16 33 01.4**	**+0.1**
NSK	baz=231			*e*S	**S**	**16 33 30.6**	**-1.2**
NNS	**Nan Shan** baz=227	**1.38**	**221**	⇑*i*P	**Pn**	**16 33 03.1**	**+0.8**
NNS	baz=227			*e*S	**S**	**16 33 32.5**	**-1.2**
NSTT	**Nanjuang** baz=234	**1.50**	**236**	⇑*i*P	**Pn**	**16 33 03.7**	**+0.7**
NSTT	baz=234			S	**S**	**16 33 33.9**	**-1.0**
TWD	**Chiawan** baz=218	**1.57**	**207**	P	**Pn**	**16 33 03.8**	**+0.3**
TWD	baz=218			*e*S	**S**	**16 33 33.9**	**-1.9**
TWT	**Tachien** baz=227	**1.64**	**221**	*e*P	**Pn**	**16 33 05.2**	**+1.0**
TWT	baz=227			*e*S	**S**	**16 33 36.8**	**-0.3**
HWA	**Hwalien** baz=202	**1.66**	**205**	P	**Pn**	**16 33 04.9**	**+0.7**
HWA	baz=202			*e*S	**S**	**16 33 36.4**	**-0.6**
WHF	**Hehuan Shan** baz=222	**1.67**	**217**	P	**Pn**	**16 33 05.8**	**+1.0**
WHF	baz=222			*e*S	**S**	**16 33 37.0**	**-1.0**
IRIF	**Iriomote-Funau**	**1.69**	**133**	P	**Pn**	**16 33 05.0**	**+0.6**
IRIF				*e*S	**S**	**16 33 35.9**	**-1.5**
NSY	**Sanyi** baz=235	**1.81**	**234**	*e*P	**Pn**	**16 33 06.5**	**+1.2**
NSY	baz=235			*e*S	**S**	**16 33 38.6**	**-0.4**
TWQ1	**Liyutan** baz=233	**1.84**	**232**	⇑*i*P	**Pn**	**16 33 06.7**	**+1.1**
TWQ1	baz=233			S	**S**	**16 33 38.4**	**-1.2**
HATJ	**Hateruma jima**	**1.94**	**137**	P	**Pn**	**16 33 07.9**	**+1.5**
HATJ				*e*S	**S**	**16 33 39.8**	**-1.2**
JKRS	**Kuro-shima**	**1.95**	**130**	P	**Pn**	**16 33 07.8**	**+1.4**
JKRS				S	**S**	**16 33 40.1**	**-1.0**
JIJ	**Ishigaki jima**	**1.97**	**124**	P	**Pn**	**16 33 07.5**	**+0.9**
JIJ				S	**S**	**16 33 39.3**	**-2.1**
TCU	**Taichung** baz=236	**2.04**	**229**	*e*P	**Pn**	**16 33 07.9**	**+0.7**
TCU	baz=236			*e*S	**S**	**16 33 40.3**	**-2.2**
SMLT	**Sun Moon Lake** baz=228	**2.08**	**220**	⇑P	**Pn**	**16 33 08.7**	**+0.9**
SMLT	baz=228			*e*S	**S**	**16 33 42.3**	**-1.2**
TYC	**Yuchr** baz=228	**2.09**	**221**	⇑*i*P	**Pn**	**16 33 08.7**	**+1.0**
TYC	baz=228			*e*S	**S**	**16 33 42.5**	**-0.8**
EHY	**Hungye** baz=205	**2.19**	**206**	⇓*e*P	**Pn**	**16 33 08.5**	**-0.1**
WNT	**Mingjian** baz=225	**2.22**	**224**	*e*P	**Pn**	**16 33 08.8**	**0.0**
WNT	baz=225			*e*S	**S**	**16 33 44.8**	**-0.6**
JTJ	**Tarama**	**2.28**	**111**	P	**Pn**	**16 33 11.2**	**+1.8**
JTJ				S	**S**	**16 33 45.2**	**-1.2**
TWF1	**Yuli** baz=205	**2.34**	**205**	⇑*e*P	**Pn**	**16 33 09.9**	**-0.1**
YUS	**Yu-Shan** baz=213	**2.37**	**213**	P	**Pn**	**16 33 12.0**	**+1.2**
YUS	baz=213			*e*S	**S**	**16 33 48.0**	**-1.0**
ALS	**Alishan** baz=223	**2.43**	**216**	⇑*i*P	**Pn**	**16 33 12.3**	**+1.2**
ALS	baz=223			S	**S**	**16 33 48.8**	**-0.8**
CHN5	**Tsauling** baz=226	**2.43**	**219**	⇑*i*P	**Pn**	**16 33 12.1**	**+1.2**
CHN5	baz=226			*i* S	**S**	**16 33 48.0**	**-1.2**
WGK	**Gukeng** baz=227	**2.43**	**223**	P	**Pn**	**16 33 11.8**	**+0.9**
WGK	baz=227			*e*S	**S**	**16 33 48.4**	**-0.6**
CHKT	**Chengkung** baz=205	**2.55**	**201**	*e*P	**Pn**	**16 33 12.7**	**+0.8**
CHKT	baz=205			*e*S	**S**	**16 33 51.4**	**+0.3**
ELDTW	**Lidau** baz=208	**2.60**	**208**	*e*P	**Pn**	**16 33 13.8**	**+1.2**
ELDTW	baz=208			*e*S	**S**	**16 33 51.8**	**-0.5**
CHY	**Chiayi** baz=227	**2.66**	**222**	*e*P	**Pn**	**16 33 13.7**	**+0.7**
CHN4	**Tsaushan** baz=224	**2.67**	**217**	⇑*i*P	**Pn**	**16 33 14.2**	**+1.0**
CHN4	baz=224			S	**S**	**16 33 52.1**	**-1.2**
JMJ	**Miyako jima 2**	**2.74**	**104**	P	**Pn**	**16 33 15.6**	**+1.8**
JMJ				*e*S	**S**	**16 33 53.6**	**-0.8**
STYT	**Tauyuan** baz=209	**2.74**	**213**	⇑*i*P	**Pn**	**16 33 15.0**	**+1.1**
STYT	baz=209			S	**S**	**16 33 53.9**	**-0.8**
WTP	**Ta-pu** baz=223	**2.75**	**216**	P	**Pn**	**16 33 14.8**	**+0.8**
WTP	baz=223			*e*S	**S**	**16 33 53.4**	**-1.3**
TWK	**Hsinying** baz=224	**2.80**	**218**	P	**Pn**	**16 33 15.3**	**+0.8**
TWK	baz=224			*e*S	**S**	**16 33 54.5**	**-1.1**
CHN1	**Nanshi** baz=224	**2.84**	**216**	⇑*i*P	**Pn**	**16 33 15.8**	**+0.9**
CHN1	baz=224			S	**S**	**16 33 55.1**	**-1.3**
JOGS	**Gusukube**	**2.85**	**104**	P	**Pn**	**16 33 17.0**	**+2.1**
JOGS				*e*S	**S**	**16 33 55.9**

ECL	**Taimali**	**3.16**	**204**	*e*P		**Pn**	**16 33 18.4**	**+0.3**
	baz=197							
ECL				e*S*		**S**	**16 34 01.1**	**-1.2**
	baz=197							
SSD	**Sandimen**	**3.16**	**210**⇑	*i* P		**Pn**	**16 33 19.5**	**+1.3**
	baz=211							
SSD				e*S*		**S**	**16 34 00.9**	**-1.4**
	baz=211							
TWM1	**Shoushan**	**3.19**	**214**	*e*P		**Pn**	**16 33 20.1**	**+1.5**
	baz=209							
TWM1				e*S*		**S**	**16 34 04.0**	**+1.0**
	baz=209							
SGLT	**Jiouru**	**3.24**	**212**	*e*P		**Pn**	**16 33 20.3**	**+1.2**
	baz=207							
SGLT				e*S*		**S**	**16 34 02.2**	**-1.7**
	baz=207							
EAST	**Anshuo**	**3.39**	**204**	*e*P		**Pn**	**16 33 21.9**	**+1.1**
	baz=201							
EAST				e*S*		**S**	**16 34 05.9**	**-1.0**
	baz=201							
TAW	**Tawu**	**3.40**	**204**	*e*P		**Pn**	**16 33 22.4**	**+1.7**
	baz=204							
SCZT	**Fangliau**	**3.49**	**208**	*e*P		**Pn**	**16 33 22.9**	**+1.1**
	baz=203							
SCZT				e*S*		**S**	**16 34 06.6**	**-2.3**
	baz=203							
LAY	**Lan-yu**	**3.52**	**192**	*e*P		**Pn**	**16 33 23.3**	**+1.2**
	baz=189							
TWK1	**Hengchun**	**3.81**	**202**	*e*P		**Pn**	**16 33 25.2**	**-0.2**
	baz=203							
TWK1				e*S*		**S**	**16 34 14.0**	**-1.3**
	baz=203							
TSEB	**Hengchuen, Pin**	**3.82**	**201**	*e*P		**Pn**	**16 33 25.1**	**-0.3**
	baz=197							
JKE	**Kume jima 2**	**4.07**	**77**	P		**Pn**	**16 33 28.9**	**+0.7**
JJT2	**Tamagusuku 2**	**4.90**	**81**	P		**Pn**	**16 33 38.7**	**+0.8**
JOW	**Kunigami**	**5.48**	**75**	P		**Pn**	**16 33 44.6**	**-0.3**
JOW	**Kunigami**	**5.48**	**75**	P		**Pn**	**16 33 44.1**	**-0.8**
KSRS	**Korea Array**	**12.83**	**20**	P		**Pn**	**16 35 16.1**	**+0.3**
	0.2nm,0.3s,baz=198,slow=12,SNR=4.6							
MJAR	**Matsushiro Arr**	**17.46**	**47**	P		**P**	**16 36 08.9**	**+0.7**
	0.1nm,0.3s,baz=234,slow=10,SNR=2.9							
USRK	**Ussuriysk Arra**	**20.24**	**20**	P		**P**	**16 36 36.5**	**-1.2**
	0.7nm,0.4s,baz=213,slow=10,SNR=4.0							
ASAJ	**Asahikawa**	**24.81**	**36**	P		**P**	**16 37 20.9**	**+0.5**
	2.2nm,0.4s,baz=246,slow=10.0,SNR=6.7							
SONM	**Songino Array**	**25.62**	**335**	P		**P**	**16 37 27.9**	**+0.1**
	4.2nm,0.7s,baz=150,slow=9.7,SNR=39							
MKAR	**Makanchi Array**	**38.17**	**314**	P		**P**	**16 39 16.3**	**-0.1**
	1.3nm,0.5s,baz=100,slow=9.5,SNR=45							
PETK	**Petropavlovsk-**	**38.19**	**34**	P		**P**	**16 39 16.5**	**+0.1**
	2.7nm,0.9s,baz=234,slow=12,SNR=2.2							
ZALV	**Zalesovo Beam**	**39.75**	**326**	P		**P**	**16 39 28.4**	**-0.9**
	2.3nm,0.5s,baz=112,slow=8.5,SNR=13							
KURBB	**Kurchatov Arra**	**41.82**	**319**	P		**P**	**16 39 45.9**	**-0.3**
	0.6nm,0.3s,baz=114,slow=9.3,SNR=20							
WRA	**Warramunga Arr**	**46.64**	**164**	P		**P**	**16 40 25.0**	**+0.5**
	1.9nm,0.4s,baz=348,slow=8.7,SNR=39							
ASAR	**Alice Springs**	**50.13**	**166**	P		**P**	**16 40 52.4**	**+1.3**
	0.9nm,0.5s,baz=350,slow=7.2,SNR=48							
CTA	**Charters Tower**	**50.91**	**151**	P		**P**	**16 40 56.2**	**-0.6**
	2.4nm,0.8s,baz=329,slow=12,SNR=2.4							
STKA	**Stephens Creek**	**59.93**	**161**	P		**P**	**16 42 01.4**	**+0.7**
	0.9nm,0.4s,baz=326,slow=19,SNR=8.5							
ILAR	**Eielson Array**	**67.56**	**28**	P		**P**	**16 42 48.9**	**-1.0**
	0.4nm,0.8s,baz=297,slow=7.5,SNR=7.1							
JOF	**Joensuu**	**68.10**	**330**	*ep*		**P**	**16 42 53.8**	**+0.6**
	2.1nm,0.3s							
KEV	**Kevo**	**68.17**	**338**	*ep*		**P**	**16 42 53.6**	**+0.1**
	0.5nm,0.3s							
ARCES	**ARCESS Array B**	**68.73**	**338**	P		**P**	**16 42 57.5**	**+0.4**
	2.2nm,0.8s,baz=64,slow=5.6,SNR=5.0							
FINES	**FINESS Array B**	**70.86**	**330**	P		**P**	**16 43 10.2**	**+0.2**
	2.2nm,0.4s,baz=54,slow=5.6,SNR=27							
AKASG	**Malin Array Be**	**72.61**	**318**	P		**P**	**16 43 19.9**	**-0.8**
	0.5nm,0.7s,baz=58,slow=6.7,SNR=3.2							
NB2	**NORSAR Subarra**	**77.57**	**332**	P		**P**	**16 43 48.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=52,slow=5.9							
NOA	**NORSAR Array B**	**77.57**	**332**	P		**P**	**16 43 47.9**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=53,slow=6.1,SNR=3.3							
YKA	**Yellowknife Ar**	**81.35**	**23**	P		**P**	**16 44 09.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=310,slow=5.2,SNR=9.5							
GERES	**GERESS Array B**	**82.51**	**321**	P		**P**	**16 44 16.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=54,slow=5.3,SNR=4.4							

CSEM ***04*** *16:43:40.6,51.42N×16.16E,h0km, After GFU*
PRU 04 16:43:38.7,51.48N×16.20E,h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**0.98**	**187**	*e*PG	Pg	16 43 57.2	-0.3
UPC	**Upice**	**0.98**	**187**	Pg	Pg	16 43 57.2	-0.3
DPC	**Dobruska-Polom**	**1.13**	**176**	*e*PG	Pg	16 43 59.7	-0.8
DPC				e*SG*	Sg	16 44 14.5	-0.8
DPC	**Dobruska-Polom**	**1.13**	**176**	Pg	Pg	16 43 59.7	-0.8
DPC				Sg	Sg	16 44 14.5	-0.8
PVCC	**Panska Ves**	**1.40**	**228**	e*SG*	Sg	16 44 23.2	-0.6
PVCC	**Panska Ves**	**1.40**	**228**	Sg	Sg	16 44 23.2	-0.6
KRLC	**Kraliky**	**1.45**	**165**	*e*PG	Pn	16 44 06.0	-0.3
KRLC				e*SG*	Sg	16 44 25.2	-0.4
KRLC	**Kraliky**	**1.45**	**165**	Pg	Pn	16 44 06.0	-0.3
KRLC				Sg	Sg	16 44 25.2	-0.4
BRG	**Berggiesshubel**	**1.54**	**248**	PG	Pn	16 44 07.8	+0.3
BRG				SG	Sn	16 44 27.2	-1.1
	5.6nm,0.5s						
PRU	**Pruhonice**	**1.83**	**216**	e*SG*	Sb	16 44 36.4	0.0
PRU	**Pruhonice**	**1.83**	**216**	Sg	Sb	16 44 36.4	0.0
CLL	**Collm**	**2.01**	**266**	e*Sg*	Sb	16 44 42.0	+0.3
KHC	**Kasperske Hory**	**2.89**	**217**	e*SG*	Sg	16 45 12.5	+0.8
KHC	**Kasperske Hory**	**2.89**	**217**	Sg	Sg	16 45 12.5	+0.8

CSEM ***04*** *16:44:32.6,51.32N×15.98E,h0km, After GFU*
PRU 04 16:44:28.9,51.46N×16.00E,h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**163**	*e*Pg	Pg	16 44 40.0	-1.3
KSP				e*Sg*	Sg	16 44 49.3	-0.4
UPC	**Upice**	**0.95**	**180**	*e*PG	Pg	16 44 46.3	-0.9
UPC	**Upice**	**0.95**	**180**	Pg	Pg	16 44 46.3	-0.9
DPC	**Dobruska-Polom**	**1.13**	**169**	*e*PG	Pg	16 44 50.1	-0.6
DPC				e*SG*	Sg	16 45 04.7	-0.7
DPC	**Dobruska-Polom**	**1.13**	**169**	Pg	Pg	16 44 50.1	-0.6
DPC				Sg	Sg	16 45 04.7	-0.7
PVCC	**Panska Ves**	**1.30**	**225**	e*SG*	Sg	16 45 10.5	-0.2
	comp=Z,9.2nm,0.3s						
PVCC	**Panska Ves**	**1.30**	**225**	Sg	Sg	16 45 10.5	-0.2
	9.2nm,0.3s						
BRG	**Berggiesshubel**	**1.42**	**246**	PG	Pn	16 44 54.0	-2.0
BRG				SG	Sg	16 45 13.1	-1.5
	5.6nm,0.5s						
KRLC	**Kraliky**	**1.47**	**160**	e*SG*	Sg	16 45 14.8	-1.6
KRLC	**Kraliky**	**1.47**	**160**	Sg	Sg	16 45 14.8	-1.6
PRU	**Pruhonice**	**1.74**	**213**	e*SG*	Sn	16 45 23.4	+0.1
PRU	**Pruhonice**	**1.74**	**213**	Sg	Sn	16 45 23.4	+0.1
CLL	**Collm**	**1.88**	**267**	e*Sg*	Sn	16 45 27.0	+0.2
NKC	**Novy Kostel**	**2.56**	**243**	e*SG*	Sg	16 45 52.2	+0.8
	comp=Z,3.5nm,0.3s						
NKC	**Novy Kostel**	**2.56**	**243**	Sg	Sg	16 45 52.2	+0.8
	3.5nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**215**	e*SG*	Sg	16 45 59.0	0.0
KHC	**Kasperske Hory**	**2.80**	**215**	Sg	Sg	16 45 59.0	0.0

BEO ***04*** *16:48:19.4±0.6,41.25N×19.89E,h0km,ML2.5/9*
TIR ***04*** *16:48:20.8,41.42N×20.04E,h2km,ML2.8*
ATH ***04*** *16:48:20.8,41.48N×20.07E,h3km,MD3.5/11*
PDG ***04*** *16:48:20.6±0.4,41.39N×19.93E,h2km,ML2.7/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
CSEM ***04*** *16:48:21.2±0.2,41.41N×19.97E,h2km,ML2.8, Error ellipse: s-maj=5.5km s-min=3.1km az=57.0*
SKO ***04*** *16:48:21.8,41.43N×19.92E,h0km,MD2.2,ML2.7*
THE ***04*** *16:48:21.7,41.42N×20.01E,h15km±2km,ML2.8/2, Error ellipse: s-maj=4.0km s-min=1.7km az=46.0*
ISC 04 16:48:21.0±1.0,41.39N±0.02×19.97E±0.02,h14km±9km, n104,σ1§39/161,14C-12D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.46**	**50**	*i* PG	**Pg**	**16 48 29.0**	**-1.1**
PHP				*i* SG	**Sb**	**16 48 37.0**	**-0.6**
PHP	**Peshkopia**	**0.46**	**50**	P	**Pg**	**16 48 29.3**	**-0.8**
PHP				S	**Sb**	**16 48 37.5**	**-0.1**
PHP	**Peshkopia**	**0.46**	**50**	*i* Pg	**Pg**	**16 48 29.0**	**-1.1**
PHP	**Peshkopia**	**0.46**	**50**	P	**Pg**	**16 48 29.3**	**-0.8**
PHP				*i* Sg	**Sb**	**16 48 37.0**	**-0.6**
PUK	**Puka**	**0.65**	**355**	*i* PG	**Pg**	**16 48 33.0**	**-0.8**
PUK				*i* SG	**Sn**	**16 48 44.3**	**-1.9**
PUK	**Puka**	**0.65**	**355**	*i* Pg	**Pg**	**16 48 33.0**	**-0.8**
PUK				*i* Sg	**Sn**	**16 48 44.3**	**-1.9**
BCI	**Bajram Curri**	**0.98**	**4**	*i* PG	**Pg**	**16 48 39.6**	**-0.3**
BCI				*i* SG	**Sn**	**16 48 55.3**	**+1.3**
BCI	**Bajram Curri**	**0.98**	**4**	*i* Pg	**Pg**	**16 48 39.6**	**-0.3**
BCI				*i* Sg	**Sn**	**16 48 55.3**	**+1.3**
DRME	**Dracevica, Mon**	**0.99**	**324**⇓	*i* Pg	**Pb**	**16 48 38.2**	**-1.7**
DRME				e*Sg*	**Sn**	**16 48 53.6**	**-0.7**
DRME	**Dracevica, Mon**	**0.99**	**324**⇓	*i* Pg	**Pb**	**16 48 38.2**	**-1.7**
DRME				e*Sg*	**Sn**	**16 48 53.6**	**-0.7**
BIA	**Bitola**	**1.08**	**110**	P	**Pb**	**16 48 40.4**	**-1.2**
BIA				S	**Sn**	**16 48 56.2**	**-0.5**
BIA	**Bitola**	**1.08**	**110**	*i* Pg	**Pn**	**16 48 41.5**	**-0.4**
BIA				*i* Sg	**Sn**	**16 48 58.8**	**+2.0**
BIA	**Bitola**	**1.08**	**110**	P	**Pb**	**16 48 40.4**	**-1.2**
BIA	**Bitola**	**1.08**	**110**	*i* Pg	**Pn**	**16 48 41.4**	**-0.4**
PDG	**Podgorica**	**1.17**	**333**	P	**Pn**	**16 48 41.2**	**-1.7**
PDG				S	**Sg**	**16 49 00.0**	**+1.3**
PDG	**Podgorica**	**1.17**	**333**	e*Pg*	**Pn**	**16 48 41.3**	**-1.7**
PDG	**Podgorica**	**1.17**	**333**⇑	*i* Pg	**Pn**	**16 48 41.3**	**-1.7**
PDG				S	**Sg**	**16 49 00.0**	**+1.3**
TTG	**Podgorica**	**1.17**	**333**⇑	*i* Pg	**Pn**	**16 48 41.3**	**-1.7**
TTG				e*Sg*	**Sg**	**16 49 00.0**	**+1.3**
PVY	**Plav**	**1.20**	**359**⇑	*i* Pg	**Pn**	**16 48 42.9**	**-0.6**
PVY				e*Sg*	**Sg**	**16 49 02.0**	**+2.2**
PVY	**Plav**	**1.20**	**359**⇑	*i* Pg	**Pn**	**16 48 42.9**	**-0.6**
PVY				e*Sg*	**Sg**	**16 49 02.0**	**+2.2**
BUM	**Brajici-Budva**	**1.22**	**319**⇑	*i* Pg	**Pn**	**16 48 42.1**	**-1.6**
BUM				e*Sg*	**Sg**	**16 49 01.6**	**+1.4**
BUM	**Brajici-Budva**	**1.22**	**319**⇑	*i* Pg	**Pn**	**16 48 42.1**	**-1.6**
BUM				e*Sg*	**Sg**	**16 49 01.6**	**+1.4**
FNA	**Florina**	**1.22**	**119**	P	**Pn**	**16 48 43.3**	**-0.4**
FNA				S	**Sg**	**16 49 00.8**	**+0.4**
FNA	**Florina**	**1.22**	**119**	e*PB*	**Pb**	**16 48 44.0**	**+0.1**
FNA				e*SB*	**Sg**	**16 49 00.2**	**-0.2**
FNA	**Florina**	**1.22**	**119**	P	**Pn**	**16 48 43.3**	**-0.4**
FNA	**Florina**	**1.22**	**119**	e*Pb*	**Pb**	**16 48 44.0**	**+0.1**
FNA				e*Sb*	**Sg**	**16 49 00.2**	**-0.2**
SKO	**Skopje**	**1.24**	**62**	P	**Pg**	**16 48 44.4**	**-0.5**
SKO				S	**Sg**	**16 49 00.8**	**-0.3**
SKO	**Skopje**	**1.24**	**62**	e*Pg*	**Pg**	**16 48 44.6**	**-0.3**
SKO				*i* Sg	**Sg**	**16 49 02.4**	**+1.3**
SKO	**Skopje**	**1.24**	**62**	*i* Pg	**Pg**	**16 48 45.5**	**+0.5**
SKO				*i* Sg	**Sg**	**16 49 01.6**	**+0.5**
SKO				*i* Lg	Lg	16 49 02.5	
	comp=E,95nm,0.5s						
SKO				*i* Lg	Lg	16 49 04.0	
	comp=N,156nm,0.5s						
SKO	**Skopje**	**1.24**	**62**	P	**Pg**	**16 48 44.4**	**-0.5**
SKO	**Skopje**	**1.24**	**62**	*i* Pg	**Pg**	**16 48 45.4**	**+0.5**
SKO				S	**Sg**	**16 49 00.8**	**-0.3**
SKO				*i* Sg	**Sg**	**16 49 01.5**	**+0.5**
SKO				*i* Lg	Lg	16 49 04.0	
	comp=N,156nm,0.5s						
NEST	**Nestorio**	**1.27**	**140**	P	**Pb**	**16 48 44.8**	**0.0**
NEST				S	**Sg**	**16 49 02.4**	**+0.4**
NEST	**Nestorio**	**1.27**	**140**	P	**Sg**	**16 48 44.8**	**0.0**
NEST				S	**Sg**	**16 49 02.4**	**+0.4**
BEY	**Berane**	**1.48**	**358**⇑	*i* Pg	**Pb**	**16 48 48.2**	**-0.2**
BEY				e*Sg*	**Sg**	**16 49 11.2**	**+2.5**
IVA	**Berane**	**1.48**	**358**⇑	*i* Pg	**Pb**	**16 48 48.2**	**-0.2**
IVA				e*Sg*	**Sg**	**16 49 11.2**	**+2.5**
HCY	**Herceg Novi**	**1.53**	**314**⇓	*i* Pg	**Pn**	**16 48 48.0**	**+0.1**
HCY				e*Sg*	**Sg**	**16 49 11.7**	**+1.5**
HCY	**Herceg Novi**	**1.53**	**314**⇓	*i* Pg	**Pn**	**16 48 48.0**	**+0.1**
HCY				e*Sg*	**Sg**	**16 49 11.7**	**+1.5**
NKME	**Niksic**	**1.57**	**331**⇓	*i* Pg	**Pb**	**16 48 49.1**	**-0.8**
NKME				e*Sg*	**Sg**	**16 49 13.6**	**+2.0**
NKME	**Niksic**	**1.57**	**331**⇓	*i* Pg	**Pb**	**16 48 49.1**	**-0.8**
NKME				e*Sg*	**Sg**	**16 49 13.6**	**+2.0**
NKY	**Niksic**	**1.60**	**333**⇓	*i* Pn	**Pb**	**16 48 49.7**	**-0.7**
NKY				e*Sn*	**Sg**	**16 49 14.7**	**+2.3**
NKY	**Niksic**	**1.60**	**333**⇓	*i* Pn	**Pb**	**16 48 49.7**	**-0.7**
NKY				e*Sn*	**Sg**	**16 49 14.7**	**+2.3**
KEK	**Kerkira**	**1.68**	**185**	e*PG*	**Pg**	**16 48 53.3**	**0.0**
KEK				e*SB*	**Sg**	**16 49 18.7**	**+3.6**
KEK	**Kerkira**	**1.68**	**185**	e*Pg*	**Pg**	**16 48 53.3**	**0.0**
KZN	**Kozani**	**1.74**	**128**	e*PB*	**Pg**	**16 48 53.9**	**-0.5**
KZN	**Kozani**	**1.74**	**128**	e*Pb*	**Pg**	**16 48 53.9**	**-0.5**
BRY	**Bratogost**	**1.85**	**325**⇓	*i* Pn	**Pb**	**16 48 53.8**	**-0.8**
BRY				e*Sn*	**Sg**	**16 49 20.9**	**+0.4**
BRY	**Bratogost**	**1.85**	**325**⇓	*i* Pn	**Pb**	**16 48 53.8**	**-0.8**
BRY				e*Sn*	**Sg**	**16 49 20.9**	**+0.4**
JAN	**Janina**	**1.86**	**159**	e*PG*	**Pg**	**16 48 56.9**	**+0.3**
JAN	**Janina**	**1.86**	**159**	e*Pg*	**Pg**	**16 48 56.9**	**+0.3**
SJES	**Sjenica**	**1.87**	**0**	e*Pn*	**Pb**	**16 48 54.0**	**-1.0**
SJES				*i* Sg	**Sg**	**16 49 22.7**	**+1.6**
SJES	**Sjenica**	**1.87**	**0**	e*Pn*	**Pb**	**16 48 54.0**	**-1.0**
SJES				*i* Sg	**Sg**	**16 49 22.7**	**+1.6**
IGT	**Igoumenitsa**	**1.88**	**171**	e*PN*	**Pg**	**16 48 56.7**	**-0.3**
IGT	**Igoumenitsa**	**1.88**	**171**	e*Pn*	**Pg**	**16 48 56.7**	**-0.3**
GRG	**Griva**	**1.88**	**103**	e*PB*	**Pb**	**16 48 55.5**	**+0.3**
GRG	**Griva**	**1.88**	**103**	e*Pb*	**Pb**	**16 48 55.5**	**+0.3**
VAY	**Valandovo**	**1.96**	**91**	e*Pn*	**Pb**	**16 48 55.0**	**-1.4**
VAY				*i* Sg	**Sg**	**16 49 23.4**	**-0.5**
VAY	**Valandovo**	**1.96**	**91**	*i* Pg	**Pg**	**16 48 58.0**	**-0.6**
VAY				*i* Sg	**Sg**	**16 49 25.9**	**+2.0**
VAY				*i* Lg	Lg	16 49 26.2	
	comp=N,55nm,0.7s						
VAY				*i* Lg	Lg	16 49 26.4	
	comp=E,26nm,0.6s						
VAY	**Valandovo**	**1.96**	**91**	e*Pn*	**Pb**	**16 48 55.0**	**-1.4**
VAY	**Valandovo**	**1.96**	**91**	*i* Pg	**Pg**	**16 48 57.9**	**-0.6**
VAY				*i* Sg	**Sg**	**16 49 23.4**	**-0.5**
VAY				*i* Lg	Lg	16 49 26.4	
	comp=E,26nm,0.6s						
UPM	**Unac-Piva**	**1.98**	**337**⇑	*i* PN	**Pb**	**16 48 56.4**	**-0.5**
UPM				e*Sn*	**Sg**	**16 49 24.7**	**+0.1**
UPM	**Unac-Piva**	**1.98**	**337**⇑	*i* PN	**Pb**	**16 48 56.4**	**-0.5**
UPM				e*Sn*	**Sg**	**16 49 24.7**	**+0.1**
PLE	**Pljevlja**	**1.98**	**348**⇓	*i* Pn	**Pb**	**16 48 56.2**	**-0.8**
PLE				e*Sn*	**Sg**	**16 49 23.8**	**-1.0**
PLE	**Pljevlja**	**1.98**	**348**⇓	*i* Pn	**Pb**	**16 48 56.2**	**-0.8**
PLE				e*Sn*	**Sg**	**16 49 23.8**	**-1.0**
SELS	**Selova**	**2.02**	**25**	e*Pn*	**Pb**	**16 48 56.1**	**-1.3**
SELS				e*Sg*	**Sg**	**16 49 28.9**	**+3.1**
IVAS	**Ivanjica**	**2.19**	**3**	e*Pn*	**Pb**	**16 48 59.5**	**-0.9**
IVAS				e*Sg*	**Sg**	**16 49 34.1**	**+2.8**
IVAS	**Ivanjica**	**2.19**	**3**	e*Pn*	**Pb**	**16 48 59.5**	**-0.9**
IVAS				e*Sg*	**Sg**	**16 49 34.1**	**+2.8**
KNT	**Kendrikon**	**2.22**	**95**	e*PN*	**Pb**	**16 48 59.2**	**-1.6**
KNT	**Kendrikon**	**2.22**	**95**	e*Pn*	**Pb**	**16 48 59.2**	**-1.6**
STON	**Ston**	**2.25**	**312**	e*Pn*	**Pb**	**16 48 59.9**	**-1.4**
STON				Sn	**Sb**	**16 49 29.4**	**+0.4**
STON	**Ston**	**2.25**	**312**	e*Pn*	**Pb**	**16 48 59.8**	**-1.5**
STON				Sn	**Sb**	**16 49 29.3**	**+0.3**
LIT	**Litokhoron**	**2.31**	**123**	e*PN*	**Pb**	**16 49 02.0**	**-0.4**
LIT	**Litokhoron**	**2.31**	**123**	e*Pn*	**Pb**	**16 49 02.0**	**-0.4**
THL	**Klokotos Trika**	**2.40**	**139**	e*PN*	**Pb**	**16 49 03.3**	**-0.6**
THL	**Klokotos Trika**	**2.40**	**139**	e*Pn*	**Pb**	**16 49 03.3**	**-0.6**
HORT	**Hortiatis**	**2.50**	**107**	e*PB*	**Pb**	**16 49 03.6**	**-2.0**
HORT	**Hortiatis**	**2.50**	**107**	e*Pb*	**Pb**	**16 49 03.6**	**-2.0**
GRUS	**Gruza**	**2.56**	**12**	e*Pn*	**Pb**	**16 49 04.8**	**-1.8**
GRUS				e*Sg*	**Sg**	**16 49 46.2**	**+3.1**
GRUS	**Gruza**	**2.56**	**12**	e*Pn*	**Pb**	**16 49 04.8**	**-1.8**
GRUS				e*Sg*	**Sg**	**16 49 46.2**	**+3.1**
LKD2	**Lefkada island**	**2.65**	**168**	e*PN*	**Pb**	**16 49 07.0**	**-1.3**
LKD2	**Lefkada island**	**2.65**	**168**	e*Pn*	**Pb**	**16 49 07.0**	**-1.3**
VTS	**Vitosha**	**2.69**	**62**	e*Pn*	**Pb**	**16 49 05.9**	**+1.8**
VTS				e*Sg*	**Sg**	**16 49 48.7**	**+1.2**
VTS	**Vitosha**	**2.69**	**62**	e*Pn*	**Pb**	**16 49 05.9**	**+1.8**
VTS				e*Sg*	**Sg**	**16 49 48.7**	**+1.2**
DIVS	**Divibare**	**2.71**	**0**	e*Pn*	**Pb**	**16 49 05.9**	**+1.7**
DIVS				e*Sg*	**Sg**	**16 49 49.5**	**+1.6**
DIVS	**Divibare**	**2.71**	**0**	e*Pn*	**Pb**	**16 49 05.9**	**+1.7**
DIVS				e*Sg*	**Sg**	**16 49 49.5**	**+1.6**
ZAPS	**Zavoj**	**2.73**	**45**	e*Pn*	**Pb**	**16 49 06.6**	**-2.9**
ZAPS				e*Sg*	**Sg**	**16 49 50.3**	**+1.8**
ZAPS	**Zavoj**	**2.73**	**45**	e*Pn*	**Pb**	**16 49 06.6**	**-2.9**
ZAPS				e*Sg*	**Sg**	**16 49 50.3**	**+1.8**
PLG	**Polygyros**	**2.82**	**110**	e*PB*	**Pb**	**16 49 09.2**	**-2.0**
PLG	**Polygyros**	**2.82**	**110**	e*Pb*	**Pb**	**16 49 09.2**	**-2.0**
EVR	**Evrytania**	**2.84**	**150**	e*PB*	**Pb**	**16 49 10.8**	**-0.8**
EVR	**Evrytania**	**2.84**	**150**	e*Pb*	**Pb**	**16 49 10.8**	**-0.8**
TRUS	**Trudelj**	**2.85**	**6**⇑	*i* Pn	**Pn**	**16 49 07.5**	**+1.4**
TRUS	**Trudelj**	**2.85**	**6**⇑	*i* Pn	**Pn**	**16 49 07.5**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.89**	**144**	e*PN*	**Pb**	**16 49 10.6**	**-1.8**
MAKR	**Makrakomi, Fth**	**2.89**	**144**	e*Pn*	**Pb**	**16 49 10.6**	**-1.8**
NVR	**Nevrokopi**	**2.93**	**90**	e*PN*	**Pn**	**16 49 09.1**	**+1.9**
NVR	**Nevrokopi**	**2.93**	**90**	e*Pn*	**Pn**	**16 49 09.1**	**+1.9**
AGG	**Agios Georgios**	**2.98**	**142**	e*PN*	**Pb**	**16 49 12.0**	**-1.8**
AGG	**Agios Georgios**	**2.98**	**142**	e*Pn*	**Pb**	**16 49 12.0**	**-1.8**
KALE	**Kalithea**	**3.43**	**150**	e*PN*	Pb	16 49 18.2	-3.3
KALE	**Kalithea**	**3.43**	**150**	e*Pn*	Pb	16 49 18.2	-3.3
KLV	**Kalavryta, Ach**	**3.74**	**153**	e*PN*	Pb	16 49 23.3	-3.6
KLV	**Kalavryta, Ach**	**3.74**	**153**	e*Pn*	Pb	16 49 23.3	-3.6
FGSL	**Fruska Gora**	**3.77**	**358**⇑	*i* Pn	**Pn**	**16 49 20.2**	**+1.5**
FRGS	**Fruska Gora**	**3.77**	**358**⇑	*i* Pn	**Pn**	**16 49 20.2**	**+1.5**

IDC ***04*** *17:12:34.4±0.9,28.18S×72.53W,h0km,mb4.0/4, mb1 4.0/8,mb1mx3.9/19,mbtmp3.9/8,ML4.0/4,MS2.4/2, Ms1 2.5/2,ms1mx2.4/28, Error ellipse: s-maj=29.3km s-min=24.1km az=67.0*
GUC ***04*** *17:12:36.5±0.3,28.17S×72.27W,h30km±2km,ML3.8*
ISCJB ***04*** *17:12:38.1±0.8,28.07S±0.04×72.40W±0.06,h33km, mb3.9/4,Error ellipse: s-maj=8.0km s-min=5.0km az=166.7*
SJA ***04*** *17:12:39.6±0.5,28.29S×72.32W,h27km±30km,ML3.8*
ISC 04 17:12:38.5±0.8,28.07S±0.05×72.55W±0.08,h35km,n34, σ2§19/42,mb4.1/4,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**1.66**	**108**	*i* P	**Pn**	**17 13 03.1**	**-2.1**
VACH				e*S*	**Sn**	**17 13 21.4**	**-4.0**
VACH				AML	AML	17 13 24.4	
	comp=N,3μm,0.3s						
CDCH	**Caldera**	**1.83**	**57**	*e*P	**Pn**	**17 13 05.1**	**-2.4**
CDCH				*i* S	**Sn**	**17 13 26.7**	**-2.8**
CDCH				AML	AML	17 13 27.5	
	comp=N,729nm,0.2s						
LCO	**Las Campanas**	**1.88**	**120**	*i* P	**Pn**	**17 13 08.4**	**0.0**
LCO				*i* S	**Sn**	**17 13 29.6**	**-1.5**
CPCH	**Copiapo**	**2.07**	**71**	*e*P	**Pn**	**17 13 07.9**	**-3.0**
CPCH				*i* S	**Sn**	**17 13 31.9**	**-3.6**
CPCH				AML	AML	17 13 33.8	
	comp=N,4μm,0.1s						
CMCH	**Combarbala**	**3.38**	**157**	*e*P

comp=Z,80nm,0.5s
SKR eS Sn 17 31 13.8 -8.5
SKR A A 17 31 22.9
comp=Z,230nm,0.5s
SKR A A 17 31 22.9
comp=Z,220nm,0.5s
PAU Pauzhetka 5.34 26 *e*P Pn 17 30 47.6 +3.4
YUK Yuzh-Kuril'sk 5.72 244 *e*PN **Pn 17 30 51.7 +2.3**
YUK Yuzh-Kuril'sk 5.72 244 *e*P **Pn 17 30 51.7 +2.3**
YUK AMB AMB 17 30 54.4
comp=Z,73nm,0.2s
YUK AMB AMB 17 30 54.4
comp=Z,61nm,0.2s
YUK AMB AMB 17 30 54.4
comp=Z,274nm,0.2s
YUK eS **Sn 17 31 56.1 +2.4**
YUK A A 17 32 15.5
comp=Z,281nm,0.7s
YUK A A 17 32 15.5
comp=Z,631nm,0.7s
NEM2 Nemuro 2 6.16 239 P **Pn 17 30 54.9 -0.5**
NEM2 eS **Sn 17 32 02.2 -2.3**
JRA Rausu 6.23 246 P **Pn 17 30 59.3 +2.9**
JNK Nakash 6.66 245 P **Pn 17 31 04.1 +1.8**
JNK eS **Sn 17 32 17.9 +1.1**
JTKR Abashiri--Toko 6.99 250 P **Pn 17 31 09.6 +2.8**
JAK Akkeshi 6.99 241 P **Pn 17 31 06.6 -0.3**
JAK eS **Sn 17 32 22.1 -3.0**
YSS Yuzh-Sakhalins 7.04 275 *e*PN Pn 17 31 11.0 +3.5
YSS eS **Sn 17 32 30.0 +3.9**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 7.04 275 *e*Pn Pn 17 31 10.4 +2.9
YSS Yuzh-Sakhalins 7.04 275 *e*P **Pn 17 31 10.0 +2.5**
YSS AMB AMB 17 31 12.0
comp=Z,40nm,1.0s
YSS eS **Sn 17 32 25.5 -0.6**
YSS AMS AMS 17 33 39.0
comp=Z,500nm,17.0s
PETK Petropavlovsk- 7.05 24 PN **Pn 17 31 07.7 0.0**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK MLR MLR
comp=Z,15nm,28.6s
PETK Petropavlovsk- 7.05 24 P **Pn 17 31 07.7 0.0**
PETK Petropavlovsk- 7.05 24 P **Pn 17 31 07.7 0.0**
comp=Z,0.9nm,0.3s,baz=183,slow=14,SNR=33
PETK LR LR 17 33 33.5
comp=Z,67nm,18.7s,baz=201,slow=35
PET Petropavlovsk 7.26 28 *e*PN Pn 17 31 18.9 +8.4
PET Petropavlovsk 7.26 28 *e*P Pn 17 31 18.9 +8.4
JMP Maruseppu 7.33 252 P Pn 17 31 14.8 +3.3
JAR Ashorobuto 7.40 246 P **Pn 17 31 14.0 +1.5**
JAR eS **Sn 17 32 35.2 +0.1**
JOB Onbets 7.57 243 P **Pn 17 31 15.4 +0.6**
JOB eS **Sn 17 32 37.1 -2.1**
HRK Horoka 7.72 248 *e*P **Pn 17 31 19.5 +2.6**
ASAJ Asahikawa 7.78 254 P Pn 17 31 21.4 +3.7
ASAJ Asahikawa 7.78 254 *e*Pn Pn 17 31 21.3 +3.6
ASAJ Asahikawa 7.78 254 P **Pn 17 31 19.0 +1.3**
comp=Z,3.9nm,0.3s,baz=69,slow=8.6,SNR=31
ASAJ LR LR 17 34 10.3
comp=Z,144nm,21.8s,baz=8.5,slow=37
JKK2 Kamakawa 2 7.78 252 P **Pn 17 31 20.8 +3.1**
JWK2 Keihoku 7.87 264 P Pn 17 31 24.9 +6.1
JCH Churui 8.02 242 P **Pn 17 31 21.0 +0.1**
JCH eS **Sn 17 32 47.1 -3.2**
JFR Furan 8.21 248 P **Pn 17 31 26.9 +3.3**
MYR Moyori 8.25 241 *e*P **Pn 17 31 24.0 -0.1**
JAB Ashibetsu 8.29 251 P Pn 17 31 28.1 +3.5
ERM Erimo 8.49 240 *e*PN **Pn 17 31 28.7 +1.3**
ERM pmax pmax
comp=Z,51nm,0.5s
ERM Erimo 8.49 240 *e*P **Pn 17 31 28.7 +1.3**
comp=Z,51nm,0.5s
ERM Erimo 8.49 240 *e*P **Pn 17 31 28.5 +1.1**
JBT2 Biratori 2 8.55 246 P **Pn 17 31 29.4 +1.2**
JNBK Urakawa-nobuka 8.58 242 P **Pn 17 31 27.9 -0.7**
JNBK eS **Sn 17 32 59.8 -4.3**
JEW Eniwo 9.10 249 P **Pn 17 31 38.0 +2.3**
JNB Noboribetsu 9.55 248 P **Pn 17 31 42.5 +0.6**
JNB eS **Sn 17 33 25.3 -2.5**
JKB Kayabe 9.86 245 P **Pn 17 31 45.2 -0.9**
JKB eS Sn 17 33 28.9 -6.5
JSH Shimam 10.10 251 P **Pn 17 31 51.3 +1.9**
JYM2 Yakumo 2 10.15 247 P **Pn 17 31 50.5 +0.3**
JANG Nango 10.49 237 P Pn 17 31 52.1 -2.7
JOSM Okushiri--Mats 10.74 249 P **Pn 17 31 58.7 +0.5**
OFUJ Ofunato 11.30 231 P Pn 17 32 02.8 -3.1
JIO Ouri 11.93 230 P Pn 17 32 11.5 -2.9
JIO eS Sn 17 34 14.9 -11
HABR Khabarovsk 12.25 285 *e*PN **Pn 17 32 18.9 +0.2**
HABR pmax pmax
comp=Z,47nm,2.0s
HABR Khabarovsk 12.25 285 *e*P **Pn 17 32 18.9 +0.2**
EKMR Ekimchan 14.37 303 *e*P Pn 17 32 42.4 -5.3
EKMR AMB AMB 17 32 54.3
comp=Z,4.0nm,0.5s
USRK Ussuriysk Arra 14.96 268 P **Pn 17 32 54.8 -0.8**
comp=Z,0.1nm,0.3s,baz=79,slow=13,SNR=2.2
USRK LR LR 17 38 32.7
comp=Z,103nm,18.1s,baz=101,slow=37
MAJO Matsushiro 15.02 233 *e*P **P 17 33 02.4 +1.1**
MAJO pmax pmax
comp=Z,989nm,2.3s
MAJO Matsushiro 15.02 233 *e*Pn **P 17 33 02.4 +1.1**
comp=Z,988nm,2.3s
MAT Matsushiro 15.02 233 P **P 17 33 02.8 +1.5**
MJAR Matsushiro Arr 15.02 233 P **Pn 17 32 55.7 -0.8**
MJAR Matsushiro Arr 15.02 233 P **Pn 17 32 55.7 -0.8**
comp=Z,0.3nm,0.3s,baz=33,slow=9.9,SNR=5.3
MJAR LR LR 17 39 05.5
comp=Z,38nm,20.8s,baz=65,slow=38
SEY Seymchan 16.23 359 P **Pn 17 33 10.8 -1.0**
SEY Seymchan 16.23 359 P **Pn 17 33 10.8 -1.0**
SEY Seymchan 16.23 359 P **Pn 17 33 10.8 -1.0**
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.0
SEY Seymchan 16.23 359 *e*rx rx 17 33 10.8
BMKR Bomnak 17.19 306 *e*rx rx 17 33 24.0
KROS Kirovskiy 18.16 305 *e*P **Pn 17 33 33.5 -2.4**
KROS AMB AMB 17 33 36.5
comp=Z,6.0nm,0.5s
CN2 Changchun 19.58 271 *e*P **P 17 33 51.5 0.0**
CN2 *es*P sP 17 34 24.1 +18
CN2 eS S 17 37 19.3 -11
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
YAK Yakutsk 20.29 327 *e*P Pn 17 33 59.3 -1.9
YAK pmax pmax
comp=Z,11nm,0.9s
YAK Yakutsk 20.29 327 *e*Pn Pn 17 33 59.3 -1.9
comp=Z,11nm,0.6s
KSRS Korea Array 20.73 252 P **P 17 34 04.3 +0.4**
comp=Z,2.7nm,0.6s,baz=51,slow=9.9,SNR=15
KSRS LR LR 17 42 31.5
comp=Z,31nm,18.7s,baz=70,slow=38
KSAR Wonju Array Be 20.76 252 P **P 17 34 04.3 0.0**
JNU Nakatsue 21.66 239 P **P 17 34 15.3 +1.3**
JNU Nakatsue 21.66 239 P **P 17 34 15.3 +1.3**
comp=Z,11nm,0.9s,baz=157,slow=2.9,SNR=5.4
JNU LR LR 17 42 38.0
comp=Z,35nm,22.0s,baz=94,slow=36
H11N2 WAKE ISLAND Hy 29.25 152 T T 18 06 48.7
baz=342,slow=77,SNR=971
H11N1 WAKE ISLAND Hy 29.26 152 T T 18 06 59.2
baz=342,slow=77,SNR=528
H11N3 WAKE ISLAND Hy 29.26 152 T T 18 07 01.6
baz=342,slow=77,SNR=482
H11S1 WAKE ISLAND Hy 30.33 154 T T 18 08 20.1
baz=344,slow=76,SNR=1155
H11S3 WAKE ISLAND Hy 30.34 154 T T 18 08 03.6
baz=344,slow=76,SNR=1055
H11S2 WAKE ISLAND Hy 30.35 154 T T 18 08 14.1
baz=344,slow=76,SNR=1005
ULN Ulaanbaatar 30.83 289 *e*P **P 17 35 41.3 +2.1**
comp=Z,3.6nm,1.1s
SONM Songino Array 31.27 289 P **P 17 35 43.4 +0.4**
SONM Songino Array 31.27 289 P **P 17 35 43.4 +0.4**
comp=Z,0.5nm,0.5s,baz=73,slow=8.4,SNR=5.8
SONM LR LR 17 49 19.2
comp=Z,72nm,19.1s,baz=348,slow=38
PPLA Purkeypile 34.22 42 *e*P **P 17 36 09.4 +0.8**
comp=Z,19nm,0.9s
CAST Castle Rocks 34.28 41 *e*P P 17 36 05.8 -3.3
comp=Z,11nm,0.6s
KTH Kantishna Hill 34.81 41 *e*P P 17 36 09.5 -4.2
comp=Z,484nm,2.1s
XAN Xi'an 35.44 265 P **P 17 36 19.4 0.0**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,20nm,4.6s
COLA College 36.19 38 *i*P **P 17 36 26.8 +1.5**
COLA pmax pmax
comp=Z,40nm,1.4s
ILAR Eielson Array 36.60 39 P **P 17 36 29.6 +0.7**
ILAR Eielson Array 36.60 39 P **P 17 36 29.6 +0.7**
comp=Z,0.6nm,0.5s,baz=256,slow=6.3,SNR=10
INK Inuvik 41.69 32 *e*P **P 17 37 12.7 +1.4**
comp=Z,3.2nm,0.7s
ZALV Zalesovo Beam 42.56 306 P **P 17 37 15.9 -2.7**
ZALV PcP **PcP** 17 39 10.5 **+0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=Z,2.0nm,0.9s
ZALV MLR MLR
comp=Z,97nm,18.0s
ZALV Zalesovo Beam 42.56 306 P **P 17 37 15.9 -2.7**
ZALV PcP **PcP 17 39 10.5 +0.2**
ZALV Zalesovo Beam 42.56 306 P **P 17 37 15.9 -2.7**
comp=Z,0.9nm,0.4s,baz=62,slow=6.6,SNR=6.0
ZALV PcP **PcP 17 39 10.5 +0.2**
comp=Z,1.8nm,0.9s,baz=68,slow=3.7,SNR=5.7
ZALV LR LR 17 55 56.6
comp=Z,97nm,18.0s,baz=94,slow=38
MKAR Makanchi Array 46.88 297 *e*P **P 17 37 52.2 -0.9**
MKAR 17 39 25.3
MKAR Makanchi Array 46.88 297 *e*P **P 17 37 52.2 -0.9**
MKAR PcP **PcP 17 39 25.3 -0.1**
MKAR Makanchi Array 46.88 297 P **P 17 37 51.9 -1.3**
comp=Z,0.9nm,0.5s,baz=70,slow=7.7,SNR=16
MKAR PcP **PcP 17 39 25.3 -0.1**
comp=Z,0.7nm,0.6s,baz=61,slow=2.9,SNR=6.6
MKAR LR LR 17 58 43.0
comp=Z,81nm,20.0s,baz=23,slow=38
KURK Kurchatov 47.31 304 *e*P **P 17 37 54.8 -1.6**
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 47.31 304 *e*P **P 17 37 54.8 -1.6**
comp=Z,1.3nm,0.8s
LSA Lhasa 50.20 273 *e*P **P 17 38 20.0 +0.6**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 50.20 273 *e*P **P 17 38 20.0 +0.6**
comp=Z,5.1nm,0.6s
BRVK Borovoye 50.85 309 *e*P **P 17 38 22.7 -0.7**
BRVK Borovoye 50.85 309 *e*P **P 17 38 22.6 -0.7**
YKA Yellowknife Ar 50.97 37 P **P 17 38 24.8 +0.6**
YKA Yellowknife Ar 50.97 37 P **P 17 38 24.7 +0.6**
comp=Z,1.8nm,0.8s,baz=297,slow=7.1,SNR=16
CHTO Chiang Mai 52.05 257 *e*P **P 17 38 33.0 +0.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 52.05 257 *e*P **P 17 38 33.0 +0.2**
comp=Z,5.3nm,0.9s
CMAR Chiang Mai Arr 52.30 256 P **P 17 38 35.5 +0.8**
CMAR Chiang Mai Arr 52.30 256 P **P 17 38 35.5 +0.8**
comp=Z,2.0nm,0.7s,baz=35,slow=7.3,SNR=26
ARCES ARCESS Array B 57.83 341 P **P 17 39 13.1 -0.8**
ARCES ARCESS Array B 57.83 341 P **P 17 39 13.1 -0.8**
comp=Z,3.4nm,0.8s,baz=28,slow=7.1,SNR=5.8
ABKAR Akbulak array 58.38 310 *e*P **P 17 39 16.9 -1.2**
comp=Z,0.7nm,0.4s
SUMG Summit 60.71 4 *i*P **P 17 39 34.2 -0.1**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 60.71 4 *i*P **P 17 39 34.2 -0.1**
comp=Z,10nm,0.9s
SUMG Summit 60.71 4 *e*P **P 17 39 34.3 +0.1**
comp=Z,16nm,1.0s
LRM Limekiln Ridge 61.25 53 *e*P **P 17 39 40.2 +2.0**
JOF Joensuu 61.31 334 *e*P **P 17 39 38.1 +0.2**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 61.31 334 *ep* **P 17 39 38.1 +0.2**
comp=Z,0.7nm,0.3s
QLMT Earthquake Lak 62.44 53 *e*P **P 17 39 45.4 -0.7**
NVAR Mina Array Bea 62.50 62 P **P 17 39 46.9 +0.3**
NVAR Mina Array Bea 62.50 62 P **P 17 39 46.9 +0.3**
comp=Z,0.7nm,0.6s,baz=301,slow=8.1,SNR=7.3
NVAR LR LR 18 04 20.9
comp=Z,18nm,19.7s,baz=348,slow=33
KAF Kangasniemi 63.42 335 *e*P **P 17 39 51.1 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 63.42 335 *ep* **P 17 39 51.1 -0.9**
comp=Z,0.8nm,0.3s
FINES FINESS Array B 64.01 335 P **P 17 39 54.8 -1.2**
FINES FINESS Array B 64.01 335 P **P 17 39 54.7 -1.2**
comp=Z,4.6nm,0.4s,baz=33,slow=7.1,SNR=57
PDAR Pinedale Array 64.81 54 P **P 17 40 02.8 +1.0**
PDAR Pinedale Array 64.81 54 P **P 17 40 02.8 +1.0**
comp=Z,1.6nm,0.9s,baz=269,slow=0.9,SNR=11
ULM Lac du Bonnet 66.57 41 P **P 17 40 12.8 +0.1**
ULM Lac du Bonnet 66.57 41 P **P 17 40 12.8 +0.1**
comp=Z,1.8nm,0.6s,baz=278,slow=7.1,SNR=2.8
NB2 NORSAR Subarra 68.21 341 P **P 17 40 22.2 -0.8**
comp=Z,3.5nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.21 341 P **P 17 40 22.4 -0.6**
NOA NORSAR Array B 68.21 341 P **P 17 40 22.4 -0.6**
comp=Z,5.9nm,0.7s,baz=29,slow=6.3,SNR=18
NOA LR LR 18 13 01.3
comp=Z,19nm,18.1s,baz=15,slow=38
WRA Warramunga Arr 68.48 199 P **P 17 40 25.1 0.0**
WRA Warramunga Arr 68.48 199 P **P 17 40 25.1 0.0**
comp=Z,0.8nm,0.9s,baz=13,slow=6.7,SNR=6.2
KBZ Khabaz 70.81 314 P **P 17 40 38.4 -0.9**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 70.81 314 P **P 17 40 38.4 -0.9**
KBZ Khabaz 70.81 314 P **P 17 40 38.4 -0.9**
comp=Z,3.1nm,0.9s,baz=53,slow=6.8,SNR=4.3
AKASG Malin Array Be 71.51 326 P **P 17 40 42.4 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 71.51 326 P **P 17 40 42.4 -0.9**
AKASG Malin Array Be 71.51 326 P **P 17 40 42.4 -0.9**
comp=Z,4.9nm,0.4s,baz=34,slow=6.0,SNR=67
KIEV Kiev 71.52 326 *i*P **P 17 40 42.2 -1.2**
KIEV Kiev 71.52 326 *e*P **P 17 40 42.2 -1.2**
ASAR Alice Springs 72.18 198 P **P 17 40 48.7 +1.1**
ASAR Alice Springs 72.18 198 P **P 17 40 48.7 +1.1**
comp=Z,1.0nm,0.7s,baz=13,slow=5.3,SNR=19
SCHQ Schefferville 73.34 23 P **P 17 40 54.1 -0.1**
SCHQ Schefferville 73.34 23 P **P 17 40 54.1 -0.1**
comp=Z,4.7nm,1.1s,baz=319,slow=11,SNR=2.5
GDL2 Guadalupe Moun 75.07 59 *e*P **P 17 41 03.3 -1.6**
BURAR Bucovina Array 75.55 326 ⇑P **P 17 41 06.6 -0.7**
BURAR Bucovina Array 75.55 326 ⇑*i*P **P 17 41 06.6 -0.7**
TESR Tescani 75.91 325 ⇑*i*P **P 17 41 07.6 -1.6**
CFR Carcaliu 76.40 323 ⇑P **P 17 41 09.7 -2.3**
CFR Carcaliu 76.40 323 ⇑*i*P **P 17 41 09.7 -2.3**
VRI Vrincioaia 76.41 325 ⇑P **P 17 41 10.7 -1.4**
VRI Vrincioaia 76.41 325 ⇑*i*P **P 17 41 10.7 -1.4**
MORC Moravsky Berou 76.41 332 ⇑P **P 17 41 12.4 +0.3**
MORC Moravsky Berou 76.41 332 ⇑*i*P **P 17 41 12.4 +0.3**
CLL Collm 76.44 335 ⇓*i*P **P 17 41 11.6 -0.5**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 76.44 335 ⇓*i*P **P 17 41 11.6 -0.5**
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 77.03 325 ⇓*i*P **P 17 41 13.8 -2.0**
VOIR 77.42 325 ⇑P **P 17 41 16.2 -1.7**
VOIR 77.42 325 ⇑*i*P **P 17 41 16.2 -1.7**
TXAR Lajitas Array 77.56 60 P **P 17 41 19.8 +0.8**
TXAR Lajitas Array 77.56 60 P **P 17 41 19.8 +0.8**
comp=Z,1.0nm,0.5s,baz=294,slow=3.8,SNR=30
KHC Kasperske Hory 78.21 334 *e*P **P 17 41 22.5 +0.3**
KHC Kasperske Hory 78.21 334 *e*P **P 17 41 22.5 +0.3**
GERES GERESS Array B 78.43 334 P **P 17 41 23.2 -0.2**
GERES GERESS Array B 78.43 334 P **P 17 41 23.2 -0.2**
comp=Z,0.8nm,0.7s,baz=33,slow=8.2,SNR=7.3
PKSM Moragy 79.14 330 ⇑P **P 17 41 26.0 -1.2**
PKSM Moragy 79.14 330 ⇑*i*P **P 17 41 26.0 -1.2**
BFO Black Forest 80.43 337 *i*P **P 17 41 35.2 +0.9**
VTS Vitosha 80.53 325 ⇑P **P 17 41 31.9 -3.2**
VTS Vitosha 80.53 325 ⇑*i*P **P 17 41 31.9 -3.2**
MMB Musomiste 81.17 324 ⇑P **P 17 41 38.4 0.0**
MMB Musomiste 81.17 324 ⇑*i*P **P 17 41 38.4 0.0**
H03N2 Juan Fernandez 138.82 90 T T 20 24 19.4
baz=302
H03N1 Juan Fernandez 138.84 90 T T 20 24 18.9
baz=302,slow=75
H03N3 Juan Fernandez 138.84 90 T T 20 24 12.7
baz=302,slow=75
PLCA Paso Flores 148.28 95 PKPbc **PKPbc 17 49 09.3 +0.9**
PLCA Paso Flores 148.28 95 PKPbc **PKPbc 17 49 09.3 +0.9**
comp=Z,2.1nm,0.9s,baz=293,slow=7.7,SNR=3.5
CPUP Villa Florida 148.53 60 PKPbc **PKPbc 17 49 09.2 -0.2**
CPUP Villa Florida 148.53 60 PKPbc **PKPbc 17 49 09.2 -0.2**
comp=Z,0.8nm,0.4s,baz=333,slow=2.3,SNR=2.8

IDC ***04*** *17:35:41.9±0.5, 8.69S×157.53E, h0km, mb4.2/13, mb1 4.3/16, mb1mx4.2/22, mbtmp4.1/16, ML3.5/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/31, Error ellipse: s-maj=16.3km s-min=12.4km az=18.0*
ISCJB ***04*** *17:35:43.2±0.4, 8.69S±0.06×157.50E±0.08, h17km, mb4.1/13, MS3.4/1, Error ellipse: s-maj=11.9km s-min=8.2km az=7.8*
ISC 04 17:35:43.8±0.5, 8.80S±0.08×157.66E±0.07, h17km, n41, σ1s28/41, mb4.1/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.34**	**106**	Pn	**Pn**	**17 36 22.5**	**+0.8**
	27nm,0.3s,baz=76,slow=5.3,SNR=16						
HNR				Pg	**Pg**	**17 36 27.9**	**-1.0**
	154nm,0.3s,baz=235,slow=12,SNR=34						
HNR				Lg	Lg	17 37 02.3	
	123nm,0.3s,baz=94,slow=21,SNR=9.1						
HNR	**Honiara**	**2.34**	**106**	*i*P	**Pb**	**17 36 26.0**	**+0.3**
RABL	**Rabaul**	**7.13**	**310**	P	Pb	17 37 41.7	-5.6
	baz=8.1,SNR=4.6						
PMG	**Port Moresby**	**10.39**	**266**	LR	LR	17 40 34.1	
	comp=Z,26nm,21.7s,baz=78,slow=28						
PATS	**Pohnpei**	**15.55**	**2**	P	P	17 39 31.8	+5.1
	baz=16,SNR=3.3						
DZM	**Mont Dzumac**	**15.67**	**148**	Pn	**P**	**17 39 26.6**	**-1.5**
	0.1nm,0.3s,baz=288,slow=20,SNR=2.5						
CTA	**Charters Tower**	**15.73**	**223**	Pn	**Pn**	**17 39 25.3**	**+0.5**
	0.1nm,0.3s,baz=49,slow=17,SNR=3.6						
EIDS	**Eidsvold**	**17.62**	**200**	P	**P**	**17 39 52.0**	**+2.4**
	baz=18,SNR=4.1						
RMQ	**Roma**	**19.51**	**205**	P	**Pn**	**17 40 13.0**	**+1.3**
	baz=20,SNR=8.0						
QIS	**Mount Isa**	**20.98**	**234**	P	Pn	17 40 27.8	-1.4
	baz=22,SNR=6.5						
QLP	**Quilpie**	**21.79**	**214**	P	**P**	**17 40 35.7**	**+0.6**
	baz=22,SNR=7.3						
WRA	**Warramunga Arr**	**25.12**	**241**	P	**P**	**17 41 07.6**	**-0.5**
	10nm,0.9s,baz=66,slow=9.2,SNR=23						
WRA				PcP	**PcP**	**17 44 41.5**	**-0.9**
	1.1nm,0.6s,baz=71,slow=2.9,SNR=12						
CMSA	**Cobar Meteorol**	**25.21**	**205**	P	**P**	**17 41 09.9**	**+1.1**
	baz=25,SNR=11						
ASAR	**Alice Springs**	**27.11**	**234**	P	**P**	**17 41 25.1**	**-1.0**
	1.7nm,0.8s,baz=64,slow=9.0,SNR=13						
ASAR				PcP	**PcP**	**17 44 47.9**	**+0.9**
	0.6nm,0.6s,baz=81,slow=2.7,SNR=9.3						
ASAR				LR	LR	17 51 10.6	
	comp=Z,95nm,18.9s,baz=150,slow=34						
STKA	**Stephens Creek**	**27.38**	**211**	*e*P	**P**	**17 41 31.1**	**+2.6**
	1.2nm,0.7s						
STKA	**Stephens Creek**	**27.38**	**211**	P	**P**	**17 41 31.1**	**+2.7**
	5.7nm,0.7s,baz=32,slow=13,SNR=23						
MILA	**Mila**	**29.16**	**194**	S	**S**	**17 46 31.8**	**-4.2**
	baz=29,SNR=6.7						
WRKA	**Warakurna**	**32.29**	**236**	P	**P**	**17 42 11.0**	**-1.1**
	baz=33,SNR=5.4						
JOW	**Kunigami**	**45.47**	**322**	P	**P**	**17 44 00.9**	**-1.4**
	1.6nm,1.0s						
MJAR	**Matsushiro Arr**	**48.67**	**339**	P	**P**	**17 44 25.8**	**-1.4**
	1.5nm,0.8s,baz=172,slow=8.8,SNR=4.9						
USRK	**Ussuriysk Arra**	**57.65**	**338**	P	**P**	**17 45 33.5**	**+0.3**
	1.5nm,0.8s,baz=132,slow=4.3,SNR=2.7						
PETK	**Petropavlovsk-**	**61.67**	**0**	P	**P**	**17 46 01.5**	**+0.7**
	4.4nm,1.1s,baz=179,slow=7.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**63.94**	**295**	P	**P**	**17 46 17.4**	**+0.8**
	2.2nm,0.8s,baz=125,slow=4.8,SNR=21						
SONM	**Songino Array**	**72.28**	**327**	P	**P**	**17 47 09.0**	**+0.5**
	1.5nm,0.9s,baz=132,slow=5.3,SNR=8.8						
TAPN	**Taplejung**	**76.59**	**301**	*e*P	**P**	**17 47 34.4**	**+0.1**
	11nm,1.0s						
ODAN	**Odare**	**76.72**	**300**	*e*P	**P**	**17 47 35.3**	**+0.4**
RAMN	**Ramite**	**77.42**	**300**	*e*P	**P**	**17 47 39.3**	**+0.4**
JIRN	**Jiri**	**77.97**	**301**	*e*P	**P**	**17 47 42.4**	**+0.3**
	5.9nm,0.7s						
GUN	**Gumba**	**78.31**	**301**	*e*P	**P**	**17 47 44.3**	**+0.4**
PKI	**Pulchoki**	**78.61**	**300**	*e*P	**P**	**17 47 45.5**	**-0.1**
KKN	**Kakani**	**78.78**	**301**	*e*P	**P**	**17 47 46.5**	**+0.1**
	8.7nm,0.8s						
DMN	**Daman**	**78.88**	**300**	*e*P	**P**	**17 47 47.4**	**+0.4**
	21nm,1.0s						
GKN	**Gorkha**	**79.39**	**301**	*e*P	**P**	**17 47 49.6**	**0.0**
	10nm,0.9s						
KOLN	**Koldanda**	**80.21**	**300**	*e*P	**P**	**17 47 54.0**	**-0.2**
	8.0nm,0.8s						
ILAR	**Eielson Array**	**84.10**	**21**	P	**P**	**17 48 13.2**	**-0.3**
	1.2nm,0.9s,baz=255,slow=4.2,SNR=7.3						
MKAR	**Makanchi Array**	**86.50**	**318**	P	**P**	**17 48 25.6**	**-0.3**
	1.5nm,0.7s,baz=93,slow=7.5,SNR=11						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**17 48 48.9**	**+2.2**
	2.2nm,0.9s,baz=251,slow=6.9,SNR=10						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**17 49 12.2**	**-0.8**
	0.2nm,0.4s,baz=256,slow=5.0,SNR=4.1						
AKASG	**Malin Array Be**	**120.53**	**325**	PKP	**PKPdf**	**17 54 34.0**	**-0.6**
	0.3nm,0.6s,baz=70,slow=2.8,SNR=4.0						
BDFB	**Brasilia**	**144.84**	**134**	PKPbc	**PKPdf**	**17 55 21.1**	**-0.1**
	4.8nm,0.7s,baz=211,slow=3.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**156.02**	**283**	PKP	**PKPdf**	**17 55 37.5**	**-0.9**
	0.2nm,0.4s,baz=112,slow=1.6,SNR=2.7						
TORD				PKPab	**PKPab**	**17 56 05.8**	**+0.1**
	0.5nm,0.6s,baz=92,slow=3.0,SNR=3.1						

NEIC 04 17:36:51.0, 52.71N×168.36W, h12km, ML3.5(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.40**	**312**	P	Pb	17 37 00.2	+0.2
NIKH				S	Sb	17 37 06.7	+0.6
OKFG	**Magazine Ridge**	**0.76**	**21**	P	Pg	17 37 05.8	+0.2
OKFG				S	Sb	17 37 16.9	+0.6
MSOM	**Makushin Julie**	**1.40**	**37**	P	Pn	17 37 15.3	-0.9
MGOD	**Makushin Gods**	**1.41**	**39**	P	Pn	17 37 15.3	-1.2
MREP	**Makushin Rep't**	**1.47**	**41**	P	Pn	17 37 16.9	-0.4
MCIR	**Makushin Cirqu**	**1.53**	**35**	P	Pn	17 37 17.4	-0.7
MSW	**Makushin Switc**	**1.54**	**37**	P	Pn	17 37 17.1	-1.1
MSW				S	Sn	17 37 36.4	-1.7
UNV	**Unalaska Valle**	**1.60**	**44**	P	Pn	17 37 18.1	-0.9
UNV				S	Sn	17 37 38.8	-0.6
AKRB	**Akutan Reef Bi**	**1.98**	**43**	P	Pn	17 37 24.8	+0.5
AKRB				S	Sb	17 37 51.1	-0.4
ZRO	**Akutan Zero**	**1.99**	**45**	P	Pn	17 37 25.1	+0.7
ZRO				S	Sb	17 37 50.7	-1.1
AKGG	**Akutan Green G**	**2.06**	**43**	P	Pn	17 37 25.6	+0.2
AKUT	**Akutan**	**2.11**	**46**	P	Pn	17 37 26.4	+0.4
WESE	**West Dahl East**	**2.86**	**50**	P	Pn	17 37 37.1	+0.6

ISCJB ***04*** *18:07:42.4±0.3, 8.30S±0.05×117.29E±0.03, h33km, mb4.2/12, MS3.4/1, Error ellipse: s-maj=6.6km s-min=3.5km az=12.0*
DJA ***04*** *18:07:43.7±0.9, 8°S±5°×11°7E±°, h29km±12km, M4.5/14, mb4.6/2, MLv4.5/14*
IDC ***04*** *18:07:48.0±4.7, 8.36S×117.21E, h76km±43km, mb3.9/13, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, MS3.3/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=28.1km s-min=10.4km az=55.0*
ISC 04 18:07:44.0±0.5, 8.39S±0.06×117.24E±0.05, h35km, n45, σ1s55/43, mb4.2/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**1.08**	**257**	P	x	18 08 02.1	

MTNI				S	x	18 08 18.4		
DNP	**Denpasar**	**2.02**	**262**	P	**Pn**	**18 08 18.0**	**+2.4**	
SRBI	**Singaraja**	**2.03**	**278**	P	**Pn**	**18 08 16.2**	**+0.5**	
LBFI	**Labuhan Bajo,**	**2.63**	**92**	P	x	18 08 24.2		
ABJI	**Asem Bagus**	**3.03**	**281**	P	Pn	18 08 33.2	+3.7	
JAGI	**Jajag, Banyuwa**	**3.05**	**268**	P	**Pn**	**18 08 29.0**	**-0.8**	
	baz=3.2,SNR=26							
WSI	**Waingapu**	**3.28**	**113**	P	**Pn**	**18 08 33.4**	**+0.5**	
KMMI	**Kalianget**	**3.50**	**292**	P	**Pn**	**18 08 36.6**	**+0.6**	
KMMI				S	**Sn**	**18 09 18.0**	**+1.7**	
BLJI	**Banyuglugur**	**3.66**	**280**	P	**Pn**	**18 08 38.2**	**0.0**	
GMJI	**Gumukmas**	**3.75**	**271**	P	**Pn**	**18 08 39.4**	**-0.1**	
GMJI				S	**Sn**	**18 09 25.2**	**+2.7**	
BKSI	**Bulukumba**	**4.18**	**43**	P	**Pn**	**18 08 44.2**	**-1.1**	
GRJI	**Gresik**	**4.94**	**287**	P	**Pn**	**18 08 55.0**	**-0.7**	
SPSI	**Sidrap Palu**	**5.07**	**30**	P	**Pn**	**18 08 58.9**	**+1.4**	
PWJI	**Pagerwojo**	**5.39**	**273**	P	**Pn**	**18 09 02.4**	**+0.4**	
BBKI	**Banjar Baru**	**5.44**	**334**	P	**Pn**	**18 09 01.6**	**-1.1**	
	88nm,1.0s,0.6nm							
UGM	**Wanagama**	**6.66**	**274**	P	Pn	18 09 23.3	+3.8	
	baz=6.8,SNR=8.4							
SOEI	**Soe**	**7.08**	**102**	P	**Pn**	**18 09 27.5**	**+2.3**	
	baz=6.9,SNR=16							
FITZ	**Fitzroy Crossi**	**12.65**	**141**	LR	LR	18 15 56.5		
	comp=Z,118nm,19.3s,baz=316,slow=38							
KNRA	**Kununurra**	**13.39**	**124**	P	**Pn**	**18 10 52.1**	**+0.4**	
	baz=13,SNR=17							
MTN	**Manton Dam**	**14.36**	**109**	P	**Pn**	**18 11 04.2**	**-0.7**	
	baz=14,SNR=19							
MTN				S	**Sn**	**18 13 43.1**	**+0.1**	
	baz=14,SNR=3.0							
GIRL	**Giralia**	**14.46**	**191**	P	**Pn**	**18 11 05.4**	**-0.8**	
	baz=14,SNR=5.0							
KDU	**Kakadu**	**15.57**	**107**	P	**Pn**	**18 11 21.4**	**+0.4**	
	baz=15,SNR=4.7							
FAKI	**Fak Fak**	**15.89**	**71**	P	**Pn**	**18 11 26.1**	**+0.9**	
	baz=16,SNR=5.1							
MEEK	**Meekatharra**	**18.20**	**176**	P	**P**	**18 11 55.4**	**+1.5**	
	baz=18,SNR=21							
MEEK				S	Sn	18 15 01.2	-15	
	baz=18,SNR=11							
WRKA	**Warakurna**	**19.63**	**149**	P	**Pn**	**18 12 11.2**	**0.0**	
	baz=20,SNR=34							
WRA	**Warrannunga Arr**	**20.15**	**127**	P	**P**	**18 12 15.8**	**+0.4**	
	6.5nm,0.6s,baz=300,slow=12,SNR=95							
WRA				S	**S**	**18 15 59.8**	**-0.1**	
	1.0nm,0.7s,baz=304,slow=24,SNR=4.4							
MORW	**Morawa**	**20.60**	**183**	P	Pn	18 12 24.6	+2.0	
	baz=21,SNR=7.6							
MORW				S	**S**	**18 16 02.8**	**-5.9**	
	baz=21,SNR=3.7							
ASAR	**Alice Springs**	**22.04**	**136**	P	**P**	**18 12 36.5**	**+0.7**	
	5.8nm,0.5s,baz=313,slow=9.5,SNR=268							
NWAO	**Narrogin (SRO)**	**24.42**	**180**	P	**P**	**18 13 00.3**	**+1.0**	
	4.8nm,0.5s,baz=354,slow=7.6,SNR=12							
QIS	**Mount Isa**	**24.77**	**122**	P	**P**	**18 13 03.5**	**+0.8**	
	baz=25,SNR=5.3							
COEN	**Coen**	**26.03**	**105**	P	**P**	**18 13 13.9**	**-0.2**	
	baz=26,SNR=8.5							
CMAR	**Chiang Mai Arr**	**32.21**	**326**	P	**P**	**18 14 10.4**	**+1.4**	
	1.4nm,0.8s,baz=147,slow=6.1,SNR=11							
STKA	**Stephens Creek**	**32.54**	**139**	P	**P**	**18 14 12.5**	**+0.7**	
	3.9nm,0.6s,baz=306,slow=9.3,SNR=16							
STKA				LR	LR	18 28 32.2		
	comp=Z,63nm,18.2s,baz=193,slow=38							
ARPS	**Mount Arapiles**	**36.02**	**145**	P	**P**	**18 14 43.4**	**+1.4**	
	baz=36,SNR=5.9							
KSRS	**Korea Array**	**46.69**	**12**	P	**P**	**18 16 10.3**	**+0.9**	
	2.1nm,0.8s,baz=184,slow=6.4,SNR=3.4							
USRK	**Uesuriysk Arra**	**54.02**	**13**	P	**P**	**18 17 04.9**	**+0.2**	
	6.0nm,0.8s,baz=187,slow=7.5,SNR=11							
SONM	**Songino Array**	**56.80**	**351**	P	**P**	**18 17 25.1**	**+0.3**	
	5.5nm,0.8s,baz=168,slow=8.7,SNR=52							
MKAR	**Makanchi Array**	**63.13**	**334**	P	**P**	**18 18 07.1**	**-1.2**	
	2.8nm,0.7s,baz=144,slow=7.1,SNR=27							
KURBB	**Kurchatov Arra**	**67.66**	**334**	P	**P**	**18 18 35.4**	**-2.0**	
	0.9nm,0.9s,baz=148,slow=5.6,SNR=10.0							
ZALV	**Zalesovo Beam**	**67.86**	**340**	P	**P**	**18 18 36.5**	**-2.1**	
	1.1nm,0.6s,baz=148,slow=4.9,SNR=5.9							
BVAR	**Borovoye Array**	**72.95**	**333**	P	**P**	**18 19 08.1**	**-1.7**	
	1.2nm,0.8s,baz=133,slow=6.5,SNR=6.8							
AKTO	**Aktyubinsk**	**77.74**	**326**	P	**P**	**18 19 35.3**	**-2.0**	
	0.8nm,0.6s,baz=58,slow=4.2,SNR=5.4							
YKA	**Yellowknife Ar**	**114.34**	**24**	PKP	PKPdf	18 26 17.6	-2.1	
	0.2nm,0.5s,baz=51,SNR=2.8							
TORD	**Torodi Ar. Bea**	**116.64**	**280**	PKP	**PKPdf**	**18 26 23.6**	**-1.9**	
	0.3nm,0.7s,baz=65,slow=2.3,SNR=4.1							
CPUP	**Villa Florida**	**145.09**	**189**	PKPbc	**PKPdf**	**18 27 18.6**	**0.0**	
	4.8nm,0.7s,baz=132,slow=4.3,SNR=8.9							

WEL 04 18:21:22.0±0.6, 44°35S×167°04E, h12km, ML3.6/11, Error ellipse: s-maj=5.8km s-min=3.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.72**	**117**	P*	Pg	18 21 35.0	-0.9
MSZ				S*	Sg	18 21 44.5	-0.9
MSZ				AML	AML	18 21 45.1	
MSZ				AML	AML	18 21 45.3	
MSZ				AML	AML	18 21 45.4	
DCZ	**Deep Cove**	**1.13**	**176**	P*	Pb	18 21 42.0	-1.5
DCZ				AML	AML	18 22 01.4	
DCZ				AML	AML	18 22 03.7	
DCZ				AML	AML	18 22 03.7	
DCZ				AML	AML	18 22 11.5	
JCZ	**Jackson Bay**	**1.27**	**78**	PN	Pn	18 21 45.3	-0.4
JCZ				AML	AML	18 22 03.9	
JCZ				AML	AML	18 22 04.7	
MLZ	**Mavora Lakes**	**1.28**	**141**	PN	Pn	18 21 45.5	-0.4
MLZ				S*	Sb	18 22 02.7	0.0
MLZ				AML	AML	18 22 03.5	
WKZ	**Wanaka**	**1.50**	**109**	AML	AML	18 22 09.4	
WKZ				AML	AML	18 22 09.5	
WKZ				AML	AML	18 22 10.4	
WKZ				AML	AML	18 22 10.4	
WHZ	**Wether Hill Ro**	**1.67**	**158**	PN	Pn	18 21 50.5	-0.7
WHZ				AML	AML	18 22 15.7	
WHZ				AML	AML	18 22 18.4	
EAZ	**Earnscleugh**	**1.84**	**119**	PN	Pb	18 21 55.2	-0.5
EAZ				AML	AML	18 22 21.1	
EAZ				AML	AML	18 22 21.1	
EAZ				AML	AML	18 22 22.0	
EAZ				AML	AML	18 22 22.1	
FOZ	**Fox Glacier**	**2.07**	**69**	PN	Pg	18 22 01.8	+0.1
FOZ				AML	AML	18 22 33.7	
FOZ				AML	AML	18 22 36.6	
LBZ	**Lake Benmore**	**2.26**	**92**	AML	AML	18 22 32.9	
LBZ				AML	AML	18 22 35.9	
TUZ	**Tuapeka**	**2.44**	**132**	PN	Pb	18 22 06.1	+0.3
TUZ				AML	AML	18 22 36.1	
TUZ				AML	AML	18 22 36.5	
RPZ	**Rata Peaks**	**2.97**	**79**	AML	AML	18 22 59.5	
RPZ				AML	AML	18 23 01.5	

WEL 04 18:29:37.2±0.7, 44°29S×166°94E, h5km, ML3.5/10, 3C, Error ellipse: s-maj=5.7km s-min=4.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.80**	**119**	⇑P*	Pg	18 29 53.2	+0.5
MSZ				S*	Sg	18 30 02.7	-0.4
MSZ				AML	AML	18 30 03.2	
MSZ				AML	AML	18 30 03.3	
MSZ				AML	AML	18 30 03.7	
DCZ	**Deep Cove**	**1.20**	**173**	P*	Pg	18 29 58.8	-1.4
DCZ				AML	AML	18 30 20.0	
DCZ				AML	AML	18 30 21.6	
DCZ				AML	AML	18 30 21.6	
JCZ	**Jackson Bay**	**1.32**	**81**	PN	Pn	18 30 01.6	-0.9
JCZ				S*	Sb	18 30 20.3	+0.2
JCZ				AML	AML	18 30 33.6	
MLZ	**Mavora Lakes**	**1.38**	**141**	⇑PN	Pn	18 30 02.8	-0.3
MLZ				S*	Sb	18 30 19.4	-2.0
MLZ				AML	AML	18 30 21.4	
WKZ	**Wanaka**	**1.58**	**111**	⇑PN	Pb	18 30 06.8	-0.1
WKZ				SN	Sn	18 30 25.9	-0.9
WKZ				AML	AML	18 30 27.7	
WKZ				AML	AML	18 30 27.7	
WKZ				AML	AML	18 30 28.4	
WHZ	**Wether Hill Ro**	**1.76**	**156**	PN	Pn	18 30 08.3	-0.1
WHZ				SN	Sn	18 30 29.9	-1.3
EAZ	**Earnscleugh**	**1.93**	**120**	PN	Pn	18 30 11.8	+1.1
EAZ				AML	AML	18 30 37.5	
EAZ				AML	AML	18 30 37.6	
EAZ				AML	AML	18 30 39.0	
EAZ				AML	AML	18 30 39.1	
FOZ	**Fox Glacier**	**2.11**	**71**	AML	AML	18 30 51.6	
FOZ				AML	AML	18 30 51.7	
FOZ				AML	AML	18 30 52.6	
FOZ				AML	AML	18 30 52.7	
LBZ	**Lake Benmore**	**2.33**	**94**	AML	AML	18 30 50.2	
LBZ				AML	AML	18 30 50.9	
TUZ	**Tuapeka**	**2.53**	**132**	AML	AML	18 30 54.1	
TUZ				AML	AML	18 30 55.9	
RPZ	**Rata Peaks**	**3.02**	**81**	AML	AML	18 31 16.5	

*ISCJB **04** 18:30:11.1±2.6, 41°.7S±0°.6×91°.8W±0°.2, h10km, mb3.8/6, MS3.7/8, Error ellipse: s-maj=82.7km s-min=17.6km az=178.9*

*IDC **04** 18:30:11.3±5.5, 41°.59S×91°.84W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/14, mbtmp4.1/5, MS3.8/9, Ms1 3.8/9, ms1mx3.6/29, Error ellipse: s-maj=155.7km s-min=31.5km az=7.0*

ISC 04 18:30:12.0±3.1, 41°.7S±0°.7×91°.9W±0°.1, h10km, n18, σ0°68/7, mb4.0/6, MS3.7/8, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N3	**Juan Fernandez**	**13.17**	**55**	T	T	18 46 12.3	
	baz=229,slow=74,SNR=1058						
H03N2	**Juan Fernandez**	**13.18**	**55**	T	T	18 46 14.4	
	baz=229,slow=74,SNR=969						
H03N1	**Juan Fernandez**	**13.19**	**55**	T	T	18 46 12.0	
	baz=229,slow=74,SNR=663						
PLCA	**Paso Flores**	**16.07**	**93**	LR	LR	18 38 45.2	
	comp=Z,476nm,19.1s,baz=271,slow=32						
USHA	**Ushuaia**	**20.24**	**138**	LR	LR	18 41 11.5	
	comp=Z,290nm,18.4s,baz=46,slow=32						
CFAA	**Coronel Fontan**	**21.42**	**69**	P	**P**	**18 35 00.4**	**+0.3**
	0.5nm,0.6s,baz=230,slow=9.2,SNR=8.9						
CFAA				LR	LR	18 41 11.1	
	comp=Z,50nm,21.5s,baz=230,slow=31						
CPUP	**Villa Florida**	**32.24**	**73**	LR	LR	18 47 33.5	
	comp=Z,179nm,20.2s,baz=157,slow=32						
LPAZ	**La Paz**	**32.57**	**46**	P	**P**	**18 36 44.2**	**0.0**
	1.0nm,0.6s,baz=148,slow=7.9,SNR=5.0						
LPAZ				LR	LR	18 46 39.6	
	comp=Z,148nm,21.2s,baz=251,slow=30						
RKT	**Rikitea**	**40.36**	**284**	eLR	LR	18 48 57.3	
	282nm,29.5s						
BDFB	**Brasilia**	**45.76**	**69**	P	**P**	**18 38 33.5**	**-0.4**
	0.7nm,0.3s,baz=220,slow=7.9,SNR=3.6						
BDFB				LR	LR	18 57 00.1	
	comp=Z,251nm,18.6s,baz=42,slow=35						
TBI	**Tubuai**	**50.95**	**272**	eLR	LR	18 53 51.9	
	257nm,27.8s						
VNDA	**Vanda**	**53.00**	**195**	LR	LR	18 58 36.6	
	comp=Z,60nm,19.5s,baz=255,slow=32						
PPT2	**Papeete2**	**54.51**	**278**	eS	**S**	**18 47 19.3**	**-0.1**
	90nm,26.8s						
PPT2				eLR	LR	18 55 25.4	
	210nm,26.2s						
PPT	**Papeete**	**54.52**	**278**	LR	LR	18 57 44.4	
	comp=Z,91nm,19.3s,baz=175,slow=30						
URZ	**Urewera**	**66.51**	**239**	LR	LR	19 03 12.6	
	comp=Z,103nm,18.5s,baz=310,slow=30						
TXAR	**Lajitas Array**	**71.56**	**349**	P	**P**	**18 41 32.4**	**-0.7**
	0.3nm,0.5s,baz=168,slow=7.7,SNR=5.1						
NVAR	**Mina Array Bea**	**83.36**	**339**	P	**P**	**18 42 39.7**	**+0.5**
	1.2nm,0.9s,baz=174,slow=6.5,SNR=8.3						
PDAR	**Pinedale Array**	**85.63**	**347**	P	**P**	**18 42 51.4**	**+0.8**
	3.3nm,0.9s,baz=161,slow=6.9,SNR=22						

*IDC **04** 18:35:51.6±0.9, 36°.81N×21°.55E, h0km, mb3.8/12, mb1 3.8/16, mb1mx3.7/32, mbtmp3.6/16, ML3.3/4, Error ellipse: s-maj=18.4km s-min=17.0km az=50.0*

*CSEM **04** 18:35:55.2±0.4, 36°.66N×21°.29E, h20km, MD3.5, Error ellipse: s-maj=8.6km s-min=5.2km az=33.0*

*ATH **04** 18:35:56.4, 36°.73N×21°.45E, h32km±1km, MD3.5/19*

*THE **04** 18:35:56.7, 36°.67N±21°.39E, h20km±2km, ML3.9/5, Error ellipse: s-maj=3.5km s-min=1.4km az=17.0*

*BEO **04** 18:35:57.4±0.9, 37°.00N×20°.94E, h0km, ML3.7/7*

ISC 04 18:35:54.9±0.6, 36°.71N±0°.03×21°.29E±0°.03, h27km±3km, n164, σ1°49/181, mb3.8/14, 1C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.41**	**62**	P	**Pb**	**18 36 04.0**	**+0.2**
PYL				S	**Sb**	**18 36 09.9**	**+0.2**
PYL	**PYLOS**	**0.41**	**62**	ePB	**Pb**	**18 36 03.9**	**+0.2**
PYL	**PYLOS**	**0.41**	**62**	ePb	**Pb**	**18 36 03.9**	**+0.2**
PYL				S	**Sb**	**18 36 09.9**	**+0.2**
SFD	**Strofades**	**0.59**	**338**	P	**Pn**	**18 36 08.9**	**+1.4**
SFD				S	**Sn**	**18 36 19.1**	**+2.9**
SFD	**Strofades**	**0.59**	**338**	ePN	**Pn**	**18 36 09.4**	**+1.9**
SFD	**Strofades**	**0.59**	**338**	P	**Pn**	**18 36 08.9**	**+1.4**
SFD	**Strofades**	**0.59**	**338**	ePn	**Pn**	**18 36 09.4**	**+1.9**
SFD				S	**Sn**	**18 36 19.1**	**+2.9**
ITM	**Ithomi**	**0.69**	**47**	ePN	**Pb**	**18 36 08.7**	**+0.3**
ITM				eSN	**Sb**	**18 36 17.8**	**+0.1**
ITM	**Ithomi**	**0.69**	**47**	ePn	**Pb**	**18 36 08.7**	**+0.3**
ITM				eSn	**Sb**	**18 36 17.8**	**+0.1**
AMT	**Artemida-Makis**	**0.89**	**22**	P	**Pn**	**18 36 12.4**	**+0.7**
AMT				S	**Sn**	**18 36 26.8**	**+3.1**
AMT	**Artemida-Makis**	**0.89**	**22**	ePN	**Pn**	**18 36 12.6**	**+0.9**
AMT	**Artemida-Makis**	**0.89**	**22**	ePn	**Pn**	**18 36 12.6**	**+0.9**
AMT				S	**Sn**	**18 36 26.8**	**+3.1**
VLX	**Vlachokerasia**	**1.09**	**52**	P	**Pb**	**18 36 15.4**	**+0.2**
VLX				S	**Sn**	**18 36 30.0**	**+1.1**
VLX	**Vlachokerasia**	**1.09**	**52**	ePN	**Pb**	**18 36 15.6**	**+0.4**
VLX				eSN	**Sb**	**18 36 28.7**	**-0.4**
VLX	**Vlachokerasia**	**1.09**	**52**	ePn	**Pb**	**18 36 15.6**	**+0.4**
VLX				eSn	**Sb**	**18 36 28.7**	**-0.4**
VLX				S	**Sn**	**18 36 30.0**	**+1.1**
DRO	**Drossia**	**1.29**	**15**	P	**Pb**	**18 36 19.2**	**+0.7**
DRO	**Drossia**	**1.29**	**15**	ePN	**Pb**	**18 36 19.6**	**+1.1**
DRO	**Drossia**	**1.29**	**15**	P	**Pb**	**18 36 19.2**	**+0.7**
DRO	**Drossia**	**1.29**	**15**	ePn	**Pb**	**18 36 19.6**	**+1.1**
VLI	**Veliai**	**1.32**	**89**	P	**Pb**	**18 36 19.0**	**0.0**
VLI				S	**Sn**	**18 36 34.8**	**+0.4**
VLI	**Veliai**	**1.32**	**89**	ePN	**Pb**	**18 36 19.3**	**+0.3**
VLI	**Veliai**	**1.32**	**89**	P	**Pb**	**18 36 19.0**	**0.0**
VLI	**Veliai**	**1.32**	**89**	ePn	**Pb**	**18 36 19.3**	**+0.3**
VLI				S	**Sn**	**18 36 34.8**	**+0.4**
RLS	**Riolos of Patr**	**1.36**	**6**	P	**Pb**	**18 36 20.9**	**+1.3**
RLS	**Riolos of Patr**	**1.36**	**6**	ePN	**Pb**	**18 36 20.8**	**+1.2**
RLS				eSN	**Sb**	**18 36 38.1**	**+1.6**
RLS	**Riolos of Patr**	**1.36**	**6**	ePn	**Pb**	**18 36 20.8**	**+1.2**
RLS				eSn	**Sb**	**18 36 38.1**	**+1.6**
KFL	**Anninata**	**1.46**	**344**	P	**Pb**	**18 36 21.4**	**+0.1**
KFL	**Anninata**	**1.46**	**344**	P	**Pb**	**18 36 21.4**	**+0.1**
GUR	**Goura**	**1.49**	**34**	P	**Pb**	**18 36 21.7**	**-0.2**
GUR	**Goura**	**1.49**	**34**	ePN	**Pb**	**18 36 22.1**	**+0.2**
GUR	**Goura**	**1.49**	**34**	P	**Pb**	**18 36 21.7**	**-0.2**
GUR	**Goura**	**1.49**	**34**	ePn	**Pb**	**18 36 22.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.50**	**27**	P	**Pb**	**18 36 22.2**	**+0.1**
KLV	**Kalavryta, Ach**	**1.50**	**27**	ePN	**Pb**	**18 36 22.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.50**	**27**	P	**Pb**	**18 36 22.2**	**+0.1**
KLV	**Kalavryta, Ach**	**1.50**	**27**	ePn	**Pb**	**18 36 22.5**	**+0.4**
VLS	**Valsamata**	**1.57**	**339**	ePB	**Pb**	**18 36 24.2**	**+0.9**
VLS				eSN	**Sb**	**18 36 45.2**	**+2.5**
VLS	**Valsamata**	**1.57**	**339**	ePb	**Pb**	**18 36 24.2**	**+0.9**
VLS				eSn	**Sb**	**18 36 45.2**	**+2.5**
LAKA	**Lakka**	**1.62**	**19**	ePN	**Pb**	**18 36 24.5**	**+0.3**
LAKA	**Lakka**	**1.62**	**19**	ePn	**Pb**	**18 36 24.5**	**+0.3**
DID	**Didima**	**1.75**	**62**	P	**Pn**	**18 36 24.4**	**+0.9**
DID	**Didima**	**1.75**	**62**	ePB	**Pn**	**18 36 24.4**	**+0.9**
DID	**Didima**	**1.75**	**62**	ePb	**Pn**	**18 36 24.4**	**+0.9**
EFP	**Efpalio**	**1.79**	**16**	P	**Pb**	**18 36 26.7**	**-0.2**
EFP	**Efpalio**	**1.79**	**16**	ePB	**Pb**	**18 36 26.5**	**-0.4**
EFP	**Efpalio**	**1.79**	**16**	ePb	**Pb**	**18 36 26.5**	**-0.4**
KALE	**Kalithea**	**1.81**	**22**	P	**Pb**	**18 36 27.4**	**0.0**
KALE	**Kalithea**	**1.81**	**22**	ePB	**Pb**	**18 36 27.1**	**-0.3**
KALE	**Kalithea**	**1.81**	**22**	ePb	**Pb**	**18 36 27.1**	**-0.3**
KALE	**Kalithea**	**1.81**	**22**	P	**Pb**	**18 36 27.4**	**0.0**
ANKY	**Antikythira Is**	**1.83**	**117**	P	**Pn**	**18 36 26.1**	**+1.6**
ANKY	**Antikythira Is**	**1.83**	**117**	ePB	**Pb**	**18 36 26.5**	**-1.1**
ANKY	**Antikythira Is**	**1.83**	**117**	P	**Pn**	**18 36 26.1**	**+1.6**
ANKY	**Antikythira Is**	**1.83**	**117**	ePb	**Pb**	**18 36 26.5**	**-1.1**
LTK	**Loutraki**	**1.87**	**45**	P	**Pn**	**18 36 26.3**	**+1.1**
LTK	**Loutraki**	**1.87**	**45**	ePN	**Pn**	**18 36 26.6**	**+1.4**
LTK	**Loutraki**	**1.87**	**45**	P	**Pn**	**18 36 26.3**	**+1.1**
LTK	**Loutraki**	**1.87**	**45**	ePn	**Pn**	**18 36 26.6**	**+1.4**
PDO	**Prodromos**	**1.89**	**357**	P	**Pb**	**18 36 28.3**	**-0.4**
PDO	**Prodromos**	**1.89**	**357**	ePB	**Pb**	**18 36 28.6**	**-0.1**
PDO	**Prodromos**	**1.89**	**357**	P	**Pb**	**18 36 28.3**	**-0.4**
PDO	**Prodromos**	**1.89**	**357**	ePb	**Pb**	**18 36 28.6**	**-0.1**
PVO	**Paravola**	**1.92**	**6**	P	**Pb**	**18 36 28.5**	**-0.6**
PVO	**Paravola**	**1.92**	**6**	P	**Pb**	**18 36 28.5**	**-0.6**
DSF	**Desfina**	**1.96**	**30**	P	**Pn**	**18 36 28.2**	**+1.7**
DSF	**Desfina**	**1.96**	**30**	ePN	**Pn**	**18 36 28.2**	**+1.7**
DSF	**Desfina**	**1.96**	**30**	ePn	**Pn**	**18 36 28.2**	**+1.7**
EVR	**Evrytania**	**2.24**	**10**	ePB	**Pb**	**18 36 33.7**	**-1.1**
EVR	**Evrytania**	**2.24**	**10**	ePb	**Pb**	**18 36 33.7**	**-1.1**
AXAR	**Agios Charalam**	**2.32**	**27**	P	**Pn**	**18 36 33.7**	**+2.3**
AXAR	**Agios Charalam**	**2.32**	**27**	P	**Pn**	**18 36 33.7**	**+2.3**
LKR	**Lokris**	**2.37**	**34**	ePN	**Pn**	**18 36 33.8**	**+1.8**
LKR	**Lokris**	**2.37**	**34**	ePn	**Pn**	**18 36 33.8**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.40**	**16**	P	**Pb**	**18 36 36.2**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.40**	**16**	ePN	**Pb**	**18 36 35.4**	**-1.9**
MAKR	**Makrakomi, Fth**	**2.40**	**16**	ePn	**Pb**	**18 36 35.4**	**-1.9**
MAKR	**Makrakomi, Fth**	**2.40**	**16**	P	**Pb**	**18 36 36.2**	**-1.1**
AGG	**Agios Georgios**	**2.45**	**19**	P	Pn	18 36 36.0	+2.8
AGG	**Agios Georgios**	**2.45**	**19**	P	Pn	18 36 36.0	+2.8
ERET	**Eretria**	**2.65**	**48**	P	**Pn**	**18 36 37.6**	**+1.8**
ERET	**Eretria**	**2.65**	**48**	P	**Pn**	**18 36 37.6**	**+1.8**
SMIA	**Simia**	**2.65**	**34**	ePN	**Pn**	**18 36 37.4**	**+1.6**
SMIA	**Simia**	**2.65**	**34**	ePn	**Pn**	**18 36 37.4**	**+1.6**
VAM	**Vamos**	**2.69**	**118**	ePN	**Pn**	**18 36 37.6**	**+1.2**
VAM	**Vamos**	**2.69**	**118**	ePn	**Pn**	**18 36 37.6**	**+1.2**
MRKA	**Markates**	**2.70**	**42**	ePN	**Pn**	**18 36 37.4**	**+0.8**
MRKA	**Markates**	**2.70**	**42**	ePn	**Pn**	**18 36 37.4**	**+0.8**
IGT	**Igoumenitsa**	**2.92**	**345**	P	**Pn**	**18 36 41.6**	**+2.0**
IGT	**Igoumenitsa**	**2.92**	**345**	P	**Pn**	**18 36 41.6**	**+2.0**
JAN	**Janina**	**2.96**	**353**	P	Pn	18 36 43.2	+3.0
JAN	**Janina**	**2.96**	**353**	P	Pn	18 36 43.2	+3.0
FYTO	**Fytoko, Volos**	**3.00**	**25**	P	Pn	18 36 43.6	+3.0
FYTO	**Fytoko, Volos**	**3.00**	**25**	P	Pn	18 36 43.6	+3.0
SKIA	**Skiathos**	**3.00**	**34**	ePN	**Pn**	**18 36 42.0**	**+1.4**
SKIA	**Skiathos**	**3.00**	**34**	ePn	**Pn**	**18 36 42.0**	**+1.4**
XOR	**Xorichti**	**3.05**	**29**	P	**Pn**	**18 36 42.8**	**+1.4**
XOR	**Xorichti**	**3.05**	**29**	P	**Pn**	**18 36 42.8**	**+1.4**
MEV	**Metsovon**	**3.07**	**359**	P	Pn	18 36 45.4	+3.6
MEV	**Metsovon**	**3.07**	**359**	P	Pn	18 36 45.4	+3.6
KEK	**Kerkira**	**3.22**	**339**	P	**Pn**	**18 36 45.5**	**+1.8**
KEK	**Kerkira**	**3.22**	**339**	P	**Pn**	**18 36 45.5**	**+1.8**
IDI	**Anoyia**	**3.24**	**115**	Pn	**Pn**	**18 36 43.9**	**-0.1**
	0.7nm,0.3s,baz=310,slow=22,SNR=5.6						
IDI				Sn	**Sn**	**18 37 19.8**	**-2.1**
	12nm,0.3s,baz=268,slow=18,SNR=17						
NEST	**Nestorio**	**3.71**	**357**	P	Pn	18 36 53.7	+3.2
NEST	**Nestorio**	**3.71**	**357**	P	Pn	18 36 53.7	+3.2
FNA	**Florina**	**4.07**	**1**	P	**Pn**	**18 36 57.4**	**+2.0**
FNA	**Florina**	**4.07**	**1**	P	**Pn**	**18 36 57.4**	**+2.0**
BIA	**Bitola**	**4.31**	**0**	*i* Pn	Pn	18 37 01.8	+3.1
BIA	**Bitola**	**4.31**	**0**	*i* Pn	Pn	18 37 01.8	+3.1
VAY	**Valandovo**	**4.71**	**12**	ePn	**Pn**	**18 37 05.8**	**+1.6**
VAY				*i* Sn	**Sn**	**18 37 57.4**	**-0.6**
VAY	**Valandovo**	**4.71**	**12**	*i* Pn	**Pn**	**18 37 06.7**	**+2.5**
VAY	**Valandovo**	**4.71**	**12**	ePn	**Pn**	**18 37 05.8**	**+1.6**
VAY				*i* Sn	**Sn**	**18 37 57.4**	**-0.6**
TAR1	**Taranto**	**4.94**	**322**	ePn	**Pn**	**18 37 09.1**	**+1.8**
PE1	**Pezze di Greco**	**5.09**	**325**	ePn	**Pn**	**18 37 10.

*HLW **04** 18:35:59.1,37°.28N×26°.11E,h24km±11km,Md3.3,Ml3.1*
*ISCJB **04** 18:36:16.5±0.8,36°.66N±0°.05×27°.17E±0°.06,h131km±7km, Error ellipse: s-maj=8.1km s-min=7.6km az=11.0*
*CSEM **04** 18:36:17.7±0.7,36°.73N×27°.13E,h122km±8km,MD3.3, Error ellipse: s-maj=9.3km s-min=8.5km az=179.0*
*ATH **04** 18:36:20.7,36°.69N×26°.93E,h37km±7km, MD3.0/5*
*DDA **04** 18:36:22.4,36°.90N×27°.31E,h98km, MD3.3*

ISC 04 18:36:17.0±1.9,**36°.69N**±0°.05×**27°.13E**±0°.05,**h127**km±13km, **n36**,σ1⁰**31**/41,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.45**	**34**	*i* P	**Pn**	**18 36 36.2**	**+0.7**
BDRM				*i* S	**Sn**	**18 36 50.3**	**+0.8**
BDRM	**Kayabasi**	**0.45**	**34**	*i* P	**Pn**	**18 36 36.2**	**+0.7**
ARG	**Arkhangelos**	**0.93**	**120**	*e*PN	**Pn**	**18 36 40.7**	**+1.7**
ARG				*e*SN	**Sn**	**18 36 56.3**	**+0.7**
ARG	**Arkhangelos**	**0.93**	**120**	*e*Pn	**Pn**	**18 36 40.7**	**+1.7**
ARG				*e*Sn	**Sn**	**18 36 56.3**	**+0.7**
GCAM	**G?zelcaml?**	**1.01**	**5**	*i* P	**Pn**	**18 36 39.9**	**+0.2**
GCAM				*i* S	**Sn**	**18 36 56.9**	**0.0**
GCAM	**G?zelcaml?**	**1.01**	**5**	*i* P	**Pn**	**18 36 39.9**	**+0.2**
GCAM				*i* S	**Sn**	**18 36 56.9**	**0.0**
SMG	**Samos**	**1.04**	**347**	*e*PN	**Pn**	**18 36 40.0**	**0.0**
SMG	**Samos**	**1.04**	**347**	*e*Pn	**Pn**	**18 36 40.0**	**0.0**
AYDN	**Tasoluk**	**1.14**	**31**	*i* P	Pn	18 36 50.3	+9.3
AYDN				*i* S	Sn	18 37 09.5	+10
KARP	**Karpathos**	**1.14**	**179**	*e*PN	**Pn**	**18 36 41.9**	**+0.8**
KARP				*e*SN	**Sn**	**18 36 57.5**	**-1.9**
KARP	**Karpathos**	**1.14**	**179**	*e*Pn	**Pn**	**18 36 41.9**	**+0.8**
KARP				*e*Sn	**Sn**	**18 36 57.5**	**-1.9**
TURN	**Turunc**	**1.19**	**81**	*i* P	**Pn**	**18 36 39.9**	**-0.7**
TURN				*i* S	**Sn**	**18 36 56.7**	**-3.5**
TURN	**Turunc**	**1.19**	**81**	*i* P	**Pn**	**18 36 39.9**	**-1.6**
APE	**Apeiranthos**	**1.34**	**287**	*e*PN	**Pn**	**18 36 43.0**	**-0.1**
APE	**Apeiranthos**	**1.34**	**287**	*e*Pn	**Pn**	**18 36 43.0**	**-0.1**
DNZL	**Cakiroluk**	**1.82**	**56**	*i* P	**Pn**	**18 36 49.8**	**+1.0**
DNZL				*i* S	**Sn**	**18 37 13.1**	**-0.1**
DNZL	**Cakiroluk**	**1.82**	**56**	*i* P	**Pn**	**18 36 49.8**	**+1.0**
DNZL				*i* S	**Sn**	**18 37 13.1**	**-0.1**
NPS	**Neapolis**	**1.89**	**221**	*e*PN	Pn	18 36 50.3	+0.9
NPS	**Neapolis**	**1.89**	**221**	*e*Pn	Pn	18 36 50.3	+0.9
CHOS	**Chios island**	**1.90**	**333**	*e*PN	**Pn**	**18 36 51.3**	**+1.7**
CHOS	**Chios island**	**1.90**	**333**	*e*Pn	**Pn**	**18 36 51.3**	**+1.7**
GOLH	**Golhisar**	**2.02**	**74**	*i* P	**Pn**	**18 36 52.9**	**+1.8**
GOLH				*i* S	**Sn**	**18 37 17.3**	**0.0**
GOLH	**Golhisar**	**2.02**	**74**	*i* P	**Pn**	**18 36 52.9**	**+1.8**
GOLH				*i* S	**Sn**	**18 37 17.3**	**0.0**
AKAS	**Kas**	**2.04**	**102**	*i* P	**Pn**	**18 36 51.7**	**+0.2**
AKAS	**Kas**	**2.04**	**102**	*i* P	**Pn**	**18 36 51.7**	**+0.2**
AKHS	**Akhisar**	**2.25**	**14**	*i* P	**Pn**	**18 36 53.2**	**-0.7**
AKHS	**Akhisar**	**2.25**	**14**	*i* P	**Pn**	**18 36 53.2**	**-0.7**
KHAL	**Karahalli**	**2.51**	**48**	*i* P	**Pn**	**18 36 57.4**	**+0.1**
KHAL	**Karahalli**	**2.51**	**48**	*i* P	**Pn**	**18 36 57.4**	**+0.1**
KORT	**Korkueli**	**2.60**	**82**	*i* P	**Pn**	**18 37 00.0**	**+1.6**
KORT				*i* S	**Sn**	**18 37 27.3**	**-3.0**
KORT	**Korkueli**	**2.60**	**82**	*i* P	**Pn**	**18 37 00.0**	**+1.6**
SWA2		**7.56**	**191**	AMP		18 39 00.0	
	comp=Z,10μm,0.3s,logA/T=4.5,baz=185						
AMAG	**Maghara**	**7.88**	**138**	P	Pn	18 38 07.3	-1.5
	baz=136						
AMAG	**Maghara**	**7.88**	**138**	P	Pn	18 38 07.3	-1.5
HNKL	**Nakhl**	**8.85**	**138**	P	Pn	18 38 20.6	-1.3
	baz=136						
HNKL	**Nakhl**	**8.85**	**138**	P	Pn	18 38 20.6	-1.3

*ISCJB **04** 18:48:04.6±0.8,30°.1N±0°.2×42°.1W±0°.2,h10km,mb3.6/8, MS3.8/17,Error ellipse: s-maj=23.8km s-min=18.7km az=13.9*
*IDC **04** 18:48:04.9±1.0,30°.09N×42°.06W,h0km,mb3.6/8, mb1 3.9/8,mb1mx3.7/28,mbtmp3.6/8,MS3.8/17, Ms1 3.8/17,ms1mx3.6/34,Error ellipse: s-maj=31.4km s-min=23.5km az=22.0*

ISC 04 18:48:06.3±0.9,**30°.1N**±0°.2×**42°.1W**±0°.2,**h10**km,**n27**, σ0⁰**82**/8,**mb3.6**/8,**MS3.7**/17,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.06**	**118**	LR	LR	19 04 00.2	
	comp=Z,132nm,19.0s,baz=262,slow=34						
SADO	**Sadowa**	**32.58**	**307**	LR	LR	19 04 45.9	
	comp=Z,156nm,20.8s,baz=206,slow=31						
TKL	**Tuckaleechee C**	**35.28**	**290**	LR	LR	19 06 25.9	
	comp=Z,148nm,19.1s,baz=352,slow=31						
SFJD	**Kangerlussuaq**	**37.28**	**354**	LR	LR	19 07 08.9	
	comp=Z,96nm,19.3s,baz=22,slow=31						
TEIG	**Tepich**	**42.74**	**268**	LR	LR	19 10 28.0	
	comp=Z,90nm,19.4s,baz=94,slow=31						
TORD	**Torodi Ar. Bea**	**43.73**	**103**	P	**P**	**18 56 12.1**	**+0.1**
	0.3nm,0.5s,baz=308,slow=9.3,SNR=3.2						
ULM	**Lac du Bonnet**	**44.69**	**313**	LR	LR	19 13 20.3	
	comp=Z,82nm,18.8s,baz=23,slow=34						
GERES	**GERESS Array B**	**45.83**	**50**	P	**P**	**18 56 27.9**	**-0.6**
	0.4nm,0.7s,baz=282,slow=6.9,SNR=3.7						
GERES				LR	LR	19 13 13.8	
	comp=Z,52nm,18.2s,baz=260,slow=33						
BDFB	**Brasilia**	**45.84**	**188**	LR	LR	19 11 53.6	
	comp=Z,93nm,20.2s,baz=233,slow=31						
H10N2	**ASCENSION HYDR**	**46.08**	**140**	T	T	19 45 31.6	
	baz=326,slow=75,SNR=228						
H10N3	**ASCENSION HYDR**	**46.08**	**140**	T	T	19 45 31.8	
	baz=326,slow=75,SNR=189						
H10N1	**ASCENSION HYDR**	**46.10**	**140**	T	T	19 45 33.0	
	baz=326,slow=75,SNR=242						
NOA	**NORSAR Array B**	**46.51**	**33**	LR	LR	19 13 43.5	
	comp=Z,54nm,18.6s,baz=265,slow=33						
H10S1	**ASCENSION HYDR**	**46.91**	**141**	T	T	19 46 33.8	
	baz=327,slow=75,SNR=222						
H10S3	**ASCENSION HYDR**	**46.92**	**142**	T	T	19 46 34.0	
	baz=327,slow=75,SNR=170						
H10S2	**ASCENSION HYDR**	**46.93**	**142**	T	T	19 46 35.1	
	baz=327,slow=75,SNR=136						
LPAZ	**La Paz**	**52.53**	**212**	P	**P**	**18 57 20.9**	**+0.2**
	1.0nm,0.7s,baz=3.6,slow=10,SNR=3.9						
LPAZ				LR	LR	19 16 01.0	
	comp=Z,112nm,19.7s,baz=230,slow=32						
TXAR	**Lajitas Array**	**52.92**	**286**	P	**P**	**18 57 22.4**	**-0.6**
	0.4nm,0.9s,baz=105,slow=4.4,SNR=3.5						
TXAR				LR	LR	19 20 36.0	
	comp=Z,84nm,18.5s,baz=5.0,slow=37						
FINES	**FINESS Array B**	**53.64**	**34**	LR	LR	19 16 12.9	
	comp=Z,110nm,19.7s,baz=219,slow=32						
ARCES	**ARCESS Array B**	**54.30**	**24**	LR	LR	19 14 29.2	
	comp=Z,69nm,19.9s,baz=307,slow=29						
PDAR	**Pinedale Array**	**54.43**	**303**	P	**P**	**18 57 33.4**	**-0.6**
	1.1nm,0.8s,baz=82,slow=6.7,SNR=7.8						
PDAR				LR	LR	19 19 10.9	
	comp=Z,158nm,18.7s,baz=98,slow=34						
YKA	**Yellowknife Ar**	**55.77**	**328**	P	**P**	**18 57 43.1**	**+0.1**
	0.4nm,0.8s,baz=90,slow=7.4,SNR=3.5						
AKASG	**Malin Array Be**	**55.80**	**47**	LR	LR	19 18 07.3	
	comp=Z,89nm,20.0s,baz=275,slow=32						
CPUP	**Villa Florida**	**57.99**	**196**	LR	LR	19 20 04.1	
	comp=Z,81nm,19.9s,baz=174,slow=33						
NVAR	**Mina Array Bea**	**61.93**	**300**	LR	LR	19 24 27.3	
	comp=Z,101nm,19.4s,baz=168,slow=35						
INK	**Inuvik**	**62.94**	**335**	P	**P**	**18 58 33.1**	**+0.6**
	2.7nm,0.8s,baz=107,slow=14,SNR=6.7						
ILAR	**Eielson Array**	**69.16**	**334**	P	**P**	**18 59 13.9**	**+1.3**
	0.5nm,1.0s,baz=56,slow=6.0,SNR=5.2						

*IDC **04** 18:56:05.5±0.5,8°.81S×157°.72E,h0km,mb4.5/20, mb1 4.7/22,mb1mx4.7/23,mbtmp4.5/22,ML4.0/2,MS4.0/12, Ms1 4.0/12,ms1mx3.7/36,Error ellipse: s-maj=14.0km s-min=12.4km az=19.0*
*NEIC **04** 18:56:06.5±4.1,8°.82S×157°.77E,h6km±25km, mb4.9/26, Error ellipse: s-maj=9.7km s-min=7.7km az=158.0*
*BJI **04** 18:56:06.1,8°.76S×158°.37E,h30km,mB5.2/8,mb4.8/16, Ms5.1/2,Ms7 4.9/2*
*ISCJB **04** 18:56:07.3±0.2,8°.76S±0°.04×157°.55E±0°.05,h17km, mb4.8/48,MS4.0/10,Error ellipse: s-maj=8.2km s-min=5.1km az=37.7*
*MOS **04** 18:56:09.4±0.8,8°.76S×157°.53E,h33km,mb5.2/9,Error ellipse: s-maj=13.4km s-min=9.3km az=62.1*

ISC 04 18:56:08.3±0.3,**8°.80S**±0°.06×**157°.70E**±0°.06,**h17**km,**n183**, σ1⁰**10**/170,**mb4.8**/48,**MS4.0**/10,**17C-11D**,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.30**	**106**	Pn	Pn	18 56 41.6	-3.9
HNR				Pg	**Pb**	**18 56 48.0**	**-1.5**
HNR				Lg	Lg	18 57 17.5	
HNR	**Honiara**	**2.30**	**106**	Pn	Pn	18 56 41.6	-3.9
	206nm,0.3s,baz=215,slow=3.4,SNR=114						
HNR				Pg	**Pb**	**18 56 47.9**	**-1.5**
	894nm,0.3s,baz=222,slow=7.1,SNR=27						
HNR				Lg	Lg	18 57 17.5	
	2μm,0.3s,baz=340,slow=22,SNR=5.8						
HNR	**Honiara**	**2.30**	**106**	*i* P	Pn	18 56 40.0	-5.5
RABL	**Rabaul**	**7.16**	**309**	P	**Pb**	**18 58 10.3**	**-2.0**
	baz=7.1,SNR=4.1						
PMG	**Port Moresby**	**10.43**	**266**	Pn	Pn	18 58 42.6	+5.4
PMG	**Port Moresby**	**10.43**	**266**	Pn	Pn	18 58 42.6	+5.4
	0.1nm,0.3s,baz=121,slow=8.7,SNR=4.6						
COEN	**Coen**	**15.13**	**249**	*e*P	**P**	**18 59 44.4**	**-2.1**
	232nm,1.0s						
COEN	**Coen**	**15.13**	**249**	P	**P**	**18 59 46.3**	**-0.2**
	baz=15,SNR=12						
DZM	**Mont Dzumac**	**15.64**	**148**	*e*P	**Pn**	**18 59 47.2**	**-1.0**
	66nm,1.4s						
DZM				*e*LR	LR	19 03 12.2	
	208nm,24.9s						
DZM	**Mont Dzumac**	**15.64**	**148**	*e*P	**Pn**	**18 59 47.1**	**-1.0**
	41nm,1.5s						
DZM	**Mont Dzumac**	**15.64**	**148**	Pn	**Pn**	**18 59 47.0**	**-1.1**
	0.1nm,0.3s,baz=357,slow=13,SNR=5.3						
DZM				LR	LR	19 04 18.6	
	comp=Z,321nm,19.0s,baz=45,slow=32						
CTA	**Charters Tower**	**15.76**	**223**	Pn	**Pn**	**18 59 48.8**	**-0.9**
CTA	**Charters Tower**	**15.76**	**223**	Pn	**Pn**	**18 59 48.8**	**-0.9**
	0.9nm,0.3s,baz=42,slow=16,SNR=8.6						
CTA				LR	LR	19 04 50.9	
	comp=Z,390nm,21.0s,baz=332,slow=33						
CTAO	**Charters Tower**	**15.76**	**223**	*e*P	**Pn**	**18 59 47.6**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,34nm,1.2s						
CTAO	**Charters Tower**	**15.76**	**223**	*e*P	**Pn**	**18 59 47.6**	**-2.0**
	comp=Z,34nm,1.2s						
EIDS	**Eidsvold**	**17.64**	**200**	*e*P	**P**	**19 00 15.3**	**+1.0**
	comp=Z,59nm,1.4s						
EIDS	**Eidsvold**	**17.64**	**200**	P	**P**	**19 00 18.4**	**+4.1**
	baz=17,SNR=4.0						
JAY	**Jayapura**	**18.02**	**289**	P	**P**	**19 00 22.6**	**+3.9**
	baz=18,SNR=5.1						
TARA	**Tarawa**	**18.22**	**57**	P	**P**	**19 00 25.2**	**+4.5**
	comp=Z,29nm,0.4s						
RMQ	**Roma**	**19.53**	**205**	P	**Pn**	**19 00 36.7**	**+0.3**
	baz=19,SNR=21						
QIS	**Mount Isa**	**21.02**	**234**	P	**P**	**19 00 52.5**	**+1.1**
	baz=21,SNR=10						
QLP	**Quilpie**	**21.81**	**214**	P	**P**	**19 01 00.2**	**+0.4**
	baz=22,SNR=9.9						
ARMA	**Armidale**	**22.24**	**194**	*e*P	**P**	**19 01 06.6**	**+2.1**
	comp=Z,14nm,0.8s						
ARMA	**Armidale**	**22.24**	**194**	P	**P**	**19 01 06.8**	**+2.3**
	baz=22,SNR=10						
WRAB	**Tennant Creek**	**25.14**	**241**	⇑*i*P	**P**	**19 01 33.1**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,109nm,2.5s						
WRAB	**Tennant Creek**	**25.14**	**241**	*e*P	**P**	**19 01 32.9**	**0.0**
	comp=Z,32nm,1.1s						
WRA	**Warramunga Arr**	**25.16**	**241**	P	**P**	**19 01 32.9**	**-0.1**
WRA				PcP	**PcP**	**19 05 06.9**	**-0.1**
WRA	**Warramunga Arr**	**25.16**	**241**	P	**P**	**19 01 32.9**	**-0.1**
	comp=Z,7.9nm,0.7s,baz=67,slow=9.6,SNR=44						
WRA				PcP	**PcP**	**19 05 06.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=64,slow=3.2,SNR=5.2						
WRA				LR	LR	19 10 55.6	
	comp=Z,404nm,19.3s,baz=65,slow=35						
CMSA	**Cobar Meteorol**	**25.23**	**205**	P	**P**	**19 01 33.5**	**+0.1**
	baz=25,SNR=15						
ASAR	**Alice Springs**	**27.14**	**234**	P	**P**	**19 01 50.0**	**-0.9**
ASAR	**Alice Springs**	**27.14**	**234**	P	**P**	**19 01 50.0**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=65,slow=8.8,SNR=22						
ASAR				LR	LR	19 12 07.4	
	comp=Z,275nm,20.7s,baz=20,slow=35						
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**	**19 01 53.9**	**+0.8**
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**	**19 01 53.9**	**+0.8**
	comp=Z,20nm,0.7s,baz=23,slow=11,SNR=46						
STKA				LR	LR	19 12 05.2	
	comp=Z,402nm,20.3s,baz=26,slow=35						
H11S3	**WAKE ISLAND Hy**	**28.54**	**18**	T	T	19 30 46.4	
	baz=199,slow=77,SNR=68						
H11S2	**WAKE ISLAND Hy**	**28.54**	**18**	T	T	19 30 44.1	
	baz=199,slow=77,SNR=118						
H11S1	**WAKE ISLAND Hy**	**28.55**	**18**	T	T	19 30 54.3	
	baz=199,slow=77,SNR=130						
KNRA	**Kununurra**	**29.07**	**254**	P	**P**	**19 02 08.9**	**+0.8**
	baz=29,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**29.75**	**18**	T	T	19 32 41.7	
	baz=198,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**29.76**	**18**	T	T	19 32 28.1	
	baz=198,slow=75,SNR=33						
H11N2	**WAKE ISLAND Hy**	**29.77**	**18**	T	T	19 32 43.2	
	baz=198,slow=75,SNR=40						
HTT	**Hallett**	**30.02**	**213**	P	**P**	**19 02 18.5**	**+2.1**
	baz=30,SNR=3.3						
AFI	**Afiamalu**	**30.33**	**102**	LR	LR	19 11 27.8	
	comp=Z,371nm,21.6s,baz=246,slow=30						
TOO	**Toolangi**	**30.70**	**199**	P	**P**	**19 02 22.7**	**+0.4**
	baz=30,SNR=5.1						
BBOO	**Buckleboo**	**31.17**	**217**	*e*P	**P**	**19 02 26.0**	**-0.6**
	comp=Z,390nm,1.0s						
BBOO	**Buckleboo**	**31.17**	**217**	P	**P**	**19 02 26.1**	**-0.5**
	baz=31,SNR=5.8						
ARPS	**Mount Arapiles**	**31.35**	**205**	P	**P**	**19 02 28.4**	**+0.3**
	baz=31,SNR=8.7						
WRKA	**Warakurna**	**32.32**	**236**	P	**P**	**19 02 35.7**	**-1.1**
	baz=32,SNR=11						
FITZ	**Fitzroy Crossi**	**32.48**	**250**	LR	LR	19 15 33.0	
	comp=Z,249nm,19.6s,baz=0.9,slow=36						
RPZ	**Rata Peaks**	**36.68**	**164**	LR	LR	19 16 28.4	
	comp=Z,178nm,18.3s,baz=201,slow=33						
MEEK	**Meekatharra**	**41.02**	**239**	P	**P**	**19 03 50.9**	**-0.1**
	baz=41,SNR=4.3						
MJAR	**Matsushiro Arr**	**48.69**	**339**	P	**P**	**19 04 50.5**	**-1.3**
MJAR	**Matsushiro Arr**	**48.69**	**339**	P	**P**	**19 04 50.5**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=166,slow=6.6,SNR=5.7						
MAJO	**Matsushiro**	**48.69**	**339**	*i* P	**P**	**19 04 51.0**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,347nm,2.7s						
JNU	**Nakatsue**	**48.89**	**330**	P	**P**	**19 04 52.9**	**-0.6**
JNU	**Nakatsue**	**48.89**	**330**	P	**P**	**19 04 52.9**	**-0.6**
	comp=Z,21nm,1.0s,baz=65,slow=12,SNR=4.5						
PPT	**Papete**	**51.92**	**105**	LR	LR	19 22 35.0	
	comp=Z,134nm,20.6s,baz=320,slow=31						
PPT2	**Papeete2**	**51.92**	**105**	*e*LQ	LQ	19 18 11.3	
PPT2	comp=Z,219nm,26.2s			*e*LR	LR	19 20 27.6	
	comp=Z,316nm,26.5s						
TBI	**Tubuai**	**52.51**	**113**	*e*LQ	LQ	19 18 20.6	
	comp=Z,516nm,29.8s						
TBI				*e*LR	LR	19 20 32.9	
	comp=Z,160nm,26.2s						
KSRS	**Korea Array**	**53.80**	**331**	P	**P**	**19 05 30.6**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=144,slow=7.2,SNR=6.7						
KSAR	**Wonju Array Be**	**53.81**	**331**	P	**P**	**19 05 30.6**	**+0.5**
USRK	**Ussuriysk Arra**	**57.67**	**338**	P	**P**	**19 05 58.5**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=116,slow=4.8,SNR=5.9						
CN2	**Changchun**	**59.98**	**333**	*e*P	**P**	19 06 17.5	+3.6
CN2				*e*S	S	19 14 14.3	-11
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
ENH	**Enshi**	**60.43**	**312**	*e*P	**P**	**19 06 17.7**	**+0.4**
	comp=Z,5.6nm,0.9s						
SLVN	**Son La**	**60.71**	**300**	*e*P	**P**	**19 06 20.3**	**+0.9**
	comp=Z,14nm,1.5s						
PETK	**Petropavlovsk-**	**61.67**	**360**	P	**P**	**19 06 25.6**	**+0.4**
PETK	**Petropavlovsk-**	**61.67**	**360**	P	**P**	**19 06 25.6**	**+0.4**
PETK	**Petropavlovsk-**	**61.67**	**360**	P	**P**	**19 06 25.6**	**+0.4**
	comp=Z,9.8nm,0.8s,baz=167,slow=8.1,SNR=26						
KMI	**Kunming**	**63.25**	**304**	P	**P**	**19 06 37.7**	**+1.1**
KMI				pmax	pmax		
	comp=Z,12nm,1.5s						
CMAR	**Chiang Mai Arr**	**63.98**	**295**	P	**P**	**19 06 42.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**63.98**	**295**	P	**P**	**19 06 42.6**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=118,slow=4.9,SNR=17						
CHTO	**Chiang Mai**	**64.10**	**296**	*e*P	**P**	**19 06 42.9**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**64.10**	**296**	*e*P	**P**	**19 06 42.9**	**+0.8**
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**68.72**	**179**	P	**P**	**19 07 12.2**	**+1.5**
VNDA	**Vanda**	**68.72**	**179**	P	**P**	**19 07 12.2**	**+1.5**
	comp=Z,4.2nm,1.1s,baz=343,slow=4.3,SNR=3.3						
VNDA				LR	LR	19 31 35.4	
	comp=Z,86nm,19.2s,baz=80,slow=31						
SEY	**Seymchan**	**71.64**	**357**	P	**P**	**19 07 29.0**	**+0.3**
SEY	**Seymchan**	**71.64**	**357**	P	**P**	**19 07 29.0**	**+0.3**
SEY	**Seymchan**	**71.64**	**357**	P	**P**	**19 07 29.0**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=353,slow=23,SNR=3.7						
GTA	**Gaotai**	**71.89**	**316**	*e*P	**P**	**19 07 32.1**	**+1.3**
GTA				pP	pP	19 07 42.1	+5.7
GTA				sP	sP	19 07 46.2	+7.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ULN	**Ulaanbaatar**	**71.97**	**327**	P	**P**	**19 07 31.4**	**+0.3**
	comp=Z,6.1nm,1.2s						
SONM	**Songino Array**	**72.31**	**326**	P	**P**	**19 07 33.7**	**+0.6**
SONM	**Songino Array**	**72.31**	**326**	P	**P**	**19 07 33.7**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=136,slow=5.6,SNR=13						
YAK	**Yakutsk**	**73.90**	**347**	*e*P	**P**	**19 07 40.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
ZAK	**Zakamensk**	**75.44**	**327**	*e*P	**P**	**19 07 51.7**	**+0.2**
TNA	**Tin City**	**78.40**	**14**	*e*P	**P**	**19 08 08.2**	**+0.6**
	comp=Z,8.4nm,0.8s						
QSPA	**South Pole Qui**	**81.18**	**180**	*e*P	**P**	**19 08 21.4**	**-1.6**
CAST	**Castle Rocks**	**81.45**	**20**	*e*P	**P**	**19 08 24.0**	**-0.2**
	comp=Z,14nm,0.8s						
KTH	**Kantishna Hill**	**81.94**	**21**	*e*P	**P**	**19 08 25.6**	**-1.2**
	comp=Z,74nm,0.9s						
TRF	**Thorofare Moun**	**82.09**	**21**	*e*P	**P**	**19 08 26.3**	**-1.5**
	comp=Z,11nm,0.8s						
TIXI	**Tiksi**	**82.53**	**351**	*e*P	**P**	**19 08 29.5**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,13nm,1.9s						
IM04	**Indian Mountai**	**82.57**	**18**	*e*P	**P**	**19 08 30.1**	**0.0**
MCK	**McKinley**	**82.75**	**21**	*e*P	**P**	**19 08 29.9**	**-1.2**
MCK				pmax	pmax		
	comp=Z,59nm,1.1s						
MCK	**McKinley**	**82.75**	**21**	*e*P	**P**	**19 08 29.9**	**-1.2**
	comp=Z,59nm,1.1s						
MAW	**Mawson**	**83.77**	**203**	P	**P**	**19 08 35.8**	**-0.5**
MAW	**Mawson**	**83.77**	**203**	P	**P**	**19 08 35.8**	**-0.5**
	comp=Z,5.2nm,1.0s,baz=87,slow=6.9,SNR=4.8						
COLA	**College**	**83.81**	**20**	*c i*P	**P**	**19 08 35.1**	**-1.3**
COLA				pmax	pmax		
	comp=Z,97nm,0.9s						
COLA	**College**	**83.81**	**20**	*e*P	**P**	**19 08 35.5**	**-0.9**
	comp=Z,21nm,0.7s						
ILAR	**Eielson Array**	**84.08**	**21**	P	**P**	**19 08 36.9**	**-1.0**
ILAR	**Eielson Array**	**84.08**	**21**	P	**P**	**19 08 36.9**	**-1.0**
	comp=Z,5.6nm,0.5s,baz=256,slow=5.2,SNR=49						
MENT	**Mentasta**	**84.23**	**23**	*e*P	**P**	**19 08 38.7**	**0.0**
DOT	**Dot Lake**	**84.48**	**22**	*e*P	**P**	**19 08 40.5**	**+0.5**
	comp=Z,17nm,1.0s						
HYT	**Haines Junctio**	**85.77**	**26**	*e*P	**P**	**19 08 47.7**	**+1.1**
DAWY	**Dawson**	**86.48**	**23**	*e*P	**P**	**19 08 51.0**	**+1.1**
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**19 08 50.4**	**-0.2**
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**19 08 50.4**	**-0.2**
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**19 08 50.4**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=93,slow=6.2,SNR=17						
ZALV	**Zalesovo Beam**	**87.17**	**326**	P	**P**	**19 08 52.4**	**-1.0**
ZALV	**Zalesovo Beam**	**87.17**	**326**	P	**P**	**19 08 52.4**	**-1.0**
ZALV	**Zalesovo Beam**	**87.17**	**326**	P	**P**	**19 08 52.4**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=121,slow=5.1,SNR=7.7						
M02C	**Callahan**	**87.93**	**48**	⇓P	**P**	**19 08 59.3**	**+1.8**
	baz=88						
N02D	**Trinity Center**	**87.94**	**48**	⇑P	**P**	**19 08 59.1**	**+1.5**
	baz=88						
YBH	**Yreka Blue Hor**	**88.12**	**47**	LR	LR	19 41 48.2	
	comp=Z,74nm,20.8s,baz=275,slow=31						
M04C	**Macdoel**	**88.76**	**48**	⇑P	**P**	**19 09 02.6**	**+1.1**
	baz=89						
PKM	**Peak Mountain**	**88.87**	**55**	⇑P	**P**	**19 09 03.8**	**+1.6**
	baz=89						
J05D	**Fort Rock, OR**	**89.53**	**46**	⇓P	**P**	**

comp=Z,1.4nm,0.8s,baz=243,slow=1.8,SNR=12

TXAR	**Lajitas Array**	**101.75**	**62**	P	**Pdif**	**19 10 02.4**	**+1.4**
TXAR	**Lajitas Array**	**101.75**	**62**	P	**Pdif**	**19 10 02.4**	**+1.4**

comp=Z,0.3nm,0.7s,baz=13,slow=30,SNR=4.3

AKASG	**Malin Array Be**	**120.56 325**	PKIKP	**PKPdf**	**19 14 58.1**	**-1.0**
AKASG	**Malin Array Be**	**120.56 325**	PKP	**PKPdf**	**19 14 58.1**	**-1.0**
AKASG	**Malin Array Be**	**120.56 325**	PKP	**PKPdf**	**19 14 58.1**	**-1.0**

comp=Z,0.9nm,0.5s,baz=51,slow=2.3,SNR=9.7

NOA	**NORSAR Array B**	**122.27 341**	PKP	**PKPdf**	**19 15 01.3**	**-0.9**
NOA	**NORSAR Array B**	**122.27 341**	PKP	**PKPdf**	**19 15 01.3**	**-0.9**

comp=Z,1.3nm,0.8s,baz=45,slow=1.5,SNR=3.3

LPAZ	**La Paz**	**128.24 119**	PKP	**PKPdf**	**19 15 14.8**	**-0.9**
LPAZ	**La Paz**	**128.24 119**	PKP	**PKPdf**	**19 15 14.8**	**-0.9**

comp=Z,1.8nm,0.8s,baz=52,slow=1.3,SNR=6.1

GERES	**GERESS Array B**	**129.97 330**	PKP	**PKPdf**	**19 15 17.1**	**-0.3**
GERES	**GERESS Array B**	**129.97 330**	PKP	**PKPdf**	**19 15 17.1**	**-0.3**

comp=Z,0.5nm,0.7s,baz=64,slow=3.1,SNR=4.5

SDV	**Santo Domingo**	**132.27 86**	*e*P	**PKPdf**	**19 15 21.4**	**-1.5**
BDFB	**Brasilia**	**144.80 134**	PKP	**PKPab**	**19 15 43.7**	**-0.7**
BDFB	**Brasilia**	**144.80 134**	PKP	**PKPab**	**19 15 43.7**	**-0.7**

comp=Z,32nm,0.7s,baz=228,slow=2.9,SNR=49

ESDC	**Sonseca Array**	**145.16 335**	PKPbc	**PKPab**	**19 15 45.3**	**+0.2**
ESDC	**Sonseca Array**	**145.16 335**	PKPbc	**PKPab**	**19 15 45.3**	**+0.2**

comp=Z,1.1nm,0.8s,baz=24,slow=3.3,SNR=4.5

TAM	**Tamanrasset**	**149.91 301**	*e*PKP2	**PKPbc**	**19 15 59.4**	**+0.6**
TAM	**Tamanrasset**	**149.91 301**	*e*PKPbc	**PKPbc**	**19 15 59.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**156.06 283**	PKP	**PKPdf**	**19 16 02.6**	**-0.3**
TORD			PKPbc	PKPbc	19 16 17.9	
TORD			PKPab	**PKPab**	**19 16 28.4**	**-1.9**
TORD			P'P'		19 32 49.0	
TORD	**Torodi Ar. Bea**	**156.06 283**	PKP	**PKPdf**	**19 16 02.6**	**-0.3**

comp=Z,0.1nm,0.4s,baz=105,slow=0.1,SNR=2.7

TORD			PKPbc	PKPbc	19 16 17.9		

comp=Z,0.7nm,0.7s,baz=67,slow=2.3,SNR=3.9

TORD			PKPab	**PKPab**	**19 16 28.4**	**-1.9**

comp=Z,0.9nm,0.6s,baz=70,slow=2.8,SNR=7.4

TORD			PKPPKP		19 32 49.0		

comp=Z,1.2nm,1.2s,baz=235,slow=2.2,SNR=4.1

DBIC	**Dimbokro**	**162.59 264**	PKPab	**PKPab**	**19 16 57.9**	**-0.8**
DBIC	**Dimbokro**	**162.59 264**	PKPab	**PKPab**	**19 16 57.9**	**-0.8**

comp=Z,1.8nm,0.6s,baz=54,slow=4.7,SNR=5.1

GUC 04 19:02:26.2±0.4, 32.02S×71.06W, h84km±2km, ML4.0, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.77**	**149**	⇑*i*P	Pn	19 02 42.8	-0.3
CMCH	**Combarbala**	**0.85**	**3**	⇓*i*P	Pn	19 02 43.5	-0.4
CMCH				*i* S	Sn	19 02 57.0	-0.1
ROCH	**El Roble**	**0.95**	**178**	*e*P	Pn	19 02 44.8	-0.4
ROCH				*i* S	Sn	19 02 59.2	-0.2
IHA	**Instituto Hidr**	**1.11**	**206**	*i* P	Pn	19 02 46.5	-0.4
IHA				*i* S	Sn	19 03 02.0	-0.3
PEL	**Peldehue**	**1.16**	**164**	⇑*i*P	Pn	19 02 47.5	0.0
PEL				*i* S	Sn	19 03 03.4	-0.1
CLCH	**Cerro Calan**	**1.44**	**162**	⇓*i*P	Pn	19 02 50.9	-0.1
CLCH				*i* S	Sn	19 03 09.5	-0.2
CLCH				AML	AML	19 03 14.6	

comp=E,3μm,0.7s

STL	**Santa Lucia**	**1.45**	**166**	*i* P	Pn	19 02 51.0	-0.2
STL				*i* S	Sn	19 03 09.8	-0.1
SAN	**Santiago**	**1.46**	**167**	*i* P	Pn	19 02 51.0	-0.3
SAN				*i* S	Sn	19 03 09.6	-0.6
LACH	**Col Las Americ**	**1.49**	**163**	*i* P	Pn	19 02 51.5	-0.1
LACH				*i* S	Sn	19 03 10.7	-0.2
FSR	**Penalolen**	**1.52**	**163**	⇓*i*P	Pn	19 02 53.2	+1.2
FSR				*i* S	Sn	19 03 12.6	+1.1
ANTU	**Antumapu**	**1.58**	**167**	⇑*i*P	Pn	19 02 52.8	0.0
ANTU				*i* S	Sn	19 03 12.5	-0.5
ANTU				AML	AML	19 03 14.0	

comp=E,3μm,0.3s

TACH	**Talagante**	**1.63**	**177**	⇑*i*P	Pn	19 02 53.3	-0.1
TACH				*i* S	Sn	19 03 13.7	-0.3
PCH	**Pirque**	**1.66**	**164**	*e*P	Pn	19 02 53.5	-0.3
PCH				*i* S	Sn	19 03 14.7	-0.1
SJCH	**San Jose de Ma**	**1.72**	**160**	*i* P	Pn	19 02 53.9	-0.8
SJCH				*i* S	Sn	19 03 15.5	-0.7
SJCH				AML	AML	19 03 17.7	

comp=N,1μm,0.3s

CHCH	**Chadas Ángostu**	**1.94**	**170**	⇑*i*P	Pn	19 02 57.2	-0.3
CHCH				*i* S	Sn	19 03 21.1	-0.2
LNV	**Longovilo**	**1.95**	**189**	*i* P	Pn	19 02 56.8	-0.8
LNV				*i* S	Sn	19 03 20.3	-1.1
LMEL	**Las Melosas**	**1.96**	**159**	*e*P	Pn	19 02 58.4	+0.5
LMEL				*e*S	Sn	19 03 22.2	+0.3
LMEL				AML	AML	19 03 23.8	

comp=N,2μm,0.3s

CACH	**El Canelo**	**2.12**	**170**	⇓*i*P	Pn	19 03 00.1	+0.1
CACH				*e*S	Sn	19 03 26.2	+0.3

MAN 04 19:05:14, 9.42N×122.64E, h12km, mb4.0, ML2.7, MS2.4, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.20**	**357**	*e*P	Pn	19 05 36.3	-0.4
GUIM				*e*S	Sn	19 05 53.6	+0.7
IPIL	**Ipil**	**1.62**	**183**	*e*P	Pn	19 05 42.5	+0.1
PAGZ	**Pagadian**	**1.72**	**155**	*e*P	Pn	19 05 44.1	+0.3

*ISCJB **04** 19:13:47.9±1.4, 8.7S±0.2×157.6E±0.3, h16km, mb3.7/6, MS3.9/2, Error ellipse: s-maj=44.6km s-min=17.1km az=27.0*

*IDC **04** 19:13:47.5±0.9, 8.71S×157.49E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/27, Error ellipse: s-maj=24.8km s-min=14.5km az=8.0*

ISC 04 19:13:49.7±0.9, 8.7S±0.2×157.57E±0.10, h16km, n15, σ0 s75/9, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.45**	**107**	Pn	Pn	19 14 24.1	-4.9

5.0nm,0.3s,baz=309,slow=21,SNR=3.7

HNR				Pg	**Pb**	**19 14 34.1**	**+0.7**

96nm,0.3s,baz=229,slow=7.6,SNR=27

HNR				Lg	Lg	19 15 07.9	

114nm,0.3s,baz=260,slow=24,SNR=8.9

HNR	**Honiara**	**2.45**	**107**	*e*P	**Pb**	**19 14 33.0**	**-0.4**
CTA	**Charters Tower**	**15.72**	**223**	Pn	**Pn**	**19 17 30.7**	**+0.1**

0.1nm,0.3s,baz=51,slow=15,SNR=2.8

WRA	**Warramunga Arr**	**25.07**	**241**	P	**P**	**19 19 13.5**	**-0.2**

4.2nm,0.9s,baz=67,slow=9.6,SNR=27

ASAR	**Alice Springs**	**27.07**	**234**	P	**P**	**19 19 30.6**	**-1.2**

0.7nm,0.8s,baz=57,slow=9.3,SNR=7.8

STKA	**Stephens Creek**	**27.39**	**211**	P	**P**	**19 19 34.9**	**+0.3**

3.2nm,0.6s,baz=35,slow=12,SNR=21

H11S3	**WAKE ISLAND Hy**	**28.52**	**18**	T	T	19 48 14.0	

baz=200,slow=77,SNR=17

H11S2	**WAKE ISLAND Hy**	**28.52**	**18**	T	T	19 48 11.4	

baz=200,slow=77,SNR=19

H11S1	**WAKE ISLAND Hy**	**28.53**	**18**	T	T	19 48 15.5	

baz=200,slow=77,SNR=10

MJAR	**Matsushiro Arr**	**48.58**	**339**	LR	LR	19 40 15.3	

comp=Z,97nm,20.5s,baz=170,slow=33

CMAR	**Chiang Mai Arr**	**63.83**	**295**	P	**P**	**19 24 22.6**	**+0.7**

0.8nm,0.7s,baz=128,slow=5.8,SNR=10

SONM	**Songino Array**	**72.18**	**327**	P	**P**	**19 25 14.1**	**+0.2**

0.5nm,0.7s,baz=124,slow=5.1,SNR=4.5

ILAR	**Eielson Array**	**84.07**	**21**	P	**P**	**19 26 18.6**	**-0.8**

0.2nm,0.4s,baz=256,slow=4.8,SNR=1.7

AAK	**Ala-Archa**	**90.79**	**313**	LR	LR	20 12 32.6	

comp=Z,46nm,18.0s,baz=195,slow=39

BDFB	**Brasilia**	**144.95**	**134**	PKPbc	PKPbc	19 33 26.5	0.0

1.7nm,0.6s,baz=167,slow=6.8,SNR=1.9

*NIED **04** 19:27:00, 24.10N×121.80E, h53km, Mw4.8 Best double couple: M0 1.67000×10^16 NP1: φ306.00000°, δ82.00000°, λ2.00000°. NP2: φ216.00000°, δ88.00000°, λ172.00000°.*

*MOS **04** 19:27:33.4±1.1, 24.20N×122.07E, h33km, mb4.7/21, Error ellipse: s-maj=12.1km s-min=6.7km az=115.3*

*BJI **04** 19:27:34.0, 24.27N×121.75E, h20km, mB4.7/24, mb4.5/30, ML4.6/8, Ms4.6/29, Ms7 4.2/21*

*JMA **04** 19:27:36.6, 24.11N×121.84E, h48km±1km, M4.7*

*ISCJB **04** 19:27:36.8±0.1, 24.17N±0.01×121.92E±0.01, h57km±1km, mb4.6/68, MS3.9/17, Error ellipse: s-maj=2.5km s-min=1.8km az=36.9*

*NEIC **04** 19:27:37.0±0.5, 24.15N×121.92E, h48km±4km, mb4.5/21, Error ellipse: s-maj=6.1km s-min=5.3km az=117.0*

NEIC Recorded [4 TAP] in Hua-lien and I-lan; [3 TAP] in Nan-t'ou and T'ai-chung; [2 TAP] in Chang-hua, Chia-i, Hsin-chu, Miao-li, T'ai-pei, T'ao-yuan and Yun-lin.

*TAP **04** 19:27:37.4, 24.18N×121.83E, h46km, ML5.5, B*

*IDC **04** 19:27:38.9±2.4, 24.18N×121.97E, h68km±22km, mb3.8/20, mb1 4.1/24, mb1mx4.0/32, mbtmp4.0/24, MS3.8/18, Ms1 3.9/18, ms1mx3.6/49, Error ellipse: s-maj=15.6km s-min=11.2km az=74.0*

ISC 04 19:27:37.5±0.4, 24.16N±0.02×121.90E±0.02, h49km±3km, h48km: pP-P, n283, σ1 s33/335, mb4.6/65, MS4.0/17, 34C-31D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.21**	**316**	P	**Pn**	**19 27 45.2**	**-0.7**

baz=320

EHP				S	**Sn**	**19 27 50.9**	**-0.9**

baz=320

NACB	**Ninganchiao**	**0.28**	**273**	*e*P	**Pn**	**19 27 45.0**	**-1.4**
TWD	**Chiawan**	**0.29**	**255**	⇑*i*P	**Pn**	**19 27 45.7**	**-0.7**

baz=239

TWD				*e*S	**Sn**	**19 27 52.9**	**+0.1**

baz=239

ENA	**Nanau**	**0.31**	**331**	⇓*i*P	**Pn**	**19 27 46.0**	**-0.6**

baz=337

ENA				*e*S	**Sn**	**19 27 52.5**	**-0.6**

baz=337

HWA	**Hwalien**	**0.33**	**237**	⇑P	**Pn**	**19 27 46.4**	**-0.3**

baz=216

TWC	**Suao**	**0.45**	**354**	⇓*i*P	**Pn**	**19 27 48.0**	**-0.1**

baz=7.0

ESF	**Shoufeng Towns**	**0.46**	**232**	*e*P	**Pn**	**19 27 48.4**	**+0.2**

baz=236

ESF				*e*S	**Sn**	**19 27 56.1**	**+0.3**

baz=236

ESL	**Shilin**	**0.55**	**232**	⇑*e*P	**Pn**	**19 27 48.3**	**-1.0**

baz=232

TEGC	**Jichi Village**	**0.56**	**217**	*e*P	**Pn**	**19 27 50.1**	**+0.7**

baz=202

TEGC				*e*S	**Sn**	**19 27 59.1**	**+1.2**

baz=202

NNS	**Nan Shan**	**0.56**	**300**	⇑*i*P	**Pn**	**19 27 48.7**	**-0.9**

baz=301

NNS				*e*S	**Sn**	**19 27 57.8**	**-0.4**

baz=301

ENTT	**Nioudou**	**0.57**	**327**	⇓*i*P	**Pn**	**19 27 49.0**	**-0.6**

baz=332

WHF	**Hehuan Shan**	**0.58**	**269**	⇑*i*P	**Pn**	**19 27 49.2**	**-0.9**

baz=260

ILA	**Ilan**	**0.62**	**347**	⇓*e*P	**Pn**	**19 27 50.2**	**0.0**

baz=352

ILA				*e*S	**Sn**	**19 28 00.4**	**+1.0**

baz=352

TWT	**Tachien**	**0.67**	**278**	⇑*i*P	**Pn**	**19 27 50.8**	**-0.2**

baz=273

EGS		**0.69**	**2**	⇓P	**Pn**	**19 27 51.4**	**+0.4**

baz=8.0

YHNB	**Yeheng**	**0.70**	**317**	*e*P	**Pn**	**19 27 50.4**	**-0.9**
NSK	**Sanguang**	**0.72**	**316**	⇓*i*P	**Pn**	**19 27 50.9**	**-0.6**

baz=323

EHY	**Hungye**	**0.84**	**220**	⇑*i*P	**Pn**	**19 27 51.9**	**-1.2**

baz=224

EHY				*e*S	**Sn**	**19 28 02.7**	**-1.7**

baz=224

TWB1	**Santiao Chiao**	**0.85**	**5**	⇓*e*P	**Pn**	**19 27 53.6**	**+0.3**

baz=22

TWB1				*e*S	**Sn**	**19 28 04.7**	**0.0**

baz=22

TWA	**Mucha**	**0.87**	**341**	⇓P	**Pn**	**19 27 53.6**	**+0.1**

baz=334

TWA				*e*S	**Sn**	**19 28 05.5**	**+0.4**

baz=334

TATO	**Taipei**	**0.90**	**335**	*e*P	**Pn**	**19 27 53.2**	**-0.6**
NWF	**Wu-fen Shan**	**0.92**	**353**	⇓*i*P	**Pn**	**19 27 54.8**	**+0.6**

baz=346

YULB	**Yu-li**	**0.94**	**216**	*e*P	**Pn**	**19 27 52.8**	**-1.6**
SSLB	**Suanglung**	**0.94**	**247**	*e*P	**Pn**	**19 27 52.8**	**-1.7**
TAP1	**Taipei**	**0.94**	**339**	⇓*i*P	**Pn**	**19 27 54.1**	**-0.3**

baz=331

TAP1				*e*S	**Sn**	**19 28 06.8**	**0.0**

baz=331

NSTT	**Nanjuang**	**0.95**	**300**	⇑*i*P	**Pn**	**19 27 54.7**	**+0.2**

baz=308

TAP	**Taipei**	**0.95**	**338**	⇓P	**Pn**	**19 27 54.3**	**-0.3**

baz=331

TAP				*e*S	**Sn**	**19 28 07.2**	**+0.1**

baz=331

SMLT	**Sun Moon Lake**	**0.96**	**254**	⇑*i*P	**Pn**	**19 27 54.6**	**-0.2**

baz=246

SMLT				*e*S	**Sn**	**19 28 07.3**	**-0.1**

baz=246

TWF1	**Yuli**	**0.97**	**215**	⇑*e*P	**Pn**	**19 27 53.8**	**-1.1**

baz=222

TWF1				*e*S	**Sn**	**19 28 06.1**	**-1.6**

baz=222

TYC	**Yuchr**	**0.99**	**255**	⇑P	**Pn**	**19 27 54.9**	**-0.2**

baz=245

TWS1	**Kuangyinshan**	**1.04**	**335**	⇓*i*P	**Pn**	**19 27 55.6**	**-0.2**

baz=337

TWS1				*e*S	**Sn**	**19 28 09.3**	**+0.2**

baz=337

NCU	**National Centr**	**1.04**	**321**	⇓*e*P	**Pn**	**19 27 55.5**	**-0.3**

baz=322

NCU				*e*S	**Sn**	**19 28 09.2**	**0.0**

baz=322

TWQ1	**Liyutan**	**1.05**	**281**	⇑P	**Pn**	**19 27 56.2**	**+0.3**

baz=279

TWQ1				*e*S	**Sn**	**19 28 10.5**	**+1.0**

baz=279

YOJ	**Yonaguni jima**	**1.05**	**73**	*e*P	**Pn**	**19 27 56.4**	**+0.5**
YOJ	**Yonaguni jima**	**1.05**	**73**	P	**Pn**	**19 27 56.5**	**+0.5**
YOJ				S	**Sn**	**19 28 10.8**	**+1.2**
YOJ	**Yonaguni jima**	**1.05**	**73**	*e*P	**Pn**	**19 27 56.4**	**+0.5**
YOJ	**Yonaguni jima**	**1.05**	**73**	⇓*i*P	**Pn**	**19 27 56.6**	**+0.7**

baz=75

YOJ				S	**Sn**	**19 28 10.4**	**+0.9**

baz=75

HSN	**Hsinchu**	**1.07**	**307**	*e*P	**Pn**	**19 27 56.2**	**+0.2**

baz=310

HSN				*e*S	**Sn**	**19 28 10.1**	**+0.3**

baz=310

NSY	**Sanyi**	**1.07**	**284**	⇑*e*P	**Pn**	**19 27 56.6**	**+0.4**

baz=283

NSY				*e*S	**Sn**	**19 28 10.6**	**+0.6**

baz=283

YUS	**Yu-Shan**	**1.10**	**233**	⇑P	**Pn**	**19 27 57.2**	**+0.2**

baz=222

YUS				*e*S	**Sn**	**19 28 10.9**	**-0.4**

baz=222

TCU	**Taichung**	**1.12**	**270**	⇑*i*P	**Pn**	**19 27 57.4**	**+0.5**

baz=268

TCU				*e*S	**Sn**	**19 28 12.1**	**+0.9**

baz=268

TWY	**Chenhua**	**1.15**	**346**	⇑*e*P	**Pn**	**19 27 57.4**	**+0.2**

baz=334

TWY				*e*S	**Sn**	**19 28 12.4**	**+0.6**

baz=334

WNT	**Mingjian**	**1.15**	**256**	⇑*i*P	**Pn**	**19 27 58.2**	**+1.0**

baz=254

WNT				*e*S	**Sn**	**19 28 13.1**	**+1.3**

baz=254

CHKT	**Chengkung**	**1.16**	**205**	⇓*i*P	**Pn**	**19 27 56.5**	**-0.9**

baz=192

CHKT				*e*S	**Sn**	**19 28 10.7**	**-1.4**

baz=192

ALS	**Alishan**	**1.19**	**238**	⇑P	**Pn**	**19 27 58.6**	**+0.5**

baz=235

ALS				*e*S	**Sn**	**19 28 13.8**	**+0.4**

baz=235

CHN5	**Tsauling**	**1.25**	**244**	⇑*i*P	**Pn**	**19 27 59.4**	**+0.7**

baz=241

ELDTW	**Lidau**	**1.26**	**220**	⇓*e*P	**Pn**	**19 27 58.0**	**-0.8**

baz=218

ELDTW				*e*S	**Sn**	**19 28 14.3**	**-0.4**

baz=218

WGK	**Gukeng**	**1.31**	**249**	⇑*e*P	**Pn**	**19 28 00.5**	**+1.0**

baz=247

WGK				*e*S	**Sn**	**19 28 16.6**	**+0.7**

baz=247

CHN4	**Tsaushan**	**1.44**	**237**	⇑*e*P	**Pn**	**19 28 02.2**	**+0.9**

baz=234

STYT	**Tauyuan**	**1.44**	**227**	⇓P	**Pn**	**19 28 02.0**	**+0.7**

baz=225

STYT				*e*S	**Sn**	**19 28 19.9**	**+0.8**

baz=225

TPUB	**Ta-pu**	**1.45**	**234**	*e*P	**Pn**	**19 28 01.9**	**+0.6**
WTP	**Ta-pu**	**1.49**	**233**	⇑P	**Pn**	**19 28 02.9**	**+1.0**

baz=231

WTP				*e*S	**Sn**	**19 28 21.2**	**+1.0**

baz=231

CHY	**Chiayi**	**1.50**	**244**	⇑P	**Pn**	**19 28 03.2**	**+1.1**

baz=232

CHY				*e*S	**Sn**	**19 28 21.2**	**+0.7**

baz=232

WTCT	**Ta-ch'eng**	**1.51**	**259**	*e*P	**Pn**	**19 28 02.3**	**+0.1**

baz=257

WTCT				*e*S	**Sn**	**19 28 21.4**	**+0.7**

baz=257

TWG	**Pinlang**	**1.53**	**210**	*e*P	**Pn**	**19 28 00.6**	**-1.9**
TWG	**Pinlang**	**1.53**	**210**	⇓*e*P	**Pn**	**19 28 01.1**	**-1.4**

baz=199

TWG				*e*S	**Sn**	**19 28 20.3**	**-0.9**

baz=199

TTN	**Taitung**	**1.56**	**207**	*e*P	**Pn**	**19 28 02.5**	**-0.3**

baz=205

TTN				*e*S	**Sn**	**19 28 22.6**	**+0.8**

baz=205

TWK	**Hsinying**	**1.57**	**236**	⇑*e*P	**Pn**	**19 28 04.0**	**+1.0**

baz=234

TWK				*e*S	**Sn**	**19 28 23.0**	**+0.7**

baz=234

CHN1	**Nanshi**	**1.59**	**233**	*e*P	**Pn**	**19 28 04.4**	**+1.1**

baz=231

CHN1				*e*S	**Sn**	**19 28 23.6**	**+0.9**

baz=231

SGST	**Jiashian**	**1.62**	**229**	⇓*i*P	**Pn**	**19 28 05.1**	**+1.5**

baz=218

SGST				*e*S	**Sn**	**19 28 24.3**	**+1.0**

baz=218

WSF	**Szhu**	**1.62**	**252**	⇑P	**Pn**	**19 28 04.3**	**+0.6**

baz=262

WSF				*e*S	**Sn**	**19 28 24.4**	**+1.0**

baz=262

IRIF	**Iriomote-Funau**	**1.68**	**84**	P	**Pn**	**19 28 05.1**	**+0.7**
IRIF				S	**Sn**	**19 28 26.1**	**+1.4**
HATJ	**Hateruma jima**	**1.74**	**93**	P	**Pn**	**19 28 06.3**	**+1.0**
HATJ				S	**Sn**	**19 28 28.1**	**+1.8**
CHN8	**Yiju**	**1.75**	**243**	*e*P	**Pn**	**19 28 06.1**	**+0.7**

baz=231

CHN8				*e*S	**Sn**	**19 28 27.6**	**+1.1**

baz=231

CHN3	**Shinhua**	**1.77**	**233**	*e*P	**Pn**	**19 28 07.5**	**+1.8**

baz=232

CHN3				*e*S	**Sn**	**19 28 28.8**	**+1.7**

baz=232

ECL	**Taimali**	**1.78**	**210**	⇓*e*P	**Pn**	**19 28 04.2**	**-1.6**

baz=200

| | | | | | | | |
|---|---|---|---|---

NJ2 LR LR
comp=E,1µm,5.6s
NJ2 LR LR
comp=E,3µm,6.4s
JZK Kikaishima 8.34 59 P Pn 19 29 34.8 -1.1
BALP Baler 8.38 182 *e*P **Pn 19 29 38.5 +2.1**
SCZP Santa Cruz 8.55 193 *e*P **Pn 19 29 39.0 +0.3**
JMZ Minamidaito 2 8.61 77 P Pn 19 29 35.9 -3.7
WHN Wuhan 9.25 315 P **Pn 19 29 46.2 -2.0**
WHN LR LR
comp=E,3µm,2.7s
WHN LR LR
comp=E,3µm,3.2s
WHN LR LR
comp=E,3µm,3.1s
JNU Nakatsue 11.91 39 P **Pn 19 30 25.7 +1.1**
JNU Nakatsue 11.91 39 P **Pn 19 30 25.7 +1.1**
comp=E,0.7nm,0.3s,baz=199,slow=6.7,SNR=10
QIZ Qiongzhong 12.32 248 P **Pn 19 30 30.2 -0.1**
QIZ S **Sn 19 32 47.5 +1.2**
QIZ pmax pmax
comp=E,17nm,1.2s
QIZ pmax pmax
comp=E,130nm,5.6s
QIZ LR LR
comp=E,610nm,11.2s
TIA Tai'an 12.70 342 *e*P **Pn 19 30 33.4 -2.0**
TIA pmax pmax
comp=E,10.0nm,1.0s
TIA LR LR
comp=E,610nm,6.0s
TIA LR LR
comp=E,1µm,6.0s
TIA LR LR
comp=E,560nm,5.0s
GYA Guiyang 13.97 283 ⇓ *i*P **Pn 19 30 52.2 -0.8**
GYA S Sn 19 33 20.4 -6.3
GYA pmax pmax
comp=E,50nm,0.8s
GYA pmax pmax
comp=E,120nm,4.3s
GYA LR LR
comp=E,1µm,6.0s
GYA LR LR
comp=E,940nm,6.2s
GYA LR LR
comp=E,720nm,6.0s
KSAR Wonju Array Be 14.20 20 P **Pn 19 30 57.2 +1.4**
KSRS Korea Array 14.22 20 P **Pn 19 30 57.2 +1.2**
comp=E,1.8nm,0.3s,baz=199,slow=12,SNR=20
KSRS LR LR 19 36 39.1
comp=E,269nm,19.5s,baz=213,slow=38
XAN Xi'an 15.01 314 P **Pn 19 31 05.9 -0.7**
XAN pP **P 19 31 09.4 -1.7**
XAN pmax pmax
comp=E,3.0nm,0.8s
XAN pmax pmax
comp=E,24nm,4.6s
XAN LR LR
comp=E,990nm,5.6s
XAN LR LR
comp=E,260nm,8.0s
BJT Baijiatuao 16.54 344 *e*P **Pn 19 31 25.2 -0.8**
comp=E,38nm,1.2s
SLVN Son La 16.84 264 *e*P **P 19 31 30.9 -0.6**
comp=E,23nm,0.8s
KMI Kunming 17.45 277 P **Pn 19 31 36.9 -0.8**
KMI pP **pP 19 31 44.7 -4.9**
KMI sP sP 19 31 48.7 -7.1
KMI PP **pwP 19 31 53.2 +3.6**
KMI pmax pmax
comp=E,13nm,1.4s
KMI pmax pmax
comp=E,100nm,3.5s
KMI LR LR
comp=E,630nm,7.3s
KMI LR LR
comp=E,1µm,13.3s
KMI LR LR
comp=E,990nm,12.9s
KDM Kudat 17.82 197 ⇑ P **P 19 31 44.3 +2.0**
CBIJ Chichi jima 18.52 77 P **P 19 31 48.8 -1.1**
JCJ Chichijima 18.52 77 P **P 19 31 48.8 -1.1**
comp=E,3.4nm,0.3s,baz=277,slow=16,SNR=4.0
JCJ LR LR 19 38 05.1
comp=E,192nm,21.1s,baz=176,slow=34
MJAR Matsushiro Arr 18.68 45 P **P 19 31 49.9 -1.8**
MJAR Matsushiro Arr 18.68 45 P **P 19 31 49.9 -1.8**
comp=E,0.3nm,0.3s,baz=226,slow=10,SNR=9.4
SDKM Sandakan 18.96 195 ⇓ P **Pn 19 31 56.0 +0.1**
MYLDM Lahad Datu 19.15 190 P x 19 32 01.6
comp=E,69nm,1.4s
LZH Lanzhou 19.59 312 P **Pn 19 32 03.9 +0.4**
LZH pP **pP 19 32 13.3 +0.2**
LZH sP **sP 19 32 16.6 -2.7**
LZH PP **PnPn 19 32 20.8 +2.7**
LZH S **S 19 35 39.3 -1.2**
LZH sS **Sn 19 35 47.0 +4.3**
LZH pmax pmax
comp=E,36nm,1.2s
LZH pmax pmax
comp=E,170nm,5.2s
LZH LR LR
comp=E,690nm,9.5s
LZH LR LR
comp=E,860nm,10.2s
LZH LR LR
comp=E,990nm,11.0s
CN2 Changchun 19.81 8 *e*P **Pn 19 32 07.1 +1.3**
CN2 *e*S **S 19 35 42.4 -1.9**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,200nm,3.0s
CN2 LR LR
comp=E,400nm,13.0s
CN2 LR LR
comp=E,400nm,13.0s
CN2 LR LR
comp=E,600nm,14.0s
TSM Tawau 20.13 192 ⇑ P **P 19 32 07.8 +0.2**
PHIT Phitsanulok 21.25 255 P **P 19 32 22.2 +2.5**
comp=E,28nm,1.0s
MDJ Mudanjiang 21.35 15 P **P 19 32 21.5 +0.9**
comp=E,27nm,1.1s
MDJ *e*pP **pP 19 32 34.5 +2.5**
LAMP Lampang 21.48 259 P **P 19 32 24.1 +2.0**
comp=E,6.7nm,0.9s,comp=E,61nm
CMAI Chiengmai2 21.59 263 P 19 32 32.3 +8.8
USRK Ussuriysk Arra 21.63 20 P **P 19 32 22.9 -0.5**
comp=E,2.3nm,0.5s,baz=221,slow=12,SNR=8.4
USRK LR LR 19 42 11.6
comp=E,153nm,19.0s,baz=308,slow=40
CHTO Chiang Mai 22.00 260 *e*P **P 19 32 27.7 -0.1**
CHTO pmax pmax
comp=E,12nm,0.9s
CHTO Chiang Mai 22.00 260 P **P 19 32 29.3 +1.5**
comp=E,59nm,1.2s,comp=E,1µm
CHTO Chiang Mai 22.00 260 *e*P **P 19 32 27.7 -0.1**
comp=E,12nm,0.9s
CM31 Chiang Mai Arr 22.12 260 *e*P **P 19 32 31.1 +2.1**
comp=E,13nm,1.0s
CM31 *e*pP **pP 19 32 44.2 +3.7**
CMAR Chiang Mai Arr 22.12 260 P **P 19 32 30.6 +1.6**
CMAR Chiang Mai Arr 22.12 260 P **P 19 32 30.6 +1.6**
comp=E,1.9nm,0.8s,baz=63,slow=8.5,SNR=21
CMAR LR LR 19 41 31.3
comp=E,200nm,19.9s,baz=245,slow=38
BTM Bintulu 22.51 204 ⇓ P **P 19 32 31.9 -1.3**
GTOI Gorontalo 23.41 177 P **P 19 32 41.5 -0.7**
comp=E,52nm,0.9s
SBUM Sibu 23.52 205 P x 19 32 42.5
comp=E,36nm,1.0s
SBUM Sibu 23.52 205 ⇓ P **P 19 32 42.8 -0.6**
MRSI Marisa 23.54 180 P **P 19 32 45.0 +1.5**
comp=E,32nm,1.1s
GTA Gaotai 24.07 314 ⇑ P **P 19 32 49.2 +0.8**
GTA pP pP 19 32 53.6 -7.4
GTA sP sP 19 32 56.2 -11
GTA S **S 19 37 05.2 +2.6**
GTA sS sS 19 37 13.1 -11
GTA pmax pmax
comp=E,6.0nm,1.1s
GTA pmax pmax
comp=E,45nm,4.5s
GTA LR LR
comp=E,420nm,16.6s
GTA LR LR
comp=E,270nm,15.7s
APSI Ampana 24.92 181 P **P 19 32 56.5 +0.4**
comp=E,64nm,1.2s
LUWI Luwuk 25.06 178 P **P 19 33 02.1 +4.7**
comp=E,73nm,1.1s,comp=E,3µm
HIA Hailar 25.12 357 *e*P **P 19 32 57.4 -0.3**
comp=E,22nm,0.9s
KSM Kuching 25.19 208 ⇓ P **P 19 32 58.8 +0.2**
LBMI Labuha 25.24 167 P **P 19 33 01.1 +2.0**
comp=E,60nm,0.9s
STKI Sintang 26.00 204 P pP 19 33 21.8 +3.3
KTGM Kuala Trenggan 26.01 227 ⇓ P **P 19 33 06.7 +0.6**
ASAJ Asahikawa 26.13 35 LR LR 19 43 05.4
comp=E,199nm,20.7s,baz=187,slow=36
KLR Kul'dur 26.20 15 *e*P **P 19 33 03.8 -3.6**
ULN Ulaanbaatar 26.44 337 *e*P **P 19 33 09.0 -0.9**
comp=E,23nm,1.1s
SONM Sogino Array 26.65 336 P **P 19 33 11.1 -0.7**
SONM Songino Array 26.65 336 P **P 19 33 11.1 -0.7**
comp=E,4.5nm,1.0s,baz=154,slow=8.8,SNR=18
SONM LR LR 19 44 44.6
comp=E,280nm,18.5s,baz=143,slow=38
MMSI Mamuju 26.84 187 P x 19 33 16.9
comp=E,65nm,0.9s
NLAI Namlea 27.70 169 P **P 19 33 25.0 +3.8**
comp=E,64nm,1.0s
LSA Lhasa 27.92 288 P **P 19 33 25.3 +1.6**
LSA Lhasa 27.92 288 *e*P **P 19 33 24.4 +0.7**
LSA pmax pmax
comp=E,12nm,0.8s
LSA Lhasa 27.92 288 *e*P **P 19 33 24.4 +0.7**
comp=E,12nm,0.8s
IPM Ipoh 28.06 229 ⇑ P **P 19 33 24.8 +0.2**
MYKOM Kota Tinggi 28.27 221 ⇑ P **P 19 33 27.0 +0.6**
BBKI Banjar Baru 28.30 195 P **P 19 33 26.9 +0.3**
comp=E,41nm,1.0s
SRPI Serui, Papua 29.39 150 P **P 19 33 37.1 +0.9**
comp=E,62nm,1.0s,comp=Z,1µm
ZAK Zakamensk 29.91 336 *e*P P 19 33 46.3 +5.6
PSI Prapat 30.71 230 P **P 19 33 48.2 0.0**
PSI Prapat 30.71 230 P **P 19 33 48.2 0.0**
comp=E,3.8nm,0.3s,baz=305,slow=15,SNR=4.2
TLY Talaya 30.85 338 *e*P **P 19 33 48.6 -0.3**
TLY pmax pmax
comp=E,5.0nm,0.9s
TLY Talaya 30.85 338 *e*P **P 19 33 48.6 -0.3**
comp=E,5.2nm,0.9s
TAPN Taplejung 30.91 283 *e*P **P 19 33 51.2 +1.2**
comp=E,46nm,1.1s
BKNI Bangkinang 31.15 224 P **P 19 33 54.4 +2.6**
comp=E,57nm,0.6s
ODAN Odare 31.21 282 *e*P **P 19 33 54.0 +1.4**
comp=E,28nm,0.8s
MNSI Mandailing Nat 31.73 226 P **P 19 33 57.0 0.0**
comp=E,33nm,1.0s
RAMN Ramite 31.91 283 *e*P **P 19 34 00.3 +1.5**
comp=E,51nm,1.1s
GENI Genyem 31.98 144 P P 19 34 05.9 +6.8
comp=E,42nm,0.3s,comp=Z,3µm
PPI Padang Panjang 32.16 224 P **P 19 34 02.2 +1.5**
comp=E,21nm,1.7s
JIRN Jiri 32.24 284 *e*P **P 19 34 02.7 +0.8**
comp=E,15nm,0.8s
LBFI Labuhan Bajo, 32.50 184 P x 19 34 02.8
comp=E,98nm,1.0s
GUN Gumba 32.51 284 *e*P **P 19 34 05.3 +1.1**
comp=E,24nm,0.8s
BLJI Banyuglugur 32.73 195 P **P 19 34 05.2 -0.5**
comp=E,77nm,0.8s
PKI Pulchoki 32.94 284 *e*P **P 19 34 08.7 +0.8**
KKN Kakani 33.05 284 *e*P **P 19 34 09.5 +0.8**
comp=E,15nm,0.8s
DMN Daman 33.21 284 *e*P **P 19 34 11.0 +0.8**
comp=E,20nm,0.9s
MDSI Maura Dua 33.30 214 P **P 19 34 11.5 +0.8**
comp=E,35nm,0.9s
PWJI Pagerwoja 33.47 198 P **P 19 34 11.8 -0.3**
GKN Gorkha 33.61 285 *e*P **P 19 34 14.1 +0.6**
comp=E,39nm,1.4s
DANN Dangsing 34.37 285 *e*P **P 19 34 21.1 +0.8**
comp=E,17nm,0.8s
KOLN Koldanda 34.53 284 *e*P **P 19 34 22.2 +0.6**
comp=E,20nm,1.0s
YAK Yakutsk 38.23 6 *e*P **P 19 34 50.5 -1.9**
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK Yakutsk 38.23 6 *e*P **P 19 34 50.5 -1.9**
comp=E,9.1nm,0.8s
MK31 Makanchi Array 38.81 316 *i*P **P 19 34 57.6 0.0**
MK31 pmax pmax
comp=E,10.0nm,0.7s
MKAR Makanchi Array 38.81 316 P **P 19 34 57.3 -0.3**
MKAR Makanchi Array 38.81 316 P **P 19 34 57.3 -0.3**
MKAR Makanchi Array 38.81 316 P **P 19 34 57.3 -0.3**
comp=E,4.6nm,0.8s,baz=105,slow=10,SNR=41
PETK Petropavlovsk- 39.52 34 LR LR 19 50 50.8
comp=E,67nm,20.2s,baz=326,slow=35
ZAA0 Zalesovo Array 40.62 327 *e*P **P 19 35 10.8 -1.7**
ZALV Zalesovo Beam 40.62 327 P **P 19 35 10.8 -1.7**
ZALV Zalesovo Beam 40.62 327 P **P 19 35 10.8 -1.7**
ZALV Zalesovo Beam 40.62 327 P **P 19 35 10.8 -1.7**
comp=E,3.6nm,0.7s,baz=111,slow=8.1,SNR=16
ZALV LR LR 19 52 38.7
comp=E,105nm,20.6s,baz=216,slow=37
H11N1 WAKE ISLAND Hy 41.83 87 T T 20 20 53.2
baz=286,slow=76,SNR=10
H11N2 WAKE ISLAND Hy 41.83 87 T T 20 21 00.1
baz=286,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 41.85 87 T T 20 21 04.1
baz=286,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 41.96 89 T T 20 20 54.1
baz=288,slow=75,SNR=35
H11S1 WAKE ISLAND Hy 41.97 89 T T 20 20 54.7
baz=165,slow=75,SNR=26
H11S2 WAKE ISLAND Hy 41.98 89 T T 20 21 31.9
SNR=21
TKM2 Tokmak 2 42.30 308 *e*P **P 19 35 27.6 +1.0**
TKM2 *e**PP **pP 19 35 40.6 +0.8**
TKM2 pmax pmax
comp=E,8.0nm,0.8s
TKM2 Tokmak 2 42.30 308 *e*P **P 19 35 27.6 +1.0**
comp=E,8.4nm,0.8s
TKM2 *e*pP **pP 19 35 40.6 +0.8**
KURK Kurchatov 42.53 320 *e*P **P 19 35 27.4 -0.8**
KURK pmax pmax
comp=E,3.0nm,0.9s
KURK Kurchatov 42.53 320 *e*P **P 19 35 27.4 -0.8**
comp=E,3.1nm,0.9s
AAK Ala-Archa 43.04 307 *ce*P **P 19 35 33.2 +0.5**
AAK pmax pmax
comp=E,14nm,2.5s
AAK Ala-Archa 43.04 307 *e*P **P 19 35 32.3 -0.3**
comp=E,2.8nm,0.9s
COEN Coen 43.21 149 *e*P **P 19 35 34.3 +0.4**
comp=E,392nm,1.1s
EKS2 Erkin-Say 43.57 307 *e*P **P 19 35 36.6 -0.2**
EKS2 pmax pmax
comp=E,3.0nm,0.8s
EKS2 Erkin-Say 43.57 307 *e*P **P 19 35 36.6 -0.2**
comp=E,2.7nm,0.8s
WRAB Tennant Creek 45.47 163 *e*P **P 19 35 49.1 -2.9**
WRAB Tennant Creek 45.47 163 *e*P **P 19 35 49.1 -2.9**
WRA Warramunga Arr 45.48 163 P **P 19 35 50.6 -1.5**
WRA Warramunga Arr 45.48 163 P **P 19 35 50.6 -1.5**
comp=E,3.0nm,0.5s,baz=345,slow=8.7,SNR=34
KK31 Karatay Array 46.01 307 *i*P **P 19 35 56.2 +0.1**
KK31 pmax pmax
comp=E,1.0nm,0.4s
KKAR Karatay Array 46.01 307 *e*P **P 19 35 56.3 +0.2**
KKAR pmax pmax
comp=E,2.0nm,0.6s
KKAR Karatay Array 46.01 307 *e*P **P 19 35 56.3 +0.2**
comp=E,1.9nm,0.6s
TIXI Tiksi 47.69 3 *e*P **P 19 36 06.8 -1.9**
TIXI pmax pmax
comp=E,9.0nm,0.9s
TIXI Tiksi 47.69 3 *e*P **P 19 36 06.8 -1.9**
comp=E,8.5nm,0.9s
BVA0 Borovoye Array 48.11 321 *i*P **pP 19 36 26.9 +1.3**
BVA0 pmax pmax
comp=E,6.0nm,1.2s
BRVK Borovoye 48.18 321 *ce*P **P 19 36 13.8 +0.9**
BRVK pmax pmax
comp=E,4.0nm,0.8s
BRVK Borovoye 48.18 321 *e*P **P 19 36 13.2 +0.4**
comp=E,2.9nm,0.6s
ASAR Alice Springs 48.95 165 P **P 19 36 18.2 -0.8**
ASAR ScP **ScP 19 41 29.4 -4.3**
ASAR Alice Springs 48.95 165 P **P 19 36 18.2 -0.8**
comp=E,1.9nm,0.8s,baz=339,slow=6.3,SNR=27
ASAR ScP **ScP 19 41 29.4 -4.3**
comp=E,1.2nm,1.1s,baz=302,slow=1.2,SNR=4.4
CTA Charters Tower 49.97 150 P **P 19 36 27.5 +0.6**
CTA Charters Tower 49.97 150 P **P 19 36 27.5 +0.6**
comp=E,16nm,0.8s,baz=337,slow=11,SNR=11
CTAO Charters Tower 49.97 150 *e*P **P 19 36 27.3 +0.4**
CTAO pmax pmax
comp=E,10.0nm,0.9s
CTAO Charters Tower 49.97 150 *e*P **P 19 36 27.3 +0.4**
comp=E,10.0nm,0.9s
AB31 Akbulak array 53.93 314 P **P 19 36 55.4 -0.7**
AB31 pmax pmax
comp=E,3.0nm,0.5s
ABKAR Akbulak array 53.93 314 *e*P **P 19 36 55.2 -0.9**
comp=E,5.6nm,0.8s
SVE Sverdlovsk 54.45 324 *e*P **P 19 37 00.1 +0.3**
SVE pmax pmax
comp=E,12nm,1.4s
AKTO Aktyubinsk 55.25 316 P **P 19 37 06.4 +0.7**
AKTO pmax pmax
comp=E,8.0nm,1.5s
ARU Arti 55.52 323 *d i*P **P 19 37 07.8 +0.3**
ARU S **S 19 44 52.5 +3.3**
ARU SS **SS 19 48 36.1 +1.9**
ARU pmax pmax
comp=E,11nm,1.7s
ARU Arti 55.52 323 *e*P **P 19 37 07.1 -0.3**
comp=E,9.2nm,0.9s
ARU pP **pP 19 37 20.0 -1.0**
STKA Stephens Creek 58.81 160 P **P 19 37 29.9 -1.0**
STKA Stephens Creek 58.81 160 P **P 19 37 29.9 -1.0**
comp=E,4.2nm,0.7s,baz=332,slow=7.1,SNR=22
PRGR Permogore 62.55 328 P **P 19 37 56.9 +0.9**
PRGR pmax pmax
comp=E,16nm,1.6s
DZM Mont Dzumac 63.13 133 P **P 19 38 00.0 -0.5**
DZM Mont Dzumac 63.13 133 P **P 19 38 00.0 -0.5**
comp=E,6.2nm,0.8s,baz=307,slow=14,SNR=3.6
ZEI Tsey 65.47 308 *e*P **pP 19 38 30.3 +0.6**
ZEI pmax pmax
comp=E,11nm,1.0s
VORD Divnogorie 67.07 317 *e*P **pP 19 38 38.4 -1.1**
VORD pmax pmax
comp=N,7.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=E,6.0nm,1.0s
ILAR Eielson Array 68.94 27 P **P 19 38 36.0 -1.2**
ILAR Eielson Array 68.94 27 P **P 19 38 36.0 -1.2**
comp=E,0.4nm,0.5s,baz=288,slow=6.0,SNR=7.1
FINES FINESS Array B 71.80 330 P **P 19 38 54.5 -0.1**
FINES FINESS Array B 71.80 330 P **P 19 38 54.5 -0.1**
comp=E,1.6nm,0.7s,baz=66,slow=4.8,SNR=5.3
FINES LR LR 20 10 37.7
comp=E,143nm,19.1s,baz=230,slow=36
INK Inuvik 73.00 22 P **P 19 39 00.6 -1.1**
INK Inuvik 73.00 22 P **P 19 39 00.6 -1.1**
comp=E,1.1nm,0.6s,baz=261,slow=4.4,SNR=5.3
AKASG Malin Array Be 73.33 318 P **P 19 39 02.9 -1.0**
AKASG Malin Array Be 73.33 318 P **P 19 39 02.9 -1.0**
AKASG Malin Array Be 73.33 318 P **P 19 39 02.9 -1.0**
comp=E,1.3nm,0.7s,baz=60,slow=6.1,SNR=4.2
AKASG LR LR 20 11 52.7
comp=E,55nm,20.1s,baz=350,slow=36
AFI Afiamalu 74.99 113 LR LR 20 05 43.8
comp=E,104nm,20.0s,baz=163,slow=30
SUW Suwalki 75.71 323 *e*P P 19 39 14.1 -3.6
SUW *e* 19 39 30.2
SUW pmax pmax
comp=E,30nm,0.9s
SUW Suwalki 75.71 323 *e*P P 19 39 14.1 -3.6
comp=E,30nm,0.9s
SUW *e* 19 39 30.1
MLR Muntele Rosu 77.14 314 LR LR 20 15 47.3
comp=E,20nm,19.8s,baz=88,slow=37
NB2 NORSAR Subarra 78.55 332 P P 19 39 37.7 +4.1
comp=E,2.0nm,0.7s,baz=60,slow=5.6
NOA NORSAR Array B 78.55 332 P **P 19 39 32.6 -1.0**
NOA NORSAR Array B 78.55 332 P **P 19 39 32.6 -1.0**
comp=E,0.9nm,1.0s,baz=60,slow=5.6,SNR=1.5
NOA LR LR 20 13 50.9
comp=E,88nm,20.4s,baz=255,slow=35
JMIC Jan Mayen 79.02 345 LR LR 20 15 54.7
comp=E,118nm,18.7s,baz=75,slow=37
URZ Urewera 80.83 139 LR LR 20 09 57.3
comp=E,69nm,20.0s,baz=340,slow=31
CLL Collm 82.47 323 *e*(P) pP 19 40 09.0 0.0
YKA Yellowknife Ar 82.74 23 P **P 19 39 55.5 -0.4**
YKA Yellowknife Ar 82.74 23 P **P 19 39 55.5 -0.4**
comp=E,0.7nm,0.6s,baz=316,slow=5.2,SNR=9.6
GERES GERESS Array B 83.28 321 P **P 19 40 00.2 +1.1**
GERES GERESS Array B 83.28 321 P **P 19 40 00.2 +1.1**
comp=E,0.4nm,0.7s,baz=64,slow=6.7,SNR=2.1
GERES LR LR 20 20 32.9
comp=E,94nm,18.9s,baz=272,slow=38
KMBO Kilima Mbogo 85.57 267 P **P 19 40 12.2 +0.7**
KMBO Kilima Mbogo 85.57 267 P **P 19 40 12.2 +0.7**
comp=E,1.3nm,0.5s,baz=38,slow=23,SNR=3.8
DAVOX Davos/Dischmat 86.55 320 LR LR 20 23 00.8
comp=E,93nm,19.1s,baz=168,slow=38
YBH Yreka Blue Hor 91.33 43 LR LR 20 20 21.0
comp=E,76nm,19.9s,baz=319,slow=35
NVAR Mina Array Bea 96.00 43 P **P 19 41 00.8 +0.8**
NVAR Mina Array Bea 96.00 43 P **P 19 41 00.8 +0.8**
comp=E,0.4nm,0.6s,baz=308,slow=5.5,SNR=4.0
SDV Santo Domingo 144.95 22 *e*PKPdf **PKPab 19 47 07.9 -1.7**

ISCJB ***04*** *19:28:50.3±1.4, 12°.51S±0°.10×166°.2E±0°.1, h40km, mb3.6/4, Error ellipse: s-maj=23.5km s-min=8.4km az=150.5*

IDC ***04*** *19:28:55.2±4.3, 12°.55S×166°.13E, h69km±33km, mb3.4/4, mb1 3.5/6, mb1mx3.4/21, mbtmp3.6/6, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=45.2km s-min=19.7km az=62.0*

ISC 04 19:28:51.7±1.6, 12°.4S±0°.1×166°.4E±0°.2, h40km, n6, σ1§43/8, mb3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.97**	**294**	P	**Pn**		**19 30 32.7**	**+1.4**
	4.2nm,0.3s,baz=191,slow=6.9,SNR=4.1							
HNR				S	**Sn**		**19 31 49.6**	**+0.3**
	5.6nm,0.3s,baz=180,slow=21,SNR=1.5							
HNR				LR	LR		19 32 58.2	
	comp=Z,105nm,18.7s,baz=117,slow=36							
DZM	**Mont Dzumac**	**9.62**	**180**	P	**Pn**		**19 31 08.8**	**+1.1**
	0.3nm,0.3s,baz=325,slow=18,SNR=1.3							
DZM				S	**Sn**		**19 32 54.6**	**+0.1**
	baz=352,slow=20,SNR=1.9							
DZM				LR	LR		19 34 26.9	
	comp=Z,127nm,19.7s,baz=198,slow=35							
WRA	**Warramunga Arr**	**31.62**	**252**	P	**P**		**19 35 09.0**	**-2.2**
	0.5nm,0.9s,baz=81,slow=9.4,SNR=1.1							
ASAR	**Alice Springs**	**32.76**	**245**	P	**P**		**19 35 19.8**	**-1.4**
	0.1nm,0.5s,baz=68,slow=9.8,SNR=4.8							
SONM	**Songino Array**	**80.12**	**324**	P	**P**		**19 40 57.8**	**+0.1**
	0.3nm,0.3s,baz=141,slow=5.9,SNR=13							
MKAR	**Makanchi Array**	**94.92**	**317**	P	**P**		**19 42 09.5**	**-0.4**
	0.9nm,0.8s,baz=100,slow=5.5,SNR=5.8							

MAN 04 19:36:55, 17°.63N×121°.46E, h60km, mb4.0, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.31**	**318**	*e*P	Pn		19 37 07.4	+2.3
APYP				*e*S	Sn		19 37 16.1	+3.6
ABRA	**Dolores**	**0.71**	**271**	*e*P	Pn		19 37 11.4	+2.1
CAUP	**Cauayan**	**0.77**	**153**	*e*P	Pn		19 37 12.2	+2.1
CAUP				*e*S	Sn		19 37 25.2	+4.1

RSPR 04 19:53:14.8, 18°.14N×68°.64W, h201km±1km, MD3.7/5, 8C-7D, Mona Passage

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

IDE	**Isla Desecheo**	**1.14**	**77**⇑	*eP*	Pn	19 53 45.7 0.0
IDE	**Isla Desecheo**	**1.14**	**77**	*eS*	S	19 54 09.4 +0.1
CRPR	**Cabo Rojo, PR**	**1.47**	**95**⇓	*eP*	Pn	19 53 48.9 +0.6
CRPR	**Cabo Rojo, PR**	**1.47**	**95**	*eS*	S	19 54 14.8 +1.1
LSP	**Las Mesas**	**1.48**	**88**⇓	*eP*	Pn	19 53 48.3 -0.2
LSP	**Las Mesas**	**1.48**	**88**	*eS*	S	19 54 15.0 +0.8
AGPR	**Aguadilla, PR**	**1.49**	**77**⇑	*eP*	Pn	19 53 49.1 +0.5
AGPR	**Aguadilla, PR**	**1.49**	**77**	*eS*	S	19 54 15.4 +1.2
GBPR	**Guanica, Bosqu**	**1.69**	**95**⇓	*eP*	Pn	19 53 50.8 +0.5
GBPR	**Guanica, Bosqu**	**1.69**	**95**	*eS*	S	19 54 18.1 +0.8
AOPR	**Arecibo Observ**	**1.81**	**83**⇑	*eP*	Pn	19 53 52.0 +0.5
AOPR	**Arecibo Observ**	**1.81**	**83**	*eS*	S	19 54 20.8 +1.3
OBIP	**Obispado Ponce**	**1.94**	**93**⇓	*eP*	Pn	19 53 53.2 +0.4
OBIP	**Obispado Ponce**	**1.94**	**93**	*eS*	S	19 54 23.2 +1.5
CELP	**Cerrillos**	**1.96**	**92**⇑	*eP*	Pn	19 53 53.5 +0.4
CELP				*eS*	S	19 54 23.5 +1.4
SJG	**San Juan**	**2.37**	**90**⇓	*eP*	Pn	19 53 58.4 +1.0
SJG				*eS*	S	19 54 31.9 +2.1
CPD	**Cerro la Pandu**	**2.60**	**92**⇓	*eP*	Pn	19 54 00.3 +0.4
CBYP	**Canovanas**	**2.65**	**87**⇑	*eP*	Pn	19 54 00.7 +0.1
CBYP	**Canovanas**	**2.65**	**87**	*eS*	S	19 54 37.6 +2.1
HUMP	**Col San Antoni**	**2.66**	**90**⇑	*eP*	Pn	19 54 00.9 +0.4
MTP	**Monte Pirata**	**2.94**	**90**⇑	*eP*	Pn	19 54 04.7 +0.8
MTP	**Monte Pirata**	**2.94**	**90**	*eS*	S	19 54 43.0 +1.7
STVI	**Saint Thomas**	**3.51**	**86**⇓	*eP*	Pn	19 54 11.4 +0.8
TBVI	**Tortola**	**3.84**	**85**⇑	*eP*	Pn	19 54 15.0 +0.4

*ISCJB **04** 19:55:20.6±0.5, 45.57N±0.02×26.39E±0.03, h124km±4km, Error ellipse: s-maj=3.8km s-min=3.7km az=32.6*
*SOF **04** 19:55:21.0, 45.52N×26.44E, h120km, MD3.1*
*BUC **04** 19:55:21.1±0.7, 45.58N×26.37E, h126km±6km, MD4.0/4, Error ellipse: s-maj=4.7km s-min=3.9km az=2.0*
*CSEM **04** 19:55:21.4±0.2, 45.57N×26.38E, h119km±2km, MD4.0, Error ellipse: s-maj=3.2km s-min=2.9km az=23.0*

ISC 04 19:55:20.3±1.3, 45.58N±0.03×26.38E±0.03, h130km±6km, n130, σ0.95/187, 68C-27D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.32**	**253**⇑	*iP*	**Pn**	**19 55 38.9**	**+0.2**
MLR	**Muntele Rosu**	**0.32**	**253**⇑	*iP*	**Pn**	**19 55 38.9**	**+0.2**
MLR				*iS*	**Sn**	**19 55 51.5**	**-1.1**
MLR	**Muntele Rosu**	**0.32**	**253**⇑	*iP*	**Pn**	**19 55 38.9**	**+0.2**
MLR				*iS*	**Sn**	**19 55 51.5**	**-1.1**
PLOR	**Plostina**	**0.33**	**35**⇑	*iP*	**Pn**	**19 55 38.5**	**-0.1**
PLOR	**Plostina**	**0.33**	**35**⇑	*iP*	**Pn**	**19 55 38.5**	**-0.1**
PLOR				*iS*	**Sn**	**19 55 52.1**	**-0.4**
PLOR	**Plostina**	**0.33**	**35**⇑	*iP*	**Pn**	**19 55 38.5**	**-0.1**
PLOR				*iS*	**Sn**	**19 55 52.1**	**-0.4**
VRI	**Vrincioaia**	**0.37**	**40**	*iP*	**Pn**	**19 55 38.8**	**0.0**
VRI				*iS*	**Sn**	**19 55 51.9**	**-0.9**
VRI	**Vrincioaia**	**0.37**	**40**⇑	*iP*	**Pn**	**19 55 38.9**	**+0.1**
VRI	**Vrincioaia**	**0.37**	**40**⇑	*iP*	**Pn**	**19 55 38.9**	**+0.1**
VRI				*iS*	**Sn**	**19 55 51.8**	**-1.0**
VRI	**Vrincioaia**	**0.37**	**40**	*iP*	**Pn**	**19 55 38.8**	**0.0**
VRI				*iS*	**Sn**	**19 55 51.9**	**-0.9**
GRER		**0.46**	**116**⇑	*iP*	**Pn**	**19 55 40.4**	**+1.2**
GRER		**0.46**	**116**⇑	*iP*	**Pn**	**19 55 40.4**	**+1.2**
GRER		**0.46**	**116**⇑	*iP*	**Pn**	**19 55 40.4**	**+1.2**
ISR	**Istrita**	**0.48**	**166**⇓	*iP*	**Pn**	**19 55 39.9**	**+0.5**
ISR	**Istrita**	**0.48**	**166**⇓	*iP*	**Pn**	**19 55 39.9**	**+0.5**
ISR				*iS*	**Sn**	**19 55 53.4**	**-0.3**
ISR	**Istrita**	**0.48**	**166**⇓	*iP*	**Pn**	**19 55 39.9**	**+0.5**
ISR				*iS*	**Sn**	**19 55 53.4**	**-0.3**
ODBI	**Odobesti**	**0.51**	**69**⇑	*iP*	**Pn**	**19 55 40.6**	**+1.2**
ODBI	**Odobesti**	**0.51**	**69**⇑	*iP*	**Pn**	**19 55 40.6**	**+1.2**
ODBI				*iS*	**Sn**	**19 55 55.0**	**+1.2**
ODBI	**Odobesti**	**0.51**	**69**⇑	*iP*	**Pn**	**19 55 40.6**	**+1.2**
SECR		**0.59**	**202**⇑	*iP*	**Pn**	**19 55 40.7**	**+0.7**
SECR		**0.59**	**202**⇑	*iP*	**Pn**	**19 55 40.7**	**+0.7**
SECR				*iS*	**Sn**	**19 55 55.0**	**+0.2**
SECR		**0.59**	**202**⇑	*iP*	**Pn**	**19 55 40.7**	**+0.7**
SECR				*iS*	**Sn**	**19 55 55.0**	**+0.2**
PETR	**Petresti**	**0.61**	**76**⇑	*iP*	**Pn**	**19 55 40.8**	**+0.8**
PETR	**Petresti**	**0.61**	**76**⇑	*iP*	**Pn**	**19 55 40.8**	**+0.8**
PETR				*iS*	**Sn**	**19 55 55.1**	**+0.2**
PETR	**Petresti**	**0.61**	**76**⇑	*iP*	**Pn**	**19 55 40.8**	**+0.8**
PETR				*iS*	**Sn**	**19 55 55.1**	**+0.2**
PLAR	**PLOIESTI**	**0.71**	**201**⇑	*iP*	**Pn**	**19 55 41.6**	**+0.8**
PLAR	**PLOIESTI**	**0.71**	**201**⇑	*iP*	**Pn**	**19 55 41.6**	**+0.8**
PLAR	**PLOIESTI**	**0.71**	**201**⇑	*iP*	**Pn**	**19 55 41.6**	**+0.8**
DOPR	**Dopca**	**0.80**	**299**⇑	*iP*	**Pn**	**19 55 41.1**	**-0.3**
DOPR	**Dopca**	**0.80**	**299**⇑	*iP*	**Pn**	**19 55 41.1**	**-0.3**
DOPR				*iS*	**Sn**	**19 55 56.6**	**-0.9**
DOPR	**Dopca**	**0.80**	**299**⇑	*iP*	**Pn**	**19 55 41.1**	**-0.3**
DOPR				*iS*	**Sn**	**19 55 56.6**	**-0.9**
PGOR	**Pogoanele**	**0.80**	**148**⇓	*iP*	**Pn**	**19 55 42.1**	**+0.7**
PGOR	**Pogoanele**	**0.80**	**148**⇓	*iP*	**Pn**	**19 55 42.1**	**+0.7**
PGOR				*iS*	**Sn**	**19 55 56.8**	**-0.6**
PGOR	**Pogoanele**	**0.80**	**148**⇓	*iP*	**Pn**	**19 55 42.1**	**+0.7**
PGOR				*iS*	**Sn**	**19 55 56.8**	**-0.6**
GHRR		**0.86**	**56**⇑	*iP*	**Pn**	**19 55 42.7**	**+0.8**
GHRR		**0.86**	**56**⇑	*iP*	**Pn**	**19 55 42.7**	**+0.8**
GHRR				*iS*	**Sn**	**19 55 58.7**	**+0.3**
GHRR		**0.86**	**56**⇑	*iP*	**Pn**	**19 55 42.7**	**+0.8**
GHRR				*iS*	**Sn**	**19 55 58.7**	**+0.3**
SULR		**0.91**	**186**⇑	*iP*	**Pn**	**19 55 43.1**	**+0.7**
SULR		**0.91**	**186**⇑	*iP*	**Pn**	**19 55 43.1**	**+0.7**
SULR				*iS*	**Sn**	**19 55 59.8**	**+0.7**
SULR		**0.91**	**186**⇑	*iP*	**Pn**	**19 55 43.1**	**+0.7**
SULR				*iS*	**Sn**	**19 55 59.8**	**+0.7**
TESR	**Tescani**	**0.95**	**11**⇑	*iP*	**Pn**	**19 55 42.8**	**+0.1**
TESR	**Tescani**	**0.95**	**11**⇑	*iP*	**Pn**	**19 55 42.8**	**+0.1**
TESR				*iS*	**Sn**	**19 55 58.3**	**-1.5**
TESR	**Tescani**	**0.95**	**11**⇑	*iP*	**Pn**	**19 55 42.8**	**+0.1**
TESR				*iS*	**Sn**	**19 55 58.3**	**-1.5**
VOIR		**0.95**	**262**⇑	*iP*	**Pn**	**19 55 43.0**	**+0.2**
VOIR		**0.95**	**262**⇑	*iP*	**Pn**	**19 55 43.0**	**+0.2**
VOIR				*iS*	**Sn**	**19 55 58.7**	**-1.2**
VOIR		**0.95**	**262**⇑	*iP*	**Pn**	**19 55 43.0**	**+0.2**
VOIR				*iS*	**Sn**	**19 55 58.7**	**-1.2**
MTUR	**Matau**	**1.00**	**249**⇓	*iP*	**Pn**	**19 55 43.8**	**+0.5**
MTUR	**Matau**	**1.00**	**249**⇓	*iP*	**Pn**	**19 55 43.8**	**+0.5**
MTUR	**Matau**	**1.00**	**249**⇓	*iP*	**Pn**	**19 55 43.8**	**+0.5**
INCR	**INCERC-Sediu C**	**1.15**	**188**	*S*	**Sn**	**19 56 03.2**	**0.0**
INCR	**INCERC-Sediu C**	**1.15**	**188**	*iS*	**Sn**	**19 56 03.2**	**0.0**
AMRR	**Amara**	**1.18**	**145**⇓	*iP*	**Pn**	**19 55 45.6**	**+0.6**
AMRR	**Amara**	**1.18**	**145**⇓	*iP*	**Pn**	**19 55 45.6**	**+0.6**
AMRR				*iS*	**Sn**	**19 56 03.7**	**0.0**
AMRR	**Amara**	**1.18**	**145**⇓	*iP*	**Pn**	**19 55 45.6**	**+0.6**
AMRR				*iS*	**Sn**	**19 56 03.7**	**0.0**
BUC	**Bucharest**	**1.19**	**190**	*S*	**Sn**	**19 56 03.2**	**-0.6**
BUC	**Bucharest**	**1.19**	**190**	*iS*	**Sn**	**19 56 03.2**	**-0.6**
CIOR	**Ciorogarla**	**1.19**	**198**	*S*	**Sn**	**19 56 03.7**	**-0.1**
CIOR	**Ciorogarla**	**1.19**	**198**	*iS*	**Sn**	**19 56 03.7**	**-0.1**
CIOR	**Ciorogarla**	**1.19**	**198**	*iS*	**Sn**	**19 56 03.7**	**-0.1**
BAPR	**Bucharest-Chil**	**1.19**	**189**	*S*	**Sn**	**19 56 03.9**	**0.0**
ARR	**Arges**	**1.25**	**261**⇑	*iP*	**Pn**	**19 55 46.3**	**+0.6**
ARR	**Arges**	**1.25**	**261**⇑	*iP*	**Pn**	**19 55 46.3**	**+0.6**
ARR				*iS*	**Sn**	**19 56 04.2**	**-0.9**
ARR	**Arges**	**1.25**	**261**⇑	*iP*	**Pn**	**19 55 46.3**	**+0.6**
ARR				*iS*	**Sn**	**19 56 04.2**	**-0.9**
BUC1	**Bucharest**	**1.26**	**192**	*iS*	**Sn**	**19 56 03.2**	**-1.9**
CFR	**Carcaliu**	**1.30**	**108**⇑	*iP*	**Pn**	**19 55 46.2**	**0.0**
CFR	**Carcaliu**	**1.30**	**108**⇑	*iP*	**Pn**	**19 55 46.2**	**0.0**
CFR				*iS*	**Sn**	**19 56 04.0**	**-1.8**
CFR	**Carcaliu**	**1.30**	**108**⇑	*iP*	**Pn**	**19 55 46.2**	**0.0**
CFR				*iS*	**Sn**	**19 56 04.0**	**-1.8**
HARR	**Harsova**	**1.41**	**129**⇑	*iP*	**Pn**	**19 55 47.8**	**+0.4**
HARR	**Harsova**	**1.41**	**129**⇑	*iP*	**Pn**	**19 55 47.8**	**+0.4**
HARR	**Harsova**	**1.41**	**129**⇑	*iP*	**Pn**	**19 55 47.8**	**+0.4**
HUMR	**Humele**	**1.45**	**224**⇑	*iP*	**Pn**	**19 55 48.1**	**+0.3**
HUMR	**Humele**	**1.45**	**224**⇑	*iP*	**Pn**	**19 55 48.1**	**+0.3**
HUMR				*iS*	**Sn**	**19 56 08.2**	**-0.6**
HUMR	**Humele**	**1.45**	**224**⇑	*iP*	**Pn**	**19 55 48.1**	**+0.3**
HUMR				*iS*	**Sn**	**19 56 08.2**	**-0.6**
LEOM	**Leova**	**1.57**	**55**⇑	*iP*	**Pn**	**19 55 49.9**	**+0.7**
LEOM	**Leova**	**1.57**	**55**⇑	*iP*	**Pn**	**19 55 49.9**	**+0.7**
LEOM				*iS*	**Sn**	**19 56 10.2**	**-1.0**
LEOM	**Leova**	**1.57**	**55**⇑	*iP*	**Pn**	**19 55 49.9**	**+0.7**
LEOM				*iS*	**Sn**	**19 56 10.2**	**-1.0**
CVD	**Cernavoda**	**1.73**	**137**⇓	*iP*	**Pn**	**19 55 51.4**	**+0.4**
CVD	**Cernavoda**	**1.73**	**137**⇓	*iP*	**Pn**	**19 55 51.4**	**+0.4**
CVD				*iS*	**Sn**	**19 56 13.2**	**-1.2**
CVD	**Cernavoda**	**1.73**	**137**⇓	*iP*	**Pn**	**19 55 51.4**	**+0.4**
CVD				*iS*	**Sn**	**19 56 13.2**	**-1.2**
TLCR		**1.76**	**102**⇓	*iP*	**Pn**	**19 55 51.9**	**+0.6**
TLCR		**1.76**	**102**⇓	*iP*	**Pn**	**19 55 51.9**	**+0.6**
TLCR				*iS*	**Sn**	**19 56 14.4**	**-0.6**
TLCR		**1.76**	**102**⇓	*iP*	**Pn**	**19 55 51.9**	**+0.6**
TLCR				*iS*	**Sn**	**19 56 14.4**	**-0.6**
IAS	**Iasi**	**1.81**	**26**	*S*	**Sn**	**19 56 15.0**	**-1.1**
IAS	**Iasi**	**1.81**	**26**	*iS*	**Sn**	**19 56 15.0**	**-1.1**
IAS	**Iasi**	**1.81**	**26**	*iS*	**Sn**	**19 56 15.0**	**-1.1**
TIRR	**Tirgusor**	**1.83**	**127**	*iP*	**Pn**	**19 55 52.5**	**+0.4**
TIRR				*iS*	**Sn**	**19 56 14.6**	**-1.9**
TIRR	**Tirgusor**	**1.83**	**127**⇓	*iP*	**Pn**	**19 55 52.6**	**+0.4**
TIRR	**Tirgusor**	**1.83**	**127**⇓	*iP*	**Pn**	**19 55 52.6**	**+0.4**
TIRR				*iS*	**Sn**	**19 56 15.3**	**-1.2**
TIRR	**Tirgusor**	**1.83**	**127**⇓	*iP*	**Pn**	**19 55 52.6**	**+0.4**
TIRR				*iS*	**Sn**	**19 56 15.3**	**-1.2**
LOT	**Lotru**	**1.84**	**267**⇑	*iP*	**Pn**	**19 55 53.0**	**+0.5**
LOT	**Lotru**	**1.84**	**267**⇑	*iP*	**Pn**	**19 55 53.0**	**+0.5**
LOT				*iS*	**Sn**	**19 56 17.3**	**+0.3**
LOT	**Lotru**	**1.84**	**267**⇑	*iP*	**Pn**	**19 55 53.0**	**+0.5**
LOT				*iS*	**Sn**	**19 56 17.3**	**+0.3**
ZIMR		**2.06**	**201**	*S*	**Sn**	**19 56 20.3**	**-1.2**
ZIMR		**2.06**	**201**	*iS*	**Sn**	**19 56 20.3**	**-1.2**
BURAR	**Bucovina Array**	**2.19**	**339**⇓	*iP*	**Pn**	**19 55 58.5**	**+1.9**
BURAR	**Bucovina Array**	**2.19**	**339**⇓	*iP*	**Pn**	**19 55 58.5**	**+1.9**
BURAR	**Bucovina Array**	**2.19**	**339**⇓	*iP*	**Pn**	**19 55 58.5**	**+1.9**
EFOR	**EFORIE**	**2.20**	**132**⇑	*iP*	**Pn**	**19 55 57.3**	**+0.7**
EFOR	**EFORIE**	**2.20**	**132**⇑	*iP*	**Pn**	**19 55 57.3**	**+0.7**
EFOR				*iS*	**Sn**	**19 56 24.1**	**-0.4**
EFOR	**EFORIE**	**2.20**	**132**⇑	*iP*	**Pn**	**19 55 57.3**	**+0.7**
EFOR				*iS*	**Sn**	**19 56 24.1**	**-0.4**
PSN	**Preselentsi**	**2.29**	**145**	*iP*	**Pn**	**19 55 58.9**	**+1.0**
PSN				*iS*	**Sn**	**19 56 26.2**	**-0.5**
PSN	**Preselentsi**	**2.29**	**145**⇓	*iP*	**Pn**	**19 55 58.9**	**+1.0**
PSN	**Preselentsi**	**2.29**	**145**⇓	*iP*	**Pn**	**19 55 58.9**	**+1.0**
PSN				*iS*	**Sn**	**19 56 27.5**	**+0.8**
PSN	**Preselentsi**	**2.29**	**145**⇓	*iP*	**Pn**	**19 55 58.9**	**+1.0**
PSN				*iS*	**Sn**	**19 56 27.5**	**+0.8**
SZH	**Strazhica**	**2.34**	**188**	*iP*	**Pn**	**19 55 58.9**	**+0.4**
SZH				*iS*	**Sn**	**19 56 23.2**	**-4.5**
SZH	**Strazhica**	**2.34**	**188**	*iP*	**Pn**	**19 55 58.9**	**+0.4**
MANR	**Mangalia**	**2.37**	**138**⇑	*iP*	**Pn**	**19 55 59.4**	**+0.6**
MANR	**Mangalia**	**2.37**	**138**⇑	*iP*	**Pn**	**19 55 59.4**	**+0.6**
MANR				*iS*	**Sn**	**19 56 27.7**	**-0.6**
MANR	**Mangalia**	**2.37**	**138**⇑	*iP*	**Pn**	**19 55 59.4**	**+0.6**
NEF	**NEVSHA**	**2.41**	**164**	*iP*	**Pn**	**19 56 00.1**	**+0.8**
NEF	**NEVSHA**	**2.41**	**164**	*iP*	**Pn**	**19 56 00.1**	**+0.8**
PVL	**Pavlikeni**	**2.48**	**198**	*iP*	**Pn**	**19 56 02.4**	**+2.1**
PVL				*iS*	**Sn**	**19 56 31.5**	**+0.6**
PVL	**Pavlikeni**	**2.48**	**198**	*iP*	**Pn**	**19 56 02.4**	**+2.1**
PVL				*iS*	**Sn**	**19 56 31.5**	**+0.6**
PRD	**Provadia**	**2.49**	**163**	*iP*	**Pn**	**19 56 01.5**	**+1.1**
PRD				*iS*	**Sn**	**19 56 26.9**	**-4.2**
PRD	**Provadia**	**2.49**	**163**	*iP*	**Pn**	**19 56 01.5**	**+1.1**
ROIA	**ROIAK**	**2.59**	**164**	*iP*	**Pn**	**19 56 02.5**	**+0.8**
ROIA	**ROIAK**	**2.59**	**164**	*iP*	**Pn**	**19 56 02.5**	**+0.8**
AVR	**AVREN**	**2.63**	**159**	*iP*	**Pn**	**19 56 02.9**	**+0.7**
AVR	**AVREN**	**2.63**	**159**	*iP*	**Pn**	**19 56 02.9**	**+0.7**
DRGR		**2.82**	**297**⇑	*iP*	**Pn**	**19 56 04.9**	**+0.3**
DRGR		**2.82**	**297**⇑	*iP*	**Pn**	**19 56 04.9**	**+0.3**
DRGR		**2.82**	**297**⇑	*iP*	**Pn**	**19 56 04.9**	**+0.3**
MPEP	**Malo Peshtene**	**2.92**	**221**	*iP*	**Pn**	**19 56 06.3**	**+0.4**
MPEP	**Malo Peshtene**	**2.92**	**221**	*iP*	**Pn**	**19 56 06.3**	**+0.4**
JMB	**Yambol**	**3.12**	**177**⇑	*iP*	**Pn**	**19 56 09.3**	**+0.8**
JMB	**Yambol**	**3.12**	**177**⇑	*iP*	**Pn**	**19 56 09.3**	**+0.8**
JMB				*iS*	**Sn**	**19 56 43.8**	**-1.8**
JMB	**Yambol**	**3.12**	**177**⇑	*iP*	**Pn**	**19 56 09.3**	**+0.8**
JMB				*iS*	**Sn**	**19 56 43.8**	**-1.8**
BZS	**Buzias**	**3.35**	**272**	*S*	**Sn**	**19 56 50.1**	**-0.8**
BZS	**Buzias**	**3.35**	**272**	*iS*	**Sn**	**19 56 50.1**	**-0.8**
KOLS	**Kolonicke sedl**	**4.37**	**322**	*e*	**Pn**	**19 56 26.0**	**+1.2**

*IDC **04** 19:56:48.7±0.8, 8.72S×157.52E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=23.5km s-min=14.7km az=9.0*
*NEIC **04** 19:56:53.1±0.8, 8.79S×157.70E, h35km, mb4.5/1, Error ellipse: s-maj=20.4km s-min=14.9km az=156.0*

ISC 04 19:56:50.8±0.7, 8.8S±0.1×157.63E±0.08, h17km, n21, σ0.99/26, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.36**	**105**	Pn	**Pn**	**19 57 28.0**	**-0.9**
HNR				Pg	**Pb**	**19 57 34.0**	**+1.0**
HNR				Lg	Lg	19 58 08.1	
HNR	**Honiara**	**2.36**	**105**	Pn	**Pn**	**19 57 28.0**	**-0.9**
	39nm,0.3s,baz=228,slow=11,SNR=4.4						
HNR				Pg	**Pb**	**19 57 33.9**	**+1.0**
	96nm,0.3s,baz=221,slow=3.4,SNR=14						
HNR				Lg	Lg	19 58 08.1	
	70nm,0.3s,baz=249,slow=21,SNR=7.9						
HNR	**Honiara**	**2.36**	**105**	*eP*	**Pb**	**19 57 32.0**	**-0.9**
PMG	**Port Moresby**	**10.36**	**266**	LR	LR	20 02 55.3	
	comp=Z,126nm,18.7s,baz=230,slow=36						
CTA	**Charters Tower**	**15.70**	**223**	Pn	**P**	**20 00 34.2**	**-1.1**
CTA	**Charters Tower**	**15.70**	**223**	Pn	**P**	**20 00 34.2**	**-1.1**
	0.2nm,0.3s,baz=40,slow=14,SNR=3.7						
WRAB	**Tenant Creek**	**25.07**	**241**	*eP*	**P**	**20 02 14.2**	**-0.5**
	17nm,1.2s						
WRA	**Warramunga Arr**	**25.09**	**241**	P	**P**	**20 02 14.2**	**-0.6**
WRA				PcP	**PcP**	**20 05 49.7**	**+0.4**
WRA	**Warramunga Arr**	**25.09**	**241**	P	**P**	**20 02 14.2**	**-0.6**
	6.7nm,1.0s,baz=67,slow=9.5,SNR=35						
WRA				PcP	**PcP**	**20 05 49.7**	**+0.4**
	0.6nm,0.6s,baz=68,slow=2.7,SNR=5.0						
ASAR	**Alice Springs**	**27.08**	**234**	P	**P**	**20 02 31.6**	**-1.2**
ASAR				PcP	**PcP**	**20 05 54.1**	**+0.3**
ASAR	**Alice Springs**	**27.08**	**234**	P	**P**	**20 02 31.6**	**-1.2**
	1.2nm,0.9s,baz=59,slow=10,SNR=9.4						
ASAR				PcP	**PcP**	**20 05 54.1**	**+0.3**
	0.3nm,0.5s,baz=74,slow=3.4,SNR=4.0						
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**	**20 02 37.4**	**+2.2**
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**	**20 02 37.4**	**+2.2**
	2.6nm,0.7s,baz=40,slow=14,SNR=12						
STKA				LR	LR	20 12 46.5	
	comp=Z,71nm,19.4s,baz=27,slow=35						
CMAR	**Chiang Mai Arr**	**63.93**	**295**	P	**P**	**20 07 23.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**63.93**	**295**	P	**P**	**20 07 23.9**	**+0.4**
	0.9nm,1.0s,baz=119,slow=5.7,SNR=4.4						
SONM	**Songino Array**	**72.28**	**327**	P	**P**	**20 08 15.6**	**+0.1**
SONM	**Songino Array**	**72.28**	**327**	P	**P**	**20 08 15.6**	**+0.1**
	0.4nm,0.9s,baz=160,slow=4.6,SNR=2.9						
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**20 09 20.9**	**+0.4**
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**20 09 20.9**	**+0.4**
	1.2nm,1.0s,baz=251,slow=2.5,SNR=7.0						
MKAR	**Makanchi Array**	**86.50**	**318**	P	**P**	**20 09 32.1**	**-0.8**
MKAR	**Makanchi Array**	**86.50**	**318**	P	**P**	**20 09 32.1**	**-0.8**
	0.6nm,0.6s,baz=98,slow=5.7,SNR=7.2						

*IDC **04** 20:05:35.5±1.4, 11.77N×92.15E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=53.6km s-min=17.8km az=64.0*

ISC 04 20:05:39.9±1.0, 11.9N±0.1×92.4E±0.1, h23km, n21, σ1.9/12/19, mb3.8/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.08**	**44**	Pn	**Pn**	**20 07 52.5**	**+2.8**
	0.2nm,0.3s,baz=233,slow=16,SNR=4.9						
CMAR				Sn	**Sn**	**20 09 28.6**	**-2.7**
	0.3nm,0.3s,baz=230,slow=27,SNR=4.2						
ODAN	**Odare**	**15.57**	**343**	*eP*	**Pn**	**20 09 18.2**	**0.0**
	11nm,0.4s						
RAMN	**Ramite**	**15.89**	**341**	*eP*	**Pn**	**20 09 21.5**	**-0.9**
	18nm,0.5s						
TAPN	**Taplejung**	**15.95**	**345**	*eP*	**Pn**	**20 09 22.5**	**-0.7**
	6.8nm,0.3s						
JIRN	**Jiri**	**16.68**	**341**	*eP*	**Pn**	**20 09 31.6**	**-1.0**
	4.0nm,0.3s						
PKI	**Pulchoki**	**16.87**	**338**	*eP*	**Pn**	**20 09 34.9**	**0.0**
	7.3nm,0.3s						
DMN	**Daman**	**17.01**	**337**	*eP*	**P**	**20 09 37.8**	**-0.6**
GUN	**Gumba**	**17.01**	**340**	*eP*	**Pn**	**20 09 36.2**	**-0.6**
GKN	**Gorkha**	**17.55**	**337**	*eP*	**P**	**20 09 44.3**	**+0.1**
	15nm,0.4s						
KOLN	**Koldanda**	**17.77**	**334**	*eP*	**P**	**20 09 47.2**	**+0.5**
	13nm,0.5s						
DANN	**Dangsing**	**18.20**	**335**	*eP*	**P**	**20 09 51.8**	**+0.2**
	11nm,0.5s						
H08S3	**Diego Garcia H**	**27.71**	**226**	T	T	20 40 13.2	
	baz=45,slow=76,SNR=34						
H08S2	**Diego Garcia H**	**27.72**	**226**	T	T	20 40 09.7	
	baz=45,slow=76,SNR=38						
H08S1	**Diego Garcia H**	**27.73**	**226**	T	T	20 40 13.8	
	baz=45,slow=76,SNR=35						
MKAR	**Makanchi Array**	**35.77**	**348**	P	**P**	**20 12 37.3**	**+0.1**
	1.1nm,0.8s,baz=166,slow=9.1,SNR=9.8						
SONM	**Songino Array**	**37.67**	**16**	P	**P**	**20 12 53.9**	**+0.3**
	0.8nm,0.7s,baz=200,slow=7.5,SNR=8.9						
ZALV	**Zalesovo Beam**	**42.34**	**353**	P	**P**	**20 13 31.9**	**-0.1**
	1.7nm,0.3s,baz=182,slow=8.8,SNR=10						
WRA	**Warramunga Arr**	**52.07**	**127**	P	**P**	**20 14 47.7**	**-0.6**
	0.6nm,0.5s,baz=299,slow=10,SNR=27						
ASAR	**Alice Springs**	**53.88**	**131**	P	**P**	**20 15 00.7**	**-1.0**
	0.4nm,0.6s,baz=309,slow=6.7,SNR=5.8						
STKA	**Stephens Creek**	**64.17**	**134**	P	**P**	**20 16 13.1**	**+0.1**
	0.7nm,0.5s,baz=304,slow=3.6,SNR=5.8						
ARCES	**ARCESS Array B**	**70.88**	**340**	P	**P**	**20 16 54.7**	**0.0**
	5.3nm,1.1s,baz=81,slow=5.6,SNR=3.6						

IDC 04 20:10:50.4±2.4, 53.25S×29.09W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/14, mbtmp4.0/1, Error ellipse: s-maj=121.2km s-min=73.5km az=139.0, South Georgia Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**71.21**	**32**	P	P	20 22 11.1	0.0
	0.7nm,0.4s,baz=200,slow=6.3,SNR=14						
ILAR	**Eielson Array**	**147.38**	**315**	PKPbc	PKPbc	20 30 33.9	-0.7
	0.5nm,0.7s,baz=121,slow=4.0,SN

JKC	Kuchinoerabu	1.45	254	P	Pn	20 52 53.0	+0.4
JKC				eS	Sb	20 53 12.1	-0.5
JZO	Okuchi	1.64	321	P	Pn	20 52 55.5	+0.3
JNU	Nakatsue	2.38	341	Pn	Pn	20 53 06.5	+1.0
	2.8nm,0.3s,baz=32,slow=12,SNR=83						
JNU				Sn	Sn	20 53 35.2	+1.4
	15nm,0.3s,baz=15,slow=21,SNR=7.4						
MJAR	Matsushiro Arr	7.77	42	Pn	Pn	20 54 19.8	+0.4
	0.7nm,0.3s,baz=239,slow=14,SNR=8.3						
USRK	Ussuriysk Arra	13.31	1	LR	LR	21 00 51.1	
	comp=Z,114nm,21.2s,baz=136,slow=37						
SONM	Songino Array	25.78	318	P	P	20 57 57.7	+1.0
	0.3nm,0.8s,baz=117,slow=12,SNR=3.6						
ZALV	Zalesovo Beam	40.67	318	LR	LR	21 18 42.5	
	comp=Z,48nm,18.3s,baz=216,slow=39						
MKAR	Makanchi Array	41.02	307	P	P	21 00 07.3	-1.7
	0.5nm,0.9s,baz=105,slow=9.1,SNR=2.8						
KURBB	Kurchatov Arra	43.86	313	P	P	21 00 31.2	-0.7
	0.4nm,0.7s,baz=98,slow=9.0,SNR=5.1						
ILAR	Eielson Array	58.87	30	P	P	21 02 24.2	+0.1
	0.4nm,0.7s,baz=291,slow=7.9,SNR=6.1						

*KLM **04** 20:59:00.2,0.°04N×96.°45E,h10km,mb4.8,ML4.8,MS5.4*
*BJI **04** 20:59:01.6,0.°21S×96.°93E,h20km,mB4.9/9,mb4.4/16,*
Ms4.4/2
*IDC **04** 20:59:04.6±0.9,0.°25N×96.°80E,h0km,mb4.1/16,*
mb1 4.2/18,mb1mx4.1/27,mbtmp4.1/18,ML4.3/2,MS3.5/9,
Ms1 3.5/9,ms1mx3.3/42,Error ellipse: s-maj=28.2km
s-min=14.9km az=56.0
*ISCJB **04** 20:59:06.7±0.3,0.°33N±0.°03×96.°99E±0.°03,h23km,*
mb4.3/29,MS3.6/8,Error ellipse: s-maj=5.5km
s-min=3.7km az=137.1
*DJA **04** 20:59:09.1±0.5,0.°0N±4.°x9.°7E±.°,h52km±12km,M4.8/14,*
mb5.1/9,mB5.3/5,MLv4.7/14,Mw(mB)4.7/5
*NEIC **04** 20:59:10.3±0.5,0.°39N×97.°04E,h35km,mb4.4/8,Error*
ellipse: s-maj=10.4km s-min=8.1km az=62.0

ISC 04 20:59:08.7±0.6, 0.°34N±0.°05×96.°94E±0.°06, h23km, n127, σ1§27/118, mb4.3/29, MS3.8/8, 5C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.15	34	P	Pn	20 59 28.6	-0.8
GSI				S	Sb	20 59 43.8	-0.7
SNSI	Sinabang, Aceh	2.14	343	P	Pn	20 59 41.4	-1.7
SNSI				S	Sn	21 00 06.4	-2.6
MNSI	Mandailing Nat	2.68	80	P	Pn	20 59 49.7	-0.8
MNSI				S	Sn	21 00 19.5	-2.7
TPTI		2.91	5	P	Pn	20 59 51.6	-2.1
TPTI				S	Sn	21 00 25.7	-2.3
PSI	Prapat	3.15	39	P	x	20 59 55.3	
PSI	Prapat	3.15	39	Pn	Pn	20 59 55.4	-1.7
PSI				Sn	Sn	21 00 30.6	-3.4
	20nm,0.3s,baz=278,slow=7.0,SNR=33						
PSI				Sn	Sn	21 00 30.6	-3.4
	10nm,0.3s,baz=273,slow=12,SNR=5.5						
PSI				LR	LR	21 00 56.5	
	comp=Z,458nm,20.8s,baz=219,slow=35						
PSI	Prapat	3.15	39	S	Pn	20 59 55.2	-1.9
	baz=1.3,SNR=17						
KCSI	Kotacane, Aceh	3.27	15	P	Pn	20 59 57.1	-1.5
TSI	Tuntungan	3.53	27	P	Pn	21 00 01.7	-0.6
PPI	Padang Panjang	3.55	103	P	Pn	21 00 02.1	-0.3
PPI	Padang Panjang	3.55	103	P	Pn	21 00 02.1	-0.3
	baz=2.5,SNR=20						
PDSI	Padang	3.74	109	P	Pn	21 00 04.3	-0.8
BKNI	Bangkinang	4.10	90	S	Pn	21 00 09.8	-0.2
	baz=2.0,SNR=3.5						
LHMI	Lhok Sumawe	4.86	0	P	Pn	21 00 20.0	-0.4
	baz=4.4,SNR=6.5						
LHMI				S	Sn	21 01 15.0	-1.0
	baz=4.4,SNR=12						
FRIM	Kepong	5.50	58	⇑P	Pn	21 00 29.5	+0.2
IPM	Ipoh	5.79	45	P	x	21 00 33.1	
	103nm,0.9s,964nm0.4nm						
IPM	Ipoh	5.79	45	eP	Pn	21 00 33.1	-0.3
	81nm,0.6s						
IPM	Ipoh	5.79	45	⇓P	Pn	21 00 34.4	+1.0
KULM	Kulim	6.16	37	P	x	21 00 37.3	
	172nm,0.9s,2µm0.5nm						
KULM	Kulim	6.16	37	eP	Pn	21 00 37.1	-1.2
	100nm,0.6s						
KULM	Kulim	6.16	37	⇑P	Pn	21 00 37.8	-0.6
KGM	Kluang	6.59	75	⇓P	Pn	21 00 44.6	+0.3
MYKOM	Kota Tinggi	7.06	78	P	x	21 00 50.0	
	23nm,0.7s,0.1nm						
MYKOM	Kota Tinggi	7.06	78	⇓P	Pn	21 00 50.7	0.0
CMBY	CAMPBELL BAY	7.28	336	eP	Pn	21 00 51.9	-1.9
CMBY				ex	x	21 02 07.2	
MNAI	Manna	7.61	128	P	Pn	21 00 56.9	-1.5
	338nm,1.1s,1.5nm						
MNAI	Manna	7.61	128	P	Pn	21 00 57.0	-1.3
	baz=7.0,SNR=13						
MNAI				S	Sn	21 02 17.5	-6.5
	baz=7.0,SNR=8.6						
LHSI	Lahat	7.77	122	P	Pn	21 01 00.3	-0.3
	202nm,1.1s,2µm0.6nm						
KTGM	Kuala Trenggan	7.92	51	⇑P	Pn	21 01 02.5	-0.2
MDSI	Maura Dua	8.68	124	P	Pn	21 01 11.7	-1.3
	125nm,0.9s,2µm						
LWLI	Liwa	8.88	127	P	Pn	21 01 14.8	-1.1
	142nm,0.7s,5µm						
KLSI		9.25	123	P	Pn	21 01 19.8	-1.0
	149nm,0.8s						
KASI	Kota Agung	9.53	128	P	Pn	21 01 21.6	-3.1
DGPR	DIGLIPUR	13.36	343	ex	Pn	21 02 12.3	-4.8
DGPR				eS	Sn	21 04 36.3	-8.7
KSM	Kuching	13.41	85	⇑P	Pn	21 02 17.8	0.0
CHBT	CHBT	13.44	23	P	P	21 02 28.1	+0.7
SRDT	SRDT	14.09	9	P	P	21 02 36.1	+1.6
SBUM	Sibu	15.42	82	⇓P	Pn	21 02 44.1	-0.9
UMPA	Umpang Tak	15.88	7	P	Pn	21 02 53.3	+2.3
	46nm,1.4s,4µm						
CHAI	Chaiyaphum	16.25	18	P	P	21 02 58.2	-0.4
	12nm,0.9s						
PBKT	Sadao Pong	16.61	14	P	Pn	21 03 01.8	+1.6
	68nm,1.2s						
PHIT	Phitsanulok	17.09	11	P	P	21 03 08.9	+1.0
	47nm,1.0s						
CMAR	Chiang Mai Arr	18.11	6	P	Pn	21 03 18.4	-0.5
CMAR	Chiang Mai Arr	18.11	6	P	Pn	21 03 18.5	-0.5
	0.6nm,0.3s,baz=194,slow=11,SNR=31						
CMAR				LR	LR	21 10 52.6	
	comp=Z,160nm,18.8s,baz=355,slow=39						
LAMP	Lampang	18.26	8	P	P	21 03 24.5	+3.6
	3.3nm,1.0s						
CHTO	Chiang Mai	18.46	6	P	P	21 03 22.8	-0.3
	45nm,1.7s						
CHTO	Chiang Mai	18.46	6	eP	P	21 03 21.6	-1.5
	7.3nm,0.9s						
KDM	Kudat	20.89	71	⇑P	P	21 03 50.1	+0.4
SDKM	Sandakan	20.89	75	⇓P	P	21 03 49.2	-0.6
VIS	Vishakhapatnam	21.85	323	eP	P	21 03 58.8	-1.2
SLVN	Son La	21.95	18	eP	P	21 04 00.2	-0.8
	56nm,1.2s						
KMI	Kunming	25.27	12	P	P	21 04 34.4	+0.7
KMI				pP	pP	21 04 44.1	+3.5
KMI				sP	sP	21 04 48.8	+5.4
KMI				pmax	pmax		
	comp=Z,15nm,1.2s						
KMI				pmax	pmax		
	comp=Z,92nm,3.8s						
KMI				LR	LR		
	comp=N,170nm,22.1s						
KMI				LR	LR		
	comp=E,370nm,19.1s						
SHL	Shillong	25.55	349	eP	P	21 04 36.0	-0.2
H08S2	Diego Garcia H	25.64	251	T	T	21 31 57.6	
	baz=71,slow=75,SNR=216						
H08S3	Diego Garcia H	25.64	252	T	T	21 31 47.1	
	baz=71,slow=75,SNR=202						
H08S1	Diego Garcia H	25.65	251	T	T	21 31 36.2	
	baz=71,slow=75,SNR=260						
BOK	Bokaro	25.66	336	eP	P	21 04 37.1	+0.1
BOK				AMB	AMB	21 04 43.2	
	comp=Z,12nm,0.6s						
H08N1	Diego Garcia H	26.71	255	T	T	21 33 49.9	
	SNR=5.6						
H08N2	Diego Garcia H	26.72	255	T	T	21 33 51.1	
	SNR=8.9						
H08N3	Diego Garcia H	26.73	255	T	T	21 33 47.7	
	SNR=7.1						
ODAN	Odare	27.92	342	eP	P	21 04 58.5	+0.9
	comp=Z,41nm,1.1s						
RAMN	Ramite	28.26	340	eP	P	21 05 02.2	+1.5
	comp=Z,19nm,0.6s						
TAPN	Taplejung	28.28	342	eP	P	21 05 01.1	+0.2
	comp=Z,10nm,0.4s						
JIRN	Jiri	29.06	340	eP	P	21 05 09.0	+1.1
	comp=Z,22nm,0.7s						
PKI	Pulchoki	29.25	339	eP	P	21 05 10.2	+0.6
GUN	Gumba	29.39	340	eP	P	21 05 11.8	+0.9
	comp=Z,20nm,0.6s						
DMN	Daman	29.40	338	eP	P	21 05 11.5	+0.7
KKN	Kakani	29.50	339	eP	P	21 05 12.3	+0.7
LSA	Lhasa	29.71	350	eP	P	21 05 14.5	+0.7
	comp=Z,7.0nm,0.8s						
GKN	Gorkha	29.93	338	eP	P	21 05 16.1	+0.7
	comp=Z,4.5nm,0.4s						
KOLN	Koldanda	30.13	336	eP	P	21 05 18.1	+0.9
DANN	Dangsing	30.58	337	eP	P	21 05 21.9	+0.6
	comp=Z,15nm,0.7s						
FITZ	Fitzroy Crossi	33.65	124	LR	LR	21 18 44.2	
	comp=Z,59nm,19.9s,baz=331,slow=35						
XAN	Xi'an	35.36	17	P	P	21 06 01.6	-1.1
XAN				pP	pP	21 06 13.3	+3.7
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,28nm,8.1s						
SMLA	Simla	35.90	330	eP	P	21 06 06.7	-0.7
DHRM	DHARAMSHALA	37.24	330	eP	P	21 06 18.0	-1.0
H01W3	Cape Leeuwin H	38.56	157	T	T	21 47 41.0	
	baz=333,slow=76,SNR=18						
H01W2	Cape Leeuwin H	38.57	157	T	T	21 47 43.3	
	baz=333,slow=76,SNR=17						
H01W1	Cape Leeuwin H	38.57	157	T	T	21 47 37.3	
	baz=333,slow=76,SNR=17						
GTA	Gaotai	38.97	4	eP	P	21 06 33.3	-0.1
GTA				pP	pP	21 06 41.7	+1.3
GTA				sP	sP	21 06 45.5	+2.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	Warramunga Arr	41.81	121	P	P	21 06 56.5	-0.6
WRA	Warramunga Arr	41.81	121	P	P	21 06 56.5	-0.6
	comp=Z,3.1nm,0.7s,baz=302,slow=8.9,SNR=89						
WRAB	Tennant Creek	41.82	121	eP	P	21 06 56.4	-0.7
ASAR	Alice Springs	43.09	126	P	P	21 07 07.3	-0.2
ASAR	Alice Springs	43.09	126	P	P	21 07 07.3	-0.2
	comp=Z,1.7nm,0.5s,baz=299,slow=7.9,SNR=46						
BJT	Baijiatuan	43.21	22	P	P	21 07 06.9	-1.2
BJI	Beijing	43.23	22	P	P	21 07 08.8	+0.6
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TKM2	Tokmak 2	46.51	338	eP	P	21 07 34.6	-0.1
	comp=Z,4.9nm,1.0s						
KSAR	Wonju Array Be	46.67	34	P	P	21 07 35.8	+0.1
AAK	Ala-Archa	46.68	337	P	P	21 07 37.1	+1.2
AAK	Ala-Archa	46.68	337	P	P	21 07 37.1	+1.2
	comp=Z,0.4nm,0.3s,baz=169,slow=14,SNR=2.2						
KSRS	Korea Array	46.70	34	P	P	21 07 35.8	-0.1
	comp=Z,4.9nm,0.6s,baz=216,slow=8.9,SNR=17						
KSRS				LR	LR	21 26 44.1	
	comp=Z,6.9nm,19.2s,baz=207,slow=35						
EKS2	Erkin-Say	46.99	337	eP	P	21 07 38.9	+0.6
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	48.01	346	P	P	21 07 46.3	+0.3
MKAR	Makanchi Array	48.01	346	P	P	21 07 46.3	+0.3
	comp=Z,2.2nm,0.5s,baz=162,slow=8.9,SNR=25						
SONM	Songino Array	48.01	9	P	P	21 07 46.3	+0.1
SONM	Songino Array	48.01	9	P	P	21 07 46.3	+0.1
	comp=Z,1.7nm,0.7s,baz=191,slow=8.8,SNR=21						
SONM				LR	LR	21 29 11.3	
	comp=Z,98nm,20.8s,baz=172,slow=38						
ULN	Ulaanbaatar	48.15	9	eP	P	21 07 45.8	-1.4
	comp=Z,1.7nm,0.8s						
CN2	Changchun	50.18	27	eP	P	21 08 03.2	+0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	Kurchatov Arra	52.49	345	P	P	21 08 19.7	-0.1
	comp=Z,0.7nm,0.7s,baz=167,slow=7.1,SNR=6.0						
MJAR	Matsushiro Arr	52.50	42	P	P	21 08 22.6	+2.4
MJAR	Matsushiro Arr	52.50	42	P	P	21 08 22.6	+2.4
	comp=Z,1.5nm,0.8s,baz=217,slow=8.2,SNR=4.6						
MJAR				LR	LR	21 30 46.7	
	comp=Z,37nm,18.6s,baz=200,slow=36						
KURK	Kurchatov	52.55	345	eP	P	21 08 19.9	-0.3
	comp=Z,4.4nm,1.0s						
STKA	Stephens Creek	52.98	132	eP	P	21 08 24.0	+0.2
STKA	Stephens Creek	52.98	132	P	P	21 08 24.1	+0.3
	comp=Z,2.2nm,0.6s,baz=307,slow=6.9,SNR=20						
USRK	Ussuriysk Arra	53.64	31	P	P	21 08 28.6	+0.2
	comp=Z,3.7nm,0.7s,baz=247,slow=4.9,SNR=9.4						
ZALV	Zalesovo Beam	54.36	351	P	P	21 08 33.5	0.0
ZALV	Zalesovo Beam	54.36	351	P	P	21 08 33.5	0.0
	comp=Z,4.0nm,0.5s,baz=181,slow=6.8,SNR=20						
BVAR	Borovoye Array	56.97	341	P	P	21 08 51.5	-0.8
BVAR	Borovoye Array	56.97	341	P	P	21 08 51.5	-0.8
	comp=Z,0.4nm,0.5s,baz=149,slow=8.8,SNR=2.1						
ABKAR	Akbulak array	58.15	332	eP	P	21 08 59.7	-1.0
	comp=Z,4.5nm,0.8s						
PETK	Petropavlovsk-	72.59	33	LR	LR	21 45 45.2	
	comp=Z,59nm,19.7s,baz=274,slow=38						
AKASG	Malin Array Be	75.78	323	P	P	21 10 51.3	-1.5
AKASG	Malin Array Be	75.78	323	P	P	21 10 51.3	-1.5
	comp=Z,0.3nm,0.4s,baz=89,slow=5.3,SNR=6.5						
SUR	Sutherland	78.48	237	LR	LR	21 41 48.6	
	comp=Z,72nm,18.6s,baz=343,slow=33						
TSUM	Tsumeb	80.06	251	LR	LR	21 42 39.2	
	comp=Z,39nm,19.5s,baz=209,slow=33						
FINES	FINESS Array B	80.64	333	P	P	21 11 18.2	-1.3
FINES	FINESS Array B	80.64	333	P	P	21 11 18.2	-1.3
	comp=Z,3.0nm,1.0s,baz=203,slow=12,SNR=3.4						
ARCES	ARCESS Array B	83.25	340	P	P	21 11 34.2	+1.1
ARCES	ARCESS Array B	83.25	340	P	P	21 11 34.2	+1.1
	comp=Z,2.6nm,0.8s,baz=1.4,slow=4.9,SNR=5.2						
GERES	GERESS Array B	85.28	319	P	P	21 11 44.5	+0.5
GERES	GERESS Array B	85.28	319	P	P	21 11 44.5	+0.5
	comp=Z,0.4nm,0.8s,baz=63,slow=4.5,SNR=1.3						
CPUP	Villa Florida	144.20	222	PKP	PKPab	21 18 40.8	-0.5
CPUP	Villa Florida	144.20	222	PKP	PKPab	21 18 40.8	-0.5
	comp=Z,1.9nm,0.6s,baz=183,slow=8.9,SNR=4.4						
TXAR	Lajitas Array	144.53	32	PKP	PKPab	21 18 42.2	-0.4
TXAR	Lajitas Array	144.53	32	PKP	PKPab	21 18 42.2	-0.4
	comp=Z,0.3nm,0.7s,baz=153,slow=0.8,SNR=3.4						

IDC 04 21:08:54.6±2.0, 2.°32S×128.°22E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=134.3km s-min=26.6km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.51	162	P	P	21 13 12.2	-0.5
	0.3nm,0.3s,baz=340,slow=12,SNR=28						
ASAR	Alice Springs	21.33	166	P	P	21 13 49.4	-0.5
	0.7nm,0.4s,baz=346,slow=12,SNR=20						
STKA	Stephens Creek	31.99	158	P	P	21 15 23.2	+0.5
	0.5nm,0.6s,baz=346,slow=8.3,SNR=3.0						
MKAR	Makanchi Array	63.36	326	P	P	21 19 25.9	+0.1
	0.3nm,0.8s,baz=122,slow=5.2,SNR=2.7						

*IDC **04** 21:13:16.6±1.0,8.°71S×157.°57E,h0km,mb3.7/6,*
mb1 3.9/6,mb1mx3.7/18,mbtmp3.7/6,Error ellipse:
s-maj=27.9km s-min=15.4km az=3.0
*ISCJB **04** 21:13:18.2±0.8,8.°7S±0.°2×157.°4E±0.°1,h17km,mb3.5/6,*
Error ellipse: s-maj=27.1km s-min=16.8km az=154.3

ISC 04 21:13:19.2±0.9, 8.°8S±0.°2×157.°6E±0.°1, h17km, n8, σ1§28/9, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.37	106	Pn	Pn	21 13 55.3	-1.9
	5.7nm,0.3s,baz=201,slow=14,SNR=1.6						
HNR				Pg	Pb	21 14 01.6	+0.2
	25nm,0.3s,baz=204,slow=4.3,SNR=7.4						
HNR				Lg	Lg	21 14 33.7	
	68nm,0.3s,baz=230,slow=23,SNR=9.3						
HNR	Honiara	2.37	106	P	Pn	21 13 58.0	+0.7
WRA	Warramunga Arr	25.12	241	P	P	21 18 42.4	-1.1
	1.2nm,0.9s,baz=66,slow=9.2,SNR=6.8						
ASAR	Alice Springs	27.11	234	P	P	21 19 00.5	-1.0
	0.3nm,0.9s,baz=67,slow=10,SNR=1.5						
STKA	Stephens Creek	27.40	211	P	P	21 19 05.6	+1.6
	1.6nm,0.7s,baz=27,slow=14,SNR=4.7						
ILAR	Eielson Array	84.08	21	P	P	21 25 48.7	0.0
	0.5nm,0.9s,baz=238,slow=5.2,SNR=3.0						
MKAR	Makanchi Array	86.47	318	P	P	21 26 00.9	-0.2
	0.3nm,0.7s,baz=92,slow=5.4,SNR=1.7						
NVAR	Mina Array Bea	90.77	51	P	P	21 26 22.8	+0.8
	0.6nm,0.8s,baz=262,slow=4.5,SNR=3.9						

*BJI **04** 21:28:23.9,7.°93S×121.°01E,h525km,mB4.7/32,mb4.7/45*
*KLM **04** 21:28:30.1,7.°38S×120.°71E,h518km,mb5.1,MS5.7*
*ISCJB **04** 21:28:30.7±0.2,7.°27S±0.°02×120.°58E±0.°03,h533km±2km,*
mb4.8/90,Error ellipse: s-maj=4.5km s-min=3.3km
az=139.7
*MOS **04** 21:28:30.6±0.8,7.°13S×120.°66E,h531km,mb5.0/19,Error*
ellipse: s-maj=15.4km s-min=6.4km az=121.5
*IDC **04** 21:28:31.3±0.8,7.°23S×120.°61E,h523km±7km,mb4.2/30,*
mb1 4.3/31,mb1mx4.3/34,mbtmp4.3/31,Error ellipse:
s-maj=10.5km s-min=5.7km az=58.0
*NEIC **04** 21:28:31.3±0.4,7.°23S×120.°54E,h524km±5km,mb4.9/24,*
Error ellipse: s-maj=7.0km s-min=4.7km az=52.0
*DJA **04** 21:28:31.1±0.1,7.°S±2.°x12.°1E±.°,h527km±2km,M4.8/61,*
mB5.3/32,mb5.0/61,MLv5.4/26,Mw(mB)4.7/32,Mwp5.7/1

ISC 04 21:28:31.7±0.3, 7.°28S±0.°04×120.°59E±0.°05, h529km±2km, h530km; pP-P, n631, σ1§18/708, mb4.8/87, 150C-160D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	Labuhan Bajo,	1.38	210	P	x	21 29 33.8	
LBFI				S	x	21 30 24.7	
BKSI	Bulukumba	2.00	347	P	P	21 29 38.7	-0.8
MMRI	Maumere	2.12	130	P	P	21 29 37.4	-2.6
KAPI	Kappang	2.40	340	eP	P	21 29 42.1	+0.6
WSI	Waingapu	2.40	187	P	P	21 29 39.5	-1.9
WSI	Waingapu	2.40	187	P	P	21 29 39.9	-1.6
	baz=2.5,SNR=31						
BNSI	Bone	2.90	350	P	P	21 29 44.6	+0.2
BNSI				S	S	21 30 44.5	+1.1
KKSI	Kolaka, Sulawe	3.26	19	P	x	21 29 47.0	
SPSI	Sidrap Palu	3.39	346	P	P	21 29 47.5	-0.1
MJSI	Majene	4.03	337	P	x	21 29 53.2	
TTSI	Tana Toraja	4.27	350	P	P	21 29 53.9	-0.4
SOEI	Soe	4.39	124	P	P	21 29 54.3	-1.0
	baz=4.5,SNR=845						
MTNI	Mataram	4.58	253	P	x	21 29 56.2	
MMSI	Mamuju	4.85	340	P	x	21 29 59.6	
SRBI	Singaraja	5.39	261	P	P	21 30 02.3	-1.4
	117nm,0.9s,0.9nm						
BYJI	Banyuwangi	6.25	261	P	x	21 30 20.3	
ABJI	Asem Bagus	6.32	265	P	P	21 30 12.9	+0.6
	67nm,0.6s,0.7nm						
APSI	Ampana	6.41	10	P	P	21 30 13.0	-0.2
	816nm,1.0s,9µm2.6nm						
JAGI	Jajag, Banyuwa	6.49	259	eP	P	21 30 12.3	-1.7
JAGI	Jajag, Banyuwa	6.49	259	P	P	21 30 12.2	-1.7
	baz=6.5,SNR=42						
JAGI				S	S	21 31 30.1	-7.4
	baz=6.5,SNR=14						
LUWI	Luwuk	6.56	19	P	P	21 30 14.4	-0.3
	1µm,1.3s,10µm3.2nm						
LUWI	Luwuk	6.56	19	P	P	21 30 14.8	+0.1
	baz=6.5,SNR=75						
BBKI	Banjar Baru	6.86	303	P	P	21 30 18.4	+0.8
	86nm,1.1s,5µm1.8nm						
BLJI	Banyuglugur	6.95	266	P	P	21 30 18.2	-0.2
	189nm,0.8s,2µm0.5nm						
BKB	Balikpapan	7.02	328	P	P	21 30 22.1	+3.0
	1µm,1.0s,16µm4.1nm						
NLAI	Namlea	7.62	59	P	P	21 30 25.9	+0.8
	218nm,0.7s,2µm7.0nm						
MRSI	Marisa	7.82	10	P	P	21 30 26.4	-0.6
	1µm,1.0s,11µm25µm4.1nm						
GRJI	Gresik	8.05	272	P	P	21 30 30.8	+1.4
	51nm,1.1s,517nm0.2nm						
KRKI	Karangkates	8.11	263	P	x	21 30 33.7	
	222nm,0.5s,8µm1.8nm						
GTOI	Gorontalo	8.22	17	P	P	21 30 31.3	+0.2
	2µm,0.9s,18µm6.9nm						
TOLI	Toli-Toli	8.34	1	P	x	21 30 31.6	
	1µm,0.8s,13µm4.2nm						
MTKI	Muara Teweh, K	8.47	318	P	P	21 30 33.5	-0.2
	420nm,0.8s,5µm1.2nm						
KMSI	Cibinong	8.50	24	P	P	21 30 34.3	+0.4
	2µm,0.6s,14µm						
PWJI	Pagerwojo	8.74	265	P	P	21 30 36.8	+0.5
	59nm,0.9s,0.5nm						
LBMI	Labuha	9.54	47	P	P	21 30 44.5	-0.1
	602nm,0.8s,6µm						
UGM	Wanagama	10.00	266	P	P	21 30 49.3	-0.1
	baz=10.0,SNR=9.4						
TNTI	Ternate	10.47	41	P	P	21 30 53.6	-0.7
	263nm,1.2s,4µm						
TNTI	Ternate	10.47	41	eP	P	21 30 52.8	-1.5
BJII	Banjamegara	10.79	269	P	x	21 30 57.7	
	52nm,1.7s						
TGJI	Tegal	11.39	271	P	x	21 31 03.0	
	57nm,1.4s						
KNRA	Kununurra	11.57	137	P	P	21 31 05.2	-0.4
	baz=12,SNR=84						
MTN	Manton Dam	11.76	119	P	P	21 31 07.2	-0.6
	baz=12,SNR=32						
TSM	Tawau	11.81	347	⇑P	P	21 31 08.7	+0.5
CMJI	Cimerak	12.05	267	P	P	21 31 08.4	-2.3
	207nm,0.8s,2µm						
FAKI	Fak Fak	12.39	70	P	P	21 31 11.6	-2.8
	baz=12,SNR=23						
FAKI				S	S	21 33 15.3	-13
	baz=12,SNR=5.5						
SWI	Sorong	12.40	60	P	P	21 31 13.8	-0.7
	59nm,0.9s						
MYLDM	Lahad Datu	12.55	350	P	x	21 31 17.3	
	316nm,0.9s,3µm						
MYLDM	L

694nm,1.4s,7µm
TPRI Tanjung Pinang 17.97 296 P P 21 32 10.9 +0.4
176nm,1.0s,2µm
WRA Warramunga Arr 18.34 135 P P 21 32 13.7 -0.1
WRA S S 21 35 12.3 -2.4
WRA Warramunga Arr 18.34 135 P P 21 32 13.7 -0.1
15nm,0.3s,baz=314,slow=10,SNR=1162
WRA S S 21 35 12.3 -2.4
baz=311,slow=17,SNR=5.2
WRAB Tennant Creek 18.34 135*c iP* **P 21 32 13.6 -0.2**
WRAB pmax pmax
comp=Z,713nm,0.8s
WRAB Tennant Creek 18.34 135 *e*P **P 21 32 13.8 0.0**
comp=Z,318nm,0.9s
BTDF Bukit Timah Da 18.84 296 P P 21 32 19.0 +0.6
baz=19,SNR=12
MYKOM Kota Tinggi 18.97 298 P x 21 32 20.4
comp=Z,197nm,0.9s,comp=Z,742nm
MYKOM Kota Tinggi 18.97 298 *e*P **P 21 32 20.3 +0.7**
comp=Z,809nm,0.8s
MYKOM Kota Tinggi 18.97 298 ⇓P **P 21 32 20.8 +1.2**
WRKA Warakurna 19.14 158 P P 21 32 21.0 0.0
baz=19,SNR=143
MEEK Meekatharra 19.35 185 P P 21 32 22.7 -0.2
baz=20,SNR=126
RGRI Rengat 19.46 290 P P 21 32 24.8 +0.8
comp=Z,156nm,0.9s,comp=Z,23µm
KGM Kluang 19.55 298 ⇓P **P 21 32 26.0 +1.1**
ASAR Alice Springs 20.71 143 P P 21 32 35.4 0.0
ASAR S S 21 35 50.6 -2.1
ASAR PcP **PcP 21 36 21.8 0.0**
ASAR ScP **ScP 21 39 08.2 -0.3**
ASAR Alice Springs 20.71 143 P P 21 32 35.4 0.0
comp=Z,60nm,0.5s,baz=316,slow=8.0,SNR=1070
ASAR S S 21 35 50.7 -2.1
comp=Z,10nm,0.8s,baz=331,slow=21,SNR=4.5
ASAR PcP **PcP 21 36 21.8 0.0**
comp=Z,9.2nm,0.6s,baz=337,slow=1.4,SNR=7.7
ASAR ScP **ScP 21 39 08.2 -0.3**
comp=Z,12nm,0.7s,baz=340,slow=2.5,SNR=11
PDSI Padang 21.04 287 P P 21 32 36.1 -2.3
comp=Z,47nm,0.8s
PPI Padang Panjang 21.24 288 P P 21 32 39.4 -0.8
comp=Z,30nm,1.0s
KTGM Kuala Trenggan 21.45 305 ⇑P **P 21 32 43.4 +1.3**
FRIM Kepong 21.61 298 ⇓P **P 21 32 44.1 +0.6**
MORW Morawa 22.10 191 P P 21 32 47.7 0.0
baz=22,SNR=23
MNSI Mandailing Nat 22.44 290 P P 21 32 49.5 -1.4
comp=Z,81nm,0.8s,comp=Z,831nm
QIS Mount Isa 22.66 128 P P 21 32 52.7 -0.2
baz=23,SNR=47
IPM Ipoh 22.75 300 P x 21 32 53.5
comp=Z,40nm,0.9s
IPM Ipoh 22.75 300 *e*P **P 21 32 53.1 -0.6**
comp=Z,32nm,0.9s
IPM Ipoh 22.75 300 ⇓P **P 21 32 53.7 0.0**
COEN Coen 23.16 109 P P 21 32 56.9 -0.5
baz=23,SNR=14
KULM Kulim 23.49 302 P x 21 32 59.9
comp=Z,32nm,0.8s
KULM Kulim 23.49 302 *e*P **P 21 32 59.2 -1.1**
comp=Z,20nm,0.7s
KULM Kulim 23.49 302 ⇓P **P 21 32 59.7 -0.6**
BLDU Ballidu 23.50 188 P P 21 33 00.1 -0.1
baz=24,SNR=5.8
PSI Prapat 23.82 294 P x 21 33 02.7
comp=Z,77nm,1.1s,comp=Z,641nm
PSI Prapat 23.82 294 P P 21 33 03.1 -0.3
PSI S S 21 36 39.6 -2.6
PSI Prapat 23.82 294 P P 21 33 03.1 -0.3
comp=Z,47nm,0.9s,baz=137,slow=6.3,SNR=29
PSI S S 21 36 39.6 -2.6
comp=Z,11nm,1.0s,baz=264,slow=21,SNR=17
PSI Prapat 23.82 294 P P 21 33 03.2 -0.3
baz=24,SNR=11
PSI S S 21 36 40.5 -1.7
baz=24,SNR=27
KMBL Kambalda 24.00 177 P P 21 33 04.8 +0.1
baz=24,SNR=8.9
KLBR Kellerberrin 24.34 186 P P 21 33 07.7 +0.1
baz=25,SNR=6.1
FORT Forrest 24.41 164 *e*P **P 21 33 08.5 +0.3**
comp=Z,193nm,0.7s
FORT Forrest 24.41 164 P P 21 33 08.6 +0.3
baz=25,SNR=37
TSI Tuntungan 24.45 295 P P 21 33 08.7 -0.1
comp=Z,186nm,1.1s
GSI Gunungsitoli 24.49 289 P P 21 33 07.7 -1.5
comp=Z,75nm,0.7s
GSI Gunungsitoli 24.49 289 *e*P **P 21 33 06.4 -2.8**
comp=Z,46nm,0.6s
KCSI Kotacane, Aceh 25.17 294 P P 21 33 13.3 -2.0
comp=Z,120nm,0.8s,comp=Z,1µm
TPTI 25.60 293 P P 21 33 18.2 -0.8
comp=Z,115nm,1.5s
NWAO Narrogin (SRO) 25.71 187 P P 21 33 19.9 +0.1
NWAO Narrogin (SRO) 25.71 187 P P 21 33 19.9 +0.1
comp=Z,24nm,0.6s,baz=26,slow=9.2,SNR=23
SNSI Sinabang, Aceh 26.05 291 P P 21 33 23.8 +0.8
comp=Z,218nm,1.1s
LHMI Lhok Sumawe 26.66 297 P P 21 33 27.6 -0.8
baz=27,SNR=4.5
PKDT Phuket 26.82 304 P P 21 33 29.4 -0.4
comp=Z,50nm,0.9s,comp=Z,3µm
UBPT Khong Chiam 26.96 326 P P 21 33 31.7 +0.8
comp=Z,20nm,0.8s
RKGY Rocky Gully 27.41 186 P P 21 33 36.1 +1.5
baz=28,SNR=53
CTA Charters Tower 27.95 120 P P 21 33 40.2 +0.5
CTA PcP **PcP 21 36 38.3 +0.3**
CTA ScP **ScP 21 39 29.1 +0.2**
CTA Charters Tower 27.95 120 P P 21 33 40.2 +0.5
comp=Z,15nm,1.0s,baz=309,slow=9.9,SNR=8.4
CTA PcP **PcP 21 36 38.3 +0.3**
comp=Z,3.8nm,0.6s,baz=333,slow=2.3,SNR=5.2
CTA ScP **ScP 21 39 29.1 +0.2**
comp=Z,6.2nm,0.9s,baz=310,slow=7.9,SNR=3.9
CTAO Charters Tower 27.95 120 *e*P **P 21 33 39.6 0.0**
CTAO pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 27.95 120 *e*P **P 21 33 39.6 0.0**
comp=Z,18nm,1.0s
QIZ Qiongzhong 28.20 338 P P 21 33 42.4 +0.6
QIZ sP **sP 21 36 10.1 -1.1**
QIZ S S 21 37 52.9 +2.5
QIZ pmax pmax
comp=Z,20nm,1.7s
BBOO Buckleboo 29.19 153 *e*P **P 21 33 50.3 0.0**
comp=Z,2µm,0.6s
BBOO Buckleboo 29.19 153 P P 21 33 50.5 +0.2
baz=29,SNR=37
BBOO S S 21 38 10.0 +4.5
baz=29,SNR=4.8
CHAI Chaiyaphum 29.49 321 P P 21 33 53.2 +0.2
comp=Z,16nm,0.6s
QLP Quilpie 29.57 133 P P 21 33 54.6 +0.9
baz=30,SNR=19
SRDT SRDT 30.25 315 P P 21 34 00.8 +1.2
comp=Z,53nm,1.0s,comp=Z,16µm
PBKT Sadao Pong 30.63 321 P P 21 34 02.7 -0.1
comp=Z,19nm,1.1s
KHLT Khaolaem Dam 30.93 315 P P 21 34 06.4 +0.9
comp=Z,15nm,0.9s
HTT Hallett 31.08 149 P P 21 34 07.3 +0.7
baz=31,SNR=72
STKA Stephens Creek 31.35 144 P P 21 34 09.4 +0.6
STKA PcP **PcP 21 36 46.5 -0.2**
STKA S S 21 38 38.1 -0.6
STKA ScP **ScP 21 39 39.7 0.0**
STKA Stephens Creek 31.35 144 P P 21 34 09.4 +0.6
comp=Z,91nm,0.5s,baz=316,slow=8.8,SNR=498
STKA PcP **PcP 21 36 46.5 -0.2**
comp=Z,6.8nm,0.5s,baz=288,slow=3.2,SNR=3.1
STKA S S 21 38 38.1 -0.6
comp=Z,15nm,1.1s,baz=210,slow=20,SNR=5.2
STKA ScP **ScP 21 39 39.7 0.0**
comp=Z,17nm,0.7s,baz=319,slow=4.7,SNR=8.7
PHIT Phitsanulok 31.44 321 P P 21 34 10.7 +0.9
comp=Z,38nm,0.7s
SLVN Son La 32.81 330 *e*P **P 21 34 20.5 -1.0**
SLVN *e*pP **pP 21 35 49.6 -1.9**
SLVN *e*PcP **PcP 21 36 51.2 +0.1**
RMQ Roma 32.90 129 P P 21 34 23.7 +1.4
baz=33,SNR=5.5
LAMP Lampang 32.93 321 P P 21 34 23.2 +0.7
comp=Z,7.7nm,1.0s,comp=Z,71nm

CMAR Chiang Mai Arr 33.31 320 P P 21 34 26.0 +0.2
CMAR PcP **PcP 21 36 53.7 +1.3**
CMAR ScP **ScP 21 39 48.5 +1.7**
CMAR Chiang Mai Arr 33.31 320 P P 21 34 26.0 +0.2
comp=Z,6.3nm,0.5s,baz=149,slow=6.9,SNR=87
CMAR PcP **PcP 21 36 53.7 +1.3**
comp=Z,13nm,0.9s,baz=177,slow=2.8,SNR=32
CMAR ScP **ScP 21 39 48.5 +1.7**
comp=Z,1.2nm,0.9s,baz=177,slow=2.7,SNR=4.4
CHTO Chiang Mai 33.58 321 *e*P **P 21 34 28.1 +0.1**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 33.58 321 P P 21 34 28.0 +0.1
comp=Z,94nm,0.6s
CHTO Chiang Mai 33.58 321 *e*P **P 21 34 28.1 +0.1**
comp=Z,3.2nm,0.6s
CMSA Cobar Meteorol 33.64 139 P P 21 34 29.3 +1.0
baz=34,SNR=95
MHMT Maesarieng 33.76 319 P P 21 34 30.4 +0.9
comp=Z,8.9nm,1.0s
ARPS Mount Arapiles 35.17 150 P P 21 34 41.7 +0.6
baz=35,SNR=53
GYA Guiyang 36.15 339⇑ *i*P **P 21 34 49.5 0.0**
GYA pP **pP 21 36 23.2 +2.0**
GYA PP **PP 21 36 31.8 +0.6**
GYA PcP **PcP 21 37 01.4 +0.5**
GYA sP **sP 21 37 22.0 +0.2**
GYA S S 21 39 50.0 -1.8
GYA PcS **PcS 21 40 48.8 -0.8**
GYA ScS **ScS 21 44 05.2 +0.2**
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,120nm,4.8s
KMI Kunming 36.59 332 P P 21 34 54.6 +1.3
KMI pP **pP 21 36 28.4 +3.2**
KMI sP **sP 21 37 27.6 +1.8**
KMI pmax pmax
comp=Z,21nm,0.9s
ARMA Armidale 37.10 132 *e*P **P 21 34 59.4 +2.1**
comp=Z,19nm,0.8s
ARMA Armidale 37.10 132 P P 21 34 59.4 +2.1
baz=37,SNR=16
YNG Young 37.16 140 P P 21 34 58.9 +1.3
baz=37,SNR=33
TOO Toolangi 37.69 147 P P 21 35 03.5 +1.6
baz=38,SNR=11
MGCD Mangrove Creek 38.28 137 P P 21 35 08.9 +2.2
baz=38,SNR=10
CNB Canberra Magne 38.42 141 P P 21 35 09.1 +1.2
baz=39,SNR=9.3
NJ2 Nanjing 39.14 358 *e*P **P 21 35 14.2 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 41.25 338 P P 21 35 30.4 -0.3
CD2 pP **pP 21 37 06.0 +0.6**
CD2 PP **PP 21 37 19.4 -1.0**
CD2 S S 21 41 08.2 +1.8
CD2 sS **sS 21 43 58.4 -0.9**
CD2 SS **SS 21 44 28.0 -3.5**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,80nm,7.1s
PALK Pallekele 42.32 289 *e*P **P 21 35 38.8 -0.7**
comp=Z,120nm,0.8s
XAN Xi'an 42.55 346 P P 21 35 39.6 -1.3
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,26nm,4.2s
SHL Shillong 42.95 320 *e*P **P 21 35 44.0 -0.3**
KSAR Wonju Array Be 45.00 8 P P 21 35 59.5 -0.3
KSAR PcP **PcP 21 37 29.9 +0.4**
KSRS Korea Array 45.02 8 P P 21 35 59.5 -0.4
comp=Z,4.0nm,0.8s,baz=187,slow=8.5,SNR=7.4
KSRS PcP **PcP 21 37 29.9 +0.3**
comp=Z,5.3nm,0.7s,baz=180,slow=3.4,SNR=11
LZH Lanzhou 45.91 341 *e*P **P 21 36 06.8 -0.2**
LZH sP **sP 21 38 39.4 -4.1**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.2s
LSA Lhasa 46.39 324 *e*P **P 21 36 11.1 0.0**
LSA *e* 21 37 35.2
LSA *e*S **S 21 42 18.6 -1.7**
LSA pmax pmax
comp=Z,49nm,0.6s
LSA Lhasa 46.39 324 *e*P **P 21 36 11.1 0.0**
comp=Z,49nm,0.6s
LSA *e*PcP **PcP 21 37 35.2 -0.1**
LSA *e*S **S 21 42 18.6 -1.7**
MJAR Matsushiro Arr 46.62 20 P P 21 36 10.9 -1.3
MJAR PcP **PcP 21 37 35.5 +0.1**
MJAR ScP **ScP 21 40 39.2 +0.7**
MJAR Matsushiro Arr 46.62 20 P P 21 36 10.9 -1.3
comp=Z,4.7nm,0.9s,baz=195,slow=9.9,SNR=9.2
MJAR PcP **PcP 21 37 35.5 +0.1**
comp=Z,4.5nm,0.8s,baz=190,slow=4.0,SNR=6.6
MJAR ScP **ScP 21 40 39.2 +0.7**
comp=Z,1.8nm,0.6s,baz=182,slow=4.5,SNR=6.6
ODAN Odare 46.76 318 *e*P **P 21 36 13.2 -0.5**
comp=Z,126nm,1.0s
TAPN Taplejung 46.88 319 *e*P **P 21 36 14.4 -0.2**
comp=Z,196nm,0.7s
BJT Baijiatuau 47.23 355 *e*P **P 21 36 15.2 -1.5**
comp=Z,32nm,0.6s
BJT *e*PcP **PcP 21 37 37.6 +0.1**
BJI Beijing 47.25 355 P **P 21 36 15.5 -1.3**
BJI PcP **PcP 21 37 38.4 +0.9**
BJI pP **pP 21 37 55.6 +0.4**
BJI sP sP 21 38 46.3 -7.5
BJI S **S 21 42 33.7 +2.8**
BJI pmax pmax
comp=Z,55nm,0.6s
BJI pmax pmax
comp=Z,210nm,3.3s
RAMN Ramite 47.35 317 *e*P **P 21 36 17.9 -0.2**
comp=Z,213nm,0.8s
JIRN Jiri 48.09 318 *e*P **P 21 36 23.5 -0.3**
comp=Z,131nm,0.6s
HYB Hyderabad 48.24 301 *i*P P 21 36 21.0 -3.7
GUN Gumba 48.46 318 *e*P **P 21 36 26.1 -0.4**
comp=Z,224nm,0.7s
PKI Pulchoki 48.55 317 *e*P **P 21 36 26.4 -0.8**
comp=Z,71nm,0.6s
HHC Hu-ho-hao-te 48.60 351 *e*P **P 21 36 26.4 -0.6**
HHC pP pP 21 38 00.9 -5.3
HHC PP **PP 21 38 31.8 +4.7**
HHC S S 21 42 50.8 +1.0
HHC ScS **ScS 21 45 16.2 -6.2**
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,300nm,4.6s
KKN Kakani 48.78 317 *e*P **P 21 36 28.2 -0.6**
comp=Z,102nm,0.9s
DMN Daman 48.78 317 *e*P **P 21 36 28.3 -0.5**
comp=Z,133nm,1.0s
GKN Gorkha 49.36 317 *e*P **P 21 36 32.3 -0.6**
comp=Z,76nm,0.6s
KOLN Koldanda 49.92 316 *e*P **P 21 36 36.5 -0.7**
comp=Z,109nm,0.8s
DANN Dangsing 50.17 317 *e*P **P 21 36 38.5 -0.6**
comp=Z,274nm,0.6s
GTA Gaotai 50.28 339 ⇓P **P 21 36 40.1 +0.6**
GTA PcP **PcP 21 37 49.9 +1.0**
GTA pP **pP 21 38 24.2 +4.6**
GTA sP **sP 21 39 21.4 +3.7**
GTA S S 21 43 12.8 +0.1**
GTA sS **sS 21 46 15.7 +2.3**
GTA SS **SS 21 46 57.3 +1.6**
GTA pmax pmax
comp=Z,30nm,1.0s
GTA pmax pmax
comp=Z,110nm,4.7s
CN2 Changchun 51.03 5 *e*P **P 21 36 47.1 +2.4**
CN2 *e*sP **sP 21 39 22.0 -1.2**
CN2 *e*S **S 21 43 25.5 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
USRK Ussuriysk Arra 52.26 10 P P 21 36 52.8 -0.8
comp=Z,8.6nm,0.5s,baz=189,slow=7.3,SNR=43
MDJ Mudanjiang 52.29 8 P P 21 36 53.1 -0.6
MDJ pP **pP 21 38 32.7 -2.3**
MDJ sP **sP 21 39 29.9 -2.9**
MDJ ScP **ScP 21 41 02.6 -0.1**
MDJ S S 21 43 39.0 -0.2
MDJ ScS **ScS 21 45 47.5 -0.1**
MDJ sS **sS 21 46 39.1 -2.4**
MDJ SS **SS 21 47 27.2 +0.4**
MDJ pmax pmax
comp=Z,16nm,0.8s
MDJ pmax pmax
comp=Z,130nm,4.4s
ASAJ Asahikawa 54.89 19 P P 21 37 11.8 -0.3
ASAJ Asahikawa 54.89 19 P P 21 37 11.8 -0.3
comp=Z,6.6nm,0.5s,baz=284,slow=16,SNR=4.4
NDI New Delhi 55.00 313 *e*P **P 21 37 10.5 -2.8**
ULN Ulaanbaatar 56.19 349 *e*P **P 21 37 20.9 -0.5**
comp=Z,32nm,1.3s
SONM Songino Array 56.29 349 P P 21 37 21.8 -0.2
SONM PcP **PcP 21 38 11.9 +0.1**
SONM Songino Array 56.29 349 P P 21 37 21.8 -0.2
comp=Z,19nm,0.7s,baz=164,slow=8.4,SNR=172
SONM PcP **PcP 21 38 11.9 +0.1**
comp=Z,2.9nm,0.8s,baz=154,slow=4.2,SNR=5.3
RPZ Rata Peaks 57.01 138 *e*P **P 21 37 27.8 +0.8**
comp=Z,54nm,0.7s
WMQ Urumqi 58.92 333 P P 21 37 39.2 -0.8
WMQ pP **pP 21 39 26.6 +1.8**
WMQ sP **sP 21 40 23.2 +1.7**
WMQ pmax pmax
comp=Z,41nm,0.5s
ZAK Zakamensk 59.35 347 *e*P **P 21 37 42.3 -0.5**
ZAK *e* 21 38 24.0
ZAK pmax pmax
comp=Z,9.0nm,1.0s
TLY Talaya 60.50 348 *e*P **P 21 37 50.4 +0.1**
TLY pmax pmax
comp=Z,15nm,0.9s
TLY Talaya 60.50 348 *e*P **P 21 37 50.4 +0.1**
comp=Z,15nm,0.9s
MOY Mondy 61.08 346 *e*P **P 21 37 54.0 -0.2**
KSH Kashi 62.19 322 ⇓P **P 21 38 01.7 0.0**
KSH *e*sP **sP 21 40 45.3 +0.9**
KSH ScS **SKSac 21 46 59.5 -1.7**
KSH pmax pmax
comp=Z,57nm,0.7s
KSH pmax pmax
comp=Z,130nm,6.3s
MRIV Mauritius Mete 62.30 251 *e*P **P 21 38 03.6 +0.9**
MK31 Makanchi Array 63.67 332 *e*P **P 21 38 10.9 -0.1**
MK31 Makanchi Array 63.67 332 *e*P **P 21 38 10.9 -0.1**
MKAR Makanchi Array 63.67 332 *e*P **P 21 38 11.1 +0.1**
MKAR 21 38 41.5
MKAR S S 21 46 05.1 +1.1
MKAR Makanchi Array 63.67 332 *e*P **P 21 38 11.1 +0.1**
MKAR PcP **PcP 21 38 41.5 -0.1**
MKAR S **S 21 46 05.1 +1.1**
MKAR Makanchi Array 63.67 332 P P 21 38 11.2 +0.1
comp=Z,58nm,0.6s,baz=139,slow=7.5,SNR=792
MKAR PcP **PcP 21 38 41.5 -0.1**
comp=Z,4.4nm,0.6s,baz=163,slow=5.7,SNR=4.1
MKAR S **S 21 46 05.1 +1.1**
comp=Z,1.5nm,1.0s,baz=143,slow=12,SNR=7.1
ULHL Ulahol 63.73 325 *i*P **P 21 38 11.6 -0.1**
ULHL Ulahol 63.73 325 P P 21 38 11.7 -0.1
SNR=7.0
KZA Kyzart 64.20 324 *i*P **P 21 38 15.4 +0.4**
KZA Kyzart 64.20 324 P P 21 38 15.4 +0.4
SNR=23
TKM2 Tokmak 2 64.53 325 *i*P **P 21 38 16.4 -0.4**
TKM2 Tokmak 2 64.53 325 P P 21 38 16.4 -0.4
SNR=33
TKM2 Tokmak 2 64.53 325 *e*P **P 21 38 16.6 -0.2**
comp=Z,17nm,0.7s
UCH Uchtor 64.73 324 *i*P **P 21 38 18.5 +0.2**
UCH Uchtor 64.73 324 P P 21 38 18.5 +0.2
SNR=20
KBK Karagaybulak 64.74 324 *i*P **P 21 38 17.8 -0.2**
KBK Karagaybulak 64.74 324 P P 21 38 17.8 -0.2
SNR=23
AAK Ala-Archa 64.99 324*d iP* **P 21 38 19.7 +0.1**
AAK pmax pmax
comp=Z,79nm,1.0s
AAK Ala-Archa 64.99 324 P P 21 38 20.0 +0.4
SNR=39
AAK Ala-Archa 64.99 324 *e*P **P 21 38 19.9 +0.3**
AAK PcP **PcP 21 38 48.1 +0.8**
AAK Ala-Archa 64.99 324 P P 21 38 19.9 +0.3
comp=Z,17nm,0.6s,baz=128,slow=5.4,SNR=133
AAK PcP **PcP 21 38 48.1 +0.8**
comp=Z,10nm,0.9s,baz=93,slow=3.1,SNR=7.2
CHMS Chumysh 65.06 325 *i*P **P 21 38 19.5 -0.4**
CHMS Chumysh 65.06 325 P P 21 38 19.6 -0.4
SNR=9.0
AML Almayashu 65.15 323 *i*P **P 21 38 21.0 +0.1**
AML Almayashu 65.15 323 P P 21 38 21.0 +0.1
SNR=57
USP Ospenovka 65.38 325 *i*P **P 21 38 21.7 -0.1**
USP Ospenovka 65.38 325 P P 21 38 21.8 -0.1
SNR=29
EKS2 Erkin-Say 65.42 324 *i*P **P 21 38 22.2 -0.1**
EKS2 Erkin-Say 65.42 324 P P 21 38 22.3 -0.1
SNR=42
EKS2 Erkin-Say 65.42 324 *e*P **P 21 38 22.6 +0.3**
KKAR Karatay Array 67.63 323 *e*P **P 21 38 35.1 -0.7**
KKAR Karatay Array 67.63 323 *e*P **P 21 38 35.1 -0.7**
PETK Petropavlovsk- 67.88 23 P **P 21 38 37.5 +0.4**
PETK Petropavlovsk- 67.88 23 P **P 21 38 37.5 +0.4**
PETK Petropavlovsk- 67.88 23 P **P 21 38 37.5 +0.4**
comp=Z,22nm,0.8s,baz=205,slow=4.6,SNR=32
ZAA0 Zalesovo Array 68.02 338 *e*P **P 21 38 36.9 -1.0**
ZALV Zalesovo Beam 68.02 338 P **P 21 38 36.9 -1.0**
ZALV S **S 21 46 51.3 -3.8**
ZALV Zalesovo Beam 68.02 338 P **P 21 38 36.9 -1.0**
ZALV S **S 21 46 51.3 -3.8**
ZALV Zalesovo Beam 68.02 338 P **P 21 38 36.9 -1.0**
comp=Z,40nm,0.5s,baz=137,slow=4.6,SNR=234
ZALV S **S 21 46 51.3 -3.8**
comp=Z,2.6nm,0.9s,baz=145,slow=8.8,SNR=8.7
KURBB Kurchatov Arra 68.15 333 P **P 21 38 38.5 -0.3**
comp=Z,27nm,0.8s,baz=148,slow=5.4,SNR=194
KURBB PcP **PcP 21 39 00.2 0.0**
comp=Z,2.9nm,0.5s,baz=134,slow=3.4,SNR=10
KURK Kurchatov 68.17 333 *e*P **P 21 38 38.4 -0.5**
KURK 21 39 00.2
KURK pmax pmax
comp=Z,30nm,0.8s
KURK Kurchatov 68.17 333 *e*P **P 21 38 38.4 -0.5**
comp=Z,30nm,0.8s
KURK PcP **PcP 21 39 00.2 -0.1**
YAK Yakutsk 69.46 5 *e*P **P 21 38 45.2 -1.2**
YAK pmax pmax
comp=Z,46nm,0.7s
YAK pmax pmax
comp=N,15nm,1.0s
YAK Yakutsk 69.46 5 *e*P **P 21 38 45.7 -0.7**
comp=N,51nm,0.7s
HATD Hatta, Dubai 70.36 299⇓ *e*P **P 21 38 52.1 -0.5**
BANOM Banah 70.56 301⇓ *i*P **P 21 38 53.5 -0.3**
FAQ Al Faqa, Dubai 70.80 299⇓ *e*P **P 21 38 54.6 -0.6**
NAZ Nazwa, Dubai 70.81 300⇑ *e*P **P 21 38 54.8 -0.5**
ASUD Al Ashush, Dub 70.99 299⇓ *i*P **P 21 38 56.2 -0.1**
OPO Ambohidratompo 72.02 253 P **P 21 39 03.3 +0.6**
OPO Ambohidratompo 72.02 253 P **P 21 39 03.3 +0.6**
comp=N,19nm,0.7s,baz=80,slow=4.3,SNR=32
BVAR Borovoye Array 73.54 331 P **P 21 39 09.9 -0.6**
BVAR Borovoye Array 73.54 331 P **P 21 39 09.9 -0.6**
BVAR Borovoye Array 73.54 331 P **P 21 39 09.9 -0.6**
comp=N,16nm,0.7s,baz=124,slow=5.9,SNR=162
BRVK Borovoye 73.61 331*d iP* **P 21 39 10.3 -0.6**
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 73.61 331 *e*P **P 21 39 10.5 -0.4**
comp=Z,70nm,1.6s
SEY Seymchan 74.11 15 P **P 21 39 14.1 +0.7**
SEY Seymchan 74.11 15 P **P 21 39 14.1 +0.7**
SEY Seymchan 74.11 15 P **P 21 39 14.1 +0.7**
comp=Z,31nm,0.6s,baz=212,slow=4.7,SNR=143
ABKAR Akbulak array 77.08 324 *e*P **P 21 39 29.5 -0.8**
AKTO Aktyubinsk 78.72 325 P **P 21 39 38.6 -0.5**
AKTO Aktyubinsk 78.72 325 P **P 21 39 38.6 -0.5**
AKTO Aktyubinsk 78.72 325 P **P 21 39 38.6 -0.5**
comp=Z,31nm,0.7s,baz=108,slow=6.7,SNR=142

TIXI Tiksi 78.95 3⇓*i*P P 21 39 38.8 -1.0
TIXI pmax pmax
comp=Z,39nm,1.0s
TIXI Tiksi 78.95 3 *e*P P 21 39 38.9 -1.0
comp=Z,31nm,0.9s
SYO Syowa Base 80.02 201⇑*e*X 21 39 43.6
SVE Sverdlovsk 80.33 331⇑*e*P P 21 39 46.6 -0.8
SVE pmax pmax
comp=Z,22nm,0.9s
ARU Arti 81.15 330 *e*P P 21 39 49.9 -1.8
ARU pmax pmax
comp=Z,41nm,1.5s
ARU Arti 81.15 330 *e*P P 21 39 49.9 -1.8
comp=Z,41nm,1.5s
KMBO Kilima Mbogo 83.25 270 *e*P P 21 40 04.3 +0.6
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 83.25 270 P P 21 40 04.2 +0.6
comp=Z,7.5nm,0.8s,baz=67,slow=8.4,SNR=17
DGRG David-gareji 83.84 315 P P 21 40 07.3 +1.6
GNI Garni 83.96 312 P P 21 40 07.5 +1.0
GNI Garni 83.96 312 P P 21 40 07.5 +1.0
comp=Z,5.5nm,0.6s,baz=3.6,slow=0.6,SNR=5.0
SEAG Tbilisi Sea 84.33 313 P P 21 40 08.1 -0.1
TBLG Delisi 84.37 313 P P 21 40 09.2 +0.9
KZR Kazreti 84.52 313 P P 21 40 10.1 +1.0
GUDG Gudauri 84.74 314 P P 21 40 11.4 +1.1
ZEI Tsey 85.24 314 *e*P P 21 40 12.4 -0.3
ZEI pmax pmax
comp=Z,16nm,0.5s
ONI Oni 85.51 314 P P 21 40 14.8 +0.9
KBZ Khabaz 86.18 315 P P 21 40 17.2 +0.3
KBZ Khabaz 86.18 315 P P 21 40 17.1 +0.3
KBZ Khabaz 86.18 315 P P 21 40 17.1 +0.3
comp=Z,14nm,0.8s,baz=115,slow=3.9,SNR=20
KIV Kislovodsk 86.38 315 P P 21 40 17.0 -1.0
KIV pmax pmax
comp=Z,23nm,1.6s
GOF Gofitskoye 86.39 316⇓*i*P P 21 40 17.7 -0.2
GOF pmax pmax
comp=Z,50nm,1.3s
ASF Jabal al Asfar 88.52 303 P P 21 40 28.9 +0.6
ASF Jabal al Asfar 88.52 303 P P 21 40 28.9 +0.6
comp=Z,7.3nm,0.9s,baz=131,slow=3.9,SNR=7.8
VRHR Novokhopersk 88.73 322 *e*P P 21 40 26.8 -1.9
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.8s
PRGR Permogore 89.29 333 *e*P P 21 40 28.6 -2.4
PRGR pmax pmax
comp=Z,9.0nm,0.7s
MMAI Mount Meron Ar 89.90 303 P P 21 40 35.2 +0.5
MMAI Mount Meron Ar 89.90 303 P P 21 40 35.2 +0.5
comp=Z,3.1nm,0.5s,baz=98,slow=5.1,SNR=10
ANN Anapa 90.24 315 *e*P P 21 40 30.8 -5.0
ANN pmax pmax
comp=Z,87nm,1.6s
VSR Storozhevoye 90.27 322 *e*P P 21 40 33.6 -2.2
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.9s
LSZ Lusaka 90.41 255 *e*P P 21 40 37.2 -0.3
comp=E,26nm,0.8s
OBN Obninsk 92.50 325⇑*e*P P 21 40 44.8 -1.2
OBN pmax pmax
comp=Z,42nm,2.0s
SNAA Sanae 93.07 195 P P 21 40 49.1 +0.6
SNAA Sanae 93.07 195 P P 21 40 49.1 +0.6
comp=Z,1.6nm,0.6s,baz=161,slow=3.4,SNR=17
COLD Coldfoot 96.35 23 *e*P P 21 41 03.4 +0.1
comp=Z,10nm,1.6s
AKASG Malin Array Be 96.44 320 P P 21 41 02.4 -1.6
AKASG 21 45 06.9
AKASG Malin Array Be 96.44 320 P P 21 41 02.4 -1.6
AKASG PP PP 21 45 06.9 +0.1
AKASG Malin Array Be 96.44 320 P P 21 41 02.4 -1.6
comp=Z,3.1nm,0.6s,baz=80,slow=4.7,SNR=26
AKASG PP PP 21 45 06.9 +0.1
comp=Z,1.7nm,0.9s,baz=79,slow=6.6,SNR=6.3
ILAR Eielson Array 97.61 26 P Pdif 21 41 07.0 -2.0
ILAR PKKPbc **PKKPbc** 21 57 42.9 -2.7
ILAR Eielson Array 97.61 26 P Pdif 21 41 07.0 -2.0
comp=Z,0.6nm,0.6s,baz=251,slow=4.7,SNR=13
ILAR PKKPbc **PKKPbc** 21 57 42.9 -2.7
comp=Z,0.8nm,0.8s,baz=88,slow=2.2,SNR=7.0
VRI Vrincioaia 97.85 315⇓*i*P Pdif 21 41 10.3 -0.2
FINES FINESS Array B 98.50 331 P Pdif 21 41 11.5 -1.5
FINES FINESS Array B 98.50 331 P Pdif 21 41 11.5 -1.5
comp=Z,3.1nm,0.8s,baz=49,slow=5.8,SNR=5.9
ARCES ARCESS Array B 98.55 339 P Pdif 21 41 11.9 -1.1
ARCES ARCESS Array B 98.55 339 P Pdif 21 41 11.9 -1.1
comp=Z,2.0nm,0.7s,baz=83,slow=10,SNR=3.6
BURAR Bucovina Array 98.94 317⇑*i*P Pdif 21 41 15.2 -0.2
GERES GERESS Array B 106.55 319 PKiKP **PKiKP** 21 45 56.5 -0.1
GERES GERESS Array B 106.55 319 PKiKP **PKiKP** 21 45 56.5 -0.1
comp=Z,0.8nm,0.7s,baz=56,slow=2.4,SNR=7.7
CLL Collm 106.62 321 *e*P Pdif 21 41 38.0 -11
LPG La Plagne 111.80 316 *e*PP PP 21 46 56.3 -3.4
comp=Z,14nm,1.0s
LPL La Plagne 111.81 316 *e*PP PP 21 46 56.4 -3.3
comp=Z,13nm,1.0s
YKA Yellowknife Ar 111.98 24 PKiKP **PKiKP** 21 46 05.8 -0.5
YKA SKP 21 48 51.5
YKA PKKPbc **PKKPbc** 21 56 58.8 -3.7
YKA P'P' 22 05 30.8
YKA Yellowknife Ar 111.98 24 PKiKP **PKiKP** 21 46 05.8 -0.5
comp=Z,2.3nm,0.5s,baz=303,slow=1.8,SNR=49
YKA SKP 21 48 51.5
comp=Z,0.8nm,0.8s,baz=299,slow=2.0,SNR=8.7
YKA PKKPbc **PKKPbc** 21 56 58.7 -3.7
comp=Z,0.7nm,0.8s,baz=112,slow=3.0,SNR=7.6
YKA PKPPKP **P'P'df** 22 05 30.7 +2.2
comp=Z,0.2nm,0.6s,baz=136,slow=2.9,SNR=4.1
L02D Cave Junction, 113.91 47 ⇓P **PKiKP** 21 46 12.0 +1.3
baz=114
M02C Callahan 114.62 48 ⇑P PKPdf 21 46 12.9 +0.7
baz=115
J04D Umpqua Nationa 114.73 46 ⇑P PKPdf 21 46 13.1 +0.6
baz=115
N02D Trinity Center 114.82 48 ⇑P PKPdf 21 46 13.2 +0.7
baz=115
I05D Terrebonne, OR 115.00 44 ⇑P PKPdf 21 46 13.0 +0.2
baz=115
M04C Macdoel 115.27 47 ⇓P **PKPdf** 21 46 13.9 +0.4
baz=115
J05D Fort Rock, OR 115.34 45 ⇓P **PKPdf** 21 46 14.4 +0.8
baz=115
NEW Newport 116.60 39 ⇑P **PKPdf** 21 46 16.6 +0.9
baz=117
PKM Peak Mountain 118.32 54 ⇑P **PKPdf** 21 46 20.7 +1.1
baz=118
NVAR Mina Array Bea 118.71 50 PKP **PKPdf** 21 46 21.2 +0.9
NVAR SKP 21 49 06.3
NVAR PKKPbc **PKKPbc** 21 56 39.6 +0.5
NVAR Mina Array Bea 118.71 50 PKP **PKPdf** 21 46 21.2 +0.9
comp=Z,2.6nm,0.6s,baz=274,slow=2.0,SNR=19
NVAR SKP 21 49 06.3
comp=Z,0.8nm,0.7s,baz=287,slow=1.8,SNR=4.9
NVAR PKKPbc **PKKPbc** 21 56 39.6 +0.5
comp=Z,1.1nm,0.7s,baz=150,slow=3.6,SNR=7.7
MSO Missoula 119.13 40 ⇓P **PKPdf** 21 46 20.9 +0.2
baz=119
ISA Isabella 119.23 53 ⇓P **PKPdf** 21 46 21.8 +0.6
baz=119
CWC Cottonwood Cre 119.37 52 ⇓P **PKPdf** 21 46 22.4 +0.9
baz=119
TORD Torodi Ar. Bea 119.69 281 PKP **PKPdf** 21 46 22.1 -0.5
TORD SKP 21 49 08.3
TORD P'P' 22 05 28.2
TORD Torodi Ar. Bea 119.69 281 PKP **PKPdf** 21 46 22.1 -0.5
comp=Z,8.9nm,0.7s,baz=60,slow=1.7,SNR=106
TORD SKP 21 49 08.3
comp=Z,1.1nm,0.9s,baz=129,slow=2.3,SNR=4.6
TORD PKPPKP P'P'df 22 05 28.2 +11
comp=Z,0.4nm,0.7s,baz=255,slow=4.5,SNR=6.0
SCI San Clemente I 119.73 56 ⇑P **PKPdf** 21 46 22.0 -0.1
baz=120
EDW2 Edwards Air Fo 119.79 54 ⇑P **PKPdf** 21 46 23.1 +0.8
baz=120
LRMC Laurel Mountai 119.90 53 ⇓P **PKPdf** 21 46 23.3 +0.8
baz=120
MPMC Manual Prospec 119.92 53 ⇓P **PKPdf** 21 46 23.3 +0.6
baz=120
HLID Hailey 120.00 43 ⇓P **PKPdf** 21 46 23.6 +1.0
baz=120
BFSC Mount Baldy Ra 120.20 55 ⇓P **PKPdf** 21 46 23.9 +0.7
baz=120
FURC Furnace Creek, 120.31 52 ⇓P **PKPdf** 21 46 24.2 +1.1
baz=120
GSC Goldstone 120.64 53 ⇑P **PKPdf** 21 46 24.6 +0.7
baz=121
TPNV Topopah Spring 120.67 51 ⇓P **PKPdf** 21 46 24.7 +0.6
baz=121
MURC Murrieta 120.71 55 ⇑P **PKPdf** 21 46 24.4 +0.3
baz=121
R11A Troy Canyon, C 120.79 49 ⇑P **PKPdf** 21 46 25.0 +0.7
baz=121
ESDC Sonseca Array 120.94 312 PKP **PKPdf** 21 46 24.7 +0.4
ESDC Sonseca Array 120.94 312 PKP **PKPdf** 21 46 24.7 +0.4
comp=Z,1.0nm,0.7s,baz=28,slow=4.2,SNR=4.6
HEC Hector,Ludlow 121.13 54 ⇓P **PKPdf** 21 46 25.4 +0.5
baz=121
EGMT Eagleton 121.22 37 ⇓P **PKPdf** 21 46 25.1 +0.5
baz=121
TUQ Turquoise Moun 121.31 53 ⇓P **PKPdf** 21 46 25.9 +0.6
baz=121
PFO Pinyon Flat Ob 121.31 55 ⇓P **PKPdf** 21 46 25.9 +0.6
baz=121
A19A Klindworth Far 121.40 36 ⇑P **PKPdf** 21 46 24.8 -0.1
baz=121
MONP Monument Peak 121.50 56 ⇑P **PKPdf** 21 46 26.7 +0.8
baz=122
BELC Belle Mtn. Jos 121.59 54 ⇓P **PKPdf** 21 46 26.8 +0.9
baz=122
GMRC Granite Mounta 121.68 54 ⇓P **PKPdf** 21 46 27.5 +1.5
baz=122
C19A Slack Wire Ran 121.77 37 ⇓P **PKPdf** 21 46 26.2 +0.5
baz=122
DVTC Desert V Tower 121.81 56 ⇓P **PKPdf** 21 46 27.0 +0.7
baz=122
A20A Cobblestone Ra 121.89 36 ⇑P **PKPdf** 21 46 26.0 +0.1
baz=122
B20A Solberg Farm, 122.05 36 ⇓P **PKPdf** 21 46 26.6 +0.4
baz=122
BC3 Big Chuckawall 122.11 55 ⇓P **PKPdf** 21 46 27.9 +1.1
baz=122
D19A Cripps Ranch, 122.13 38 ⇓P **PKPdf** 21 46 26.6 +0.2
baz=122
IRM Iron Mountain 122.24 54 ⇓P **PKPdf** 21 46 28.4 +1.4
baz=122
H17A Grant Village 122.25 41 ⇓P **PKPdf** 21 46 28.5 +1.5
baz=122
DUG Dugway 122.27 47 ⇓P **PKPdf** 21 46 27.9 +0.9
baz=122
C20A Veseth Ranch, 122.41 37 ⇓P **PKPdf** 21 46 27.3 +0.4
baz=122
A21A Bergtoll Ranch 122.41 35 ⇓P **PKPdf** 21 46 26.8 -0.1
baz=122
I17A Pilgrim Ck. 122.45 42 ⇑P **PKPdf** 21 46 27.8 +0.4
baz=122
D20A Manuel Ranch, 122.62 38 ⇓P **PKPdf** 21 46 27.7 +0.3
baz=123
F19A Roth Farm, Mol 122.68 39 ⇓P **PKPdf** 21 46 27.7 +0.1
baz=123
H18A Shoshone NF, C 122.73 41 ⇑P **PKPdf** 21 46 28.3 +0.4
baz=123
E20A Meyer Farm, Mu 122.89 38 ⇓P **PKPdf** 21 46 28.2 +0.3
baz=123
A22A Carney Farms, 122.98 35 ⇑P **PKPdf** 21 46 27.8 -0.2
baz=123
W13A Hualapai Mount 123.00 53 ⇓P **PKPdf** 21 46 29.6 +0.9
baz=123
D21A La Casta Ranch 123.32 37 ⇑P **PKPdf** 21 46 29.3 +0.5
baz=123
G20A Bridger 123.42 40 ⇓P **PKPdf** 21 46 29.5 +0.4
baz=123
I19A Meeteetse 123.44 41 ⇓P **PKPdf** 21 46 29.6 +0.4
baz=123
A23A Redstone 123.59 34 ⇑P **PKPdf** 21 46 29.4 +0.3
baz=124
PDAR Pinedale Array 123.59 43 PKP **PKPdf** 21 46 29.8 +0.2
PDAR Pinedale Array 123.59 43 PKP **PKPdf** 21 46 29.8 +0.2
comp=Z,1.6nm,0.7s,baz=120,slow=1.7,SNR=16
C22A Vida 123.64 36 ⇓P **PKPdf** 21 46 29.9 +0.6
baz=124
J19A Crowheart 123.72 42 ⇓P **PKPdf** 21 46 30.3 +0.5
baz=124
D22A Cohagen 123.76 37 ⇑P **PKPdf** 21 46 30.5 +0.9
baz=124
B23A Brockton 123.78 35 ⇓P **PKPdf** 21 46 30.0 +0.5
baz=124
F21A Absaloka Mine, 123.83 39 ⇓P **PKPdf** 21 46 30.2 +0.5
baz=124
U15A North Rim 123.86 51 ⇑P **PKPdf** 21 46 31.2 +0.9
baz=124
H20A Greybull 123.89 40 ⇓P **PKPdf** 21 46 30.2 +0.3
baz=124
C23A Lambert 124.02 36 ⇓P **PKPdf** 21 46 30.8 +0.8
baz=124
Y14A Wickenburg 124.02 54 ⇑P **PKPdf** 21 46 31.1 +0.6
baz=124
I20A Worland 124.04 41 ⇑P **PKPdf** 21 46 31.0 +0.8
baz=124
G21A Lodge Grass 124.06 39 ⇑P **PKPdf** 21 46 30.8 +0.6
baz=124
A24A Westby 124.09 34 ⇓P **PKPdf** 21 46 30.5 +0.4
baz=124
DGMT Dagmar 124.23 35 ⇑P **PKPdf** 21 46 31.1 +0.7
baz=124
E22A Miles City 124.25 37 ⇑P **PKPdf** 21 46 31.2 +0.7
baz=124
J20A Shoshoni 124.33 42 ⇓P **PKPdf** 21 46 31.4 +0.6
baz=124
F22A Rosebud 124.38 38 ⇑P **PKPdf** 21 46 31.4 +0.6
baz=124
H21A Big Horn, Sher 124.43 40 ⇓P **PKPdf** 21 46 31.4 +0.4
baz=124
A25A Svangstu Ranch 124.58 34 ⇓P **PKPdf** 21 46 32.0 +1.0
baz=124
C24A Savage 124.59 36 ⇑P **PKPdf** 21 46 32.0 +0.9
baz=124
I21A Big Trails, Te 124.64 41 ⇓P **PKPdf** 21 46 31.7 +0.2
baz=125
214A Organ Pipe Nat 124.69 56 ⇓P **PKPdf** 21 46 32.2 +0.5
baz=125
J21A Lysite 124.75 41 ⇑P **PKPdf** 21 46 32.1 +0.4
baz=125
WUAZ Wupatki 124.85 52 ⇓P **PKPdf** 21 46 32.9 +0.7
baz=125
D24A Glendive 124.87 36 ⇓P **PKPdf** 21 46 32.1 +0.4
baz=125
H22A Clearmont 124.89 40 ⇓P **PKPdf** 21 46 31.9 0.0
baz=125
B25A Knox Farm, Ray 124.92 34 ⇓P **PKPdf** 21 46 32.6 +0.9
baz=125
F23A Volborg 124.93 38 ⇓P **PKPdf** 21 46 32.3 +0.5
baz=125
X16A Lo Mia Camp, P 125.13 53 ⇑P **PKPdf** 21 46 33.4 +0.7
baz=125
I22A 9 Mile Ranch, 125.13 40 ⇓P **PKPdf** 21 46 32.7 +0.3
baz=125
E24A Baker 125.17 37 ⇓P **PKPdf** 21 46 33.0 +0.7
baz=125
A26A Wade Farm, Ken 125.19 33 ⇑P **PKPdf** 21 46 33.0 +0.9
baz=125
K21A Alcova 125.19 42 ⇑P **PKPdf** 21 46 33.0 +0.3
baz=125
G23A Biddle 125.20 38 ⇑P **PKPdf** 21 46 33.0 +0.6
baz=125
N20A Spence Gulch, 125.26 44 ⇑P **PKPdf** 21 46 33.7 +0.9
baz=125
J22A Midwest 125.35 41 ⇑P **PKPdf** 21 46 32.9 0.0
baz=125
D25A Fairfield 125.43 36 ⇑P **PKPdf** 21 46 33.5 +0.8
baz=125
F24A Ekalaka 125.45 37 ⇑P **PKPdf** 21 46 33.3 +0.4
baz=125
O20A White River Ci 125.55 45 ⇓P **PKPdf** 21 46 34.2 +0.8
baz=126
K22A Casper 125.66 42 ⇓P **PKPdf** 21 46 34.0 +0.5
baz=126
E25A Miller Ranch, 125.73 36 ⇑P **PKPdf** 21 46 34.1 +0.7
baz=126
KIC Kosan Boka 125.73 273 *e*PKIKP **PKPdf** 21 46 34.1 -0.1
comp=Z,12nm,0.7s
C26A Wahner Farm, P 125.76 34 ⇓P **PKPdf** 21 46 34.1 +0.8
baz=126
DBIC Dimbokro 125.87 273 PKP **PKPdf** 21 46 34.7 +0.2
DBIC Dimbokro 125.87 273 PKP **PKPdf** 21 46 34.7 +0.2
comp=Z,4.8nm,0.5s,baz=93,slow=1.5,SNR=16
H24A Dirks Ranch, A 125.94 39 ⇑P **PKPdf** 21 46 34.4 +0.5
baz=126
J23A Dilts Ranch, B 125.95 40 ⇑P **PKPdf** 21 46 34.3 +0.3
baz=126
L22A Ellis Ranch, M 126.00 42 ⇓P **PKPdf** 21 46 35.1 +0.9
baz=126
F25A Bowman 126.00 37 ⇑P **PKPdf** 21 46 34.7 +0.8
baz=126
D26A Manning 126.01 35 ⇑P **PKPdf** 21 46 34.5 +0.6
baz=126
LIC Lamto 126.01 272 *e*PKIKP **PKPdf** 21 46 34.5 -0.2
comp=Z,18nm,0.5s
TIC Toumodi 126.03 273 *e*PKIKP **PKPdf** 21 46 34.8 0.0
comp=Z,7.2nm,0.2s
A28A Rude Farm, Bot 126.13 32 ⇑P **PKPdf** 21 46 34.4 +0.4
baz=126
C27A Sayler Ranch, 126.15 34 ⇓P **PKPdf** 21 46 35.0 +0.9
baz=126
M22A Cedar Creek Ra 126.16 43 ⇑P **PKPdf** 21 46 35.2 +0.6
baz=126
K23A Bowen Ranch, D 126.21 41 ⇓P **PKPdf** 21 46 34.8 +0.3
baz=126
W18A Petrified Fore 126.25 51 ⇑P **PKPdf** 21 46 36.0 +1.2
baz=126
X18A Snowflake 126.27 52 ⇑P **PKPdf** 21 46 35.7 +0.8
baz=126
E26A Carlson Angus 126.30 36 ⇓P **PKPdf** 21 46 35.1 +0.7
baz=126
I24A Kuemmerle Ranc 126.33 40 ⇑P **PKPdf** 21 46 34.6 0.0
baz=126
B28A Dugan Ranch, T 126.35 33 ⇓P **PKPdf** 21 46 35.0 +0.6
baz=126
G25A Newell 126.41 38 ⇑P **PKPdf** 21 46 35.1 +0.4
baz=126
L23A Garrett 126.45 42 ⇑P **PKPdf** 21 46 35.1 0.0
baz=126
MVCO Mesa Verde 126.47 49 ⇓P **PKPdf** 21 46 36.3 +1.0
baz=126
F26A Lodgepole 126.51 37 ⇑P **PKPdf** 21 46 35.5 +0.7
baz=126
N22A Wattenberg Ran 126.52 44 ⇓P **PKPdf** 21 46 36.6 +1.3
baz=126
J24A Dixon Ranch, L 126.56 40 ⇓P **PKPdf** 21 46 35.5 +0.4
baz=126
K24A Anderson Ranch 126.75 41 ⇑P **PKPdf** 21 46 35.7 +0.1
baz=127
N23A Red Feather La 126.83 43 ⇑P **PKPdf** 21 46 36.4 +0.6
baz=127
B29A Wagenman Farm, 126.88 32 ⇑P **PKPdf** 21 46 36.2 +0.8
baz=127
F27A Lemmon 126.88 36 ⇑P **PKPdf** 21 46 36.1 +0.6
baz=127
D28A Regan 126.97 34 ⇓P **PKPdf** 21 46 36.2 +0.5
baz=127
J25A Sunshine Ranch 127.08 40 ⇓P **PKPdf** 21 46 36.4 +0.3
baz=127
H26A Fairpoint 127.10 38 ⇑P **PKPdf** 21 46 36.4 +0.4
baz=127
MDND Maddock 127.12 33 ⇑P **PKPdf** 21 46 36.3 +0.4
baz=127
A30A Hoffart Farm, 127.14 31 ⇑P **PKPdf** 21 46 36.3 +0.4
baz=127
O23A Lake Granby, G 127.14 44 ⇑P **PKPdf** 21 46 37.5 +1.0
baz=127
G27A Dupree 127.20 37 ⇓P **PKPdf** 21 46 36.9 +0.7
baz=127
E28A Huff 127.25 35 ⇑P **PKPdf** 21 46 36.9 +0.7
baz=127
I26A New Underwood 127.35 39 ⇓P **PKPdf** 21 46 37.0 +0.5
baz=127
K25A Mack Ranch, Ha 127.42 41 ⇓P **PKPdf** 21 46 37.4 +0.6
baz=127
B30A Myrvik Farm, E 127.43 32 ⇑P **PKPdf** 21 46 36.9 +0.4
baz=127
ULM Lac du Bonnet 127.49 29 PKP **PKPdf** 21 46 35.9 -0.6
ULM Lac du Bonnet 127.49 29 PKP **PKPdf** 21 46 35.9 -0.6
comp=Z,3.3nm,0.7s,baz=261,slow=3.4,SNR=5.9
S22A 4UR Ranch, Cre 127.50 47 ⇓P **PKPdf** 21 46 38.5 +1.2
baz=128
ISCO Idaho Springs 127.53 45 ⇓P **PKPdf** 21 46 38.5 +1.2
baz=128
J26A Sides Ranch, S 127.58 39 ⇑P **PKPdf** 21 46 37.6 +0.6
baz=128
D29A Pettibone, Tap 127.59 34 ⇑P **PKPdf** 21 46 37.4 +0.6
baz=128
319A Douglas 127.74 56 ⇓P **PKPdf** 21 46 39.4 +1.7
baz=128
C30A Mose, Pekin 127.81 33 ⇑P **PKPdf** 21 46 37.7 +0.5
baz=128
K26A Motz Farm, Whi 127.82 40 ⇓P **PKPdf** 21 46 37.8 +0.3
baz=128
I27A Quinn 127.82 38 ⇑P **PKPdf** 21 46 37.9 +0.5
baz=128
G28A Parade 127.97 37 ⇑P **PKPdf** 21 46 38.1 +0.4
baz=128
U22A Llaves 128.01 49 ⇑P **PKPdf** 21 46 40.1 +1.8
baz=128
D30A Buchanan 128.02 33 ⇑P **PKPdf** 21 46 38.1 +0.5
baz=128
H28A Mission Ridge 128.12 37 ⇑P **PKPdf** 21 46 38.2 +0.3
baz=128
V22A San Miguel Ran 128.14 50 ⇑P **PKPdf** 21 46 39.6 +1.1
baz=128
F29A Eureka 128.17 35 ⇓P **PKPdf** 21 46 38.3 +0.3
baz=128
J27A Elkhorn Farm, 128.28 39 ⇑P **PKPdf** 21 46 39.5 +1.2
baz=128
E30A Jud 128.30 34 ⇑P **PKPdf** 21 46 38.8 +0.6
baz=128
T23A Casias Ranch, 128.36 48 ⇓P **PKPdf** 21 46 40.2 +1.3
baz=128
320A Kipp Ranch, An 128.37 56 ⇑P **PKPdf** 21 46 40.2 +1.2
baz=128
I28A Midland 128.40 38 ⇑P **PKPdf** 21 46 39.0 +0.5
baz=128
121A Cookes Peak, D 128.61 54 ⇑P **PKPdf** 21 46 39.9 +0.5
baz=129
H29A Onida 128.63 37 ⇑P **PKPdf** 21 46 39.1 +0.2
baz=129
P25A Willow Gulch B 128.66 44 ⇓P **PKPdf** 21 46 40.3 +1.0
baz=129
J28A Allard Ranch, 128.67 38 ⇑P **PKPdf** 21 46 39.6 +0.6
baz=129
S24A Houchin Ranch, 128.72 47 ⇑P **PKPdf** 21 46 40.7 +1.0
baz=129
V23A Ortiz Mt. (NFS 128.75 49 ⇓P **PKPdf** 21 46 41.6 +2.0
baz=129
T24B San Luis 128.83 48 ⇓P **PKPdf** 21 46 41.5 +1.6
baz=129
Q25A Bedland, Calha 128.87 45 ⇑P **PKPdf** 21 46 40.6 +0.8
baz=129
G30A Faulkton 128.97 36 ⇓P **PKPdf** 21 46 40.3 +0.8
baz=129
W23A Werner Place, 128.99 50 ⇑P **PKPdf** 21 46 41.4 +1.3
baz=129
Z22A Elephant Butte 129.03 53 ⇓P **PKPdf** 21 46 41.5 +1.4
baz=129
N27A Anderson Farm, 129.16 42 ⇑P **PKPdf** 21 46 41.1 +1.0
baz=129
X23A Hourglass Bar 129.17 51 ⇑P **PKPdf** 21 46 41.0 +0.6
baz=129
P26A Davis Ranch, A 129.20 44 ⇓P **PKPdf** 21 46 41.1 +0.7
baz=129
J29A Okreek 129.24 38 ⇑P **PKPdf** 21 46 40.3 +0.2
baz=129
S25A Robets Cordova 129.28 46 ⇓P **PKPdf** 21 46 41.2 +0.7
baz=129
V24A Rampart Ranch, 129.44 49 ⇑P **PKPdf** 21 46 42.0 +1.0
baz=129
Y23A Lovelace Mesa, 129.51 52 ⇓P **PKPdf** 21 46 42.0 +0.9
baz=130
T25A Trinidad 129.51 47 ⇑P **PKPdf** 21 46 42.1 +1.1
baz=130
W24A Lazy 6 Ranch, 129.54 50 ⇓P **PKPdf** 21 46 42.0 +0.8
baz=130
Z23A Rita Site, Whi 129.60 52 ⇓P **PKPdf** 21 46 42.5 +1.3
baz=130
U25A Circle Dot Ran 129.82 48 ⇑P **PKPdf** 21 46 42.9 +1.2
baz=130
V25A Rancho No Teng 129.89 49 ⇑P **PKPdf** 21 46 42.7 +1.0
baz=130
S26A Kim 129.98 46 ⇓P **PKPdf** 21 46 42.7 +0.8
baz=130
K30A Basset 130.07 38 ⇓P **PKPdf** 21 46 42.3 +0.6
baz=130
T26A Comanche Natio 130.09 47 ⇑P **PKPdf** 21 46 43.5 +1.4
baz=130

R27A	**Eads** baz=130	**130.16**	**45**	⇑P		**PKPdf**	**21 46 43.7 +1.6**
W25A	**X Bar L Ranch,** baz=130	**130.25**	**49**	⇓P		**PKPdf**	**21 46 43.9 +1.5**
Z24A	**Sheeppen Canyo** baz=130	**130.26**	**52**	⇑P		**PKPdf**	**21 46 44.0 +1.4**
U26A	**Atchley Ranch,** baz=130	**130.31**	**48**	⇑P		**PKPdf**	**21 46 43.9 +1.3**
S27A	**Las Animas** baz=130	**130.36**	**46**	⇓P		**PKPdf**	**21 46 44.0 +1.4**
V26A	**Tequesquite Ra** baz=130	**130.52**	**48**	⇓P		**PKPdf**	**21 46 44.1 +1.2**
Y25A	**Mesa, Roswell** baz=130	**130.57**	**51**	⇑P		**PKPdf**	**21 46 44.0 +1.0**
224A	**Cornudas Mount** baz=130	**130.57**	**54**	⇑P		**PKPdf**	**21 46 44.7 +1.6**
O29A	**4D Ranch, Culb** baz=131	**130.65**	**42**	⇓P		**PKPdf**	**21 46 43.9 +1.0**
324A	**Moseley Ranch,** baz=131	**130.81**	**54**	⇓P		**PKPdf**	**21 46 44.3 +0.7**
W26A	**Owens Ranch, T** baz=131	**130.82**	**49**	⇑P		**PKPdf**	**21 46 44.3 +0.8**
P29A	**Atwood** baz=131	**130.82**	**43**	⇓P		**PKPdf**	**21 46 44.2 +0.9**
U27A	**Thompson Grove** baz=131	**130.97**	**47**	⇓P		**PKPdf**	**21 46 44.8 +1.0**
125A	**Gardner Draw,** baz=131	**131.05**	**53**	⇑P		**PKPdf**	**21 46 45.2 +1.2**
O30A	**MW Ranch, Wils** baz=131	**131.11**	**41**	⇓P		**PKPdf**	**21 46 45.2 +1.5**
225A	**Deer Hill, Car** baz=131	**131.12**	**53**	⇑P		**PKPdf**	**21 46 45.8 +1.6**
S28A	**Manter** baz=131	**131.12**	**45**	⇑P		**PKPdf**	**21 46 45.3 +1.4**
PLCA	**Paso Flores**	**131.14**	**169**	PKP		**PKPdf**	**21 46 45.7 +1.8**
PLCA				SKPbc		**SKPab**	**21 49 20.7 +0.5**
PLCA	**Paso Flores** comp=Z,2.0nm,0.7s,baz=214,slow=2.6,SNR=5.7	**131.14**	**169**	PKP		**PKPdf**	**21 46 45.7 +1.8**
PLCA	comp=Z,4.3nm,0.9s,baz=188,slow=6.6,SNR=5.1			SKPbc		**SKPab**	**21 49 20.7 +0.5**
Q29A	**Oakley** baz=131	**131.14**	**43**	⇑P		**PKPdf**	**21 46 45.3 +1.4**
T28A	**Walsh** baz=131	**131.17**	**46**	⇑P		**PKPdf**	**21 46 44.9 +0.8**
M31A	**Lambtecht Ranc** baz=131	**131.20**	**40**	⇓P		**PKPdf**	**21 46 44.4 +0.5**
325A	**Bean Ranch, Si** baz=131	**131.25**	**54**	⇑P		**PKPdf**	**21 46 44.7 +0.2**
ECSD	**EROS Data Cent** baz=131	**131.26**	**36**	⇓P		**PKPdf**	**21 46 44.5 +0.6**
W27A	**Bowe Ranch, En** baz=131	**131.36**	**49**	⇓P		**PKPdf**	**21 46 45.4 +0.9**
425A	**Indio Mountain** baz=131	**131.43**	**55**	⇑P		**PKPdf**	**21 46 45.0 +0.3**
BGNE	**Belgrade** baz=132	**131.68**	**39**	⇓P		**PKPdf**	**21 46 45.0 +0.3**
T29A	**Hugoton** baz=132	**131.74**	**46**	⇑P		**PKPdf**	**21 46 46.1 +1.0**
Y27A	**Causey** baz=132	**131.76**	**50**	⇓P		**PKPdf**	**21 46 46.0 +0.7**
P31A	**Stockton** baz=132	**131.90**	**42**	⇓P		**PKPdf**	**21 46 46.2 +1.0**
Z27A	**Tatum** baz=132	**131.94**	**51**	⇓P		**PKPdf**	**21 46 46.5 +0.9**
MSTX	**Muleshoe** baz=132	**132.02**	**50**	⇑P		**PKPdf**	**21 46 46.4 +0.6**
326A	**Caldwell Ranch** baz=132	**132.06**	**54**	⇓P		**PKPdf**	**21 46 46.5 +0.6**
127A	**Arkansas Junct** baz=132	**132.07**	**52**	⇓P		**PKPdf**	**21 46 46.5 +0.7**
Q31A	**Ellis** baz=132	**132.15**	**42**	⇓P		**PKPdf**	**21 46 46.7 +0.9**
SCHQ	**Schefferville**	**132.20**	**6**	PKP		**PKPdf**	**21 46 47.1 +1.8**
SCHQ				SKPbc		**SKPab**	**21 49 23.8 -0.3**
SCHQ	**Schefferville** comp=Z,3.6nm,0.6s,baz=286,slow=5.8,SNR=9.8	**132.20**	**6**	PKP		**PKPdf**	**21 46 47.1 +1.8**
SCHQ	comp=Z,9.7nm,0.9s,baz=307,slow=2.3,SNR=5.7			SKPbc		**SKPab**	**21 49 23.8 -0.3**
O32A	**Brockman Farm,** baz=132	**132.23**	**40**	⇓P		**PKPdf**	**21 46 46.3 +0.5**
X28A	**Dimmitt** baz=132	**132.23**	**49**	⇓P		**PKPdf**	**21 46 46.9 +0.8**
426A	**McDonald Obser** baz=132	**132.25**	**55**	⇓P		**PKPdf**	**21 46 47.1 +0.7**
P32A	**Huiting Farm,** baz=132	**132.36**	**41**	⇑P		**PKPdf**	**21 46 46.9 +0.8**
526A	**Mary Lane Ranc** baz=132	**132.40**	**56**	⇓P		**PKPdf**	**21 46 47.6 +1.0**
SPMN	**St. Paul** baz=132	**132.41**	**32**	⇓P		**PKPdf**	**21 46 47.0 +1.0**
R31A	**Burdett** baz=132	**132.43**	**43**	⇓P		**PKPdf**	**21 46 47.6 +1.3**
626A	**Big Bend Ranch** baz=132	**132.53**	**56**	⇓P		**PKPdf**	**21 46 47.8 +1.1**
X29A	**Tulia** baz=133	**132.64**	**49**	⇓P		**PKPdf**	**21 46 48.0 +1.1**
427A	**Hayter Ranch,** baz=133	**132.69**	**54**	⇑P		**PKPdf**	**21 46 48.4 +1.3**
Q32A	**Meitler Ranch,** baz=133	**132.72**	**42**	⇓P		**PKPdf**	**21 46 47.7 +0.9**
527A	**Woodward Ranch** baz=133	**132.76**	**55**	⇑P		**PKPdf**	**21 46 48.9 +1.6**
128A	**Castleberry Fa** baz=133	**132.77**	**52**	⇑P		**PKPdf**	**21 46 48.4 +1.2**
Y29A	**Porterfield Fa** baz=133	**132.90**	**50**	⇓P		**PKPdf**	**21 46 48.5 +1.1**
328A	**Wristen Ranch,** baz=133	**132.98**	**53**	⇓P		**PKPdf**	**21 46 48.7 +1.1**
TXAR	**Lajitas Array**	**132.98**	**56**	PKP		**PKPdf**	**21 46 49.2 +1.6**
TXAR				SKPbc		**SKPbc**	**21 49 26.9 +0.8**
TXAR	**Lajitas Array** comp=Z,2.0nm,0.7s,baz=205,slow=1.0,SNR=12	**132.98**	**56**	PKP		**PKPdf**	**21 46 49.2 +1.6**
TXAR	comp=Z,3.3nm,0.9s,baz=270,slow=3.8,SNR=14			SKPbc		**SKPbc**	**21 49 26.9 +0.8**
P33A	**Williams Farm,** baz=133	**133.05**	**41**	⇑P		**PKPdf**	**21 46 48.4 +0.9**
Z29A	**Hungry Hill Ra** baz=133	**133.12**	**51**	⇑P		**PKPdf**	**21 46 48.8 +1.0**
627A	**Terlingua Ranc** baz=133	**133.17**	**56**	⇓P		**PKPdf**	**21 46 49.2 +1.1**
Q33A	**Connelly Farm,** baz=133	**133.20**	**42**	⇑P		**PKPdf**	**21 46 48.9 +1.2**
129A	**Stewart Farms,** baz=133	**133.25**	**51**	⇑P		**PKPdf**	**21 46 49.2 +1.1**
428A	**Kincaid Ranch,** baz=133	**133.31**	**54**	⇓P		**PKPdf**	**21 46 49.4 +1.2**
T32A	**Huddler Ranch,** baz=133	**133.39**	**44**	⇓P		**PKPdf**	**21 46 49.1 +1.0**
V31A	**Spring Creek L** baz=133	**133.42**	**47**	⇑P		**PKPdf**	**21 46 49.8 +1.6**
R33A	**Olander Ranch,** baz=133	**133.46**	**43**	⇑P		**PKPdf**	**21 46 49.5 +1.3**
Y30A	**Stafford Cattl** baz=133	**133.48**	**49**	⇓P		**PKPdf**	**21 46 49.3 +0.9**
Z30A	**Sanderson Ranc** baz=134	**133.55**	**50**	⇑P		**PKPdf**	**21 46 49.2 +0.6**
628A	**Black Gap, Mar** baz=134	**133.57**	**56**	⇓P		**PKPdf**	**21 46 49.7 +1.0**
329A	**Wagon Wheel Ra** baz=134	**133.60**	**53**	⇑P		**PKPdf**	**21 46 49.8 +1.1**
W31A	**Holland Ranch,** baz=134	**133.61**	**47**	⇓P		**PKPdf**	**21 46 49.8 +1.2**
U32A	**Winter Ranch,** baz=134	**133.73**	**45**	⇑P		**PKPdf**	**21 46 49.9 +1.1**
X31A	**McDonald Ranch** baz=134	**133.84**	**48**	⇓P		**PKPdf**	**21 46 50.4 +1.3**
529A	**Stev Forest Ra** baz=134	**133.90**	**55**	⇑P		**PKPdf**	**21 46 50.3 +0.9**
T33A	**Patterson Ranc** baz=134	**133.91**	**44**	⇓P		**PKPdf**	**21 46 50.5 +1.4**
Y31A	**Rekieta Farm,** baz=134	**133.92**	**49**	⇑P		**PKPdf**	**21 46 50.4 +1.2**
KSU1	**Kansas State U** baz=134	**133.94**	**41**	⇓P		**PKPdf**	**21 46 50.1 +1.1**
429A	**Davenport Ranc** baz=134	**133.98**	**54**	⇓P		**PKPdf**	**21 46 50.8 +1.3**
330A	**Mertzon** baz=134	**134.26**	**53**	⇓P		**PKPdf**	**21 46 51.3 +1.3**
Z31A	**Sharp Cattle R** baz=134	**134.29**	**50**	⇑P		**PKPdf**	**21 46 51.7 +1.8**
U33A	**Lingo Farm, Me** baz=134	**134.33**	**45**	⇓P		**PKPdf**	**21 46 50.9 +1.0**
430A	**Baggett Ranch,** baz=134	**134.45**	**54**	⇑P		**PKPdf**	**21 46 51.5 +1.2**
V33A	**Lossen Ranch,** baz=134	**134.51**	**46**	⇑P		**PKPdf**	**21 46 51.5 +1.2**
530A	**J-C Ranch, Com** baz=135	**134.60**	**54**	⇓P		**PKPdf**	**21 46 52.1 +1.4**
231A	**Bronte** baz=135	**134.73**	**52**	⇑P		**PKPdf**	**21 46 52.1 +1.4**
U34A	**Anderson Ranch** baz=135	**134.73**	**44**	⇑P		**PKPdf**	**21 46 52.2 +1.6**
Z32A	**Haskell** baz=135	**134.79**	**49**	⇓P		**PKPdf**	**21 46 52.0 +1.2**
331A	**San Angelo** baz=135	**134.89**	**52**	⇑P		**PKPdf**	**21 46 52.5 +1.3**
ABTX	**Abilene, Hawle** baz=135	**134.96**	**50**	⇑P		**PKPdf**	**21 46 52.9 +1.8**
X33A	**Lawton** baz=135	**134.96**	**47**	⇓P		**PKPdf**	**21 46 52.6 +1.4**
431A	**Sonora** baz=135	**134.99**	**53**	⇑P		**PKPdf**	**21 46 52.5 +1.2**
V34A	**Guthrie** baz=135	**135.04**	**45**	⇑P		**PKPdf**	**21 46 52.2 +1.0**
Y33A	**Hilltop Ranch,** baz=135	**135.12**	**48**	⇓P		**PKPdf**	**21 46 52.6 +1.2**
531A	**Rocksprings** baz=135	**135.24**	**54**	⇑P		**PKPdf**	**21 46 53.1 +1.3**
232A	**Coleman** baz=135	**135.27**	**51**	⇓P		**PKPdf**	**21 46 52.9 +1.1**
332A	**Millersview** baz=135	**135.40**	**52**	⇓P		**PKPdf**	**21 46 53.1 +1.1**
631A	**Perdido Creek** baz=136	**135.49**	**55**	⇓P		**PKPdf**	**21 46 53.4 +1.2**
JCT	**Junction City** baz=136	**135.71**	**53**	⇑P		**PKPdf**	**21 46 54.0 +1.3**
532A	**Rocksprings** baz=136	**135.76**	**54**	⇑P		**PKPdf**	**21 46 54.1 +1.3**
233A	**Rising Star** baz=136	**135.79**	**51**	⇓P		**PKPdf**	**21 46 54.1 +1.3**
333A	**Richland Sprin** baz=136	**136.01**	**52**	⇑P		**PKPdf**	**21 46 54.8 +1.6**
632A	**Uvalde** baz=136	**136.09**	**55**	⇑P		**PKPdf**	**21 46 55.3 +1.9**
433A	**Art** baz=136	**136.16**	**53**	⇑P		**PKPdf**	**21 46 55.0 +1.6**
134A	**White-Moore Ra** baz=136	**136.17**	**50**	⇓P		**PKPdf**	**21 46 55.3 +1.9**
732A	**Laxson Ranch,** baz=136	**136.23**	**56**	⇓P		**PKPdf**	**21 46 55.1 +1.5**
234A	**Clairette** baz=136	**136.38**	**50**	⇓P		**PKPdf**	**21 46 55.8 +2.0**
832A	**Faith Ranch, C** baz=136	**136.38**	**56**	⇓P		**PKPdf**	**21 46 55.8 +1.9**
334A	**Lometa** baz=137	**136.59**	**51**	⇑P		**PKPdf**	**21 46 55.7 +1.5**
434A	**Burnet** baz=137	**136.78**	**52**	⇑P		**PKPdf**	**21 46 56.4 +1.8**
833A	**Chaparral WMA,** baz=137	**136.85**	**56**	⇑P		**PKPdf**	**21 46 56.7 +1.9**
534A	**Blanco** baz=137	**136.94**	**53**	⇑P		**PKPdf**	**21 46 56.6 +1.7**
834A	**Tilden** baz=138	**137.61**	**56**	⇑P		**PKPdf**	**21 46 58.3 +2.2**
934A	**Benavides** baz=138	**137.83**	**56**	⇑P		**PKPdf**	**21 46 58.7 +2.1**
CFAA	**Coronel Fontan**	**140.43**	**168**	PKPpre		PKPpre	21 46 56.2
CFAA	**Coronel Fontan** comp=Z,0.8nm,0.7s,baz=186,slow=4.1,SNR=7.2	**140.43**	**168**	PKhKP		PKPpre	21 46 56.2
KMSC	**Kings Mountain** baz=146	**145.72**	**33**	⇓P		**PKPbc**	**21 47 12.1 +0.1**
CPUP	**Villa Florida**	**146.53**	**183**	PKPbc		**PKPbc**	**21 47 14.9 +0.6**
CPUP	**Villa Florida** comp=Z,13nm,0.7s,baz=149,slow=1.0,SNR=22	**146.53**	**183**	PKPbc		**PKPbc**	**21 47 14.9 +0.6**
TIGA	**Tifton** baz=147	**147.02**	**40**	⇑P		**PKPbc**	**21 47 16.3 +0.7**
BDFB	**Brasilia**	**154.59**	**206**	PKP		**PKPdf**	**21 47 24.6 -0.1**
BDFB				PKPab		**PKPab**	**21 47 51.3 +0.5**
BDFB	**Brasilia** comp=Z,6.5nm,0.7s,baz=174,slow=1.7,SNR=10	**154.59**	**206**	PKP		**PKPdf**	**21 47 24.6 -0.1**
BDFB	comp=Z,5.6nm,0.8s,baz=158,slow=2.8,SNR=5.3			PKPab		**PKPab**	**21 47 51.3 +0.5**
LPAZ	**La Paz**	**155.05**	**160**	PKP		**PKPdf**	**21 47 26.7 +0.8**
LPAZ				PKPab		**PKPab**	**21 47 54.3 +0.9**
LPAZ	**La Paz** comp=Z,2.5nm,0.8s,baz=208,slow=2.4,SNR=8.4	**155.05**	**160**	PKP		**PKPdf**	**21 47 26.7 +0.8**
LPAZ	comp=Z,3.9nm,0.9s,baz=186,slow=6.4,SNR=5.8			PKPab		**PKPab**	**21 47 54.3 +0.9**

*NEIC **04** 21:29:31.8, 45°.25S × 166°.52E, h1km, ML4.0(WEL), After WEL.*

WEL 04 21:29:32.0±0.3, 45°.24S × 166°.53E, h5km, ML4.0/14, 1D, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.50**	**118**	PG	Pg	21 29 41.7	+0.1
DCZ				SG	Sg	21 29 49.4	+1.2
DCZ				AML	AML	21 29 50.1	
DCZ				AML	AML	21 29 51.5	
DCZ				AML	AML	21 29 51.6	
DCZ	**Deep Cove**	**0.50**	**118**	Pg	Pg	21 29 41.8	+0.1
DCZ				Sg	Sb	21 29 50.0	-0.9
PYZ	**Puysegur Point**	**0.93**	**173**	P*	Pg	21 29 49.7	-0.2
PYZ				S*	Sb	21 30 03.9	+0.5
MSZ	**Milford Sound**	**1.15**	**61**	P*	Pg	21 29 53.2	-0.8
MSZ				S*	Sb	21 30 09.5	+0.1
MSZ				AML	AML	21 30 10.5	
MSZ				AML	AML	21 30 14.6	
MSZ				AML	AML	21 30 29.9	
MSZ	**Milford Sound**	**1.15**	**61**	P*	Pg	21 29 53.2	-0.8
MLZ	**Mavora Lakes**	**1.17**	**96**	P*	Pg	21 29 53.0	-1.5
MLZ				S*	Sg	21 30 08.7	-1.0
MLZ				AML	AML	21 30 15.5	
MLZ	**Mavora Lakes**	**1.17**	**96**	P*	Pg	21 29 53.0	-1.5
WHZ	**Wether Hill Ro**	**1.19**	**124**	P*	Pg	21 29 53.9	-1.0
WHZ				S*	Sg	21 30 09.3	-1.0
WHZ				AML	AML	21 30 15.3	
WHZ	**Wether Hill Ro**	**1.19**	**124**	P*	Pg	21 29 53.9	-1.0
WHZ				S*	Sg	21 30 09.3	-1.0
WKZ	**Wanaka**	**1.81**	**78**	PN	Pn	21 30 04.9	+0.9
WKZ				AML	AML	21 30 32.9	
WKZ				AML	AML	21 30 32.9	
WKZ				AML	AML	21 30 34.6	
WKZ				AML	AML	21 30 34.6	
WKZ	**Wanaka**	**1.81**	**78**	Pn	Pn	21 30 04.9	+0.9
APZ	**The Paps**	**1.89**	**148**	PN	Pn	21 30 05.8	+0.8
APZ				AML	AML	21 30 36.3	
APZ				AML	AML	21 30 38.5	
APZ	**The Paps**	**1.89**	**148**	Pn	Pn	21 30 05.8	+0.8
EAZ	**Earnscleugh**	**1.96**	**91**	PN	Pn	21 30 06.6	+0.7
EAZ				AML	AML	21 30 35.0	
EAZ				AML	AML	21 30 35.0	
EAZ				AML	AML	21 30 37.1	
EAZ				AML	AML	21 30 37.1	
EAZ	**Earnscleugh**	**1.96**	**91**	Pn	Pn	21 30 06.7	+0.7
JCZ	**Jackson Bay**	**1.98**	**54**	PN	Pn	21 30 04.6	-1.6
JCZ				AML	AML	21 30 40.9	
JCZ				AML	AML	21 30 42.2	
JCZ	**Jackson Bay**	**1.98**	**54**	Pn	Pn	21 30 04.6	-1.6
SYZ	**Scrubby Hill**	**2.24**	**126**	⇓PN	Pn	21 30 10.1	+0.4
SYZ				AML	AML	21 30 41.1	
SYZ				AML	AML	21 30 41.2	
SYZ				AML	AML	21 30 47.7	
SYZ				AML	AML	21 30 54.6	
SYZ	**Scrubby Hill**	**2.24**	**126**	Pn	Pn	21 30 10.1	+0.4
TUZ	**Tuapeka**	**2.29**	**109**	PN	Pn	21 30 11.3	+0.8
TUZ				AML	AML	21 30 43.0	
TUZ				AML	AML	21 30 46.3	
TUZ	**Tuapeka**	**2.29**	**109**	Pn	Pn	21 30 11.3	+0.8
LBZ	**Lake Benmore**	**2.74**	**73**	PN	Pn	21 30 16.6	-0.1
LBZ				AML	AML	21 31 09.0	
LBZ				AML	AML	21 31 10.9	
LBZ	**Lake Benmore**	**2.74**	**73**	Pn	Pn	21 30 16.6	-0.1
FOZ	**Fox Glacier**	**2.82**	**55**	PN	Pn	21 30 17.1	-0.6
FOZ				AML	AML	21 31 06.0	
FOZ				AML	AML	21 31 06.0	
FOZ				AML	AML	21 31 06.6	
FOZ				AML	AML	21 31 06.7	
FOZ	**Fox Glacier**	**2.82**	**55**	Pn	Pn	21 30 17.1	-0.6
ODZ	**Otahua Downs**	**2.92**	**88**	PN	Pn	21 30 18.8	-0.3
ODZ	**Otahua Downs**	**2.92**	**88**	Pn	Pn	21 30 18.8	-0.3
HHSZ	**Highcliff Hill**	**2.93**	**104**	PN	Pn	21 30 20.2	+0.9
RPZ	**Rata Peaks**	**3.58**	**66**	PN	Pn	21 30 27.4	-0.9
RPZ				AML	AML	21 31 30.3	
RPZ				AML	AML	21 31 31.7	
RPZ	**Rata Peaks**	**3.58**	**66**	Pn	Pn	21 30 27.4	-0.9
MQZ	**McQueen's Vall**	**4.64**	**73**	PN	Pn	21 30 41.4	-1.3
MQZ	**McQueen's Vall**	**4.64**	**73**	Pn	Pn	21 30 41.5	-1.3
DSZ	**Denniston Nort**	**5.19**	**50**	PN	Pn	21 30 47.6	-2.8
DSZ	**Denniston Nort**	**5.19**	**50**	Pn	Pn	21 30 47.2	-3.2
THZ	**Tophouse**	**5.80**	**55**	PN	Pn	21 30 57.1	-1.6
THZ				AML	AML	21 32 18.0	
THZ	**Tophouse**	**5.80**	**55**	Pn	Pn	21 30 57.1	-1.6
QRZ	**Quartz Range**	**6.23**	**47**	Pn	Pn	21 31 02.2	-2.4

*IDC **04** 21:29:31.8±0.5, 58°.88S × 25°.67W, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.2/20, mbtmp4.3/11, ML4.4/1, MS3.5/4, Ms1 3.4/4, ms1mx3.2/21, Error ellipse: s-maj=22.7km s-min=17.8km az=81.0*

*ISCJB **04** 21:29:35.1±0.5, 58°.93S±0°.08×25°.8W±0°.2, h35km, mb4.2/11, MS3.6/3, Error ellipse: s-maj=13.9km s-min=10.9km az=141.1*

*NEIC **04** 21:29:36.7±0.2, 58°.95S × 25°.68W, h35km, mb4.5/5, Error ellipse: s-maj=9.8km s-min=7.6km az=57.0*

ISC 04 21:29:36.8±0.4, 58°.94S±0°.10×25°.7W±0°.1, h35km, n59, σ0s77/55, mb4.4/11, MS3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae** 8.5nm,0.4s	**15.78**	**153**	*e*Pn	**Pn**	**21 33 15.4**	**-0.8**
SNAA				*e*Sn	Sn	21 35 54.3	-15
SNAA	**Sanae** 1.4nm,0.3s,baz=319,slow=16,SNR=82	**15.78**	**153**	Pn	**Pn**	**21 33 15.3**	**-0.8**
SNAA	0.1nm,0.3s,baz=30,slow=20,SNR=4.3			Sn	Sn	21 35 55.3	-14
SNAA	comp=Z,44nm,21.2s,baz=209,slow=31			LR	LR	21 37 37.4	
PMSA	**Palmer Station**	**18.77**	**236**	*e*P	**P**	**21 33 52.4**	**-0.1**
EFI	**East Falkland** 92nm,1.3s	**19.65**	**277**	*e*P	**P**	**21 34 02.5**	**+0.2**
TRQA	**Tornquist** 2.5nm,0.5s	**31.26**	**296**	*e*P	**P**	**21 35 52.4**	**-0.6**
QSPA	**South Pole Qui** 14nm,1.1s	**31.31**	**180**	*e*P	**P**	**21 35 53.2**	**-0.2**
QSPA				PcP	**PcP**	**21 38 46.9**	**+0.5**
QSPA	**South Pole Qui** 5.3nm,0.6s,baz=220,slow=1.9,SNR=14	**31.31**	**180**	P	**P**	**21 35 54.6**	**+1.2**
QSPA	2.1nm,0.6s,baz=153,slow=0.5,SNR=3.6			PcP	**PcP**	**21 38 46.9**	**+0.5**
PLCA	**Paso Flores** 1.8nm,0.7s,baz=329,slow=20,SNR=3.5	**33.37**	**283**	P	**P**	**21 36 11.7**	**+0.1**
PLCA	comp=Z,77nm,21.7s,baz=161,slow=32			LR	LR	21 47 08.8	
MAW	**Mawson** comp=Z,92nm,21.4s,baz=118,slow=31	**37.37**	**141**	LR	LR	21 48 58.1	
CFAA	**Coronel Fontan**	**39.48**	**295**	P	**P**	**21 37 03.9**	**+0.3**
CFAA	**Coronel Fontan** 0.5nm,0.6s,baz=162,slow=8.5,SNR=10.0	**39.48**	**295**	P	**P**	**21 37 03.9**	**+0.3**
VNDA	**Vanda**	**43.72**	**182**	*e*P	**P**	**21 37 38.2**	**+0.4**
VNDA				PcP	**PcP**	**21 39 23.3**	**-0.7**
VNDA	**Vanda** 7.1nm,0.9s,baz=195,slow=6.6,SNR=15	**43.72**	**182**	P	**P**	**21 37 39.6**	**+1.9**
VNDA	2.6nm,0.9s,baz=82,slow=3.4,SNR=3.6			PcP	**PcP**	**21 39 23.3**	**-0.7**
TSUM	**Tsumeb** 1.3nm,0.8s,baz=233,slow=5.1,SNR=1.4	**50.48**	**57**	P	**P**	**21 38 32.0**	**+0.8**
H10S2	**ASCENSION HYDR** baz=188,slow=75,SNR=12	**50.57**	**14**	T	T	22 33 02.0	
H10S3	**ASCENSION HYDR** baz=188,slow=75,SNR=11	**50.58**	**14**	T	T	22 33 02.3	
H10S1	**ASCENSION HYDR** baz=188,slow=75,SNR=11	**50.59**	**14**	T	T	22 33 03.3	
H10N1	**ASCENSION HYDR** baz=268,slow=75,SNR=3.8	**51.69**	**14**	T	T	22 34 31.1	
H10N3	**ASCENSION HYDR** baz=268,slow=75,SNR=8.7	**51.69**	**14**	T	T	22 34 26.8	
H10N2	**ASCENSION HYDR** baz=268,slow=75,SNR=6.2	**51.71**	**14**	T	T	22 34 27.1	
LPAZ	**La Paz** 0.6nm,0.3s,baz=149,slow=5.9,SNR=2.7	**52.71**	**305**	P	**P**	**21 38 48.0**	**-0.5**
SAML	**Samuel**	**57.41**	**314**	*e*P	**P**	**21 39 20.2**	**-1.5**
ATAH	**Atahualpa** comp=Z,82nm,18.3s,baz=304,slow=36	**65.34**	**300**	LR	LR	22 08 37.3	
DBIC	**Dimbokro** 4.0nm,0.9s	**67.50**	**22**	*e*P	**P**	**21 40 29.0**	**0.0**
DBIC	**Dimbokro** 3.6nm,1.1s,baz=205,slow=5.0,SNR=6.3	**67.50**	**22**	P	**P**	**21 40 29.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**75.21**	**28**	P	**P**	**21 41 16.4**	**+0.9**
TORD	**Torodi Ar. Bea** 3.9nm,0.6s,baz=200,slow=6.4,SNR=59	**75.21**	**28**	P	**P**	**21 41 16.4**	**+0.9**
MTP	**Monte Pirata**	**83.42**	**322**	*e*P	**P**	**21 42 00.3**	**0.0**
STKA	**Stephens Creek**	**88.91**	**169**	*e*P	**P**	**21 42 26.2**	**-1.1**
STKA	**Stephens Creek** 2.6nm,0.9s,baz=51,slow=1.4,SNR=2.9	**88.91**	**169**	P	**P**	**21 42 27.7**	**+0.3**
ASAR	**Alice Springs**	**95.99**	**161**	P	**P**	**21 42 59.8**	**-0.4**
ASAR	**Alice Springs** 1.0nm,0.7s,baz=182,slow=5.0,SNR=4.6	**95.99**	**161**	P	**P**	**21 42 59.8**	**-0.4**
AKASG	**Malin Array Be**	**118.06**	**36**	PKP	**PKPdf**	**21 48 17.6**	**-0.9**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=253,slow=1.0,SNR=2.0	**118.06**	**36**	PKP	**PKPdf**	**21 48 17.6**	**-0.9**
ULM	**Lac du Bonnet**	**122.87**	**314**	PKP	**PKPdf**	**21 48 27.0**	**-0.9**
ULM	**Lac du Bonnet** 2.0nm,0.5s,baz=226,slow=2.7,SNR=3.3	**122.87**	**314**	PKP	**PKPdf**	**21 48 27.0**	**-0.9**
NVAR	**Mina Array Bea**	**123.22**	**290**	PKP	**PKPdf**	**21 48 30.4**	**+1.1**
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=127,slow=2.4,SNR=2.7	**123.22**	**290**	PKP	**PKPdf**	**21 48 30.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**123.28**	**111**	PKP	**PKPdf**	**21 48 29.5**	**-0.2**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=241,slow=2.7,SNR=5.4	**123.28**	**111**	PKP	**PKPdf**	**21 48 29.5**	**-0.2**
FINES	**FINESS Array B**	**126.56**	**28**	PKP	**PKPdf**	**21 48 34.6**	**+0.1**
FINES	**FINESS Array B** 1.7nm,0.5s,baz=168,slow=1.7,SNR=16	**126.56**	**28**	PKP	**PKPdf**	**21 48 34.6**	**+0.1**
AKTO	**Aktyubinsk**	**128.39**	**54**	PKP	**PKPdf**	**21 48 38.2**	**-0.2**
AKTO	**Aktyubinsk** 0.9nm,0.6s,baz=96,slow=3.5,SNR=4.2	**128.39**	**54**	PKP	**PKPdf**	**21 48 38.2**	**-0.2**
JOF	**Joensuu** 0.4nm,0.4s	**129.12**	**30**	*e*p	**PKPdf**	**21 48 36.6**	**-2.8**
AAK	**Ala-Archa**	**130.14**	**72**	PKP	**PKPdf**	**21 48 42.4**	**+0.1**
AAK	**Ala-Archa** 0.6nm,0.5s,baz=165,slow=6.0,SNR=5.2	**130.14**	**72**	PKP	**PKPdf**	**21 48 42.4**	**+0.1**
ARCES	**ARCESS Array B**	**133.32**	**22**	PKP	**PKPdf**	**21 48 46.5**	**-0.7**
ARCES	**ARCESS Array B** 7.3nm,1.1s,baz=211,slow=2.7,SNR=16	**133.32**	**22**	PKP	**PKPdf**	**21 48 46.5**	**-0.7**
BVAR	**Borovoye Array**	**135.61**	**59**	PKP	**PKPdf**

WRA	**Warramunga Arr**	**24.85**	**240**	P	**P**	**21 51 42.4**	**-0.6**
WRA	**Warramunga Arr**	**24.85**	**240**	P	**P**	**21 51 42.4**	**-0.6**
	4.0nm,0.9s,baz=66,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**26.89**	**233**	P	**P**	**21 52 00.5**	**-1.0**
ASAR	**Alice Springs**	**26.89**	**233**	P	**P**	**21 52 00.5**	**-1.0**
	1.3nm,1.0s,baz=60,slow=9.2,SNR=7.2						
STKA	**Stephens Creek**	**27.36**	**210**	*eP*	**P**	**21 52 06.3**	**+0.7**
	4.8nm,1.5s						
STKA	**Stephens Creek**	**27.36**	**210**	P	**P**	**21 52 07.4**	**+1.9**
	2.6nm,0.5s,baz=28,slow=12,SNR=13						
STKA				LR	LR	22 01 11.1	
	comp=Z,43nm,20.1s,baz=28,slow=33						
H11S3	**WAKE ISLAND Hy**	**28.47**	**19**	T	T	22 20 43.7	
	baz=201,slow=77,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.47**	**19**	T	T	22 20 41.5	
	baz=201,slow=77,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.49**	**19**	T	T	22 20 41.1	
	baz=201,slow=77,SNR=5.7						
AFI	**Afiamalu**	**30.85**	**103**	LR	LR	22 03 15.0	
	comp=Z,99nm,19.3s,baz=179,slow=33						
FITZ	**Fitzroy Crossi**	**32.10**	**250**	LR	LR	22 05 08.4	
	comp=Z,95nm,19.3s,baz=56,slow=35						
CMAR	**Chiang Mai Arr**	**63.45**	**296**	P	**P**	**21 56 51.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**63.45**	**296**	P	**P**	**21 56 51.3**	**+0.8**
	3.3nm,1.1s,baz=116,slow=4.3,SNR=10						
ULN	**Ulaanbaatar**	**71.51**	**327**	*eP*	**P**	**21 57 40.8**	**-0.4**
SONM	**Songino Array**	**71.85**	**327**	P	**P**	**21 57 43.2**	**0.0**
SONM	**Songino Array**	**71.85**	**327**	P	**P**	**21 57 43.2**	**0.0**
	0.5nm,0.9s,baz=131,slow=5.9,SNR=4.0						
PMR	**Palmer**	**81.36**	**23**	*eP*	**P**	**21 58 36.3**	**-0.2**
MKAR	**Makanchi Array**	**86.03**	**318**	P	**P**	**21 59 00.6**	**-0.3**
MKAR	**Makanchi Array**	**86.03**	**318**	P	**P**	**21 59 00.6**	**-0.3**
	2.3nm,1.0s,baz=98,slow=5.3,SNR=13						
ZALV	**Zalesovo Beam**	**86.71**	**326**	P	**P**	**21 59 03.3**	**-0.7**
ZALV	**Zalesovo Beam**	**86.71**	**326**	P	**P**	**21 59 03.3**	**-0.7**
	0.2nm,0.3s,baz=158,slow=1.6,SNR=4.1						
KURK	**Kurchatov**	**89.43**	**321**	P	**P**	**21 59 15.6**	**-1.4**
AAK	**Ala-Archa**	**90.43**	**313**	*eP*	**P**	**21 59 21.1**	**-1.0**
	15nm,2.1s						
NVAR	**Mina Array Bea**	**90.97**	**51**	P	**P**	**21 59 26.3**	**+1.5**
NVAR	**Mina Array Bea**	**90.97**	**51**	P	**P**	**21 59 26.3**	**+1.5**
	0.8nm,1.0s,baz=254,slow=5.4,SNR=4.3						
BVAR	**Borovoye Array**	**94.87**	**323**	P	**P**	**21 59 40.8**	**-1.4**
BVAR	**Borovoye Array**	**94.87**	**323**	P	**P**	**21 59 40.8**	**-1.4**
	0.3nm,0.6s,baz=86,slow=5.9,SNR=2.4						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**21 59 50.8**	**+0.5**
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**21 59 50.7**	**+0.5**
	0.6nm,1.0s,baz=254,slow=5.0,SNR=5.7						

IDC 04 21:47:53.1±2.5, 11°02N×124°19E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/23, mbtmp3.6/4, 1D, Error ellipse: s-maj=221.2km s-min=26.2km az=63.0, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTBH	**Cotabato--PC H**	**3.77**	**179**	↓*i* P		Pg	21 49 11.5	+6.1
WRA	**Warramunga Arr**	**32.35**	**162**	P		P	21 54 23.1	-1.2
	1.0nm,0.7s,baz=343,slow=9.5,SNR=12							
ASAR	**Alice Springs**	**35.76**	**165**	P		P	21 54 53.8	-0.3
	0.2nm,0.3s,baz=341,slow=6.9,SNR=7.6							
STKA	**Stephens Creek**	**45.79**	**159**	P		P	21 56 18.6	+1.8
	1.0nm,0.7s,baz=329,slow=12,SNR=2.9							
MKAR	**Makanchi Array**	**50.20**	**323**	P		P	21 56 50.6	-0.2
	0.4nm,0.7s,baz=101,slow=5.5,SNR=5.2							

IDC 04 21:53:45.0±2.1, 9°46S×121°98E, h0km, mb4.0/3, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, ML3.2/2, MS3.1/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=158.2km s-min=28.1km az=55.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**15.85**	**132**	Pn		Pn	21 57 29.1	-0.5
	0.1nm,0.3s,baz=304,slow=14,SNR=5.7							
WRA				Sn		Sn	22 00 11.4	-15
	0.1nm,0.3s,baz=308,slow=25,SNR=1.8							
ASAR	**Alice Springs**	**18.15**	**143**	P		P	21 57 59.5	+0.5
	0.1nm,0.3s,baz=318,slow=12,SNR=5.0							
STKA	**Stephens Creek**	**28.78**	**144**	LR		LR	22 13 37.5	
	comp=Z,35nm,18.2s,baz=206,slow=41							
SONM	**Songino Array**	**58.70**	**348**	P		P	22 03 44.8	+0.3
	0.3nm,0.5s,baz=160,slow=5.5,SNR=5.4							
MKAR	**Makanchi Array**	**66.24**	**331**	P		P	22 04 35.2	+0.3
	1.4nm,0.6s,baz=140,slow=7.4,SNR=23							
ZALV	**Zalesovo Beam**	**70.55**	**338**	P		P	22 05 00.8	-0.8
	1.2nm,0.4s,baz=128,slow=4.0,SNR=7.4							

MEX 04 22:42:20.5±0.3, 18°25N×100°97W, h64km±10km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARIG	**Puente Sto Nin**	**0.60**	**87**	*eP*		Pn	22 42 32.6	-1.2
ARIG				*eS*		Sn	22 42 41.8	-1.8
ZIIG	**Zihuatanejo**	**0.79**	**216**	*eP*		Pn	22 42 34.6	-1.5
ZIIG				*i S*		Sn	22 42 45.8	-1.8
PLIG	**Platanillo**	**1.41**	**84**	*eP*		Pn	22 42 43.1	-1.1
PLIG				*eS*		Sn	22 42 59.4	-2.5
MOIG	**Morelia**	**1.44**	**352**	*i P*		Pn	22 42 42.7	-2.1
YAIG	**Yautepec**	**1.91**	**71**	*eP*		Pn	22 42 50.1	-1.0
YAIG				*i S*		Sn	22 43 12.3	-1.9
MMIG	**Aquila**	**2.25**	**271**	*i P*		Pn	22 42 54.1	-1.4
MMIG				*i S*		Sn	22 43 20.8	-1.4
TLIG	**Tlapa**	**2.39**	**106**	*i P*		Pn	22 42 56.9	-0.7
TLIG				*i S*		Sn	22 43 23.6	-2.3

*IDC **04** 22:48:55.6±1.5, 9°21S×125°05E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML4.0/1, MS3.7/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=95.8km s-min=34.4km az=58.0*

*ISCJB **04** 22:48:57.5±0.4, 9°49S±0°05×124°65E±0°04, h25km, mb4.0/10, MS3.5/2, Error ellipse: s-maj=7.9km s-min=4.4km az=38.2*

*NEIC **04** 22:49:00.1±0.5, 9°32S×125°02E, h35km, mb4.5/4, Error ellipse: s-maj=28.8km s-min=7.5km az=52.0*

NEIC Felt [III] at Kefamenanu.

*DJA **04** 22:49:02.9±3.6, 10°S±9°×12°5E±3°4, h10km, M4.3/6, mb4.4/3, MLv4.2/6*

ISC 04 22:48:59.9±0.5, 9°53S±0°07×124°61E±0°06, h25km, n42, σ1§60/38, mb4.1/10, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**0.41**	**236**	P		**Pb**	**22 49 09.6**	**+0.9**
SOEI	**Soe**	**0.41**	**236**	P		**Pb**	**22 49 08.7**	**0.0**
	baz=0.5,SNR=118							
SOEI				S		**Sb**	**22 49 11.8**	**-2.9**
	baz=0.5,SNR=48							
MMRI	**Maumere**	**2.50**	**291**	P		**Pn**	**22 49 42.1**	**+3.0**
LBFI	**Labuhan Bajo,**	**4.78**	**282**	P		x	22 50 14.6	
BKSI	**Bulukumba**	**6.10**	**313**	P		**Pn**	**22 50 30.4**	**+1.8**
	27nm,0.8s,0.1nm							
BNSI	**Bone**	**6.78**	**318**	P		Pn	22 50 44.1	+6.2
	83nm,0.9s,0.2nm							
MTN	**Manton Dam**	**7.20**	**118**	P		**Pn**	**22 50 45.1**	**+1.4**
	baz=7.0,SNR=7.4							
MTN				S		**Sn**	**22 52 04.2**	**-0.5**
	baz=7.0,SNR=5.2							
SPSI	**Sidrap Palu**	**7.32**	**319**	P		**Pn**	**22 50 48.3**	**+2.9**
KNRA	**Kununurra**	**7.33**	**147**	P		**Pn**	**22 50 46.6**	**+1.1**
	baz=7.1,SNR=37							
KNRA				S		**Sn**	**22 52 10.4**	**+2.4**
	baz=7.1,SNR=3.9							
KDU	**Kakadu**	**8.33**	**113**	P		**Pn**	**22 51 00.2**	**+1.0**
	baz=8.1,SNR=16							
KDU				S		**Sn**	**22 52 34.3**	**+1.7**
	baz=8.1,SNR=3.9							
FAKI	**Fak Fak**	**10.04**	**50**	P		Pn	22 51 26.9	+4.3
	baz=10,SNR=3.8							
WRA	**Warramunga Arr**	**13.98**	**139**	Pn		Pn	22 52 13.9	-2.7
WRA				Sn		Sn	22 54 40.0	-11
WRA	**Warramunga Arr**	**13.98**	**139**	Pn		Pn	22 52 13.9	-2.7
	0.8nm,0.3s,baz=309,slow=15,SNR=38							
WRA				Sn		Sn	22 54 40.0	-11
	0.7nm,0.3s,baz=312,slow=23,SNR=12							
WRAB	**Tennant Creek**	**13.98**	**139**	*ePn*		Pn	22 52 13.7	-2.9
	10nm,0.8s							
UGM	**Wanagama**	**14.02**	**275**	P		**P**	**22 52 25.0**	**+0.2**
	baz=14,SNR=3.8							
WRKA	**Warakurna**	**15.82**	**168**	P		**Pn**	**22 52 40.8**	**-0.3**
	baz=16,SNR=12							
AS31	**Alice Springs**	**16.63**	**149**	*ePn*		**Pn**	**22 52 49.6**	**-2.0**
AS31				*eSn*		**Sn**	**22 55 55.4**	**-0.2**
QIS	**Mount Isa**	**18.15**	**129**	P		**Pn**	**22 53 09.3**	**-1.1**
	baz=18,SNR=4.8							
QIS				S		Sn	22 56 16.4	-16
	baz=18,SNR=3.4							
COEN	**Coen**	**18.70**	**105**	*ePn*		**P**	**22 53 12.8**	**-3.9**
	104nm,1.0s							
COEN	**Coen**	**18.70**	**105**	P		**P**	**22 53 17.2**	**+0.6**
	baz=18,SNR=11							
STKA	**Stephens Creek**	**27.25**	**147**	*eP*		**P**	**22 54 41.8**	**-0.5**
STKA	**Stephens Creek**	**27.25**	**147**	LR		LR	23 07 15.5	
	comp=Z,83nm,18.4s,baz=203,slow=40							
PSI	**Prapat**	**28.37**	**294**	LR		LR	23 08 41.3	
	comp=Z,226nm,20.3s,baz=19,slow=42							
CMAR	**Chiang Mai Arr**	**37.61**	**318**	P		**P**	**22 56 13.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.61**	**318**	P		**P**	**22 56 13.1**	**+0.1**
	0.8nm,0.6s,baz=142,slow=6.6,SNR=6.3							
LSA	**Lhasa**	**50.59**	**322**	*eP*		**P**	**22 57 57.0**	**-0.4**
	3.1nm,0.6s							
SONM	**Songino Array**	**59.35**	**346**	P		**P**	**22 58 59.4**	**-0.7**
SONM	**Songino Array**	**59.35**	**346**	P		**P**	**22 58 59.4**	**-0.7**
	0.7nm,0.6s,baz=164,slow=8.3,SNR=8.2							
MK31	**Makanchi Array**	**67.57**	**330**	*eP*		**P**	**22 59 52.2**	**-2.1**
MKAR	**Makanchi Array**	**67.57**	**330**	P		**P**	**22 59 53.9**	**-0.4**
MKAR	**Makanchi Array**	**67.57**	**330**	P		**P**	**22 59 53.9**	**-0.4**
	1.8nm,0.6s,baz=132,slow=7.8,SNR=29							
AAK	**Ala-Archa**	**69.16**	**323**	P		**P**	**23 00 04.2**	**-0.4**
AAK	**Ala-Archa**	**69.16**	**323**	P		**P**	**23 00 04.2**	**-0.4**
	2.4nm,0.6s,baz=135,slow=5.4,SNR=17							
ZALV	**Zalesovo Beam**	**71.62**	**337**	P		**P**	**23 00 17.0**	**-2.1**
ZALV	**Zalesovo Beam**	**71.62**	**337**	P		**P**	**23 00 17.0**	**-2.1**
	1.3nm,0.6s,baz=123,slow=5.5,SNR=7.2							
KURBB	**Kurchatov Arra**	**72.00**	**331**	P		**P**	**23 00 20.6**	**-0.9**
	0.5nm,0.6s,baz=142,slow=5.5,SNR=11							
KURK	**Kurchatov**	**72.02**	**331**	*eP*		P	23 00 18.8	-2.8
	1.2nm,1.0s							
QSPA	**South Pole Qui**	**80.47**	**180**	*eP*		**P**	**23 01 10.8**	**+1.2**
	6.2nm,1.2s							
AKTO	**Aktyubinsk**	**82.87**	**324**	P		**P**	**23 01 20.9**	**-1.4**
AKTO	**Aktyubinsk**	**82.87**	**324**	P		**P**	**23 01 20.9**	**-1.4**
	1.5nm,0.9s,baz=172,slow=4.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**124.01**	**279**	PKP		**PKPdf**	**23 07 58.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**124.01**	**279**	PKP		**PKPdf**	**23 07 58.4**	**+1.3**
	2.0nm,0.7s,baz=59,slow=1.5,SNR=14							

NNC 04 22:49:54.1±2.7, 38°36N×71°53E, h0km, mb3.7, mpv3.2, 6C-3D, Error ellipse: s-maj=23.9km s-min=16.0km az=39.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**4.80**	**351**	⇓Pn		Pn	22 51 07.3	-0.4
	1.5nm,0.5s							
KK31				⇑Sn		Sn	22 52 05.3	+1.2
	2.3nm,0.5s							
AAK	**Ala-Archa**	**4.83**	**27**	⇑Pn		Pn	22 51 09.0	+0.6
	1.1nm,0.5s							
AAK				⇑Pg		Pb	22 51 21.4	+1.5
	8.2nm,0.7s							
AAK				⇑Lg		Lg	22 52 27.3	
	8.7nm,0.9s							
TKM2	**Tokmak 2**	**5.51**	**33**	⇓Pn		Pn	22 51 18.7	+1.0
	2.8nm,1.1s							
TKM2				⇓Pg		Pb	22 51 33.5	+2.1
	4.0nm,0.9s							
TKM2				⇑Lg		Lg	22 52 50.7	
	4.0nm,1.1s							
MK31	**Makanchi Array**	**11.56**	**40**	⇑P		Pn	22 52 38.9	-1.6
	2.1nm,1.1s,baz=228,slow=10,SNR=4.6							

*IDC **04** 22:53:19.1±1.0, 1°17N×126°87E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, MS3.9/1, Ms1 3.9/1, ms1mx2.7/35, Error ellipse: s-maj=77.3km s-min=20.4km az=66.0*

*ISCJB **04** 22:53:22.8±0.9, 1°0N±0°2×126°6E±0°5, h39km, mb3.9/6, MS3.8/1, Error ellipse: s-maj=75.7km s-min=17.2km az=157.1*

ISC 04 22:53:24.8±1.1, 1°1N±0°2×126°8E±0°6, h39km, n7, σ0§56/6, mb4.0/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.18**	**161**	P		**P**	**22 58 17.1**	**-0.6**
	5.6nm,0.6s,baz=340,slow=11,SNR=25							
CTA	**Charters Tower**	**28.41**	**139**	LR		LR	23 08 45.2	
	comp=Z,241nm,21.8s,baz=231,slow=33							
STKA	**Stephens Creek**	**35.67**	**158**	P		**P**	**23 00 19.9**	**+0.5**
	1.1nm,0.5s,baz=343,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**59.75**	**326**	P		**P**	**23 03 25.5**	**-0.3**
	0.7nm,0.5s,baz=120,slow=8.1,SNR=16							
ZALV	**Zalesovo Beam**	**62.95**	**334**	P		**P**	**23 03 47.6**	**+0.3**
	0.4nm,0.8s,baz=126,slow=7.4,SNR=2.8							
KURBB	**Kurtov Arra**	**63.98**	**328**	P		**P**	**23 03 54.3**	**+0.2**
	0.7nm,0.4s,baz=127,slow=6.2,SNR=30							
ILAR	**Eielson Array**	**87.44**	**25**	P		**P**	**23 06 07.8**	**-0.2**
	0.2nm,0.6s,baz=253,slow=5.9,SNR=4.2							

*ISCJB **04** 22:56:00.8±0.3, 0°98N±0°05×126°52E±0°06, h39km, mb4.3/17, Error ellipse: s-maj=9.4km s-min=5.7km az=151.7*

*NEIC **04** 22:56:01.8±0.3, 0°84N×126°28E, h35km, mb4.3/5, Error ellipse: s-maj=24.6km s-min=6.5km az=71.0*

*DJA **04** 22:56:04.6±0.7, 1°N±11°×12°7E±°, h10km, M4.5/8, mb4.8/1, mB4.9/1, MLv4.4/8, Mw(mB)4.2/1*

*IDC **04** 22:56:07.2±4.3, 0°85N×126°47E, h84km±38km, mb3.9/14, mb1 4.1/14, mb1mx3.9/23, mbtmp3.9/14, Error ellipse: s-maj=36.6km s-min=9.8km az=70.0*

ISC 04 22:56:02.6±0.4, 0°92N±0°06×126°48E±0°05, h39km, n61, σ1§30/66, mb4.3/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**0.90**	**100**	P		**Pn**	**22 56 20.7**	**+1.9**
TNTI				S		**Sn**	**22 56 33.8**	**+3.2**
LBMI	**Labuha**	**1.86**	**147**	P		**Pn**	**22 56 34.2**	**+2.3**
KMSI	**Cibinong**	**2.52**	**262**	P		**Pn**	**22 56 44.1**	**+3.0**
KMSI				S		**Sn**	**22 57 11.6**	**+1.0**
GTOI	**Gorontalo**	**3.48**	**265**	P		Pn	22 57 00.2	+6.0
LUWI	**Luwuk**	**4.19**	**242**	P		Pn	22 57 10.6	+6.6
MRSI	**Marisa**	**4.56**	**264**	P		Pn	22 57 14.4	+5.3
MSAI	**Masohi**	**4.89**	**150**	P		Pn	22 57 21.4	+7.7
APSI	**Ampana**	**5.16**	**249**	P		Pn	22 57 25.4	+8.0
FAKI	**Fak Fak**	**6.92**	**124**	P		Pn	22 57 46.5	+5.0
	baz=8.0,SNR=11							
MTN	**Manton Dam**	**14.44**	**161**	P		**P**	**22 59 32.4**	**+1.8**
	baz=15,SNR=3.5							
MTN				S		Sn	23 01 48.8	-14
	baz=15,SNR=8.3							
KDU	**Kakadu**	**14.77**	**156**	P		**P**	**22 59 35.4**	**+1.1**
	baz=15,SNR=3.9							
KDU				S		**S**	**23 02 26.2**	**-2.5**
	baz=15,SNR=3.7							
KNRA	**Kununurra**	**16.65**	**172**	P		**Pn**	**22 59 53.8**	**+0.7**
	baz=17,SNR=5.9							
WRAB	**Tennant Creek**	**22.12**	**160**	*eP*		**P**	**23 00 54.2**	**-0.6**
	31nm,0.9s							
WRA	**Warramunga Arr**	**22.12**	**160**	P		**P**	**23 00 54.8**	**-0.1**
WRA				S		**S**	**23 04 53.5**	**-3.2**
WRA	**Warramunga Arr**	**22.12**	**160**	P		**P**	**23 00 54.8**	**-0.1**
	13nm,0.5s,baz=340,slow=11,SNR=65							
WRA				S		**S**	**23 04 53.5**	**-3.2**
	2.5nm,0.8s,baz=334,slow=21,SNR=5.5							
QIS	**Mount Isa**	**24.92**	**150**	P		**P**	**23 01 23.3**	**+1.0**
	baz=25,SNR=5.5							
AS31	**Alice Springs**	**25.48**	**164**	*eP*		**P**	**23 01 26.8**	**-0.6**
ASAR	**Alice Springs**	**25.48**	**164**	P		**P**	**23 01 27.3**	**-0.1**
ASAR				PcP		**PcP**	**23 04 58.3**	**-0.3**
ASAR	**Alice Springs**	**25.48**	**164**	P		**P**	**23 01 27.3**	**-0.1**
	3.9nm,0.7s,baz=352,slow=15,SNR=23							
ASAR				PcP		**PcP**	**23 04 58.3**	**-0.3**
	0.7nm,0.6s,baz=351,slow=2.5,SNR=5.5							
WRKA	**Warakurna**	**25.87**	**176**	P		**P**	**23 01 31.0**	**+0.2**
	baz=26,SNR=6.7							
MEEK	**Meekatharra**	**28.43**	**195**	P		**P**	**23 01 54.1**	**+0.3**
	baz=28,SNR=3.6							
BBOO	**Buckleboo**	**34.75**	**166**	P		**P**	**23 02 48.8**	**-0.5**
	baz=35,SNR=11							
STKA	**Stephens Creek**	**35.63**	**158**	*eP*		**P**	**23 02 56.1**	**-0.7**
	1.2nm,0.8s							
STKA				*ep*	P	pP	23 03 15.7	+7.9
STKA					*ePcP*	**PcP**	**23 05 23.9**	**-1.1**
STKA					PcP	PcP	23 05 24.9	0.0
STKA	**Stephens Creek**	**35.63**	**158**	P		**P**	**23 02 56.7**	**-0.1**
	5.9nm,0.7s,baz=330,slow=8.7,SNR=13							
STKA					PcP	**PcP**	**23 05 24.9**	**0.0**
	1.5nm,0.5s,baz=352,slow=4.5,SNR=5.2							
HTT	**Hallett**	**36.12**	**162**	P		**P**	**23 03 02.4**	**+1.3**
	baz=36,SNR=3.3							
ARPS	**Mount Arapiles**	**40.12**	**161**	P		**P**	**23 03 35.6**	**+0.9**
	baz=40,SNR=6.4							
USRK	**Ussuriysk Arra**	**43.37**	**6**	P		**P**	**23 04 01.9**	**+0.7**
	2.1nm,0.6s,baz=195,slow=5.5,SNR=8.0							
ASAJ	**Asahikawa**	**45.34**	**16**	*eP*		**P**	**23 04 17.2**	**+0.3**
ODAN	**Odare**	**45.54**	**308**	*eP*		**P**	**23 04 20.7**	**+1.6**
RAMN	**Ramite**	**46.20**	**308**	*eP*		**P**	**23 04 25.9**	**+1.6**
	5.5nm,0.6s							
GUN	**Gumba**	**47.21**	**308**	*eP*		**P**	**23 04 32.4**	**+0.1**
	10nm,0.5s							
KKN	**Kakani**	**47.63**	**308**	*eP*		**P**	**23 04 36.1**	**+0.7**
GKN	**Gorkha**	**48.23**	**308**	*eP*		**P**	**23 04 40.4**	**+0.4**
KOLN	**Koldanda**	**48.95**	**307**	*eP*		**P**	**23 04 44.5**	**-1.2**
	16nm,0.8s							
DANN	**Dangsing**	**49.08**	**308**	*eP*		**P**	**23 04 45.3**	**-1.4**
	16nm,0.8s							
ULN	**Ulaanbaatar**	**49.70**	**343**	*eP*		**P**	**23 04 51.5**	**+0.6**
	5.4nm,1.4s							
SONM	**Songino Array**	**49.87**	**342**	P		**P**	**23 04 53.0**	**+0.8**
SONM					PcP	**PcP**	**23 06 12.0**	**-0.3**
SONM	**Songino Array**	**49.87**	**342**	P		**P**	**23 04 53.0**	**+0.8**
	1.2nm,0.8s,baz=159,slow=6.9,SNR=8.3							
SONM					PcP	**PcP**	**23 06 12.0**	**-0.3**
	0.4nm,0.5s,baz=169,slow=4.3,SNR=4.6							
PETK	**Petropavlovsk-**	**58.11**	**22**	P		**P**	**23 05 53.0**	**+1.0**
PETK	**Petropavlovsk-**	**58.11**	**22**	P		**P**	**23 05 53.0**	**+1.0**
	4.1nm,0.9s,baz=114,slow=18,SNR=5.4							
MK31	**Makanchi Array**	**59.72**	**326**	*eP*		**P**	**23 06 02.8**	**-0.7**
MKAR	**Makanchi Array**	**59.72**	**326**	P		**P**	**23 06 02.9**	**-0.5**
MKAR	**Makanchi Array**	**59.72**	**326**	P		**P**	**23 06 02.9**	**-0.5**
	1.8nm,0.5s,baz=120,slow=8.2,SNR=39							
AAK	**Ala-Archa**	**62.28**	**319**	P		**P**	**23 06 22.1**	**+1.1**
	1.1nm,0.8s,baz=149,slow=8.2,SNR=5.5							
ZAA0	**Zalesovo Array**	**62.97**	**334**	*eP*		**P**	**23 06 24.7**	**-0.5**
ZALV	**Zalesovo Beam**	**62.97**	**334**	P		**P**	**23 06 24.7**	**-0.5**
ZALV	**Zalesovo Beam**	**62.97**	**334**	P		**P**	**23 06 24.7**	**-0.5**
	2.0nm,0.6s,baz=116,slow=6.8,SNR=9.5							
KURBB	**Kurchatov Arra**	**63.97**	**328**	P		**P**	**23 06 31.6**	**-0.3**
	2.2nm,0.6s,baz=128,slow=6.2,SNR=53							
ABKAR	**Akbulak array**	**74.16**	**321**	*eP*		**P**	**23 07 33.9**	**-1.3**
	1.3nm,0.6s							
AKTO	**Aktyubinsk**	**75.70**	**322**	P		**P**	**23 07 44.0**	**0.0**
AKTO	**Aktyubinsk**	**75.70**	**322**	P		**P**	**23 07 44.0**	**0.0**
	2.7nm,0.7s,baz=92,slow=7.7,SNR=9.2							
VNDA	**Vanda**	**80.69**	**173**	*eP*		**P**	**23 08 10.1**	**-1.0**
	4.2nm,1.0s							
VNDA	**Vanda**	**80.69**	**173**	P		**P**	**23 08 11.0**	**-0.1**
	1.3nm,0.6s,baz=17,slow=8.0,SNR=6.5							
ILAR	**Eielson Array**	**87.73**	**25**	P		**P**	**23 08 45.1**	**-2.0**
ILAR	**Eielson Array**	**87.73**	**25**	P		**P**	**23 08 45.1**	**-2.0**
	0.3nm,0.5s,baz=260,slow=4.5,SNR=4.7							
ARCES	**ARCESS Array B**	**92.98**	**340**	P		**P**	**23 09 09.5**	**-2.1**
ARCES	**ARCESS Array B**	**92.98**	**340**	P		**P**	**23 09 09.5**	**-2.1**
	3.6nm,1.0s,baz=41,slow=3.9,SNR=3.9							
TXAR	**Lajitas Array**	**123.48**	**53**	PKP		**PKPdf**	**23 14 56.5**	**-0.1**
TXAR	**Lajitas Array**	**123.48**	**53**	PKP		**PKPdf**	**23 14 56.5**	**-0.1**
	0.4nm,0.8s,baz=33,slow=3.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**123.51**	**286**	PKP		**PKPdf**	**23 14 56.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**123.51**	**286**	PKP		**PKPdf**	**23 14 56.0**	**-0.9**
	0.6nm,0.7s,baz=27,slow=3.3,SNR=4.4							

*IDC **04** 22:57:53.1±3.9, 5°71S×148°38E, h257km±38km, mb3.5/12, mb1 3.6/13, mb1mx3.6/19, mbtmp3.5/13, Error ellipse: s-maj=39.0km s-min=11.0km az=116.0*

**ISC 04 22:57:52.6±1.6, 5°7S±0°2×148°4E±0°3, h250km, n15, σ0§85/15, mb3.7/

NVAR	**Mina Array Bea**	**74.02**	**42**	P		P		23 11 07.0	+4.3
	0.5nm,0.7s,baz=247,slow=9.6,SNR=4.4								
ILAR	**Eielson Array**	**82.39**	**11**	P		**P**		**23 11 49.2**	**+1.0**
	0.6nm,0.8s,baz=228,slow=5.2,SNR=4.3								
KMBO	**Kilima Mbogo**	**145.98**	**244**	PKPbc		**PKPab**		**23 19 09.8**	**+1.7**
	1.0nm,0.7s,baz=200,slow=21,SNR=3.7								
GERES	**GERESS Array B**	**146.26**	**352**	PKPbc		**PKPab**		**23 19 09.5**	**+1.5**
	0.8nm,0.8s,baz=24,slow=5.0,SNR=6.9								

ISCJB ***04*** *23:04:52.6±0.7, 18˚.2S±0˚.2×177˚.8W±0˚.2, h550km, mb3.7/10, Error ellipse: s-maj=27.6km s-min=13.8km az=139.7*

IDC ***04*** *23:05:00.5±2.7, 18˚.43S×177˚.82W, h644km±37km, mb3.2/11, mb1 3.5/11, mb1mx3.3/21, mbtmp3.2/11, Error ellipse: s-maj=30.9km s-min=13.3km az=157.0*

ISC 04 23:04:53.3±0.8, 18˚.1S±0˚.2×177˚.9W±0˚.2, h550km, n17, σ1§88/15, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.57**	**191**	P		**P**		**23 08 53.6**	**-0.8**
	3.6nm,0.4s,baz=61,slow=6.8,SNR=7.2								
PPT2	**Papeete2**	**26.93**	**93**	*e*LR		LR		23 09 48.5	
	177nm,24.2s								
TBI	**Tubuai**	**27.06**	**106**	*e*LR		LR		23 10 19.5	
	199nm,24.8s								
CTA	**Charters Tower**	**33.92**	**261**	P		**P**		**23 10 53.1**	**+1.8**
	1.7nm,0.4s,baz=80,slow=11,SNR=1.8								
STKA	**Stephens Creek**	**38.99**	**241**	P		**P**		**23 11 34.6**	**+1.8**
	1.6nm,0.6s,baz=81,slow=9.0,SNR=6.3								
WRA	**Warramunga Arr**	**45.10**	**260**	P		**P**		**23 12 22.2**	**+1.1**
	2.4nm,0.5s,baz=97,slow=7.4,SNR=61								
ASAR	**Alice Springs**	**45.24**	**254**	P		**P**		**23 12 23.2**	**+1.1**
	2.2nm,0.5s,baz=90,slow=8.0,SNR=34								
ASAR				S		**S**		**23 18 18.1**	**-4.4**
	1.1nm,0.7s,baz=89,slow=17,SNR=8.1								
PETK	**Petropavlovsk-**	**73.98**	**345**	P		**P**		**23 15 33.7**	**+1.0**
	2.8nm,0.7s,baz=127,slow=7.6,SNR=5.2								
NVAR	**Mina Array Bea**	**79.20**	**44**	P		**P**		**23 16 02.3**	**+0.4**
	0.9nm,0.6s,baz=230,slow=8.9,SNR=7.4								
TXAR	**Lajitas Array**	**85.66**	**57**	P		**P**		**23 16 35.9**	**+1.4**
	1.7nm,0.7s,baz=227,slow=6.6,SNR=18								
ILAR	**Eielson Array**	**85.95**	**13**	P		**P**		**23 16 34.1**	**-0.9**
	0.7nm,0.4s,baz=219,slow=4.8,SNR=6.1								
PDAR	**Pinedale Array**	**87.13**	**43**	P		**P**		**23 16 41.1**	**-0.3**
	0.9nm,0.7s,baz=232,slow=3.7,SNR=7.6								
YKA	**Yellowknife Ar**	**94.28**	**25**	P		**P**		**23 17 13.1**	**-0.5**
	0.2nm,0.5s,baz=230,slow=5.6,SNR=3.8								
MKAR	**Makanchi Array**	**109.63**	**314**	PKiKP		**PKiKP**		**23 22 19.3**	**-2.4**
	0.2nm,0.5s,baz=144,slow=0.8,SNR=2.3								
ARCES	**ARCESS Array B**	**126.58**	**350**	PKP		**PKPdf**		**23 22 51.8**	**-1.8**
	2.3nm,0.9s,baz=29,slow=2.8,SNR=5.4								
AKASG	**Malin Array Be**	**140.96**	**333**	PKhKP		PKPpre		23 23 13.8	
	0.9nm,0.6s,baz=45,slow=3.6,SNR=8.2								
GERES	**GERESS Array B**	**147.91**	**346**	PKPbc		**PKPbc**		**23 23 36.0**	**-0.9**
	1.2nm,0.7s,baz=14,slow=3.2,SNR=12								

IDC 04 23:14:20.7±54.0, 17˚.34S×176˚.41W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/19, mbtmp4.0/3, MS4.5/2, Ms1 4.5/2, ms1mx3.5/23, Error ellipse: s-maj=1008.0km s-min=165.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.42**	**260**	LR		LR		23 34 02.6	
	comp=Z,1µm,20.4s,baz=36,slow=33								
STKA	**Stephens Creek**	**40.57**	**241**	P		P		23 22 03.1	+0.9
	2.6nm,1.2s,baz=84,slow=9.2,SNR=3.7								
WRA	**Warramunga Arr**	**46.61**	**259**	P		P		23 22 50.8	-0.3
	0.8nm,0.4s,baz=97,slow=7.6,SNR=37								
ASAR	**Alice Springs**	**46.78**	**254**	P		P		23 22 51.8	-0.6
	1.2nm,0.5s,baz=89,slow=8.0,SNR=23								
JCJ	**Chichijima**	**59.70**	**317**	LR		LR		23 47 59.1	
	comp=Z,239nm,19.0s,baz=131,slow=34								

IDC 04 23:18:36.2±1.5, 8˚.49S×157˚.34E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/18, mbtmp3.9/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/31, Error ellipse: s-maj=37.0km s-min=16.3km az=11.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.74**	**110**	Pn		Pn		23 19 17.4	-4.1
	25nm,0.3s,baz=236,slow=5.4,SNR=2.5								
HNR				Pg		Pb		23 19 26.6	+0.5
	51nm,0.3s,baz=221,slow=9.8,SNR=4.4								
HNR				Lg		Lg		23 20 01.9	
	58nm,0.3s,baz=168,slow=6.3,SNR=7.9								
PMG	**Port Moresby**	**10.10**	**264**	LR		LR		23 24 38.9	
	comp=Z,87nm,18.3s,baz=245,slow=36								
WRA	**Warramunga Arr**	**25.00**	**240**	P		P		23 24 01.5	-0.5
	2.7nm,0.9s,baz=65,slow=9.7,SNR=13								
ASAR	**Alice Springs**	**27.04**	**233**	P		P		23 24 18.6	-1.9
	0.9nm,1.0s,baz=59,slow=9.1,SNR=4.5								
STKA	**Stephens Creek**	**27.50**	**210**	P		P		23 24 26.0	+1.6
	2.0nm,0.7s,baz=31,slow=12,SNR=5.6								
MKAR	**Makanchi Array**	**86.06**	**318**	P		P		23 31 19.6	+0.7
	0.5nm,0.6s,baz=92,slow=4.3,SNR=8.4								

IDC 04 23:24:58.6±3.0, 8˚.22S×156˚.17E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, MS4.4/1, Ms1 4.4/1, ms1mx4.0/7, Error ellipse: s-maj=80.4km s-min=38.5km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13**	**239**	P		P		23 30 17.9	+1.4
	1.2nm,0.8s,baz=64,slow=9.6,SNR=9.9								
ASAR	**Alice Springs**	**26.28**	**232**	P		P		23 30 35.6	-0.5
	0.6nm,0.9s,baz=61,slow=9.9,SNR=4.3								
ASAR				LR		LR		23 41 06.3	
	comp=Z,843nm,18.9s,baz=98,slow=37								
STKA	**Stephens Creek**	**27.17**	**208**	P		P		23 30 43.0	-0.9
	1.3nm,0.7s,baz=37,slow=14,SNR=4.1								
MKAR	**Makanchi Array**	**85.09**	**319**	P		P		23 37 36.3	-0.2
	0.5nm,0.7s,baz=104,slow=5.9,SNR=3.8								

IDC ***04*** *23:25:03.5±0.5, 8˚.63S×157˚.27E, h0km, mb4.7/21, mb1 4.7/23, mb1mx4.7/25, mbtmp4.6/23, ML3.5/2, MS4.8/3, Ms1 4.8/3, ms1mx4.3/9, Error ellipse: s-maj=14.7km s-min=12.6km az=28.0*

ISCJB ***04*** *23:25:04.8±0.2, 8˚.69S±0˚.04×157˚.27E±0˚.04, h16km, mb5.1/84, MS4.7/14, Error ellipse: s-maj=6.2km s-min=5.2km az=40.6*

MOS ***04*** *23:25:07.6±1.3, 8˚.58S×157˚.15E, h33km, mb5.2/21, Error ellipse: s-maj=9.5km s-min=8.8km az=105.8*

GCMT ***04*** *23:25:09.0±0.2, 8˚.85S×157˚.41E, h12km, MW5.1/76, Moment Tensor Solution. s59,c80; s76,c127; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.33±.12; Mθθ=5.38±.11; Mφφ=1.04±.14; Mre=1.79±.31; Mθφ=0.35±.10; Mφr=2.51±.39; Best double couple: Mo=5.82800×10^16 NP1:φ=67.00000°, δ=61.00000°, λ=-121.00000°. NP2: φ=298.00000°, δ=42.00000°, λ=-48.00000°. Principal axes: T 5.7010, Plg10.0000°, Azm179.0000°; N 0.2640, Plg27.0000°, Azm84.0000°; P -5.9550, Plg61.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***04*** *23:25:09.0±1.1, 8˚.71S×157˚.30E, h41km±10km, mb5.1/30 Error ellipse: s-maj=6.7km s-min=5.7km az=49.0*

BJI ***04*** *23:25:13.5, 8˚.21S×157˚.30E, h69km, mB5.4/37, mb5.2/46, Ms5.1/28, Ms7 4.8/29*

ISC 04 23:25:05.9±0.3, 8˚.66S±0˚.06×157˚.33E±0˚.06, h16km, n258, σ1§44/254, mb5.1/85, MS4.7/15, 15C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.69**	**107**	*e*Pn		**Pb**		**23 25 54.3**	**+0.6**
HNR					Lg	Lg		23 26 32.5	
HNR	**Honiara**	**2.69**	**107**	Pn		Pn		23 25 43.8	-4.7
	40nm,0.3s,baz=218,slow=5.1,SNR=6.8								
HNR				Pg		**Pb**		**23 25 55.3**	**+1.6**
	176nm,0.3s,baz=233,slow=7.7,SNR=14								
HNR				Lg		Lg		23 26 32.4	
	401nm,0.3s,baz=178,slow=11,SNR=8.7								
PMG	**Port Moresby**	**10.08**	**265**	*e*Pn		**Pn**		**23 27 30.6**	**+0.6**
	0.9nm,0.3s,baz=44,slow=3.6,SNR=4.1								
COEN	**Coen**	**14.85**	**248**	*e*Pn		**Pn**		**23 28 36.7**	**+1.3**
COEN	**Coen**	**14.85**	**248**	⇑P		**P**		**23 28 39.6**	**-1.5**
	baz=14,SNR=4.4								
CTA	**Charters Tower**	**15.62**	**222**	Pn		**Pn**		**23 28 46.1**	**+0.6**
CTA	**Charters Tower**	**15.62**	**222**	Pn		**Pn**		**23 28 46.1**	**+0.6**
	0.1nm,0.3s,baz=52,slow=18,SNR=3.3								
CTA	**Charters Tower**	**15.62**	**222**	⇓P		**P**		**23 28 52.9**	**+3.3**
	baz=15								
CTAO	**Charters Tower**	**15.62**	**222**	*e*P		**Pn**		**23 28 45.1**	**-0.4**
CTAO					pmax	pmax			
	comp=Z,103nm,1.7s								
CTAO	**Charters Tower**	**15.62**	**222**	*e*Pn		**Pn**		**23 28 45.1**	**-0.4**
	comp=Z,103nm,1.7s								
DZM	**Mont Dzumac**	**15.96**	**148**	*e*P		**Pn**		**23 28 50.0**	**+0.1**
	comp=Z,52nm,1.4s								
DZM					*e*LR	LR		23 32 39.0	
	comp=Z,3µm,26.9s								
DZM	**Mont Dzumac**	**15.96**	**148**	Pn		**Pn**		**23 28 50.6**	**+0.7**
DZM	**Mont Dzumac**	**15.96**	**148**	Pn		**Pn**		**23 28 50.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=14,slow=18,SNR=7.4								
EIDS	**Eidsvold**	**17.65**	**199**	*e*Pn		**Pn**		**23 29 10.9**	**-0.4**
	comp=Z,39nm,1.0s								
QIS	**Mount Isa**	**20.81**	**233**	⇑P		Pn		23 29 48.5	-0.7
	baz=20,SNR=18								
QLP	**Quilpie**	**21.73**	**213**	⇑P		**P**		**23 29 59.2**	**+2.6**
	baz=22,SNR=20								
ARMA	**Armidale**	**22.30**	**193**	*e*P		**P**		**23 30 02.5**	**-0.2**
	comp=Z,46nm,1.3s								
WRAB	**Tennant Creek**	**24.89**	**241**	P		**P**		**23 30 28.0**	**-0.3**
	comp=Z,146nm,1.2s,SNR=8.1								
WRAB	**Tennant Creek**	**24.89**	**241**	*c*e*c*P		**P**		**23 30 28.6**	**+0.3**
WRAB					pmax	pmax			
	comp=Z,136nm,1.7s								
WRAB	**Tennant Creek**	**24.89**	**241**	*e*P		**P**		**23 30 28.1**	**-0.1**
	comp=Z,47nm,1.2s								
WRA	**Warramunga Arr**	**24.91**	**241**	P		**P**		**23 30 28.3**	**-0.1**
WRA					PcP	**PcP**		**23 34 04.7**	**+0.5**
WRA	**Warramunga Arr**	**24.91**	**241**	P		**P**		**23 30 28.3**	**-0.1**
	comp=Z,20nm,0.8s,baz=68,slow=8.9,SNR=56								
WRA					PcP	**PcP**		**23 34 04.7**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=70,slow=2.7,SNR=7.8								
CMSA	**Cobar Meteorol**	**25.21**	**204**	⇓P		**P**		**23 30 31.2**	**+0.2**
	baz=25,SNR=5.6								
YNG	**Young**	**26.81**	**197**	⇓P		**P**		**23 30 48.1**	**+2.7**
	baz=27,SNR=5.7								
ASAR	**Alice Springs**	**26.93**	**234**	P		**P**		**23 30 46.0**	**-0.8**
ASAR	**Alice Springs**	**26.93**	**234**	P		**P**		**23 30 46.0**	**-0.8**
	comp=Z,12nm,1.1s,baz=64,slow=9.3,SNR=23								
STKA	**Stephens Creek**	**27.34**	**210**	P		**P**		**23 30 50.1**	**-0.1**
STKA	**Stephens Creek**	**27.34**	**210**	P		**P**		**23 30 50.1**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=33,slow=10,SNR=13								
KNRA	**Kununurra**	**28.76**	**253**	P		**P**		**23 31 03.6**	**+0.5**
	baz=28,SNR=5.6								
LBMI	**Labuha**	**30.76**	**283**	P		P		23 31 31.5	+11
BBOO	**Buckleboo**	**31.07**	**216**	*e*P		**P**		**23 31 23.3**	**-0.1**
	comp=Z,1µm,2.1s								
WRKA	**Warakurna**	**32.10**	**236**	⇑P		**P**		**23 31 31.7**	**-0.9**
	baz=32,SNR=9.7								
BKZ	**Black Stump Fm**	**34.90**	**154**	*e*P		**P**		**23 31 55.4**	**-1.5**
	comp=Z,32nm,1.4s								
FORT	**Forrest**	**35.07**	**227**	*e*P		**P**		**23 31 56.7**	**-1.7**
	comp=Z,44nm,1.2s								
BFZ	**Birch Farm**	**36.05**	**155**	*e*P		**P**		**23 32 05.2**	**-1.4**
	comp=Z,58nm,1.3s								
LBFI	**Labuhan Bajo,**	**37.02**	**267**	P		x		23 32 19.5	
	comp=Z,52nm,1.0s,comp=Z,1µm								
MTNI	**Maramn**	**40.68**	**267**	P		x		23 32 46.5	
	comp=Z,32nm,1.1s								
MEEK	**Meekatharra**	**40.78**	**239**	⇓P		**P**		**23 32 46.6**	**-0.1**
	baz=40,SNR=3.4								
ABJI	**Asem Bagus**	**42.65**	**268**	P		**P**		**23 32 59.7**	**-2.4**
	comp=Z,43nm,1.4s								
JAGI	**Jajag, Banyuwa**	**42.68**	**267**	*e*P		**P**		**23 33 01.3**	**-1.2**
	comp=Z,100nm,0.9s								
PWJI	**Pagerwojo**	**45.03**	**267**	P		**P**		**23 33 21.6**	**+0.3**
	comp=Z,60nm,1.2s								
PCJI	**Pacitan**	**45.64**	**267**	P		**P**		**23 33 27.2**	**+1.1**
	comp=Z,361nm,1.2s,comp=Z,4µm								
SMRI	**Semarang**	**46.46**	**268**	P		**P**		**23 33 33.8**	**+1.2**
BJII	**Banjamegara**	**47.16**	**268**	P		x		23 33 39.5	
	comp=Z,75nm,1.9s								
TGJI	**Tegal**	**47.78**	**269**	P		x		23 33 43.5	
	comp=Z,56nm,1.2s								
KSM	**Kuching**	**47.94**	**280**	*e*P		**P**		**23 33 43.7**	**-0.4**
	comp=Z,58nm,1.3s								
MJAR	**Matsushiro Arr**	**48.42**	**339**	P		**P**		**23 33 46.8**	**-0.7**
MJAR	**Matsushiro Arr**	**48.42**	**339**	P		**P**		**23 33 46.8**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=157,slow=6.8,SNR=6.1								
JNU	**Nakatsue**	**48.59**	**330**	P		**P**		**23 33 48.1**	**-0.7**
JNU	**Nakatsue**	**48.59**	**330**	P		**P**		**23 33 48.1**	**-0.7**
	comp=Z,21nm,0.9s,baz=121,slow=4.7,SNR=4.6								
JCJI	**Jatiwangi**	**48.66**	**269**	P		**P**		**23 33 51.1**	**+1.4**
	comp=Z,325nm,0.9s								
CISI	**Cisompet, Garu**	**49.01**	**268**	*e*P		**P**		**23 33 52.5**	**0.0**
LEM	**Lembang**	**49.27**	**268**	P		**P**		**23 33 55.9**	**+1.3**
	comp=Z,124nm,1.8s								
CBJI	**Citeko**	**50.07**	**269**	P		**P**		**23 34 00.2**	**-0.3**
	comp=Z,166nm,0.8s								
DBJI	**Dramaga**	**50.15**	**269**	P		**P**		**23 34 01.3**	**+0.1**
	comp=Z,69nm,1.1s								
CGJI	**Cibinong**	**51.19**	**268**	P		**P**		**23 34 08.4**	**-0.6**
PPT2	**Papeete2**	**52.32**	**105**	*e*S		**S**		**23 41 38.5**	**-4.1**
	comp=Z,66nm,26.0s								
PPT2					*e*LR	LR		23 49 13.6	
	comp=Z,208nm,23.8s								
TBI	**Tubuai**	**52.90**	**113**	*e*LQ		LQ		23 47 21.0	
	comp=Z,964nm,28.8s								
TBI					*e*LR	LR		23 49 32.6	
	comp=Z,352nm,31.2s								
MDSI	**Maura Dua**	**52.93**	**271**	P		**P**		**23 34 21.5**	**-0.5**
	comp=Z,30nm,1.5s								
KSRS	**Korea Array**	**53.50**	**331**	P		**P**		**23 34 26.1**	**+0.5**
	comp=Z,11nm,0.9s,baz=148,slow=9.1,SNR=14								
KSAR	**Wonju Array Be**	**53.51**	**331**	P		**P**		**23 34 26.1**	**+0.5**
ASAJ	**Asahikawa**	**54.20**	**347**	LR		LR		23 54 50.8	
	comp=Z,850nm,20.1s,baz=8.8,slow=33								
QIZ	**Qiongzhong**	**54.30**	**301**	P		**P**		**23 34 33.0**	**+1.1**
QIZ					pP	pP		23 34 53.5	+17
QIZ					S	**S**		**23 42 06.0**	**-3.4**
QIZ					pmax	pmax			
	comp=Z,30nm,1.1s								
QIZ					pmax	pmax			
	comp=Z,120nm,4.7s								
QIZ					LR	LR			
	comp=Z,270nm,11.0s								
QIZ					LR	LR			
	comp=Z,340nm,21.9s								
NJ2	**Nanjing**	**54.67**	**320**	*e*P		**P**		**23 34 36.2**	**+1.9**
NJ2					pmax	pmax			
	comp=Z,40nm,1.1s								
NJ2					LR	LR			
	comp=Z,2µm,11.4s								
WHN	**Wuhan**	**56.74**	**315**	P		**P**		**23 34 49.6**	**+0.4**
WHN					LR	LR			
	comp=Z,1µm,23.2s								
PPI	**Padang Panjang**	**57.27**	**275**	P		**P**		**23 34 53.7**	**+0.4**
	comp=Z,23nm,2.1s								
USRK	**Ussuriysk Arra**	**57.40**	**339**	P		**P**		**23 34 54.0**	**+0.4**
	comp=Z,9.9nm,1.0s,baz=145,slow=7.0,SNR=7.5								
IPM	**Ipoh**	**57.64**	**281**	P		x		23 34 56.2	
	comp=Z,22nm,1.4s								
IPM	**Ipoh**	**57.64**	**281**	*e*P		**P**		**23 34 56.0**	**+0.1**
	comp=Z,45nm,1.5s								
KULM	**Kulim**	**58.19**	**282**	P		x		23 35 00.2	
	comp=Z,25nm,1.2s								
MNSI	**Mandailing Nat**	**58.30**	**276**	P		**P**		**23 35 00.4**	**-0.2**
	comp=Z,52nm,1.0s								
CHBT	**CHBT**	**58.64**	**291**	P		**P**		**23 35 05.7**	**+2.9**
	comp=Z,31nm,1.2s								
MDJ	**Mudanjiang**	**58.65**	**337**	P		P		23 35 05.8	+3.4
MDJ					pmax	pmax			
	comp=Z,14nm,2.0s								
PSI	**Prapat**	**59.33**	**278**	P		x		23 35 07.0	
PSI	**Prapat**	**59.33**	**278**	P		**P**		**23 35 06.7**	**-1.2**
PSI	**Prapat**	**59.33**	**278**	P		**P**		**23 35 06.7**	**-1.2**
	comp=Z,3.6nm,0.4s,baz=42,slow=4.5,SNR=4.9								
CN2	**Changchun**	**59.69**	**334**	⇑P		**P**		**23 35 10.5**	**+0.9**
CN2					*e*sP	sP		23 35 36.5	+20
CN2					*e*S	**S**		**23 43 15.4**	**-4.3**
CN2					pmax	pmax			
	comp=Z,20nm,0.5s								
CN2					pmax	pmax			
	comp=Z,200nm,5.0s								
CHAI	**Chaiyaphum**	**59.98**	**294**	P		**P**		**23 35 13.6**	**+1.4**
	comp=Z,6.4nm,0.9s								
HABR	**Khabarovsk**	**60.19**	**343**	P		**P**		**23 35 12.5**	**-0.4**
HABR					*e*sPP	**pP**		**23 35 22.6**	**+4.6**
HABR					*e*SP	sP		23 35 26.6	+6.6
HABR					*e*			23 35 56.4	
HABR					*e*S	**S**		**23 43 27.0**	**+1.1**
HABR					*e*sS	sS		23 43 44.1	+10
HABR					*e*			23 45 00.5	
HABR					*e*SS	**SS**		**23 47 27.1**	**+3.6**
HABR					pmax	pmax			
	comp=Z,28nm,1.4s								
HABR					MLR	MLR			
	comp=Z,123nm,17.0s								
GYA	**Guiyang**	**60.30**	**307**	P		**P**		**23 35 17.0**	**+2.7**
GYA					pP	pP		23 35 39.4	+20
GYA					PP	PP		23 37 33.9	+6.4
GYA					ScP	ScP		23 39 52.0	-8.3
GYA					S	**S**		**23 43 23.7**	**-4.7**
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,120nm,5.0s								
GYA					LR	LR			
	comp=Z,760nm,19.3s								
GYA					LR	LR			
	comp=Z,660nm,20.2s								
GYA					LR	LR			
	comp=Z,750nm,19.9s								
GSI	**Gunungsitoli**	**60.36**	**276**	P		**P**		**23 35 14.7**	**-0.2**
GSI	**Gunungsitoli**	**60.36**	**276**	*e*P		**P**		**23 35 14.2**	**-0.6**
	comp=Z,96nm,1.2s								
PBKT	**Sadao Pong**	**61.13**	**294**	P		**P**		**23 35 21.5**	**+1.6**
	comp=Z,24nm,1.0s								
PETK	**Petropavlovsk-**	**61.53**	**0**	P		**P**		**23 35 22.2**	**+0.2**
PETK	**Petropavlovsk-**	**61.53**	**0**	P		**P**		**23 35 22.2**	**+0.2**
PETK	**Petropavlovsk-**	**61.53**	**0**	P		**P**		**23 35 22.2**	**+0.2**
	comp=Z,6.4nm,0.9s,baz=170,slow=8.8,SNR=3.4								
KLR	**Kul'dur**	**61.86**	**341**	*e*P		**P**		**23 35 21.2**	**-3.1**
KLR					pmax	pmax			
	comp=Z,56nm,1.8s								
SRDT	**SRDT**	**62.10**	**291**	P		**P**		**23 35 28.4**	**+1.9**
	comp=Z,97nm,0.8s,comp=Z,4µm								
XAN	**Xi'an**	**62.51**	**316**	P		**P**		**23 35 29.7**	**+0.7**
XAN					pmax	pmax			
	comp=Z,10.0nm,1.3s								
XAN					pmax	pmax			
	comp=Z,46nm,3.7s								
KHLT	**Khaolaem Dam**	**62.73**	**292**	P		P		23 35 38.9	+8.2
FX1	**Attu Island--F**	**62.77**	**11**	LR		LR		23 58 09.7	
	comp=Z,1µm,20.3s,baz=253,slow=32								
KMI	**Kunming**	**62.86**	**304**	P		**P**		**23 35 33.0**	**+1.2**
KMI					pmax	pmax			
	comp=Z,40nm,1.2s								
KMI					pmax	pmax			
	comp=Z,350nm,4.5s								
KMI					LR	LR			
	comp=Z,170nm,20.8s								
KMI					LR	LR			
	comp=Z,180nm,25.0s								
KMI					LR	LR			
	comp=Z,280nm,21.4s								
LAMP	**Lampang**	**63.00**	**296**	P		**P**		**23 35 34.3**	**+1.8**
	comp=Z,11nm,0.9s,comp=Z,91nm								
CMAR	**Chiang Mai Arr**	**63.59**	**296**	P		**P**		**23 35 37.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**63.59**	**296**	P		**P**		**23 35 37.5**	**+1.1**
	comp=Z,10nm,0.9s,baz=113,slow=4.9,SNR=51								
CHTO	**Chiang Mai**	**63.71**	**296**	*e*P		**P**		**23 35 37.3**	**+0.1**
CHTO					pmax	pmax			
	comp=Z,8.0nm,1.1s								
CHTO	**Chiang Mai**	**63.71**	**296**	P		**P**		**23 35 38.6**	**+1.4**
	comp=Z,129nm,1.6s,comp=Z,2µm								
CHTO	**Chiang Mai**	**63.71**	**296**	*e*P		**P**		**23 35 37.3**	**+0.1**
	comp=Z,8.1nm,1.1s								
CMAI	**Chiengmai2**	**64.00**	**297**	P		**P**		**23 35 42.0**	**+2.6**
	comp=Z,80nm,1.3s,comp=Z,15µm								
MHMT	**Maesarieng**	**64.40**	**295**	P		**P**		**23 35 44.6**	**+2.8**
	comp=Z,8.1nm,1.4s,comp=Z,444nm								
CD2	**Chengdu**	**64.65**	**310**	P		**P**		**23 35 44.6**	**+1.3**
CD2					pP	PcP		23 36 06.6	-10
CD2					sP	sP		23 36 16.4	+26
CD2					PP	**PP**		**23 38 10.4**	**+4.7**
CD2					S	**S**		**23 44 17.8**	**-5.2**
CD2					SS	**SS**		**23 48 32.7**	**-1.5**
CD2					pmax	pmax			
	comp=Z,50nm,0.8s								
CD2					pmax	pmax			
	comp=Z,360nm,4.8s								
CD2					LR	LR			
	comp=Z,240nm,19.0s								
CD2					LR	LR			
	comp=Z,220nm,16.6s								
CD2					LR	LR			
	comp=Z,310

TAPN	Taplejung	76.24	301	*e*P		P	23 36 55.2	+0.7	
	comp=Z,56nm,1.1s								
ODAN	Odare	76.37	300	*e*P		P	23 36 55.9	+0.8	
	comp=Z,57nm,0.8s								
MOY	Mondy	77.04	328	*e*P		P	23 36 59.4	+1.1	
RAMN	Ramite	77.07	300	*e*P		P	23 36 59.5	+0.4	
	comp=Z,21nm,0.8s								
JIRN	Jiri	77.62	301	*e*P		P	23 37 02.9	+0.5	
	comp=Z,32nm,0.7s								
GUN	Gumba	77.96	301	*e*P		P	23 37 04.8	+0.6	
	comp=Z,63nm,0.8s								
PALK	Pallekele	78.00	279	*e*P		P	23 37 03.5	-0.8	
	comp=Z,147nm,1.1s								
PKI	Pulchoki	78.26	300	*e*P		P	23 37 06.2	+0.3	
	comp=Z,39nm,0.8s								
KKN	Kakani	78.43	301	*e*P		P	23 37 07.1	+0.4	
	comp=Z,33nm,0.7s								
DMN	Daman	78.53	300	*e*P		P	23 37 08.0	+0.7	
	comp=Z,78nm,0.8s								
GKN	Gorkha	79.04	301	*e*P		P	23 37 10.2	+0.3	
	comp=Z,64nm,0.7s								
KOLN	Koldanda	79.86	300	*e*P		P	23 37 14.6	+0.1	
	comp=Z,66nm,0.8s								
DANN	Dangsing	79.88	301	*e*P		P	23 37 14.6	-0.1	
	comp=Z,44nm,0.7s								
QSPA	South Pole Qui	81.33	180	*e*P		P	23 37 21.0	-0.5	
	comp=Z,17nm,1.1s								
WMQ	Urumqi	81.62	317	P		P	23 37 24.7	+1.3	
WMQ				pP		PcP	23 37 45.1	+16	
WMQ				sP		sP	23 37 53.4	+23	
WMQ				PP		PP	23 40 34.8	+4.6	
WMQ				pmax		pmax			
	comp=Z,27nm,1.3s								
WMQ				LR		LR			
	comp=Z,120nm,27.0s								
WMQ				LR		LR			
	comp=Z,77nm,31.2s								
WMQ				LR		LR			
	comp=Z,150nm,20.8s								
HYB	Hyderabad	82.00	289	*i* P		P	23 37 25.0	-0.9	
TRF	Thorofare Moun	82.09	21	*e*P		P	23 37 26.0	+0.5	
	comp=Z,11nm,0.9s								
TIXI	Tiksi	82.33	351	*ce*P		P	23 37 24.5	-1.9	
TIXI				pmax		pmax			
	comp=Z,18nm,1.7s								
TIXI	Tiksi	82.33	351	*e*P		P	23 37 24.5	-1.9	
	comp=Z,32nm,1.7s								
MCK	McKinley	82.75	21	*e*P		P	23 37 27.9	-0.9	
MCK				pmax		pmax			
	comp=Z,31nm,1.0s								
MCK	McKinley	82.75	21	*e*P		P	23 37 27.9	-0.9	
	comp=Z,31nm,1.0s								
COLA	College	83.80	21	⇑*i*P		P	23 37 33.4	-0.7	
COLA				pmax		pmax			
	comp=Z,68nm,1.2s								
COLA	College	83.80	21	*e*P		P	23 37 33.0	-1.1	
	comp=Z,3.7nm,1.0s								
ILAR	Eielson Array	84.08	21	P		P	23 37 34.5	-1.0	
ILAR	Eielson Array	84.08	21	P		P	23 37 34.5	-1.0	
	comp=Z,3.5nm,1.0s,baz=266,slow=4.5,SNR=19								
ILAR				LR		LR	00 14 03.6		
	comp=Z,298nm,18.1s,baz=282,slow=35								
EGAK	Eagle	86.16	22	*e*P		P	23 37 45.7	-0.3	
	comp=Z,32nm,1.6s								
MK31	Makanchi Array	86.18	318	*e*P		P	23 37 46.0	-0.6	
MK31	Makanchi Array	86.18	318	*e*P		P	23 37 46.0	-0.6	
MKAR	Makanchi Array	86.18	318	*ce*P		P	23 37 46.5	0.0	
MKAR				pmax		pmax			
	comp=Z,9.0nm,0.7s								
MKAR	Makanchi Array	86.18	318	P		P	23 37 46.5	0.0	
MKAR	Makanchi Array	86.18	318	P		P	23 37 46.5	0.0	
	comp=Z,8.6nm,0.7s,baz=99,slow=6.0,SNR=59								
MKAR	Makanchi Array	86.18	318	⇑P		P	23 37 46.8	+0.2	
	baz=86								
DAWY	Dawson	86.49	23	*e*P		P	23 37 47.8	+0.1	
ZAA0	Zalesovo Array	86.85	326	*e*P		P	23 37 49.2	-0.4	
ZALV	Zalesovo Beam	86.85	326	P		P	23 37 48.9	-0.8	
ZALV	Zalesovo Beam	86.85	326	P		P	23 37 48.9	-0.8	
ZALV	Zalesovo Beam	86.85	326	P		P	23 37 48.9	-0.8	
	comp=Z,3.4nm,0.6s,baz=112,slow=5.1,SNR=14								
KSH	Kashi	88.85	310	P		P	23 38 02.2	+2.5	
KSH				*e*SP		sP	23 38 31.2	+24	
KSH				*e*SKS		SKSac	23 48 21.8	-7.2	
KSH				*e*S		**SKKSac**	**23 48 39.4**	**-1.0**	
KSH				*e*SS		**SS**	**23 54 34.0**	**-5.6**	
KSH				pmax		pmax			
	comp=Z,13nm,1.2s								
KSH				pmax		pmax			
	comp=Z,140nm,5.8s								
KSH				LR		LR			
	comp=Z,110nm,5.2s								
KSH				LR		LR			
	comp=Z,140nm,5.7s								
KSH				LR		LR			
	comp=Z,140nm,6.8s								
KURK	Kurchatov	89.57	321	*e*P		P	23 38 01.4	-1.2	
KURK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
KURK	Kurchatov	89.57	321	*e*P		P	23 38 01.4	-1.2	
	comp=Z,5.3nm,1.4s								
KURBB	Kurchatov Arra	89.60	321	P		P	23 38 02.3	-0.5	
	comp=Z,1.9nm,0.9s,baz=100,slow=3.4,SNR=16								
TKM2	Tokmak 2	89.83	313	*i* P		P	23 38 04.6	+0.2	
TKM2	Tokmak 2	89.83	313	P		P	23 38 04.6	+0.2	
	SNR=7.9								
TKM2	Tokmak 2	89.83	313	*e*P		P	23 38 03.6	-0.7	
	comp=Z,9.7nm,1.0s								
KZA	Kyzart	89.91	312	*i* P		P	23 38 06.7	+1.7	
KZA	Kyzart	89.91	312	P		P	23 38 06.7	+1.7	
	SNR=7.6								
CIS	Catalina Islan	89.96	56	P		P	23 38 06.0	+1.1	
	baz=90								
ISA	Isabella	90.31	54	*e*P		P	23 38 08.3	+1.7	
ISA				pmax		pmax			
	comp=Z,76nm,3.0s								
ISA	Isabella	90.31	54	*e*P		P	23 38 08.3	+1.7	
	comp=Z,76nm,3.0s								
ISA	Isabella	90.31	54	P		P	23 38 07.7	+1.1	
	baz=90								
MWC	Mount Wilson	90.39	56	*e*P		P	23 38 09.1	+2.0	
MWC	Mount Wilson	90.39	56	*e*P		P	23 38 09.1	+2.0	
CHMS	Chumysh	90.46	313	*i* P		P	23 38 07.5	+0.5	
CHMS	Chumysh	90.46	313	P		P	23 38 07.6	+0.5	
	SNR=6.4								
UCH	Uchtor	90.48	313	*i* P		P	23 38 09.1	+1.4	
UCH	Uchtor	90.48	313	P		P	23 38 09.1	+1.4	
	SNR=7.7								
EDW2	Edwards Air Fo	90.56	55	P		P	23 38 09.1	+1.3	
	baz=91								
AAK	Ala-Archa	90.57	313	*i* P		P	23 38 07.9	+0.2	
AAK				pmax		pmax			
	comp=Z,17nm,1.3s								
AAK	Ala-Archa	90.57	313	P		P	23 38 08.5	+0.7	
	SNR=5.9								
AAK	Ala-Archa	90.57	313	*e*P		P	23 38 07.9	+0.2	
	comp=Z,4.5nm,0.8s								
AAK	Ala-Archa	90.57	313	P		P	23 38 08.0	+0.2	
	comp=Z,3.1nm,0.7s,baz=124,slow=4.0,SNR=24								
USP	Ospenovka	90.69	314	*i* P		P	23 38 08.9	+0.8	
USP	Ospenovka	90.69	314	P		P	23 38 08.9	+0.8	
	SNR=7.9								
CWC	Cottonwood Cre	90.76	53	P		P	23 38 09.6	+0.8	
	baz=91								
LRMC	Laurel Mountai	90.90	54	P		P	23 38 10.4	+0.9	
	baz=91								
NVAR	Mina Array Bea	90.94	51	P		P	23 38 10.2	+0.6	
NVAR	Mina Array Bea	90.94	51	P		P	23 38 10.2	+0.6	
	comp=Z,4.0nm,1.1s,baz=251,slow=6.7,SNR=17								
NV11	Mina Array Sit	91.05	51	*e*P		P	23 38 09.8	-0.2	
AML	Almayashu	91.06	312	*i* P		P	23 38 11.7	+1.4	
AML	Almayashu	91.06	312	P		P	23 38 11.7	+1.4	
	SNR=7.0								
EKS2	Erkin-Say	91.10	313	*i* P		P	23 38 10.9	+0.8	
EKS2	Erkin-Say	91.10	313	P		P	23 38 10.9	+0.8	
	SNR=6.8								
EKS2	Erkin-Say	91.10	313	*e*P		P	23 38 09.8	-0.3	
	comp=Z,2.8nm,0.7s								
MPMC	Manual Prospec	91.16	54	P		P	23 38 11.4	+0.7	
	baz=91								
WVOR	Wild Horse Val	91.40	47	*e*P		P	23 38 10.4	-1.2	
WVOR				pmax		pmax			
	comp=Z,14nm,1.4s								
WVOR	Wild Horse Val	91.40	47	*e*P		P	23 38 10.4	-1.2	
	comp=Z,14nm,1.4s								
GSC	Goldstone	91.59	55	*e*P		P	23 38 16.9	+4.4	
GSC				pmax		pmax			
	comp=Z,38nm,1.1s								
GSC	Goldstone	91.59	55	*e*P		P	23 38 16.9	+4.4	
	comp=Z,38nm,1.1s								
GSC	Goldstone	91.59	55	P		P	23 38 13.8	+1.3	
	baz=92								
TPH	Tonopah	91.71	52	*e*P		P	23 38 14.2	+1.0	
TPH				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TPH	Tonopah	91.71	52	*e*P		P	23 38 14.2	+1.0	
	comp=Z,6.2nm,0.9s								
BELC	Belle Mtn. Jos	92.04	56	P		P	23 38 14.7	0.0	
	baz=92								
TPNV	Topopah Spring	92.30	53	*e*P		P	23 38 17.6	+1.7	
TPNV				pmax		pmax			
	comp=Z,15nm,1.4s								
TPNV	Topopah Spring	92.30	53	*e*P		P	23 38 17.6	+1.7	
	comp=Z,15nm,1.4s								
TPNV	Topopah Spring	92.30	53	P		P	23 38 16.6	+0.7	
	baz=92								
TUQ	Turquoise Moun	92.32	55	P		P	23 38 17.1	+1.1	
	baz=92								
BC3	Big Chuckawall	92.43	56	P		P	23 38 18.0	+1.4	
	baz=92								
GMRC	Granite Mounta	92.43	55	P		P	23 38 17.9	+1.4	
	baz=92								
IRM	Iron Mountain	92.76	56	P		P	23 38 19.2	+1.3	
	baz=93								
R11A	Troy Canyon, C	93.03	52	P		P	23 38 20.7	+1.5	
	baz=93								
HLID	Hailey	94.64	47	P		P	23 38 27.9	+1.4	
	baz=95								
BVAR	Borovoye Array	95.01	323	P		P	23 38 26.6	-1.2	
BVAR	Borovoye Array	95.01	323	P		P	23 38 26.6	-1.2	
BVAR	Borovoye Array	95.01	323	P		P	23 38 26.6	-1.2	
	comp=Z,3.7nm,0.7s,baz=105,slow=5.8,SNR=19								
BRVK	Borovoye	95.08	323	*ce*P		P	23 38 25.7	-2.4	
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
YKA	Yellowknife Ar	96.72	28	P		P	23 38 35.5	+0.2	
YKA	Yellowknife Ar	96.72	28	P		P	23 38 35.5	+0.2	
	comp=Z,1.4nm,0.9s,baz=263,slow=4.6,SNR=15								
PDAR	Pinedale Array	98.09	48	P		P	23 38 42.0	-0.3	
PDAR	Pinedale Array	98.09	48	P		P	23 38 42.0	-0.3	
	comp=Z,0.4nm,0.7s,baz=233,slow=0.9,SNR=3.4								
AB31	Akbulak array	101.32	318	*i* P		Pdif	23 38 53.6	-2.6	
KIV	Kislovodsk	113.66	314	*i* PKIKP		PKiKP	23 43 40.0	-4.0	
KIV				pmax		pmax			
	comp=Z,24nm,1.7s								
AKASG	Malin Array Be	120.23	325	PKIKP		PKPdf	23 43 55.2	-1.0	
AKASG	Malin Array Be	120.23	325	PKP		PKPdf	23 43 55.2	-1.0	
AKASG	Malin Array Be	120.23	325	PKP		PKPdf	23 43 55.2	-1.0	
	comp=Z,2.8nm,0.8s,baz=61,slow=2.4,SNR=8.5								
CLL	Collm	128.36	332	*e*PKIKP		PKPdf	23 44 13.0	+1.2	
CLL				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CLL				MLR		MLR			
	comp=Z,200nm,19.3s								
CLL	Collm	128.36	332	*e*PKPdf		PKPdf	23 44 13.0	+1.2	
	comp=Z,6.0nm,1.0s								
CLL				*e*(PP)			23 46 28.0		
CLL				LV			00 43 00.0		
	comp=Z,200nm,19.3s								
LPAZ	La Paz	128.63	119	*e*PKPdf		PKPdf	23 44 13.3	-0.9	
LPAZ	La Paz	128.63	119	PKP		PKPdf	23 44 13.6	-0.5	
	comp=Z,2.5nm,0.9s,baz=336,slow=1.6,SNR=6.4								
GERES	GERESS Array B	129.66	329	PKP		PKPdf	23 44 14.1	-0.5	
GERES	GERESS Array B	129.66	329	PKP		PKPdf	23 44 14.1	-0.5	
	comp=Z,0.9nm,0.7s,baz=48,slow=2.0,SNR=10								
FETA	Feichten	132.37	329	⇑*i* PKiKP		PKPdf	23 44 20.0	+0.2	
	comp=Z,3.3nm,0.9s								
HINF	Hinteralfeld	133.66	333	*e*PKIKP		PKPdf	23 44 21.2	-0.9	
	comp=Z,11nm,1.0s								
HINF	Hinteralfeld	133.66	333	*e*PKIKP		PKPdf	23 44 21.2	-0.9	
HINF	Hinteralfeld	133.66	333	*e*PKPdf		PKPdf	23 44 21.2	-0.9	
SSF	Saint Saulge	135.71	334	*e*PKIKP		PKPdf	23 44 25.7	-0.2	
	comp=Z,16nm,1.2s								
SSF	Saint Saulge	135.71	334	*e*PKIKP		PKPdf	23 44 25.7	-0.2	
SSF	Saint Saulge	135.71	334	*e*PKPdf		PKPdf	23 44 25.7	-0.2	
KEST	Kesra	140.27	318	PKP		PKPdf	23 44 34.3	-0.4	
KEST	Kesra	140.27	318	PKP		PKPdf	23 44 34.3	-0.4	
	comp=Z,1.2nm,0.9s,baz=233,slow=9.5,SNR=2.1								
PGAV	Gavieira, Arco	144.48	341	*e*PKP		PKPbc	23 44 40.7	+0.2	
MVO	Moncorvo	144.78	339	*e*PKP		PKPdf	23 44 42.1	-0.4	
POLO	Lamas de Olo	144.86	340	*e*PKP		PKPbc	23 44 41.8	+0.1	
ESDC	Sonseca Array	144.88	335	PKP		PKPab	23 44 41.5	-0.3	
ESDC	Sonseca Array	144.88	335	PKP		PKPab	23 44 41.5	-0.3	
	comp=Z,3.6nm,0.9s,baz=20,slow=3.4,SNR=14								
PVRL	Vila Real	144.92	340	*e*PKP		PKPab	23 44 41.8	0.0	
BDFB	Brasilia	145.17	134	PKPbc		PKPbc	23 44 42.4	-1.0	
BDFB	Brasilia	145.17	134	PKPbc		PKPbc	23 44 42.4	-1.0	
	comp=Z,13nm,0.9s,baz=189,slow=4.6,SNR=10								
PVIS	Viseu	145.48	340	*e*PKP		PKPbc	23 44 40.7	-3.0	
PCBR	Castelo Branco	146.11	339	*e*PKP		PKPab	23 44 46.4	+0.2	
PMRV	Marv??o	146.45	338	*e*PKP		PKPbc	23 44 47.0	+0.3	
PTOM	Tomar	146.64	340	*e*PKP		PKPbc	23 44 47.6	+0.4	
PACT	Alcochete	147.54	340	*e*PKP		PKPdf	23 44 41.3	-5.9	
MORF	Marmelete	148.78	338	*e*PKP		PKPdf	23 44 46.6	-2.7	
TAM	Tamanrasset	149.53	301	*e*PKP2		PKPbc	23 44 55.3	-0.3	
TAM	Tamanrasset	149.53	301	*e*PKPbc		PKPbc	23 44 55.3	-0.3	
TORD	Torodi Ar. Bea	155.67	283	PKP		PKPdf	23 44 59.6	-0.5	
TORD				PKPab		PKPab	23 45 26.7	+0.3	
TORD	Torodi Ar. Bea	155.67	283	PKP		PKPdf	23 44 59.6	-0.5	
	comp=Z,1.7nm,1.1s,baz=334,slow=2.9,SNR=4.9								
TORD				PKPab		PKPab	23 45 26.7	+0.3	
	comp=Z,5.3nm,1.0s,baz=70,slow=3.2,SNR=12								
DBIC	Dimbokro	162.24	265	PKPab		PKPab	23 45 55.2	+0.3	
DBIC	Dimbokro	162.24	265	PKPab		PKPab	23 45 55.2	+0.3	
	comp=Z,5.7nm,1.1s,baz=94,slow=5.1,SNR=4.7								

IDC ***04*** *23:28:05.7±2.2,0.°23S×98.°41E,h0km,mb3.5/5,mb1 3.6/6, mb1mx3.5/24,mbtmp3.5/6,Error ellipse: s-maj=87.8km s-min=20.3km az=58.0*

ISCJB ***04*** *23:28:16.8±0.8,0.°37N±0.°08×98.°92E±0.°08,h76km, mb3.5/5,Error ellipse: s-maj=14.1km s-min=6.9km az=135.2*

DJA ***04*** *23:28:17.9±1.0,0.°N±5.°×9.°9E±.°,h28km±10km,M4.0/8, MLv4.0/8*

ISC 04 23:28:17.5±1.1,0.°37N±0.°08×98.°95E±0.°08,h76km,n17, σ1°26/14,mb3.4/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
MNSI	Mandailing Nat	0.76	56	P		Pn	23 28 33.6	+0.1
MNSI				S		Sn	23 28 45.1	-0.2
PPI	Padang Panjang	1.66	120	P		Pn	23 28 45.7	+0.9
GSI	Gunungsitoli	1.66	304	P		Pn	23 28 45.5	+0.7
PDSI	Padang	1.97	130	P		Pn	23 28 49.0	0.0
PDSI				S		Sn	23 29 13.4	+0.5
BKNI	Bangkinang	2.09	91	P		Pn	23 28 52.4	+1.9
PSI	Prapat	2.42	359	P		x	23 28 54.4	
PSI	Prapat	2.42	359	Pn		Pn	23 28 54.5	-0.5
	baz=180,slow=11							
TSI	Tuntungan	3.14	353	P		Pn	23 29 08.7	+4.0
KCSI	Kotacane, Aceh	3.35	339	P		Pn	23 29 08.6	+1.0
H08S2	Diego Garcia H	27.56	253	T		T	00 01 32.0	
	baz=73,slow=75,SNR=30							
H08S3	Diego Garcia H	27.56	253	T		T	00 01 32.2	
	baz=73,slow=75,SNR=39							
H08S1	Diego Garcia H	27.58	253	T		T	00 01 33.4	
	baz=73,slow=75,SNR=35							
WRA	Warramunga Arr	40.11	122	P		P	23 35 43.4	-2.7
	0.4nm,0.7s,baz=305,slow=8.9,SNR=2.5							
ASAR	Alice Springs	41.50	128	P		P	23 35 56.7	-0.8
	0.2nm,0.4s,baz=301,slow=8.5,SNR=2.9							
MKAR	Makanchi Array	48.48	345	P		P	23 36 54.0	+1.4
	0.4nm,0.5s,baz=158,slow=7.7,SNR=6.7							
KURBB	Kurchatov Arra	53.00	344	P		P	23 37 27.4	+1.1
	0.2nm,0.5s,baz=157,slow=7.1,SNR=3.5							
ZALV	Zalesovo Beam	54.67	350	P		P	23 37 38.4	-0.1
	0.5nm,0.4s,baz=164,slow=6.0,SNR=3.9							

KRSC 04 23:32:23.2±2.3,50.°64N×157.°80E,h80km±26km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
PAU	Pauzhetka	1.03	323	*i* P		Pn	23 32 44.3	+1.7
PAU				*i* S		Sn	23 32 58.7	+1.6
SKR	Severo-Kuril's	1.07	273	*i* P		Pn	23 32 43.2	+0.2
SKR				*i* S		Sn	23 32 56.5	-1.4
ASAK	Asacha	1.74	2	*e*P		Pn	23 32 54.2	+2.4
ASAK				*e*S		Sn	23 33 15.1	+1.6
MIPR	Malaya Ipel'ka	1.76	339	*e*P		Pn	23 32 53.9	+2.0
MIPR				*e*S		Sn	23 33 15.0	+1.3
RUS	Russkaya	1.85	14	*e*P		Pn	23 32 55.3	+2.3
RUS				*e*S		Sn	23 33 17.0	+1.3
MTVR	Mutnovka	1.86	7	*e*P		Pn	23 32 56.0	+2.6
MTVR				*e*S		Sn	23 33 18.7	+2.4
GRL	Gorelyy	1.92	5	*e*P		Pn	23 32 57.1	+2.9
GRL				*e*S		Sn	23 33 20.7	+3.0
APC	Apacha	2.32	350	*i* P		Pn	23 33 01.7	+2.4
APC				*e*S		Sn	23 33 28.8	+1.9
PET	Petropavlovsk	2.44	12	*e*P		Pn	23 33 03.4	+2.5
PET				*e*S		Sn	23 33 31.5	+1.6
UGLR	Uglovaya	2.65	14	*e*P		Pn	23 33 07.0	+3.1
UGLR				S		Sn	23 33 37.4	+2.3
AVH	Avacha	2.69	12	*e*P		Pn	23 33 07.7	+3.3
AVH				*e*S		Sn	23 33 38.4	+2.3
SMAR	Somma	2.70	13	*e*P		Pn	23 33 07.1	+2.4
KOK	Koryaka	2.70	11	*e*P		Pn	23 33 08.2	+3.6
KOK				S		Sn	23 33 39.5	+3.1
NLC	Nalytchevo	2.71	20	P		Pn	23 33 05.8	+1.3
NLC				*e*S		Sn	23 33 35.4	-0.8
SDLR	Sedlovina	2.72	14	*e*P		Pn	23 33 07.6	+2.7
SDLR				*e*S		Sn	23 33 38.6	+1.6
KRER	Koryakskii	2.73	12	*e*P		Pn	23 33 08.4	+3.3
KRER				*e*S		Sn	23 33 39.6	+2.3
KRX	Arik	2.77	11	*e*P		Pn	23 33 08.8	+3.2
KRX				*e*S		Sn	23 33 40.5	+2.3
SPN	Mys Shipunski	2.82	28	*e*P		Pn	23 33 09.3	+3.3
SPN				*e*S		Sn	23 33 41.4	+2.4
GNL	Ganaly	3.06	2	*e*P		Pn	23 33 12.3	+2.9
TUMR	Tumrok	4.86	16	*e*P		Pn	23 33 37.1	+3.2
KBTR	Krutoberegovo	6.33	26	P		Pn	23 33 56.3	+2.5
BKI	Bering	6.73	44	S		Sn	23 35 11.4	-2.8

IDC ***04*** *23:38:11.9±0.8,32.°10N×105.°29E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.8/26,mbtmp3.8/11,ML3.3/2,Error ellipse: s-maj=37.5km s-min=16.7km az=52.0*

ISCJB ***04*** *23:38:12.1±0.4,32.°12N±0.°04×105.°32E±0.°05,h10km, mb3.8/9,Error ellipse: s-maj=6.2km s-min=4.7km az=31.1*

BJI ***04*** *23:38:14.3,32.°16N×105.°24E,h22km,ML3.9/13*

ISC 04 23:38:14.1±0.6,32.°11N±0.°05×105.°33E±0.°05,h10km,n24, σ1°05/33,mb3.8/9,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
CD2	Chengdu	1.79	229	Pn		Pn	23 38 45.5	+0.4
CD2				Pg		Pg	23 38 50.1	+1.7
CD2				Sg		Sg	23 39 11.6	-0.1
CD2				smax		smax		
	comp=N,2μm,0.8s							
CD2				smax		smax		
	comp=E,1μm,1.0s							
XAN	Xi'an	3.58	56	Pn		Pn	23 39 10.2	+0.5
XAN				Pg		Pb	23 39 17.0	-0.5
XAN				Sn		Sn	23 39 52.5	+0.4
XAN				Sg		Sb	23 40 03.5	+2.4
XAN				smax		smax		
	comp=N,390nm,0.8s							
XAN				smax		smax		
	comp=E,190nm,0.8s							
LZH	Lanzhou	4.16	343	Pn		Pn	23 39 19.0	+1.3
LZH				Pg		Pg	23 39 29.5	-4.2
LZH				Sg		Sb	23 40 19.6	+1.9
LZH				smax		smax		
	comp=N,440nm,1.0s							
LZH				smax		smax		
	comp=E,460nm,1.0s							
GYA	Guiyang	5.75	168	⇑*i* Pn		Pn	23 39 41.3	+1.7
GYA				Pg		Pg	23 40 01.5	-2.7
GYA				Sn		Sn	23 40 45.8	+0.1
GYA				Sg		Sg	23 41 13.8	-4.8
GYA				smax		smax		
	comp=N,90nm,0.7s							
GYA				smax		smax		
	comp=E,80nm,0.8s							
GTA	Gaotai	8.55	330	*e*P		Pn	23 40 17.7	-0.4
GTA				pP			23 40 21.3	
GTA				sP			23 40 23.7	
GTA				S		Sn	23 41 56.1	+1.4
GTA				sS			23 42 00.9	
SONM	Songino Array	15.73	3	Pn		Pn	23 41 55.3	-0.5
	0.0nm,0.3s,baz=179,slow=9.0,SNR=4.6							
TAPN	Taplejung	16.02	257	*e*P		P	23 42 04.5	+1.2
ODAN	Odare	16.46	256	*e*P		P	23 42 09.5	+1.3
	6.1nm,0.6s							
JIRN	Jiri	17.17	260	*e*P		P	23 42 16.8	+0.6
DMN	Daman	18.10	261	*e*P		P	23 42 25.4	-0.9
GKN	Gorkha	18.36	262	*e*P		P	23 42 28.5	-0.6
DANN	Dangsing	19.00	264	*e*P		Pn	23 42 36.1	-0.8
	8.8nm,0.6s							
KSRS	Korea Array	19.30	68	P		P	23 42 39.1	0.0
	0.5nm,0.3s,baz=253,slow=9.4,SNR=4.7							
KOLN	Koldanda	19.31

20nm,0.7s
KKN Kakani 39.82 303 *e*P **P 00 11 18.3 +1.0**
9.4nm,0.7s
SONM Songino Array 41.04 343 P **P 00 11 26.8 -0.2**
0.9nm,0.8s,baz=161,slow=9.0,SNR=7.2
SONM PcP **PcP 00 13 26.4 -0.2**
0.5nm,0.7s,baz=167,slow=1.4,SNR=3.5
SONM LR LR 00 29 20.3
comp=Z,72nm,18.7s,baz=122,slow=38
KOLN Koldanda 41.21 302 *e*P **P 00 11 29.8 +1.0**
15nm,0.7s
DANN Dangsing 41.27 303 *e*P **P 00 11 30.2 +0.8**
7.0nm,0.7s
STKA Stephens Creek 44.54 157 P **P 00 11 55.0 -0.5**
2.8nm,0.7s,baz=329,slow=6.9,SNR=8.7
MKAR Makanchi Array 50.90 325 P **P 00 12 45.8 +1.1**
1.5nm,0.7s,baz=127,slow=8.7,SNR=18
MKAR PcP **PcP 00 14 01.1 +0.2**
0.3nm,0.6s,baz=106,slow=3.7,SNR=3.7
ZALV Zalesovo Beam 54.05 333 P **P 00 13 07.5 -0.3**
0.6nm,0.3s,baz=126,slow=7.5,SNR=5.0
ARCES ARCESS Array B 84.09 339 P **P 00 16 13.8 -0.1**
2.8nm,0.9s,baz=88,slow=9.8,SNR=5.1
AKASG Malin Array Be 85.23 320 P **P 00 16 19.5 -0.5**
0.7nm,0.5s,baz=70,slow=4.3,SNR=8.4
FINES FINESS Array B 85.26 331 P **P 00 16 19.8 -0.1**
2.6nm,0.9s,baz=257,slow=3.3,SNR=5.1
MLR Muntele Rosu 88.28 316 P **P 00 16 35.5 +0.4**
0.2nm,0.5s,baz=90,slow=4.0

BUC 05 00:25:57.8±0.8, 45.77N×26.52E, h8km, MD2.1/2, 6C-8D, Error ellipse: s-maj=9.3km s-min=6.1km az=320.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**50**	⇓*i*P	Pg	00 26 00.6	0.0
PLOR	**Plostina**	**0.12**	**50**	S	Sg	00 26 03.2	+0.8
PLOR	**Plostina**	**0.12**	**50**	⇓*i*P	Pg	00 26 00.6	0.0
PLOR				*i* S	Sg	00 26 03.2	+0.8
VRI	**Vrincioaia**	**0.17**	**58**	⇓*i*P	Pg	00 26 01.4	0.0
VRI	**Vrincioaia**	**0.17**	**58**	S	Sg	00 26 04.6	+0.7
VRI	**Vrincioaia**	**0.17**	**58**	⇓*i*P	Pg	00 26 01.4	0.0
VRI				*i* S	Sg	00 26 04.6	+0.7
ODBI	**Odobesti**	**0.38**	**91**	S	Sb	00 26 12.5	-0.3
ODBI	**Odobesti**	**0.38**	**91**	*i* S	Sb	00 26 12.5	-0.3
MLR	**Muntele Rosu**	**0.49**	**235**	⇓*i*P	Pg	00 26 07.8	+0.3
MLR	**Muntele Rosu**	**0.49**	**235**	S	Sg	00 26 14.8	+0.7
MLR	**Muntele Rosu**	**0.49**	**235**	⇓*i*P	Pg	00 26 07.8	+0.3
MLR				*i* S	Sg	00 26 14.8	+0.7
GRER		**0.51**	**141**	⇓*i*P	Pb	00 26 09.0	0.0
GRER		**0.51**	**141**	⇓*i*P	Pb	00 26 09.0	0.0
TESR	**Tescani**	**0.74**	**7**	⇑*i*P	Pb	00 26 13.4	+0.3
TESR	**Tescani**	**0.74**	**7**	⇑*i*P	Pb	00 26 13.4	+0.3
DOPR	**Dopca**	**0.81**	**284**	⇑*i*P	Pb	00 26 14.8	+0.5
DOPR	**Dopca**	**0.81**	**284**	⇑*i*P	Pb	00 26 14.8	+0.5
VOIR		**1.08**	**252**	⇑*i*P	Pg	00 26 18.8	0.0
VOIR				S	Sn	00 26 34.6	-0.2
VOIR		**1.08**	**252**	⇑*i*P	Pg	00 26 18.8	0.0
VOIR				*i* S	Sn	00 26 34.6	-0.2

RSPR 05 00:43:22.1, 18.06N×68.51W, h124km±2km, MD3.6/7, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.34**	**92**	⇓*e*P	Pn	00 43 47.3	-0.6
LSP	**Las Mesas**	**1.36**	**85**	⇓*e*P	Pn	00 43 48.1	-0.1
LSP	**Las Mesas**	**1.36**	**85**	*e*S	Sn	00 44 08.2	+0.1
AGPR	**Aguadilla, PR**	**1.39**	**73**	⇓*e*P	Pn	00 43 48.0	-0.6
AGPR	**Aguadilla, PR**	**1.39**	**73**	*e*S	Sn	00 44 08.6	0.0
AOPR	**Arecibo Observ**	**1.70**	**80**	⇓*e*P	Pn	00 43 51.6	-0.5
AOPR	**Arecibo Observ**	**1.70**	**80**	*e*S	Sn	00 44 15.2	+0.3
CELP	**Cerrillos**	**1.84**	**89**	⇓*e*P	Pn	00 43 53.6	-0.1
SJG	**San Juan**	**2.25**	**88**	⇓*e*P	Pn	00 43 58.6	-0.2
CPD	**Cerro la Pandu**	**2.47**	**90**	⇓*e*P	Pn	00 44 01.2	-0.5
CBYP	**Canovanas**	**2.54**	**85**	⇑*e*P	Pn	00 44 03.2	+0.6
CBYP	**Canovanas**	**2.54**	**85**	*e*S	Sn	00 44 33.5	-0.1
HUMP	**Col San Antoni**	**2.54**	**88**	⇑*e*P	Pn	00 44 02.7	+0.3
HUMP	**Col San Antoni**	**2.54**	**88**	*e*S	Sn	00 44 34.0	+0.5
MTP	**Monte Pirata**	**2.82**	**89**	*e*S	Sn	00 44 40.3	+0.3
MTP	**Monte Pirata**	**2.82**	**89**	⇑*e*P	Pn	00 44 06.5	+0.4

IDC 05 01:13:16.5±3.1, 5.59S×146.94E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=70.2km s-min=39.5km az=86.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.80**	**177**	Pn	Pn	01 14 17.6	+1.2
	10nm,0.3s,baz=337,slow=8.9,SNR=11						
PMG				Sn	Sn	01 15 02.8	+1.0
	15nm,0.3s,baz=184,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**18.81**	**220**	P	P	01 17 36.7	-1.2
	0.3nm,0.3s,baz=42,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.03**	**214**	P	P	01 18 11.8	+0.1
	1.2nm,0.4s,baz=55,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**26.63**	**190**	P	P	01 18 57.0	+0.1
	2.0nm,0.7s,baz=11,slow=5.5,SNR=11						
TORD	**Torodi Ar. Bea**	**144.93**	**285**	PKP	PKPbc	01 32 56.1	+0.1
	0.6nm,0.9s,baz=96,slow=1.8,SNR=3.8						

*ISCJB **05** 01:34:24.2±0.7, 16.63S±0.04×74.12W±0.04, h44km±8km, mb4.8/52, MS4.4/17, Error ellipse: s-maj=8.6km s-min=5.1km az=135.5*

*GCMT **05** 01:34:25.4±0.2, 16.71S×74.19W, h36km±1km, MW5.1/89, Moment Tensor Solution. s42,c55; s89,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.37±.21; $M_{\theta\theta}$-3.18±.16; $M_{\phi\phi}$1.81±.19; $M_{r\theta}$0.27±.16; $M_{r\phi}$4.43±.12; $M_{\theta\phi}$-2.51±.24; Best double couple: M_o5.77400×10^{16} NP1:ϕ_s162.00000°,δ80.00000°,λ151.00000°. NP2: ϕ_s258.00000°,δ62.00000°,λ12.00000°. Principal axes: T 5.4590, Plg28.0000°, Azm116.0000°; N 0.6290, Plg60.0000°, Azm324.0000°; P -6.0880, Plg12.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 01:34:25.4±0.3, 16.48S×74.03W, mb5.0/39, ML4.7(ARE) Error ellipse: s-maj=9.2km s-min=5.1km az=51.0*

NEIC Felt [III] at Atico and Chala; [II] at Arequipa, Nazca and Ocona.

*BJI **05** 01:34:26.7, 16.50S×73.90W, h37km, mB5.4/7, Ms5.4/3, Ms7 5.1/8*

*GUC **05** 01:34:28.0±0.2, 17.11S×74.10W, h40km±824km*

*IDC **05** 01:34:29.2±2.5, 16.56S×74.15W, h67km±21km, mb4.4/12, mb1 4.5/16, mb1mx4.3/22, mbtmp4.6/16, MS4.3/20, Ms1 4.3/20, ms1mx4.2/28, Error ellipse: s-maj=20.5km s-min=12.4km az=40.0*

ISC 05 01:34:25.0±0.5, 16.67S±0.05×74.15W±0.06, h32km±3km, h32km:pP-P,n263,σ1$29/270, mb5.0/52, MS4.4/17, 11C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.55**	**86**	⇑*i*P	**Pn**	**01 35 06.2**	**+1.8**
ARE				*e*S	**Sn**	**01 35 35.0**	**+0.4**
ARCH	**Arica**	**4.09**	**117**	*i* P	**Pn**	**01 35 27.3**	**+2.0**
ARCH				*i* S	**Sn**	**01 36 12.3**	**+0.2**
PSGC	**Pisagua**	**4.80**	**128**	⇑*i*P	**Pn**	**01 35 36.7**	**+1.5**
PSGC				*i* S	**Sn**	**01 36 28.6**	**-1.2**
MNMC	**Minimini**	**4.97**	**120**	⇑*i*P	**Pn**	**01 35 39.4**	**+1.7**
MNMC				*i* S	**Sn**	**01 36 34.5**	**+0.2**
PB11	**Plate Boundary**	**5.26**	**126**	⇑*i*P	**Pn**	**01 35 42.9**	**+1.4**
PB11				*i* S	**Sn**	**01 36 40.0**	**-1.1**
NNA	**Nana**	**5.34**	**330**	Pn	**Pn**	**01 35 40.0**	**-2.6**
	2um,0.4s,SNR=11						
NNA	**Nana**	**5.34**	**330**	*e*Pn	**Pn**	**01 35 39.8**	**-2.8**
PATCX	**Punta Patache**	**5.60**	**138**	⇑*i*P	**Pn**	**01 35 47.1**	**+1.0**
PATCX				*i* S	**Sn**	**01 36 47.0**	**-2.4**
LPAZ	**La Paz**	**5.78**	**87**	*e*Pn	Pn	01 35 54.0	+4.8
LPAZ				*e*S	**Sn**	**01 36 52.5**	**-2.2**
LPAZ	**La Paz**	**5.78**	**87**	P	Pn	01 35 54.1	+4.9
	6.2nm,0.3s,baz=263,slow=11,SNR=297						
LPAZ				S	**Sn**	**01 36 59.4**	**+4.7**
	baz=16,slow=19,SNR=1.4						
LPAZ				LR	LR	01 38 32.3	
	comp=Z,5μm,19.9s,baz=268,slow=42						

PB01	**Plate Boundary**	**6.19**	**135**	*i* P	**Pn**	**01 35 55.9**	**+1.6**
PB01				*i* S	**Sn**	**01 37 01.5**	**-2.6**
PB07	**Plate Boundary**	**6.44**	**142**	⇑*i*P	**Pn**	**01 35 58.5**	**+0.7**
PB07				*i* S	**Sn**	**01 37 07.9**	**-2.4**
PB09	**Plate Boundary**	**6.89**	**139**	⇑*i*P	**Pn**	**01 36 05.5**	**+1.6**
PB09				*i* S	**Sn**	**01 37 19.2**	**-2.1**
PB04	**Plate Boundary**	**7.09**	**142**	⇑*i*P	Pn	01 36 02.9	-3.5
PB04				*i* S	Sn	01 37 15.4	-11
PB06	**Plate Boundary**	**7.39**	**145**	⇑*i*P	**Pn**	**01 36 11.6**	**+0.8**
PB10	**Plate Boundary**	**7.59**	**154**	⇑*i*P	**Pn**	**01 36 13.5**	**0.0**
CEN1	**Los Morros**	**7.64**	**152**	*e*P	**Pn**	**01 36 16.4**	**+2.2**
LVC	**Limon Verde**	**7.70**	**141**	*e*Pn	**Pn**	**01 36 17.6**	**+2.5**
LVC				*e*S	**Sn**	**01 37 37.9**	**-3.4**
ANCH	**Antofagasta**	**7.80**	**154**	*e*P	**Pn**	**01 36 15.9**	**-0.4**
ATAH	**Atahualpa**	**10.35**	**336**	P	**Pn**	**01 36 53.9**	**+2.2**
ATAH				S	**Sn**	**01 38 50.2**	**+3.3**
ATAH	**Atahualpa**	**10.35**	**336**	P	**Pn**	**01 36 53.9**	**+2.2**
	1.3nm,0.3s,baz=147,slow=4.8,SNR=7.8						
ATAH				S	**Sn**	**01 38 50.2**	**+3.3**
	2.2nm,0.3s,baz=115,slow=19,SNR=2.6						
ATAH				LR	LR	01 41 46.0	
	comp=Z,1μm,18.6s,baz=341,slow=43						
SIV	**San Ignacio**	**12.57**	**89**	P	**Pn**	**01 37 21.4**	**-0.3**
SIV	**San Ignacio**	**12.57**	**89**	P	**Pn**	**01 37 21.4**	**-0.3**
	2.4nm,0.3s,baz=272,slow=14,SNR=67						
SIV				LR	LR	01 42 45.0	
	comp=Z,2μm,20.7s,slow=39						
LCO	**Las Campanas**	**12.68**	**166**	*e*Pn	Pn	01 37 27.1	+3.7
LCO				*e*S	Sn	01 39 35.6	-8.1
SAML	**Samuel**	**13.15**	**56**	*e*Pn	**Pn**	**01 37 26.6**	**-3.1**
SAML				*e*S	S	01 40 09.2	-10
CFAA	**Coronel Fontan**	**15.81**	**161**	P	**P**	**01 38 07.8**	**-0.9**
CFAA	**Coronel Fontan**	**15.81**	**161**	P	**P**	**01 38 07.8**	**-0.9**
	0.1nm,0.3s,baz=335,slow=13,SNR=19						
CFAA				LR	LR	01 43 18.0	
	comp=Z,72nm,19.7s,baz=328,slow=33						
H03N1	**Juan Fernandez**	**17.24**	**194**	T	T	01 57 04.4	
	baz=16,slow=75,SNR=1561						
H03N2	**Juan Fernandez**	**17.24**	**194**	T	T	01 57 04.7	
	baz=16,slow=75,SNR=1462						
H03N3	**Juan Fernandez**	**17.26**	**194**	T	T	01 57 05.9	
	baz=16,slow=75,SNR=853						
OTAV	**Otavalo**	**17.33**	**345**	*e*Pn	**P**	**01 38 25.7**	**-0.5**
	42nm,1.4s						
OTAV				*e*S	**S**	**01 41 46.0**	**+0.7**
CPUP	**Villa Florida**	**18.34**	**124**	*e*Pn	**Pn**	**01 38 37.1**	**+0.2**
	3.5nm,1.0s						
CPUP	**Villa Florida**	**18.34**	**124**	P	**Pn**	**01 38 37.7**	**+0.7**
	1.1nm,0.3s,baz=293,slow=11,SNR=13						
CPUP				LR	LR	01 46 45.0	
	comp=Z,418nm,20.6s,baz=283,slow=40						
PTGA	**Pitinga**	**21.12**	**43**	*e*Pn	**P**	**01 39 06.5**	**-0.7**
	66nm,0.8s						
PTGA				*e*S	**S**	**01 42 53.5**	**-7.2**
PTGA	**Pitinga**	**21.12**	**43**	P	**P**	**01 39 06.9**	**-0.3**
	58nm,0.7s,baz=218,slow=13,SNR=44						
PTGA				LR	LR	01 47 54.0	
	comp=Z,2μm,18.7s,baz=224,slow=38						
ROSC	**El Rosal**	**21.39**	**359**	*e*P	**P**	**01 39 09.4**	**-1.1**
ROSC				*e*Pn	**P**	**01 39 12.1**	**+1.5**
TRQA	**Tornquist**	**23.84**	**156**	*e*P	**P**	**01 39 36.2**	**+0.9**
	27nm,1.0s						
PLCA	**Paso Flores**	**24.18**	**173**	*e*P	**P**	**01 39 40.8**	**+2.3**
	30nm,0.9s						
PLCA	**Paso Flores**	**24.18**	**173**	P	**P**	**01 39 41.0**	**+2.5**
	25nm,0.9s,baz=349,slow=11,SNR=47						
BB16B	**Bebedouro**	**24.56**	**104**	⇑*i*P	**P**	**01 39 42.2**	**0.0**
BB16B				*i*		01 39 47.8	
BB16B				*i*		01 39 58.5	
BDFB	**Brasilia**	**25.11**	**91**	*e*P	**P**	**01 39 48.5**	**+1.2**
BDFB	**Brasilia**	**25.11**	**91**	P	**P**	**01 39 48.1**	**+0.8**
	43nm,0.8s,baz=260,slow=12,SNR=56						
BDFB				LR	LR	01 50 17.3	
	comp=Z,490nm,19.4s,baz=51,slow=38						
SDV	**Santo Domingo**	**25.63**	**8**	*e*P	**P**	**01 39 50.7**	**-1.3**
	5.7nm,1.0s						
JTS	**JuasAbangare**	**28.84**	**338**	LR	LR	01 51 26.2	
	comp=Z,612nm,20.1s,baz=165,slow=35						
APG	**El Apazote**	**35.36**	**332**	P	**P**	**01 41 15.1**	**-2.9**
APG	**El Apazote**	**35.36**	**332**	P	**P**	**01 41 15.1**	**-2.9**
	2.4nm,0.6s,baz=124,slow=11,SNR=2.9						
RCBR	**Riachuelo**	**38.95**	**78**	*e*P	**P**	**01 41 48.7**	**+0.2**
	29nm,0.9s						
LRAL	**Lakeview Retre**	**50.93**	**346**	*e*P	**P**	**01 43 22.6**	**-0.7**
	60nm,2.0s						
833A	**Chaparral WMA,**	**50.97**	**331**	P	**P**	**01 43 23.9**	**+0.1**
	baz=51						
635A	**Leesville**	**51.16**	**333**	P	**P**	**01 43 25.0**	**-0.1**
	baz=51						
733A	**Divot King Ran**	**51.26**	**331**	P	**P**	**01 43 25.6**	**-0.3**
	baz=51						
732A	**Laxson Ranch,**	**51.58**	**331**	P	**P**	**01 43 28.3**	**0.0**
	baz=52						
633A	**Saathoff Ranch**	**51.84**	**332**	P	**P**	**01 43 29.8**	**-0.4**
	baz=52						
632A	**Uvalde**	**52.16**	**331**	P	**P**	**01 43 32.9**	**+0.3**
	baz=52						
631A	**Perdido Creek**	**52.44**	**331**	P	**P**	**01 43 34.4**	**-0.3**
	baz=53						
532A	**Rocksprings**	**52.74**	**332**	P	**P**	**01 43 36.5**	**-0.5**
	baz=53						
433A	**Art**	**52.91**	**333**	P	**P**	**01 43 37.1**	**-1.0**
	baz=53						
531A	**Rocksprings**	**53.06**	**331**	P	**P**	**01 43 39.4**	**+0.1**
	baz=53						
WHTX	**Lake Whitney**	**53.30**	**335**	*e*P	**P**	**01 43 40.9**	**-0.1**
	15nm,1.1s						
WHTX	**Lake Whitney**	**53.30**	**335**	P	**P**	**01 43 40.7**	**-0.3**
	baz=53						
432A	**Menard**	**53.32**	**332**	P	**P**	**01 43 40.5**	**-0.8**
	baz=53						
333A	**Richland Sprin**	**53.35**	**333**	P	**P**	**01 43 40.6**	**-0.8**
	baz=54						
530A	**J-C Ranch, Com**	**53.42**	**330**	P	**P**	**01 43 40.5**	**-1.5**
	baz=54						
431A	**Sonora**	**53.53**	**331**	P	**P**	**01 43 41.6**	**-1.1**
	baz=54						
234A	**Clairette**	**53.59**	**335**	P	**P**	**01 43 41.7**	**-1.4**
	baz=54						
628A	**Black Gap, Mar**	**53.62**	**329**	P	**P**	**01 43 43.0**	**-0.5**
	baz=54						
332A	**Millersview**	**53.73**	**333**	P	**P**	**01 43 43.7**	**-0.5**
	baz=54						
529A	**Stw Forest Ra**	**53.82**	**330**	P	**P**	**01 43 44.7**	**-0.2**
	baz=54						
627A	**Terlingua Ranc**	**53.85**	**328**	P	**P**	**01 43 44.9**	**-0.3**
	baz=54						
TXAR	**Lajitas Array**	**53.89**	**328**	P	**P**	**01 43 45.0**	**-0.4**
TXAR	**Lajitas Array**	**53.89**	**328**	P	**P**	**01 43 45.0**	**-0.4**
	0.8nm,0.5s,baz=152,slow=9.1,SNR=18						
TXAR				LR	LR	02 05 01.5	
	comp=Z,179nm,20.5s,baz=25,slow=34						
430A	**Baggett Ranch,**	**53.91**	**331**	P	**P**	**01 43 44.9**	**-0.7**
	baz=54						
233A	**Rising Star**	**53.92**	**334**	P	**P**	**01 43 44.8**	**-0.7**
	baz=54						
331A	**San Angelo**	**53.98**	**332**	P	**P**	**01 43 45.4**	**-0.6**
	baz=54						
134A	**White-Moore Ra**	**54.06**	**335**	P	**P**	**01 43 46.0**	**-0.5**
	baz=54						
429A	**Davenport Ranc**	**54.08**	**330**	P	**P**	**01 43 46.0**	**-0.8**
	baz=54						
232A	**Coleman**	**54.13**	**333**	P	**P**	**01 43 46.7**	**-0.4**
	baz=54						
626A	**Big Bend Ranch**	**54.31**	**328**	P	**P**	**01 43 48.6**	**0.0**
	baz=54						
Z35A	**Perchaven, San**	**54.40**	**336**	P	**P**	**01 43 48.6**	**-0.4**
	baz=54						
133A	**Hamilton Ranch**	**54.44**	**334**	P	**P**	**01 43 48.9**	**-0.4**
	baz=55						
527A	**Woodward Ranch**	**54.52**	**328**	P	**P**	**01 43 49.6**	**-0.6**
	baz=55						
526A	**Mary Lane Ranc**	**54.70**	**328**	P	**P**	**01 43 51.6**	**+0.2**
	baz=55						
ABTX	**Abilene, Hawle**	**54.76**	**334**	*e*P	**P**	**01 43 51.1**	**-0.5**
	16nm,0.9s						
ABTX	**Abilene, Hawle**	**54.76**	**334**	P	**P**	**01 43 50.9**	**-0.7**
	baz=55						
Z33A	**Whitaker Ranch**	**54.96**	**335**	P	**P**	**01 43 53.0**	**-0.1**
	baz=55						
328A	**Wristen Ranch,**	**55.14**	**330**	P	**P**	**01 43 54.4**	**-0.1**
	baz=55						
Y34A	**Reagan Ranch,**	**55.15**	**336**	P	**P**	**01 43 54.2**	**-0.2**
	baz=55						
426A	**McDonald Obser**	**55.16**	**328**	P	**P**	**01 43 54.4**	**-0.4**
	baz=55						
229A	**Bryant Ranch,**	**55.16**	**331**	P	**P**	**01 43 54.3**	**-0.3**
	baz=55						
Z32A	**Haskell**	**55.28**	**334**	P	**P**	**01 43 55.1**	**-0.2**
	baz=55						
130A	**Snyder**	**55.31**	**332**	P	**P**	**01 43 55.3**	**-0.3**
	baz=55						
Y33A	**Hilltop Ranch,**	**55.54**	**335**	P	**P**	**01 43 56.9**	**-0.3**
	baz=56						
Z31A	**Sharp Cattle R**	**55.57**	**334**	P	**P**	**01 43 57.1**	**-0.4**
	baz=56						
228A	**UT Block 9, Go**	**55.65**	**331**	P	**P**	**01 43 57.7**	**-0.5**
	baz=56						
425A	**Indio Mountain**	**55.74**	**328**	P	**P**	**01 43 58.4**	**-0.5**
	baz=56						
X34A	**Smith Ranch, M**	**55.75**	**336**	P	**P**	**01 43 57.8**	**-0.9**
	baz=56						
WCI	**Wyandotte Cave**	**55.79**	**348**	*e*P	**P**	**01 43 57.1**	**-1.9**
	186nm,2.4s						
SDMD	**Soldier's Deli**	**55.85**	**357**	*e*P	**P**	**01 43 58.9**	**-0.4**
	15nm,0.8s						
Y32A	**R-V Farms, Ver**	**55.86**	**335**	P	**P**	**01 43 59.1**	**-0.5**
	baz=56						
Z30A	**Sanderson Ranc**	**55.97**	**333**	P	**P**	**01 43 59.5**	**-0.8**
	baz=56						
128A	**Castleberry Fa**	**56.02**	**331**	P	**P**	**01 44 00.0**	**-0.8**
	baz=56						
Y31A	**Rekieta Farm,**	**56.17**	**334**	P	**P**	**01 44 01.3**	**-0.5**
	baz=56						
TUL1	**Tulsa**	**56.17**	**339**	*e*P	**P**	**01 44 00.8**	**-0.9**
	26nm,1.2s						
TUL1	**Tulsa**	**56.17**	**339**	P	**P**	**01 44 00.8**	**-0.9**
	baz=56						
325A	**Bean Ranch, Si**	**56.20**	**328**	P	**P**	**01 44 01.0**	**-1.2**
	baz=56						
Z29A	**Hungry Hill Ra**	**56.20**	**332**	P	**P**	**01 44 00.9**	**-1.1**
	baz=56						
W33A	**Caddo, Fort Co**	**56.48**	**336**	P	**P**	**01 44 03.2**	**-0.7**
	baz=57						
324A	**Moseley Ranch,**	**56.52**	**328**	P	**P**	**01 44 03.4**	**-1.1**
	baz=57						
X31A	**McDonald Ranch**	**56.63**	**335**	P	**P**	**01 44 04.3**	**-0.8**
	baz=57						
Y29A	**Porterfield Fa**	**56.69**	**333**	P	**P**	**01 44 04.6**	**-0.9**
	baz=57						
V34A	**Guthrie**	**56.72**	**337**	P	**P**	**01 44 05.1**	**-0.5**
	baz=57						
126A	**Clayton Basin,**	**56.76**	**330**	P	**P**	**01 44 05.3**	**-0.8**
	baz=57						
X30A	**Coker Ranch, T**	**56.84**	**334**	P	**P**	**01 44 06.1**	**-0.5**
	baz=57						
Z27A	**Tatum**	**56.93**	**331**	P	**P**	**01 44 06.4**	**-1.0**
	baz=57						
V33A	**Lossen Ranch,**	**57.00**	**337**	P	**P**	**01 44 07.1**	**-0.5**
	baz=57						
224A	**Cornudas Mount**	**57.04**	**328**	P	**P**	**01 44 07.6**	**-0.5**
	baz=57						
RKT	**Rikitea**	**57.22**	**253**	*e*S	S	01 52 13.3	+10
	207nm,27.2s						
RKT				*e*LR	LR	02 00 55.7	
	528nm,27.0s						
RKT	**Rikitea**	**57.22**	**253**	*e*T	T	02 45 52.0	
	1.9nm,0.2s						
Y27A	**Causey**	**57.38**	**331**	P	**P**	**01 44 09.2**	**-1.3**
	baz=58						
V31A	**Spring Creek L**	**57.56**	**335**	P	**P**	**01 44 09.9**	**-1.7**
	baz=58						
Z25A	**Roswell**	**57.62**	**330**	P	**P**	**01 44 11.1**	**-1.1**
	baz=58						
Z24A	**Sheeppen Canyo**	**57.97**	**329**	P	**P**	**01 44 14.1**	**-0.7**
	baz=58						
Y25A	**Mesa, Roswell**	**58.13**	**330**	P	**P**	**01 44 15.1**	**-0.7**
	baz=58						
X26A	**CR and CF Fran**	**58.23**	**331**	P	**P**	**01 44 15.7**	**-0.8**
	baz=58						
T32A	**Huddler Ranch,**	**58.44**	**337**	P	**P**	**01 44 17.3**	**-0.4**
	baz=59						
319A	**Douglas**	**58.49**	**325**	P	**P**	**01 44 18.3**	**0.0**
	baz=59						
V28A	**Channing**	**58.53**	**333**	P	**P**	**01 44 18.2**	**-0.3**
	baz=59						
U30A	**WK&E Inc. Balk**	**58.54**	**335**	P	**P**	**01 44 17.9**	**-0.6**
	baz=59						
Z22A	**Elephant Butte**	**58.71**	**328**	P	**P**	**01 44 18.9**	**-1.0**
	baz=59						
V27A	**Dan Oppiter Fa**	**58.80**	**333**	P	**P**	**01 44 19.8**	**-0.7**
	baz=59						
U28A	**Mallet**	**59.06**	**334**	P	**P**	**01 44 21.3**	**-0.9**
	baz=59						
W25A	**X Bar L Ranch,**	**59.08**	**331**	P	**P**	**01 44 21.6**	**-0.8**
	baz=59						
V26A	**Tequesquite Ra**	**59.26**	**332**	P	**P**	**01 44 23.0**	**-0.6**
	baz=59						
X23A	**Hourglass Bar**	**59.39**	**329**	P	**P**	**01 44 23.2**	**-1.4**
	baz=60						
LAZ	**Ladron**	**59.71**	**329**	*e*P	**P**	**01 44 27.1**	**+0.3**
	5.8nm,1.2s						
ANMO	**Albuquerque**	**59.81**	**329**	*e*P	**P**	**01 44 27.5**	**0.0**
	71nm,2.7s						
S28A	**Manter**	**59.96**	**335**	P	**P**	**01 44 27.3**	**-1.0**
	baz=60						
T25A	**Trinidad**	**60.65**	**332**	P	**P**	**01 44 32.3**	**-1.0**
	baz=61						
S25A	**Robets Cordova**	**61.10**	**333**	P	**P**	**01 44 36.2**	**0.0**
	baz=61						
R26A	**Arlington**	**61.21**	**334**	P	**P**	**01 44 36.3**	**-0.6**
	baz=61						
R25A	**Fountain Ranch**	**61.44**	**333**	P	**P**	**01 44 37.6**	**-0.9**
	baz=62						
SDCO	**Great Sand Dun**	**61.64**	**332**	*e*P	**P**	**01 44 40.0**	**0.0**
	13nm,1.0s						
SDCO				*ep*P	**pP**	**01 44 48.3**	**-1.7**
SDCO				*es*P	**sP**	**01 44 53.7

	baz=66							
DAU	**Daniels Canyon**	**66.45**	**330**	*e*P	**P**	**01 45 12.3**	**+0.7**
DAU				*e*pP	**pP**	**01 45 20.9**	**-0.8**
TPNV	**Topopah Spring**	**66.48**	**324**	*e*P	**P**	**01 45 12.8**	**+1.1**
	48nm,2.2s							
TPNV	**Topopah Spring**	**66.48**	**324**	P	**P**	**01 45 12.6**	**+0.8**
	baz=67							
MPMC	**Manual Prospec**	**66.57**	**323**	P	**P**	**01 45 12.6**	**+0.3**
	baz=67							
ISA	**Isabella**	**66.87**	**322**	*e*P	**P**	**01 45 15.0**	**+0.9**
	33nm,2.0s							
ISA	**Isabella**	**66.87**	**322**	P	**P**	**01 45 14.5**	**+0.4**
	baz=67							
DUG	**Dugway**	**67.05**	**329**	*e*P	**P**	**01 45 15.6**	**+0.4**
	16nm,1.3s							
DUG				*e*pP	**pP**	**01 45 24.4**	**-0.9**
DUG				*e*sP	**sP**	**01 45 29.6**	**+0.5**
DUG	**Dugway**	**67.05**	**329**	P	**P**	**01 45 15.9**	**+0.6**
	baz=67							
R11A	**Troy Canyon, C**	**67.12**	**326**	*e*P	**P**	**01 45 16.4**	**+0.5**
	38nm,2.1s							
R11A	**Troy Canyon, C**	**67.12**	**326**	P	**P**	**01 45 16.3**	**+0.5**
	baz=67							
PKM	**Peak Mountain**	**67.16**	**320**	P	**P**	**01 45 16.8**	**+0.7**
	baz=67							
PDAR	**Pinedale Array**	**67.52**	**332**	P	**P**	**01 45 17.6**	**-0.7**
PDAR	**Pinedale Array**	**67.52**	**332**	P	**P**	**01 45 17.6**	**-0.7**
	0.2nm,0.6s,baz=128,slow=8.2,SNR=2.6							
PDAR				LR	LR	02 15 07.4		
	comp=Z,126nm,18.1s,baz=18,slow=36							
BGU	**Big Grassy Mou**	**67.71**	**329**	*e*P	**P**	**01 45 20.6**	**+1.2**
	2.7nm,1.2s							
HVU	**Hansel Valley**	**68.24**	**330**	*e*P	**P**	**01 45 23.9**	**+1.2**
	110nm,2.8s							
SNAA	**Sanae**	**68.43**	**161**	*e*P	**P**	**01 45 24.8**	**+1.4**
	16nm,1.0s							
SNAA				*e*pP	**pP**	**01 45 35.1**	**+1.6**
SNAA				*e*sP	**sP**	**01 45 39.2**	**+1.9**
B29A	**Wagenman Farm,**	**68.63**	**342**	P	**P**	**01 45 24.3**	**-0.5**
	baz=69							
NVAR	**Mina Array Bea**	**68.68**	**324**	P	**P**	**01 45 27.1**	**+1.4**
NVAR	**Mina Array Bea**	**68.68**	**324**	P	**P**	**01 45 27.1**	**+1.4**
	1.7nm,1.0s,baz=144,slow=5.5,SNR=9.5							
NVAR				LR	LR	02 11 58.6		
	comp=Z,104nm,19.7s,baz=239,slow=33							
MOOW	**Moose Ponds**	**68.83**	**332**	*e*P	**P**	**01 45 27.4**	**+0.9**
	25nm,2.3s							
FXWY	**Fox Creek**	**68.87**	**332**	*e*P	**P**	**01 45 27.6**	**+0.9**
	6.4nm,1.2s							
FLWY	**Flagg Ranch**	**69.07**	**333**	*e*P	**P**	**01 45 28.3**	**+0.3**
	14nm,1.2s							
ULM	**Lac du Bonnet**	**69.33**	**345**	P	**P**	**01 45 27.5**	**-1.6**
ULM	**Lac du Bonnet**	**69.33**	**345**	P	**P**	**01 45 27.5**	**-1.6**
	2.2nm,0.6s,baz=177,slow=7.7,SNR=2.7							
ULM				LR	LR	02 18 15.2		
	comp=Z,218nm,20.1s,baz=300,slow=38							
WAKR	**Walker**	**69.38**	**323**	*e*P	**P**	**01 45 32.0**	**+2.1**
CMB	**Columbia Colle**	**69.60**	**323**	*e*P	**P**	**01 45 32.4**	**+1.3**
	18nm,1.7s							
TBI	**Tubuai**	**70.39**	**251**	*e*LR	LR	02 06 57.9		
	228nm,29.0s							
BOZ	**Bozeman (W)**	**70.71**	**333**	*e*P	P	01 45 42.0	+4.1	
MFID	**Camas Ranch**	**70.95**	**329**	*e*P	**P**	**01 45 40.8**	**+1.4**
	67nm,2.0s							
MFID				*e*pP	**pP**	**01 45 48.2**	**-1.3**
A22A	**Carney Farms,**	**71.21**	**339**	P	**P**	**01 45 40.2**	**-0.5**
	baz=71							
SCHQ	**Schefferville**	**71.49**	**4**	P	**P**	**01 45 41.8**	**-0.5**
SCHQ	**Schefferville**	**71.49**	**4**	P	**P**	**01 45 41.8**	**-0.5**
	9.9nm,1.0s,baz=356,slow=12,SNR=4.7							
SCHQ				LR	LR	02 15 35.6		
	comp=Z,293nm,19.4s,baz=93,slow=35							
B20A	**Solberg Farm,**	**71.51**	**337**	P	**P**	**01 45 42.1**	**-0.5**
	baz=72							
PPT2	**Papeete2**	**71.60**	**257**	*e*LR	LR	02 07 38.5		
	305nm,23.8s							
PPT	**Papeete**	**71.61**	**257**	LR	LR	02 09 00.6		
	comp=Z,209nm,21.7s,baz=181,slow=29							
LIC	**Lamto**	**72.00**	**78**	*e*P	**P**	**01 45 45.4**	**-0.8**
	42nm,0.9s							
TIC	**Toumodi**	**72.15**	**77**	*e*P	**P**	**01 45 46.6**	**-0.5**
	32nm,1.1s							
MOD	**Modoc**	**72.19**	**326**	*e*P	**P**	**01 45 47.4**	**+0.5**
	12nm,1.3s							
DBIC	**Dimbokro**	**72.31**	**77**	*e*P	**P**	**01 45 47.7**	**-0.4**
	24nm,0.8s							
DBIC	**Dimbokro**	**72.31**	**77**	P	**P**	**01 45 48.2**	**+0.2**
	22nm,0.9s,baz=224,slow=6.1,SNR=27							
DBIC				LR	LR	02 17 24.0		
	comp=Z,396nm,18.0s,baz=227,slow=36							
KIC	**Kosan Boka**	**72.32**	**78**	*e*P	**P**	**01 45 47.5**	**-0.6**
	57nm,0.8s							
MSO	**Missoula**	**72.64**	**333**	*e*P	**P**	**01 45 49.3**	**-0.2**
	104nm,2.9s							
FRB	**Frobisher Bay**	**80.28**	**3**	P	**P**	**01 46 31.6**	**-0.5**
FRB	**Frobisher Bay**	**80.28**	**3**	P	**P**	**01 46 31.6**	**-0.5**
	3.8nm,1.0s,baz=114,slow=9.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**80.56**	**73**	P	**P**	**01 46 34.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**80.56**	**73**	P	**P**	**01 46 34.7**	**-0.1**
	36nm,0.9s,baz=258,slow=4.9,SNR=124							
TORD				LR	LR	02 20 23.0		
	comp=Z,196nm,18.2s,baz=255,slow=34							
VNDA	**Vanda**	**80.69**	**191**	LR	LR	02 16 20.2		
	comp=Z,175nm,18.7s,baz=126,slow=31							
YKA	**Yellowknife Ar**	**85.06**	**342**	P	**P**	**01 46 56.5**	**-0.6**
YKA	**Yellowknife Ar**	**85.06**	**342**	P	**P**	**01 46 56.4**	**-0.6**
	2.6nm,0.9s,baz=139,slow=5.0,SNR=30							
ESDC	**Sonseca Array**	**86.02**	**47**	P	**P**	**01 47 03.8**	**+1.3**
ESDC	**Sonseca Array**	**86.02**	**47**	P	**P**	**01 47 03.8**	**+1.3**
	1.1nm,0.5s,baz=261,slow=4.8,SNR=13							
ESDC				LR	LR	02 22 08.8		
	comp=Z,114nm,18.4s,baz=265,slow=33							
TAM	**Tamanrasset**	**87.20**	**65**	*e*P	**P**	**01 47 10.5**	**+1.7**
	20nm,1.1s							
MAW	**Mawson**	**90.30**	**165**	LR	LR	02 25 37.5		
	comp=Z,151nm,18.9s,baz=54,slow=34							
SUMG	**Summit**	**92.14**	**10**	*i* P	**P**	**01 47 32.3**	**+1.2**
	5.5nm,1.1s							
SUMG	**Summit**	**92.14**	**10**	*e*P	**P**	**01 47 32.3**	**+1.2**
	9.2nm,0.8s							
KEST	**Kesra**	**94.44**	**54**	LR	LR	02 27 55.2		
	comp=Z,75nm,18.6s,baz=266,slow=34							
ILAR	**Eielson Array**	**97.80**	**336**	LR	LR	02 32 55.8		
	comp=Z,219nm,18.3s,baz=133,slow=36							
DZM	**Mont Dzumac**	**109.27**	**239**	*e*LR	LR	02 25 12.1		
	202nm,23.6s							
H11N3	**WAKE ISLAND Hy**	**22.18**	**283**	T	T	04 07 09.4		
	baz=100,slow=75,SNR=17							
H11N2	**WAKE ISLAND Hy**	**22.20**	**283**	T	T	04 07 08.9		
	baz=100,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**22.20**	**283**	T	T	04 07 04.7		
	baz=100,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	**22.20**	**282**	T	T	04 07 04.6		
	baz=102,slow=73,SNR=8.1							
H11S1	**WAKE ISLAND Hy**	**22.21**	**282**	T	T	04 07 05.8		
	baz=102,slow=73,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**22.22**	**282**	T	T	04 07 06.0		
	baz=102,slow=73,SNR=8.4							
ABKAR	**Akbulak array**	**130.72**	**38**	*e*PKPdf	**PKPdf**	**01 53 34.5**	**+1.7**
WRA	**Warramunga Arr**	**134.10**	**219**	PKP	**PKPdf**	**01 53 40.0**	**-0.1**
WRA	**Warramunga Arr**	**134.10**	**219**	PKP	**PKPdf**	**01 53 40.0**	**-0.1**
	0.6nm,0.8s,baz=146,slow=1.5,SNR=5.2							
ZALV	**Zalesovo Beam**	**139.36**	**19**	PKP	**PKPdf**	**01 53 48.8**	**0.0**
ZALV	**Zalesovo Beam**	**139.36**	**19**	PKP	**PKPdf**	**01 53 48.8**	**0.0**
	5.3nm,0.9s,baz=300,slow=2.9,SNR=20							
AAK	**Ala-Archa**	**142.79**	**39**	*e*PKPdf	**PKPdf**	**01 53 56.9**	**+1.4**
MKAR	**Makanchi Array**	**144.18**	**28**	PKP	PKPbc	01 53 56.0	+0.3	
MKAR	**Makanchi Array**	**144.18**	**28**	PKP	PKPbc	01 53 56.0	+0.3	
	3.5nm,1.0s,baz=317,slow=3.6,SNR=21							
USRK	**Ussuriysk Arra**	**144.79**	**327**	PKP	**PKPab**	**01 53 57.3**	**-0.3**
	3.3nm,0.9s,baz=183,slow=2.9,SNR=3.9							
MJAR	**Matsushiro Arr**	**145.20**	**311**	PKPbc	**PKPbc**	**01 53 57.0**	**-2.4**
MJAR	**Matsushiro Arr**	**145.20**	**311**	PKPbc	**PKPbc**	**01 53 57.0**	**-2.4**
	1.0nm,0.5s,baz=94,slow=2.2,SNR=4.9							
KSH	**Kashi**	**145.44**	**43**	*e*PKPbc	**PKPab**	**01 54 01.3**	**+0.9**
KSH				*e*sPKP		01 54 17.2		
KSH				*e*SKS	**SKSdf**	**02 01 06.0**	**-1.2**
KSH				AMB	AMB			
	comp=Z,150nm,5.7s							
KSH				LR	LR			
	comp=Z,54nm,3.8s							
MDJ	**Mudanjiang**	**145.71**	**329**	PKPbc	**PKPab**	**01 54 01.3**	**+0.3**
WMQ	**Urumqi**	**148.87**	**26**	PKPbc	**PKPdf**	**01 54 04.1**	**-1.6**
ULN	**Ulaanbaatar**	**148.88**	**358**	*e*PKPdf	**PKPdf**	**01 54 07.3**	**+1.6**
ULN				*e*PKPbc	**PKPbc**	**01 54 10.3**	**+0.7**
SONM	**Songino Array**	**148.92**	**359**	PKPbc	**PKPbc**	**01 54 09.5**	**-0.2**
SONM	**Songino Array**	**148.92**	**359**	PKPbc	**PKPbc**	**01 54 09.5**	**-0.2**
	4.6nm,0.7s,baz=332,slow=1.7,SNR=40							
KSRS	**Korea Array**	**151.59**	**321**	PKPbc	**PKPbc**	**01 54 16.2**	**-0.1**
	5.9nm,1.0s,baz=349,slow=1.6,SNR=7.8							
KSAR	**Wonju Array Be**	**151.62**	**321**	PKPbc	**PKPbc**	**01 54 16.2**	**-0.1**
HHC	**Hu-ho-hao-te**	**155.41**	**350**	*e*PKP	**PKPdf**	**01 54 14.4**	**-1.2**
HHC				PP	PP	01 58 23.1	+6.7	
HHC				SKS	**SKSdf**	**02 01 19.5**	**-0.4**
HHC				SKKS	**SKKSac**	**02 05 06.4**	**+1.5**
HHC				AMB	AMB			
	comp=Z,130nm,6.2s							
HHC				LR	LR			
	comp=Z,160nm,14.8s							
GTA	**Gaotai**	**156.74**	**12**	*e*PKP	**PKPdf**	**01 54 18.2**	**+0.8**
GTA				pPKP	**pPKPdf**	**01 54 29.0**	**+0.9**
GTA				sPKP		01 54 32.8		
LZH	**Lanzhou**	**160.58**	**5**	*e*PKP	**PKPdf**	**01 54 24.4**	**+2.2**
LZH				pPKP	**pPKPdf**	**01 54 29.0**	**-3.9**
NJ2	**Nanjing**	**160.67**	**325**	*e*PKP	**PKPdf**	**01 54 24.2**	**+2.1**
CD2	**Chengdu**	**165.70**	**7**	*e*PKP	**PKPdf**	**01 54 26.9**	**-0.2**
GYA	**Guiyang**	**170.23**	**356**	*e*PKP	**PKPdf**	**01 54 30.6**	**+0.2**
GYA				PKPab	**PKPab**	**01 55 48.0**	**+1.9**
GYA				PKS	**PKSdf**	**01 58 01.4**	**-1.7**
GYA				SKKS		02 06 21.7		
GYA				LR	LR			
	comp=N,130nm,22.2s							
GYA				LR	LR			
	comp=E,150nm,23.1s							
GYA				LR	LR			
	comp=Z,140nm,21.9s							
KMI	**Kunming**	**171.10**	**19**	PKP	**PKPdf**	**01 54 30.9**	**-0.1**
KMI				LR	LR			
	comp=Z,65nm,23.6s							
CMAR	**Chiang Mai Arr**	**173.17**	**74**	PKPab	**PKPab**	**01 55 59.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**173.17**	**74**	PKPab	**PKPab**	**01 55 59.9**	**+0.2**
	0.7nm,0.4s,baz=286,slow=5.6,SNR=4.0							

IGQ 05 01:45:35.0±0.6, 2.89°S×78.30°W, h4km±172km, Mb4.0, 1D, Error ellipse: s-maj=25.4km s-min=2.8km az=12.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAS	**Trigal station**	**1.39**	**353**	P	Pg	01 46 02.8	+0.5
ULBA	**Ulba**	**1.44**	**356**	P	Pn	01 46 02.0	-0.3
ULBA	**Ulba**	**1.44**	**356**	S	Sg	01 46 23.6	+1.5
PISA	**Pisayambo**	**1.82**	**357**	P	Pn	01 46 08.3	+0.5
PISA	**Pisayambo**	**1.82**	**357**	S	Sb	01 46 33.5	+0.2
BMOR	**Cotopaxi Volca**	**2.15**	**356**	||P	Pb	01 46 14.2	-1.2
MOV1	**Cotopaxi Vol s**	**2.17**	**356**	P	Pb	01 46 15.6	-0.1
TAMB	**Tambo**	**2.18**	**358**	P	Pn	01 46 14.3	+1.5
TAMB	**Tambo**	**2.18**	**358**	S	Sb	01 46 44.3	+0.5
BTAM	**Cotopaxi Volca**	**2.20**	**358**	S	Sb	01 46 44.4	+0.1
BTAM	**Cotopaxi Volca**	**2.20**	**358**	P	Pn	01 46 14.3	+1.1
CAMI	**Rancho Maria**	**2.21**	**355**	P	Pb	01 46 15.5	-0.7
CAMI	**Rancho Maria**	**2.21**	**355**	S	Sg	01 46 47.2	0.0
BREF	**Cotopaxi Volca**	**2.21**	**356**	S	Sg	01 46 46.9	-0.6
BREF	**Cotopaxi Volca**	**2.21**	**356**	P	Pb	01 46 15.1	-1.3
BNAS	**Cotopaxi Volca**	**2.21**	**355**	P	Pn	01 46 14.4	+1.2
COV1	**Cotopaxi Volc**	**2.21**	**359**	P	Pb	01 46 15.4	-1.1
COV1	**Cotopaxi Volc**	**2.21**	**359**	S	Sb	01 46 46.2	+1.3
BVC2	**Cotopaxi Volca**	**2.22**	**357**	S	Sb	01 46 45.2	+0.2
BVC2	**Cotopaxi Volca**	**2.22**	**357**	P	Pb	01 46 16.7	+0.2
VC1	**Cotopaxi 1**	**2.24**	**357**	P	Pb	01 46 16.6	-0.1
VC1	**Cotopaxi 1**	**2.24**	**357**	S	Sg	01 46 47.3	-0.9
PITA	**Cotopaxi Volc**	**2.32**	**357**	S	Sg	01 46 50.8	+0.1
PITA	**Cotopaxi Volc**	**2.32**	**357**	P	Pb	01 46 17.2	-0.9
ANTI	**Antisana**	**2.43**	**3**	S	Sb	01 46 49.2	-1.8
ANTI	**Antisana**	**2.43**	**3**	P	Pn	01 46 17.7	+1.4
GGP	**Refugio Guagua**	**2.71**	**354**	P	Pb	01 46 25.6	+0.7

*IDC **05** 01:52:59.0±1.3, 8.44°S×156.92°E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/19, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=28.6km s-min=25.4km az=178.0*

*ISCJB **05** 01:53:00.5±0.9, 8.75°S±0.2°×156.88°E±0.08°, h19km, mb3.6/5, Error ellipse: s-maj=24.7km s-min=10.7km az=9.4*

ISC 05 01:53:01.6±1.0, 8.75°S±0.2°×157.06°E±0.10°, h19km, n7, σ0°97/8, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.00**	**108**	Pn	**Pn**	**01 53 48.8**	**+0.7**
	58nm,0.3s,baz=297,slow=1.7,SNR=5.6						
HNR				Sn	**Sb**	**01 54 30.2**	**-0.5**
	46nm,0.3s,baz=234,slow=23,SNR=6.3						
HNR	**Honiara**	**3.00**	**108**	*e*P	**Pn**	**01 53 48.0**	**-0.1**
WRA	**Warramunga Arr**	**24.75**	**240**	P	**P**	**01 58 22.4**	**+0.2**
	2.2nm,0.8s,baz=66,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**26.81**	**233**	P	**P**	**01 58 39.2**	**-1.7**
	0.4nm,0.9s,baz=61,slow=9.7,SNR=3.1						
STKA	**Stephens Creek**	**27.34**	**210**	P	**P**	**01 58 46.5**	**+1.0**
	1.8nm,0.5s,baz=40,slow=14,SNR=12						
SONM	**Songino Array**	**71.71**	**327**	P	**P**	**02 04 22.7**	**+0.2**
	0.5nm,0.8s,baz=140,slow=3.7,SNR=4.4						
MKAR	**Makanchi Array**	**85.88**	**318**	P	**P**	**02 05 40.0**	**-0.3**
	0.5nm,0.7s,baz=111,slow=6.6,SNR=5.1						

*IDC **05** 02:12:21.0±0.9, 8.58°S×157.01°E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=30.3km s-min=22.1km az=133.0*

ISC 05 02:12:23.0±0.8, 8.75°S±0.2°×157.3E±0.1, h16km, n12, σ1°19/11, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.72**	**105**	Pn	**Pb**	**02 13 12.0**	**+0.7**
	26nm,0.3s,baz=64,slow=5.7,SNR=4.4						
HNR				Lg	Lg	02 13 55.9	
	38nm,0.3s,baz=159,slow=20,SNR=7.0						
HNR	**Honiara**	**2.72**	**105**	*e*P	**Pb**	**02 13 11.0**	**-0.4**
WRA	**Warramunga Arr**	**24.83**	**241**	P	**P**	**02 17 42.9**	**-2.0**
	4.7nm,1.0s,baz=65,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**26.86**	**234**	P	**P**	**02 18 02.4**	**-0.9**
	1.6nm,1.0s,baz=66,slow=9.2,SNR=9.4						
ASAR				LR	LR	02 27 42.7	
	comp=Z,62nm,21.5s,baz=98,slow=34						
STKA	**Stephens Creek**	**27.26**	**210**	P	**P**	**02 18 07.8**	**+1.1**
	2.6nm,0.9s,baz=7.1,slow=9.3,SNR=6.0						
ASAJ	**Asahikawa**	**54.25**	**347**	LR	LR	02 42 40.3	
	comp=Z,34nm,21.4s,baz=354,slow=34						
CMAR	**Chiang Mai Arr**	**63.57**	**296**	P	**P**	**02 22 55.2**	**+1.8**
	1.2nm,0.3s,baz=111,slow=4.9,SNR=5.2						
SONM	**Songino Array**	**72.01**	**327**	P	**P**	**02 23 46.2**	**-0.1**
	1.1nm,0.8s,baz=134,slow=5.8,SNR=6.4						
ILAR	**Eielson Array**	**84.16**	**21**	P	**P**	**02 24 52.0**	**-1.2**
	1.3nm,1.1s,baz=241,slow=6.1,SNR=4.3						
MKAR	**Makanchi Array**	**86.20**	**318**	P	**P**	**02 25 03.7**	**-0.1**
	1.1nm,0.8s,baz=105,slow=5.5,SNR=8.6						
YKA	**Yellowknife Ar**	**96.80**	**28**	P	**P**	**02 25 53.1**	**+0.3**
	0.1nm,0.3s,baz=266,slow=4.7,SNR=4.5						
BDFB	**Brasilia**	**145.16**	**134**	PKPbc	**PKPbc**	**02 32 00.4**	**-0.2**
	4.7nm,0.9s,baz=195,slow=5.9,SNR=5.7						

IDC 05 02:12:43.0±5.8, 6.16°S×132.02°E, h273km±72km, mb3.7/1, mb1 3.2/3, mb1mx2.9/17, mbtmp3.1/3, Error ellipse: s-maj=229.5km s-min=21.0km az=77.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.23**	**4**	P	Pn	02 13 40.7	+1.2
	baz=4.5,SNR=7.7						
FAKI				S	S	02 14 29.1	+4.6
	baz=4.5,SNR=5.9						
WRA	**Warramunga Arr**	**13.88**	**171**	P	P	02 15 49.4	+0.2
	0.5nm,0.3s,baz=350,slow=13,SNR=6.8						
WRA				S	S	02 18 16.7	-5.9
	0.6nm,0.3s,baz=330,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**17.50**	**174**	P	P	02 16 29.3	+0.4
	0.2nm,0.3s,baz=342,slow=9.7,SNR=13						
ASAR				S	S	02 19 36.3	-0.2
	0.1nm,0.3s,baz=358,slow=27,SNR=3.1						
MKAR	**Makanchi Array**	**68.65**	**326**	P	P	02 23 17.0	0.0
	1.6nm,0.5s,baz=126,slow=7.5,SNR=38						

*SZGRF **05** 02:47:11.3, 36.33°N×25.14°E, h33km, mb4.0, Dodecanese Islands, Greece*

*HLW **05** 02:47:12.4, 36.35°N×25.77°E, h34km±57km, Md3.9, Ml4.3*

*BEO **05** 02:47:14.0±0.8, 35.83°N×24.42°E, h0km, ML4.2/5*

*BJI **05** 02:47:14.3, 36.16°N×25.03°E, h123km, mb5.0/3, mb4.6/6*

*ISCJB **05** 02:47:15.0±0.1, 36.08°N±0.02°×25.46°E±0.02°, h121km±1km, mb4.5/46, Error ellipse: s-maj=2.9km s-min=1.8km az=34.7*

*IDC **05** 02:47:16.6±1.0, 36.26°N×25.43°E, h109km±10km, mb4.0/18, mb1 4.1/23, mb1mx4.0/33, mbtmp4.3/23, MS2.8/2, Ms1 2.8/2, ms1mx2.4/50, Error ellipse: s-maj=15.5km s-min=12.4km az=169.0*

*CSEM **05** 02:47:16.0±0.1, 36.07°N×25.46E, h119km±1km, mb4.5/31, Error ellipse: s-maj=3.2km s-min=1.9km az=36.0*

*ATH **05** 02:47:16.7, 36.18°N×25.41E, h105km±1km, ML4.2*

*MOS **05** 02:47:16.0±1.1, 36.10°N×25.35E, h127km, mb4.1/15, Error ellipse: s-maj=7.5km s-min=3.7km az=117.0*

*NEIC **05** 02:47:16.7, 36.18°N×25.41E, h105km, mb4.5/12, After ATH.*

*THE **05** 02:47:18.7, 36.16°N×25.41E, h98km±2km, ML4.3/6, Error ellipse: s-maj=2.1km s-min=0.6km az=165.0*

*DDA **05** 02:47:20.8, 36.15°N×26.00E, h20km, ML4.5*

*NIC **05** 02:47:22.6±0.3, 36.37°N×26.15E, h83km, mb4.7, ML4.3*

*PDG **05** 02:47:23.9±0.5, 36.71°N×24.23E, h9km±9km, ML4.7/11, Error ellipse: s-maj=10.2km s-min=7.2km az=90.0*

*NSSC **05** 02:47:37.8±0.6, 36.35°N×27.71E, h306km±111km*

ISC 05 02:47:16.3±0.5, 36.15°N±0.03°×25.42E±0.03°, h117km±4km, n835, σ1§42/902, mb4.5/46, 56C-21D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.22**	**7**	P	**Pn**	**02 47 31.9**	**-0.7**
SANT				S	**Sn**	**02 47 42.8**	**-2.1**
SANT	**Santorini**	**0.22**	**7**	*e*P	**Pn**	**02 47 32.5**	**-0.1**
SANT				*e*S	**Sn**	**02 47 43.4**	**-1.5**
SANT	**Santorini**	**0.22**	**7**	*e*Pn	**Pn**	**02 47 32.4**	**-0.3**
SANT				*e*Sn	**Sn**	**02 47 42.9**	**-2.1**
SANT	**Santorini**	**0.22**	**7**	*e*Pn	**Pn**	**02 47 32.3**	**-0.3**
SANT				*e*Sn	**Sn**	**02 47 42.9**	**-2.0**
SANT				*e*S	**Sn**	**02 47 43.4**	**-1.5**
NPS	**Neapolis**	**0.90**	**170**	*e*P	**Pn**	**02 47 37.0**	**0.0**
NPS	**Neapolis**	**0.90**	**170**	*e*P	**Pn**	**02 47 37.0**	**0.0**
APE	**Apeiranthos**	**0.92**	**5**	P	**Pn**	**02 47 37.4**	**+0.1**
APE	**Apeiranthos**	**0.92**	**5**	*i* P	**Pn**	**02 47 37.1**	**-0.2**
APE	**Apeiranthos**	**0.92**	**5**	*e*P	**Pn**	**02 47 37.6**	**+0.3**
APE				*e*S	**Sn**	**02 47 51.7**	**-1.5**
APE	**Apeiranthos**	**0.92**	**5**	*e*P	**Pn**	**02 47 37.6**	**+0.3**
APE				*e*S	**Sn**	**02 47 51.7**	**-1.5**
IDI	**Anoyia**	**0.96**	**207**	*e*Pn	**Pn**	**02 47 37.8**	**+0.1**
IDI				*e*Sn	**Sn**	02 48 01.0	+7.1
IDI	**Anoyia**	**0.96**	**207**	P	**Pn**	**02 47 37.8**	**+0.1**
	165nm,0.3s,baz=2.3,slow=7.9,SNR=3665						
IDI				S	**Sn**	**02 47 52.2**	**-1.7**
	1µm,0.3s,baz=318,slow=19,SNR=60						
IDI				LR	LR	02 48 01.0	
	comp=Z,104nm,20.0s,baz=336,slow=42						
IDI	**Anoyia**	**0.96**	**207**	*e*Pn	**Pn**	**02 47 37.8**	**+0.1**
LAST	**Lasithi**	**0.99**	**177**	P	**Pn**	**02 47 38.0**	**0.0**
LAST				S	**Sn**	**02 47 53.2**	**-1.1**
LAST	**Lasithi**	**0.99**	**177**	*e*P	**Pn**	**02 47 38.3**	**+0.3**
LAST				*e*S	**Sn**	**02 47 53.6**	**-0.7**
LAST	**Lasithi**	**0.99**	**177**	*e*P	**Pn**	**02 47 38.3**	**+0.3**
LAST				*e*S	**Sn**	**02 47 53.6**	**-0.7**
ZKR	**Zakros**	**1.22**	**148**	P	**Pn**	**02 47 41.0**	**+0.7**
ZKR	**Zakros**	**1.22**	**148**	*e*P	**Pn**	**02 47 41.2**	**+0.9**
ZKR	**Zakros**	**1.22**	**148**	P	**Pn**	**02 47 41.0**	**+0.7**
SIVA	**Sivas**	**1.23**	**204**	P	**Pn**	**02 47 41.3**	**+0.9**
SIVA				S	**Sn**	**02 47 59.3**	**+0.5**
SIVA	**Sivas**	**1.23**	**204**	*e*P	**Pn**	**02 47 41.6**	**+1.2**
SIVA				*e*S	**Sn**	**02 47 59.6**	**+0.8**
SIVA	**Sivas**	**1.23**	**204**	P	**Pn**	**02 47 41.3**	**+0.9**
SIVA				S	**Sn**	**02 47 59.3**	**+0.5**
VAM	**Vamos**	**1.24**	**234**	P	**Pn**	**02 47 41.0**	**+0.5**
VAM				S	**Sn**	**02 47 57.9**	**

SIGR	SIGRI	3.08	6	eP	Pn	02 48 04.4	+1.0	NEST	Nestorio	5.47 322	P	Pn	02 48 36.1	+0.5
SIGR	SIGRI	3.08	6	eP	Pn	02 48 04.4	+1.0	NEST	Nestorio	5.47 322	P	Pn	02 48 36.1	+0.5
LKR	Lokris	3.16	323	P	Pn	02 48 05.7	+1.2	KDZ	Kurdzhali	5.49 360	iP	Pn	02 48 37.1	+1.3
LKR	Lokris	3.16	323	eP	Pn	02 48 05.7	+1.2	KDZ	Kurdzhali	5.49 360⇓	iP	Pn	02 48 37.3	+1.5
LKR	Lokris	3.16	323	eP	Pn	02 48 05.7	+1.2	KDZ	Kurdzhali	5.49 360	iP	Pn	02 48 37.1	+1.3
PRK	Paraskevi	3.16	12	P	Pn	02 48 05.7	+1.2	RZN	Rozhen	5.56 355	iP	Pn	02 48 38.8	+2.0
PRK	Paraskevi	3.16	12	eP	Pn	02 48 05.7	+1.2	RZN	Rozhen	5.56 355	iP	Pn	02 48 38.8	+2.0
PRK	Paraskevi	3.16	12	eP	Pn	02 48 05.7	+1.2	GAZI	Gazipasa	5.57 87	iP	Pn	02 48 36.1	-0.8
KLV	Kalavryta, Ach	3.23	307	P	Pn	02 48 06.0	+0.6	GAZI			iS	Sn	02 49 33.5	-6.3
KLV	Kalavryta, Ach	3.23	307	eP	Pn	02 48 06.1	+0.6	GAZI	Gazipasa	5.57 87	iP	Pn	02 48 36.1	-0.8
KLV	Kalavryta, Ach	3.23	307	eP	Pn	02 48 06.1	+0.6	MMB	Musomiste	5.59 347	iP	Pn	02 48 38.1	+1.0
DSF	Desfina	3.23	315	P	Pn	02 48 06.5	+1.0	MMB	Musomiste	5.59 347⇑	iP	Pn	02 48 36.6	-0.5
DSF	Desfina	3.23	315	eP	Pn	02 48 06.5	+1.0	MMB	Musomiste	5.59 347⇑	iP	Pn	02 48 36.6	-0.5
DSF	Desfina	3.23	315	eP	Pn	02 48 06.5	+1.0	FNA	Florina	5.61 327	P	Pn	02 48 37.9	+0.5
SMIA	Simia	3.25	328	P	Pn	02 48 07.1	+1.4	FNA	Florina	5.61 327	P	Pn	02 48 37.9	+0.5
SMIA	Simia	3.25	328	eP	Pn	02 48 07.6	+1.9	VAY	Valandovo	5.62 338⇑	iPn	Pn	02 48 38.3	+0.8
SMIA	Simia	3.25	328	P	Pn	02 48 07.1	+1.4	VAY	Valandovo	5.62 338	iPn	Pn	02 48 39.7	+2.2
AOS	Alonnisos	3.26	338	P	Pn	02 48 07.0	+1.2	VAY	Valandovo	5.62 338⇑	iPn	Pn	02 48 38.3	+0.8
AOS	Alonnisos	3.26	338	eP	Pn	02 48 06.8	+1.0	PPCY	Paphos	5.78 101	P	Pn	02 48 38.9	-0.8
AOS	Alonnisos	3.26	338	P	Pn	02 48 07.0	+1.2		baz=288					
AMT	Artemida-Makis	3.29	296	P	Pn	02 48 07.6	+1.4	PPCY	Paphos	5.78 101	P	Pn	02 48 38.9	-0.8
AMT				S	Sn	02 48 44.7	-0.1	BIA	Bitola	5.83 328	iPn	Pn	02 48 41.0	+0.7
AMT	Artemida-Makis	3.29	296	eP	Pn	02 48 07.7	+1.5	BIA			iSg	Sn	02 49 45.4	-0.4
AMT	Artemida-Makis	3.29	296	P	Pn	02 48 07.6	+1.4	BIA	Bitola	5.83 328	iPn	Pn	02 48 41.0	+0.7
AMT				S	Sn	02 48 44.7	-0.1	DIM	Dimitrovgrad	5.89 1	iP	Pn	02 48 43.3	+2.2
DNZL	Cakiroluk	3.29	61	iP	Pn	02 48 09.0	+2.6	DIM	Dimitrovgrad	5.89 1	iP	Pn	02 48 43.3	+2.2
DNZL	Cakiroluk	3.29	61	iP	Pn	02 48 09.0	+2.6	ALFC	Alevga	5.92 98⇑	eP	Pn	02 48 40.4	-1.2
AYVA	Ayvalik	3.31	17	iP	Pn	02 48 07.0	+0.5		baz=284					
AYVA	Ayvalik	3.31	17	iP	Pn	02 48 07.0	+0.5	ALFC			S	Sn	02 49 41.4	-6.9
AKHS	Akhisar	3.32	34	iP	Pn	02 48 07.9	+1.3	ALFC	Alevga	5.92 98⇑	eP	Pn	02 48 40.4	-1.2
AKHS	Akhisar	3.32	34	iP	Pn	02 48 07.9	+1.3	PLD	Plovdiv	5.97 355⇑	iPn	Pn	02 48 44.6	+2.4
AKAS	Kas	3.38	87	iP	Pn	02 48 08.6	+1.0	PLD	Plovdiv	5.97 355	iP	Pn	02 48 45.2	+3.0
AKAS				iS	Sn	02 48 44.4	-2.9	PLD	Plovdiv	5.97 355⇑	iPn	Pn	02 48 44.6	+2.4
AKAS	Kas	3.38	87	iP	Pn	02 48 08.6	+1.0	PLD	Plovdiv	5.97 355	iP	Pn	02 48 45.2	+3.0
AKAS				iS	Sn	02 48 44.4	-2.9	KKB	Krupnik	5.99 343	iP	Pn	02 48 43.4	+0.9
SKIA	Skiathos	3.39	333	P	Pn	02 48 09.2	+1.6	KKB	Krupnik	5.99 343	iP	Pn	02 48 43.4	+0.9
SKIA	Skiathos	3.39	333	eP	Pn	02 48 09.4	+1.9	SZAC	Souni-Zanaja	6.24 101	P	Pn	02 48 44.6	-1.4
SKIA	Skiathos	3.39	333	P	Pn	02 48 09.2	+1.6		baz=288					
AXAR	Agios Charalam	3.42	321	P	Pn	02 48 09.4	+1.5	SZAC			S	Sn	02 49 50.3	-5.7
AXAR	Agios Charalam	3.42	321	P	Pn	02 48 09.4	+1.5	SZAC	Souni-Zanaja	6.24 101	P	Pn	02 48 44.6	-1.4
KALE	Kalithea	3.44	311	P	Pn	02 48 08.9	+0.6	VLO	Vlora	6.35 315	P	Pn	02 48 47.7	+0.4
KALE	Kalithea	3.44	311	eP	Pn	02 48 09.2	+0.9	VLO	Vlora	6.35 315	P	Pn	02 48 47.7	+0.4
KALE	Kalithea	3.44	311	eP	Pn	02 48 09.2	+0.9	JMB	Yambol	6.37 8	iP	Pn	02 48 49.6	+2.0
LAKA	Lakka	3.45	308	P	Pn	02 48 09.1	+0.7	JMB	Yambol	6.37 8	iP	Pn	02 48 49.6	+2.0
LAKA	Lakka	3.45	308	eP	Pn	02 48 09.2	+0.8	MAMC	Mammari	6.42 96	P	Pn	02 48 47.4	-0.9
LAKA	Lakka	3.45	308	eP	Pn	02 48 09.2	+0.8		baz=283					
DRO	Drossia	3.47	302	P	Pn	02 48 10.1	+1.4	MAMC	Mammari	6.42 96	P	Pn	02 48 47.4	-0.9
DRO				S	Sn	02 48 50.2	+1.0	CSS	Prodhromos	6.55 98	P	Pn	02 48 48.7	-1.4
DRO	Drossia	3.47	302	eP	Pn	02 48 10.0	+1.4		baz=285					
DRO	Drossia	3.47	302	eP	Pn	02 48 10.0	+1.4	CSS	Prodhromos	6.55 98	P	Pn	02 48 48.7	-1.4
DRO				S	Sn	02 48 50.2	+1.0	CSS	Prodhromos	6.55 98	ePn	Pn	02 48 48.8	-1.3
GOLH	Golhisar	3.50	71	iP	Pn	02 48 11.3	+2.2	CSS			eSn	Sn	02 49 53.9	-10
GOLH				iS	Sn	02 48 48.0	-1.9	CSS	Prodhromos	6.55 98	ePn	Pn	02 48 48.8	-1.3
GOLH	Golhisar	3.50	71	iP	Pn	02 48 11.3	+2.2	SKO	Skopje	6.59 333	ePn	Pn	02 48 50.8	+0.3
GOLH				iS	Sn	02 48 48.0	-1.9	SKO			iSn	Sn	02 50 01.0	-3.2
NEO	Neokhori	3.60	332	eP	Pn	02 48 12.2	+1.8	SKO	Skopje	6.59 333	ePn	Pn	02 48 51.3	+0.7
NEO	Neokhori	3.60	332	eP	Pn	02 48 12.2	+1.8	SKO	Skopje	6.59 333	ePn	Pn	02 48 50.8	+0.3
EFP	Efpalio	3.61	310	P	Pn	02 48 11.2	+0.7	VTS	Vitosha	6.66 346	iPn	Pn	02 48 52.0	+0.4
EFP	Efpalio	3.61	310	eP	Pn	02 48 11.2	+0.7	VTS	Vitosha	6.66 346⇑	iP	Pn	02 48 52.9	+1.3
EFP	Efpalio	3.61	310	eP	Pn	02 48 11.2	+0.7	VTS	Vitosha	6.66 346⇑	iPn	Pn	02 48 52.0	+0.4
XOR	Xorichti	3.67	332	P	Pn	02 48 12.7	+1.4	VTS	Vitosha	6.66 346⇑	iP	Pn	02 48 52.9	+1.3
XOR	Xorichti	3.67	332	eP	Pn	02 48 12.9	+1.6	SWA2		6.89 180	P	Pn	02 48 54.2	-0.4
XOR	Xorichti	3.67	332	P	Pn	02 48 12.7	+1.4		baz=183					
RLS	Riolos of Patr	3.69	302	P	Pn	02 48 13.7	+2.1	SWA2		6.89 180	P	Pn	02 48 54.2	-0.4
RLS	Riolos of Patr	3.69	302	eP	Pn	02 48 13.7	+2.1	ANTO	Ankara	6.90 55	eP	Pn	02 48 59.8	+4.9
RLS	Riolos of Patr	3.69	302	eP	Pn	02 48 13.7	+2.1	ANTO	Ankara	6.90 55⇓	iP	Pn	02 48 57.3	+2.4
LIA	Limnos Island	3.75	357	P	Pn	02 48 13.5	+1.2	ANTO	Ankara	6.90 55	ePn	Pn	02 48 59.8	+4.9
LIA	Limnos Island	3.75	357	eP	Pn	02 48 13.7	+1.4	ANTO	Ankara	6.90 55⇓	iP	Pn	02 48 57.3	+2.4
LIA	Limnos Island	3.75	357	eP	Pn	02 48 13.7	+1.4	PRD	Provadia	7.21 12	iP	Pn	02 49 00.8	+2.0
AGG	Agios Georgios	3.78	320	P	Pn	02 48 14.4	+1.7	PRD	Provadia	7.21 12	iP	Pn	02 49 00.8	+2.0
AGG	Agios Georgios	3.78	320	eP	Pn	02 48 14.5	+1.7	MPEP	Malo Peshtene	7.31 350	iP	Pn	02 49 03.7	+3.4
AGG	Agios Georgios	3.78	320	P	Pn	02 48 14.4	+1.7	ZAPS	Zavoj	7.43 344	ePn	Pn	02 49 04.0	+2.0
FYTO	Fytoko, Volos	3.80	330	P	Pn	02 48 14.7	+1.7	TIP	Timpagrande	7.51 296	ePn	Pn	02 49 01.8	-1.3
FYTO	Fytoko, Volos	3.80	330	P	Pn	02 48 14.7	+1.7	TIP			eSn	Sn	02 50 16.2	-11
MAKR	Makrakomi, Fth	3.88	319	P	Pn	02 48 15.6	+1.6	TIP	Timpagrande	7.51 296	ePn	Pn	02 49 01.8	-1.3
MAKR	Makrakomi, Fth	3.88	319	eP	Pn	02 48 15.6	+1.6	PVY	Plav	7.70 328⇓	iPn	Pn	02 49 05.0	-0.7
MAKR	Makrakomi, Fth	3.88	319	eP	Pn	02 48 15.6	+1.6	PVY			eSn	Sn	02 50 20.9	-11
PVO	Paravola	3.96	310	P	Pn	02 48 17.3	+2.1	PVY	Plav	7.70 328⇓	iPn	Pn	02 49 05.0	-0.7
PVO	Paravola	3.96	310	P	Pn	02 48 17.3	+2.1	DRME	Dracevica, Mon	7.73 323⇓	iPn	Pn	02 49 04.2	-1.8
EVR	Evrytania	3.99	315	P	Pn	02 48 17.5	+1.9	DRME			eSn	Sn	02 50 20.7	-11
EVR	Evrytania	3.99	315	eP	Pn	02 48 17.5	+1.9	SELS	Selova	7.80 336⇑	iPn	Pn	02 49 07.6	+0.6
EVR	Evrytania	3.99	315	eP	Pn	02 48 17.5	+1.9	PSN	Preselentsi	7.82 15⇑	iP	Pn	02 49 08.4	+1.3
PAIG	Paliouri	4.02	340	P	Pn	02 48 17.4	+1.5	PSN	Preselentsi	7.82 15⇑	iP	Pn	02 49 08.4	+1.3
PAIG	Paliouri	4.02	340	eP	Pn	02 48 17.4	+1.5	PDG	Podgorica	7.89 325⇑	iPn	Pn	02 49 05.8	-2.3
PAIG	Paliouri	4.02	340	eP	Pn	02 48 17.4	+1.5	PDG			iSn	Sn	02 50 28.8	-6.8
KORT	Korkueli	4.05	76	iP	Pn	02 48 18.5	+1.9	TTG	Podgorica	7.89 325⇑	iPn	Pn	02 49 06.3	-1.8
KORT				iS	Sn	02 49 02.0	-1.3	TTG			eSn	Sn	02 50 23.3	-12
KORT	Korkueli	4.05	76	iP	Pn	02 48 18.5	+1.9	CEL	Celeste	7.89 288	ePn	Pn	02 49 07.1	-1.1
KORT				iS	Sn	02 49 02.0	-1.3	CEL			eSn	Sn	02 50 23.5	-12
PDO	Prodromos	4.17	307	P	Pn	02 48 19.0	+1.1	CEL	Celeste	7.89 288	ePn	Pn	02 49 07.1	-1.1
PDO	Prodromos	4.17	307	eP	Pn	02 48 19.1	+1.1	BEY	Berane	7.96 329⇑	iPn	Pn	02 49 08.0	-1.1
PDO	Prodromos	4.17	307	eP	Pn	02 48 19.1	+1.1	IVA	Berane	7.96 329⇑	iPn	Pn	02 49 08.0	-1.1
KFL	Anninata	4.19	299	P	Pn	02 48 19.4	+1.2	IVA			eSn	Sn	02 50 26.0	-12
KFL	Anninata	4.19	299	P	Pn	02 48 19.4	+1.2	BUM	Brajici-Budva	7.96 322⇑	iPn	Pn	02 49 07.2	-2.0
SMTH	Samothraki Isl	4.32	1	P	Pn	02 48 20.8	+0.9	BUM			eSn	Sn	02 50 25.3	-12
SMTH	Samothraki Isl	4.32	1	eP	Pn	02 48 21.0	+1.1	FYM	Al Fayyum	7.98 142	P	Pn	02 49 08.4	-1.1
SMTH	Samothraki Isl	4.32	1	eP	Pn	02 48 21.0	+1.1		baz=144					
OUR	Ouranopolis	4.33	345	P	Pn	02 48 21.6	+1.5	FYM	Al Fayyum	7.98 142	P	Pn	02 49 08.4	-1.1
OUR	Ouranopolis	4.33	345	eP	Pn	02 48 21.7	+1.6	AYT	Al 'Ayyat	8.03 142	P	Pn	02 49 08.7	-1.4
OUR	Ouranopolis	4.33	345	P	Pn	02 48 21.6	+1.5		baz=144					
THL	Klokotos Trika	4.35	323	eP	Pn	02 48 21.2	+0.9	AYT	Al 'Ayyat	8.03 142	P	Pn	02 49 08.7	-1.4
THL	Klokotos Trika	4.35	323	eP	Pn	02 48 21.2	+0.9	BOLS	Boljevac	8.12 342	ePn	Pn	02 49 11.4	+0.2
VLS	Valsamata	4.36	299	eP	Pn	02 48 21.1	+0.6	BOLS	Boljevac	8.12 342	ePn	Pn	02 49 11.4	+0.2
VLS	Valsamata	4.36	299	eP	Pn	02 48 21.1	+0.6	MSAB	Monastry St. A	8.14 12⇓	iP	Pn	02 49 14.1	+2.6
ISP	Isparta	4.41	66	eP	Pn	02 48 22.7	+1.5	MSAB	Monastry St. A	8.14 12⇓	iP	Pn	02 49 14.1	+2.6
ISP	Isparta	4.41	66	iP	Pn	02 48 22.8	+1.5	KOT	Kottamia	8.21 137	P	Pn	02 49 10.3	-2.3
ISP	Isparta	4.41	66	eP	Pn	02 48 22.7	+1.5		baz=139					
ISP				eSn	Sn	02 49 00.5	-11	KOT	Kottamia	8.21 137	P	Pn	02 49 10.3	-2.3
ISP	Isparta	4.41	66	eP	Pn	02 48 22.7	+1.5	SJES	Sjenica	8.25 331⇑	iPn	Pn	02 49 11.8	-1.3
PLG	Polygyros	4.50	340	P	Pn	02 48 23.9	+1.5	SJES			iSn	Sn	02 50 40.5	-4.1
PLG	Polygyros	4.50	340	eP	Pn	02 48 23.8	+1.4	HCY	Herceg Novi	8.27 322⇑	iPn	Pn	02 49 10.7	-2.6
PLG	Polygyros	4.50	340	eP	Pn	02 48 23.8	+1.4	HCY			eSn	Sn	02 50 32.8	-12
LIT	Litokhoron	4.57	330	P	Pn	02 48 25.0	+1.6	NKME	Niksic	8.29 325⇑	iPn	Pn	02 49 11.5	-2.1
LIT	Litokhoron	4.57	330	eP	Pn	02 48 25.2	+1.8	NKME			eSn	Sn	02 50 34.1	-11
LIT	Litokhoron	4.57	330	P	Pn	02 48 25.0	+1.6	HSAF	As Saff	8.30 140	P	Pn	02 49 12.2	-1.7
SLUM		4.65	182	P	Pn	02 48 24.0	-0.4		baz=142					
	baz=186							HSAF	As Saff	8.30 140	P	Pn	02 49 12.1	-1.7
SLUM		4.65	182	P	Pn	02 48 24.0	-0.4	NKY	Niksic	8.30 325⇑	iPn	Pn	02 49 12.0	-1.9
ALN	Alexandroupoli	4.77	6	P	Pn	02 48 27.4	+1.5	NKY			eSn	Sn	02 50 33.9	-12
ALN	Alexandroupoli	4.77	6	eP	Pn	02 48 27.5	+1.5	HHAG	Hagoal	8.34 136	P	Pn	02 49 12.2	-2.2
ALN	Alexandroupoli	4.77	6	eP	Pn	02 48 27.5	+1.5		baz=138					
HORT	Hortiatis	4.80	338	P	Pn	02 48 28.6	+2.1	HHAG	Hagoal	8.34 136	P	Pn	02 49 12.1	-2.2
HORT	Hortiatis	4.80	338	eP	Pn	02 48 28.4	+1.9	AWBH		8.34 158	P	Pn	02 49 13.2	-1.1
HORT	Hortiatis	4.80	338	eP	Pn	02 48 28.4	+1.9		baz=160					
THE	Thessaloniki	4.88	337	eP	Pn	02 48 29.4	+2.0	AWBH		8.34 158	P	Pn	02 49 13.2	-1.1
THE	Thessaloniki	4.88	337	eP	Pn	02 48 29.4	+2.0	GLL	Jalalah	8.42 139	P	Pn	02 49 13.8	-1.6
KAVA	Kavala	4.89	352	eP	Pn	02 48 29.2	+1.6		baz=141					
KAVA	Kavala	4.89	352	eP	Pn	02 48 29.2	+1.6	GLL	Jalalah	8.42 139	P	Pn	02 49 13.8	-1.6
MEV	Metsovon	4.92	319	P	Pn	02 48 29.3	+1.2	IVAS	Ivanjica	8.45 333	ePn	Pn	02 49 14.8	-1.0
MEV	Metsovon	4.92	319	P	Pn	02 48 29.3	+1.2	IVAS			iSn	Sn	02 50 46.3	-3.1
SOH	Sokhos	4.94	341	P	Pn	02 48 30.4	+2.1	IVAS	Ivanjica	8.45 333	ePn	Pn	02 49 14.8	-1.0
SOH	Sokhos	4.94	341	eP	Pn	02 48 30.4	+2.1	CUC	Castrocucco	8.49 300	ePn	Pn	02 49 14.7	-1.7
SOH	Sokhos	4.94	341	eP	Pn	02 48 30.4	+2.1	CUC			eSn	Sn	02 50 37.0	-14
RDO	Rodhopi	4.99	1	P	Pn	02 48 30.8	+1.9	CUC	Castrocucco	8.49 300	ePn	Pn	02 49 14.7	-1.7
RDO	Rodhopi	4.99	1	eP	Pn	02 48 30.9	+2.0	AMAG	Maghara	8.51 128	P	Pn	02 49 13.1	-3.6
RDO	Rodhopi	4.99	1	P	Pn	02 48 30.8	+1.9		baz=130					
MATC	Matruh	5.02	162	P	Pn	02 48 28.8	-0.7	AMAG	Maghara	8.51 128	P	Pn	02 49 13.1	-3.6
	baz=165							GRUS	Gruza	8.53 336⇑	iPn	Pn	02 49 17.1	+0.3
JAN	Janina	5.03	315	P	Pn	02 48 30.5	+1.0	GRUS			eSn	Sn	02 50 50.3	-1.0
JAN	Janina	5.03	315	eP	Pn	02 48 30.6	+1.0	GRUS	Gruza	8.53 336⇑	iPn	Pn	02 49 17.1	+0.3
JAN	Janina	5.03	315	eP	Pn	02 48 30.6	+1.0	PLE	Pljevlja	8.54 329⇑	iPn	Pn	02 49 15.7	-1.4
KZN	Kozani	5.05	326	P	Pn	02 48 31.4	+1.6	PLE			eSn	Sn	02 50 41.1	-11
KZN	Kozani	5.05	326	eP	Pn	02 48 31.1	+1.3	PLE	Pljevlja	8.54 329⇑	iPn	Pn	02 49 15.7	-1.4
KZN	Kozani	5.05	326	eP	Pn	02 48 31.1	+1.3	ARNB	Al Arnab	8.55 89	eP	Pn	02 49 15.8	-1.4
SRS	Serrai	5.16	344	P	Pn	02 48 33.1	+1.8	ARNB	Al Arnab	8.55 89	eP	Pn	02 49 15.8	-1.4
SRS	Serrai	5.16	344	P	Pn	02 48 33.1	+1.8		SNR=110					
HMAT	Matruh	5.23	164	P	Pn	02 48 31.9	-0.4	BRY	Bratogost	8.59 324⇓	iPn	Pn	02 49 15.6	-2.1
	baz=167							BRY			eSn	Sn	02 50 40.5	-12
HMAT				S	Sn	02 49 27.5	-4.0	TIRR	Tirgusor	8.61 14⇑	iP	Pn	02 49 20.7	+2.9
	baz=167							TIRR	Tirgusor	8.61 14⇑	iP	Pn	02 49 20.7	+2.9
HMAT	Matruh	5.23	164	P	Pn	02 48 31.9	-0.4	RSH		8.64 124	P	Pn	02 49 15.1	-3.3
HMAT				S	Sn	02 49 27.5	-4.0		baz=126					
IGT	Igoumenitsa	5.26	311	P	Pn	02 48 32.2	-0.4	RSH		8.64 124	P	Pn	02 49 15.1	-3.3
IGT	Igoumenitsa	5.26	311	P	Pn	02 48 32.2	-0.4	UPM	Unac-Piva	8.65 327⇓	iPn	Pn	02 49 17.2	-1.4
NVR	Nevrokopi	5.33	347	P	Pn	02 48 35.4	+1.8	UPM			eSn	Sn	02 50 43.6	-11
NVR	Nevrokopi	5.33	347	eP	Pn	02 48 35.4	+1.8	UPM	Unac-Piva	8.65 327⇓	iPn	Pn	02 49 17.2	-1.4
NVR	Nevrokopi	5.33	347	eP	Pn	02 48 35.4	+1.8	TLB	Topalu	8.66 13⇓	iP	Pn	02 49 19.9	+1.4
KNT	Kendrikon	5.38	339	P	Pn	02 48 36.7	+2.5	TLB	Topalu	8.66 13⇓	iP	Pn	02 49 19.9	+1.4
KNT	Kendrikon	5.38	339	eP	Pn	02 48 36.8	+2.5	BHL	Bhannes	8.68 102	eP	Pn	02 49 16.5	-2.6
KNT	Kendrikon	5.38	339	P	Pn	02 48 36.7	+2.5	BHL	Bhannes	8.68 102	eP	Pn	02 49 16.5	-2.6
								MMAI	Mount Meron Ar	8.80 108	P	Pn	02 49 18.4	-2.2
									14nm,0.3s,baz=319,slow=12,SNR=64					
								MMAI			S	Sn	02 50 51.1	-7.0
									10.0nm,0.3s,baz=315,slow=20,SNR=3.6					
								HWQ	Hawqa	8.81 99	eP	Pn	02 49 18.8	-2.0
								HWQ	Hawqa	8.81 99	eP	Pn	02 49 18.8	-2.0
								WDD	Wield Dalam	8.84 271	ePn	Pn	02 49 20.5	-0.5
								WDD			eSn	Sn	02 50 50.8	-8.0
								WDD	Wield Dalam	8.84 271	ePn	Pn	02 49 20.5	-0.5
								SUZ		8.85 133	P	Pn	02 49 18.9	-2.3
									baz=135					
								SUZ		8.85 133	P	Pn	02 49 18.9	-2.3
								BTCH	Batrach	8.93 87	eP	Pn	02 49 20.6	-1.8
								BTCH	Batrach	8.93 87	eP	Pn	02 49 20.6	-1.8
									SNR=110					
								WRDH	Warideh	8.95 91	eP	Pn	02 49 21.0	-1.6
								WRDH	Warideh	8.95 91	eP	Pn	02 49 21.0	-1.6
									SNR=110					
								BIDA	Albida	8.95 94	eP	Pn	02 49 20.7	-1.9
								BIDA	Albida	8.95 94	eP	Pn	02 49 20.7	-1.9
									SNR=110					
								RCY	Rachaya	8.96 104	eP	Pn	02 49 20.7	-2.1
								RCY	Rachaya	8.96 104	eP	Pn	02 49 20.7	-2.1
								DIVS	Divibare	8.96 334⇑	iPn	Pn	02 49 22.7	0.0
								DIVS			iSn	Sn	02 50 58.5	-3.3
								DIVS	Divibare	8.96 334⇑	iPn	Pn	02 49 22.7	0.0
								STON	Ston	8.98 321	iPn	Pn	02 49 19.1	-3.7
								STON			Sn	Sn	02 50 50.3	-12
								BBLS	Lazići	8.98 331	ePn	Pn	02 49 21.4	-1.6
								BBLS	Lazići	8.98 331	ePn	Pn	02 49 21.4	-1.6
								ZAF		9.10 137	P	Pn	02 49 22.5	-2.1
									baz=139					
								ZAF		9.10 137	P	Pn	02 49 22.5	-2.1
								HAWK	Haweek	9.12 97	eP	Pn	02 49 23.4	-1.5
								HAWK	Haweek	9.12 97	eP	Pn	02 49 23.4	-1.5
									SNR=109					
								ZNM		9.21 135	P	Pn	02 49 23.9	-2.3
									baz=137					
								ZNM		9.21 135	P	Pn	02 49 23.9	-2.3
								CFR	Carcaliu	9.25 12⇑	iP	Pn	02 49 28.9	+2.4
								CFR	Carcaliu	9.25 12⇑	iP	Pn	02 49 28.9	+2.4
								VOIR		9.28 358⇓	iP	Pn	02 49 27.8	+0.8
								VOIR		9.28 358⇓	iP	Pn	02 49 27.8	+0.8
								HFRF	Wahat Farafira	9.30 164	P	Pn	02 49 26.0	-1.4
									baz=166					
								HFRF	Wahat Farafira	9.30 164	P	Pn	02 49 26.0	-1.4
								MARH	Ras Al Marh	9.31 100	eP	Pn	02 49 26.9	-0.8
								MARH	Ras Al Marh	9.31 100	eP	Pn	02 49 26.9	-0.8
									SNR=109					
								MLR	Muntele Rosu	9.34 2⇑	iP	Pn	02 49 29.2	+1.3
								MLR	Muntele Rosu	9.34 2	ePn	Pn	02 49 28.7	+0.9
								MLR	Muntele Rosu	9.34 2	P	Pn	02 49 28.7	+0.9
									0.1nm,0.3s,baz=242,slow=2.4,SNR=18					
								MLR	Muntele Rosu	9.34 2	P	Pn	02 49 28.7	+0.9
								TCHB	Talchebab	9.38 109	eP	Pn	02 49 28.6	+0.2
								TCHB	Talchebab	9.38 109	eP	Pn	02 49 28.6	+0.2
									SNR=109					
								GZR	Gura Zlata	9.45 349⇑	iPn	Pn	02 49 30.7	+1.4
								GZR	Gura Zlata	9.45 349⇑	iPn	Pn	02 49 30.7	+1.4
								TOTH	TOTAH	9.47 104	eP	Pn	02 49 29.4	-0.2
								TOTH	TOTAH	9.47 104	eP	Pn	02 49 29.4	-0.2
									SNR=109					
								HNKL	Nakhl	9.49 128	P	Pn	02 49 26.6	-3.3
									baz=130					
								HNKL			S	Sn	02 51 05.9	-8.8
									ba

KRLC **Kraliky** 15.27 338 *e*P P 02 50 48.1 +0.5
GEC2 **GERESS Array S** 15.33 329 *e*P Pn 02 50 47.0 +0.7
GEC2 **GERESS Array S** 15.33 329 *e*P Pn 02 50 47.6 +1.3
comp=Z,6.0nm,0.8s
GEC2 **GERESS Array S** 15.33 329 *e*Pn Pn 02 50 47.0 +0.7
GEC2 *e*ScP ScP 02 59 07.5 +1.1
GEC2 **GERESS Array S** 15.33 329 *e*Pn Pn 02 50 47.0 +0.7
GEC2 **GERESS Array S** 15.33 329 *e*P Pn 02 50 47.6 +1.3
comp=Z,6.0nm,0.8s
GEC2 *e*ScP ScP 02 59 07.5 +1.1
GERES **GERESS Array B** 15.33 329 P Pn 02 50 47.2 +0.9
comp=Z,0.7nm,0.3s,baz=147,slow=12,SNR=25
GERES ScP ScP 02 59 07.5 +1.1
comp=Z,0.1nm,0.3s,baz=178,slow=4.0,SNR=4.8
GERES **GERESS Array B** 15.33 329 P Pn 02 50 47.2 +0.9
comp=Z,1.0nm,0.3s
KIV **Kislovodsk** 15.33 54 *i* P P 02 50 48.1 -0.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV **Kislovodsk** 15.33 54 *i* P P 02 50 48.1 -0.3
comp=Z,10.0nm,1.1s
KBZ **Khabaz** 15.38 55 P P 02 50 49.5 +0.7
KBZ **Khabaz** 15.38 55 *e*Pn P 02 50 49.5 +0.7
KBZ **Khabaz** 15.38 55 P P 02 50 49.5 +0.7
comp=Z,0.3nm,0.3s,baz=236,slow=11,SNR=7.1
KBZ **Khabaz** 15.38 55 P P 02 50 49.5 +0.7
FETA **Feichten** 15.43 319⇑ *i*Pn Pn 02 50 46.9 -0.7
SNR=5.8
FETA **Feichten** 15.43 319 Pn Pn 02 50 46.9 -0.7
SNR=5.8
FUORN **Ofenpass-Fuorn** 15.43 317 *e*Pn Pn 02 50 48.4 +0.7
comp=Z,11nm,0.6s
FUORN *e*Sn Sn 02 53 28.0 -11
FUORN **Ofenpass-Fuorn** 15.43 317 *e*Pn Pn 02 50 48.4 +0.7
comp=Z,11nm,0.6s
MOTA **Moosalm** 15.44 321⇑ *i*Pn Pn 02 50 45.6 -2.1
KHC **Kasperske Hory** 15.60 330 *e*P Pn 02 50 48.8 -0.8
KHC **Kasperske Hory** 15.60 330 *e*P Pn 02 50 48.8 -0.8
KHC *ex* x 02 51 33.4
KHC **Kasperske Hory** 15.60 330 *e*Pn Pn 02 50 50.0 +0.4
comp=Z,17nm,1.6s
KHC **Kasperske Hory** 15.60 330 *e*Pn Pn 02 50 50.0 +0.4
comp=Z,17nm,1.6s
DPC **Dobruska-Polom** 15.65 338 *e*P P 02 50 52.2 +0.4
DPC **Dobruska-Polom** 15.65 338 *e*P P 02 50 52.2 +0.4
DPC **Dobruska-Polom** 15.65 338 *e*Pn Pn 02 50 50.9 +0.7
comp=Z,113nm,1.4s
DPC **Dobruska-Polom** 15.65 338 *e*Pn Pn 02 50 50.9 +0.7
comp=Z,113nm,1.4s
DPC **Dobruska-Polom** 15.65 338 *e*P P 02 50 52.2 +0.4
RETA **Reutte** 15.71 321⇑ *i*Pn Pn 02 50 50.2 -0.8
SNR=14
RETA **Reutte** 15.71 321 Pn Pn 02 50 50.2 -0.8
SNR=14
DAVOX **Davos/Dischmat** 15.74 317 *e*Pn Pn 02 50 52.3 +0.9
DAVOX *e*Sn Sn 02 53 39.8 -6.1
DAVOX *e*ScP ScP 02 59 07.6 +0.2
DAVOX **Davos/Dischmat** 15.74 317 P Pn 02 50 52.3 +0.9
comp=Z,0.5nm,0.3s,baz=149,slow=20,SNR=12
DAVOX S Sn 02 53 39.8 -6.1
baz=324,slow=19
DAVOX LR LR 02 59 07.6
comp=Z,62nm,21.7s,baz=243,slow=45
DAVOX **Davos/Dischmat** 15.74 317 P Pn 02 50 52.3 +0.9
comp=Z,1.0nm,0.3s
SBF **Sospel** 15.77 305 *e*P P 02 50 53.2 -0.1
comp=Z,100nm,0.6s
SBF **Sospel** 15.77 305 *e*P P 02 50 53.2 -0.1
SBF **Sospel** 15.77 305 *e*Pn P 02 50 53.2 -0.1
SBF **Sospel** 15.77 305 *e*P P 02 50 53.2 -0.1
comp=Z,50nm,0.6s
UPC **Upice** 15.88 338 *e*P P 02 50 54.1 -0.3
UPC **Upice** 15.88 338 *e*P P 02 50 54.1 -0.3
UPC **Upice** 15.88 338 *e*P P 02 50 54.1 -0.3
FUR **Furstenfeldbru** 15.91 323 *e*P Pn 02 50 53.8 +0.4
comp=Z,12nm,0.6s
FUR **Furstenfeldbru** 15.91 323 *e*P Pn 02 50 53.8 +0.4
comp=Z,12nm,0.6s
PRU **Pruhonice** 15.93 334 *e*P Pn 02 50 53.7 +0.1
PRU **Pruhonice** 15.93 334 *e*P Pn 02 50 53.7 +0.1
PRU **Pruhonice** 15.93 334 *e*P Pn 02 50 53.7 +0.1
DAVA **Damuels** 16.05 319⇓ *i*Pn Pn 02 50 54.8 -0.4
SNR=7.8
DAVA **Damuels** 16.05 319 Pn Pn 02 50 54.8 -0.4
SNR=7.8
LMR **La Mourre** 16.20 302 *e*P P 02 50 59.2 +1.2
LMR **La Mourre** 16.20 302 *e*P P 02 50 59.2 +1.2
LMR **La Mourre** 16.20 302 *e*Pn P 02 50 59.2 +1.2
LMR **La Mourre** 16.20 302 *e*P P 02 50 59.2 +1.2
MBDF **Montbardon** 16.56 307 *e*P Pn 02 51 01.2 -0.3
comp=Z,28nm,0.7s
MBDF **Montbardon** 16.56 307 *e*P Pn 02 51 01.2 -0.3
MBDF **Montbardon** 16.56 307 *e*Pn Pn 02 51 01.2 -0.3
MBDF **Montbardon** 16.56 307 *e*P Pn 02 51 01.2 -0.3
comp=Z,14nm,0.7s
ROTZ **Rotzenmuhle** 16.66 329 *e*P Pn 02 51 02.5 -0.1
comp=Z,3.0nm,0.8s
ROTZ **Rotzenmuhle** 16.66 329 *e*P Pn 02 51 02.5 -0.1
comp=Z,3.0nm,0.8s
BNI **Bardonecchia** 16.76 308 *e*P P 02 51 06.0 +1.8
BNI pmax pmax
comp=Z,49nm,1.9s
BNI **Bardonecchia** 16.76 308 *e*Pn P 02 51 06.0 +1.8
comp=Z,49nm,1.9s
BNI **Bardonecchia** 16.76 308 *e*P P 02 51 06.0 +1.8
comp=Z,49nm,1.9s
MANZ **Manzenberg** 16.87 329 *e*P Pn 02 51 05.4 +0.2
comp=Z,7.0nm,0.8s
MANZ **Manzenberg** 16.87 329 *e*P Pn 02 51 05.4 +0.2
comp=Z,7.0nm,0.8s
LPG **La Plagne** 16.91 309 *e*P Pn 02 51 05.4 -0.5
comp=Z,12nm,0.3s
LPG **La Plagne** 16.91 309 *e*P Pn 02 51 05.4 -0.5
LPG **La Plagne** 16.91 309 *e*Pn Pn 02 51 05.4 -0.5
LPG **La Plagne** 16.91 309 *e*P Pn 02 51 05.4 -0.5
comp=Z,5.8nm,0.3s
NKC **Novy Kostel** 16.92 330 *e*P Pn 02 51 06.1 +0.3
NKC **Novy Kostel** 16.92 330 *e*P Pn 02 51 06.1 +0.3
NKC **Novy Kostel** 16.92 330 *e*P Pn 02 51 06.1 +0.3
LPL **La Plagne** 16.93 309 *e*P Pn 02 51 05.4 -0.7
comp=Z,15nm,0.4s
LPL **La Plagne** 16.93 309 *e*P Pn 02 51 05.4 -0.7
LPL **La Plagne** 16.93 309 *e*Pn Pn 02 51 05.4 -0.7
LPL **La Plagne** 16.93 309 *e*P Pn 02 51 05.4 -0.7
comp=Z,7.6nm,0.4s
SENIN **Lac Senin/Sane** 16.99 312 *e*Pn Pn 02 51 07.9 +1.1
comp=Z,22nm,0.6s
SENIN *e*Sn Sn 02 54 09.8 -6.2
SENIN **Lac Senin/Sane** 16.99 312 *e*Pn Pn 02 51 07.9 +1.1
comp=Z,22nm,0.6s
GRA1 **Grafenberg Arr** 17.03 327 *e*P P 02 51 07.1 0.0
comp=Z,9.0nm,0.8s
GRF **Grafenberg Arr** 17.03 327 *e*P P 02 51 07.1 0.0
comp=Z,9.0nm,0.8s
TANN **Tannenbergstha** 17.06 331 *e*P Pn 02 51 08.6 +1.1
comp=Z,4.0nm,0.8s
TANN **Tannenbergstha** 17.06 331 *e*P Pn 02 51 08.6 +1.1
comp=Z,4.0nm,0.8s
SMRF **Simiane la Rot** 17.06 303 *e*P Pn 02 51 08.4 +0.8
comp=Z,14nm,0.8s
SMRF **Simiane la Rot** 17.06 303 *e*P Pn 02 51 08.4 +0.8
SMRF **Simiane la Rot** 17.06 303 *e*P Pn 02 51 08.4 +0.8
comp=Z,6.8nm,0.8s
RSL **Roselend** 17.07 310 *e*P Pn 02 51 08.8 +1.0
RSL **Roselend** 17.07 310 *e*P Pn 02 51 08.8 +1.0
ORIF **Oris-en-Rattie** 17.21 307 *e*P P 02 51 09.6 +0.4
comp=Z,17nm,0.8s
ORIF **Oris-en-Rattie** 17.21 307 *e*P P 02 51 09.6 +0.4
ORIF **Oris-en-Rattie** 17.21 307 *e*P P 02 51 09.6 +0.4
ORIF **Oris-en-Rattie** 17.21 307 *e*P P 02 51 09.6 +0.4
comp=Z,8.7nm,0.8s
STU **Stuttgart** 17.35 322 *e*P P 02 51 09.9 -0.6
STU pmax pmax
comp=Z,13nm,0.5s
STU **Stuttgart** 17.35 322 *e*P Pn 02 51 11.8 +0.9
comp=Z,9.0nm,0.8s
STU **Stuttgart** 17.35 322 *e*P P 02 51 09.9 -0.6
comp=Z,13nm,0.5s
STU **Stuttgart** 17.35 322 *e*P Pn 02 51 11.8 +0.9
comp=Z,9.0nm,0.8s
BBS **Basel-Blauen** 17.45 316 *e*P P 02 51 12.0 +0.2
CLL **Collm** 17.57 333⇑ *i*P Pn 02 51 14.4 +0.8
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL **Collm** 17.57 333 *e*P Pn 02 51 14.5 +0.8
comp=Z,4.0nm,0.7s
CLL **Collm** 17.57 333⇑ *i*P Pn 02 51 14.4 +0.8
comp=Z,6.0nm,0.7s
CLL **Collm** 17.57 333 *i* P Pn 02 51 14.4 +0.8
comp=Z,6.0nm,0.7s
CABF **La Chapelle** 17.84 312 *e*P P 02 51 16.4 +0.3
comp=Z,34nm,0.6s
CABF **La Chapelle** 17.84 312 *e*P P 02 51 16.4 +0.3
CABF **La Chapelle** 17.84 312 *e*P P 02 51 16.4 +0.3
CABF **La Chapelle** 17.84 312 *e*P P 02 51 16.4 +0.3
comp=Z,17nm,0.6s
MOF **Molkenrain** 17.88 316 *e*P P 02 51 17.2 +0.7
MOF **Molkenrain** 17.88 316 *e*P P 02 51 17.2 +0.7
SUW **Suwalki** 17.93 356 *e*P P 02 51 17.2 +0.3
SUW pmax pmax
comp=Z,61nm,0.8s
SUW **Suwalki** 17.93 356 *e*P P 02 51 16.8 -0.1
SUW **Suwalki** 17.93 356 *e*P P 02 51 17.2 +0.3
comp=Z,61nm,0.8s
SUW **Suwalki** 17.93 356 *e*P P 02 51 17.2 +0.3
comp=Z,61nm,0.8s
VIVF **Saint-Julien-l** 17.98 305 *e*P P 02 51 17.6 0.0
comp=Z,34nm,0.7s
VIVF **Saint-Julien-l** 17.98 305 *e*P P 02 51 17.6 0.0
VIVF **Saint-Julien-l** 17.98 305 *e*P P 02 51 17.6 0.0
VIVF **Saint-Julien-l** 17.98 305 *e*P P 02 51 17.6 0.0
comp=Z,17nm,0.7s
HINF **Hinteralfeld** 18.02 316 *e*P P 02 51 18.2 +0.2
comp=Z,8.5nm,0.5s
HINF **Hinteralfeld** 18.02 316 *e*P P 02 51 18.2 +0.2
HINF **Hinteralfeld** 18.02 316 *e*P P 02 51 18.2 +0.2
HINF **Hinteralfeld** 18.02 316 *e*P P 02 51 18.2 +0.2
comp=Z,4.2nm,0.5s
CDF **Champ du Feu** 18.12 318 *e*P P 02 51 20.0 +0.8
comp=Z,6.3nm,0.5s
CDF **Champ du Feu** 18.12 318 *e*P P 02 51 20.0 +0.8
CDF **Champ du Feu** 18.12 318 *e*P P 02 51 20.0 +0.8
CDF **Champ du Feu** 18.12 318 *e*P P 02 51 20.0 +0.8
comp=Z,3.2nm,0.5s
LANF **Langenberg** 18.19 320 *e*P Pn 02 51 22.1 +1.1
LANF **Langenberg** 18.19 320 *e*P Pn 02 51 22.1 +1.1
KTD **Kalmit** 18.26 322 *e*P Pn 02 51 22.6 +0.7
LASF **Ste Croix** 18.26 302 *e*P P 02 51 20.6 -0.1
comp=Z,28nm,0.7s
LASF **Ste Croix** 18.26 302 *e*P P 02 51 20.6 -0.1
LASF **Ste Croix** 18.26 302 *e*P P 02 51 20.6 -0.1
comp=Z,14nm,0.7s
HAU **Haudompre** 18.41 316 *e*P P 02 51 21.2 -1.0
comp=Z,15nm,0.6s
HAU **Haudompre** 18.41 316 *e*P P 02 51 21.2 -1.0
HAU **Haudompre** 18.41 316 *e*P P 02 51 21.2 -1.0
HAU **Haudompre** 18.41 316 *e*P P 02 51 21.2 -1.0
comp=Z,7.5nm,0.6s
TNS **Taunus Mts** 18.67 324 *e*P Pn 02 51 26.8 0.0
comp=Z,10.0nm,0.7s
TNS **Taunus Mts** 18.67 324 *e*P Pn 02 51 26.8 0.0
comp=Z,10.0nm,0.7s
THEF **They Montfort** 18.73 316 *e*P Pn 02 51 27.1 -0.4
THEF **They Montfort** 18.73 316 *e*P Pn 02 51 27.1 -0.4
NACGM **Naroch** 18.78 2 *e* P 02 51 25.0 -1.1
COLF **Collangettes** 18.87 306 *e*P P 02 51 28.3 +1.0
COLF **Collangettes** 18.87 306 *e*P P 02 51 28.3 +1.0
RUP **Ruppelstein** 19.02 321 *e*P Pn 02 51 31.5 +0.6
PAGF **Fort de Pagny** 19.05 317 *e*P P 02 51 30.6 +1.4
comp=Z,5.6nm,0.6s
PAGF **Fort de Pagny** 19.05 317 *e*P P 02 51 30.6 +1.4
comp=Z,2.8nm,0.6s
LBL **Lubilhac** 19.06 305 *e*P P 02 51 30.0 +0.6
LBL **Lubilhac** 19.06 305 *e*P P 02 51 30.0 +0.6
IDID **Didziasalis** 19.19 2 *e*P P 02 51 30.1 -0.6
IDID **Didziasalis** 19.19 2 *e*P P 02 51 30.0 -0.6
SNR=40
MTLF **Montolieu** 19.20 299 *e*P P 02 51 31.1 +0.2
comp=Z,12nm,0.8s
MTLF **Montolieu** 19.20 299 *e*P P 02 51 31.1 +0.2
MTLF **Montolieu** 19.20 299 *e*P P 02 51 31.1 +0.2
MTLF **Montolieu** 19.20 299 *e*P P 02 51 31.1 +0.2
comp=Z,6.1nm,0.8s
IIGN **Ignalina** 19.21 1 *e*P P 02 51 30.1 -0.7
IIGN AML AML 02 51 31.4
comp=Z,26nm,0.5s
IIGN **Ignalina** 19.21 1 *e*P P 02 51 30.1 -0.7
SNR=40
SMF **Signal de Mont** 19.23 310 *e*P P 02 51 31.5 +0.3
comp=Z,21nm,0.4s
SMF **Signal de Mont** 19.23 310 *e*P P 02 51 31.5 +0.3
SMF **Signal de Mont** 19.23 310 *e*P P 02 51 31.5 +0.3
SMF **Signal de Mont** 19.23 310 *e*P P 02 51 31.5 +0.3
comp=Z,11nm,0.4s
SFTF **Sexfontaines** 19.25 315 *e*P P 02 51 32.4 +1.0
comp=Z,30nm,0.8s
SFTF **Sexfontaines** 19.25 315 *e*P P 02 51 32.4 +1.0
SFTF **Sexfontaines** 19.25 315 *e*P P 02 51 32.4 +1.0
comp=Z,15nm,0.8s
MEZF **Maizieres J'vi** 19.40 316 *e*P P 02 51 34.3 +1.3
comp=Z,55nm,0.7s
MEZF **Maizieres J'vi** 19.40 316 *e*P P 02 51 34.3 +1.3
MEZF **Maizieres J'vi** 19.40 316 *e*P P 02 51 34.3 +1.3
comp=Z,28nm,0.7s
PYM **Petit Puy Mans** 19.41 307 *e*P P 02 51 34.2 +1.0
PYM **Petit Puy Mans** 19.41 307 *e*P P 02 51 34.2 +1.0
ISAL **Salakas** 19.43 1 *e*P P 02 51 32.8 -0.5
ISAL AML AML 02 51 34.8
comp=Z,16nm,0.6s
ISAL **Salakas** 19.43 1 *e*P P 02 51 32.8 -0.5
SNR=40
WLF **Walferdange** 19.46 320 P P 02 51 34.5 +0.8
WLF **Walferdange** 19.46 320 *e*P P 02 51 34.6 +1.0
WLF pmax pmax
comp=Z,14nm,0.7s
WLF **Walferdange** 19.46 320 *e*P P 02 51 34.6 +1.0
comp=Z,14nm,0.7s
WLF **Walferdange** 19.46 320 *e*P P 02 51 34.6 +1.0
comp=Z,14nm,0.7s
LOR **Lormes** 19.50 311 *e*P P 02 51 34.2 +0.1
comp=Z,31nm,0.5s
LOR **Lormes** 19.50 311 *e*P P 02 51 34.2 +0.1
LOR **Lormes** 19.50 311 *e*P P 02 51 34.2 +0.1
comp=Z,15nm,0.5s
FRNF **Fournols** 19.57 305 *e*P P 02 51 36.4 +1.5
FRNF **Fournols** 19.57 305 *e*P P 02 51 36.4 +1.5
AVF **Avril sur Loir** 19.60 310 *e*P P 02 51 35.9 +0.8
comp=Z,43nm,0.6s
AVF **Avril sur Loir** 19.60 310 *e*P P 02 51 35.9 +0.8
AVF **Avril sur Loir** 19.60 310 *e*P P 02 51 35.9 +0.8
AVF **Avril sur Loir** 19.60 310 *e*P P 02 51 35.9 +0.8
comp=Z,22nm,0.6s
NRDL **Niedersach Rie** 19.61 331 *e*P P 02 51 34.9 -0.2
comp=Z,5.0nm,0.8s
NRDL **Niedersach Rie** 19.61 331 *e*P P 02 51 34.9 -0.2
comp=Z,5.0nm,0.8s
SSF **Saint Saulge** 19.62 311 *e*P P 02 51 36.0 +0.6
comp=Z,129nm,0.7s
SSF **Saint Saulge** 19.62 311 *e*P P 02 51 36.0 +0.6
SSF **Saint Saulge** 19.62 311 *e*P P 02 51 36.0 +0.6
SSF **Saint Saulge** 19.62 311 *e*P P 02 51 36.0 +0.6
comp=Z,64nm,0.7s
CAF **Calviac** 19.75 304 *e*P P 02 51 37.4 +0.6
comp=Z,20nm,0.7s
CAF **Calviac** 19.75 304 *e*P P 02 51 37.4 +0.6
CAF **Calviac** 19.75 304 *e*P P 02 51 37.4 +0.6
CAF **Calviac** 19.75 304 *e*P P 02 51 37.4 +0.6
comp=Z,9.9nm,0.7s
BGF **Bois d'Agland** 19.82 309 *e*P P 02 51 39.0 +1.4
comp=Z,59nm,0.5s
BGF **Bois d'Agland** 19.82 309 *e*P P 02 51 39.0 +1.4
BGF **Bois d'Agland** 19.82 309 *e*P P 02 51 39.0 +1.4
BGF **Bois d'Agland** 19.82 309 *e*P P 02 51 39.0 +1.4
comp=Z,30nm,0.5s
BUG **Bochum-Univer** 20.05 325 *e*P P 02 51 41.0 +1.1
comp=Z,12nm,0.8s
BUG **Bochum-Univer** 20.05 325 *e*P P 02 51 41.0 +1.1
comp=Z,12nm,0.8s
MEM **Membach** 20.11 322 P P 02 51 42.2 +1.6
comp=Z,15nm,0.9s
MEM **Membach** 20.11 322 *e*P P 02 51 42.4 +1.7
MEM pmax pmax
comp=Z,23nm,0.7s
MEM **Membach** 20.11 322 *e*P P 02 51 42.4 +1.7
comp=Z,23nm,0.7s
MEM **Membach** 20.11 322 *e*P P 02 51 42.4 +1.7
comp=Z,23nm,0.7s
TCF **Toulx Ste Croi** 20.12 307 *e*P P 02 51 41.5 +0.7
comp=Z,26nm,0.9s
TCF **Toulx Ste Croi** 20.12 307 *e*P P 02 51 41.5 +0.7
TCF **Toulx Ste Croi** 20.12 307 *e*P P 02 51 41.5 +0.7
comp=Z,13nm,0.9s
RJF **Les Rejaudoux** 20.24 304 *e*P P 02 51 43.7 +1.6
comp=Z,81nm,0.9s
RJF **Les Rejaudoux** 20.24 304 *e*P P 02 51 43.7 +1.6
RJF **Les Rejaudoux** 20.24 304 *e*P P 02 51 43.7 +1.6
RJF **Les Rejaudoux** 20.24 304 *e*P P 02 51 43.7 +1.6
comp=Z,41nm,0.9s
HYF **Humbligny** 20.24 310 *e*P P 02 51 43.3 +1.2
HYF **Humbligny** 20.24 310 *e*P P 02 51 43.3 +1.2
HYF **Humbligny** 20.24 310 *e*P P 02 51 43.3 +1.2
HGN **Heimansgroeve** 20.25 322 *e*P P 02 51 43.8 +1.7
comp=Z,30nm,1.0s
BCLA **Clavier** 20.35 321 P P 02 51 44.7 +1.4
BCLA **Clavier** 20.35 321 P P 02 51 44.6 +1.4
GIVF **Givet** 20.41 319 *e*P P 02 51 44.2 +0.3
comp=Z,19nm,0.6s
GIVF **Givet** 20.41 319 *e*P P 02 51 44.2 +0.3
GIVF **Givet** 20.41 319 *e*P P 02 51 44.2 +0.3
GIVF **Givet** 20.41 319 *e*P P 02 51 44.2 +0.3
comp=Z,9.7nm,0.6s
OBN **Obninsk** 20.46 19 *i* P Pn 02 51 47.3 -0.2
OBN *e*SP sP 02 52 19.9 -0.6
OBN *e* 02 55 48.4
OBN pmax pmax
comp=Z,17nm,1.2s
OBN **Obninsk** 20.46 19 *i* P Pn 02 51 47.3 -0.2
comp=Z,17nm,1.2s
EPF **Esparros** 20.47 297 *e*P P 02 51 45.0 +0.3
comp=Z,14nm,0.9s
EPF **Esparros** 20.47 297 *e*P P 02 51 45.0 +0.3
EPF **Esparros** 20.47 297 *e*P P 02 51 45.0 +0.3
EPF **Esparros** 20.47 297 *e*P P 02 51 45.0 +0.3
comp=Z,6.8nm,0.9s
DOU **Dourbes** 20.53 319 P P 02 51 45.4 +0.2
DOU **Dourbes** 20.53 319 P P 02 51 45.3 +0.2
WTSB **Winterswijk** 20.62 326 *e*P Pn 02 51 50.9 +1.4
LFF **La Frestale** 20.65 303 *e*P P 02 51 47.7 +1.2
comp=Z,31nm,0.7s
LFF **La Frestale** 20.65 303 *e*P P 02 51 47.7 +1.2
LFF **La Frestale** 20.65 303 *e*P P 02 51 47.7 +1.2
LFF **La Frestale** 20.65 303 *e*P P 02 51 47.7 +1.2
comp=Z,16nm,0.7s
BSEG **Bad Segeberg** 20.66 334 *e*P P 02 51 47.2 +0.7
comp=Z,6.0nm,0.6s
BSEG **Bad Segeberg** 20.66 334 *e*P P 02 51 47.2 +0.7
comp=Z,6.0nm,0.6s
BAIF **Baives** 20.72 319 *e*P P 02 51 47.7 +0.6
comp=Z,48nm,0.6s
BAIF **Baives** 20.72 319 *e*P P 02 51 47.7 +0.6
BAIF **Baives** 20.72 319 *e*P P 02 51 47.7 +0.6
BAIF **Baives** 20.72 319 *e*P P 02 51 47.7 +0.6
comp=Z,24nm,0.6s
ETSF **Etsaut** 21.10 297 *e*P P 02 51 52.7 +1.3
comp=Z,17nm,0.6s
ETSF **Etsaut** 21.10 297 *e*P P 02 51 52.7 +1.3
ETSF **Etsaut** 21.10 297 *e*P P 02 51 52.7 +1.3
ETSF **Etsaut** 21.10 297 *e*P P 02 51 52.7 +1.3
comp=Z,8.6nm,0.6s
RAYN **Ar Rayn** 21.44 120 *e*P P 02 51 58.6 +3.4
comp=Z,3.8nm,0.9s
SJPF **Ste Jean** 21.61 297 *e*P P 02 51 58.4 +1.5
comp=Z,34nm,0.9s
SJPF **Ste Jean** 21.61 297 *e*P P 02 51 58.4 +1.5
SJPF **Ste Jean** 21.61 297 *e*P P 02 51 58.4 +1.5
SJPF **Ste Jean** 21.61 297 *e*P P 02 51 58.4 +1.5
comp=Z,17nm,0.9s
MFF **Saint Martin d** 21.75 307 *e*P P 02 51 59.0 +0.7
comp=Z,30nm,0.5s
MFF **Saint Martin d** 21.75 307 *e*P P 02 51 59.0 +0.7
MFF **Saint Martin d** 21.75 307 *e*P P 02 51 59.0 +0.7
MFF **Saint Martin d** 21.75 307 *e*P P 02 51 59.0 +0.7
comp=Z,15nm,0.5s
VSU **Vasula** 22.34 2 *i* P P 02 52 03.1 -1.1
VSU **Vasula** 22.34 2 *i* P P 02 52 03.1 -1.1
LDF **La Druitiere** 22.48 312 *e*P P 02 52 05.5 -0.3
comp=Z,60nm,0.4s
LDF **La Druitiere** 22.48 312 *e*P P 02 52 05.5 -0.3
LDF **La Druitiere** 22.48 312 *e*P P 02 52 05.5 -0.3
LDF **La Druitiere** 22.48 312 *e*P P 02 52 05.5 -0.3
comp=Z,30nm,0.4s
FLN **La Foliniere** 22.77 312 *e*P P 02 52 08.4 -0.2
comp=Z,105nm,0.5s
FLN **La Foliniere** 22.77 312 *e*P P 02 52 08.4 -0.2
FLN **La Foliniere** 22.77 312 *e*P P 02 52 08.4 -0.2
FLN **La Foliniere** 22.77 312 *e*P P 02 52 08.4 -0.2
comp=Z,52nm,0.5s
GRR **Gorron** 22.85 311 *e*P P 02 52 09.3 -0.1
comp=Z,58nm,0.4s
GRR **Gorron** 22.85 311 *e*P P 02 52 09.3 -0.1
GRR **Gorron** 22.85 311 *e*P P 02 52 09.3 -0.1
GRR **Gorron** 22.85 311 *e*P P 02 52 09.3 -0.1
comp=Z,29nm,0.4s
ES19 **SONSECA Array** 23.35 288 *e*P P 02 52 16.2 +1.9
ES19 **SONSECA Array** 23.35 288 *e*P P 02 52 16.2 +1.9
ESDC **Sonseca Array** 23.40 288 *e*P P 02 52 16.1 +1.4
ESDC **Sonseca Array** 23.40 288 P P 02 52 16.1 +1.4
comp=Z,4.6nm,0.4s,baz=85,slow=9.9,SNR=37
ESDC **Sonseca Array** 23.40 288 *e*P P 02 52 16.1 +1.4
SGMF **Saint Gilles** 23.86 309 *e*P P 02 52 19.4 +0.8
comp=Z,21nm,0.4s
SGMF **Saint Gilles** 23.86 309 *e*P P 02 52 19.4 +0.8
SGMF **Saint Gilles** 23.86 309 *e*P P 02 52 19.4 +0.8
SGMF **Saint Gilles** 23.86 309 *e*P P 02 52 19.4 +0.8
comp=Z,10nm,0.4s
QUIF **Quistinic** 24.13 308 *e*P P 02 52 21.8 +0.7
comp=Z,56nm,0.5s
QUIF **Quistinic** 24.13 308 *e*P P 02 52 21.8 +0.7
QUIF **Quistinic** 24.13 308 *e*P P 02 52 21.8 +0.7
QUIF **Quistinic** 24.13 308 *e*P P 02 52 21.8 +0.7
comp=Z,28nm,0.5s
ROSF **Rostrenen** 24.34 309 *e*P P 02 52 23.5 +0.5
comp=Z,64nm,0.6s
ROSF **Rostrenen** 24.34 309 *e*P P 02 52 23.5 +0.5
ROSF **Rostrenen** 24.34 309 *e*P P 02 52 23.5 +0.5
ROSF **Rostrenen** 24.34 309 *e*P P 02 52 23.5 +0.5
comp=Z,32nm,0.6s
FIA0 **FINESS Array S** 25.32 1 *e*P P 02 52 31.2 -0.6
FIA0 *e* 02 56 02.0
FIA0 **FINESS Array S** 25.32 1 *e*P P 02 52 31.1 -0.6
FIA0 *e*PcP PcP 02 56 02.0 +0.7
FIA0 *e*ScP ScP 02 59 29.9 +0.1
FIA0 **FINESS Array S** 25.32 1 *e*P P 02 52 31.2 -0.6
FINES **FINESS Array B** 25.32 1 P P 02 52 31.1 -0.6
comp=Z,1.5nm,0.4s,baz=162,slow=11,SNR=28
FINES PcP PcP 02 56 02.0 +0.7
comp=Z,1.1nm,0.5s,baz=169,slow=1.9,SNR=4.6
FINES ScP ScP 02 59 29.9 +0.1
comp=Z,4.2nm,1.0s,baz=178,slow=5.0,SNR=5.7
FINES **FINESS Array B** 25.32 1 *i* P P 02 52 31.2 -0.6
comp=Z,2.0nm,0.4s
PBRG **Braganca** 25.54 293 *e*P P 02 52 35.4 +1.3
comp=Z,37nm,2.0s
PBRG **Braganca** 25.54 293 *e*P P 02 52 35.4 +1.3
comp=Z,37nm,2.0s
MVO **Moncorvo** 25.74 291 *e*P P 02 52 38.3 +2.4
comp=Z,36nm,1.5s
MVO **Moncorvo** 25.74 291 *e*P P 02 52 38.3 +2.4
comp=Z,36nm,1.5s
KAF **Kangasniemi** 25.99 1 *e*P P 02 52 34.5 -3.3
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF **Kangasniemi** 25.99 1 *ep* P 02 52 34.5 -3.3
comp=Z,0.9nm,0.3s
PMRV **Marv??o** 26.06 287 *e*P P 02 52 40.0 +1.3
comp=Z,51nm,1.7s
PMRV **Marv??o** 26.06 287 *e*P P 02 52 40.0 +1.3
comp=Z,51nm,1.7s
PESTR **Estremoz** 26.25 286 *e*P P 02 52 41.7 +1.2
PESTR **Estremoz** 26.25 286 *e*P P 02 52 41.7 +1.2
POLO **Lamas de Olo** 26.32 292 *e*P P 02 52 43.0 +1.8
comp=Z,26nm,1.8s
POLO **Lamas de Olo** 26.32 292 *e*P P 02 52 43.0 +1.8
comp=Z,26nm,1.8s
PVIS **Viseu** 26.40 290 *e*P P 02 52 43.5 +1.7
comp=Z,64nm,1.9s
PVIS **Viseu** 26.40 290 *e*P P 02 52 43.5 +1.7
comp=Z,64nm,1.9s
NB2 **NORSAR Subarra** 26.50 344 P P 02 52 41.7 -0.8
comp=Z,1.4nm,0.7s,baz=159,slow=9.3
NB2 **NORSAR Subarra** 26.50 344 P P 02 52 41.7 -0.8
comp=Z,1.4nm,0.7s,SNR=4.7
NB200 **NORSAR Array S** 26.50 344 *e*P P 02 52 41.1 -1.4
NB200 **NORSAR Array S** 26.50 344 *e*P P 02 52 41.1 -1.4

NOA	**NORSAR Array B**	**26.50**	**344**	P		**P**	**02 52 41.1**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=140,slow=6.4,SNR=6.9							
NOA				LR		LR	03 04 02.9	
	comp=Z,11nm,18.9s,baz=245,slow=38							
NOA	**NORSAR Array B**	**26.50**	**344**	P		**P**	**02 52 41.1**	**-1.4**
	comp=Z,2.0nm,0.8s							
PVAQ	**Vaqueiros**	**26.50**	**283**	*eP*		**P**	**02 52 43.6**	**+0.9**
	comp=Z,124nm,1.8s							
PVAQ	**Vaqueiros**	**26.50**	**283**	*eP*		**P**	**02 52 43.6**	**+0.9**
	comp=Z,124nm,1.8s							
PBEJ	**Beja**	**26.55**	**284**	*eP*		**P**	**02 52 46.2**	**+3.1**
	comp=Z,69nm,1.7s							
PCVE	**Castro Verde**	**26.73**	**283**	*eP*		**P**	**02 52 48.3**	**+3.6**
	comp=Z,76nm,1.6s							
JOF	**Joensuu**	**27.04**	**6**	*eP*		**P**	**02 52 46.6**	**-0.6**
JOF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
JOF	**Joensuu**	**27.04**	**6**	*ep*		**P**	**02 52 46.6**	**-0.6**
	comp=Z,0.8nm,0.3s							
JOF	**Joensuu**	**27.04**	**6**	*eP*		**P**	**02 52 46.6**	**-0.6**
	comp=Z,1.0nm,0.3s							
EKA	**Eskdalemuir Ar**	**27.37**	**324**	*eP*		**P**	**02 52 50.6**	**+0.4**
EKA	**Eskdalemuir Ar**	**27.37**	**324**	P		**P**	**02 52 50.6**	**+0.4**
	comp=Z,12nm,0.6s,baz=134,slow=10,SNR=32							
EKA	**Eskdalemuir Ar**	**27.37**	**324**	P		**P**	**02 52 50.6**	**+0.4**
	comp=Z,12nm,0.6s							
PFVI	**Vila Bisbo**	**27.42**	**282**	*eP*		**P**	**02 52 49.8**	**-1.1**
	comp=Z,2.2nm,1.5s							
PFVI	**Vila Bisbo**	**27.42**	**282**	*eP*		**P**	**02 52 49.8**	**-1.1**
	comp=Z,242nm,1.5s							
PMAFR	**Mafra**	**27.56**	**286**	*eP*		**P**	**02 52 48.4**	**-3.8**
	comp=Z,333nm,1.4s							
TOA0	**Torodi Ar. Sit**	**31.30**	**229**	*eP*		**P**	**02 53 27.6**	**+2.2**
TORD	**Torodi Ar. Bea**	**31.30**	**229**	P		**P**	**02 53 27.6**	**+2.2**
	comp=Z,2.5nm,0.5s,baz=36,slow=8.5,SNR=46							
ARA0	**ARCESS Array S**	**33.44**	**0**	*eP*		**P**	**02 53 42.9**	**-0.7**
ARA0				*ePcP*		**PcP**	**02 56 22.8**	**+0.8**
ARA0	**ARCESS Array S**	**33.44**	**0**	*eP*		**P**	**02 53 42.9**	**-0.7**
ARCES	**ARCESS Array B**	**33.44**	**0**	P		**P**	**02 53 42.9**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=186,slow=11,SNR=28							
ARCES				PcP		**PcP**	**02 56 22.8**	**+0.8**
	comp=Z,5.0nm,1.1s,baz=165,slow=3.7,SNR=4.4							
ARCES	**ARCESS Array B**	**33.44**	**0**	P		**P**	**02 53 42.9**	**-0.7**
	comp=Z,2.0nm,0.4s							
ARCES	**ARCESS Array B**	**33.44**	**0**	PcP		**PcP**	**02 56 22.8**	**+0.8**
	comp=Z,5.0nm,1.1s							
KEV	**Kevo**	**33.67**	**1**	*eP*		**P**	**02 53 45.2**	**-0.3**
KEV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**33.67**	**1**	*ep*		**P**	**02 53 45.2**	**-0.3**
	comp=Z,0.5nm,0.3s							
KEV	**Kevo**	**33.67**	**1**	*eP*		**P**	**02 53 45.2**	**-0.3**
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**35.52**	**47**	P		**P**	**02 54 03.5**	**+1.9**
BVAR	**Borovoye Array**	**35.52**	**47**	P		**P**	**02 54 03.5**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=241,slow=5.4,SNR=3.4							
BVAR	**Borovoye Array**	**35.52**	**47**	P		**P**	**02 54 03.5**	**+1.9**
JMIC	**Jan Mayen**	**39.20**	**343**	*eP*		**P**	**02 54 31.8**	**-0.6**
JMIC	**Jan Mayen**	**39.20**	**343**	P		**P**	**02 54 31.8**	**-0.6**
	comp=Z,43nm,0.3s,baz=165,slow=6.7,SNR=6.8							
JMIC	**Jan Mayen**	**39.20**	**343**	*eP*		**P**	**02 54 31.8**	**-0.6**
KSH	**Kashi**	**39.64**	**69**	*eP*		P	02 54 27.8	-8.9
KSH				*es*P		sP	02 55 05.1	-11
KSH				*e*PcP		**PcP**	**02 56 40.2**	**-1.2**
KSH				*eS*		**ScP**	**03 00 12.4**	**-7.0**
KSH				*e*PcS		**PcS**	**03 00 26.7**	**-5.0**
KSH				*e*ScS		**ScS**	**03 04 26.2**	**-6.1**
KSH				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KSH				LR		LR		
	comp=N,43nm,5.4s							
KSH				LR		LR		
	comp=E,52nm,3.5s							
KSH				LR		LR		
	comp=Z,45nm,3.7s							
MK32	**Makanchi Array**	**43.06**	**57**	*eP*		**P**	**02 55 05.9**	**+1.5**
MK32	**Makanchi Array**	**43.06**	**57**	*eP*		**P**	**02 55 05.9**	**+1.5**
MKAR	**Makanchi Array**	**43.06**	**57**	*ce*P		**P**	**02 55 06.0**	**+1.6**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.4s							
MKAR	**Makanchi Array**	**43.06**	**57**	*eP*		**P**	**02 55 06.0**	**+1.6**
MKAR	**Makanchi Array**	**43.06**	**57**	P		**P**	**02 55 05.9**	**+1.6**
	comp=Z,3.8nm,0.4s,baz=268,slow=7.7,SNR=84							
MKAR	**Makanchi Array**	**43.06**	**57**	*eP*		**P**	**02 55 06.0**	**+1.6**
	comp=Z,4.0nm,0.4s							
MK01	**Makanchi Array**	**43.07**	**57**	*eP*		**P**	**02 55 05.9**	**+1.4**
MK01	**Makanchi Array**	**43.07**	**57**	*eP*		**P**	**02 55 05.9**	**+1.4**
ZAA0	**Zalesovo Array**	**44.17**	**47**	*eP*		**P**	**02 55 13.8**	**+0.7**
ZAA0	**Zalesovo Array**	**44.17**	**47**	*eP*		**P**	**02 55 13.8**	**+0.7**
ZALV	**Zalesovo Beam**	**44.17**	**47**	*i* P		**P**	**02 55 13.8**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,10.0nm,0.4s							
ZALV	**Zalesovo Beam**	**44.17**	**47**	P		**P**	**02 55 13.6**	**+0.4**
	comp=Z,10nm,0.4s,baz=268,slow=9.1,SNR=66							
ZALV	**Zalesovo Beam**	**44.17**	**47**	*i* P		**P**	**02 55 13.8**	**+0.7**
	comp=Z,10.0nm,0.4s							
WMQ	**Urumqi**	**47.33**	**61**	*eP*		**P**	**02 55 41.2**	**+3.0**
SONA0	**Songino Array**	**58.70**	**51**	*eP*		**P**	**02 57 02.4**	**+0.8**
SONA0	**Songino Array**	**58.70**	**51**	*eP*		**P**	**02 57 02.4**	**+0.8**
SONM	**Songino Array**	**58.70**	**51**	P		**P**	**02 57 02.4**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=288,slow=7.6,SNR=18							
SONM	**Songino Array**	**58.70**	**51**	P		**P**	**02 57 02.4**	**+0.8**
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	**59.10**	**51**	*eP*		**P**	**02 57 05.6**	**+1.2**
	comp=Z,4.0nm,1.7s							
SCHQ	**Schefferville**	**62.58**	**319**	*eP*		**P**	**02 57 28.7**	**+1.1**
	comp=Z,397nm,2.8s							
SCHQ	**Schefferville**	**62.58**	**319**	P		**P**	**02 57 28.6**	**+1.0**
	comp=Z,8.8nm,0.5s,baz=57,slow=5.3,SNR=37							
SCHQ	**Schefferville**	**62.58**	**319**	*eP*		**P**	**02 57 28.7**	**+1.0**
	comp=Z,397nm,2.8s							
CD2	**Chengdu**	**63.84**	**70**	*eP*		**P**	**02 57 38.2**	**+1.8**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**64.91**	**57**	*eP*		**P**	**02 57 44.7**	**+1.4**
HHC				pP		**PcP**	**02 58 15.4**	**-0.2**
HHC				sP		**sP**	**02 58 26.5**	**+1.9**
HHC				S		**S**	**03 06 13.9**	**-1.8**
HHC				pmax		pmax		
	comp=Z,19nm,1.1s							
HHC				LR		LR		
	comp=Z,330nm,12.3s							
HHC				LR		LR		
	comp=Z,410nm,12.3s							
HHC				LR		LR		
	comp=Z,270nm,14.8s							
YAK	**Yakutsk**	**64.92**	**30**	*eP*		**P**	**02 57 42.4**	**-0.4**
YAK	**Yakutsk**	**64.92**	**30**	*eP*		**P**	**02 57 42.4**	**-0.4**
SEY	**Seymchan**	**72.56**	**23**	P		**P**	**02 58 30.8**	**+0.6**
SEY				pmax		pmax		
	comp=Z,1.0nm,0.4s							
SEY	**Seymchan**	**72.56**	**23**	*eP*		**P**	**02 58 30.8**	**+0.6**
SEY	**Seymchan**	**72.56**	**23**	P		**P**	**02 58 30.8**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=315,slow=1.4,SNR=3.9							
SEY	**Seymchan**	**72.56**	**23**	P		**P**	**02 58 30.8**	**+0.6**
	comp=Z,1.0nm,0.4s							
USRK	**Ussuriysk Arra**	**75.99**	**45**	P		**P**	**02 58 50.9**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=295,slow=4.0,SNR=8.8							
YKA	**Yellowknife Ar**	**76.58**	**342**	P		**P**	**02 58 53.9**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=32,slow=5.3,SNR=34							
YKA	**Yellowknife Ar**	**76.58**	**342**	P		**P**	**02 58 53.9**	**+0.5**
	comp=Z,2.0nm,0.5s							
YKB5	**Yellowknife Ar**	**76.58**	**342**	*eP*		**P**	**02 58 53.6**	**+0.2**
YKB5	**Yellowknife Ar**	**76.58**	**342**	*eP*		**P**	**02 58 53.6**	**+0.2**
KS15	**Wonju Array Si**	**77.49**	**53**	*eP*		**P**	**02 58 59.4**	**+0.4**
KS15	**Wonju Array Si**	**77.49**	**53**	*eP*		**P**	**02 58 59.4**	**+0.4**
KSRS	**Korea Array**	**77.51**	**53**	P		**P**	**02 58 59.4**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=307,slow=4.7,SNR=8.1							
KSRS	**Korea Array**	**77.51**	**53**	P		**P**	**02 58 59.4**	**+0.3**
	comp=Z,2.0nm,0.5s							
ILAR	**Eielson Array**	**79.23**	**357**	P		**P**	**02 59 08.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=336,slow=4.0,SNR=8.5							
ILAR	**Eielson Array**	**79.23**	**357**	P		**P**	**02 59 08.7**	**+0.6**
	comp=Z,1.0nm,0.8s							
ILB	**Eielson Array**	**79.23**	**357**	*eP*		**P**	**02 59 08.7**	**+0.6**
ILB	**Eielson Array**	**79.23**	**357**	*eP*		**P**	**02 59 08.7**	**+0.6**
ULM	**Lac du Bonnet**	**79.61**	**326**	*eP*		**P**	**02 59 10.9**	**+0.6**
ULM	**Lac du Bonnet**	**79.61**	**326**	P		**P**	**02 59 10.9**	**+0.6**
	comp=Z,2.5nm,0.4s,baz=87,slow=4.2,SNR=5.8							
ULM	**Lac du Bonnet**	**79.61**	**326**	P		**P**	**02 59 10.9**	**+0.6**
	comp=Z,3.0nm,0.4s							
PD31	**Pinedale Array**	**91.37**	**329**	*eP*		**P**	**03 00 09.6**	**+0.3**
PD31	**Pinedale Array**	**91.37**	**329**	*eP*		**P**	**03 00 09.6**	**+0.3**
PDAR	**Pinedale Array**	**91.37**	**329**	P		**P**	**03 00 09.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=51,slow=4.7,SNR=4.5							

NNC 05 02:51:13.0±3.5, 38°.36N×71°.29E, h0km, mb3.8, mpv3.4, 4C-5D, Error ellipse: s-maj=25.4km s-min=21.2km az=2.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.78**	**353**	⇑Pn	Pn	02 52 25.0	-1.3
	1.0nm,0.3s,baz=178,slow=13,SNR=5.3						
KK31				⇓Sn	Sn	02 53 24.8	+2.4
	1.1nm,0.3s,baz=178,slow=22,SNR=5.4						
KK31				⇓Lg	Lg	02 53 40.6	
	4.4nm,0.5s,baz=175,slow=34,SNR=4.7						
AAK	**Ala-Archa**	**4.92**	**29**	⇑Pn	Pn	02 52 28.7	+0.2
	6.6nm,0.6s						
AAK				⇑Sn	Sn	02 53 27.6	+1.2
	2.4nm,0.5s						
AAK				⇓Lg	Lg	02 53 45.7	
	7.5nm,0.9s						
TKM2	**Tokmak 2**	**5.62**	**34**	⇑Pn	Pn	02 52 37.8	-0.2
	4.6nm,0.8s						
TKM2				⇓Sn	Sn	02 53 45.2	+1.8
	2.8nm,0.8s						
TKM2				⇓Lg	Lg	02 54 07.7	
	1.5nm,0.6s						

*ISCJB **05** 02:56:24.5±0.8, 54°.2N±0°.1×155°.0E±0°.2, h400km, mb3.2/14, Error ellipse: s-maj=19.3km s-min=14.0km az=39.9*
*IDC **05** 02:56:27.9±1.2, 54°.12N×155°.03E, h428km±15km, mb2.9/14, mb1 3.0/14, mb1mx2.9/29, mbtmp2.9/14, Error ellipse: s-maj=17.6km s-min=13.3km az=129.0*
ISC 05 02:56:26.6±0.8, 54°.3N±0°.1×154°.8E±0°.1, h400km, n15, σ1ş31/14, mb3.2/14, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**2.07**	**122**	P	**Pn**	**02 57 25.7**	**+2.7**
	1.7nm,0.3s,baz=303,slow=13,SNR=35						
MJAR	**Matsushiro Arr**	**21.10**	**220**	P	**P**	**03 00 41.0**	**-0.1**
	2.2nm,0.8s,baz=25,slow=13,SNR=4.0						
KSRS	**Korea Array**	**24.92**	**239**	P	**P**	**03 01 14.4**	**-1.0**
	1.4nm,0.7s,baz=39,slow=8.5,SNR=3.9						
ILAR	**Eielson Array**	**30.27**	**46**	P	**P**	**03 02 01.9**	**-0.3**
	0.3nm,0.6s,baz=268,slow=9.4,SNR=4.6						
SONM	**Songino Array**	**30.59**	**278**	P	**P**	**03 02 06.5**	**+1.2**
	0.2nm,0.5s,baz=54,slow=8.6,SNR=3.0						
YKA	**Yellowknife Ar**	**44.41**	**42**	P	**P**	**03 03 58.0**	**-1.2**
	0.1nm,0.4s,baz=310,slow=7.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**44.52**	**298**	P	**P**	**03 04 01.0**	**+0.8**
	0.3nm,0.5s,baz=59,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**44.80**	**292**	P	**P**	**03 04 03.1**	**+0.7**
	0.5nm,0.5s,baz=56,slow=8.0,SNR=11						
BVAR	**Borovoye Array**	**47.17**	**305**	P	**P**	**03 04 20.6**	**0.0**
	0.5nm,0.4s,baz=52,slow=9.8,SNR=6.1						
AKTO	**Aktyubinsk**	**54.68**	**309**	P	**P**	**03 05 15.8**	**+0.1**
	0.5nm,0.4s,baz=49,slow=20,SNR=2.5						
AKASG	**Malin Array Be**	**65.93**	**325**	P	P	03 06 30.0	-0.8
	0.3nm,0.3s,baz=32,slow=7.2,SNR=3.4						
GERES	**GERESS Array B**	**72.17**	**334**	P	**P**	**03 07 08.7**	**-0.1**
	0.2nm,0.5s,baz=34,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**75.95**	**200**	P	**P**	**03 07 28.5**	**-2.2**
	0.7nm,0.5s,baz=16,slow=5.9,SNR=4.5						
MMAI	**Mount Meron Ar**	**78.63**	**312**	P	**P**	**03 07 45.2**	**-0.3**
	2.6nm,0.7s,baz=54,slow=7.8,SNR=3.5						
ASAR	**Alice Springs**	**79.66**	**199**	P	**P**	**03 07 49.4**	**-1.4**
	0.7nm,0.5s,baz=7.1,slow=5.1,SNR=9.5						

*CSEM **05** 03:04:37.3, 42°.74N×64°.50E, h0km, mb4.1, After NNC*
*NNC **05** 03:04:37.4±2.6, 42°.74N×64°.50E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=27.7km s-min=10.4km az=32.0*
*IDC **05** 03:04:38.4±2.9, 42°.27N×64°.30E, h32km±27km, mb3.0/3, mb1 3.5/8, mb1mx3.3/29, mbtmp3.4/8, ML3.6/5, Error ellipse: s-maj=16.8km s-min=11.4km az=25.0*
*ISCJB **05** 03:04:39.1±1.0, 42°.78N±0°.06×64°.55E±0°.08, h33km, mb3.2/3, Error ellipse: s-maj=10.4km s-min=6.3km az=37.8*
ISC 05 03:04:41.2±1.4, 42°.7N±0°.1×64°.48E±0°.06, h35km, n23, σ1ş30/33, mb3.3/3, 13C-2D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.45**	**83**	⇑Pn	**Pn**	**03 05 46.0**	**-0.2**
	9.1nm,0.5s,baz=260,slow=16,SNR=182						
KK31				⇑Sn	**Sn**	**03 06 39.3**	**+2.5**
	2.8nm,0.2s,baz=269,slow=22,SNR=3.3						
KK31				⇑Lg	Lg	03 06 59.9	
	24nm,0.5s,baz=267,slow=25,SNR=4.7						
KK31	**Karatay Array**	**4.45**	**83**	Pn	**Pn**	**03 05 46.0**	**-0.2**
	9.1nm,0.5s,SNR=182						
KK31				Sn	**Sn**	**03 06 39.3**	**+2.5**
	2.8nm,0.2s,SNR=3.3						
KK31				Lg	Lg	03 06 59.9	
	24nm,0.5s,SNR=4.7						
AB31	**Akbulak array**	**7.29**	**336**	⇑Pn	**Pn**	**03 06 24.5**	**-0.6**
	2.0nm,0.4s						
AB31				⇑Sn	**Sn**	**03 07 47.2**	**+0.7**
	3.0nm,0.3s,baz=152,slow=21,SNR=5.1						
AB31				⇓Lg	Lg	03 08 32.4	
	11nm,0.6s,baz=144,slow=29,SNR=4.1						
AB31	**Akbulak array**	**7.29**	**336**	Pn	**Pn**	**03 06 24.5**	**-0.6**
	2.0nm,0.4s						
AB31				Sn	**Sn**	**03 07 47.2**	**+0.7**
	3.0nm,0.3s,SNR=5.1						
AB31				Lg	Lg	03 08 32.4	
	11nm,0.6s,SNR=4.1						
AAK	**Ala-Archa**	**7.38**	**87**	Pn	**Pn**	**03 06 25.5**	**-1.1**
	0.4nm,0.3s,baz=230,slow=6.1,SNR=12						
AAK				Lg	Lg	03 08 37.4	
	0.5nm,0.3s,baz=358,slow=21,SNR=5.6						
TKM2	**Tokmak 2**	**8.18**	**85**	⇓Pn	**Pn**	**03 06 35.9**	**-1.6**
	1.6nm,0.6s						
TKM2				⇑Lg	Lg	03 08 59.4	
	11nm,0.7s						
TKM2	**Tokmak 2**	**8.18**	**85**	Pn	**Pn**	**03 06 35.9**	**-1.6**
	1.6nm,0.6s						
TKM2				Lg	Lg	03 08 59.4	
	11nm,0.7s						
AKTO	**Aktyubinsk**	**8.93**	**332**	⇑Pn	**Pn**	**03 06 49.8**	**+2.1**
	2.0nm,0.5s						
AKTO				⇑Sn	**Sn**	**03 08 26.5**	**-0.5**
	3.8nm,0.4s						
AKTO				⇑Lg	Lg	03 09 27.3	
	14nm,0.8s						
AKTO	**Aktyubinsk**	**8.93**	**332**	Pn	**Pn**	**03 06 49.0**	**+1.4**
	0.6nm,0.3s,baz=148,slow=14,SNR=15						
AKTO				Sn	**Sn**	**03 08 27.2**	**+0.2**
	0.6nm,0.3s,baz=342,slow=19,SNR=3.5						
AKTO				Lg	Lg	03 09 33.9	
	0.7nm,0.3s,baz=66,slow=18,SNR=5.1						
AKTO	**Aktyubinsk**	**8.93**	**332**	Pn	**Pn**	**03 06 49.8**	**+2.1**
	2.0nm,0.5s						
AKTO				Sn	**Sn**	**03 08 26.5**	**-0.5**
	3.8nm,0.4s						
AKTO				Lg	Lg	03 09 27.3	
	14nm,0.8s						
BVA0	**Borovoye Array**	**11.07**	**19**	⇑Pn	**Pn**	**03 07 18.2**	**+1.3**
	1.8nm,0.4s,baz=279,slow=40,SNR=27						
BVA0				⇑Sn	**Sn**	**03 09 18.9**	**-0.5**
	3.8nm,0.5s,baz=202,slow=23,SNR=6.5						
BVA0	**Borovoye Array**	**11.07**	**19**	Pn	**Pn**	**03 07 18.2**	**+1.3**
	1.8nm,0.4s,SNR=27						
BVA0				Sn	**Sn**	**03 09 18.9**	**-0.5**
	3.8nm,0.5s,SNR=6.5						
BVAR	**Borovoye Array**	**11.07**	**19**	Pn	**Pn**	**03 07 17.0**	**+0.1**
	0.8nm,0.3s,baz=215,slow=13,SNR=15						
BVAR				Sn	**Sn**	**03 09 19.0**	**-0.4**
	1.2nm,0.3s,baz=209,slow=26,SNR=6.3						
BRVK	**Borovoye**	**11.08**	**19**	⇑Pn	**Pn**	**03 07 17.7**	**+0.7**
	7.1nm,0.6s						
BRVK				⇑Sn	**Sn**	**03 09 18.8**	**-0.7**
	3.6nm,0.4s						
BRVK	**Borovoye**	**11.08**	**19**	Pn	**Pn**	**03 07 17.7**	**+0.7**
	7.1nm,0.6s						
BRVK				Sn	**Sn**	**03 09 18.8**	**-0.7**
	3.6nm,0.4s						
MK31	**Makanchi Array**	**13.31**	**66**	Pn	**Pn**	**03 07 45.9**	**-1.6**
	1.1nm,0.5s,baz=250,slow=13,SNR=28						
MK31	**Makanchi Array**	**13.31**	**66**	Pn	**Pn**	**03 07 45.9**	**-1.6**
	1.1nm,0.5s,SNR=28						
MKAR	**Makanchi Array**	**13.31**	**66**	Pn	**Pn**	**03 07 45.5**	**-2.0**
	0.3nm,0.3s,baz=250,slow=15,SNR=17						
KBZ	**Khabaz**	**15.77**	**281**	Pn	Pn	03 08 12.8	-7.6
	0.1nm,0.3s,baz=88,slow=15,SNR=2.6						
ZALV	**Zalesovo Beam**	**17.53**	**43**	P	**P**	**03 08 42.4**	**-1.1**
	0.4nm,0.3s,baz=235,slow=12,SNR=5.6						
AKASG	**Malin Array Be**	**25.28**	**301**	P	**P**	**03 10 02.9**	**-1.1**
	0.5nm,0.6s,baz=82,slow=8.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**61.24**	**261**	P	P	03 14 48.7	-4.2
	0.2nm,0.5s,baz=60,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**75.17**	**360**	P	**P**	**03 16 20.1**	**+0.7**
	0.1nm,0.6s,baz=9.7,slow=6.0,SNR=3.6						

*ISCJB **05** 03:16:40.2±0.4, 36°.58N±0°.03×71°.25E±0°.07, h150km, mb3.5/11, Error ellipse: s-maj=8.2km s-min=3.5km az=152.3*
*IDC **05** 03:16:40.3±4.2, 36°.47N×71°.39E, h150km±37km, mb3.3/10, mb1 3.4/16, mb1mx3.3/30, mbtmp3.3/16, Error ellipse: s-maj=28.2km s-min=15.8km az=15.0*
*NNC **05** 03:16:49.8±3.4, 37°.22N×71°.25E, h182km±35km, mb3.0, mpv4.0, Error ellipse: s-maj=29.7km s-min=19.3km az=23.0*
ISC 05 03:16:40.4±0.7, 36°.60N±0°.06×71°.29E±0°.08, h150km, n53, σ1ş74/52, mb3.5/11, 8C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.59**	**135**	*eP*	Pn	03 18 05.0	+3.1
DLH				*eS*	**Sn**	**03 19 08.0**	**+2.5**
AML	**Almayashu**	**5.83**	**18**	P	**Pn**	**03 18 06.6**	**+1.5**
	SNR=128						
UCH	**Uchtor**	**6.15**	**23**	P	**Pn**	**03 18 10.8**	**+1.3**
	SNR=39						
KZA	**Kyzart**	**6.27**	**28**	P	Pn	03 18 13.7	+2.6
	SNR=7.8						
EKS2	**Erkin-Say**	**6.35**	**17**	P	**Pn**	**03 18 13.4**	**+1.6**
	SNR=18						
AAK	**Ala-Archa**	**6.51**	**21**	⇓P	**Pn**	**03 18 15.9**	**+1.9**
	6.7nm,0.3s						
AAK				⇓S	**Sn**	**03 19 24.9**	**-2.4**
	49nm,0.6s						
AAK	**Ala-Archa**	**6.51**	**21**	P	**Pn**	**03 18 15.6**	**+1.6**
	SNR=30						
AAK	**Ala-Archa**	**6.51**	**21**	P	**Pn**	**03 18 15.6**	**+1.6**
	5.9nm,0.3s,baz=187,slow=6.6,SNR=58						
AAK				S	**Sn**	**03 19 25.3**	**-2.0**
	2.8nm,0.3s,baz=5.3,slow=22,SNR=4.2						
KK31	**Karatay Array**	**6.52**	**355**	⇑P	**Pn**	**03 18 15.7**	**+1.7**
	6.0nm,0.3s,baz=173,slow=11,SNR=209						
KK31				⇓S	**Sn**	**03 19 24.3**	**-3.1**
	11nm,0.4s,baz=175,slow=25,SNR=3.5						
KBK	**Karagaybulak**	**6.67**	**24**	P	**Pn**	**03 18 18.4**	**+2.3**
	SNR=9.6						
CHMS	**Chumysh**	**6.92**	**22**	P	Pn	03 18 22.6	+3.3
	SNR=21						
USP	**Ospenovka**	**7.10**	**19**	P	**Pn**	**03 18 23.4**	**+1.7**
	SNR=9.7						
TKM2	**Tokmak 2**	**7.13**	**26**	⇓P	**Pn**	**03 18 24.0**	**+1.7**
	4.4nm,0.5s						
TKM2				⇑S	**Sn**	**03 19 40.4**	**-1.8**
	16nm,0.7s						
TKM2	**Tokmak 2**	**7.13**	**26**	P	**Pn**	**03 18 23.9**	**+1.7**
	SNR=15						
SMLA	**Simla**	**7.32**	**136**	*eP*	Pn	03 18 27.5	+2.7
SMLA				*eS*	**Sn**	**03 19 45.8**	**-0.9**
KHET	**Khetri**	**9.32**	**155**	*eP*	**Pn**	**03 18 52.3**	**+0.8**
NDI	**New Delhi**	**9.34**	**146**	*eP*	Pn	03 18 56.0	+4.3
NDI				*eS*	**Sn**	**03 20 32.0**	**-3.3**
KUDL	**Kundal**	**9.51**	**151**	*eP*	**Pn**	**03 18 55.0**	**+1.1**
KUDL				*ex*	x	03 19 43.8	
ASOR	**Ausora**	**9.54**	**143**	*eP*	Pn	03 18 56.3	+2.0
PYUN	**Piuthan**	**13.02**	**127**	*eP*	**Pn**	**03 19 39.7**	**-0.3**
	77nm,0.4s						
MK31	**Makanchi Array**	**13.07**	**35**	⇑P	**Pn**	**03 19 41.4**	**+1.0**
	0.7nm,0.5s,baz=211,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**13.07**	**35**	P	**Pn**	**03 19 40.7**	**+0.3**
	0.2nm,0.3s,baz=214,slow=14,SNR=8.8						
DANN	**Dangsing**	**13.35**	**125**	*eP*	**P

Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
CRUV	Carupano	0.75	254	⇓eP	Pn	03 36 34.5	-1.0
CRUV				eS	Sn	03 36 49.1	-1.5
CRUV	Carupano	0.75	254	eP	Pn	03 36 34.7	-0.8
CRUV				eS	Sn	03 36 48.1	-2.5
TCE	Chacachacare	0.76	104	eP	Pn	03 36 34.1	-1.6
TCE				eS	Sn	03 36 47.9	-3.0
TCE	Chacachacare	0.76	104	eP	Pn	03 36 34.1	-1.6
TCE				eS	Sn	03 36 47.9	-3.0
GUNV	Guanoco	0.84	211	⇑eP	Pn	03 36 35.9	-0.4
GUNV				eS	Sn	03 36 51.3	-0.6
GUNV	Guanoco	0.84	211	eP	Pn	03 36 36.3	-0.1
GUNV				eS	Sn	03 36 49.3	-2.7
ALNG	Atlantic LNG	1.06	131	eP	Pn	03 36 37.9	-0.6
ALNG				eS	Sn	03 36 52.2	-3.5
ALNG	Atlantic LNG	1.06	131	eP	Pn	03 36 37.9	-0.6
ALNG				eS	Sn	03 36 52.2	-3.5
TRN	Trinidad (W)	1.11	102	⇑iP	Pn	03 36 37.4	-1.5
TRN				eS	Sn	03 36 52.1	-4.4
TRN	Trinidad (W)	1.11	102	⇑iP	Pn	03 36 37.4	-1.5
TRN	Trinidad (W)	1.11	102	⇑iP	Pn	03 36 37.4	-1.5
TRN				eS	Sn	03 36 52.1	-4.4
BUAY	Buenos Aires	1.11	134	eP	Pn	03 36 39.5	+0.5
BUAY	Buenos Aires	1.11	134	eP	Pn	03 36 39.5	+0.5
TPP	Pointe-a-Pierr	1.18	118	⇑iP	Pn	03 36 38.7	-1.0
TPP				eS	Sn	03 36 53.6	-4.2
TPP	Pointe-a-Pierr	1.18	118	⇑iP	Pn	03 36 38.7	-1.0
TPP	Pointe-a-Pierr	1.18	118	⇑iP	Pn	03 36 38.7	-1.0
TPP				eS	Sn	03 36 53.6	-4.2
SIPA	Siparia	1.23	127	eS	Sn	03 36 55.9	-2.9
SIPA	Siparia	1.23	127	eS	Sn	03 36 55.9	-2.9
TBH	Brigand Hill	1.47	106	⇑eP	Pn	03 36 41.4	-1.5
TBH				eS	Sn	03 36 58.4	-5.2
TBH	Brigand Hill	1.47	106	⇑eP	Pn	03 36 41.4	-1.5
TBH	Brigand Hill	1.47	106	⇑eP	Pn	03 36 41.4	-1.5
TBH				eS	Sn	03 36 58.4	-5.2
GRGR	Grenville	1.50	34	ePn	Pn	03 36 42.1	-1.1
GRGR				eSn	Sn	03 37 01.8	-2.3
GRW	Mount Saint Ca	1.52	33	⇑iP	Pn	03 36 42.5	-1.0
GRW	Mount Saint Ca	1.52	33	⇑iP	Pn	03 36 42.5	-1.0
GRW	Mount Saint Ca	1.52	33	⇑iP	Pn	03 36 42.5	-1.0
GRHS	Sauteurs	1.58	32	⇑iP	Pn	03 36 44.2	0.0
GRHS				eS	Sn	03 37 04.2	-1.7
GRHS	Sauteurs	1.58	32	⇑iP	Pn	03 36 44.2	0.0
GRHS	Sauteurs	1.58	32	⇑iP	Pn	03 36 44.2	0.0
GRSS	Sisters	1.66	32	⇓iP	Pn	03 36 45.4	+0.3
GRSS				eS	Sn	03 37 05.5	-2.0
GRSS	Sisters	1.66	32	⇓iP	Pn	03 36 45.4	+0.3
GRSS	Sisters	1.66	32	⇓iP	Pn	03 36 45.4	+0.3
TPR	Prospect	1.72	80	⇑iP	Pn	03 36 44.4	-1.5
TPR				eS	Sn	03 37 03.9	-5.0
TPR	Prospect	1.72	80	⇑iP	Pn	03 36 44.4	-1.5
TPR	Prospect	1.72	80	⇑iP	Pn	03 36 44.4	-1.5
TPR				eS	Sn	03 37 03.9	-5.0
BOT	Bacolet	1.78	81	⇑iP	Pn	03 36 44.8	-1.7
BOT				eS	Sn	03 37 03.9	-6.1
BOT	Bacolet	1.78	81	⇑iP	Pn	03 36 44.8	-1.7
BOT	Bacolet	1.78	81	⇑iP	Pn	03 36 44.8	-1.7
BOT				eS	Sn	03 37 03.9	-6.1
TOSP	Speyside	1.98	78	eP	Pn	03 36 47.0	-2.0
TOSP				eS	Sn	03 37 08.4	-6.0
PCRV	Puerto La Cruz	2.21	252	⇑iP	Pn	03 36 51.9	0.0
PCRV				eS	Sn	03 37 17.7	-2.0
PCRV	Puerto La Cruz	2.21	252	eP	Pn	03 36 51.6	-0.3
PCRV				eS	Sn	03 37 17.6	-2.0
FCV	Fort Charlotte	2.58	28	eP	Pn	03 36 55.7	-0.8
FCV				eS	Sn	03 37 20.4	-2.7
FCV	Fort Charlotte	2.58	28	eP	Pn	03 36 55.7	-0.8
FCV				eS	Sn	03 37 25.2	-2.7
SVB	Belmont	2.67	27	eP	Pn	03 36 56.9	-1.0
SVB				eS	Sn	03 37 26.1	-4.1
SVB	Belmont	2.67	27	eP	Pn	03 36 56.9	-1.0
SVB				eS	Sn	03 37 26.1	-4.1
SVV	Soufriere Volc	2.73	27	eP	Pn	03 36 57.6	-0.9
SVV				eS	Sn	03 37 27.9	-3.7
SVV	Soufriere Volc	2.73	27	eP	Pn	03 36 57.6	-0.9
SVV				eS	Sn	03 37 27.9	-3.7
BHS	Barnard House	2.75	29	⇑eP	Pn	03 36 58.4	-0.5
BHS				eS	Sn	03 37 29.8	-2.3
BHS	Barnard House	2.75	29	⇑eP	Pn	03 36 58.4	-0.5
BHS	Barnard House	2.75	29	⇑eP	Pn	03 36 58.4	-0.5
RIOV	Rio Grande	2.88	166	⇓eP	Pn	03 36 59.0	-1.5
RIOV				eS	Sn	03 37 29.6	-5.4
RIOV	Rio Grande	2.88	166	eP	Pn	03 36 59.4	-1.1
PRGV	PARIAGUAN	2.98	225	⇑eP	Pn	03 37 34.8	-0.9
PRGV				eS	Sn	03 37 34.8	-2.6
PRGV	PARIAGUAN	2.98	225	eP	Pn	03 37 01.1	-0.8
PRGV				eS	Sn	03 37 35.2	-2.2
MCLT	Moule a Chique	3.20	28	⇑eP	Pn	03 37 04.0	-0.7
MCLT				eS	Sn	03 37 38.5	-4.1
MCLT	Moule a Chique	3.20	28	⇑eP	Pn	03 37 04.0	-0.7
SLB	Belfond	3.26	26	⇑iP	Pn	03 37 04.8	-0.7
SLB				eS	Sn	03 37 40.5	-3.5
SLB	Belfond	3.26	26	⇑iP	Pn	03 37 04.8	-0.7
CUPV	Cœpira	3.33	256	⇑iP	Pn	03 37 06.4	-0.1
CUPV				eS	Sn	03 37 43.9	-1.8
CUPV	Cœpira	3.33	256	eP	Pn	03 37 06.1	-0.4
CUPV				eS	Sn	03 37 43.9	-1.8
BBGH	Gun Hill	3.66	52	eP	Pn	03 37 11.2	+0.4
BBGH	Gun Hill	3.66	52	ePn	Pn	03 37 11.1	+0.3
BBGH				eS	Sn	03 37 49.7	-3.6
BIM	Bigot	3.87	21	⇑eP	Pn	03 37 13.4	-0.2
H05S1	Guadeloupe/Mar	3.88	25	P	Sn	03 37 14.0	+0.3
H05S1				S	Sn	03 37 57.2	-1.5
TRMF	Trois Ilets	3.90	21	⇑eP	Pn	03 37 13.6	-0.4
ZAM	Aeronautique	3.94	21	⇑eP	Pn	03 37 14.1	-0.5
LPMF	Morne Lapointe	3.96	22	⇑eP	Pn	03 37 14.6	-0.3
MVM	Montagne Vaucl	3.97	23	⇓eP	Pn	03 37 14.7	-0.2
FDF	Fort de France	4.05	19	⇑eP	Pn	03 37 15.7	-0.3
FDF	Fort de France	4.05	19	⇑iP	Pn	03 37 15.8	-0.3
FDF				eS	Sn	03 37 59.1	-3.7
FDF	Fort de France	4.05	19	ePn	Pn	03 37 15.7	-0.3
FDF				eSn	Sn	03 38 03.4	+0.6
BVM	Bellevue	4.08	20	eP	Pn	03 37 16.1	-0.3
FUNV	FUNVISIS	4.25	265	⇑eP	Pn	03 37 18.8	0.0
DSHT	Scott's Head	4.44	14	⇑eP	Pn	03 37 21.2	0.0
DSHT				eS	Sn	03 38 09.1	-3.1
DSHT	Scott's Head	4.44	14	⇑eP	Pn	03 37 21.2	0.0
DBCT	Belle View Cho	4.51	14	eP	Pn	03 37 21.9	-0.3
DBCT				eS	Sn	03 38 10.8	-2.9
DBCT	Belle View Cho	4.51	14	eP	Pn	03 37 21.9	-0.3
MDN	Morne-Daniel	4.54	14	eP	Pn	03 37 22.1	-0.5
MDN				eS	Sn	03 38 11.1	-3.4
MDN	Morne-Daniel	4.54	14	eP	Pn	03 37 22.1	-0.5
BBL	Barber's Block	4.72	12	eP	Pn	03 37 25.0	-0.1
TBG	Guadaloupe-3	5.01	10	eP	Pn	03 37 28.9	0.0
LUEV	Luepa	5.11	168	eP	Pn	03 37 27.5	-2.9
LUEV				eS	Sn	03 38 21.6	-7.0
HMG	Houelmont	5.13	9	eP	Pn	03 37 30.9	+0.4
MGG	Marie-Galante	5.14	13	eP	Pn	03 37 31.3	+0.8
PHG	Guadaloupe-2	5.17	9	eP	Pn	03 37 31.6	+0.5
SCG	Saint Claude	5.18	9	eP	Pn	03 37 31.6	+0.4
DOG	Dongo Capester	5.19	9	eP	Pn	03 37 31.9	+0.5
ECG	Echelle	5.20	9	eP	Pn	03 37 31.9	+0.4
LKG	Breislack	5.20	9	eP	Pn	03 37 31.7	+0.2
LKG				eS	Sn	03 38 26.8	-3.7
MLG	Mont-d'or	5.21	8	eP	Pn	03 37 31.9	+0.4
SSG	Sans Toucher	5.24	9	eP	Pn	03 37 32.2	+0.2
TURV	Turiamo	5.26	266	eP	Pn	03 37 31.4	-0.8
LZG	Guadaloupe-1	5.28	8	eP	Pn	03 37 33.1	+0.7
SEG	Port Louis	5.57	10	eP	Pn	03 37 37.5	+1.1
DEG	La Desirade	5.58	14	eP	Pn	03 37 36.3	-0.2
H05N1	Guadeloupe/Mar	5.58	14	P	Pn	03 37 36.9	+0.3
H05N1				S	Sn	03 38 36.4	-3.2
BAUV	El Baul	5.78	251	⇑eP	Pn	03 37 37.5	-1.8
BAUV				eS	Sn	03 38 39.2	-5.3
MAPV	Macapo	5.95	260	⇑eP	Pn	03 37 40.4	-1.1
JACV	Jacura	6.21	272	⇑eP	Pn	03 37 45.3	+0.2
SKI	Saint Kitts	6.42	358	eP	Pn	03 37 49.8	+2.0
SKI				eS	Sn	03 38 56.1	-3.7
SKI	Saint Kitts	6.42	358	eP	Pn	03 37 49.8	+2.0
SKI				eS	Sn	03 38 49.8	-10
TEPV	Terepaima	6.64	263	⇑eP	Pn	03 37 49.4	-1.5
SABA	Saba	6.74	354	ePn	Pn	03 37 53.1	+1.0
ANWB	Willy Bob	6.78	6	eP	Pn	03 37 53.9	+1.2
ANWB	Willy Bob	6.78	6	ePn	Pn	03 37 53.4	+0.7
ANWB				eS	Sn	03 39 08.5	-0.1
SANV	Sanarito	7.06	259	⇑iP	Pn	03 37 55.0	-1.6
SANV				eS	Sn	03 39 09.5	-5.9
CDVI	St. Croix	7.17	342	ePn	Pn	03 37 58.1	+0.1
CDVI				eS	Sn	03 39 13.7	-4.3
SIQV	Siquisique	7.18	269	eP	Pn	03 37 57.0	-1.2
SIQV				eS	Sn	03 39 11.4	-6.9
CURV	Curarigua	7.38	264	⇑eP	Pn	03 37 59.7	-1.3
MONV	Montecano	7.40	279	eP	Pn	03 38 00.9	-0.2
MTP	Monte Pirata	7.75	338	ePn	Pn	03 38 05.4	-0.5
MTP				eS	Sn	03 39 25.5	-6.6
STVI	Saint Thomas	7.79	343	ePn	Pn	03 38 06.5	+0.1
STVI				eS	Sn	03 39 27.3	-5.8
HUMP	Col San Antoni	7.91	336	ePn	Pn	03 38 07.6	-0.4
DABV	Dabajuro	7.99	271	eP	Pn	03 38 08.3	-0.7
CBYP	Canovanas	8.03	337	ePn	Pn	03 38 09.9	+0.2
CBYP				eS	Sn	03 39 32.1	-6.8
OBIP	Obispado Ponce	8.15	331	ePn	Pn	03 38 11.3	0.0
CELP	Cerrillos	8.16	332	ePn	Pn	03 38 12.6	+1.2
SDV	Santo Domingo	8.25	257	ePn	Pn	03 38 10.3	-2.5
SDV				eS	Sn	03 39 38.5	-6.0
CRPR	Cabo Rojo, PR	8.37	328	ePn	Pn	03 38 16.2	+2.0
CRPR				eS	Sn	03 39 43.6	-3.4
AOPR	Arecibo Observ	8.48	332	ePn	Pn	03 38 16.5	+0.7
LSP	Las Mesas	8.50	329	ePn	Pn	03 38 17.3	+1.4
LSP				eS	Sn	03 39 49.4	-0.8
SOCV	Socops	8.63	253	⇑eP	Pn	03 38 14.7	-3.1
SOCV				eS	Sn	03 39 45.4	-8.1
AGPR	Aguadilla, PR	8.76	330	ePn	Pn	03 38 22.4	+2.9
CAPV	Capacho	10.13	254	eP	Pn	03 38 36.1	-2.1
SDDR	Presa de Saban	11.69	315	ePn	Pn	03 39 01.9	+2.9
SDDR				eS	Sn	03 41 02.9	-4.9
PTGA	Pitinga	11.81	168	ePn	Pn	03 38 57.6	-2.9
PTGA				eS	Sn	03 41 02.9	-10
PTGA	Pitinga	11.81	168	P	Pn	03 38 58.1	-2.4
	15nm,0.3s,baz=350,slow=17,SNR=140						
PTGA				S	Sn	03 41 01.4	-9.2
	15nm,0.3s,baz=291,slow=20,SNR=14						
PTGA				LR	LR	03 44 00.2	
	comp=Z,132nm,20.7s,baz=335,slow=39						
ROSC	El Rosal	13.15	244	ePn	Pn	03 39 18.8	+0.4
ROSC				S	Sn	03 41 41.4	-2.2
ROSC	El Rosal	13.15	244	P	Pn	03 39 17.9	-0.5
	21nm,0.3s,baz=68,slow=2.8,SNR=36						
ROSC				S	Sn	03 41 41.4	-2.2
	1.1nm,0.3s,baz=52,slow=19,SNR=4.1						
ROSC				LR	LR	03 44 45.5	
	comp=Z,224nm,21.0s,baz=30,slow=39						
GTBY	Guantanamo Bay	15.11	308	ePn	P	03 39 46.9	+1.7
BCIP	Isla Barro Col	17.15	266	ePn	Pn	03 40 09.4	+1.2
	32nm,0.6s						
OTAV	Otavalo	19.05	237	eP	P	03 40 30.1	+1.0
	72nm,1.1s						
OTAV				eS	S	03 44 01.9	+2.5
SAML	Samuel	19.71	182	eP	P	03 40 36.5	+0.7
	23nm,0.8s						
SAML				eS	S	03 44 05.9	-5.7
JTS	JuntasAbangare	22.07	271	eP	P	03 41 00.7	-0.4
	23nm,0.7s						
JTS	JuntasAbangare	22.07	271	P	P	03 41 01.7	+0.6
	15nm,0.8s,baz=245,slow=6.9,SNR=8.5						
ATAH	Atahualpa	23.89	222	P	P	03 41 21.0	+2.2
ATAH	Atahualpa	23.89	222	P	P	03 41 21.0	+2.2
	124nm,0.6s,baz=11,slow=5.1,SNR=67						
ATAH				LR	LR	03 51 18.4	
	comp=Z,147nm,20.1s,baz=162,slow=38						
TEIG	Tepich	26.47	294	P	P	03 41 42.8	+1.1
TEIG	Tepich	26.47	294	P	P	03 41 42.8	+1.1
	6.3nm,0.4s,baz=6.9,slow=1.7,SNR=4.5						
TEIG				LR	LR	03 50 45.4	
	comp=Z,80nm,20.3s,baz=115,slow=33						
SIV	San Ignacio	26.74	177	P	P	03 41 45.4	+1.2
SIV	San Ignacio	26.74	177	P	P	03 41 45.4	+1.2
	3.6nm,0.6s,baz=21,slow=11,SNR=13						
NNA	Nana	26.82	212	eP	P	03 41 46.1	+1.2
	146nm,0.8s						
APG	El Apazote	27.54	282	P	P	03 41 49.9	-1.8
APG	El Apazote	27.54	282	P	P	03 41 49.9	-1.8
	19nm,0.9s,baz=114,slow=5.9,SNR=16						
LPAZ	La Paz	27.56	192	eP	P	03 41 54.0	+1.8
LPAZ	La Paz	27.56	192	P	P	03 41 53.7	+1.6
	5.0nm,0.8s,baz=6.6,slow=9.2,SNR=23						
LPAZ				LR	LR	03 54 03.7	
	comp=Z,129nm,18.1s,baz=42,slow=39						
BDFB	Brasilia	30.01	151	P	P	03 42 15.3	+2.0
BDFB	Brasilia	30.01	151	P	P	03 42 15.3	+2.0
	13nm,0.7s,baz=313,slow=11,SNR=23						
BDFB				LR	LR	03 55 16.9	
	comp=Z,144nm,21.4s,baz=320,slow=38						
RCBR	Riachuelo	31.26	121	eP	P	03 42 25.7	+1.4
	31nm,0.9s						
LRAL	Lakeview Retre	31.50	318	eP	P	03 42 27.7	+1.5
	18nm,1.3s						
LVC	Limon Verde	33.88	191	eP	P	03 42 47.8	+0.5
	74nm,2.1s						
WVT	Waverly	34.02	322	eP	P	03 42 48.6	+0.6
	99nm,2.6s						
BB16B	Bebedouro	34.54	157	eP	P	03 42 50.2	-2.6
BB16B				i		03 42 53.8	
SIUC	Southern Illin	35.89	323	eP	P	03 43 05.7	+1.6
	29nm,1.0s						
PBMO	Poplar Bluff	36.04	320	eP	P	03 43 05.9	+0.5
	30nm,1.3s						
PBMO				eScP	ScP	03 49 01.1	-3.4
835A	Beeville	37.33	303	⇓P	P	03 43 17.8	+1.4
	baz=37						
CPUP	Villa Florida	37.33	172	P	P	03 43 18.8	+2.4
CPUP	Villa Florida	37.33	172	P	P	03 43 18.8	+2.4
	1.7nm,0.6s,baz=327,slow=5.9,SNR=4.3						
735A	Kenedy	37.51	304	⇓P	P	03 43 19.1	+1.1
	baz=38						
934A	Benavides	37.67	301	⇓ScP	ScP	03 49 09.1	-1.7
	baz=38						
635A	Leesville	37.68	304	⇓P	P	03 43 19.9	+0.5
	baz=38						
635A				⇑ScP	ScP	03 49 08.5	-2.3
	baz=38						
535A	Dale	37.76	306	⇓P	P	03 43 20.6	+0.5
	baz=38						
834A	Tilden	37.87	302	⇑P	P	03 43 21.9	+0.9
	baz=38						
834A				⇑ScP	ScP	03 49 09.7	-1.8
	baz=38						
335A	Moody	38.14	307	⇓P	P	03 43 23.8	+0.5
	baz=38						
WHTX	Lake Whitney	38.46	309	eP	P	03 43 25.8	-0.1
	12nm,0.6s						
WHTX	Lake Whitney	38.46	309	⇓P	P	03 43 26.0	+0.1
	baz=39,SNR=6.3						
WHTX				⇑ScP	S	03 49 11.4	-1.0
	baz=39						
534A	Blanco	38.48	305	⇑P	P	03 43 26.1	-0.1
	baz=39						
534A				⇑ScP	S	03 49 11.2	-1.6
	baz=39						
434A	Burnet	38.62	306	⇑P	P	03 43 26.9	-0.4
	baz=39,SNR=8.3						
434A				⇓ScP	ScP	03 49 11.6	-2.7
	baz=39,SNR=7.0						
833A	Chaparral WMA,	38.63	302	⇑P	P	03 43 27.5	+0.1
	baz=39,SNR=11						
833A				⇓ScP	ScP	03 49 11.5	-2.9
	baz=39						
135A	Vickery Place,	38.67	309	⇑P	P	03 43 28.2	+0.5
	baz=39						
733A	Divot King Ran	38.68	303	⇑P	P	03 43 28.3	+0.4
	baz=39						
733A				⇓ScP	ScP	03 49 12.0	-2.6
	baz=39						
334A	Lometa	38.80	307	⇓P	P	03 43 28.8	0.0
	baz=39						
334A				⇑ScP	ScP	03 49 12.5	-2.5
	baz=39,SNR=7.7						
633A	Saathoff Ranch	38.84	304	⇓P	P	03 43 29.3	+0.1
	baz=39,SNR=7.2						
633A				⇓ScP	ScP	03 49 13.6	-1.6
	baz=39						
Z35A	Perchaven, San	38.90	311	⇑P	P	03 43 29.9	+0.3
	baz=39						
533A	Kerrville	38.95	305	⇓P	P	03 43 30.0	-0.1
	baz=39						
533A				⇓ScP	ScP	03 49 13.1	-2.6
	baz=39						
234A	Clairette	38.99	308	⇑ScP	ScP	03 49 13.1	-2.6
	baz=39						
TUL1	Tulsa	39.09	315	eP	P	03 43 31.1	0.0
	14nm,0.9s						
TUL1	Tulsa	39.09	315	⇓P	P	03 43 31.2	0.0
	baz=39						
832A	Faith Ranch, C	39.11	302	⇑P	P	03 43 31.2	-0.2
	baz=39,SNR=7.8						
832A				⇑ScP	ScP	03 49 13.5	-2.7
	baz=39						
134A	White-Moore Ra	39.19	309	⇓P	P	03 43 32.2	+0.2
	baz=39,SNR=5.6						
134A				⇑ScP	ScP	03 49 14.3	-2.2
	baz=39						
433A	Art	39.25	306	⇓P	P	03 43 32.5	-0.1
	baz=39,SNR=21						
433A				⇓ScP	ScP	03 49 14.0	-2.8
	baz=39						
732A	Laxson Ranch,	39.25	302	⇑P	P	03 43 32.4	-0.1
	baz=39						
732A				⇓ScP	ScP	03 49 14.3	-2.4
	baz=39						
632A	Uvalde	39.36	304	⇓P	P	03 43 33.6	+0.1
	baz=39						
632A				⇓ScP	ScP	03 49 14.7	-2.5
	baz=39						
333A	Richland Sprin	39.38	307	⇓P	P	03 43 33.6	-0.1
	baz=40,SNR=16						
333A				⇑ScP	ScP	03 49 13.8	-3.5
	baz=40						
Z34A	Collier Ranch,	39.41	310	⇑P	P	03 43 34.1	+0.2
	baz=40						
Y34A	Reagan Ranch,	39.55	311	⇓P	P	03 43 35.4	+0.3
	baz=40						
Y34A				⇓ScP	ScP	03 49 15.0	-2.9
	baz=40						
233A	Rising Star	39.59	308	⇑P	P	03 43 35.5	+0.1
	baz=40,SNR=10						
233A				⇓ScP	ScP	03 49 16.4	-1.7
	baz=40						
532A	Rocksprings	39.67	304	⇓P	P	03 43 36.4	+0.3
	baz=40,SNR=7.2						
JCT	Junction City	39.71	305	⇑P	P	03 43 36.3	-0.1
	baz=40,SNR=7.2						
JCT				⇓ScP	ScP	03 49 16.3	-2.3
	baz=40,SNR=7.4						
133A	Hamilton Ranch	39.84	309	⇓P	P	03 43 37.4	-0.1
	baz=40						
133A				⇓ScP	ScP	03 49 16.9	-2.1
	baz=40						
432A	Menard	39.85	306	⇓P	P	03 43 37.6	0.0
	baz=40,SNR=5.5						
432A				⇓ScP	ScP	03 49 16.6	-2.6
	baz=40						
X34A	Smith Ranch, M	39.91	312	⇑P	P	03 43 38.2	+0.2
	baz=40,SNR=14						
631A	Perdido Creek	39.97	303	⇓P	P	03 43 38.5	0.0
	baz=40						
631A				⇓ScP	ScP	03 49 17.0	-2.6
	baz=40						
332A	Millersview	40.00	306	⇑P	P	03 43 38.6	-0.2
	baz=40,SNR=8.4						
332A				⇓ScP	ScP	03 49 16.8	-2.9
	baz=40						
JFWS	Jewell Farm	40.01	328	eP	P	03 43 39.4	+0.7
	4.8nm,0.4s						
Z33A	Whitaker Ranch	40.01	310	⇓P	P	03 43 38.9	+0.1
	baz=40						
232A	Coleman	40.12	307	⇑P	P	03 43 39.5	-0.3
	baz=40,SNR=8.2						
232A				⇑ScP	ScP	03 49 17.8	-2.4
	baz=40,SNR=6.7						
W34A	Bridge Creek,	40.16	313	⇓P	P	03 43 40.0	-0.1
	baz=40						
531A	Rocksprings	40.20	304	⇓P	P	03 43 40.4	-0.2
	baz=40,SNR=5.8						
531A				⇓ScP	ScP	03 49 17.7	-2.9
	baz=40,SNR=5.2						
Y33A	Hilltop Ranch,	40.22	311	⇑P	P	03 43 40.8	+0.2
	baz=40						
X33A	Lawton	40.37	311	⇑P	P	03 43 42.2	+0.5
	baz=40						
X33A				⇑ScP	ScP	03 49 18.6	-2.5
	baz=40						
ABTX	Abilene, Hawle	40.41	308	eP	P	03 43 42.0	-0.2
	7.3nm,0.6s						
ABTX	Abilene, Hawle	40.41	308	⇑P	P	03 43 42.1	0.0
	baz=40,SNR=6.4						
ABTX				⇓ScP	ScP	03 49 18.4	-2.9
	baz=40						
431A	Sonora	40.44	305	⇑P	P	03 43 42.6	+0.2
	baz=40,SNR=8.4						
431A				⇑ScP	ScP	03 49 18.4	-3.0
	baz=40,SNR=6.0						
LCO	Las Campanas	40.44	191	eP	P	03 43 43.3	+0.7
331A	San Angelo	40.52	306	⇑P	P	03 43 43.1	0.0
	baz=41						
331A				⇑ScP	ScP	03 49 18.7	-3.0
	baz=41						
Z32A	Haskell	40.56	309	⇓P	P	03 43 43.3	-0.1
	baz=41						
Z32A				⇓ScP	ScP	03 49 19.4	-2.5
	baz=41						
W33A	Caddo, Fort Co	40.62	312	⇑P	P	03 43 44.1	+0.2
	baz=41						
W33A				⇓ScP	ScP	03 49 19.5	-2.6
	baz=41						
WMOK	Wichita Mounta	40.66	312	eP	P	03 43 44.0	-0.3
	48nm,2.3s						
231A	Bronte	40.66	307	⇑P	P	03 43 44.1	-0.2
	baz=41

baz=42
329A Wagon Wheel Ra 41.82 305 ⇑P **P 03 43 53.6 -0.2**
baz=42,SNR=5.0
329A ⇓ScP **ScP 03 49 24.0 -3.0**
baz=42
R33A Olander Ranch, 41.84 317 ⇑ScP **ScP 03 49 24.7 -2.0**
baz=42
229A Bryant Ranch, 41.86 306 ⇑ScP **ScP 03 49 24.7 -2.4**
baz=42
Y30A Stafford Cattl 41.88 309 ⇓P **P 03 43 54.3 +0.1**
baz=42
Y30A ⇓ScP **ScP 03 49 24.8 -2.3**
baz=42
V31A Spring Creek L 41.91 312 ⇓P **P 03 43 54.6 +0.2**
baz=42
628A Black Gap, Mar 41.91 302 ⇓P **P 03 43 54.6 +0.1**
baz=42,SNR=12
628A ⇑ScP **ScP 03 49 25.2 -2.1**
baz=42,SNR=5.9
X30A Coker Ranch, T 42.09 310 ⇑P **P 03 43 55.9 0.0**
baz=42
X30A ⇑ScP **ScP 03 49 25.4 -2.5**
baz=42
Q33A Connelly Farm, 42.10 318 ⇓P **P 03 43 55.7 -0.1**
baz=42
Q33A ⇓ScP **ScP 03 49 25.0 -2.8**
baz=42
428A Kincaid Ranch, 42.13 304 ⇑P **P 03 43 57.0 +0.7**
baz=42,SNR=10
428A ⇑ScP **ScP 03 49 26.3 -2.0**
baz=42,SNR=5.7
129A Stewart Farms, 42.14 307 ⇑P **P 03 43 56.6 +0.2**
baz=42,SNR=5.3
S32A Newby Ranch, P 42.17 315 ⇓P **P 03 43 56.2 -0.4**
baz=42
S32A ⇓ScP **ScP 03 49 25.4 -2.8**
baz=42
Z29A Hungry Hill Ra 42.25 308 ⇑P **P 03 43 57.2 -0.1**
baz=42
Z29A ⇑ScP **ScP 03 49 25.8 -2.9**
baz=42
R32A Long Quarter, 42.38 317 ⇓ScP **ScP 03 49 26.5 -2.5**
baz=42
T31A Randall Ranch, 42.40 314 ⇑P **P 03 43 58.6 +0.3**
baz=42
328A Wristen Ranch, 42.45 305 ⇑P **P 03 43 58.8 -0.1**
baz=42,SNR=5.9
328A ⇓ScP **ScP 03 49 26.0 -3.5**
baz=42
Y29A Porterfield Fa 42.46 309 ⇑P **P 03 43 59.1 +0.1**
baz=43,SNR=13
TXAR Lajitas Array 42.51 302 P **P 03 43 59.8 +0.3**
TXAR PcP **PcP 03 45 50.1 +0.1**
TXAR ScP **ScP 03 49 27.4 -2.4**
TXAR Lajitas Array 42.51 302 P **P 03 43 59.8 +0.3**
1.2nm,0.4s,baz=116,slow=9.4,SNR=23
TXAR PcP **PcP 03 45 50.1 +0.1**
1.2nm,0.5s,baz=123,slow=5.3,SNR=4.2
TXAR ScP **ScP 03 49 27.4 -2.4**
0.9nm,0.8s,baz=117,slow=7.2,SNR=5.0
V30A Spur Ranch, Mi 42.52 312 ⇓P **P 03 43 59.6 +0.2**
baz=43
228A UT Block 9, Go 42.53 306 ⇑P **P 03 43 59.4 -0.2**
baz=43
Q32A Meitler Ranch, 42.57 317 ⇑ScP **ScP 03 49 26.6 -3.1**
baz=43
128A Castleberry Fa 42.62 307 ⇑P **P 03 44 00.7 +0.4**
baz=43
527A Woodward Ranch 42.71 303 ⇑P **P 03 44 01.3 +0.2**
baz=43
527A ⇑ScP **ScP 03 49 28.8 -1.8**
baz=43,SNR=5.6
X29A Tulia 42.72 310 ⇓P **P 03 44 01.0 -0.1**
baz=43
427A Hayter Ranch, 42.76 304 ⇓P **P 03 44 01.5 +0.1**
baz=43,SNR=15
Z28A Tucker Farm, M 42.79 308 ⇓P **P 03 44 02.0 +0.3**
baz=43
U30A WK&E Inc. Balk 42.83 313 ⇑P **P 03 44 01.8 -0.1**
baz=43,SNR=5.4
R31A Burdett 42.87 316 ⇑P **P 03 44 02.1 0.0**
baz=43
R31A ⇑ScP **ScP 03 49 28.4 -2.6**
baz=43
Y28A McKinney Farm, 42.92 309 ⇑P **P 03 44 02.7 0.0**
baz=43,SNR=11
P32A Huiting Farm, 42.93 318 ⇑P **P 03 44 02.4 -0.2**
baz=43
P32A ⇑ScP **ScP 03 49 28.1 -3.1**
baz=43
SPMN St. Paul 42.94 328 ⇑ScP **ScP 03 49 27.8 -3.3**
baz=43
626A Big Bend Ranch 42.97 302 ⇑P **P 03 44 03.1 0.0**
baz=43,SNR=7.1
626A ⇑ScP **ScP 03 49 28.7 -2.9**
baz=43
T30A Plains 42.98 314 ⇓P **P 03 44 03.3 +0.2**
baz=43
526A Mary Lane Ranc 43.08 303 ⇑P **P 03 44 04.6 +0.5**
baz=43,SNR=8.7
526A ⇑ScP **ScP 03 49 30.7 -1.4**
baz=43
X28A Dimmitt 43.12 310 ⇓P **P 03 44 04.7 +0.3**
baz=43
Q31A Ellis 43.14 317 ⇑ScP **ScP 03 49 29.3 -2.7**
baz=43
S30A Montezuma 43.21 315 ⇑ScP **ScP 03 49 30.2 -2.2**
baz=43
426A McDonald Obser 43.21 303 ⇓P **P 03 44 05.7 +0.5**
baz=43,SNR=8.8
426A ⇑ScP **ScP 03 49 30.8 -1.9**
baz=43
U29A Oasis Ranch, S 43.24 313 ⇑P **P 03 44 05.5 +0.3**
baz=43
127A Arkansas Junct 43.33 306 ⇑P **P 03 44 06.3 +0.2**
baz=43
127A ⇑ScP **ScP 03 49 30.6 -2.5**
baz=43
MSTX Muleshoe 43.35 309 *e*P **P 03 44 06.0 -0.1**
10.0nm,0.8s
MSTX Muleshoe 43.35 309 ⇑P **P 03 44 05.9 -0.3**
baz=43,SNR=5.5
MSTX ⇓ScP **ScP 03 49 30.9 -2.2**
baz=43
326A Caldwell Ranch 43.37 304 ⇑ScP **ScP 03 49 30.7 -2.5**
baz=44
R30A Dighton 43.38 315 ⇓P **P 03 44 06.1 -0.2**
baz=44
R30A ⇓ScP **ScP 03 49 30.5 -2.6**
baz=44
P31A Stockton 43.39 318 ⇑P **P 03 44 06.6 +0.2**
baz=44
P31A ⇑ScP **ScP 03 49 30.6 -2.5**
baz=44
Z27A Tatum 43.45 307 ⇓P **P 03 44 06.4 -0.5**
baz=44,SNR=7.1
Z27A ⇓ScP **ScP 03 49 30.4 -3.1**
baz=44
T29A Hugoton 43.57 313 ⇓ScP **ScP 03 49 31.6 -2.3**
baz=44
Y27A Causey 43.62 308 ⇓P **P 03 44 08.6 +0.3**
baz=44
Y27A ⇑ScP **ScP 03 49 31.7 -2.5**
baz=44
S29A Ulysses 43.66 314 ⇓ScP **ScP 03 49 31.7 -2.6**
baz=44
O31A Woolen Ranch, 43.68 318 ⇓ScP **ScP 03 49 31.7 -2.5**
baz=44
Q30A Quinter 43.68 316 ⇓ScP **ScP 03 49 31.8 -2.5**
baz=44
226B Tecolote Peak, 43.77 305 ⇑ScP **ScP 03 49 32.4 -2.4**
baz=44
126A Clayton Basin, 43.84 306 ⇓P **P 03 44 10.2 0.0**
baz=44
126A ⇑ScP **ScP 03 49 32.5 -2.7**
baz=44
X27A F and S Farms, 43.85 309 ⇑P **P 03 44 10.5 +0.3**
baz=44,SNR=10
U28A Mallet 43.90 312 ⇑P **P 03 44 11.1 +0.5**
baz=44
SCHQ Schefferville 43.97 356 *e*P **P 03 44 11.8 +1.1**
343nm,1.9s
SCHQ ScP **ScP 03 49 33.0 -2.0**
SCHQ Schefferville 43.97 356 P **P 03 44 11.1 +0.4**
6.3nm,0.9s,baz=151,slow=10,SNR=7.5
SCHQ ScP **ScP 03 49 33.0 -2.0**
5.3nm,0.9s,baz=179,slow=6.1,SNR=3.3
P30A Selden 43.98 317 ⇑P **P 03 44 11.2 +0.1**
baz=44
P30A ⇑ScP **ScP 03 49 33.2 -2.3**
baz=44
W27A Bowe Ranch, En 43.99 310 ⇑P **P 03 44 11.5 +0.2**
baz=44,SNR=8.9
Z26A Caprock 44.03 307 ⇑P **P 03 44 11.5 -0.1**
baz=44
425A Indio Mountain 44.03 303 ⇑P **P 03 44 11.9 +0.2**
baz=44
R29A Marienthal 44.05 315 ⇓ScP **ScP 03 49 32.8 -3.0**
baz=44
ECSD EROS Data Cent 44.05 324 *e*P **P 03 44 11.5 0.0**
18nm,1.4s
ECSD EROS Data Cent 44.05 324 ⇑ScP **ScP 03 49 32.3 -3.3**
baz=44
V27A Dan Oppiter Fa 44.10 311 ⇑P **P 03 44 12.2 0.0**
baz=44
T28A Walsh 44.14 313 ⇓P **P 03 44 12.6 +0.1**
baz=44
T28A ⇑ScP **ScP 03 49 33.3 -3.0**
baz=44
O30A MW Ranch, Wils 44.18 318 ⇑ScP **ScP 03 49 33.4 -2.9**
baz=44
325A Bean Ranch, Si 44.20 304 ⇑P **P 03 44 13.7 +0.6**
baz=44,SNR=9.4
S28A Manter 44.20 314 ⇑P **P 03 44 12.5 -0.4**
baz=44,SNR=5.3
S28A ⇑ScP **ScP 03 49 33.2 -3.2**
baz=44
225A Deer Hill, Car 44.31 305 ⇑P **P 03 44 14.4 +0.4**
baz=44,SNR=14
125A Gardner Draw, 44.35 306 ⇑P **P 03 44 14.3 +0.1**
baz=44,SNR=5.1
U27A Thompson Grove 44.36 312 ⇓P **P 03 44 14.2 -0.1**
baz=44,SNR=12
U27A ⇑ScP **ScP 03 49 34.2 -3.0**
baz=44
L31A Butterfield Fa 44.47 321 ⇑P **P 03 44 15.1 +0.2**
baz=45
L31A ⇓ScP **ScP 03 49 34.4 -3.0**
baz=45
P29A Atwood 44.47 317 ⇑ScP **ScP 03 49 35.0 -2.5**
baz=45
R28A Tribune 44.48 315 ⇓P **P 03 44 15.0 0.0**
baz=45
R28A ⇑ScP **ScP 03 49 35.0 -2.6**
baz=45
W26A Owens Ranch, T 44.53 310 ⇓P **P 03 44 16.3 +0.7**
baz=45,SNR=6.8
T27A Campo 44.56 313 ⇑P **P 03 44 15.9 +0.1**
baz=45
Z25A Roswell 44.61 307 ⇓P **P 03 44 16.8 +0.6**
baz=45,SNR=6.2
Z25A ⇓ScP **ScP 03 49 35.4 -2.9**
baz=45
324A Moseley Ranch, 44.63 304 ⇓P **P 03 44 16.5 0.0**
baz=45
324A ⇓ScP **ScP 03 49 35.2 -3.2**
baz=45
O29A 4D Ranch, Culb 44.64 317 ⇓ScP **ScP 03 49 35.2 -3.0**
baz=45
Y25A Mesa, Roswell 44.81 308 ⇑P **P 03 44 18.8 +0.9**
baz=45
Y25A ⇓ScP **ScP 03 49 36.1 -3.0**
baz=45
V26A Tequesquite Ra 44.82 310 ⇓P **P 03 44 18.1 +0.2**
baz=45,SNR=13
V26A ⇓ScP **ScP 03 49 36.6 -2.5**
baz=45
224A Cornudas Mount 44.86 305 ⇓P **P 03 44 18.4 +0.1**
baz=45,SNR=5.7
224A ⇓ScP **ScP 03 49 36.8 -2.6**
baz=45
X25A Clemmons Ranch 45.01 308 ⇑P **P 03 44 19.9 +0.5**
baz=45,SNR=10.0
X25A ⇓ScP **ScP 03 49 37.7 -2.3**
baz=45
P28A Saint Francis 45.01 316 ⇑P **P 03 44 19.1 -0.2**
baz=45
U26A Atchley Ranch, 45.03 311 ⇑P **P 03 44 19.5 -0.1**
baz=45,SNR=8.8
W25A X Bar L Ranch, 45.11 309 ⇑P **P 03 44 20.7 +0.5**
baz=45,SNR=5.2
Z24A Sheeppen Canyo 45.14 307 ⇓P **P 03 44 21.1 +0.6**
baz=45,SNR=13
R27A Eads 45.14 314 ⇓ScP **ScP 03 49 37.6 -2.8**
baz=45
K30A Basset 45.22 321 ⇓P **P 03 44 20.7 -0.1**
baz=45
K30A ⇑ScP **ScP 03 49 37.5 -3.0**
baz=45
T26A Comanche Natio 45.24 312 ⇓ScP **ScP 03 49 38.4 -2.5**
baz=45
S26A Kim 45.34 313 ⇑ScP **ScP 03 49 38.9 -2.4**
baz=45
KSCO Kaye Shedlock' 45.35 315 ⇓ScP **ScP 03 49 38.7 -2.6**
baz=46
N28A Pribbeno Ranch 45.41 318 ⇓ScP **ScP 03 49 38.8 -2.6**
baz=46
V25A Rancho No Teng 45.46 310 ⇓P **P 03 44 23.8 +0.8**
baz=46,SNR=12
V25A ⇑ScP **ScP 03 49 38.6 -3.2**
baz=46
U25A Circle Dot Ran 45.52 311 ⇓P **P 03 44 23.9 +0.4**
baz=46,SNR=9.2
U25A ⇓ScP **ScP 03 49 39.2 -2.9**
baz=46
R26A Arlington 45.61 314 ⇑P **P 03 44 23.6 -0.5**
baz=46
R26A ⇑ScP **ScP 03 49 39.4 -2.9**
baz=46
Z23A Rita Site, Whi 45.80 306 ⇓ScP **ScP 03 49 41.0 -2.2**
baz=46
T25A Trinidad 45.82 312 ⇓P **P 03 44 26.3 +0.5**
baz=46
T25A ⇑ScP **ScP 03 49 40.6 -2.7**
baz=46
W24A Lazy 6 Ranch, 45.83 309 ⇑P **P 03 44 26.9 +1.0**
baz=46,SNR=6.2
W24A ⇑ScP **ScP 03 49 40.9 -2.5**
baz=46
Y23A Lovelace Mesa, 45.88 307 ⇑P **P 03 44 27.3 +0.9**
baz=46,SNR=16
V24A Rampart Ranch, 45.91 310 ⇓P **P 03 44 27.4 +0.7**
baz=46
V24A ⇑ScP **ScP 03 49 41.8 -2.0**
baz=46
Q26A Hugo 45.93 315 ⇓P **P 03 44 27.0 +0.3**
baz=46
S25A Robets Cordova 46.05 313 ⇑P **P 03 44 27.9 +0.3**
baz=46
S25A ⇓ScP **ScP 03 49 41.7 -2.5**
baz=46
J29A Okreek 46.06 322 ⇓P **P 03 44 27.3 -0.1**
baz=46
P26A Davis Ranch, A 46.10 315 ⇑P **P 03 44 27.9 0.0**
baz=46
P26A ⇓ScP **ScP 03 49 41.7 -2.7**
baz=46
222A Williams Famil 46.15 304 ⇓P **P 03 44 28.8 +0.4**
baz=46
K28A Ten Mile Ranch 46.33 320 ⇓P **P 03 44 29.1 -0.5**
baz=46
K28A ⇑ScP **ScP 03 49 42.4 -2.8**
baz=46
W23A Werner Place, 46.38 309 ⇑P **P 03 44 30.5 +0.3**
baz=46
W23A ⇓ScP **ScP 03 49 43.4 -2.3**
baz=46
Z22A Elephant Butte 46.38 306 ⇓P **P 03 44 30.6 +0.4**
baz=46
Z22A ⇓ScP **ScP 03 49 43.2 -2.5**
baz=46
BNM Barren Site 46.40 307 *e*P **P 03 44 30.8 +0.3**
14nm,1.3s
LPM Los Pinos Moun 46.46 307 *e*P **P 03 44 31.9 +1.0**
ANMO Albuquerque 46.54 308 *e*P **P 03 44 32.4 +0.9**
7.7nm,1.2s
AGMN Agassiz Nation 46.57 330 *e*P **P 03 44 31.1 -0.1**
132nm,2.6s
AGMN Agassiz Nation 46.57 330 ⇑P **P 03 44 31.3 0.0**
baz=47
S24A Houchin Ranch, 46.60 312 ⇓P **P 03 44 32.3 +0.2**
baz=47
V23A Ortiz Mt. (NFS 46.61 309 ⇓P **P 03 44 33.5 +1.4**
baz=47,SNR=6.2
J28A Allard Ranch, 46.62 321 ⇑P **P 03 44 31.4 -0.5**
baz=47
P25A Willow Gulch B 46.64 315 ⇓ScP **ScP 03 49 44.6 -2.1**
baz=47
221A Mesquite Ranch 46.67 304 ⇓P **P 03 44 33.3 +0.8**
baz=47
F30A Leola 46.69 325 ⇓P **P 03 44 33.4 +1.2**
baz=47
F30A ⇓ScP **ScP 03 49 44.1 -2.4**
baz=47
121A Cookes Peak, D 46.83 305 ⇓P **P 03 44 34.1 +0.3**
baz=47
U23A El Rito 46.83 310 ⇑P **P 03 44 34.2 +0.4**
baz=47
SDCO Great Sand Dun 46.85 312 *e*P **P 03 44 33.8 -0.3**
7.8nm,1.2s
LAZ Ladron 46.89 307 *e*P **P 03 44 34.8 +0.5**
4.7nm,1.1s
E30A Jud 47.02 326 ⇓P **P 03 44 35.0 +0.2**
baz=47,SNR=8.5
F29A Eureka 47.14 325 ⇓P **P 03 44 36.0 +0.3**
baz=47
V22A San Miguel Ran 47.22 309 ⇓P **P 03 44 37.2 +0.4**
baz=47,SNR=10
V22A ⇑ScP **ScP 03 49 47.2 -2.1**
baz=47
R23A Moffat 47.27 313 ⇓P **P 03 44 37.3 +0.1**
baz=47
R23A ⇓ScP **ScP 03 49 47.2 -2.2**
baz=47
D30A Buchanan 47.31 327 ⇓P **P 03 44 37.4 +0.3**
baz=47,SNR=5.0
G28A Parade 47.33 323 ⇓P **P 03 44 37.6 +0.3**
baz=47
U22A Llaves 47.34 310 ⇑P **P 03 44 38.3 +0.5**
baz=47
M25A Palm-Egli Farm 47.44 317 ⇑P **P 03 44 38.3 -0.1**
baz=48
E29A Napoleon 47.47 326 ⇑P **P 03 44 38.7 +0.4**
baz=48
K26A Motz Farm, Whi 47.47 319 ⇓ScP **ScP 03 49 47.7 -2.3**
baz=48
D29A Pettibone, Tap 47.73 326 ⇑P **P 03 44 40.6 +0.2**
baz=48
319A Douglas 47.73 303 ⇑P **P 03 44 40.4 -0.4**
baz=48
ISCO Idaho Springs 47.77 315 ⇓P **P 03 44 41.1 -0.1**
baz=48
ULM Lac du Bonnet 47.90 332 P **P 03 44 40.7 -0.8**
ULM Lac du Bonnet 47.90 332 P **P 03 44 40.7 -0.8**
3.9nm,0.5s,baz=114,slow=6.7,SNR=9.4
B30A Myrvik Farm, E 47.92 328 ⇑P **P 03 44 41.8 0.0**
baz=48
M24A Cheyenne 47.97 317 ⇓P **P 03 44 42.4 -0.1**
baz=48
G27A Dupree 48.10 323 ⇓P **P 03 44 43.8 +0.5**
baz=48,SNR=6.7
O23A Lake Granby, G 48.16 315 ⇑P **P 03 44 43.9 -0.2**
baz=48
A30A Hoffart Farm, 48.21 329 ⇑P **P 03 44 44.2 +0.2**
baz=48
D28A Regan 48.35 326 ⇑P **P 03 44 45.6 +0.5**
baz=48,SNR=5.2
F27A Lemmon 48.42 324 ⇑P **P 03 44 46.2 +0.5**
baz=48,SNR=6.3
O22A Kremmling 48.58 315 ⇑P **P 03 44 47.0 -0.3**
baz=49
H25A Fruitdale 48.70 321 ⇓P **P 03 44 48.0 +0.1**
baz=49
F26A Lodgepole 48.79 323 ⇑P **P 03 44 48.7 +0.1**
baz=49,SNR=5.9
L23A Garrett 48.84 317 ⇓P **P 03 44 49.0 -0.3**
baz=49
B28A Dugan Ranch, T 48.98 327 ⇑P **P 03 44 50.6 +0.7**
baz=49
E26A Carlson Angus 49.01 324 ⇑P **P 03 44 50.4 +0.2**
baz=49
C27A Sayler Ranch, 49.17 326 ⇓P **P 03 44 52.2 +0.8**
baz=49
A28A Rude Farm, Bot 49.21 328 ⇓P **P 03 44 52.1 +0.4**
baz=49
PV01 Paradox Valley 49.25 311 *e*P **P 03 44 53.2 +0.8**
493nm,1.1s
C26A Wahner Farm, P 49.56 326 ⇑P **P 03 44 55.1 +0.8**
baz=50
D25A Fairfield 49.87 324 ⇓P **P 03 44 57.6 +0.9**
baz=50
J22A Midwest 49.94 319 ⇓P **P 03 44 57.0 -0.5**
baz=50
N20A Spence Gulch, 50.05 315 ⇑P **P 03 44 58.4 0.0**
baz=50
G23A Biddle 50.10 321 ⇓P **P 03 44 58.5 0.0**
baz=50
K21A Alcova 50.10 317 ⇑P **P 03 44 58.8 +0.1**
baz=50,SNR=7.0
A26A Wade Farm, Ken 50.14 327 ⇑P **P 03 44 59.8 +1.1**
baz=50
I22A 9 Mile Ranch, 50.16 319 ⇑P **P 03 44 59.2 +0.1**
baz=50
B25A Knox Farm, Ray 50.40 326 ⇓P **P 03 45 01.9 +1.3**
baz=50,SNR=5.4
D24A Glendive 50.44 324 ⇓P **P 03 45 02.3 +1.3**
baz=50
WUAZ Wupatki 50.54 307 *e*P **P 03 45 03.1 +1.0**
34nm,1.3s
WUAZ *e*pP **pP 03 45 30.3 -0.2**
WUAZ Wupatki 50.54 307 ⇑P **P 03 45 02.5 +0.4**
baz=51
J21A Lysite 50.54 318 ⇓P **P 03 45 02.0 0.0**
baz=51
I21A Big Trails, Te 50.65 319 ⇓P **P 03 45 02.6 -0.1**
baz=51
G22A Birney 50.66 321 ⇑P **P 03 45 02.8 0.0**
baz=51
214A Organ Pipe Nat 50.80 302 ⇑P **P 03 45 04.2 +0.3**
baz=51
F22A Rosebud 50.91 321 ⇑P **P 03 45 04.7 +0.1**
baz=51
J20A Shoshoni 50.96 318 ⇓P **P 03 45 05.4 +0.3**
baz=51,SNR=7.7
SRU San Rafael 51.02 312 *e*P **P 03 45 06.0 +0.3**
14nm,1.3s
SRU *e*ScP **ScP 03 50 03.2 -2.1**
DGMT Dagmar 51.09 325 *e*P **P 03 45 06.6 +0.8**
30nm,0.7s
DGMT Dagmar 51.09 325 ⇑P **P 03 45 07.2 +1.4**
baz=51,SNR=12
A24A Westby 51.23 326 ⇓P **P 03 45 07.3 +0.5**
baz=51
I20A Worland 51.25 319 ⇑P **P 03 45 07.1 -0.1**
baz=51
H20A Greybull 51.40 319 ⇓P **P 03 45 08.3 -0.1**
baz=52
H10S3 ASCENSION HYDR 51.51 111 T T 04 40 36.8
baz=293,slow=75,SNR=65
H10S1 ASCENSION HYDR 51.52 111 T T 04 40 37.6
baz=293,slow=75,SNR=60
B23A Brockton 51.53 325 ⇑P **P 03 45 10.5 +1.3**
baz=52,SNR=6.0
H10S2 ASCENSION HYDR 51.53 111 T T 04 40 38.0
baz=293,slow=75,SNR=32
D22A Cohagen 51.54 323 ⇓P **P 03 45 10.0 +0.8**
baz=52
J19A Crowheart 51.57 317 ⇓P **P 03 45 09.5 -0.2**
baz=52
C22A Vida 51.67 324 ⇓P **P 03 45 10.8 +0.6**
baz=52
BW06 Boulder Array 51.70 317 *e*P **P 03 45 09.8 -0.9**
6.4nm,1.1s
PDAR Pinedale Array 51.70 317 P **P 03 45 10.1 -0.7**
PDAR ScP **ScP 03 50 04.8 -3.5**
PDAR Pinedale Array 51.70 317 P **P 03 45 10.1 -0.7**
2.6nm,0.6s,baz=114,slow=9.5,SNR=30
PDAR ScP **ScP 03 50 04.8 -3.5**
1.6nm,0.8s,baz=112,slow=5.5,SNR=9.0
PDAR LR LR 04 10 31.3
comp=Z,84nm,18.1s,baz=284,slow=40
A23A Redstone 51.73 326 ⇓P **P 03 45 11.8 +1.1**
baz=52,SNR=8.9
I19A Meeteetse 51.85 318 ⇓P **P 03 45 11.8 0.0**
baz=52
G20A Bridger 51.87 320 ⇑P **P 03 45 10.7 -1.1**
baz=52
PLCA Paso Flores 51.89 188 P **P 03 45 13.0 +1.1**
PLCA Paso Flores 51.89 188 P **P 03 45 13.0 +1.1**
6.5nm,0.8s,baz=10,slow=6.7,SNR=16
D21A La Casta Ranch 51.98 323 ⇑P **P 03 45 13.4 +0.9**
baz=52,SNR=5.6
B22A Reddig Ranch S 52.02 324 ⇓P **P 03 45 13.8 +1.1**
baz=52

F20A	Billings	52.09	321	⇓P		P	03 45 13.6	+0.2
	baz=52							
H19A	Powell	52.12	319	⇑P		P	03 45 14.1	+0.4
	baz=52							
A22A	Carney Farms,	52.33	325	⇑P		P	03 45 16.2	+1.1
	baz=52							
E20A	Meyer Farm, Mu	52.40	321	⇑P		P	03 45 16.2	+0.5
	baz=52,SNR=5.8							
W13A	Hualapai Mount	52.41	306	⇓P		P	03 45 16.5	+0.4
	baz=52							
H18A	Shoshone NF, C	52.56	319	⇓P		P	03 45 17.3	+0.2
	baz=53							
F19A	Roth Farm, Mol	52.61	320	⇑P		P	03 45 17.2	0.0
	baz=53							
D20A	Manuel Ranch,	52.68	322	⇑P		P	03 45 18.3	+0.6
	baz=53							
ARUT	Antelope Range	52.78	309	eP		P	03 45 19.0	+0.3
	267nm,1.1s							
ARUT					epP	pP	03 45 47.2	-0.2
E19A	Rath Farm, Rou	52.78	321	⇑P		P	03 45 19.0	+0.5
	baz=53							
REDW	Red Top Meadow	52.81	317	eP		P	03 45 18.7	-0.3
	17nm,1.6s							
I17A	Pilgrim Ck.	52.84	318	⇓P		P	03 45 20.3	+1.1
	baz=53							
C20A	Veseth Ranch,	52.89	323	⇑P		P	03 45 20.0	+0.8
	baz=53							
A21A	Bergtoll Ranch	52.90	325	⇑P		P	03 45 20.4	+1.2
	baz=53,SNR=7.6							
DUG	Dugway	53.05	312	eP		P	03 45 20.9	+0.2
	13nm,1.2s							
DUG	Dugway	53.05	312	⇓P		P	03 45 21.3	+0.7
	baz=53							
D19A	Cripps Ranch,	53.16	322	⇓P		P	03 45 22.1	+0.8
	baz=53							
IRM	Iron Mountain	53.20	305	⇑P		P	03 45 22.2	+0.5
	baz=53							
B20A	Solberg Farm,	53.25	324	⇑P		P	03 45 23.6	+1.7
	baz=53							
BC3	Big Chuckawall	53.34	304	⇑P		P	03 45 22.9	+0.1
	baz=53							
A20A	Cobblestone Ra	53.41	324	⇓P		P	03 45 23.9	+0.8
	baz=54,SNR=7.8							
BGU	Big Grassy Mou	53.45	313	eP		P	03 45 23.9	+0.3
	6.1nm,1.0s							
C19A	Slack Wire Ran	53.53	322	⇑P		P	03 45 24.5	+0.6
	baz=54							
GMRC	Granite Mounta	53.75	305	⇑P		P	03 45 26.1	+0.2
	baz=54							
SHPR	Sheep Range	53.76	307	eP		P	03 45 27.8	+1.8
	13nm,1.5s							
SHPR					epP	pP	03 45 55.7	+1.0
B19A	Brinkman Farms	53.80	323	⇓P		P	03 45 26.8	+0.9
	baz=54							
A19A	Klindworth Far	53.91	324	⇑P		P	03 45 27.7	+1.0
	baz=54,SNR=5.9							
MONP	Monument Peak	53.98	303	⇑P		P	03 45 27.8	+0.2
	baz=54							
EGMT	Eagleton	54.08	323	eP		P	03 45 28.5	+0.6
EGMT	Eagleton	54.08	323	⇑P		P	03 45 27.9	-0.1
	baz=54							
TUQ	Turquoise Moun	54.10	306	⇓P		P	03 45 28.8	+0.4
	baz=54							
PFO	Pinyon Flat Ob	54.14	304	⇓P		P	03 45 28.6	-0.1
	baz=54							
TPNV	Topopah Spring	54.72	308	eP		P	03 45 33.8	+0.9
	13nm,1.2s							
TPNV	Topopah Spring	54.72	308	⇑P		P	03 45 33.7	+0.8
	baz=55							
HRY	Holter Researc	54.79	320	eP		P	03 45 32.2	-0.9
HLID	Hailey	55.30	316	eP		P	03 45 37.0	0.0
	6.4nm,1.0s							
HLID	Hailey	55.30	316	⇓P		P	03 45 37.3	+0.4
	baz=55							
CIS	Catalina Islan	55.70	303	⇓P		P	03 45 40.0	+0.1
	baz=56							
TPH	Tonopah	55.74	309	eP		P	03 45 40.5	+0.3
	13nm,1.2s							
NVAR	Mina Array Bea	56.65	309	P		P	03 45 47.0	+0.3
NVAR				ScP		ScP	03 50 27.6	-2.4
NVAR	Mina Array Bea	56.65	309	P		P	03 45 47.0	+0.3
	0.7nm,0.7s,baz=101,slow=6.6,SNR=6.9							
NVAR				ScP		ScP	03 50 27.6	-2.4
	0.5nm,0.6s,baz=124,slow=4.3,SNR=4.3							
NVAR				LR		LR	04 13 06.0	
	comp=Z,66nm,18.8s,baz=188,slow=39							
TIC	Toumodi	56.91	89	eP		P	03 45 49.2	+0.6
	2.8nm,0.2s							
LIC	Lamto	56.96	90	eP		P	03 45 49.7	+0.7
	10nm,0.5s,baz=272							
LIC	Lamto	56.96	90	eP		P	03 45 49.7	+0.7
	43nm,1.1s							
LIC	Lamto	56.96	90	eP		P	03 45 49.7	+0.7
	10nm,0.5s							
DBIC	Dimbokro	57.06	89	eP		P	03 45 50.8	+1.0
DBIC	Dimbokro	57.06	89	P		P	03 45 50.6	+0.9
	3.3nm,0.4s,baz=271,slow=8.6,SNR=22							
KIC	Kosan Boka	57.22	89	eP		P	03 45 51.7	+0.8
	89nm,1.4s							
WAKR	Walker	57.53	309	eP		P	03 45 53.2	+0.3
WAKR					epP	pP	03 46 23.3	+1.4
WVOR	Wild Horse Val	57.90	313	eP		P	03 45 55.8	+0.5
	86nm,3.0s							
EDM	Edmonton	58.48	327	eP		P	03 45 59.4	+0.3
EDM					epP	pP	03 46 27.1	-1.1
PAB	San Pablo	58.69	50	eP		P	03 46 02.7	+1.9
	4.8nm,0.7s							
NEW	Newport	58.70	320	⇓P		P	03 46 00.0	-0.6
	baz=59							
ESDC	Sonseca Array	59.01	50	P		P	03 46 04.6	+1.7
ESDC	Sonseca Array	59.01	50	P		P	03 46 04.6	+1.7
	3.4nm,0.7s,baz=261,slow=7.0,SNR=17							
M04C	Macdoel	60.05	312	⇓P		P	03 46 10.5	+0.3
	baz=60							
ROSF	Rostrenen	61.64	41	eP		P	03 46 21.9	+1.3
ROSF	Rostrenen	61.64	41	eP		P	03 46 21.9	+1.3
SJPF	Ste Jean	61.75	47	eP		P	03 46 23.3	+1.8
	14nm,0.7s							
SJPF	Ste Jean	61.75	47	eP		P	03 46 23.3	+1.8
	14nm,0.7s							
ETSF	Etsaut	62.18	47	eP		P	03 46 26.2	+1.7
ETSF	Etsaut	62.18	47	eP		P	03 46 26.2	+1.7
TOA0	Torodi Ar. Sit	62.69	81	eP		P	03 46 29.1	+0.9
TORD	Torodi Ar. Bea	62.69	81	P		P	03 46 29.0	+0.8
TORD	Torodi Ar. Bea	62.69	81	P		P	03 46 29.0	+0.8
	11nm,0.5s,baz=291,slow=7.4,SNR=245							
EPF	Esparros	62.85	47	eP		P	03 46 30.7	+1.8
	11nm,0.5s							
EPF	Esparros	62.85	47	eP		P	03 46 30.7	+1.8
	11nm,0.5s							
GRR	Gorron	63.21	41	eP		P	03 46 32.0	+1.0
GRR	Gorron	63.21	41	eP		P	03 46 32.0	+1.0
MFF	Saint Martin d	63.25	43	eP		P	03 46 32.5	+1.1
MFF	Saint Martin d	63.25	43	eP		P	03 46 32.5	+1.1
SUMG	Summit	63.31	8	iP		P	03 46 32.1	+0.3
	3.8nm,0.9s							
YKA	Yellowknife Ar	63.49	336	P		P	03 46 31.4	-1.3
YKA	Yellowknife Ar	63.49	336	P		P	03 46 31.4	-1.3
	1.2nm,0.7s,baz=110,slow=7.5,SNR=15							
LFF	La Frestale	63.51	45	eP		P	03 46 34.2	+1.1
	8.0nm,0.6s							
LFF	La Frestale	63.51	45	eP		P	03 46 34.2	+1.1
	8.0nm,0.6s							
FLN	La Foliniere	63.54	41	eP		P	03 46 34.4	+1.2
	19nm,0.6s							
FLN	La Foliniere	63.54	41	eP		P	03 46 34.4	+1.2
	19nm,0.6s							
LDF	La Druitiere	63.73	41	eP		P	03 46 35.4	+0.9
	8.6nm,0.7s							
LDF	La Druitiere	63.73	41	eP		P	03 46 35.4	+0.9
	8.6nm,0.7s							
RJF	Les Rejaudoux	64.12	45	eP		P	03 46 38.1	+1.0
RJF	Les Rejaudoux	64.12	45	eP		P	03 46 38.1	+1.0
MTLF	Montolieu	64.26	47	eP		P	03 46 39.0	+0.9
MTLF	Montolieu	64.26	47	eP		P	03 46 39.0	+0.9
CAF	Calviac	64.43	45	eP		P	03 46 40.1	+0.9
	9.7nm,0.6s							
CAF	Calviac	64.43	45	eP		P	03 46 40.1	+0.9
	9.7nm,0.6s							
TCF	Toulx Ste Croi	64.78	44	eP		P	03 46 42.2	+0.8
	8.0nm,0.7s							
TCF	Toulx Ste Croi	64.78	44	eP		P	03 46 42.2	+0.8
	8.0nm,0.7s							
HYF	Humbligny	65.26	43	eP		P	03 46 45.6	+1.1
HYF	Humbligny	65.26	43	eP		P	03 46 45.6	+1.1
BGF	Bois d'Agland	65.26	44	eP		P	03 46 45.8	+1.3
BGF	Bois d'Agland	65.26	44	eP		P	03 46 45.8	+1.3
AVF	Avril sur Loir	65.65	43	eP		P	03 46 47.5	+0.5
	3.3nm,0.5s							
AVF	Avril sur Loir	65.65	43	eP		P	03 46 47.5	+0.5
	3.3nm,0.5s							
TAM	Tamanrasset	65.71	70	eP		P	03 46 50.5	+2.5
	8.1nm,0.9s							
SSF	Saint Saulge	65.80	43	eP		P	03 46 48.4	+0.4
SSF	Saint Saulge	65.80	43	eP		P	03 46 48.4	+0.4
SMF	Signal de Mont	65.95	44	eP		P	03 46 49.6	+0.6
SMF	Signal de Mont	65.95	44	eP		P	03 46 49.6	+0.6
LOR	Lormes	66.08	43	eP		P	03 46 50.2	+0.5
	6.6nm,0.7s							
LOR	Lormes	66.08	43	eP		P	03 46 50.2	+0.5
	6.6nm,0.6s							
BAIF	Baives	66.81	40	eP		P	03 46 55.4	+1.0
BAIF	Baives	66.81	40	eP		P	03 46 55.4	+1.0
SFTF	Sexfontaines	67.02	42	eP		P	03 46 56.1	+0.4
SFTF	Sexfontaines	67.02	42	eP		P	03 46 56.1	+0.4
MEZF	Maizieres J'vi	67.08	42	eP		P	03 46 56.8	+0.7
	13nm,0.7s							
MEZF	Maizieres J'vi	67.08	42	eP		P	03 46 56.8	+0.7
	13nm,0.7s							
GIVF	Givet	67.21	40	eP		P	03 46 57.5	+0.6
GIVF	Givet	67.21	40	eP		P	03 46 57.5	+0.6
CABF	La Chapelle	67.48	44	eP		P	03 46 59.6	+0.8
CABF	La Chapelle	67.48	44	eP		P	03 46 59.6	+0.8
PAGF	Fort de Pagny	67.53	42	eP		P	03 46 59.0	+0.1
	2.2nm,0.7s							
PAGF	Fort de Pagny	67.53	42	eP		P	03 46 59.0	+0.1
	2.2nm,0.7s							
LPL	La Plagne	67.78	45	eP		P	03 47 02.4	+1.6
	21nm,1.1s							
LPL	La Plagne	67.78	45	eP		P	03 47 02.4	+1.6
	21nm,1.1s							
LPG	La Plagne	67.79	45	eP		P	03 47 02.6	+1.6
LPG	La Plagne	67.79	45	eP		P	03 47 02.6	+1.6
HAU	Haudompre	67.86	43	eP		P	03 47 01.2	+0.2
	3.6nm,0.5s							
HAU	Haudompre	67.86	43	eP		P	03 47 01.2	+0.2
	3.6nm,0.5s							
HINF	Hinteralfeld	68.16	43	eP		P	03 47 03.1	+0.1
	5.1nm,0.5s							
HINF	Hinteralfeld	68.16	43	eP		P	03 47 03.1	+0.1
	5.1nm,0.5s							
CDF	Champ du Feu	68.53	42	eP		P	03 47 05.6	+0.3
	4.0nm,0.6s							
CDF	Champ du Feu	68.53	42	eP		P	03 47 05.6	+0.3
	4.0nm,0.6s							
KEST	Kesra	69.02	56	P		P	03 47 09.8	+1.2
KEST	Kesra	69.02	56	P		P	03 47 09.8	+1.2
	1.4nm,0.5s,baz=343,slow=3.4,SNR=15							
DAVA	Damuels	70.14	44	⇑iP		P	03 47 16.7	+1.4
	10nm,0.8s							
FETA	Feichten	70.69	44	⇑iP		P	03 47 19.9	+1.2
	7.8nm,0.8s							
MOTA	Moosalm	70.97	44	⇑iP		P	03 47 21.0	+0.7
	4.7nm,0.7s							
KBA	Koelnbreinsper	72.48	44	⇑iP		P	03 47 30.2	+0.8
	13nm,0.8s							
CLL	Collm	72.52	40	eP		P	03 47 30.0	+0.7
NB2	NORSAR Subarra	72.67	29	P		P	03 47 31.0	+0.9
	comp=Z,3.3nm,0.8s,baz=262,slow=6.2							
NOA	NORSAR Array B	72.67	29	P		P	03 47 31.4	+1.3
NOA	NORSAR Array B	72.67	29	P		P	03 47 31.4	+1.3
	comp=Z,1.7nm,0.7s,baz=262,slow=5.9,SNR=7.3							
KHC	Kasperske Hory	72.75	42	eP		P	03 47 32.4	+1.6
GEC2	GERESS Array S	72.81	42	eP		P	03 47 32.2	+0.9
GERES	GERESS Array B	72.81	42	P		P	03 47 31.5	+0.2
GERES	GERESS Array B	72.81	42	P		P	03 47 31.5	+0.2
	comp=Z,3.4nm,0.7s,baz=260,slow=4.9,SNR=32							
GERES					LR	LR	04 16 56.5	
	comp=Z,65nm,19.7s,baz=283,slow=34							
INK	Inuvik	72.97	338	P		P	03 47 31.1	-0.5
INK	Inuvik	72.97	338	P		P	03 47 31.1	-0.5
	comp=Z,2.1nm,0.9s,baz=110,slow=3.1,SNR=3.6							
PRU	Pruhonice	73.42	41	eP		P	03 47 35.9	+1.2
TREC	Trest	74.00	42	eP		P	03 47 39.2	+1.1
UPC	Upice	74.38	41	eP		P	03 47 41.0	+0.7
DPC	Dobruska-Polom	74.58	41	eP		P	03 47 42.6	+1.1
DPC	Dobruska-Polom	74.58	41	eP		P	03 47 43.1	+1.6
KRLC	Kraliky	74.86	41	eP		P	03 47 44.8	+1.7
PKSM	Moragy	76.12	45	⇑iP		P	03 47 52.1	+1.8
STHS	Stebnicka Huta	77.77	42	eP		P	03 48 01.8	+2.3
ILAR	Eielson Array	77.84	334	P		P	03 47 58.8	-0.8
ILAR	Eielson Array	77.84	334	P		P	03 47 58.8	-0.8
	comp=Z,1.1nm,0.6s,baz=93,slow=4.3,SNR=23							
ILAR					LR	LR	04 24 04.6	
	comp=Z,91nm,18.2s,baz=125,slow=37							
CRVS	Cervenica-Dubn	77.93	42	eP		P	03 48 01.6	+1.2
BZS	Buzias	78.22	45	⇓iP		P	03 48 03.6	+1.6
KOLS	Kolonicke sedl	78.47	42	eP		P	03 48 04.2	+0.8
KWP	Kalwaria Pacla	78.71	41	eP		P	03 48 06.9	+2.2
KWP	Kalwaria Pacla	78.71	41	⇑iP		P	03 48 07.2	+2.5
KWP	Kalwaria Pacla	78.71	41	eP		P	03 48 07.0	+2.4
	comp=Z,33nm,1.4s							
ARCES	ARCESS Array B	79.19	21	P		P	03 48 07.2	+0.4
ARCES	ARCESS Array B	79.19	21	P		P	03 48 07.2	+0.4
	comp=Z,4.3nm,0.8s,baz=256,slow=4.9,SNR=8.1							
VTS	Vitoria	79.59	48	⇑iP		P	03 48 11.8	+2.0
FINES	FINESS Array B	79.85	29	P		P	03 48 11.0	+0.4
FINES	FINESS Array B	79.85	29	P		P	03 48 11.0	+0.4
	comp=Z,4.1nm,0.4s,baz=263,slow=3.6,SNR=65							
KAF	Kangasniemi	79.91	29	ep		P	03 48 07.2	-3.7
	comp=Z,2.8nm,0.5s							
MMB	Musomiste	80.07	49	⇑iP		P	03 48 14.4	+2.1
ARR	Arges	80.35	46	⇑iP		P	03 48 15.4	+1.7
BURAR	Bucovina Array	80.53	43	⇑iP		P	03 48 17.1	+2.4
VOIR		80.64	45	⇑iP		P	03 48 16.6	+1.3
DOPR	Dopca	80.82	45	⇑iP		P	03 48 17.8	+1.6
MLR	Muntele Rosu	81.26	45	⇑iP		P	03 48 19.9	+1.3
TESR	Tescani	81.62	44	⇑iP		P	03 48 21.9	+1.5
VRI	Vrincioaia	81.76	45	⇑iP		P	03 48 22.9	+1.8
JOF	Joensuu	82.14	27	ep		P	03 48 22.7	0.0
	comp=Z,0.5nm,0.4s							
HARR	Harsova	82.75	46	⇓iP		P	03 48 26.5	+0.2
MSAB	Monastry St. A	82.76	47	⇑iP		P	03 48 27.8	+1.5
AKASG	Malin Array Be	82.77	40	P		P	03 48 26.4	+0.2
AKASG	Malin Array Be	82.77	40	P		P	03 48 26.4	+0.2
	comp=Z,1.3nm,0.4s,baz=289,slow=4.0,SNR=7.5							
CFR	Carcaliu	82.83	45	⇓iP		P	03 48 27.7	+1.1
TLB	Topalu	82.85	46	⇑iP		P	03 48 27.7	+0.9
TSUM	Tsumeb	84.35	111	eP		P	03 48 36.9	+1.8
	comp=Z,12nm,1.0s							
SUR	Sutherland	90.19	123	eP		P	03 49 04.6	+1.6
PPT	Papeete	90.48	252	LR		LR	04 21 29.7	
	comp=Z,91nm,20.0s,baz=5.4,slow=30							
SNAA	Sanae	91.20	164	eP		P	03 49 08.2	+1.5
	comp=Z,3.4nm,0.8s							
WMQ	Urumqi	119.18	24	PKP		PKPdf	03 54 51.1	+0.3
SONM	Songino Array	120.72	9	PKP		PKPdf	03 54 52.3	-1.5
SONM				PKKPbc		PKKPbc	04 04 59.0	-1.4
SONM	Songino Array	120.72	9	PKP		PKPdf	03 54 52.3	-1.5
	comp=Z,0.2nm,0.5s,baz=256,slow=0.7,SNR=5.8							
SONM				PKKPbc		PKKPbc	04 04 59.0	-1.4
	comp=Z,0.6nm,0.8s,baz=166,slow=4.5,SNR=4.3							
HHC	Hu-ho-hao-te	128.24	6	ePKP		PKPdf	03 55 12.7	+4.4
HHC				SS		SS	04 14 23.2	+6.6
HHC				AMB		AMB		
	comp=Z,75nm,7.5s							
CD2	Chengdu	136.40	17	ePKP		PKPdf	03 55 23.0	-0.9
NJ2	Nanjing	137.29	358	ePKP		PKPdf	03 55 24.7	-0.7
GYA	Guiyang	141.42	16	ePKP		PKPdf	03 55 31.2	-2.1
GYA				PP		PP	03 58 39.4	+3.8
GYA				AMB		AMB		
	comp=Z,110nm,7.8s							
KMI	Kunming	141.43	22	PKP		PKPdf	03 55 33.8	+0.3
CMAR	Chiang Mai Arr	145.57	32	PKPbc		PKPdf	03 55 40.2	-0.4
CMAR				SKPbc		SKPbc	03 59 07.4	-2.0
CMAR	Chiang Mai Arr	145.57	32	PKPbc		PKPdf	03 55 40.2	-0.4
	comp=Z,2.9nm,0.5s,baz=310,slow=5.3,SNR=11							
CMAR				SKPbc		SKPbc	03 59 07.4	-2.0
	comp=Z,1.2nm,0.4s,baz=309,slow=4.3,SNR=4.4							
STKA	Stephens Creek	149.47	223	PKP		PKPdf	03 55 46.8	+0.1
STKA				PKPbc		PKPbc	03 55 51.0	-0.3
STKA	Stephens Creek	149.47	223	PKP		PKPdf	03 55 46.8	+0.1
	comp=Z,4.9nm,0.7s,baz=128,slow=3.0,SNR=4.8							
STKA				PKPbc		PKPbc	03 55 51.0	-0.3
	comp=Z,4.9nm,0.7s,baz=80,slow=4.6,SNR=14							
CTA	Charters Tower	150.85	248	PKPbc		PKPbc	03 55 54.5	-0.4
CTA	Charters Tower	150.85	248	PKPbc		PKPbc	03 55 54.5	-0.4
	comp=Z,12nm,0.6s,baz=90,slow=1.5,SNR=14							
ASAR	Alice Springs	159.85	229	PKP		PKPdf	03 56 00.1	-1.1
ASAR				PKPab		PKPab	03 56 38.5	-2.4
ASAR	Alice Springs	159.85	229	PKP		PKPdf	03 56 00.1	-1.1
	comp=Z,0.4nm,0.8s,baz=117,slow=1.3,SNR=3.4							
ASAR				PKPab		PKPab	03 56 38.5	-2.4
	comp=Z,0.4nm,0.6s,baz=132,slow=3.5,SNR=4.7							
WRA	Warramunga Arr	161.44	239	PKP		PKPdf	03 56 02.4	-0.6
WRA				PKPab		PKPab	03 56 46.1	-1.9
WRA	Warramunga Arr	161.44	239	PKP		PKPdf	03 56 02.4	-0.6
	comp=Z,1.1nm,0.9s,baz=164,slow=1.0,SNR=9.1							
WRA				PKPab		PKPab	03 56 46.1	-1.9
	comp=Z,2.8nm,0.8s,baz=108,slow=4.5,SNR=13							

IDC 05 04:07:06.6±3.5, 21.12S×71.17W, h0km, mb3.8/1, mb1 3.7/2, mb1mx3.4/16, mbtmp3.6/2, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/39, Error ellipse: s-maj=127.6km s-min=65.1km az=111.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
LPAZ	La Paz	5.60	31	Pn		P	Pn	04 08 31.8	-0.2
	0.7nm,0.3s,baz=208,slow=5.7,SNR=14								
H03N1	Juan Fernandez	14.06	208	T		P	T	04 25 09.8	
	baz=28,slow=74,SNR=26								
H03N2	Juan Fernandez	14.07	208	T		P	T	04 25 10.3	
	baz=28,slow=74,SNR=26								
H03N3	Juan Fernandez	14.08	208	T		P	T	04 25 12.2	
	baz=28,slow=74,SNR=40								
PMSA	Palmer Station	43.89	176	LR		P	LR	04 32 23.2	
	comp=Z,104nm,21.1s,baz=273,slow=35								
TORD	Torodi Ar. Bea	79.22	71	P		P	P	04 19 14.2	+0.1
	0.5nm,0.7s,baz=253,slow=5.5,SNR=13								
MKAR	Makanchi Array	146.53	34	PKPbc		P	PKPdf	04 26 49.0	+0.6
	0.5nm,0.7s,baz=290,slow=4.3,SNR=5.9								

KRSC 05 04:11:41.8±1.4, 49.94N×156.41E, h50km±22km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SKR	Severo-Kuril's	0.76	346	iP		P	Pn	04 11 56.3	0.0
SKR				eS			Sn	04 12 08.1	+1.2
PAU	Pauzhetka	1.55	9	eP		P	Pn	04 12 09.3	+2.4
PAU				eS			Sn	04 12 29.5	+3.7
MIPR	Malaya Ipel'ka	2.35	5	eP		P	Pn	04 12 19.8	+2.0
ASAK	Asacha	2.62	20	eP		P	Pn	04 12 24.6	+3.0
MTVR	Mutnovka	2.78	23	eP		P	Pn	04 12 26.0	+2.1
MTVR				eS			Sn	04 12 59.5	+3.2
RUS	Russkaya	2.82	27	eP		P	Pn	04 12 26.9	+2.6
RUS				eS			Sn	04 13 00.3	+3.3
UGLR	Uglovaya	3.60	24	eP		P	Pn	04 12 38.7	+3.6
AVH	Avacha	3.63	23	eP		P	Pn	04 12 39.1	+3.6
AVH				eS			Sn	04 13 19.8	+2.7
KOK	Koryaka	3.63	22	eP		P	Pn	04 12 39.4	+3.9
SMAR	Somma	3.64	23	eP		P	Pn	04 12 39.7	+3.9
KRER	Koryakskii	3.67	22	eP		P	Pn	04 12 40.3	+4.1
SDLR	Sedlovina	3.68	24	eP		P	Pn	04 12 39.9	+3.7
KRX	Arik	3.69	21	eP		P	Pn	04 12 40.5	+4.1
GNL	Ganaly	3.88	14	eP		P	Pn	04 12 42.4	+3.5

*SJA **05** 04:15:44.6±0.5, 23.81S×64.48W, h625km±5km, ML4.9, MW4.5*

*ISCJB **05** 04:15:50.7±0.3, 23.57S±0.03×63.63W±0.04, h537km±3km, mb4.5/142, Error ellipse: s-maj=5.6km s-min=4.6km az=36.9*

*IDC **05** 04:15:51.7±0.7, 23.57S×63.66W, h540km±6km, mb4.0/22, mb1 4.2/28, mb1mx4.2/30, mbtmp4.9/28, Error ellipse: s-maj=11.2km s-min=8.8km az=76.0*

*NEIC **05** 04:15:52.1±1.9, 23.64S×63.71W, h545km±3km, mb4.5/103, Error ellipse: s-maj=13.6km s-min=11.4km az=84.0*

*BJI **05** 04:15:53.8, 23.60S×63.70W, h544km, mB5.0/6*

*LDG **05** 04:15:56.6±0.5, 22.87S×63.70W, h580km, Mb4.6/22, Ms3.0/1, Error ellipse: s-maj=34.2km s-min=26.2km az=95.0*

ISC 05 04:15:52.0±0.4, 23.61S±0.04×63.74W±0.05, h545km±3km, h545km:pP-P, n751, σ1900/816, mb4.5/141, 223C-206D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SLA	San Lorenzo	1.96	235	eP		P		04 17 01.4	+0.2
SLA				IAML				04 17 02.1	
	comp=Z,431nm,0.5s								
SLA				iS		S		04 17 58.4	+0.8
AHML	Horco Molle	3.48	204	iP		P		04 17 09.2	-0.6
AHML				IAML				04 17 10.5	
	comp=Z,147nm,0.5s								
AHML				iS		S		04 18 12.2	-1.0
LVC	Limon Verde	4.86	281	eP		P		04 17 20.4	-0.3

NNA Nana 16.99 311 eP P 04 19 21.8 +0.7
comp=Z,93nm,0.6s
PLCA Paso Flores 18.01 197 eP P 04 19 29.5 -0.6
comp=Z,21nm,1.1s
PLCA Paso Flores 18.01 197 P P 04 19 29.7 -0.4
comp=Z,0.7nm,0.3s,baz=23,slow=10,SNR=23
PLCA PcP PcP 04 23 35.9 +0.7
comp=Z,0.2nm,0.3s,baz=42,slow=7.5,SNR=3.2
PLCA ScP ScP 04 26 19.4 +0.3
comp=Z,0.1nm,0.3s,baz=348,slow=5.6,SNR=4.6
ATAH Atahualpa 21.59 317 P P 04 20 05.2 +1.8
comp=Z,4.9nm,0.5s,baz=223,slow=1.7,SNR=6.9
PTGA Pitinga 23.03 10 eP P 04 20 14.6 -1.1
PTGA eS S 04 23 44.1 -4.1
PTGA eScP ScP 04 26 32.8 +1.0
PTGA Pitinga 23.03 10 P P 04 20 14.6 -1.1
comp=Z,23nm,0.5s,baz=196,slow=12,SNR=73
PTGA S S 04 23 44.1 -4.1
comp=Z,3.8nm,0.6s,baz=270,slow=10,SNR=3.7
PTGA ScP ScP 04 26 32.8 +1.0
comp=Z,1.9nm,0.6s,baz=208,slow=3.8,SNR=2.8
ROSC El Rosal 30.12 339 eP P 04 21 18.5 +0.2
ROSC El Rosal 30.12 339 P P 04 21 18.2 -0.1
comp=Z,5.5nm,0.4s,baz=92,slow=4.7,SNR=7.9
USHA Ushuaia 31.38 185 eP P 04 21 28.0 -0.1
USHA eScP ScP 04 26 57.0 +0.4
USHA Ushuaia 31.38 185 P P 04 21 28.0 -0.1
comp=Z,3.0nm,0.5s,baz=351,slow=13,SNR=5.2
USHA ScP ScP 04 26 57.0 +0.4
comp=Z,4.3nm,0.7s,baz=326,slow=17,SNR=5.2
RCBR Riachuelo 32.09 61 eP P 04 21 34.9 0.0
comp=Z,15nm,1.3s
SDV Santo Domingo 32.99 347 eP P 04 21 40.7 -1.9
comp=Z,20nm,1.0s
MVM Montagne Vaucl 38.03 4 eP P 04 22 23.3 -0.9
ZAM Aeronautique 38.04 4 eP P 04 22 23.2 -1.0
ANWB Willy Bob 41.07 3 eP P 04 22 46.0 -2.5
comp=Z,87nm,0.6s
CRPR Cabo Rojo, PR 41.49 355 eP P 04 22 50.9 -1.0
comp=Z,114nm,0.6s
OBIP Obispado Ponce 41.49 356 eP P 04 22 49.9 -1.9
comp=Z,72nm,0.8s
CELP Cerrillos 41.52 356 eP P 04 22 50.4 -1.7
HUMP Col San Antoni 41.55 357 eP P 04 22 51.6 -0.7
comp=Z,29nm,1.0s
LSP Las Mesas 41.66 355 eP P 04 22 51.7 -1.5
CBYP Canovanas 41.67 357 eP P 04 22 52.2 -1.2
comp=Z,27nm,0.8s
AOPR Arecibo Observ 41.80 356 eP P 04 22 52.6 -1.7
comp=Z,87nm,0.5s
SNAA Sanae 58.74 161 eP P 04 24 57.9 +0.5
comp=Z,27nm,1.5s
KMSC Kings Mountain 60.76 344 eP P 04 25 11.3 +0.1
comp=Z,12nm,0.8s
KMSC Kings Mountain 60.76 344 ⇑P P 04 25 11.5 +0.3
baz=61
934A Benavides 60.98 325 ⇓P P 04 25 14.0 +1.2
baz=61
835A Beeville 61.17 326 ⇓P P 04 25 15.5 +1.5
baz=62
834A Tilden 61.41 325 ⇓P P 04 25 16.5 +0.9
baz=62
735A Kenedy 61.62 326 ⇓P P 04 25 17.7 +0.8
baz=62,SNR=7.8
734A La Parita Cree 62.00 325 ⇓P P 04 25 19.8 +0.4
baz=62
833A Chaparral WMA, 62.02 324 ⇑P P 04 25 20.2 +0.6
baz=62,SNR=22
635A Leesville 62.03 326 ⇓P P 04 25 19.6 0.0
baz=62
733A Divot King Ran 62.28 325 ⇑P P 04 25 21.6 +0.4
baz=63
832A Faith Ranch, C 62.30 324 ⇑P P 04 25 21.8 +0.4
baz=63,SNR=18
535A Dale 62.45 327 ⇓P P 04 25 23.1 +0.8
baz=63
732A Laxson Ranch, 62.65 324 ⇓P P 04 25 23.7 0.0
baz=63,SNR=12
633A Saathoff Ranch 62.81 325 ⇑P P 04 25 24.8 +0.1
baz=63,SNR=10
534A Blanco 62.90 326 ⇑P P 04 25 24.8 -0.5
baz=63,SNR=6.9
632A Uvalde 63.17 325 ⇑P P 04 25 27.3 +0.3
baz=64,SNR=8.3
533A Kerrville 63.23 326 ⇓P P 04 25 27.2 -0.2
baz=64,SNR=5.1
335A Moody 63.40 328 ⇑P P 04 25 28.7 +0.3
baz=64,SNR=13
434A Burnet 63.44 327 ⇓P P 04 25 28.5 -0.2
baz=64,SNR=11
631A Perdido Creek 63.51 324 ⇑P P 04 25 29.0 -0.2
baz=64,SNR=14
WVT Waverly 63.63 338 eP P 04 25 28.4 -1.3
comp=Z,20nm,1.0s
532A Rocksprings 63.72 325 ⇑P P 04 25 30.9 +0.3
baz=64,SNR=17
433A Art 63.80 326 ⇑P P 04 25 31.0 0.0
baz=64,SNR=32
334A Lometa 63.84 327 ⇑P P 04 25 31.3 0.0
baz=64,SNR=22
JCT Junction City 63.95 326 eP P 04 25 32.1 +0.1
comp=Z,20nm,0.8s
JCT Junction City 63.95 326 ⇓P P 04 25 32.2 +0.1
baz=64,SNR=15
WHTX Lake Whitney 64.00 328 eP P 04 25 32.2 0.0
comp=Z,9.4nm,0.8s
WHTX Lake Whitney 64.00 328 ⇑P P 04 25 32.3 +0.1
baz=64
531A Rocksprings 64.09 325 ⇓P P 04 25 33.4 +0.5
baz=64,SNR=13
333A Richland Sprin 64.21 327 ⇓P P 04 25 33.6 +0.1
baz=64,SNR=15
432A Menard 64.26 326 ⇓P P 04 25 34.0 +0.1
baz=65,SNR=10
234A Clairette 64.34 328 ⇑P P 04 25 34.4 0.0
baz=65,SNR=18
MIAR Mount Ida 64.40 333 eP P 04 25 34.4 -0.3
comp=Z,17nm,1.1s
135A Vickery Place, 64.44 329 ⇑P P 04 25 35.1 +0.1
baz=65,SNR=8.7
LIC Lamto 64.48 70 eP P 04 25 34.9 -0.8
comp=Z,36nm,0.5s,baz=249
LIC Lamto 64.48 70 eP P 04 25 34.8 -0.9
comp=Z,65nm,0.5s
LIC Lamto 64.48 70 eP P 04 25 34.9 -0.8
530A J-C Ranch, Com 64.50 324 ⇓P P 04 25 35.7 +0.2
baz=65,SNR=6.7
431A Sonora 64.53 325 ⇓P P 04 25 35.6 0.0
baz=65,SNR=9.8
332A Millersview 64.64 326 ⇑P P 04 25 36.4 0.0
baz=65,SNR=16
TIC Toumodi 64.70 70 eP P 04 25 36.2 -0.9
comp=Z,24nm,0.5s
233A Rising Star 64.72 327 ⇑P P 04 25 36.7 -0.2
baz=65,SNR=7.7
134A White-Moore Ra 64.78 328 ⇓P P 04 25 37.1 -0.1
baz=65,SNR=5.0
PARMO Parma 64.78 337 eP P 04 25 37.4 +0.3
KIC Kosan Boka 64.80 70 eP P 04 25 37.1 -0.6
comp=Z,116nm,0.5s
628A Black Gap, Mar 64.83 323 ⇑P P 04 25 38.3 +0.7
baz=65,SNR=24
DBIC Dimbokro 64.85 70 eP P 04 25 37.6 -0.5
comp=Z,44nm,0.6s
DBIC Dimbokro 64.85 70 P P 04 25 37.5 -0.5
comp=Z,36nm,0.5s,baz=215,slow=7.3,SNR=206
331A San Angelo 64.93 326 ⇓P P 04 25 38.0 -0.2
baz=65,SNR=17
430A Baggett Ranch, 64.94 325 ⇓P P 04 25 38.2 -0.1
baz=65,SNR=27
529A Stev Forest Ra 64.96 323 ⇑P P 04 25 38.8 +0.4
baz=65,SNR=6.8
232A Coleman 65.00 327 ⇑P P 04 25 38.7 +0.1
baz=65,SNR=23
Z35A Perchaven, San 65.01 329 ⇓P P 04 25 38.8 +0.3
baz=65,SNR=6.5
627A Terlingua Ranc 65.09 322 ⇓P P 04 25 39.7 +0.4
baz=65,SNR=16
LTX Lajitas 65.16 322 eP P 04 25 39.9 +0.2
TXAR Lajitas Array 65.16 322 P P 04 25 39.9 +0.2
comp=Z,4.1nm,0.7s,baz=149,slow=8.3,SNR=33
TX31 Lajitas Ar. Si 65.16 322 eP P 04 25 39.8 +0.1
429A Davenport Ranc 65.17 324 ⇓P P 04 25 40.1 +0.4
baz=66,SNR=41
133A Hamilton Ranch 65.21 328 ⇓P P 04 25 40.0 +0.1
baz=66,SNR=5.8
Z34A Collier Ranch, 65.35 329 ⇓P P 04 25 40.9 +0.1
baz=66,SNR=11

231A Bronte 65.37 326 ⇑P P 04 25 40.6 -0.3
baz=66,SNR=9.0
330A Mertzon 65.40 325 ⇓P P 04 25 41.0 -0.2
baz=66,SNR=7.8
ABTX Abilene, Hawle 65.58 327 eP P 04 25 42.2 +0.1
comp=Z,12nm,0.9s
ABTX Abilene, Hawle 65.58 327 ⇑P P 04 25 42.3 +0.1
baz=66
626A Big Bend Ranch 65.59 322 ⇓P P 04 25 43.1 +0.7
baz=66,SNR=32
428A Kincaid Ranch, 65.67 324 ⇑P P 04 25 43.4 +0.4
baz=66,SNR=8.4
Z33A Whitaker Ranch 65.69 328 ⇓P P 04 25 43.1 +0.3
baz=66,SNR=16
527A Woodward Ranch 65.74 322 ⇓P P 04 25 43.4 0.0
baz=66,SNR=9.5
230A Sterling City 65.75 326 ⇑P P 04 25 43.0 -0.3
baz=66,SNR=9.0
Y34A Reagan Ranch, 65.76 329 ⇑P P 04 25 43.3 0.0
baz=66,SNR=12
329A Wagon Wheel Ra 65.89 325 ⇑P P 04 25 44.2 0.0
baz=66,SNR=16
526A Mary Lane Ranc 65.95 322 ⇑P P 04 25 45.1 +0.4
baz=66,SNR=22
ACSO Alum Creek Sta 65.99 344 eP P 04 25 44.4 -0.1
comp=Z,23nm,0.8s
131A Roby 66.00 327 ⇓P P 04 25 45.0 +0.1
baz=66,SNR=24
Z32A Haskell 66.05 328 ⇓P P 04 25 45.1 0.0
baz=66,SNR=7.8
427A Hayter Ranch, 66.16 323 ⇓P P 04 25 46.2 +0.2
baz=66,SNR=11
229A Bryant Ranch, 66.17 325 ⇓P P 04 25 46.1 +0.1
baz=66
Y33A Hilltop Ranch, 66.21 329 ⇑P P 04 25 46.3 +0.2
baz=66
130A Snyder 66.23 326 ⇑P P 04 25 46.3 0.0
baz=66,SNR=22
328A Wristen Ranch, 66.25 324 ⇓P P 04 25 46.7 +0.2
baz=66,SNR=32
X34A Smith Ranch, M 66.33 330 ⇓P P 04 25 47.5 +0.7
baz=67,SNR=5.9
426A McDonald Obser 66.37 323 ⇓P P 04 25 47.7 +0.3
baz=67,SNR=19
Z31A Sharp Cattle R 66.39 327 ⇓P P 04 25 47.3 0.0
baz=67,SNR=23
TUL1 Tulsa 66.51 332 eP P 04 25 47.5 -0.4
TUL1 Tulsa 66.51 332 ⇓P P 04 25 47.8 -0.1
baz=67,SNR=5.8
X33A Lawton 66.59 329 ⇑P P 04 25 48.0 -0.4
baz=67
Y32A R-V Farms, Ver 66.60 328 ⇑P P 04 25 48.6 +0.1
baz=67,SNR=6.2
228A UT Block 9, Go 66.70 325 ⇑P P 04 25 49.1 -0.2
baz=67,SNR=10
129A Stewart Farms, 66.72 325 ⇑P P 04 25 49.3 -0.1
baz=67,SNR=12
W34A Bridge Creek, 66.82 330 ⇑P P 04 25 50.1 +0.3
baz=67
326A Caldwell Ranch 66.84 323 ⇑P P 04 25 50.1 0.0
baz=67,SNR=7.0
Z30A Sanderson Ranc 66.86 326 ⇓P P 04 25 50.0 -0.2
baz=67,SNR=15
X32A Elmer 66.86 328 ⇓P P 04 25 50.1 0.0
baz=67
WMOK Wichita Mounta 66.88 329 eP P 04 25 50.2 -0.1
comp=Z,8.4nm,0.8s
Y31A Rekieta Farm, 66.97 327 ⇓P P 04 25 51.0 +0.2
baz=67,SNR=13
227A Bennet, Jal 67.00 324 ⇓P P 04 25 51.4 +0.3
baz=67,SNR=6.7
425A Indio Mountain 67.00 322 ⇑P P 04 25 51.2 0.0
baz=67,SNR=16
128A Castleberry Fa 67.04 325 ⇓P P 04 25 51.3 -0.1
baz=67,SNR=19
W33A Caddo, Fort Co 67.07 330 ⇓P P 04 25 52.1 +0.7
baz=67,SNR=37
Z29A Hungry Hill Ra 67.13 326 ⇑P P 04 25 52.2 +0.3
baz=67,SNR=7.4
V34A Guthrie 67.20 331 ⇑P P 04 25 52.1 0.0
baz=68,SNR=6.3
Y30A Stafford Cattl 67.21 327 ⇑P P 04 25 52.2 -0.1
baz=68
SFIN Scholer Farm 67.27 341 ⇓P P 04 25 51.5 -1.0
baz=68
X31A McDonald Ranch 67.37 328 ⇓P P 04 25 53.2 0.0
baz=68,SNR=11
325A Bean Ranch, Si 67.43 322 ⇑P P 04 25 53.9 0.0
baz=68,SNR=34
Z28A Tucker Farm, M 67.51 326 ⇓P P 04 25 53.9 -0.3
baz=68,SNR=10
226B Tecolote Peak, 67.52 323 ⇑P P 04 25 54.6 +0.3
baz=68,SNR=7.2
V33A Lossen Ranch, 67.54 330 ⇓P P 04 25 54.5 +0.2
baz=68,SNR=6.8
127A Arkansas Junct 67.54 324 ⇓P P 04 25 54.5 0.0
baz=68,SNR=11
Y29A Porterfield Fa 67.59 326 ⇑P P 04 25 54.6 -0.1
baz=68,SNR=9.9
X30A Coker Ranch, T 67.66 327 ⇑P P 04 25 55.1 0.0
baz=68,SNR=8.1
U34A Anderson Ranch 67.71 331 ⇓P P 04 25 55.2 0.0
baz=68,SNR=8.6
324A Moseley Ranch, 67.77 322 ⇓P P 04 25 55.2 -0.7
baz=68,SNR=32
W31A Holland Ranch, 67.80 328 ⇓P P 04 25 55.8 -0.1
baz=68
V32A Arapaho 67.81 329 ⇑P P 04 25 55.8 -0.1
baz=68
126A Clayton Basin, 67.88 324 ⇑P P 04 25 56.5 +0.1
baz=68,SNR=6.9
225A Deer Hill, Car 67.91 323 ⇓P P 04 25 56.6 -0.2
baz=68,SNR=11
MNTX Cornudas Mount 67.91 322 eP P 04 25 56.2 -0.4
comp=Z,9.9nm,0.9s
Y28A McKinney Farm, 67.92 326 ⇑P P 04 25 56.2 -0.5
baz=68,SNR=5.9
Z27A Tatum 67.96 325 ⇑P P 04 25 56.7 -0.3
baz=68,SNR=12
U33A Lingo Farm, Me 67.97 331 ⇓P P 04 25 56.7 -0.2
baz=68
X29A Tulia 68.07 327 ⇑P P 04 25 57.4 -0.2
baz=68,SNR=7.3
HDIL Hopedale 68.12 339 eP P 04 25 56.5 -1.1
comp=Z,42nm,0.7s
V31A Spring Creek L 68.23 329 ⇓P P 04 25 59.2 +0.8
baz=68
125A Gardner Draw, 68.23 323 ⇓P P 04 25 58.3 -0.4
baz=68,SNR=13
MSTX Muleshoe 68.24 326 eP P 04 25 59.1 +0.4
MSTX Muleshoe 68.24 326 ⇓P P 04 25 58.8 +0.1
baz=68,SNR=32
224A Cornudas Mount 68.27 322 ⇑P P 04 25 58.9 -0.1
baz=69,SNR=39
U32A Winter Ranch, 68.33 330 ⇑P P 04 25 59.3 +0.3
baz=69
Z26A Caprock 68.33 324 ⇑P P 04 25 59.3 +0.1
baz=69,SNR=14
X28A Dimmitt 68.38 326 ⇑P P 04 25 59.7 +0.2
baz=69
Y27A Causey 68.38 325 ⇑P P 04 25 59.4 -0.1
baz=69,SNR=12
AMTX Amarillo 68.41 327 ⇑P P 04 25 59.6 -0.1
baz=69
T33A Patterson Ranc 68.56 331 ⇓P P 04 26 00.9 +0.5
baz=69,SNR=9.5
W29A Amarillo 68.58 327 ⇑P P 04 26 00.9 +0.2
baz=69
V30A Spur Ranch, Mi 68.62 328 ⇑P P 04 26 01.9 +1.0
baz=69
U31A Nine Bar Ranch 68.71 329 ⇓P P 04 26 02.1 +0.7
baz=69
223A Chaparral, Ant 68.73 322 ⇓P P 04 26 02.1 +0.4
baz=69
Z25A Roswell 68.74 324 ⇑P P 04 26 01.7 0.0
baz=69,SNR=12
Y26A Elida 68.75 325 ⇑P P 04 26 02.4 +0.6
baz=69
X27A F and S Farms, 68.94 326 ⇓P P 04 26 03.4 +0.5
baz=69
T32A Huddler Ranch, 68.95 330 ⇑P P 04 26 03.6 +0.8
baz=69,SNR=10
W28A Vega 68.96 327 ⇓P P 04 26 03.5 +0.5
baz=69
Z24A Sheeppen Canyo 69.13 323 ⇓P P 04 26 04.5 +0.3
baz=69,SNR=25
Y25A Mesa, Roswell 69.21 324 ⇑P P 04 26 04.6 0.0
baz=70,SNR=8.2

U30A WK&E Inc. Balk 69.22 329 ⇓P P 04 26 05.1 +0.7
baz=70
T31A Randall Ranch, 69.23 330 ⇑P P 04 26 05.1 +0.7
baz=70,SNR=6.2
X26A CR and CF Fran 69.23 325 ⇑P P 04 26 05.2 +0.5
baz=70,SNR=20
W27A Bowe Ranch, En 69.24 326 ⇓P P 04 26 05.1 +0.4
baz=70,SNR=11
V28A Channing 69.36 327 ⇓P P 04 26 05.7 +0.3
baz=70
S32A Newby Ranch, P 69.38 331 ⇑P P 04 26 06.2 +0.9
baz=70,SNR=9.1
320A Kipp Ranch, An 69.45 320 ⇑P P 04 26 06.9 +0.8
baz=70
U29A Oasis Ranch, S 69.45 328 ⇓P P 04 26 06.8 +0.9
baz=70,SNR=5.1
R33A Olander Ranch, 69.47 332 ⇑P P 04 26 06.4 +0.5
baz=70
221A Mesquite Ranch 69.50 321 ⇑P P 04 26 07.5 +1.1
baz=70
KSU1 Kansas State U 69.55 333 eP P 04 26 06.2 -0.1
comp=Z,31nm,0.8s
KSU1 Kansas State U 69.55 333 ⇑P P 04 26 06.2 -0.1
baz=70,SNR=6.9
Z23A Rita Site, Whi 69.55 323 ⇓P P 04 26 07.5 +0.9
baz=70,SNR=14
S31A Mullinville 69.56 330 ⇓P P 04 26 07.2 +0.7
baz=70,SNR=5.3
T30A Plains 69.58 329 ⇓P P 04 26 07.1 +0.5
baz=70
W26A Owens Ranch, T 69.62 326 ⇓P P 04 26 07.7 +0.7
baz=70,SNR=9.0
X25A Clemmons Ranch 69.66 325 ⇑P P 04 26 07.3 0.0
baz=70
U28A Mallet 69.86 328 ⇑P P 04 26 08.7 +0.3
baz=70
R32A Long Quarter, 69.88 331 ⇓P P 04 26 08.8 +0.5
baz=70,SNR=14
121A Cookes Peak, D 69.89 321 ⇑P P 04 26 10.0 +1.3
baz=70,SNR=8.9
319A Douglas 69.93 319 ⇑P P 04 26 09.9 +1.1
baz=70,SNR=12
Z22A Elephant Butte 69.96 322 ⇑P P 04 26 10.3 +1.2
baz=70,SNR=18
Y23A Lovelace Mesa, 69.96 323 ⇓P P 04 26 10.0 +0.9
baz=70,SNR=12
Q33A Connelly Farm, 69.98 332 ⇓P P 04 26 09.2 +0.4
baz=70,SNR=6.9
S30A Montezuma 70.03 330 ⇓P P 04 26 09.7 +0.5
baz=70,SNR=6.4
T29A Hugoton 70.03 329 ⇓P P 04 26 10.4 +1.1
baz=70,SNR=7.5
W25A X Bar L Ranch, 70.08 325 ⇑P P 04 26 10.0 +0.2
baz=70,SNR=6.1
R31A Burdett 70.13 331 ⇓P P 04 26 10.4 +0.5
baz=70,SNR=7.2
V26A Tequesquite Ra 70.18 326 ⇓P P 04 26 10.8 +0.5
baz=70,SNR=12
U27A Thompson Grove 70.19 327 ⇓P P 04 26 11.0 +0.7
baz=70
Q32A Meitler Ranch, 70.28 332 ⇓P P 04 26 11.1 +0.4
baz=71,SNR=20
P33A Williams Farm, 70.29 333 ⇑P P 04 26 10.6 -0.1
baz=71
S29A Ulysses 70.32 329 ⇑P P 04 26 11.7 +0.7
baz=71,SNR=7.6
T28A Walsh 70.39 328 ⇓P P 04 26 11.1 -0.4
baz=71,SNR=5.2
BNM Barren Site 70.44 323 eP P 04 26 13.8 +1.9
R30A Dighton 70.47 330 ⇑P P 04 26 12.5 +0.7
baz=71,SNR=9.4
X23A Hourglass Bar 70.52 324 ⇓P P 04 26 13.5 +1.1
baz=71,SNR=24
JFWS Jewell Farm 70.56 340 eP P 04 26 10.5 -1.7
comp=Z,33nm,0.6s
LPM Los Pinos Moun 70.56 323 eP P 04 26 14.1 +1.5
W24A Lazy 6 Ranch, 70.58 325 ⇓P P 04 26 13.3 +0.5
baz=71,SNR=12
U26A Atchley Ranch, 70.63 327 ⇑P P 04 26 13.8 +0.8
baz=71,SNR=19
T27A Campo 70.64 328 ⇑P P 04 26 13.7 +0.7
baz=71,SNR=17
V25A Rancho No Teng 70.64 326 ⇑P P 04 26 13.7 +0.6
baz=71,SNR=15
Q31A Ellis 70.66 331 ⇓P P 04 26 13.7 +0.8
baz=71,SNR=7.2
S28A Manter 70.67 329 ⇓P P 04 26 13.8 +0.7
baz=71,SNR=20
P32A Huiting Farm, 70.83 332 ⇑P P 04 26 14.2 +0.3
baz=71,SNR=10
V24A Rampart Ranch, 70.90 325 ⇓P P 04 26 16.0 +1.3
baz=71,SNR=9.1
LAZ Ladron 70.90 323 eP P 04 26 16.4 +1.7
W23A Werner Place, 70.93 324 ⇑P P 04 26 15.9 +1.0
baz=71,SNR=9.0
ANMO Albuquerque 70.94 324 eP P 04 26 16.1 +1.3
comp=Z,9.0nm,0.8s
U25A Circle Dot Ran 70.97 326 ⇓P P 04 26 15.8 +0.8
baz=71,SNR=14
R29A Marienthal 70.98 330 ⇑P P 04 26 15.8 +0.9
baz=71,SNR=14
Q30A Quinter 71.01 331 ⇑P P 04 26 16.1 +1.1
baz=71,SNR=44
P31A Stockton 71.08 332 ⇑P P 04 26 16.0 +0.6
baz=71,SNR=16
T26A Comanche Natio 71.16 327 ⇑P P 04 26 17.1 +0.9
baz=72,SNR=12
O32A Brockman Farm, 71.22 333 ⇑P P 04 26 16.2 0.0
baz=72,SNR=10.0
S27A Las Animas 71.22 328 ⇑P P 04 26 16.6 +0.2
baz=72
R28A Tribune 71.22 329 ⇑P P 04 26 16.7 +0.3
baz=72
Q29A Oakley 71.28 330 ⇑P P 04 26 17.4 +0.8
baz=72,SNR=19
V23A Ortiz Mt. (NFS 71.39 325 ⇑P P 04 26 18.9 +1.4
baz=72,SNR=12
U24A Moreno Valley 71.42 326 ⇓P P 04 26 19.3 +1.5
baz=72,SNR=7.9
S26A Kim 71.45 328 ⇑P P 04 26 18.9 +1.2
baz=72,SNR=14
P30A Selden 71.48 331 ⇑P P 04 26 18.8 +1.0
baz=72,SNR=8.0
TUC Tucson 71.49 319 eP P 04 26 19.1 +1.1
comp=Z,4.1nm,0.9s
T25A Trinidad 71.54 327 ⇑P P 04 26 19.5 +1.1
baz=72,SNR=10.0
O31A Woolen Ranch, 71.58 332 ⇑P P 04 26 18.7 +0.4
baz=72
N32A Stulken Farm, 71.65 333 ⇑P P 04 26 19.3 +0.6
baz=72
R27A Eads 71.65 329 ⇑P P 04 26 19.4 +0.6
baz=72,SNR=6.8
Q28A Sharon Springs 71.81 330 ⇓P P 04 26 20.7 +1.0
baz=72
P29A Atwood 71.84 331 ⇑P P 04 26 21.0 +1.1
baz=72,SNR=12
U23A El Rito 71.84 325 ⇑P P 04 26 21.1 +1.0
baz=72,SNR=7.8
V22A San Miguel Ran 71.91 324 ⇑P P 04 26 22.2 +1.7
baz=72,SNR=20
O30A MW Ranch, Wils 71.92 331 ⇑P P 04 26 21.1 +0.9
baz=72,SNR=12
S25A Robets Cordova 71.96 327 ⇓P P 04 26 21.9 +1.2
baz=72,SNR=21
R26A Arlington 71.97 328 ⇓P P 04 26 21.6 +0.9
baz=72,SNR=14
N31A Bailey Ranch, 71.97 333 ⇑P P 04 26 21.2 +0.7
baz=72
T24B San Luis 71.98 326 ⇑P P 04 26 22.7 +1.6
baz=72,SNR=18
BGNE Belgrade 72.13 333 eP P 04 26 21.3 -0.1
BGNE Belgrade 72.13 333 ⇑P P 04 26 21.6 +0.1
baz=72,SNR=14
KSCO Kaye Shedlock' 72.14 329 eP P 04 26 22.8 +1.1
KSCO Kaye Shedlock' 72.14 329 ⇑P P 04 26 22.8 +1.1
baz=72,SNR=12
P28A Saint Francis 72.19 330 ⇑P P 04 26 23.1 +1.2
baz=72,SNR=8.1
O29A 4D Ranch, Culb 72.20 331 ⇓P P 04 26 22.5 +0.6
baz=72
U22A Llaves 72.23 325 ⇓P P 04 26 24.1 +1.8
baz=72,SNR=9.3
R25A Fountain Ranch 72.26 327 ⇑P P 04 26 23.4 +0.9
baz=73,SNR=5.8
T23A Casias Ranch, 72.30 326 ⇓P P 04 26 24.2 +1.3
baz=73,SNR=5.7
S24A Houchin Ranch, 72.33 327 ⇑P P 04 26 24.5 +1.4

baz=73,SNR=11
M31A **Lambtecht Ranc** 72.42 333 ⇓P P 04 26 23.7 +0.6
baz=73
214A **Organ Pipe Nat** 72.48 318 ⇓P P 04 26 24.9 +1.2
baz=73,SNR=9.2
Q26A **Hugo** 72.50 328 ⇑P P 04 26 25.2 +1.4
baz=73,SNR=8.0
P27A **Ficken Ranch,** 72.55 329 ⇓P P 04 26 25.4 +1.3
baz=73,SNR=7.6
SDCO **Great Sand Dun** 72.56 326 eP P 04 26 25.9 +1.5
comp=Z,9.9nm,0.8s
O28A **Krutsinger Ran** 72.64 330 ⇓P P 04 26 25.8 +1.2
baz=73,SNR=15
N29A **Votaw Ranch, W** 72.69 332 ⇑P P 04 26 25.6 +0.8
baz=73
R24A **Sanders Place,** 72.74 327 ⇓P P 04 26 26.8 +1.5
baz=73,SNR=13
S23A **Nye Farm, Mont** 72.79 326 ⇑P P 04 26 26.8 +1.1
baz=73
Q25A **Bedland, Calha** 72.84 328 ⇑P P 04 26 26.9 +1.0
baz=73,SNR=9.0
W18A **Petrified Fore** 72.88 322 eP P 04 26 27.1 +0.9
comp=Z,14nm,0.9s
W18A **Petrified Fore** 72.88 322 ⇓P P 04 26 27.0 +0.9
baz=73
P26A **Davis Ranch, A** 72.92 329 ⇑P P 04 26 27.4 +1.2
baz=73,SNR=8.1
N28A **Pribbeno Ranch** 72.99 331 ⇑P P 04 26 27.3 +0.8
baz=73
O27A **Beecher Island** 73.01 330 ⇑P P 04 26 28.4 +1.7
baz=73,SNR=9.3
L31A **Butterfield Fa** 73.05 333 ⇑P P 04 26 27.4 +0.7
baz=73,SNR=8.1
R23A **Moffat** 73.07 326 ⇑P P 04 26 28.6 +1.4
baz=73,SNR=9.1
L30A **Spencer Herefo** 73.23 333 ⇑P P 04 26 29.1 +1.3
baz=74,SNR=5.3
S22A **4UR Ranch, Cre** 73.24 326 ⇑P P 04 26 29.6 +1.3
baz=74,SNR=7.2
P25A **Willow Gulch B** 73.27 328 ⇓P P 04 26 29.9 +1.6
baz=74,SNR=12
Q24A **Divide** 73.32 327 ⇓P P 04 26 30.2 +1.4
baz=74,SNR=15
X16A **Lo Mia Camp, P** 73.36 320 ⇑P P 04 26 30.6 +1.7
baz=74,SNR=27
OGNE **Ogallala** 73.42 331 ⇑P P 04 26 29.8 +0.9
baz=74
O26A **Horse Wrangler** 73.44 329 ⇓P P 04 26 30.7 +1.6
baz=74,SNR=8.9
SPMN **St. Paul** 73.45 339 eP P 04 26 28.4 -0.4
comp=Z,15nm,0.6s
SPMN **St. Paul** 73.45 339 ⇑P P 04 26 28.5 -0.4
baz=74,SNR=5.6
M28A **Bar X Bar Ranc** 73.49 331 ⇓P P 04 26 30.5 +1.2
baz=74,SNR=5.5
ECSD **EROS Data Cent** 73.49 336 eP P 04 26 29.0 -0.1
comp=Z,18nm,0.9s
ECSD **EROS Data Cent** 73.49 336 ⇑P P 04 26 29.1 -0.1
baz=74,SNR=12
N27A **Anderson Farm,** 73.53 330 ⇑P P 04 26 30.4 +0.7
baz=74
113A **Mohawk Valley,** 73.62 318 ⇑P P 04 26 31.2 +1.1
baz=74,SNR=11
P24A **Kohler Place,** 73.63 328 ⇑P P 04 26 31.9 +1.6
baz=74,SNR=5.9
TOA0 **Torodi Ar. Sit** 73.65 67 eP P 04 26 29.9 -0.8
TOA0 eppP pP 04 28 25.3 +0.7
TORD **Torodi Ar. Bea** 73.65 67 P P 04 26 29.9 -0.8
comp=Z,42nm,0.5s,baz=259,slow=5.6,SNR=1457
TORD ppP pP 04 28 25.3 +0.7
comp=Z,4.8nm,0.9s,baz=251,slow=6.1,SNR=5.2
O25A **Wiggins** 73.72 329 ⇑P P 04 26 32.7 +1.9
baz=74,SNR=5.5
MVCO **Mesa Verde** 73.72 324 eP P 04 26 32.1 +1.1
comp=Z,10nm,0.8s
MVCO **Mesa Verde** 73.72 324 ⇓P P 04 26 32.1 +1.1
baz=74,SNR=12
K30A **Basset** 73.78 333 ⇑P P 04 26 32.0 +1.1
baz=74,SNR=6.0
Y14A **Wickenburg** 73.96 319 ⇑P P 04 26 33.4 +1.3
baz=74,SNR=14
P23A **Jefferson** 73.98 327 ⇓P P 04 26 33.6 +1.1
baz=74
WUAZ **Wupatki** 74.10 321 eP P 04 26 34.6 +1.6
comp=Z,13nm,0.9s
WUAZ **Wupatki** 74.10 321 ⇓P P 04 26 34.7 +1.6
baz=74,SNR=14
K29A **Lazy Trails An** 74.15 333 ⇓P P 04 26 33.6 +0.5
baz=74,SNR=8.1
O24A **Longmont** 74.18 328 ⇓P P 04 26 34.4 +1.0
baz=74
ISCO **Idaho Springs** 74.20 328 eP P 04 26 34.9 +1.2
comp=Z,16nm,0.7s
ISCO **Idaho Springs** 74.20 328 ⇓P P 04 26 34.9 +1.2
baz=74,SNR=25
J30A **Dallas** 74.28 334 ⇑P P 04 26 34.2 +0.5
baz=75,SNR=6.6
SMCO **Snowmass** 74.40 326 eP P 04 26 36.8 +1.8
comp=Z,16nm,0.8s
PV01 **Paradox Valley** 74.45 325 eP P 04 26 36.7 +1.7
GLA **Glamis** 74.47 317 eP P 04 26 36.5 +1.5
comp=Z,14nm,0.8s
GLA **Glamis** 74.47 317 ⇑P P 04 26 35.8 +0.8
baz=75
K28A **Ten Mile Ranch** 74.55 332 ⇓P P 04 26 36.5 +1.1
baz=75
P22A **Eagle** 74.61 327 ⇑P P 04 26 37.5 +1.6
baz=75,SNR=11
N24A **Carr** 74.64 329 ⇓P P 04 26 37.0 +1.1
baz=75
O23A **Lake Granby, G** 74.66 328 ⇓P P 04 26 37.9 +1.6
baz=75,SNR=18
J29A **Okreek** 74.68 333 ⇑P P 04 26 36.5 +0.5
baz=75,SNR=6.6
PV05 **Paradox Valley** 74.69 324 eP P 04 26 37.5 +1.1
M25A **Palm-Egli Farm** 74.73 330 ⇓P P 04 26 37.2 +0.7
baz=75
Y12C **Blythe** 74.75 318 ⇓P P 04 26 38.0 +1.5
baz=75,SNR=12
L26A **Underwood Farm** 74.76 331 ⇑P P 04 26 37.3 +0.8
baz=75
PV04 **Paradox Valley** 74.81 325 eP P 04 26 37.4 +0.4
TSUM **Tsumeb** 74.87 105 eP P 04 26 37.1 -0.7
comp=Z,16nm,0.6s
PV10 **Paradox Valley** 74.87 325 eP P 04 26 38.5 +1.0
PDMCI **Parker Dam,Lak** 74.89 319 ⇓P P 04 26 38.1 +0.8
baz=75
K27A **Flueckinger Fa** 74.92 332 ⇓P P 04 26 38.3 +0.9
baz=75,SNR=12
O22A **Kremmling** 74.93 327 ⇓P P 04 26 38.7 +0.9
baz=75,SNR=12
BRSD **Miller** 74.99 335 eP P 04 26 37.8 +0.1
BRSD **Miller** 74.99 335 ⇑P P 04 26 37.9 +0.2
baz=75,SNR=5.4
SWSC **Sam W. Stewart** 75.00 317 ⇓P P 04 26 38.3 +0.4
baz=75
DVTC **Desert V Tower** 75.01 316 ⇓P P 04 26 39.4 +1.3
baz=75,SNR=6.8
PV09 **Paradox Valley** 75.01 325 eP P 04 26 39.7 +1.4
J28A **Allard Ranch,** 75.08 333 ⇑P P 04 26 38.7 +0.5
baz=75,SNR=5.4
M24A **Cheyenne** 75.11 329 ⇓P P 04 26 40.3 +1.7
baz=75,SNR=17
N23A **Red Feather La** 75.20 328 ⇑P P 04 26 40.6 +1.3
baz=76,SNR=14
BC3 **Big Chuckawall** 75.26 317 ⇓P P 04 26 40.6 +1.1
baz=76,SNR=12
J27A **Elkhorn Farm,** 75.27 332 ⇓P P 04 26 40.3 +1.0
baz=76,SNR=8.6
U15A **North Rim** 75.27 321 ⇑P P 04 26 41.5 +1.8
baz=76,SNR=21
W13A **Hualapai Mount** 75.28 319 ⇓P P 04 26 41.1 +1.3
baz=76
PHWY **Pilot Hill** 75.28 329 eP P 04 26 40.6 +0.9
comp=Z,11nm,1.1s
MONP **Monument Peak** 75.36 316 ⇓P P 04 26 41.5 +1.2
baz=76,SNR=8.6
N22A **Wattenberg Ran** 75.38 328 ⇓P P 04 26 42.0 +1.8
baz=76,SNR=12
BAR **Barrett** 75.39 316 eP P 04 26 40.8 +0.7
comp=Z,11nm,0.8s
IRM **Iron Mountain** 75.41 318 ⇑P P 04 26 41.7 +1.4
baz=76,SNR=13
I28A **Midland** 75.52 333 ⇓P P 04 26 41.2 +0.6
baz=76,SNR=5.3
M23A **Laramie** 75.54 329 ⇓P P 04 26 41.9 +0.9
baz=76
VNDA **Vanda** 75.58 189 eP P 04 26 41.2 +0.7
VNDA **Vanda** 75.58 189 P P 04 26 41.2 +0.7
comp=Z,3.5nm,0.9s,baz=146,slow=4.6,SNR=5.7
G30A **Faulkton** 75.64 335 ⇓P P 04 26 41.2 -0.1
baz=76
H29A **Onida** 75.64 334 ⇑P P 04 26 41.3 +0.1
baz=76
O20A **White River Ci** 75.76 326 eP P 04 26 43.8 +1.6
O20A **White River Ci** 75.76 326 ⇑P P 04 26 43.9 +1.6
baz=76,SNR=14
J26A **Sides Ranch, S** 75.78 331 ⇑P P 04 26 43.4 +1.3
baz=76,SNR=7.8
BELC **Belle Mtn. Jos** 75.83 317 ⇑P P 04 26 44.2 +1.5
baz=76,SNR=12
PFO **Pinyon Flat Ob** 75.86 317 eP P 04 26 44.0 +1.1
comp=Z,7.1nm,0.9s
PFO **Pinyon Flat Ob** 75.86 317 ⇑P P 04 26 44.2 +1.4
baz=76,SNR=5.4
M22A **Cedar Creek Ra** 75.91 328 ⇓P P 04 26 44.6 +1.5
baz=76,SNR=9.7
I27A **Quinn** 75.95 333 ⇓P P 04 26 43.2 +0.2
baz=76
KNB **Kanab** 75.98 321 eP P 04 26 45.5 +2.0
comp=Z,38nm,0.9s
LDFC **Landfair** 76.00 319 eP P 04 26 45.5 +1.9
comp=Z,21nm,0.8s
H28A **Mission Ridge** 76.01 334 ⇑P P 04 26 44.4 +1.1
baz=76,SNR=7.5
L23A **Garrett** 76.03 329 ⇓P P 04 26 44.8 +1.1
baz=76,SNR=5.7
GMRC **Granite Mounta** 76.14 318 ⇑P P 04 26 46.0 +1.6
baz=76,SNR=32
J25A **Sunshine Ranch** 76.16 331 ⇑P P 04 26 45.8 +1.5
baz=76,SNR=5.4
F30A **Leola** 76.19 335 ⇓P P 04 26 44.5 +0.2
baz=76
SRU **San Rafael** 76.20 324 eP P 04 26 46.0 +1.3
comp=Z,24nm,0.9s
I26A **New Underwood** 76.26 332 ⇑P P 04 26 45.2 +0.5
baz=77
G28A **Parade** 76.30 334 ⇓P P 04 26 45.2 +0.3
baz=77
N20A **Spence Gulch,** 76.30 327 ⇓P P 04 26 46.4 +1.2
baz=77,SNR=7.7
MURC **Murrieta** 76.32 316 ⇑P P 04 26 45.9 +0.6
baz=77
H27A **Howes** 76.41 333 ⇑P P 04 26 45.9 +0.4
baz=77,SNR=6.5
K23A **Bowen Ranch, D** 76.49 330 ⇑P P 04 26 47.3 +1.2
baz=77,SNR=10
F29A **Eureka** 76.49 335 ⇑P P 04 26 46.2 +0.3
baz=77,SNR=6.0
J24A **Dixon Ranch, L** 76.50 331 ⇑P P 04 26 47.7 +1.6
baz=77,SNR=10
HEC **Hector,Ludlow** 76.58 318 ⇑P P 04 26 48.3 +1.5
baz=77,SNR=8.5
CCUT **Cedar City** 76.67 322 eP P 04 26 49.5 +2.1
comp=Z,18nm,1.0s
MVU **Marysvale** 76.69 323 eP P 04 26 49.1 +1.6
comp=Z,20nm,1.0s
H26A **Fairpoint** 76.69 332 ⇓P P 04 26 48.3 +1.1
baz=77
E30A **Jud** 76.70 336 ⇑P P 04 26 47.5 +0.5
baz=77
TMUT **Trail Mountain** 76.70 324 eP P 04 26 48.5 +0.9
comp=Z,8.0nm,0.8s
TUQ **Turquoise Moun** 76.74 318 ⇑P P 04 26 49.0 +1.3
baz=77,SNR=10
K22A **Casper** 76.83 329 eP P 04 26 49.8 +1.8
comp=Z,11nm,0.8s
K22A **Casper** 76.83 329 ⇓P P 04 26 49.1 +1.1
baz=77
RSSD **Black Hills** 76.84 331 eP P 04 26 48.4 +0.2
comp=Z,7nm,0.9s
ARUT **Antelope Range** 76.87 322 eP P 04 26 50.3 +1.9
F28A **McLaughlin** 76.89 334 ⇑P P 04 26 48.5 +0.4
baz=77
I24A **Kuemmerle Ranc** 76.90 331 ⇑P P 04 26 49.1 +0.8
baz=77
G27A **Dupree** 76.96 333 ⇓P P 04 26 48.8 +0.3
baz=77,SNR=6.8
CIS **Catalina Islan** 76.96 316 ⇓P P 04 26 49.4 +0.6
baz=77
SHPR **Sheep Range** 77.00 320 eP P 04 26 50.6 +1.6
BFSC **Mount Baldy Ra** 77.02 317 ⇑P P 04 26 49.5 +0.2
baz=77
E29A **Napoleon** 77.03 335 ⇑P P 04 26 48.7 -0.2
baz=77
H25A **Fruitdale** 77.05 332 ⇑P P 04 26 49.0 -0.1
baz=77
AGMN **Agassiz Nation** 77.15 339 eP P 04 26 49.5 +0.1
comp=Z,14nm,0.9s
AGMN **Agassiz Nation** 77.15 339 ⇑P P 04 26 49.6 +0.1
baz=78,SNR=7.9
D30A **Buchanan** 77.15 336 ⇑P P 04 26 50.2 +0.7
baz=78,SNR=10
K21A **Alcova** 77.16 329 ⇓P P 04 26 50.9 +1.0
baz=78,SNR=23
GSC **Goldstone** 77.19 318 ⇓P P 04 26 51.4 +1.3
baz=78,SNR=11
SHOC **Shoshone** 77.26 319 ⇑P P 04 26 50.8 +0.5
baz=78
MWC **Mount Wilson** 77.27 316 eP P 04 26 51.2 +0.6
comp=Z,9.3nm,0.8s
PASC **Pasadena Art C** 77.31 316 eP P 04 26 51.9 +1.2
comp=Z,15nm,0.9s
J22A **Midwest** 77.39 330 ⇑P P 04 26 51.8 +0.7
baz=78,SNR=9.9
F27A **Lemmon** 77.40 334 ⇓P P 04 26 51.4 +0.5
baz=78,SNR=10
D29A **Pettibone, Tap** 77.43 336 ⇓P P 04 26 51.3 +0.3
baz=78
G25A **Newell** 77.43 332 ⇑P P 04 26 51.5 +0.4
baz=78,SNR=9.8
E28A **Huff** 77.44 335 ⇑P P 04 26 52.1 +1.0
baz=78,SNR=5.8
MPU **Maple Canyon** 77.45 324 eP P 04 26 53.1 +1.6
comp=Z,18nm,0.9s
DAU **Daniels Canyon** 77.53 325 eP P 04 26 53.8 +1.7
C30A **Mose, Pekin** 77.55 337 ⇑P P 04 26 52.5 +0.8
baz=78,SNR=5.7
H24A **Dirks Ranch, A** 77.56 332 ⇑P P 04 26 52.2 +0.3
baz=78,SNR=15
NLU **North Lily Min** 77.64 324 eP P 04 26 54.0 +1.4
comp=Z,6.9nm,0.8s
F26A **Lodgepole** 77.64 333 ⇓P P 04 26 52.8 +0.6
baz=78,SNR=10.0
EDW2 **Edwards Air Fo** 77.65 317 ⇓P P 04 26 53.0 +0.5
baz=78,SNR=13
E27A **Carson** 77.67 334 ⇑P P 04 26 53.0 +0.6
baz=78,SNR=6.1
I22A **9 Mile Ranch,** 77.77 330 ⇑P P 04 26 53.8 +0.7
baz=78,SNR=18
J21A **Lysite** 77.80 329 ⇑P P 04 26 54.2 +0.8
baz=78,SNR=11
BLG **Laguna Peak** 77.83 316 ⇓P P 04 26 54.0 +0.5
baz=78
LRMC **Laurel Mountai** 77.85 318 ⇓P P 04 26 54.7 +1.0
baz=78,SNR=9.9
D28A **Regan** 77.91 335 ⇓P P 04 26 53.9 +0.4
baz=78
TPNV **Topopah Spring** 77.94 319 eP P 04 26 55.6 +1.4
TPNV **Topopah Spring** 77.94 319 ⇓P P 04 26 55.7 +1.5
baz=78,SNR=11
G24A **Alzada** 77.96 332 ⇑P P 04 26 54.5 +0.4
baz=78,SNR=17
FURC **Furnace Creek,** 77.99 319 ⇓P P 04 26 55.8 +1.6
baz=78,SNR=11
F25A **Bowman** 78.03 333 ⇑P P 04 26 54.7 +0.3
baz=78
E26A **Carlson Angus** 78.06 334 ⇑P P 04 26 54.4 0.0
baz=78
I21A **Big Trails, Te** 78.08 329 ⇓P P 04 26 55.4 +0.7
baz=78,SNR=31
MDND **Maddock** 78.09 336 eP P 04 26 55.5 +1.0
comp=Z,60nm,0.8s
MDND **Maddock** 78.09 336 ⇑P P 04 26 55.5 +1.0
baz=78,SNR=7.0
J20A **Shoshoni** 78.10 329 ⇓P P 04 26 56.0 +1.1
baz=78,SNR=10
MPMC **Manual Prospec** 78.10 318 ⇑P P 04 26 55.8 +0.7
baz=78,SNR=8.3
BSC **Santa Cruz Isl** 78.13 315 ⇑P P 04 26 55.7 +0.6
baz=78
B30A **Myrvik Farm, E** 78.13 337 ⇓P P 04 26 55.3 +0.6
baz=78,SNR=13
SCHQ **Schefferville** 78.16 358 eP P 04 26 54.5 -0.2
comp=Z,490nm,2.9s
SCHQ **Schefferville** 78.16 358 P P 04 26 54.2 -0.5
comp=Z,8.1nm,0.6s,baz=173,slow=4.3,SNR=14
DUG **Dugway** 78.21 324 eP P 04 26 56.8 +1.3
comp=Z,10nm,0.8s
DUG **Dugway** 78.21 324 ⇓P P 04 26 56.8 +1.3
baz=78,SNR=16
H22A **Clearmont** 78.25 330 ⇑P P 04 26 55.8 +0.2
baz=79
C28A **Hausauer Farms** 78.27 336 ⇓P P 04 26 56.1 +0.5
baz=79
G23A **Biddle** 78.29 331 ⇓P P 04 26 56.3 +0.5
baz=79,SNR=19
PD31 **Pinedale Array** 78.38 327 eP P 04 26 56.5 0.0
PDAR **Pinedale Array** 78.38 327 P P 04 26 56.5 0.0
comp=Z,4.8nm,0.7s,baz=138,slow=8.5,SNR=41
BW06 **Boulder Array** 78.38 327 eP P 04 26 56.9 +0.4
F24A **Ekalaka** 78.39 332 ⇓P P 04 26 56.7 +0.4
baz=79,SNR=7.5
ISA **Isabella** 78.45 317 eP P 04 26 57.9 +1.0
comp=Z,2.2nm,0.8s
ISA **Isabella** 78.45 317 ⇑P P 04 26 58.3 +1.4
baz=79,SNR=16
E25A **Miller Ranch,** 78.47 333 ⇓P P 04 26 57.6 +0.9
baz=79,SNR=5.3
R11A **Troy Canyon, C** 78.49 321 eP P 04 26 58.8 +1.7
R11A **Troy Canyon, C** 78.49 321 ⇑P P 04 26 58.6 +1.5
baz=79,SNR=16
D26A **Manning** 78.50 334 ⇑P P 04 26 57.8 +0.9
baz=79,SNR=5.1
J19A **Crowheart** 78.50 328 ⇓P P 04 26 58.2 +1.1
baz=79,SNR=19
B29A **Wagenman Farm,** 78.51 337 ⇑P P 04 26 57.4 +0.7
baz=79,SNR=7.0
A30A **Hoffart Farm,** 78.54 338 ⇓P P 04 26 57.1 +0.2
baz=79
I20A **Worland** 78.58 329 ⇑P P 04 26 58.2 +0.8
baz=79,SNR=12
H21A **Big Horn, Sher** 78.59 330 ⇑P P 04 26 57.7 +0.3
baz=79,SNR=18
GRAC **Grapevine Rang** 78.65 319 ⇑P P 04 26 58.6 +0.8
baz=79
C27A **Sayler Ranch,** 78.69 335 ⇑P P 04 26 59.0 +1.2
baz=79,SNR=5.2
F23A **Volborg** 78.70 332 ⇑P P 04 26 58.4 +0.4
baz=79,SNR=22
G22A **Birney** 78.70 331 ⇑P P 04 26 58.1 +0.1
baz=79,SNR=6.8
CWC **Cottonwood Cre** 78.71 318 ⇓P P 04 26 59.1 +0.8
baz=79
SPUT **South Promonto** 78.81 325 eP P 04 26 59.7 +1.0
comp=Z,19nm,0.9s
PKM **Peak Mountain** 78.81 316 ⇓P P 04 27 00.2 +1.2
baz=79,SNR=9.9
BGU **Big Grassy Mou** 78.84 324 eP P 04 27 00.0 +1.1
comp=Z,8.9nm,1.1s
ULM **Lac du Bonnet** 78.85 340 eP P 04 26 58.6 +0.1
comp=Z,11nm,0.7s
ULM **Lac du Bonnet** 78.85 340 P P 04 26 58.5 -0.1
comp=Z,8.9nm,0.5s,baz=150,slow=6.8,SNR=16
A29A **Manning Farm,** 78.85 337 ⇓P P 04 26 58.9 +0.3
baz=79,SNR=12
B28A **Dugan Ranch, T** 78.87 336 ⇑P P 04 26 59.4 +0.7
baz=79,SNR=9.8
E24A **Baker** 78.89 333 ⇑P P 04 26 59.9 +0.9
baz=79,SNR=8.0
H20A **Greybull** 78.92 329 ⇑P P 04 26 59.6 +0.4
baz=79,SNR=15
VES **Vestal, Richgr** 78.95 317 ⇓P P 04 27 00.5 +1.1
baz=79,SNR=11
D25A **Fairfield** 78.96 334 ⇑P P 04 27 00.5 +1.2
baz=79,SNR=13
C26A **Wahner Farm, P** 79.02 335 ⇓P P 04 27 00.6 +1.0
baz=79,SNR=6.2
I19A **Meeteetse** 79.05 329 ⇑P P 04 27 00.7 +0.7
baz=79,SNR=10
G21A **Lodge Grass** 79.12 330 ⇑P P 04 27 00.8 +0.6
baz=79,SNR=16
F22A **Rosebud** 79.12 331 ⇓P P 04 27 00.7 +0.5
baz=79,SNR=16
AHID **Auburn Hatcher** 79.15 327 eP P 04 27 01.5 +0.9
comp=Z,17nm,0.8s
B27A **Peters Farms,** 79.17 336 ⇓P P 04 27 00.7 +0.4
baz=80
SMMC **Simmler** 79.19 316 ⇓P P 04 27 01.6 +0.9
baz=80
TIN **Tinemaha** 79.20 318 ⇓P P 04 27 02.1 +1.2
baz=80
A28A **Rude Farm, Bot** 79.22 336 ⇓P P 04 27 01.0 +0.4
baz=80
TPH **Tonopah** 79.27 320 eP P 04 27 02.0 +0.8
comp=Z,12nm,1.1s
HVU **Hansel Valley** 79.31 325 eP P 04 27 02.3 +0.9
comp=Z,11nm,0.8s
D24A **Glendive** 79.34 333 ⇑P P 04 27 02.2 +0.9
baz=80,SNR=7.7
RCTC **Rector, Farmer** 79.34 317 ⇑P P 04 27 01.7 +0.2
baz=80
C25A **Freed Ranch, W** 79.39 334 ⇑P P 04 27 02.5 +1.0
baz=80,SNR=6.8
REDW **Red Top Meadow** 79.46 327 eP P 04 27 03.1 +0.8
comp=Z,7.5nm,0.9s
SNOW **Snow King Moun** 79.49 327 eP P 04 27 03.1 +0.7
comp=Z,25nm,1.6s
E22A **Miles City** 79.50 332 ⇑P P 04 27 01.7 -0.4
baz=80
LOHW **Long Hollow** 79.52 327 eP P 04 27 03.3 +0.8
comp=Z,8.2nm,0.8s
H19A **Powell** 79.52 329 ⇑P P 04 27 03.1 +0.7
baz=80,SNR=8.5
MDT **Midelt** 79.54 47 eP P 04 27 02.4 -0.3
MDT **Midelt** 79.54 47 P P 04 27 02.4 -0.3
comp=Z,7.7nm,0.9s,baz=240,slow=8.0,SNR=4.3
F21A **Absaloka Mine,** 79.54 331 ⇓P P 04 27 02.5 +0.1
baz=80
G20A **Bridger** 79.58 330 ⇑P P 04 27 02.8 +0.1
baz=80,SNR=14
MOOW **Moose Ponds** 79.69 327 eP P 04 27 04.2 +0.7
comp=Z,6.3nm,0.9s
C24A **Savage** 79.71 333 ⇓P P 04 27 04.3 +1.1
baz=80,SNR=13
I17A **Pilgrim Ck.** 79.73 328 ⇓P P 04 27 05.0 +1.4
baz=80,SNR=12
FXWY **Fox Creek** 79.75 327 eP P 04 27 04.6 +0.9
comp=Z,4.3nm,0.9s
D23A **Lindsay** 79.76 333 ⇓P P 04 27 04.2 +0.7
baz=80
B25A **Knox Farm, Ray** 79.80 334 ⇓P P 04 27 04.9 +1.2
baz=80,SNR=7.2
LBTB **Lobatse** 79.80 113 eP P 04 27 03.6 -0.8
comp=Z,19nm,0.6s
LAO **LASA Array** 79.81 332 eP P 04 27 04.8 +1.0
comp=Z,12nm,0.8s
H18A **Shoshone NF, C** 79.85 329 ⇑P P 04 27 04.9 +0.7
baz=80,SNR=19
A26A **Wade Farm, Ken** 79.87 335 ⇑P P 04 27 04.5 +0.6
baz=80,SNR=8.6
ELK **Elko** 79.92 323 eP P 04 27 05.4 +0.6
comp=Z,8.1nm,0.8s
MLAC **Mammoth Lakes** 79.94 319 ⇓P P 04 27 05.6 +0.7
baz=80
F20A **Billings** 79.99 330 ⇓P P 04 27 04.8 +0.1
baz=80
RLMT **Red Lodge** 79.99 329 eP P 04 27 05.8 +0.9
comp=Z,9.9nm,0.9s
E21A **Keefer Ranch,** 80.07 331 ⇑P P 04 27 05.5 +0.3
baz=80
H17A **Grant Village** 80.08 328 ⇓P P 04 27 06.8 +1.3
baz=80
PBDV **Barranco-do-Ve** 80.13 42 eP P 04 27 03.4 -2.2
comp=Z,186nm,1.5s
NV01 **Mina Array Sit** 80.14 319 eP P 04 27 06.9 +1.0
NVAR **Mina Array Bea** 80.14 319 P P 04 27 06.7 +0.8
comp=Z,4.0nm,0.8s,baz=133,slow=3.9,SNR=29
NVAR pP pP 04 29 04.7 +2.4
comp=Z,0.4nm,0.8s,baz=143,slow=7.6,SNR=2.8
D22A **Cohagen** 80.15 332 ⇑P P 04 27 06.3 +0.8
baz=80,SNR=9.5
C23A **Lambert** 80.24 333 ⇓P P 04 27 06.8 +0.8
baz=81,SNR=7.9
YFT **Old Faithful** 80.25 328 eP P 04 27 08.7 +2.4
comp=Z,9.9nm,1.0s
PCVE **Castro Verde** 80.31 42 eP P 04 27 07.2 +0.7
comp=Z,120nm,2.2s
A25A **Svangstu Ranch** 80.32 335 ⇑P P 04 27 07.1 +0.8
baz=81
DGMT **Dagmar** 80.37 334 eP P 04 27 07.8 +1.1
comp=Z,36nm,0.6s
DGMT **Dagmar** 80.37 334 ⇓P P 04 27 07.7 +1.1
baz=81,SNR=16

F19A **Roth Farm, Mol** 80.39 330 ⇑P P 04 27 07.3 +0.5
baz=81,SNR=14
D21A **La Casta Ranch** 80.44 332 ⇓P P 04 27 07.6 +0.6
baz=81,SNR=12
YMR **Madison River** 80.47 328 *e*P P 04 27 09.3 +1.8
comp=Z,17nm,0.8s
C22A **Vida** 80.49 333 ⇓P P 04 27 07.9 +0.6
baz=81,SNR=5.7
E20A **Meyer Farm, Mu** 80.51 331 ⇓P P 04 27 08.0 +0.5
baz=81,SNR=13
A24A **Westby** 80.65 334 ⇓P P 04 27 08.7 +0.7
baz=81
GCMT **Greycliff** 80.68 329 *e*P P 04 27 09.2 +0.8
B23A **Brockton** 80.69 334 ⇓P P 04 27 09.1 +0.9
baz=81,SNR=8.8
E19A **Rath Farm, Rou** 80.78 330 ⇓P P 04 27 09.2 +0.3
baz=81,SNR=9.6
WAKR **Walker** 80.87 319 *e*P P 04 27 11.6 +1.9
MAW **Mawson** 80.90 162 P P 04 27 09.6 +0.5
comp=Z,8.9nm,0.7s,baz=226,slow=7.2,SNR=9.5
EVO **Evora** 80.90 41 *e*P P 04 27 09.3 -0.2
D20A **Manuel Ranch,** 80.96 331 ⇓P P 04 27 10.3 +0.5
baz=81,SNR=14
B22A **Reddig Ranch S** 80.97 333 ⇑P P 04 27 10.1 +0.4
baz=81
A23A **Redstone** 81.03 334 ⇑P P 04 27 10.4 +0.4
baz=81
CMB **Columbia Colle** 81.15 318 *e*P P 04 27 11.5 +0.6
comp=Z,5.2nm,1.1s
D19A **Cripps Ranch,** 81.35 331 ⇓P P 04 27 11.9 +0.2
baz=82,SNR=9.8
C20A **Veseth Ranch,** 81.38 332 ⇑P P 04 27 12.0 +0.2
baz=82,SNR=6.8
HLID **Hailey** 81.42 325 *e*P P 04 27 13.7 +1.4
comp=Z,17nm,0.8s
HLID **Hailey** 81.42 325 ⇓P P 04 27 13.8 +1.5
baz=82,SNR=26
A22A **Carney Farms,** 81.48 333 ⇑P P 04 27 13.1 +0.8
baz=82,SNR=8.3
B21A **Ellsworth Farm** 81.50 333 ⇑P P 04 27 13.0 +0.6
baz=82,SNR=8.9
BOZ **Bozeman (W)** 81.51 328 *e*P P 04 27 13.3 +0.6
comp=Z,97nm,3.0s
MCMT **McKenzie Canyo** 81.52 327 *e*P P 04 27 14.2 +1.3
DLMT **Dillon** 81.77 328 *e*P P 04 27 14.8 +0.7
comp=Z,14nm,1.1s
C19A **Slack Wire Ran** 81.85 331 ⇓P P 04 27 14.6 +0.3
baz=82,SNR=5.8
A21A **Bergtoll Ranch** 81.90 333 ⇓P P 04 27 14.6 +0.1
baz=82
B20A **Solberg Farm,** 81.94 332 ⇑P P 04 27 14.9 +0.2
baz=82
LRM **Limekiln Ridge** 82.03 328 *e*P P 04 27 16.1 +0.6
PCBR **Castelo Branco** 82.06 40 *e*P P 04 27 15.6 +0.2
MFID **Camas Ranch** 82.07 325 *e*P P 04 27 16.8 +1.2
comp=Z,8.4nm,0.8s
A20A **Cobblestone Ra** 82.23 332 ⇑P P 04 27 16.6 +0.4
baz=83,SNR=20
B19A **Brinkman Farms** 82.35 332 ⇓P P 04 27 17.1 +0.3
baz=83
HRY **Holter Researc** 82.38 329 *e*P P 04 27 18.1 +1.1
MTE **Manteigas** 82.38 40 *e*P P 04 27 17.1 0.0
comp=Z,62nm,1.9s
EGMT **Eagleton** 82.39 331 *e*P P 04 27 17.6 +0.5
comp=Z,10nm,0.9s
EGMT **Eagleton** 82.39 331 ⇓P P 04 27 17.0 0.0
baz=83
A19A **Klindworth Far** 82.62 332 ⇓P P 04 27 18.2 0.0
baz=83
PVRL **Vila Real** 82.84 39 *e*P P 04 27 19.8 +0.4
comp=Z,65nm,1.5s
POLO **Lamas de Olo** 82.85 39 *e*P P 04 27 19.9 +0.4
comp=Z,31nm,2.0s
PCAB **Cabril** 82.94 39 *e*P P 04 27 20.1 +0.2
comp=Z,46nm,1.6s
PGAV **Gavieira, Arco** 82.96 38 *e*P P 04 27 20.1 0.0
comp=Z,68nm,1.8s
MVO **Moncorvo** 83.16 39 *e*P P 04 27 21.5 +0.4
comp=Z,39nm,1.0s
J08A **Circle Bar Ran** 83.46 323 *e*P P 04 27 24.0 +1.4
comp=Z,53nm,1.5s
MSO **Missoula** 83.47 328 ⇓P P 04 27 22.9 +0.3
baz=84
MOD **Modoc** 83.55 321 *e*P P 04 27 23.9 +0.9
comp=Z,6.1nm,1.1s
PBRG **Braganca** 83.74 39 *e*P P 04 27 24.1 +0.2
comp=Z,43nm,1.6s
PAB **San Pablo** 83.76 42 *e*P P 04 27 24.1 -0.1
comp=Z,5.4nm,1.1s
SWMT **Swartz Lake** 83.98 328 *e*P P 04 27 25.8 +0.7
ESDC **Sonseca Array** 84.08 42 *e*P P 04 27 25.4 -0.2
ESDC **Sonseca Array** 84.08 42 P P 04 27 25.4 -0.2
comp=Z,5.4nm,0.6s,baz=236,slow=4.6,SNR=49
ES19 **SONSECA Array** 84.13 42 *e*P P 04 27 26.1 +0.2
JTMT **Jette** 84.28 328 *e*P P 04 27 27.2 +0.7
M04C **Macdoel** 84.36 320 ⇑P P 04 27 27.0 -0.1
baz=85
N02D **Trinity Center** 84.38 319 ⇓P P 04 27 26.8 -0.3
baz=85
K05A **Summer Lake** 84.41 322 *e*P P 04 27 28.6 +1.2
comp=Z,21nm,0.8s
I07A **Izee** 84.50 323 *e*P P 04 27 28.6 +1.0
comp=Z,12nm,0.9s
F10A **Beach Ranch, E** 84.53 326 *e*P P 04 27 28.4 +0.6
comp=Z,9.0nm,0.8s
BSMT **Basoo Peak** 84.60 328 *e*P P 04 27 28.7 +0.5
M02C **Callahan** 84.72 320 ⇓P P 04 27 28.8 0.0
baz=85
YBH **Yreka Blue Hor** 84.84 320 *e*P P 04 27 29.0 -0.4
comp=Z,116nm,2.6s
YBH **Yreka Blue Hor** 84.84 320 P P 04 27 28.7 -0.7
comp=Z,6.9nm,0.7s,baz=82,slow=4.9,SNR=21
WALA **Waterton Lakes** 85.03 330 *e*P P 04 27 30.3 +0.1
L02D **Cave Junction,** 85.63 320 ⇑P P 04 27 33.7 +0.7
baz=86
I05D **Terrebonne, OR** 85.68 323 ⇑P P 04 27 34.0 +0.7
baz=86
LSZ **Lusaka** 85.73 105 *e*P P 04 27 35.3 +1.0
comp=Z,24nm,1.4s
HAWA **Hanford** 86.01 325 *e*P P 04 27 35.6 +0.9
comp=Z,14nm,0.8s
NEW **Newport** 86.02 327 *e*P P 04 27 34.8 -0.1
comp=Z,5.8nm,1.0s
NEW **Newport** 86.02 327 ⇑P P 04 27 34.7 -0.1
baz=86
D08A **Wollman Farm,** 86.13 326 *e*P P 04 27 36.1 +0.8
comp=Z,12nm,0.8s
C09A **Chrisman Ranch** 86.29 327 *e*P P 04 27 36.6 +0.5
comp=Z,34nm,0.6s
E07A **Sunnyside** 86.29 325 *e*P P 04 27 37.4 +1.3
comp=Z,137nm,2.7s
EDM **Edmonton** 87.75 333 *e*P P 04 27 42.5 -0.3
SJPF **Ste Jean** 87.77 41 *e*P P 04 27 43.5 +0.4
comp=Z,19nm,0.7s
SJPF **Ste Jean** 87.77 41 *e*P P 04 27 43.5 +0.4
ETSF **Etsaut** 88.05 41 *e*P P 04 27 44.7 +0.2
comp=Z,11nm,0.5s
ETSF **Etsaut** 88.05 41 *e*P P 04 27 44.7 +0.2
EPF **Esparros** 88.67 41 *e*P P 04 27 47.9 +0.5
comp=Z,8.5nm,0.6s
EPF **Esparros** 88.67 41 *e*P P 04 27 47.9 +0.5
QUIF **Quistinic** 89.51 36 *e*P P 04 27 51.0 -0.1
QUIF **Quistinic** 89.51 36 *e*P P 04 27 51.0 -0.1
ROSF **Rostrenen** 89.71 35 *e*P P 04 27 51.7 -0.3
comp=Z,29nm,0.9s
ROSF **Rostrenen** 89.71 35 *e*P P 04 27 51.7 -0.3
LFF **La Frestale** 89.98 40 *e*P P 04 27 53.6 +0.3
comp=Z,34nm,0.8s
LFF **La Frestale** 89.98 40 *e*P P 04 27 53.6 +0.3
MTLF **Montolieu** 89.98 42 *e*P P 04 27 52.7 -0.7
MTLF **Montolieu** 89.98 42 *e*P P 04 27 52.7 -0.7
SGMF **Saint Gilles** 90.04 36 *e*P P 04 27 52.4 -1.1
comp=Z,9.7nm,0.7s
SGMF **Saint Gilles** 90.04 36 *e*P P 04 27 52.4 -1.1
MFF **Saint Martin d** 90.41 38 *e*P P 04 27 55.4 +0.1
comp=Z,12nm,0.7s
MFF **Saint Martin d** 90.41 38 *e*P P 04 27 55.4 +0.1
RJF **Les Rejaudoux** 90.64 40 *e*P P 04 27 55.7 -0.7
RJF **Les Rejaudoux** 90.64 40 *e*P P 04 27 55.7 -0.7
CAF **Calviac** 90.75 40 *e*P P 04 27 56.6 -0.4
comp=Z,8.7nm,0.5s
CAF **Calviac** 90.75 40 *e*P P 04 27 56.6 -0.4
KEST **Kesra** 90.82 51 P P 04 27 57.0 -0.5
comp=Z,1.0nm,0.7s,baz=153,slow=0.6,SNR=7.7
GRR **Gorron** 91.04 36 *e*P P 04 27 57.1 -1.0
comp=Z,11nm,0.8s
GRR **Gorron** 91.04 36 *e*P P 04 27 57.1 -1.0

LASF **Ste Croix** 91.38 42 *e*P P 04 28 00.0 +0.2
LASF **Ste Croix** 91.38 42 *e*P P 04 28 00.0 +0.2
LDF **La Druitiere** 91.56 37 *e*P P 04 27 59.5 -1.0
comp=Z,8.3nm,0.6s
LDF **La Druitiere** 91.56 37 *e*P P 04 27 59.5 -1.0
TCF **Toulx Ste Croi** 91.58 39 *e*P P 04 28 00.4 -0.4
comp=Z,4.2nm,0.7s
TCF **Toulx Ste Croi** 91.58 39 *e*P P 04 28 00.4 -0.4
VIVF **Saint-Julien-l** 92.28 41 *e*P P 04 28 03.8 -0.2
VIVF **Saint-Julien-l** 92.28 41 *e*P P 04 28 03.8 -0.2
AVF **Avril sur Loir** 92.52 39 *e*P P 04 28 04.6 -0.4
comp=Z,3.5nm,0.6s
AVF **Avril sur Loir** 92.52 39 *e*P P 04 28 04.6 -0.4
SMF **Signal de Mont** 92.73 40 *e*P P 04 28 05.5 -0.5
comp=Z,6.5nm,0.5s
SMF **Signal de Mont** 92.73 40 *e*P P 04 28 05.5 -0.5
SSF **Saint Saulge** 92.75 39 *e*P P 04 28 05.6 -0.5
comp=Z,4.4nm,0.6s
SSF **Saint Saulge** 92.75 39 *e*P P 04 28 05.6 -0.5
ORIF **Oris-en-Rattie** 93.05 42 *e*P P 04 28 08.0 +0.4
comp=Z,4.7nm,0.5s
ORIF **Oris-en-Rattie** 93.05 42 *e*P P 04 28 08.0 +0.4
LOR **Lormes** 93.07 39 *e*P P 04 28 06.5 -1.0
LOR **Lormes** 93.07 39 *e*P P 04 28 06.5 -1.0
PGF **Pioggiola** 93.85 45 *e*P P 04 28 11.1 -0.2
PGF **Pioggiola** 93.85 45 *e*P P 04 28 11.1 -0.2
LPL **La Plagne** 93.87 42 *e*P P 04 28 11.8 +0.3
comp=Z,11nm,0.9s
LPL **La Plagne** 93.87 42 *e*P P 04 28 11.8 +0.3
LPG **La Plagne** 93.88 42 *e*P P 04 28 12.0 +0.4
comp=Z,12nm,0.9s
LPG **La Plagne** 93.88 42 *e*P P 04 28 12.0 +0.4
BORG **Borgarnes** 93.97 17 P P 04 28 12.6 +1.5
comp=Z,8.1nm,0.6s,baz=131,slow=2.9,SNR=6.4
EKA **Eskdalemuir Ar** 93.97 30 *e*P P 04 28 09.5 -1.9
EKA **Eskdalemuir Ar** 93.97 30 P P 04 28 09.5 -1.9
comp=Z,1.8nm,0.6s,baz=226,slow=3.8,SNR=9.8
SFTF **Sexfontaines** 94.23 39 *e*P P 04 28 12.5 -0.3
SFTF **Sexfontaines** 94.23 39 *e*P P 04 28 12.5 -0.3
MEZF **Maizieres J'vi** 94.40 38 *e*P P 04 28 12.7 -0.8
MEZF **Maizieres J'vi** 94.40 38 *e*P P 04 28 12.7 -0.8
YKA **Yellowknife Ar** 94.81 339 P P 04 28 14.8 -0.2
comp=Z,2.4nm,0.6s,baz=127,slow=4.5,SNR=51
YKA pP **pP** 04 30 16.2 +0.9
comp=Z,0.5nm,0.7s,baz=126,slow=4.3,SNR=6.3
YKB5 **Yellowknife Ar** 94.81 339 *e*P P 04 28 15.4 +0.4
HAU **Haudompre** 94.89 39 *e*P P 04 28 15.4 -0.4
comp=Z,5.8nm,0.7s
HAU **Haudompre** 94.89 39 *e*P P 04 28 15.4 -0.4
HINF **Hinteralfeld** 95.09 40 *e*P P 04 28 16.0 -0.8
HINF **Hinteralfeld** 95.09 40 *e*P P 04 28 16.0 -0.8
CDF **Champ du Feu** 95.63 39 *e*P P 04 28 18.9 -0.3
comp=Z,4.7nm,0.6s
CDF **Champ du Feu** 95.63 39 *e*P P 04 28 18.9 -0.3
DAVOX **Davos/Dischmat** 96.40 42 *e*P P 04 28 22.4 -0.5
DAVOX **Davos/Dischmat** 96.40 42 P P 04 28 22.4 -0.5
comp=Z,3.1nm,0.5s,baz=218,slow=10,SNR=18
FETA **Feutre** 97.03 42 ⇓ *i*Pdiff P 04 28 27.4 +1.7
comp=Z,3.3nm,0.8s
RETA **Reutte** 97.26 41 ⇑ *i*Pdiff P 04 28 26.6 0.0
comp=Z,3.5nm,0.7s
MYKA **Terra Mystica** 98.65 43 ⇓ *i*Pdiff Pdif 04 28 30.9 -1.8
comp=Z,4.7nm,0.9s
GEC2 **GERESS Array S** 99.62 41 *e*Pdif **Pdif** 04 28 38.3 +1.2
GERES **GERESS Array B** 99.62 41 P **Pdif** 04 28 38.3 +1.2
comp=Z,0.4nm,0.7s,baz=250,slow=2.0,SNR=3.3
STHS **Stebnicka Huta** 104.43 42 PDIF **Pdif** 04 28 58.9 +0.6
KOLS **Kolnicka sedl** 104.91 43 PDIF **Pdif** 04 29 01.6 +1.2
AK11 **Malin Array Si** 109.68 42 *e*PKiKP **PKiKP** 04 33 20.1 -0.7
AKASG **Malin Array Be** 109.72 42 PKiKP **PKiKP** 04 33 19.7 -1.1
comp=Z,0.9nm,0.6s,baz=266,slow=2.2,SNR=7.0
AKBB **Malin Array Si** 109.72 42 *e*PKiKP **PKiKP** 04 33 19.7 -1.1
KBZ **Khabaz** 117.69 52 *e*PKPdf **PKPdf** 04 33 36.5 +0.3
KBZ **Khabaz** 117.69 52 PKP **PKPdf** 04 33 36.5 +0.3
comp=Z,6.7nm,1.0s,baz=236,slow=3.6,SNR=5.1
AKTO **Aktyubinsk** 127.94 44 PKP **PKPdf** 04 33 56.4 +0.6
comp=Z,2.3nm,0.5s,baz=346,slow=2.9,SNR=13
ABKAR **Akbulak array** 129.36 45 *e*PKPdf **PKPdf** 04 33 59.3 +0.8
AS01 **Alice Springs** 129.97 201 *e*PKPdf **PKPdf** 04 34 00.6 0.0
AS12 **Alice Springs** 129.98 201 *e*PKPdf **PKPdf** 04 34 00.6 -0.1
AS12 eSKPbc **SKPbc** 04 36 32.2 -0.5
ASAR **Alice Springs** 129.98 201 PKP **PKPdf** 04 34 00.6 -0.1
comp=Z,3.2nm,0.7s,baz=147,slow=2.2,SNR=34
ASAR SKPbc **SKPbc** 04 36 32.2 -0.5
comp=Z,5.2nm,0.6s,baz=148,slow=4.2,SNR=35
WRA **Warramunga Arr** 133.26 204 *e*PKPdf **PKPdf** 04 34 06.7 -0.2
WRA *e*PP **SKPbc** 04 36 44.0 -0.3
WRA **Warramunga Arr** 133.26 204 PKP **PKPdf** 04 34 06.7 -0.2
comp=Z,2.9nm,0.6s,baz=156,slow=1.8,SNR=42
WRA SKPbc **SKPbc** 04 36 44.0 -0.3
comp=Z,11nm,0.7s,baz=156,slow=3.1,SNR=49
SEY **Seymchan** 133.87 338 *e*PKPdf **PKPdf** 04 34 07.6 +1.0
SEY *e*PP **PP** 04 36 44.1 -0.3
SEY **Seymchan** 133.87 338 PKP **PKPdf** 04 34 07.6 +1.0
comp=Z,4.8nm,0.7s,baz=123,slow=4.5,SNR=16
SEY SKPbc **PP** 04 36 44.1 -0.3
comp=Z,1.9nm,0.8s,baz=37,slow=23,SNR=4.3
BRVK **Borovoye** 134.61 38 *e*PKPdf **PKPdf** 04 34 09.3 +1.0
BVAR **Borovoye Array** 134.68 38 PKP **PKPdf** 04 34 09.5 +1.0
comp=Z,4.1nm,0.6s,baz=291,slow=3.1,SNR=21
BVAR SKPbc **SKPbc** 04 36 47.8 +0.1
comp=Z,0.9nm,0.6s,baz=264,slow=2.7,SNR=4.3
PETK **Petropavlovsk-** 137.08 324 PKP **PKPdf** 04 34 13.5 +0.6
comp=Z,4.5nm,0.8s,baz=131,slow=8.1,SNR=3.7
EKS2 **Erkin-Say** 140.16 51 *e*PKPdf **PKPdf** 04 34 18.5 -0.5
ZALV **Zalesovo Beam** 141.61 30 PKhKP PKPpre 04 34 16.8
comp=Z,8.1nm,0.5s,baz=289,slow=3.4,SNR=18
ZALV PKP **PKPdf** 04 34 20.6 -0.5
comp=Z,8.1nm,0.5s,baz=300,slow=3.0,SNR=25
ZALV SKP 04 37 04.8
comp=Z,1.6nm,0.3s,baz=303,slow=3.1,SNR=5.5
KSH **Kashi** 142.53 55 *e*PKP **PKPdf** 04 34 19.7 -3.6
KSH *e*SKS **SKSdf** 04 40 41.2 -0.5
HYB **Hyderabad** 144.22 93 *i* PKP PKPbc 04 34 25.0 -1.5
MK32 **Makanchi Array** 144.29 41 *e*PKPbc PKPbc 04 34 25.8 -0.1
MK32 *e*SKPbc **SKPbc** 04 37 13.9 +0.1
MKAR **Makanchi Array** 144.29 41 *e*PKPbc **PKPdf** 04 34 26.0 0.0
MKAR *e*SKPbc **SKPbc** 04 37 13.7 -0.1
MKAR **Makanchi Array** 144.29 41 PKP PKPbc 04 34 25.8 -0.1
comp=Z,18nm,0.5s,baz=295,slow=4.2,SNR=230
MKAR SKPbc **SKPbc** 04 37 13.9 +0.1
comp=Z,4.9nm,0.6s,baz=298,slow=2.8,SNR=16
MK01 **Makanchi Array** 144.31 41 *e*PKPbc PKPbc 04 34 25.8 -0.1
MK01 *e*SKPbc **SKiKP** 04 37 14.3 -0.2
NDI **New Delhi** 144.70 73 *e*P **PKPdf** 04 34 27.0 -0.3
CISI **Cisompet, Garu** 147.95 164 *e*PKPbc **PKPbc** 04 34 37.3 +0.2
WMQ **Urumqi** 149.08 42 PKPbc **PKPdf** 04 34 34.0 -0.2
ASAJ **Asahikawa** 150.27 320 PKPbc **PKPbc** 04 34 42.5 +0.8
comp=Z,24nm,0.9s,baz=294,slow=10,SNR=8.6
KOLN **Koldanda** 150.33 75 *e*P **PKPdf** 04 34 37.2 +0.4
comp=Z,47nm,0.8s
DANN **Dangsing** 150.46 74 *e*P **PKPdf** 04 34 37.4 +0.3
comp=Z,137nm,0.6s
GKN **Gorkha** 151.24 74 *e*P **PKPdf** 04 34 38.8 +0.7
comp=Z,35nm,0.5s
DMN **Daman** 151.66 75 *e*P **PKPdf** 04 34 39.0 +0.1
comp=Z,44nm,1.0s
KKN **Kakani** 151.81 75 *e*P **PKPdf** 04 34 39.5 +0.4
comp=Z,32nm,0.5s
PKI **Pulchoki** 151.93 75 *e*P **PKPdf** 04 34 40.3 +0.9
comp=Z,13nm,0.5s
GUN **Gumba** 152.34 75 *e*P **PKPdf** 04 34 40.5 +0.5
comp=Z,12nm,0.2s
JIRN **Jiri** 152.62 75 *e*P **PKPdf** 04 34 40.7 +0.3
comp=Z,13nm,0.5s
RAMN **Ramite** 153.00 77 *e*P **PKPdf** 04 34 40.7 -0.2
comp=Z,42nm,0.6s
TAPN **Taplejung** 153.98 76 *e*P **PKPdf** 04 34 41.0 -1.3
SONA1 **Songino Array** 154.56 16 *e*PKPdf **PKPdf** 04 34 43.4 +1.1
SONA1 *e*PKPbc **PKPbc** 04 34 51.3 +0.1
SONA1 *e*PKPab **PKPab** 04 35 09.2 +0.6
SONA0 **Songino Array** 154.57 16 *e*PKPdf **PKPdf** 04 34 42.7 +0.4
SONA0 *e*PKPbc **PKiKP** 04 34 51.0 -0.2
SONA0 *e*PKPab **PKPab** 04 35 06.9 -1.8
SONA0 *e*pPKPdf **pPKPdf** 04 36 54.8 +4.1
SONM **Songino Array** 154.57 16 PKP **PKPdf** 04 34 42.7 +0.4
comp=Z,1.5nm,0.8s,baz=280,slow=1.3,SNR=13
SONM PKPbc **PKiKP** 04 34 51.0 -0.2
comp=Z,4.0nm,0.5s,baz=314,slow=1.3,SNR=35
SONM PKPab **PKPab** 04 35 06.9 -1.8
comp=Z,4.4nm,0.6s,baz=303,slow=3.7,SNR=16
SONM pPKPbc **pPKPbc** 04 36 54.8 -3.8
comp=Z,0.5nm,0.7s,baz=354,slow=3.5,SNR=2.6
ULN **Ulaanbaatar** 154.70 15 *e*PKPab **PKPab** 04 35 10.2 +0.9
USRK **Ussuriysk Arra** 155.74 332 PKP **PKPdf** 04 34 44.1 +0.4
comp=Z,1.5nm,0.7s,baz=23,slow=1.9,SNR=4.8
USRK PKPab **PKPab** 04 35 14.3 +0.7
comp=Z,1.8nm,0.6s,baz=23,slow=7.8,SNR=5.0
MDJ **Mudanjiang** 156.37 336 PKP **PKPdf** 04 34 45.3 +0.8
MDJ pPKP **pPKPdf** 04 36 52.6 -0.4
MDJ sPKP 04 37 45.2
MDJ PKS **PKSdf** 04 38 19.8 +1.5
MDJ PP **PP** 04 38 59.5 +3.3
MDJ SKS **SKSdf** 04 40 58.3 -0.9
MDJ SS **SS** 04 58 05.5 +3.6
GTA **Gaotai** 158.96 38 PKP **PKPdf** 04 34 49.3 +1.2
GTA PKPab **PKPab** 04 35 28.5 +0.5
GTA pPKP **pPKPdf** 04 36 57.8 +1.1
GTA sPKP 04 37 48.4
HHC **Hu-ho-hao-te** 162.36 12 *e*PKP **PKPdf** 04 34 50.0 -1.6
HHC pPKP **pPKPdf** 04 37 07.1 +6.7
HHC PP **PP** 04 39 30.1 +2.1
HHC SKKS 04 45 24.5
HHC AMB AMB
comp=Z,140nm,11.2s
CM31 **Chiang Mai Arr** 163.04 104 *e*PKPdf **PKPdf** 04 34 53.2 +0.4
CM31 *e*PKPab **PKPab** 04 35 45.0 -1.4
CMAR **Chiang Mai Arr** 163.04 104 PKP **PKPdf** 04 34 53.2 +0.4
comp=Z,3.8nm,1.0s,baz=253,slow=2.9,SNR=8.9
CMAR PKPab **PKPab** 04 35 45.0 -1.4
comp=Z,2.2nm,0.5s,baz=248,slow=6.4,SNR=7.3
LZH **Lanzhou** 163.57 38 *e*PKP **PKPdf** 04 34 53.9 +0.9
LZH pPKP **pPKPdf** 04 37 02.2 +0.4
LZH sPKP 04 37 54.0
CD2 **Chengdu** 166.72 54 *e*PKP **PKPdf** 04 34 54.2 -1.4
KMI **Kunming** 167.58 80 PKP **PKPdf** 04 34 56.1 -0.5
KMI pPKP **pPKPdf** 04 37 05.7 +0.1
KMI PP **PP** 04 39 58.1 +1.1
KMI SKKS 04 45 50.3
GYA **Guiyang** 170.85 70 *e*PKP **PKPdf** 04 34 57.0 -1.4
GYA PKPab **PKPab** 04 36 22.8 +1.8
GYA pPKP **pPKPdf** 04 37 06.5 -1.0
GYA sPKP 04 37 59.4
GYA PKS **PKSdf** 04 38 28.0 -3.0
GYA PP **PP** 04 40 13.3 +0.4
GYA AMB AMB
comp=Z,120nm,8.2s
ENH **Enshi** 171.02 41 *e*PKPdf **PKPdf** 04 34 57.4 -0.9
ENH *e*PKPab **PKPab** 04 36 21.2 -0.2
NJ2 **Nanjing** 171.28 345 *e*PKP **PKPdf** 04 34 59.1 +0.8

IDC 05 04:30:25.4±5.8, 6°16S×151°06E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=174.9km s-min=38.6km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.25**	**228**	P	P	04 35 14.9	+1.5
	0.4nm,0.6s,baz=51,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**23.98**	**222**	P	P	04 35 40.2	-1.7
	0.3nm,0.3s,baz=61,slow=8.8,SNR=5.2						
MKAR	**Makanchi Array**	**80.22**	**319**	P	P	04 42 38.4	+0.4
	0.3nm,0.6s,baz=93,slow=6.0,SNR=3.8						

*IDC **05** 04:35:41.2±1.0, 17°.11N×94°.35W, h122km±6km, mb3.6/14, mb1 3.8/18, mb1mx3.7/29, mbtmp4.0/18, Error ellipse: s-maj=21.7km s-min=9.7km az=40.0*
*MEX **05** 04:35:41.1±1.3, 16°.90N×94°.66W, h153km±28km, MD4.1*
ISC 05 04:35:40.6±0.6, 17°.11N±0°.04×94°.56W±0°.04, h119km±5km, n72, σ2s11/90, mb3.9/12, 29C-23D, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.90**	**137**	*e*P	**Pn**	**04 36 13.8**	**+1.1**
PCIG				*e*S	**Sn**	**04 36 38.1**	**+0.7**
HUIG	**Huatulco**	**2.00**	**228**	*i* P	**Pn**	**04 36 11.9**	**-2.1**
HUIG				*e*S	**Sn**	**04 36 37.1**	**-2.4**
VHO	**Vista Hermosa**	**2.08**	**269**	*e*P	**Pn**	**04 36 16.0**	**+0.8**
VHO				*e*S	**Sn**	**04 36 42.0**	**+0.4**
PANG	**Puerto Angel**	**2.33**	**232**	*e*P	**Pn**	**04 36 15.9**	**-2.3**
PANG				*e*S	**Sn**	**04 36 43.6**	**-3.5**
LVIG	**Laguna Verde**	**3.14**	**326**	*e*P	**Pn**	**04 36 27.9**	**-0.7**
LVIG				*e*S	**Sn**	**04 37 02.6**	**-3.2**
PNIG	**Pinotepa**	**3.49**	**259**	*e*P	**Pn**	**04 36 31.7**	**-1.6**
PNIG				*e*S	**Sn**	**04 37 11.4**	**-2.8**
SCIG	**Sabancuy**	**3.70**	**60**	*i* P	**Pn**	**04 36 37.1**	**+0.9**
SCIG				*e*S	**Sn**	**04 37 18.2**	**-0.9**
TLIG	**Tlapa**	**3.85**	**277**	*e*P	**Pn**	**04 36 39.0**	**+0.8**
TLIG				*i* S	**Sn**	**04 37 21.9**	**-1.0**
APG	**El Apazote**	**4.46**	**117**	P	**Pn**	**04 36 44.0**	**-2.5**
	4.8nm,0.3s,baz=308,slow=13,SNR=31						
APG				S	**Sn**	**04 37 33.2**	**-4.5**
	57nm,0.3s,baz=88,slow=20,SNR=17						
PLIG	**Platanillo**	**4.88**	**286**	*e*P	**Pn**	**04 36 53.6**	**+1.7**
PLIG				*i* S	**Sn**	**04 37 47.0**	**-0.5**
TEIG	**Tepich**	**6.71**	**62**	P	**Pn**	**04 37 16.5**	**-0.2**
	9.0nm,0.3s,baz=246,slow=6.5,SNR=58						
TEIG				S	**Sn**	**04 38 30.3**	**-1.4**
	9.7nm,0.3s,baz=85,slow=23,SNR=7.0						
JTS	**JuntasAbangare**	**11.54**	**125**	P	**Pn**	**04 38 22.0**	**+0.3**
	3.6nm,0.3s,baz=312,slow=20,SNR=16						
833A	**Chaparral WMA,**	**12.01**	**339**	⇓P	**P**	**04 38 34.4**	**-1.4**
	baz=11,SNR=17						
833A				⇓S	**Sn**	**04 40 39.2**	**-1.0**
	baz=11						
734A	**La Parita Cree**	**12.24**	**343**	⇑P	**P**	**04 38 37.0**	**-1.2**
	baz=11						
733A	**Divot King Ran**	**12.34**	**340**	⇑P	**P**	**04 38 39.4**	**0.0**
	baz=11						
732A	**Laxson Ranch,**	**12.59**	**338**	⇑P	**P**	**04 38 42.3**	**+0.2**
	baz=12						
633A	**Saathoff Ranch**	**13.00**	**342**	⇑P	**P**	**04 38 46.5**	**-0.2**
	baz=12,SNR=11						
633A				⇑S	**Sn**	**04 41 01.3**	**-2.7**
	baz=12						
632A	**Uvalde**	**13.23**	**340**	⇑P	**P**	**04 38 49.4**	**0.0**
	baz=12						
534A	**Blanco**	**13.35**	**345**	⇓P	**P**	**04 38 50.4**	**-0.2**
	baz=12,SNR=25						
534A				⇓S	**Sn**	**04 41 08.2**	**-4.3**
	baz=12						
631A	**Perdido Creek**	**13.43**	**337**	⇑P	**P**	**04 38 52.7**	**+1.2**
	baz=12						
533A	**Kerrville**	**13.53**	**343**	⇓P	**P**	**04 38 53.6**	**+0.9**
	baz=13,SNR=11						
533A				⇑S	**Sn**	**04 41 13.3**	**-3.6**
	baz=13						
532A	**Rocksprings**	**13.85**	**340**	⇓P	**P**	**04 38 57.4**	**+1.3**
	baz=13,SNR=7.9						
532A				⇑S	**Sn**	**04 41 21.5**	**-3.1**
	baz=13						
434A	**Burnet**	**14.05**	**347**	⇓P	**P**	**04 38 58.7**	**+0.3**
	baz=13						
531A	**Rocksprings**	**14.10**	**338**	⇓P	**P**	**04 39 00.4**	**+1.5**
	baz=13,SNR=6.6						
433A	**Art**	**14.19**	**344**	⇑P	**P**	**04 39 01.8**	**+1.8**
	baz=13,SNR=6.8						
335A	**Moody**	**14.34**	**350**	⇑P	**P**	**04 39 02.7**	**+1.1**
	baz=13,SNR=15						
335A				⇓S	**Sn**	**04 41 31.0**	**-5.5**
	baz=13						
432A	**Menard**	**14.51**	**342**	⇑P	**P**	**04 39 06.0**	**+2.5**
	baz=14						
334A	**Lometa**	**14.54**	**347**	⇓P	**P**	**04 39 05.4**	**+1.5**
	baz=14,SNR=14						
334A				⇑S	Sn	04 41 35.3	-6.1
	baz=14						
431A	**Sonora**	**14.59**	**339**	⇓P	**P**	**04 39 07.5**	**+3.1**
	baz=14						
333A	**Richland Sprin**	**14.71**	**345**	⇑P	**P**	**04 39 08.0**	**+2.2**
	baz=14						
TXAR	**Lajitas Array**	**14.76**	**327**	P	**Pn**	**04 39 04.5**	**+1.0**
	0.1nm,0.3s,baz=130,slow=8.4,SNR=3.2						
332A	**Millersview**	**14.97**	**343**	⇑P	**P**	**04 39 11.0**	**+2.4**
	baz=14						
WHTX	**Lake Whitney**	**15.04**	**350**	⇓P	**P**	**04 39 11.3**	**+1.9**
	baz=14						
WHTX				⇑S	**Sn**	**04 41 46.9**	**-6.5**
	baz=14						
331A	**San Angelo**	**15.11**	**340**	⇑P	**P**	**04 39 13.1**	**+2.9**
	baz=14						
626A	**Big Bend Ranch**	**15.18**	**326**	⇑P	**P**	**04 39 15.0**	**+4.0**
	baz=14						
**234A

526A	**Mary Lane Ranc**	**15.56**	**328**	⇓P	P	04 39 20.3	+5.0		
	baz=15								
231A	**Bronte**	**15.65**	**342**	⇑P	**P**	**04 39 18.7**	**+2.5**		
	baz=15								
133A	**Hamilton Ranch**	**15.92**	**346**	⇑P	**P**	**04 39 21.1**	**+2.0**		
	baz=15								
426A	**McDonald Obser**	**16.02**	**329**	⇑P	**P**	**04 39 24.7**	**+4.2**		
	baz=15,SNR=9.1								
ABTX	**Abilene, Hawle**	**16.11**	**344**	⇓P	**P**	**04 39 23.6**	**+2.3**		
	baz=15								
131A	**Roby**	**16.36**	**342**	⇑P	**P**	**04 39 27.3**	**+3.2**		
	baz=15								
130A	**Snyder**	**16.47**	**341**	⇓P	**P**	**04 39 28.4**	**+3.1**		
	baz=16								
326A	**Caldwell Ranch**	**16.53**	**331**	⇓P	P	04 39 30.9	+4.9		
	baz=16,SNR=5.1								
Z32A	**Haskell**	**16.72**	**346**	⇑P	**P**	**04 39 30.4**	**+2.4**		
	baz=16,SNR=6.7								
Y29A	**Porterfield Fa**	**17.86**	**340**	⇑P	**Pn**	**04 39 43.1**	**+1.6**		
	baz=17								
Z27A	**Tatum**	**17.92**	**336**	⇓P	**Pn**	**04 39 43.7**	**+1.4**		
	baz=17,SNR=6.5								
AMTX	**Amarillo**	**18.81**	**342**	⇓P	**Pn**	**04 39 53.1**	**+0.3**		
	baz=18								
V34A	**Guthrie**	**18.83**	**353**	⇓P	**Pn**	**04 39 52.2**	**-0.7**		
	baz=18								
ANMO	**Albuquerque**	**20.70**	**331**	P	Pn	04 40 13.7	-1.4		
	0.8nm,0.7s,baz=138,slow=12,SNR=3.9								
TKL	**Tuckaleechee C**	**20.82**	**25**	P	**P**	**04 40 11.8**	**-0.8**		
	2.6nm,0.5s,baz=193,slow=9.3,SNR=6.6								
P32A	**Huiting Farm,**	**22.70**	**352**	⇑P	**P**	**04 40 32.7**	**+0.5**		
	baz=22,SNR=7.2								
M31A	**Lambtecht Ranc**	**24.45**	**352**	⇑P	**P**	**04 40 48.7**	**+0.4**		
	baz=23,SNR=6.5								
NVAR	**Mina Array Bea**	**29.71**	**320**	P	**P**	**04 41 38.4**	**+2.7**		
	0.2nm,0.7s,baz=116,slow=8.9,SNR=3.8								
AGMN	**Agassiz Nation**	**31.12**	**358**	⇓P	**P**	**04 41 46.8**	**-0.8**		
	baz=30,SNR=11								
B30A	**Myrvik Farm, E**	**31.41**	**355**	⇓P	**P**	**04 41 50.2**	**0.0**		
	baz=30,SNR=5.2								
D22A	**Cohagen**	**31.45**	**345**	⇑P	**P**	**04 41 52.0**	**+1.3**		
	baz=30,SNR=5.7								
A30A	**Hoffart Farm,**	**31.89**	**355**	⇑P	**P**	**04 41 54.2**	**-0.2**		
	baz=31,SNR=11								
A26A	**Wade Farm, Ken**	**32.28**	**351**	⇑P	**P**	**04 41 58.5**	**+0.6**		
	baz=31,SNR=6.1								
ULM	**Lac du Bonnet**	**33.07**	**358**	P	**P**	**04 42 03.4**	**-1.3**		
	2.7nm,0.6s,baz=192,slow=9.4,SNR=4.7								
LPAZ	**La Paz**	**42.19**	**140**	P	**P**	**04 43 22.4**	**-0.2**		
	1.1nm,0.7s,baz=352,slow=8.2,SNR=4.8								
YKA	**Yellowknife Ar**	**47.46**	**348**	P	**P**	**04 44 03.1**	**+0.2**		
	1.2nm,0.6s,baz=151,slow=7.3,SNR=22								
YKA				pP	**pP**	**04 44 32.5**	**+1.9**		
	0.4nm,0.5s,baz=153,slow=6.9,SNR=2.5								
YKA				sP	**sP**	**04 44 44.5**	**+0.5**		
	0.9nm,0.8s,baz=153,slow=7.3,SNR=5.5								
RES	**Resolute Bay**	**57.58**	**360**	P	**P**	**04 45 16.6**	**-0.8**		
	1.4nm,0.4s,baz=233,slow=4.0,SNR=8.8								
ILAR	**Eielson Array**	**59.02**	**337**	P	**P**	**04 45 28.4**	**+0.8**		
	0.4nm,0.6s,baz=128,slow=5.3,SNR=14								
ILAR				pP	**pP**	**04 45 58.8**	**+2.5**		
	0.6nm,0.8s,baz=165,slow=4.8,SNR=4.1								
ESDC	**Sonseca Array**	**79.73**	**52**	P	**P**	**04 47 35.7**	**+0.1**		
	2.4nm,1.0s,baz=293,slow=6.1,SNR=5.4								
NB2	**NORSAR Subarra**	**82.59**	**28**	P	**P**	**04 47 50.9**	**+0.7**		
	comp=Z,1.4nm,0.8s,baz=292,slow=5.3								
NOA	**NORSAR Array B**	**82.59**	**28**	P	**P**	**04 47 51.1**	**+0.9**		
	comp=Z,2.0nm,0.8s,baz=292,slow=5.1,SNR=5.9								
ARCES	**ARCESS Array B**	**83.96**	**18**	P	**P**	**04 47 57.0**	**-0.1**		
	comp=Z,2.3nm,0.8s,baz=286,slow=4.8,SNR=3.6								
DBIC	**Dimbokro**	**87.78**	**84**	P	**P**	**04 48 16.4**	**-0.5**		
	comp=Z,1.3nm,0.5s,baz=293,slow=21,SNR=7.6								
GERES	**GERESS Array B**	**88.76**	**39**	P	**P**	**04 48 20.7**	**-0.4**		
	comp=Z,0.5nm,0.8s,baz=358,slow=6.8,SNR=4.3								
TORD	**Torodi Ar. Bea**	**92.03**	**76**	P	**P**	**04 48 35.5**	**-1.3**		
	comp=Z,0.7nm,1.1s,baz=298,slow=4.6,SNR=5.8								

GUC 05 04:49:24.8±0.5,28.42S×71.33W,h11km±3km, ML3.8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.53**	**107**	⇓*i*P	Pb	04 49 35.7	-0.4
VACH				*i* S	Sb	04 49 43.3	-0.5
VACH				AML	AML	04 49 43.8	
	comp=N,22μm,0.1s						
CPCH	**Copiapo**	**1.36**	**39**	⇑*i*P	Pn	04 49 48.6	-1.2
CPCH				*i* S	Sb	04 50 07.2	-0.8
CPCH				AML	AML	04 50 11.0	
	comp=E,3μm,0.1s						
CDCH	**Caldera**	**1.42**	**19**	*i* P	Pn	04 49 49.2	-1.3
CDCH				*i* S	Sn	04 50 08.1	-1.1
CMCH	**Combarbala**	**2.76**	**174**	*i* P	Pn	04 50 10.1	+1.0
CMCH				*i* S	Sn	04 50 44.6	+2.0
CMCH				AML	AML	04 50 48.0	
	comp=N,254nm,0.7s						

*IDC **05** 04:55:36.4±0.3,58.38S×14.82W,h0km,mb5.2/24, mb1 5.2/25,mb1mx5.2/27,mbtmp5.2/25,ML5.3/1,MS6.4/23, Ms1 6.4/23,ms1mx6.4/23,Error ellipse: s-maj=13.6km s-min=12.5km az=20.0*

*ISCJB **05** 04:55:37.2±0.2,58.22S±0.04×14.68W±0.0,h10km, mb5.8/83,MS6.5/209,Error ellipse: s-maj=6.3km s-min=5.1km az=6.0*

*MOS **05** 04:55:37.8±1.6,58.20S×14.53W,h10km,mb5.6/34, MS6.3/36,Error ellipse: s-maj=18.5km s-min=10.1km az=88.1*

*GCMT **05** 04:55:38.9±0.1,58.50S×14.85W,h15km,MW6.8/132, Moment Tensor Solution. s132,c325; s127,c587; Duration: 5s9 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.24±.01; $M_{\theta\theta}$-0.28±.01; $M_{\phi\phi}$0.52±.01; $M_{r\theta}$0.31±.03; $M_{\theta\phi}$1.72±.01; $M_{\phi r}$0.08±.03; Best double couple: M_o1.79500×10^{19} NP1:ϕ_s263.00000°,δ89.00000°, λ-10.00000°. NP2:ϕ_s353.00000°,δ80.00000°, λ-179.00000°. Principal axes: T 1.9160, Plg7.0000°, Azm309.0000°; N -0.2430, Plg80.0000°, Azm79.0000°; P -1.6730, Plg8.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*

*NEIC **05** 04:55:39.0±0.0,58.10S×14.87W,h15km Best double couple: NP1:ϕ_s82.00000°,δ87.00000°,λ23.00000°. NP2:ϕ_s351.00000°,δ67.00000°,λ177.00000°. Principal axes: T 2.3800, Plg17.0000°, Azm309.0000°; N -0.2900, Plg66.0000°, Azm87.0000°; P -2.0900, Plg14.0000°, Azm214.0000°;*

*NEIC **05** 04:55:39.4±0.1,58.17S×14.70W,h13km,mb6.1/68, ME7.7,MS6.5/154,MW6.8,MW6.7,MW6.8 Error ellipse: s-maj=7.3km s-min=6.0km az=174.0,Moment Tensor Solution. s38 Moment tensor: Scale 10^{19}Nm; M_{rr}0.09; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$0.48; $M_{r\theta}$0.06; $M_{\theta\phi}$1.39; $M_{\phi r}$0.17; Best double couple: M_o1.50000×10^{19} NP1:ϕ_s349.00000°, δ86.00000°,λ174.00000°. NP2:ϕ_s80.00000°,δ84.00000°, λ4.00000°. Principal axes: T 1.4600, Plg7.0000°, Azm304.0000°; N 0.0700, Plg82.0000°, Azm137.0000°; P -1.5400, Plg1.0000°, Azm34.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*NEIC **05** 04:55:54.2±0.0,58.43S×14.21W,h10km,Moment Tensor Solution. s146 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.17; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$0.40; $M_{r\theta}$0.35; $M_{\theta\phi}$1.58; $M_{\phi r}$-0.13; Best double couple: M_o1.70000×10^{19} NP1:ϕ_s355.00000°, δ77.00000°,λ-172.00000°. NP2:ϕ_s263.00000°, δ83.00000°,λ-12.00000°. Principal axes: T 1.7100, Plg3.0000°, Azm309.0000°; N -0.0900, Plg75.0000°, Azm55.0000°; P -1.6100, Plg13.0000°, Azm218.0000°;*

ISC 05 04:55:38.9±0.2,58.46S±0.04×14.86W±0.04,h10km, n1065,σ2.805/946,mb5.9/83,MS6.5/211,201C-165D,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**14.14**	**164**	*e*Pn	**Pn**	**04 58 57.9**	**-1.1**
SNAA				Sn	Sn	05 01 26.6	-9.2
SNAA	**Sanae**	**14.14**	**164**	Pn	**Pn**	**04 58 57.6**	**-1.4**
	13nm,0.3s,baz=343,slow=15,SNR=173						
SNAA				Sn	Sn	05 01 26.6	-9.2
	5.1nm,0.3s,baz=323,slow=20,SNR=3.0						
SNAA				LR	LR	05 03 22.6	

	comp=Z,43μm,18.1s,baz=341,slow=33								
TRIS	**Tristan da Cun**	**21.47**	**6**	PFAKE		05 00 30.0	+2.7		
TRIS				LR	LR				
	comp=Z,106μm,22.0s								
PMSA	**Palmer Station**	**23.67**	**234**	*e*P	**P**	**05 00 51.4**	**+1.3**		
	comp=Z,2μm,1.5s								
PMSA	**Palmer Station**	**23.67**	**234**	P	**P**	**05 00 49.7**	**-0.4**		
	comp=Z,172nm,1.0s,baz=89,slow=6.8,SNR=14								
PMSA				LR	LR	05 08 54.1			
	comp=Z,171μm,19.3s,baz=87,slow=34								
EFI	**East Falkland**	**25.28**	**267**	P	**P**	**05 01 04.5**	**-0.5**		
	comp=Z,2μm,0.9s,SNR=12								
EFI	**East Falkland**	**25.28**	**267**	⇓*i*P	**P**	**05 01 04.0**	**-1.0**		
EFI				pmax	pmax				
	comp=Z,595nm,0.8s								
EFI				MLR	MLR				
	comp=Z,255nm,18.0s								
EFI	**East Falkland**	**25.28**	**267**	*e*P	**P**	**05 01 04.5**	**-0.5**		
	comp=Z,748nm,1.3s								
EFI				LR	LR				
	comp=Z,125μm,20.0s								
USHA	**Ushuaia**	**29.02**	**254**	P	**P**	**05 01 37.8**	**-0.7**		
USHA	**Ushuaia**	**29.02**	**254**	P	**P**	**05 01 37.8**	**-0.7**		
	comp=Z,25nm,0.7s,baz=72,slow=7.4,SNR=11								
USHA				LR	LR	05 09 46.8			
	comp=Z,164μm,21.7s,baz=87,slow=29								
QSPA	**South Pole Qui**	**31.78**	**180**	*e*P	**P**	**05 02 03.2**	**+0.2**		
	comp=Z,172nm,0.8s								
QSPA	**South Pole Qui**	**31.78**	**180**	P	**P**	**05 02 02.9**	**-0.2**		
	comp=Z,68nm,1.0s,baz=213,slow=6.2,SNR=44								
QSPA				LR	LR	05 14 05.3			
	comp=Z,66μm,18.1s,baz=204,slow=35								
ELIM	**Elim**	**33.10**	**59**	*e*P	P	05 02 09.1	-5.7		
ELIM				AMB	AMB	05 02 22.4			
	comp=Z,252nm,1.8s								
ELIM	**Elim**	**33.10**	**59**	P	P	05 02 09.1	-5.7		
	comp=Z,252nm,1.8s								
MAW	**Mawson**	**34.05**	**138**	*e*P	**P**	**05 02 21.6**	**-0.9**		
	comp=Z,123nm,1.5s								
MAW	**Mawson**	**34.05**	**138**	P	**P**	**05 02 21.6**	**-0.9**		
	comp=Z,39nm,0.8s,baz=250,slow=8.7,SNR=32								
MAW				LR	LR	05 14 16.0			
	comp=Z,61μm,19.3s,baz=259,slow=33								
SUR	**Sutherland**	**35.44**	**58**	*e*P	P	05 02 29.8	-5.4		
SUR				AMB	AMB	05 03 27.3			
	comp=Z,161nm,3.8s								
SUR	**Sutherland**	**35.44**	**58**	*e*P	P	05 02 32.1	-3.2		
	comp=Z,98nm,1.7s								
SUR	**Sutherland**	**35.44**	**58**	P	P	05 02 31.5	-3.7		
	comp=Z,13nm,0.9s,baz=193,slow=5.4,SNR=6.0								
SUR				LR	LR	05 13 26.8			
	comp=Z,51μm,21.6s,baz=213,slow=30								
CHRN	**Cochrane**	**35.67**	**263**	⇓*i*P	**P**	**05 02 35.4**	**-1.5**		
KOMG	**Komaggas**	**36.23**	**52**	*e*P	**P**	**05 02 41.1**	**-0.7**		
KOMG				AMB	AMB	05 03 06.7			
	comp=Z,121nm,2.8s								
KOMG	**Komaggas**	**36.23**	**52**	P	**P**	**05 02 41.1**	**-0.7**		
	comp=Z,121nm,2.8s								
COYC	**Coyhaique**	**36.35**	**265**	*i* P	**P**	**05 02 43.0**	**+0.3**		
TRQA	**Tornquist**	**36.43**	**283**	*e*P	**P**	**05 02 43.1**	**-0.4**		
	comp=Z,146nm,0.9s								
TRQA				*e*PcP	PcP	05 05 15.9	+8.5		
TRQA				LR	LR				
	comp=Z,69μm,21.0s								
LPA	**La Plata**	**36.85**	**291**	⇑*i*P	**P**	**05 02 48.4**	**+1.4**		
LPA				pP	**pP**	**05 02 52.0**	**+1.9**		
LPA				PP	**PP**	**05 04 13.0**	**+2.2**		
LPA				PCP	**PcP**	**05 05 09.0**	**+0.4**		
LPA				PCS	PcS	05 08 26.0	-31		
LPA				S	**S**	**05 08 32.0**	**+0.8**		
LPA				PS		05 08 39.0			
LPA									
	comp=Z,151μm,22.0s								
GRM	**Grahamstown**	**37.31**	**66**	P	**P**	**05 02 48.8**	**-2.2**		
GRM				pmax	pmax				
	comp=Z,143nm,4.0s								
GRM	**Grahamstown**	**37.31**	**66**	*e*P	**P**	**05 02 48.8**	**-2.2**		
GRM				AMB	AMB	05 04 52.2			
	comp=Z,143nm,4.0s								
GRM	**Grahamstown**	**37.31**	**66**	P	**P**	**05 02 48.8**	**-2.2**		
	comp=Z,143nm,4.0s								
SOE	**Somerset East**	**37.35**	**64**	*e*P	P	05 02 46.6	-4.9		
SOE				AMB	AMB	05 03 39.3			
	comp=Z,115nm,1.8s								
SOE	**Somerset East**	**37.35**	**64**	P	P	05 02 46.6	-4.9		
	comp=Z,115nm,1.8s								
PLCA	**Paso Flores**	**38.91**	**272**	*e*P	**P**	**05 03 05.7**	**+1.2**		
	comp=Z,443nm,1.4s								
PLCA	**Paso Flores**	**38.91**	**272**	P	**P**	**05 03 03.8**	**-0.8**		
	comp=Z,117nm,1.2s,baz=147,slow=7.8,SNR=63								
PLCA				LR	LR	05 17 09.0			
	comp=Z,139μm,21.0s,baz=135,slow=33								
KSD	**Kokstad**	**40.99**	**67**	*e*P	**P**	**05 03 22.2**	**+0.2**		
KSD				AMB	AMB	05 03 28.2			
	comp=Z,196nm,4.5s								
KSD	**Kokstad**	**40.99**	**67**	P	**P**	**05 03 22.2**	**+0.2**		
	comp=Z,196nm,4.5s								
SWZ	**Schweizer**	**41.91**	**59**	*e*P	P	05 03 26.2	-3.2		
SWZ				AMB	AMB	05 04 22.1			
	comp=Z,267nm,2.1s								
SWZ	**Schweizer**	**41.91**	**59**	P	P	05 03 26.2	-3.2		
	comp=Z,267nm,2.1s								
SEK	**Senekal**	**41.99**	**63**	*e*P	P	05 03 26.9	-3.3		
SEK				AMB	AMB	05 03 34.8			
	comp=Z,187nm,5.6s								
SEK	**Senekal**	**41.99**	**63**	P	P	05 03 26.9	-3.3		
	comp=Z,187nm,5.6s								
WIN	**Windhoek**	**42.54**	**46**	P	**P**	**05 03 32.4**	**-2.4**		
WIN				pmax	pmax				
	comp=Z,73nm,2.6s								
WIN	**Windhoek**	**42.54**	**46**	*e*P	**P**	**05 03 32.4**	**-2.4**		
WIN				AMB	AMB	05 04 05.7			
	comp=Z,72nm,2.6s								
WIN	**Windhoek**	**42.54**	**46**	P	**P**	**05 03 32.4**	**-2.4**		
	comp=Z,72nm,2.6s								
SHEL	**Horse Pasture**	**42.97**	**13**	*e*P	**P**	**05 03 38.2**	**+0.1**		
SHEL				pmax	pmax				
	comp=Z,303nm,0.8s								
SHEL				MLR	MLR				
	comp=Z,25μm,19.0s								
SHEL	**Horse Pasture**	**42.97**	**13**	*e*P	**P**	**05 03 38.2**	**+0.1**		
	comp=Z,303nm,0.8s								
SHEL				LR	LR				
	comp=Z,25μm,19.0s								
CPUP	**Villa Florida**	**43.68**	**299**	*e*P	**P**	**05 03 42.4**	**-1.2**		
	comp=Z,13nm,0.8s								
CPUP	**Villa Florida**	**43.68**	**299**	P	**P**	**05 03 42.1**	**-1.5**		
	comp=Z,68nm,0.7s,baz=132,slow=7.4,SNR=78								
CPUP				LR	LR	05 20 47.8			
	comp=Z,121μm,19.5s,baz=143,slow=35								
LBTB	**Lobatse**	**43.90**	**58**	*e*P	**P**	**05 03 42.5**	**-3.1**		
LBTB				AMB	AMB	05 04 16.6			
	comp=Z,222nm,3.0s								
LBTB	**Lobatse**	**43.90**	**58**	*e*P	**P**	**05 03 42.5**	**-3.1**		
	comp=Z,249nm,1.3s								
SBA	**Scott Base**	**43.93**	**180**	*e*P	P	05 03 48.5	+3.3		
SBA				*e*		05 05 35.8			
SBA				pmax	pmax				
	comp=Z,2μm,2.5s								
SBA				MLR	MLR				
	comp=Z,44μm,21.0s								
SBA	**Scott Base**	**43.93**	**180**	*e*P	P	05 03 48.5	+3.3		
	comp=Z,2μm,2.5s								
SBA				*e*		05 05 35.8			
SBA				LR	LR				
	comp=Z,44μm,21.0s								
ERPM	**east rand prop**	**43.96**	**62**	*e*P	**P**	**05 03 44.7**	**-1.4**		
ERPM				AMB	AMB	05 04 37.8			
	comp=Z,225nm,3.9s								
ERPM	**east rand prop**	**43.96**	**62**	P	**P**	**05 03 44.7**	**-1.4**		
	comp=Z,225nm,3.9s								
OBSV	**Observatory**	**44.02**	**62**	*e*P	**P**	**05 03 43.9**	**-2.8**		
OBSV				AMB	AMB	05 04 05.4			
	comp=Z,131nm,1.3s								
VNDA	**Vanda**	**44.26**	**179**	*e*P	**P**	**05 03 49.9**	**+2.1**		
VNDA	**Vanda**	**44.26**	**179**	P	**P**	**05 03 49.6**	**+1.9**		
	comp=Z,13nm,0.9s,baz=205,slow=8.2,SNR=18								
VNDA				LR	LR	05 20 59.6			
	comp=Z,61μm,19.6s,baz=185,slow=34								
MIR	**Mirnyy**	**44.35**	**147**	⇑*i*P	**P**	**05 03 48.0**	**-0.6**		
MIR				*e*PPP	PPP	05 06 20.0			
MIR				*e*S	**S**	**05 10 26.0**	**+3.7**		
MIR				*e*SS	**SS**	**05 13 40.0**	**-0.3**		
MIR				*e*SSS	SSS	05 14 28.0			
MIR				pmax	pmax				
	comp=Z,410nm,2.0s								

MIR				pmax	pmax				
	comp=Z,3μm,4.0s								
CLCH	**Cerro Calan**	**44.44**	**279**	⇑*i*P	**P**	**05 03 49.0**	**-0.8**		
SLR	**Silverton**	**44.50**	**62**	P	P	05 03 46.8	-3.6		
SLR				pmax	pmax				
	comp=Z,210nm,1.2s								
SLR	**Silverton**	**44.50**	**62**	*e*P	P	05 03 46.8	-3.6		
SLR				AMB	AMB	05 04 09.0			
	comp=Z,210nm,1.2s								
SLR	**Silverton**	**44.50**	**62**	P	P	05 03 46.8	-3.6		
	comp=Z,210nm,1.2s								
BB16B	**Bebedouro**	**44.61**	**312**	⇑*i*P	**P**	**05 03 49.3**	**-1.9**		
BB16B				*i*		05 05 50.9			
BB16B				*i*		05 10 28.5			
BB16B				*i*		05 15 20.5			
CFAA	**Coronel Fontan**	**44.67**	**283**	P	**P**	**05 03 49.6**	**-2.0**		
CFAA	**Coronel Fontan**	**44.67**	**283**	P	**P**	**05 03 49.6**	**-2.0**		
	comp=Z,8.2nm,0.7s,baz=151,slow=7.7,SNR=110								
CFAA				LR	LR	05 21 12.5			
	comp=Z,9μm,18.7s,baz=137,slow=34								
PEL	**Peldehue**	**44.71**	**279**	⇑*i*P	**P**	**05 03 52.1**	**+0.1**		
ROCH	**El Roble**	**45.02**	**279**	⇑*i*P	**P**	**05 03 53.5**	**-1.1**		
TSUM	**Tsumeb**	**45.79**	**45**	*e*P	**P**	**05 03 59.5**	**-1.2**		
TSUM	**Tsumeb**	**45.79**	**45**	*e*P	**P**	**05 03 58.2**	**-2.5**		
	comp=Z,1μm,3.0s								
TSUM	**Tsumeb**	**45.79**	**45**	P	**P**	**05 03 57.7**	**-3.0**		
	comp=Z,24nm,1.0s,baz=184,slow=5.9,SNR=20								
TSUM				LR	LR	05 18 22.4			
	comp=Z,27μm,21.8s,baz=223,slow=30								
CMCH	**Combarbala**	**46.43**	**281**	⇑*i*P	**P**	**05 04 05.0**	**-0.7**		
PAF	**Port-aux-Franc**	**47.69**	**118**	PFAKE		05 04 30.0	+15		
PAF				LR	LR				
	comp=Z,37μm,21.0s								
RUDU	**RUNDU**	**47.77**	**47**	*e*P	**P**	**05 04 14.3**	**-1.9**		
RUDU				AMB	AMB	05 05 06.2			
	comp=Z,204nm,1.6s								
RUDU	**RUNDU**	**47.77**	**47**	P	**P**	**05 04 14.3**	**-1.9**		
	comp=Z,204nm,1.6s								
LCO	**Las Campanas**	**48.01**	**283**	*e*P	**P**	**05 04 16.6**	**-1.6**		
	comp=Z,1μm,2.3s								
LCO				LR	LR				
	comp=Z,76μm,20.0s								
MSNA	**Messina**	**48.21**	**61**	*e*P	**P**	**05 04 16.5**	**-3.0**		
MSNA				AMB	AMB	05 04 43.7			
	comp=Z,179nm,3.3s								
MSNA	**Messina**	**48.21**	**61**	P	**P**	**05 04 16.5**	**-3.0**		
	comp=Z,179nm,3.3s								
CASY	**Casey**	**49.09**	**154**	*e*P	**P**	**05 04 26.8**	**+1.1**		
	comp=Z,455nm,1.8s								
CASY				LR	LR				
	comp=Z,73μm,19.0s								
BDFB	**Brasilia**	**49.32**	**316**	*e*P	**P**	**05 04 27.8**	**-0.3**		
BDFB	**Brasilia**	**49.32**	**316**	P	**P**	**05 04 27.9**	**-0.3**		
	comp=Z,11nm,0.9s,baz=148,slow=7.2,SNR=14								
BDFB				LR	LR	05 21 06.5			
	comp=Z,179μm,21.4s,baz=325,slow=31								
H10S2	**ASCENSION HYDR**	**49.39**	**0**	T	T	05 57 56.1			
	baz=181,slow=75,SNR=165								
H10S3	**ASCENSION HYDR**	**49.40**	**0**	T	T	05 57 56.6			
	baz=181,slow=75,SNR=147								
H10S1	**ASCENSION HYDR**	**49.41**	**0**	T	T	05 57 57.5			
	baz=181,slow=75,SNR=142								
ASCN	**Ascension**	**50.41**	**1**	PFAKE		05 04 40.0	+3.7		
ASCN				LR	LR				
	comp=Z,14μm,20.0s								
H10N1	**ASCENSION HYDR**	**50.50**	**0**	T	T	05 59 14.1			
	SNR=7.3								
H10N3	**ASCENSION HYDR**	**50.50**	**0**	T	T	05 59 17.4			
	SNR=34								
H10N2	**ASCENSION HYDR**	**50.52**	**0**	T	T	05 59 21.0			
	SNR=14								
CEN1	**Los Morros**	**52.38**	**287**	⇑*i*P	**P**	**05 04 50.2**	**-0.9**		
LVC	**Limon Verde**	**52.38**	**289**	*e*P	**P**	**05 04 52.1**	**+0.7**		
	comp=Z,262nm,0.8s								
LVC				LR	LR				
	comp=Z,44μm,21.0s								
LSZ	**Lusaka**	**53.60**	**55**	*e*P	P	05 04 56.8	-3.5		
LSZ	**Lusaka**	**53.60**	**55**	P	**P**	**05 04 59.7**	**-0.5**		
	SNR=18								
LSZ				mb		05 05 18.1			
	SNR=57								
LSZ	**Lusaka**	**53.60**	**55**	*e*P	**P**	**05 04 57.4**	**-2.8**		
	comp=Z,203nm,1.4s								
LSZ				*e*S	**S**	**05 12 36.0**	**+2.4**		
LSZ	**Lusaka**	**53.60**	**55**	LR	LR	05 24 56.3			
	comp=Z,14μm,19.1s,baz=143,slow=33								
RCBR	**Riachuelo**	**54.98**	**334**	*e*P	**P**	**05 05 07.9**	**-2.2**		
	comp=Z,261nm,3.0s								
RCBR				LR	LR				
	comp=Z,48μm,22.0s								
LPAZ	**La Paz**	**57.38**	**294**	*e*P	**P**	**05 05 26.6**	**-1.4**		
	comp=Z,1μm,1.9s								
LPAZ	**La Paz**	**57.38**	**294**	P	**P**	**05 05 26.6**	**-1.4**		
	comp=Z,99nm,1.1s,baz=136,slow=6.0,SNR=136								
ABPO	**Ambohimpanom**	**59.45**	**76**	*e*P	**P**	**05 05 40.7**	**-1.2**		
ABPO				*e*		05 07 59.5			
ABPO				pmax	pmax				
	comp=Z,89nm,1.3s					

KMBO LR LR 05 34 28.4
comp=Z,13µm,20.5s,baz=190,slow=33
ATAH Atahualpa 70.28 289 LR LR 05 39 06.5
comp=Z,37µm,18.9s,baz=159,slow=37
TORD Torodi Ar. Bea 72.63 17 P **P 05 07 03.5 -2.8**
TORD Torodi Ar. Bea 72.63 17 P **P 05 07 03.5 -2.8**
comp=Z,24nm,1.0s,baz=181,slow=3.4,SNR=39
TORD LR LR 05 32 17.1
comp=Z,23µm,21.3s,baz=200,slow=30
BBTS Babate 72.87 358 P **P 05 07 07.9 +0.2**
BBTS Babate 72.87 358 P **P 05 07 07.9 +0.2**
comp=Z,37nm,1.1s,baz=18,slow=6.8,SNR=3.9
BBTS LR LR 05 33 00.5
comp=Z,19µm,19.3s,baz=357,slow=31
SACV Santiago Islan 73.52 351 *e*P **P 05 07 08.8 -2.8**
SACV LR LR
comp=Z,25µm,21.0s
MSEY Mahe Island 75.81 75 PFAKE 05 07 30.0 +4.9
MSEY LR LR
comp=Z,17µm,22.0s
OTAV Otavalo 76.69 293 *e*P **P 05 07 30.9 +0.3**
OTAV LR LR
comp=Z,26µm,19.0s
TAU Tasmania Unive 77.91 167 *e*P **P 05 07 39.6 +3.1**
TAU pmax pmax
comp=Z,371nm,1.8s
TAU MLR MLR
comp=Z,46µm,20.0s
TAU Tasmania Unive 77.91 167 *e*P **P 05 07 39.5 +3.1**
comp=Z,373nm,1.8s
TAU LR LR
comp=Z,46µm,20.0s
RPZ Rata Peaks 78.06 184 *e*P **P 05 07 39.6 +2.2**
comp=Z,451nm,2.0s
RPZ Rata Peaks 78.06 184 P **P 05 07 38.2 +0.8**
comp=Z,15nm,0.9s,baz=217,slow=15,SNR=4.0
TPP Pointe-a-Pierr 78.23 313 *e* **P 05 07 41.1 +2.6**
TBH Brigand Hill 78.23 314 *e* P 05 07 31.6 -6.9
TRN Trinidad (W) 78.51 313 *e* **P 05 07 41.8 +1.7**
BOT Bacolet 78.73 314 *e* **P 05 07 43.6 +2.4**
TPR Prospect 78.77 314 *e* **P 05 07 43.2 +1.7**
ROSC El Rosal 78.78 299 *e*P **P 05 07 41.1 -1.1**
ROSC El Rosal 78.78 299 P **P 05 07 41.5 -0.7**
comp=Z,31nm,0.8s,baz=100,slow=3.6,SNR=29
KHZ Kahutara 79.24 186 *e*P **P 05 07 46.1 +2.3**
comp=Z,122nm,1.2s
GRGR Grenville 79.97 314 *e*P **P 05 07 48.7 +0.7**
comp=Z,1µm,1.2s
GRGR LR LR
comp=Z,59µm,20.0s
BBGH Gun Hill 80.11 316 PFAKE 05 08 00.0 +11
BBGH LR LR
comp=Z,76µm,22.0s
SNZO South Karori 80.27 187 *e*P **P 05 07 50.9 +1.5**
comp=Z,397nm,1.3s
SNZO LR LR
comp=Z,20µm,19.0s
NWAO Narrogin (SRO) 80.56 141 PFAKE 05 08 00.0 +8.8
NWAO LR LR
comp=Z,1.0nm,21.0s
SDV Santo Domingo 80.70 304 *e*P **P 05 07 51.3 -0.9**
comp=Z,142nm,1.8s
SDV *e*PP PP 05 10 42.9 -13
SDV LR LR
comp=Z,32µm,19.0s
BFZ Birch Farm 80.78 189 *e*P P 05 07 55.4 +3.1
comp=Z,166nm,1.1s
PAYG Puerto Ayora 81.83 282 *e*P **P 05 07 59.5 +1.4**
comp=Z,48nm,1.3s
PAYG LR LR
comp=Z,34µm,22.0s
H08S1 Diego Garcia H 82.14 92 T T 06 39 51.9
baz=225
H08S2 Diego Garcia H 82.16 92 T T 06 39 50.2
baz=225
FDF Fort de France 82.16 315 *e*P **P 05 08 00.2 +0.4**
FDF pmax pmax
comp=Z,1µm,1.4s
FDF MLR MLR
comp=Z,16µm,21.0s
FDF Fort de France 82.16 315 *e*P P 05 08 03.0 +3.3
FDF Fort de France 82.16 315 *e*P **P 05 08 00.1 +0.4**
comp=Z,1µm,1.4s
FDF LR LR
comp=Z,16µm,21.0s
H08S3 Diego Garcia H 82.17 92 T T 06 39 53.1
baz=225
BKZ Black Stump Fm 82.27 189 *e*P **P 05 08 02.6 +2.4**
comp=Z,543nm,1.7s
DGAR Diego Garcia 82.33 92 PFAKE 05 08 10.0 +9.3
DGAR LR LR
comp=Z,12µm,21.0s
H08N3 Diego Garcia H 82.46 90 T T 06 39 42.9
baz=217,slow=76,SNR=15
H08N1 Diego Garcia H 82.48 90 T T 06 39 45.4
baz=217,slow=76,SNR=22
H08N2 Diego Garcia H 82.48 90 T T 06 39 37.4
baz=217,slow=76,SNR=20
TAM Tamanrasset 82.70 19 *e*P **P 05 08 01.7 -0.9**
TAM pmax pmax
comp=Z,121nm,1.3s
TAM MLR MLR
comp=Z,8µm,20.0s
TAM Tamanrasset 82.70 19 *e*P **P 05 08 01.7 -0.9**
comp=Z,121nm,1.3s
TAM LR LR
comp=Z,8µm,20.0s
BBL Barber's Block 83.01 315 *e*P P 05 08 09.2 +5.1
URZ Urewera 83.12 189 *e*P **P 05 08 05.5 +0.9**
comp=Z,773nm,1.9s
URZ Urewera 83.12 189 P **P 05 08 04.3 -0.3**
comp=Z,36nm,0.9s,baz=329,slow=2.8,SNR=11
TBG Guadaloupe-3 83.37 315 *e*P **P 05 08 06.4 +0.5**
HMG Houelmont 83.51 315 *e*P **P 05 08 07.3 +0.6**
PHG Guadaloupe-2 83.52 315 *e*P **P 05 08 09.9 +3.1**
SCG Saint Claude 83.55 315 *e*P **P 05 08 08.1 +1.2**
ECG Echelle 83.55 315 *e*P **P 05 08 07.4 +0.3**
TAG Tarade 83.55 315 *e*P **P 05 08 09.5 +2.5**
MLG Mont-d'or 83.59 315 *e*P **P 05 08 07.7 +0.6**
SSG Sans Toucher 83.60 315 *e*P **P 05 08 07.6 +0.3**
SEG Port Louis 83.83 315 *e*P **P 05 08 08.2 -0.1**
RKT Rikitea 84.87 233 *e*P **P 05 08 14.7 +1.0**
comp=Z,847nm,2.1s
RKT Rikitea 84.87 233 *e*PP PP 05 11 15.8 -14
comp=Z,1µm,33.0s
RKT *e*S S 05 18 35.4 -6.6
comp=Z,31µm,31.0s
RKT *e*SS **SS 05 24 16.3 +3.0**
comp=Z,13µm,28.2s
RKT *e*LQ LQ 05 31 19.0
comp=Z,66µm,29.5s
RKT *e*LR LR 05 35 19.7
comp=Z,80µm,28.5s,baz=150
ANWB Willy Bob 85.09 316 *e*P **P 05 08 14.2 -0.4**
comp=Z,218nm,0.9s
ANWB LR LR
comp=Z,26µm,20.0s
BCIP Isla Barro Col 85.13 296 *e*P **P 05 08 15.9 +0.9**
comp=Z,3µm,2.8s
BCIP LR LR
comp=Z,29µm,22.0s
SABA Saba 85.59 314 *e*P **P 05 08 16.8 -0.4**
comp=Z,1µm,1.6s
CAN Canberra 85.59 167 *e*P **P 05 08 19.2 +1.9**
CAN pmax pmax
comp=Z,76nm,1.2s
CAN MLR MLR
comp=Z,30µm,20.0s
CAN Canberra 85.59 167 *e*P **P 05 08 19.1 +1.9**
comp=Z,76nm,1.2s
CAN LR LR
comp=Z,30µm,20.0s
FORT Forrest 85.85 149 *e*P **P 05 08 20.8 +2.3**
BBOO Buckleboo 85.87 156 *e*P **P 05 08 20.4 +1.8**
comp=Z,326nm,2.0s
BBOO *e*PP **PP 05 11 42.0 +4.6**
OUZ Omahuta 86.40 187 *e*P **P 05 08 20.8 -0.4**
comp=Z,22nm,1.0s
MTP Monte Pirata 86.90 313 *e*P **P 05 08 22.4 -1.3**
comp=Z,859nm,2.0s
STVI Saint Thomas 86.90 313 *e*P **P 05 08 22.6 -1.0**
comp=Z,886nm,1.8s
HUMP Col San Antoni 87.06 312 *e*P P 05 08 28.7 +4.3
CBYP Canovanas 87.18 312 *e*P **P 05 08 23.8 -1.2**
comp=Z,115nm,0.8s

OBIP Obispado Ponce 87.27 312 *e*P **P 05 08 24.4 -1.0**
comp=Z,373nm,1.6s
OBIP *e*PP **PP 05 11 50.2 +0.5**
CELP Cerrillos 87.28 312 *e*P **P 05 08 25.9 +0.4**
CRPR Cabo Rojo, PR 87.43 311 *e*P **P 05 08 27.8 +1.6**
comp=Z,316nm,1.4s
CRPR *e*PP **PP 05 11 47.7 -3.3**
AOPR Arecibo Observ 87.60 312 *e*pP pP 05 08 38.0 +7.7
STKA Stephens Creek 87.87 160 *e*P **P 05 08 29.7 +1.3**
comp=Z,18nm,1.0s
STKA Stephens Creek 87.87 160 P **P 05 08 28.0 -0.4**
comp=Z,10.0nm,0.8s,baz=166,slow=5.3,SNR=14
STKA LR LR 05 43 39.9
comp=Z,28µm,19.6s,baz=186,slow=33
JTS JuntasAbangare 88.56 292 P **P 05 08 32.0 +0.3**
comp=Z,558nm,1.4s,SNR=7.5
JTS JuntasAbangare 88.56 292 *e*P **P 05 08 31.3 -0.5**
comp=Z,186nm,2.5s
JTS *e*PP **PP 05 12 00.5 +0.4**
JTS LR LR
comp=Z,19µm,20.0s
KAAM Kaadhehdhoo 89.29 88 P x 05 08 37.2
comp=Z,194nm,1.3s
SDDR Presa de Saban 90.00 308 *e*P **P 05 08 37.7 -0.7**
comp=Z,24nm,0.9s
SDDR LR LR
comp=Z,31µm,22.0s
TBI Tubuai 90.22 221 *e*PP PP 05 12 01.1 -11
comp=Z,2µm,30.8s
TBI *e*S **S 05 19 30.1 -3.2**
comp=Z,6µm,26.2s
TBI *e*SP **SP 05 20 40.1 +1.2**
comp=Z,15µm,27.5s
TBI *e*SS **SS 05 25 35.2 +4.0**
comp=Z,16µm,30.2s
TBI *e*LQ LQ 05 33 50.4
comp=Z,25µm,25.5s
TBI *e*LR LR 05 37 33.6
comp=Z,35µm,22.5s,baz=150
COCO West Island 90.66 115 PFAKE 05 08 50.0 +8.4
COCO LR LR
comp=Z,19µm,22.0s
ARMA Armidale 90.74 168 *e*P **P 05 08 43.4 +1.4**
comp=Z,372nm,2.4s
MDT Midelt 91.34 9 P **P 05 08 41.7 -2.6**
MDT Midelt 91.34 9 P **P 05 08 41.7 -2.6**
comp=Z,1.6nm,0.3s,baz=216,slow=8.7,SNR=4.1
RAO Raoul Island 91.48 195 PFAKE 05 09 00.0 +15
RAO LR LR
comp=Z,9µm,22.0s
MTDJ Mount Denham 92.02 302 PFAKE 05 09 00.0 +12
MTDJ LR LR
comp=Z,49µm,22.0s
GRTK Grand Turk 92.20 309 *e*P **P 05 08 46.9 -1.6**
comp=Z,140nm,1.3s
GRTK LR LR
comp=Z,42µm,21.0s
MASC Masc 92.30 306 *e* P 05 08 53.7 +4.8
RTC Rabat Centre 92.35 7 PFAKE 05 09 00.0 +11
RTC LR LR
comp=Z,19µm,19.0s
GTBY Guantanamo Bay 92.46 305 PFAKE 05 09 00.0 +10
GTBY LR LR
comp=Z,53µm,20.0s
RCC Rio Carpintero 92.77 305 *e* P 05 08 55.3 +4.2
TGUH Tegucigalpa,Un 92.94 292 *e*P **P 05 08 51.3 -0.6**
comp=Z,271nm,1.8s
TGUH *e*PP **PP 05 12 33.9 -0.9**
TGUH LR LR
comp=Z,25µm,22.0s
MOAC Moa 93.04 306 *e* P 05 09 00.4 +8.1
LMGC Las Mercedes 93.40 304 *e* **P 05 08 55.7 +1.7**
ASAR Alice Springs 94.16 152 P P **05 08 55.7 -2.1**
ASAR Alice Springs 94.16 152 P **P 05 08 55.7 -2.1**
comp=Z,3.2nm,0.8s,baz=196,slow=5.8,SNR=22
ASAR LR LR 05 45 50.2
comp=Z,14µm,21.7s,baz=189,slow=32
CCCC Cccc 94.73 304 *e* **P 05 09 01.9 +1.8**
APG El Apazote 95.31 290 P P 05 08 59.9 -3.3
APG El Apazote 95.31 290 P P 05 08 59.9 -3.3
comp=Z,16nm,1.0s,baz=139,slow=19,SNR=5.1
PFVI Vila Bisbo 95.37 5 *e*P P 05 09 15.6 +13
PFVI Vila Bisbo 95.37 5 *e*SKSac SKSac 05 19 48.5 +11
PFVI *e*SS **SS 05 26 53.4 +6.8**
RAR Rarotonga 95.47 213 PFAKE 05 09 20.0 +16
RAR LR LR
comp=Z,14µm,20.0s
PBDV Barranco-do-Ve 95.53 6 *e*P P 05 09 10.2 +6.8
PBDV Barranco-do-Ve 95.53 6 *e*SKSac SKSac 05 19 49.9 +11
PBDV *e*SS **SS 05 26 51.7 +2.9**
MORF Marmelete 95.56 5 *e*SKSac SKSac 05 19 51.3 +12
MORF *e*SS **SS 05 26 56.1 +6.8**
PPT2 Papeete2 95.58 223 *e*PP PP 05 12 54.5 -0.2
comp=Z,2µm,30.2s
PPT2 *e*SKSac **SKSac 05 19 39.3 -1.3**
comp=Z,4µm,25.4s
PPT2 *e*SP **SP 05 21 39.5 +1.1**
comp=Z,18µm,32.5s
PPT2 Papeete2 95.58 223 *e*LQ LQ 05 36 02.4
comp=Z,19µm,25.2s
PPT2 *e*LR LR 05 40 04.9
comp=Z,63µm,27.0s,baz=164
PVAQ Vaqueiros 95.70 6 *e*P P 05 09 09.4 +5.3
PVAQ Vaqueiros 95.70 6 *e*SKSac SKSac 05 19 49.8 +10
PVAQ *e*SS **SS 05 26 57.1 +5.9**
PVAQ *e*LR LR 05 34 17.7
comp=Z,11µm,18.0s
PCVE Castro Verde 95.91 5 *e*P P 05 09 13.1 +8.0
PCVE Castro Verde 95.91 5 *e*SKSac SKSac 05 19 51.6 +11
PCVE *e*SS SS 05 27 02.1 +7.9
KEST Kesra 96.00 20 *e*P P 05 09 10.4 +4.7
KEST Kesra 96.00 20 P **P 05 09 05.6 -0.1**
comp=Z,2.2nm,1.1s,baz=43,slow=19,SNR=2.9
PNCL Nicolau / Gran 96.36 5 *e*P P 05 09 13.4 +6.3
PNCL Nicolau / Gran 96.36 5 *e*SKSac SKSac 05 19 53.6 +10
PNCL *e*SS SS 05 27 08.1 +7.5
MGV Manicaragua 96.51 302 *e* **P 05 09 08.6 +0.4**
WDD Wield Dalam 97.14 24 PFAKE 05 09 20.0 +9.2
WDD LR LR
comp=Z,9µm,20.0s
PESTR Estremoz 97.16 6 *e*SKSac **SKSac 05 19 52.3 +5.0**
PESTR *e*SS **SS 05 27 14.1 +2.2**
PMAFR Mafra 97.17 4 *e*P Pdif 05 09 25.1 +14
PMAFR Mafra 97.17 4 *e*SKSac SKSac 05 20 00.6 +13
PMAFR *e*SS **SS 05 27 13.2 +1.1**
PMRV Marv??o 97.73 6 *e*P Pdif 05 09 18.6 +5.2
PMRV Marv??o 97.73 6 *e*SKSac **SKSac 05 19 54.0 +3.8**
PMRV *e*SS **SS 05 27 19.2 -0.8**
PMRV *e*LR LR 05 36 55.0
comp=Z,10µm,20.0s
WRA Warramunga Arr 97.83 151 P **P 05 09 13.2 -1.3**
WRA Warramunga Arr 97.83 151 P **P 05 09 13.2 -1.3**
comp=Z,3.7nm,0.8s,baz=199,slow=4.1,SNR=4.8
WRAB Tennant Creek 97.84 151 PFAKE 05 09 30.0 +15
WRAB LR LR
comp=Z,13µm,19.0s
PAB San Pablo 98.04 8 PFAKE 05 09 20.0 +5.1
PAB LR LR
comp=Z,7µm,20.0s
TRD Trivandrum 98.14 87 *e*P **P 05 09 15.7 -0.1**
SOR Soroa 98.46 300 *e* P 05 09 13.4 -3.6
CLTB Caltabellotta 98.52 22 PFAKE 05 09 30.0 +13
CLTB LR LR
comp=Z,3µm,19.0s
MTE Manteigas 98.69 6 *e*P Pdif 05 09 22.4 +4.7
MTE Manteigas 98.69 6 *e*SKSac SKSac 05 20 02.6 +7.4
MTE *e*SS SS 05 27 41.6 +8.1
MTE *e*LR LR 05 36 39.7
comp=Z,14µm,20.0s
MTE Manteigas 98.69 6 PFAKE 05 09 30.0 +12
MTE LR LR
comp=Z,15µm,21.0s
TEIG Tepich 98.72 294 *e*P Pdif 05 09 18.3 +0.1
comp=Z,152nm,1.6s
TEIG LR LR
comp=Z,34µm,21.0s
TEIG Tepich 98.72 294 P **P 05 09 16.2 -2.0**
comp=Z,24nm,1.1s,baz=90,slow=20,SNR=2.1
IDI Anoyia 99.13 32 LR LR 05 51 30.0
comp=Z,2µm,21.1s,baz=206,slow=34
MVO Moncorvo 99.48 6 *e*P **Pdif 05 09 28.9 +7.7**
MVO Moncorvo 99.48 6 *e*SKSac SKSac 05 20 07.5 +8.4
MVO *e*SS **SS 05 27 43.7 -0.9**
MVO Moncorvo 99.48 6 *e*LR LR 05 37 45.8
comp=Z,13µm,18.0s

POLO Lamas de Olo 99.65 5 *e*P **Pdif 05 09 31.6 +10**
POLO Lamas de Olo 99.65 5 *e*SKSac **SKSac 05 20 04.0 +4.0**
POLO A A 05 52 09.9
comp=Z,6µm,20.0s
VSL Villasalto 99.68 19 PFAKE 05 09 30.0 +8.0
VSL LR LR
comp=Z,9µm,20.0s
CEL Celeste 99.73 24 PFAKE 05 09 30.0 +7.6
CEL LR LR
comp=Z,7µm,19.0s
DZM Mont Dzumac 99.76 181 *e*Pdif **Pdif 05 09 23.5 +0.3**
comp=Z,408nm,26.4s
DZM Mont Dzumac 99.76 181 *e*PP PP 05 13 32.4 +5.9
comp=Z,796nm,26.3s
DZM *e*S **S 05 20 51.4 -5.6**
comp=Z,10µm,29.8s
DZM *e*SS **SS 05 27 49.0 +2.3**
comp=Z,23µm,30.4s
DZM Mont Dzumac 99.76 181 *e*LQ LQ 05 37 49.7
comp=Z,52µm,31.4s
DZM *e*LR LR 05 42 16.0
comp=Z,20µm,28.4s
ASF Jabal al Asfar 100.07 43 LR LR 05 56 31.4
comp=Z,7µm,18.2s,baz=161,slow=37
PBRG Braganca 100.14 6 *e*P **Pdif 05 09 32.1 +8.0**
PBRG Braganca 100.14 6 *e*SKSac SKSac 05 20 16.1 +14
PBRG *e*SS **SS 05 28 00.8 +7.1**
CTAO Charters Tower 100.19 162 PFAKE 05 09 40.0 +15
CTAO LR LR
comp=Z,40µm,21.0s
PGAV Gavieira, Arco 100.22 5 *e*P Pdif 05 09 36.1 +12
PGAV Gavieira, Arco 100.22 5 *e*SKSac SKSac 05 20 15.7 +13
PGAV *e*SS **SS 05 27 55.9 +1.0**
PGAV Gavieira, Arco 100.22 5 *e*LR LR 05 38 23.6
comp=Z,10µm,18.0s
SANT Santorini 100.30 32 PFAKE 05 09 30.0 +5.0
SANT LR LR
comp=Z,3µm,19.0s
MNGI Mangalore 100.75 83 *ex* PKiKP 05 13 47.7 -5.6
TIP Timpagrande 100.80 25 PFAKE 05 09 40.0 +13
TIP LR LR
comp=Z,5µm,21.0s
CUC Castrocucco 101.38 24 PFAKE 05 09 40.0 +10
CUC LR LR
comp=Z,6µm,20.0s
CSS Prodhromos 101.39 39 PFAKE 05 09 40.0 +10
CSS LR LR
comp=Z,1µm,20.0s
ETSF Etsaut 101.70 11 *e*P **Pdif 05 09 27.9 -3.1**
comp=Z,38nm,1.4s
ETSF Etsaut 101.70 11 *e*P **Pdif 05 09 27.9 -3.1**
ETSF pmax pmax
comp=Z,38nm,1.4s
ETSF Etsaut 101.70 11 *e*P **Pdif 05 09 27.9 -3.1**
comp=Z,38nm,1.4s
SJPF Ste Jean 101.85 10 *e*P **Pdif 05 09 28.5 -3.1**
SJPF Ste Jean 101.85 10 *e*P **Pdif 05 09 28.5 -3.1**
SJPF Ste Jean 101.85 10 *e*P **Pdif 05 09 28.5 -3.1**
EPF Esparros 101.92 11 *e*P **Pdif 05 09 28.8 -3.2**
comp=Z,32nm,1.3s
EPF Esparros 101.92 11 *e*P **Pdif 05 09 28.8 -3.2**
EPF pmax pmax
comp=Z,32nm,1.3s
EPF Esparros 101.92 11 *e*P **Pdif 05 09 28.8 -3.2**
comp=Z,32nm,1.3s
GOA Goa 102.37 81 *e*P **Pdif 05 09 35.4 +0.9**
MTLF Montolieu 102.43 13 *e*P **Pdif 05 09 31.4 -2.8**
comp=Z,80nm,1.7s
MTLF Montolieu 102.43 13 *e*P **Pdif 05 09 31.4 -2.8**
MTLF pmax pmax
comp=Z,81nm,1.7s
MTLF Montolieu 102.43 13 *e*P **Pdif 05 09 31.4 -2.8**
comp=Z,80nm,1.7s
ISP Isparta 103.13 35 PFAKE 05 09 50.0 +12
ISP LR LR
comp=Z,5µm,21.0s
LASF Ste Croix 103.35 14 *e*P **Pdif 05 09 35.7 -2.6**
comp=Z,61nm,1.4s
LASF Ste Croix 103.35 14 *e*P **Pdif 05 09 35.7 -2.6**
comp=Z,61nm,1.4s
MDRS Chennai 103.69 87 *e*P **Pdif 05 09 41.0 +0.5**
VLC Villacollemand 104.39 18 PFAKE 05 09 50.0 +7.1
VLC LR LR
comp=Z,12µm,22.0s
SSB Saint Sauveur 104.62 14 PFAKE 05 09 50.0 +6.1
SSB LR LR
comp=Z,16µm,20.0s
BNI Bardonecchia 104.69 16 PFAKE 05 09 50.0 +5.6
BNI LR LR
comp=Z,13µm,19.0s
MMB Musomiste 104.74 29 *e*P **PP 05 14 05.5 +0.6**
MMB Musomiste 104.74 29⇑*i*P **PP 05 14 08.3 +3.4**
KKB Krupnik 104.84 28 *e*P **PP 05 14 06.8 +1.2**
POO Poona 104.92 79 *e*P **Pdif 05 09 44.9 -1.0**
RZN Rozhen 105.08 30 *e*P **PP 05 14 06.7 -1.0**
LPG La Plagne 105.13 16 *e*P **Pdif 05 09 43.1 -3.4**
comp=Z,24nm,1.3s
LPG La Plagne 105.13 16 *e*P **Pdif 05 09 43.1 -3.4**
LPG pmax pmax
comp=Z,24nm,1.3s
LPG La Plagne 105.13 16 *e*P **Pdif 05 09 43.1 -3.4**
comp=Z,24nm,1.3s
LPL La Plagne 105.15 16 *e*P **Pdif 05 09 43.4 -3.1**
LPL La Plagne 105.15 16 *e*P **Pdif 05 09 43.4 -3.1**
LPL La Plagne 105.15 16 *e*P **Pdif 05 09 43.4 -3.1**
AFI Afiamalu 105.44 203 PFAKE 05 14 10.0
AFI LR LR
comp=Z,6µm,20.0s
PLD Plovdiv 105.47 29 *e*P **PP 05 14 10.0 -0.3**
VTS Vitosha 105.55 28 *e*P **PP 05 14 11.0 -0.1**
VTS Vitosha 105.55 28⇑*i*P PKiKP 05 14 06.6 +5.2
ANTO Ankara 105.71 36 PFAKE 05 14 10.0
ANTO LR LR
comp=Z,6µm,21.0s
CMBY CAMPBELL BAY 105.73 102 *e*P **Pdif 05 09 49.8 +0.1**
BRTR Keskin Array B 105.84 37 PKKPab PKKPab 05 25 41.4 +2.9
BRTR Keskin Array B 105.84 37 PKKPab PKKPab 05 25 41.4 +2.9
comp=Z,3.2nm,1.1s,baz=26,slow=6.9,SNR=3.8
NHSC New Hope 106.16 307 PFAKE 05 14 10.0
NHSC LR LR
comp=Z,33µm,22.0s
TIGA Tifton 106.18 304⇑P **PKiKP 05 14 04.1 +1.4**
baz=106
JMB Yambol 106.31 31 *e*P PP 05 14 26.9 +10
HYB Hyderabad 106.44 84 *e*P **Pdif 05 09 51.6 -1.1**
TUE Stuetta 106.47 17 PFAKE 05 14 10.0
TUE LR LR
comp=Z,10µm,21.0s
KAPI Kappang 107.09 132 PFAKE 05 14 20.0
KAPI LR LR
comp=Z,5µm,21.0s
BRAL Brewton 107.35 301 PFAKE 05 14 10.0
BRAL LR LR
comp=Z,34µm,22.0s
MOTA Moosalm 107.60 18⇑*i*PP PP 05 14 24.5 -1.6
comp=Z,10nm,1.1s
SOKA Soboth 107.65 21 P PP 05 14 38.8 +12
comp=Z,26nm,1.6s
KULM Kulim 107.66 109 PFAKE 05 14 20.0
KULM LR LR
comp=Z,10µm,20.0s
GOGA Godfrey 107.81 305 PFAKE 05 14 20.0
GOGA LR LR
comp=Z,31µm,22.0s
PKSM Moragy 107.93 24⇑*i*P **PP 05 14 31.8 +3.5**
BZS Buzias 108.02 26⇓*i*P PP 05 14 19.1 -10
GZR Gura Zlata 108.08 27⇑*i*P **PP 05 14 29.9 +0.4**
BFO Black Forest 108.13 16 *e*PP PP 05 14 34.1 +4.3
BFO *e*PS PS 05 24 12.0 +20
BFO Black Forest 108.13 16 PFAKE 05 14 20.0
BFO LR LR
comp=Z,10µm,20.0s
MSAB Monastry St. A 108.15 31⇑*i*P **PP 05 14 29.6 -0.3**
ARSA Arzberg 108.30 21⇑*i*sPKiKP sPKiKP 05 14 16.2 +5.4
comp=Z,13nm,1.6s
KMSC Kings Mountain 108.39 308⇑P **PKiKP 05 14 10.9 +4.1**
baz=108
FUR Furstenfeldbru 108.43 18 *e*PP PP 05 14 35.0 +3.0
FUR *e*PS PS 05 24 18.3 +23
ARR Arges 108.51 28⇓*i*P **PP 05 14 29.3 -3.4**
TIRR Tirgusor 108.65 31 *e*P **PP 05 14 34.4 +0.8**
TLB Topalu 108.67 31⇓*i*P PP 05 14 24.5 -9.2
STU Stuttgart 108.69 17 *e*PP PP 05 14 37.2 +3.4
STU *e*PS PS 05 24 21.9 +24
KSM Kuching 108.93 120 PFAKE 05 14 20.0

KSM LR LR
comp=Z,4µm,19.0s
MLR Muntele Rosu 108.96 29⇓ *i*P PP 05 14 32.7 -3.3
WLF Walferdange 109.14 14 *e*PS PS 05 24 23.4 +21
WLF Walferdange 109.14 14 PFAKE 05 14 20.0
WLF LR LR
comp=Z,11µm,19.0s
VIS Vishakhapatnam 109.19 87 *e*P **Pdif 05 10 04.4 -0.5**
VIS AMS AMS 06 15 50.2
comp=Z,3µm,19.9s
CFR Carcaliu 109.24 31⇑ *i*P **PP 05 14 33.8 -4.0**
DRGR 109.38 26 *e*P **PP 05 14 34.6 -4.4**
DRGR 109.38 26⇑ *i*P **PP 05 14 36.5 -2.5**
CBN Corbin 109.44 312 PFAKE 05 14 20.0
CBN LR LR
comp=Z,37µm,21.0s
PLOR Plostina 109.47 29⇑ *i*P **PP 05 14 41.3 +1.7**
GEC2 GERESS Array S 109.50 20 *e*PP PP 05 14 43.5 +3.7
GEC2 *e*PS PS 05 24 28.0 +21
GERES GERESS Array B 109.50 20 PKiKP **PKiKP 05 14 08.1 -0.5**
GERES PKKP **PKKPdf 05 25 29.6 +0.4**
GERES GERESS Array B 109.50 20 PKiKP **PKiKP 05 14 08.1 -0.5**
comp=Z,0.8nm,0.8s,baz=196,slow=6.9,SNR=3.7
GERES PKKP **PKKPdf 05 25 29.6 +0.4**
comp=Z,0.8nm,0.8s,baz=132,slow=2.0,SNR=4.7
VRI Vrincioaia 109.51 29 *e*P **PP 05 14 41.8 +2.0**
VRI Vrincioaia 109.51 29⇑ *i*P **PP 05 14 39.9 +0.1**
WET Wettzell 109.64 19 *e*PP PP 05 14 46.0 +5.2
WET *e*PS PS 05 24 34.0 +26
KHC Kasperske Hory 109.75 19 *e*PP PP 05 14 36.1 -5.5
KHC *ex* x 05 14 51.7
KHC *ex* x 05 15 19.0
KHC *e*SKS **SKSac 05 20 50.4 +4.9**
KHC *e*PS **PS 05 24 13.6 +4.6**
KHC *ex* x 05 25 20.0
KHC *e*PKKP **PKKPdf 05 25 29.0 +0.3**
KHC *e*SS **SS 05 30 09.1 +4.0**
KHC AMS AMS 05 56 40.0
comp=Z,10µm,19.6s
NGP Nagpur 109.79 82 *ex* **PS 05 24 07.5 -2.4**
BLA Blacksburg 109.80 309 PFAKE 05 14 20.0
BLA LR LR
comp=Z,23µm,20.0s
PSZ Piszkesteto 109.82 24⇓ *i*P PP 05 14 30.3 -12
PSZ Piszkesteto 109.82 24 PFAKE 05 14 20.0
PSZ LR LR
comp=Z,6µm,19.0s
GRF Grafenberg Arr 109.90 18 *e*PP PP 05 14 47.2 +4.6
GRF *e*PS PS 05 24 36.9 +27
GRF *e*L L 05 57 27.8
comp=Z,8µm,20.0s
934A Benavides 109.91 290 ⇑P PKiKP 05 14 15.1 +5.3
baz=110
TNS Taunus Mts 110.00 16 *e*PP PP 05 14 48.2 +4.8
TNS *e*PS PS 05 24 40.8 +29
GNI Garni 110.03 45 PFAKE 05 14 20.0
GNI LR LR
comp=Z,12µm,21.0s
VAL Valentia 110.11 3⇑ *i*SS SS 05 30 15.7 +6.0
ROTZ Rotzenmuhle 110.13 18 *e*PP PP 05 14 47.9 +3.6
ROTZ *e*PS PS 05 24 39.3 +27
835A Beeville 110.14 291 ⇓P PKiKP 05 14 15.5 +5.3
baz=110
TREC Trest 110.25 21 *e*PP PP 05 14 46.5 +1.3
TREC *e*PS **PS 05 24 15.9 +2.1**
TREC AMS AMS 05 57 30.0
comp=Z,10µm,19.4s
MANZ Manzenberg 110.33 18 *e*PP PP 05 14 48.5 +2.8
MANZ *e*PS PS 05 24 40.8 +26
834A Tilden 110.36 291 ⇑P **PKiKP 05 14 12.2 +1.5**
baz=110
735A Kenedy 110.60 292 ⇑P **PKiKP 05 14 15.1 +4.0**
baz=111
NKC Novy Kostel 110.62 18 *e*PP PP 05 14 48.9 +1.0
NKC *e*SKS **SKSac 05 20 55.3 +6.3**
NKC *e*PS **PS 05 24 21.5 +4.3**
AKH Akhalkalaki 110.68 43 P PP **05 14 44.7 -3.8**
PRU Pruhonice 110.75 20 *ex* x 05 14 35.7
PRU *e*PP **PP 05 14 51.8 +3.1**
PRU *e*SKS **SKSac 05 20 49.9 +0.5**
PRU *e*PS **PS 05 24 22.5 +4.3**
PRU *ex* x 05 30 03.8
PRU AMS AMS 05 56 20.0
comp=Z,7µm,20.4s
BURAR Bucovina Array 110.75 28 ⇑PKiKP **PKiKP 05 14 10.7 -0.2**
BURAR Bucovina Array 110.75 28⇑ *i*P **PKiKP 05 14 10.7 -0.2**
TANN Tannenbergstha 110.80 18 *e*PP PP 05 14 52.9 +3.7
TANN *e*PS PKKPbc 05 24 45.4 -23
PMG Port Moresby 110.80 161 PFAKE 05 14 20.0
PMG LR LR
comp=Z,24µm,19.0s
UBBA Unterbreizbach 110.81 17 *e*PP PP 05 14 52.5 +3.5
UBBA *e*PS PKKPbc 05 24 46.8 -21
833A Chaparral WMA, 110.94 290 ⇑P **PKiKP 05 14 15.7 +4.0**
baz=111
734A La Parita Cree 110.96 291 ⇑P PKiKP 05 14 17.1 +5.3
baz=111
UZH Uzhgorod 111.02 25 *e*PKiKP **PKiKP 05 14 15.9 +4.7**
UZH *e* 05 14 55.1
UZH *e* 05 17 17.1
UZH *e* 05 20 45.7
UZH *e* 05 24 16.3
UZH *e* 05 30 18.1
UZH *e* 05 34 25.0
635A Leesville 111.02 292 ⇑P PKiKP 05 14 21.2 +9.3
baz=111
BUG Bochum--Univer 111.03 15 *e*PP PP 05 14 53.2 +2.5
BUG *e*PS PKKPbc 05 24 50.9 -17
CRVS Cervenica-Dubn 111.09 25 *e*PP PP 05 14 45.5 -5.7
KIS Kishinev 111.10 30 *e*P Pdif 05 10 25.0 +12
KIS *e* 05 14 47.0
KIS *e* 05 20 50.0
KIS *e*PPS PPS 05 24 19.0
KIS Kishinev 111.10 30 *e*P Pdif 05 10 25.0 +12
KIS Kishinev 111.10 30 *e*PP PP 05 14 47.0 -4.3
KIS *e*SKS 05 20 05.0
KIS *e*SKKS **SKSac 05 25 00.0 -1.0**
KIS Kishinev 111.10 30 *e*PPS **SP 05 24 19.0 -1.5**
KIS LRM MLR 06 05 52.0
comp=Z,3µm,18.0s
832A Faith Ranch, C 111.19 290 ⇓P PKiKP 05 14 20.2 +7.9
baz=111
KRLC Kraliky 111.24 21 *ex* x 05 14 36.2
KRLC *e*PP **PP 05 14 55.8 +3.5**
PVCC Panska Ves 111.27 20 *e*PP PP 05 14 53.2 +0.7
PVCC *e*PS **PS 05 24 29.7 +6.7**
PVCC *e*SS SS 05 30 27.8 +2.4
PVCC AMS AMS 05 58 00.0
comp=Z,6µm,20.6s
OKC Ostrava-Krasne 111.28 22 *e*PP PP 05 14 54.6 +2.0
OKC *ex* x 05 21 02.5
OKC *e*PS **PS 05 24 29.7 +6.6**
OKC *e*SS SS 05 30 31.3 +5.8
OKC AMS AMS 05 58 30.0
comp=Z,5µm,21.5s
SOC Sochi 111.29 39 *i* PKiKP **PKiKP 05 14 15.9 +4.0**
SOC *e* 05 14 57.2
SOC *e*PPP PPP 05 17 15.4
SOC *e* 05 20 47.8
SOC *i* SS SS 05 30 36.8 +11
KOLS Kolonicke sedl 111.30 25 *e*PP PP 05 14 43.9 -8.8
634A China Grove, S 111.30 291 ⇑P PKiKP 05 14 20.4 +7.9
baz=112
NIE Niedzica 111.33 24 *e*P Pdif 05 10 24.8 +11
NIE *e*SS SS 05 30 26.0 -0.3
NIE MLR MLR
comp=Z,8µm,18.6s
NIE Niedzica 111.33 24 *e*Pdiff Pdif 05 10 24.8 +11
NIE *e*PS **PS 05 24 29.9 +6.2**
NIE *e*SS SS 05 30 26.0 -0.3
NIE L L 05 59 52.0
comp=Z,8µm,18.6s
DGRG David-gareji 111.40 44 P PP 05 15 00.0 +6.4
TBLG Delisi 111.41 44 P PP **05 14 50.8 -2.9**
DPC Dobruska-Polom 111.42 21 *ex* x 05 14 43.3
DPC *e*PP **PP 05 14 56.5 +2.9**
DPC *e*SKS **SKSac 05 20 56.2 +3.9**
DPC *e*PS **PS 05 24 31.7 +7.2**
DPC *e*SS **SS 05 30 30.8 +3.3**
DPC AMS AMS 06 00 50.0
535A Dale 111.45 292 ⇓P PKiKP 05 14 18.0 +5.3
baz=112
NEUB Neuenburg 111.46 18 *e*PP PP 05 14 56.0 +2.2
NEUB *e*PS PKKPbc 05 24 52.3 -14
SEAG Tbilisi Sea 111.47 44 P **PP 05 14 50.2 -3.9**
NATX Nacogdoches 111.49 296 PFAKE 05 14 20.0
NATX LR LR
comp=Z,12µm,20.0s
BRG Berggiesshubel 111.49 19 *e*PP PP 05 14 57.6 +3.5
BRG *e*PS PKKPbc 05 24 50.9 -15
UPC Upice 111.51 21 *e*PP PP 05 14 56.3 +2.1
732A Laxson Ranch, 111.56 290 ⇓P PKiKP 05 14 20.9 +7.9
baz=112
CLL Collm 111.75 18 *e*P **Pdif 05 10 13.0 -2.4**
CLL *e* 05 14 53.0
CLL pmax pmax
comp=Z,259nm,3.1s
CLL MLR MLR
comp=Z,5µm,19.3s
CLL Collm 111.75 18 *e*PP PP 05 14 58.8 +2.9
CLL *e*PS PKKPbc 05 24 53.3 -12
CLL Collm 111.75 18 *e*Pdif **Pdif 05 10 13.0 -2.4**
CLL *e* 05 14 30.0
CLL *e*PP **PP 05 14 53.0 -2.9**
comp=Z,259nm,3.1s
CLL *e* 05 15 13.0
CLL *e*SKSac SKSac 05 21 01.0 +7.5
CLL *es*Sdiff **sSdif 05 22 46.0 +5.5**
CLL *e*PS **PS 05 24 33.0 +5.6**
CLL *e* 05 24 54.0
CLL *e*PKKPab **PKKPab 05 25 15.0 +3.4**
comp=Z,20nm,1.6s
CLL *i* PKKPdf **PKKPdf 05 25 21.9 -3.0**
comp=Z,29nm,1.5s
CLL *i* sPKKPdf 05 25 28.6
comp=Z,132nm,2.6s
CLL *e*PPS PPS 05 25 32.0
CLL *e*PKKSdf PKKSdf 05 29 03.0 +2.0
CLL *e*SS **SS 05 30 36.0 +4.3**
CLL *e*SSS SSS 05 34 36.0
CLL *e*SSSS 05 38 06.0
CLL LV 06 10 00.0
comp=Z,5µm,19.3s
CLL LmV(360 07 18 00.0
comp=Z,2µm,19.5s
633A Saathoff Ranch 111.77 291 ⇓P **PKiKP 05 14 13.4 0.0**
baz=112
CLZ Clausthal 111.86 17 *e*PP PP 05 14 59.7 +3.0
CLZ *e*PS PKKPbc 05 24 56.7 -8.3
534A Blanco 111.89 292 ⇓P PKiKP 05 14 20.2 +6.6
baz=112
IBBN Ibbenburen 111.94 15 *e*PS PS 05 24 57.9 +29
OJC Ojcow 111.98 23 *e*P Pdif 05 10 28.0 +12
OJC *e* 05 15 00.0
OJC *e*PS **PS 05 24 33.7 +4.1**
OJC *e*SS SS 05 30 35.4 +0.5
OJC Ojcow 111.98 23 *e*Pdiff Pdif 05 10 28.0 +12
OJC *e*PP **PP 05 15 00.0 +2.4**
OJC *e*PS **PS 05 24 33.7 +4.1**
OJC *e*SS SS 05 30 35.4 +0.5
OJC L L 05 57 16.0
comp=Z,8µm,21.4s
KWP Kalwaria Pacla 112.05 25 ⇑PKiKP PKiKP 05 14 23.2 +10
KWP Kalwaria Pacla 112.05 25⇑ *i*P PKiKP 05 14 23.2 +10
KWP Kalwaria Pacla 112.05 25 PFAKE 05 14 20.0
KWP LR LR
comp=Z,14µm,21.0s
632A Uvalde 112.11 290 ⇓P **PKiKP 05 14 16.1 +2.1**
baz=112
533A Kerrville 112.20 291 ⇑P PKiKP 05 14 19.5 +5.3
baz=112
BINY Binghamton 112.38 315 PFAKE 05 14 20.0
BINY LR LR
comp=Z,43µm,21.0s
335A Moody 112.42 293 ⇑P **PKiKP 05 14 15.9 +1.4**
baz=113
631A Perdido Creek 112.42 290 ⇓P **PKiKP 05 14 15.8 +1.2**
baz=113
434A Burnet 112.44 292 ⇑P **PKiKP 05 14 15.8 +1.3**
baz=113
NRDL Niedersach Rie 112.45 16 *e*PP PP 05 15 03.2 +2.4
NRDL *e*PS **PKKPbc 05 25 01.1 -1.8**
LVV L'vov 112.53 26 *i* PKiKP PKiKP 05 14 22.1 +8.0
LVV *i* 05 21 00.3
LVV MLR MLR
comp=N,2µm,18.0s
LVV MLR MLR
comp=E,4µm,18.0s
LVV MLR MLR
comp=Z,5µm,18.0s
KIV Kislovodsk 112.63 41 PFAKE 05 14 20.0
KIV LR LR
comp=Z,5µm,20.0s
532A Rocksprings 112.68 291 ⇓P **PKiKP 05 14 16.4 +1.3**
baz=113
LBNH Lisbon 112.71 319 PFAKE 05 14 20.0
LBNH LR LR
comp=Z,24µm,20.0s
PKME Peaks-Kenny Pk 112.73 321 PFAKE 05 14 20.0
PKME LR LR
comp=Z,26µm,22.0s
433A Art 112.79 292 ⇓P **PKiKP 05 14 16.5 +1.3**
baz=113
334A Lometa 112.85 293 ⇑P **PKiKP 05 14 17.2 +1.8**
baz=113
JCT Junction City 112.92 291 PFAKE 05 14 30.0
JCT LR LR
comp=Z,8µm,19.0s
RUE Ruedersdorf 113.01 19 *e*PP PP 05 15 07.9 +3.0
RUE *e*PS **PKKPab 05 25 04.2 -1.8**
531A Rocksprings 113.02 290 ⇑P **PKiKP 05 14 19.7 +4.0**
baz=113
WCI Wyandotte Cave 113.11 306 PKiKP **PKiKP 05 14 20.7 +5.1**
WCI Wyandotte Cave 113.11 306 PKPdf **PKiKP 05 14 20.7 +5.1**
333A Richland Sprin 113.21 292 ⇑P PKiKP 05 14 22.7 +6.7
baz=113
432A Menard 113.24 291 ⇑P **PKiKP 05 14 17.5 +1.4**
baz=113
MIAR Mount Ida 113.29 298 PFAKE 05 14 30.0
MIAR LR LR
comp=Z,28µm,21.0s
234A Clairette 113.36 293 ⇑P **PKiKP 05 14 17.5 +1.2**
baz=114
530A J-C Ranch, Com 113.40 290 ⇓P **PKiKP 05 14 17.7 +1.2**
baz=114
ACSO Alum Creek Sta 113.42 309 PFAKE 05 14 30.0
ACSO LR LR
comp=Z,29µm,21.0s
135A Vickery Place, 113.46 294 ⇑P PKiKP 05 14 21.9 +5.4
baz=114
431A Sonora 113.48 290 ⇑P **PKiKP 05 14 18.7 +2.1**
baz=114
MAK Makhachkala 113.50 45 *e*P **Pdif 05 10 17.6 -5.8**
MAK *i* 05 14 12.9
MAK *e*PPP PPP 05 17 28.0
MAK *e* 05 20 58.1
MAK pmax pmax
comp=Z,271nm,1.2s
628A Black Gap, Mar 113.63 288 ⇓P **PKiKP 05 14 19.0 +2.1**
baz=114
233A Rising Star 113.73 293 ⇓P **PKiKP 05 14 17.7 +0.7**
baz=114
HLG Helgoland 113.79 14 *e*PP PP 05 15 12.6 +2.2
HLG *e*PS PKKPab 05 25 10.0 +7.5
134A White-Moore Ra 113.79 294 ⇓P **PKiKP 05 14 19.9 +2.8**
baz=114
ESK Eskdalemuir 113.82 7 PFAKE 05 14 30.0
ESK LR LR
comp=Z,12µm,21.0s
ERPA Erie 113.83 312 PFAKE 05 14 30.0
ERPA LR LR
comp=Z,39µm,22.0s
627A Terlingua Ranc 113.86 288 ⇓P **PKiKP 05 14 17.9 +0.4**
baz=114
430A Baggett Ranch, 113.87 290 ⇑P **PKiKP 05 14 20.0 +2.6**
baz=114
BSEG Bad Segeberg 113.88 16 *e*PP PP 05 15 13.8 +2.8
BSEG *e*PS PKKPab 05 25 10.7 +8.6
TXAR Lajitas Array 113.90 287 PKiKP **PKiKP 05 14 17.1 -0.4**
TXAR PKKPab **PKKPab 05 25 03.8 -0.8**
TXAR Lajitas Array 113.90 287 PKiKP **PKiKP 05 14 17.1 -0.4**
comp=Z,0.6nm,0.8s,baz=151,slow=2.9,SNR=3.8
TXAR PKKPab **PKKPab 05 25 03.8 -0.8**
comp=Z,1.1nm,0.9s,baz=304,slow=2.3,SNR=4.6
331A San Angelo 113.90 291 ⇑P **PKiKP 05 14 19.1 +1.7**
baz=114
LONY Lake Ozonia 113.97 318 PFAKE 05 14 30.0
LONY LR LR
comp=Z,35µm,22.0s
232A Coleman 113.99 292 ⇑P PKiKP 05 14 22.9 +5.3
baz=114
Z35A Perchaven, San 114.02 295 ⇑P PKiKP 05 14 24.2 +6.8
baz=114
429A Davenport Ranc 114.07 289 ⇓P PKPdf 05 14 18.4 +0.6
baz=114
626A Big Bend Ranch 114.31 287 ⇓P PKPdf 05 14 23.5 +5.2
baz=114
330A Mertzon 114.35 291 ⇑P PKPdf 05 14 20.0 +1.7
baz=114
231A Bronte 114.36 292 ⇑P PKPdf 05 14 19.9 +1.7
baz=114
527A Woodward Ranch 114.53 288 ⇑P PKPdf 05 14 16.0 -2.7
baz=115
ABTX Abilene, Hawle 114.59 292 *e*PKPdf PKPdf 05 14 22.4 +3.8
ABTX *e*PP **PP 05 15 16.0 -0.4**
ABTX Abilene, Hawle 114.59 292 ⇑P PKPdf 05 14 20.9 +2.2
baz=115
KIEV Kiev 114.60 29 PFAKE 05 14 30.0 +12
KIEV LR LR
comp=Z,5µm,22.0s
AKASG Malin Array Be 114.61 29 PKIKP PKPdf 05 14 17.3 -0.7
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 114.61 29 PKP PKPdf 05 14 17.3 -0.7
AKASG Malin Array Be 114.61 29 PKP PKPdf 05 14 17.3 -0.7
comp=Z,1.4nm,0.7s,baz=231,slow=1.5,SNR=5.0
526A Mary Lane Ranc 114.70 287 ⇑P PKPdf 05 14 21.6 +2.5
baz=115
Z33A Whitaker Ranch 114.71 294 ⇑P PKPdf 05 14 22.9 +4.1
baz=115
230A Sterling City 114.71 291 ⇓P PKPdf 05 14 21.5 +2.6
baz=115
329A Wagon Wheel Ra 114.81 290 ⇓P PKPdf 05 14 23.1 +4.0
baz=115
131A Roby 115.00 292 ⇑P PKPdf 05 14 22.1 +2.6
baz=115
427A Hayter Ranch, 115.00 288 ⇑P PKPdf 05 14 26.1 +6.6
baz=115
426A McDonald Obser 115.17 288 ⇓P **PKPdf 05 14 22.1 +2.1**
baz=115
130A Snyder 115.21 291 ⇑P **PKPdf 05 14 22.2 +2.3**
baz=115
X34A Smith Ranch, M 115.33 295 ⇑P **PKPdf 05 14 21.4 +1.4**
baz=116
Z31A Sharp Cattle R 115.40 293 ⇓P **PKPdf 05 14 22.3 +2.1**
baz=116
AAM Ann Arbor 115.43 310 PFAKE 05 14 30.0 +10
AAM LR LR
comp=Z,29µm,21.0s
BOK Bokaro 115.54 86 *e*P **PKPdf 05 14 18.3 -2.4**
Y32A R-V Farms, Ver 115.62 293 ⇓P **PKPdf 05 14 23.3 +2.7**
baz=116
KKM Kota Kinabalu 115.62 124 PFAKE 05 14 30.0 +8.7
KKM LR LR
comp=Z,5µm,20.0s
326A Caldwell Ranch 115.67 288 ⇑P **PKPdf 05 14 22.9 +2.1**
baz=116
129A Stewart Farms, 115.68 291 ⇑P **PKPdf 05 14 23.5 +2.7**
baz=116
425A Indio Mountain 115.74 287 ⇑P **PKPdf 05 14 23.5 +2.5**
baz=116
W34A Bridge Creek, 115.82 296 ⇑P **PKPdf 05 14 23.2 +2.3**
baz=116
Z30A Sanderson Ranc 115.85 292 ⇓P **PKPdf 05 14 24.2 +3.1**
baz=116
X32A Elmer 115.88 294 ⇑P **PKPdf 05 14 24.2 +3.2**
baz=116
227A Bennet, Jal 115.89 289 ⇑P **PKPdf 05 14 23.4 +2.1**
baz=116
WMOK Wichita Mounta 115.90 294 PFAKE 05 14 30.0 +8.9
WMOK LR LR
comp=Z,18µm,22.0s
Y31A Rekieta Farm, 115.98 293 ⇓P **PKPdf 05 14 23.5 +2.2**
baz=116
128A Castleberry Fa 115.98 290 ⇓P **PKPdf 05 14 23.5 +2.1**
baz=116
W33A Caddo, Fort Co 116.08 295 ⇓P **PKPdf 05 14 21.4 -0.1**
baz=116
HDIL Hopedale 116.33 305 PFAKE 05 14 30.0 +8.3
HDIL LR LR
comp=Z,316µm,21.0s
X31A McDonald Ranch 116.39 293 ⇑P **PKPdf 05 14 23.8 +1.8**
baz=117
127A Arkansas Junct 116.46 290 ⇓P **PKPdf 05 14 25.0 +2.6**
baz=117
Z28A Tucker Farm, M 116.47 291 ⇓P **PKPdf 05 14 26.3 +4.0**
baz=117
V33A Lossen Ranch, 116.54 296 ⇓P **PKPdf 05 14 25.0 +2.8**
baz=117
XMAS Kiritimati 116.57 223 PFAKE 05 14 30.0 +7.0
XMAS LR LR
comp=Z,19µm,20.0s
Y29A Porterfield Fa 116.58 292 ⇑P **PKPdf 05 14 25.1 +2.6**
baz=117
X30A Coker Ranch, T 116.67 293 ⇓P **PKPdf 05 14 25.7 +3.1**
baz=117
MNTX Cornudas Mount 116.67 287 PFAKE 05 14 30.0 +7.3
MNTX LR LR
comp=Z,17µm,19.0s
126A Clayton Basin, 116.76 289 ⇓P **PKPdf 05 14 25.0 +2.1**
baz=117
DDI Dehra Dun 116.77 75 *e*P **PKPdf 05 14 22.6 -0.3**
DDI AMS AMS 06 11 24.3
comp=Z,5µm,23.7s
V32A Arapaho 116.82 295 ⇑P **PKPdf 05 14 25.7 +2.8**
baz=117
Y28A McKinney Farm, 116.90 291 ⇓P **PKPdf 05 14 24.4 +1.2**
baz=117
U33A Lingo Farm, Me 116.95 296 ⇑P **PKPdf 05 14 26.3 +3.2**
baz=117
SMLA Simla 116.97 74 *e*P **PKPdf 05 14 22.3 -0.9**
224A Cornudas Mount 117.05 288 ⇑P **PKPdf 05 14 24.2 +0.7**
baz=117
X29A Tulia 117.07 292 ⇑P **PKPdf 05 14 25.6 +2.2**
baz=117
125A Gardner Draw, 117.09 289 ⇑P **PKPdf 05 14 24.8 +1.2**
baz=117
MSTX Muleshoe 117.21 291 PKPdf **PKPdf 05 14 24.4 +0.7**
MSTX Muleshoe 117.21 291 ⇓P **PKPdf 05 14 25.4 +1.7**
baz=117
Z26A Caprock 117.24 290 ⇑P **PKPdf 05 14 24.2 +0.4**
baz=117
Y27A Causey 117.33 291 ⇓P **PKPdf 05 14 25.2 +1.2**
baz=118
AMTX Amarillo 117.41 292 ⇓P **PKPdf 05 14 23.8 -0.3**
baz=118
DHRM DHARAMSHALA 117.44 73 *e*P **PKPdf 05 14 25.1 +0.7**
DHRM AMB AMB 05 14 52.1
comp=Z,48nm,3.4s
223A Chaparral, Ant 117.45 287 ⇑P **PKPdf 05 14 22.9 -1.3**
baz=118
PYUN Piuthan 117.52 81 *e*P **PKPdf 05 14 21.5 -3.2**
comp=Z,105nm,1.1s
T33A Patterson Ranc 117.54 296 ⇓P **PKPdf 05 14 27.0 +2.9**
baz=118
KOLN Koldanda 117.57 81 *e*P **PKPdf 05 14 22.4 -2.4**
comp=Z,44nm,0.7s
W29A Amraillo 117.59 293 ⇑P **PKPdf 05 14 24.3 -0.2**
baz=118
Z25A Roswell 117.62 289 ⇑P **PKPdf 05 14 24.8 +0.2**
baz=118
VORD Divnogorie 117.67 35 *e*PKIKP **PKPdf 05 14 25.2 +1.3**
VORD *e* 05 15 40.1
VORD *e*SP SP 05 25 22.0 +1.6
VORD *e*SS **SS 05 31 55.6 +5.9**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,8.0nm,0.8s
VORD pmax pmax
comp=Z,230nm,2.6s
VORD pmax pmax
comp=N,120nm,2.3s
VORD pmax pmax
comp=E,160nm,2.6s
MNK Minsk 117.75 27 *e*PKIKP PKPpre 05 14 10.0
MNK *e* 05 15 40.0
MNK *e*PS **PS 05 25 20.0 -2.1**
MNK *e*SS SS 05 31 42.0 -8.6
MICGM Minsk 117.77 27 *e*PKP PKPpre 05 14 10.0
VSR Storozhevoye 117.86 35 *e*PKIKP **PKPdf 05 14 26.9 +2.7**
VSR *e* 05 15 41.1

VSR pmax pmax
comp=Z,9.0nm,1.6s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,350nm,2.7s
VSR pmax pmax
comp=N,40nm,1.0s
VSR pmax pmax
comp=E,160nm,2.8s
NACGM **Naroch** 117.88 26 *e*PKP **PKPdf** 05 14 27.0 +2.8
320A Kipp Ranch, An 117.97 285 ⇑P **PKPdf** 05 14 26.0 +0.7
baz=118
CMAR Chiang Mai Arr 117.97 100 PKP **PKPdf** 05 14 25.6 +0.1
CMAR PKKPab **PKKPab** 05 24 49.0 +0.9
CMAR Chiang Mai Arr 117.97 100 PKP **PKPdf** 05 14 25.6 +0.1
comp=E,1.8nm,0.3s,baz=232,slow=3.7,SNR=9.8
CMAR PKKPab **PKKPab** 05 24 49.0 +0.9
comp=E,1.2nm,0.3s,baz=4.9,slow=4.5,SNR=11
Z24A Sheeppen Canyo 117.98 289 ⇓P **PKPdf** 05 14 25.8 +0.4
baz=118
DANN Dangsing 118.12 81 *e*P **PKPdf** 05 14 22.1 -3.8
comp=E,74nm,0.8s
Y25A Mesa, Roswell 118.12 289 ⇑P **PKPdf** 05 14 27.2 +1.6
baz=118
X26A CR and CF Fran 118.19 291 ⇓P **PKPdf** 05 14 26.9 +1.2
baz=118
DMN Daman 118.22 83 *e*P **PKPdf** 05 14 24.2 -1.9
comp=E,46nm,0.8s
T31A Randall Ranch, 118.23 295 ⇓P **PKPdf** 05 14 26.2 +0.7
baz=118
W27A Bowe Ranch, En 118.23 291 ⇓P **PKPdf** 05 14 26.5 +0.8
baz=118
U30A WK&E Inc. Balk 118.24 294 ⇑P **PKPdf** 05 14 26.6 +1.0
baz=118
CHTO Chiang Mai 118.27 100 *e*PKIKP PKPdf 05 14 33.5 +7.4
CHTO MLR MLR
comp=Z,5μm,19.0s
CHTO Chiang Mai 118.27 100 *e*PKPdf PKPdf 05 14 33.5 +7.4
CHTO LR LR
comp=Z,5μm,19.0s
GKN Gorkha 118.30 82 *e*P **PKPdf** 05 14 24.0 -2.1
comp=Z,52nm,0.8s
PKI Pulchoki 118.35 83 *e*P **PKPdf** 05 14 24.6 -1.8
Z23A Rita Site, Whi 118.36 288 ⇑P **PKPdf** 05 14 27.6 +1.6
baz=118
319A Douglas 118.39 284 ⇓P **PKPdf** 05 14 26.4 +0.3
baz=119
R33A Olander Ranch, 118.40 297 ⇓P **PKPdf** 05 14 25.0 -0.8
baz=119
KSU1 Kansas State U 118.41 299 PFAKE 05 14 40.0 +14
KSU1 LR LR
comp=Z,39μm,20.0s
KKN Kakani 118.46 83 *e*P **PKPdf** 05 14 24.6 -1.9
RAMN Ramite 118.47 84 *e*P **PKPdf** 05 14 24.0 -2.6
comp=Z,57nm,0.6s
VRHR Novokhopersk 118.51 37 *e*PKIKP **PKPdf** 05 14 26.2 +0.7
VRHR *e* 05 15 43.0
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.6s
VRHR pmax pmax
comp=Z,260nm,2.5s
VRHR pmax pmax
comp=N,200nm,2.1s
VRHR pmax pmax
comp=E,240nm,3.9s
121A Cookes Peak, D 118.55 286 *e*PKPdf **PKPdf** 05 14 26.7 +0.2
121A *e*PP **PP** 05 15 39.4 -4.9
121A Cookes Peak, D 118.55 286 ⇑P **PKPdf** 05 14 26.6 +0.2
baz=119
S31A Mullinville 118.56 296 ⇑P **PKPdf** 05 14 27.7 +1.5
baz=119
X25A Clemmons Ranch 118.59 290 ⇓P PKPdf 05 14 31.7 +5.2
baz=119
JFWS Jewell Farm 118.67 306 PFAKE 05 14 40.0 +14
JFWS LR LR
comp=Z,24μm,21.0s
V27A Dan Oppiter Fa 118.67 292 ⇑P **PKPdf** 05 14 27.8 +1.3
baz=119
Z22A Elephant Butte 118.72 287 ⇓P **PKPdf** 05 14 27.2 +0.4
baz=119
Y23A Lovelace Mesa, 118.80 288 ⇑P **PKPdf** 05 14 27.8 +0.9
baz=119,SNR=6.1
ODAN Odare 118.81 85 *e*P **PKPdf** 05 14 24.8 -2.4
comp=Z,59nm,0.9s
JIRN Jiri 118.83 84 *e*P **PKPdf** 05 14 25.1 -2.3
comp=Z,65nm,0.7s
R32A Long Quarter, 118.84 297 ⇓P **PKPdf** 05 14 27.3 +0.6
baz=119
GUN Gumba 118.87 83 *e*P **PKPdf** 05 14 24.5 -2.9
comp=Z,97nm,0.9s
U28A Mallet 118.88 293 ⇓P **PKPdf** 05 14 29.5 +2.6
baz=119
Q33A Connelly Farm, 118.89 298 ⇑P **PKPdf** 05 14 26.5 -0.2
baz=119
X24A Lazy VL Ranch, 119.00 289 ⇓P **PKPdf** 05 14 27.2 -0.1
baz=119
S30A Montezuma 119.04 295 ⇓P **PKPdf** 05 14 27.4 +0.3
baz=119
W25A X Bar L Ranch, 119.04 291 ⇑P **PKPdf** 05 14 27.9 +0.6
baz=119
R31A Burdett 119.11 296 ⇑P **PKPdf** 05 14 27.0 -0.1
baz=119
SCIA State Center 119.14 303 PFAKE 05 14 40.0 +13
SCIA LR LR
comp=Z,32μm,20.0s
V26A Tequesquite Ra 119.17 291 ⇑P **PKPdf** 05 14 28.0 +0.5
baz=119
P33A Williams Farm, 119.17 298 ⇓P **PKPdf** 05 14 27.9 +0.7
baz=119
U27A Thompson Grove 119.20 293 ⇑P **PKPdf** 05 14 27.3 -0.2
baz=119
BNM Barren Site 119.26 288 *e*PKPdf **PKPdf** 05 14 30.9 +3.0
BNM *e*PP **PP** 05 15 52.1 +2.8
KONO Kongsberg 119.34 14 PFAKE 05 14 40.0 +13
KONO LR LR
comp=Z,13μm,22.0s
TAPN Taplejung 119.38 85 *e*P **PKPdf** 05 14 25.4 -3.0
comp=Z,63nm,1.4s
T28A Walsh 119.41 294 ⇓P **PKPdf** 05 14 28.1 +0.2
baz=120
R30A Dighton 119.46 296 ⇑P **PKPdf** 05 14 28.2 +0.3
baz=120
W24A Lazy 6 Ranch, 119.50 290 ⇓P **PKPdf** 05 14 29.0 +0.8
baz=120,SNR=14
T27A Campo 119.66 293 ⇓P **PKPdf** 05 14 29.5 +1.1
baz=120
S28A Manter 119.68 294 ⇑P **PKPdf** 05 14 28.9 +0.5
baz=120
LAZ Ladron 119.72 288 *e*PKPdf **PKPdf** 05 14 32.9 +4.2
ANMO Albuquerque 119.81 289 PKP **PKPdf** 05 14 28.9 0.0
ANMO LR LR
comp=Z,20μm,22.0s
ANMO Albuquerque 119.81 289 PKP **PKPdf** 05 14 28.9 0.0
comp=Z,0.7nm,0.5s,baz=151,slow=8.9,SNR=3.2
W23A Werner Place, 119.83 289 ⇓P **PKPdf** 05 14 29.6 +0.7
baz=120
V24A Rampart Ranch, 119.84 290 ⇓P **PKPdf** 05 14 28.8 -0.1
baz=120
TUC Tucson 119.90 284 *e*PKIKP **PKPdf** 05 14 29.2 +0.2
TUC MLR MLR
comp=Z,17μm,20.0s
TUC Tucson 119.90 284 *e*PKPdf **PKPdf** 05 14 29.1 +0.2
TUC LR LR
comp=Z,17μm,20.0s
U25A Circle Dot Ran 119.95 291 ⇓P **PKPdf** 05 14 29.4 +0.3
baz=120
R29A Marienthal 119.98 295 ⇓P **PKPdf** 05 14 33.0 +4.1
baz=120
Q30A Quinter 119.99 296 ⇑P **PKPdf** 05 14 29.8 +1.0
baz=120
P31A Stockton 120.03 297 ⇓P **PKPdf** 05 14 29.0 +0.1
baz=120
O32A Brockman Farm, 120.10 299 ⇑P **PKPdf** 05 14 29.2 +0.2
baz=120
SHL Shillong 120.13 90 *e*P **PKPdf** 05 14 30.6 +0.8
SHL AMS AMS 06 01 07.7
comp=Z,5μm,13.9s
T26A Comanche Natio 120.17 293 ⇓P **PKPdf** 05 14 29.7 +0.2
baz=120
R28A Tribune 120.24 295 ⇓P **PKPdf** 05 14 29.9 +0.4
baz=120
S27A Las Animas 120.24 293 ⇓P **PKPdf** 05 14 30.2 +0.7
baz=120
V23A Ortiz Mt. (NFS 120.31 290 ⇓P **PKPdf** 05 14 30.3 +0.5
baz=120
U24A Moreno Valley 120.39 291 ⇓P **PKPdf** 05 14 30.5 +0.5
baz=121
DAV Davao City (W) 120.41 133 PFAKE 05 14 40.0 +10
DAV LR LR
comp=Z,5μm,22.0s
SCHQ Schefferville 120.44 328 PKP **PKPdf** 05 14 27.5 -1.7
SCHQ Schefferville 120.44 328 PKP **PKPdf** 05 14 27.5 -1.7
comp=Z,6.0nm,0.8s,baz=98,slow=10,SNR=6.2
P30A Selden 120.45 297 ⇓P **PKPdf** 05 14 30.6 +0.8
baz=121
S26A Kim 120.47 293 ⇓P **PKPdf** 05 14 30.1 +0.2
baz=121
N32A Stuiken Farm, 120.51 299 ⇓P **PKPdf** 05 14 30.3 +0.5
baz=121
OBN Obninsk 120.53 31 ⇑*i*PKIKP **PKPdf** 05 14 30.2 +1.0
OBN *e* 05 21 24.0
OBN *e*SS SS 05 32 30.0 +3.6
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN Obninsk 120.53 31 PFAKE 05 14 40.0 +11
OBN LR LR
comp=Z,5μm,19.0s
T25A Trinidad 120.54 292 ⇓P **PKPdf** 05 14 30.9 +0.7
baz=121
214A Organ Pipe Nat 120.66 282 ⇑P **PKPdf** 05 14 30.4 +0.1
baz=121
R27A Eads 120.67 294 ⇑P **PKPdf** 05 14 31.1 +0.9
baz=121
U23A El Rito 120.78 290 ⇓P **PKPdf** 05 14 31.4 +0.7
baz=121,SNR=8.1
V22A San Miguel Ran 120.80 289 ⇑P **PKPdf** 05 14 31.3 +0.5
baz=121,SNR=5.7
P29A Atwood 120.82 296 ⇑P **PKPdf** 05 14 26.7 -3.7
baz=121
O30A MW Ranch, Wils 120.86 297 ⇓P **PKPdf** 05 14 32.9 +2.3
baz=121
NB2 NORSAR Subarra 120.89 14 PKPdf **PKPdf** 05 14 30.1 +0.3
comp=Z,21nm,1.2s,baz=188,slow=1.9
NB2 NORSAR Subarra 120.89 14 PKPdf **PKPdf** 05 14 30.1 +0.3
baz=188,slow=1.9
NOA NORSAR Array B 120.89 14 PKP **PKPdf** 05 14 28.4 -1.5
NOA PKKPbc **PKKPbc** 05 24 35.6 +2.4
NOA NORSAR Array B 120.89 14 PKP **PKPdf** 05 14 28.4 -1.5
comp=Z,2.8nm,1.0s,baz=189,slow=1.7,SNR=4.2
NOA PKKPbc **PKKPbc** 05 24 35.6 +2.4
comp=Z,6.8nm,1.1s,baz=18,slow=2.8,SNR=5.1
T24B San Luis 120.95 291 ⇑P **PKPdf** 05 14 31.6 +0.5
baz=121
BGNE Belgrade 120.96 299 *e*PKPdf **PKPdf** 05 14 30.3 -0.3
BGNE *e*PP **PP** 05 15 59.8 -0.8
BGNE Belgrade 120.96 299 ⇑P **PKPdf** 05 14 31.7 +1.1
baz=121
S25A Robets Cordova 120.96 292 ⇓P **PKPdf** 05 14 31.2 +0.2
baz=121
R26A Arlington 120.99 293 ⇑P **PKPdf** 05 14 31.1 +0.2
baz=121
U22A Llaves 121.14 290 ⇑P **PKPdf** 05 14 31.9 +0.5
baz=121
KSCO Kaye Shedlock' 121.16 295 ⇓P **PKPdf** 05 14 33.4 +2.2
baz=121
P28A Saint Francis 121.19 296 ⇑P **PKPdf** 05 14 31.7 +0.5
baz=121
T23A Casias Ranch, 121.26 291 ⇓P **PKPdf** 05 14 33.2 +1.5
baz=121
R25A Fountain Ranch 121.28 293 ⇓P **PKPdf** 05 14 32.3 +0.8
baz=122
M31A Lambtecht Ranc 121.28 299 ⇓P **PKPdf** 05 14 32.2 +0.9
baz=122
S24A Houchin Ranch, 121.33 292 ⇑P **PKPdf** 05 14 32.3 +0.5
baz=122
MOS Moscow 121.37 32 *i*PKIKP **PKPdf** 05 14 32.5 +1.7
MOS *e* 05 21 30.0
MOS *e*SS SS 05 32 58.0 +21
MOS MLR MLR
comp=Z,6μm,20.0s
Q26A Hugo 121.52 294 ⇓P **PKPdf** 05 14 31.8 -0.2
baz=122
SDCO Great Sand Dun 121.55 292 *e*PKPdf **PKPdf** 05 14 31.5 -0.7
SDCO *e*PP **PP** 05 16 02.8 -2.2
SDCO LR LR
comp=Z,36μm,22.0s
P27A Ficken Ranch, 121.56 295 ⇓P **PKPdf** 05 14 33.8 +1.8
baz=122
SPMN St. Paul 121.62 306 *e*PKPdf **PKPdf** 05 14 32.6 +0.9
SPMN *e*PP PP 05 15 57.6 -7.4
SPMN St. Paul 121.62 306 ⇑P **PKPdf** 05 14 33.8 +2.1
baz=122
O28A Krutsinger Ran 121.63 296 ⇓P **PKPdf** 05 14 34.8 +2.7
baz=122
N29A Votaw Ranch, W 121.64 297 ⇑P **PKPdf** 05 14 34.3 +2.3
baz=122
NRS Narsarsuaq 121.64 343 *i*PKIKP PKPdf 05 14 37.6 +6.4
NRS MLR MLR
comp=Z,4μm,21.0s
R24A Sanders Place, 121.74 292 ⇑P **PKPdf** 05 14 34.1 +1.6
baz=122
113A Mohawk Valley, 121.79 282 ⇑P **PKPdf** 05 14 32.0 -0.5
baz=122
M30A Dale-Ortello V 121.85 298 ⇑P **PKPdf** 05 14 32.9 +0.6
baz=122
Q25A Bedland, Calha 121.86 293 ⇑P **PKPdf** 05 14 32.1 -0.6
baz=122
L31A Butterfield Fa 121.88 299 ⇓P **PKPdf** 05 14 32.3 -0.1
baz=122
X16A Lo Mia Camp, P 121.90 285 ⇑P **PKPdf** 05 14 32.5 -0.3
baz=122
P26A Davis Ranch, A 121.93 294 ⇑P **PKPdf** 05 14 32.8 +0.1
baz=122
N28A Pribbeno Ranch 121.96 297 ⇓P **PKPdf** 05 14 33.0 +0.3
baz=122
O27A Beecher Island 122.01 295 ⇓P **PKPdf** 05 14 32.4 -0.4
baz=122
R23A Moffat 122.06 292 ⇑P **PKPdf** 05 14 33.2 0.0
baz=122,SNR=8.0
ECSD EROS Data Cent 122.10 302 *e*PKPdf **PKPdf** 05 14 33.0 +0.2
ECSD *e*PP **PP** 05 16 07.3 -1.0
ECSD LR LR
comp=Z,26μm,21.0s
ECSD EROS Data Cent 122.10 302 ⇑P **PKPdf** 05 14 31.9 -0.9
baz=122
L30A Spencer Herefo 122.10 299 ⇓P **PKPdf** 05 14 32.0 -0.8
baz=122
S22A 4UR Ranch, Cre 122.20 291 ⇑P **PKPdf** 05 14 33.5 0.0
baz=122,SNR=8.9
P25A Willow Gulch B 122.29 294 ⇑P **PKPdf** 05 14 34.2 +0.8
baz=122
Y14A Wickenburg 122.32 283 ⇑P **PKPdf** 05 14 33.0 -0.6
baz=122
Q24A Divide 122.33 293 ⇑P **PKPdf** 05 14 33.4 -0.3
baz=122
OGNE Ogallala 122.39 296 *e*PKPdf **PKPdf** 05 14 35.9 +2.4
OGNE LR LR
comp=Z,21μm,21.0s
OGNE Ogallala 122.39 296 ⇓P PKPdf 05 14 38.9 +5.5
baz=123
O26A Horse Wrangler 122.45 295 ⇓P **PKPdf** 05 14 35.4 +1.8
baz=123
N27A Anderson Farm, 122.52 296 ⇓P **PKPdf** 05 14 34.7 +0.9
baz=123
GLA Glamis 122.56 281 *e*PKIKP **PKPdf** 05 14 34.6 +0.6
GLA *e* 05 16 14.5
GLA Glamis 122.56 281 *e*PKPdf **PKPdf** 05 14 34.6 +0.6
GLA *e*PP **PP** 05 16 14.5 +3.0
GLA Glamis 122.56 281 ⇓P **PKPdf** 05 14 34.8 +0.8
baz=123
MVCO Mesa Verde 122.61 289 *e*PKPdf **PKPdf** 05 14 34.9 +0.7
MVCO *e*PP **PP** 05 16 16.8 +4.7
MVCO LR LR
comp=Z,27μm,22.0s
MVCO Mesa Verde 122.61 289 ⇓P **PKPdf** 05 14 34.1 -0.1
baz=123
K30A Basset 122.62 299 ⇑P **PKPdf** 05 14 34.1 +0.3
baz=123
TARA Tarawa 122.72 189 PFAKE 05 14 50.0 +15
TARA LR LR
comp=Z,9μm,21.0s
WUAZ Wupatki 122.73 286 *e*PKPdf **PKPdf** 05 14 35.2 +0.8
WUAZ LR LR
comp=Z,14μm,20.0s
WUAZ Wupatki 122.73 286 ⇓P **PKPdf** 05 14 34.5 +0.1
baz=123
O25A Wiggins 122.74 294 ⇑P PKPdf 05 14 40.9 +6.7
baz=123
SLVN Son La 122.92 103 *e*PKPdf **PKPdf** 05 14 36.0 +0.9
Y12C Blythe 122.95 282 ⇓P **PKPdf** 05 14 34.3 -0.3
baz=123
BORG Borgarnes 122.99 357 PFAKE 05 14 40.0 +6.3
BORG LR LR
comp=Z,8μm,19.0s
P23A Jefferson 122.99 292 ⇑P **PKPdf** 05 14 35.2 +0.2
baz=123,SNR=9.2
KSH Kashi 123.03 67 *e*PKP **PKPdf** 05 14 35.2 +0.4
KSH *e*PP **PP** 05 16 14.3 -0.5
KSH SKS **SKSdf** 05 21 40.7 -5.8
KSH *e*SKKS SKKSac 05 23 03.3 -10
KSH *e*SS SS 05 32 50.3 -8.8
KSH AMB AMB
comp=Z,570nm,7.5s
KSH LR LR
comp=Z,10μm,30.7s
KSH LR LR
comp=Z,2μm,23.9s
KSH LR LR
comp=Z,4μm,22.0s
LSA Lhasa 123.06 86 PKP **PKPdf** 05 14 32.8 -2.8
LSA LR LR
comp=Z,12μm,43.0s
LSA LR LR
comp=Z,36μm,57.0s
LSA LR LR
comp=Z,11μm,35.1s
LSA Lhasa 123.06 86 *e*PKIKP **PKPdf** 05 14 36.6 +1.0
LSA MLR MLR
comp=Z,6μm,20.0s
LSA Lhasa 123.06 86 *e*PKPdf **PKPdf** 05 14 36.6 +1.0
LSA LR LR
comp=Z,6μm,20.0s
J30A Dallas 123.08 300 ⇑P **PKPdf** 05 14 34.0 -0.7
baz=123
PDMCI Parker Dam,Lak 123.19 283 ⇓P **PKPdf** 05 14 34.5 -0.6
baz=123
O24A Longmont 123.20 294 ⇓P **PKPdf** 05 14 34.6 -0.5
baz=123
ISCO Idaho Springs 123.21 293 *e*PKIKP **PKPdf** 05 14 35.3 -0.1
ISCO *e* 05 16 15.5
ISCO MLR MLR
comp=Z,14μm,21.0s
ISCO Idaho Springs 123.21 293 *e*PKPdf **PKPdf** 05 14 35.3 -0.1
ISCO *e*PP **PP** 05 16 15.5 -0.8
ISCO LR LR
comp=Z,14μm,21.0s
ISCO Idaho Springs 123.21 293 ⇓P **PKPdf** 05 14 35.5 +0.1
baz=123,SNR=8.2
BAR Barrett 123.22 279 *e*PKPdf **PKPdf** 05 14 34.9 -0.4
BAR *e*PP **PP** 05 16 15.0 -1.0
EYMN Ely 123.24 309 *e*PKPdf **PKPdf** 05 14 33.9 -0.9
EYMN LR LR
comp=Z,25μm,21.0s
KK31 Karatay Array 123.24 61 *i*PKIKP **PKPdf** 05 14 35.4 +0.5
KK31 pmax pmax
comp=Z,32nm,1.3s
KKAR Karatay Array 123.24 61 *e*PKIKP **PKPdf** 05 14 35.4 +0.5
KKAR *e* 05 16 17.6
KKAR Karatay Array 123.24 61 *e*PKPdf **PKPdf** 05 14 35.4 +0.5
KKAR *e*PP **PP** 05 16 17.6 +1.5
MONP Monument Peak 123.26 280 ⇓P **PKPdf** 05 14 35.0 -0.5
baz=124
BC3 Big Chuckawall 123.36 281 ⇑P **PKPdf** 05 14 35.3 -0.3
baz=124
PV01 Paradox Valley 123.36 290 *e*PKPdf **PKPdf** 05 14 38.4 +2.8
K28A Ten Mile Ranch 123.46 298 ⇑P **PKPdf** 05 14 35.6 +0.1
baz=124
J29A Okreek 123.52 299 ⇑P **PKPdf** 05 14 35.2 -0.3
baz=124
AB31 Akbulak array 123.53 49 *i*PKIKP **PKPdf** 05 14 33.1 -2.1
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 123.53 49 *e*PKPdf **PKPdf** 05 14 34.2 -1.0
IRM Iron Mountain 123.60 282 ⇑P **PKPdf** 05 14 34.4 -1.5
baz=124
P22A Eagle 123.61 292 ⇓P **PKPdf** 05 14 36.5 +0.5
baz=124,SNR=6.3
N24A Carr 123.66 294 ⇑P **PKPdf** 05 14 35.3 -0.7
baz=124,SNR=7.5
O23A Lake Granby, G 123.68 293 ⇓P **PKPdf** 05 14 36.3 0.0
baz=124,SNR=12
W13A Hualapai Mount 123.68 283 ⇓P **PKPdf** 05 14 35.8 -0.5
baz=124
AKTO Aktyubinsk 123.72 47 PKIKP **PKPdf** 05 14 35.8 +0.2
AKTO pmax pmax
comp=Z,31nm,1.5s
FINES FINESS Array B 123.73 22 PKP **PKPdf** 05 14 33.1 -2.1
FINES FINESS Array B 123.73 22 PKP **PKPdf** 05 14 33.1 -2.1
comp=Z,11nm,1.1s,baz=130,slow=2.2,SNR=3.7
PV04 Paradox Valley 123.73 290 *e*PKPdf **PKPdf** 05 14 36.9 +0.7
PFO Pinyon Flat Ob 123.84 280 *e*PKPdf **PKPdf** 05 14 35.2 -1.3
PFO LR LR
comp=Z,11μm,21.0s
PFO Pinyon Flat Ob 123.84 280 ⇑P **PKPdf** 05 14 36.6 +0.1
baz=124
K27A Flueckinger Fa 123.86 298 ⇓P **PKPdf** 05 14 36.3 +0.1
baz=124
U15A North Rim 123.91 286 ⇓P **PKPdf** 05 14 36.6 -0.2
baz=124
BELC Belle Mtn. Jos 123.91 281 ⇑P **PKPdf** 05 14 36.5 -0.2
baz=124
O22A Kremmling 123.94 293 ⇑P **PKPdf** 05 14 37.0 +0.3
baz=124,SNR=6.7
J28A Allard Ranch, 123.95 299 ⇑P **PKPdf** 05 14 36.0 -0.3
baz=124
QIZ Qiongzhong 123.97 110 PKP **PKPdf** 05 14 37.5 +0.5
QIZ SS SS 05 33 16.2 +5.7
QIZ AMB AMB
comp=Z,700nm,8.7s
QIZ LR LR
comp=Z,6μm,20.2s
QIZ LR LR
comp=Z,1μm,20.9s
QIZ LR LR
comp=Z,13μm,34.7s
QIZ Qiongzhong 123.97 110 PFAKE 05 14 50.0 +13
QIZ LR LR
comp=Z,7μm,20.0s
I29A Vivian Onida 123.99 300 ⇓P **PKPdf** 05 14 36.2 -0.1
baz=124
M24A Cheyenne 124.12 295 ⇓P **PKPdf** 05 14 36.6 -0.3
baz=124
N23A Red Feather La 124.22 294 ⇓P **PKPdf** 05 14 37.5 +0.3
baz=124,SNR=9.2
G30A Faulkton 124.32 301 ⇑P **PKPdf** 05 14 37.1 +0.2
baz=124
GMRC Granite Mounta 124.34 282 ⇓P **PKPdf** 05 14 36.2 -1.3
baz=124
I28A Midland 124.37 299 ⇑P **PKPdf** 05 14 36.3 -0.8
baz=124
KAF Kangasniemi 124.39 22 *e*PKIKP **PKPdf** 05 14 39.6 +3.2
KAF Kangasniemi 124.39 22 *e*pkp **PKPdf** 05 14 39.6 +3.2
N22A Wattenberg Ran 124.39 293 ⇑P **PKPdf** 05 14 37.5 -0.1
baz=125,SNR=8.8
H29A Onida 124.42 300 ⇑P **PKPdf** 05 14 36.5 -0.6
baz=125
EKS2 Erkin-Say 124.42 63 *e*PKIKP **PKPdf** 05 14 36.2 -1.2
EKS2 MLR MLR
comp=Z,5μm,20.0s
EKS2 Erkin-Say 124.42 63 *e*PKPdf **PKPdf** 05 14 36.2 -1.2
EKS2 LR LR
comp=Z,5μm,20.0s
M23A Laramie 124.55 294 ⇑P **PKPdf** 05 14 37.8 0.0
baz=125,SNR=6.4
L24A Wheatland 124.62 295 ⇓P **PKPdf** 05 14 37.5 -0.2
baz=125,SNR=9.2
G29A Hoven 124.72 301 ⇓P PKPdf 05 14 47.3 +10
baz=125
HEC Hector,Ludlow 124.73 281 ⇓P **PKPdf** 05 14 37.0 -1.2
baz=125
AAK Ala-Archa 124.73 64*c* *i*PKIKP **PKPdf** 05 14 36.6 -1.4
AAK pmax pmax
comp=Z,18nm,1.2s
AAK MLR MLR
comp=Z,13μm,19.0s
AAK Ala-Archa 124.73 64 P **PKPdf** 05 14 37.4 -0.6
SNR=8.1
AAK Ala-Archa 124.73 64 *e*PKPdf **PKPdf** 05 14 36.8 -1.2
AAK LR LR
comp=Z,7μm,21.0s
O20A White River Ci 124.75 291 *e*PKPdf **PKPdf** 05 14 38.1 -0.1
O20A White River Ci 124.75 291 ⇓P **PKPdf** 05 14 36.9 -1.2
baz=125

F30A	**Leola**	**124.81**	**302**	⇑P		**PKPdf**	**05 14 37.7**	**-0.2**
	baz=125								
H28A	**Mission Ridge**	**124.82**	**300**	⇑P		**PKPdf**	**05 14 37.2**	**-0.8**
	baz=125								
I27A	**Quinn**	**124.83**	**299**	⇓P		**PKPdf**	**05 14 38.6**	**+0.6**
	baz=125								
FRU	**Bishkek**	**124.94**	**64**	*e*PKIKP		**PKPdf**	**05 14 38.0**	**-0.2**
FRU				pmax		pmax			
	comp=Z,150nm,1.6s								
BFSC	**Mount Baldy Ra**	**124.95**	**280**	⇓P		**PKPdf**	**05 14 38.8**	**+0.1**
	baz=125								
TUQ	**Turquoise Moun**	**124.99**	**282**	⇓P		**PKPdf**	**05 14 38.7**	**0.0**
	baz=125								
L23A	**Garrett**	**125.04**	**295**	⇓P		**PKPdf**	**05 14 38.1**	**-0.6**
	baz=125								
G28A	**Parade**	**125.08**	**300**	⇓P		**PKPdf**	**05 14 38.6**	**+0.2**
	baz=125,SNR=8.8								
SRU	**San Rafael**	**125.09**	**289**	*e*PKIKP		**PKPdf**	**05 14 38.7**	**-0.2**
SRU	**San Rafael**	**125.09**	**289**	*e*PKPdf		**PKPdf**	**05 14 38.6**	**-0.2**
SRU				*e*PP		PP	05 16 20.7	-8.1
J25A	**Sunshine Ranch**	**125.12**	**297**	⇑P		**PKPdf**	**05 14 38.1**	**-0.5**
	baz=125,SNR=11								
MWC	**Mount Wilson**	**125.15**	**279**	*e*PKIKP		**PKPdf**	**05 14 41.1**	**+2.0**
MWC				*e*			05 16 29.4		
MWC	**Mount Wilson**	**125.15**	**279**	*e*PKPdf		**PKPdf**	**05 14 41.0**	**+2.0**
MWC				*e*PP		**PP**	**05 16 29.4**	**+0.3**
F29A	**Eureka**	**125.17**	**302**	⇑P		**PKPdf**	**05 14 38.6**	**0.0**
	baz=125								
I26A	**New Underwood**	**125.17**	**298**	⇑P		PKPdf	05 14 44.2	+5.5
	baz=125								
PASC	**Pasadena Art C**	**125.17**	**279**	*e*PKPdf		**PKPdf**	**05 14 38.8**	**-0.1**
H27A	**Howes**	**125.27**	**299**	⇑P		**PKPdf**	**05 14 38.8**	**0.0**
	baz=125,SNR=8.9								
E30A	**Jud**	**125.28**	**303**	⇓P		**PKPdf**	**05 14 38.5**	**-0.2**
	baz=125,SNR=8.5								
N20A	**Spence Gulch,**	**125.30**	**292**	⇓P		**PKPdf**	**05 14 38.6**	**-0.6**
	baz=126								
CCUT	**Cedar City**	**125.31**	**286**	*e*PKPdf		**PKPdf**	**05 14 39.8**	**+0.4**
CCUT				*e*PP		**PP**	**05 16 26.5**	**-3.8**
L22A	**Ellis Ranch, M**	**125.33**	**294**	⇑P		**PKPdf**	**05 14 38.7**	**-0.6**
	baz=126,SNR=5.1								
AGMN	**Agassiz Nation**	**125.34**	**306**	*e*PKPdf		**PKPdf**	**05 14 39.1**	**+0.3**
AGMN				*e*PP		**PP**	**05 16 27.1**	**-2.9**
AGMN				LR		LR			
	comp=Z,29μm,22.0s								
AGMN	**Agassiz Nation**	**125.34**	**306**	⇓P		**PKPdf**	**05 14 38.7**	**0.0**
	baz=126,SNR=7.8								
GSC	**Goldstone**	**125.34**	**281**	⇑P		**PKPdf**	**05 14 39.2**	**-0.1**
	baz=126								
SHPR	**Sheep Range**	**125.42**	**283**	*e*PKPdf		**PKPdf**	**05 14 39.8**	**+0.2**
SHPR				*e*PP		PP	05 16 23.6	-7.3
KMI	**Kunming**	**125.45**	**100**	PKP		**PKPdf**	**05 14 41.0**	**+1.0**
KMI				sPKP			05 14 46.0		
KMI				PP		PP	05 16 36.4	+5.3
KMI				PKS		**PKSdf**	**05 18 16.3**	**-0.6**
KMI				SKKS			05 23 27.5		
KMI				S		**Sdif**	**05 24 29.7**	**-1.3**
KMI				SS		**SS**	**05 33 30.7**	**+1.0**
KMI				LR		LR			
	comp=Z,3μm,24.6s								
KMI				LR		LR			
	comp=Z,3μm,23.9s								
KMI				LR		LR			
	comp=Z,10μm,27.3s								
MVU	**Marysvale**	**125.47**	**287**	*e*PKPdf		**PKPdf**	**05 14 40.1**	**+0.5**
TKM2	**Tokmak 2**	**125.47**	**64**	*e*PKIKP		**PKPdf**	**05 14 38.6**	**-0.9**
TKM2				*e*			05 16 26.7		
TKM2				MLR		MLR			
	comp=Z,5μm,21.0s								
TKM2	**Tokmak 2**	**125.47**	**64**	*e*PKPdf		**PKPdf**	**05 14 38.6**	**-0.9**
TKM2				*e*PP		**PP**	**05 16 26.7**	**-4.6**
TKM2				LR		LR			
	comp=Z,5μm,21.0s								
J24A	**Dixon Ranch, L**	**125.48**	**296**	⇑P		**PKPdf**	**05 14 39.9**	**+0.5**
	baz=126								
K23A	**Bowen Ranch, D**	**125.49**	**295**	⇓P		**PKPdf**	**05 14 40.3**	**+0.9**
	baz=126								
ARUT	**Antelope Range**	**125.54**	**286**	*e*PKIKP		**PKPdf**	**05 14 39.9**	**+0.2**
ARUT				*e*			05 16 30.4		
ARUT	**Antelope Range**	**125.54**	**286**	*e*PKPdf		**PKPdf**	**05 14 39.9**	**+0.2**
ARUT				*e*PP		**PP**	**05 16 30.4**	**-1.3**
TMUT	**Trail Mountain**	**125.57**	**289**	*e*PKPdf		**PKPdf**	**05 14 40.1**	**+0.2**
H26A	**Fairpoint**	**125.58**	**299**	⇓P		**PKPdf**	**05 14 39.7**	**+0.3**
	baz=126,SNR=9.1								
F28A	**McLaughlin**	**125.62**	**301**	⇓P		**PKPdf**	**05 14 40.0**	**+0.6**
	baz=126,SNR=6.2								
EDW2	**Edwards Air Fo**	**125.62**	**280**	⇓P		**PKPdf**	**05 14 39.3**	**-0.5**
	baz=126								
E29A	**Napoleon**	**125.65**	**302**	⇓P		**PKPdf**	**05 14 40.2**	**+0.8**
	baz=126,SNR=5.9								
D30A	**Buchanan**	**125.67**	**303**	⇓P		**PKPdf**	**05 14 39.8**	**+0.3**
	baz=126,SNR=7.9								
G27A	**Dupree**	**125.77**	**300**	⇓P		**PKPdf**	**05 14 40.0**	**+0.2**
	baz=126,SNR=9.3								
RSSD	**Black Hills**	**125.79**	**297**	*e*PKIKP		**PKPdf**	**05 14 38.7**	**-1.4**
RSSD				*e*			05 16 31.0		
RSSD	**Black Hills**	**125.79**	**297**	*e*PKPdf		**PKPdf**	**05 14 38.7**	**-1.4**
RSSD				*e*PP		**PP**	**05 16 31.0**	**-2.3**
K22A	**Casper**	**125.84**	**295**	*e*PKPdf		**PKPdf**	**05 14 39.6**	**-0.5**
K22A				*e*PP		**PP**	**05 16 32.3**	**-1.4**
K22A	**Casper**	**125.84**	**295**	⇓P		**PKPdf**	**05 14 39.8**	**-0.4**
	baz=126,SNR=8.2								
I24A	**Kuemmerle Ranc**	**125.86**	**297**	⇑P		**PKPdf**	**05 14 39.8**	**-0.3**
	baz=126,SNR=9.1								
H25A	**Fruitdale**	**125.96**	**298**	⇓P		**PKPdf**	**05 14 40.3**	**+0.2**
	baz=126,SNR=14								
C30A	**Mose, Pekin**	**126.01**	**304**	⇑P		**PKPdf**	**05 14 40.5**	**+0.5**
	baz=126,SNR=11								
D29A	**Pettibone, Tap**	**126.01**	**303**	⇑P		**PKPdf**	**05 14 41.1**	**+1.0**
	baz=126,SNR=6.4								
E28A	**Huff**	**126.13**	**302**	⇑P		**PKPdf**	**05 14 41.2**	**+0.9**
	baz=126,SNR=6.2								
JOF	**Joensuu**	**126.14**	**24**	*e*PKIKP		**PKPdf**	**05 14 39.8**	**0.0**
JOF	**Joensuu**	**126.14**	**24**	*e*pkp		**PKPdf**	**05 14 39.8**	**0.0**
K21A	**Alcova**	**126.18**	**294**	⇓P		**PKPdf**	**05 14 40.6**	**-0.2**
	baz=126								
F27A	**Lemmon**	**126.19**	**300**	⇑P		**PKPdf**	**05 14 40.4**	**-0.1**
	baz=126,SNR=7.3								
MPMC	**Manual Prospec**	**126.28**	**281**	⇑P		**PKPdf**	**05 14 41.1**	**-0.1**
	baz=126								
G25A	**Newell**	**126.31**	**299**	⇓P		**PKPdf**	**05 14 41.2**	**+0.4**
	baz=126,SNR=7.9								
TPNV	**Topopah Spring**	**126.32**	**283**	⇑P		**PKPdf**	**05 14 41.2**	**0.0**
	baz=126								
MPU	**Maple Canyon**	**126.33**	**289**	*e*PKPdf		**PKPdf**	**05 14 41.6**	**+0.4**
AAA	**Alma-Ata**	**126.38**	**65**	*e*PKIKP		PKPdf	05 14 47.9	+6.9
AAA				pmax		pmax			
	comp=Z,500nm,3.6s								
AAA				MLR		MLR			
	comp=Z,6μm,26.0s								
J22A	**Midwest**	**126.40**	**295**	⇑P		**PKPdf**	**05 14 40.2**	**-1.0**
	baz=127								
E27A	**Carson**	**126.41**	**301**	⇓P		**PKPdf**	**05 14 41.3**	**+0.4**
	baz=127,SNR=6.6								
DAU	**Daniels Canyon**	**126.45**	**289**	*e*PKIKP		**PKPdf**	**05 14 42.0**	**+0.4**
DAU	**Daniels Canyon**	**126.45**	**289**	*e*PKPdf		**PKPdf**	**05 14 42.0**	**+0.4**
F26A	**Lodgepole**	**126.47**	**300**	⇓P		**PKPdf**	**05 14 41.2**	**+0.1**
	baz=127,SNR=9.1								
ISA	**Isabella**	**126.48**	**280**	*e*PKIKP		**PKPdf**	**05 14 42.4**	**+0.9**
ISA				*e*			05 16 37.5		
ISA	**Isabella**	**126.48**	**280**	*e*PKPdf		**PKPdf**	**05 14 42.4**	**+0.9**
ISA				*e*PP		**PP**	**05 16 37.5**	**-0.4**
ISA	**Isabella**	**126.48**	**280**	⇓P		**PKPdf**	**05 14 40.5**	**-0.9**
	baz=127								
H24A	**Dirks Ranch, A**	**126.50**	**298**	⇑P		**PKPdf**	**05 14 40.2**	**-1.0**
	baz=127,SNR=14								
NLU	**North Lily Min**	**126.51**	**288**	*e*PKPdf		**PKPdf**	**05 14 40.5**	**-1.1**
B30A	**Myrvik Farm, E**	**126.51**	**305**	⇑P		**PKPdf**	**05 14 40.7**	**-0.3**
	baz=127,SNR=12								
D28A	**Regan**	**126.54**	**302**	⇑P		**PKPdf**	**05 14 40.3**	**-0.8**
	baz=127,SNR=5.9								
MDND	**Maddock**	**126.61**	**303**	⇓P		**PKPdf**	**05 14 40.4**	**-0.8**
	baz=127,SNR=5.8								
I22A	**9 Mile Ranch,**	**126.77**	**296**	⇓P		**PKPdf**	**05 14 40.9**	**-0.9**
	baz=127								
J21A	**Lysite**	**126.81**	**294**	⇑P		**PKPdf**	**05 14 40.6**	**-1.4**
	baz=127								
ULM	**Lac du Bonnet**	**126.84**	**308**	PKP		**PKPdf**	**05 14 38.6**	**-2.9**
ULM				*e*PKPdf		**PKiKP**	**05 14 41.2**	**-0.9**
ULM				*e*PP		**PP**	**05 16 37.7**	**-2.3**
ULM				PP		PP	05 16 39.5	-0.5
ULM	**Lac du Bonnet**	**126.84**	**308**	PKP		**PKPdf**	**05 14 38.6**	**-2.9**
	comp=Z,2.8nm,0.5s,baz=124,slow=1.7,SNR=4.4								
ULM				PP		**PP**	**05 16 39.5**	**-0.5**
	comp=Z,17nm,1.0s,baz=142,slow=7.1,SNR=3.4								
E26A	**Carlson Angus**	**126.84**	**300**	⇑P		**PKPdf**	**05 14 41.1**	**-0.6**
	baz=127,SNR=8.8								
C28A	**Hausauer Farms**	**126.86**	**303**	⇓P		**PKPdf**	**05 14 40.4**	**-1.3**
	baz=127,SNR=6.8								
A30A	**Hoffart Farm,**	**126.87**	**305**	⇑P		**PKPdf**	**05 14 40.5**	**-1.1**
	baz=127,SNR=8.2								
G24A	**Alzada**	**126.88**	**298**	⇑P		**PKPdf**	**05 14 41.6**	**-0.4**
	baz=127,SNR=6.6								
F25A	**Bowman**	**126.89**	**299**	⇓P		**PKPdf**	**05 14 44.8**	**+3.0**
	baz=127								
VES	**Vestal, Richgr**	**126.93**	**280**	⇑P		**PKPdf**	**05 14 42.4**	**+0.2**
	baz=127								
GRAC	**Grapevine Rang**	**126.94**	**282**	⇓P		**PKPdf**	**05 14 43.7**	**+1.4**
	baz=127								
B29A	**Wagenman Farm,**	**126.97**	**304**	⇓P		**PKPdf**	**05 14 41.7**	**-0.2**
	baz=127								
R11A	**Troy Canyon, C**	**127.05**	**285**	*e*PKPdf		**PKPdf**	**05 14 42.4**	**-0.2**
R11A				*e*PP		**PP**	**05 16 40.9**	**-0.9**
R11A	**Troy Canyon, C**	**127.05**	**285**	⇑P		**PKPdf**	**05 14 41.8**	**-0.8**
	baz=127								
DUG	**Dugway**	**127.06**	**288**	*e*PKIKP		**PKPdf**	**05 14 42.4**	**-0.1**
DUG				MLR		MLR			
	comp=Z,24μm,22.0s								
DUG	**Dugway**	**127.06**	**288**	*e*PKPdf		**PKPdf**	**05 14 42.4**	**-0.1**
DUG				*e*PP		PP	05 16 35.1	-6.6
DUG				LR		LR			
	comp=Z,24μm,22.0s								
DUG	**Dugway**	**127.06**	**288**	⇑P		**PKPdf**	**05 14 41.7**	**-0.8**
	baz=127								
I21A	**Big Trails, Te**	**127.09**	**295**	⇑P		**PKPdf**	**05 14 38.9**	**-3.6**
	baz=127								
J20A	**Shoshoni**	**127.12**	**294**	⇓P		**PKPdf**	**05 14 41.7**	**-0.8**
	baz=127								
H22A	**Clearmont**	**127.23**	**296**	⇑P		**PKPdf**	**05 14 41.9**	**-0.8**
	baz=127								
G23A	**Biddle**	**127.24**	**297**	⇑P		**PKPdf**	**05 14 42.8**	**+0.1**
	baz=127								
D26A	**Manning**	**127.25**	**301**	⇑P		**PKPdf**	**05 14 42.9**	**+0.4**
	baz=127,SNR=8.9								
A29A	**Manning Farm,**	**127.26**	**304**	⇓P		**PKPdf**	**05 14 42.6**	**+0.2**
	baz=127,SNR=9.0								
F24A	**Ekalaka**	**127.28**	**299**	⇓P		**PKPdf**	**05 14 42.3**	**-0.3**
	baz=127,SNR=5.5								
C27A	**Sayler Ranch,**	**127.35**	**302**	⇑P		**PKPdf**	**05 14 42.1**	**-0.6**
	baz=128,SNR=8.6								
RCTC	**Rector, Farmer**	**127.37**	**280**	⇑P		**PKPdf**	**05 14 42.7**	**-0.3**
	baz=128								
BW06	**Boulder Array**	**127.39**	**293**	*e*PKPdf		**PKPdf**	**05 14 41.6**	**-1.6**
BW06				*e*PP		**PP**	**05 16 42.6**	**-1.5**
BW06				LR		LR			
	comp=Z,22μm,22.0s								
PDAR	**Pinedale Array**	**127.39**	**293**	PKPpre		PKPpre	05 14 37.0		
PDAR				PKP		**PKPdf**	**05 14 42.2**	**-1.0**
PDAR	**Pinedale Array**	**127.39**	**293**	PKhKP		PKPpre	05 14 37.0		
	comp=Z,0.3nm,0.6s,baz=118,slow=5.2,SNR=2.4								
PDAR				PKP		**PKPdf**	**05 14 42.2**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=131,slow=5.5,SNR=15								
B28A	**Bugan Ranch, T**	**127.40**	**303**	⇑P		**PKPdf**	**05 14 41.7**	**-1.0**
	baz=128,SNR=7.0								
TIN	**Tinemaha**	**127.42**	**281**	⇓P		**PKPdf**	**05 14 42.6**	**-0.7**
	baz=128								
J19A	**Crowheart**	**127.52**	**293**	⇓P		**PKPdf**	**05 14 42.6**	**-0.8**
	baz=128								
H21A	**Big Horn, Sher**	**127.58**	**296**	⇑P		**PKPdf**	**05 14 42.8**	**-0.6**
	baz=128								
I20A	**Worland**	**127.59**	**294**	⇓P		**PKPdf**	**05 14 42.7**	**-0.7**
	baz=128								
F23A	**Volborg**	**127.63**	**298**	⇓P		**PKPdf**	**05 14 43.1**	**-0.2**
	baz=128								
G22A	**Birney**	**127.67**	**297**	⇑P		**PKPdf**	**05 14 42.7**	**-0.7**
	baz=128								
TPH	**Tonopah**	**127.68**	**283**	*e*PKIKP		**PKPdf**	**05 14 45.0**	**+1.2**
TPH				*e*			05 16 46.3		
TPH	**Tonopah**	**127.68**	**283**	*e*PKPdf		**PKPdf**	**05 14 45.0**	**+1.2**
TPH				*e*PP		**PP**	**05 16 46.3**	**+0.4**
C26A	**Wahner Farm, P**	**127.70**	**302**	⇓P		**PKPdf**	**05 14 41.9**	**-1.5**
	baz=128,SNR=9.8								
A28A	**Rude Farm, Bot**	**127.70**	**304**	⇑P		**PKPdf**	**05 14 42.5**	**-0.8**
	baz=128,SNR=8.2								
SPUT	**South Promonto**	**127.72**	**289**	*e*PKPdf		**PKPdf**	**05 14 43.8**	**0.0**
SPUT				*e*PP		**PP**	**05 16 49.1**	**+3.0**
BGU	**Big Grassy Mou**	**127.72**	**289**	*e*PKPdf		**PKPdf**	**05 14 43.8**	**0.0**
SFJD	**Kangerlussuaq**	**127.93**	**343**	*i* P		**PKPdf**	**05 14 47.9**	**+4.8**
	comp=Z,1μm,0.9s								
SFJD	**Kangerlussuaq**	**127.93**	**343**	PFAKE			05 14 50.0	+6.9
SFJD				LR		LR			
	comp=Z,13μm,19.0s								
I19A	**Meeteetse**	**128.07**	**294**	⇑P		**PKPdf**	**05 14 43.7**	**-0.7**
	baz=128								
F22A	**Rosebud**	**128.07**	**297**	⇑P		**PKPdf**	**05 14 43.6**	**-0.6**
	baz=128								
G21A	**Lodge Grass**	**128.11**	**296**	⇓P		**PKPdf**	**05 14 44.3**	**0.0**
	baz=128								
C25A	**Freed Ranch, W**	**128.13**	**301**	⇓P		**PKPdf**	**05 14 45.8**	**+1.6**
	baz=128								
AHID	**Auburn Hatcher**	**128.14**	**291**	PFAKE			05 14 50.0	+5.4
AHID				LR		LR			
	comp=Z,16μm,20.0s								
MLAC	**Mammoth Lakes**	**128.17**	**281**	⇑P		**PKPdf**	**05 14 44.7**	**-0.1**
	baz=128								
D24A	**Glendive**	**128.18**	**300**	⇓P		**PKPdf**	**05 14 43.8**	**-0.5**
	baz=128								
HVU	**Hansel Valley**	**128.23**	**289**	*e*PKIKP		**PKPdf**	**05 14 44.3**	**-0.4**
HVU	**Hansel Valley**	**128.23**	**289**	*e*PKPdf		**PKPdf**	**05 14 44.3**	**-0.4**
E22A	**Miles City**	**128.42**	**298**	⇑P		**PKPdf**	**05 14 47.7**	**+3.0**
	baz=129								
NV11	**Mina Array Sit**	**128.43**	**283**	*e*PKPdf		**PKPdf**	**05 14 45.6**	**+0.5**
NVAR	**Mina Array Bea**	**128.50**	**283**	PKPpre		PKPpre	05 14 39.9		
NVAR				PKP		**PKiKP**	**05 14 46.1**	**+0.1**
NVAR	**Mina Array Bea**	**128.50**	**283**	PKhKP		PKPpre	05 14 39.9		
	comp=Z,0.3nm,0.6s,baz=159,slow=7,SNR=3.0								
NVAR				PKP		**PiKP**	**05 14 46.2**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=134,slow=2.6,SNR=12								
H19A	**Powell**	**128.54**	**295**	⇑P		**PKPdf**	**05 14 45.0**	**-0.2**
	baz=129								
GYA	**Guiyang**	**128.56**	**102**	Pdif		**Pdif**	**05 11 32.1**	**+1.1**
GYA				PKP		**PKiKP**	**05 14 46.6**	**+0.2**
GYA				PP		PP	05 16 56.8	+5.3
GYA				PKS		**PKSdf**	**05 18 22.0**	**-0.5**
GYA				SKKS			05 23 46.5		
GYA				SS		**SS**	**05 34 11.2**	**+3.0**
GYA				AMB		AMB			
	comp=Z,6μm,9.2s								
GYA				LR		LR			
	comp=Z,4μm,19.8s								
GYA				LR		LR			
	comp=Z,3μm,20.0s								
GYA				LR		LR			
	comp=Z,4μm,19.6s								
G20A	**Bridger**	**128.58**	**296**	⇓P		**PKPdf**	**05 14 44.8**	**-0.4**
	baz=129								
PRGR	**Permogore**	**128.60**	**32**	⇑*i* PKIKP		**PKPdf**	**05 14 42.9**	**-1.6**
PRGR				pmax		pmax			
	comp=Z,37nm,1.0s								
ARU	**Arti**	**128.61**	**43**	*i* PKIKP		**PKPdf**	**05 14 44.4**	**-0.3**
ARU							06 16 49.2		
ARU				pmax		pmax			
	comp=Z,7μm,21.6s								
ARU	**Arti**	**128.61**	**43**	*e*PKPdf		**PKPdf**	**05 14 44.8**	**+0.1**
ARU				LR		LR			
	comp=Z,7μm,20.0s								
D23A	**Lindsay**	**128.62**	**299**	⇑P		**PKPdf**	**05 14 45.8**	**+0.6**
	baz=129								
LAO	**LASA Array**	**128.73**	**298**	*e*PKPdf		**PKPdf**	**05 14 46.1**	**+0.8**
LAO				*e*PP		**PP**	**05 16 52.7**	**+0.1**
LAO				LR		LR			
	comp=Z,53μm,21.0s								
I17A	**Pilgrim Ck.**	**128.75**	**293**	⇑P		**PKPdf**	**05 14 45.0**	**-0.7**
	baz=129								
F20A	**Billings**	**128.98**	**296**	⇑P		**PKPdf**	**05 14 45.5**	**-0.4**
	baz=129								
RLMT	**Red Lodge**	**129.01**	**295**	*e*PKPdf		**PKPdf**	**05 14 45.8**	**-0.3**
RLMT				*e*PP		**PP**	**05 16 53.6**	**-1.0**
RLMT				LR		LR			
	comp=Z,28μm,20.0s								
D22A	**Cohagen**	**129.05**	**299**	⇑P		**PKPdf**	**05 14 44.9**	**-1.0**
	baz=129								
C23A	**Lambert**	**129.08**	**300**	⇓P		**PKPdf**	**05 14 45.3**	**-0.6**
	baz=129								
H17A	**Grant Village**	**129.10**	**293**	*e*PKPdf		**PKPdf**	**05 14 50.1**	**+3.7**
H17A				*e*PP		**PP**	**05 16 57.9**	**+2.6**
H17A	**Grant Village**	**129.10**	**293**	⇑P		**PKPdf**	**05 14 45.8**	**-0.6**
	baz=129								
DGMT	**Dagmar**	**129.12**	**301**	*e*PKPdf		**PKPdf**	**05 14 45.5**	**-0.5**
DGMT				*e*PP		**PP**	**05 16 52.2**	**-2.9**
DGMT				LR		LR			
	comp=Z,18μm,21.0s								
DGMT	**Dagmar**	**129.12**	**301**	⇑P		**PKPdf**	**05 14 45.5**	**-0.5**
	baz=129								
GZH	**Guangzhou**	**129.13**	**111**	SS		SS	05 34 38.3	+24
GZH				LR		LR			
	comp=N,11μm,19.6s								
GZH				LR		LR			
	comp=E,6μm,18.1s								
GZH				LR		LR			
	comp=Z,19μm,19.2s								
WAKR	**Walker**	**129.14**	**282**	*e*PKPdf		**PKPdf**	**05 14 48.6**	**+2.0**
WAKR				*e*PP		**PP**	**05 16 58.9**	**+3.4**
YFT	**Old Faithful**	**129.27**	**293**	*e*PKPdf		**PKPdf**	**05 14 47.9**	**+1.2**
YFT				*e*PP		**PP**	**05 16 54.0**	**-2.3**
CMB	**Columbia Colle**	**129.28**	**281**	*e*PKIKP		**PKPdf**	**05 14 47.7**	**+1.0**
CMB				*e*			05 16 54.0		
CMB	**Columbia Colle**	**129.28**	**281**	*e*PKPdf		**PKPdf**	**05 14 47.6**	**+1.0**
CMB				*e*PP		**PP**	**05 16 54.0**	**-2.2**
C22A	**Vida**	**129.35**	**299**	⇑P		**PKPdf**	**05 14 46.2**	**-0.3**
	baz=130								
A24A	**Westby**	**129.37**	**301**	⇑P		**PKPdf**	**05 14 46.0**	**-0.5**
	baz=130								
D21A	**La Casta Ranch**	**129.37**	**298**	⇓P		**PKPdf**	**05 14 45.7**	**-0.9**
	baz=130								
F19A	**Roth Farm, Mol**	**129.39**	**296**	⇑P		**PKPdf**	**05 14 46.3**	**-0.4**
	baz=130								
BMN	**Battle Mountai**	**129.46**	**285**	*e*PKIKP		**PKPdf**	**05 14 47.7**	**+0.6**
BMN				*e*			05 16 57.5		
BMN	**Battle Mountai**	**129.46**	**285**	*e*PKPdf		**PKPdf**	**05 14 47.6**	**+0.6**
BMN				*e*PP		**PP**	**05 16 57.5**	**0.0**
B23A	**Brockton**	**129.47**	**300**	⇓P		**PKPdf**	**05 14 46.2**	**-0.5**
	baz=130								
E20A	**Meyer Farm, Mu**	**129.49**	**297**	⇑P		**PKPdf**	**05 14 46.0**	**-0.8**
	baz=130								
SVE	**Sverdlovsk**	**129.66**	**44**	*i* PKIKP		**PKPdf**	**05 14 45.6**	**-1.1**
SVE				*e*			05 16 56.0		
SVE				*e*PPP		PPP	05 19 42.3		
SVE				*e*			05 27 08.6		
SVE				*e*			05 34 19.8		
SVE				pmax		pmax			
	comp=Z,105nm,2.1s								
SVE				MLR		MLR			
	comp=Z,8μm,22.0s								
E19A	**Rath Farm, Rou**	**129.76**	**296**	⇑P		**PKPdf**	**05 14 46.5**	**-0.8**
	baz=130								
D20A	**Manuel Ranch,**	**129.92**	**297**	⇓P		**PKPdf**	**05 14 47.1**	**-0.6**
	baz=130								
A22A	**Carney Farms,**	**130.28**	**300**	⇑P		**PKPdf**	**05 14 47.5**	**-0.8**
	baz=130								
C20A	**Veseth Ranch,**	**130.31**	**298**	⇓P		**PKPdf**	**05 14 47.7**	**-0.6**
	baz=130								
D19A	**Cripps Ranch,**	**130.32**	**297**	⇑P		**PKPdf**	**05 14 47.7**	**-0.7**
	baz=130								
HLID	**Hailey**	**130.36**	**290**	PFAKE			05 15 00.0	+11
HLID				LR		LR			
	comp=Z,13μm,22.0s								
B21A	**Ellsworth Farm**	**130.37**	**299**	⇓P		**PKPdf**	**05 14 48.5**	**+0.1**
	baz=130								
SOKR	**Solikamsk**	**130.41**	**39**	⇓*i* PKIKP		**PKPdf**	**05 14 49.2**	**+1.2**
SOKR							05 17 04.2		
SOKR				SS		SS	05 34 29.4	-0.9
SOKR				pmax		pmax			
	comp=Z,30nm,1.3s								
MCMT	**McKenzie Canyo**	**130.52**	**292**	*e*PKPdf		**PKPdf**	**05 14 52.7**	**+3.6**
MCMT				*e*PP		**PP**	**05 17 02.5**	**-2.0**
BOZ	**Bozeman (W)**	**130.53**	**294**	*e*PKIKP		**PKPdf**	**05 14 49.8**	**+0.9**
BOZ				MLR		MLR			
	comp=Z,26μm,20.0s	

WMQ PP **PP** **05 17 18.0 +3.9**
WMQ PKS **PKSdf** **05 18 25.6 -2.5**
WMQ SKS **SKSdf** **05 21 58.9 -3.9**
WMQ SKKS **SKKSac** **05 24 04.8 -4.5**
WMQ SS **SS** **05 34 49.1 -1.9**
WMQ LR LR
comp=Z,5μm,20.6s
WMQ LR LR
comp=Z,8μm,27.4s
WMQ LR LR
comp=Z,8μm,29.2s
WDC Whiskeytown Da 132.29 281 *e*PKIKP **PKPdf** **05 14 56.4 +4.2**
WDC Whiskeytown Da 132.29 281 *e*PKPdf **PKPdf** **05 14 56.4 +4.2**
MSO Missoula 132.49 293 ⇑P **PKPdf** **05 14 51.4 -1.2**
baz=133
KURK Kurchatov 132.61 60 PKIKP **PKPdf** **05 14 53.7 +1.3**
KURK pmax pmax
comp=Z,14nm,1.2s
KURK Kurchatov 132.61 60 *e*PKPdf **PKPdf** **05 14 53.8 +1.3**
KURK LR LR
comp=Z,6μm,22.0s
FFC Flin Flon 132.66 308 PFAKE 05 15 00.0 +7.5
FFC LR LR
comp=Z,29μm,22.0s
N02D Trinity Center 132.66 281 ⇑P **PKPdf** **05 14 52.2 -0.9**
baz=133
GUMO Guam 132.69 153 PFAKE 05 15 00.0 +6.2
GUMO LR LR
comp=Z,868nm,22.0s
M04C Macdoel 132.81 283 ⇓P **PKPdf** **05 14 52.6 -0.8**
baz=133
SWMT Swartz Lake 133.00 294 *e*PKPdf **PKPdf** **05 14 54.6 +1.1**
M02C Callahan 133.04 282 ⇑P **PKPdf** **05 14 52.9 -0.9**
baz=133
ENH Enshi 133.10 102 *e*PKPdf **PKPdf** **05 14 55.9 +1.8**
ENH LR LR
comp=Z,182nm,19.0s
QZH Quanzhou 133.23 115 PKP **PKPdf** **05 14 59.0 +4.5**
QZH PP PP 05 17 29.9 +8.5
QZH SS SS 05 35 12.3 +7.4
QZH LR LR
comp=Z,6μm,21.3s
QZH LR LR
comp=Z,3μm,14.9s
QZH LR LR
comp=Z,39μm,35.1s
JTMT Jette 133.30 294 *e*PKPdf **PKPdf** **05 14 52.0 -2.1**
JTMT *e*PP **PP** **05 17 19.1 -3.2**
BSMT Bassoo Peak 133.62 294 *e*PKPdf **PKPdf** **05 14 57.0 +2.3**
BSMT *e*PP **PP** **05 17 23.3 -1.1**
HUMO Hull Mountain 133.98 283 *e*PKPdf **PKPdf** **05 14 56.0 +0.6**
WALA Waterton Lakes 134.04 295 *e*PKPdf **PKPdf** **05 14 56.6 +1.2**
KIP Kipapa 134.49 232 PFAKE 05 15 10.0 +13
KIP LR LR
comp=Z,11μm,20.0s
I04A Tendick Farm, 134.55 284 ⇑P **PKPdf** **05 14 57.5 +1.1**
baz=135
TATO Taipei 134.62 118 PFAKE 05 15 10.0 +13
TATO LR LR
comp=Z,4μm,21.0s
LZH Lanzhou 134.70 92 *e*PKP **PKPdf** **05 14 54.4 -2.7**
LZH sPKP 05 15 06.5
LZH PP **PP** **05 17 30.3 -0.9**
LZH PKS **PKSdf** **05 18 29.3 -4.3**
LZH SKKS 05 24 25.5
LZH SS **SS** **05 35 25.7 +2.4**
LZH AMB AMB
comp=Z,460nm,5.5s
HAWA Hanford 134.93 289 *e*PKPdf **PKPdf** **05 14 57.6 +0.6**
HAWA LR LR
comp=Z,15μm,19.0s
DAG Danmarks Havn 135.00 359 *e*PKIKP **PKPdf** **05 14 57.2 +1.0**
DAG pmax pmax
comp=Z,14nm,0.8s
DAG MLR MLR
comp=Z,7μm,21.0s
DAG Danmarks Havn 135.00 359 *i* P **PKPdf** **05 14 57.2 +1.0**
comp=Z,19nm,0.8s
DAG
comp=Z,6μm,21.0s
NEW Newport 135.03 292 PFAKE 05 15 10.0 +13
NEW LR LR
comp=Z,39μm,21.0s
GTA Gaotai 135.07 85 ⇓PKP **PKPdf** **05 14 54.8 -2.9**
GTA PP **PP** **05 17 36.7 +3.2**
GTA PKS **PKSdf** **05 18 29.5 -4.5**
GTA SKS **SKSdf** **05 22 04.1 -4.4**
GTA SKKS **SKKSac** **05 24 25.5 -2.5**
GTA SS **SS** **05 35 31.5 +3.8**
GTA AMB AMB
comp=Z,920nm,9.3s
GTA LR LR
comp=Z,4μm,22.3s
GTA LR LR
comp=Z,3μm,21.9s
GTA LR LR
comp=Z,5μm,22.3s
XAN Xi'an 135.78 98 PKP **PKPdf** **05 14 59.4 +0.3**
XAN PKS **PKSdf** **05 18 34.3 -1.1**
XAN SKS **SKSdf** **05 22 08.9 -0.9**
XAN AMB AMB
comp=Z,210nm,10.5s
XAN LR LR
comp=Z,4μm,20.0s
XAN LR LR
comp=Z,1μm,21.9s
XAN LR LR
comp=Z,2μm,20.0s
LON Longmire 136.31 288 *e*PKIKP **PKPdf** **05 15 01.2 +1.5**
LON Longmire 136.31 288 *e*PKPdf **PKPdf** **05 15 01.2 +1.5**
EDM Edmonton 136.59 300 *e*PKIKP **PKPdf** **05 15 00.6 +0.7**
EDM *e* 05 17 39.5
EDM Edmonton 136.59 300 *e*PKPdf **PKPdf** **05 15 00.6 +0.7**
EDM *e*PP **PP** **05 17 39.5 -3.3**
ZALV Zalesovo Beam 137.60 60 *i* PKHKP PKPpre 05 14 52.5
ZALV 05 14 57.8
ZALV pmax pmax
comp=Z,2.0nm,1.1s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 137.60 60 PKPpre PKPpre 05 14 52.5
ZALV PKP **PKPdf** **05 14 57.8 -3.9**
ZALV Zalesovo Beam 137.60 60 PKhKP PKPpre 05 14 52.5
comp=Z,1.9nm,1.1s,baz=280,slow=4.2,SNR=3.8
ZALV PKP **PKPdf** **05 14 57.8 -3.9**
comp=Z,2.0nm,0.7s,baz=238,slow=2.8,SNR=8.1
NLWA Neilton Lookou 137.78 287 PFAKE 05 15 10.0 +7.7
NLWA LR LR
comp=Z,18μm,21.0s
KBS Kingsbay 138.07 7 PFAKE 05 15 10.0 +8.1
KBS LR LR
comp=Z,6μm,21.0s
NJ2 Nanjing 139.26 110 *e*PKP **PKPdf** **05 15 05.7 +0.2**
NJ2 sPKP 05 15 11.7
NJ2 PP PP 05 18 05.0 +5.6
NJ2 SKS **SKSdf** **05 22 10.0 -5.7**
NJ2 SKKS **SKKSac** **05 24 52.0 -0.9**
NJ2 SS **SS** **05 36 21.0 +4.0**
NJ2 AMB AMB
comp=Z,2μm,11.0s
NJ2 LR LR
comp=Z,7μm,26.0s
NJ2 LR LR
comp=Z,10μm,22.0s
NJ2 LR LR
comp=Z,4μm,26.9s
SSE Sheshan 139.62 113 *e*PKP PKPdf 05 15 00.1 -6.1
SSE PP **PP** **05 17 58.1 -3.5**
WAKE Wake Island 140.86 182 PFAKE 05 15 20.0 +11
WAKE LR LR
comp=Z,7μm,20.0s
TIA Tai'an 141.69 104 PKP PKPdf 05 15 16.3 +6.5
TIA LR LR
comp=Z,4μm,25.6s
TIA LR LR
comp=Z,5μm,22.6s
TIA LR LR
comp=Z,5μm,23.8s
HHC Hu-ho-hao-te 142.28 94 *e*PKP **PKPdf** **05 15 10.9 +0.1**
HHC PP **PP** **05 18 18.0 -0.1**
HHC SS SS 05 36 57.7 +4.9
HHC AMB AMB
comp=Z,5μm,8.7s
HHC LR LR
comp=Z,5μm,24.9s
HHC LR LR
comp=Z,11μm,24.9s
HHC LR LR
comp=Z,12μm,19.9s
YKA Yellowknife Ar 142.63 311 PKPpre PKPpre 05 15 04.0
YKA PKP **PKPdf** **05 15 08.8 -1.7**
YKA PP **PP** **05 18 20.1 +0.3**
YKA Yellowknife Ar 142.63 311 PKhKP PKPpre 05 15 04.0
comp=Z,2.5nm,0.6s,baz=126,slow=4.1,SNR=21
YKA PKP **PKPdf** **05 15 08.8 -1.7**
comp=Z,4.8nm,0.9s,baz=124,slow=3.7,SNR=32
YKA PP **PP** **05 18 20.1 +0.3**
comp=Z,8.5nm,1.0s,baz=120,slow=6.7,SNR=8.4
YKW3 Yellowknife Ar 142.68 311 *e*PKPdf **PKPdf** **05 15 11.2 +0.6**
YKW3 *e*PP **PP** **05 18 16.9 -3.2**
RES Resolute Bay 142.75 334 PKPpre PKPpre 05 15 04.1
RES *e*PKPdf **PKPdf** **05 15 08.5 -2.0**
RES Resolute Bay 142.75 334 PKhKP PKPpre 05 15 04.1
comp=Z,5.7nm,0.9s,baz=114,slow=2.4,SNR=13
MOY Mondy 143.93 72 *e*PKIKP PKPab 05 15 10.5 -0.2
MOY pmax pmax
comp=Z,375nm,2.3s
BJT Baijiatuau 144.08 99 *e*PKPdf **PKPab** **05 15 10.7 -0.8**
BJT LR LR
comp=Z,5μm,20.0s
ZAK Zakamensk 144.31 75 *e*PKIKP **PKPab** **05 15 10.0 -2.1**
ZAK pmax pmax
comp=Z,25nm,1.6s
SONM Songino Array 144.33 81 PKP **PKPab** **05 15 11.0 -1.3**
SONM Songino Array 144.33 81 PKP **PKPab** **05 15 11.0 -1.3**
comp=Z,6.8nm,0.7s,baz=194,slow=2.4,SNR=24
ULN Ulaanbaatar 144.69 81 P **PKPab** **05 15 11.2 -2.5**
SNR=61
ULN Ulaanbaatar 144.69 81 *e*PKPdf **PKPab** **05 15 11.4 -2.2**
ULN LR LR
comp=Z,7μm,22.0s
CBIJ Chichi jima 144.77 143 PKP **PKPab** **05 15 11.8 -2.6**
CBIJ *e*PKPdf PKPbc 05 15 14.0 -0.5
JCJ Chichijima 144.77 143 PKP **PKPab** **05 15 11.8 -2.6**
comp=Z,72nm,0.7s,baz=17,slow=20,SNR=3.2
TLY Talaya 145.28 74 *e*PKIKP **PKPbc** **05 15 14.3 -1.1**
TLY *e* 05 42 54.1
TLY pmax pmax
comp=Z,318nm,2.0s
TLY Talaya 145.28 74 P **PKPbc** **05 15 13.6 -1.8**
SNR=54
TLY Talaya 145.28 74 *e*PKPdf **PKPbc** **05 15 13.8 -1.6**
TLY LR LR
comp=Z,9μm,22.0s
JNU Nakatsue 145.81 123 *e*PKPdf **PKPdf** **05 15 16.9 -0.2**
IRK Irkutsk 145.92 73 *e*PKP2 **PKPdf** **05 15 16.4 -0.2**
IRK pmax pmax
comp=Z,637nm,2.2s
DL2 Dalian 146.05 106 PKPbc **PKPdf** **05 15 16.7 -0.6**
DL2 PP PP 05 18 48.7 +8.3
DL2 LR LR
comp=Z,2μm,21.6s
DL2 LR LR
comp=Z,3μm,17.6s
CRAG Craig 147.25 292 *e*PKPbc **PKPbc** **05 15 21.1 0.0**
DLBC Dease Lake 147.26 298 *e*PKPbc **PKPbc** **05 15 21.0 -0.1**
DLBC Dease Lake 147.26 298 PKPbc **PKPdf** **05 15 19.0 +0.2**
comp=Z,14nm,0.5s,baz=175,slow=1.4,SNR=27
WRAK Wrangell Islan 147.36 294 *e*PKPbc **PKPbc** **05 15 21.1 -0.2**
WRAK LR LR
comp=Z,16μm,20.0s
MIDW Midway 147.41 209 PFAKE 05 15 30.0 +5.7
MIDW LR LR
comp=Z,14μm,20.0s
INCN Inchon 147.43 113 *e*PKPbc **PKPab** **05 15 23.3 -0.9**
INCN LR LR
comp=Z,7μm,21.0s
KSAR Wonju Array Be 147.99 115 PKPbc **PKPbc** **05 15 23.3 -0.4**
KSRS Korea Array 148.02 115 PKPbc **PKPbc** **05 15 23.3 -0.4**
comp=Z,14nm,0.9s,baz=221,slow=2.6,SNR=17
SIT Sitka 149.11 293 *e*PKP2 **PKPbc** **05 15 26.5 +0.6**
SIT Sitka 149.11 293 *e*PKPbc **PKPbc** **05 15 26.5 +0.6**
SNY Shenyang 149.22 104 ⇓PKPbc **PKPbc** **05 15 28.8 +2.1**
SNY PP **PP** **05 19 03.2 +4.2**
SNY SS SS 05 38 15.9 +4.5
SNY LR LR
comp=Z,6μm,22.2s
SNY LR LR
comp=Z,4μm,27.2s
SNY LR LR
comp=Z,9μm,23.7s
SKAG Skagway 150.18 298 *e*PKPbc **PKPbc** **05 15 27.3 -1.2**
SKAG *e*PKPab **PKPab** **05 15 33.1 -1.5**
CIT Chita 150.54 80 *e*PKIKP **PKPbc** **05 15 27.0 -2.7**
CN2 Changchun 151.60 104 *e*PKPbc **PKPbc** **05 15 30.1 -2.2**
CN2 SKKS 05 26 08.0
CN2 AMB AMB
comp=Z,1μm,8.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,4μm,22.0s
CN2 LR LR
comp=Z,8μm,23.0s
MAJO Matsushiro 151.85 129 *e*PKIKP **PKPbc** **05 15 34.7 +1.5**
MAJO MLR MLR
comp=Z,6μm,22.0s
MAJO Matsushiro 151.85 129 *e*PKPbc **PKPbc** **05 15 34.6 +1.5**
MAJO LR LR
comp=Z,6μm,22.0s
MAT Matsushiro 151.85 129 *e*PKP **PKPdf** **05 15 27.6 +0.9**
MJAR Matsushiro Arr 151.85 129 PKPbc **PKPbc** **05 15 32.1 -1.1**
MJAR Matsushiro Arr 151.85 129 PKPbc **PKPbc** **05 15 32.1 -1.1**
comp=Z,8.1nm,0.8s,baz=169,slow=2.5,SNR=12
INK Inuvik 152.06 316 *e*PKPbc **PKPbc** **05 15 29.8 -2.8**
INK Inuvik 152.06 316 PKPbc **PKPbc** **05 15 30.5 -2.1**
comp=Z,6.8nm,0.5s,baz=95,slow=2.8,SNR=14
HIA Hailar 152.20 89 *e*PKPbc **PKPbc** **05 15 32.5 -1.0**
HIA *e*PKPab **PKPab** **05 15 41.5 -2.0**
HIA LR LR
comp=Z,8μm,22.0s
DAWY Dawson 153.52 306 *e*PKPbc **PKPbc** **05 15 34.6 -1.4**
MDJ Mudanjiang 154.28 107 PFAKE 05 15 40.0 +1.8
MDJ LR LR
comp=Z,8μm,21.0s
EGAK Eagle 154.42 307 *e*PKPdf **PKPdf** **05 15 28.8 -0.7**
EGAK *e*PKPbc **PKiKP** **05 15 39.4 +1.5**
EGAK LR LR
comp=Z,38μm,22.0s
BMRM Bremner River 155.04 297 PKPdf **PKPdf** **05 15 30.4 -0.2**
BMRM *e*PKPbc PKPbc 05 15 39.4
BMRM *e*PP **PP** **05 19 35.4 +3.2**
USRK Ussuriysk Arra 155.17 111 PKP **PKPdf** **05 15 30.0 -1.2**
comp=Z,1.3nm,0.8s,baz=225,slow=22,SNR=2.3
USRK PKPab **PKPab** **05 15 54.9 -1.2**
comp=Z,5.0nm,0.7s,baz=215,slow=2.4,SNR=8.2
DIV Divide 155.63 297 *e*PKPdf **PKPdf** **05 15 32.4 +1.0**
DIV *e*PKPab **PKPab** **05 15 58.3 +0.5**
PAX Paxson 155.93 302 PKIKP **PKPdf** **05 15 30.4 -1.4**
PAX Paxson 155.93 302 PKPdf **PKPdf** **05 15 30.4 -1.4**
PAX *e*PKPab **PKPab** **05 16 03.4 +4.4**
ILAR Eielson Array 156.85 306 PKP **PKPdf** **05 15 30.9 -1.9**
ILAR Eielson Array 156.85 306 PKP **PKPdf** **05 15 30.9 -1.9**
comp=Z,1.8nm,1.0s,baz=328,slow=3.3,SNR=5.2
COLA College 157.27 306 *e*PKIKP **PKPdf** **05 15 31.0 -2.2**
COLA MLR MLR
comp=Z,26μm,22.0s
COLA College 157.27 306 *e*PKPdf **PKPdf** **05 15 31.0 -2.2**
COLA *e*PKPab **PKPab** **05 16 08.6 +4.0**
COLA LR LR
comp=Z,26μm,22.0s
PMR Palmer 157.31 297 *e*PKIKP **PKPdf** **05 15 34.9 +1.5**
PMR Palmer 157.31 297 *e*PKPdf **PKPdf** **05 15 34.9 +1.5**
RC01 Rabbit Creek A 157.48 296 PKPdf **PKPdf** **05 15 37.2 +3.5**
RC01 *e*PKPab **PKPab** **05 16 10.4 +4.8**
MCK McKinley 157.60 303 *e*PKIKP **PKPdf** **05 15 33.6 -0.2**
MCK McKinley 157.60 303 *e*PKPdf **PKPdf** **05 15 33.6 -0.2**
KDAK Kodiak Island 157.93 286 PFAKE 05 15 40.0 +5.7
KDAK LR LR
comp=Z,29μm,22.0s
TRF Thorofare Moun 158.16 302 *e*PKPdf **PKPdf** **05 15 34.6 0.0**
TRF *e*PKPab PKPab 05 16 16.0 +7.3
COLD Coldfoot 158.31 312 *e*PKPdf **PKPdf** **05 15 34.7 +0.2**
COLD *e*PKPab PKPab 05 16 19.2 +10
KLR Kul'dur 158.45 101 *e*PKIKP **PKPdf** **05 15 32.4 -2.9**
KTH Kantishna Hill 158.46 302 *e*PKPdf **PKPdf** **05 15 35.9 +0.9**
KTH *e*PKPab **PKPab** **05 16 10.5 +0.6**
ERM Erimo 158.51 130 PFAKE 05 15 50.0 +14
ERM LR LR
comp=Z,6μm,19.0s
CLNS Chul'man 158.62 77 *e*PKIKP PKPdf 05 15 41.5 +6.2
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,19nm,1.3s
CLNS pmax pmax
comp=N,8.0nm,1.4s
PPLA Purkeypile 158.95 300 *e*PKPdf **PKPdf** **05 15 33.5 -2.1**
PPLA *e*PKPab **PKPab** **05 16 13.2 +1.1**
HABR Khabarovsk 159.66 106 *e*PKP2 **PKPab** **05 16 15.5 +0.1**
HABR *e* 05 22 41.8
HABR *e*SS SS 05 40 06.5 +1.7
HABR *e*SSS SSS 05 46 14.9
HABR pmax pmax
comp=E,77nm,2.2s
HABR pmax pmax
comp=Z,102nm,2.2s
HABR pmax pmax
comp=N,29nm,2.2s
IM04 Indian Mountai 159.78 309 *e*PKPdf **PKPdf** **05 15 33.4 -2.9**
IM04 *e*PKPab PKPab 05 16 24.7 +9.2
IM04 *e*PP **PP** **05 19 59.5 +1.4**
TIXI Tiksi 160.25 34 *e*PKIKP **PKPdf** **05 15 38.3 +1.7**
TIXI MLR MLR
comp=Z,9μm,21.0s
TIXI Tiksi 160.25 34 *e*PKPdf **PKPdf** **05 15 38.3 +1.7**
TIXI LR LR
comp=Z,9μm,21.0s
YUK Yuzh-Kuril'sk 161.28 132 *i* PKIKP **PKPdf** **05 15 37.0 -1.6**
YUK *i* 05 20 07.6
YUK *i* 05 22 42.1
YUK *i* SS SS 05 40 21.7 +0.4
YAK Yakutsk 162.19 63 *i* PKP2 **PKPab** **05 16 31.1 +5.0**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=E,25nm,1.3s
YAK Yakutsk 162.19 63 PFAKE 05 15 50.0 +11
YAK LR LR
comp=Z,10μm,22.0s
YSS Yuzh-Sakhalins 162.31 121 *i* PKIKP PKPdf 05 15 47.0 +7.4
YSS *e* 05 20 12.0
YSS pmax pmax
comp=Z,180nm,2.0s
YSS Yuzh-Sakhalins 162.31 121 PFAKE 05 15 50.0 +10
YSS LR LR
comp=Z,4μm,21.0s
SEY Seymchan 172.31 49 PKIKP **PKPdf** **05 15 47.1 +0.8**
SEY pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 172.31 49 PKP **PKPdf** **05 15 47.1 +0.8**
SEY Seymchan 172.31 49 PKP **PKPdf** **05 15 47.1 +0.8**
comp=Z,11nm,1.0s,baz=17,slow=8.1,SNR=5.8
PETK Petropavlovsk- 173.19 139 PKIKP **PKPdf** **05 15 46.9 -0.2**
PETK pmax pmax
comp=Z,5.0nm,1.0s
PETK Petropavlovsk- 173.19 139 PKP **PKPdf** **05 15 46.9 -0.2**
PETK Petropavlovsk- 173.19 139 PKP **PKPdf** **05 15 46.9 -0.2**
comp=Z,5.3nm,0.9s,baz=114,slow=3.5,SNR=4.0
PET Petropavlovsk 173.43 143 *e*PKIKP PKPpre 05 15 34.9
PET *e* 05 21 09.7
PET *e*SS SS 05 42 17.9 -5.7
PET pmax pmax
comp=Z,2μm,5.1s
PET pmax pmax
comp=Z,2μm,10.3s
PET pmax pmax
comp=Z,3μm,19.6s
PET Petropavlovsk 173.43 143 PFAKE 05 16 00.0 +13
PET LR LR
comp=Z,12μm,20.0s

*ISCJB **05** 04:57:50.9±1.4,58.4S±0.2×16.1W±0.7,h10km,mb5.0/6, Error ellipse: s-maj=50.6km s-min=22.4km az=178.0*
*IDC **05** 04:57:50.5±0.9,58.45S×16.36W,h0km,mb5.0/6, mb1 4.9/6,mb1mx4.6/17,mbtmp4.9/6,Error ellipse: s-maj=43.9km s-min=27.4km az=82.0*
ISC 05 04:57:52.0±0.9,58.4S±0.2×16.3W±0.3,h10km,n15, σ0.8s4/15,mb5.0/6,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**34.57**	**138**	P	**P**	**05 04 40.8**	**+0.6**
	19nm,0.9s,baz=278,slow=10,SNR=1.4						
SUR	**Sutherland**	**36.09**	**60**	P	**P**	**05 04 53.6**	**-0.3**
	25nm,0.9s,baz=223,slow=8.2,SNR=5.2						
DBIC	**Dimbokro**	**65.55**	**13**	P	**P**	**05 08 34.7**	**-0.8**
	18nm,0.9s,baz=178,slow=6.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**72.84**	**18**	P	**P**	**05 09 22.7**	**+2.0**
	12nm,1.0s,baz=184,slow=7.2,SNR=2.4						
STKA	**Stephens Creek**	**88.14**	**161**	P	**P**	**05 10 43.0**	**+0.2**
	11nm,1.0s,baz=190,slow=5.9,SNR=2.2						
ASAR	**Alice Springs**	**94.53**	**153**	P	**P**	**05 11 12.3**	**-0.4**
	2.2nm,0.9s,baz=194,slow=4.5,SNR=1.7						
NOA	**NORSAR Array B**	**121.06**	**15**	PKP	**PKPdf**	**05 16 43.2**	**-0.1**
	2.0nm,0.9s,baz=185,slow=5.9,SNR=3.5						
FINES	**FINESS Array B**	**124.00**	**23**	PKP	**PKPdf**	**05 16 48.4**	**-0.5**
	5.9nm,0.6s,baz=157,slow=1.0,SNR=6.8						
FRB	**Frobisher Bay**	**128.21**	**333**	PKP	**PKPdf**	**05 16 56.5**	**-0.3**
	4.9nm,0.8s,baz=108,slow=3.3,SNR=3.9						
ARCES	**ARCESS Array B**	**131.17**	**18**	PKP	**PKPdf**	**05 17 02.2**	**-0.1**
	3.7nm,0.6s,baz=218,slow=1.8,SNR=4.7						
BVAR	**Borovoye Array**	**131.26**	**53**	PKP	**PKPdf**	**05 17 03.5**	**+0.5**
	2.1nm,0.5s,baz=174,slow=3.7,SNR=4.8						
KURBB	**Kurchatov Arra**	**133.15**	**60**	PKP	**PKPdf**	**05 17 06.0**	**-0.6**
	2.8nm,1.1s,baz=220,slow=2.8,SNR=2.8						
YKA	**Yellowknife Ar**	**142.05**	**312**	PKP	**PKPdf**	**05 17 23.0**	**+0.4**
	2.7nm,0.5s,baz=129,slow=2.1,SNR=4.9						
SONM	**Songino Array**	**145.08**	**82**	PKPbc	**PKPbc**	**05 17 26.8**	**-1.4**
	20nm,0.9s,baz=223,slow=4.6,SNR=5.1						
INK	**Inuvik**	**151.52**	**316**	PKPbc	**PKPbc**	**05 17 44.2**	**-0.3**
	12nm,0.5s,baz=50,slow=2.5,SNR=5.3						

*CSEM **05** 05:16:53.5,42.88N×13.36E,h22km,MD1.9/8,After ROM*
ROM 05 05:16:53.5±0.2,42.88N×13.36E,h22km±1km,Md1.9/8, Ml1.9/6,Error ellipse: s-maj=1.2km s-min=0.8km az=46.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.18**	**255**	Pg	Pb	05 16 58.7	-0.7
NRCA				Sg	Sb	05 17 02.6	-0.8
NRCA	**Norcia**	**0.18**	**255**	Pg	Pb	05 16 58.7	-0.7
NRCA				Sg	Sb	05 17 02.6	-0.8
SMA1	**SAN MARTINO**	**0.25**	**184**	Pg	Pb	05 16 59.6	-0.2
SMA1				Sg	Sb	05 17 04.0	-0.2
FDMO	**Fiordimonte**	**0.25**	**308**	Pg	Pb	05 16 59.8	+0.1
FDMO				Sg	Sb	05 17 04.4	+0.4
	383nm,0.2s						
FDMO	**Fiordimonte**	**0.25**	**308**	Pg	Pb	05 16 59.8	+0.1
FDMO				Sg	Sb	05 17 04.4	+0.4
	383nm,0.2s						
TERO	**Teramo**	**0.32**	**145**	Pg	Pb	05 17 00.7	+0.2
TERO				Sg	Sb	05 17 06.2	+0.9
	135nm,0.2s						
TERO	**Teramo**	**0.32**	**145**	Pg	Pb	05 17 00.7	+0.2
TERO				Sg	Sb	05 17 06.2	+0.9
	135nm,0.2s						
CAMP	**Campotosto**	**0.35**	**174**	Pg	Pb	05 17 01.0	-0.1
CAMP				Sg	Sb	05 17 06.8	+0.5
	374nm,2.1s						
CAMP	**Campotosto**	**0.35**	**174**	Pg	Pb	05 17 01.0	-0.1
CAMP				Sg	Sb	05 17 06.8	+0.5
	374nm,2.1s						
CESI	**CESI - Serrava**	**0.35**	**291**	Pg	Pb	05 17 01.3	+0.1
CESI				Sg	Sb	05 17 07.2	+0.8
	49nm,0.3s						
CESI	**CESI - Serrava**	**0.35**	**291**	Pg	Pb	05 17 01.3	+0.1
CESI				Sg	Sb	05 17 07.2	+0.8
	49nm,0.3s						
CESX	**Cesi**	**0.63**	**245**	Pg	Pb	05 17 06.2	+0.2
CESX				Sg	Sb	05 17 15.0	+0.5
	348nm,2.1s						
CESX	**Cesi**	**0.63**	**245**	Pg	Pb	05 17 06.2	+0.2
CESX				Sg	Sb	05 17 15.0	+0.5
	348nm,2.1s						
FAGN	**Fagnano**	**0.64**	**165**	Pg	Pb	05 17 05.7	-0.4
FAGN				Sg	Sb	05 17 15.6	+0.9
FAGN	**Fagnano**	**0.64**	**165**	Pg	Pb	05 17 05.7	-0.4
FAGN				Sg	Sb	05 17 15.6	+0.9
MNS	**Montasola**	**0.70**	**225**	Pg	Pb	05 17 07.2	0.0
MNS				Sg	Sb	05 17 17.2	+0.7

342nm,2.5s
MNS **Montasola** 0.70 225 Pg Pb 05 17 07.2 0.0
MNS Sg Sb 05 17 17.2 +0.7
342nm,2.5s

*ISCJB **05** 05:26:00.9±0.7,36°.2N±0°.1×140°.05E±0°.09,h85km±4km, mb3.4/7,Error ellipse: s-maj=21.6km s-min=11.2km az=14.9*
*JMA **05** 05:26:02.8±0.1,36°.31N×140°.02E,h72km±1km,M3.6 Broadband fault plane solution: P waves. NP1: ϕs2.00000°,δ61.00000°,λ88.00000°. NP2:ϕs187.00000°, δ29.00000°,λ94.00000°. Principal axes: T Plg74.0000°, Azm267.0000°; N Plg2.0000°, Azm3.0000°; P Plg16.0000°, Azm94.0000°;*
JMA Felt I J1.
*IDC **05** 05:26:04.0±2.3,36°.24N×139°.82E,h93km±17km,mb3.2/7, mb1 3.3/7,mb1mx3.2/26,mbtmp3.2/7,MS3.9/1,Ms1 3.9/1, ms1mx3.5/10 Error ellipse: s-maj=30.7km s-min=18.2km az=75.0*
ISC 05 05:26:02.0±0.9,36°.3N±0°.1×140°.04E±0°.08,h78km±7km, n14,σ0°74/17,mb3.5/7,1C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.14**	**114**	⇑P		**Pn**		**05 26 13.5**	**+0.2**
JYT				S		**Sn**		**05 26 21.3**	**-0.2**
JAG	**Ashikaga**	**0.49**	**287**	⇓P		**Pn**		**05 26 15.6**	**+0.1**
JAG				S		**Sn**		**05 26 25.2**	**-0.2**
JKT	**Katashina**	**0.80**	**307**	⇓P		**Pn**		**05 26 18.9**	**+0.2**
JRY	**Ryogami san**	**0.96**	**254**	⇓P		**Pn**		**05 26 21.1**	**+0.7**
MJAR	**Matsushiro Arr**	**1.50**	**280**	P		**Pn**		**05 26 27.8**	**+0.6**
	25nm,0.3s,baz=94,slow=15,SNR=235								
MJAR				S		**Sn**		**05 26 45.1**	**-1.2**
	13nm,0.3s,baz=86,slow=18,SNR=8.6								
MAT	**Matsushiro**	**1.50**	**280**	P		**Pn**		**05 26 28.1**	**+0.9**
MAT				S		**Sn**		**05 26 46.8**	**+0.5**
ASAJ	**Asahikawa**	**8.06**	**13**	LR		LR		05 32 07.3	
	comp=Z,885nm,20.3s,baz=202,slow=45								
ZALV	**Zalesovo Beam**	**41.61**	**315**	P		**P**		**05 33 41.6**	**-0.6**
	0.6nm,0.5s,baz=106,slow=4.7,SNR=3.1								
MKAR	**Makanchi Array**	**43.59**	**303**	P		**P**		**05 33 58.8**	**+0.4**
	0.2nm,0.6s,baz=89,slow=12,SNR=4.1								
KURBB	**Kurchatov Arra**	**45.60**	**308**	P		**P**		**05 34 13.9**	**-0.3**
	0.2nm,0.3s,baz=89,slow=3.8,SNR=7.1								
ILAR	**Eielson Array**	**50.72**	**32**	P		**P**		**05 34 54.7**	**+1.3**
	0.3nm,0.8s,baz=279,slow=6.3,SNR=3.9								
WRA	**Warramunga Arr**	**56.18**	**186**	P		**P**		**05 35 33.5**	**-0.4**
	0.3nm,0.3s,baz=1.9,slow=7.6,SNR=10								
ASAR	**Alice Springs**	**59.91**	**187**	P		**P**		**05 35 59.7**	**-0.2**
	0.3nm,0.8s,baz=347,slow=3.8,SNR=3.2								
AKASG	**Malin Array Be**	**74.21**	**322**	P		**P**		**05 37 29.1**	**-1.1**
	0.2nm,0.3s,baz=46,slow=6.6,SNR=3.3								

*ISCJB **05** 05:36:05.2±0.3,59°.87N±0°.03×151°.42W±0°.05,h87km±4km, mb3.8/2,Error ellipse: s-maj=5.1km s-min=4.1km az=157.3*
*NEIC **05** 05:36:07.3,59°.88N×151°.45W,h72km,MG3.1(AEIC), After AEIC.*
NEIC Felt [II] at Homer. Also felt at Anchor Point.
*IDC **05** 05:36:11.9±4.3,60°.30N×151°.16W,h115km±44km,mb3.5/2, mb1 3.5/5,mb1mx3.2/28,mbtmp3.3/5,MS4.0/1,Ms1 4.1/1, ms1mx3.9/33,Error ellipse: s-maj=36.6km s-min=27.8km az=37.0*
ISC 05 05:36:06.9±0.9,59°.89N±0°.04×151°.42W±0°.03,h79km±6km, n83,σ1°13/91,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNL	**Ninilchik**	**0.17**	**22**	P		**Pn**		**05 36 18.4**	**0.0**
HOM	**Homer**	**0.25**	**206**	P		**Pn**		**05 36 18.3**	**-0.4**
HOM				S		**Sn**		**05 36 27.4**	**-0.1**
BRLK	**Bradley Lake**	**0.30**	**114**	P		**Pn**		**05 36 18.4**	**-0.6**
BRLK				S		**Sn**		**05 36 27.3**	**-0.6**
IVE	**Iliamna Volcan**	**0.81**	**280**	P		**Pn**		**05 36 22.6**	**-1.1**
ILS	**Iliamna Low So**	**0.83**	**276**	P		**Pn**		**05 36 22.7**	**-1.3**
RDT	**Redoubt**	**0.85**	**325**	P		**Pn**		**05 36 23.1**	**-1.0**
SLKM	**Skilak Lake**	**0.87**	**43**	P		**Pn**		**05 36 23.7**	**-0.6**
ILW	**Iliamna West**	**0.88**	**282**	P		**Pn**		**05 36 23.5**	**-1.1**
ILW				S		**Sn**		**05 36 36.0**	**-1.8**
RDN	**Redoubt North**	**0.92**	**314**	P		**Pn**		**05 36 24.0**	**-1.0**
RDWB	**Redoubt West**	**0.93**	**311**	P		**Pn**		**05 36 24.2**	**-1.0**
RDWB				S		**Sn**		**05 36 37.5**	**-1.3**
OPT	**Oil Point**	**0.94**	**256**	P		**Pn**		**05 36 24.5**	**-0.7**
DFR	**Drift River**	**0.95**	**319**	P		**Pn**		**05 36 24.3**	**-1.0**
NCT	**North Crescent**	**1.01**	**313**	P		**Pn**		**05 36 25.3**	**-0.8**
SEW	**Seward**	**1.01**	**77**	P		**Pn**		**05 36 25.2**	**-0.7**
AUL	**Augustine Lava**	**1.14**	**215**	P		**Pn**		**05 36 27.3**	**-0.3**
AUP	**Augustine Pinn**	**1.14**	**244**	P		**Pn**		**05 36 27.4**	**-0.3**
AUI	**Augustine Isla**	**1.16**	**242**	P		**Pn**		**05 36 27.4**	**-0.4**
AUI				S		**Sn**		**05 36 43.1**	**-0.3**
CKL	**Chakachamna La**	**1.39**	**341**	P		**Pn**		**05 36 30.4**	**-0.5**
FIB	**Fire Island**	**1.43**	**25**	P		**Pn**		**05 36 32.0**	**+0.9**
CGLM	**Capps Glacier**	**1.46**	**349**	P		**Pn**		**05 36 31.4**	**-0.3**
SPBG	**Spurr Blockage**	**1.46**	**342**	P		**Pn**		**05 36 31.4**	**-0.2**
BGL	**Barrier Glacie**	**1.46**	**341**	P		**Pn**		**05 36 31.6**	**-0.2**
RC01	**Rabbit Creek A**	**1.47**	**34**	P		**Pn**		**05 36 31.5**	**-0.2**
PTE	**Portage**	**1.54**	**49**	P		**Pn**		**05 36 32.5**	**-0.2**
SUA	**Susitna One**	**1.62**	**12**	P		**Pn**		**05 36 33.6**	**-0.2**
SUA				S		**Sn**		**05 36 54.9**	**+0.8**
STLK	**Strandline Lak**	**1.63**	**353**	P		**Pn**		**05 36 34.0**	**+0.1**
MCNL	**McNeil River**	**1.64**	**246**	P		**Pn**		**05 36 32.8**	**-1.2**
PWL	**Port Wells**	**1.82**	**56**	P		**Pn**		**05 36 35.8**	**-0.5**
KAPH	**Katmai Pasha**	**1.98**	**231**	P		**Pn**		**05 36 38.1**	**-0.5**
PMR	**Palmer**	**2.05**	**32**	P		**Pn**		**05 36 38.8**	**-0.5**
SKT	**Skwentna**	**2.10**	**359**	P		**Pn**		**05 36 40.2**	**+0.1**
KDAK	**Kodiak Island**	**2.19**	**196**	P		**Pn**		**05 36 40.6**	**-0.6**
GLI	**Glacier Island**	**2.37**	**63**	P		**Pn**		**05 36 42.1**	**-1.5**
KAKN	**Katmai Knife C**	**2.46**	**231**	P		**Pn**		**05 36 44.3**	**-0.7**
HIN	**Hinchinbrook I**	**2.51**	**76**	P		**Pn**		**05 36 44.6**	**-1.0**
KABR	**Katmai Barrier**	**2.54**	**228**	P		**Pn**		**05 36 45.4**	**-0.6**
MID	**Middleton Isla**	**2.62**	**98**	P		**Pn**		**05 36 46.8**	**-0.1**
JPK	**Jack Peak**	**2.66**	**62**	P		**Pn**		**05 36 46.7**	**-0.9**
SCM	**Sheep Creek Mo**	**2.80**	**44**	P		**Pn**		**05 36 49.5**	**0.0**
VLZ	**Valdez**	**2.81**	**61**	P		**Pn**		**05 36 48.9**	**-0.6**
OHAK	**Old Harbor**	**2.84**	**201**	P		**Pn**		**05 36 48.1**	**-1.9**
EYAK	**Cordova Ski Ar**	**2.91**	**74**	P		**Pn**		**05 36 49.6**	**-1.3**
PPLA	**Purkeypile**	**3.04**	**353**	P		**Pn**		**05 36 53.2**	**+0.3**
DIV	**Divide**	**3.06**	**63**	P		**Pn**		**05 36 52.4**	**-0.6**
SGAM	**Sherman Glacie**	**3.16**	**76**	P		**Pn**		**05 36 53.0**	**-1.4**
GOAT	**Goat Mountain**	**3.41**	**75**	P		**Pn**		**05 36 56.4**	**-1.3**
BMRM	**Bremner River**	**3.55**	**69**	P		**Pn**		**05 36 59.9**	**+0.2**
TRF	**Thorofare Moun**	**3.62**	**8**	P		**Pn**		**05 37 00.8**	**+0.1**
KTH	**Kantishna Hill**	**3.69**	**3**	P		**Pn**		**05 37 02.3**	**+0.7**
RND	**Reindeer**	**3.74**	**18**	P		**Pn**		**05 37 02.4**	**+0.1**
DHY	**Denali Highway**	**3.74**	**29**	P		**Pn**		**05 37 02.7**	**+0.4**
TT01	**Tatalina**	**3.75**	**326**	P		**Pn**		**05 37 01.8**	**-0.5**
HARP	**HAARP**	**3.95**	**47**	P		**Pn**		**05 37 05.1**	**0.0**
MCK	**McKinley**	**4.04**	**16**	P		**Pn**		**05 37 06.7**	**+0.5**
GLB	**Gilahina Butte**	**4.06**	**64**	P		**Pn**		**05 37 05.8**	**-0.7**
PAX	**Paxson**	**4.21**	**40**	P		**Pn**		**05 37 08.6**	**-0.1**
BALM	**Baldy**	**4.64**	**72**	P		**Pn**		**05 37 14.5**	**0.0**
WRH	**Wood River Hil**	**4.86**	**17**	P		**Pn**		**05 37 16.8**	**-0.6**
CCB	**Clear Creek Bu**	**5.07**	**18**	P		**Pn**		**05 37 19.5**	**-0.7**
MLY	**Manley**	**5.17**	**3**	P		**Pn**		**05 37 21.6**	**-0.2**
CHX	**Chaix Hills**	**5.18**	**84**	P		**Pn**		**05 37 22.5**	**+0.6**
COLA	**College**	**5.28**	**17**	P		**Pn**		**05 37 22.5**	**-0.5**
MDM	**Murphy Dome**	**5.30**	**15**	P		**Pn**		**05 37 23.1**	**-0.4**
IL1	**Eielson Array**	**5.34**	**21**	P		**Pn**		**05 37 23.4**	**-0.5**
ILAR	**Eielson Array**	**5.34**	**21**	P		**Pn**		**05 37 23.4**	**-0.6**
ILAR				S		**Sn**		**05 38 19.2**	**-4.7**
ILAR	**Eielson Array**	**5.34**	**21**	P		**Pn**		**05 37 23.4**	**-0.6**
	1.9nm,0.3s,baz=209,slow=14,SNR=94								
ILAR				S		**Sn**		**05 38 19.2**	**-4.7**
	1.5nm,0.3s,baz=206,slow=22,SNR=5.3								
ILAR				LR		LR		05 39 52.4	
	comp=Z,2μm,21.6s,baz=190,slow=45								
ILB	**Eielson Array**	**5.34**	**21**	P		**Pn**		**05 37 23.4**	**-0.6**
SCRK	**Sand Creek**	**5.40**	**37**	P		**Pn**		**05 37 24.3**	**-0.6**
BCA3	**Beaver Creek A**	**5.61**	**51**	P		**Pn**		**05 37 27.2**	**-0.5**
IM04	**Indian Mountai**	**6.21**	**351**	*eP*		**Pn**		**05 37 35.7**	**0.0**
IM3	**Indian Mountai**	**6.21**	**351**	P		**Pn**		**05 37 35.0**	**-0.8**
DHAK	**Deception Hill**	**6.77**	**91**	P		**Pn**		**05 37 43.7**	**+0.1**
HYT	**Haines Junctio**	**6.97**	**76**	P		**Pn**		**05 37 46.0**	**-0.3**
COLD	**Coldfoot**	**7.39**	**4**	P		**Pn**		**05 37 51.0**	**-0.9**
BM3	**Burnt Mountain**	**8.14**	**19**	P		**Pn**		**05 38 01.1**	**-1.1**
DLBC	**Dease Lake**	**11.07**	**88**	P		**Pn**		**05 38 43.5**	**+1.4**
	1.0nm,0.3s,baz=290,slow=7.2,SNR=20								
YKA	**Yellowknife Ar**	**17.77**	**66**	P		**Pn**		**05 40 09.6**	**+0.9**
YKA	**Yellowknife Ar**	**17.77**	**66**	P		**Pn**		**05 40 09.6**	**+0.9**
	0.1nm,0.3s,baz=279,slow=9.4,SNR=7.3								
PETK	**Petropavlovsk-**	**28.26**	**279**	P		**P**		**05 41 55.0**	**+2.7**
PETK	**Petropavlovsk-**	**28.26**	**279**	P		**P**		**05 41 55.0**	**+2.7**
	2.3nm,0.8s,baz=32,slow=5.6,SNR=5.2								
ZALV	**Zalesovo Beam**	**57.93**	**325**	P		**P**		**05 45 49.4**	**-1.0**
ZALV	**Zalesovo Beam**	**57.93**	**325**	P		**P**		**05 45 49.4**	**-1.0**
	0.4nm,0.4s,baz=1.1,slow=7.5,SNR=2.8								

*MOS **05** 05:36:18.1±0.8,14°.01N×91°.83W,h33km,mb5.0/41,Error ellipse: s-maj=12.0km s-min=5.0km az=107.4*
*ISCJB **05** 05:36:19.2±0.2,14°.08N±0°.03×92°.04W±0°.03,h33km, mb4.9/139,Error ellipse: s-maj=4.8km s-min=2.4km az=38.0*
*IDC **05** 05:36:19.6±2.5,14°.00N×91°.91W,h33km±18km,mb4.3/31, mb1 4.5/34,mb1mx4.4/39,mbtmp4.3/34,ML5.0/2,MS4.6/1, Ms1 4.6/1,ms1mx4.3/25,Error ellipse: s-maj=16.1km s-min=8.6km az=55.0*
*CASC **05** 05:36:21.2±1.8,14°.02N×92°.15W,h58km±37km,MD4.7, ML4.4,mb4.9(NEIC)*
*NEIC **05** 05:36:21.6±0.7,14°.02N×91°.88W,h48km±5km,mb5.0/111, Error ellipse: s-maj=6.6km s-min=3.3km az=225.0*
NEIC Felt at Quetzaltenango and San Miguel Ixtahuacan.
*BJI **05** 05:36:22.6,14°.10N×91°.90W,h67km,mB5.4/2*
*MEX **05** 05:36:23.0±0.7,14°.13N×92°.52W,h35km±107km,MD4.4*
ISC 05 05:36:19.4±0.8,13°.98N±0°.03×92°.17W±0°.03,h28km±5km, n727,σ1°25/684,mb4.9/141,183C-179D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.61**	**57**	⇓eP		**Pn**		**05 36 34.1**	**+1.8**
THIG		**0.92**	**354**	*eP*		**Pn**		**05 36 35.7**	**-0.8**
THIG				*eS*		**Sb**		**05 36 46.9**	**-1.9**
THIG		**0.92**	**354**	*eP*		**Pn**		**05 36 35.7**	**-0.8**
THIG				*eS*		**Sb**		**05 36 46.9**	**-1.9**
PCG	**Pacaya**	**1.57**	**75**	*eP*		**Pn**		**05 36 46.7**	**+1.1**
PCG				*eS*		**Sb**		**05 37 12.8**	**+5.4**
GCG	**Guatemala City**	**1.69**	**69**	*eP*		**Pb**		**05 36 49.9**	**-0.1**
GCG				*eS*		**Sb**		**05 37 13.8**	**+2.8**
NBG	**Las Nubes**	**1.86**	**71**	*eP*		**Pb**		**05 36 51.9**	**-1.1**
NBG				*eS*		**Sn**		**05 37 14.2**	**+1.6**
APG	**El Apazote**	**1.94**	**58**	Pn		**Pn**		**05 36 48.4**	**-2.3**
APG				Lg		Lg		05 37 16.4	
APG	**El Apazote**	**1.94**	**58**	Pn		**Pn**		**05 36 48.4**	**-2.3**
	279nm,0.3s,baz=220,slow=7.0,SNR=826								
APG				Lg		Lg		05 37 16.4	
	386nm,0.3s,baz=221,slow=22,SNR=5.7								
PCIG		**1.99**	**329**	*eP*		**Pn**		**05 36 49.4**	**-1.9**
PCIG				*i S*		Sn		05 37 08.3	-6.9
PCIG		**1.99**	**329**	*eP*		**Pn**		**05 36 49.0**	**-2.2**
PCIG				*i S*		Sn		05 37 08.3	-6.9
RBDL	**Robledal**	**2.41**	**87**	*eP*		**Pn**		**05 36 57.5**	**+0.3**
RTR	**El Retiro**	**2.45**	**92**	⇑*iP*		**Pn**		**05 36 58.9**	**+1.1**
SBLS	**San Blas**	**2.48**	**93**	*eP*		**Pn**		**05 36 59.5**	**+1.4**
SNJE	**San Jose**	**2.49**	**92**	*eP*		**Pn**		**05 37 00.2**	**+1.9**
MRL	**Marmol**	**2.63**	**66**	*iP*		**Pn**		**05 37 02.3**	**+1.8**
MRL				*eS*		Sn		05 37 18.1	-13
BOQS	**Boqueron**	**2.82**	**95**	*iP*		**Pn**		**05 37 03.7**	**+0.8**
SNET	**Serv Nac Est T**	**2.87**	**96**	*eP*		**Pn**		**05 37 04.2**	**+0.8**
SNET				*eS*		**Sn**		**05 37 37.8**	**+0.8**
SNET				AML		AML		05 37 44.5	
	comp=Z,3μm,0.3s								
LFU	**La Fuente**	**2.98**	**94**	*eP*		**Pn**		**05 37 05.7**	**+0.8**
LFRS	**El Faro**	**3.04**	**96**	*iP*		**Pn**		**05 37 06.1**	**+0.3**
SNVI	**San Vicente**	**3.25**	**96**	*iP*		**Pn**		**05 37 09.7**	**+0.9**
VSM	**San Miguel**	**3.82**	**98**	*iP*		**Pn**		**05 37 18.2**	**+1.5**
HUIG	**Huatulco**	**4.20**	**295**	*eP*		**Pn**		**05 37 18.9**	**-2.8**
HUIG				*i S*		Sn		05 38 01.1	-8.8
HUIG	**Huatulco**	**4.20**	**295**	*eP*		**Pn**		**05 37 18.9**	**-2.8**
HUIG				*i S*		Sn		05 38 01.1	-8.8
TGUH	**Tegucigalpa,Un**	**4.75**	**89**	*ePn*		**Pn**		**05 37 29.2**	**0.0**
SCIG	**Sabancuy**	**5.04**	**11**	*eP*		**Pn**		**05 37 33.8**	**+0.6**
SCIG				*eS*		**Sn**		**05 38 30.1**	**-0.6**
VHO	**Vista Hermosa**	**5.37**	**305**	*eP*		**Pn**		**05 37 35.0**	**-2.9**
VHO				*i S*		Sn		05 38 31.1	-7.8
VHO	**Vista Hermosa**	**5.37**	**305**	*eP*		**Pn**		**05 37 35.0**	**-2.9**
VHO				*eS*		Sn		05 38 31.1	-7.8
COPN	**Copaltepe**	**5.72**	**108**	*iP*		**Pn**		**05 37 43.9**	**+1.3**
TEIG	**Tepich**	**7.24**	**30**	*ePn*		**Pn**		**05 38 04.2**	**+0.8**
TEIG				Sn		**Sn**		**05 39 24.4**	**-0.2**
TEIG				*eSn*		**Sn**		**05 39 26.5**	**+1.9**
TEIG	**Tepich**	**7.24**	**30**	Pn		**Pn**		**05 38 02.5**	**-0.9**
	comp=Z,36nm,0.3s,baz=244,slow=3.2,SNR=61								
TEIG				Sn		**Sn**		**05 39 24.4**	**-0.2**
	comp=Z,28nm,0.3s,baz=207,slow=23,SNR=7.5								
TEIG				LR		LR		05 41 20.3	
	comp=Z,4μm,18.8s,baz=324,slow=42								
VCR	**Vista de Mar**	**7.45**	**120**	*eP*		Pb		05 38 23.4	-4.7
VCR				*eS*		**Sb**		**05 40 02.1**	**+5.4**
JTS	**JuntasAbangare**	**7.95**	**117**	*ePn*		**Pn**		**05 38 12.9**	**-0.3**
JTS				Lg		Lg		05 40 16.2	
JTS				*eSn*		Sb		05 40 16.5	+5.5
JTS	**JuntasAbangare**	**7.95**	**117**	Pn		**Pn**		**05 38 11.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=315,slow=20,SNR=5.0								
JTS				Lg		Lg		05 40 16.2	
	comp=Z,2.4nm,0.3s,baz=96,slow=20,SNR=6.7								
JCR	**Jicaral**	**8.03**	**120**	*eP*		**Pn**		**05 38 16.3**	**+1.9**
CGA2	**Cerro Gallo 2**	**8.50**	**117**	*eP*		Pn		05 38 24.5	+3.6
QCR	**Quepos**	**9.05**	**119**	*eP*		**Pn**		**05 38 29.7**	**+1.4**
URSC	**Urasca**	**9.19**	**116**	*eP*		**Pn**		**05 38 32.6**	**+2.3**
URSC				*eS*		**Sn**		**05 40 16.5**	**+3.6**
BUS	**Buena Vista**	**9.34**	**117**	⇑*eP*		**Pn**		**05 38 34.9**	**+2.2**
BUS				*eS*		**Sn**		**05 40 21.9**	**+4.9**
934A	**Benavides**	**14.79**	**337**	⇓P		**Pn**		**05 39 46.0**	**-0.7**
	baz=15,SNR=8.8								
835A	**Beeville**	**15.18**	**341**	⇓P		**Pn**		**05 39 50.6**	**-1.3**
	baz=15,SNR=14								
834A	**Tilden**	**15.27**	**338**	⇑P		**Pn**		**05 39 52.2**	**-1.0**
	baz=15								
735A	**Kenedy**	**15.70**	**341**	⇓P		**Pn**		**05 39 57.9**	**-0.7**
	baz=16								
833A	**Chaparral WMA,**	**15.77**	**336**	⇑P		**Pn**		**05 39 59.7**	**0.0**
	baz=16,SNR=37								
734A	**La Parita Cree**	**15.94**	**339**	⇓P		**Pn**		**05 40 01.5**	**-0.3**
	baz=16,SNR=10								
832A	**Faith Ranch, C**	**15.97**	**334**	⇓P		**Pn**		**05 40 02.3**	**0.0**
	baz=16,SNR=41								
733A	**Divot King Ran**	**16.09**	**337**	⇑P		**Pn**		**05 40 03.5**	**-0.2**
	baz=16,SNR=20								
635A	**Leesville**	**16.18**	**342**	⇑P		**Pn**		**05 40 04.3**	**-0.6**
	baz=16								
HKT	**Hockley**	**16.25**	**349**	*eP*		**P**		**05 40 06.8**	**-1.7**
HKT				pmax		pmax			
	comp=Z,101nm,1.7s								
HKT	**Hockley**	**16.25**	**349**	*ePn*		**P**		**05 40 06.8**	**-1.7**
	comp=Z,101nm,1.7s								
732A	**Laxson Ranch,**	**16.36**	**335**	⇑P		**Pn**		**05 40 07.0**	**-0.3**
	baz=16,SNR=9.0								
633A	**Seathoff Ranch**	**16.71**	**338**	⇑P		**Pn**		**05 40 10.2**	**-1.4**
	baz=17								
535A	**Dale**	**16.73**	**344**	⇓P		**Pn**		**05 40 11.4**	**-0.5**
	baz=17,SNR=12								
632A	**Uvalde**	**16.98**	**337**	⇓P		**P**		**05 40 15.0**	**-1.7**
	baz=17,SNR=11								
534A	**Blanco**	**17.00**	**341**	⇑P		**Pn**		**05 40 14.0**	**-1.3**
	baz=17,SNR=26								
631A	**Perdido Creek**	**17.21**	**334**	⇑P		**P**		**05 40 17.8**	**-1.5**
	baz=17,SNR=30								
533A	**Kerrville**	**17.22**	**340**	⇑P		**Pn**		**05 40 17.2**	**-0.8**
	baz=17								
532A	**Rocksprings**	**17.58**	**337**	⇓P		**P**		**05 40 23.3**	**-0.2**
	baz=18,SNR=25								
434A	**Burnet**	**17.67**	**342**	⇓P		**P**		**05 40 23.8**	**-0.6**
	baz=18								
NATX	**Nacogdoches**	**17.84**	**353**	*ePn*		**P**		**05 40 28.6**	**+2.3**
	comp=Z,42nm,0.8s								
JCT	**Junction City**	**17.86**	**338**	*eP*		**P**		**05 40 27.4**	**+0.9**
JCT	**Junction City**	**17.86**	**338**	*eP*		**P**		**05 40 27.4**	**+0.9**
JCT	**Junction City**	**17.86**	**338**	⇓P		**P**		**05 40 26.6**	**0.0**
	baz=18,SNR=17								
531A	**Rocksprings**	**17.86**	**336**	⇓P		**P**		**05 40 27.6**	**+1.0**
	baz=18,SNR=28								
433A	**Art**	**17.87**	**340**	⇓P		**P**		**05 40 26.6**	**+0.1**
	baz=18,SNR=33								
334A	**Lometa**	**18.14**	**343**	P		**P**		**05 40 30.6**	**+0.9**
	baz=18,SNR=23								
530A	**J-C Ranch, Com**	**18.18**	**334**	⇑P		**P**		**05 40 31.9**	**+1.9**
	baz=18,SNR=24								
432A	**Menard**	**18.22**	**339**	⇑P		**P**		**05 40 31.7**	**+1.2**
	baz=18,SNR=16								
628A	**Black Gap, Mar**	**18.34**	**329**	⇑P		**Pn**		**05 40 34.5**	**+2.6**
	baz=18,SNR=55								
431A	**Sonora**	**18.35**	**336**	P		**Pn**		**05 40 33.5**	**+1.6**
	baz=18,SNR=20								
333A	**Richland Sprin**	**18.36**	**341**	⇑P		**Pn**		**05 40 33.9**	**+1.8**
	baz=18,SNR=14								
529A	**Stev Forest Ra**	**18.55**	**332**	⇓P		**Pn**		**05 40 35.9**	**+1.5**
	baz=19,SNR=33								
WHTX	**Lake Whitney**	**18.57**	**346**	*ePn*		**Pn**		**05 40 36.4**	**+1.8**
WHTX	**Lake Whitney**	**18.57**	**346**	⇓P		**Pn**		**05 40 35.5**	**+1.0**
	baz=19,SNR=6.8								
627A	**Terlingua Ranc**	**18.57**	**328**	⇑P		**Pn**		**05 40 37.2**	**+2.4**
	baz=19,SNR=99								
H06E1	**SOCORRO T-PHAS**	**18.61**	**287**	T		T		05 59 34.4	
	SNR=181								
TXAR	**Lajitas Array**	**18.62**	**327**	P		**Pn**		**05 40 36.0**	**+0.7**
TXAR					ScP	**ScP**		**05 48 42.0**	**+4.9**
TXAR	**Lajitas Array**	**18.62**	**327**	P		**Pn**		**05 40 36.0**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=156,slow=14,SNR=134								
TXAR					ScP	**ScP**		**05 48 42.0**	**+4.9**
	comp=Z,0.0nm,0.3s,baz=120,slow=3.2,SNR=3.0								
H06S1	**SOCORRO T**	**18.63**	**287**	T		T		05 59 29.4	
	SNR=57								
332A	**Millersview**	**18.66**	**339**	⇓P		**Pn**		**05 40 37.0**	**+1.3**
	baz=19,SNR=21								
430A	**Baggett Ranch,**	**18.69**	**335**	⇑P		**Pn**		**05 40 37.6**	**+1.4**
	baz=19,SNR=25								
234A	**Clairette**	**18.75**	**344**	⇓P		**Pn**		**05 40 38.0**	**+1.2**
	baz=19,SNR=16								
429A	**Davenport Ranc**	**18.83**	**333**	⇓P		**Pn**		**05 40 39.3**	**+1.4**
	baz=19,SNR=52								
331A	**San Angelo**	**18.84**	**338**	⇑P		**Pn**		**05 40 39.2**	**+1.3**
	baz=19,SNR=42								
233A	**Rising Star**	**18.98**	**342**	⇓P		**Pn**		**05 40 40.1**	**+0.5**
	baz=19,SNR=39								
626A	**Big Bend Ranch**	**19.04**	**326**	P		**Pn**		**05 40 41.5**	**+1.1**
	baz=19,SNR=123								
TIGA	**Tifton**	**19.07**	**23**	*ePn*		**Pn**		**05 40 40.7**	**0.0**
TIGA	**Tifton**	**19.07**	**23**	⇑P		**P**		**05 40 39.8**	**0.0**
	baz=19								
232A	**Coleman**	**19.09**	**340**	⇓P		**Pn**		**05 40 42.0**	**+1.0**
	baz=19,SNR=23								
135A	**Vickery Place,**	**19.10**	**346**	⇓P		**Pn**		**05 40 41.1**	**+0.1**
	baz=19,SNR=15								
330A	**Mertzon**	**19.21**	**336**	⇓P		**Pn**		**05 40 42.7**	**+0.3**
	baz=19,SNR=28								
527A	**Woodward Ranch**	**19.24**	**329**	⇓P		**Pn**		**05 40 43.9**	**+1.0**
	baz=19,SNR=61								
OTAV	**Otavalo**	**19.26**	**134**	*eP*		**P**		**05 40 42.0**	**-0.5**

WMOK **Wichita Mounta** 21.51 345 *e*P P 05 41 05.7 -0.5
WMOK pmax pmax
comp=Z,25nm,0.9s
WMOK **Wichita Mounta** 21.51 345 *e*P P 05 41 05.7 -0.5
comp=Z,25nm,0.9s
Y29A **Porterfield Fa** 21.59 338 ⇑P P 05 41 07.1 -0.1
baz=22,SNR=17
SDV **Santo Domingo** 21.70 101 *e*P P 05 41 06.2 -2.4
comp=Z,7.3nm,1.0s
Z27A **Tatum** 21.71 334 ⇓P P 05 41 08.3 -0.2
baz=22,SNR=67
X31A **McDonald Ranch** 21.74 342 ⇑P P 05 41 08.6 -0.1
baz=22,SNR=41
W34A **Bridge Creek,** 21.75 348 P P 05 41 08.5 -0.3
baz=22,SNR=41
224A **Cornudas Mount** 21.76 328 ⇑P P 05 41 10.0 +0.9
baz=22,SNR=220
125A **Gardner Draw,** 21.81 331 P P 05 41 10.5 +1.0
baz=22,SNR=258
W33A **Caddo, Fort Co** 21.83 346 ⇑P P 05 41 09.3 -0.4
baz=22,SNR=28
X30A **Coker Ranch, T** 21.84 340 ⇓P P 05 41 10.2 +0.3
baz=22,SNR=43
Y28A **McKinney Farm,** 21.84 337 ⇑P P 05 41 10.2 +0.3
baz=22,SNR=36
SWET **Sewanee** 21.88 14 *e*P P 05 41 10.0 -0.2
comp=Z,219nm,1.9s
GNAR **Gosnell** 21.97 5 *e*P P 05 41 06.3 -4.8
comp=Z,2µm,1.4s
Z26A **Caprock** 22.01 333 ⇓P P 05 41 12.0 +0.3
baz=22,SNR=48
TUL1 **Tulsa** 22.08 352 *e*P P 05 41 13.9 +1.7
TUL1 **Tulsa** 22.08 352 ⇓P P 05 41 12.3 +0.1
baz=22,SNR=14
MSTX **Muleshoe** 22.10 336 *e*P P 05 41 12.8 +0.1
MSTX **Muleshoe** 22.10 336 ⇑P P 05 41 12.6 -0.1
baz=22,SNR=36
X29A **Tulia** 22.12 339 ⇓P P 05 41 12.6 -0.3
baz=22,SNR=27
Y27A **Causey** 22.18 335 ⇑P P 05 41 13.4 -0.2
baz=22,SNR=51
223A **Chaparral, Ant** 22.18 326 ⇑P P 05 41 13.2 -0.4
baz=22,SNR=5.0
W31A **Holland Ranch,** 22.25 343 ⇑P P 05 41 14.0 -0.2
baz=22,SNR=18
V34A **Guthrie** 22.28 348 ⇓P P 05 41 13.1 -1.4
baz=22,SNR=6.3
Z25A **Roswell** 22.35 331 P P 05 41 15.9 +0.5
baz=22,SNR=86
X28A **Dimmitt** 22.37 338 ⇑P P 05 41 16.1 +0.6
baz=22,SNR=15
WVT **Waverly** 22.39 9 *e*P P 05 41 13.7 -2.0
WVT pmax pmax
comp=Z,14nm,0.7s
WVT **Waverly** 22.39 9 *e*P P 05 41 13.7 -2.0
comp=Z,14nm,0.7s
W30A **Crocket Farms** 22.43 342 ⇑P P 05 41 16.3 +0.2
baz=23,SNR=8.0
V33A **Lossen Ranch,** 22.43 347 P P 05 41 15.6 -0.5
baz=22,SNR=15
CPCT **Cooper Cave** 22.46 17 *e*P P 05 41 16.7 +0.3
Y26A **Elida** 22.49 334 ⇑P P 05 41 16.9 -0.1
baz=23,SNR=18
JSC **Jenkinsville** 22.49 24 *e*P P 05 41 15.7 -1.1
JSC **Jenkinsville** 22.49 24 *e*P P 05 41 15.7 -1.1
V32A **Arapaho** 22.51 345 P P 05 41 16.5 -0.4
baz=23,SNR=17
AMTX **Amarillo** 22.51 339 *e*P P 05 41 16.7 -0.4
comp=Z,122nm,0.9s
AMTX **Amarillo** 22.51 339 ⇑P P 05 41 17.0 -0.1
baz=23
123A **Bell Site, Whi** 22.59 328 ⇓P P 05 41 18.6 +0.7
baz=23,SNR=23
222A **Williams Famil** 22.63 325 ⇑P P 05 41 19.5 +1.2
baz=23,SNR=14
PARMO **Parma** 22.69 5 *e*P P 05 41 19.2 +0.4
Z24A **Sheeppen Canyo** 22.70 330 P P 05 41 20.6 +1.4
baz=23,SNR=303
W29A **Amraillo** 22.72 340 ⇓P P 05 41 18.9 -0.4
baz=23,SNR=21
PBMO **Poplar Bluff** 22.75 4 *e*P P 05 41 18.0 -1.4
comp=Z,28nm,0.7s
V31A **Spring Creek L** 22.77 344 ⇓P P 05 41 20.0 +0.2
baz=23,SNR=18
X27A **F and S Farms,** 22.82 336 P P 05 41 20.6 +0.1
baz=23,SNR=29
TKL **Tuckaleechee C** 22.86 18 P P 05 41 20.7 0.0
TKL **Tuckaleechee C** 22.86 18 P P 05 41 20.7 0.0
comp=Z,8.1nm,0.6s,baz=188,slow=11,SNR=18
U34A **Anderson Ranch** 22.87 349 ⇓P P 05 41 19.4 -1.3
baz=23
Y25A **Mesa, Roswell** 22.87 332 P P 05 41 21.6 +0.7
baz=23,SNR=126
320A **Kipp Ranch, An** 22.89 322 ⇓P P 05 41 22.4 +1.3
baz=23,SNR=27
221A **Mesquite Ranch** 22.93 324 ⇑P P 05 41 22.8 +1.2
baz=23,SNR=19
U33A **Lingo Farm, Me** 22.98 348 ⇑P P 05 41 19.8 -2.1
baz=23
V30A **Spur Ranch, Mi** 23.00 342 ⇑P P 05 41 22.3 +0.2
baz=23,SNR=5.6
X26A **CR and CF Fran** 23.03 335 ⇓P P 05 41 22.7 +0.2
baz=23,SNR=31
W28A **Vega** 23.03 339 ⇓P P 05 41 22.1 -0.4
baz=23,SNR=7.4
Z23A **Rita Site, Whi** 23.07 329 ⇓P P 05 41 24.3 +1.4
baz=23,SNR=90
U32A **Winter Ranch,** 23.13 346 ⇓P P 05 41 22.8 -0.6
baz=23,SNR=6.9
W27A **Bowe Ranch, En** 23.18 337 ⇑P P 05 41 24.2 +0.2
baz=23,SNR=57
KMSC **Kings Mountain** 23.22 23 *e*P P 05 41 23.5 -0.8
KMSC **Kings Mountain** 23.22 23 ⇓P P 05 41 22.9 -1.5
baz=23
121A **Cookes Peak, D** 23.33 325 *e*P P 05 41 27.6 +1.9
comp=Z,81nm,0.9s
121A **Cookes Peak, D** 23.33 325 ⇑P P 05 41 27.2 +1.6
baz=24,SNR=39
U31A **Nine Bar Ranch** 23.33 344 ⇑P P 05 41 25.2 -0.2
baz=24
V29A **Stinnett** 23.36 341 ⇑P P 05 41 25.7 -0.1
baz=24
X25A **Clemmons Ranch** 23.37 333 P P 05 41 26.6 +0.6
baz=24,SNR=68
319A **Douglas** 23.37 321 ⇓P P 05 41 27.4 +1.4
baz=24,SNR=29
Z22A **Elephant Butte** 23.44 327 ⇑P P 05 41 27.4 +0.7
baz=24,SNR=40
W26A **Owens Ranch, T** 23.47 336 ⇓P P 05 41 27.0 0.0
baz=24,SNR=20
V28A **Channing** 23.48 339 ⇑P P 05 41 27.1 0.0
baz=24,SNR=24
Y23A **Lovelace Mesa,** 23.52 330 ⇓P P 05 41 28.5 +1.0
baz=24,SNR=140
U30A **WK&E Inc. Balk** 23.70 343 ⇓P P 05 41 28.9 -0.2
baz=24,SNR=45
V27A **Dan Oppiter Fa** 23.71 338 ⇑P P 05 41 29.3 +0.1
baz=24,SNR=22
X24A **Lazy VL Ranch,** 23.75 332 P P 05 41 30.6 +0.9
baz=24,SNR=67
TZTN **Tazewell** 23.75 17 *e*P P 05 41 29.2 -0.3
comp=Z,39nm,0.9s
SIUC **Southern Illin** 23.78 6 *e*P P 05 41 28.6 -1.1
comp=Z,74nm,0.8s
U29A **Oasis Ranch, S** 23.81 342 ⇓P P 05 41 31.1 +1.0
baz=24,SNR=18
W25A **X Bar L Ranch,** 23.87 334 ⇓P P 05 41 31.2 +0.4
baz=24,SNR=96
T32A **Huddler Ranch,** 23.88 347 P P 05 41 30.5 -0.2
baz=24,SNR=9.9
T31A **Randall Ranch,** 23.98 345 ⇓P P 05 41 31.3 -0.3
baz=24,SNR=11
U28A **Mallet** 24.05 340 ⇓P P 05 41 32.6 +0.2
baz=24,SNR=9.4
Y22D **IRIS PASSCAL I** 24.06 329 ⇑P P 05 41 33.7 +1.2
baz=24
V26A **Tequesquite Ra** 24.10 336 P P 05 41 33.6 +0.7
baz=24,SNR=28
LPM **Los Pinos Moun** 24.11 330 *e*P P 05 41 34.6 +1.6
X23A **Hourglass Bar** 24.11 331 ⇓P P 05 41 34.2 +1.1
baz=24,SNR=18
T30A **Plains** 24.16 343 ⇓P P 05 41 33.7 +0.3
baz=24,SNR=10
LENM **Lemitar** 24.16 329 *e*P P 05 41 35.6 +2.1
USIN **University of** 24.22 9 *e*P P 05 41 33.1 -0.7
comp=Z,95nm,1.3s
W24A **Lazy 6 Ranch,** 24.27 333 ⇑P P 05 41 35.5 +0.9
baz=24,SNR=78

U27A **Thompson Grove** 24.30 339 ⇓P P 05 41 35.5 +0.8
baz=24,SNR=39
S32A **Newby Ranch, P** 24.38 347 P P 05 41 35.5 +0.2
baz=24,SNR=11
S31A **Mullinville** 24.42 346 ⇑P P 05 41 35.8 0.0
baz=25,SNR=6.2
V25A **Rancho No Teng** 24.47 335 ⇓P P 05 41 36.5 +0.1
baz=25,SNR=61
T29A **Hugoton** 24.47 342 ⇑P P 05 41 36.1 -0.1
baz=25,SNR=21
ANMO **Albuquerque** 24.54 331 *e*P P 05 41 38.1 +1.2
comp=Z,24nm,0.7s
ANMO **Albuquerque** 24.54 331 P P 05 41 38.6 +1.6
comp=Z,22nm,0.7s,baz=149,slow=12,SNR=103
W23A **Werner Place,** 24.57 332 ⇓P P 05 41 38.1 +0.8
baz=25,SNR=22
U26A **Atchley Ranch,** 24.61 337 ⇓P P 05 41 38.4 +0.8
baz=25,SNR=53
SLM **Saint Louis** 24.61 4 *e*P P 05 41 36.0 -1.4
SLM pmax pmax
comp=Z,16nm,0.5s
SLM **Saint Louis** 24.61 4 *e*P P 05 41 36.0 -1.4
comp=Z,16nm,0.5s
V24A **Rampart Ranch,** 24.65 334 ⇓P P 05 41 39.5 +1.5
baz=25,SNR=60
S30A **Montezuma** 24.69 344 P P 05 41 38.7 +0.5
baz=25,SNR=29
T28A **Walsh** 24.69 341 ⇓P P 05 41 37.9 -0.3
baz=25,SNR=15
WCI **Wyandotte Cave** 24.70 11 *e*P P 05 41 36.6 -1.7
WCI pmax pmax
comp=Z,41nm,0.8s
WCI **Wyandotte Cave** 24.70 11 *e*P P 05 41 36.6 -1.7
comp=Z,41nm,0.8s
R33A **Olander Ranch,** 24.77 349 ⇓P P 05 41 37.8 -1.1
baz=25
T27A **Campo** 24.84 340 ⇓P P 05 41 39.7 0.0
baz=25,SNR=10
S29A **Ulysses** 24.85 343 P P 05 41 40.6 +1.0
baz=25,SNR=63
U25A **Circle Dot Ran** 24.87 336 ⇓P P 05 41 40.7 +0.7
baz=25,SNR=54
TUC **Tucson** 24.94 320 *e*P P 05 41 41.5 +0.9
TUC pmax pmax
comp=Z,27nm,1.1s
TUC **Tucson** 24.94 320 *e*P P 05 41 41.5 +0.9
comp=Z,27nm,1.1s
R32A **Long Quarter,** 25.02 348 ⇓P P 05 41 40.0 -1.1
baz=25,SNR=12
ATAH **Atahualpa** 25.04 146 P P 05 41 41.4 -0.6
ATAH **Atahualpa** 25.04 146 P P 05 41 41.4 -0.6
comp=Z,21nm,0.8s,baz=332,slow=7.7,SNR=14
S28A **Manter** 25.06 342 ⇓P P 05 41 41.1 -0.5
baz=25,SNR=21
V23A **Ortiz Mt. (NFS** 25.07 332 ⇓P P 05 41 43.6 +1.8
baz=25,SNR=77
R31A **Burdett** 25.07 346 ⇑P P 05 41 41.2 -0.5
baz=25,SNR=24
U24A **Moreno Valley** 25.23 335 ⇑P P 05 41 44.4 +1.1
baz=25,SNR=17
T26A **Comanche Natio** 25.25 338 ⇑P P 05 41 44.3 +0.9
baz=25,SNR=10
R30A **Dighton** 25.25 345 P P 05 41 43.5 +0.3
baz=25,SNR=71
KSU1 **Kansas State U** 25.32 352 *e*P P 05 41 43.6 -0.2
comp=Z,29nm,0.6s
KSU1 **Kansas State U** 25.32 352 ⇓P P 05 41 43.1 -0.8
baz=25,SNR=6.9
Q33A **Connelly Farm,** 25.41 350 ⇑P P 05 41 44.1 -0.6
baz=26
S27A **Las Animas** 25.46 340 ⇑P P 05 41 45.5 +0.2
baz=26,SNR=22
T25A **Trinidad** 25.52 337 ⇑P P 05 41 46.9 +1.1
baz=26,SNR=38
V22A **San Miguel Ran** 25.54 331 ⇑P P 05 41 47.4 +1.3
baz=26,SNR=30
Q32A **Meitler Ranch,** 25.54 348 ⇓P P 05 41 46.2 +0.3
baz=26,SNR=25
U23A **El Rito** 25.56 333 ⇑P P 05 41 47.6 +1.3
baz=26,SNR=83
BLO **Bloomington** 25.58 10 *e*P P 05 41 44.9 -1.3
BLO pmax pmax
comp=Z,25nm,0.7s
BLO **Bloomington** 25.58 10 *e*P P 05 41 44.9 -1.3
comp=Z,25nm,0.7s
S26A **Kim** 25.60 339 P P 05 41 47.8 +1.2
baz=26,SNR=14
R29A **Marienthal** 25.61 344 ⇓P P 05 41 46.8 +0.2
baz=26,SNR=36
R28A **Tribune** 25.72 342 P P 05 41 47.7 +0.1
baz=26,SNR=18
Q31A **Ellis** 25.73 347 ⇑P P 05 41 47.0 -0.6
baz=26
P33A **Williams Farm,** 25.82 350 ⇑P P 05 41 49.4 +1.0
baz=26
T24B **San Luis** 25.83 335 ⇑P P 05 41 49.6 +0.8
baz=26,SNR=26
Q30A **Quinter** 25.89 346 ⇓P P 05 41 49.2 +0.2
baz=26,SNR=28
U22A **Llaves** 25.89 332 P P 05 41 51.7 +2.4
baz=26,SNR=41
R27A **Eads** 25.98 341 ⇑P P 05 41 50.0 0.0
baz=26
S25A **Robets Cordova** 25.98 337 ⇓P P 05 41 51.3 +1.2
baz=26,SNR=15
Q29A **Oakley** 26.00 344 ⇑P P 05 41 50.4 +0.3
baz=26,SNR=18
214A **Organ Pipe Nat** 26.02 317 ⇓P P 05 41 51.6 +1.4
baz=26
T23A **Casias Ranch,** 26.08 334 ⇑P P 05 41 52.4 +1.3
baz=26,SNR=12
P32A **Huiting Farm,** 26.16 349 ⇑P P 05 41 50.4 -1.0
baz=26
R26A **Arlington** 26.20 340 ⇑P P 05 41 52.5 +0.6
baz=26
P31A **Stockton** 26.22 347 ⇓P P 05 41 53.0 +1.0
baz=26,SNR=6.8
S24A **Houchin Ranch,** 26.27 336 ⇓P P 05 41 53.9 +1.1
baz=26,SNR=8.6
W18A **Petrified Fore** 26.34 326 *e*P P 05 41 55.5 +2.2
comp=Z,21nm,1.0s
W18A **Petrified Fore** 26.34 326 ⇓P P 05 41 53.7 +0.4
baz=26
R25A **Fountain Ranch** 26.36 338 ⇓P P 05 41 54.3 +0.8
baz=26,SNR=5.3
Q28A **Sharon Springs** 26.40 343 ⇓P P 05 41 53.9 +0.2
baz=26,SNR=22
P30A **Selden** 26.44 346 ⇑P P 05 41 54.1 +0.2
baz=27,SNR=14
SDCO **Great Sand Dun** 26.47 336 *e*P P 05 41 55.9 +1.3
comp=Z,15nm,1.1s
KSCO **Kaye Shedlock'** 26.59 342 *e*P P 05 41 55.3 -0.2
KSCO **Kaye Shedlock'** 26.59 342 ⇑P P 05 41 55.8 +0.3
baz=27,SNR=9.5
S23A **Nye Farm, Mont** 26.64 335 ⇑P P 05 41 57.0 +0.9
baz=27,SNR=15
P29A **Atwood** 26.66 345 ⇑P P 05 41 56.7 +0.7
baz=27,SNR=7.2
SFIN **Scholer Farm** 26.67 9 *e*P P 05 41 54.3 -1.7
SFIN **Scholer Farm** 26.67 9 ⇑P P 05 41 54.5 -1.5
baz=27
R24A **Sanders Place,** 26.74 337 ⇓P P 05 41 57.8 +0.9
baz=27,SNR=16
Q26A **Hugo** 26.79 340 ⇑P P 05 41 57.3 0.0
baz=27
X16A **Lo Mia Camp, P** 26.79 323 ⇓P P 05 41 58.6 +1.1
baz=27,SNR=22
O31A **Woolen Ranch,** 26.82 348 ⇑P P 05 41 57.2 -0.2
baz=27
P28A **Saint Francis** 26.85 343 ⇑P P 05 41 58.4 +0.6
baz=27,SNR=11
R23A **Moffat** 26.98 336 ⇓P P 05 42 00.6 +1.4
baz=27,SNR=20
Z14A **Wintersburg** 27.00 319 ⇑P P 05 42 00.5 +1.4
baz=27
S22A **4UR Ranch, Cre** 27.02 334 ⇑P P 05 42 00.5 +0.9
baz=27,SNR=29
Q25A **Bedland, Calha** 27.03 339 P P 05 42 00.7 +1.1
baz=27,SNR=8.7
P27A **Ficken Ranch,** 27.07 342 ⇓P P 05 42 00.0 +0.2
baz=27,SNR=8.7
O29A **4D Ranch, Culb** 27.12 345 ⇓P P 05 42 00.4 +0.3
baz=27
113A **Mohawk Valley,** 27.15 317 P P 05 42 01.8 +1.3
baz=27,SNR=10
P26A **Davis Ranch, A** 27.31 341 ⇑P P 05 42 02.8 +0.8
baz=28,SNR=5.8
MVCO **Mesa Verde** 27.34 331 *e*P P 05 42 03.8 +1.5
comp=Z,87nm,0.9s
MVCO **Mesa Verde** 27.34 331 ⇑P P 05 42 03.7 +1.3
baz=28,SNR=64
O28A **Krutsinger Ran** 27.37 344 ⇑P P 05 42 01.9 -0.6
baz=28
Q24A **Divide** 27.40 338 ⇑P P 05 42 03.1 +0.1
baz=28
Y14A **Wickenburg** 27.41 320 ⇑P P 05 42 04.2 +1.3
baz=28,SNR=7.3
WUAZ **Wupatki** 27.54 325 *e*P P 05 42 05.7 +1.6
comp=Z,14nm,0.8s
WUAZ **Wupatki** 27.54 325 P P 05 42 05.8 +1.7
baz=28,SNR=14
P25A **Willow Gulch B** 27.54 340 ⇓P P 05 42 04.7 +0.6
baz=28
O27A **Beecher Island** 27.63 343 ⇓P P 05 42 05.2 +0.4
baz=28
N29A **Votaw Ranch, W** 27.74 346 ⇓P P 05 42 05.3 -0.4
baz=28
BGNE **Belgrade** 27.82 350 ⇓P P 05 42 06.2 -0.1
baz=28
N28A **Pribbeno Ranch** 27.84 345 ⇓P P 05 42 06.9 +0.3
baz=28
P23A **Jefferson** 28.01 337 ⇑P P 05 42 09.4 +0.9
baz=28,SNR=11
GLA **Glamis** 28.03 316 ⇑P P 05 42 10.3 +1.9
baz=28
PV01 **Paradox Valley** 28.11 332 *e*P P 05 42 11.1 +1.8
OGNE **Ogallala** 28.21 344 ⇑P P 05 42 11.0 +1.0
baz=28
N27A **Anderson Farm,** 28.22 343 ⇓P P 05 42 10.4 +0.4
baz=28,SNR=6.3
Y12C **Blythe** 28.26 318 ⇑P P 05 42 12.2 +1.8
baz=28
SMCO **Snowmass** 28.29 335 *e*P P 05 42 12.3 +1.2
comp=Z,18nm,1.1s
ISCO **Idaho Springs** 28.30 338 *e*P P 05 42 12.2 +1.1
ISCO pmax pmax
comp=Z,124nm,2.8s
ISCO **Idaho Springs** 28.30 338 *e*P P 05 42 12.2 +1.1
comp=Z,124nm,2.8s
ISCO **Idaho Springs** 28.30 338 ⇓P P 05 42 12.2 +1.1
baz=28
PDMCI **Parker Dam,Lak** 28.36 319 ⇓P P 05 42 13.1 +1.8
baz=29
O24A **Longmont** 28.39 339 ⇓P P 05 42 12.6 +0.9
baz=28
N26A **Koester Ranch,** 28.43 342 ⇑P P 05 42 12.7 +0.7
baz=29
PV04 **Paradox Valley** 28.48 332 *e*P P 05 42 14.2 +1.7
P22A **Eagle** 28.56 336 ⇑P P 05 42 14.3 +1.0
baz=29
SWSC **Sam W. Stewart** 28.62 315 ⇑P P 05 42 15.6 +2.0
baz=29
DVTC **Desert V Tower** 28.67 314 ⇓P P 05 42 15.9 +1.8
baz=29
L31A **Butterfield Fa** 28.68 350 ⇓P P 05 42 15.0 +1.0
baz=29
U15A **North Rim** 28.71 325 ⇓P P 05 42 16.2 +1.6
baz=29,SNR=16
W13A **Hualapai Mount** 28.73 321 ⇓P P 05 42 16.0 +1.2
baz=29,SNR=13
O23A **Lake Granby, G** 28.77 338 ⇑P P 05 42 16.5 +1.3
baz=29
BC3 **Big Chuckawall** 28.81 317 ⇓P P 05 42 16.6 +1.2
baz=29,SNR=21
IRM **Iron Mountain** 28.92 318 ⇑P P 05 42 17.5 +1.2
baz=29,SNR=11
N24A **Carr** 28.96 340 ⇑P P 05 42 17.3 +0.6
baz=29
O22A **Kremmling** 28.97 337 ⇑P P 05 42 17.1 +0.2
baz=29,SNR=6.2
MONP **Monument Peak** 29.02 315 ⇓P P 05 42 18.7 +1.3
baz=29,SNR=5.9
L28A **Connealy Angus** 29.08 346 ⇑P P 05 42 18.4 +0.7
baz=29
K30A **Basset** 29.30 349 ⇓P P 05 42 19.9 +0.3
baz=29
BELC **Belle Mtn. Jos** 29.38 317 ⇓P P 05 42 21.6 +1.0
baz=30,SNR=7.3
N23A **Red Feather La** 29.39 338 ⇑P P 05 42 21.4 +0.8
baz=30
PFO **Pinyon Flat Ob** 29.46 316 *e*P P 05 42 23.1 +1.9
PFO **Pinyon Flat Ob** 29.46 316 P P 05 42 22.4 +1.3
comp=Z,3.3nm,0.8s,baz=124,slow=7.3,SNR=9.2
PFO **Pinyon Flat Ob** 29.46 316 ⇑P P 05 42 22.2 +1.0
baz=30,SNR=5.8
N22A **Wattenberg Ran** 29.49 338 ⇑P P 05 42 22.1 +0.5
baz=30
M24A **Cheyenne** 29.52 340 ⇓P P 05 42 22.1 +0.4
baz=30
K29A **Lazy Trails An** 29.53 348 ⇑P P 05 42 21.9 +0.3
baz=30
PHWY **Pilot Hill** 29.58 339 *e*P P 05 42 22.8 +0.5
comp=Z,5.1nm,0.9s
O20A **White River Ci** 29.62 335 *e*P P 05 42 24.2 +1.6
comp=Z,179nm,2.5s
O20A **White River Ci** 29.62 335 ⇓P P 05 42 23.7 +1.1
baz=30,SNR=6.7
GMRC **Granite Mounta** 29.64 318 ⇓P P 05 42 24.0 +1.3
baz=30,SNR=7.3
K28A **Ten Mile Ranch** 29.71 346 ⇑P P 05 42 23.3 +0.1
baz=30
SRU **San Rafael** 29.81 330 *e*P P 05 42 26.1 +1.8
SRU pmax pmax
comp=Z,17nm,1.0s
SRU **San Rafael** 29.81 330 *e*P P 05 42 26.1 +1.8
comp=Z,17nm,1.0s
ECSD **EROS Data Cent** 29.89 354 *e*P P 05 42 23.8 -0.9
comp=Z,11nm,1.0s
ECSD **EROS Data Cent** 29.89 354 ⇓P P 05 42 23.9 -0.9
baz=30
J30A **Dallas** 29.91 349 ⇑P P 05 42 25.1 +0.2
baz=30
K27A **Flueckinger Fa** 29.91 345 ⇓P P 05 42 24.9 -0.1
baz=30
MURC **Murrieta** 29.96 315 ⇓P P 05 42 26.4 +0.9
baz=30
M22A **Cedar Creek Ra** 30.07 338 ⇓P P 05 42 26.7 0.0
baz=30
HEC **Hector,Ludlow** 30.10 318 ⇑P P 05 42 27.8 +1.0
baz=30,SNR=8.0
CCUT **Cedar City** 30.11 325 *e*P P 05 42 29.7 +2.7
comp=Z,22nm,1.0s
MVU **Marysvale** 30.19 328 *e*P P 05 42 29.9 +2.1
comp=Z,11nm,0.9s
TUQ **Turquoise Moun** 30.21 319 ⇓P P 05 42 28.7 +0.8
baz=30
N20A **Spence Gulch,** 30.22 335 ⇓P P 05 42 28.7 +0.8
baz=30,SNR=15
TMUT **Trail Mountain** 30.29 330 *e*P P 05 42 30.7 +2.1
comp=Z,17nm,0.9s
ARUT **Antelope Range** 30.32 325 *e*P P 05 42 30.6 +1.8
ARUT pmax pmax
comp=Z,547nm,0.9s
ARUT **Antelope Range** 30.32 325 *e*P P 05 42 30.6 +1.8
comp=Z,547nm,0.9s
J28A **Allard Ranch,** 30.36 347 ⇓P P 05 42 29.1 +0.2
baz=30
J27A **Elkhorn Farm,** 30.37 346 ⇑P P 05 42 28.9 -0.2
baz=30
L23A **Garrett** 30.38 340 ⇑P P 05 42 29.5 +0.1
baz=30,SNR=5.5
SHPR **Sheep Range** 30.43 322 *e*P P 05 42 31.5 +1.7
BFSC **Mount Baldy Ra** 30.64 316 ⇓P P 05 42 32.2 +0.5
baz=31
CIS **Catalina Islan** 30.69 314 ⇑P P 05 42 33.5 +1.5
baz=31
J26A **Sides Ranch, S** 30.70 344 ⇑P P 05 42 31.0 -1.0
baz=31,SNR=11
GSC **Goldstone** 30.70 318 *e*P P 05 42 34.0 +1.9
GSC pmax pmax
comp=Z,26nm,1.1s
GSC **Goldstone** 30.70 318 *e*P P 05 42 34.0 +1.9
comp=Z,26nm,1.1s
GSC **Goldstone** 30.70 318 ⇓P P 05 42 33.0 +0.9
baz=31
SHOC **Shoshone** 30.73 320 ⇑P P 05 42 33.3 +1.1
baz=31
I29A **Vivian Onida** 30.73 348 ⇓P P 05 42 31.5 -0.7
baz=31,SNR=11
BRSD **Miller** 30.91 351 ⇑P P 05 42 32.8 -0.9
baz=31
K23A **Bowen Ranch, D** 30.93 341 ⇑P P 05 42 33.8 -0.3
baz=31
J25A **Sunshine Ranch** 30.96 343 ⇓P P 05 42 34.7 +0.4
baz=31,SNR=7.7
MPU **Maple Canyon** 31.05 330 *e*P P 05 42 37.2 +2.0

comp=Z,24nm,0.9s
K22A **Casper** 31.14 339 ⇓P P 05 42 35.4 -0.5
baz=31
SPMN **St. Paul** 31.14 359 ⇓P P 05 42 34.8 -1.0
baz=31
I27A **Quinn** 31.15 346 ⇓P P 05 42 35.9 0.0
baz=31,SNR=5.3
DAU **Daniels Canyon** 31.18 331 eP P 05 42 38.2 +1.6
DAU **Daniels Canyon** 31.18 331 eP P 05 42 38.2 +1.6
NLU **North Lily Min** 31.22 330 eP P 05 42 38.8 +2.0
comp=Z,16nm,1.3s
EDW2 **Edwards Air Fo** 31.23 316 ⇓P P 05 42 37.5 +0.8
baz=31,SNR=5.6
H29A **Onida** 31.30 349 ⇓P P 05 42 36.0 -1.2
baz=31
I26A **New Underwood** 31.31 345 ⇑P P 05 42 37.0 -0.4
baz=31
K21A **Alcova** 31.38 338 ⇓P P 05 42 38.1 -0.1
baz=32
TPNV **Topopah Spring** 31.38 321 eP P 05 42 40.3 +2.1
TPNV pmax pmax
comp=Z,66nm,2.2s
TPNV **Topopah Spring** 31.38 321 eP P 05 42 40.3 +2.1
comp=Z,66nm,2.2s
TPNV **Topopah Spring** 31.38 321 ⇑P P 05 42 39.5 +1.4
baz=32,SNR=7.2
BINY **Binghamton** 31.41 23 eP P 05 42 38.6 +0.4
comp=Z,294nm,2.4s
FURC **Furnace Creek,** 31.45 320 ⇑P P 05 42 38.0 -0.6
baz=32
MPMC **Manual Prospec** 31.60 319 ⇓P P 05 42 41.1 +1.0
baz=32,SNR=17
G30A **Faulkton** 31.60 351 ⇑P P 05 42 38.5 -1.4
baz=32,SNR=7.7
I24A **Kuemmerle Ranc** 31.63 343 ⇑P P 05 42 38.7 -1.5
baz=32
RSSD **Black Hills** 31.70 344 eP P 05 42 41.8 +0.8
RSSD pmax pmax
comp=Z,2.0nm,0.7s
RSSD **Black Hills** 31.70 344 eP P 05 42 41.8 +0.8
comp=Z,2.2nm,0.7s
DUG **Dugway** 31.77 329 eP P 05 42 43.6 +2.1
DUG pmax pmax
comp=Z,17nm,1.0s
DUG **Dugway** 31.77 329 eP P 05 42 43.6 +2.1
comp=Z,17nm,1.0s
DUG **Dugway** 31.77 329 ⇑P P 05 42 43.3 +1.8
baz=32,SNR=20
G29A **Hoven** 31.80 350 ⇑P P 05 42 39.8 -1.7
baz=32
J22A **Midwest** 31.80 340 ⇓P P 05 42 40.1 -1.7
baz=32
R11A **Troy Canyon, C** 31.92 324 eP P 05 42 45.0 +2.0
comp=Z,11nm,1.1s
R11A **Troy Canyon, C** 31.92 324 ⇓P P 05 42 44.7 +1.7
baz=32,SNR=12
ARVC **Arvin** 31.93 316 ⇓P P 05 42 43.8 +0.9
baz=32
ISA **Isabella** 32.01 317 eP P 05 42 45.7 +2.1
ISA pmax pmax
comp=Z,2.0nm,1.1s
ISA **Isabella** 32.01 317 eP P 05 42 45.7 +2.1
comp=Z,1.8nm,1.1s
ISA **Isabella** 32.01 317 ⇑P P 05 42 45.0 +1.4
baz=32,SNR=5.2
H25A **Fruitdale** 32.05 345 ⇑P P 05 42 45.1 +1.2
baz=32,SNR=15
J21A **Lysite** 32.07 339 ⇓P P 05 42 45.4 +1.2
baz=32,SNR=10.0
GRAC **Grapevine Rang** 32.11 320 ⇓P P 05 42 46.1 +1.7
baz=32,SNR=14
I22A **9 Mile Ranch,** 32.23 340 ⇓P P 05 42 45.6 +0.1
baz=32
F30A **Leola** 32.27 351 ⇓P P 05 42 45.7 -0.1
baz=32
J20A **Shoshoni** 32.31 338 ⇓P P 05 42 46.8 +0.6
baz=32
PDAR **Pinedale Array** 32.37 336 P P 05 42 47.0 +0.2
PDAR PcP **PcP** 05 45 34.3 +0.1
PDAR ScP **ScP** 05 49 20.2 +4.0
PDAR **Pinedale Array** 32.37 336 P P 05 42 47.0 +0.2
comp=Z,2.0nm,0.6s,baz=133,slow=12,SNR=17
PDAR PcP **PcP** 05 45 34.3 +0.1
comp=Z,1.4nm,0.7s,baz=139,slow=5.6,SNR=6.7
PDAR ScP **ScP** 05 49 20.2 +4.0
comp=Z,1.3nm,1.1s,baz=109,slow=7.1,SNR=2.6
BW06 **Boulder Array** 32.37 336 eP P 05 42 47.0 +0.1
comp=Z,67nm,2.6s
G27A **Dupree** 32.37 347 ⇓P P 05 42 46.2 -0.4
baz=32
F29A **Eureka** 32.40 350 ⇑P P 05 42 45.6 -1.3
baz=32
H24A **Dirks Ranch, A** 32.42 343 ⇑P P 05 42 47.5 +0.4
baz=33,SNR=16
I21A **Big Trails, Te** 32.43 339 ⇑P P 05 42 47.7 +0.4
baz=33
BGU **Big Grassy Mou** 32.43 330 eP P 05 42 49.2 +1.9
comp=Z,8.1nm,0.8s
PKM **Peak Mountain** 32.48 315 ⇓P P 05 42 49.0 +1.1
baz=33
VES **Vestal, Richgr** 32.51 317 ⇑P P 05 42 49.4 +1.5
baz=33,SNR=13
G25A **Newell** 32.54 345 ⇑P P 05 42 48.5 +0.3
baz=33,SNR=8.2
F28A **McLaughlin** 32.59 349 ⇑P P 05 42 48.0 -0.5
baz=33
J19A **Crowheart** 32.59 337 ⇓P P 05 42 49.2 +0.5
baz=33
TPH **Tonopah** 32.70 322 eP P 05 42 51.8 +2.0
TPH pmax pmax
comp=Z,9.0nm,1.0s
TPH **Tonopah** 32.70 322 eP P 05 42 51.8 +2.0
comp=Z,8.7nm,1.0s
H22A **Clearmont** 32.82 341 ⇑P P 05 42 51.1 +0.5
baz=33,SNR=6.4
I20A **Worland** 32.84 339 ⇑P P 05 42 51.6 +0.7
baz=33,SNR=12
F27A **Lemmon** 32.86 347 ⇓P P 05 42 50.0 -0.8
baz=33
RCTC **Rector, Farmer** 32.89 317 ⇑P P 05 42 52.8 +1.6
baz=33
G24A **Alzada** 32.92 344 ⇓P P 05 42 51.6 +0.1
baz=33,SNR=7.1
HVU **Hansel Valley** 32.97 331 eP P 05 42 53.9 +1.9
HVU pmax pmax
comp=Z,50nm,1.0s
HVU **Hansel Valley** 32.97 331 eP P 05 42 53.9 +1.9
comp=Z,50nm,1.0s
F26A **Lodgepole** 32.98 346 ⇓P P 05 42 51.9 -0.1
baz=33,SNR=11
H21A **Big Horn, Sher** 33.07 340 ⇑P P 05 42 53.1 +0.3
baz=33,SNR=6.5
G23A **Biddle** 33.08 343 ⇑P P 05 42 53.1 +0.3
baz=33,SNR=10
E29A **Napoleon** 33.08 351 ⇓P P 05 42 52.7 -0.1
baz=33
I19A **Meeteetse** 33.23 338 ⇓P P 05 42 55.5 +1.2
baz=33,SNR=11
F25A **Bowman** 33.24 346 ⇑P P 05 42 54.3 +0.1
baz=33
H20A **Greybull** 33.26 339 ⇑P P 05 42 55.0 +0.5
baz=33,SNR=8.6
E28A **Huff** 33.27 349 ⇑P P 05 42 54.5 +0.1
baz=33,SNR=6.3
E27A **Carson** 33.30 348 ⇓P P 05 42 55.0 +0.4
baz=33,SNR=5.7
G22A **Birney** 33.36 342 ⇑P P 05 42 55.5 +0.1
baz=34
REDW **Red Top Meadow** 33.39 335 eP P 05 42 57.1 +1.3
comp=Z,49nm,0.8s
F24A **Ekalaka** 33.41 344 ⇑P P 05 42 55.4 -0.3
baz=34
ELK **Elko** 33.42 327 eP P 05 42 57.9 +1.9
ELK **Elko** 33.42 327 P P 05 42 52.5 -3.6
comp=Z,18nm,0.7s,baz=185,slow=4.7,SNR=62
D30A **Buchanan** 33.48 352 ⇓P P 05 42 55.1 -1.1
baz=34
NV11 **Mina Array Sit** 33.49 321 eP P 05 42 58.1 +1.4
LOHW **Long Hollow** 33.49 335 eP P 05 42 57.6 +0.9
comp=Z,14nm,0.8s
E26A **Carlson Angus** 33.52 347 ⇑P P 05 42 56.6 -0.1
baz=34,SNR=8.6
F23A **Volborg** 33.56 343 ⇓P P 05 42 57.1 +0.1
baz=34,SNR=11
NVAR **Mina Array Bea** 33.58 321 P P 05 42 58.5 +1.0
NVAR PcP **PcP** 05 45 38.0 +0.3
NVAR ScP **ScP** 05 49 20.1 -0.5
NVAR **Mina Array Bea** 33.58 321 P P 05 42 58.5 +1.0
comp=Z,18nm,0.8s,baz=138,slow=8.5,SNR=114
NVAR PcP **PcP** 05 45 37.9 +0.3
comp=Z,2.3nm,0.8s,baz=114,slow=2.3,SNR=4.3
NVAR ScP **ScP** 05 49 20.1 -0.5
comp=Z,0.1nm,0.4s,baz=124,slow=3.6,SNR=2.9
G21A **Lodge Grass** 33.65 341 ⇑P P 05 42 57.8 -0.1
baz=34
MOOW **Moose Ponds** 33.66 335 eP P 05 42 58.8 +0.7
comp=Z,8.2nm,0.8s
I17A **Pilgrim Ck.** 33.74 336 ⇑P P 05 42 59.7 +0.9
baz=34,SNR=8.9
E25A **Miller Ranch,** 33.76 346 ⇓P P 05 42 58.7 -0.1
baz=34,SNR=11
H19A **Powell** 33.77 338 ⇓P P 05 42 59.5 +0.6
baz=34,SNR=9.3
D28A **Regan** 33.84 350 ⇑P P 05 42 59.4 -0.1
baz=34,SNR=7.0
F22A **Rosebud** 33.86 342 ⇓P P 05 42 59.4 -0.2
baz=34
FLWY **Flagg Ranch** 33.92 336 eP P 05 43 02.0 +1.6
comp=Z,38nm,1.5s
D27A **Center** 33.94 349 ⇑P P 05 42 59.9 -0.4
baz=34
G20A **Bridger** 33.98 340 ⇑P P 05 43 01.1 +0.3
baz=34,SNR=5.6
C30A **Mose, Pekin** 34.03 352 ⇓P P 05 43 00.5 -0.5
baz=34,SNR=5.5
E24A **Baker** 34.04 345 ⇑P P 05 43 01.2 +0.1
baz=34,SNR=9.7
D26A **Manning** 34.05 347 ⇑P P 05 43 00.5 -0.7
baz=34
H17A **Grant Village** 34.14 336 eP P 05 43 04.2 +2.0
comp=Z,8.5nm,1.0s
H17A **Grant Village** 34.14 336 ⇓P P 05 43 02.6 +0.4
baz=34
RLMT **Red Lodge** 34.26 338 eP P 05 43 03.2 -0.1
comp=Z,4.7nm,0.5s
BMN **Battle Mountai** 34.27 325 eP P 05 43 05.6 +2.2
BMN pmax pmax
comp=Z,15nm,0.8s
BMN **Battle Mountai** 34.27 325 eP P 05 43 05.6 +2.2
comp=Z,15nm,0.8s
YFT **Old Faithful** 34.28 336 eP P 05 43 06.5 +2.9
comp=Z,22nm,1.2s
C28A **Hausauer Farms** 34.32 350 ⇑P P 05 43 03.1 -0.5
baz=34
WAKR **Walker** 34.32 320 eP P 05 43 06.4 +2.5
MDND **Maddock** 34.33 351 eP P 05 43 02.8 -0.8
comp=Z,74nm,0.9s
MDND **Maddock** 34.33 351 ⇑P P 05 43 03.1 -0.5
baz=34
AGMN **Agassiz Nation** 34.35 356 eP P 05 43 06.2 +2.4
comp=Z,131nm,2.5s
AGMN **Agassiz Nation** 34.35 356 ⇑P P 05 43 03.5 -0.3
baz=34
D25A **Fairfield** 34.36 346 ⇑P P 05 43 04.0 +0.1
baz=34
E22A **Miles City** 34.37 343 ⇓P P 05 43 04.1 +0.1
baz=34
F20A **Billings** 34.47 340 ⇑P P 05 43 04.9 -0.1
baz=35
C27A **Sayler Ranch,** 34.52 349 ⇑P P 05 43 05.1 -0.2
baz=35,SNR=6.3
D24A **Glendive** 34.56 345 ⇑P P 05 43 05.7 0.0
baz=35,SNR=8.2
CMB **Columbia Colle** 34.64 319 eP P 05 43 08.0 +1.5
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB **Columbia Colle** 34.64 319 eP P 05 43 08.0 +1.5
comp=Z,8.1nm,1.0s
C26A **Wahner Farm, P** 34.74 348 ⇓P P 05 43 06.8 -0.4
baz=35,SNR=12
B30A **Myrvik Farm, E** 34.74 353 ⇓P P 05 43 06.0 -1.2
baz=35
F19A **Roth Farm, Mol** 34.78 339 ⇑P P 05 43 07.7 0.0
baz=35,SNR=7.3
D23A **Lindsay** 34.84 344 ⇓P P 05 43 07.8 -0.3
baz=35
C25A **Freed Ranch, W** 34.87 347 ⇑P P 05 43 08.0 -0.4
baz=35
B29A **Wagenman Farm,** 34.89 352 ⇑P P 05 43 08.6 +0.1
baz=35,SNR=7.4
C24A **Savage** 34.97 345 ⇓P P 05 43 09.1 -0.1
baz=35
GCMT **Greycliff** 34.98 338 eP P 05 43 09.6 +0.2
comp=Z,37nm,0.7s
B28A **Dugan Ranch, T** 35.03 350 P P 05 43 08.8 -0.9
baz=35,SNR=12
D22A **Cohagen** 35.08 343 ⇓P P 05 43 10.9 +0.7
baz=35,SNR=34
PTGA **Pitinga** 35.08 112 eP P 05 43 09.6 -0.9
comp=Z,16nm,0.8s
PTGA **Pitinga** 35.08 112 P P 05 43 09.1 -1.5
comp=Z,12nm,0.7s,baz=310,slow=9.1,SNR=27
E20A **Meyer Farm, Mu** 35.08 341 ⇓P P 05 43 10.9 +0.7
baz=35,SNR=9.2
HLID **Hailey** 35.11 331 eP P 05 43 12.2 +1.6
comp=Z,20nm,0.8s
HLID **Hailey** 35.11 331 ⇑P P 05 43 11.8 +1.2
baz=35,SNR=35
B27A **Peters Farms,** 35.14 349 ⇑P P 05 43 10.8 +0.2
baz=35
A30A **Hoffart Farm,** 35.22 353 ⇑P P 05 43 10.1 -1.2
baz=35
D21A **La Casta Ranch** 35.24 342 ⇑P P 05 43 11.4 -0.1
baz=35,SNR=9.7
E19A **Rath Farm, Rou** 35.26 340 ⇓P P 05 43 12.3 +0.5
baz=35,SNR=8.6
A29A **Manning Farm,** 35.32 352 ⇓P P 05 43 11.8 -0.4
baz=35,SNR=6.4
C23A **Lambert** 35.41 345 ⇑P P 05 43 13.1 0.0
baz=36,SNR=8.8
MCMT **McKenzie Canyo** 35.42 334 eP P 05 43 15.1 +1.8
comp=Z,23nm,0.9s
A28A **Rude Farm, Bot** 35.46 351 ⇑P P 05 43 12.9 -0.5
baz=36
C22A **Vida** 35.55 344 ⇓P P 05 43 14.3 +0.2
baz=36,SNR=31
BOZ **Bozeman (W)** 35.59 336 eP P 05 43 15.5 +0.8
BOZ pmax pmax
comp=Z,9.0nm,1.1s
BOZ **Bozeman (W)** 35.59 336 eP P 05 43 15.5 +0.8
comp=Z,8.7nm,1.1s
D20A **Manuel Ranch,** 35.61 341 ⇑P P 05 43 14.7 0.0
baz=36,SNR=20
BEKR **Beckworth** 35.73 321 eP P 05 43 17.7 +1.7
comp=Z,6.7nm,0.9s
DLMT **Dillon** 35.74 335 eP P 05 43 17.8 +1.8
comp=Z,48nm,1.4s
A26A **Wade Farm, Ken** 35.75 349 ⇓P P 05 43 15.3 -0.6
baz=36,SNR=20
DGMT **Dagmar** 35.80 346 eP P 05 43 16.4 +0.1
comp=Z,16nm,0.8s
DGMT **Dagmar** 35.80 346 ⇑P P 05 43 16.0 -0.2
baz=36,SNR=5.1
D19A **Cripps Ranch,** 35.91 340 ⇓P P 05 43 17.2 -0.1
baz=36,SNR=14
B23A **Brockton** 35.98 345 ⇓P P 05 43 18.3 +0.4
baz=36,SNR=11
A25A **Svangstu Ranch** 36.01 348 ⇑P P 05 43 17.5 -0.5
baz=36
LRM **Limekiln Ridge** 36.06 336 eP P 05 43 20.1 +1.3
B22A **Reddig Ranch S** 36.09 344 ⇑P P 05 43 18.4 -0.3
baz=36
OHCM **Honcut** 36.10 320 eP P 05 43 20.4 +1.5
C20A **Veseth Ranch,** 36.12 342 ⇓P P 05 43 20.0 +0.9
baz=36
A24A **Westby** 36.18 347 ⇓P P 05 43 18.8 -0.8
baz=36
ULM **Lac du Bonnet** 36.29 356 P P 05 43 19.4 -1.1
ULM **Lac du Bonnet** 36.29 356 P P 05 43 19.4 -1.1
comp=Z,2.4nm,0.6s,baz=175,slow=13,SNR=3.0
A23A **Redstone** 36.42 346 ⇓P P 05 43 22.1 +0.5
baz=36,SNR=15
C19A **Slack Wire Ran** 36.47 341 P P 05 43 22.8 +0.7
baz=37,SNR=12
B21A **Ellsworth Farm** 36.48 343 ⇑P P 05 43 22.6 +0.5
baz=37
HRY **Holter Researc** 36.56 337 eP P 05 43 24.3 +1.4
SAML **Samuel** 36.69 127 eP P 05 43 21.6 -2.7
comp=Z,6.7nm,0.9s
A22A **Carney Farms,** 36.70 345 ⇑P P 05 43 24.7 +0.6
baz=37,SNR=9.4
EGMT **Eagleton** 36.95 340 eP P 05 43 26.9 +0.7
comp=Z,42nm,1.6s
EGMT **Eagleton** 36.95 340 P P 05 43 26.9 +0.7
baz=37,SNR=11
A21A **Bergtoll Ranch** 36.97 344 ⇓P P 05 43 27.2 +0.9
baz=37,SNR=7.7
J08A **Circle Bar Ran** 36.97 327 eP P 05 43 27.8 +1.3
comp=Z,60nm,0.7s
MOD **Modoc** 36.98 324 eP P 05 43 27.9 +1.3
comp=Z,18nm,1.2s
B19A **Brinkman Farms** 37.07 341 ⇓P P 05 43 27.5 +0.3
baz=37
A20A **Cobblestone Ra** 37.15 343 ⇓P P 05 43 28.5 +0.7
baz=37,SNR=15
A19A **Klindworth Far** 37.43 342 ⇑P P 05 43 30.5 +0.3
baz=38
MSO **Missoula** 37.48 335 eP P 05 43 31.1 +0.3
comp=Z,23nm,1.2s
MSO **Missoula** 37.48 335 P P 05 43 31.1 +0.3
baz=38,SNR=11
M04C **Macdoel** 37.79 323 ⇓P P 05 43 34.8 +1.3
baz=38
I07A **Izee** 38.01 327 eP P 05 43 36.2 +0.9
comp=Z,17nm,0.9s
SWMT **Swartz Lake** 38.05 336 eP P 05 43 36.6 +1.0
F10A **Beach Ranch, E** 38.25 331 eP P 05 43 37.8 +0.6
comp=Z,82nm,0.7s
YBH **Yreka Blue Hor** 38.28 322 P P 05 43 37.5 -0.1
YBH **Yreka Blue Hor** 38.28 322 P P 05 43 37.5 -0.1
comp=Z,2.3nm,0.7s,baz=134,slow=4.7,SNR=8.4
LPAZ **La Paz** 38.33 141 P P 05 43 37.8 -0.9
LPAZ **La Paz** 38.33 141 P P 05 43 37.8 -0.9
comp=Z,3.5nm,0.7s,baz=336,slow=9.2,SNR=12
JTMT **Jette** 38.36 336 eP P 05 43 38.9 +0.7
KHMM **Horse Mountain** 38.39 320 eP P 05 43 40.8 +2.2
comp=Z,27nm,1.0s
PINOR **Pine Mountain** 38.55 326 eP P 05 43 44.4 +4.7
comp=Z,16nm,0.9s
G08A **Pilot Rock** 38.58 329 eP P 05 43 41.5 +1.5
comp=Z,32nm,1.8s
BSMT **Bassoo Peak** 38.65 335 eP P 05 43 41.4 +0.7
J04D **Umpqua Nationa** 38.87 324 ⇑P P 05 43 43.6 +1.0
baz=39
E09A **Wood Farm, Sta** 39.07 331 eP P 05 43 44.5 +0.5
comp=Z,16nm,0.8s
I05D **Terrebonne, OR** 39.15 326 ⇓P P 05 43 45.8 +1.0
baz=39
WALA **Waterton Lakes** 39.29 337 eP P 05 43 47.4 +1.5
comp=Z,5.3nm,3.0s
G06A **Carlson Farm,** 39.39 328 eP P 05 43 48.7 +2.0
comp=Z,14nm,1.2s
I04A **Tendick Farm,** 39.39 325 ⇑P P 05 43 46.6 -0.2
baz=40
D08A **Wollman Farm,** 39.84 331 eP P 05 43 51.1 +0.7
comp=Z,16nm,1.2s
H04A **Detroit Lake** 39.84 326 eP P 05 43 51.5 +1.0
comp=Z,41nm,0.8s
VFP **Flag Point** 39.87 327 P P 05 43 54.6 +3.6
E07A **Sunnyside** 39.92 330 eP P 05 43 52.7 +1.6
comp=Z,14nm,0.9s
NEW **Newport** 39.94 334 ⇑P P 05 43 51.0 -0.3
baz=40
OD2 **Odessa Site #2** 39.98 332 P P 05 43 52.5 +0.8
EBG **Ellensburg** 40.51 330 P P 05 43 57.8 +1.7
NAC **Naches** 40.52 329 P P 05 43 57.7 +1.6
WTV **Waterville** 40.78 331 P P 05 44 00.2 +1.9
LTY **Liberty** 40.81 330 eP P 05 43 59.3 +0.8
comp=Z,17nm,0.8s
LON **Longmire** 41.02 329 eP P 05 44 01.4 +1.2
LON pmax pmax
comp=Z,27nm,0.8s
LON **Longmire** 41.02 329 eP P 05 44 01.4 +1.2
comp=Z,27nm,0.8s
B06A **Marblemount** 42.09 331 eP P 05 44 09.5 +0.6
comp=Z,32nm,0.8s
NLWA **Neilton Lookou** 42.49 328 eP P 05 44 13.7 +1.4
comp=Z,284nm,2.5s
EDM **Edmonton** 42.60 341 eP P 05 44 12.5 -0.5
EDM **Edmonton** 42.60 341 eP P 05 44 12.5 -0.5
A05A **Maple Falls** 42.71 331 eP P 05 44 14.5 +0.5
comp=Z,67nm,1.3s
SIV **San Ignacio** 42.80 133 P P 05 44 12.7 -2.4
SIV **San Ignacio** 42.80 133 P P 05 44 12.7 -2.4
comp=Z,12nm,0.8s,baz=312,slow=9.2,SNR=33
LVC **Limon Verde** 42.92 148 eP P 05 44 15.9 -0.3
comp=Z,8.1nm,0.9s
PGC **Sidney** 43.12 330 eP P 05 44 18.0 +0.7
comp=Z,2.8nm,0.9s
SCHQ **Schefferville** 45.29 20 P P 05 44 33.8 -0.8
SCHQ **Schefferville** 45.29 20 P P 05 44 33.8 -0.8
comp=Z,1.9nm,0.5s,baz=227,slow=5.2,SNR=5.2
H03N2 **Juan Fernandez** 48.82 165 T T 06 37 26.2
baz=346,slow=75,SNR=8.4
H03N1 **Juan Fernandez** 48.83 165 T T 06 37 38.8
baz=346,slow=75,SNR=7.0
H03N3 **Juan Fernandez** 48.84 165 T T 06 37 29.7
baz=346,slow=75,SNR=9.2
CFAA **Coronel Fontan** 50.81 153 P P 05 45 16.8 -0.9
CFAA **Coronel Fontan** 50.81 153 P P 05 45 16.8 -0.9
comp=Z,1.5nm,0.7s,baz=334,slow=5.9,SNR=43
YKA **Yellowknife Ar** 51.00 347 P P 05 45 17.8 -0.8
YKA ScP **ScP** 05 50 28.3 -0.6
YKA **Yellowknife Ar** 51.00 347 P P 05 45 17.7 -0.8
comp=Z,14nm,0.9s,baz=150,slow=7.6,SNR=117
YKA ScP **ScP** 05 50 28.3 -0.6
comp=Z,0.7nm,1.2s,baz=134,slow=4.4,SNR=2.0
CPUP **Villa Florida** 52.48 140 P P 05 45 27.6 -2.5
CPUP PcP **PcP** 05 46 37.0 -3.5
CPUP **Villa Florida** 52.48 140 P P 05 45 27.6 -2.5
comp=Z,6.9nm,0.8s,baz=308,slow=5.1,SNR=6.8
CPUP PcP **PcP** 05 46 37.0 -3.5
comp=Z,1.9nm,0.6s,baz=38,slow=6.4,SNR=3.3
DLBC **Dease Lake** 52.60 336 eP P 05 45 32.2 +1.5
DLBC **Dease Lake** 52.60 336 P P 05 45 31.7 +1.0
comp=Z,14nm,0.8s,baz=136,slow=5.8,SNR=17
BDFB **Brasilia** 52.65 122 eP P 05 45 30.6 -1.1
BDFB **Brasilia** 52.65 122 P P 05 45 30.4 -1.2
comp=Z,7.1nm,0.9s,baz=306,slow=10,SNR=8.8
HYT **Haines Junctio** 57.07 335 eP P 05 46 05.4 +2.4
PLCA **Paso Flores** 58.01 161 P P 05 46 08.7 -1.1
PLCA **Paso Flores** 58.01 161 P P 05 46 08.7 -1.1
comp=Z,2.6nm,0.9s,baz=359,slow=11,SNR=4.3
TRQA **Tornquist** 59.00 152 eP P 05 46 15.2 -1.5
comp=Z,43nm,1.9s
DAWY **Dawson** 59.63 338 eP P 05 46 21.1 +0.4
BMRM **Bremner River** 60.11 334 eP P 05 46 26.0 +1.9
INK **Inuvik** 60.41 344 eP P 05 46 26.0 0.0
comp=Z,38nm,1.2s
INK **Inuvik** 60.41 344 P P 05 46 26.0 0.0
comp=Z,18nm,1.0s,baz=136,slow=7.8,SNR=22
DIV **Divide** 60.69 333 eP P 05 46 29.3 +1.2
comp=Z,30nm,1.1s
RES **Resolute Bay** 60.71 359 P P 05 46 27.4 -0.6
RES **Resolute Bay** 60.71 359 P P 05 46 27.4 -0.6
comp=Z,1.0nm,0.4s,baz=199,slow=5.5,SNR=7.2
DOT **Dot Lake** 61.17 336 eP P 05 46 31.6 +0.3
comp=Z,67nm,1.7s
PAX **Paxson** 61.40 335 eP P 05 46 33.1 +0.1
PAX pmax pmax
comp=Z,15nm,0.8s
PAX **Paxson** 61.40 335 eP P 05 46 33.1 +0.1
comp=Z,15nm,0.8s
PMR **Palmer** 62.36 333 eP P 05 46 39.8 +0.6
PMR pmax pmax
comp=Z,20nm,1.0s
PMR **Palmer** 62.36 333 eP P 05 46 39.8 +0.6
comp=Z,20nm,1.0s
RC01 **Rabbit Creek A** 62.43 332 eP P 05 46 40.5 +0.7
comp=Z,32nm,1.1s
ILAR **Eielson Array** 62.79 337 P P 05 46 41.8 -0.3
ILAR **Eielson Array** 62.79 337 P P 05 46 41.8 -0.3
comp=Z,11nm,0.9s,baz=127,slow=5.1,SNR=44
MCK **McKinley** 63.14 335 eP P 05 46 44.4 -0.1
MCK pmax pmax
comp=Z,35nm,1.2s
MCK **McKinley** 63.14 335 eP P 05 46 44.4 -0.1
comp=Z,35nm,1.2s
COLA **College** 63.20 337 ⇑iP P 05 46 44.8 0.0
COLA pmax pmax
comp=Z,82nm,1.7s
TRF **Thorofare Moun** 63.58 335 eP P 05 46 48.0 +0.4
comp=Z,21nm,0.8s
RSO **Redoubt South** 63.59 331 eP P 05 46 48.2 +0.4
KTH **Kantishna Hill** 63.88 335 eP P 05 46 49.5 0.0
comp=Z,98nm,1.0s
PPLA **Purkeypile** 64.17 334 eP P 05 46 51.5 +0.1
comp=Z,171nm,2.3s
CAST **Castle Rocks** 64.32 334 eP P 05 46 52.2 -0.1
comp=Z,38nm,1.6s
COLD **Coldfoot** 65.09 339 eP P 05 46 58.5 +1.3
comp=Z,29nm,1.3s
TNA **Tin City** 71.47 335 eP P 05 47 37.2 0.0

	comp=Z,10.0nm,1.1s								
EKA	**Eskdalemuir Ar**	**78.07**	**36**	P		P		05 48 12.2	-3.4
EKA	**Eskdalemuir Ar**	**78.07**	**36**	P		P		05 48 12.2	-3.4
	comp=Z,5.2nm,0.7s,baz=273,slow=5.3,SNR=10								
ESDC	**Sonseca Array**	**79.85**	**52**	P		P		05 48 22.4	-3.4
ESDC	**Sonseca Array**	**79.85**	**52**	P		P		05 48 22.4	-3.4
	comp=Z,1.5nm,0.8s,baz=293,slow=5.7,SNR=5.5								
GRR	**Gorron**	**80.55**	**42**	*e*P		**P**		**05 48 26.2**	**-3.1**
	comp=Z,30nm,1.1s								
GRR	**Gorron**	**80.55**	**42**	*e*P		**P**		**05 48 26.2**	**-3.1**
GRR				pmax		pmax			
	comp=Z,30nm,1.1s								
GRR	**Gorron**	**80.55**	**42**	*e*P		**P**		**05 48 26.2**	**-3.1**
	comp=Z,30nm,1.1s								
AVF	**Avril sur Loir**	**83.67**	**43**	*e*P		**P**		**05 48 43.0**	**-2.7**
	comp=Z,15nm,1.2s								
AVF	**Avril sur Loir**	**83.67**	**43**	*e*P		**P**		**05 48 43.0**	**-2.7**
AVF				pmax		pmax			
	comp=Z,15nm,1.2s								
AVF	**Avril sur Loir**	**83.67**	**43**	*e*P		**P**		**05 48 43.0**	**-2.7**
	comp=Z,15nm,1.2s								
SSF	**Saint Saulge**	**83.71**	**43**	*e*P		**P**		**05 48 43.4**	**-2.5**
	comp=Z,24nm,1.3s								
SSF	**Saint Saulge**	**83.71**	**43**	*e*P		**P**		**05 48 43.4**	**-2.5**
SSF				pmax		pmax			
	comp=Z,24nm,1.3s								
SSF	**Saint Saulge**	**83.71**	**43**	*e*P		**P**		**05 48 43.4**	**-2.5**
	comp=Z,24nm,1.3s								
LOR	**Lormes**	**83.89**	**43**	*e*P		**P**		**05 48 44.7**	**-2.1**
	comp=Z,28nm,1.1s								
LOR	**Lormes**	**83.89**	**43**	*e*P		**P**		**05 48 44.7**	**-2.1**
	comp=Z,28nm,1.1s								
NB2	**NORSAR Subarra**	**84.24**	**28**	P		**P**		**05 48 49.0**	**+0.7**
	comp=Z,5.8nm,1.1s,baz=292,slow=4.8								
NOA	**NORSAR Array B**	**84.24**	**28**	P		**P**		**05 48 46.4**	**-2.0**
NOA	**NORSAR Array B**	**84.24**	**28**	P		**P**		**05 48 46.4**	**-2.0**
	comp=Z,2.9nm,1.0s,baz=292,slow=4.9,SNR=4.2								
PAGF	**Fort de Pagny**	**84.78**	**41**	*e*P		**P**		**05 48 49.7**	**-1.6**
PAGF	**Fort de Pagny**	**84.78**	**41**	*e*P		**P**		**05 48 49.7**	**-1.6**
LIC	**Lamto**	**85.75**	**85**	*e*P		**P**		**05 48 56.9**	**+0.1**
	comp=Z,34nm,1.3s,baz=315								
LIC	**Lamto**	**85.75**	**85**	*e*P		**P**		**05 48 56.9**	**+0.1**
	comp=Z,34nm,1.3s								
CDF	**Champ du Feu**	**85.82**	**41**	*e*P		**P**		**05 48 55.8**	**-0.8**
CDF	**Champ du Feu**	**85.82**	**41**	*e*P		**P**		**05 48 55.8**	**-0.8**
CDF	**Champ du Feu**	**85.82**	**41**	*e*P		**P**		**05 48 55.8**	**-0.8**
DBIC	**Dimbokro**	**85.82**	**84**	P		**P**		**05 48 55.1**	**-2.0**
DBIC	**Dimbokro**	**85.82**	**84**	P		**P**		**05 48 55.1**	**-2.0**
	comp=Z,3.5nm,0.9s,baz=273,slow=8.2,SNR=3.1								
ORIF	**Oris-en-Rattie**	**85.85**	**45**	*e*P		**P**		**05 48 55.4**	**-1.4**
	comp=Z,13nm,0.9s								
ORIF	**Oris-en-Rattie**	**85.85**	**45**	*e*P		**P**		**05 48 55.4**	**-1.4**
ORIF				pmax		pmax			
	comp=Z,13nm,0.9s								
ORIF	**Oris-en-Rattie**	**85.85**	**45**	*e*P		**P**		**05 48 55.4**	**-1.4**
	comp=Z,13nm,0.9s								
ARCES	**ARCESS Array B**	**86.20**	**18**	P		**P**		**05 48 56.4**	**-1.6**
ARCES	**ARCESS Array B**	**86.20**	**18**	P		**P**		**05 48 56.4**	**-1.6**
	comp=Z,4.0nm,0.9s,baz=305,slow=4.3,SNR=7.5								
DAVA	**Damuels**	**87.83**	**42**	⇓ *i*P		**P**		**05 49 04.9**	**-1.6**
	comp=Z,4.4nm,0.9s								
DAVOX	**Davos/Dischmat**	**87.98**	**42**	P		**P**		**05 49 04.8**	**-2.5**
DAVOX	**Davos/Dischmat**	**87.98**	**42**	P		**P**		**05 49 04.8**	**-2.5**
	comp=Z,1.6nm,0.7s,baz=310,slow=15,SNR=4.2								
RETA	**Reutte**	**88.33**	**41**	⇑ *i*P		**P**		**05 49 06.6**	**-2.2**
	comp=Z,4.3nm,0.8s								
FETA	**Feichten**	**88.46**	**42**	⇓ *i*P		P		05 49 03.9	-5.7
	comp=Z,4.1nm,1.4s								
SEY	**Seymchan**	**88.70**	**336**	P		**P**		**05 49 09.7**	**-0.4**
SEY				pmax		pmax			
	comp=Z,1.0nm,0.5s								
SEY	**Seymchan**	**88.70**	**336**	P		**P**		**05 49 09.7**	**-0.4**
SEY	**Seymchan**	**88.70**	**336**	P		**P**		**05 49 09.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=15,slow=22,SNR=4.8								
GERES	**GERESS Array B**	**89.72**	**39**	P		**P**		**05 49 13.0**	**-2.3**
GERES	**GERESS Array B**	**89.72**	**39**	P		**P**		**05 49 13.0**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=178,slow=3.6,SNR=3.5								
TIXI	**Tiksi**	**90.24**	**348**	⇓ *e*P		**P**		**05 49 16.2**	**-0.9**
TIXI				pmax		pmax			
	comp=Z,28nm,1.4s								
TORD	**Torodi Ar. Bea**	**90.54**	**76**	P		**P**		**05 49 16.5**	**-3.1**
TORD	**Torodi Ar. Bea**	**90.54**	**76**	P		**P**		**05 49 16.5**	**-3.1**
	comp=Z,0.9nm,0.8s,baz=288,slow=5.5,SNR=7.0								
OBN	**Obninsk**	**98.77**	**27**	*e*P		P		05 49 52.9	-3.5
OBN				*e*				05 53 54.9	
OBN				*e*SS		SS		06 08 02.7	-6.9
OBN				pmax		pmax			
	comp=Z,4.0nm,1.1s								
OBN				MLR		MLR			
	comp=Z,3μm,21.0s								
SONM	**Songino Array**	**116.27**	**346**	PKKPbc		PKKPbc		06 05 27.4	-3.9
SONM	**Songino Array**	**116.27**	**346**	PKKPbc		PKKPbc		06 05 27.4	-3.9
	comp=Z,0.5nm,0.7s,baz=204,slow=3.8,SNR=4.9								
MKAR	**Makanchi Array**	**119.30**	**4**	PKIKP		**PKPdf**		**05 55 04.2**	**-2.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**119.30**	**4**	PKP		**PKPdf**		**05 55 04.2**	**-2.2**
MKAR	**Makanchi Array**	**119.30**	**4**	PKP		**PKPdf**		**05 55 04.2**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=29,slow=2.8,SNR=5.1								
HHC	**Hu-ho-hao-te**	**121.18**	**339**	*e*PKP		**PKPdf**		**05 55 10.5**	**+0.3**
HHC				PP		PP		05 56 44.6	+5.3
HHC				SKKS				06 03 22.9	
HHC				SS		**SS**		**06 13 08.8**	**-1.3**
WMQ	**Urumqi**	**122.48**	**0**	PKP		**PKPdf**		**05 55 11.4**	**-1.2**
NJ2	**Nanjing**	**125.42**	**328**	*e*PKP		**PKPdf**		**05 55 18.4**	**0.0**
KSH	**Kashi**	**125.64**	**11**	*e*PKP		**PKPdf**		**05 55 16.9**	**-2.0**
KSH				*e*SKS		SKSdf		06 02 19.1	-10
KSH				AMB		AMB			
	comp=Z,490nm,10.3s								
GTA	**Gaotai**	**125.72**	**349**	*e*PKP		**PKPdf**		**05 55 18.8**	**-0.2**
STKA	**Stephens Creek**	**127.91**	**240**	PKP		**PKPdf**		**05 55 22.6**	**-0.6**
STKA	**Stephens Creek**	**127.91**	**240**	PKP		**PKPdf**		**05 55 22.6**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=330,slow=0.5,SNR=9.0								
CD2	**Chengdu**	**132.81**	**341**	*e*PKP		**PKPdf**		**05 55 31.0**	**-1.6**
WRA	**Warramunga Arr**	**135.23**	**256**	PKP		**PKPdf**		**05 55 36.7**	**-0.7**
WRA	**Warramunga Arr**	**135.23**	**256**	PKP		**PKPdf**		**05 55 36.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=89,slow=2.4,SNR=15								
ASAR	**Alice Springs**	**135.51**	**250**	PKP		**PKPdf**		**05 55 36.4**	**-1.4**
ASAR	**Alice Springs**	**135.51**	**250**	PKP		**PKPdf**		**05 55 36.4**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=104,slow=1.8,SNR=9.2								
GYA	**Guiyang**	**135.82**	**335**	*e*Pdif		**Pdif**		**05 52 39.8**	**-2.3**
GYA				PKP		**PKPdf**		**05 55 37.0**	**-1.5**
GYA				sPKP				05 56 03.5	
GYA				PP		**PP**		**05 58 19.2**	**+3.7**
GYA				AMB		AMB			
	comp=Z,110nm,7.8s								
KMI	**Kunming**	**138.50**	**339**	PKP		**PKPdf**		**05 55 42.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**145.95**	**341**	PKPbc		**PKPdf**		**05 55 56.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**145.95**	**341**	PKPbc		**PKPdf**		**05 55 56.0**	**-0.7**
	comp=Z,21nm,0.9s,baz=346,slow=4.3,SNR=78								
HYB	**Hyderabad**	**147.48**	**17**	*i* PKP		**PKPdf**		**05 55 59.0**	**-0.3**

*AUST **05** 05:54:39.6±99.0, 17.93S×125.29E, h31km±99km, Error ellipse: s-maj=33.9km s-min=2.2km az=9.0*
*IDC **05** 05:55:13.0±5.1, 16.66S×128.65E, h0km, mb1 3.3/3, mb1mx3.2/16, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=44.8km s-min=41.6km az=10.0*
*ISCJB **05** 05:55:14.7±1.8, 17.01S±0.08×128.6E±0.2, h10km, Error ellipse: s-maj=25.8km s-min=7.8km az=162.2*

ISC 05 05:55:15.4±2.0, 17.0S±0.1×128.4E±0.2, h10km, n6, σ1s76/8, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KNRA	**Kununurra**	**1.32**	**13**	P		**Pn**	**05 55 38.6**	**-1.3**
	baz=4.0,SNR=79							
MTN	**Manton Dam**	**4.85**	**33**	P		**Pn**	**05 56 28.1**	**-0.4**
	baz=7.6,SNR=4.1							
KDU	**Kakadu**	**5.77**	**43**	P		**Pn**	**05 56 43.4**	**+2.3**
	baz=8.7,SNR=4.2							
WRA	**Warramunga Arr**	**6.33**	**119**	Pn		**Pn**	**05 56 49.2**	**+0.4**
	0.3nm,0.3s,baz=281,slow=13,SNR=12							
WRA				Sn		**Sn**	**05 57 58.8**	**-2.4**
	2.4nm,0.3s,baz=301,slow=26,SNR=13							
WRA				Lg		Lg	05 58 34.8	
	2.6nm,0.3s,baz=299,slow=30,SNR=7.6							
ASAR	**Alice Springs**	**8.40**	**143**	Pn		**Pn**	**05 57 18.6**	**+1.3**
	0.1nm,0.3s,baz=322,slow=14,SNR=2.9							
ASAR				Sn		**Sn**	**05 58 52.4**	**-0.1**
	0.9nm,0.3s,baz=309,slow=21,SNR=8.8							
ASAR				Lg		Lg	05 59 44.1	
	0.8nm,0.3s,baz=329,slow=30,SNR=5.5							
STKA	**Stephens Creek**	**19.04**	**144**	P		**P**	**05 59 36.9**	**-0.9**
	0.1nm,0.3s,baz=327,slow=17,SNR=2.8							

IDC 05 05:57:49.6±1.9, 5.22S×147.96E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/17, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=146.0km s-min=28.5km az=123.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.75**	**221**	P		P	06 02 21.6	+0.3
	0.8nm,0.3s,baz=48,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**22.80**	**215**	P		P	06 02 54.0	-0.2
	4.1nm,0.7s,baz=45,slow=7.8,SNR=25							
ILAR	**Eielson Array**	**84.39**	**23**	P		P	06 10 23.7	0.0
	0.2nm,0.6s,baz=248,slow=5.9,SNR=2.6							

*DJA **05** 06:12:38.9±3.0, 9.S±14.×11.9E±., h277km±36km, M3.9/8, MLv3.9/8*
*IDC **05** 06:12:45.9±3.4, 9.17S×117.00E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.3/20, mbtmp3.2/3, Error ellipse: s-maj=254.4km s-min=26.9km az=49.0*

ISC 05 06:12:45.6±1.9, 9.4S±0.9×116.7E±0.8, h10km, n8, σ4s21/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MTNI	**Mataram**	**0.90**	**327**	P		x	06 13 31.5	
KHKI	**Kahang-Kahang**	**1.46**	**315**	P		x	06 13 37.5	
SRBI	**Singaraja**	**1.94**	**312**	P		**Sn**	**06 13 41.5**	**-1.5**
WBSI	**Waikabubak, Su**	**2.70**	**95**	P		Pn	06 13 20.7	-8.5
LBFI	**Labuhan Bajo,**	**3.32**	**74**	P		x	06 13 17.4	
WRA	**Warramunga Arr**	**20.04**	**124**	P		**Pn**	**06 17 17.7**	**-3.0**
	0.1nm,0.3s,baz=302,slow=13,SNR=5.1							
ASAR	**Alice Springs**	**21.75**	**133**	P		**P**	**06 17 39.4**	**+1.9**
	0.6nm,0.7s,baz=306,slow=8.8,SNR=7.7							
MKAR	**Makanchi Array**	**63.79**	**334**	P		**P**	**06 23 19.5**	**+1.6**
	0.3nm,0.5s,baz=145,slow=7.9,SNR=6.5							

IDC 05 06:28:17.1±1.3, 12.12N×143.18E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.5/4, Error ellipse: s-maj=60.7km s-min=24.5km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.03**	**195**	P		P	06 34 54.1	-0.3
	0.4nm,0.7s,baz=13,slow=9.5,SNR=3.6							
ASAR	**Alice Springs**	**36.71**	**194**	P		P	06 35 26.2	+0.1
	0.3nm,0.7s,baz=19,slow=12,SNR=6.6							
MKAR	**Makanchi Array**	**61.41**	**317**	P		P	06 38 35.6	+0.3
	0.8nm,0.8s,baz=91,slow=9.0,SNR=8.2							
ILAR	**Eielson Array**	**70.59**	**25**	P		P	06 39 33.7	-0.3
	0.5nm,1.0s,baz=248,slow=5.7,SNR=4.8							

*IDC **05** 06:30:15.5±1.1, 8.59S×157.12E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=29.3km s-min=15.1km az=10.0*

ISC 05 06:30:17.0±1.0, 8.7S±0.2×157.35E±0.0, h16km, n7, σ1s25/8, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.67**	**107**	Pn		**Pb**	**06 31 04.2**	**-0.2**
	36nm,0.3s,baz=277,slow=3.8,SNR=11							
HNR				Pg		**Pg**	**06 31 08.5**	**+0.3**
	36nm,0.3s,baz=279,slow=4.1,SNR=13							
HNR				Lg		Lg	06 31 46.4	
	82nm,0.3s,baz=121,slow=21,SNR=9.4							
HNR	**Honiara**	**2.67**	**107**	*e*P		**Pg**	**06 31 08.0**	**-0.3**
WRA	**Warramunga Arr**	**24.92**	**241**	P		**P**	**06 35 38.5**	**-1.2**
	2.4nm,0.8s,baz=66,slow=9.8,SNR=8.1							
ASAR	**Alice Springs**	**26.94**	**234**	P		**P**	**06 35 56.8**	**-1.2**
	0.7nm,0.9s,baz=56,slow=11,SNR=5.3							
STKA	**Stephens Creek**	**27.34**	**210**	P		**P**	**06 36 03.1**	**+1.7**
	2.7nm,0.9s,baz=51,slow=10,SNR=5.6							
SONM	**Songino Array**	**72.01**	**327**	P		**P**	**06 41 41.3**	**+1.1**
	0.5nm,0.7s,baz=131,slow=6.4,SNR=4.1							
MKAR	**Makanchi Array**	**86.20**	**318**	P		**P**	**06 42 56.9**	**-0.9**
	1.0nm,0.9s,baz=106,slow=4.3,SNR=6.8							

*ISCJB **05** 06:31:28.3±0.8, 20.93S±0.07×66.4W±0.1, h243km, mb3.9/2, Error ellipse: s-maj=16.3km s-min=9.3km az=165.3*
*IDC **05** 06:31:29.0±1.2, 20.82S×66.61W, h270km±16km, mb3.5/3, mb1 3.2/8, mb1mx3.1/21, mbtmp3.2/8, Error ellipse: s-maj=23.2km s-min=14.2km az=97.0*

ISC 05 06:31:28.6±0.9, 20.85S±0.08×66.4W±0.1, h243km, n9, σ1s53/9, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**4.83**	**340**	P		**Pn**	**06 32 43.3**	**+0.6**
	0.6nm,0.3s,baz=136,slow=6.8,SNR=15							
LPAZ				S		**S**	**06 33 42.6**	**+1.1**
	0.1nm,0.3s,baz=279,slow=20,SNR=11							
SIV	**San Ignacio**	**6.98**	**47**	P		**Pn**	**06 33 09.7**	**+0.6**
	4.4nm,0.3s,baz=239,slow=12,SNR=60							
CPUP	**Villa Florida**	**9.93**	**125**	P		**Pn**	**06 33 48.5**	**+2.1**
	0.5nm,0.3s,baz=273,slow=8.8,SNR=3.1							
CFAA	**Coronel Fontan**	**10.84**	**188**	P		**Pn**	**06 33 58.8**	**+0.9**
	0.0nm,0.3s,baz=14,slow=9.1,SNR=7.9							
BDFB	**Brasilia**	**18.19**	**77**	P		**Pn**	**06 35 26.5**	**-0.6**
	1.0nm,0.3s,baz=256,slow=8.1,SNR=10							
PLCA	**Paso Flores**	**20.14**	**189**	P		**P**	**06 35 42.9**	**-1.8**
	0.9nm,0.6s,baz=14,slow=12,SNR=6.6							
DBIC	**Dimbokro**	**66.29**	**72**	P		**P**	**06 41 50.0**	**-1.5**
	2.1nm,0.7s,baz=200,slow=8.4,SNR=3.2							
TORD	**Torodi Ar. Bea**	**74.92**	**69**	P		**P**	**06 42 42.3**	**-1.1**
	2.1nm,0.6s,baz=255,slow=5.3,SNR=32							
MKAR	**Makanchi Array**	**143.71**	**37**	PKP		PKPab	06 50 31.0	-1.1
	0.4nm,0.9s,baz=292,slow=4.5,SNR=2.8							

*IDC **05** 06:31:45.1±1.0, 8.57S×157.06E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/19, mbtmp3.9/7, Error ellipse: s-maj=26.4km s-min=17.8km az=13.0*

ISC 05 06:31:46.8±1.0, 8.6S±0.2×157.3E±0.1, h16km, n7, σ1s55/7, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.76**	**107**	Pn		**Pb**	**06 32 35.6**	**-0.2**
	baz=149,slow=5.9,SNR=2.2							
HNR				Lg		Lg	06 33 17.8	
	30nm,0.3s,baz=236,slow=22,SNR=4.6							
WRA	**Warramunga Arr**	**24.86**	**241**	P		**P**	**06 37 07.4**	**-1.5**
	3.9nm,1.0s,baz=65,slow=9.6,SNR=7.4							
ASAR	**Alice Springs**	**26.89**	**233**	P		**P**	**06 37 26.6**	**-0.7**
	1.1nm,1.0s,baz=63,slow=9.8,SNR=5.1							
STKA	**Stephens Creek**	**27.33**	**210**	P		**P**	**06 37 32.7**	**+1.7**
	1.9nm,0.9s,baz=44,slow=12,SNR=4.8							
SONM	**Songino Array**	**71.93**	**327**	P		**P**	**06 43 11.0**	**+1.5**
	0.5nm,0.7s,baz=107,slow=4.8,SNR=3.6							
MKAR	**Makanchi Array**	**86.12**	**318**	P		**P**	**06 44 26.0**	**-1.2**
	0.6nm,0.6s,baz=98,slow=6.1,SNR=6.4							
ZALV	**Zalesovo Beam**	**86.79**	**326**	P		**P**	**06 44 29.6**	**-0.7**
	0.5nm,0.5s,baz=90,slow=8.6,SNR=2.8							

WEL 05 06:36:05.8±0.7, 44.34S×167.05E, h12km, ML3.5/10, 1C, Error ellipse: s-maj=5.7km s-min=3.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.71**	**119**	⇑ P*		Pg	06 36 18.8	-0.8
MSZ				AML		AML	06 36 23.6	
MSZ				S*		Sg	06 36 28.1	-0.9
MSZ				AML		AML	06 36 28.8	
MSZ				AML		AML	06 36 29.1	
DCZ	**Deep Cove**	**1.15**	**176**	P*		Pb	06 36 25.9	-1.6
DCZ				S*		Sb	06 36 40.6	-1.8
DCZ				AML		AML	06 36 42.0	
JCZ	**Jackson Bay**	**1.26**	**79**	PN		Pn	06 36 28.2	-1.2
JCZ				S*		Sb	06 36 44.7	-1.1
JCZ				AML		AML	06 36 52.1	
MLZ	**Mavora Lakes**	**1.29**	**142**	PN		Pn	06 36 28.8	-0.9
MLZ				S*		Sb	06 36 46.3	-0.4
MLZ				AML		AML	06 36 47.3	
WKZ	**Wanaka**	**1.49**	**110**	PN		Pn	06 36 32.6	+0.2
WKZ				SN		Sn	06 36 51.8	-0.1
WKZ				AML		AML	06 36 53.4	
WKZ				AML		AML	06 36 53.4	
WHZ	**Wether Hill Ro**	**1.68**	**158**	PN		Pn	06 36 34.4	-0.6
WHZ				SN		Sn	06 36 55.5	-1.1
WHZ				AML		AML	06 37 11.6	
EAZ	**Earnscleugh**	**1.84**	**120**	PN		Pb	06 36 38.4	-1.1
EAZ				AML		AML	06 37 04.7	
EAZ				AML		AML	06 37 06.0	
FOZ	**Fox Glacier**	**2.06**	**69**	AML		AML	06 37 18.5	
FOZ				AML		AML	06 37 18.5	
FOZ				AML		AML	06 37 19.1	
FOZ				AML		AML	06 37 19.1	
LBZ	**Lake Benmore**	**2.25**	**92**	AML		AML	06 37 16.2	
LBZ				AML		AML	06 37 18.0	
TUZ	**Tuapeka**	**2.44**	**132**	AML		AML	06 37 19.9	
TUZ				AML		AML	06 37 20.2	
ODZ	**Otahua Downs**	**2.66**	**107**	PN		Pn	06 36 48.6	+0.1

*ISCJB **05** 07:09:23.8±0.4, 3.96S±0.06×153.85E±0.0, h350km, mb3.9/16, Error ellipse: s-maj=10.9km s-min=8.1km az=22.6*
*IDC **05** 07:09:24.8±1.5, 3.94S×153.84E, h347km±14km, mb3.6/16, mb1 3.7/20, mb1mx3.6/27, mbtmp3.7/20, Error ellipse: s-maj=15.3km s-min=10.3km az=97.0*

ISC 05 07:09:25.1±0.5, 3.98S±0.08×153.84E±0.0, h350km, n35, σ0s90/39, mb4.0/15, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**8.13**	**132**	P		**Pn**	**07 11 20.2**	**-0.7**
	18nm,0.3s,baz=231,slow=6.6,SNR=5.3							
PMG	**Port Moresby**	**8.55**	**231**	P		**P**	**07 11 27.8**	**-0.6**
	1.7nm,0.3s,baz=15,slow=11,SNR=4.4							
JAY	**Jayapura**	**13.19**	**276**	P		**Pn**	**07 12 20.6**	**-0.4**
	2.4nm,0.3s,baz=58,slow=8.5,SNR=7.4							
COEN	**Coen**	**14.46**	**226**	P		**Pn**	**07 12 36.6**	**+0.9**
	baz=14,SNR=5.0							
CTA	**Charters Tower**	**17.64**	**204**	P		**P**	**07 13 09.1**	**+0.8**
	1.1nm,0.3s,baz=31,slow=12,SNR=12							
QIS	**Mount Isa**	**21.53**	**219**	P		**P**	**07 13 48.2**	**+1.1**
	baz=21,SNR=11							
FAKI	**Fak Fak**	**21.57**	**272**	P		**P**	**07 13 48.7**	**+1.0**
	baz=21,SNR=3.9							
DZM	**Mont Dzumac**	**21.75**	**147**	P		**P**	**07 13 49.9**	**+0.7**
	3.3nm,0.4s,baz=237,slow=17,SNR=13							
KDU	**Kakadu**	**22.82**	**246**	P		**P**	**07 14 00.4**	**+1.5**
	baz=22,SNR=6.5							
WRA	**Warramunga Arr**	**24.76**	**229**	P		**P**	**07 14 16.4**	**0.0**
	0.8nm,0.4s,baz=54,slow=9.6,SNR=22							
WRA				PcP		**PcP**	**07 17 43.0**	**+0.4**
	1.1nm,0.5s,baz=49,slow=2.6,SNR=6.9							
WRA				ScP		**ScP**	**07 20 48.1**	**+0.3**
	0.7nm,0.8s,baz=55,slow=3.0,SNR=7.2							
ASAR	**Alice Springs**	**27.45**	**223**	P		**P**	**07 14 40.0**	**-0.3**
	2.1nm,0.3s,baz=56,slow=9.1,SNR=103							
ASAR				PcP		**PcP**	**07 17 49.2**	**+0.3**
	0.9nm,0.6s,baz=39,slow=2.7,SNR=7.3							
ASAR				S		**S**	**07 18 52.2**	**-2.6**
	0.8nm,0.6s,baz=55,slow=14,SNR=7.1							
ASAR				ScP		**ScP**	**07 20 57.5**	**+1.8**
	1.0nm,0.8s,baz=56,slow=2.8,SNR=7.7							
CMSA	**Cobar Meteorol**	**28.46**	**195**	P		**P**	**07 14 49.2**	**+0.1**
	baz=28,SNR=6.0							
STKA	**Stephens Creek**	**30.04**	**201**	P		**P**	**07 15 02.2**	**-0.8**
	0.7nm,0.4s,baz=31,slow=14,SNR=6.8							
WRKA	**Warakurna**	**32.27**	**227**	P		**P**	**07 15 21.5**	**-1.0**
	baz=32,SNR=11							
HTT	**Hallett**	**32.44**	**204**	P		**P**	**07 15 24.0**	**+0.2**
	baz=32,SNR=5.4							
BBOO	**Buckleboo**	**33.16**	**208**	P		**P**	**07 15 29.6**	**-0.4**
	baz=33,SNR=5.4							
MEEK	**Meekatharra**	**40.52**	**233**	P		**P**	**07 16 30.9**	**-0.7**
	baz=40,SNR=7.5							
ASAJ	**Asahikawa**	**48.93**	**349**	P		**P**	**07 17 37.4**	**+0.5**
	7.9nm,0.7s,baz=315,slow=8.7,SNR=4.6							
PETK	**Petropavlovsk-**	**56.97**	**3**	P		**P**	**07 18 35.2**	**+0.3**
	3.7nm,0.6s,baz=169

HNR				eS		Sn	07 12 59.0	+0.4
WRA	**Warramunga Arr**	**25.92**	**241**	P		P	07 17 21.9	+0.4
	1.2nm,0.7s,baz=65,slow=8.9,SNR=3.5							
ASAR	**Alice Springs**	**27.90**	**234**	P		P	07 17 38.9	-0.4
	0.4nm,0.5s,baz=64,slow=8.4,SNR=3.7							
SONM	**Songino Array**	**72.37**	**326**	P		P	07 23 13.5	+0.3
	0.8nm,0.6s,baz=138,slow=6.0,SNR=5.7							
MKAR	**Makanchi Array**	**86.70**	**318**	P		P	07 24 30.1	-0.5
	0.2nm,0.6s,baz=93,slow=6.6,SNR=3.5							

WEL 05 07:26:42.7±0.4, 44°.35S×167°.02E, h12km, ML3.5/10, Error ellipse: s-maj=3.7km s-min=2.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.72**	**117**	P*	Pg	07 26 55.9	-0.9
MSZ				S*	Sg	07 27 05.7	-0.6
MSZ				AML	AML	07 27 05.9	
MSZ				AML	AML	07 27 05.9	
MSZ				AML	AML	07 27 06.2	
DCZ	**Deep Cove**	**1.13**	**175**	P*	Pb	07 27 02.6	-1.5
DCZ				S*	Sb	07 27 17.3	-1.6
DCZ				AML	AML	07 27 20.6	
DCZ				AML	AML	07 27 22.3	
DCZ				AML	AML	07 27 22.3	
JCZ	**Jackson Bay**	**1.28**	**78**	PN	Pn	07 27 05.7	-0.9
JCZ				SN	Sb	07 27 22.6	-0.9
JCZ				AML	AML	07 27 29.3	
MLZ	**Mavora Lakes**	**1.29**	**141**	PN	Pn	07 27 05.9	-0.7
MLZ				S*	Sb	07 27 22.9	-0.7
MLZ				AML	AML	07 27 24.2	
WKZ	**Wanaka**	**1.50**	**109**	PN	Pn	07 27 09.4	-0.2
WKZ				SN	Sn	07 27 29.2	+0.1
WKZ				AML	AML	07 27 30.5	
WKZ				AML	AML	07 27 30.5	
WKZ				AML	AML	07 27 31.5	
WHZ	**Wether Hill Ro**	**1.68**	**157**	PN	Pn	07 27 11.3	-0.6
WHZ				AML	AML	07 27 34.9	
WHZ				AML	AML	07 27 40.0	
EAZ	**Earnscleugh**	**1.85**	**119**	PN	Pn	07 27 14.8	+0.6
EAZ				AML	AML	07 27 41.8	
EAZ				AML	AML	07 27 41.9	
EAZ				AML	AML	07 27 43.1	
EAZ				AML	AML	07 27 43.1	
FOZ	**Fox Glacier**	**2.08**	**69**	PN	Pn	07 27 17.5	+0.1
FOZ				AML	AML	07 27 55.6	
FOZ				AML	AML	07 27 56.2	
FOZ				AML	AML	07 27 56.2	
FOZ				AML	AML	07 27 56.9	
LBZ	**Lake Benmore**	**2.27**	**92**	PN	Pn	07 27 20.3	+0.2
LBZ				AML	AML	07 27 53.2	
LBZ				AML	AML	07 27 55.1	
TUZ	**Tuapeka**	**2.45**	**132**	AML	AML	07 27 56.9	
TUZ				AML	AML	07 27 57.3	
SYZ	**Scrubby Hill**	**2.65**	**146**	PN	Pn	07 27 25.2	0.0
ODZ	**Otahua Downs**	**2.67**	**106**	PN	Pn	07 27 25.5	-0.2

WEL 05 07:32:26.0±0.6, 44°.33S×167°.01E, h12km, ML3.8/11, Error ellipse: s-maj=5.0km s-min=2.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.74**	**118**	P*	Pg	07 32 39.1	-1.3
MSZ				AML	AML	07 32 49.1	
MSZ				AML	AML	07 32 49.4	
DCZ	**Deep Cove**	**1.15**	**175**	P*	Pb	07 32 46.5	-1.4
DCZ				AML	AML	07 33 03.8	
DCZ				AML	AML	07 33 03.8	
DCZ				AML	AML	07 33 05.5	
DCZ				AML	AML	07 33 05.5	
JCZ	**Jackson Bay**	**1.28**	**79**	PN	Pn	07 32 49.4	-0.6
JCZ				SN	Sb	07 33 05.6	-1.2
JCZ				AML	AML	07 33 08.9	
MLZ	**Mavora Lakes**	**1.31**	**141**	PN	Pn	07 32 49.3	-1.0
MLZ				SN	Sb	07 33 06.9	-0.7
MLZ				AML	AML	07 33 09.1	
WKZ	**Wanaka**	**1.52**	**110**	PN	Pn	07 32 53.0	-0.1
WKZ				SN	Sn	07 33 12.3	-0.6
WKZ				AML	AML	07 33 13.7	
WKZ				AML	AML	07 33 13.7	
WKZ				AML	AML	07 33 14.2	
WHZ	**Wether Hill Ro**	**1.70**	**157**	PN	Pn	07 32 54.4	-1.1
WHZ				SN	Sn	07 33 15.9	-1.3
WHZ				AML	AML	07 33 24.8	
EAZ	**Earnscleugh**	**1.87**	**120**	PN	Pb	07 32 59.1	-1.1
EAZ				SN	Sn	07 33 21.8	+0.4
EAZ				AML	AML	07 33 25.1	
EAZ				AML	AML	07 33 26.3	
EAZ				AML	AML	07 33 26.4	
FOZ	**Fox Glacier**	**2.08**	**69**	AML	AML	07 33 38.9	
FOZ				AML	AML	07 33 38.9	
FOZ				AML	AML	07 33 39.4	
FOZ				AML	AML	07 33 39.4	
LBZ	**Lake Benmore**	**2.28**	**93**	AML	AML	07 33 39.9	
LBZ				AML	AML	07 33 40.0	
TUZ	**Tuapeka**	**2.47**	**132**	AML	AML	07 33 40.1	
TUZ				AML	AML	07 33 40.1	
SYZ	**Scrubby Hill**	**2.67**	**147**	PN	Pn	07 33 08.2	-0.6
WVZ	**Waitaha Valley**	**2.98**	**66**	AML	AML	07 34 05.2	
DSZ	**Denniston Nort**	**4.36**	**55**	PN	Pn	07 33 29.6	-2.5

*IDC **05** 07:39:05.7±1.0, 8°.70S×157°.36E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.6/19, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=28.2km s-min=14.5km az=10.0*
*ISCJB **05** 07:39:08.1±1.0, 8°.7S±0°.2×157°.41E±0°.09, h16km, n7, σ1s28/8, mb3.7/5,* **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**106**	Pn	**Pn**	**07 39 48.1**	**-1.5**
	10nm,0.3s,baz=200,slow=12,SNR=2.8						
HNR				Pg	**Pb**	**07 39 53.5**	**-0.9**
	25nm,0.3s,baz=240,slow=7.1,SNR=6.2						
HNR				Lg	Lg	07 40 31.4	
	45nm,0.3s,baz=240,slow=23,SNR=7.1						
HNR	**Honiara**	**2.61**	**106**	*e*P	**Pg**	**07 40 00.0**	**+1.9**
WRA	**Warramunga Arr**	**24.94**	**241**	P	**P**	**07 44 30.5**	**-0.4**
	1.5nm,0.9s,baz=67,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**26.96**	**234**	P	**P**	**07 44 48.6**	**-0.5**
	0.4nm,0.9s,baz=67,slow=8.1,SNR=3.9						
STKA	**Stephens Creek**	**27.33**	**210**	P	**P**	**07 44 53.2**	**+0.9**
	1.7nm,0.7s,baz=33,slow=14,SNR=5.8						
SONM	**Songino Array**	**72.08**	**327**	P	**P**	**07 50 32.3**	**+0.6**
	0.3nm,0.8s,baz=145,slow=2.8,SNR=2.7						
MKAR	**Makanchi Array**	**86.27**	**318**	P	**P**	**07 51 49.0**	**-0.2**
	0.5nm,0.6s,baz=100,slow=6.0,SNR=6.4						

*IDC **05** 08:17:29.1±2.0, 54°.09N×86°.50E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML3.3/2, Error ellipse: s-maj=18.3km s-min=2.6km az=82.0*
*NNC **05** 08:17:30.3±6.6, 54°.05N×86°.46E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=52.0km s-min=42.0km az=0.0*
ISC 05 08:17:28.1±4.7, 54°.2N±0°.2×86°.6E±0°.2, h10km, n7, σ1s67/9, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**256**	*i*		08 22 50.0	
	baz=81,slow=332,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.07**	**256**	Pg	**Pg**	**08 17 46.8**	**-1.7**
	1.2nm,0.3s,baz=78,slow=17,SNR=8.7						
ZALV				Lg	Lg	08 18 02.4	
	2.3nm,0.3s,baz=77,slow=28,SNR=9.7						
KURK	**Kurchatov**	**5.99**	**237**	⇑Pn	**Pn**	**08 18 57.0**	**+0.3**
	0.5nm,0.6s						
KURK				⇓Sn	**Sn**	**08 20 07.8**	**+2.5**
	0.3nm,0.8s						
KURK				⇑Lg	Lg	08 20 40.8	
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.09**	**237**	⇑Pn	**Pn**	**08 18 58.2**	**+0.1**
	1.3nm,0.7s,baz=57,slow=12						
KURBB				⇑Sn	**Sn**	**08 20 08.2**	**+0.4**
	1.2nm,0.8s						
KURBB				⇓Lg	Lg	08 20 43.6	
	3.5nm,0.9s						
KURBB	**Kurchatov Arra**	**6.09**	**237**	Pn	**Pn**	**08 19 00.1**	**+2.0**
	0.4nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Lg	Lg	08 20 39.9	
	0.1nm,0.3s,baz=53,slow=33,SNR=5.7						
MK31	**Makanchi Array**	**7.91**	**202**	⇑Pn	Pn	08 19 27.8	+4.7
	0.4nm,0.6s,baz=27,slow=14,SNR=16						
MK31				Sn	**Sn**	**08 20 51.5**	**-1.2**
	0.4nm,0.6s,baz=186,slow=25,SNR=2.7						
MK31				⇓Lg	Lg	08 21 40.0	
	1.7nm,0.9s						
MKAR	**Makanchi Array**	**7.91**	**202**	Pn	**Pn**	**08 19 24.3**	**+1.2**
	0.3nm,0.3s,baz=21,slow=13,SNR=16						
MKAR				Sn	**Sn**	**08 20 52.2**	**-0.5**
	0.2nm,0.3s,baz=188,slow=24,SNR=5.7						
MKAR				Lg	Lg	08 21 37.4	
	0.0nm,0.3s,baz=20,slow=26,SNR=3.6						

IDC 05 08:21:01.1±8.9, 20°.58S×66°.15W, h161km±59km, mb3.1/2, mb1 3.2/3, mb1mx3.0/17, mbtmp2.9/3, MS4.0/1, Ms1 4.0/1, ms1mx3.4/8, Error ellipse: s-maj=108.1km s-min=32.8km az=22.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.67**	**336**	P	Pn	08 22 10.9	-0.2
	0.3nm,0.3s,baz=173,slow=4.5,SNR=11						
LPAZ				S	Sn	08 23 05.9	+0.1
	0.0nm,0.3s,baz=295,slow=17,SNR=3.4						
TEIG	**Tepich**	**45.98**	**331**	LR	LR	08 48 40.7	
	comp=Z,156nm,20.3s,baz=258,slow=36						
TXAR	**Lajitas Array**	**61.41**	**323**	P	P	08 31 00.5	0.0
	0.3nm,0.8s,baz=142,slow=8.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.62**	**69**	P	P	08 32 23.1	0.0
	0.4nm,0.4s,baz=256,slow=5.5,SNR=10						

IDC 05 08:32:47.0±10.0, 1°.90S×128°.36E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=163.6km s-min=134.7km az=103.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**162**	P	P	08 37 08.4	-0.5
	0.3nm,0.3s,baz=341,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**22.29**	**166**	P	P	08 37 46.5	+0.4
	1.3nm,0.6s,baz=347,slow=9.8,SNR=23						
STKA	**Stephens Creek**	**32.32**	**159**	P	P	08 39 17.9	-0.2
	0.4nm,0.3s,baz=334,slow=5.4,SNR=4.5						

WEL 05 08:59:46.3±0.4, 38°.62S×175°.80E, h153km±3km, ML3.4/9, 12C-1D, Error ellipse: s-maj=2.2km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.49**	**194**	PN	Pn	09 00 07.8	-0.2
KRVZ				SN	Sn	09 00 22.9	-1.8
WTVZ	**West Tongariro**	**0.52**	**198**	PN	Pn	09 00 08.1	0.0
WTVZ				SN	Sn	09 00 24.0	-1.0
NGZ	**Ngauruhoe**	**0.58**	**195**	PN	Pn	09 00 08.3	-0.2
NGZ				SN	Sn	09 00 25.2	-0.3
WPVZ	**Whakapapa**	**0.62**	**198**	PN	Pn	09 00 08.7	0.0
TUVZ	**Tukino**	**0.66**	**190**	⇑PN	Pn	09 00 09.0	+0.1
TUVZ				SN	Sn	09 00 25.3	-1.1
TRVZ	**Turoa**	**0.71**	**196**	PN	Pn	09 00 09.4	0.0
WNVZ	**Wahianoa**	**0.73**	**192**	⇑PN	Pn	09 00 09.5	0.0
HIZ	**Hauiti**	**0.74**	**278**	⇓PN	Pn	09 00 09.2	-0.1
PKVZ	**Pokaka**	**0.76**	**207**	PN	Pn	09 00 09.5	0.0
PKVZ				SN	Sn	09 00 26.7	-0.6
BKZ	**Black Stump Fm**	**0.77**	**136**	⇑PN	Pn	09 00 09.3	-0.3
MOVZ	**Moawhango**	**0.79**	**182**	⇑PN	Pn	09 00 09.5	-0.3
MTVZ	**Mangateitei**	**0.81**	**198**	PN	Pn	09 00 10.0	+0.1
BHHZ	**Black Hill Sta**	**0.90**	**167**	⇑PN	Pn	09 00 10.2	-0.3
NMHZ	**Naumai**	**0.92**	**122**	PN	Pn	09 00 11.3	+0.6
RAHZ	**Arahi**	**1.05**	**107**	PN	Pn	09 00 11.9	+0.1
MCHZ	**McNeill Hill**	**1.08**	**140**	⇑PN	Pn	09 00 12.7	+0.7
URZ	**Urewera**	**1.09**	**71**	⇑PN	Pn	09 00 10.9	-1.1
WHHZ	**Waihua**	**1.21**	**113**	PN	Pn	09 00 13.3	+0.1
SNGZ	**Shannon Statio**	**1.22**	**98**	PN	Pn	09 00 13.2	-0.1
WAZ	**Wanganui**	**1.30**	**209**	PN	Pn	09 00 14.0	0.0
PNHZ	**Pukenui**	**1.33**	**167**	PN	Pn	09 00 14.2	-0.1
CKHZ	**Cape Kidnapper**	**1.44**	**137**	PN	Pn	09 00 15.7	+0.3
KAHZ	**Kahuranaki**	**1.45**	**145**	PN	Pn	09 00 15.7	+0.2
TSZ	**Takapari Road**	**1.45**	**175**	⇑PN	Pn	09 00 15.2	-0.2
KNZ	**Kokohu**	**1.52**	**106**	PN	Pn	09 00 15.9	-0.3
WPHZ	**Waipukurau**	**1.53**	**161**	⇑PN	Pn	09 00 16.1	-0.2
RIGZ	**Rimuhau**	**1.54**	**94**	PN	Pn	09 00 16.1	-0.4
PXZ	**Pawanui**	**1.64**	**150**	⇑PN	Pn	09 00 17.2	-0.2
PRGZ	**Paritu Road**	**1.66**	**101**	PN	Pn	09 00 17.3	-0.4
DVHZ	**Dannevirke**	**1.71**	**170**	PN	Pn	09 00 17.6	-0.6
MHGZ	**Mahia Peninsul**	**1.73**	**109**	PN	Pn	09 00 18.4	-0.1
PRHZ	**Porangahau**	**1.77**	**159**	⇑PN	Pn	09 00 18.6	-0.3
POWZ	**Post Office Ro**	**1.77**	**181**	PN	Pn	09 00 18.3	-0.7
ANWZ	**Angora Road**	**1.92**	**164**	PN	Pn	09 00 20.2	-0.3
PRWZ	**Pori Road**	**1.94**	**176**	PN	Pn	09 00 20.4	-0.5
MRZ	**Mangatainoka R**	**2.05**	**185**	⇑PN	Pn	09 00 21.0	-1.1
MRZ				AML	AML	09 00 49.5	
MRZ				AML	AML	09 00 49.5	
BFZ	**Birch Farm**	**2.09**	**171**	PN	Pn	09 00 21.6	-0.9
TIWZ	**Tintock**	**2.16**	**178**	PN	Pn	09 00 22.4	-1.0
OGWZ	**Otaki Gorge**	**2.25**	**192**	PN	Pn	09 00 23.4	-1.1
HOWZ	**Holdsworth Sta**	**2.29**	**185**	PN	Pn	09 00 23.6	-1.3
KIW	**Kapiti Island**	**2.34**	**197**	PN	Pn	09 00 23.9	-1.7
TMWZ	**Te Maipa**	**2.49**	**178**	PN	Pn	09 00 25.9	-1.4
MTW	**Mount Morrison**	**2.55**	**185**	PN	Pn	09 00 26.3	-1.8
PLWZ	**Palliser**	**2.98**	**188**	PN	Pn	09 00 31.2	-2.3
QRZ	**Quartz Range**	**3.35**	**228**	PN	Pn	09 00 35.4	-2.7

IDC 05 09:12:12.0±3.5, 5°.02S×151°.89E, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.5/18, mbtmp3.9/2, Error ellipse: s-maj=137.2km s-min=46.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**228**	P	P	09 17 14.7	-0.1
	2.1nm,0.6s,baz=52,slow=10.0,SNR=23						
ASAR	**Alice Springs**	**25.38**	**221**	P	P	09 17 41.3	0.0
	1.8nm,0.6s,baz=58,slow=8.8,SNR=33						
TORD	**Torodi Ar. Bea**	**149.51**	**287**	PKPbc	PKPbc	09 32 04.0	-0.5
	0.5nm,0.9s,baz=97,slow=2.5,SNR=4.1						

*IDC **05** 09:18:41.6±1.0, 8°.76S×157°.52E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML4.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/28, Error ellipse: s-maj=27.9km s-min=15.8km az=178.0*
*ISCJB **05** 09:18:42.7±0.8, 8°.9S±0°.2×157°.6E±0°.1, h17km, mb3.7/6, Error ellipse: s-maj=25.5km s-min=15.2km az=162.6*
ISC 05 09:18:44.0±0.9, 8°.9S±0°.2×157°.64E±0°.08, h17km, n9, σ1s15/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.34**	**104**	Pn	**Pn**	**09 19 21.8**	**+0.1**
	38nm,0.3s,baz=279,slow=0.9,SNR=15						
HNR				Lg	Lg	09 20 00.9	
	75nm,0.3s,baz=139,slow=22,SNR=6.8						
HNR				LR	LR	09 20 19.6	
	comp=Z,287nm,21.5s,baz=333,slow=39						
HNR	**Honiara**	**2.34**	**104**	P	**Pn**	**09 19 21.0**	**-0.7**
HNR				S	**Sg**	**09 19 59.0**	**-0.3**
PMG	**Port Moresby**	**10.37**	**266**	LR	LR	09 25 09.0	
	comp=Z,170nm,18.3s,baz=157,slow=38						
WRA	**Warramunga Arr**	**25.07**	**241**	P	**P**	**09 24 08.0**	**+0.1**
	2.6nm,0.7s,baz=66,slow=9.4,SNR=14						
ASAR	**Alice Springs**	**27.05**	**234**	P	**P**	**09 24 25.2**	**-0.6**
	0.6nm,0.8s,baz=56,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**27.31**	**211**	P	**P**	**09 24 28.6**	**+0.7**
	1.7nm,0.6s,baz=34,slow=12,SNR=4.7						
ILAR	**Eielson Array**	**84.18**	**21**	P	**P**	**09 31 13.8**	**-0.3**
	0.4nm,0.9s,baz=234,slow=5.6,SNR=3.7						
MKAR	**Makanchi Array**	**86.55**	**318**	P	**P**	**09 31 24.9**	**-1.4**
	0.3nm,0.6s,baz=94,slow=6.6,SNR=3.7						
NVAR	**Mina Array Bea**	**90.83**	**51**	P	**P**	**09 31 49.2**	**+2.1**
	0.8nm,0.8s,baz=240,slow=6.1,SNR=5.9						

*NOU **05** 09:32:16.2±1.8, 18°.41S×168°.91E, h30km, MD3.4, ML3.3*
*IDC **05** 09:32:16.9±4.5, 18°.88S×169°.31E, h154km±43km, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=73.3km s-min=33.8km az=153.0*
*ISCJB **05** 09:32:19.1±1.6, 19°.5S±0°.2×169°.5E±0°.3, h200km, mb3.9/5, Error ellipse: s-maj=43.4km s-min=11.4km az=35.0*
ISC 05 09:32:20.2±2.0, 19°.5S±0°.3×169°.5E±0°.3, h200km, n10, σ2s35/14, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.61**	**222**	*e*P	**Pn**	**09 33 16.4**	**-0.8**
BAYA				*e*S	**Sn**	**09 34 02.3**	**+0.3**
DZM	**Mont Dzumac**	**3.85**	**228**	P	**Pn**	**09 33 19.1**	**-1.1**
	15nm,0.3s,baz=49,slow=18,SNR=241						
DZM				S	**Sn**	**09 34 12.6**	**+5.3**
	baz=252,slow=20,SNR=1.9						
DZM				LR	LR	09 34 35.2	
	comp=Z,147nm,19.3s,baz=203,slow=33						
DZM	**Mont Dzumac**	**3.85**	**228**	*e*P	**Pn**	**09 33 17.8**	**-2.4**
DZM				*e*S	**Sn**	**09 34 03.7**	**-3.6**
DZM				AMP		09 34 25.2	
	comp=Z,716nm,2.6s						
NORM	**Noumea**	**3.93**	**226**	*e*P	**Pn**	**09 33 20.2**	**-0.9**
NOUC	**Port Laguerre**	**3.97**	**229**	*e*P	**Pn**	**09 33 21.4**	**-0.1**
NOUC				*e*S	**Sn**	**09 34 08.3**	**-1.5**
NOUC				AMP		09 34 23.9	
	comp=Z,220nm,4.0s						
CTA	**Charters Tower**	**21.89**	**265**	P	**P**	**09 36 57.9**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=82,slow=15,SNR=4.5						
STKA	**Stephens Creek**	**27.93**	**238**	P	**P**	**09 37 54.6**	**+2.6**
	comp=Z,1.2nm,0.5s,baz=54,slow=9.7,SNR=5.9						
WRA	**Warramunga Arr**	**33.07**	**263**	P	**P**	**09 38 36.3**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=90,slow=8.4,SNR=20						
ASAR	**Alice Springs**	**33.31**	**256**	P	**P**	**09 38 39.8**	**+0.3**
	comp=Z,12nm,0.4s,baz=82,slow=8.7,SNR=415						
ILAR	**Eielson Array**	**90.39**	**17**	P	**P**	**09 44 58.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=232,slow=5.2,SNR=4.7						

*IDC **05** 09:32:42.5±1.0, 8°.39S×156°.98E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/19, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=27.5km s-min=17.8km az=8.0*
*ISCJB **05** 09:32:43.7±0.8, 8°.5S±0°.2×157°.1E±0°.1, h19km, mb3.5/6, Error ellipse: s-maj=22.3km s-min=16.2km az=173.3*
ISC 05 09:32:45.2±0.9, 8°.5S±0°.2×157°.1E±0°.1, h19km, n8, σ0s66/8, mb3.6/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.99**	**109**	Pn	**Pn**	**09 33 30.8**	**-0.7**
	37nm,0.3s,baz=290,slow=1.1,SNR=19						
HNR				Lg	Lg	09 34 22.8	
	86nm,0.3s,baz=126,slow=20,SNR=6.4						
HNR	**Honiara**	**2.99**	**109**	*e*P	**Pn**	**09 33 32.0**	**+0.4**
WRA	**Warramunga Arr**	**24.79**	**240**	P	**P**	**09 38 05.9**	**-0.3**
	1.9nm,0.8s,baz=66,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**26.86**	**233**	P	**P**	**09 38 25.1**	**+0.2**
	0.4nm,0.8s,baz=54,slow=9.5,SNR=4.6						
STKA	**Stephens Creek**	**27.39**	**210**	P	**P**	**09 38 29.9**	**+0.3**
	1.1nm,0.6s,baz=41,slow=11,SNR=3.1						
SONM	**Songino Array**	**71.69**	**327**	P	**P**	**09 44 06.4**	**+0.4**
	0.4nm,0.8s,baz=140,slow=5.3,SNR=3.7						
MKAR	**Makanchi Array**	**85.87**	**318**	P	**P**	**09 45 22.9**	**-0.9**
	0.2nm,0.6s,baz=102,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	**96.65**	**28**	P	**P**	**09 46 14.4**	**+0.6**
	0.2nm,0.8s,baz=270,slow=4.5,SNR=3.2						

*IDC **05** 09:32:56.5±0.8, 8°.25S×157°.14E, h0km, mb4.2/7, mb1 4.4/9, mb1mx4.2/20, mbtmp4.2/9, ML4.2/2, Error ellipse: s-maj=28.1km s-min=21.6km az=132.0*
*ISCJB **05** 09:32:57.6±0.6, 8°.33S±0°.10×157°.1E±0°.1, h19km, mb4.1/9, Error ellipse: s-maj=17.7km s-min=11.4km az=35.0*
*NEIC **05** 09:33:01.6±0.6, 8°.30S×157°.15E, h35km, mb4.5/2, Error ellipse: s-maj=17.5km s-min=12.9km az=148.0*
ISC 05 09:32:59.0±0.6, 8°.4S±0°.1×157°.1E±0°.1, h19km, n33, σ1s43/29, mb4.2/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.01**	**110**	Pn	**Pn**	**09 33 46.9**	**+1.2**
HNR	**Honiara**	**3.01**	**110**	Pn	**Pn**	**09 33 46.9**	**+1.2**
	163nm,0.3s,baz=193,slow=5.4,SNR=28						
HNR	**Honiara**	**3.01**	**110**	*i* S	**Pn**	**09 33 47.0**	**+1.3**
CTA	**Charters Tower**	**15.65**	**221**	Pn	**P**	**09 36 42.3**	**-0.4**
CTA	**Charters Tower**	**15.65**	**221**	Pn	**P**	**09 36 42.3**	**-0.4**
	0.2nm,0.3s,baz=25,slow=16,SNR=3.6						
RMQ	**Roma**	**19.65**	**203**	P	**Pn**	**09 37 28.6**	**+0.3**
	baz=19,SNR=4.1						
QLP	**Quilpie**	**21.81**	**212**	P	**P**	**09 37 51.0**	**+0.8**
	baz=21,SNR=5.0						
ARMA	**Armidale**	**22.50**	**192**	P	**P**	**09 38 00.4**	**+2.8**
	baz=22,SNR=4.6						
LHI	**Lord Howe Isla**	**23.08**	**176**	P	**P**	**09 37 59.7**	**-3.8**
	baz=22,SNR=3.4						
WRAB	**Tennant Creek**	**24.81**	**240**	*e*P	**P**	**09 38 20.7**	**+0.5**
	9.7nm,0.9s						
WRA	**Warramunga Arr**	**24.82**	**240**	P	**P**	**09 38 20.8**	**+0.5**
WRA	**Warramunga Arr**	**24.82**	**240**	P	**P**	**09 38 20.8**	**+0.5**
	8.3nm,0.8s,baz=65,slow=9.6,SNR=22						
CMSA	**Cobar Meteorol**	**25.35**	**203**	P	**P**	**09 38 25.2**	**+0.3**
	baz=25,SNR=14						
STKA	**Stephens Creek**	**27.45**	**210**	P	**P**	**09 38 45.0**	**+1.2**
STKA	**Stephens Creek**	**27.45**	**210**	P	**P**	**09 38 45.0**	**+1.2**
	8.1nm,0.7s,baz=34,slow=12,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.35**	**19**	T	T	10 07 13.1	
	baz=200,slow=77,SNR=44						
H11S2	**WAK

0.3nm,0.3s,baz=137,slow=11,SNR=5.9
SONM Songino Array 35.16 318 P **P** 09 59 08.7 0.0
0.2nm,0.6s,baz=113,slow=11,SNR=2.5
WRA Warramunga Arr 46.06 189 P **P** 10 00 37.2 -0.7
1.0nm,0.8s,baz=12,slow=8.8,SNR=16
MKAR Makanchi Array 50.75 310 P **P** 10 01 13.7 +0.1
0.6nm,0.9s,baz=90,slow=11,SNR=6.5
FINES FINESS Array B 78.75 334 P **P** 10 04 14.8 +0.8
2.1nm,0.9s,baz=63,slow=4.2,SNR=9.9

MAN 05 10:04:23.1, 17.95N×120.63E, h20km, mb4.4, ML3.3, MS3.2, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.17**	**261**	↑*iP*	Pb	10 04 29.4	+1.7
SIPP				*i* S	Sb	10 04 35.6	+4.7
ABRA	**Dolores**	**0.31**	**165**	*eP*	Pn	10 04 31.7	-0.7
ABRA				*eS*	Sn	10 04 39.0	+0.7
PIP	**Pasuquin**	**0.38**	**358**	↓*iP*	Pn	10 04 32.2	-1.1
PIP				*eS*	Sb	10 04 36.5	0.0
APYP	**Conner**	**0.59**	**98**	*eP*	Pb	10 04 34.4	-0.3
CVP	**Callao Caves**	**1.16**	**102**	*i* P	Pn	10 04 42.5	-1.6
CVP				*i* S	Sb	10 04 58.9	-0.1
CAUP	**Cauayan**	**1.52**	**131**	*eP*	Pb	10 04 50.0	-0.4
BCPH	**Baguio City Da**	**1.56**	**182**	↑*iP*	Pn	10 04 48.9	-1.0
BCPH				*i* S	Sn	10 05 08.8	-0.8
PALP	**Palanan**	**1.93**	**117**	*eP*	Pn	10 04 54.8	+0.1
BALP	**Baler**	**2.37**	**157**	*eP*	Pn	10 05 02.7	+1.9

*IDC **05** 10:07:17.0±1.0, 8.48S×157.20E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/19, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=27.1km s-min=14.8km az=14.0*
*ISCJB **05** 10:07:18.3±0.9, 8.55S±0.2×157.1E±0.1, h16km, mb3.8/6, Error ellipse: s-maj=23.6km s-min=16.6km az=176.0*
*NEIC **05** 10:07:22.1±0.9, 8.52S×157.24E, h35km, mb4.3/1, Error ellipse: s-maj=23.8km s-min=15.8km az=179.0*

ISC 05 10:07:19.4±0.9, 8.5S±0.2×157.2E±0.1, 0, h16km, n13, σ1§17/14, mb4.0/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.80**	**109**	Pn	**Pn**	**10 08 04.5**	**+0.9**
HNR				Lg	Lg	10 08 48.8	
HNR	**Honiara**	**2.80**	**109**	Pn	**Pn**	**10 08 04.4**	**+0.9**
	61nm,0.3s,baz=258,slow=2.0,SNR=27						
HNR				Pg	**Pb**	**10 08 08.0**	**-1.1**
	61nm,0.3s,baz=247,slow=5.7,SNR=27						
HNR				Lg	Lg	10 08 48.8	
	49nm,0.3s,baz=269,slow=20,SNR=11						
WRAB	**Tennant Creek**	**24.92**	**240**	*eP*	**P**	**10 12 42.0**	**0.0**
	7.3nm,0.8s						
WRA	**Warramunga Arr**	**24.93**	**240**	P	**P**	**10 12 41.8**	**-0.4**
WRA	**Warramunga Arr**	**24.93**	**240**	P	**P**	**10 12 41.8**	**-0.4**
	4.0nm,0.8s,baz=66,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**26.98**	**233**	P	**P**	**10 12 58.8**	**-1.9**
ASAR	**Alice Springs**	**26.98**	**233**	P	**P**	**10 12 58.8**	**-1.9**
	1.0nm,1.0s,baz=72,slow=8.9,SNR=6.7						
STKA	**Stephens Creek**	**27.45**	**210**	P	**P**	**10 13 06.0**	**+1.3**
STKA	**Stephens Creek**	**27.45**	**210**	P	**P**	**10 13 06.0**	**+1.3**
	2.4nm,0.6s,baz=27,slow=13,SNR=8.6						
SONM	**Songino Array**	**71.82**	**327**	P	**P**	**10 18 42.0**	**+0.6**
SONM	**Songino Array**	**71.82**	**327**	P	**P**	**10 18 42.0**	**+0.6**
	0.8nm,0.8s,baz=130,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**86.02**	**318**	P	**P**	**10 19 58.7**	**-0.6**
MKAR	**Makanchi Array**	**86.02**	**318**	P	**P**	**10 19 58.7**	**-0.6**
	0.3nm,0.6s,baz=96,slow=6.6,SNR=3.4						

IDC 05 10:18:53.0±7.9, 6.36S×148.58E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=109.1km s-min=81.1km az=17.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.34**	**205**	Pn	Pn	10 19 46.7	+0.2
	15nm,0.3s,baz=13,slow=7.5,SNR=52						
PMG				Sn	Sn	10 20 20.5	-6.5
	18nm,0.3s,baz=18,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**19.33**	**224**	P	P	10 23 19.8	-0.3
	0.2nm,0.3s,baz=52,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**22.26**	**218**	P	P	10 23 50.7	-1.1
	0.5nm,0.4s,baz=50,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**26.21**	**194**	P	P	10 24 30.7	+1.0
	0.4nm,0.3s,baz=13,slow=12,SNR=4.1						

IDC 05 10:19:20.1±2.0, 5.53S×151.38E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=136.8km s-min=28.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.91**	**228**	P	P	10 24 16.7	+1.6
	1.0nm,0.4s,baz=54,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**24.66**	**221**	P	P	10 24 42.0	-0.9
	0.3nm,0.4s,baz=56,slow=9.7,SNR=2.5						
ILAR	**Eielson Array**	**83.37**	**22**	P	P	10 31 49.1	+0.3
	0.3nm,0.5s,baz=254,slow=5.2,SNR=8.2						
TORD	**Torodi Ar. Bea**	**149.17**	**286**	PKPbc	PKPbc	10 39 10.7	-1.0
	0.8nm,0.6s,baz=85,slow=2.1,SNR=6.0						

*IDC **05** 10:33:14.0±1.1, 8.37S×157.11E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, ML4.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/25, Error ellipse: s-maj=27.3km s-min=17.5km az=16.0*
*ISCJB **05** 10:33:15.5±1.0, 8.4S±0.2×157.1E±0.1, h19km, mb3.5/5, Error ellipse: s-maj=25.1km s-min=16.9km az=3.7*

ISC 05 10:33:17.0±1.1, 8.4S±0.2×157.1E±0.1, h19km, n7, σ1§45/6, mb3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.01**	**111**	Pn	**Pn**	**10 34 03.6**	**-0.1**
	32nm,0.3s,baz=249,slow=4.1,SNR=21						
HNR				Lg	Lg	10 34 48.3	
	49nm,0.3s,baz=179,slow=18,SNR=7.3						
PMG	**Port Moresby**	**9.88**	**263**	LR	LR	10 39 12.9	
	comp=Z,67nm,20.8s,baz=245,slow=36						
WRA	**Warramunga Arr**	**24.85**	**240**	P	**P**	**10 38 38.3**	**-0.3**
	1.4nm,0.8s,baz=66,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**26.92**	**233**	P	**P**	**10 38 56.6**	**-0.8**
	0.5nm,0.9s,baz=62,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**27.48**	**210**	P	**P**	**10 39 03.1**	**+0.9**
	1.2nm,0.6s,baz=49,slow=12,SNR=6.0						
SONM	**Songino Array**	**71.61**	**327**	P	**P**	**10 44 38.9**	**+1.5**
	0.4nm,0.8s,baz=117,slow=5.0,SNR=3.7						
MKAR	**Makanchi Array**	**85.81**	**318**	P	**P**	**10 45 53.8**	**-1.6**
	0.4nm,0.9s,baz=108,slow=4.7,SNR=3.1						

*IDC **05** 10:33:26.5±1.0, 8.48S×156.83E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML4.7/1, Error ellipse: s-maj=31.6km s-min=22.4km az=136.0*
*ISCJB **05** 10:33:27.8±0.8, 8.6S±0.2×156.9E±0.1, h19km, mb3.8/7, Error ellipse: s-maj=22.6km s-min=15.6km az=165.8*

ISC 05 10:33:29.3±0.9, 8.6S±0.2×156.9E±0.1, h19km, n8, σ1§25/8, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.11**	**106**	Pn	**Pn**	**10 34 16.4**	**-1.0**
	92nm,0.3s,baz=246,slow=8.3,SNR=15						
WRA	**Warramunga Arr**	**24.60**	**240**	P	**P**	**10 38 48.1**	**-0.5**
	4.5nm,0.9s,baz=65,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**26.66**	**233**	P	**P**	**10 39 06.9**	**-0.3**
	1.9nm,1.0s,baz=71,slow=8.6,SNR=7.5						
STKA	**Stephens Creek**	**27.22**	**209**	P	**P**	**10 39 13.3**	**+1.2**
	2.9nm,0.7s,baz=21,slow=13,SNR=8.8						
SONM	**Songino Array**	**71.69**	**327**	P	**P**	**10 44 49.5**	**-0.6**
	1.1nm,0.9s,baz=105,slow=9.1,SNR=4.3						
MKAR	**Makanchi Array**	**85.84**	**318**	P	**P**	**10 46 06.5**	**-1.3**
	0.7nm,0.9s,baz=95,slow=6.7,SNR=4.3						
NVAR	**Mina Array Bea**	**91.19**	**51**	P	**P**	**10 46 34.9**	**+1.1**
	0.9nm,1.0s,baz=248,slow=4.8,SNR=4.3						
YKA	**Yellowknife Ar**	**96.83**	**28**	P	**P**	**10 46 60.0**	**+1.3**
	0.1nm,0.5s,baz=261,slow=3.5,SNR=4.0						

IDC 05 10:36:33.0±9.4, 2.45S×139.83E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=380.0km s-min=29.8km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.20**	**197**	P	Pn	10 40 46.5	-0.8
	0.1nm,0.3s,baz=22,slow=13,SNR=4.7						
ASAR	**Alice Springs**	**21.86**	**195**	P	P	10 41 28.1	+0.5
	0.4nm,0.8s,baz=14,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**70.27**	**322**	P	P	10 47 48.2	0.0
	0.4nm,0.5s,baz=104,slow=7.8,SNR=9.0						

*IDC **05** 10:54:15.2±0.7, 8.33S×124.89E, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.3/13, ML4.1/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/28, Error ellipse: s-maj=30.4km s-min=15.1km az=54.0*
*NEIC **05** 10:54:20.4±0.5, 8.45S×124.85E, h35km, mb4.5/5, Error ellipse: s-maj=20.3km s-min=8.8km az=51.0*
NEIC Felt [III] at Alor.
*DJA **05** 10:54:21.3±0.5, 9.3S×12.5E±°, h139km±13km, M4.6/12, mb4.7/11, mB4.9/3, MLv4.7/12, Mw(mB)4.2/3*

ISC 05 10:54:19.2±0.5, 8.38S±0.05×124.90E±0.06, h24km, n74, σ1§34/55, mb4.4/19, MS3.9/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.50**	**205**	P	**Pb**	**10 54 47.4**	**+0.9**
SOEI	**Soe**	**1.50**	**205**	P	**Pb**	**10 54 45.4**	**-1.1**
	baz=1.5,SNR=146						
MMRI	**Maumere**	**2.65**	**264**	P	**Pb**	**10 55 03.6**	**-2.4**
BBSI	**Bau Bau**	**3.69**	**321**	P	**Pn**	**10 55 16.9**	**+2.1**
WSI	**Waingapu**	**4.73**	**254**	P	Pn	10 55 21.4	-7.6
LBFI	**Labuhan Bajo,**	**4.96**	**269**	P	x	10 55 37.0	
KKSI	**Kolaka, Sulawe**	**5.29**	**322**	P	x	10 55 37.4	
	75nm,0.5s,1µm0.4nm						
NLAI	**Namlea**	**5.56**	**23**	P	Pn	10 55 46.8	+6.3
	83nm,0.7s,0.2nm						
BKSI	**Bulukumba**	**5.64**	**302**	P	**Pn**	**10 55 43.6**	**+2.0**
	48nm,0.9s,0.1nm						
BNSI	**Bone**	**6.19**	**309**	P	Pn	10 55 52.9	+3.7
	102nm,1.1s,0.3nm						
SAUI	**Saumlaki**	**6.34**	**87**	P	**Pn**	**10 55 53.4**	**+2.1**
	164nm,0.7s,0.9nm						
SPSI	**Sidrap Palu**	**6.73**	**310**	P	Pn	10 56 00.5	+3.9
	50nm,1.2s,0.2nm						
TTSI	**Tana Toraja**	**7.33**	**316**	P	Pn	10 56 08.5	+3.7
	38nm,0.9s,0.1nm						
MTN	**Manton Dam**	**7.56**	**126**	P	**Pn**	**10 56 07.8**	**-0.2**
	baz=7.4,SNR=68						
LUWI	**Luwuk**	**7.59**	**344**	P	**Pn**	**10 56 09.9**	**+1.4**
	135nm,1.0s,0.5nm						
LUWI	**Luwuk**	**7.59**	**344**	P	Pn	10 56 14.3	+5.8
	baz=7.8,SNR=3.1						
APSI	**Ampana**	**8.10**	**336**	P	**Pn**	**10 56 16.6**	**+1.2**
	76nm,0.8s,832nm						
KNRA	**Kununurra**	**8.17**	**153**	P	**Pn**	**10 56 16.5**	**+0.1**
	baz=8.1,SNR=80						
KNRA				S	**Sn**	**10 57 48.2**	**+0.2**
	baz=8.1,SNR=6.4						
KDU	**Kakadu**	**8.58**	**121**	P	**Pn**	**10 56 20.8**	**-1.3**
	baz=8.4,SNR=8.1						
MTNI	**Mataram**	**8.64**	**268**	P	x	10 56 18.7	
FITZ	**Fitzroy Crossi**	**9.69**	**176**	LR	LR	11 01 23.9	
	comp=Z,348nm,18.2s,baz=1,3,slow=44						
WRA	**Warramunga Arr**	**14.68**	**143**	Pn	Pn	10 57 40.2	-5.3
WRA				Sn	Sn	11 00 16.2	-11
WRA	**Warramunga Arr**	**14.68**	**143**	Pn	Pn	10 57 40.2	-5.3
	2.3nm,0.3s,baz=312,slow=15,SNR=69						
WRA				Sn	Sn	11 00 16.2	-11
	1.4nm,0.3s,baz=315,slow=24,SNR=8.1						
WRKA	**Warakurna**	**16.88**	**169**	P	**Pn**	**10 58 11.9**	**-2.1**
	baz=17,SNR=44						
ASAR	**Alice Springs**	**17.47**	**151**	P	**Pn**	**10 58 19.6**	**-1.9**
ASAR				S	Sn	11 01 23.9	-12
ASAR	**Alice Springs**	**17.47**	**151**	P	**Pn**	**10 58 19.6**	**-1.9**
	0.6nm,0.3s,baz=322,slow=10,SNR=34						
ASAR				S	Sn	11 01 23.9	-12
	0.4nm,0.3s,baz=319,slow=20,SNR=8.6						
ASAR				LR	LR	11 06 18.0	
	comp=Z,401nm,19.8s,baz=322,slow=41						
QIS	**Mount Isa**	**18.66**	**132**	P	**Pn**	**10 58 35.7**	**-0.4**
	baz=18,SNR=9.5						
COEN	**Coen**	**18.76**	**109**	*eP*	**Pn**	**10 58 36.9**	**-0.4**
	90nm,0.8s						
COEN	**Coen**	**18.76**	**109**	P	**Pn**	**10 58 36.8**	**-0.4**
	baz=19,SNR=8.8						
MEEK	**Meekatharra**	**19.11**	**197**	P	**Pn**	**10 58 44.0**	**+2.5**
	baz=19,SNR=9.8						
MEEK				S	Sn	11 02 05.1	-10
	baz=19,SNR=4.2						
PMBI	**Palembang**	**20.75**	**284**	S	**S**	**11 02 50.7**	**+1.6**
	baz=21,SNR=9.1						
PMG	**Port Moresby**	**22.01**	**94**	*eP*	**P**	**10 59 14.3**	**+2.3**
PMG	**Port Moresby**	**22.01**	**94**	P	**P**	**10 59 13.2**	**+1.2**
	31nm,0.9s,baz=269,slow=7.6,SNR=12						
CTA	**Charters Tower**	**23.71**	**122**	P	**P**	**10 59 27.9**	**-1.6**
CTA	**Charters Tower**	**23.71**	**122**	P	**P**	**10 59 27.9**	**-1.6**
	3.3nm,0.9s,baz=292,slow=12,SNR=3.5						
QLP	**Quilpie**	**25.77**	**137**	P	**P**	**10 59 51.8**	**+3.4**
	baz=26,SNR=4.4						
STKA	**Stephens Creek**	**28.06**	**149**	P	**P**	**11 00 08.8**	**-0.1**
STKA	**Stephens Creek**	**28.06**	**149**	P	**P**	**11 00 08.8**	**-0.1**
	1.9nm,0.8s,baz=333,slow=4.7,SNR=6.2						
STKA				LR	LR	11 12 18.7	
	comp=Z,316nm,19.4s,baz=214,slow=38						
CHAI	**Chaiyaphum**	**33.12**	**317**	P	P	11 00 59.7	+5.9
	2.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**36.98**	**316**	P	**P**	**11 01 26.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**36.98**	**316**	P	**P**	**11 01 26.8**	**-0.2**
	2.1nm,0.7s,baz=147,slow=6.7,SNR=10						
CMAR				LR	LR	11 17 50.8	
	comp=Z,91nm,20.4s,baz=163,slow=38						
CHTO	**Chiang Mai**	**37.23**	**317**	P	P	11 01 32.5	+3.4
	30nm,1.4s						
CMAI	**Chiengmai2**	**37.94**	**318**	P	P	11 01 39.0	+3.7
	16nm,0.8s						
MJAR	**Matsushiro Arr**	**46.40**	**15**	P	**P**	**11 02 43.1**	**-0.7**
MJAR	**Matsushiro Arr**	**46.40**	**15**	P	**P**	**11 02 43.1**	**-0.7**
	6.3nm,1.0s,baz=188,slow=8.6,SNR=9.5						
H08S2	**Diego Garcia H**	**51.87**	**267**	T	T	11 59 46.7	
	baz=96,slow=75,SNR=52						
H08S3	**Diego Garcia H**	**51.88**	**267**	T	T	11 59 48.8	
	baz=96,slow=75,SNR=52						
H08S1	**Diego Garcia H**	**51.89**	**267**	T	T	11 59 47.8	
	baz=96,slow=75,SNR=47						
USRK	**Ussuriysk Arra**	**52.73**	**6**	P	**P**	**11 03 30.6**	**-1.4**
	3.4nm,0.7s,baz=185,slow=6.8,SNR=5.8						
ULN	**Ulaanbaatar**	**58.19**	**346**	*eP*	**P**	**11 04 12.0**	**+0.6**
	4.4nm,0.9s						
SONM	**Songino Array**	**58.32**	**345**	P	**P**	**11 04 11.4**	**-1.0**
SONM	**Songino Array**	**58.32**	**345**	P	**P**	**11 04 11.4**	**-1.0**
	2.6nm,0.9s,baz=162,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**66.73**	**330**	P	**P**	**11 05 08.5**	**+0.1**
MKAR	**Makanchi Array**	**66.73**	**330**	P	**P**	**11 05 08.5**	**+0.1**
	4.6nm,0.7s,baz=130,slow=6.6,SNR=42						
PETK	**Petropavlovsk-**	**67.30**	**21**	P	**P**	**11 05 11.5**	**-0.4**
PETK	**Petropavlovsk-**	**67.30**	**21**	P	**P**	**11 05 11.5**	**-0.4**
	2.5nm,0.7s,baz=191,slow=5.6,SNR=8.4						
AAK	**Ala-Archa**	**68.43**	**322**	*eP*	**P**	**11 05 20.3**	**+0.9**
AAK	**Ala-Archa**	**68.43**	**322**	P	**P**	**11 05 19.9**	**+0.5**
	1.4nm,0.6s,baz=155,slow=8.0,SNR=4.9						
ZAA0	**Zalesovo Array**	**70.69**	**336**	*eP*	**P**	**11 05 32.4**	**-0.5**
ZALV	**Zalesovo Beam**	**70.69**	**336**	P	**P**	**11 05 31.1**	**-1.8**
ZALV	**Zalesovo Beam**	**70.69**	**336**	P	**P**	**11 05 31.1**	**-1.8**
	5.4nm,0.8s,baz=103,slow=6.5,SNR=15						
KURBB	**Kurchatov Arra**	**71.14**	**331**	P	**P**	**11 05 34.8**	**-1.0**
	1.8nm,0.7s,baz=137,slow=5.1,SNR=18						
KURK	**Kurchatov**	**71.16**	**331**	*eP*	**P**	**11 05 35.7**	**-0.1**
VNDA	**Vanda**	**71.74**	**172**	LR	LR	11 37 04.6	
	comp=Z,99nm,19.5s,baz=320,slow=36						
TIXI	**Tiksi**	**79.90**	**1**	*eP*	**P**	**11 06 25.7**	**+0.1**
	4.0nm,0.9s						
ABKAR	**Akbulak array**	**80.50**	**323**	*eP*	**P**	**11 06 29.4**	**+0.1**
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**81.61**	**180**	*eP*	**P**	**11 06 37.5**	**+2.4**
	5.7nm,1.0s						
AKASG	**Malin Array Be**	**100.02**	**320**	LR	LR	12 02 38.5	
	comp=Z,28nm,18.4s,baz=280,slow=41						
TORD	**Torodi Ar. Bea**	**124.10**	**280**	PKP	**PKPdf**	**11 13 15.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**124.10**	**280**	PKP	**PKPdf**	**11 13 15.9**	**-0.8**
	0.7nm,0.8s,baz=68,slow=2.3,SNR=4.3						
CPUP	**Villa Florida**	**145.43**	**176**	PKPbc	**PKPdf**	**11 13 56.5**	**+0.5**
	0.5nm,0.3s,baz=257,slow=20,SNR=4.5						
LPAZ	**La Paz**	**152.30**	**152**	PKPbc	**PKPbc**	**11 14 15.2**	**+0.3**
LPAZ	**La Paz**	**152.30**	**152**	PKPbc	**PKPbc**	**11 14 15.2**	**+0.3**
	2.1nm,0.8s,baz=130,slow=1.7,SNR=6.7						

WEL 05 10:56:36.1±0.9, 46.71S×165.95E, h33km, ML3.5/8, 1C, Error ellipse: s-maj=10.0km s-min=3.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**1.41**	**96**	↑P	Pn	10 56 58.5	-1.0
APZ				Sn	Sn	10 57 14.6	-2.3
APZ				AML	AML	10 57 19.1	
DCZ	**Deep Cove**	**1.49**	**35**	PN	Pn	10 56 58.6	-1.8
DCZ				SN	Sn	10 57 16.9	-1.9
DCZ				AML	AML	10 57 17.4	
DCZ				AML	AML	10 57 21.4	
DCZ				AML	AML	10 57 27.5	
WHZ	**Wether Hill Ro**	**1.61**	**60**	PN	Pn	10 57 01.3	-0.9
WHZ				SN	Sn	10 57 21.4	-0.4
WHZ				AML	AML	10 57 26.6	
MLZ	**Mavora Lakes**	**2.06**	**50**	PN	Pn	10 57 07.5	-0.9
MLZ				AML	AML	10 57 37.6	
MLZ				AML	AML	10 57 46.9	
SYZ	**Scrubby Hill**	**2.21**	**87**	PN	Pn	10 57 09.7	-0.6
SYZ				AML	AML	10 57 38.1	
MSZ	**Milford Sound**	**2.46**	**35**	PN	Pn	10 57 12.8	-1.1
MSZ				AML	AML	10 57 53.9	
MSZ				AML	AML	10 57 54.9	
TUZ	**Tuapeka**	**2.66**	**75**	PN	Pn	10 57 16.7	+0.1
TUZ				AML	AML	10 57 48.5	
EAZ	**Earnscleugh**	**2.77**	**59**	PN	Pn	10 57 18.3	+0.2
EAZ				AML	AML	10 57 52.9	
EAZ				AML	AML	10 57 53.9	
WKZ	**Wanaka**	**2.85**	**50**	PN	Pn	10 57 19.1	-0.2
JCZ	**Jackson Bay**	**3.29**	**38**	PN	Pn	10 57 26.2	+0.7
ODZ	**Otahua Downs**	**3.68**	**65**	PN	Pn	10 57 28.6	-2.0

*ISCJB **05** 11:23:20.3±0.9, 33.97N±0.07×14.88E±0.07, h10km, mb3.6/5, Error ellipse: s-maj=9.8km s-min=8.0km az=24.0*
*IDC **05** 11:23:21.4±1.2, 34.23N×14.84E, h0km, mb3.7/5, mb1 3.7/9, mb1mx3.6/30, mbtmp3.7/9, ML3.5/4, Error ellipse: s-maj=32.4km s-min=20.5km az=152.0*
*ROM **05** 11:23:23.1±0.7, 34.12N×14.97E, h10km, Ml4.1/19, Error ellipse: s-maj=14.6km s-min=8.2km az=57.0*

ISC 05 11:23:22.2±1.1, 34.03N±0.09×14.86E±0.08, h10km, n29, σ1§05/32, mb3.9/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDD	**Wield Dalam**	**1.86**	**352**	Pn	**Pn**	**11 23 53.6**	**-0.5**
WDD				Sn	**Sn**	**11 24 16.6**	**-1.0**
	1µm,0.5s						
HMDC	**Modica**	**2.93**	**359**	Pn	**Pn**	**11 24 08.8**	**0.0**
	1µm,1.0s						
HAVL	**Avola**	**2.94**	**4**	Pn	**Pn**	**11 24 08.6**	**-0.4**
HAVL				Sn	**Sn**	**11 24 43.9**	**-0.4**
	798nm,0.4s						
SSY	**Sortino**	**3.13**	**3**	Pn	**Pn**	**11 24 11.4**	**-0.2**
	1µm,0.6s						
HVZN	**Vizzini**	**3.15**	**358**	Pn	**Pn**	**11 24 12.5**	**+0.6**
	1µm,0.5s						
RAFF	**Raffo Rosso**	**3.21**	**353**	Pn	**Pn**	**11 24 13.4**	**+0.6**
	1µm,1.2s						
HCRL	**Carlentini**	**3.25**	**2**	Pn	**Pn**	**11 24 13.1**	**-0.2**
	2µm,0.7s						
ECNV	**Catenanuova**	**3.56**	**358**	Pn	**Pn**	**11 24 18.5**	**+0.9**
	841nm,0.8s						
RESU	**Resuttano**	**3.67**	**350**	Pn	**Pn**	**11 24 21.3**	**+2.2**
	212nm,0.7s						
GALF	**Gagliano Caste**	**3.69**	**356**	Pn	**Pn**	**11 24 20.2**	**+0.9**
	217nm,0.7s						
MMME	**Mongiuffi-Meli**	**3.92**	**5**	Pn	**Pn**	**11 24 22.8**	**+0.3**
	242nm,0.5s						
CSLB	**Castelbuono**	**3.96**	**351**	Pn	**Pn**	**11 24 24.8**	**+1.8**
	90nm,0.7s						
GIB	**Gibilmanna**	**4.01**	**351**	Pn	**Pn**	**11 24 26.3**	**+2.5**
	481nm,0.7s						
MPAZ	**Palizzi**	**4.03**	**13**	Pn	**Pn**	**11 24 23.8**	**-0.2**
	80nm,0.5s						
SOI	**Samo**	**4.15**	**13**	Pn	**Pn**	**11 24 25.6**	**-0.1**
	94nm,0.6s						
MSRU	**Castanea**	**4.26**	**7**	Pn	**Pn**	**11 24 27.8**	**+0.6**
	451nm,0.9s						
CEL	**Celeste**	**4.31**	**11**	Pn	**Pn**	**11 24 28.3**	**+0.5**
	131nm,0.9s						
VPL	**Vulcano Piano**	**4.35**	**1**	Pn	**Pn**	**11 24 29.0**	**+0.7**
	345nm,0.7s						
PLAC	**Placanica**	**4.60**	**16**	Pn	**Pn**	**11 24 32.2**	**+0.4**
	94nm,0.7s						
KEST	**Kesra**	**4.84**	**292**	Pn	**Pn**	**11 24 34.1**	**-1.0**
	0.7nm,0.3s,baz=76,slow=13,SNR=11						
KEST				Sn	**Sn**	**11 25 31.2**	**0.0**
	1.4nm,0.3s,baz=54,slow=23,SNR=7.2						
SERS	**Sersale**	**5.21**	**16**	Pn	**Pn**	**11 24 40.2**	**-0.2**
	109nm,1.6s						
IDI	**Anoyia**

MCHZ	McNeill Hill	3.03	238	PN	Pn	11 43 35.8	+1.2
BKZ	Black Stump Fm	3.05	244	⇑PN	Pn	11 43 36.1	+1.2
BKZ				AML	AML	11 43 45.0	
BKZ				AML	AML	11 44 12.8	
KAHZ	Kahuranaki	3.11	231	PN	Pn	11 43 36.2	+0.5
PXZ	Pawanui	3.27	228	⇑PN	Pn	11 43 37.4	-0.4
BHHZ	Black Hill Sta	3.49	241	PN	Pn	11 43 41.6	+0.6
WPHZ	Waipukurau	3.54	231	PN	Pn	11 43 41.8	+0.2
PNHZ	Pukenui	3.61	235	PN	Pn	11 43 43.2	+0.6
KUZ	Kuaotunu	3.61	287	PN	Pn	11 43 42.0	-0.5
MOVZ	Moawhango	3.67	244	PN	Pn	11 43 45.1	+1.6
TSZ	Takapari Road	3.84	234	PN	Pn	11 43 45.4	-0.4
DVHZ	Dannevirke	3.85	230	PN	Pn	11 43 45.5	-0.4
MKAZ	Moumakai	3.94	280	PN	Pn	11 43 46.9	-0.1
BFZ	Birch Farm	4.05	225	PN	Pn	11 43 46.7	-1.9
PRWZ	Pori Road	4.12	228	PN	Pn	11 43 49.6	0.0
MRZ	Mangatainoka R	4.42	230	PN	Pn	11 43 52.8	-1.0
MRZ				AML	AML	11 44 43.1	
MRZ				AML	AML	11 44 48.1	
HOWZ	Holdsworth Sta	4.61	228	PN	Pn	11 43 55.0	-1.3
MTW	Mount Morrison	4.79	225	PN	Pn	11 43 56.6	-2.2
CAW	Cannon Point	5.00	228	PN	Pn	11 44 00.2	-1.5
RPZ	Rata Peaks	8.95	227	Pn	Pn	11 44 52.8	-3.1
	0.3nm,0.3s,baz=76,slow=18,SNR=2.6						
RPZ				Sn	Sn	11 46 26.8	-11
	1.2nm,0.3s,baz=326,slow=21,SNR=9.3						
ASAR	Alice Springs	41.67	276	P	P	11 50 35.7	0.0
	0.4nm,0.6s,baz=127,slow=9.0,SNR=6.6						
WRA	Warramunga Arr	43.33	281	P	P	11 50 48.8	-0.5
	0.4nm,0.3s,baz=122,slow=7.6,SNR=3.7						
ARCES	ARCESS Array B	145.45	345	PKPbc	PKPbc	12 02 24.6	+0.5
	1.2nm,0.5s,baz=29,slow=3.5,SNR=9.1						
FINES	FINESS Array B	151.38	334	PKPbc	PKPbc	12 02 41.1	+1.1
	2.7nm,1.0s,baz=28,slow=3.3,SNR=3.8						

HEL 05 12:02:26.2±0.6, 59°21N×27°77E, h0km, ML1.4, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	Vasula	0.93	216	eP	Pg	12 02 44.0	+0.1
VSU				eS	Sg	12 02 56.8	+0.9
VJF	Virojoki	1.33	355	eP	Pg	12 02 49.7	-2.0
VJF				eSB	Sg	12 03 07.4	-1.6
VJF				MSG		12 03 07.4	
	comp=Z,2.2nm,0.2s						
PVF	Pernaja	1.65	325	eP	Pn	12 02 55.8	-0.6
PVF				MSG	S	12 03 17.1	-1.3
	comp=Z,1.8nm,0.1s						
PVF				eS	S	12 03 17.1	-1.3
MEF	Metsahovi	1.99	302	ePB	Pn	12 03 01.9	+0.9
MEF				MSG	Sb	12 03 27.7	-0.8
	comp=Z,2.7nm,0.1s						
MEF				eSB	Sb	12 03 27.7	-0.8
MTSE	Matsula	2.11	258	eP	Pn	12 03 03.6	+0.9
MTSE				eS	Sb	12 03 30.9	-1.1
FIA0	FINESS Array S	2.39	340	eP	Pn	12 03 06.6	0.0
FIA0				ePB	Pb	12 03 07.7	-2.4
FIA0				eS	Sn	12 03 36.4	-0.1
FIA0				eSG	Sb	12 03 40.2	+0.1
FIA0				MSG		12 03 40.4	
	comp=Z,2.9nm,0.4s						
KAF	Kangasniemi	3.00	347	ePB	Pn	12 03 17.6	+2.7
RAF	Rauma	3.51	304	eP	Pn	12 03 23.1	+1.1
SUF	Sumiainen	3.61	348	MSG	Sg	12 04 16.7	-5.3
	comp=Z,0.9nm,0.2s						
SUF				eSG	Sg	12 04 16.7	-5.3
JOF	Joensuu	4.10	23	eP	Pn	12 03 29.9	-0.1

IDC 05 12:04:14.8±4.7, 58°75S×16°24W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.6/16, mbtmp3.7/1, Error ellipse: s-maj=215.6km s-min=90.3km az=78.0, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea	73.12	18	P	P	12 15 46.8	0.0
	0.5nm,0.7s,baz=197,slow=5.3,SNR=4.0						
YKA	Yellowknife Ar	142.28	311	PKP	PKPdf	12 23 46.9	-0.6
	0.2nm,0.6s,baz=109,slow=1.6,SNR=4.8						
SONM	Songino Array	145.09	82	PKPbc	PKPbc	12 23 51.8	-0.9
	2.0nm,1.1s,baz=230,slow=4.3,SNR=10						

IDC 05 12:06:34.4±1.4, 6°99S×128°60E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, ML4.2/2, Error ellipse: s-maj=59.0km s-min=29.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.03	157	Pn	Pn	12 09 54.0	-0.6
	1.5nm,0.3s,baz=338,slow=13,SNR=35						
WRA				Sn	Sn	12 12 17.6	-14
	4.0nm,0.3s,baz=331,slow=22,SNR=13						
ASAR	Alice Springs	17.35	163	P	Pn	12 10 38.4	+0.2
	0.6nm,0.3s,baz=336,slow=10,SNR=38						
ASAR				S	Sn	12 13 31.1	-21
	0.5nm,0.3s,baz=331,slow=17,SNR=5.8						
PETK	Petropavlovsk-	64.76	19	P	P	12 17 15.2	+0.6
	2.9nm,0.9s,baz=212,slow=5.1,SNR=5.9						
MKAR	Makanchi Array	67.46	327	P	P	12 17 32.1	-0.1
	0.4nm,0.5s,baz=123,slow=8.0,SNR=8.3						
KURBB	Kurchatov Arra	71.78	329	P	P	12 17 58.2	-0.4
	0.4nm,0.5s,baz=130,slow=4.9,SNR=7.5						

DJA 05 12:10:51.7±0.8, 1°S±3°×12°1E±°, h19km±10km, M4.1/10, mb4.5/1, MLv3.9/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	Ampana	0.93	80	P	Pb	12 11 08.5	-0.8
MRSI	Marisa	1.96	38	P	Pn	12 11 22.2	-1.8
MRSI				S	Sb	12 11 49.8	-1.2
LUWI	Luwuk	2.04	89	P	Pn	12 11 24.1	-1.0
LUWI				S	Sn	12 11 51.3	+1.2
TTSI	Tana Toraja	2.15	205	P	Pn	12 11 26.2	-0.4
TTSI				S	Sb	12 11 55.3	-1.2
TOLI	Toli-Toli	2.19	2	P	x	12 11 24.2	
MMSI	Mamuju	2.42	229	P	x	12 11 29.0	
MMSI				S	x	12 11 59.0	
GTOI	Gorontalo	2.85	53	P	Pn	12 11 37.9	+1.7
MJSI	Majene	3.01	215	P	x	12 11 42.6	
SPSI	Sidrap Palu	3.02	199	P	Pn	12 11 37.1	-1.5
BNSI	Bone	3.36	191	P	Pn	12 11 42.6	-0.6
BKSI	Bulukumba	4.26	188	P	Pn	12 11 55.0	-0.6
MYLDM	Lahad Datu	6.61	340	P	x	12 12 30.4	

*IDC **05** 12:15:29.8±0.3, 8°99S×157°44E, h0km, mb5.0/26, mb1 5.0/28, mb1mx5.0/28, mbtmp5.0/28, ML4.1/2, MS6.4/28, Ms1 6.4/28, ms1mx6.3/38, Error ellipse: s-maj=10.6km s-min=8.2km az=77.0*

*ISCJB **05** 12:15:30.2±0.9, 9°01S±0°03×157°53E±0°02, h12km±5km, mb6.0/261, MS6.6/240, Error ellipse: s-maj=4.2km s-min=3.3km az=175.5*

*BJI **05** 12:15:30.5, 8°61S×157°93E, h19km, mB6.4/58, mb5.6/48, Ms6.8/78, Ms7 6.5/71*

*NEIC **05** 12:15:32.2±2.3, 9°02S×157°55E, h15km±14km, mb6.2/188, ME6.4, MS6.7/161, MW6.8, MW6.8, Error ellipse: s-maj=4.8km s-min=4.2km az=171.0, Energy computed from CMT mechanism.*

NEIC Felt [II] at Honiara. A 3 cm tsunami was recorded at Honiara.

*GCMT **05** 12:15:32.2±0.1, 9°11S×157°77E, h12km, MW6.8/133, Moment Tensor Solution. s133,c342; s133,c593; Duration: 6s4 Moment tensor: Scale 10¹⁹Nm; Mrr1.44±.01; Mθθ-0.96±.01; Mϕϕ-0.47±.01; Mrθ0.75±.02; Mrϕ1.08±.01; Mθr-1.29±.02; Best double couple: M₀2.22700×10¹⁹ NP1:ϕs144.00000°, δ67.00000°, λ105.00000°. NP2:ϕs290.00000°, δ27.00000°, λ58.00000°. Principal axes: T 2.1020, Plg65.0000°, Azm80.0000°; N 0.2540, Plg14.0000°, Azm318.0000°; P -2.3520, Plg21.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **05** 12:15:34.0±1.3, 9°00S×157°56E, h33km, mb6.3/57, MS6.6/64 Error ellipse: s-maj=7.0km s-min=6.4km az=100.7*

*NEIC **05** 12:15:36.0±0.0, 8°89S×157°52E, h15km Best double couple: NP1:ϕs145.00000°, δ69.00000°, λ99.00000°. NP2:ϕs300.00000°, δ22.00000°, λ67.00000°. Principal axes: T 2.1100, Plg64.0000°, Azm70.0000°; N 0.3200, Plg8.0000°, Azm321.0000°; P -2.4300, Plg23.0000°, Azm228.0000°;*

*NEIC **05** 12:16:01.1±0.0, 8°61S×157°43E, h10km, Moment Tensor Solution. s160 Moment tensor: Scale 10¹⁹Nm; Mrr1.25; Mθθ-0.78; Mϕϕ-0.47; Mrθ0.69; Mϕθ0.92; Mϕr-1.11; Best double couple: M₀1.90000×10¹⁹ NP1:ϕs294.00000°, δ26.00000°, λ63.00000°. NP2:ϕs144.00000°, δ67.00000°, λ103.00000°. Principal axes: T 1.8100, Plg65.0000°, Azm76.0000°; N 0.2300, Plg11.0000°, Azm318.0000°; P -2.0400, Plg21.0000°, Azm224.0000°;*

ISC 05 12:15:34.4±0.3, 8°99S±0°03×157°61E±0°03, h25km±1km, h25km:pP-P, n1509, σ2s15/1334, mb6.1/250, MS6.6/240, 285C-242D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.35	101	ePn	Pn	12 16 10.0	-1.3
HNR	Honiara	2.35	101	Pn	Pn	12 16 05.7	-5.6
	75nm,0.3s,baz=236,slow=3.9,SNR=29						
HNR	Honiara	2.35	101	*i* P	Pn	12 16 00.0	-11
RABL	Rabaul	7.21	311	⇓P	Pb	12 17 31.6	-7.4
	baz=7.3,SNR=8.6						
PMG	Port Moresby	10.33	267	P	x	12 18 05.2	
	854nm,1.2s,35µm506µm						
PMG	Port Moresby	10.33	267	ePn	Pn	12 18 01.7	+0.6
PMG				Sn	Sn	12 20 03.0	+6.9
PMG	Port Moresby	10.33	267	Pn	Pn	12 18 01.2	+0.1
	0.5nm,0.3s,baz=89,slow=8.8,SNR=15						
PMG				Sn	Sn	12 20 03.0	+6.9
	baz=135,slow=19,SNR=1.2						
COEN	Coen	14.98	249	ePn	Pn	12 19 04.9	+0.3
COEN	Coen	14.98	249	⇑P	Pn	12 19 04.8	+0.1
	baz=14,SNR=44						
NOUC	Port Laguerre	15.48	148	eP	Pn	12 19 11.8	+0.6
DZM	Mont Dzumac	15.53	148	eP	Pn	12 19 10.4	-1.5
	2µm,1.6s						
DZM				eLR	LR	12 22 46.4	
	224µm,26.9s						
DZM	Mont Dzumac	15.53	148	Pn	Pn	12 19 11.6	-0.3
DZM				Sn	S	12 22 15.3	-3.3
DZM	Mont Dzumac	15.53	148	Pn	Pn	12 19 11.6	-0.3
	0.2nm,0.3s,baz=17,slow=14,SNR=9.0						
DZM				Sn	S	12 22 15.3	-3.3
	1.4nm,0.3s,baz=131,slow=19,SNR=1.9						
DZM	Mont Dzumac	15.53	148	eP	Pn	12 19 10.8	-1.1
CTA	Charters Tower	15.56	224	Pn	Pn	12 19 07.6	-4.7
CTA				Sn	S	12 22 20.8	+1.6
CTA	Charters Tower	15.56	224	Pn	Pn	12 19 07.6	-4.7
	1.1nm,0.3s,baz=38,slow=13,SNR=6.0						
CTA				Sn	S	12 22 20.8	+1.6
	3.1nm,0.3s,baz=7.1,slow=8.1,SNR=2.8						
CTAO	Charters Tower	15.56	224	eP	Pn	12 19 07.8	-4.5
CTAO				pmax	pmax		
	comp=Z,5µm,2.1s						
CTAO	Charters Tower	15.56	224	ePn	Pn	12 19 07.8	-4.5
	comp=Z,5µm,2.1s						
EIDS	Eidsvold	17.43	200	ePn	Pn	12 19 33.3	-2.6
	comp=Z,11µm,2.9s						
EIDS				eSn	Sn	12 22 37.3	-12
EIDS	Eidsvold	17.43	200	⇑P	Pn	12 19 35.5	-0.5
	baz=17,SNR=29						
TARA	Tarawa	18.40	57	eP	P	12 19 46.8	-1.0
	comp=Z,6.0nm,0.4s						
TARA				eS	Sn	12 23 10.7	-2.2
GENI	Genyem	18.48	289	P	Pn	12 19 53.2	+4.3
	comp=Z,1µm,1.1s,comp=Z,43µm						
RMQ	Roma	19.32	205	⇑P	P	12 19 57.1	-0.7
	baz=19,SNR=44						
KWAJ	Kwajalein Atol	20.29	30	eP	P	12 20 07.5	-1.0
KWAJ				eS	S	12 23 50.0	-5.0
KWAJ				pmax	pmax		
	comp=Z,1µm,0.7s						
KWAJ	Kwajalein Atol	20.29	30	eP	P	12 20 07.5	-1.0
	comp=Z,1µm,0.7s						
KWAJ				eS	S	12 23 50.0	-5.0
QIS	Mount Isa	20.84	235	⇑P	P	12 20 13.4	-1.0
	baz=20,SNR=22						
QLP	Quilpie	21.61	214	⇓P	P	12 20 20.8	-1.8
	baz=21,SNR=16						
ARMA	Armidale	22.04	194	eP	P	12 20 25.1	-2.2
	comp=Z,750nm,1.0s						
ARMA	Armidale	22.04	194	⇑P	P	12 20 26.7	-0.6
	baz=21,SNR=24						
LHI	Lord Howe Isla	22.45	177	⇑P	P	12 20 34.5	+2.8
	baz=22,SNR=4.2						
BAKI	Biak	22.76	289	P	P	12 20 38.1	+2.9
	comp=Z,1µm,1.5s,comp=Z,29µmcomp=Z,195µm						
MWPI	Manokwari, Pap	24.79	288	P	x	12 21 00.8	
	comp=Z,1µm,1.2s,comp=Z,52µm						
MGCD	Mangrove Creek	24.84	193	⇑P	P	12 20 52.5	-2.4
	baz=24,SNR=7.7						
KDU	Kakadu	24.96	259	⇓P	P	12 20 53.3	-2.8
	baz=24,SNR=6.4						
WRAB	Tennant Creek	24.98	242	P	P	12 20 54.0	-2.3
	comp=Z,2µm,1.1s,SNR=22						
WRAB	Tennant Creek	24.98	242	*d iP*	P	12 20 53.5	-2.8
WRAB				pmax	pmax		
	comp=Z,466nm,1.2s						
WRAB				MLR	MLR		
	comp=Z,324µm,22.0s						
WRAB	Tennant Creek	24.98	242	eP	P	12 20 54.4	-1.9
	comp=Z,786nm,1.1s						
WRAB				LR	LR		
	comp=Z,137µm,22.0s						
WRA	Warramunga Arr	24.99	242	P	P	12 20 52.3	-4.1
WRA				S	S	12 25 05.8	-13
WRA				*e*		12 54 08.7	
WRA	Warramunga Arr	24.99	242	P	P	12 20 52.3	-4.1
	comp=Z,97nm,1.1s,baz=67,slow=9.7,SNR=47						
WRA				S	S	12 25 05.8	-13
	comp=Z,16nm,1.1s,baz=72,slow=14,SNR=2.6						
WRA				P3KPbc		12 54 08.7	
	comp=Z,2.1nm,1.0s,baz=262,slow=2.9,SNR=6.1						
CMSA	Cobar Meteorol	25.02	205	⇓P	P	12 20 54.5	-2.0
	baz=24,SNR=64						
GUMO	Guam	25.76	330	eP	P	12 21 03.7	+0.4
	comp=Z,427nm,1.2s						
GUMO				LR	LR		
	comp=Z,59µm,20.0s						
FAKI	Fak Fak	25.93	282	P	P	12 21 08.3	+3.4
	comp=Z,656nm,0.9s,comp=Z,22µm						
SAUI	Saumlaki	26.04	270	P	P	12 21 09.5	+3.5
	comp=Z,2µm,1.3s,comp=Z,45µmcomp=Z,216µm						
YNG	Young	26.57	197	⇓P	P	12 21 11.4	+0.9
	baz=26,SNR=14						
ASAR	Alice Springs	26.96	234	P	P	12 21 11.6	-2.7
ASAR				*e*		12 54 00.2	
ASAR	Alice Springs	26.96	234	P	P	12 21 11.6	-2.7
	comp=Z,16nm,1.0s,baz=63,slow=8.2,SNR=19						
ASAR				LR	LR	12 31 45.2	
	comp=Z,56µm,21.4s,baz=242,slow=36						
ASAR				P3KPbc		12 54 00.2	
	comp=Z,1.2nm,0.9s,baz=232,slow=4.2,SNR=7.8						
STKA	Stephens Creek	27.20	211	eP	P	12 21 14.7	-1.5
STKA				S	S	12 25 56.0	+2.3
STKA	Stephens Creek	27.20	211	P	P	12 21 13.8	-2.4
	comp=Z,41nm,0.8s,baz=18,slow=8.5,SNR=3.7						
STKA				S	S	12 25 56.0	+2.3
	comp=Z,31nm,1.2s,baz=3.6,slow=17,SNR=2.1						
STKA				LR	LR	12 31 52.4	
	comp=Z,99µm,21.4s,baz=32,slow=36						
CNB	Canberra Magne	27.26	195	⇓P	P	12 21 15.7	-1.2
	baz=27,SNR=8.8						
CAN	Canberra	27.36	195	eP	P	12 21 18.0	+0.2
CAN				pmax	pmax		
	comp=Z,444nm,1.2s						
CAN				MLR	MLR		
	comp=Z,95µm,19.0s						
CAN	Canberra	27.36	195	eP	P	12 21 18.0	+0.2
	comp=Z,444nm,1.2s						
CAN				LR	LR		
	comp=Z,95µm,19.0s						
SWI	Sorong	27.45	286	P	P	12 21 24.3	+5.6
	comp=Z,355nm,1.0s,comp=Z,10µmcomp=Z,114µm						
BNDI	Bandanaira	27.86	277	P	P	12 21 30.9	+8.5
	comp=Z,3µm,1.7s,comp=Z,37µm						
H11S3	WAKE ISLAND Hy	28.74	18	T	T	12 50 11.6	
	baz=199,slow=78,SNR=703						
H11S2	WAKE ISLAND Hy	28.75	18	T	T	12 50 05.9	
	baz=199,slow=78,SNR=624						
H11S1	WAKE ISLAND Hy	28.76	18	T	T	12 50 12.1	
	baz=199,slow=78,SNR=233						
KNRA	Kununurra	28.93	254	⇑P	P	12 21 30.5	-1.3
	baz=28,SNR=12						
WAKE	Wake Island	29.48	18	PFAKE		12 21 50.0	+13
WAKE				LR	LR		
	comp=Z,116µm,19.0s						
HTT	Hallett	29.81	213	⇑P	P	12 21 37.6	-1.9
	baz=29,SNR=11						
OUZ	Omahuta	29.92	153	eP	P	12 21 41.0	+0.6
	comp=Z,152nm,1.0s						
H11N1	WAKE ISLAND Hy	29.95	18	T	T	12 52 03.1	
	baz=198,slow=75,SNR=306						
H11N3	WAKE ISLAND Hy	29.96	18	T	T	12 51 54.2	
	baz=198,slow=75,SNR=271						
H11N2	WAKE ISLAND Hy	29.97	18	T	T	12 52 05.0	
	baz=198,slow=75,SNR=286						
AFI	Afiamalu	30.38	102	eP	P	12 21 41.4	-3.4
	comp=Z,2µm,1.8s						
AFI				S	S	12 26 57.8	+14
AFI	Afiamalu	30.38	102	P	P	12 21 43.3	-1.6
	comp=Z,121nm,1.0s,baz=164,slow=4.0,SNR=6.1						
AFI				S	S	12 26 57.8	+14
	comp=Z,14nm,0.9s,baz=282,slow=19,SNR=1.6						
AFI				LR	LR	12 31 46.6	
	comp=Z,73µm,19.3s,baz=283,slow=32						
TOO	Toolangi	30.49	199	⇓P	P	12 21 43.1	-2.4
	baz=30,SNR=8.0						
RAO	Raoul Island	30.55	135	P	P	12 21 45.6	-0.5
RAO				S	S	12 26 46.8	+0.3
RAO	Raoul Island	30.55	135	P	P	12 21 45.6	-0.5
	comp=Z,164nm,0.3s,baz=196,slow=22,SNR=3.6						
RAO				S	S	12 26 46.7	+0.3
	comp=Z,349nm,0.3s,baz=84,slow=22,SNR=4.5						
RAO				LR	LR	12 32 00.2	
	comp=Z,49µm,19.1s,baz=137,slow=32						
BBOO	Buckleboo	30.96	217	eP	P	12 21 47.8	-1.9
	comp=Z,6µm,0.9s						
BBOO	Buckleboo	30.96	217	⇓P	P	12 21 47.6	-2.1
	baz=30,SNR=16						
KNTN	Kanton	31.11	80	eP	P	12 21 56.0	+4.8
	comp=Z,2µm,1.7s						
ARPS	Mount Arapiles	31.14	205	⇑P	P	12 21 49.8	-1.4
	baz=30,SNR=15						
WRKA	Warakurna	32.15	237	⇓P	P	12 21 56.5	-3.8
	baz=31,SNR=23						
FITZ	Fitzroy Crossi	32.33	250	LR	LR	12 35 01.6	
	comp=Z,49µm,22.0s,baz=74,slow=36						
SOEI	Soe	32.90	266	⇑P	P	12 22 07.3	+0.2
	baz=32,SNR=7.1						
URZ	Urewera	34.02	152	eP	P	12 22 15.8	-0.5
	comp=Z,917nm,1.7s						
URZ				S	S	12 27 29.8	-11
URZ	Urewera	34.02	152	P	P	12 22 17.1	+0.7
	comp=Z,9.3nm,0.9s,baz=270,slow=3.0,SNR=5.4						
URZ				S	S	12 27 29.8	-11
	comp=Z,6.0nm,0.9s,baz=41,slow=20,SNR=1.6						
URZ				LR	LR	12 34 12.1	
	comp=Z,123µm,19.5s,baz=328,slow=33						
BKZ	Black Stump Fm	34.48	154	eP	P	12 22 20.6	+0.2
	comp=Z,298nm,1.1s						
MOO	Moorlands	34.55	194	⇑P	P	12 22 20.7	-0.3
	baz=34,SNR=4.4						
TAU	Tasmania Unive	34.97	193	eP	P	12 22 22.9	-1.6
TAU				pmax	pmax		
	comp=Z,674nm,1.8s						
TAU				MLR	MLR		
	comp=Z,29µm,20.0s						
TAU	Tasmania Unive	34.97	193	eP	P	12 22 22.9	-1.6
	comp=Z,674nm,1.8s						
TAU				LR	LR		
	comp=Z,29µm,20.0s						
MATI	Mati	35.03	296	eP	P	12 22 33.8	+8.4
FORT	Forrest	35.05	228	eP	P	12 22 26.0	+0.6
	comp=Z,407nm,0.9s						
SNZO	South Karori	35.56	158	eP	P	12 22 28.9	-0.8
	comp=Z,866nm,1.6s						
SNZO				LR	LR		
	comp=Z,31µm,19.0s						
BFZ	Birch Farm	35.64	155	eP	P	12 22 34.4	+4.1
	comp=Z,799nm,1.6s						
DAV	Davao City (W)	35.69	296	PFAKE		12 22 40.0	+8.9
DAV				LR	LR		
	comp=Z,62µm,21.0s						
BUKP	Musuan	36.51	296	eP	P	12 22 47.5	+9.4
BUTP	Butuan	36.52	298	eP	P	12 22 38.2	+0.1
RPZ	Rata Peaks	36.52	164	eP	P	12 22 38.0	+0.1
	comp=Z,337nm,1.0s						
RPZ				S	S	12 28 10.5	-8.3
RPZ	Rata Peaks	36.52	164	P	P	12 22 38.5	+0.6
	comp=Z,14nm,0.9s,baz=33,slow=4.7,SNR=4.1						
RPZ				S	S	12 28 10.5	-8.3
	comp=Z,11nm,0.9s,baz=188,slow=15,SNR=2.2						
RPZ				LR	LR	12 35 45.7	
	comp=Z,83µm,20.3s,baz=330,slow=33						
CTBH	Cotabato--PC H	36.95	295	⇓ *iP*	P	12 22 44.5	+2.6
DCZ	Deep Cove	37.27	169	eP	P	12 22 44.9	+0.8
	comp=Z,223nm,1.1s						
ODZ	Otahua Downs	37.65	165	eP	P	12 22 46.6	-0.8
	comp=Z,326nm,1.5s						
MSLP	Maasin	37.73	299	eP	P	12 22 50.2	+1.7
KAPI	Kappang	37.77	273	P	P	12 22 48.3	-0.6
	comp=Z,647nm,1.1s,SNR=10.0						
KAPI	Kappang	37.77	273	P	P	12 22 56.7	+7.8
	SNR=13						
KAPI	Kappang	37.77	273	mb		12 23 06.3	
	SNR=36						
KAPI	Kappang	37.77	273	eP	P	12 22 47.9	-1.0
	comp=Z,7µm,1.5s						
KAPI				LR	LR		
	comp=Z,39µm,19.0s						
WHZ	Wether Hill Ro	37.83	168	eP	P	12 22 48.5	-0.4
	comp=Z,122nm,1.6s						
PAGZ	Pagadian	37.99	295	eP	P	12 22 54.0	+3.3
PLP	Palo	38.14	301	⇓ *eP*	P	12 22 51.2	-0.8
MBWA	Marble Bar	38.42	247	PFAKE		12 23 00.0	+5.7
MBWA				LR	LR		
	comp=Z,60µm,19.0s						
CBIJ	Chichi jima	38.87	338	P	P	12 22 58.2	+0.4
CBIJ				S	S	12 29 12.6	+18
JCJ	Chichijima	38.87	338	P	P	12 22 58.2	+0.4
	comp=Z,66nm,0.8s,baz=352,slow=11,SNR=2.2						
JCJ				S	S	12 29 12.6	+18
	comp=Z,51nm,0.7s,baz=268,slow=20,SNR=9.8						
JCJ				LR	LR	12 37 19.5	
	comp=Z,58µm,19.5s,baz=341,slow=34						
GUIM	Jordan	39.93	298	eP	P	12 23 09.1	+2.2
KMBL	Kambalda	39.97	231	⇓P	P	12 23 05.2	-1.9
	baz=39,SNR=8.2						
PVCP	Virac	40.09	304	⇑ *eP*	P	12 23 08.2	0.0
RCP	Roxas	40.24	300	⇑ *eP*	P	12 23 10.5	+1.0
MEEK	Meekatharra	40.85	239	⇓P	P	12 23 12.4	-2.1
	baz=40,SNR=10						
AUQP	San Andres	41.17	302	eP	P	12 23 19.1

comp=Z,359nm,1.1s
KKM LR LR
comp=Z,23µm,19.0s
MIDW Midway 44.20 32 PFAKE 12 23 50.0 +8.5
MIDW LR LR
comp=Z,126µm,21.0s
NWAO Narrogin (SRO) 44.20 231 P **P** **12 23 38.8 -2.8**
NWAO S **S** **12 30 11.8 -1.9**
NWAO Narrogin (SRO) 44.20 231 P **P** **12 23 38.8 -2.8**
comp=Z,22nm,1.1s,baz=307,slow=5.1,SNR=3.0
NWAO S **S** **12 30 11.8 -1.9**
comp=Z,21nm,1.1s,baz=266,slow=15,SNR=1.9
NWAO LR LR 12 42 32.7
comp=Z,48µm,19.7s,baz=234,slow=37
BCPH Baguio City Da 44.48 304 ⇓*i*P **P** **12 23 42.2 -2.0**
BOLP Bolinao 45.03 304 *e*P P 12 23 53.9 +5.5
SZP Santa 45.20 306 *e*P **P** **12 23 48.8 -0.9**
comp=Z,485nm,1.4s
JOW Kunigami 45.59 322 *e*P **P** **12 23 52.4 -0.3**
JOW S S 12 30 19.5 -14
JOW Kunigami 45.59 322 P **P** **12 23 52.2 -0.5**
comp=Z,5.9nm,1.0s,baz=162,slow=5.4,SNR=4.5
JOW S S 12 30 19.5 -14
comp=Z,1.5nm,0.7s,baz=293,slow=15,SNR=2.1
XMAS Kiritimati 46.11 78 *e*P **P** **12 23 56.9 -0.1**
XMAS LR LR
comp=Z,26µm,19.0s
UGM Wanagama 46.57 268 ⇓P **P** **12 23 59.4 -1.2**
baz=46,SNR=5.3
SBUM Sibu 46.65 282 *e*P **P** **12 24 01.8 +0.5**
comp=Z,198nm,1.2s
SMRI Semarang 46.73 269 *e*P **P** **12 24 03.2 +1.2**
comp=Z,1µm,1.2s
YOJ Yonaguni jima 47.39 315 *e*P **P** **12 24 09.7 +2.9**
YOJ pmax pmax
comp=Z,489nm,1.4s
YOJ Yonaguni jima 47.39 315 *e*P **P** **12 24 09.7 +2.9**
comp=Z,489nm,1.4s
TWG Pinlang 47.75 312 *e*P **P** **12 24 08.8 -0.8**
comp=Z,728nm,1.1s
YULB Yu-li 47.93 313 *e*P **P** **12 24 10.6 -0.5**
comp=Z,159nm,0.9s
NACB Ninganchiao 48.20 314 *e*P **P** **12 24 12.0 -1.1**
comp=Z,262nm,0.8s
KSM Kuching 48.26 280 *e*P **P** **12 24 13.9 0.0**
comp=Z,253nm,1.1s
KSM LR LR
comp=Z,18µm,20.0s
KSM Kuching 48.26 280 ⇓P **P** **12 24 12.8 -1.0**
baz=48,SNR=9.2
TPUB Ta-pu 48.36 312 *e*P **P** **12 24 13.9 -0.5**
comp=Z,632nm,1.4s
SSLB Suanglung 48.42 313 *e*P **P** **12 24 13.7 -1.2**
comp=Z,225nm,1.0s
YHNB Yeheng 48.67 314 *e*P **P** **12 24 16.3 -0.5**
comp=Z,375nm,0.8s
YHNB LR LR
comp=Z,77µm,21.0s
TATO Taipei 48.78 315 *e*P **P** **12 24 16.9 -0.7**
comp=Z,210nm,1.4s
TATO LR LR
comp=Z,70µm,20.0s
MJAR Matsushiro Arr 48.83 339 P **P** **12 24 14.7 -3.1**
MJAR S **S** **12 31 21.0 +1.2**
MJAR Matsushiro Arr 48.83 339 P **P** **12 24 14.7 -3.1**
comp=Z,11nm,1.0s,baz=169,slow=8.8,SNR=12
MJAR S **S** **12 31 21.0 +1.2**
comp=Z,0.4nm,0.4s,baz=179,slow=6.3,SNR=3.2
MJAR LR LR 12 42 58.2
comp=Z,48µm,19.0s,baz=140,slow=34
MAJO Matsushiro 48.83 339 *e*P **P** **12 24 15.7 -2.1**
MAJO pmax pmax
comp=Z,1µm,2.5s
MAJO MLR MLR
comp=Z,46µm,22.0s
MAJO Matsushiro 48.83 339 *e*P **P** **12 24 15.7 -2.1**
comp=Z,1µm,2.5s
MAJO LR LR
comp=Z,46µm,22.0s
MAT Matsushiro 48.83 339 P **P** **12 24 14.7 -3.1**
MAT S **S** **12 31 23.2 +3.4**
JNU Nakatsue 49.01 330 *e*P **P** **12 24 17.6 -1.7**
comp=Z,120nm,1.0s
JNU S **S** **12 31 20.0 -2.5**
JNU Nakatsue 49.01 330 S **S** **12 31 20.0 -2.5**
comp=Z,14nm,1.1s,baz=30,slow=20,SNR=2.2
JNU LR LR 12 42 20.3
comp=Z,19µm,19.1s,baz=136,slow=33
CISI Cisompet, Garu 49.27 268 *e*P **P** **12 24 20.9 -0.8**
comp=Z,783nm,1.0s
QZH Quanzhou 50.83 313 ⇓*i*P P 12 24 29.9 -3.3
QZH S **S** **12 31 45.2 -2.9**
QZH LR LR
comp=Z,26µm,16.4s
QZH LR LR
comp=Z,74µm,20.7s
QZH LR LR
comp=Z,87µm,23.7s
XMIS Christmas Isla 51.19 264 *e*P **P** **12 24 36.1 0.0**
comp=Z,1µm,1.0s
PAE Paea 51.96 105 *e*P **P** **12 24 42.3 +0.5**
comp=Z,75nm,1.1s
PPT Papeete 51.96 105 P **P** **12 24 43.1 +1.2**
PPT Papeete 51.96 105 P **P** **12 24 43.1 +1.2**
comp=Z,74nm,1.1s,baz=29,slow=7.1,SNR=2.6
PPT LR LR 12 41 19.0
comp=Z,39µm,21.9s,baz=277,slow=30
PPT2 Papeete2 51.96 105 *e*P **P** **12 24 42.7 +0.7**
comp=Z,257nm,1.2s
PPT2 *e*S **S** **12 32 09.1 +5.0**
comp=Z,46µm,26.8s
PPT2 *e*LQ LQ 12 37 36.9
comp=Z,191µm,28.8s
PPT2 *e*LR LR 12 39 45.3
comp=Z,191µm,28.5s,baz=275
TIAR Tiarei 52.18 105 *e*P **P** **12 24 44.2 +0.7**
comp=Z,101nm,1.0s
TVO Taravao 52.28 105 *e*P **P** **12 24 45.0 +0.7**
comp=Z,94nm,0.8s
ERM Erimo 52.46 346 PFAKE 12 25 00.0 +15
ERM LR LR
comp=Z,53µm,19.0s
TBI Tubuai 52.52 112 *e*P **P** **12 24 46.6 +0.7**
comp=Z,708nm,1.1s
TBI *e*S **S** **12 32 13.8 +2.4**
comp=Z,25µm,31.5s
TBI *e*LQ LQ 12 37 50.5
comp=Z,375µm,31.2s
TBI *e*LR LR 12 40 00.2
comp=Z,52µm,25.2s
HKC Hong Kong Obse 52.72 307 ⇓*i*P P 12 25 04.0 +17
SSE Sheshan 52.98 320 ⇑⇑P **P** **12 24 47.6 -1.5**
SSE S **S** **12 32 16.1 -1.3**
SSE pmax pmax
comp=Z,36nm,0.7s
SSE pmax pmax
comp=Z,600nm,4.4s
SSE LR LR
comp=Z,11µm,21.9s
SSE LR LR
comp=Z,19µm,22.0s
SSE LR LR
comp=Z,23µm,22.1s
KIP Kipapa 53.02 55 *e*P **P** **12 24 49.6 0.0**
KIP pmax pmax
comp=Z,311nm,2.5s
KIP Kipapa 53.02 55 *e*P **P** **12 24 49.6 0.0**
comp=Z,591nm,1.5s
KIP LR LR
comp=Z,88µm,20.0s
DLV T Lat 53.08 292 *e*P **P** **12 24 50.4 +0.1**
comp=Z,517nm,1.3s
TJN Taejon 53.35 330 *e*P **P** **12 24 53.3 +1.6**
MEH Mehetia 53.41 106 *e*P **P** **12 24 53.2 +0.6**
comp=Z,112nm,1.1s
PMOR Pomariorio Ree 53.53 102 *e*P **P** **12 24 54.2 +0.7**
comp=Z,1µm,1.3s
GZH Guangzhou 53.78 307 P **P** **12 24 57.2 +2.0**
GZH S **S** **12 32 33.1 +4.5**
GZH LR LR
comp=Z,12µm,22.7s
GZH LR LR
comp=Z,71µm,20.2s
GZH LR LR
comp=Z,123µm,21.0s
VAH Vaihoa 53.79 102 *e*P **P** **12 24 55.8 +0.4**
comp=Z,253nm,1.0s
YUK Yuzh-Kuril'sk 53.84 350 *c i*P P 12 24 47.5 -7.7
YUK *i* 12 25 54.6
YUK *i* S S 12 32 19.6 -9.1
YUK *i* 12 34 38.3
YUK *i* SSS SSS 12 38 02.3
YUK MLR MLR
comp=N,21µm,19.0s
YUK MLR MLR
comp=E,6µm,19.0s
YUK MLR MLR
comp=Z,21µm,19.0s
KSRS Korea Array 53.92 331 P **P** **12 24 55.0 -0.9**
comp=Z,6.6nm,0.8s,baz=144,slow=6.7,SNR=11
KSRS LR LR 12 45 43.7
comp=Z,40µm,18.5s,baz=133,slow=34
KSAR Wonju Array Be 53.93 331 P **P** **12 24 55.0 -1.0**
POHA Pohakuloa 54.26 58 PFAKE 12 25 10.0 +11
POHA LR LR
comp=Z,122µm,21.0s
PUH Pauahi 54.35 58 *e*P **P** **12 24 59.3 -0.2**
comp=Z,585nm,1.1s
INCN Inchon 54.57 330 *e*P **P** **12 24 58.1 -2.7**
comp=Z,4µm,2.7s
INCN LR LR
comp=Z,26µm,19.0s
ASAJ Asahikawa 54.59 347 *e*P **P** **12 25 01.3 +0.7**
ASAJ Asahikawa 54.59 347 P **P** **12 25 00.9 +0.3**
comp=Z,12nm,0.8s,baz=202,slow=11,SNR=3.7
ASAJ LR LR 12 49 01.7
comp=Z,58µm,19.1s,baz=11,slow=37
MYKOM Kota Tinggi 54.63 279 ⇑P **P** **12 25 04.0 +2.4**
QIZ Qiongzhong 54.70 301 P **P** **12 25 02.0 0.0**
QIZ pP **pP** **12 25 10.6 +0.9**
QIZ sP **sP** **12 25 14.1 +1.4**
QIZ PP **PP** **12 27 05.1 +0.2**
QIZ S **S** **12 32 37.0 -4.2**
QIZ pmax pmax
comp=Z,5µm,7.1s
QIZ LR LR
comp=Z,20µm,21.8s
QIZ LR LR
comp=Z,43µm,26.5s
QIZ Qiongzhong 54.70 301 *e*P **P** **12 25 03.6 +1.7**
comp=Z,363nm,1.3s
QIZ LR LR
comp=Z,46µm,22.0s
NJ2 Nanjing 55.10 320 *e*P **P** **12 25 05.1 +0.5**
NJ2 pP **pP** **12 25 14.5 +2.2**
NJ2 sP **sP** **12 25 18.3 +3.0**
NJ2 S **S** **12 32 51.5 +5.4**
NJ2 pmax pmax
comp=Z,280nm,0.8s
NJ2 pmax pmax
comp=Z,3µm,10.3s
NJ2 LR LR
comp=Z,31µm,28.2s
NJ2 LR LR
comp=Z,16µm,26.7s
NJ2 LR LR
comp=Z,32µm,21.9s
UBPT Khong Chiam 57.02 295 P **P** **12 25 20.5 +1.9**
comp=Z,190nm,1.6s
WHN Wuhan 57.17 315 ⇑*i*P **P** **12 25 17.7 -1.7**
WHN S **S** **12 33 15.7 +2.0**
WHN LR LR
comp=Z,52µm,20.9s
WHN LR LR
comp=Z,55µm,19.4s
WHN LR LR
comp=Z,93µm,21.5s
YSS Yuzh-Sakhalins 57.25 348 *c*P **P** **12 25 17.8 -1.9**
YSS *e*SP **sP** **12 25 30.4 0.0**
YSS *e*S S **12 33 10.0 -4.1**
YSS *e*SS **SS** **12 37 08.0 +4.2**
YSS pmax pmax
comp=Z,2µm,9.0s
YSS pmax pmax
comp=Z,100nm,1.2s
YSS smax smax
comp=E,16µm,16.0s
YSS MLR MLR
comp=N,32µm,18.0s
YSS MLR MLR
comp=E,20µm,18.0s
YSS MLR MLR
comp=Z,50µm,18.0s
YSS Yuzh-Sakhalins 57.25 348 *e*P **P** **12 25 19.0 -0.7**
YSS LR LR
comp=Z,18µm,19.0s
USRK Ussuriysk Arra 57.81 338 P **P** **12 25 22.8 -0.9**
comp=Z,22nm,1.0s,baz=145,slow=6.4,SNR=16
USRK LR LR 12 46 41.3
comp=Z,29µm,18.8s,baz=130,slow=32
IPM Ipoh 57.97 281 *e*P **P** **12 25 24.8 -0.7**
comp=Z,456nm,1.8s
DL2 Dalian 58.23 327 ⇑P **P** **12 25 25.5 -1.2**
DL2 S **S** **12 33 23.4 -3.8**
DL2 pmax pmax
comp=Z,160nm,1.0s
DL2 pmax pmax
comp=Z,4µm,7.9s
DL2 LR LR
comp=Z,18µm,13.7s
DL2 LR LR
comp=Z,13µm,15.1s
KULM Kulim 58.53 282 *e*P **P** **12 25 28.8 -0.5**
comp=Z,104nm,0.9s
KULM LR LR
comp=Z,20µm,22.0s
TIA Tai'an 58.92 322 P P 12 25 27.4 -4.2
TIA sP sP 12 25 42.7 +0.4
TIA S **S** **12 33 35.3 -1.1**
TIA LR LR
comp=Z,33µm,26.2s
TIA LR LR
comp=Z,43µm,23.2s
TIA LR LR
comp=Z,21µm,21.4s
CHBT CHBT 59.01 291 P **P** **12 25 35.1 +2.5**
comp=Z,226nm,1.2s
MDJ Mudanjiang 59.06 337 P **P** **12 25 32.2 -0.2**
MDJ pP **pP** **12 25 35.9 -4.3**
MDJ PcP **PcP** **12 26 21.4 +0.3**
MDJ PP **PP** **12 27 42.5 -0.8**
MDJ ScP **ScP** **12 30 20.1 -0.2**
MDJ PcS **PcS** **12 30 22.8 0.0**
MDJ S **S** **12 33 41.2 +3.3**
MDJ sS sS 12 33 44.4 -6.3
MDJ pmax pmax
comp=Z,28nm,1.1s
MDJ pmax pmax
comp=Z,4µm,8.2s
MDJ LR LR
comp=Z,49µm,19.4s
MDJ LR LR
comp=Z,34µm,19.4s
MDJ LR LR
comp=Z,22µm,21.5s
MDJ Mudanjiang 59.06 337 *e*P **P** **12 25 32.2 -0.2**
comp=Z,230nm,1.3s
MDJ LR LR
comp=Z,23µm,19.0s
SNY Shenyang 59.43 331 ⇓⇓P **P** **12 25 33.7 -1.3**
SNY S **S** **12 33 44.3 +1.7**
SNY pmax pmax
comp=Z,5µm,6.9s
SNY LR LR
comp=Z,38µm,14.7s
SNY LR LR
comp=Z,28µm,18.6s
SNY LR LR
comp=Z,40µm,18.8s
SKR Severo-Kuril's 59.44 359 *e*P P 12 25 24.0 -11
SKR *e* 12 27 42.0
SKR *e*S **S** **12 33 38.0 -4.5**
SKR pmax pmax
comp=N,250nm,1.0s
SKR pmax pmax
comp=Z,310nm,1.0s
SKR pmax pmax
comp=Z,6µm,10.0s
SKR pmax pmax
comp=N,5µm,12.0s
SKR MLR MLR
comp=Z,25µm,16.0s
SKR MLR MLR
comp=N,17µm,22.0s
SKR MLR MLR
comp=E,24µm,18.0s
COCO West Island 59.73 261 PFAKE 12 25 50.0 +12
COCO LR LR
comp=Z,19µm,21.0s
CN2 Changchun 60.11 334 *e*P **P** **12 25 39.1 -0.5**
CN2 *e*sP **sP** **12 25 46.2 -4.2**
CN2 *e*PP **PP** **12 27 53.9 +1.4**
CN2 *e*S **S** **12 33 50.7 -0.7**
CN2 pmax pmax
comp=Z,40nm,1.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,37µm,20.0s
CN2 LR LR
comp=Z,31µm,20.0s
CN2 LR LR
comp=Z,20µm,23.0s
CHAI Chaiyaphum 60.37 294 P **P** **12 25 42.6 +0.6**
comp=Z,26nm,0.9s,comp=Z,416nm
PATY Pattaya 60.42 290 P P 12 25 48.4 +6.1
comp=Z,58nm,1.1s,comp=Z,2µm
ENH Enshi 60.49 312 *e*P **P** **12 25 40.4 -2.2**
comp=Z,137nm,0.9s
ENH LR LR
comp=Z,903nm,20.0s
HABR Khabarovsk 60.58 343 *e*P **P** **12 25 40.2 -2.6**
HABR *e**SP **sP** **12 25 49.5 -4.0**
HABR *e* 12 26 24.9
HABR 12 27 54.2
HABR *e*S **S** **12 33 55.9 -1.4**
HABR *e**SS **sS** **12 34 06.6 -3.5**
HABR *e* 12 35 29.8
HABR *e*SS **SS** **12 37 55.6 -0.5**
HABR pmax pmax
comp=E,34nm,1.7s
HABR pmax pmax
comp=N,28nm,1.7s
HABR pmax pmax
comp=Z,7µm,7.5s
HABR MLR MLR
comp=N,9µm,16.0s
HABR MLR MLR
comp=Z,18µm,16.0s
HABR MLR MLR
comp=E,13µm,20.0s
GSI Gunungsitoli 60.68 277 *e*P **P** **12 25 41.9 -2.3**
comp=E,892nm,1.2s
GYA Guiyang 60.72 307 ⇑*i*P **P** **12 25 42.6 -1.7**
GYA pP **pP** **12 25 51.8 -0.3**
GYA PP **PP** **12 28 01.2 +2.8**
GYA ScP **ScP** **12 30 29.4 +1.1**
GYA S S 12 33 51.0 -9.1
GYA SS **SS** **12 38 02.9 +3.6**
GYA pmax pmax
comp=E,110nm,1.0s
GYA pmax pmax
comp=E,3µm,9.3s
GYA LR LR
comp=E,14µm,21.1s
GYA LR LR
comp=E,31µm,23.9s
GYA LR LR
comp=E,46µm,22.0s
SLVN Son La 60.73 301 *e*P **P** **12 25 44.7 +0.3**
comp=E,531nm,1.6s
SURT Suratani 61.23 285 P P 12 25 56.4 +8.5
PKDT Phuket 61.39 284 P P 12 25 55.1 +6.1
TAOE Nuku Hiva Isla 61.41 95 *e*P **P** **12 25 49.1 -0.2**
comp=E,651nm,1.2s
TAOE *e*S **S** **12 34 13.6 +4.2**
comp=E,23µm,28.1s
TAOE *e*LQ LQ 12 41 26.3
comp=E,47µm,22.6s
TAOE *e*LR LR 12 44 07.1
comp=E,113µm,25.9s
PBKT Sadao Pong 61.52 294 P **P** **12 25 50.7 +1.0**
comp=E,189nm,1.6s,comp=E,9µm
PET Petropavlovsk 61.78 1 ⇑*e*P **P** **12 25 47.6 -3.2**
PET *e* 12 28 03.6
PET *e*PS PnS 12 34 14.9 -14
PET pmax pmax
comp=Z,2µm,8.6s
PET pmax pmax
comp=Z,1µm,9.1s
PET pmax pmax
comp=Z,496nm,1.0s
PET Petropavlovsk 61.78 1 *e*P **P** **12 25 51.7 +1.0**
comp=Z,505nm,1.1s
PET LR LR
comp=Z,50µm,19.0s
PEA0B Petropavlovsk- 61.86 0 *e*P **P** **12 25 50.7 -0.6**
PETK Petropavlovsk- 61.86 0 P **P** **12 25 50.6 -0.8**
PETK Petropavlovsk- 61.86 0 P **P** **12 25 50.5 -0.8**
PETK Petropavlovsk- 61.86 0 P **P** **12 25 50.5 -0.8**
comp=Z,20nm,1.0s,baz=162,slow=7.1,SNR=25
PETK LR LR 12 49 24.8
comp=Z,39µm,19.7s,baz=171,slow=33
BJT Baijiatuau 62.02 325 *e*P **P** **12 25 52.3 -0.4**
comp=Z,236nm,1.4s
BJT LR LR
comp=Z,31µm,19.0s
BJI Beijing 62.03 325 P **P** **12 25 51.4 -1.3**
BJI PP **PP** **12 28 09.7 +0.1**
BJI S **S** **12 34 20.1 +4.1**
BJI sS **sS** **12 34 29.7 +0.9**
BJI pmax pmax
comp=Z,4µm,7.1s
BJI LR LR
comp=Z,33µm,16.9s
BJI LR LR
comp=Z,24µm,17.9s
BJI LR LR
comp=Z,21µm,18.9s
PHIT Phitsanulok 62.23 295 P P 12 25 58.5 +4.0
comp=Z,168nm,1.1s,comp=Z,2µm
KLR Kul'dur 62.26 341 *e*P P 12 25 48.5 -5.6
KLR *e*S **S** **12 34 18.0 -0.6**
KLR pmax pmax
comp=Z,420nm,2.8s
KLR pmax pmax
comp=Z,10µm,8.5s
KLR smax smax
comp=N,14µm,15.5s
KLR smax smax
comp=E,19µm,15.5s
KLR MLR MLR
comp=N,13µm,12.0s
KLR MLR MLR
comp=Z,35µm,12.0s
SRDT SRDT 62.48 291 P **P** **12 25 58.7 +2.5**
comp=Z,641nm,1.4s,comp=Z,23µm
TIY Taiyuan 62.76 321 *e*P **P** **12 25 56.0 -1.8**
TIY S **S** **12 34 24.4 -1.2**
TIY pmax pmax
comp=Z,3µm,5.7s
TIY LR LR
comp=Z,19µm,14.4s
TIY LR LR
comp=Z,19µm,14.7s
TIY LR LR
comp=Z,22µm,17.4s
XAN Xi'an 62.94 316 P **P** **12 25 57.5 -1.5**
XAN pP **pP** **12 26 08.0 +1.1**
XAN sP **sP** **12 26 12.2 +2.4**
XAN PP **PP** **12 28 19.6 +1.8**
XAN S **S** **12 34 28.5 +0.7**
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN LR LR
comp=Z,22µm,22.7s
XAN LR LR
comp=Z,10µm,21.0s
XAN LR LR
comp=Z,1µm,19.6s
FX1 Attu Island--F 63.05 11 *e*P **P** **12 26 02.3 +3.0**
KHLT Khaolaem Dam 63.10 292 P **P** **12 26 03.2 +2.8**
comp=Z,81nm,1.7s,comp=Z,4µm
KMI Kunming 63.28 304 P **P** **12 26 03.3 +1.6**
KMI pP **pP** **12 26 13.9 +4.4**
KMI PcP **PcP** **12 26 38.7 -0.1**
KMI PP **PP** **12 28 25.2 +4.1**
KMI S **S** **12 34 30.3 -2.4**
KMI sS **sS** **12 34 45.4 -0.2**

KMI SKS **SKSac** **12 35 51.6 -2.3**
KMI SS **SS** **12 38 39.0 -0.6**
KMI pmax pmax
comp=Z,35nm,1.3s
KMI pmax pmax
comp=Z,7μm,5.9s
KMI LR LR
comp=Z,17μm,20.9s
KMI LR LR
comp=Z,26μm,19.1s
KMI LR LR
comp=Z,37μm,22.0s
LAMP Lampang 63.39 296 P **P** **12 26 02.9 +0.6**
comp=Z,48nm,1.1s,comp=Z,696nm
CMAR Chiang Mai Arr 63.98 296 P **P** **12 26 05.8 -0.3**
CMAR S **S** **12 34 47.0 +5.8**
CMAR ⇑*e* 12 55 03.5
CMAR Chiang Mai Arr 63.98 296 P **P** **12 26 05.8 -0.3**
comp=Z,34nm,1.1s,baz=115,slow=4.5,SNR=51
CMAR S **S** **12 34 47.0 +5.8**
comp=Z,0.7nm,0.7s,baz=177,slow=1.6,SNR=3.2
CMAR LR LR 12 51 47.2
comp=Z,17μm,21.4s,baz=111,slow=34
CMAR PKP2bc 12 55 03.5
comp=Z,1.0nm,0.4s,baz=284,slow=4.8,SNR=7.7
CHTO Chiang Mai 64.10 296 *e*P **P** **12 26 06.4 -0.6**
CHTO pmax pmax
comp=Z,136nm,1.4s
CHTO MLR MLR
comp=Z,16μm,21.0s
CHTO Chiang Mai 64.10 296 P **P** **12 26 06.6 -0.3**
SNR=68
CHTO Chiang Mai 64.10 296 mb 12 26 26.0
SNR=206
CHTO Chiang Mai 64.10 296 P **P** **12 26 07.3 +0.3**
comp=Z,448nm,0.9s,comp=Z,42μm
CHTO Chiang Mai 64.10 296 *e*P **P** **12 26 06.4 -0.6**
CHTO LR LR
comp=Z,16μm,21.0s
CMAI Chiengmai2 64.40 297 P **P** **12 26 09.9 +0.8**
comp=Z,229nm,1.5s,comp=Z,8μm
MHMT Maesarieng 64.79 295 P **P** **12 26 12.2 +0.7**
comp=Z,69nm,1.7s,comp=Z,3μm
CD2 Chengdu 65.08 310 ⇓*i*P **P** **12 26 12.6 -0.6**
CD2 sP **sP** **12 26 26.4 +2.4**
CD2 PcP **PcP** **12 26 45.6 -0.3**
CD2 PP **PP** **12 28 38.1 +1.4**
CD2 S **S** **12 34 52.1 -2.4**
CD2 sS **sS** **12 35 09.1 +1.7**
CD2 ScS **SKSac** **12 36 03.5 -3.4**
CD2 SS **SS** **12 39 05.6 -1.6**
CD2 pmax pmax
comp=Z,160nm,0.9s
CD2 pmax pmax
comp=Z,8μm,7.1s
CD2 LR LR
comp=Z,21μm,19.0s
CD2 LR LR
comp=Z,29μm,17.8s
CD2 LR LR
comp=Z,35μm,19.0s
HHC Hu-ho-hao-te 65.23 323 *e*P **P** **12 26 12.8 -1.3**
HHC sP **sP** **12 26 26.6 +1.7**
HHC PcP **PcP** **12 26 45.2 -1.2**
HHC S **S** **12 34 57.6 +1.4**
HHC sS **sS** **12 35 11.3 +2.2**
HHC ScS **SKSac** **12 36 01.1 -6.7**
HHC SS **SS** **12 39 08.8 -0.6**
HHC pmax pmax
comp=Z,8μm,7.3s
HHC LR LR
comp=Z,42μm,21.1s
HHC LR LR
comp=Z,21μm,15.9s
HHC LR LR
comp=Z,39μm,22.4s
CMBY CAMPBELL BAY 65.43 282 *e*P **P** **12 26 14.5 -1.2**
CASY Casey 65.53 199 *e*P **P** **12 26 14.9 -0.6**
comp=Z,82nm,1.0s
CASY LR LR
comp=Z,58μm,20.0s
RKT Rikitea 65.80 111 *e*P **P** **12 26 18.0 0.0**
comp=Z,208nm,1.2s
RKT *e*S **S** **12 35 04.5 +0.9**
comp=Z,28μm,35.0s
RKT *e*LQ LQ 12 43 15.2
comp=Z,81μm,32.0s
RKT *e*LR LR 12 46 16.3
comp=Z,71μm,29.8s,baz=279
BTO Baotou 66.01 322 *e*P P 12 26 22.8 +3.7
HIA Hailar 66.83 334 *e*P **P** **12 26 24.1 0.0**
comp=Z,182nm,1.1s
HIA LR LR
comp=Z,19μm,21.0s
LZH Lanzhou 67.55 315 *e*P **P** **12 26 29.6 +0.5**
LZH pP **pP** **12 26 36.0 -1.0**
LZH sP **sP** **12 26 39.5 -0.4**
LZH *e*S **S** **12 35 24.5 -0.1**
LZH sS **sS** **12 35 38.4 +0.8**
LZH pmax pmax
comp=Z,88nm,1.2s
LZH pmax pmax
comp=Z,370nm,4.6s
LZH LR LR
comp=Z,20μm,15.8s
LZH LR LR
comp=Z,8μm,12.6s
LZH LR LR
comp=Z,34μm,16.3s
PBA Port Blair 67.68 287 *e*P P 12 26 30.0 0.0
DGPR DIGLIPUR 67.90 288 *e*P **P** **12 26 31.9 +0.5**
VNDA Vanda 68.54 179 *e*P **P** **12 26 34.7 +0.3**
comp=Z,918nm,2.3s
VNDA S **S** **12 35 38.9 +4.0**
VNDA Vanda 68.54 179 P **P** **12 26 35.6 +1.2**
comp=Z,10nm,0.9s,baz=351,slow=6.2,SNR=12
VNDA S **S** **12 35 38.9 +4.0**
comp=Z,4.5nm,1.2s,baz=108,slow=20,SNR=1.4
VNDA LR LR 12 53 45.2
comp=Z,26μm,18.6s,baz=355,slow=34
SBA Scott Base 69.00 178 PFAKE 12 26 50.0 +13
SBA LR LR
comp=Z,15μm,19.0s
UNV Unalaska Valle 69.56 22 *e*P **P** **12 26 42.2 +1.2**
comp=Z,2μm,2.8s
CLNS Chul'man 70.91 342 *e*P **P** **12 26 49.6 +0.3**
CLNS *e**PP **pP** **12 27 01.8 +4.6**
CLNS *e* 12 27 08.5
CLNS *e* 12 29 28.9
CLNS *e*PPP PPP 12 31 11.1
CLNS *e*S **S** **12 36 07.8 +4.6**
CLNS *e* 12 36 50.7
CLNS *e*SS **SS** **12 40 38.0 +1.5**
CLNS pmax pmax
comp=N,38nm,1.2s
CLNS pmax pmax
comp=Z,92nm,1.0s
CLNS pmax pmax
comp=E,19nm,0.7s
CLNS pmax pmax
comp=E,37nm,1.2s
CLNS pmax pmax
comp=Z,20nm,0.9s
CLNS pmax pmax
comp=N,26nm,1.0s
CLNS smax smax
comp=N,3μm,9.6s
CLNS smax smax
comp=E,9μm,11.9s
FALS False Pass 71.50 23 *e*P **P** **12 26 53.2 +0.4**
comp=E,222nm,0.7s
CIT Chita 71.55 333 *e*P **P** **12 26 53.4 +0.1**
CIT *e* 12 27 02.6
CIT *e* 12 27 19.2
SEY Seymchan 71.82 357 LR LR 12 52 10.2
comp=E,31μm,21.4s,baz=344,slow=31
MIR Mirnyy 71.83 202 ⇓*i*P **P** **12 26 54.0 -0.7**
MIR *e*PS PnS 12 36 20.0 -25
MIR pmax pmax
comp=Z,228nm,2.0s
MIR pmax pmax
comp=Z,5μm,6.0s
GTA Gaotai 71.96 316 ⇑P **P** **12 26 54.7 -1.5**
GTA S **S** **12 36 11.2 -5.1**
GTA SKS SKSac 12 36 48.3 -11
GTA SS **SS** **12 40 53.0 -0.5**
GTA pmax pmax
comp=Z,1μm,6.9s
GTA LR LR
comp=Z,16μm,19.2s
GTA LR LR
comp=Z,21μm,19.5s
GTA LR LR
comp=Z,28μm,20.0s
ULN Ulaanbaatar 72.08 327 P **P** **12 26 56.5 -0.1**
SNR=34
ULN Ulaanbaatar 72.08 327 mb 12 27 16.2
SNR=67
ULN Ulaanbaatar 72.08 327 *e*P **P** **12 26 56.2 -0.4**
comp=Z,221nm,1.1s
ULN LR LR
comp=Z,20μm,20.0s
SONM Songino Array 72.41 327 P **P** **12 26 57.8 -0.9**
SONM P'P' 12 54 40.0
SONM Songino Array 72.41 327 P **P** **12 26 57.8 -0.9**
comp=Z,8.0nm,0.9s,baz=137,slow=4.1,SNR=34
SONM PKPPKP **P'P'df** **12 54 40.0 -2.5**
comp=Z,1.1nm,1.0s,baz=169,slow=1.5,SNR=4.1
SONM LR LR 12 58 20.2
comp=Z,26μm,18.5s,baz=122,slow=36
SHL Shillong 72.54 300 *e*P **P** **12 27 00.0 +0.1**
SHL *i* x x 12 37 12.0
YAK Yakutsk 74.07 347 *e*P **P** **12 27 06.7 -1.2**
YAK *e* 12 27 21.3
YAK *e* 12 29 54.2
YAK *e*PPP PPP 12 31 33.0
YAK *e*S **SKiKP** **12 36 31.9 -2.7**
YAK *e* 12 37 07.8
YAK *e**SS ScS 12 37 24.8 +8.5
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,2μm,5.3s
YAK pmax pmax
comp=N,672nm,3.9s
YAK pmax pmax
comp=E,337nm,2.3s
YAK smax smax
comp=E,12μm,8.8s
YAK smax smax
comp=N,4μm,5.3s
YAK Yakutsk 74.07 347 *e*P **P** **12 27 06.2 -1.7**
comp=N,216nm,0.8s
YAK LR LR
comp=Z,32μm,22.0s
LSA Lhasa 74.53 304 P **P** **12 27 12.3 +0.3**
LSA S **SKiKP** **12 36 41.1 +4.1**
LSA pmax pmax
comp=Z,30nm,0.9s
LSA pmax pmax
comp=Z,430nm,3.9s
LSA LR LR
comp=Z,9μm,36.2s
LSA LR LR
comp=Z,14μm,25.0s
LSA LR LR
comp=Z,31μm,24.0s
LSA Lhasa 74.53 304 *e*P **P** **12 27 11.5 -0.5**
LSA pmax pmax
comp=Z,118nm,0.9s
LSA MLR MLR
comp=Z,25μm,21.0s
LSA Lhasa 74.53 304 *e*P **P** **12 27 11.5 -0.5**
comp=Z,118nm,0.9s
LSA LR LR
comp=Z,25μm,21.0s
TLY Talaya 76.10 329 P **P** **12 27 19.1 -0.8**
comp=Z,128nm,1.2s,SNR=6.9
TLY Talaya 76.10 329 *e*P **P** **12 27 17.9 -2.0**
TLY *e*S **S** **12 37 05.3 +3.2**
TLY *e* 12 37 31.6
TLY *e*SS **SS** **12 42 00.3 +4.5**
TLY pmax pmax
comp=Z,107nm,1.5s
TLY MLR MLR
comp=Z,16μm,15.0s
TLY Talaya 76.10 329 P **P** **12 27 20.3 +0.4**
SNR=24
TLY Talaya 76.10 329 mb 12 27 38.9
SNR=61
TLY Talaya 76.10 329 *e*P **P** **12 27 18.8 -1.1**
comp=Z,99nm,1.1s
TLY LR LR
comp=Z,23μm,21.0s
IRK Irkutsk 76.10 329 *e*P **P** **12 27 19.7 -0.2**
IRK *e*S S 12 37 16.6 +15
IRK pmax pmax
comp=Z,309nm,2.7s
GAMB Gambell 76.21 14 *e*P **P** **12 27 20.4 +0.1**
comp=Z,647nm,1.8s
TAPN Taplejung 76.65 301 *e*P **P** **12 27 23.8 -0.1**
comp=Z,599nm,1.4s
ODAN Odare 76.77 300 *e*P **P** **12 27 24.3 -0.3**
comp=Z,420nm,1.0s
OHAK Old Harbor 77.20 25 *e*P **P** **12 27 25.1 -0.8**
comp=Z,258nm,1.2s
BOK Bokaro 77.21 297 *e*P **P** **12 27 26.2 -0.6**
MOY Mondy 77.47 328 *e*P **P** **12 27 27.7 -0.1**
MOY pmax pmax
comp=Z,198nm,3.3s
RAMN Ramite 77.47 300 *e*P **P** **12 27 27.9 -0.6**
comp=Z,254nm,1.2s
KDAK Kodiak Island 77.85 25 *e*P **P** **12 27 28.2 -1.3**
comp=Z,697nm,1.9s
KDAK LR LR
comp=Z,57μm,22.0s
VIS Vishakhapatnam 77.99 290 *e*P **P** **12 27 31.4 +0.2**
JIRN Jiri 78.03 301 *e*P **P** **12 27 31.0 -0.8**
comp=Z,1μm,1.7s
PALK Pallekele 78.32 279 P P 12 27 45.5 +12
SNR=17
PALK Pallekele 78.32 279 mb 12 27 55.4
SNR=42
PALK Pallekele 78.32 279 *e*P **P** **12 27 31.2 -2.1**
comp=Z,1μm,1.1s
GUN Gumba 78.36 301 *e*P **P** **12 27 32.2 -1.4**
comp=Z,2μm,1.9s
TNA Tin City 78.60 14 *e*P **P** **12 27 33.3 -0.3**
comp=Z,706nm,1.9s
PKI Pulchoki 78.67 300 *e*P **P** **12 27 34.3 -0.9**
comp=Z,1μm,1.7s
KKN Kakani 78.84 301 *e*P **P** **12 27 35.0 -1.0**
comp=Z,865nm,1.7s
SVW2 Sparrevohn 78.89 21 *e*P **P** **12 27 35.6 +0.3**
comp=Z,274nm,1.3s
DMN Daman 78.94 300 *e*P **P** **12 27 35.3 -1.3**
comp=Z,869nm,1.3s
GKN Gorkha 79.44 301 *e*P **P** **12 27 37.8 -1.5**
comp=Z,1μm,1.6s
RSO Redoubt South 79.50 23 *e*P **P** **12 27 37.8 -1.2**
MDRS Chennai 79.88 285 *e*P **P** **12 27 39.5 -2.2**
MDRS AMB AMB 12 27 57.6
comp=Z,219nm,0.8s
MDRS *ex* x 12 27 59.2
MDRS *ex* x 12 32 05.2
SPU Mount Spurr 80.23 22 *e*P **P** **12 27 42.3 -0.4**
KOLN Koldanda 80.26 300 *e*P **P** **12 27 42.0 -1.8**
comp=Z,2μm,1.6s
DANN Dangsing 80.28 301 *e*P **P** **12 27 41.8 -2.2**
comp=Z,2μm,1.7s
SEW Seward 80.57 24 *e*P P 12 27 41.0 -3.4
comp=Z,858nm,1.9s
QSPA South Pole Qui 81.00 180 *e*P **P** **12 27 44.8 -2.0**
comp=Z,76nm,1.2s
QSPA South Pole Qui 81.00 180 P **P** **12 27 45.2 -1.6**
comp=Z,8.1nm,0.9s,baz=350,slow=1.8,SNR=11
QSPA LR LR 13 01 49.4
comp=Z,15μm,19.8s,baz=19,slow=34
RC01 Rabbit Creek A 81.05 23 *e*P **P** **12 27 46.5 -0.6**
comp=Z,686nm,1.8s
PPLA Pueypile 81.28 21 *e*P **P** **12 27 45.5 -2.8**
comp=Z,624nm,1.5s
PAF Port-aux-Franc 81.56 221 PFAKE 12 28 00.0 +10
PAF LR LR
comp=Z,19μm,19.0s
PMR Palmer 81.59 23 *e*P P 12 27 45.9 -3.9
PMR pmax pmax
comp=Z,2μm,2.2s
PMR Palmer 81.59 23 *e*P P 12 27 45.9 -3.9
comp=Z,2μm,2.2s
CAST Castle Rocks 81.65 20 *e*P **P** **12 27 48.6 -1.5**
comp=Z,158nm,0.8s
WMQ Urumqi 82.05 317 P **P** **12 27 53.4 +0.7**
WMQ pP **PcP** **12 27 58.1 -0.1**
WMQ sP **sP** **12 28 00.4 -3.3**
WMQ PP **PP** **12 31 03.4 +2.5**
WMQ Urumqi 82.05 317 S **S** **12 38 06.3 +0.4**
WMQ Urumqi 82.05 317 SS SS 12 43 26.9 +1.3
WMQ pmax pmax
comp=Z,210nm,2.0s
WMQ pmax pmax
comp=Z,8μm,6.3s
WMQ LR LR
comp=N,13μm,18.7s
WMQ LR LR
comp=E,23μm,23.8s
WMQ LR LR
comp=Z,27μm,25.5s
WMQ Urumqi 82.05 317 P **P** **12 27 51.8 -0.9**
WMQ pP **pP** **12 28 02.2 +1.4**
WMQ sP **sP** **12 28 06.1 +2.4**
WMQ PP **PP** **12 30 59.7 -1.2**
WMQ SKS **S** **12 38 04.7 -1.2**
WMQ SS **SS** **12 43 28.4 +2.8**
WMQ pmax pmax
comp=Z,130nm,2.1s
WMQ pmax pmax
comp=Z,7μm,5.8s
WMQ LR LR
comp=Z,14μm,19.8s
WMQ LR LR
comp=Z,23μm,21.6s
WMQ LR LR
comp=Z,27μm,22.4s
KTH Kantishna Hill 82.14 21 *e*P **P** **12 27 51.2 -1.6**
comp=Z,1μm,1.1s
TRD Trivandrum 82.19 280 *e*P **P** **12 27 52.4 -1.7**
TRF Thorofare Moun 82.30 21 *e*P **P** **12 27 51.1 -2.7**
comp=Z,1μm,2.0s
HYB Hyderabad 82.37 289 *i* P **P** **12 27 54.0 -0.9**
comp=Z,150nm,1.0s
HYB *e*PP **PP** **12 31 00.0 -4.1**
HYB *e*SKS **S** **12 38 12.0 +1.9**
HYB Hyderabad 82.37 289 *e*P **P** **12 27 54.0 -0.9**
HYB AMB AMB 12 28 12.1
comp=Z,261nm,0.5s
DIV Divide 82.64 24 *e*P **P** **12 27 54.6 -0.9**
comp=Z,1μm,2.4s
RAGM Ragged Mountai 82.69 25 *e*P **P** **12 27 55.5 -0.2**
comp=Z,2μm,2.9s
NGP Nagpur 82.69 293 *e*P **P** **12 27 56.4 -0.2**
NGP AMB AMB 12 28 11.8
comp=Z,366nm,3.5s
NGP *e*S **S** **12 38 11.9 -1.4**
NGP *ex* x 13 03 56.9
comp=Z,11μm,20.4s
TIXI Tiksi 82.70 351 *e*P **P** **12 27 54.1 -1.3**
TIXI pmax pmax
comp=Z,69nm,2.5s
TIXI MLR MLR
comp=Z,26μm,19.0s
TIXI Tiksi 82.70 351 *e*P **P** **12 27 54.4 -1.0**
comp=Z,731nm,1.8s
TIXI LR LR
comp=Z,33μm,20.0s
IM04 Indian Mountai 82.78 18 *e*P **P** **12 27 54.9 -1.1**
MCK McKinley 82.95 21 *e*P **P** **12 27 55.0 -2.0**
MCK pmax pmax
comp=Z,611nm,1.1s
MCK McKinley 82.95 21 *e*P **P** **12 27 55.0 -2.0**
comp=Z,611nm,1.1s
BMRM Bremner River 83.03 25 *e*P **P** **12 27 56.3 -1.2**
comp=Z,814nm,2.1s
LGTI Lohaghat 83.54 301 *ex* P 12 28 04.9 +4.2
MAW Mawson 83.56 203 *e*P **P** **12 27 58.3 -1.7**
comp=Z,56nm,1.2s
MAW Mawson 83.56 203 P **P** **12 27 60.0 -0.1**
comp=Z,15nm,1.0s,baz=77,slow=6.4,SNR=6.5
MAW LR LR 13 02 17.4
comp=Z,19μm,21.2s,baz=88,slow=34
PAX Paxson 83.79 23 *e*P **P** **12 27 59.8 -1.6**
PAX pmax pmax
comp=Z,161nm,1.3s
PAX Paxson 83.79 23 *e*P **P** **12 27 59.8 -1.6**
comp=Z,161nm,1.3s
COLA College 84.01 20 ⇓*e*P **P** **12 28 00.3 -2.0**
COLA pmax pmax
comp=Z,319nm,1.4s
COLA MLR MLR
comp=Z,91μm,18.0s
COLA College 84.01 20 *e*P **P** **12 27 59.9 -2.4**
comp=Z,421nm,1.9s
COLA LR LR
comp=Z,32μm,20.0s
DGAR Diego Garcia 84.11 263 *e*P **P** **12 28 03.8 -0.2**
DGAR pmax pmax
comp=Z,459nm,1.2s
DGAR MLR MLR
comp=Z,10μm,20.0s
DGAR Diego Garcia 84.11 263 *e*P **P** **12 28 03.8 -0.2**
comp=Z,459nm,1.2s
DGAR LR LR
comp=Z,10μm,20.0s
ILAR Eielson Array 84.29 21 P **P** **12 28 01.8 -2.0**
ILAR PKKPbc **PKKPbc** **12 46 19.6 0.0**
ILAR P'P' 12 54 24.1
ILAR Eielson Array 84.29 21 P **P** **12 28 01.8 -2.0**
comp=Z,366nm,1.0s,baz=259,slow=4.8,SNR=64
ILAR PKKPbc **PKKPbc** **12 46 19.6 0.0**
comp=Z,0.8nm,0.8s,baz=310,slow=0.9,SNR=6.1
ILAR PKPPKP **P'P'df** **12 54 24.1 +3.8**
comp=Z,1.0nm,1.1s,baz=268,slow=0.1,SNR=4.1
ILAR LR LR 13 02 43.8
comp=Z,52μm,19.5s,baz=248,slow=34
LATR Latur 84.43 290 *ex* P 12 27 58.3 -7.2
comp=Z,511nm,1.8s
MENT Mentasta 84.44 23 *e*P **P** **12 28 04.0 -0.7**
BHPL Bhopal 84.61 294 *e*P **P** **12 28 06.3 -0.1**
COLD Coldfoot 84.68 18 *e*P **P** **12 28 05.1 -0.6**
comp=Z,634nm,2.0s
DOT Dot Lake 84.69 22 *e*P **P** **12 28 05.1 -0.8**
comp=Z,921nm,1.9s
SIT Sitka 85.39 30 *e*P P 12 28 05.9 -3.5
SIT pmax pmax
comp=Z,236nm,1.3s
SIT Sitka 85.39 30 *e*P P 12 28 05.9 -3.5
comp=Z,236nm,1.3s
DDI Dehra Dun 85.59 301 *e*P **P** **12 28 08.2 -3.0**
DDI AMB AMB 12 28 27.7
comp=Z,347nm,1.6s
NDI New Delhi 85.95 300 *e*P **P** **12 28 11.0 -1.9**
NDI *ex* x 12 38 44.0
HYT Haines Junctio 85.98 26 *e*P **P** **12 28 12.1 -0.4**
EGAK Eagle 86.36 22 *e*P **P** **12 28 13.0 -1.2**
comp=Z,1μm,1.9s
EGAK LR LR
comp=Z,48μm,22.0s
SKAG Skagway 86.38 28 *e*P **P** **12 28 13.2 -1.1**
comp=Z,539nm,1.7s
GOA Goa 86.45 286 *ex* P 12 28 11.8 -3.8
SMLA Simla 86.52 302 *e*P **P** **12 28 14.2 -1.4**
SMLA *e*P **PcP** **12 28 15.8 -2.2**
SMLA AMB AMB 12 28 31.8
comp=Z,312nm,1.9s
SMLA *ex* x 12 38 47.1
MK31 Makanchi Array 86.61 318 *i* P **P** **12 28 12.9 -2.9**
MK31 pmax pmax
comp=Z,119nm,1.0s
MKAR Makanchi Array 86.61 318 P **P** **12 28 13.2 -2.6**
MKAR Makanchi Array 86.61 318 P **P** **12 28 13.2 -2.6**
MKAR PKKPbc **PKKPbc** **12 46 16.3 +3.0**
MKAR P'P' 12 54 28.3
MKAR Makanchi Array 86.61 318 P **P** **12 28 13.2 -2.6**
comp=Z,3.9nm,0.6s,baz=96,slow=5.0,SNR=49
MKAR PKKPbc **PKKPbc** **12 46 16.3 +3.0**
comp=Z,1.0nm,0.8s,baz=270,slow=2.8,SNR=4.7
MKAR PKPPKP P'P'df 12 54 28.3 +11
comp=Z,1.3nm,0.9s,baz=329,slow=2.4,SNR=5.4
MKAR LR LR 13 08 17.3
comp=Z,12μm,20.0s,baz=267,slow=37
WRAK Wrangell Islan 86.66 32 *e*P **P** **12 28 16.4 +0.7**
comp=Z,181nm,1.2s
WRAK LR LR
comp=Z,71μm,22.0s

DAWY **Dawson** 86.69 23 *e*P P 12 28 15.1 -0.7
POO **Poona** 86.97 289 *e*P P 12 28 17.2 -1.0
POO *e*PP PP 12 31 40.5 -1.2
KCPM Cahto Peak 87.18 49 *e*P P 12 28 19.2 +0.3
comp=Z,289nm,1.6s
KMRM Mail Ridge 87.22 49 *e*P P 12 28 20.2 +1.3
comp=Z,1µm,2.3s
ZAA0 Zalesovo Array 87.28 326 *e*P P 12 28 15.8 -3.0
ZALV Zalesovo Beam 87.28 326 P P 12 28 16.2 -2.6
ZALV Zalesovo Beam 87.28 326 P P 12 28 16.2 -2.6
ZALV PKKPbc **PKKPbc** 12 46 16.5 +4.6
ZALV P'P' 12 54 23.6
ZALV Zalesovo Beam 87.28 326 P P 12 28 16.2 -2.6
comp=Z,2.0nm,0.5s,baz=118,slow=5.2,SNR=12
ZALV PKKPbc **PKKPbc** 12 46 16.5 +4.6
comp=Z,1.1nm,0.6s,baz=343,slow=1.5,SNR=3.7
ZALV PKPPKP P'P'df 12 54 23.6 +7.9
comp=Z,1.4nm,0.8s,baz=298,slow=3.2,SNR=4.9
ZALV LR LR 13 08 08.2
comp=Z,16µm,18.8s,baz=206,slow=36
KIPM Iron Peak 87.28 49 *e*P P 12 28 19.8 +0.4
comp=Z,316nm,1.3s
KBO Bosley Butte 87.33 47 P P 12 28 20.2 +0.7
comp=Z,491nm,1.8s
MCCM Marconi Confer 87.34 51 *e*P P 12 28 17.4 -2.1
comp=Z,127nm,1.1s
KHMM Horse Mountain 87.36 48 *e*P P 12 28 20.9 +1.2
comp=Z,271nm,1.3s
KRMB Red Mountain 87.39 47 *e*P P 12 28 20.5 +0.7
comp=Z,2µm,2.3s
HOPS Hopland 87.40 50 *e*P P 12 28 18.9 -0.9
comp=Z,174nm,1.2s
DHRM DHARAMSHALA 87.48 303 *e*P P 12 28 19.9 -0.7
DHRM AMB AMB 12 28 36.1
comp=Z,262nm,1.0s
SAC San Andreas 87.57 52 *e*P P 12 28 19.7 -0.9
SAC San Andreas 87.57 52 *e*P P 12 28 19.7 -0.9
L02D Cave Junction, 87.76 47 ⇑P P 12 28 20.3 -1.2
baz=88
M02C Callahan 88.12 48 ⇑P P 12 28 22.2 -1.1
baz=88
N02D Trinity Center 88.14 48 ⇑P P 12 28 22.2 -1.2
baz=88
SAO San Andreas Ge 88.14 53 *e*P P 12 28 23.2 -0.2
SAO pmax pmax
comp=Z,2µm,2.8s
SAO San Andreas Ge 88.14 53 *e*P P 12 28 23.2 -0.2
comp=Z,2µm,2.8s
WDC Whiskeytown Da 88.17 49 *e*P P 12 28 24.1 +0.7
WDC pmax pmax
comp=Z,584nm,2.1s
WDC Whiskeytown Da 88.17 49 *e*P P 12 28 24.1 +0.7
comp=Z,584nm,2.1s
YBH Yreka Blue Hor 88.31 47 *e*P P 12 28 24.2 +0.1
comp=Z,210nm,1.5s
HUMO Hull Mountain 88.34 47 *e*P P 12 28 24.2 0.0
comp=Z,1µm,2.6s
DLBC Dease Lake 88.55 30 *e*P P 12 28 24.9 +0.1
COR Corvallis 88.57 45 *e*P P 12 28 24.6 -0.5
COR pmax pmax
comp=Z,53nm,1.3s
COR Corvallis 88.57 45 *e*P P 12 28 24.6 -0.5
comp=Z,53nm,1.3s
RPN Rapa Nui 88.65 117 *e*P P 12 28 24.2 -1.9
RPN LR LR
comp=Z,111nm,0.9s
comp=Z,17µm,21.0s
OHCM Honcut 88.68 50 *e*P P 12 28 26.1 +0.3
G03D McMinnville, O 88.74 44 P P 12 28 26.8 +0.8
baz=89
OOW Octopus West 88.75 41 P P 12 28 32.0 +6.0
E03A Lebam 88.87 43 *e*P P 12 28 26.0 -0.5
comp=Z,109nm,0.9s
NLWA Neilton Lookou 88.87 42 *e*P P 12 28 28.0 +1.4
comp=Z,110nm,1.4s
NLWA LR LR
comp=Z,65µm,20.0s
PTRM Twissleman Ran 88.89 54 *e*P P 12 28 28.1 +1.1
M04C Macdoel 88.95 48 ⇓P P 12 28 25.9 -1.4
baz=89
SMMC Simmler 88.99 54 ⇓P P 12 28 27.0 -0.5
baz=89
I04A Tendick Farm, 89.00 45 ⇑P P 12 28 26.7 -0.6
baz=89
BSC Santa Cruz Isl 89.02 56 ⇑P P 12 28 26.7 -0.9
baz=89
SBC Santa Barbara 89.04 55 ⇑P P 12 28 27.6 -0.1
baz=89
PKM Peak Mountain 89.05 55 ⇑P P 12 28 27.4 -0.6
baz=89
J04D Umpqua Nationa 89.09 46 ⇓P P 12 28 26.8 -1.2
baz=89
CMB Columbia Colle 89.24 51 *e*P P 12 28 28.1 -0.5
CMB pmax pmax
comp=Z,516nm,2.0s
CMB Columbia Colle 89.24 51 *e*P P 12 28 28.1 -0.5
comp=Z,516nm,2.0s
KSH Kashi 89.27 310 P P 12 28 30.6 +1.8
KSH *e*PP PP 12 32 01.3 +1.5
KSH *e*SKS **SKSac** 12 38 55.9 -1.7
KSH S **SKKSac** 12 39 11.2 +1.5
KSH sS **sS** 12 39 29.3 -1.3
KSH pmax pmax
comp=Z,4µm,6.4s
KSH LR LR
comp=Z,10µm,15.5s
KSH LR LR
comp=Z,18µm,15.8s
KSH LR LR
comp=Z,10µm,16.3s
H04A Detroit Lake 89.36 45 *e*P P 12 28 32.0 +3.0
comp=Z,986nm,1.4s
AAA Alma-Ata 89.37 314 *e*P P 12 28 28.5 -0.6
AAA pmax pmax
comp=Z,5µm,6.4s
AAA MLR MLR
comp=Z,28µm,19.0s
PGC Sidney 89.46 41 *e*P P 12 28 28.8 -0.4
comp=Z,3.8nm,1.3s
BLG Laguna Peak 89.51 55 ⇑P P 12 28 28.9 -1.0
baz=90
BEKR Beckworth 89.64 50 *e*P P 12 28 29.7 -0.9
comp=Z,77nm,1.4s
SCI San Clemente I 89.72 57 ⇓P P 12 28 30.1 -0.8
baz=90
J05D Fort Rock, OR 89.72 46 P P 12 28 31.1 +0.2
baz=90
RCTC Rector, Farmer 89.79 53 ⇑P P 12 28 29.7 -1.5
baz=90,SNR=12
VES Vestal, Richgr 89.82 54 ⇓P P 12 28 29.6 -1.7
baz=90,SNR=23
K05A Summer Lake 89.85 47 *e*P P 12 28 31.1 -0.4
comp=Z,1µm,2.3s
I05D Terrebonne, OR 89.88 45 ⇓P P 12 28 30.2 -1.3
baz=90
OSI Osito Adit 89.88 55 *e*P P 12 28 32.7 +1.1
comp=Z,596nm,1.5s
OSI Osito Adit 89.88 55 ⇓P P 12 28 30.8 -0.8
baz=90
ARVC Arvin 89.89 55 ⇑P P 12 28 31.1 -0.5
baz=90,SNR=24
CIS Catalina Islan 89.91 56 ⇑P P 12 28 30.6 -1.2
baz=90,SNR=22
KURK Kurchatov 90.00 321 P P 12 28 27.7 -4.0
KURK pmax pmax
comp=Z,115nm,1.8s
KURK Kurchatov 90.00 321 P P 12 28 31.6 -0.1
SNR=15
KURK Kurchatov 90.00 321 mb 12 28 49.4
SNR=81
KURK Kurchatov 90.00 321 *e*P P 12 28 28.9 -2.8
comp=Z,85nm,1.4s
KURK LR LR
comp=Z,11µm,19.0s
KURBB Kurchatov Arra 90.03 321 P P 12 28 29.2 -2.7
comp=Z,1.4nm,0.9s,baz=106,slow=3.1,SNR=22
FMP Fort Macarthur 90.06 56 ⇓P P 12 28 31.3 -1.1
baz=90
WAKR Walker 90.07 51 *e*P P 12 28 32.2 -0.5
LON Longmire 90.09 43 *e*P P 12 28 37.3 +4.9
LON pmax pmax
comp=Z,149nm,2.4s
LON Longmire 90.09 43 *e*P P 12 28 37.3 +4.9
comp=Z,149nm,2.4s
PINOR Pine Mountain 90.09 46 *e*P P 12 28 32.4 0.0
comp=Z,20nm,1.1s
MOD Modoc 90.10 48 *e*P P 12 28 32.3 -0.4
comp=Z,130nm,2.0s
DECC Green Verdugo 90.13 55 ⇑P P 12 28 31.3 -1.6
baz=90
PASC Pasadena Art C 90.23 56 *e*P P 12 28 33.3 0.0
comp=Z,642nm,1.7s
TKM2 Tokmak 2 90.26 313 *e*P P 12 28 33.0 -0.5
TKM2 pmax pmax
TKM2 MLR MLR
comp=Z,476nm,2.6s
comp=Z,14µm,19.0s
TKM2 Tokmak 2 90.26 313 *e*P P 12 28 33.0 -0.5
comp=Z,476nm,2.6s
TKM2 LR LR
comp=Z,14µm,19.0s
ISA Isabella 90.28 54 *e*P P 12 28 32.4 -1.2
ISA pmax pmax
comp=Z,61nm,1.6s
ISA Isabella 90.28 54 *e*P P 12 28 32.4 -1.2
comp=Z,61nm,1.6s
ISA Isabella 90.28 54 ⇑P P 12 28 32.2 -1.3
baz=90,SNR=35
MWC Mount Wilson 90.35 56 *e*P P 12 28 33.1 -0.9
MWC pmax pmax
comp=Z,851nm,1.4s
MWC Mount Wilson 90.35 56 *e*P P 12 28 33.1 -0.9
comp=Z,851nm,1.4s
MLAC Mammoth Lakes 90.36 52 ⇑P P 12 28 32.7 -1.4
baz=90
EDW2 Edwards Air Fo 90.52 55 ⇓P P 12 28 33.4 -1.2
baz=91,SNR=76
MTUM Tungsten Hills 90.52 52 *e*P P 12 28 35.3 +0.5
G06A Carlson Farm, 90.56 44 *e*P P 12 28 37.5 +2.9
comp=Z,393nm,2.6s
INK Inuvik 90.67 20 *e*P P 12 28 33.2 -1.3
comp=Z,448nm,1.8s
BFSC Mount Baldy Ra 90.68 56 ⇓P P 12 28 33.2 -2.3
baz=91,SNR=42
B06A Malemount 90.70 41 *e*P P 12 28 38.1 +3.1
comp=Z,50nm,1.3s
TIN Tinemaha 90.73 53 ⇑P P 12 28 34.9 -0.8
baz=91,SNR=13
CWC Cottonwood Cre 90.73 53 ⇑P P 12 28 34.8 -1.0
baz=91,SNR=32
NAC Naches 90.75 43 P P 12 28 34.8 -0.6
LRMC Laurel Mountai 90.87 54 ⇓P P 12 28 35.0 -1.4
baz=91,SNR=39
109C Camp Elliot, M 90.89 57 ⇓P P 12 28 35.6 -0.8
baz=91
NVAR Mina Array Bea 90.93 51 P P 12 28 35.0 -1.7
NVAR P'P' 12 54 17.0
NVAR Mina Array Bea 90.93 51 P P 12 28 35.0 -1.7
comp=Z,39nm,1.0s,baz=249,slow=6.5,SNR=88
NVAR PKPPKP P'P'df 12 54 17.0 +6.3
comp=Z,0.2nm,0.4s,baz=67,slow=4.9,SNR=3.7
NVAR LR LR 13 02 57.6
comp=Z,24µm,20.6s,baz=102,slow=31
MURC Murrieta 90.94 56 ⇓P P 12 28 35.4 -1.2
baz=91,SNR=8.7
FRU Bishkek 90.95 313 *e*P P 12 28 36.0 -0.5
FRU *i* 12 28 51.0
FRU *i* 12 39 07.0
LTY Liberty 90.96 42 *e*P P 12 28 35.0 -1.4
comp=Z,25nm,0.8s
AAK Ala-Archa 91.00 313 P P 12 28 37.1 +0.2
comp=Z,88nm,1.0s,SNR=7.1
AAK Ala-Archa 91.00 313 *e*P P 12 28 34.9 -2.0
AAK pmax pmax
comp=Z,109nm,1.6s
AAK MLR MLR
comp=Z,15µm,19.0s
AAK Ala-Archa 91.00 313 P P 12 28 37.0 +0.1
SNR=20
AAK Ala-Archa 91.00 313 mb 12 28 56.7
SNR=48
AAK Ala-Archa 91.00 313 *e*P P 12 28 34.9 -2.0
comp=Z,109nm,1.6s
AAK LR LR
comp=Z,15µm,19.0s
NV11 Mina Array Sit 91.04 51 *e*P P 12 28 35.8 -1.4
I07A Izee 91.11 46 *e*P P 12 28 35.7 -1.6
comp=Z,86nm,1.0s
MPMC Manual Prospec 91.14 54 ⇑P P 12 28 36.4 -1.3
baz=91,SNR=44
BAR Barrett 91.22 57 *e*P P 12 28 36.9 -1.0
comp=Z,99nm,1.1s
ETW Entiat 91.26 42 P P 12 28 35.9 -2.0
BBRC Big Bear Solar 91.28 56 ⇑P P 12 28 37.1 -1.3
baz=91
RRX Edison Barstow 91.32 55 ⇓P P 12 28 36.9 -1.4
baz=92
E07A Sunnyside 91.36 43 *e*P P 12 28 37.0 -1.2
comp=Z,44nm,1.0s
GRAC Grapevine Rang 91.40 53 ⇑P P 12 28 38.0 -0.7
baz=92,SNR=19
WVOR Wild Horse Val 91.42 47 *e*P P 12 28 37.0 -1.8
WVOR pmax pmax
comp=Z,139nm,1.1s
WVOR MLR MLR
comp=Z,34µm,22.0s
WVOR Wild Horse Val 91.42 47 *e*P P 12 28 37.0 -1.8
comp=Z,139nm,1.1s
WVOR LR LR
comp=Z,34µm,22.0s
MONP Monument Peak 91.46 57 ⇓P P 12 28 38.9 -0.4
baz=92,SNR=26
EKS2 Erkin-Say 91.53 313 *e*P P 12 28 38.2 -1.1
EKS2 pmax pmax
comp=Z,131nm,1.5s
EKS2 MLR MLR
comp=Z,15µm,19.0s
EKS2 Erkin-Say 91.53 313 *e*P P 12 28 38.2 -1.1
comp=Z,131nm,1.5s
EKS2 LR LR
comp=Z,15µm,19.0s
WTV Waterville 91.53 42 P P 12 28 37.2 -1.8
HAWA Hanford 91.55 43 *e*P P 12 28 37.3 -1.8
comp=Z,228nm,2.1s
HAWA LR LR
comp=Z,53µm,20.0s
PFO Pinyon Flat Ob 91.55 56 *e*P P 12 28 39.0 -0.6
comp=Z,162nm,1.3s
PFO LR LR
comp=Z,125µm,22.0s
PFO Pinyon Flat Ob 91.55 56 ⇑P P 12 28 38.7 -0.9
baz=92,SNR=14
GSC Goldstone 91.55 55 *e*P P 12 28 38.9 -0.6
GSC pmax pmax
comp=Z,262nm,1.6s
GSC Goldstone 91.55 55 *e*P P 12 28 38.9 -0.6
comp=Z,262nm,1.6s
GSC Goldstone 91.55 55 ⇑P P 12 28 38.1 -1.4
baz=92,SNR=24
BHJ Bhuj 91.64 293 *e*P P 12 28 40.4 +0.3
DVTC Desert V Tower 91.69 57 ⇑P P 12 28 39.6 -0.6
baz=92
TPH Tonopah 91.70 52 *e*P P 12 28 39.4 -0.9
TPH pmax pmax
comp=Z,424nm,1.5s
TPH Tonopah 91.70 52 *e*P P 12 28 39.4 -0.9
comp=Z,424nm,1.5s
FURC Furnace Creek, 91.71 54 ⇓P P 12 28 38.8 -1.2
baz=92,SNR=92
J08A Circle Bar Ran 91.71 47 *e*P P 12 28 38.3 -1.8
comp=Z,305nm,1.5s
G08A Pilot Rock 91.73 45 *e*P P 12 28 39.4 -0.8
comp=Z,64nm,1.1s
HEC Hector,Ludlow 91.86 55 ⇓P P 12 28 39.6 -1.3
baz=92
SWSC Sam W. Stewart 91.99 57 ⇓P P 12 28 40.6 -0.8
baz=92
BELC Belle Mtn. Jos 91.99 56 ⇑P P 12 28 40.6 -1.0
baz=92,SNR=29
SHOC Shoshone 92.08 54 ⇓P P 12 28 41.0 -0.8
baz=92,SNR=39
D08A Wollman Farm, 92.09 43 *e*P P 12 28 40.3 -1.3
comp=Z,43nm,1.0s
BMN Battle Mountai 92.11 50 *e*P P 12 28 41.7 -0.3
BMN pmax pmax
comp=Z,270nm,1.5s
BMN Battle Mountai 92.11 50 *e*P P 12 28 41.7 -0.3
comp=Z,270nm,1.5s
TUQ Turquoise Moun 92.29 55 ⇑P P 12 28 42.0 -1.0
baz=92,SNR=12
BC3 Big Chuckawall 92.38 56 ⇑P P 12 28 42.6 -0.9
baz=92,SNR=15
GMRC Granite Mounta 92.39 55 ⇓P P 12 28 42.3 -1.1
baz=92,SNR=47
E09A Wood Farm, Sta 92.51 43 *e*P P 12 28 42.2 -1.4
comp=Z,63nm,1.1s
C09A Chrisman Ranch 92.66 42 *e*P P 12 28 43.3 -0.9
comp=Z,120nm,1.7s
IRM Iron Mountain 92.71 56 ⇑P P 12 28 44.2 -0.6
baz=93,SNR=33
GLA Glamis 92.81 57 *e*P P 12 28 46.3 +1.0
GLA pmax pmax
comp=Z,34nm,1.0s
GLA Glamis 92.81 57 *e*P P 12 28 46.3 +1.0
comp=Z,34nm,1.0s
GLA Glamis 92.81 57 ⇑P P 12 28 45.0 -0.3
baz=93
LDFC Landfair 92.89 55 *e*P P 12 28 46.8 +1.1
comp=Z,312nm,1.1s
R11A Troy Canyon, C 93.02 52 ⇑P P 12 28 45.3 -1.0
baz=93
F10A Beach Ranch, E 93.05 44 *e*P P 12 28 40.6 -5.6
comp=Z,89nm,1.1s
SHPR Sheep Range 93.07 54 *e*P P 12 28 46.8 +0.2
Y12C Blythe 93.16 56 ⇓P P 12 28 46.9 0.0
baz=93
NEE2 Needles Airpor 93.24 55 ⇑P P 12 28 46.5 -0.7
baz=93
NEW Newport 93.50 42 *e*P P 12 28 47.0 -1.2
comp=Z,32nm,0.8s
NEW LR LR
comp=Z,65µm,20.0s
NEW Newport 93.50 42 ⇓P P 12 28 48.8 +0.7
baz=94
PDMCI Parker Dam,Lak 93.56 56 ⇑P P 12 28 48.2 -0.5
baz=94
MFID Camas Ranch 93.62 47 *e*P P 12 28 48.1 -0.8
comp=Z,779nm,2.8s
113A Mohawk Valley, 93.65 58 ⇑P P 12 28 48.5 -0.6
baz=94
ELK Elko 93.65 49 *e*P P 12 28 48.3 -1.0
comp=Z,198nm,1.6s
W13A Hualapai Mount 93.88 55 ⇑P P 12 28 49.4 -1.0
baz=94,SNR=18
KK31 Karatay Array 93.97 313 *i* P P 12 28 48.8 -1.6
KK31 pmax pmax
comp=Z,41nm,1.0s
KKAR Karatay Array 93.97 313 *e*P P 12 28 49.7 -0.7
KKAR Karatay Array 93.97 313 *e*P P 12 28 49.7 -0.7
214A Organ Pipe Nat 94.33 58 *e*P P 12 28 52.8 +0.5
comp=Z,195nm,1.6s
214A Organ Pipe Nat 94.33 58 ⇓P P 12 28 51.6 -0.7
baz=94
Z14A Wintersburg 94.41 57 ⇑P P 12 28 51.8 -0.8
baz=94
Y14A Wickenburg 94.44 56 ⇑P P 12 28 51.3 -1.5
baz=95
ARUT Antelope Range 94.61 53 *e*P P 12 28 54.2 +0.5
ARUT Antelope Range 94.61 53 *e*P P 12 28 54.1 +0.5
comp=Z,1µm,2.1s
CCUT Cedar City 94.64 53 *e*P P 12 28 53.6 -0.3
comp=Z,675nm,2.4s
HLID Hailey 94.66 47 *e*P P 12 28 53.2 -0.5
comp=Z,201nm,1.8s
HLID LR LR
comp=Z,56µm,22.0s
HLID Hailey 94.66 47 ⇓P P 12 28 52.7 -1.1
baz=95
BSMT Bassoo Peak 94.99 42 *e*P P 12 28 53.9 -1.3
JTMT Jette 95.31 43 *e*P P 12 28 56.8 +0.2
BGU Big Grassy Mou 95.33 50 *e*P P 12 28 56.4 -0.5
comp=Z,153nm,2.1s
U15A North Rim 95.34 54 ⇑P P 12 28 56.8 -0.4
baz=96
DUG Dugway 95.41 50 *e*P P 12 28 55.5 -1.7
DUG pmax pmax
comp=Z,267nm,2.0s
DUG MLR MLR
comp=Z,16µm,19.0s
DUG Dugway 95.41 50 *e*P P 12 28 55.5 -1.7
comp=Z,266nm,2.0s
DUG LR LR
comp=Z,16µm,19.0s
DUG Dugway 95.41 50 ⇓P P 12 28 56.3 -0.9
baz=96
MSO Missoula 95.42 44 *e*P P 12 29 02.3 +5.2
comp=Z,29nm,1.4s
MSO Missoula 95.42 44 ⇓P P 12 28 57.3 +0.3
baz=96
BVA0 Borovoye Array 95.44 323 P P 12 28 54.5 -2.4
BVA0 pmax pmax
comp=Z,78nm,1.2s
BVAR Borovoye Array 95.44 323 P P 12 28 54.2 -2.7
BVAR Borovoye Array 95.44 323 P P 12 28 54.2 -2.7
BVAR Borovoye Array 95.44 323 P P 12 28 54.2 -2.7
comp=Z,5.6nm,1.1s,baz=104,slow=6.2,SNR=20
SWMT Swartz Lake 95.47 43 *e*P P 12 28 57.2 0.0
comp=Z,21nm,1.4s
BRVK Borovoye 95.51 323 ⇓ *i*P P 12 28 55.5 -1.7
BRVK pmax pmax
comp=Z,31nm,2.5s
BRVK MLR MLR
comp=Z,17µm,18.0s
BRVK Borovoye 95.51 323 P P 12 28 55.4 -1.8
SNR=24
BRVK Borovoye 95.51 323 mb 12 29 14.3
SNR=29
BRVK Borovoye 95.51 323 *e*P P 12 28 55.0 -2.1
comp=Z,3.5nm,0.8s
BRVK LR LR
comp=Z,19µm,19.0s
HVU Hansel Valley 95.63 49 *e*P P 12 28 56.5 -1.7
HVU pmax pmax
comp=Z,129nm,1.1s
HVU Hansel Valley 95.63 49 *e*P P 12 28 56.5 -1.7
comp=Z,129nm,1.1s
MVU Marysvale 95.66 52 *e*P P 12 28 58.8 +0.3
comp=Z,77nm,1.3s
WALA Waterton Lakes 95.72 41 *e*P P 12 28 57.0 -1.4
comp=Z,4.9nm,2.6s
X16A Lo Mia Camp, P 95.79 56 ⇑P P 12 28 59.1 -0.1
baz=96
SPUT South Promonto 95.81 49 *e*P P 12 28 59.4 +0.3
comp=Z,40nm,1.1s
MCMT McKenzie Canyo 95.94 46 *e*P P 12 28 57.5 -2.1
comp=Z,13nm,1.1s
NLU North Lily Min 95.94 51 *e*P P 12 28 59.4 -0.4
comp=Z,81nm,1.1s
WUAZ Wupatki 95.97 55 *e*P P 12 29 00.9 +0.9
WUAZ pmax pmax
comp=Z,34nm,1.0s
WUAZ LR LR
comp=Z,63µm,22.0s
WUAZ Wupatki 95.97 55 ⇑P P 12 28 59.4 -0.5
baz=96
TUC Tucson 96.08 58 *e*P P 12 29 00.5 +0.1
TUC pmax pmax
comp=Z,255nm,2.9s
TUC MLR MLR
comp=Z,48µm,22.0s
TUC Tucson 96.08 58 *e*P P 12 29 00.5 +0.1
comp=Z,255nm,2.9s
TUC LR LR
comp=Z,48µm,22.0s
DLMT Dillon 96.18 45 *e*P P 12 29 00.1 -0.5
comp=Z,35nm,0.9s
MPU Maple Canyon 96.28 51 *e*P P 12 29 01.4 +0.1
comp=Z,185nm,1.7s
LRM Limekiln Ridge 96.33 45 *e*P P 12 29 00.6 -0.8
TMUT Trail Mountain 96.53 51 *e*P P 12 29 02.9 +0.4
comp=Z,310nm,1.8s
EDM Edmonton 96.55 37 *e*P P 12 28 59.4 -2.5
EDM Edmonton 96.55 37 *e*P P 12 28 59.4 -2.5
DAU Daniels Canyon 96.61 50 *e*P P 12 29 03.6 +0.7
DAU Daniels Canyon 96.61 50 *e*P P 12 29 03.6 +0.7
HRY Holter Researc 96.85 44 *e*P P 12 29 03.9 +0.3
YKA Yellowknife Ar 96.88 28 P P 12 29 01.0 -2.1
YKA PKKPbc **PKKPbc** 12 45 43.2 -4.1
YKA Yellowknife Ar 96.88 28 P P 12 29 01.0 -2.1
comp=Z,7.5nm,1.0s,baz=262,slow=4.5,SNR=28
YKA PKKPbc **PKKPbc** 12 45 43.2 -4.1
comp=Z,0.5nm,0.8s,baz=84,slow=2.7,SNR=4.1
BOZ Bozeman (W) 96.88 45 *e*P P 12 29 05.7 +1.9
BOZ pmax pmax
comp=Z,28nm,0.9s
BOZ MLR MLR
comp=Z,48µm,20.0s
BOZ Bozeman (W) 96.88 45 *e*P P 12 29 05.7 +1.9
comp=Z,28nm,0.9s
BOZ LR LR
comp=Z,48µm,20.0s
AHID Auburn Hatcher 96.97 48 *e*P P 12 29 04.0 -0.3

	comp=Z,95nm,1.7s									
AHID					LR	LR				
	comp=Z,30µm,21.0s									
SRU	**San Rafael**	**97.04**	**52**	*e*P	**P**		**12**	**29**	**04.5**	**-0.2**
SRU				pmax	pmax					
	comp=Z,340nm,2.8s									
SRU	**San Rafael**	**97.04**	**52**	*e*P	**P**		**12**	**29**	**04.5**	**-0.2**
	comp=Z,340nm,2.8s									
REDW	**Red Top Meadow**	**97.21**	**47**	*e*P	Pdif		12	29	05.6	0.0
	comp=Z,165nm,1.8s									
319A	**Douglas**	**97.25**	**59**	P	Pdif		12	29	06.1	+0.2
	baz=97									
YMR	**Madison River**	**97.26**	**46**	*e*P	**P**		**12**	**29**	**05.6**	**0.0**
	comp=Z,58nm,1.1s									
W18A	**Petrified Fore**	**97.26**	**56**	*e*P	Pdif		12	29	07.6	+1.7
	comp=Z,59nm,1.4s									
W18A	**Petrified Fore**	**97.26**	**56**	⇑P	**P**		**12**	**29**	**04.8**	**-1.0**
	baz=97									
MOOW	**Moose Ponds**	**97.33**	**47**	*e*P	**P**		**12**	**29**	**05.9**	**-0.1**
	comp=Z,167nm,2.2s									
YFT	**Old Faithful**	**97.33**	**46**	*e*P	Pdif		12	29	06.3	+0.2
	comp=Z,65nm,1.3s									
FLWY	**Flagg Ranch**	**97.39**	**47**	*e*P	Pdif		12	29	07.0	+0.7
	comp=Z,150nm,1.8s									
LOHW	**Long Hollow**	**97.42**	**47**	*e*P	**P**		**12**	**29**	**06.2**	**-0.1**
	comp=Z,76nm,1.7s									
I17A	**Pilgrim Ck.**	**97.47**	**47**	⇑P	**P**		**12**	**29**	**05.6**	**-0.9**
	baz=98									
H17A	**Grant Village**	**97.51**	**46**	*e*P	Pdif		12	29	07.1	+0.2
	comp=Z,22nm,1.0s									
H17A	**Grant Village**	**97.51**	**46**	⇑P	**P**		**12**	**29**	**06.1**	**-0.7**
	baz=98									
RER	**Riviere de l'E**	**97.69**	**247**	PFAKE			12	29	20.0	+12
RER				LR	LR					
	comp=Z,6µm,20.0s									
320A	**Kipp Ranch, An**	**97.89**	**60**	⇑P	**P**		**12**	**29**	**07.9**	**-0.8**
	baz=98									
BW06	**Boulder Array**	**98.10**	**48**	*e*P	**P**		**12**	**29**	**07.9**	**-1.6**
	comp=Z,27nm,1.0s									
BW06				LR	LR					
	comp=Z,44µm,22.0s									
PDAR	**Pinedale Array**	**98.10**	**48**	P	**P**		**12**	**29**	**07.4**	**-2.1**
PDAR				P'P'			12	54	01.9	
PDAR	**Pinedale Array**	**98.10**	**48**	P	**P**		**12**	**29**	**07.4**	**-2.1**
	comp=Z,4.7nm,1.0s,baz=255,slow=2.3,SNR=21					PKPPKP	**P'P'df**			
PDAR	comp=Z,0.7nm,0.9s,baz=112,slow=4.0,SNR=4.0			LR	LR		13	08	02.2	
	comp=Z,23µm,21.2s,baz=281,slow=32									
H18A	**Shoshone NF, C**	**98.18**	**46**	P	Pdif		12	29	10.1	+0.3
	baz=98									
PV04	**Paradox Valley**	**98.23**	**52**	*e*P	Pdif		12	29	10.8	+0.6
EGMT	**Eagleton**	**98.37**	**43**	*e*P	**P**		**12**	**29**	**08.6**	**-1.8**
	comp=Z,180nm,2.3s									
EGMT				LR	LR					
	comp=Z,27µm,19.0s									
EGMT	**Eagleton**	**98.37**	**43**	⇑Pdiff	Pdif		12	29	12.4	+2.0
	baz=98									
MVCO	**Mesa Verde**	**98.45**	**54**	*e*P	Pdif		12	29	13.1	+1.9
	comp=Z,57nm,1.5s									
MVCO				LR	LR					
	comp=Z,24µm,19.0s									
MVCO	**Mesa Verde**	**98.45**	**54**	⇑Pdiff	Pdif		12	29	12.2	+1.0
	baz=99									
SNAA	**Sanae**	**98.47**	**186**	*e*P	**P**		**12**	**29**	**09.1**	**-1.2**
	comp=Z,41nm,1.3s									
PV01	**Paradox Valley**	**98.47**	**53**	*e*P	Pdif		12	29	16.1	+4.9
	comp=Z,3µm,1.4s									
RLMT	**Red Lodge**	**98.50**	**46**	PFAKE			12	29	20.0	+8.8
RLMT				LR	LR					
	comp=Z,38µm,20.0s									
J19A	**Crowheart**	**98.51**	**48**	⇓Pdiff	Pdif		12	29	13.8	+2.5
	baz=99									
221A	**Mesquite Ranch**	**98.59**	**59**	⇑Pdiff	Pdif		12	29	13.5	+1.7
	baz=99									
I19A	**Meeteetse**	**98.61**	**47**	⇑Pdiff	Pdif		12	29	12.1	+0.4
	baz=99									
121A	**Cookes Peak, D**	**98.63**	**58**	*e*P	Pdif		12	29	13.1	+1.0
	comp=Z,17nm,0.9s									
121A	**Cookes Peak, D**	**98.63**	**58**	⇑Pdiff	Pdif		12	29	14.4	+2.4
	baz=99									
H19A	**Powell**	**98.66**	**46**	⇑Pdiff	Pdif		12	29	15.8	+4.0
	baz=99									
F19A	**Roth Farm, Mol**	**98.77**	**45**	⇓Pdiff	Pdif		12	29	14.2	+2.0
	baz=99									
C19A	**Slack Wire Ran**	**98.83**	**43**	⇑Pdiff	Pdif		12	29	15.1	+2.7
	baz=99									
O20A	**White River Ci**	**98.89**	**51**	*e*P	Pdif		12	29	13.8	+0.8
O20A	**White River Ci**	**98.89**	**51**	⇓Pdiff	Pdif		12	29	15.5	+2.4
	baz=99									
D19A	**Cripps Ranch,**	**98.90**	**44**	⇓Pdiff	Pdif		12	29	15.5	+2.7
	baz=99									
N20A	**Spence Gulch,**	**98.92**	**50**	⇑Pdiff	Pdif		12	29	15.6	+2.4
	baz=99									
E19A	**Rath Farm, Rou**	**98.92**	**44**	⇑Pdiff	Pdif		12	29	16.3	+3.4
	baz=99									
B19A	**Brinkman Farms**	**98.94**	**42**	⇑Pdiff	Pdif		12	29	16.3	+3.5
	baz=99									
A19A	**Klindworth Far**	**99.10**	**42**	⇑Pdiff	**Pdif**		**12**	**29**	**14.9**	**+1.4**
	baz=99									
222A	**Williams Famil**	**99.17**	**59**	⇑Pdiff	**Pdif**		**12**	**29**	**15.4**	**+1.0**
	baz=99									
J20A	**Shoshoni**	**99.22**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**16.9**	**+2.6**
	baz=99									
I20A	**Worland**	**99.23**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**17.6**	**+3.3**
	baz=99									
G20A	**Bridger**	**99.25**	**46**	⇑Pdiff	**Pdif**		**12**	**29**	**19.1**	**+4.7**
	baz=99									
F20A	**Billings**	**99.33**	**45**	⇓Pdiff	**Pdif**		**12**	**29**	**19.4**	**+4.7**
	baz=99									
LAZ	**Ladron**	**99.33**	**57**	*e*P	**Pdif**		**12**	**29**	**15.0**	**-0.1**
	comp=Z,15nm,1.3s									
H20A	**Greybull**	**99.36**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**19.6**	**+4.7**
	baz=100									
E20A	**Meyer Farm, Mu**	**99.38**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**18.3**	**+3.4**
	baz=100									
Z22A	**Elephant Butte**	**99.38**	**58**	⇓Pdiff	**Pdif**		**12**	**29**	**18.4**	**+3.1**
	baz=100									
D20A	**Manuel Ranch,**	**99.41**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**18.4**	**+3.4**
	baz=100									
Y22D	**IRIS PASSCAL I**	**99.48**	**57**	⇓Pdiff	**Pdif**		**12**	**29**	**19.5**	**+3.8**
	baz=100									
C20A	**Veseth Ranch,**	**99.53**	**43**	⇑Pdiff	**Pdif**		**12**	**29**	**17.5**	**+2.1**
	baz=100									
B20A	**Solberg Farm,**	**99.55**	**42**	⇓Pdiff	**Pdif**		**12**	**29**	**20.4**	**+4.8**
	baz=100									
V22A	**San Miguel Ran**	**99.63**	**55**	⇑Pdiff	**Pdif**		**12**	**29**	**20.2**	**+3.7**
	baz=100									
A20A	**Cobblestone Ra**	**99.64**	**42**	⇓Pdiff	**Pdif**		**12**	**29**	**18.7**	**+2.7**
	baz=100									
J21A	**Lysite**	**99.69**	**48**	⇑Pdiff	**Pdif**		**12**	**29**	**16.9**	**+0.4**
	baz=100									
U22A	**Llaves**	**99.70**	**55**	⇓Pdiff	**Pdif**		**12**	**29**	**18.4**	**+1.6**
	baz=100									
BNM	**Barren Site**	**99.73**	**57**	*e*Pdif	**Pdif**		**12**	**29**	**17.8**	**+0.9**
	comp=Z,20nm,1.1s									
223A	**Chaparral, Ant**	**99.73**	**59**	⇑Pdiff	**Pdif**		**12**	**29**	**17.9**	**+1.0**
	baz=100									
K21A	**Alcova**	**99.79**	**48**	⇓Pdiff	**Pdif**		**12**	**29**	**18.8**	**+1.8**
	baz=100									
SMCO	**Snowmass**	**99.80**	**52**	*e*Pdif	**Pdif**		**12**	**29**	**18.1**	**+0.8**
	comp=Z,60nm,1.5s									
S22A	**4UR Ranch, Cre**	**99.82**	**53**	⇓Pdiff	**Pdif**		**12**	**29**	**18.9**	**+1.6**
	baz=100									
I21A	**Big Trails, Te**	**99.83**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**17.5**	**+0.5**
	baz=100									
123A	**Bell Site, Whi**	**99.92**	**58**	⇑Pdiff	**Pdif**		**12**	**29**	**21.5**	**+3.8**
	baz=100									
ANMO	**Albuquerque**	**99.93**	**56**	*e*Pdif	**Pdif**		**12**	**29**	**20.3**	**+2.5**
ANMO				LR	LR					
	comp=Z,63µm,22.0s									
G21A	**Lodge Grass**	**99.96**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**20.2**	**+2.6**
	baz=100									
P22A	**Eagle**	**99.99**	**51**	⇑Pdiff	**Pdif**		**12**	**29**	**21.0**	**+3.1**
	baz=100									
Z23A	**Rita Site, Whi**	**99.99**	**58**	⇑Pdiff	**Pdif**		**12**	**29**	**22.5**	**+4.5**
	baz=100									
F21A	**Absaloka Mine,**	**100.04**	**45**	⇓Pdiff	**Pdif**		**12**	**29**	**21.2**	**+3.4**
	baz=100									
H21A	**Big Horn, Sher**	**100.05**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**22.6**	**+4.6**
	baz=100									
E21A	**Keefer Ranch,**	**100.11**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**22.9**	**+4.8**
	baz=100									
X23A	**Hourglass Bar**	**100.12**	**56**	⇓Pdiff	**Pdif**		**12**	**29**	**23.1**	**+4.4**
	baz=100									
PMSA	**Palmer Station**	**100.13**	**163**	PFAKE			12	29	30.0	+12
PMSA				LR	LR					
	comp=Z,13µm,19.0s									
O22A	**Kremmling**	**100.18**	**51**	⇑Pdiff	**Pdif**		**12**	**29**	**21.2**	**+2.3**
	baz=100									
D21A	**La Casta Ranch**	**100.19**	**44**	⇓Pdiff	**Pdif**		**12**	**29**	**22.5**	**+4.1**
	baz=100									
Y23A	**Lovelace Mesa,**	**100.19**	**57**	⇓Pdiff	**Pdif**		**12**	**29**	**19.2**	**+0.3**
	baz=100									
W23A	**Werner Place,**	**100.19**	**56**	⇓Pdiff	**Pdif**		**12**	**29**	**21.3**	**+2.3**
	baz=100									
V23A	**Ortiz Mt. (NFS**	**100.20**	**55**	⇑Pdiff	**Pdif**		**12**	**29**	**19.3**	**+0.3**
	comp=Z,165nm,1.8s									
M22A	**Cedar Creek Ra**	**100.21**	**50**	⇓Pdiff	**Pdif**		**12**	**29**	**19.9**	**+1.0**
	baz=100									
B21A	**Ellsworth Farm**	**100.22**	**42**	⇑Pdiff	**Pdif**		**12**	**29**	**19.9**	**+1.4**
	baz=100									
U23A	**El Rito**	**100.23**	**55**	⇑Pdiff	**Pdif**		**12**	**29**	**20.1**	**+0.9**
	baz=100									
N22A	**Wattenberg Ran**	**100.29**	**50**	⇑Pdiff	**Pdif**		**12**	**29**	**21.7**	**+2.3**
	baz=100									
A21A	**Bergtoll Ranch**	**100.30**	**42**	⇓Pdiff	**Pdif**		**12**	**29**	**21.6**	**+2.7**
	baz=100									
K22A	**Casper**	**100.33**	**48**	*e*Pdif	**Pdif**		**12**	**29**	**19.8**	**+0.5**
K22A	**Casper**	**100.33**	**48**	⇓Pdiff	**Pdif**		**12**	**29**	**21.8**	**+2.5**
	baz=100									
L22A	**Ellis Ranch, M**	**100.37**	**49**	⇑Pdiff	**Pdif**		**12**	**29**	**21.3**	**+1.7**
	baz=100									
J22A	**Midwest**	**100.40**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**22.8**	**+3.2**
	baz=100									
T23A	**Casias Ranch,**	**100.40**	**54**	⇓Pdiff	**Pdif**		**12**	**29**	**25.0**	**+5.0**
	baz=100									
I22A	**9 Mile Ranch,**	**100.41**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**24.3**	**+4.6**
	baz=100									
S23A	**Nye Farm, Mont**	**100.47**	**53**	⇓Pdiff	**Pdif**		**12**	**29**	**23.2**	**+3.0**
	baz=101									
324A	**Moseley Ranch,**	**100.49**	**60**	⇑Pdiff	**Pdif**		**12**	**29**	**24.0**	**+3.7**
	baz=101									
224A	**Cornudas Mount**	**100.50**	**59**	⇑Pdiff	**Pdif**		**12**	**29**	**23.4**	**+3.0**
	baz=101									
H22A	**Clearmont**	**100.54**	**46**	⇑Pdiff	**Pdif**		**12**	**29**	**24.1**	**+4.0**
	baz=101									
MNTX	**Cornudas Mount**	**100.60**	**59**	PFAKE			12	29	30.0	+9.4
MNTX				LR	LR					
	comp=Z,39µm,21.0s									
R23A	**Moffat**	**100.64**	**53**	P	**Pdif**		**12**	**29**	**20.7**	**-0.3**
	baz=101									
F22A	**Rosebud**	**100.65**	**45**	⇓Pdiff	**Pdif**		**12**	**29**	**22.5**	**+2.0**
	baz=101									
Q23A	**Hartsel**	**100.67**	**52**	⇑Pdiff	**Pdif**		**12**	**29**	**24.7**	**+3.6**
	baz=101									
O23A	**Lake Granby, G**	**100.67**	**51**	⇑Pdiff	**Pdif**		**12**	**29**	**26.1**	**+5.0**
	baz=101									
N23A	**Red Feather La**	**100.68**	**50**	⇑Pdiff	**Pdif**		**12**	**29**	**22.7**	**+1.6**
	baz=101									
P23A	**Jefferson**	**100.69**	**52**	⇑Pdiff	**Pdif**		**12**	**29**	**25.5**	**+4.3**
	baz=101									
LAO	**LASA Array**	**100.70**	**44**	*e*Pdif	**Pdif**		**12**	**29**	**20.5**	**-0.2**
	comp=Z,43nm,1.0s									
LAO				LR	LR					
	comp=Z,38µm,20.0s									
Z24A	**Sheeppen Canyo**	**100.72**	**58**	⇓Pdiff	**Pdif**		**12**	**29**	**24.3**	**+3.0**
	baz=101									
X24A	**Lazy VL Ranch,**	**100.74**	**56**	⇓Pdiff	**Pdif**		**12**	**29**	**26.5**	**+5.1**
	baz=101									
D22A	**Cohagen**	**100.74**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**23.6**	**+2.7**
	baz=101									
W24A	**Lazy 6 Ranch,**	**100.80**	**56**	⇓Pdiff	**Pdif**		**12**	**29**	**26.8**	**+5.1**
	baz=101									
SDCO	**Great Sand Dun**	**100.87**	**53**	PFAKE			12	29	30.0	+8.0
SDCO				LR	LR					
	comp=Z,25µm,22.0s									
425A	**Indio Mountain**	**100.87**	**60**	⇑Pdiff	**Pdif**		**12**	**29**	**27.8**	**+5.8**
	baz=101									
M23A	**Laramie**	**100.87**	**49**	⇑Pdiff	**Pdif**		**12**	**29**	**25.6**	**+3.8**
	baz=101									
E22A	**Miles City**	**100.88**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**27.7**	**+6.1**
	baz=101									
ISCO	**Idaho Springs**	**100.88**	**51**	*e*P	**Pdif**		**12**	**29**	**28.5**	**+6.4**
ISCO				pmax	pmax					
	comp=Z,8.0nm,0.9s									
ISCO				MLR	MLR					
	comp=Z,45µm,21.0s									
ISCO	**Idaho Springs**	**100.88**	**51**	*e*Pdif	**Pdif**		**12**	**29**	**28.5**	**+6.4**
	comp=Z,7.7nm,0.9s									
ISCO				LR	LR					
	comp=Z,45µm,21.0s									
ISCO	**Idaho Springs**	**100.88**	**51**	⇓Pdiff	**Pdif**		**12**	**29**	**25.7**	**+3.6**
	baz=101									
B22A	**Reddig Ranch S**	**100.90**	**43**	⇓Pdiff	**Pdif**		**12**	**29**	**25.7**	**+4.1**
	baz=101									
L23A	**Garrett**	**100.91**	**49**	P	**Pdif**		**12**	**29**	**22.1**	**0.0**
	baz=101									
325A	**Bean Ranch, Si**	**100.92**	**60**	⇓Pdiff	**Pdif**		**12**	**29**	**25.9**	**+3.7**
	baz=101									
T24B	**San Luis**	**100.93**	**54**	⇓Pdiff	**Pdif**		**12**	**29**	**27.3**	**+5.0**
	baz=101									
V24A	**Rampart Ranch,**	**100.94**	**55**	⇓Pdiff	**Pdif**		**12**	**29**	**23.9**	**+1.6**
	baz=101									
A22A	**Carney Farms,**	**100.96**	**42**	⇑Pdiff	**Pdif**		**12**	**29**	**23.2**	**+1.3**
	baz=101									
U24A	**Moreno Valley**	**100.98**	**55**	⇑Pdiff	**Pdif**		**12**	**29**	**24.1**	**+1.5**
	baz=101									
K23A	**Bowen Ranch, D**	**101.00**	**48**	⇓Pdiff	**Pdif**		**12**	**29**	**24.8**	**+2.5**
	baz=101									
J23A	**Dilts Ranch, B**	**101.07**	**48**	⇑Pdiff	**Pdif**		**12**	**29**	**23.0**	**+0.5**
	baz=101									
S24A	**Houchin Ranch,**	**101.09**	**53**	⇓Pdiff	**Pdif**		**12**	**29**	**23.2**	**+0.2**
	baz=101									
225A	**Deer Hill, Car**	**101.10**	**59**	⇓Pdiff	**Pdif**		**12**	**29**	**21.9**	**-1.1**
	baz=101									
I23A	**Meade Ranch, G**	**101.15**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**23.4**	**+0.5**
	baz=101									
Q24A	**Divide**	**101.20**	**52**	⇑Pdiff	**Pdif**		**12**	**29**	**26.4**	**+2.9**
	baz=101									
R24A	**Sanders Place,**	**101.20**	**53**	⇓Pdiff	**Pdif**		**12**	**29**	**25.0**	**+1.7**
	baz=101									
MSEY	**Mahe Island**	**101.21**	**263**	PFAKE			12	29	30.0	+6.3
MSEY				LR	LR					
	comp=Z,12µm,20.0s									
H23A	**Clabaugh Cattl**	**101.22**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**23.7**	**+0.5**
	baz=101									
G23A	**Biddle**	**101.24**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**25.1**	**+1.9**
	baz=101									
F23A	**Volborg**	**101.24**	**45**	⇓Pdiff	**Pdif**		**12**	**29**	**25.1**	**+2.0**
	baz=101									
Z25A	**Roswell**	**101.26**	**58**	⇓Pdiff	**Pdif**		**12**	**29**	**26.7**	**+3.1**
	baz=101									
125A	**Gardner Draw,**	**101.27**	**58**	⇓Pdiff	**Pdif**		**12**	**29**	**26.1**	**+2.4**
	baz=101									
SVE	**Sverdlovsk**	**101.28**	**326**	*e*P	**Pdif**		**12**	**29**	**27.7**	**+4.7**
SVE				*e*			12	33	36.8	
SVE				*e*S	**SKSac**		**12**	**40**	**03.9**	**+3.3**
SVE				pmax	pmax					
	comp=Z,34nm,2.2s									
SVE				MLR	MLR					
	comp=Z,20µm,18.0s									
SVE				MLR	MLR					
	comp=E,17µm,18.0s									
O24A	**Longmont**	**101.31**	**51**	⇑Pdiff	**Pdif**		**12**	**29**	**25.5**	**+1.8**
	baz=101									
Y25A	**Mesa, Roswell**	**101.32**	**57**	⇓Pdiff	**Pdif**		**12**	**29**	**26.3**	**+2.4**
	baz=101									
X25A	**Clemmons Ranch**	**101.38**	**57**	⇑Pdiff	**Pdif**		**12**	**29**	**25.9**	**+1.7**
	baz=102									
D23A	**Lindsay**	**101.41**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**24.5**	**+0.6**
	baz=102									
P24A	**Kohler Place,**	**101.41**	**51**	⇑Pdiff	**Pdif**		**12**	**29**	**26.0**	**+1.7**
	baz=102									
C23A	**Lambert**	**101.43**	**43**	⇓Pdiff	**Pdif**		**12**	**29**	**27.3**	**+3.4**
	baz=102									
N24A	**Carr**	**101.48**	**50**	⇓Pdiff	**Pdif**		**12**	**29**	**25.6**	**+1.1**
	baz=102									
V25A	**Rancho No Teng**	**101.48**	**55**	⇑Pdiff	**Pdif**		**12**	**29**	**27.7**	**+3.0**
	baz=102									
L24A	**Wheatland**	**101.48**	**49**	⇑Pdiff	**Pdif**		**12**	**29**	**26.9**	**+2.5**
	baz=102									
GDL2	**Guadalupe Moun**	**101.49**	**59**	*e*Pdif	**Pdif**		**12**	**29**	**17.6**	**-7.1**
626A	**Big Bend Ranch**	**101.52**	**62**	⇑Pdiff	**Pdif**		**12**	**29**	**27.9**	**+3.1**
	baz=102									
B23A	**Brockton**	**101.57**	**42**	⇑Pdiff	**Pdif**		**12**	**29**	**27.3**	**+2.7**
	baz=102									
W25A	**X Bar L Ranch,**	**101.58**	**56**	⇓Pdiff	**Pdif**		**12**	**29**	**26.7**	**+1.7**
	baz=102									
K24A	**Anderson Ranch**	**101.59**	**48**	⇓Pdiff	**Pdif**		**12**	**29**	**27.4**	**+2.5**
	baz=102									
526A	**Mary Lane Ranc**	**101.59**	**61**	⇓Pdiff	**Pdif**		**12**	**29**	**28.2**	**+3.0**
	baz=102									
A23A	**Redstone**	**101.65**	**42**	⇑Pdiff	**Pdif**		**12**	**29**	**26.9**	**+2.0**
	baz=102									
226B	**Tecolote Peak,**	**101.65**	**59**	⇑Pdiff	**Pdif**		**12**	**29**	**28.5**	**+3.1**
	baz=102									
U25A	**Circle Dot Ran**	**101.68**	**55**	⇓Pdiff	**Pdif**		**12**	**29**	**29.9**	**+4.4**
	baz=102									
426A	**McDonald Obser**	**101.69**	**61**	⇑Pdiff	**Pdif**		**12**	**29**	**27.3**	**+1.5**
	baz=102									
T25A	**Trinidad**	**101.71**	**54**	⇓Pdiff	**Pdif**		**12**	**29**	**27.3**	**+1.6**
	baz=102									
S25A	**Robets Cordova**	**101.71**	**53**	⇑Pdiff	**Pdif**		**12**	**29**	**27.3**	**+1.7**
	baz=102									
J24A	**Dixon Ranch, L**	**101.72**	**48**	⇑Pdiff	**Pdif**		**12**	**29**	**27.3**	**+1.8**
	baz=102									
AB31	**Akbulak array**	**101.75**	**318**	*i* P	**Pdif**		**12**	**29**	**25.4**	**+0.1**
AB31				pmax	pmax					
	comp=Z,23nm,1.2s									
ABKAR	**Akbulak array**	**101.75**	**318**	*e*Pdif	**Pdif**		**12**	**29**	**26.7**	**+1.5**
	comp=Z,3.6nm,0.6s									
I24A	**Kuemmerle Ranc**	**101.75**	**47**	⇓Pdiff	**Pdif**		**12**	**29**	**28.8**	**+3.2**
	baz=102									
326A	**Caldwell Ranch**	**101.77**	**60**	⇑Pdiff	**Pdif**		**12**	**29**	**29.0**	**+3.1**
	baz=102									
126A	**Clayton Basin,**	**101.81**	**59**	⇑Pdiff	**Pdif**		**12**	**29**	**29.2**	**+3.1**
	baz=102									
H24A	**Dirks Ranch, A**	**101.83**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**29.8**	**+4.0**
	baz=102									
R25A	**Fountain Ranch**	**101.85**	**53**	⇓Pdiff	**Pdif**		**12**	**29**	**27.9**	**+1.7**
	baz=102									
Z26A	**Caprock**	**101.88**	**58**	⇓Pdiff	**Pdif**		**12**	**29**	**25.3**	**-1.0**
	baz=102									
F24A	**Ekalaka**	**101.92**	**45**	⇓Pdiff	**Pdif**		**12**	**29**	**28.8**	**+2.6**
	baz=102									
TXAR	**Lajitas Array**	**101.92**	**62**	P	**Pdif**		**12**	**29**	**28.4**	**+1.8**
TXAR				PP	**PP**		**12**	**33**	**35.4**	**-2.7**
TXAR				PKKP	**PKKPdf**		**12**	**45**	**40.3**	**+1.2**
TXAR	**Lajitas Array**	**101.92**	**62**	P	**Pdif**		**12**	**29**	**28.4**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=235,slow=4.4,SNR=5.9									
TXAR				PP	**PP**		**12**	**33**	**35.4**	**-2.7**
	comp=Z,4.4nm,1.0s,baz=264,slow=8.6,SNR=5.8									
TXAR				PKKP	**PKKPdf**		**12**	**45**	**40.3**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=70,slow=2.3,SNR=6.0									
G24A	**Alzada**	**101.93**	**46**	⇓Pdiff	**Pdif**		**12**	**29**	**28.9**	**+2.6**
	baz=102									
P25A	**Willow Gulch B**	**101.99**	**52**	⇑Pdiff	**Pdif**		**12**	**29**	**28.5**	**+1.7**
	baz=102									
D24A	**Glendive**	**102.01**	**44**	⇓Pdiff	**Pdif**		**12**	**29**	**29.9**	**+3.4**
	baz=102									
527A	**Woodward Ranch**	**102.01**	**61**	⇓Pdiff	**Pdif**		**12**	**29**	**29.4**	**+2.3**
	baz=102									
E24A	**Baker**	**102.02**	**44**	⇑Pdiff	**Pdif**		**12**	**29**	**28.6**	**+2.0**
	baz=102									
Y26A	**Elida**	**102.04**	**57**	⇑Pdiff	**Pdif**		**12**	**29**	**28.1**	**

AKTO	**Aktyubinsk**	**102.98**	**320**	P	**Pdif**	**12 29 32.5**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=93,slow=5.0,SNR=3.6						
AKTO				PP	PP	12 33 32.6	-13
	comp=Z,4.0nm,1.2s,baz=68,slow=11,SNR=2.7						
AKTO				PKKP	**PKKPdf**	**12 45 41.2**	**+3.7**
	comp=Z,2.9nm,1.0s,baz=256,slow=3.0,SNR=6.7						
228A	**UT Block 9, Go**	**102.99**	**59**	⇓Pdiff	**Pdif**	**12 29 33.0**	**+1.7**
	baz=103						
R27A	**Eads**	**103.02**	**53**	⇓Pdiff	**Pdif**	**12 29 34.5**	**+3.1**
	baz=103						
I26A	**New Underwood**	**103.03**	**47**	⇓Pdiff	**Pdif**	**12 29 33.8**	**+2.6**
	baz=103						
T27A	**Campo**	**103.05**	**54**	⇑Pdiff	**Pdif**	**12 29 34.6**	**+3.1**
	baz=103						
128A	**Castleberry Fa**	**103.10**	**59**	⇑PKiKP	**PKiKP**	**12 33 51.4**	**-0.2**
	baz=103						
F26A	**Lodgepole**	**103.16**	**45**	⇓PKiKP	**PKiKP**	**12 33 49.5**	**-1.8**
	baz=103						
KSCO	**Kaye Shedlock'**	**103.17**	**52**	⇓PKiKP	**PKiKP**	**12 33 51.0**	**-0.6**
	baz=103						
SOKR	**Solikamsk**	**103.18**	**329**	⇓*i*P	**Pdif**	**12 29 26.0**	**-5.3**
SOKR						12 33 53.3	
SOKR				S	**SKSac**	**12 40 13.4**	**+4.0**
SOKR				SS	**SS**	**12 48 27.7**	**+0.2**
SOKR				SSS	SSS	12 52 16.8	
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SOKR				MLR	MLR		
	comp=Z,18μm,19.0s						
Z28A	**Tucker Farm, M**	**103.21**	**58**	⇓PKiKP	**PKiKP**	**12 33 50.5**	**-1.3**
	baz=103						
RES	**Resolute Bay**	**103.22**	**15**	*e*Pdif	**Pdif**	**12 29 30.5**	**-0.7**
	comp=Z,38nm,1.4s						
529A	**Stev Forest Ra**	**103.22**	**61**	⇓PKiKP	**PKiKP**	**12 33 50.6**	**-1.3**
	baz=103						
P27A	**Ficken Ranch,**	**103.22**	**51**	⇓PKiKP	**PKiKP**	**12 33 52.6**	**+0.9**
	baz=103						
N27A	**Anderson Farm,**	**103.26**	**50**	⇑PKiKP	**PKiKP**	**12 33 50.7**	**-1.0**
	baz=103						
E26A	**Carlson Angus**	**103.29**	**44**	⇓PKiKP	**PKiKP**	**12 33 51.5**	**-0.1**
	baz=103						
FFC	**Flin Flon**	**103.30**	**36**	*e*P	**Pdif**	**12 29 31.1**	**-0.9**
FFC				pmax	pmax		
	comp=Z,27nm,1.5s						
FFC				MLR	MLR		
	comp=Z,29μm,22.0s						
FFC	**Flin Flon**	**103.30**	**36**	*e*Pdif	**Pdif**	**12 29 31.1**	**-0.9**
	comp=Z,27nm,1.5s						
FFC				LR	LR		
	comp=Z,29μm,22.0s						
O27A	**Beecher Island**	**103.30**	**51**	⇓PKiKP	**PKiKP**	**12 33 47.4**	**-4.4**
	baz=103						
D26A	**Manning**	**103.30**	**44**	⇑PKiKP	**PKiKP**	**12 33 50.8**	**-0.7**
	baz=103						
Y28A	**McKinney Farm,**	**103.35**	**57**	⇓PKiKP	**PKiKP**	**12 33 49.8**	**-2.3**
	baz=104						
M27A	**Reverse DX Ran**	**103.38**	**49**	⇑PKiKP	**PKiKP**	**12 33 50.5**	**-1.4**
	baz=104						
B26A	**Jensen Ranch,**	**103.41**	**42**	⇑PKiKP	**PKiKP**	**12 33 50.6**	**-1.1**
	baz=104						
X28A	**Dimmitt**	**103.41**	**57**	⇑PKiKP	**PKiKP**	**12 33 51.4**	**-0.8**
	baz=104						
V28A	**Channing**	**103.42**	**55**	⇓PKiKP	**PKiKP**	**12 33 51.5**	**-0.7**
	baz=104						
W28A	**Vega**	**103.42**	**56**	⇓PKiKP	**PKiKP**	**12 33 51.5**	**-0.7**
	baz=104						
L27A	**T5 Ranch, Ells**	**103.43**	**49**	⇑PKiKP	**PKiKP**	**12 33 50.7**	**-1.2**
	baz=104						
U28A	**Mallet**	**103.44**	**55**	⇑PKiKP	**PKiKP**	**12 33 51.5**	**-0.6**
	baz=104						
329A	**Wagon Wheel Ra**	**103.48**	**60**	⇑PKiKP	**PKiKP**	**12 33 51.8**	**-0.6**
	baz=104						
K27A	**Fluecknger Fa**	**103.49**	**48**	⇓PKiKP	**PKiKP**	**12 33 53.1**	**+1.0**
	baz=104						
C26A	**Wahner Farm, P**	**103.51**	**43**	⇓PKiKP	**PKiKP**	**12 33 51.0**	**-0.8**
	baz=104						
429A	**Davenport Ranc**	**103.52**	**61**	⇓PKiKP	**PKiKP**	**12 33 51.9**	**-0.5**
	baz=104						
A26A	**Wade Farm, Ken**	**103.52**	**42**	⇓PKiKP	**PKiKP**	**12 33 52.4**	**+0.6**
	baz=104						
T28A	**Walsh**	**103.54**	**54**	⇑PKiKP	**PKiKP**	**12 33 52.0**	**-0.4**
	baz=104						
H27A	**Howes**	**103.59**	**46**	⇑PKiKP	**PKiKP**	**12 33 50.0**	**-2.1**
	baz=104						
F27A	**Lemmon**	**103.61**	**45**	⇑PKiKP	**PKiKP**	**12 33 52.2**	**+0.1**
	baz=104						
I27A	**Quinn**	**103.61**	**47**	⇑PKiKP	**PKiKP**	**12 33 50.8**	**-1.3**
	baz=104						
129A	**Stewart Farms,**	**103.62**	**59**	⇑PKiKP	**PKiKP**	**12 33 51.0**	**-1.6**
	baz=104						
OGNE	**Ogallala**	**103.64**	**50**	PFAKE		12 29 40.0	+6.0
OGNE				LR	LR		
	comp=Z,22μm,19.0s						
OGNE	**Ogallala**	**103.64**	**50**	⇑PKiKP	**PKiKP**	**12 33 52.4**	**0.0**
	baz=104						
229A	**Bryant Ranch,**	**103.65**	**59**	⇑PKiKP	**PKiKP**	**12 33 50.4**	**-2.2**
	baz=104						
J27A	**Elkhorn Farm,**	**103.66**	**48**	⇑PKiKP	**PKiKP**	**12 33 53.1**	**+0.8**
	baz=104						
G27A	**Dupree**	**103.68**	**46**	⇑PKiKP	**PKiKP**	**12 33 51.1**	**-1.1**
	baz=104						
S28A	**Manter**	**103.72**	**54**	⇑PKiKP	**PKiKP**	**12 33 53.4**	**+0.8**
	baz=104						
Z29A	**Hungry Hill Ra**	**103.78**	**58**	⇑PKiKP	**PKiKP**	**12 33 51.7**	**-1.2**
	baz=104						
Q28A	**Sharon Springs**	**103.79**	**52**	⇑PKiKP	**PKiKP**	**12 33 53.0**	**+0.3**
	baz=104						
R28A	**Tribune**	**103.80**	**53**	⇓PKiKP	**PKiKP**	**12 33 51.7**	**-1.0**
	baz=104						
X29A	**Tulia**	**103.82**	**57**	⇑PKiKP	**PKiKP**	**12 33 49.1**	**-3.8**
	baz=104						
Y29A	**Porterfield Fa**	**103.83**	**57**	⇑PKiKP	**PKiKP**	**12 33 52.6**	**-0.3**
	baz=104						
O28A	**Krutsinger Ran**	**103.84**	**51**	⇑PKiKP	**PKiKP**	**12 33 50.5**	**-2.3**
	baz=104						
AMTX	**Amarillo**	**103.84**	**56**	⇑PKiKP	**PKiKP**	**12 33 51.3**	**-1.7**
	baz=104						
P28A	**Saint Francis**	**103.85**	**51**	⇓PKiKP	**PKiKP**	**12 33 51.9**	**-0.9**
	baz=104						
W29A	**Amraillo**	**103.88**	**56**	⇓PKiKP	**PKiKP**	**12 33 52.8**	**-0.2**
	baz=104						
E27A	**Carson**	**103.91**	**44**	⇓PKiKP	**PKiKP**	**12 33 52.8**	**+0.2**
	baz=104						
C27A	**Sayler Ranch,**	**103.92**	**43**	⇑PKiKP	**PKiKP**	**12 33 53.5**	**+0.9**
	baz=104						
D27A	**Center**	**103.92**	**44**	⇑PKiKP	**PKiKP**	**12 33 53.5**	**+0.9**
	baz=104						
530A	**J-C Ranch, Com**	**103.98**	**61**	⇓PKiKP	**PKiKP**	**12 33 52.6**	**-0.6**
	baz=104						
V29A	**Stinnett**	**104.00**	**55**	⇓PKiKP	**PKiKP**	**12 33 52.6**	**-0.5**
	baz=104						
N28A	**Pribbeno Ranch**	**104.02**	**50**	⇑PKiKP	**PKiKP**	**12 33 51.3**	**-1.8**
	baz=104						
L28A	**Connealy Angus**	**104.03**	**49**	⇑PKiKP	**PKiKP**	**12 33 49.2**	**-3.8**
	baz=104						
B27A	**Peters Farms,**	**104.05**	**42**	⇓PKiKP	**PKiKP**	**12 33 50.0**	**-2.8**
	baz=104						
430A	**Baggett Ranch,**	**104.09**	**61**	⇑PKiKP	**PKiKP**	**12 33 52.4**	**-1.1**
	baz=104						
K28A	**Ten Mile Ranch**	**104.13**	**48**	⇓PKiKP	**PKiKP**	**12 33 51.1**	**-2.1**
	baz=104						
M28A	**Bar X Bar Ranc**	**104.14**	**50**	⇓PKiKP	**PKiKP**	**12 33 51.8**	**-1.5**
	baz=104						
330A	**Mertzon**	**104.17**	**60**	⇓PKiKP	**PKiKP**	**12 33 52.0**	**-1.5**
	baz=104						
T29A	**Hugoton**	**104.20**	**54**	⇑PKiKP	**PKiKP**	**12 33 50.7**	**-2.8**
	baz=104						
U29A	**Oasis Ranch, S**	**104.21**	**55**	⇓PKiKP	**PKiKP**	**12 33 55.6**	**+2.1**
	baz=104						
J28A	**Allard Ranch,**	**104.22**	**48**	⇓PKiKP	**PKiKP**	**12 33 50.1**	**-3.2**
	baz=104						
230A	**Sterling City**	**104.24**	**59**	⇓PKiKP	**PKiKP**	**12 33 55.8**	**+2.1**
	baz=104						
I28A	**Midland**	**104.25**	**47**	⇓PKiKP	**PKiKP**	**12 33 55.7**	**+2.4**
	baz=104						
Z30A	**Sanderson Ranc**	**104.26**	**58**	⇑PKiKP	**PKiKP**	**12 33 54.5**	**+0.8**
	baz=104						
R29A	**Marienthal**	**104.33**	**53**	⇑PKiKP	**PKiKP**	**12 33 55.4**	**+1.7**
	baz=104						
S29A	**Ulysses**	**104.34**	**53**	⇓PKiKP	**PKiKP**	**12 33 55.5**	**+1.8**
	baz=104						
H28A	**Mission Ridge**	**104.34**	**46**	⇑PKiKP	**PKiKP**	**12 33 50.6**	**-2.9**
	baz=104						
130A	**Snyder**	**104.38**	**59**	⇑PKiKP	**PKiKP**	**12 33 50.2**	**-3.7**
	baz=104						
Q29A	**Oakley**	**104.45**	**52**	⇑PKiKP	**PKiKP**	**12 33 56.0**	**+2.1**
	baz=105						
F28A	**McLaughlin**	**104.46**	**45**	⇑PKiKP	**PKiKP**	**12 33 55.3**	**+1.6**
	baz=105						
Y30A	**Stafford Cattl**	**104.47**	**57**	⇓PKiKP	**PKiKP**	**12 33 55.4**	**+1.4**
	baz=105						
P29A	**Atwood**	**104.49**	**51**	⇓PKiKP	**PKiKP**	**12 33 54.8**	**+0.8**
	baz=105						
X30A	**Coker Ranch, T**	**104.50**	**57**	⇑PKiKP	**PKiKP**	**12 33 55.6**	**+1.5**
	baz=105						
E28A	**Huff**	**104.51**	**44**	⇓PKiKP	**PKiKP**	**12 33 52.0**	**-1.7**
	baz=105						
D28A	**Regan**	**104.57**	**44**	⇑PKiKP	**PKiKP**	**12 33 57.1**	**+3.3**
	baz=105						
631A	**Perdido Creek**	**104.61**	**62**	⇓PKiKP	**PKiKP**	**12 33 54.7**	**+0.3**
	baz=105						
431A	**Sonora**	**104.63**	**61**	⇑PKiKP	**PKiKP**	**12 33 57.5**	**+3.1**
	baz=105						
531A	**Rocksprings**	**104.67**	**61**	⇓PKiKP	**PKiKP**	**12 33 56.3**	**+1.8**
	baz=105						
C28A	**Hausauer Farms**	**104.67**	**43**	⇑PKiKP	**PKiKP**	**12 33 54.8**	**+0.8**
	baz=105						
V30A	**Spur Ranch, Mi**	**104.67**	**55**	⇓PKiKP	**PKiKP**	**12 33 54.9**	**+0.5**
	baz=105						
A28A	**Rude Farm, Bot**	**104.69**	**42**	⇓PKiKP	**PKiKP**	**12 33 55.5**	**+1.6**
	baz=105						
U30A	**WK&E Inc. Balk**	**104.71**	**55**	⇓PKiKP	**PKiKP**	**12 33 55.8**	**+1.3**
	baz=105						
N29A	**Votaw Ranch, W**	**104.71**	**50**	⇑PKiKP	**PKiKP**	**12 33 55.7**	**+1.4**
	baz=105						
W30A	**Crocket Farms**	**104.76**	**56**	⇓PKiKP	**PKiKP**	**12 33 57.4**	**+2.8**
	baz=105						
L29A	**Maesberg Ranch**	**104.80**	**49**	⇑PKiKP	**PKiKP**	**12 33 56.8**	**+2.4**
	baz=105						
331A	**San Angelo**	**104.81**	**60**	⇓PKiKP	**PKiKP**	**12 33 56.9**	**+2.2**
	baz=105						
T30A	**Plains**	**104.81**	**54**	⇑PKiKP	**PKiKP**	**12 33 56.2**	**+1.6**
	baz=105						
S30A	**Montezuma**	**104.86**	**53**	⇑PKiKP	**PKiKP**	**12 33 56.4**	**+1.7**
	baz=105						
131A	**Roby**	**104.87**	**59**	⇑PKiKP	**PKiKP**	**12 33 51.7**	**-3.1**
	baz=105						
I29A	**Vivian Onida**	**104.88**	**47**	⇓PKiKP	**PKiKP**	**12 33 56.4**	**+2.0**
	baz=105						
J29A	**Okreek**	**104.88**	**48**	⇑PKiKP	**PKiKP**	**12 33 53.7**	**-0.8**
	baz=105						
K29A	**Lazy Trails An**	**104.90**	**48**	⇓PKiKP	**PKiKP**	**12 33 56.5**	**+2.0**
	baz=105						
231A	**Bronte**	**104.92**	**59**	⇑PKiKP	**PKiKP**	**12 33 58.1**	**+3.2**
	baz=105						
H29A	**Onida**	**104.92**	**46**	⇓PKiKP	**PKiKP**	**12 33 59.4**	**+4.9**
	baz=105						
Y31A	**Rekieta Farm,**	**105.00**	**57**	⇓PKiKP	**PKiKP**	**12 33 57.3**	**+2.3**
	baz=105						
R30A	**Dighton**	**105.01**	**53**	⇑PKiKP	**PKiKP**	**12 33 57.3**	**+2.4**
	baz=105						
P30A	**Selden**	**105.02**	**52**	⇑PKiKP	**PKiKP**	**12 33 58.0**	**+3.1**
	baz=105						
Q30A	**Quinter**	**105.05**	**52**	⇓PKiKP	**PKiKP**	**12 33 58.7**	**+3.7**
	baz=105						
Z31A	**Sharp Cattle R**	**105.09**	**58**	⇑PKiKP	**PKiKP**	**12 33 57.4**	**+2.3**
	baz=105						
832A	**Faith Ranch, C**	**105.10**	**63**	⇑PKiKP	**PKiKP**	**12 33 59.5**	**+4.3**
	baz=105						
G29A	**Hoven**	**105.10**	**46**	⇑PKiKP	PKiKP	12 34 00.2	+5.3
	baz=105						
N30A	**Hueftle Ranch,**	**105.11**	**50**	⇓PKiKP	**PKiKP**	**12 33 59.5**	**+4.5**
	baz=105						
732A	**Laxson Ranch,**	**105.12**	**63**	⇑PKiKP	**PKiKP**	**12 34 00.3**	**+5.0**
	baz=105						
F29A	**Eureka**	**105.14**	**45**	⇓PKiKP	PKiKP	12 34 00.2	+5.4
	baz=105						
O30A	**MW Ranch, Wils**	**105.16**	**51**	⇑PKiKP	**PKiKP**	**12 33 58.2**	**+3.1**
	baz=105						
MDND	**Maddock**	**105.19**	**43**	⇓PKiKP	PKiKP	12 34 00.3	+5.4
	baz=105						
532A	**Rocksprings**	**105.22**	**61**	⇑PKiKP	**PKiKP**	**12 33 59.1**	**+3.5**
	baz=105						
E29A	**Napoleon**	**105.23**	**44**	⇑PKiKP	PKiKP	12 34 01.1	+6.1
	baz=105						
D29A	**Pettibone, Tap**	**105.24**	**44**	⇑PKiKP	PKiKP	12 34 00.4	+5.4
	baz=105						
X31A	**McDonald Ranch**	**105.24**	**57**	⇓PKiKP	**PKiKP**	**12 33 59.1**	**+3.7**
	baz=105						
M30A	**Dale-Ortello V**	**105.27**	**49**	⇑PKiKP	**PKiKP**	**12 33 59.8**	**+4.5**
	baz=105						
W31A	**Holland Ranch,**	**105.28**	**56**	⇑PKiKP	**PKiKP**	**12 33 59.8**	**+4.4**
	baz=105						
632A	**Uvalde**	**105.31**	**62**	⇓PKiKP	**PKiKP**	**12 33 59.9**	**+4.3**
	baz=105						
B29A	**Wagenman Farm,**	**105.32**	**42**	⇓PKiKP	PKiKP	12 34 00.5	+5.4
	baz=105						
JCT	**Junction City**	**105.32**	**61**	*e*P	**Pdif**	**12 29 43.8**	**+2.1**
JCT				pmax	pmax		
	comp=Z,23nm,1.1s						
JCT				MLR	MLR		
	comp=Z,42μm,20.0s						
JCT	**Junction City**	**105.32**	**61**	*e*Pdif	**Pdif**	**12 29 43.8**	**+2.1**
	comp=Z,23nm,1.1s						
JCT				LR	LR		
	comp=Z,42μm,20.0s						
JCT	**Junction City**	**105.32**	**61**	⇓PKiKP	**PKiKP**	**12 33 59.9**	**+4.2**
	baz=105						
432A	**Menard**	**105.34**	**60**	⇑PKiKP	**PKiKP**	**12 33 59.3**	**+3.6**
	baz=105						
U31A	**Nine Bar Ranch**	**105.35**	**55**	⇓PKiKP	**PKiKP**	**12 33 58.6**	**+3.0**
	baz=106						
V31A	**Spring Creek L**	**105.36**	**55**	⇓PKiKP	**PKiKP**	**12 33 59.3**	**+3.7**
	baz=106						
A29A	**Manning Farm,**	**105.37**	**42**	⇑PKiKP	PKiKP	12 34 02.0	+6.8
	baz=106						
L30A	**Spencer Herefo**	**105.37**	**49**	⇑PKiKP	**PKiKP**	**12 33 59.3**	**+3.8**
	baz=106						
332A	**Millersview**	**105.39**	**60**	⇓PKiKP	**PKiKP**	**12 33 59.4**	**+3.6**
	baz=106						
K30A	**Basset**	**105.42**	**48**	⇑PKiKP	**PKiKP**	**12 34 00.1**	**+4.6**
	baz=106						
232A	**Coleman**	**105.48**	**59**	⇓PKiKP	**PKiKP**	**12 33 59.5**	**+3.6**
	baz=106						
T31A	**Randall Ranch,**	**105.49**	**54**	⇑PKiKP	PKiKP	12 34 01.6	+5.8
	baz=106						
J30A	**Dallas**	**105.49**	**48**	⇑PKiKP	PKiKP	12 34 00.9	+5.3
	baz=106						
ABTX	**Abilene, Hawle**	**105.50**	**59**	⇑PKiKP	**PKiKP**	**12 33 59.6**	**+3.6**
	baz=106						
R31A	**Burdett**	**105.60**	**53**	⇑PKiKP	**PKiKP**	**12 33 59.0**	**+3.1**
	baz=106						
833A	**Chaparral WMA,**	**105.61**	**63**	⇓PKiKP	PKiKP	12 34 02.6	+6.3
	baz=106						
S31A	**Mullinville**	**105.64**	**53**	⇓PKiKP	PKiKP	12 34 03.9	+7.9
	baz=106						
Z32A	**Haskell**	**105.65**	**58**	⇑PKiKP	PKiKP	12 34 03.3	+7.1
	baz=106						
G30A	**Faulkton**	**105.66**	**46**	⇑PKiKP	PKiKP	12 34 02.6	+6.7
	baz=106						
Y32A	**R-V Farms, Ver**	**105.68**	**57**	⇑PKiKP	**PKiKP**	**12 33 57.8**	**+1.6**
	baz=106						
F30A	**Leola**	**105.70**	**45**	⇓PKiKP	**PKiKP**	**12 33 55.1**	**-0.9**
	baz=106						
733A	**Mvot King Ran**	**105.71**	**63**	⇑PKiKP	PKiKP	12 34 02.1	+5.7
	baz=106						
D30A	**Buchanan**	**105.81**	**44**	⇑PKiKP	**PKiKP**	**12 33 59.4**	**+3.3**
	baz=106						
BRSD	**Miller**	**105.83**	**46**	⇑PKiKP	PKiKP	12 34 02.2	+6.0
	baz=106						
633A	**Saathoff Ranch**	**105.84**	**62**	⇑PKiKP	**PKiKP**	**12 34 01.6**	**+5.0**
	baz=106						
433A	**Art**	**105.94**	**61**	⇑PKiKP	**PKiKP**	**12 34 01.8**	**+5.0**
	baz=106						
ABPO	**Ambohimpanom**	**105.98**	**247**	PFAKE		12 34 10.0	
ABPO				LR	LR		
	comp=Z,11μm,20.0s						
L31A	**Butterfield Fa**	**106.02**	**49**	⇓PKiKP	**PKiKP**	**12 34 01.2**	**+4.5**
	baz=106						
333A	**Richland Sprin**	**106.04**	**60**	⇑PKiKP	PKiKP	12 34 04.0	+7.1
	baz=106						
S32A	**Newby Ranch, P**	**106.07**	**53**	⇓PKiKP	PKiKP	12 34 02.7	+5.8
	baz=106						
T32A	**Huddler Ranch,**	**106.09**	**54**	⇓PKiKP	PKiKP	12 34 04.1	+7.2
	baz=106						
133A	**Hamilton Ranch**	**106.11**	**59**	⇓PKiKP	PKiKP	12 34 06.9	+10
	baz=106						
233A	**Rising Star**	**106.12**	**59**	⇑PKiKP	PKiKP	12 34 06.9	+10
	baz=106						
OPO	**Ambohidratompo**	**106.13**	**248**	PKKP	**PKKPdf**	**12 45 26.7**	**-4.2**
OPO	**Ambohidratompo**	**106.13**	**248**	PKKP	**PKKPdf**	**12 45 26.7**	**-4.2**
	comp=Z,4.2nm,0.9s,baz=321,slow=3.1,SNR=4.7						
WMOK	**Wichita Mounta**	**106.23**	**56**	PFAKE		12 34 10.0	
WMOK				LR	LR		
	comp=Z,46μm,20.0s						
R32A	**Long Quarter,**	**106.23**	**53**	⇓PKiKP	PKiKP	12 34 08.5	+11
	baz=106						
Z33A	**Whitaker Ranch**	**106.24**	**58**	⇑PKiKP	PKiKP	12 34 09.9	+13
	baz=106						
P32A	**Huiting Farm,**	**106.29**	**51**	⇑PKiKP	PKiKP	12 34 10.7	+13
	baz=106						
834A	**Tilden**	**106.35**	**63**	⇑PKiKP	PKiKP	12 34 10.1	+13
	baz=106						
Y33A	**Hilltop Ranch,**	**106.36**	**57**	⇓PKiKP	PKiKP	12 34 10.8	+13
	baz=106						
734A	**La Parita Cree**	**106.36**	**63**	⇓PKiKP	PKiKP	12 34 10.1	+13
	baz=106						
934A	**Benavides**	**106.36**	**64**	⇓PKiKP	PKiKP	12 34 08.8	+11
	baz=106						
534A	**Blanco**	**106.46**	**61**	⇑PKiKP	PKiKP	12 34 08.3	+10
	baz=107						
N32A	**Stulken Farm,**	**106.48**	**50**	⇓PKiKP	PKiKP	12 34 06.2	+8.7
	baz=107						
W33A	**Caddo, Fort Co**	**106.48**	**56**	⇑PKiKP	PKiKP	12 34 03.4	+5.8
	baz=107						
O32A	**Brockman Farm,**	**106.52**	**51**	⇓PKiKP	PKiKP	12 34 04.2	+6.6
	baz=107						
634A	**China Grove, S**	**106.55**	**62**	⇓PKiKP	**PKiKP**	**12 33 57.4**	**-0.5**
	baz=107						
434A	**Burnet**	**106.65**	**61**	⇓PKiKP	**PKiKP**	**12 34 01.0**	**+2.9**
	baz=107						
334A	**Lometa**	**106.68**	**60**	⇑PKiKP	**PKiKP**	**12 34 03.1**	**+5.0**
	baz=107						
U33A	**Lingo Farm, Me**	**106.75**	**55**	⇓PKiKP	**PKiKP**	**12 34 03.3**	**+5.1**
	baz=107						
234A	**Clairette**	**106.77**	**59**	⇑PKiKP	PKiKP	12 34 04.0	+5.7
	baz=107						
S33A	**Kaszmaul Farm,**	**106.82**	**53**	⇑PKiKP	PKiKP	12 34 06.1	+7.9
	baz=107						
134A	**White-Moore Ra**	**106.82**	**59**	⇓PKiKP	PKiKP	12 34 04.8	+6.4
	baz=107						
Z34A	**Collier Ranch,**	**106.95**	**58**	⇑PKiKP	**PKiKP**	**12 34 03.6**	**+5.0**
	baz=107						
835A	**Beeville**	**106.99**	**63**	⇑PKiKP	**PKiKP**	**12 34 03.0**	**+4.3**
	baz=107						
735A	**Kenedy**	**107.02**	**63**	⇓PKiKP	**PKiKP**	**12 34 01.7**	**+2.9**
	baz=107						
W34A	**Bridge Creek,**	**107.05**	**56**	⇑PKiKP	**PKiKP**	**12 33 58.3**	**-0.4**
	baz=107						
635A	**Leesville**	**107.06**	**62**	⇑PKiKP	**PKiKP**	**12 34 02.5**	**+3.6**
	baz=107						
Y34A	**Reagan Ranch,**	**107.08**	**57**	⇑PKiKP	**PKiKP**	**12 34 00.4**	**+1.6**
	baz=107						
U34A	**Anderson Ranch**	**107.22**	**55**	⇑PKiKP	**PKiKP**	**12 34 00.7**	**+1.7**
	baz=107						
535A	**Dale**	**107.24**	**61**	⇑PKiKP	PKiKP	12 34 04.9	+5.7
	baz=107						
V34A	**Guthrie**	**107.25**	**55**	⇓PKiKP	**PKiKP**	**12 34 03.5**	**+4.4**
	baz=107						
WHTX	**Lake Whitney**	**107.35**	**59**	⇓PKiKP	**PKiKP**	**12 34 02.3**	**+3.0**
	baz=107						
335A	**Moody**	**107.37**	**60**	⇑PKiKP	PKiKP	12 34 06.5	+7.1
	baz=108						
135A	**Vickery Place,**	**107.38**	**59**	⇑PKiKP	PKiKP	12 34 05.1	+5.7
	baz=108						
ULM	**Lac du Bonnet**	**107.42**	**40**	Pdif	**Pdif**	**12 29 49.1**	**-1.3**
ULM	**Lac du Bonnet**	**107.42**	**40**	Pdiff	**Pdif**	**12 29 49.1**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=256,slow=9.4,SNR=3.1						
Z35A	**Perchaven, San**	**107.51**	**58**	⇑PKiKP	**PKiKP**	**12 34 03.3**	**+3.7**
	baz=108						
ECSD	**EROS Data Cent**	**107.56**	**47**	PFAKE		12 34 10.0	
ECSD				LR	LR		
	comp=Z,37μm,21.0s						
ECSD	**EROS Data Cent**	**107.56**	**47**	⇓PKiKP	**PKiKP**	**12 33 59.9**	**+0.5**
	baz=108						
AGMN	**Agassiz Nation**	**107.65**	**42**	PFAKE		12 34 10.0	
AGMN				LR	LR		
	comp=Z,31μm,20.0s						
AGMN	**Agassiz Nation**	**107.65**	**42**	⇓PKiKP	**PKiKP**	**12 34 02.1**	**+2.7**
	baz=108						
KSU1	**Kansas State U**	**107.85**	**52**	PFAKE		12 34 10.0	
KSU1				LR	LR		
	comp=Z,28μm,22.0s						
KBS	**Kingsbay**	**108.06**	**353**	PFAKE		12 34 10.0	
KBS				LR	LR		
	comp=Z,14μm,19.0s						
PRGR	**Permogore**	**108.24**	**332**	P	**Pdif**	**12 29 55.2**	**+1.4**
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NATX	**Nacogdoches**	**109.73**	**60**	PFAKE		12 34 10.0	
NATX				LR	LR		
	comp=Z,39μm,21.0s						
SCIA	**State Center**	**110.21**	**49**	PFAKE		12 34 20.0	
SCIA				L

MOS	**Moscow**	**114.04**	**328**	*i* PKIKP	PKPdf	12 34 17.7	+6.5		
MOS				*e*		12 35 16.3			
MOS				*e*SS	SS	12 51 04.9	+11		
MOS				MLR	MLR				
	comp=N,14μm,18.0s								
MOS				MLR	MLR				
	comp=Z,14μm,18.0s								
MOS				MLR	MLR				
	comp=E,19μm,19.0s								
KIV	**Kislovodsk**	**114.08**	**314**	PFAKE		12 34 20.0	+8.2		
KIV				LR	LR				
	comp=Z,12μm,20.0s								
VORD	**Divnogorie**	**114.62**	**322**	*e*PKIKP	PKPdf	12 34 19.3	+6.8		
VORD				*e*		12 35 18.7			
VORD				*e*SS	SS	12 51 03.6	+1.7		
VORD				*e*SSS	SSS	12 55 11.2			
VORD				pmax	pmax				
	comp=E,10.0nm,1.4s								
VORD				pmax	pmax				
	comp=Z,10.0nm,1.4s								
VORD				pmax	pmax				
	comp=N,6.0nm,0.7s								
VORD				pmax	pmax				
	comp=N,190nm,5.0s								
VORD				pmax	pmax				
	comp=E,580nm,5.0s								
VORD				pmax	pmax				
	comp=Z,1μm,5.0s								
VSR	**Storozhevoye**	**114.63**	**323**	*e*PKIKP	PKPdf	12 34 22.3	+10		
VSR				*e*		12 35 12.4			
VSR				*e*SS	SS	12 51 11.7	+10		
VSR				pmax	pmax				
	comp=Z,1μm,4.2s								
VSR				pmax	pmax				
	comp=N,330nm,5.7s								
VSR				pmax	pmax				
	comp=E,550nm,4.8s								
VSR				MLR	MLR				
	comp=Z,14μm,19.0s								
VSR				MLR	MLR				
	comp=N,6μm,17.0s								
VSR				MLR	MLR				
	comp=E,9μm,20.0s								
OBN	**Obninsk**	**114.82**	**327**	*e*PKIKP	PKPdf	12 34 10.6	-2.1		
OBN				*i*		12 34 25.1			
OBN	**Obninsk**	**114.82**	**327**	PFAKE		12 34 20.0	+7.3		
OBN				LR	LR				
	comp=Z,16μm,20.0s								
TEIG	**Tepich**	**115.62**	**72**	PFAKE		12 34 30.0	+15		
TEIG				LR	LR				
	comp=Z,26μm,22.0s								
SUMG	**Summit**	**115.73**	**5**	*i* P	**PS**	**12 45 02.2**	**+3.4**		
	comp=Z,8.3nm,1.0s								
BRAL	**Brewton**	**116.26**	**60**	PFAKE		12 34 30.0	+14		
BRAL				LR	LR				
	comp=Z,28μm,21.0s								
SOC	**Sochi**	**116.27**	**314**	*e*P	**Pdif**	**12 30 30.7**	**+0.8**		
SOC				*i*		12 34 14.1			
SOC				*e*		12 35 21.1			
SOC				*e*PS	**PKKPab**	**12 44 53.6**	**+4.1**		
SOC				*e*SS	SS	12 51 26.6	+2.6		
SOC				*e*SSS	SSS	12 55 47.2			
KAF	**Kangasniemi**	**116.34**	**337**	*e*PKIKP	PKPdf	12 34 22.6	+7.1		
KAF	**Kangasniemi**	**116.34**	**337**	*e*pkp	PKPdf	12 34 22.6	+7.1		
	comp=Z,7.1nm,0.8s								
KAF	**Kangasniemi**	**116.34**	**337**	*e*p	PKKPab	12 44 54.2	+5.4		
	comp=Z,7.0nm,0.8s								
TGUH	**Tegucigalpa,Un**	**116.38**	**79**	PFAKE		12 34 30.0	+13		
TGUH				LR	LR				
	comp=Z,16μm,22.0s								
FINES	**FINESS Array B**	**116.80**	**336**	PKP	**PKPdf**	**12 34 17.9**	**+1.5**		
FINES				PKKPab	**PKKPab**	**12 44 51.1**	**+4.4**		
FINES	**FINESS Array B**	**116.80**	**336**	PKP	**PKPdf**	**12 34 17.9**	**+1.5**		
	comp=Z,1.9nm,0.8s,baz=90,slow=3.8,SNR=3.6								
FINES				PKKPab	**PKKPab**	**12 44 51.1**	**+4.4**		
	comp=Z,4.7nm,0.9s,baz=227,slow=5.1,SNR=2.9								
AAM	**Ann Arbor**	**117.16**	**47**	PFAKE		12 34 30.0	+12		
AAM				LR	LR				
	comp=Z,47μm,20.0s								
ANN	**Anapa**	**117.56**	**316**	*i* PKIKP	PKPdf	12 34 09.3	-9.0		
ANN				*i*		12 35 29.7			
ACSO	**Alum Creek Sta**	**118.11**	**49**	*e*PKPdf	**PKPdf**	**12 34 19.0**	**-0.6**		
ACSO				LR	LR				
	comp=Z,31μm,20.0s								
JTS	**JuntasAbangare**	**118.39**	**83**	PFAKE		12 34 30.0	+9.1		
JTS				LR	LR				
	comp=Z,27μm,20.0s								
SCO	**Scoresbysund**	**118.57**	**360**	*i* PKIKP	PKPdf	12 34 29.8	+10		
SCO				*i*		12 35 44.1			
SCO				MLR	MLR				
	comp=Z,14μm,20.0s								
SCO	**Scoresbysund**	**118.57**	**360**	*i* P	PKPdf	12 34 29.8	+10		
SCO				*i*		12 35 44.1			
SCO									
	comp=Z,14μm,20.0s								
GOGA	**Godfrey**	**118.99**	**57**	PFAKE		12 34 30.0	+8.5		
GOGA				LR	LR				
	comp=Z,48μm,22.0s								
SFJD	**Kangerlussuaq**	**119.00**	**12**	*i* P	PKPdf	12 34 30.6	+10		
SFJD				*i*		12 35 46.1			
SFJD									
	comp=Z,23μm,22.0s								
SFJD	**Kangerlussuaq**	**119.00**	**12**	*i* P	PKKPab	12 44 43.8	+6.9		
	comp=Z,7.0nm,0.9s								
SFJD	**Kangerlussuaq**	**119.00**	**12**	PKKPab	PKKPab	12 44 44.2	+7.3		
SFJD				LR	LR				
	comp=Z,29μm,21.0s								
SFJD	**Kangerlussuaq**	**119.00**	**12**	PKKPab	PKKPab	12 44 44.2	+7.3		
	comp=Z,11nm,0.9s,baz=225,slow=5.6,SNR=3.7								
MICGM	**Minsk**	**119.63**	**329**	*e*PKP	**PKPdf**	**12 34 24.0**	**+2.0**		
MNK	**Minsk**	**119.66**	**329**	*e*PKIKP	**PKPdf**	**12 34 24.0**	**+1.9**		
MNK				*e*PPP	PPP	12 38 20.0			
MNK				*e*		12 41 18.0			
MNK				*e*PS	**PS**	**12 45 34.0**	**-0.2**		
MNK				*e*SS	SS	12 52 20.0	+13		
KMBO	**Kilima Mbogo**	**119.75**	**264**	P	**PKPdf**	**12 34 25.3**	**+1.5**		
	SNR=6.0								
KMBO	**Kilima Mbogo**	**119.75**	**264**	*e*PKPdf	**PKPdf**	**12 34 24.5**	**+0.7**		
KMBO				LR	LR				
	comp=Z,10μm,22.0s								
ERPA	**Erie**	**119.84**	**46**	PFAKE		12 34 30.0	+7.1		
ERPA				LR	LR				
	comp=Z,24μm,19.0s								
NACGM	**Naroch**	**119.99**	**330**	*e*PKP	PKPdf	12 34 33.0	+10		
LCO	**Las Campanas**	**120.03**	**131**	PFAKE		12 34 30.0	+6.0		
LCO				LR	LR				
	comp=Z,11μm,22.0s								
TRQA	**Tornquist**	**120.37**	**144**	PFAKE		12 34 30.0	+5.9		
TRQA				LR	LR				
	comp=Z,8μm,20.0s								
AKASG	**Malin Array Be**	**120.66**	**325**	PKIKP	**PKPdf**	**12 34 22.2**	**-1.9**		
AKASG	**Malin Array Be**	**120.66**	**325**	PKP	**PKPdf**	**12 34 22.2**	**-1.9**		
AKASG				PKKPab	PKKPbc	12 44 40.2	+10		
AKASG	**Malin Array Be**	**120.66**	**325**	PKP	**PKPdf**	**12 34 22.2**	**-1.9**		
	comp=Z,2.0nm,0.8s,baz=56,slow=2.5,SNR=5.2								
AKASG				PKKPab	PKKPbc	12 44 40.2	+10		
	comp=Z,3.1nm,0.8s,baz=255,slow=4.5,SNR=11								
KIEV	**Kiev**	**120.67**	**325**	*i* PKIKP	**PKPdf**	**12 34 21.8**	**-2.3**		
KIEV	**Kiev**	**120.67**	**325**	PFAKE		12 34 30.0	+5.9		
KIEV				LR	LR				
	comp=Z,22μm,20.0s								
BLA	**Blacksburg**	**120.73**	**52**	*e*PKIKP	**PKPdf**	**12 34 25.4**	**+0.6**		
BLA				MLR	MLR				
	comp=Z,68μm,22.0s								
BLA	**Blacksburg**	**120.73**	**52**	*e*PKPdf	**PKPdf**	**12 34 25.4**	**+0.6**		
BLA				LR	LR				
	comp=Z,68μm,22.0s								
HWQ	**Hawqa**	**121.10**	**305**	*e*P	**PP**	**12 35 53.9**	**-1.7**		
BHL	**Bhannes**	**121.41**	**304**	*e*P	PP	12 35 47.0	-11		
BRTR	**Keskin Array B**	**121.64**	**311**	PKP	**PKPdf**	**12 34 24.8**	**-1.8**		
BRTR				PKKPab	**PKKPbc**	**12 44 27.8**	**+0.9**		
BRTR	**Keskin Array B**	**121.64**	**311**	PKP	**PKPdf**	**12 34 24.8**	**-1.8**		
	comp=Z,1.6nm,0.8s,baz=160,slow=3.9,SNR=5.0								
BRTR				PKKPab	**PKKPbc**	**12 44 27.8**	**+0.9**		
	comp=Z,1.3nm,1.0s,baz=224,slow=5.2,SNR=3.7								
NHSC	**New Hope**	**121.76**	**57**	PFAKE		12 34 40.0	+13		
NHSC				LR	LR				
	comp=Z,62μm,20.0s								
SUR	**Sutherland**	**121.77**	**223**	PFAKE		12 34 40.0	+13		
SUR				LR	LR				
	comp=Z,14μm,22.0s								
NNA	**Nana**	**122.00**	**110**	PFAKE		12 34 40.0	+12		
NNA				LR	LR				
	comp=Z,8μm,19.0s								
ANTO	**Ankara**	**122.23**	**312**	⇑PKIKP	**PKPdf**	**12 34 31.3**	**+3.7**		
ANTO	**Ankara**	**122.23**	**312**	*e*P	**PKPdf**	**12 34 27.3**	**-0.3**		
ANTO				LR	LR				
	comp=Z,8μm,20.0s								
SUW	**Suwalki**	**122.24**	**330**	*e*PKIKP	PKPdf	12 34 33.3	+6.2		
SUW				*e*SS	SS	12 52 56.9	+17		
SUW				MLR	MLR				
	comp=Z,24μm,23.3s								
SUW	**Suwalki**	**122.24**	**330**	*e*PKP	PKPdf	12 34 33.3	+6.2		
SUW				*e*PP	PP	12 36 13.2	+11		
SUW				*e*SS	SS	12 52 56.9	+17		
SUW				LMZ	LR	13 28 00.7			
NB2	**NORSAR Subarra**	**122.42**	**341**	PKPdf	PKPdf	12 34 34.0	+6.7		
	comp=Z,14nm,1.2s,baz=39,slow=1.9								
NB2	**NORSAR Subarra**	**122.42**	**341**	PKPdf	PKPdf	12 34 34.0	+6.7		
	baz=39,slow=1.9								
NOA	**NORSAR Array B**	**122.42**	**341**	PKP	**PKPdf**	**12 34 26.7**	**-0.6**		
NOA				PP	PP	12 36 10.7	+7.5		
NOA	**NORSAR Array B**	**122.42**	**341**	PKP	**PKPdf**	**12 34 26.7**	**-0.6**		
	comp=Z,1.5nm,0.9s,baz=43,slow=2.2,SNR=2.7								
NOA				PP	PP	12 36 10.7	+7.5		
	comp=Z,10nm,1.1s,baz=38,slow=6.9,SNR=3.6								
KIS	**Kishinev**	**122.47**	**321**	*e*PKIKP	PKPdf	12 34 21.1	-6.7		
KIS				*e*		12 41 22.0			
KIS	**Kishinev**	**122.47**	**321**	*e*PKP	PKPdf	12 34 21.0	-6.7		
KIS	**Kishinev**	**122.47**	**321**	*e*PP	PP	12 36 15.0	+11		
KIS				*e*SKP		12 37 50.0			
KIS	**Kishinev**	**122.47**	**321**	*i* PPP	PPP	12 38 57.0			
KIS				*e*SKS	SKSdf	12 41 22.0	-16		
KIS				*e*SKKS	**SKKSac**	**12 42 58.0**	**-4.0**		
KIS				*e*SKSP		12 45 25.0			
KIS	**Kishinev**	**122.47**	**321**	*e*PS	PS	12 46 40.0	+40		
KIS				*e*LQ	LQ	13 12 00.0			
	comp=Z,13μm,20.0s								
KIS				LRM	MLR	13 30 00.0			
	comp=Z,5μm,15.0s								
BINY	**Binghamton**	**122.65**	**45**	PFAKE		12 34 40.0	+12		
BINY				LR	LR				
	comp=Z,44μm,19.0s								
NAO01	**NORSAR Array S**	**122.67**	**341**	*e*PKPdf	**PKPdf**	**12 34 26.1**	**-1.7**		
LONY	**Lake Ozonia**	**122.76**	**42**	PFAKE		12 34 40.0	+12		
LONY				LR	LR				
	comp=Z,33μm,21.0s								
CBN	**Corbin**	**122.83**	**50**	PFAKE		12 34 40.0	+11		
CBN				LR	LR				
	comp=Z,67μm,22.0s								
CSS	**Prodhromos**	**123.07**	**306**	PFAKE		12 34 40.0	+11		
CSS				LR	LR				
	comp=Z,3μm,22.0s								
BCIP	**Isla Barro Col**	**123.33**	**85**	PFAKE		12 34 40.0	+10		
BCIP				LR	LR				
	comp=Z,20μm,21.0s								
OTAV	**Otavalo**	**123.51**	**96**	PFAKE		12 34 40.0	+8.7		
OTAV				LR	LR				
	comp=Z,15μm,20.0s								
CFR	**Carcaliu**	**123.64**	**319**	⇑PKIKP	PKPdf	12 34 35.9	+5.9		
CFR	**Carcaliu**	**123.64**	**319**	⇑*i*P	PKPdf	12 34 35.9	+5.9		
TIRR	**Tirgusor**	**123.75**	**318**	⇓PKIKP	PKPdf	12 34 43.1	+13		
TIRR	**Tirgusor**	**123.75**	**318**	⇓*i*P	PKPdf	12 34 43.1	+13		
TLB	**Topalu**	**123.94**	**318**	⇓PKIKP	**PKPdf**	**12 34 29.7**	**-0.9**		
TLB	**Topalu**	**123.94**	**318**	⇓*i*P	**PKPdf**	**12 34 29.7**	**-0.9**		
KONO	**Kongsberg**	**124.01**	**341**	PFAKE		12 34 40.0	+10		
KONO				LR	LR				
	comp=Z,16μm,21.0s								
LVV	**L'vov**	**124.02**	**326**	*i* PKIKP	PKPdf	12 34 42.5	+12		
TESR	**Tescani**	**124.03**	**321**	⇑*i*P	PKPdf	12 34 43.8	+13		
VRI	**Vrincioaia**	**124.26**	**320**	⇑PKIKP	PKPdf	12 34 40.0	+8.8		
VRI	**Vrincioaia**	**124.26**	**320**	*e*P	**PKPdf**	**12 34 33.4**	**+2.2**		
VRI	**Vrincioaia**	**124.26**	**320**	⇑*i*P	PKPdf	12 34 40.0	+8.8		
PLOR	**Plostina**	**124.31**	**320**	⇑PKIKP	PKPdf	12 34 38.5	+7.1		
PLOR	**Plostina**	**124.31**	**320**	⇑*i*P	PKPdf	12 34 38.5	+7.1		
BORG	**Borgarnes**	**124.33**	**359**	PFAKE		12 34 40.0	+9.2		
BORG				LR	LR				
	comp=Z,12μm,21.0s								
LSZ	**Lusaka**	**124.39**	**245**	P	PKPdf	12 34 47.7	+15		
	SNR=7.3								
LSZ	**Lusaka**	**124.39**	**245**	*e*PKPdf	**PKPdf**	**12 34 32.2**	**-0.3**		
LSZ				PKP	**PKPdf**	**12 34 34.8**	**+2.3**		
LSZ				LR	LR				
	comp=Z,12μm,20.0s								
LSZ	**Lusaka**	**124.39**	**245**	PKP	**PKPdf**	**12 34 34.8**	**+2.3**		
	comp=Z,2.1nm,0.6s,baz=48,slow=9.5,SNR=1.4								
BUR08	**Bucovina Ar. S**	**124.40**	**323**	*e*PKPdf	**PKPdf**	**12 34 32.5**	**+1.0**		
BURAR	**Bucovina Array**	**124.40**	**323**	⇑PKIKP	**PKPdf**	**12 34 34.9**	**+3.3**		
BURAR	**Bucovina Array**	**124.40**	**323**	⇑*i*P	**PKPdf**	**12 34 34.9**	**+3.3**		
LVC	**Limon Verde**	**124.66**	**125**	PFAKE		12 34 40.0	+7.0		
LVC				LR	LR				
	comp=Z,17μm,22.0s								
BEL	**Belsk**	**124.66**	**329**	*e*PKIKP	PKPdf	12 34 43.6	+12		
BEL				*e*SS	SS	12 53 25.2	+14		
BEL				MLR	MLR				
	comp=Z,16μm,22.9s								
BEL	**Belsk**	**124.66**	**329**	*e*PKP	PKPdf	12 34 43.6	+12		
BEL				*e*SS	SS	12 53 25.2	+14		
BEL				LMZ	LR	13 26 52.5			
LBNH	**Lisbon**	**124.66**	**42**	PFAKE		12 34 40.0	+7.9		
LBNH				LR	LR				
	comp=Z,47μm,22.0s								
ISR	**Istrita**	**124.69**	**320**	⇑*i*P	PKPdf	12 34 45.7	+14		
KWP	**Kalwaria Pacla**	**124.85**	**326**	*e*PKIKP	**PKPdf**	**12 34 32.0**	**-0.3**		
KWP				MLR	MLR				
	comp=Z,21μm,20.0s								
KWP	**Kalwaria Pacla**	**124.85**	**326**	*e*PKP	PKPdf	12 34 44.6	+12		
KWP				*e*SS	SS	12 53 21.4	+8.0		
KWP				LMZ	LR	13 28 48.0			
KWP	**Kalwaria Pacla**	**124.85**	**326**	⇑*i*P	**PKPdf**	**12 34 36.8**	**+4.5**		
KWP	**Kalwaria Pacla**	**124.85**	**326**	*e*PKPdf	**PKPdf**	**12 34 32.0**	**-0.3**		
KWP				LR	LR				
	comp=Z,21μm,20.0s								
PRD	**Provadia**	**124.91**	**317**	⇑PKIKP	PKPdf	12 34 38.9	+6.4		
MLR	**Muntele Rosu**	**124.91**	**320**	⇑*i*P	PKPdf	12 34 38.3	+5.6		
MLR	**Muntele Rosu**	**124.91**	**320**	PKP	**PKPdf**	**12 34 33.1**	**+0.4**		
MLR	**Muntele Rosu**	**124.91**	**320**	PKP	**PKPdf**	**12 34 33.1**	**+0.4**		
	comp=Z,1.6nm,1.1s,baz=210,slow=9.3,SNR=4.4								
DOPR	**Dopca**	**125.05**	**321**	⇓*i*P	**PKPdf**	**12 34 37.9**	**+5.1**		
SULR		**125.06**	**319**	⇑*i*P	PKPdf	12 34 45.5	+13		
NRS	**Narsarsuaq**	**125.21**	**13**	*i* PKIKP	**PKPdf**	**12 34 37.4**	**+4.9**		
NRS				MLR	MLR				
	comp=Z,16μm,20.0s								
BSD	**Bornholm Skovb**	**125.35**	**335**	*e*PKIKP	PKPdf	12 34 39.0	+6.0		
BSD				MLR	MLR				
	comp=Z,14μm,19.0s								
BSD	**Bornholm Skovb**	**125.35**	**335**	*i* P	PKPdf	12 34 39.0	+6.0		
BSD				*i*		12 36 18.2			
BSD									
	comp=Z,14μm,18.0s								
KOLS	**Kolonicke sedl**	**125.46**	**325**	*e*PKIKP	**PKPdf**	**12 34 32.8**	**-0.6**		
KOLS	**Kolonicke sedl**	**125.46**	**325**	*e*PKP	**PKPdf**	**12 34 32.8**	**-0.6**		
VOIR		**125.50**	**320**	⇑PKIKP	PKPdf	12 34 39.1	+5.4		
VOIR		**125.50**	**320**	⇑*i*P	PKPdf	12 34 39.1	+5.4		
GKP	**Gorka Klasztor**	**125.53**	**332**	*e*PKP	PKPdf	12 34 46.1	+13		
GKP				*e*SS	SS	12 53 31.8	+10		
GKP				LMZ	LR	13 32 58.5			
UZH	**Uzhgorod**	**125.60**	**325**	*e*PKIKP	**PKPdf**	**12 34 37.0**	**+3.3**		
UZH				*i*		12 34 44.0			
UZH				*i*		12 34 52.2			
UZH				*e*		12 36 25.1			
UZH				*e*		12 39 07.5			
UZH				*e*		12 41 38.1			
UZH				*e*		12 53 28.5			
UZH				MLR	MLR				
	comp=N,6μm,17.0s								
UZH				MLR	MLR				
	comp=E,8μm,17.0s								
UZH				MLR	MLR				
	comp=Z,2μm,17.0s								
TRPA	**Tarpa**	**125.72**	**324**	*e*PKPdf	**PKPdf**	**12 34 30.9**	**-3.0**		
JMB	**Yambol**	**125.75**	**317**	*e*P	**PKPdf**	**12 34 36.8**	**+2.6**		
STHS	**Stebnicka Huta**	**125.77**	**326**	*e*PKIKP	**PKPdf**	**12 34 33.6**	**-0.4**		
STHS	**Stebnicka Huta**	**125.77**	**326**	*e*PKP	**PKPdf**	**12 34 33.6**	**-0.4**		
MTDJ	**Mount Denham**	**125.79**	**74**	PFAKE		12 34 50.0	+15		
MTDJ				LR	LR				
	comp=Z,11μm,22.0s								
ARR	**Arges**	**125.80**	**321**	⇓*i*P	**PKPdf**	**12 34 34.2**	**-0.1**		
SZH	**Strazhica**	**125.87**	**318**	*e*P	**PKPdf**	**12 34 33.2**	**-1.2**		
PKME	**Peaks-Kenny Pk**	**125.92**	**40**	PFAKE		12 34 50.0	+16		
PKME				LR	LR				
	comp=Z,38μm,20.0s								
CRVS	**Cervenica-Dubn**	**125.93**	**326**	*e*PKIKP	**PKPdf**	**12 34 33.6**	**-0.8**		
CRVS	**Cervenica-Dubn**	**125.93**	**326**	*e*PKP	**PKPdf**	**12 34 33.5**	**-0.8**		
HUMR	**Humele**	**125.95**	**319**	⇓*i*P	**PKPdf**	**12 34 39.3**	**+4.8**		
COP	**Copenhagen**	**125.96**	**336**	*e*PKIKP	**PKPdf**	**12 34 31.8**	**-2.3**		
COP				MLR	MLR				
	comp=Z,8μm,20.0s								
COP	**Copenhagen**	**125.96**	**336**	*i* P	**PKPdf**	**12 34 31.8**	**-2.3**		
COP				*i*		12 36 20.6			
COP									
	comp=Z,8μm,19.0s								
OJC	**Ojcow**	**126.10**	**328**	*e*P	**Pdif**	**12 31 22.1**	**+8.5**		
OJC				*e*		12 36 28.1			
OJC				MLR	MLR				
	comp=Z,22μm,20.2s								
OJC	**Ojcow**	**126.10**	**328**	*e*Pdiff	**Pdif**	**12 31 22.1**	**+8.5**		
OJC				*e*pPKPdf	**pPKPdf**	**12 34 44.6**	**+1.7**		
OJC				*e*PP	**PP**	**12 36 28.1**	**-0.1**		
OJC				*e*PS	**PS**	**12 46 37.2**	**+5.7**		
OJC				*e*SS	SS	12 53 36.9	+8.0		
OJC				L	L	13 30 45.0			
	comp=Z,22μm,20.2s								
NIE	**Niedzica**	**126.28**	**327**	*e*P	**Pdif**	**12 31 24.0**	**+10**		
NIE				*e*		12 36 30.2			
NIE				MLR	MLR				
	comp=Z,14μm,20.4s								
NIE	**Niedzica**	**126.28**	**327**	*e*Pdiff	**Pdif**	**12 31 24.0**	**+10**		
NIE				*e*pPKPdf	**pPKPdf**	**12 34 46.2**	**+2.8**		
NIE				*e*PP	**PP**	**12 36 30.2**	**+0.7**		
NIE				*e*SS	SS	12 53 39.0	+7.7		
NIE				L	L	13 31 29.0			
	comp=Z,14μm,20.4s								
PVL	**Pavlikeni**	**126.29**	**318**	*e*P	**PKPdf**	**12 34 35.2**	**0.0**		
DRGR		**126.30**	**323**	*e*P	**PKPdf**	**12 34 34.5**	**-0.7**		
DIM	**Dimitrovgrad**	**126.63**	**316**	*e*P	**PKPdf**	**12 34 36.7**	**+0.8**		
KDZ	**Kurdzhali**	**126.88**	**316**	⇓PKIKP	PKPdf	12 34 45.8	+9.4		
KDZ	**Kurdzhali**	**126.88**	**316**	⇓*i*P	PKPdf	12 34 45.8	+9.4		
SIRR	**Siria**	**127.19**	**323**	⇓*i*P	**PKPdf**	**12 34 40.7**	**+3.9**		
OKC	**Ostrava-Krasne**	**127.19**	**328**	*e*PKIKP	PKPdf	12 34 47.8	+11		
OKC				*e*		12 36 32.4			
OKC				*e*SS	SS	12 54 02.4	+20		
OKC				MLR	MLR				
	comp=Z,16μm,22.0s								
OKC	**Ostrava-Krasne**	**127.19**	**328**	*ex*	x	12 34 47.8			
OKC				*e*PP	**PP**	**12 36 32.4**	**-3.0**		
OKC				*ex*	x	12 54 02.4			
OKC				AMS	AMS	13 30 00.0			
	comp=Z,16μm,22.0s								
RZN	**Rozhen**	**127.34**	**316**	*e*P	**PKPdf**	**12 34 36.3**	**-1.2**		
PSZ	**Piszkesteto**	**127.34**	**325**	*e*PKIKP	**PKPdf**	**12 34 36.6**	**-0.6**		
PSZ				MLR	MLR				
	comp=Z,16μm,19.0s								
PSZ	**Piszkesteto**	**127.34**	**325**	⇓*i*P	PKPdf	12 34 44.3	+7.1		
PSZ	**Piszkesteto**	**127.34**	**325**	*e*PKPdf	**PKPdf**	**12 34 36.6**	**-0.6**		
PSZ				LR	LR				
	comp=Z,16μm,19.0s								
PSZ	**Piszkesteto**	**127.34**	**325**	*e*	PKPdf	12 34 48.9	+12		
KSP	**Ksiaz**	**127.52**	**330**	*e*PKIKP	**PKPdf**	**12 34 34.3**	**-3.0**		
KSP				*e*		12 34 47.0			
KSP				*e*		12 36 35.9			
KSP				*e*SS	SS	12 53 49.5	+3.1		
KSP	**Ksiaz**	**127.52**	**330**	*e*PKP	PKPdf	12 34 47.8	+10		
KSP				*e*PP	PP	12 36 49.1	+12		
KSP				*e*SS	SS	12 53 54.5	+8.1		
KSP				LMZ	LR	13 33 30.0			
BZS	**Buzias**	**127.54**	**322**	⇓PKIKP	**PKPdf**	**12 34 36.7**	**-0.8**		
BZS	**Buzias**	**127.54**	**322**	⇓*i*P	**PKPdf**	**12 34 36.7**	**-0.8**		
MORC	**Moravsky Berou**	**127.54**	**328**	⇑PKIKP	**PKPdf**	**12 34 37.1**	**-0.4**		
MORC	**Moravsky Berou**	**127.54**	**328**	⇑*i*P	**PKPdf**	**12 34 37.1**	**-0.4**		
RUE	**Ruedersdorf**	**127.64**	**333**	*e*PKPdf	PKPdf	12 34 51.8	+14		
KRLC	**Kraliky**	**127.75**	**329**	*e*PKIKP	**PKPdf**	**12 34 37.6**	**-0.2**		
KRLC				*e*		12 34 50.9			
KRLC	**Kraliky**	**127.75**	**329**	*e*PKPdf	**PKPdf**	**12 34 37.6**	**-0.2**		
KRLC				*ex*	x	12 34 50.9			
DPC	**Dobruska-Polom**	**127.81**	**330**	*e*PKIKP	**PKPdf**	**12 34 41.5**	**+3.5**		
DPC				*e*		12 34 49.6			
DPC				*e*		12 36 35.3			
DPC	**Dobruska-Polom**	**127.81**	**330**	*e*PKPdf	**PKPdf**	**12 34 41.5**	**+3.5**		
DPC				*ex*	x	12 34 49.6			
DPC				*e*PP	**PP**	**12 36 35.3**	**-4.2**		
DPC				*e*SS	SS	12 54 01.1	+11		
DPC				AMS	AMS	13 33 30.0			
**UP

PRU *e* 12 34 52.8
PRU MLR MLR
comp=Z,20µm,19.2s
PRU Pruhonice 128.93 330 *e*PKPdf **PKPdf** **12 34 41.8 +1.8**
PRU *ex* x 12 34 52.8
PRU *e*PP PP 12 36 37.3 -9.5
PRU *e*SS SS 12 54 14.8 +11
PRU AMS AMS 13 35 20.0
comp=Z,20µm,19.2s
VAY Valandovo 128.95 317 *i* PKP **PKPdf** **12 34 40.3 0.0**
PKS9 Tamasi 128.99 325 *e* PKPdf 12 34 51.5 +11
PKSM Moragy 128.99 324 ⇑PKIKP **PKPdf** **12 34 39.4 -0.8**
PKSM Moragy 128.99 324 ⇑*i*P **PKPdf** **12 34 39.4 -0.8**
PKSM Moragy 128.99 324 *e*PKPdf **PKPdf** **12 34 42.7 +2.5**
NRDL Niedersach Rie 129.22 335 *e*PKPdf PKPdf 12 34 54.9 +15
SOP Sopron 129.32 327 ‖*e* PKPdf 12 34 51.9 +11
NEUB Neuenburg 129.41 333 *e*PKPdf PKPdf 12 34 55.1 +14
CONA Conrad Observa 129.54 327 ⇑*i*PKiKP **PKiKP** **12 34 41.9 -0.3**
comp=Z,71nm,1.5s
CLZ Clausthal 129.58 334 *e*PKPdf PKPdf 12 34 55.7 +14
IDI Anoyia 129.61 309 PKP **PKPdf** **12 34 40.5 -1.4**
IDI *e*PKPdf **PKiKP** **12 34 42.2 -0.5**
IDI Anoyia 129.61 309 PKP **PKPdf** **12 34 40.5 -1.4**
comp=Z,11nm,1.1s,baz=297,slow=4.5,SNR=3.2
TANN Tannenbergstha 129.64 332 *e*PKPdf PKPdf 12 34 55.7 +14
NKC Novy Kostel 129.77 331 *e*PKIKP PKPdf 12 34 53.5 +12
NKC *e* 12 36 51.3
NKC MLR MLR
comp=Z,14µm,18.6s
NKC Novy Kostel 129.77 331 *ex* x 12 34 53.5
NKC *e*PP **PP** **12 36 51.3 -1.0**
NKC *e*SS SS 12 54 23.7 +9.4
NKC AMS AMS 13 32 20.0
comp=Z,14µm,18.6s
BIA Bitola 129.93 317 *e*PKP **PKPdf** **12 34 42.5 +0.2**
KHC Kasperske Hory 129.96 330 *e*PKIKP **PKPdf** **12 34 41.9 -0.2**
KHC *e* 12 34 53.8
KHC *e* 12 36 52.1
KHC *e*SS SS 12 54 22.7 +5.9
KHC MLR MLR
comp=Z,19µm,18.3s
KHC Kasperske Hory 129.96 330 *e*PKPdf **PKPdf** **12 34 41.9 -0.2**
KHC *ex* x 12 34 53.8
KHC *ex* x 12 35 23.5
KHC *e*PP **PP** **12 36 52.1 -1.5**
KHC *ex* x 12 37 14.0
KHC *e*SS SS 12 54 22.7 +5.9
KHC AMS AMS 13 36 10.0
comp=Z,19µm,18.3s
KHC Kasperske Hory 129.96 330 *e*PKPdf **PKPdf** **12 34 41.9 -0.2**
GEC2 GERESS Array S 130.09 329 *e*PKPdf PKPdf 12 34 56.5 +14
GERES GERESS Array B 130.09 329 PKP **PKPdf** **12 34 41.0 -1.4**
GERES GERESS Array B 130.09 329 PKP **PKPdf** **12 34 41.0 -1.4**
comp=Z,2.2nm,1.0s,baz=117,slow=1.5,SNR=7.6
MANZ Manzenberg 130.10 331 *e*PKPdf PKPdf 12 34 56.7 +14
ROTZ Rotzenmuhle 130.21 331 *e*PKPdf PKPdf 12 34 56.8 +14
UBBA Unterbreizbach 130.48 333 *e*PKPdf PKPdf 12 34 57.2 +14
GRF Grafenberg Arr 130.72 332 *e*PKPdf PKPdf 12 34 57.8 +14
GRF *e*L L 13 35 44.1
comp=Z,17µm,20.4s
SOKA Soboth 130.75 326 ⇑*i*PKiKP **PKiKP** **12 34 45.0 +0.4**
comp=Z,50nm,1.2s
GCIS Gornji Cirnik 130.91 325 *e*PKPdf **PKPdf** **12 34 45.4 +1.5**
GCIS *e* 12 34 54.2
GCIS *e* 12 36 00.3
GCIS *e*PP PP 12 37 14.9 +15
GCIS *e* 12 38 22.3
GCIS *e* 12 39 09.3
GCIS *e* 12 39 21.4
GCIS *e* 12 49 44.7
GCIS *e* 12 54 53.4
GCIS *e* 12 59 44.8
WTSB Winterswijk 130.97 336 *e*PKP PKPdf 12 34 54.8 +11
comp=Z,245nm,1.7s
CPUP Villa Florida 131.16 137 *e*PKPdf **PKPdf** **12 34 44.0 -1.0**
CPUP PKP **PKPdf** **12 34 44.2 -0.7**
CPUP Villa Florida 131.16 137 PKP **PKPdf** **12 34 44.2 -0.7**
comp=Z,2.4nm,0.6s,baz=209,slow=4.4,SNR=3.2
BUG Bochum–Univer 131.18 336 *e*PKPdf PKPdf 12 34 58.6 +14
EKA Eskdalemuir Ar 131.33 345 PKP **PKPdf** **12 34 44.0 -0.4**
EKA Eskdalemuir Ar 131.33 345 PKP **PKPdf** **12 34 44.0 -0.4**
comp=Z,0.7nm,0.6s,baz=322,slow=2.2,SNR=2.9
ESK Eskdalemuir 131.36 346 PFAKE 12 35 00.0 +16
ESK LR LR
comp=Z,12µm,20.0s
GRTK Grand Turk 131.54 69 PFAKE 12 35 00.0 +14
GRTK LR LR
comp=Z,18µm,21.0s
TNS Taunus Mts 131.60 334 *e*PKPdf PKPdf 12 34 59.7 +15
TSUM Tsumeb 131.66 234 *e*PKPdf **PKPdf** **12 34 45.8 -0.5**
TSUM LR LR
comp=Z,13µm,21.0s
SDDR Presa de Saban 131.66 73 *e*PKPdf **PKPdf** **12 34 45.7 -0.4**
SDDR LR LR
comp=Z,18µm,20.0s
HGN Heimansgroeve 132.24 336 *e*PKP PKPdf 12 34 54.8 +8.6
comp=Z,112nm,1.7s
HGN *e*PP **PP** **12 37 10.2 +2.2**
BEBN Eben Emael 132.32 336 E PKiKP 12 34 58.5 +11
MEM Membach 132.33 336 E **PKiKP** **12 34 51.9 +4.4**
SDV Santo Domingo 132.37 86 *e*PKPdf **PKPdf** **12 34 47.6 -0.2**
SDV LR LR
comp=Z,6µm,22.0s
MOTA Moosalm 132.38 329 ⇑*i*PKiKP **PKPdf** **12 34 47.0 +0.2**
comp=Z,22nm,0.8s
BCLA Clavier 132.76 336 E PKiKP 12 34 57.6 +9.2
FETA Feichten 132.79 329 ⇑*i*PKiKP **PKiKP** **12 34 49.3 +0.5**
comp=Z,30nm,1.0s
WLF Walferdange 133.00 335 *e*PKPdf PKPdf 12 35 01.4 +14
WLF Walferdange 133.00 335 PFAKE 12 35 00.0 +12
WLF LR LR
comp=Z,17µm,20.0s
BFO Black Forest 133.03 332 *e*PKIKP **PKPdf** **12 34 49.8 +1.9**
BFO MLR MLR
comp=Z,13µm,20.0s
BFO Black Forest 133.03 332 *e*PKPdf PKPdf 12 35 02.1 +14
BFO Black Forest 133.03 332 *e*PKPdf **PKPdf** **12 34 49.8 +1.9**
BFO LR LR
comp=Z,13µm,20.0s
DAVA Damuels 133.03 330 ⇑*i*pPKPdf **PKPdf** **12 34 50.0 +1.9**
comp=Z,41nm,1.1s
SNF Seneffe 133.09 337 E PKiKP 12 35 00.3 +11
GIVF Givet 133.20 336 *e*PKIKP **PKPdf** **12 34 47.4 -0.7**
comp=Z,358nm,1.8s
GIVF Givet 133.20 336 *e*PKIKP **PKPdf** **12 34 47.4 -0.7**
GIVF Givet 133.20 336 *e*PKPdf **PKPdf** **12 34 47.4 -0.7**
TRIS Tristan da Cun 133.22 191 PFAKE 12 35 00.0 +11
TRIS LR LR
comp=Z,9µm,20.0s
DOU Dourbes 133.30 336 PKP **PKPdf** **12 34 49.3 +1.0**
DAVOX Davos/Dischmat 133.38 330 PKP **PKPdf** **12 34 47.8 -1.1**
DAVOX Davos/Dischmat 133.38 330 PKP **PKPdf** **12 34 47.8 -1.1**
comp=Z,3.3nm,0.7s,baz=325,slow=6.8,SNR=5.3
CDF Champ du Feu 133.45 333 *e*PKIKP **PKPdf** **12 34 48.5 -0.3**
comp=Z,250nm,1.9s
CDF Champ du Feu 133.45 333 *e*PKIKP **PKPdf** **12 34 48.5 -0.3**
CDF Champ du Feu 133.45 333 *e*PKPdf **PKPdf** **12 34 48.5 -0.3**
BAIF Baives 133.48 337 *e*PKIKP **PKPdf** **12 34 48.2 -0.4**
comp=Z,193nm,1.6s
BAIF Baives 133.48 337 *e*PKIKP **PKPdf** **12 34 48.2 -0.4**
BAIF Baives 133.48 337 *e*PKPdf **PKPdf** **12 34 48.2 -0.4**
ECH Echery 133.65 333 PFAKE 12 35 00.0 +11
ECH LR LR
comp=Z,13µm,19.0s
TUE Stuetta 133.86 330 *e*PKPdf **PKPdf** **12 34 48.9 -0.9**
TUE LR LR
comp=Z,27µm,21.0s
TIP Timpagrande 133.88 317 PFAKE 12 35 00.0 +10
TIP LR LR
comp=Z,8µm,21.0s
PAGF Fort de Pagny 134.03 334 *e*PKIKP **PKPdf** **12 34 49.6 -0.1**
comp=Z,119nm,1.9s
PAGF Fort de Pagny 134.03 334 *e*PKPdf **PKPdf** **12 34 49.6 -0.1**
HINF Hinteralfeld 134.08 333 *e*PKIKP **PKPdf** **12 34 48.6 -1.3**
comp=Z,412nm,1.9s
HINF Hinteralfeld 134.08 333 *e*PKIKP **PKPdf** **12 34 48.6 -1.3**
HINF Hinteralfeld 134.08 333 *e*PKPdf **PKPdf** **12 34 48.6 -1.3**
CUC Castrocucco 134.09 319 PFAKE 12 35 00.0 +10
CUC LR LR
comp=Z,12µm,22.0s
HAU Haudompre 134.17 333 *e*PKIKP **PKPdf** **12 34 49.4 -0.6**
comp=Z,344nm,1.8s
HAU Haudompre 134.17 333 *e*PKIKP **PKPdf** **12 34 49.4 -0.6**
comp=Z,1.2nm,0.8s,baz=311,slow=9.3,SNR=2.8
ANWB Willy Bob 140.78 73 PFAKE 12 35 10.0 +7.0
ANWB LR LR
comp=Z,11µm,21.0s
ETSF Etsaut 141.19 334 *e*PKIKP **PKPdf** **12 35 02.5 -0.7**
comp=Z,147nm,1.2s
ETSF Etsaut 141.19 334 *e*PKIKP **PKPdf** **12 35 02.5 -0.7**
ETSF Etsaut 141.19 334 *e*PKPdf **PKPdf** **12 35 02.5 -0.7**
SJPF Ste Jean 141.29 335 *e*PKIKP **PKPdf** **12 35 02.3 -1.0**
comp=Z,203nm,1.7s
SJPF Ste Jean 141.29 335 *e*PKIKP **PKPdf** **12 35 02.3 -1.0**
SJPF Ste Jean 141.29 335 *e*PKPdf **PKPdf** **12 35 02.3 -1.0**
GRGR Grenville 141.30 82 PFAKE 12 35 20.0 +16
GRGR LR LR
comp=Z,14µm,21.0s
PTGA Pitinga 141.34 103 PFAKE 12 35 20.0 +16
PTGA LR LR
comp=Z,9µm,20.0s
FDF Fort de France 141.68 78 *e*PKIKP **PKPdf** **12 35 04.5 -0.3**
FDF MLR MLR
comp=Z,11µm,19.0s
FDF Fort de France 141.68 78 *e*PKPdf **PKPdf** **12 35 04.5 -0.3**
FDF LR LR
comp=Z,11µm,19.0s
MSKU Masuku 142.60 255 PKP **PKPdf** **12 35 03.6 -2.8**
MSKU Masuku 142.60 255 PKP **PKPdf** **12 35 03.6 -2.8**
comp=Z,9.0nm,0.6s,baz=314,slow=0.7,SNR=3.4
BBGH Gun Hill 143.31 80 PFAKE 12 35 20.0 +12
BBGH LR LR
comp=Z,19µm,22.0s
ABA Alger-Bouzarea 143.97 324 P PKPbc 12 35 07.0 +0.9
ADJB Djebel Djouab 144.18 323 P **PKPab** **12 35 06.4 0.0**
EMHD Djebel Mahouad 144.44 323 P PKPdf 12 35 15.0 +5.8
PBRG Braganca 144.52 340 *e*PKP **PKPab** **12 35 07.0 -0.4**
BDFB Brasilia 144.74 134 PKP **PKPab** **12 35 07.0 -2.0**
BDFB Brasilia 144.74 134 PKP **PKPab** **12 35 07.0 -2.0**
comp=Z,66nm,1.0s,baz=226,slow=1.8,SNR=23
PGAV Gavieira, Arco 144.88 342 *e*PKP PKPdf 12 35 15.1 +5.3
PGAV Gavieira, Arco 144.88 342 *e*SS SS 12 57 06.1 -7.2
PGAV Gavieira, Arco 144.88 342 *e*LQ LQ 13 15 30.6
PGAV *e*LR LR 13 24 34.0
comp=Z,12µm,24.0s
PCAB Cabril 145.03 341 *e*PKP PKPdf 12 35 16.3 +6.3
MVO Moncorvo 145.19 339 *e*PKP **PKPdf** **12 35 13.7 +3.4**
MVO Moncorvo 145.19 339 *e*SS SS 12 57 21.5 +4.6
MVO Moncorvo 145.19 339 *e*LQ LQ 13 15 34.5
MVO *e*LR LR 13 25 01.3
comp=Z,15µm,18.0s
POLO Lamas de Olo 145.26 341 *e*PKP **PKPdf** **12 35 13.7 +3.2**
ESDC Sonseca Array 145.29 335 PKPbc **PKPbc** **12 35 09.4 -0.9**
ESDC Sonseca Array 145.29 335 PKPbc **PKPbc** **12 35 09.4 -0.9**
comp=Z,6.4nm,1.0s,baz=27,slow=4.2,SNR=13
ESLA Sonseca Array 145.29 335 *e*PKPbc **PKPbc** **12 35 09.2 -1.0**
PVRL Vila Real 145.32 340 *e*PKP **PKPdf** **12 35 15.4 +4.9**
PAB San Pablo 145.56 335 PFAKE 12 35 20.0 +8.6
PAB LR LR
comp=Z,14µm,20.0s
EANR 'Ain N'Sour 145.68 325 P **PKPdf** **12 35 10.0 -1.3**
PVIS Viseu 145.88 340 *e*PKP **PKPab** **12 35 12.8 +0.3**
MTE Manteigas 146.05 339 *e*PKP **PKPbc** **12 35 12.8 +0.2**
MTE Manteigas 146.05 339 *e*SS SS 12 57 33.6 +7.0
MTE Manteigas 146.05 339 *e*LQ LQ 13 19 03.5
MTE Manteigas 146.05 339 *e*LR LR 13 29 45.1
comp=Z,15µm,22.0s
MTE Manteigas 146.05 339 *e*PKPbc **PKPbc** **12 35 12.7 +0.2**
MTE LR LR
comp=Z,15µm,21.0s
PCBR Castelo Branco 146.52 339 *e*PKP PKPab 12 35 20.6 +5.7
PMRV Marv??o 146.85 338 *e*PKP **PKPbc** **12 35 14.9 0.0**
PMRV Marv??o 146.85 338 *e*SS SS 12 57 45.3 +10
PMRV Marv??o 146.85 338 *e*LQ LQ 13 17 09.2
PMRV *e*LR LR 13 25 53.5
comp=Z,14µm,22.0s
PTOM Tomar 147.04 340 *e*PKP **PKPbc** **12 35 15.1 -0.3**
PESTR Estremoz 147.42 338 *e*PKP **PKPab** **12 35 22.6 +4.2**
EVO Evora 147.87 339 *e*PKIKP **PKPdf** **12 35 15.6 +0.8**
comp=Z,1µm,1.8s
EVO Evora 147.87 339 *e*PKP **PKPab** **12 35 19.6 -0.6**
EVOP Sao Brissos 147.92 339 *e*PKIKP **PKPdf** **12 35 15.6 +0.7**
EVOP Sao Brissos 147.92 339 *e*PKPdf **PKPdf** **12 35 15.6 +0.7**
PMAFR Mafra 147.93 341 *e*PKP **PKPab** **12 35 20.0 -0.4**
PACT Alcochete 147.95 340 *e*PKP PKPab 12 35 29.7 +9.2
LIS Lisbon 148.10 340 *e*P **PKPdf** **12 35 15.3 +0.1**
LIS *e*SS SS 12 57 53.8 +4.2
LIS AMS AMS 13 44 38.5
comp=Z,20µm,21.8s
LIS Lisbon 148.10 340 *e*P **PKPdf** **12 35 15.3 +0.1**
LIS Lisbon 148.10 340 A A 13 44 38.5
comp=Z,20µm,21.8s
LIS Lisbon 148.10 340 *e*PKIKP **PKPdf** **12 35 15.3 +0.1**
LIS *e*SS SS 12 57 53.8 +4.2
PBEJ Beja 148.26 338 *e*PKP **PKPbc** **12 35 20.0 +1.2**
PNCL Nicolau / Gran 148.43 339 *e*PKP **PKPab** **12 35 21.8 -0.6**
H07N1 FLORES T-PHASE 148.45 13 *e*PKP **PKPbc** **12 35 20.1 +0.8**
PCVE Castro Verde 148.68 338 *e*PKP **PKPab** **12 35 25.3 +1.8**
PVAQ Vaqueiros 148.76 337 *e*PKP **PKPbc** **12 35 20.4 +0.3**
PVAQ Vaqueiros 148.76 337 *e*SS SS 12 58 00.7 +3.5
PVAQ Vaqueiros 148.76 337 *e*LQ LQ 13 20 17.2
PVAQ Vaqueiros 148.76 337 *e*LR LR 13 32 01.9
comp=Z,16µm,20.0s
PBDV Barranco-do-Ve 148.98 337 *e*PKP **PKPab** **12 35 24.2 -0.5**
PTEO Sao Teotonio 149.00 339 *e*PKP **PKPab** **12 35 25.2 +0.4**
MORF Marmelete 149.19 338 *e*PKP PKPab 12 35 31.4 +5.8
MORF Marmelete 149.19 338 *e*PKHKP PKPpre 12 35 18.5
MORF *e*SS SS 12 58 05.9 +3.8
PFVI Vila Bisbo 149.41 338 *e*PKP PKPab 12 35 34.5 +8.1
PGRA Graciosa 149.67 9 *e*PKP PKPab 12 35 34.1 +6.7
PGRA Graciosa 149.67 9 *e*LR LR 13 26 32.4
comp=Z,6µm,16.4s
TAM Tamanrasset 149.93 300 PFAKE 12 35 30.0 +0.7
TAM LR LR
comp=Z,9µm,19.0s
ROSA Rosais 149.94 9 *e*PKP PKPab 12 35 38.5 +10
ROSA Rosais 149.94 9 *e*LR LR 13 26 41.7
comp=Z,5µm,15.9s
PCED Cedros 149.95 10 *e*PKP PKPab 12 35 36.1 +7.5
PMAN Manadas 150.05 9 *e*PKP PKPab 12 35 40.3 +11
TOPO Topo 150.11 9 *e*PKP **PKPab** **12 35 31.2 +1.9**
PICO Pico 150.12 10 *e*PKP PKPab 12 35 34.6 +5.2
ADH Angra Heroismo 150.15 8 *e*PKP PKPab 12 35 35.3 +6.0
PCAN Candelaria 150.15 10 *e*PKP PKPab 12 35 36.7 +7.3
SHEL Horse Pasture 150.23 214 PFAKE 12 35 30.0 -0.4
SHEL LR LR
comp=Z,18µm,22.0s
PSET Sete Cidades 151.14 5 *e*PKP PKPab 12 35 40.6 +7.1
PSET Sete Cidades 151.14 5 *e*LR LR 13 26 40.5
comp=Z,1µm,17.3s
MDT Midelt 151.15 328 PKPbc **PKPbc** **12 35 24.7 -1.5**
MDT Midelt 151.15 328 PKPbc **PKPbc** **12 35 24.7 -1.5**
comp=Z,21nm,1.0s,baz=260,slow=3.1,SNR=5.2
BART Pico Bartolome 151.23 5 *e*PKP **PKPab** **12 35 31.9 -2.1**
RTC Rabat Centre 151.31 332 PFAKE 12 35 30.0 +3.6
RTC LR LR
comp=Z,9µm,19.0s
PSMN Pico do Norte, 152.01 5 *e*PKP **PKPab** **12 35 38.2 +1.1**
PSMN Pico do Norte, 152.01 5 *e*LR LR 13 27 37.6
comp=Z,893nm,18.3s
PSMA Santa Maria 152.01 5 *e*PKP **PKPab** **12 35 40.9 +3.8**
TOA0 Torodi Ar. Sit 156.01 282 *e*PKPdf **PKPdf** **12 35 25.9 -1.7**
TORD Torodi Ar. Bea 156.01 282 PKP **PKPdf** **12 35 27.0 -0.6**
TORD PP PP 12 39 43.6 +11
TORD Torodi Ar. Bea 156.01 282 PKP **PKPdf** **12 35 27.0 -0.6**
comp=Z,2.7nm,1.0s,baz=97,slow=0.5,SNR=9.3
TORD PP PP 12 39 43.6 +11
comp=Z,4.9nm,0.9s,baz=113,slow=4.5,SNR=4.2
RCBR Riachuelo 160.04 137 PKP **PKPdf** **12 35 31.2 -1.5**
RCBR LR LR
comp=Z,12µm,22.0s
RCBR Riachuelo 160.04 137 PKP **PKPdf** **12 35 31.2 -1.5**
comp=Z,11nm,1.1s,baz=142,slow=4.2,SNR=2.7
ASCN Ascension 161.38 206 PFAKE 12 35 40.0 +5.9
ASCN LR LR
comp=Z,12µm,20.0s
KIC Kosan Boka 162.32 263 *e*P **PKPdf** **12 35 36.9 +1.8**
comp=Z,280nm,1.7s
DBIC Dimbokro 162.48 264 PKP **PKPdf** **12 35 34.5 -0.7**
DBIC *e*PKPdf **PKPdf** **12 35 35.0 -0.2**
DBIC PP **PP** **12 40 11.6 +3.9**
DBIC Dimbokro 162.48 264 PKP **PKPdf** **12 35 34.5 -0.7**
comp=Z,2.2nm,0.9s,baz=202,slow=8.2,SNR=4.1
DBIC PP **PP** **12 40 11.6 +3.9**
comp=Z,5.8nm,0.9s,baz=78,slow=14,SNR=2.5
LIC Lamto 162.58 262 *e*PKIKP **PKPdf** **12 35 33.7 -1.6**

	comp=Z,154nm,1.4s								
LIC	**Lamto**	**162.58**	**262**	*e*P		**PKPdf**	**12 35 40.0**	**+4.7**	
	comp=Z,199nm,1.8s								
LIC	**Lamto**	**162.58**	**262**	*e*PKPdf		**PKPdf**	**12 35 33.7**	**-1.6**	
TIC	**Toumodi**	**162.64**	**264**	*e*P		**PKPdf**	**12 35 40.0**	**+4.6**	
	comp=Z,216nm,1.7s								
BBTS	**Babate**	**171.97**	**315**	PKP		**PKPdf**	**12 35 42.8**	**+0.8**	
BBTS	**Babate**	**171.97**	**315**	PKP		**PKPdf**	**12 35 42.8**	**+0.8**	
	comp=Z,8.5nm,0.4s,baz=34,slow=3.6,SNR=2.8								
SACV	**Santiago Islan**	**173.94**	**11**	PFAKE			12 35 50.0	+7.1	
SACV				LR		LR			
	comp=Z,30µm,21.0s								

IDC 05 12:20:46.7±1.6, 7°27'N×93°42'E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/26, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=62.4km s-min=30.7km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.36**	**25**	Pn	Pn	12 23 44.7	+0.6
	0.1nm,0.3s,baz=212,slow=14,SNR=4.5						
H08S3	**Diego Garcia H**	**25.59**	**235**	T	T	12 53 18.4	
	baz=54,slow=76,SNR=323						
H08S2	**Diego Garcia H**	**25.59**	**235**	T	T	12 53 11.8	
	baz=54,slow=76,SNR=338						
H08S1	**Diego Carcia H**	**25.61**	**235**	T	T	12 53 25.0	
	baz=54,slow=76,SNR=258						
WRA	**Warramunga Arr**	**48.49**	**125**	P	P	12 29 31.7	0.0
	1.9nm,0.9s,baz=304,slow=8.8,SNR=3.1						
FINES	**FINESS Array B**	**72.92**	**332**	P	P	12 32 16.8	-0.8
	4.0nm,1.0s,baz=114,slow=6.2,SNR=4.5						
GERES	**GERESS Array B**	**77.81**	**318**	P	P	12 32 46.9	+0.7
	0.2nm,0.4s,baz=81,slow=6.1,SNR=3.8						

*IDC **05** 12:24:14.1±0.9, 8°86S×157°64E, h0km, mb4.3/6, mb1 4.5/7, mb1mx4.2/19, mbtmp4.3/7, Error ellipse: s-maj=28.2km s-min=15.9km az=9.0*

ISC 05 12:24:17.2±0.9, 9°0S±0°2×157°8E±0°1, h23km, n8, σ1§40/8, mb4.4/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.16**	**103**	Pn	**Pb**	**12 24 55.3**	**-0.4**
	baz=221,slow=15,SNR=2.0						
HNR				Lg	Lg	12 25 28.3	
	418nm,0.3s,baz=217,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**25.17**	**242**	P	**P**	**12 29 39.9**	**-1.2**
	5.4nm,0.7s,baz=68,slow=9.6,SNR=4.4						
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**12 30 01.6**	**+1.2**
	25nm,1.2s,baz=44,slow=14,SNR=2.9						
SONM	**Songino Array**	**72.50**	**326**	P	**P**	**12 35 43.4**	**+1.2**
	0.6nm,0.9s,baz=125,slow=3.8,SNR=2.6						
ILAR	**Eielson Array**	**84.20**	**21**	P	**P**	**12 36 45.4**	**-1.0**
	3.2nm,1.1s,baz=252,slow=5.1,SNR=5.4						
MKAR	**Makanchi Array**	**86.72**	**318**	P	**P**	**12 36 58.2**	**-1.2**
	1.0nm,0.8s,baz=91,slow=5.8,SNR=4.2						
NVAR	**Mina Array Bea**	**90.76**	**51**	P	**P**	**12 37 20.6**	**+1.7**
	2.5nm,1.0s,baz=262,slow=6.3,SNR=3.8						
BDFB	**Brasilia**	**144.62**	**134**	PKP	**PKPdf**	**12 43 52.8**	**-0.3**
	4.7nm,0.7s,baz=162,slow=0.8,SNR=2.0						

*IDC **05** 12:25:25.1±0.5, 9°04S×157°91E, h0km, mb4.8/20, mb1 4.9/23, mb1mx4.9/26, mbtmp4.8/23, ML4.1/3, MS6.0/3, Ms1 6.0/3, ms1mx5.3/37, Error ellipse: s-maj=15.7km s-min=12.7km az=16.0*

*ISCJB **05** 12:25:29.7±0.2, 9°10S±0°04×157°91E±0°04, h33km, mb5.1/63, MS6.0/6, Error ellipse: s-maj=6.1km s-min=4.3km az=140.5*

*MOS **05** 12:25:29.7±1.6, 8°95S×157°95E, h33km, mb5.4/12, Error ellipse: s-maj=10.5km s-min=8.2km az=139.7*

*BJI **05** 12:25:30.3, 9°00S×158°10E, h35km, mB5.9/9, mb5.0/28, Ms5.6/9, Ms7 5.5/12*

*NEIC **05** 12:25:31.3±0.3, 9°03S×158°01E, h35km, mb5.2/34, Error ellipse: s-maj=9.9km s-min=6.9km az=140.0*

NEIC Felt at Honiara.

ISC 05 12:25:29.6±0.3, 9°15S±0°05×158°14E±0°06, h23km, n248, σ1§73/248, mb5.2/63, MS6.1/6, 8C-14D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.81**	**99**	Pn	**Pn**	**12 25 59.7**	**+0.3**
HNR				Lg	Lg	12 26 32.2	
HNR				*e*Sn	Sb	12 26 36.6	+12
HNR	**Honiara**	**1.81**	**99**	**Pn**	**Pn**	**12 25 59.7**	**+0.3**
	135nm,0.3s,baz=299,slow=19,SNR=1.9						
HNR				LR	LR	12 26 28.6	
	comp=Z,104µm,18.0s,baz=178,slow=31						
HNR				Lg	Lg	12 26 32.2	
	2µm,0.3s,baz=66,slow=21,SNR=7.9						
DZM	**Mont Dzumac**	**15.12**	**149**	Pn	**Pn**	**12 29 03.6**	**+1.5**
DZM	**Mont Dzumac**	**15.12**	**149**	Pn	**Pn**	**12 29 03.6**	**+1.5**
	0.2nm,0.3s,baz=330,slow=18,SNR=1.8						
COEN	**Coen**	**15.42**	**251**	*e*Pn	**Pn**	**12 29 06.7**	**+0.8**
	840nm,1.3s						
COEN				*e*Sn	**Sn**	**12 31 53.2**	**-2.9**
CTA	**Charters Tower**	**15.81**	**225**	Pn	**Pn**	**12 29 09.7**	**-1.3**
CTA	**Charters Tower**	**15.81**	**225**	Pn	**Pn**	**12 29 09.7**	**-1.3**
	0.7nm,0.3s,baz=60,slow=15,SNR=3.7						
CTAO	**Charters Tower**	**15.81**	**225**	*e*P	**Pn**	**12 29 11.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,70nm,1.6s						
CTAO	**Charters Tower**	**15.81**	**225**	*e*Pn	**Pn**	**12 29 11.8**	**+0.8**
	comp=Z,70nm,1.6s						
EIDS	**Eidsvold**	**17.47**	**202**	*e*Pn	**P**	**12 29 34.6**	**+1.6**
	comp=Z,76nm,1.3s						
EIDS	**Eidsvold**	**17.47**	**202**	⇑P	**Pn**	**12 29 31.8**	**-0.1**
	baz=18						
TARA	**Tarawa**	**18.05**	**55**	*e*Pn	**Pn**	**12 29 38.3**	**-0.9**
RMQ	**Roma**	**19.40**	**206**	⇓P	**Pn**	**12 29 55.3**	**-0.2**
	baz=20,SNR=8.8						
KWAJ	**Kwajalein Atol**	**20.18**	**28**	*e*P	**P**	**12 30 01.9**	**-0.8**
KWAJ	**Kwajalein Atol**	**20.18**	**28**	*e*P	**P**	**12 30 01.9**	**-0.8**
QLP	**Quilpie**	**21.77**	**215**	⇓P	**P**	**12 30 20.1**	**+0.2**
	baz=22,SNR=4.8						
ARMA	**Armidale**	**22.02**	**195**	⇑P	**P**	**12 30 24.2**	**+1.6**
	baz=22,SNR=7.1						
MGCD	**Mangrove Creek**	**24.81**	**194**	⇓P	**P**	**12 30 51.2**	**+1.2**
	baz=25						
CMSA	**Cobar Meteorol**	**25.10**	**206**	⇓P	**P**	**12 30 52.3**	**-0.5**
	baz=25						
WRAB	**Tennant Creek**	**25.36**	**242**	⇑*e*P	**P**	**12 30 53.4**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,190nm,1.4s						
WRAB	**Tennant Creek**	**25.36**	**242**	*e*P	**P**	**12 30 53.6**	**-1.7**
	comp=Z,33nm,0.8s						
WRA	**Warramunga Arr**	**25.38**	**242**	P	**P**	**12 30 53.5**	**-1.9**
WRA	**Warramunga Arr**	**25.38**	**242**	P	**P**	**12 30 53.5**	**-1.9**
	comp=Z,20nm,0.8s,baz=67,slow=9.4,SNR=11						
KDU	**Kakadu**	**25.44**	**260**	⇓P	**P**	**12 30 53.9**	**-2.1**
	baz=25,SNR=4.0						
CNB	**Canberra Magne**	**27.25**	**196**	⇓P	**P**	**12 31 12.0**	**-0.3**
	baz=27						
ASAR	**Alice Springs**	**27.30**	**235**	P	**P**	**12 31 10.4**	**-2.3**
ASAR	**Alice Springs**	**27.30**	**235**	P	**P**	**12 31 10.4**	**-2.3**
	comp=Z,6.1nm,0.9s,baz=69,slow=8.8,SNR=4.8						
STKA	**Stephens Creek**	**27.34**	**212**	*e*P	**P**	**12 31 15.2**	**+2.3**
	comp=Z,33nm,1.5s						
STKA	**Stephens Creek**	**27.34**	**212**	P	**P**	**12 31 11.3**	**-1.6**
	comp=Z,22nm,0.9s,baz=45,slow=12,SNR=4.5						
CAN	**Canberra**	**27.36**	**196**	⇓P	**P**	**12 31 13.6**	**+0.4**
	baz=28						
H11S3	**WAKE ISLAND Hy**	**28.74**	**17**	T	T	13 00 02.0	
	baz=199,slow=77,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.74**	**17**	T	T	13 00 11.4	
	baz=199,slow=77,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.75**	**17**	T	T	13 00 17.5	
	baz=199,slow=77,SNR=16						
KNRA	**Kununurra**	**29.39**	**254**	⇑P	**P**	**12 31 29.5**	**-2.0**
	baz=29						
H11N1	**WAKE ISLAND Hy**	**29.95**	**17**	T	T	13 02 00.3	
	baz=199						
H11N3	**WAKE ISLAND Hy**	**29.96**	**17**	T	T	13 01 50.7	
	baz=199						
HTT	**Hallett**	**29.96**	**213**	⇓P	**P**	**12 31 35.2**	**-1.2**
	baz=30						
H11N2	**WAKE ISLAND Hy**	**29.97**	**17**	T	T	13 01 49.8	
	baz=199						
TOO	**Toolangi**	**30.52**	**200**	⇓P	**P**	**12 31 41.8**	**+0.6**
	baz=31						
BBOO	**Buckleboo**	**31.16**	**218**	*e*P	**P**	**12 31 46.1**	**-0.7**
BBOO	**Buckleboo**	**31.16**	**218**	⇑P	**P**	**12 31 45.5**	**-1.4**
	baz=31						
ARPS	**Mount Arapiles**	**31.22**	**206**	⇓P	**P**	**12 31 47.1**	**-0.3**
	baz=31						
WRKA	**Warakurna**	**32.49**	**237**	⇑P	**P**	**12 31 56.0**	**-2.8**
	baz=32						
KMBL	**Kambalda**	**40.28**	**231**	⇑P	**P**	**12 33 02.4**	**-2.8**
	baz=40						
JAGI	**Jajag, Banyuwa**	**43.45**	**267**	⇓P	P	12 33 27.8	-3.6
	baz=43						
SBUM	**Sibu**	**47.19**	**282**	*e*P	**P**	**12 34 02.7**	**+1.7**
	comp=Z,76nm,1.7s						
MJAR	**Matsushiro Arr**	**49.16**	**339**	P	P	12 34 12.3	-3.5
MJAR	**Matsushiro Arr**	**49.16**	**339**	P	P	12 34 12.3	-3.5
	comp=Z,3.1nm,0.7s,baz=167,slow=8.5,SNR=6.3						
JNU	**Nakatsue**	**49.41**	**330**	*e*P	**P**	**12 34 16.2**	**-1.6**
	comp=Z,37nm,1.5s						
JNU	**Nakatsue**	**49.41**	**330**	P	**P**	**12 34 15.6**	**-2.2**
	comp=Z,19nm,1.0s,baz=96,slow=2.9,SNR=3.6						
DLV	**T Lat**	**53.62**	**292**	*e*P	**P**	**12 34 50.3**	**+0.4**
KSRS	**Korea Array**	**54.31**	**330**	P	**P**	**12 34 51.9**	**-2.4**
	comp=Z,3.8nm,0.8s,baz=142,slow=7.7,SNR=6.4						
KSAR	**Wonju Array Be**	**54.32**	**330**	P	**P**	**12 34 51.9**	**-2.5**
QIZ	**Qiongzhong**	**55.23**	**301**	P	**P**	**12 35 01.7**	**+0.4**
NJ2	**Nanjing**	**55.56**	**319**	*e*P	**P**	**12 35 05.4**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
USRK	**Ussuriysk Arra**	**58.15**	**338**	P	**P**	**12 35 20.1**	**-1.4**
	comp=Z,11nm,0.9s,baz=150,slow=5.8,SNR=6.8						
IPM	**Ipoh**	**58.52**	**281**	*e*P	**P**	**12 35 25.5**	**+0.7**
	comp=Z,32nm,1.5s						
MDJ	**Mudanjiang**	**59.41**	**337**	P	**P**	**12 35 31.0**	**+0.7**
MDJ				pP	**pP**	**12 35 40.5**	**+2.9**
MDJ				sP	**sP**	**12 35 44.0**	**+3.6**
MDJ				PP	**PP**	**12 37 42.1**	**+0.3**
MDJ				ScP	**ScP**	**12 40 17.9**	**+0.3**
MDJ				PcS	**PcS**	**12 40 20.0**	**+0.1**
MDJ				S	**S**	**12 43 39.7**	**+1.6**
MDJ				sS	**sS**	**12 43 53.9**	**+3.8**
MDJ				ScS	**ScS**	**12 45 18.3**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,1µm,6.1s						
MDJ				LR	LR		
	comp=Z,2µm,17.4s						
MDJ				LR	LR		
	comp=Z,8µm,17.4s						
MDJ				LR	LR		
	comp=Z,11µm,15.6s						
CN2	**Changchun**	**60.48**	**333**	*e*P	**P**	**12 35 39.8**	**+2.1**
CN2				*e*PP	**PP**	**12 37 56.2**	**+4.9**
CN2				*e*S	**S**	**12 43 48.3**	**-3.5**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				LR	LR		
	comp=Z,9µm,22.0s						
CN2				LR	LR		
	comp=Z,9µm,22.0s						
CN2				LR	LR		
	comp=Z,18µm,23.0s						
ENH	**Enshi**	**60.98**	**312**	*e*P	**P**	**12 35 39.7**	**-1.8**
	comp=Z,16nm,1.0s						
GYA	**Guiyang**	**61.23**	**307**	P	**P**	**12 35 45.2**	**+1.9**
GYA				pP	pP	12 35 55.8	+5.2
GYA				ScP	**ScP**	**12 40 24.3**	**-2.0**
GYA				S	**S**	**12 44 01.5**	**-0.8**
GYA				SS	**SS**	**12 48 02.0**	**-1.0**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,890nm,18.3s						
GYA				LR	LR		
	comp=Z,770nm,19.2s						
GYA				LR	LR		
	comp=Z,950nm,18.6s						
SLVN	**Son La**	**61.26**	**300**	*e*P	**P**	**12 35 42.0**	**-1.6**
PET	**Petropavlovsk**	**61.93**	**0**	*e*P	**P**	**12 35 45.7**	**-1.6**
PET	**Petropavlovsk**	**61.93**	**0**	*e*P	**P**	**12 35 45.7**	**-1.6**
PEA0B	**Petropavlovsk-**	**62.02**	**360**	*e*P	**P**	**12 35 47.0**	**-1.0**
PETK	**Petropavlovsk-**	**62.02**	**360**	P	**P**	**12 35 46.1**	**-1.8**
PETK	**Petropavlovsk-**	**62.02**	**360**	P	**P**	**12 35 46.1**	**-1.8**
PETK	**Petropavlovsk-**	**62.02**	**360**	P	**P**	**12 35 46.1**	**-1.8**
	comp=Z,42nm,0.9s,baz=154,slow=8.7,SNR=43						
KLR	**Kul'dur**	**62.58**	**341**	*e*P	P	12 35 45.7	-6.1
KMI	**Kunming**	**63.80**	**304**	P	**P**	**12 36 03.2**	**+2.6**
KMI				pP	pP	12 36 13.3	+5.3
KMI				sP	sP	12 36 17.0	+6.3
KMI				PcP	**PcP**	**12 36 38.1**	**+1.6**
KMI				PP	**PP**	**12 38 25.2**	**+4.0**
KMI				S	**S**	**12 44 31.5**	**-3.4**
KMI				sS	**sS**	**12 44 50.9**	**+4.0**
KMI				SKS	**SKSac**	**12 45 49.5**	**-4.0**
KMI				pmax	pmax		
	comp=Z,29nm,1.2s						
KMI				LR	LR		
	comp=Z,12µm,16.2s						
CMAR	**Chiang Mai Arr**	**64.52**	**295**	P	**P**	**12 36 04.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**64.52**	**295**	P	**P**	**12 36 04.0**	**-1.3**
	comp=Z,12nm,0.9s,baz=121,slow=5.2,SNR=20						
CHTO	**Chiang Mai**	**64.64**	**296**	*e*P	**P**	**12 36 07.7**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**64.64**	**296**	*e*P	**P**	**12 36 07.7**	**+1.7**
	comp=Z,6.0nm,1.0s						
CD2	**Chengdu**	**65.58**	**310**	*e*P	**P**	**12 36 12.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
HHC	**Hu-ho-hao-te**	**65.67**	**323**	*e*P	**P**	**12 36 14.0**	**+1.6**
HHC				pP	pP	12 36 25.8	+6.0
HHC				pmax	pmax		
	comp=Z,33nm,1.7s						
HHC				pmax	pmax		
	comp=Z,4µm,13.3s						
LZH	**Lanzhou**	**68.03**	**315**	*e*P	P	12 36 31.3	+3.7
LZH				pP	pP	12 36 40.4	+5.4
LZH				sP	sP	12 36 44.6	+6.9
LZH				pmax	pmax		
	comp=Z,31nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,4.5s						
SEY	**Seymchan**	**72.00**	**357**	P	**P**	**12 36 50.1**	**-1.1**
SEY	**Seymchan**	**72.00**	**357**	P	**P**	**12 36 50.1**	**-1.1**
SEY	**Seymchan**	**72.00**	**357**	P	**P**	**12 36 50.1**	**-1.1**
	comp=Z,12nm,1.0s,baz=187,slow=6.5,SNR=7.4						
GTA	**Gaotai**	**72.44**	**316**	*e*P	**P**	**12 36 55.6**	**+1.1**
GTA				pP	**pP**	**12 37 06.2**	**+4.3**
GTA				sP	sP	12 37 10.1	+5.4
GTA				pmax	pmax		
	comp=Z,18nm,2.4s						
SONM	**Songino Array**	**72.83**	**326**	P	**P**	**12 36 56.6**	**-0.1**
SONM	**Songino Array**	**72.83**	**326**	P	**P**	**12 36 56.6**	**-0.1**
	comp=Z,7.5nm,0.8s,baz=138,slow=5.5,SNR=9.1						
YAK	**Yakutsk**	**74.34**	**347**	*e*P	P	12 37 01.6	-3.4
YAK				pmax	pmax		
	comp=Z,41nm,1.1s						
YAK				pmax	pmax		
	comp=N,23nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK	**Yakutsk**	**74.34**	**347**	*e*P	**P**	**12 37 03.7**	**-1.3**
TLY	**Talaya**	**76.50**	**329**	*e*P	**P**	**12 37 18.7**	**+1.0**
TAPN	**Taplejung**	**77.17**	**301**	*e*P	**P**	**12 37 21.6**	**-0.8**
	comp=E,371nm,2.1s						
ODAN	**Odare**	**77.30**	**300**	*e*P	**P**	**12 37 23.1**	**0.0**
	comp=E,461nm,2.2s						
RAMN	**Ramite**	**78.00**	**300**	*e*P	**P**	**12 37 26.7**	**-0.3**
	comp=E,77nm,1.5s						
JIRN	**Jiri**	**78.56**	**301**	*e*P	**P**	**12 37 28.7**	**-1.5**
	comp=E,97nm,1.6s						
TNA	**Tin City**	**78.63**	**14**	*e*P	**P**	**12 37 28.6**	**-0.6**
	comp=E,24nm,1.2s						
PALK	**Pallekele**	**78.86**	**279**	*e*P	**P**	**12 37 34.1**	**+2.4**
	comp=E,143nm,1.0s						
GUN	**Gumba**	**78.89**	**301**	*e*P	**P**	**12 37 30.6**	**-1.4**
	comp=E,441nm,2.3s						
PKI	**Pulchoki**	**79.19**	**300**	*e*P	**P**	**12 37 32.2**	**-1.5**
KKN	**Kakani**	**79.36**	**301**	*e*P	**P**	**12 37 32.9**	**-1.5**
DMN	**Daman**	**79.46**	**300**	*e*P	**P**	**12 37 33.9**	**-1.1**
	comp=E,67nm,1.0s						
GKN	**Gorkha**	**79.97**	**301**	*e*P	**P**	**12 37 35.9**	**-1.8**
	comp=E,115nm,1.3s						
KOLN	**Koldanda**	**80.79**	**300**	*e*P	**P**	**12 37 41.2**	**-0.9**
	comp=E,77nm,1.1s						
DANN	**Dangsing**	**80.81**	**301**	*e*P	**P**	**12 37 40.3**	**-2.0**
	comp=E,112nm,1.5s						
QSPA	**South Pole Qui**	**80.84**	**180**	P	**P**	**12 37 41.4**	**-0.2**
QSPA	**South Pole Qui**	**80.84**	**180**	P	**P**	**12 37 41.4**	**-0.2**
	comp=E,2.4nm,0.7s,baz=73,slow=13,SNR=1.8						
KTH	**Kantishna Hill**	**82.11**	**21**	*e*P	**P**	**12 37 46.7**	**-1.4**
	comp=E,637nm,2.0s						
TRF	**Thorofare Moun**	**82.26**	**21**	*e*P	**P**	**12 37 47.5**	**-1.6**
	comp=E,134nm,2.0s						
WMQ	**Urumqi**	**82.52**	**317**	P	**P**	**12 37 49.4**	**-1.3**
WMQ				pP	**pP**	**12 37 59.8**	**+1.5**
WMQ				sP	**sP**	**12 38 03.8**	**+2.8**
WMQ				PP	**PP**	**12 41 01.0**	**+0.7**
WMQ				S	S	12 47 58.2	-8.2
WMQ				sS	**sS**	**12 48 19.2**	**+0.4**
WMQ				pmax	pmax		
	comp=E,17nm,1.5s						
MCK	**McKinley**	**82.91**	**21**	*e*P	**P**	**12 37 51.1**	**-1.2**
MCK				pmax	pmax		
	comp=E,81nm,1.0s						
MCK	**McKinley**	**82.91**	**21**	*e*P	**P**	**12 37 51.1**	**-1.2**
	comp=E,81nm,1.0s						
TIXI	**Tiksi**	**82.94**	**351**	⇓*i*P	**P**	**12 37 50.3**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,44nm,2.5s						
TIXI	**Tiksi**	**82.94**	**351**	*e*P	**P**	**12 37 51.2**	**-1.0**
	comp=E,60nm,1.8s						
COLA	**College**	**83.98**	**20**	⇓*i*P	**P**	**12 37 56.4**	**-1.3**
COLA				pmax	pmax		
	comp=Z,224nm,1.2s						
COLA	**College**	**83.98**	**20**	*e*P	**P**	**12 37 56.0**	**-1.6**
	comp=E,12nm,1.0s						
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**	**12 37 57.1**	**-2.0**
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**	**12 37 57.1**	**-2.0**
	comp=E,15nm,1.0s,baz=257,slow=5.2,SNR=30						
MENT	**Mentasta**	**84.38**	**23**	*e*P	**P**	**12 37 59.8**	**-0.1**
DOT	**Dot Lake**	**84.64**	**22**	*e*P	**P**	**12 38 00.9**	**-0.2**
	comp=Z,32nm,1.0s						
COLD	**Coldfoot**	**84.67**	**18**	*e*P	**P**	**12 38 00.8**	**-0.4**
	comp=Z,22nm,1.5s						
HYT	**Haines Junctio**	**85.89**	**26**	*e*P	**P**	**12 38 08.1**	**+0.5**
DAWY	**Dawson**	**86.63**	**23**	*e*P	**P**	**12 38 11.4**	**+0.4**
MKAR	**Makanchi Array**	**87.07**	**318**	*i*P	**P**	**12 38 11.8**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**87.07**	**318**	P	**P**	**12 38 11.8**	**-1.8**
MKAR	**Makanchi Array**	**87.07**	**318**	P	**P**	**12 38 11.8**	**-1.8**
	comp=Z,5.3nm,0.7s,baz=102,slow=6.2,SNR=15						
MKAR	**Makanchi Array**	**87.07**	**318**	⇓P	**P**	**12 38 11.4**	**-2.1**
	baz=87						
KHMM	**Horse Mountain**	**87.08**	**48**	*e*P	**P**	**12 38 15.9**	**+2.0**
	comp=Z,27nm,1.5s						
ZALV	**Zalesovo Beam**	**87.70**	**325**	*i*P	**P**	**12 38 13.6**	**-2.8**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**87.70**	**325**	P	**P**	**12 38 13.3**	**-3.1**
ZALV	**Zalesovo Beam**	**87.70**	**325**	P	**P**	**12 38 13.3**	**-3.1**
	comp=Z,2.8nm,0.6s,baz=116,slow=6.2,SNR=5.7						
M02C	**Callahan**	**87.84**	**48**	P	**P**	**12 38 18.5**	**+1.1**
	baz=88						
N02D	**Trinity Center**	**87.85**	**48**	P	**P**	**12 38 18.6**	**+1.1**
	baz=88						
WDC	**Whiskeytown Da**	**87.88**	**49**	*e*P	**P**	**12 38 18.7**	**+1.2**
WDC				pmax	pmax		
	comp=E,16nm,1.4s						
WDC	**Whiskeytown Da**	**87.88**	**49**	*e*P	**P**	**12 38 18.7**	**+1.2**
	comp=E,16nm,1.4s						
YBH	**Yreka Blue Hor**	**88.03**	**47**	*e*P	**P**	**12 38 17.6**	**-0.8**
	comp=Z,4.6nm,0.9s						
YBH	**Yreka Blue Hor**	**88.03**	**47**	LR	LR	13 09 03.3	
	comp=Z,12µm,20.1s,baz=331,slow=30						
PKM	**Peak Mountain**	**88.72**	**55**	P	**P**	**12 38 22.9**	**+1.1**
	baz=89						
CMB	**Columbia Colle**	**88.93**	**51**	*e*P	**P**	**12 38 23.1**	**+0.4**
CMB				pmax	pmax		
	comp=Z,14nm,1.5s						
CMB	**Columbia Colle**	**88.93**	**51**	*e*P	**P**	**12 38 23.1**	**+0.4**
	comp=Z,14nm,1.5s						
SCI	**San Clemente I**	**89.37**	**57**	P	**P**	**12 38 25.4**	**+0.7**
	baz=90						
VES	**Vestal, Richgr**	**89.50**	**54**	P	**P**	**12 38 25.9**	**+0.6**
	baz=90						
ARVC	**Arvin**	**89.56**	**54**	P	**P**	**12 38 26.8**	**+1.2**
	baz=90						
CIS	**Catalina Islan**	**89.57**	**56**	P	**P**	**12 38 26.5**	**+0.7**
	baz=90						
I05D	**Terrebonne, OR**	**89.62**	**45**	P	**P**	**12 38 25.9**	**+0.2**
	baz=90						
WAKR	**Walker**	**89.76**	**51**	*e*P	**P**	**12 38 28.2**	**+1.5**
KSH	**Kashi**	**89.77**	**310**	*e*P	**P**	**12 38 26.9**	**+0.2**
KSH				*e*PP	**PP**	**12 41 59.2**	**0.0**
KSH				SKS	**SKSac**	**12 48 51.9**	**-4.4**
KSH				*e*S	**SKKSac**	**12 49 11.4**	**+2.2**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSH				LR	LR		
	comp=Z,270nm,5.2s						
KSH				LR	LR		
	comp=Z,220nm,6.4s						
KSH				LR	LR		
	comp=Z,340nm,6.7s						
PASC	**Pasadena Art C**	**89.89**	**55**	*e*P	**P**	**12 38 28.9**	**+1.7**
	comp=Z,25nm,1.2s						
ISA	**Isabella**	**89.95**	**54**	*e*P	**P**	**12 38 28.3**	**+0.8**
ISA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ISA	**Isabella**	**89.95**	**54**	*e*P	**P**	**12 38 28.3**	**+0.8**
	com

AAK	**Ala-Archa**	**91.49**	**313**	*e*P		**P**	**12 38 33.9**	**-0.8**
AAK	**Ala-Archa**	**91.49**	**313**	LR		LR	13 16 51.5	
	comp=Z,10µm,18.7s,baz=135,slow=34							
HEC	**Hector,Ludlow**	**91.52**	**55**	P		**P**	**12 38 35.5**	**+0.7**
	baz=92							
BELC	**Belle Mtn. Jos**	**91.65**	**56**	P		**P**	**12 38 36.5**	**+0.9**
	baz=92							
SHOC	**Shoshone**	**91.75**	**54**	P		**P**	**12 38 36.4**	**+0.6**
	baz=92							
TUQ	**Turquoise Moun**	**91.95**	**55**	P		**P**	**12 38 37.8**	**+0.9**
	baz=92							
GMRC	**Granite Mounta**	**92.06**	**55**	P		**P**	**12 38 37.7**	**+0.3**
	baz=92							
IRM	**Iron Mountain**	**92.37**	**56**	P		**P**	**12 38 39.2**	**+0.5**
	baz=92							
R11A	**Troy Canyon, C**	**92.70**	**52**	*e*P		**P**	**12 38 41.7**	**+1.3**
	comp=Z,18nm,1.3s							
R11A	**Troy Canyon, C**	**92.70**	**52**	P		**P**	**12 38 40.4**	**0.0**
	baz=93							
SHPR	**Sheep Range**	**92.74**	**54**	*e*P		**P**	**12 38 42.3**	**+1.7**
NEW	**Newport**	**93.27**	**42**	P		**P**	**12 38 41.8**	**-0.7**
	baz=93							
ELK	**Elko**	**93.36**	**49**	*e*P		**P**	**12 38 44.7**	**+1.3**
	comp=Z,68nm,2.5s							
ARUT	**Antelope Range**	**94.29**	**53**	*e*P		**P**	**12 38 48.8**	**+1.1**
ARUT	**Antelope Range**	**94.29**	**53**	*e*P		**P**	**12 38 48.8**	**+1.1**
	comp=Z,409nm,1.7s							
HLID	**Hailey**	**94.39**	**47**	P		**P**	**12 38 48.4**	**+0.4**
	baz=94							
DUG	**Dugway**	**95.11**	**50**	P		**P**	**12 38 51.6**	**+0.2**
	baz=95							
HVU	**Hansel Valley**	**95.34**	**49**	*e*P		**P**	**12 38 53.6**	**+1.2**
HVU				pmax	pmax			
	comp=Z,146nm,2.7s							
HVU	**Hansel Valley**	**95.34**	**49**	*e*P		**P**	**12 38 53.5**	**+1.2**
	comp=Z,146nm,2.7s							
BVAR	**Borovoye Array**	**95.88**	**323**	P		P	12 38 51.1	-3.3
BVAR	**Borovoye Array**	**95.88**	**323**	P		P	12 38 51.1	-3.3
BVAR	**Borovoye Array**	**95.88**	**323**	P		P	12 38 51.1	-3.3
	comp=Z,3.1nm,0.9s,baz=102,slow=5.0,SNR=4.5							
YKA	**Yellowknife Ar**	**96.78**	**28**	P		**P**	**12 38 57.1**	**-1.1**
YKA	**Yellowknife Ar**	**96.78**	**28**	P		**P**	**12 38 57.1**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=261,slow=4.5,SNR=7.6							
319A	**Douglas**	**96.89**	**59**	P		**P**	**12 39 01.2**	**+1.6**
	baz=97							
PDAR	**Pinedale Array**	**97.82**	**48**	P		**P**	**12 39 03.5**	**-0.2**
PDAR	**Pinedale Array**	**97.82**	**48**	P		**P**	**12 39 03.5**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=213,slow=1.4,SNR=5.5							
H19A	**Powell**	**98.40**	**46**	P		Pdif	12 39 06.7	+0.5
	baz=98							
F19A	**Roth Farm, Mol**	**98.52**	**45**	P		Pdif	12 39 06.9	+0.2
	baz=99							
E19A	**Rath Farm, Rou**	**98.67**	**44**	P		Pdif	12 39 07.6	+0.3
	baz=99							
OBN	**Obninsk**	**115.23**	**327**	PKIKP		**PKPdf**	**12 44 07.0**	**-2.0**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**117.16**	**336**	PKP		**PKPdf**	**12 44 10.8**	**-1.8**
FINES	**FINESS Array B**	**117.16**	**336**	PKP		**PKPdf**	**12 44 10.8**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=220,slow=1.1,SNR=3.3							
AKASG	**Malin Array Be**	**121.09**	**325**	PKIKP		**PKPdf**	**12 44 19.1**	**-1.4**
AKASG	**Malin Array Be**	**121.09**	**325**	PKP		**PKPdf**	**12 44 19.1**	**-1.4**
AKASG	**Malin Array Be**	**121.09**	**325**	PKP		**PKPdf**	**12 44 19.1**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=62,slow=2.0,SNR=6.7							
NB2	**NORSAR Subarra**	**122.73**	**342**	PKPdf		**PKPdf**	**12 44 21.4**	**-2.0**
	comp=Z,2.8nm,1.0s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**122.73**	**342**	PKP		**PKPdf**	**12 44 20.2**	**-3.2**
NOA	**NORSAR Array B**	**122.73**	**342**	PKP		**PKPdf**	**12 44 20.2**	**-3.2**
	comp=Z,1.9nm,0.7s,baz=45,slow=2.0,SNR=6.4							
KIS	**Kishinev**	**122.92**	**321**	*e*PKIKP		PKPdf	12 44 37.0	+13
KIS				*e*			12 44 43.0	
KIS	**Kishinev**	**122.92**	**321**	*e*PKP		PKPdf	12 44 37.0	+13
MLR	**Muntele Rosu**	**125.37**	**320**	PKPpre		PKPpre	12 44 20.2	
MLR	**Muntele Rosu**	**125.37**	**320**	PKhKP		PKPpre	12 44 20.2	
	comp=Z,1.5nm,1.0s,baz=212,slow=4.0,SNR=4.6							
KOLS	**Kolonicke sedl**	**125.88**	**325**	*e*P		**Pdif**	**12 41 04.6**	**-3.5**
KOLS				*e*			12 44 29.1	
KOLS				pmax	pmax			
	comp=Z,12nm,1.6s							
KOLS	**Kolonicke sedl**	**125.88**	**325**	PDIF		**Pdif**	**12 41 04.6**	**-3.5**
KOLS	**Kolonicke sedl**	**125.88**	**325**	*e*PKP		**PKPdf**	**12 44 29.1**	**-0.7**
UZH	**Uzhgorod**	**126.03**	**325**	*e*PKIKP		PKPdf	12 44 37.1	+7.1
STHS	**Stebnicka Huta**	**126.19**	**326**	*e*P		**Pdif**	**12 41 08.3**	**-1.2**
STHS				pmax	pmax			
	comp=Z,3.0nm,1.2s							
STHS	**Stebnicka Huta**	**126.19**	**326**	PDIF		**Pdif**	**12 41 08.3**	**-1.2**
CRVS	**Cervenica-Dubn**	**126.35**	**326**	*e*P		**Pdif**	**12 41 05.3**	**-4.9**
CRVS				pmax	pmax			
	comp=Z,54nm,2.5s							
CRVS	**Cervenica-Dubn**	**126.35**	**326**	PDIF		**Pdif**	**12 41 05.3**	**-4.9**
CRVS	**Cervenica-Dubn**	**126.35**	**326**	*e*PKP		**PKPdf**	**12 44 32.4**	**+1.7**
LPAZ	**La Paz**	**127.70**	**119**	PKP		**PKPdf**	**12 44 34.9**	**-0.1**
LPAZ	**La Paz**	**127.70**	**119**	PKP		**PKPdf**	**12 44 34.9**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=345,slow=2.2,SNR=4.3							
GERES	**GERESS Array B**	**130.49**	**330**	PKP		**PKPdf**	**12 44 37.2**	**-1.5**
GERES	**GERESS Array B**	**130.49**	**330**	PKP		**PKPdf**	**12 44 37.2**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=64,slow=3.1,SNR=5.0							
FETA	**Feichten**	**133.19**	**330**	*i*PKPdf		**PKPdf**	**12 44 42.3**	**-1.7**
	comp=Z,12nm,1.4s							
DAVOX	**Davos/Dischmat**	**133.78**	**330**	PKP		**PKPdf**	**12 44 43.6**	**-1.4**
DAVOX	**Davos/Dischmat**	**133.78**	**330**	PKP		**PKPdf**	**12 44 43.6**	**-1.4**
	comp=Z,4.0nm,0.8s,baz=29,slow=4.6,SNR=5.0							
BAIF	**Baives**	**133.83**	**337**	*e*PKIKP		**PKPdf**	**12 44 46.2**	**+1.4**
BAIF	**Baives**	**133.83**	**337**	*e*PKIKP		**PKPdf**	**12 44 46.2**	**+1.4**
BAIF	**Baives**	**133.83**	**337**	*e*PKPdf		**PKPdf**	**12 44 46.2**	**+1.4**
LPG	**La Plagne**	**136.22**	**331**	*e*PKIKP		**PKPdf**	**12 44 50.7**	**+0.9**
	comp=Z,40nm,1.4s							
LPG	**La Plagne**	**136.22**	**331**	*e*PKIKP		**PKPdf**	**12 44 50.7**	**+0.9**
LPG	**La Plagne**	**136.22**	**331**	*e*PKPdf		**PKPdf**	**12 44 50.7**	**+0.9**
TCF	**Toulx Ste Croi**	**137.65**	**335**	*e*PKIKP		**PKPdf**	**12 44 53.4**	**+1.3**
	comp=Z,56nm,1.6s							
TCF	**Toulx Ste Croi**	**137.65**	**335**	*e*PKIKP		**PKPdf**	**12 44 53.4**	**+1.3**
TCF	**Toulx Ste Croi**	**137.65**	**335**	*e*PKPdf		**PKPdf**	**12 44 53.4**	**+1.3**
BDFB	**Brasilia**	**144.25**	**133**	PKP		PKPbc	12 45 03.1	0.0
BDFB	**Brasilia**	**144.25**	**133**	PKP		PKPbc	12 45 03.1	0.0
	comp=Z,26nm,0.8s,baz=204,slow=3.8,SNR=16							
ESDC	**Sonseca Array**	**145.66**	**335**	PKPbc		**PKPdf**	**12 45 05.6**	**-1.0**
ESDC	**Sonseca Array**	**145.66**	**335**	PKPbc		**PKPdf**	**12 45 05.6**	**-1.0**
	comp=Z,3.6nm,1.0s,baz=23,slow=2.6,SNR=6.1							
LIC	**Lamto**	**163.07**	**261**	*e*PKIKP		**PKPdf**	**12 45 36.3**	**+5.0**
	comp=Z,38nm,1.2s							
LIC	**Lamto**	**163.07**	**261**	*e*PKPdf		**PKPdf**	**12 45 36.3**	**+5.0**

*IDC **05** 12:31:40.5±0.7,8˚.81S×157˚.74E,h0km, mb4.0/9, mb1 4.3/10,mb1mx4.1/19,mbtmp4.1/10,ML4.7/1, Error ellipse: s-maj=20.7km s-min=14.7km az=3.0*
*ISCJB **05** 12:31:42.4±0.6,8˚.8S±0˚.1×157˚.71E±0˚.10,h23km, mb3.9/11,Error ellipse: s-maj=17.6km s-min=13.1km az=160.8*
*NEIC **05** 12:31:45.4±0.5,8˚.90S×157˚.78E,h35km,mb4.0/3,Error ellipse: s-maj=16.9km s-min=12.5km az=159.0*
ISC 05 12:31:44.1±0.6,8.8S±0˚.1×157.8E±0˚.1,h23km,n26, σ0§96/26,mb3.9/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.23**	**106**	Pn		**Pn**	**12 32 19.3**	**-0.4**
HNR				Lg		Lg	12 32 52.5	
HNR	**Honiara**	**2.23**	**106**	Pn		**Pn**	**12 32 19.3**	**-0.4**
	207nm,0.3s,baz=270,slow=3.6,SNR=8.2							
HNR				Lg		Lg	12 32 52.5	
	170nm,0.3s,baz=208,slow=23,SNR=4.4							
CTA	**Charters Tower**	**15.78**	**224**	Pn		**P**	**12 35 29.2**	**+0.4**
CTA	**Charters Tower**	**15.78**	**224**	Pn		**P**	**12 35 29.2**	**+0.4**
	baz=22,slow=16,SNR=3.5							
WRAB	**Tennant Creek**	**25.19**	**241**	*e*P		**P**	**12 37 07.7**	**-0.4**
	4.9nm,0.6s							
WRA	**Warramunga Arr**	**25.20**	**241**	P		**P**	**12 37 08.0**	**-0.3**
WRA	**Warramunga Arr**	**25.20**	**241**	P		**P**	**12 37 08.0**	**-0.3**
	6.7nm,0.7s,baz=67,slow=9.4,SNR=19							
ASAR	**Alice Springs**	**27.18**	**234**	P		**P**	**12 37 24.8**	**-1.4**
ASAR	**Alice Springs**	**27.18**	**234**	P		**P**	**12 37 24.8**	**-1.4**
	2.2nm,0.8s,baz=59,slow=9.4,SNR=9.1							
STKA	**Stephens Creek**	**27.41**	**211**	*e*P		**P**	**12 37 28.1**	**0.0**
	1.8nm,0.7s							
STKA	**Stephens Creek**	**27.41**	**211**	P		**P**	**12 37 28.5**	**+0.4**
	10.0nm,0.7s,baz=29,slow=11,SNR=18							
PETK	**Petropavlovsk-**	**61.70**	**360**	P		**P**	**12 41 58.9**	**-1.4**
PETK	**Petropavlovsk-**	**61.70**	**360**	P		**P**	**12 41 58.8**	**-1.4**
	4.7nm,1.0s,baz=140,slow=9.2,SNR=3.1							
CMAR	**Chiang Mai Arr**	**64.05**	**295**	P		**P**	**12 42 17.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**64.05**	**295**	P		**P**	**12 42 17.2**	**+0.6**
	1.7nm,1.1s,baz=107,slow=4.2,SNR=7.3							
SONM	**Songino Array**	**72.37**	**326**	P		**P**	**12 43 09.1**	**+0.8**
SONM	**Songino Array**	**72.37**	**326**	P		**P**	**12 43 09.1**	**+0.8**
	0.4nm,0.8s,baz=125,slow=5.1,SNR=3.0							
ILAR	**Eielson Array**	**84.09**	**21**	P		**P**	**12 44 12.1**	**-0.7**
ILAR	**Eielson Array**	**84.09**	**21**	P		**P**	**12 44 12.1**	**-0.7**
	0.4nm,0.7s,baz=261,slow=5.1,SNR=4.5							
MKAR	**Makanchi Array**	**86.59**	**318**	P		**P**	**12 44 25.2**	**-0.5**
MKAR	**Makanchi Array**	**86.59**	**318**	P		**P**	**12 44 25.2**	**-0.5**
	0.3nm,0.7s,baz=102,slow=5.3,SNR=4.2							
KURK	**Kurchatov**	**89.97**	**321**	*e*P		**P**	**12 44 41.1**	**-0.4**
	0.2nm,0.3s							
NVAR	**Mina Array Bea**	**90.71**	**51**	P		**P**	**12 44 47.8**	**+2.1**
NVAR	**Mina Array Bea**	**90.71**	**51**	P		**P**	**12 44 47.8**	**+2.1**
	0.4nm,0.8s,baz=242,slow=1.9,SNR=2.6							
BDFB	**Brasilia**	**144.73**	**133**	PKP		**PKPab**	**12 51 18.9**	**-0.1**
BDFB	**Brasilia**	**144.73**	**133**	PKP		**PKPab**	**12 51 18.9**	**-0.1**
	4.3nm,0.7s,baz=216,slow=3.2,SNR=8.7							

*IDC **05** 12:35:29.9±0.8,9˚.14S×158˚.04E,h0km,mb3.9/9, mb1 4.1/9,mb1mx4.0/18,mbtmp3.9/9,Error ellipse: s-maj=22.2km s-min=13.4km az=180.0*
*ISCJB **05** 12:35:31.8±0.6,9˚.1S±0˚.2×158˚.0E±0˚.1,h23km,mb3.8/9, Error ellipse: s-maj=19.6km s-min=13.7km az=161.5*
ISC 05 12:35:33.0±0.8,9.2S±0˚.2×158.2E±0˚.1,h23km,n16, σ0§60/10,mb3.9/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.77**	**97**	Pn		**Pb**	**12 36 04.8**	**0.0**
	10nm,0.3s,baz=240,slow=20,SNR=2.2							
HNR				Lg		Lg	12 36 30.5	
	145nm,0.3s,baz=315,slow=11,SNR=5.2							
HNR				LR		LR	12 36 31.7	
	comp=Z,19µm,18.3s,baz=192,slow=32							
WRA	**Warramunga Arr**	**25.36**	**243**	P		**P**	**12 40 58.2**	**-0.4**
	1.4nm,0.6s,baz=68,slow=9.5,SNR=5.6							
ASAR	**Alice Springs**	**27.27**	**235**	P		**P**	**12 41 15.2**	**-0.6**
	1.2nm,1.1s,baz=62,slow=9.8,SNR=4.1							
STKA	**Stephens Creek**	**27.28**	**212**	P		**P**	**12 41 16.5**	**+0.7**
	1.9nm,0.9s,baz=42,slow=16,SNR=2.1							
H11S3	**WAKE ISLAND Hy**	**28.80**	**17**	T		T	13 10 45.6	
	baz=203,SNR=22							
H11S2	**WAKE ISLAND Hy**	**28.81**	**17**	T		T	13 10 44.9	
	baz=203,SNR=28							
H11S1	**WAKE ISLAND Hy**	**28.82**	**17**	T		T	13 11 08.4	
	baz=203,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**30.02**	**17**	T		T	13 12 22.5	
	baz=200							
H11N3	**WAKE ISLAND Hy**	**30.03**	**17**	T		T	13 12 36.6	
	baz=200,SNR=5.4							
H11N2	**WAKE ISLAND Hy**	**30.04**	**17**	T		T	13 12 36.3	
	baz=200							
PETK	**Petropavlovsk-**	**62.09**	**360**	P		**P**	**12 45 51.6**	**-0.1**
	2.0nm,0.7s,baz=160,slow=7.6,SNR=8.0							
CMAR	**Chiang Mai Arr**	**64.57**	**295**	P		**P**	**12 46 08.8**	**-0.1**
	0.6nm,0.4s,baz=148,slow=4.7,SNR=4.5							
SONM	**Songino Array**	**72.91**	**326**	P		**P**	**12 47 01.5**	**+1.1**
	0.4nm,0.6s,baz=139,slow=7.2,SNR=4.1							
ILAR	**Eielson Array**	**84.32**	**21**	P		**P**	**12 48 02.5**	**-0.3**
	0.7nm,0.6s,baz=246,slow=5.1,SNR=7.8							
MKAR	**Makanchi Array**	**87.14**	**318**	P		**P**	**12 48 16.7**	**-0.5**
	0.5nm,0.4s,baz=105,slow=4.8,SNR=10							
NVAR	**Mina Array Bea**	**90.65**	**51**	P		**P**	**12 48 34.3**	**+0.1**
	0.4nm,0.6s,baz=251,slow=7.5,SNR=3.2							

*IDC **05** 12:36:12.6±0.6,8˚.97S×157˚.75E,h0km,mb4.6/18, mb1 4.7/20,mb1mx4.7/22,mbtmp4.5/20,ML3.9/2, Error ellipse: s-maj=21.7km s-min=14.1km az=101.0*
*ISCJB **05** 12:36:15.1±0.2,8˚.96S±0˚.04×157˚.68E±0˚.05,h23km, mb4.9/55,MS5.4/3, Error ellipse: s-maj=7.5km s-min=5.4km az=34.6*
*BJI **05** 12:36:15.0,9˚.05S×158˚.12E,h35km,mB5.6/6,mb5.0/22, Ms6.6/7,Ms7 5.6/10*
*MOS **05** 12:36:17.0±1.2,8˚.84S×157˚.66E,h33km,mb5.0/15,Error ellipse: s-maj=13.5km s-min=10.3km az=82.7*
*NEIC **05** 12:36:18.3±0.2,8˚.96S×157˚.72E,h35km,mb5.1/25,Error ellipse: s-maj=8.9km s-min=5.6km az=124.0*
ISC 05 12:36:16.6±0.4,8.99S±0˚.06×157.82E±0˚.07,h23km,n161, σ1§41/174,mb5.0/56,MS5.6/3,2C-3D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.15**	**102**	*e*Pn		Pn	12 36 47.0	-4.1
HNR				Lg		Lg	12 37 24.3	
HNR	**Honiara**	**2.15**	**102**	Lg		Lg	12 37 24.3	
	811nm,0.3s,baz=170,slow=8.9,SNR=5.6							
HNR	**Honiara**	**2.15**	**102**	*i* P		Pb	12 37 03.0	+8.2
RABL	**Rabaul**	**7.36**	**310**	S		**Sb**	**12 39 50.4**	**-0.7**
	baz=7.4,SNR=4.3							
COEN	**Coen**	**15.17**	**250**	*e*Pn		**Pn**	**12 39 49.2**	**-0.4**
COEN	**Coen**	**15.17**	**250**	P		**P**	**12 39 56.8**	**+2.4**
	baz=16,SNR=4.6							
DZM	**Mont Dzumac**	**15.43**	**148**	Pn		**Pn**	**12 39 53.5**	**+0.5**
DZM	**Mont Dzumac**	**15.43**	**148**	Pn		**Pn**	**12 39 53.5**	**+0.5**
	0.2nm,0.3s,baz=351,slow=19,SNR=3.5							
CTA	**Charters Tower**	**15.71**	**224**	Pn		**Pn**	**12 39 54.6**	**-2.0**
CTA	**Charters Tower**	**15.71**	**224**	Pn		**Pn**	**12 39 54.6**	**-2.0**
	0.5nm,0.3s,baz=80,slow=17,SNR=3.9							
CTAO	**Charters Tower**	**15.71**	**224**	*e*P		**Pn**	**12 39 56.9**	**+0.3**
CTAO	**Charters Tower**	**15.71**	**224**	*e*Pn		**Pn**	**12 39 56.9**	**+0.3**
PATS	**Pohnpei**	**15.72**	**2**	P		**Pn**	**12 39 58.0**	**+1.2**
	baz=16,SNR=3.3							
EIDS	**Eidsvold**	**17.51**	**201**	*e*Pn		**P**	**12 40 20.6**	**+0.2**
JAY	**Jayapura**	**18.19**	**290**	P		P	12 40 33.0	+5.0
	baz=18,SNR=5.0							
JAY				S		S	12 44 08.9	+14
	baz=18,SNR=3.4							
RMQ	**Roma**	**19.41**	**205**	P		**Pn**	**12 40 42.6**	**+0.1**
	baz=20,SNR=6.5							
QIS	**Mount Isa**	**21.01**	**235**	P		**P**	**12 41 00.3**	**+1.6**
	baz=21,SNR=9.4							
QLP	**Quilpie**	**21.73**	**215**	P		**P**	**12 41 06.0**	**-0.3**
	baz=22,SNR=10							
ARMA	**Armidale**	**22.09**	**194**	*e*P		**P**	**12 41 10.0**	**-0.4**
	3.8nm,0.5s							
ARMA	**Armidale**	**22.09**	**194**	P		**P**	**12 41 09.9**	**-0.4**
	baz=22,SNR=9.5							
KDU	**Kakadu**	**25.16**	**259**	P		**P**	**12 41 41.0**	**+0.7**
	baz=25,SNR=6.5							
WRAB	**Tennant Creek**	**25.16**	**242**	P		**P**	**12 41 39.0**	**-1.4**
	176nm,0.9s,SNR=8.5							
WRAB	**Tennant Creek**	**25.16**	**242**	*e*P		**P**	**12 41 39.0**	**-1.4**
WRAB				pmax	pmax			
	comp=Z,230nm,3.5s							
WRAB	**Tennant Creek**	**25.16**	**242**	*e*P		**P**	**12 41 39.8**	**-0.5**
	comp=Z,24nm,0.8s							
WRA	**Warramunga Arr**	**25.17**	**242**	P		**P**	**12 41 39.7**	**-0.8**
WRA	**Warramunga Arr**	**25.17**	**242**	P		**P**	**12 41 39.7**	**-0.8**
	comp=Z,18nm,0.9s,baz=68,slow=9.5,SNR=20							
ASAR	**Alice Springs**	**27.13**	**235**	P		**P**	**12 41 56.2**	**-2.0**
ASAR	**Alice Springs**	**27.13**	**235**	P		**P**	**12 41 56.2**	**-2.0**
	comp=Z,4.6nm,0.9s,baz=67,slow=9.1,SNR=17							
STKA	**Stephens Creek**	**27.31**	**211**	*e*P		**P**	**12 42 01.0**	**+1.4**
STKA	**Stephens Creek**	**27.31**	**211**	P		**P**	**12 41 58.6**	**-1.1**
	comp=Z,8.9nm,0.6s,baz=44,slow=15,SNR=16							
BBOO	**Buckleboo**	**31.09**	**217**	*e*P		**P**	**12 42 32.4**	**-0.9**
	comp=Z,4µm,2.3s							
BBOO	**Buckleboo**	**31.09**	**217**	P		**P**	**12 42 32.3**	**-0.9**
	baz=32,SNR=12							
ARPS	**Mount Arapiles**	**31.23**	**205**	P		**P**	**12 42 34.1**	**-0.3**
	baz=32,SNR=5.2							
WRKA	**Warakurna**	**32.32**	**237**	P		**P**	**12 42 42.6**	**-1.6**
	baz=33,SNR=8.5							
MJAR	**Matsushiro Ar**	**48.89**	**339**	P		**P**	**12 44 59.3**	**-1.4**
MJAR	**Matsushiro Ar**	**48.89**	**339**	P		**P**	**12 44 59.3**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=163,slow=8.6,SNR=5.9							
JNU	**Nakatsue**	**49.10**	**330**	P		**P**	**12 45 02.2**	**-0.2**
JNU	**Nakatsue**	**49.10**	**330**	P		**P**	**12 45 02.2**	**-0.2**
	comp=Z,8.6nm,0.8s,baz=104,slow=4.2,SNR=8.3							
KSRS	**Korea Array**	**54.01**	**331**	P		**P**	**12 45 37.7**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=149,slow=9.9,SNR=3.3							
KSAR	**Wonju Array Be**	**54.02**	**331**	P		**P**	**12 45 37.7**	**-1.4**
WHN	**Wuhan**	**57.31**	**315**	P		**P**	**12 46 03.9**	**+1.1**
USRK	**Ussuriysk Arra**	**57.88**	**338**	P		**P**	**12 46 08.9**	**+2.4**
	comp=Z,2.8nm,0.7s,baz=94,slow=8.7,SNR=5.6							
MDJ	**Mudanjiang**	**59.13**	**337**	P		**P**	**12 46 15.3**	**-0.1**
MDJ				pP		**pP**	**12 46 24.0**	**+1.4**
MDJ				sP		**sP**	**12 46 27.2**	**+1.8**
MDJ				pmax	pmax			
	comp=Z,8µm,13.0s							
GYA	**Guiyang**	**60.87**	**307**	P		**P**	**12 46 28.0**	**+0.2**
GYA				pP		**pP**	**12 46 37.2**	**+2.1**
GYA				PP		**PP**	**12 48 44.8**	**+2.6**
GYA				ScP		**ScP**	**12 51 08.5**	**-3.1**
GYA				S		**S**	**12 54 40.0**	**-4.7**
GYA				SS		**SS**	**12 58 41.9**	**-2.5**
GYA				pmax	pmax			
	comp=Z,30nm,1.0s							
GYA				pmax	pmax			
	comp=Z,140nm,5.0s							
GYA				LR	LR			
	comp=Z,760nm,18.7s							
GYA				LR	LR			
	comp=Z,650nm,19.0s							
GYA				LR	LR			
	comp=Z,780nm,18.8s							
SLVN	**Son La**	**60.90**	**300**	*e*P		**P**	**12 46 28.3**	**+0.3**
	comp=Z,24nm,1.6s							
PET	**Petropavlovsk**	**61.77**	**1**	*e*P		**P**	**12 46 32.0**	**-1.1**
PETK	**Petropavlovsk-**	**61.85**	**360**	P		**P**	**12 46 33.4**	**-0.4**
PETK	**Petropavlovsk-**	**61.85**	**360**	P		**P**	**12 46 33.4**	**-0.4**
PETK	**Petropavlovsk-**	**61.85**	**360**	P		**P**	**12 46 33.4**	**-0.4**
	comp=Z,18nm,0.9s,baz=167,slow=7.0,SNR=19							
KMI	**Kunming**	**63.44**	**304**	P		**P**	**12 46 45.9**	**+0.7**
KMI				pP		**pP**	**12 46 56.0**	**+3.5**
KMI				S		**S**	**12 55 13.2**	**-4.2**
KMI				SS		**SS**	**12 59 21.0**	**-3.8**
KMI				pmax	pmax			
	comp=Z,12nm,1.0s							
KMI				LR	LR			
	comp=Z,3µm,15.4s							
CMAR	**Chiang Mai Arr**	**64.16**	**295**	P		**P**	**12 46 50.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**64.16**	**295**	P		**P**	**12 46 50.0**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=118,slow=5.2,SNR=13							
CHTO	**Chiang Mai**	**64.28**	**296**	*e*P		**P**	**12 46 51.5**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,3.0nm,1.3s							
CHTO	**Chiang Mai**	**64.28**	**296**	*e*P		**P**	**12 46 51.5**	**+0.9**
	comp=Z,3.2nm,1.3s							
CD2	**Chengdu**	**65.22**	**310**	*e*P		**P**	**12 46 56.7**	**+0.1**
CD2				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC	**Hu-ho-hao-te**	**65.35**	**323**	*e*P		**P**	**12 46 57.7**	**+0.4**
HHC				S		**S**	**12 55 40.2**	**0.0**
HHC				pmax	pmax			
	comp=Z,25nm,2.5s							
LZH	**Lanzhou**	**67.69**	**315**	*e*P		P	12 47 16.7	+4.3
LZH				pP		pP	12 47 26.2	+6.4
LZH				sP		sP	12 47 31.6	+9.1
LZH				pmax	pmax			
	comp=Z,29nm,1.2s							
LZH				pmax	pmax			
	comp=Z,140nm,5.0s							
VNDA	**Vanda**	**68.54**	**179**	*e*P		**P**	**12 47 18.0**	**+1.2**
	comp=Z,20nm,1.5s							
VNDA	**Vanda**	**68.54**	**179**	P		**P**	**12 47 18.1**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=36,slow=8.7,SNR=2.7							
SEY	**Seymchan**	**71.83**	**357**	P		**P**	**12 47 36.7**	**-0.4**
SEY	**Seymchan**	**71.83**	**357**	P		**P**	**12 47 36.7**	**-0.4**
SEY	**Seymchan**	**71.83**	**357**	P		**P**	**12 47 36.7**	**-0.4**
	comp=Z,6.3nm,1.1s,baz=15,slow=22,SNR=6.0							
GTA	**Gaotai**	**72.10**	**316**	*e*P		**P**	**12 47 39.5**	**+0.1**
GTA				pP		**pP**	**12 47 49.7**	**+2.9**
GTA				sP		**sP**	**12 47 53.9**	**+4.3**
SONM	**Songino Array**	**72.52**	**326**	P		**P**	**12 47 41.7**	**-0.1**
SONM	**Songino Array**	**72.52**	**326**	P		**P**	**12 47 41.7**	**

KURK	**Kurchatov**	**90.12**	**321**	*e*P		**P**	**12 49 14.2**	**-0.5**
	comp=Z,2.1nm,1.0s							
MWC	**Mount Wilson**	**90.18**	**56**	*e*P		**P**	**12 49 16.4**	**+0.7**
MWC				pmax	pmax			
	comp=Z,28nm,1.3s							
MWC	**Mount Wilson**	**90.18**	**56**	*e*P		**P**	**12 49 16.4**	**+0.7**
	comp=Z,28nm,1.3s							
EDW2	**Edwards Air Fo**	**90.35**	**55**	P		**P**	**12 49 16.7**	**+0.4**
	baz=90							
MTUM	**Tungsten Hills**	**90.36**	**52**	*e*P		**P**	**12 49 17.1**	**+0.6**
BFSC	**Mount Baldy Ra**	**90.50**	**56**	P		**P**	**12 49 17.8**	**+0.7**
	baz=91							
CWC	**Cottonwood Cre**	**90.57**	**53**	P		**P**	**12 49 18.0**	**+0.6**
	baz=91							
LRMC	**Laurel Mountai**	**90.70**	**54**	P		**P**	**12 49 18.4**	**+0.3**
	baz=91							
NVAR	**Mina Array Bea**	**90.76**	**51**	P		**P**	**12 49 19.1**	**+0.8**
NVAR	**Mina Array Bea**	**90.76**	**51**	P		**P**	**12 49 19.1**	**+0.8**
	comp=Z,9.6nm,1.1s,baz=247,slow=7.0,SNR=18							
NV11	**Mina Array Sit**	**90.88**	**51**	*e*P		**P**	**12 49 19.5**	**+0.7**
I07A	**Izee**	**90.97**	**46**	*e*P		**P**	**12 49 19.9**	**+0.8**
	comp=Z,78nm,2.4s							
MPMC	**Manual Prospec**	**90.97**	**54**	P		**P**	**12 49 18.4**	**-0.9**
	baz=91							
BAR	**Barrett**	**91.04**	**57**	*e*P		**P**	**12 49 20.4**	**+0.8**
	comp=Z,16nm,1.6s							
AAK	**Ala-Archa**	**91.14**	**313**⇑	*e*P		**P**	**12 49 19.5**	**-0.5**
AAK				pmax	pmax			
	comp=Z,11nm,1.6s							
WVOR	**Wild Horse Val**	**91.27**	**47**	*e*P		**P**	**12 49 21.9**	**+1.4**
WVOR				pmax	pmax			
	comp=Z,55nm,2.1s							
WVOR	**Wild Horse Val**	**91.27**	**47**	*e*P		**P**	**12 49 21.9**	**+1.4**
	comp=Z,55nm,2.1s							
MONP	**Monument Peak**	**91.29**	**57**	P		**P**	**12 49 20.7**	**-0.2**
	baz=91							
TPH	**Tonopah**	**91.54**	**52**	*e*P		**P**	**12 49 22.8**	**+0.8**
TPH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TPH	**Tonopah**	**91.54**	**52**	*e*P		**P**	**12 49 22.8**	**+0.8**
	comp=Z,7.2nm,0.9s							
FURC	**Furnace Creek,**	**91.54**	**53**	P		**P**	**12 49 22.3**	**+0.6**
	baz=92							
J08A	**Circle Bar Ran**	**91.56**	**46**	*e*P		**P**	**12 49 22.3**	**+0.5**
	comp=Z,14nm,1.3s							
HEC	**Hector,Ludlow**	**91.69**	**55**	P		**P**	**12 49 21.5**	**-1.1**
	baz=92							
GMRC	**Granite Mounta**	**92.22**	**55**	P		**P**	**12 49 25.1**	**0.0**
	baz=92							
IRM	**Iron Mountain**	**92.54**	**56**	P		**P**	**12 49 26.8**	**+0.3**
	baz=93							
R11A	**Troy Canyon, C**	**92.85**	**52**	*e*P		**P**	**12 49 28.8**	**+0.7**
	comp=Z,12nm,1.3s							
R11A	**Troy Canyon, C**	**92.85**	**52**	P		**P**	**12 49 28.2**	**+0.1**
	baz=93							
SHPR	**Sheep Range**	**92.90**	**54**	*e*P		**P**	**12 49 28.7**	**+0.4**
MFID	**Camas Ranch**	**93.47**	**47**	*e*P		**P**	**12 49 31.3**	**+0.6**
	comp=Z,33nm,2.1s							
HLID	**Hailey**	**94.51**	**47**	*e*P		**P**	**12 49 35.5**	**-0.1**
	comp=Z,23nm,1.9s							
HLID	**Hailey**	**94.51**	**47**	P		**P**	**12 49 35.8**	**+0.3**
	baz=95							
BRVK	**Borovoye**	**95.63**	**323**⇓	*e*P		**P**	**12 49 39.0**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,17nm,3.0s							
YKA	**Yellowknife Ar**	**96.78**	**28**	P		**P**	**12 49 43.9**	**-1.2**
YKA				PKiKP		**PKiKP**	**12 54 17.2**	**-4.5**
YKA	**Yellowknife Ar**	**96.78**	**28**	P		**P**	**12 49 43.9**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=264,slow=4.3,SNR=10							
YKA				PKiKP		**PKiKP**	**12 54 17.2**	**-4.5**
	comp=Z,0.3nm,0.7s,baz=74,slow=2.9,SNR=3.7							
PDAR	**Pinedale Array**	**97.95**	**48**	P		**P**	**12 49 50.7**	**-0.5**
PDAR	**Pinedale Array**	**97.95**	**48**	P		**P**	**12 49 50.7**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=263,slow=2.5,SNR=4.1							
AKASG	**Malin Array Be**	**120.77**	**325**	PKiKP		**PKPdf**	**12 55 05.6**	**-1.2**
AKASG	**Malin Array Be**	**120.77**	**325**	PKP		**PKPdf**	**12 55 05.6**	**-1.2**
AKASG	**Malin Array Be**	**120.77**	**325**	PKP		**PKPdf**	**12 55 05.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=68,slow=2.4,SNR=4.7							
BRTR	**Keskin Array B**	**121.79**	**311**	PKP		**PKPdf**	**12 55 09.6**	**+0.3**
BRTR	**Keskin Array B**	**121.79**	**311**	PKP		**PKPdf**	**12 55 09.6**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=128,slow=2.4,SNR=3.0							
KOLS	**Kolonicke sedl**	**125.56**	**325**	*e*PKiKP		**PKPdf**	**12 55 16.0**	**-0.1**
KOLS	**Kolonicke sedl**	**125.56**	**325**	*e*PKP		**PKPdf**	**12 55 16.0**	**-0.1**
STHS	**Stebnicka Huta**	**125.88**	**326**	*e*PKiKP		**PKPdf**	**12 55 16.4**	**-0.3**
STHS	**Stebnicka Huta**	**125.88**	**326**	*e*PKP		**PKPdf**	**12 55 16.4**	**-0.3**
LPAZ	**La Paz**	**128.06**	**119**	PKP		**PKPdf**	**12 55 23.6**	**+1.0**
LPAZ	**La Paz**	**128.06**	**119**	PKP		**PKPdf**	**12 55 23.6**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=14,slow=1.4,SNR=5.6							
GERES	**GERESS Array B**	**130.18**	**330**	PKP		**PKPdf**	**12 55 26.9**	**+1.8**
GERES	**GERESS Array B**	**130.18**	**330**	PKP		**PKPdf**	**12 55 26.9**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=123,slow=4.9,SNR=4.4							
DAVOX	**Davos/Dischmat**	**133.48**	**330**	PKP		**PKPdf**	**12 55 31.4**	**-0.1**
DAVOX	**Davos/Dischmat**	**133.48**	**330**	PKP		**PKPdf**	**12 55 31.4**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=87,slow=9.5,SNR=5.3							
BDFB	**Brasilia**	**144.60**	**134**	PKP		**PKPab**	**12 55 50.0**	**-0.9**
BDFB	**Brasilia**	**144.60**	**134**	PKP		**PKPab**	**12 55 50.0**	**-0.9**
	comp=Z,14nm,0.9s,baz=190,slow=3.3,SNR=13							
ESDC	**Sonseca Array**	**145.37**	**335**	PKPbc		**PKPab**	**12 55 53.9**	**+0.8**
ESDC	**Sonseca Array**	**145.37**	**335**	PKPbc		**PKPab**	**12 55 53.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=40,slow=2.5,SNR=4.2							

*IDC **05** 12:37:58.4±0.7, 62°.70S×167°.37E, h0km, mb4.5/7, mb1 4.6/8, mb1mx4.5/13, mbtmp4.4/8, ML4.0/1, Error ellipse: s-maj=42.9km s-min=18.6km az=59.0*
*ISCJB **05** 12:37:59.3±0.6, 62°.72S±0°.08×167°.2E±0°.4, h10km, mb4.5/7, Error ellipse: s-maj=26.4km s-min=10.3km az=171.1*
*NEIC **05** 12:38:00.0±0.6, 62°.78S×167°.07E, h10km, mb4.9/4, Error ellipse: s-maj=31.8km s-min=13.4km az=80.0*
ISC 05 12:38:00.4±0.6, **62°.74S**±0°.09×**167°.2E**±0°.2, **h10**km, **n44,** σ**1§09/33, mb4.6/7, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.95**	**184**	Pn	**Pn**	**12 41 31.8**	**+0.5**
VNDA	**Vanda**	**14.95**	**184**	Pn	**Pn**	**12 41 31.8**	**+0.5**
	0.6nm,0.3s,baz=357,slow=12,SNR=15						
WHZ	**Wether Hill Ro**	**16.88**	**2**	*e*Pn	**Pn**	**12 41 55.5**	**-1.0**
	164nm,1.7s						
RPZ	**Rata Peaks**	**19.19**	**9**	*e*P	**Pn**	**12 42 26.9**	**+2.0**
	81nm,1.4s						
RPZ	**Rata Peaks**	**19.19**	**9**	P	**Pn**	**12 42 26.0**	**+1.2**
	1.9nm,0.3s,baz=150,slow=11,SNR=11						
QSPA	**South Pole Qui**	**27.35**	**180**	*e*P	**P**	**12 43 46.9**	**+1.6**
	209nm,1.9s						
QSPA	**South Pole Qui**	**27.35**	**180**	P	**P**	**12 43 46.4**	**+1.1**
	15nm,0.9s,baz=21,slow=3.5,SNR=17						
H01W1	**Cape Leeuwin H**	**42.85**	**285**	T	T	13 32 02.3	
	baz=147,slow=76,SNR=66						
H01W2	**Cape Leeuwin H**	**42.85**	**285**	T	T	13 32 02.7	
	baz=147,slow=76,SNR=69						
H01W3	**Cape Leeuwin H**	**42.86**	**285**	T	T	13 32 03.5	
	baz=147,slow=76,SNR=83						
CTA	**Charters Tower**	**44.98**	**332**	P	**P**	**12 46 15.9**	**+0.4**
CTA	**Charters Tower**	**44.98**	**332**	P	**P**	**12 46 15.9**	**+0.4**
	14nm,1.2s,baz=188,slow=14,SNR=4.3						
CTAO	**Charters Tower**	**44.98**	**332**	*e*P	**P**	**12 46 16.5**	**+0.9**
	17nm,1.2s						
ASAR	**Alice Springs**	**44.98**	**315**	P	**P**	**12 46 15.8**	**+0.2**
ASAR	**Alice Springs**	**44.98**	**315**	P	**P**	**12 46 15.8**	**+0.2**
	3.0nm,0.7s,baz=161,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**48.32**	**317**	P	**P**	**12 46 43.0**	**+1.3**
WRA	**Warramunga Arr**	**48.32**	**317**	P	**P**	**12 46 43.0**	**+1.3**
	1.6nm,0.9s,baz=159,slow=6.6,SNR=3.4						
PLCA	**Paso Flores**	**67.04**	**136**	P	**P**	**12 48 54.0**	**+0.7**
PLCA	**Paso Flores**	**67.04**	**136**	P	**P**	**12 48 54.0**	**+0.7**
	3.9nm,0.9s,baz=56,slow=2.0,SNR=3.6						
H03N3	**Juan Fernandez**	**70.67**	**126**	T	T	14 07 14.0	
	baz=229,SNR=5.9						
H03N2	**Juan Fernandez**	**70.68**	**126**	T	T	14 07 11.0	
	baz=229,SNR=7.9						
H03N1	**Juan Fernandez**	**70.68**	**126**	T	T	14 07 07.6	
	baz=229,SNR=6.0						
CPUP	**Villa Florida**	**84.44**	**141**	P	**P**	**12 50 32.3**	**-0.6**
CPUP	**Villa Florida**	**84.44**	**141**	P	**P**	**12 50 32.3**	**-0.6**
	2.7nm,0.7s,baz=165,slow=1.3,SNR=4.9						
H08S2	**Diego Garcia H**	**85.41**	**262**	T	T	14 25 19.1	
	baz=152,slow=75,SNR=173						
H08S1	**Diego Garcia H**	**85.42**	**262**	T	T	14 25 20.0	
	baz=152,slow=75,SNR=148						
H08S3	**Diego Garcia H**	**85.43**	**262**	T	T	14 25 20.6	
	baz=152,slow=75,SNR=197						
LPAZ	**La Paz**	**90.25**	**128**	P	**P**	**12 51 01.8**	**-0.1**
LPAZ	**La Paz**	**90.25**	**128**	P	**P**	**12 51 01.8**	**-0.1**
	1.1nm,0.3s,baz=206,slow=7.8,SNR=4.7						
PDAR	**Pinedale Array**	**124.11**	**62**	PKP	**PKPdf**	**12 56 56.2**	**-2.0**
PDAR	**Pinedale Array**	**124.11**	**62**	PKP	**PKPdf**	**12 56 56.2**	**-2.0**
	0.6nm,1.0s,baz=72,slow=2.9,SNR=3.1						
ILAR	**Eielson Array**	**131.66**	**24**	PKP	**PKPdf**	**12 57 11.8**	**+0.2**
ILAR	**Eielson Array**	**131.66**	**24**	PKP	**PKPdf**	**12 57 11.8**	**+0.2**
	0.8nm,1.1s,baz=241,slow=3.0,SNR=3.5						
KBZ	**Khabaz**	**143.08**	**266**	PKP	PKPbc	12 57 30.9	+0.7
KBZ	**Khabaz**	**143.08**	**266**	PKP	PKPbc	12 57 30.9	+0.7
	4.3nm,1.0s,baz=116,slow=5.4,SNR=4.7						
IDI	**Anoyia**	**143.95**	**238**	PKP	PKPab	12 57 32.5	0.0
IDI	**Anoyia**	**143.95**	**238**	PKP	PKPab	12 57 32.5	0.0
	9.6nm,0.8s,baz=192,slow=2.5,SNR=4.5						
BRTR	**Keskin Array B**	**144.07**	**252**	PKP	**PKPab**	**12 57 32.2**	**-0.7**
BRTR	**Keskin Array B**	**144.07**	**252**	PKP	**PKPab**	**12 57 32.2**	**-0.7**
	2.8nm,0.8s,baz=148,slow=7.0,SNR=14						
ARU	**Arti**	**145.06**	**293**	*e*PKPbc	**PKPbc**	**12 57 35.8**	**-0.1**
MLR	**Muntele Rosu**	**152.07**	**250**	PKPbc	**PKPbc**	**12 57 53.4**	**-1.4**
MLR	**Muntele Rosu**	**152.07**	**250**	PKPbc	**PKPbc**	**12 57 53.4**	**-1.4**
	0.9nm,0.8s,baz=204,slow=5.2,SNR=5.3						
AKASG	**Malin Array Be**	**154.49**	**261**	PKPbc	**PKPbc**	**12 57 58.1**	**-1.6**
AKASG				PKPab	**PKPab**	**12 58 14.1**	**-0.3**
AKASG	**Malin Array Be**	**154.49**	**261**	PKPbc	**PKPbc**	**12 57 58.1**	**-1.6**
	0.1nm,0.3s,baz=109,slow=2.5,SNR=5.7						
AKASG				PKPab	**PKPab**	**12 58 14.1**	**-0.3**
	2.3nm,0.8s,baz=128,slow=3.4,SNR=9.6						

*IDC **05** 12:44:57.8±1.3, 8°.85S×157°.77E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=57.8km s-min=24.6km az=126.0*
*ISCJB **05** 12:44:59.4±0.7, 8°.8S±0°.1×157°.6E±0°.1, h17km, mb3.9/8, Error ellipse: s-maj=20.6km s-min=13.7km az=164.1*
*NEIC **05** 12:45:03.0±0.6, 8°.87S×157°.71E, h35km, mb4.2/2, Error ellipse: s-maj=20.5km s-min=12.8km az=161.0*
ISC 05 12:45:00.7±0.8, **8°.8S**±0°.2×**157°.7E**±0°.1, **h17**km, **n18,** σ**0§74/16, mb3.9/8, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.31**	**105**	*e*Pn	**Pn**	**12 45 38.4**	**+0.4**
HNR				Lg	Lg	12 46 07.8	
HNR	**Honiara**	**2.31**	**105**	Lg	Lg	12 46 07.8	
	130nm,0.3s,baz=192,slow=21,SNR=7.6						
WRAB	**Tennant Creek**	**25.12**	**241**	*e*P	**P**	**12 50 24.5**	**-0.5**
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**25.13**	**241**	P	**P**	**12 50 25.6**	**+0.4**
WRA	**Warramunga Arr**	**25.13**	**241**	P	**P**	**12 50 25.6**	**+0.4**
	1.9nm,0.8s,baz=67,slow=9.5,SNR=5.6						
ASAR	**Alice Springs**	**27.12**	**234**	P	**P**	**12 50 42.5**	**-0.6**
ASAR	**Alice Springs**	**27.12**	**234**	P	**P**	**12 50 42.5**	**-0.6**
	0.5nm,0.8s,baz=61,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**27.38**	**211**	*e*P	**P**	**12 50 45.6**	**+0.3**
STKA	**Stephens Creek**	**27.38**	**211**	P	**P**	**12 50 46.0**	**+0.7**
	2.1nm,0.9s,baz=23,slow=12,SNR=3.0						
ODZ	**Otahua Downs**	**37.78**	**165**	*e*P	P	12 52 20.4	+4.4
	3.3nm,0.4s						
PETK	**Petropavlovsk-**	**61.69**	**0**	P	**P**	**12 55 17.2**	**-0.5**
PETK	**Petropavlovsk-**	**61.69**	**0**	P	**P**	**12 55 17.2**	**-0.5**
	8.6nm,1.2s,baz=162,slow=8.0,SNR=3.8						
MKAR	**Makanchi Array**	**86.54**	**318**	P	**P**	**12 57 43.8**	**+0.7**
MKAR	**Makanchi Array**	**86.54**	**318**	P	**P**	**12 57 43.8**	**+0.7**
	0.4nm,0.6s,baz=89,slow=6.3,SNR=5.7						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**12 58 03.9**	**+0.3**
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**12 58 03.9**	**+0.3**
	0.6nm,0.8s,baz=249,slow=7.4,SNR=4.5						
BDFB	**Brasilia**	**144.80**	**134**	PKP	**PKPab**	**13 04 35.6**	**-1.3**
BDFB	**Brasilia**	**144.80**	**134**	PKP	**PKPab**	**13 04 35.6**	**-1.3**
	1.6nm,0.5s,baz=189,slow=5.4,SNR=5.3						

IDC 05 12:47:09.3±1.2, **8°.85S**×**157°.75E**, **h0**km, **mb3.9**/4, **mb1 4.1**/5, **mb1mx3.7**/19, **mbtmp3.9**/5, **Error ellipse: s-maj=33.6km s-min=15.9km az=5.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.24**	**105**	Pn	Pn	12 47 47.0	-0.7
	baz=345,slow=20,SNR=1.7						
HNR				Lg	Lg	12 48 20.1	
	71nm,0.3s,baz=221,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**25.18**	**241**	P	P	12 52 35.8	-1.0
	1.8nm,0.7s,baz=67,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**27.39**	**211**	P	P	12 52 57.5	+0.9
	2.2nm,0.8s,baz=54,slow=15,SNR=4.8						
MKAR	**Makanchi Array**	**86.60**	**318**	P	P	12 59 54.5	-0.2
	0.3nm,0.8s,baz=100,slow=5.7,SNR=2.6						
NVAR	**Mina Array Bea**	**90.73**	**51**	P	P	13 00 15.7	+0.8
	0.7nm,1.0s,baz=224,slow=3.8,SNR=3.6						

IDC 05 12:48:16.2±1.1, **8°.68S**×**157°.75E**, **h0**km, **mb3.9**/4, **mb1 4.1**/5, **mb1mx3.8**/19, **mbtmp3.9**/5, **ML4.2**/1, **Error ellipse: s-maj=30.0km s-min=16.4km az=12.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.29**	**109**	Pn	Pb	12 48 57.1	-1.4
	67nm,0.3s,baz=97,slow=16,SNR=2.5						
HNR				Lg	Lg	12 49 27.9	
	67nm,0.3s,baz=72,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**25.26**	**241**	P	P	12 53 44.0	-0.3
	2.1nm,0.6s,baz=69,slow=9.7,SNR=6.8						
STKA	**Stephens Creek**	**27.54**	**211**	P	P	12 54 04.8	0.0
	2.9nm,0.7s,baz=48,slow=15,SNR=6.0						
ILAR	**Eielson Array**	**83.95**	**21**	P	P	13 00 47.8	-0.1
	0.4nm,0.4s,baz=257,slow=5.2,SNR=6.0						
MKAR	**Makanchi Array**	**86.47**	**318**	P	P	13 01 00.9	0.0
	0.2nm,0.5s,baz=103,slow=6.7,SNR=2.7						

IDC 05 12:50:46.4±3.9, **8°.67S**×**157°.07E**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/18, **mbtmp3.8**/3, **Error ellipse: s-maj=112.3km s-min=40.6km az=103.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.68**	**241**	P	P	12 56 09.6	+0.3
	1.2nm,0.9s,baz=68,slow=9.7,SNR=4.7						
STKA	**Stephens Creek**	**27.21**	**210**	P	P	12 56 31.8	-0.2
	2.3nm,0.8s,baz=22,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**86.01**	**318**	P	P	13 03 28.7	-0.2
	0.3nm,0.8s,baz=103,slow=6.2,SNR=3.5						

*IDC **05** 12:56:18.7±1.1, 8°.82S×157°.73E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=30.4km s-min=13.6km az=2.0*
*ISCJB **05** 12:56:21.3±1.0, 8°.9S±0°.2×157°.7E±0°.1, h23km, mb3.7/5, Error ellipse: s-maj=27.8km s-min=15.0km az=158.0*
ISC 05 12:56:22.0±1.0, **9°.0S**±0°.2×**157°.80E**±0°.09, **h23**km, **n8,** σ**1§29/9, mb3.8/5, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.15**	**101**	Pn	**Pn**	**12 56 56.0**	**-0.5**
	18nm,0.3s,baz=252,slow=6.4,SNR=3.7						
HNR				Pg	**Pb**	**12 57 00.3**	**0.0**
	42nm,0.3s,baz=116,slow=15,SNR=9.1						
HNR				Lg	Lg	12 57 31.6	
	109nm,0.3s,baz=271,slow=18,SNR=9.8						
CTA	**Charters Tower**	**15.67**	**224**	Pn	**P**	**13 00 03.7**	**-1.7**
	0.2nm,0.3s,baz=23,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**25.14**	**242**	P	**P**	**13 01 46.0**	**+0.4**
	1.7nm,0.7s,baz=67,slow=9.4,SNR=10.0						
ASAR	**Alice Springs**	**27.10**	**235**	P	**P**	**13 02 03.5**	**+0.1**
	0.6nm,0.8s,baz=62,slow=8.5,SNR=5.9						
STKA	**Stephens Creek**	**27.27**	**211**	P	**P**	**13 02 06.7**	**+2.0**
	2.6nm,0.7s,baz=23,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**86.76**	**318**	P	**P**	**13 09 03.7**	**-0.7**
	0.2nm,0.7s,baz=96,slow=5.8,SNR=3.0						
NVAR	**Mina Array Bea**	**90.80**	**51**	P	**P**	**13 09 25.1**	**+1.2**
	0.7nm,0.8s,baz=244,slow=6.4,SNR=5.9						
BDFB	**Brasilia**	**144.58**	**134**	PKP	**PKPdf**	**13 15 57.0**	**-0.9**
	2.7nm,0.6s,baz=270,slow=2.0,SNR=3.6						

*IDC **05** 12:59:59.8±0.9, 9°.04S×157°.98E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/18, mbtmp4.1/9, Error ellipse: s-maj=27.4km s-min=19.0km az=140.0*

*ISCJB **05** 13:00:01.6±0.7, 9°.1S±0°.1×158°.0E±0°.1, h23km, mb4.0/9, Error ellipse: s-maj=20.0km s-min=14.5km az=163.3*
ISC 05 13:00:02.8±0.8, **9°.2S**±0°.2×**158°.2E**±0°.1, **h23**km, **n10,** σ**1§33/10, mb4.1/9, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.79**	**99**	Pn	**Pb**	**13 00 34.0**	**-0.8**
	32nm,0.3s,baz=254,slow=7.4,SNR=4.4						
WRA	**Warramunga Arr**	**25.39**	**242**	P	**P**	**13 05 27.9**	**-0.8**
	3.4nm,0.7s,baz=68,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**27.32**	**235**	P	**P**	**13 05 44.5**	**-1.5**
	1.2nm,0.9s,baz=67,slow=8.7,SNR=7.1						
STKA	**Stephens Creek**	**27.35**	**212**	P	**P**	**13 05 47.7**	**+1.5**
	4.1nm,0.8s,baz=27,slow=10,SNR=6.5						
PETK	**Petropavlovsk-**	**62.01**	**360**	P	**P**	**13 10 21.1**	**0.0**
	6.6nm,0.8s,baz=164,slow=8.3,SNR=11						
CMAR	**Chiang Mai Arr**	**64.53**	**295**	P	**P**	**13 10 38.9**	**+0.4**
	0.3nm,0.3s,baz=117,slow=4.2,SNR=6.1						
SONM	**Songino Array**	**72.84**	**326**	P	**P**	**13 11 29.1**	**-0.8**
	0.6nm,0.9s,baz=116,slow=6.8,SNR=3.9						
ILAR	**Eielson Array**	**84.24**	**21**	P	**P**	**13 12 31.6**	**-0.6**
	1.7nm,1.0s,baz=264,slow=5.1,SNR=6.8						
MKAR	**Makanchi Array**	**87.09**	**318**	P	**P**	**13 12 46.4**	**-0.4**
	0.8nm,0.8s,baz=114,slow=4.9,SNR=9.6						
NVAR	**Mina Array Bea**	**90.60**	**51**	P	**P**	**13 13 06.1**	**+2.3**
	1.6nm,0.9s,baz=250,slow=7.7,SNR=9.7						

*IDC **05** 13:07:25.2±0.6, 9°.14S×157°.86E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.3/21, mbtmp4.2/15, ML3.9/2, Error ellipse: s-maj=18.7km s-min=13.3km az=175.0*
*ISCJB **05** 13:07:27.7±0.5, 9°.2S±0°.1×157°.91E±0°.10, h27km, mb4.2/14, Error ellipse: s-maj=16.1km s-min=11.5km az=141.1*
ISC 05 13:07:29.3±0.6, **9°.3S**±0°.1×**158°.0E**±0°.1, **h27**km, **n23,** σ**1§37/17, mb4.2/14, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.93**	**95**	Pn	**Pn**	**13 07 59.5**	**-0.9**
	42nm,0.3s,baz=222,slow=7.1,SNR=15						
HNR				Lg	Lg	13 08 32.3	
	143nm,0.3s,baz=68,slow=20,SNR=7.4						
CTA	**Charters Tower**	**15.62**	**225**	Pn	**Pn**	**13 11 07.7**	**-0.2**
	0.3nm,0.3s,baz=60,slow=16,SNR=4.1						
WRA	**Warramunga Arr**	**25.19**	**242**	P	**P**	**13 12 51.7**	**-1.2**
	4.5nm,0.8s,baz=67,slow=9.3,SNR=20						
ASAR	**Alice Springs**	**27.11**	**235**	P	**P**	**13 13 09.5**	**-0.8**
	2.4nm,0.9s,baz=63,slow=9.6,SNR=14						
STKA	**Stephens Creek**	**27.15**	**212**	P	**P**	**13 13 11.7**	**+1.2**
	11nm,1.1s,baz=28,slow=12,SNR=9.7						
H11S3	**WAKE ISLAND Hy**	**28.90**	**17**	T	T	13 44 46.1	
	baz=197,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.90**	**17**	T	T	13 44 33.0	
	baz=197						
H11S1	**WAKE ISLAND Hy**	**28.92**	**17**	T	T	13 44 34.5	
	baz=197						
H11N1	**WAKE ISLAND Hy**	**30.11**	**17**	T	T	13 46 13.4	
	baz=198,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**30.12**	**17**	T	T	13 46 14.1	
	baz=198,slow=75,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**30.13**	**17**	T	T	13 46 25.9	
	baz=198,slow=75,SNR=2.8						
USRK	**Ussuriysk Arra**	**58.22**	**338**	P	**P**	**13 17 23.4**	**+2.3**
	4.1nm,1.0s,baz=167,slow=9.6,SNR=4.2						
PETK	**Petropavlovsk-**	**62.14**	**360**	P	**P**	**13 17 48.8**	**+0.9**
	6.1nm,0.8s,baz=151,slow=

baz=25,SNR=5.8
WRAB Tennant Creek 25.15 241 P **P** **13 15 23.6 -0.4**
comp=Z,331nm,0.8s,SNR=14
WRAB Tennant Creek 25.15 241⇑*e*P **P** **13 15 23.8 -0.2**
WRAB pmax pmax
comp=Z,179nm,1.2s
WRAB Tennant Creek 25.15 241 *e*P **P** **13 15 23.0 -1.0**
comp=Z,49nm,0.9s
WRA Warramunga Arr 25.16 241 P **P** **13 15 23.7 -0.5**
WRA Warramunga Arr 25.16 241 P **P** **13 15 23.7 -0.5**
comp=Z,70nm,1.2s,baz=67,slow=9.6,SNR=33
CMSA Cobar Meteorol 25.21 205⇑P **P** **13 15 24.4 0.0**
baz=25,SNR=22
MTN Manton Dam 26.42 259⇓P **P** **13 15 36.3 +0.8**
baz=26,SNR=3.6
ASAR Alice Springs 27.14 234 P **P** **13 15 40.8 -1.3**
ASAR Alice Springs 27.14 234 P **P** **13 15 40.8 -1.3**
comp=Z,22nm,1.1s,baz=64,slow=9.6,SNR=12
STKA Stephens Creek 27.39 211 *e*P **P** **13 15 44.4 +0.3**
comp=Z,78nm,2.2s
STKA Stephens Creek 27.39 211 P **P** **13 15 44.8 +0.7**
comp=Z,26nm,0.8s,baz=26,slow=9.5,SNR=32
H11S3 WAKE ISLAND Hy 28.57 18 T T 13 46 01.7
baz=199,slow=78,SNR=38
H11S2 WAKE ISLAND Hy 28.57 18 T T 13 46 01.8
baz=199,slow=78,SNR=42
H11S1 WAKE ISLAND Hy 28.58 18 T T 13 46 03.1
baz=199,slow=78,SNR=33
KNRA Kununurra 29.09 254⇓P **P** **13 15 59.5 0.0**
baz=29,SNR=8.0
H11N1 WAKE ISLAND Hy 29.78 18 T T 13 48 02.7
baz=198,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 29.79 18 T T 13 47 39.7
baz=198,slow=75,SNR=18
H11N2 WAKE ISLAND Hy 29.80 18 T T 13 48 04.2
baz=198,slow=75,SNR=17
HTT Hallett 30.00 213⇑P **P** **13 16 07.1 -0.2**
baz=30,SNR=6.0
TOO Toolangi 30.67 199⇑P **P** **13 16 13.8 +0.6**
baz=30,SNR=5.5
BBOO Buckleboo 31.15 217 *e*P **P** **13 16 17.0 -0.5**
comp=Z,568nm,0.8s
BBOO Buckleboo 31.15 217⇓P **P** **13 16 16.4 -1.2**
baz=31,SNR=11
ARPS Mount Arapiles 31.32 205⇑P **P** **13 16 18.6 -0.4**
baz=31,SNR=9.3
WRKA Warakurna 32.32 236⇑P **P** **13 16 26.5 -1.5**
baz=32,SNR=12
URZ Urewera 34.09 152 P **P** **13 16 43.2 0.0**
URZ Urewera 34.09 152 P **P** **13 16 43.2 0.0**
comp=Z,4.6nm,0.6s,baz=281,slow=5.2,SNR=4.0
BKZ Black Stump Fm 34.56 154 *e*P **P** **13 16 47.2 -0.1**
comp=Z,175nm,2.1s
RPZ Rata Peaks 36.63 164 *e*P **P** **13 17 04.9 -0.1**
RPZ Rata Peaks 36.63 164 P **P** **13 17 04.7 -0.3**
comp=Z,17nm,0.8s,baz=87,slow=9.4,SNR=4.5
KMBL Kambalda 40.15 231⇓P **P** **13 17 34.9 +0.1**
baz=40,SNR=5.5
MEEK Meekatharra 41.03 239⇑P **P** **13 17 41.4 -0.7**
baz=41,SNR=6.7
JAGI Jajag, Banyuwa 43.07 267 *e*P **P** **13 17 57.4 -1.5**
comp=Z,85nm,0.8s
JAGI Jajag, Banyuwa 43.07 267⇑P **P** **13 17 57.2 -1.6**
baz=43,SNR=11
KKM Kota Kinabalu 43.95 288 *e*P **P** **13 18 05.8 -0.3**
comp=Z,35nm,1.0s
NWAO Narrogin (SRO) 44.38 231 P **P** **13 18 08.8 -0.4**
NWAO Narrogin (SRO) 44.38 231 P **P** **13 18 08.8 -0.4**
comp=Z,28nm,1.2s,baz=11,slow=5.2,SNR=3.0
JOW Kunigami 45.55 322 P **P** **13 18 19.2 +0.8**
JOW Kunigami 45.55 322 P **P** **13 18 19.2 +0.8**
comp=Z,5.2nm,0.9s,baz=144,slow=12,SNR=4.0
UGM Wanagama 46.69 267⇑P **P** **13 18 27.0 -0.7**
baz=47,SNR=3.4
SBUM Sibu 46.73 282 *e*P **P** **13 18 29.2 +1.2**
comp=Z,34nm,1.3s
NACB Ninganchiao 48.18 314 *e*P **P** **13 18 39.2 +0.1**
comp=Z,123nm,1.4s
KSM Kuching 48.35 280 *e*P **P** **13 18 40.5 -0.2**
comp=Z,32nm,0.9s
KSM Kuching 48.35 280⇑P **P** **13 18 40.7 0.0**
baz=48,SNR=5.5
SSLB Suanglung 48.41 313 *e*P **P** **13 18 39.9 -1.0**
comp=Z,50nm,1.1s
YHNB Yeheng 48.65 314 *e*P **P** **13 18 42.9 +0.1**
comp=Z,115nm,1.3s
MJAR Matsushiro Arr 48.73 339 P **P** **13 18 41.7 -1.5**
MJAR Matsushiro Arr 48.73 339 P **P** **13 18 41.7 -1.5**
comp=Z,8.3nm,1.0s,baz=173,slow=8.4,SNR=11
JNU Nakatsue 48.94 330 *e*P **P** **13 18 44.6 -0.3**
comp=Z,41nm,1.1s
JNU Nakatsue 48.94 330 P **P** **13 18 44.8 -0.1**
comp=Z,59nm,0.9s,baz=112,slow=3.8,SNR=13
DLV T Lat 53.13 292 *e*P **P** **13 19 16.6 -0.3**
KSRS Korea Array 53.85 331 P **P** **13 19 21.9 +0.4**
comp=Z,21nm,1.1s,baz=147,slow=8.1,SNR=16
KSAR Wonju Array Be 53.86 331 P **P** **13 19 21.9 +0.3**
QIZ Qiongzhong 54.73 301 P **P** **13 19 29.1 +0.8**
QIZ pP **pP** **13 19 36.6 -1.6**
QIZ sP **sP** **13 19 41.4 -0.6**
QIZ S **S** **13 27 06.1 -0.8**
QIZ pmax pmax
comp=Z,43nm,1.2s
QIZ pmax pmax
comp=Z,2μm,11.5s
QIZ LR LR
comp=Z,3μm,15.4s
QIZ LR LR
comp=Z,4μm,15.4s
WHN Wuhan 57.15 315⇓*i*P **P** **13 19 45.9 +0.5**
WHN pmax pmax
comp=Z,100nm,1.2s
USRK Ussuriysk Arra 57.71 338 P **P** **13 19 49.5 +0.5**
comp=Z,22nm,1.0s,baz=148,slow=7.7,SNR=13
IPM Ipoh 58.06 281 *e*P **P** **13 19 50.6 -1.6**
comp=Z,19nm,0.8s
KULM Kulim 58.61 282 *e*P **P** **13 19 55.4 -0.7**
comp=Z,21nm,1.1s
MDJ Mudanjiang 58.97 337 P **P** **13 19 57.9 0.0**
MDJ pP **pP** **13 20 07.6 -0.3**
MDJ sP **sP** **13 20 10.9 -0.8**
MDJ PcP **PcP** **13 20 46.7 0.0**
MDJ PP **PP** **13 22 08.8 +0.2**
MDJ S **S** **13 28 06.6 +4.5**
MDJ pmax pmax
comp=Z,28nm,1.3s
MDJ pmax pmax
comp=Z,5μm,11.3s
MDJ LR LR
comp=Z,4μm,17.4s
MDJ LR LR
comp=Z,3μm,17.4s
MDJ LR LR
comp=Z,4μm,15.0s
PSI Prapat 59.75 278 P **P** **13 20 02.3 -1.7**
PSI Prapat 59.75 278 P **P** **13 20 02.3 -1.7**
comp=Z,4.4nm,0.6s,baz=85,slow=4.2,SNR=7.8
CN2 Changchun 60.03 333 *e*P **P** **13 20 04.7 -0.5**
CN2 *ep*P **pP** **13 20 17.4 +2.2**
CN2 *e*S **S** **13 28 13.4 -2.3**
CN2 *e*SS **SS** **13 32 12.1 -1.0**
CN2 pmax pmax
comp=Z,20nm,1.8s
CN2 pmax pmax
comp=Z,400nm,8.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,5μm,17.0s
CHAI Chaiyaphum 60.42 294 P **P** **13 20 08.5 +0.1**
comp=Z,9.7nm,0.8s
HABR Khabarovsk 60.48 343 *e*P **P** **13 20 06.3 -1.8**
HABR *e**PP **pP** **13 20 16.3 -1.8**
HABR *e**SP **sP** **13 20 20.5 -1.5**
HABR *e* 13 20 51.0
HABR 13 22 19.8
HABR *e*S **S** **13 28 19.0 -2.3**
HABR *e**SS **sS** **13 28 36.1 -1.7**
HABR *e* 13 29 53.6
HABR *e*SS **SS** **13 32 17.2 -2.8**
HABR pmax pmax
comp=Z,17nm,1.3s
HABR MLR MLR
comp=Z,3μm,15.0s

ENH Enshi 60.48 312 *e*P **P** **13 20 08.2 -0.5**
comp=Z,47nm,1.0s
PATY Pattaya 60.48 290 P **P** **13 20 10.8 +2.0**
comp=Z,8.9nm,0.9s,comp=Z,592nm
GYA Guiyang 60.72 307⇑*i*P **P** **13 20 10.7 +0.2**
GYA pP **pP** **13 20 23.4 +2.9**
GYA PP **PP** **13 22 28.0 +3.4**
GYA ScP **ScP** **13 24 53.1 -0.4**
GYA S **S** **13 28 25.8 +0.2**
GYA SS **SS** **13 32 26.0 +1.1**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA LR LR
comp=Z,920nm,18.6s
GYA LR LR
comp=Z,840nm,19.2s
GYA LR LR
comp=Z,960nm,18.9s
SLVN Son La 60.75 300 *e*P **P** **13 20 09.2 -1.5**
PBKT Sadao Pong 61.56 294 P **P** **13 20 16.8 +0.7**
comp=Z,30nm,1.0s
PET Petropavlovsk 61.63 1 *e*P **P** **13 20 15.9 0.0**
PET pmax pmax
comp=Z,78nm,1.2s
PET Petropavlovsk 61.63 1 *e*P **P** **13 20 15.8 0.0**
comp=Z,78nm,1.2s
PEA0B Petropavlovsk- 61.71 360 *e*P **P** **13 20 16.4 -0.1**
PETK Petropavlovsk- 61.71 360 P **P** **13 20 16.5 0.0**
PETK Petropavlovsk- 61.71 360 P **P** **13 20 16.5 0.0**
PETK Petropavlovsk- 61.71 360 P **P** **13 20 16.5 0.0**
comp=Z,35nm,1.1s,baz=152,slow=6.7,SNR=17
BJI Beijing 61.98 325 P **P** **13 20 19.2 +0.7**
BJI pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 62.16 341 *e*P P 13 20 15.7 -3.8
KLR pmax pmax
comp=Z,48nm,1.4s
PHIT Phitsanulok 62.27 295 P **P** **13 20 22.8 +1.9**
comp=Z,40nm,0.9s
FX1 Attu Island--F 62.88 10 *e*P **P** **13 20 24.2 0.0**
FX1 Attu Island--F 62.88 10 P **P** **13 20 24.5 +0.2**
comp=Z,90nm,0.7s,baz=181,slow=2.3,SNR=8.1
XAN Xi'an 62.91 315 P **P** **13 20 24.5 -0.5**
XAN pmax pmax
comp=Z,9.0nm,1.2s
KHLT Khaolaem Dam 63.16 291 P **P** **13 20 28.1 +1.2**
comp=Z,37nm,0.8s
KMI Kunming 63.29 304⇑P **P** **13 20 29.3 +1.4**
KMI pP **pP** **13 20 40.3 +2.4**
KMI sP **sP** **13 20 44.5 +2.7**
KMI PP **PP** **13 22 51.3 +3.9**
KMI S **S** **13 28 56.9 -1.4**
KMI sS **sS** **13 29 13.4 -1.4**
KMI SS **SS** **13 33 06.2 +0.8**
KMI pmax pmax
comp=Z,59nm,1.1s
KMI pmax pmax
comp=Z,2μm,10.6s
KMI LR LR
comp=Z,3μm,21.5s
KMI LR LR
comp=Z,2μm,18.6s
KMI LR LR
comp=Z,3μm,19.5s
LAMP Lampang 63.43 296 P **P** **13 20 29.8 +1.2**
comp=Z,15nm,0.9s,comp=Z,127nm
CMAR Chiang Mai Arr 64.02 295 P **P** **13 20 33.3 +0.8**
CMAR Chiang Mai Arr 64.02 295 P **P** **13 20 33.3 +0.8**
comp=Z,18nm,0.9s,baz=115,slow=4.9,SNR=70
CHTO Chiang Mai 64.14 296 *e*P **P** **13 20 33.1 -0.2**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 64.14 296 P **P** **13 20 33.8 +0.5**
comp=Z,156nm,1.3s,comp=Z,4μm
CHTO Chiang Mai 64.14 296 *e*P **P** **13 20 33.1 -0.2**
comp=Z,9.1nm,1.0s
CMAI Chiengmai2 64.44 297 P **P** **13 20 36.1 +0.7**
comp=Z,72nm,1.7s,comp=Z,6μm
CD2 Chengdu 65.07 310⇑*i*P **P** **13 20 39.8 +0.6**
CD2 pmax pmax
comp=Z,110nm,0.9s
HHC Hu-ho-hao-te 65.19 323 *e*P **P** **13 20 40.1 +0.3**
HHC S **S** **13 29 18.5 -2.4**
HHC pmax pmax
comp=Z,22nm,1.2s
HHC pmax pmax
comp=Z,3μm,8.7s
HHC LR LR
comp=Z,6μm,17.4s
HIA Hailar 66.75 334 *e*P **P** **13 20 49.6 0.0**
comp=Z,12nm,0.9s
LZH Lanzhou 67.53 315 *e*P **P** **13 20 56.6 +1.6**
LZH pP **pP** **13 21 05.2 0.0**
LZH sP **sP** **13 21 09.4 +0.4**
LZH PcP **PcP** **13 21 23.9 +1.8**
LZH pmax pmax
comp=Z,63nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.8s
VNDA Vanda 68.68 179 P **P** **13 21 01.3 0.0**
VNDA Vanda 68.68 179 P **P** **13 21 01.3 0.0**
comp=Z,2.5nm,0.8s,baz=360,slow=11,SNR=3.2
CLNS Chul'man 70.81 342 *e*P **P** **13 21 15.7 +1.0**
CLNS pmax pmax
comp=Z,28nm,1.1s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.1s
SEY Seymchan 71.68 357 P **P** **13 21 19.9 +0.1**
SEY Seymchan 71.68 357 P **P** **13 21 19.9 +0.1**
SEY Seymchan 71.68 357 P **P** **13 21 19.9 +0.1**
comp=E,14nm,1.1s,baz=171,slow=8.1,SNR=9.7
GTA Gaotai 71.94 316 P **P** **13 21 22.9 +0.8**
GTA pP **pP** **13 21 29.5 -2.8**
GTA pmax pmax
comp=E,15nm,1.5s
ULN Ulaanbaatar 72.02 327 *e*P **P** **13 21 22.0 -0.4**
comp=E,24nm,1.3s
SONM Songino Array 72.36 326 P **P** **13 21 25.2 +0.8**
SONM Songino Array 72.36 326 P **P** **13 21 25.2 +0.8**
comp=E,4.9nm,0.9s,baz=133,slow=5.3,SNR=17
SHL Shillong 72.56 300 *e*P **P** **13 21 26.5 +0.3**
SHL *ex* x 13 23 01.0
YAK Yakutsk 73.95 347 *e*P **P** **13 21 32.2 -1.1**
YAK pmax pmax
comp=Z,36nm,0.9s
LSA Lhasa 74.55 304 *e*P **P** **13 21 38.7 +0.6**
LSA pmax pmax
comp=Z,33nm,1.4s
LSA Lhasa 74.55 304 *e*P **P** **13 21 38.7 +0.6**
comp=Z,33nm,1.4s
ZAK Zakamensk 75.49 327 *e*P **P** **13 21 41.9 -0.8**
ZAK pmax pmax
comp=Z,8.0nm,1.8s
TLY Talaya 76.03 329 P **P** **13 21 45.0 -0.6**
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 76.03 329 P **P** **13 21 45.0 -0.6**
comp=Z,7.8nm,1.1s
MOY Mondy 77.41 328 *e*P **P** **13 21 53.0 -0.5**
PALK Pallekele 78.41 279 *e*P **P** **13 22 00.2 +0.4**
comp=Z,213nm,1.0s
TNA Tin City 78.43 14 *e*P **P** **13 21 59.3 +0.6**
comp=Z,30nm,0.9s
SVW2 Sparrevohn 78.71 21 *e*P **P** **13 22 01.7 +1.4**
comp=Z,28nm,1.0s
RC01 Rabbit Creek A 80.87 23 *e*P **P** **13 22 12.3 +0.2**
comp=Z,62nm,1.3s
PPLA Purkeypile 81.10 21 *e*P **P** **13 22 13.4 -0.1**
comp=Z,111nm,1.6s
QSPA South Pole Qui 81.14 180 P **P** **13 22 13.6 -0.1**
QSPA South Pole Qui 81.14 180 P **P** **13 22 13.6 -0.1**
comp=Z,7.4nm,0.9s,baz=356,slow=3.6,SNR=9.8
PMR Palmer 81.41 23 *e*P **P** **13 22 14.5 -0.4**
PMR pmax pmax
comp=Z,36nm,1.0s
PMR Palmer 81.41 23 *e*P **P** **13 22 14.5 -0.4**
comp=Z,36nm,1.0s
CAST Castle Rocks 81.47 20 *e*P **P** **13 22 14.9 -0.4**
comp=Z,35nm,0.8s
SML Sawmill 81.84 23 P **P** **13 22 17.8 +0.5**
SML pmax pmax
comp=Z,28nm,1.0s
SML Sawmill 81.84 23 P **P** **13 22 17.8 +0.5**
comp=Z,28nm,1.0s

KTH Kantishna Hill 81.96 21 *e*P **P** **13 22 17.4 -0.6**
comp=Z,47nm,0.9s
WMQ Urumqi 82.02 317 P **P** **13 22 19.1 +0.4**
WMQ pP **pP** **13 22 29.5 +0.5**
WMQ sP **sP** **13 22 33.4 +0.6**
WMQ PP **PP** **13 25 29.0 +2.1**
WMQ S **S** **13 32 27.7 -3.2**
WMQ sS **ScS** **13 32 46.9 -0.2**
WMQ SS **SS** **13 37 52.0 +1.4**
WMQ pmax pmax
comp=Z,11nm,1.4s
WMQ pmax pmax
comp=Z,6μm,8.9s
WMQ LR LR
comp=Z,2μm,23.8s
WMQ LR LR
comp=Z,3μm,18.7s
WMQ LR LR
comp=Z,2μm,19.0s
TRF Thorofare Moun 82.12 21 *e*P **P** **13 22 18.3 -0.6**
comp=Z,30nm,0.8s
HYB Hyderabad 82.43 289 *i*P **P** **13 22 20.0 -1.3**
TIXI Tiksi 82.57 351⇓*i*P **P** **13 22 20.3 -0.5**
TIXI pmax pmax
comp=Z,38nm,1.7s
TIXI Tiksi 82.57 351 P **P** **13 22 19.9 -0.9**
comp=Z,60nm,1.7s
IM04 Indian Mountai 82.60 18 *e*P **P** **13 22 21.2 0.0**
MCK McKinley 82.77 21 *e*P **P** **13 22 21.2 -0.9**
MCK pmax pmax
comp=Z,141nm,1.0s
MCK McKinley 82.77 21 *e*P **P** **13 22 21.2 -0.9**
comp=Z,141nm,1.0s
BMRM Bremner River 82.85 25 *e*P **P** **13 22 23.6 +1.0**
comp=Z,80nm,1.6s
PAX Paxson 83.61 23 *e*P **P** **13 22 26.7 +0.2**
PAX pmax pmax
comp=Z,35nm,1.6s
PAX Paxson 83.61 23 *e*P **P** **13 22 26.7 +0.2**
comp=Z,35nm,1.6s
MAW Mawson 83.74 203 P **P** **13 22 27.7 +0.7**
MAW Mawson 83.74 203 P **P** **13 22 27.7 +0.7**
comp=Z,11nm,1.1s,baz=85,slow=11,SNR=3.5
COLA College 83.83 20*c i*P **P** **13 22 26.4 -1.0**
COLA pmax pmax
comp=Z,463nm,1.5s
COLA College 83.83 20 *e*P **P** **13 22 26.0 -1.4**
comp=Z,18nm,0.9s
ILAR Eielson Array 84.11 21 P **P** **13 22 27.8 -1.2**
ILAR Eielson Array 84.11 21 P **P** **13 22 27.8 -1.2**
comp=Z,23nm,1.0s,baz=257,slow=5.3,SNR=85
MENT Mentasta 84.26 23 *e*P **P** **13 22 29.6 -0.1**
COLD Coldfoot 84.50 18 *e*P **P** **13 22 31.4 +0.6**
comp=Z,44nm,1.5s
DOT Dot Lake 84.51 22 *e*P **P** **13 22 31.0 0.0**
comp=Z,53nm,1.0s
HYT Haines Junctio 85.80 26 *e*P **P** **13 22 37.9 +0.3**
EGAK Eagle 86.18 22 *e*P **P** **13 22 40.0 +0.7**
DAWY Dawson 86.51 23 *e*P **P** **13 22 41.9 +0.9**
MK31 Makanchi Array 86.58 318 *i*P **P** **13 22 41.1 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 86.58 318 *e*P **P** **13 22 41.1 -0.6**
MKAR Makanchi Array 86.58 318 P **P** **13 22 41.2 -0.5**
MKAR Makanchi Array 86.58 318 P **P** **13 22 41.1 -0.5**
MKAR PKKP **PKKPdf** **13 40 36.0 +3.0**
MKAR Makanchi Array 86.58 318 P **P** **13 22 41.1 -0.5**
comp=Z,6.8nm,0.8s,baz=94,slow=5.7,SNR=39
MKAR PKKP **PKKPdf** **13 40 36.0 +3.0**
comp=Z,0.3nm,0.8s,baz=330,slow=1.7,SNR=4.0
KMRM Mail Ridge 87.03 49 *e*P **P** **13 22 46.1 +2.0**
comp=Z,154nm,2.9s
ZALV Zalesovo Beam 87.22 326 P **P** **13 22 43.3 -1.3**
ZALV Zalesovo Beam 87.22 326 P **P** **13 22 43.3 -1.3**
ZALV Zalesovo Beam 87.22 326 P **P** **13 22 43.3 -1.3**
comp=Z,36nm,0.5s,baz=115,slow=5.7,SNR=10
M02C Callahan 87.94 48⇑P **P** **13 22 50.0 +1.6**
baz=88
N02D Trinity Center 87.95 48⇑P **P** **13 22 49.9 +1.4**
baz=88
SAO San Andreas Ge 87.96 52 *e*P **P** **13 22 50.1 +1.5**
SAO pmax pmax
comp=Z,18nm,1.2s
SAO San Andreas Ge 87.96 52 *e*P **P** **13 22 50.1 +1.5**
comp=Z,18nm,1.2s
WDC Whiskeytown Da 87.98 49 *e*P **P** **13 22 50.0 +1.5**
WDC pmax pmax
comp=Z,39nm,1.6s
WDC Whiskeytown Da 87.98 49 *e*P **P** **13 22 50.0 +1.5**
comp=Z,39nm,1.6s
YBH Yreka Blue Hor 88.12 47 *e*P **P** **13 22 50.7 +1.4**
YBH Yreka Blue Hor 88.12 47 P **P** **13 22 49.0 -0.3**
comp=Z,7.2nm,0.9s,baz=158,slow=1.8,SNR=12
HUMO Hull Mountain 88.15 47 *e*P **P** **13 22 50.3 +0.9**
comp=Z,10nm,1.1s
OHCM Honcut 88.49 50 *e*P **P** **13 22 52.1 +1.1**
M04C Macdoel 88.77 48⇓P **P** **13 22 53.9 +1.5**
baz=89
BSC Santa Cruz Isl 88.84 56⇓P **P** **13 22 54.8 +2.0**
baz=89
PKM Peak Mountain 88.87 55⇑P **P** **13 22 54.7 +1.6**
baz=89
J04D Umpqua Nationa 88.90 46⇓P **P** **13 22 54.2 +1.0**
baz=89
CMB Columbia Colle 89.06 51 *e*P **P** **13 22 55.0 +1.2**
CMB pmax pmax
comp=Z,55nm,1.9s
CMB Columbia Colle 89.06 51 *e*P **P** **13 22 55.0 +1.2**
comp=Z,55nm,1.9s
KSH Kashi 89.27 310 P **P** **13 22 56.4 +1.6**
KSH *es*P **sP** **13 23 10.4 +1.4**
KSH *e*PP **PP** **13 26 27.8 +2.0**
KSH *e*S **S** **13 33 39.9 -2.6**
KSH *es*S **sS** **13 33 57.4 -2.3**
KSH *e*SS **SS** **13 39 36.2 -1.3**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,960nm,11.8s
KSH LR LR
comp=Z,240nm,4.8s
KSH LR LR
comp=Z,330nm,6.4s
KSH LR LR
comp=Z,370nm,7.9s
SCI San Clemente I 89.54 57⇑P **P** **13 22 57.4 +1.4**
baz=90
RCTC Rector, Farmer 89.61 53⇑P **P** **13 22 57.3 +1.0**
baz=90
VES Vestal, Richgr 89.64 54⇑P **P** **13 22 56.8 +0.4**
baz=90,SNR=8.4
K05A Summer Lake 89.66 47 *e*P **P** **13 22 58.1 +1.4**
comp=Z,196nm,2.6s
I05D Terrebonne, OR 89.69 45⇑P **P** **13 22 57.7 +1.1**
baz=90
ARVC Arvin 89.71 55⇑P **P** **13 22 57.8 +0.9**
baz=90,SNR=9.7
CIS Catalina Islan 89.73 56⇑P **P** **13 22 57.6 +0.5**
baz=90,SNR=12
WAKR Walker 89.88 51 *e*P **P** **13 22 58.7 +0.9**
MOD Modoc 89.92 48 *e*P **P** **13 22 59.1 +1.2**
comp=Z,30nm,1.5s
KURK Kurchatov 89.96 321 P **P** **13 22 56.5 -1.1**
KURK Kurchatov 89.96 321 P **P** **13 22 56.5 -1.1**
KURBB Kurchatov Arra 89.99 321 P **P** **13 22 56.5 -1.2**
comp=Z,1.6nm,0.9s,baz=92,slow=3.4,SNR=10.0
PASC Pasadena Art C 90.05 56 *e*P **P** **13 22 59.9 +1.4**
comp=Z,32nm,1.1s
ISA Isabella 90.10 54 *e*P **P** **13 22 59.5 +0.8**
ISA pmax pmax
comp=Z,25nm,1.3s
ISA Isabella 90.10 54 *e*P **P** **13 22 59.5 +0.8**
comp=Z,25nm,1.3s
ISA Isabella 90.10 54⇓P **P** **13 22 59.4 +0.8**
baz=90,SNR=16
MWC Mount Wilson 90.17 56 *e*P **P** **13 23 00.7 +1.5**
MWC pmax pmax
comp=Z,81nm,1.3s
MWC Mount Wilson 90.17 56 *e*P **P** **13 23 00.7 +1.5**
comp=Z,81nm,1.3s
TKM2 Tokmak 2 90.25 313 *i*P **P** **13 22 59.1 -0.3**
TKM2 Tokmak 2 90.25 313 P **P** **13 22 59.1 -0.3**
SNR=5.4
TKM2 Tokmak 2 90.25 313 *e*P **P** **13 22 59.4 0.0**
comp=Z,4.4nm,0.9s
KZA Kyzart 90.33 312 *i*P **P** **13 23 01.1 +1.0**

KZA	**Kyzart**	90.33	312	P		P	13 23 01.1	+1.0	
	SNR=8.1								
MTUM	**Tungsten Hills**	90.34	52	*e*P		P	13 23 01.2	+1.3	
EDW2	**Edwards Air Fo**	90.34	55	⇑P		P	13 23 00.9	+1.1	
	baz=90,SNR=22								
INK	**Inuvik**	90.49	20	P		P	13 22 59.5	-0.1	
INK	**Inuvik**	90.49	20	P		P	13 22 59.5	-0.1	
	comp=Z,9.3nm,1.0s,baz=253,slow=6.7,SNR=9.9								
BFSC	**Mount Baldy Ra**	90.50	56	⇓P		P	13 23 01.4	+0.7	
	baz=91,SNR=12								
TIN	**Tinemaha**	90.55	53	⇓P		P	13 23 02.3	+1.4	
	baz=91								
CWC	**Cottonwood Cre**	90.55	53	⇓P		P	13 23 01.7	+0.7	
	baz=91,SNR=20								
LRMC	**Laurel Mountai**	90.69	54	⇓P		P	13 23 02.7	+1.2	
	baz=91,SNR=23								
109C	**Camp Elliot, M**	90.71	57	⇓P		P	13 23 02.5	+1.0	
	baz=91								
NVAR	**Mina Array Bea**	90.74	51	P		P	13 23 02.9	+1.1	
NVAR	**Mina Array Bea**	90.74	51	P		P	13 23 02.9	+1.1	
	comp=Z,19nm,0.9s,baz=253,slow=7.3,SNR=84								
MURC	**Murrieta**	90.76	56	⇑P		P	13 23 02.8	+0.9	
	baz=91								
LTY	**Liberty**	90.77	42	*e*P		P	13 23 01.6	0.0	
	comp=Z,113nm,2.8s								
UCH	**Uchtor**	90.89	312	*i* P		P	13 23 03.0	+0.2	
UCH	**Uchtor**	90.89	312	P		P	13 23 03.0	+0.2	
	SNR=7.6								
I07A	**Izee**	90.93	46	*e*P		P	13 23 03.5	+1.0	
	comp=Z,17nm,1.0s								
MPMC	**Manual Prospec**	90.95	54	⇓P		P	13 23 03.7	+0.8	
	baz=91,SNR=20								
AAK	**Ala-Archa**	90.98	313	⇑*e*P		P	13 23 02.1	-0.7	
AAK				pmax	pmax				
	comp=Z,35nm,2.5s								
AAK	**Ala-Archa**	90.98	313	*e*P		P	13 23 01.5	-1.3	
	comp=Z,25nm,2.0s								
AAK	**Ala-Archa**	90.98	313	P		P	13 23 02.8	0.0	
	comp=Z,2.0nm,0.9s,baz=108,slow=5.7,SNR=6.8								
BAR	**Barrett**	91.04	57	*e*P		P	13 23 04.5	+1.4	
	comp=Z,17nm,1.3s								
BBRC	**Big Bear Solar**	91.10	56	⇑P		P	13 23 04.3	+0.7	
	baz=91								
USP	**Ospenovka**	91.10	313	*i* P		P	13 23 01.9	-1.3	
USP	**Ospenovka**	91.10	313	P		P	13 23 02.0	-1.3	
	SNR=7.9								
E07A	**Sunnyside**	91.18	43	*e*P		P	13 23 04.0	+0.5	
	comp=Z,16nm,1.0s								
WVOR	**Wild Horse Val**	91.23	47	*e*P		P	13 23 05.2	+1.3	
WVOR				pmax	pmax				
	comp=Z,24nm,1.1s								
WVOR	**Wild Horse Val**	91.23	47	*e*P		P	13 23 05.2	+1.3	
	comp=Z,24nm,1.1s								
MONP	**Monument Peak**	91.28	57	⇑P		P	13 23 05.3	+0.8	
	baz=91,SNR=9.4								
HAWA	**Hanford**	91.36	43	*e*P		P	13 23 04.5	+0.3	
	comp=Z,9.8nm,0.9s								
GSC	**Goldstone**	91.37	55	*e*P		P	13 23 06.1	+1.4	
GSC				pmax	pmax				
	comp=Z,52nm,1.0s								
GSC	**Goldstone**	91.37	55	*e*P		P	13 23 06.1	+1.4	
	comp=Z,52nm,1.0s								
GSC	**Goldstone**	91.37	55	⇑P		P	13 23 05.3	+0.6	
	baz=92,SNR=11								
PFO	**Pinyon Flat Ob**	91.37	56	P		P	13 23 05.3	+0.5	
PFO	**Pinyon Flat Ob**	91.37	56	P		P	13 23 05.3	+0.5	
	comp=Z,5.7nm,1.0s,baz=245,slow=2.9,SNR=8.0								
PFO	**Pinyon Flat Ob**	91.37	56	⇓P		P	13 23 05.3	+0.5	
	baz=92,SNR=5.7								
AML	**Almayashu**	91.47	312	P		P	13 23 06.0	+0.6	
	SNR=9.3								
EKS2	**Erkin-Say**	91.51	313	*e*P		P	13 23 05.4	+0.2	
EKS2				pmax	pmax				
	comp=Z,20nm,1.8s								
EKS2	**Erkin-Say**	91.51	313	*e*P		P	13 23 05.4	+0.2	
	comp=Z,20nm,1.8s								
TPH	**Tonopah**	91.52	52	*e*P		P	13 23 06.4	+1.0	
TPH				pmax	pmax				
	comp=Z,28nm,1.0s								
TPH	**Tonopah**	91.52	52	*e*P		P	13 23 06.4	+1.0	
	comp=Z,28nm,1.0s								
J08A	**Circle Bar Ran**	91.52	46	*e*P		P	13 23 05.9	+0.7	
	comp=Z,28nm,1.0s								
FURC	**Furnace Creek,**	91.53	53	⇓P		P	13 23 06.7	+1.5	
	baz=92,SNR=35								
G08A	**Pilot Rock**	91.54	45	*e*P		P	13 23 05.8	+0.6	
	comp=Z,12nm,1.1s								
HEC	**Hector,Ludlow**	91.68	55	⇓P		P	13 23 06.9	+0.7	
	baz=92,SNR=15								
SWSC	**Sam W. Stewart**	91.81	57	⇓P		P	13 23 07.6	+1.0	
	baz=92								
BELC	**Belle Mtn. Jos**	91.81	56	⇓P		P	13 23 07.9	+1.0	
	baz=92,SNR=11								
SHOC	**Shoshone**	91.89	54	⇓P		P	13 23 07.6	+0.6	
	baz=92,SNR=15								
TUQ	**Turquoise Moun**	92.10	55	⇓P		P	13 23 09.0	+0.8	
	baz=92,SNR=10								
BC3	**Big Chuckawall**	92.20	56	⇑P		P	13 23 09.5	+0.9	
	baz=92,SNR=5.5								
GMRC	**Granite Mounta**	92.21	55	⇓P		P	13 23 09.3	+0.7	
	baz=92,SNR=13								
E09A	**Wood Farm, Sta**	92.33	43	*e*P		P	13 23 09.2	+0.5	
	comp=Z,15nm,1.0s								
C09A	**Chrisman Ranch**	92.47	42	*e*P		P	13 23 09.3	0.0	
	comp=Z,6.7nm,0.9s								
IRM	**Iron Mountain**	92.53	56	⇑P		P	13 23 10.8	+0.8	
	baz=93,SNR=12								
GLA	**Glamis**	92.63	57	⇓P		P	13 23 11.6	+1.1	
	baz=93								
R11A	**Troy Canyon, C**	92.83	52	*e*P		P	13 23 12.3	+0.8	
	comp=Z,21nm,1.1s								
R11A	**Troy Canyon, C**	92.83	52	⇓P		P	13 23 12.7	+1.2	
	baz=93								
F10A	**Beach Ranch, E**	92.86	44	*e*P		P	13 23 11.6	+0.2	
	comp=Z,11nm,0.8s								
SHPR	**Sheep Range**	92.88	54	*e*P		P	13 23 12.6	+0.9	
Y12C	**Blythe**	92.98	56	⇑P		P	13 23 12.7	+0.7	
	baz=93								
NEW	**Newport**	93.31	42	*e*P		P	13 23 12.4	-0.9	
	comp=Z,6.6nm,0.8s								
NEW	**Newport**	93.31	42	⇑P		P	13 23 13.1	-0.2	
	baz=94								
PDMC	**Parker Dam,Lak**	93.38	56	⇓P		P	13 23 15.3	+1.4	
	baz=94								
MFID	**Camas Ranch**	93.43	47	*e*P		P	13 23 15.2	+1.1	
	comp=Z,23nm,1.4s								
ELK	**Elko**	93.46	49	*e*P		P	13 23 15.9	+1.4	
	comp=Z,11nm,1.1s								
113A	**Mohawk Valley,**	93.47	58	⇑P		P	13 23 15.3	+1.0	
	baz=94								
W13A	**Hualapai Mount**	93.70	55	⇓P		P	13 23 16.0	+0.4	
	baz=94,SNR=6.4								
KKAR	**Karatay Array**	93.95	313	*e*P		P	13 23 15.9	-0.5	
KKAR	**Karatay Array**	93.95	313	*e*P		P	13 23 15.8	-0.5	
214A	**Organ Pipe Nat**	94.16	58	⇑P		P	13 23 18.7	+1.2	
	baz=94								
ARUT	**Antelope Range**	94.43	53	*e*P		P	13 23 18.4	-0.4	
ARUT	**Antelope Range**	94.43	53	*e*P		P	13 23 18.4	-0.4	
	comp=Z,256nm,1.2s								
CCUT	**Cedar City**	94.46	53	*e*P		P	13 23 21.1	+2.1	
	comp=Z,18nm,1.3s								
HLID	**Hailey**	94.47	47	*e*P		P	13 23 19.3	+0.3	
	comp=Z,16nm,1.2s								
HLID	**Hailey**	94.47	47	⇓P		P	13 23 19.9	+1.0	
	baz=95								
BSMT	**Bassoo Peak**	94.80	42	*e*P		P	13 23 20.6	+0.2	
	comp=Z,3.2nm,1.1s								
BGU	**Big Grassy Mou**	95.15	50	*e*P		P	13 23 23.3	+1.2	
	comp=Z,5.1nm,1.2s								
U15A	**North Rim**	95.16	54	⇓P		P	13 23 23.8	+1.4	
	baz=95								
DUG	**Dugway**	95.22	50	*e*P		P	13 23 23.0	+0.6	
DUG				pmax	pmax				
	comp=Z,19nm,1.6s								
DUG	**Dugway**	95.22	50	*e*P		P	13 23 23.0	+0.6	
	comp=Z,19nm,1.6s								
DUG	**Dugway**	95.22	50	⇑P		P	13 23 23.6	+1.2	
	baz=95								
BVA0	**Borovoye Array**	95.40	323	P		P	13 23 20.9	-1.8	
BVA0				pmax	pmax				
	comp=Z,14nm,1.4s								
HVU	**Hansel Valley**	95.44	49	*e*P		P	13 23 24.3	+0.9	
HVU				pmax	pmax				
	comp=Z,23nm,1.1s								
HVU	**Hansel Valley**	95.44	49	*e*P		P	13 23 24.3	+0.9	
	comp=Z,22nm,1.1s								
BRVK	**Borovoye**	95.47	323	⇑*i*P		P	13 23 20.8	-2.2	
BRVK				pmax	pmax				
	comp=Z,14nm,1.8s								
BRVK	**Borovoye**	95.47	323	*e*P		P	13 23 21.7	-1.3	
	comp=Z,12nm,1.3s								
MVU	**Marysvale**	95.48	52	*e*P		P	13 23 26.4	+2.6	
	comp=Z,24nm,1.6s								
MCMT	**McKenzie Canyo**	95.75	46	*e*P		P	13 23 25.5	+0.7	
	comp=Z,1.6nm,1.0s								
NLU	**North Lily Min**	95.75	51	*e*P		P	13 23 26.6	+1.6	
	comp=Z,12nm,1.1s								
MPU	**Maple Canyon**	96.10	51	*e*P		P	13 23 28.0	+1.5	
	comp=Z,144nm,3.0s								
TMUT	**Trail Mountain**	96.35	51	*e*P		P	13 23 29.7	+1.9	
	comp=Z,16nm,1.2s								
EDM	**Edmonton**	96.36	37	*e*P		P	13 23 26.6	-0.6	
EDM	**Edmonton**	96.36	37	*e*P		P	13 23 26.6	-0.6	
DAU	**Daniels Canyon**	96.43	50	*e*P		P	13 23 28.6	+0.5	
DAU				pmax	pmax				
	comp=Z,2.0nm,1.0s								
DAU	**Daniels Canyon**	96.43	50	*e*P		P	13 23 28.6	+0.5	
	comp=Z,2.4nm,1.0s								
YKA	**Yellowknife Ar**	96.69	28	P		P	13 23 28.3	0.0	
YKA				PKKP		PKKPdf	13 40 15.9	+0.6	
YKA	**Yellowknife Ar**	96.69	28	P		P	13 23 28.3	0.0	
	comp=Z,4.8nm,0.9s,baz=263,slow=4.6,SNR=34								
YKA				PKKP		PKKPdf	13 40 15.9	+0.6	
	comp=Z,0.4nm,0.9s,baz=72,slow=2.7,SNR=4.9								
REDW	**Red Top Meadow**	97.03	47	*e*P		Pdif	13 23 31.5	+0.8	
	comp=Z,98nm,2.9s								
YMR	**Madison River**	97.07	46	*e*P		Pdif	13 23 32.3	+1.4	
	comp=Z,8.4nm,1.1s								
MOOW	**Moose Ponds**	97.14	47	*e*P		Pdif	13 23 31.8	+0.6	
	comp=Z,56nm,3.0s								
I17A	**Pilgrim Ck.**	97.28	47	⇑P		Pdif	13 23 32.6	+0.7	
	baz=97								
H17A	**Grant Village**	97.32	46	*e*P		Pdif	13 23 34.0	+1.9	
	comp=Z,5.5nm,0.9s								
H17A	**Grant Village**	97.32	46	⇓P		Pdif	13 23 33.6	+1.5	
	baz=98								
320A	**Kipp Ranch, An**	97.71	60	⇓P		Pdif	13 23 35.8	+1.9	
	baz=98								
BW06	**Boulder Array**	97.92	48	*e*P		Pdif	13 23 34.9	+0.1	
	comp=Z,4.7nm,0.9s								
PDAR	**Pinedale Array**	97.92	48	P		P	13 23 34.8	+0.1	
PDAR	**Pinedale Array**	97.92	48	P		P	13 23 34.8	+0.1	
	comp=Z,4.2nm,0.9s,baz=238,slow=2.7,SNR=26								
EGMT	**Eagleton**	98.18	43	⇑Pdiff		P	13 23 35.6	0.0	
	baz=98								
J19A	**Crowheart**	98.33	47	⇓Pdiff		Pdif	13 23 36.8	+0.4	
	baz=98								
I19A	**Meeteetse**	98.43	47	⇑Pdiff		P	13 23 37.0	+0.1	
	baz=99								
121A	**Cookes Peak, D**	98.45	58	⇑Pdiff		Pdif	13 23 38.3	+1.0	
	baz=99								
H19A	**Powell**	98.48	46	⇓Pdiff		Pdif	13 23 37.8	+0.7	
	baz=99								
F19A	**Roth Farm, Mol**	98.59	45	⇓Pdiff		Pdif	13 23 37.9	+0.4	
	baz=99								
C19A	**Slack Wire Ran**	98.64	43	⇓Pdiff		P	13 23 37.5	-0.1	
	baz=99								
O20A	**White River Ci**	98.70	51	⇑Pdiff		P	13 23 37.8	-0.5	
	baz=99								
D19A	**Cripps Ranch,**	98.72	44	⇑Pdiff		Pdif	13 23 38.4	+0.5	
	baz=99								
E19A	**Rath Farm, Rou**	98.74	44	⇓Pdiff		Pdif	13 23 38.6	+0.6	
	baz=99								
N20A	**Spence Gulch,**	98.74	50	⇑Pdiff		Pdif	13 23 39.0	+0.6	
	baz=99								
A19A	**Klindworth Far**	98.91	42	⇑Pdiff		Pdif	13 23 39.2	+0.4	
	baz=99								
J20A	**Shoshoni**	99.04	47	⇑Pdiff		**Pdif**	13 23 40.0	+0.4	
	baz=99								
I20A	**Worland**	99.04	47	⇑Pdiff		**Pdif**	13 23 40.0	+0.5	
	baz=99								
G20A	**Bridger**	99.06	46	⇓Pdiff		**Pdif**	13 23 40.2	+0.6	
	baz=99								
H20A	**Greybull**	99.17	46	⇓Pdiff		**Pdif**	13 23 40.4	+0.4	
	baz=99								
E20A	**Meyer Farm, Mu**	99.19	44	⇓Pdiff		**Pdif**	13 23 40.7	+0.6	
	baz=99								
Z22A	**Elephant Butte**	99.20	58	⇓Pdiff		**Pdif**	13 23 41.5	+0.9	
	baz=99								
D20A	**Manuel Ranch,**	99.22	44	⇑Pdiff		**Pdif**	13 23 40.5	+0.3	
	baz=99								
C20A	**Veseth Ranch,**	99.34	43	⇓Pdiff		**Pdif**	13 23 40.7	0.0	
	baz=100								
A20A	**Cobblestone Ra**	99.45	42	⇑Pdiff		**Pdif**	13 23 41.4	+0.3	
	baz=100								
K21A	**Alcova**	99.61	48	⇑Pdiff		**Pdif**	13 23 42.6	+0.4	
	baz=100								
I21A	**Big Trails, Te**	99.64	47	⇓Pdiff		**Pdif**	13 23 42.8	+0.5	
	baz=100								
G21A	**Lodge Grass**	99.77	46	⇑Pdiff		**Pdif**	13 23 44.1	+1.4	
	baz=100								
P22A	**Eagle**	99.81	51	⇑Pdiff		**Pdif**	13 23 44.4	+1.2	
	baz=100								
D21A	**La Casta Ranch**	100.00	44	⇓Pdiff		**Pdif**	13 23 44.1	+0.4	
	baz=100								
O22A	**Kremmling**	100.00	51	⇑Pdiff		**Pdif**	13 23 44.5	+0.3	
	baz=100								
Y23A	**Lovelace Mesa,**	100.01	57	⇓Pdiff		**Pdif**	13 23 44.9	+0.7	
	baz=100								
B21A	**Ellsworth Farm**	100.03	42	⇓Pdiff		**Pdif**	13 23 44.1	+0.4	
	baz=100								
A21A	**Bergtoll Ranch**	100.11	42	⇑Pdiff		**Pdif**	13 23 44.2	+0.1	
	baz=100								
K22A	**Casper**	100.14	48	⇓Pdiff		**Pdif**	13 23 44.6	+0.1	
	baz=100								
J22A	**Midwest**	100.21	47	⇑Pdiff		**Pdif**	13 23 44.9	+0.1	
	baz=100								
I22A	**9 Mile Ranch,**	100.23	47	⇓Pdiff		**Pdif**	13 23 45.6	+0.8	
	baz=100								
324A	**Moseley Ranch,**	100.32	60	⇑Pdiff		**Pdif**	13 23 46.5	+1.0	
	baz=100								
224A	**Cornudas Mount**	100.33	59	⇑Pdiff		**Pdif**	13 23 46.8	+1.2	
	baz=100								
H22A	**Clearmont**	100.35	46	⇓Pdiff		**Pdif**	13 23 46.4	+1.1	
	baz=100								
F22A	**Rosebud**	100.46	45	⇓Pdiff		**Pdif**	13 23 46.6	+0.9	
	baz=101								
D22A	**Cohagen**	100.56	44	⇓Pdiff		**Pdif**	13 23 46.2	+0.1	
	baz=101								
E22A	**Miles City**	100.69	44	⇓Pdiff		**Pdif**	13 23 47.3	+0.6	
	baz=101								
425A	**Indio Mountain**	100.70	60	⇓Pdiff		**Pdif**	13 23 47.3	+0.1	
	baz=101								
T24B	**San Luis**	100.75	54	⇑Pdiff		**Pdif**	13 23 47.7	+0.1	
	baz=101								
K23A	**Bowen Ranch, D**	100.81	48	⇑Pdiff		**Pdif**	13 23 47.5	0.0	
	baz=101								
G23A	**Biddle**	101.05	46	⇑Pdiff		**Pdif**	13 23 48.6	+0.2	
	baz=101								
F23A	**Volborg**	101.05	45	⇑Pdiff		**Pdif**	13 23 48.7	+0.3	
	baz=101								
D23A	**Lindsay**	101.22	44	⇑Pdiff		**Pdif**	13 23 49.1	+0.1	
	baz=101								
C23A	**Lambert**	101.24	43	⇑Pdiff		**Pdif**	13 23 49.4	+0.2	
	baz=101								
B23A	**Brockton**	101.38	42	⇓Pdiff		**Pdif**	13 23 49.8	+0.1	
	baz=102								
H24A	**Dirks Ranch, A**	101.64	46	⇑Pdiff		**Pdif**	13 23 51.1	+0.1	
	baz=102								
G24A	**Alzada**	101.74	46	⇑Pdiff		**Pdif**	13 23 51.6	+0.1	
	baz=102								
TXAR	**Lajitas Array**	101.74	62	P		**Pdif**	13 23 53.5	+1.6	
TXAR				PKKPbc		**PKKPbc**	13 39 57.5	-1.1	
TXAR	**Lajitas Array**	101.74	62	P		**Pdif**	13 23 53.5	+1.6	
	comp=Z,0.4nm,0.7s,baz=246,slow=6.2,SNR=6.2								
TXAR				PKKPbc		**PKKPbc**	13 39 57.5	-1.1	
	comp=Z,0.5nm,0.8s,baz=46,slow=3.6,SNR=4.4								
C24A	**Savage**	101.75	43	⇓Pdiff		**Pdif**	13 23 51.8	+0.3	
	baz=102								
DGMT	**Dagmar**	101.91	42	⇑Pdiff		**Pdif**	13 23 52.2	+0.1	
	baz=102								
H25A	**Fruitdale**	102.32	46	⇑Pdiff		**Pdif**	13 23 54.6	+0.6	
	baz=102								
F25A	**Bowman**	102.42	45	⇑Pdiff		**Pdif**	13 23 55.3	+0.9	
	baz=102								
G25A	**Newell**	102.45	46	⇑Pdiff		**Pdif**	13 23 54.6	0.0	
	baz=103								
F26A	**Lodgepole**	102.97	45	⇑Pdiff		**Pdif**	13 23 57.0	+0.1	
	baz=103								
H27A	**Howes**	103.40	46	⇑Pdiff		**Pdif**	13 23 58.7	-0.2	
	baz=104								
F27A	**Lemmon**	103.42	45	⇓Pdiff		**Pdif**	13 23 58.9	0.0	
	baz=104								
I27A	**Quinn**	103.43	47	⇑Pdiff		**Pdif**	13 23 59.3	+0.3	
	baz=104								
G27A	**Dupree**	103.50	45	⇑Pdiff		**Pdif**	13 23 59.3	+0.1	
	baz=104								
KIV	**Kislovodsk**	114.07	314	⇓*i*PKIKP		PKPdf	13 28 32.6	-5.2	
KIV				pmax	pmax				
	comp=Z,11nm,1.2s								
OBN	**Obninsk**	114.76	327	*e*PKIKP		PKPdf	13 28 37.2	-1.4	
OBN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AKASG	**Malin Array Be**	120.61	325	PKIKP		**PKPdf**	13 28 47.8	-2.2	
AKASG	**Malin Array Be**	120.61	325	PKP		**PKPdf**	13 28 47.8	-2.2	
AKASG	**Malin Array Be**	120.61	325	PKP		**PKPdf**	13 28 47.8	-2.2	
	comp=Z,0.8nm,0.6s,baz=52,slow=2.3,SNR=7.8								
NOA	**NORSAR Array B**	122.32	341	PKP		**PKPdf**	13 28 52.0	-1.1	
NOA	**NORSAR Array B**	122.32	341	PKP		**PKPdf**	13 28 52.0	-1.1	
	comp=Z,0.7nm,0.6s,baz=44,slow=2.3,SNR=3.2								
KOLS	**Kolonicke sedl**	125.40	325	*e*PKIKP		**PKPdf**	13 29 00.2	+0.9	
KOLS	**Kolonicke sedl**	125.40	325	*e*PKP		**PKPdf**	13 29 00.2	+0.9	
CRVS	**Cervenica-Dubn**	125.87	326	*e*PKIKP		**PKPdf**	13 28 59.0	-1.2	
LPAZ	**La Paz**	128.20	119	PKP		**PKPdf**	13 29 06.1	-0.2	
LPAZ	**La Paz**	128.20	119	PKP		**PKPdf**	13 29 06.1	-0.2	
	comp=Z,4.1nm,0.9s,baz=343,slow=1.0,SNR=11								
BRG	**Berggiesshubel**	128.56	331	*e*PKP		**PKPdf**	13 29 06.4	+1.1	
	comp=Z,9.8nm,1.3s								
BRG				*e*			13 30 47.6		
	comp=Z,8.7nm,1.2s								
BRG	**Berggiesshubel**	128.56	331	*e*PKIKP		**PKPdf**	13 29 06.4	+1.1	
BRG				pmax	pmax				
	comp=Z,10.0nm,1.3s								
BRG				pmax	pmax				
	comp=Z,9.0nm,1.2s								
CLL	**Collm**	128.71	332	*e*PKPdf		**PKPdf**	13 29 06.0	+0.5	
GERES	**GERESS Array B**	130.02	330	PKP		**PKPdf**	13 29 07.7	-0.6	
GERES	**GERESS Array B**	130.02	330	PKP		**PKPdf**	13 29 07.7	-0.6	
	comp=Z,1.2nm,0.8s,baz=114,slow=1.6,SNR=5.7								
SAML	**Samuel**	135.58	112	*e*PKPdf		**PKPdf**	13 29 18.7	-0.9	
BDFB	**Brasilia**	144.75	134	PKP		**PKPab**	13 29 34.9	-0.2	
BDFB	**Brasilia**	144.75	134	PKP		**PKPab**	13 29 34.9	-0.2	
	comp=Z,50nm,0.8s,baz=214,slow=2.1,SNR=53								
PGAV	**Gavieira, Arco**	144.78	342	*e*PKP		**PKPdf**	13 29 40.1	+4.5	
MVO	**Moncorvo**	145.09	340	*e*PKP		**PKPbc**	13 29 35.5	-0.1	
POLO	**Lamas de Olo**	145.16	341	*e*PKP		**PKPab**	13 29 36.0	+0.1	
ESDC	**Sonseca Array**	145.21	335	PKPbc		**PKPbc**	13 29 35.9	-0.1	
ESDC	**Sonseca Array**	145.21	335	PKPbc		**PKPbc**	13 29 35.9	-0.1	
	comp=Z,4.2nm,0.9s,baz=21,slow=3.6,SNR=11								
PMRV	**Marv??o**	146.76	339	*e*PKP		**PKPbc**	13 29 40.1	-0.6	
TAM	**Tamanrasset**	149.96	301	*e*PKP2		**PKPbc**	13 29 50.2	+0.5	
TAM	**Tamanrasset**	149.96	301	*e*PKPbc		**PKPbc**	13 29 50.2	+0.5	
TORD	**Torodi Ar. Bea**	156.10	282	PKP		**PKPdf**	13 29 53.4	-0.4	
TORD				PKPab		**PKPab**	13 30 21.1	-0.2	
TORD	**Torodi Ar. Bea**	156.10	282	PKP		**PKPdf**	13 29 53.4	-0.4	
	comp=Z,1.0nm,0.8s,baz=78,slow=2.1,SNR=6.8								
TORD				PKPab		**PKPab**	13 30 21.1	-0.2	
	comp=Z,5.1nm,0.9s,baz=78,slow=3.7,SNR=10								
DBIC	**Dimbokro**	162.61	264	PKPab		**PKPab**	13 30 50.1	+0.4	
DBIC	**Dimbokro**	162.61	264	PKPab		**PKPab**	13 30 50.1	+0.4	
	comp=Z,6.8nm,1.0s,baz=2.8,slow=4.9,SNR=4.0								

IDC ***05*** *13:11:37.7±0.4, 8.96°S×157.80°E, h0km, mb5.1/29, mb1 5.2/31, mb1mx5.2/32, mbtmp5.1/31, ML4.2/2, MS5.7/5, Ms1 5.7/5, ms1mx5.1/20, Error ellipse: s-maj=12.9km s-min=11.1km az=118.0*

BJI ***05*** *13:11:40.7, 8.72°S×158.02°E, h22km, mB6.2/28, mb5.2/48, Ms5.9/36, Ms7 5.6/35*

ISCJB ***05*** *13:11:41.6±0.1, 9.03°S±0.03°×157.82°E±0.02°,

baz=22,SNR=7.4
MGCD Mangrove Creek 24.92 194 ⇓P **P** **13 17 03.6 +0.4**
baz=25,SNR=4.7
MWPI Manokwari, Pap 25.12 287 P x 13 17 31.2
CMSA Cobar Meteorol 25.17 205 ⇑P **P** **13 17 03.5 -2.0**
baz=25,SNR=34
WRAB Tennant Creek 25.28 242 P **P** **13 17 05.6 -1.1**
comp=Z,810nm,1.0s,SNR=5.4
WRAB Tennant Creek 25.28 242 *ce*P **P** **13 17 05.8 -0.9**
WRAB pmax pmax
comp=Z,371nm,1.7s
WRAB Tennant Creek 25.28 242 *e*P **P** **13 17 04.7 -2.0**
comp=Z,301nm,1.3s
KDU Kakadu 25.30 259 P **P** **13 17 05.3 -1.5**
baz=25,SNR=9.9
WRA Warramunga Arr 25.30 242 P **P** **13 17 05.3 -1.5**
WRA S **S** **13 21 31.9 +1.1**
WRA Warramunga Arr 25.30 242 P **P** **13 17 05.3 -1.5**
comp=Z,68nm,0.9s,baz=68,slow=11,SNR=9.7
WRA S **S** **13 21 31.9 +1.1**
comp=Z,3.3nm,1.1s,baz=54,slow=26,SNR=2.8
SAUI Saumlaki 26.39 270 P P 13 17 27.4 +11
YNG Young 26.68 198 ⇑P **P** **13 17 19.6 +0.4**
baz=27,SNR=8.1
ASAR Alice Springs 27.25 235 P **P** **13 17 21.8 -2.6**
ASAR Alice Springs 27.25 235 P **P** **13 17 21.8 -2.6**
comp=Z,19nm,0.9s,baz=63,slow=9.3,SNR=7.8
ASAR LR LR 13 27 27.8
comp=Z,17µm,20.0s,baz=348,slow=35
CNB Canberra Magne 27.36 195 ⇑P **P** **13 17 25.2 -0.1**
baz=27,SNR=10
STKA Stephens Creek 27.38 211 P **P** **13 17 24.5 -1.0**
STKA S **S** **13 22 03.4 -0.1**
STKA Stephens Creek 27.38 211 P **P** **13 17 24.5 -1.0**
comp=Z,115nm,0.9s,baz=29,slow=12,SNR=11
STKA S **S** **13 22 03.4 -0.1**
comp=Z,4.6nm,0.8s,baz=157,slow=13,SNR=1.9
CAN Canberra 27.46 196 *e*P **P** **13 17 25.8 -0.4**
CAN pmax pmax
comp=Z,131nm,1.3s
CAN Canberra 27.46 196 *e*P **P** **13 17 25.8 -0.4**
comp=Z,131nm,1.3s
KNRA Kununurra 29.27 254 ⇑P **P** **13 17 40.8 -1.6**
baz=29,SNR=4.1
HTT Hallett 30.00 213 ⇓P **P** **13 17 45.8 -3.0**
baz=30,SNR=4.4
AFI Afiamalu 30.04 102 *e*P **P** **13 17 49.5 0.0**
comp=Z,388nm,1.7s
AFI Afiamalu 30.04 102 P **P** **13 17 49.8 +0.4**
comp=Z,80nm,1.1s,baz=276,slow=17,SNR=5.6
RAO Raoul Island 30.30 135 P **P** **13 17 48.4 -3.1**
TOO Toolangi 30.61 200 ⇓P **P** **13 17 54.1 0.0**
baz=31,SNR=11
KNTN Kanton 30.77 80 *e*P **P** **13 17 53.9 -1.9**
comp=Z,405nm,1.5s
BBOO Buckleboo 31.18 217 *e*P **P** **13 17 57.7 -1.5**
comp=Z,2µm,0.9s
BBOO Buckleboo 31.18 217 ⇑P **P** **13 17 57.4 -1.8**
baz=31,SNR=8.8
ARPS Mount Arapiles 31.29 205 ⇓P **P** **13 17 59.1 -1.0**
baz=31,SNR=11
WRKA Warakurna 32.44 237 ⇓P **P** **13 18 07.6 -2.8**
baz=32,SNR=7.5
URZ Urewera 33.87 152 P **P** **13 18 23.2 +0.6**
URZ Urewera 33.87 152 P **P** **13 18 23.2 +0.6**
comp=Z,9.5nm,0.9s,baz=38,slow=2.4,SNR=3.1
BKZ Black Stump Fm 34.34 154 *e*P **P** **13 18 28.8 +2.1**
comp=Z,42nm,0.8s
FORT Forrest 35.31 228 *e*P **P** **13 18 33.4 -1.9**
comp=Z,202nm,1.0s
RPZ Rata Peaks 36.43 164 P **P** **13 18 44.0 -0.7**
RPZ Rata Peaks 36.43 164 P **P** **13 18 44.0 -0.7**
comp=Z,7.8nm,0.8s,baz=160,slow=12,SNR=3.7
CTBH Cotabato--PC H 37.26 295 ⇑*i*P **P** **13 18 51.8 -0.2**
KAPI Kappang 38.12 273 P **P** **13 18 59.6 +0.2**
comp=Z,512nm,1.5s,SNR=6.2
KAPI Kappang 38.12 273 *e*P **P** **13 18 59.5 +0.2**
comp=Z,1µm,1.2s
KMBL Kambalda 40.24 231 ⇓P **P** **13 19 15.4 -1.6**
baz=40,SNR=9.6
RCP Roxas 40.53 300 *e*P **P** **13 19 19.9 +0.4**
MEEK Meekatharra 41.15 240 ⇓P **P** **13 19 22.6 -1.9**
baz=41,SNR=5.6
MYLDM Lahad Datu 41.78 288 *e*P **P** **13 19 31.7 +1.9**
comp=Z,79nm,1.1s
MYLDM Lahad Datu 41.78 288 ⇑P **P** **13 19 30.9 +1.1**
TSM Tawau 42.09 287 ⇑P **P** **13 19 32.4 +0.1**
RAR Rarotonga 42.44 112 P **P** **13 19 36.1 +1.0**
RAR Rarotonga 42.44 112 P **P** **13 19 36.1 +1.0**
comp=Z,37nm,0.8s,baz=288,slow=0.0,SNR=4.8
SDKM Sandakan 43.16 288 ⇓P **P** **13 19 40.7 -0.3**
JAGI Jajag, Banyuwa 43.29 267 ⇑P **P** **13 19 38.9 -3.2**
baz=43,SNR=15
JAGI Jajag, Banyuwa 43.29 267 *e*PcP **P** **13 19 39.3 -2.8**
KLBR Kellerberrin 43.55 233 ⇓P **P** **13 19 41.1 -2.9**
baz=44,SNR=7.1
BLDU Ballidu 44.03 235 ⇓P **P** **13 19 45.1 -2.8**
baz=44,SNR=7.0
MORW Morawa 44.07 237 P **P** **13 19 46.7 -1.5**
baz=44,SNR=4.0
KKM Kota Kinabalu 44.21 288 ⇓P **P** **13 19 49.2 -0.4**
KKM Kota Kinabalu 44.21 288 *e*PcP **P** **13 19 49.5 -0.1**
NWAO Narrogin (SRO) 44.47 232 P **P** **13 19 49.8 -1.6**
NWAO Narrogin (SRO) 44.47 232 P **P** **13 19 49.8 -1.6**
comp=Z,38nm,0.9s,baz=57,slow=9.0,SNR=6.5
SZP Santa 45.48 305 P **P** **13 19 57.8 -1.7**
comp=Z,57nm,0.3s
JOW Kunigami 45.80 322 P P 13 19 58.0 -3.9
JOW Kunigami 45.80 322 P P 13 19 58.0 -3.9
comp=Z,2.2nm,0.8s,baz=192,slow=9.3,SNR=2.3
BTM Bintulu 46.34 283 ⇑P **P** **13 20 07.5 +1.1**
SBUM Sibu 46.98 282 *e*P **P** **13 20 12.2 +0.7**
comp=Z,361nm,2.4s
SBUM Sibu 46.98 282 ⇓P **P** **13 20 12.3 +0.9**
NACB Ninganchiao 48.44 314 *e*P P 13 20 17.5 -5.0
comp=Z,225nm,1.3s
KSM Kuching 48.60 280 *e*P **P** **13 20 23.7 -0.3**
comp=Z,66nm,1.1s
KSM Kuching 48.60 280 ⇑P **P** **13 20 22.6 -1.4**
baz=48,SNR=8.8
KSM Kuching 48.60 280 ⇓P **P** **13 20 23.3 -0.7**
SSLB Suanglung 48.67 313 *e*P **P** **13 20 23.4 -0.9**
comp=Z,74nm,1.0s
YHNB Yeheng 48.91 314 *e*P **P** **13 20 25.8 -0.4**
comp=Z,197nm,1.1s
MJAR Matsushiro Arr 48.95 339 P **P** **13 20 24.6 -1.6**
MJAR Matsushiro Arr 48.95 339 P **P** **13 20 24.6 -1.6**
comp=Z,10nm,0.8s,baz=170,slow=8.4,SNR=7.8
MAT Matsushiro 48.95 339 P **P** **13 20 24.8 -1.4**
JNU Nakatsue 49.18 330 P **P** **13 20 26.2 -1.9**
JNU Nakatsue 49.18 330 P **P** **13 20 26.2 -1.9**
comp=Z,23nm,0.9s,baz=232,slow=6.2,SNR=4.2
CISI Cisompet, Garu 49.62 268 P P 13 20 35.1 +3.3
CISI Cisompet, Garu 49.62 268 *e*P **P** **13 20 30.1 -1.8**
comp=Z,666nm,1.8s
CISI Cisompet, Garu 49.62 268 ⇓P **P** **13 20 30.4 -1.5**
baz=50,SNR=4.7
LEM Lembang 49.88 269 P **P** **13 20 34.4 +0.4**
LEM Lembang 49.88 269 ⇑P **P** **13 20 33.3 -0.7**
baz=50,SNR=7.0
TPI Tanjungpandan 50.39 274 P **P** **13 20 38.5 +0.9**
CBJI Citeko 50.68 269 P P **13 20 41.3 +1.4**
DBJI Dramaga 50.77 269 P P 13 20 46.8 +6.3
QZH Quanzhou 51.08 312 ⇓*i*P **P** **13 20 40.1 -2.5**
QZH S **S** **13 27 54.6 -3.7**
QZH LR LR
comp=Z,4µm,12.0s
QZH LR LR
comp=Z,5µm,14.6s
QZH LR LR
comp=Z,4µm,13.0s
PPT Papeete 51.63 105 LR LR 13 38 08.6
comp=Z,3µm,19.4s,baz=71,slow=31
PAE Paea 51.63 105 *e*P **P** **13 20 48.1 +1.2**
comp=Z,28nm,1.4s
PPT2 Papeete2 51.63 105 *e*P **P** **13 20 48.6 +1.6**
comp=Z,139nm,1.4s
PPT2 Papeete2 51.63 105 *e*LR LR 13 35 37.7
comp=Z,9µm,29.2s
TVO Taravao 51.95 106 *e*P **P** **13 20 51.2 +1.8**
comp=Z,26nm,1.0s
TBI Tubuai 52.20 113 *e*P **P** **13 20 52.6 +1.5**
comp=Z,271nm,1.1s
TBI Tubuai 52.20 113 *e*LQ LQ 13 33 40.9
comp=Z,15µm,32.0s
KIP Kipapa 52.74 54 *ce*P **P** **13 20 57.5 +2.5**
KIP pmax pmax
comp=Z,448nm,2.5s
KLSI 52.99 271 P P 13 21 05.7 +8.6
PMOR Pomariorio Ree 53.20 102 *e*P **P** **13 21 00.3 +1.8**
comp=Z,291nm,1.2s
SSE Sheshan 53.20 320 ⇓P **P** **13 20 59.2 +0.9**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,3µm,11.5s
PMBI Palembang 53.20 273 *e*P **P** **13 21 00.3 +1.6**
comp=Z,3µm,0.6s
DLV T Lat 53.40 292 *e*P P 13 20 56.9 -3.3
comp=Z,138nm,1.6s
VAH Vaihoa 53.45 102 *e*P **P** **13 21 01.9 +1.5**
comp=Z,102nm,1.0s
KSRS Korea Array 54.08 331 P P **P** **13 21 04.3 -0.3**
comp=Z,7.1nm,0.7s,baz=145,slow=7.0,SNR=9.2
KSAR Wonju Array Be 54.09 330 P **P** **13 21 04.3 -0.4**
MYKOM Kota Tinggi 54.97 279 ⇑P **P** **13 21 10.8 -0.8**
QIZ Qiongzhong 55.00 301 P **P** **13 21 11.7 +0.1**
QIZ pP **pP** **13 21 21.7 0.0**
QIZ sP **sP** **13 21 25.8 +0.2**
QIZ S **S** **13 28 51.2 -0.7**
QIZ sS **sS** **13 29 04.8 -3.7**
QIZ pmax pmax
comp=Z,21nm,1.5s
QIZ pmax pmax
comp=Z,560nm,4.4s
QIZ LR LR
comp=Z,3µm,15.7s
QIZ LR LR
comp=Z,4µm,20.9s
QIZ Qiongzhong 55.00 301 P **P** **13 21 10.0 -1.6**
comp=Z,101nm,1.3s
NJ2 Nanjing 55.32 319 *e*P **P** **13 21 14.4 +0.7**
NJ2 pmax pmax
comp=Z,20nm,0.8s
KGM Kluang 55.53 279 ⇑P **P** **13 21 14.2 -1.5**
KTGM Kuala Trenggan 56.47 282 ⇑P **P** **13 21 21.7 -0.6**
YSS Yuzh-Sakhalins 57.32 348 *e*P **P** **13 21 28.7 +1.1**
WHN Wuhan 57.41 315 ⇓P **P** **13 21 28.3 -0.3**
FRIM Kepong 57.45 280 ⇓P **P** **13 21 28.3 -1.0**
USRK Ussuriysk Arra 57.93 338 P **P** **13 21 31.9 -0.1**
comp=Z,48nm,1.2s,baz=156,slow=6.9,SNR=9.0
IPM Ipoh 58.31 281 *e*P **P** **13 21 33.7 -1.6**
comp=Z,47nm,1.3s
IPM Ipoh 58.31 281 ⇓P **P** **13 21 34.8 -0.5**
DL2 Dalian 58.41 327 *e*P **P** **13 21 37.4 +1.9**
DL2 *e*S **S** **13 29 41.4 +5.1**
DL2 pmax pmax
comp=Z,54nm,1.0s
DL2 LR LR
comp=Z,3µm,14.2s
DL2 LR LR
comp=Z,2µm,14.7s
KULM Kulim 58.86 282 *e*P **P** **13 21 38.1 -1.1**
comp=Z,28nm,1.1s
KULM Kulim 58.86 282 ⇑P **P** **13 21 38.4 -0.8**
MDJ Mudanjiang 59.19 337 P **P** **13 21 40.6 -0.2**
MDJ pP **pP** **13 21 48.8 -2.2**
MDJ sP **sP** **13 21 53.8 -1.1**
MDJ PcP **PcP** **13 22 28.2 -0.8**
MDJ PP **PP** **13 23 50.6 -1.4**
MDJ S **S** **13 29 51.7 +5.4**
MDJ pmax pmax
comp=Z,34nm,1.4s
MDJ pmax pmax
comp=Z,2µm,7.0s
MDJ LR LR
comp=Z,4µm,15.0s
MDJ LR LR
comp=Z,3µm,17.4s
MDJ LR LR
comp=Z,4µm,15.0s
CHBT CHBT 59.33 291 P **P** **13 21 42.6 +0.3**
comp=Z,62nm,0.9s
PSI Prapat 59.99 278 P **P** **13 21 45.1 -2.0**
PSI Prapat 59.99 278 P **P** **13 21 45.1 -2.0**
comp=Z,8.1nm,0.8s,baz=167,slow=2.8,SNR=7.0
CN2 Changchun 60.26 333 *e*P **P** **13 21 47.7 -0.5**
CN2 pmax pmax
comp=Z,30nm,1.7s
HABR Khabarovsk 60.68 343 *e*P **P** **13 21 49.2 -1.7**
HABR *e**PP **pP** **13 21 59.3 -1.8**
HABR *e**SP **sP** **13 22 03.2 -1.8**
HABR *e* 13 22 34.4
HABR 13 24 03.1
HABR *e*S **S** **13 30 03.9 -1.3**
HABR *e**SS **sS** **13 30 20.7 -1.3**
HABR *e* 13 31 37.2
HABR SS **SS** **13 34 03.6 -0.9**
HABR pmax pmax
comp=Z,50nm,1.9s
HABR MLR MLR
comp=Z,3µm,16.0s
CHAI Chaiyaphum 60.68 294 P **P** **13 21 52.1 +0.5**
comp=Z,10nm,1.2s
PATY Pattaya 60.74 290 P P 13 21 55.5 +3.5
comp=Z,13nm,1.0s
ENH Enshi 60.74 312 *e*P **P** **13 21 50.7 -1.1**
comp=Z,27nm,1.0s
GYA Guiyang 60.99 307 ⇑*i*P **P** **13 21 55.6 +1.9**
GYA pP **pP** **13 22 05.8 +1.9**
GYA PP **PP** **13 24 12.0 +3.6**
GYA ScP **ScP** **13 26 34.3 -1.7**
GYA S **S** **13 30 10.3 0.0**
GYA SS **SS** **13 34 12.2 +1.8**
GYA pmax pmax
comp=Z,60nm,1.1s
GYA pmax pmax
comp=Z,240nm,5.5s
GYA LR LR
comp=Z,2µm,18.2s
GYA LR LR
comp=Z,2µm,19.0s
GYA LR LR
comp=Z,3µm,18.4s
GSI Gunungsitoli 61.02 276 *e*P **P** **13 21 52.7 -1.3**
comp=Z,133nm,1.1s
SLVN Son La 61.02 300 *e*P **P** **13 21 53.8 -0.1**
comp=Z,23nm,1.0s
PET Petropavlovsk 61.77 0 *e*P **P** **13 21 57.8 -0.4**
PET *e*S S 13 30 27.8 +8.9
PET pmax pmax
comp=Z,82nm,1.9s
PET Petropavlovsk 61.77 0 *e*P **P** **13 21 57.3 -0.9**
comp=Z,39nm,0.6s
PBKT Sadao Pong 61.83 294 P **P** **13 22 00.5 +1.2**
comp=Z,239nm,1.4s
PEA0B Petropavlovsk- 61.85 360 *e*P **P** **13 21 58.4 -0.4**
PETK Petropavlovsk- 61.85 360 P **P** **13 21 58.4 -0.4**
PETK Petropavlovsk- 61.85 360 P **P** **13 21 58.4 -0.4**
PETK Petropavlovsk- 61.85 360 P **P** **13 21 58.4 -0.4**
comp=Z,88nm,0.9s,baz=149,slow=4.5,SNR=33
BJI Beijing 62.22 325 P **P** **13 22 03.0 +1.5**
BJI S **S** **13 30 25.0 -0.1**
BJI LR LR
comp=Z,5µm,19.6s
BJI LR LR
comp=Z,3µm,23.4s
BJI LR LR
comp=Z,3µm,24.5s
KLR Kul'dur 62.37 341 *e*P P 13 21 58.6 -3.7
PHIT Phitsanulok 62.54 295 P P 13 22 15.7 +12
SRDT SRDT 62.79 291 P **P** **13 22 07.2 +1.4**
comp=Z,208nm,1.4s
XAN Xi'an 63.17 315 P **P** **13 22 06.5 -1.6**
XAN pP **pP** **13 22 17.2 -1.1**
XAN S S 13 30 29.4 -8.1
XAN sS sS 13 30 48.2 -6.2
XAN pmax pmax
comp=Z,4.0nm,1.0s
XAN LR LR
comp=Z,2µm,17.8s
XAN LR LR
comp=Z,1µm,16.3s
XAN LR LR
comp=Z,1µm,16.8s
KHLT Khaolaem Dam 63.42 291 P **P** **13 22 11.3 +1.3**
comp=Z,30nm,1.2s,comp=Z,1µm
KMI Kunming 63.56 304 P **P** **13 22 12.4 +1.4**
KMI pP **pP** **13 22 23.9 +2.6**
KMI sP **sP** **13 22 28.2 +3.0**
KMI PcP **PcP** **13 22 47.8 +0.4**
KMI PP **PP** **13 24 35.1 +3.9**
KMI S **S** **13 30 43.5 +0.5**
KMI sS **sS** **13 30 59.4 -0.4**
KMI SKS **SKSac** **13 31 56.0 -6.6**
KMI SS **SS** **13 34 52.1 +1.2**
KMI pmax pmax
comp=Z,33nm,1.8s
KMI pmax pmax
comp=Z,3µm,9.3s
KMI LR LR
comp=Z,3µm,21.5s
KMI LR LR
comp=Z,2µm,18.6s
KMI LR LR
comp=Z,3µm,19.5s
LAMP Lampang 63.70 296 P **P** **13 22 13.4 +1.6**
comp=Z,22nm,0.8s,comp=Z,218nm
CMAR Chiang Mai Arr 64.29 295 P **P** **13 22 16.4 +0.7**
CMAR ⇑*e* 13 51 13.1
CMAR Chiang Mai Arr 64.29 295 P **P** **13 22 16.4 +0.7**
comp=Z,24nm,0.9s,baz=119,slow=5.1,SNR=12
CMAR PKP2bc 13 51 13.1
comp=Z,2.2nm,0.9s,baz=286,slow=4.4,SNR=5.9
CHTO Chiang Mai 64.41 296 *e*P **P** **13 22 16.2 -0.3**
CHTO pmax pmax
comp=Z,43nm,1.4s
CHTO Chiang Mai 64.41 296 P **P** **13 22 17.4 +0.9**
comp=Z,583nm,1.2s
CHTO Chiang Mai 64.41 296 *e*P **P** **13 22 16.2 -0.3**
comp=Z,43nm,1.4s
CMAI Chiengmai2 64.71 297 P **P** **13 22 20.0 +1.4**
comp=Z,132nm,1.2s
MHMT Maesarieng 65.10 295 P **P** **13 22 24.0 +3.0**
comp=Z,67nm,1.4s
CD2 Chengdu 65.33 310 P **P** **13 22 22.4 +0.1**
CD2 sP **sP** **13 22 37.6 +1.1**
CD2 PP **PP** **13 24 49.5 +3.0**
CD2 S **S** **13 31 04.9 +0.5**
CD2 SS **SS** **13 35 14.6 -3.5**
CD2 pmax pmax
comp=Z,70nm,1.8s
CD2 LR LR
comp=Z,4µm,15.5s
CD2 LR LR
comp=Z,4µm,15.5s
HHC Hu-ho-hao-te 65.44 323 *e*P **P** **13 22 23.7 +0.8**
HHC S **S** **13 31 05.5 +0.2**
HHC pmax pmax
comp=Z,5µm,11.2s
HHC LR LR
comp=Z,6µm,17.4s
HHC LR LR
comp=Z,7µm,14.9s
HHC LR LR
comp=Z,6µm,17.4s
CASY Casey 65.65 199 *e*P **P** **13 22 21.6 -2.1**
comp=Z,47nm,1.0s
HIA Hailar 66.97 334 *e*P **P** **13 22 33.1 +0.6**
comp=Z,22nm,0.9s
LZH Lanzhou 67.79 315 *e*P **P** **13 22 39.2 +1.1**
LZH pP **pP** **13 22 50.1 +1.7**
LZH sP **sP** **13 22 53.5 +1.2**
LZH PcP **PcP** **13 23 05.1 +0.5**
LZH PP **PP** **13 25 11.3 +3.3**
LZH *e*S **S** **13 31 36.0 +1.8**
LZH sS **sS** **13 31 50.2 -1.0**
LZH SS **SS** **13 35 57.1 +0.8**
LZH pmax pmax
comp=Z,32nm,1.2s
LZH pmax pmax
comp=Z,170nm,5.4s
VNDA Vanda 68.54 179 *e*P P 13 22 46.6 +4.7
VNDA Vanda 68.54 179 P **P** **13 22 44.5 +2.6**
comp=Z,11nm,0.8s,baz=356,slow=9.0,SNR=3.5
CIT Chita 71.69 333 *e*P **P** **13 23 03.0 +1.4**
CIT *e* 13 23 21.0
CIT *e* 13 32 26.1
CIT pmax pmax
comp=Z,223nm,3.8s
SEY Seymchan 71.83 357 P **P** **13 23 01.6 -0.5**
SEY Seymchan 71.83 357 P **P** **13 23 01.6 -0.5**
SEY Seymchan 71.83 357 P **P** **13 23 01.6 -0.5**
comp=Z,18nm,0.9s,baz=181,slow=5.5,SNR=12
MIR Mirnyy 71.96 202 ⇑*i*P **P** **13 23 05.0 +2.0**
MIR *i* 13 23 25.0
MIR pmax pmax
comp=Z,182nm,2.0s
GTA Gaotai 72.20 316 *e*P **P** **13 23 06.0 +1.0**
GTA pP **pP** **13 23 16.6 +1.2**
GTA sP **sP** **13 23 20.5 +1.2**
GTA S **S** **13 32 27.4 +1.8**
GTA sS **sS** **13 32 44.5 +1.7**
GTA pmax pmax
comp=Z,13nm,1.6s
GTA pmax pmax
comp=Z,4µm,5.7s
GTA LR LR
comp=Z,3µm,17.8s
GTA LR LR
comp=Z,3µm,16.4s
GTA LR LR
comp=Z,2µm,18.3s
ULN Ulaanbaatar 72.26 327 *e*P **P** **13 23 05.7 +0.4**
SONM Songino Array 72.60 326 P **P** **13 23 06.6 -0.6**
SONM Songino Array 72.60 326 P **P** **13 23 06.6 -0.6**
comp=Z,9.3nm,0.8s,baz=141,slow=5.5,SNR=4.6
YAK Yakutsk 74.14 347 *e*P **P** **13 23 14.9 -0.9**
YAK pmax pmax
comp=Z,64nm,1.0s
YAK pmax pmax
comp=N,15nm,1.0s
TLY Talaya 76.27 329 P **P** **13 23 29.5 +1.1**
comp=N,55nm,0.9s,SNR=7.3
TLY Talaya 76.27 329 *e*P **P** **13 23 30.0 +1.6**
TLY pmax pmax
comp=Z,32nm,1.8s
TLY Talaya 76.27 329 *e*P **P** **13 23 28.8 +0.4**
comp=Z,8.7nm,1.1s
IRK Irkutsk 76.27 329 *e*P P 13 23 23.8 -4.6
IRK pmax pmax
comp=Z,84nm,3.6s
TAPN Taplejung 76.94 301 *e*P **P** **13 23 32.9 -0.1**
comp=Z,113nm,1.1s
ODAN Odare 77.07 300 *e*P **P** **13 23 33.9 +0.2**
comp=Z,196nm,1.3s
RAMN Ramite 77.77 300 *e*P **P** **13 23 37.4 -0.2**
comp=Z,65nm,1.1s
JIRN Jiri 78.32 301 *e*P **P** **13 23 40.4 -0.4**
comp=Z,94nm,1.3s
GUN Gumba 78.66 301 *e*P **P** **13 23 41.6 -1.1**
comp=Z,97nm,1.0s
PALK Pallekele 78.66 279 P **P** **13 23 43.7 +1.1**
comp=Z,241nm,1.0s,SNR=6.5
PALK Pallekele 78.66 279 *e*P **P** **13 23 43.2 +0.7**
comp=Z,225nm,1.0s
PKI Pulchoki 78.96 300 *e*P **P** **13 23 43.7 -0.6**
comp=Z,160nm,1.2s
KKN Kakani 79.13 301 *e*P **P** **13 23 44.9 -0.2**
DMN Daman 79.23 300 *e*P **P** **13 23 45.6 -0.1**
comp=Z,211nm,1.2s
GKN Gorkha 79.74 301 *e*P **P** **13 23 47.8 -0.5**
comp=Z,313nm,1.4s
KOLN Koldanda 80.56 300 *e*P **P** **13 23 52.2 -0.6**
comp=Z,114nm,1.0s
DANN Dangsing 80.58 301 *e*P **P** **13 23 52.2 -0.8**
comp=Z,202nm,1.3s
RC01 Rabbit Creek A 80.91 23 *e*P **P** **13 23 53.5 -0.2**
comp=Z,55nm,0.9s
QSPA South Pole Qui 81.00 180 *e*P **P** **13 23 52.4 -2.0**
comp=Z,32nm,1.0s
QSPA South Pole Qui 81.00 180 P **P** **13 23 55.1 +0.8**
comp=Z,28nm,0.9s,baz=2.5,slow=4.1,SNR=10
PMR Palmer 81.45 23 *e*P **P** **13 23 55.1 -1.4**
PMR Palmer 81.45 23 *e*P **P** **13 23 55.1 -1.4**
WMQ Urumqi 82.28 317 P **P** **13 24 02.2 +0.8**
WMQ pP **pP** **13 24 12.6 +0.7**
WMQ sP **sP** **13 24 16.6 +0.8**
WMQ PP **PP** **13 27 13.8 +3.4**
WMQ S **S** **13 34 14.6 -0.3**
WMQ sS **sS** **13 34 32.0 -0.3**
WMQ pmax pmax
comp=Z,21nm,1.4s
WMQ pmax pmax
comp=Z,3µm,6.1s
WMQ LR LR
comp=Z,2µm,24.3s

WMQ LR LR
comp=Z,2μm,19.7s
WMQ LR LR
comp=Z,2μm,20.8s
IM04 Indian Mountai 82.66 18 *e*P **P** **13 24 02.0 -0.9**
HYB Hyderabad 82.69 289 *i* P **P** **13 24 03.0 -1.1**
TIXI Tiksi 82.75 351 *ce*P **P** **13 24 04.1 +1.0**
TIXI pmax pmax
comp=Z,53nm,1.7s
TIXI Tiksi 82.75 351 *e*P **P** **13 24 03.0 -0.1**
MCK McKinley 82.82 21 *e*P **P** **13 24 02.4 -1.3**
MCK McKinley 82.82 21 *e*P **P** **13 24 02.4 -1.3**
MAW Mawson 83.70 203 P **P** **13 24 09.5 +1.2**
MAW Mawson 83.70 203 P **P** **13 24 09.5 +1.2**
comp=Z,26nm,0.9s,baz=81,slow=4.6,SNR=8.0
LGTI Lohaghat 83.83 301 *ex* P 13 24 14.2 +4.5
LGTI *ex* x 13 25 37.3
COLA College 83.89 20 *e*P **P** **13 24 07.8 -1.3**
COLA College 83.89 20 *e*P **P** **13 24 07.8 -1.3**
ILAR Eielson Array 84.16 21 P **P** **13 24 09.2 -1.4**
ILAR Eielson Array 84.16 21 P **P** **13 24 09.2 -1.4**
comp=Z,31nm,0.9s,baz=276,slow=3.0,SNR=28
MENT Mentasta 84.30 23 *e*P **P** **13 24 11.2 -0.2**
DOT Dot Lake 84.55 22 *e*P **P** **13 24 12.3 -0.3**
comp=Z,74nm,0.9s
COLD Coldfoot 84.57 18 *e*P **P** **13 24 13.3 +0.7**
comp=Z,43nm,1.2s
SKAG Skagway 86.21 28 *e*P **P** **13 24 21.1 +0.2**
comp=Z,56nm,1.0s
EGAK Eagle 86.23 22 *e*P **P** **13 24 21.0 +0.1**
comp=Z,49nm,0.9s
NDI New Delhi 86.24 300 *ex* **P** **13 24 19.5 -2.3**
DAWY Dawson 86.55 23 *e*P **P** **13 24 23.2 +0.6**
MKAR Makanchi Array 86.83 318 P **P** **13 24 23.9 -0.5**
MKAR Makanchi Array 86.83 318 P **P** **13 24 23.9 -0.5**
MKAR PKKPbc **PKKPbc** **13 42 20.1 -0.1**
MKAR Makanchi Array 86.83 318 P **P** **13 24 23.9 -0.5**
comp=Z,10nm,0.7s,baz=97,slow=6.4,SNR=13
MKAR PKKPbc **PKKPbc** **13 42 20.1 -0.1**
comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=4.8
KIPM Iron Peak 87.02 49 *e*P **P** **13 24 26.6 +1.0**
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 87.47 326 P **P** **13 24 25.4 -1.8**
ZALV Zalesovo Beam 87.47 326 P **P** **13 24 25.4 -1.8**
ZALV Zalesovo Beam 87.47 326 P **P** **13 24 25.4 -1.8**
comp=Z,10nm,0.6s,baz=118,slow=5.9,SNR=12
L02D Cave Junction, 87.51 47 P **P** **13 24 29.0 +1.3**
baz=88
M02C Callahan 87.86 48 P **P** **13 24 30.8 +1.3**
baz=88
N02D Trinity Center 87.87 48 P **P** **13 24 29.8 +0.3**
baz=88
YBH Yreka Blue Hor 88.05 47 P **P** **13 24 32.0 +1.7**
YBH Yreka Blue Hor 88.05 47 P **P** **13 24 32.1 +1.7**
comp=Z,9.1nm,0.9s,baz=240,slow=2.1,SNR=11
M04C Macdoel 88.70 47 P **P** **13 24 34.5 +0.9**
baz=89
I04A Tendick Farm, 88.75 45 P **P** **13 24 34.5 +0.9**
baz=89
SBC Santa Barbara 88.76 55 P **P** **13 24 33.7 -0.1**
baz=89
PKM Peak Mountain 88.77 55 P **P** **13 24 35.0 +0.9**
baz=89
J04D Umpqua Nationa 88.84 46 P **P** **13 24 35.0 +0.8**
baz=89
J05D Fort Rock, OR 89.47 46 P **P** **13 24 37.8 +0.7**
baz=90
KSH Kashi 89.53 310 *e*P **P** **13 24 39.9 +2.4**
KSH *e*PP PP 13 28 15.0 +5.6
KSH *e*SKS **SKSac** **13 35 06.3 +0.6**
KSH *e*S **S** **13 35 27.2 +0.9**
KSH *es*S **sS** **13 35 44.3 +0.4**
KSH *e*SS **SS** **13 41 28.3 +5.6**
KSH pmax pmax
comp=Z,53nm,1.7s
KSH pmax pmax
comp=Z,2μm,7.2s
KSH LR LR
comp=Z,670nm,11.1s
KSH LR LR
comp=Z,1μm,13.2s
KSH LR LR
comp=Z,2μm,14.7s
VES Vestal, Richgr 89.54 54 P **P** **13 24 37.7 +0.3**
baz=90
ARVC Arvin 89.61 54 P **P** **13 24 38.8 +1.0**
baz=90
CIS Catalina Islan 89.62 56 P **P** **13 24 38.2 +0.2**
baz=90
I05D Terrebonne, OR 89.63 45 P **P** **13 24 38.1 +0.4**
baz=90
FMP Fort Macarthur 89.77 56 P **P** **13 24 38.9 +0.4**
baz=90
WAKR Walker 89.79 51 *e*P **P** **13 24 39.1 +0.3**
comp=Z,29nm,1.1s
ULHL Ulahol 89.90 313 *i* P **P** **13 24 39.2 -0.1**
ULHL Ulahol 89.90 313 P **P** **13 24 39.2 -0.1**
SNR=6.1
ISA Isabella 89.99 54 P **P** **13 24 40.3 +0.7**
baz=90
KURK Kurchatov 90.21 321 P **P** **13 24 38.6 -1.6**
KURK Kurchatov 90.21 321 P **P** **13 24 38.5 -1.6**
EDW2 Edwards Air Fo 90.24 55 P **P** **13 24 40.9 +0.1**
baz=90
KURBB Kurchatov Arra 90.24 321 P **P** **13 24 38.5 -1.8**
comp=Z,2.5nm,0.8s,baz=108,slow=3.6,SNR=7.9
BFSC Mount Baldy Ra 90.39 56 P **P** **13 24 41.8 +0.2**
baz=90
TIN Tinemaha 90.45 53 P **P** **13 24 42.6 +0.8**
baz=91
TKM2 Tokmak 2 90.51 313 *i* P **P** **13 24 41.5 -0.5**
TKM2 Tokmak 2 90.51 313 P **P** **13 24 41.6 -0.5**
SNR=8.5
INK Inuvik 90.55 20 P **P** **13 24 40.7 -0.7**
INK Inuvik 90.55 20 P **P** **13 24 40.7 -0.7**
comp=Z,16nm,1.0s,baz=216,slow=9.3,SNR=7.0
LRMC Laurel Mountai 90.59 54 P **P** **13 24 43.6 +1.1**
baz=91
KZA Kyzart 90.59 312 P **P** **13 24 45.0 +2.3**
SNR=8.6
MURC Murrieta 90.65 56 P **P** **13 24 43.5 +0.8**
baz=91
NVAR Mina Array Bea 90.65 51 P **P** **13 24 44.1 +1.3**
NVAR Mina Array Bea 90.65 51 P **P** **13 24 44.1 +1.3**
comp=Z,40nm,0.8s,baz=251,slow=7.0,SNR=29
MPMC Manual Prospec 90.85 54 P **P** **13 24 44.8 +1.0**
baz=91
BBRC Big Bear Solar 90.99 56 P **P** **13 24 45.1 +0.5**
baz=91
GRAC Grapevine Rang 91.12 53 P **P** **13 24 45.5 +0.7**
baz=91
UCH Uchtor 91.16 312 *i* P **P** **13 24 45.5 +0.1**
UCH Uchtor 91.16 312 P **P** **13 24 45.5 +0.1**
SNR=7.1
MONP Monument Peak 91.17 57 P **P** **13 24 46.0 +0.6**
baz=91
FRU Bishkek 91.20 313 *e*P **P** **13 24 45.0 0.0**
FRU *e* 13 25 01.0
AAK Ala-Archa 91.25 313 *ce*P **P** **13 24 46.0 +0.5**
AAK pmax pmax
comp=Z,23nm,1.2s
AAK Ala-Archa 91.25 313 *e*P **P** **13 24 44.9 -0.6**
comp=Z,13nm,1.2s
AAK Ala-Archa 91.25 313 P **P** **13 24 45.2 -0.2**
comp=Z,3.6nm,0.7s,baz=129,slow=5.9,SNR=7.2
PFO Pinyon Flat Ob 91.26 56 P **P** **13 24 47.0 +1.3**
PFO Pinyon Flat Ob 91.26 56 P **P** **13 24 47.0 +1.3**
comp=Z,5.2nm,0.7s,baz=282,slow=5.6,SNR=10
PFO Pinyon Flat Ob 91.26 56 P **P** **13 24 46.4 +0.7**
baz=91
GSC Goldstone 91.27 55 P **P** **13 24 46.0 +0.4**
baz=91
USP Ospenovka 91.36 313 *i* P **P** **13 24 44.9 -0.9**
USP Ospenovka 91.36 313 P **P** **13 24 45.0 -0.9**
SNR=6.0
DVTC Desert V Tower 91.39 57 P **P** **13 24 46.2 -0.1**
baz=92
FURC Furnace Creek, 91.43 53 P **P** **13 24 47.1 +0.9**
baz=92
HEC Hector,Ludlow 91.57 55 P **P** **13 24 47.7 +0.7**
baz=92
BELC Belle Mtn. Jos 91.70 56 P **P** **13 24 47.8 +0.1**
baz=92
AML Almayashu 91.74 312 *i* P **P** **13 24 48.1 +0.1**
AML Almayashu 91.74 312 P **P** **13 24 48.1 +0.1**
SNR=7.6

SHOC Shoshone 91.79 54 P **P** **13 24 48.5 +0.6**
baz=92
TUQ Turquoise Moun 92.00 55 P **P** **13 24 49.7 +0.7**
baz=92
BC3 Big Chuckawall 92.09 56 P **P** **13 24 50.4 +0.9**
baz=92
GMRC Granite Mounta 92.11 55 P **P** **13 24 50.3 +0.8**
baz=92
IRM Iron Mountain 92.42 56 P **P** **13 24 51.9 +1.0**
baz=93
R11A Troy Canyon, C 92.74 52 P **P** **13 24 53.0 +0.5**
baz=93
SHPR Sheep Range 92.78 54 *e*P **P** **13 24 53.7 +1.0**
NEW Newport 93.27 42 P **P** **13 24 54.1 -0.4**
baz=93
113A Mohawk Valley, 93.35 58 P **P** **13 24 55.3 +0.1**
baz=94
W13A Hualapai Mount 93.60 55 P **P** **13 24 57.3 +0.7**
baz=94
KKAR Karatay Array 94.21 313 *e*P **P** **13 24 57.9 -1.0**
KKAR Karatay Array 94.21 313 *e*P **P** **13 24 57.9 -1.0**
ARUT Antelope Range 94.33 53 *e*P **P** **13 25 00.5 +0.7**
ARUT pmax pmax
comp=Z,256nm,1.2s
ARUT Antelope Range 94.33 53 *e*P **P** **13 25 00.5 +0.7**
comp=Z,256nm,1.2s
HLID Hailey 94.41 47 P **P** **13 25 00.6 +0.6**
baz=95
BSMT Bassoo Peak 94.75 42 *e*P **P** **13 25 01.8 +0.3**
comp=Z,7.0nm,1.2s
U15A North Rim 95.06 54 P **P** **13 25 04.2 +0.9**
baz=95
DUG Dugway 95.14 50 *e*P **P** **13 25 03.9 +0.5**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway 95.14 50 *e*P **P** **13 25 03.9 +0.5**
comp=Z,5.3nm,0.9s
X16A Lo Mia Camp, P 95.50 56 P **P** **13 25 06.0 +0.8**
baz=96
MCMT McKenzie Canyo 95.69 46 *e*P **P** **13 25 06.2 +0.3**
comp=Z,3.1nm,0.9s
BRVK Borovoye 95.72 323 P **P** **13 25 03.5 -2.0**
comp=Z,58nm,0.9s,SNR=6.2
BRVK Borovoye 95.72 323 *ce*P **P** **13 25 04.2 -1.3**
BRVK pmax pmax
comp=Z,19nm,1.7s
TUC Tucson 95.79 58 *e*P **P** **13 25 08.0 +1.5**
TUC pmax pmax
comp=Z,1.0nm,0.7s
TUC Tucson 95.79 58 *e*P **P** **13 25 08.0 +1.5**
comp=Z,0.7nm,0.7s
DAU Daniels Canyon 96.34 50 *e*P **P** **13 25 10.3 +1.2**
DAU pmax pmax
comp=Z,11nm,1.0s
DAU Daniels Canyon 96.34 50 *e*P **P** **13 25 10.3 +1.2**
comp=Z,11nm,1.0s
YKA Yellowknife Ar 96.71 28 P **P** **13 25 09.1 -0.8**
YKA PKKP **PKKPdf** **13 42 01.4 +4.6**
YKA Yellowknife Ar 96.71 28 P **P** **13 25 09.0 -0.8**
comp=Z,5.6nm,0.8s,baz=262,slow=4.5,SNR=13
YKA PKKP **PKKPdf** **13 42 01.3 +4.6**
comp=Z,0.5nm,0.7s,baz=88,slow=2.6,SNR=5.7
I17A Pilgrim Ck. 97.21 47 P **P** **13 25 12.9 +0.1**
baz=97
H17A Grant Village 97.25 46 P Pdif 13 25 13.8 +0.7
baz=97
PDAR Pinedale Array 97.84 48 P **P** **13 25 15.7 -0.1**
PDAR Pinedale Array 97.84 48 P **P** **13 25 15.7 -0.1**
comp=Z,3.3nm,0.9s,baz=229,slow=2.6,SNR=14
H18A Shoshone NF, C 97.93 46 P Pdif 13 25 16.8 +0.7
baz=98
PV01 Paradox Valley 98.20 53 *e*P Pdif 13 25 19.6 +2.1
121A Cookes Peak, D 98.33 58 P Pdif 13 25 19.2 +1.1
baz=98
I19A Meeteetse 98.36 47 P **P** **13 25 17.7 -0.2**
baz=98
H19A Powell 98.41 46 P Pdif 13 25 18.5 +0.3
baz=99
F19A Roth Farm, Mol 98.53 45 P Pdif 13 25 18.7 +0.1
baz=99
D19A Cripps Ranch, 98.66 44 P **P** **13 25 18.8 -0.3**
baz=99
J20A Shoshoni 98.97 47 P Pdif 13 25 20.7 0.0
baz=99
E20A Meyer Farm, Mu 99.13 44 P **Pdif** **13 25 20.9 -0.3**
baz=99
D20A Manuel Ranch, 99.16 44 P **Pdif** **13 25 21.2 -0.1**
baz=99
C20A Veseth Ranch, 99.29 43 P **Pdif** **13 25 22.0 +0.1**
baz=99
B20A Solberg Farm, 99.31 42 P **Pdif** **13 25 22.0 0.0**
baz=100
A20A Cobblestone Ra 99.40 42 P **Pdif** **13 25 21.4 -1.0**
baz=100
BNM Barren Site 99.44 57 *e*P **Pdif** **13 25 24.1 +1.0**
comp=Z,5.3nm,1.1s
K21A Alcova 99.53 48 P **Pdif** **13 25 23.1 -0.2**
baz=100
D21A La Casta Ranch 99.94 44 P **Pdif** **13 25 24.6 -0.2**
baz=100
B21A Ellsworth Farm 99.98 42 P **Pdif** **13 25 24.6 -0.3**
baz=100
A21A Bergtoll Ranch 100.06 42 P **Pdif** **13 25 24.7 -0.6**
baz=100
K22A Casper 100.07 48 *e*Pdif **Pdif** **13 25 27.5 +1.9**
K22A Casper 100.07 48 P **Pdif** **13 25 25.2 -0.4**
baz=100
J22A Midwest 100.14 47 P **Pdif** **13 25 25.7 -0.1**
baz=100
224A Cornudas Mount 100.20 59 P **Pdif** **13 25 25.9 -0.6**
baz=100
G23A Biddle 100.99 46 P **Pdif** **13 25 29.9 +0.3**
baz=101
F23A Volborg 100.99 45 P **Pdif** **13 25 29.4 -0.1**
baz=101
D23A Lindsay 101.16 44 P **Pdif** **13 25 30.7 +0.4**
baz=101
C23A Lambert 101.19 43 P **Pdif** **13 25 30.7 +0.3**
baz=101
TXAR Lajitas Array 101.61 62 P **Pdif** **13 25 35.5 +2.9**
TXAR PP **PP** **13 29 41.5 -1.8**
TXAR PKKPbc **PKKPbc** **13 41 41.5 +1.2**
TXAR Lajitas Array 101.61 62 P **Pdif** **13 25 35.5 +2.9**
comp=Z,1.0nm,0.7s,baz=227,slow=5.0,SNR=9.5
TXAR PP **PP** **13 29 41.5 -1.8**
comp=Z,2.2nm,1.0s,baz=271,slow=7.9,SNR=8.7
TXAR PKKPbc **PKKPbc** **13 41 41.5 +1.2**
comp=Z,0.7nm,0.9s,baz=104,slow=2.6,SNR=4.8
ABKAR Akbulak array 101.98 318 *e*Pdif **Pdif** **13 25 31.6 -2.1**
H25A Fruitdale 102.25 46 P **Pdif** **13 25 35.2 +0.1**
baz=102
J26A Sides Ranch, S 102.62 48 P **Pdif** **13 25 37.0 +0.2**
baz=103
ARU Arti 102.63 326 *d i*P **Pdif** **13 25 34.2 -2.2**
ARU 13 29 46.9
ARU S **SKSac** **13 36 11.1 -2.5**
ARU SS **SS** **13 44 23.7 -3.2**
ARU pmax pmax
comp=Z,14nm,2.5s
F26A Lodgepole 102.91 45 P **Pdif** **13 25 38.5 +0.5**
baz=103
F27A Lemmon 103.36 45 P **Pdif** **13 25 39.6 -0.4**
baz=104
APA Apatity 111.00 340 *i*PKIKP **PKiKP** **13 30 16.2 +3.7**
APA *i* SS SS 13 46 34.0 +14
APA MLR MLR
comp=Z,3μm,24.0s
ARCES ARCESS Array B 112.32 344 PKKPbc PKKPbc 13 41 06.1 -2.0
ARCES ARCESS Array B 112.32 344 PKKPbc PKKPbc 13 41 06.1 -2.0
comp=Z,3.6nm,0.9s,baz=225,slow=3.1,SNR=4.3
KIV Kislovodsk 114.33 314 *e*PKIKP PKPdf 13 30 20.8 +1.1
KIV *e*PS **PS** **13 40 56.2 +2.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 115.00 327 *e*PKIKP **PKPdf** **13 30 24.6 +4.1**
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 116.94 336 PKP **PKPdf** **13 30 23.8 -0.2**
FINES FINESS Array B 116.94 336 PKP **PKPdf** **13 30 23.8 -0.2**
comp=Z,2.4nm,0.7s,baz=88,slow=4.6,SNR=3.6
AKASG Malin Array Be 120.86 325 PKIKP **PKPdf** **13 30 30.8 -1.1**
AKASG Malin Array Be 120.86 325 PKP **PKPdf** **13 30 30.8 -1.1**
AKASG PKKPab **PKKPab** **13 40 34.8 -1.9**
AKASG Malin Array Be 120.86 325 PKP **PKPdf** **13 30 30.8 -1.1**
comp=Z,2.2nm,0.7s,baz=61,slow=2.1,SNR=8.2
AKASG PKKPab **PKKPab** **13 40 34.8 -1.9**
comp=Z,0.1nm,0.3s,baz=258,slow=4.8,SNR=4.6

BRTR Keskin Array B 121.89 311 PKPpre PKPpre 13 30 24.9
BRTR PKP **PKPdf** **13 30 34.4 -0.1**
BRTR Keskin Array B 121.89 311 PKhKP PKPpre 13 30 24.9
comp=Z,2.0nm,1.1s,baz=76,slow=5.2,SNR=4.1
BRTR PKP **PKPdf** **13 30 34.4 -0.1**
comp=Z,1.4nm,0.7s,baz=90,slow=2.5,SNR=4.7
NB2 NORSAR Subarra 122.52 342 PKPdf **PKPdf** **13 30 33.3 -1.6**
comp=Z,1.8nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B 122.52 342 PKP **PKPdf** **13 30 33.0 -1.9**
NOA NORSAR Array B 122.52 342 PKP **PKPdf** **13 30 33.0 -1.9**
comp=Z,2.7nm,0.7s,baz=43,slow=2.0,SNR=9.7
KOLS Kolonicke sedl 125.65 325 *e*PKIKP **PKPdf** **13 30 41.4 +0.2**
KOLS Kolonicke sedl 125.65 325 *e*PKP **PKPdf** **13 30 41.4 +0.2**
UZH Uzhgorod 125.80 325 *e*PKIKP PKPdf 13 30 48.7 +7.2
UZH *e* 13 30 56.0
STHS Stebnicka Huta 125.96 326 *e*PKIKP **PKPdf** **13 30 43.0 +1.2**
STHS Stebnicka Huta 125.96 326 *e*PKP **PKPdf** **13 30 43.0 +1.2**
CRVS Cervenica-Dubn 126.12 326 *e*PKIKP **PKPdf** **13 30 42.4 +0.3**
CRVS Cervenica-Dubn 126.12 326 *e*PKP **PKPdf** **13 30 42.4 +0.3**
KSP Ksiaz 127.68 330 *e*PKIKP **PKPdf** **13 30 45.1 +0.1**
KRLC Kraliky 127.92 329 *e*PKIKP **PKPdf** **13 30 46.0 +0.4**
KRLC Kraliky 127.92 329 *e*PKPdf **PKPdf** **13 30 46.0 +0.4**
LPAZ La Paz 127.93 119 *e*PKPdf **PKPdf** **13 30 47.9 +0.6**
LPAZ La Paz 127.93 119 PKP **PKPdf** **13 30 47.9 +0.6**
comp=Z,6.4nm,0.8s,baz=269,slow=1.8,SNR=7.5
DPC Dobruska-Polom 127.98 330 *e*PKIKP **PKPdf** **13 30 46.5 +0.8**
DPC *e* 13 30 58.2
DPC Dobruska-Polom 127.98 330 *e*PKPdf **PKPdf** **13 30 46.5 +0.8**
DPC *ep*PKP **pPKPdf** **13 30 58.2 +1.6**
UPC Upice 128.03 330 *e*PKIKP **PKPdf** **13 30 49.8 +4.1**
UPC *e* 13 31 00.8
UPC Upice 128.03 330 *e*PKPdf **PKPdf** **13 30 49.8 +4.1**
UPC *es*PKP 13 31 00.8
PVCC Panska Ves 128.73 331 *e*PKIKP **PKPdf** **13 30 48.2 +1.2**
PVCC *e* 13 31 03.2
PVCC Panska Ves 128.73 331 *e*PKPdf **PKPdf** **13 30 48.2 +1.2**
PVCC *es*PKP 13 31 03.2
CLL Collm 128.94 332 *e*PKIKP **PKPdf** **13 30 48.0 +0.6**
CLL Collm 128.94 332 *e*PKPdf **PKPdf** **13 30 48.0 +0.6**
PRU Prague 129.09 330 PKPdf **PKPdf** **13 30 48.0 +0.3**
PRU Pruhonice 129.09 330 *e*PKIKP **PKPdf** **13 30 47.7 0.0**
PRU *e* 13 31 02.9
PRU Pruhonice 129.09 330 *e*PKPdf **PKPdf** **13 30 47.7 0.0**
PRU *es*PKP 13 31 02.9
CSNA Conrad Observa 129.73 328 ⇧*i*PKIKP **PKPdf** **13 30 49.1 0.0**
comp=Z,4.4nm,1.0s
NKC Novy Kostel 129.93 332 *e*PKIKP **PKPdf** **13 30 54.3 +4.9**
NKC *e* 13 31 09.4
NKC Novy Kostel 129.93 332 *e*PKPdf **PKPdf** **13 30 54.3 +4.9**
NKC *ex* x 13 31 09.4
KHC Kasperske Hory 130.13 330 *e*PKIKP **PKPdf** **13 30 50.1 +0.3**
KHC *e* 13 31 04.4
KHC Kasperske Hory 130.13 330 *e*PKPdf **PKPdf** **13 30 50.1 +0.3**
KHC *es*PKP 13 31 04.4
KHC Kasperske Hory 130.13 330 *e*PKPdf **PKPdf** **13 30 49.7 -0.1**
GERES GERESS Array B 130.25 330 PKP **PKPdf** **13 30 49.8 -0.4**
GERES GERESS Array B 130.25 330 PKP **PKPdf** **13 30 49.8 -0.4**
comp=Z,0.9nm,0.6s,baz=108,slow=2.6,SNR=5.4
CPUP Villa Florida 130.93 137 *e*PKPdf **PKPdf** **13 30 54.6 +2.7**
CPUP PKP **PKPdf** **13 30 55.1 +3.1**
CPUP Villa Florida 130.93 137 PKP **PKPdf** **13 30 55.1 +3.1**
comp=Z,1.3nm,0.4s,baz=310,slow=1.5,SNR=5.6
SDV Santo Domingo 132.02 86 *e*PKPdf **PKPdf** **13 30 53.6 -1.0**
FETA Feichten 132.96 330 ⇧*i*PKIKP **PKPdf** **13 30 55.4 0.0**
comp=Z,8.1nm,1.1s
FUORN Ofenpass-Fuorn 133.47 330 *e*PKPdf **PKPdf** **13 31 00.8 +4.3**
TUE Stuetta 134.03 330 *e*PKPdf **PKPdf** **13 30 57.1 -0.3**
CABF La Chapelle 135.48 332 ⇧*i*PKIKP **PKPdf** **13 31 00.3 +0.3**
comp=Z,87nm,1.4s
CABF La Chapelle 135.48 332 ⇧*i*PKIKP **PKPdf** **13 31 00.3 +0.3**
CABF La Chapelle 135.48 332 ⇧*i*PKPdf **PKPdf** **13 31 00.3 +0.3**
LPG La Plagne 135.99 331 ⇧*i*PKIKP **PKPdf** **13 31 00.1 -1.2**
LPG La Plagne 135.99 331 ⇧*i*PKIKP **PKPdf** **13 31 00.1 -1.2**
LPG La Plagne 135.99 331 ⇧*i*PKPdf **PKPdf** **13 31 00.1 -1.2**
SSF Saint Saulge 136.27 335 ⇧*i*PKIKP **PKPdf** **13 31 01.9 +0.5**
SSF Saint Saulge 136.27 335 ⇧*i*PKIKP **PKPdf** **13 31 01.9 +0.5**
SSF Saint Saulge 136.27 335 ⇧*i*PKPdf **PKPdf** **13 31 01.9 +0.5**
SMF Signal de Mont 136.45 334 ⇧*i*PKIKP **PKPdf** **13 31 00.9 -0.8**
comp=Z,11nm,0.9s
SMF Signal de Mont 136.45 334 ⇧*i*PKIKP **PKPdf** **13 31 00.9 -0.8**
SMF Signal de Mont 136.45 334 ⇧*i*PKPdf **PKPdf** **13 31 00.9 -0.8**
AVF Avril sur Loir 136.55 335 ⇧*i*PKIKP **PKPdf** **13 31 00.8 -1.1**
comp=Z,41nm,1.4s
AVF Avril sur Loir 136.55 335 ⇧*i*PKIKP **PKPdf** **13 31 00.8 -1.1**
AVF Avril sur Loir 136.55 335 ⇧*i*PKPdf **PKPdf** **13 31 00.8 -1.1**
TCF Toulx Ste Croi 137.43 335 ⇧*i*PKIKP **PKPdf** **13 31 02.9 -0.7**
comp=Z,59nm,1.4s
TCF Toulx Ste Croi 137.43 335 ⇧*i*PKIKP **PKPdf** **13 31 02.9 -0.7**
TCF Toulx Ste Croi 137.43 335 ⇧*i*PKPdf **PKPdf** **13 31 02.9 -0.7**
BB16B Bebedouro 140.37 139 *e*P PKPdf 13 31 01.8 -7.9
BB16B *i* 13 31 04.7
BB16B *i* 13 31 12.3
PTGA Pitinga 141.00 102 *e*PKPdf **PKPdf** **13 31 09.5 -1.5**
BDFB Brasilia 144.49 133 *e*PKPdf PKPbc 13 31 15.7 -0.1
BDFB PKP **PKPab** **13 31 15.8 +0.3**
BDFB Brasilia 144.49 133 PKP PKPbc 13 31 15.8 0.0
comp=Z,60nm,0.7s,baz=201,slow=1.6,SNR=14
PBRG Braganca 144.63 340 *e*PKP **PKPab** **13 31 15.2 -0.1**
PGAV Gavieira, Arco 144.98 342 *e*PKP **PKPdf** **13 31 17.1 -0.3**
MVO Moncorvo 145.30 340 *e*PKP **PKPdf** **13 31 18.2 +0.3**
POLO Lamas de Olo 145.37 341 *e*PKP **PKPab** **13 31 18.5 +0.5**
ESDC Sonseca Array 145.44 335 PKPbc **PKPbc** **13 31 16.6 -1.5**
ESDC Sonseca Array 145.44 335 PKPbc **PKPbc** **13 31 16.6 -1.5**
comp=Z,3.1nm,0.8s,baz=358,slow=3.1,SNR=6.7
MTE Manteigas 146.16 340 *e*PKP **PKPdf** **13 31 18.6 -0.8**
PMRV Marv??o 146.97 339 *e*PKP **PKPbc** **13 31 22.8 +0.1**
EVO Evora 147.99 339 *e*PKP **PKPbc** **13 31 26.1 +0.6**
PNCL Nicolau / Gran 148.55 339 *e*PKP **PKPdf** **13 31 24.3 +1.0**
PCVE Castro Verde 148.80 338 *e*PKP **PKPbc** **13 31 25.7 -1.9**
PBDV Barranco-do-Ve 149.10 338 *e*PKP **PKPab** **13 31 32.7 0.0**
MORF Marmelete 149.31 339 *e*PKP **PKPab** **13 31 34.0 +0.5**
TAM Tamanrasset 150.22 301 *e*PKIKP **PKPbc** **13 31 34.1 +2.3**
TAM Tamanrasset 150.22 301 *e*PKPbc **PKPbc** **13 31 34.1 +2.3**
TORD Torodi Ar. Bea 156.35 282 PKP **PKPdf** **13 31 34.4 -1.1**
TORD Torodi Ar. Bea 156.35 282 PKP **PKPdf** **13 31 34.4 -1.1**
comp=Z,3.1nm,1.1s,baz=98,slow=2.3,SNR=2.2
KIC Kosan Boka 162.66 263 *e*P **PKPab** **13 32 31.3 0.0**
comp=Z,37nm,0.9s
DBIC Dimbokro 162.82 264 PKPab **PKPab** **13 32 31.7 -0.3**
DBIC Dimbokro 162.82 264 PKPab **PKPab** **13 32 31.7 -0.3**
comp=Z,6.6nm,0.9s,baz=95,slow=3.7,SNR=6.3
LIC Lamto 162.92 262 *e*P **PKPab** **13 32 34.3 +1.9**
comp=Z,65nm,1.0s
TIC Toumodi 162.98 263 *e*P **PKPab** **13 32 32.4 -0.3**
comp=Z,32nm,0.9s

*IDC **05** 13:12:57.8±0.7,8°.93S×158°.03E, h0km, mb5.0/18, mb1 5.2/18, mb1mx5.1/22, mbtmp5.0/18, Error ellipse: s-maj=20.9km s-min=19.5km az=131.0*
*NEIC **05** 13:13:01.5±4.1,8°.89S×158°.03E, h23km±29km, mb5.7/5, Error ellipse: s-maj=15.5km s-min=10.9km az=170.0*
*ISCJB **05** 13:13:02.1±0.3,8°.86S±0°.08×157°.80E±0°.07, h33km, mb5.1/23, Error ellipse: s-maj=11.6km s-min=9.2km az=161.5*

ISC 05 13:13:01.3±0.5, 9°.0S±0°.1×158°.10E±0°.09, h23km, n90, σ1°.24/84, mb5.2/22, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HNR	**Honiara**	**1.88**	**104**	Pn	**Pn**		**13 13 31.2**	**-0.8**
HNR	**Honiara**	**1.88**	**104**	Pn	**Pn**		**13 13 31.2**	**-0.8**
	baz=311,slow=19,SNR=1.1							
HNR	**Honiara**	**1.88**	**104**	*i* P	Sx		13 14 35.0	
DZM	**Mont Dzumac**	**15.29**	**149**	*e*P	**P**		**13 16 39.6**	**-0.9**
COEN	**Coen**	**15.44**	**250**	*e*P	**Pn**		**13 16 38.5**	**+0.7**
WRAB	**Tennant Creek**	**25.41**	**242**	*e*P	**P**		**13 18 25.7**	**-1.7**
	45nm,0.8s							
WRA	**Warramunga Arr**	**25.42**	**242**	P	**P**		**13 18 25.4**	**-2.1**
WRA	**Warramunga Arr**	**25.42**	**242**	P	**P**		**13 18 25.4**	**-2.1**
	21nm,0.7s,baz=68,slow=9.8,SNR=2.6							
STKA	**Stephens Creek**	**27.46**	**212**	P	**P**		**13 18 47.0**	**+1.3**
STKA	**Stephens Creek**	**27.46**	**212**	P	**P**		**13 18 47.0**	**+1.3**
	47nm,0.9s,baz=35,slow=16,SNR=1.9							
MJAR	**Matsushiro Arr**	**48.99**	**339**	P	**P**		**13 21 44.9**	**-1.3**
MJAR	**Matsushiro Arr**	**48.99**	**339**	P	**P**		**13 21 44.9**	**-1.3**
	4.4nm,0.7s,baz=170,slow=9.2,SNR=6.3							
KSRS	**Korea Array**	**54.14**	**330**	P	**P**		**13 22 25.0**	**+0.3**
	13nm,1.0s,baz=148,slow=8.5,SNR=5.0							
KSAR	**Wonju Array Be**	**54.15**	**330**	P	**P**		**13 22 25.0**	**+0.2**
USRK	**Ussuriysk Arra**	**57.97**	**338**	P	**P**		**13 22 52.0**	**+0.1**

28nm,1.0s,baz=136,slow=3.0,SNR=6.2
PETK Petropavlovsk- 61.84 360 P **P** 13 23 18.9 +0.5
PETK Petropavlovsk- 61.84 360 P **P** 13 23 18.9 +0.5
53nm,0.8s,baz=168,slow=7.9,SNR=10
CMAR Chiang Mai Arr 64.41 295 P **P** 13 23 36.7 +0.5
CMAR Chiang Mai Arr 64.41 295 P **P** 13 23 36.7 +0.5
15nm,0.8s,baz=128,slow=5.0,SNR=6.5
SEY Seymchan 71.83 357 P **P** 13 24 21.2 -0.6
SEY Seymchan 71.83 357 P **P** 13 24 21.2 -0.6
14nm,0.9s,baz=156,slow=10.0,SNR=2.5
SONM Songino Array 72.67 326 P **P** 13 24 28.5 +1.1
SONM Songino Array 72.67 326 P **P** 13 24 28.5 +1.1
8.5nm,0.8s,baz=133,slow=5.8,SNR=1.8
YAK Yakutsk 74.16 347 *eP* **P** 13 24 35.6 -0.1
40nm,0.6s
MCK McKinley 82.77 21 *eP* **P** 13 25 22.9 -0.2
130nm,1.0s
COLA College 83.83 20 *eP* **P** 13 25 28.3 -0.3
58nm,0.9s
ILAR Eielson Array 84.10 21 P **P** 13 25 29.9 -0.2
ILAR Eielson Array 84.10 21 P **P** 13 25 29.9 -0.2
20nm,1.0s,baz=262,slow=5.0,SNR=5.8
DOT Dot Lake 84.49 22 *eP* **P** 13 25 32.4 +0.3
38nm,0.9s
MK31 Makanchi Array 86.92 318 *eP* **P** 13 25 43.7 -0.8
MKAR Makanchi Array 86.92 318 P **P** 13 25 44.0 -0.6
MKAR Makanchi Array 86.92 318 P **P** 13 25 44.0 -0.6
11nm,0.7s,baz=99,slow=5.8,SNR=5.1
ZALV Zalesovo Beam 87.54 325 P **P** 13 25 46.1 -1.1
ZALV Zalesovo Beam 87.54 325 P **P** 13 25 46.1 -1.1
4.7nm,0.6s,baz=114,slow=5.5,SNR=4.9
M02C Callahan 87.76 48 P **P** 13 25 51.0 +2.2
baz=88
N02D Trinity Center 87.77 48 P **P** 13 25 50.6 +1.9
baz=88
M04C Macdoel 88.59 47 P **P** 13 25 54.9 +2.1
baz=89
PKM Peak Mountain 88.65 55 P **P** 13 25 54.8 +1.6
baz=89
J04D Umpqua Nationa 88.73 46 P **P** 13 25 55.2 +1.7
baz=89
J05D Fort Rock, OR 89.36 46 P **P** 13 25 57.6 +1.3
baz=89
ARVC Arvin 89.49 54 P **P** 13 25 58.9 +1.9
baz=90
CIS Catalina Islan 89.50 56 P **P** 13 25 58.3 +1.2
baz=90
I05D Terrebonne, OR 89.52 45 P **P** 13 25 58.1 +1.2
baz=90
ISA Isabella 89.88 54 P **P** 13 26 00.2 +1.3
baz=90
MLAC Mammoth Lakes 89.97 52 P **P** 13 26 00.6 +1.1
baz=90
EDW2 Edwards Air Fo 90.12 55 P **P** 13 26 01.6 +1.7
baz=90
BFSC Mount Baldy Ra 90.27 56 P **P** 13 26 02.5 +1.7
baz=90
KURK Kurchatov 90.29 321 P **P** 13 25 59.1 -1.2
KURBB Kurchatov Arra 90.32 321 P **P** 13 25 59.1 -1.4
2.5nm,1.0s,baz=110,slow=4.9,SNR=3.1
CWC Cottonwood Cre 90.34 53 P **P** 13 26 02.1 +1.0
baz=90
TIN Tinemaha 90.34 53 P **P** 13 26 02.9 +1.9
baz=90
LRMC Laurel Mountai 90.47 54 P **P** 13 26 03.2 +1.5
baz=90
INK Inuvik 90.49 20 P **P** 13 25 59.9 -0.9
INK Inuvik 90.49 20 P **P** 13 25 59.9 -0.9
9.4nm,1.0s,baz=250,slow=6.8,SNR=3.8
NVAR Mina Array Bea 90.54 51 P **P** 13 26 04.4 +2.3
NVAR Mina Array Bea 90.54 51 P **P** 13 26 04.4 +2.3
16nm,0.9s,baz=250,slow=7.7,SNR=5.4
GRAC Grapevine Rang 91.00 53 P **P** 13 26 05.1 +1.1
baz=91
MONP Monument Peak 91.05 57 P **P** 13 26 05.2 +0.7
baz=91
GSC Goldstone 91.15 55 P **P** 13 26 06.4 +1.6
baz=91
FURC Furnace Creek, 91.31 53 P **P** 13 26 06.9 +1.6
baz=91
AAK Ala-Archa 91.34 313 P **P** 13 26 04.7 -1.0
AAK Ala-Archa 91.34 313 P **P** 13 26 04.7 -1.0
4.5nm,0.9s,baz=322,slow=1.9,SNR=4.2
HEC Hector,Ludlow 91.45 55 P **P** 13 26 07.0 +0.7
baz=92
BELC Belle Mtn. Jos 91.58 56 P **P** 13 26 07.7 +0.8
baz=92
GMRC Granite Mounta 91.99 55 P **P** 13 26 10.2 +1.4
baz=92
IRM Iron Mountain 92.30 56 P **P** 13 26 11.7 +1.5
baz=92
R11A Troy Canyon, C 92.63 52 P **P** 13 26 13.7 +2.0
baz=93
HLID Hailey 94.30 47 P **P** 13 26 21.4 +2.1
baz=94
YKA Yellowknife Ar 96.64 28 P **P** 13 26 29.4 +0.2
YKA Yellowknife Ar 96.64 28 P **P** 13 26 29.4 +0.2
3.3nm,0.8s,baz=268,slow=4.7,SNR=3.4
PDAR Pinedale Array 97.73 48 P Pdif 13 26 36.1 +1.1
PDAR Pinedale Array 97.73 48 P Pdif 13 26 36.1 +1.1
2.9nm,0.8s,baz=248,slow=2.2,SNR=4.0
J19A Crowheart 98.14 47 P Pdif 13 26 37.7 +0.8
baz=98
E19A Rath Farm, Rou 98.57 44 P **P** 13 26 38.5 0.0
baz=99
C20A Veseth Ranch, 99.19 43 P **Pdif** 13 26 41.4 +0.2
baz=99
D23A Lindsay 101.06 44 P **Pdif** 13 26 50.3 +0.7
baz=101
C23A Lambert 101.09 43 P **Pdif** 13 26 50.2 +0.5
baz=101
AKASG Malin Array Be 120.93 325 PKP **PKPdf** 13 31 50.6 -1.2
AKASG Malin Array Be 120.93 325 PKP **PKPdf** 13 31 50.6 -1.2
2.2nm,0.8s,baz=64,slow=2.3,SNR=4.1
NB2 NORSAR Subarra122.56 342 PKPdf **PKPdf** 13 31 54.0 -0.7
comp=Z,1.1nm,0.7s,baz=41,slow=1.9
NOA NORSAR Array B122.56 342 PKP **PKPdf** 13 31 54.1 -0.7
NOA NORSAR Array B122.56 342 PKP **PKPdf** 13 31 54.1 -0.7
comp=Z,2.5nm,0.7s,baz=43,slow=1.9,SNR=5.7
LPAZ La Paz 127.81 119 PKP **PKPdf** 13 32 08.1 +1.3
LPAZ La Paz 127.81 119 PKP **PKPdf** 13 32 08.1 +1.3
comp=Z,4.1nm,0.9s,baz=181,slow=5.4,SNR=2.3
GERES GERESS Array B 130.32 330 PKP **PKPdf** 13 32 09.7 -0.3
GERES GERESS Array B 130.32 330 PKP **PKPdf** 13 32 09.7 -0.3
comp=Z,1.5nm,0.9s,baz=82,slow=1.5,SNR=1.9
BDFB Brasilia 144.40 133 PKP PKPbc 13 32 35.8 +0.5
BDFB Brasilia 144.40 133 PKP PKPbc 13 32 35.8 +0.5
comp=Z,33nm,0.8s,baz=190,slow=4.7,SNR=4.5
DBIC Dimbokro 162.96 263 PKPab **PKPab** 13 33 54.0 +1.6
DBIC Dimbokro 162.96 263 PKPab **PKPab** 13 33 54.0 +1.6
comp=Z,7.0nm,0.9s,baz=84,slow=3.6,SNR=3.6

*IDC **05** 13:30:31.5±0.8, 8.94S×157.76E, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML4.2/1, Error ellipse: s-maj=23.0km s-min=14.2km az=180.0*
ISC 05 13:30:34.3±0.7, 9.1S±0.2×157.9E±0.1, h23km, n14, σ0§84/11, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**2.01**	**99**	Pn		Pn	**Pb**	**13 31 09.7**	**-0.4**
	68nm,0.3s,baz=305,slow=5.7,SNR=18								
HNR				Lg		Lg	Lg	13 31 42.3	
	79nm,0.3s,baz=143,slow=15,SNR=6.0								
CTA	**Charters Tower**	**15.69**	**225**	Pn		P	**P**	**13 34 17.4**	**-0.6**
	0.5nm,0.3s,baz=44,slow=14,SNR=2.9								
WRA	**Warramunga Arr**	**25.21**	**242**	P		P	**P**	**13 35 59.4**	**+0.7**
	1.6nm,0.8s,baz=68,slow=9.2,SNR=12								
ASAR	**Alice Springs**	**27.15**	**235**	P		P	**P**	**13 36 16.0**	**-0.1**
	0.5nm,0.8s,baz=63,slow=10,SNR=9.1								
STKA	**Stephens Creek**	**27.25**	**212**	P		P	**P**	**13 36 17.4**	**+0.4**
	2.1nm,0.7s,baz=40,slow=7.9,SNR=3.9								
H11S3	**WAKE ISLAND Hy**	**28.77**	**17**	T		T	T	14 05 12.5	
	baz=199,slow=77,SNR=12								
H11S2	**WAKE ISLAND Hy**	**28.77**	**17**	T		T	T	14 05 11.2	
	baz=199,slow=77,SNR=12								
H11S1	**WAKE ISLAND Hy**	**28.79**	**17**	T		T	T	14 05 11.3	
	baz=199,slow=77,SNR=6.7								
CMAR	**Chiang Mai Arr**	**64.33**	**295**	P		P	**P**	**13 41 08.8**	**+0.1**
	0.4nm,0.4s,baz=105,slow=5.0,SNR=5.6								
SONM	**Songino Array**	**72.70**	**326**	P		P	**P**	**13 42 00.6**	**0.0**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=3.0								
ILAR	**Eielson Array**	**84.30**	**21**	P		P	**P**	**13 43 03.3**	**-0.7**
	0.7nm,0.5s,baz=252,slow=5.2,SNR=12								
MKAR	**Makanchi Array**	**86.92**	**318**	P		P	**P**	**13 43 16.4**	**-1.2**
	0.3nm,0.5s,baz=96,slow=6.4,SNR=7.0								
NVAR	**Mina Array Bea**	**90.76**	**51**	P		P	**P**	**13 43 37.6**	**+1.5**
	1.6nm,0.9s,baz=252,slow=7.0,SNR=8.0								
YKA	**Yellowknife Ar**	**96.85**	**28**	P		P	**P**	**13 44 03.7**	**+0.5**
	0.5nm,0.9s,baz=263,slow=4.6,SNR=2.9								

KRSC 05 13:34:50.8±1.1, 50.53N×157.77E, h60km±21km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**1.07**	**279**	*i* P		Pn		13 35 10.7	+1.1
SKR				*e*S		Sn		13 35 24.1	+0.5
PAU	**Pauzhetka**	**1.12**	**327**	*i* P		Pn		13 35 13.1	+2.8
PAU				*i* S		Sn		13 35 27.5	+2.6
MIPR	**Malaya Ipel'ka**	**1.86**	**340**	*e*P		Pn		13 35 22.5	+2.2
MIPR				*e*S		Sn		13 35 45.3	+2.5
RUS	**Russkaya**	**1.96**	**13**	*e*P		Pn		13 35 23.7	+2.1
RUS				*e*S		Sn		13 35 46.7	+1.6
MTVR	**Mutnovka**	**1.97**	**7**	*e*P		Pn		13 35 24.2	+2.2
MTVR				*e*S		Sn		13 35 47.8	+2.0
APC	**Apacha**	**2.43**	**351**	*e*P		Pn		13 35 29.9	+1.9
PET	**Petropavlovsk**	**2.56**	**12**	*e*P		Pn		13 35 32.0	+2.3
PET				*e*S		Sn		13 36 02.2	+2.6
UGLR	**Uglovaya**	**2.76**	**13**	*e*P		Pn		13 35 34.7	+2.0
AVH	**Avacha**	**2.80**	**12**	*e*P		Pn		13 35 36.3	+3.1
SMAR	**Somma**	**2.81**	**13**	*e*P		Pn		13 35 36.2	+2.7
KOK	**Koryaka**	**2.82**	**11**	*e*P		Pn		13 35 36.8	+3.3
SDLR	**Sedlovina**	**2.84**	**14**	*e*P		Pn		13 35 36.0	+2.2
KRER	**Koryakskii**	**2.84**	**12**	*e*P		Pn		13 35 37.0	+3.1
KRX	**Arik**	**2.88**	**11**	*e*P		Pn		13 35 37.3	+2.9
GNL	**Ganaly**	**3.17**	**2**	*e*P		Pn		13 35 40.9	+2.6

*IDC **05** 13:34:56.8±0.8, 8.92S×157.78E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=26.1km s-min=14.8km az=0.0*
*ISCJB **05** 13:34:58.7±0.8, 9.0S±0.2×157.8E±0.1, h23km, mb3.9/7, Error ellipse: s-maj=24.4km s-min=14.7km az=166.5*
ISC 05 13:35:00.1±0.9, 9.0S±0.2×157.9E±0.1, h23km, n8, σ1§04/8, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**2.10**	**102**	Pn		Pn	**Pn**	**13 35 33.3**	**-0.7**
	24nm,0.3s,baz=194,slow=8.3,SNR=3.9								
HNR				Lg		Lg		13 36 07.0	
	80nm,0.3s,baz=194,slow=19,SNR=4.0								
WRA	**Warramunga Arr**	**25.19**	**242**	P		P	**P**	**13 40 24.5**	**+0.3**
	2.9nm,0.8s,baz=67,slow=9.2,SNR=9.0								
ASAR	**Alice Springs**	**27.15**	**235**	P		P	**P**	**13 40 41.9**	**-0.1**
	0.9nm,0.8s,baz=61,slow=10,SNR=6.7								
STKA	**Stephens Creek**	**27.31**	**211**	P		P	**P**	**13 40 43.6**	**+0.4**
	2.2nm,0.9s,baz=51,slow=16,SNR=4.1								
CMAR	**Chiang Mai Arr**	**64.21**	**295**	P		P	**P**	**13 45 32.4**	**-1.3**
	0.4nm,0.4s,baz=100,slow=8.0,SNR=5.6								
ILAR	**Eielson Array**	**84.22**	**21**	P		P	**P**	**13 47 29.1**	**-0.4**
	1.3nm,0.8s,baz=265,slow=5.1,SNR=7.2								
MKAR	**Makanchi Array**	**86.79**	**318**	P		P	**P**	**13 47 43.2**	**+0.5**
	0.9nm,0.6s,baz=101,slow=5.5,SNR=9.0								
NVAR	**Mina Array Bea**	**90.75**	**51**	P		P	**P**	**13 48 03.5**	**+1.6**
	2.1nm,1.0s,baz=247,slow=5.4,SNR=8.8								

*IDC **05** 13:37:19.6±1.5, 15.45S×173.27W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.2/20, mbtmp4.0/8, Error ellipse: s-maj=92.2km s-min=20.0km az=147.0*
ISC 05 13:37:27.5±1.6, 14.9S±0.4×172.8W±0.3, h29km, n18, σ1§13/10, mb4.1/9, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**1.37**	**45**	Pn		Pn	**Pn**	**13 37 49.6**	**-1.1**
	35nm,0.3s,baz=48,slow=3.7,SNR=50								
AFI				Sn		Sn	**Sn**	**13 38 08.5**	**+0.5**
	180nm,0.3s,baz=0.3,slow=22,SNR=15								
H11S2	**WAKE ISLAND Hy**	**38.83**	**328**	T		T	T	14 26 30.3	
	baz=151,slow=76,SNR=28								
H11S3	**WAKE ISLAND Hy**	**38.85**	**328**	T		T	T	14 26 29.8	
	baz=151,slow=76,SNR=16								
H11S1	**WAKE ISLAND Hy**	**38.85**	**328**	T		T	T	14 26 11.4	
	baz=151,slow=76,SNR=16								
H11N3	**WAKE ISLAND Hy**	**39.77**	**329**	T		T	T	14 27 32.1	
	baz=152,slow=77,SNR=13								
H11N1	**WAKE ISLAND Hy**	**39.77**	**329**	T		T	T	14 27 31.4	
	baz=152,slow=77,SNR=16								
H11N2	**WAKE ISLAND Hy**	**39.78**	**329**	T		T	T	14 27 33.6	
	baz=152,slow=77,SNR=14								
STKA	**Stephens Creek**	**44.81**	**240**	P		P	P	13 45 30.0	-9.1
	1.8nm,0.7s,baz=73,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**50.55**	**256**	P		P	P	13 46 15.6	-8.2
	1.1nm,0.9s,baz=98,slow=5.9,SNR=6.8								
ASAR	**Alice Springs**	**50.84**	**251**	P		P	P	13 46 17.1	-8.8
	3.2nm,0.6s,baz=91,slow=7.3,SNR=36								
NVAR	**Mina Array Bea**	**73.54**	**42**	P		P	**P**	**13 48 60.0**	**+1.9**
	1.1nm,0.9s,baz=234,slow=10,SNR=3.7								
TXAR	**Lajitas Array**	**79.83**	**56**	P		P	**P**	**13 49 34.3**	**+0.7**
	0.6nm,0.9s,baz=263,slow=7.9,SNR=5.2								
PDAR	**Pinedale Array**	**81.48**	**42**	P		P	**P**	**13 49 42.1**	**-0.2**
	1.0nm,1.0s,baz=214,slow=4.8,SNR=6.0								
ILAR	**Eielson Array**	**81.82**	**11**	P		P	**P**	**13 49 42.7**	**-0.7**
	1.3nm,0.7s,baz=231,slow=6.1,SNR=16								
YKA	**Yellowknife Ar**	**89.39**	**23**	P		P	**P**	**13 50 21.0**	**+0.1**
	1.1nm,0.9s,baz=241,slow=4.8,SNR=12								
SONM	**Songino Array**	**94.86**	**318**	P		P	**P**	**13 50 47.8**	**+0.9**
	1.0nm,1.0s,baz=135,slow=4.1,SNR=4.8								
GERES	**GERESS Array B**	**145.71**	**352**	PKPbc		**PKPdf**	**P**	**13 57 02.6**	**-0.7**
	1.0nm,0.8s,baz=183,slow=2.5,SNR=6.5								
BRTR	**Keskin Array B**	**146.12**	**322**	PKPbc		**PKPdf**	**P**	**13 57 03.1**	**-1.3**
	2.4nm,0.8s,baz=99,slow=2.6,SNR=10								

*IDC **05** 13:39:14.6±0.7, 8.76S×157.73E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, ML4.3/1, Error ellipse: s-maj=21.9km s-min=14.4km az=5.0*
ISC 05 13:39:17.6±0.8, 8.9S±0.2×157.9E±0.1, h23km, n15, σ0§94/10, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**2.08**	**105**	Pn		Pn	**Pb**	**13 39 54.1**	**-0.7**
	71nm,0.3s,baz=265,slow=1.7,SNR=9.9								
HNR				Lg		Lg		13 40 27.7	
	356nm,0.3s,baz=105,slow=23,SNR=15								
WRA	**Warramunga Arr**	**25.30**	**242**	P		P	**P**	**13 44 41.9**	**-0.8**
	3.2nm,0.9s,baz=67,slow=9.4,SNR=7.3								
ASAR	**Alice Springs**	**27.26**	**235**	P		P	**P**	**13 45 00.5**	**0.0**
	0.6nm,0.9s,baz=66,slow=9.2,SNR=3.9								
STKA	**Stephens Creek**	**27.44**	**211**	P		P	**P**	**13 45 02.8**	**+0.9**
	3.7nm,0.7s,baz=22,slow=11,SNR=8.6								
H11S3	**WAKE ISLAND Hy**	**28.55**	**18**	T		T	T	14 13 48.8	
	baz=200,slow=75,SNR=5.6								
H11S2	**WAKE ISLAND Hy**	**28.55**	**18**	T		T	T	14 13 52.4	
	baz=200,slow=75,SNR=7.1								
H11S1	**WAKE ISLAND Hy**	**28.57**	**18**	T		T	T	14 13 52.2	
	baz=200								
KSRS	**Korea Array**	**53.97**	**331**	P		P	**P**	**13 48 39.8**	**0.0**
	1.5nm,0.8s,baz=151,slow=7.7,SNR=4.0								
CMAR	**Chiang Mai Arr**	**64.20**	**295**	P		P	**P**	**13 49 50.9**	**-0.3**
	0.9nm,0.8s,baz=109,slow=3.3,SNR=4.6								
ILAR	**Eielson Array**	**84.09**	**21**	P		P	**P**	**13 51 45.5**	**-0.7**
	2.2nm,1.1s,baz=253,slow=5.3,SNR=8.2								
MKAR	**Makanchi Array**	**86.72**	**318**	P		P	**P**	**13 51 59.0**	**-0.9**
	0.4nm,0.8s,baz=103,slow=6.1,SNR=4.1								
NVAR	**Mina Array Bea**	**90.63**	**51**	P		P	**P**	**13 52 20.3**	**+1.5**
	1.7nm,0.9s,baz=253,slow=7.1,SNR=9.1								
YKA	**Yellowknife Ar**	**96.65**	**28**	P		P	**P**	**13 52 46.4**	**+0.8**
	0.4nm,0.9s,baz=262,slow=5.3,SNR=3.6								
PDAR	**Pinedale Array**	**97.81**	**48**	P		Pdif	P	13 52 52.9	+1.1
	0.5nm,0.9s,baz=341,slow=4.2,SNR=3.0								
BDFB	**Brasilia**	**144.60**	**133**	PKP		PKPbc	P	13 58 52.4	+0.2
	3.3nm,0.6s,baz=220,slow=4.4,SNR=4.9								

IDC 05 13:42:08.1±1.9, 8.67S×157.75E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, MS4.0/2, Ms1 4.0/2, ms1mx3.8/26, Error ellipse: s-maj=86.0km s-min=29.8km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**25.26**	**241**	P		P	P	13 47 35.5	-0.8
	0.7nm,0.5s,baz=68,slow=9.6,SNR=5.7								
ASAR	**Alice Springs**	**27.26**	**234**	P		P	P	13 47 55.1	+0.7
	0.8nm,1.0s,baz=66,slow=10,SNR=2.5								
STKA	**Stephens Creek**	**27.55**	**211**	P		P	P	13 47 56.7	-0.1
	1.3nm,0.8s,baz=32,slow=13,SNR=2.8								
AFI	**Afiamalu**	**30.32**	**103**	LR		LR	LR	13 58 18.2	
	comp=Z,884nm,21.7s,baz=41,slow=32								
TGY	**Tagaytay City**	**42.96**	**301**	LR		LR	LR	14 04 44.8	
	0.7nm,2.7nm,20.6s,baz=76,slow=32								
ILAR	**Eielson Array**	**83.94**	**21**	P		P	P	13 54 39.9	+0.1
	0.1nm,0.4s,baz=260,slow=5.2,SNR=4.9								

*IDC **05** 13:56:50.2±0.5, 8.98S×157.56E, h0km, mb4.6/16, mb1 4.7/19, mb1mx4.7/22, mbtmp4.5/19, ML3.8/3, MS4.6/1, Ms1 4.6/1, ms1mx3.8/36, Error ellipse: s-maj=15.4km s-min=13.3km az=12.0*
*ISCJB **05** 13:56:52.6±0.2, 9.01S±0.05×157.59E±0.04, h23km, mb4.9/51, MS5.1/9, Error ellipse: s-maj=7.6km s-min=6.2km az=1.5*
*MOS **05** 13:56:53.7±1.2, 9.04S×157.63E, h33km, mb5.3/10, Error ellipse: s-maj=10.6km s-min=9.8km az=173.0*
*BJI **05** 13:56:56.5, 8.63S×157.56E, h38km, mB5.6/18, mb4.9/44, Ms5.5/19, Ms7 5.2/19*
*NEIC **05** 13:56:56.6±1.4, 8.99S×157.72E, h44km±13km, mb5.2/18, Error ellipse: s-maj=11.5km s-min=9.2km az=163.0*
ISC 05 13:56:53.9±0.4, 9.12S±0.06×157.77E±0.06, h23km, n163, σ1§71/188, mb5.0/50, MS5.3/9, 6C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**2.17**	**98**	*e*Pn		**Pn**	**Pn**	**13 57 29.0**	**+0.4**
HNR				Lg		Lg	Lg	13 58 07.7	
HNR	**Honiara**	**2.17**	**98**	Pn		**Pn**	**Pn**	**13 57 29.7**	**+1.0**
	135nm,0.3s,baz=264,slow=3.6,SNR=9.4								
HNR				Lg		Lg	Lg	13 58 07.7	
	335nm,0.3s,baz=142,slow=22,SNR=5.6								
HNR	**Honiara**	**2.17**	**98**	*i* P		**Pn**	**Pn**	**13 57 28.0**	**-0.6**
PMG	**Port Moresby**	**10.48**	**268**	P		x	x	13 59 25.3	
	40nm,2.0s								
PMG	**Port Moresby**	**10.48**	**268**	*e*P		**Pn**	**Pn**	**13 59 24.6**	**+1.8**
PMG	**Port Moresby**	**10.48**	**268**	Pn		**Pn**	**Pn**	**13 59 24.2**	**+1.4**
	0.2nm,0.3s,baz=180,slow=5.1,SNR=3.0								
COEN	**Coen**	**15.08**	**250**	*e*P		**P**	**P**	**14 00 29.3**	**-1.5**
	192nm,1.0s								
DZM	**Mont Dzumac**	**15.34**	**148**	Pn		**P**	**P**	**14 00 31.8**	**-1.9**
DZM	**Mont Dzumac**	**15.34**	**148**	Pn		**P**	**P**	**14 00 31.8**	**-1.9**
	0.1nm,0.3s,baz=12,slow=16,SNR=4.2								
CTA	**Charters Tower**	**15.58**	**224**	Pn		**Pn**	**Pn**	**14 00 30.0**	**-2.2**
CTA	**Charters Tower**	**15.58**	**224**	Pn		**Pn**	**Pn**	**14 00 30.0**	**-2.2**
	0.1nm,0.3s,baz=54,slow=18,SNR=2.3								
CTAO	**Charters Tower**	**15.58**	**224**	*e*P		**P**	**P**	**14 00 35.9**	**-0.4**
CTAO				pmax		pmax			
	comp=Z,73nm,1.5s								
CTAO	**Charters Tower**	**15.58**	**224**	*e*P		**P**	**P**	**14 00 35.9**	**-0.4**
	comp=Z,73nm,1.5s								
EIDS	**Eidsvold**	**17.37**	**201**	*e*P		**P**	**P**	**14 00 58.8**	**+2.7**
	comp=Z,49nm,1.0s								
GENI	**Genyem**	**18.66**	**289**	P		**Pn**	**Pn**	**14 01 13.1**	**+2.2**
ARMA	**Armidale**	**21.95**	**194**	*e*P		**P**	**P**	**14 01 48.0**	**+1.8**
	comp=Z,61nm,1.4s								
BAKI	**Biak**	**22.95**	**289**	P		**P**	**P**	**14 01 56.8**	**-0.1**
	comp=Z,96nm,1.3s,comp=Z,4μm								
WRAB	**Tennant Creek**	**25.05**	**242**	P		**P**	**P**	**14 02 16.3**	**-0.4**
	comp=Z,219nm,0.9s,SNR=21								
WRAB	**Tennant Creek**	**25.05**	**242**	*c i* P		**P**	**P**	**14 02 16.6**	**-0.1**
WRAB				pmax		pmax			
	comp=Z,162nm,1.4s								
WRAB	**Tennant Creek**	**25.05**	**242**	*e*P		**P**	**P**	**14 02 16.1**	**-0.7**
	comp=Z,49nm,1.1s								
WRA	**Warramunga Arr**	**25.07**	**242**	P		**P**	**P**	**14 02 15.7**	**-1.1**
WRA				PcP		PcP	**PcP**	**14 05 51.8**	**+0.4**
WRA	**Warramunga Arr**	**25.07**	**242**	P		**P**	**P**	**14 02 15.7**	**-1.1**
	comp=Z,40nm,1.1s,baz=67,slow=9.4,SNR=83								
WRA				PcP		**PcP**	**PcP**	**14 05 51.8**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=72,slow=2.8,SNR=17								
ASAR	**Alice Springs**	**27.02**	**235**	P		**P**	**P**	**14 02 33.2**	**-1.3**
ASAR				PcP		PcP	**PcP**	**14 05 56.6**	**+0.8**
ASAR	**Alice Springs**	**27.02**	**235**	P		**P**	**P**	**14 02 33.2**	**-1.3**
	comp=Z,4.3nm,0.9s,baz=65,slow=8.7,SNR=25								
ASAR				PcP		**PcP**	**PcP**	**14 05 56.6**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=72,slow=2.6,SNR=7.9								
STKA	**Stephens Creek**	**27.17**	**211**	P		**P**	**P**	**14 02 34.7**	**-1.0**
STKA	**Stephens Creek**	**27.17**	**211**	P		**P**	**P**	**14 02 34.7**	**-1.0**
	comp=Z,19nm,0.8s,baz=33,slow=11,SNR=26								
H11S3	**WAKE ISLAND Hy**	**28.82**	**18**	T		T	T	14 31 23.3	
	baz=200,slow=77,SNR=13								
H11S2	**WAKE ISLAND Hy**	**28.82**	**18**	T		T	T	14 31 34.8	
	baz=200,slow=77,SNR=16								
H11S1	**WAKE ISLAND Hy**	**28.83**	**18**	T		T	T	14 31 36.0	
	baz=200,slow=77,SNR=9.0								
H11N1	**WAKE ISLAND Hy**	**30.03**	**17**	T		T	T	14 33 26.1	
	baz=209								
H11N3	**WAKE ISLAND Hy**	**30.04**	**17**	T		T	T	14 33 33.6	
	baz=209								
H11N2	**WAKE ISLAND Hy**	**30.05**	**17**	T		T	T	14 33 17.7	
	baz=209								
BBOO	**Buckleboo**	**30.96**	**217**	*e*P		**P**	**P**	**14 03 09.6**	**+0.2**
	comp=Z,308nm,1.0s								
LBMI	**Labuha**	**31.29**	**284**	P		P	P	14 03 21.9	+9.4

	comp=Z,560nm,19.0s							
SLVN	**Son La**	**60.93**	**301**	*e*P	**P**	**14 07 06.8**	**+1.3**
BJI	**Beijing**	**62.22**	**325**	P	**P**	**14 07 15.7**	**+1.9**
BJI				pmax	pmax			
	comp=Z,10.0nm,1.8s							
XAN	**Xi'an**	**63.14**	**316**	P	**P**	**14 07 18.5**	**-1.6**
XAN				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KMI	**Kunming**	**63.48**	**304**	P	**P**	**14 07 22.9**	**+0.1**
KMI				pP	pP	14 07 34.8	+4.7
KMI				sP	sP	14 07 39.2	+6.3
KMI				PP	**PP**	**14 09 46.2**	**+3.5**
KMI				S	**S**	**14 15 49.9**	**-5.3**
KMI				sS	**sS**	**14 16 10.7**	**+3.5**
KMI				pmax	pmax			
	comp=Z,34nm,1.4s							
KMI				pmax	pmax			
	comp=Z,920nm,14.3s							
KMI				LR	LR			
	comp=Z,1μm,13.0s							
KMI				LR	LR			
	comp=Z,1μm,13.0s							
KMI				LR	LR			
	comp=Z,2μm,14.7s							
CMAR	**Chiang Mai Arr**	**64.18**	**296**	P	**P**	**14 07 26.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**64.18**	**296**	P	**P**	**14 07 26.9**	**-0.3**
	comp=Z,12nm,1.1s,baz=115,slow=4.6,SNR=24							
CHTO	**Chiang Mai**	**64.30**	**296**	*e*P	**P**	**14 07 26.9**	**-1.2**
CHTO				pmax	pmax			
	comp=Z,18nm,1.1s							
CHTO	**Chiang Mai**	**64.30**	**296**	*e*P	**P**	**14 07 26.9**	**-1.2**
	comp=Z,18nm,1.1s							
CD2	**Chengdu**	**65.28**	**310**	*e*P	**P**	**14 07 33.5**	**-0.8**
CD2				sP	**sP**	**14 07 48.1**	**+3.7**
CD2				PP	**PP**	**14 09 58.9**	**+0.7**
CD2				S	**S**	**14 16 12.4**	**-4.5**
CD2				sS	**sS**	**14 16 30.2**	**+1.2**
CD2				SS	**SS**	**14 20 27.2**	**-3.1**
CD2				pmax	pmax			
	comp=Z,40nm,1.3s							
CD2				LR	LR			
	comp=Z,2μm,20.2s							
CD2				LR	LR			
	comp=Z,1μm,20.2s							
HHC	**Hu-ho-hao-te**	**65.43**	**323**	*e*P	P	14 07 39.2	+4.1
HHC				SS	SS	14 20 29.0	-3.4
HHC				pmax	pmax			
	comp=Z,16nm,0.7s							
HHC				pmax	pmax			
	comp=Z,2μm,8.7s							
HHC				LR	LR			
	comp=Z,2μm,17.4s							
HHC				LR	LR			
	comp=Z,1μm,15.9s							
HHC				LR	LR			
	comp=Z,2μm,17.4s							
LZH	**Lanzhou**	**67.75**	**315**	*e*P	**P**	**14 07 50.0**	**-0.1**
LZH				pP	pP	14 08 02.9	+5.4
LZH				sP	sP	14 08 07.8	+7.5
LZH				PcP	**PcP**	**14 08 18.9**	**+2.1**
LZH				*e*S	**S**	**14 16 44.0**	**-2.9**
LZH				sS	**sS**	**14 17 02.0**	**+2.9**
LZH				pmax	pmax			
	comp=Z,25nm,1.0s							
LZH				pmax	pmax			
	comp=Z,250nm,5.4s							
VNDA	**Vanda**	**68.41**	**179**	P	**P**	**14 07 54.3**	**+0.9**
VNDA	**Vanda**	**68.41**	**179**	P	**P**	**14 07 54.3**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=349,slow=3.1,SNR=5.4							
SEY	**Seymchan**	**71.96**	**357**	*e*P	**P**	**14 08 13.1**	**-2.1**
GTA	**Gaotai**	**72.16**	**316**	⇑P	**P**	**14 08 17.0**	**-0.1**
GTA				pP	**pP**	**14 08 27.2**	**+2.6**
GTA				sP	**sP**	**14 08 31.4**	**+4.1**
GTA				S	**S**	**14 17 34.2**	**-4.3**
GTA				sS	**SKiKP**	**14 17 51.3**	**-1.4**
GTA				SS	**SS**	**14 22 12.6**	**-3.9**
GTA				pmax	pmax			
	comp=Z,8.0nm,2.0s							
GTA				LR	LR			
	comp=Z,680nm,17.6s							
GTA				LR	LR			
	comp=Z,660nm,17.1s							
GTA				LR	LR			
	comp=Z,870nm,17.6s							
ULN	**Ulaanbaatar**	**72.27**	**327**	P	**P**	**14 08 17.1**	**-0.5**
	comp=Z,27nm,1.5s							
SONM	**Songino Array**	**72.61**	**327**	P	**P**	**14 08 18.6**	**-1.0**
SONM	**Songino Array**	**72.61**	**327**	P	**P**	**14 08 18.6**	**-1.0**
	comp=Z,4.2nm,1.0s,baz=137,slow=5.0,SNR=17							
YAK	**Yakutsk**	**74.23**	**347**	*e*P	**P**	**14 08 27.2**	**-1.4**
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
LSA	**Lhasa**	**74.73**	**304**	*e*P	**P**	**14 08 33.5**	**+0.6**
LSA				pmax	pmax			
	comp=Z,21nm,1.3s							
LSA	**Lhasa**	**74.73**	**304**	*e*P	**P**	**14 08 33.5**	**+0.6**
	comp=Z,21nm,1.3s							
ZAK	**Zakamensk**	**75.75**	**327**	*e*P	**P**	**14 08 36.4**	**-1.4**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.6s							
TLY	**Talaya**	**76.29**	**329**	*e*P	**P**	**14 08 41.6**	**+0.8**
TLY				pmax	pmax			
	comp=Z,7.0nm,1.6s							
TAPN	**Taplejung**	**76.85**	**301**	*e*P	**P**	**14 08 43.7**	**-1.1**
	comp=Z,31nm,1.0s							
ODAN	**Odare**	**76.97**	**300**	*e*P	**P**	**14 08 44.6**	**-0.9**
	comp=Z,28nm,0.9s							
RAMN	**Ramite**	**77.67**	**300**	*e*P	**P**	**14 08 49.0**	**-0.4**
	comp=Z,48nm,1.6s							
JIRN	**Jiri**	**78.23**	**301**	*e*P	**P**	**14 08 51.5**	**-1.1**
	comp=Z,107nm,1.9s							
GUN	**Gumba**	**78.56**	**301**	*e*P	**P**	**14 08 53.3**	**-1.2**
	comp=Z,159nm,1.8s							
PKI	**Pulchoki**	**78.87**	**300**	*e*P	**P**	**14 08 55.1**	**-1.0**
	comp=Z,42nm,1.2s							
KKN	**Kakani**	**79.04**	**301**	*e*P	**P**	**14 08 55.5**	**-1.4**
DMN	**Daman**	**79.14**	**300**	*e*P	**P**	**14 08 55.9**	**-1.6**
	comp=Z,92nm,1.5s							
GKN	**Gorkha**	**79.64**	**301**	*e*P	**P**	**14 08 58.9**	**-1.2**
	comp=Z,103nm,1.4s							
KOLN	**Koldanda**	**80.46**	**300**	*e*P	**P**	**14 09 03.0**	**-1.6**
	comp=Z,27nm,0.8s							
DANN	**Dangsing**	**80.48**	**301**	*e*P	**P**	**14 09 02.8**	**-2.0**
	comp=Z,82nm,1.6s							
RC01	**Rabbit Creek A**	**81.11**	**23**	P	**P**	**14 09 07.5**	**+0.5**
	comp=Z,106nm,2.0s							
PMR	**Palmer**	**81.65**	**23**	*e*P	**P**	**14 09 10.7**	**+0.8**
PMR				pmax	pmax			
	comp=Z,72nm,1.8s							
PMR	**Palmer**	**81.65**	**23**	*e*P	**P**	**14 09 10.7**	**+0.8**
	comp=Z,72nm,1.8s							
WMQ	**Urumqi**	**82.25**	**317**	P	**P**	**14 09 12.9**	**-0.7**
WMQ				pP	**pP**	**14 09 23.3**	**+2.2**
WMQ				sP	**sP**	**14 09 27.2**	**+3.4**
WMQ				PP	**PP**	**14 12 23.2**	**+0.8**
WMQ				SS	**SS**	**14 24 46.4**	**-2.1**
WMQ				pmax	pmax			
	comp=Z,13nm,1.6s							
WMQ				pmax	pmax			
	comp=Z,980nm,7.7s							
WMQ				LR	LR			
	comp=Z,1μm,25.5s							
WMQ				LR	LR			
	comp=Z,1μm,20.2s							
WMQ				LR	LR			
	comp=Z,1μm,21.2s							
IM04	**Indian Mountai**	**82.85**	**18**	*e*P	**P**	**14 09 15.3**	**-0.9**
TIXI	**Tiksi**	**82.85**	**351**⇑	*e*P	**P**	**14 09 14.8**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,20nm,1.8s							
TIXI	**Tiksi**	**82.85**	**351**	*e*P	**P**	**14 09 14.7**	**-1.2**
	comp=Z,31nm,1.6s							
MCK	**McKinley**	**83.02**	**21**	*e*P	**P**	**14 09 15.6**	**-1.5**
MCK				pmax	pmax			
	comp=Z,45nm,1.1s							
MCK	**McKinley**	**83.02**	**21**	*e*P	**P**	**14 09 15.6**	**-1.5**
	comp=Z,45nm,1.1s							
COLA	**College**	**84.08**	**20**⇑	*e*P	**P**	**14 09 21.0**	**-1.4**
COLA				pmax	pmax			
	comp=Z,120nm,1.5s							
COLA	**College**	**84.08**	**20**	*e*P	**P**	**14 09 20.5**	**-1.9**
	comp=Z,27nm,1.2s							
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**14 09 22.1**	**-1.7**
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**14 09 22.1**	**-1.7**
	comp=Z,3.7nm,0.9s,baz=260,slow=4.9,SNR=14							
HYT	**Haines Junctio**	**86.03**	**26**	*e*P	**P**	**14 09 32.8**	**+0.3**
MK31	**Makanchi Array**	**86.81**	**318**	*e*P	**P**	**14 09 35.0**	**-1.6**
MK31	**Makanchi Array**	**86.81**	**318**	*e*P	**P**	**14 09 35.0**	**-1.6**
MKAR	**Makanchi Array**	**86.81**	**318**	P	**P**	**14 09 35.3**	**-1.3**
MKAR	**Makanchi Array**	**86.81**	**318**	P	**P**	**14 09 35.3**	**-1.3**
MKAR	**Makanchi Array**	**86.81**	**318**	P	**P**	**14 09 35.3**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=105,slow=5.6,SNR=16							
ZALV	**Zalesovo Beam**	**87.47**	**326**	P	**P**	**14 09 36.9**	**-2.6**
ZALV	**Zalesovo Beam**	**87.47**	**326**	P	**P**	**14 09 36.9**	**-2.6**
ZALV	**Zalesovo Beam**	**87.47**	**326**	P	**P**	**14 09 36.9**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=116,slow=3.4,SNR=5.5							
KSH	**Kashi**	**89.47**	**310**	*e*P	P	14 09 52.4	+2.9
KSH				*e*sP	sP	14 10 06.6	+6.8
KSH				*e*PP	**PP**	**14 13 25.1**	**+4.0**
KSH				*e*SKS	**SKSac**	**14 20 17.2**	**-1.6**
KSH				*e*S	**S**	**14 20 37.7**	**-1.4**
KSH				pmax	pmax			
	comp=Z,26nm,2.0s							
KSH				pmax	pmax			
	comp=Z,2μm,17.3s							
KSH				LR	LR			
	comp=Z,81nm,3.4s							
KSH				LR	LR			
	comp=Z,170nm,3.2s							
KSH				LR	LR			
	comp=Z,130nm,5.1s							
VES	**Vestal, Richgr**	**89.77**	**54**	P	**P**	**14 09 52.1**	**+1.3**
	baz=90							
WAKR	**Walker**	**90.03**	**51**	P	**P**	**14 09 53.7**	**+1.5**
	comp=Z,36nm,1.8s							
KURK	**Kurchatov**	**90.20**	**321**	*e*P	**P**	**14 09 52.3**	**-0.1**
ISA	**Isabella**	**90.23**	**54**	P	**P**	**14 09 54.1**	**+1.0**
	baz=90							
EDW2	**Edwards Air Fo**	**90.47**	**55**	P	**P**	**14 09 55.2**	**+1.0**
	baz=90							
BFSC	**Mount Baldy Ra**	**90.62**	**56**	P	**P**	**14 09 56.1**	**+1.0**
	baz=91							
CWC	**Cottonwood Cre**	**90.69**	**53**	P	**P**	**14 09 55.9**	**+0.6**
	baz=91							
LRMC	**Laurel Mountai**	**90.82**	**54**	P	**P**	**14 09 56.7**	**+0.8**
	baz=91							
NVAR	**Mina Array Bea**	**90.88**	**51**	P	**P**	**14 09 57.6**	**+1.4**
NVAR	**Mina Array Bea**	**90.88**	**51**	P	**P**	**14 09 57.6**	**+1.4**
	comp=Z,7.2nm,1.0s,baz=256,slow=7.0,SNR=25							
NV11	**Mina Array Sit**	**91.00**	**51**	*e*P	**P**	**14 09 57.9**	**+1.2**
MPMC	**Manual Prospec**	**91.08**	**54**	P	**P**	**14 09 58.4**	**+1.2**
	baz=91							
BAR	**Barrett**	**91.15**	**57**	*e*P	**P**	**14 09 58.3**	**+0.9**
	comp=Z,12nm,1.3s							
AAK	**Ala-Archa**	**91.20**	**313**	*e*P	**P**	**14 09 56.8**	**-0.8**
AAK				pmax	pmax			
	comp=Z,13nm,1.6s							
MONP	**Monument Peak**	**91.40**	**57**	P	**P**	**14 09 59.6**	**+0.8**
	baz=91							
GSC	**Goldstone**	**91.50**	**55**	P	**P**	**14 09 59.7**	**+0.6**
	baz=92							
FURC	**Furnace Creek,**	**91.66**	**53**	P	**P**	**14 10 00.3**	**+0.7**
	baz=92							
HEC	**Hector,Ludlow**	**91.80**	**55**	P	**P**	**14 10 01.2**	**+0.8**
	baz=92							
SHOC	**Shoshone**	**92.02**	**54**	P	**P**	**14 10 02.1**	**+0.7**
	baz=92							
GMRC	**Granite Mounta**	**92.34**	**55**	P	**P**	**14 10 03.8**	**+0.8**
	baz=92							
IRM	**Iron Mountain**	**92.65**	**56**	P	**P**	**14 10 04.5**	**+0.2**
	baz=93							
R11A	**Troy Canyon, C**	**92.97**	**52**	P	**P**	**14 10 05.7**	**-0.2**
	baz=93							
SHPR	**Sheep Range**	**93.02**	**54**	*e*P	**P**	**14 10 07.4**	**+1.3**
	comp=Z,47nm,1.8s							
ARUT	**Antelope Range**	**94.56**	**53**	*e*P	**P**	**14 10 14.4**	**+1.2**
ARUT				pmax	pmax			
	comp=Z,236nm,1.5s							
ARUT	**Antelope Range**	**94.56**	**53**	*e*P	**P**	**14 10 14.4**	**+1.2**
	comp=Z,236nm,1.5s							
BRVK	**Borovoye**	**95.71**	**323**	*e*P	**P**	**14 10 17.1**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.9s							
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**	**14 10 22.3**	**-0.8**
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**	**14 10 22.3**	**-0.8**
	comp=Z,2.0nm,1.1s,baz=266,slow=4.5,SNR=13							
PDAR	**Pinedale Array**	**98.07**	**48**	P	Pdif	14 10 28.9	-0.3
PDAR	**Pinedale Array**	**98.07**	**48**	P	Pdif	14 10 28.9	-0.3
	comp=Z,1.3nm,1.0s,baz=253,slow=1.5,SNR=5.9							
T24B	**San Luis**	**100.88**	**54**	P	**Pdif**	**14 10 40.7**	**-1.1**
	baz=101							
TXAR	**Lajitas Array**	**101.84**	**62**	P	**Pdif**	**14 10 47.9**	**+1.9**
TXAR	**Lajitas Array**	**101.84**	**62**	P	**Pdif**	**14 10 47.9**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=302,slow=5.2,SNR=3.1							
AKASG	**Malin Array Be**	**120.86**	**325**	PKIKP	**PKPdf**	**14 15 42.3**	**-2.0**
AKASG	**Malin Array Be**	**120.86**	**325**	PKP	**PKPdf**	**14 15 42.3**	**-2.0**
AKASG	**Malin Array Be**	**120.86**	**325**	PKP	**PKPdf**	**14 15 42.3**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=60,slow=1.9,SNR=5.1							
KIEV	**Kiev**	**120.87**	**325**	*i* PKIKP	**PKPdf**	**14 15 46.1**	**+1.8**
BRTR	**Keskin Array B**	**121.84**	**311**	PKP	**PKPdf**	**14 15 45.4**	**-1.3**
BRTR	**Keskin Array B**	**121.84**	**311**	PKP	**PKPdf**	**14 15 45.4**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=329,slow=0.8,SNR=2.7							
KOLS	**Kolonicke sedl**	**125.65**	**325**	*e*PKIKP	**PKPdf**	**14 15 54.1**	**+0.5**
KOLS	**Kolonicke sedl**	**125.65**	**325**	*e*PKP	**PKPdf**	**14 15 54.1**	**+0.5**
LPAZ	**La Paz**	**128.03**	**119**	PKP	**PKPdf**	**14 16 00.2**	**+0.4**
LPAZ	**La Paz**	**128.03**	**119**	PKP	**PKPdf**	**14 16 00.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=273,slow=0.9,SNR=3.2							
CLL	**Collm**	**128.97**	**332**	*e*PKIKP	**PKPdf**	**14 15 59.0**	**-0.8**
CLL	**Collm**	**128.97**	**332**	*e*PKPdf	**PKPdf**	**14 15 59.0**	**-0.8**
GERES	**GERESS Array B**	**130.28**	**329**	PKP	**PKPdf**	**14 16 02.7**	**+0.2**
GERES	**GERESS Array B**	**130.28**	**329**	PKP	**PKPdf**	**14 16 02.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=207,slow=0.3,SNR=3.9							
BDFB	**Brasilia**	**144.54**	**134**	PKP	**PKPdf**	**14 16 29.3**	**-0.4**
BDFB	**Brasilia**	**144.54**	**134**	PKP	**PKPdf**	**14 16 29.3**	**-0.4**
	comp=Z,18nm,0.7s,baz=223,slow=2.2,SNR=29							
ESDC	**Sonseca Array**	**145.48**	**335**	PKPbc	**PKPab**	**14 16 32.6**	**+1.8**
ESDC	**Sonseca Array**	**145.48**	**335**	PKPbc	**PKPab**	**14 16 32.6**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=38,slow=4.0,SNR=4.7							
TAM	**Tamanrasset**	**150.13**	**300**	*e*PKP2	**PKPbc**	**14 16 44.3**	**+0.4**
TAM	**Tamanrasset**	**150.13**	**300**	*e*PKPbc	**PKPbc**	**14 16 44.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**156.19**	**282**	PKP	**PKPdf**	**14 16 46.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**156.19**	**282**	PKP	**PKPdf**	**14 16 46.9**	**-0.8**
	comp=Z,1.3nm,1.1s,baz=102,slow=1.8,SNR=5.8							
HNR	**Honiara**	**2.17**	**103**	Pn	**Pn**	**14 03 20.1**	**-1.0**
	81nm,0.3s,baz=228,slow=14,SNR=3.6							
HNR				Pg	**Pb**	**14 03 25.2**	**+0.2**
	223nm,0.3s,baz=110,slow=6.4,SNR=6.4							
HNR				Lg	Lg	14 03 55.5		
	388nm,0.3s,baz=283,slow=19,SNR=3.7							
CTA	**Charters Tower**	**15.71**	**224**	Pn	**P**	**14 06 28.6**	**-1.6**
CTA	**Charters Tower**	**15.71**	**224**	Pn	**P**	**14 06 28.6**	**-1.6**
	0.3nm,0.3s,baz=32,slow=14,SNR=3.0							
CTAO	**Charters Tower**	**15.71**	**224**	*e*P	**P**	**14 06 29.3**	**-0.9**
EIDS	**Eidsvold**	**17.53**	**201**	P	**Pn**	**14 06 47.6**	**-1.7**
	24nm,1.1s							
WRA	**Warramunga Arr**	**25.17**	**242**	P	**P**	**14 08 10.1**	**-0.1**
WRA	**Warramunga Arr**	**25.17**	**242**	P	**P**	**14 08 10.1**	**-0.1**
	6.3nm,0.7s,baz=67,slow=9.4,SNR=8.3							
ASAR	**Alice Springs**	**27.13**	**235**	P	**P**	**14 08 27.6**	**-0.4**
ASAR	**Alice Springs**	**27.13**	**235**	P	**P**	**14 08 27.6**	**-0.4**
	1.5nm,0.8s,baz=322,slow=8.9,SNR=4.9							
STKA	**Stephens Creek**	**27.32**	**211**	*e*P	**P**	**14 08 32.6**	**+3.1**
	4.3nm,1.2s							
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**14 08 31.7**	**+2.2**
	7.6nm,0.7s,baz=33,slow=12,SNR=11							
H11S3	**WAKE ISLAND Hy**	**28.66**	**18**	T	T	14 37 08.8		
	baz=199,slow=77,SNR=3.3							
H11S2	**WAKE ISLAND Hy**	**28.66**	**18**	T	T	14 37 10.1		
	baz=199,slow=77,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**28.67**	**18**	T	T	14 37 06.0		
	baz=199,slow=77,SNR=7.5							
MJAR	**Matsushiro Arr**	**48.86**	**339**	P	**P**	**14 11 28.2**	**-2.0**
MJAR	**Matsushiro Arr**	**48.86**	**339**	P	**P**	**14 11 28.2**	**-2.0**
	2.4nm,0.8s,baz=146,slow=8.4,SNR=3.6							
KSRS	**Korea Array**	**53.98**	**331**	P	**P**	**14 12 06.7**	**-1.8**
	1.2nm,0.8s,baz=149,slow=5.4,SNR=4.3							
KSAR	**Wonju Array Be**	**53.99**	**331**	P	**P**	**14 12 06.7**	**-1.9**
ENH	**Enshi**	**60.60**	**312**	*e*P	**P**	**14 12 55.2**	**-0.3**
	5.9nm,0.9s							
PETK	**Petropavlovsk-**	**61.82**	**360**	P	**P**	**14 13 02.9**	**-0.4**
PETK	**Petropavlovsk-**	**61.82**	**360**	P	**P**	**14 13 02.9**	**-0.4**
	2.2nm,0.9s,baz=173,slow=8.9,SNR=4.6							
CMAR	**Chiang Mai Arr**	**64.13**	**295**	P	**P**	**14 13 19.4**	**0.0**
CMAR	**Chiang Mai Arr**	**64.13**	**295**	P	**P**	**14 13 19.4**	**0.0**
	3.6nm,0.9s,baz=116,slow=4.7,SNR=12							
SONM	**Songino Array**	**72.49**	**326**	P	**P**	**14 14 12.2**	**+0.9**
SONM	**Songino Array**	**72.49**	**326**	P	**P**	**14 14 12.2**	**+0.9**
	0.9nm,0.8s,baz=141,slow=5.0,SNR=3.4							
QSPA	**South Pole Qui**	**81.03**	**180**	*e*P	**P**	**14 14 59.6**	**+0.3**
	2.2nm,0.7s							
COLA	**College**	**83.92**	**20**	*e*P	**P**	**14 15 13.3**	**-0.8**
	4.1nm,0.7s							
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**14 15 14.2**	**-1.2**
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**14 15 14.2**	**-1.2**
	2.1nm,0.6s,baz=255,slow=5.3,SNR=40							
MKAR	**Makanchi Array**	**86.71**	**318**	P	**P**	**14 15 27.9**	**-0.5**
MKAR	**Makanchi Array**	**86.71**	**318**	P	**P**	**14 15 27.9**	**-0.5**
	1.5nm,0.8s,baz=97,slow=6.0,SNR=13							
NVAR	**Mina Array Bea**	**90.76**	**51**	P	**P**	**14 15 49.5**	**+1.4**
NVAR	**Mina Array Bea**	**90.76**	**51**	P	**P**	**14 15 49.5**	**+1.4**
	2.3nm,0.8s,baz=256,slow=6.9,SNR=16							
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**14 16 15.1**	**+0.2**
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**14 16 15.0**	**+0.2**
	0.7nm,0.8s,baz=264,slow=4.3,SNR=6.7							
PDAR	**Pinedale Array**	**97.95**	**48**	P	Pdif	14 16 21.6	+0.6
PDAR	**Pinedale Array**	**97.95**	**48**	P	Pdif	14 16 21.6	+0.6
	0.5nm,0.7s,baz=236,slow=0.9,SNR=4.2							
GERES	**GERESS Array B**	**130.15**	**330**	PKP	**PKPdf**	**14 21 55.3**	**+0.5**
GERES	**GERESS Array B**	**130.15**	**330**	PKP	**PKPdf**	**14 21 55.3**	**+0.5**
	0.2nm,0.4s,baz=93,slow=4.1,SNR=2.3							
BDFB	**Brasilia**	**144.63**	**134**	PKP	**PKPdf**	**14 22 21.6**	**-0.7**
BDFB	**Brasilia**	**144.63**	**134**	PKP	**PKPdf**	**14 22 21.6**	**-0.7**
	11nm,0.7s,baz=201,slow=3.2,SNR=16							
ODJA	**Jouhanifia**	**146.91**	**326**	P	**PKPab**	**14 22 34.0**	**+5.2**
OLHC	**Oulhaca**	**147.66**	**327**	P	**PKPab**	**14 22 36.0**	**+4.2**
TORD	**Torodi Ar. Bea**	**156.19**	**282**	PKPab	**PKPab**	**14 23 07.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**156.19**	**282**	PKPab	**PKPab**	**14 23 07.5**	**-0.4**
	1.3nm,0.8s,baz=79,slow=4.2,SNR=5.8							

*IDC **05** 14:01:28.5±0.9, 8.°83S×157.°46E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=30.1km s-min=15.2km az=6.0*
*ISCJB **05** 14:01:29.8±0.7, 8.°8S±0.°1×157.°5E±0.°1, h17km, mb3.8/8, Error ellipse: s-maj=21.4km s-min=15.1km az=173.1*

ISC 05 14:01:31.3±0.8, 8.°8S±0.°2×157.°6E±0.°1, h17km, n9, σ1§50/9, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**106**	Pn		**Pn**		**14 02 09.8**	**-0.8**
	22nm,0.3s,baz=24,slow=19,SNR=5.3								
HNR				Lg		Lg		14 02 49.1	
	200nm,0.3s,baz=274,slow=23,SNR=10.0								
WRA	**Warramunga Arr**	**25.04**	**241**	P		**P**		**14 06 54.6**	**-0.2**
	3.7nm,0.8s,baz=66,slow=9.3,SNR=10								
ASAR	**Alice Springs**	**27.04**	**234**	P		**P**		**14 07 10.7**	**-2.3**
	0.4nm,0.7s,baz=61,slow=9.9,SNR=4.7								
STKA	**Stephens Creek**	**27.35**	**211**	P		**P**		**14 07 17.5**	**+1.9**
	3.6nm,0.7s,baz=37,slow=8.4,SNR=5.1								
CMAR	**Chiang Mai Arr**	**63.83**	**295**	P		**P**		**14 12 03.5**	**+0.3**
	1.6nm,0.8s,baz=122,slow=5.2,SNR=7.7								
SONM	**Songino Array**	**72.20**	**327**	P		**P**		**14 12 54.4**	**-1.1**
	0.8nm,0.9s,baz=128,slow=4.8,SNR=3.7								
ILAR	**Eielson Array**	**84.11**	**21**	P		**P**		**14 14 01.1**	**+0.1**
	0.5nm,1.0s,baz=262,slow=6.3,SNR=3.7								
MKAR	**Makanchi Array**	**86.40**	**318**	P		**P**		**14 14 12.8**	**-0.1**
	0.6nm,0.6s,baz=96,slow=4.8,SNR=8.9								
NVAR	**Mina Array Bea**	**90.84**	**51**	P		**P**		**14 14 36.0**	**+1.6**
	0.3nm,0.8s,baz=224,slow=3.8,SNR=3.3								

*IDC **05** 14:02:43.1±0.6, 8.°78S×157.°74E, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.4/20, mbtmp4.3/15, ML4.0/2, Error ellipse: s-maj=18.2km s-min=12.6km az=11.0*
*NEIC **05** 14:02:47.9±0.5, 8.°89S×157.°85E, h35km, mb4.4/5, Error ellipse: s-maj=14.8km s-min=10.3km az=124.0*

ISC 05 14:02:46.3±0.5, 8.°96S±0.°09×157.°80E±0.°07, h23km, n46, σ1§56/43, mb4.3/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.17**	**103**	Pn		**Pn**		**14 03 20.1**	**-1.0**
HNR				Pg		**Pb**		**14 03 25.2**	**+0.2**
HNR				Lg		Lg		14 03 55.5	
HNR	**Honiara**	**2.17**	**103**	Pn		**Pn**		**14 03 20.1**	**-1.0**
	81nm,0.3s,baz=228,slow=14,SNR=3.6								
HNR				Pg		**Pb**		**14 03 25.2**	**+0.2**
	223nm,0.3s,baz=110,slow=6.4,SNR=6.4								
HNR				Lg		Lg		14 03 55.5	
	388nm,0.3s,baz=283,slow=19,SNR=3.7								
CTA	**Charters Tower**	**15.71**	**224**	Pn		**P**		**14 06 28.6**	**-1.6**
CTA	**Charters Tower**	**15.71**	**224**	Pn		**P**		**14 06 28.6**	**-1.6**
	0.3nm,0.3s,baz=32,slow=14,SNR=3.0								
CTAO	**Charters Tower**	**15.71**	**224**	*e*P		**P**		**14 06 29.3**	**-0.9**
EIDS	**Eidsvold**	**17.53**	**201**	P		**Pn

7.7nm,0.6s
AAK ⇓Lg Lg 14 30 45.6
22nm,0.7s
AAK Ala-Archa 5.59 42 P **Pn 14 29 21.0 +1.6**
SNR=17
AAK Ala-Archa 5.59 42 Pn **Pn 14 29 18.2 -1.1**
5.5nm,0.3s,baz=192,slow=6.3,SNR=38
AAK Sn Sn 14 30 29.3 +5.7
0.8nm,0.3s,baz=96,slow=22,SNR=4.4
AAK Lg Lg 14 30 46.0
0.9nm,0.3s,baz=130,slow=18,SNR=3.5
KZA Kyzart 5.66 50 P Pn 14 29 22.9 +2.4
SNR=38
KBK Karagaybulak 5.85 44 P **Pn 14 29 22.4 -0.5**
SNR=12
USP Ospenovka 6.05 38 P **Pn 14 29 26.2 +0.7**
SNR=17
THW Thamme Wali 6.09 161 P **Pn 14 29 27.0 +0.9**
TKM2 Tokmak 2 6.38 45 ⇑Pn **Pn 14 29 28.5 -1.7**
6.3nm,0.4s
TKM2 ⇑Sn **Sn 14 30 46.3 +3.2**
9.8nm,0.6s
TKM2 ⇓Lg Lg 14 31 16.1
8.1nm,0.7s
TKM2 Tokmak 2 6.38 45 P **Pn 14 29 32.2 +1.9**
SNR=23
MK31 Makanchi Array 12.52 45 P **Pn 14 30 51.7 -2.4**
0.3nm,0.6s,baz=228,slow=13,SNR=6.8
MKAR Makanchi Array 12.52 45 Pn **Pn 14 30 51.9 -2.2**
0.1nm,0.3s,baz=228,slow=14,SNR=6.6
AB31 Akbulak array 12.64 331 ⇑P **Pn 14 30 54.8 -1.0**
0.4nm,0.3s
KURBB **Kurchatov Arra 13.65 25** Pn Pn 14 31 05.7 -3.8
0.1nm,0.3s,baz=218,slow=12,SNR=5.4
AKTO Aktyubinsk 14.34 329 Pn **Pn 14 31 19.0 +0.1**
0.3nm,0.3s,baz=129,slow=14,SNR=4.5
BVA0 Borovoye Array 14.45 2 ⇓P **P 14 31 26.4 -0.9**
1.4nm,0.4s
BVAR Borovoye Array 14.45 2 Pn **Pn 14 31 17.5 -3.0**
0.2nm,0.3s,baz=172,slow=15,SNR=5.6
ZALV Zalesovo Beam 18.62 29 P **P 14 32 10.5 -2.9**
0.3nm,0.3s,baz=225,slow=12,SNR=5.0
FINES FINESS Array B 35.05 325 P **P 14 34 48.7 +0.2**
2.3nm,0.8s,baz=92,slow=10.0,SNR=3.5
ARCES ARCESS Array B 38.73 337 P **P 14 35 20.0 +0.2**
2.0nm,0.8s,baz=107,slow=7.8,SNR=10
NOA NORSAR Array B 41.95 322 P **P 14 35 47.2 +0.5**
0.5nm,0.5s,baz=97,slow=8.1,SNR=3.0
TORD Torodi Ar. Bea 64.54 267 P **P 14 38 34.4 +1.0**
0.1nm,0.5s,baz=31,slow=5.5,SNR=2.7
ILAR Eielson Array 73.11 15 P **P 14 39 25.1 -0.9**
0.2nm,0.7s,baz=310,slow=4.6,SNR=3.0
YKA Yellowknife Ar 79.21 2 P **P 14 39 59.7 -0.9**
0.2nm,0.5s,baz=348,slow=5.9,SNR=4.2

*DMN **05** 14:28:07.5±0.6,33.14N×85.35E,h10km,Ml4.7/4, Error ellipse: s-maj=13.4km s-min=12.0km az=82.0*
*IDC **05** 14:28:10.8±0.6,32.25N×85.22E,h0km,mb4.2/20, mb1 4.4/23,mb1mx4.3/30,mbtmp4.2/23,ML4.1/3, Error ellipse: s-maj=17.8km s-min=13.7km az=39.0*
*BJI **05** 14:28:10.4,31.97N×85.21E,h7km,mB4.9/3,mb4.4/20, Ms4.4/6,Ms7 4.1/8*
*ISCJB **05** 14:28:11.9±0.2,32.47N±0.02×85.20E±0.03,h10km, mb4.5/47,MS4.3/4, Error ellipse: s-maj=4.2km s-min=3.4km az=155.3*
*LDG **05** 14:28:11.3±0.2,32.39N×85.02E,h10km,Mb4.9/11, Error ellipse: s-maj=9.3km s-min=5.0km az=93.0*
*NDI **05** 14:28:12.1±2.8,32.83N×85.64E,h33km,mb4.8, mb4.9(NEIC)*
*MOS **05** 14:28:14.2±0.9,32.22N×85.13E,h33km,mb4.7/32, Error ellipse: s-maj=10.6km s-min=5.9km az=116.9*
*NEIC **05** 14:28:18.3±1.1,32.38N×85.27E,h54km±11km,mb4.9/15, Error ellipse: s-maj=9.3km s-min=5.1km az=47.0*
ISC 05 14:28:12.8±0.3,32°27N±0°04×85°24E±0°04,h10km,n186, σ1.1s34/190,mb4.5/47,MS4.4/4,1C-1D,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**4.11**	**198**		*e*Pn		Pn	14 29 20.4	+4.4
GKN	**Gorkha**	**4.29**	**187**		*e*Pn		Pn	14 29 22.8	+4.5
GUN	**Gumba**	**4.38**	**173**		*e*Pn		Pn	14 29 24.1	+4.3
KKN	**Kakani**	**4.47**	**179**		*e*Pn		Pn	14 29 25.0	+4.2
KKN					*e*Sn		**Sb**	**14 30 23.6**	**-1.9**
419nm,1.0s									
DMN	**Daman**	**4.65**	**181**		*e*Pn		Pn	14 29 27.6	+4.3
DMN					*e*Sn		**Sb**	**14 30 27.6**	**-3.2**
614nm,1.1s									
JIRN	**Jiri**	**4.67**	**170**		*e*Pn		Pn	14 29 28.6	+4.8
PKI	**Pulchoki**	**4.69**	**178**		*e*Pn		Pn	14 29 28.2	+4.3
PKI					*e*Sn		**Sb**	**14 30 27.9**	**-4.1**
285nm,0.8s									
KOLN	**Koldanda**	**4.71**	**198**		*e*Pn		Pn	14 29 28.2	+4.1
LGTI	**Lohaghat**	**5.13**	**238**		*e*P		Pn	14 29 36.8	+7.1
TAPN	**Taplejung**	**5.36**	**156**		*e*Pn		Pn	14 29 36.5	+3.4
RAMN	**Ramite**	**5.43**	**167**		*e*Pn		**Pn**	**14 29 37.0**	**+2.9**
RAMN					*e*Sn		Sn	14 30 44.6	+7.7
457nm,0.8s									
LSA	**Lhasa**	**5.69**	**115**		*e*P		Pn	14 29 42.8	+5.0
LSA					pmax		pmax		
comp=Z,147nm,0.9s									
LSA	**Lhasa**	**5.69**	**115**		*e*P		Pn	14 29 42.8	+5.0
comp=Z,147nm,0.9s									
ODAN	**Odare**	**5.71**	**160**		*e*Pn		**Pn**	**14 29 40.9**	**+3.0**
DDI	**Dehra Dun**	**6.44**	**254**		*e*P		Pn	14 29 51.8	+3.9
DDI					AMB		AMB	14 29 58.7	
comp=Z,33nm,0.9s									
DDI					*e*S		**Sn**	**14 31 02.9**	**+1.4**
SMLA	**Simla**	**6.97**	**263**		*e*P		**Pn**	**14 29 56.8**	**+1.8**
SMLA					AMB		AMB	14 29 59.4	
comp=Z,30nm,0.9s									
SMLA					*e*S		**Sn**	**14 31 15.3**	**+1.0**
SDNR	**Sundarnagar**	**7.07**	**266**		*e*P		**Pn**	**14 29 58.0**	**+1.6**
SDNR					*ex*		**Sn**	**14 31 20.0**	**+3.1**
DHRM	**DHARAMSHALA**	**7.57**	**272**		*e*P		**Pn**	**14 30 0.4**	**+1.0**
DHRM					*ex*		**Sn**	**14 31 29.9**	**+0.5**
NDI	**New Delhi**	**7.79**	**245**		*e*P		Pn	14 30 10.0	+3.7
NDI					*ex*		**Sn**	**14 31 35.0**	**+0.5**
BOK	**Bokaro**	**8.46**	**176**		*e*P		**Pn**	**14 30 17.8**	**+2.2**
BOK					AMB		AMB	14 30 20.2	
comp=Z,28nm,0.5s									
BOK					*e*S		**Sn**	**14 31 52.3**	**+1.1**
SHL	**Shillong**	**8.86**	**137**		*e*P		**Pn**	**14 30 21.8**	**+0.6**
SHL					AMB		AMB	14 30 28.9	
comp=Z,43nm,1.2s									
SHL					*ex*		x	14 32 01.0	
CHCP	**Chirah Chowk**	**10.15**	**281**		P		**Pn**	**14 30 38.0**	**-0.7**
KSH	**Kashi**	**10.42**	**317**		*e*P		Pn	14 30 35.0	-7.4
KSH					*e*P			14 30 41.1	
KSH					*e*PP		**PnPn**	**14 30 50.3**	**+0.2**
KSH					*e*S		Sn	14 32 18.6	-21
KSH					*es*S			14 32 23.2	
KSH					pmax		pmax		
comp=Z,17nm,0.7s									
KSH					pmax		pmax		
comp=Z,210nm,5.7s									
KSH					LR		LR		
comp=N,590nm,7.0s									
KSH					LR		LR		
comp=E,670nm,5.1s									
KSH					LR		LR		
comp=Z,690nm,7.1s									
CEP	**Cherat**	**11.29**	**281**		P		**Pn**	**14 30 55.4**	**+1.0**
CEP					S		**Sn**	**14 32 57.0**	**-3.7**
BHPL	**Bhopal**	**11.34**	**219**		*ex*		**Pn**	**14 30 54.9**	**-0.1**
BHPL					AMB		AMB	14 31 04.9	
comp=Z,23nm,1.1s									
BHPL					*ex*		x	14 32 54.8	
GTA	**Gaotai**	**13.80**	**55**		*e*P		P	14 31 33.7	-3.4
GTA					pP		Pn	14 31 37.4	+8.8
GTA					sP			14 31 39.9	
GTA					pmax		pmax		
comp=Z,6.0nm,1.2s									
GTA					LR		LR		
comp=Z,2μm,17.6s									
GTA					LR		LR		
comp=Z,1μm,16.9s									
GTA					LR		LR		
comp=Z,920nm,18.3s									
MK31	**Makanchi Array**	**14.68**	**352**		*e*P		**Pn**	**14 31 40.2**	**-0.3**
MK31	**Makanchi Array**	**14.68**	**352**		*e*P		**Pn**	**14 31 40.2**	**-0.3**
MKAR	**Makanchi Array**	**14.68**	**352**		P		**Pn**	**14 31 40.2**	**-0.3**
MKAR	**Makanchi Array**	**14.68**	**352**		Pn		**Pn**	**14 31 40.2**	**-0.3**
MKAR	**Makanchi Array**	**14.68**	**352**		Pn		**Pn**	**14 31 40.2**	**-0.3**
comp=Z,0.1nm,0.3s,baz=167,slow=11,SNR=9.6									
LZH	**Lanzhou**	**15.86**	**71**		*e*P		**P**	**14 32 01.4**	**+1.3**
LZH					pP		**pP**	**14 32 05.8**	**+2.8**
LZH					sP		**sP**	**14 32 08.6**	**+4.3**
LZH					*e*S		**S**	**14 35 02.0**	**-4.8**
LZH					sS		**sS**	**14 35 07.3**	**-4.0**
LZH					SS		SnSn	14 35 17.4	+12
LZH					pmax		pmax		
comp=Z,46nm,1.0s									
LZH					pmax		pmax		
comp=Z,380nm,4.5s									
LZH					LR		LR		
comp=Z,3μm,13.1s									
HYB	**Hyderabad**	**15.98**	**204**		*i* P		Pn	14 31 53.0	-4.8
HYB					*e*S		**Sn**	**14 34 50.0**	**-5.1**
POO	**Poona**	**17.10**	**220**		*e*P		**P**	**14 32 14.5**	**+0.7**
POO					AMB		AMB	14 32 16.9	
comp=Z,45nm,1.0s									
CHTO	**Chiang Mai**	**18.21**	**134**		*e*P		**Pn**	**14 32 25.7**	**-0.1**
CHTO					pmax		pmax		
comp=Z,14nm,1.0s									
CHTO	**Chiang Mai**	**18.21**	**134**		*e*P		**Pn**	**14 32 25.7**	**-0.1**
comp=Z,14nm,1.0s									
CMAR	**Chiang Mai Arr**	**18.48**	**135**		P		**P**	**14 32 29.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.48**	**135**		P		**P**	**14 32 29.6**	**+0.5**
comp=Z,0.5nm,0.3s,baz=328,slow=12,SNR=46									
KURBB	**Kurchatov Arra**	**19.00**	**347**		P		**P**	**14 32 32.2**	**-2.2**
comp=Z,0.5nm,0.3s,baz=164,slow=11,SNR=33									
KURK	**Kurchatov**	**19.07**	**347**		*e*P		**P**	**14 32 33.7**	**-1.5**
KURK	**Kurchatov**	**19.07**	**347**		*e*P		**P**	**14 32 33.7**	**-1.5**
SLVN	**Son La**	**19.88**	**119**		*e*P		**Pn**	**14 32 46.6**	**+0.6**
XAN	**Xi'an**	**19.90**	**78**		P		**P**	**14 32 44.2**	**-0.4**
XAN					pmax		pmax		
comp=Z,2.0nm,1.0s									
ENH	**Enshi**	**20.82**	**89**		*e*P		**P**	**14 32 54.3**	**-0.3**
comp=Z,19nm,1.0s									
ZAA0	**Zalesovo Array**	**21.67**	**359**		*e*P		**P**	**14 33 02.5**	**-0.9**
ZALV	**Zalesovo Beam**	**21.67**	**359**		P		**P**	**14 33 03.2**	**-0.2**
ZALV					pmax		pmax		
comp=Z,18nm,0.8s									
ZALV	**Zalesovo Beam**	**21.67**	**359**		P		**P**	**14 33 03.2**	**-0.2**
ZALV	**Zalesovo Beam**	**21.67**	**359**		P		**P**	**14 33 03.2**	**-0.2**
comp=Z,18nm,0.8s,baz=182,slow=8.3,SNR=22									
SONM	**Songino Array**	**22.34**	**40**		P		**P**	**14 33 12.1**	**+1.2**
SONM	**Songino Array**	**22.34**	**40**		P		**P**	**14 33 12.1**	**+1.2**
comp=Z,8.6nm,1.0s,baz=229,slow=7.7,SNR=31									
ZAK	**Zakamensk**	**22.50**	**31**		*e*P		**P**	**14 33 12.7**	**+0.2**
ZAK					pmax		pmax		
comp=Z,8.0nm,1.4s									
MOY	**Mondy**	**22.56**	**26**		*e*P		**P**	**14 33 14.9**	**+1.8**
ULN	**Ulaanbaatar**	**22.72**	**40**		*e*P		**P**	**14 33 15.6**	**+0.6**
comp=Z,22nm,1.2s									
BVA0	**Borovoye Array**	**23.35**	**337**		*i* P		**P**	**14 33 24.2**	**+3.0**
BVA0					pmax		pmax		
comp=Z,17nm,2.0s									
BVAR	**Borovoye Array**	**23.35**	**337**		P		**P**	**14 33 20.8**	**-0.4**
BVAR	**Borovoye Array**	**23.35**	**337**		P		**P**	**14 33 20.8**	**-0.4**
comp=Z,2.5nm,0.7s,baz=149,slow=12,SNR=6.8									
BRVK	**Borovoye**	**23.41**	**337**		*e*P		**P**	**14 33 21.8**	**0.0**
BRVK					pmax		pmax		
comp=Z,6.0nm,0.9s									
BRVK	**Borovoye**	**23.41**	**337**		*e*P		**P**	**14 33 21.8**	**0.0**
comp=Z,6.4nm,0.9s									
TLY	**Talaya**	**23.61**	**29**		*e*P		**P**	**14 33 26.0**	**+2.1**
TLY					pmax		pmax		
comp=Z,7.0nm,1.5s									
AB31	**Akbulak array**	**25.41**	**319**		P		**P**	**14 33 40.5**	**+0.1**
AB31					pmax		pmax		
comp=Z,20nm,1.0s									
QIZ	**Qiongzhong**	**25.73**	**115**		P		**P**	**14 33 46.9**	**+3.3**
QIZ					S		**S**	**14 38 11.6**	**-1.0**
QIZ					pmax		pmax		
comp=Z,19nm,2.3s									
QIZ					LR		LR		
comp=Z,760nm,20.3s									
QIZ					LR		LR		
comp=Z,930nm,20.6s									
AKTO	**Aktyubinsk**	**27.09**	**320**		P		**P**	**14 33 55.6**	**-0.1**
AKTO					pmax		pmax		
comp=Z,5.0nm,0.9s									
AKTO	**Aktyubinsk**	**27.09**	**320**		P		**P**	**14 33 55.5**	**-0.1**
AKTO	**Aktyubinsk**	**27.09**	**320**		P		**P**	**14 33 55.5**	**-0.1**
comp=Z,4.6nm,0.9s,baz=106,slow=9.4,SNR=8.3									
CN2	**Changchun**	**33.39**	**58**		*e*P		**P**	**14 34 50.6**	**-0.8**
CN2					*e*PP		**PnPn**	**14 36 01.5**	**-0.6**
CN2					*e*S		**S**	**14 40 11.1**	**-1.3**
CN2					LR		LR		
comp=Z,200nm,17.0s									
KBZ	**Khabaz**	**34.92**	**301**		P		**P**	**14 35 05.7**	**+1.1**
KBZ					pmax		pmax		
comp=Z,3.0nm,0.9s									
KBZ	**Khabaz**	**34.92**	**301**		P		**P**	**14 35 05.7**	**+1.1**
KBZ	**Khabaz**	**34.92**	**301**		P		**P**	**14 35 05.7**	**+1.1**
comp=Z,3.3nm,0.9s,baz=134,slow=4.3,SNR=4.8									
KIV	**Kislovodsk**	**35.09**	**302**		*e*P		**P**	**14 35 07.6**	**+1.4**
KIV					pmax		pmax		
comp=Z,5.0nm,0.7s									
KIV					MLR		MLR		
comp=Z,600nm,16.0s									
KSAR	**Wonju Array Be**	**35.15**	**69**		P		**P**	**14 35 06.3**	**-0.4**
KSRS	**Korea Array**	**35.18**	**69**		P		**P**	**14 35 06.3**	**-0.6**
comp=Z,2.2nm,0.7s,baz=273,slow=9.4,SNR=5.9									
VRHR	**Novokhopersk**	**36.95**	**314**		*e*P		**P**	**14 35 20.9**	**-1.0**
VRHR					pmax		pmax		
comp=Z,10.0nm,0.7s									
VRHR					pmax		pmax		
comp=N,6.0nm,0.8s									
VRHR					pmax		pmax		
comp=E,20nm,1.4s									
VORD	**Divnogorie**	**38.36**	**313**		*e*P		**P**	**14 35 33.0**	**-0.8**
VORD					pmax		pmax		
comp=Z,10.0nm,1.0s									
VORD					pmax		pmax		
comp=N,10.0nm,1.1s									
VORD					pmax		pmax		
comp=E,50nm,1.1s									
VSR	**Storozhevoye**	**38.48**	**313**		*e*P		**P**	**14 35 33.7**	**-1.2**
VSR					pmax		pmax		
comp=Z,10.0nm,0.8s									
VSR					pmax		pmax		
comp=N,8.0nm,0.9s									
VSR					pmax		pmax		
comp=E,7.0nm,0.8s									
OBN	**Obninsk**	**40.86**	**319**	⇓	*e*P		**P**	**14 35 55.1**	**+0.5**
OBN					*e*			14 37 58.1	
OBN					pmax		pmax		
comp=Z,7.0nm,0.8s									
OBN					MLR		MLR		
comp=Z,900nm,18.0s									
BRTR	**Keskin Array B**	**41.92**	**295**		P		**P**	**14 36 03.3**	**-0.5**
BRTR	**Keskin Array B**	**41.92**	**295**		P		**P**	**14 36 03.3**	**-0.5**
comp=Z,1.5nm,1.0s,baz=103,slow=4.6,SNR=4.5									
AKASG	**Malin Array Be**	**44.66**	**311**		P		**P**	**14 36 24.9**	**-0.7**
AKASG					pmax		pmax		
comp=Z,6.0nm,0.6s									
AKASG	**Malin Array Be**	**44.66**	**311**		P		**P**	**14 36 24.9**	**-0.7**
AKASG	**Malin Array Be**	**44.66**	**311**		P		**P**	**14 36 24.9**	**-0.7**
comp=Z,6.1nm,0.6s,baz=81,slow=7.3,SNR=20									
AK01	**Malin Array Si**	**44.67**	**311**		*e*P		**P**	**14 36 25.0**	**-0.6**
AK02	**Malin Array Si**	**44.67**	**311**		*e*P		**P**	**14 36 24.5**	**-1.1**
KIEV	**Kiev**	**44.67**	**311**		*e*P		**P**	**14 36 24.6**	**-1.1**
KIEV					pmax		pmax		
comp=Z,9.0nm,0.9s									
KIEV	**Kiev**	**44.67**	**311**		*e*P		**P**	**14 36 24.6**	**-1.1**
comp=Z,9.4nm,0.9s									
TIXI	**Tiksi**	**45.72**	**18**	⇑	*e*P		**P**	**14 36 33.2**	**-0.4**
TIXI					pmax		pmax		
comp=Z,13nm,2.4s									
TIXI	**Tiksi**	**45.72**	**18**		*e*P		P	14 36 30.7	-2.9
comp=Z,4.5nm,0.8s									
NACGM	**Naroch**	**46.39**	**317**		*e*		**P**	**14 36 37.0**	**-2.2**
IDID	**Didziasalis**	**46.45**	**318**		*e*P		**P**	**14 36 39.5**	**-0.1**
IDID					AMB		AMB	14 36 47.0	
comp=Z,8.7nm,1.1s									
IIGN	**Ignalina**	**46.74**	**318**		*e*P		**P**	**14 36 41.9**	**-0.1**
IIGN					AML		AML	14 36 46.2	
comp=Z,6.1nm,0.6s									
VSU	**Vasula**	**46.79**	**322**		*e*P		P	14 36 45.5	+3.3
VSU					pmax		pmax		
comp=Z,53nm,0.8s									
ISAL	**Salakas**	**46.81**	**318**		*e*P		**P**	**14 36 42.2**	**-0.3**
ISAL					AML		AML	14 36 48.1	
comp=Z,5.6nm,0.7s									
BUR08	**Bucovina Ar. S**	**47.34**	**307**		P		**P**	**14 36 46.4**	**-0.5**
FINES	**FINESS Array B**	**47.57**	**326**		P		**P**	**14 36 48.6**	**+0.3**
FINES					PcP		**PcP**	**14 38 21.1**	**+3.1**
FINES					ScP		**ScP**	**14 42 10.5**	**-1.8**
FINES	**FINESS Array B**	**47.57**	**326**		P		**P**	**14 36 48.6**	**+0.3**
comp=Z,6.9nm,0.9s,baz=114,slow=7.4,SNR=7.2									
FINES					PcP		**PcP**	**14 38 21.1**	**+3.1**
comp=Z,6.0nm,1.1s,baz=84,slow=5.7,SNR=3.5									
FINES					ScP		**ScP**	**14 42 10.5**	**-1.8**
comp=Z,4.7nm,1.0s,baz=23,slow=4.7,SNR=3.7									
KEV	**Kevo**	**49.20**	**337**		*e*P		**P**	**14 37 00.9**	**+0.1**
KEV					pmax		pmax		
comp=Z,1.0nm,0.4s									
KEV	**Kevo**	**49.20**	**337**		*e*p		**P**	**14 37 00.9**	**+0.1**
comp=Z,0.5nm,0.4s									
ARCES	**ARCESS Array B**	**49.64**	**337**		P		**P**	**14 37 04.5**	**+0.3**
ARCES	**ARCESS Array B**	**49.64**	**337**		P		**P**	**14 37 04.5**	**+0.3**
comp=Z,4.4nm,0.7s,baz=79,slow=9.0,SNR=8.7									
SEY	**Seymchan**	**51.46**	**33**		*e*P		**P**	**14 37 18.6**	**+0.6**
BRG	**Berggiesshubel**	**54.32**	**312**		*e*P		**P**	**14 37 40.1**	**+0.8**
comp=Z,6.8nm,1.1s									
BRG	**Berggiesshubel**	**54.32**	**312**		*e*P		**P**	**14 37 40.1**	**+0.8**
BRG					pmax		pmax		
comp=Z,7.0nm,1.1s									
NB2	**NORSAR Subarra**	**54.71**	**325**		P		**P**	**14 37 41.4**	**-0.7**
comp=Z,8.5nm,0.8s,baz=86,slow=7.4									
NOA	**NORSAR Array B**	**54.71**	**325**		P		**P**	**14 37 41.3**	**-0.7**
NOA	**NORSAR Array B**	**54.71**	**325**		P		**P**	**14 37 41.3**	**-0.7**
comp=Z,7.8nm,0.8s,baz=86,slow=7.3,SNR=16									
GERES	**GERESS Array B**	**54.82**	**310**		P		**P**	**14 37 43.3**	**+0.2**
GERES	**GERESS Array B**	**54.82**	**310**		P		**P**	**14 37 43.3**	**+0.2**
comp=Z,3.8nm,0.8s,baz=76,slow=6.2,SNR=18									
KHC	**Kasperske Hory**	**54.85**	**310**		*e*P		**P**	**14 37 46.0**	**+2.8**
KMBO	**Kilima Mbogo**	**56.18**	**243**		P		**P**	**14 37 53.4**	**0.0**
KMBO	**Kilima Mbogo**	**56.18**	**243**		P		**P**	**14 37 53.4**	**0.0**
comp=Z,4.2nm,0.8s,baz=49,slow=17,SNR=2.2									
CDF	**Champ du Feu**	**59.07**	**311**		*e*P		**P**	**14 38 12.9**	**-0.3**
CDF	**Champ du Feu**	**59.07**	**311**		*e*P		**P**	**14 38 12.9**	**-0.3**
CDF	**Champ du Feu**	**59.07**	**311**		*e*P		**P**	**14 38 12.9**	**-0.3**
HINF	**Hinteralfeld**	**59.50**	**310**		*e*P		**P**	**14 38 15.7**	**-0.5**
comp=Z,19nm,0.9s									
HINF	**Hinteralfeld**	**59.50**	**310**		*e*P		**P**	**14 38 15.7**	**-0.5**
HINF					pmax		pmax		
comp=Z,19nm,0.9s									
HINF	**Hinteralfeld**	**59.50**	**310**		*e*P		**P**	**14 38 15.7**	**-0.5**
comp=Z,19nm,0.9s									
HAU	**Haudompre**	**59.78**	**310**		*e*P		**P**	**14 38 17.5**	**-0.5**
HAU	**Haudompre**	**59.78**	**310**		*e*P		**P**	**14 38 17.5**	**-0.5**
HAU	**Haudompre**	**59.78**	**310**		*e*P		**P**	**14 38 17.5**	**-0.5**
LPG	**La Plagne**	**60.22**	**307**		*e*P		**P**	**14 38 21.3**	**-0.1**
comp=Z,17nm,0.8s									
LPG	**La Plagne**	**60.22**	**307**		*e*P		**P**	**14 38 21.3**	**-0.1**
LPG					pmax		pmax		
comp=Z,17nm,0.8s									
LPG	**La Plagne**	**60.22**	**307**		*e*P		**P**	**14 38 21.3**	**-0.1**
comp=Z,17nm,0.8s									
LPL	**La Plagne**	**60.23**	**307**		*e*P		**P**	**14 38 21.3**	**-0.1**
comp=Z,13nm,0.6s									
LPL	**La Plagne**	**60.23**	**307**		*e*P		**P**	**14 38 21.3**	**-0.1**
LPL					pmax		pmax		
comp=Z,13nm,0.6s									
LPL	**La Plagne**	**60.23**	**307**		*e*P		**P**	**14 38 21.3**	**-0.1**
comp=Z,13nm,0.6s									
SBF	**Sospel**	**60.24**	**305**		*e*P		**P**	**14 38 20.7**	**-0.6**
SBF	**Sospel**	**60.24**	**305**		*e*P		**P**	**14 38 20.7**	**-0.6**
SBF	**Sospel**	**60.24**	**305**		*e*P		**P**	**14 38 20.7**	**-0.6**
MEZF	**Maizieres J'vi**	**60.47**	**311**		*e*P		**P**	**14 38 22.7**	**0.0**
MEZF	**Maizieres J'vi**	**60.47**	**311**		*e*P		**P**	**14 38 22.7**	**0.0**
LOR	**Lormes**	**61.60**	**310**		*e*P		**P**	**14 38 29.6**	**-0.9**
LOR	**Lormes**	**61.60**	**310**		*e*P		**P**	**14 38 29.6**	**-0.9**
SMF	**Signal de Mont**	**61.80**	**309**		*e*P		**P**	**14 38 31.1**	**-0.7**
comp=Z,16nm,0.8s									
SMF	**Signal de Mont**	**61.80**	**309**		*e*P		**P**	**14 38 31.1**	**-0.7**
SMF					pmax		pmax		
comp=Z,17nm,0.8s									
SMF	**Signal de Mont**	**61.80**	**309**		*e*P		**P**	**14 38 31.1**	**-0.7**
comp=Z,16nm,0.8s									
SSF	**Saint Saulge**	**61.89**	**310**		*e*P		**P**	**14 38 31.8**	**-0.6**
comp=Z,10nm,0.7s									
SSF	**Saint Saulge**	**61.89**	**310**		*e*P		**P**	**14 38 31.8**	**-0.6**
SSF					pmax		pmax		
comp=Z,10.0nm,0.7s									
SSF	**Saint Saulge**	**61.89**	**310**		*e*P		**P**	**14 38 31.8**	**-0.6**
comp=Z,10nm,0.7s									
AVF	**Avril sur Loir**	**62.08**	**310**		*e*P		**P**	**14 38 32.9**	**-0.7**
comp=Z,8.0nm,0.8s									
AVF	**Avril sur Loir**	**62.08**	**310**		*e*P		**P**	**14 38 32.9**	**-0.7**
AVF					pmax		pmax		
comp=Z,8.0nm,0.8s									
AVF	**Avril sur Loir**	**62.08**	**310**		*e*P		**P**	**14 38 32.9**	**-0.7**
comp=Z,8.0nm,0.8s									
TCF	**Toulx Ste Croi**	**62.99**	**309**		*e*P		**P**	**14 38 39.6**	**-0.2**
comp=Z,7.3nm,0.7s									
TCF	**Toulx Ste Croi**	**62.99**	**309**		*e*P		**P**	**14 38 39.6**	**-0.2**
TCF					pmax		pmax		
comp=Z,7.0nm,0.7s									
TCF	**Toulx Ste Croi**	**62.99**	**309**		*e*P		**P**	**14

s-maj=116.8km s-min=26.8km az=82.0
*JMA **05** 14:35:04.9±0.2,27.67N×141.80E,h98km,M3.8*
ISC 05 14:35:00.6±0.9,27.77N±0.08×141.1E±0.1,h47km,n9,
σ1ᵖ84/12,mb3.9/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.21**	**123**	P	**Pn**	**14 35 22.0**	**+0.9**
CBIJ				S	**Sn**	**14 35 34.7**	**-1.7**
JCJ	**Chichijima**	**1.21**	**123**	P	**Pn**	**14 35 22.1**	**+1.0**
	104nm,0.3s,baz=266,slow=23,SNR=349						
JCJ				S	**Sn**	**14 35 35.0**	**-1.4**
	270nm,0.3s,baz=288,slow=19,SNR=23						
JHHJ	**Haha-jima-NKT**	**1.51**	**138**	P	**Pn**	**14 35 26.1**	**+0.8**
JHHJ				S	**Sn**	**14 35 42.9**	**-0.9**
JAG	**Ashikaga**	**8.74**	**352**	P	Pn	14 37 07.4	+3.0
JHO	**Hitachi**	**8.83**	**357**	P	**Pn**	**14 37 07.1**	**+1.5**
JHO				S	**Sn**	**14 38 40.9**	**-2.8**
WRA	**Warramunga Arr**	**47.87**	**189**	P	**P**	**14 43 35.5**	**+1.4**
	1.0nm,0.9s,baz=16,slow=8.6,SNR=2.0						
BVAR	**Borovoye Array**	**56.87**	**317**	P	**P**	**14 44 39.0**	**-1.4**
	0.5nm,0.6s,baz=91,slow=8.2,SNR=5.5						
ARCES	**ARCESS Array B**	**72.58**	**341**	P	**P**	**14 46 21.5**	**-0.9**
	1.5nm,0.7s,baz=46,slow=7.7,SNR=3.3						
FINES	**FINESS Array B**	**76.90**	**333**	P	**P**	**14 46 44.9**	**-2.7**
	1.8nm,0.8s,baz=71,slow=5.4,SNR=6.3						

*IDC **05** 14:36:21.4±0.4,2.38S×121.28E,h0km,mb4.5/26,*
mb1 4.5/26,mb1mx4.5/32,mbtmp4.5/26,Error ellipse:
s-maj=17.4km s-min=10.6km az=64.0
*ISCJB **05** 14:36:23.6±0.2,2.39S±0.02×121.36E±0.02,h22km,*
mb4.7/71,MS4.8/9,Error ellipse: s-maj=3.3km
s-min=3.2km az=157.6
*MOS **05** 14:36:24.8±0.9,2.35S×121.39E,h33km,mb5.0/17,Error*
ellipse: s-maj=16.6km s-min=7.5km az=119.0
*BJI **05** 14:36:24.1,2.64S×121.37E,h36km,mB5.2/23,mb4.9/38,*
Ms4.9/22,Ms7 4.7/22
*NEIC **05** 14:36:27.0±0.8,2.44S×121.31E,h38km±7km,mb5.0/22,*
Error ellipse: s-maj=7.4km s-min=4.1km az=62.0
NEIC Felt [III] at Poso. Also felt at Palopo.
*KLM **05** 14:36:26.8,2.48S×121.36E,h38km,mb5.0,ML5.4,MS5.8*
*DJA **05** 14:36:27.4±0.7,2°S±2'×12°1E±1',h18km±8km,M5.1/42,*
mb5.1/42,mB5.5/14,MLv5.4/25,Mw(mB)4.9/14
ISC 05 14:36:25.6±0.3,2.47S±0.03×121.35E±0.04,h22km,n249,
σ1ᵖ78/259,mb4.8/71,MS4.8/10,21C-14D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.58**	**11**	P	**Pn**	**14 36 50.7**	**-1.5**
TTSI	**Tana Toraja**	**1.64**	**249**	P	Pn	14 36 48.9	-4.2
KKSI	**Kolaka, Sulawe**	**1.72**	**170**	P	x	14 36 54.5	
LUWI	**Luwuk**	**2.00**	**45**	P	**Pn**	**14 36 56.8**	**-1.3**
LUWI				S	**Sb**	**14 37 24.2**	**-1.7**
LUWI	**Luwuk**	**2.00**	**45**	⇑S	**Sb**	**14 37 25.5**	**-0.4**
	baz=2.1,SNR=6.5						
SPSI	**Sidrap Palu**	**2.17**	**227**	P	**Pn**	**14 37 00.8**	**+0.4**
SPSI				S	**Sb**	**14 37 29.2**	**-1.5**
BNSI	**Bone**	**2.29**	**213**	P	**Pn**	**14 37 03.7**	**+1.7**
MMSI	**Mamuju**	**2.45**	**265**	P	x	14 37 04.3	
MJSI	**Majene**	**2.60**	**246**	P	x	14 37 06.2	
MRSI	**Marisa**	**2.98**	**11**	P	**Pn**	**14 37 10.5**	**-1.1**
KAPI	**Kappang**	**2.99**	**212**	Pn	**Pn**	**14 37 12.6**	**+0.9**
	10µm,0.6s,SNR=84						
KAPI	**Kappang**	**2.99**	**212**	*e*P	**Pn**	**14 37 11.7**	**0.0**
BKSI	**Bulukumba**	**3.09**	**203**	P	**Pn**	**14 37 14.2**	**+1.1**
GTOI	**Gorontalo**	**3.50**	**28**	P	**Pn**	**14 37 18.2**	**-0.5**
TOLI	**Toli-Toli**	**3.61**	**351**	P	x	14 37 20.0	
KMSI	**Cibinong**	**4.00**	**41**	P	**Pn**	**14 37 25.7**	**0.0**
SGKI	**Sangatta, Kali**	**4.21**	**297**	P	Pb	14 37 34.2	-4.9
BKB	**Balikpapan**	**4.61**	**285**	P	**Pn**	**14 37 33.8**	**-0.2**
NLAI	**Namlea**	**5.79**	**98**	P	**Pn**	**14 37 51.1**	**+0.9**
	236nm,0.7s,2µm0.8nm						
MMRI	**Maumere**	**6.19**	**172**	P	**Pn**	**14 37 56.6**	**+0.9**
	228nm,1.2s,3µm0.9nm						
LBMI	**Labuha**	**6.41**	**74**	P	**Pn**	**14 37 58.0**	**-0.7**
	810nm,1.0s,8µm3.0nm						
BBKI	**Banjar Baru**	**6.58**	**261**	P	**Pn**	**14 38 02.0**	**+0.9**
	253nm,1.2s,3µm2.1nm						
MTKI	**Muara Teweh, K**	**6.63**	**283**	P	**Pn**	**14 38 00.5**	**-1.3**
	428nm,0.7s,5µm1.4nm						
TNTI	**Ternate**	**6.82**	**62**	P	**Pn**	**14 38 03.7**	**-0.7**
	314nm,1.1s,3µm1.3nm						
TSM	**Tawau**	**7.56**	**333**	⇑P	**Pn**	**14 38 13.5**	**-1.2**
MSAI	**Masohi**	**7.62**	**97**	P	Pn	14 38 19.9	+4.6
	27nm,0.8s,442nm0.1nm						
GAMI	**Galela, Maluku**	**7.72**	**56**	P	x	14 38 17.7	
	286nm,1.0s,1.0nm						
SOEI	**Soe**	**7.80**	**158**	P	Pn	14 38 22.3	+4.4
	479nm,0.8s,4µm1.4nm						
MYLDM	**Lahad Datu**	**8.12**	**339**	P	x	14 38 24.4	
	191nm,1.3s,4µm2.0nm						
MYLDM	**Lahad Datu**	**8.12**	**339**	⇓P	**Pn**	**14 38 23.7**	**+1.5**
SRBI	**Singaraja**	**8.28**	**227**	P	**Pn**	**14 38 27.0**	**+2.6**
	74nm,0.6s,0.3nm						
BNDI	**Bandanaira**	**8.78**	**104**	P	Pn	14 38 47.6	+16
SDKM	**Sandakan**	**9.06**	**333**	⇓P	**Pn**	**14 38 35.1**	**-0.1**
JAGI	**Jajag, Banyuwa**	**9.32**	**230**	⇓P	**Pn**	**14 38 39.7**	**+1.0**
	baz=9.3,SNR=7.9						
KKM	**Kota Kinabalu**	**9.89**	**329**	P	x	14 38 51.2	
	67nm,1.2s,973nm						
KKM	**Kota Kinabalu**	**9.89**	**329**	*e*P	**Pn**	**14 38 46.4**	**-0.2**
	67nm,0.7s						
KKM	**Kota Kinabalu**	**9.89**	**329**	⇑P	**Pn**	**14 38 46.6**	**0.0**
BTM	**Bintulu**	**10.00**	**304**	⇓P	**Pn**	**14 38 47.6**	**-0.5**
SWI	**Sorong**	**10.03**	**81**	P	**Pn**	**14 38 50.1**	**+1.7**
	83nm,0.8s						
CTBH	**Cotabato--PC H**	**10.05**	**17**	⇑*i*P	Pn	14 38 44.1	-4.6
SBUM	**Sibu**	**10.36**	**298**	P	x	14 39 12.1	
FAKI	**Fak Fak**	**10.89**	**93**	P	Pn	14 39 04.5	+4.2
	97nm,0.8s						
KSM	**Kuching**	**11.72**	**289**	P	x	14 39 19.6	
KSM	**Kuching**	**11.72**	**289**	*e*P	**Pn**	**14 39 11.3**	**-0.3**
	15nm,0.8s						
KSM	**Kuching**	**11.72**	**289**	⇑P	**Pn**	**14 39 12.9**	**+1.3**
	baz=12,SNR=4.1						
KSM	**Kuching**	**11.72**	**289**	⇑P	**Pn**	**14 39 14.2**	**+2.6**
BJII	**Banjamegara**	**12.56**	**247**	P	x	14 39 30.6	
MWPI	**Manokwari, Pap**	**12.77**	**83**	P	x	14 39 28.9	
	265nm,1.2s						
TGJI	**Tegal**	**12.95**	**250**	P	x	14 39 41.1	
KPJI	**Karang Pucung**	**13.28**	**248**	P	P	14 39 38.6	-4.0
	82nm,1.7s						
TPI	**Tanjungpandan**	**13.69**	**268**	P	Pn	14 39 42.5	+4.0
	42nm,1.3s						
RCP	**Roxas**	**14.01**	**6**	*e*P	**P**	**14 39 51.9**	**+1.3**
MTN	**Manton Dam**	**14.14**	**137**	⇓P	**Pn**	**14 39 43.4**	**-1.3**
	baz=14,SNR=3.4						
LEM	**Lembang**	**14.36**	**252**	P	**P**	**14 39 55.0**	**+0.3**
CBJI	**Citeko**	**14.98**	**254**	P	P	14 40 05.5	+4.0
DBJI	**Dramaga**	**15.11**	**254**	P	**P**	**14 40 03.2**	**+0.3**
	110nm,1.3s						
CGJI	**Cibinong**	**16.14**	**255**	P	**P**	**14 40 16.7**	**+2.3**
	103nm,1.7s						
BLSI	**Bandar Lampung**	**16.32**	**259**	P	**P**	**14 40 17.1**	**+0.7**
	138nm,1.4s						
TGY	**Tagaytay City**	**16.47**	**359**	Pn	**P**	**14 40 19.7**	**+1.7**
TGY	**Tagaytay City**	**16.47**	**359**	Pn	**P**	**14 40 19.7**	**+1.7**
	28nm,0.3s,baz=135,slow=22,SNR=3.5						
KLJ	**Kotabumi**	**16.63**	**261**	P	**P**	**14 40 23.7**	**+3.9**
KLSI		**16.74**	**262**	P	**P**	**14 40 24.2**	**+3.2**
	134nm,1.2s						
KASI	**Kota Agung**	**17.09**	**259**	P	**P**	**14 40 26.0**	**+1.1**
	113nm,1.1s						
TPRI	**Tanjung Pinang**	**17.16**	**281**	P	**P**	**14 40 25.5**	**-0.1**
	73nm,0.9s,31µm						
MDSI	**Maura Dua**	**17.26**	**263**	P	**P**	**14 40 26.7**	**-0.1**
	48nm,1.0s						
LWLI	**Liwa**	**17.44**	**261**	P	**P**	**14 40 30.9**	**+2.0**
	117nm,1.1s						
JMBI	**JAMBI**	**17.72**	**272**	P	**P**	**14 40 35.3**	**+3.4**
	329nm,1.2s						
LHSI	**Lahat**	**17.85**	**265**	P	**P**	**14 40 34.5**	**+1.1**
	116nm,1.3s						
MYKOM	**Kota Tinggi**	**18.00**	**283**	P	x	14 40 34.7	
	41nm,1.6s						
MYKOM	**Kota Tinggi**	**18.00**	**283**	⇑P	**Pn**	**14 40 34.4**	**-0.3**
MNAI	**Manna**	**18.46**	**264**	⇓P	**P**	**14 40 39.3**	**-0.8**
	baz=18,SNR=3.2						
KGM	**Kluang**	**18.57**	**284**	⇑P	**P**	**14 40 39.3**	**-1.9**
GENI	**Genyem**	**18.80**	**91**	P	**Pn**	**14 40 48.3**	**+4.0**
	131nm,1.4s,2µm						
DLV	**T Lat**	**19.20**	**318**	*e*P	**P**	**14 40 47.9**	**-0.5**
	20nm,0.9s						
JAY	**Jayapura**	**19.33**	**91**	⇑P	**P**	**14 40 49.7**	**0.0**
	baz=19,SNR=3.9						
KTGM	**Kuala Trenggan**	**19.78**	**293**	⇓P	**P**	**14 40 54.0**	**-0.5**
SZP	**Santa**	**19.91**	**357**	*e*P	**P**	**14 40 54.6**	**-1.2**
	110nm,1.0s						
BKNI	**Bangkinang**	**20.50**	**278**	P	**P**	**14 41 02.3**	**-0.1**
	240nm,1.3s,2µm						
BKNI	**Bangkinang**	**20.50**	**278**	⇓P	**P**	**14 41 01.6**	**-0.7**
	baz=20,SNR=4.6						
FRIM	**Kepong**	**20.52**	**286**	⇑P	**P**	**14 41 02.9**	**+0.3**
PDSI	**Padang**	**20.94**	**274**	P	**P**	**14 41 07.2**	**0.0**
	111nm,1.3s						
PPI	**Padang Panjang**	**21.04**	**275**	P	**P**	**14 41 08.3**	**0.0**
	116nm,1.2s						
PPI	**Padang Panjang**	**21.04**	**275**	⇓P	**P**	**14 41 08.7**	**+0.4**
	baz=21,SNR=3.5						
IPM	**Ipoh**	**21.45**	**289**	P	x	14 41 12.2	
	130nm,0.8s,2µm						
IPM	**Ipoh**	**21.45**	**289**	*e*P	**P**	**14 41 11.6**	**-1.1**
	82nm,0.8s						
IPM	**Ipoh**	**21.45**	**289**	⇑P	**P**	**14 41 11.7**	**-1.1**
WRAB	**Tennant Creek**	**21.50**	**145**	P	**P**	**14 41 13.0**	**-0.2**
	288nm,1.1s,SNR=14						
WRAB	**Tennant Creek**	**21.50**	**145**	⇓*i*P	**P**	**14 41 13.7**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,173nm,1.2s						
WRAB	**Tennant Creek**	**21.50**	**145**	*e*P	**P**	**14 41 12.8**	**-0.3**
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**21.51**	**145**	P	**P**	**14 41 12.7**	**-0.5**
WRA	**Warramunga Arr**	**21.51**	**145**	P	**P**	**14 41 12.7**	**-0.5**
	comp=Z,26nm,0.8s,baz=321,slow=12,SNR=55						
MNSI	**Mandailing Nat**	**22.01**	**278**	P	**P**	**14 41 18.2**	**-0.4**
	comp=Z,94nm,0.7s						
KULM	**Kulim**	**22.07**	**290**	P	x	14 41 18.5	
	comp=Z,67nm,1.4s						
KULM	**Kulim**	**22.07**	**290**	*e*P	**P**	**14 41 17.6**	**-1.7**
	comp=Z,48nm,0.9s						
KULM	**Kulim**	**22.07**	**290**	⇑P	**P**	**14 41 18.9**	**-0.4**
PSI	**Prapat**	**23.02**	**283**	P	x	14 41 28.3	
	comp=Z,87nm,1.2s						
PSI	**Prapat**	**23.02**	**283**	P	**P**	**14 41 28.0**	**-1.6**
PSI	**Prapat**	**23.02**	**283**	P	**P**	**14 41 28.0**	**-1.6**
	comp=Z,20nm,0.7s,baz=118,slow=5.8,SNR=15						
WRKA	**Warakurna**	**23.41**	**164**	⇓P	**P**	**14 41 33.5**	**+0.3**
	baz=24,SNR=24						
TSI	**Tuntungan**	**23.54**	**284**	P	P	14 41 44.0	+9.4
UBPT	**Khong Chiam**	**23.62**	**319**	P	**P**	**14 41 37.1**	**+1.8**
	comp=Z,58nm,1.9s						
GSI	**Gunungsitoli**	**24.07**	**279**	P	**P**	**14 41 39.7**	**+0.1**
	comp=Z,81nm,1.1s						
MEEK	**Meekatharra**	**24.18**	**186**	⇓P	**P**	**14 41 39.9**	**-0.6**
	baz=24,SNR=13						
QIZ	**Qiongzhong**	**24.18**	**333**	P	**P**	**14 41 41.0**	**+0.5**
QIZ				S	**S**	**14 45 53.9**	**-3.8**
QIZ				pmax	pmax		
	comp=Z,21nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,120nm,4.3s						
QIZ				LR	LR		
	comp=Z,750nm,17.9s						
QIZ				LR	LR		
	comp=Z,950nm,23.5s						
KCSI	**Kotacane, Aceh**	**24.31**	**284**	P	**P**	**14 41 40.8**	**-1.1**
	comp=Z,55nm,1.7s						
AS31	**Alice Springs**	**24.32**	**151**	*e*P	**P**	**14 41 42.0**	**+0.1**
ASAR	**Alice Springs**	**24.32**	**151**	P	**P**	**14 41 42.0**	**0.0**
ASAR				PcP	**PcP**	**14 45 21.0**	**-0.5**
ASAR	**Alice Springs**	**24.32**	**151**	P	**P**	**14 41 42.0**	**0.0**
	comp=Z,20nm,1.1s,baz=319,slow=7.3,SNR=36						
ASAR				PcP	**PcP**	**14 45 21.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=342,slow=1.9,SNR=6.2						
COEN	**Coen**	**24.39**	**119**	*e*P	**P**	**14 41 41.8**	**-0.8**
	comp=Z,202nm,1.1s						
COEN	**Coen**	**24.39**	**119**	P	**P**	**14 41 42.2**	**-0.4**
	baz=24,SNR=5.1						
SURT	**Suratani**	**25.19**	**297**	P	P	14 41 59.6	+10
QIS	**Mount Isa**	**25.30**	**137**	⇑P	**P**	**14 41 50.5**	**-0.3**
	baz=25,SNR=37						
TPUB	**Ta-pu**	**25.62**	**358**	*e*P	**P**	**14 41 54.3**	**+0.7**
	comp=Z,73nm,0.9s						
YULB	**Yu-li**	**25.70**	**360**	*e*P	**P**	**14 41 53.4**	**-1.0**
	comp=Z,94nm,1.2s						
SSLB	**Suanglung**	**26.10**	**359**	*e*P	**P**	**14 41 57.9**	**-0.1**
	comp=Z,44nm,0.8s						
PMG	**Port Moresby**	**26.56**	**106**	P	x	14 42 03.4	
	comp=Z,62nm,1.0s						
PMG	**Port Moresby**	**26.56**	**106**	*e*P	**P**	**14 42 02.3**	**0.0**
	comp=Z,60nm,1.0s						
PMG	**Port Moresby**	**26.56**	**106**	P	**P**	**14 42 02.4**	**+0.1**
	comp=Z,48nm,0.9s,baz=294,slow=7.1,SNR=15						
MORW	**Morawa**	**26.93**	**190**	⇑P	**P**	**14 42 05.8**	**+0.4**
	baz=27,SNR=4.3						
SLVN	**Son La**	**29.18**	**325**	*e*P	**P**	**14 42 26.1**	**+0.5**
	comp=Z,7.9nm,0.8s						
CTA	**Charters Tower**	**29.96**	**128**	P	**P**	**14 42 33.0**	**+0.4**
CTA	**Charters Tower**	**29.96**	**128**	P	**P**	**14 42 33.0**	**+0.4**
	comp=Z,8nm,0.4s,baz=353,slow=8.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**30.32**	**314**	P	**P**	**14 42 35.0**	**-0.7**
CMAR				PcP	**PcP**	**14 45 36.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.32**	**314**	P	**P**	**14 42 35.0**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=140,slow=7.0,SNR=40						
CMAR				PcP	**PcP**	**14 45 36.5**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=210,slow=1.7,SNR=7.2						
CHTO	**Chiang Mai**	**30.55**	**315**	*e*P	**P**	**14 42 37.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,25nm,1.4s						
CHTO	**Chiang Mai**	**30.55**	**315**	P	**P**	**14 42 38.4**	**+0.6**
	comp=Z,55nm,1.1s						
CHTO	**Chiang Mai**	**30.55**	**315**	*e*P	**P**	**14 42 37.0**	**-0.8**
	comp=Z,25nm,1.4s						
MHMT	**Maesarieng**	**30.87**	**313**	P	**P**	**14 42 40.5**	**-0.1**
	comp=Z,15nm,0.9s						
CMAI	**Chiengmai2**	**31.23**	**316**	P	**P**	**14 42 45.4**	**+1.5**
	comp=Z,17nm,0.9s,comp=Z,2µm						
GYA	**Guiyang**	**32.07**	**335**	⇑*i*P	**P**	**14 42 52.8**	**+1.6**
GYA				pP	**pP**	**14 43 02.6**	**+4.7**
GYA				PP	**PP**	**14 44 01.0**	**-2.9**
GYA				S	**S**	**14 48 02.2**	**-0.2**
GYA				ScP	**ScP**	**14 49 21.3**	**-1.8**
GYA				SS	**SnSn**	**14 49 57.0**	**+4.0**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,640nm,16.8s						
GYA				LR	LR		
	comp=Z,540nm,17.0s						
GYA				LR	LR		
	comp=Z,510nm,17.2s						
QLP	**Quilpie**	**32.51**	**140**	⇓P	**P**	**14 42 55.1**	**+0.2**
	baz=33,SNR=8.1						
KMI	**Kunming**	**32.84**	**328**	P	**P**	**14 42 59.1**	**+1.0**
KMI				pP	**pP**	**14 43 09.8**	**+5.0**
KMI				sP	sP	14 43 14.7	+7.2
KMI				PP	**PP**	**14 44 11.0**	**-1.5**
KMI				S	**S**	**14 48 12.1**	**-2.5**
KMI				sS	sS	14 48 32.4	+6.8
KMI				SS	**SnSn**	**14 50 15.4**	**+3.6**
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
KMI				LR	LR		
	comp=Z,770nm,15.2s						
KMI				LR	LR		
	comp=Z,930nm,21.5s						
KMI				LR	LR		
	comp=Z,980nm,20.2s						
BBOO	**Buckleboo**	**33.19**	**157**	*e*P	**P**	**14 43 00.8**	**-0.1**
	comp=Z,203nm,0.8s						
BBOO	**Buckleboo**	**33.19**	**157**	P	**P**	**14 43 00.7**	**-0.1**
	baz=33,SNR=11						
WHN	**Wuhan**	**33.50**	**349**	⇑*i*P	**P**	**14 43 04.3**	**+0.8**
WHN				pmax	pmax		
	comp=Z,100nm,1.2s						
ENH	**Enshi**	**34.47**	**342**	*e*P	**P**	**14 43 11.2**	**-0.8**
	comp=Z,26nm,1.0s						
STKA	**Stephens Creek**	**34.92**	**149**	*e*P	**P**	**14 43 15.8**	**0.0**
	comp=Z,3.7nm,0.9s						
STKA	**Stephens Creek**	**34.92**	**149**	P	**P**	**14 43 16.3**	**+0.5**
	comp=Z,13nm,0.7s,baz=324,slow=8.7,SNR=22						
CMSA	**Cobar Meteorol**	**36.91**	**144**	⇑P	**P**	**14 43 32.7**	**-0.3**
	baz=37,SNR=5.7						
CD2	**Chengdu**	**37.19**	**335**	⇑*i*P	**P**	**14 43 34.8**	**-0.5**
CD2				sP	**sP**	**14 43 49.1**	**+4.3**
CD2				PP	**PnPn**	**14 45 02.5**	**+1.6**
CD2				S	**S**	**14 49 19.4**	**-1.7**
CD2				sS	**sS**	**14 49 36.5**	**+4.3**
CD2				SS	**SnSn**	**14 51 51.8**	**-5.1**
CD2				pmax	pmax		
	comp=Z,80nm,1.1s						
CD2				pmax	pmax		
	comp=Z,330nm,11.8s						
CD2				LR	LR		
	comp=Z,920nm,17.8s						
CD2				LR	LR		
	comp=Z,940nm,19.0s						
CD2				LR	LR		
	comp=Z,880nm,17.8s						
XAN	**Xi'an**	**38.16**	**343**	P	**P**	**14 43 41.6**	**-1.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARPS	**Mount Arapiles**	**39.01**	**153**	⇑P	**P**	**14 43 50.9**	**+0.3**
	baz=39,SNR=15						
SHL	**Shillong**	**39.89**	**316**	*e*P	**P**	**14 43 58.0**	**-0.3**
KSAR	**Wonju Array Be**	**40.17**	**8**	P	**P**	**14 43 60.0**	**-0.2**
KSRS	**Korea Array**	**40.19**	**8**	P	**P**	**14 43 60.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=202,slow=8.8,SNR=6.3						
LZH	**Lanzhou**	**41.70**	**339**	*e*P	**P**	**14 44 14.4**	**+1.4**
LZH				pP	**pP**	**14 44 24.3**	**+4.5**
LZH				sP	sP	14 44 28.5	+6.0
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,82nm,4.5s						
MJAR	**Matsushiro Arr**	**41.87**	**20**	P	**P**	**14 44 11.9**	**-2.4**
MJAR	**Matsushiro Arr**	**41.87**	**20**	P	**P**	**14 44 11.9**	**-2.4**
	comp=Z,0.8nm,0.5s,baz=192,slow=9.6,SNR=3.7						
BJI	**Beijing**	**42.57**	**354**	P	**P**	**14 44 18.8**	**-1.0**
BJI				pmax	pmax		
	comp=Z,14nm,0.7s						
BJI				pmax	pmax		
	comp=Z,1µm,13.9s						
LSA	**Lhasa**	**43.10**	**320**	*e*P	**P**	**14 44 24.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,30nm,0.6s						
LSA	**Lhasa**	**43.10**	**320**	*e*P	**P**	**14 44 24.9**	**0.0**
	comp=Z,30nm,0.6s						
ODAN	**Odare**	**43.86**	**314**	*e*P	**P**	**14 44 30.6**	**-0.2**
	comp=Z,43nm,0.8s						
TAPN	**Taplejung**	**43.92**	**315**	*e*P	**P**	**14 44 30.4**	**-1.0**
	comp=Z,81nm,0.9s						
HHC	**Hu-ho-hao-te**	**44.03**	**349**	*e*P	**P**	**14 44 31.8**	**0.0**
HHC				pP	**pP**	**14 44 41.5**	**+2.9**
HHC				PP	**PcP**	**14 46 16.0**	**-1.1**
HHC				S	**S**	**14 51 02.2**	**-0.7**
HHC				ScS	**SS**	**14 54 23.5**	**+3.0**
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC				pmax	pmax		
	comp=Z,300nm,5.0s						
HHC				LR	LR		
	comp=Z,1µm,17.4s						
HHC				LR	LR		
	comp=Z,2µm,19.4s						
HHC				LR	LR		
	comp=Z,2µm,19.9s						
RAMN	**Ramite**	**44.49**	**313**	*e*P	**P**	**14 44 35.3**	**-0.6**
	comp=Z,135nm,1.1s						
JIRN	**Jiri**	**45.20**	**314**	*e*P	**P**	**14 44 40.5**	**-1.1**
	comp=Z,51nm,0.7s						
GUN	**Gumba**	**45.56**	**314**	*e*P	**P**	**14 44 43.3**	**-1.2**
	comp=Z,109nm,0.8s						
PKI	**Pulchoki**	**45.71**	**313**	*e*P	**P**	**14 44 44.1**	**-1.6**
	comp=Z,59nm,1.1s						
KKN	**Kakani**	**45.93**	**313**	*e*P	**P**	**14 44 45.7**	**-1.6**
	comp=Z,68nm,1.0s						
DMN	**Daman**	**45.95**	**313**	*e*P	**P**	**14 44 46.3**	**-1.2**
	comp=Z,83nm,0.9s						
GTA	**Gaotai**	**46.14**	**337**	⇑P	**P**	**14 44 49.3**	**+0.7**
GTA				pP	**pP**	**14 44 59.2**	**+3.7**
GTA				sP	**sP**	**14 45 03.1**	**+4.9**
GTA				S	**S**	**14 51 33.0**	**-0.6**
GTA				sS	**sS**	**14 51 49.0**	**+4.1**
GTA				SS	**ScS**	**14 54 50.0**	**+6.7**
GTA				pmax	pmax		
	comp=Z,21nm,1.7s						
GTA				pmax	pmax		
	comp=Z,310nm,6.4s						
GTA				LR	LR		
	comp=Z,770nm,20.0s						
GTA				LR	LR		
	comp=Z,820nm,19.5s						
GTA				LR	LR		
	comp=Z,1µm,20.0s						
CN2	**Changchun**	**46.21**	**4**	*e*P	**P**	**14 44 49.5**	**+0.6**
CN2				*e*PcP	**PcP**	**14 46 24.7**	**+0.3**
CN2				*e*PP	**PP**	**14 46 38.5**	**+0.8**
CN2				*e*S	**S**	**14 51 35.8**	**+1.7**
CN2				LR	LR		
	comp=Z,500nm,17.0s						
CN2				LR	LR		
	comp=Z,600nm,17.0s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
GKN	**Gorkha**	**46.52**	**313**	*e*P	**P**	**14 44 50.4**	**-1.4**
	comp=Z,55nm,0.6s						
HYB	**Hyderabad**	**46.60**	**297**	*i*P	**P**	**14 44 50.0**	**-2.5**
KOLN	**Koldanda**	**47.15**	**312**	*e*P	**P**	**14 44 55.3**	**-1.5**
	comp=Z,128nm,0.9s						
DANN	**Dangsing**	**47.35**	**313**	*e*P	**P**	**14 44 57.2**	**-1.3**
	comp=Z,168nm,0.7s						
**USR

KSH *e*PP **PP** **14 48 36.2 +2.0**
KSH *e*S **S** **14 54 25.2 -3.7**
KSH pmax pmax
comp=Z,11nm,0.5s
KSH pmax pmax
comp=Z,220nm,6.2s
KSH LR LR
comp=Z,160nm,6.4s
KSH LR LR
comp=Z,420nm,11.8s
KSH LR LR
comp=Z,350nm,10.2s
MKAR Makanchi Array 59.88 330 P **P** **14 46 29.6 -0.1**
MKAR Makanchi Array 59.88 330 P **P** **14 46 29.6 -0.1**
MKAR Makanchi Array 59.88 330 P **P** **14 46 29.6 -0.1**
comp=Z,6.7nm,0.6s,baz=121,slow=8.7,SNR=12
AAK Ala-Archa 61.62 322 *e*P **P** **14 46 41.7 -0.2**
AAK Ala-Archa 61.62 322 *e*P **P** **14 46 41.7 -0.2**
AAK Ala-Archa 61.62 322 P **P** **14 46 41.4 -0.5**
comp=Z,1.7nm,0.5s,baz=140,slow=7.3,SNR=6.4
PETK Petropavlovsk- 63.19 24 P **P** **14 46 50.9 -1.0**
PETK Petropavlovsk- 63.19 24 P **P** **14 46 50.9 -1.0**
PETK Petropavlovsk- 63.19 24 P **P** **14 46 50.9 -1.0**
comp=Z,1.5nm,0.7s,baz=193,slow=2.0,SNR=6.0
ZAA0 Zalesovo Array 63.90 337 *e*P **P** **14 46 54.1 -2.5**
ZALV Zalesovo Beam 63.90 337 P **P** **14 46 54.3 -2.3**
ZALV Zalesovo Beam 63.90 337 P **P** **14 46 54.3 -2.3**
ZALV Zalesovo Beam 63.90 337 P **P** **14 46 54.3 -2.3**
comp=Z,5.1nm,0.8s,baz=123,slow=5.5,SNR=17
KURBB Kurchatov Arra 64.29 331 P **P** **14 46 57.5 -1.8**
comp=Z,6.2nm,0.9s,baz=141,slow=6.0,SNR=30
KURK Kurchatov 64.31 331 P **P** **14 46 58.6 -0.7**
comp=Z,70nm,0.9s,SNR=5.4
KURK Kurchatov 64.31 331 *e*P **P** **14 46 57.0 -2.3**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 64.31 331 *e*P **P** **14 46 57.0 -2.3**
comp=Z,11nm,0.9s
KKAR Karatay Array 64.35 321 *e*P **P** **14 46 59.8 0.0**
KKAR pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 64.35 321 *e*P **P** **14 46 59.8 0.0**
comp=Z,5.4nm,1.0s
YAK Yakutsk 64.64 4 *e*P **P** **14 46 59.8 -1.4**
YAK pmax pmax
comp=Z,15nm,1.1s
SEY Seymchan 69.29 15 P **P** **14 47 30.6 -0.3**
SEY Seymchan 69.29 15 P **P** **14 47 30.6 -0.3**
SEY Seymchan 69.29 15 P **P** **14 47 30.6 -0.3**
comp=Z,1.2nm,0.6s,baz=14,slow=22,SNR=4.9
BVAR Borovoye Array 69.76 330 P **P** **14 47 31.1 -2.9**
BVAR Borovoye Array 69.76 330 P **P** **14 47 31.1 -2.9**
BVAR Borovoye Array 69.76 330 P **P** **14 47 31.1 -2.9**
comp=Z,1.3nm,0.7s,baz=117,slow=8.5,SNR=8.2
BRVK Borovoye 69.83 330 *e*P **P** **14 47 33.6 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK MLR MLR
comp=Z,566nm,21.0s
BRVK Borovoye 69.83 330 P **P** **14 47 34.4 0.0**
comp=Z,11nm,1.2s
ABKAR Akbulak array 73.69 323 *e*P **P** **14 47 55.5 -2.2**
comp=Z,1.8nm,0.6s
TIXI Tiksi 74.15 2 ⇓*i*P **P** **14 47 58.0 -1.9**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 74.15 2 *e*P **P** **14 47 58.5 -1.3**
comp=Z,6.8nm,0.3s
OPO Ambohidratompo 74.21 252 P **P** **14 48 00.1 -1.5**
OPO Ambohidratompo 74.21 252 P **P** **14 48 00.1 -1.5**
comp=Z,7.3nm,0.8s,baz=144,slow=1.3,SNR=8.2
AKTO Aktyubinsk 75.30 324 P **P** **14 48 05.6 -1.4**
AKTO Aktyubinsk 75.30 324 P **P** **14 48 05.6 -1.4**
comp=Z,2.9nm,0.7s,baz=109,slow=7.5,SNR=7.9
SVE Sverdlovsk 76.53 330 *e*P **P** **14 48 14.0 +0.1**
SVE pmax pmax
comp=Z,13nm,1.2s
ARU Arti 77.40 330 *c i*P P 14 48 25.9 +7.1
ARU S S 14 58 23.1 +15
ARU pmax pmax
comp=Z,13nm,1.6s
VNDA Vanda 78.05 172 P **P** **14 48 22.8 +0.7**
VNDA Vanda 78.05 172 P **P** **14 48 22.8 +0.7**
comp=Z,2.9nm,0.8s,baz=337,slow=9.9,SNR=5.7
KMBO Kilima Mbogo 84.06 269 *e*P **P** **14 48 54.6 -1.1**
KMBO Kilima Mbogo 84.06 269 P **P** **14 48 54.3 -1.4**
comp=Z,3.2nm,0.7s,baz=53,slow=8.3,SNR=8.9
VRHR Novokhopersk 85.46 322 *e*P **P** **14 48 59.7 -1.9**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 87.01 321 *e*P **P** **14 49 07.8 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,6.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.0s
QSPA South Pole Qui 87.48 180 P **P** **14 49 11.0 -0.5**
QSPA South Pole Qui 87.48 180 P **P** **14 49 11.0 -0.5**
comp=E,3.2nm,0.8s,baz=299,slow=2.2,SNR=7.9
OBN Obninsk 89.02 325 *e*P **P** **14 49 16.9 -1.8**
OBN *e* 14 49 32.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 89.80 310 P **P** **14 49 21.1 -1.9**
BRTR Keskin Array B 89.80 310 P **P** **14 49 21.1 -1.9**
comp=Z,1.7nm,0.8s,baz=130,slow=5.2,SNR=5.6
ILAR Eielson Array 92.97 25 P **P** **14 49 35.8 -1.1**
ILAR Eielson Array 92.97 25 P **P** **14 49 35.8 -1.1**
comp=Z,0.7nm,0.6s,baz=246,slow=5.3,SNR=19
CRVS Cervenica-Dubn 98.36 319 *e*P Pdif 14 50 03.7 +1.8
CRVS Cervenica-Dubn 98.36 319 *e* Pdif 14 50 03.7 +1.8
NOA NORSAR Array B 101.82 332 PKKPbc PKKPbc 15 06 24.6 -0.5
NOA NORSAR Array B 101.82 332 PKKPbc PKKPbc 15 06 24.6 -0.5
comp=Z,1.3nm,0.9s,baz=199,slow=1.7,SNR=3.6
YKA Yellowknife Ar 107.31 24 PKKPbc PKKPbc 15 06 04.4 -4.0
YKA Yellowknife Ar 107.31 24 PKKPbc PKKPbc 15 06 04.4 -4.0
comp=Z,0.1nm,0.6s,baz=123,slow=2.3,SNR=4.2
TORD Torodi Ar. Bea 119.42 284 PKP **PKPdf** **14 55 12.9 -1.5**
TORD Torodi Ar. Bea 119.42 284 PKP **PKPdf** **14 55 12.9 -1.5**
comp=Z,1.0nm,0.7s,baz=65,slow=2.2,SNR=6.1
PDAR Pinedale Array 119.53 41 PKKPab PKKPab 15 05 26.2 -1.6
PDAR Pinedale Array 119.53 41 PKKPab PKKPab 15 05 26.2 -1.6
comp=Z,0.5nm,0.8s,baz=123,slow=4.8,SNR=3.9
DBIC Dimbokro 126.24 276 PKP **PKPdf** **14 55 26.3 -1.3**
DBIC Dimbokro 126.24 276 PKP **PKPdf** **14 55 26.3 -1.3**
comp=Z,2.1nm,0.8s,baz=19,slow=4.9,SNR=3.5
CFAA Coronel Fontan 144.91 166 PKPbc PKPbc 14 56 01.1 +0.2
CFAA Coronel Fontan 144.91 166 PKPbc PKPbc 14 56 01.1 +0.2
comp=Z,1.1nm,0.9s,baz=188,slow=2.6,SNR=14
LCO Las Campanas 146.63 161 *e*PKPbc **PKPbc** **14 56 06.4 -0.2**
CPUP Villa Florida 151.34 182 *e*PKPbc **PKPbc** **14 56 17.9 -0.4**
CPUP Villa Florida 151.34 182 PKPbc **PKPbc** **14 56 18.1 -0.2**
comp=Z,2.8nm,0.6s,baz=62,slow=0.5,SNR=5.9
SIV San Ignacio 161.50 173 PKPab **PKPab** **14 57 09.1 -0.9**
SIV San Ignacio 161.50 173 PKPab **PKPab** **14 57 09.1 -0.9**
comp=Z,1.2nm,0.7s,baz=204,slow=3.2,SNR=2.9

*BJI **05** 14:40:33.6,38°.10N×88°.59E,h10km,mb3.7/1,ML3.7/8*
*IDC **05** 14:40:34.1±3.2,38°.21N×88°.46E,h0km,mb3.9/4,*
mb1 3.7/10,mb1mx3.5/33,mbtmp3.6/10,ML3.5/5,Error
ellipse: s-maj=49.8km s-min=41.6km az=3.0
ISC 05 14:40:36.2±1.8,38°.3N±0°.1×88°.4E±0°.1,h10km,n14,
σ1s88/14,mb3.9/4,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.58**	**355**		Pn	Pn	14 41 51.3	-8.0
WMQ					Sn	Sn	14 42 49.1	-15
WMQ					smax	smax		
	comp=N,31nm,0.7s							
WMQ					smax	smax		
	comp=E,45nm,0.8s							
WMQ	**Urumqi**	**5.58**	**355**	Pn	**Pn**	**Pn**	**14 42 00.8 +1.5**	
WMQ				Sn	**Sn**	**Sn**	**14 43 07.1 +3.6**	
WMQ				smax	smax			
	comp=E,190nm,0.8s							
WMQ				smax	smax			
	comp=E,150nm,0.8s							
GTA	**Gaotai**	**9.01**	**79**	*e*P	Pn		14 42 47.7	+1.3
GTA					pP		14 42 51.3	
GTA					sP		14 42 53.8	
GTA					pmax	pmax		
	comp=E,3.0nm,1.0s							
MKAR	**Makanchi Array**	**9.63**	**334**	Pn	**Pn**		**14 42 54.1**	**-0.7**
	comp=E,0.4nm,0.3s,baz=148,slow=14,SNR=32							
MKAR				Sn	**Sn**		**14 44 40.4**	**-2.7**
	comp=E,0.2nm,0.3s,baz=148,slow=17,SNR=3.0							
AAK	**Ala-Archa**	**11.44**	**297**	Pn	**Pn**		**14 43 19.8**	**+0.1**
	comp=E,0.2nm,0.3s,baz=161,slow=13,SNR=3.2							
KURBB	**Kurchatov Arra**	**14.20**	**334**	Pn	**Pn**		**14 43 54.3**	**-3.0**
	comp=E,0.2nm,0.3s,baz=152,slow=12,SNR=9.8							
ZALV	**Zalesovo Beam**	**15.88**	**352**	Pn	**Pn**		**14 44 18.0**	**-1.6**
	comp=E,0.2nm,0.3s,baz=163,slow=12,SNR=7.5							
SONM	**Songino Array**	**16.25**	**48**	Pn	**Pn**		**14 44 23.5**	**-1.1**
	comp=E,0.1nm,0.3s,baz=237,slow=14,SNR=8.5							
BVAR	**Borovoye Array**	**19.31**	**326**	P	**Pn**		**14 45 01.2**	**-1.0**
	comp=E,0.3nm,0.3s,baz=129,slow=12,SNR=12							
AKTO	**Aktyubinsk**	**24.70**	**309**	P	**P**		**14 45 58.5**	**+1.2**
	comp=E,1.9nm,0.6s,baz=120,slow=11,SNR=8.7							
FINES	**FINESS Array B**	**44.22**	**322**	P	**P**		**14 48 45.5**	**+0.3**
	comp=E,1.9nm,0.9s,baz=95,slow=9.6,SNR=7.7							
ARCES	**ARCESS Array B**	**45.29**	**334**	P	**P**		**14 48 53.9**	**+0.2**
	comp=E,1.5nm,0.8s,baz=111,slow=6.8,SNR=9.3							
NB2	**NORSAR Subarra**	**51.40**	**323**	P	**P**		**14 49 40.5**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=81,slow=7.9							
NOA	**NORSAR Array B**	**51.40**	**323**	P	**P**		**14 49 40.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=79,slow=7.3,SNR=4.0							

*NSSC **05** 14:45:52.4±1.5,34°.50N×36°.26E,h0km±4km,MD1.2,ML1.6*
CSEM 05 14:45:52.5±0.2,34°.49N×36°.28E,h0km±2km,ML1.6,Error
ellipse: s-maj=6.0km s-min=3.0km az=93.0,Jordan -
Syria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.10**	**75**	*i* P	Pg		14 45 54.4	-0.3
HAWK				*e*S	Sg		14 45 56.9	+0.7
HAWK				AML	AML		14 45 58.5	
	comp=N,2μm,0.4s							
HAWK				AML	AML		14 45 59.0	
	comp=E,1μm,0.5s							
HAWK	**Haweek**	**0.10**	**75**	*i* P	Pg		14 45 54.4	-0.3
	SNR=94							
HAWK				*e*S	Sg		14 45 56.9	+0.8
	comp=E,1μm,0.5s,SNR=94							
FKH	**Fakeheh**	**0.27**	**157**	*e*P	Pg		14 45 57.3	-0.5
HWQ	**Hawqa**	**0.35**	**232**	*e*P	Pg		14 45 59.8	+0.3
HWQ	**Hawqa**	**0.35**	**232**	*e*P	Pg		14 45 59.8	+0.3
BIDA	**Albida**	**0.52**	**3**	*i* P	Pb		14 46 03.7	-0.9
BIDA				*e*S	Sb		14 46 12.0	-0.9
BIDA				AML	AML		14 46 18.7	
	comp=E,22nm,0.7s							
BIDA				AML	AML		14 46 23.6	
	comp=N,57nm,0.4s							
BIDA	**Albida**	**0.52**	**3**	*i* P	Pb		14 46 03.7	-1.0
	SNR=91							
WRDH	**Warideh**	**1.02**	**6**	*i* P	Pg		14 46 12.0	-0.1
WRDH				*e*S	Sb		14 46 26.7	-0.4
WRDH				AML	AML		14 46 33.4	
	comp=N,10nm,0.5s							
WRDH				AML	AML		14 46 37.3	
	comp=E,19nm,0.4s							
WRDH	**Warideh**	**1.02**	**6**	*i* P	Pg		14 46 12.0	-0.1
	SNR=67							
WRDH				*e*S	Sb		14 46 26.7	-0.4
	comp=E,19nm,0.4s,SNR=59							
BRBR	**Barbar**	**1.11**	**194**	*e*P	Pg		14 46 14.3	+0.2
BRBR				*e*S	Sg		14 46 29.1	+0.3
BRBR				AML	AML		14 46 39.5	
	comp=N,15nm,0.4s							
BRBR				AML	AML		14 46 42.0	
	comp=E,7.0nm,0.4s							
BRBR	**Barbar**	**1.11**	**194**	*e*P	Pg		14 46 14.3	+0.1
	SNR=57							
BRBR				*e*S	Sg		14 46 29.1	+0.3
	comp=E,7.0nm,0.4s,SNR=59							
ARNB	**Al Arnab**	**1.39**	**349**	*e*P	Pg		14 46 16.6	-2.6
ARNB				*i* P	Pn		14 46 17.4	-1.9
ARNB				*e*S	Sg		14 46 36.2	-1.1
ARNB				AML	AML		14 46 44.1	
	comp=E,16nm,0.3s							
ARNB				AML	AML		14 46 44.4	
	comp=N,9.9nm,0.6s							
ARNB	**Al Arnab**	**1.39**	**349**	*i* P	Pg		14 46 17.4	-1.9
ARNB				*e*S	Sg		14 46 36.2	-1.2
	comp=N,9.9nm,0.6s,SNR=49							
BTCH	**Batrach**	**1.55**	**5**	*i* P	Pn		14 46 21.4	0.0
BTCH				*e*P	Pb		14 46 21.9	-0.3
BTCH				*e*S	Sn		14 46 42.1	-0.2
BTCH				AML	AML		14 46 49.0	
	comp=E,21nm,0.4s							
BTCH				AML	AML		14 46 57.5	
	comp=N,18nm,0.6s							
BTCH	**Batrach**	**1.55**	**5**	*i* P	Pn		14 46 21.4	0.0
	SNR=57							
BTCH				*e*S	Sn		14 46 42.1	-0.2
	comp=N,18nm,0.6s,SNR=49							
ZALF	**Zalf**	**1.80**	**151**	*i* P	Pn		14 46 24.9	+0.1
ZALF				*e*S	Sn		14 46 48.4	0.0
ZALF				AML	AML		14 46 53.8	
	comp=E,7.7nm,0.4s							
ZALF				AML	AML		14 46 58.7	
	comp=N,4.7nm,0.5s							
ZALF	**Zalf**	**1.80**	**151**	*i* P	Pn		14 46 24.9	+0.1
	SNR=45							
ZALF				*e*S	Sn		14 46 48.4	0.0
	comp=N,4.7nm,0.5s,SNR=40							
SALA	**Sala**	**1.82**	**168**	*i* P	Pn		14 46 25.5	+0.2
SALA				*e*S	Sn		14 46 49.5	+0.3
SALA				AML	AML		14 46 56.3	
	comp=N,14nm,0.4s							
SALA				AML	AML		14 46 56.6	
	comp=E,1.9nm,0.5s							
SALA	**Sala**	**1.82**	**168**	*i* P	Pn		14 46 25.5	+0.2
	SNR=45							
SALA				*e*S	Sn		14 46 49.5	+0.3
	comp=E,1.9nm,0.5s,SNR=40							

*IDC **05** 14:46:00.8±0.9,8°.82S×157°.67E,h0km,mb4.1/7,*
mb1 4.3/8,mb1mx4.1/19,mbtmp4.1/8,ML3.7/1,Error
ellipse: s-maj=26.1km s-min=14.9km az=2.0
*ISCJB **05** 14:46:02.1±0.8,8°.8S±0°.2×157°.6E±0°.1,h17km,mb3.9/7,*
Error ellipse: s-maj=24.1km s-min=15.8km az=163.1
ISC 05 14:46:03.4±0.8,8°.9S±0°.2×157°.7E±0°.1,h17km,n9,
σ1s16/9,mb4.0/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.27**	**105**	Pn	**Pn**		**14 46 40.0**	**-0.1**
	20nm,0.3s,baz=135,slow=1.4,SNR=6.0							
HNR				Lg	Lg		14 47 15.2	
	56nm,0.3s,baz=266,slow=19,SNR=3.7							
HNR	**Honiara**	**2.27**	**105**	*e*P	**Pb**		**14 46 44.0**	**+0.1**
WRA	**Warramunga Arr**	**25.15**	**241**	P	**P**		**14 51 26.7**	**-1.3**
	2.1nm,0.6s,baz=67,slow=9.4,SNR=15							
ASAR	**Alice Springs**	**27.13**	**234**	P	**P**		**14 51 45.0**	**-1.0**
	0.8nm,0.7s,baz=62,slow=10,SNR=9.4							
STKA	**Stephens Creek**	**27.37**	**211**	P	**P**		**14 51 48.8**	**+0.8**
	4.7nm,0.8s,baz=54,slow=14,SNR=8.2							
CMAR	**Chiang Mai Arr**	**64.02**	**295**	P	**P**		**14 56 38.1**	**+1.5**
	0.6nm,0.3s,baz=141,slow=5.0,SNR=4.8							
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**		**14 58 31.9**	**-1.3**
	0.6nm,0.8s,baz=250,slow=6.0,SNR=5.1							
MKAR	**Makanchi Array**	**86.58**	**318**	P	**P**		**14 58 45.5**	**-0.4**
	0.6nm,0.6s,baz=98,slow=6.4,SNR=5.7							
NVAR	**Mina Array Bea**	**90.75**	**51**	P	**P**		**14 59 06.9**	**+0.8**
	1.3nm,1.0s,baz=266,slow=6.4,SNR=5.3							

*CSEM **05** 14:48:39.8,40°.25N×27°.75E,h2km,MD2.6,After ISK*
ISK 05 14:48:39.8,40°.25N×27°.75E,h2km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.13**	**42**	*e*PG	Pg		14 48 42.9	+0.6
EDC	**Edincik**	**0.13**	**42**	*e*Pg	Pg		14 48 42.9	+0.6
BNT	**Bandirma**	**0.17**	**51**	*e*PG	Pg		14 48 43.6	+0.5
BNT	**Bandirma**	**0.17**	**51**	*e*Pg	Pg		14 48 43.6	+0.6
MRMT	**Marmara Adasi**	**0.37**	**341**	*e*PG	Pb		14 48 48.3	-0.9
MRMT				*e*SG	Sb		14 48 54.3	-1.3
MRMT	**Marmara Adasi**	**0.37**	**341**	*e*Pg	Pb		14 48 48.3	-0.9
MRMT				*e*Sg	Sb		14 48 54.3	-1.3
KRBG	**Karabiga-Canak**	**0.38**	**292**	*e*PG	Pb		14 48 48.1	-1.1
KRBG				*e*SG	Sb		14 48 54.3	-1.2
KRBG	**Karabiga-Canak**	**0.38**	**292**	*e*Pg	Pg		14 48 48.1	+1.1
KRBG				*e*Sg	Sb		14 48 54.3	-1.2
KCTX	**Karacabey (Bur**	**0.46**	**88**	*e*PG	Pg		14 48 49.5	+0.7
KCTX	**Karacabey (Bur**	**0.46**	**88**	*e*Pg	Pg		14 48 49.5	+0.8
ARMT	**Armutlu**	**0.90**	**69**	*e*PG	Pb		14 48 58.3	+0.1
ARMT	**Armutlu**	**0.90**	**69**	*e*Pg	Pb		14 48 58.3	+0.1
GELI	**Tayfur-Gelibol**	**0.99**	**279**	*e*PG	Pb		14 48 59.7	+0.1
GELI	**Tayfur-Gelibol**	**0.99**	**279**	*e*Pg	Pb		14 48 59.7	+0.1
ERIK	**Erikli-Kesan**	**1.03**	**294**	*e*PG	Pb		14 49 00.5	+0.1
ERIK	**Erikli-Kesan**	**1.03**	**294**	*e*Pg	Pb		14 49 00.5	+0.1
CTKS	**Kestanelik-??a**	**1.14**	**30**	*e*PN	Pn		14 49 02.5	-0.2
CTKS	**Kestanelik-??a**	**1.14**	**30**	*e*Pn	Pn		14 49 02.6	-0.1
TVSB	**Tavsanli**	**1.54**	**121**	*e*PN	Pg		14 49 09.9	+0.4
TVSB	**Tavsanli**	**1.54**	**121**	*e*Pn	Pg		14 49 09.9	+0.4

*IDC **05** 14:56:07.8±0.8,8°.86S×157°.70E,h0km,mb4.0/8,*
mb1 4.2/9,mb1mx4.0/19,mbtmp4.0/9,ML4.2/1,MS3.3/1,
Ms1 3.3/1,ms1mx3.2/28,Error ellipse: s-maj=22.4km
s-min=15.1km az=180.0
ISC 05 14:56:10.7±0.8,9°.0S±0°.2×157°.9E±0°.1,h23km,n10,
σ0s83/10,mb4.1/8,Bougainville - Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.08**	**102**	Pn	**Pb**		**14 56 47.6**	**-0.1**
	61nm,0.3s,baz=230,slow=7.0,SNR=6.8							
HNR				Lg	Lg		14 57 22.2	
	53nm,0.3s,baz=277,slow=10,SNR=3.6							
HNR				LR	LR		14 57 34.3	
	comp=Z,643nm,18.5s,baz=7.1,slow=38							
HNR	**Honiara**	**2.08**	**102**	*e*P	**Pb**		**14 56 48.0**	**+0.3**
WRA	**Warramunga Arr**	**25.24**	**242**	P	**P**		**15 01 34.6**	**-0.6**
	2.8nm,0.7s,baz=67,slow=9.4,SNR=20							
ASAR	**Alice Springs**	**27.19**	**235**	P	**P**		**15 01 52.0**	**-0.9**
	1.3nm,0.9s,baz=64,slow=8.8,SNR=7.6							
STKA	**Stephens Creek**	**27.35**	**211**	P	**P**		**15 01 54.8**	**+0.6**
	3.2nm,0.9s,baz=21,slow=11,SNR=5.1							
PETK	**Petropavlovsk-**	**61.85**	**360**	P	**P**		**15 06 27.2**	**-0.7**
	4.6nm,1.0s,baz=122,slow=5.4,SNR=4.8							
CMAR	**Chiang Mai Arr**	**64.23**	**295**	P	**P**		**15 06 44.4**	**0.0**
	0.6nm,0.4s,baz=112,slow=5.2,SNR=5.7							
SONM	**Songino Array**	**72.56**	**326**	P	**P**		**15 07 37.7**	**+1.5**
	0.5nm,0.9s,baz=132,slow=4.3,SNR=3.6							
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**		**15 08 39.1**	**-0.8**
	1.3nm,1.0s,baz=259,slow=4.3,SNR=8.2							
NVAR	**Mina Array Bea**	**90.70**	**51**	P	**P**		**15 09 12.4**	**+0.2**
	1.4nm,0.9s,baz=249,slow=7.4,SNR=6.7							

MAN 05 14:57:47,13°.59N×124°.96E,h34km,mb4.7,ML3.6,MS3.5,
1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.78**	**270**	⇑*i*P	Pb		14 58 01.9	-0.3
PVCP				*i* S	Sb		14 58 17.1	+4.6
CNP	**Catarman**	**1.11**	**195**	*e*P	Pn		14 58 06.5	+0.3
BOAC	**Boac**	**3.03**	**268**	*e*P	Pn		14 58 33.9	+1.3

*IDC **05** 14:58:49.5±0.8,8°.90S×157°.60E,h0km,mb4.4/9,*
mb1 4.6/10,mb1mx4.3/19,mbtmp4.4/10,ML4.2/1,Error
ellipse: s-maj=22.5km s-min=14.7km az=175.0
*ISCJB **05** 14:58:50.2±0.7,9°.0S±0°.1×157°.7E±0°.1,h17km,mb4.3/9,*
Error ellipse: s-maj=20.5km s-min=14.0km az=159.2
ISC 05 14:58:51.8±0.8,9°.0S±0°.2×157°.7E±0°.1,h17km,n11,
σ0s88/11,mb4.3/9,Bougainville - Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.22**	**101**	Pn	**Pn**		**14 59 28.9**	**+1.1**
	52nm,0.3s,baz=260,slow=11,SNR=6.9							
HNR				Lg	Lg		15 00 07.0	
	166nm,0.3s,baz=293,slow=18,SNR=6.2							
HNR	**Honiara**	**2.22**	**101**	*e*P	**Pn**		**14 59 27.0**	**-0.8**
WRA	**Warramunga Arr**	**25.10**	**242**	P	**P**		**15 04 16.1**	**+0.2**
	4.9nm,0.7s,baz=67,slow=9.0,SNR=16							
ASAR	**Alice Springs**	**27.06**	**235**	P	**P**		**15 04 33.0**	**-0.7**
	2.4nm,0.9s,baz=65,slow=8.9,SNR=8.2							
STKA	**Stephens Creek**	**27.26**	**211**	P	**P**		**15 04 35.0**	**-0.3**
	6.3nm,0.9s,baz=47,slow=11,SNR=7.5							
PETK	**Petropavlovsk-**	**61.87**	**360**	P	**P**		**15 09 09.7**	**-0.3**
	9.5nm,1.0s,baz=158,slow=7.3,SNR=6.1							
CMAR	**Chiang Mai Arr**	**64.10**	**296**	P	**P**		**15 09 26.1**	**+0.5**
	2.0nm,0.3s,baz=113,slow=4.6,SNR=8.0							
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**		**15 11 21.1**	**-1.1**
	3.8nm,1.1s,baz=257,slow=5.0,SNR=5.9							
MKAR	**Makanchi Array**	**86.70**	**318**	P	**P**		**15 11 35.6**	**+0.8**
	0.8nm,0.8s,baz=94,slow=4.5,SNR=4.8							
NVAR	**Mina Array Bea**	**90.83**	**51**	P	**P**		**15 11 55.9**	**+1.0**
	2.9nm,1.0s,baz=253,slow=6.7,SNR=11							
YKA	**Yellowknife Ar**	**96.83**	**28**	P	**P**		**15 12 20.9**	**-0.6**
	0.6nm,0.9s,baz=268,slow=4.8,SNR=5.1							

*IDC **05** 15:04:24.6±0.9,29°.87N×80°.02E,h0km,mb3.5/11,*
mb1 3.7/13,mb1mx3.6/31,mbtmp3.5/13,ML3.4/2,Error
ellipse: s-maj=32.1km s-min=15.6km az=55.0
*ISCJB **05** 15:04:26.1±1.2,30°.04N±0°.04×80°.27E±0°.05,h19km±10km,*
mb3.5/9,Error ellipse: s-maj=7.5km s-min=6.2km az=28.4
*NDI **05** 15:04:31.7±2.5,30°.00N×79°.97E,h10km,ML3.4*
ISC 05 15:04:25.8±1.6,30°.09N±0°.04×80°.17E±0°.05,h5km±10km,
n29,σ1s95/36,mb3.6/9,Western Xizang-India border
region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.54**	**176**	*e*P	Pg		15 04 29.7	-6.5
PTH				*e*S	**Sb**		**15 04 46.9**	**+0.9**
LGTI	**Lohaghat**	**0.64**	**174**	*e*P	Pg		15 04 34.9	-3.2
LGTI				*e*S	**Sg**		**15 04 44.1**	**-2.3**
SMLA	**Simla**	**2.79**	**293**	*e*P	**Pb**		**15 05 17.4**	**+1.4**
SMLA				*e*S	**Sb**		**15 05 48.1**	**-2.4**
BISR	**Bishrakh**	**2.83**	**238**	*e*P	**Pn**		**15 05 14.2**	**+2.6**
BISR				*ex*	**Sn**		**15 05 43.2**	**-2.8**
BISR				AML	AML		15 05 52.9	
	comp=Z,353nm,0.2s							
KKR	**Kurukshetra**	**2.91**	**268**	*e*P	**Pb**		**15 05 16.2**	**-2.0**
KKR		

comp=N,0.1nm,0.3s,baz=178,slow=12,SNR=4.3
MKAR Sn **Sn** 15 11 24.1 -3.7
comp=N,0.1nm,0.3s,baz=188,slow=25,SNR=3.4
KURBB **Kurchatov Arra** 20.55 357 P **P** 15 09 05.8 +0.7
comp=N,0.6nm,0.7s,baz=184,slow=10,SNR=5.2
CMAR **Chiang Mai Arr** 20.63 120 P **P** 15 09 06.4 +0.1
comp=N,0.6nm,0.5s,baz=299,slow=11,SNR=3.9
BVAR **Borovoye Array** 24.01 345 P **P** 15 09 42.9 +1.5
comp=N,0.5nm,0.4s,baz=150,slow=11,SNR=7.1
ZALV **Zalesovo Beam** 24.08 7 P **P** 15 09 42.9 +0.9
comp=N,0.4nm,0.4s,baz=182,slow=4.3,SNR=3.3
AKTO **Aktyubinsk** 26.25 327 P **P** 15 10 02.0 +0.2
comp=N,0.9nm,0.5s,baz=135,slow=13,SNR=4.0
AKASG **Malin Array Be** 42.92 314 P **P** 15 12 25.1 -0.4
comp=N,0.1nm,0.3s,baz=82,slow=6.6,SNR=5.3
FINES **FINESS Array B** 47.02 328 P **P** 15 12 58.5 +0.6
comp=N,1.4nm,0.7s,baz=124,slow=7.2,SNR=8.8
ARCES **ARCESS Array B** 49.96 338 P **P** 15 13 22.0 +1.6
comp=N,3.0nm,1.0s,baz=109,slow=7.7,SNR=3.3
WRA **Warramunga Arr** 72.05 127 P **P** 15 15 50.8 -0.4
comp=N,0.2nm,0.3s,baz=320,slow=5.9,SNR=6.3
TORD **Torodi Ar. Bea** 73.66 276 P **P** 15 15 59.8 -1.1
comp=N,0.4nm,0.7s,baz=51,slow=4.2,SNR=3.3
ASAR **Alice Springs** 74.28 130 P **P** 15 16 03.4 -1.0
comp=N,0.2nm,0.4s,baz=317,slow=6.1,SNR=9.4

IDC 05 15:17:08.8±5.7, 9.33S×156.52E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=98.8km s-min=75.9km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.88**	**241**	P		P	15 22 24.0	-0.3
0.8nm,0.6s,baz=67,slow=9.7,SNR=6.5								
ASAR	**Alice Springs**	**25.89**	**234**	P		P	15 22 43.2	+0.5
0.5nm,1.1s,baz=62,slow=11,SNR=2.6								
STKA	**Stephens Creek**	**26.36**	**210**	P		P	15 22 46.5	-0.4
1.3nm,0.6s,baz=59,slow=9.6,SNR=5.6								

*ISCJB **05** 15:23:23.9±1.9, 10.3S±0.2×159.8E±0.3, h33km, mb3.6/6, Error ellipse: s-maj=53.8km s-min=9.9km az=23.7*
*IDC **05** 15:23:25.6±5.2, 10.29S×159.89E, h36km±33km, mb3.5/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, Error ellipse: s-maj=66.8km s-min=21.0km az=121.0*
ISC 05 15:23:25.5±2.1, 10.3S±0.2×159.9E±0.4, h35km, n8, σ0.6 76/9, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**0.85**	**3**	Pn		**Pn**	**15 23 41.4**	**+0.4**
792nm,0.3s,baz=218,slow=12,SNR=223								
HNR				Sn		**Sn**	15 23 52.4	+0.1
1μm,0.3s,baz=104,slow=23,SNR=41								
HNR	**Honiara**	**0.85**	**3**	*i* P		**Pn**	15 23 40.0	-1.0
WRA	**Warramunga Arr**	**26.45**	**246**	P		**P**	15 28 59.2	-0.2
1.3nm,0.5s,baz=71,slow=9.6,SNR=12								
ASAR	**Alice Springs**	**28.13**	**238**	P		**P**	15 29 14.1	-0.5
0.4nm,0.7s,baz=63,slow=10,SNR=5.0								
CMAR	**Chiang Mai Arr**	**66.57**	**295**	P		**P**	15 34 13.4	+0.7
0.6nm,0.4s,baz=119,slow=5.2,SNR=3.1								
SONM	**Songino Array**	**74.74**	**326**	P		**P**	15 35 01.1	-0.9
0.4nm,0.8s,baz=121,slow=5.6,SNR=2.7								
ILAR	**Eielson Array**	**84.71**	**20**	P		**P**	15 35 55.7	+0.2
0.6nm,1.0s,baz=256,slow=5.2,SNR=5.9								
MKAR	**Makanchi Array**	**89.08**	**318**	P		**P**	15 36 17.9	+0.8
0.3nm,0.7s,baz=95,slow=7.2,SNR=4.4								

*ISCJB **05** 15:28:11.0±0.3, 18.03S±0.08×178.48W±0.07, h579km, mb4.4/36, Error ellipse: s-maj=11.7km s-min=6.2km az=147.7*
*BJI **05** 15:28:11.0, 18.20S×178.40W, h584km, mB5.1/4, mb4.5/11*
*IDC **05** 15:28:12.7±2.3, 18.03S×178.40W, h589km±25km, mb3.7/18, mb1 3.9/19, mb1mx3.9/23, mbtmp4.6/19, Error ellipse: s-maj=15.8km s-min=13.1km az=117.0*
*NEIC **05** 15:28:12.1±4.1, 18.19S×178.38W, h584km±54km, mb4.5/15, Error ellipse: s-maj=27.7km s-min=15.1km az=182.0*
ISC 05 15:28:11.9±0.5, 18.14S±0.09×178.38W±0.08, h579km, n79, σ1.9 21/88, mb4.4/36, 13C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.62**	**57**	P		P	15 29 56.1	-11
NIUE	**Niue**	**8.07**	**98**	P		**P**	**15 30 14.0**	**+2.8**
baz=8.1,SNR=6.7								
DZM	**Mont Dzumac**	**14.78**	**252**	P		**P**	15 31 19.7	+1.0
1.7nm,0.3s,baz=88,slow=18,SNR=18								
URZ	**Urewera**	**20.43**	**190**	*e*P		**P**	15 32 08.9	-1.4
12nm,0.8s								
HNR	**Honiara**	**22.74**	**289**	P		**P**	15 32 33.0	+1.7
20nm,0.4s,baz=118,slow=1.6,SNR=4.5								
EIDS	**Eidsvold**	**29.21**	**250**	*e*P		**P**	15 33 27.8	-0.2
EIDS	**Eidsvold**	**29.21**	**250**	⇓P		**P**	15 33 28.0	0.0
baz=29,SNR=8.8								
ARMA	**Armidale**	**29.85**	**240**	⇑P		**P**	15 33 34.9	+1.3
baz=30,SNR=18								
MGCD	**Mangrove Creek**	**31.18**	**235**	⇑P		**P**	15 33 46.7	+1.8
baz=31,SNR=8.3								
RMQ	**Roma**	**31.44**	**249**	⇓P		**P**	15 33 47.9	+0.7
baz=32,SNR=14								
RABL	**Rabaul**	**31.98**	**292**	⇓P		**P**	15 33 50.5	-1.4
baz=32,SNR=5.0								
CNB	**Canberra Magne**	**33.30**	**233**	⇑P		**P**	15 34 04.2	+1.3
baz=33,SNR=42								
CTA	**Charters Tower**	**33.43**	**261**	P		**P**	15 34 04.0	-0.1
15nm,0.4s,baz=86,slow=10,SNR=60								
CTAO	**Charters Tower**	**33.43**	**261**	*e*P		**P**	15 34 03.9	-0.3
26nm,0.6s								
PMG	**Port Moresby**	**34.52**	**280**	*e*P		**P**	15 34 13.3	+0.1
102nm,0.9s								
PMG	**Port Moresby**	**34.52**	**280**	P		**P**	15 34 13.8	+0.6
91nm,0.8s,baz=82,slow=6.1,SNR=38								
CMSA	**Cobar Meteorol**	**35.06**	**241**	⇓P		**P**	15 34 18.3	+0.8
baz=35,SNR=44								
QLP	**Quilpie**	**35.48**	**250**	⇑P		**P**	15 34 21.2	+0.2
baz=36,SNR=44								
TOO	**Toolangi**	**37.04**	**231**	⇓P		**P**	15 34 35.0	+1.2
baz=37,SNR=14								
COEN	**Coen**	**37.13**	**271**	*e*P		**P**	15 34 35.0	+0.2
362nm,0.6s								
COEN	**Coen**	**37.13**	**271**	⇓P		**P**	15 34 35.0	+0.2
baz=37,SNR=92								
STKA	**Stephens Creek**	**38.54**	**241**	*e*P		**P**	15 34 46.7	+0.7
5.0nm,0.8s								
STKA	**Stephens Creek**	**38.54**	**241**	P		**P**	15 34 47.0	+1.1
20nm,0.6s,baz=87,slow=9.1,SNR=57								
ARPS	**Mount Arapiles**	**39.53**	**234**	⇑P		**P**	15 34 54.6	+0.7
baz=40,SNR=6.5								
QIS	**Mount Isa**	**39.64**	**259**	⇑P		**P**	15 34 54.5	-0.5
baz=40,SNR=12								
HTT	**Hallett**	**41.05**	**240**	⇓P		**P**	15 35 06.7	+0.6
baz=41,SNR=18								
BBOO	**Buckleboo**	**43.32**	**241**	*e*P		**P**	15 35 24.1	+0.4
380nm,0.8s								
BBOO	**Buckleboo**	**43.32**	**241**	⇑P		**P**	15 35 24.2	+0.4
baz=43,SNR=39								
WRAB	**Tennant Creek**	**44.61**	**260**	*e*P		**P**	15 35 32.8	-1.1
18nm,0.5s								
WRA	**Warramunga Arr**	**44.62**	**260**	P		**P**	15 35 32.9	-1.1
19nm,0.5s,baz=95,slow=7.2,SNR=648								
WRA				PcP		**PcP**	15 37 03.3	-0.9
1.4nm,0.4s,baz=91,slow=3.5,SNR=4.3								
ASAR	**Alice Springs**	**44.75**	**254**	P		**P**	15 35 34.9	-0.1
106nm,0.6s,baz=88,slow=8.8,SNR=2285								
ASAR				PcP		**PcP**	15 37 04.2	-0.5
3.1nm,0.5s,baz=104,slow=4.1,SNR=4.2								
ASAR				ScP		**ScP**	15 40 02.0	-0.3
0.8nm,0.7s,baz=94,slow=5.0,SNR=4.5								
KDU	**Kakadu**	**47.58**	**269**	⇑P		**P**	15 35 55.6	-0.8
baz=48,SNR=35								
WRKA	**Warakurna**	**49.80**	**252**	⇓P		**P**	15 36 12.6	-0.2
baz=50,SNR=114								
FORT	**Forrest**	**49.93**	**245**	⇑P		**P**	15 36 13.1	-0.5
baz=50,SNR=10.0								
KNRA	**Kununurra**	**50.49**	**264**	⇓P		**P**	15 36 17.2	-0.6
baz=50,SNR=12								
KMBL	**Kambalda**	**55.23**	**244**	⇓P		**P**	15 36 50.4	-1.0
baz=55,SNR=8.4								
SOEI	**Soe**	**56.10**	**270**	⇓P		**P**	15 36 58.7	+0.9
baz=56,SNR=11								
MEEK	**Meekatharra**	**58.38**	**249**	⇓P		**P**	15 37 12.2	-0.8
baz=58,SNR=24								
KLBR	**Kellerberrin**	**58.75**	**244**	⇑P		**P**	15 37 14.8	-0.6
baz=59,SNR=11								
VNDA	**Vanda**	**60.21**	**185**	P		**P**	15 37 24.1	-0.1
1.9nm,0.9s,baz=24,slow=4.5,SNR=3.2								
MORW	**Morawa**	**60.41**	**246**	⇓P		**P**	15 37 25.7	-0.8
baz=60,SNR=10								
GIRL	**Giralia**	**62.85**	**253**	⇑P		**P**	15 37 43.0	+0.6
baz=63,SNR=5.9								
JAGI	**Jajag, Banyuwa**	**66.06**	**269**	P		**P**	15 38 01.0	-1.8
baz=66,SNR=11								
MJAR	**Matsushiro Arr**	**68.11**	**323**	P		**P**	15 38 12.9	-2.0
3.0nm,0.6s,baz=161,slow=5.9,SNR=11								
UGM	**Wanagama**	**69.67**	**268**	⇓P		**P**	15 38 24.0	-0.7
baz=70,SNR=25								
QSPA	**South Pole Qui**	**71.91**	**180**	P		**P**	15 38 38.1	+1.0
2.9nm,0.7s,baz=47,slow=1.3,SNR=8.8								
CISI	**Cisompet, Garu**	**72.34**	**268**	⇑P		**P**	15 38 39.0	-1.4
baz=72,SNR=3.4								
KSM	**Kuching**	**72.74**	**277**	⇑P		**P**	15 38 42.8	+0.1
baz=73,SNR=7.9								
PETK	**Petropavlovsk-**	**73.91**	**345**	P		**P**	15 38 47.5	-1.0
0.9nm,0.5s,baz=128,slow=6.4,SNR=8.2								
KSRS	**Korea Array**	**74.89**	**318**	P		**P**	15 38 54.5	+0.2
0.7nm,0.6s,baz=141,slow=3.9,SNR=3.7								
USRK	**Ussuriysk Arra**	**76.82**	**326**	P		**P**	15 39 03.5	-1.2
1.3nm,0.7s,baz=106,slow=5.1,SNR=3.5								
ISA	**Isabella**	**77.96**	**46**	*e*P		**P**	15 39 11.4	+0.2
2.5nm,0.9s								
NJ2	**Nanjing**	**78.11**	**310**	*e*P		**P**	15 39 12.9	+0.9
NJ2				pmax		pmax		
comp=Z,10.0nm,0.5s								
WAKR	**Walker**	**78.87**	**43**	*e*P		**P**	15 39 16.5	+0.2
17nm,1.2s								
BEKR	**Beckworth**	**79.05**	**42**	*e*P		**P**	15 39 16.9	-0.2
1.1nm,0.4s								
NVAR	**Mina Array Bea**	**79.58**	**44**	P		**P**	15 39 20.0	+0.1
6.4nm,0.8s,baz=228,slow=8.4,SNR=45								
LDFC	**Landfair**	**80.00**	**48**	*e*P		**P**	15 39 23.0	+0.9
13nm,0.8s								
CN2	**Changchun**	**80.22**	**322**	*e*P		**P**	15 39 22.4	-0.5
CN2				*e*pP		**pP**	15 41 29.8	+4.5
CN2				*e*PP		**PP**	15 42 38.0	+1.4
CN2				*e*S		**S**	15 48 40.1	-1.0
MOD	**Modoc**	**80.25**	**40**	*e*P		**P**	15 39 23.0	-0.3
7.5nm,0.6s								
WVOR	**Wild Horse Val**	**81.57**	**40**	*e*P		**P**	15 39 29.8	-0.2
9.6nm,0.9s								
TUC	**Tucson**	**81.82**	**52**	*e*P		**P**	15 39 32.1	+0.6
8.2nm,1.1s								
IPM	**Ipoh**	**82.48**	**277**	*e*P		**P**	15 39 34.8	-0.4
20nm,1.0s								
TRF	**Thorofare Moun**	**84.23**	**12**	*e*P		**P**	15 39 40.8	-2.2
13nm,0.8s								
ENH	**Enshi**	**84.42**	**304**	*e*P		**P**	15 39 44.4	-0.1
6.8nm,0.6s								
GYA	**Guiyang**	**85.17**	**300**	*e*P		**P**	15 39 48.2	-0.1
GYA				pmax		pmax		
comp=Z,10.0nm,1.0s								
TXAR	**Lajitas Array**	**86.10**	**58**	P		**P**	15 39 53.8	+1.1
5.8nm,0.7s,baz=219,slow=6.2,SNR=56								
ILAR	**Eielson Array**	**86.11**	**13**	P		**P**	15 39 49.7	-2.0
1.9nm,0.4s,baz=222,slow=5.1,SNR=71								
MCMT	**McKenzie Canyo**	**86.40**	**40**	*e*P		**P**	15 39 53.8	-0.1
HHC	**Hu-ho-hao-te**	**87.45**	**314**	*e*P		**P**	15 39 58.2	-0.6
HHC				PP		**PP**	15 43 34.7	-0.1
HHC				SKS		**SKSac**	15 49 31.2	-0.8
HHC				S		**SKKSac**	15 49 44.6	+0.9
HHC				SS		**SS**	15 56 00.8	+5.3
HHC				pmax		pmax		
comp=Z,11nm,0.7s								
HHC				pmax		pmax		
comp=Z,760nm,11.0s								
PDAR	**Pinedale Array**	**87.50**	**43**	P		**P**	15 39 58.5	-0.6
3.8nm,0.6s,baz=218,slow=3.4,SNR=37								
KMI	**Kunming**	**87.96**	**297**	P		**P**	15 40 01.7	+0.1
KMI				pmax		pmax		
comp=Z,6.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**88.99**	**290**	P		**P**	15 40 06.6	+0.3
2.3nm,0.7s,baz=114,slow=2.7,SNR=18								
SONM	**Songino Array**	**93.75**	**319**	P		**P**	15 40 27.6	-0.1
0.2nm,0.6s,baz=116,slow=3.4,SNR=3.3								
YKA	**Yellowknife Ar**	**94.53**	**25**	P		**P**	15 40 29.3	-1.4
0.6nm,0.5s,baz=244,slow=4.3,SNR=8.8								
MKAR	**Makanchi Array**	**109.32**	**314**	PKiKP		**PKiKP**	15 45 35.1	-1.8
0.4nm,0.5s,baz=164,slow=1.6,SNR=4.9								
ARCES	**ARCESS Array B**	**126.55**	**350**	PKP		**PKPdf**	15 46 08.2	-1.0
3.0nm,0.9s,baz=48,slow=1.3,SNR=4.1								
BRTR	**Keskin Array B**	**144.97**	**315**	PKP		**PKPdf**	15 46 44.0	-0.2
1.7nm,0.4s,baz=86,slow=2.3,SNR=13								
STHS	**Stebnicka Huta**	**145.02**	**338**	*e*PKP		**PKPdf**	15 46 42.8	-1.0
GERES	**GERESS Array B**	**147.84**	**345**	PKPbc		**PKPbc**	15 46 53.3	+0.8
0.2nm,0.5s,baz=316,slow=2.7,SNR=2.7								

IDC 05 15:43:52.8±3.1, 18.99S×174.71W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, MS4.2/1, Ms1 4.2/1, ms1mx3.4/31, Error ellipse: s-maj=179.9km s-min=61.0km az=165.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPT	**Papeete**	**23.90**	**91**	LR		LR	15 55 50.2	
comp=Z,522nm,19.1s,baz=57,slow=30								
STKA	**Stephens Creek**	**41.23**	**243**	P		P	15 51 39.9	+0.1
1.0nm,0.6s,baz=88,slow=11,SNR=2.5								
ASAR	**Alice Springs**	**47.89**	**255**	P		P	15 52 32.8	-0.4
0.8nm,0.4s,baz=93,slow=6.9,SNR=30								
WRA	**Warramunga Arr**	**47.90**	**260**	P		P	15 52 33.1	-0.1
0.4nm,0.3s,baz=97,slow=8.6,SNR=36								
TORD	**Torodi Ar. Bea**	**173.24**	**149**	PKP		PKPdf	16 04 04.7	-0.4
0.4nm,0.8s,baz=289,slow=0.8,SNR=3.6								

MAN 05 15:49:42.13.62N×120.25E, h32km, mb3.9, ML2.7, MS2.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.12**	**0**	*e*P		Pb	15 49 49.4	+1.7
LUBP				*e*S		Sb	15 49 53.9	+2.3
PGP	**Puerto Galera**	**0.70**	**99**	*i* P		Pn	15 49 52.9	-2.8
SJMP	**San Jose**	**1.43**	**143**	*e*P		Pn	15 50 05.8	+0.1
BOAC	**Boac**	**1.56**	**96**	*e*P		Pn	15 50 08.2	+0.6
OTRP	**Odiongan**	**2.13**	**126**	*e*P		Pn	15 50 17.1	+1.6
ENPP	**El Nido**	**2.53**	**199**	*e*P		Pn	15 50 22.1	+1.2

MAN 05 15:51:08, 13.67N×120.23E, h39km, mb4.2, ML3.1, MS2.8, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.06**	**14**	*e*P		Pn	15 51 16.3	+1.9
LUBP				*e*S		Sn	15 51 20.8	+2.0
PGP	**Puerto Galera**	**0.72**	**103**	*i* P		Pn	15 51 19.6	-2.2
NBP	**Mount Natib**	**1.08**	**10**	*e*P		Pn	15 51 34.0	+7.3
NBP				*i* S		Sn	15 51 51.5	+11
BOAC	**Boac**	**1.58**	**97**	*e*P		Pn	15 51 34.9	+1.4
OTRP	**Odiongan**	**2.18**	**127**	*e*P		Pn	15 51 43.9	+2.1
ENPP	**El Nido**	**2.57**	**198**	*e*P		Pn	15 51 49.0	+1.9

*IDC **05** 16:04:11.1±0.8, 9.14S×157.94E, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.4/18, mbtmp4.3/15, MS4.1/3, Ms1 4.1/3, ms1mx3.5/34, Error ellipse: s-maj=22.2km s-min=17.1km az=137.0*
*ISCJB **05** 16:04:13.0±0.5, 9.09S±0.09×157.94E±0.08, h23km, mb4.3/21, MS4.1/3, Error ellipse: s-maj=13.9km s-min=10.2km az=141.6*
*NEIC **05** 16:04:15.1±3.5, 9.15S×158.02E, h28km±25km, mb4.5/7, Error ellipse: s-maj=13.4km s-min=8.7km az=157.0*
ISC 05 16:04:14.7±0.6, 9.1S±0.1×157.86E±0.07, h23km, n46, σ1.9 13/40, mb4.3/20, MS4.2/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.08**	**98**	Pn		**Pn**	16 04 45.5	-2.7
HNR				Sn		**Sb**	16 05 19.2	+2.0
HNR	**Honiara**	**2.08**	**98**	Pn		**Pn**	16 04 45.5	-2.7
25nm,0.3s,baz=297,slow=3.6,SNR=16								
HNR				Sn		**Sb**	16 05 19.2	+2.0
218nm,0.3s,baz=64,slow=21,SNR=11								
HNR	**Honiara**	**2.08**	**98**	*e*P		Pn	16 04 44.0	-4.2
COEN	**Coen**	**15.16**	**250**	P		**P**	16 07 50.9	-1.5
WRAB	**Tennant Creek**	**25.13**	**242**	*e*P		**P**	16 09 39.2	+1.0
5.4nm,0.8s								
WRA	**Warramunga Arr**	**25.14**	**242**	P		**P**	16 09 39.0	+0.7
WRA	**Warramunga Arr**	**25.14**	**242**	P		**P**	16 09 39.0	+0.7
2.9nm,0.7s,baz=68,slow=9.4,SNR=22								
ASAR	**Alice Springs**	**27.08**	**235**	P		**P**	16 09 55.6	-0.3
ASAR	**Alice Springs**	**27.08**	**235**	P		**P**	16 09 55.6	-0.3
1.8nm,0.8s,baz=62,slow=9.5,SNR=16								
STKA	**Stephens Creek**	**27.21**	**211**	*e*P		**P**	16 09 57.0	+0.1
1.2nm,0.8s								
STKA	**Stephens Creek**	**27.21**	**211**	P		**P**	16 09 57.2	+0.3
4.1nm,0.9s,baz=42,slow=14,SNR=5.6								
URZ	**Urewera**	**33.78**	**152**	LR		LR	16 21 39.4	
comp=Z,178nm,18.4s,baz=88,slow=31								
RPZ	**Rata Peaks**	**36.32**	**164**	LR		LR	16 22 34.0	
comp=Z,378nm,20.6s,baz=23,slow=30								
MJAR	**Matsushiro Arr**	**49.05**	**339**	P		**P**	16 12 59.2	-0.8
MJAR	**Matsushiro Arr**	**49.05**	**339**	P		**P**	16 12 59.2	-0.8
0.9nm,0.6s,baz=107,slow=1.8,SNR=4.1								
KSRS	**Korea Array**	**54.16**	**331**	P		**P**	16 13 39.0	+0.8
1.8nm,0.8s,baz=143,slow=6.0,SNR=3.4								
KSAR	**Wonju Array Be**	**54.17**	**331**	P		**P**	16 13 39.0	+0.7
USRK	**Ussuriysk Arra**	**58.03**	**338**	P		**P**	16 14 06.0	+0.3
2.4nm,0.8s,baz=165,slow=6.0,SNR=3.4								
PETK	**Petropavlovsk-**	**61.99**	**360**	P		**P**	16 14 33.0	+0.2
PETK	**Petropavlovsk-**	**61.99**	**360**	P		**P**	16 14 33.0	+0.2
11nm,0.8s,baz=166,slow=8.5,SNR=28								
CMAR	**Chiang Mai Arr**	**64.26**	**296**	P		**P**	16 14 49.9	+1.3
CMAR	**Chiang Mai Arr**	**64.26**	**296**	P		**P**	16 14 49.9	+1.3
1.8nm,0.6s,baz=127,slow=5.2,SNR=23								
CHTO	**Chiang Mai**	**64.38**	**296**	*e*P		**P**	16 14 49.6	+0.3
3.2nm,0.9s								
ULN	**Ulaanbaatar**	**72.33**	**327**	*e*P		**P**	16 15 39.6	+0.9
SONM	**Songino Array**	**72.66**	**326**	P		**P**	16 15 41.6	+0.9
SONM	**Songino Array**	**72.66**	**326**	P		**P**	16 15 41.6	+0.9
1.3nm,0.9s,baz=137,slow=5.4,SNR=8.8								
YAK	**Yakutsk**	**74.26**	**347**	*e*P		**P**	16 15 49.3	-0.3
8.3nm,0.8s								
QSPA	**South Pole Qui**	**80.86**	**180**	*e*P		**P**	16 16 27.0	+0.3
2.3nm,0.9s								
IM04	**Indian Mountai**	**82.83**	**18**	*e*P		**P**	16 16 36.9	0.0
MCK	**McKinley**	**82.99**	**21**	*e*P		**P**	16 16 36.9	-0.8
22nm,1.0s								
COLA	**College**	**84.06**	**20**	*e*P		**P**	16 16 42.3	-0.8
4.4nm,0.7s								
ILAR	**Eielson Array**	**84.33**	**21**	P		**P**	16 16 43.4	-1.1
ILAR	**Eielson Array**	**84.33**	**21**	P		**P**	16 16 43.4	-1.1
3.7nm,1.0s,baz=259,slow=5.0,SNR=28								
MKAR	**Makanchi Array**	**86.88**	**318**	P		**P**	16 16 57.9	+0.3
MKAR	**Makanchi Array**	**86.88**	**318**	P		**P**	16 16 57.9	+0.3
2.1nm,0.7s,baz=104,slow=5.6,SNR=21								
ZALV	**Zalesovo Beam**	**87.53**	**326**	P		**P**	16 16 59.4	-1.2
ZALV	**Zalesovo Beam**	**87.53**	**326**	P		**P**	16 16 59.4	-1.2
0.9nm,0.6s,baz=122,slow=5.4,SNR=3.8								
NVAR	**Mina Array Bea**	**90.82**	**51**	P		**P**	16 17 18.3	+1.6
NVAR	**Mina Array Bea**	**90.82**	**51**	P		**P**	16 17 18.3	+1.6
3.7nm,0.9s,baz=250,slow=7.4,SNR=21								
LPIG	**La Paz**	**95.33**	**67**	LR		LR	16 53 04.7	
comp=Z,114nm,18.3s,baz=42,slow=31								
YKA	**Yellowknife Ar**	**96.89**	**28**	P		**P**	16 17 43.8	0.0
YKA	**Yellowknife Ar**	**96.89**	**28**	P		**P**	16 17 43.8	0.0
0.8nm,0.8s,baz=261,slow=4.5,SNR=8.0								
PDAR	**Pinedale Array**	**98.02**	**48**	P		Pdif	16 17 49.8	+0.1
PDAR	**Pinedale Array**	**98.02**	**48**	P		Pdif	16 17 49.8	+0.1
0.6nm,0.8s,baz=212,slow=1.4,SNR=4.4								
BDFB	**Brasilia**	**144.47**	**134**	PKP		PKPbc	16 23 49.6	+0.8
BDFB	**Brasilia**	**144.47**	**134**	PKP		PKPbc	16 23 49.6	+0.8
7.3nm,0.8s,baz=219,slow=3.8,SNR=9.0								

NNC 05 16:20:09.2±4.3, 36.79N×69.47E, h0km, mb3.5, mpv3.2, 4C-3D, Error ellipse: s-maj=36.7km s-min=27.5km az=162.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.35**	**7**	⇑Pn		Pn	16 21 45.0	+0.9
0.2nm,0.2s,baz=182,slow=13,SNR=6.1								
KK31				⇑Sn		Sn	16 22 58.6	+1.2
1.1nm,0.3s,baz=189,slow=24								
AAK	**Ala-Archa**	**7.00**	**32**	⇑Pn		Pn	16 21 53.9	+0.8
1.1nm,0.3s								
AA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.57**	**135**	Pn	Pn	16 38 57.8	-0.1
	40nm,0.3s,baz=285,slow=7.7,SNR=18						
HNR				Sn	Sn	16 39 30.3	+0.5
	53nm,0.3s,baz=331,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**26.09**	**240**	P	P	16 43 49.6	-1.0
	1.4nm,0.6s,baz=68,slow=9.8,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.28**	**18**	T	T	17 12 52.7	
	baz=200,slow=77,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**27.28**	**18**	T	T	17 12 52.8	
	baz=200,slow=77,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**27.30**	**18**	T	T	17 12 53.9	
	baz=200,slow=77,SNR=5.1						
ASAR	**Alice Springs**	**28.17**	**233**	P	P	16 44 10.0	+0.7
	0.3nm,0.7s,baz=62,slow=8.5,SNR=4.5						
STKA	**Stephens Creek**	**28.63**	**210**	P	P	16 44 14.2	+0.9
	2.8nm,1.1s,baz=29,slow=1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**156.16**	**285**	PKP	PKPdf	16 58 11.6	-0.9
	0.4nm,0.8s,baz=349,slow=1.5,SNR=2.6						

MAN 05 16:48:46,10°28N×122°78E,h26km,mb4.6,ML3.5,MS3.4, 1C-1D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.40**	**332**	*e*P	Pn	16 48 56.3	+0.2
GUIM				*e*S	Sn	16 49 03.9	+1.2
SNPH	**Sibulan**	**1.03**	**154**	*i*P	Pn	16 49 02.9	-2.0
SNPH				*i*S	Sn	16 49 19.1	+0.6
LLP	**Lapu-Lapu**	**1.17**	**88**	*e*P	Pn	16 49 05.0	-1.7
RCP	**Roxas**	**1.28**	**358**	*e*P	Pn	16 49 08.8	+0.6
RCP				*e*S	Sb	16 49 25.4	0.0
OCLP	**Ormoc**	**1.96**	**67**	*e*P	Pn	16 49 17.9	+0.3
MSLP	**Maasin**	**2.05**	**94**	*e*P	Pn	16 49 20.1	+1.3

ATH ***05*** *17:07:03.0,34.66N×23.95E,h39km±3km,MD3.7/16*
THE ***05*** *17:07:03.9,34.61N×24.00E,h25km±25km, Error ellipse: s-maj=28.6km s-min=2.5km az=205.0*
CSEM ***05*** *17:07:03.6±0.6,34.64N×24.02E,h30km, MD3.7, Error ellipse: s-maj=14.5km s-min=4.6km az=15.0*
ISCJB ***05*** *17:07:04.6±0.8,34.76N±0.07×24.12E±0.04,h70km±4km, mb3.8/14, Error ellipse: s-maj=11.7km s-min=4.9km az=15.6*
IDC ***05*** *17:07:06.0±1.3,34.75N×24.11E,h63km±8km,mb3.7/14, mb1 3.8/19,mb1mx3.6/34,mbtmp3.9/19,MS3.2/1, Ms1 3.2/1,ms1mx2.4/56, Error ellipse: s-maj=19.8km s-min=14.3km az=164.0*

ISC 05 17:07:05.5±1.0,34.75N±0.08×24.10E±0.04,h57km±8km, n125,σ0.86/134,mb4.0/14,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.64**	**65**	P	Pn	17 07 18.1	-0.8
SIVA				S	Sn	17 07 30.2	+1.6
SIVA	**Sivas**	**0.64**	**65**	*e*PN	Pn	17 07 18.2	-0.7
SIVA				*e*SN	Sn	17 07 30.6	+2.0
SIVA	**Sivas**	**0.64**	**65**	*e*Pn	Pn	17 07 18.2	-0.7
SIVA				S	Sn	17 07 30.2	+1.6
VAM	**Vamos**	**0.66**	**7**	P	Pn	17 07 18.1	-1.0
VAM				S	Sn	17 07 30.8	+1.8
VAM	**Vamos**	**0.66**	**7**	*e*PN	Pn	17 07 18.6	-0.5
VAM	**Vamos**	**0.66**	**7**	P	Pn	17 07 18.1	-1.0
VAM	**Vamos**	**0.66**	**7**	*e*Pn	Pn	17 07 18.6	-0.5
VAM				S	Sn	17 07 30.8	+1.8
IDI	**Anoyia**	**0.84**	**50**	P	Pn	17 07 20.7	-0.7
IDI				S	Sn	17 07 34.5	+1.4
IDI	**Anoyia**	**0.84**	**50**	*e*PG	Pn	17 07 19.9	-1.5
IDI	**Anoyia**	**0.84**	**50**	*e*PB	Pn	17 07 21.0	-0.5
IDI				*e*SN	Sn	17 07 35.9	+2.8
IDI	**Anoyia**	**0.84**	**50**	P	Pn	17 07 20.9	-0.5
	32nm,0.3s,baz=239,slow=13,SNR=174						
IDI				S	Sn	17 07 35.3	+2.2
	64nm,0.3s,baz=310,slow=19,SNR=22						
IDI				LR	LR	17 07 43.3	
	comp=Z,118nm,20.9s,baz=222,slow=45						
IDI	**Anoyia**	**0.84**	**50**	*e*Pg	Pn	17 07 20.0	-1.5
IDI	**Anoyia**	**0.84**	**50**	P	Pn	17 07 20.7	-0.7
IDI	**Anoyia**	**0.84**	**50**	*e*Pb	Pn	17 07 21.0	-0.5
IDI				S	Sn	17 07 34.5	+1.4
IDI				*e*Sn	Sn	17 07 35.9	+2.7
LAST	**Lasithi**	**1.21**	**70**	P	Pn	17 07 26.9	+0.7
LAST	**Lasithi**	**1.21**	**70**	*e*PN	Pn	17 07 27.1	+0.9
LAST	**Lasithi**	**1.21**	**70**	P	Pn	17 07 26.9	+0.7
ANKY	**Antikythira Is**	**1.29**	**330**	P	Pn	17 07 28.2	+0.9
ANKY	**Antikythira Is**	**1.29**	**330**	*e*PN	Pn	17 07 27.0	-0.3
ANKY	**Antikythira Is**	**1.29**	**330**	*e*Pn	Pn	17 07 27.0	-0.3
ANKY	**Antikythira Is**	**1.29**	**330**	P	Pn	17 07 28.2	+0.9
NPS	**Neapolis**	**1.34**	**67**	*e*PB	Pn	17 07 29.1	+1.1
NPS	**Neapolis**	**1.34**	**67**	*e*Pb	Pn	17 07 29.1	+1.1
KYTH	**Kithira**	**1.75**	**331**	*e*PB	Pn	17 07 33.8	+0.2
KYTH	**Kithira**	**1.75**	**331**	*e*Pb	Pn	17 07 33.8	+0.2
ZKR	**Zakros**	**1.78**	**78**	*e*PN	Pn	17 07 34.6	+0.7
ZKR	**Zakros**	**1.78**	**78**	*e*PN	Pn	17 07 35.2	+1.3
ZKR	**Zakros**	**1.78**	**78**	*e*Pn	Pn	17 07 35.2	+1.3
SANT	**Santorini**	**1.96**	**34**	P	Pn	17 07 36.3	-0.1
SANT	**Santorini**	**1.96**	**34**	*e*PN	Pn	17 07 36.2	-0.2
SANT				*e*SN	Sn	17 07 51.0	-8.9
SANT	**Santorini**	**1.96**	**34**	*e*PN	Pn	17 07 36.9	+0.5
SANT	**Santorini**	**1.96**	**34**	P	Pn	17 07 36.3	-0.1
SANT	**Santorini**	**1.96**	**34**	*e*Pn	Pn	17 07 36.9	+0.5
VLI	**Veliai**	**2.18**	**335**	P	Pn	17 07 40.1	+0.7
VLI	**Veliai**	**2.18**	**335**	P	Pn	17 07 40.1	+0.7
APE	**Apeiranthos**	**2.59**	**26**	P	Pn	17 07 44.4	-0.6
APE	**Apeiranthos**	**2.59**	**26**	*e*PN	Pn	17 07 44.7	-0.3
APE	**Apeiranthos**	**2.59**	**26**	P	Pn	17 07 44.4	-0.6
APE	**Apeiranthos**	**2.59**	**26**	*e*Pn	Pn	17 07 44.7	-0.3
KARP	**Karpathos**	**2.63**	**72**	P	Pn	17 07 46.4	+0.8
KARP	**Karpathos**	**2.63**	**72**	*e*PN	Pn	17 07 46.3	+0.7
KARP	**Karpathos**	**2.63**	**72**	*e*Pn	Pn	17 07 46.3	+0.7
DID	**Didima**	**2.83**	**346**	P	Pn	17 07 48.1	-0.3
DID	**Didima**	**2.83**	**346**	*e*PN	Pn	17 07 48.1	-0.3
DID	**Didima**	**2.83**	**346**	P	Pn	17 07 48.1	-0.3
PYL	**PYLOS**	**2.87**	**319**	*e*PN	Pn	17 07 48.9	+0.1
PYL	**PYLOS**	**2.87**	**319**	*e*Pn	Pn	17 07 48.9	+0.1
NAIG	**Nisos Aigina**	**3.04**	**351**	*e*PN	Pn	17 07 51.1	-0.1
NAIG	**Nisos Aigina**	**3.04**	**351**	*e*Pn	Pn	17 07 51.1	-0.1
LTK	**Loutraki**	**3.39**	**345**	P	Pn	17 07 55.7	-0.2
LTK	**Loutraki**	**3.39**	**345**	*e*PN	Pn	17 07 55.8	-0.2
LTK	**Loutraki**	**3.39**	**345**	*e*Pn	Pn	17 07 55.8	-0.2
GUR	**Goura**	**3.48**	**336**	*e*PN	Pn	17 07 57.6	+0.3
GUR	**Goura**	**3.48**	**336**	*e*Pn	Pn	17 07 57.6	+0.3
BODT	**Bodrum**	**3.48**	**48**	*e*PN	Pn	17 07 56.6	-0.6
BODT	**Bodrum**	**3.48**	**48**	*e*Pn	Pn	17 07 56.6	-0.6
BDRM	**Kayabasi**	**3.56**	**49**	*i*P	Pn	17 07 59.3	+0.9
BDRM	**Kayabasi**	**3.56**	**49**	*i*P	Pn	17 07 59.3	+0.9
ARG	**Arkhangelos**	**3.60**	**65**	P	Pn	17 07 59.1	+0.3
ARG	**Arkhangelos**	**3.60**	**65**	P	Pn	17 07 59.1	+0.3
KLV	**Kalavryta, Ach**	**3.64**	**335**	P	Pn	17 07 59.8	+0.4
KLV	**Kalavryta, Ach**	**3.64**	**335**	P	Pn	17 07 59.8	+0.4
DSF	**Desfina**	**3.86**	**341**	P	Pn	17 08 02.1	-0.4
DSF	**Desfina**	**3.86**	**341**	*e*PN	Pn	17 08 02.2	-0.3
DSF	**Desfina**	**3.86**	**341**	*e*Pn	Pn	17 08 02.2	-0.3
LAKA	**Lakka**	**3.88**	**334**	*e*PN	Pn	17 08 03.1	+0.5
LAKA	**Lakka**	**3.88**	**334**	*e*Pn	Pn	17 08 03.1	+0.5
CHOS	**Chios island**	**3.95**	**23**	*e*PN	Pn	17 08 04.3	+0.6
CHOS	**Chios island**	**3.95**	**23**	*e*Pn	Pn	17 08 04.3	+0.6
KALE	**Kalithea**	**3.96**	**337**	*e*PN	Pn	17 08 03.8	0.0
KALE	**Kalithea**	**3.96**	**337**	*e*Pn	Pn	17 08 03.8	0.0
LKR	**Lokris**	**3.99**	**348**	P	Pn	17 08 03.6	-0.5
LKR	**Lokris**	**3.99**	**348**	P	Pn	17 08 03.6	-0.5
AYDN	**Tasoluk**	**4.21**	**45**	*i*P	Pn	17 08 17.0	+10
TURN	**Turunc**	**4.23**	**59**	*i*P	Pn	17 08 03.9	-3.5
TURN				*i*S	Sn	17 08 47.0	-8.4
TURN	**Turunc**	**4.23**	**59**	*i*P	Pn	17 08 03.9	-3.5
DALY	**Dalyan (Mu˘la**	**4.24**	**60**	*e*PN	Pn	17 08 07.8	+0.3
DALY	**Dalyan (Mu˘la**	**4.24**	**60**	*e*Pn	Pn	17 08 07.8	+0.3
BLCB	**Balcova**	**4.33**	**32**	*e*PN	Pn	17 08 09.5	+0.7
BLCB	**Balcova**	**4.33**	**32**	*e*Pn	Pn	17 08 09.5	+0.7
AYDB	**Zeytinkoy-Aydi**	**4.42**	**43**	*e*PN	Pn	17 08 09.5	-0.7
AYDB	**Zeytinkoy-Aydi**	**4.42**	**43**	*e*Pn	Pn	17 08 09.5	-0.7
IZM	**Izmir**	**4.44**	**34**	*e*PN	Pn	17 08 11.4	+1.1
IZM	**Izmir**	**4.44**	**34**	*e*Pn	Pn	17 08 11.5	+1.1
FETY	**Fethiye**	**4.47**	**64**	*e*PN	Pn	17 08 10.4	-0.4
FETY	**Fethiye**	**4.47**	**64**	*e*Pn	Pn	17 08 10.4	-0.4
AKAS	**Kas**	**4.73**	**70**	*i*P	Pn	17 08 13.9	-0.5
AKAS				*i*S	Sn	17 09 08.0	0.0
AKAS	**Kas**	**4.73**	**70**	*i*P	Pn	17 08 13.9	-0.5
AKAS				*i*S	Sn	17 09 08.0	0.0
DNZL	**Cakiroluk**	**4.96**	**52**	*i*P	Pn	17 08 18.1	+0.5
DNZL	**Cakiroluk**	**4.96**	**52**	*i*P	Pn	17 08 18.1	+0.5
GLHS	**Glhisar (BURDU**	**4.99**	**60**	*e*PN	Pn	17 08 17.7	-0.3
GLHS	**Glhisar (BURDU**	**4.99**	**60**	*e*Pn	Pn	17 08 17.7	-0.3
GOLH	**Golhisar**	**5.08**	**59**	*i*P	Pn	17 08 19.9	+0.8
GOLH	**Golhisar**	**5.08**	**59**	*i*P	Pn	17 08 19.9	+0.8
ELL	**Elmali**	**5.13**	**65**	*e*PN	Pn	17 08 20.0	+0.1
ELL	**Elmali**	**5.13**	**65**	*e*Pn	Pn	17 08 20.0	+0.1
KORT	**Korkueli**	**5.55**	**64**	*i*P	Pn	17 08 25.4	-0.3
KORT				*i*S	Sn	17 09 29.0	+0.9
KORT	**Korkueli**	**5.55**	**64**	*i*P	Pn	17 08 25.4	-0.3
KORT				*i*S	Sn	17 09 29.0	+0.9
KHAL	**Karahalli**	**5.65**	**49**	*i*P	Pn	17 08 28.4	+1.4
KHAL	**Karahalli**	**5.65**	**49**	*i*P	Pn	17 08 28.4	+1.4
SUTC	**Sutluce-Ispart**	**6.21**	**62**	*e*PN	Pn	17 08 34.9	+0.2
SUTC	**Sutluce-Ispart**	**6.21**	**62**	*e*Pn	Pn	17 08 34.9	+0.2
BRTR	**Keskin Array B**	**9.08**	**54**	P	Pn	17 09 14.2	+0.2
	0.1nm,0.3s,baz=230,slow=13,SNR=8.9						
MMAI	**Mount Meron Ar**	**9.56**	**97**	P	Pn	17 09 19.2	-1.3
	1.5nm,0.3s,baz=294,slow=14,SNR=3.2						
EIL	**Elat**	**10.49**	**116**	P	Pn	17 09 32.0	-1.2
	0.5nm,0.3s,baz=342,slow=4.5,SNR=3.8						
UDBI	**Udbina**	**11.68**	**329**	*e*Pn	Pn	17 09 46.7	-2.7
UDBI					Sn	17 11 44.3	-14
VRAC	**Vranov**	**15.56**	**341**	LR	LR	17 17 27.3	
	comp=Z,87nm,19.4s,baz=230,slow=40						
AKASG	**Malin Array Be**	**16.37**	**12**	P	Pn	17 10 51.6	+0.2
	1.7nm,0.3s,baz=203,slow=10,SNR=12						
KBZ	**Khabaz**	**17.07**	**53**	P	Pn	17 11 00.8	+0.6
	0.1nm,0.3s,baz=216,slow=8.7,SNR=4.4						
ESDC	**Sonseca Array**	**22.84**	**291**	P	P	17 12 05.1	+1.2
	0.6nm,0.6s,baz=83,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**26.74**	**2**	P	P	17 12 38.0	-1.4
	2.6nm,0.8s,baz=171,slow=10.0,SNR=7.2						
NB2	**NORSAR Subarra**	**27.58**	**346**	P	P	17 12 46.2	-0.9
	comp=Z,1.6nm,0.4s,baz=153,slow=9.3						
NB2	**NORSAR Subarra**	**27.58**	**346**	P	P	17 12 46.2	-0.9
	comp=Z,1.6nm,0.4s,SNR=6.2						
NOA	**NORSAR Array B**	**27.58**	**346**	P	P	17 12 46.5	-0.6
	comp=Z,1.9nm,0.4s,baz=153,slow=8.6,SNR=15						
EKA	**Eskdalemuir Ar**	**27.88**	**326**	P	P	17 12 50.2	+0.4
	comp=Z,0.5nm,0.4s,baz=114,slow=8.6,SNR=3.5						
AKTO	**Aktyubinsk**	**29.17**	**47**	P	P	17 13 00.9	-0.4
	comp=Z,1.9nm,0.5s,baz=256,slow=10.0,SNR=12						
TORD	**Torodi Ar. Bea**	**29.56**	**229**	P	P	17 13 05.3	+0.3
	comp=Z,1.9nm,0.4s,baz=37,slow=8.7,SNR=28						
ARCES	**ARCESS Array B**	**34.84**	**1**	P	P	17 13 49.0	-1.8
	comp=Z,2.0nm,1.0s,baz=186,slow=9.8,SNR=5.4						
BVAR	**Borovoye Array**	**37.26**	**46**	P	P	17 14 10.8	-0.8
	comp=Z,0.4nm,0.5s,baz=259,slow=6.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**42.05**	**51**	P	P	17 14 51.5	0.0
	comp=Z,1.7nm,0.6s,baz=278,slow=8.6,SNR=29						
MKAR	**Makanchi Array**	**44.73**	**56**	P	P	17 15 13.4	+0.3
	comp=Z,1.6nm,0.5s,baz=271,slow=7.6,SNR=51						
ZALV	**Zalesovo Beam**	**45.91**	**46**	P	P	17 15 21.8	-0.5
	comp=Z,2.4nm,0.4s,baz=271,slow=8.6,SNR=14						
SONM	**Songino Array**	**60.42**	**50**	P	P	17 17 09.7	+0.6
	comp=Z,1.1nm,0.5s,baz=286,slow=7.7,SNR=14						
SCHQ	**Schefferville**	**62.93**	**319**	P	P	17 17 25.9	0.0
	comp=Z,3.6nm,1.1s,baz=75,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**77.56**	**342**	P	P	17 18 55.6	+0.6
	comp=Z,0.3nm,0.5s,baz=30,slow=5.3,SNR=4.6						

IDC ***05*** *17:09:51.0±1.2,11.14S×124.53E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.8/18,mbtmp4.0/5,ML4.8/2, Error ellipse: s-maj=57.4km s-min=21.9km az=66.0*
ISCJB ***05*** *17:09:52.6±0.3, 11.51S±0.04×124.04E±0.04, h33km, mb3.9/5, Error ellipse: s-maj=7.2km s-min=3.7km az=41.5*
NEIC ***05*** *17:09:52.0±0.6, 11.17S×124.51E,h10km,mb4.1/3, Error ellipse: s-maj=26.8km s-min=8.0km az=55.0*
AUST ***05*** *17:09:53.9, 11.50S×124.02E, h20km*
DJA ***05*** *17:09:58.7±0.5, 11.5E±7.1×12.4E±.1,h128km±10km,M4.8/8, mb4.3/5,mB5.5/3,MLv5.0/8,Mw(mB)5.0/3*

ISC 05 17:09:54.6±0.5,11.63S±0.05×124.00E±0.05,h35km,n51, σ2.74/54,mb3.9/5,South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.88**	**8**	P	Pn	17 10 26.2	+1.7
SOEI				S	Sn	17 10 48.8	+1.7
SOEI	**Soe**	**1.88**	**8**	P	Pn	17 10 25.8	+1.3
	baz=1.8,SNR=65						
SOEI				S	Sn	17 10 47.8	+0.7
	baz=1.8,SNR=5.5						
MMRI	**Maumere**	**3.45**	**330**	P	Pn	17 10 46.0	+0.2
MMRI				S	Sn	17 11 22.7	-2.8
WSI	**Waingapu**	**4.13**	**298**	P	Pn	17 10 56.9	+1.7
WSI				S	Sn	17 11 40.7	-1.6
WSI	**Waingapu**	**4.13**	**298**	P	Pn	17 10 56.4	+1.2
	baz=4.1,SNR=8.2						
WSI				S	Sn	17 11 39.8	-2.5
	baz=4.1,SNR=9.9						
LBFI	**Labuhan Bajo,**	**5.12**	**307**	P	x	17 11 09.3	
LBFI				S	x	17 12 02.2	
KNRA	**Kununurra**	**6.13**	**131**	P	Pn	17 11 25.6	+2.9
	baz=6.2,SNR=573						
KNRA				S	Sn	17 12 33.3	+1.6
	baz=6.2,SNR=11						
MTN	**Manton Dam**	**7.08**	**101**	P	Pn	17 11 38.4	+2.6
	baz=7.1,SNR=59						
MTN				S	Sn	17 12 53.3	-1.7
	baz=7.1,SNR=17						
BKSI	**Bulukumba**	**7.35**	**328**	P	Pn	17 11 38.0	-1.5
	19nm,1.1s,0.1nm						
KKSI	**Kolaka, Sulawe**	**7.77**	**342**	P	x	17 11 42.3	
	27nm,0.9s,876nm0.2nm						
SAUI	**Saumlaki**	**8.06**	**64**	P	Pn	17 11 49.4	+0.2
	346nm,0.8s,5μm1.1nm						
BNSI	**Bone**	**8.15**	**331**	P	Pn	17 11 51.9	+1.4
MTNI	**Mataram**	**8.26**	**290**	P	x	17 11 53.6	
KDU	**Kakadu**	**8.35**	**98**	P	Pn	17 11 55.1	+1.9
	baz=8.4,SNR=32						
KHKI	**Kahang-Kahang**	**8.88**	**291**	P	x	17 11 59.5	
JAGI	**Jajag, Banyuwa**	**10.19**	**287**	P	Pn	17 12 17.4	-1.2
	baz=10,SNR=10						
JAGI				S	Sn	17 14 03.2	-8.5
	baz=10,SNR=4.9						
FAKI	**Fak Fak**	**11.91**	**44**	P	Pn	17 12 40.0	-2.0
	baz=12,SNR=26						
WRA	**Warramunga Arr**	**12.93**	**131**	Pn	Pn	17 12 55.7	-0.3
WRA				Sn	Sn	17 15 13.0	-5.7
WRA	**Warramunga Arr**	**12.93**	**131**	Pn	Pn	17 12 55.7	-0.3
	5.3nm,0.3s,baz=305,slow=14,SNR=241						
WRA				Sn	Sn	17 15 13.0	-5.7
	6.7nm,0.3s,baz=304,slow=25,SNR=13						
WRAB	**Tennant Creek**	**12.93**	**131**	*e*Pn	Pn	17 12 55.7	-0.3
	0.7nm,0.9s						
WRAB				*e*		17 13 04.7	
WRAB				*e*Sn	Sn	17 15 11.0	-7.8
UGM	**Wanagama**	**13.78**	**284**	S	Sn	17 15 34.1	-5.5
	baz=14,SNR=4.3						
WRKA	**Warakurna**	**13.94**	**164**	P	Pn	17 13 10.4	+0.6
	baz=14,SNR=25						
WRKA				S	Sn	17 15 39.7	-3.6
	baz=14,SNR=4.4						
GIRL	**Giralia**	**14.38**	**219**	P	Pn	17 13 17.9	+2.2
	baz=14,SNR=7.8						
AS31	**Alice Springs**	**15.23**	**143**	*e*Pn	Pn	17 13 26.9	-0.3
AS31				*e*Sn	Sn	17 16 10.4	-4.5
ASAR	**Alice Springs**	**15.23**	**143**	Pn	Pn	17 13 27.1	-0.1
ASAR				Sn	Sn	17 16 08.2	-6.7
ASAR	**Alice Springs**	**15.23**	**143**	Pn	Pn	17 13 27.1	-0.1
	3.5nm,0.3s,baz=322,slow=14,SNR=191						
ASAR				Sn	Sn	17 16 08.2	-6.7
	0.9nm,0.3s,baz=326,slow=22,SNR=4.9						
MEEK	**Meekatharra**	**15.77**	**198**	P	Pn	17 13 35.2	+1.1
	baz=16,SNR=35						
MEEK				S	Sn	17 16 19.1	-8.7
	baz=16,SNR=6.4						
CISI	**Cisompet, Garu**	**16.46**	**283**	P	Pn	17 13 43.2	+0.1
	baz=16,SNR=3.5						
QIS	**Mount Isa**	**17.41**	**123**	P	P	17 13 55.1	-0.8
	baz=18,SNR=9.2						
QIS				S	Sn	17 16 56.9	-11
	baz=18,SNR=5.1						
XMIS	**Christmas Isla**	**18.04**	**272**	S	S	17 17 33.5	+5.3
	baz=18,SNR=3.5						
KSM	**Kuching**	**18.83**	**313**	*e*P	P	17 14 11.8	+0.1
	7.2nm,0.9s						
COEN	**Coen**	**18.84**	**99**	P	Pn	17 14 16.1	+3.6
	baz=19,SNR=7.9						
COEN				S	Sn	17 17 31.8	-11
	baz=19,SNR=5.7						
MORW	**Morawa**	**18.87**	**202**	P	Pn	17 14 16.9	+4.2
	baz=19,SNR=12						
MORW				S	Sn	17 17 28.0	-15
	baz=19,SNR=7.8						
KKM	**Kota Kinabalu**	**19.19**	**336**	*e*P	P	17 14 14.4	-1.3
	8.7nm,0.7s						
FORT	**Forrest**	**19.42**	**169**	P	Pn	17 14 22.0	+2.7
	baz=20,SNR=11						
KLBR	**Kellerberrin**	**20.68**	**195**	P	Pn	17 14 42.8	+8.6
	baz=21,SNR=5.0						
PMBI	**Palembang**	**20.93**	**293**	P	P	17 14 34.5	+0.1
	baz=21,SNR=3.5						
PMBI				S	S	17 18 11.6	-14
	baz=21,SNR=6.1						
NWAO	**Narrogin (SRO)**	**22.09**	**195**	P	P	17 14 54.6	+7.9
NWAO				S	**S**	17 18 45.9	**-2.4**
NWAO	**Narrogin (SRO)**	**22.09**	**195**	P	P	17 14 54.6	+7.9
	3.8nm,0.7s,baz=23,slow=14,SNR=2.3						
NWAO				S	**S**	17 18 45.9	**-2.4**
	8.5nm,0.8s,baz=291,slow=17,SNR=3.9						
BBOO	**Buckleboo**	**23.81**	**154**	P	P	17 15 07.3	+3.0
	baz=24,SNR=12						
HTT	**Hallett**	**25.64**	**150**	P	P	17 15 26.1	+5.0
	baz=26,SNR=3.2						
STKA	**Stephens Creek**	**25.87**	**144**	P	P	17 15 25.7	+2.6
STKA				*e*		17 15 39.0	
STKA	**Stephens Creek**	**25.87**	**144**	P	P	17 15 25.7	+2.6
	2.4nm,0.6s,baz=318,slow=11,SNR=7.4						
H08S2	**Diego Garcia H**	**50.88**	**270**	T	T	18 13 17.5	
	baz=98,slow=76,SNR=6.0						
H08S3	**Diego Garcia H**	**50.89**	**270**	T	T	18 13 14.6	
	baz=98,slow=76,SNR=6.6						
H08S1	**Diego Garcia H**	**50.90**	**270**	T	T	18 13 09.8	
	baz=98,slow=76,SNR=6.1						
SONM	**Songino Array**	**61.24**	**347**	P	P	17 20 06.1	-0.1
SONM	**Songino Array**	**61.24**	**347**	P	P	17 20 06.1	-0.1
	0.4nm,0.7s,baz=167,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**69.09**	**331**	P	P	17 20 57.4	+0.4
MKAR	**Makanchi Array**	**69.09**	**331**	P	P	17 20 57.4	+0.4
	0.5nm,0.7s,baz=140,slow=6.7,SNR=5.3						
TKM2	**Tokmak 2**	**70.01**	**324**	P	P	17 21 03.4	+0.3
	5.5nm,1.4s						

IDC ***05*** *17:18:31.6±2.4,3.93S×129.27E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.3/21,mbtmp3.3/4,ML2.5/1, Error ellipse: s-maj=120.6km s-min=26.8km az=64.0*
ISCJB ***05*** *17:18:34.0±0.7,3.90S±0.08×129.45E±0.08,h36km, mb3.5/2, Error ellipse: s-maj=13.4km s-min=8.3km az=44.2*
DJA ***05*** *17:18:35.6±0.5,4°S±6°×12°9E±°,h26km±7km,M3.2/3, MLv3.2/3*

ISC 05 17:18:36.0±1.0,3.80S±0.08×129.42E±0.07,h36km,n10, σ1.34/10,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.67**	**312**	P	Pn	17 18 47.9	-1.2
MSAI				S	Sn	17 18 58.4	+0.1
BNDI	**Bandanaira**	**0.86**	**146**	P	Pn	17 18 52.6	+0.9
NLAI	**Namlea**	**2.38**	**283**	P	Pn	17 19 12.3	-0.3
FAKI	**Fak Fak**	**2.96**	**73**	P	Pn	17 19 20.4	0.0
SWI	**Sorong**	**3.45**	**32**	P	Pn	17 19 26.5	-0.7
LBMI	**Labuha**	**3.68**	**329**	P	Pn	17 19 31.9	+1.5
WRA	**Warramunga Arr**	**16.75**	**164**	Pn	Pn	17 22 25.5	-2.5
	0.0nm,0.3s,baz=342,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**20.22**	**168**	P	Pn	17 23 08.0	-2.3
	0.6

KARP	Karpathos	1.87	175	P	Pn	17 26 09.2	-0.3
FETY	Fethiye	1.88	114	*e*PN	Pn	17 26 09.5	0.0
FETY	Fethiye	1.88	114	*e*Pn	Pn	17 26 09.5	0.0
AYVA	Ayvalik	1.90	354	*i* P	Pg	17 26 13.8	0.0
AYVA				*i* S	Sg	17 26 40.6	+2.2
AYVA	Ayvalik	1.90	354	*i* P	Pg	17 26 13.8	0.0
PRK	Paraskevi	1.90	344	P	Pn	17 26 09.8	-0.1
PRK				S	Sb	17 26 35.4	-0.6
PRK	Paraskevi	1.90	344	P	Pn	17 26 09.8	-0.1
PRK				S	Sb	17 26 35.4	-0.6
SIGR	SIGRI	1.99	335	P	Pn	17 26 10.7	-0.3
SIGR	SIGRI	1.99	335	*e*PN	Pn	17 26 10.6	-0.4
SIGR	SIGRI	1.99	335	P	Pn	17 26 10.7	-0.3
KHAL	Karahalli	2.22	64	*i* P	Pn	17 26 14.1	-0.3
KHAL				*i* S	Sg	17 26 50.0	+1.2
KHAL	Karahalli	2.22	64	*i* P	Pn	17 26 14.1	-0.3
ZKR	Zakros	2.37	195	*e*PB	Pn	17 26 17.2	+0.9
ZKR	Zakros	2.37	195	*e*Pb	Pn	17 26 17.2	+0.9
AKAS	Kas	2.43	118	*i* P	Pb	17 26 20.1	-1.2
AKAS				*i* S	Sb	17 26 51.3	-0.1
AKAS	Kas	2.43	118	*i* P	Pb	17 26 20.1	-1.2
LAST	Lasithi	2.55	208	*e*PN	Pn	17 26 18.7	-0.1
LAST	Lasithi	2.55	208	*e*Pn	Pn	17 26 18.7	-0.1
IDI	Anoyia	2.70	219	P	Pn	17 26 20.7	-0.1
IDI	Anoyia	2.70	219	*e*PN	Pn	17 26 20.8	-0.1
IDI	Anoyia	2.70	219	*e*Pn	Pn	17 26 20.8	-0.1
TVSB	Tavsanli	2.83	43	*e*PN	Pn	17 26 23.3	+0.6
TVSB	Tavsanli	2.83	43	*e*Pn	Pn	17 26 23.3	+0.6
LIA	Limnos Island	2.84	331	*e*PN	Pn	17 26 22.0	-0.7
LIA	Limnos Island	2.84	331	*e*Pn	Pn	17 26 22.0	-0.7
SIVA	Sivas	2.96	217	*e*PN	Pn	17 26 24.5	+0.2
SIVA	Sivas	2.96	217	*e*Pn	Pn	17 26 24.5	+0.2
DID	Didima	2.96	273	*e*PN	Pn	17 26 24.4	0.0
DID	Didima	2.96	273	*e*Pn	Pn	17 26 24.4	0.0
KRBG	Karabiga-Canak	2.98	5	*e*PN	Pn	17 26 24.2	-0.5
KRBG	Karabiga-Canak	2.98	5	*e*Pn	Pn	17 26 24.2	-0.5
KCTX	Karacabey (Bur	3.05	21	*e*PN	Pn	17 26 25.9	+0.2
KCTX	Karacabey (Bur	3.05	21	*e*Pn	Pn	17 26 25.9	+0.2
LTK	Loutraki	3.22	282	*e*PN	Pn	17 26 28.5	+0.5
LTK	Loutraki	3.22	282	*e*Pn	Pn	17 26 28.5	+0.5
SUTC	Sutluce-Ispart	3.22	88	*e*PN	Pn	17 26 29.1	+1.1
SUTC	Sutluce-Ispart	3.22	88	*e*Pn	Pn	17 26 29.2	+1.1
SKIA	Skiathos	3.25	304	*e*PN	Pn	17 26 29.1	+0.7
SKIA	Skiathos	3.25	304	*e*Pn	Pn	17 26 29.1	+0.7
ERIK	Erikli-Kesan	3.27	354	*e*PN	Pn	17 26 28.3	-0.3
ERIK	Erikli-Kesan	3.27	354	*e*Pn	Pn	17 26 28.3	-0.3
ENEZ	Enez	3.37	350	*e*PN	Pn	17 26 30.2	+0.2
ENEZ	Enez	3.37	350	*e*Pn	Pn	17 26 30.3	+0.2
NEO	Neokhori	3.49	304	*e*PN	Pn	17 26 32.3	+0.6
NEO	Neokhori	3.49	304	*e*Pn	Pn	17 26 32.3	+0.6
ALN	Alexandroupoli	3.55	349	*e*PN	Pn	17 26 32.3	-0.1
ALN	Alexandroupoli	3.55	349	*e*Pn	Pn	17 26 32.3	-0.1
PAIG	Paliouri	3.58	315	*e*PN	Pn	17 26 32.1	-0.9
PAIG	Paliouri	3.58	315	*e*Pn	Pn	17 26 32.1	-0.9
DSF	Desfina	3.64	287	*e*PN	Pn	17 26 34.6	+0.8
DSF	Desfina	3.64	287	*e*Pn	Pn	17 26 34.6	+0.8
GUR	Goura	3.69	279	*e*PN	Pn	17 26 35.2	+0.6
GUR	Goura	3.69	279	*e*Pn	Pn	17 26 35.2	+0.6
KALE	Kalithea	3.93	286	*e*PN	Pn	17 26 39.0	+1.2
KALE	Kalithea	3.93	286	*e*Pn	Pn	17 26 39.0	+1.2
LAKA	Lakka	4.02	283	*e*PN	Pn	17 26 40.0	+1.0
LAKA	Lakka	4.02	283	*e*Pn	Pn	17 26 40.0	+1.0
KAVA	Kavala	4.05	333	*e*PN	Pn	17 26 39.2	-0.1
KAVA	Kavala	4.05	333	*e*Pn	Pn	17 26 39.2	-0.1
EFP	Efpalio	4.12	286	*e*PN	Pn	17 26 41.9	+1.6
EFP	Efpalio	4.12	286	*e*Pn	Pn	17 26 41.9	+1.6
MAKR	Makrakomi, Fth	4.12	294	*e*PN	Pn	17 26 39.7	-0.6
MAKR	Makrakomi, Fth	4.12	294	*e*Pn	Pn	17 26 39.7	-0.6
KNT	Kendrikon	4.89	321	*e*PN	Pn	17 26 51.1	+0.2
KNT	Kendrikon	4.89	321	*e*Pn	Pn	17 26 51.1	+0.2

MAN 05 17:32:10,13˝52N×120˝39E, h20km, mb4.5, ML3.3, MS3.2, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.54	91	*i* P	Pb	17 32 20.6	-0.3
NBP	Mount Natib	1.22	11	*e*P	Pb	17 32 35.1	+2.6
NBP				*i* S	Sn	17 32 58.5	+11
SJMP	San Jose	1.27	146	*e*P	Pb	17 32 33.7	+0.5
SJMP				*e*S	Sb	17 32 49.3	+0.3
BOAC	Boac	1.41	92	*e*P	Pn	17 32 34.5	-0.1
OTRP	Odiongan	1.96	126	*e*P	Pb	17 32 43.7	-1.3
ENPP	El Nido	2.48	203	*e*P	Pn	17 32 49.8	+0.5

SZGRF ***05*** *17:31:05.0, 22˚.68S×177˚.96W, h33km, South of Fiji Islands*

IDC ***05*** *17:31:57.9±1.8, 20˚.94S×178˚.44W, h452km±19km, mb3.6/15, mb1 3.8/17, mb1mx3.7/23, mbtmp4.4/17, Error ellipse: s-maj=17.0km s-min=11.2km az=139.0*

NEIC ***05*** *17:32:01.4±1.6, 21˚.42S×178˚.42W, h507km±20km, mb4.6/23, Error ellipse: s-maj=22.4km s-min=10.4km az=164.0*

ISCJB ***05*** *17:32:10.4±0.3, 21˚.15S±0˚.10×178˚.82W±0˚.08, h619km, mb4.2/35, Error ellipse: s-maj=14.7km s-min=6.0km az=149.2*

ISC 05 17:32:12.2±0.5, 21˚.0S±0˚.1×178˚.9W±0˚.1, h619km, n119, σ1§85/112, mb4.2/36, 11C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	8.23	174	*e*P	P	17 33 54.8	-19
NIUE	Niue	8.61	79	P	P	17 33 57.0	-21
	baz=7.5,SNR=6.2						
AFI	Afiamalu	9.78	45	*e*P	P	17 34 07.5	-22
AFI				*e*S	S	17 35 47.9	-34
AFI	Afiamalu	9.78	45	P	P	17 34 08.3	-21
	3.7nm,0.3s,baz=37,slow=5.8,SNR=6.4						
AFI				S	S	17 35 45.9	-36
	2.5nm,0.3s,baz=52,slow=19,SNR=2.8						
DZM	Mont Dzumac	13.72	263	P	P	17 35 02.9	-5.0
	0.6nm,0.3s,baz=70,slow=15,SNR=7.6						
URZ	Urewera	17.52	191	*e*P	P	17 35 34.4	-8.0
	12nm,0.9s						
URZ	Urewera	17.52	191	P	P	17 35 35.4	-7.0
	2.3nm,0.3s,baz=360,slow=5.4,SNR=14						
RPZ	Rata Peaks	24.14	198	P	P	17 36 38.9	-2.8
	7.1nm,0.6s,baz=311,slow=6.3,SNR=5.4						
EIDS	Eidsvold	27.94	255	P	P	17 37 14.6	-0.6
	baz=29,SNR=4.4						
ARMA	Armidale	28.12	245	*e*P	P	17 37 16.1	-0.8
	4.9nm,0.3s						
ARMA	Armidale	28.12	245	P	P	17 37 16.7	-0.1
	baz=29,SNR=8.2						
CMSA	Cobar Meteorol	33.34	244	P	P	17 38 00.6	-0.6
	baz=34,SNR=15						
PMG	Port Moresby	34.69	284	*e*P	P	17 38 11.9	-0.7
	14nm,0.8s						
PMG	Port Moresby	34.69	284	P	P	17 38 12.2	-0.4
	18nm,0.9s,baz=223,slow=6.3,SNR=8.0						
TOO	Toolangi	34.94	234	P	P	17 38 13.9	-0.5
	baz=36,SNR=6.7						
COEN	Coen	36.82	275	*e*P	P	17 38 29.6	-0.6
	71nm,1.0s						
COEN	Coen	36.82	275	P	P	17 38 30.6	+0.5
	baz=38,SNR=11						
STKA	Stephens Creek	36.84	245	P	P	17 38 29.8	-0.3
	1.8nm,0.5s,baz=98,slow=11,SNR=14						
STKA				PcP	PcP	17 40 37.5	+2.8
	1.6nm,0.9s,baz=63,slow=3.5,SNR=5.0						
HTT	Hallett	39.27	243	P	P	17 38 49.5	-0.2
	baz=40,SNR=3.8						
BBOO	Buckleboo	41.60	244	P	P	17 39 07.5	-0.6
	baz=43,SNR=7.2						
AS01	Alice Springs	43.58	257	*e*P	P	17 39 23.4	-0.3
AS01				*e*pP	PcP	17 40 59.2	+2.2
ASAR	Alice Springs	43.62	257	P	P	17 39 23.9	-0.1
	3.3nm,0.6s,baz=95,slow=7.8,SNR=42						
ASAR				PcP	PcP	17 40 59.9	+2.7
	1.4nm,0.5s,baz=104,slow=4.2,SNR=11						
ASAR				ScP	ScP	17 44 07.4	+17
	1.0nm,0.7s,baz=102,slow=4.5,SNR=6.2						
WRA	Warramunga Arr	43.74	263	P	P	17 39 24.4	-0.5
	2.0nm,0.3s,baz=91,slow=5.9,SNR=160						
WRA				PcP	PcP	17 41 00.4	+2.8
	0.7nm,0.4s,baz=97,slow=3.2,SNR=4.3						
KDU	Kakadu	47.17	272	P	P	17 39 51.1	+0.2
	baz=48,SNR=12						
KDU				S	S	17 45 37.4	-22
	baz=48,SNR=3.5						

MTN	Manton Dam	48.37	271	P	P	17 39 58.6	-1.3
	baz=49,SNR=6.7							
WRKA	Warakurna	48.56	255	P	P	17 40 01.3	+0.2
	baz=50,SNR=26							
KNRA	Kununurra	49.83	267	P	P	17 40 11.2	+0.7
	baz=51,SNR=12							
FAKI	Fak Fak	50.85	284	P	P	17 40 18.7	+0.7
	baz=52,SNR=4.6							
VNDA	Vanda	57.32	185	P	P	17 41 02.4	+0.2
	1.9nm,0.7s,baz=358,slow=1.6,SNR=4.4							
QSPA	South Pole Qui	69.04	180	*e*P	P	17 42 16.9	-0.3
	85nm,2.8s							
MJAR	Matsushiro Arr	70.17	324	P	P	17 42 24.6	+0.5
	0.9nm,0.6s,baz=152,slow=6.3,SNR=3.2							
PETK	Petropavlovsk-	76.58	346	P	P	17 43 01.1	+1.0
	3.3nm,0.9s,baz=140,slow=7.0,SNR=10							
KMRM	Mail Ridge	79.67	40	*e*P	P	17 43 16.9	-0.1
	124nm,2.4s							
WASM	Alta Sierra Ca	80.26	46	*e*P	P	17 43 19.4	-1.0
ISA	Isabella	80.27	46	*e*P	P	17 43 19.0	-1.2
	0.5nm,0.8s							
CMB	Columbia Colle	80.39	43	*e*P	P	17 43 20.0	-0.8
	81nm,3.0s							
YBH	Yreka Blue Hor	81.20	39	*e*P	P	17 43 24.0	-0.9
	6.2nm,0.8s							
YBH	Yreka Blue Hor	81.20	39	P	P	17 43 24.6	-0.3
	7.1nm,0.7s,baz=187,slow=6.2,SNR=17							
GSC	Goldstone	81.20	47	P	P	17 43 24.3	-0.8
	7.9nm,1.4s							
WAKR	Walker	81.27	43	*e*P	P	17 43 25.1	-0.4
NV01	Mina Array Sit	81.95	44	*e*P	P	17 43 28.0	-1.0
NVAR	Mina Array Bea	81.95	44	P	P	17 43 28.2	-0.8
	3.4nm,0.8s,baz=227,slow=8.7,SNR=19							
TPH	Tonopah	82.46	44	*e*P	P	17 43 31.0	-0.5
	5.4nm,0.9s							
MOD	Modoc	82.73	40	*e*P	P	17 43 32.2	-0.5
	6.2nm,1.0s							
K05A	Summer Lake	82.87	39	*e*P	P	17 43 33.3	-0.2
	96nm,2.3s							
PINOR	Pine Mountain	83.54	38	*e*P	P	17 43 37.2	+0.8
	16nm,1.1s							
TUC	Tucson	83.93	52	*e*P	P	17 43 38.8	-0.1
	3.8nm,0.9s							
I07A	Izee	84.50	39	*e*P	P	17 43 41.6	+0.3
	69nm,2.8s							
G08A	Pilot Rock	85.52	38	*e*P	P	17 43 46.4	+0.2
	17nm,2.6s							
ENH	Enshi	85.68	305	*e*P	P	17 43 50.1	+2.9
E09A	Wood Farm, Sta	86.69	37	*e*P	P	17 43 51.6	+0.1
	4.6nm,0.8s							
F10A	Beach Ranch, E	86.91	38	*e*P	P	17 43 52.5	-0.3
	11nm,0.8s							
WMUT	West Mountain	87.07	45	*e*PKiKP	PKiKP	17 48 57.4	+3.3
TRF	Thorofare Moun	87.13	12	*e*P	P	17 43 53.0	-0.5
	13nm,0.8s							
MCK	McKinley	87.66	13	*e*P	P	17 43 55.9	+0.1
	16nm,1.1s							
MNTX	Cornudas Mount	87.71	55	*e*P	P	17 43 55.8	-0.9
	2.7nm,0.9s							
TX31	Lajitas Ar. Si	88.01	58	*e*P	P	17 43 57.9	-0.4
TXAR	Lajitas Array	88.01	58	P	P	17 43 58.0	-0.3
	1.9nm,0.9s,baz=228,slow=7.5,SNR=16							
COLA	College	88.89	13	*e*P	P	17 44 01.1	-0.3
	11nm,1.1s							
IL1	Eielson Array	89.00	13	*e*P	P	17 44 01.3	-0.6
ILAR	Eielson Array	89.00	13	P	P	17 44 01.4	-0.5
	1.7nm,0.4s,baz=218,slow=5.3,SNR=33							
CM01	Chiang Mai Arr	89.51	290	*e*P	P	17 44 08.8	+3.5
CMAR	Chiang Mai Arr	89.54	290	P	P	17 44 08.2	+2.7
	0.8nm,0.3s,baz=107,slow=3.0,SNR=13							
FLWY	Flagg Ranch	89.81	42	*e*P	P	17 44 06.6	+0.1
	7.1nm,1.0s							
BW06	Boulder Array	89.89	44	*e*P	P	17 44 05.3	-1.6
PDAR	Pinedale Array	89.89	44	P	P	17 44 06.0	-0.8
	2.6nm,0.7s,baz=212,slow=3.1,SNR=18							
DAWY	Dawson	90.19	16	*e*P	P	17 44 08.0	+0.6
YKA	Yellowknife Ar	97.32	25	P	P	17 44 39.0	-0.9
	0.2nm,0.4s,baz=247,slow=3.8,SNR=3.9							
MKAR	Makanchi Array	110.98	313	PKiKP	PKiKP	17 49 37.2	+0.8
	0.4nm,0.3s,baz=102,slow=1.0,SNR=17							
ARCES	ARCESS Array B	129.29	349	PKP	PKPdf	17 50 12.0	+1.2
	1.4nm,0.6s,baz=66,slow=1.1,SNR=14							
FINES	FINESS Array B	136.05	343	PKhKP	PKPpre	17 50 13.0		
	3.3nm,1.0s,baz=60,slow=3.7,SNR=3.2							
FINES				SKPbc	SKPab	17 53 13.4	+8.5	
	1.4nm,0.7s,baz=49,slow=4.4,SNR=6.6							
AKASG	Malin Array Be	143.08	330	PKhKP	PKPpre	17 50 35.9		
	4.9nm,0.4s,baz=42,slow=4.2,SNR=66							
AK01	Malin Array Si	143.09	330	*e*PKPdf	PKPdf	17 50 35.8	-0.9	
KIEV	Kiev	143.09	330	*e*PKPpre	PKPpre	17 50 36.1		
AK02	Malin Array Si	143.12	330	*e*PKPdf	PKPdf	17 50 35.8	-0.9	
AK11	Malin Array Si	143.12	330	*e*PKPpre	PKPpre	17 50 36.0		
RGN	Rugen	145.28	348	*e*PKPbc	PKPab	17 50 45.1	+2.1	
BSEG	Bad Segeberg	146.41	350	*e*PKPbc	PKPab	17 50 47.5	0.0	
BRTR	Keskin Array B	146.59	311	PKPbc	PKPab	17 50 48.0	-1.1	
	2.2nm,0.6s,baz=120,slow=2.3,SNR=13							
KWP	Kalwaria Pacla	146.72	334	*i* P	PKPab	17 50 48.7	-0.3	
KWP	Kalwaria Pacla	146.72	334	*e*PKPbc	PKPab	17 50 47.5	-1.5	
BUR08	Bucovina Ar. S	147.10	330	*e*PKPdf	PKPbc	17 50 45.4	-1.6	
BUR04	Bucovina Ar. S	147.12	329	*e*PKPdf	PKPab	17 50 49.9	-0.9	
BURAR	Bucovina Array	147.12	329	*i* P	PKPab	17 50 50.2	-0.6	
BR231	Keskin MP Arra	147.15	312	*e*PKPdf	PKPab	17 50 48.5	-2.7	
KOLS	Kolonicke sedl	147.44	334	*e*PKP	PKPab	17 50 50.0	-1.9	
CRVS	Cervenica-Dubn	147.79	335	*e*PKP	PKPab	17 50 51.4	-2.0	
NRDL	Niedersach Rie	147.83	350	*e*PKPbc	PKPab	17 50 51.1	-2.2	
MLR	Muntele Rosu	148.22	326	*i* P	PKPab	17 50 53.0	-2.4	
UPC	Upice	148.33	342	*e*PKP	PKPab	17 50 52.1	-3.4	
DPC	Dobruska-Polom	148.38	341	*e*PKP	PKPab	17 50 52.2	-3.6	
DPC				*e*PKPAB	PKiKP	17 50 57.8	+6.6	
DPC	Dobruska-Polom	148.38	341	*e*PKPbc	PKPab	17 50 51.8	-4.0	
CLL	Collm	148.38	346	*e*PKPbc	PKPab	17 50 52.7	-3.0	
CLL	Collm	148.38	346	*i* PKPbc	PKPab	17 50 51.7	-4.0	
	comp=Z,15nm,1.0s							
CLL				*e*PKPab	PKiKP	17 50 57.0	+5.9	
CLZ	Clausthal	148.41	349	*e*PKPbc	PKPab	17 50 53.0	-2.9	
KRLC	Kraliky	148.48	341	*e*PKP	PKPab	17 50 52.3	-3.9	
MORC	Moravsky Berou	148.50	340	*e*PKPdf	PKPbc	17 50 47.4	-3.0	
MORC				*e*PKP	PKPab	17 50 52.9	-3.4	
BRG	Berggiesshubel	148.56	344	*e*PKP	PKPab	17 50 53.0	-3.5	
	comp=Z,12nm,1.1s							
BRG				*e*		17 50 58.5		
	comp=Z,4.3nm,0.9s							
BRG	Berggiesshubel	148.56	344	*e*PKPbc	PKPab	17 50 53.3	-3.1	
VOIR		148.72	327	*i* P	PKPab	17 50 54.5	-2.9	
ARR	Arges	148.98	327	*i* P	PKPab	17 50 55.1	-3.4	
PRU	Pruhonice	149.21	343	*i* P	PKPbc	17 50 53.9	+1.9	
TANN	Tannenbergstha	149.34	346	*e*PKPbc	PKPab	17 50 55.3	-4.5	
MANZ	Manzenberg	149.82	346	*e*PKPbc	PKPbc	17 50 55.6	+2.1	
ROTZ	Rotzenmuhle	150.01	346	*e*PKPbc	PKPbc	17 50 55.8	+2.9	
KHC	Kasperske Hory	150.25	343	*i* P	PKPbc	17 50 56.2	+1.6	
KHC				*e*PKPAB	PKPab	17 51 05.9	+2.3	
KHC	Kasperske Hory	150.25	343	*e*PKPbc	PKPbc	17 50 55.9	+1.3	
KHC				*e*PKPab	PKPab	17 51 05.8	+2.3	
BZS	Buzias	150.27	330	*i* P	PKPbc	17 50 56.8	+2.1	
TNS	Taunus Mts	150.30	351	*e*PKPbc	PKPbc	17 50 57.3	+2.6	
GEC2	GERESS Array S	150.48	343	*e*PKPbc	PKPbc	17 50 57.8	+2.6	
GEC2	GERESS Array S	150.48	343	*e*PKPbc	PKPbc	17 50 56.6	+1.4	
GERES	GERESS Array B	150.48	343	PKPbc	PKPbc	17 50 57.0	+1.8	
	comp=Z,2.9nm,0.7s,baz=29,slow=2.2,SNR=23							
CONA	Conrad Observa	150.66	340	*i* PKiKP	PKPbc	17 50 57.5	+1.9	
	comp=Z,5.0nm,0.6s							
PKSM	Moragy	151.09	334	*i* P	PKPbc	17 50 58.5	+2.0	
WLF	Walferdange	151.15	353	*e*PKPbc	PKPbc	17 50 59.7	+3.2	
STU	Stuttgart	151.58	349	*e*PKPbc	PKPbc	17 51 00.1	+2.6	
VTS	Vitosha	151.63	324	*i* P	PKPbc	17 50 59.6	+1.6	
RJOB	Jochberg	151.74	343	*e*PKPbc	PKPbc	17 51 00.2	+2.2	
BFO	Black Forest	152.15	350	*e*PKPbc	PKPbc	17 51 01.2	+2.4	

IDC ***05*** *17:54:51.5±0.8, 8˚.94S×157˚.55E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=25.2km s-min=15.3km az=2.0*

ISCJB ***05*** *17:54:52.8±0.6, 8˚.95S±0˚.1×157˚.59E±0˚.09, h17km, mb4.1/10, Error ellipse: s-maj=17.7km s-min=13.0km az=163.9*

NEIC ***05*** *17:54:55.8±0.8, 8˚.82S×157˚.70E, h35km, mb4.9/2, Error ellipse: s-maj=20.2km s-min=14.8km az=156.0*

ISC 05 17:54:54.3±0.7, 9˚.0S±0˚.1×157˚.6E±0˚.1, h17km, n25, σ0§95/22, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.33	100	Pn	Pn	17 55 31.7	-0.2
HNR				Lg	Lg	17 56 08.4	
HNR	Honiara	2.33	100	Pn	Pn	17 55 31.7	-0.2
	27nm,0.3s,baz=221,slow=3.9,SNR=18						
HNR				Lg	Lg	17 56 08.4	
	60nm,0.3s,baz=300,slow=20,SNR=3.6						
HNR	Honiara	2.33	100	*e*P	Pn	17 55 31.0	-0.9
PMG	Port Moresby	10.33	267	LR	LR	18 00 41.6	
	comp=Z,60nm,20.2s,baz=108,slow=34						
CTAO	Charters Tower	15.54	224	P	P	17 58 36.6	-0.4
WRAB	Tennant Creek	24.96	242	*e*P	P	18 00 16.9	-0.3
WRA	Warramunga Arr	24.98	242	P	P	18 00 17.2	-0.1
WRA	Warramunga Arr	24.98	242	P	P	18 00 17.2	-0.1
	3.7nm,0.9s,baz=68,slow=9.2,SNR=18						
ASAR	Alice Springs	26.94	234	P	P	18 00 34.4	-0.7
ASAR	Alice Springs	26.94	234	P	P	18 00 34.4	-0.7
	0.6nm,0.8s,baz=69,slow=8.4,SNR=4.9						
STKA	Stephens Creek	27.17	211	P	P	18 00 38.6	+1.7
STKA	Stephens Creek	27.17	211	P	P	18 00 38.6	+1.7
	2.7nm,0.7s,baz=47,slow=13,SNR=7.4						
NACB	Ninganchiao	48.23	314	P	P	18 03 27.4	-7.0
	23nm,0.9s						
ENH	Enshi	60.52	312	*e*P	P	18 05 05.5	+1.6
	4.1nm,0.8s						
CMAR	Chiang Mai Arr	64.00	296	P	P	18 05 26.2	-1.2
CMAR	Chiang Mai Arr	64.00	296	P	P	18 05 26.2	-1.2
	0.7nm,0.7s,baz=134,slow=5.9,SNR=7.2						
SONM	Songino Array	72.45	327	P	P	18 06 20.1	+0.1
SONM	Songino Array	72.45	327	P	P	18 06 20.1	+0.1
	0.9nm,1.0s,baz=120,slow=5.7,SNR=2.6						
KTH	Kantishna Hill	82.18	21	P	P	18 07 09.8	-4.3
MAW	Mawson	83.53	203	P	P	18 07 20.5	-0.5
MAW	Mawson	83.53	203	P	P	18 07 20.5	-0.5
	9.1nm,0.8s,baz=101,slow=5.2,SNR=9.9						
MKAR	Makanchi Array	86.64	318	P	P	18 07 36.1	-1.0
MKAR	Makanchi Array	86.64	318	P	P	18 07 36.1	-1.0
	0.6nm,0.6s,baz=95,slow=5.9,SNR=9.2						
NVAR	Mina Array Bea	90.95	51	P	P	18 07 58.8	+0.9
NVAR	Mina Array Bea	90.95	51	P	P	18 07 58.8	+0.9
	0.9nm,0.8s,baz=260,slow=5.0,SNR=11						

IDC ***05*** *18:00:26.6±0.8, 8˚.72S×157˚.52E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/18, mbtmp3.8/8, Error ellipse: s-maj=23.5km s-min=15.0km az=5.0*

ISC 05 18:00:28.8±0.8, 8˚.9S±0˚.2×157˚.72E±0˚.08, h17km, n10, σ1§18/12, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.27	105	Pn	Pn	18 01 04.4	-1.1
	5.9nm,0.3s,baz=225,slow=11,SNR=5.9						
HNR				Pg	Pg	18 01 12.0	-0.4
	42nm,0.3s,baz=281,slow=3.0,SNR=12						
HNR				Lg	Lg	18 01 45.7	
	67nm,0.3s,baz=240,slow=20,SNR=4.5						
HNR	Honiara	2.27	105	*e*P	Pb	18 01 10.0	+0.6
WRA	Warramunga Arr	25.15	241	P	P	18 05 51.9	-1.4
	1.6nm,0.6s,baz=68,slow=9.6,SNR=17						
WRA				PcP	PcP	18 09 27.8	+0.3
	0.6nm,0.7s,baz=76,slow=2.7,SNR=3.3						
ASAR	Alice Springs	27.13	234	P	P	18 06 10.3	-1.0
	0.4nm,0.8s,baz=65,slow=10,SNR=6.4						
STKA	Stephens Creek	27.37	211	P	P	18 06 15.0	+1.7
	1.9nm,0.6s,baz=25,slow=12,SNR=8.4						
SONM	Songino Array	72.36	326	P	P	18 11 54.0	0.0
	0.5nm,0.8s,baz=116,slow=4.5,SNR=3.7						

	comp=Z,11μm,0.2s							
IKOO	**Kooshah**	**3.30**	**10**	*e*Pn	Pn	18 55 36.8	-1.5
IBAF	**Bafgh**	**3.39**	**316**	*e*Pn	Pn	18 55 39.1	-0.4
IBAF				*e*Sg	Sb	18 56 31.2	+2.9
IBAF				*e*		18 56 40.1	
	comp=Z,6μm,0.2s						
IBAF	**Bafgh**	**3.39**	**316**	*e*Pn	Pn	18 55 39.1	-0.4
IBAF				*e*Sg	Sb	18 56 31.2	+3.0
ITEG	**Tejag**	**3.73**	**5**	*e*Pn	Pn	18 55 43.2	-1.1
ITEG				*e*Sg	Sg	18 56 42.8	-3.7
ITEG				*e*		18 56 52.4	
	comp=Z,6μm,0.2s						
ITEG	**Tejag**	**3.73**	**5**	*e*Pn	Pn	18 55 43.2	-1.0
ITEG				*e*Sg	Sg	18 56 42.8	-3.8
IDAH	**Dahanechah**	**3.80**	**20**	*e*Pn	Pn	18 55 44.4	-0.8
IDAH				*e*		18 55 57.9	
	comp=Z,3μm,0.2s						
IDAH	**Dahanechah**	**3.80**	**20**	*e*Pn	Pn	18 55 44.4	-0.8
IMEH	**Mehriz**	**3.90**	**305**	*e*Pn	Pn	18 55 45.9	-0.7
IMEH				*e*Sg	Sg	18 56 47.6	-4.5
IMEH				*e*		18 56 58.0	
	comp=Z,4μm,0.3s						
IMEH	**Mehriz**	**3.90**	**305**	*e*Pn	Pn	18 55 45.9	-0.7
IMEH				*e*Sg	Sg	18 56 47.6	-4.5
ICHK	**Chekchek**	**4.56**	**313**	*e*Pn	Pn	18 55 57.4	+1.8
ICHK				*e*		18 57 26.1	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**4.56**	**313**	*e*Pn	Pn	18 55 57.4	+1.8
ISRV	**Sarvestan**	**4.56**	**274**	*e*Pn	Pn	18 55 55.0	-0.8
ISRV				*e*		18 56 58.3	
	comp=Z,803nm,0.2s						
ISRV	**Sarvestan**	**4.56**	**274**	*e*Pn	Pn	18 55 55.0	-0.8
IPAR	**Pars**	**4.65**	**280**	*e*Pn	Pn	18 55 56.4	-0.6
IPAR				*e*		18 57 25.3	
	comp=Z,658nm,0.4s						
IPAR	**Pars**	**4.65**	**280**	*e*Pn	Pn	18 55 56.4	-0.6
ISAD	**Sadrabad**	**4.85**	**306**	*e*Pn	Pn	18 55 59.2	-0.5
ISAD				*e*		18 57 30.6	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**4.85**	**306**	*e*Pn	Pn	18 55 59.2	-0.5
IZEF	**Zefreh**	**6.35**	**307**	*e*Pn	Pn	18 56 19.8	-0.5
IZEF				*e*Sg	Sg	18 58 04.6	-6.0
IZEF				*e*		18 58 24.4	
	comp=Z,312nm,0.4s						
IZEF	**Zefreh**	**6.35**	**307**	*e*Pn	Pn	18 56 19.8	-0.5
IZEF				*e*Sg	Sg	18 58 04.6	-6.0
IPAY	**Payeh**	**7.28**	**4**	*e*Pn	Pn	18 56 32.4	-0.6
IPAY				*e*		18 56 37.6	
	comp=Z,252nm,0.1s						
IPAY	**Payeh**	**7.28**	**4**	*e*Pn	Pn	18 56 32.4	-0.7
IANJ	**Anjilo**	**7.31**	**330**	*e*Pn	Pn	18 56 31.9	-1.4
IANJ				*e*		18 58 57.3	
	comp=Z,352nm,0.5s						
IANJ	**Anjilo**	**7.31**	**330**	*e*Pn	Pn	18 56 32.0	-1.4
IMYA	**Miami**	**7.31**	**11**	*e*Pn	Pn	18 56 32.0	-1.3
IMYA	**Miami**	**7.31**	**11**	*e*Pn	Pn	18 56 32.0	-1.3
ISFR	**Sfrayin**	**7.87**	**358**	*e*Pn	Pn	18 56 39.9	-1.3
ISFR	**Sfrayin**	**7.87**	**358**	*e*Pn	Pn	18 56 39.9	-1.2

IDC 05 19:03:03.3±333.0, 53°22N×5°21E, h0km, Error ellipse: s-maj=69.9km s-min=41.2km az=105.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS** baz=312,slow=334,SNR=0.8	**6.92**	**126**	*i*		19 44 00.0	
I48TN	**KESRA INFRASON1** baz=355,slow=322	**7.65**	**169**	*i*		20 52 07.5	
I43RU	**DUBNA INFRASON1** baz=273,slow=330,SNR=0.2	**8.61**	**66**	*i*		20 49 20.0	
I31KZ	**AKTYUBINSK INF** baz=294,slow=338,SNR=3.5	**32.17**	**73**	*i*		22 12 52.8	

IGQ 05 19:07:14±0.3, 1°20S×77°78W, h2km±8km, Mb4.0, 4C-28D, Error ellipse: s-maj=1.7km s-min=0.7km az=9.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.62**	**283**	↑P	Pg	19 07 26.5	-0.1
ULBA	**Ulba**	**0.67**	**249**	↓P	Pg	19 07 27.0	-0.4
RUN5	**Runtun**	**0.67**	**252**	↓P	Pg	19 07 27.2	-0.2
RETU	**Refugio**	**0.71**	**250**	P	Pg	19 07 28.8	+0.6
RETU	**Refugio**	**0.71**	**250**	S	Sg	19 07 36.1	-1.8
BPAT	**Tungurahua Vol**	**0.71**	**245**	↓P	Pg	19 07 28.1	-0.3
BPAT	**Tungurahua Vol**	**0.71**	**245**	↓S	Sg	19 07 38.5	+0.5
JUI6	**Juive**	**0.72**	**252**	↓P	Pg	19 07 28.6	+0.4
JUI6	**Juive**	**0.72**	**252**	↓S	Sg	19 07 35.1	-2.8
PAT1	**Patacocha**	**0.72**	**245**	P	Pg	19 07 29.0	+0.5
ARRY	**Arrayan**	**0.73**	**246**	↓P	Pg	19 07 28.9	+0.3
BMAS	**Trigal station**	**0.76**	**247**	↓P	Pg	19 07 28.4	-0.6
BIL2	**Estacion Bilba**	**0.76**	**251**	P	Pg	19 07 29.7	+0.6
TAMB	**Tambo**	**0.77**	**311**	↓P	Pg	19 07 29.2	-0.4
COV1	**Cotopaxi Volc**	**0.78**	**314**	↓P	Pb	19 07 31.8	+0.7
BTAM	**Cotopaxi Volca**	**0.81**	**311**	↓P	Pb	19 07 30.9	-0.5
BTAM	**Cotopaxi Volca**	**0.81**	**311**	↓S	Sg	19 07 41.2	0.0
MOV1	**Cotopaxi Vol s**	**0.82**	**307**	↓P	Pg	19 07 30.9	+0.4
BMOR	**Cotopaxi Volca**	**0.82**	**305**	↓P	Pg	19 07 30.1	-0.4
BMOR	**Cotopaxi Volca**	**0.82**	**305**	↓S	Sb	19 07 42.9	-0.8
BVC2	**Cotopaxi Volca**	**0.83**	**311**	↓P	Pg	19 07 30.4	-0.3
BVC2	**Cotopaxi Volca**	**0.83**	**311**	↓S	Sg	19 07 42.8	+0.8
VC1	**Cotopaxi 1**	**0.83**	**312**	↓P	Pg	19 07 30.4	-0.3
ANTI	**Antisana**	**0.84**	**333**	↓P	Pg	19 07 30.1	-0.8
BREF	**Cotopaxi Volca**	**0.84**	**309**	↓P	Pb	19 07 31.7	-0.5
BREF	**Cotopaxi Volca**	**0.84**	**309**	↓S	Sg	19 07 43.1	+0.5
BNAS	**Cotopaxi Volca**	**0.88**	**307**	↓P	Pg	19 07 31.2	-0.3
NAS2	**Nasa**	**0.88**	**309**	↓P	Pg	19 07 31.5	-0.2
CAMI	**Rancho Maria**	**0.89**	**306**	P	Pg	19 07 31.4	-0.3
IGUA	**Igualata**	**0.90**	**252**	P	Pg	19 07 31.5	-0.6
PITA	**Cotopaxi Volc**	**0.91**	**315**	↓P	Pg	19 07 32.6	+0.5
PAST	**Pastocalle**	**1.00**	**301**	↓S	Sb	19 07 48.0	-0.5
PAST	**Pastocalle**	**1.00**	**301**	↓P	Pb	19 07 34.8	+0.2
RIOE	**Riobamba**	**1.01**	**237**	P	Pg	19 07 33.9	+0.1
MACE	**Macas**	**1.12**	**202**	↑P	Pg	19 07 35.9	0.0
CAYR	**Refugio Cayamb**	**1.23**	**350**	↑P	Pg	19 07 37.2	-1.3
ANGU	**Angureal**	**1.26**	**350**	P	Pg	19 07 38.9	-0.2
JUA2	**San Juan 2**	**1.28**	**320**	P	Pg	19 07 39.0	-0.2
CAYA	**Cayambe**	**1.28**	**351**	↑P	Pg	19 07 38.9	-0.5
GGP	**Refugio Guagua**	**1.30**	**322**	P	Pg	19 07 39.5	-0.3
TERV	**Terraza Guagua**	**1.31**	**321**	P	Pg	19 07 39.8	-0.1
PINO	**Pino**	**1.33**	**322**	↓P	Pg	19 07 39.0	-1.2
OTAV	**Otavalo**	**1.58**	**335**	↓P	Pn	19 07 43.3	-0.3

*NIED **05** 19:25:00, 26°50N×128°40E, h26km, Mw3.8 Best double couple: M0 5.94000×10^14 NP1:φs=342.00000°, δ33.00000°, λ121.00000°. NP2:φs=126.00000°, δ63.00000°, λ72.00000°.*
*IDC **05** 19:25:51.8±0.9, 26°44N×128°24E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/25, mbtmp3.7/11, ML4.0/1, Error ellipse: s-maj=26.4km s-min=11.2km az=97.0*
*ISCJB **05** 19:25:55.2±0.5, 26°40N±0°04×128°45E±0°04, h45km±6km, mb3.5/10, Error ellipse: s-maj=8.4km s-min=4.2km az=137.8*
*JMA **05** 19:25:56.9±0.2, 26°49N×128°40E, h44km±2km, M3.8*
JMA Felt I J1.

ISC 05 19:25:54.9±1.7, 26°42N±0°04×128°46E±0°04, h26km±13km, n27, σ1°10/40, mb3.6/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.44**	**338**	P	**Pn**	**19 26 06.1**	**+0.5**
JOW				S	**Sn**	**19 26 12.2**	**-0.6**
JOW	**Kunigami**	**0.44**	**338**	Pn	**Pn**	**19 26 05.8**	**+0.2**
	111nm,0.3s,baz=155,slow=15,SNR=1804						
JOW				Sn	**Sn**	**19 26 12.2**	**-0.6**
	316nm,0.3s,baz=308,slow=19,SNR=195						
JJT2	**Tamagusuku 2**	**0.70**	**246**	P	**Pn**	**19 26 10.1**	**+1.0**
JJT2				*e*S	**Sn**	**19 26 20.2**	**+1.2**
JIH	**Iheya**	**0.75**	**324**	P	**Pn**	**19 26 10.0**	**+0.2**
JIH				*e*S	**Sn**	**19 26 19.9**	**-0.5**
JAGN	**Aguni-jima**	**1.10**	**279**	P	**Pb**	**19 26 15.5**	**+0.2**
JAGN				*e*S	**Sn**	**19 26 29.1**	**+0.1**
JTK	**Tokunoshima**	**1.43**	**18**	P	**Pb**	**19 26 20.1**	**-0.8**
JTK				S	**Sn**	**19 26 37.3**	**+0.2**
JKE	**Kume jima 2**	**1.50**	**267**	P	**Pn**	**19 26 20.1**	**-0.1**
JKE				*e*S	**Sn**	**19 26 38.6**	**-0.3**
JAMN	**Amaminishikomi**	**1.92**	**19**	P	**Pn**	**19 26 26.9**	**+1.0**
JAMN				*e*S	**Sn**	**19 26 50.1**	**+0.8**
JAM	**Amami Oshima**	**2.23**	**27**	P	**Pn**	**19 26 31.0**	**+0.9**
JAM				*e*S	**Sn**	**19 26 56.6**	**-0.2**
JZK	**Kikaishima**	**2.32**	**35**	P	**Pn**	**19 26 32.8**	**+1.5**
JZK				S	**Sn**	**19 27 00.5**	**+1.5**
JMZ	**Minamidaito 2**	**2.55**	**103**	P	**Pn**	**19 26 35.0**	**+0.4**
JMZ				*e*S	**Sn**	**19 27 02.1**	**-2.7**
JOGS	**Gusukube**	**3.22**	**240**	P	**Pn**	**19 26 44.4**	**+0.7**
JOGS				*e*S	**Sn**	**19 27 21.6**	**+0.4**
JTJ	**Tarama**	**3.83**	**243**	P	**Pn**	**19 26 51.8**	**-0.4**
JIJ	**Ishigaki jima**	**4.41**	**243**	P	**Pn**	**19 26 58.9**	**-1.2**
JKRS	**Kuro-shima**	**4.58**	**243**	P	**Pn**	**19 27 01.5**	**-0.9**
IRIF	**Iriomote-Funau**	**4.76**	**245**	P	**Pn**	**19 27 03.7**	**-1.2**
JNU	**Nakatsue**	**7.00**	**17**	Pn	**Pn**	**19 27 37.9**	**+2.1**
	2.7nm,0.3s,baz=137,slow=2.5,SNR=23						
JNU				Sn	**Sn**	**19 28 52.8**	**-1.7**
	baz=180,slow=20,SNR=2.3						
SONM	**Songino Array**	**27.51**	**327**	P	**P**	**19 31 40.5**	**+1.2**
	0.3nm,0.4s,baz=141,slow=10,SNR=10						
CMAR	**Chiang Mai Arr**	**28.36**	**260**	P	**P**	**19 31 48.0**	**+1.0**
	0.2nm,0.5s,baz=58,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**41.56**	**312**	P	**P**	**19 33 39.4**	**-0.9**
	0.4nm,0.5s,baz=94,slow=9.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**42.22**	**323**	P	**P**	**19 33 43.7**	**-1.8**
	0.5nm,0.4s,baz=114,slow=9.5,SNR=2.7						
WRA	**Warramunga Arr**	**46.44**	**172**	P	**P**	**19 34 20.6**	**+1.0**
	1.0nm,0.6s,baz=354,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**50.07**	**173**	P	**P**	**19 34 48.9**	**+1.3**
	0.6nm,0.8s,baz=4.8,slow=14,SNR=10						
FINES	**FINESS Array B**	**72.80**	**331**	P	**P**	**19 37 19.9**	**-0.9**
	0.9nm,0.7s,baz=76,slow=5.9,SNR=5.0						
AKASG	**Malin Array Be**	**75.52**	**320**	P	**P**	**19 37 35.6**	**-1.3**
	0.5nm,0.4s,baz=59,slow=6.3,SNR=6.0						
BRTR	**Keskin Array B**	**77.08**	**308**	P	**P**	**19 37 46.0**	**-0.1**
	0.4nm,0.7s,baz=57,slow=5.3,SNR=3.5						
YKA	**Yellowknife Ar**	**78.27**	**25**	P	**P**	**19 37 53.0**	**+0.9**
	0.2nm,0.5s,baz=298,slow=5.5,SNR=4.2						

*IDC **05** 19:29:36.3±1.5, 48°.10N×153°.75E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=48.3km s-min=26.3km az=104.0*
*ISCJB **05** 19:29:41.6±0.9, 48°.2N±0°.1×154°.1E±0°.3, h64km, mb3.3/3, Error ellipse: s-maj=34.6km s-min=9.1km az=30.4*
*KRSC **05** 19:29:56.8±2.1, 49°.13N×155°.19E, h100km±15km, ML4.0*

ISC 05 19:29:43.5±1.3, 48°2N±0°2×154°1E±0°3, h64km, n25, σ1°42/16, mb3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.85**	**27**	*e*P	**Pn**	**19 30 23.9**	**-2.6**
SKR				*e*S	Sn	19 30 49.6	-10
PAU	**Pauzhetka**	**3.75**	**27**	*e*P	**Pn**	**19 30 35.9**	**-2.9**
PAU				*e*S	Sn	19 31 12.4	-9.3
MIPR	**Malaya Ipel'ka**	**4.46**	**22**	*e*P	**Pn**	**19 30 48.0**	**-0.5**
MTVR	**Mutnovka**	**5.06**	**30**	*e*P	**Pn**	**19 30 56.0**	**-0.9**
RUS	**Russkaya**	**5.14**	**32**	*e*S	Sn	19 31 41.8	-14
PETK	**Petropavlovsk-**	**5.46**	**24**	Pn	**Pn**	**19 31 01.5**	**-0.7**
	0.6nm,0.3s,baz=185,slow=14,SNR=13						
PETK				Sn	**Sn**	**19 32 05.8**	**+2.2**
	baz=232,slow=18,SNR=3.1						
UGLR	**Uglovaya**	**5.88**	**29**	*e*P	**Pn**	**19 31 08.4**	**+0.3**
KOK	**Kovaka**	**5.89**	**28**	*e*P	**Pn**	**19 31 07.9**	**-0.3**
AVH	**Avacha**	**5.90**	**29**	*e*P	**Pn**	**19 31 08.1**	**-0.2**
SMAR	**Somma**	**5.92**	**29**	*e*P	**Pn**	**19 31 08.2**	**-0.5**
KRER	**Koryakskii**	**5.94**	**28**	*e*P	**Pn**	**19 31 07.7**	**-1.2**
KRX	**Arik**	**5.96**	**28**	*e*P	**Pn**	**19 31 09.0**	**-0.1**
GNL	**Ganaly**	**6.05**	**23**	*e*P	**Pn**	**19 31 10.8**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=346,slow=77,SNR=18	**30.22**	**155**	T	T	20 07 51.3	
H11N1	**WAKE ISLAND Hy** baz=346,slow=77,SNR=32	**30.23**	**155**	T	T	20 07 34.9	
H11N3	**WAKE ISLAND Hy** baz=346,slow=77,SNR=24	**30.23**	**155**	T	T	20 07 23.5	
H11S1	**WAKE ISLAND Hy** baz=347,slow=77,SNR=122	**31.33**	**156**	T	T	20 08 57.0	
H11S3	**WAKE ISLAND Hy** baz=347,slow=77,SNR=117	**31.34**	**156**	T	T	20 09 00.1	
H11S2	**WAKE ISLAND Hy** baz=347,slow=77,SNR=60	**31.35**	**156**	T	T	20 08 59.4	
MKAR	**Makanchi Array**	**46.86**	**297**	P	**P**	**19 38 06.4**	**-0.5**
	0.1nm,0.6s,baz=53,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**70.06**	**200**	P	**P**	**19 40 48.8**	**+0.3**
	0.5nm,0.6s,baz=18,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**73.76**	**199**	P	**P**	**19 41 11.9**	**+1.3**
	0.2nm,0.6s,baz=13,slow=5.5,SNR=4.5						
H03N2	**Juan Fernandez**	**138.11**	**89**	T	T	22 22 15.0	
	baz=307,slow=75,SNR=24						
H03N1	**Juan Fernandez**	**138.13**	**89**	T	T	22 22 16.5	
	baz=307,slow=75,SNR=17						
H03N3	**Juan Fernandez**	**138.13**	**89**	T	T	22 22 12.9	
	baz=307,slow=75,SNR=27						

*IDC **05** 19:30:23.1±0.8, 8°.87S×158°.03E, h0km, mb3.9/8, mb1 4.1/8, mb1mx4.0/18, mbtmp3.9/8, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=23.4km s-min=13.1km az=11.0*
*ISCJB **05** 19:30:24.4±0.8, 9°.0S±0°.1×158°.2E±0°.1, h23km, mb3.8/8, MS3.5/2, Error ellipse: s-maj=21.3km s-min=16.6km az=166.6*

ISC 05 19:30:26.1±0.8, 9°0S±0°2×158°23E±0°10, h23km, n12, σ1°38/11, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**106**	Pn	**Pn**	**19 30 54.9**	**-0.3**
	28nm,0.3s,baz=188,slow=7.1,SNR=11						
HNR				Pg	**Pb**	**19 30 58.4**	**+0.7**
	119nm,0.3s,baz=239,slow=2.3,SNR=28						
HNR				Lg	Lg	19 31 26.8	
	158nm,0.3s,baz=126,slow=18,SNR=8.5						
HNR	**Honiara**	**1.76**	**106**	*e*P	**Pn**	**19 30 54.0**	**-1.2**
PMG	**Port Moresby**	**10.94**	**267**	LR	LR	19 36 45.6	
	comp=Z,124nm,21.4s,baz=77,slow=36						
WRA	**Warramunga Arr**	**25.55**	**242**	P	**P**	**19 35 52.0**	**-1.4**
	5.1nm,0.7s,baz=67,slow=9.4,SNR=29						
ASAR	**Alice Springs**	**27.48**	**235**	P	**P**	**19 36 08.9**	**-2.0**
	1.9nm,0.8s,baz=64,slow=8.6,SNR=16						
ASAR				LR	LR	19 45 38.5	
	comp=Z,89nm,20.5s,baz=94,slow=33						
STKA	**Stephens Creek**	**27.55**	**212**	P	**P**	**19 36 13.2**	**+1.9**
	2.2nm,1.0s,baz=42,slow=13,SNR=4.6						
JCJ	**Chichijima**	**39.07**	**337**	LR	LR	19 52 25.9	
	comp=Z,94nm,18.6s,baz=269,slow=34						
CMAR	**Chiang Mai Arr**	**64.51**	**295**	P	**P**	**19 41 02.7**	**+1.1**
	1.2nm,0.9s,baz=111,slow=5.0,SNR=4.7						
SONM	**Songino Array**	**72.72**	**326**	P	**P**	**19 41 53.2**	**+0.8**
	0.6nm,0.8s,baz=121,slow=4.2,SNR=4.5						
ILAR	**Eielson Array**	**84.04**	**21**	P	**P**	**19 42 54.2**	**-0.3**
	0.4nm,0.9s,baz=242,slow=3.9,SNR=3.6						
MKAR	**Makanchi Array**	**86.99**	**318**	P	**P**	**19 43 09.4**	**-0.2**
	0.6nm,0.6s,baz=94,slow=5.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**87.59**	**325**	P	**P**	**19 43 11.0**	**-1.3**
	0.3nm,0.5s,baz=106,slow=4.7,SNR=2.3						

*NIED **05** 19:33:00, 30°.00N×131°.30E, h23km, Mw4.5 Best double couple: M0 7.06000×10^15 NP1:φs=220.00000°, δ25.00000°, λ105.00000°. NP2:φs=24.00000°, δ66.00000°, λ83.00000°.*
*IDC **05** 19:33:42.6±0.7, 30°.20N×131°.07E, h0km, mb3.9/15, mb1 4.2/15, mb1mx4.1/25, mbtmp3.9/15, ML2.3/1, MS3.8/13, Ms1 3.9/13, ms1mx3.6/37, Error ellipse: s-maj=21.9km s-min=15.6km az=91.0*
*JMA **05** 19:33:45.6±0.2, 30°.02N×131°.28E, h30km±2km, M4.2*
JMA Felt I J1.
*MOS **05** 19:33:45.5±1.1, 30°.15N×131°.10E, h33km, mb4.5/13, Error ellipse: s-maj=11.5km s-min=7.1km az=105.7*
*ISCJB **05** 19:33:46.3±0.7, 30°.02N±0°.03×131°.21E±0°.06, h48km±4km, mb4.1/31, MS4.0/13, Error ellipse: s-maj=8.8km s-min=4.7km az=21.5*
*NEIC **05** 19:33:47.8±0.9, 30°.09N×131°.02E, h38km±8km, mb4.3/13, Error ellipse: s-maj=10.7km s-min=7.2km az=120.0*

ISC 05 19:33:47.5±1.1, 30°04N±0°04×131°13E±0°07, h41km±9km, n107, σ1°09/110, mb4.1/31, MS4.1/13, 1C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.62**	**348**	↓P	**Pn**	**19 33 58.6**	**-1.4**
JTN				*e*S	**Sn**	**19 34 08.1**	**-0.8**
JKC	**Kuchinoerabu**	**0.91**	**298**	P	**Pn**	**19 34 04.5**	**+0.7**
JKC				*e*S	**Sn**	**19 34 17.6**	**+1.9**
JNN	**Nakanoshima**	**1.10**	**260**	P	**Pn**	**19 34 07.5**	**+1.0**
JTSR	**Tashiro 2**	**1.13**	**351**	P	**Pn**	**19 34 06.5**	**-0.5**
JTSR				*e*S	**Sn**	**19 34 21.6**	**+0.2**
JNAR	**Kushima--Naru**	**1.48**	**5**	P	**Pn**	**19 34 11.3**	**-0.5**
JSU	**Suzuyama**	**1.57**	**339**	P	**Pn**	**19 34 13.0**	**+0.1**
JSU				*e*S	**Sn**	**19 34 33.4**	**+1.3**
JTZ	**Takazaki**	**1.85**	**359**	P	**Pn**	**19 34 17.2**	**+0.4**
JTZ				*e*S	**Sn**	**19 34 40.4**	**+1.4**
JSJ	**Shimokoshiki**	**2.03**	**324**	P	**Pn**	**19 34 19.0**	**-0.3**
JSJ				*e*S	**Sn**	**19 34 45.9**	**+2.5**
JAM	**Amami Oshima**	**2.10**	**220**	P	**Pn**	**19 34 20.7**	**+0.5**
JAM				*e*S	**Sn**	**19 34 46.7**	**+1.6**
JNU	**Nakatsue**	**3.08**	**356**	Pg	**Pn**	**19 34 34.2**	**+0.5**
JNU				Sn	**Sn**	**19 35 09.7**	**+0.4**
JNU	**Nakatsue**	**3.08**	**356**	Pn	Pn	19 34 25.1	-8.6
	1.0nm,0.3s,baz=2.3,slow=12,SNR=11						
JNU				Pg	**Pn**	**19 34 34.2**	**+0.5**
	6.9nm,0.3s,baz=287,slow=1.3,SNR=35						
JNU				Sn	**Sn**	**19 35 09.7**	**+0.4**
	5.9nm,0.3s,baz=61,slow=18,SNR=5.6						
JOW	**Kunigami**	**4.07**	**219**	Pn	**Pn**	**19 34 46.9**	**-0.3**
JOW				Sn	**Sn**	**19 35 32.8**	**-0.9**
JOW	**Kunigami**	**4.07**	**219**	Pn	**Pn**	**19 34 46.9**	**-0.3**
	0.3nm,0.3s,baz=83,slow=24,SNR=12						
JOW				Sn	**Sn**	**19 35 32.8**	**-0.9**
	1.3nm,0.3s,baz=112,slow=19,SNR=6.9						
KSAR	**Wonju Array Be**	**7.86**	**341**	Pn	**Pn**	**19 35 40.4**	**+1.1**
KSRS	**Korea Array**	**7.86**	**341**	Pn	**Pn**	**19 35 40.4**	**+1.1**
	0.2nm,0.3s,baz=156,slow=13,SNR=6.7						
MAJO	**Matsushiro**	**8.78**	**41**	*e*P	**Pn**	**19 35 51.3**	**-0.7**
MAJO	**Matsushiro**	**8.78**	**41**	*e*Pn	**Pn**	**19 35 51.3**	**-0.7**
MJAR	**Matsushiro Arr**	**8.78**	**41**	Pn	**Pn**	**19 35 52.9**	**+0.9**
MJAR	**Matsushiro Arr**	**8.78**	**41**	Pn	**Pn**	**19 35 52.9**	**+0.9**
	0.6nm,0.3s,baz=240,slow=14,SNR=6.5						
JCJ	**Chichijima**	**10.16**	**104**	LR	LR	19 39 32.5	
	comp=Z,333nm,18.8s,baz=240,slow=34						
USRK	**Ussuriysk Arra**	**14.15**	**3**	Pn	**P**	**19 37 09.5**	**-2.5**
	0.1nm,0.3s,baz=174,slow=9.9,SNR=6.1						
USRK				LR	LR	19 42 22.4	
	comp=Z,255nm,20.0s,baz=176,slow=37						
SZP	**Santa**	**15.79**	**220**	Pn	**Pn**	**19 37 25.7**	**-1.4**
	36nm,0.6s						
ASAJ	**Asahikawa**	**16.74**	**30**	LR	LR	19 44 22.9	
	comp=Z,346nm,20.0s,baz=200,slow=38						
HABR	**Khabarovsk**	**18.65**	**8**	*e*P	**P**	**19 37 57.4**	**-4.4**
HABR				*e*S	Sn	19 41 15.8	-14
HABR				pmax	pmax		
	comp=Z,20nm,1.7s						
HABR				MLR	MLR		
	comp=Z,311nm,17.0s						
ENH	**Enshi**	**18.71**	**276**	P	**P**	**19 38 01.3**	**-1.4**
	comp=Z,4.9nm,0.8s						
YSS	**Yuzh-Sakhalins**	**19.14**	**25**	*e*P	**Pn**	**19 38 09.6**	**+1.2**
KLR	**Kul'dur**	**19.17**	**1**	*e*P	**P**	**19 38 07.1**	**-0.4**
ULN	**Ulaanbaatar**	**25.66**	**321**	*e*P	**P**	**19 39 13.5**	**-0.1**
	comp=Z,7.1nm,1.2s						
SONM	**Songino Array**	**26.01**	**320**	P	**P**	**19 39 16.0**	**-0.7**
SONM	**Songino Array**	**26.01**	**320**	P	**P**	**19 39 16.0**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=136,slow=9.9,SNR=20						
SONM				LR	LR	19 50 24.5	
	comp=Z,207nm,21.4s,baz=73,slow=39						
TLY	**Talaya**	**29.69**	**325**	P	P	19 39 46.2	-3.2
TLY				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLY	**Talaya**	**29.69**	**325**	P	P	19 39 46.2	-3.2
	comp=Z,1.4nm,0.5s						
PETK	**Petropavlovsk-**	**30.12**	**33**	LR	LR	19 52 00.6	
	comp=Z,93nm,19.6s,baz=47,slow=37						
CHTO	**Chiang Mai**	**31.26**	**256**	*e*P	**P**	**19 40 03.3**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**31.26**	**256**	*e*P	**P**	**19 40 03.3**	**-0.3**
	comp=Z,3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.42**	**256**	P	**P**	**19 40 05.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**31.42**	**256**	P	**P**	**19 40 05.7**	**+0.6**

ILAR	**Eielson Array**	**59.88**	**29**	P	**P**	**19 43 48.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=265,slow=5.8,SNR=3.3						
STKA	**Stephens Creek**	**62.38**	**170**	LR	LR	20 13 16.3	
	comp=Z,66nm,18.5s,baz=205,slow=38						
ARCES	**ARCESS Array B**	**67.41**	**338**	P	**P**	**19 44 38.6**	**+0.2**
ARCES	**ARCESS Array B**	**67.41**	**338**	P	**P**	**19 44 38.6**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=67,slow=6.9,SNR=3.6						
ARCES				LR	LR	20 19 35.4	
	comp=Z,161nm,19.7s,baz=176,slow=41						
OBN	**Obninsk**	**68.40**	**322**	*eP*	**P**	**19 44 45.7**	**+0.9**
OBN				*e*		19 45 16.0	
OBN				*eS*	**S**	**19 53 42.4**	**-0.7**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s						
ZEI	**Tsey**	**68.40**	**308**	*eP*	**P**	**19 44 44.6**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	**Khabaz**	**68.74**	**309**	P	**P**	**19 44 48.2**	**+1.1**
KBZ	**Khabaz**	**68.74**	**309**	P	**P**	**19 44 48.2**	**+1.1**
KBZ	**Khabaz**	**68.74**	**309**	P	**P**	**19 44 48.2**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=73,slow=7.3,SNR=8.2						
KIV	**Kislovodsk**	**68.80**	**309**	⇑*iP*	**P**	**19 44 49.1**	**+1.4**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
KAF	**Kangasniemi**	**70.41**	**331**	*eP*	**P**	**19 44 55.7**	**-1.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAF	**Kangasniemi**	**70.41**	**331**	*ep*	**P**	**19 44 55.7**	**-1.4**
	comp=Z,2.9nm,0.7s						
FINES	**FINESS Array B**	**70.81**	**331**	P	**P**	**19 44 59.8**	**+0.2**
FINES	**FINESS Array B**	**70.81**	**331**	P	**P**	**19 44 59.8**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=74,slow=5.4,SNR=16						
FINES				LR	LR	20 19 22.4	
	comp=Z,144nm,20.3s,baz=74,slow=39						
RES	**Resolute Bay**	**71.32**	**12**	P	**P**	**19 45 03.0**	**+0.6**
RES	**Resolute Bay**	**71.32**	**12**	P	**P**	**19 45 03.0**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=299,slow=7.1,SNR=5.1						
YKA	**Yellowknife Ar**	**74.00**	**26**	P	**P**	**19 45 19.6**	**+1.1**
YKA	**Yellowknife Ar**	**74.00**	**26**	P	**P**	**19 45 19.6**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=304,slow=5.6,SNR=9.2						
AKASG	**Malin Array Be**	**74.29**	**320**	P	**P**	**19 45 20.4**	**-0.1**
AKASG	**Malin Array Be**	**74.29**	**320**	P	**P**	**19 45 20.4**	**-0.1**
AKASG	**Malin Array Be**	**74.29**	**320**	P	**P**	**19 45 20.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=58,slow=6.2,SNR=7.9						
NB2	**NORSAR Subarra**	**77.01**	**334**	P	**P**	**19 45 36.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=48,slow=5.9						
NOA	**NORSAR Array B**	**77.01**	**334**	P	**P**	**19 45 35.2**	**-0.7**
NOA	**NORSAR Array B**	**77.01**	**334**	P	**P**	**19 45 35.2**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=51,slow=5.6,SNR=4.7						
NOA				LR	LR	20 24 30.5	
	comp=Z,94nm,18.9s,baz=45,slow=40						
GERES	**GERESS Array B**	**83.68**	**324**	LR	LR	20 29 49.1	
	comp=Z,141nm,18.1s,baz=83,slow=40						
NVAR	**Mina Array Bea**	**86.04**	**47**	P	**P**	**19 46 26.0**	**+1.7**
NVAR	**Mina Array Bea**	**86.04**	**47**	P	**P**	**19 46 26.0**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=293,slow=5.8,SNR=5.9						

IDC 05 19:36:35.7±362.0, 53°.34N×4°.47E, h0km, Error ellipse: s-maj=103.9km s-min=14.2km az=123.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=311,slow=334,SNR=0.4						
I26DE	**FREYUNG INFRAS**	**7.35**	**124**	*i*		20 20 00.0	
I43RU	**DUBNA INFRASONI**	**8.96**	**67**	*i*		21 25 30.0	
	baz=274,slow=329,SNR=0.3						
I31KZ	**AKTYUBINSK INF**	**32.55**	**73**	*i*		22 47 51.2	
	baz=296,slow=315,SNR=3.5						

*IDC **05** 19:42:18.3±2.4, 42°.49N×104°.76W, h0km, mb3.3/2, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=44.9km s-min=9.6km az=165.0*
*ISCJB **05** 19:42:26.0±0.2, 43°.66N±0°.01×105°.32W±0°.02, h0km, mb4.6/1, Error ellipse: s-maj=2.3km s-min=2.0km az=168.5*
*NEIC **05** 19:42:26.5±0.4, 43°.66N×105°.20W, h0km, ML3.3, Error ellipse: s-maj=5.5km s-min=4.6km az=122.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 05 19:42:26.3±0.6, 43°.66N±0°.02×105°.26W±0°.02, h0km, n113, σ1s08/127, 34C-31D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.33**	**334**	P	**Pg**	**19 42 33.6**	**+0.8**
	baz=0.4,SNR=104						
J23A	**Dilts Ranch, B**	**0.33**	**220**	P	**Pg**	**19 42 33.0**	**+0.3**
	baz=0.4,SNR=809						
I24A	**Kuemmerle Ranc**	**0.50**	**66**	P	**Pb**	**19 42 36.8**	**-1.3**
	baz=0.5,SNR=825						
J24A	**Dixon Ranch, L**	**0.55**	**127**	P	**Pb**	**19 42 37.3**	**-1.6**
	baz=0.5						
H23A	**Clabaugh Cattl**	**0.91**	**354**	⇑P	**Pg**	**19 42 43.4**	**-0.3**
	baz=0.9,SNR=11						
I22A	**9 Mile Ranch,**	**0.92**	**285**	⇑P	**Pg**	**19 42 43.4**	**-0.5**
	baz=1.0,SNR=196						
J22A	**Midwest**	**0.92**	**255**	P	**Pg**	**19 42 43.2**	**-0.7**
	baz=1.0,SNR=207						
K24A	**Anderson Ranch**	**0.99**	**161**	P	**Pg**	**19 42 45.2**	**-0.1**
	baz=1.0						
K24A				⇑S	**Sb**	**19 42 59.5**	**-0.7**
	baz=1.0						
RSSD	**Black Hills**	**1.00**	**62**	*ePg*	**Pb**	**19 42 45.6**	**-1.0**
J25A	**Sunshine Ranch**	**1.09**	**104**	P	**Pg**	**19 42 46.8**	**-0.5**
	baz=1.1						
J25A				⇑S	**Sn**	**19 43 04.8**	**-0.2**
	baz=1.1						
I25A	**Rochford**	**1.16**	**72**	P	**Pb**	**19 42 48.3**	**-1.2**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.20**	**25**	P	**Pg**	**19 42 48.7**	**-0.6**
	baz=1.2,SNR=111						
H22A	**Clearmont**	**1.22**	**320**	⇑P	**Pg**	**19 42 49.4**	**-0.4**
	baz=1.2,SNR=34						
K22A	**Casper**	**1.37**	**223**	*ePn*	**Pn**	**19 42 51.0**	**-1.9**
K22A	**Casper**	**1.37**	**223**	P	**Pn**	**19 42 51.1**	**-1.8**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.46**	**135**	⇓P	**Pb**	**19 42 54.4**	**-0.1**
	baz=1.4,SNR=89						
K25A				⇑S	**Sn**	**19 43 16.1**	**+2.1**
	baz=1.4						
I21A	**Big Trails, Te**	**1.48**	**277**	P	**Pn**	**19 42 52.4**	**-2.0**
	baz=1.5						
H25A	**Fruitdale**	**1.53**	**51**	P	**Pg**	**19 42 55.6**	**-0.1**
	baz=1.5,SNR=73						
G23A	**Biddle**	**1.54**	**357**	⇓P	**Pn**	**19 42 54.7**	**-0.5**
	baz=1.5,SNR=171						
L23A	**Garrett**	**1.58**	**192**	P	**Pn**	**19 42 54.9**	**-0.9**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.61**	**308**	⇓P	**Pn**	**19 42 55.9**	**-0.2**
	baz=1.6,SNR=72						
J21A	**Lysite**	**1.62**	**260**	P	**Pn**	**19 42 55.2**	**-1.1**
	baz=1.7						
J21A				⇑S	**Sn**	**19 43 17.9**	**-0.2**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.63**	**102**	⇓P	**Pg**	**19 42 57.1**	**-0.5**
	baz=1.6,SNR=37						
L24A	**Wheatland**	**1.64**	**171**	P	**Pn**	**19 42 56.3**	**-0.2**
	baz=1.6						
L24A				⇓S	**Sg**	**19 43 20.3**	**+1.5**
	baz=1.6						
G22A	**Birney**	**1.72**	**335**	⇑P	**Pn**	**19 42 58.0**	**+0.3**
	baz=1.7,SNR=45						
G24A	**Alzada**	**1.77**	**20**	⇑P	**Pb**	**19 42 59.1**	**-0.7**
	baz=1.8,SNR=5.8						
I26A	**New Underwood**	**1.77**	**77**	⇑P	**Pg**	**19 42 59.3**	**-1.0**
	baz=1.7,SNR=28						
L25A	**Engebretsen Ra**	**1.78**	**147**	⇑P	**Pb**	**19 42 59.6**	**-0.3**
	baz=1.8,SNR=93						
L25A				⇑S	**Sg**	**19 43 24.9**	**+1.4**
	baz=1.8						
K21A	**Alcova**	**1.78**	**235**	P	**Pn**	**19 42 58.5**	**-0.1**
	baz=1.8,SNR=684						
K26A	**Motz Farm, Whi**	**1.80**	**121**	⇓P	**Pg**	**19 42 59.8**	**-1.0**
	baz=1.8,SNR=17						
K26A				⇑S	**Sg**	**19 43 24.7**	**+0.6**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.84**	**208**	⇑P	**Pn**	**19 42 59.6**	**+0.1**
	baz=1.9,SNR=24						
G25A	**Newell**	**2.02**	**40**	⇑P	**Pb**	**19 43 03.0**	**-1.0**
	baz=2.0,SNR=55						
G25A				⇓Sb	**Sg**	**19 43 31.8**	**+0.5**
	baz=2.0						
H26A	**Fairpoint**	**2.03**	**61**	⇓Pb	**Pg**	**19 43 03.8**	**-1.4**
	baz=2.0,SNR=81						
H26A				⇓Sb	**Sg**	**19 43 33.2**	**+1.7**
	baz=2.0						
F23A	**Volborg**	**2.06**	**357**	P	**Pn**	**19 43 02.6**	**+0.3**
	baz=2.1,SNR=174						
F23A				⇓Sb	**Sg**	**19 43 31.8**	**-0.8**
	baz=2.1						
J20A	**Shoshoni**	**2.08**	**262**	Pb	**Pb**	**19 43 04.2**	**-0.8**
	baz=2.1						
G21A	**Lodge Grass**	**2.10**	**319**	⇓P	**Pn**	**19 43 03.1**	**+0.3**
	baz=2.1,SNR=29						
G21A				⇑Sb	**Sb**	**19 43 32.9**	**+1.1**
	baz=2.1						
I20A	**Worland**	**2.10**	**279**	⇑Pb	**Pn**	**19 43 04.0**	**+1.1**
	baz=2.1,SNR=120						
H20A	**Greybull**	**2.14**	**294**	⇑P	**Pn**	**19 43 03.5**	**+0.1**
	baz=2.2,SNR=40						
M24A	**Cheyenne**	**2.22**	**172**	Pb	**Pb**	**19 43 07.2**	**-0.1**
	baz=2.2						
M23A	**Laramie**	**2.22**	**189**	P	**Pb**	**19 43 06.1**	**-1.4**
	baz=2.2,SNR=54						
M23A				⇑S	**Sb**	**19 43 35.5**	**-0.1**
	baz=2.2						
I27A	**Quinn**	**2.35**	**79**	⇑Sb	**Sg**	**19 43 43.2**	**+1.2**
	baz=2.3						
M25A	**Palm-Egli Farm**	**2.40**	**158**	⇓P	**Pb**	**19 43 08.4**	**-2.0**
	baz=2.4,SNR=16						
M22A	**Cedar Creek Ra**	**2.46**	**204**	⇑P	**Pn**	**19 43 09.6**	**+1.6**
	baz=2.5,SNR=452						
F21A	**Absaloka Mine,**	**2.54**	**329**	⇑P	**Pn**	**19 43 08.7**	**-0.1**
	baz=2.6,SNR=12						
F25A	**Bowman**	**2.60**	**29**	⇓P	**Pn**	**19 43 11.2**	**+1.4**
	baz=2.6,SNR=21						
G20A	**Bridger**	**2.63**	**307**	P	**Pn**	**19 43 09.7**	**-0.5**
	baz=2.7,SNR=111						
I19A	**Meeteetse**	**2.73**	**279**	⇓P	**Pn**	**19 43 12.2**	**+0.6**
	baz=2.8,SNR=49						
N23A	**Red Feather La**	**2.81**	**191**	⇓P	**Pn**	**19 43 14.0**	**+1.3**
	baz=2.8,SNR=112						
E22A	**Miles City**	**2.82**	**350**	⇓P	**Pn**	**19 43 12.3**	**-0.5**
	baz=2.8,SNR=6.8						
F20A	**Billings**	**2.97**	**317**	⇑P	**Pn**	**19 43 14.4**	**-0.4**
	baz=3.0,SNR=32						
E24A	**Baker**	**2.98**	**13**	⇓P	**Pn**	**19 43 15.3**	**+0.4**
	baz=3.0,SNR=28						
E24A				⇓S	**Sn**	**19 43 52.9**	**+1.6**
	baz=3.0						
LAO	**LASA Array**	**3.10**	**348**	*ePn*	**Pn**	**19 43 16.8**	**+0.2**
RLMT	**Red Lodge**	**3.22**	**298**	*ePn*	**Pn**	**19 43 18.5**	**+0.1**
BW06	**Boulder Array**	**3.27**	**256**	*ePn*	**Pn**	**19 43 19.0**	**-0.1**
PDAR	**Pinedale Array**	**3.27**	**256**	Pn	**Pn**	**19 43 20.0**	**+1.0**
PDAR				Pg	**Pb**	**19 43 25.0**	**-0.3**
PDAR				Lg	Lg	19 44 07.0	
PDAR	**Pinedale Array**	**3.27**	**256**	Pn	**Pn**	**19 43 20.0**	**+1.0**
	4.0nm,0.3s,baz=88,slow=14,SNR=37						
PDAR				Pg	**Pb**	**19 43 25.0**	**-0.3**
	18nm,0.3s,baz=71,slow=17,SNR=72						
PDAR				Lg	Lg	19 44 07.0	
	23nm,0.3s,baz=71,slow=31,SNR=14						
H18A	**Shoshone NF, C**	**3.33**	**289**	⇑P	**Pn**	**19 43 19.6**	**-0.3**
	baz=3.4,SNR=14						
F19A	**Roth Farm, Mol**	**3.42**	**311**	⇓P	**Pn**	**19 43 21.2**	**+0.2**
	baz=3.4,SNR=70						
N27A	**Anderson Farm,**	**3.50**	**144**	⇓P	**Pn**	**19 43 23.8**	**+1.8**
	baz=3.5,SNR=6.9						
D24A	**Glendive**	**3.52**	**10**	⇓P	**Pn**	**19 43 23.6**	**+1.3**
	baz=3.5,SNR=17						
D22A	**Cohagen**	**3.55**	**350**	⇑P	**Pn**	**19 43 22.9**	**+0.2**
	baz=3.6,SNR=7.3						
N20A	**Spence Gulch,**	**3.60**	**219**	⇑P	**Pn**	**19 43 24.5**	**+0.9**
	baz=3.6,SNR=14						
OGNE	**Ogallala**	**3.62**	**137**	*ePn*	**Pn**	**19 43 24.5**	**+0.8**
GCMT	**Greycliff**	**3.79**	**306**	*ePn*	**Pn**	**19 43 27.0**	**+0.8**
ISCO	**Idaho Springs**	**3.87**	**184**	*ePn*	**Pn**	**19 43 28.5**	**+1.1**
ISCO	**Idaho Springs**	**3.87**	**184**	⇑P	**Pn**	**19 43 28.5**	**+1.1**
	baz=3.9,SNR=6.5						
H17A	**Grant Village**	**3.90**	**283**	*ePn*	**Pn**	**19 43 28.7**	**+0.9**
D26A	**Manning**	**3.91**	**30**	⇑P	**Pn**	**19 43 28.5**	**+0.8**
	baz=3.9,SNR=8.1						
C24A	**Savage**	**3.91**	**8**	⇓P	**Pn**	**19 43 28.6**	**+0.8**
	baz=3.9,SNR=32						
C23A	**Lambert**	**4.14**	**1**	⇑P	**Pn**	**19 43 31.7**	**+0.9**
	baz=4.1,SNR=55						
O20A	**White River Ci**	**4.17**	**213**	*ePn*	**Pn**	**19 43 32.3**	**+0.9**
YMR	**Madison River**	**4.23**	**286**	Pn	**Pn**	**19 43 34.7**	**+2.5**
C25A	**Freed Ranch, W**	**4.29**	**18**	⇓P	**Pn**	**19 43 33.9**	**+1.1**
	baz=4.3,SNR=10						
P26A	**Davis Ranch, A**	**4.34**	**160**	⇓P	**Pn**	**19 43 34.9**	**+1.2**
	baz=4.3,SNR=18						
E28A	**Huff**	**4.35**	**46**	⇓P	**Pn**	**19 43 34.4**	**+0.7**
	baz=4.3,SNR=6.7						
P27A	**Ficken Ranch,**	**4.57**	**153**	⇓P	**Pn**	**19 43 37.8**	**+1.0**
	baz=4.5,SNR=12						
C26A	**Wimer Farm, P**	**4.72**	**27**	⇓P	**Pn**	**19 43 38.9**	**+0.2**
	baz=4.7,SNR=11						
DGMT	**Dagmar**	**4.87**	**8**	*ePn*	**Pn**	**19 43 41.4**	**+0.6**
Q26A	**Hugo**	**4.91**	**164**	⇓P	**Pn**	**19 43 42.2**	**+0.7**
	baz=4.9,SNR=6.3						
BOZ	**Bozeman (W)**	**4.96**	**296**	*ePn*	**Pn**	**19 43 41.7**	**-0.5**
KSCO	**Kaye Shedlock'**	**5.05**	**156**	*ePn*	**Pn**	**19 43 43.9**	**+0.4**
	47nm,0.4s						
EGMT	**Eagleton**	**5.38**	**326**	*ePn*	**Pn**	**19 43 48.6**	**+0.8**
	8.7nm,0.6s						
DAU	**Daniels Canyon**	**5.52**	**236**	*ePn*	**Pn**	**19 43 52.8**	**+2.8**
	12nm,0.6s						
R26A	**Arlington**	**5.53**	**165**	⇑P	**Pn**	**19 43 50.3**	**+0.3**
	baz=5.5,SNR=66						
HRY	**Holter Researc**	**5.56**	**306**	*ePn*	**Pn**	**19 43 51.2**	**+0.9**
	5.9nm,0.3s						
R27A	**Eads**	**5.68**	**160**	⇓P	**Pn**	**19 43 52.4**	**+0.3**
	baz=5.7,SNR=8.1						
A26A	**Wade Farm, Ken**	**5.69**	**22**	⇓P	**Pn**	**19 43 52.2**	**0.0**
	baz=5.7,SNR=5.2						
MDND	**Maddock**	**5.76**	**41**	*ePn*	**Pn**	**19 43 52.5**	**-0.6**
	28nm,0.4s						
MDND	**Maddock**	**5.76**	**41**	⇑P	**Pn**	**19 43 52.8**	**-0.3**
	baz=5.7,SNR=5.5						
SPUT	**South Promonto**	**5.81**	**249**	*ePn*	**Pn**	**19 43 53.7**	**-0.2**
	4.3nm,0.4s						
HVU	**Hansel Valley**	**5.85**	**254**	*ePn*	**Pn**	**19 43 55.1**	**+0.7**
	6.0nm,0.5s						
PV04	**Paradox Valley**	**5.94**	**209**	*ePn*	**Pn**	**19 43 56.4**	**+0.7**
MPU	**Maple Canyon**	**5.99**	**235**	Pn	**Pn**	**19 43 58.0**	**+1.6**
	8.5nm,0.7s						
SRU	**San Rafael**	**6.03**	**223**	*ePn*	**Pn**	**19 43 55.8**	**-1.1**
	10nm,0.3s						
PV01	**Paradox Valley**	**6.06**	**206**	Pn	**Pn**	**19 43 59.2**	**+1.7**
	499nm,0.4s						
S26A	**Kim**	**6.18**	**167**	⇓P	**Pn**	**19 43 59.4**	**+0.4**
	baz=6.2,SNR=17						
ECSD	**EROS Data Cent**	**6.27**	**86**	*ePn*	**Pn**	**19 43 59.5**	**-0.6**
	5.8nm,0.4s						
NLU	**North Lily Min**	**6.29**	**236**	*ePn*	**Pn**	**19 44 01.3**	**+0.7**
	5.2nm,0.8s						
S28A	**Manter**	**6.58**	**156**	⇑P	**Pn**	**19 44 04.8**	**+0.4**
	baz=6.6,SNR=6.1						
T27A	**Campo**	**6.87**	**163**	⇑P	**Pn**	**19 44 08.6**	**+0.2**
	baz=6.9,SNR=8.6						
MVCO	**Mesa Verde**	**6.90**	**202**	*ePn*	**Pn**	**19 44 10.0**	**+1.1**
MVU	**Marysvale**	**7.36**	**228**	*ePn*	**Pn**	**19 44 15.6**	**+0.4**
	2.6nm,0.3s						
JTMT	**Jette**	**7.52**	**306**	*ePn*	**Pn**	**19 44 17.9**	**+0.6**
U28A	**Mallet**	**7.64**	**161**	⇑P	**Pn**	**19 44 19.0**	**+0.1**
	baz=7.6,SNR=6.0						
I10CA	**LAC DU BONNET**	**9.09**	**41**	*i*		20 40 30.0	
	baz=218,slow=321,SNR=1.3						
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**19 44 38.3**	**-1.8**
ULM				Lg	Lg	19 47 13.5	
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**19 44 38.3**	**-1.8**
	1.3nm,0.3s,baz=232,slow=13,SNR=8.0						
ULM				Lg	Lg	19 47 13.5	
	0.4nm,0.3s,baz=311,slow=20,SNR=2.9						
WUAZ	**Wupatki**	**9.40**	**212**	*ePn*	**Pn**	**19 44 43.2**	**0.0**
	6.5nm,0.9s						
MNTX	**Cornudas Mount**	**11.94**	**181**	Pn	**Pn**	**19 45 15.3**	**-2.6**
	2.0nm,0.5s						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**19 47 00.5**	**+2.9**
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**19 47 00.5**	**+2.9**
	0.2nm,0.3s,baz=159,slow=10,SNR=4.7						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**19 52 42.7**	**-1.6**
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**19 52 42.7**	**-1.6**
	4.0nm,1.0s,baz=325,slow=7.7,SNR=3.6						

*GUC **05** 19:43:28.8±0.3, 31°.41S×71°.63W, h27km±2km, ML3.6*
*SJA **05** 19:43:30.0±0.5, 31°.59S×71°.73W, h58km±6km, ML3.3, MW3.8*

ISC 05 19:43:25.8±3.6, 31°.4S±0°.1×71°.7W±0°.1, h3km±29km, n21, σ0s87/25, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.62**	**73**	⇓*iP*	**Pb**	**19 43 40.1**	**+0.7**
CMCH				*i* S	**Sb**	**19 43 49.2**	**+0.7**
JACH	**Jahuel**	**1.62**	**145**	⇑*iP*	**Pn**	**19 43 55.5**	**+0.1**
JACH				*i* S	**Sn**	**19 44 15.5**	**-1.3**
ROCH	**El Roble**	**1.71**	**160**	⇑*iP*	**Pn**	**19 43 56.4**	**-0.3**
ROCH				*eS*	**Sn**	**19 44 18.1**	**-1.2**
PEL	**Peldehue**	**1.98**	**155**	⇑*iP*	**Pn**	**19 44 01.0**	**+0.7**
PEL				*i* S	**Sn**	**19 44 25.3**	**-0.3**
PEL				AML	AML	19 44 27.3	
	comp=E,1μm,0.3s						
RTLS	**Leoncito**	**2.09**	**103**	*eP*	**Pb**	**19 44 04.9**	**+0.4**
RTLS				*eS*	**Sb**	**19 44 31.1**	**0.0**
AUSP	**Uspallata**	**2.15**	**114**	*eP*	**Pb**	**19 44 05.2**	**-0.3**
CLCH	**Cerro Calan**	**2.26**	**155**	⇑*iP*	**Pn**	**19 44 04.7**	**+0.6**
CLCH				*i* S	**Sn**	**19 44 32.1**	**-0.4**
CLCH				AML	AML	19 44 38.9	
	comp=E,342nm,0.6s						
SAN	**Santiago**	**2.26**	**158**	*i* S	**Sn**	**19 44 32.1**	**-0.6**
PCH	**Pirque**	**2.47**	**156**	⇑*iP*	**Pn**	**19 44 07.8**	**+0.8**
CHCH	**Chadas Angostu**	**2.71**	**161**	*eP*	**Pn**	**19 44 11.0**	**+0.6**
CHCH				*eS*	**Sn**	**19 44 43.5**	**-0.3**
RTLL	**Cerro Villicun**	**2.75**	**90**	*eP*	**Pb**	**19 44 14.3**	**-1.4**
ARCO	**CERRO ARCO**	**2.77**	**123**	AML	AML	19 44 56.2	
	comp=Z,79nm,0.3s						
AMOG	**MOGNA**	**2.77**	**82**	*eP*	**Pb**	**19 44 15.0**	**-1.1**
LMEL	**Las Melosas**	**2.78**	**154**	*eP*	**Pn**	**19 44 12.5**	**+1.0**
LMEL				*i* S	**Sn**	**19 44 45.3**	**-0.4**
LMEL				AML	AML	19 44 51.7	
	comp=N,277nm,0.2s						
CACH	**El Canelo**	**2.90**	**162**	*eP*	**Pn**	**19 44 14.6**	**+1.5**
CACH				*i* S	**Sn**	**19 44 49.1**	**+0.5**
CFAA	**Coronel Fontan**	**2.96**	**96**	*eP*	Pn	19 44 17.0	+3.2
AGUA	**GUANDACOL**	**3.33**	**57**	*eP*	**Pb**	**19 44 24.6**	**-1.1**
AVFE	**Valle Fertil**	**3.71**	**80**	AML	AML	19 45 20.9	
	comp=Z,71nm,0.6s						
ACAN	**Cantantal**	**3.94**	**105**	*eP*	Pn	19 44 30.5	+3.2
ACAN				*eS*	**Sn**	**19 45 14.6**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.53**	**66**	*eP4*	Pn	19 44 38.6	+3.1
TCA	**Tanti**	**6.07**	**92**	*eP4*	Pn	19 44 59.7	+3.1

*BEO **05** 19:47:53.7±1.2, 37°.77N×14°.16E, h0km, ML4.0/3*
*ISCJB **05** 19:47:56.7±0.3, 37°.85N±0°.02×14°.57E±0°.03, h21km±4km, mb3.5/6, Error ellipse: s-maj=3.8km s-min=3.6km az=39.7*
*ROM **05** 19:47:56.0±0.2, 37°.83N×14°.57E, h5km±2km, Ml3.5/25, Error ellipse: s-maj=1.9km s-min=1.6km az=64.0*
*CSEM **05** 19:47:56.4±0.1, 37°.82N×14°.56E, h10km, ML4.2/8, Error ellipse: s-maj=2.9km s-min=2.8km az=170.0*
*IDC **05** 19:48:02.4±3.3, 37°.89N×14°.54E, h68km±34km, mb3.3/6, mb1 3.5/9, mb1mx3.3/30, mbtmp3.3/9, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/23, Error ellipse: s-maj=40.1km s-min=19.9km az=136.0*

ISC 05 19:47:56.5±0.8, 37.83N±0°.02×14°.56E±0°.02, h11km±5km, n78, σ0s87/104, mb3.4/6, 2D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALF	**Gagliano Caste**	**0.12**	**179**	⇓*iPg*	**Pg**	**19 47 59.3**	**-0.2**
GALF				Sg	**Sg**	**19 48 01.9**	**+0.3**
	23μm,0.6s						
GALF	**Gagliano Caste**	**0.12**	**179**	⇓*iPg*	**Pg**	**19 47 59.3**	**-0.2**
GALF				Sg	**Sg**	**19 48 01.9**	**+0.3**
	23μm,0.6s						
ECNV	**Catenanuova**	**0.26**	**153**	Pg	**Pb**	**19 48 02.6**	**-0.6**
ECNV				Sg	**Sg**	**19 48 05.7**	**+0.3**
	8μm,0.5s						
ECNV	**Catenanuova**	**0.26**	**153**	Pg	**Pb**	**19 48 02.6**	**-0.6**
ECNV				Sg	**Sg**	**19 48 05.7**	**+0.3**
	8μm,0.5s						
ESLN	**Serra La Nave**	**0.35**	**112**	Pg	**Pb**	**19 48 04.8**	**0.0**
ESLN				Sg	**Sg**	**19 48 08.7**	**+0.4**
	8μm,0.5s						
ESLN	**Serra La Nave**	**0.35**	**112**	Pg	**Pb**	**19 48 04.8**	**0.0**
ESLN				Sg	**Sg**	**19 48 08.7**	**+0.4**
	8μm,0.5s						

684nm,0.6s
SOI Samo 1.20 78 Pg Pg 19 48 18.7 -0.9
684nm,0.6s
CRJA Costa Raja 1.23 269 Pg Pg 19 48 20.0 -0.2
CRJA Costa Raja 1.23 269 Pg Pg 19 48 20.0 -0.2
MTGR Montagna Grand 1.43 273 Pg Pn 19 48 22.5 +0.1
49nm,0.4s
MTGR Montagna Grand 1.43 273 Pg Pn 19 48 22.5 +0.1
49nm,0.4s
PLAC Placanica 1.60 67 Pg Pn 19 48 25.2 +0.4
524nm,0.6s
PLAC Placanica 1.60 67 Pg Pn 19 48 25.2 +0.4
524nm,0.6s
SERS Sersale 2.06 53 Pg Pn 19 48 31.7 +0.6
150nm,0.5s
SERS Sersale 2.06 53 Pg Pn 19 48 31.7 +0.6
150nm,0.5s
TIP Timpagrande 2.19 51 Pg Pn 19 48 33.1 +0.3
211nm,1.1s
TIP Timpagrande 2.19 51 Pg Pn 19 48 33.1 +0.3
211nm,1.1s
BULG Bulgheria - Ca 2.34 16 Pg Pn 19 48 34.1 -0.8
186nm,0.5s
BULG Bulgheria - Ca 2.34 16 Pg Pn 19 48 34.1 -0.8
186nm,0.5s
MGR Morigerati 2.43 18 Pg Pn 19 48 35.0 -1.1
81nm,0.5s
MGR Morigerati 2.43 18 Pg Pn 19 48 35.0 -1.1
81nm,0.5s
KEST Kesra 4.68 245 P Pn 19 49 09.4 +2.3
0.5nm,0.3s,baz=10,slow=4.5,SNR=12
KEST S Sn 19 50 05.2 +3.8
0.6nm,0.3s,baz=174,slow=22,SNR=4.8
PDG Podgorica 5.84 37 *e*Pn Pn 19 49 22.8 -0.1
PDG *e*Sn **Sn** 19 50 32.2 +2.5
PDG Podgorica 5.84 37 *e*Pn Pn 19 49 22.8 -0.1
PDG *e*Sn **Sn** 19 50 32.2 +2.5
SJES Sjenica 6.81 35 *e*Pn Pn 19 49 36.6 +0.2
SJES *e*Sn **Sn** 19 50 54.3 +0.3
IVAS Ivanjica 7.14 35 *e*Pn Pn 19 49 41.6 +0.8
IVAS *e*Sn **Sn** 19 51 02.7 +0.7
IVAS Ivanjica 7.14 35 *e*Pn Pn 19 49 41.6 +0.8
IVAS *e*Sn **Sn** 19 51 02.7 +0.7
SELS Selova 7.34 41 *e*Pn Pn 19 49 44.2 +0.6
DIVS Divibare 7.49 32 *e*Pn Pn 19 49 46.4 +0.7
DIVS *e*Sn **Sn** 19 51 11.4 +0.8
DIVS Divibare 7.49 32 *e*Pn Pn 19 49 46.4 +0.7
DIVS *e*Sn **Sn** 19 51 11.4 +0.8
ZAPS Zavoj 8.20 46 *e*Pn Pn 19 49 57.2 +1.8
ZAPS Zavoj 8.20 46 *e*Pn Pn 19 49 57.2 +1.8
DAVOX Davos/Dischmat 9.59 340 LR LR 19 54 06.9
comp=Z,86nm,19.3s,baz=142,slow=38
GERES CERESS Array B 11.03 357 P Pn 19 50 35.4 +1.2
0.1nm,0.3s,baz=182,slow=13,SNR=5.2
AKASG Malin Array Be 16.57 34 P P 19 51 51.2 +0.1
0.3nm,0.3s,baz=228,slow=10,SNR=6.7
EKA Eskdalemuir Ar 21.22 331 P P 19 52 42.5 +0.4
1.1nm,0.6s,baz=134,slow=10,SNR=4.5
NOA NORSAR Array B 23.33 356 P P 19 53 04.1 -0.3
0.4nm,0.6s,baz=176,slow=11,SNR=2.9
FINES FINESS Array B 24.71 13 P P 19 53 16.4 -1.0
5.8nm,0.8s,baz=185,slow=8.1,SNR=18
ARCES ARCESS Array B 32.31 7 P P 19 54 23.5 -1.6
5.1nm,1.1s,baz=196,slow=9.4,SNR=4.0
MKAR Makanchi Array 49.46 57 P P 19 56 45.6 -1.0
0.2nm,0.5s,baz=281,slow=7.4,SNR=6.2
YKA Yellowknife Ar 72.02 338 P P 19 59 17.8 -2.1
0.1nm,0.4s,baz=40,slow=5.9,SNR=3.9

MEX 05 19:50:24.9±0.3, 18°.30N×100°.59W, h58km±3km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.23**	**94**	*e*P		Pn	19 50 33.0	-1.4
ARIG				*i* S		Sn	19 50 39.3	-1.8
PLIG	**Platanillo**	**1.03**	**85**	*e*P		Pn	19 50 42.0	-1.4
PLIG				*i* S		Sn	19 50 55.2	-1.9
ZIIG	**Zihuatanejo**	**1.08**	**231**	*e*P		Pn	19 50 42.6	-1.4
ZIIG				*i* S		Sn	19 50 56.1	-1.9
YAIG	**Yautepec**	**1.55**	**68**	*e*P		Pn	19 50 48.4	-2.0
YAIG				*e*S		Sn	19 51 08.1	-1.5

*IDC **05** 19:52:24.2±9.4, 0°.73N×99°.41E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=510.6km s-min=27.0km az=54.0*
*ISCJB **05** 19:52:40.8±0.7, 1°.1N±0°.1×99°.6E±0°.1, h157km±8km, mb3.2/3, Error ellipse: s-maj=25.3km s-min=6.8km az=139.0*
*DJA **05** 19:52:41.9±0.7, 1°.N±6°×10°.0E±°, h142km±8km, M3.5/6, MLv3.5/6*

ISC 05 19:52:41.8±1.0, 1°.1N±0°.1×99°.6E±0°.1, h154km±9km, n9, σ1§07/14, mb3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.25**	**182**	P		**Pn**	**19 53 03.1**	**+0.4**
MNSI				S		**Sn**	**19 53 18.3**	**-0.4**
PPI	**Padang Panjang**	**1.70**	**152**	P		**Pn**	**19 53 14.6**	**+0.8**
GSI	**Gunungsitoli**	**2.03**	**277**	P		**Pn**	**19 53 18.4**	**+0.9**
GSI				S		**Sn**	**19 53 44.3**	**-0.7**
PDSI	**Padang**	**2.13**	**156**	P		**Pn**	**19 53 18.8**	**0.0**
PDSI				S		**Sn**	**19 53 46.7**	**-0.6**
KCSI	**Kotacane, Aceh**	**3.06**	**324**	P		**Pn**	**19 53 30.7**	**+0.6**
KCSI				S		**Sn**	**19 54 06.5**	**-1.0**
TPTI		**3.26**	**312**	P		**Pn**	**19 53 31.3**	**-1.3**
TPTI				S		**Sn**	**19 54 12.2**	**+0.1**
WRA	**Warramunga Arr**	**39.94**	**123**	P		**P**	**20 00 00.7**	**-0.7**
	0.4nm,0.5s,baz=309,slow=8.8,SNR=8.2							
ASAR	**Alice Springs**	**41.41**	**129**	P		**P**	**20 00 11.9**	**-1.5**
	0.5nm,0.9s,baz=298,slow=8.3,SNR=3.3							
MKAR	**Makanchi Array**	**48.01**	**344**	P		**P**	**20 01 06.9**	**+1.7**
	0.2nm,0.3s,baz=155,slow=8.4,SNR=9.1							

*ISCJB **05** 20:22:16.3±0.6, 37°.51N±0°.04×35°.68E±0°.04, h7km±5km, Error ellipse: s-maj=6.8km s-min=4.7km az=165.8*
*DDA **05** 20:22:16.1, 37°.55N×35°.69E, h7km, MD2.6*
*ISK **05** 20:22:16.1, 37°.50N×35°.67E, h7km, MD2.7*
*CSEM **05** 20:22:16.3±0.3, 37°.53N×35°.70E, h2km, MD2.7, Error ellipse: s-maj=6.2km s-min=5.2km az=6.0*

ISC 05 20:22:16.3±0.9, 37°.54N±0°.03×35°.69E±0°.03, h9km±7km, n24, σ0§91/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.13**	**117**	PG		**Pg**	**20 22 19.3**	**+0.2**
KOZT				*e*SG		**Sg**	**20 22 21.6**	**+0.5**
KOZT	**Kozan**	**0.13**	**117**	*i* Pg		**Pg**	**20 22 19.3**	**+0.2**
KOZT				*e*Sg		**Sg**	**20 22 21.6**	**+0.5**
CEYT	**Ceyhan**	**0.53**	**175**	*e*PG		**Pg**	**20 22 26.3**	**-0.2**
CEYT	**Ceyhan**	**0.53**	**175**	*e*Pg		**Pg**	**20 22 26.3**	**-0.2**
KARA	**Karaisali**	**0.57**	**241**	*e*PG		**Pg**	**20 22 27.0**	**-0.4**
KARA				*e*SG		**Sg**	**20 22 35.1**	**+0.2**
KARA	**Karaisali**	**0.57**	**241**	*e*Pg		**Pg**	**20 22 27.0**	**-0.4**
KARA				*e*Sg		**Sg**	**20 22 35.1**	**+0.2**
YURE	**YUREGIR**	**0.71**	**183**	*i* P		**Pb**	**20 22 30.3**	**-0.6**
YURE				*i* S		**Sn**	**20 22 47.3**	**+3.6**
YURE	**YUREGIR**	**0.71**	**183**	*i* P		**Pb**	**20 22 30.3**	**-0.6**
GULE	**Gulek**	**0.77**	**251**	*i* P		**Pg**	**20 22 31.1**	**0.0**
GULE				*i* S		**Sb**	**20 22 42.8**	**+0.3**
GULE	**Gulek**	**0.77**	**251**	*i* P		**Pg**	**20 22 31.1**	**0.0**
GULE				*i* S		**Sb**	**20 22 42.8**	**+0.3**
KMRS	**Kahramanmaras**	**0.97**	**92**	*e*PG		**Pb**	**20 22 35.5**	**+0.3**
KMRS	**Kahramanmaras**	**0.97**	**92**	*e*Pg		**Pb**	**20 22 35.5**	**+0.3**
NIG	**Nigde**	**1.02**	**304**	*e*PG		**Pg**	**20 22 36.4**	**+0.4**
NIG	**Nigde**	**1.02**	**304**	*e*Pg		**Pg**	**20 22 36.4**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.23**	**161**	*e*PN		**Pb**	**20 22 39.3**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.23**	**161**	*e*Pn		**Pb**	**20 22 39.3**	**-0.3**
PINB	**Pinarbasi**	**1.27**	**26**	*i* P		**Pn**	**20 22 38.8**	**-1.7**
PINB				*i* S		**Sn**	**20 22 58.7**	**+0.8**
PINB	**Pinarbasi**	**1.27**	**26**	*i* P		**Pn**	**20 22 38.8**	**-1.7**
BNN	**Bunyan**	**1.32**	**5**	*e*PN		**Pg**	**20 22 42.0**	**+0.4**
BNN	**Bunyan**	**1.32**	**5**	*e*Pn		**Pg**	**20 22 42.0**	**+0.4**
KUZU	**Kuzuini**	**1.35**	**124**	*i* P		**Pn**	**20 22 40.6**	**-0.8**
KUZU				*i* S		**Sb**	**20 22 58.4**	**-0.7**
KUZU	**Kuzuini**	**1.35**	**124**	*i* P		**Pn**	**20 22 40.6**	**-0.8**
KUZU				*i* S		**Sb**	**20 22 58.4**	**-0.7**
DARE	**Darende-Malaty**	**1.75**	**53**	*e*PN		**Pb**	**20 22 48.5**	**-0.2**
DARE	**Darende-Malaty**	**1.75**	**53**	*e*Pn		**Pb**	**20 22 48.5**	**-0.2**

*SKO **05** 20:23:45.0, 42°.79N×18°.96E, h82km, M2.0, ML2.8*
*BEO **05** 20:23:47.5±0.4, 43°.03N×18°.74E, h0km, ML2.8/1*
*PDG **05** 20:23:47.1±0.2, 43°.04N×18°.73E, h9km, MD2.9/5, ML2.9/11, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*CSEM **05** 20:23:48.2±0.2, 42°.91N×18°.71E, h20km, ML2.9, Error ellipse: s-maj=5.2km s-min=4.1km az=36.0*

ISC 05 20:23:47.1±0.9, 43°.01N±0°.02×18°.75E±0°.02, h9km±7km, n70, σ1§15/121, 22C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.19**	**235**	⇓*i*	Pg	**Pg**	**20 23 51.0**	**-0.1**
BRY					*e*Sg	**Sg**	**20 23 54.3**	**+0.4**
BRY	**Bratogost**	**0.19**	**235**	⇓*i*	Pg	**Pg**	**20 23 51.0**	**-0.1**
BRY					*e*Sg	**Sg**	**20 23 54.3**	**+0.4**
UPM	**Unac-Piva**	**0.22**	**30**	⇓*i*	Pg	**Pg**	**20 23 51.0**	**-0.7**
UPM					*e*Sg	**Sg**	**20 23 55.0**	**+0.1**
NKY	**Niksic**	**0.27**	**138**	⇑*i*	Pg	**Pg**	**20 23 53.1**	**+0.7**
NKY					*e*Sg	**Sb**	**20 23 57.9**	**-0.9**
NKY	**Niksic**	**0.27**	**138**	⇑*i*	Pg	**Pg**	**20 23 53.1**	**+0.7**
NKY					*e*Sg	**Sb**	**20 23 57.9**	**-0.9**
NKME	**Niksic**	**0.28**	**149**	⇑*i*	Pg	**Pg**	**20 23 53.3**	**+0.5**
NKME					*e*Sg	**Sb**	**20 23 58.8**	**-0.5**
NKME	**Niksic**	**0.28**	**149**	⇑*i*	Pg	**Pg**	**20 23 53.3**	**+0.5**
NKME					*e*Sg	**Sb**	**20 23 58.8**	**-0.5**
PLE	**Pljevlja**	**0.56**	**55**	⇓*i*	Pg	**Pg**	**20 23 57.7**	**-0.3**
PLE					*e*Sg	**Pg**	**20 24 06.3**	**+0.8**
HCY	**Herceg Novi**	**0.59**	**199**	⇓*i*	Pg	**Pg**	**20 23 58.6**	**0.0**
HCY					*e*Sg	**Sb**	**20 24 08.8**	**+0.7**
HCY	**Herceg Novi**	**0.59**	**199**	⇓*i*	Pg	**Pg**	**20 23 58.6**	**0.0**
PDG	**Podgorica**	**0.69**	**147**	⇑*i*	Pg	**Pg**	**20 23 59.9**	**-0.4**
PDG					*i* Sg	**Sb**	**20 24 10.7**	**-0.1**
PDG	**Podgorica**	**0.69**	**147**	⇑*i*	Pg	**Pg**	**20 24 00.0**	**-0.4**
PDG					*i* Sg	**Sb**	**20 24 10.7**	**-0.1**
TTG	**Podgorica**	**0.69**	**147**	⇑*i*	Pg	**Pg**	**20 24 00.0**	**-0.4**
TTG					*e*Sg	**Sb**	**20 24 12.2**	**+1.4**
BUM	**Brajici-Budva**	**0.72**	**172**	⇓*i*	Pg	**Pg**	**20 24 01.4**	**+0.5**
BUM					*e*Sg	**Sb**	**20 24 12.8**	**+1.1**
BUM	**Brajici-Budva**	**0.72**	**172**	⇓*i*	Pg	**Pg**	**20 24 01.4**	**+0.5**
STON	**Ston**	**0.79**	**260**	*e*Pg		**Pg**	**20 24 00.6**	**-1.7**
STON					Sg	**Sg**	**20 24 12.8**	**+0.4**
STON	**Ston**	**0.79**	**260**	*e*Pg		**Pg**	**20 24 00.5**	**-1.7**
STON					Sg	**Sg**	**20 24 12.8**	**+0.4**
BEY	**Berane**	**0.85**	**99**	⇑*i*	Pg	**Pg**	**20 24 03.0**	**-0.4**
BEY					*e*Sg	**Sb**	**20 24 17.2**	**+1.7**
IVA	**Berane**	**0.85**	**99**	⇑*i*	Pg	**Pg**	**20 24 03.0**	**-0.4**
IVA					*e*Sg	**Sb**	**20 24 17.2**	**+1.7**
DRME	**Dracevica, Mon**	**0.88**	**159**	⇓*i*	Pg	**Pg**	**20 24 04.2**	**+0.1**
DRME					*e*Sg	**Sn**	**20 24 18.9**	**+0.3**
DRME	**Dracevica, Mon**	**0.88**	**159**	⇓*i*	Pg	**Pg**	**20 24 04.2**	**+0.1**
SJES	**Sjenica**	**0.93**	**74**	*e*Pg		**Pg**	**20 24 03.4**	**-1.5**
SJES				*i* Sg		**Sg**	**20 24 16.6**	**-0.4**
BBLS	**Lazići**	**0.98**	**29**	*e*Pg		**Pg**	**20 24 05.0**	**-0.9**
BBLS				*i* Sg		**Sg**	**20 24 17.3**	**-1.3**
BBLS	**Lazići**	**0.98**	**29**	*e*Pg		**Pg**	**20 24 05.0**	**-0.9**
BBLS				*i* Sg		**Sg**	**20 24 17.3**	**-1.3**
PVY	**Plav**	**0.98**	**115**	⇑*i*	Pg	**Pg**	**20 24 05.9**	**0.0**
PVY					*e*Sg	**Sn**	**20 24 21.9**	**+0.7**
PVY	**Plav**	**0.98**	**115**	⇑*i*	Pg	**Pg**	**20 24 05.9**	**0.0**
PVY					*e*Sg	**Sn**	**20 24 21.9**	**+0.7**
IVAS	**Ivanjica**	**1.17**	**61**	*e*Pg		**Pb**	**20 24 08.8**	**-0.6**
IVAS				*i* Sg		**Sb**	**20 24 24.6**	**-0.1**
IVAS	**Ivanjica**	**1.17**	**61**	*e*Pg		**Pb**	**20 24 08.8**	**-0.6**
IVAS				*i* Sg		**Sb**	**20 24 24.6**	**-0.1**
DIVS	**Divibare**	**1.41**	**39**	⇑*i*	Pn	**Pn**	**20 24 12.9**	**-0.1**
DIVS					*e*Sn	**Sg**	**20 24 34.5**	**+2.0**
TEKS	**Tekeris**	**1.64**	**20**	*e*Pn		**Pb**	**20 24 17.8**	**+0.4**
TEKS				*i* Sn		**Sb**	**20 24 38.6**	**+0.4**
TEKS	**Tekeris**	**1.64**	**20**	*e*Pn		**Pb**	**20 24 17.8**	**+0.4**
TEKS				*i* Sn		**Sb**	**20 24 38.6**	**+0.4**
GRUS	**Gruza**	**1.68**	**58**	*e*Pn		**Pn**	**20 24 17.5**	**+0.9**
GRUS				*e*Sn		**Sg**	**20 24 41.5**	**+0.5**
TRUS	**Trudelj**	**1.71**	**44**	*e*Pn		**Pn**	**20 24 17.6**	**+0.6**
TRUS				*e*Sn		**Sg**	**20 24 42.2**	**+0.3**
TRUS	**Trudelj**	**1.71**	**44**	*e*Pn		**Pn**	**20 24 17.6**	**+0.6**
TRUS				*e*Sn		**Sg**	**20 24 42.2**	**+0.3**
SELS	**Selova**	**1.75**	**82**	*e*Pg		**Pn**	**20 24 18.4**	**+0.9**
SELS	**Selova**	**1.75**	**82**	*e*Pg		**Pn**	**20 24 18.4**	**+0.9**
BLY	**Banja Luka**	**2.08**	**327**	*e*Pn		**Pn**	**20 24 23.6**	**+1.6**
BLY				*i* Sn		**Sb**	**20 24 50.8**	**+0.1**
BLY	**Banja Luka**	**2.08**	**327**	*e*Pn		**Pn**	**20 24 23.6**	**+1.6**
BLY				*i* Sn		**Sb**	**20 24 50.8**	**+0.1**
SVIS	**Svilajnac**	**2.18**	**54**	*e*Pn		**Pb**	**20 24 25.7**	**-1.0**
SVIS				*e*Sn		**Sb**	**20 24 53.3**	**-0.5**
SKO	**Skopje**	**2.24**	**117**	*i* Pg		**Pn**	**20 24 50.9**	**-1.4**
SKO				*i* Sg		**Sn**	**20 24 50.1**	**-2.0**
SKO				*i* Lg		Lg	20 25 02.8	
	comp=N,62nm,1.4s							
SKO				*i* Lg		Lg	20 25 04.0	
	comp=E,27nm,0.6s							
SKO	**Skopje**	**2.24**	**117**	*i* Pg		**Pn**	**20 24 22.9**	**-1.4**
SKO				*i* Sg		**Sn**	**20 24 50.1**	**-2.0**
SKO				*i* Lg		Lg	20 25 03.9	
	comp=E,27nm,0.6s							
FGSL	**Fruska Gora**	**2.28**	**19**	⇑*i*	Pn	**Pn**	**20 24 24.3**	**-0.5**
FGSL					*e*Sn	**Sn**	**20 24 55.2**	**+2.2**
FRGS	**Fruska Gora**	**2.28**	**19**	⇑*i*	Pn	**Pn**	**20 24 24.3**	**-0.5**
FRGS					*e*Sn	**Sn**	**20 24 55.2**	**+2.2**
BOLS	**Boljevac**	**2.47**	**70**	*e*Pn		**Pn**	**20 24 29.3**	**+1.8**
BOLS				*e*Sn		**Sb**	**20 25 00.6**	**-1.5**
BOLS	**Boljevac**	**2.47**	**70**	*e*Pn		**Pn**	**20 24 29.3**	**+1.8**
BOLS				*e*Sn		**Sb**	**20 25 00.6**	**-1.5**
UDBI	**Udbina**	**2.64**	**306**	*e*Pn		**Pb**	**20 24 32.9**	**-1.7**
UDBI					Sn	**Sb**	**20 25 09.3**	**+2.1**
UDBI	**Udbina**	**2.64**	**306**	*e*Pn		**Pb**	**20 24 32.9**	**-1.7**
BIA	**Bitola**	**2.76**	**135**	*i* Pg		**Pn**	**20 24 30.7**	**-0.8**
BIA				*i* Sg		**Sn**	**20 25 05.3**	**+0.3**
BIA	**Bitola**	**2.76**	**135**	*i* Pg		**Pn**	**20 24 30.7**	**-0.8**
BIA				*i* Sg		**Sn**	**20 25 05.3**	**+0.3**
ZAPS	**Zavoj**	**2.85**	**83**	*e*Pn		**Pn**	**20 24 34.7**	**+1.9**
ZAPS				*i* Sn		**Sn**	**20 25 09.1**	**+1.9**
ZAPS	**Zavoj**	**2.85**	**83**	*e*Pn		**Pn**	**20 24 34.7**	**+1.9**
ZAPS				*i* Sn		**Sn**	**20 25 09.1**	**+1.9**
PKSM	**Moragy**	**3.20**	**359**	⇑*i*	P	**Pn**	**20 24 37.2**	**-0.3**
PKSM	**Moragy**	**3.20**	**359**	⇑*i*	P	**Pn**	**20 24 37.2**	**-0.3**
NVLJ	**Novalja**	**3.21**	**300**	*e*Pn		**Pn**	**20 24 39.7**	**+2.1**
NVLJ					Sn	**Sb**	**20 25 20.3**	**-3.1**
NVLJ	**Novalja**	**3.21**	**300**	*e*Pn		**Pn**	**20 24 39.7**	**+2.1**
VAY	**Valandovo**	**3.30**	**119**	*i* Pg		Pn	20 24 41.8	+2.8
VAY				*i* Sg		**Sb**	**20 25 23.8**	**-2.3**
VAY				*i* Lg		Lg	20 25 28.9	
	comp=N,9.1nm,0.6s							
VAY				*i* Lg		Lg	20 25 29.2	
	comp=E,8.5nm,0.7s							
VAY	**Valandovo**	**3.30**	**119**	*i* Pg		Pn	20 24 41.7	+2.8
VAY				*i* Lg		Lg	20 25 29.2	
	comp=E,8.5nm,0.7s							
VTS	**Vitosha**	**3.31**	**96**	⇑*i*	P	**Pb**	**20 24 44.2**	**-1.7**
BZS	**Buzias**	**3.32**	**37**	⇓*i*	P	**Pn**	**20 24 40.0**	**+0.9**
BZS	**Buzias**	**3.32**	**37**	⇓*i*	P	**Pn**	**20 24 40.0**	**+0.9**
GZR	**Gura Zlata**	**3.75**	**49**	⇓*i*	P	**Pn**	**20 24 45.8**	**+0.7**
GZR	**Gura Zlata**	**3.75**	**49**	⇓*i*	P	**Pn**	**20 24 45.8**	**+0.7**
SOKA	**Soboth**	**4.52**	**325**	⇑*i*	Pn	**Pn**	**20 24 56.5**	**+0.8**
SOKA				⇓*i*	Sn	**Sn**	**20 25 48.0**	**-0.4**
SOKA	**Soboth**	**4.52**	**325**		Pn	**Pn**	**20 24 56.5**	**+0.8**
SOKA					Sn	**Sn**	**20 25 48.0**	**-0.4**
OBKA	**Obir**	**4.60**	**321**	⇓*i*	Pn	**Pn**	**20 24 58.1**	**+1.2**
OBKA				⇑*i*	Sn	**Sn**	**20 25 51.7**	**+1.2**
OBKA	**Obir**	**4.60**	**321**		Pn	**Pn**	**20 24 58.1**	**+1.2**
OBKA					Sn	**Sn**	**20 25 51.7**	**+1.2**
ARSA	**Arzberg**	**4.81**	**333**	⇓*i*	Pn	**Pn**	**20 25 00.3**	**+0.6**
ARSA				⇑*i*	Sn	**Sn**	**20 25 57.8**	**+2.2**
ARSA	**Arzberg**	**4.81**	**333**		Pn	**Pn**	**20 25 00.3**	**+0.6**
ARSA					Sn	**Sn**	**20 25 55.3**	**-0.3**
ARR	**Arges**	**4.84**	**59**	⇑*i*	P	**Pn**	**20 25 02.0**	**+1.9**
ARR	**Arges**	**4.84**	**59**	⇑*i*	P	**Pn**	**20 25 02.0**	**+1.9**

IDC 05 20:26:14.0±1.8, 7°.43S×158°.12E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=42.8km s-min=16.3km az=38.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.69**	**138**	Pn		Pn	20 26 56.7	-1.8
	6.3nm,0.3s,baz=172,slow=7.1,SNR=2.0							
HNR				Pg		Pg	20 27 04.6	-0.9
	12nm,0.3s,baz=281,slow=5.2,SNR=3.8							
HNR				Lg		Lg	20 27 39.7	
	48nm,0.3s,baz=100,slow=18,SNR=5.9							
WRA	**Warramunga Arr**	**26.19**	**239**	P		P	20 31 51.5	+0.9
	0.9nm,0.9s,baz=68,slow=9.1,SNR=5.3							
ASAR	**Alice Springs**	**28.29**	**233**	P		P	20 32 08.6	-0.9
	0.5nm,0.9s,baz=62,slow=11,SNR=3.4							
MKAR	**Makanchi Array**	**85.79**	**318**	P		P	20 38 55.4	0.0
	0.2nm,0.8s,baz=98,slow=4.4,SNR=2.5							

DJA 05 20:28:55.2±0.3, 2°.S±3°×12°.1E±°, h10km, M3.7/10, MLv3.7/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.54**	**7**	P		Pn	20 29 21.4	-1.3
APSI				S		Sb	20 29 43.2	-0.2
KKSI	**Kolaka, Sulawe**	**1.72**	**174**	P		x	20 29 24.8	
TTSI	**Tana Toraja**	**1.74**	**250**	P		Pn	20 29 21.1	-4.4
LUWI	**Luwuk**	**1.92**	**43**	P		Pn	20 29 27.0	-0.9
LUWI				S		Sb	20 29 54.1	-0.2
SPSI	**Sidrap Palu**	**2.26**	**228**	P		Pn	20 29 32.6	-0.1
SPSI				S		Sb	20 30 02.6	-1.6
BNSI	**Bone**	**2.36**	**215**	P		Pn	20 29 33.1	-1.0
MMSI	**Mamuju**	**2.56**	**265**	P		x	20 29 36.4	
MRSI	**Marisa**	**2.95**	**9**	P		Pn	20 29 41.1	-1.0
BKSI	**Bulukumba**	**3.15**	**205**	P		Pn	20 29 45.0	+0.1
GTOI	**Gorontalo**	**3.44**	**27**	P		Pn	20 29 48.4	-0.4
TOLI	**Toli-Toli**	**3.61**	**349**	P		x	20 29 51.6	

*IDC **05** 20:33:33.6±3.3, 13°.83N×92°.13W, h0km, mb3.6/2, mb1 4.1/4, mb1mx3.7/23, mbtmp3.7/4, ML4.2/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/45, Error ellipse: s-maj=66.1km s-min=26.4km az=167.0*

ISC 05 20:33:40.2±2.2, 13°.9N±0°.2×92°.1W±0°.1, h54km, n8, σ1§74/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.89**	**54**	Pn		**Pn**	**20 34 08.7**	**-1.7**
	9.9nm,0.3s,baz=231,slow=5.2,SNR=160							
APG				Sn		**Sn**	**20 34 36.0**	**+2.7**
	38nm,0.3s,baz=98,slow=18,SNR=11							
TEIG	**Tepich**	**7.26**	**29**	Pn		**Pn**	**20 35 23.9**	**+0.2**
	5.2nm,0.3s,baz=32,slow=3.4,SNR=13							
TEIG				Sn		**Sn**	**20 36 43.7**	**-1.1**
	0.3nm,0.3s,baz=253,slow=19,SNR=3.6							
JTS	**JuntasAbangare**	**7.80**	**116**	LR		LR	20 37 58.6	
	comp=Z,45nm,19.5s,baz=73,slow=34							
TXAR	**Lajitas Array**	**18.76**	**327**	P		**P**	**20 37 54.9**	**-0.2**
	0.1nm,0.3s,baz=149,slow=13,SNR=4.5							
NVAR	**Mina Array Bea**	**33.73**	**321**	P		**P**	**20 40 18.1**	**+1.3**
	0.5nm,0.6s,baz=130,slow=9.6,SNR=4.9							
YKA	**Yellowknife Ar**	**51.12**	**347**	P		**P**	**20 42 36.1**	**-1.2**
	0.7nm,0.7s,baz=148,slow=7.8,SNR=13							
PLCA	**Paso Flores**	**57.89**	**161**	LR		LR	21 03 32.2	
	comp=Z,67nm,21.6s,baz=135,slow=31							
CMAR	**Chiang Mai Arr**	**146.08**	**341**	PKPbc		**PKPab**	**20 53 16.3**	**+0.5**
	1.1nm,0.8s,baz=336,slow=3.5,SNR=11							

*IDC **05** 20:49:25.4±1.0, 8°.66S×157°.11E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/19, mbtmp3.8/6, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=27.9km s-min=14.9km az=10.0*

ISC 05 20:49:26.9±1.0, 8°.7S±0°.2×157°.30E±0°.0, h16km, n8, σ1§01/8, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.71**	**105**	Pn		**Pb**	**20 50 14.7**	**-0.4**
	16nm,0.3s,baz=221,slow=3.8,SNR=26							
HNR				Pg		**Pg**	**20 50 19.1**	**+0.2**
	31nm,0.3s,baz=220,slow=7.9,SNR=26							
HNR				Lg		Lg	20 50 55.2	
	24nm,0.3s,baz=314,slow=18,SNR=8.3							
**HNR

0.5nm,0.7s,baz=117,slow=4.7,SNR=6.7

IDC 05 21:18:28.7±1.1, 9°17S×158°04E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=36.1km s-min=21.1km az=177.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.90**	**98**	Pn	Pn	21 19 02.5	+0.2
	74nm,0.3s,baz=202,slow=5.9,SNR=12						
HNR				Sn	Sb	21 19 28.3	-0.3
	85nm,0.3s,baz=319,slow=19,SNR=5.3						
HNR	**Honiara**	**1.90**	**98**	*e*P	Pn	21 19 02.0	-0.4
WRA	**Warramunga Arr**	**25.28**	**242**	P	P	21 23 58.0	+1.0
	1.2nm,0.8s,baz=68,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**27.20**	**235**	P	P	21 24 13.6	-0.8
	0.7nm,0.8s,baz=74,slow=8.1,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**28.79**	**17**	T	T	21 53 16.2	
	baz=199,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.79**	**17**	T	T	21 53 13.7	
	baz=199,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.80**	**17**	T	T	21 53 16.6	
	baz=199,SNR=6.6						
SONM	**Songino Array**	**72.80**	**326**	P	P	21 29 59.8	+0.5
	0.4nm,0.8s,baz=128,slow=5.1,SNR=3.4						
MKAR	**Makanchi Array**	**87.02**	**318**	P	P	21 31 15.2	-1.0
	0.4nm,0.6s,baz=104,slow=6.5,SNR=6.8						

IDC 05 21:45:59.9±1.4, 43°94N×28°29W, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/29, mbtmp3.3/4, MS3.6/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=78.1km s-min=28.8km az=45.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRAC	**Vranov**	**30.93**	**64**	LR	LR	22 03 42.0	
	comp=Z,82nm,18.3s,baz=180,slow=34						
TORD	**Torodi Ar. Bea**	**40.02**	**131**	P	P	21 53 36.5	-0.1
	0.6nm,0.8s,baz=330,slow=7.7,SNR=3.6						
DBIC	**Dimbokro**	**42.43**	**144**	LR	LR	22 09 38.9	
	comp=Z,67nm,18.3s,baz=96,slow=33						
YKA	**Yellowknife Ar**	**50.65**	**323**	P	P	21 55 00.4	0.0
	0.2nm,0.9s,baz=81,slow=8.3,SNR=2.7						
TXAR	**Lajitas Array**	**60.25**	**283**	P	P	21 56 10.1	-0.1
	0.3nm,0.7s,baz=60,slow=5.3,SNR=3.5						
ILAR	**Eielson Array**	**61.54**	**335**	P	P	21 56 18.1	-0.1
	0.4nm,0.9s,baz=46,slow=6.4,SNR=3.7						

*ISCJB **05** 21:46:11.3±0.3, 0.°07S±0.°04×122.°90E±0.°04, h141km±3km, mb3.5/12, Error ellipse: s-maj=7.7km s-min=5.3km az=35.7*

*DJA **05** 21:46:13.5±0.5, 0.°5S×12.°3E±.°, h117km±5km, M4.5/11, mb4.7/1, mB5.1/1, MLv4.4/11, Mw(mB)4.5/1*

*IDC **05** 21:46:14.2±2.4, 0.°04S×123.°01E, h159km±21km, mb3.3/12, mb1 3.5/12, mb1mx3.4/21, mbtmp3.3/12, Error ellipse: s-maj=26.9km s-min=11.3km az=70.0*

ISC 05 21:46:12.0±0.7, 0.°11S±0.°05×122.°93E±0.°05, h141km±5km, n47, σ1°66/54, mb3.6/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.75**	**7**	P	**Pn**	**21 46 34.5**	**+0.6**
LUWI	**Luwuk**	**0.94**	**189**	P	**Pn**	**21 46 34.4**	**-1.0**
LUWI				S	**Sn**	**21 46 50.8**	**-2.4**
LUWI	**Luwuk**	**0.94**	**189**	P	**Pn**	**21 46 34.2**	**-1.2**
	baz=1.6,SNR=181						
LUWI				S	**Sn**	**21 46 50.6**	**-2.6**
	baz=1.6,SNR=15						
MRSI	**Marisa**	**1.15**	**301**	P	**Pn**	**21 46 35.6**	**-1.6**
MRSI				S	**Sn**	**21 46 53.9**	**-2.5**
KMSI	**Cibinong**	**1.26**	**57**	P	**Pn**	**21 46 39.4**	**+1.1**
KMSI				S	**Sn**	**21 47 01.7**	**+3.3**
APSI	**Ampana**	**1.50**	**238**	P	**Pn**	**21 46 40.4**	**-0.5**
TOLI	**Toli-Toli**	**2.46**	**300**	P	x	21 46 52.4	
TOLI				S	x	21 47 22.7	
TTSI	**Tana Toraja**	**4.26**	**227**	P	**Pn**	**21 47 15.4**	**0.0**
TNTI	**Ternate**	**4.53**	**79**	P	**Pn**	**21 47 19.2**	**+0.2**
LBMI	**Labuha**	**4.61**	**97**	P	**Pn**	**21 47 21.9**	**+1.9**
LBMI				S	**Sn**	**21 48 10.2**	**-2.8**
MMSI	**Mamuju**	**4.76**	**237**	P	x	21 47 23.2	
SPSI	**Sidrap Palu**	**4.96**	**219**	P	**Pn**	**21 47 25.8**	**+1.1**
NLAI	**Namlea**	**5.20**	**127**	P	**Pn**	**21 47 28.2**	**+0.2**
FAKI	**Fak Fak**	**9.73**	**107**	P	**Pn**	**21 48 27.4**	**-1.2**
	baz=9.9,SNR=12						
WSI	**Waingapu**	**9.85**	**195**	P	**Pn**	**21 48 31.7**	**+1.5**
	baz=10,SNR=5.1						
MTN	**Manton Dam**	**15.04**	**148**	P	**P**	**21 49 38.9**	**-0.5**
	baz=16,SNR=5.2						
KDU	**Kakadu**	**15.68**	**143**	P	**P**	**21 49 47.5**	**+1.0**
	baz=16,SNR=4.5						
KNRA	**Kununurra**	**16.51**	**160**	P	**P**	**21 49 59.0**	**+3.4**
	baz=17,SNR=4.4						
JAY	**Jayapura**	**17.93**	**98**	S	**S**	**21 53 27.4**	**-2.9**
	baz=18,SNR=3.1						
WRA	**Warramunga Arr**	**22.66**	**151**	P	**P**	**21 51 01.4**	**-0.2**
	1.3nm,0.6s,baz=329,slow=10,SNR=28						
WRA				ScP	**ScP**	**21 58 11.8**	**-2.4**
	0.4nm,0.6s,baz=322,slow=2.8,SNR=4.9						
MANU	**Manus Island**	**24.51**	**95**	S	**S**	**21 55 24.1**	**-5.0**
	baz=24,SNR=4.0						
WRKA	**Warakurna**	**25.32**	**169**	P	**P**	**21 51 26.3**	**+0.5**
	baz=26,SNR=11						
ASAR	**Alice Springs**	**25.73**	**156**	P	**P**	**21 51 31.2**	**+1.7**
	0.3nm,0.5s,baz=346,slow=15,SNR=10						
ASAR				PcP	**PcP**	**21 54 55.4**	**-0.7**
	0.3nm,0.3s,baz=338,slow=1.9,SNR=6.3						
ASAR				ScP	**ScP**	**21 58 21.6**	**-1.1**
	0.3nm,0.6s,baz=350,slow=3.2,SNR=4.0						
QIS	**Mount Isa**	**26.06**	**142**	P	**P**	**21 51 34.0**	**+1.5**
	baz=27,SNR=5.0						
MEEK	**Meekatharra**	**26.70**	**189**	P	**P**	**21 51 37.9**	**-0.3**
	baz=28,SNR=3.1						
CMAR	**Chiang Mai Arr**	**29.93**	**309**	P	**P**	**21 52 08.2**	**+1.3**
	1.0nm,0.5s,baz=133,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**36.20**	**153**	P	**P**	**21 53 02.0**	**+0.8**
	0.6nm,0.3s,baz=10,slow=11,SNR=3.6						
HTT	**Hallett**	**36.40**	**157**	P	**P**	**21 53 05.7**	**+2.7**
	baz=37,SNR=3.4						
MJAR	**Matsushiro Arr**	**39.13**	**20**	P	**P**	**21 53 24.9**	**-1.0**
	0.6nm,0.5s,baz=184,slow=11,SNR=4.2						
ODAN	**Odare**	**43.44**	**311**	*e*P	**P**	**21 54 03.0**	**+1.5**
	5.1nm,0.5s						
TAPN	**Taplejung**	**43.46**	**312**	*e*P	**P**	**21 54 01.7**	**0.0**
	3.4nm,0.4s						
RAMN	**Ramite**	**44.09**	**311**	*e*P	**P**	**21 54 08.7**	**+2.1**
	14nm,0.5s						
JIRN	**Jiri**	**44.77**	**311**	*e*P	**P**	**21 54 12.6**	**+0.4**
	9.8nm,0.5s						
USRK	**Ussuriysk Arra**	**44.85**	**9**	P	**P**	**21 54 12.0**	**-0.1**
	0.9nm,0.5s,baz=193,slow=5.1,SNR=7.8						
GUN	**Gumba**	**45.13**	**311**	*e*P	**P**	**21 54 15.5**	**+0.4**
	10nm,0.4s						
PKI	**Pulchoki**	**45.31**	**311**	*e*P	**P**	**21 54 17.5**	**+1.0**
	3.2nm,0.5s						
KKN	**Kakani**	**45.52**	**311**	*e*P	**P**	**21 54 18.2**	**+0.2**
DMN	**Daman**	**45.56**	**310**	*e*P	**P**	**21 54 19.6**	**+1.3**
	7.4nm,0.6s						
GKN	**Gorkha**	**46.12**	**311**	*e*P	**P**	**21 54 23.3**	**+0.7**
	5.9nm,0.5s						
DANN	**Dangsing**	**46.96**	**310**	*e*P	**P**	**21 54 29.5**	**+0.2**
	10.0nm,0.5s						
SONM	**Songino Array**	**49.87**	**345**	P	**P**	**21 54 51.6**	**+0.6**
	0.5nm,0.5s,baz=162,slow=9.1,SNR=11						
SONM				PcP	**PcP**	**21 56 08.3**	**-1.1**
	0.3nm,0.7s,baz=159,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**58.67**	**328**	P	**P**	**21 55 54.2**	**-0.5**
	0.5nm,0.3s,baz=125,slow=8.2,SNR=19						
PETK	**Petropavlovsk-**	**60.42**	**23**	P	**P**	**21 56 06.4**	**-0.1**
	1.1nm,0.7s,baz=234,slow=3.4,SNR=3.9						
BVAR	**Borovoye Array**	**68.54**	**329**	P	**P**	**21 56 59.3**	**+0.1**
	0.2nm,0.5s,baz=123,slow=10,SNR=3.4						
VNDA	**Vanda**	**80.15**	**172**	P	**P**	**21 58 06.6**	**+0.7**
	1.6nm,0.8s,baz=338,slow=2.6,SNR=3.1						
ILAR	**Eielson Array**	**90.13**	**25**	P	**P**	**21 58 54.9**	**-1.2**
	0.2nm,0.5s,baz=241,slow=5.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**120.36**	**285**	PKP	**PKPdf**	**22 04 46.3**	**-1.3**
	0.7nm,0.6s,baz=19,slow=2.9,SNR=11						

*IDC **05** 21:55:13.6±1.1, 8.°51S×157.°04E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, ML4.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=27.8km s-min=23.9km az=15.0*

*ISCJB **05** 21:55:15.1±0.8, 8.°5S±0.°2×156.°99E±0.°07, h19km, mb3.6/6, Error ellipse: s-maj=22.5km s-min=9.1km az=11.2*

ISC 05 21:55:16.2±0.9, 8.°6S±0.°2×157.°16E±0.°10, h19km, n11, σ1°69/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.88**	**108**	Pn	**Pn**	**21 56 03.1**	**+1.9**
	41nm,0.3s,baz=242,slow=5.0,SNR=18						
HNR				LR	LR	21 56 30.8	
	comp=Z,184nm,18.2s,baz=274,slow=26						
HNR				Sn	**Sb**	**21 56 40.1**	**-1.9**
	130nm,0.3s,baz=265,slow=21,SNR=9.0						
PMG	**Port Moresby**	**9.91**	**264**	LR	LR	22 01 04.9	
	comp=Z,100nm,19.7s,baz=242,slow=36						
WRA	**Warramunga Arr**	**24.81**	**240**	P	**P**	**22 00 36.8**	**-0.6**
	2.0nm,0.8s,baz=65,slow=9.6,SNR=13						
WRA				PcP	**PcP**	**22 04 13.4**	**-0.4**
	0.5nm,0.7s,baz=74,slow=2.6,SNR=4.7						
ASAR	**Alice Springs**	**26.85**	**233**	P	**P**	**22 00 54.1**	**-1.8**
	0.6nm,0.9s,baz=67,slow=8.3,SNR=4.0						
STKA	**Stephens Creek**	**27.34**	**210**	P	**P**	**22 01 01.4**	**+1.3**
	1.2nm,0.6s,baz=35,slow=15,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**28.48**	**19**	T	T	22 29 34.3	
	baz=199						
H11S2	**WAKE ISLAND Hy**	**28.48**	**19**	T	T	22 29 44.8	
	baz=199						
H11S1	**WAKE ISLAND Hy**	**28.50**	**19**	T	T	22 29 39.1	
	baz=199						
CMAR	**Chiang Mai Arr**	**63.39**	**296**	P	**P**	**22 05 46.2**	**+1.2**
	0.5nm,0.4s,baz=108,slow=4.9,SNR=5.6						
SONM	**Songino Array**	**71.81**	**327**	P	**P**	**22 06 38.1**	**+0.3**
	0.5nm,0.8s,baz=132,slow=5.7,SNR=4.0						
MKAR	**Makanchi Array**	**85.99**	**318**	P	**P**	**22 07 53.8**	**-1.7**
	0.3nm,0.4s,baz=119,slow=5.1,SNR=34						

IDC 05 22:03:46.6±5.7, 0.°64S×100.°28E, h86km±39km, mb3.2/4, mb1 3.4/5, mb1mx3.1/22, mbtmp3.2/5, Error ellipse: s-maj=178.7km s-min=21.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.68**	**338**	P	Pn	22 04 39.9	-1.6
	3.0nm,0.3s,baz=344,slow=18,SNR=6.8						
WRA	**Warramunga Arr**	**38.45**	**122**	P	P	22 11 00.1	-0.3
	0.2nm,0.3s,baz=302,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**39.83**	**128**	P	P	22 11 11.7	-0.2
	0.2nm,0.3s,baz=292,slow=6.9,SNR=4.9						
ASAR				PcP	PcP	22 13 15.6	-0.8
	0.2nm,0.5s,baz=343,slow=2.9,SNR=3.1						
MKAR	**Makanchi Array**	**49.81**	**344**	P	P	22 12 30.8	+0.1
	0.4nm,0.5s,baz=154,slow=8.9,SNR=17						
MKAR				pP	pP	22 12 50.3	-1.6
	0.2nm,0.3s,baz=155,slow=8.3,SNR=5.7						
STKA	**Stephens Creek**	**49.85**	**133**	P	P	22 12 31.9	+0.6
	0.5nm,0.3s,baz=298,slow=5.5,SNR=2.8						

*IDC **05** 22:14:49.6±4.4, 5.°67S×153.°38E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.5/19, mbtmp3.4/6, MS4.2/1, Ms1 4.2/1, ms1mx2.9/18, Error ellipse: s-maj=148.3km s-min=27.4km az=109.0*

ISC 05 22:14:56.8±4.6, 5.°7S±0.°4×153.°2E±1.°0, h43km, n8, σ0°46/7, mb3.3/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**231**	P	**P**	**22 19 59.2**	**-0.4**
	0.7nm,0.9s,baz=54,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**25.75**	**224**	P	**P**	**22 20 24.2**	**+0.5**
	0.3nm,0.7s,baz=61,slow=9.6,SNR=4.6						
PPT	**Papeete**	**57.13**	**107**	LR	LR	22 44 38.0	
	comp=Z,215nm,18.7s,baz=170,slow=31						
SONM	**Songino Array**	**67.25**	**328**	P	**P**	**22 25 47.4**	**+0.4**
	0.2nm,0.6s,baz=131,slow=5.9,SNR=2.3						
MKAR	**Makanchi Array**	**81.21**	**319**	P	**P**	**22 27 08.3**	**0.0**
	0.3nm,0.9s,baz=151,slow=3.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**82.07**	**326**	P	**P**	**22 27 12.2**	**-0.4**
	0.6nm,0.6s,baz=64,slow=6.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**84.70**	**322**	P	**P**	**22 27 25.9**	**-0.3**
	0.3nm,0.7s,baz=110,slow=3.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.90**	**287**	PKPbc	**PKPbc**	**22 34 45.7**	**-0.2**
	1.0nm,0.8s,baz=89,slow=2.3,SNR=7.1						

*IDC **05** 22:23:08.6±0.8, 14.°80S×174.°29W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/21, mbtmp4.2/12, MS4.2/16, Ms1 4.2/16, ms1mx4.1/22, Error ellipse: s-maj=38.0km s-min=16.6km az=138.0*

*ISCJB **05** 22:23:16.9±0.7, 14.°9S±0.°2×174.°1W±0.°2, h73km, mb4.0/12, Error ellipse: s-maj=31.1km s-min=14.7km az=40.0*

ISC 05 22:23:18.2±0.8, 14.°9S±0.°2×174.°1W±0.°2, h73km, n50, σ1°25/15, mb4.2/12, C,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.48**	**67**	Pn	Pn	22 23 43.3	-13
	23nm,0.3s,baz=64,slow=17,SNR=18						
AFI				Sn	Sn	22 24 09.9	-16
	70nm,0.3s,baz=181,slow=23,SNR=4.2						
RAO	**Raoul Island**	**14.72**	**193**	LR	LR	22 30 49.3	
	comp=Z,642nm,21.0s,baz=337,slow=31						
RAR	**Rarotonga**	**15.04**	**117**	LR	LR	22 31 36.7	
	comp=Z,287nm,19.4s,baz=45,slow=33						
DZM	**Mont Dzumac**	**19.75**	**246**	*e*LR	LR	22 32 39.1	
	1μm,27.5s						
DZM	**Mont Dzumac**	**19.75**	**246**	P	**Pn**	**22 27 47.2**	**+2.6**
	0.2nm,0.3s,baz=68,slow=17,SNR=5.2						
DZM				LR	LR	22 34 00.8	
	comp=Z,620nm,18.0s,baz=34,slow=33						
PAE	**Paea**	**23.73**	**100**	*e*T	T	22 52 21.3	
	8.3nm,0.3s						
PPT2	**Papeete2**	**23.73**	**100**	*e*LQ	LQ	22 32 54.9	
	2μm,26.5s						
PPT2				*e*LR	LR	22 33 54.2	
	490nm,27.2s						
PPT2	**Papeete2**	**23.73**	**100**	*e*T	T	22 52 22.4	
	8.4nm,0.3s						
TIAR	**Tiarei**	**23.95**	**100**	*e*T	T	22 52 37.8	
	6.5nm,0.3s						
TVO	**Taravao**	**24.05**	**100**	*e*T	T	22 52 45.7	
	3.8nm,0.3s						
URZ	**Urewera**	**24.54**	**197**	P	**P**	**22 28 31.6**	**+0.6**
	11nm,0.9s,baz=332,slow=6.3,SNR=7.7						
URZ				LR	LR	22 36 43.1	
	comp=Z,756nm,19.6s,baz=11,slow=33						
TBI	**Tubuai**	**24.76**	**114**	*e*LQ	LQ	22 33 21.8	
	2μm,27.0s						
TBI				*e*LR	LR	22 34 27.0	
	1μm,27.2s						
TBI	**Tubuai**	**24.76**	**114**	*e*T	T	22 53 40.5	
	38nm,0.3s						
PMOR	**Pomariorio Ree**	**25.35**	**94**	*e*T	T	22 54 22.9	
	6.1nm,0.3s						
VAH	**Vaihoa**	**25.60**	**94**	*e*T	T	22 54 40.9	
	10nm,0.3s						
HNR	**Honiara**	**25.90**	**279**	LR	LR	22 37 11.3	
	comp=Z,524nm,22.0s,baz=124,slow=33						
RKT	**Rikitea**	**37.83**	**109**	*e*LR	LR	22 40 25.4	
	472nm,29.8s						
RKT	**Rikitea**	**37.83**	**109**	*e*T	T	23 09 59.3	
	17nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**38.16**	**330**	T	T	23 11 13.6	
	baz=153,slow=77,SNR=169						
H11S3	**WAKE ISLAND Hy**	**38.17**	**330**	T	T	23 11 14.0	
	baz=153,slow=77,SNR=170						
H11S1	**WAKE ISLAND Hy**	**38.17**	**330**	T	T	23 11 14.0	
	baz=153,slow=77,SNR=151						
PMG	**Port Moresby**	**38.19**	**274**	LR	LR	22 43 52.5	
	comp=Z,304nm,18.7s,baz=106,slow=33						
H11N3	**WAKE ISLAND Hy**	**39.11**	**331**	T	T	23 12 22.2	
	baz=152,slow=77,SNR=417						
H11N1	**WAKE ISLAND Hy**	**39.12**	**331**	T	T	23 12 24.5	
	baz=152,slow=77,SNR=476						
H11N2	**WAKE ISLAND Hy**	**39.13**	**331**	T	T	23 12 24.4	
	baz=152,slow=77,SNR=413						
STKA	**Stephens Creek**	**43.69**	**239**	P	**P**	**22 31 15.5**	**-0.6**
	6.8nm,1.0s,baz=105,slow=4.7,SNR=6.6						
WRA	**Warramunga Arr**	**49.27**	**256**	P	**P**	**22 31 57.8**	**-2.2**
	2.9nm,0.8s,baz=89,slow=6.8,SNR=16						
ASAR	**Alice Springs**	**49.60**	**251**	P	P	22 31 59.5	-3.0
	9.4nm,0.8s,baz=86,slow=8.4,SNR=76						
JCJ	**Chichijima**	**59.48**	**314**	LR	LR	22 55 49.6	
	comp=Z,260nm,18.6s,baz=154,slow=33						
VNDA	**Vanda**	**63.82**	**186**	LR	LR	22 54 28.7	
	comp=Z,114nm,20.3s,baz=24,slow=29						
JOW	**Kunigami**	**69.60**	**306**	LR	LR	22 58 56.5	
	comp=Z,30nm,19.8s,baz=95,slow=31						
ASAJ	**Asahikawa**	**70.73**	**328**	LR	LR	22 58 01.7	
	comp=Z,154nm,21.3s,baz=172,slow=30						
JNU	**Nakatsue**	**70.93**	**313**	LR	LR	22 57 54.2	
	comp=Z,208nm,21.6s,baz=72,slow=30						
PETK	**Petropavlovsk-**	**71.92**	**343**	P	**P**	**22 34 34.7**	**+1.3**
	5.5nm,0.8s,baz=117,slow=8.5,SNR=5.3						
PETK				LR	LR	23 06 21.7	
	comp=Z,111nm,18.6s,baz=215,slow=36						
YBH	**Yreka Blue Hor**	**73.62**	**38**	P	**P**	**22 34 45.7**	**+1.8**
	3.2nm,0.9s,baz=182,slow=0.8						
YBH				LR	LR	22 59 43.1	
	comp=Z,244nm,19.9s,baz=252,slow=30						
NVAR	**Mina Array Bea**	**74.42**	**42**	P	**P**	**22 34 49.1**	**+0.2**
	1.2nm,0.7s,baz=227,slow=10.0,SNR=7.5						
USRK	**Ussuriysk Arra**	**76.54**	**323**	LR	LR	23 02 11.9	
	comp=Z,262nm,20.6s,baz=59,slow=31						
TXAR	**Lajitas Array**	**80.92**	**56**	P	**P**	**22 35 24.5**	**-0.5**
	0.7nm,0.9s,baz=188,slow=3.6,SNR=2.9						
ILAR	**Eielson Array**	**82.08**	**11**	P	**P**	**22 35 29.5**	**-0.7**
	2.2nm,1.0s,baz=192,slow=3.9,SNR=10						
PDAR	**Pinedale Array**	**82.36**	**42**	P	**P**	**22 35 32.1**	**-0.4**
	1.2nm,0.8s,baz=205,slow=2.9,SNR=8.1						
H03N2	**Juan Fernandez**	**86.18**	**123**	T	T	00 10 50.3	
	baz=254,slow=75,SNR=5.4						
H03N3	**Juan Fernandez**	**86.18**	**123**	T	T	00 10 44.8	
	baz=254,slow=75,SNR=5.1						
H03N1	**Juan Fernandez**	**86.19**	**123**	T	T	00 10 47.4	
	baz=254,slow=75,SNR=4.2						
MAW	**Mawson**	**88.06**	**199**	LR	LR	23 12 11.1	
	comp=Z,279nm,18.1s,baz=220,slow=33						
YKA	**Yellowknife Ar**	**89.91**	**24**	P	**P**	**22 36 08.5**	**-0.3**
	1.0nm,0.9s,baz=244,slow=4.1,SNR=6.6						
CMAR	**Chiang Mai Arr**	**91.78**	**289**	LR	LR	23 12 48.9	
	comp=Z,97nm,19.1s,baz=134,slow=32						
SONM	**Songino Array**	**93.99**	**318**	P	**P**	**22 36 27.8**	**-0.5**
	0.2nm,0.8s,baz=110,slow=5.9,SNR=3.2						
KHC	**Kasperske Hory**	**145.26**	**351**	*e*P	**PKPdf**	**22 42 47.5**	**-0.1**
GERES	**GERESS Array B**	**145.52**	**351**	PKPbc	**PKPab**	**22 42 48.8**	**+0.2**
	1.7nm,0.9s,baz=5.7,slow=2.7,SNR=7.9						
CSNA	**Conrad Observa**	**146.02**	**348**	↑iPKPdf	**PKPab**	**22 42 50.6**	**+0.1**
	7.5nm,1.6s						

WEL 05 22:28:09.5±0.6, 36.°78S×178.°28E, h113km±4km, ML3.5/6, 2C-1D, Error ellipse: s-maj=5.9km s-min=5.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**178**	PN	Pn	22 28 28.9	+0.1
MXZ				SN	Sn	22 28 42.7	-0.8
MXZ				AML	AML	22 28 44.2	
MWZ	**Matawai**	**1.67**	**201**	↑PN	Pn	22 28 38.8	+0.2
MWZ				SN	Sn	22 29 01.3	+0.7
CNGZ	**Carnagh Statio**	**1.71**	**182**	PN	Pn	22 28 39.3	+0.3
URZ	**Urewera**	**1.75**	**212**	↓PN	Pn	22 28 39.2	-0.2
URZ				SN	Sn	22 29 02.5	+0.2
RIGZ	**Rimuhau**	**1.97**	**192**	PN	Pn	22 28 42.2	-0.1
TARZ	**Mount Tarawera**	**2.03**	**224**	PN	Pn	22 28 44.0	+0.9
SNGZ	**Shannon Statio**	**2.14**	**200**	PN	Pn	22 28 44.6	+0.2
KNZ	**Kokohu**	**2.29**	**192**	PN	Pn	22 28 45.5	-0.8
RAHZ	**Arahi**	**2.34**	**203**	PN	Pn	22 28 46.8	-0.2
MHGZ	**Mahia Peninsul**	**2.39**	**187**	PN	Pn	22 28 47.1	-0.6
WHHZ	**Waihua**	**2.44**	**199**	PN	Pn	22 28 48.0	-0.3
MCHZ	**McNeill Hill**	**2.94**	**205**	PN	Pn	22 28 54.0	-0.8
CKHZ	**Cape Kidnapper**	**3.03**	**198**	PN	Pn	22 28 54.4	-1.6
KAHZ	**Kahuranaki**	**3.21**	**200**	PN	Pn	22 28 57.0	-1.4
BHHZ	**Black Hill Sta**	**3.22**	**212**	PN	Pn	22 28 58.0	-0.6
PXZ	**Pawanui**	**3.44**	**198**	↑PN	Pn	22 28 58.9	-2.4
PNHZ	**Pukenui**	**3.54**	**207**	PN	Pn	22 29 00.5	-2.2
PRHZ	**Porangahau**	**3.72**	**200**	PN	Pn	22 29 02.6	-2.5
TSZ	**Takapari Road**	**3.75**	**208**	PN	Pn	22 29 03.1	-2.5
BFZ	**Birch Farm**	**4.21**	**202**	PN	Pn	22 29 08.8	-2.9
MRZ	**Mangatainoka R**	**4.42**	**208**	PN	Pn	22 29 11.1	-3.4
CAW	**Cannon Point**	**5.00**	**209**	PN	Pn	22 29 18.3	-4.0
TCW	**Tory Channel**	**5.42**	**214**	PN	Pn	22 29 23.7	-4.2

RSPR 05 22:36:36.1, 19.°84N×64.°07W, h64km±17km, MD3.6/5, 5C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.14**	**193**	↑*e*P	Pn	22 36 55.2	-0.9
ABV	**Anegada**	**1.14**	**193**	*e*S	Sn	22 37 10.5	-0.5
STVI	**Saint Thomas**	**1.70**	**209**	↑*e*P	Pn	22 37 02.9	-0.8
MTP	**Monte Pirata**	**2.23**	**219**	↑*e*P	Pn	22 37 10.3	-0.5
MTP	**Monte Pirata**	**2.23**

	baz=323							
TWK				*e*S	Sn	22 43 13.8	-1.5	
	baz=323							
CHN4	**Tsaushan**	**2.57**	**326**	*e*P	Pn	22 42 43.1	+0.5	
	baz=319							
CHN4				*e*S	Sn	22 43 14.7	-0.8	
	baz=319							
ALS	**Alishan**	**2.60**	**331**	*e*P	Pn	22 42 42.1	-1.3	
	baz=323							
CHN5	**Tsauling**	**2.73**	**330**	*e*P	Pn	22 42 44.3	-0.5	
	baz=330							
CHN5				*e*S	Sn	22 43 18.5	-0.8	
	baz=330							

IDC ***05*** *23:03:09.2±0.9, 8.°90S×157.°93E, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.5/19, mbtmp4.4/12, ML3.7/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/27, Error ellipse: s-maj=34.8km s-min=17.7km az=126.0*

ISCJB ***05*** *23:03:11.8±0.3, 8.°94S±0.°05×157.°93E±0.°05, h23km, mb4.7/32, MS4.0/10, Error ellipse: s-maj=8.0km s-min=6.6km az=155.1*

NEIC ***05*** *23:03:14.2±0.5, 9.°02S×158.°08E, h35km, mb4.7/16, Error ellipse: s-maj=14.1km s-min=9.6km az=131.0*

BJI ***05*** *23:03:14.3, 9.°07S×157.°80E, h35km, mB5.2/15, mb4.7/23, Ms4.9/9, Ms7 4.5/10*

ISC 05 23:03:13.6±0.4, 9.°04S±0.°07×158.°00E±0.°06, h23km, n90, σ1§97/91, mb4.7/32, MS3.8/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.96**	**101**	Pn	Pn	23 03 41.3	-4.2
HNR				Sn	**Sn**	**23 04 10.4**	**+1.0**
HNR				Lg	Lg	23 04 17.6	
HNR	**Honiara**	**1.96**	**101**	Pn	Pn	23 03 41.3	-4.2
	122nm,0.3s,baz=205,slow=6.4,SNR=18						
HNR				Sn	**Sn**	**23 04 10.4**	**+1.0**
	248nm,0.3s,baz=320,slow=15,SNR=7.7						
HNR				Lg	Lg	23 04 17.6	
	664nm,0.3s,baz=60,slow=18,SNR=10						
HNR	**Honiara**	**1.96**	**101**	*i* P	**Pn**	**23 03 45.0**	**-0.5**
PMG	**Port Moresby**	**10.71**	**267**	*e*Pn	**Pn**	**23 05 46.8**	**+1.1**
PMG	**Port Moresby**	**10.71**	**267**	Pn	**Pn**	**23 05 46.0**	**+0.3**
	0.8nm,0.3s,baz=125,slow=4.6,SNR=4.8						
DZM	**Mont Dzumac**	**15.29**	**149**	LR	LR	23 11 23.6	
	comp=Z,274nm,19.6s,baz=26,slow=32						
COEN	**Coen**	**15.32**	**250**	*e*Pn	**Pn**	**23 06 50.0**	**+1.3**
	135nm,0.9s						
COEN	**Coen**	**15.32**	**250**	P	**P**	**23 06 54.5**	**+1.3**
	baz=12,SNR=7.9						
CTA	**Charters Tower**	**15.79**	**225**	Pn	**Pn**	**23 06 53.1**	**-1.6**
CTA	**Charters Tower**	**15.79**	**225**	Pn	**Pn**	**23 06 53.1**	**-1.6**
	0.2nm,0.3s,baz=49,slow=16,SNR=3.9						
CTAO	**Charters Tower**	**15.79**	**225**	*e*Pn	**Pn**	**23 06 54.5**	**-0.2**
EIDS	**Eidsvold**	**17.52**	**201**	*e*P	**P**	**23 07 18.5**	**+1.0**
	23nm,1.3s						
RMQ	**Roma**	**19.43**	**206**	P	**Pn**	**23 07 40.0**	**+0.2**
	baz=16,SNR=9.2						
KWAJ	**Kwajalein Atol**	**20.15**	**29**	PFAKE		23 08 00.0	+12
KWAJ				LR	LR		
	comp=Z,2μm,19.6s						
QIS	**Mount Isa**	**21.12**	**235**	P	**P**	**23 07 57.0**	**0.0**
	baz=17,SNR=6.9						
QLP	**Quilpie**	**21.78**	**215**	P	**P**	**23 08 04.1**	**+0.1**
	baz=18,SNR=5.8						
ARMA	**Armidale**	**22.08**	**195**	*e*P	**P**	**23 08 08.5**	**+1.2**
	comp=Z,9.2nm,0.9s						
ARMA	**Armidale**	**22.08**	**195**	P	P	23 08 13.6	+6.3
	baz=19,SNR=4.8						
WRAB	**Tennant Creek**	**25.29**	**242**	*e*P	**P**	**23 08 36.9**	**-1.7**
	comp=Z,164nm,1.8s						
WRA	**Warramunga Arr**	**25.30**	**242**	P	**P**	**23 08 37.2**	**-1.5**
WRA				PcP	**PcP**	**23 12 12.2**	**+0.6**
WRA	**Warramunga Arr**	**25.30**	**242**	P	**P**	**23 08 37.2**	**-1.5**
	comp=Z,22nm,0.9s,baz=68,slow=9.5,SNR=33						
WRA				PcP	**PcP**	**23 12 12.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=68,slow=2.2,SNR=5.6						
ASAR	**Alice Springs**	**27.24**	**235**	P	**P**	**23 08 54.1**	**-2.2**
ASAR	**Alice Springs**	**27.24**	**235**	P	**P**	**23 08 54.1**	**-2.2**
	comp=Z,8.7nm,0.9s,baz=66,slow=9.2,SNR=34						
STKA	**Stephens Creek**	**27.35**	**212**	*e*P	**P**	**23 08 58.0**	**+0.9**
	comp=Z,27nm,2.3s						
STKA	**Stephens Creek**	**27.35**	**212**	P	**P**	**23 08 58.0**	**+0.9**
	comp=Z,6.9nm,0.8s,baz=44,slow=16,SNR=11						
KNRA	**Kununurra**	**29.29**	**254**	P	**P**	**23 09 15.9**	**+1.3**
	baz=26,SNR=5.6						
HTT	**Hallett**	**29.97**	**213**	P	P	23 09 24.2	+3.7
	baz=26,SNR=3.6						
AFI	**Afiamalu**	**30.00**	**102**	LR	LR	23 19 16.4	
	comp=Z,156nm,18.9s,baz=248,slow=32						
BBOO	**Buckleboo**	**31.16**	**217**	*e*P	**P**	**23 09 29.5**	**-1.4**
	comp=Z,778nm,1.4s						
BBOO	**Buckleboo**	**31.16**	**217**	P	**P**	**23 09 33.4**	**+2.5**
	baz=27,SNR=5.1						
WRKA	**Warakurna**	**32.44**	**237**	P	**P**	**23 09 40.0**	**-2.3**
	baz=28,SNR=11						
URZ	**Urewera**	**33.80**	**152**	LR	LR	23 20 46.5	
	comp=Z,170nm,19.6s,baz=336,slow=31						
MEEK	**Meekatharra**	**41.15**	**240**	P	**P**	**23 10 55.2**	**-1.3**
	baz=37,SNR=6.5						
JAGI	**Jajag, Banyuwa**	**43.32**	**267**	*e*P	**P**	**23 11 11.4**	**-2.9**
	comp=Z,39nm,0.8s						
JAGI	**Jajag, Banyuwa**	**43.32**	**267**	P	**P**	**23 11 11.4**	**-2.9**
	baz=40,SNR=3.9						
JAGI				S	**S**	**23 17 36.5**	**-4.5**
	baz=40,SNR=4.4						
BLDU	**Ballidu**	**44.03**	**235**	P	**P**	**23 11 22.5**	**+2.7**
	baz=40,SNR=6.2						
MORW	**Morawa**	**44.07**	**237**	P	**P**	**23 11 22.8**	**+2.6**
	baz=40,SNR=4.6						
NWAO	**Narrogin (SRO)**	**44.47**	**232**	LR	LR	23 28 40.1	
	comp=Z,140nm,19.7s,baz=276,slow=34						
NACB	**Ninganchiao**	**48.51**	**314**	*e*P	**P**	**23 11 54.2**	**-0.8**
	comp=Z,23nm,1.1s						
XMIS	**Christmas Isla**	**51.56**	**264**	P	P	23 12 26.4	+7.9
	baz=48,SNR=4.4						
TBI	**Tubuai**	**52.15**	**112**	*e*T	T	23 11 33.8	
	comp=Z,22nm,0.3s						
WHN	**Wuhan**	**57.48**	**315**	P	P	23 13 08.1	+7.0
GYA	**Guiyang**	**61.05**	**307**	*e*P	**P**	**23 13 27.0**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**61.91**	**360**	P	**P**	**23 13 29.5**	**-1.8**
PETK	**Petropavlovsk-**	**61.91**	**360**	P	**P**	**23 13 29.5**	**-1.8**
	comp=Z,7.8nm,0.9s,baz=159,slow=8.9,SNR=6.4						
PETK				LR	LR	23 34 52.5	
	comp=Z,57nm,20.1s,baz=108,slow=31						
KMI	**Kunming**	**63.62**	**304**	P	**P**	**23 13 41.0**	**-2.5**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.6s						
CMAR	**Chiang Mai Arr**	**64.34**	**295**	P	**P**	**23 13 46.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**64.34**	**295**	P	**P**	**23 13 46.8**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=120,slow=4.7,SNR=9.4						
CMAR				LR	LR	23 39 15.9	
	comp=Z,32nm,19.3s,baz=145,slow=34						
CHTO	**Chiang Mai**	**64.47**	**296**	*e*P	**P**	**23 13 51.9**	**+3.0**
	comp=Z,9.1nm,1.3s						
CD2	**Chengdu**	**65.40**	**310**	*e*P	**P**	**23 13 55.8**	**+1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,140nm,4.8s						
HHC	**Hu-ho-hao-te**	**65.50**	**323**	*e*P	**P**	**23 13 56.8**	**+1.5**
HHC				sP	**sP**	**23 14 10.4**	**+5.0**
HHC				PP	**PP**	**23 16 23.5**	**+3.7**
HHC				S	**S**	**23 22 36.6**	**-2.5**
HHC				ScS	**SKSac**	**23 23 46.2**	**-3.4**
HHC				pmax	pmax		
	comp=Z,31nm,1.5s						
HHC				pmax	pmax		
	comp=Z,140nm,8.7s						
HHC				LR	LR		
	comp=Z,300nm,14.9s						
HHC				LR	LR		
	comp=Z,440nm,13.7s						
HHC				LR	LR		
	comp=Z,160nm,14.9s						
LZH	**Lanzhou**	**67.86**	**315**	*e*P	**P**	**23 14 13.3**	**+2.8**
LZH				pP	pP	23 14 24.8	+6.9
LZH				sP	sP	23 14 30.6	+10
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**72.26**	**316**	*e*P	**P**	**23 14 40.2**	**+2.7**
GTA				pP	**pP**	**23 14 49.7**	**+4.8**
GTA				sP	sP	23 14 53.7	+6.1
GTA				S	**S**	**23 24 03.0**	**+3.6**
GTA				sS	SKiKP	23 24 20.3	+7.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,170nm,5.9s						
GTA				LR	LR		
	comp=Z,130nm,16.4s						
GTA				LR	LR		
	comp=Z,89nm,16.4s						
GTA				LR	LR		
	comp=Z,74nm,16.4s						
ULN	**Ulaanbaatar**	**72.33**	**327**	*e*P	**P**	**23 14 36.5**	**-1.3**
	comp=Z,6.6nm,1.2s						
SONM	**Songino Array**	**72.67**	**326**	P	**P**	**23 14 39.5**	**-0.2**
SONM	**Songino Array**	**72.67**	**326**	P	**P**	**23 14 39.5**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=133,slow=5.3,SNR=20						
QSPA	**South Pole Qui**	**80.94**	**180**	*e*P	**P**	**23 15 26.8**	**+0.6**
	comp=Z,8.1nm,1.2s						
WMQ	**Urumqi**	**82.34**	**317**	P	**P**	**23 15 34.6**	**+0.8**
WMQ				LR	LR		
	comp=Z,28nm,22.0s						
WMQ				LR	LR		
	comp=Z,22nm,20.0s						
WMQ				LR	LR		
	comp=Z,34nm,22.2s						
MCK	**McKinley**	**82.86**	**21**	*e*P	**P**	**23 15 33.9**	**-2.2**
	comp=Z,9.5nm,1.0s						
COLA	**College**	**83.93**	**20**	P	**P**	**23 15 41.5**	**+0.1**
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**84.20**	**21**	P	**P**	**23 15 40.4**	**-2.5**
ILAR	**Eielson Array**	**84.20**	**21**	P	**P**	**23 15 40.4**	**-2.5**
	comp=Z,0.9nm,0.9s,baz=264,slow=4.9,SNR=7.1						
ILAR				LR	LR	23 53 42.1	
	comp=Z,81nm,18.2s,baz=304,slow=36						
MK31	**Makanchi Array**	**86.90**	**318**	*e*P	**P**	**23 15 54.4**	**-2.3**
MKAR	**Makanchi Array**	**86.90**	**318**	*e*P	**P**	**23 15 54.6**	**-2.2**
MKAR	**Makanchi Array**	**86.90**	**318**	P	**P**	**23 15 54.7**	**-2.0**
	comp=Z,3.3nm,0.7s,baz=94,slow=3.7,SNR=20						
ZAA0	**Zalesovo Array**	**87.53**	**326**	*e*P	**P**	**23 15 57.1**	**-2.5**
ZALV	**Zalesovo Beam**	**87.53**	**326**	P	**P**	**23 15 56.5**	**-3.1**
ZALV	**Zalesovo Beam**	**87.53**	**326**	P	**P**	**23 15 56.5**	**-3.1**
	comp=Z,1.9nm,0.6s,baz=112,slow=6.0,SNR=8.5						
KSH	**Kashi**	**89.60**	**310**	*e*P	P	23 16 13.8	+3.9
KSH				*e*sP	sP	23 16 27.3	+7.1
KSH				*e*PP	PP	23 19 49.2	+7.3
KSH				*e*SKS	**SKSac**	**23 26 39.3**	**0.0**
KSH				*e*S	**S**	**23 27 02.2**	**+2.2**
KSH				*e*sS	sS	23 27 19.1	+6.6
KSH				*e*SS	**SS**	**23 32 56.9**	**+0.4**
KSH				pmax	pmax		
	comp=Z,11nm,1.5s						
KSH				pmax	pmax		
	comp=Z,140nm,5.1s						
KSH				LR	LR		
	comp=Z,49nm,6.5s						
KSH				LR	LR		
	comp=Z,62nm,4.5s						
KSH				LR	LR		
	comp=Z,66nm,5.4s						
TKM2	**Tokmak 2**	**90.57**	**313**	*e*P	**P**	**23 16 15.3**	**+0.8**
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**23 16 14.5**	**-0.5**
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**23 16 14.5**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=254,slow=6.6,SNR=15						
AAK	**Ala-Archa**	**91.31**	**313**	*e*P	**P**	**23 16 19.1**	**+1.2**
	comp=Z,2.3nm,1.0s						
EKS2	**Erkin-Say**	**91.84**	**313**	*e*P	**P**	**23 16 19.5**	**-0.8**
	comp=Z,1.3nm,0.6s						
R11A	**Troy Canyon, C**	**92.75**	**52**	*e*P	**P**	**23 16 24.4**	**-0.2**
	comp=Z,2.7nm,0.6s						
BRVK	**Borovoye**	**95.78**	**323**	*e*P	**P**	**23 16 36.8**	**-1.2**
	comp=Z,2.3nm,0.7s						
DAU	**Daniels Canyon**	**96.35**	**50**	*e*P	**P**	**23 16 43.8**	**+2.5**
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**23 16 40.3**	**-1.8**
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**23 16 40.3**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=264,slow=4.4,SNR=2.7						
BRSD	**Miller**	**105.59**	**46**	*e*Pdif	**Pdif**	**23 17 23.9**	**+1.9**
AKASG	**Malin Array Be**	**120.92**	**325**	PKP	**PKPdf**	**23 22 01.7**	**-2.5**
AKASG	**Malin Array Be**	**120.92**	**325**	PKP	**PKPdf**	**23 22 01.7**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=68,slow=1.6,SNR=6.4						
NOA	**NORSAR Array B**	**122.59**	**342**	PKP	**PKPdf**	**23 22 08.4**	**+1.3**
NOA	**NORSAR Array B**	**122.59**	**342**	PKP	**PKPdf**	**23 22 08.4**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=41,slow=1.9,SNR=3.4						
GERES	**GERESS Array B**	**130.32**	**330**	PKP	**PKPdf**	**23 22 22.1**	**-0.3**
GERES	**GERESS Array B**	**130.32**	**330**	PKP	**PKPdf**	**23 22 22.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=40,slow=2.3,SNR=5.8						
BDFB	**Brasilia**	**144.43**	**133**	PKP	**PKPab**	**23 22 46.5**	**-0.9**
BDFB	**Brasilia**	**144.43**	**133**	PKP	**PKPab**	**23 22 46.5**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=137,slow=2.2,SNR=7.7						
TAM	**Tamanrasset**	**150.28**	**301**	*e*PKPdf	**PKPdf**	**23 22 60.0**	**+1.1**
TAM				*e*PKPbc	**PKiKP**	**23 23 05.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**156.40**	**282**	PKPbc	PKPdf	23 23 15.1	+7.4
	comp=Z,1.0nm,0.9s,baz=64,slow=3.4,SNR=2.7						

IDC ***05*** *23:10:51.5±0.7, 9.°17S×158.°11E, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.4/17, mbtmp4.3/10, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=26.6km s-min=19.0km az=153.0*

ISCJB ***05*** *23:10:52.9±0.6, 9.°2S±0.°1×158.°10E±0.°10, h23km, mb4.1/11, MS3.3/1, Error ellipse: s-maj=20.4km s-min=13.1km az=162.8*

ISC 05 23:10:54.9±0.7, 9.°2S±0.°2×158.°2E±0.°1, h23km, n22, σ1§70/15, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.74**	**99**	Pn	**Pn**	**23 11 23.6**	**-0.1**
	110nm,0.3s,baz=199,slow=4.0,SNR=16						
HNR				Lg	Lg	23 11 56.4	
	279nm,0.3s,baz=58,slow=22,SNR=4.8						
HNR	**Honiara**	**1.74**	**99**	*i* P	**Pn**	**23 11 23.0**	**-0.7**
WRA	**Warramunga Arr**	**25.43**	**242**	P	**P**	**23 16 19.5**	**-1.7**
	7.4nm,0.8s,baz=66,slow=9.1,SNR=19						
WRA				PcP	**PcP**	**23 19 55.6**	**+2.4**
	0.4nm,0.3s,baz=72,slow=2.8,SNR=5.0						
ASAR	**Alice Springs**	**27.34**	**235**	P	**P**	**23 16 36.5**	**-1.9**
	3.9nm,0.9s,baz=65,slow=8.7,SNR=11						
ASAR				LR	LR	23 27 26.4	
	comp=Z,80nm,18.9s,baz=85,slow=36						
STKA	**Stephens Creek**	**27.36**	**212**	P	**P**	**23 16 39.1**	**+0.7**
	3.0nm,0.8s,baz=32,slow=18,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**28.73**	**17**	T	T	23 45 16.3	
	baz=203,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**28.73**	**17**	T	T	23 45 20.9	
	baz=203,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.75**	**17**	T	T	23 45 19.4	
	baz=203,SNR=15						
H11N1	**WAKE ISLAND Hy**	**29.94**	**17**	T	T	23 47 15.0	
	baz=197,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**29.95**	**17**	T	T	23 47 12.3	
	baz=197,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**29.96**	**17**	T	T	23 47 17.0	
	baz=197,slow=75,SNR=4.0						
CMAR	**Chiang Mai Arr**	**64.58**	**295**	P	**P**	**23 21 30.6**	**-0.3**
	0.9nm,0.3s,baz=118,slow=5.2,SNR=6.7						
SONM	**Songino Array**	**72.88**	**326**	P	**P**	**23 22 23.9**	**+1.7**
	1.1nm,0.6s,baz=129,slow=4.7,SNR=11						
ILAR	**Eielson Array**	**84.24**	**21**	P	**P**	**23 23 22.6**	**-1.8**
	0.2nm,0.4s,baz=305,slow=5.0,SNR=4.8						
MKAR	**Makanchi Array**	**87.13**	**318**	P	**P**	**23 23 37.4**	**-1.7**
	1.9nm,0.6s,baz=98,slow=5.8,SNR=26						
ZALV	**Zalesovo Beam**	**87.75**	**325**	P	**P**	**23 23 40.8**	**-1.1**
	1.1nm,0.6s,baz=102,slow=5.3,SNR=7.7						
NVAR	**Mina Array Bea**	**90.57**	**51**	P	**P**	**23 23 56.7**	**+0.9**
	2.0nm,0.8s,baz=250,slow=7.1,SNR=11						
YKA	**Yellowknife Ar**	**96.76**	**28**	P	**P**	**23 24 22.4**	**-0.9**
	0.2nm,0.6s,baz=272,slow=4.9,SNR=3.2						
PDAR	**Pinedale Array**	**97.78**	**48**	P	Pdif	23 24 28.8	-0.1
	0.5nm,0.7s,baz=261,slow=1.3,SNR=3.6						
AKASG	**Malin Array Be**	**121.14**	**325**	PKP	**PKPdf**	**23 29 47.9**	**+2.1**
	0.5nm,0.5s,baz=49,slow=2.2,SNR=4.2						
GERES	**GERESS Array B**	**130.53**	**330**	PKP	**PKPdf**	**23 30 06.3**	**+2.3**
	0.4nm,0.5s,baz=90,slow=1.6,SNR=5.4						
BDFB	**Brasilia**	**144.20**	**133**	PKP	PKPbc	23 30 29.0	+0.8
	1.1nm,0.3s,baz=232,slow=3.2,SNR=2.9						

IDC 05 23:32:06.2±1.7, 8.°51S×157.°24E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=43.7km s-min=25.9km az=7.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.83**	**109**	Pn	Pn	23 32 51.7	-0.9
	11nm,0.3s,baz=242,slow=6.4,SNR=3.3						
HNR				Sn	Sn	23 33 29.7	+2.3
	17nm,0.3s,baz=66,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**24.90**	**240**	P	P	23 37 30.4	-0.7
	1.2nm,0.7s,baz=66,slow=9.0,SNR=6.8						
STKA	**Stephens Creek**	**27.42**	**210**	P	P	23 37 54.4	+0.7
	1.3nm,0.8s,baz=44,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**86.01**	**318**	P	P	23 44 49.0	+0.3
	0.3nm,0.6s,baz=97,slow=6.6,SNR=4.5						

DJA ***05*** *23:32:42.1±0.9, 1.°S±15.°×13.°4E±.°, h82km±13km, M3.9/5, mb3.9/1, MLv3.9/5*

ISCJB ***05*** *23:32:46.4±1.3, 0.°6S±0.°2×133.°60E±0.°08, h28km, mb3.7/3, Error ellipse: s-maj=22.5km s-min=10.0km az=15.8*

IDC ***05*** *23:32:46.0±2.1, 0.°82S×132.°93E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/26, Error ellipse: s-maj=111.5km s-min=24.8km az=72.0*

ISC 05 23:32:48.7±1.6, 0.°6S±0.°2×133.°4E±0.°1, h28km, n12, σ1§39/7, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**0.70**	**120**	P	x	23 32 57.6	
SWI	**Sorong**	**2.19**	**263**	P	**Pn**	**23 33 21.7**	**-1.6**
SWI				S	**Sb**	**23 33 54.7**	**+0.2**
FAKI	**Fak Fak**	**2.60**	**207**	P	Pn	23 33 23.3	-5.7
MSAI	**Masohi**	**5.27**	**239**	P	**Pn**	**23 34 07.1**	**+1.4**
PMG	**Port Moresby**	**16.23**	**123**	LR	LR	23 43 30.0	
	comp=Z,54nm,21.4s,baz=288,slow=39						
WRA	**Warramunga Arr**	**19.26**	**177**	P	**P**	**23 37 10.0**	**-1.3**
	0.3nm,0.3s,baz=355,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**22.95**	**179**	P	**P**	**23 37 50.2**	**-0.8**
	2.1nm,0.7s,baz=358,slow=10.0,SNR=16						
STKA	**Stephens Creek**	**32.07**	**167**	P	**P**	**23 39 13.4**	**+0.1**
	0.6nm,0.4s,baz=330,slow=8.1,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**38.51**	**57**	T	T	00 21 13.8	
	baz=245,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**38.52**	**57**	T	T	00 21 14.0	
	baz=245,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**38.52**	**57**	T	T	00 21 14.4	
	baz=245,slow=75,SNR=16						
MKAR	**Makanchi Array**	**64.93**	**324**	P	**P**	**23 43 26.9**	**+1.0**
	0.4nm,0.6s,baz=120,slow=7.4,SNR=6.4						

IDC ***05*** *23:46:30.3±2.3, 11.°59N×85.°85W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=62.1km s-min=50.4km az=91.0*

ISCJB ***05*** *23:46:49.2±0.5, 11.°70N±0.°09×86.°49W±0.°09, h124km±6km, mb3.5/3, Error ellipse: s-maj=20.3km s-min=3.7km az=136.8*

CASC ***05*** *23:46:49.3±1.9, 11.°67N×86.°52W, h119km±9km, MD3.9*

ISC 05 23:46:49.0±0.9, 11.°76N±0.°10×86.°43W±0.°10, h129km±7km, n29, σ0§95/42, mb3.4/3, 3C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.45**	**340**	*e*P	**Pn**	**23 47 07.9**	**+0.2**
COPN				*e*S	**Sn**	**23 47 23.0**	**+1.2**
HUEN		**0.63**	**24**	*e*P	**Pn**	**23 47 09.2**	**+0.5**
CNGN	**Cerro Negro**	**0.78**	**341**	*e*P	**Pn**	**23 47 09.8**	**-0.2**
CNGN				*e*S	**Sn**	**23 47 25.3**	**-0.5**
GBS2	**Las Lilas**	**1.33**	**133**	*i* P	**Pn**	**23 47 15.3**	**+0.2**
GBS2				*i* S	**Sn**	**23 47 34.8**	**-0.2**
GBS3	**Finca Las Im¯¡**	**1.36**	**135**	*i* P	**Pn**	**23 47 15.8**	**+0.2**
BUEV	**Buena Vista**	**1.39**	**133**	*i* P	**Pn**	**23 47 16.1**	**+0.2**
BUEV				*i* S	**Sn**	**23 47 36.0**	**-0.2**
LAPC	**Finca la Perla**	**1.39**	**135**	*i* P	**Pn**	**23 47 15.7**	**-0.1**
LAPC				*i* S	**Sn**	**23 47 35.5**	**-0.7**
NY14	**Universidad de**	**1.41**	**141**	*i* P	**Pn**	**23 47 16.8**	**+0.8**
NY14				*i* S	**Sn**	**23 47 37.5**	**+1.0**
GPS2	**Hotel Rinc¯‡n**	**1.46**	**133**	*i* P	**Pn**	**23 47 16.9**	**+0.3**
GPS2				*i* S	**Sn**	**23 47 37.8**	**+0.2**
MESS	**Mesas**	**1.58**	**130**	*i* P	**Pn**	**23 47 18.2**	**+0.2**
CUI	**Cuipilapa**	**1.66**	**131**	*i* P	**Pn**	**23 47 19.1**	**+0.2**
PTEN	**Parque Tenorio**	**1.75**	**126**	*i* P	**Pn**	**23 47 20.2**	**+0.2**
VCR	**Vista de Mar**	**1.80**	**154**	*i* P	**Pn**	**23 47 21.6**	**+0.9**
VCR				*e*S	**Sn**	**23 47 43.9**	**-0.8**
CNCH	**Conchagua**	**2.04**	**318**	*e*P	**Pn**	**23 47 23.9**	**+0.4**
CNCH				*e*S	**Sn**	**23 47 49.2**	**-0.7**
JCR	**Jicaral**	**2.30**	**145**	*i* P	**Pn**	**23 47 27.5**	**+0.8**
JCR				*e*S	**Sn**	**23 47 54.3**	**-1.2**
VSM	**San Miguel**	**2.45**	**313**	*e*P	**Pn**	**23 47 29.2**	**+0.6**
CGA2	**Cerro Gallo 2**	**2.59**	**132**	*e*P	**Pn**	**23 47 31.0**	**+0.5**
CGA2				*e*S	**Sn**	**23 48 03.6**	**+1.3**
SNVI	**San Vicente**	**2.99**	**308**	*e*P	**Pn

PLIG	**Platanillo**	**3.01**	**323**	*i*	P	Pn	23	59	21.6 -3.0
PLIG				*e*	S	Sn	23	59	57.1 -3.2
YAIG	**Yautepec**	**3.19**	**334**	*i*	P	Pn	23	59	25.2 -1.9
YAIG				*i*	S	Sn	00	00	02.0 -2.9
ARIG	**Puente Sto Nin**	**3.48**	**311**	*i*	P	Pn	23	59	28.1 -3.0
ARIG				*i*	S	Sn	00	00	07.5 -4.3

IDC 06 00:05:32.0±2.0, 6°47S×130°17E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=109.5km s-min=31.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.99**	**164**	Pn	Pn	00 08 51.9	+0.2
	0.2nm,0.3s,baz=344,slow=12,SNR=5.6						
WRA				Sn	Sn	00 11 15.3	-13
	0.6nm,0.3s,baz=333,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**17.47**	**169**	P	Pn	00 09 37.1	-0.2
	0.1nm,0.3s,baz=340,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	00 16 32.4	0.0
	0.2nm,0.4s,baz=122,slow=7.4,SNR=11						

PGC 06 00:15:22.6±0.0, 63°54N×129°02W, h10km, ML3.5/6, 10D, 226km southwest of Norman Wells, Nt Northwest Territories, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHY	**Whitehorse**	**3.99**	**226**	⇓Pn	Pn	00 16 22.7	-1.2
WHY				⇓Pg	Pb	00 16 34.9	+1.7
WHY				⇑Sg	Sb	00 17 23.8	+2.1
DAWY	**Dawson**	**4.63**	**281**	⇑Pn	Pn	00 16 31.3	-1.4
DAWY				⇑Pg	Pb	00 16 46.0	+2.0
DAWY				⇓Sn	Sn	00 17 21.9	-4.6
DAWY				⇑Sg	Sg	00 17 46.8	-4.5
HYT	**Haines Junctio**	**4.82**	**239**	⇓Pn	Pn	00 16 34.3	-1.0
HYT				⇑Sg	Sb	00 17 50.2	+4.8
INK	**Inuvik**	**5.13**	**341**	⇓Pn	Pn	00 16 37.6	-1.8
INK				⇑Sn	Sn	00 17 35.4	-3.1
DLBC	**Dease Lake**	**5.14**	**186**	⇓Pn	Pn	00 16 38.8	-0.9
DLBC				⇑Sn	Sn	00 17 35.4	-3.8
DLBC				⇑Sg	Sg	00 18 01.4	-6.4
GALN	**Gameti Lake**	**5.21**	**78**	⇓Pn	Pn	00 16 39.0	-1.6
FNBB	**Fort Nelson**	**5.49**	**145**	⇓Sn	Sn	00 17 44.9	-2.8
CTLN	**Castor Lake**	**5.79**	**75**	⇑Pn	Pn	00 16 47.3	-1.2
CTLN				⇓Sn	Sn	00 17 51.0	-3.9
YKW3	**Yellowknife Ar**	**6.62**	**92**	⇓Pn	Pn	00 16 58.1	-1.7
YKW3				⇑Sn	Sn	00 18 09.7	-5.5

MEX 06 00:17:00.9±0.4, 18°23N×100°09W, h49km±4km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.25**	**283**	*i* P	Pn	00 17 07.8	-1.7
ARIG				*i* S	Sn	00 17 14.0	-1.7
PLIG	**Platanillo**	**0.58**	**73**	*i* P	Pn	00 17 11.6	-1.6
PLIG				*i* S	Sn	00 17 20.1	-1.9
MAVM	**Malinalco, Edo**	**0.92**	**38**	*e*P	Pn	00 17 15.8	-2.0
MAVM				*i* S	Sn	00 17 28.2	-2.0
YAIG	**Yautepec**	**1.16**	**57**	*e*P	Pn	00 17 19.0	-1.9
YAIG				*e*S	Sn	00 17 33.5	-2.3
MZVM		**1.26**	**40**	*e*P	Pn	00 17 20.6	-1.5
MZVM				*e*S	Sn	00 17 35.8	-2.1
ZIIG	**Zihuatanejo**	**1.45**	**245**	*e*P	Pn	00 17 23.5	-1.2
ZIIG				*i* S	Sn	00 17 40.6	-2.0
TLIG	**Tlapa**	**1.59**	**114**	*e*P	Pn	00 17 26.0	-0.8
TLIG				*e*S	Sn	00 17 44.0	-2.3
MOIG	**Morelia**	**1.78**	**324**	*i* P	Pn	00 17 28.7	-0.9
MOIG				*i* S	Sn	00 17 49.0	-2.3
MMIG	**Aquila**	**3.10**	**272**	*e*P	Pn	00 17 46.1	-1.2
MMIG				*e*S	Sn	00 18 21.4	-1.7

*MEX **06** 00:28:29.5±0.3, 13°.87N×92°.43W, h18km, MD5.0*
*GCG **06** 00:28:31.1, 13°.76N×92°.21W, h30km, MD4.9*
*ISCJB **06** 00:28:33.7±0.4, 14°.26N±0°.03×91°.92W±0°.03, h71km±3km, mb4.8/178, Error ellipse: s-maj=5.8km s-min=2.7km az=39.7*
*MOS **06** 00:28:34.2±1.0, 14°.34N×91°.78W, h72km, mb5.3/47, Error ellipse: s-maj=8.8km s-min=4.8km az=103.6*
*GCMT **06** 00:28:34.8±0.2, 14°.02N×92°.51W, h26km, MW5.2/81, Moment Tensor Solution. s81,c128; s80,c133; Duration: 1ᵻ0 Moment tensor: Scale 10¹⁷Nm; Mrr0.69±.02; Mθθ-0.57±.01; Mϕϕ-0.11±.01; Mrθ0.50±.03; Mθϕ0.26±.01; Mϕr-0.12±.03; Best double couple: M₀0.86200×10¹⁷ NP1₍ϕs108.00000°, δ63.00000°, λ84.00000°. NP2₍ϕs301.00000°, δ27.00000°, λ101.00000°. Principal axes: T 0.8640, Plg71.0000°, Azm5.0000°; N -0.0040, Plg5.0000°, Azm111.0000°; P -0.8600, Plg18.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 00:28:34.9±0.6, 14°.22N×91°.88W, h68km±4km, mb5.0/145, MD4.9(MEX) Error ellipse: s-maj=6.0km s-min=3.3km az=220.0*
NEIC Felt [II] at Guatemala. Also felt at Antigua Guatemala, Chichicastenango, Escuintla, Mixco and Quetzaltenango.
*SZGRF **06** 00:28:35.5, 14°.10N×90°.54W, h33km, mb4.7, MS4.5, Guatemala*
*BJI **06** 00:28:36.0, 14°.30N×91°.90W, h79km, mB5.2/12, Ms5.0/7, Ms7 4.7/11*
*IDC **06** 00:28:37.3±1.6, 14°.26N×91°.85W, h88km±13km, mb4.3/25, mb1 4.5/29, mb1mx4.5/33, mbtmp4.7/29, MS4.5/23, Ms1 4.5/23, ms1mx4.4/31, Error ellipse: s-maj=17.1km s-min=9.0km az=51.0*
*CASC **06** 00:28:39.0±3.3, 13°.97N×91°.58W, h24km±34km, MD4.4, ML4.7, mb5.0(NEIC)*

ISC 06 00:28:35.6±0.6, 14°21N±0°.04×92°08W±0°.05, h79km±4km, n857, σ1ᵠ35/909, mb4.9/181, 197C-204D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.45**	**77**	⇓*i*P	**Pn**	**00 28 45.8**	**-3.0**
THIG		**0.71**	**346**	*e*P	Pn	00 28 45.7	-5.5
THIG				*i* S	**Sn**	**00 28 58.2**	**-4.7**
THIG		**0.71**	**346**	*e*P	Pn	00 28 45.7	-5.5
THIG				*i* S	**Sn**	**00 28 58.2**	**-4.7**
PCG	**Pacaya**	**1.44**	**83**	⇑*i*P	**Pn**	**00 28 59.0**	**-1.4**
GCG	**Guatemala City**	**1.55**	**76**	*e*P	**Pn**	**00 29 01.3**	**-0.3**
GCG				*e*S	**Sn**	**00 29 24.5**	**+3.1**
NBG	**Las Nubes**	**1.72**	**77**	⇓*e*P	**Pn**	**00 29 04.2**	**+0.2**
APG	**El Apazote**	**1.75**	**63**	P	**Pn**	**00 29 01.5**	**-2.9**
APG				S	**Sn**	**00 29 24.4**	**-1.8**
APG	**El Apazote**	**1.75**	**63**	P	**Pn**	**00 29 01.5**	**-2.9**
	549nm,0.3s,baz=233,slow=9.2,SNR=2137						
APG				S	**Sn**	**00 29 24.4**	**-1.8**
	470nm,0.3s,baz=329,slow=22,SNR=6.3						
PCIG		**1.84**	**324**	*e*P	Pn	00 28 59.2	-6.2
PCIG				*i* S	Sn	00 29 22.4	-5.6
PCIG		**1.84**	**324**	*e*P	Pn	00 28 59.2	-6.2
PCIG				*i* S	Sn	00 29 22.4	-5.6
RBDL	**Robledal**	**2.33**	**92**	*e*P	Pn	00 29 08.6	-3.4
RTR	**El Retiro**	**2.39**	**97**	*e*P	Pn	00 29 09.0	-3.8
SBLS	**San Blas**	**2.42**	**99**	*e*P	Pn	00 29 09.3	-4.0
SNJE	**San Jose**	**2.43**	**98**	*e*P	Pn	00 29 09.5	-3.9
MRL	**Marmol**	**2.46**	**70**	⇑*e*P	**Pn**	**00 29 14.3**	**+0.4**
SNET	**Serv Nac Est T**	**2.82**	**100**	⇑*e*P	Pn	00 29 14.4	-4.2
SNET				*e*S	Sn	00 29 39.5	-12
SNET				AML	AML	00 30 12.8	
	comp=Z,8μm,0.7s						
HUIG	**Huatulco**	**4.18**	**292**	*e*P	Pn	00 29 28.3	-8.8
HUIG				*e*S	Sn	00 30 13.0	-12
HUIG	**Huatulco**	**4.18**	**292**	*e*P	Pn	00 29 28.3	-8.8
HUIG				*e*S	Sn	00 30 13.0	-12
TGUH	**Tegucigalpa,Un**	**4.67**	**91**	*e*Pn	**Pn**	**00 29 41.6**	**-2.1**
TGUH				*e*S	**Sn**	**00 30 36.4**	**-0.2**
SCIG	**Sabancuy**	**4.80**	**10**	*e*P	**Pn**	**00 29 44.7**	**-0.8**
SCIG				*i* S	**Sn**	**00 30 42.5**	**+2.6**
SCIG	**Sabancuy**	**4.80**	**10**	*e*P	**Pn**	**00 29 44.7**	**-0.8**
SCIG				*i* S	**Sn**	**00 30 42.5**	**+2.6**
VHO	**Vista Hermosa**	**5.30**	**303**	*e*P	Pn	00 29 45.2	-7.3
VHO				*e*S	Sn	00 30 43.8	-8.6
VHO	**Vista Hermosa**	**5.30**	**303**	*e*P	Pn	00 29 45.2	-7.3
VHO				*e*S	Sn	00 30 43.8	-8.6
PNIG	**Pinotepa**	**6.22**	**291**	*e*P	Pn	00 29 56.4	-8.4
PNIG				*e*S	Sn	00 31 03.6	-11
PNIG	**Pinotepa**	**6.22**	**291**	*e*P	Pn	00 29 56.4	-8.4
PNIG				*e*S	Sn	00 31 03.6	-11
TEIG	**Tepich**	**7.00**	**31**	*e*Pn	**Pn**	**00 30 15.1**	**-0.4**
TEIG				*e*S	**Sn**	**00 31 35.4**	**+1.8**
TEIG	**Tepich**	**7.00**	**31**	P	**Pn**	**00 30 14.8**	**-0.7**
	comp=Z,70nm,0.3s,baz=235,slow=6.2,SNR=199						
TEIG				S	**Sn**	**00 31 32.4**	**-1.2**
	baz=233,slow=20,SNR=1.6						
TEIG				LR	LR	00 33 34.2	
	comp=Z,3μm,19.2s,baz=128,slow=43						
TLIG	**Tlapa**	**7.07**	**299**	*e*P	**Pn**	**00 30 14.0**	**-2.6**
TLIG				*e*S	**Sn**	**00 31 32.4**	**-3.1**
JTS	**JuntasAbangare**	**7.99**	**118**	*e*Pn	**Pn**	**00 30 27.3**	**-1.7**
JTS				*e*S	Sn	00 32 03.4	+5.5
JTS	**JuntasAbangare**	**7.99**	**118**	P	**Pn**	**00 30 27.5**	**-1.5**
	comp=Z,4.4nm,0.3s,baz=318,slow=14,SNR=18						
JTS				LR	LR	00 33 38.1	
	comp=Z,2μm,18.6s,baz=295,slow=38						
JCR	**Jicaral**	**8.08**	**122**	*e*P	**Pn**	**00 30 29.8**	**-0.6**
CGA2	**Cerro Gallo 2**	**8.54**	**118**	*e*P	**Pn**	**00 30 37.4**	**+0.7**
QCR	**Quepos**	**9.10**	**121**	⇓*e*P	**Pn**	**00 30 43.5**	**-0.6**
QCR				*e*S	**Sn**	**00 32 28.2**	**+3.3**
URSC	**Urasca**	**9.22**	**117**	*e*P	**Pn**	**00 30 45.7**	**-0.2**
URSC				*e*S	Sn	00 32 39.5	+11
BUS	**Buena Vista**	**9.37**	**119**	*e*P	Pn	00 30 42.1	-6.2
BCIP	**Isla Barro Col**	**13.00**	**111**	*e*P	**Pn**	**00 31 34.8**	**-2.4**
MTDJ	**Mount Denham**	**14.53**	**72**	*e*Pn	**P**	**00 32 01.2**	**-0.6**
934A	**Benavides**	**14.61**	**337**	⇓P	**Pn**	**00 31 57.4**	**-0.9**
	baz=15						
PAYG	**Puerto Ayora**	**14.90**	**173**	Pn	**Pn**	**00 32 01.8**	**-0.3**
835A	**Beeville**	**14.99**	**340**	⇑P	**Pn**	**00 32 02.2**	**-0.9**
	baz=15						
834A	**Tilden**	**15.09**	**338**	⇓P	**Pn**	**00 32 03.6**	**-0.9**
	baz=15						
735A	**Kenedy**	**15.51**	**341**	⇑P	**Pn**	**00 32 08.9**	**-0.8**
	baz=16						
833A	**Chaparral WMA,**	**15.60**	**335**	⇓P	**Pn**	**00 32 09.3**	**-1.6**
	baz=16,SNR=21						
734A	**La Parita Cree**	**15.75**	**339**	⇓P	**Pn**	**00 32 11.3**	**-1.6**
	baz=16,SNR=5.2						
832A	**Faith Ranch, C**	**15.80**	**334**	⇑P	**Pn**	**00 32 12.5**	**-1.0**
	baz=16,SNR=31						
733A	**Divot King Ran**	**15.91**	**336**	⇑P	**Pn**	**00 32 14.1**	**-0.7**
	baz=16,SNR=25						
HKT	**Hockley**	**16.04**	**348**	*e*P	**Pn**	**00 32 15.7**	**-0.7**
HKT				pmax	pmax		
	comp=Z,90nm,1.5s						
HKT	**Hockley**	**16.04**	**348**	*e*Pn	**Pn**	**00 32 15.7**	**-0.7**
	comp=Z,90nm,1.5s						
634A	**China Grove, S**	**16.17**	**340**	⇓P	**Pn**	**00 32 16.8**	**-1.3**
	baz=16						
732A	**Laxson Ranch,**	**16.19**	**334**	⇓P	**Pn**	**00 32 17.3**	**-1.1**
	baz=16						
633A	**Saathoff Ranch**	**16.53**	**338**	⇑P	**Pn**	**00 32 21.8**	**-0.8**
	baz=17,SNR=17						
535A	**Dale**	**16.53**	**343**	⇓P	**Pn**	**00 32 21.6**	**-1.0**
	baz=17						
632A	**Uvalde**	**16.80**	**336**	⇑P	**Pn**	**00 32 25.2**	**-0.8**
	baz=17,SNR=13						
534A	**Blanco**	**16.81**	**340**	⇑P	**Pn**	**00 32 25.1**	**-0.9**
	baz=17,SNR=26						
533A	**Kerrville**	**17.04**	**339**	⇑P	**Pn**	**00 32 28.8**	**-0.1**
	baz=17,SNR=15						
631A	**Perdido Creek**	**17.04**	**334**	⇓P	**Pn**	**00 32 29.3**	**+0.3**
	baz=17,SNR=20						
BRAL	**Brewton**	**17.34**	**15**	*e*Pn	**P**	**00 32 36.3**	**+3.4**
	comp=Z,124nm,1.0s						
532A	**Rocksprings**	**17.40**	**337**	⇓P	**Pn**	**00 32 33.7**	**+0.3**
	baz=18,SNR=18						
434A	**Burnet**	**17.47**	**342**	⇑P	**Pn**	**00 32 34.5**	**+0.2**
	baz=18						
433A	**Art**	**17.68**	**340**	⇑P	**Pn**	**00 32 37.2**	**+0.5**
	baz=18,SNR=20						
JCT	**Junction City**	**17.68**	**338**	*e*P	**P**	**00 32 36.9**	**+0.3**
JCT				pmax	pmax		
	comp=Z,25nm,0.8s						
JCT	**Junction City**	**17.68**	**338**	*e*Pn	**P**	**00 32 36.9**	**+0.3**
	comp=Z,26nm,0.8s						
JCT	**Junction City**	**17.68**	**338**	⇑P	**Pn**	**00 32 37.2**	**+0.5**
	baz=18,SNR=7.8						
335A	**Moody**	**17.68**	**345**	⇓P	**P**	**00 32 35.9**	**-0.7**
	baz=18						
531A	**Rocksprings**	**17.69**	**335**	⇑P	**Pn**	**00 32 37.5**	**+0.6**
	baz=18,SNR=7.5						
334A	**Lometa**	**17.95**	**343**	⇓P	**P**	**00 32 39.4**	**-0.1**
	baz=18						
VBMS	**Vicksburg**	**17.98**	**4**	*e*Pn	**Pn**	**00 32 41.2**	**+0.9**
	comp=Z,710nm,2.3s						
530A	**J-C Ranch, Com**	**18.01**	**333**	⇑P	**Pn**	**00 32 41.0**	**+0.2**
	baz=18,SNR=12						
432A	**Menard**	**18.04**	**338**	⇓P	**Pn**	**00 32 41.2**	**+0.1**
	baz=18						
333A	**Richland Sprin**	**18.17**	**341**	⇑P	**Pn**	**00 32 42.8**	**+0.1**
	baz=18,SNR=8.2						
431A	**Sonora**	**18.17**	**336**	⇑P	**Pn**	**00 32 43.6**	**+0.9**
	baz=18,SNR=17						
628A	**Black Gap, Mar**	**18.19**	**328**	⇑P	**Pn**	**00 32 43.9**	**+1.0**
	baz=18,SNR=41						
WHTX	**Lake Whitney**	**18.37**	**345**	*e*Pn	**Pn**	**00 32 45.0**	**0.0**
WHTX				*e*S	**S**	**00 36 02.6**	**-6.6**
WHTX	**Lake Whitney**	**18.37**	**345**	⇓P	**Pn**	**00 32 45.2**	**+0.2**
	baz=18						
529A	**Stev Forest Ra**	**18.39**	**331**	⇓P	**Pn**	**00 32 45.9**	**+0.6**
	baz=18,SNR=22						
627A	**Terlingua Ranc**	**18.42**	**327**	⇑P	**Pn**	**00 32 46.6**	**+0.8**
	baz=19,SNR=88						
TXAR	**Lajitas Array**	**18.47**	**326**	P	**Pn**	**00 32 47.1**	**+0.7**
TXAR	**Lajitas Array**	**18.47**	**326**	P	**Pn**	**00 32 47.1**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=151,slow=12,SNR=126						
TXAR				LR	LR	00 41 25.5	
	comp=Z,490nm,18.1s,baz=220,slow=41						
332A	**Millersview**	**18.48**	**339**	⇑P	**Pn**	**00 32 46.9**	**+0.6**
	baz=19,SNR=31						
430A	**Baggett Ranch,**	**18.52**	**334**	⇓P	**Pn**	**00 32 47.8**	**+0.9**
	baz=19,SNR=16						
234A	**Clairette**	**18.55**	**344**	⇓P	**Pn**	**00 32 47.4**	**+0.1**
	baz=19						
H06E1	**SOCORRO T-PHAS**	**18.62**	**287**	T	T	00 51 47.5	
	SNR=82						
H06S1	**SOCORRO T**	**18.65**	**286**	T	T	00 52 02.0	
	SNR=27						
331A	**San Angelo**	**18.66**	**337**	⇑P	**Pn**	**00 32 49.0**	**+0.5**
	baz=19,SNR=15						
429A	**Davenport Ranc**	**18.66**	**333**	⇓P	**Pn**	**00 32 49.1**	**+0.5**
	baz=19,SNR=32						
H06N1	**SOCORRO T-PHAS**	**18.70**	**287**	T	T	00 51 50.4	
	SNR=5.4						
233A	**Rising Star**	**18.79**	**342**	⇑P	**Pn**	**00 32 50.5**	**+0.4**
	baz=19,SNR=13						
TIGA	**Tifton**	**18.83**	**23**	*e*Pn	**Pn**	**00 32 50.6**	**0.0**
TIGA	**Tifton**	**18.83**	**23**	⇑P	**P**	**00 32 49.4**	**+0.2**
	baz=19						
135A	**Vickery Place,**	**18.90**	**346**	⇓P	**Pn**	**00 32 51.0**	**-0.4**
	baz=19,SNR=8.4						
626A	**Big Bend Ranch**	**18.90**	**326**	⇓P	**Pn**	**00 32 51.6**	**+0.1**
	baz=19,SNR=42						
232A	**Coleman**	**18.91**	**340**	⇓P	**Pn**	**00 32 51.5**	**0.0**
	baz=19,SNR=13						
330A	**Mertzon**	**19.04**	**336**	⇑P	**Pn**	**00 32 53.1**	**0.0**
	baz=19,SNR=17						
134A	**White-Moore Ra**	**19.08**	**344**	⇓P	**Pn**	**00 32 53.0**	**-0.4**
	baz=19,SNR=14						
527A	**Woodward Ranch**	**19.09**	**328**	⇓P	**Pn**	**00 32 54.2**	**+0.4**
	baz=19,SNR=54						
428A	**Kincaid Ranch,**	**19.11**	**331**	⇑P	**Pn**	**00 32 54.6**	**+0.6**
	baz=19,SNR=32						
231A	**Bronte**	**19.18**	**338**	⇓P	**P**	**00 32 54.1**	**+1.0**
	baz=19,SNR=12						
526A	**Mary Lane Ranc**	**19.27**	**327**	⇑P	**Pn**	**00 32 55.7**	**-0.2**
	baz=19,SNR=40						
LRAL	**Lakeview Retre**	**19.30**	**13**	*e*P	**Pn**	**00 32 55.6**	**-0.5**
	comp=Z,53nm,1.1s						
LRAL				*e*S	**S**	**00 36 26.1**	**-2.7**
133A	**Hamilton Ranch**	**19.34**	**342**	⇑P	**Pn**	**00 32 56.3**	**-0.3**
	baz=20,SNR=16						
OTAV	**Otavalo**	**19.36**	**135**	*e*P	**P**	**00 32 55.1**	**-0.5**
	comp=Z,12nm,0.9s						
230A	**Sterling City**	**19.44**	**336**	⇓P	**P**	**00 32 56.3**	**+0.4**
	baz=20,SNR=20						
329A	**Wagon Wheel Ra**	**19.44**	**334**	⇑P	**Pn**	**00 32 57.6**	**-0.3**
	baz=20,SNR=27						
427A	**Hayter Ranch,**	**19.56**	**330**	⇑P	**P**	**00 32 58.4**	**+1.1**
	baz=20,SNR=19						
ABTX	**Abilene, Hawle**	**19.58**	**341**	*e*P	**P**	**00 32 58.3**	**+0.9**
	comp=Z,104nm,1.1s						
ABTX				*e*S	**S**	**00 36 32.5**	**-1.9**
ABTX	**Abilene, Hawle**	**19.58**	**341**	⇑P	**P**	**00 32 58.5**	**+1.1**
	baz=20,SNR=23						
Z35A	**Perchaven, San**	**19.60**	**347**	⇓P	**P**	**00 32 58.2**	**+0.6**
	baz=20,SNR=11						
328A	**Wristen Ranch,**	**19.72**	**332**	⇑P	**Pn**	**00 33 00.8**	**-0.3**
	baz=20,SNR=90						
426A	**McDonald Obser**	**19.72**	**328**	⇓P	**P**	**00 33 00.4**	**+1.2**
	baz=20,SNR=24						
229A	**Bryant Ranch,**	**19.79**	**335**	⇓P	**P**	**00 33 01.1**	**+1.4**
	baz=20,SNR=11						
Z34A	**Collier Ranch,**	**19.80**	**345**	⇓P	**P**	**00 33 00.6**	**+0.9**
	baz=20,SNR=18						
LPIG	**La Paz**	**19.81**	**302**	P	**Pn**	**00 33 04.1**	**+2.0**
LPIG	**La Paz**	**19.81**	**302**	P	**Pn**	**00 33 04.1**	**+2.0**
	comp=Z,12nm,0.3s,baz=30,slow=5.3,SNR=7.9						
ROSC	**El Rosal**	**19.81**	**116**	*e*P	**P**	**00 33 00.4**	**0.0**
ROSC	**El Rosal**	**19.81**	**116**	P	**P**	**00 33 00.8**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=97,slow=22,SNR=39						
131A	**Roby**	**19.88**	**339**	⇓P	**P**	**00 33 01.9**	**+1.2**
	baz=20,SNR=8.1						
Z33A	**Whitaker Ranch**	**19.94**	**343**	⇑P	**P**	**00 33 02.0**	**+0.7**
	baz=20,SNR=35						
130A	**Snyder**	**20.01**	**338**	⇑P	**P**	**00 33 03.0**	**+0.9**
	baz=20,SNR=19						
Z32A	**Haskell**	**20.16**	**342**	⇓P	**P**	**00 33 04.1**	**+0.4**
	baz=20,SNR=36						
326A	**Caldwell Ranch**	**20.22**	**329**	⇑P	**P**	**00 33 05.1**	**+0.7**
	baz=20,SNR=69						
228A	**UT Block 9, Go**	**20.25**	**333**	⇑P	**P**	**00 33 05.8**	**+1.1**
	baz=20,SNR=26						
MIAR	**Mount Ida**	**20.29**	**356**	*e*P	**P**	**00 33 05.3**	**+0.3**
MIAR				*e*S	**S**	**00 36 46.1**	**-2.1**
MIAR				pmax	pmax		
	comp=Z,860nm,2.4s						
MIAR	**Mount Ida**	**20.29**	**356**	*e*P	**P**	**00 33 05.3**	**+0.3**
	comp=Z,860nm,2.4s						
MIAR				*e*S	**S**	**00 36 46.0**	**-2.1**
425A	**Indio Mountain**	**20.32**	**326**	⇓P	**P**	**00 33 06.5**	**+1.0**
	baz=20,SNR=25						
Y34A	**Reagan Ranch,**	**20.32**	**346**	⇓P	**P**	**00 33 05.4**	**0.0**
	baz=20,SNR=10						
OXF	**Oxford**	**20.35**	**6**	*e*P	**P**	**00 33 06.1**	**+0.4**
OXF				*e*S	**S**	**00 36 51.8**	**+2.4**
OXF				pmax	pmax		
	comp=Z,137nm,1.2s						
OXF	**Oxford**	**20.35**	**6**	*e*P	**P**	**00 33 06.1**	**+0.4**
	comp=Z,137nm,1.2s						
OXF				*e*S	**S**	**00 36 51.8**	**+2.4**
Z31A	**Sharp Cattle R**	**20.38**	**340**	⇓P	**P**	**00 33 06.7**	**+0.6**
	baz=20,SNR=32						
129A	**Stewart Farms,**	**20.39**	**336**	⇑P	**P**	**00 33 06.6**	**+0.4**
	baz=20,SNR=14						
227A	**Bennet, Jal**	**20.47**	**332**	⇓P	**P**	**00 33 08.0**	**+0.9**
	baz=21,SNR=25						
UALR	**University of**	**20.47**	**359**	*e*P	**P**	**00 33 07.8**	**+0.8**
	comp=Z,113nm,0.9s						
SDDR	**Presa de Saban**	**20.48**	**74**	*e*P	**P**	**00 33 07.1**	**-0.2**
	comp=Z,8.8nm,0.7s						
Y33A	**Hilltop Ranch,**	**20.58**	**344**	⇓P	**P**	**00 33 08.4**	**+0.2**
	baz=21,SNR=16						
128A	**Castleberry Fa**	**20.64**	**334**	⇓P	**P**	**00 33 09.6**	**+0.7**
	baz=21,SNR=35						
GOGA	**Godfrey**	**20.65**	**21**	*e*P	**P**	**00 33 09.4**	**+0.4**
GOGA				pmax	pmax		
	comp=Z,59nm,1.0s						
GOGA	**Godfrey**	**20.65**	**21**	*e*P	**P**	**00 33 09.4**	**+0.4**
	comp=Z,59nm,1.0s						
Z30A	**Sanderson Ranc**	**20.69**	**338**	⇓P	**P**	**00 33 09.5**	**+0.1**
	baz=21,SNR=43						
325A	**Bean Ranch, Si**	**20.77**	**327**	⇓P	**P**	**00 33 10.5**	**0.0**
	baz=21,SNR=62						
Y32A	**R-V Farms, Ver**	**20.80**	**343**	⇑P	**P**	**00 33 10.6**	**0.0**
	baz=21,SNR=12						
Z29A	**Hungry Hill Ra**	**20.88**	**337**	⇓P	**P**	**00 33 11.4**	**-0.2**
	baz=21,SNR=58						
226B	**Tecolote Peak,**	**20.93**	**330**	⇑P	**P**	**00 33 13.2**	**+1.1**
	baz=21,SNR=142						
CLNB	**Carlsbad**	**20.95**	**331**	*e*P	**P**	**00 33 13.9**	**+1.6**
	comp=Z,51nm,1.0s						
Y31A	**Rekieta Farm,**	**21.01**	**341**	⇓P	**P**	**00 33 13.3**	**+0.4**
	baz=21,SNR=48						
X33A	**Lawton**	**21.05**	**345**	⇑P	**P**	**00 33 13.1**	**-0.1**
	baz=21,SNR=32						
127A	**Arkansas Junct**	**21.06**	**333**	⇓P	**P**	**00 33 14.1**	**+0.6**
	baz=21,SNR=24						
324A	**Moseley Ranch,**	**21.10**	**327**	⇑P	**P**	**00 33 14.5**	**+0.6**
	baz=21,SNR=69						
GDL2	**Guadalupe Moun**	**21.13**	**330**	*e*P	**P**	**00 33 15.5**	**+1.2**
Y30A	**Stafford Cattl**	**21.14**	**339**	⇑P	**P**	**00 33 14.6**	**+0.3**
	baz=21,SNR=20						
X32A

W30A	Crocket Farms	22.24	341	⇓P		P	00 33 26.1	+0.1	
	baz=22								
JSC	Jenkinsville	22.25	24	eP		P	00 33 27.0	+1.0	
JSC	Jenkinsville	22.25	24	eP		P	00 33 27.0	+1.0	
V32A	Arapaho	22.31	345	⇑P		P	00 33 26.4	-0.3	
	baz=22,SNR=12								
Y26A	Elida	22.32	334	⇑P		P	00 33 27.2	+0.2	
	baz=22,SNR=24								
AMTX	Amarillo	22.33	339	eP		P	00 33 26.6	-0.4	
	comp=Z,125nm,0.6s								
AMTX	Amarillo	22.33	339	⇓P		P	00 33 27.0	0.0	
	baz=22								
PARMO	Parma	22.45	5	eP		P	00 33 28.0	-0.2	
222A	Williams Famil	22.49	325	⇓P		P	00 33 29.2	+0.4	
	baz=23,SNR=10								
PBMO	Poplar Bluff	22.52	3	eP		P	00 33 27.4	-1.5	
	comp=Z,51nm,0.9s								
W29A	Amraillo	22.53	339	⇓P		P	00 33 29.4	+0.2	
	baz=23,SNR=24								
Z24A	Sheeppen Canyo	22.54	330	⇓P		P	00 33 30.2	+0.9	
	baz=23,SNR=177								
V31A	Spring Creek L	22.57	343	⇓P		P	00 33 29.8	+0.2	
	baz=23,SNR=18								
TKL	Tuckaleechee C	22.62	18	eP		P	00 33 30.5	+0.5	
TKL	Tuckaleechee C	22.62	18	P		P	00 33 30.1	+0.1	
	comp=Z,24nm,0.8s,baz=188,slow=11,SNR=30								
X27A	F and S Farms,	22.65	336	⇑P		P	00 33 30.3	-0.2	
	baz=23,SNR=13								
U34A	Anderson Ranch	22.66	349	⇑P		P	00 33 30.3	-0.2	
	baz=23								
Y25A	Mesa, Roswell	22.71	332	⇑P		P	00 33 31.9	+0.8	
	baz=23,SNR=122								
320A	Kipp Ranch, An	22.76	321	⇓P		P	00 33 32.8	+1.1	
	baz=23,SNR=6.1								
U33A	Lingo Farm, Me	22.77	347	⇑P		P	00 33 29.9	-1.7	
	baz=23								
221A	Mesquite Ranch	22.80	324	⇑P		P	00 33 33.6	+1.6	
	baz=23,SNR=8.1								
V30A	Spur Ranch, Mi	22.81	342	⇑P		P	00 33 32.6	+0.6	
	baz=23								
W28A	Vega	22.85	338	⇓P		P	00 33 32.6	+0.1	
	baz=23,SNR=6.2								
X26A	CR and CF Fran	22.85	334	⇓P		P	00 33 32.6	0.0	
	baz=23,SNR=23								
Z23A	Rita Site, Whi	22.91	328	⇓P		P	00 33 34.3	+1.1	
	baz=23,SNR=53								
U32A	Winter Ranch,	22.93	346	⇓P		P	00 33 32.7	-0.5	
	baz=23								
KMSC	Kings Mountain	22.98	23	eP		P	00 33 34.0	+0.3	
	comp=Z,45nm,0.9s								
KMSC	Kings Mountain	22.98	23	⇑P		P	00 33 33.5	-0.2	
	baz=23,SNR=8.6								
W27A	Bowe Ranch, En	23.00	336	⇑P		P	00 33 34.0	-0.1	
	baz=23,SNR=57								
U31A	Nine Bar Ranch	23.13	344	⇓P		P	00 33 36.0	+0.8	
	baz=23								
V29A	Stinnett	23.17	340	⇓P		P	00 33 36.2	+0.6	
	baz=23								
121A	Cookes Peak, D	23.19	325	eP		P	00 33 37.2	+1.3	
	comp=Z,75nm,1.0s								
121A	Cookes Peak, D	23.19	325	⇓P		P	00 33 37.2	+1.3	
	baz=23,SNR=50								
X25A	Clemmons Ranch	23.20	333	⇑P		P	00 33 36.6	+0.6	
	baz=23,SNR=46								
319A	Douglas	23.25	320	⇓P		P	00 33 37.7	+1.3	
	baz=23,SNR=28								
Z22A	Elephant Butte	23.29	327	⇑P		P	00 33 37.7	+0.9	
	baz=24,SNR=30								
V28A	Channing	23.30	339	⇑P		P	00 33 37.1	+0.2	
	baz=23,SNR=14								
W26A	Owens Ranch, T	23.30	335	⇓P		P	00 33 37.1	+0.2	
	baz=24,SNR=10								
Y23A	Lovelace Mesa,	23.36	330	⇑P		P	00 33 38.8	+1.2	
	baz=24,SNR=141								
T33A	Patterson Ranc	23.43	348	⇑P		P	00 33 36.9	-1.0	
	baz=24,SNR=6.3								
U30A	WK&E Inc. Balk	23.51	342	⇓P		P	00 33 39.6	+0.9	
	baz=24,SNR=18								
TZTN	Tazewell	23.51	17	eP		P	00 33 38.9	+0.2	
	comp=Z,201nm,1.6s								
V27A	Dan Oppiter Fa	23.53	338	⇓P		P	00 33 39.4	+0.5	
	baz=24,SNR=9.6								
SIUC	Southern Illin	23.54	6	eP		P	00 33 38.4	-0.5	
	comp=Z,142nm,1.0s								
X24A	Lazy VL Ranch,	23.58	332	P		P	00 33 40.5	+1.0	
	baz=24								
U29A	Oasis Ranch, S	23.62	341	⇓P		P	00 33 40.5	+0.8	
	baz=24								
T32A	Huddler Ranch,	23.67	346	⇑P		P	00 33 39.6	-0.5	
	baz=24,SNR=6.8								
W25A	X Bar L Ranch,	23.70	334	⇑P		P	00 33 41.0	+0.5	
	baz=24,SNR=62								
T31A	Randall Ranch,	23.77	345	⇑P		P	00 33 40.5	-0.6	
	baz=24,SNR=8.2								
BNM	Barren Site	23.82	329	eP		P	00 33 43.4	+1.7	
	comp=Z,126nm,1.2s								
U28A	Mallet	23.87	339	⇓P		P	00 33 42.6	+0.7	
	baz=24,SNR=5.9								
Y22D	IRIS PASSCAL I	23.91	328	⇑P		P	00 33 44.5	+2.1	
	baz=24								
V26A	Tequesquite Ra	23.92	336	⇑P		P	00 33 43.4	+0.9	
	baz=24,SNR=33								
X23A	Hourglass Bar	23.95	330	⇓P		P	00 33 44.2	+1.4	
	baz=24								
LPM	Los Pinos Moun	23.95	329	eP		P	00 33 44.4	+1.6	
T30A	Plains	23.96	343	⇑P		P	00 33 43.3	+0.6	
	baz=24,SNR=5.1								
USIN	University of	23.98	9	eP		P	00 33 42.7	-0.1	
	comp=Z,133nm,1.3s								
LENM	Lemitar	24.01	328	eP		P	00 33 45.1	+1.7	
W24A	Lazy 6 Ranch,	24.11	332	⇓P		P	00 33 46.0	+1.8	
	baz=24,SNR=83								
U27A	Thompson Grove	24.11	338	⇑P		P	00 33 45.3	+1.1	
	baz=24,SNR=38								
S32A	Newby Ranch, P	24.17	347	⇓P		P	00 33 45.4	+0.9	
	baz=24								
S31A	Mullinville	24.22	346	⇑P		P	00 33 45.9	+0.9	
	baz=24								
LAZ	Ladron	24.28	329	eP		P	00 33 47.6	+1.9	
	comp=Z,94nm,1.7s								
T29A	Hugoton	24.28	342	⇓P		P	00 33 46.2	+0.6	
	baz=24,SNR=9.5								
V25A	Rancho No Teng	24.30	335	⇑P		P	00 33 47.4	+1.5	
	baz=24,SNR=36								
ANMO	Albuquerque	24.38	330	eP		P	00 33 48.1	+1.5	
	comp=Z,26nm,0.9s								
ANMO	Albuquerque	24.38	330	P		P	00 33 48.2	+1.5	
	comp=Z,20nm,0.9s,baz=149,slow=12,SNR=64								
SLM	Saint Louis	24.38	4	eP		P	00 33 46.2	-0.2	
SLM					pmax	pmax			
	comp=Z,66nm,1.1s								
SLM	Saint Louis	24.38	4	eP		P	00 33 46.2	-0.2	
	comp=Z,66nm,1.1s								
W23A	Werner Place,	24.41	331	⇓P		P	00 33 49.2	+2.2	
	baz=25,SNR=34								
U26A	Atchley Ranch,	24.43	337	⇑P		P	00 33 48.6	+1.4	
	baz=25,SNR=34								
WCI	Wyandotte Cave	24.46	11	eP		P	00 33 46.5	-0.7	
WCI					pmax	pmax			
	comp=Z,92nm,0.7s								
WCI	Wyandotte Cave	24.46	11	eP		P	00 33 46.5	-0.7	
	comp=Z,92nm,0.7s								
V24A	Rampart Ranch,	24.48	333	⇑P		P	00 33 49.5	+1.9	
	baz=25,SNR=18								
S30A	Montezuma	24.49	344	⇓P		P	00 33 48.6	+1.0	
	baz=25,SNR=9.9								
T28A	Walsh	24.50	340	⇓P		P	00 33 47.7	0.0	
	baz=25,SNR=7.2								
R33A	Olander Ranch,	24.56	349	⇑P		P	00 33 47.9	-0.3	
	baz=25,SNR=6.7								
T27A	Campo	24.65	339	⇓P		P	00 33 49.6	+0.4	
	baz=25,SNR=8.2								
S29A	Ulysses	24.66	343	⇑P		P	00 33 49.6	+0.5	
	baz=25,SNR=26								
U25A	Circle Dot Ran	24.70	336	⇑P		P	00 33 51.4	+1.8	
	baz=25,SNR=36								
R32A	Long Quarter,	24.82	348	⇓P		P	00 33 49.7	-0.7	
	baz=25,SNR=11								
TUC	Tucson	24.82	320	eP		P	00 33 52.1	+1.5	
TUC				e			00 37 30.1		
TUC					pmax	pmax			
	comp=Z,18nm,1.0s								
TUC	Tucson	24.82	320	eP		P	00 33 52.1	+1.5	
	comp=Z,18nm,1.0s								
TUC				e			00 37 30.1		
S28A	Manter	24.86	341	⇓P		P	00 33 51.2	+0.2	
	baz=25,SNR=11								
R31A	Burdett	24.87	346	⇑P		P	00 33 51.0	+0.1	
	baz=25,SNR=28								
V23A	Ortiz Mt. (NFS	24.90	332	⇑P		P	00 33 54.1	+2.7	
	baz=25,SNR=46								
R30A	Dighton	25.05	345	⇓P		P	00 33 52.8	+0.2	
	baz=25,SNR=34								
U24A	Moreno Valley	25.06	334	⇑P		P	00 33 54.1	+1.0	
	baz=25								
T26A	Comanche Natio	25.06	338	⇓P		P	00 33 53.5	+0.5	
	baz=25,SNR=6.9								
KSU1	Kansas State U	25.11	352	eP		P	00 33 51.7	-1.4	
	comp=Z,25nm,0.9s								
KSU1				ePcP		PcP	00 37 27.4	+1.8	
KSU1	Kansas State U	25.11	352	⇓P		P	00 33 51.6	-1.4	
	baz=25,SNR=7.1								
BLA	Blacksburg	25.15	22	eP		P	00 33 54.1	+0.6	
BLA					pmax	pmax			
	comp=Z,95nm,1.2s								
BLA	Blacksburg	25.15	22	eP		P	00 33 54.1	+0.6	
	comp=Z,96nm,1.2s								
ATAH	Atahualpa	25.19	147	P		P	00 33 54.9	+0.5	
ATAH	Atahualpa	25.19	147	P		P	00 33 54.9	+0.5	
	comp=Z,16nm,0.8s,baz=327,slow=7.5,SNR=9.7								
ATAH					LR	LR	00 42 21.9		
	comp=Z,1μm,19.3s,baz=313,slow=33								
Q33A	Connelly Farm,	25.20	349	⇑P		P	00 33 53.5	-0.4	
	baz=25								
Q32A	Meitler Ranch,	25.33	348	⇓P		P	00 33 55.1	0.0	
	baz=26,SNR=27								
T25A	Trinidad	25.34	337	⇑P		P	00 33 57.5	+2.0	
	baz=26,SNR=28								
BLO	Bloomington	25.34	10	eP		P	00 33 54.6	-0.6	
BLO					pmax	pmax			
	comp=Z,30nm,0.8s								
BLO	Bloomington	25.34	10	eP		P	00 33 54.6	-0.6	
	comp=Z,30nm,0.8s								
VWCC	Virginia Weste	25.35	23	eP		P	00 33 55.6	+0.3	
V22A	San Miguel Ran	25.38	331	⇓P		P	00 33 57.7	+1.8	
	baz=26,SNR=32								
U23A	El Rito	25.39	333	⇑P		P	00 33 57.4	+1.5	
	baz=26,SNR=44								
R29A	Marienthal	25.41	343	⇑P		P	00 33 56.3	+0.4	
	baz=26,SNR=25								
S26A	Kim	25.42	339	P		P	00 33 57.4	+1.4	
	baz=26								
Q31A	Ellis	25.52	347	⇓P		P	00 33 56.2	-0.7	
	baz=26,SNR=6.8								
R28A	Tribune	25.53	342	⇓P		P	00 33 57.1	0.0	
	baz=26,SNR=16								
P33A	Williams Farm,	25.61	350	⇓P		P	00 33 57.4	-0.2	
	baz=26								
T24B	San Luis	25.66	335	⇓P		P	00 34 00.3	+1.9	
	baz=26,SNR=25								
Q30A	Quinter	25.69	345	⇑P		P	00 33 58.5	+0.1	
	baz=26,SNR=22								
U22A	Llaves	25.73	332	⇓P		P	00 34 01.1	+2.1	
	baz=26,SNR=43								
R27A	Eads	25.79	340	⇑P		P	00 33 59.7	+0.3	
	baz=26,SNR=7.4								
Q29A	Oakley	25.80	344	⇓P		P	00 33 59.8	+0.4	
	baz=26,SNR=17								
S25A	Robets Cordova	25.81	337	⇑P		P	00 34 01.1	+1.4	
	baz=26,SNR=23								
X18A	Snowflake	25.88	325	⇓P		P	00 34 02.4	+2.1	
	baz=26,SNR=11								
214A	Organ Pipe Nat	25.91	316	eP		P	00 34 01.4	+0.9	
	comp=Z,14nm,1.0s								
214A	Organ Pipe Nat	25.91	316	⇓P		P	00 34 01.3	+0.9	
	baz=26,SNR=8.5								
T23A	Casias Ranch,	25.91	334	⇑P		P	00 34 02.7	+1.9	
	baz=26,SNR=13								
P32A	Huiting Farm,	25.95	348	⇓P		P	00 34 00.6	-0.1	
	baz=26,SNR=9.6								
P31A	Stockton	26.01	347	⇑P		P	00 34 02.5	+1.2	
	baz=26,SNR=7.9								
R26A	Arlington	26.02	339	⇑P		P	00 34 02.3	+0.8	
	baz=26,SNR=8.1								
S24A	Houchin Ranch,	26.09	336	⇓P		P	00 34 04.2	+1.9	
	baz=26,SNR=8.3								
R25A	Fountain Ranch	26.18	338	⇓P		P	00 34 03.8	+0.9	
	baz=26,SNR=9.8								
W18A	Petrified Fore	26.19	326	eP		P	00 34 03.6	+0.4	
	comp=Z,17nm,1.0s								
W18A	Petrified Fore	26.19	326	⇓P		P	00 34 04.1	+1.0	
	baz=26								
Q28A	Sharon Springs	26.20	343	⇑P		P	00 34 03.7	+0.6	
	baz=26								
P30A	Selden	26.23	346	⇓P		P	00 34 03.3	0.0	
	baz=26,SNR=13								
SDCO	Great Sand Dun	26.30	335	eP		P	00 34 05.3	+1.1	
	comp=Z,17nm,1.1s								
SDCO				ePcP		PcP	00 37 32.5	+3.8	
KSCO	Kaye Shedlock'	26.39	341	eP		P	00 34 05.9	+1.0	
KSCO	Kaye Shedlock'	26.39	341	⇓P		P	00 34 05.3	+0.5	
	baz=26								
SFIN	Scholer Farm	26.43	9	eP		P	00 34 04.0	-1.0	
	comp=Z,26nm,0.7s								
SFIN	Scholer Farm	26.43	9	⇓P		P	00 34 04.4	-0.6	
	baz=26,SNR=7.0								
P29A	Atwood	26.46	345	⇓P		P	00 34 05.6	+0.2	
	baz=27								
S23A	Nye Farm, Mont	26.47	335	⇓P		P	00 34 07.0	+1.3	
	baz=27								
R24A	Sanders Place,	26.56	337	⇓P		P	00 34 08.0	+1.6	
	baz=27,SNR=14								
JSRW	J. Sargeant Re	26.58	26	eP		P	00 34 06.7	+0.4	
Q26A	Hugo	26.60	340	⇑P		P	00 34 07.7	+1.0	
	baz=27								
O31A	Woolen Ranch,	26.61	348	⇓P		P	00 34 07.4	+0.7	
	baz=27								
P28A	Saint Francis	26.66	343	⇓P		P	00 34 08.1	+0.9	
	baz=27,SNR=7.7								
X16A	Lo Ma Damp, P	26.66	322	⇑P		P	00 34 09.4	+2.0	
	baz=27,SNR=20								
O30A	MW Ranch, Wils	26.79	346	⇓P		P	00 34 09.3	+1.0	
	baz=27								
R23A	Moffat	26.81	335	⇑P		P	00 34 10.6	+1.8	
	baz=27,SNR=13								
Q25A	Bedland, Calha	26.85	339	⇓P		P	00 34 09.9	+0.9	
	baz=27,SNR=6.4								
S22A	4UR Ranch, Cre	26.85	333	⇑P		P	00 34 11.2	+2.0	
	baz=27,SNR=41								
P27A	Ficken Ranch,	26.88	342	⇑P		P	00 34 10.1	+0.8	
	baz=27								
Z14A	Wintersburg	26.88	319	⇓P		P	00 34 10.4	+1.2	
	baz=27								
O29A	4D Ranch, Culb	26.92	345	⇑P		P	00 34 10.4	+0.9	
	baz=27								
113A	Mohawk Valley,	27.04	317	⇑P		P	00 34 11.3	+0.7	
	baz=27								
ACSO	Alum Creek Sta	27.12	15	eP		P	00 34 10.5	-0.7	
	comp=Z,52nm,1.4s								
P26A	Davis Ranch, A	27.12	341	⇓P		P	00 34 11.9	+0.5	
	baz=27								
MVCO	Mesa Verde	27.18	330	eP		P	00 34 14.0	+1.9	
	comp=Z,98nm,1.0s								
MVCO	Mesa Verde	27.18	330	⇑P		P	00 34 14.1	+2.1	
	baz=27,SNR=62								
O28A	Krutsinger Ran	27.18	344	⇑P		P	00 34 12.9	+1.0	
	baz=27								
Q24A	Divide	27.22	337	⇓P		P	00 34 13.7	+1.2	
	baz=27								
Y14A	Wickenburg	27.29	320	⇓P		P	00 34 14.4	+1.5	
	baz=28								
P25A	Willow Gulch B	27.35	339	⇑P		P	00 34 15.0	+1.4	
	baz=28								
WUAZ	Wupatki	27.40	324	eP		P	00 34 15.7	+1.7	
	comp=Z,19nm,1.0s								
WUAZ	Wupatki	27.40	324	⇓P		P	00 34 16.1	+2.1	
	baz=28,SNR=18								
O27A	Becher Island	27.43	343	⇓P		P	00 34 15.3	+1.1	
	baz=28								
P24A	Kohler Place,	27.61	338	⇓P		P	00 34 16.8	+0.9	
	baz=28								
N28A	Pribbeno Ranch	27.64	344	⇑P		P	00 34 17.4	+1.5	
	baz=28								
M31A	Lambtecht Ranc	27.69	349	⇑P		P	00 34 17.6	+1.3	
	baz=28								
P23A	Jefferson	27.84	337	⇓P		P	00 34 20.1	+2.0	
	baz=28,SNR=11								
O25A	Wiggins	27.88	340	⇑P		P	00 34 19.5	+1.4	
	baz=28								
GLA	Glamis	27.92	316	eP		P	00 34 20.0	+1.5	
GLA					pmax	pmax			
	comp=Z,6.0nm,1.2s								
GLA	Glamis	27.92	316	eP		P	00 34 20.0	+1.5	
	comp=Z,5.9nm,1.2s								
GLA	Glamis	27.92	316	⇓P		P	00 34 20.1	+1.5	
	baz=28								
PV01	Paradox Valley	27.95	331	eP		P	00 34 21.1	+2.1	
	comp=Z,5μm,1.4s								
N27A	Anderson Farm,	28.02	343	⇓P		P	00 34 20.7	+1.3	
	baz=28,SNR=6.0								
ISCO	Idaho Springs	28.12	338	eP		P	00 34 21.9	+1.4	
ISCO				e			00 37 35.2		
ISCO					pmax	pmax			
	comp=Z,12nm,1.2s								
ISCO	Idaho Springs	28.12	338	eP		P	00 34 21.9	+1.4	
	comp=Z,12nm,1.2s								
ISCO				ePcP		PcP	00 37 35.2	+2.1	
ISCO	Idaho Springs	28.12	338	⇑P		P	00 34 21.6	+1.1	
	baz=28,SNR=5.9								
Y12C	Blythe	28.15	318	⇑P		P	00 34 22.2	+1.7	
	baz=28								
N26A	Koester Ranch,	28.24	342	⇑P		P	00 34 22.4	+1.0	
	baz=28								
PDMCI	Parker Dam,Lak	28.24	319	⇑P		P	00 34 22.9	+1.6	
	baz=28,SNR=11								
PV04	Paradox Valley	28.32	331	eP		P	00 34 24.2	+2.1	
P22A	Eagle	28.39	336	⇑P		P	00 34 24.1	+1.3	
	baz=28								
L30A	Spencer Herefo	28.42	348	⇓P		P	00 34 24.3	+1.4	
	baz=28								
SWSC	Sam W. Stewart	28.52	315	⇓P		P	00 34 25.2	+1.5	
	baz=29								
U15A	North Rim	28.57	324	⇓P		P	00 34 26.3	+1.8	
	baz=29,SNR=16								
O23A	Lake Granby, G	28.59	338	⇓P		P	00 34 25.7	+1.0	
	baz=29								
W13A	Hualapai Mount	28.60	320	⇓P		P	00 34 26.1	+1.4	
	baz=29								
L29A	Maesberg Ranch	28.69	347	⇑P		P	00 34 25.3	+0.1	
	baz=29								
BC3	Big Chuckawall	28.70	316	⇑P		P	00 34 26.9	+1.3	
	baz=29,SNR=19								
O22A	Kremmling	28.79	337	⇓P		P	00 34 27.1	+0.6	
	baz=29,SNR=10.0								
M26A	McRoberts Ranc	28.80	343	⇓P		P	00 34 26.8	+0.5	
	baz=29								
IRM	Iron Mountain	28.81	318	⇓P		P	00 34 27.6	+1.2	
	baz=29,SNR=12								
MONP	Monument Peak	28.92	314	⇑P		P	00 34 28.3	+0.7	
	baz=29								
BAR	Barrett	28.98	314	eP		P	00 34 28.0	+0.1	
	comp=Z,46nm,2.1s								
M25A	Palm-Egli Farm	29.05	341	⇓P		P	00 34 29.5	+0.9	
	baz=29								
K30A	Basset	29.09	349	⇓P		P	00 34 28.6	-0.2	
	baz=29,SNR=5.1								
MVL	Millersville	29.16	25	eP		P	00 34 29.8	+0.4	
BELC	Belle Mtn. Jos	29.27	316	⇑P		P	00 34 31.5	+0.9	
	baz=29								
K29A	Lazy Trails An	29.32	348	⇑P		P	00 34 31.9	+1.1	
	baz=30								
M24A	Cheyenne	29.33	340	⇑P		P	00 34 32.3	+1.2	
	baz=30								
PFO	Pinyon Flat Ob	29.35	315	P		P	00 34 32.6	+1.3	
PFO	Pinyon Flat Ob	29.35	315	P		P	00 34 32.6	+1.3	
	comp=Z,2.8nm,0.7s,baz=118,slow=7.4,SNR=4.3								
PFO					LR	LR	00 46 29.4		
	comp=Z,930nm,20.7s,baz=133,slow=36								
PFO	Pinyon Flat Ob	29.35	315	⇓P		P	00 34 32.7	+1.3	
	baz=30								
LDFC	Landfair	29.35	319	eP		P	00 34 33.7	+2.4	
	comp=Z,26nm,1.1s								
PHWY	Pilot Hill	29.39	339	eP		P	00 34 33.0	+1.2	
	comp=Z,21nm,1.3s								
O20A	White River Ci	29.45	334	⇑P		P	00 34 33.9	+1.7	
	baz=30								
K28A	Ten Mile Ranch	29.51	346	⇓P		P	00 34 33.2	+0.7	
	baz=30								
GMRC	Granite Mounta	29.52	318	⇑P		P	00 34 34.0	+1.2	
	baz=30,SNR=6.6								
SRU	San Rafael	29.65	330	eP		P	00 34 35.4	+1.4	
SRU					pmax	pmax			
	comp=Z,27nm,1.2s								
SRU	San Rafael	29.65	330	eP		P	00 34 35.4	+1.4	
	comp=Z,27nm,1.2s								
ECSD	EROS Data Cent	29.67	353	eP		P	00 34 33.0	-0.9	
	comp=Z,18nm,1.3s								
ECSD	EROS Data Cent	29.67	353	⇑P		P	00 34 33.5	-0.4	
	baz=30								
L25A	Engebretsen Ra	29.68	342	⇓P		P	00 34 34.4	+0.2	
	baz=30								
J30A	Dallas	29.70	349	⇓P		P	00 34 34.8	+0.6	
	baz=30								
MURC	Murrieta	29.86	315	⇑P		P	00 34 37.4	+1.7	
	baz=30								
J29A	Okreek	29.94	348	⇓P		P	00 34 37.1	+0.8	
	baz=30								
CCUT	Cedar City	29.97	325	eP		P	00 34 39.2	+2.4	
	comp=Z,18nm,1.0s								
CCUT				ePcP		PcP	00 37 39.3	+1.6	
MVU	Marysvale	30.04	327	eP		P	00 34 38.9	+1.4	
	comp=Z,7.8nm,0.9s								
MVU				ePcP		PcP	00 37 39.4	+1.6	
N20A	Spence Gulch,	30.05	335	⇑P		P	00 34 39.2	+1.7	
	baz=30,SNR=30								
TUQ	Turquoise Moun	30.10	319	⇑P		P	00 34 38.9	+1.0	
	baz=30								
TMUT	Trail Mountain	30.13	330	eP		P	00 34 39.5	+1.2	
	comp=Z,25nm,1.1s								
J28A	Allard Ranch,	30.15	347	⇓P		P	00 34 38.8	+0.6	
	baz=30								
J27A	Elkhorn Farm,	30.17	345	⇓P		P	00 34 38.8	+0.5	

BLG **Laguna Peak** 31.43 314 ⇑P P 00 34 50.5 +0.9
baz=32
I24A **Kuemmerle Ranc** 31.43 342 ⇑P P 00 34 49.4 -0.2
baz=32
MPMC **Manual Prospec** 31.48 318 ⇓P P 00 34 51.7 +1.5
baz=32,SNR=15
H27A **Howes** 31.49 346 ⇑P P 00 34 50.4 +0.5
baz=32
RSSD **Black Hills** 31.51 343 eP P 00 34 50.4 +0.1
RSSD e 00 37 42.6
RSSD pmax pmax
comp=Z,2.0nm,0.7s
RSSD **Black Hills** 31.51 343 eP P 00 34 50.4 +0.1
comp=Z,2.3nm,0.7s
RSSD ePcP PcP 00 37 42.5 +1.0
G29A **Hoven** 31.59 349 ⇑P P 00 34 50.5 -0.3
baz=32
DUG **Dugway** 31.61 329 eP P 00 34 52.9 +1.7
DUG pmax pmax
comp=Z,16nm,1.1s
DUG **Dugway** 31.61 329 eP P 00 34 52.9 +1.7
comp=Z,16nm,1.1s
DUG **Dugway** 31.61 329 ⇓P P 00 34 53.4 +2.2
baz=32,SNR=12
J22A **Midwest** 31.61 340 ⇑P P 00 34 51.9 +0.7
baz=32,SNR=5.8
R11A **Troy Canyon, C** 31.79 323 eP P 00 34 54.8 +1.9
comp=Z,15nm,1.3s
R11A **Troy Canyon, C** 31.79 323 ⇓P P 00 34 54.4 +1.6
baz=32,SNR=12
H25A **Fruitdale** 31.85 344 ⇓P P 00 34 54.3 +1.2
baz=32,SNR=17
J21A **Lysite** 31.89 339 ⇓P P 00 34 55.1 +1.4
baz=32,SNR=13
ISA **Isabella** 31.89 317 eP P 00 34 55.9 +2.2
ISA **Isabella** 31.89 317 eP P 00 34 55.9 +2.2
ISA **Isabella** 31.89 317 ⇓P P 00 34 55.3 +1.7
baz=32
GRAC **Grapevine Rang** 31.98 320 ⇑P P 00 34 56.2 +1.8
baz=32
I22A **9 Mile Ranch,** 32.04 340 ⇑P P 00 34 55.3 +0.3
baz=32
CWC **Cottonwood Cre** 32.09 318 ⇓P P 00 34 56.5 +1.0
baz=32
J20A **Shoshoni** 32.12 338 ⇑P P 00 34 56.3 +0.7
baz=32
G27A **Dupree** 32.16 347 ⇓P P 00 34 55.5 -0.4
baz=32
BW06 **Boulder Array** 32.19 335 eP P 00 34 56.7 +0.4
comp=Z,3.1nm,0.5s
BW06 ePcP PcP 00 37 43.0 -0.5
PDAR **Pinedale Array** 32.19 335 P P 00 34 57.2 +0.9
PDAR PcP PcP 00 37 44.4 +0.9
PDAR **Pinedale Array** 32.19 335 P P 00 34 57.2 +0.9
comp=Z,3.1nm,0.5s,baz=134,slow=10.0,SNR=23
PDAR PcP PcP 00 37 44.4 +0.9
comp=Z,2.4nm,0.7s,baz=134,slow=4.8,SNR=10
PDAR LR LR 00 50 13.8
comp=Z,572nm,19.8s,baz=153,slow=40
H24A **Dirks Ranch, A** 32.23 343 ⇓P P 00 34 57.0 +0.5
baz=32,SNR=17
I21A **Big Trails, Te** 32.24 339 ⇓P P 00 34 57.0 +0.3
baz=32
BGU **Big Grassy Mou** 32.27 330 eP P 00 34 58.9 +1.8
comp=Z,8.4nm,0.9s
BGU ePcP PcP 00 37 45.5 +1.8
SPUT **South Promonto** 32.29 331 eP P 00 34 58.7 +1.5
comp=Z,24nm,1.1s
SPUT ePcP PcP 00 37 43.8 +0.1
G25A **Newell** 32.34 345 ⇓P P 00 34 57.4 0.0
baz=32
PKM **Peak Mountain** 32.38 314 ⇓P P 00 34 58.2 +0.1
baz=32
F28A **McLaughlin** 32.38 349 ⇑P P 00 34 57.4 -0.3
baz=32
VES **Vestal, Richgr** 32.40 316 ⇓P P 00 34 59.9 +1.9
baz=33,SNR=7.9
J19A **Crowheart** 32.41 337 ⇓P P 00 34 58.7 +0.5
baz=33,SNR=5.3
TRY **Troy** 32.55 26 eP P 00 34 58.6 -0.6
TPH **Tonopah** 32.57 321 eP P 00 35 01.6 +1.8
TPH pmax pmax
comp=Z,26nm,1.7s
TPH **Tonopah** 32.57 321 eP P 00 35 01.6 +1.8
comp=Z,26nm,1.7s
H22A **Clearmont** 32.63 341 ⇑P P 00 35 01.0 +1.0
baz=33
F27A **Lemmon** 32.65 347 ⇑P P 00 34 60.0 -0.2
baz=33
I20A **Worland** 32.66 338 ⇓P P 00 35 01.9 +1.6
baz=33,SNR=13
G24A **Alzada** 32.73 344 ⇑P P 00 35 00.9 0.0
baz=33,SNR=8.7
SMMC **Simmler** 32.73 315 P P 00 35 02.9 +1.9
baz=33
RCTC **Rector, Farmer** 32.77 317 ⇑P P 00 35 02.4 +1.1
baz=33
F26A **Lodgepole** 32.78 346 ⇑P P 00 35 01.8 +0.6
baz=33
HVU **Hansel Valley** 32.81 331 eP P 00 35 03.4 +1.7
HVU e 00 37 48.2
HVU pmax pmax
comp=Z,25nm,0.9s
HVU **Hansel Valley** 32.81 331 eP P 00 35 03.4 +1.7
comp=Z,25nm,0.9s
HVU ePcP PcP 00 37 48.2 +3.0
AHID **Auburn Hatcher** 32.83 334 eP P 00 35 03.0 +1.0
comp=Z,14nm,0.8s
AHID ePcP PcP 00 37 46.6 +1.4
E29A **Napoleon** 32.87 350 ⇑P P 00 35 02.5 +0.5
baz=33
H21A **Big Horn, Sher** 32.88 340 ⇑P P 00 35 02.8 +0.6
baz=33
G23A **Biddle** 32.88 343 ⇓P P 00 35 02.9 +0.7
baz=33,SNR=17
F25A **Bowman** 33.03 345 ⇑P P 00 35 04.1 +0.6
baz=33,SNR=9.5
I19A **Meeteetse** 33.05 337 ⇓P P 00 35 05.9 +2.1
baz=33,SNR=9.6
E28A **Huff** 33.06 349 ⇑P P 00 35 03.7 0.0
baz=33,SNR=9.2
H20A **Greybull** 33.08 339 ⇑P P 00 35 04.5 +0.5
baz=33,SNR=8.1
E27A **Carson** 33.09 348 ⇑P P 00 35 04.2 +0.3
baz=33,SNR=9.1
G22A **Birney** 33.17 342 ⇑P P 00 35 05.5 +0.8
baz=33,SNR=9.9
F24A **Ekalaka** 33.21 344 ⇓P P 00 35 05.2 +0.1
baz=33,SNR=6.3
REDW **Red Top Meadow** 33.22 335 eP P 00 35 06.8 +1.4
D30A **Buchanan** 33.27 352 ⇓P P 00 35 05.2 -0.2
baz=33,SNR=5.8
ELK **Elko** 33.27 327 eP P 00 35 07.9 +2.0
E26A **Carlson Angus** 33.32 347 ⇑P P 00 35 06.3 +0.3
baz=34,SNR=8.2
LOHW **Long Hollow** 33.32 335 eP P 00 35 07.2 +1.0
F23A **Volborg** 33.36 343 ⇓P P 00 35 06.7 +0.3
baz=34,SNR=12
NV11 **Mina Array Sit** 33.37 321 eP P 00 35 08.9 +2.4
NV11 ePcP PcP 00 37 48.8 +2.0
NVAR **Mina Array Bea** 33.45 321 P P 00 35 09.8 +2.4
NVAR PcP PcP 00 37 49.1 +2.0
NVAR **Mina Array Bea** 33.45 321 P P 00 35 09.8 +2.4
comp=Z,16nm,0.7s,baz=134,slow=8.0,SNR=110
NVAR PcP PcP 00 37 49.1 +2.0
comp=Z,3.4nm,0.8s,baz=149,slow=2.6,SNR=4.9
NVAR LR LR 00 50 15.1
comp=Z,1μm,18.2s,baz=228,slow=39
G21A **Lodge Grass** 33.46 340 ⇓P P 00 35 07.5 +0.2
baz=34
MOOW **Moose Ponds** 33.49 335 eP P 00 35 09.0 +1.3
E25A **Miller Ranch,** 33.56 346 ⇑P P 00 35 08.5 +0.5
baz=34,SNR=12
I17A **Pilgrim Ck.** 33.56 336 ⇓P P 00 35 09.9 +1.6
baz=34,SNR=7.4
H19A **Powell** 33.59 338 ⇓P P 00 35 09.4 +1.0
baz=34,SNR=8.3
D28A **Regan** 33.63 350 ⇓P P 00 35 09.2 +0.5
baz=34
F22A **Rosebud** 33.66 342 ⇓P P 00 35 09.0 0.0
baz=34
D27A **Center** 33.73 348 ⇑P P 00 35 08.8 -0.7
baz=34
FLWY **Flagg Ranch** 33.75 336 eP P 00 35 11.2 +1.3
G20A **Bridger** 33.79 339 ⇓P P 00 35 10.5 +0.3
baz=34,SNR=6.9
MDV **Middlebury** 33.80 25 eP P 00 35 10.2 +0.2

C30A **Mose, Pekin** 33.81 352 ⇓P P 00 35 09.1 -1.1
baz=34,SNR=7.4
E24A **Baker** 33.84 345 ⇓P P 00 35 10.6 +0.1
baz=34,SNR=14
D26A **Manning** 33.84 347 ⇑P P 00 35 10.2 -0.3
baz=34,SNR=9.4
H18A **Shoshone NF, C** 33.85 337 ⇑P P 00 35 11.8 +1.0
baz=34,SNR=24
H17A **Grant Village** 33.96 336 ⇓P P 00 35 12.9 +1.1
baz=34
RLMT **Red Lodge** 34.08 338 eP P 00 35 13.8 +1.0
comp=Z,4.4nm,0.4s
RLMT ePcP PcP 00 37 49.9 +1.2
C28A **Hausauer Farms** 34.11 350 ⇑P P 00 35 12.8 0.0
baz=34
YFT **Old Faithful** 34.11 336 eP P 00 35 16.2 +3.2
MDND **Maddock** 34.11 351 eP P 00 35 11.9 -0.9
comp=Z,42nm,0.5s
MDND **Maddock** 34.11 351 ⇑P P 00 35 12.1 -0.6
baz=34,SNR=14
AGMN **Agassiz Nation** 34.13 356 eP P 00 35 13.1 +0.3
comp=Z,3.8nm,0.4s
AGMN ePcP PcP 00 37 50.5 +2.0
AGMN **Agassiz Nation** 34.13 356 ⇑P P 00 35 12.9 +0.1
baz=34
BMN **Battle Mountai** 34.13 325 eP P 00 35 15.4 +2.2
BMN pmax pmax
comp=Z,14nm,0.9s
BMN **Battle Mountai** 34.13 325 eP P 00 35 15.3 +2.2
comp=Z,14nm,0.9s
D25A **Fairfield** 34.15 346 ⇑P P 00 35 13.5 +0.3
baz=34,SNR=7.0
E22A **Miles City** 34.17 343 ⇑P P 00 35 13.4 +0.1
baz=34,SNR=15
WAKR **Walker** 34.20 320 eP P 00 35 16.0 +2.1
comp=Z,16nm,1.3s
F20A **Billings** 34.28 340 ⇑P P 00 35 15.3 +1.0
baz=34
C27A **Sayler Ranch,** 34.31 349 ⇓P P 00 35 14.0 -0.5
baz=34,SNR=5.7
YMR **Madison River** 34.34 336 eP P 00 35 17.5 +2.4
D24A **Glendive** 34.36 345 ⇓P P 00 35 15.2 +0.2
baz=34
CMB **Columbia Colle** 34.52 319 eP P 00 35 17.6 +1.1
CMB pmax pmax
comp=Z,9.0nm,1.1s
CMB **Columbia Colle** 34.52 319 eP P 00 35 17.6 +1.1
comp=Z,9.2nm,1.1s
B30A **Myrvik Farm, E** 34.53 353 ⇓P P 00 35 16.3 0.0
baz=35
C26A **Wahner Farm, P** 34.53 348 ⇓P P 00 35 16.0 -0.4
baz=35,SNR=10
F19A **Roth Farm, Mol** 34.60 339 ⇓P P 00 35 17.5 +0.4
baz=35,SNR=9.4
D23A **Lindsay** 34.64 344 ⇑P P 00 35 18.0 +0.7
baz=35,SNR=16
C25A **Freed Ranch, W** 34.67 347 ⇓P P 00 35 17.8 +0.2
baz=35
B29A **Wagenman Farm,** 34.68 351 ⇑P P 00 35 17.5 -0.2
baz=35,SNR=9.3
C24A **Savage** 34.77 345 ⇓P P 00 35 18.9 +0.5
baz=35
B28A **Dugan Ranch, T** 34.82 350 ⇓P P 00 35 18.8 0.0
baz=35,SNR=18
D22A **Cohagen** 34.88 343 ⇑P P 00 35 20.2 +0.7
baz=35,SNR=47
E20A **Meyer Farm, Mu** 34.90 341 ⇓P P 00 35 20.6 +1.0
baz=35
PAHR **Pah Rah Range** 34.91 322 eP P 00 35 21.7 +1.8
comp=Z,18nm,1.1s
HLID **Hailey** 34.95 331 eP P 00 35 21.9 +1.7
comp=Z,33nm,1.0s
HLID ePcP PcP 00 37 53.2 +1.9
HLID **Hailey** 34.95 331 ⇑P P 00 35 22.2 +1.9
baz=35,SNR=55
A30A **Hoffart Farm,** 35.00 353 ⇑P P 00 35 20.7 +0.3
baz=35,SNR=14
D21A **La Casta Ranch** 35.04 342 ⇑P P 00 35 21.2 +0.3
baz=35,SNR=5.8
E19A **Rath Farm, Rou** 35.07 340 ⇑P P 00 35 21.7 +0.5
baz=35,SNR=7.4
PTGA **Pitinga** 35.09 112 eP P 00 35 21.0 -0.7
comp=Z,44nm,0.9s
A29A **Manning Farm,** 35.11 352 ⇑P P 00 35 21.8 +0.4
baz=35,SNR=11
B25A **Knox Farm, Ray** 35.18 347 ⇓P P 00 35 21.9 0.0
baz=35,SNR=6.7
C23A **Lambert** 35.22 345 ⇓P P 00 35 22.6 +0.3
baz=35,SNR=10.0
MCMT **McKenzie Canyo** 35.24 334 eP P 00 35 25.1 +2.2
comp=Z,28nm,0.9s
A28A **Rude Farm, Bot** 35.25 351 ⇑P P 00 35 22.5 0.0
baz=35
C22A **Vida** 35.35 344 ⇑P P 00 35 24.0 +0.6
baz=36,SNR=23
D20A **Manuel Ranch,** 35.42 341 ⇓P P 00 35 25.1 +1.0
baz=36,SNR=15
MFID **Camas Ranch** 35.52 330 eP P 00 35 26.7 +1.6
comp=Z,30nm,0.9s
A26A **Wade Farm, Ken** 35.54 349 ⇑P P 00 35 24.9 -0.2
baz=36,SNR=22
DGMT **Dagmar** 35.60 346 eP P 00 35 25.6 +0.1
comp=Z,19nm,0.6s
DGMT **Dagmar** 35.60 346 ⇑P P 00 35 25.4 -0.1
baz=36,SNR=5.5
BEKR **Beckworth** 35.60 321 eP P 00 35 27.7 +1.8
comp=Z,10nm,1.2s
D19A **Cripps Ranch,** 35.72 340 ⇑P P 00 35 27.4 +0.7
baz=36,SNR=13
B23A **Brockton** 35.78 345 ⇑P P 00 35 27.5 +0.4
baz=36,SNR=8.9
A25A **Svangstu Ranch** 35.80 348 ⇓P P 00 35 27.8 +0.5
baz=36
LRM **Limekiln Ridge** 35.89 335 eP P 00 35 29.7 +1.3
comp=Z,154nm,1.0s
LRM ePcP PcP 00 37 54.5 +0.5
B22A **Reddig Ranch S** 35.89 344 ⇓P P 00 35 28.9 +0.8
baz=36
C20A **Veseth Ranch,** 35.93 342 ⇓P P 00 35 29.3 +0.8
baz=36
A24A **Westby** 35.98 347 ⇑P P 00 35 28.9 +0.1
baz=36,SNR=5.8
ULM **Lac du Bonnet** 36.07 356 P P 00 35 29.4 -0.2
ULM PcP PcP 00 37 54.5 +0.3
ULM **Lac du Bonnet** 36.07 356 P P 00 35 29.4 -0.2
comp=Z,2.3nm,0.4s,baz=168,slow=6.9,SNR=4.4
ULM PcP PcP 00 37 54.5 +0.3
comp=Z,4.5nm,0.6s,baz=152,slow=3.4,SNR=5.0
ULM LR LR 00 52 42.9
comp=Z,619nm,21.8s,baz=176,slow=40
A23A **Redstone** 36.21 346 ⇑P P 00 35 31.3 +0.5
baz=36,SNR=8.2
WVOR **Wild Horse Val** 36.27 326 eP P 00 35 33.0 +1.5
WVOR e 00 37 57.8
WVOR pmax pmax
comp=Z,39nm,1.3s
WVOR **Wild Horse Val** 36.27 326 eP P 00 35 33.0 +1.5
comp=Z,39nm,1.3s
WVOR ePcP PcP 00 37 57.8 +2.7
C19A **Slack Wire Ran** 36.28 341 ⇓P P 00 35 32.3 +0.9
baz=36,SNR=12
B21A **Ellsworth Farm** 36.28 343 ⇑P P 00 35 31.9 +0.5
baz=36
A22A **Carney Farms,** 36.50 345 ⇓P P 00 35 34.3 +1.0
baz=37,SNR=8.4
B20A **Solberg Farm,** 36.58 342 ⇑P P 00 35 34.5 +0.5
baz=37,SNR=7.4
EGMT **Eagleton** 36.76 340 eP P 00 35 36.3 +0.7
comp=Z,12nm,0.4s
EGMT ePcP PcP 00 37 58.6 +2.3
EGMT **Eagleton** 36.76 340 ⇑P P 00 35 36.4 +0.9
baz=37,SNR=10.0
SAML **Saluet** 36.77 127 eP P 00 35 34.3 -1.6
comp=Z,1.4nm,0.4s
A21A **Bergtoll Ranch** 36.77 344 ⇓P P 00 35 36.4 +0.8
baz=37
MOD **Modoc** 36.85 324 eP P 00 35 37.5 +1.0
comp=Z,16nm,1.0s
MOD ePP PP 00 37 02.5 +0.8
MOD ePcP PcP 00 37 58.7 +1.8
B19A **Brinkman Farms** 36.88 341 ⇑P P 00 35 37.4 +0.9
baz=37,SNR=12
A20A **Cobblestone Ra** 36.95 343 ⇓P P 00 35 37.9 +0.8
baz=37,SNR=5.9
A19A **Klindworth Far** 37.24 342 P P 00 35 40.6 +1.0
baz=37
MSO **Missoula** 37.31 335 ⇑P P 00 35 41.4 +1.2
baz=38,SNR=15

M04C **Macdoel** 37.66 323 ⇓P P 00 35 44.2 +0.8
baz=38
SWMT **Swartz Lake** 37.88 336 eP P 00 35 45.8 +0.7
comp=Z,5.0nm,0.9s
SWMT ePcP PcP 00 38 01.4 +1.5
M02C **Callahan** 38.03 321 ⇓P P 00 35 46.4 0.0
baz=38
YBH **Yreka Blue Hor** 38.15 322 P P 00 35 47.0 -0.4
YBH **Yreka Blue Hor** 38.15 322 P P 00 35 47.0 -0.4
comp=Z,2.1nm,0.8s,baz=176,slow=4.5,SNR=5.8
J05D **Fort Rock, OR** 38.26 325 ⇑P P 00 35 49.4 +1.0
baz=38
KHMM **Horse Mountain** 38.27 320 eP P 00 35 49.5 +1.0
comp=Z,25nm,1.0s
PINOR **Pine Mountain** 38.41 326 eP P 00 35 50.7 +1.3
comp=Z,18nm,1.0s
BLMT **Blacktail Moun** 38.43 336 eP P 00 35 51.5 +1.7
comp=Z,12nm,1.0s
LPAZ **La Paz** 38.45 141 eP P 00 35 49.8 -1.0
comp=Z,4.5nm,0.8s
LPAZ ePcP PcP 00 38 03.8 +1.1
LPAZ **La Paz** 38.45 141 P P 00 35 50.2 -0.6
comp=Z,4.6nm,0.7s,baz=328,slow=8.0,SNR=26
LPAZ PcP PcP 00 38 03.9 +1.1
comp=Z,2.5nm,0.8s,baz=342,slow=4.3,SNR=4.3
LPAZ LR LR 00 51 16.3
comp=Z,560nm,20.1s,baz=208,slow=35
BSMT **Bassop Peak** 38.47 335 eP P 00 35 51.1 +0.9
comp=Z,5.7nm,0.8s
J04D **Umpqua Nationa** 38.73 324 ⇓P P 00 35 53.6 +1.2
baz=39
I05D **Terrebonne, OR** 39.01 326 ⇑P P 00 35 55.8 +1.3
baz=39
I04A **Tendick Farm,** 39.25 325 ⇓P P 00 35 57.4 +0.9
baz=39
HAWA **Hanford** 39.49 330 eP P 00 35 59.0 +0.6
comp=Z,5.4nm,0.4s
VFP **Flag Point** 39.72 327 P P 00 36 02.9 +2.3
NEW **Newport** 39.77 334 ⇓P P 00 36 01.4 +0.6
baz=40,SNR=9.7
OD2 **Odessa Site #2** 39.82 332 P P 00 36 02.6 +1.4
TRW **Toppenish Ridg** 39.91 329 P P 00 36 04.4 +2.4
EBG **Ellensburg** 40.36 330 P P 00 36 07.7 +2.0
NAC **Naches** 40.36 329 P P 00 36 07.8 +2.1
G03D **McMinnville, O** 40.62 326 P P 00 36 09.3 +1.5
baz=41
WTV **Waterville** 40.62 331 P P 00 36 09.5 +1.6
ETW **Entiat** 40.73 331 P P 00 36 10.6 +1.7
LON **Longmire** 40.87 329 eP P 00 36 11.2 +1.3
LON pmax pmax
comp=Z,15nm,0.8s
LON **Longmire** 40.87 329 eP P 00 36 11.2 +1.3
comp=Z,15nm,0.8s
NLWA **Neilton Lookou** 42.34 328 eP P 00 36 23.6 +1.7
comp=Z,43nm,1.1s
EDM **Edmonton** 42.41 341 eP P 00 36 22.4 +0.1
EDM **Edmonton** 42.41 341 eP P 00 36 22.4 +0.1
OSD **Olympics--Snow** 42.54 328 P P 00 36 25.4 +1.7
PGC **Sidney** 42.97 330 eP P 00 36 28.1 +1.3
comp=Z,2.2nm,0.9s
LVC **Limon Verde** 43.07 148 eP P 00 36 29.1 +0.8
comp=Z,14nm,1.1s
SCHQ **Schefferville** 45.05 20 P P 00 36 42.4 -1.1
SCHQ PcP PcP 00 38 23.6 +0.5
SCHQ **Schefferville** 45.05 20 P P 00 36 42.4 -1.1
comp=Z,8.9nm,0.9s,baz=200,slow=4.6,SNR=11
SCHQ PcP PcP 00 38 23.6 +0.5
comp=Z,3.2nm,0.4s,baz=186,slow=6.2,SNR=5.3
SCHQ LR LR 00 57 35.2
comp=Z,1μm,19.7s,baz=15,slow=39
YKA **Yellowknife Ar** 50.80 347 P P 00 37 27.8 +0.1
YKA PcP PcP 00 38 44.6 +1.1
YKA **Yellowknife Ar** 50.80 347 P P 00 37 27.7 +0.1
comp=Z,19nm,0.5s,baz=151,slow=7.5,SNR=218
YKA PcP PcP 00 38 44.6 +1.1
comp=Z,2.6nm,0.6s,baz=149,slow=3.7,SNR=9.0
YKW3 **Yellowknife Ar** 50.86 347 eP P 00 37 28.2 +0.1
comp=Z,0.6nm,0.8s
YKW3 ePcP PcP 00 38 44.6 +0.9
FRB **Frobisher Bay** 52.12 13 P P 00 37 36.1 -1.4
FRB **Frobisher Bay** 52.12 13 P P 00 37 36.1 -1.4
comp=Z,5.9nm,0.7s,baz=210,slow=7.4,SNR=15
DLBC **Dease Lake** 52.43 336 eP P 00 37 42.7 +2.7
CPUP **Villa Florida** 52.60 140 eP P 00 37 40.2 -1.4
comp=Z,1.2nm,0.9s
CPUP **Villa Florida** 52.60 140 P P 00 37 40.2 -1.4
comp=Z,4.9nm,0.7s,baz=311,slow=7.0,SNR=10.0
CPUP LR LR 01 01 48.1
comp=Z,543nm,18.1s,baz=307,slow=38
BDFB **Brasilia** 52.70 123 P P 00 37 41.0 -1.7
BDFB **Brasilia** 52.70 123 P P 00 37 41.0 -1.7
comp=Z,10nm,0.9s,baz=283,slow=6.6,SNR=12
RKT **Rikitea** 56.02 229 eLR LR 00 54 29.7
comp=Z,654nm,26.2s
HYT **Haines Junctio** 56.89 335 eP P 00 38 14.3 +2.0
PLCA **Paso Flores** 58.20 161 LR LR 00 58 40.4
comp=Z,670nm,18.6s,baz=283,slow=31
RCBR **Riachuelo** 59.18 106 eP P 00 38 29.2 +0.3
comp=Z,22nm,0.8s
DAWY **Dawson** 59.45 338 eP P 00 38 30.4 +0.3
BMRM **Bremner River** 59.94 333 eP P 00 38 35.2 +1.7
comp=Z,36nm,1.1s
INK **Inuvik** 60.21 344 eP P 00 38 36.1 +1.1
comp=Z,38nm,1.0s
INK **Inuvik** 60.21 344 P P 00 38 36.2 +1.1
comp=Z,18nm,0.6s,baz=128,slow=7.1,SNR=113
EGAK **Eagle** 60.48 338 eP P 00 38 37.6 +0.6
comp=Z,30nm,1.2s
RES **Resolute Bay** 60.49 359 eP P 00 38 35.8 -1.1
comp=Z,5.1nm,0.9s
MENT **Mentasta** 60.51 336 eP P 00 38 38.7 +1.4
DIV **Divide** 60.52 333 eP P 00 38 37.8 +0.4
comp=Z,59nm,1.4s
PAX **Paxson** 61.23 335 eP P 00 38 43.3 +1.0
PAX pmax pmax
comp=Z,32nm,1.1s
PAX **Paxson** 61.23 335 eP P 00 38 43.3 +1.0
comp=Z,32nm,1.1s
PMR **Palmer** 62.19 333 eP P 00 38 49.7 +1.2
PMR pmax pmax
comp=Z,43nm,1.4s
PMR **Palmer** 62.19 333 eP P 00 38 49.7 +1.2
comp=Z,43nm,1.4s
RC01 **Rabbit Creek A** 62.26 332 eP P 00 38 50.5 +1.4
comp=Z,33nm,0.8s
ILAR **Eielson Array** 62.61 337 P P 00 38 52.1 +0.8
ILAR **Eielson Array** 62.61 337 P P 00 38 52.1 +0.8
comp=Z,19nm,1.0s,baz=120,slow=4.2,SNR=76
ILAR LR LR 01 08 21.5
comp=Z,408nm,18.1s,baz=349,slow=38
MCK **McKinley** 62.97 335 eP P 00 38 54.5 +0.7
MCK pmax pmax
comp=Z,33nm,1.1s
MCK **McKinley** 62.97 335 eP P 00 38 54.5 +0.7
comp=Z,33nm,1.1s
COLA **College** 63.03 337 ⇑iP P 00 38 54.6 +0.5
COLA pmax pmax
comp=Z,208nm,2.2s
COLA **College** 63.03 337 eP P 00 38 54.9 +0.8
comp=Z,24nm,1.0s
COLA ePcP PcP 00 39 32.3 +1.0
TRF **Thorofare Moun** 63.41 335 eP P 00 38 58.0 +1.1
comp=Z,52nm,1.0s
RSO **Redoubt South** 63.43 331 eP P 00 38 58.1 +1.0
comp=Z,132nm,0.7s
KTH **Kantishna Hill** 63.71 335 eP P 00 38 59.3 +0.5
comp=Z,36nm,1.1s
PPLA **Purkeypile** 64.00 334 eP P 00 39 00.8 0.0
comp=Z,41nm,1.2s
COLD **Coldfoot** 64.90 339 eP P 00 39 08.3 +1.9
comp=Z,52nm,1.3s
PPT **Papeete** 64.92 243 LR LR 01 00 08.7
comp=Z,478nm,18.6s,baz=3.4,slow=29
PPT2 **Papeete2** 64.92 243 eS S 00 47 52.6 +9.2
comp=Z,157nm,24.5s
PPT2 **Papeete2** 64.92 243 eLR LR 00 58 30.9
comp=Z,448nm,24.5s
IM04 **Indian Mountai** 65.74 337 eP P 00 39 12.0 +0.1
TBI **Tubuai** 67.40 237 eLR LR 00 59 50.9
comp=Z,442nm,25.5s,baz=59
TNA **Tin City** 71.30 335 eP P 00 39 47.9 +1.5
comp=Z,21nm,1.1s
RAR **Rarotonga** 75.18 243 LR LR 01 05 56.5
comp=Z,350nm,19.7s,baz=45,slow=30
EVOP **Sao Brissos** 76.62 53 eP P 00 40 16.0 -2.0
EVOP pmax pmax
comp=Z,21nm,1.1s

EVOP	**Sao Brissos**	**76.62**	**53**	*e*P		**P**	**00 40 16.0**	**-2.0**
	comp=Z,21nm,1.1s							
EVO	**Evora**	**76.71**	**53**	*e*P		**P**	**00 40 16.0**	**-2.5**
	comp=Z,21nm,1.1s							
EVO				*e*R				
	comp=Z,423nm,20.2s							
QUIF	**Quistinic**	**78.88**	**43**	*e*P		**P**	**00 40 29.1**	**-1.3**
	comp=Z,17nm,0.8s							
QUIF	**Quistinic**	**78.88**	**43**	*e*P		**P**	**00 40 29.1**	**-1.3**
QUIF					pmax	pmax		
	comp=Z,17nm,0.8s							
QUIF	**Quistinic**	**78.88**	**43**	*e*P		**P**	**00 40 29.1**	**-1.3**
	comp=Z,17nm,0.8s							
ESDC	**Sonseca Array**	**79.65**	**52**	P		**P**	**00 40 33.6**	**-1.2**
ESDC	**Sonseca Array**	**79.65**	**52**	P		**P**	**00 40 33.6**	**-1.2**
	comp=Z,4.7nm,0.9s,baz=287,slow=5.3,SNR=9.4							
GRR	**Gorron**	**80.32**	**43**	*e*P		**P**	**00 40 37.0**	**-1.2**
	comp=Z,27nm,0.9s							
GRR	**Gorron**	**80.32**	**43**	*e*P		**P**	**00 40 37.0**	**-1.2**
GRR					pmax	pmax		
	comp=Z,27nm,0.9s							
GRR	**Gorron**	**80.32**	**43**	*e*P		**P**	**00 40 37.0**	**-1.2**
	comp=Z,27nm,0.9s							
FLN	**La Foliniere**	**80.50**	**42**	*e*P		**P**	**00 40 38.0**	**-1.1**
	comp=Z,56nm,1.1s							
FLN				*e*R				
	comp=Z,298nm,22.2s							
FLN	**La Foliniere**	**80.50**	**42**	*e*P		**P**	**00 40 38.0**	**-1.1**
FLN					pmax	pmax		
	comp=Z,56nm,1.1s							
FLN	**La Foliniere**	**80.50**	**42**	*e*P		**P**	**00 40 38.0**	**-1.1**
	comp=Z,56nm,1.1s							
LDF	**La Druitiere**	**80.77**	**42**	*e*P		**P**	**00 40 38.6**	**-2.0**
	comp=Z,47nm,1.1s							
LDF	**La Druitiere**	**80.77**	**42**	*e*P		**P**	**00 40 38.6**	**-2.0**
LDF					pmax	pmax		
	comp=Z,47nm,1.1s							
LDF	**La Druitiere**	**80.77**	**42**	*e*P		**P**	**00 40 38.6**	**-2.0**
	comp=Z,47nm,1.1s							
SJPF	**Ste Jean**	**81.05**	**48**	*e*P		**P**	**00 40 41.1**	**-1.1**
	comp=Z,46nm,1.3s							
SJPF	**Ste Jean**	**81.05**	**48**	*e*P		**P**	**00 40 41.1**	**-1.1**
SJPF					pmax	pmax		
	comp=Z,46nm,1.3s							
SJPF	**Ste Jean**	**81.05**	**48**	*e*P		**P**	**00 40 41.1**	**-1.1**
	comp=Z,46nm,1.3s							
ETSF	**Etsaut**	**81.57**	**48**	*e*P		**P**	**00 40 42.8**	**-2.3**
	comp=Z,43nm,1.4s							
ETSF	**Etsaut**	**81.57**	**48**	*e*P		**P**	**00 40 42.8**	**-2.3**
ETSF					pmax	pmax		
	comp=Z,43nm,1.4s							
ETSF	**Etsaut**	**81.57**	**48**	*e*P		**P**	**00 40 42.8**	**-2.3**
	comp=Z,43nm,1.4s							
LFF	**La Frestale**	**82.08**	**46**	*e*P		**P**	**00 40 46.3**	**-1.3**
	comp=Z,34nm,1.0s							
LFF	**La Frestale**	**82.08**	**46**	*e*P		**P**	**00 40 46.3**	**-1.3**
LFF					pmax	pmax		
	comp=Z,34nm,1.0s							
LFF	**La Frestale**	**82.08**	**46**	*e*P		**P**	**00 40 46.3**	**-1.3**
	comp=Z,34nm,1.0s							
EPF	**Esparros**	**82.19**	**48**	*e*P		**P**	**00 40 48.0**	**-0.3**
	comp=Z,17nm,1.0s							
EPF	**Esparros**	**82.19**	**48**	*e*P		**P**	**00 40 48.0**	**-0.3**
EPF					pmax	pmax		
	comp=Z,17nm,1.0s							
EPF	**Esparros**	**82.19**	**48**	*e*P		**P**	**00 40 48.0**	**-0.3**
	comp=Z,17nm,1.0s							
RJF	**Les Rejaudoux**	**82.54**	**45**	*e*P		**P**	**00 40 47.5**	**-2.5**
	comp=Z,13nm,0.8s							
RJF				*e*R				
	comp=Z,291nm,22.2s							
RJF	**Les Rejaudoux**	**82.54**	**45**	*e*P		**P**	**00 40 47.5**	**-2.5**
RJF					pmax	pmax		
	comp=Z,13nm,0.8s							
RJF	**Les Rejaudoux**	**82.54**	**45**	*e*P		**P**	**00 40 47.5**	**-2.5**
	comp=Z,13nm,0.8s							
TCF	**Toulx Ste Croi**	**82.79**	**44**	*e*P		**P**	**00 40 48.9**	**-2.4**
	comp=Z,15nm,1.1s							
TCF	**Toulx Ste Croi**	**82.79**	**44**	*e*P		**P**	**00 40 48.9**	**-2.4**
TCF					pmax	pmax		
	comp=Z,15nm,1.1s							
TCF	**Toulx Ste Croi**	**82.79**	**44**	*e*P		**P**	**00 40 48.9**	**-2.4**
	comp=Z,15nm,1.1s							
HYF	**Humbligny**	**82.86**	**43**	*e*P		**P**	**00 40 50.4**	**-1.2**
HYF	**Humbligny**	**82.86**	**43**	*e*P		**P**	**00 40 50.4**	**-1.2**
CAF	**Calviac**	**83.00**	**46**	*e*P		**P**	**00 40 50.1**	**-2.3**
	comp=Z,5.4nm,0.8s							
CAF	**Calviac**	**83.00**	**46**	*e*P		**P**	**00 40 50.1**	**-2.3**
CAF					pmax	pmax		
	comp=Z,5.0nm,0.8s							
CAF	**Calviac**	**83.00**	**46**	*e*P		**P**	**00 40 50.1**	**-2.3**
	comp=Z,5.4nm,0.8s							
SNF	**Seneffe**	**83.16**	**40**	P		**P**	**00 40 52.5**	**-0.5**
BGF	**Bois d'Agland**	**83.16**	**44**	*e*P		**P**	**00 40 51.8**	**-1.4**
	comp=Z,42nm,1.1s							
BGF				*e*pP		**pP**	**00 41 16.4**	**+2.1**
BGF	**Bois d'Agland**	**83.16**	**44**	*e*P		**P**	**00 40 51.8**	**-1.4**
BGF				*e**PP		**pP**	**00 41 16.4**	**+2.1**
BGF					pmax	pmax		
	comp=Z,42nm,1.1s							
BGF	**Bois d'Agland**	**83.16**	**44**	*e*P		**P**	**00 40 51.8**	**-1.4**
	comp=Z,42nm,1.1s							
BGF				*e*pP		**pP**	**00 41 16.4**	**+2.1**
AVF	**Avril sur Loir**	**83.44**	**44**	*e*P		**P**	**00 40 52.8**	**-1.8**
	comp=Z,22nm,1.1s							
AVF	**Avril sur Loir**	**83.44**	**44**	*e*P		**P**	**00 40 52.8**	**-1.8**
AVF					pmax	pmax		
	comp=Z,22nm,1.1s							
AVF	**Avril sur Loir**	**83.44**	**44**	*e*P		**P**	**00 40 52.8**	**-1.8**
	comp=Z,22nm,1.1s							
DOU	**Dourbes**	**83.45**	**40**	P		**P**	**00 40 54.4**	**-0.2**
	comp=Z,16nm,2.5s							
MTLF	**Montolieu**	**83.47**	**47**	*e*P		**P**	**00 40 53.6**	**-1.2**
	comp=Z,10nm,0.9s							
MTLF	**Montolieu**	**83.47**	**47**	*e*P		**P**	**00 40 53.6**	**-1.2**
MTLF					pmax	pmax		
	comp=Z,10.0nm,0.9s							
MTLF	**Montolieu**	**83.47**	**47**	*e*P		**P**	**00 40 53.6**	**-1.2**
	comp=Z,10nm,0.9s							
SSF	**Saint Saulge**	**83.48**	**43**	*e*P		**P**	**00 40 53.2**	**-1.6**
	comp=Z,17nm,0.9s							
SSF	**Saint Saulge**	**83.48**	**43**	*e*P		**P**	**00 40 53.2**	**-1.6**
SSF					pmax	pmax		
	comp=Z,17nm,0.9s							
SSF	**Saint Saulge**	**83.48**	**43**	*e*P		**P**	**00 40 53.2**	**-1.6**
	comp=Z,17nm,0.9s							
LOR	**Lormes**	**83.67**	**43**	*e*P		**P**	**00 40 53.5**	**-2.3**
	comp=Z,22nm,0.9s,baz=271							
LOR				*e*R				
	comp=Z,309nm,19.5s							
LOR	**Lormes**	**83.67**	**43**	*e*P		**P**	**00 40 53.5**	**-2.3**
	comp=Z,22nm,0.9s							
SMF	**Signal de Mont**	**83.81**	**44**	*e*P		**P**	**00 40 54.7**	**-1.8**
	comp=Z,15nm,0.9s							
SMF	**Signal de Mont**	**83.81**	**44**	*e*P		**P**	**00 40 54.7**	**-1.8**
SMF					pmax	pmax		
	comp=Z,15nm,0.9s							
SMF	**Signal de Mont**	**83.81**	**44**	*e*P		**P**	**00 40 54.7**	**-1.8**
	comp=Z,15nm,0.9s							
BCLA	**Clavier**	**83.81**	**40**	P		**P**	**00 40 55.0**	**-1.4**
	comp=Z,26nm,2.8s							
NB2	**NORSAR Subarra**	**84.00**	**28**	P		**P**	**00 40 57.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=289,slow=5.3							
NOA	**NORSAR Array B**	**84.00**	**28**	P		**P**	**00 40 56.5**	**-0.7**
NOA	**NORSAR Array B**	**84.00**	**28**	P		**P**	**00 40 56.5**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=290,slow=5.1,SNR=9.1							
NOA					LR	LR	01 16 00.7	
	comp=Z,130nm,19.7s,baz=285,slow=34							
MEZF	**Maizieres J'vi**	**84.14**	**42**	*e*P		**P**	**00 40 56.3**	**-1.8**
	comp=Z,24nm,0.9s							
MEZF	**Maizieres J'vi**	**84.14**	**42**	*e*P		**P**	**00 40 56.3**	**-1.8**
	comp=Z,24nm,0.9s							
MEM	**Membach**	**84.20**	**39**	P		**P**	**00 40 58.5**	**+0.1**
	comp=Z,10nm,2.6s							
SFTF	**Sexfontaines**	**84.21**	**42**	*e*P		**P**	**00 40 57.3**	**-1.2**
	comp=Z,31nm,1.0s,baz=296							
SFTF				*e*pP		**pP**	**00 41 21.3**	**+1.7**
SFTF	**Sexfontaines**	**84.21**	**42**	*e*P		**P**	**00 40 57.3**	**-1.2**
	comp=Z,31nm,1.0s							
SFTF				*e*pP		**pP**	**00 41 21.3**	**+1.7**
WLF	**Walferdange**	**84.54**	**40**	P		**P**	**00 40 59.9**	**-0.2**
	comp=Z,18nm,2.9s							
WLF	**Walferdange**	**84.54**	**40**	*e*P		**P**	**00 41 00.5**	**+0.4**
	comp=Z,7.0nm,0.9s							
PAGF	**Fort de Pagny**	**84.56**	**41**	*e*P		**P**	**00 40 58.7**	**-1.6**
	comp=Z,14nm,1.2s,baz=294							
PAGF	**Fort de Pagny**	**84.56**	**41**	*e*P		**P**	**00 40 58.7**	**-1.6**
	comp=Z,14nm,1.2s							
VIVF	**Saint-Julien-l**	**84.81**	**45**	*e*P		**P**	**00 41 02.1**	**+0.4**
	comp=Z,29nm,1.1s							
VIVF	**Saint-Julien-l**	**84.81**	**45**	*e*P		**P**	**00 41 02.1**	**+0.4**
VIVF					pmax	pmax		
	comp=Z,29nm,1.1s							
VIVF	**Saint-Julien-l**	**84.81**	**45**	*e*P		**P**	**00 41 02.1**	**+0.4**
	comp=Z,29nm,1.1s							
HAU	**Haudompre**	**85.11**	**42**	*e*P		**P**	**00 41 02.1**	**-1.0**
	comp=Z,17nm,0.9s							
HAU				*e*R				
	comp=Z,240nm,18.8s							
HAU	**Haudompre**	**85.11**	**42**	*e*P		**P**	**00 41 02.1**	**-1.0**
HAU					pmax	pmax		
	comp=Z,17nm,0.9s							
HAU	**Haudompre**	**85.11**	**42**	*e*P		**P**	**00 41 02.1**	**-1.0**
	comp=Z,17nm,0.9s							
HINF	**Hinteralfeld**	**85.48**	**42**	*e*P		**P**	**00 41 03.8**	**-1.2**
	comp=Z,19nm,1.2s							
HINF	**Hinteralfeld**	**85.48**	**42**	*e*P		**P**	**00 41 03.8**	**-1.2**
HINF					pmax	pmax		
	comp=Z,19nm,1.2s							
HINF	**Hinteralfeld**	**85.48**	**42**	*e*P		**P**	**00 41 03.8**	**-1.2**
	comp=Z,19nm,1.2s							
TIC	**Toumodi**	**85.56**	**84**	*e*P		**P**	**00 41 05.5**	**-0.5**
	comp=Z,5.0nm,0.2s							
CDF	**Champ du Feu**	**85.59**	**41**	*e*P		**P**	**00 41 03.7**	**-1.8**
	comp=Z,22nm,1.3s							
CDF	**Champ du Feu**	**85.59**	**41**	*e*P		**P**	**00 41 03.7**	**-1.8**
CDF					pmax	pmax		
	comp=Z,22nm,1.3s							
CDF	**Champ du Feu**	**85.59**	**41**	*e*P		**P**	**00 41 03.7**	**-1.8**
	comp=Z,22nm,1.3s							
ORIF	**Oris-en-Rattie**	**85.63**	**45**	*e*P		**P**	**00 41 05.3**	**-0.5**
	comp=Z,23nm,1.0s							
ORIF				*e*R				
	comp=Z,299nm,20.8s							
ORIF	**Oris-en-Rattie**	**85.63**	**45**	*e*P		**P**	**00 41 05.3**	**-0.5**
ORIF					pmax	pmax		
	comp=Z,23nm,1.0s							
ORIF	**Oris-en-Rattie**	**85.63**	**45**	*e*P		**P**	**00 41 05.3**	**-0.5**
	comp=Z,23nm,1.0s							
LIC	**Lamto**	**85.65**	**85**	*e*P		**P**	**00 41 05.5**	**-0.9**
	comp=Z,40nm,1.1s,baz=287							
LIC				*e*R				
	comp=Z,329nm,23.0s							
LIC	**Lamto**	**85.65**	**85**	*e*P		**P**	**00 41 05.3**	**-1.1**
	comp=Z,50nm,1.2s							
LIC	**Lamto**	**85.65**	**85**	*e*P		**P**	**00 41 05.5**	**-0.9**
	comp=Z,40nm,1.1s							
DBIC	**Dimbokro**	**85.71**	**84**	P		**P**	**00 41 06.5**	**-0.2**
DBIC	**Dimbokro**	**85.71**	**84**	P		**P**	**00 41 05.5**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=259,slow=5.2,SNR=5.1							
DBIC					LR	LR	01 13 50.4	
	comp=Z,252nm,21.4s,baz=273,slow=32							
BSEG	**Bad Segeberg**	**85.78**	**35**	*e*P		**P**	**00 41 07.2**	**+1.0**
	comp=Z,13nm,0.8s							
TNS	**Taunus Mts**	**85.80**	**39**	*e*P		**P**	**00 41 07.0**	**+0.5**
	comp=Z,7.0nm,0.9s							
KIC	**Kosan Boka**	**85.90**	**85**	*e*P		**P**	**00 41 07.1**	**-0.5**
	comp=Z,16nm,1.0s							
ARCES	**ARCESS Array B**	**85.96**	**18**	P		**P**	**00 41 06.8**	**0.0**
ARCES	**ARCESS Array B**	**85.96**	**18**	P		**P**	**00 41 06.8**	**0.0**
	comp=Z,5.1nm,0.9s,baz=289,slow=4.1,SNR=11							
ARCES					LR	LR	01 18 46.9	
	comp=Z,191nm,19.2s,baz=344,slow=35							
LPL	**La Plagne**	**86.04**	**44**	*e*P		**P**	**00 41 07.6**	**-0.4**
	comp=Z,17nm,1.0s							
LPL	**La Plagne**	**86.04**	**44**	*e*P		**P**	**00 41 07.6**	**-0.4**
LPL					pmax	pmax		
	comp=Z,17nm,1.0s							
LPL	**La Plagne**	**86.04**	**44**	*e*P		**P**	**00 41 07.6**	**-0.4**
	comp=Z,17nm,1.0s							
LPG	**La Plagne**	**86.06**	**44**	*e*P		**P**	**00 41 06.7**	**-1.5**
	comp=Z,25nm,1.3s							
LPG	**La Plagne**	**86.06**	**44**	*e*P		**P**	**00 41 06.7**	**-1.5**
LPG					pmax	pmax		
	comp=Z,25nm,1.3s							
LPG	**La Plagne**	**86.06**	**44**	*e*P		**P**	**00 41 06.7**	**-1.5**
	comp=Z,25nm,1.3s							
NRDL	**Niedersach Rie**	**86.11**	**37**	*e*P		**P**	**00 41 08.8**	**+1.0**
	comp=Z,5.0nm,0.9s							
BFO	**Black Forest**	**86.29**	**41**	*i* P		**P**	**00 41 09.0**	**+0.1**
BFO	**Black Forest**	**86.29**	**41**	*e*P		**P**	**00 41 08.7**	**-0.2**
	comp=Z,5.0nm,0.9s							
MBDF	**Montbardon**	**86.29**	**45**	*e*P		**P**	**00 41 08.5**	**-0.7**
	comp=Z,13nm,0.9s							
MBDF	**Montbardon**	**86.29**	**45**	*e*P		**P**	**00 41 08.5**	**-0.7**
MBDF					pmax	pmax		
	comp=Z,13nm,0.9s							
MBDF	**Montbardon**	**86.29**	**45**	*e*P		**P**	**00 41 08.5**	**-0.7**
	comp=Z,13nm,0.9s							
CLZ	**Clausthal**	**86.47**	**37**	*e*P		**P**	**00 41 10.7**	**+1.0**
	comp=Z,8.0nm,0.9s							
STU	**Stuttgart**	**86.70**	**41**	*e*P		**P**	**00 41 11.1**	**+0.2**
	comp=Z,7.0nm,0.7s							
NEUB	**Neuenburg**	**87.50**	**38**	*e*P		**P**	**00 41 15.5**	**+0.8**
	comp=Z,6.0nm,1.0s							
TUE	**Stuetta**	**87.51**	**43**	*e*P		**P**	**00 41 15.2**	**+0.1**
	comp=Z,7.8nm,0.8s							
DAVA	**Damuels**	**87.60**	**42**	⇑*i*PcP		**P**	**00 41 15.3**	**-0.2**
	comp=Z,11nm,0.9s							
GRF	**Grafenberg Arr**	**87.67**	**39**	*e*P		**P**	**00 41 16.6**	**+1.0**
	comp=Z,9.0nm,1.0s							
GRF				*e*L		L	01 16 49.2	
	comp=Z,184nm,21.3s							
RETA	**Reutte**	**88.10**	**41**	⇓*i*PcP		**P**	**00 41 17.6**	**-0.2**
	comp=Z,8.8nm,1.0s							
MANZ	**Manzenberg**	**88.11**	**39**	*e*P		**P**	**00 41 18.4**	**+0.7**
	comp=Z,3.0nm,1.0s							
TANN	**Tannenbergstha**	**88.18**	**38**	*e*P		**P**	**00 41 18.7**	**+0.7**
	comp=Z,3.0nm,1.1s							
FETA	**Feichten**	**88.23**	**42**	⇓*i*PcP		**P**	**00 41 18.4**	**-0.1**
	comp=Z,7.4nm,0.9s							
ROTZ	**Rotzenmuhle**	**88.25**	**39**	*e*P		**P**	**00 41 19.2**	**+0.9**
	comp=Z,4.0nm,1.2s							
PGF	**Pioggiola**	**88.47**	**47**	*e*P		**P**	**00 41 17.9**	**-1.7**
	comp=Z,121nm,1.3s							
PGF	**Pioggiola**	**88.47**	**47**	*e*P		**P**	**00 41 17.9**	**-1.7**
PGF					pmax	pmax		
	comp=Z,121nm,1.3s							
PGF	**Pioggiola**	**88.47**	**47**	*e*P		**P**	**00 41 17.9**	**-1.7**
	comp=Z,121nm,1.3s							
SEY	**Seymchan**	**88.53**	**336**	P		**P**	**00 41 20.6**	**+1.3**
SEY	**Seymchan**	**88.53**	**336**	P		**P**	**00 41 20.6**	**+1.3**
SEY	**Seymchan**	**88.53**	**336**	P		**P**	**00 41 20.6**	**+1.3**
	comp=Z,5.2nm,0.8s,baz=5.9,slow=23,SNR=11							
KHC	**Kasperske Hory**	**89.31**	**39**	*e*P		**P**	**00 41 24.3**	**+0.9**
KHC	**Kasperske Hory**	**89.31**	**39**	*e*P		**P**	**00 41 24.3**	**+0.9**
KHC				*ex*		x	00 41 27.9	
GEC2	**GERESS Array S**	**89.49**	**39**	*e*P		**P**	**00 41 24.8**	**+0.5**
	comp=Z,2.0nm,0.9s							
GERES	**GERESS Array B**	**89.49**	**39**	P		**P**	**00 41 23.9**	**-0.3**
GERES	**GERESS Array B**	**89.49**	**39**	P		**P**	**00 41 23.9**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=308,slow=3.0,SNR=13							
GERES					LR	LR	01 19 27.7	
	comp=Z,214nm,20.0s,baz=176,slow=34							
PRU	**Pruhonice**	**89.58**	**38**	*e*P		**P**	**00 41 24.5**	**0.0**
PRU	**Pruhonice**	**89.58**	**38**	*e*P		**P**	**00 41 24.5**	**0.0**
TIXI	**Tiksi**	**90.03**	**348**	⇑*i*P		**P**	**00 41 26.4**	**+0.3**
TIXI					pmax	pmax		
	comp=Z,52nm,1.6s							
TIXI	**Tiksi**	**90.03**	**348**	*e*P		**P**	**00 41 26.5**	**+0.3**
	comp=Z,29nm,0.9s							
FINES	**FINESS Array B**	**90.34**	**25**	P		**P**	**00 41 27.6**	**-0.2**
FINES	**FINESS Array B**	**90.34**	**25**	P		**P**	**00 41 27.6**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=320,slow=3.3,SNR=14							
FINES					LR	LR	01 24 31.7	
	comp=Z,205nm,18.5s,baz=293,slow=37							
TORD	**Torodi Ar. Bea**	**90.41**	**76**	P		**P**	**00 41 28.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**90.41**	**76**	P		**P**	**00 41 28.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=288,slow=4.0,SNR=11							
TORD					LR	LR	01 19 13.5	
	comp=Z,256nm,20.3s,baz=285,slow=34							
PETK	**Petropavlovsk-**	**90.42**	**326**	P		**P**	**00 41 30.1**	**+1.7**
PETK	**Petropavlovsk-**	**90.42**	**326**	P		**P**	**00 41 30.1**	**+1.7**
PETK	**Petropavlovsk-**	**90.42**	**326**	P		**P**	**00 41 30.1**	**+1.7**
	comp=Z,4.3nm,0.8s,baz=96,slow=13,SNR=4.2							
PETK					LR	LR	01 22 40.6	
	comp=Z,112nm,20.6s,baz=272,slow=36							
DPC	**Dobruska-Polom**	**90.50**	**37**	*e*P		**P**	**00 41 28.4**	**-0.5**
DPC	**Dobruska-Polom**	**90.50**	**37**	*e*P		**P**	**00 41 28.4**	**-0.5**
UZH	**Uzhgorod**	**94.76**	**37**	*e*P		P	00 41 54.0	+5.5
AKASG	**Malin Array Be**	**97.59**	**33**	LR		LR	01 30 18.2	
	comp=Z,155nm,18.3s,baz=260,slow=38							
OBN	**Obninsk**	**98.53**	**27**	⇓*e*P		**P**	**00 42 04.6**	**-0.8**
OBN				*e*			00 46 04.0	
OBN				*e*S		**SKSac**	**00 52 31.4**	**-4.9**
OBN				*e*PS		**PS**	**00 54 58.6**	**-3.5**
OBN					pmax	pmax		
	comp=Z,9.0nm,1.2s							
OBN					MLR	MLR		
	comp=Z,200nm,20.0s							
DZM	**Mont Dzumac**	**105.67**	**251**	*e*LR		LR	01 17 35.9	
	comp=Z,212nm,23.9s							
BVAR	**Borovoye Array**	**111.35**	**11**	PKIKP		**PKiKP**	**00 47 01.7**	**+1.1**
BVAR	**Borovoye Array**	**111.35**	**11**	PKiKP		**PKiKP**	**00 47 01.7**	**+1.1**
BVAR	**Borovoye Array**	**111.35**	**11**	PKiKP		**PKiKP**	**00 47 01.7**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=286,slow=1.2,SNR=4.1							
ZALV	**Zalesovo Beam**	**112.06**	**2**	PKIKP		**PKiKP**	**00 47 03.1**	**+1.2**
ZALV	**Zalesovo Beam**	**112.06**	**2**	PKiKP		**PKiKP**	**00 47 03.1**	**+1.2**
ZALV	**Zalesovo Beam**	**112.06**	**2**	PKiKP		**PKiKP**	**00 47 03.1**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=247,slow=2.0,SNR=6.3							
KURK	**Kurchatov**	**114.84**	**6**	*e*PKIKP		PKPdf	00 47 06.8	-0.5
SONM	**Songino Array**	**116.06**	**346**	PKP		**PKPdf**	**00 47 10.4**	**+0.5**
SONM				PKKPbc		**PKKPbc**	**00 57 38.9**	**-3.0**
SONM	**Songino Array**	**116.06**	**346**	PKP		**PKPdf**	**00 47 10.4**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=284,slow=1.7,SNR=7.6							
SONM				PKKPbc		**PKKPbc**	**00 57 38.9**	**-3.0**
	comp=Z,0.7nm,0.9s,baz=183,slow=5.5,SNR=3.6							
KSRS	**Korea Array**	**116.32**	**325**	PKP		**PKPdf**	**00 47 11.9**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=49,slow=2.0,SNR=3.5							
KSAR	**Wonju Array Be**	**116.35**	**325**	PKP		**PKPdf**	**00 47 11.9**	**+1.3**
MK31	**Makanchi Array**	**119.06**	**4**	*e*PKIKP		**PKPdf**	**00 47 15.9**	**+0.3**
MK31	**Makanchi Array**	**119.06**	**4**	*e*PKPdf		**PKPdf**	**00 47 15.9**	**+0.3**
MKAR	**Makanchi Array**	**119.06**	**4**	*c i*PKIKP		**PKPdf**	**00 47 15.8**	**+0.2**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**119.06**	**4**	PKP		**PKPdf**	**00 47 15.8**	**+0.2**
MKAR	**Makanchi Array**	**119.06**	**4**	PKP		**PKPdf**	**00 47 15.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=337,slow=3.0,SNR=12							
HHC	**Hu-ho-hao-te**	**120.99**	**339**	*e*PKP		**PKPdf**	**00 47 15.3**	**-4.3**
HHC				sPKP			00 47 51.8	
HHC				PP		**PP**	**00 48 51.1**	**+2.6**
HHC				SKS		SKSdf	00 54 17.0	-7.9
HHC				SKKS		SKKSac	00 55 34.3	-7.9
HHC				SS		**SS**	**01 05 11.8**	**-2.1**
HHC				AMB		AMB		
	comp=Z,140nm,6.8s							
HHC				LR		LR		
	comp=Z,280nm,19.4s							
AAK	**Ala-Archa**	**122.10**	**12**	⇓*i*PKIKP		**PKPdf**	**00 47 22.7**	**+0.9**
AAK	**Ala-Archa**	**122.10**	**12**	PKP		**PKPdf**	**00 47 22.9**	**+1.1**
AAK				*e*PKPdf		**PKiKP**	**00 47 23.1**	**+1.2**
AAK	**Ala-Archa**	**122.10**	**12**	PKP		**PKPdf**	**00 47 22.9**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=142,slow=1.3,SNR=7.0							
WMQ	**Urumqi**	**122.25**	**0**	PKP		**PKPdf**	**00 47 22.0**	**+0.1**
WMQ				PP		PP	00 49 02.4	+5.7
WMQ				LR		LR		
	comp=Z,110nm,39.2s							
WMQ				LR		LR		
	comp=Z,69nm,38.2s							
WMQ				LR		LR		
	comp=Z,100nm,23.5s							
KSH	**Kashi**	**125.40**	**11**	*e*PKP		**PKPdf**	**00 47 31.0**	**+2.9**
KSH				*e*PKS		**PKSdf**	**00 51 06.4**	**+1.5**
KSH				*e*SKS		**SKSdf**	**00 54 31.6**	**-1.8**
KSH				AMB		AMB		
	comp=Z,120nm,5.9s							
KSH				LR		LR		
	comp=Z,20nm,4.0s							
KSH				LR		LR		
	comp=Z,21nm,3.8s							
GTA	**Gaotai**	**125.51**	**349**	PKP		**PKPdf**	**00 47 29.3**	**+1.0**
GTA				PP		**PP**	**00 49 22.4**	**+3.6**
GTA				SKS		**SKSdf**	**00 54 30.0**	**-3.6**
GTA				SKKS		**SKKSac**	**00 56 04.5**	**-6.8**
GTA				SS		**SS**	**01 06 10.7**	**-0.2**
GTA				AMB		AMB		
	comp=Z,90nm,9.5s							
GTA			

σ0$87/14, **mb3.8/7, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.96**	**253**	Pn	**Pn**	**00 44 18.9**	**+0.9**
	0.9nm,0.3s,baz=27,slow=12,SNR=4.0						
PMG				LR	LR	00 47 04.4	
	comp=Z,90nm,21.7s,baz=36,slow=35						
WRA	**Warramunga Arr**	**23.62**	**235**	P	**P**	**00 47 31.4**	**-0.9**
	1.7nm,0.8s,baz=60,slow=9.8,SNR=6.4						
WRA				pP	**pP**	**00 47 42.6**	**-0.5**
	6.0nm,0.8s,baz=60,slow=9.6,SNR=18						
CMAR	**Chiang Mai Arr**	**60.77**	**296**	P	**P**	**00 52 33.4**	**+0.4**
	0.7nm,0.3s,baz=107,slow=4.4,SNR=4.4						
SONM	**Songino Array**	**69.44**	**327**	P	**P**	**00 53 28.8**	**0.0**
	0.5nm,0.8s,baz=128,slow=3.2,SNR=4.6						
SONM				pP	**pP**	**00 53 40.1**	**-0.9**
	0.9nm,0.8s,baz=140,slow=5.9,SNR=6.5						
MKAR	**Makanchi Array**	**83.48**	**319**	P	**P**	**00 54 48.6**	**+0.4**
	1.4nm,0.9s,baz=104,slow=5.1,SNR=11						
MKAR				pP	**pP**	**00 54 59.6**	**-1.1**
	0.6nm,0.8s,baz=106,slow=5.5,SNR=4.0						
ILAR	**Eielson Array**	**83.59**	**22**	P	**P**	**00 54 48.5**	**+0.2**
	0.5nm,0.9s,baz=224,slow=5.0,SNR=3.8						
ILAR				pP	**pP**	**00 54 59.8**	**-1.0**
	0.5nm,0.9s,baz=224,slow=4.8,SNR=2.5						
NVAR	**Mina Array Bea**	**91.92**	**52**	P	**P**	**00 55 30.5**	**+1.1**
	0.2nm,0.5s,baz=264,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**00 55 50.6**	**+0.8**
	0.8nm,0.9s,baz=269,slow=5.0,SNR=7.4						
YKA				pP	**pP**	**00 56 01.3**	**-1.0**
	0.4nm,0.6s,baz=270,slow=4.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**152.97**	**285**	PKPbc	**PKPbc**	**01 02 18.1**	**-0.6**
	0.6nm,0.8s,baz=32,slow=1.9,SNR=3.8						

*ISCJB **06** 00:53:14.5±0.4, 7.°15S×0.°07×154.°74E±0.°05, h41km, mb4.3/17, MS3.7/4, Error ellipse: s-maj=9.5km s-min=6.8km az=171.1*

*NEIC **06** 00:53:14.9±1.4, 7.°16S×154.°87E, h39km±13km, mb4.5/5, Error ellipse: s-maj=13.7km s-min=9.4km az=156.0*

*IDC **06** 00:53:14.8±0.6, 7.°14S×154.°84E, h35km±3km, mb4.1/13, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML3.5/2, MS3.7/5, Ms1 3.7/5, ms1mx3.3/26, Error ellipse: s-maj=21.6km s-min=14.8km az=135.0*

ISC 06 00:53:15.2±0.4, 7.°12S±0.°08×154.°79E±0.°06, h41km, n60, σ1$24/79, **mb4.2/17, MS3.7/4, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.59**	**115**	Pn	**Pn**	**00 54 33.9**	**-2.1**
HNR				Sn	**Sn**	**00 55 42.4**	**+3.3**
HNR	**Honiara**	**5.59**	**115**	Pn	**Pn**	**00 54 33.9**	**-2.1**
	5.9nm,0.3s,baz=51,slow=19,SNR=2.4						
HNR				Sn	**Sn**	**00 55 42.4**	**+3.3**
	56nm,0.3s,baz=246,slow=20,SNR=7.7						
HNR				LR	LR	00 56 41.1	
	comp=Z,384nm,21.5s,baz=252,slow=37						
PMG	**Port Moresby**	**7.88**	**253**	*e*Pn	**Pn**	**00 55 07.5**	**0.0**
	35nm,0.8s						
PMG				*e*Sn	**Sn**	**00 56 36.1**	**+0.7**
PMG	**Port Moresby**	**7.88**	**253**	Pn	**Pn**	**00 55 07.7**	**+0.3**
	1.2nm,0.3s,baz=50,slow=6.5,SNR=10						
CTA	**Charters Tower**	**15.32**	**212**	Pn	**P**	**00 56 51.6**	**-1.3**
CTA	**Charters Tower**	**15.32**	**212**	Pn	**P**	**00 56 51.6**	**-1.3**
	0.2nm,0.3s,baz=70,slow=22,SNR=4.3						
CTAO	**Charters Tower**	**15.32**	**212**	*e*Pn	**Pn**	**00 56 48.2**	**-0.4**
WRAB	**Tennant Creek**	**23.56**	**235**	*e*P	**P**	**00 58 21.8**	**-0.5**
	21nm,0.8s						
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**00 58 22.1**	**-0.3**
WRA				pP	**pP**	**00 58 32.6**	**-0.5**
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**00 58 22.1**	**-0.3**
	7.6nm,0.9s,baz=59,slow=9.8,SNR=22						
WRA				pP	**pP**	**00 58 32.6**	**-0.5**
	20nm,0.9s,baz=60,slow=9.7,SNR=27						
AS31	**Alice Springs**	**25.93**	**228**	*e*P	**P**	**00 58 44.5**	**+0.6**
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**00 58 43.4**	**-0.5**
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**00 58 43.4**	**-0.5**
	1.7nm,1.0s,baz=61,slow=9.6,SNR=10						
ASAR				LR	LR	01 09 19.6	
	comp=Z,209nm,18.4s,baz=141,slow=37						
STKA	**Stephens Creek**	**27.53**	**205**	*e*P	**P**	**00 58 57.0**	**-1.2**
	4.0nm,1.4s						
STKA	**Stephens Creek**	**27.53**	**205**	P	**P**	**00 58 59.4**	**+1.2**
	3.8nm,0.9s,baz=33,slow=11,SNR=5.1						
STKA				LR	LR	01 09 15.0	
	comp=Z,179nm,19.7s,baz=21,slow=35						
FITZ	**Fitzroy Crossi**	**30.42**	**246**	LR	LR	01 11 04.3	
	comp=Z,88nm,18.2s,baz=75,slow=35						
KSRS	**Korea Array**	**50.96**	**332**	P	**P**	**01 02 11.8**	**-0.9**
	1.7nm,0.8s,baz=156,slow=9.3,SNR=5.3						
KSAR	**Wonju Array Be**	**50.97**	**332**	P	**P**	**01 02 11.8**	**-1.0**
ENH	**Enshi**	**57.18**	**313**	*e*P	**P**	**01 02 59.6**	**+1.3**
	4.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**60.66**	**296**	P	**P**	**01 03 24.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**60.66**	**296**	P	**P**	**01 03 24.4**	**+1.8**
	3.8nm,0.8s,baz=115,slow=5.0,SNR=15						
ULN	**Ulaanbaatar**	**69.00**	**328**	*e*P	**P**	**01 04 16.6**	**0.0**
	1.7nm,0.7s						
ULN				*e*pP	**pP**	**01 04 28.5**	**-0.3**
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**01 04 19.8**	**+1.1**
SONM				pP	**pP**	**01 04 30.2**	**-0.7**
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**01 04 19.8**	**+1.1**
	2.3nm,0.8s,baz=131,slow=6.1,SNR=19						
SONM				pP	**pP**	**01 04 30.2**	**-0.7**
	3.0nm,0.9s,baz=132,slow=5.8,SNR=12						
LSA	**Lhasa**	**71.18**	**305**	*e*P	**P**	**01 04 31.2**	**+0.5**
	6.6nm,0.8s						
TAPN	**Taplejung**	**73.29**	**301**	*e*P	**P**	**01 04 45.3**	**+2.0**
	21nm,1.0s						
ODAN	**Odare**	**73.42**	**301**	*e*P	**P**	**01 04 46.0**	**+2.1**
	44nm,0.7s						
JIRN	**Jiri**	**74.67**	**301**	*e*P	**P**	**01 04 52.9**	**+1.5**
	12nm,0.7s						
GUN	**Gumba**	**75.01**	**301**	*e*P	**P**	**01 04 55.4**	**+2.1**
	31nm,0.8s						
PKI	**Pulchoki**	**75.31**	**301**	*e*P	**P**	**01 04 56.5**	**+1.4**
KKN	**Kakani**	**75.49**	**301**	*e*P	**P**	**01 04 57.4**	**+1.5**
	17nm,0.7s						
DMN	**Daman**	**75.58**	**301**	*e*P	**P**	**01 04 58.4**	**+1.9**
	26nm,0.8s						
GKN	**Gorkha**	**76.09**	**301**	*e*P	**P**	**01 05 00.8**	**+1.5**
	29nm,0.9s						
DANN	**Dangsing**	**76.93**	**301**	*e*P	**P**	**01 05 05.4**	**+1.2**
	16nm,0.8s						
PYUN	**Piuthan**	**77.52**	**301**	*e*P	**P**	**01 05 08.6**	**+1.2**
MK31	**Makanchi Array**	**83.37**	**319**	*e*P	**P**	**01 05 38.3**	**+0.1**
MKAR	**Makanchi Array**	**83.37**	**319**	P	**P**	**01 05 39.1**	**+1.0**
MKAR	**Makanchi Array**	**83.37**	**319**	P	**P**	**01 05 39.1**	**+1.0**
	4.9nm,0.8s,baz=106,slow=5.4,SNR=40						
ILAR	**Eielson Array**	**83.57**	**22**	P	**P**	**01 05 37.8**	**-1.0**
ILAR				pP	**pP**	**01 05 49.6**	**-1.6**
ILAR	**Eielson Array**	**83.57**	**22**	P	**P**	**01 05 37.8**	**-1.0**
	1.3nm,0.9s,baz=226,slow=6.1,SNR=11						
ILAR				pP	**pP**	**01 05 49.6**	**-1.6**
	1.1nm,0.6s,baz=251,slow=4.9,SNR=6.1						
ILAR				LR	LR	01 39 20.3	
	comp=Z,77nm,19.0s,baz=320,slow=33						
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**01 05 41.2**	**-0.8**
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**01 05 41.2**	**-0.8**
	1.7nm,0.8s,baz=108,slow=4.8,SNR=9.3						
HYT	**Haines Junctio**	**85.58**	**27**	*e*P	**P**	**01 05 50.0**	**+0.8**
AAK	**Ala-Archa**	**87.69**	**313**	P	**P**	**01 06 00.1**	**+0.1**
AAK	**Ala-Archa**	**87.69**	**313**	P	**P**	**01 06 00.1**	**+0.1**
	0.4nm,0.3s,baz=165,slow=7.8,SNR=4.2						
INK	**Inuvik**	**89.91**	**21**	*e*P	**P**	**01 06 10.0**	**+0.4**
NVAR	**Mina Array Bea**	**91.96**	**52**	P	**P**	**01 06 21.5**	**+1.4**
NVAR				pP	**pP**	**01 06 32.2**	**-0.5**
NVAR	**Mina Array Bea**	**91.96**	**52**	P	**P**	**01 06 21.5**	**+1.4**
	1.9nm,0.9s,baz=268,slow=7.0,SNR=10						
NVAR				pP	**pP**	**01 06 32.2**	**-0.5**
	1.4nm,0.7s,baz=259,slow=6.6,SNR=7.6						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**01 06 41.0**	**+0.7**
YKA				pP	**pP**	**01 06 51.6**	**-1.2**
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**01 06 40.9**	**+0.7**
	2.7nm,0.9s,baz=268,slow=4.6,SNR=34						
YKA				pP	**pP**	**01 06 51.6**	**-1.2**
	2.2nm,0.6s,baz=265,slow=4.4,SNR=16						
PDAR	**Pinedale Array**	**98.94**	**48**	P	**P**	**01 06 51.6**	**-0.2**
PDAR				pP	**pP**	**01 07 03.0**	**-1.4**
PDAR	**Pinedale Array**	**98.94**	**48**	P	**P**	**01 06 51.6**	**-0.2**
	0.6nm,0.8s,baz=255,slow=4.0,SNR=4.8						
PDAR				pP	**pP**	**01 07 03.0**	**-1.4**
	0.4nm,0.8s,baz=242,slow=3.2,SNR=3.4						

AKASG	**Malin Array Be**	**117.53**	**324**	PKP	**PKPdf**	**01 11 56.8**	**+0.1**
AKASG				pPKP	**pPKPdf**	**01 12 07.6**	**-2.0**
AKASG	**Malin Array Be**	**117.53**	**324**	PKP	**PKPdf**	**01 11 56.8**	**+0.1**
	0.5nm,0.7s,baz=62,slow=2.3,SNR=4.2						
AKASG				pPKP	**pPKPdf**	**01 12 07.6**	**-2.0**
	0.6nm,0.6s,baz=50,slow=3.1,SNR=3.6						
GERES	**GERESS Array B**	**127.06**	**329**	PKP	**PKPdf**	**01 12 16.1**	**+0.9**
GERES				pPKP	**pPKPdf**	**01 12 27.2**	**-0.9**
GERES	**GERESS Array B**	**127.06**	**329**	PKP	**PKPdf**	**01 12 16.1**	**+0.9**
	0.9nm,1.1s,baz=350,slow=1.5,SNR=5.1						
GERES				pPKP	**pPKPdf**	**01 12 27.2**	**-0.9**
	0.4nm,0.5s,baz=111,slow=3.0,SNR=2.8						
PTGA	**Pitinga**	**144.46**	**101**	PKP	PKPbc	01 12 47.0	+0.2
PTGA	**Pitinga**	**144.46**	**101**	PKP	PKPbc	01 12 47.0	+0.2
	4.4nm,0.8s,baz=34,slow=22,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.86**	**285**	PKPbc	**PKPbc**	**01 13 09.2**	**+0.3**
TORD				pPKPbc	**PKPab**	**01 13 20.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**152.86**	**285**	PKPbc	**PKPbc**	**01 13 09.2**	**+0.3**
	1.9nm,0.8s,baz=64,slow=3.0,SNR=11						
TORD				pPKPbc	**PKPab**	**01 13 20.9**	**+0.8**
	2.8nm,0.8s,baz=69,slow=2.4,SNR=9.9						

*IDC **06** 01:06:49.2±6.5, 17.°77S×71.°20W, h70km±44km, mb3.5/6, mb1 3.7/8, mb1mx3.5/21, mbtmp3.6/8, ML3.9/2, Error ellipse: s-maj=78.9km s-min=28.5km az=25.0*

ISC 06 01:06:43.1±1.6, 18.°2S±0.°3×71.°5W±0.°1, h32km, n18, σ1$72/9, **mb3.6/5, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.69**	**60**	P	**Pn**	**01 07 40.4**	**+1.9**
	3.5nm,0.3s,baz=251,slow=8.5,SNR=51						
SIV	**San Ignacio**	**10.17**	**79**	P	**Pn**	**01 09 07.5**	**+0.5**
	3.1nm,0.3s,baz=278,slow=12,SNR=36						
H03N1	**Juan Fernandez**	**16.62**	**202**	T	T	01 28 20.1	
	baz=26,slow=75,SNR=301						
H03N2	**Juan Fernandez**	**16.63**	**202**	T	T	01 28 20.6	
	baz=26,slow=75,SNR=370						
H03N3	**Juan Fernandez**	**16.64**	**202**	T	T	01 28 21.4	
	baz=26,slow=75,SNR=284						
PTGA	**Pitinga**	**20.68**	**34**	P	**P**	**01 11 18.1**	**-2.5**
	3.1nm,0.6s,baz=216,slow=23,SNR=6.3						
BDFB	**Brasilia**	**22.57**	**87**	P	**P**	**01 11 40.3**	**-0.9**
	1.0nm,0.4s,baz=240,slow=8.1,SNR=2.6						
DBIC	**Dimbokro**	**70.17**	**76**	P	**P**	**01 17 54.6**	**+1.3**
	2.8nm,0.8s,baz=242,slow=4.0,SNR=3.3						
NVAR	**Mina Array Bea**	**71.39**	**323**	P	**P**	**01 18 00.3**	**-0.2**
	0.2nm,0.5s,baz=157,slow=4.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**78.56**	**72**	P	**P**	**01 18 40.2**	**-1.8**
	0.5nm,0.8s,baz=257,slow=4.1,SNR=4.5						
YKA	**Yellowknife Ar**	**87.26**	**341**	P	**P**	**01 19 26.6**	**+0.5**
	0.5nm,0.5s,baz=136,slow=5.0,SNR=13						
H11S2	**WAKE ISLAND Hyd**	**25.00**	**280**	T	T	03 43 31.7	
	baz=102,slow=73,SNR=33						
H11N3	**WAKE ISLAND Hyd**	**25.00**	**282**	T	T	03 43 22.6	
	baz=102,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hyd**	**25.00**	**280**	T	T	03 43 20.7	
	baz=102,slow=73,SNR=49						
H11N2	**WAKE ISLAND Hyd**	**25.02**	**282**	T	T	03 43 26.3	
	baz=102,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hyd**	**25.02**	**280**	T	T	03 43 25.6	
	baz=102,slow=73,SNR=48						
H11N1	**WAKE ISLAND Hyd**	**25.02**	**282**	T	T	03 43 20.6	
	baz=102,slow=75,SNR=20						
SONM	**Songino Array**	**150.35**	**3**	PKPbc	**PKPbc**	**01 26 32.7**	**+1.3**
	0.6nm,0.6s,baz=338,slow=2.7,SNR=6.2						

KRSC 06 01:09:23.0±1.2, 53.°31N×160.°56E, h54km±13km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.39**	**237**	*e*P	Pn	01 09 35.3	+2.1
SPN				*e*S	Sn	01 09 42.2	+1.6
NLC	**Nalytchevo**	**0.74**	**260**	*e*P	Pn	01 09 39.0	+1.6
NLC				*e*S	Sn	01 09 49.1	+1.2
KII	**Karymskiy**	**0.99**	**318**	*e*P	Pn	01 09 42.3	+1.6
KII				*e*S	Sn	01 09 54.1	+0.3
SDLR	**Sedlovina**	**1.01**	**269**	*i* P	Pn	01 09 42.6	+1.5
SDLR				*i* S	Sn	01 09 54.7	+0.3
UGLR	**Uglovaya**	**1.05**	**265**	*i* P	Pn	01 09 43.4	+1.8
UGLR				*i* S	Sn	01 09 57.2	+1.8
SMAR	**Somma**	**1.06**	**268**	*e*P	Pn	01 09 43.3	+1.4
SMAR				*e*S	Sn	01 09 55.8	0.0
KRER	**Koryakskii**	**1.09**	**271**	*e*P	Pn	01 09 44.1	+1.9
KRER				*e*S	Sn	01 09 57.0	+0.5
AVH	**Avacha**	**1.10**	**268**	*i* P	Pn	01 09 44.0	+1.8
AVH				*e*S	Sn	01 09 58.1	+1.7
KRX	**Arik**	**1.15**	**273**	*i* P	Pn	01 09 44.5	+1.5
KRX				*i* S	Sn	01 09 58.5	+0.7
KOK	**Koryaka**	**1.16**	**270**	*e*P	Pn	01 09 44.8	+1.8
KOK				*e*S	Sn	01 09 59.1	+1.2
PET	**Petropavlovsk**	**1.19**	**257**	*i* P	Pn	01 09 44.6	+1.4
PET				*i* S	Sn	01 09 58.9	+0.6
RUS	**Russkaya**	**1.52**	**236**	*i* P	Pn	01 09 49.5	+1.7
RUS				*i* S	Sn	01 10 07.6	+1.2
GNL	**Ganaly**	**1.61**	**285**	*e*P	Pn	01 09 51.1	+1.9
GNL				*e*S	Sn	01 10 10.4	+1.4
MTVR	**Mutnovka**	**1.66**	**241**	*e*P	Pn	01 09 52.4	+2.5
MTVR				*e*S	Sn	01 10 12.4	+2.1
GRL	**Gorelyy**	**1.69**	**244**	*e*P	Pn	01 09 52.4	+2.2
GRL				*e*S	Sn	01 10 11.6	+0.8
KZV	**Kizimen**	**1.82**	**355**	*e*P	Pn	01 09 54.7	+2.7
KZV				*e*S	Sn	01 10 15.5	+1.5
ASAK	**Asacha**	**1.86**	**241**	*e*P	Pn	01 09 55.6	+3.0
ASAK				*e*S	Sn	01 10 17.9	+2.9
TUMR	**Tumrok**	**1.99**	**353**	*e*P	Pn	01 09 57.3	+2.9
TUMR				*e*S	Sn	01 10 21.0	+2.7
APC	**Apacha**	**2.09**	**261**	*e*P	Pn	01 09 58.6	+3.1
APC				*e*S	Sn	01 10 23.3	+3.0
KMNR	**Kamenistaya**	**2.46**	**356**	*e*P	Pn	01 10 05.1	+4.3
KOZ	**Kozyrevsk**	**2.79**	**352**	*e*P	Pn	01 10 08.0	+2.9
KLY	**Klyuchi**	**3.01**	**1**	*e*P	Pn	01 10 12.4	+4.3
SRDR	**Sredinnyy**	**3.06**	**351**	*e*P	Pn	01 10 11.9	+3.1
KBTR	**Krutoberegovo**	**3.19**	**23**	*e*P	Pn	01 10 15.5	+5.0
KBTR				*e*S	Sn	01 10 50.6	+3.4
BKI	**Bering**	**3.70**	**57**	*e*P	Pn	01 10 20.4	+2.9
BKI				*e*S	Sn	01 10 58.8	-0.9

IDC 06 01:30:16.8±2.0, 0.°98N×126.°18E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=169.9km s-min=25.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.28**	**159**	P	P	01 35 14.1	-1.7
	0.9nm,0.3s,baz=338,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**25.62**	**163**	P	P	01 35 49.4	+1.2
	0.5nm,0.3s,baz=345,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**59.51**	**326**	P	P	01 40 21.8	-0.1
	0.1nm,0.4s,baz=124,slow=7.1,SNR=6.2						

*IDC **06** 01:40:16.1±2.7, 12.°35S×166.°41E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=96.2km s-min=28.1km az=128.0*

*ISCJB **06** 01:40:22.5±2.3, 12.°5S±0.°4×166.°4E±0.°5, h59km, mb3.7/6, Error ellipse: s-maj=80.3km s-min=23.9km az=37.2*

ISC 06 01:40:24.0±2.3, 12.°5S±0.°4×166.°4E±0.°5, h59km, n6, σ0$07/6, **mb3.5/6, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.88**	**226**	P	**P**	**01 46 26.2**	**0.0**
	0.6nm,0.5s,baz=29,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**31.62**	**252**	P	**P**	**01 46 41.7**	**0.0**
	0.4nm,0.8s,baz=70,slow=8.0,SNR=4.6						
ASAR	**Alice Springs**	**32.75**	**246**	P	**P**	**01 46 51.5**	**-0.1**
	0.7nm,0.7s,baz=64,slow=10,SNR=6.9						
SONM	**Songino Array**	**80.16**	**324**	P	**P**	**01 52 28.0**	**0.0**
	0.4nm,0.7s,baz=128,slow=4.9,SNR=5.8						
ILAR	**Eielson Array**	**84.64**	**18**	P	**P**	**01 52 50.9**	**0.0**
	0.2nm,0.5s,baz=245,slow=4.6,SNR=4.6						
MKAR	**Makanchi Array**	**94.96**	**317**	P	**P**	**01 53 40.2**	**+0.1**
	1.1nm,0.8s,baz=103,slow=5.7,SNR=10						

*IDC **06** 01:48:20.3±1.1, 9.°19S×157.°78E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, Error ellipse: s-maj=47.8km s-min=19.2km az=126.0*

*ISCJB **06** 01:48:22.4±0.5, 9.°1S±0.°1×157.°75E±0.°09, h23km, mb4.1/14, Error ellipse: s-maj=17.9km s-min=10.3km az=152.8*

*NEIC **06** 01:48:25.9±0.7, 9.°08S×157.°71E, h35km, mb4.3/6, Error ellipse: s-maj=27.8km s-min=10.8km az=135.0*

ISC 06 01:48:24.0±0.7, 9.°2S±0.°1×157.°8E±0.°1, h23km, n27, σ1$00/27, **mb4.1/14, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.15**	**97**	*e*P	**Pn**	**01 48 58.0**	**-0.4**
COEN	**Coen**	**15.09**	**250**	*e*P	**Pn**	**01 51 57.5**	**+1.6**
WRAB	**Tennant Creek**	**25.05**	**242**	*e*P	**P**	**01 53 46.3**	**-0.6**
	4.5nm,0.8s						
WRA	**Warramunga Arr**	**25.07**	**242**	P	**P**	**01 53 46.8**	**-0.1**
WRA	**Warramunga Arr**	**25.07**	**242**	P	**P**	**01 53 46.8**	**-0.1**
	3.3nm,0.7s,baz=67,slow=9.2,SNR=25						
ASAR	**Alice Springs**	**27.01**	**235**	P	**P**	**01 54 03.8**	**-0.8**
ASAR	**Alice Springs**	**27.01**	**235**	P	**P**	**01 54 03.8**	**-0.8**
	2.2nm,0.9s,baz=62,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**27.15**	**211**	*e*P	**P**	**01 54 06.6**	**+1.0**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**27.15**	**211**	P	**P**	**01 54 05.3**	**-0.3**
	6.8nm,0.8s,baz=35,slow=14,SNR=15						
KAPI	**Kappang**	**37.96**	**274**	*e*P	**P**	**01 55 39.4**	**-0.9**
PETK	**Petropavlovsk-**	**62.02**	**360**	P	**P**	**01 58 42.7**	**+0.4**
PETK	**Petropavlovsk-**	**62.02**	**360**	P	**P**	**01 58 42.7**	**+0.4**
	5.6nm,0.9s,baz=116,slow=10,SNR=4.1						
SONM	**Songino Array**	**72.65**	**327**	P	**P**	**01 59 50.9**	**+1.0**
SONM	**Songino Array**	**72.65**	**327**	P	**P**	**01 59 50.9**	**+1.0**
	0.2nm,0.6s,baz=149,slow=3.4,SNR=3.2						
MCK	**McKinley**	**83.05**	**21**	*e*P	**P**	**02 00 47.8**	**+0.5**
	7.2nm,0.9s						
COLA	**College**	**84.11**	**20**	*e*P	**P**	**02 00 52.6**	**0.0**
	5.7nm,0.9s						
ILAR	**Eielson Array**	**84.38**	**21**	P	**P**	**02 00 52.6**	**-1.5**
ILAR	**Eielson Array**	**84.38**	**21**	P	**P**	**02 00 52.6**	**-1.5**
	1.5nm,1.0s,baz=246,slow=4.4,SNR=4.8						
MK31	**Makanchi Array**	**86.85**	**318**	*e*P	**P**	**02 01 06.6**	**-0.3**
MKAR	**Makanchi Array**	**86.85**	**318**	P	**P**	**02 01 06.3**	**-0.5**
MKAR	**Makanchi Array**	**86.85**	**318**	P	**P**	**02 01 06.3**	**-0.5**
	0.4nm,0.7s,baz=98,slow=5.9,SNR=4.6						
KURK	**Kurchatov**	**90.24**	**321**	*e*P	**P**	**02 01 20.0**	**-2.7**
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**90.89**	**51**	P	**P**	**02 01 27.4**	**+1.0**
NVAR	**Mina Array Bea**	**90.89**	**51**	P	**P**	**02 01 27.4**	**+1.0**
	1.4nm,0.8s,baz=247,slow=7.1,SNR=7.4						
BRVK	**Borovoye**	**95.75**	**323**	*e*P	**P**	**02 01 47.6**	**-0.5**
	1.4nm,0.8s						
YKA	**Yellowknife Ar**	**96.94**	**28**	P	**P**	**02 01 54.0**	**+0.6**
YKA	**Yellowknife Ar**	**96.94**	**28**	P	**P**	**02 01 53.9**	**+0.6**
	0.2nm,0.7s,baz=265,slow=4.4,SNR=3.6						

IDC 06 01:57:54.5±1.8, 0.°45N×126.°96E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=167.7km s-min=22.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.51**	**161**	P	P	02 02 44.9	-0.4
	1.4nm,0.6s,baz=339,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.90**	**165**	P	P	02 03 19.6	+0.2
	1.2nm,0.6s,baz=343,slow=10,SNR=12						
STKA	**Stephens Creek**	**35.01**	**158**	P	P	02 04 48.8	-0.1
	0.6nm,0.3s,baz=342,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**60.38**	**326**	P	P	02 08 05.6	-0.1
	0.4nm,0.4s,baz=118,slow=7.9,SNR=14						

*IDC **06** 02:02:16.8±1.0, 18.°76N×81.°70W, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, ML4.3/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/36, Error ell

	0.8nm,0.8s,baz=153,slow=6.2,SNR=4.3								
ILAR	**Eielson Array**	**83.97**	**21**	P		**P**	**02 18 58.5**	**-0.5**
ILAR	**Eielson Array**	**83.97**	**21**	P		**P**	**02 18 58.5**	**-0.5**
	0.4nm,0.9s,baz=262,slow=5.2,SNR=4.6								
MK31	**Makanchi Array**	**86.25**	**318**	*e*P		**P**	**02 19 10.4**	**-0.5**
MKAR	**Makanchi Array**	**86.25**	**318**	P		**P**	**02 19 10.9**	**+0.1**
MKAR	**Makanchi Array**	**86.25**	**318**	P		**P**	**02 19 10.9**	**+0.1**
	1.7nm,0.6s,baz=98,slow=6.1,SNR=25								
ZAA0	**Zalesovo Array**	**86.90**	**326**	*e*P		**P**	**02 19 12.8**	**-1.0**
ZALV	**Zalesovo Beam**	**86.90**	**326**	P		**P**	**02 19 12.8**	**-1.0**
ZALV	**Zalesovo Beam**	**86.90**	**326**	P		**P**	**02 19 12.8**	**-1.0**
	0.7nm,0.5s,baz=123,slow=5.5,SNR=4.1								
KURK	**Kurchatov**	**89.63**	**321**	*e*P		**P**	**02 19 27.2**	**+0.3**
	5.3nm,1.8s								
TKM2	**Tokmak 2**	**89.92**	**313**	*e*P		**P**	**02 19 27.3**	**-1.5**
	2.4nm,1.0s								
NVAR	**Mina Array Bea**	**90.78**	**51**	P		**P**	**02 19 34.6**	**+1.8**
NVAR	**Mina Array Bea**	**90.78**	**51**	P		**P**	**02 19 34.6**	**+1.8**
	0.4nm,0.8s,baz=255,slow=3.5,SNR=3.2								
EKS2	**Erkin-Say**	**91.18**	**313**	*e*P		**P**	**02 19 33.3**	**-1.2**
	3.6nm,0.8s								
BDFB	**Brasilia**	**145.09**	**134**	PKPbc		**PKPbc**	**02 26 06.9**	**-0.3**
BDFB	**Brasilia**	**145.09**	**134**	PKPbc		**PKPbc**	**02 26 06.9**	**-0.3**
	4.1nm,0.8s,baz=206,slow=2.4,SNR=8.3								

IDC ***06*** *02:11:03.6±1.0, 27.°35S×71.°11W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, ML3.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/24, Error ellipse: s-maj=36.0km s-min=26.5km az=31.0*

GUC ***06*** *02:11:04.1±0.5, 27.°55S×71.°54W, h39km±8km, ML4.2*

NEIC ***06*** *02:11:05.5±3.6, 27.°40S×71.°23W, h14km±22km, mb4.5/7, Error ellipse: s-maj=17.6km s-min=8.0km az=79.0*

ISCJB ***06*** *02:11:06.8±1.0, 27.°51S±0.°04×71.°41W±0.°08, h41km±9km, mb4.2/10, MS3.1/1, Error ellipse: s-maj=12.3km s-min=6.1km az=5.2*

SJA ***06*** *02:11:07.7±0.6, 27.°75S×71.°18W, h10km±8km, ML4.3, MW3.9*

ISC 06 02:11:06.5±1.8**, 27.°47S**±0.°04×**71.°42W**±0.°08**, h24**km±12km**, n66**, σ1°69/67**, mb4.4/10**, 1C-1D**, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.67**	**53**	⇓*i*P		**Pb**	**02 11 18.6**	**-0.9**
CDCH				*i* S		**Sn**	**02 11 30.4**	**+0.2**
CPCH	**Copiapo**	**0.96**	**84**	⇑*i*P		**Pn**	**02 11 22.1**	**-2.4**
CPCH				*i* S		**Sn**	**02 11 36.5**	**-0.9**
CPCH				AML		AML	02 11 39.0	
	comp=N,9μm,0.2s							
VACH	**Vallenar**	**1.25**	**152**	*e*P		**Pn**	**02 11 25.9**	**-2.6**
VACH				*i* S		**Sn**	**02 11 42.5**	**-2.1**
VACH				AML		AML	02 11 45.0	
	comp=E,10μm,0.3s							
LCO	**Las Campanas**	**1.66**	**158**	*e*Pn		**Pn**	**02 11 32.8**	**-1.6**
LCO				*e*Sn		**Sn**	**02 11 54.3**	**-0.9**
LCO	**Las Campanas**	**1.66**	**158**	*e*P		**Pn**	**02 11 33.0**	**-1.4**
LCO				*e*S		**Sn**	**02 11 51.5**	**-3.7**
AGUA	**GUANDACOL**	**3.27**	**129**	*e*P4		Pn	02 11 59.5	+3.1
CMCH	**Combarbala**	**3.71**	**174**	*e*P		**Pn**	**02 11 59.3**	**-3.1**
AMOG	**MOGNA**	**4.30**	**144**	*e*P4		Pn	02 12 14.9	+4.3
ACLC	**CERRO LA CRUZ**	**4.39**	**117**	*e*P		**Pn**	**02 12 13.4**	**+1.6**
RTLL	**Cerro Villicun**	**4.63**	**147**	*e*P4		Pn	**02 12 16.9**	**+1.9**
RTLS	**Leoncito**	**4.70**	**157**	*e*P		**Pn**	**02 12 17.8**	**+1.7**
RTLS				*e*S4		**Sn**	**02 13 14.6**	**+4.6**
AVFE	**Valle Fertil**	**4.71**	**133**	*e*P		**Pn**	**02 12 17.6**	**+1.4**
CFAA	**Coronel Fontan**	**4.97**	**147**	Pn		**Pn**	**02 12 20.6**	**+1.0**
CFAA				Lg		Lg	02 13 29.1	
CFAA	**Coronel Fontan**	**4.97**	**147**	Pn		**Pn**	**02 12 20.6**	**+1.0**
	comp=E,0.6nm,0.3s,baz=323,slow=12,SNR=15							
CFAA				Lg		Lg	02 13 29.1	
	comp=E,2.1nm,0.3s,baz=245,slow=22,SNR=9.0							
CFAA	**Coronel Fontan**	**4.97**	**147**	*e*P		**Pn**	**02 12 21.5**	**+1.8**
AUSP	**Uspallata**	**5.06**	**160**	*e*P		**Pn**	**02 12 23.2**	**+2.1**
CYA	**Choya**	**5.07**	**102**	*e*P		Pn	02 12 23.9	+2.9
CYA				AML		AML	02 13 36.0	
	comp=Z,136nm,0.7s							
LVC	**Limon Verde**	**5.34**	**26**	*e*Pn		**Pn**	**02 12 22.5**	**-2.5**
LVC				*e*Pg		**Pb**	**02 12 39.0**	**-0.4**
LVC				*e*Sn		**Sn**	**02 13 21.8**	**-4.2**
LVC				*e*Sg		**Sb**	**02 13 47.1**	**+3.9**
AHML	**Horco Molle**	**5.47**	**84**	*e*P		Pn	02 12 29.7	+3.1
ASAL	**Salagasta**	**5.58**	**157**	*e*P		**Pn**	**02 12 29.5**	**+1.4**
ARCO	**CERRO ARCO**	**5.77**	**159**	*e*P4		Pn	02 12 37.3	+6.5
ARCO				AML		AML	02 14 14.0	
	comp=Z,203nm,0.7s							
ARCO				AMB		AMB	02 14 16.6	
	comp=Z,613nm,1.1s							
AAGR	**Agrelo**	**6.03**	**159**	*e*P4		Pn	02 12 40.5	+6.1
TCA	**Tanti**	**7.09**	**125**	*e*P4		Pn	02 12 53.1	+4.1
H03N1	**Juan Fernandez**	**8.78**	**226**	T		T	02 22 13.4	
	baz=52,slow=73,SNR=393							
H03N2	**Juan Fernandez**	**8.79**	**226**	T		T	02 22 14.8	
	baz=52,slow=73,SNR=363							
H03N3	**Juan Fernandez**	**8.80**	**225**	T		T	02 22 29.6	
	baz=52,slow=73,SNR=602							
LPAZ	**La Paz**	**11.54**	**16**	*e*Pn		**Pn**	**02 13 48.2**	**-2.1**
LPAZ	**La Paz**	**11.54**	**16**	LR		LR	02 18 01.1	
	comp=Z,78nm,21.1s,baz=185,slow=37							
CPUP	**Villa Florida**	**12.63**	**88**	LR		LR	02 18 41.1	
	comp=Z,55nm,18.5s,baz=174,slow=37							
TRQA	**Tornquist**	**13.20**	**145**	*e*Pn		**Pn**	**02 14 13.6**	**+1.1**
TRQA				*e*Sn		**Sn**	**02 16 38.1**	**-0.5**
SIV	**San Ignacio**	**14.92**	**42**	Pn		Pn	02 14 30.6	-5.4
SIV	**San Ignacio**	**14.92**	**42**	Pn		Pn	02 14 30.6	-5.4
	comp=Z,0.4nm,0.3s,baz=251,slow=10,SNR=3.8							
SAML	**Samuel**	**20.00**	**24**	*e*P		**P**	**02 15 37.7**	**+0.2**
	comp=Z,4.0nm,0.9s							
BDFB	**Brasilia**	**24.70**	**66**	P		**P**	**02 16 24.2**	**-1.8**
BDFB	**Brasilia**	**24.70**	**66**	P		**P**	**02 16 24.2**	**-1.8**
	comp=Z,5.7nm,1.0s,baz=231,slow=7.6,SNR=5.6							
BDFB				LR		LR	02 26 13.4	
	comp=Z,65nm,19.4s,baz=66,slow=37							
OTAV	**Otavalo**	**28.36**	**345**	*e*P		**P**	**02 16 58.6**	**-0.8**
	comp=Z,5.2nm,1.2s							
ROSC	**El Rosal**	**32.26**	**355**	*e*P		**P**	**02 17 33.8**	**0.0**
SNAA	**Sanae**	**57.46**	**160**	*e*P		**P**	**02 20 52.4**	**-0.7**
	comp=Z,8.3nm,1.1s							
NATX	**Nacogdoches**	**62.93**	**338**	*e*P		**P**	**02 21 30.5**	**-0.4**
TXAR	**Lajitas Array**	**64.37**	**329**	P		**P**	**02 21 42.0**	**+1.4**
TXAR	**Lajitas Array**	**64.37**	**329**	P		**P**	**02 21 42.0**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=146,slow=8.4,SNR=5.4							
MNTX	**Cornudas Mount**	**67.15**	**329**	*e*P		**P**	**02 21 58.7**	**+0.3**
	comp=Z,3.0nm,1.1s							
SDCO	**Great Sand Dun**	**72.32**	**332**	*e*P		**P**	**02 22 31.9**	**+1.5**
DBIC	**Dimbokro**	**72.66**	**73**	*e*P		**P**	**02 22 32.3**	**-0.3**
	comp=Z,11nm,1.3s							
DBIC	**Dimbokro**	**72.66**	**73**	P		**P**	**02 22 32.6**	**0.0**
	comp=Z,4.4nm,1.0s,baz=173,slow=8.9,SNR=5.0							
DUG	**Dugway**	**77.55**	**329**	*e*P		**P**	**02 23 01.3**	**+0.9**
	comp=Z,9.4nm,1.6s							
PDAR	**Pinedale Array**	**78.22**	**332**	P		**P**	**02 23 07.3**	**+3.1**
PDAR	**Pinedale Array**	**78.22**	**332**	P		**P**	**02 23 07.3**	**+3.1**
	comp=Z,0.3nm,0.5s,baz=106,slow=6.7,SNR=2.6							
HLID	**Hailey**	**80.95**	**330**	*e*P		**P**	**02 23 19.8**	**+0.8**
	comp=Z,6.4nm,1.5s							
TOA0	**Torodi Ar. Sit**	**81.51**	**70**	*e*P		**P**	**02 23 21.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**81.51**	**70**	P		**P**	**02 23 22.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**81.51**	**70**	P		**P**	**02 23 22.5**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=272,slow=5.5,SNR=26							
TAM	**Tamanrasset**	**89.52**	**64**	*e*P		**P**	**02 24 01.7**	**-0.6**
WRA	**Warramunga Arr**	**126.67**	**211**	PKP		**PKPdf**	**02 30 09.2**	**+0.6**
WRA	**Warramunga Arr**	**126.67**	**211**	PKP		**PKPdf**	**02 30 09.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=155,slow=1.7,SNR=8.1							
KURK	**Kurchatov**	**147.52**	**36**	*e*PKPbc		**PKPbc**	**02 30 47.9**	**-0.3**
KURBB	**Kurchatov Arra**	**147.53**	**36**	PKPbc		**PKPdf**	**02 30 46.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=306,slow=3.4,SNR=8.9							
EKS2	**Erkin-Say**	**148.00**	**53**	*e*PKPbc		**PKPbc**	**02 30 50.0**	**0.0**
ZAA0	**Zalesovo Array**	**148.30**	**27**	*e*PKPdf		**PKPdf**	**02 30 47.2**	**+0.4**
ZAA0				*e*PKPbc		**PKPbc**	**02 30 50.6**	**+0.4**
ZAA0				*e*PKPab		**PKPab**	**02 30 54.0**	**+0.6**
ZALV	**Zalesovo Beam**	**148.30**	**27**	PKPbc		**PKPdf**	**02 30 47.8**	**+0.9**
ZALV	**Zalesovo Beam**	**148.30**	**27**	PKPbc		**PKPdf**	**02 30 47.8**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=323,slow=2.2,SNR=13							
AAK	**Ala-Archa**	**148.51**	**52**	*e*PKPbc		**PKPbc**	**02 30 52.7**	**+1.3**
AAK				*e*PKPab		**PKPab**	**02 30 55.9**	**+1.0**
TKM2	**Tokmak 2**	**149.19**	**51**	*e*PKPdf		**PKPbc**	**02 30 53.5**	**+0.3**
MK31	**Makanchi Array**	**151.73**	**40**	*e*PKPdf		**PKPdf**	**02 30 53.6**	**+1.1**
MK31				*e*PKPbc		**PKiKP**	**02 30 59.0**	**-0.2**
MK31				*e*PKPab		**PKPab**	**02 31 07.7**	**0.0**
MKAR	**Makanchi Array**	**151.73**	**40**	PKPbc		**PKPbc**	**02 30 59.3**	**+0.4**
MKAR	**Makanchi Array**	**151.73**	**40**	PKPbc		**PKPbc**	**02 30 59.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=326,slow=2.0,SNR=18							

ISCJB ***06*** *02:29:20.7±1.1, 31.°75S×0.°2-58.°3E±0.°3, h10km, mb4.0/7, Error ellipse: s-maj=36.2km s-min=31.0km az=176.9*

IDC ***06*** *02:29:20.4±1.3, 31.°70S×58.°14E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/25, mbtmp3.9/7, Error ellipse: s-maj=44.2km s-min=33.0km az=54.0*

ISC 06 02:29:22.1±1.2**, 31.°85S**±0.°3×**58.°2E**±0.°3**, h10km**, **n11, σ1°08/8, mb4.0/7, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**46.36**	**110**	T		T	03 27 42.2	
	baz=257,slow=75,SNR=5.5							
H01W3	**Cape Leeuwin H**	**46.38**	**110**	T		T	03 27 39.5	
	baz=257,slow=75,SNR=5.6							
H01W1	**Cape Leeuwin H**	**46.38**	**110**	T		T	03 27 40.2	
	baz=257,slow=75,SNR=5.6							
CMAR	**Chiang Mai Arr**	**63.44**	**44**	P		**P**	**02 39 51.5**	**-0.8**
	0.8nm,0.3s,baz=223,slow=7.4,SNR=5.8							
ASAR	**Alice Springs**	**66.33**	**104**	P		**P**	**02 40 11.8**	**+0.5**
	0.5nm,0.6s,baz=230,slow=7.0,SNR=6.6							
WRA	**Warramunga Arr**	**68.34**	**101**	P		**P**	**02 40 23.9**	**-0.1**
	0.6nm,1.1s,baz=224,slow=8.1,SNR=2.8							
MKAR	**Makanchi Array**	**81.19**	**17**	P		**P**	**02 41 39.0**	**+1.3**
	0.3nm,0.7s,baz=187,slow=4.9,SNR=3.5							
KURBB	**Kurchatov Arra**	**84.00**	**13**	P		**P**	**02 41 50.5**	**-1.7**
	1.0nm,1.0s,baz=208,slow=5.5,SNR=7.2							
BVAR	**Borovoye Array**	**85.12**	**7**	P		**P**	**02 41 57.7**	**-0.2**
	1.8nm,0.8s,baz=165,slow=6.2,SNR=8.6							
PLCA	**Paso Flores**	**93.67**	**216**	P		**P**	**02 42 39.0**	**-0.1**
	2.4nm,0.9s,baz=95,slow=7.7,SNR=3.2							
YKA	**Yellowknife Ar**	**148.92**	**353**	PKPbc		**PKPbc**	**02 49 08.8**	**-0.6**
	0.6nm,0.7s,baz=7.7,slow=4.2,SNR=11							

IDC ***06*** *03:25:04.6±0.7, 8.°80S×157.°63E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/20, mbtmp4.2/12, ML4.3/2, MS3.9/11, Ms1 3.9/11, ms1mx3.5/32, Error ellipse: s-maj=21.0km s-min=14.1km az=177.0*

ISCJB ***06*** *03:25:05.6±0.5, 8.°82S±0.°09×157.°68E±0.°09, h17km, mb4.1/13, MS3.9/8, Error ellipse: s-maj=15.8km s-min=9.7km az=138.4*

NEIC ***06*** *03:25:09.5±0.5, 8.°87S×157.°77E, h35km, mb4.6/6, Error ellipse: s-maj=15.4km s-min=8.8km az=141.0*

ISC 06 03:25:07.2±0.5**, 8.°8S**±0.°1×**157.°66E**±0.°06**, h17**km**, n48, σ1°33/38, mb4.1/13, MS3.9/8, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.34**	**105**	Pn		**Pn**	**03 25 43.8**	**-1.2**
HNR				Sn		**Sg**	**03 26 22.9**	**+0.3**
HNR	**Honiara**	**2.34**	**105**	Pn		**Pn**	**03 25 43.3**	**-1.6**
	75nm,0.3s,baz=268,slow=0.7,SNR=13							
HNR				LR		LR	03 26 22.3	
	comp=Z,520nm,21.9s,baz=292,slow=33							
HNR				Lg		Lg	03 26 22.6	
	505nm,0.3s,baz=72,slow=21,SNR=12							
HNR	**Honiara**	**2.34**	**105**	*i* P		**Pn**	**03 25 42.0**	**-3.0**
PMG	**Port Moresby**	**10.38**	**266**	LR		LR	03 31 25.3	
	comp=Z,1μm,18.5s,baz=77,slow=37							
COEN	**Coen**	**15.09**	**249**	Pn		**P**	**03 28 43.4**	**-1.6**
	99nm,0.9s							
DZM	**Mont Dzumac**	**15.65**	**148**	*e*LR		LR	03 32 13.9	
	316nm,25.1s							
DZM	**Mont Dzumac**	**15.65**	**148**	LR		LR	03 33 29.6	
	comp=Z,457nm,18.2s,baz=72,slow=32							
CTA	**Charters Tower**	**15.72**	**223**	Pn		**Pn**	**03 28 48.3**	**+0.3**
CTA	**Charters Tower**	**15.72**	**223**	Pn		**Pn**	**03 28 48.3**	**+0.3**
	0.8nm,0.3s,baz=30,slow=13,SNR=7.3							
CTAO	**Charters Tower**	**15.72**	**223**	*e*Pn		**Pn**	**03 28 49.2**	**+1.1**
EIDS	**Eidsvold**	**17.61**	**200**	*e*Pn		**P**	**03 29 13.2**	**+0.3**
	22nm,1.4s							
WRAB	**Tennant Creek**	**25.10**	**241**	*e*P		**P**	**03 30 30.3**	**-1.0**
	12nm,0.8s							
WRA	**Warramunga Arr**	**25.11**	**241**	P		**P**	**03 30 30.7**	**-0.8**
WRA				PcP		**PcP**	**03 34 06.0**	**+0.2**
WRA	**Warramunga Arr**	**25.11**	**241**	P		**P**	**03 30 30.7**	**-0.8**
	9.7nm,0.9s,baz=66,slow=9.4,SNR=26							
WRA				PcP		**PcP**	**03 34 06.0**	**+0.2**
	0.9nm,0.7s,baz=71,slow=2.7,SNR=5.6							
WRA				LR		LR	03 39 51.1	
	comp=Z,355nm,19.7s,baz=75,slow=35							
ASAR	**Alice Springs**	**27.10**	**234**	P		**P**	**03 30 48.3**	**-1.2**
ASAR	**Alice Springs**	**27.10**	**234**	P		**P**	**03 30 48.3**	**-1.2**
	2.4nm,0.8s,baz=62,slow=9.1,SNR=21							
ASAR				LR		LR	03 41 29.4	
	comp=Z,222nm,18.3s,baz=352,slow=36							
STKA	**Stephens Creek**	**27.37**	**211**	*e*P		**P**	**03 30 53.3**	**+1.5**
	1.4nm,0.8s							
STKA	**Stephens Creek**	**27.37**	**211**	P		**P**	**03 30 52.8**	**+1.0**
	6.8nm,0.8s,baz=36,slow=11,SNR=16							
STKA				LR		LR	03 41 03.0	
	comp=Z,335nm,18.7s,baz=28,slow=35							
H11S3	**WAKE ISLAND Hy**	**28.56**	**18**	T		T	03 59 34.7	
	baz=199,slow=77,SNR=59							
H11S2	**WAKE ISLAND Hy**	**28.57**	**18**	T		T	03 59 38.6	
	baz=199,slow=77,SNR=60							
H11S1	**WAKE ISLAND Hy**	**28.58**	**18**	T		T	03 59 39.5	
	baz=199,slow=77,SNR=37							
H11N1	**WAKE ISLAND Hy**	**29.77**	**18**	T		T	04 01 26.2	
	baz=198,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**29.78**	**18**	T		T	04 01 40.5	
	baz=198,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**29.79**	**18**	T		T	04 01 42.9	
	baz=198,slow=75,SNR=5.5							
URZ	**Urewera**	**34.15**	**152**	LR		LR	03 44 07.1	
	comp=Z,180nm,18.4s,baz=335,slow=33							
MBWA	**Marble Bar**	**38.53**	**247**	*e*P		**P**	**03 32 28.5**	**-0.6**
	11nm,0.8s							
TGY	**Tagaytay City**	**42.97**	**302**	LR		LR	03 48 49.3	
	comp=Z,156nm,20.7s,baz=247,slow=33							
PPT2	**Papeete2**	**51.97**	**105**	*e*S		**S**	**03 41 43.8**	**+4.9**
	63nm,29.0s							
PPT2				*e*LR		LR	03 49 31.7	
	124nm,23.5s							
KSRS	**Korea Array**	**53.79**	**331**	LR		LR	03 55 00.9	
	comp=Z,65nm,19.7s,baz=149,slow=33							
CMAR	**Chiang Mai Arr**	**63.95**	**295**	P		**P**	**03 35 41.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**63.95**	**295**	P		**P**	**03 35 41.2**	**+1.2**
	1.9nm,0.3s,baz=110,slow=4.5,SNR=6.8							
SONM	**Songino Array**	**72.29**	**327**	P		**P**	**03 36 33.1**	**+1.1**
SONM	**Songino Array**	**72.29**	**327**	P		**P**	**03 36 33.1**	**+1.1**
	0.2nm,0.3s,baz=90,slow=1.6,SNR=2.8							
IM04	**Indian Mountai**	**82.59**	**18**	*e*P		**P**	**03 37 29.4**	**+0.3**
MCK	**McKinley**	**82.77**	**21**	*e*P		**P**	**03 37 28.6**	**-1.5**
	10nm,1.0s							
ILAR	**Eielson Array**	**84.11**	**21**	P		**P**	**03 37 36.1**	**-0.8**
ILAR	**Eielson Array**	**84.11**	**21**	P		**P**	**03 37 36.1**	**-0.8**
	1.0nm,0.9s,baz=267,slow=3.7,SNR=8.1							
MKAR	**Makanchi Array**	**86.51**	**318**	P		**P**	**03 37 49.6**	**+0.3**
MKAR	**Makanchi Array**	**86.51**	**318**	P		**P**	**03 37 49.6**	**+0.3**
	0.1nm,0.8s,baz=89,slow=8.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**87.16**	**326**	LR		LR	04 13 10.6	
	comp=Z,42nm,20.0s,baz=259,slow=33							
NVAR	**Mina Array Bea**	**90.78**	**51**	P		**P**	**03 38 10.4**	**+0.4**
NVAR	**Mina Array Bea**	**90.78**	**51**	P		**P**	**03 38 10.4**	**+0.4**
	2.4nm,0.8s,baz=256,slow=6.4,SNR=19							
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**03 38 36.2**	**-0.3**
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**03 38 36.2**	**-0.3**
	0.2nm,0.7s,baz=276,slow=5.5,SNR=3.4							
PDAR	**Pinedale Array**	**97.95**	**48**	P		**P**	**03 38 42.0**	**-0.9**
PDAR	**Pinedale Array**	**97.95**	**48**	P		**P**	**03 38 42.0**	**-0.9**
	0.5nm,0.8s,baz=261,slow=2.9,SNR=3.6							
PDAR				LR		LR	04 14 50.5	
	comp=Z,104nm,20.5s,baz=77,slow=30							
BDFB	**Brasilia**	**144.83**	**134**	PKP		**PKPab**	**03 44 42.5**	**-0.9**
BDFB	**Brasilia**	**144.83**	**134**	PKP		**PKPab**	**03 44 42.5**	**-0.9**
	6.7nm,0.7s,baz=213,slow=1.9,SNR=13							

TIF ***06*** *03:25:08.7, 42.°56N×43.°45E, h10km*

CSEM ***06*** *03:25:09.6±0.2, 42.°56N×43.°43E, h2km, mb3.9, Error ellipse: s-maj=3.6km s-min=2.5km az=104.0*

MOS ***06*** *03:25:10.1±1.4, 42.°57N×43.°47E, h13km, mb3.9/1, Error ellipse: s-maj=0.1km s-min=0.0km az=130.1*

AZER ***06*** *03:25:12.3±99.0, 44.°25N×47.°27E, h25km±999km, Error ellipse: s-maj=9999.0km s-min=77.7km az=5.0*

DDA ***06*** *03:25:13.9, 42.°40N×43.°16E, h2km, MD3.2*

ISC 06 03:25:09.6±0.8**, 42.°54N**±0.°02×**43.°43E**±0.°02**, h5**km±6km**, n69, σ0°76/123, 11C-7D, Western Caucasus**

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

ONI	**Oni**	**0.05**	**24**	*i* PG		**Pg**	**03 25 10.9**	**-0.2**
ONI	**Oni**	**0.05**	**24**	P		**Pg**	**03 25 10.9**	**-0.2**
ONI				S		**Sg**	**03 25 12.3**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.37**	**18**	⇓*i* PG		**Pg**	**03 25 16.0**	**-0.9**
DIGR				*i* S		**Sg**	**03 25 21.4**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.37**	**18**	*i* Pg		**Pg**	**03 25 16.0**	**-0.9**
DIGR				*i* Sg		**Sg**	**03 25 21.4**	**-0.5**
ZEI	**Tsey**	**0.43**	**55**	⇓*i* PG		**Pg**	**03 25 17.1**	**-0.8**
ZEI				*i* S		**Sg**	**03 25 23.0**	**-0.6**
KORR	**Kora**	**0.72**	**41**	⇑*i* PG		**Pg**	**03 25 22.9**	**-0.5**
KORR				*e*S		**Sg**	**03 25 32.9**	**+0.1**
KORR	**Kora**	**0.72**	**41**	*i* Pg		**Pg**	**03 25 22.9**	**-0.5**
KORR				*e*Sg		**Sg**	**03 25 32.9**	**+0.1**
GUDG	**Gudauri**	**0.78**	**95**	P		**Pg**	**03 25 23.5**	**-1.1**
GUDG				S		**Sg**	**03 25 34.5**	**-0.3**
GUDG	**Gudauri**	**0.78**	**95**	P		**Pg**	**03 25 23.5**	**-1.1**
GUDG				S		**Sg**	**03 25 34.5**	**-0.3**
LSNR	**Lesken**	**0.79**	**22**	⇓*i* PG		**Pg**	**03 25 24.2**	**-0.6**
LSNR				*i* S		**Sg**	**03 25 35.0**	**-0.1**
LSNR	**Lesken**	**0.79**	**22**	*i* Pg		**Pg**	**03 25 24.2**	**-0.6**
LSNR				*i* Sg		**Sg**	**03 25 35.0**	**-0.1**
ARNR	**Ardon**	**0.90**	**45**	⇑*i* PG		**Pg**	**03 25 26.8**	**0.0**
ARNR				*e*S		**Sg**	**03 25 38.9**	**+0.5**
ARNR	**Ardon**	**0.90**	**45**	*i* Pg		**Pg**	**03 25 26.8**	**0.0**
ARNR				*e*Sg		**Sg**	**03 25 38.9**	**+0.5**
STDR	**Stavd-Durt**	**0.95**	**29**	⇑*i* PG		**Pb**	**03 25 28.4**	**-0.1**
STDR				*e*S		**Sb**	**03 25 41.4**	**0.0**
STDR	**Stavd-Durt**	**0.95**	**29**	*i* Pg		**Pb**	**03 25 28.4**	**-0.1**
STDR				*e*Sg		**Sb**	**03 25 41.4**	**0.0**
NCK	**Nalchik**	**0.96**	**7**	*d* PG		**Pg**	**03 25 27.8**	**-0.2**
NCK	**Nalchik**	**0.96**	**7**	*i* Pg		**Pg**	**03 25 27.8**	**-0.2**
DUS	**Dusheti**	**1.05**	**115**	*i* PG		**Pb**	**03 25 30.1**	**-0.2**
DUS	**Dusheti**	**1.05**	**115**	P		**Pb**	**03 25 30.1**	**-0.2**
DUS				S		**Sb**	**03 25 45.0**	**+0.7**
DUS	**Dusheti**	**1.05**	**115**	*i* Pg		**Pb**	**03 25 30.0**	**-0.2**
DUS				S		**Sb**	**03 25 45.0**	**+0.7**
VLKR	**Vladikavkaz**	**1.05**	**61**	⇑*e*PG		**Pb**	**03 25 30.2**	**-0.1**
VLKR	**Vladikavkaz**	**1.05**	**61**	*e*Pg		**Pb**	**03 25 30.2**	**-0.1**
AKH	**Akhalkalaki**	**1.13**	**177**	*i* PG		**Pg**	**03 25 30.7**	**-0.6**
AKH	**Akhalkalaki**	**1.13**	**177**	P		**Pg**	**03 25 30.7**

76nm,0.3s,baz=214,slow=3.0,SNR=16
HNR Lg Lg 03 40 21.8
306nm,0.3s,baz=262,slow=23,SNR=11
HNR Honiara 1.85 100 *i* P **Pn 03 39 47.0 -0.8**
PMG Port Moresby 10.81 268 LR LR 03 45 32.0
comp=Z,382nm,19.6s,baz=71,slow=36
COEN Coen 15.40 250 *e*Pn **Pn 03 42 51.7 -1.7**
369nm,1.4s
COEN Coen 15.40 250 P **P 03 42 58.7 +0.9**
baz=17,SNR=4.4
CTA Charters Tower 15.82 225 Pn **Pn 03 42 58.9 0.0**
CTA Charters Tower 15.82 225 Pn **Pn 03 42 58.9 0.0**
0.2nm,0.3s,baz=58,slow=18,SNR=3.5
CTAO Charters Tower 15.82 225 Pn **Pn 03 42 56.4 -2.5**
EIDS Eidsvold 17.50 202 *e*Pn **Pn 03 43 19.7 -0.3**
RMQ Roma 19.42 206 P **Pn 03 43 44.5 +1.0**
baz=21,SNR=16
QIS Mount Isa 21.17 235 P **P 03 44 02.4 +1.1**
baz=23,SNR=10
QLP Quilpie 21.79 215 P **P 03 44 08.2 +0.4**
baz=24,SNR=7.7
ARMA Armidale 22.05 195 P **P 03 44 14.3 +3.5**
baz=24,SNR=4.4
CMSA Cobar Meteorol 25.12 206 P **P 03 44 41.5 +0.7**
baz=27,SNR=10
WRAB Tennant Creek 25.35 242 *e*P **P 03 44 40.5 -2.4**
12nm,0.8s
WRA Warramunga Arr 25.36 242 P **P 03 44 42.2 -0.9**
WRA Warramunga Arr 25.36 242 P **P 03 44 42.2 -0.9**
7.0nm,0.7s,baz=68,slow=9.6,SNR=27
WRA LR LR 03 53 42.1
comp=Z,247nm,18.1s,baz=45,slow=34
ASAR Alice Springs 27.29 235 P **P 03 44 59.0 -1.6**
ASAR Alice Springs 27.29 235 P **P 03 44 59.0 -1.6**
2.4nm,0.8s,baz=66,slow=8.7,SNR=20
ASAR LR LR 03 54 02.7
comp=Z,84nm,20.5s,baz=35,slow=33
STKA Stephens Creek 27.35 212 *e*P **P 03 45 01.7 +0.7**
3.0nm,0.9s
STKA Stephens Creek 27.35 212 P **P 03 45 02.2 +1.3**
6.7nm,0.8s,baz=31,slow=13,SNR=15
STKA LR LR 03 55 11.4
comp=Z,192nm,18.9s,baz=29,slow=35
H11S3 WAKE ISLAND Hy 28.71 17 T T 04 13 40.6
baz=199,slow=77,SNR=31
H11S2 WAKE ISLAND Hy 28.71 17 T T 04 13 40.1
baz=199,slow=77,SNR=40
H11S1 WAKE ISLAND Hy 28.72 17 T T 04 13 42.9
baz=199,slow=77,SNR=21
HTT Hallett 29.98 213 P P 03 45 30.4 +6.1
baz=32,SNR=4.3
WRKA Warakurna 32.49 237 P P 03 45 42.1 -4.5
baz=34,SNR=7.2
FITZ Fitzroy Crossi 32.75 251 LR LR 03 58 19.8
comp=Z,102nm,19.8s,baz=86,slow=35
MEEK Meekatharra 41.21 240 P **P 03 46 60.0 -0.8**
baz=43,SNR=3.3
PMBI Palembang 53.35 273 P P 03 48 27.5 -8.0
baz=54,SNR=4.0
NJ2 Nanjing 55.50 319 *e*P **P 03 48 48.6 -2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
PETK Petropavlovsk- 61.97 360 P **P 03 49 35.1 -0.3**
PETK Petropavlovsk- 61.97 360 P **P 03 49 35.1 -0.3**
9.8nm,0.8s,baz=169,slow=8.5,SNR=18
KMI Kunming 63.74 304 P **P 03 49 47.9 -0.2**
KMI pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 64.47 295 P **P 03 49 53.6 +0.9**
CMAR Chiang Mai Arr 64.47 295 P **P 03 49 53.6 +0.9**
1.8nm,0.4s,baz=121,slow=5.7,SNR=14
CD2 Chengdu 65.52 310 *e*P **P 03 49 58.7 -0.7**
HHC Hu-ho-hao-te 65.62 323 *e*P **P 03 49 59.3 -0.6**
HHC pP **pP 03 50 07.6 +0.4**
HHC PP **PP 03 52 28.1 +3.5**
HHC S **S 03 58 42.7 -1.6**
HHC sS **sS 03 58 58.8 +2.3**
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.6s
HHC LR LR
comp=N,200nm,16.5s
HHC LR LR
comp=E,220nm,15.7s
HHC LR LR
comp=Z,200nm,17.3s
VNDA Vanda 68.42 179 LR LR 04 13 24.5
comp=Z,46nm,18.8s,baz=76,slow=30
GTA Gaotai 72.38 316 *e*P P 03 50 47.6 +5.6
GTA pP pP 03 50 51.8 +2.4
GTA sP sP 03 50 55.7 +3.5
GTA pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 72.78 326 P **P 03 50 44.9 +0.7**
SONM Songino Array 72.78 326 P **P 03 50 44.9 +0.7**
2.3nm,0.8s,baz=142,slow=6.9,SNR=13
WMQ Urumqi 82.46 317 P **P 03 51 36.6 -1.7**
WMQ pP **pP 03 51 47.0 +1.2**
WMQ sP **sP 03 51 50.9 +2.4**
WMQ LR LR
comp=N,41nm,18.3s
WMQ LR LR
comp=Z,35nm,18.3s
MCK McKinley 82.89 21 *e*P **P 03 51 38.0 -1.9**
26nm,1.0s
MAW Mawson 83.64 203 LR LR 04 27 51.5
comp=Z,109nm,19.1s,baz=207,slow=35
COLA College 83.95 20 *e*P P 03 51 42.6 -2.8
3.5nm,0.6s
ILAR Eielson Array 84.23 21 P **P 03 51 45.6 -1.2**
ILAR Eielson Array 84.23 21 P **P 03 51 45.6 -1.2**
2.5nm,0.7s,baz=256,slow=5.3,SNR=34
MK31 Makanchi Array 87.02 318 *e*P **P 03 51 60.0 -1.2**
MKAR Makanchi Array 87.02 318 P **P 03 52 00.3 -0.8**
MKAR Makanchi Array 87.02 318 P **P 03 52 00.3 -0.8**
1.8nm,0.7s,baz=100,slow=6.2,SNR=22
ZALV Zalesovo Beam 87.65 325 P **P 03 52 01.7 -2.2**
ZALV Zalesovo Beam 87.65 325 P **P 03 52 01.7 -2.2**
1.0nm,0.5s,baz=115,slow=6.2,SNR=5.0
KSH Kashi 89.72 310 *e*P **P 03 52 15.2 +1.0**
KSH *e*PP **PP 03 55 50.1 +3.5**
KSH SKS **SKSac 04 02 41.0 -2.8**
KSH *e*S **S 04 03 02.7 -2.2**
KSH *es*S **sS 04 03 20.1 +2.7**
KSH *e*SS **SS 04 09 03.1 +1.0**
KSH pmax pmax
comp=Z,3.0nm,1.2s
KSH pmax pmax
comp=Z,90nm,7.9s
KSH LR LR
comp=N,43nm,8.4s
KSH LR LR
comp=E,32nm,3.3s
KSH LR LR
comp=Z,21nm,3.4s
NVAR Mina Array Bea 90.62 51 P **P 03 52 20.5 +1.9**
NVAR Mina Array Bea 90.62 51 P **P 03 52 20.5 +1.9**
4.7nm,0.9s,baz=250,slow=7.4,SNR=28
YKA Yellowknife Ar 96.75 28 P **P 03 52 44.8 -1.2**
YKA Yellowknife Ar 96.75 28 P **P 03 52 44.8 -1.2**
0.5nm,0.7s,baz=264,slow=4.6,SNR=10
PDAR Pinedale Array 97.82 48 P **P 03 52 52.0 +0.5**
PDAR Pinedale Array 97.82 48 P **P 03 52 52.0 +0.5**
0.6nm,0.8s,baz=236,slow=2.7,SNR=6.0
SNAA Sanae 98.40 186 LR LR 04 35 16.6
comp=Z,17nm,21.9s,baz=207,slow=34
AKASG Malin Array Be 121.03 325 PKP **PKPdf 03 58 07.0 -1.2**
AKASG Malin Array Be 121.03 325 PKP **PKPdf 03 58 07.0 -1.2**
0.1nm,0.4s,baz=60,slow=2.3,SNR=4.5
LPAZ La Paz 127.75 119 PKP **PKPdf 03 58 23.1 +0.2**
LPAZ La Paz 127.75 119 PKP **PKPdf 03 58 23.1 +0.2**
1.9nm,1.1s,baz=44,slow=3.8,SNR=3.6
GERES GERESS Array B 130.43 330 PKP **PKPdf 03 58 26.1 -0.3**
GERES GERESS Array B 130.43 330 PKP **PKPdf 03 58 26.1 -0.3**
0.6nm,0.8s,baz=87,slow=2.8,SNR=5.1
CPUP Villa Florida 130.75 137 PKP **PKPdf 03 58 28.7 +1.2**
CPUP Villa Florida 130.75 137 PKP **PKPdf 03 58 28.7 +1.2**
2.2nm,0.8s,baz=79,slow=6.8,SNR=2.9
BDFB Brasilia 144.31 133 PKP **PKPab 03 58 50.9 +0.1**
BDFB Brasilia 144.31 133 PKP **PKPab 03 58 50.9 +0.1**
9.4nm,0.8s,baz=265,slow=2.8,SNR=18

ISCJB ***06*** *03:47:58.6±0.3, 1°.57N±0°.04×122°.13E±0°.04, h500km, mb3.8/13, Error ellipse: s-maj=5.2km s-min=4.6km az=33.5*

IDC ***06*** *03:47:59.0±1.5, 1°.57N×122°.09E, h490km±16km, mb3.3/13, mb1 3.5/13, mb1mx3.3/24, mbtmp3.3/13, Error ellipse: s-maj=27.7km s-min=8.8km az=68.0*

DJA ***06*** *03:47:59.1±0.3, 2°.N±4°×12°.2E±°, h484km±3km, M4.5/36, mb4.8/36, mB5.1/15, MLv4.5/10, Mw(mB)4.5/15*

KLM ***06*** *03:48:01.9, 1°.76N×121°.99E, h475km, mb4.7, ML4.3, MS6.0*

ISC 06 03:47:59.6±0.5, 1°.51N±0°.06×122°.11E±0°.07, h500km, n82, σ1°50/78, mb3.9/13, 5C-8D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.03**	**189**	P		**P**	**03 48 57.9**	**-3.1**
MRSI				S		S	03 49 42.0	-8.7
APSI	**Ampana**	**2.44**	**191**	P		**P**	**03 49 04.8**	**-2.3**
LUWI	**Luwuk**	**2.62**	**165**	P		**P**	**03 49 07.5**	**-0.6**
	baz=2.7,SNR=3.2							
LUWI				S		**S**	**03 49 58.9**	**-4.9**
	baz=2.7,SNR=9.3							
SGKI	**Sangatta, Kali**	**4.94**	**246**	P		P	03 49 21.8	-4.2
TSM	**Tawau**	**5.05**	**303**	⇓P		**P**	**03 49 25.1**	**-2.0**
TTSI	**Tana Toraja**	**5.07**	**207**	P		**P**	**03 49 26.7**	**-0.5**
	234nm,0.8s,2μm0.7nm							
TTSI				S		**S**	**03 50 38.0**	**-0.6**
	234nm,0.8s,2μm0.7nm							
MYLDM	**Lahad Datu**	**5.13**	**315**	P		x	03 49 26.6	
	206nm,0.8s,2μm0.6nm							
MYLDM	**Lahad Datu**	**5.13**	**315**	⇑P		**P**	**03 49 27.1**	**-0.6**
MMSI	**Mamuju**	**5.25**	**217**	P		x	03 49 28.0	
	335nm,0.7s,4μm1.4nm							
MMSI				S		x	03 50 38.3	
	335nm,0.7s,4μm1.4nm							
TNTI	**Ternate**	**5.31**	**98**	P		**P**	**03 49 28.5**	**-0.9**
	98nm,0.7s,1.0nm							
SPSI	**Sidrap Palu**	**5.92**	**203**	P		**P**	**03 49 34.4**	**-0.7**
	225nm,0.8s,1μm0.7nm							
SPSI				S		**S**	**03 50 51.9**	**-1.2**
	225nm,0.8s,1μm0.7nm							
BNSI	**Bone**	**6.20**	**199**	P		**P**	**03 49 38.3**	**+0.5**
	145nm,0.8s,1μm0.5nm							
BNSI				S		**S**	**03 50 53.1**	**-5.1**
	145nm,0.8s,1μm0.5nm							
SDKM	**Sandakan**	**6.39**	**310**	⇓P		**P**	**03 49 38.0**	**-1.9**
KKM	**Kota Kinabalu**	**7.41**	**308**	P		x	03 49 48.3	
	222nm,1.1s,2μm0.9nm							
KKM	**Kota Kinabalu**	**7.41**	**308**	P		**P**	**03 49 48.3**	**-1.7**
	baz=7.4,SNR=11							
KKM	**Kota Kinabalu**	**7.41**	**308**	⇓P		**P**	**03 49 48.4**	**-1.7**
KDM	**Kudat**	**7.52**	**316**	⇑P		**P**	**03 49 50.1**	**-1.0**
MSAI	**Masohi**	**8.35**	**125**	P		**P**	**03 50 00.1**	**+0.4**
	27nm,0.9s							
BTM	**Bintulu**	**9.17**	**281**	⇓P		**P**	**03 50 08.8**	**+0.5**
SBUM	**Sibu**	**9.93**	**276**	P		x	03 50 15.9	
	40nm,1.2s							
SBUM	**Sibu**	**9.93**	**276**	⇓P		**P**	**03 50 16.8**	**+0.6**
LBFI	**Labuhan Bajo,**	**10.16**	**193**	P		x	03 50 19.5	
	135nm,0.9s,2μm							
FAKI	**Fak Fak**	**11.05**	**113**	P		**P**	**03 50 28.3**	**+0.2**
	baz=11,SNR=18							
MTNI	**Mataram**	**11.68**	**210**	P		x	03 50 33.5	
	205nm,0.8s,1μm							
KHKI	**Kahang-Kahang**	**11.75**	**213**	P		x	03 50 35.6	
	60nm,1.4s							
KMMI	**Kalianget**	**11.76**	**224**	P		**P**	**03 50 36.7**	**+1.1**
	238nm,0.8s,2μm							
KSM	**Kuching**	**11.79**	**270**	P		**P**	**03 50 36.6**	**+0.6**
	baz=12,SNR=5.2							
ABJI	**Asem Bagus**	**12.13**	**220**	P		**P**	**03 50 36.8**	**-2.7**
NBBI	**Negara**	**12.33**	**217**	P		x	03 50 41.8	
	132nm,0.8s							
BLJI	**Banyuglugur**	**12.51**	**223**	P		**P**	**03 50 43.6**	**0.0**
	87nm,0.8s,6μm							
JAGI	**Jajag, Banyuwa**	**12.69**	**219**	P		P	03 50 48.8	+3.3
	baz=13,SNR=6.5							
GRJI	**Gresik**	**12.74**	**229**	P		**P**	**03 50 46.2**	**+0.2**
	201nm,0.7s,2μm							
GMJI	**Gunmukmas**	**13.00**	**222**	P		**P**	**03 50 49.0**	**+0.2**
	55nm,1.0s							
SAUI	**Saumlaki**	**13.15**	**136**	P		**P**	**03 50 50.9**	**+0.5**
	153nm,0.8s							
KRKI	**Karangkates**	**13.60**	**225**	P		x	03 50 55.7	
	287nm,0.8s,21μm							
NGJI	**Ngawi**	**13.80**	**230**	P		**P**	**03 50 58.7**	**+1.4**
	186nm,0.8s							
PWJI	**Pagerwojo**	**13.97**	**227**	P		**P**	**03 50 58.9**	**-0.1**
	49nm,0.9s							
SMRI	**Semarang**	**14.41**	**234**	P		**P**	**03 51 03.9**	**+0.2**
	209nm,0.8s							
PCJI	**Pacitan**	**14.55**	**228**	P		**P**	**03 51 04.4**	**-0.7**
	131nm,0.8s							
TPI	**Tanjungpandan**	**15.06**	**254**	P		**P**	**03 51 10.3**	**-0.2**
	21nm,1.5s							
BJII	**Banjamegara**	**15.17**	**234**	P		x	03 51 12.4	
	83nm,1.7s							
TGJI	**Tegal**	**15.40**	**237**	P		x	03 51 14.9	
	44nm,1.1s							
KPJI	**Karang Pucung**	**15.81**	**236**	P		**P**	**03 51 17.8**	**-0.5**
	57nm,0.8s							
LEM	**Lembang**	**16.66**	**240**	P		**P**	**03 51 27.1**	**-0.3**
	88nm,0.8s							
MTN	**Manton Dam**	**16.84**	**148**	P		**P**	**03 51 27.6**	**-1.4**
	baz=17,SNR=19							
CISI	**Cisompet, Garu**	**16.86**	**238**	P		**P**	**03 51 28.3**	**-1.0**
	74nm,0.6s,9μm							
CBJI	**Citeko**	**17.14**	**243**	P		**P**	**03 51 33.7**	**+1.6**
	232nm,0.3s							
DBJI	**Dramaga**	**17.29**	**242**	P		**P**	**03 51 35.2**	**+1.6**
	114nm,0.5s							
KDU	**Kakadu**	**17.46**	**144**	P		**P**	**03 51 33.9**	**-1.1**
	baz=18,SNR=36							
SBJI	**Serang**	**17.66**	**244**	P		**P**	**03 51 37.3**	**+0.4**
	112nm,1.4s,10μm							
MYKOM	**Kota Tinggi**	**18.25**	**271**	⇑P		**P**	**03 51 42.9**	**+0.5**
KNRA	**Kununurra**	**18.30**	**159**	P		**P**	**03 51 42.6**	**-0.1**
	baz=18,SNR=18							
KLSI		**18.42**	**250**	P		**P**	**03 51 44.9**	**+1.0**
	70nm,1.4s							
GENI	**Genyem**	**18.51**	**103**	P		**P**	**03 51 45.4**	**+0.6**
KGM	**Kluang**	**18.79**	**272**	⇓P		**P**	**03 51 47.1**	**-0.2**
KTGM	**Kuala Trenggan**	**19.31**	**282**	⇑P		**P**	**03 51 51.9**	**-0.2**
FRIM	**Kepong**	**20.54**	**275**	⇓P		**P**	**03 52 06.2**	**+2.9**
IPM	**Ipoh**	**21.26**	**278**	⇓P		**P**	**03 52 12.6**	**+2.8**
KULM	**Kulim**	**21.74**	**280**	⇑P		**P**	**03 52 16.8**	**+2.7**
WRA	**Warramunga Arr**	**24.46**	**151**	P		**P**	**03 52 37.9**	**-0.5**
	11nm,0.5s,baz=335,slow=9.6,SNR=90							
WRA					ScP	**ScP**	**03 58 52.8**	**+0.9**
	0.2nm,0.5s,baz=329,slow=2.3,SNR=4.5							
WRKA	**Warakurna**	**27.06**	**168**	P		**P**	**03 53 01.7**	**+0.4**
	baz=27,SNR=21							
PMG	**Port Moresby**	**27.21**	**114**	P		**P**	**03 53 02.8**	**+0.1**
	10nm,0.5s,baz=312,slow=7.7,SNR=7.4							
ASAR	**Alice Springs**	**27.53**	**156**	P		**P**	**03 53 06.4**	**+0.9**
	1.9nm,0.4s,baz=348,slow=14,SNR=29							
ASAR					PcP	**PcP**	**03 56 08.4**	**+0.7**
	1.2nm,0.3s,baz=346,slow=2.1,SNR=12							
ASAR					ScP	**ScP**	**03 59 02.4**	**+1.5**
	1.0nm,0.3s,baz=336,slow=2.8,SNR=8.7							
QIS	**Mount Isa**	**27.83**	**143**	P		**P**	**03 53 08.8**	**+0.6**
	baz=28,SNR=12							
MEEK	**Meekatharra**	**28.18**	**187**	P		**P**	**03 53 11.5**	**+0.3**
	baz=28,SNR=8.8							
MORW	**Morawa**	**30.95**	**190**	P		**P**	**03 53 35.6**	**+0.4**
	baz=31,SNR=7.4							
CTA	**Charters Tower**	**31.96**	**133**	P		**P**	**03 53 44.6**	**+0.7**
	5.0nm,0.7s,baz=310,slow=12,SNR=5.6							
QLP	**Quilpie**	**35.15**	**144**	P		**P**	**03 54 12.3**	**+1.5**
	baz=35,SNR=11							
KSRS	**Korea Array**	**36.17**	**8**	P		**P**	**03 54 19.7**	**+0.6**
	2.3nm,0.6s,baz=184,slow=9.6,SNR=6.9							
BBOO	**Buckleboo**	**36.59**	**160**	P		**P**	**03 54 23.5**	**+0.8**
	baz=37,SNR=13							
MJAR	**Matsushiro Arr**	**37.91**	**21**	P		**P**	**03 54 32.5**	**-1.0**
	2.0nm,0.8s,baz=188,slow=8.0,SNR=4.2							
STKA	**Stephens Creek**	**38.00**	**153**	P		**P**	**03 54 35.6**	**+1.3**
	13nm,0.5s,baz=327,slow=8.4,SNR=46							
STKA					ScP	**ScP**	**03 59 38.5**	**+1.4**
	1.0nm,0.6s,baz=320,slow=6.5,SNR=5.6							
HTT	**Hallett**	**38.20**	**157**	P		**P**	**03 54 37.4**	**+1.5**
	baz=38,SNR=29							
CMSA	**Cobar Meteorol**	**39.76**	**148**	P		**P**	**03 54 50.5**	**+1.9**
	baz=40,SNR=12							
ARPS	**Mount Arapiles**	**42.27**	**156**	P		**P**	**03 55 10.0**	**+1.5**
	baz=42,SNR=15							
ARMA	**Armidale**	**42.42**	**141**	P		**P**	**03 55 12.9**	**+3.0**
	baz=43,SNR=15							
USRK	**Ussuriysk Arra**	**43.41**	**10**	P		**P**	**03 55 17.7**	**+0.4**
	4.8nm,0.6s,baz=201,slow=6.4,SNR=13							
SONM	**Songino Array**	**48.12**	**346**	P		**P**	**03 55 52.8**	**-0.6**
	0.7nm,0.6s,baz=164,slow=8.1,SNR=6.2							
MKAR	**Makanchi Array**	**56.87**	**328**	P		**P**	**03 56 56.5**	**+0.3**
	0.4nm,0.3s,baz=128,slow=8.4,SNR=10							
MKAR					ScP	**ScP**	**04 00 56.9**	**+0.7**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=4.7							
ZALV	**Zalesovo Beam**	**60.58**	**336**	P		**P**	**03 57 19.2**	**-1.8**
	0.4nm,0.3s,baz=112,slow=3.4,SNR=3.0							
KURBB	**Kurchatov Arra**	**61.22**	**330**	P		**P**	**03 57 25.5**	**+0.2**
	0.2nm,0.3s,baz=159,slow=1.3,SNR=11							
ILAR	**Eielson Array**	**89.08**	**25**	P		**P**	**03 59 59.0**	**-1.7**
	0.3nm,0.9s,baz=230,slow=5.6,SNR=4.3							

IDC ***06*** *04:29:50.7±0.5, 7°.85S×157°.50E, h0km, mb4.5/14, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, ML4.7/2, MS4.0/21, Ms1 4.0/21, ms1mx3.9/31, Error ellipse: s-maj=15.8km s-min=13.4km az=41.0*

ISCJB ***06*** *04:29:54.8±0.2, 7°.89S±0°.04×157°.42E±0°.04, h32km, mb4.8/39, MS4.1/24, Error ellipse: s-maj=5.9km s-min=5.0km az=153.9*

BJI ***06*** *04:29:54.9, 8°.35S×157°.08E, h29km, mB5.1/20, mb4.8/26, Ms5.0/14, Ms7 4.7/10*

NEIC ***06*** *04:29:56.3±2.2, 7°.86S×157°.45E, h33km±4km, mb5.1/23, Error ellipse: s-maj=16.9km s-min=14.3km az=210.0*

NEIC Felt at Gizo.

GCMT ***06*** *04:29:56.3±0.3, 7°.83S×157°.39E, h35km±2km, MW5.0/75, Moment Tensor Solution. s28,c34; s75,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.02±.23; Mθθ=3.05±.17; Mφφ=4.06±.16; Mrθ=0.43±.24; Mrφ=0.43±.17; Mθφ=1.29±.21; Best double couple: Mo=3.77400×10^16 NP1:φs=48.00000°, δ88.00000°, λ17.00000°. NP2: φs=317.00000°, δ73.00000°, λ178.00000°. Principal axes: T 4.4050, Plg14.0000°, Azm274.0000°; N -1.2720, Plg73.0000°, Azm55.0000°; P -3.1430, Plg11.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 04:29:56.6±0.5, 7°.90S±0°.06×157°.50E±0°.06, h34km±1km, h34km: pP-P, n136, σ1°30/149, mb4.9/39, MS4.1/25, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.85**	**122**	*e*Pn		**Pn**	**04 30 39.5**	**-0.2**
HNR				*e*Sn		**Sn**	**04 31 16.5**	**+3.5**
HNR	**Honiara**	**2.85**	**122**	Pn		**Pn**	**04 30 39.2**	**-0.6**
	906nm,0.3s,baz=229,slow=2.6,SNR=223							
HNR				Sn		**Sn**	**04 31 13.8**	**+0.8**
	645nm,0.3s,baz=13,slow=0.2,SNR=7.2							
HNR				Lg		Lg	04 31 22.7	
	778nm,0.3s,baz=33,slow=22,SNR=8.7							
HNR				LR		LR	04 31 48.9	
	comp=Z,3μm,18.3s,baz=289,slow=41							
PMG	**Port Moresby**	**10.34**	**261**	*e*Pn		Pn	04 32 25.9	+3.3
PMG	**Port Moresby**	**10.34**	**261**	Pn		**Pn**	**04 32 22.2**	**-0.4**
	baz=69,slow=14,SNR=1.5							
PMG				LR		LR	04 36 13.2	
	comp=Z,666nm,19.2s,baz=244,slow=37							
COEN	**Coen**	**15.29**	**246**	*e*Pn		**Pn**	**04 33 31.7**	**+1.6**
	233nm,1.1s							
COEN	**Coen**	**15.29**	**246**	P		**P**	**04 33 33.5**	**-1.1**
	baz=15,SNR=5.9							
CTA	**Charters Tower**	**16.29**	**221**	*e*Pn		**Pn**	**04 33 43.2**	**+0.3**
CTA	**Charters Tower**	**16.29**	**221**	Pn		**Pn**	**04 33 43.2**	**+0.3**
	0.4nm,0.3s,baz=79,slow=16,SNR=2.0							
CTAO	**Charters Tower**	**16.29**	**221**	*e*Pn		**P**	**04 33 47.3**	**+1.7**
	89nm,1.8s							
DZM	**Mont Dzumac**	**16.51**	**150**	*e*P		P	04 33 54.8	+6.6
	85nm,1.4s							
DZM				*e*LR		LR	04 37 41.5	
	1μm,25.0s							
DZM	**Mont Dzumac**	**16.51**	**150**	LR		LR	04 39 13.0	
	comp=Z,1μm,19.4s,baz=19,slow=34							
JAY	**Jayapura**	**17.56**	**287**	P		**Pn**	**04 33 57.5**	**-1.5**
	baz=17,SNR=3.5							
EIDS	**Eidsvold**	**18.42**	**199**	*e*P		**Pn**	**04 34 10.6**	**+1.3**
	31nm,0.8s							
EIDS	**Eidsvold**	**18.42**	**199**	P		**Pn**	**04 34 11.4**	**+2.0**
	baz=19,SNR=4.4							
RMQ	**Roma**	**20.26**	**203**	P		Pn	04 34 31.4	-0.1
	baz=21,SNR=22							
QIS	**Mount Isa**	**21.40**	**232**	P		**P**	**04 34 42.5**	**+0.9**
	baz=21,SNR=7.2							
QLP	**Quilpie**	**22.45**	**213**	P		**P**	**04 34 53.3**	**+0.5**
	baz=23,SNR=16							
ARMA	**Armidale**	**23.07**	**193**	*e*P		**P**	**04 34 59.8**	**+0.4**
	60nm,0.6s							
ARMA	**Armidale**	**23.07**	**193**	P		**P**	**04 35 00.0**	**+0.7**
	baz=24,SNR=61							
KDU	**Kakadu**	**25.07**	**257**	P		**P**	**04 35 17.8**	**-0.5**
	baz=25,SNR=9.6							
WRAB	**Tennant Creek**	**25.41**	**240**	P		**P**	**04 35 20.5**	**-0.8**
	201nm,0.5s,SNR=51							
WRAB	**Tennant Creek**	**25.41**	**240**	*e*P		**P**	**04 35 21.0**	**-0.3**
	20nm,0.6s							
WRA	**Warramunga Arr**	**25.43**	**240**	*e*P		**P**	**04 35 21.1**	**-0.4**
WRA	**Warramunga Arr**	**25.43**	**240**	P		**P**	**04 35 21.1**	**-0.4**
	11nm,0.5s,baz=65,slow=10,SNR=93							
CMSA	**Cobar Meteorol**	**25.97**	**204**	P		**P**	**04 35 26.1**	**-0.1**
	baz=26,SNR=13							
MTN	**Manton Dam**	**26.39**	**257**	P		**P**	**04 35 30.4**	**+0.2**
	baz=26,SNR=3.3							
AS01	**Alice Springs**	**27.48**	**233**	*e*P		**P**	**04 35 39.9**	**-0.1**
AS12	**Alice Springs**	**27.52**	**233**	*e*P		**P**	**04 35 39.3**	**-1.0**
ASAR	**Alice Springs**	**27.52**	**233**	P		**P**	**04 35 39.3**	**-1.0**
	2.2nm,0.5s,baz=60,slow=10.0,SNR=19							
ASAR				LR		LR	04 46 06.6	
	comp=Z,150nm,19.3s,baz=54,slow=35							
H11S3	**WAKE ISLAND Hy**	**27.75**	**19**	T		T	05 04 03.2	
	baz=200,slow=77,SNR=651							
H11S2	**WAKE ISLAND Hy**	**27.75**	**19**	T		T	05 03 58.0	
	baz=200,slow=77,SNR=559							
H11S1	**WAKE ISLAND Hy**	**27.77**	**19**	T		T	05 04 07.9	
	baz=200,slow=77,SNR=1571							
STKA	**Stephens Creek**	**28.08**	**210**	*e*P		**P**	**04 35 44.1**	**-1.1**
	3.1nm,0.9s							
STKA	**Stephens Creek**	**28.08**	**210**	P		**P**	**04 35 45.0**	**-0.1**
	10nm,0.7s,baz=26,slow=10,SNR=14							
STKA				LR		LR	04 46 26.6	
	comp=Z,255nm,20.3s,baz=30,slow=35							
CNB	**Canberra Magne**	**28.29**	**194**	P		P	04 35 52.7	+5.7
	baz=29,SNR=4.8							
H11N1	**WAKE ISLAND Hy**	**28.96**	**19**	T		T	05 05 31.1	
	baz=202,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**28.97**	**19**	T		T	05 05 33.2	
	baz=202,slow=75,SNR=29							
H11N2	**WAKE ISLAND Hy**	**28.98**	**19**	T		T	05 05 37.4	
	baz=202,slow=75,SNR=92							
KNRA	**Kununurra**	**29.15**	**252**	P		**P**	**04 35 54.7**	**-0.1**
	baz=29,SNR=8.8							
HTT	**Hallett**	**30.67**	**211**	P		**P**	**04 36 07.9**	**-0.2**
	baz=31,SNR=6.8							
BBOO	**Buckleboo**	**31.77**	**216**	*e*P		**P**	**04 36 16.3**	**-1.6**
	1μm,2.5s							
**BBO

comp=Z,114nm,21.8s,baz=287,slow=33
TBI Tubuai 53.04 113 *e*LQ LQ 04 52 26.1
834nm,29.8s
TBI *e*LR LR 04 54 42.2
284nm,31.8s
QIZ Qiongzhong 54.06 300 P **P 04 39 18.6 +0.3**
QIZ pP **pP 04 39 28.5 +0.1**
QIZ sP **sP 04 39 32.5 +0.1**
QIZ S **S 04 46 53.9 +1.2**
QIZ pmax pmax
comp=Z,32nm,2.1s
QIZ LR LR
comp=Z,250nm,12.6s
ENH Enshi 59.69 312 *e*P **P 04 39 56.5 -1.5**
8.0nm,0.6s
GYA Guiyang 59.98 307 P **P 04 40 02.0 +1.7**
GYA pP **pP 04 40 12.6 +2.1**
GYA PP **PP 04 42 17.2 +4.3**
GYA ScP **ScP 04 44 44.8 -0.2**
GYA S **S 04 48 10.9 0.0**
GYA SS **SS 04 52 09.4 +1.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,620nm,18.6s
GYA LR LR
comp=E,540nm,19.0s
GYA LR LR
comp=Z,740nm,18.7s
PEA0 Petropavlovsk- 60.77 0 *e*P **P 04 40 05.0 0.0**
PEA0 *e*pP **pP 04 40 13.9 -1.4**
PETK Petropavlovsk- 60.77 0 P **P 04 40 05.2 +0.2**
14nm,0.8s,baz=167,slow=8.5,SNR=24
PETK LR LR 05 04 11.2
comp=Z,82nm,19.0s,baz=326,slow=34
XAN Xi'an 62.09 315 P **P 04 40 12.9 -1.4**
XAN pP **pP 04 40 22.5 -2.1**
XAN sP **sP 04 40 27.3 -1.3**
XAN pmax pmax
comp=Z,2.0nm,0.6s
XAN pmax pmax
comp=Z,22nm,4.2s
KMI Kunming 62.59 303 P **P 04 40 20.6 +2.6**
KMI pP **pP 04 40 30.2 +1.8**
KMI PP **PP 04 42 40.2 +4.1**
KMI S **S 04 48 42.4 -1.8**
KMI sS **sS 04 49 00.8 -0.4**
KMI pmax pmax
comp=Z,10.0nm,1.1s
KMI pmax pmax
comp=Z,100nm,4.4s
CM31 Chiang Mai Arr 63.42 295 *e*P **P 04 40 22.1 -1.3**
CMAR Chiang Mai Arr 63.42 295 P **P 04 40 22.1 -1.3**
3.0nm,0.3s,baz=124,slow=5.6,SNR=6.5
CMAR LR LR 05 08 12.7
comp=Z,61nm,20.9s,baz=104,slow=36
CD2 Chengdu 64.30 310 *e*P **P 04 40 30.3 +1.3**
CD2 sP **sP 04 40 44.1 +0.8**
CD2 PP **PP 04 42 53.5 +2.6**
CD2 S **S 04 49 04.5 -0.5**
CD2 SS **SS 04 53 16.1 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,120nm,7.1s
CD2 LR LR
comp=N,220nm,15.5s
HHC Hu-ho-hao-te 64.30 323 *e*P **P 04 40 29.7 +0.7**
HHC sP **sP 04 40 44.5 +1.3**
HHC PP **PP 04 42 54.0 +3.2**
HHC S **S 04 49 05.3 +0.4**
HHC sS **sS 04 49 17.6 -4.3**
HHC SS **SS 04 53 14.7 -0.5**
HHC pmax pmax
comp=Z,43nm,0.9s
HHC pmax pmax
comp=Z,460nm,5.3s
HHC LR LR
comp=N,190nm,15.9s
HHC LR LR
comp=E,380nm,15.7s
HHC LR LR
comp=Z,190nm,15.9s
LZH Lanzhou 66.71 315 *e*P **P 04 40 47.1 +2.4**
LZH pP **pP 04 40 57.8 +2.7**
LZH sP **sP 04 41 01.8 +2.8**
LZH pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 69.62 179 LR LR 05 07 58.9
comp=Z,130nm,18.0s,baz=325,slow=33
GTA Gaotai 71.11 316 *e*P P 04 41 17.6 +5.7
GTA pP pP 04 41 26.8 +4.4
GTA sP sP 04 41 30.7 +4.4
GTA S S 04 50 35.7 +9.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,7.6s
GTA LR LR
comp=N,130nm,15.7s
GTA LR LR
comp=E,97nm,17.6s
GTA LR LR
comp=Z,180nm,16.6s
ULN Ulaanbaatar 71.11 327 *e*P **P 04 41 13.9 +2.1**
ULN *e*pP **pP 04 41 21.8 -0.5**
SONA0 Songino Array 71.45 326 *e*P **P 04 41 12.9 -1.0**
SONM Songino Array 71.45 326 P **P 04 41 12.9 -1.0**
1.4nm,0.8s,baz=137,slow=5.7,SNR=11
SONM LR LR 05 10 58.6
comp=Z,110nm,19.4s,baz=116,slow=35
SONA1 Songino Array 71.45 326 *e*P **P 04 41 14.2 +0.3**
SONA1 *e*pP **pP 04 41 23.8 -0.6**
SVW2 Sparrevohn 77.92 21 *e*P **P 04 41 49.3 -1.6**
18nm,1.0s
PPLA Purkeypile 80.31 21 *e*P **P 04 42 03.7 -0.4**
56nm,1.6s
PMR Palmer 80.64 23 *e*P **P 04 42 05.5 -0.2**
26nm,1.2s
KTH Kantishna Hill 81.17 21 *e*P **P 04 42 07.7 -0.9**
68nm,0.9s
WMQ Urumqi 81.19 317 P **P 04 42 09.4 +0.3**
WMQ pP **pP 04 42 19.8 +0.1**
WMQ sP **sP 04 42 23.7 +0.1**
WMQ pmax pmax
comp=Z,23nm,7.2s
WMQ LR LR
comp=N,51nm,22.5s
WMQ LR LR
comp=E,66nm,24.3s
TRF Thorofare Moun 81.33 21 *e*P **P 04 42 08.5 -1.1**
10nm,0.8s
MCK McKinley 81.98 21 *e*P **P 04 42 11.9 -0.9**
MCK *e*pP **pP 04 42 23.1 -0.3**
COLA College 83.04 21 *e*P **P 04 42 17.2 -1.0**
COLA *e*pP **pP 04 42 27.6 -1.3**
ILAR Eielson Array 83.32 21 P **P 04 42 18.2 -1.5**
3.2nm,1.0s,baz=260,slow=5.4,SNR=24
ILAR LR LR 05 16 46.2
comp=Z,108nm,18.5s,baz=262,slow=34
ILB Eielson Array 83.32 21 *e*P **P 04 42 18.2 -1.5**
IL1 Eielson Array 83.32 21 *e*P **P 04 42 17.9 -1.8**
IL1 *e*pP **pP 04 42 29.6 -0.7**
DOT Dot Lake 83.73 22 *e*P **P 04 42 21.4 -0.5**
22nm,1.0s
HYT Haines Junctio 85.06 26 *e*P **P 04 42 28.8 -0.1**
EGAK Eagle 85.40 22 *e*P **P 04 42 30.5 +0.3**
20nm,1.0s
MK01 Makanchi Array 85.72 318 *e*P **P 04 42 32.2 -0.1**
MK32 Makanchi Array 85.73 318 *e*P **P 04 42 31.2 -1.2**
MKAR Makanchi Array 85.73 318 *e*P **P 04 42 32.6 +0.2**
MKAR *e*pP **pP 04 42 41.9 -1.2**
MKAR Makanchi Array 85.73 318 P **P 04 42 31.2 -1.2**
0.8nm,0.8s,baz=98,slow=6.2,SNR=7.4
MKAR LR LR 05 19 36.3
comp=Z,70nm,18.2s,baz=42,slow=35
DAWY Dawson 85.74 23 *e*P **P 04 42 32.4 +0.4**
ZAA0 Zalesovo Array 86.32 326 *e*P **P 04 42 35.7 +0.6**
ZALV Zalesovo Beam 86.32 326 P **P 04 42 34.4 -0.7**
0.6nm,0.3s,baz=101,slow=7.5,SNR=3.2
ZALV LR LR 05 18 16.9
comp=Z,64nm,18.0s,baz=61,slow=34
KURK Kurchatov 89.08 321 *e*P **P 04 42 47.8 -0.6**
KURBB Kurchatov Arra 89.12 321 P **P 04 42 47.8 -0.8**
0.1nm,0.5s,baz=108,slow=3.6,SNR=2.9
CIS Catalina Islan 89.41 56 P **P 04 42 50.8 +0.5**
baz=90
MWC Mount Wilson 89.83 56 *e*P **P 04 42 52.8 +0.3**
17nm,1.3s
EDW2 Edwards Air Fo 89.99 55 P **P 04 42 53.8 +0.7**
baz=90
BFSC Mount Baldy Ra 90.15 56 P **P 04 42 54.5 +0.5**
baz=90
LRMC Laurel Mountai 90.33 54 P **P 04 42 55.5 +0.8**
baz=90
NV01 Mina Array Sit 90.33 51 *e*P **P 04 42 55.7 +0.9**
NVAR Mina Array Bea 90.33 51 P **P 04 42 54.1 -0.8**
1.7nm,1.1s,baz=258,slow=5.4,SNR=6.9
NVAR LR LR 05 15 50.5
comp=Z,108nm,20.6s,baz=284,slow=30
MPMC Manual Prospec 90.58 54 P **P 04 42 57.1 +1.1**
baz=91
MONP Monument Peak 90.96 57 P **P 04 42 58.7 +0.8**
baz=91
GSC Goldstone 91.02 55 P **P 04 42 59.0 +1.1**
baz=91
PFO Pinyon Flat Ob 91.04 56 *e*P **P 04 42 58.5 +0.4**
6.4nm,1.3s
PFO Pinyon Flat Ob 91.04 56 P **P 04 42 58.8 +0.7**
baz=91
J08A Circle Bar Ran 91.04 47 *e*P **P 04 42 58.1 +0.3**
6.6nm,1.1s
FURC Furnace Creek, 91.15 54 P **P 04 42 59.1 +0.8**
baz=91
HEC Hector,Ludlow 91.33 55 P **P 04 42 59.6 +0.2**
baz=91
BELC Belle Mtn. Jos 91.48 56 *e*P **P 04 43 00.7 +0.5**
BELC Belle Mtn. Jos 91.48 56 P **P 04 43 01.0 +0.9**
baz=92
SHOC Shoone 91.53 54 P **P 04 43 00.8 +0.7**
baz=92
GMRC Granite Mounta 91.87 55 P **P 04 43 02.9 +1.0**
baz=92
BC3 Big Chuckawall 91.88 56 P **P 04 43 02.9 +0.9**
baz=92
IRM Iron Mountain 92.20 56 P **P 04 43 04.7 +1.3**
baz=92
LDFC Landfair 92.36 55 *e*P **P 04 43 04.9 +0.7**
16nm,1.2s
W13A Hualapai Mount 93.36 55 P **P 04 43 10.0 +1.1**
baz=93
HLID Hailey 94.00 47 P **P 04 43 12.4 +0.8**
baz=94
BVAR Borovoye Array 94.52 323 P **P 04 43 12.1 -1.4**
0.2nm,0.3s,baz=126,slow=2.5,SNR=2.4
BVAR LR LR 05 23 56.5
comp=Z,85nm,19.3s,baz=73,slow=34
YKA Yellowknife Ar 95.97 28 P **P 04 43 19.9 0.0**
1.6nm,0.8s,baz=262,slow=4.8,SNR=23
YKB5 Yellowknife Ar 95.97 28 *e*P **P 04 43 18.8 -1.1**
PD31 Pinedale Array 97.46 48 *e*P **P 04 43 26.5 -1.0**
PDAR Pinedale Array 97.46 48 P **P 04 43 26.5 -1.0**
0.7nm,0.9s,baz=250,slow=3.0,SNR=5.2
PDAR LR LR 05 23 05.8
comp=Z,91nm,20.0s,baz=74,slow=33
J19A Crowheart 97.86 47 P **P 04 43 29.2 0.0**
baz=98
F19A Roth Farm, Mol 98.08 45 P Pdif 04 43 30.5 +0.4
baz=98
AKASG Malin Array Be 119.71 325 PKP **PKPdf 04 48 43.2 0.0**
0.2nm,0.3s,baz=90,slow=0.9,SNR=3.0
AKBB Malin Array Si 119.71 325 *e*PKPdf **PKPdf 04 48 43.2 0.0**
NB200 NORSAR Array S 121.36 342 *e*PKPdf **PKPdf 04 48 44.8 -1.3**
NOA NORSAR Array B 121.36 342 PKP **PKPdf 04 48 44.8 -1.3**
1.3nm,0.9s,baz=322,slow=2.0,SNR=3.3
CRVS Cervenica-Dubn 124.97 326 *e* PKPdf 04 49 03.3 +10
BDFB Brasilia 145.56 133 *e*PKPdf **PKPdf 04 49 31.6 -1.0**
BDFB Brasilia 145.56 133 PKPbc **PKPdf 04 49 31.4 -1.2**
7.2nm,0.7s,baz=240,slow=1.6,SNR=12
TOA0 Torodi Ar. Sit 155.66 284 *e*PKPdif PKPdf 04 49 59.0 +11
TOA0 *e*PKPab **PKPab 04 50 12.4 -1.9**
TORD Torodi Ar. Bea 155.66 284 PKPbc PKPdf 04 49 59.0 +11
0.3nm,0.6s,baz=53,slow=2.2,SNR=5.4
TORD PKPab **PKPab 04 50 12.4 -1.9**
0.8nm,0.8s,baz=69,slow=2.7,SNR=4.4

JMA 06 05:06:00.0±0.2, 33.72N×142.59E, h27km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.63**	**305**	P	Pb	05 06 27.7	-1.0
BSO1				*e*S	Sb	05 06 48.2	-0.1
BSO3	**Boso 3**	**2.03**	**303**	P	Pn	05 06 33.5	+1.4
CHOJ	**Chosi**	**2.44**	**325**	*e*S	Sn	05 07 07.5	+0.5
JAG	**Ashikaga**	**3.73**	**317**	P	Pn	05 06 58.1	+2.3
JAG				*e*S	Sn	05 07 40.0	+1.2
JFT	**Otama**	**4.21**	**335**	P	Pn	05 07 04.9	+2.5
JFT				*e*S	Sn	05 07 53.4	+2.6
JMK	**Ichinoseki**	**5.34**	**348**	*e*S	Sn	05 08 20.9	+2.5

*IDC **06** 05:21:56.9±0.6, 9.12S×157.93E, h0km, mb4.4/17, mb1 4.6/19, mb1mx4.5/22, mbtmp4.4/19, ML3.4/3, MS3.9/25, Ms1 3.9/25, ms1mx3.8/33, Error ellipse: s-maj=17.3km s-min=12.4km az=3.0*
*ISCJB **06** 05:22:00.2±0.2, 9.01S±0.05×157.70E±0.05, h23km, mb4.8/52, MS4.0/26, Error ellipse: s-maj=7.7km s-min=5.5km az=140.9*
*MOS **06** 05:22:01.6±1.0, 8.99S×157.63E, h33km, mb5.3/9, Error ellipse: s-maj=11.4km s-min=10.5km az=77.3*
*BJI **06** 05:22:01.4, 8.89S×157.94E, h33km, mB5.2/25, mb4.9/34, Ms5.1/15, Ms7 4.8/14*
*NEIC **06** 05:22:03.0±0.3, 9.06S×157.76E, h35km, mb5.1/19, Error ellipse: s-maj=9.3km s-min=6.4km az=141.0*
*GCMT **06** 05:22:03.0±0.3, 9.34S×158.05E, h20km±1km, MW5.0/74, Moment Tensor Solution. s23,c26; s74,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.12±.22; Mθθ-2.45±.15; Mϕϕ-0.67±.14; Mre1.00±.25; Mrθ 1.30±.10; Mϕr0.82±.28; Best double couple: Mo3.36900×10^16 NP1:ϕs315.00000°, δ43.00000°, λ117.00000°. NP2: ϕs315.00000°, δ43.00000°, λ117.00000°. Principal axes: T 3.5590, Plg71.0000°, Azm310.0000°; N -0.3840, Plg18.0000°, Azm114.0000°; P -3.1780, Plg5.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 05:22:01.8±0.4, 9.04S±0.06×157.88E±0.07, h23km, n164, σ19 80/173, mb4.8/52, MS4.1/26, 2C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.08**	**101**	Pn	Pn	05 22 31.7	-3.6
HNR				Lg	Lg	05 22 59.8	
HNR	**Honiara**	**2.08**	**101**	Pn	Pn	05 22 31.7	-3.6
	43nm,0.3s,baz=222,slow=6.6,SNR=20						
HNR				Lg	Lg	05 22 59.8	
	367nm,0.3s,baz=198,slow=10,SNR=8.2						
HNR				LR	LR	05 23 17.0	
	comp=Z,2μm,18.8s,baz=124,slow=40						
HNR	**Honiara**	**2.08**	**101**	*i* P	Pn	05 22 31.0	-4.3
PMG	**Port Moresby**	**10.59**	**267**	Pn	**Pn**	**05 24 31.4**	**-0.9**
PMG	**Port Moresby**	**10.59**	**267**	Pn	**Pn**	**05 24 31.4**	**-0.9**
	0.7nm,0.3s,baz=101,slow=16,SNR=2.0						
PMG				LR	LR	05 28 20.9	
	comp=Z,2μm,19.5s,baz=80,slow=36						
COEN	**Coen**	**15.21**	**250**	*e*Pn	**Pn**	**05 25 35.1**	**-0.3**
	180nm,1.0s						
COEN	**Coen**	**15.21**	**250**	P	**P**	**05 25 43.4**	**+3.3**
	baz=15,SNR=4.0						
DZM	**Mont Dzumac**	**15.35**	**149**	*e*P	**Pn**	**05 25 36.4**	**-0.8**
	106nm,1.2s						
DZM				*e*LR	LR	05 29 09.9	
	819nm,26.6s						
DZM	**Mont Dzumac**	**15.35**	**149**	Pn	**Pn**	**05 25 35.6**	**-1.6**
DZM	**Mont Dzumac**	**15.35**	**149**	Pn	**Pn**	**05 25 35.6**	**-1.6**
	0.1nm,0.3s,baz=8.3,slow=14,SNR=4.8						
DZM				LR	LR	05 30 07.5	
	comp=Z,759nm,18.1s,baz=16,slow=32						
CTA	**Charters Tower**	**15.71**	**224**	LR	LR	05 31 17.0	
	comp=Z,850nm,19.5s,baz=100,slow=36						
EIDS	**Eidsvold**	**17.48**	**201**	P	Pn	05 25 55.0	-9.2
	baz=16,SNR=5.7						
RMQ	**Roma**	**19.39**	**205**	P	**Pn**	**05 26 27.1**	**-0.4**
	baz=18,SNR=11						

QIS Mount Isa 21.02 235 P **P 05 26 44.1 -0.1**
baz=20,SNR=5.8
QLP Quilpie 21.71 215 P **P 05 26 53.3 +1.9**
baz=21,SNR=3.3
ARMA Armidale 22.06 194 *e*P **P 05 26 56.3 +1.1**
25nm,1.1s
ARMA Armidale 22.06 194 P **P 05 26 54.7 -0.6**
baz=21,SNR=6.9
CMSA Cobar Meteorol 25.09 205 P **P 05 27 23.7 -1.1**
baz=24,SNR=10
WRAB Tennant Creek 25.18 242 P **P 05 27 24.0 -1.9**
158nm,0.9s,SNR=10
WRAB Tennant Creek 25.18 242 *e*P **P 05 27 24.3 -1.5**
WRAB pmax pmax
comp=Z,58nm,1.1s
WRAB Tennant Creek 25.18 242 *e*P **P 05 27 24.3 -1.5**
comp=Z,23nm,0.9s
WRA Warramunga Arr 25.20 242 P **P 05 27 24.6 -1.4**
WRA Warramunga Arr 25.20 242 P **P 05 27 24.6 -1.4**
comp=Z,11nm,0.8s,baz=67,slow=9.6,SNR=32
WRA LR LR 05 36 54.0
comp=Z,733nm,20.4s,baz=75,slow=36
GUMO Guam 25.93 330 *e*P **P 05 27 31.9 -0.6**
AS31 Alice Springs 27.15 235 *e*P **P 05 27 43.2 -0.5**
ASAR Alice Springs 27.15 235 P **P 05 27 41.3 -2.3**
ASAR Alice Springs 27.15 235 P **P 05 27 41.3 -2.3**
comp=Z,4.4nm,1.0s,baz=64,slow=9.2,SNR=21
ASAR LR LR 05 38 13.3
comp=Z,512nm,18.3s,baz=56,slow=36
STKA Stephens Creek 27.29 211 *e*P **P 05 27 43.5 -1.3**
comp=Z,6.8nm,1.3s
STKA Stephens Creek 27.29 211 P **P 05 27 43.4 -1.4**
comp=Z,15nm,1.0s,baz=34,slow=12,SNR=16
STKA LR LR 05 38 11.2
comp=Z,506nm,19.7s,baz=29,slow=36
H11S3 WAKE ISLAND Hy 28.71 18 T T 05 56 31.5
baz=199,slow=78,SNR=22
H11S2 WAKE ISLAND Hy 28.71 18 T T 05 56 36.8
baz=199,slow=78,SNR=26
H11S1 WAKE ISLAND Hy 28.73 18 T T 05 56 38.2
baz=199,slow=78,SNR=10.0
HTT Hallett 29.91 213 P **P 05 28 09.5 +1.4**
baz=29,SNR=5.1
H11N1 WAKE ISLAND Hy 29.92 17 T T 05 58 28.9
baz=197,slow=75,SNR=3.0
H11N3 WAKE ISLAND Hy 29.93 17 T T 05 58 09.2
baz=197,slow=75,SNR=3.4
H11N2 WAKE ISLAND Hy 29.94 17 T T 05 58 31.4
baz=197,slow=75,SNR=3.3
BBOO Buckleboo 31.09 217 *e*P **P 05 28 16.9 -1.6**
comp=Z,2μm,2.0s
BBOO Buckleboo 31.09 217 P **P 05 28 17.0 -1.5**
baz=30,SNR=8.6
WRKA Warakurna 32.34 237 P **P 05 28 27.5 -2.2**
baz=32,SNR=7.2
FITZ Fitzroy Crossi 32.56 251 LR LR 05 41 11.1
comp=Z,278nm,21.2s,baz=82,slow=35
RPZ Rata Peaks 36.41 164 LR LR 05 44 13.5
comp=Z,272nm,18.1s,baz=328,slow=37
MEEK Meekatharra 41.05 240 P **P 05 29 44.5 +0.7**
baz=40,SNR=5.0
JAGI Jajag, Banyuwa 43.20 267 *e*P **P 05 29 59.1 -2.4**
comp=Z,57nm,1.2s
NWAO Narrogin (SRO) 44.38 232 LR LR 05 48 31.9
comp=Z,338nm,19.7s,baz=22,slow=36
MJAR Matsushiro Arr 48.97 339 P **P 05 30 45.4 -1.2**
MJAR Matsushiro Arr 48.97 339 P **P 05 30 45.4 -1.2**
comp=Z,1.9nm,0.6s,baz=161,slow=7.2,SNR=5.1
MJAR LR LR 05 48 49.1
comp=Z,46nm,21.8s,baz=205,slow=33
JNU Nakatsue 49.18 330 LR LR 05 47 24.4
comp=Z,40nm,21.8s,baz=94,slow=31
PPT Papeete 51.70 105 LR LR 05 48 58.5
comp=Z,58nm,20.0s,baz=352,slow=31
PPT2 Papeete2 51.70 105 *e*LR LR 05 46 06.8
comp=Z,243nm,29.0s
KSRS Korea Array 54.09 331 P **P 05 31 25.2 +0.4**
comp=Z,2.3nm,0.8s,baz=140,slow=9.9,SNR=6.2
KSRS LR LR 05 52 34.6
comp=Z,60nm,19.9s,baz=127,slow=34
KSAR Wonju Array Be 54.10 331 P **P 05 31 25.2 +0.3**
ASAJ Asahikawa 54.69 347 LR LR 05 53 21.5
comp=Z,187nm,20.2s,baz=282,slow=34
QIZ Qiongzhong 54.95 301 P **P 05 31 30.3 -1.2**
QIZ S **S 05 39 09.7 -2.7**
QIZ pmax pmax
comp=Z,21nm,1.9s
QIZ pmax pmax
comp=Z,95nm,5.1s
NJ2 Nanjing 55.31 319 *e*P **P 05 31 35.0 +1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 57.35 348 *e*P **P 05 31 49.5 +1.4**
USRK Ussuriysk Arra 57.95 338 P **P 05 31 52.5 +0.1**
comp=Z,3.1nm,0.8s,baz=158,slow=7.6,SNR=4.6
GYA Guiyang 60.96 307 P **P 05 32 14.0 +0.3**
GYA pP **pP 05 32 25.3 +4.3**
GYA PP **PP 05 34 29.8 +1.6**
GYA ScP **ScP 05 36 55.5 -1.8**
GYA S **S 05 40 27.7 -3.3**
GYA SS **SS 05 44 28.0 -2.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,630nm,18.8s
GYA LR LR
comp=Z,550nm,19.1s
GYA LR LR
comp=Z,610nm,18.9s
PET Petropavlovsk 61.82 1 *e*P **P 05 32 17.8 -1.0**
PET pmax pmax
comp=Z,39nm,1.8s
PETK Petropavlovsk- 61.90 360 P **P 05 32 18.5 -0.9**
PETK Petropavlovsk- 61.90 360 P **P 05 32 18.4 -0.9**
PETK Petropavlovsk- 61.90 360 P **P 05 32 18.4 -0.9**
comp=Z,8.2nm,0.8s,baz=162,slow=9.1,SNR=10.0
PETK LR LR 05 55 04.8
comp=Z,115nm,21.6s,baz=166,slow=32
BJI Beijing 62.22 325 P **P 05 32 23.6 +1.9**
BJI pmax pmax
comp=Z,6.0nm,0.7s
XAN Xi'an 63.15 315 P **P 05 32 28.0 -0.2**
XAN pP **pP 05 32 38.4 +2.9**
XAN pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 63.52 304 P **P 05 32 31.8 +0.8**
KMI pP **pP 05 32 42.5 +4.2**
KMI PP **PP 05 34 53.3 +2.3**
KMI S **S 05 41 00.7 -2.9**
KMI sS **sS 05 41 17.5 +1.8**
KMI SS **SS 05 45 08.2 -3.1**
KMI pmax pmax
comp=Z,6.0nm,1.2s
KMI pmax pmax
comp=Z,72nm,4.8s
CMAR Chiang Mai Arr 64.24 295 P **P 05 32 34.2 -1.4**
CMAR Chiang Mai Arr 64.24 295 P **P 05 32 34.2 -1.4**
comp=Z,2.4nm,0.3s,baz=122,slow=4.7,SNR=13
CMAR LR LR 06 01 54.2
comp=Z,31nm,18.1s,baz=195,slow=37
CHTO Chiang Mai 64.36 296 *e*P **P 05 32 36.1 -0.3**
CHTO pmax pmax
comp=Z,2.0nm,1.3s
CHTO Chiang Mai 64.36 296 *e*P **P 05 32 36.1 -0.3**
comp=Z,2.4nm,1.3s
CD2 Chengdu 65.31 310 *e*P **P 05 32 42.1 -0.3**
CD2 sP **sP 05 32 57.1 +4.6**
CD2 PP **PP 05 35 07.8 +1.4**
CD2 S **S 05 41 20.8 -4.4**
CD2 sS **sS 05 41 38.8 +1.5**
CD2 SS **SS 05 45 35.2 -3.4**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,120nm,8.4s
CD2 LR LR
comp=Z,260nm,19.0s
CD2 LR LR
comp=Z,110nm,15.5s
HHC Hu-ho-hao-te 65.43 323 *e*P **P 05 32 42.1 -0.9**
HHC pP **pP 05 32 53.2 +2.8**
HHC S **S 05 41 21.2 -5.2**
HHC sS **sS 05 41 39.1 +0.6**
HHC SS **SS 05 45 38.1 -2.2**

HHC pmax pmax
comp=Z,48nm,0.8s
HHC pmax pmax
comp=Z,310nm,5.7s
HHC LR LR
comp=Z,190nm,14.7s
HHC LR LR
comp=Z,400nm,15.3s
HHC LR LR
comp=Z,190nm,15.3s
LZH Lanzhou 67.77 315 *e*P **P** **05 33 01.2 +3.0**
LZH pP pP 05 33 11.9 +6.4
LZH sP sP 05 33 16.6 +8.3
LZH pmax pmax
comp=Z,22nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.0s
VNDA Vanda 68.49 179 LR LR 05 57 20.7
comp=Z,165nm,19.7s,baz=336,slow=31
SEY Seymchan 71.88 357 *e*P **P** **05 33 23.0 +0.3**
GTA Gaotai 72.18 316 *e*P **P** **05 33 26.7 +1.5**
GTA pP **pP** **05 33 37.2 +4.6**
GTA sP sP 05 33 41.1 +5.8
GTA S **S** **05 42 47.8 +1.2**
GTA sS **SKiKP** **05 43 05.4 +4.8**
GTA SKS **SKSac** **05 43 24.2 -4.3**
GTA pmax pmax
comp=Z,5.0nm,2.0s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,69nm,16.2s
GTA LR LR
comp=Z,120nm,17.6s
GTA LR LR
comp=Z,100nm,16.1s
SONM Songino Array 72.60 326 P **P** **05 33 26.8 -0.7**
SONM Songino Array 72.60 326 P **P** **05 33 26.8 -0.7**
comp=Z,2.0nm,1.0s,baz=139,slow=5.5,SNR=12
SONM LR LR 06 04 34.3
comp=Z,29nm,19.7s,baz=24,slow=35
YAK Yakutsk 74.17 347 *e*P **P** **05 33 33.8 -2.4**
YAK pmax pmax
comp=Z,12nm,0.9s
TNA Tin City 78.58 14 *e*P **P** **05 34 01.1 -0.1**
comp=Z,6.2nm,1.0s
CAST Castle Rocks 81.61 20 *e*P **P** **05 34 17.0 -0.7**
comp=Z,8.7nm,0.8s
KTH Kantishna Hill 82.09 21 *e*P **P** **05 34 19.1 -1.1**
TRF Thorofare Moun 82.25 21 *e*P **P** **05 34 20.0 -1.2**
WMQ Urumqi 82.26 317 P **P** **05 34 22.1 +0.5**
WMQ pP **pP** **05 34 32.5 +3.4**
WMQ sP **sP** **05 34 36.4 +4.6**
WMQ SS **SS** **05 49 55.0 -1.6**
WMQ pmax pmax
comp=Z,2.0nm,1.0s
IM04 Indian Mountai 82.74 18 *e*P **P** **05 34 22.9 -0.6**
TIXI Tiksi 82.79 351⇓ *e*P **P** **05 34 22.9 -0.7**
TIXI pmax pmax
comp=Z,13nm,2.0s
MCK McKinley 82.90 21 *e*P **P** **05 34 23.2 -1.2**
MCK pmax pmax
comp=Z,17nm,0.8s
MCK McKinley 82.90 21 *e*P **P** **05 34 23.2 -1.2**
comp=Z,17nm,0.8s
COLA College 83.97 20⇑ *e*P **P** **05 34 28.5 -1.3**
COLA pmax pmax
comp=Z,110nm,1.5s
COLA College 83.97 20 *e*P **P** **05 34 27.9 -1.9**
ILAR Eielson Array 84.24 21 P **P** **05 34 29.6 -1.6**
ILAR Eielson Array 84.24 21 P **P** **05 34 29.6 -1.6**
comp=Z,2.9nm,0.9s,baz=275,slow=4.9,SNR=28
ILAR LR LR 06 07 14.5
comp=Z,110nm,20.9s,baz=255,slow=32
MK31 Makanchi Array 86.82 318 *e*P **P** **05 34 43.2 -1.3**
MK31 Makanchi Array 86.82 318 *e*P **P** **05 34 43.2 -1.3**
MKAR Makanchi Array 86.82 318 P **P** **05 34 43.9 -0.6**
MKAR Makanchi Array 86.82 318 P **P** **05 34 43.9 -0.6**
MKAR Makanchi Array 86.82 318 P **P** **05 34 43.9 -0.6**
comp=Z,2.8nm,0.7s,baz=103,slow=5.8,SNR=27
MKAR LR LR 06 13 33.6
comp=Z,24nm,20.7s,baz=73,slow=36
ZALV Zalesovo Beam 87.47 326 P **P** **05 34 45.2 -2.2**
ZALV Zalesovo Beam 87.47 326 P **P** **05 34 45.2 -2.2**
ZALV Zalesovo Beam 87.47 326 P **P** **05 34 45.2 -2.2**
comp=Z,0.8nm,0.6s,baz=120,slow=5.3,SNR=4.4
ZALV LR LR 06 11 18.0
comp=Z,31nm,21.8s,baz=70,slow=34
N02D Trinity Center 87.97 48 P **P** **05 34 50.5 +0.2**
baz=88
WDC Whiskeytown Da 88.00 49 *e*P **P** **05 34 52.1 +1.8**
WDC pmax pmax
comp=Z,48nm,2.3s
WDC Whiskeytown Da 88.00 49 *e*P **P** **05 34 52.1 +1.8**
comp=Z,48nm,2.3s
J04D Umpqua Nationa 88.93 46 P **P** **05 34 55.3 +0.4**
baz=89
CMB Columbia Colle 89.06 51 *e*P **P** **05 34 56.9 +1.4**
CMB Columbia Colle 89.06 51 *e*P **P** **05 34 56.9 +1.4**
BEKR Beckworth 89.47 50 *e*P **P** **05 34 57.7 +0.2**
comp=Z,12nm,1.7s
KSH Kashi 89.50 310 *e*P P 05 35 01.7 +4.1
KSH *e*PP PP 05 38 36.0 +6.7
KSH *e*SKS **SKSac** **05 45 27.3 +0.4**
KSH *e*S **S** **05 45 48.2 +0.9**
KSH *e*sS sS 05 46 06.3 +6.5
KSH *e*SS **SS** **05 51 49.8 +6.4**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,69nm,4.1s
KSH LR LR
comp=Z,65nm,7.8s
KSH LR LR
comp=Z,100nm,5.2s
KSH LR LR
comp=Z,83nm,10.8s
J05D Fort Rock, OR 89.57 46 P **P** **05 34 58.3 +0.5**
baz=90
WAKR Walker 89.89 51 *e*P **P** **05 35 00.7 +1.1**
MOD Modoc 89.94 48 *e*P **P** **05 35 00.1 +0.5**
comp=Z,32nm,1.9s
ISA Isabella 90.09 54 *e*P **P** **05 35 02.1 +1.7**
ISA pmax pmax
comp=Z,26nm,2.0s
ISA Isabella 90.09 54 *e*P **P** **05 35 02.1 +1.7**
comp=Z,26nm,2.0s
ISA Isabella 90.09 54 P **P** **05 34 59.3 -1.1**
baz=90
MWC Mount Wilson 90.16 56 *e*P **P** **05 35 01.8 +0.9**
MWC pmax pmax
comp=Z,15nm,1.0s
MWC Mount Wilson 90.16 56 *e*P **P** **05 35 01.8 +0.9**
comp=Z,15nm,1.0s
PAHR Pah Rah Range 90.17 50 *e*P **P** **05 35 00.6 -0.1**
comp=Z,91nm,2.9s
KURK Kurchatov 90.20 321 P **P** **05 34 58.9 -1.5**
KURK Kurchatov 90.20 321 P **P** **05 34 58.9 -1.5**
KURBB Kurchatov Arra 90.23 321 P **P** **05 34 58.9 -1.7**
comp=Z,0.6nm,0.8s,baz=100,slow=3.4,SNR=5.9
EDW2 Edwards Air Fo 90.33 55 P **P** **05 35 01.5 -0.1**
baz=90
INK Inuvik 90.63 20 LR LR 06 09 52.2
comp=Z,79nm,21.2s,baz=222,slow=32
LRMC Laurel Mountai 90.69 54 P **P** **05 35 04.3 +1.1**
baz=91
NVAR Mina Array Bea 90.75 51 P **P** **05 35 03.6 0.0**
NVAR Mina Array Bea 90.75 51 P **P** **05 35 03.6 0.0**
comp=Z,2.2nm,0.7s,baz=252,slow=6.7,SNR=17
NVAR LR LR 06 09 09.8
comp=Z,57nm,20.5s,baz=94,slow=31
NV11 Mina Array Sit 90.86 51 *e*P **P** **05 35 04.2 +0.2**
MPMC Manual Prospec 90.95 54 P **P** **05 35 04.8 +0.3**
baz=91
I07A Izee 90.96 46 *e*P **P** **05 35 04.8 +0.5**
comp=Z,13nm,1.5s
GRAC Grapevine Rang 91.22 53 P **P** **05 35 06.0 +0.4**
baz=91
WVOR Wild Horse Val 91.26 47 *e*P **P** **05 35 06.5 +0.7**
WVOR pmax pmax
comp=Z,26nm,1.7s
WVOR Wild Horse Val 91.26 47 *e*P **P** **05 35 06.5 +0.7**
comp=Z,26nm,1.7s
MONP Monument Peak 91.27 57 P **P** **05 35 06.9 +0.8**
baz=91
PFO Pinyon Flat Ob 91.36 56 P **P** **05 35 07.2 +0.8**
baz=92
FURC Furnace Creek, 91.53 53 P **P** **05 35 07.2 +0.3**
baz=92
G08A Pilot Rock 91.58 45 *e*P **P** **05 35 07.8 +0.7**
comp=Z,16nm,1.6s
TUQ Turquoise Moun 92.10 55 P **P** **05 35 09.9 +0.1**
baz=92
BC3 Big Chuckawall 92.19 56 P **P** **05 35 10.9 +0.6**
baz=92
GMRC Granite Mounta 92.20 55 P **P** **05 35 11.1 +0.8**
baz=92
IRM Iron Mountain 92.52 56 P **P** **05 35 12.5 +0.8**
baz=93
R11A Troy Canyon, C 92.84 52 P **P** **05 35 13.5 +0.2**
baz=93
SHPR Sheep Range 92.88 54 *e*P **P** **05 35 14.2 +0.7**
comp=Z,7.6nm,1.3s
ARUT Antelope Range 94.43 53 *e*P **P** **05 35 20.7 +0.2**
ARUT pmax pmax
comp=Z,241nm,1.5s
ARUT Antelope Range 94.43 53 *e*P **P** **05 35 20.7 +0.2**
comp=Z,240nm,1.5s
HLID Hailey 94.50 47 P **P** **05 35 21.4 +0.6**
baz=95
U15A North Rim 95.16 54 P **P** **05 35 25.1 +1.0**
baz=95
BVAR Borovoye Array 95.64 323 P **P** **05 35 23.1 -2.4**
BVAR Borovoye Array 95.64 323 P **P** **05 35 23.1 -2.4**
BVAR Borovoye Array 95.64 323 P **P** **05 35 23.1 -2.4**
comp=Z,1.3nm,0.8s,baz=101,slow=4.8,SNR=6.2
BRVK Borovoye 95.71 323⇑ *e*P **P** **05 35 25.3 -0.5**
BRVK pmax pmax
comp=Z,12nm,4.1s
YKA Yellowknife Ar 96.80 28 P **P** **05 35 29.4 -1.1**
YKA Yellowknife Ar 96.80 28 P **P** **05 35 29.4 -1.1**
comp=Z,0.9nm,0.8s,baz=262,slow=4.5,SNR=15
PDAR Pinedale Array 97.94 48 P **P** **05 35 36.4 -0.1**
PDAR Pinedale Array 97.94 48 P **P** **05 35 36.4 -0.1**
comp=Z,0.5nm,0.8s,baz=298,slow=3.2,SNR=4.5
PDAR LR LR 06 12 57.2
comp=Z,51nm,21.0s,baz=288,slow=31
LPAZ La Paz 127.98 119 PKP **PKPdf** **05 41 06.4 -1.3**
LPAZ La Paz 127.98 119 PKP **PKPdf** **05 41 06.4 -1.3**
comp=Z,1.2nm,0.8s,baz=15,slow=4.7,SNR=5.3
CLL Collm 128.95 332 *e*PKIKP **PKPdf** **05 41 08.0 +0.3**
CLL Collm 128.95 332 *e*PKPdf **PKPdf** **05 41 08.0 +0.3**
GERES GERESS Array B 130.26 330 PKP **PKPdf** **05 41 10.1 -0.3**
GERES GERESS Array B 130.26 330 PKP **PKPdf** **05 41 10.1 -0.3**
comp=Z,0.8nm,0.9s,baz=349,slow=1.4,SNR=4.7
BDFB Brasilia 144.52 134 PKP **PKPab** **05 41 35.2 -0.7**
BDFB Brasilia 144.52 134 PKP **PKPab** **05 41 35.2 -0.7**
comp=Z,8.9nm,0.8s,baz=188,slow=2.2,SNR=14
ESDC Sonseca Array 145.45 335 PKPbc **PKPab** **05 41 38.8 +0.1**
ESDC Sonseca Array 145.45 335 PKPbc **PKPab** **05 41 38.8 +0.1**
comp=Z,1.5nm,1.0s,baz=26,slow=5.1,SNR=5.2
TAM Tamanrasset 150.18 301 *e*PKP2 **PKPbc** **05 41 51.6 -0.4**
TAM Tamanrasset 150.18 301 *e*PKPbc **PKPbc** **05 41 51.6 -0.4**
TORD Torodi Ar. Bea 156.28 282 PKPbc PKPdf 05 42 06.5 +11
comp=Z,0.8nm,0.9s,baz=83,slow=2.6,SNR=4.7

DJA 06 05:33:48.5±0.9,**0°N**±6°×**12°4E**±°,**h96**km±9km,**M4.2**/6,
mb4.5/2,**MLv4.0**/6,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.41**	**57**	P		Pn		05 34 04.6	+1.4
KMSI				S		Sn		05 34 16.8	+2.6
LUWI	**Luwuk**	**1.63**	**212**	P		Pn		05 34 15.0	-1.2
LUWI				S		Sn		05 34 38.9	+1.6
LUWI	**Luwuk**	**1.63**	**212**	S		Pn		05 34 15.0	-1.2
baz=36,SNR=10									
MRSI	**Marisa**	**1.70**	**274**	P		Pn		05 34 25.7	+8.6
MRSI				S		Sn		05 34 39.1	+0.2
APSI	**Ampana**	**2.35**	**238**	P		Pn		05 34 26.4	+0.9
TTSI	**Tana Toraja**	**5.09**	**229**	P		Pn		05 35 02.0	-0.5
36nm,0.7s,0.2nm									
SPSI	**Sidrap Palu**	**5.77**	**222**	P		Pn		05 35 10.5	-1.2

UPP ***06*** *05:34:37.8,66.50N×13.39E,h0km,ML1.7*
CSEM ***06*** *05:34:38.0±0.3,66.54N×13.30E,h10km,ML2.4,Error ellipse: s-maj=6.1km s-min=4.3km az=113.0*
ISCJB ***06*** *05:34:38.2±0.4,66.45N±0.03×13.5E±0.1,h22km±6km, Error ellipse: s-maj=7.9km s-min=4.6km az=1.1*
HEL ***06*** *05:34:38.4±0.2,66.58N×13.41E,h6km±2km,ML2.4, ML1.7(UPP),ML2.1(BER)*
BER ***06*** *05:34:39.1,66.58N×13.45E,h5km,MD1.9,ML2.1, ML2.4(NAO)*
NAO ***06*** *05:34:39.0±1.9,66.53N×13.88E,ML2.4*

ISC 06 05:34:37.7±0.8,**66.52N**±0.02×**13.35E**±0.04,**h16**km±6km,
n91,σ1**94**/149,**5C-3D,Northern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**0.10**	**258**	⇑*i*	P		**Pg**	**05 34 41.0**	**0.0**
KONS					*e*S		**Sg**	**05 34 43.1**	**0.0**
KONS					IAML			05 34 43.7	
comp=Z,2μm,0.2s									
KONS	**Konsvik**	**0.10**	**258**	⇑*i*	P		**Pg**	**05 34 41.0**	**0.0**
KONS					*i* S		**Sg**	**05 34 43.1**	**0.0**
KONS					IAML			05 34 43.7	
comp=Z,2μm,0.2s									
KONS	**Konsvik**	**0.10**	**258**		P		**Pg**	**05 34 41.0**	**0.0**
KONS					S		**Sg**	**05 34 43.1**	**0.0**
FLOS	**Flostrand**	**0.18**	**178**	⇓	*i*P		**Pg**	**05 34 42.9**	**+0.8**
FLOS					*e*S		**Sg**	**05 34 46.2**	**+1.2**
FLOS					IAML			05 34 48.2	
comp=Z,450nm,0.3s									
FLOS	**Flostrand**	**0.18**	**178**	⇓	*i*P		**Pg**	**05 34 42.9**	**+0.8**
FLOS					*i* S		**Sg**	**05 34 46.2**	**+1.2**
FLOS					IAML			05 34 48.2	
comp=Z,450nm,0.3s									
FLOS	**Flostrand**	**0.18**	**178**	⇓	*i*P		**Pg**	**05 34 42.9**	**+0.8**
SNR=100									
FLOS					S		**Sg**	**05 34 46.2**	**+1.2**
STOK	**Stokkvaagen**	**0.23**	**216**	*e*P			**Pg**	**05 34 43.7**	**+0.9**
STOK				*e*S			**Sg**	**05 34 47.9**	**+1.6**
STOK	**Stokkvaagen**	**0.23**	**216**	*i* P			**Pg**	**05 34 43.7**	**+0.9**
STOK				*i* S			**Sg**	**05 34 47.9**	**+1.6**
STOK	**Stokkvaagen**	**0.23**	**216**	P			**Pg**	**05 34 43.7**	**+0.9**
STOK				S			**Sg**	**05 34 47.9**	**+1.6**
MOR8	**Moi Rana**	**0.56**	**128**	⇑*i*	P		**Pg**	**05 34 48.9**	**+0.1**
MOR8					*e*S		**Sb**	**05 34 57.9**	**+0.9**
MOR8	**Moi Rana**	**0.56**	**128**	⇑*i*	P		**Pg**	**05 34 48.9**	**+0.1**
MOR8					*i* S		**Sb**	**05 34 57.9**	**+0.9**
MOR8	**Moi Rana**	**0.56**	**128**	⇑*i*	P		**Pg**	**05 34 48.9**	**+0.1**
SNR=95									
MOR8					*e*S		**Sb**	**05 34 57.9**	**+0.9**
SNR=95									
STEI	**Steigen**	**1.60**	**27**	*e*P			**Pn**	**05 35 05.5**	**+0.2**
STEI				*e*S			**Sn**	**05 35 26.1**	**+0.6**
STEI				IAML				05 35 30.5	
comp=Z,16nm,0.4s									
STEI	**Steigen**	**1.60**	**27**	*e*P			**Pn**	**05 35 05.5**	**+0.2**
STEI				*e*S			**Sn**	**05 35 26.1**	**+0.6**
STEI				IAML				05 35 30.5	
comp=Z,16nm,0.4s									
STEI	**Steigen**	**1.60**	**27**	*e*P			**Pn**	**05 35 05.5**	**+0.2**
SNR=50									
STEI				S			**Sn**	**05 35 26.1**	**+0.6**
LOF	**Lofoten**	**1.62**	**3**	*e*P			**Pg**	**05 35 11.5**	**+2.7**
LOF				*e*S			**Sg**	**05 35 31.2**	**+1.3**
LOF				IAML				05 35 37.8	
comp=Z,14nm,0.3s									
SALU	**Saltoluokta**	**2.21**	**65**	*e*P			**Pn**	**05 35 15.8**	**+2.1**
SALU				*e*S			**Sb**	**05 35 43.5**	**-0.7**
SALU	**Saltoluokta**	**2.21**	**65**	P			**Pn**	**05 35 15.8**	**+2.1**
SALU				S			**Sb**	**05 35 43.5**	**-0.7**
SALU	**Saltoluokta**	**2.21**	**65**	P			**Pn**	**05 35 15.8**	**+2.1**
SALU				S			**Sb**	**05 35 43.5**	**-0.7**
NIKU	**Nikkaluokta**	**2.59**	**56**	*e*P			**Pn**	**05 35 21.3**	**+2.3**
NIKU				*e*S			**Sb**	**05 35 53.4**	**-2.1**
NIKU	**Nikkaluokta**	**2.59**	**56**	P			**Pn**	**05 35 21.2**	**+2.3**
NIKU				S			**Sb**	**05 35 53.3**	**-2.1**
NIKU	**Nikkaluokta**	**2.59**	**56**	P			**Pn**	**05 35 21.3**	**+2.3**
baz=272									
NIKU				S			**Sb**	**05 35 53.4**	**-2.1**
DUNU	**Dundret**	**2.92**	**75**	*e*P			**Pn**	**05 35 25.2**	**+1.8**
DUNU				*e*S			**Sn**	**05 36 00.7**	**+2.5**
DUNU	**Dundret**	**2.92**	**75**	P			**Pn**	**05 35 25.2**	**+1.8**
DUNU				S			**Sn**	**05 36 00.7**	**+2.5**
DUNU	**Dundret**	**2.92**	**75**	P			**Pn**	**05 35 25.2**	**+1.8**
LILU	**Lilltraesk**	**2.94**	**112**	*e*P			**Pn**	**05 35 25.9**	**+2.2**
LILU				*e*S			**Sn**	**05 36 02.3**	**+3.7**
LILU	**Lilltraesk**	**2.94**	**112**	P			**Pn**	**05 35 25.9**	**+2.2**
LILU				S			**Sn**	**05 36 02.3**	**+3.7**
LILU	**Lilltraesk**	**2.94**	**112**	P			**Pn**	**05 35 25.9**	**+2.2**
LILU				S			**Sn**	**05 36 02.3**	**+3.7**
KUA	**Kurravaara**	**3.07**	**59**	*e*P			**Pn**	**05 35 27.3**	**+1.7**
KUA	**Kurravaara**	**3.07**	**59**	P			**Pn**	**05 35 27.3**	**+1.7**
HARU	**Harads**	**3.10**	**93**	*e*P			**Pn**	**05 35 27.4**	**+1.6**
HARU				*e*S			**Sn**	**05 36 06.3**	**+3.8**
HARU	**Harads**	**3.10**	**93**	P			**Pn**	**05 35 27.4**	**+1.6**
HARU				S			**Sn**	**05 36 06.2**	**+3.8**
HARU	**Harads**	**3.10**	**93**	P			**Pn**	**05 35 27.4**	**+1.6**
HARU				S			**Sn**	**05 36 06.3**	**+3.8**
SVAU	**Svanoeiden**	**3.29**	**125**	*e*P			**Pn**	**05 35 30.2**	**+1.6**
SVAU	**Svanoeiden**	**3.29**	**125**	P			**Pn**	**05 35 30.2**	**+1.6**
SVAU	**Svanoeiden**	**3.29**	**125**	P			**Pn**	**05 35 30.2**	**+1.6**
SJUU	**Sjulsmark**	**3.52**	**103**	*e*P			**Pn**	**05 35 32.9**	**+1.2**
SJUU				*e*S			**Sn**	**05 36 15.5**	**+2.5**
SJUU	**Sjulsmark**	**3.52**	**103**	P			**Pn**	**05 35 32.9**	**+1.2**
SJUU				S			**Sn**	**05 36 15.5**	**+2.5**
SJUU	**Sjulsmark**	**3.52**	**103**	P			**Pn**	**05 35 32.9**	**+1.2**
SJUU				S			**Sn**	**05 36 15.5**	**+2.5**
MASU	**Masugnsbyn**	**3.52**	**71**	*e*P			**Pn**	**05 35 34.0**	**+2.2**
MASU	**Masugnsbyn**	**3.52**	**71**	P			**Pn**	**05 35 33.9**	**+2.2**
MASU	**Masugnsbyn**	**3.52**	**71**	P			**Pn**	**05 35 34.0**	**+2.2**
ERTU	**Ertsjaerv**	**3.54**	**85**	*e*P			**Pn**	**05 35 33.2**	**+1.3**
ERTU				*e*S			**Sn**	**05 36 16.0**	**+2.6**
ERTU	**Ertsjaerv**	**3.54**	**85**	P			**Pn**	**05 35 33.2**	**+1.3**
ERTU				S			**Sn**	**05 36 16.0**	**+2.6**
ERTU	**Ertsjaerv**	**3.54**	**85**	P			**Pn**	**05 35 33.2**	**+1.3**
ERTU				S			**Sn**	**05 36 16.0**	**+2.6**
LANU	**Lannavaara**	**3.69**	**61**	*e*P			**Pn**	**05 35 36.0**	**+2.0**
LANU				*e*S			**Sn**	**05 36 20.1**	**+3.0**
LANU	**Lannavaara**	**3.69**	**61**	P			**Pn**	**05 35 36.0**	**+2.0**
LANU				S			**Sn**	**05 36 20.0**	**+3.0**
LANU	**Lannavaara**	**3.69**	**61**	P			**Pn**	**05 35 36.0**	**+2.0**
LANU				S			**Sn**	**05 36 20.1**	**+3.0**
KIF	**Kilpisjarvi**	**3.77**	**45**	*e*P			**Pn**	**05 35 37.3**	**+2.2**
KIF				*e*S			**Sn**	**05 36 21.6**	**+2.4**
KIF				*e*SG			**Sg**	**05 36 34.3**	**-4.4**
KIF	**Kilpisjarvi**	**3.77**	**45**	P			**Pn**	**05 35 37.3**	**+2.2**
KIF				S			**Sn**	**05 36 21.5**	**+2.4**
HEF	**Hetta**	**4.40**	**60**	*e*P			**Pn**	**05 35 45.3**	**+1.6**
HEF				*e*S			**Sn**	**05 36 34.6**	**0.0**
HEF				MSN				05 36 36.7	
comp=Z,1.5nm,0.2s									
HEF	**Hetta**	**4.40**	**60**	P			**Pn**	**05 35 45.3**	**+1.6**
RNF	**Rovaniemi**	**5.06**	**83**	*e*P			**Pn**	**05 35 53.2**	**+0.4**
RNF				*e*S			**Sn**	**05 36 50.8**	**0.0**
RNF	**Rovaniemi**	**5.06**	**83**	P			**Pn**	**05 35 53.1**	**+0.4**
SGF	**Sodankyl**	**5.25**	**74**	*e*P			**Pn**	**05 35 56.0**	**+0.6**
SGF				*e*S			**Sn**	**05 36 54.3**	**-1.3**
SGF	**Sodankyl**	**5.25**	**74**	P			**Pn**	**05 35 56.0**	**+0.6**
VAF	**Ylistaro**	**5.29**	**127**	*e*P			**Pn**	**05 35 57.8**	**+1.8**
VAF				*e*S			**Sn**	**05 36 55.7**	**-0.9**
VAF				MSN				05 37 00.4	
comp=Z,1.5nm,0.2s									
VAF	**Ylistaro**	**5.29**	**127**	P			**Pn**	**05 35 57.8**	**+1.8**
OUL	**Oulu**	**5.36**	**100**	*e*P			**Pn**	**05 35 57.8**	**+0.8**
OUL				*e*S			**Sn**	**05 36 57.6**	**-0.6**
OUL	**Oulu**	**5.36**	**100**	P			**Pn**	**05 35 57.7**	**+0.8**
ARA0	**ARCESS Array S**	**5.47**	**51**	Pn			**Pn**	**05 35 58.1**	**-0.4**
baz=237,slow=14									
ARA0					Sn		**Sn**	**05 36 58.1**	**-2.9**
baz=235,slow=22									
ARA0					Lg		Lg	05 37 25.0	
baz=240,slow=37									
ARA0	**ARCESS Array S**	**5.47**	**51**	Pn			**Pn**	**05 35 58.1**	**-0.4**
baz=237,slow=14									
ARA0					Sn		**Sn**	**05 36 58.1**	**-2.9**
baz=235,slow=22									
ARA0					Lg		Lg	05 37 25.0	
baz=240,slow=37									
ARA0	**ARCESS Array S**	**5.47**	**51**	*e*P			**Pn**	**05 35 58.1**	**-0.4**
ARA0				*e*S			**Sn**	**05 36 58.1**	**-2.9**
ARA0				*e*SG			Sb	05 37 25.0	+6.9
ARA0	**ARCESS Array S**	**5.47**	**51**	Pn			**Pn**	**05 35 58.1**	**-0.4**
baz=237,slow=13,SNR=50									
ARA0					Lg		Lg	05 37 25.0	
NB2	**NORSAR Subarra**	**5.58**	**191**		Pn		Pn	05 36 04.3	+4.2
NB2					Lg		Lg	05 37 33.6	
baz=11,slow=37									
NB2	**NORSAR Subarra**	**5.58**	**191**		Pn		Pn	05 36 04.3	+4.2
NB2					Lg		Lg	05 37 33.6	
baz=11,slow=37									
NB2	**NORSAR Subarra**	**5.58**	**191**	*e*P			Pn	05 36 04.3	+4.2
NB2				*e*SG			**Sg**	**05 37 33.6**	**-3.1**
NB2	**NORSAR Subarra**	**5.58**	**191**		Lg		Lg	05 37 33.6	
SNR=2.9									
KEV	**Kevo**	**6.04**	**51**	*e*P			**Pn**	**05 36 05.6**	**-0.7**
KEV				*e*S			**Sn**	**05 37 12.1**	**-2.8**
KEV				MSN				05 37 13.1	
comp=Z,0.7nm,0.2s									
MSF	**Maaselka**	**6.38**	**88**	*e*P			**Pn**	**05 36 11.0**	**+0.1**
MSF				*e*S			**Sn**	**05 37 21.0**	**-2.2**
MSF	**Maaselka**	**6.38**	**88**	P			**Pn**	**05 36 10.9**	**+0.1**
HFS	**Hagfors**	**6.41**	**178**		Sn		**Sn**	**05 37 26.8**	**+2.6**
baz=5.2,slow=22									
HFS					Lg		Lg	05 37 59.5	
baz=4.1,slow=28									
HFS	**Hagfors**	**6.41**	**178**		Sn		**Sn**	**05 37 26.8**	**+2.6**
baz=5.2,slow=22									
HFS					Lg		Lg	05 37 59.5	
baz=4.1,slow=28									
HFS	**Hagfors**	**6.41**	**178**	*e*S			**Sn**	**05 37 26.8**	**+2.6**
HFS				*e*SG			**Sg**	**05 37 59.5**	**-3.7**
HFS	**Hagfors**	**6.41**	**178**	S			**Sn**	**05 37 26.7**	**+2.6**
VRF	**Varrio**	**6.45**	**72**	*e*P			**Pn**	**05 36 11.8**	**-0.2**
VRF				*e*S			**Sn**	**05 37 22.9**	**-2.3**
VRF	**Varrio**	**6.45**	**72**	P			**Pn**	**05 36 11.7**	**-0.2**
KJN	**Kajaani**	**6.49**	**105**	*e*P			**Pn**	**05 36 13.1**	**+0.7**
KJN				*e*S			**Sn**	**05 37 24.0**	**-2.1**
KJN	**Kajaani**	**6.49**	**105**	P			**Pn**	**05 36 13.1**	**+0.7**
KEF	**Keuruu**	**6.63**	**126**	*e*S			**Sn**	**05 37 30.2**	**+0.5**
KEF				MSN				05 37 40.2	
comp=Z,1.0nm,0.2s									
KEF	**Keuruu**	**6.63**	**126**	S			**Sn**	**05 37 30.1**	**+0.5**
RAF	**Rauma**	**6.65**	**142**	*e*P			**Pn**	**05 36 16.8**	**+2.1**
RAF				*e*S			**Sn**	**05 37 29.6**	**-0.5**
RAF				MSN				05 37 32.5	
comp=Z,0.6nm,0.2s									
RAF	**Rauma**	**6.65**	**142**	P			**Pn**	**05 36 16.7**	**+2.1**
SUF	**Sumiainen**	**6.69**	**119**	*e*P			**Pn**	**05 36 16.5**	**+1.3**
SUF				*e*S			**Sn**	**05 37 29.6**	**-1.3**
SUF				MSN				05 37 34.9	
comp=Z,0.7nm,0.2s									
SUF	**Sumiainen**	**6.69**	**119**	P			**Pn**	**05 36 16.4**	**+1.3**
KU6	**Riekki**	**6.69**	**87**	*e*P			**Pn**	**05 36 14.8**	**-0.4**
KU6				*e*S			**Sn**	**05 37 28.1**	**-2.9**
KU6				MSN				05 37 30.8	
comp=Z,1.4nm,0.2s									
KAF	**Kangasniemi**	**7.15**	**122**	*e*S			**Sn**	**05 37 41.6**	**-0.6**
KAF				MSN				05 37 44.0	
comp=Z,0.8nm,0.2s									
FIA0	**FINESS Array S**	**7.56**	**126**	Pn			**Pn**	**05 36 26.3**	**-0.7**
baz=331,slow=14									
FIA0					Sn		**Sn**	**05 37 48.5**	**-3.8**
FIA0					Lg		Lg	05 38 32.0	
baz=324,slow=28									
FIA0	**FINESS Array S**	**7.56**	**126**	Pn			**Pn**	**05 36 26.3**	**-0.7**
baz=331,slow=14									
FIA0					Sn		**Sn**	**05 37 48

*NEIC **06** 05:36:30.0±0.6,38°.03N×70°.45E,h35km,mb4.8/7,Error ellipse: s-maj=12.0km s-min=7.7km az=131.0*
*NNC **06** 05:36:34.2±4.6,37°.92N×71°.55E,h126km±56km,mb3.5, mpv4.0,Error ellipse: s-maj=37.9km s-min=23.1km az=9.0*
ISC 06 05:36:28.2±0.6,37°.39N±0°.04×72°.10E±0°.06,h130km,n143, σ1§32/139,mb4.1/23,9C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.56**	**183**	P		**Pn**	**Pn**	**05 37 24.2**	**+1.9**
CEP				S		**Sn**	**Sn**	**05 38 04.0**	**-0.1**
KSH	**Kashi**	**3.71**	**54**	P		**Pn**	**Pn**	**05 37 22.9**	**-1.3**
KSH				S		**Sn**	**Sn**	**05 38 02.6**	**-5.0**
KSH				smax	smax				
	comp=N,940nm,0.5s								
KSH				smax	smax				
	comp=E,710nm,0.4s								
KBL	**Kabul**	**3.77**	**222**	*e*PN		**Pn**	**Pn**	**05 37 24.9**	**-0.3**
KBL				*e*				05 38 07.0	
KBL	**Kabul**	**3.77**	**222**	*e*Pn		**Pn**	**Pn**	**05 37 24.9**	**-0.3**
KBL				*e*Sn		**Sn**	**Sn**	**05 38 07.0**	**-2.3**
CHCP	**Chirah Chowk**	**3.84**	**165**	P		**Pn**	**Pn**	**05 37 28.9**	**+3.0**
THW	**Thamme Wali**	**4.59**	**184**	P		**Pn**	**Pn**	**05 37 36.7**	**+0.8**
AML	**Almayashu**	**4.89**	**14**	*i* PN		**Pn**	**Pn**	**05 37 41.0**	**+0.8**
AML	**Almayashu**	**4.89**	**14**	P		**Pn**	**Pn**	**05 37 41.0**	**+0.8**
	SNR=52								
UCH	**Uchtor**	**5.18**	**20**	*i* PN		**Pn**	**Pn**	**05 37 45.2**	**+1.1**
UCH	**Uchtor**	**5.18**	**20**	P		**Pn**	**Pn**	**05 37 45.3**	**+1.1**
	SNR=18								
KZA	**Kyzart**	**5.28**	**26**	*i* PN		**Pn**	**Pn**	**05 37 46.5**	**+1.2**
KZA	**Kyzart**	**5.28**	**26**	P		**Pn**	**Pn**	**05 37 46.6**	**+1.2**
	SNR=15								
EKS2	**Erkin-Say**	**5.42**	**13**	*e*PN		**Pn**	**Pn**	**05 37 47.7**	**+0.7**
EKS2				pmax	pmax				
	comp=Z,17nm,0.4s								
EKS2	**Erkin-Say**	**5.42**	**13**	P		**Pn**	**Pn**	**05 37 48.3**	**+1.2**
	SNR=28								
EKS2	**Erkin-Say**	**5.42**	**13**	*e*Pn		**Pn**	**Pn**	**05 37 47.7**	**+0.7**
	comp=Z,17nm,0.4s								
EKS2				*e*Sn		**Sn**	**Sn**	**05 38 45.2**	**-3.3**
SARP	**Sargodha**	**5.47**	**175**	P		**Pn**	**Pn**	**05 37 48.9**	**+1.2**
AAK	**Ala-Archa**	**5.55**	**19**	⇓P		**Pn**	**Pn**	**05 37 50.3**	**+1.4**
	comp=Z,11nm,0.5s								
AAK				⇑S		**Sn**	**Sn**	**05 38 51.3**	**-0.3**
	comp=Z,37nm,0.7s								
AAK	**Ala-Archa**	**5.55**	**19**	PN		**Pn**	**Pn**	**05 37 50.4**	**+1.6**
AAK				pmax	pmax				
	comp=Z,7.0nm,0.3s								
AAK	**Ala-Archa**	**5.55**	**19**	P		**Pn**	**Pn**	**05 37 50.5**	**+1.7**
	SNR=26								
AAK	**Ala-Archa**	**5.55**	**19**	*e*Pn		**Pn**	**Pn**	**05 37 50.2**	**+1.4**
	comp=Z,15nm,0.4s								
AAK	**Ala-Archa**	**5.55**	**19**	P		**Pn**	**Pn**	**05 37 50.4**	**+1.6**
	comp=Z,7.2nm,0.3s,baz=148,slow=4.3,SNR=32								
AAK				S		**Sn**	**Sn**	**05 38 51.5**	**-0.1**
	comp=Z,5.7nm,0.3s,baz=156,slow=6.4,SNR=4.9								
FRU	**Bishkek**	**5.77**	**19**	*e*PN		**Pn**	**Pn**	**05 37 54.0**	**+2.4**
FRU				*e*S		Sn	Sn	05 39 04.5	+7.8
FRU				smax	smax				
	comp=E,90nm,1.8s								
DLH	**Dalhousie**	**5.78**	**146**	*e*P		**Pn**	**Pn**	**05 37 55.0**	**+3.0**
DLH				*e*S		**Sn**	**Sn**	**05 38 57.0**	**-0.3**
ULHL	**Ulahol**	**5.80**	**32**	P		**Pn**	**Pn**	**05 37 52.2**	**-0.1**
	SNR=8.8								
KK31	**Karatay Array**	**5.84**	**348**	⇓P		**Pn**	**Pn**	**05 37 51.4**	**-1.1**
	comp=E,15nm,0.3s,baz=178,slow=13,SNR=262								
KK31				⇑S		Sn	Sn	05 38 51.6	-6.7
	comp=E,40nm,0.3s,baz=171,slow=21,SNR=7.6								
KK31	**Karatay Array**	**5.84**	**348**	PN		**Pn**	**Pn**	**05 37 51.4**	**-1.1**
KK31				pmax	pmax				
	comp=Z,28nm,0.3s								
KKAR	**Karatay Array**	**5.84**	**348**	*e*PN		**Pn**	**Pn**	**05 37 51.3**	**-1.2**
KKAR				pmax	pmax				
	comp=Z,39nm,0.3s								
KKAR	**Karatay Array**	**5.84**	**348**	*e*Pn		**Pn**	**Pn**	**05 37 51.3**	**-1.2**
	comp=Z,39nm,0.3s								
KKAR				*e*Sn		Sn	Sn	05 38 48.1	-10
CHMS	**Chumysh**	**5.96**	**19**	*i* PN		**Pn**	**Pn**	**05 37 55.5**	**+1.3**
CHMS	**Chumysh**	**5.96**	**19**	P		**Pn**	**Pn**	**05 37 55.6**	**+1.3**
	SNR=20								
TKM2	**Tokmak 2**	**6.14**	**25**	⇑P		**Pn**	**Pn**	**05 37 58.1**	**+1.3**
	comp=Z,4.7nm,0.5s								
TKM2				⇑S		**Sn**	**Sn**	**05 39 03.5**	**-2.4**
	comp=Z,14nm,0.7s								
TKM2	**Tokmak 2**	**6.14**	**25**	*i* PN		**Pn**	**Pn**	**05 37 58.5**	**+1.8**
TKM2	**Tokmak 2**	**6.14**	**25**	P		**Pn**	**Pn**	**05 37 58.6**	**+1.8**
	SNR=5.7								
TKM2	**Tokmak 2**	**6.14**	**25**	*e*Pn		**Pn**	**Pn**	**05 37 58.3**	**+1.5**
	comp=Z,9.2nm,0.6s								
USP	**Ospenovka**	**6.15**	**17**	*i* PN		**Pn**	**Pn**	**05 37 57.4**	**+0.7**
USP	**Ospenovka**	**6.15**	**17**	P		**Pn**	**Pn**	**05 37 57.5**	**+0.7**
	SNR=19								
PONG	**Pong**	**6.28**	**149**	*e*S		**Sn**	**Sn**	**05 39 05.0**	**-4.0**
BHK	**Bhakra**	**6.94**	**148**	*ex*		Sn	Sn	05 39 08.5	-17
SDNR	**Sundarnagar**	**7.12**	**144**	*e*P		**Pn**	**Pn**	**05 38 11.0**	**+1.2**
SDNR				*e*S		**Sn**	**Sn**	**05 39 25.0**	**-4.3**
SMLA	**Simla**	**7.52**	**145**	*e*P		**Pn**	**Pn**	**05 38 16.2**	**+1.1**
SMLA				*e*S		**Sn**	**Sn**	**05 39 34.8**	**-4.1**
JOSI	**Joshimath**	**9.20**	**136**	*e*P		Pn	Pn	05 39 02.7	+25
JOSI				*ex*		x	x	05 39 39.9	
NDI	**New Delhi**	**9.68**	**152**	*e*P		**Pn**	**Pn**	**05 38 44.0**	**-0.3**
NDI				*e*S		Sn	Sn	05 40 20.0	-11
KHET	**Khetri**	**9.79**	**160**	*e*P		**Pn**	**Pn**	**05 38 44.4**	**-1.5**
KHET				*ex*		x	x	05 39 56.2	
KHET				AML		AML	AML	05 39 56.5	
	comp=N,283nm,0.1s								
KHET				AML		AML	AML	05 39 57.4	
	comp=E,301nm,0.1s								
SONA	**Sohna**	**10.03**	**154**	*e*P		**Pn**	**Pn**	**05 38 48.1**	**-0.8**
LGTI	**Lohaghat**	**10.43**	**137**	*ex*		Sn	Sn	05 40 37.2	-12
MK31	**Makanchi Array**	**12.06**	**36**	⇑P		**Pn**	**Pn**	**05 39 17.1**	**+1.3**
	comp=E,0.5nm,0.5s,baz=13,slow=8.8,SNR=3.4								
MK31	**Makanchi Array**	**12.06**	**36**	*e*P		**Pn**	**Pn**	**05 39 17.5**	**+1.7**
MK31	**Makanchi Array**	**12.06**	**36**	*e*Pn		**Pn**	**Pn**	**05 39 17.5**	**+1.7**
MKAR	**Makanchi Array**	**12.06**	**36**	P		**Pn**	**Pn**	**05 39 17.6**	**+1.8**
MKAR	**Makanchi Array**	**12.06**	**36**	P		**Pn**	**Pn**	**05 39 17.6**	**+1.8**
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=4.6								
KURBB	**Kurchatov Arra**	**14.01**	**17**	⇓P		**P**	**P**	**05 39 45.0**	**+0.4**
	comp=E,3.0nm,0.7s								
KURBB	**Kurchatov Arra**	**14.01**	**17**	P		**P**	**P**	**05 39 43.6**	**-1.0**
	comp=E,0.4nm,0.3s,baz=205,slow=11,SNR=8.4								
KURK	**Kurchatov**	**14.12**	**17**	⇑P		**P**	**P**	**05 39 46.6**	**+0.8**
	comp=E,1.5nm,1.0s								
KURK	**Kurchatov**	**14.12**	**17**	P		**Pn**	**Pn**	**05 39 43.6**	**+1.4**
AB31	**Akbulak array**	**14.78**	**327**	P		Pn	Pn	05 39 46.9	-3.8
	comp=E,0.9nm,0.3s,baz=144,slow=12,SNR=81								
AB31				⇓S		Sn	Sn	05 42 20.8	-13
	comp=E,9.7nm,0.6s,baz=156,slow=22,SNR=23								
AB31	**Akbulak array**	**14.78**	**327**	*e*P		Pn	Pn	05 39 46.8	-3.8
AB31				pmax	pmax				
	comp=Z,2.0nm,0.3s								
ABKAR	**Akbulak array**	**14.78**	**327**	*e*Pn		Pn	Pn	05 39 45.9	-4.7
	comp=Z,2.9nm,0.3s								
BVA0	**Borovoye Array**	**15.68**	**356**	⇑P		**P**	**P**	**05 40 03.5**	**+0.2**
	comp=Z,5.1nm,1.1s,baz=160,slow=9.6,SNR=28								
BVA0				⇑S		Sn	Sn	05 42 46.3	-10
	comp=Z,4.2nm,0.9s,baz=170,slow=25,SNR=5.5								
BVAR	**Borovoye Array**	**15.68**	**356**	P		**Pn**	**Pn**	**05 40 00.6**	**-1.3**
BVAR				S		Sn	Sn	05 42 46.4	-9.4
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**15.68**	**356**	P		**Pn**	**Pn**	**05 40 00.6**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=159,slow=9.1,SNR=26								
BVAR				S		Sn	Sn	05 42 46.4	-9.4
	comp=Z,0.3nm,0.3s,baz=166,slow=24,SNR=8.7								
BRVK	**Borovoye**	**15.72**	**356**	⇓P		**Pn**	**Pn**	**05 40 01.7**	**-0.7**
	comp=Z,8.9nm,0.8s								
BRVK	**Borovoye**	**15.72**	**356**	*e*P		**P**	**P**	**05 40 04.4**	**+0.8**
BRVK				pmax	pmax				
	comp=Z,19nm,2.5s								
AKTO	**Aktyubinsk**	**16.49**	**327**	⇓P		**Pn**	**Pn**	**05 40 11.1**	**-0.7**
	comp=Z,26nm,0.6s								
AKTO				⇓S		Sn	Sn	05 43 01.5	-14
	comp=Z,6.2nm,0.6s								
AKTO	**Aktyubinsk**	**16.49**	**327**	P		**Pn**	**Pn**	**05 40 10.1**	**-1.7**
AKTO				S		Sn	Sn	05 43 03.1	-12
AKTO				pmax	pmax				
	comp=Z,6.0nm,0.3s								
AKTO				smax	smax				
	comp=N,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**16.49**	**327**	P		**Pn**	**Pn**	**05 40 10.1**	**-1.7**
	comp=N,6.4nm,0.3s,baz=139,slow=9.1,SNR=66								
AKTO				S		Sn	Sn	05 43 03.0	-12
	comp=N,0.5nm,0.3s,baz=22,slow=23,SNR=8.8								
ZALV	**Zalesovo Beam**	**18.75**	**24**	*i* P		Pn	Pn	05 40 44.2	+5.5
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ZALV	**Zalesovo Beam**	**18.75**	**24**	P		**Pn**	**Pn**	**05 40 38.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=223,slow=11,SNR=14								
DGRG	**David-gareji**	**21.01**	**289**	P		**P**	**P**	**05 41 02.2**	**+0.8**
ARU	**Arti**	**21.10**	**339**	*e* *i*P		**P**	**P**	**05 41 02.5**	**+0.3**
ARU				pmax	pmax				
	comp=Z,15nm,1.2s								
ARU	**Arti**	**21.10**	**339**	*e*P		**P**	**P**	**05 41 01.3**	**-0.9**
	comp=Z,5.0nm,0.8s								
GNI	**Garni**	**21.48**	**286**	P		**P**	**P**	**05 41 06.3**	**-0.3**
	comp=Z,5.6nm,0.6s,baz=34,slow=2.8,SNR=6.4								
GTA	**Gaotai**	**21.78**	**76**	*e*P		P	P	05 41 15.3	+5.5
GTA				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ZEI	**Tsey**	**22.19**	**293**	*e*P		**P**	**P**	**05 41 14.4**	**+0.4**
ZEI				pmax	pmax				
	comp=Z,4.0nm,1.3s								
KBZ	**Khabaz**	**23.00**	**295**	P		**P**	**P**	**05 41 21.0**	**-0.6**
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**23.00**	**295**	P		**P**	**P**	**05 41 21.0**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=123,slow=8.9,SNR=4.3								
TLY	**Talaya**	**26.39**	**47**	*e*P		P	P	05 42 02.4	+10
ANN	**Anapa**	**27.00**	**297**	*e*P		P	P	05 41 50.7	-7.1
ANN				pmax	pmax				
	comp=Z,85nm,1.4s								
AKASG	**Malin Array Be**	**33.09**	**308**	P		**P**	**P**	**05 42 51.5**	**0.0**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**33.09**	**308**	P		**P**	**P**	**05 42 51.5**	**0.0**
	comp=Z,0.9nm,0.4s,baz=78,slow=7.3,SNR=6.9								
FINES	**FINESS Array B**	**37.25**	**325**	P		**P**	**P**	**05 43 27.7**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=120,slow=8.9,SNR=46								
KAF	**Kangasniemi**	**37.37**	**326**	*e*P		**P**	**P**	**05 43 28.2**	**+0.3**
KAF				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**40.31**	**338**	*e*P		**P**	**P**	**05 43 52.8**	**+0.5**
KEV	**Kevo**	**40.31**	**338**	*ep*				05 36 06.4	
	comp=Z,0.3nm,0.4s								
ARCES	**ARCESS Array B**	**40.67**	**337**	P		**P**	**P**	**05 43 56.5**	**+1.3**
	comp=Z,1.7nm,0.4s,baz=113,slow=8.0,SNR=19								
BRG	**Berggiesshubel**	**42.78**	**308**	*e*P		**P**	**P**	**05 44 14.1**	**+1.4**
BRG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GERES	**GERESS Array B**	**43.15**	**305**	P		**P**	**P**	**05 44 16.5**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=88,slow=6.8,SNR=4.4								
CLL	**Collm**	**43.33**	**308**	*e*P		**P**	**P**	**05 44 18.0**	**+0.9**
NB2	**NORSAR Subarra**	**44.21**	**322**	P		**P**	**P**	**05 44 24.2**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=95,slow=7.9								
NOA	**NORSAR Array B**	**44.21**	**322**	P		**P**	**P**	**05 44 24.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=94,slow=7.7,SNR=10								
CDF	**Champ du Feu**	**47.42**	**305**	*e*P		**P**	**P**	**05 44 50.5**	**+1.0**
CDF	**Champ du Feu**	**47.42**	**305**	*e*P		**P**	**P**	**05 44 50.5**	**+1.0**
CDF	**Champ du Feu**	**47.42**	**305**	*e*P		**P**	**P**	**05 44 50.5**	**+1.0**
HINF	**Hinteralfeld**	**47.82**	**304**	*e*P		**P**	**P**	**05 44 52.9**	**+0.3**
	comp=Z,3.9nm,0.6s								
HINF	**Hinteralfeld**	**47.82**	**304**	*e*P		**P**	**P**	**05 44 52.9**	**+0.3**
HINF				pmax	pmax				
	comp=Z,4.0nm,0.6s								
HINF	**Hinteralfeld**	**47.82**	**304**	*e*P		**P**	**P**	**05 44 52.9**	**+0.3**
	comp=Z,3.9nm,0.6s								
HAU	**Haudompre**	**48.11**	**305**	*e*P		**P**	**P**	**05 44 55.1**	**+0.3**
HAU	**Haudompre**	**48.11**	**305**	*e*P		**P**	**P**	**05 44 55.1**	**+0.3**
HAU	**Haudompre**	**48.11**	**305**	*e*P		**P**	**P**	**05 44 55.1**	**+0.3**
CABF	**La Chapelle**	**48.61**	**303**	*e*P		**P**	**P**	**05 45 00.0**	**+1.3**
	comp=Z,2.9nm,0.4s								
CABF	**La Chapelle**	**48.61**	**303**	*e*P		**P**	**P**	**05 45 00.0**	**+1.3**
CABF				pmax	pmax				
	comp=Z,3.0nm,0.4s								
CABF	**La Chapelle**	**48.61**	**303**	*e*P		**P**	**P**	**05 45 00.0**	**+1.3**
	comp=Z,2.9nm,0.4s								
MBDF	**Montbardon**	**48.62**	**300**	*e*P		**P**	**P**	**05 44 59.2**	**+0.3**
MBDF	**Montbardon**	**48.62**	**300**	*e*P		**P**	**P**	**05 44 59.2**	**+0.3**
MBDF	**Montbardon**	**48.62**	**300**	*e*P		**P**	**P**	**05 44 59.2**	**+0.3**
SMF	**Signal de Mont**	**50.10**	**303**	*e*P		**P**	**P**	**05 45 10.3**	**+0.4**
	comp=Z,6.7nm,0.7s								
SMF	**Signal de Mont**	**50.10**	**303**	*e*P		**P**	**P**	**05 45 10.3**	**+0.4**
SMF				pmax	pmax				
	comp=Z,7.0nm,0.6s								
SMF	**Signal de Mont**	**50.10**	**303**	*e*P		**P**	**P**	**05 45 10.3**	**+0.4**
	comp=Z,6.7nm,0.6s								
AVF	**Avril sur Loir**	**50.38**	**304**	*e*P		**P**	**P**	**05 45 12.4**	**+0.4**
	comp=Z,11nm,0.8s								
AVF	**Avril sur Loir**	**50.38**	**304**	*e*P		**P**	**P**	**05 45 12.4**	**+0.4**
AVF				pmax	pmax				
	comp=Z,11nm,0.8s								
AVF	**Avril sur Loir**	**50.38**	**304**	*e*P		**P**	**P**	**05 45 12.4**	**+0.4**
	comp=Z,11nm,0.8s								
TCF	**Toulx Ste Croi**	**51.28**	**303**	*e*P		**P**	**P**	**05 45 19.6**	**+0.8**
TCF	**Toulx Ste Croi**	**51.28**	**303**	*e*P		**P**	**P**	**05 45 19.6**	**+0.8**
TCF	**Toulx Ste Croi**	**51.28**	**303**	*e*P		**P**	**P**	**05 45 19.6**	**+0.8**
LDF	**La Druitiere**	**52.15**	**307**	*e*P		**P**	**P**	**05 45 25.9**	**+0.8**
	comp=Z,6.8nm,0.5s								
LDF	**La Druitiere**	**52.15**	**307**	*e*P		**P**	**P**	**05 45 25.9**	**+0.8**
LDF				pmax	pmax				
	comp=Z,7.0nm,0.5s								
LDF	**La Druitiere**	**52.15**	**307**	*e*P		**P**	**P**	**05 45 25.9**	**+0.8**
	comp=Z,6.8nm,0.5s								
FLN	**La Foliniere**	**52.33**	**307**	*e*P		**P**	**P**	**05 45 26.5**	**0.0**
	comp=Z,5.1nm,0.4s								
FLN	**La Foliniere**	**52.33**	**307**	*e*P		**P**	**P**	**05 45 26.5**	**0.0**
FLN				pmax	pmax				
	comp=Z,5.0nm,0.4s								
FLN	**La Foliniere**	**52.33**	**307**	*e*P		**P**	**P**	**05 45 26.5**	**0.0**
	comp=Z,5.1nm,0.4s								
GRR	**Gorron**	**52.68**	**307**	*e*P		**P**	**P**	**05 45 29.3**	**+0.3**
GRR	**Gorron**	**52.68**	**307**	*e*P		**P**	**P**	**05 45 29.3**	**+0.3**
GRR	**Gorron**	**52.68**	**307**	*e*P		**P**	**P**	**05 45 29.3**	**+0.3**
MFF	**Saint Martin d**	**52.74**	**304**	*e*P		**P**	**P**	**05 45 30.6**	**+1.1**
MFF	**Saint Martin d**	**52.74**	**304**	*e*P		**P**	**P**	**05 45 30.6**	**+1.1**
MFF	**Saint Martin d**	**52.74**	**304**	*e*P		**P**	**P**	**05 45 30.6**	**+1.1**
SGMF	**Saint Gilles**	**53.80**	**307**	*e*P		**P**	**P**	**05 45 37.9**	**+0.7**
SGMF	**Saint Gilles**	**53.80**	**307**	*e*P		**P**	**P**	**05 45 37.9**	**+0.7**
SGMF	**Saint Gilles**	**53.80**	**307**	*e*P		**P**	**P**	**05 45 37.9**	**+0.7**
ROSF	**Rostrenen**	**54.23**	**307**	*e*P		**P**	**P**	**05 45 40.9**	**+0.5**
ROSF	**Rostrenen**	**54.23**	**307**	*e*P		**P**	**P**	**05 45 40.9**	**+0.5**
ROSF	**Rostrenen**	**54.23**	**307**	*e*P		**P**	**P**	**05 45 40.9**	**+0.5**
ETSF	**Etsaut**	**54.23**	**300**	*e*P		**P**	**P**	**05 45 41.4**	**+0.8**
ETSF	**Etsaut**	**54.23**	**300**	*e*P		**P**	**P**	**05 45 41.4**	**+0.8**
ETSF	**Etsaut**	**54.23**	**300**	*e*P		**P**	**P**	**05 45 41.4**	**+0.8**
QUIF	**Quistinic**	**54.29**	**307**	*e*P		**P**	**P**	**05 45 41.1**	**+0.3**
QUIF	**Quistinic**	**54.29**	**307**	*e*P		**P**	**P**	**05 45 41.1**	**+0.3**
QUIF	**Quistinic**	**54.29**	**307**	*e*P		**P**	**P**	**05 45 41.1**	**+0.3**
ESDC	**Sonseca Array**	**57.83**	**298**	P		**P**	**P**	**05 46 05.8**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=56,slow=7.2,SNR=12								
TORD	**Torodi Ar. Bea**	**66.62**	**269**	P		**P**	**P**	**05 47 04.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=49,slow=6.0,SNR=13								
RC01	**Rabbit Creek A**	**76.11**	**20**	P		P	P	05 48 13.6	+12
YKA	**Yellowknife Ar**	**80.32**	**3**	P		**P**	**P**	**05 48 26.3**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=351,slow=5.4,SNR=6.9								
WRAB	**Tennant Creek**	**81.72**	**123**	*e*P		P	P	05 48 48.4	+16
WRAB				pmax	pmax				
	comp=Z,16nm,1.7s								
PAF	**Port-aux-Franc**	**86.38**	**181**	P		P	P	05 49 11.0	+16

*IDC **06** 05:37:50.2±0.9,8°.69S×157°.54E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/19,mbtmp3.9/7,ML4.4/1,Error ellipse: s-maj=26.1km s-min=14.3km az=3.0*
*ISCJB **06** 05:37:51.7±0.8,8°.7S±0°.2×157°.4E±0°.1,h16km,mb3.7/6, Error ellipse: s-maj=24.8km s-min=15.4km az=163.8*
ISC 06 05:37:52.8±0.9,8°.7S±0°.2×157°.6E±0°.1,h16km,n8,σ1§21/9, mb3.9/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**107**	Pn		**Pn**	**Pn**	**05 38 32.2**	**-0.1**
	73nm,0.3s,baz=194,slow=3.8,SNR=11								
HNR				Pg		**Pb**	**Pb**	**05 38 35.4**	**-1.3**
	61nm,0.3s,baz=241,slow=9.5,SNR=11								
HNR				Lg		Lg	Lg	05 39 08.0	
	106nm,0.3s,baz=243,slow=15,SNR=4.4								
HNR	**Honiara**	**2.46**	**107**	*e*P		**Pn**	**Pn**	**05 38 34.0**	**+1.7**
WRA	**Warramunga Arr**	**25.07**	**241**	P		**P**	**P**	**05 43 16.6**	**-0.1**
	2.7nm,0.6s,baz=66,slow=9.3,SNR=21								
ASAR	**Alice Springs**	**27.07**	**234**	P		**P**	**P**	**05 43 34.4**	**-0.5**
	0.8nm,0.8s,baz=64,slow=10,SNR=8.3								
STKA	**Stephens Creek**	**27.40**	**211**	P		**P**	**P**	**05 43 38.3**	**+0.6**
	2.2nm,0.6s,baz=42,slow=12,SNR=6.3								
ILAR	**Eielson Array**	**84.06**	**21**	P		**P**	**P**	**05 50 21.9**	**-0.4**
	0.5nm,0.9s,baz=246,slow=4.4,SNR=3.9								
MKAR	**Makanchi Array**	**86.37**	**318**	P		**P**	**P**	**05 50 33.5**	**-0.9**
	0.2nm,0.8s,baz=89,slow=6.2,SNR=2.0								
NVAR	**Mina Array Bea**	**90.80**	**51**	P		**P**	**P**	**05 50 57.5**	**+1.6**
	0.7nm,0.8s,baz=247,slow=8.0,SNR=5.8								

*ISCJB **06** 05:41:00.8±0.4,36°.34S±0°.09×53°.4E±0°.1,h7km, mb4.3/25, MS3.8/8,Error ellipse: s-maj=14.2km s-min=11.6km az=142.7*
*IDC **06** 05:41:01.3±0.5,36°.36S×53°.35E,h0km,mb4.3/24, mb1 4.4/25,mb1mx4.4/32,mbtmp4.3/25,ML4.3/1,MS3.8/9, Ms1 3.8/9,ms1mx3.6/24,Error ellipse: s-maj=17.4km s-min=14.2km az=37.0*
*NEIC **06** 05:41:03.0±0.3,36°.32S×53°.39E,h10km,mb4.5/2,Error ellipse: s-maj=10.9km s-min=9.5km az=48.0*
ISC 06 05:41:02.4±0.4,36°.3S±0°.1×53°.4E±0°.1,h7km,n82, σ0§82/71,mb4.4/25,MS3.9/8,5C,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.53**	**341**	P		**Pn**	**Pn**	**05 45 20.7**	**+0.8**
OPO	**Ambohidratompo**	**18.53**	**341**	P		**Pn**	**Pn**	**05 45 20.7**	**+0.8**
	0.9nm,0.3s,baz=163,slow=11,SNR=11								
OPO				LR		LR	LR	05 50 52.7	
	comp=Z,190nm,19.1s,baz=307,slow=32								
LBTB	**Lobatse**	**26.35**	**288**	P		**P**	**P**	**05 46 38.0**	**-1.3**
LBTB	**Lobatse**	**26.35**	**288**	P		**P**	**P**	**05 46 38.0**	**-1.3**
	5.9nm,0.8s,baz=116,slow=8.6,SNR=7.0								
LBTB				LR		LR	LR	05 55 05.0	
	comp=Z,94nm,20.8s,baz=290,slow=32								
SUR	**Sutherland**	**27.11**	**269**	LR		LR	LR	05 55 10.2	
	comp=Z,100nm,21.6s,baz=2.6,slow=31								
MAW	**Mawson**	**31.77**	**173**	LR		LR	LR	05 57 00.5	
	comp=Z,216nm,18.2s,baz=27,slow=30								
H08S1	**Diego Garcia H**	**33.45**	**36**	T		T	T	06 22 32.6	
	baz=209,slow=75,SNR=5.1								
H08S2	**Diego Garcia H**	**33.46**	**36**	T		T	T	06 22 32.8	
	baz=209,slow=75,SNR=7.0								
H08S3	**Diego Garcia H**	**33.48**	**36**	T		T	T	06 22 33.9	
	baz=209,slow=75,SNR=5.4								
H08N3	**Diego Garcia H**	**33.93**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**202**	Pn	Pn	05 42 15.1	-0.8
	2.6nm,0.3s,baz=164,slow=19,SNR=47						
DZM				LR	LR	05 42 45.9	
	comp=Z,346nm,20.7s,baz=52,slow=25						
DZM				Sn	Sn	05 42 56.4	+0.3
	5.4nm,0.3s,baz=299,slow=22,SNR=10						
DZM	**Mont Dzumac**	**3.32**	**202**	*e*P	Pn	05 42 14.5	-1.4
DZM					Sn	05 42 56.1	0.0
STKA	**Stephens Creek**	**26.81**	**236**	P	P	05 47 05.8	+1.2
	0.9nm,0.5s,baz=90,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**31.49**	**263**	P	P	05 47 45.8	-0.6
	0.6nm,1.1s,baz=90,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**31.83**	**256**	P	P	05 47 49.5	0.0
	1.3nm,0.4s,baz=81,slow=8.5,SNR=22						

*IDC **06** 05:55:36.6±1.8, 8°.36S×126°.91E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=253.4km s-min=31.1km az=61.0*

ISC 06 05:55:37.3±1.5, 8°.5S±0°.1×127°.2E±0°.1, h10km, n7, σ2s 40/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.13**	**246**	P	**Sn**	**05 57 03.9**	**-0.6**
MTN	**Manton Dam**	**5.85**	**138**	P	Pn	05 57 09.3	+5.2
	baz=4.8,SNR=6.2						
MTN				S	Sn	05 58 08.5	-2.8
	baz=4.8,SNR=7.2						
KDU	**Kakadu**	**6.70**	**129**	P	**Pn**	**05 57 15.1**	**-0.8**
	baz=5.4,SNR=12						
KDU				S	Sn	05 58 19.4	-13
	baz=5.4,SNR=7.8						
KNRA	**Kununurra**	**7.34**	**168**	P	Pb	05 57 40.6	-4.3
	baz=7.2,SNR=7.4						
KNRA				S	Sb	05 59 04.8	-7.7
	baz=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**13.36**	**149**	Pn	**Pn**	**05 58 49.4**	**+2.2**
	0.5nm,0.3s,baz=325,slow=15,SNR=22						
WRA				Sn	Sn	06 01 08.9	-7.0
	1.1nm,0.3s,baz=330,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.44**	**158**	Pn	**P**	**05 59 32.5**	**+1.5**
	0.1nm,0.3s,baz=334,slow=9.9,SNR=4.6						
ASAR				Sn	**Sn**	**06 02 27.9**	**-3.0**
	0.2nm,0.3s,baz=350,slow=26,SNR=6.1						
MKAR	**Makanchi Array**	**67.95**	**328**	P	**P**	**06 06 36.0**	**-0.4**
	0.5nm,0.5s,baz=120,slow=7.6,SNR=14						

*ISCJB **06** 06:14:56.7±0.5, 7°.06N±0°.04×125°.64E±0°.04, h57km±6km, mb3.2/3, Error ellipse: s-maj=7.3km s-min=6.2km az=12.5*
*MAN **06** 06:14:56, 7°.02N×125°.62E, h44km, mb4.5, ML3.4, MS3.3*
MAN INTENSITY III - DAVAO CITY; DIGOS CITY; INTENSITY II - STA CRUZ DAVAO CITY; INTENSITY I - CARAGA DAVAO ORIENTAL.
*IDC **06** 06:16:12.3±16.0, 3°.35S×123°.10E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=238.5km s-min=208.9km az=141.0*

ISC 06 06:14:57.6±1.1, 7°.06N±0°.04×125°.63E±0°.04, h47km±9km, n17, σ1s 06/22, mb3.2/3, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.12**	**279**	⇑*e*P	**Pn**	**06 15 04.8**	**-0.4**
DMPH				*i* S	**Sn**	**06 15 10.8**	**+0.2**
KCP	**Kidapawan**	**0.54**	**264**	⇓*e*P	**Pn**	**06 15 09.2**	**-0.1**
KCP				*i* S	**Sn**	**06 15 18.0**	**+0.4**
MATI	**Mati**	**0.63**	**101**	*e*P	**Pn**	**06 15 10.1**	**-0.3**
MATI				*e*S	**Sn**	**06 15 20.1**	**+0.6**
BUKP	**Musuan**	**0.99**	**325**	*e*P	**Pn**	**06 15 14.3**	**-0.9**
BUKP				*e*S	**Sn**	**06 15 28.1**	**0.0**
GSPH	**General Santos**	**1.18**	**215**	⇑*e*P	**Pn**	**06 15 17.9**	**0.0**
GSPH				*e*S	**Sn**	**06 15 34.9**	**+1.9**
BIPH	**Bislig**	**1.33**	**33**	⇑*i*P	**Pn**	**06 15 19.4**	**-0.4**
BIPH				*e*S	**Sn**	**06 15 36.6**	**+0.3**
CTBH	**Cotabato--PC H**	**1.39**	**277**	⇓*i*P	**Pn**	**06 15 19.9**	**-0.7**
CGP	**Cagayan de Oro**	**1.67**	**326**	⇑*i*P	Pn	06 15 19.4	-5.0
CGP				*e*S	Sn	06 15 36.6	-8.0
BUTP	**Butuan**	**1.89**	**360**	*e*P	**Pn**	**06 15 28.1**	**+0.6**
BUTP				*e*S	**Sn**	**06 15 52.7**	**+2.5**
PAGZ	**Pagadian**	**2.36**	**289**	*e*P	**Pn**	**06 15 33.5**	**-0.5**
SCPH	**Surigao**	**2.71**	**357**	*e*P	**Pn**	**06 15 37.6**	**-1.1**
SCPH				*e*S	Sn	06 16 02.9	-7.3
MSLP	**Maasin**	**3.15**	**346**	*e*P	**Pn**	**06 15 43.6**	**-1.1**
MSLP				*e*S	**Sn**	**06 16 23.1**	**+2.1**
OCLP	**Ormoc**	**4.09**	**346**	*e*P	**Pn**	**06 15 57.4**	**-0.2**
BESP	**Borongan**	**4.51**	**358**	*e*P	Pn	06 16 06.2	+2.7
WRA	**Warramunga Arr**	**28.17**	**162**	P	**P**	**06 20 45.6**	**-0.2**
	0.1nm,0.3s,baz=324,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**31.59**	**165**	P	**P**	**06 21 15.3**	**-0.8**
	0.2nm,0.5s,baz=339,slow=9.9,SNR=3.3						
STKA	**Stephens Creek**	**41.61**	**159**	P	P	06 22 51.9	+11
	1.4nm,0.9s,baz=320,slow=7.9,SNR=2.9						

*ISCJB **06** 06:32:38.9±0.5, 9°.83S±0°.04×107°.75E±0°.04, h22km, mb3.8/6, Error ellipse: s-maj=6.4km s-min=5.2km az=147.2*
*IDC **06** 06:32:38.5±2.6, 9°.79S×107°.86E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/20, mbtmp4.0/7, ML4.5/1, Error ellipse: s-maj=123.1km s-min=17.5km az=52.0*
*DJA **06** 06:32:42.9±0.4, 10°.S±3°.×10°.8E±°, h30km, M4.5/14, mb4.6/5, mB5.9/1, MLv4.4/14, Mw(mB)5.5/1*

ISC 06 06:32:40.3±0.7, 9°.87S±0°.05×107°.80E±0°.04, h22km, n31, σ2s 38/32, mb4.0/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**2.16**	**254**	P	**Pn**	**06 33 14.7**	**-0.3**
	baz=2.1,SNR=17						
XMI				S	**Sn**	**06 33 37.9**	**-3.1**
	baz=2.1,SNR=6.0						
CMJI	**Cimerak**	**2.17**	**17**	P	**Pn**	**06 33 14.5**	**-0.6**
CMJI				S	**Sn**	**06 33 38.6**	**-2.7**
XMIS	**Christmas Isla**	**2.20**	**254**	P	**Pn**	**06 33 14.9**	**-0.7**
	baz=2.2,SNR=45						
XMIS				S	**Sn**	**06 33 38.1**	**-4.1**
	baz=2.2,SNR=8.8						
CISI	**Cisompet, Garu**	**2.30**	**0**	P	**Pn**	**06 33 16.9**	**0.0**
CISI				S	**Sn**	**06 33 41.7**	**-2.9**
CISI	**Cisompet, Garu**	**2.30**	**0**	P	**Pn**	**06 33 16.5**	**-0.4**
	baz=2.5,SNR=13						
LEM	**Lembang**	**3.03**	**357**	P	**Pn**	**06 33 29.3**	**+2.2**
LEM	**Lembang**	**3.03**	**357**	P	**Pn**	**06 33 29.3**	**+2.2**
	baz=3.2,SNR=6.3						
LEM				S	**Sb**	**06 34 07.9**	**-2.4**
	baz=3.2,SNR=4.5						
BJII	**Banjamegara**	**3.15**	**37**	P	x	06 33 29.8	
TGJI	**Tegal**	**3.26**	**24**	P	x	06 33 24.8	
TGJI				S	x	06 34 06.6	
PCJI	**Pacitan**	**3.73**	**64**	P	**Pn**	**06 33 37.3**	**+0.8**
PCJI				S	**Sn**	**06 34 16.3**	**-3.4**
CGJI	**Cibinong**	**3.85**	**327**	P	**Pn**	**06 33 39.3**	**+1.1**
PWJI	**Pagerwojo**	**4.36**	**65**	P	**Pn**	**06 33 45.4**	**+0.2**
PWJI				S	**Sn**	**06 34 31.3**	**-4.1**
KRKI	**Karangkates**	**4.90**	**70**	P	x	06 34 45.7	
GRJI	**Gresik**	**5.48**	**58**	P	Sn	06 35 00.3	-2.7
GMJI	**Gumukmas**	**5.79**	**75**	P	**Pn**	**06 34 06.6**	**+1.7**
	33nm,0.9s,0.2nm						
GMJI				S	**Sn**	**06 35 07.7**	**-3.0**
	33nm,0.9s,0.2nm						
KLSI		**5.98**	**329**	P	**Pn**	**06 34 09.0**	**+1.5**
	29nm,2.6s,0.3nm						
BLJI	**Banyuglugur**	**6.10**	**70**	P	Pn	06 34 12.5	+3.3
	55nm,0.4s,10µm1.1nm						
JAGI	**Jajag, Banyuwa**	**6.42**	**78**	P	**Pn**	**06 34 13.9**	**+0.3**
	baz=6.5,SNR=7.7						
JAGI				S	**Sn**	**06 35 20.5**	**-5.8**
	baz=6.5,SNR=7.3						
SRBI	**Singaraja**	**7.53**	**77**	P	**Pn**	**06 34 31.2**	**+2.4**
GIRL	**Giralia**	**14.12**	**155**	P	**Pn**	**06 35 57.6**	**-1.4**
	baz=14,SNR=4.7						
GIRL				S	Sn	06 38 23.4	-12
	baz=14,SNR=4.1						
PSI	**Prapat**	**15.38**	**324**	Pn	**Pn**	**06 36 14.1**	**-2.1**
	1.8nm,0.3s,baz=153,slow=9.0,SNR=6.9						
WRA	**Warramunga Arr**	**27.49**	**114**	P	**P**	**06 38 25.7**	**+0.4**
	1.0nm,0.9s,baz=286,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**28.44**	**122**	P	**P**	**06 38 36.1**	**+2.4**
	0.5nm,0.6s,baz=299,slow=8.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**29.48**	**343**	P	**P**	**06 38 44.0**	**+1.2**
	0.7nm,0.3s,baz=175,slow=10,SNR=4.0						
H08S2	**Diego Garcia H**	**34.96**	**271**	T	T	07 17 08.4	
	baz=59,slow=76,SNR=22						
H08S3	**Diego Garcia H**	**34.97**	**271**	T	T	07 17 08.3	
	baz=59,slow=76,SNR=19						
H08S1	**Diego Carcia H**	**34.98**	**271**	T	T	07 17 09.6	
	baz=59,slow=76,SNR=18						
STKA	**Stephens Creek**	**38.17**	**130**	P	**P**	**06 39 59.8**	**+1.6**
	2.1nm,0.7s,baz=334,slow=5.1,SNR=6.7						
SONM	**Songino Array**	**57.46**	**359**	P	**P**	**06 42 28.9**	**+1.3**
	1.3nm,0.6s,baz=173,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**60.84**	**340**	P	**P**	**06 42 52.2**	**+1.3**
	0.9nm,0.6s,baz=141,slow=7.4,SNR=11						
TXAR	**Lajitas Array**	**144.77**	**52**	PKP	**PKPdf**	**06 52 17.5**	**+1.2**
	0.4nm,0.7s,baz=264,slow=0.8,SNR=7.0						

IDC 06 06:43:10.9±5.5, 6°.20S×133°.18E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=332.9km s-min=32.3km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.71**	**175**	Pn	Pn	06 46 27.1	+0.4
	0.1nm,0.3s,baz=355,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**17.38**	**178**	P	Pn	06 47 14.7	-0.4
	baz=358,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**69.33**	**325**	P	P	06 54 20.4	0.0
	0.1nm,0.4s,baz=134,slow=5.5,SNR=2.9						

TAP 06 06:43:30.7, 21°.23N×122°.28E, h164km±1km, ML3.7, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.05**	**320**	*e*P	Pn	06 43 56.9	-0.4
	baz=320						
TSEB	**Hengchuen, Pin**	**1.44**	**298**	P	Pn	06 44 01.6	+0.9
	baz=292						
TSEB				S	Sn	06 44 24.6	+0.8
	baz=292						
TWK1	**Hengchun**	**1.54**	**298**	*e*P	Pn	06 44 01.8	+0.1
	baz=294						
TWK1				S	Sn	06 44 24.7	-1.0
	baz=294						
EAST	**Anshuo**	**1.75**	**311**	*e*P	Pn	06 44 02.4	-1.6
	baz=315						
EAST				*e*S	Sn	06 44 28.0	-1.7
	baz=315						
SCZT	**Fangliau**	**1.91**	**307**	P	Pn	06 44 05.9	+0.2
	baz=307						
SCZT				*e*S	Sn	06 44 31.7	-1.0
	baz=307						
TWG	**Pinlang**	**1.94**	**325**	*e*P	Pn	06 44 06.4	+0.5
	baz=319						
TWG				*e*S	Sn	06 44 32.2	-1.1
	baz=319						
SSD	**Sandimen**	**2.15**	**315**	*e*P	Pn	06 44 08.9	+0.6
	baz=315						
TWF1	**Yuli**	**2.30**	**337**	*e*P	Pn	06 44 10.7	+0.6
WTP	**Ta-pu**	**2.53**	**323**	*e*P	Pn	06 44 13.5	+0.5
	baz=315						
WTP				*e*S	Sn	06 44 45.9	+0.3
	baz=315						
CHN1	**Nanshi**	**2.53**	**320**	*e*P	Pn	06 44 13.1	+0.1
	baz=314						
CHN1				*e*S	Sn	06 44 45.2	-0.4
	baz=314						
TWK	**Hsinying**	**2.62**	**321**	*e*P	Pn	06 44 14.5	+0.5
	baz=321						
CHN4	**Tsaushan**	**2.62**	**324**	*e*P	Pn	06 44 14.3	+0.3
	baz=317						
CHN4				*e*S	Sn	06 44 47.6	0.0
	baz=317						
ALS	**Alishan**	**2.65**	**329**	*e*P	Pn	06 44 15.9	+1.3
	baz=320						
CHN5	**Tsauling**	**2.78**	**328**	*e*P	Pn	06 44 15.9	-0.2
	baz=328						
TYC	**Yuchr**	**2.97**	**334**	*e*P	Pn	06 44 19.7	+1.5
	baz=326						

IDC 06 06:49:05.4±49.0, 16°.25S×174°.17W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=926.3km s-min=181.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.97**	**241**	P	P	06 57 06.8	+0.2
	2.1nm,0.8s,baz=78,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**48.93**	**258**	P	P	06 57 53.5	-0.2
	0.3nm,0.4s,baz=95,slow=7.2,SNR=7.0						
ASAR	**Alice Springs**	**49.14**	**253**	P	P	06 57 55.1	-0.3
	2.4nm,0.4s,baz=88,slow=8.3,SNR=46						

MEX 06 06:56:13.9±0.4, 16°.06N×97°.60W, h17km±21km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**303**	*e*P	Pg	06 56 23.9	-2.0
PNIG				*e*S	Sg	06 56 31.3	-2.8
VHO	**Vista Hermosa**	**1.30**	**39**	*e*P	Pn	06 56 34.2	-3.5
VHO				*i* S	Sn	06 56 49.4	-5.4
HUIG	**Huatulco**	**1.46**	**101**	*e*P	Pn	06 56 35.9	-3.6
HUIG				*e*S	Sn	06 56 53.2	-5.1
TLIG	**Tlapa**	**1.76**	**328**	*e*P	Pn	06 56 41.3	-2.5
TLIG				*e*S	Sn	06 57 01.4	-4.5
PLIG	**Platanillo**	**2.95**	**322**	*i* P	Pn	06 56 56.9	-3.3
PLIG				*i* S	Sn	06 57 31.4	-3.8
YAIG	**Yautepec**	**3.12**	**333**	*i* P	Pn	06 56 60.0	-2.6
YAIG				*e*S	Sn	06 57 35.4	-4.2
ARIG	**Puente Sto Nin**	**3.43**	**310**	*e*P	Pn	06 57 04.9	-1.9
ARIG				*i* S	Sn	06 57 43.4	-3.7
PCIG		**4.23**	**94**	*i* P	Pn	06 57 15.0	-2.6
PCIG				*i* S	Sn	06 58 03.7	-2.9

*BJI **06** 06:59:58.1, 37°.56N×71°.80E, h191km, mb4.0/3*
*MOS **06** 06:59:59.9±0.7, 37°.33N×72°.14E, h189km, mb4.0/11, Error ellipse: s-maj=16.2km s-min=5.4km az=79.9*
*ISCJB **06** 07:00:00.4±0.4, 37°.43N±0°.03×72°.23E±0°.06, h176km, mb3.9/12, Error ellipse: s-maj=7.5km s-min=3.2km az=161.3*
*IDC **06** 07:00:02.0±3.6, 37°.50N×72°.20E, h180km±27km, mb3.6/8, mb1 3.8/14, mb1mx3.5/30, mbtmp3.6/14, Error ellipse: s-maj=30.9km s-min=17.4km az=172.0*
*NNC **06** 07:00:10.1±3.1, 38°.12N×72°.24E, h210km±28km, mb3.3, mpv4.1, Error ellipse: s-maj=29.3km s-min=16.2km az=15.0*

ISC 06 07:00:01.3±0.5, 37°.51N±0°.05×72°.35E±0°.06, h176km, n79, σ2s 00/90, mb3.9/12, 13C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.48**	**54**	⇑*i*P	**Pn**	**07 00 54.4**	**-1.4**
KSH				S	Sn	07 01 30.3	-8.0
KSH				smax	smax		
	comp=N,320nm,0.4s						
KSH				smax	smax		
	comp=E,410nm,0.7s						
CEP	**Cherat**	**3.69**	**186**	⇑P	**Pn**	**07 01 00.8**	**+2.2**
CEP				S	**Sn**	**07 01 44.0**	**+0.8**
CHCP	**Chirah Chowk**	**3.91**	**169**	P	Pn	07 01 04.4	+3.1
CHCP				S	**Sn**	**07 01 50.0**	**+1.9**
AML	**Almayashu**	**4.73**	**12**	*i* PN	**Pn**	**07 01 14.1**	**+2.0**
AML	**Almayashu**	**4.73**	**12**	P	**Pn**	**07 01 14.1**	**+2.0**
	SNR=15						
UCH	**Uchtor**	**5.00**	**19**	*i* PN	**Pn**	**07 01 17.8**	**+2.3**
UCH	**Uchtor**	**5.00**	**19**	P	**Pn**	**07 01 17.9**	**+2.3**
	SNR=22						
KZA	**Kyzart**	**5.08**	**25**	*i* PN	**Pn**	**07 01 18.4**	**+1.8**
KZA	**Kyzart**	**5.08**	**25**	P	**Pn**	**07 01 18.4**	**+1.8**
	SNR=15						
EKS2	**Erkin-Say**	**5.26**	**12**	*i* PN	**Pn**	**07 01 21.1**	**+2.4**
EKS2	**Erkin-Say**	**5.26**	**12**	P	**Pn**	**07 01 21.1**	**+2.4**
	SNR=11						
AAK	**Ala-Archa**	**5.38**	**17**	⇑P	**Pn**	**07 01 22.6**	**+2.4**
	9.0nm,0.4s						
AAK				⇑S	**Sn**	**07 02 20.6**	**-1.6**
	60nm,0.9s						
AAK	**Ala-Archa**	**5.38**	**17**	*c i*PN	**Pn**	**07 01 22.8**	**+2.6**
AAK				pmax	pmax		
	comp=Z,25nm,0.6s						
AAK	**Ala-Archa**	**5.38**	**17**	P	**Pn**	**07 01 22.9**	**+2.6**
	SNR=19						
AAK	**Ala-Archa**	**5.38**	**17**	P	**Pn**	**07 01 22.9**	**+2.6**
	comp=Z,5.9nm,0.3s,baz=177,slow=6.3,SNR=40						
AAK				S	**Sn**	**07 02 22.8**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=135,slow=6.9,SNR=9.4						
KBK	**Karagaybulak**	**5.52**	**20**	*i* PN	**Pn**	**07 01 25.1**	**+3.1**
KBK	**Karagaybulak**	**5.52**	**20**	P	**Pn**	**07 01 25.1**	**+3.1**
	SNR=6.2						
FRU	**Bishkek**	**5.60**	**17**	*e*PN	**Pn**	**07 01 24.0**	**+1.1**
ULHL	**Ulahol**	**5.60**	**31**	*i* PN	**Pn**	**07 01 25.1**	**+2.0**
ULHL	**Ulahol**	**5.60**	**31**	P	**Pn**	**07 01 25.2**	**+2.0**
	SNR=7.0						
KK31	**Karatay Array**	**5.76**	**346**	P	**Pn**	**07 01 26.4**	**+1.2**
	comp=Z,17nm,0.5s,baz=159,slow=11,SNR=107						
KK31				S	**Sn**	**07 02 28.4**	**-2.6**
	comp=Z,32nm,0.3s,baz=159,slow=21,SNR=20						
KK31	**Karatay Array**	**5.76**	**346**	*e*PN	**Pn**	**07 01 26.3**	**+1.2**
KK31				pmax	pmax		
	comp=Z,15nm,0.2s						
DLH	**Dalhousie**	**5.77**	**148**	*e*P	**Pn**	**07 01 28.0**	**+2.5**
DLH				*e*S	**Sn**	**07 02 30.0**	**-1.7**
CHMS	**Chumysh**	**5.79**	**18**	*i* PN	**Pn**	**07 01 28.1**	**+2.7**
CHMS	**Chumysh**	**5.79**	**18**	P	**Pn**	**07 01 28.1**	**+2.7**
	SNR=5.3						
TKM2	**Tokmak 2**	**5.95**	**24**	⇑P	**Pn**	**07 01 30.2**	**+2.5**
	comp=Z,21nm,0.8s						
TKM2				⇑S	**Sn**	**07 02 33.6**	**-2.2**
	comp=Z,13nm,0.6s						
TKM2	**Tokmak 2**	**5.95**	**24**	*i* PN	**Pn**	**07 01 30.5**	**+2.8**
TKM2	**Tokmak 2**	**5.95**	**24**	P	**Pn**	**07 01 30.5**	**+2.8**
	SNR=17						
SDNR	**Sundarnagar**	**7.10**	**146**	*e*P	**Pn**	**07 01 43.6**	**+0.8**
SDNR				*e*S	**Sn**	**07 02 58.0**	**-4.9**
SMLA	**Simla**	**7.51**	**147**	*e*P	**Pn**	**07 01 49.1**	**+1.0**
SMLA				*e*S	**Sn**	**07 03 08.2**	**-4.2**
JOSI	**Joshimath**	**9.15**	**137**	*e*P	Pn	07 02 34.0	+24
KHET	**Khetri**	**9.85**	**162**	*e*P	**Pn**	**07 02 17.5**	**-1.4**
KHET				*e*S	Sn	07 03 58.5	-10
KHET				AML	AML	07 04 03.1	
	comp=E,180nm,0.1s						
KHET				AML	AML	07 04 03.5	
	comp=N,135nm,0.1s						
SONA	**Sohna**	**10.05**	**155**	*e*P	**Pn**	**07 02 21.2**	**-0.3**
SONA				*e*S	Sn	07 04 03.7	-10
SONA				AML	AML	07 04 08.1	
	comp=E,29nm,0.1s						
SONA				AML	AML	07 04 08.6	
	comp=N,25nm,0.5s						
LGTI	**Lohaghat**	**10.39**	**138**	*e*S	**Sn**	**07 04 15.8**	**-5.7**
AGRA	**Agra**	**11.28**	**154**	*e*P	**Pn**	**07 02 37.4**	**-0.2**
MK31	**Makanchi Array**	**11.85**	**35**	⇓P	**Pn**	**07 02 46.5**	**+1.7**
	comp=N,2.0nm,0.5s,baz=225,slow=17,SNR=86						
MK31	**Makanchi Array**	**11.85**	**35**	P	**Pn**	**07 02 47.2**	**+2.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**11.85**	**35**	*ce*P	**Pn**	**07 02 46.5**	**+1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**11.85**	**35**	P	**Pn**	**07 02 46.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=201,slow=9.2,SNR=17						
PYUN	**Piuthan**	**12.96**	**133**	*e*P	**Pn**	**07 02 58.4**	**-0.9**
	comp=Z,45nm,0.3s						
DANN	**Dangsing**	**13.23**	**130**	*e*P	**Pn**	**07 03 01.6**	**-1.2**
	comp=Z,33nm,0.3s						
KOLN	**Koldanda**	**13.56**	**132**	*e*P	**Pn**	**07 03 06.9**	**0.0**
	comp=Z,39nm,0.4s						
KURBB	**Kurchatov Arra**	**13.84**	**17**	⇑P	**P**	**07 03 13.5**	**+0.8**
	comp=Z,32nm,1.1s						
KURBB	**Kurchatov Arra**	**13.84**	**17**	P	**Pn**	**07 03 11.5**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=205,slow=11,SNR=74						
KURK	**Kurchatov**	**13.94**	**17**	⇑P	**P**	**07 03 13.9**	**+0.1**
	comp=Z,11nm,0.9s						
KURK	**Kurchatov**	**13.94**	**17**	P	**P**	**07 03 13.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
GKN	**Gorkha**	**14.01**	**129**	*e*P	**Pn**	**07 03 12.0**	**-0.5**
	comp=Z,163nm,0.4s						
KKN	**Kakani**	**14.56**	**128**	*e*P	**Pn**	**07 03 18.2**	**-1.2**
	comp=Z,59nm,0.5s						
DMN	**Daman**	**14.58**	**129**	*e*P	**Pn**	**07 03 18.8**	**-0.9**
	comp=Z,61nm,0.5s						
AB31	**Akbulak array**	**14.78**	**327**	⇓P	**Pn**	**07 03 20.8**	**-0.9**
	comp=Z,3.8nm,0.4s,baz=138,slow=12,SNR=191						
AB31				⇓S	Sn	07 05 57.0	-9.4
	comp=Z,2.0nm,0.4s,baz=154,slow=23,SNR=7.4						
AB31	**Akbulak array**	**14.78**	**327**	P	**Pn**	**07 03 21.4**	**-0.3**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PKI	**Pulchoki**	**14.80**	**128**	*e*P	**Pn**	**07 03 22.8**	**+0.4**
	comp=Z,46nm,0.5s						
GUN	**Gumba**	**14.86**	**126**	*e*P	**Pn**	**07 03 21.7**	**-1.5**
	comp=Z,65nm,0.4s						
JIRN	**Jiri**	**15.23**	**126**	*e*P	**Pn**	**07 03 27.3**	**-0.5**
	comp=Z,123nm,0.4s						
BVA0	**Borovoye Array**	**15.58**	**356**	*e*P	**P**	**07 03 33.0**	**+1.1**
BVA0				pmax	pmax		
	comp=Z,17nm,0.9s						
BVAR	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**07 03 32.1**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**07 03 32.1**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=160,slow=9.1,SNR=26						
BRVK	**Borovoye**	**15.62**	**355**	⇓*i*P	**Pn**	**07 03 32.7**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,14nm,2.5s						
RAMN	**Ramite**	**15.99**	**127**	*e*P	**Pn**	**07 03 36.6**	**-0.3**
	comp=Z,114nm,0.5s						
TAPN	**Taplejung**	**16.43**	**124**	*e*P	**P**	**07 03 42.3**	**+0.4**
	comp=Z,25nm,0.3s						
AKTO	**Aktyubinsk**	**16.50**	**326**	⇑

*IDC **06** 07:23:23.7±1.1,9.°43S×158.°02E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, Error ellipse: s-maj=34.1km s-min=22.0km az=140.0*
*ISCJB **06** 07:23:26.0±0.8,9.°5S±0.°2×158.°1E±0.°1, h27km, mb3.4/6, Error ellipse: s-maj=27.2km s-min=15.0km az=159.2*
ISC 06 07:23:26.3±1.0,**9.°5S**±0.°2×**158.°3E**±0.°1,**h27**km,**n8,** σ0§**45**/7, **mb3.6**/6,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.66**	**90**	Pn	**Pb**	**07 23 56.5**	**+0.3**
	17nm,0.3s,baz=211,slow=10,SNR=4.3						
HNR	**Honiara**	**1.66**	**90**	P	**Pb**	**07 23 56.0**	**-0.2**
WRA	**Warramunga Arr**	**25.35**	**243**	P	**P**	**07 28 51.5**	**+0.2**
	2.0nm,0.9s,baz=66,slow=9.1,SNR=7.2						
STKA	**Stephens Creek**	**27.15**	**212**	P	**P**	**07 29 07.3**	**-0.1**
	1.2nm,0.7s,baz=31,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**27.23**	**236**	P	**P**	**07 29 08.4**	**+0.1**
	0.4nm,0.9s,baz=58,slow=9.4,SNR=4.2						
SONM	**Songino Array**	**73.15**	**326**	P	**P**	**07 34 55.1**	**+0.5**
	0.2nm,0.7s,baz=132,slow=6.7,SNR=2.2						
ILAR	**Eielson Array**	**84.48**	**21**	P	P	07 36 00.2	+3.9
	0.4nm,0.8s,baz=219,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**87.38**	**318**	P	**P**	**07 36 10.5**	**-0.6**
	0.2nm,0.7s,baz=104,slow=4.6,SNR=3.6						

*IDC **06** 07:34:25.2±1.2,29.°38N×142.°42E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/25, mbtmp3.6/8, ML3.7/1, Error ellipse: s-maj=34.5km s-min=25.8km az=60.0*
*ISCJB **06** 07:34:27.2±1.1,29.°4N±0.°2×142.°3E±0.°2, h24km, mb3.7/7, Error ellipse: s-maj=32.9km s-min=19.1km az=157.3*
ISC 06 07:34:29.1±1.1,**29.°4N**±0.°2×**142.°3E**±0.°2,**h24**km,**n8,** σ1§**03**/8,**mb3.8**/7,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.94**	**335**	Pn	**Pn**	**07 36 23.0**	**0.0**
	1.0nm,0.3s,baz=155,slow=13,SNR=8.2						
SONM	**Songino Array**	**33.19**	**314**	P	**P**	**07 41 03.7**	**-0.3**
	0.5nm,0.7s,baz=104,slow=8.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**47.87**	**318**	P	**P**	**07 43 05.8**	**+0.9**
	0.4nm,0.3s,baz=99,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**49.14**	**308**	P	**P**	**07 43 14.9**	**0.0**
	0.7nm,0.7s,baz=92,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**49.62**	**190**	P	**P**	**07 43 18.4**	**-0.2**
	0.6nm,0.5s,baz=9.6,slow=8.0,SNR=5.9						
BVAR	**Borovoye Array**	**56.46**	**316**	P	**P**	**07 44 09.2**	**+0.4**
	1.4nm,0.6s,baz=97,slow=7.7,SNR=9.7						
YKA	**Yellowknife Ar**	**70.10**	**29**	P	**P**	**07 45 37.4**	**-1.5**
	0.1nm,0.5s,baz=298,slow=6.5,SNR=3.0						
TXAR	**Lajitas Array**	**94.16**	**53**	P	**P**	**07 47 47.7**	**+1.4**
	0.3nm,0.8s,baz=319,slow=4.0,SNR=3.1						

*NNC **06** 07:34:42.0±2.8,54.°55N×86.°31E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=23.5km s-min=18.6km az=162.0*
*IDC **06** 07:34:42.0±2.6,54.°57N×86.°31E, h0km, mb1 2.9/3, mb1mx2.8/29, mbtmp2.9/3, ML3.0/3, Error ellipse: s-maj=21.7km s-min=2.5km az=55.0*
ISC 06 07:34:43.3±4.4,**54.°7N**±0.°2×**86.°6E**±0.°2,**h35**km,**n8,** σ0§**81**/10,**6C-3D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**235**	*i*		07 41 12.0	
	baz=54,slow=347,SNR=9.0						
ZALV	**Zalesovo Beam**	**1.27**	**235**	Pg	Pn	07 35 01.1	-3.5
	1.2nm,0.3s,baz=56,slow=18,SNR=12						
ZALV				Lg	Lg	07 35 18.1	
	5.5nm,0.3s,baz=56,slow=28,SNR=33						
KURK	**Kurchatov**	**6.27**	**234**	⇑Pn	**Pn**	**07 36 12.7**	**-0.5**
	1.6nm,1.4s						
KURK				⇓Sn	**Sn**	**07 37 24.2**	**+0.8**
	0.2nm,0.6s						
KURK				⇑Lg	Lg	07 37 57.2	
	1.3nm,1.1s						
KURBB	**Kurchatov Arra**	**6.37**	**233**	⇑Pn	**Pn**	**07 36 13.8**	**-0.8**
	0.1nm,0.1s						
KURBB				⇑Sn	**Sn**	**07 37 25.3**	**-0.7**
	1.9nm,0.9s						
KURBB				⇑Lg	Lg	07 37 58.1	
	3.2nm,1.1s						
KURBB	**Kurchatov Arra**	**6.37**	**233**	Pn	**Pn**	**07 36 14.2**	**-0.5**
	0.3nm,0.3s,baz=53,slow=14,SNR=5.8						
KURBB				Lg	Lg	07 37 58.9	
	baz=50,slow=33,SNR=4.2						
MK31	**Makanchi Array**	**8.37**	**201**	⇓Pn	**Pn**	**07 36 42.5**	**+0.5**
	0.3nm,0.6s,baz=29,slow=11,SNR=7.8						
MK31				⇓Sn	**Sn**	**07 38 15.6**	**+0.4**
	0.5nm,0.7s						
MK31				⇑Lg	Lg	07 39 02.0	
	2.3nm,1.1s,baz=30,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.37**	**201**	Pn	**Pn**	**07 36 42.7**	**+0.7**
	0.1nm,0.3s,baz=21,slow=12,SNR=8.4						
MKAR				Sn	**Sn**	**07 38 14.8**	**-0.4**
	0.1nm,0.3s,baz=20,slow=25,SNR=3.6						
MKAR				Lg	Lg	07 39 05.0	
	0.1nm,0.3s,baz=27,slow=29,SNR=4.0						
BVAR	**Borovoye Array**	**9.71**	**267**	Pn	**Pn**	**07 37 01.5**	**+1.1**
	0.1nm,0.3s,baz=64,slow=15,SNR=2.6						

*ISCJB **06** 07:36:10.4±1.6,51.°4N±0.°3×179.°3E±0.°1, h52km, mb3.5/9, Error ellipse: s-maj=41.3km s-min=9.1km az=7.0*
*IDC **06** 07:36:15.6±3.9,51.°61N×179.°19E, h77km±28km, mb3.2/9, mb1 3.5/10, mb1mx3.3/32, mbtmp3.3/10, Error ellipse: s-maj=54.3km s-min=14.9km az=180.0*
ISC 06 07:36:12.4±1.8,**51.°4N**±0.°4×**179.°27E**±0.°09,**h52**km,**n16,** σ1§**07**/11,**mb3.6/9,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**4.04**	**294**	P	**Pn**	**07 37 11.9**	**+0.4**
	27nm,0.3s,baz=279,slow=23,SNR=12						
FX1				S	**Sn**	**07 37 59.2**	**+1.7**
	6.1nm,0.3s,baz=232,slow=18,SNR=3.0						
ILAR	**Eielson Array**	**21.97**	**40**	P	**P**	**07 41 00.8**	**-0.6**
	0.3nm,0.4s,baz=255,slow=11,SNR=12						
INK	**Inuvik**	**28.12**	**35**	P	**P**	**07 41 57.9**	**-1.0**
	0.9nm,0.6s,baz=261,slow=7.2,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**33.10**	**202**	T	T	08 17 48.3	
	baz=18,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**33.11**	**202**	T	T	08 17 43.7	
	baz=18,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**33.11**	**202**	T	T	08 17 47.6	
	baz=18,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**34.32**	**201**	T	T	08 19 18.2	
	baz=18,slow=75,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**34.34**	**201**	T	T	08 19 16.5	
	baz=18,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**34.34**	**202**	T	T	08 19 23.3	
	baz=18						
YKA	**Yellowknife Ar**	**36.07**	**46**	P	**P**	**07 43 09.0**	**+0.5**
	0.4nm,0.5s,baz=282,slow=7.7,SNR=12						
SONM	**Songino Array**	**45.54**	**296**	P	**P**	**07 44 25.5**	**-1.3**
	0.3nm,0.4s,baz=63,slow=7.4,SNR=4.6						
PDAR	**Pinedale Array**	**47.44**	**71**	P	**P**	**07 44 42.5**	**+0.7**
	0.3nm,0.4s,baz=333,slow=3.0,SNR=6.6						
MKAR	**Makanchi Array**	**59.05**	**307**	P	**P**	**07 46 05.7**	**-1.1**
	0.3nm,0.4s,baz=55,slow=5.7,SNR=10						
TXAR	**Lajitas Array**	**59.84**	**80**	P	**P**	**07 46 13.5**	**+1.0**
	0.1nm,0.4s,baz=294,slow=5.7,SNR=4.9						
BVAR	**Borovoye Array**	**60.06**	**319**	P	**P**	**07 46 13.4**	**-0.2**
	0.5nm,0.3s,baz=48,slow=8.0,SNR=5.2						
AKTO	**Aktyubinsk**	**66.94**	**324**	P	**P**	**07 46 58.8**	**-0.2**
	0.3nm,0.4s,baz=67,slow=5.9,SNR=5.4						

MEX 06 07:49:40.8±0.3,**17.°10N**×**101.°17W**,**h13**km±**6**km,**MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.57**	**331**	*e*P	Pg	07 49 50.7	-1.4
ZIIG				*i* S	Sg	07 49 58.4	-1.3
ARIG	**Puente Sto Nin**	**1.41**	**34**	*e*P	Pn	07 50 02.5	-3.7
ARIG				*i* S	Sn	07 50 19.7	-5.1
PLIG	**Platanillo**	**2.04**	**51**	*e*P	Pn	07 50 11.9	-3.2
PLIG				*e*S	Sn	07 50 35.6	-5.0
MMIG	**Aquila**	**2.38**	**300**	*i* P	Pn	07 50 16.4	-3.2
MMIG				*i* S	Sn	07 50 43.7	-5.1
MAVM	**Malinalco, Edo**	**2.44**	**41**	*e*P	Pn	07 50 17.7	-3.0
MAVM				*e*S	Sn	07 50 47.1	-3.5
TLIG	**Tlapa**	**2.53**	**79**	*e*P	Pn	07 50 19.2	-2.6
TLIG				*i* S	Sn	07 50 48.2	-4.5
YAIG	**Yautepec**	**2.66**	**49**	*e*P	Pn	07 50 19.8	-3.9
YAIG				*e*S	Sn	07 50 51.1	-4.9
MZVM		**2.78**	**41**	*e*P	Pn	07 50 21.8	-3.2
MZVM				*e*S	Sn	07 50 54.6	-3.8
PNIG	**Pinotepa**	**3.00**	**103**	*e*P	Pn	07 50 25.4	-2.7
PNIG				*i* S	Sn	07 51 00.8	-3.3

*NNC **06** 08:02:07.8±3.1,38.°03N×70.°95E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=24.9km s-min=19.2km az=2.0*
*ISCJB **06** 08:02:08.6±0.3,37.°99N±0.°03×71.°46E±0.°05, h10km, mb3.9/24, MS3.2/11, Error ellipse: s-maj=6.2km s-min=4.2km az=142.9*
*IDC **06** 08:02:08.0±0.8,38.°01N×71.°56E, h0km, mb3.8/14, mb1 4.0/20, mb1mx4.0/32, mbtmp3.9/20, ML4.0/6, MS3.2/13, Ms1 3.2/13, ms1mx3.0/36, Error ellipse: s-maj=15.0km s-min=11.3km az=140.0*
*MOS **06** 08:02:19.1±1.4,38.°56N×71.°41E, h72km, mb4.2/19, Error ellipse: s-maj=9.3km s-min=5.0km az=80.0*
*BJI **06** 08:02:21.7,38.°57N×71.°83E, h77km, mB4.6/6, mb4.0/11, Ms3.8/4, Ms7 3.7/2*
ISC 06 08:02:09.7±0.5,**37.°96N**±0.°05×**71.°47E**±0.°06,**h10**km,**n104,** σ1§**95**/92,**mb4.0**/24,**MS3.3**/11,**12C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.85**	**65**	P	**Pn**	**08 03 09.9**	**+0.8**
KSH				S	**Sn**	**08 03 49.1**	**-5.3**
KSH				smax	smax		
	comp=N,840nm,0.8s						
KSH				smax	smax		
	comp=E,580nm,0.9s						
CEP	**Cherat**	**4.14**	**175**	P	**Pb**	**08 03 22.3**	**-0.4**
CEP				S	Sg	08 04 32.0	+9.4
AML	**Almayashu**	**4.50**	**22**	*i* PN	**Pn**	**08 03 19.5**	**+1.2**
AML	**Almayashu**	**4.50**	**22**	P	**Pn**	**08 03 19.5**	**+1.2**
	SNR=29						
CHCP	**Chirah Chowk**	**4.53**	**161**	⇓P	**Pb**	**08 03 27.9**	**-1.4**
UCH	**Uchtor**	**4.86**	**28**	*i* PN	**Pn**	**08 03 24.4**	**+1.2**
UCH	**Uchtor**	**4.86**	**28**	P	**Pn**	**08 03 24.5**	**+1.2**
	SNR=28						
EKS2	**Erkin-Say**	**5.02**	**20**	*i* PN	**Pn**	**08 03 26.2**	**+1.1**
EKS2	**Erkin-Say**	**5.02**	**20**	P	**Pn**	**08 03 26.2**	**+1.1**
	SNR=44						
KZA	**Kyzart**	**5.03**	**34**	*i* PN	**Pn**	**08 03 26.9**	**+1.3**
KZA	**Kyzart**	**5.03**	**34**	P	**Pn**	**08 03 26.9**	**+1.3**
	SNR=16						
THW	**Thamme Wali**	**5.16**	**177**	P	Pb	08 03 35.9	-4.1
KK31	**Karatay Array**	**5.19**	**352**	⇑Pn	**Pn**	**08 03 27.3**	**-0.1**
	10nm,0.4s,baz=187,slow=15,SNR=110						
KK31				⇓Sn	**Sn**	**08 04 27.7**	**+0.3**
	54nm,0.6s,baz=196,slow=32,SNR=4.0						
KK31				⇑Lg	Lg	08 04 45.5	
	65nm,0.6s,baz=196,slow=32,SNR=4.0						
KK31	**Karatay Array**	**5.19**	**352**	PN	**Pn**	**08 03 27.3**	**-0.1**
KK31						08 04 28.4	
KK31				pmax	pmax		
	comp=Z,14nm,0.4s						
KK31				smax	smax		
	comp=N,38nm,0.5s						
AAK	**Ala-Archa**	**5.21**	**25**	⇓Pn	**Pn**	**08 03 28.6**	**+0.8**
	comp=N,69nm,0.7s						
AAK				⇑Lg	Lg	08 04 54.9	
	comp=N,94nm,0.9s						
AAK	**Ala-Archa**	**5.21**	**25**	PN	**Pn**	**08 03 29.2**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AAK	**Ala-Archa**	**5.21**	**25**	P	**Pn**	**08 03 29.4**	**+1.6**
	SNR=26						
AAK	**Ala-Archa**	**5.21**	**25**	Pn	**Pn**	**08 03 29.2**	**+1.4**
	comp=Z,4.7nm,0.3s,baz=189,slow=8.4,SNR=32						
AAK				Pg	**Pb**	**08 03 41.3**	**+0.4**
	comp=Z,9.3nm,0.3s,baz=187,slow=8.1,SNR=15						
AAK				Sn	Sn	08 04 35.1	+7.0
	comp=Z,2.6nm,0.3s,baz=320,slow=22,SNR=1.1						
AAK				Lg	Lg	08 04 51.4	
	comp=Z,7.0nm,0.3s,baz=325,slow=15,SNR=2.5						
AAK				LR	LR	08 05 37.4	
	comp=Z,178nm,20.5s,baz=228,slow=41						
KBK	**Karagaybulak**	**5.39**	**28**	P	Pb	08 03 38.0	-6.1
	SNR=12						
FRU	**Bishkek**	**5.43**	**25**	*e*PN	Pn	08 03 35.0	+4.3
FRU				*i*		08 04 32.0	
FRU				pmax	pmax		
	comp=Z,180nm,1.6s						
FRU				pmax	pmax		
	comp=E,720nm,1.9s						
CHMS	**Chumysh**	**5.62**	**25**	*i* PN	Pn	08 03 37.3	+4.0
CHMS	**Chumysh**	**5.62**	**25**	P	Pn	08 03 37.3	+4.0
	SNR=24						
ULHL	**Ulahol**	**5.63**	**39**	*i* PN	**Pn**	**08 03 34.8**	**+1.2**
ULHL	**Ulahol**	**5.63**	**39**	P	**Pn**	**08 03 34.8**	**+1.2**
	SNR=8.9						
USP	**Ospenovka**	**5.78**	**23**	*i* PN	**Pn**	**08 03 37.5**	**+1.9**
USP	**Ospenovka**	**5.78**	**23**	P	**Pn**	**08 03 37.5**	**+1.9**
	SNR=14						
TKM2	**Tokmak 2**	**5.87**	**31**	⇓Pn	**Pn**	**08 03 38.5**	**+1.6**
	comp=E,14nm,0.6s						
TKM2				⇓Sn	**Sn**	**08 04 50.0**	**+5.6**
	comp=E,45nm,1.1s						
TKM2				⇑Lg	Lg	08 05 14.9	
	comp=E,45nm,0.7s						
TKM2	**Tokmak 2**	**5.87**	**31**	*i* PN	**Pn**	**08 03 38.5**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,14nm,0.5s						
TKM2	**Tokmak 2**	**5.87**	**31**	P	Pn	08 03 40.5	+3.5
	SNR=7.2						
MK31	**Makanchi Array**	**11.90**	**39**	⇑Pn	**Pn**	**08 05 00.5**	**+1.0**
	comp=Z,12nm,0.8s,baz=222,slow=12,SNR=114						
MK31	**Makanchi Array**	**11.90**	**39**	*i* P	**Pn**	**08 05 01.0**	**+1.6**
MK31				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**11.90**	**39**	P	**Pn**	**08 05 00.0**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**11.90**	**39**	Pn	**Pn**	**08 04 60.0**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=225,slow=10,SNR=90						
MKAR				Lg	Lg	08 08 25.6	
	comp=Z,0.1nm,0.3s,baz=214,slow=28,SNR=2.8						
MKAR				LR	LR	08 10 01.2	
	comp=Z,63nm,19.8s,baz=201,slow=40						
KURBB	**Kurchatov Arra**	**13.62**	**19**	⇑Pn	**Pn**	**08 05 21.1**	**-1.8**
	comp=Z,3.2nm,0.8s						
KURBB				⇓Lg	Lg	08 09 23.3	
	comp=Z,20nm,0.8s						
KURBB	**Kurchatov Arra**	**13.62**	**19**	Pn	**Pn**	**08 05 20.2**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=8.7						
KURBB				Lg	Lg	08 09 20.1	
	comp=Z,0.2nm,0.3s,baz=208,slow=29,SNR=6.0						
KURK	**Kurchatov**	**13.73**	**19**	⇓Pn	**Pn**	**08 05 21.6**	**-2.7**
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**13.73**	**19**	P	Pn	08 05 20.2	-4.1
PYUN	**Piuthan**	**13.77**	**132**	*e*P	**Pn**	**08 05 27.4**	**+2.2**
	comp=Z,48nm,0.8s						
AB31	**Akbulak array**	**14.03**	**327**	Pn	Pn	08 05 23.8	-4.5
	comp=Z,3.1nm,0.6s,baz=143,slow=12,SNR=75						
AB31				⇓Sn	Sn	08 07 54.2	-10
	comp=Z,8.8nm,0.6s,baz=142,slow=24,SNR=5.9						
AB31	**Akbulak array**	**14.03**	**327**	P	Pn	08 05 23.1	-5.3
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DANN	**Dangsing**	**14.05**	**129**	*e*P	**Pn**	**08 05 30.2**	**+1.2**
	comp=Z,36nm,0.8s						
KOLN	**Koldanda**	**14.37**	**131**	*e*P	**Pn**	**08 05 35.8**	**+2.4**
	comp=Z,19nm,0.6s						
GKN	**Gorkha**	**14.84**	**128**	*e*P	**Pn**	**08 05 41.1**	**+1.4**
	comp=Z,38nm,0.5s						
BVA0	**Borovoye Array**	**15.09**	**357**	⇑Pn	**Pn**	**08 05 41.0**	**-1.8**
	comp=Z,5.2nm,1.0s,baz=171,slow=11,SNR=24						
BVA0	**Borovoye Array**	**15.09**	**357**	*i* P	**Pn**	**08 05 41.9**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**15.09**	**357**	P	**Pn**	**08 05 39.6**	**-3.2**
BVAR	**Borovoye Array**	**15.09**	**357**	Pn	**Pn**	**08 05 39.6**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=11						
BVAR				LR	LR	08 11 58.3	
	comp=Z,66nm,19.1s,baz=172,slow=39						
BRVK	**Borovoye**	**15.13**	**357**	⇑Pn	**Pn**	**08 05 41.5**	**-1.8**
	comp=Z,5.7nm,0.6s						
BRVK	**Borovoye**	**15.13**	**357**	*i* P	**Pn**	**08 05 40.0**	**-3.3**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s						
KKN	**Kakani**	**15.39**	**127**	*e*P	**Pn**	**08 05 47.7**	**+0.6**
	comp=Z,25nm,0.6s						
DMN	**Daman**	**15.41**	**128**	*e*P	**Pn**	**08 05 48.8**	**+1.4**
	comp=Z,23nm,0.7s						
PKI	**Pulchoki**	**15.62**	**127**	*e*P	**Pn**	**08 05 51.3**	**+1.0**
	comp=Z,21nm,0.6s						
GUN	**Gumba**	**15.69**	**125**	*e*P	**Pn**	**08 05 50.7**	**-0.4**
	comp=Z,70nm,1.0s						
AKTO	**Aktyubinsk**	**15.74**	**327**	⇑Pn	**Pn**	**08 05 47.6**	**-3.7**
	comp=Z,26nm,1.0s						
AKTO				⇑Sn	Sn	08 08 35.6	-10
	comp=Z,7.0nm,0.8s						
AKTO	**Aktyubinsk**	**15.74**	**327**	P	**Pn**	**08 05 47.9**	**-3.5**
AKTO						08 08 37.5	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**15.74**	**327**	Pn	**Pn**	**08 05 47.9**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=141,slow=18,SNR=9.6						
AKTO				Sn	Sn	08 08 37.5	-8.2
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=3.7						
AKTO				LR	LR	08 12 26.9	
	comp=Z,75nm,18.6s,baz=144,slow=39						
JIRN	**Jiri**	**16.06**	**125**	*e*P	**Pn**	**08 05 55.4**	**-0.5**
	comp=Z,25nm,0.4s						
RAMN	**Ramite**	**16.81**	**126**	*e*P	**Pn**	**08 06 05.0**	**-0.4**
	comp=Z,18nm,0.5s						
TAPN	**Taplejung**	**17.26**	**123**	*e*P	**Pn**	**08 06 10.4**	**-0.7**
	comp=Z,8.7nm,0.4s						
ZALV	**Zalesovo Beam**	**18.44**	**26**	P	**P**	**08 06 22.9**	**-2.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.44**	**26**	P	**P**	**08 06 22.9**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=220,slow=11,SNR=22						
ZALV				LR	LR	08 13 52.3	
	comp=Z,58nm,18.5s,baz=252,slow=38						
SVE	**Sverdlovsk**	**20.21**	**343**	*e*P	**P**	**08 06 44.9**	**+0.4**
SVE				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**20.39**	**339**	*d* iP	Pn	08 06 48.5	-0.1
ARU				S	S	08 10 25.9	-8.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	**Garni**	**20.85**	**284**	P	Pn	08 06 54.9	+0.6
	comp=Z,2.7nm,0.4s,baz=355,slow=11,SNR=7.1						
GNI				LR	LR	08 17 54.7	
	comp=Z,30nm,18.1s,baz=106,slow=45						
ZEI	**Tsey**	**21.51**	**292**	*e*P	**P**	**08 07 02.6**	**+3.7**
ZEI				pmax	pmax		
	comp=Z,18nm,1.5s						
AKH	**Akhalkalaki**	**21.77**	**288**	P	**P**	**08 07 06.0**	**+4.4**
ONI	**Oni**	**21.83**	**291**	P	**P**	**08 07 05.7**	**+3.5**
GTA	**Gaotai**	**22.14**	**77**	*e*P	**P**	**08 07 04.9**	**-0.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,110nm,4.8s						
GTA				LR	LR		
	comp=Z,120nm,13.8s						
GTA				LR	LR		
	comp=Z,85nm,13.3s						
KBZ	**Khabaz**	**22.31**	**294**	P	**P**	**08 07 07.4**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ				MLR	MLR		
	comp=Z,86nm,18.2s						
KBZ	**Khabaz**	**22.31**	**294**	P	**P**	**08 07 07.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=108,slow=6.4,SNR=4.2						
KBZ				LR	LR	08 17 51.8	
	comp=Z,86nm,18.2s,baz=74,slow=42						
GOF	**Gofitskoye**	**22.37**	**298**	*e*P	**P**	**08 07 09.8**	**+2.0**
KIV	**Kislovodsk**	**22.48**	**295**	⇑*e*P	P	08 07 15.6	+6.4
KIV				*e*S	S	08 11 05.3	-11
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
ZAK	**Zakamensk**	**25.76**	**51**	*e*P	**P**	**08 07 42.0**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
VORD	**Divnogorie**	**26.16**	**310**	*e*P	**P**	**08 07 44.1**	**+0.1**
VORD				pmax	pmax		
	comp=N,20nm,1.0s						
VORD				pmax	pmax		
	comp=E,40nm,1.0s						
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	**Storozhevoye**	**26.31**	**311**	*e*P	**P**	**08 07 45.4**	**0.0**
VSR				pmax	pmax		
	comp=N,6.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,20nm,1.0s						
VSR				pmax	pmax		
	comp=Z,20nm,1.0s						
TLY	**Talaya**	**26.38**	**48**	*e*P	**P**	**08 07 48.7**	**+2.7**
SONM	**Songino Array**	**27.22**	**57**	P	**P**	**08 07 53.6**	**-0.1**
	comp=Z,1.7nm,1.1s,baz=266,slow=8.6,SNR=8.1						
SONM				LR	LR	08 19 35.3	
	comp=Z,89nm,19.0s,baz=354,slow=39						
OBN	**Obninsk**	**29.10**	**317**	⇑*e*P	**P**	**08 08 12.2**	**+2.0**
OBN				*e*		08 09 05.7	
OBN				*e*S	S	08 12 54.4	-7.4
OBN				*e*SS	**SnSn**	**08 14 19.4**	**-6.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
OBN	**Obninsk**	**29.10**	**317**	P	**P**	**08 08 10.4**	**+0.1**
	comp=Z,12nm,0.3s,baz=183,slow=19

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.87**	**258**	P	P	08 22 58.4	-0.1
	0.2nm,0.8s,baz=95,slow=7.6,SNR=3.0						
ASAR	**Alice Springs**	**48.06**	**253**	P	P	08 22 59.9	-0.1
	0.6nm,0.5s,baz=88,slow=8.2,SNR=14						
ILAR	**Eielson Array**	**84.18**	**12**	P	P	08 26 51.1	0.0
	0.3nm,0.9s,baz=202,slow=4.5,SNR=2.6						

*IDC **06** 09:17:30.3±0.7, 17.17N×100.58W, h0km, mb4.4/16, mb1 4.5/19, mb1mx4.4/30, mbtmp4.3/19, ML3.6/3, MS3.9/14, Ms1 3.9/14, ms1mx3.7/40, Error ellipse: s-maj=24.8km s-min=13.4km az=57.0*

*NEIC **06** 09:17:32.7±1.4, 17.15N×100.63W, h11km±8km, mb4.6/67, MD4.7(MEX), Error ellipse: s-maj=7.0km s-min=4.0km az=210.0*

NEIC Felt at Acapulco, Chilpancingo and Huixquilucan.

*ISCJB **06** 09:17:33.2±0.9, 17.09N±0.03×100.69W±0.02, h31km±6km, mb4.5/76, MS3.8/10, Error ellipse: s-maj=4.5km s-min=3.1km az=13.5*

*MEX **06** 09:17:34.4±0.4, 17.02N×100.85W, h24km±6km, MD4.7*

ISC 06 09:17:33.6±0.9, 17.09N±0.05×100.78W±0.05, h24km±5km, n586, σ1§17/585, mb4.6/75, MS3.7/10, 185C-176D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.84**	**308**	*e*P	**Pb**	**09 17 47.6**	**-1.9**
ZIIG				*i* S	**Sb**	**09 17 58.4**	**-2.0**
ZIIG	**Zihuatanejo**	**0.84**	**308**	*e*P	**Pb**	**09 17 47.6**	**-1.9**
ZIIG				*i* S	**Sb**	**09 17 58.4**	**-2.0**
ARIG	**Puente Sto Nin**	**1.25**	**19**	*e*P	**Pn**	**09 17 54.7**	**-1.0**
ARIG				*i* S	**Sn**	**09 18 10.9**	**-1.0**
PLIG	**Platanillo**	**1.78**	**43**	*e*P	**Pn**	**09 18 02.8**	**-0.2**
PLIG				*e*S	**Sn**	**09 18 24.8**	**0.0**
PLIG	**Platanillo**	**1.78**	**43**	*e*P	**Pn**	**09 18 02.8**	**-0.2**
PLIG				*e*S	**Sn**	**09 18 24.8**	**0.0**
TLIG	**Tlapa**	**2.16**	**77**	*e*P	**Pn**	**09 18 08.4**	**+0.1**
TLIG				*e*S	**Sn**	**09 18 34.2**	**-0.2**
MAVM	**Malinalco, Edo**	**2.22**	**33**	*e*P	**Pn**	**09 18 08.4**	**-0.8**
MAVM				*e*S	**Sn**	**09 18 36.3**	**+0.2**
YAIG	**Yautepec**	**2.40**	**42**	*e*P	**Pn**	**09 18 10.8**	**-0.8**
YAIG				*e*S	**Sn**	**09 18 40.8**	**+0.5**
YAIG	**Yautepec**	**2.40**	**42**	*e*P	**Pn**	**09 18 10.8**	**-0.8**
YAIG				*e*S	**Sn**	**09 18 40.8**	**+0.5**
TOVM	**TOLUCA**	**2.42**	**25**	*e*P	**Pn**	**09 18 11.8**	**-0.2**
TOVM				*e*S	**Sn**	**09 18 41.1**	**0.0**
MZVM		**2.56**	**35**	*e*P	**Pn**	**09 18 13.7**	**+0.1**
MZVM				*e*S	**Sn**	**09 18 44.4**	**+0.4**
MOIG	**Morelia**	**2.61**	**351**	*e*P	**Pn**	**09 18 14.1**	**-0.4**
MOIG				*e*S	**Sn**	**09 18 45.0**	**-0.6**
MOIG	**Morelia**	**2.61**	**351**	*e*P	**Pn**	**09 18 14.1**	**-0.4**
MOIG				*e*S	**Sn**	**09 18 45.0**	**-0.6**
PNIG	**Pinotepa**	**2.63**	**105**	*e*P	**Pn**	**09 18 14.0**	**-0.6**
PNIG				*i* S	**Sn**	**09 18 44.8**	**-1.0**
PNIG	**Pinotepa**	**2.63**	**105**	*e*P	**Pn**	**09 18 14.0**	**-0.6**
PNIG				*e*S	**Sn**	**09 18 44.8**	**-1.0**
UNM	**Universidad Na**	**2.70**	**34**	*e*P	**Pn**	**09 18 15.7**	**0.0**
UNM				*e*S	**Sn**	**09 18 48.2**	**+0.4**
UNM	**Universidad Na**	**2.70**	**34**	*e*P	**Pn**	**09 18 15.7**	**0.0**
UNM				*e*S	**Sn**	**09 18 48.2**	**+0.4**
MMIG	**Aquila**	**2.73**	**296**	*e*P	Pn	09 18 13.8	-2.1
MMIG				*i* S	Sn	09 18 44.9	-3.2
MMIG	**Aquila**	**2.73**	**296**	*e*P	Pn	09 18 13.8	-2.1
MMIG				*e*S	Sn	09 18 44.9	-3.2
PBIG	**Penon de los B**	**2.84**	**34**	*e*P	**Pn**	**09 18 17.3**	**-0.2**
PBIG				*e*S	**Sn**	**09 18 51.4**	**+0.5**
AZVM	**Cuida Lopez Ma**	**2.86**	**29**	*e*P	**Pn**	**09 18 17.7**	**-0.3**
AZVM				*e*S	**Sn**	**09 18 52.8**	**+1.0**
PTVM	**Pico Tres Padr**	**2.95**	**32**	*e*P	**Pn**	**09 18 18.5**	**-0.7**
PTVM				*e*S	**Sn**	**09 18 55.1**	**+1.1**
PTVM	**Pico Tres Padr**	**2.95**	**32**	*e*P	**Pn**	**09 18 18.5**	**-0.7**
PTVM				*e*S	**Sn**	**09 18 55.1**	**+1.1**
IIO	**Organos**	**3.16**	**38**	*e*P	**Pn**	**09 18 21.5**	**-0.7**
IIO				*e*S	**Sn**	**09 19 00.0**	**+0.6**
IIO	**Organos**	**3.16**	**38**	*e*P	**Pn**	**09 18 21.5**	**-0.7**
IIO				*e*S	**Sn**	**09 19 00.0**	**+0.6**
VHO	**Vista Hermosa**	**3.87**	**90**	*e*P	**Pn**	**09 18 32.3**	**+0.5**
VHO				*e*S	**Sn**	**09 19 16.3**	**-0.3**
VHO	**Vista Hermosa**	**3.87**	**90**	*e*P	**Pn**	**09 18 32.3**	**+0.5**
VHO				*e*S	**Sn**	**09 19 16.3**	**-0.3**
HUIG	**Huatulco**	**4.67**	**106**	*e*P	**Pn**	**09 18 41.7**	**-0.9**
HUIG				*i* S	**Sn**	**09 19 34.8**	**-1.3**
HUIG	**Huatulco**	**4.67**	**106**	*e*P	**Pn**	**09 18 41.7**	**-0.9**
HUIG				*e*S	**Sn**	**09 19 34.8**	**-1.3**
H06E1	**SOCORRO T-PHAS**	**9.81**	**281**	T	T	09 29 36.6	
	SNR=173						
H06S1	**SOCORRO T**	**9.83**	**281**	T	T	09 29 38.5	
	SNR=52						
APG	**El Apazote**	**10.13**	**100**	Pn	**Pn**	**09 19 56.4**	**-1.4**
APG				Sn	Sn	09 21 56.3	+5.5
APG	**El Apazote**	**10.13**	**100**	Pn	**Pn**	**09 19 56.4**	**-1.4**
	1.7nm,0.3s,baz=283,slow=8.9,SNR=4.4						
APG				Sn	Sn	09 21 56.3	+5.5
	0.7nm,0.3s,baz=39,slow=24,SNR=3.7						
APG				LR	LR	09 23 47.1	
	comp=Z,444nm,20.6s,baz=298,slow=38						
832A	**Faith Ranch, C**	**11.17**	**4**	⇓P	**Pn**	**09 20 13.4**	**+1.5**
	baz=11,SNR=19						
834A	**Tilden**	**11.18**	**10**	⇓P	**Pn**	**09 20 13.5**	**+1.5**
	baz=11						
833A	**Chaparral WMA,**	**11.26**	**6**	⇓P	Pn	09 20 15.3	+2.2
	baz=11,SNR=12						
835A	**Beeville**	**11.47**	**13**	⇑P	**Pn**	**09 20 17.6**	**+1.7**
	baz=11						
732A	**Laxson Ranch,**	**11.61**	**4**	⇓P	Pn	09 20 20.7	+2.8
	baz=12,SNR=5.6						
733A	**Divot King Ran**	**11.66**	**6**	⇓P	Pn	09 20 21.3	+2.8
	baz=12,SNR=6.2						
TEIG	**Tepich**	**12.25**	**73**	*e*Pn	Pn	09 20 23.4	-3.3
TEIG				*e*Sn	Sn	09 22 33.8	-8.8
631A	**Perdido Creek**	**12.27**	**1**	⇓P	**Pn**	**09 20 28.9**	**+2.0**
	baz=12,SNR=15						
632A	**Uvalde**	**12.40**	**4**	⇑P	**Pn**	**09 20 30.4**	**+1.8**
	baz=12,SNR=7.0						
633A	**Saathoff Ranch**	**12.40**	**7**	⇑P	**Pn**	**09 20 30.1**	**+1.4**
	baz=12						
TXAR	**Lajitas Array**	**12.47**	**348**	Pn	**Pn**	**09 20 30.9**	**+1.0**
TXAR				Lg	Lg	09 24 04.7	
TXAR	**Lajitas Array**	**12.47**	**348**	Pn	**Pn**	**09 20 30.9**	**+1.0**
	0.0nm,0.3s,baz=160,slow=15,SNR=12						
TXAR				Lg	Lg	09 24 04.7	
	0.1nm,0.3s,baz=167,slow=30,SNR=2.9						
TXAR				LR	LR	09 25 49.7	
	comp=Z,1μm,18.5s,baz=120,slow=40						
628A	**Black Gap, Mar**	**12.49**	**351**	⇑P	Pn	09 20 32.9	+2.9
	baz=12						
627A	**Terlingua Ranc**	**12.54**	**349**	⇓P	Pn	09 20 33.6	+2.9
	baz=13						
635A	**Leesville**	**12.55**	**12**	⇑P	**Pn**	**09 20 32.3**	**+1.6**
	baz=12						
626A	**Big Bend Ranch**	**12.79**	**347**	⇑P	Pn	09 20 37.2	+3.1
	baz=13						
532A	**Rocksprings**	**13.01**	**3**	⇑P	**Pn**	**09 20 39.1**	**+2.0**
	baz=13,SNR=8.8						
530A	**J-C Ranch, Com**	**13.01**	**358**	⇓P	Pn	09 20 39.8	+2.7
	baz=13,SNR=26						
531A	**Rocksprings**	**13.02**	**1**	⇓P	**Pn**	**09 20 39.0**	**+1.8**
	baz=13,SNR=15						
533A	**Kerrville**	**13.02**	**7**	⇓P	**Pn**	**09 20 39.1**	**+1.9**
	baz=13,SNR=5.7						
529A	**Stev Forest Ra**	**13.04**	**354**	⇑P	Pn	09 20 40.4	+2.8
	baz=13,SNR=8.5						
534A	**Blanco**	**13.05**	**9**	⇑P	**Pn**	**09 20 39.4**	**+1.8**
	baz=13,SNR=6.3						
535A	**Dale**	**13.21**	**12**	⇑P	Pn	09 20 41.7	+1.9
	baz=13,SNR=6.0						
527A	**Woodward Ranch**	**13.26**	**349**	⇑P	Pn	09 20 43.4	+2.9
	baz=13						
526A	**Mary Lane Ranc**	**13.27**	**347**	⇓P	Pn	09 20 43.7	+3.1
	baz=13						
TGUH	**Tegucigalpa,Un**	**13.35**	**101**	*e*Pn	Pn	09 20 43.9	+2.1
JCT	**Junction City**	**13.36**	**4**	*e*Pn	**Pn**	**09 20 42.6**	**+0.7**
JCT	**Junction City**	**13.36**	**4**	⇑P	Pn	09 20 44.4	+2.6
	baz=13						
429A	**Davenport Ranc**	**13.52**	**356**	⇑P	Pn	09 20 47.1	+3.1
	baz=14,SNR=18						
431A	**Sonora**	**13.54**	**1**	⇑P	Pn	09 20 47.1	+2.8
	baz=14,SNR=6.2						
HKT	**Hockley**	**13.58**	**19**	*e*Pn	**Pn**	**09 20 42.6**	**-2.1**
430A	**Baggett Ranch,**	**13.64**	**358**	⇑P	Pn	09 20 49.0	+3.2
	baz=14,SNR=35						
428A	**Kincaid Ranch,**	**13.69**	**353**	⇓P	Pn	09 20 49.3	+2.9
	baz=14,SNR=16						
433A	**Art**	**13.69**	**6**	⇑P	**Pn**	**09 20 48.1**	**+1.7**
	baz=14,SNR=15						
432A	**Menard**	**13.76**	**4**	⇑P	**Pn**	**09 20 49.1**	**+1.8**
	baz=14,SNR=11						
426A	**McDonald Obser**	**13.84**	**348**	⇓P	**Pn**	**09 20 50.8**	**+2.2**
	baz=14						
434A	**Burnet**	**13.86**	**9**	⇓P	**Pn**	**09 20 50.1**	**+1.5**
	baz=14,SNR=7.1						
427A	**Hayter Ranch,**	**13.91**	**351**	⇑P	Pn	09 20 52.4	+3.0
	baz=14,SNR=9.1						
331A	**San Angelo**	**14.16**	**1**	⇓P	Pn	**09 20 54.6**	**+1.8**
	baz=14,SNR=9.2						
425A	**Indio Mountain**	**14.17**	**345**	⇑P	**Pn**	**09 20 54.9**	**+2.0**
	baz=14,SNR=5.5						
330A	**Mertzon**	**14.26**	**359**	⇓P	**Pn**	**09 20 55.9**	**+1.7**
	baz=14,SNR=14						
332A	**Millersview**	**14.26**	**4**	⇓P	**Pn**	**09 20 55.0**	**+0.8**
	baz=14						
333A	**Richland Sprin**	**14.27**	**6**	⇑P	**Pn**	**09 20 55.7**	**+1.4**
	baz=14,SNR=14						
328A	**Wristen Ranch,**	**14.35**	**353**	⇑P	**Pn**	**09 20 57.3**	**+1.9**
	baz=14,SNR=10						
334A	**Lometa**	**14.37**	**9**	⇓P	**Pn**	**09 20 56.4**	**+0.8**
	baz=14,SNR=12						
329A	**Wagon Wheel Ra**	**14.38**	**356**	⇑P	**Pn**	**09 20 57.6**	**+1.9**
	baz=14,SNR=14						
335A	**Moody**	**14.46**	**12**	⇓P	**Pn**	**09 20 57.7**	**+0.9**
	baz=14						
326A	**Caldwell Ranch**	**14.46**	**349**	⇑P	Pn	09 20 59.4	+2.4
	baz=14,SNR=12						
325A	**Bean Ranch, Si**	**14.72**	**346**	⇓P	Pn	09 21 03.0	+2.4
	baz=15,SNR=18						
230A	**Sterling City**	**14.74**	**359**	⇓P	**Pn**	**09 21 01.9**	**+1.2**
	baz=15						
232A	**Coleman**	**14.77**	**4**	⇓P	**Pn**	**09 21 01.1**	**0.0**
	baz=15,SNR=6.4						
231A	**Bronte**	**14.79**	**2**	⇑P	**Pn**	**09 21 01.3**	**0.0**
	baz=15,SNR=14						
229A	**Bryant Ranch,**	**14.84**	**357**	⇑P	**Pn**	**09 21 04.2**	**+2.1**
	baz=15,SNR=14						
324A	**Moseley Ranch,**	**14.92**	**344**	⇑P	**P**	**09 21 07.3**	**-1.3**
	baz=15,SNR=33						
233A	**Rising Star**	**14.96**	**6**	⇓P	Pn	09 21 05.0	+1.3
	baz=15,SNR=20						
227A	**Bennet, Jal**	**15.03**	**352**	⇑P	Pn	09 21 06.3	+1.6
	baz=15						
234A	**Clairette**	**15.04**	**9**	⇑P	Pn	09 21 04.2	-0.5
	baz=15,SNR=24						
228A	**UT Block 9, Go**	**15.05**	**354**	⇓P	Pn	09 21 06.3	+1.3
	baz=15						
MNTX	**Comudas Mount**	**15.14**	**345**	*e*Pn	Pn	09 21 08.0	+2.0
	2μm,1.7s						
WHTX	**Lake Whitney**	**15.14**	**11**	*e*Pn	**Pn**	**09 21 04.4**	**-1.6**
WHTX	**Lake Whitney**	**15.14**	**11**	⇑P	**Pn**	**09 21 06.4**	**+0.4**
	baz=15,SNR=13						
226B	**Tecolote Peak,**	**15.24**	**349**	⇑P	Pn	09 21 09.6	+2.2
	baz=15,SNR=11						
CLNB	**Carlsbad**	**15.37**	**350**	*e*P	Pn	09 21 11.1	+2.0
	0.6nm,0.2s						
GDL2	**Guadalupe Moun**	**15.39**	**348**	*e*Pn	**Pn**	**09 21 11.2**	**+1.8**
225A	**Deer Hill, Car**	**15.40**	**347**	⇓P	**Pn**	**09 21 11.9**	**+2.3**
	baz=15,SNR=21						
130A	**Snyder**	**15.44**	**359**	⇑P	Pn	09 21 10.9	+0.9
	baz=16,SNR=7.4						
ABTX	**Abilene, Hawle**	**15.50**	**4**	*e*Pn	Pn	09 21 09.4	-1.4
ABTX	**Abilene, Hawle**	**15.50**	**4**	⇑P	**Pn**	**09 21 12.8**	**+2.0**
	baz=16,SNR=7.5						
129A	**Stewart Farms,**	**15.51**	**357**	⇓P	Pn	09 21 11.6	+0.7
	baz=16,SNR=12						
131A	**Roby**	**15.52**	**1**	⇓P	Pn	09 21 13.1	+2.1
	baz=16,SNR=9.3						
224A	**Cornudas Mount**	**15.53**	**345**	⇓P	Pn	09 21 12.9	+1.7
	baz=16,SNR=17						
128A	**Castleberry Fa**	**15.54**	**355**	⇓P	Pn	09 21 11.8	+0.4
	baz=16,SNR=26						
133A	**Hamilton Ranch**	**15.54**	**6**	⇓P	Pn	09 21 13.6	+2.2
	baz=16,SNR=18						
134A	**White-Moore Ra**	**15.61**	**8**	⇑P	Pn	09 21 11.5	-0.6
	baz=16,SNR=10						
NATX	**Nacogdoches**	**15.63**	**20**	*e*Pn	Pn	09 21 09.9	-2.4
	236nm,1.0s						
127A	**Arkansas Junct**	**15.70**	**352**	⇓P	Pn	09 21 14.3	+0.9
	baz=16,SNR=21						
135A	**Vickery Place,**	**15.70**	**11**	⇓P	**P**	**09 21 15.8**	**-1.3**
	baz=16,SNR=7.0						
223A	**Chaparral, Ant**	**15.71**	**342**	⇑P	Pn	09 21 15.4	+1.8
	baz=16						
126A	**Clayton Basin,**	**15.77**	**350**	⇑P	Pn	09 21 15.7	+1.5
	baz=16						
320A	**Kipp Ranch, An**	**15.84**	**335**	⇑P	**P**	**09 21 18.1**	**-0.8**
	baz=16						
222A	**Williams Famil**	**16.01**	**340**	⇑P	Pn	09 21 19.2	+1.8
	baz=16						
Z29A	**Hungry Hill Ra**	**16.12**	**357**	⇓P	Pn	09 21 17.7	-1.2
	baz=16,SNR=27						
Z30A	**Sanderson Ranc**	**16.13**	**359**	⇓P	Pn	09 21 17.9	-1.0
	baz=16,SNR=31						
Z31A	**Sharp Cattle R**	**16.17**	**2**	⇓P	Pn	09 21 18.6	-0.7
	baz=16,SNR=18						
319A	**Douglas**	**16.19**	**333**	⇑P	Pn	09 21 21.4	+1.7
	baz=16						
Z32A	**Haskell**	**16.19**	**4**	⇑P	Pn	09 21 18.4	-1.2
	baz=16,SNR=17						
Z28A	**Tucker Farm, M**	**16.20**	**355**	⇑P	Pn	09 21 20.2	+0.4
	baz=16,SNR=33						
Z33A	**Whitaker Ranch**	**16.23**	**6**	⇑P	Pn	09 21 21.2	+1.1
	baz=16,SNR=14						
Z27A	**Tatum**	**16.31**	**353**	⇑P	Pn	09 21 21.4	+0.2
	baz=16,SNR=43						
Z26A	**Caprock**	**16.37**	**350**	⇓P	Pn	09 21 22.1	+0.1
	baz=16,SNR=9.2						
Z34A	**Collier Ranch,**	**16.42**	**8**	⇓P	Pn	09 21 21.2	-1.3
	baz=16						
Z35A	**Perchaven, San**	**16.48**	**10**	⇑P	Pn	09 21 22.9	-0.4
	baz=16,SNR=6.6						
Z25A	**Roswell**	**16.51**	**348**	⇓P	Pn	09 21 25.0	+1.2
	baz=16,SNR=12						
121A	**Cookes Peak, D**	**16.63**	**339**	*e*Pn	Pn	09 21 25.2	-0.2
	42nm,1.1s						
121A	**Cookes Peak, D**	**16.63**	**339**	⇑P	Pn	09 21 26.8	+1.4
	baz=17,SNR=10						
Z24A	**Sheeppen Canyo**	**16.69**	**347**	⇑P	Pn	09 21 26.0	-0.2
	baz=17,SNR=20						
Y30A	**Stafford Cattl**	**16.72**	**360**	⇓P	Pn	09 21 25.5	-0.9
	baz=17						
Y29A	**Porterfield Fa**	**16.72**	**357**	⇑P	Pn	09 21 25.9	-0.5
	baz=17,SNR=21						
JTS	**JuntasAbangare**	**16.79**	**112**	*e*P	**P**	**09 21 29.8**	**+0.4**
	20nm,0.8s						
JTS	**JuntasAbangare**	**16.79**	**112**	Pn	**P**	**09 21 29.7**	**+0.4**
	0.3nm,0.3s,baz=309,slow=17,SNR=2.6						
JTS				LR	LR	09 27 18.5	
	comp=Z,233nm,19.5s,baz=323,slow=35						
Y28A	**McKinney Farm,**	**16.80**	**356**	⇓P	Pn	09 21 27.2	-0.2
	baz=17						
Y31A	**Rekieta Farm,**	**16.81**	**1**	⇑P	Pn	09 21 26.5	-0.9
	baz=17,SNR=14						
Z23A	**Rita Site, Whi**	**16.84**	**344**	⇑P	Pn	09 21 28.4	+0.4
	baz=17,SNR=6.4						
Y27A	**Causey**	**16.86**	**353**	⇑P	Pn	09 21 28.1	-0.1
	baz=17,SNR=12						
Y32A	**R-V Farms, Ver**	**16.89**	**4**	⇓P	Pn	09 21 27.5	-0.9
	baz=17,SNR=7.9						
MSTX	**Muleshoe**	**16.91**	**354**	*e*Pn	Pn	09 21 28.4	-0.5
MSTX	**Muleshoe**	**16.91**	**354**	⇓P	Pn	09 21 28.3	-0.5
	baz=17,SNR=18						
Y33A	**Hilltop Ranch,**	**16.96**	**6**	⇓P	Pn	09 21 28.6	-0.8
	baz=17,SNR=6.0						
Y26A	**Elida**	**16.99**	**351**	⇑P	Pn	09 21 30.1	+0.2
	baz=17,SNR=6.4						
Y34A	**Reagan Ranch,**	**17.02**	**9**	⇑P	Pn	09 21 29.1	-0.9
	baz=17,SNR=6.9						
Z22A	**Elephant Butte**	**17.04**	**342**	⇑P	**P**	**09 21 32.0**	**-0.2**
	baz=17,SNR=29						
Y25A	**Mesa, Roswell**	**17.13**	**349**	⇑P	**P**	**09 21 32.7**	**-0.4**
	baz=17,SNR=7.9						
X30A	**Coker Ranch, T**	**17.29**	**360**	⇑P	Pn	09 21 33.1	-0.4
	baz=17,SNR=11						
X29A	**Tulia**	**17.31**	**357**	⇑P	Pn	09 21 33.5	-0.3
	baz=17,SNR=37						
X32A	**Elmer**	**17.31**	**4**	⇓P	Pn	09 21 33.0	-0.8
	baz=17,SNR=11						
X28A	**Dimmitt**	**17.41**	**356**	⇑P	Pn	09 21 34.7	-0.4
	baz=17,SNR=5.9						
Y23A	**Lovelace Mesa,**	**17.43**	**345**	⇑P	**P**	**09 21 38.7**	**+2.2**
	baz=18,SNR=46						
X31A	**McDonald Ranch**	**17.49**	**2**	⇑P	**Pn**	**09 21 36.0**	**0.0**
	baz=18,SNR=7.3						
X33A	**Lawton**	**17.50**	**6**	⇑P	**Pn**	**09 21 35.2**	**-0.9**
	baz=18						
X26A	**CR and CF Fran**	**17.60**	**352**	⇓P	**Pn**	**09 21 37.8**	**+0.4**
	baz=18,SNR=17						
X27A	**F and S Farms,**	**17.61**	**354**	⇓P	**Pn**	**09 21 37.3**	**-0.2**
	baz=18						
X34A	**Smith Ranch, M**	**17.64**	**8**	⇓P	**Pn**	**09 21 36.8**	**-1.0**
	baz=18,SNR=6.5						
TUC	**Tucson**	**17.66**	**331**	*e*Pn	**P**	**09 21 40.0**	**+1.1**
	13nm,1.2s						
WMOK	**Wichita Mounta**	**17.67**	**5**	*e*P	**Pn**	**09 21 35.9**	**-2.2**
	22nm,0.8s						
VBMS	**Vicksburg**	**17.70**	**30**	*e*P	P	09 21 44.2	+5.0
	128nm,0.3s						
AMTX	**Amarillo**	**17.74**	**358**	*e*Pn	**Pn**	**09 21 38.2**	**-0.9**
	137nm,0.9s						
AMTX	**Amarillo**	**17.74**	**358**	⇓P	**Pn**	**09 21 38.8**	**-0.3**
	baz=18						
BNM	**Barren Site**	**17.78**	**344**	*e*P	**P**	**09 21 41.6**	**+1.1**
	17nm,1.0s						
Y22D	**IRIS PASSCAL I**	**17.79**	**343**	⇓P	**P**	**09 21 41.7**	**+1.2**
	baz=18						
LENM	**Lemitar**	**17.89**	**343**	*e*P	**P**	**09 21 43.4**	**+1.8**
X24A	**Lazy VL Ranch,**	**17.90**	**347**	P	**P**	**09 21 41.9**	**+0.2**
	baz=18						
LPM	**Los Pinos Moun**	**17.94**	**344**	*e*P	**P**	**09 21 43.4**	**+1.2**
W29A	**Amarillo**	**17.98**	**358**	⇓P	**Pn**	**09 21 42.0**	**0.0**
	baz=18,SNR=6.2						
W27A	**Bowe Ranch, En**	**18.02**	**354**	⇑P	**P**	**09 21 43.4**	**+0.4**
	baz=18,SNR=7.9						
W30A	**Crocket Farms**	**18.02**	**1**	⇓P	**Pn**	**09 21 42.2**	**-0.4**
	baz=18						
W31A	**Holland Ranch,**	**18.04**	**2**	⇓P	**Pn**	**09 21 42.4**	**-0.3**
	baz=18,SNR=5.6						
X23A	**Hourglass Bar**	**18.08**	**345**	⇓P	**P**	**09 21 45.4**	**+1.6**
	baz=18						
W33A	**Caddo, Fort Co**	**18.11**	**6**	⇑P	**Pn**	**09 21 44.0**	**+0.4**
	baz=18,SNR=8.5						
W26A	**Owens Ranch, T**	**18.13**	**352**	⇑P	**P**	**09 21 44.5**	**+0.4**
	baz=18						
W28A	**Vega**	**18.14**	**356**	⇓P	**Pn**	**09 21 43.7**	**-0.3**
	baz=18						
LAZ	**Ladron**	**18.16**	**343**	*e*P	**P**	**09 21 46.0**	**+1.4**
	17nm,1.0s						
W34A	**Bridge Creek,**	**18.27**	**8**	⇑P	**P**	**09 21 44.3**	**-1.3**
	baz=18						
W25A	**X Bar L Ranch,**	**18.35**	**350**	⇑P	**Pn**	**09 21 47.4**	**+0.6**
	baz=18,SNR=17						
214A	**Organ Pipe Nat**	**18.39**	**326**	*e*P	**Pn**	**09 21 48.6**	**+1.5**
	18nm,1.1s						
214A	**Organ Pipe Nat**	**18.39**	**326**	⇓P	**Pn**	**09 21 48.6**	**+1.5**
	baz=18,SNR=10						
ANMO	**Albuquerque**	**18.50**	**345**	*e*Pn	**Pn**	**09 21 49.3**	**+0.8**
ANMO	**Albuquerque**	**18.50**	**345**	P	**Pn**	**09 21 48.8**	**+0.3**
	0.2nm,0.3s,baz=155,slow=12,SNR=25						
ANMO				LR	LR	09 29 36.7	
	comp=Z,1μm,19.0s,baz=170,slow=39						
W24A	**Lazy 6 Ranch,**	**18.52**	**348**	⇑P	**Pn**	**09 21 49.0**	**+0.3**
	baz=19,SNR=27						
MIAR	**Mount Ida**	**18.54**	**19**	*e*Pn	**P**	**09 21 47.2**	**-1.4**
	5nm,1.1s						
V30A	**Spur Ranch, Mi**	**18.60**	**0**	⇓P	**P**	**09 21 49.1**	**-0.2**
	baz=19,SNR=6.6						
V32A	**Arapaho**	**18.62**	**4**	⇓P	**P**	**09 21 48.9**	**-0.6**
	baz=19,SNR=6.2						
W23A	**Werner Place,**	**18.63**	**346**	⇓P	**Pn**	**09 21 50.8**	**+0.7**
	baz=19,SNR=11						
V31A	**Spring Creek L**	**18.63**	**2**	⇑P	**P**	**09 21 49.2**	**-0.4**
	baz=19,SNR=7.3						
V28A	**Channing**	**18.63**	**356**	⇓P	**P**	**09 21 49.2**	**-0.5**
	baz=19						
V27A	**Dan Oppiter Fa**	**18.68**	**355**	⇓P	**P**	**09 21 50.8**	**+0.5**
	baz=19,SNR=7.3						
V29A	**Stinnett**	**18.72**	**358**	⇑P	**Pn**	**09 21 51.5**	**+0.4**
	baz=19						
V33A	**Lossen Ranch,**	**18.79**	**6**	⇑P	**P**	**09 21 50.5**	**-0.8**
	baz=19,SNR=11						
V26A	**Tequesquite Ra**	**18.83**	**352**

	baz=20								
S31A	**Mullinville**	20.48	3	⇓P	P	09 22 08.7	-1.1		
	baz=20,SNR=6.6								
S26A	**Kim**	20.59	354	⇑P	P	09 22 10.6	-0.5		
	baz=21								
S32A	**Newby Ranch, P**	20.60	4	⇑P	P	09 22 10.4	-0.6		
	baz=21								
WUAZ	**Wupatki**	20.64	335	eP	Pn	09 22 13.8	-0.2		
	40nm,1.0s								
WUAZ	**Wupatki**	20.64	335	⇑P	Pn	09 22 13.8	-0.3		
	baz=21,SNR=24								
Y12C	**Blythe**	20.69	326	⇓P	Pn	09 22 13.8	-0.6		
	baz=21,SNR=17								
S25A	**Robets Cordova**	20.75	352	⇓P	P	09 22 13.0	+0.2		
	baz=21,SNR=13								
DVTC	**Desert V Tower**	20.78	321	⇑P	Pn	09 22 15.3	-0.4		
	baz=21								
SWSC	**Sam W. Stewart**	20.80	322	⇑P	Pn	09 22 15.3	-0.5		
	baz=21								
S24A	**Houchin Ranch,**	20.84	350	⇑P	P	09 22 14.6	+0.6		
	baz=21,SNR=7.9								
PDMCI	**Parker Dam,Lak**	20.91	328	⇑P	Pn	09 22 16.2	-0.8		
	baz=21,SNR=11								
SDCO	**Great Sand Dun**	21.00	349	eP	P	09 22 15.8	+0.1		
	44nm,1.0s								
S23A	**Nye Farm, Mont**	21.05	348	⇑P	P	09 22 17.3	+1.1		
	baz=21,SNR=17								
R30A	**Dighton**	21.12	1	P	P	09 22 15.1	-1.6		
	baz=21								
BC3	**Big Chuckawall**	21.12	324	⇓P	P	09 22 17.6	+0.7		
	baz=21,SNR=8.8								
MONP	**Monument Peak**	21.14	321	⇑P	P	09 22 18.7	+1.6		
	baz=21								
BAR	**Barrett**	21.15	320	eP	P	09 22 19.0	+2.0		
	22nm,1.5s								
R31A	**Burdett**	21.15	3	⇓P	P	09 22 16.2	-0.8		
	baz=21,SNR=12								
TIGA	**Tifton**	21.16	44	⇑P	P	09 22 16.1	-1.0		
	baz=21								
MVCO	**Mesa Verde**	21.17	343	eP	P	09 22 18.0	+0.5		
	27nm,1.0s								
MVCO	**Mesa Verde**	21.17	343	⇓P	P	09 22 18.1	+0.7		
	baz=21,SNR=10								
R27A	**Eads**	21.19	356	⇓P	P	09 22 16.6	-0.9		
	baz=21,SNR=18								
R28A	**Tribune**	21.20	358	⇓P	P	09 22 16.4	-1.1		
	baz=21,SNR=34								
R25A	**Fountain Ranch**	21.21	352	⇓P	P	09 22 17.8	+0.1		
	baz=21,SNR=12								
S22A	**4UR Ranch, Cre**	21.26	347	⇑P	P	09 22 18.6	+0.2		
	baz=21,SNR=16								
R29A	**Marienthal**	21.26	359	⇓P	P	09 22 16.8	-1.4		
	baz=21,SNR=6.6								
R26A	**Arlington**	21.26	354	⇓P	P	09 22 18.3	0.0		
	baz=21,SNR=12								
R33A	**Olander Ranch,**	21.28	6	⇑P	P	09 22 17.2	-1.2		
	baz=21,SNR=6.9								
HALT	**Halls**	21.33	26	eP	P	09 22 18.8	0.0		
R32A	**Long Quarter,**	21.33	4	⇑P	P	09 22 18.3	-0.6		
	baz=21,SNR=8.0								
IRM	**Iron Mountain**	21.34	326	⇓P	P	09 22 21.2	+2.2		
	baz=21,SNR=24								
R24A	**Sanders Place,**	21.41	351	⇑P	P	09 22 20.0	+0.1		
	baz=21								
W13A	**Hualapai Mount**	21.42	329	⇓P	P	09 22 21.5	+1.5		
	baz=22,SNR=15								
R23A	**Moffat**	21.49	349	⇑P	P	09 22 21.2	+0.3		
	baz=22								
NEE2	**Needles Airpor**	21.52	328	⇓P	P	09 22 22.5	+1.5		
	baz=22								
PBMO	**Poplar Bluff**	21.64	23	eP	P	09 22 20.4	-1.9		
	87nm,0.9s								
GLAT	**Glass**	21.65	26	eP	P	09 22 19.6	-2.8		
PFO	**Pinyon Flat Ob**	21.66	322	eP	P	09 22 24.3	+1.6		
	34nm,1.5s								
PFO	**Pinyon Flat Ob**	21.66	322	P	P	09 22 24.5	+1.8		
	4.4nm,1.0s,baz=115,slow=7.8,SNR=5.6								
PFO				LR	LR	09 30 41.1			
	comp=Z,245nm,18.1s,baz=172,slow=36								
PFO	**Pinyon Flat Ob**	21.66	322	⇑P	P	09 22 24.1	+1.4		
	baz=22								
BELC	**Belle Mtn. Jos**	21.68	324	⇓P	P	09 22 24.5	+1.6		
	baz=22								
Q29A	**Oakley**	21.72	360	⇓P	P	09 22 22.2	-1.0		
	baz=22,SNR=8.1								
U15A	**North Rim**	21.80	334	⇓P	P	09 22 25.9	+1.6		
	baz=22,SNR=10.0								
PARMO	**Parma**	21.80	24	eP	P	09 22 24.9	+0.9		
Q30A	**Quinter**	21.82	1	⇓P	P	09 22 23.7	-0.5		
	baz=22,SNR=7.8								
Q31A	**Ellis**	21.87	3	⇓P	P	09 22 24.7	0.0		
	baz=22								
Q26A	**Hugo**	21.89	354	⇓P	P	09 22 24.5	-0.5		
	baz=22,SNR=6.7								
KSCO	**Kaye Shedlock'**	21.90	356	eP	P	09 22 24.5	-0.7		
KSCO	**Kaye Shedlock'**	21.90	356	⇑P	P	09 22 24.6	-0.6		
	baz=22,SNR=12								
Q32A	**Meitler Ranch,**	21.91	5	⇓P	P	09 22 24.4	-0.7		
	baz=22,SNR=8.6								
Q28A	**Sharon Springs**	21.91	358	⇓P	P	09 22 24.6	-0.6		
	baz=22,SNR=8.4								
Q25A	**Bedland, Calha**	21.96	353	⇑P	P	09 22 25.4	-0.5		
	baz=22,SNR=6.7								
Q33A	**Connelly Farm,**	21.98	6	⇑P	P	09 22 25.1	-0.8		
	baz=22,SNR=6.3								
LDFC	**Landfair**	22.02	327	eP	P	09 22 28.8	+2.4		
	37nm,1.1s								
PV01	**Paradox Valley**	22.06	343	eP	P	09 22 28.1	+1.2		
	2um,1.3s								
GMRC	**Granite Mounta**	22.08	326	⇑P	P	09 22 28.5	+1.4		
	baz=22,SNR=7.2								
MURC	**Murrieta**	22.10	321	⇑P	P	09 22 28.6	+1.4		
	baz=22								
Q24A	**Divide**	22.13	351	⇑P	P	09 22 27.9	+0.1		
	baz=22								
WVT	**Waverly**	22.18	29	eP	P	09 22 26.3	-1.7		
	40nm,1.4s								
KSU1	**Kansas State U**	22.23	9	eP	P	09 22 27.3	-1.3		
	112nm,0.8s								
KSU1	**Kansas State U**	22.23	9	⇑P	P	09 22 28.2	-0.4		
	baz=22,SNR=12								
P30A	**Selden**	22.38	1	⇑P	P	09 22 30.0	-0.2		
	baz=22,SNR=7.2								
P31A	**Stockton**	22.39	3	⇓P	P	09 22 29.8	-0.4		
	baz=22,SNR=7.2								
SWET	**Sewanee**	22.39	33	eP	P	09 22 30.4	+0.1		
	14nm,0.9s								
PV04	**Paradox Valley**	22.39	343	eP	P	09 22 31.4	+1.0		
P28A	**Saint Francis**	22.42	358	⇑P	P	09 22 30.2	-0.5		
	baz=22,SNR=11								
P29A	**Atwood**	22.43	360	⇑P	P	09 22 30.2	-0.6		
	baz=22,SNR=6.0								
P27A	**Ficken Ranch,**	22.44	356	⇑P	P	09 22 30.9	-0.1		
	baz=22,SNR=6.0								
HEC	**Hector,Ludlow**	22.48	325	⇑P	P	09 22 33.4	+2.0		
	baz=23								
P26A	**Davis Ranch, A**	22.50	355	⇑P	P	09 22 31.4	-0.2		
	baz=22								
GOGA	**Godfrey**	22.51	41	eP	P	09 22 33.1	+1.5		
	26nm,1.2s								
SCI	**San Clemente I**	22.52	318	⇑P	P	09 22 34.3	+2.5		
	baz=23								
P32A	**Huiting Farm,**	22.53	4	⇓P	P	09 22 31.5	-0.4		
	baz=22,SNR=5.6								
P25A	**Willow Gulch B**	22.54	353	⇑P	P	09 22 32.3	+0.2		
	baz=23								
P24A	**Kohler Place,**	22.63	352	⇓P	P	09 22 33.2	+0.2		
	baz=23								
P23A	**Jefferson**	22.64	350	⇓P	P	09 22 33.9	+0.6		
	baz=23								
SMCO	**Snowmass**	22.66	347	eP	P	09 22 36.7	+3.0		
	27nm,1.0s								
CIS	**Catalina Islan**	22.71	319	⇑P	P	09 22 35.6	+1.9		
	baz=23								
TUQ	**Turquoise Moun**	22.72	326	⇑P	P	09 22 35.6	+1.6		
	baz=23,SNR=19								
BFSC	**Mount Baldy Ra**	22.82	322	⇑P	P	09 22 36.4	+1.4		
	baz=23								
SIUC	**Southern Illin**	22.93	24	eP	P	09 22 35.4	-0.6		
	62nm,0.9s								
O29A	**4D Ranch, Culb**	22.96	360	⇓P	P	09 22 36.9	+0.6		
	baz=23								
O28A	**Krutsinger Ran**	22.97	358	⇓P	P	09 22 37.1	+0.6		
	baz=23								
O31A	**Woolen Ranch,**	23.02	3	⇓P	P	09 22 37.0	+0.1		
	baz=23,SNR=8.5								
ISCO	**Idaho Springs**	23.02	350	eP	P	09 22 36.8	-0.4		
	12nm,0.9s								
ISCO	**Idaho Springs**	23.02	350	⇑P	P	09 22 36.9	-0.4		
	baz=23								
O30A	**MW Ranch, Wils**	23.02	1	⇓P	P	09 22 36.8	-0.1		
	baz=23								
P22A	**Eagle**	23.02	348	⇓P	P	09 22 37.8	+0.6		
	baz=23,SNR=5.3								
MWC	**Mount Wilson**	23.05	321	eP	P	09 22 40.4	+3.0		
	26nm,1.6s								
O27A	**Beecher Island**	23.07	357	⇑P	P	09 22 36.9	-0.6		
	baz=23								
GSC	**Goldstone**	23.09	325	eP	P	09 22 39.5	+1.7		
GSC	**Goldstone**	23.09	325	⇓P	P	09 22 39.3	+1.6		
	baz=23,SNR=6.3								
O25A	**Wiggins**	23.13	353	⇓P	P	09 22 37.9	-0.3		
	baz=23								
SHPR	**Sheep Range**	23.16	329	eP	P	09 22 39.9	+1.3		
O26A	**Horse Wrangler**	23.18	355	⇑P	P	09 22 38.3	-0.3		
	baz=23								
O32A	**Brockman Farm,**	23.19	5	⇑P	P	09 22 38.4	-0.2		
	baz=23								
CCUT	**Cedar City**	23.20	334	eP	P	09 22 41.3	+2.2		
	8.5nm,1.1s								
O24A	**Longmont**	23.25	352	⇑P	P	09 22 39.4	0.0		
	baz=23								
SHOC	**Shoshone**	23.26	327	⇓P	P	09 22 40.8	+1.5		
	baz=23,SNR=9.2								
ARUT	**Antelope Range**	23.44	334	eP	P	09 22 42.8	+1.5		
	301nm,1.0s								
EDW2	**Edwards Air Fo**	23.46	322	⇑P	P	09 22 42.8	+1.3		
	baz=24								
O23A	**Lake Granby, G**	23.47	350	⇓P	P	09 22 41.6	-0.1		
	baz=24,SNR=6.4								
N28A	**Pribbeno Ranch**	23.53	359	⇓P	P	09 22 42.2	+0.2		
	baz=24,SNR=6.4								
O22A	**Kremmling**	23.53	349	⇑P	P	09 22 41.7	-0.7		
	baz=24,SNR=7.1								
SRU	**San Rafael**	23.54	341	eP	P	09 22 42.8	+0.5		
	10nm,0.9s								
MVU	**Marysvale**	23.57	337	eP	P	09 22 43.9	+1.2		
	8.6nm,1.1s								
N30A	**Hueftle Ranch,**	23.63	1	⇓P	P	09 22 43.0	-0.1		
	baz=24								
N29A	**Votaw Ranch, W**	23.65	0	⇑P	P	09 22 43.4	+0.2		
	baz=24								
N27A	**Anderson Farm,**	23.68	357	⇑P	P	09 22 44.3	+0.7		
	baz=24,SNR=6.3								
N32A	**Stulken Farm,**	23.69	5	⇑P	P	09 22 43.6	+0.1		
	baz=24								
LRMC	**Laurel Mountai**	23.71	324	⇑P	P	09 22 46.0	+2.0		
	baz=24								
N26A	**Koester Ranch,**	23.75	355	⇑P	P	09 22 44.6	+0.3		
	baz=24								
USIN	**University of**	23.77	26	eP	P	09 22 42.6	-1.7		
	43nm,0.8s								
USIN				epP	pP	09 22 51.4	-0.1		
O20A	**White River Ci**	23.86	346	eP	P	09 22 46.2	+0.8		
O20A	**White River Ci**	23.86	346	⇑P	P	09 22 46.6	+1.2		
	baz=24,SNR=5.9								
TKL	**Tuckaleechee C**	23.89	36	P	P	09 22 43.2	-2.3		
TKL	**Tuckaleechee C**	23.89	36	P	P	09 22 43.2	-2.3		
	9.4nm,1.0s,baz=236,slow=11,SNR=5.2								
TKL				LR	LR	09 32 44.1			
	comp=Z,185nm,20.1s,baz=116,slow=38								
N24A	**Carr**	23.92	352	⇑P	P	09 22 46.1	+0.2		
	baz=24,SNR=5.6								
FURC	**Furnace Creek,**	23.99	327	⇓P	P	09 22 48.1	+1.7		
	baz=24								
MPMC	**Manual Prospec**	24.03	325	⇓P	P	09 22 48.5	+1.5		
	baz=24,SNR=13								
N22A	**Wattenberg Ran**	24.14	349	⇑P	P	09 22 48.4	+0.4		
	baz=24								
N23A	**Red Feather La**	24.14	350	⇓P	P	09 22 48.4	+0.4		
	baz=24,SNR=5.3								
M31A	**Lambtecht Ranc**	24.22	3	⇑P	P	09 22 48.7	+0.1		
	baz=24								
M28A	**Bar X Bar Ranc**	24.23	359	⇑P	P	09 22 49.1	+0.4		
	baz=24								
M29A	**Burnside Ranch**	24.27	0	⇑P	P	09 22 49.0	-0.1		
	baz=24								
ISA	**Isabella**	24.29	323	eP	P	09 22 51.4	+2.1		
	13nm,2.3s								
ISA	**Isabella**	24.29	323	⇑P	P	09 22 51.3	+2.0		
	baz=24,SNR=7.4								
BGNE	**Belgrade**	24.34	5	eP	P	09 22 51.5	+1.8		
BGNE	**Belgrade**	24.34	5	⇓P	P	09 22 50.0	+0.3		
	baz=24								
M25A	**Palm-Egli Farm**	24.43	354	⇑P	P	09 22 51.5	+1.0		
	baz=24								
JSC	**Jenkinsville**	24.47	42	eP	P	09 22 52.2	+1.4		
N20A	**Spence Gulch,**	24.53	346	P	P	09 22 52.5	+0.9		
	baz=25								
M24A	**Cheyenne**	24.55	353	⇓P	P	09 22 52.4	+0.7		
	baz=25								
PKM	**Peak Mountain**	24.57	320	⇓P	P	09 22 54.0	+2.0		
	baz=25								
WCI	**Wyandotte Cave**	24.60	28	eP	P	09 22 51.0	-1.0		
CWC	**Cottonwood Cre**	24.63	325	⇑P	P	09 22 54.5	+2.1		
	baz=25								
GRAC	**Grapevine Rang**	24.66	327	⇑P	P	09 22 55.0	+2.4		
	baz=25								
TZTN	**Tazewell**	24.66	35	eP	P	09 22 53.4	+0.8		
M23A	**Laramie**	24.67	351	⇓P	P	09 22 53.5	+0.6		
	baz=25								
MPU	**Maple Canyon**	24.71	340	eP	P	09 22 56.0	+2.7		
	7.5nm,1.1s								
M22A	**Cedar Creek Ra**	24.75	350	⇑P	P	09 22 54.9	+1.3		
	baz=25								
VES	**Vestal, Richgr**	24.77	322	⇑P	P	09 22 55.6	+2.0		
	baz=25,SNR=6.0								
R11A	**Troy Canyon, C**	24.84	331	eP	P	09 22 56.2	+1.7		
R11A	**Troy Canyon, C**	24.84	331	⇓P	P	09 22 56.1	+1.7		
	baz=25,SNR=13								
L29A	**Maesberg Ranch**	24.89	1	⇑P	P	09 22 55.3	+0.6		
	baz=25								
DAU	**Daniels Canyon**	24.95	341	eP	P	09 22 58.9	+3.4		
SMMC	**Simmler**	24.96	320	⇑P	P	09 22 58.0	+2.7		
	baz=25								
KMSC	**Kings Mountain**	24.98	40	eP	P	09 22 55.4	-0.1		
KMSC	**Kings Mountain**	24.98	40	⇑P	P	09 22 55.4	-0.1		
	baz=25								
L31A	**Butterfield Fa**	25.06	3	⇑P	P	09 22 56.4	+0.3		
	baz=25								
L24A	**Wheatland**	25.13	353	⇓P	P	09 22 58.1	+1.2		
	baz=25								
L25A	**Engebretsen Ra**	25.13	354	⇓P	P	09 22 57.8	+0.9		
	baz=25								
TIN	**Tinemaha**	25.16	326	P	P	09 22 59.5	+2.3		
	baz=25								
RCTC	**Rector, Farmer**	25.19	323	⇑P	P	09 23 00.2	+2.9		
	baz=25								
BLO	**Bloomington**	25.27	27	eP	P	09 22 58.7	+0.6		
DUG	**Dugway**	25.28	338	eP	P	09 22 59.7	+1.4		
	7.2nm,1.1s								
DUG	**Dugway**	25.28	338	⇓P	P	09 22 59.5	+1.2		
	baz=25,SNR=7.3								
L23A	**Garrett**	25.30	351	⇑P	P	09 22 59.2	+0.6		
	baz=25								
L22A	**Ellis Ranch, M**	25.33	350	⇓P	P	09 23 00.3	+1.5		
	baz=25								
TPH	**Tonopah**	25.41	329	eP	P	09 23 01.1	+1.5		
	13nm,1.0s								
K30A	**Basset**	25.52	2	⇓P	P	09 23 00.9	+0.6		
	baz=26								
MTUM	**Tungsten Hills**	25.56	326	eP	P	09 23 03.7	+2.7		
K27A	**Flueckinger Fa**	25.56	358	⇓P	P	09 23 02.0	+1.2		
	baz=26								
SCIA	**State Center**	25.57	13	eP	P	09 23 01.1	+0.4		
	49nm,0.9s								
SCIA				epP	pP	09 23 09.4	+1.5		
K25A	**Mack Ranch, Ha**	25.58	355	⇑P	P	09 23 02.6	+1.7		
	baz=26								
K29A	**Lazy Trails An**	25.59	1	⇓P	P	09 23 03.0	+2.0		
	baz=26,SNR=7.6								
K26A	**Motz Farm, Whi**	25.61	356	⇑P	P	09 23 03.1	+1.9		
	baz=26								
MLAC	**Mammoth Lakes**	25.91	326	⇑P	P	09 23 07.0	+2.9		
	baz=26								
K22A	**Casper**	25.95	350	eP	P	09 23 07.0	+2.7		
K22A	**Casper**	25.95	350	⇑P	P	09 23 05.3	+0.9		
	baz=26								
BGU	**Big Grassy Mou**	26.00	338	eP	P	09 23 06.2	+1.3		
	26nm,2.4s								
K21A	**Alcova**	26.05	349	⇑P	P	09 23 06.7	+1.3		
	baz=26,SNR=5.9								
SFIN	**Scholer Farm**	26.06	24	eP	P	09 23 04.1	-1.1		
SFIN	**Scholer Farm**	26.06	24	⇓P	P	09 23 04.5	-0.6		
	baz=26								
J27A	**Elkhorn Farm,**	26.10	358	⇓P	P	09 23 07.9	+2.2		
	baz=26,SNR=7.5								
NV11	**Mina Array Sit**	26.15	328	eP	P	09 23 08.2	+1.9		
J30A	**Dallas**	26.18	2	⇓P	P	09 23 08.0	+1.7		
	baz=26								
J26A	**Sides Ranch, S**	26.21	356	⇓P	P	09 23 07.7	+1.0		
	baz=26,SNR=8.8								
NVAR	**Mina Array Bea**	26.23	328	P	P	09 23 07.8	+0.8		
NVAR	**Mina Array Bea**	26.23	328	P	P	09 23 07.8	+0.8		
	13nm,0.9s,baz=149,slow=9.0,SNR=58								
J29A	**Okreek**	26.24	1	⇓P	P	09 23 08.5	+1.7		
	baz=26								
J28A	**Allard Ranch,**	26.25	359	⇓P	P	09 23 09.6	+2.6		
	baz=26,SNR=7.9								
J25A	**Sunshine Ranch**	26.34	355	⇓P	P	09 23 10.2	+2.3		
	baz=26,SNR=5.7								
J23A	**Dilts Ranch, B**	26.54	352	⇓P	P	09 23 10.3	+0.6		
	baz=27								
BW06	**Boulder Array**	26.67	345	eP	P	09 23 11.4	+0.5		
	14nm,1.3s								
PDAR	**Pinedale Array**	26.67	345	P	P	09 23 11.2	+0.2		
PDAR				PcP	PcP	09 26 34.7	+0.3		
PDAR	**Pinedale Array**	26.67	345	P	P	09 23 11.2	+0.2		
	4.9nm,0.9s,baz=147,slow=9.7,SNR=31								
PDAR				PcP	PcP	09 26 34.7	+0.3		
	1.2nm,0.9s,baz=145,slow=3.3,SNR=4.4								
PDAR				LR	LR	09 34 57.0			
	comp=Z,468nm,20.0s,baz=86,slow=39								
HVU	**Hansel Valley**	26.68	340	eP	P	09 23 12.1	+1.1		
	6.9nm,1.0s								
J22A	**Midwest**	26.68	351	⇓P	P	09 23 11.8	+0.8		
	baz=27								
ECSD	**EROS Data Cent**	26.80	7	eP	P	09 23 10.9	-0.9		
	15nm,0.9s								
ECSD	**EROS Data Cent**	26.80	7	⇓P	P	09 23 11.8	0.0		
	baz=27								
I29A	**Vivian Onida**	26.85	1	⇑P	P	09 23 13.8	+1.4		
	baz=27								
WAKR	**Walker**	26.87	326	eP	P	09 23 15.4	+2.6		
BLA	**Blacksburg**	26.91	38	eP	P	09 23 11.8	-1.2		
	15nm,0.8s								
J20A	**Shoshoni**	26.91	348	⇑P	P	09 23 13.8	+0.8		
	baz=27								
I25A	**Rochford**	26.96	355	⇓P	P	09 23 14.1	+0.6		
	baz=27								
J19A	**Crowheart**	27.03	347	⇑P	P	09 23 14.6	+0.5		
	baz=27								
CMB	**Columbia Colle**	27.05	324	eP	P	09 23 15.8	+1.5		
	4.6nm,1.0s								
RSSD	**Black Hills**	27.09	355	eP	P	09 23 13.7	-1.1		
	2.6nm,0.8s								
I21A	**Big Trails, Te**	27.21	350	⇑P	P	09 23 16.0	+0.3		
	baz=27								
H27A	**Howes**	27.48	358	⇓P	P	09 23 18.7	+0.7		
	baz=28								
I20A	**Worland**	27.49	348	⇓P	P	09 23 19.2	+1.1		
	baz=28								
H25A	**Fruitdale**	27.55	356	⇑P	P	09 23 19.4	+0.7		
	baz=28,SNR=6.9								
REDW	**Red Top Meadow**	27.55	344	eP	P	09 23 20.1	+1.2		
OTAV	**Otavalo**	27.64	125	eP	P	09 23 21.9	+1.8		
	7.6nm,1.1s								
LOHW	**Long Hollow**	27.72	345	eP	P	09 23 21.2	+0.8		
I19A	**Meeteetse**	27.75	347	⇓P	P	09 23 21.6	+1.0		
	baz=28								
G28A	**Parade**	27.90	360	⇑P	P	09 23 21.5	-0.3		
	baz=28								
H21A	**Big Horn, Sher**	27.96	350	⇑P	P	09 23 22.6	+0.2		
	baz=28								
G30A	**Faulkton**	27.99	2	⇑P	P	09 23 21.9	-0.6		
	baz=28								
I17A	**Pilgrim Ck.**	28.00	345	⇑P	P	09 23 23.7	+0.8		
	baz=28								
FLWY	**Flagg Ranch**	28.19	345	eP	P	09 23 25.9	+1.4		
	8.2nm,0.9s								
BEKR	**Beckworth**	28.36	327	eP	P	09 23 27.7	+1.7		
	4.8nm,1.1s								
ROSC	**El Rosal**	28.62	112	LR	LR	09 34 34.6			
	comp=Z,55nm,18.3s,baz=49,slow=36								
F27A	**Lemmon**	28.72	358	⇓P	P	09 23 29.3	+0.3		
	baz=29								
F26A	**Lodgepole**	28.72	357	⇓P	P	09 23 29.8	+0.7		
	baz=29,SNR=5.9								
F23A	**Volborg**	28.81	353	⇑P	P	09 23 30.2	+0.3		
	baz=29								
HLID	**Hailey**	28.82	339	eP	P	09 23 31.1	+1.0		
	50nm,2.6s								
HLID				epP	pP	09 23 38.7	+1.4		
HLID	**Hailey**	28.82	339	⇑P	P	09 23 30.4	+0.3		
	baz=29								
MFID	**Camas Ranch**	29.19	337	eP	P	09 23 34.6	+1.2		
	4.6nm,1.0s								
E27A	**Carson**	29.26	359	⇑P	P	09 23 33.8	-0.1		
	baz=29								
F20A	**Billings**	29.28	349	⇑P	P	09 23 34.3	+0.2		
	baz=29								
E26A	**Carlson Angus**	29.33	358	⇑P	P	09 23 34.9	+0.4		
	baz=29,SNR=5.7								
E28A	**Huff**	29.40

AGMN	**Agassiz Nation**	**31.39**	**6**	*e*P	**P**	**09 23 51.5**	**-1.1**
	12nm,1.0s								
AGMN	**Agassiz Nation**	**31.39**	**6**	⇓P	**P**	**09 23 51.6**	**-0.9**
	baz=31,SNR=7.6								
DGMT	**Dagmar**	**31.42**	**356**	*e*P	**P**	**09 23 54.5**	**+1.6**
	33nm,0.9s								
DGMT	**Dagmar**	**31.42**	**356**	⇓P	**P**	**09 23 53.1**	**+0.2**
	baz=32,SNR=5.5								
B23A	**Brockton**	**31.48**	**355**	⇓P	**P**	**09 23 53.6**	**+0.2**
	baz=32,SNR=7.0								
MSO	**Missoula**	**31.60**	**343**	⇓P	**P**	**09 23 55.0**	**+0.4**
	baz=32								
J04D	**Umpqua Nationa**	**31.75**	**330**	⇑P	**P**	**09 23 57.3**	**+1.2**
	baz=32								
A29A	**Manning Farm,**	**31.78**	**2**	⇓P	**P**	**09 23 55.5**	**-0.5**
	baz=32								
A25A	**Svangstu Ranch**	**31.82**	**357**	⇓P	**P**	**09 23 56.2**	**-0.2**
	baz=32,SNR=5.9								
B20A	**Solberg Farm,**	**31.82**	**351**	⇑P	**P**	**09 23 57.3**	**+0.8**
	baz=32								
A30A	**Hoffart Farm,**	**31.83**	**3**	⇑P	**P**	**09 23 56.0**	**-0.5**
	baz=32								
A24A	**Westby**	**31.86**	**356**	⇑P	**P**	**09 23 57.3**	**+0.5**
	baz=32								
G08A	**Pilot Rock**	**31.98**	**335**	*e*P	**P**	**09 23 58.7**	**+0.7**
	11nm,1.1s								
B19A	**Brinkman Farms**	**31.99**	**350**	⇑P	**P**	**09 23 57.8**	**-0.1**
	baz=32,SNR=5.6								
I05D	**Terrebonne, OR**	**32.23**	**332**	⇑P	**P**	**09 24 01.1**	**+1.1**
	baz=32								
SWMT	**Swartz Lake**	**32.23**	**343**	*e*P	**P**	**09 24 01.2**	**+1.1**
I04A	**Tendick Farm,**	**32.31**	**330**	⇑P	**P**	**09 24 01.9**	**+1.1**
	baz=32								
E09A	**Wood Farm, Sta**	**32.69**	**338**	*e*P	**P**	**09 24 04.2**	**+0.2**
	7.0nm,1.0s								
ATAH	**Atahualpa**	**32.69**	**136**	LR	LR	09 35 00.3	
	comp=Z,116nm,18.0s,baz=172,slow=32								
BINY	**Binghamton**	**32.80**	**35**	*e*P	**P**	**09 24 04.2**	**-0.8**
	31nm,1.0s								
ULM	**Lac du Bonnet**	**33.31**	**6**	*e*P	**P**	**09 24 07.7**	**-1.8**
	69nm,2.3s								
ULM	**Lac du Bonnet**	**33.31**	**6**	P	**P**	**09 24 07.5**	**-1.9**
	8.9nm,1.0s,baz=196,slow=8.9,SNR=9.7								
ULM				LR	LR	09 38 09.8	
	comp=Z,156nm,20.4s,baz=219,slow=37								
WALA	**Waterton Lakes**	**33.63**	**344**	*e*P	**P**	**09 24 13.6**	**+1.3**
G03D	**McMinnville, O**	**33.78**	**331**	⇓P	**P**	**09 24 14.8**	**+1.3**
	baz=34								
LTY	**Liberty**	**34.27**	**336**	*e*P	**P**	**09 24 19.2**	**+1.3**
	7.5nm,1.0s								
LON	**Longmire**	**34.32**	**334**	*e*P	**P**	**09 24 19.9**	**+1.6**
EDM	**Edmonton**	**37.38**	**348**	*e*P	**P**	**09 24 44.4**	**-0.1**
FFC	**Flin Flon**	**37.58**	**359**	*e*P	**P**	**09 24 45.0**	**-1.0**
	5.2nm,0.8s								
PTGA	**Pitinga**	**43.93**	**110**	P	**P**	**09 25 38.0**	**-1.0**
PTGA	**Pitinga**	**43.93**	**110**	P	**P**	**09 25 38.0**	**-1.0**
	2.9nm,0.5s,baz=295,slow=18,SNR=4.6								
SAML	**Samuel**	**45.28**	**122**	*e*P	**P**	**09 25 49.3**	**-0.4**
	1.6nm,0.6s								
SCHQ	**Schefferville**	**45.79**	**27**	P	**P**	**09 25 52.5**	**-0.8**
SCHQ	**Schefferville**	**45.79**	**27**	P	**P**	**09 25 52.5**	**-0.8**
	13nm,0.9s,baz=234,slow=8.1,SNR=8.8								
SCHQ				LR	LR	09 46 11.1	
	comp=Z,241nm,19.4s,baz=100,slow=38								
LPAZ	**La Paz**	**46.21**	**134**	P	**P**	**09 25 57.8**	**+0.1**
LPAZ	**La Paz**	**46.21**	**134**	P	**P**	**09 25 57.8**	**+0.1**
	1.6nm,0.8s,baz=339,slow=10.0,SNR=5.8								
YKA	**Yellowknife Ar**	**46.38**	**351**	P	**P**	**09 25 57.1**	**-0.7**
YKA				PcP	**PcP**	**09 27 32.6**	**+0.2**
YKA	**Yellowknife Ar**	**46.38**	**351**	P	**P**	**09 25 57.1**	**-0.7**
	5.6nm,0.8s,baz=160,slow=7.3,SNR=63								
YKA				PcP	**PcP**	**09 27 32.6**	**+0.2**
	1.5nm,0.8s,baz=155,slow=3.5,SNR=8.8								
YKW3	**Yellowknife Ar**	**46.45**	**351**	*e*P	**P**	**09 25 58.1**	**-0.1**
	0.2nm,0.9s								
DLBC	**Dease Lake**	**46.58**	**339**	*e*P	**P**	**09 26 01.7**	**+2.2**
DLBC				*e*pP	pP	09 26 10.7	+3.7
TAOE	**Nuku Hiva Isla**	**46.69**	**239**	*e*T	T	10 15 44.0	
	258nm,0.2s								
SIV	**San Ignacio**	**51.12**	**128**	P	**P**	**09 26 34.7**	**-0.1**
SIV				PcP	**PcP**	**09 27 50.6**	**+0.2**
SIV	**San Ignacio**	**51.12**	**128**	P	**P**	**09 26 34.7**	**-0.1**
	3.8nm,0.9s,baz=315,slow=9.4,SNR=7.7								
SIV				PcP	**PcP**	**09 27 50.6**	**+0.2**
	2.1nm,0.8s,baz=314,slow=5.6,SNR=2.9								
RKT	**Rikitea**	**52.10**	**221**	*e*T	T	10 22 39.0	
	6.4nm,0.3s								
H03N2	**Juan Fernandez**	**54.40**	**158**	T	T	10 25 38.5	
	baz=334,slow=75,SNR=59								
H03N1	**Juan Fernandez**	**54.41**	**157**	T	T	10 25 37.3	
	baz=334,slow=75,SNR=60								
H03N3	**Juan Fernandez**	**54.42**	**158**	T	T	10 25 38.2	
	baz=334,slow=75,SNR=53								
INK	**Inuvik**	**55.24**	**346**	*e*P	**P**	**09 27 04.5**	**+0.2**
	19nm,1.1s								
INK				*e*pP	pP	09 27 13.8	+1.8
INK				*e*PcP	**PcP**	**09 28 05.1**	**+0.1**
RC01	**Rabbit Creek A**	**55.92**	**334**	*e*P	**P**	**09 27 10.2**	**+0.8**
RC01				*e*PcP	**PcP**	**09 28 04.1**	**-3.8**
PMOR	**Pomariorio Ree**	**56.37**	**238**	*e*T	T	10 27 50.3	
	8.8nm,0.2s								
ILAR	**Eielson Array**	**56.77**	**338**	P	**P**	**09 27 15.8**	**+0.4**
ILAR				PcP	**PcP**	**09 28 11.6**	**+0.5**
ILAR	**Eielson Array**	**56.77**	**338**	P	**P**	**09 27 15.8**	**+0.4**
	5.5nm,1.0s,baz=143,slow=5.3,SNR=34								
ILAR				PcP	**PcP**	**09 28 11.6**	**+0.5**
	1.2nm,0.7s,baz=145,slow=2.7,SNR=8.4								
RSO	**Redoubt South**	**56.94**	**332**	*e*P	**P**	**09 27 17.5**	**+0.6**
	85nm,0.8s								
MCK	**McKinley**	**56.95**	**337**	*e*P	**P**	**09 27 17.6**	**+0.9**
	8.1nm,0.9s								
MCK				*e*PcP	**PcP**	**09 28 12.9**	**+1.1**
COLA	**College**	**57.17**	**338**	*e*P	**P**	**09 27 18.9**	**+0.7**
	4.8nm,0.8s								
TRF	**Thorofare Moun**	**57.32**	**336**	*e*P	**P**	**09 27 20.0**	**+0.4**
	9.4nm,0.8s								
PPT2	**Papeete2**	**59.12**	**237**	*e*LR	LR	09 44 59.0	
	145nm,24.5s								
TBI	**Tubuai**	**62.27**	**231**	*e*LR	LR	09 46 24.0	
	164nm,29.0s								
SUMG	**Summit**	**65.65**	**17**	*i* P	**P**	**09 28 15.8**	**-0.1**
	8.6nm,0.9s								
SUMG	**Summit**	**65.65**	**17**	*e*P	**P**	**09 28 15.8**	**-0.1**
	11nm,1.0s								
SCO	**Scoresbysund**	**70.28**	**21**	*i* P	**P**	**09 28 43.9**	**-0.7**
	2.1nm,0.8s								
SEY	**Seymchan**	**82.36**	**334**	P	**P**	**09 29 54.2**	**+0.9**
SEY	**Seymchan**	**82.36**	**334**	P	**P**	**09 29 54.2**	**+0.9**
	3.3nm,0.8s,baz=69,slow=11,SNR=7.2								
PETK	**Petropavlovsk-**	**83.23**	**323**	P	**P**	**09 29 59.4**	**+1.4**
PETK	**Petropavlovsk-**	**83.23**	**323**	P	**P**	**09 29 59.4**	**+1.4**
	4.3nm,0.9s,baz=106,slow=14,SNR=4.4								
ESDC	**Sonseca Array**	**84.37**	**50**	P	**P**	**09 30 04.1**	**-0.1**
ESDC	**Sonseca Array**	**84.37**	**50**	P	**P**	**09 30 04.1**	**-0.1**
	1.8nm,0.9s,baz=300,slow=3.7,SNR=7.2								
TIXI	**Tiksi**	**85.36**	**346**	*e*P	**P**	**09 30 09.0**	**+0.5**
	5.0nm,0.8s								
NB2	**NORSAR Subarra**	**85.36**	**27**	P	**P**	**09 30 09.3**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=301,slow=5.1								
NOA	**NORSAR Array B**	**85.36**	**27**	P	**P**	**09 30 08.9**	**+0.2**
NOA	**NORSAR Array B**	**85.36**	**27**	P	**P**	**09 30 08.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=300,slow=4.9,SNR=5.8								
NOA				LR	LR	10 07 34.8	
	comp=Z,57nm,18.6s,baz=60,slow=35								
TCF	**Toulx Ste Croi**	**86.48**	**43**	*e*P	**P**	**09 30 14.7**	**+0.1**
TCF	**Toulx Ste Croi**	**86.48**	**43**	*e*P	**P**	**09 30 14.7**	**+0.1**
SSF	**Saint Saulge**	**87.03**	**42**	*e*P	**P**	**09 30 17.5**	**+0.3**
	comp=Z,22nm,1.1s								
SSF	**Saint Saulge**	**87.03**	**42**	*e*P	**P**	**09 30 17.5**	**+0.3**
	comp=Z,22nm,1.1s								
LOR	**Lormes**	**87.17**	**41**	*e*P	**P**	**09 30 18.4**	**+0.5**
	comp=Z,21nm,0.9s								
LOR	**Lormes**	**87.17**	**41**	*e*P	**P**	**09 30 18.4**	**+0.5**
	comp=Z,21nm,0.9s								
MTLF	**Montolieu**	**87.55**	**45**	*e*P	**P**	**09 30 19.6**	**-0.2**
MTLF	**Montolieu**	**87.55**	**45**	*e*P	**P**	**09 30 19.6**	**-0.2**
FINES	**FINESS Array B**	**91.12**	**23**	P	**P**	**09 30 36.1**	**0.0**
FINES	**FINESS Array B**	**91.12**	**23**	P	**P**	**09 30 36.1**	**0.0**
	comp=Z,2.4nm,0.8s,baz=243,slow=6.1,SNR=3.7								
FINES				LR	LR	10 10 36.1	
	comp=Z,100nm,21.9s,baz=75,slow=35								
HHC	**Hu-ho-hao-te**	**115.01**	**333**	*e*PKP	**PKPdf**	**09 36 12.1**	**-1.0**
HHC				sPKP		09 36 29.9	
HHC				SKS	**SKSdf**	**09 43 20.8**	**-3.2**
HHC				SKKS	SKKSac	09 44 07.3	-5.4
HHC				SS	**SS**	**09 53 01.3**	**-4.1**
WMQ	**Urumqi**	**118.90**	**353**	PKP	**PKPdf**	**09 36 22.6**	**+2.2**
STKA	**Stephens Creek**	**122.06**	**243**	PKP	**PKPdf**	**09 36 26.5**	**-0.2**
STKA	**Stephens Creek**	**122.06**	**243**	PKP	**PKPdf**	**09 36 26.5**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=22,slow=3.8,SNR=5.9								
CD2	**Chengdu**	**126.77**	**334**	*e*PKP	**PKPdf**	**09 36 37.1**	**+1.2**
WRA	**Warramunga Arr**	**127.85**	**258**	PKP	**PKPdf**	**09 36 38.6**	**+0.6**
WRA	**Warramunga Arr**	**127.85**	**258**	PKP	**PKPdf**	**09 36 38.7**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=80,slow=2.3,SNR=24								
ASAR	**Alice Springs**	**128.58**	**253**	PKP	**PKPdf**	**09 36 39.8**	**+0.3**
ASAR	**Alice Springs**	**128.58**	**253**	PKP	**PKPdf**	**09 36 39.8**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=97,slow=1.7,SNR=15								
KMI	**Kunming**	**132.19**	**331**	PKP	**PKPdf**	**09 36 45.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**139.70**	**330**	PKP	**PKPdf**	**09 37 01.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**139.70**	**330**	PKP	**PKPdf**	**09 37 01.1**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=337,slow=2.1,SNR=4.6								

IDC 06 09:19:28.8±2.9, 54.13N×87.19E, h0km, mb1 2.7/2, mb1mx2.6/29, mbtmp2.7/2, ML2.9/2, Error ellipse: s-maj=26.6km s-min=13.5km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**263**	*i*		09 27 47.7	
	baz=83,slow=345,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.41**	**263**	Pg	Pn	09 19 53.7	-2.0
	2.2nm,0.3s,baz=82,slow=14,SNR=32						
ZALV				Lg	Lg	09 20 13.8	
	1.2nm,0.3s,baz=80,slow=24,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.36**	**240**	Pn	Pn	09 21 04.5	+0.8
	0.2nm,0.3s,baz=55,slow=14,SNR=5.4						
MKAR	**Makanchi Array**	**7.98**	**205**	Pn	Pn	09 21 27.2	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=3.8						
MKAR				Sn	Sn	09 22 56.9	0.0
	0.0nm,0.3s,baz=23,slow=28,SNR=3.1						
MKAR				Lg	Lg	09 23 42.1	
	0.0nm,0.3s,baz=31,slow=34,SNR=3.3						

MAN 06 09:20:08, 17.60N×122.73E, h30km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.61**	**208**	⇓*e*P	Pn	09 20 21.3	+0.7
PALP				*i* S	Sn	09 20 31.1	+1.7
APYP	**Conner**	**1.44**	**281**	*e*P	Pn	09 20 32.9	+0.9
APYP				*e*S	Sn	09 20 49.0	-0.8
BALP	**Baler**	**2.15**	**211**	*e*P	Pb	09 20 45.1	-1.3
BALP				*e*S	Sb	09 21 11.1	-1.5

*ISCJB **06** 09:22:00.4±0.3, 13.77N±0.03×120.65E±0.06, h149km±3km, mb3.8/14, Error ellipse: s-maj=9.3km s-min=5.1km az=163.6*
*IDC **06** 09:22:00.8±0.5, 13.81N×120.94E, h148km±2km, mb3.7/14, mb1 3.8/14, mb1mx3.6/28, mbtmp3.7/14, Error ellipse: s-maj=27.6km s-min=12.1km az=63.0*
*MAN **06** 09:22:01, 13.79N×120.58E, h131km, mb4.5, ML3.4, MS3.3*

ISC 06 09:22:01.1±0.7, 13.79N±0.04×120.62E±0.06, h146km±5km, n43, σ1°14/54, mb4.0/14, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**261**	*e*P	**Pn**	**09 22 21.3**	**0.0**
LUBP				*e*S	**Sn**	**09 22 36.3**	**-0.3**
PGP	**Puerto Galera**	**0.44**	**131**	*i* P	**Pn**	**09 22 21.4**	**-0.3**
TGY	**Tagaytay City**	**0.44**	**45**	P	**Pn**	**09 22 22.5**	**+0.7**
	1µm,0.3s,baz=162,slow=3.2,SNR=63						
TGY				S	**Sn**	**09 22 38.1**	**+0.6**
	540nm,0.3s,baz=92,slow=16,SNR=19						
TGY	**Tagaytay City**	**0.44**	**45**	*i* P	**Pn**	**09 22 22.4**	**+0.7**
LQP	**Lukban**	**0.95**	**70**	*e*P	**Pn**	**09 22 25.9**	**+0.6**
NBP	**Mount Natib**	**0.96**	**348**	*e*P	**Pn**	**09 22 25.5**	**+0.3**
NBP				*i* S	**Sn**	**09 22 43.5**	**-0.2**
BOAC	**Boac**	**1.24**	**105**	*e*P	**Pn**	**09 22 28.0**	**+0.4**
BOAC				*e*S	**Sn**	**09 22 48.3**	**+0.4**
SJMP	**San Jose**	**1.41**	**160**	*e*P	**Pn**	**09 22 29.4**	**0.0**
SJMP				*e*S	**Sn**	**09 22 50.3**	**-0.8**
GQP	**Guinayangan**	**1.78**	**86**	*i* P	**Pn**	**09 22 34.4**	**+0.9**
PCPH	**Palayan**	**1.82**	**15**	⇓*e*P	**Pn**	**09 22 33.5**	**-0.3**
BUSP	**Coron**	**1.82**	**193**	*e*P	**Pn**	**09 22 34.1**	**+0.1**
BUSP				*e*S	**Sn**	**09 22 58.2**	**-0.9**
OTRP	**Odiongan**	**1.97**	**136**	*e*P	**Pn**	**09 22 35.8**	**+0.1**
OTRP				*e*S	**Sn**	**09 23 00.6**	**-1.7**
SCZP	**Santa Cruz**	**2.09**	**341**	*e*P	**Pn**	**09 22 36.2**	**-0.8**
SCZP				*e*S	**Sn**	**09 23 01.1**	**-3.6**
BCPH	**Baguio City Da**	**2.58**	**359**	⇓*i* P	**Pn**	**09 22 43.2**	**+0.1**
BOLP	**Bolinao**	**2.66**	**345**	*e*P	**Pn**	**09 22 44.4**	**+0.3**
BOLP				*e*S	**Sn**	**09 23 18.1**	**+0.9**
CUYO	**Cuyo Island**	**2.95**	**172**	*e*P	**Pn**	**09 22 48.4**	**+0.6**
CUYO				*e*S	**Sn**	**09 23 22.9**	**-0.9**
GUIM	**Jordan**	**3.69**	**148**	*e*P	**Pn**	**09 22 59.2**	**+2.0**
PALP	**Palanan**	**3.69**	**28**	*e*P	**Pn**	**09 22 57.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**21.32**	**285**	P	**P**	**09 26 39.4**	**+2.6**
	5.5nm,0.7s,baz=93,slow=7.7,SNR=18						
TAPN	**Taplejung**	**33.51**	**299**	*e*P	**P**	**09 28 28.9**	**+1.6**
	10nm,0.6s						
ODAN	**Odare**	**33.65**	**298**	*e*P	**P**	**09 28 30.0**	**+1.6**
	27nm,0.6s						
RAMN	**Ramite**	**34.35**	**298**	*e*P	**P**	**09 28 36.3**	**+1.8**
	18nm,0.6s						
JIRN	**Jiri**	**34.89**	**299**	*e*P	**P**	**09 28 41.0**	**+1.7**
	30nm,0.4s						
GUN	**Gumba**	**35.23**	**299**	*e*P	**P**	**09 28 43.6**	**+1.5**
	22nm,0.4s						
PKI	**Pulchoki**	**35.54**	**298**	*e*P	**P**	**09 28 45.7**	**+0.9**
	14nm,0.5s						
KKN	**Kakani**	**35.70**	**299**	*e*P	**P**	**09 28 47.0**	**+0.9**
	5.8nm,0.3s						
DMN	**Daman**	**35.80**	**298**	*e*P	**P**	**09 28 47.7**	**+0.7**
	10nm,0.5s						
SONM	**Songino Array**	**35.95**	**344**	P	**P**	**09 28 48.0**	**+0.3**
	1.6nm,0.6s,baz=164,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**36.14**	**158**	P	**P**	**09 28 47.7**	**-1.8**
	0.7nm,0.5s,baz=334,slow=9.7,SNR=12						
KOLN	**Koldanda**	**37.14**	**298**	*e*P	**P**	**09 28 59.2**	**+1.0**
	6.2nm,0.6s						
DANN	**Dangsing**	**37.15**	**299**	*e*P	**P**	**09 28 59.0**	**+0.6**
	24nm,0.8s						
ASAR	**Alice Springs**	**39.43**	**161**	P	**P**	**09 29 15.9**	**-1.2**
	0.6nm,0.5s,baz=335,slow=6.5,SNR=18						
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**09 30 10.5**	**+1.3**
	3.1nm,0.7s,baz=132,slow=9.0,SNR=19						
MKAR				PcP	**PcP**	**09 31 43.9**	**+0.1**
	0.4nm,0.7s,baz=135,slow=3.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**48.94**	**333**	P	**P**	**09 30 32.7**	**+0.3**
	4.3nm,0.4s,baz=119,slow=6.9,SNR=25						
KURBB	**Kurchatov Arra**	**50.07**	**326**	P	**P**	**09 30 42.1**	**+1.2**
	5.3nm,0.6s,baz=134,slow=7.7,SNR=78						
BVAR	**Borovoye Array**	**55.65**	**326**	P	**P**	**09 31 22.7**	**+0.8**
	1.4nm,0.7s,baz=125,slow=8.3,SNR=9.4						
AKTO	**Aktyubinsk**	**62.09**	**320**	P	**P**	**09 32 06.9**	**+0.4**
	1.8nm,0.6s,baz=107,slow=7.5,SNR=8.0						
ILAR	**Eielson Array**	**78.70**	**26**	P	**P**	**09 33 45.8**	**-1.2**
	0.2nm,0.7s,baz=285,slow=4.3,SNR=3.6						
ARCES	**ARCESS Array B**	**78.97**	**339**	P	**P**	**09 33 47.7**	**-0.7**
	5.9nm,1.0s,baz=71,slow=7.3,SNR=15						
FINES	**FINESS Array B**	**80.17**	**331**	P	**P**	**09 33 54.2**	**-0.7**
	1.1nm,0.8s,baz=65,slow=6.6,SNR=4.4						
NOA	**NORSAR Array B**	**87.14**	**333**	P	**P**	**09 34 29.4**	**-1.2**
	1.1nm,0.8s,baz=68,slow=4.6,SNR=3.2						
YKA	**Yellowknife Ar**	**92.72**	**22**	P	**P**	**09 34 55.7**	**-0.9**
	0.3nm,0.6s,baz=306,slow=4.4,SNR=6.4						
TXAR	**Lajitas Array**	**119.46**	**44**	PKP	**PKPdf**	**09 40 33.5**	**-0.8**
	0.2nm,0.5s,baz=186,slow=0.9,SNR=3.7						

IDC 06 09:24:14.2±6.9, 13.49N×92.04W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/23, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=119.5km s-min=30.7km az=166.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.15**	**45**	Pn	Pn	09 24 52.4	+0.8
	9.4nm,0.3s,baz=231,slow=8.2,SNR=84						
APG				Sn	Sn	09 25 19.5	+0.4
	18nm,0.3s,baz=323,slow=15,SNR=6.6						
TXAR	**Lajitas Array**	**19.10**	**327**	P	P	09 28 39.0	+0.3
	0.0nm,0.3s,baz=152,slow=12,SNR=3.2						
NVAR	**Mina Array Bea**	**34.04**	**322**	P	P	09 31 01.5	+1.1
	0.5nm,0.8s,baz=126,slow=9.1,SNR=4.2						
YKA	**Yellowknife Ar**	**51.51**	**347**	P	P	09 33 19.8	-1.6
	0.4nm,0.6s,baz=152,slow=7.2,SNR=5.5						

IDC 06 09:26:07.2±443.0, 55.77N×4.20E, h0km, Error ellipse: s-maj=173.4km s-min=27.5km az=135.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.05**	**136**	*i*		10 17 30.0	
	baz=324,slow=336,SNR=1.3						
I43RU	**DUBNA INFRASON**	**18.28**	**73**	*i*		11 12 06.2	
	baz=283,slow=303,SNR=1.1						
I31KZ	**AKTYUBINSK INF**	**32.07**	**77**	*i*		12 40 10.0	
	baz=299,slow=327,SNR=1.3						

*IDC **06** 09:26:51.9±0.7, 27.47S×71.37W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.2/19, mbtmp4.1/12, ML3.9/4, MS3.6/8, Ms1 3.7/8, ms1mx3.5/22, Error ellipse: s-maj=25.1km s-min=20.7km az=48.0*
*GUC **06** 09:26:52.6±0.7, 27.51S×71.61W, h33km±5km, ML4.6*
*SJA **06** 09:26:54.3±0.6, 27.60S×71.31W, h9km±16km, ML4.7, MW4.4*
*NEIC **06** 09:26:55.0±3.0, 27.47S×71.34W, h20km±18km, mb4.4/2, Error ellipse: s-maj=13.8km s-min=6.5km az=92.0*

ISC 06 09:26:52.4±2.0, 27.48S±0.04×71.48W±0.07, h6km±12km, n87, σ1°45/81, mb4.2/10, MS3.6/5, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.71**	**55**	*e*P	**Pg**	**09 27 07.4**	**+1.3**
CDCH				*e*S	**Sn**	**09 27 19.1**	**-1.2**
CPCH	**Copiapo**	**1.01**	**83**	*e*P	**Pb**	**09 27 10.1**	**-2.2**
CPCH				*e*S	**Sn**	**09 27 25.5**	**-2.2**
VACH	**Vallenar**	**1.26**	**150**	⇑*i* P	**Pn**	**09 27 15.7**	**-1.0**
VACH				*i* S	**Sb**	**09 27 32.5**	**-0.8**
LCO	**Las Campanas**	**1.67**	**156**	⇑*e*P	**Pn**	**09 27 22.2**	**-0.4**
LCO				*e*S	**Sn**	**09 27 42.7**	**-1.8**
LCO				AML	AML	09 27 50.2	
	comp=E,10µm,0.2s						
LCO	**Las Campanas**	**1.67**	**156**	*e*Pn	**Pn**	**09 27 22.7**	**+0.1**
LCO				*e*Sn	**Sn**	**09 27 43.0**	**-1.5**
LCO	**Las Campanas**	**1.67**	**156**	*e*P	**Pn**	**09 27 22.8**	**+0.3**
LCO				*e*S	**Sn**	**09 27 43.9**	**-0.5**
AGUA	**GUANDACOL**	**3.30**	**128**	*e*P4	Pn	09 27 49.0	+4.2
CMCH	**Combarbala**	**3.70**	**174**	⇓*e*P	**Pn**	**09 27 49.2**	**-1.1**
CMCH				*e*S	**Sn**	**09 28 32.8**	**-1.5**
CEN1	**Los Morros**	**4.23**	**16**	*e*P	Pn	09 27 52.0	-5.6
CEN1				*i* S	Sn	09 28 37.0	-10
AMOG	**MOGNA**	**4.32**	**144**	*e*P4	**Pn**	**09 28 01.7**	**+2.9**
ACLC	**CERRO LA CRUZ**	**4.43**	**117**	*e*P	**Pn**	**09 28 03.0**	**+2.7**
RTLL	**Cerro Villicun**	**4.64**	**146**	*e*P	**Pn**	**09 28 06.3**	**+3.1**
RTLS	**Leoncito**	**4.70**	**157**	*e*P	**Pn**	**09 28 07.3**	**+3.1**
AVFE	**Valle Fertil**	**4.74**	**133**	*e*P	**Pn**	**09 28 06.5**	**+2.1**
AVFE				AML	AML	09 29 22.8	
	comp=Z,570nm,0.6s						
SJA	**San Juan**	**4.77**	**148**	AML	AML	09 29 43.6	
	comp=Z,617nm,0.7s						
CFAA	**Coronel Fontan**	**4.99**	**146**	Pn	**Pn**	**09 28 09.6**	**+1.7**
CFAA				Sn	Sn	09 29 11.7	+5.8
CFAA	**Coronel Fontan**	**4.99**	**146**	Pn	**Pn**	**09 28 09.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=317,slow=12,SNR=32						
CFAA				Sn	Sn	09 29 11.7	+5.8
	comp=Z,1.7nm,0.3s,baz=221,slow=20,SNR=4.3						
CFAA				LR	LR	09 30 03.7	
	comp=Z,98nm,19.5s,baz=291,slow=39						
CFAA	**Coronel Fontan**	**4.99**	**146**	*e*P	**Pn**	**09 28 10.2**	**+2.3**
RTCV	**Cerro Valdivia**	**5.06**	**150**	*e*P4	Pn	09 28 14.5	+5.6
AUSP	**Uspallata**	**5.06**	**160**	*e*P	**

ASAR	**Alice Springs**	**123.56**	**208**	PKP	**PKPdf**	**09 45 50.7**	**-0.8**
ASAR	**Alice Springs**	**123.56**	**208**	PKP	**PKPdf**	**09 45 50.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=147,slow=1.9,SNR=6.2						
WRA	**Warramunga Arr**	**126.64**	**211**	PKP	**PKPdf**	**09 45 57.6**	**+0.1**
WRA	**Warramunga Arr**	**126.64**	**211**	PKP	**PKPdf**	**09 45 57.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=159,slow=1.8,SNR=18						
KURK	**Kurchatov**	**147.56**	**36**	*e*PKPbc	**PKPbc**	**09 46 36.9**	**-0.4**
EKS2	**Erkin-Say**	**148.04**	**53**	*e*PKPbc	**PKPbc**	**09 46 38.0**	**-1.1**
ZAA0	**Zalesovo Array**	**148.33**	**27**	*e*PKPbc	**PKPbc**	**09 46 40.6**	**+1.4**
ZALV	**Zalesovo Beam**	**148.33**	**27**	PKPbc	**PKPdf**	**09 46 37.2**	**+1.4**
ZALV	**Zalesovo Beam**	**148.33**	**27**	PKPbc	**PKPdf**	**09 46 37.3**	**+1.4**
	comp=Z,6.2nm,0.6s,baz=304,slow=3.3,SNR=28						
AAK	**Ala-Archa**	**148.55**	**52**	*e*PKPdf	**PKPdf**	**09 46 36.1**	**-0.7**
AAK				PKPbc	**PKPbc**	**09 46 40.8**	**+0.3**
AAK	**Ala-Archa**	**148.55**	**52**	PKPbc	**PKPbc**	**09 46 40.8**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=266,slow=1.7,SNR=6.8						
TKM2	**Tokmak 2**	**149.23**	**51**	*e*PKPbc	**PKPbc**	**09 46 43.5**	**+1.3**
MK31	**Makanchi Array**	**151.77**	**40**	*e*PKPbc	**PKPbc**	**09 46 48.8**	**+0.8**
MKAR	**Makanchi Array**	**151.77**	**40**	PKPbc	**PKPbc**	**09 46 48.0**	**+0.1**
MKAR	**Makanchi Array**	**151.77**	**40**	PKPbc	**PKPbc**	**09 46 48.0**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=320,slow=2.0,SNR=48						
SONM	**Songino Array**	**159.61**	**4**	PKP	**PKPdf**	**09 46 52.3**	**+0.2**
SONM	**Songino Array**	**159.61**	**4**	PKP	**PKPdf**	**09 46 52.3**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=60,slow=3.5,SNR=3.8						

*IDC **06** 09:32:21.1±2.3, 54.06N×87.43E, h0km, mb1 2.9/3, mb1mx2.8/30, mbtmp2.9/3, ML3.0/3, Error ellipse: s-maj=20.1km s-min=7.3km az=82.0*

*NNC **06** 09:32:22.5±6.2, 53.86N×87.43E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=46.9km s-min=40.0km az=13.0*

ISC 06 09:32:22.6±4.2, 54.2N±0.2×87.5E±0.2, h35km, n8, σ1§49/12, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**261**	*i*			09 41 26.8	
	baz=84,slow=346,SNR=5.9							
ZALV	**Zalesovo Beam**	**1.61**	**261**	Pg		**Pn**	**09 32 48.4**	**-0.1**
	3.6nm,0.3s,baz=86,slow=16,SNR=37							
ZALV				Lg		Lg	09 33 10.3	
	7.3nm,0.3s,baz=85,slow=26,SNR=24							
KURK	**Kurchatov**	**6.47**	**241**	⇑Pn		**Pn**	**09 33 56.1**	**+0.9**
	1.9nm,1.3s							
KURK				⇑Sn		**Sn**	**09 35 09.9**	**+2.2**
	0.7nm,0.6s							
KURK				⇑Lg		Lg	09 35 42.4	
	5.9nm,1.5s							
KURBB	**Kurchatov Arra**	**6.57**	**240**	⇑Pn		**Pn**	**09 33 55.6**	**-1.0**
	2.6nm,0.9s,baz=54,slow=14							
KURBB				⇓Sn		**Sn**	**09 35 09.9**	**-0.3**
	4.4nm,0.7s							
KURBB				⇓Lg		Lg	09 35 45.5	
	5.6nm,0.6s,baz=66,slow=34							
KURBB	**Kurchatov Arra**	**6.57**	**240**	Pn		**Pn**	**09 33 56.9**	**+0.3**
	0.2nm,0.3s,baz=55,slow=14,SNR=5.3							
KURBB				Lg		Lg	09 35 45.8	
	0.2nm,0.3s,baz=52,slow=32,SNR=11							
MK31	**Makanchi Array**	**8.14**	**206**	⇓Pn		**Pn**	**09 34 18.3**	**0.0**
	0.5nm,0.7s,baz=28,slow=13,SNR=7.8							
MK31				⇑Sn		**Sn**	**09 35 49.5**	**+0.6**
	0.6nm,0.5s,baz=34,slow=25,SNR=6.4							
MK31				⇓Lg		Lg	09 36 27.6	
	6.3nm,1.1s,baz=36,slow=28,SNR=3.6							
MKAR	**Makanchi Array**	**8.14**	**206**	Pn		**Pn**	**09 34 19.0**	**+0.8**
	0.2nm,0.3s,baz=23,slow=12,SNR=6.9							
MKAR				Sn		**Sn**	**09 35 48.2**	**-0.8**
	0.2nm,0.3s,baz=24,slow=26,SNR=9.0							
MKAR				Lg		Lg	09 36 35.4	
	0.1nm,0.3s,baz=20,slow=30,SNR=7.2							
BVAR	**Borovoye Array**	**10.25**	**270**	Pn		**Pn**	**09 34 49.2**	**+2.2**
	0.1nm,0.3s,baz=70,slow=17,SNR=2.8							
BVAR				Sn		**Sn**	**09 36 37.9**	**-2.6**
	0.3nm,0.3s,baz=59,slow=26,SNR=5.2							
BVAR				Lg		Lg	09 37 27.6	
	0.3nm,0.3s,baz=102,slow=27,SNR=4.6							

*IDC **06** 09:43:48.6±1.6, 8.67S×157.48E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, ML3.8/1, MS2.7/2, Ms1 2.7/2, ms1mx2.6/29, Error ellipse: s-maj=62.7km s-min=27.6km az=129.0*

ISC 06 09:43:51.4±1.1, 9.0S±0.2×157.69E±0.0, h23km, n12, σ2§17/8, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.28**	**102**	LR		LR	09 45 17.2	
	comp=Z,74nm,18.2s,baz=286,slow=35							
HNR	**Honiara**	**2.28**	**102**	P		**Pn**	**09 44 25.0**	**-2.6**
HNR				S		**Sb**	**09 45 02.0**	**+2.4**
PMG	**Port Moresby**	**10.41**	**267**	LR		LR	09 50 14.7	
	comp=Z,77nm,19.8s,baz=92,slow=38							
CTA	**Charters Tower**	**15.64**	**224**	Pn		**P**	**09 47 33.1**	**-1.4**
	0.3nm,0.3s,baz=42,slow=15,SNR=2.7							
WRA	**Warramunga Arr**	**25.08**	**242**	P		**P**	**09 49 14.5**	**0.0**
	2.2nm,0.6s,baz=67,slow=9.3,SNR=13							
ASAR	**Alice Springs**	**27.05**	**214**	P		**P**	**09 49 31.4**	**-1.0**
	1.0nm,0.8s,baz=64,slow=9.6,SNR=9.4							
STKA	**Stephens Creek**	**27.27**	**211**	P		**P**	**09 49 36.9**	**+2.7**
	5.2nm,0.7s,baz=32,slow=11,SNR=13							
H11S3	**WAKE ISLAND Hy**	**28.68**	**18**	T		T	10 18 16.8	
	baz=204,slow=75,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**28.68**	**18**	T		T	10 18 15.8	
	baz=204,slow=75,SNR=4.6							
H11S1	**WAKE ISLAND Hy**	**28.70**	**18**	T		T	10 18 16.9	
	baz=204							
MKAR	**Makanchi Array**	**86.63**	**318**	P		**P**	**09 56 34.1**	**+0.9**
	0.1nm,0.4s,baz=117,slow=5.0,SNR=2.4							
NVAR	**Mina Array Bea**	**90.84**	**51**	P		**P**	**09 56 53.7**	**+0.1**
	0.6nm,0.9s,baz=257,slow=8.2,SNR=4.2							

IDC 06 09:48:30.6±8.7, 5.49S×149.93E, h75km±64km, mb2.7/2, mb1 3.1/3, mb1mx2.9/18, mbtmp2.9/3, ML2.4/1, Error ellipse: s-maj=140.6km s-min=57.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.76**	**215**	P		Pn	09 49 39.8	-0.1
	1.1nm,0.3s,baz=38,slow=17,SNR=3.2							
PMG				S		Sn	09 50 34.9	+1.1
	1.6nm,0.3s,baz=118,slow=16,SNR=4.0							
WRA	**Warramunga Arr**	**20.89**	**225**	P		P	09 53 07.3	+0.4
	0.4nm,0.4s,baz=50,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**23.76**	**219**	P		P	09 53 35.7	-0.8
	0.2nm,0.6s,baz=53,slow=8.9,SNR=4.0							
TORD	**Torodi Ar. Bea**	**147.77**	**286**	PKPbc		PKPbc	10 08 07.7	-0.4
	0.5nm,0.5s,baz=102,slow=2.6,SNR=6.9							

*GCMT **06** 09:48:46.5±0.1, 49.61S×163.71E, h25km, MW5.7/121, Moment Tensor Solution. s101,c189; s121,c303; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr 0.84±.04; Mθθ 3.59±.05; Mϕϕ -4.43±.04; Mrθ 1.46±.12; Mθϕ 0.69±.04; Mϕr -0.01±.10; Best double couple: M=4.37900×10^17 NP1:ϕs 133.00000°, δ 75.00000°, λ 18.00000°. NP2:ϕs 38.00000°, δ 73.00000°, λ 164.00000°. Principal axes: T 4.2650, Plg23.0000°, Azm356.0000°; N 0.2270, Plg67.0000°, Azm171.0000°; P -4.4920, Plg2.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **06** 09:48:46.5±0.4, 49.79S×164.19E, h10km, mb5.0/13, MS5.3/103, MW5.7, ML6.0(WEL) Error ellipse: s-maj=11.2km s-min=7.9km az=137.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17 Nm; Mrr 1.81; Mθθ 2.33; Mϕϕ -4.14; Mrθ 2.68; Mθϕ 1.19; Mϕr -0.84; Best double couple: M=4.70000×10^17 NP1:ϕs 27.00000°, δ 51.00000°, λ 156.00000°. NP2:ϕs 132.00000°, δ 72.00000°, λ 41.00000°. Principal axes: T 4.7700, Plg41.0000°, Azm357.0000°; N -0.1200, Plg45.0000°, Azm151.0000°; P -4.6500, Plg13.0000°, Azm255.0000°;*

NEIC Felt in the southern part of the South Island.

*ISCJB **06** 09:48:47.8±1.5, 49.38S±0.07×164.24E±0.06, h15km±11km, mb4.9/29, MS5.2/129 Error ellipse: s-maj=12.2km s-min=5.2km az=154.2*

*IDC **06** 09:48:47.4±0.7, 49.50S×163.57E, h0km, mb4.5/10, mb1 4.6/10, mb1mx4.5/16, mbtmp4.5/10, MS5.2/19, Ms1 5.1/19, ms1mx5.1/21, Error ellipse: s-maj=35.0km s-min=18.0km az=51.0*

ISC 06 09:48:48.3±0.6, 49.58S±0.07×164.48E±0.05, h13km±2km, n271, σ2§23/170, mb5.0/29, MS5.2/130, 9C-6D, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.61**	**42**	PN		**Pn**	**09 49 44.5**	**+0.6**
APZ				SN		**Sn**	**09 50 26.8**	**+0.4**
PYZ	**Puysegur Point**	**3.72**	**24**	PN		**Pn**	**09 49 44.9**	**-0.5**
PYZ				SN		**Sn**	**09 50 26.9**	**-2.2**
SYZ	**Scrubby Hill**	**4.36**	**48**	PN		**Pn**	**09 49 55.3**	**+1.2**
SYZ				SN		**Sn**	**09 50 44.7**	**-0.1**
WHZ	**Wether Hill Ro**	**4.37**	**34**	*e*Pn		**Pn**	**09 49 54.6**	**+0.3**
WHZ				*e*Sn		**Sn**	**09 50 44.7**	**-0.3**
WHZ	**Wether Hill Ro**	**4.37**	**34**	PN		**Pn**	**09 49 54.5**	**+0.2**
WHZ				SN		**Sn**	**09 50 44.6**	**-0.4**
DCZ	**Deep Cove**	**4.49**	**25**	*e*Pn		**Pn**	**09 49 55.8**	**0.0**
DCZ	**Deep Cove**	**4.49**	**25**	PN		**Pn**	**09 49 55.3**	**-0.5**
MLZ	**Mavora Lakes**	**4.92**	**32**	PN		**Pn**	**09 50 02.4**	**+0.6**
MLZ				SN		**Sn**	**09 50 58.4**	**-0.3**
TUZ	**Tuapeka**	**5.02**	**46**	PN		**Pn**	**09 50 04.6**	**+1.3**
MSZ	**Milford Sound**	**5.44**	**27**	PN		**Pn**	**09 50 11.7**	**+2.7**
EAZ	**Earnscleugh**	**5.45**	**39**	PN		**Pn**	**09 50 09.3**	**+0.2**
HHSZ	**Highcliff Hill**	**5.54**	**50**	PN		**Pn**	**09 50 12.3**	**+2.0**
WKZ	**Wanaka**	**5.67**	**35**	PN		**Pn**	**09 50 13.4**	**+1.2**
MCQ	**Macquarie Isla**	**5.99**	**213**	*e*Pn		Pn	09 50 09.4	-7.0
	19μm,0.8s							
MCQ	**Macquarie Isla**	**5.99**	**213**	⇑P		Pn	09 50 09.5	-7.0
	baz=5.7,SNR=28							
ODZ	**Otahua Downs**	**6.18**	**45**	*e*Pn		**Pn**	**09 50 20.4**	**+1.3**
ODZ	**Otahua Downs**	**6.18**	**45**	PN		**Pn**	**09 50 19.2**	**+0.1**
JCZ	**Jackson Bay**	**6.24**	**30**	PN		**Pn**	**09 50 22.5**	**+2.4**
LBZ	**Lake Benmore**	**6.50**	**39**	PN		**Pn**	**09 50 22.3**	**-1.2**
RPZ	**Rata Peaks**	**7.41**	**40**	Pn		**Pn**	**09 50 37.1**	**+1.1**
RPZ				*e*Sn		**Sn**	**09 51 58.4**	**-1.4**
RPZ				Sn		**Sn**	**09 51 59.6**	**-0.2**
RPZ	**Rata Peaks**	**7.41**	**40**	Pn		**Pn**	**09 50 34.9**	**-1.1**
	10.0nm,0.3s,baz=229,slow=5.1,SNR=20							
RPZ				Sn		**Sn**	**09 51 59.6**	**-0.2**
	130nm,0.3s,baz=299,slow=18,SNR=7.1							
RPZ				LR		LR	09 53 38.9	
	comp=Z,36μm,20.5s,baz=216,slow=38							
MQZ	**McQueen's Vall**	**8.13**	**47**	PN		**Pn**	**09 50 45.7**	**-0.2**
OXZ	**Oxford**	**8.14**	**43**	PN		**Pn**	**09 50 44.7**	**-1.4**
DSZ	**Denniston Nort**	**9.36**	**36**	PN		**Pn**	**09 51 03.3**	**+0.5**
KHZ	**Kahutara**	**9.54**	**45**	*e*Pn		**Pn**	**09 51 07.9**	**+2.8**
QRZ	**Quartz Range**	**10.43**	**36**	PN		**Pn**	**09 51 17.6**	**+0.2**
NNZ	**Nelson**	**10.44**	**40**	PN		Pn	09 51 22.4	+4.9
SNZO	**South Karori**	**10.95**	**45**	*e*Pn		Pn	09 51 27.9	+3.5
BFZ	**Birch Farm**	**12.16**	**47**	*e*Pn		Pn	09 51 46.0	+4.9
VRZ	**Vera Road**	**12.77**	**39**	PN		**Pn**	**09 51 49.3**	**0.0**
HIZ	**Hauiti**	**13.33**	**38**	PN		**Pn**	**09 51 57.5**	**+0.4**
BKZ	**Black Stump Fm**	**13.48**	**44**	*e*Pn		Pn	09 52 02.5	+3.4
TAU	**Tasmania Unive**	**13.61**	**293**	Pn		Pn	09 51 55.8	-5.0
	500nm,0.9s,SNR=7.8							
TAU	**Tasmania Unive**	**13.61**	**293**	*e*Pn		**Pn**	**09 51 59.6**	**-1.2**
MOO	**Moorlands**	**13.96**	**294**	⇓P		Pn	09 52 00.3	-5.3
	baz=14,SNR=11							
CTZ	**Chatham Island**	**14.22**	**73**	PN		**Pn**	**09 52 10.6**	**+1.4**
URZ	**Urewera**	**14.50**	**43**	*e*Pn		**Pn**	**09 52 14.7**	**+1.6**
URZ				Sn		**Sn**	**09 54 48.4**	**-5.1**
URZ				*e*Sn		**Sn**	**09 54 48.7**	**-4.8**
URZ	**Urewera**	**14.50**	**43**	Pn		**Pn**	**09 52 14.0**	**+1.0**
	0.7nm,0.3s,baz=215,slow=6.6,SNR=6.6							
URZ				Sn		**Sn**	**09 54 48.4**	**-5.1**
	3.5nm,0.3s,baz=53,slow=17,SNR=12							
URZ				LR		LR	09 58 29.3	
	comp=Z,35μm,18.9s,baz=232,slow=39							
OUZ	**Omahuta**	**15.83**	**28**	*e*Pn		**P**	**09 52 33.3**	**-1.2**
	39nm,0.9s							
MILA	**Mila**	**16.72**	**313**	⇑P		**Pn**	**09 52 38.7**	**-3.5**
	baz=17,SNR=33							
CNB	**Canberra Magne**	**18.05**	**317**	⇓P		**Pn**	**09 52 57.4**	**-1.3**
	baz=18,SNR=15							
TOO	**Toolangi**	**18.20**	**304**	⇑P		**Pn**	**09 52 58.3**	**-2.2**
	baz=18,SNR=12							
CAN	**Canberra**	**18.21**	**316**	*e*P		**Pn**	**09 52 59.4**	**-1.3**
	285nm,1.6s							
CAN	**Canberra**	**18.21**	**316**	⇓P		**Pn**	**09 52 58.1**	**-2.6**
	baz=18							
ARMA	**Armidale**	**21.46**	**328**	*e*P		**P**	**09 53 37.0**	**+0.6**
	88nm,1.4s							
ARMA	**Armidale**	**21.46**	**328**	⇓P		**P**	**09 53 36.6**	**+0.1**
	baz=22,SNR=7.7							
CMSA	**Cobar Meteorol**	**22.88**	**315**	⇓P		**P**	**09 53 50.0**	**-1.4**
	baz=23,SNR=4.6							
RAO	**Raoul Island**	**24.32**	**40**	LR		LR	10 04 42.2	
	comp=Z,9μm,18.2s,baz=208,slow=39							
STKA	**Stephens Creek**	**24.61**	**307**	*e*P		**P**	**09 54 07.2**	**-1.0**
STKA				S		**S**	**09 58 23.3**	**-5.6**
STKA	**Stephens Creek**	**24.61**	**307**	P		**P**	**09 54 05.5**	**-2.6**
	7.0nm,0.9s,baz=142,slow=14,SNR=5.4							
STKA				S		**S**	**09 58 23.3**	**-5.6**
	1.6nm,0.9s,baz=76,slow=12,SNR=1.6							
STKA				LR		LR	10 01 59.0	
	comp=Z,8μm,21.2s,baz=136,slow=33							
RMQ	**Roma**	**26.07**	**326**	⇑P		**P**	**09 54 20.9**	**-0.5**
	baz=26,SNR=15							
EIDS	**Eidsvold**	**26.32**	**332**	*e*P		**P**	**09 54 22.6**	**-1.1**
	69nm,1.5s							
EIDS				*e*S		**S**	**09 58 56.4**	**+0.3**
EIDS	**Eidsvold**	**26.32**	**332**	⇑P		**P**	**09 54 22.5**	**-1.1**
	baz=26,SNR=4.0							
DZM	**Mont Dzumac**	**27.50**	**4**	*e*P		**P**	**09 54 38.4**	**+4.1**
	137nm,1.5s							
DZM				*e*S		**S**	**09 59 20.6**	**+5.8**
	2μm,26.4s							
DZM				*e*LR		LR	10 01 45.9	
	6μm,22.0s							
DZM	**Mont Dzumac**	**27.50**	**4**	P		**P**	**09 54 38.1**	**+3.7**
DZM	**Mont Dzumac**	**27.50**	**4**	P		**P**	**09 54 38.1**	**+3.7**
	9.4nm,0.9s,baz=209,slow=13,SNR=2.9							
DZM				LR		LR	10 04 06.3	
	comp=Z,5μm,18.6s,baz=168,slow=33							
VNDA	**Vanda**	**28.06**	**181**	*e*P		P	09 54 34.4	-4.4
	112nm,2.3s							
SBA	**Scott Base**	**28.39**	**179**	PFAKE			09 54 50.0	+8.2
SBA				LR		LR		
	comp=Z,3μm,20.0s							
CASY	**Casey**	**31.87**	**218**	PFAKE			09 55 20.0	+7.4
CASY				LR		LR		
	comp=Z,2μm,19.0s							
CTA	**Charters Tower**	**32.83**	**327**	P		**P**	**09 55 19.3**	**-2.1**
CTA	**Charters Tower**	**32.83**	**327**	P		**P**	**09 55 19.3**	**-2.1**
	comp=Z,16nm,0.8s,baz=162,slow=10,SNR=14							
CTA				LR		LR	10 06 37.6	
	comp=Z,5μm,19.8s,baz=153,slow=33							
CTA	**Charters Tower**	**32.83**	**327**	⇑P		**P**	**09 55 19.6**	**-1.8**
	baz=33							
CTAO	**Charters Tower**	**32.83**	**327**	*e*P		**P**	**09 55 19.5**	**-2.0**
	comp=Z,19nm,0.8s							
CTAO				*e*PcP		**PcP**	**09 58 04.0**	**-2.2**
CTAO				LR		LR		
	comp=Z,6μm,20.0s							
AS31	**Alice Springs**	**35.23**	**306**	*e*P		**P**	**09 55 40.3**	**-2.1**
ASAR	**Alice Springs**	**35.23**	**306**	P		P	09 55 38.8	-3.5
ASAR	**Alice Springs**	**35.23**	**306**	P		P	09 55 38.8	-3.5
	comp=Z,2.8nm,0.7s,baz=143,slow=8.6,SNR=22							
ASAR				LR		LR	10 08 23.5	
	comp=Z,5μm,20.7s,baz=152,slow=34							
MTSU	**Mount Surprise**	**35.32**	**325**	⇑P		**P**	**09 55 41.5**	**-1.6**
	baz=35							
WRKA	**Warakurna**	**37.24**	**298**	⇑P		**P**	**09 55 56.9**	**-2.6**
	baz=37,SNR=4.9							
WRA	**Warramunga Arr**	**38.10**	**310**	P		P	09 56 02.6	-4.2
WRA	**Warramunga Arr**	**38.10**	**310**	P		P	09 56 02.6	-4.2
	comp=Z,4.2nm,0.8s,baz=144,slow=7.8,SNR=17							
WRA				LR		LR	10 10 50.1	
	comp=Z,5μm,18.5s,baz=155,slow=35							
WRAB	**Tennant Creek**	**38.10**	**310**	*e*P		**P**	**09 56 05.5**	**-1.3**
	comp=Z,24nm,1.0s							
WRAB				LR		LR		
	comp=Z,6μm,19.0s							
H01W1	**Cape Leeuwin H**	**39.29**	**273**	T		T	10 37 41.8	
	baz=126,slow=74,SNR=1234							
H01W2	**Cape Leeuwin H**	**39.30**	**272**	T		T	10 37 40.4	
	baz=126,slow=74,SNR=1320							
H01W3	**Cape Leeuwin H**	**39.31**	**273**	T		T	10 37 42.3	
	baz=126,slow=74,SNR=1452							
COEN	**Coen**	**39.58**	**326**	*e*P		**P**	**09 56 17.9**	**-1.3**
	comp=Z,198nm,1.2s							
RAR	**Rarotonga**	**40.01**	**58**	PFAKE			09 56 40.0	+17
RAR				LR		LR		
	comp=Z,4μm,20.0s							
HNR	**Honiara**	**40.20**	**353**	P		**P**	**09 56 24.1**	**-0.2**
HNR				LR		LR		
	comp=Z,524nm,22.0s							
HNR	**Honiara**	**40.20**	**353**	P		**P**	**09 56 24.1**	**-0.2**
	comp=Z,96nm,0.7s,baz=169,slow=16,SNR=9.0							
QSPA	**South Pole Qui**	**40.54**	**180**	*e*P		P	09 56 22.0	-4.9
	comp=Z,18nm,1.2s							
QSPA	**South Pole Qui**	**40.54**	**180**	P		**P**	**09 56 28.9**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=354,slow=3.5,SNR=2.3							
AFI	**Afiamalu**	**40.55**	**37**	PFAKE			09 56 40.0	+13
AFI				LR		LR		
	comp=Z,2μm,19.0s							
PMG	**Port Moresby**	**42.57**	**334**	*e*P		**P**	**09 56 43.1**	**-0.7**
PMG	**Port Moresby**	**42.57**	**334**	P		**P**	**09 56 42.2**	**-1.6**
	comp=Z,15nm,1.0s,baz=169,slow=11,SNR=3.4							
PMG				LR		LR	10 11 07.2	
	comp=Z,4μm,21.1s,baz=156,slow=32							
FITZ	**Fitzroy Crossi**	**44.22**	**301**	P		P	09 56 53.5	-3.6
FITZ	**Fitzroy Crossi**	**44.22**	**301**	P		P	09 56 53.5	-3.6
	comp=Z,3.8nm,0.9s,baz=140,slow=10,SNR=2.3							
FITZ				LR		LR	10 14 31.7	
	comp=Z,3μm,19.4s,baz=148,slow=35							
TBI	**Tubuai**	**44.41**	**71**	*e*S		**S**	**10 03 29.0**	**-3.9**
	comp=Z,2μm,30.2s							
TBI				*e*LQ		LQ	10 07 12.2	
	comp=Z,5μm,33.8s							
TBI				*e*LR		LR	10 09 12.9	
	comp=Z,3μm,22.8s							
KDU	**Kakadu**	**45.23**	**313**	⇓P		**P**	**09 57 03.5**	**-1.6**
	baz=45							
MBWA	**Marble Bar**	**45.26**	**292**	*e*P		**P**	**09 57 03.1**	**-2.3**
	comp=Z,26nm,1.0s							
MBWA				LR		LR		
	comp=Z,2μm,20.0s							
PPT2	**Papeete2**	**48.72**	**66**	*e*S		**S**	**10 04 30.8**	**-4.0**
	comp=Z,2μm,29.0s							
PPT2				*e*LR		LR	10 11 16.8	
	comp=Z,3μm,22.2s,baz=226							
PPT	**Papeete**	**48.74**	**66**	LR		LR	10 15 06.2	
	comp=Z,2μm,19.8s,baz=231,slow=32							
MAW	**Mawson**	**49.38**	**210**	LR		LR	10 16 47.8	
	comp=Z,2μm,19.3s,baz=112,slow=34							
RKT	**Rikitea**	**53.77**	**84**	*e*S		S	10 05 37.3	-7.1
	comp=Z,2μm,30.0s							
RKT				*e*SS		**SKiKP**	**10 09 22.3**	**-1.6**
	comp=Z,892nm,27.5s							
RKT				*e*LQ		LQ	10 11 17.6	
	comp=Z,1μm,29.8s							
RKT				*e*LR		LR	10 13 26.6	
	comp=Z,3μm,34.2s							
SYO	**Syowa Base**	**54.97**	**201**	⇑*e*P		P	09 58 24.4	+6.0
KAPI	**Kappang**	**58.22**	**304**	PFAKE			09 58 50.0	+7.8
KAPI				LR		LR		
	comp=Z,2μm,20.0s							
SNAA	**Sanae**	**58.72**	**185**	*e*P		P	09 58 39.4	-5.7
	comp=Z,17nm,1.2s							
PMSA	**Palmer Station**	**59.92**	**158**	PFAKE			09 59 00.0	+6.7
PMSA				LR		LR		
	comp=Z,3μm,22.0s							
DAV	**Davao City (W)**	**65.80**	**317**	PFAKE			09 59 40.0	+6.9
DAV				LR		LR		
	comp=Z,1μm,20.0s							
KSM	**Kuching**	**68.81**	**300**	*e*P		**P**	**09 59 50.9**	**-1.3**
	comp=Z,17nm,0.8s							
KSM				LR		LR		
	comp=Z,696nm,21.0s							
KKM	**Kota Kinabalu**	**69.42**	**308**	PFAKE			10 00 10.0	+14
KKM				LR		LR		
	comp=Z,930nm,22.0s							
EFI	**East Falkland**	**72.82**	**154**	PFAKE			10 00 30.0	+14
EFI				LR		LR		
	comp=Z,792nm,19.0s							
KULM	**Kulim**	**77.50**	**294**	PFAKE			10 00 50.0	+6.4
KULM				LR		LR		
	comp=Z,572nm,19.0s							
PLCA	**Paso Flores**	**77.88**	**140**	LR		LR	10 27 04.3	
	comp=Z,922nm,20.3s,baz=226,slow=29							
YHNB	**Yeheng**	**83.27**	**321**	PFAKE			10 01 20.0	+5.6
YHNB				LR		LR		
	comp=Z,1μm,20.0s							
QIZ	**Qiongzhong**	**83.67**	**309**	P		**P**	**10 01 15.1**	**-1.4**
QIZ				S		**S**	**10 11 40.5**	**+1.9**
QIZ				pmax		pmax		
	comp=Z,33nm,1.9s							
QIZ				LR		LR		
	comp=Z,440nm,21.1s							
QIZ				LR		LR		
	comp=

KSRS Korea Array 92.50 332 P **P** 10 01 59.7 +1.2
comp=Z,2.4nm,0.9s,baz=153,slow=5.4,SNR=4.7
KSRS LR LR 10 41 23.7
comp=Z,502nm,20.1s,baz=172,slow=34
KSAR Wonju Array Be 92.50 332 P **P** **10 01 59.7 +1.2**
INCN Inchon 92.93 331 PFAKE 10 02 10.0 +9.5
INCN LR LR
comp=Z,1μm,21.0s
ERM Erimo 93.12 344 PFAKE 10 02 10.0 +8.8
ERM LR LR
comp=Z,1μm,19.0s
LVC Limon Verde 93.92 132 PFAKE 10 02 20.0 +14
LVC LR LR
comp=Z,381nm,21.0s
ASAJ Asahikawa 95.25 344 LR LR 10 39 06.4
comp=Z,844nm,21.8s,baz=165,slow=32
CPUP Villa Florida 95.77 143 LR LR 10 38 21.5
comp=Z,964nm,21.7s,baz=188,slow=31
CD2 Chengdu 96.57 311 *eP* **P** **10 02 16.8 -0.6**
CD2 sP **sP** **10 02 24.0 +0.5**
CD2 PP **PP** **10 06 15.2 +2.9**
CD2 SKS **SKSac** **10 12 52.8 -0.8**
CD2 S **S** **10 13 36.2 -1.6**
CD2 sS **sS** **10 13 43.7 -1.5**
CD2 SS **SS** **10 20 16.2 +3.4**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,100nm,4.8s
CD2 LR LR
comp=Z,470nm,19.0s
CD2 LR LR
comp=Z,510nm,16.6s
CD2 LR LR
comp=Z,590nm,16.6s
XAN Xi'an 96.74 316 P **P** **10 02 19.0 +0.9**
XAN pP **pP** **10 02 25.4 +2.8**
XAN S **S** **10 13 43.9 +4.8**
XAN SS **SS** **10 20 20.6 +5.6**
XAN pmax pmax
comp=Z,1.0nm,0.7s
XAN LR LR
comp=Z,370nm,21.4s
USRK Ussuriysk Arra 97.62 337 LR LR 10 42 29.9
comp=Z,242nm,20.1s,baz=164,slow=33
NNA Nana 98.57 120 PFAKE 10 02 40.0 +13
NNA LR LR
comp=Z,613nm,20.0s
MSEY Mahe Island 98.61 252 PFAKE 10 02 40.0 +13
MSEY LR LR
comp=Z,643nm,20.0s
MDJ Mudanjiang 98.63 336 PFAKE 10 02 40.0 +14
MDJ LR LR
comp=Z,625nm,21.0s
BJT Baijiatuau 98.85 325 PFAKE 10 02 40.0 +13
BJT LR LR
comp=Z,877nm,21.0s
BJI Beijing 98.86 325 P Pdif 10 02 27.5 +0.1
BJI PP **PP** **10 06 29.9 +0.2**
BJI S **S** **10 13 55.8 -1.0**
BJI SS **SS** **10 20 45.8 +1.1**
BJI pmax pmax
comp=Z,6.0nm,1.6s
BJI LR LR
comp=Z,800nm,19.7s
BJI LR LR
comp=Z,550nm,20.9s
BJI LR LR
comp=Z,710nm,27.6s
CN2 Changchun 99.06 333 *eP* **Pdif** **10 02 38.1 +10**
CN2 Changchun 99.06 333 *eS* **S** **10 14 00.6 +2.3**
CN2 LR LR
comp=N,600nm,19.0s
CN2 LR LR
comp=E,500nm,19.0s
CN2 LR LR
comp=Z,700nm,21.0s
LZH Lanzhou 100.76 314 *eP* **Pdif** **10 02 34.6 -1.6**
LZH pP pP 10 02 38.8 -2.0
LZH sP sP 10 02 41.6 -0.7
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,91nm,4.0s
LZH LR LR
comp=Z,340nm,18.2s
LZH LR LR
comp=Z,420nm,15.9s
LZH LR LR
comp=Z,590nm,18.9s
HHC Hu-ho-hao-te 101.36 322 *eP* **Pdif** **10 02 36.9 -1.8**
HHC pP pP 10 02 43.3 0.0
HHC PP **PP** **10 06 48.6 -0.2**
HHC S **Sdif** **10 14 18.5 +0.6**
HHC sS **sS** **10 14 26.7 +1.3**
HHC SS **SS** **10 21 26.0 +6.3**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC LR LR
comp=Z,870nm,18.0s
HHC LR LR
comp=Z,880nm,15.1s
HHC LR LR
comp=Z,1μm,19.8s
LSA Lhasa 102.23 301 PFAKE 10 02 50.0 +6.7
LSA LR LR
comp=Z,399nm,22.0s
LSZ Lusaka 104.79 224 PFAKE 10 03 00.0 +5.2
LSZ LR LR
comp=Z,867nm,21.0s
HIA Hailar 105.71 331 PFAKE 10 07 20.0
HIA LR LR
comp=Z,573nm,20.0s
OTAV Otavalo 107.42 111 PFAKE 10 07 30.0
OTAV LR LR
comp=Z,382nm,20.0s
PFO Pinyon Flat Ob 108.38 60 PFAKE 10 07 30.0
PFO LR LR
comp=Z,2μm,19.0s
SAML Samuel 108.41 130 PFAKE 10 07 30.0
SAML LR LR
comp=Z,378nm,21.0s
JTS JuntasAbangare 111.09 99 PFAKE 10 07 30.0
JTS LR LR
comp=Z,492nm,19.0s
KMBO Kilima Mbogo 112.26 239 PFAKE 10 07 30.0
KMBO LR LR
comp=Z,399nm,20.0s
KDAK Kodiak Island 112.69 23 PFAKE 10 07 30.0
KDAK LR LR
comp=Z,1μm,20.0s
TLY Talaya 113.36 324 PFAKE 10 07 40.0
TLY LR LR
comp=Z,521nm,21.0s
MNTX Cornudas Mount 113.47 68 PFAKE 10 07 40.0
MNTX LR LR
comp=Z,1μm,19.0s
BCIP Isla Barro Col 113.50 104 PFAKE 10 07 40.0
BCIP LR LR
comp=Z,686nm,19.0s
SHEL Horse Pasture 114.18 190 PFAKE 10 07 40.0 +12
SHEL LR LR
comp=Z,2μm,20.0s
WMQ Urumqi 114.59 309 PKP PKPdf 10 07 24.8 -2.6
WMQ LR LR
comp=Z,690nm,39.5s
WMQ LR LR
comp=Z,290nm,38.3s
WMQ LR LR
comp=Z,230nm,21.8s
NLWA Neilton Lookou 114.70 45 PFAKE 10 07 40.0 +13
NLWA LR LR
comp=Z,1μm,20.0s
ANMO Albuquerque 115.10 65 PFAKE 10 07 40.0 +11
ANMO LR LR
comp=Z,2μm,19.0s
DUG Dugway 115.14 57 PFAKE 10 07 40.0 +11
DUG LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 115.48 62 PFAKE 10 07 40.0 +10
MVCO LR LR
comp=Z,961nm,19.0s
HAWA Hanford 116.03 48 PFAKE 10 07 40.0 +10
HAWA LR LR
comp=Z,1μm,21.0s

JCT Junction City 116.05 73 PFAKE 10 07 40.0 +9.3
JCT LR LR
comp=Z,1μm,19.0s
TEIG Tepich 116.24 89 PFAKE 10 07 40.0 +8.8
TEIG LR LR
comp=Z,244nm,19.0s
HLID Hailey 116.63 53 PFAKE 10 07 40.0 +8.5
HLID LR LR
comp=Z,952nm,19.0s
SDCO Great Sand Dun 117.58 63 PFAKE 10 07 40.0 +6.3
SDCO LR LR
comp=Z,273nm,20.0s
AHID Auburn Hatcher 117.84 56 PFAKE 10 07 40.0 +6.1
AHID LR LR
comp=Z,1μm,19.0s
NEW Newport 118.51 48 PFAKE 10 07 50.0 +15
NEW LR LR
comp=Z,1μm,20.0s
BW06 Boulder Array 118.68 57 PFAKE 10 07 50.0 +14
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 118.68 57 PKP **PKPdf** **10 07 37.4 +1.8**
PDAR Pinedale Array 118.68 57 PKP **PKPdf** **10 07 37.4 +1.8**
comp=Z,0.4nm,0.9s,baz=143,slow=0.5,SNR=2.4
ISCO Idaho Springs 118.89 62 PFAKE 10 07 50.0 +14
ISCO LR LR
comp=Z,2μm,19.0s
MKAR Makanchi Array 119.39 309 PKP **PKPdf** **10 07 36.9 +0.4**
MKAR Makanchi Array 119.39 309 PKP **PKPdf** **10 07 36.9 +0.4**
comp=Z,0.4nm,0.8s,baz=122,slow=1.9,SNR=3.8
BOZ Bozeman (W) 119.50 53 PFAKE 10 07 50.0 +13
BOZ LR LR
comp=Z,753nm,19.0s
COLA College 119.96 21 PFAKE 10 07 50.0 +13
COLA LR LR
comp=Z,1μm,20.0s
ILAR Eielson Array 120.10 22 PKP **PKPdf** **10 07 37.7 +0.4**
ILAR Eielson Array 120.10 22 PKP **PKPdf** **10 07 37.7 +0.4**
comp=Z,2.8nm,1.2s,baz=226,slow=3.3,SNR=6.1
NATX Nacogdoches 120.14 75 PFAKE 10 07 50.0 +12
NATX LR LR
comp=Z,1μm,21.0s
TKM2 Tokmak 2 120.38 302 PFAKE 10 07 50.0 +11
TKM2 LR LR
comp=Z,309nm,21.0s
RLMT Red Lodge 120.40 55 PFAKE 10 07 50.0 +11
RLMT LR LR
comp=Z,808nm,19.0s
AAK Ala-Archa 120.81 301 PFAKE 10 07 50.0 +10
AAK LR LR
comp=Z,241nm,20.0s
EKS2 Erkin-Say 121.23 300 PFAKE 10 07 50.0 +10
EKS2 LR LR
comp=Z,347nm,20.0s
EGAK Eagle 121.56 24 PFAKE 10 07 50.0 +10
EGAK LR LR
comp=Z,754nm,21.0s
EGMT Eagleton 122.03 52 PFAKE 10 07 50.0 +8.3
EGMT LR LR
comp=Z,836nm,19.0s
MIAR Mount Ida 122.67 74 PFAKE 10 07 50.0 +6.8
MIAR LR LR
comp=Z,1μm,19.0s
ZALV Zalesovo Beam 122.91 316 PKP **PKPdf** **10 07 41.6 -1.4**
ZALV Zalesovo Beam 122.91 316 PKP **PKPdf** **10 07 41.6 -1.4**
comp=Z,0.2nm,0.3s,baz=169,slow=1.5,SNR=2.5
LAO LASA Array 123.03 55 PFAKE 10 07 50.0 +6.4
LAO LR LR
comp=Z,957nm,20.0s
KSU1 Kansas State U 123.73 68 PFAKE 10 08 00.0 +15
KSU1 LR LR
comp=Z,2μm,19.0s
KURBB Kurchatov Arra 123.78 310 PKP **PKPdf** **10 07 43.1 -1.7**
comp=Z,0.7nm,0.8s,baz=133,slow=1.9,SNR=4.0
KURK Kurchatov 123.79 310 PKP **PKPdf** **10 07 43.1 -1.7**
KURK LR LR
comp=Z,175nm,20.0s
DGMT Dagmar 125.22 55 PFAKE 10 08 00.0 +12
DGMT LR LR
comp=Z,918nm,19.0s
ECSD EROS Data Cent 126.59 63 PFAKE 10 08 00.0 +10
ECSD LR LR
comp=Z,937nm,19.0s
YKA Yellowknife Ar 128.66 36 PKP **PKPdf** **10 07 55.0 +1.3**
YKA Yellowknife Ar 128.66 36 PKP **PKPdf** **10 07 55.1 +1.3**
comp=Z,0.5nm,0.8s,baz=247,slow=1.4,SNR=7.1
BVAR Borovoye Array 129.28 309 PKP **PKPdf** **10 07 56.1 +0.9**
BVAR Borovoye Array 129.28 309 PKP **PKPdf** **10 07 56.1 +0.9**
comp=Z,0.2nm,0.4s,baz=183,slow=2.9,SNR=2.9
BRVK Borovoye 129.35 309 PFAKE 10 08 10.0 +15
BRVK LR LR
comp=Z,241nm,21.0s
WCI Wyandotte Cave 129.54 75 PKPdf **PKPdf** **10 07 58.6 +2.3**
AGMN Agassiz Nation 129.65 59 PFAKE 10 08 10.0 +14
AGMN LR LR
comp=Z,1μm,20.0s
JFWS Jewell Farm 129.87 67 PFAKE 10 08 10.0 +13
JFWS LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 129.92 49 PFAKE 10 08 10.0 +14
FFC LR LR
comp=Z,690nm,20.0s
EYMN Ely 131.92 61 PFAKE 10 08 10.0 +10
EYMN LR LR
comp=Z,1μm,19.0s
BLA Blacksburg 132.66 79 PFAKE 10 08 10.0 +7.8
BLA LR LR
comp=Z,931nm,20.0s
ACSO Alum Creek Sta 132.80 75 PFAKE 10 08 10.0 +7.7
ACSO LR LR
comp=Z,1μm,22.0s
AAM Ann Arbor 133.54 72 PFAKE 10 08 10.0 +6.4
AAM LR LR
comp=Z,3μm,19.0s
CBN Corbin 135.19 80 PFAKE 10 08 20.0 +13
CBN LR LR
comp=Z,963nm,21.0s
ERPA Erie 135.72 74 PFAKE 10 08 20.0 +12
ERPA LR LR
comp=Z,2μm,20.0s
ARU Arti 136.92 309 PFAKE 10 08 20.0 +11
ARU LR LR
comp=Z,382nm,20.0s
GNI Garni 137.31 281 PFAKE 10 08 20.0 +9.0
GNI LR LR
comp=Z,288nm,20.0s
BINY Binghamton 138.29 76 PFAKE 10 08 20.0 +7.5
BINY LR LR
comp=Z,2μm,20.0s
LONY Lake Ozonia 140.39 74 PFAKE 10 08 30.0 +14
LONY LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 140.60 285 PFAKE 10 08 30.0 +13
KIV LR LR
comp=Z,263nm,20.0s
TORD Torodi Ar. Bea 141.01 207 PKP **PKPdf** **10 08 18.6 +0.4**
TORD Torodi Ar. Bea 141.01 207 PKP **PKPdf** **10 08 18.6 +0.4**
comp=Z,0.8nm,0.8s,baz=160,slow=3.3,SNR=3.4
CSS Prodhromos 141.71 266 PFAKE 10 08 30.0 +11
CSS LR LR
comp=Z,62nm,20.0s
LBNH Lisbon 141.88 76 PFAKE 10 08 30.0 +11
LBNH LR LR
comp=Z,1μm,19.0s
BRTR Keskin Array B 144.25 273 PKP **PKPdf** **10 08 23.0 -0.5**
BRTR Keskin Array B 144.25 273 PKP **PKPdf** **10 08 23.0 -0.5**
comp=Z,3.8nm,0.9s,baz=135,slow=3.3,SNR=14
SACV Santiago Islan 144.86 166 PFAKE 10 08 40.0 +15
SACV LR LR
comp=Z,438nm,21.0s
ANTO Ankara 144.87 273 PFAKE 10 08 30.0 +5.5
ANTO LR LR
comp=Z,265nm,22.0s
ISP Isparta 145.22 268 PFAKE 10 08 40.0 +15
ISP LR LR
comp=Z,296nm,22.0s
SANT Santorini 147.65 262 PFAKE 10 08 40.0 +5.7
SANT LR LR
comp=Z,286nm,20.0s
OBN Obninsk 148.34 300 PKPbc **PKPab** **10 08 34.7 -1.6**
OBN LR LR
comp=Z,455nm,21.0s
OBN Obninsk 148.34 300 PKPbc **PKPab** **10 08 34.7 -1.6**
comp=Z,10nm,0.3s,baz=135,slow=4.3,SNR=3.9
TAM Tamanrasset 148.54 219 PFAKE 10 08 40.0 +1.7
TAM LR LR
comp=Z,386nm,20.0s
KBS Kingsbay 148.93 350 PFAKE 10 08 40.0 +1.8
KBS LR LR
comp=Z,535nm,20.0s
LVZ Lovozero 149.37 325 PFAKE 10 08 40.0 -0.3
LVZ LR LR
comp=Z,764nm,22.0s
KEV Kevo 151.48 330 *e*pkp **PKPab** **10 08 53.2 +4.3**
KEV Kevo 151.48 330 PFAKE 10 08 40.0 -0.3
KEV LR LR
comp=Z,591nm,22.0s
AK02 Malin Array Si 151.63 290 *e*PKPbc **PKPbc** **10 08 40.0 -1.3**
AKASG Malin Array Be 151.63 290 PKPbc **PKPbc** **10 08 39.9 -1.4**
AKASG Malin Array Be 151.63 290 PKPbc **PKPbc** **10 08 39.9 -1.4**
comp=Z,4.7nm,0.8s,baz=82,slow=2.5,SNR=13
AKBB Malin Array Si 151.63 290 *e*PKPdf **PKPdf** **10 08 31.2 -3.8**
AKBB *e*PKPbc **PKiKP** **10 08 41.5 -0.2**
AK01 Malin Array Si 151.63 290 *e*PKPbc **PKPbc** **10 08 40.1 -1.2**
KIEV Kiev 151.63 290 *e*PKPbc **PKPbc** **10 08 41.5 +0.3**
KIEV LR LR
comp=Z,502nm,20.0s
ARCES ARCESS Array B 152.05 330 PKPbc **PKPbc** **10 08 41.3 -0.4**
ARCES PKPab **PKPab** **10 08 50.9 -0.4**
ARCES ARCESS Array B 152.05 330 PKPbc **PKPbc** **10 08 41.3 -0.4**
comp=Z,3.7nm,0.8s,baz=94,slow=2.7,SNR=7.2
ARCES PKPab **PKPab** **10 08 50.9 -0.4**
comp=Z,5.5nm,0.9s,baz=14,slow=4.1,SNR=5.8
KAF Kangasniemi 153.91 315 *e*pkp **PKPab** **10 08 59.7 +0.4**
comp=Z,3.2nm,0.7s
FINES FINESS Array B 154.11 313 PKPbc **PKPbc** **10 08 45.6 -0.8**
FINES FINESS Array B 154.11 313 PKPbc **PKPbc** **10 08 45.6 -0.8**
comp=Z,2.8nm,0.9s,baz=72,slow=5.0,SNR=8.0
SUMG Summit 154.75 16 *i* P PKPab 10 08 56.0 -7.2
comp=Z,5.5nm,1.0s
TIP Timpagrande 154.88 258 PFAKE 10 08 50.0 +1.1
TIP LR LR
comp=Z,226nm,21.0s
CEL Celeste 154.88 255 PFAKE 10 08 50.0 +1.1
CEL LR LR
comp=Z,378nm,20.0s
SFJD Kangerlussuaq 155.14 33 PFAKE 10 08 50.0 +10
SFJD LR LR
comp=Z,1μm,22.0s
KWP Kalwaria Pacla 155.40 285 PFAKE 10 08 50.0 +10
KWP LR LR
comp=Z,783nm,19.0s
KOLS Kolonicke sedl 155.49 283 *e*PKP **PKPab** **10 09 03.5 -3.1**
CUC Castrocucco 155.94 258 PFAKE 10 08 50.0 +8.4
CUC LR LR
comp=Z,344nm,21.0s
CRVS Cervenica-Dubn 156.00 283 *e* **PKPab** **10 09 13.4 +4.7**
CLTB Caltabellotta 156.13 251 PFAKE 10 08 50.0 +8.0
CLTB LR LR
comp=Z,300nm,19.0s
PSZ Piszkesteto 156.72 280 PFAKE 10 08 50.0 +7.6
PSZ LR LR
comp=Z,654nm,19.0s
VSL Villasalto 159.68 250 PFAKE 10 09 00.0 +14
VSL LR LR
comp=Z,517nm,21.0s
GERES GERESS Array B 160.94 279 PKPab **PKPab** **10 09 28.8 -1.5**
GERES GERESS Array B 160.94 279 PKPab **PKPab** **10 09 28.8 -1.5**
comp=Z,1.8nm,1.0s,baz=86,slow=1.7,SNR=6.9
NB2 NORSAR Subarra161.10 317 P **PKPab** **10 09 30.7 +0.2**
comp=Z,8.0nm,1.2s,baz=63,slow=4.6
NB2 NORSAR Subarra161.10 317 P **PKPab** **10 09 30.7 +0.2**
baz=63,slow=4.6
NOA NORSAR Array B 161.10 317 PKPab **PKPab** **10 09 29.9 -0.7**
NOA NORSAR Array B 161.10 317 PKPab **PKPab** **10 09 29.9 -0.7**
comp=Z,2.0nm,0.9s,baz=62,slow=4.7,SNR=4.2
VLC Villacollemand 161.52 263 PFAKE 10 09 00.0 +12
VLC LR LR
comp=Z,770nm,21.0s
CLL Collm 161.80 286 *e*PP PP 10 13 14.0 -4.3
CLL *e*PSKS 10 23 43.0
CLL *e*PPS PPS 10 26 49.0
CLL *e*SS SS 10 33 37.0 +0.6
CLL *e*PSS PSS 10 34 35.0
CLL *e*PSPS 10 35 10.0
CLL *e*SSS SSS 10 39 36.0
CLL *e*SSSS 10 43 48.0
CLL Lm MLR 11 28 00.0
comp=Z,600nm,21.7s
KONO Kongsberg 162.41 314 PFAKE 10 09 00.0 +12
KONO LR LR
comp=Z,840nm,21.0s
TUE Stuetta 163.10 269 PFAKE 10 09 00.0 +10
TUE LR LR
comp=Z,877nm,20.0s
RTC Rabat Centre 163.15 206 PFAKE 10 09 00.0 +10
RTC LR LR
comp=Z,1μm,20.0s
BFO Black Forest 164.29 275 PFAKE 10 09 00.0 +9.4
BFO LR LR
comp=Z,583nm,19.0s
BNI Bardonecchia 164.30 262 PFAKE 10 09 00.0 +9.1
BNI LR LR
comp=Z,751nm,19.0s
ECH Echery 165.03 273 PFAKE 10 09 00.0 +8.8
ECH LR LR
comp=Z,728nm,19.0s
SSB Saint Sauveur 165.76 260 PFAKE 10 09 00.0 +8.0
SSB LR LR
comp=Z,640nm,21.0s
WLF Walferdange 165.95 279 PFAKE 10 09 00.0 +8.1
WLF LR LR
comp=Z,567nm,20.0s
PAB San Pablo 167.21 223 PFAKE 10 09 00.0 +6.7
PAB LR LR
comp=Z,621nm,20.0s
MTE Manteigas 169.23 215 PFAKE 10 09 00.0 +5.3
MTE LR LR
comp=Z,977nm,21.0s
ESK Eskdalemuir 170.54 312 PFAKE 10 09 00.0 +5.2
ESK LR LR
comp=Z,919nm,22.0s

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*IDC **06** 09:50:46.9±1.9, 19°.70S×173°.84W, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.0/7, ML2.3/1, Error ellipse: s-maj=84.0km s-min=22.0km az=141.0*
*ISCJB **06** 09:51:04.7±2.1, 18°.0S±0°.4×174°.8W±0°.4, h133km, mb3.6/6, Error ellipse: s-maj=81.6km s-min=10.1km az=137.8*

ISC 06 09:51:06.4±2.1, 17°.9S±0°.5×174°.8W±0°.4, h133km, n7, σ1s02/8, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.93**	**36**	Pn		**Pn**	**09 52 17.7**	**-1.0**
	4.3nm,0.3s,baz=292,slow=11,SNR=6.8							
AFI				Sn		**Sn**	**09 53 15.6**	**+0.7**
	5.7nm,0.3s,baz=166,slow=19,SNR=3.4							
CTA	**Charters Tower**	**36.87**	**260**	P		**P**	**09 58 03.0**	**+0.8**
	2.0nm,0.4s,baz=80,slow=13,SNR=4.9							
STKA	**Stephens Creek**	**41.67**	**242**	P		P	09 58 35.7	-6.3
	2.9nm,0.8s,baz=80,slow=12,SNR=2.6							
WRA	**Warramunga Arr**	**48.04**	**259**	P		**P**	**09 59 32.3**	**-0.3**
	1.4nm,0.8s,baz=97,slow=7.5,SNR=11							
WRA				PcP		**PcP**	**10 00 59.3**	**+0.7**
	0.8nm,0.8s,baz=97,slow=2.9,SNR=2.8							
ASAR	**Alice Springs**	**48.12**	**254**	P		**P**	**09 59 31.8**	**-1.4**
	1.2nm,0.7s,baz=98,slow=7.5,SNR=6.3							
ASAR				PcP		**PcP**	**10 00 58.9**	**+0.1**
	0.5nm,0.5s,baz=105,slow=4.2,SNR=4.3							
NVAR	**Mina Array Bea**	**77.08**	**42**	P		**P**	**10 02 46.0**	**+0.6**
	0.4nm,0.7s,baz=230,slow=8.1,SNR=3.4							
ILAR	**Eielson Array**	**85.18**	**12**	P		P	10 03 32.3	+5.0
	0.4nm,0.8s,baz=223,slow=6.0,SNR=4.2							

IDC 06 09:55:34.4±2.9, 54°.14N×86°.83E, h0km, mb1 2.7/2, mb1mx2.6/29, mbtmp2.7/2, ML3.0/2, Error ellipse: s-maj=25.9km s-min=8.9km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**262**	*i*			10 03 30.3	
	baz=80,slow=348							
ZALV	**Zalesovo Beam**	**1.20**	**262**	Pg		Pb	09 55 58.0	0.0
	1.5nm,0.3s,baz=80,slow=16,SNR=13							
ZALV				Lg		Lg	09 56 12.6	
	0.5nm,0.3s,baz=87,slow=25,SNR=6.5							
KURBB	**Kurchatov Arra**	**6.18**	**239**	Pn		Pn	09 57 07.9	+1.2

0.4nm,0.3s,baz=53,slow=14,SNR=8.8
MKAR Makanchi Array 7.90 203 Pn Pn 09 57 31.2 +0.7
0.1nm,0.3s,baz=18,slow=12,SNR=3.5
MKAR Sn Sn 09 58 58.1 -2.4
0.0nm,0.3s,baz=27,slow=23,SNR=2.9

IDC 06 09:56:40.5±5.8, 1°.18S×99°.83E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=311.7km s-min=31.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.99**	**256**	T	T	10 30 25.0	
	baz=78,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**27.99**	**256**	T	T	10 30 24.2	
	baz=78,slow=75,SNR=19						
H08S1	**Diego Garcia H**	**28.01**	**256**	T	T	10 30 23.3	
	baz=78,slow=75,SNR=15						
WRA	**Warramunga Arr**	**38.56**	**121**	P	P	10 04 04.8	-0.6
	0.6nm,0.8s,baz=296,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**39.88**	**127**	P	P	10 04 16.9	+0.5
	0.4nm,0.9s,baz=306,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**50.20**	**344**	P	P	10 05 38.2	+0.1
	0.2nm,0.6s,baz=144,slow=8.5,SNR=3.2						
TXAR	**Lajitas Array**	**144.15**	**36**	PKP	PKPbc	10 16 17.9	+0.7
	0.3nm,0.8s,baz=304,slow=2.1,SNR=3.6						

*NNC **06** 10:03:31.9±12.0, 54°.42N×90°.95E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=98.3km s-min=91.9km az=24.0*
*IDC **06** 10:04:02.0±2.4, 54°.20N×86°.40E, h0km, mb1 2.7/2, mb1mx2.7/29, mbtmp2.7/2, ML3.0/2, Error ellipse: s-maj=19.9km s-min=3.1km az=75.0*
ISC 06 10:04:05.8±3.3, 54°.1N±0°.2×86°.1E±0°.1, h10km, n7, σ1≬38/8, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.80**	**257**	*i*		10 09 47.8	
	baz=74,slow=346,SNR=9.1						
ZALV	**Zalesovo Beam**	**0.80**	**256**	Pg	**Pg**	**10 04 19.9**	**-1.4**
	1.4nm,0.3s,baz=75,slow=17,SNR=20						
ZALV				Lg	Lg	10 04 34.2	
	3.1nm,0.3s,baz=78,slow=30,SNR=31						
KURK	**Kurchatov**	**5.74**	**236**	⇓Pn	**Pn**	**10 05 33.6**	**+2.6**
	2.3nm,1.5s						
KURK				⇑Sn	**Sg**	**10 07 09.9**	**+0.1**
	1.3nm,1.0s						
KURK				⇓Lg	Lg	10 07 58.9	
	1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**5.84**	**236**	⇑Pn	**Pn**	**10 05 33.0**	**+0.7**
	baz=53,slow=13						
KURBB				⇓Sn	**Sg**	**10 07 13.2**	**0.0**
	3.5nm,0.9s,baz=65,slow=32						
KURBB				⇑Lg	Lg	10 07 58.9	
	2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**5.84**	**236**	Pn	**Pn**	**10 05 32.8**	**+0.4**
	0.2nm,0.3s,baz=53,slow=13,SNR=4.7						
MK31	**Makanchi Array**	**7.75**	**200**	⇓Pn	Pn	10 05 51.9	-6.8
	0.2nm,0.5s,baz=161,slow=9.8,SNR=4.5						
MK31				⇑Sn	Sn	10 07 39.5	+13
	3.0nm,1.2s,baz=157,slow=2.1,SNR=4.0						
MKAR	**Makanchi Array**	**7.75**	**200**	Pn	**Pn**	**10 05 58.5**	**-0.2**
	0.1nm,0.3s,baz=25,slow=14,SNR=7.8						
MKAR				Sn	**Sn**	**10 07 26.9**	**+0.3**
	0.0nm,0.3s,baz=28,slow=28,SNR=3.3						

*IDC **06** 10:13:28.6±2.5, 2°.16S×98°.62E, h0km, mb3.5/6, mb1 3.5/7, mb1mx3.4/25, mbtmp3.5/7, ML3.1/1, Error ellipse: s-maj=98.5km s-min=19.8km az=58.0*
*ISCJB **06** 10:13:32.4±1.7, 2°.0S±0°.2×98°.8E±0°.4, h33km, mb3.5/6, Error ellipse: s-maj=60.3km s-min=15.0km az=152.4*
ISC 06 10:13:35.1±2.5, 1°.9S±0°.3×99°.0E±0°.5, h35km, n17, σ0≬43/8, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.68**	**359**	Pn	**Pn**	**10 14 43.0**	**-0.3**
	0.7nm,0.3s,baz=165,slow=12,SNR=2.6						
H08S2	**Diego Garcia H**	**26.98**	**257**	T	T	10 47 12.7	
	baz=78,slow=75,SNR=116						
H08S3	**Diego Garcia H**	**26.99**	**257**	T	T	10 47 13.8	
	baz=78,slow=75,SNR=146						
H08S1	**Diego Garcia H**	**27.00**	**257**	T	T	10 47 12.9	
	baz=78,slow=75,SNR=103						
H08N1	**Diego Carcia H**	**28.22**	**260**	T	T	10 49 26.9	
	baz=72						
H08N2	**Diego Garcia H**	**28.23**	**260**	T	T	10 49 28.0	
	baz=72						
H08N3	**Diego Garcia H**	**28.25**	**260**	T	T	10 49 28.0	
	baz=72						
H01W3	**Cape Leeuwin H**	**35.72**	**158**	T	T	10 58 21.4	
	baz=334,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**35.73**	**158**	T	T	10 58 21.1	
	baz=334,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**35.73**	**158**	T	T	10 58 20.2	
	baz=334,slow=75,SNR=11						
WRA	**Warramunga Arr**	**38.93**	**120**	P	**P**	**10 20 57.9**	**0.0**
	0.3nm,0.7s,baz=303,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**40.12**	**125**	P	**P**	**10 21 07.8**	**-0.2**
	0.2nm,0.6s,baz=298,slow=7.9,SNR=4.0						
SONM	**Songino Array**	**49.96**	**7**	P	**P**	**10 22 26.5**	**+0.8**
	0.2nm,0.6s,baz=197,slow=8.1,SNR=2.5						
MKAR	**Makanchi Array**	**50.67**	**345**	P	**P**	**10 22 31.1**	**+0.1**
	0.6nm,0.5s,baz=160,slow=8.2,SNR=7.8						
KURBB	**Kurchatov Arra**	**55.18**	**344**	P	**P**	**10 23 03.9**	**-0.3**
	0.3nm,0.5s,baz=165,slow=7.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**56.90**	**350**	P	**P**	**10 23 16.0**	**-0.4**
	0.6nm,0.4s,baz=165,slow=6.2,SNR=4.5						
TXAR	**Lajitas Array**	**145.24**	**36**	PKPbc	**PKPab**	**10 33 09.7**	**0.0**
	0.3nm,0.6s,baz=243,slow=0.6,SNR=7.0						

*IDC **06** 10:14:24.4±1.7, 53°.57N×87°.89E, h0km, mb1 3.6/3, mb1mx3.2/30, mbtmp3.6/3, ML3.8/3, Error ellipse: s-maj=16.6km s-min=6.4km az=98.0*
*NNC **06** 10:14:30.3±3.1, 53°.44N×87°.18E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.3km s-min=18.7km az=60.0*
ISC 06 10:14:29.5±3.6, 53°.6N±0°.1×87°.7E±0°.2, h35km, n10, σ1≬34/17, 5C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**282**	*i*		10 24 50.6	
	baz=100,slow=348,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.72**	**282**	Pn	**Pn**	**10 14 56.6**	**-0.2**
	14nm,0.3s,baz=103,slow=15,SNR=159						
ZALV				Lg	Lg	10 15 22.5	
	13nm,0.3s,baz=107,slow=20,SNR=17						
KURK	**Kurchatov**	**6.27**	**246**	⇑Pn	**Pn**	**10 15 59.5**	**+0.1**
	0.7nm,0.5s						
KURK				⇑Sn	**Sn**	**10 17 10.5**	**+0.7**
	2.5nm,1.2s						
KURK				⇓Lg	Lg	10 17 41.2	
	11nm,1.8s						
KURBB	**Kurchatov Arra**	**6.37**	**246**	⇑Pn	**Pn**	**10 16 01.1**	**+0.4**
	4.3nm,0.3s						
KURBB				⇑Sn	**Sn**	**10 17 12.2**	**0.0**
	4.5nm,0.6s						
KURBB				⇓Lg	Lg	10 17 42.8	
	17nm,0.7s						
KURBB	**Kurchatov Arra**	**6.37**	**246**	Pn	**Pn**	**10 16 01.3**	**+0.6**
	1.7nm,0.3s,baz=60,slow=13,SNR=56						
KURBB				Sn	**Sn**	**10 17 13.7**	**+1.6**
	0.3nm,0.3s,baz=69,slow=28,SNR=4.7						
KURBB				Lg	Lg	10 17 48.2	
	0.4nm,0.3s,baz=63,slow=32,SNR=7.1						
MK31	**Makanchi Array**	**7.64**	**209**	⇓Pn	**Pn**	**10 16 18.9**	**+0.6**
	0.8nm,0.6s,baz=30,slow=14,SNR=44						
MK31				⇓Sn	**Sn**	**10 17 43.0**	**-0.7**
	1.8nm,0.8s,baz=32,slow=26,SNR=4.0						
MK31				⇑Lg	Lg	10 18 24.9	
	6.7nm,1.1s,baz=36,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	**Pn**	**10 16 18.4**	**+0.1**
	1.2nm,0.3s,baz=28,slow=14,SNR=47						
MKAR				Sn	**Sn**	**10 17 43.8**	**+0.2**
	0.2nm,0.3s,baz=31,slow=24,SNR=6.2						
MKAR				Lg	Lg	10 18 24.7	
	0.3nm,0.3s,baz=28,slow=30,SNR=8.1						
BVA0	**Borovoye Array**	**10.35**	**274**	⇓Pn	**Pn**	**10 16 56.9**	**+1.6**
	1.7nm,0.9s,baz=89,slow=14,SNR=12						
BVA0				Sn	**Sn**	**10 18 49.0**	**-0.9**
	4.9nm,1.1s,baz=89,slow=21,SNR=7.2						
BVAR	**Borovoye Array**	**10.35**	**274**	Pn	**Pn**	**10 16 56.6**	**+1.3**
	0.3nm,0.3s,baz=84,slow=12,SNR=8.4						
BVAR				Sn	**Sn**	**10 18 49.3**	**-0.6**
	0.4nm,0.3s,baz=83,slow=23,SNR=8.9						
BRVK	**Borovoye**	**10.41**	**274**	⇓Pn	**Pn**	**10 16 58.3**	**+2.3**
	1.6nm,0.8s						
BRVK				⇓Sn	**Sn**	**10 18 48.2**	**-3.1**
	3.4nm,1.1s						

MAN 06 10:15:41, 17°.83N×120°.52E, h28km, mb3.9, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.12**	**327**	⇓*i*P	Pn	10 15 47.4	+0.3
SIPP				*i* S	Sb	10 15 53.6	+3.9
ABRA	**Dolores**	**0.25**	**134**	*e*P	Pn	10 15 49.7	+0.8
ABRA				*e*S	Sn	10 15 58.6	+4.7
APYP	**Conner**	**0.69**	**87**	*e*P	Pb	10 15 54.2	-0.2
APYP				*e*S	Sn	10 16 05.8	+1.2

DJA 06 10:27:26.1±0.4, 0°.5S±5°×112°.4E±°, h82km±10km, M4.0/6, mb4.4/1, mB4.6/1, MLv3.8/6, Mw(mB)3.8/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**339**	P	Pn	10 27 44.3	+1.1
KMSI				S	Sn	10 27 57.0	+1.0
LUWI	**Luwuk**	**1.72**	**241**	P	Pn	10 27 56.0	+1.7
LUWI				S	Sn	10 28 17.8	+2.1
MRSI	**Marisa**	**2.42**	**286**	P	Pn	10 28 04.0	+0.3
MRSI				S	Sn	10 28 34.1	+1.5
LBMI	**Labuha**	**3.26**	**98**	P	Pn	10 28 14.5	-0.5
LBMI				S	Sn	10 28 54.2	+1.4
TTSI	**Tana Toraja**	**5.27**	**238**	P	Pn	10 28 43.5	+1.1
TTSI				S	Sn	10 29 42.2	+0.3
MSAI	**Masohi**	**5.61**	**124**	P	Pn	10 28 46.8	-0.2

*IDC **06** 10:34:18.0±2.1, 56°.79N×152°.41W, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.8/29, mbtmp4.0/10, ML4.1/3, Error ellipse: s-maj=44.3km s-min=19.0km az=161.0*
*ISCJB **06** 10:34:26.0±0.4, 57°.57N±0°.03×152°.10W±0°.05, h57km±5km, mb3.9/7, Error ellipse: s-maj=5.6km s-min=3.6km az=153.0*
*NEIC **06** 10:34:27.8, 57°.52N×152°.18W, h49km, ML3.7(AEIC), After AEIC.*
NEIC Felt at Kodiak.
ISC 06 10:34:26.6±0.9, 57°.53N±0°.05×152°.14W±0°.04, h42km±10km, n89, σ1≬20/109, mb3.9/7, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.35**	**317**	P	**Pn**	**10 34 36.7**	**+1.1**
KDAK				S	**Sn**	**10 34 43.6**	**+1.7**
OHAK	**Old Harbor**	**0.70**	**244**	P	**Pn**	**10 34 40.3**	**+0.3**
OHAK				S	**Sn**	**10 34 49.8**	**+0.1**
SII	**Sitkinak Islan**	**1.48**	**230**	P	**Pn**	**10 34 51.0**	**+0.2**
SII				S	**Sn**	**10 35 09.0**	**+0.1**
KAPH	**Katmai Pasha**	**1.59**	**313**	P	**Pn**	**10 34 53.1**	**+0.8**
KAPH				S	**Sn**	**10 35 11.2**	**-0.5**
KABR	**Katmai Barrier**	**1.63**	**293**	P	**Pn**	**10 34 53.5**	**+0.6**
KABR				S	**Sn**	**10 35 12.4**	**-0.3**
KAKN	**Katmai Knife C**	**1.74**	**298**	P	**Pn**	**10 34 55.0**	**+0.6**
KAKN				S	**Sn**	**10 35 15.3**	**-0.1**
KCE	**Katmai Mt Cerb**	**1.78**	**295**	P	**Pn**	**10 34 56.1**	**+1.2**
KVTA	**Katmai Vly 10**	**1.89**	**298**	P	**Pn**	**10 34 57.3**	**+0.9**
KAHC	**Katmai Hardscr**	**1.90**	**308**	P	**Pn**	**10 34 57.2**	**+0.7**
KAHC				S	**Sn**	**10 35 19.3**	**+0.1**
AUP	**Augustine Pinn**	**1.96**	**340**	P	**Pn**	**10 34 58.8**	**+1.3**
AUH	**Augustine H**	**1.97**	**340**	P	**Pn**	**10 34 58.8**	**+1.4**
MCNL	**McNeil River**	**2.03**	**326**	P	**Pn**	**10 34 58.9**	**+0.6**
KELA	**Mount Kelaz**	**2.13**	**297**	P	**Pn**	**10 35 00.3**	**+0.6**
HOM	**Homer**	**2.15**	**7**	P	**Pn**	**10 35 01.3**	**+1.4**
HOM				S	**Sn**	**10 35 25.9**	**+0.5**
OPT	**Oil Point**	**2.21**	**345**	P	**Pn**	**10 35 02.2**	**+1.4**
PLK3	**Peulik 3**	**2.23**	**276**	P	**Pn**	**10 35 01.6**	**+0.6**
PLK4	**Peulik 4**	**2.28**	**274**	P	**Pn**	**10 35 02.1**	**+0.4**
BRLK	**Bradley Lake**	**2.34**	**16**	P	**Pn**	**10 35 02.9**	**+0.4**
ILW	**Iliamna West**	**2.59**	**349**	P	**Pn**	**10 35 06.9**	**+0.7**
ILW				S	**Sn**	**10 35 36.0**	**-0.5**
SEW	**Seward**	**2.94**	**27**	P	**Pn**	**10 35 10.7**	**0.0**
RSO	**Redoubt South**	**2.96**	**354**	*e*Pn	**Pn**	**10 35 10.4**	**-0.8**
RSO				*e*Sn	**Sn**	**10 35 43.9**	**-1.7**
RDN	**Redoubt North**	**3.01**	**354**	P	**Pn**	**10 35 12.8**	**+0.9**
NCT	**North Crescent**	**3.07**	**353**	P	**Pn**	**10 35 13.3**	**+0.6**
DFR	**Drift River**	**3.09**	**355**	P	**Pn**	**10 35 14.1**	**+1.2**
SLKM	**Skilak Lake**	**3.15**	**18**	P	**Pn**	**10 35 13.9**	**+0.2**
MID	**Middleton Isla**	**3.59**	**56**	P	**Pn**	**10 35 20.2**	**+0.6**
CKL	**Chakachamna La**	**3.68**	**358**	P	**Pn**	**10 35 21.8**	**+0.7**
BGL	**Barrier Glacie**	**3.75**	**358**	P	**Pn**	**10 35 23.0**	**+1.0**
RC01	**Rabbit Creek A**	**3.78**	**18**	P	**Pn**	**10 35 22.7**	**+0.4**
CGLM	**Capps Glacier**	**3.79**	**1**	P	**Pn**	**10 35 23.5**	**+0.9**
PWL	**Port Wells**	**3.87**	**29**	P	**Pn**	**10 35 23.8**	**+0.3**
STLK	**Strandline Lak**	**3.99**	**2**	P	**Pn**	**10 35 26.3**	**+1.1**
SVW2	**Sparrevohn**	**3.99**	**335**	P	**Pn**	**10 35 25.3**	**+0.1**
SUA	**Susitna One**	**4.01**	**10**	P	**Pn**	**10 35 25.6**	**0.0**
VNHG	**Veniaminof 1**	**4.07**	**254**	P	**Pn**	**10 35 27.2**	**+0.8**
HIN	**Hinchinbrook I**	**4.10**	**43**	P	**Pn**	**10 35 27.1**	**+0.4**
GLI	**Glacier Island**	**4.24**	**36**	P	**Pn**	**10 35 28.4**	**-0.2**
PMR	**Palmer**	**4.35**	**19**	P	**Pn**	**10 35 29.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.48**	**45**	P	**Pn**	**10 35 32.1**	**+0.3**
JPK	**Jack Peak**	**4.54**	**36**	P	**Pn**	**10 35 33.1**	**+0.4**
SGAM	**Sherman Glacie**	**4.66**	**47**	P	**Pn**	**10 35 35.6**	**+1.3**
VLZ	**Valdez**	**4.68**	**37**	P	**Pn**	**10 35 35.3**	**+0.7**
DIV	**Divide**	**4.86**	**39**	P	**Pn**	**10 35 37.9**	**+0.7**
GOAT	**Goat Mountain**	**4.90**	**48**	P	**Pn**	**10 35 38.9**	**+1.2**
SCM	**Sheep Creek Mo**	**4.96**	**27**	P	**Pn**	**10 35 39.5**	**+0.9**
SDPT	**Sand Point**	**5.12**	**248**	*e*Pn	**Pn**	**10 35 42.0**	**+1.4**
SDPT				*e*Sn	**Sn**	**10 36 36.8**	**-1.5**
BMRM	**Bremner River**	**5.18**	**45**	P	**Pn**	**10 35 42.1**	**+0.6**
PPLA	**Purkeypile**	**5.39**	**360**	*e*Pn	**Pn**	**10 35 43.8**	**-0.7**
	59nm,0.9s						
PPLA				*e*Sn	**Sn**	**10 36 44.2**	**-1.0**
TT01	**Tatalina**	**5.73**	**342**	P	**Pn**	**10 35 48.7**	**-0.3**
GLB	**Gilahina Butte**	**5.78**	**44**	P	**Pn**	**10 35 50.2**	**+0.5**
TRF	**Thorofare Moun**	**6.01**	**8**	P	**Pn**	**10 35 53.5**	**+0.5**
HARP	**HAARP**	**6.02**	**33**	P	**Pn**	**10 35 54.3**	**+1.3**
KTH	**Kantishna Hill**	**6.08**	**5**	*e*Pn	**Pn**	**10 35 53.9**	**0.0**
	15nm,0.6s						
KTH				*e*Sn	**Sn**	**10 37 00.8**	**-1.2**
RND	**Reindeer**	**6.12**	**14**	P	**Pn**	**10 35 54.7**	**+0.3**
CHX	**Chaix Hills**	**6.26**	**61**	P	**Pn**	**10 35 58.1**	**+1.7**
PAX	**Paxson**	**6.39**	**28**	P	**Pn**	**10 35 59.1**	**+1.0**
MCK	**McKinley**	**6.42**	**13**	P	**Pn**	**10 35 58.9**	**+0.4**
FALS	**False Pass**	**6.84**	**252**	*e*Pn	**Pn**	**10 36 02.8**	**-1.5**
FALS				*e*Sn	**Sn**	**10 37 18.7**	**-1.9**
MENT	**Mentasta**	**6.85**	**34**	*e*Pn	**Pn**	**10 36 04.8**	**+0.4**
WRH	**Wood River Hil**	**7.24**	**14**	P	**Pn**	**10 36 09.3**	**-0.4**
COLA	**College**	**7.65**	**14**	*e*Pn	**Pn**	**10 36 14.8**	**-0.5**
	11nm,0.4s						
ILAR	**Eielson Array**	**7.70**	**17**	Pn	**Pn**	**10 36 15.6**	**-0.3**
ILAR				Sn	Sn	10 37 35.8	-5.9
ILAR	**Eielson Array**	**7.70**	**17**	Pn	**Pn**	**10 36 15.6**	**-0.3**
	2.0nm,0.3s,baz=201,slow=14,SNR=78						
ILAR				Sn	Sn	10 37 35.8	-5.9
	2.6nm,0.3s,baz=208,slow=23,SNR=11						
HYT	**Haines Junctio**	**8.21**	**60**	*e*Pn	**Pn**	**10 36 24.5**	**+1.4**
HYT				*e*Sn	**Sn**	**10 37 50.8**	**-3.6**
IM04	**Indian Mountai**	**8.51**	**355**	*e*Pn	**Pn**	**10 36 27.0**	**-0.2**
EGAK	**Eagle**	**8.99**	**31**	*e*Pn	**Pn**	**10 36 34.6**	**+0.9**
	7.2nm,0.5s						
EGAK				*e*Sn	**Sn**	**10 38 11.6**	**-1.8**
SKAG	**Skagway**	**9.01**	**71**	*e*Pn	**Pn**	**10 36 35.7**	**+1.8**
	17nm,0.6s						
SKAG				Sn	**Sn**	**10 38 15.8**	**+1.9**
DAWY	**Dawson**	**9.03**	**38**	*e*Pn	**Pn**	**10 36 35.4**	**+1.1**
COLD	**Coldfoot**	**9.78**	**4**	*e*Pn	**Pn**	**10 36 44.0**	**-0.4**
COLD				*e*Sn	**Sn**	**10 38 28.3**	**-4.3**
DLBC	**Dease Lake**	**11.76**	**76**	Pn	**Pn**	**10 37 13.4**	**+1.8**
DLBC				Sn	**Sn**	**10 39 19.0**	**-2.3**
DLBC	**Dease Lake**	**11.76**	**76**	Pn	**Pn**	**10 37 13.4**	**+1.8**
	0.8nm,0.3s,baz=260,slow=11,SNR=13						
DLBC				Sn	**Sn**	**10 39 19.0**	**-2.3**
	0.3nm,0.3s,baz=195,slow=20,SNR=3.7						
INK	**Inuvik**	**13.66**	**30**	*e*Pn	**Pn**	**10 37 37.6**	**+0.3**
	3.3nm,0.9s						
INK	**Inuvik**	**13.66**	**30**	Pn	**Pn**	**10 37 37.9**	**+0.6**
	0.1nm,0.3s,baz=226,slow=11,SNR=16						
YKA	**Yellowknife Ar**	**19.20**	**59**	P	**Pn**	**10 38 48.1**	**+0.5**
YKA	**Yellowknife Ar**	**19.20**	**59**	P	**Pn**	**10 38 48.1**	**+0.5**
	0.3nm,0.3s,baz=272,slow=10,SNR=34						
SEY	**Seymchan**	**27.30**	**305**	P	**P**	**10 40 06.5**	**-0.2**
SEY	**Seymchan**	**27.30**	**305**	P	**P**	**10 40 06.5**	**-0.2**
	1.0nm,0.5s,baz=80,slow=17,SNR=8.8						
PETK	**Petropavlovsk-**	**28.34**	**283**	P	**P**	**10 40 15.0**	**-1.2**
PETK	**Petropavlovsk-**	**28.34**	**283**	P	**P**	**10 40 15.0**	**-1.2**
	1.8nm,1.0s,baz=61,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**53.23**	**1**	P	**P**	**10 43 42.2**	**+2.2**
ARCES	**ARCESS Array B**	**53.23**	**1**	P	**P**	**10 43 42.2**	**+2.2**
	6.3nm,1.0s,baz=9.2,slow=7.3,SNR=5.1						
SONM	**Songino Array**	**56.64**	**308**	P	**P**	**10 44 05.3**	**+0.2**
SONM	**Songino Array**	**56.64**	**308**	P	**P**	**10 44 05.3**	**+0.2**
	0.9nm,0.5s,baz=49,slow=7.6,SNR=7.0						
ZALV	**Zalesovo Beam**	**59.65**	**325**	P	**P**	**10 44 26.2**	**+0.4**
ZALV	**Zalesovo Beam**	**59.65**	**325**	P	**P**	**10 44 26.3**	**+0.4**
	0.4nm,0.4s,baz=28,slow=6.5,SNR=2.8						
FINES	**FINESS Array B**	**61.36**	**1**	P	**P**	**10 44 40.3**	**+2.9**
FINES	**FINESS Array B**	**61.36**	**1**	P	**P**	**10 44 40.3**	**+2.9**
	0.5nm,0.3s,baz=4.9,slow=9.3,SNR=9.5						
MKAR	**Makanchi Array**	**66.66**	**323**	P	**P**	**10 45 12.2**	**-0.2**
MKAR	**Makanchi Array**	**66.66**	**323**	P	**P**	**10 45 12.2**	**-0.2**
	0.3nm,0.5s,baz=38,slow=6.4,SNR=6.6						

*IDC **06** 10:39:09.2±0.5, 58°.57S×24°.94W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/21, mbtmp4.4/14, ML4.6/1, MS3.6/3, Ms1 3.7/3, ms1mx3.5/19, Error ellipse: s-maj=19.2km s-min=15.9km az=53.0*
*ISCJB **06** 10:39:11.7±0.5, 58°.56S±0°.08×24°.9W±0°.1, h28km, mb4.5/18, MS4.0/1, Error ellipse: s-maj=12.2km s-min=9.4km az=42.2*
*NEIC **06** 10:39:14.5±0.2, 58°.61S×24°.91W, h35km, mb4.6/3, Error ellipse: s-maj=9.2km s-min=6.3km az=39.0*
ISC 06 10:39:13.4±0.4, 58°.59S±0°.09×24°.88W±0°.1, h28km, n77, σ0≬76/72, mb4.5/18, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.74**	**299**	Pn	**Pn**	**10 41 04.7**	**+0.7**
SNAA	**Sanae**	**15.91**	**154**	Pn	**Pn**	**10 42 54.3**	**-0.7**
	1.0nm,0.4s						
SNAA				Sn	Sn	10 45 36.6	-14
SNAA	**Sanae**	**15.91**	**154**	Pn	**Pn**	**10 42 54.3**	**-0.7**
	2.3nm,0.3s,baz=328,slow=14,SNR=44						
SNAA				Sn	Sn	10 45 36.6	-14
	0.1nm,0.3s,baz=320,slow=17,SNR=2.9						
SNAA				LR	LR	10 46 47.1	
	comp=Z,80nm,20.2s,baz=207,slow=29						
PMSA	**Palmer Station**	**19.32**	**235**	LR	LR	10 49 03.3	
	comp=Z,187nm,20.5s,baz=256,slow=31						
EFI	**East Falkland**	**20.03**	**276**	*e*P	Pn	10 43 44.5	-1.1
	32nm,1.0s						
USHA	**Ushuaia**	**23.88**	**260**	P	**P**	**10 44 24.2**	**+0.1**
USHA	**Ushuaia**	**23.88**	**260**	P	**P**	**10 44 24.2**	**+0.1**
	9.8nm,0.7s,baz=103,slow=14,SNR=5.1						
TRQA	**Tornquist**	**31.49**	**294**	*e*P	**P**	**10 45 32.5**	**0.0**
	70nm,2.3s						
QSPA	**South Pole Qui**	**31.66**	**180**	P	**P**	**10 45 34.5**	**+0.5**
QSPA	**South Pole Qui**	**31.66**	**180**	P	**P**	**10 45 34.5**	**+0.5**
	6.2nm,0.6s,baz=206,slow=6.1,SNR=18						
PLCA	**Paso Flores**	**33.71**	**282**	P	**P**	**10 45 50.9**	**-1.1**
PLCA	**Paso Flores**	**33.71**	**282**	P	**P**	**10 45 50.9**	**-1.1**
	5.6nm,0.9s,baz=137,slow=10,SNR=9.8						
CPUP	**Villa Florida**	**39.42**	**311**	P	**P**	**10 46 40.9**	**+0.3**
CPUP	**Villa Florida**	**39.42**	**311**	P	**P**	**10 46 40.9**	**+0.3**
	1.0nm,0.4s,baz=155,slow=3.8,SNR=4.6						
CFAA	**Coronel Fontan**	**39.72**	**294**	P	**P**	**10 46 44.0**	**+0.8**
CFAA				PcP	**PcP**	**10 48 48.9**	**-0.4**
CFAA	**Coronel Fontan**	**39.72**	**294**	P	**P**	**10 46 44.0**	**+0.8**
	0.6nm,0.7s,baz=144,slow=8.6,SNR=8.3						
CFAA				PcP	**PcP**	**10 48 48.9**	**-0.4**
	0.5nm,0.4s,baz=138,slow=2.4,SNR=5.4						
VNDA	**Vanda**	**44.09**	**182**	P	**P**	**10 47 19.6**	**+1.4**
VNDA	**Vanda**	**44.09**	**182**	P	**P**	**10 47 19.6**	**+1.4**
	10nm,0.9s,baz=185,slow=5.4,SNR=12						
VNDA				LR	LR	11 04 14.8	
	comp=Z,191nm,18.5s,baz=276,slow=34						
BDFB	**Brasilia**	**46.19**	**328**	P	**P**	**10 47 36

MENT			*e*PKPab	**PKPab**	**10 59 08.3**	**-0.7**
DOT	**Dot Lake**	**151.20 306**	*e*PKPbc	**PKPbc**	**10 59 03.2**	**+0.8**
PAX	**Paxson**	**151.58 304**	*e*PKPbc	**PKPbc**	**10 59 03.5**	**+0.2**
ILAR	**Eielson Array**	**152.70 308**	PKPbc	**PKPbc**	**10 59 06.0**	**+0.2**
ILAR	**Eielson Array**	**152.70 308**	PKPbc	**PKPbc**	**10 59 06.0**	**+0.2**
	5.4nm,0.4s,baz=139,slow=2.1,SNR=108					
PMR	**Palmer**	**152.76 300**	*e*PKPbc	**PKPbc**	**10 59 06.3**	**+0.5**
MCK	**McKinley**	**153.30 305**	*e*PKPbc	**PKPbc**	**10 59 07.6**	**+0.5**
TRF	**Thorofare Moun**	**153.81 304**	*e*PKPbc	**PKPbc**	**10 59 08.6**	**+0.1**
KTH	**Kantishna Hill**	**154.12 304**	*e*PKPbc	**PKPbc**	**10 59 09.4**	**+0.5**

*IDC **06** 11:16:30.4±2.0, 0.°54N×125.°59E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, Error ellipse: s-maj=223.8km s-min=24.6km az=64.0*
*ISCJB **06** 11:16:36.3±0.7, 0.°7N±0.°1×125.°76E±0.°05, h44km, mb3.8/4, Error ellipse: s-maj=19.0km s-min=6.5km az=0.5*
*DJA **06** 11:16:36.3±0.6, 1.°N±8.°×12.°6E±.°, h80km±17km, M3.9/7, MLv3.9/7*

ISC 06 11:16:37.1±1.0, 0.°7N±0.°1×125.°79E±0.°04, h44km, n11, σ2s10/14, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.58**	**89**	P	**Pn**	**11 17 03.8**	**+1.2**
TNTI				S	**Sn**	**11 17 22.7**	**+0.9**
KMSI	**Cibinong**	**1.81**	**265**	P	**Pn**	**11 17 06.1**	**+0.3**
KMSI				S	**Sn**	**11 17 30.9**	**+3.2**
LBMI	**Labuha**	**2.19**	**128**	P	**Pn**	**11 17 11.8**	**+0.8**
LBMI				S	**Sn**	**11 17 40.9**	**+4.0**
GTOI	**Gorontalo**	**2.78**	**268**	P	**Pn**	**11 17 20.9**	**+1.8**
LUWI	**Luwuk**	**3.49**	**240**	P	**Pn**	**11 17 29.8**	**+0.9**
MRSI	**Marisa**	**3.86**	**266**	P	**Pn**	**11 17 33.6**	**-0.3**
APSI	**Ampana**	**4.45**	**248**	P	**Pn**	**11 17 42.4**	**+0.3**
WRA	**Warramunga Arr**	**22.19**	**158**	P	**P**	**11 21 26.7**	**-3.0**
	1.4nm,0.5s,baz=336,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**25.50**	**163**	P	**P**	**11 21 59.8**	**-1.7**
	2.3nm,0.6s,baz=344,slow=12,SNR=26						
STKA	**Stephens Creek**	**35.72**	**157**	P	**P**	**11 23 30.1**	**-1.5**
	1.5nm,0.3s,baz=321,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**59.50**	**327**	P	**P**	**11 26 35.7**	**-0.1**
	0.2nm,0.4s,baz=125,slow=8.3,SNR=5.2						

*IDC **06** 11:19:40.6±13.0, 21.°39N×143.°18E, h239km±129km, mb3.0/7, mb1 3.3/7, mb1mx3.0/26, mbtmp3.0/7, Error ellipse: s-maj=29.1km s-min=24.5km az=99.0*
*ISCJB **06** 11:19:46.4±0.9, 21.°3N±0.°2×143.°1E±0.°3, h311km, mb3.2/7, Error ellipse: s-maj=35.3km s-min=24.4km az=11.2*

ISC 06 11:19:47.8±1.0, 21.°3N±0.°2×143.°1E±0.°3, h311km, n7, σ0s60/8, mb3.2/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.61**	**192**	P	**P**	**11 27 37.9**	**-0.1**
	0.4nm,0.9s,baz=14,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**54.91**	**313**	P	**P**	**11 28 46.7**	**-0.3**
	0.2nm,0.5s,baz=92,slow=7.4,SNR=4.0						
MKAR				PcP	**PcP**	**11 29 45.6**	**+0.8**
	0.2nm,0.6s,baz=100,slow=3.2,SNR=2.8						
ILAR	**Eielson Array**	**62.39**	**27**	P	**P**	**11 29 37.2**	**-0.6**
	0.3nm,0.6s,baz=268,slow=4.8,SNR=3.9						
YKA	**Yellowknife Ar**	**76.81**	**28**	P	**P**	**11 31 05.7**	**+0.4**
	0.3nm,0.5s,baz=288,slow=5.9,SNR=7.1						
ARCES	**ARCESS Array B**	**79.26**	**342**	P	**P**	**11 31 19.2**	**+0.5**
	1.6nm,0.8s,baz=51,slow=4.7,SNR=5.8						
NVAR	**Mina Array Bea**	**83.42**	**51**	P	**P**	**11 31 41.3**	**+0.1**
	0.3nm,0.8s,baz=270,slow=6.3,SNR=2.8						
FINES	**FINESS Array B**	**83.50**	**334**	P	**P**	**11 31 40.3**	**-0.5**
	1.5nm,0.9s,baz=60,slow=5.5,SNR=4.1						

MAN 06 11:37:28, 6.°70N×125.°75E, h32km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.45**	**328**	*e*P	Pn	11 37 42.0	+3.7
DMPH				*e*S	Sn	11 37 59.5	+14
MATI	**Mati**	**0.56**	**64**	*e*P	Pn	11 37 40.7	+0.9
MATI				*e*S	Sn	11 37 56.7	+8.7
GSPH	**General Santos**	**1.00**	**233**	*e*P	Pn	11 37 43.1	-2.9
GSPH				*e*S	Sb	11 38 01.7	+1.7
BUKP	**Musuan**	**1.36**	**330**	*e*P	Pn	11 37 51.3	+0.5
BUKP				*e*S	Sb	11 38 15.2	+5.1

*ISCJB **06** 12:06:56.2±0.4, 35.°32N±0.°09×136.°80E±0.°07, h300km, mb3.1/6, Error ellipse: s-maj=11.9km s-min=7.3km az=169.6*
*IDC **06** 12:06:56.5±0.7, 35.°36N×136.°81E, h304km±7km, mb2.9/6, mb1 3.0/8, mb1mx2.9/28, mbtmp2.9/8, Error ellipse: s-maj=17.6km s-min=16.0km az=64.0*
*JMA **06** 12:06:56.2±0.3, 35.°46N×136.°84E, h312km±3km, M3.1*

ISC 06 12:06:56.5±0.8, 35.°36N±0.°09×136.°82E±0.°07, h300km, n20, σ0s96/25, mb3.0/6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGM	**Miyama**	**0.34**	**346**	P	**Pn**	**12 07 35.8**	**+1.1**
JIE	**Ise**	**0.97**	**186**	P	**Pn**	**12 07 38.7**	**+1.9**
JKG	**Kaga**	**0.99**	**337**	P	**Pn**	**12 07 37.4**	**+0.7**
JWT	**Wachi**	**1.16**	**266**	P	**Pn**	**12 07 38.8**	**+1.2**
JYN	**Shimob**	**1.41**	**84**	P	**Pn**	**12 07 40.3**	**+1.1**
JWY	**Kouya**	**1.52**	**222**	P	**Pn**	**12 07 41.5**	**+1.5**
MAT	**Matsushiro**	**1.63**	**43**	P	**Pn**	**12 07 41.1**	**+0.7**
MAT				S	**S**	**12 08 16.0**	**+0.5**
MAT	**Matsushiro**	**1.63**	**43**	P	**Pn**	**12 07 41.1**	**+0.7**
MAT				S	**S**	**12 08 15.8**	**+0.3**
MJAR	**Matsushiro Arr**	**1.63**	**43**	P	**Pn**	**12 07 40.9**	**+0.5**
	2.9nm,0.3s,baz=221,slow=7.1,SNR=32						
MJAR				S	**S**	**12 08 16.8**	**+1.3**
	0.9nm,0.3s,baz=234,slow=11,SNR=9.8						
JRY	**Ryogami san**	**1.81**	**68**	P	**Pn**	**12 07 42.7**	**+0.9**
JRY				S	**S**	**12 08 19.3**	**+1.4**
JAI	**Aioi**	**2.51**	**232**	P	**Pn**	**12 07 48.8**	**+1.2**
BSO1	**Boso 1**	**3.49**	**101**	P	**Pn**	**12 07 55.7**	**-0.9**
BSO1				*e*S	**S**	**12 08 44.1**	**-0.6**
JNU	**Nakatsue**	**5.41**	**247**	P	**Pn**	**12 08 18.6**	**-0.1**
	1.0nm,0.3s,baz=58,slow=4.9,SNR=8.3						
KSRS	**Korea Array**	**7.47**	**289**	P	**Pn**	**12 08 44.0**	**+0.5**
	0.1nm,0.3s,baz=100,slow=13,SNR=5.3						
SONM	**Songino Array**	**25.76**	**308**	P	**P**	**12 12 00.1**	**-0.3**
	0.8nm,0.7s,baz=113,slow=9.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**40.34**	**314**	P	**P**	**12 14 04.8**	**-0.5**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**41.88**	**303**	P	**P**	**12 14 17.3**	**-0.6**
	0.4nm,0.6s,baz=95,slow=9.1,SNR=6.2						
WRA	**Warramunga Arr**	**55.05**	**183**	P	**P**	**12 15 57.1**	**-0.7**
	0.6nm,0.3s,baz=358,slow=7.6,SNR=5.9						
ASAR	**Alice Springs**	**58.77**	**183**	P	**P**	**12 16 23.4**	**-0.3**
	0.3nm,0.7s,baz=354,slow=5.7,SNR=5.8						
YKA	**Yellowknife Ar**	**67.08**	**29**	P	**P**	**12 17 17.2**	**-0.4**
	0.1nm,0.4s,baz=296,slow=6.4,SNR=3.6						

*CSEM **06** 12:21:57.8, 36.°95N×37.°36E, h7km, MD2.8, After DDA*

DDA 06 12:21:57.8, 36.°95N×37.°36E, h7km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.44**	**22**	*i* P	Pg	12 22 05.4	-1.2
GZT				*i* S	Sb	12 22 25.9	+11
ATAB	**Bozova**	**0.91**	**55**	*i* P	Pb	12 22 16.1	0.0
ATAB				*i* S	Sb	12 22 28.8	+0.4
ATAB	**Bozova**	**0.91**	**55**	*i* P	Pb	12 22 16.1	+0.1
ATAB				*i* S	Sb	12 22 28.8	+0.4
AKCD	**Akcadag**	**1.42**	**18**	*i* P	Pb	12 22 24.7	-0.1
AKCD				*i* S	Sg	12 22 44.4	+0.6
AKCD	**Akcadag**	**1.42**	**18**	*i* P	Pb	12 22 24.7	-0.1
AKCD				*i* S	Sg	12 22 44.4	+0.6

*ISK **06** 12:22:32.8, 39.°47N×33.°04E, h7km, MD2.7*
*ISCJB **06** 12:22:33.1±0.6, 39.°42N±0.°03×33.°02E±0.°04, h4km±4km, Error ellipse: s-maj=5.5km s-min=4.6km az=38.5*
*CSEM **06** 12:22:33.1±0.1, 39.°44N×33.°04E, h5km, MD2.6, Error ellipse: s-maj=3.3km s-min=3.0km az=42.0*
*DDA **06** 12:22:35.0, 39.°56N×33.°14E, h8km, MD2.6*

ISC 06 12:22:33.2±0.9, 39.°45N±0.°03×33.°05E±0.°03, h7km±4km, n30, σ0s49/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFSR	**Afʼar-Bala (A**	**0.02**	**110**	*e*PG	**Pg**	**12 22 34.3**	**-0.4**
AFSR				*e*SG	**Sg**	**12 22 35.9**	**+0.1**
AFSR	**Afʼar-Bala (A**	**0.02**	**110**	*e*Pg	**Pg**	**12 22 34.3**	**-0.4**
AFSR				*e*Sg	**Sg**	**12 22 35.9**	**+0.2**
BBAL	**Bala**	**0.11**	**32**	*i* P	**Pg**	**12 22 36.2**	**+0.5**
BBAL				*i* S	**Sg**	**12 22 38.3**	**+0.8**
BBAL	**Bala**	**0.11**	**32**	*i* P	**Pg**	**12 22 36.2**	**+0.5**
BBAL				*i* S	**Sg**	**12 22 38.3**	**+0.8**
ANTO	**Ankara**	**0.46**	**335**	*e*PG	**Pg**	**12 22 41.5**	**-0.7**
ANTO				*e*SG	**Sg**	**12 22 48.7**	**+0.5**
ANTO	**Ankara**	**0.46**	**335**	*e*Pg	**Pg**	**12 22 41.5**	**-0.7**
ANTO				*e*Sg	**Sg**	**12 22 48.7**	**+0.5**
KAMT	**Kaman**	**0.52**	**99**	*e*PG	**Pg**	**12 22 43.1**	**-0.2**
KAMT				*e*SG	**Sb**	**12 22 51.7**	**-0.8**
KAMT	**Kaman**	**0.52**	**99**	*e*Pg	**Pg**	**12 22 43.1**	**-0.2**
KAMT				*e*Sg	**Sb**	**12 22 51.7**	**-0.8**
CDAG	**Cicekdag**	**1.04**	**80**	*i* P	**Pg**	**12 22 53.1**	**0.0**
CDAG				*i* S	**Sb**	**12 23 07.6**	**+0.3**
CDAG	**Cicekdag**	**1.04**	**80**	*i* P	**Pg**	**12 22 53.1**	**0.0**
CDAG				*i* S	**Sb**	**12 23 07.6**	**+0.3**
KIZT	**Kizilcal**	**1.07**	**238**	*e*PG	**Pg**	**12 22 54.0**	**+0.2**
KIZT	**Kizilcal**	**1.07**	**238**	*e*Pg	**Pg**	**12 22 54.0**	**+0.2**
ELDT	**Eldivan**	**1.08**	**15**	*i* P	**Pb**	**12 22 53.9**	**-0.3**
ELDT				*i* S	**Sn**	**12 23 09.7**	**-0.4**
ELDT	**Eldivan**	**1.08**	**15**	*i* P	**Pb**	**12 22 53.9**	**-0.3**
ELDT				*i* S	**Sn**	**12 23 09.7**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.18**	**270**	*e*PN	**Pg**	**12 22 55.6**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.18**	**270**	*e*Pn	**Pg**	**12 22 55.7**	**-0.2**
SULT	**Sultanhani-AKS**	**1.30**	**164**	*e*PN	**Pn**	**12 22 58.1**	**+0.2**
SULT	**Sultanhani-AKS**	**1.30**	**164**	*e*Pn	**Pn**	**12 22 58.1**	**+0.2**
LADK	**Ladik-KONYA**	**1.36**	**203**	*e*PN	**Pn**	**12 22 59.0**	**+0.3**
LADK	**Ladik-KONYA**	**1.36**	**203**	*e*Pn	**Pn**	**12 22 59.0**	**+0.3**
CORM	**Corum**	**1.42**	**59**	*e*PN	**Pn**	**12 22 59.4**	**-0.1**
CORM	**Corum**	**1.42**	**59**	*e*Pn	**Pn**	**12 22 59.4**	**-0.1**
BCAM	**Yenicaga**	**1.56**	**331**	*i* P	**Pg**	**12 23 02.7**	**-0.4**
BCAM				*i* S	**Sg**	**12 23 24.5**	**+1.2**
BCAM	**Yenicaga**	**1.56**	**331**	*i* P	**Pg**	**12 23 02.7**	**-0.4**
BCAM				*i* S	**Sg**	**12 23 24.5**	**+1.2**
KONT	**Konya--Tatoy**	**1.60**	**200**	*e*PN	**Pn**	**12 23 02.3**	**+0.4**
KONT	**Konya--Tatoy**	**1.60**	**200**	*e*Pn	**Pn**	**12 23 02.3**	**+0.4**
YOZ	**Yozgat**	**1.77**	**83**	*e*PN	**Pn**	**12 23 04.5**	**+0.3**
YOZ	**Yozgat**	**1.77**	**83**	*e*Pn	**Pn**	**12 23 04.6**	**+0.3**

MEX 06 12:31:39.3±0.3, 17.°05N×95.°84W, h27km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.85**	**272**	*e*P	Pn	12 31 53.0	-2.8
VHO				*i* S	Sb	12 32 03.8	-3.3
HUIG	**Huatulco**	**1.29**	**191**	*e*P	Pn	12 31 59.2	-2.4
HUIG				*i* S	Sn	12 32 14.6	-3.4
PNIG	**Pinotepa**	**2.28**	**254**	*e*P	Pn	12 32 12.5	-2.7
PNIG				*e*S	Sn	12 32 39.8	-2.7
TLIG	**Tlapa**	**2.65**	**282**	*i* P	Pn	12 32 18.9	-1.5
TLIG				*i* S	Sn	12 32 49.1	-2.8
PCIG		**2.85**	**118**	*e*P	Pn	12 32 23.4	+0.4
PCIG				*e*S	Sn	12 32 56.5	0.0
ARIG	**Puente Sto Nin**	**4.47**	**287**	*e*P	Pn	12 32 41.8	-3.5

*IDC **06** 13:13:35.2±0.8, 0.°90N×125.°88E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/21, mbtmp3.9/10, MS2.7/1, Ms1 2.7/1, ms1mx2.3/34, Error ellipse: s-maj=45.4km s-min=15.6km az=77.0*
*ISCJB **06** 13:13:41.0±0.5, 1.°12N±0.°05×126.°13E±0.°04, h44km, mb3.9/10, MS2.6/1, Error ellipse: s-maj=7.7km s-min=5.5km az=174.1*
*DJA **06** 13:13:42.9±1.4, 1.°N±10.°×12.°6E±.°, h18km±25km, M4.3/6, mb4.3/3, MLv4.3/6*

ISC 06 13:13:42.3±0.6, 1.°05N±0.°08×126.°15E±0.°04, h44km, n23, σ1s57/24, mb4.0/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.25**	**103**	P	**Pn**	**13 14 03.8**	**+0.4**
TNTI				S	**Sn**	**13 14 22.5**	**+3.4**
LBMI	**Labuha**	**2.15**	**141**	P	**Pn**	**13 14 16.6**	**+0.8**
LBMI				S	**Sn**	**13 14 42.9**	**+1.6**
KMSI	**Cibinong**	**2.21**	**258**	P	**Pn**	**13 14 17.3**	**+0.7**
KMSI				S	**Sn**	**13 14 42.5**	**-0.2**
GTOI	**Gorontalo**	**3.16**	**263**	P	Pn	13 14 33.1	+3.5
LUWI	**Luwuk**	**3.96**	**238**	P	**Pn**	**13 14 43.1**	**+2.5**
LUWI				S	**Sn**	**13 15 27.7**	**+1.9**
MRSI	**Marisa**	**4.24**	**262**	P	Pn	13 14 37.8	-6.6
APSI	**Ampana**	**4.90**	**247**	P	**Pn**	**13 14 55.8**	**+2.3**
TTSI	**Tana Toraja**	**7.52**	**237**	P	**Pn**	**13 15 29.6**	**+0.2**
	26nm,1.5s						
SPSI	**Sidrap Palu**	**8.09**	**232**	P	**Pn**	**13 15 38.5**	**+1.3**
	22nm,0.8s						
BNSI	**Bone**	**8.11**	**228**	P	**Pn**	**13 15 38.5**	**+1.0**
MYLDM	**Lahad Datu**	**8.67**	**298**	P	x	13 15 41.6	
WRA	**Warramunga Arr**	**22.35**	**159**	P	**P**	**13 18 34.7**	**-2.1**
	2.9nm,0.5s,baz=336,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.70**	**163**	P	**P**	**13 19 06.9**	**-1.6**
	2.1nm,0.3s,baz=345,slow=12,SNR=49						
ASAR				PcP	**PcP**	**13 22 38.1**	**-0.1**
	1.0nm,1.1s,baz=342,slow=2.6,SNR=4.5						
STKA	**Stephens Creek**	**35.87**	**157**	P	**P**	**13 20 36.6**	**-1.6**
	2.8nm,0.8s,baz=333,slow=8.0,SNR=4.7						
KSRS	**Korea Array**	**36.27**		LR	LR	13 36 09.7	
	comp=Z,10nm,19.8s,baz=30,slow=37						
MJAR	**Matsushiro Arr**	**37.04**	**16**	P	**P**	**13 20 48.3**	**+0.2**
	1.8nm,0.8s,baz=182,slow=10,SNR=3.9						
USRK	**Ussuriysk Arra**	**43.28**	**6**	P	**P**	**13 21 40.1**	**+0.4**
	1.2nm,0.5s,baz=180,slow=5.6,SNR=4.5						
SONM	**Songino Array**	**49.65**	**343**	P	**P**	**13 22 30.2**	**+0.5**
	0.3nm,0.5s,baz=168,slow=7.4,SNR=3.2						
PETK	**Petropavlovsk-**	**58.12**	**22**	P	**P**	**13 23 32.9**	**+1.5**
	2.7nm,0.8s,baz=189,slow=8.4,SNR=7.3						
MKAR	**Makanchi Array**	**59.43**	**326**	P	**P**	**13 23 39.8**	**-0.8**
	0.6nm,0.5s,baz=121,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**62.71**	**334**	P	**P**	**13 24 01.9**	**-0.7**
	0.4nm,0.5s,baz=151,slow=3.3,SNR=2.8						
ILAR	**Eielson Array**	**87.76**	**25**	P	**P**	**13 26 25.7**	**-0.7**
	0.5nm,1.1s,baz=265,slow=4.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.15**	**286**	PKP	**PKPdf**	**13 32 33.2**	**-2.0**
	0.6nm,1.0s,baz=40,slow=2.5,SNR=2.7						

*IDC **06** 13:20:25.3±1.1, 10.°45S×120.°49E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, ML3.5/3, Error ellipse: s-maj=59.1km s-min=20.5km az=65.0*
*ISCJB **06** 13:20:27.7±0.9, 10.°4S±0.°1×120.°9E±0.°2, h33km, mb3.7/4, Error ellipse: s-maj=28.4km s-min=8.9km az=140.1*

ISC 06 13:20:29.6±1.0, 10.°5S±0.°2×120.°9E±0.°2, h35km, n8, σ1s21/9, mb3.9/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.79**	**149**	Pn	Pn	13 22 37.7	+3.5
	0.4nm,0.3s,baz=60,slow=3.6,SNR=27						
FITZ				Sn	**Sn**	**13 24 11.8**	**-0.3**
	1.7nm,0.3s,baz=174,slow=20,SNR=17						
WRA	**Warramunga Arr**	**15.94**	**127**	Pn	**P**	**13 24 15.2**	**+0.5**
	0.2nm,0.3s,baz=296,slow=13,SNR=7.7						
WRA				Sn	**Sn**	**13 27 08.5**	**+1.4**
	0.2nm,0.3s,baz=295,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**17.98**	**138**	P	P	13 24 42.1	+5.0
	0.1nm,0.3s,baz=320,slow=13,SNR=11						
ASAR				S	**Sn**	**13 27 54.4**	**-2.2**
	0.2nm,0.3s,baz=304,slow=22,SNR=5.8						
NWAO	**Narrogin (SRO)**	**22.54**	**188**	P	**P**	**13 25 27.2**	**+0.6**
	3.3nm,0.8s,baz=15,slow=14,SNR=2.1						
NWAO				S	S	13 29 16.7	-15
	5.1nm,0.8s,baz=318,slow=14,SNR=4.1						
SONM	**Songino Array**	**59.53**	**349**	P	**P**	**13 30 29.8**	**+0.2**
	0.5nm,0.5s,baz=165,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**66.69**	**332**	P	**P**	**13 31 16.2**	**-0.7**
	0.2nm,0.3s,baz=144,slow=5.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**71.16**	**338**	P	**P**	**13 31 43.8**	**-0.7**
	0.7nm,0.6s,baz=131,slow=4.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**120.60**	**279**	PKP	**PKPdf**	**13 39 19.2**	**+0.6**
	0.3nm,0.6s,baz=23,slow=2.6,SNR=3.2						

IDC 06 13:46:52.2±1.2, 12.°35N×142.°08E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.4/4, Error ellipse: s-maj=57.8km s-min=23.7km az=96.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.98**	**193**	P	P	13 53 28.9	-0.1
	0.8nm,0.6s,baz=6.6,slow=9.4,SNR=8.6						
ASAR	**Alice Springs**	**36.68**	**193**	P	P	13 54 00.9	-0.1
	0.3nm,0.6s,baz=18,slow=13,SNR=7.3						
MKAR	**Makanchi Array**	**60.51**	**317**	P	P	13 57 04.5	+0.3
	0.3nm,0.7s,baz=111,slow=7.9,SNR=3.6						
ILAR	**Eielson Array**	**70.85**	**25**	P	P	13 58 10.4	-0.2
	0.2nm,0.8s,baz=246,slow=6.9,SNR=4.0						

WEL 06 14:00:47.5±0.1, 45.°07S×167.°40E, h88km±1km, ML3.8/13, 2C-3D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.45**	**203**	↑P	Pn	14 01 01.3	-0.3
DCZ				S	Sn	14 01 11.9	-0.2
DCZ				AML	AML	14 01 12.2	
DCZ				AML	AML	14 01 12.2	
DCZ				AML	AML	14 01 12.4	
MSZ	**Milford Sound**	**0.54**	**44**	↑P	Pn	14 01 02.3	-0.1
MSZ				S	Sn	14 01 13.1	-0.3
MSZ				AML	AML	14 01 14.1	
MSZ				AML	AML	14 01 14.1	
MSZ				AML	AML	14 01 14.2	
MLZ	**Mavora Lakes**	**0.61**	**118**	↓P	Pn	14 01 02.7	-0.3
MLZ				S	Sn	14 01 14.0	-0.7
MLZ				AML	AML	14 01 15.0	
WHZ	**Wether Hill Ro**	**0.91**	**155**	PN	Pn	14 01 05.9	-0.2
WHZ				S	Sn	14 01 19.5	-0.5
WHZ				AML	AML	14 01 20.7	
WKZ	**Wanaka**	**1.17**	**79**	PN	Pn	14 01 09.1	0.0
WKZ				AML	AML	14 01 26.3	
WKZ				AML	AML	14 01 26.3	
WKZ				AML	AML	14 01 29.4	
PYZ	**Puysegur Point**	**1.21**	**204**	PN	Pn	14 01 09.7	+0.1
PYZ				S	Sn	14 01 26.2	-0.1
EAZ	**Earnscleugh**	**1.36**	**98**	PN	Pn	14 01 11.1	-0.2
EAZ				AML	AML	14 01 12.0	
EAZ				AML	AML	14 01 30.3	
JCZ	**Jackson Bay**	**1.39**	**45**	PN	Pn	14 01 11.0	-0.8
JCZ				AML	AML	14 01 29.0	
JCZ				AML	AML	14 01 32.1	
TUZ	**Tuapeka**	**1.80**	**120**	PN	Pn	14 01 16.7	-0.2
TUZ				AML	AML	14 01 38.1	
TUZ				AML	AML	14 01 38.9	
APZ	**The Paps**	**1.81**	**167**	PN	Pn	14 01 17.0	-0.2
APZ				AML	AML	14 01 41.9	
APZ				AML	AML	14 01 42.4	
SYZ	**Scrubby Hill**	**1.91**	**141**	PN	Pn	14 01 18.0	-0.4
SYZ				AML	AML	14 01 42.6	
SYZ				AML	AML	14 01 44.8	
SYZ				AML	AML	14 01 45.3	
SYZ				AML	AML	14 04 00.3	
LBZ	**Lake Benmore**	**2.10**	**72**	↓P	Pn	14 01 19.2	-1.6
LBZ				AML	AML	14 01 43.8	
LBZ				AML	AML	14 01 44.4	
LBZ				AML	AML	14 01 44.5	
LBZ				AML	AML	14 01 44.6	
FOZ	**Fox Glacier**	**2.22**	**48**	PN	Pn	14 01 21.8	-0.7
FOZ				AML	AML	14 01 50.1	
FOZ				AML	AML	14 01 53.3	
FOZ				AML	AML	14 02 02.5	
ODZ	**Otahua Downs**	**2.30**	**91**	PN	Pn	14 01 22.3	-1.2
HHSZ	**Highcliff Hill**	**2.39**	**111**	PN	Pn	14 01 24.1	-0.7
RPZ	**Rata Peaks**	**2.94**	**64**	↓PN	Pn	14 01 29.7	-2.5
RPZ				AML	AML	14 02 03.3	
RPZ				AML	AML	14 02 04.0	
MQZ	**McQueen's Vall**	**4.00**	**72**	PN	Pn	14 01 43.7	-2.7
CRLZ	**Canterbury Las**	**4.03**	**70**	PN	Pn	14 01 44.5	-2.3
DSZ	**Denniston Hot**	**4.61**	**46**	PN	Pn	14 01 52.3	-2.6
THZ	**Tophouse**	**5.19**	**52**	PN	Pn	14 01 59.2	-3.5
QRZ	**Quartz Range**	**5.66**	**43**	PN	Pn	14 02 06.9	-2.3
NNZ	**Nelson**	**5.82**	**51**	PN	Pn	14 02 10.0	-1.2

IDC 06 14:17:24.6±1.0, 2.°15N×128.°72E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=59.2km s-min=18.1km az=74.0, Halmahera

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

GHIR Ghir-Karzin 2.07 292 ePn Pn 14 18 22.0 +0.7
GHIR Ghir-Karzin 2.07 292 ePg Pb 14 18 23.9 -1.2
GHIR eSg Sb 14 18 52.0 +1.5
comp=Z,6µm,0.6s
GHIR Ghir-Karzin 2.07 292 ePg Pb 14 18 23.9 -1.2
GHIR eSg Sb 14 18 52.0 +1.5
GHIR AML AML 14 19 09.7
comp=E,4µm,0.6s
GHIR AML AML 14 19 15.9
comp=N,6µm,0.6s
NAZ Nazwa, Dubai 2.56 170⇓eP Pb 14 18 30.9 -2.4
SNR=24
NAZ Nazwa, Dubai 2.56 170 P Pb 14 18 30.9 -2.4
SNR=24
ISRV Sarvestan 2.59 316 ePn Pn 14 18 29.7 +1.1
ISRV e 14 19 45.5
comp=Z,48µm,0.4s
ISRV Sarvestan 2.59 316 Pn Pn 14 18 29.3 +0.7
ISRV Sarvestan 2.59 316 ePn Pn 14 18 29.7 +1.1
FAQ Al Faqa, Dubai 2.79 172⇓eP Pb 14 18 33.9 -3.3
SNR=19
FAQ Al Faqa, Dubai 2.79 172 P Pb 14 18 33.9 -3.3
SNR=19
HATD Hatta, Dubai 2.82 162⇓eP Pn 14 18 33.8 +2.4
SNR=49
HATD Hatta, Dubai 2.82 162 P Pn 14 18 33.8 +2.4
SNR=49
KRBR Kerman 2.83 29 eP Pn 14 18 32.0 +0.1
KRBR eS Sn 14 19 07.0 +1.7
KRBR Kerman 2.83 29 eP Pn 14 18 32.0 +0.1
KRBR Kerman 2.83 29 ePn Pn 14 18 33.0 +1.1
comp=Z,2µm,0.6s
KRBR eS Sn 14 19 07.0 +1.7
KRBR Kerman 2.83 29 ePn Pn 14 18 33.0 +1.1
KRBR AML AML 14 19 21.6
comp=E,3µm,0.5s
KRBR AML AML 14 19 27.2
comp=N,2µm,0.6s
ASUD Al Ashush, Dub 2.88 177 iP Pb 14 18 35.9 -3.0
SNR=22
ASUD Al Ashush, Dub 2.88 177 P Pb 14 18 35.9 -3.0
SNR=22
ASHO Ashiyiah 2.93 164 P Pn 14 18 35.6 +2.5
SNR=255
ASHO ml 14 19 39.7
SNR=1185
ASHO Ashiyiah 2.93 164 P Pn 14 18 35.6 +2.5
SNR=255
IPAR Pars 2.97 322 ePn Pn 14 18 34.8 +1.0
IPAR e 14 19 26.4
comp=Z,20µm,0.4s
IPAR Pars 2.97 322 Pn Pn 14 18 34.5 +0.7
IPAR Pars 2.97 322 ePn Pn 14 18 34.8 +1.0
IMEH Mehriz 3.89 353 ePn Pn 14 18 47.6 +1.1
IMEH e 14 20 03.4
comp=Z,12µm,0.6s
IMEH Mehriz 3.89 353 Pn Pn 14 18 47.5 +1.1
IMEH Mehriz 3.89 353 ePn Pn 14 18 47.6 +1.1
IBAF Bafgh 4.08 5 ePn Pn 14 18 49.5 +0.6
IBAF e 14 18 50.5
comp=Z,7µm,0.2s
IBAF Bafgh 4.08 5 Pn Pn 14 18 50.1 +1.2
IBAF Bafgh 4.08 5 ePn Pn 14 18 49.5 +0.6
ARQ Araqi 4.34 163 P Pn 14 18 54.8 +2.4
SNR=24
ARQ Araqi 4.34 163 P Pn 14 18 54.8 +2.4
SNR=24
HOQ Hoqain 4.37 153 ⇑P Pn 14 18 52.3 -0.5
SNR=7.4
HOQ ml 14 20 11.2
SNR=89
HOQ Hoqain 4.37 153 P Pn 14 18 52.3 -0.5
SNR=7.4
ISAD Sadrabad 4.57 344 ePn Pn 14 18 57.9 +2.1
ISAD e 14 20 29.8
comp=Z,11µm,0.4s
ISAD Sadrabad 4.57 344 Pn Pn 14 18 56.5 +0.7
ISAD Sadrabad 4.57 344 ePn Pn 14 18 57.8 +2.1
ICHK Chekchek 4.76 352 ePn Pn 14 18 59.5 +1.1
ICHK e 14 20 43.5
comp=Z,7µm,0.4s
ICHK Chekchek 4.76 352 ePn Pn 14 18 59.5 +1.1
BIDO Bidbid 4.79 145 ⇑P Pn 14 19 00.0 +1.4
BIDO Bidbid 4.79 145 P Pn 14 19 00.0 +1.4
SLWS 4.88 237 P Pn 14 19 00.8 +1.0
baz=236
SLWS 4.88 237 P Pn 14 19 01.0 +1.2
CHBR Chabahar 5.13 111 ePn Pn 14 19 03.7 +0.4
CHBR Chabahar 5.13 111 ePn Pn 14 19 03.7 +0.4
SMDO Samad 5.15 149 ⇑P Pn 14 19 05.5 +1.9
SNR=44
SMDO ml 14 20 08.8
SNR=138
SMDO Samad 5.15 149 P Pn 14 19 05.5 +1.9
SNR=44
BTHS 5.20 229 S Sn 14 20 05.2 +1.8
baz=228
BTHS 5.20 229 P Pn 14 19 04.7 +0.4
baz=228
BTHS 5.20 229 P Pn 14 19 05.0 +0.8
BTHS S Sn 14 20 05.0 +1.6
ZHSF Zahedan 5.36 66 eP Pn 14 19 07.0 +0.4
ZHSF Zahedan 5.36 66 ePn Pn 14 19 07.0 +0.4
ZHSF Zahedan 5.36 66 ePn Pn 14 19 07.3 +0.7
ZHSF Zahedan 5.36 66 ePn Pn 14 19 07.3 +0.7
IGAR Gharneh 5.57 332 ePn Pn 14 19 10.0 +0.5
IGAR e 14 19 19.4
comp=E,281nm,0.1s
JMDO Jabal Madar 5.78 152 P Pn 14 19 14.0 +1.8
SNR=16
JMDO ml 14 21 21.0
SNR=98
IZEF Zefreh 5.90 336 ePn Pn 14 19 13.6 -0.4
IZEF e 14 19 41.5
comp=Z,1µm,0.4s
IZEF Zefreh 5.90 336 ePn Pn 14 19 13.6 -0.4
IKOO Kooshah 5.92 33 ePn Pn 14 19 15.4 +1.1
IKOO e 14 21 03.9
comp=Z,4µm,0.4s
IKOO Kooshah 5.92 33 ePn Pn 14 19 15.4 +1.1
WBK Wadi Bani Khal 5.98 144 ⇓P Pn 14 19 15.9 +0.9
SNR=18
ITEG Tejag 6.20 29 ePn Pn 14 19 18.8 +0.7
ITEG e 14 21 21.9
comp=Z,3µm,0.6s
ITEG Tejag 6.20 29 ePn Pn 14 19 18.8 +0.7
IPIR Pirpir 6.34 325 ePn Pn 14 19 20.0 -0.2
IPIR e 14 20 40.6
comp=N,4µm,0.3s
IPIR Pirpir 6.34 325 ePn Pn 14 19 20.0 -0.2
TABS Tabas 6.34 15 ePn Pn 14 19 21.0 +1.0
TABS Tabas 6.34 15 ePn Pn 14 19 21.0 +1.0
IKLH Kolahrood 6.56 333 ePn Pn 14 19 23.4 +0.3
IKLH e 14 21 46.1
comp=Z,3µm,0.6s
IKLH Kolahrood 6.56 333 ePn Pn 14 19 23.4 +0.3
IDAH Dahanechah 6.61 37 ePn Pn 14 19 25.0 +1.2
IDAH e 14 21 45.2
comp=Z,2µm,0.5s
IDAH Dahanechah 6.61 37 ePn Pn 14 19 25.0 +1.2
QAM Ghamsar 7.00 334 ePn Pn 14 19 31.0 +1.9
QAM Ghamsar 7.00 334 ePn Pn 14 19 31.0 +1.9
SHGR Shooshtar-Gavs 7.17 311 eP Pn 14 19 33.0 +1.7
SHGR Shooshtar-Gavs 7.17 311 ePn Pn 14 19 33.0 +1.7
SHGR Shooshtar-Gavs 7.17 311 ePn Pn 14 19 33.0 +1.7
SHRT Shahrakht 7.54 35 ePn Pn 14 19 37.7 +1.3
SHRT Shahrakht 7.54 35 ePn Pn 14 19 37.7 +1.3
IANJ Anjilo 8.00 353 ePn Pn 14 19 43.0 +0.1
IANJ Anjilo 8.00 353 ePn Pn 14 19 43.0 +0.1
IVRN Varamin 8.01 339 ePn Pn 14 19 43.2 +0.3
IVRN Varamin 8.01 339 ePn Pn 14 19 43.2 +0.3
IFIR Firoozkooh 8.36 346 ePn Pn 14 19 48.1 +0.3
IFIR e 14 27 06.5
comp=Z,259nm,0.0s
IFIR Firoozkooh 8.36 346 ePn Pn 14 19 48.1 +0.3
ISHM Shahmirzad 8.42 350 ePn Pn 14 19 48.2 -0.4
ISHM Shahmirzad 8.42 350 ePn Pn 14 19 48.3 -0.4
IDMV Damavand 8.47 342 ePn Pn 14 19 49.4 +0.1
IDMV Damavand 8.47 342 ePn Pn 14 19 49.4 +0.1
IALA Alasht 8.77 347 ePn Pn 14 19 53.9 +0.4
IALA Alasht 8.77 347 ePn Pn 14 19 53.9 +0.4
IPRN Peran 9.03 345 ePn Pn 14 19 57.3 +0.5
IGLO Ghaloghah 9.03 353 ePn Pn 14 19 57.9 +1.0
IRAZ Razeghan 9.04 332 ePn Pn 14 19 56.5 -0.7

IRAZ Razeghan 9.04 332 ePn Pn 14 19 56.4 -0.7
IBZA Bozab 9.34 320 ePn Pn 14 20 01.2 -0.1
IBZA Bozab 9.34 320 ePn Pn 14 20 01.2 -0.1
IKOM Komasi 9.34 317 ePn Pn 14 20 00.8 -0.4
IKOM Komasi 9.34 317 ePn Pn 14 20 00.8 -0.4
IAKL Akhelmad 9.56 18 ePn Pn 14 20 05.1 +0.8
IVIS Veis 9.98 316 ePn Pn 14 20 09.3 -0.6
IVIS e 14 22 13.8
comp=Z,1µm,0.3s
IVIS Veis 9.98 316 ePn Pn 14 20 09.3 -0.6
IGHG Ghaleghazi 10.03 315 ePn Pn 14 20 09.9 -0.7
IGHG Ghaleghazi 10.03 315 ePn Pn 14 20 09.9 -0.7
ILIN Lien 10.18 318 ePn Pn 14 20 12.2 -0.6
ILIN e 14 20 18.8
comp=Z,1µm,0.3s
ILIN Lien 10.18 318 ePn Pn 14 20 12.2 -0.6
ABTO Aybut 10.26 190 ⇑P Pn 14 20 14.0 +0.3
SNR=17
ISRB Sarab 12.06 330 ePn Pn 14 20 38.1 -0.3
ISRB Sarab 12.06 330 ePn Pn 14 20 38.1 -0.3
IBST Bostanabad 12.31 328 ePn Pn 14 20 40.8 -1.1
IBST Bostanabad 12.31 328 ePn Pn 14 20 40.8 -1.1
IHRS Heris 12.74 330 ePn Pn 14 20 47.2 -0.6
IHRS Heris 12.74 330 ePn Pn 14 20 47.2 -0.6
ITBZ Tabriz 13.09 327 ePn Pn 14 20 52.0 -0.5
ITBZ Tabriz 13.09 327 ePn Pn 14 20 52.0 -0.5
KBL Kabul 13.80 56 eP Pn 14 21 04.5 +2.2
KBL pmax pmax
comp=Z,31nm,1.0s
KBL Kabul 13.80 56 eP Pn 14 21 04.5 +2.2
comp=Z,31nm,1.0s
KBL Kabul 13.80 56 eP Pn 14 21 04.5 +2.2
comp=Z,31nm,1.0s
GNI Garni 15.27 328 eP Pn 14 21 23.1 +1.0
comp=Z,40nm,0.8s
GNI Garni 15.27 328 P Pn 14 21 22.6 +0.5
comp=Z,0.5nm,0.3s,baz=17,slow=4.7,SNR=4.5
GNI LR LR 14 27 47.6
comp=Z,658nm,21.6s,baz=132,slow=39
GNI Garni 15.27 328⇓iP Pn 14 21 23.8 +1.7
SNR=9.5
GNI Garni 15.27 328 P Pn 14 21 23.8 +1.7
SNR=9.5
LBOS 16.43 216 eP Pn 14 21 35.5 -1.7
ASF Jabal al Asfar 16.51 291 P Pn 14 21 37.6 -0.3
ASF S Sn 14 24 41.5 +0.9
ASF Jabal al Asfar 16.51 291 P Pn 14 21 37.6 -0.3
comp=Z,1.1nm,0.3s,baz=41,slow=5.1,SNR=6.8
ASF S Sn 14 24 41.5 +0.9
comp=Z,0.3nm,0.3s,baz=170,slow=18,SNR=3.3
CHCP Chirah Chowk 16.74 64 P Pn 14 21 40.0 -0.8
TRBA At Turbah 17.57 218 eP P 14 21 52.3 0.0
ZEI Tsey 17.78 332 eP Pn 14 21 53.5 -0.3
ZEI pmax pmax
comp=Z,65nm,0.7s
EIL Elat 17.88 282 P P 14 21 57.4 +1.9
EIL Elat 17.88 282 P P 14 21 57.4 +1.9
comp=Z,0.8nm,0.3s,baz=84,slow=6.9,SNR=9.1
EIL LR LR 14 29 52.8
comp=Z,365nm,19.0s,baz=88,slow=40
EIL Elat 17.88 282 P P 14 21 57.4 +1.9
MMAI Mount Meron Ar 17.92 293 P Pn 14 21 55.6 +0.1
MMAI Mount Meron Ar 17.92 293 P Pn 14 21 55.6 +0.1
comp=Z,1.4nm,0.3s,baz=104,slow=14,SNR=16
MMAI LR LR 14 30 27.9
comp=Z,162nm,19.0s,baz=110,slow=42
MMAI Mount Meron Ar 17.92 293 P Pn 14 21 55.6 +0.1
NCK Nalchik 18.49 333 eP Pn 14 22 03.9 +1.6
NCK Nalchik 18.49 333 eP Pn 14 22 03.9 +1.6
KBZ Khabaz 18.97 332 P Pn 14 22 09.4 +1.3
KBZ Khabaz 18.97 332 P Pn 14 22 09.4 +1.3
KBZ Khabaz 18.97 332 P Pn 14 22 09.4 +1.3
comp=Z,0.5nm,0.3s,baz=129,slow=7.8,SNR=28
KBZ Khabaz 18.97 332 P Pn 14 22 09.4 +1.3
KIV Kislovodsk 19.24 332⇑eP Pn 14 22 11.4 -0.1
KIV pmax pmax
comp=Z,63nm,1.0s
KIV Kislovodsk 19.24 332 eP Pn 14 22 12.6 +1.1
comp=Z,72nm,0.8s
KIV Kislovodsk 19.24 332⇓iP Pn 14 22 13.1 +1.5
SNR=12
KIV Kislovodsk 19.24 332 eP Pn 14 22 11.4 -0.1
comp=Z,63nm,1.0s
NDI New Delhi 19.49 81 eP P 14 22 12.0 -1.2
KK31 Karatay Array 19.92 35 iP P 14 22 16.6 -1.2
KK31 pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 19.92 35 iP P 14 22 16.6 -1.2
comp=Z,13nm,0.7s
KKAR Karatay Array 19.92 35 eP P 14 22 16.2 -1.6
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 19.92 35 eP P 14 22 16.2 -1.6
comp=Z,17nm,0.8s
KKAR Karatay Array 19.92 35 eP P 14 22 16.2 -1.6
comp=Z,17nm,0.8s
GOF Gofitskoye 20.01 334 eP Pn 14 22 24.1 +3.5
GOF pmax pmax
comp=Z,90nm,1.1s
GOF Gofitskoye 20.01 334 eP Pn 14 22 24.1 +3.5
comp=Z,90nm,1.1s
CSS Prodhromos 20.07 297 eP P 14 22 20.0 +0.6
comp=Z,6.9nm,0.8s
CSS Prodhromos 20.07 297 eP P 14 22 20.0 +0.6
comp=Z,6.9nm,0.8s
SOC Sochi 20.32 326 eP P 14 22 19.7 -2.4
SOC eS S 14 26 07.2 -1.3
SOC eSSS SSS 14 26 41.1
SOC pmax pmax
comp=Z,39nm,0.9s
SOC MLR MLR
comp=Z,559nm,16.0s
SOC MLR MLR
comp=N,572nm,17.0s
SOC MLR MLR
comp=E,221nm,15.0s
SOC Sochi 20.32 326 eP P 14 22 19.7 -2.4
comp=E,39nm,0.9s
SOC eS S 14 26 07.2 -1.3
comp=E,559nm,16.0s
AML Almayashu 21.01 41 iP P 14 22 29.2 -0.8
AML Almayashu 21.01 41 P P 14 22 29.2 -0.8
SNR=44
AML Almayashu 21.01 41 iP P 14 22 29.2 -0.8
KSH Kashi 21.02 50 P P 14 22 22.8 -7.1
KSH ePP pP 14 22 42.2 +5.0
KSH eS S 14 26 00.5 -22
KSH ePcP PcP 14 26 38.2 +1.9
KSH pmax pmax
comp=E,10.0nm,0.8s
KSH pmax pmax
comp=E,130nm,3.8s
KSH LR LR
comp=E,470nm,7.6s
KSH LR LR
comp=E,520nm,9.7s
KSH LR LR
comp=E,350nm,9.8s
EKS2 Erkin-Say 21.39 40 eP P 14 22 33.5 -0.3
EKS2 pmax pmax
comp=Z,51nm,0.9s
EKS2 Erkin-Say 21.39 40 P P 14 22 33.6 -0.3
SNR=52
EKS2 Erkin-Say 21.39 40 eP P 14 22 33.5 -0.3
comp=Z,51nm,0.9s
EKS2 Erkin-Say 21.39 40 eP P 14 22 33.5 -0.3
comp=Z,51nm,0.9s
UCH Uchtor 21.55 42 iP P 14 22 34.8 -1.1
UCH Uchtor 21.55 42 P P 14 22 34.9 -1.1
SNR=14
UCH Uchtor 21.55 42 iP P 14 22 34.8 -1.1
BR131 Keskin Array S 21.61 310 eP P 14 22 36.1 -0.1
comp=Z,21nm,0.7s
BR131 Keskin Array S 21.61 310 eP P 14 22 36.1 -0.1
comp=Z,21nm,0.7s
BRTR Keskin Array B 21.61 310 P P 14 22 36.5 +0.3
BRTR ScP ScP 14 30 08.8 -4.0
BRTR Keskin Array B 21.61 310 P P 14 22 36.5 +0.3
comp=Z,18nm,0.7s,baz=130,slow=13,SNR=55
BRTR ScP ScP 14 30 08.8 -4.0
comp=Z,1.2nm,0.9s,baz=119,slow=4.8,SNR=3.5
BRTR LR LR 14 33 15.7
comp=Z,557nm,18.7s,baz=113,slow=43
BRTR Keskin Array B 21.61 310 P P 14 22 36.5 +0.3
BRTR ScP ScP 14 30 08.9 -4.0

AAK Ala-Archa 21.78 41 P P 14 22 38.0 -0.1
AAK S S 14 26 39.4 +1.6
AAK pmax pmax
comp=Z,29nm,0.8s
AAK smax smax
comp=N,3.0nm,0.9s
AAK MLR MLR
comp=Z,576nm,19.4s
AAK Ala-Archa 21.78 41 P P 14 22 38.4 +0.3
SNR=18
AAK Ala-Archa 21.78 41 eP P 14 22 37.7 -0.4
comp=Z,54nm,1.0s
AAK S S 14 26 39.4 +1.6
AAK Ala-Archa 21.78 41 P P 14 22 38.0 -0.1
comp=Z,29nm,0.8s,baz=210,slow=7.2,SNR=37
AAK S S 14 26 39.4 +1.6
comp=Z,2.7nm,0.9s,baz=131,slow=19,SNR=2.6
AAK LR LR 14 31 22.8
comp=Z,576nm,19.4s,baz=232,slow=37
AAK Ala-Archa 21.78 41 P P 14 22 38.0 -0.1
comp=Z,29nm,0.8s
AAK S S 14 26 39.4 +1.6
comp=Z,576nm,19.4s
KZA Kyzart 21.91 43 iP P 14 22 43.0 +3.3
KZA Kyzart 21.91 43 P P 14 22 43.0 +3.3
SNR=68
KZA Kyzart 21.91 43 iP P 14 22 43.0 +3.3
FRU Bishkek 21.98 41 eP P 14 22 42.0 +2.0
FRU pmax pmax
comp=N,60nm,1.5s
FRU MLR MLR
comp=E,2µm,14.0s
FRU Bishkek 21.98 41 eP P 14 22 42.0 +2.0
comp=E,60nm,1.5s
AB31 Akbulak array 22.02 8 eP P 14 22 39.6 -0.7
AB31 pmax pmax
comp=Z,23nm,0.6s
AB31 Akbulak array 22.02 8 eP P 14 22 39.6 -0.7
comp=Z,23nm,0.6s
ABKAR Akbulak array 22.02 8 eP P 14 22 39.4 -0.9
comp=Z,27nm,0.7s
ABKAR Akbulak array 22.02 8 eP P 14 22 39.4 -0.9
comp=Z,27nm,0.7s
KBK Karagaybulak 22.06 42 iP P 14 22 41.1 0.0
KBK Karagaybulak 22.06 42 P P 14 22 41.1 0.0
SNR=26
KBK Karagaybulak 22.06 42 iP P 14 22 41.1 0.0
CHMS Chumysh 22.16 41 iP P 14 22 43.6 +1.7
CHMS Chumysh 22.16 41 P P 14 22 43.7 +1.7
SNR=24
CHMS Chumysh 22.16 41 iP P 14 22 43.6 +1.7
USP Ospenovka 22.18 40 iP P 14 22 41.1 -1.1
USP Ospenovka 22.18 40 P P 14 22 41.2 -1.1
SNR=15
USP Ospenovka 22.18 40 iP P 14 22 41.1 -1.1
ANTO Ankara 22.25 309 P P 14 22 44.0 +1.0
ANTO pmax pmax
comp=Z,66nm,1.0s
ANTO Ankara 22.25 309⇓iP P 14 22 45.6 +2.6
ANTO Ankara 22.25 309 P P 14 22 44.0 +1.0
comp=Z,66nm,1.0s
ANTO Ankara 22.25 309 P P 14 22 44.0 +1.0
comp=Z,66nm,1.0s
ANN Anapa 22.33 325 eP P 14 22 44.6 +0.9
ANN S S 14 26 50.7 +2.9
ANN pmax pmax
comp=Z,97nm,1.2s
ANN MLR MLR
comp=Z,447nm,15.0s
ANN Anapa 22.33 325 eP P 14 22 44.6 +0.9
comp=Z,97nm,1.2s
ANN S S 14 26 50.7 +2.9
comp=Z,447nm,15.0s
TKM2 Tokmak 2 22.61 42 iP P 14 22 46.0 -1.0
TKM2 Tokmak 2 22.61 42 P P 14 22 46.0 -1.0
SNR=30
TKM2 Tokmak 2 22.61 42 eP P 14 22 45.3 -1.7
comp=Z,16nm,0.9s
TKM2 Tokmak 2 22.61 42 iP P 14 22 46.0 -1.0
ULHL Ulahol 22.61 44 iP P 14 22 47.0 0.0
ULHL Ulahol 22.61 44 P P 14 22 47.0 0.0
SNR=22
ULHL Ulahol 22.61 44 iP P 14 22 47.0 0.0
AKTK Aktyubinsk 22.99 5 P P 14 22 50.6 -0.1
AKTK S S 14 26 58.0 -1.4
AKTO Aktyubinsk 22.99 5 P P 14 22 50.6 -0.1
AKTO S S 14 26 58.0 -1.4
AKTO Aktyubinsk 22.99 5 P P 14 22 50.5 -0.1
AKTO S S 14 26 58.0 -1.4
AKTO ScP ScP 14 30 07.3 -8.7
AKTO Aktyubinsk 22.99 5 P P 14 22 50.5 -0.1
comp=Z,15nm,0.6s,baz=187,slow=12,SNR=32
AKTO S S 14 26 58.0 -1.4
comp=Z,1.7nm,0.5s,baz=53,slow=20,SNR=3.4
AKTO ScP ScP 14 30 07.3 -8.7
comp=Z,2.5nm,0.9s,baz=62,slow=14,SNR=4.2
AKTO LR LR 14 33 40.7
comp=Z,582nm,18.6s,baz=181,slow=41
AKTO Aktyubinsk 22.99 5 P P 14 22 50.5 -0.1
AKTO S S 14 26 58.0 -1.4
ISP Isparta 23.09 303 P P 14 22 52.6 +0.7
ISP Isparta 23.09 303 P P 14 22 52.6 +0.7
ISP Isparta 23.09 303 P P 14 22 52.6 +0.7
HYB Hyderabad 23.80 110 iP P 14 23 01.0 +2.0
SIM Simferopol' 24.19 322 P P 14 23 06.4 +4.1
SIM pmax pmax
comp=Z,20nm,1.0s
SIM Simferopol' 24.19 322 P P 14 23 06.4 +4.1
comp=Z,20nm,1.0s
KOLN Koldanda 25.17 83 eP P 14 23 12.7 +1.0
comp=Z,113nm,1.2s
DANN Dangsing 25.26 81 eP P 14 23 13.9 +1.3
comp=Z,249nm,1.0s
VRHR Novokhopersk 25.69 340 eP P 14 23 15.6 -0.2
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR MLR MLR
comp=N,250nm,18.0s
VRHR MLR MLR
comp=E,370nm,18.0s
VRHR MLR MLR
comp=Z,220nm,18.0s
VRHR Novokhopersk 25.69 340 eP P 14 23 15.6 -0.2
GKN Gorkha 26.06 82 eP P 14 23 20.2 +0.5
comp=Z,50nm,0.9s
VORD Divnogorie 26.34 337 eP P 14 23 22.0 +0.3
VORD pmax pmax
comp=N,100nm,1.0s
VORD pmax pmax
comp=E,40nm,1.0s
VORD pmax pmax
comp=Z,40nm,1.0s
VORD MLR MLR
comp=N,240nm,20.0s
VORD MLR MLR
comp=E,250nm,20.0s
VORD MLR MLR
comp=Z,440nm,20.0s
VORD Divnogorie 26.34 337 eP P 14 23 22.0 +0.3
DMN Daman 26.52 83 eP P 14 23 24.8 +0.9
comp=Z,77nm,1.1s
VSR Storozhevoye 26.59 337 eP P 14 23 22.8 -1.2
VSR eS S 14 27 54.1 -2.9
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,40nm,0.8s
VSR smax smax
comp=E,90nm,1.7s
VSR smax smax
comp=Z,30nm,1.7s
VSR smax smax
comp=N,20nm,1.5s
VSR MLR MLR
comp=N,360nm,18.0s
VSR MLR MLR
comp=E,80nm,18.0s
VSR MLR MLR
comp=Z,410nm,18.0s
VSR Storozhevoye 26.59 337 eP P 14 23 22.8 -1.2

VSR eS S 14 27 54.1 -2.9
comp=Z,20nm,1.5s
KKN Kakani 26.65 82 *e*P **P** 14 23 25.7 +0.6
comp=Z,55nm,0.9s
PKI Pulchoki 26.79 83 *e*P **P** 14 23 27.1 +0.6
comp=Z,110nm,1.1s
IDI Anoyia 26.90 294 *e*P **P** 14 23 27.3 +0.2
IDI Anoyia 26.90 294 P **P** 14 23 28.1 +1.0
comp=Z,16nm,0.7s,baz=74,slow=10,SNR=6.6
IDI LR LR 14 36 54.1
comp=Z,196nm,18.6s,baz=79,slow=42
IDI Anoyia 26.90 294 *e*P **P** 14 23 27.3 +0.2
GUN Gumba 27.16 82 *e*P **P** 14 23 30.6 +0.7
comp=Z,143nm,1.1s
JIRN Jiri 27.47 82 *e*P **P** 14 23 33.1 +0.5
comp=Z,68nm,1.0s
LPSR Galich'ya Gora 27.84 339 *e*P **P** 14 23 33.8 -1.4
LPSR eS **S** 14 28 18.7 +2.1
BRVK Borovoye 27.88 20⇓*i*P **P** 14 23 34.5 -1.1
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 27.88 20 *e*P **P** 14 23 35.0 -0.6
comp=Z,16nm,0.8s
BRVK Borovoye 27.88 20 *e*P **P** 14 23 35.0 -0.6
comp=Z,16nm,0.8s
BVA0 Borovoye Array 27.89 20 *i*P **P** 14 23 34.7 -0.9
BVA0 pmax pmax
comp=Z,28nm,0.8s
BVA0 Borovoye Array 27.89 20 *i*P **P** 14 23 34.7 -0.9
comp=Z,28nm,0.8s
BVAR Borovoye Array 27.89 20 P **P** 14 23 35.0 -0.6
BVAR 14 26 50.8
BVAR Borovoye Array 27.89 20 P **P** 14 23 35.0 -0.6
BVAR PcP **PcP** 14 26 50.8 -0.1
BVAR Borovoye Array 27.89 20 P **P** 14 23 35.0 -0.6
comp=Z,26nm,0.7s,baz=203,slow=8.8,SNR=147
BVAR PcP **PcP** 14 26 50.8 -0.1
comp=Z,2.2nm,0.5s,baz=201,slow=2.1,SNR=6.8
BVAR LR LR 14 36 27.6
comp=Z,333nm,20.4s,baz=223,slow=40
BVAR Borovoye Array 27.89 20 P **P** 14 23 35.0 -0.6
RAMN Ramite 27.92 84 *e*P **P** 14 23 36.7 +0.1
comp=Z,59nm,0.9s
ODAN Odare 28.64 84 *e*P **P** 14 23 43.2 +0.3
comp=Z,37nm,0.9s
MK31 Makanchi Array 28.72 41 *e*P **P** 14 23 42.5 -0.7
MK31 Makanchi Array 28.72 41 *e*P **P** 14 23 42.5 -0.7
MK31 Makanchi Array 28.72 41 *e*P **P** 14 23 42.5 -0.7
MKAR Makanchi Array 28.72 41 P **P** 14 23 42.8 -0.4
MKAR Makanchi Array 28.72 41 P **P** 14 23 42.8 -0.4
MKAR Makanchi Array 28.72 41 P **P** 14 23 42.8 -0.4
comp=Z,9.3nm,0.7s,baz=225,slow=8.1,SNR=147
MKAR LR LR 14 35 33.9
comp=Z,323nm,20.8s,baz=243,slow=37
MKAR Makanchi Array 28.72 41 P **P** 14 23 42.8 -0.4
TAPN Taplejung 28.85 83 *e*P **P** 14 23 44.8 0.0
comp=Z,10nm,0.8s
ARU Arti 29.00 4*c i*P **P** 14 23 45.8 +0.3
ARU 14 24 37.7
ARU S **S** 14 28 37.0 +2.2
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU MLR MLR
comp=Z,395nm,16.0s
ARU Arti 29.00 4 *e*P **P** 14 23 46.2 +0.7
comp=Z,17nm,1.3s
ARU Arti 29.00 4 *i*P **P** 14 23 45.8 +0.3
comp=Z,9.0nm,1.7s
ARU S **S** 14 28 37.0 +2.2
comp=Z,395nm,16.0s
VRI Vrincioaia 29.02 317⇑P **P** 14 23 48.5 +2.7
VRI Vrincioaia 29.02 317⇑*i*P **P** 14 23 48.5 +2.7
VRI Vrincioaia 29.02 317 P **P** 14 23 48.5 +2.7
PLOR Plostina 29.06 317⇑P **P** 14 23 45.9 -0.3
PLOR Plostina 29.06 317⇑*i*P **P** 14 23 45.9 -0.3
PLOR Plostina 29.06 317 P **P** 14 23 45.9 -0.3
KURBB Kurchatov Arra 29.12 31 P **P** 14 23 46.4 -0.2
comp=Z,3.1nm,0.7s,baz=233,slow=8.8,SNR=54
KURBB PcP **PcP** 14 26 53.0 -1.0
comp=Z,1.2nm,0.9s,baz=237,slow=3.8,SNR=4.4
KURK Kurchatov 29.23 31 *e*P **P** 14 23 47.2 -0.4
KURK 14 26 53.0
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 29.23 31 *e*P **P** 14 23 47.2 -0.4
comp=Z,4.1nm,0.9s
KURK PcP **PcP** 14 26 53.0 -1.2
KURK Kurchatov 29.23 31 *e*P **P** 14 23 47.2 -0.4
comp=Z,4.0nm,0.9s
KURK Kurchatov 29.23 31 PcP **PcP** 14 26 53.0 -1.2
MLR Muntele Rosu 29.32 315⇑*i*P **P** 14 23 50.0 +1.4
MLR Muntele Rosu 29.32 315 P **P** 14 23 49.7 +1.0
MLR Muntele Rosu 29.32 315 P **P** 14 23 49.7 +1.0
comp=Z,2.4nm,1.1s,baz=218,slow=7.8,SNR=4.9
MLR LR LR 14 38 56.7
comp=Z,85nm,18.5s,baz=298,slow=43
MLR Muntele Rosu 29.32 315 P **P** 14 23 49.7 +1.0
TESR Tescani 29.39 318⇑*i*P **P** 14 23 47.6 -1.5
TESR Tescani 29.39 318⇑*i*P **P** 14 23 47.6 -1.5
SVE Sverdlovsk 29.55 6 *e*P **P** 14 23 50.1 -0.3
SVE *e* 14 34 33.2
SVE pmax pmax
comp=Z,10.0nm,0.9s
SVE MLR MLR
comp=Z,714nm,14.0s
SVE Sverdlovsk 29.55 6 *e*P **P** 14 23 50.1 -0.3
comp=Z,10.0nm,0.9s
SVE Sverdlovsk 29.55 6 *e*ScS ScS 14 34 33.2 +3.8
comp=Z,714nm,14.0s
VOIR 29.86 315⇑P **P** 14 23 54.8 +1.5
VOIR 29.86 315⇑*i*P **P** 14 23 54.8 +1.5
VOIR 29.86 315 P **P** 14 23 54.8 +1.5
ARR Arges 30.09 314⇓*i*P **P** 14 23 55.5 +0.1
ARR Arges 30.09 314⇓*i*P **P** 14 23 55.5 +0.1
AK02 Malin Array Si 30.38 327 *e*P **P** 14 23 56.2 -1.5
AK02 Malin Array Si 30.38 327 *e*P **P** 14 23 56.2 -1.5
AK01 Malin Array Si 30.39 327 *e*P **P** 14 23 56.8 -1.1
AK01 Malin Array Si 30.39 327 *e*P **P** 14 23 56.8 -1.1
AKASG Malin Array Be 30.39 327 P **P** 14 23 56.8 -1.1
AKASG 14 26 56.5
AKASG Malin Array Be 30.39 327 P **P** 14 23 56.8 -1.1
AKASG PcP **PcP** 14 26 56.5 -0.7
AKASG Malin Array Be 30.39 327 P **P** 14 23 56.8 -1.1
comp=Z,5.0nm,0.6s,baz=136,slow=8.6,SNR=25
AKASG PcP **PcP** 14 26 56.5 -0.7
comp=Z,1.2nm,0.6s,baz=81,slow=2.7,SNR=4.0
AKASG Malin Array Be 30.39 327 P **P** 14 23 56.8 -1.1
AKASG Malin Array Be 30.39 327 PcP **PcP** 14 26 56.5 -0.7
AKBB Malin Array Si 30.39 327 *e*P **P** 14 23 56.5 -1.4
AKBB Malin Array Si 30.39 327 *e*P **P** 14 23 56.5 -1.4
AKBB Malin Array Si 30.39 327 *e*P **P** 14 23 56.5 -1.4
KIEV Kiev 30.40 327 *e*P **P** 14 23 57.9 0.0
KIEV Kiev 30.40 327 *e*P **P** 14 23 56.3 -1.7
comp=Z,17nm,0.9s
KIEV Kiev 30.40 327 *e*P **P** 14 23 57.9 0.0
LOT Lotru 30.67 314⇑P **P** 14 24 02.8 +2.2
LOT Lotru 30.67 314⇑*i*P **P** 14 24 02.8 +2.2
OBN Obninsk 30.71 339⇓*e*P **P** 14 24 00.4 -0.2
OBN *e* 14 25 00.2
OBN *e*S **S** 14 29 04.4 +2.8
OBN *i* SS **SnSn** 14 30 46.3 +5.7
OBN pmax pmax
comp=Z,54nm,0.8s
OBN MLR MLR
comp=Z,300nm,19.0s
OBN Obninsk 30.71 339 *e*P **P** 14 24 00.4 -0.2
comp=Z,44nm,0.6s
OBN Obninsk 30.71 339 *e*P **P** 14 24 00.4 -0.2
comp=Z,54nm,0.8s
OBN *e*S **S** 14 29 04.4 +2.8
BURAR Bucovina Array 30.79 319⇑P **P** 14 24 00.0 -1.6
BURAR Bucovina Array 30.79 319⇑*i*P **P** 14 24 00.0 -1.6
BURAR Bucovina Array 30.79 319⇑*i*P **P** 14 24 00.0 -1.6
WMQ Urumqi 30.79 50 P **P** 14 24 01.7 +0.1
WMQ pP pP 14 24 11.2 +1.8
WMQ sP sP 14 24 15.2 +2.5
WMQ PP **PnPn** **14 25 02.1 +0.1**
WMQ PcP **PcP** **14 26 59.2 +0.7**
WMQ ScS **ScS** **14 34 33.6 -2.5**
WMQ pmax pmax
comp=Z,26nm,0.6s
WMQ pmax pmax
comp=Z,99nm,4.4s
BUR08 Bucovina Ar. S 30.81 319 *e*P **P** 14 24 01.6 -0.2
BUR08 Bucovina Ar. S 30.81 319 *e*P **P** 14 24 01.6 -0.2
MOS Moscow 30.91 341 *e*P **P** 14 24 02.6 +0.2
MOS pmax pmax
comp=Z,54nm,1.4s
MOS Moscow 30.91 341 *e*P **P** 14 24 02.6 +0.2
comp=Z,54nm,1.4s
SOKR Solikamsk 32.09 2⇑*i*P **P** 14 24 13.7 +1.0
SOKR pmax pmax
comp=Z,20nm,1.1s
SOKR MLR MLR
comp=Z,600nm,24.0s
BZS Buzias 32.13 313⇑P **P** 14 24 13.1 -0.1
BZS Buzias 32.13 313⇑*i*P **P** 14 24 13.1 -0.1
BZS Buzias 32.13 313 P **P** 14 24 13.1 -0.1
KOLS Kolonicke sedl 33.15 319 *e*P **P** 14 24 23.0 +0.9
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 33.15 319 *e*P **P** 14 24 23.0 +0.9
KOLS Kolonicke sedl 33.15 319 *e*P **P** 14 24 23.0 +0.9
comp=Z,5.0nm,0.9s
KWP Kalwaria Pacla 33.23 320 *e*P P 14 24 26.9 +4.0
KWP Kalwaria Pacla 33.23 320 *e*P P 14 24 26.9 +4.0
KMBO Kilima Mbogo 33.28 214 *e*P **P** 14 24 26.2 +2.3
comp=Z,19nm,1.0s
KMBO Kilima Mbogo 33.28 214 P **P** 14 24 26.1 +2.2
comp=Z,7.1nm,0.7s,baz=39,slow=12,SNR=19
KMBO LR LR 14 38 29.8
comp=Z,212nm,18.4s,baz=274,slow=37
KMBO Kilima Mbogo 33.28 214 P **P** 14 24 26.1 +2.2
comp=Z,7.0nm,0.7s
MICGM Minsk 33.52 331 *e* P 14 24 16.0 -9.3
MNK Minsk 33.54 331 *e*P P 14 24 16.0 -9.5
MNK Minsk 33.54 331 *e*P P 14 24 16.0 -9.5
CRVS Cervenica-Dubn 33.61 319 *e*P **P** 14 24 26.7 +0.5
CRVS pmax pmax
comp=Z,4.0nm,1.0s
CRVS Cervenica-Dubn 33.61 319 *e*P **P** 14 24 26.7 +0.5
CRVS Cervenica-Dubn 33.61 319 *e*P **P** 14 24 26.7 +0.5
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 33.97 319 *e*P **P** 14 24 31.4 +2.1
STHS Stebnicka Huta 33.97 319 *e*P **P** 14 24 31.4 +2.1
STHS Stebnicka Huta 33.97 319 *e*P **P** 14 24 31.4 +2.1
ZAA0 Zalesovo Array 34.22 31 *e*P **P** 14 24 30.3 -1.1
ZAA0 Zalesovo Array 34.22 31 *e*P **P** 14 24 30.3 -1.1
ZALV Zalesovo Beam 34.22 31 P **P** 14 24 30.5 -0.9
ZALV Zalesovo Beam 34.22 31 P **P** 14 24 30.5 -0.9
ZALV Zalesovo Beam 34.22 31 P **P** 14 24 30.5 -0.9
comp=Z,20nm,0.6s,baz=237,slow=9.0,SNR=116
ZALV LR LR 14 40 40.1
comp=Z,288nm,18.4s,baz=246,slow=40
ZALV Zalesovo Beam 34.22 31 P **P** 14 24 30.5 -0.9
IIGN Ignalina 34.80 331 *e*P **P** 14 24 35.7 -0.7
IIGN AMB AMB 14 24 42.0
comp=Z,21nm,1.1s
IIGN Ignalina 34.80 331 *e*P **P** 14 24 35.7 -0.7
comp=Z,21nm,1.1s
ISAL Salakas 34.99 331 *e*P **P** 14 24 37.3 -0.7
ISAL AMB AMB 14 24 44.1
comp=Z,12nm,1.2s
ISAL Salakas 34.99 331 *e*P **P** 14 24 37.3 -0.7
comp=Z,12nm,1.2s
SUW Suwalki 35.35 327 P **P** 14 24 41.5 +0.3
SUW pmax pmax
comp=Z,59nm,1.0s
SUW Suwalki 35.35 327 *e*P P 14 24 44.9 +3.7
SUW Suwalki 35.35 327 P **P** 14 24 41.5 +0.3
comp=Z,59nm,1.0s
SUW Suwalki 35.35 327 P **P** 14 24 41.5 +0.3
comp=Z,59nm,1.0s
MORC Moravsky Berou 36.30 318 *e*P **P** 14 24 48.8 -0.6
MORC pmax pmax
comp=Z,12nm,1.0s
MORC Moravsky Berou 36.30 318 *e*P **P** 14 24 48.8 -0.6
comp=Z,12nm,1.0s
MORC Moravsky Berou 36.30 318 *e*P **P** 14 24 48.8 -0.6
comp=Z,12nm,1.0s
VRAC Vranov 36.68 317⇑*i*P **P** 14 24 52.5 -0.2
VRAC Vranov 36.68 317 P **P** 14 24 52.5 -0.2
DPC Dobruska-Polom 37.25 318 *e*P **P** 14 24 57.3 -0.2
DPC Dobruska-Polom 37.25 318 *e*P **P** 14 24 57.3 -0.2
DPC Dobruska-Polom 37.25 318 *e*P **P** 14 24 57.3 -0.2
KSP Ksiaz 37.46 319 *e*P **P** 14 24 59.0 -0.2
KSP Ksiaz 37.46 319 *e*P **P** 14 24 59.8 +0.6
KSP Ksiaz 37.46 319 *e*P **P** 14 24 59.0 -0.2
GERES GERESS Array B 38.31 315 P **P** 14 25 05.6 -0.9
GERES PcP **PcP** 14 27 19.9 -0.2
GERES GERESS Array B 38.31 315 P **P** 14 25 05.6 -0.9
comp=Z,0.7nm,0.6s,baz=110,slow=8.1,SNR=11
GERES PcP **PcP** 14 27 19.9 -0.2
comp=Z,1.8nm,0.8s,baz=112,slow=3.2,SNR=4.4
GERES LR LR 14 45 07.0
comp=Z,148nm,18.6s,baz=306,slow=43
GERES GERESS Array B 38.31 315 P **P** 14 25 05.6 -0.9
GERES GERESS Array B 38.31 315 PcP **PcP** 14 27 19.9 -0.2
KHC Kasperske Hory 38.48 316 *e*P **P** 14 25 07.6 -0.3
KHC Kasperske Hory 38.48 316 *e*P **P** 14 25 07.6 -0.3
KHC *ex* x 14 25 29.5
KHC *ex* x 14 25 48.0
KHC Kasperske Hory 38.48 316 *e*P **P** 14 25 07.4 -0.5
comp=Z,10nm,0.9s
KHC Kasperske Hory 38.48 316 *e*P **P** 14 25 07.6 -0.3
ABTA Abfaltersbach 38.48 312⇑*i*P **P** 14 25 08.1 +0.1
comp=Z,18nm,1.8s
ABTA Abfaltersbach 38.48 312 P **P** 14 25 08.1 +0.1
comp=Z,18nm,1.8s
GTA Gaotai 38.73 60⇑P **P** 14 25 10.7 +0.4
GTA pP pP 14 25 20.2 +2.0
GTA sP sP 14 25 24.6 +3.2
GTA PP **PnPn** **14 26 43.7 +2.3**
GTA PcP **PcP** **14 27 24.6 +2.9**
GTA S **S** **14 31 04.0 -2.0**
GTA sS sS 14 31 21.6 +2.6
GTA pmax pmax
comp=Z,28nm,0.8s
GTA pmax pmax
comp=Z,76nm,5.7s
GTA LR LR
comp=Z,400nm,16.6s
GTA LR LR
comp=Z,240nm,15.7s
GTA LR LR
comp=Z,280nm,18.1s
BRG Berggiesshubel 38.85 318 *e*P **P** 14 25 11.0 +0.1
comp=Z,4.2nm,1.2s
BRG Berggiesshubel 38.85 318 *e*P **P** 14 25 11.0 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG Berggiesshubel 38.85 318 *e*P **P** 14 25 11.0 +0.1
comp=Z,4.0nm,1.2s
FIA1 FINESS Array S 39.11 338 *e*P **P** 14 25 12.6 -0.3
FIA1 FINESS Array S 39.11 338 *e*P **P** 14 25 12.6 -0.3
FINES FINESS Array B 39.11 338 P **P** 14 25 12.4 -0.4
FINES FINESS Array B 39.11 338 P **P** 14 25 12.4 -0.4
comp=Z,9.6nm,0.5s,baz=137,slow=9.4,SNR=47
FINES LR LR 14 45 22.0
comp=Z,170nm,18.6s,baz=28,slow=42
FINES FINESS Array B 39.11 338 P **P** 14 25 12.5 -0.4
KAF Kangasniemi 39.53 339 *e*P **P** 14 25 16.2 -0.2
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 39.53 339 *e*p **P** 14 25 16.2 -0.2
comp=Z,4.0nm,0.6s
KAF Kangasniemi 39.53 339 *e*P **P** 14 25 16.2 -0.2
comp=Z,4.0nm,0.6s
CLL Collm 39.56 319 *i*P **P** 14 25 16.7 -0.1
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL MLR MLR
comp=Z,300nm,18.8s
CLL Collm 39.56 319 *i*P **P** 14 25 16.7 -0.1
comp=Z,7.0nm,0.9s
CLL *i* pP **pP** 14 25 20.1 -4.7
comp=Z,19nm,1.2s
CLL *e* 14 25 29.0
CLL LmV 14 45 00.0
comp=Z,300nm,18.8s
CLL Collm 39.56 319 *i*P **P** 14 25 16.7 -0.1
comp=Z,300nm,18.8s
MOTA Moosalm 39.56 312⇑*i*P **P** 14 25 16.3 -0.8
comp=Z,8.1nm,0.7s
MOTA Moosalm 39.56 312 P **P** 14 25 16.3 -0.8
comp=Z,8.1nm,0.7s
KEST Kesra 39.57 294 *e*P **P** 14 25 18.7 +1.4
KEST Kesra 39.57 294 P **P** 14 25 18.2 +0.9
comp=Z,5.6nm,0.8s,baz=340,slow=4.4,SNR=12
KEST Kesra 39.57 294 *e*P **P** 14 25 18.7 +1.4
VSL Villasalto 39.61 300 *e*P **P** 14 25 17.0 -0.5
comp=Z,42nm,1.0s
VSL Villasalto 39.61 300 *e*P **P** 14 25 17.0 -0.5
comp=Z,42nm,1.0s
FETA Feichten 39.73 311⇑*i*P **P** 14 25 17.4 -1.1
comp=Z,26nm,1.2s
FETA Feichten 39.73 311 P **P** 14 25 17.4 -1.1
comp=Z,26nm,1.2s
RETA Reutte 39.82 312⇑*i*P **P** 14 25 17.6 -1.6
comp=Z,9.5nm,0.8s
RETA Reutte 39.82 312 P **P** 14 25 17.6 -1.6
comp=Z,9.5nm,0.8s
PGF Pioggiola 40.16 304 *e*P **P** 14 25 20.0 -2.1
comp=Z,47nm,1.0s
PGF Pioggiola 40.16 304 *e*P **P** 14 25 20.0 -2.1
PGF pmax pmax
comp=Z,47nm,1.0s
PGF Pioggiola 40.16 304 *e*P **P** 14 25 20.0 -2.1
comp=Z,47nm,1.0s
PGF Pioggiola 40.16 304 *e*P **P** 14 25 20.0 -2.1
comp=Z,47nm,1.0s
MHMT Maesarieng 40.33 94 P **P** 14 25 26.1 +2.5
comp=Z,9.9nm,0.9s,comp=Z,306nm
DAVA Damuels 40.35 312⇑*i*P **P** 14 25 22.4 -1.3
comp=Z,19nm,0.5s
DAVA Damuels 40.35 312 P **P** 14 25 22.4 -1.3
comp=Z,19nm,0.5s
TUE Stuetta 40.54 310 *e*P **P** 14 25 23.9 -1.4
comp=Z,5.5nm,0.6s
TUE Stuetta 40.54 310 *e*P **P** 14 25 23.9 -1.4
comp=Z,5.5nm,0.6s
CHTO Chiang Mai 41.00 93 *e*P **P** 14 25 29.7 +0.5
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO Chiang Mai 41.00 93 P **P** 14 25 30.4 +1.2
comp=Z,44nm,1.7s
CHTO Chiang Mai 41.00 93 *e*P **P** 14 25 29.7 +0.5
comp=Z,12nm,1.2s
CHTO Chiang Mai 41.00 93 *e*P **P** 14 25 29.7 +0.5
comp=Z,12nm,1.2s
CMAR Chiang Mai Arr 41.12 93 P **P** 14 25 31.4 +1.2
CMAR PcP **PcP** 14 27 29.6 +0.1
CMAR Chiang Mai Arr 41.12 93 P **P** 14 25 31.4 +1.2
comp=Z,2.9nm,0.9s,baz=285,slow=8.6,SNR=15
CMAR PcP **PcP** 14 27 29.6 +0.1
comp=Z,2.2nm,0.7s,baz=287,slow=4.8,SNR=5.8
CMAR LR LR 14 45 44.4
comp=Z,125nm,18.6s,baz=110,slow=41
CMAR Chiang Mai Arr 41.12 93 P **P** 14 25 31.4 +1.2
SBF Sospel 41.46 306 *e*P **P** 14 25 32.5 -0.2
comp=Z,38nm,0.8s
SBF Sospel 41.46 306 *e*P **P** 14 25 32.5 -0.2
SBF pmax pmax
comp=Z,38nm,0.8s
SBF Sospel 41.46 306 *e*P **P** 14 25 32.5 -0.2
comp=Z,38nm,0.8s
SBF Sospel 41.46 306 *e*P **P** 14 25 32.5 -0.2
comp=Z,38nm,0.8s
MOY Mondy 41.84 42 *e*P **P** 14 25 36.1 +0.2
MOY Mondy 41.84 42 *e*P **P** 14 25 36.1 +0.2
LZH Lanzhou 41.89 66 *e*P **P** 14 25 37.5 +1.0
LZH pP pP 14 25 48.2 +3.7
LZH sP sP 14 25 53.4 +5.7
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.2s
LZH LR LR
comp=Z,470nm,15.4s
LZH LR LR
comp=Z,200nm,15.4s
LZH LR LR
comp=Z,320nm,17.6s
FRF La Foret Royal 41.99 306 *e*P **P** 14 25 35.2 -1.8
FRF La Foret Royal 41.99 306 *e*P **P** 14 25 35.2 -1.8
FRF La Foret Royal 41.99 306 *e*P **P** 14 25 35.2 -1.8
FRF La Foret Royal 41.99 306 *e*P **P** 14 25 35.2 -1.8
MBDF Montbardon 42.04 307 *e*P **P** 14 25 36.7 -0.9
comp=Z,16nm,0.7s
MBDF Montbardon 42.04 307 *e*P **P** 14 25 36.7 -0.9
MBDF pmax pmax
comp=Z,16nm,0.7s
MBDF Montbardon 42.04 307 *e*P **P** 14 25 36.7 -0.9
comp=Z,16nm,0.7s
MBDF Montbardon 42.04 307 *e*P **P** 14 25 36.7 -0.9
comp=Z,16nm,0.7s
LMR La Mourre 42.07 305 *e*P **P** 14 25 36.4 -1.2
LMR La Mourre 42.07 305 *e*P **P** 14 25 36.4 -1.2
LMR La Mourre 42.07 305 *e*P **P** 14 25 36.4 -1.2
LMR La Mourre 42.07 305 *e*P **P** 14 25 36.4 -1.2
BNI Bardonecchia 42.15 308 *e*P **P** 14 25 37.4 -1.0
BNI pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 42.15 308 *e*P **P** 14 25 37.4 -1.0
comp=Z,12nm,0.8s
BNI Bardonecchia 42.15 308 *e*P **P** 14 25 37.4 -1.0
comp=Z,12nm,0.8s
LPG La Plagne 42.16 308 *e*P **P** 14 25 38.4 -0.3
comp=Z,14nm,0.7s
LPG La Plagne 42.16 308 *e*P **P** 14 25 38.4 -0.3
LPG pmax pmax
comp=Z,15nm,0.7s
LPG La Plagne 42.16 308 *e*P **P** 14 25 38.4 -0.3
comp=Z,14nm,0.7s
LPG La Plagne 42.16 308 *e*P **P** 14 25 38.4 -0.3
comp=Z,15nm,0.7s
LPL La Plagne 42.17 308 *e*P **P** 14 25 38.5 -0.2
comp=Z,11nm,0.5s
LPL La Plagne 42.17 308 *e*P **P** 14 25 38.5 -0.2
LPL pmax pmax
comp=Z,11nm,0.5s
LPL La Plagne 42.17 308 *e*P **P** 14 25 38.5 -0.2
comp=Z,11nm,0.5s
LPL La Plagne 42.17 308 *e*P **P** 14 25 38.5 -0.2
comp=Z,11nm,0.5s
APA Apatity 42.19 348⇓*i*P **P** 14 25 37.8 -0.5
APA *i* 14 27 26.0
APA *i* S S 14 31 52.0 -4.5
APA *i* SS **SS** **14 35 00.0 -4.7**
APA MLR MLR
comp=Z,500nm,17.0s
APA Apatity 42.19 348 *i*P **P** 14 25 37.8 -0.5
CD2 Chengdu 42.29 73 *e*P **P** 14 25 39.3 -0.4
CD2 pP pP 14 25 50.0 +2.3
CD2 sP sP 14 25 54.1 +3.2
CD2 PP **PP** **14 27 20.8 +3.0**
CD2 S **S** **14 31 56.7 -2.3**
CD2 sS sS 14 32 14.1 +1.9
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,120nm,5.9s
CD2 LR LR
comp=Z,800nm,19.0s
CD2 LR LR
comp=Z,300nm,14.2s
CD2 LR LR
comp=Z,250nm,17.8s
CDF Champ du Feu 42.31 313 *e*P **P** 14 25 38.2 -1.5
CDF Champ du Feu 42.31 313 *e*P **P** 14 25 38.2 -1.5
CDF Champ du Feu 42.31 313 *e*P **P** 14 25 38.2 -1.5
CDF Champ du Feu 42.31 313 *e*P **P** 14 25 38.2 -1.5
ECH Echery 42.35 312 *e*P **P** 14 25 39.8 -0.1
ECH pmax pmax
comp=Z,11nm,1.0s
ECH Echery 42.35 312 *e*P **P** 14 25 39.8 -0.1
comp=Z,11nm,1.0s
ECH Echery 42.35 312 *e*P **P** 14 25 39.8 -0.1
comp=Z,11nm,1.0s
HINF Hinteralfeld 42.47 312 *e*P **P** 14 25 40.1 -0.8
comp=Z,11nm,0.7s
HINF Hinteralfeld 42.47 312 *e*P **P** 14 25 40.1 -0.8
HINF pmax pmax
comp=Z,11nm,0.7s
HINF Hinteralfeld 42.47 312 *e*P **P** 14 25 40.1 -0.8
comp=Z,11nm,0.7s
HINF Hinteralfeld 42.47 312 *e*P **P** 14 25 40.1 -0.8
comp=Z,11nm,0.7s
KMI Kunming 42.51 82 P **P** **14 25 42.2 +0.4**
KMI pP pP 14 25 53.2 +3.4
KMI sP sP 14 25 57.8 +4.8
KMI S **S** **14 32 02.1 -0.7**
KMI sS sS 14 32 19.2 +3.3
KMI SS SS 14 35 05.9 -6.8
KMI pmax pmax

	comp=Z,19nm,0.9s								
KMI					pmax	pmax			
	comp=Z,110nm,3.1s								
KMI					LR	LR			
	comp=Z,260nm,17.1s								
KMI					LR	LR			
	comp=Z,170nm,16.4s								
KMI					LR	LR			
	comp=Z,160nm,15.3s								
ORIF	**Oris-en-Rattie**	**42.69**	**307**	*eP*	**P**		**14 25 41.5**	**-1.3**	
ORIF				*eR*					
	comp=Z,345nm,22.8s								
ORIF	**Oris-en-Rattie**	**42.69**	**307**	*eP*	**P**		**14 25 41.5**	**-1.3**	
ORIF	**Oris-en-Rattie**	**42.69**	**307**	*eP*	**P**		**14 25 41.5**	**-1.3**	
ORIF	**Oris-en-Rattie**	**42.69**	**307**	*eP*	**P**		**14 25 41.5**	**-1.3**	
CABF	**La Chapelle**	**42.78**	**310**	*eP*	**P**		**14 25 42.1**	**-1.4**	
	comp=Z,23nm,0.7s								
CABF	**La Chapelle**	**42.78**	**310**	*eP*	**P**		**14 25 42.1**	**-1.4**	
CABF					pmax	pmax			
	comp=Z,23nm,0.7s								
CABF	**La Chapelle**	**42.78**	**310**	*eP*	**P**		**14 25 42.1**	**-1.4**	
	comp=Z,23nm,0.7s								
CABF	**La Chapelle**	**42.78**	**310**	*eP*	**P**		**14 25 42.1**	**-1.4**	
	comp=Z,23nm,0.7s								
SMRF	**Simiane la Rot**	**42.80**	**306**	*eP*	**P**		**14 25 42.2**	**-1.5**	
SMRF	**Simiane la Rot**	**42.80**	**306**	*eP*	**P**		**14 25 42.2**	**-1.5**	
SMRF	**Simiane la Rot**	**42.80**	**306**	*eP*	**P**		**14 25 42.2**	**-1.5**	
HAU	**Haudompre**	**42.84**	**312**	*eP*	**P**		**14 25 43.3**	**-0.6**	
HAU				*eR*					
	comp=Z,196nm,17.2s								
HAU	**Haudompre**	**42.84**	**312**	*eP*	**P**		**14 25 43.3**	**-0.6**	
HAU	**Haudompre**	**42.84**	**312**	*eP*	**P**		**14 25 43.3**	**-0.6**	
HAU	**Haudompre**	**42.84**	**312**	*eP*	**P**		**14 25 43.3**	**-0.6**	
ZAK	**Zakamensk**	**42.89**	**44**	*eP*	**P**		**14 25 44.1**	**-0.3**	
ZAK				*e*			14 27 30.3		
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ZAK	**Zakamensk**	**42.89**	**44**	*eP*	**P**		**14 25 44.1**	**-0.3**	
	comp=Z,4.0nm,1.0s								
VIVF	**Saint-Julien-l**	**43.54**	**307**	*eP*	P		14 25 47.1	-2.5	
VIVF	**Saint-Julien-l**	**43.54**	**307**	*eP*	P		14 25 47.1	-2.5	
VIVF	**Saint-Julien-l**	**43.54**	**307**	*eP*	P		14 25 47.1	-2.5	
VIVF	**Saint-Julien-l**	**43.54**	**307**	*eP*	P		14 25 47.1	-2.5	
PBKT	**Sadao Pong**	**43.62**	**95**	P	**P**		**14 25 51.8**	**+1.3**	
	comp=Z,27nm,0.9s								
LASF	**Ste Croix**	**44.05**	**306**	*eP*	**P**		**14 25 52.8**	**-0.9**	
LASF	**Ste Croix**	**44.05**	**306**	*eP*	**P**		**14 25 52.8**	**-0.9**	
LASF	**Ste Croix**	**44.05**	**306**	*eP*	**P**		**14 25 52.8**	**-0.9**	
SMF	**Signal de Mont**	**44.32**	**310**	*eP*	**P**		**14 25 54.4**	**-1.4**	
SMF	**Signal de Mont**	**44.32**	**310**	*eP*	**P**		**14 25 54.4**	**-1.4**	
SMF	**Signal de Mont**	**44.32**	**310**	*eP*	**P**		**14 25 54.4**	**-1.4**	
SMF	**Signal de Mont**	**44.32**	**310**	*eP*	**P**		**14 25 54.4**	**-1.4**	
LOR	**Lormes**	**44.38**	**311**	*eP*	**P**		**14 25 55.4**	**-0.9**	
	comp=Z,13nm,0.7s								
LOR				*eR*					
	comp=Z,264nm,19.5s								
LOR	**Lormes**	**44.38**	**311**	*eP*	**P**		**14 25 55.4**	**-0.9**	
	comp=Z,13nm,0.7s								
LOR	**Lormes**	**44.38**	**311**	*eP*	**P**		**14 25 55.4**	**-0.9**	
	comp=Z,13nm,0.7s								
SONM	**Songino Array**	**44.42**	**49**	P	**P**		**14 25 56.7**	**0.0**	
SONM	**Songino Array**	**44.42**	**49**	P	**P**		**14 25 56.7**	**0.0**	
	comp=Z,6.9nm,0.9s,baz=257,slow=8.7,SNR=37								
SONM					LR	LR	14 45 21.3		
	comp=Z,302nm,20.4s,baz=227,slow=37								
SONM	**Songino Array**	**44.42**	**49**	P	**P**		**14 25 56.7**	**0.0**	
NB2	**NORSAR Subarra**	**44.55**	**331**	P	**P**		**14 25 56.0**	**-1.5**	
	comp=Z,5.2nm,0.5s,baz=116,slow=7.9								
NB2	**NORSAR Subarra**	**44.55**	**331**	P	**P**		**14 25 56.0**	**-1.5**	
	comp=Z,5.2nm,0.5s,SNR=9.8								
NOA	**NORSAR Array B**	**44.55**	**331**	P	**P**		**14 25 56.3**	**-1.2**	
NOA	**NORSAR Array B**	**44.55**	**331**	P	**P**		**14 25 56.3**	**-1.2**	
	comp=Z,6.2nm,0.7s,baz=118,slow=7.9,SNR=27								
NOA					LR	LR	14 46 32.7		
	comp=Z,144nm,20.5s,baz=130,slow=39								
NOA	**NORSAR Array B**	**44.55**	**331**	P	**P**		**14 25 56.3**	**-1.2**	
SLVN	**Son La**	**44.58**	**87**	*eP*	**P**		**14 25 59.5**	**+1.2**	
	comp=Z,19nm,1.2s								
SLVN	**Son La**	**44.58**	**87**	*eP*	**P**		**14 25 59.5**	**+1.2**	
	comp=Z,19nm,1.2s								
NAO01	**NORSAR Array S**	**44.60**	**331**	P	**P**		**14 25 57.9**	**+0.1**	
	comp=Z,30nm,1.1s								
NAO01	**NORSAR Array S**	**44.60**	**331**	P	**P**		**14 25 57.9**	**+0.1**	
	comp=Z,30nm,1.1s								
SSF	**Saint Saulge**	**44.60**	**310**	*eP*	**P**		**14 25 57.5**	**-0.5**	
	comp=Z,22nm,0.8s								
SSF	**Saint Saulge**	**44.60**	**310**	*eP*	**P**		**14 25 57.5**	**-0.5**	
SSF					pmax	pmax			
	comp=Z,22nm,0.8s								
SSF	**Saint Saulge**	**44.60**	**310**	*eP*	**P**		**14 25 57.5**	**-0.5**	
	comp=Z,22nm,0.8s								
SSF	**Saint Saulge**	**44.60**	**310**	*eP*	**P**		**14 25 57.5**	**-0.5**	
	comp=Z,22nm,0.8s								
BAIF	**Baives**	**44.60**	**315**	*eP*	**P**		**14 25 58.0**	**0.0**	
BAIF	**Baives**	**44.60**	**315**	*eP*	**P**		**14 25 58.0**	**0.0**	
BAIF	**Baives**	**44.60**	**315**	*eP*	**P**		**14 25 58.0**	**0.0**	
BAIF	**Baives**	**44.60**	**315**	*eP*	**P**		**14 25 58.0**	**0.0**	
AVF	**Avril sur Loir**	**44.67**	**310**	*eP*	**P**		**14 25 57.6**	**-1.0**	
AVF	**Avril sur Loir**	**44.67**	**310**	*eP*	**P**		**14 25 57.6**	**-1.0**	
AVF	**Avril sur Loir**	**44.67**	**310**	*eP*	**P**		**14 25 57.6**	**-1.0**	
AVF	**Avril sur Loir**	**44.67**	**310**	*eP*	**P**		**14 25 57.6**	**-1.0**	
CHAI	**Chaiyaphum**	**44.78**	**95**	P	P		14 26 10.5	+11	
ULN	**Ulaanbaatar**	**44.86**	**49**	*eP*	**P**		**14 25 59.8**	**-0.5**	
	comp=Z,8.1nm,0.9s								
ULN	**Ulaanbaatar**	**44.86**	**49**	*eP*	**P**		**14 25 59.8**	**-0.5**	
	comp=Z,8.1nm,0.9s								
TAM	**Tamanrasset**	**44.94**	**275**	*eP*	**P**		**14 26 01.6**	**+0.3**	
TAM					pmax	pmax			
	comp=Z,17nm,1.0s								
TAM	**Tamanrasset**	**44.94**	**275**	*eP*	**P**		**14 26 01.6**	**+0.3**	
	comp=Z,17nm,1.0s								
TAM	**Tamanrasset**	**44.94**	**275**	*eP*	**P**		**14 26 01.6**	**+0.3**	
	comp=Z,17nm,1.0s								
BGF	**Bois d'Agland**	**44.99**	**309**	*eP*	**P**		**14 25 59.7**	**-1.4**	
	comp=Z,15nm,0.6s								
BGF	**Bois d'Agland**	**44.99**	**309**	*eP*	**P**		**14 25 59.7**	**-1.4**	
BGF					pmax	pmax			
	comp=Z,15nm,0.6s								
BGF	**Bois d'Agland**	**44.99**	**309**	*eP*	**P**		**14 25 59.7**	**-1.4**	
	comp=Z,15nm,0.6s								
BGF	**Bois d'Agland**	**44.99**	**309**	*eP*	**P**		**14 25 59.7**	**-1.4**	
	comp=Z,15nm,0.6s								
MTLF	**Montolieu**	**45.19**	**305**	*eP*	**P**		**14 26 01.7**	**-1.1**	
MTLF	**Montolieu**	**45.19**	**305**	*eP*	**P**		**14 26 01.7**	**-1.1**	
MTLF	**Montolieu**	**45.19**	**305**	*eP*	**P**		**14 26 01.7**	**-1.1**	
MTLF	**Montolieu**	**45.19**	**305**	*eP*	**P**		**14 26 01.7**	**-1.1**	
KEV	**Kevo**	**45.30**	**347**	*eP*	**P**		**14 26 03.2**	**0.0**	
KEV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**45.30**	**347**	*ep*	**P**		**14 26 03.2**	**0.0**	
	comp=Z,0.6nm,0.3s								
KEV	**Kevo**	**45.30**	**347**	*eP*	**P**		**14 26 03.2**	**0.0**	
	comp=Z,1.0nm,0.3s								
CAF	**Calviac**	**45.39**	**307**	*eP*	**P**		**14 26 03.7**	**-0.7**	
	comp=Z,23nm,0.9s								
CAF	**Calviac**	**45.39**	**307**	*eP*	**P**		**14 26 03.7**	**-0.7**	
CAF					pmax	pmax			
	comp=Z,23nm,0.9s								
CAF	**Calviac**	**45.39**	**307**	*eP*	**P**		**14 26 03.7**	**-0.7**	
	comp=Z,23nm,0.9s								
CAF	**Calviac**	**45.39**	**307**	*eP*	**P**		**14 26 03.7**	**-0.7**	
	comp=Z,23nm,0.9s								
TCF	**Toulx Ste Croi**	**45.40**	**309**	*eP*	**P**		**14 26 03.4**	**-1.0**	
	comp=Z,13nm,0.7s								
TCF	**Toulx Ste Croi**	**45.40**	**309**	*eP*	**P**		**14 26 03.4**	**-1.0**	
TCF					pmax	pmax			
	comp=Z,13nm,0.7s								
TCF	**Toulx Ste Croi**	**45.40**	**309**	*eP*	**P**		**14 26 03.4**	**-1.0**	
	comp=Z,13nm,0.7s								
TCF	**Toulx Ste Croi**	**45.40**	**309**	*eP*	**P**		**14 26 03.4**	**-1.0**	
	comp=Z,13nm,0.7s								
ARCES	**ARCESS Array B**	**45.44**	**346**	P	**P**		**14 26 05.0**	**+0.6**	
ARCES	**ARCESS Array B**	**45.44**	**346**	P	**P**		**14 26 05.0**	**+0.6**	
	comp=Z,4.3nm,0.8s,baz=152,slow=7.9,SNR=10								
ARCES					LR	LR	14 50 30.7		
	comp=Z,109nm,18.5s,baz=152,slow=43								
ARCES	**ARCESS Array B**	**45.44**	**346**	P	**P**		**14 26 05.0**	**+0.6**	
GYA	**Guiyang**	**45.63**	**79**	*eP*	**P**		**14 26 07.0**	**+0.3**	
GYA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
RJF	**Les Rejaudoux**	**45.80**	**308**	*eP*	**P**		**14 26 06.8**	**-0.8**	
RJF				*eR*					
	comp=Z,232nm,18.2s								
RJF	**Les Rejaudoux**	**45.80**	**308**	*eP*	**P**		**14 26 06.8**	**-0.8**	
RJF	**Les Rejaudoux**	**45.80**	**308**	*eP*	**P**		**14 26 06.8**	**-0.8**	
RJF	**Les Rejaudoux**	**45.80**	**308**	*eP*	**P**		**14 26 06.8**	**-0.8**	
XAN	**Xi'an**	**46.21**	**68**	P	**P**		**14 26 09.9**	**-1.1**	
XAN				pP	**pP**		**14 26 19.4**	**+0.3**	
XAN				sP	sP		14 26 24.1	+1.8	
XAN				S	**S**		**14 32 55.8**	**-0.2**	
XAN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
XAN				LR	LR				
	comp=Z,580nm,21.4s								
XAN				LR	LR				
	comp=Z,99nm,17.3s								
LFF	**La Frestale**	**46.33**	**307**	*eP*	**P**		**14 26 11.0**	**-0.8**	
	comp=Z,26nm,0.7s								
LFF	**La Frestale**	**46.33**	**307**	*eP*	**P**		**14 26 11.0**	**-0.8**	
LFF				pmax	pmax				
	comp=Z,26nm,0.7s								
LFF	**La Frestale**	**46.33**	**307**	*eP*	**P**		**14 26 11.0**	**-0.8**	
	comp=Z,26nm,0.7s								
LFF	**La Frestale**	**46.33**	**307**	*eP*	**P**		**14 26 11.0**	**-0.8**	
	comp=Z,26nm,0.7s								
CHBT	**CHBT**	**46.38**	**99**	P	**P**		**14 26 14.7**	**+2.2**	
	comp=Z,20nm,1.3s								
EPF	**Esparros**	**46.55**	**304**	*eP*	**P**		**14 26 12.9**	**-0.7**	
EPF	**Esparros**	**46.55**	**304**	*eP*	**P**		**14 26 12.9**	**-0.7**	
EPF	**Esparros**	**46.55**	**304**	*eP*	**P**		**14 26 12.9**	**-0.7**	
EPF	**Esparros**	**46.55**	**304**	*eP*	**P**		**14 26 12.9**	**-0.7**	
MFF	**Saint Martin d**	**47.05**	**309**	*eP*	**P**		**14 26 16.7**	**-0.7**	
MFF	**Saint Martin d**	**47.05**	**309**	*eP*	**P**		**14 26 16.7**	**-0.7**	
MFF	**Saint Martin d**	**47.05**	**309**	*eP*	**P**		**14 26 16.7**	**-0.7**	
MFF	**Saint Martin d**	**47.05**	**309**	*eP*	**P**		**14 26 16.7**	**-0.7**	
LDF	**La Druitiere**	**47.20**	**312**	*eP*	**P**		**14 26 16.2**	**-2.3**	
LDF	**La Druitiere**	**47.20**	**312**	*eP*	**P**		**14 26 16.2**	**-2.3**	
LDF	**La Druitiere**	**47.20**	**312**	*eP*	**P**		**14 26 16.2**	**-2.3**	
LDF	**La Druitiere**	**47.20**	**312**	*eP*	**P**		**14 26 16.2**	**-2.3**	
FLN	**La Foliniere**	**47.45**	**312**	*eP*	**P**		**14 26 19.7**	**-0.8**	
	comp=Z,36nm,0.8s								
FLN				*eR*					
	comp=Z,175nm,19.0s								
FLN	**La Foliniere**	**47.45**	**312**	*eP*	**P**		**14 26 19.7**	**-0.8**	
FLN				pmax	pmax				
	comp=Z,36nm,0.8s								
FLN	**La Foliniere**	**47.45**	**312**	*eP*	**P**		**14 26 19.7**	**-0.8**	
	comp=Z,36nm,0.8s								
FLN	**La Foliniere**	**47.45**	**312**	*eP*	**P**		**14 26 19.7**	**-0.8**	
	comp=Z,36nm,0.8s								
SJPF	**Ste Jean**	**47.70**	**304**	*eP*	**P**		**14 26 21.9**	**-0.6**	
	comp=Z,23nm,0.6s								
SJPF	**Ste Jean**	**47.70**	**304**	*eP*	**P**		**14 26 21.9**	**-0.6**	
SJPF					pmax	pmax			
	comp=Z,23nm,0.6s								
SJPF	**Ste Jean**	**47.70**	**304**	*eP*	**P**		**14 26 21.9**	**-0.6**	
	comp=Z,23nm,0.6s								
SJPF	**Ste Jean**	**47.70**	**304**	*eP*	**P**		**14 26 21.9**	**-0.6**	
	comp=Z,23nm,0.6s								
HHC	**Hu-ho-hao-te**	**47.76**	**59**	*eP*	**P**		**14 26 22.6**	**-0.5**	
HHC				pP	pP		14 26 33.6	+2.4	
HHC				sP	sP		14 26 40.0	+5.6	
HHC				PP	**PP**		**14 28 16.4**	**+1.5**	
HHC				S	**S**		**14 33 15.2**	**-2.9**	
HHC				sS	**sS**		**14 33 29.8**	**-1.6**	
HHC				SS	SS		14 36 35.8	-11	
HHC				pmax	pmax				
	comp=Z,13nm,1.0s								
HHC				pmax	pmax				
	comp=Z,190nm,4.7s								
HHC				LR	LR				
	comp=Z,470nm,15.7s								
HHC				LR	LR				
	comp=Z,360nm,12.7s								
HHC				LR	LR				
	comp=Z,290nm,15.0s								
SGMF	**Saint Gilles**	**48.79**	**311**	*eP*	**P**		**14 26 29.9**	**-0.9**	
SGMF	**Saint Gilles**	**48.79**	**311**	*eP*	**P**		**14 26 29.9**	**-0.9**	
SGMF	**Saint Gilles**	**48.79**	**311**	*eP*	**P**		**14 26 29.9**	**-0.9**	
SGMF	**Saint Gilles**	**48.79**	**311**	*eP*	**P**		**14 26 29.9**	**-0.9**	
QUIF	**Quistinic**	**49.18**	**311**	*eP*	**P**		**14 26 32.2**	**-1.6**	
QUIF	**Quistinic**	**49.18**	**311**	*eP*	**P**		**14 26 32.2**	**-1.6**	
QUIF	**Quistinic**	**49.18**	**311**	*eP*	**P**		**14 26 32.2**	**-1.6**	
QUIF	**Quistinic**	**49.18**	**311**	*eP*	**P**		**14 26 32.2**	**-1.6**	
ROSF	**Rostrenen**	**49.27**	**311**	*eP*	**P**		**14 26 33.9**	**-0.6**	
ROSF	**Rostrenen**	**49.27**	**311**	*eP*	**P**		**14 26 33.9**	**-0.6**	
ROSF	**Rostrenen**	**49.27**	**311**	*eP*	**P**		**14 26 33.9**	**-0.6**	
ROSF	**Rostrenen**	**49.27**	**311**	*eP*	**P**		**14 26 33.9**	**-0.6**	
ESDC	**Sonseca Array**	**49.91**	**300**	P	**P**		**14 26 39.4**	**-0.2**	
ESDC	**Sonseca Array**	**49.91**	**300**	P	**P**		**14 26 39.4**	**-0.2**	
	comp=Z,1.5nm,0.4s,baz=70,slow=7.7,SNR=22								
ESDC	**Sonseca Array**	**49.91**	**300**	P	**P**		**14 26 39.4**	**-0.2**	
ESLA	**Sonseca Array**	**49.91**	**300**	*eP*	**P**		**14 26 39.4**	**-0.2**	
	comp=Z,14nm,1.4s								
ESLA	**Sonseca Array**	**49.91**	**300**	*eP*	**P**		**14 26 39.4**	**-0.2**	
	comp=Z,14nm,1.4s								
ESK	**Eskdalemuir**	**49.96**	**321**	P	**P**		**14 26 40.6**	**+1.0**	
ESK	**Eskdalemuir**	**49.96**	**321**	P	**P**		**14 26 40.6**	**+1.0**	
ESK	**Eskdalemuir**	**49.96**	**321**	P	**P**		**14 26 40.6**	**+1.0**	
QIZ	**Qiongzhong**	**50.60**	**87**	P	**P**		**14 26 45.2**	**+0.2**	
BJI	**Beijing**	**51.33**	**59**	P	**P**		**14 26 50.4**	**+0.2**	
BJI				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BJI				LR	LR				
	comp=Z,280nm,12.1s								
BJI				LR	LR				
	comp=Z,220nm,13.1s								
TOA0	**Torodi Ar. Sit**	**51.77**	**265**	*eP*	**P**		**14 26 53.2**	**-0.6**	
TOA0	**Torodi Ar. Sit**	**51.77**	**265**	*eP*	**P**		**14 26 53.2**	**-0.6**	
TORD	**Torodi Ar. Bea**	**51.77**	**265**	P	**P**		**14 26 53.3**	**-0.5**	
TORD	**Torodi Ar. Bea**	**51.77**	**265**	P	**P**		**14 26 53.3**	**-0.5**	
	comp=Z,11nm,0.6s,baz=61,slow=7.2,SNR=86								
TORD	**Torodi Ar. Bea**	**51.77**	**265**	P	**P**		**14 26 53.3**	**-0.5**	
MVO	**Moncorvo**	**52.11**	**302**	*eP*	**P**		**14 26 56.4**	**+0.3**	
	comp=Z,29nm,1.8s								
MVO	**Moncorvo**	**52.11**	**302**	*eP*	**P**		**14 26 56.4**	**+0.3**	
	comp=Z,29nm,1.8s								
PMRV	**Marv??o**	**52.57**	**300**	*eP*	**P**		**14 26 59.4**	**-0.1**	
	comp=Z,31nm,1.6s								
PMRV	**Marv??o**	**52.57**	**300**	*eP*	**P**		**14 26 59.4**	**-0.1**	
	comp=Z,31nm,1.6s								
PCBR	**Castelo Branco**	**52.59**	**301**	*eP*	**P**		**14 27 00.5**	**+0.9**	
	comp=Z,46nm,2.0s								
PCBR	**Castelo Branco**	**52.59**	**301**	*eP*	**P**		**14 27 00.5**	**+0.9**	
	comp=Z,46nm,2.0s								
PVRL	**Vila Real**	**52.61**	**302**	*eP*	**P**		**14 27 00.3**	**+0.5**	
	comp=Z,43nm,1.8s								
PVRL	**Vila Real**	**52.61**	**302**	*eP*	**P**		**14 27 00.3**	**+0.5**	
	comp=Z,43nm,1.8s								
POLO	**Lamas de Olo**	**52.66**	**303**	*eP*	**P**		**14 27 00.5**	**+0.2**	
	comp=Z,23nm,1.7s								
POLO	**Lamas de Olo**	**52.66**	**303**	*eP*	**P**		**14 27 00.5**	**+0.2**	
	comp=Z,23nm,1.7s								
PVIS	**Viseu**	**52.81**	**302**	*eP*	**P**		**14 27 02.0**	**+0.7**	
	comp=Z,47nm,1.3s								
PVIS	**Viseu**	**52.81**	**302**	*eP*	**P**		**14 27 02.0**	**+0.7**	
	comp=Z,47nm,1.3s								
PCVE	**Castro Verde**	**53.32**	**298**	*eP*	**P**		**14 27 05.8**	**+0.7**	
	comp=Z,49nm,1.9s								
PCVE	**Castro Verde**	**53.32**	**298**	*eP*	**P**		**14 27 05.8**	**+0.7**	
	comp=Z,49nm,1.9s								
PTOM	**Tomar**	**53.33**	**300**	*eP*	**P**		**14 27 06.4**	**+1.3**	
	comp=Z,65nm,1.5s								
PTOM	**Tomar**	**53.33**	**300**	*eP*	**P**		**14 27 06.4**	**+1.3**	
	comp=Z,65nm,1.5s								
PNCL	**Nicolau / Gran**	**53.63**	**299**	*eP*	**P**		**14 27 08.6**	**+1.3**	
	comp=Z,53nm,2.1s								
PNCL	**Nicolau / Gran**	**53.63**	**299**	*eP*	**P**		**14 27 08.6**	**+1.3**	
	comp=Z,53nm,2.1s								
NJ2	**Nanjing**	**54.76**	**69**	*eP*	**P**		**14 27 15.0**	**-0.6**	
NJ2				S	**S**		**14 34 53.7**	**-1.1**	
NJ2				pmax	pmax				
	comp=Z,20nm,1.2s								
NJ2				LR	LR				
	comp=Z,500nm,16.7s								
NJ2				LR	LR				
	comp=Z,390nm,17.9s								
NJ2				LR	LR				
	comp=Z,1µm,16.0s								
CN2	**Changchun**	**57.73**	**54**	*eP*	**P**		**14 27 36.3**	**-0.4**	
CN2				*eS*	S		14 35 30.4	-3.5	
CN2				pmax	pmax				
	comp=Z,20nm,1.2s								
CN2				LR	LR				
	comp=Z,300nm,18.0s								
CN2				LR	LR				
	comp=Z,300nm,18.0s								
CN2				LR	LR				
	comp=Z,300nm,21.0s								
YAK	**Yakutsk**	**58.87**	**32**	*eP*	P		14 27 41.2	-3.0	
YAK				pmax	pmax				
	comp=Z,14nm,1.1s								
YAK				pmax	pmax				
	comp=E,10.0nm,1.5s								
TSUM	**Tsumeb**	**59.01**	**222**	*eP*	**P**		**14 27 47.0**	**+1.1**	
	comp=E,12nm,1.0s								
TSUM	**Tsumeb**	**59.01**	**222**	*eP*	**P**		**14 27 47.0**	**+1.1**	
	comp=E,12nm,1.0s								
TIXI	**Tiksi**	**59.02**	**21**	*i*/P	**P**		**14 27 44.5**	**-0.6**	
TIXI				pmax	pmax				
	comp=Z,15nm,1.7s								
TIXI	**Tiksi**	**59.02**	**21**	*eP*	**P**		**14 27 43.9**	**-1.2**	
	comp=Z,6.7nm,0.8s								
TIXI	**Tiksi**	**59.02**	**21**	*i* P	**P**		**14 27 44.5**	**-0.6**	
	comp=Z,15nm,1.7s								
LBTB	**Lobatse**	**59.49**	**211**	*eP*	**P**		**14 27 50.2**	**+1.0**	
	comp=Z,19nm,0.8s								
LBTB	**Lobatse**	**59.49**	**211**	*eP*	**P**		**14 27 50.2**	**+1.0**	
	comp=Z,19nm,0.8s								
SCO	**Scoresbysund**	**60.04**	**338**	*eP*	**P**		**14 27 55.1**	**+2.9**	
SCO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SCO	**Scoresbysund**	**60.04**	**338**	*i* P	**P**		**14 27 55.1**	**+2.9**	
	comp=Z,2.7nm,0.8s								
SCO	**Scoresbysund**	**60.04**	**338**	*eP*	**P**		**14 27 55.1**	**+2.9**	
	comp=Z,3.0nm,0.8s								
DBIC	**Dimbokro**	**60.40**	**262**	*eP*	**P**		**14 27 55.1**	**-0.4**	
	comp=Z,13nm,0.9s								
DBIC	**Dimbokro**	**60.40**	**262**	P	**P**		**14 27 55.2**	**-0.4**	
	comp=Z,6.3nm,0.5s,baz=49,slow=6.0,SNR=14								
DBIC				LR	LR		14 57 22.4		
	comp=Z,129nm,19.4s,baz=43,slow=39								
DBIC	**Dimbokro**	**60.40**	**262**	*eP*	**P**		**14 27 55.2**	**-0.4**	
	comp=Z,13nm,0.9s								
KIC	**Kosan Boka**	**60.45**	**261**	*eP*	**P**		**14 27 55.3**	**-0.6**	
	comp=Z,22nm,0.8s								
TIC	**Toumodi**	**60.56**	**262**	*eP*	**P**		**14 27 56.2**	**-0.5**	
	comp=Z,10nm,0.2s								
LIC	**Lamto**	**60.76**	**261**	*eP*	**P**		**14 27 57.7**	**-0.3**	
	comp=Z,23nm,0.7s								
LIC				*eR*					
	comp=Z,197nm,18.8s								
LIC	**Lamto**	**60.76**	**261**	*eP*	**P**		**14 27 57.5**	**-0.5**	
	comp=Z,37nm,0.7s								
LIC	**Lamto**	**60.76**	**261**	*eP*	**P**		**14 27 57.7**	**-0.3**	
	comp=Z,23nm,0.7s								
LIC	**Lamto**	**60.76**	**261**	*eP*	**P**		**14 27 57.7**	**-0.3**	
	comp=Z,11nm,0.7s								
KSAR	**Wonju Array Be**	**60.78**	**61**	P	**P**		**14 27 57.1**	**-0.7**	
KSAR	**Wonju Array Be**	**60.78**	**61**	P	**P**		**14 27 57.2**	**-0.7**	
KSRS	**Korea Array**	**60.81**	**61**	P	**P**		**14 27 57.1**	**-0.8**	
	comp=Z,9.6nm,0.7s,baz=277,slow=6.7,SNR=26								
KSRS				LR	LR		14 55 16.4		
	comp=Z,79nm,18.6s,baz=100,slow=37								
KSRS	**Korea Array**	**60.81**	**61**	P	**P**		**14 27 57.2**	**-0.8**	
	comp=Z,10.0nm,0.7s								
KLR	**Kul'dur**	**61.18**	**47**	*eP*	P		14 27 55.0	-5.4	
USRK	**Ussuriysk Arra**	**62.30**	**52**	P	**P**		**14 28 06.4**	**-1.6**	
	comp=Z,4.2nm,0.7s,baz=262,slow=7.6,SNR=9.7								
USRK				LR	LR		14 56 59.8		
	comp=Z,200nm,19.1s,baz=122,slow=38								
JNU	**Nakatsue**	**64.29**	**65**	LR	LR		14 59 16.8		
	comp=Z,99nm,19.0s,baz=280,slow=39								

*NIED **06** 14:20:00.37˝90N×144˝60E,h35km,Mw4.0 Best double couple: Mo1.26000×10¹⁵ NP1:φs134.00000°,δ42.00000°, λ-158.00000°. NP2:φs27.00000°,δ76.00000°, λ-50.00000°.*

*JMA **06** 14:20:04.1±0.1,37˝90N×144˝56E,h45km,M5.2*

ISC 06 14:20:01.3±0.6,37˝80N±0˝05×144˝83E±0˝06,h26km,n65, σ1§65/84,mb4.0/21,17C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.79**	**298**	⇑P	**Pn**	**14 20 44.5**	**+0.2**
OFUJ				S	**Sn**	**14 21 14.8**	**-2.4**
JIO	**Ouri**	**2.82**	**284**	⇑P	**Pn**	**14 20 44.9**	**+0.2**
JIO				S	**Sn**	**14 21 15.2**	**-2.7**
MIYJ	**Miyakonagasawa**	**2.95**	**308**	⇑P	**Pn**	**14 20 46.6**	**+0.1**
MIYJ				S	**Sn**	**14 21 18.3**	**-2.7**
JMK	**Ichinoseki**	**3.06**	**293**	⇑P	**Pn**	**14 20 48.4**	**+0.4**
JMK				S	**Sn**	**14 21 21.9**	**-1.9**
JFK	**Kawauchi**	**3.17**	**263**	⇑P	**Pn**	**14 20 49.1**	**-0.5**
JMM	**Marumori**	**3.20**	**272**	⇑P	**Pn**	**14 20 49.9**	**0.0**
JOM	**Ohasama**	**3.24**	**302**	⇑P	**Pn**	**14 20 51.0**	**+0.6**
JOM				S	**Sn**	**14 21 26.2**	**-1.9**
ONAJ	**Iwakimizuishiy**	**3.29**	**259**	⇑P	**Pn**	**14 20 50.8**	**-0.4**
JOU	**Okura**	**3.34**	**281**	⇑P	**Pn**	**14 20 52.5**	**+0.7**
JOU				S	**Sn**	**14 21 28.6**	**-2.0**
JKZ	**Kuzumaki**	**3.50**	**310**	⇑P	**Pn**	**14 20 54.9**	**+0.9**
JFT	**Otama**	**3.58**	**267**	P	**Pn**	**14 20 55.8**	**+0.7**
JFT				S	**Sn**	**14 21 34.6**	**-2.0**
JHO	**Hitachi**	**3.61**	**252**	⇑P	**Pn**	**14 20 54.5**	**-1.0**
JANG	**Nango**	**3.64**	**316**	P	**Pn**	**14 20 56.0**	**0.0**
JANG				S	**Sn**	**14 21 35.2**	**-2.9**
JRG	**Rokugo**	**3.66**	**297**	⇑P	**Pn**	**14 20 56.9**	**+0.7**
JRG				S	**Sn**	**14 21 36.7**	**-1.7**
JYK	**Kaneyama**	**3.69**	**289**	⇑P	**Pn**	**14 20 57.5**	**+0.9**
JYK				S	**Sn**	**14 21 37.9**	**-1.4**
JYW	**Yuwa**	**4.01**	**297**	⇑P	**Pn**	**14 21 02.6**	**+1.5**
JAH	**Hinai**	**4.05**	**307**	P	**Pn**	**14 21 02.4**	**+0.9**
JAH				S	**Sn**	**14 21 46.3**	**-1.8**
JTM	**Tenmabayashi**	**4.17**	**317**	P	**Pn**	**14 21 03.7**	**+0.4**
JTM				S	**Sn**	**14 21 47.8**	**-3.4**
JAW	**Awa shima**	**4.45**	**280**	P	**Pn**	**14 21 08.5**	**+1.4**
JAG	**Ashikaga**	**4.51**	**254**	⇑P	**Pn**	**14 21 07.9**	**-0.1**
JOT	**Ohata**	**4.62**	**322**	P	**Pn**	**14 21 09.6**	**+0.2**
JOT				eS	**Sn**	**14 21 58.8**	**-3.3**
JHK	**Hiroka**	**4.66**	**265**	⇑P	**Pn**	**14 21 10.6**	**+0.7**
JCH	**Churui**	**4.94**	**347**	P	**Pn**	**14 21 13.6**	**-0.2**
JCH				S	**Sn**	**14 22 05.9**	**-4.1**
JKB	**Kayabe**	**5.02**	**326**	P	**Pn**	**14 21 16.1**	**+1.2**
JKB				S	**Sn**	**14 22 07.9**	**-4.1**
JRY	**Ryogami san**	**5.08**	**251**	⇑P	**Pn**	**14 21 15.4**	**-0.3**
JRY				S	**Sn**	**14 22 08.4**	**-5.1**
JGK	**Kuni**	**5.10**	**258**	P	**Pn**	**14 21 17.3**	**+1.2**
JOD2	**Odawara 2**	**5.27**	**243**	P	**Pn**	**14 21 18.1**	**-0.4**
JOD2				S	**Sn**	**14 22 13.5**	**-4.9**
JJN	**Nakama**	**5.35**	**265**	P	**Pn**	**14 21 21.6**	**+2.1**
MJAR	**Matsushiro Arr**	**5.44**	**259**	Pn	**Pn**	**14 21 21.7**	**+1.0**
	27nm,0.3s,baz=81,slow=15,SNR=221						
MJAR				Sn	**Sn**	**14 22 23.0**	**+0.6**
	baz=82,slow=26,SNR=2.6						
MJAR				LR	LR	14 23 43.6	
	comp=Z,282nm,18.9s,baz=180,slow=41						
MAT	**Matsushiro**	**5.44**	**259**	P	**Pn**	**14 21 22.0**	**+1.3**
MAT	**Matsushiro**	**5.44**	**259**	P	**Pn**	**14 21 22.1**	**+1.3**
MAT				S	**Sn**	**14 22 23.0**	**+0.5**
NEM2	**Nemuro 2**	**5.60**	**7**	P	**Pn**	**14 21 21.3**	**-1.5**
JIZS	**Izushimoda**	**5.71**	**239**	P	**Pn**	**14 21 24.0**	**-0.4**
SHZ3	**Shizuoka 3**	**6.00**	**245**	S	**Sn**	**14 22 33.4**	**-2.9**
ASAJ	**Asahikawa**	**6.53**	**346**	Pn	**Pn**	**14 21 36.9**	**+1.3**
	2.9nm,0.3s,baz=221,slow=13,SNR=16						
ASAJ				Sn	**Sn**	**14 22 48.1**	**-1.2**
	3.0nm,0.3s,baz=348,slow=20,SNR=3.3						
JAA	**Atsumi**	**6.97**	**245**	P	**Pn**	**14 21 42.6**	**+0.8**
USRK	**Ussuriysk Arra**	**11.61**	**307**	Pn	**Pn**	**14 22 47.2**	**+1.9**
	0.8nm,0.3s,baz=118,slow=14,SNR=9.5						
JNU	**Nakatsue**	**12.30**	**252**	Pn	**Pn**	**14 22 55.8**	**+1.0**
	0.5nm,0.3s,baz=85,slow=5.3,SNR=5.4						
KSRS	**Korea Array**	**13.41**	**274**	Pn	**Pn**	**14 23 11.8**	**+1.9**
	0.5nm,0.3s,baz=88,slow=14,SNR=16						
PETK	**Petropavlovsk-**	**17.72**	**26**	P	**Pn**	**14 24 05.4**	**-0.7**
	0.0nm,0.3s,baz=225,slow=14,SNR=2.6						
PETK				LR	LR	14 29 12.5	
	comp=Z,52nm,21.0s,baz=229,slow=31						
SEY	**Seymchan**	**25.58**	**8**	P	**P**	**14 25 27.5**	**-0.4**
	0.8nm,0.6s,baz=8.7,slow=23,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**26.31**	**127**	T	T	14 53 15.7	
	baz=321,slow=74,SNR=24						
H11N1	**WAKE ISLAND Hy**	**26.32**	**127**	T	T	14 53 11.1	
	baz=321,slow=74,SNR=21						
H11N3	**WAKE ISLAND Hy**	**26.33**	**127**	T	T	14 53 11.5	
	baz=321,slow=74,SNR=22						
ZALV	**Zalesovo Beam**	**43.42**	**312**	P	**P**	**14 28 03.8**	**+2.2**
	0.8nm,0.5s,baz=109,slow=6.6,SNR=2.8						
ZALV				PcP	**PcP**	**14 29 49.6**	**0.0**
	1.9nm,0.5s,baz=71,slow=3.9,SNR=5.7						
MKAR	**Makanchi Array**	**46.02**	**302**	P	**P**	**14 28 23.7**	**+1.2**
	0.5nm,0.6s,baz=95,slow=7.7,SNR=2.9						
ILAR	**Eielson Array**	**47.38**	**33**	P	**P**	**14 28 33.4**	**+0.5**
	1.9nm,0.7s,baz=257,slow=6.3,SNR=28						
KURBB	**Kurchatov Arra**	**47.68**	**308**	P	**P**	**14 28 35.9**	**+0.5**
	2.1nm,0.5s,baz=82,slow=8.5,SNR=14						
BVAR	**Borovoye Array**	**52.07**	**312**	P	**P**	**14 29 09.4**	**+0.7**
	0.7nm,0.5s,baz=80,slow=8.1,SNR=3.6						
BVAR				PcP	**PcP**	**14 30 20.8**	**+0.3**
	1.1nm,0.7s,baz=72,slow=4.8,SNR=3.9						
INK	**Inuvik**	**52.45**	**28**	P	**P**	**14 29 12.5**	**+1.3**
	2.6nm,0.6s,baz=290,slow=6.2,SNR=20						
WRA	**Warramunga Arr**	**58.28**	**192**	P	**P**	**14 29 52.6**	**-1.1**
	2.3nm,0.6s,baz=12,slow=7.3,SNR=14						
YKA	**Yellowknife Ar**	**61.76**	**31**	P	**P**	**14 30 17.6**	**+0.4**
	0.8nm,0.7s,baz=301,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**62.00**	**191**	P	**P**	**14 30 18.4**	**-0.8**
	0.7nm,0.7s,baz=14,slow=8.9,SNR=10						
ARCES	**ARCESS Array B**	**64.22**	**340**	P	**P**	**14 30 33.2**	**-0.2**
	1.7nm,0.5s,baz=324,slow=33,SNR=11						
FINES	**FINESS Array B**	**69.38**	**333**	P	**P**	**14 31 06.7**	**+0.3**
	2.8nm,0.8s,baz=57,slow=7.0,SNR=5.7						
STKA	**Stephens Creek**	**69.39**	**183**	P	**P**	**14 31 06.0**	**-0.7**
	2.6nm,1.0s,baz=303,slow=9.6,SNR=3.7						
NVAR	**Mina Array Bea**	**72.33**	**55**	P	**P**	**14 31 24.8**	**-0.3**
	0.9nm,0.8s,baz=286,slow=6.5,SNR=7.0						
NOA	**NORSAR Array B**	**74.50**	**339**	P	**P**	**14 31 37.3**	**+0.1**
	1.1nm,0.6s,baz=38,slow=5.6,SNR=3.9						
PDAR	**Pinedale Array**	**75.17**	**47**	P	**P**	**14 31 42.0**	**+0.3**
	1.3nm,0.7s,baz=296,slow=1.1,SNR=9.6						
AKASG	**Malin Array Be**	**75.33**	**324**	P	**P**	**14 31 42.2**	**+0.2**
	2.1nm,0.6s,baz=45,slow=5.8,SNR=12						
BRTR	**Keskin Array B**	**80.35**	**313**	P	**P**	**14 32 09.8**	**-0.6**
	1.3nm,1.0s,baz=70,slow=6.7,SNR=3.6						
GERES	**GERESS Array B**	**83.45**	**330**	P	**P**	**14 32 26.7**	**+0.2**
	0.4nm,0.7s,baz=35,slow=4.9,SNR=3.9						
GERES				LR	LR	15 14 45.7	
	comp=Z,58nm,18.8s,baz=71,slow=39						
MMAI	**Mount Meron Ar**	**83.71**	**307**	P	**P**	**14 32 29.8**	**+1.7**
	1.4nm,0.5s,baz=65,slow=8.1,SNR=4.1						
TXAR	**Lajitas Array**	**87.48**	**54**	P	**P**	**14 32 47.0**	**0.0**
	0.4nm,0.8s,baz=287,slow=3.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**118.65**	**318**	PKP	**PKPdf**	**14 38 46.7**	**-0.7**
	0.3nm,0.6s,baz=81,slow=2.7,SNR=2.4						

IDC 06 14:23:51.5±2.0,0˝19N×126˝91E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/21,mbtmp3.7/3,Error ellipse: s-maj=175.9km s-min=24.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.29**	**160**	P	P	14 28 39.5	-0.3
	1.2nm,0.8s,baz=339,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**24.66**	**164**	P	P	14 29 14.4	+0.2
	2.4nm,1.1s,baz=346,slow=11,SNR=15						
MKAR	**Makanchi Array**	**60.57**	**326**	P	P	14 34 03.8	-0.1
	0.4nm,0.3s,baz=119,slow=8.0,SNR=12						

IDC 06 14:26:41.0±1.7,19˝82S×177˝55W,h562km±25km, mb3.2/4,mb1 3.4/6,mb1mx3.1/22,mbtmp3.3/6,Error ellipse: s-maj=35.6km s-min=19.2km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.06**	**44**	P	P	14 28 40.6	+0.7
	2.4nm,0.3s,baz=314,slow=17,SNR=4.8						
AFI				S	S	14 30 17.0	-0.2
	2.1nm,0.3s,baz=287,slow=20,SNR=4.2						
URZ	**Urewera**	**18.96**	**193**	P	P	14 30 26.3	-0.5
	1.2nm,0.3s,baz=22,slow=4.8,SNR=11						
CTA	**Charters Tower**	**33.99**	**263**	P	P	14 32 38.9	0.0
	2.6nm,0.3s,baz=68,slow=8.9,SNR=6.9						
STKA	**Stephens Creek**	**38.47**	**243**	P	P	14 33 16.1	+0.5
	1.9nm,1.0s,baz=59,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**45.09**	**256**	P	P	14 34 07.8	-0.2
	2.5nm,0.7s,baz=86,slow=8.3,SNR=52						
ASAR				PcP	PcP	14 35 36.6	0.0
	0.3nm,0.4s,baz=110,slow=3.7,SNR=4.5						
WRA	**Warramunga Arr**	**45.12**	**261**	P	P	14 34 07.6	-0.6
	1.1nm,0.3s,baz=97,slow=7.6,SNR=24						
GERES	**GERESS Array B**	**149.66**	**345**	PKPbc	PKPbc	14 45 27.3	-0.4
	0.5nm,0.6s,baz=27,slow=3.3,SNR=7.8						

*NIED **06** 14:27:00.47˝30N×141˝40E,h5km,Mw4.1 Best double couple: Mo1.87000×10¹⁵ NP1:φs305.00000°,δ70.00000°, λ2.00000°. NP2:φs214.00000°,δ88.00000°,λ160.00000°.*

*JMA **06** 14:27:56.6±0.7,47˝26N×141˝36E,h16km,M4.7*

*BJI **06** 14:27:57.7,46˝60N×141˝75E,h29km,mb4.3/3,ML4.4/3*

*ISCJB **06** 14:27:57.8±0.5,47˝08N±0˝02×141˝41E±0˝03,h6km±3km, mb4.0/19,MS4.1/1,Error ellipse: s-maj=4.0km s-min=3.1km az=175.7*

*SKHL **06** 14:27:58.5±0.3,47˝09N×141˝43E,h10km,mb4.6/6, Ms3.9/1*

SKHL Felt (II-III) at Kholmsk, Tomari, (II) at Aniva, Bykov, Yushno-Sakhalinsk.

*IDC **06** 14:27:58.5±0.5,47˝03N×141˝56E,h0km,mb4.0/17, mb1 4.1/23,mb1mx4.0/32,mbtmp3.9/23,ML3.3/6,MS3.4/4, Ms1 3.4/4,ms1mx2.9/35,Error ellipse: s-maj=13.6km s-min=11.6km az=116.0*

*MOS **06** 14:27:58.6±1.4,47˝11N×141˝51E,h13km,mb4.3/14,Error ellipse: s-maj=12.6km s-min=7.8km az=91.8*

MOS Felt (II-III) at Kholmsk, Tomari, (II) at Aniva, Yuzhno-Sakhalinsk, Bykov.

ISC 06 14:28:00.8±1.2,47˝04N±0˝03×141˝50E±0˝03,h14km±8km, n59,σ1§51/75,mb4.0/19,1C-2D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.86**	**96**	⇓*i*PN	**Pb**	**14 28 15.9**	**-1.5**
YSS				*e*		14 28 27.5	
YSS				pmax	pmax		
	comp=Z,750nm,0.5s						
YSS				smax	smax		
	comp=N,5μm,0.5s						
YSS				smax	smax		
	comp=E,7μm,0.5s						
YSS				smax	smax		
	comp=N,4μm,0.4s						
YSS				smax	smax		
	comp=E,5μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.86**	**96**	⇓*i*Pg	**Pb**	**14 28 15.9**	**-1.5**
YSS				AMB	AMB	14 28 16.3	
	comp=E,750nm,0.5s						
YSS				*e*Sg	**Sn**	**14 28 28.2**	**-2.5**
YSS				A	A	14 28 28.7	
	comp=E,5μm,0.5s						
YSS				A	A	14 28 28.7	
	comp=E,7μm,0.5s						
YSS				AMS	AMS	14 29 05.0	
	comp=E,3μm,5.0s						
JWK2	**Keihoku**	**1.75**	**171**	P	**Pn**	**14 28 29.9**	**-0.7**
JWK2				*e*S	**Sb**	**14 28 54.2**	**-0.2**
JRR	**Rishiri**	**1.91**	**184**	P	**Pn**	**14 28 33.1**	**+0.3**
UGL	**Uglegorsk**	**2.07**	**10**	*e*PN	**Pn**	**14 28 34.0**	**-1.0**
UGL				*e*S	**Sb**	**14 29 04.0**	**+0.4**
UGL				pmax	pmax		
	comp=Z,213nm,0.6s						
UGL				smax	smax		
	comp=N,1μm,0.4s						
UGL				smax	smax		
	comp=E,5μm,0.4s						
UGL	**Uglegorsk**	**2.07**	**10**	*e*P	**Pn**	**14 28 33.5**	**-1.5**
UGL				AMB	AMB	14 28 37.0	
	comp=E,213nm,0.6s						
UGL				*e*Pg	**Pg**	**14 28 39.2**	**-1.2**
UGL				*e*S	**Sn**	**14 28 58.5**	**-2.0**
UGL				A	A	14 29 06.5	
	comp=E,1μm,0.4s						
UGL				A	A	14 29 06.5	
	comp=E,5μm,0.4s						
UGL				*e*Sg	**Sg**	**14 29 07.5**	**+0.2**
UGL				A	A	14 29 10.0	
	comp=E,4μm,0.3s						
JSE	**Soyaes**	**2.22**	**160**	P	**Pn**	**14 28 36.7**	**-0.3**
JSS	**Shosan**	**2.66**	**175**	P	**Pn**	**14 28 43.3**	**+0.2**
ASAJ	**Asahikawa**	**3.03**	**165**	P	**Pn**	**14 28 48.1**	**-0.1**
ASAJ	**Asahikawa**	**3.03**	**165**	Pn	**Pn**	**14 28 47.7**	**-0.5**
	comp=E,17nm,0.3s,baz=1.4,slow=9.5,SNR=80						
ASAJ				Lg	Lg	14 29 33.7	
	baz=90,slow=20,SNR=3.6						
ASAJ				LR	LR	14 30 21.1	
	comp=E,534nm,19.7s,baz=9.4,slow=48						
JKK2	**Kamakawa 2**	**3.29**	**164**	P	**Pn**	**14 28 51.9**	**+0.1**
JHR	**Hokuryu**	**3.31**	**177**	P	**Pn**	**14 28 52.7**	**+0.7**
JTKR	**Abashiri--Toko**	**3.51**	**150**	P	**Pn**	**14 28 53.8**	**-1.0**
JTKR				*e*S	**Sn**	**14 29 35.1**	**-0.9**
TYV	**Tymovskoe**	**3.90**	**11**	*e*P	**Pn**	**14 28 59.5**	**-0.6**
TYV				*e*Pg	**Pg**	**14 29 15.0**	**-0.4**
TYV				AMB	AMB	14 29 16.5	
	comp=E,119nm,0.9s						
TYV				*e*S	**Sn**	**14 29 44.0**	**-1.6**
TYV				*e*Sg	**Sg**	**14 30 09.0**	**+3.2**
TYV				A	A	14 30 16.2	
	comp=E,18nm,0.8s						
TYV				A	A	14 30 16.2	
	comp=E,77nm,0.8s						
TEY	**Ternei**	**3.96**	**241**	*e*P	**Pn**	**14 28 59.8**	**-1.2**
TEY				*e*Pg	**Pg**	**14 29 17.0**	**+0.4**
TEY				AMB	AMB	14 29 18.0	
	comp=E,53nm,0.5s						
TEY				*e*S	**Sn**	**14 29 45.2**	**-2.0**
TEY				*e*Sg	**Sg**	**14 30 07.0**	**-0.9**
TEY				A	A	14 30 08.0	
	comp=E,88nm,0.5s						
JAR	**Ashorobuto**	**4.08**	**156**	P	**Pn**	**14 29 02.9**	**+0.3**
HABR	**Khabarovsk**	**4.58**	**291**	*e*PN	**Pn**	**14 29 07.0**	**-2.5**
HABR				pmax	pmax		
	comp=N,7.0nm,0.2s						
HABR				pmax	pmax		
	comp=Z,25nm,0.5s						
HABR				pmax	pmax		
	comp=E,19nm,0.3s						
GRNR	**Gornyy**	**5.01**	**320**	*e*P	**Pn**	**14 29 14.2**	**-1.3**
GRNR				AMB	AMB	14 29 15.2	
	comp=E,39nm,0.5s						
GRNR				AMB	AMB	14 29 15.2	
	comp=E,76nm,0.5s						
GRNR				*e*Pg	**Pg**	**14 29 35.5**	**-1.2**
GRNR				*e*S	**Sn**	**14 30 10.0**	**-3.1**
GRNR				A	A	14 30 34.8	
	comp=E,92nm,0.6s						
GRNR				*e*Sg	**Sg**	**14 30 41.0**	**-0.5**
GRNR				A	A	14 30 42.0	
	comp=E,190nm,0.4s						
ERM	**Erimo**	**5.17**	**166**	*e*PN	Pn	14 29 22.0	+4.5
NKL	**Nikolayevsk**	**6.14**	**355**	*e*P	**Pn**	**14 29 29.2**	**-1.6**
NKL				AMB	AMB	14 29 30.0	
	comp=E,39nm,0.5s						
NKL				*e*Pg	**Pg**	**14 29 58.2**	**+0.1**
NKL				*e*S	**Sn**	**14 30 39.0**	**-1.7**
NKL				*e*Sg	**Sg**	**14 31 21.3**	**+3.8**
NKL				A	A	14 31 22.0	
	comp=E,100nm,0.9s						
NKL				AMS	AMS	14 32 24.0	
	comp=E,700nm,14.0s						
NKL				AMS	AMS	14 32 24.0	
	comp=E,900nm,14.0s						
OKH	**Okha**	**6.58**	**7**	*e*Sg	Sg	14 31 43.2	+12
OKH				A	A	14 31 44.2	
	comp=E,71nm,0.4s						
USRK	**Ussuriysk Arra**	**7.25**	**250**	Pn	**Pn**	**14 29 45.6**	**-0.6**
	comp=E,0.8nm,0.3s,baz=59,slow=14,SNR=14						
USRK				Lg	Lg	14 31 49.4	
	comp=E,2.5nm,0.3s,baz=56,slow=31,SNR=5.9						
EKMR	**Ekimchan**	**8.16**	**321**	*e*P	**Pn**	**14 29 55.8**	**-2.9**
EKMR				*e*S	**Sn**	**14 31 33.5**	**+2.9**
EKMR				*e*Sg	**Sg**	**14 32 26.7**	**+4.3**
EKMR				A	A	14 32 32.1	
	comp=E,200nm,0.9s						
EKMR				A	A	14 32 32.1	
	comp=E,74nm,0.9s						
EKMR				A	A	14 32 32.1	
	comp=E,120nm,0.9s						
MJAR	**Matsushiro Arr**	**10.78**	**194**	Pn	**Pn**	**14 30 34.2**	**-0.4**
	comp=E,0.3nm,0.3s,baz=1.6,slow=15,SNR=3.8						
MJAR				LR	LR	14 34 01.8	
	comp=E,135nm,20.7s,baz=140,slow=34						
BMKR	**Bomnak**	**11.07**	**319**	*e*Sg		14 33 52.6	
BMKR				A	A	14 33 59.3	
	comp=E,44nm,0.9s						
ZEA	**Zeya**	**11.29**	**312**	*e*Sg		14 33 58.8	
ZEA				A	A	14 34 14.5	
	comp=E,118nm,1.0s						
ZEA				AMS	AMS	14 35 35.0	
	comp=E,400nm,13.0s						
KROS	**Kirovskiy**	**11.79**	**314**	*e*Sg		14 34 12.5	
KROS				A	A	14 34 32.9	
	comp=E,6.0nm,0.9s						
PETK	**Petropavlovsk-**	**12.03**	**54**	PN	**Pn**	**14 30 51.2**	**-0.4**
PETK	**Petropavlovsk-**	**12.03**	**54**	Pn	**Pn**	**14 30 51.2**	**-0.4**
	comp=E,0.0nm,0.3s,baz=239,slow=8.4,SNR=4.7						
PETK				Sn	**Sn**	**14 33 09.4**	**+3.9**
	comp=E,0.2nm,0.3s,baz=231,slow=23,SNR=4.4						
KSRS	**Korea Array**	**13.87**	**231**	*e*P	**Pn**	**14 31 19.3**	**+2.5**
KSRS	**Korea Array**	**13.87**	**231**	Pn	**Pn**	**14 31 19.3**	**+2.5**
	comp=E,0.2nm,0.3s,baz=38,slow=14,SNR=3.5						
JNU	**Nakatsue**	**16.09**	**214**	LR	LR	14 37 09.1	
	comp=E,7.1nm,20.3s,baz=222,slow=34						
SEY	**Seymchan**	**17.06**	**17**	P	**Pn**	**14 31 57.7**	**-0.8**
SEY	**Seymchan**	**17.06**	**17**	P	**Pn**	**14 31 57.7**	**-0.8**
	comp=E,0.0nm,0.3s,baz=207,slow=11,SNR=4.2						
SONM	**Songino Array**	**23.64**	**285**	P	**P**	**14 33 11.0**	**-0.5**
	comp=E,2.2nm,0.8s,baz=84,slow=8.9,SNR=13						
TLY	**Talaya**	**24.89**	**295**	*e*P	**P**	**14 33 23.6**	**+0.7**
ZAK	**Zakamensk**	**25.25**	**292**	*e*P	**P**	**14 33 26.6**	**+0.4**
ZAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
TIXI	**Tiksi**	**25.39**	**351**	*e*P	**P**	**14 33 26.0**	**-1.1**
ZALV	**Zalesovo Beam**	**35.85**	**303**	P	**P**	**14 35 01.6**	**+1.9**
ZALV						14 37 26.9	
ZALV	**Zalesovo Beam**	**35.85**	**303**	P	**P**	**14 35 01.6**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=74,slow=7.7,SNR=3.0						
ZALV				PcP	**PcP**	**14 37 26.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=90,slow=1.4,SNR=3.0						
MKAR	**Makanchi Array**	**39.59**	**292**	*ce*P	**P**	**14 35 31.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**39.59**	**292**	P	**P**	**14 35 31.5**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=78,slow=8.5,SNR=24						
KURK	**Kurchatov**	**40.42**	**299**	P	**P**	**14 35 39.2**	**+1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.2s						
KURBB	**Kurchatov Arra**	**40.50**	**299**	P	**P**	**14 35 39.2**	**+0.3**
	comp=Z,3.3nm,0.2s,baz=76,slow=7.1,SNR=3.3						
ILAR	**Eielson Array**	**41.27**	**38**	P	**P**	**14 35 44.5**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=285,slow=8.6,SNR=36						
BVAR	**Borovoye Array**	**44.34**	**305**	PcP	**PcP**	**14 37 54.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=50,slow=4.5,SNR=2.8						
INK	**Inuvik**	**45.61**	**31**	P	**P**	**14 36 19.3**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=192,slow=10,SNR=8.7						
ARCES	**ARCESS Array B**	**54.72**	**337**	P	**P**	**14 37 30.0**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=52,slow=7.9,SNR=3.9						
YKA	**Yellowknife Ar**	**55.25**	**33**	P	**P**	**14 37 32.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=303,slow=6.5,SNR=10						
FINES	**FINESS Array B**	**60.08**	**330**	P	**P**	**14 38 06.7**	**-0.2**
	comp=Z,5.5nm,1.1s,baz=53,slow=7.4,SNR=8.1						
NOA	**NORSAR Array B**	**65.03**	**336**	P	**P**	**14 38 39.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=33,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**66.98**	**187**	P	**P**	**14 38 52.2**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=2.7,slow=6.8,SNR=6.0						
NVAR	**Mina Array Bea**	**69.11**	**56**	P	**P**	**14 39 07.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=292,slow=6.4,SNR=7.1						
ASAR	**Alice Springs**	**70.71**	**187**	P	**P**	**14 39 16.4**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=359,slow=4.8,SNR=21						
PDAR	**Pinedale Array**	**70.72**	**48**	P	**P**	**14 39 16.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=319,slow=1.5,SNR=11						
ULM	**Lac du Bonnet**	**71.17**	**35**	P	**P**	**14 39 17.7**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=244,slow=3.9,SNR=3.1						
STKA	**Stephens Creek**	**78.56**	**180**	LR	LR	15 12 16.2	
	comp=Z,99nm,19.9s,baz=332,slow=34						
TXAR	**Lajitas Array**	**83.98**	**53**	P	**P**	**14 40 31.1**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=290,slow=4.0,SNR=7.9						
ESDC	**Sonseca Array**	**88.33**	**334**	P	**P**	**14 40 52.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=2.2,slow=4.4,SNR=4.1						

**IDC 06 14:48:32.0±3.2,6˝95S×116˝36E,h0km,mb3.2/4, mb1 3.

Ms1 3.2/1,ms1mx2.3/26,Error ellipse: s-maj=26.0km s-min=16.7km az=26.0

*ISCJB **06** 14:59:56.8±0.4,36°.54N±0°.03×70°.89E±0°.07,h188km, mb3.5/9,Error ellipse: s-maj=8.2km s-min=3.5km az=162.0*

*NNC **06** 15:00:04.5±5.0,37°.08N×70°.91E,h200km±52km,mb3.1, mpv4.2,Error ellipse: s-maj=44.6km s-min=27.8km az=19.0*

ISC 06 14:59:57.8±0.6,**36°.58N**±0°.05×**70°.95E**±0°.08,**h188**km,**n48, σ1°28/55, mb3.7/9,8C-6D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.86**	**164**	⇓P	**Pn**	**15 00 47.1**	**+1.8**
CEP				S	**Sn**	**15 01 22.0**	**-0.3**
CHCP	**Chirah Chowk**	**3.48**	**146**	⇓P	**Pn**	**15 00 54.7**	**+2.0**
CHCP				S	**Sn**	**15 01 37.0**	**+1.5**
SARP	**Sargodha**	**4.86**	**162**	P	**Pn**	**15 01 10.7**	**+0.6**
SARP				S	**Sn**	**15 02 05.0**	**-1.9**
AML	**Almayashu**	**5.94**	**20**	P	**Pn**	**15 01 25.1**	**+0.7**
	SNR=104						
UCH	**Uchtor**	**6.28**	**25**	P	**Pn**	**15 01 29.9**	**+1.0**
	SNR=53						
KZA	**Kyzart**	**6.43**	**30**	P	**Pn**	**15 01 31.1**	**+0.4**
	SNR=14						
EKS2	**Erkin-Say**	**6.46**	**19**	P	**Pn**	**15 01 31.8**	**+0.9**
	SNR=38						
KK31	**Karatay Array**	**6.53**	**357**	⇓P	**Pn**	**15 01 32.2**	**+0.5**
	4.1nm,0.3s,baz=196,slow=16,SNR=66						
KK31				⇑S	**Sn**	**15 02 41.6**	**-4.4**
	18nm,0.5s,baz=187,slow=15,SNR=10						
AAK	**Ala-Archa**	**6.64**	**23**	⇑P	**Pn**	**15 01 34.5**	**+1.2**
	5.0nm,0.3s						
AAK				⇑S	**Sn**	**15 02 47.4**	**-1.5**
	11nm,0.5s						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**15 01 34.5**	**+1.2**
	SNR=23						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**15 01 34.5**	**+1.2**
	6.7nm,0.3s,baz=161,slow=5.4,SNR=71						
AAK				S	**Sn**	**15 02 48.4**	**-0.4**
	1.8nm,0.3s,baz=327,slow=21,SNR=12						
KBK	**Karagaybulak**	**6.81**	**26**	P	**Pn**	**15 01 36.9**	**+1.3**
	SNR=14						
ULHL	**Ulahol**	**6.99**	**34**	P	**Pn**	**15 01 38.9**	**+1.0**
	SNR=7.3						
CHMS	**Chumysh**	**7.05**	**23**	P	**Pn**	**15 01 39.2**	**+0.7**
	SNR=10						
USP	**Ospenovka**	**7.22**	**21**	P	**Pn**	**15 01 41.5**	**+0.8**
	SNR=18						
TKM2	**Tokmak 2**	**7.28**	**28**	⇑P	**Pn**	**15 01 42.4**	**+0.7**
	24nm,0.5s						
TKM2				⇑S	**Sn**	**15 03 00.4**	**-3.6**
	7.7nm,1.2s						
TKM2	**Tokmak 2**	**7.28**	**28**	P	**Pn**	**15 01 42.7**	**+1.0**
	SNR=61						
PYUN	**Piuthan**	**13.22**	**126**	*e*P	**Pn**	**15 02 58.3**	**-0.4**
	16nm,0.3s						
MK31	**Makanchi Array**	**13.25**	**36**	⇑P	**Pn**	**15 02 57.8**	**-0.9**
	2.1nm,1.1s,baz=108,slow=20,SNR=3.4						
MKAR	**Makanchi Array**	**13.25**	**36**	P	**Pn**	**15 02 59.2**	**+0.4**
	0.1nm,0.3s,baz=226,slow=13,SNR=6.8						
DANN	**Dangsing**	**13.56**	**124**	*e*P	**Pn**	**15 03 02.4**	**-0.7**
	24nm,0.4s						
KOLN	**Koldanda**	**13.84**	**126**	*e*P	**Pn**	**15 03 05.2**	**-1.2**
	5.8nm,0.3s						
GKN	**Gorkha**	**14.38**	**123**	*e*P	**Pn**	**15 03 11.8**	**-1.2**
	29nm,0.5s						
KKN	**Kakani**	**14.95**	**122**	*e*P	**Pn**	**15 03 20.0**	**-0.2**
	25nm,0.4s						
AB31	**Akbulak array**	**15.00**	**331**	⇓P	**P**	**15 03 22.4**	**+1.2**
	4.2nm,0.8s,baz=156,slow=12,SNR=64						
AB31				⇑S	Sn	15 06 00.2	-7.5
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**15.06**	**19**	P	**P**	**15 03 23.3**	**+1.4**
	0.1nm,0.3s,baz=209,slow=10,SNR=4.6						
PKI	**Pulchoki**	**15.18**	**122**	*e*P	**Pn**	**15 03 22.5**	**-0.6**
	41nm,0.8s						
GUN	**Gumba**	**15.29**	**120**	*e*P	**Pn**	**15 03 24.0**	**-0.4**
	12nm,0.5s						
JIRN	**Jiri**	**15.66**	**120**	*e*P	**Pn**	**15 03 28.8**	**-0.2**
	32nm,0.4s						
RAMN	**Ramite**	**16.39**	**121**	*e*P	**P**	**15 03 37.2**	**+0.1**
	18nm,0.5s						
BVA0	**Borovoye Array**	**16.45**	**359**	⇓P	**Pn**	**15 03 39.6**	**+1.7**
	1.8nm,0.8s,baz=152,slow=11,SNR=6.7						
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**15 03 38.8**	**+0.9**
	0.3nm,0.3s,baz=151,slow=11,SNR=8.0						
BRVK	**Borovoye**	**16.49**	**359**	⇑P	**Pn**	**15 03 39.1**	**+0.8**
	2.4nm,0.6s						
AKTO	**Aktyubinsk**	**16.69**	**330**	⇓P	**Pn**	**15 03 41.2**	**+0.4**
	2.9nm,0.5s						
AKTO	**Aktyubinsk**	**16.69**	**330**	P	**Pn**	**15 03 41.2**	**+0.4**
	1.2nm,0.3s,baz=143,slow=7.3,SNR=34						
TAPN	**Taplejung**	**16.92**	**118**	*e*P	**Pn**	**15 03 44.4**	**+0.4**
	11nm,0.5s						
ODAN	**Odare**	**16.99**	**120**	*e*P	**Pn**	**15 03 45.2**	**+0.4**
	8.9nm,0.5s						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**15 04 15.4**	**+1.2**
	1.1nm,0.4s,baz=220,slow=11,SNR=7.0						
ZALV				LR	LR	15 12 56.2	
	comp=Z,66nm,20.9s,baz=3.4,slow=39						
AKASG	**Malin Array Be**	**32.87**	**309**	P	**P**	**15 06 14.1**	**+0.5**
	1.0nm,0.5s,baz=80,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**15 06 52.6**	**+0.5**
	0.9nm,0.3s,baz=123,slow=10.0,SNR=15						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**15 07 22.7**	**+0.3**
	1.3nm,0.5s,baz=116,slow=8.1,SNR=18						
NB2	**NORSAR Subarra**	**44.30**	**323**	P	**P**	**15 07 48.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**15 07 48.6**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=96,slow=7.7,SNR=6.9						
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**15 10 20.2**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=48,slow=5.8,SNR=9.9						
ILAR	**Eielson Array**	**74.72**	**16**	P	**P**	**15 11 16.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.4,SNR=4.3						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**15 11 52.6**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=351,slow=5.4,SNR=22						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**15 11 55.9**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=324,slow=5.0,SNR=4.6						
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**15 12 07.6**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=311,slow=4.7,SNR=16						

*IDC **06** 15:44:07.5±4.3,26°.95S×71°.89W,h0km,mb1 3.7/1, mb1mx3.4/16,mbtmp3.5/1,ML3.5/1,Error ellipse: s-maj=371.5km s-min=50.9km az=93.0*

*SJA **06** 15:44:07.6±0.6,28°.16S×72°.24W,h61km±8km,MD4.1, ML3.9,MW4.7*

ISC 06 15:44:10.8±1.5,**27°.9S**±0°.1×**72°.0W**±0°.1,**h35**km,**n21, σ1°77/17,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.61**	**136**	*e*P	**Pn**	**15 44 35.6**	**-1.4**
LCO				*e*S	**Sn**	**15 44 55.9**	**-0.8**
AGUA	**GUANDACOL**	**3.46**	**119**	*e*P	**Pn**	**15 45 03.0**	**+0.6**
AGUA				*e*S	**Sn**	**15 45 43.9**	**+1.6**
AMOG	**MOGNA**	**4.32**	**136**	*e*P	**Pn**	**15 45 12.8**	**-1.4**
RTLS	**Leoncito**	**4.57**	**150**	*e*P	**Pn**	**15 45 15.6**	**-2.1**
RTLL	**Cerro Villicun**	**4.61**	**140**	*e*P4	**Pn**	**15 45 15.3**	**-2.8**
ACLC	**CERRO LA CRUZ**	**4.68**	**111**	*e*P4	**Pn**	**15 45 16.9**	**-2.3**
AVFE	**Valle Fertil**	**4.84**	**126**	*e*P	**Pn**	**15 45 20.1**	**-1.1**
AVFE				AML	AML	15 46 31.9	
	comp=Z,90nm,0.4s						
AUSP	**Uspallata**	**4.90**	**153**	*e*P	**Pn**	**15 45 19.8**	**-2.5**
CFAA	**Coronel Fontan**	**4.95**	**140**	*e*P4	**Pn**	**15 45 23.2**	**+0.4**
ASAL	**Salagasta**	**5.45**	**151**	*e*P4	**Pn**	**15 45 28.5**	**-1.1**
CYA	**Choya**	**5.48**	**98**	AML	AML	15 46 53.6	
	comp=N,38nm,0.6s						
ARCO	**CERRO ARCO**	**5.62**	**153**	AML	AML	15 47 15.3	
	comp=Z,103nm,0.8s						
ACHE	**Chepes**	**5.68**	**127**	*e*P	**Pn**	**15 45 31.5**	**-1.4**
TCA	**Tanti**	**7.30**	**120**	AML	AML	15 48 02.3	
	comp=Z,13nm,0.8s						
H03N1	**Juan Fernandez**	**8.17**	**225**	T	T	15 55 08.6	
	baz=52,slow=74,SNR=162						
H03N2	**Juan Fernandez**	**8.18**	**225**	T	T	15 55 11.8	
	baz=52,slow=74,SNR=171						
H03N3	**Juan Fernandez**	**8.19**	**225**	T	T	15 55 07.7	
	baz=52,slow=74,SNR=56						
SUCO	**SUCO**	**8.20**	**134**	AML	AML	15 48 12.6	
	comp=E,11nm,0.6s						
PLCA	**Paso Flores**	**12.90**	**175**	Pn	**P**	**15 47 24.7**	**+2.7**
	comp=E,0.1nm,0.3s,baz=18,slow=9.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**148.86**	**27**	PKPbc	**PKPbc**	**16 03 54.6**	**+0.3**
	comp=E,1.0nm,0.5s,baz=316,slow=4.1,SNR=5.4						
MKAR	**Makanchi Array**	**152.33**	**40**	PKPbc	**PKPbc**	**16 04 02.7**	**-0.2**
	comp=E,0.5nm,0.5s,baz=296,slow=2.4,SNR=15						
MKAR				PKPab	**PKPab**	**16 04 12.0**	**-1.0**
	comp=E,0.5nm,0.7s,baz=306,slow=2.9,SNR=4.5						

GUC 06 15:45:01.0±0.4,**21°.07S**×**69°.01W**,**h112**km±3km,**ML3.3, 1C-3D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.45**	**274**	⇓*i*P	Pn	15 45 18.3	+0.4
PB01				*i* S	Sn	15 45 31.2	+0.6
PB01				AML	AML	15 45 31.8	
	comp=N,1μm,0.3s						
PB09	**Plate Boundary**	**0.75**	**197**	*e*P	Pn	15 45 20.4	+0.2
PB09				*i* S	Sn	15 45 35.5	+0.7
PB09				AML	AML	15 45 37.4	
	comp=E,2μm,0.3s						
PB07	**Plate Boundary**	**1.05**	**231**	⇑*i*P	Pn	15 45 23.6	+0.6
PB07				*i* S	Sn	15 45 40.6	+0.9
PB07				AML	AML	15 45 42.1	
	comp=E,335nm,0.3s						
PSGC	**Pisagua**	**1.80**	**324**	⇓*i*P	Pn	15 45 31.8	0.0
PSGC				*e*S	Sn	15 45 55.5	+0.3
MNMC	**Minimini**	**2.01**	**344**	*i* P	Pn	15 45 35.3	+0.7
MNMC				*i* S	Sn	15 46 01.4	+1.2
MNMC				AML	AML	15 46 03.9	
	comp=N,241nm,0.5s						

*IDC **06** 15:56:49.0±1.7,32°.19S×178°.55W,h0km,mb4.2/2, mb1 4.4/2,mb1mx3.9/18,mbtmp4.2/2,Error ellipse: s-maj=66.6km s-min=42.0km az=11.0*

ISC 06 15:56:52.9±1.3,**32°.4S**×0°.1×**178°.7W**±0°.3,**h20**km,**n21, σ1°29/17,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**6.56**	**202**	PN	**Pn**	**15 58 27.6**	**-0.7**
MWZ	**Matawai**	**6.66**	**207**	PN	**Pn**	**15 58 29.2**	**-0.6**
MWZ				SN	**Sn**	**15 59 45.1**	**+0.1**
URZ	**Urewera**	**6.76**	**209**	PN	**Pn**	**15 58 30.3**	**-0.8**
URZ				SN	**Sn**	**15 59 47.9**	**+0.4**
OUZ	**Omahuta**	**7.01**	**244**	PN	Pn	15 58 39.3	+4.9
SNGZ	**Shannon Statio**	**7.12**	**206**	PN	**Pn**	**15 58 37.9**	**+1.8**
KNZ	**Kokohu**	**7.22**	**203**	PN	**Pn**	**15 58 36.5**	**-0.8**
BKZ	**Black Stump Fm**	**7.79**	**209**	PN	**Pn**	**15 58 45.3**	**+0.1**
MCHZ	**McNeill Hill**	**7.95**	**207**	PN	**Pn**	**15 58 47.5**	**+0.2**
BHHZ	**Black Hill Sta**	**8.24**	**210**	PN	**Pn**	**15 58 51.4**	**0.0**
TUWZ	**Tuamarina**	**10.75**	**211**	PN	Pn	15 59 21.8	-3.9
ASAR	**Alice Springs**	**42.47**	**269**	P	**P**	**16 04 46.6**	**-0.3**
	1.6nm,0.8s,baz=110,slow=6.9,SNR=22						
WRA	**Warramunga Arr**	**43.64**	**275**	P	**P**	**16 04 56.1**	**-0.2**
	2.2nm,0.3s,baz=112,slow=8.1,SNR=22						
H03N3	**Juan Fernandez**	**80.03**	**123**	T	T	17 37 36.0	
	baz=238,slow=74,SNR=66						
H03N2	**Juan Fernandez**	**80.04**	**123**	T	T	17 37 35.8	
	baz=238,slow=74,SNR=22						
H03N1	**Juan Fernandez**	**80.05**	**123**	T	T	17 37 36.6	
	baz=238,slow=74,SNR=43						
ARCES	**ARCESS Array B**	**140.43**	**347**	PKP	**PKPdf**	**16 16 16.5**	**-3.2**
	2.0nm,0.9s,baz=36,slow=3.7,SNR=2.8						
JOF	**Joensuu**	**144.07**	**337**	*e*pkp	PKPbc	16 16 25.0	+0.7
KAF	**Kangasniemi**	**146.24**	**339**	*e*pkp	**PKPab**	**16 16 31.9**	**0.0**
FINES	**FINESS Array B**	**146.83**	**338**	PKPbc	**PKPdf**	**16 16 31.4**	**+0.3**
	2.7nm,0.4s,baz=50,slow=4.1,SNR=24						
NB2	**NORSAR Subarra**	**150.65**	**350**	PKP	**PKPbc**	**16 16 45.6**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=17,slow=2.6						
TORD	**Torodi Ar. Bea**	**160.81**	**181**	PKPab	**PKPab**	**16 17 34.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=169,slow=3.6,SNR=7.5						

MEX 06 15:59:38.2±0.5,**18°.33N**×**96°.71W**,**h90**km±8km,**MD3.9, Veracruz**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.25**	**181**	*e*P	Pn	16 00 00.1	-1.2
VHO				*i* S	Sn	16 00 16.4	-2.1
LVIG	**Laguna Verde**	**1.41**	**11**	*e*P	Pn	16 00 01.8	-1.0
LVIG				*i* S	Sn	16 00 19.5	-1.9
TLIG	**Tlapa**	**1.93**	**247**	*e*P	Pn	16 00 08.3	-1.4
TLIG				*i* S	Sn	16 00 31.8	-1.9
YAIG	**Yautepec**	**2.30**	**284**	*e*P	Pn	16 00 13.2	-1.4
YAIG				*e*S	Sn	16 00 40.8	-1.6
PNIG	**Pinotepa**	**2.36**	**215**	*e*P	Pn	16 00 11.9	-3.3
PNIG				*i* S	Sn	16 00 40.6	-3.0
HUIG	**Huatulco**	**2.61**	**167**	*e*P	Pn	16 00 17.4	-1.2
HUIG				*i* S	Sn	16 00 47.5	-2.0

NNC 06 16:30:54.2±3.6,**38°.46N**×**71°.23E**,**h0**km,**mb3.7,mpv3.2, 11C-4D,Error ellipse: s-maj=27.6km s-min=17.9km az=179.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.67**	**353**	Pn	Pn	16 32 06.4	+0.4
	1.0nm,0.4s,baz=181,slow=14,SNR=53						
KK31				⇑Pg	Pb	16 32 18.9	+1.9
	1.1nm,0.3s,baz=188,slow=16,SNR=5.0						
KK31				⇓Sn	Sn	16 33 03.6	+2.7
	1.8nm,0.3s,baz=176,slow=21						
KK31				⇑Lg	Lg	16 33 21.2	
	4.0nm,0.5s,baz=155,slow=27,SNR=4.4						
AAK	**Ala-Archa**	**4.85**	**30**	⇑Pn	Pn	16 32 10.2	+1.5
	2.3nm,0.7s						
AAK				⇓Pg	Pg	16 32 24.4	-3.1
	5.0nm,0.6s						
AAK				⇑Sn	Sn	16 33 07.0	+1.2
	7.2nm,0.8s						
AAK				⇑Lg	Lg	16 33 26.4	
	8.4nm,0.8s						
TKM2	**Tokmak 2**	**5.55**	**35**	⇑Pn	Pn	16 32 17.6	-0.8
	2.1nm,0.8s						
TKM2				⇑Pg	Pb	16 32 35.2	+2.9
	4.3nm,0.7s						
TKM2				⇑Sn	Sn	16 33 22.0	-1.1
	3.0nm,0.8s						
TKM2				⇓Lg	Lg	16 33 46.8	
	3.2nm,0.6s						
MK31	**Makanchi Array**	**11.64**	**41**	⇓Pn	Pn	16 33 39.5	-2.0
	1.4nm,0.9s,baz=225,slow=14,SNR=15						
AB31	**Akbulak array**	**13.50**	**327**	Pn	Pn	16 34 03.7	-3.2
	0.2nm,0.5s,baz=154,slow=11,SNR=9.2						
AB31				⇑Sn	Sn	16 36 36.5	-1.2
	0.9nm,0.7s,baz=148,slow=23,SNR=3.2						
AKTO	**Aktyubinsk**	**15.21**	**326**	⇑Pn	P	16 34 33.6	-1.8
	4.4nm,1.3s						
AKTO				⇑Sn	Sn	16 37 19.3	-0.1
	0.8nm,0.8s						

*ISCJB **06** 16:36:06.0±0.5,6°.51S×0°.04×128°.82E±0°.08,h250km, mb3.6/7,Error ellipse: s-maj=11.1km s-min=5.7km az=177.7*

*IDC **06** 16:36:08.9±2.7,6°.65S×128°.65E,h264km±27km,mb3.4/7, mb1 3.5/9,mb1mx3.4/18,mbtmp3.4/9,Error ellipse: s-maj=47.6km s-min=11.3km az=75.0*

ISC 06 16:36:07.8±0.7,**6°.69S**±0°.07×**128°.7E**±0°.1,**h250**km,**n19, σ1°85/23,mb3.7/7,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.13**	**43**	P	Pn	16 37 21.3	-3.9
	baz=5.0,SNR=17						
FAKI				S	S	16 38 19.4	-7.6
	baz=5.0,SNR=4.0						
SOEI	**Soe**	**5.37**	**235**	P	**Pn**	**16 37 28.4**	**+0.1**
	baz=5.5,SNR=22						
MTN	**Manton Dam**	**6.56**	**159**	P	**Pn**	**16 37 43.3**	**+0.3**
	baz=6.7,SNR=34						
MTN				S	**S**	**16 38 57.4**	**-1.8**
	baz=6.7,SNR=7.3						
KDU	**Kakadu**	**7.01**	**149**	P	**Pn**	**16 37 49.3**	**+0.7**
	baz=7.1,SNR=12						
KNRA	**Kununurra**	**8.93**	**180**	P	**Pn**	**16 38 13.1**	**+0.1**
	baz=9.1,SNR=32						
KNRA				S	**S**	**16 39 50.4**	**-3.6**
	baz=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**14.26**	**158**	P	**Pn**	**16 39 19.3**	**+0.2**
	1.4nm,0.3s,baz=344,slow=11,SNR=78						
WRA				S	**S**	**16 41 56.5**	**-0.5**
	1.0nm,0.3s,baz=336,slow=22,SNR=9.1						
COEN	**Coen**	**15.93**	**118**	P	**P**	**16 39 39.2**	**+1.2**
	baz=16,SNR=23						
QIS	**Mount Isa**	**17.36**	**144**	P	**P**	**16 39 55.2**	**+1.7**
	baz=17,SNR=16						
ASAR	**Alice Springs**	**17.60**	**164**	P	**P**	**16 39 58.4**	**+2.2**
	3.0nm,0.3s,baz=346,slow=12,SNR=299						
ASAR				S	**S**	**16 43 05.8**	**-0.1**
	0.3nm,0.3s,baz=346,slow=22,SNR=19						
ASAR				ScP	**ScP**	**16 47 32.8**	**-1.3**
	0.1nm,0.3s,baz=348,slow=2.2,SNR=5.0						
WRKA	**Warakurna**	**18.25**	**181**	P	**Pn**	**16 40 05.7**	**-0.7**
	baz=18,SNR=9.5						
PMBI	**Palembang**	**24.16**	**278**	S	**S**	**16 45 06.2**	**+5.0**
	baz=24,SNR=9.3						
QLP	**Quilpie**	**24.69**	**145**	P	**P**	**16 41 08.4**	**+2.1**
	baz=25,SNR=4.8						
STKA	**Stephens Creek**	**27.79**	**156**	P	**P**	**16 41 35.1**	**+1.1**
	0.9nm,0.5s,baz=199,slow=24,SNR=4.4						
KSRS	**Korea Array**	**43.92**	**359**	P	**P**	**16 43 48.9**	**-1.2**
	0.9nm,0.5s,baz=180,slow=9.7,SNR=5.8						
USRK	**Ussurysk Arra**	**50.74**	**3**	P	**P**	**16 44 41.4**	**-1.0**
	2.2nm,0.8s,baz=188,slow=8.4,SNR=3.7						
SONM	**Songino Array**	**57.76**	**342**	P	**P**	**16 45 32.9**	**-0.1**
	0.2nm,0.3s,baz=145,slow=5.3,SNR=3.2						
PETK	**Petropavlovsk-**	**64.43**	**19**	P	**P**	**16 46 17.6**	**+0.2**
	3.3nm,0.9s,baz=202,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**67.28**	**327**	P	**P**	**16 46 35.2**	**-0.5**
	0.7nm,0.4s,baz=116,slow=8.7,SNR=21						
ZALV	**Zalesovo Beam**	**70.75**	**334**	P	**P**	**16 46 54.3**	**-2.5**
	1.0nm,0.7s,baz=121,slow=6.4,SNR=4.2						

*MOS **06** 16:38:34.7±1.0,41°.58S×16°.67W,h10km,mb5.9/25, MS5.3/10,Error ellipse: s-maj=19.1km s-min=9.0km az=81.7*

*ISCJB **06** 16:38:35.0±0.3,41°.49S±0°.06×16°.61W±0°.08,h10km, mb5.2/59,MS5.3/161,Error ellipse: s-maj=10.7km s-min=5.7km az=44.5*

*IDC **06** 16:38:34.4±0.5,41°.52S×16°.60W,h0km,mb4.6/18, mb1 4.7/18,mb1mx4.7/18,mbtmp4.6/18,MS5.3/6, Ms1 5.2/6,ms1mx5.1/8,Error ellipse: s-maj=16.2km s-min=14.0km az=170.0*

*GCMT **06** 16:38:35.9±0.1,41°.71S×16°.43W,h12km,MW5.5/117, Moment Tensor Solution. s89,c137; s117,c302; Duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr-2.62±.03; Mθθ0.35±.03; Mϕϕ2.28±.03; Mrθ-0.18±.09; Mθϕ-0.79±.03; Mϕr0.47±.08; Best double couple: Mo2.64100×10^17^ NP1:ϕs160.00000°,δ51.00000°, λ-90.00000°. NP2:ϕs340.00000°,δ39.00000°, λ-90.00000°. Principal axes: T 2.6130, Plg6.0000°, Azm250.0000°; N 0.0640, Plg0.0000°, Azm160.0000°; P -2.6690, Plg84.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **06** 16:38:35.9±0.2,41°.61S×16°.57W,h10km, mb5.6/41, MS5.3/141,MW5.6 Error ellipse: s-maj=7.7km s-min=6.1km az=135.0*

*BJI **06** 16:38:36.8,41°.60S×16°.50W,h10km,mB5.8/22,Ms5.7/24, Ms7 5.3/27*

*NEIC **06** 16:38:49.8±0.0,41°.55S×16°.27W,h10km,Moment Tensor Solution. s137 Moment tensor: Scale 10^17^Nm; Mrr-2.41; Mθθ0.26; Mϕϕ2.15; Mrθ-1.06; Mθϕ-1.04; Mϕr-1.08; Best double couple: Mo2.90000×10^17^ NP1:ϕs134.00000°, δ44.00000°,λ-127.00000°. NP2:ϕs1.00000°,δ57.00000°, λ-59.00000°. Principal axes: T 2.6800, Plg7.0000°, Azm69.0000°; N 0.4500, Plg24.0000°, Azm163.0000°; P -3.1400, Plg63.0000°, Azm324.0000°;*

ISC 06 16:38:36.3±0.3,**41°.55S**±0°.06×**16°.62W**±0°.06,**h10**km,**n397, σ1°33/284,mb5.5/59,MS5.3**/162,**2C-1D,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIS	**Tristan da Cun**	**5.58**	**38**	*e*Pn	**Pn**	**16 40 01.7**	**+2.3**
TRIS				Sn	**Sn**	**16 41 02.5**	**-1.1**
TRIS				*e*Sg	**Sg**	**16 41 36.9**	**+1.4**
SHEL	**Horse Pasture**	**27.18**	**23**	PFAKE		16 44 30.0	+10
SHEL				LR	LR		
	comp=Z,9μm,22.0s						
EFI	**East Falkland**	**29.84**	**236**	PFAKE		16 45 00.0	+17
EFI				LR	LR		
	comp=Z,8μm,22.0s						
SNAA	**Sanae**	**30.97**	**172**	*e*P	**P**	**16 44 50.5**	**-2.8**
	comp=Z,59nm,1.7s						
SNAA	**Sanae**	**30.97**	**172**	P	**P**	**16 44 53.5**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=347,slow=4.9,SNR=6.8						
SUR	**Sutherland**	**31.08**	**85**	LR	LR	16 54 08.3	
	comp=Z,8μm,21.7s,baz=240,slow=30						
H10S2	**ASCENSION HYDR**	**32.51**	**4**	T	T	17 19 30.4	
	baz=183,slow=75						
H10S3	**ASCENSION HYDR**	**32.51**	**4**	T	T	17 19 28.1	
	baz=183,slow=75						
H10S1	**ASCENSION HYDR**	**32.52**	**4**	T	T	17 19 32.9	
	baz=183,slow=75						
ASCN	**Ascension**	**33.54**	**4**	PFAKE		16 45 30.0	+14
ASCN				LR	LR		
	comp=Z,4μm,22.0s						
TRQA	**Tornquist**	**34.72**	**260**	*e*P	**P**	**16 45 26.7**	**+0.3**
	comp=Z,23nm,1.0s						
TRQA				LR	LR		
	comp=Z,7μm,21.0s						
PMSA	**Palmer Station**	**35.45**	**213**	*e*P	**P**	**16 45 33.2**	**+0.

comp=Z,2µm,22.0s
LIC Lamto 48.71 15 *e*P **P 16 47 20.0 -1.0**
comp=Z,118nm,1.3s,baz=201
LIC *e*R
comp=Z,2µm,22.0s
LIC Lamto 48.71 15 *e*P **P 16 47 19.4 -1.6**
comp=Z,113nm,1.3s
LIC Lamto 48.71 15 *e*P **P 16 47 20.0 -1.0**
comp=Z,118nm,1.3s
KIC Kosan Boka 48.90 16 *e*P **P 16 47 20.6 -1.9**
comp=Z,162nm,1.5s
TIC Toumodi 49.12 15 *e*P **P 16 47 22.6 -1.6**
comp=Z,57nm,1.1s
DBIC Dimbokro 49.18 16 *e*P **P 16 47 23.5 -1.1**
comp=Z,26nm,1.1s
DBIC Dimbokro 49.18 16 P **P 16 47 24.0 -0.5**
comp=Z,17nm,1.1s,baz=165,slow=8.2,SNR=8.6
LPAZ La Paz 50.74 284 *e*P **P 16 47 35.9 -1.4**
comp=Z,27nm,1.6s
LPAZ La Paz 50.74 284 P **P 16 47 36.0 -1.4**
comp=Z,1.5nm,0.5s,baz=107,slow=7.7,SNR=6.7
SAML Samuel 52.27 295 *e*P **P 16 47 48.3 +0.3**
comp=Z,16nm,1.0s
SAML LR LR
comp=Z,3µm,19.0s
PTGA Pitinga 56.35 304 *e*P **P 16 48 18.4 +0.7**
comp=Z,34nm,1.4s
PTGA LR LR
comp=Z,2µm,20.0s
SACV Santiago Islan 56.60 352 PFAKE 16 48 30.0 +11
SACV LR LR
comp=Z,891nm,20.0s
TOA0 Torodi Ar. Sit 56.99 21 *e*P **P 16 48 21.0 -1.1**
TORD Torodi Ar. Bea 56.99 21 P **P 16 48 21.2 -0.9**
TORD Torodi Ar. Bea 56.99 21 P **P 16 48 21.2 -0.9**
comp=Z,9.5nm,1.0s,baz=205,slow=6.0,SNR=30
ABPO Ambohimpanom 58.20 88 PFAKE 16 48 40.0 +9.0
ABPO LR LR
comp=Z,3µm,20.0s
MIR Mirnyy 59.69 154 *e*P **P 16 48 41.0 +0.6**
MIR pmax pmax
comp=Z,182nm,2.0s
MIR MLR MLR
comp=Z,2µm,20.0s
NNA Nana 59.93 281 PFAKE 16 49 00.0 +17
NNA LR LR
comp=Z,4µm,21.0s
SBA Scott Base 60.85 181 PFAKE 16 49 00.0 +12
SBA LR LR
comp=Z,698nm,19.0s
VNDA Vanda 61.20 180 P **P 16 48 51.4 +0.8**
VNDA Vanda 61.20 180 P **P 16 48 51.4 +0.8**
comp=Z,16nm,1.2s,baz=170,slow=7.0,SNR=4.6
KMBO Kilima Mbogo 62.91 65 *e*P P 16 49 06.5 +3.2
comp=Z,77nm,1.8s
KMBO LR LR
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 62.91 65 P **P 16 49 06.0 +2.8**
comp=Z,12nm,1.2s,baz=222,slow=7.3,SNR=16
RER Riviere de l'E 63.30 95 PFAKE 16 49 20.0 +14
RER LR LR
comp=Z,2µm,19.0s
CASY Casey 65.11 159 PFAKE 16 49 30.0 +13
CASY LR LR
comp=Z,2µm,19.0s
TAM Tamanrasset 67.23 22 *e*P **P 16 49 31.2 +0.3**
TAM pmax pmax
comp=Z,66nm,1.8s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 67.23 22 *e*P **P 16 49 31.2 +0.3**
comp=Z,66nm,1.8s
TAM LR LR
comp=Z,2µm,20.0s
BBGH Gun Hill 67.30 314 PFAKE 16 49 40.0 +8.7
BBGH LR LR
comp=Z,2µm,19.0s
GRGR Grenville 67.62 312 PFAKE 16 49 50.0 +17
GRGR LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 69.41 290 PFAKE 16 50 00.0 +15
OTAV LR LR
comp=Z,2µm,22.0s
FDF Fort de France 69.47 314 PFAKE 16 50 00.0 +15
FDF LR LR
comp=Z,828nm,20.0s
ROSC El Rosal 69.88 296 *e*P **P 16 49 49.0 +1.0**
ROSC El Rosal 69.88 296 P **P 16 49 48.8 +0.8**
comp=Z,5.9nm,0.4s,baz=74,slow=22,SNR=4.3
SDV Santo Domingo 70.46 302 *e*P **P 16 49 51.0 -0.4**
comp=Z,1.6nm,0.8s
SDV LR LR
comp=Z,269nm,19.0s
ANWB Willy Bob 72.23 315 PFAKE 16 50 10.0 +8.4
ANWB LR LR
comp=Z,1µm,22.0s
MSEY Mahe Island 73.53 82 PFAKE 16 50 20.0 +10
MSEY LR LR
comp=Z,1µm,19.0s
RPN Rapa Nui 74.45 248 PFAKE 16 50 30.0 +15
RPN LR LR
comp=Z,1µm,20.0s
RTC Rabat Centre 75.70 8 PFAKE 16 50 30.0 +8.4
RTC LR LR
comp=Z,1µm,19.0s
BCIP Isla Barro Col 76.74 295 PFAKE 16 50 40.0 +12
BCIP LR LR
comp=Z,908nm,19.0s
PAYG Puerto Ayora 77.36 280 PFAKE 16 50 40.0 +8.4
PAYG LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 78.63 308 PFAKE 16 50 50.0 +11
SDDR LR LR
comp=Z,950nm,20.0s
KEST Kesra 80.51 21 *e*P **P 16 50 50.2 +1.8**
KEST Kesra 80.51 21 P **P 16 50 48.8 +0.3**
comp=Z,5.4nm,1.1s,baz=156,slow=1.7,SNR=7.0
JTS JuntasAbangare 81.06 292 PFAKE 16 51 00.0 +8.2
JTS LR LR
comp=Z,1µm,20.0s
PAB San Pablo 81.48 10 PFAKE 16 51 00.0 +6.5
PAB LR LR
comp=Z,540nm,20.0s
GTBY Guantanamo Bay 81.65 306 PFAKE 16 51 10.0 +15
GTBY LR LR
comp=Z,1µm,19.0s
ESDC Sonseca Array 81.66 10 P **P 16 50 54.8 +0.4**
ESDC Sonseca Array 81.66 10 P **P 16 50 54.8 +0.4**
comp=Z,3.1nm,0.8s,baz=188,slow=5.3,SNR=17
MTDJ Mount Denham 81.87 303 PFAKE 16 51 10.0 +14
MTDJ LR LR
comp=Z,2µm,22.0s
MTE Manteigas 81.98 7 PFAKE 16 51 10.0 +14
MTE LR LR
comp=Z,1µm,20.0s
WDD Wield Dalam 82.16 25 PFAKE 16 51 10.0 +13
WDD LR LR
comp=Z,1µm,22.0s
CLTB Caltabellotta 83.34 23 PFAKE 16 51 10.0 +6.8
CLTB LR LR
comp=Z,481nm,20.0s
VSL Villasalto 84.06 20 PFAKE 16 51 20.0 +13
VSL LR LR
comp=Z,1µm,21.0s
CEL Celeste 84.79 25 PFAKE 16 51 20.0 +9.4
CEL LR LR
comp=Z,993nm,19.0s
ETSF Etsaut 85.31 12 *e*P **P 16 51 13.4 +0.3**
comp=Z,50nm,1.4s
ETSF Etsaut 85.31 12 *e*P **P 16 51 13.4 +0.3**
ETSF pmax pmax
comp=Z,50nm,1.4s
ETSF Etsaut 85.31 12 *e*P **P 16 51 13.4 +0.3**
comp=Z,50nm,1.4s
TGUH Tegucigalpa,Un 85.31 293 PFAKE 16 51 20.0 +6.4
TGUH LR LR
comp=Z,2µm,19.0s
EIL Elat 85.38 43 LR LR 17 28 07.5
comp=Z,4µm,18.1s,baz=251,slow=35
SJPF Ste Jean 85.42 11 *e*P **P 16 51 13.1 -0.4**
comp=Z,48nm,1.3s
SJPF Ste Jean 85.42 11 *e*P **P 16 51 13.1 -0.4**
SJPF pmax pmax
comp=Z,48nm,1.3s
SJPF Ste Jean 85.42 11 *e*P **P 16 51 13.1 -0.4**
comp=Z,48nm,1.3s

EPF Esparros 85.58 12 *e*P **P 16 51 14.8 +0.4**
EPF Esparros 85.58 12 *e*P **P 16 51 14.8 +0.4**
EPF Esparros 85.58 12 *e*P **P 16 51 14.8 +0.4**
TIP Timpagrande 85.91 25 PFAKE 16 51 30.0 +14
TIP LR LR
comp=Z,827nm,22.0s
MTLF Montolieu 86.19 14 *e*P **P 16 51 16.7 -0.7**
comp=Z,87nm,1.6s
MTLF Montolieu 86.19 14 *e*P **P 16 51 16.7 -0.7**
MTLF pmax pmax
comp=Z,87nm,1.6s
MTLF Montolieu 86.19 14 *e*P **P 16 51 16.7 -0.7**
comp=Z,87nm,1.6s
CUC Castrocucco 86.35 24 PFAKE 16 51 30.0 +12
CUC LR LR
comp=Z,529nm,22.0s
RAYN Ar Rayn 86.57 54 P **P 16 51 21.5 +1.7**
comp=Z,73nm,1.6s,SNR=6.5
LASF Ste Croix 87.21 15 *e*P **P 16 51 22.5 +0.2**
LASF Ste Croix 87.21 15 *e*P **P 16 51 22.5 +0.2**
FRF La Foret Royal 87.28 17 *e*P **P 16 51 22.1 -0.6**
comp=Z,44nm,1.3s
FRF La Foret Royal 87.28 17 *e*P **P 16 51 22.1 -0.6**
FRF pmax pmax
comp=Z,45nm,1.3s
FRF La Foret Royal 87.28 17 *e*P **P 16 51 22.1 -0.6**
comp=Z,44nm,1.3s
SMRF Simiane la Rot 87.45 16 *e*P **P 16 51 23.6 +0.1**
comp=Z,47nm,1.2s
SMRF Simiane la Rot 87.45 16 *e*P **P 16 51 23.6 +0.1**
comp=Z,47nm,1.2s
LFF La Frestale 87.50 12 *e*P **P 16 51 24.1 +0.4**
LFF La Frestale 87.50 12 *e*P **P 16 51 24.1 +0.4**
LFF La Frestale 87.50 12 *e*P **P 16 51 24.1 +0.4**
CAF Calviac 87.70 13 *e*P **P 16 51 24.9 +0.2**
comp=Z,86nm,1.5s
CAF Calviac 87.70 13 *e*P **P 16 51 24.9 +0.2**
CAF pmax pmax
comp=Z,86nm,1.5s
CAF Calviac 87.70 13 *e*P **P 16 51 24.9 +0.2**
comp=Z,86nm,1.5s
RJF Les Rejaudoux 87.98 13 *e*P **P 16 51 26.3 +0.3**
comp=Z,84nm,1.4s
RJF *e*R
comp=Z,798nm,18.2s
RJF Les Rejaudoux 87.98 13 *e*P **P 16 51 26.3 +0.3**
RJF pmax pmax
comp=Z,84nm,1.4s
RJF Les Rejaudoux 87.98 13 *e*P **P 16 51 26.3 +0.3**
comp=Z,84nm,1.4s
VIVF Saint-Julien-l 88.11 15 *e*P **P 16 51 26.9 +0.2**
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 88.11 15 *e*P **P 16 51 26.9 +0.2**
VIVF pmax pmax
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 88.11 15 *e*P **P 16 51 26.9 +0.2**
comp=Z,23nm,1.0s
ORIF Oris-en-Rattie 88.41 16 *e*P **P 16 51 28.1 -0.1**
comp=Z,119nm,1.6s
ORIF *e*R
comp=Z,3µm,21.5s
ORIF Oris-en-Rattie 88.41 16 *e*P **P 16 51 28.1 -0.1**
ORIF pmax pmax
comp=Z,119nm,1.6s
ORIF Oris-en-Rattie 88.41 16 *e*P **P 16 51 28.1 -0.1**
comp=Z,119nm,1.6s
MBDF Montbardon 88.42 16 *e*P **P 16 51 28.5 +0.2**
comp=Z,67nm,1.6s
MBDF Montbardon 88.42 16 *e*P **P 16 51 28.5 +0.2**
MBDF pmax pmax
comp=Z,67nm,1.6s
MBDF Montbardon 88.42 16 *e*P **P 16 51 28.5 +0.2**
comp=Z,67nm,1.6s
SSB Saint Sauveur 88.50 15 PFAKE 16 51 40.0 +11
SSB LR LR
comp=Z,1µm,20.0s
VLC Villacollemand 88.71 19 PFAKE 16 51 40.0 +10
VLC LR LR
comp=Z,1µm,22.0s
BNI Bardonecchia 88.71 16 PFAKE 16 51 40.0 +10
BNI LR LR
comp=Z,2µm,19.0s
CSS Prodhromos 88.87 39 *e*P **P 16 51 29.6 -1.0**
comp=Z,18nm,1.6s
CSS LR LR
comp=Z,505nm,21.0s
MFF Saint Martin d 88.99 11 *e*P **P 16 51 29.2 -1.5**
comp=Z,39nm,1.2s
MFF Saint Martin d 88.99 11 *e*P **P 16 51 29.2 -1.5**
MFF pmax pmax
comp=Z,39nm,1.2s
MFF Saint Martin d 88.99 11 *e*P **P 16 51 29.2 -1.5**
comp=Z,39nm,1.2s
TCF Toulx Ste Croi 89.05 13 *e*P **P 16 51 31.6 +0.5**
comp=Z,168nm,1.8s
TCF Toulx Ste Croi 89.05 13 *e*P **P 16 51 31.6 +0.5**
TCF pmax pmax
comp=Z,168nm,1.8s
TCF Toulx Ste Croi 89.05 13 *e*P **P 16 51 31.6 +0.5**
comp=Z,168nm,1.8s
LPG La Plagne 89.15 16 *e*P **P 16 51 32.3 +0.4**
comp=Z,135nm,1.6s
LPG La Plagne 89.15 16 *e*P **P 16 51 32.3 +0.4**
LPG pmax pmax
comp=Z,135nm,1.6s
LPG La Plagne 89.15 16 *e*P **P 16 51 32.3 +0.4**
comp=Z,135nm,1.6s
LPL La Plagne 89.16 16 *e*P **P 16 51 32.2 +0.3**
comp=Z,143nm,1.8s
LPL La Plagne 89.16 16 *e*P **P 16 51 32.2 +0.3**
LPL pmax pmax
comp=Z,143nm,1.8s
LPL La Plagne 89.16 16 *e*P **P 16 51 32.2 +0.3**
comp=Z,143nm,1.8s
BGF Bois d'Agland 89.42 13 *e*P **P 16 51 33.1 +0.3**
BGF Bois d'Agland 89.42 13 *e*P **P 16 51 33.1 +0.3**
BGF Bois d'Agland 89.42 13 *e*P **P 16 51 33.1 +0.3**
SMF Signal de Mont 89.68 14 *e*P **P 16 51 34.0 0.0**
comp=Z,86nm,1.6s
SMF Signal de Mont 89.68 14 *e*P **P 16 51 34.0 0.0**
SMF pmax pmax
comp=Z,86nm,1.6s
SMF Signal de Mont 89.68 14 *e*P **P 16 51 34.0 0.0**
comp=Z,86nm,1.6s
AVF Avril sur Loir 89.73 14 *e*P **P 16 51 34.8 +0.6**
comp=Z,174nm,1.7s
AVF Avril sur Loir 89.73 14 *e*P **P 16 51 34.8 +0.6**
AVF pmax pmax
comp=Z,174nm,1.7s
AVF Avril sur Loir 89.73 14 *e*P **P 16 51 34.8 +0.6**
comp=Z,174nm,1.7s
QUIF Quistinic 89.88 9 *e*P **P 16 51 34.0 -0.8**
comp=Z,61nm,1.3s
QUIF Quistinic 89.88 9 *e*P **P 16 51 34.0 -0.8**
QUIF pmax pmax
comp=Z,61nm,1.3s
QUIF Quistinic 89.88 9 *e*P **P 16 51 34.0 -0.8**
comp=Z,61nm,1.3s
ISP Isparta 89.95 35 PFAKE 16 51 50.0 +14
ISP LR LR
comp=Z,727nm,21.0s
SSF Saint Saulge 90.02 14 *e*P **P 16 51 35.8 +0.2**
comp=Z,42nm,1.1s
SSF Saint Saulge 90.02 14 *e*P **P 16 51 35.8 +0.2**
SSF pmax pmax
comp=Z,42nm,1.1s
SSF Saint Saulge 90.02 14 *e*P **P 16 51 35.8 +0.2**
comp=Z,42nm,1.1s
CABF La Chapelle 90.08 15 *e*P **P 16 51 35.1 -0.9**
CABF La Chapelle 90.08 15 *e*P **P 16 51 35.1 -0.9**
CABF La Chapelle 90.08 15 *e*P **P 16 51 35.1 -0.9**
LOR Lormes 90.29 14 *e*P **P 16 51 37.0 +0.2**
comp=Z,76nm,1.4s
LOR *e*R
comp=Z,812nm,21.0s
LOR Lormes 90.29 14 *e*P **P 16 51 37.0 +0.2**
comp=Z,76nm,1.4s
GRR Gorron 90.63 10 *e*P **P 16 51 37.6 -0.8**
comp=Z,65nm,1.4s
GRR Gorron 90.63 10 *e*P **P 16 51 37.6 -0.8**
GRR pmax pmax
comp=Z,65nm,1.4s
GRR Gorron 90.63 10 *e*P **P 16 51 37.6 -0.8**
comp=Z,65nm,1.4s
TUE Stuetta 90.64 18 P **P 16 51 37.6 -1.1**
comp=Z,60nm,1.9s

TUE LR LR
comp=Z,1µm,22.0s
LDF La Druitiere 90.94 11 *e*P **P 16 51 39.0 -0.8**
comp=Z,42nm,1.2s
LDF La Druitiere 90.94 11 *e*P **P 16 51 39.0 -0.8**
LDF pmax pmax
comp=Z,42nm,1.2s
LDF La Druitiere 90.94 11 *e*P **P 16 51 39.0 -0.8**
comp=Z,42nm,1.2s
FLN La Foliniere 91.05 11 *e*P **P 16 51 40.3 0.0**
FLN *e*R
comp=Z,1µm,18.2s
FLN La Foliniere 91.05 11 *e*P **P 16 51 40.3 0.0**
FLN La Foliniere 91.05 11 *e*P **P 16 51 40.3 0.0**
BOJS Bojanci 91.23 22 *i* P P 16 51 44.9 +3.7
JAVS Javornik 91.27 21 *i* P **P 16 51 43.8 +2.2**
HINF Hinteralfeld 91.38 16 *e*P **P 16 51 41.6 -0.3**
comp=Z,71nm,1.5s
HINF Hinteralfeld 91.38 16 *e*P **P 16 51 41.6 -0.3**
HINF pmax pmax
comp=Z,71nm,1.5s
HINF Hinteralfeld 91.38 16 *e*P **P 16 51 41.6 -0.3**
comp=Z,71nm,1.5s
SFTF Sexfontaines 91.40 14 *e*P **P 16 51 42.2 +0.2**
SFTF Sexfontaines 91.40 14 *e*P **P 16 51 42.2 +0.2**
HAU Haudompre 91.46 15 *e*P **P 16 51 42.1 -0.2**
HAU *e*R
comp=Z,656nm,19.5s
HAU Haudompre 91.46 15 *e*P **P 16 51 42.1 -0.2**
HAU Haudompre 91.46 15 *e*P **P 16 51 42.1 -0.2**
H01W2 Cape Leeuwin H 91.51 141 T T 18 34 16.3
baz=216,slow=75,SNR=23
H01W3 Cape Leeuwin H 91.53 141 T T 18 34 15.1
baz=216,slow=75,SNR=29
H01W1 Cape Leeuwin H 91.53 141 T T 18 34 29.8
baz=216,slow=75,SNR=26
MEZF Maizieres J'vi 91.69 14 *e*P **P 16 51 43.8 +0.5**
comp=Z,69nm,1.1s,baz=201
MEZF Maizieres J'vi 91.69 14 *e*P **P 16 51 43.8 +0.5**
comp=Z,69nm,1.1s
ECH Echery 91.83 16 PFAKE 16 52 00.0 +16
ECH LR LR
comp=Z,1µm,20.0s
PAGF Fort de Pagny 91.87 15 *e*P **P 16 51 44.4 +0.3**
comp=Z,15nm,1.3s
PAGF Fort de Pagny 91.87 15 *e*P **P 16 51 44.4 +0.3**
comp=Z,15nm,1.3s
CDF Champ du Feu 92.04 16 *e*P **P 16 51 44.8 -0.2**
CDF Champ du Feu 92.04 16 *e*P **P 16 51 44.8 -0.2**
CDF Champ du Feu 92.04 16 *e*P **P 16 51 44.8 -0.2**
BFO Black Forest 92.18 16 PFAKE 16 52 00.0 +14
BFO LR LR
comp=Z,2µm,20.0s
PERS Pernice 92.23 21 *i* P **P 16 51 48.0 +2.1**
ANTO Ankara 92.64 36 PFAKE 16 52 00.0 +12
ANTO LR LR
comp=Z,790nm,19.0s
BRTR Keskin Array B 92.90 36 P **P 16 51 49.9 +0.6**
BRTR Keskin Array B 92.90 36 P **P 16 51 49.9 +0.6**
comp=Z,7.9nm,1.0s,baz=194,slow=6.1,SNR=19
BR131 Keskin Array S 92.90 36 *e*P **P 16 51 50.0 +0.6**
comp=Z,8.5nm,1.0s
WLF Walferdange 93.01 15 P P 16 51 52.9 +3.6
comp=Z,18nm,1.6s
WLF Walferdange 93.01 15 PFAKE 16 52 00.0 +11
WLF LR LR
comp=Z,1µm,19.0s
BAIF Baives 93.04 13 *e*P **P 16 51 50.0 +0.5**
BAIF Baives 93.04 13 *e*P **P 16 51 50.0 +0.5**
BAIF Baives 93.04 13 *e*P **P 16 51 50.0 +0.5**
GIVF Givet 93.19 14 *e*P **P 16 51 50.6 +0.4**
GIVF Givet 93.19 14 *e*P **P 16 51 50.6 +0.4**
GIVF Givet 93.19 14 *e*P **P 16 51 50.6 +0.4**
MEM Membach 93.89 14 P **P 16 51 53.5 +0.2**
GERES GERESS Array B 93.90 20 P **P 16 51 53.6 0.0**
GERES GERESS Array B 93.90 20 P **P 16 51 53.6 0.0**
comp=Z,1.0nm,1.0s,baz=156,slow=7.0,SNR=4.8
RKT Rikitea 94.02 234 *e*SS SS 17 09 21.5 -2.8
comp=Z,384nm,30.2s
RKT Rikitea 94.02 234 *e*LR LR 17 22 09.1
comp=Z,2µm,30.8s
KHC Kasperske Hory 94.14 19 *e*P **P 16 51 54.8 +0.2**
NHSC New Hope 94.51 311 PFAKE 16 52 10.0 +13
NHSC LR LR
comp=Z,933nm,20.0s
TAU Tasmania Unive 94.68 168 PFAKE 16 52 10.0 +12
TAU LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 94.77 24 PFAKE 16 52 10.0 +12
PSZ LR LR
comp=Z,939nm,22.0s
RPZ Rata Peaks 94.84 186 LR LR 17 28 07.9
comp=Z,620nm,21.8s,baz=246,slow=31
BRG Berggiesshubel 95.84 19 P P 16 52 08.0 +5.7
BRG Berggiesshubel 95.84 19 S S 17 03 33.0 +13
BRG SS **SS 17 09 50.0 -0.8**
BRG
comp=N,780nm,18.5s
BRG
comp=E,737nm,20.9s
BRG
comp=Z,1µm,19.4s
BRG Berggiesshubel 95.84 19 P P 16 52 08.0 +5.7
BRG SS SS 17 09 50.0 -0.8
BRG MLR MLR
comp=N,780nm,18.5s
BRG MLR MLR
comp=E,737nm,20.9s
BRG MLR MLR
comp=Z,1µm,19.4s
CLL Collm 96.02 18 *e*P **P 16 52 05.0 +1.9**
CLL *e*S **ScS 17 03 24.0 +2.1**
CLL MLR MLR
comp=Z,500nm,18.6s
CLL Collm 96.02 18 *e*P **P 16 52 05.0 +1.9**
CLL *e*SKSac **SKSac 17 02 41.0 +2.1**
CLL *e*S **ScS 17 03 24.0 +2.1**
CLL *e*PS **PS 17 04 42.0 +0.1**
CLL *e*PPS PPS 17 05 26.0
CLL *e*SS **SS 17 09 48.0 -5.3**
CLL *e*SSS SSS 17 13 54.0
CLL *e*SSSS 17 16 54.0
CLL LmV 17 33 00.0
comp=Z,500nm,18.6s
CRVS Cervenica-Dubn 96.12 24 *e*P P 16 52 06.9 +3.2
CRVS pmax pmax
comp=Z,36nm,2.3s
CRVS Cervenica-Dubn 96.12 24 *e*P **P 16 52 06.8 +3.1**
GOGA Godfrey 96.62 309 PFAKE 16 52 20.0 +14
GOGA LR LR
comp=Z,993nm,20.0s
CBN Corbin 96.78 316 PFAKE 16 52 20.0 +13
CBN LR LR
comp=Z,1µm,22.0s
SNZO South Karori 96.89 189 PFAKE 16 52 20.0 +12
SNZO LR LR
comp=Z,482nm,19.0s
BRAL Brewton 97.06 305 PFAKE 16 52 20.0 +12
BRAL LR LR
comp=Z,759nm,19.0s
KWP Kalwaria Pacla 97.15 25 PFAKE 16 52 20.0 +12
KWP LR LR
comp=Z,1µm,20.0s
ESK Eskdalemuir 97.17 8 PFAKE 16 52 20.0 +12
ESK LR LR
comp=Z,937nm,22.0s
BLA Blacksburg 97.66 314 PFAKE 16 52 20.0 +8.9
BLA LR LR
comp=Z,1µm,21.0s
TKL Tuckaleechee C 98.41 311 LR LR 17 31 41.1
comp=Z,642nm,20.7s,baz=118,slow=32
GNI Garni 98.55 43 PFAKE 16 52 30.0 +15
GNI LR LR
comp=Z,2µm,20.0s
LBNH Lisbon 98.76 323 PFAKE 16 52 30.0 +14
LBNH LR LR
comp=Z,657nm,21.0s
KIEV Kiev 100.21 28 PFAKE 16 52 30.0 +8.1
KIEV LR LR
comp=Z,583nm,21.0s
AKASG Malin Array Be 100.22 28 *i* P **Pdif 16 52 20.7 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIV Kislovodsk 100.39 39 PFAKE 16 52 30.0 +6.9
KIV LR LR

comp=Z,802nm,19.0s
ERPA Erie 101.02 317 PFAKE 16 52 40.0 +14
ERPA LR LR
comp=Z,825nm,20.0s
ACSO Alum Creek Sta 101.23 314 PFAKE 16 52 40.0 +13
ACSO LR LR
comp=Z,903nm,21.0s
TBI Tubuai 102.04 224 *e*SP SP 17 05 45.4 -0.5
comp=Z,231nm,27.0s
TBI *e*SS **SS** **17 11 20.7 +4.0**
comp=Z,372nm,29.2s
TBI Tubuai 102.04 224 *e*LQ LQ 17 21 37.4
comp=Z,478nm,36.8s
TBI *e*LR LR 17 25 54.5
comp=Z,2μm,29.8s
NATX Nacogdoches 102.33 301 PFAKE 16 52 40.0 +8.1
NATX LR LR
comp=Z,929nm,19.0s
CAN Canberra 102.37 168 PFAKE 16 52 40.0 +7.6
CAN LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 103.05 315 PFAKE 16 52 50.0 +15
AAM LR LR
comp=Z,649nm,19.0s
KONO Kongsberg 103.14 13 PFAKE 16 52 50.0 +15
KONO LR LR
comp=Z,761nm,20.0s
JCT Junction City 104.87 298 PFAKE 16 52 50.0 +6.7
JCT LR LR
comp=Z,662nm,22.0s
HDIL Hopedale 104.93 311 PFAKE 16 52 50.0 +6.8
HDIL LR LR
comp=Z,1μm,22.0s
MBWA Marble Bar 105.65 138 PFAKE 16 57 10.0
MBWA LR LR
comp=Z,1μm,19.0s
OBN Obninsk 106.41 29 PFAKE 16 57 10.0
OBN LR LR
comp=Z,652nm,22.0s
TXAR Lajitas Array 106.76 294 PKKPab PKKPab 17 08 34.6 +0.6
TXAR Lajitas Array 106.76 294 PKKPab PKKPab 17 08 34.6 +0.6
comp=Z,0.7nm,0.9s,baz=305,slow=4.4,SNR=4.4
PPT2 Papeete2 106.82 227 *e*SP SP 17 06 33.3 -2.9
comp=Z,213nm,23.8s
PPT2 *e*SS **SS** **17 12 29.4 +6.8**
comp=Z,497nm,26.5s
PPT2 Papeete2 106.82 227 *e*LQ LQ 17 23 22.9
comp=Z,823nm,38.0s
PPT2 *e*LR LR 17 28 08.4
comp=Z,1μm,24.5s
WMOK Wichita Mounta 106.89 302 PFAKE 16 57 10.0
WMOK LR LR
comp=Z,435nm,20.0s
JFWS Jewell Farm 107.03 313 PFAKE 16 57 10.0
JFWS LR LR
comp=Z,803nm,19.0s
SCIA State Center 108.05 310 PFAKE 16 57 20.0
SCIA LR LR
comp=Z,874nm,22.0s
KSU1 Kansas State U 108.27 306 PFAKE 16 57 20.0
KSU1 LR LR
comp=Z,1μm,21.0s
COWI Conover 108.52 316 PFAKE 16 57 20.0
COWI LR LR
comp=Z,870nm,20.0s
MNTX Cornudas Mount 109.37 295 PFAKE 16 57 20.0
MNTX LR LR
comp=Z,645nm,20.0s
EYMN Ely 110.95 316 PFAKE 16 57 20.0
EYMN LR LR
comp=Z,740nm,19.0s
ECSD EROS Data Cent 111.14 310 PFAKE 16 57 20.0
ECSD LR LR
comp=Z,769nm,21.0s
SFJD Kangerlussuaq 111.29 346 PFAKE 16 57 20.0
SFJD LR LR
comp=Z,532nm,20.0s
ANMO Albuquerque 112.03 298 PFAKE 16 57 20.0
ANMO LR LR
comp=Z,1μm,21.0s
SDCO Great Sand Dun 113.03 301 PFAKE 16 57 30.0
SDCO LR LR
comp=Z,885nm,21.0s
WRAB Tennant Creek 113.17 150 PFAKE 16 57 30.0
WRAB LR LR
comp=Z,2μm,22.0s
TUC Tucson 113.43 293 PFAKE 16 57 30.0
TUC LR LR
comp=Z,813nm,22.0s
AGMN Agassiz Nation 113.47 314 PFAKE 16 57 30.0
AGMN LR LR
comp=Z,749nm,20.0s
KULM Kulim 113.76 105 PFAKE 16 57 30.0
KULM LR LR
comp=Z,863nm,22.0s
ISCO Idaho Springs 114.28 302 PFAKE 16 57 30.0 +14
ISCO LR LR
comp=Z,781nm,21.0s
MVCO Mesa Verde 114.68 299 PFAKE 16 57 30.0 +13
MVCO LR LR
comp=Z,612nm,20.0s
KEV Kevo 115.49 15 PFAKE 16 57 30.0 +13
KEV LR LR
comp=Z,498nm,20.0s
WUAZ Wupatki 115.65 296 PFAKE 16 57 30.0 +11
WUAZ LR LR
comp=Z,860nm,20.0s
ARU Arti 116.28 37 PFAKE 16 57 30.0 +11
ARU LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 116.64 183 *e*LR LR 17 32 26.4
comp=Z,2μm,26.2s
CTAO Charters Tower 116.65 162 PFAKE 16 57 30.0 +8.9
CTAO LR LR
comp=Z,1μm,21.0s
EKS2 Erkin-Say 116.74 56 PFAKE 16 57 30.0 +9.4
EKS2 LR LR
comp=Z,2μm,20.0s
K21A Alcova 116.87 304 P **PKPdf** **16 57 21.6 +0.7**
baz=117
I22A 9 Mile Ranch, 117.08 306 P **PKPdf** **16 57 21.5 +0.3**
baz=117
AAK Ala-Archa 117.17 56 *e*PKIKP **PKPdf** **16 57 18.0 -3.5**
AAK Ala-Archa 117.17 56 PKP **PKPdf** **16 57 19.9 -1.6**
AAK LR LR
comp=Z,1μm,20.0s
AAK Ala-Archa 117.17 56 PKP **PKPdf** **16 57 19.9 -1.6**
comp=Z,0.6nm,0.4s,baz=274,slow=1.1,SNR=3.9
I21A Big Trails, Te 117.53 305 P **PKPdf** **16 57 22.9 +0.8**
baz=118
KSM Kuching 117.89 115 PFAKE 16 57 30.0 +6.5
KSM LR LR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 118.01 56 PFAKE 16 57 30.0 +6.9
TKM2 LR LR
comp=Z,1μm,19.0s
PFO Pinyon Flat Ob 118.10 291 PFAKE 16 57 30.0 +6.5
PFO LR LR
comp=Z,767nm,22.0s
DGMT Dagmar 118.17 311 PFAKE 16 57 30.0 +7.0
DGMT LR LR
comp=Z,976nm,20.0s
BW06 Boulder Array 118.38 303 PFAKE 16 57 40.0 +16
BW06 LR LR
comp=Z,750nm,21.0s
PDAR Pinedale Array 118.38 303 PKKPbc PKKPbc 17 07 42.2 +0.9
PDAR Pinedale Array 118.38 303 PKKPbc PKKPbc 17 07 42.2 +0.9
comp=Z,1.0nm,0.9s,baz=66,slow=3.7,SNR=4.9
LAO LASA Array 118.41 308 PFAKE 16 57 30.0 +6.4
LAO LR LR
comp=Z,550nm,19.0s
I19A Meeteetse 118.69 305 P **PKPdf** **16 57 25.1 +0.7**
baz=119
KAPI Kappang 118.94 128 PFAKE 16 57 40.0 +14
KAPI LR LR
comp=Z,1μm,20.0s
DUG Dugway 119.13 299 PFAKE 16 57 40.0 +15
DUG LR LR
comp=Z,428nm,19.0s
AHID Auburn Hatcher 119.36 303 PFAKE 16 57 40.0 +14
AHID LR LR
comp=Z,1μm,22.0s
RLMT Red Lodge 119.42 306 PFAKE 16 57 40.0 +14
RLMT LR LR
comp=Z,1μm,22.0s
H18A Shoshone NF, C 119.44 305 P **PKPdf** **16 57 26.0 +0.2**
baz=120
SHL Shillong 119.92 81 *ex* **PKiKP** **16 57 28.0 +0.6**
BRVK Borovoye 120.16 44 *e*PKIKP **PKPdf** **16 57 25.0 -1.6**
BRVK Borovoye 120.16 44 PFAKE 16 57 40.0 +13
BRVK LR LR
comp=Z,1μm,21.0s
BVAR Borovoye Array 120.19 44 PKIKP **PKPdf** **16 57 26.2 -0.5**
BVAR 16 58 57.3
BVAR Borovoye Array 120.19 44 PKP **PKPdf** **16 57 26.2 -0.5**
BVAR PP **PP** **16 58 57.3 +4.4**
BVAR Borovoye Array 120.19 44 PKP **PKPdf** **16 57 26.2 -0.5**
comp=Z,0.8nm,0.8s,baz=264,slow=3.0,SNR=5.2
BVAR PP **PP** **16 58 57.3 +4.4**
comp=Z,0.9nm,0.9s,baz=231,slow=4.7,SNR=4.0
ISA Isabella 120.60 292 P **PKPdf** **16 57 28.8 +0.6**
baz=121
CWC Cottonwood Cre 120.73 293 P **PKPdf** **16 57 28.9 +0.4**
baz=121
A19A Klindworth Far 121.00 310 P **PKPdf** **16 57 28.8 +0.3**
baz=121
CMAR Chiang Mai Arr 121.02 92 PKP **PKPdf** **16 57 28.7 -0.7**
CMAR PKKPbc **PKKPbc** **17 07 29.6 -1.2**
CMAR Chiang Mai Arr 121.02 92 PKP **PKPdf** **16 57 28.7 -0.7**
comp=Z,0.8nm,0.3s,baz=237,slow=3.7,SNR=9.8
CMAR PKKPbc **PKKPbc** **17 07 29.6 -1.2**
comp=Z,0.4nm,0.3s,baz=66,slow=3.5,SNR=4.1
BOZ Bozeman (W) 121.12 305 PFAKE 16 57 40.0 +11
BOZ LR LR
comp=Z,1μm,21.0s
EGMT Eagleton 121.15 308 PFAKE 16 57 40.0 +11
EGMT LR LR
comp=Z,404nm,19.0s
CHTO Chiang Mai 121.24 92 *e*PKIKP **PKPdf** **16 57 28.6 -1.2**
CHTO MLR MLR
comp=Z,459nm,20.0s
CHTO Chiang Mai 121.24 92 *e*PKPdf **PKPdf** **16 57 28.6 -1.2**
CHTO LR LR
comp=Z,459nm,20.0s
KBS Kingsbay 121.39 6 PFAKE 16 57 40.0 +12
KBS LR LR
comp=Z,512nm,21.0s
LSA Lhasa 121.67 77 *e*PKIKP **PKPdf** **16 57 29.7 -1.2**
LSA MLR MLR
comp=Z,1μm,19.0s
LSA Lhasa 121.67 77 *e*PKPdf **PKPdf** **16 57 29.7 -1.2**
LSA LR LR
comp=Z,1μm,19.0s
HLID Hailey 121.85 302 PFAKE 16 57 40.0 +10
HLID LR LR
comp=Z,637nm,20.0s
KURBB Kurchatov Arra 123.53 50 PKP **PKPdf** **16 57 32.2 -1.0**
comp=Z,1.7nm,0.9s,baz=242,slow=2.2,SNR=14
KURBB PP **PP** **16 59 14.7 -0.9**
comp=Z,0.9nm,1.0s,baz=259,slow=6.5,SNR=5.9
KURBB PKKPbc **PKKPbc** **17 07 21.2 -0.5**
comp=Z,0.3nm,0.7s,baz=77,slow=3.3,SNR=4.6
KURK Kurchatov 123.62 49 PKIKP **PKPdf** **16 57 32.2 -1.1**
KURK 16 59 14.7
KURK MLR MLR
comp=Z,910nm,19.0s
KURK Kurchatov 123.62 49 PKP **PKPdf** **16 57 32.2 -1.1**
KURK PP **PP** **16 59 14.7 -1.6**
KURK PKKPbc **PKKPbc** **17 07 21.2 -0.1**
KURK LR LR
comp=Z,910nm,19.0s
WVOR Wild Horse Val 124.05 299 PFAKE 16 57 50.0 +15
WVOR LR LR
comp=Z,567nm,20.0s
MKAR Makanchi Array 124.06 55 PKIKP **PKPdf** **16 57 33.2 -1.2**
MKAR Makanchi Array 124.06 55 PKP **PKPdf** **16 57 33.2 -1.2**
MKAR Makanchi Array 124.06 55 PKP **PKPdf** **16 57 33.2 -1.2**
comp=Z,1.2nm,0.8s,baz=254,slow=2.3,SNR=9.1
KKM Kota Kinabalu 125.21 117 PFAKE 16 57 50.0 +12
KKM LR LR
comp=Z,1μm,22.0s
NEW Newport 125.66 306 PFAKE 16 57 50.0 +13
NEW LR LR
comp=Z,592nm,20.0s
N02D Trinity Center 126.09 296 P **PKPdf** **16 57 39.2 +0.7**
baz=126
J05D Fort Rock, OR 126.14 299 P **PKPdf** **16 57 39.2 +0.6**
baz=126
WMQ Urumqi 126.17 60 PKP **PKPdf** **16 57 39.5 +0.9**
WMQ PP **PP** **16 59 37.6 +4.0**
WMQ AMB AMB
comp=Z,26nm,7.4s
WMQ LR LR
comp=Z,820nm,29.7s
WMQ LR LR
comp=Z,1μm,32.4s
WMQ LR LR
comp=Z,790nm,24.3s
HAWA Hanford 126.37 303 PFAKE 16 57 50.0 +11
HAWA LR LR
comp=Z,692nm,19.0s
I05D Terrebonne, OR 126.66 300 P **PKPdf** **16 57 40.2 +0.7**
baz=127
PMG Port Moresby 127.15 160 PFAKE 16 57 50.0 +8.7
PMG LR LR
comp=Z,798nm,19.0s
KMI Kunming 127.78 88 PKP **PKPdf** **16 57 42.4 0.0**
KMI sPKP 16 57 46.7
KMI PP **PP** **16 59 49.0 +4.4**
KMI SKKS 17 06 38.2
KMI SS **SS** **17 16 58.4 +1.0**
KMI AMB AMB
comp=Z,110nm,3.7s
KMI LR LR
comp=Z,500nm,17.0s
KMI LR LR
comp=Z,560nm,17.0s
KMI LR LR
comp=Z,530nm,27.1s
ZALV Zalesovo Beam 128.39 48 PKIKP **PKPdf** **16 57 41.0 -1.3**
ZALV 16 59 47.4
ZALV Zalesovo Beam 128.39 48 PKP **PKPdf** **16 57 41.0 -1.3**
ZALV PP **PP** **16 59 47.4 -0.5**
ZALV Zalesovo Beam 128.39 48 PKP **PKPdf** **16 57 41.0 -1.3**
comp=Z,1.5nm,0.8s,baz=262,slow=4.0,SNR=6.2
ZALV PP **PP** **16 59 47.4 -0.5**
comp=Z,1.4nm,0.9s,baz=224,slow=4.1,SNR=5.0
YKA Yellowknife Ar 129.32 324 PKP **PKPdf** **16 57 43.5 -0.4**
YKA Yellowknife Ar 129.32 324 PKP **PKPdf** **16 57 43.4 -0.4**
comp=Z,1.7nm,0.8s,baz=108,slow=2.2,SNR=22
NLWA Neilton Lookou 129.50 303 PFAKE 16 58 00.0 +15
NLWA LR LR
comp=Z,784nm,20.0s
QIZ Qiongzhong 129.51 100 PKP **PKPdf** **16 57 44.3 -1.3**
QIZ SS SS 17 17 18.2 0.0
QIZ LR LR
comp=Z,950nm,19.5s
QIZ LR LR
comp=Z,310nm,19.9s
QIZ LR LR
comp=Z,1μm,22.0s
QIZ Qiongzhong 129.51 100 PFAKE 16 58 00.0 +14
QIZ LR LR
comp=Z,1μm,19.0s
GYA Guiyang 131.46 89 *e*Pdif **Pdif** **16 54 41.0 -0.7**
GYA PKP **PKPdf** **16 57 48.8 -0.5**
GYA PP **PP** **17 00 11.4 +2.9**
GYA PKS **PKSdf** **17 01 23.2 -2.7**
GYA SKKS 17 07 01.8
GYA SS **SS** **17 17 41.5 -1.0**
GYA AMB AMB
comp=Z,130nm,7.2s
GYA LR LR
comp=Z,130nm,20.4s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,140nm,20.6s
CD2 Chengdu 131.60 83 *e*PKP **PKPdf** **16 57 48.8 -0.5**
CD2 PP **PP** **17 00 12.5 +3.2**
CD2 SKS **SKSdf** **17 04 57.3 -3.5**
CD2 SKKS **SKKSac** **17 07 02.8 -2.6**
CD2 SS **SS** **17 17 44.1 -0.1**
CD2 AMB AMB
comp=Z,400nm,7.1s
CD2 LR LR
comp=Z,740nm,22.6s
CD2 LR LR
comp=Z,790nm,22.6s
CD2 LR LR
comp=Z,520nm,20.2s
DAV Davao City (W) 132.02 125 PFAKE 16 58 00.0 +9.4
DAV LR LR
comp=Z,1μm,19.0s
GTA Gaotai 132.59 70 PKP **PKPdf** **16 57 48.9 -2.1**
GTA PP **PP** **17 00 15.7 0.0**
GTA SKS **SKSdf** **17 04 58.1 -4.3**
GTA SS **SS** **17 17 55.0 -1.1**
GTA AMB AMB
comp=Z,130nm,7.6s
GTA LR LR
comp=Z,640nm,22.3s
GTA LR LR
comp=Z,510nm,22.3s
GTA LR LR
comp=Z,710nm,24.7s
LZH Lanzhou 134.09 76 *e*PKP **PKPdf** **16 57 52.1 -1.9**
LZH sPKP 16 58 03.3
LZH PP **PP** **17 00 27.2 +1.9**
LZH SKKS 17 07 17.0
LZH SS **SS** **17 18 11.3 -3.2**
LZH AMB AMB
comp=Z,120nm,4.7s
LZH LR LR
comp=Z,490nm,15.2s
LZH LR LR
comp=Z,930nm,19.6s
LZH LR LR
comp=Z,1μm,19.8s
WRAK Wrangell Islan 136.92 313 PFAKE 16 58 10.0 +12
WRAK LR LR
comp=Z,404nm,19.0s
XAN Xi'an 136.93 82 PKP **PKPdf** **16 58 00.2 +1.0**
XAN LR LR
comp=Z,420nm,20.3s
XAN LR LR
comp=Z,140nm,23.4s
XAN LR LR
comp=Z,200nm,21.4s
MOY Mondy 137.19 54 *e*PKIKP **PKPdf** **16 57 59.4 +0.2**
INK Inuvik 137.70 330 PKPdf **PKPdf** **16 57 59.0 -0.5**
ZAK Zakamensk 138.34 57 *e*PKHKP PKPpre 16 57 51.2
ZAK pmax pmax
comp=Z,5.0nm,1.8s
TLY Talaya 138.82 55 *e*PKIKP **PKPdf** **16 58 04.4 +2.3**
TLY *e*SS SS 17 19 37.0 +27
TLY pmax pmax
comp=Z,10.0nm,1.2s
TLY MLR MLR
comp=Z,605nm,20.0s
TLY Talaya 138.82 55 PFAKE 16 58 10.0 +7.9
TLY LR LR
comp=Z,723nm,21.0s
IRK Irkutsk 139.29 54 *e*PKIKP **PKPdf** **16 58 04.0 +1.1**
IRK pmax pmax
comp=Z,39nm,1.9s
SONM Songino Array 139.80 61 PKPpre PKPpre 16 57 57.8
SONM PKP **PKPdf** **16 58 03.6 -0.5**
SONM Songino Array 139.80 61 PKhKP PKPpre 16 57 57.8
comp=Z,0.7nm,0.7s,baz=213,slow=1.8,SNR=4.3
SONM PKP **PKPdf** **16 58 03.6 -0.5**
comp=Z,2.7nm,0.8s,baz=158,slow=1.6,SNR=7.6
ULN Ulaanbaatar 140.24 61 *e*PKPpre PKPpre 16 57 57.6
ULN LR LR
comp=Z,800nm,21.0s
EGAK Eagle 141.20 326 PFAKE 16 58 20.0 +14
EGAK LR LR
comp=Z,746nm,22.0s
YHNB Yeheng 141.42 103 PFAKE 16 58 20.0 +12
YHNB LR LR
comp=Z,1μm,19.0s
HHC Hu-ho-hao-te 141.49 73 *e*PKP **PKPdf** **16 58 08.1 +0.7**
HHC PP PP 17 01 17.0 +5.7
HHC SKS **SKSdf** **17 05 17.4 0.0**
HHC SKKS **SKKSac** **17 08 03.4 -0.8**
HHC SS **SS** **17 19 45.0 +2.9**
HHC AMB AMB
comp=Z,330nm,6.8s
HHC LR LR
comp=Z,860nm,19.6s
HHC LR LR
comp=Z,1μm,20.5s
HHC LR LR
comp=Z,1μm,19.4s
NJ2 Nanjing 143.45 90 *e*PKP **PKPdf** **16 58 10.6 -0.4**
NJ2 PP **PP** **17 01 22.0 -1.1**
NJ2 AMB AMB
comp=Z,1μm,10.0s
NJ2 LR LR
comp=Z,930nm,31.5s
NJ2 LR LR
comp=Z,860nm,20.0s
NJ2 LR LR
comp=Z,360nm,19.4s
ILAR Eielson Array 143.60 327 PKP PKPbc 16 58 07.6 -0.1
ILAR Eielson Array 143.60 327 PKP PKPbc 16 58 07.6 -0.1
comp=Z,1.2nm,0.7s,baz=93,slow=1.5,SNR=10
COLA College 143.97 327 PFAKE 16 58 20.0 +9.2
COLA LR LR
comp=Z,613nm,19.0s
BJT Baijiatuau 144.57 76 *e*PKP **PKPdf** **16 58 12.1 -0.6**
BJT LR LR
comp=Z,884nm,20.0s
BJI Beijing 144.58 76 PKP **PKPab** **16 58 11.2 0.0**
BJI SS SS 17 20 20.3 +2.8
BJI AMB AMB
comp=Z,280nm,4.4s
BJI LR LR
comp=Z,730nm,19.2s
BJI LR LR
comp=Z,480nm,18.0s
BJI LR LR
comp=Z,520nm,31.1s
CIT Chita 144.96 55 *e*PKIKP **PKPab** **16 58 12.1 -0.2**
CIT pmax pmax
comp=Z,293nm,2.6s
TIXI Tiksi 145.35 18 *c i*PKIKP **PKPbc** **16 58 12.1 -0.8**
TIXI Tiksi 145.35 18 *e*PKP **PKPbc** **16 58 11.7 -1.2**
TIXI LR LR
comp=Z,889nm,20.0s
PMR Palmer 145.37 322 PKIKP **PKPab** **16 58 14.1 +0.6**
PMR Palmer 145.37 322 PKPdf **PKPab** **16 58 14.1 +0.6**
TRF Thorofare Moun 145.41 325 *e*PKP **PKPbc** **16 58 13.0 -0.6**
KTH Kantishna Hill 145.65 325 *e*PKP **PKPdf** **16 58 13.5 -0.4**
IM04 Indian Mountai 145.91 330 *e*PKPdf **PKPdf** **16 58 14.3 0.0**
PPLA Purkeypile 146.40 325 *e*PKPbc **PKPdf** **16 58 15.9 +0.7**
HIA Hailar 148.77 61 *e*PKPbc **PKPbc** **16 58 23.2 -0.2**
HIA LR LR
comp=Z,1μm,19.0s
SNY Shenyang 150.46 76 ⇑PKPbc **PKPbc** **16 58 27.5 -0.2**
SNY AMB AMB
comp=Z,270nm,5.1s
SNY LR LR
comp=Z,750nm,18.6s
SNY LR LR
comp=Z,610nm,14.3s
SNY LR LR
comp=Z,440nm,21.8s
TNA Tin City 151.02 336 *e*PKPbc **PKPbc** **16 58 28.0 -0.2**
CLNS Chul'man 151.04 45 *e*PKIKP **PKPdf** **16 58 25.7 +2.8**
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS pmax pmax
comp=Z,25nm,1.3s
CLNS pmax pmax
comp=N,5.0nm,0.8s
YAK Yakutsk 151.30 33 *e*PKIKP **PKPdf** **16 58 25.1 +2.1**
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK Yakutsk 151.30 33 *e*PKPbc **PKPbc** **16 58 27.9 -1.1**
YAK LR LR
comp=Z,946nm,20.0s
INCN Inchon 151.50 86 PFAKE 16 58 30.0 -0.3
INCN LR LR
comp=Z,577nm,19.0s
CN2 Changchun 152.18 72 *e*PKPbc **PKPbc** **16 58 30.2 -1.4**
CN2 PP PP 17 02 21.6 +7.5
CN2 *e*SS SS 17 21 39.2 -3.6
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s

CN2				LR	LR			
	comp=Z,500nm,17.0s							
KSAR	**Wonju Array Be**	**152.43**	**87**	PKPbc	**PKPbc**	**16 58 31.6**	**-0.8**
KSAR				PKPab	**PKPab**	**16 58 41.9**	**-0.8**
KSRS	**Korea Array**	**152.46**	**87**	PKPbc	**PKPbc**	**16 58 31.6**	**-0.9**
	comp=Z,4.4nm,1.0s,baz=266,slow=3.5,SNR=5.9							
KSRS				PKPab	**PKPab**	**16 58 41.9**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=248,slow=3.0,SNR=6.4							
MDJ	**Mudanjiang**	**155.24**	**71**	PFAKE		16 58 40.0	+11
MDJ				LR	LR			
	comp=Z,888nm,20.0s							
KLR	**Kul'dur**	**156.63**	**60**	*e*PKP2	PKPab	16 58 53.7	-6.5
SEY	**Seymchan**	**157.61**	**13**	PKIKP	**PKPdf**	**16 58 31.4**	**-0.4**
SEY	**Seymchan**	**157.61**	**13**	PKP	**PKPdf**	**16 58 31.4**	**-0.4**
SEY	**Seymchan**	**157.61**	**13**	PKP	**PKPdf**	**16 58 31.4**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=31,slow=23,SNR=4.0							
MAJO	**Matsushiro**	**159.85**	**96**	PFAKE		16 58 50.0	+15
MAJO				LR	LR			
	comp=Z,916nm,22.0s							
MJAR	**Matsushiro Arr**	**159.85**	**96**	PKPab	**PKPab**	**16 59 14.6**	**0.0**
MJAR	**Matsushiro Arr**	**159.85**	**96**	PKPab	**PKPab**	**16 59 14.6**	**0.0**
	comp=Z,10nm,1.1s,baz=242,slow=3.1,SNR=9.1							
PET	**Petropavlovsk**	**168.09**	**14**	PFAKE		16 58 50.0	+7.8
PET				LR	LR			
	comp=Z,1μm,22.0s							

IDC ***06*** *16:39:43.4±1.0,41.66S×16.56W,h0km,mb4.3/8, mb1 4.4/8,mb1mx4.2/15,mbtmp4.3/8, Error ellipse: s-maj=44.5km s-min=19.8km az=159.0*
ISCJB ***06*** *16:39:44.0±0.8,41.5S±0.1×16.7W±0.2,h10km,mb4.1/8, Error ellipse: s-maj=24.1km s-min=15.7km az=40.0*
NEIC ***06*** *16:39:45.2±0.4,41.54S×16.63W,h10km,mb4.6/2, Error ellipse: s-maj=15.3km s-min=10.4km az=141.0*

ISC 06 16:39:45.3±0.7,41.5S±0.1×16.6W±0.1,h10km,n32, σ0.63/32,mb4.2/8,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**35.45**	**213**	P	**P**	**16 46 41.3**	**0.0**
CPUP	**Villa Florida**	**36.65**	**281**	*e*P	**P**	**16 46 53.1**	**+1.1**
	1.4nm,1.0s						
CPUP	**Villa Florida**	**36.65**	**281**	P	**P**	**16 46 53.4**	**+1.4**
	14nm,1.1s,baz=86,slow=9.5,SNR=2.0						
PLCA	**Paso Flores**	**40.05**	**253**	P	**P**	**16 47 19.8**	**-0.8**
PLCA	**Paso Flores**	**40.05**	**253**	P	**P**	**16 47 19.8**	**-0.8**
	6.4nm,1.2s,baz=120,slow=18,SNR=1.8						
CFAA	**Coronel Fontan**	**42.06**	**266**	P	**P**	**16 47 37.4**	**+0.1**
CFAA	**Coronel Fontan**	**42.06**	**266**	P	**P**	**16 47 37.4**	**+0.1**
	1.1nm,1.1s,baz=124,slow=14,SNR=2.1						
QSPA	**South Pole Qui**	**48.72**	**180**	P	**P**	**16 48 30.5**	**+0.8**
DBIC	**Dimbokro**	**49.18**	**16**	P	**P**	**16 48 33.1**	**-0.5**
	0.9nm,0.5s						
DBIC	**Dimbokro**	**49.18**	**16**	P	**P**	**16 48 33.0**	**-0.5**
	3.7nm,0.9s,baz=172,slow=15,SNR=2.2						
LPAZ	**La Paz**	**50.73**	**284**	P	**P**	**16 48 45.7**	**-0.5**
LPAZ	**La Paz**	**50.73**	**284**	P	**P**	**16 48 45.7**	**-0.5**
	4.8nm,1.2s,baz=77,slow=7.2,SNR=2.3						
KEST	**Kesra**	**80.51**	**21**	P	**P**	**16 51 58.3**	**+0.9**
KEST	**Kesra**	**80.51**	**21**	P	**P**	**16 51 58.3**	**+0.9**
	2.1nm,1.0s,baz=72,slow=19,SNR=1.9						
ESDC	**Sonseca Array**	**81.66**	**10**	P	**P**	**16 52 03.5**	**+0.1**
ESDC	**Sonseca Array**	**81.66**	**10**	P	**P**	**16 52 03.5**	**+0.1**
	1.2nm,0.8s,baz=178,slow=5.9,SNR=3.1						
BRTR	**Keskin Array B**	**92.90**	**36**	P	**P**	**16 52 58.8**	**+0.4**
BRTR	**Keskin Array B**	**92.90**	**36**	P	**P**	**16 52 58.8**	**+0.4**
	2.1nm,1.1s,baz=142,slow=6.3,SNR=4.1						
AAK	**Ala-Archa**	**117.18**	**56**	PKP	**PKPdf**	**16 58 30.1**	**-0.4**
AAK	**Ala-Archa**	**117.18**	**56**	PKP	**PKPdf**	**16 58 30.1**	**-0.4**
	0.4nm,0.5s,baz=230,slow=7.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**121.04**	**92**	PKP	**PKPdf**	**16 58 38.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**121.04**	**92**	PKP	**PKPdf**	**16 58 38.1**	**-0.3**
	0.5nm,0.4s,baz=243,slow=3.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**123.53**	**50**	PKP	**PKPdf**	**16 58 42.0**	**-0.2**
	0.8nm,0.8s,baz=241,slow=2.3,SNR=4.9						
KURK	**Kurchatov**	**123.62**	**49**	PKP	**PKPdf**	**16 58 42.0**	**-0.3**
MKAR	**Makanchi Array**	**124.06**	**55**	PKP	**PKPdf**	**16 58 43.0**	**-0.4**
MKAR	**Makanchi Array**	**124.06**	**55**	PKP	**PKPdf**	**16 58 43.0**	**-0.4**
	0.8nm,0.8s,baz=224,slow=3.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**128.39**	**48**	PKP	**PKPdf**	**16 58 50.5**	**-0.9**
ZALV	**Zalesovo Beam**	**128.39**	**48**	PKP	**PKPdf**	**16 58 50.5**	**-0.9**
	0.8nm,0.7s,baz=293,slow=7.4,SNR=2.8						
YKA	**Yellowknife Ar**	**129.31**	**324**	PKP	**PKPdf**	**16 58 52.2**	**-0.6**
YKA	**Yellowknife Ar**	**129.31**	**324**	PKP	**PKPdf**	**16 58 52.2**	**-0.6**
	1.5nm,0.9s,baz=102,slow=2.2,SNR=4.2						
SONM	**Songino Array**	**139.81**	**61**	PKP	**PKPdf**	**16 59 12.9**	**-0.3**
SONM	**Songino Array**	**139.81**	**61**	PKP	**PKPdf**	**16 59 12.9**	**-0.3**
	2.1nm,0.8s,baz=229,slow=2.3,SNR=5.3						

IDC ***06*** *16:44:55.5±0.9,3.41S×127.19E,h0km,mb4.0/12, mb1 4.2/13,mb1mx4.0/24,mbtmp4.1/13,ML3.8/1,MS3.8/2, Ms1 3.8/2,ms1mx2.9/49, Error ellipse: s-maj=40.9km s-min=20.8km az=74.0*
ISCJB ***06*** *16:45:00.2±0.4,3.33S±0.04×127.33E±0.04,h42km, mb4.1/13,MS3.9/2, Error ellipse: s-maj=6.0km s-min=4.9km az=27.7*
DJA ***06*** *16:45:00.0±0.3,3.3S±3×12.7E±,h10km,M4.5/11,mb4.8/9, mB5.0/3,MLv4.4/11,Mw(mB)4.2/3*

ISC 06 16:45:01.9±0.6,3.34S±0.06×127.36E±0.06,h42km,n40, σ1.32/38,mb4.0/13,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.28**	**292**	P	Pn	16 45 02.9	-7.2
MSAI	**Masohi**	**1.57**	**90**	P	**Pn**	**16 45 25.7**	**-1.6**
MSAI				S	**Sn**	**16 45 47.5**	**+1.1**
LBMI	**Labuha**	**2.69**	**3**	P	**Pn**	**16 45 42.0**	**-0.7**
LBMI				S	**Sn**	**16 46 14.4**	**+0.3**
BNDI	**Bandanaira**	**2.80**	**115**	P	**Pn**	**16 45 45.5**	**+1.3**
TNTI	**Ternate**	**4.09**	**0**	P	**Pn**	**16 46 00.8**	**-1.1**
TNTI				S	**Sn**	**16 46 48.7**	**+0.2**
SWI	**Sorong**	**4.61**	**58**	P	**Pn**	**16 46 08.1**	**-1.0**
FAKI	**Fak Fak**	**4.90**	**85**	P	**Pn**	**16 46 13.9**	**+0.8**
FAKI	**Fak Fak**	**4.90**	**85**	P	**Pn**	**16 46 13.5**	**+0.4**
	baz=5.1,SNR=7.7						
LUWI	**Luwuk**	**5.12**	**296**	P	**Pn**	**16 46 15.3**	**-0.8**
	111nm,0.9s,1μm0.4nm						
LUWI	**Luwuk**	**5.12**	**296**	P	**Pn**	**16 46 15.4**	**-0.7**
	baz=5.1,SNR=22						
KMSI	**Cibinong**	**5.15**	**319**	P	**Pn**	**16 46 16.3**	**-0.2**
	154nm,0.6s,0.9nm						
GTOI	**Gorontalo**	**5.87**	**312**	P	**Pn**	**16 46 29.0**	**+2.5**
	80nm,0.9s,1μm0.3nm						
APSI	**Ampana**	**6.20**	**293**	P	**Pn**	**16 46 30.9**	**0.0**
	88nm,0.8s,980nm0.4nm						
MRSI	**Marisa**	**6.61**	**305**	P	**Pn**	**16 46 35.8**	**-0.8**
	53nm,0.7s						
MWPI	**Manokwari, Pap**	**7.09**	**70**	P	x	16 46 44.2	
	149nm,1.2s						
BKSI	**Bulukumba**	**7.48**	**255**	P	**Pn**	**16 46 51.1**	**+2.6**
	24nm,0.7s						
TTSI	**Tana Toraja**	**7.53**	**272**	P	**Pn**	**16 46 49.4**	**+0.1**
	20nm,1.2s						
SPSI	**Sidrap Palu**	**7.60**	**265**	P	**Pn**	**16 46 52.8**	**+2.6**
JAY	**Jayapura**	**13.35**	**87**	P	**Pn**	**16 48 11.5**	**+2.4**
	baz=14,SNR=3.0						
WRA	**Warramunga Arr**	**17.85**	**158**	P	**Pn**	**16 49 03.8**	**-3.5**
	0.3nm,0.3s,baz=339,slow=12,SNR=21						
COEN	**Coen**	**18.84**	**125**	P	**P**	**16 49 17.0**	**-1.5**
	baz=19,SNR=7.6						
QIS	**Mount Isa**	**20.86**	**146**	P	**P**	**16 49 41.9**	**+1.4**
	baz=21,SNR=15						
ASAR	**Alice Springs**	**21.17**	**163**	P	**P**	**16 49 43.9**	**0.0**
	12nm,0.6s,baz=345,slow=12,SNR=130						
WRKA	**Warakurna**	**21.59**	**178**	P	**P**	**16 49 48.6**	**+0.3**
	baz=22,SNR=11						
MEEK	**Meekatharra**	**24.63**	**199**	P	**P**	**16 50 17.4**	**-1.2**
	baz=24,SNR=6.0						
NWAO	**Narrogin (SRO)**	**30.92**	**197**	LR	LR	17 04 47.4	
	comp=Z,32nm,19.9s,baz=190,slow=39						
EIDS	**Eidsvold**	**31.62**	**136**	P	P	16 51 28.4	+7.3
	baz=32,SNR=3.6						
KSRS	**Korea Array**	**40.59**	**1**	P	**P**	**16 52 36.7**	**-0.8**
	1.1nm,0.6s,baz=175,slow=9.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**40.95**	**13**	P	**P**	**16 52 41.2**	**+0.6**
	1.4nm,0.7s,baz=181,slow=11,SNR=3.5						
USRK	**Ussuriysk Arra**	**47.51**	**5**	P	**P**	**16 53 33.4**	**+0.5**
	1.9nm,0.6s,baz=204,slow=6.6,SNR=6.4						
SONM	**Songino Array**	**54.18**	**343**	P	**P**	**16 54 23.4**	**+0.2**
	1.2nm,1.1s,baz=152,slow=6.7,SNR=4.1						
MKAR	**Makanchi Array**	**63.75**	**327**	P	**P**	**16 55 29.4**	**-0.1**
	1.3nm,0.7s,baz=131,slow=7.6,SNR=17						
ZALV	**Zalesovo Beam**	**67.17**	**334**	P	**P**	**16 55 50.5**	**-0.8**
	1.0nm,0.7s,baz=104,slow=6.3,SNR=5.4						
KURBB	**Kurchatov Arra**	**68.04**	**329**	P	**P**	**16 55 56.5**	**-0.5**
	1.3nm,0.7s,baz=132,slow=5.5,SNR=14						
SEY	**Seymchan**	**68.76**	**12**	P	**P**	**16 56 02.8**	**+1.6**
	3.1nm,0.7s,baz=229,slow=18,SNR=10.0						
BVAR	**Borovoye Array**	**73.59**	**328**	P	**P**	**16 56 30.3**	**-0.4**
	1.0nm,0.7s,baz=134,slow=8.5,SNR=7.9						
AKTO	**Aktyubinsk**	**79.59**	**323**	P	**P**	**16 57 04.5**	**-0.1**
	1.0nm,0.6s,baz=91,slow=9.9,SNR=4.9						
PPT	**Papeete**	**82.39**	**107**	LR	LR	17 32 48.7	
	comp=Z,337nm,19.3s,baz=140,slow=35						
ILAR	**Eielson Array**	**91.18**	**25**	P	**P**	**16 58 01.0**	**-1.2**
	0.5nm,0.9s,baz=241,slow=5.2,SNR=6.4						
ARCES	**ARCESS Array B**	**97.26**	**340**	P	**P**	**16 58 29.6**	**-0.4**
	4.6nm,1.0s,baz=65,slow=6.8,SNR=4.2						

IDC 06 16:56:38.6±1.6,8.34S×158.30E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.5/18,mbtmp3.4/3,Error ellipse: s-maj=42.4km s-min=13.9km az=24.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.96**	**124**	Pn	Pn	16 57 11.1	-2.0
	30nm,0.3s,baz=105,slow=4.8,SNR=4.3						
HNR				Pg	Pb	16 57 14.3	-0.9
	90nm,0.3s,baz=262,slow=21,SNR=13						
HNR				Lg	Lg	16 57 41.9	
	123nm,0.3s,baz=272,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**25.90**	**241**	P	P	17 02 12.8	+0.2
	1.2nm,0.8s,baz=66,slow=9.7,SNR=6.7						
ASAR	**Alice Springs**	**27.89**	**234**	P	P	17 02 30.4	-0.2
	0.2nm,0.8s,baz=65,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**86.58**	**318**	P	P	17 09 24.2	+0.3
	0.1nm,0.5s,baz=99,slow=5.0,SNR=3.1						

WEL 06 16:57:18.0±0.5,36.13S×177.61E,h232km±4km,ML3.7/8, 1D,Error ellipse: s-maj=9.0km s-min=6.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.53**	**159**	PN	Pn	16 57 54.8	0.0
MXZ				SN	S	16 58 23.1	-0.6
URZ	**Urewera**	**2.16**	**190**	PN	Pn	16 58 01.1	+0.7
URZ				SN	S	16 58 33.7	-0.1
MWZ	**Matawai**	**2.20**	**182**	PN	Pn	16 58 01.5	+0.6
MWZ				SN	S	16 58 34.6	0.0
CNGZ	**Carnagh Statio**	**2.40**	**169**	PN	Pn	16 58 03.2	+0.3
RIGZ	**Rimuhau**	**2.57**	**177**	PN	Pn	16 58 04.6	-0.1
SNGZ	**Shannon Statio**	**2.65**	**185**	PN	Pn	16 58 05.8	+0.2
KNZ	**Kokohu**	**2.88**	**179**	PN	Pn	16 58 07.7	-0.3
MHGZ	**Mahia Peninsul**	**3.02**	**176**	PN	Pn	16 58 09.8	+0.1
BKZ	**Black Stump Fm**	**3.15**	**196**	PN	Pn	16 58 10.7	-0.4
MCHZ	**McNeill Hill**	**3.38**	**192**	PN	Pn	16 58 13.7	0.0
BHHZ	**Black Hill Sta**	**3.57**	**200**	PN	Pn	16 58 15.3	-0.6
PXZ	**Pawanui**	**3.94**	**188**	⇓PN	Pn	16 58 18.9	-1.3
PXZ				AML	AML	16 59 10.9	
TSZ	**Takapari Road**	**4.13**	**198**	PN	Pn	16 58 21.1	-1.4
OGWZ	**Otaki Gorge**	**5.05**	**201**	PN	Pn	16 58 31.7	-2.1
CAW	**Cannon Point**	**5.35**	**201**	PN	Pn	16 58 34.8	-2.7
TUWZ	**Tuamarina**	**6.01**	**207**	PN	Pn	16 58 42.6	-3.3
THZ	**Tophouse**	**6.71**	**212**	PN	Pn	16 58 52.5	-2.3

ROM 06 16:59:41.4±0.1,42.27N×13.49E,h10km±1km,Md1.6/4, Ml1.3/1,Error ellipse: s-maj=3.4km s-min=0.7km az=37.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.07**	**92**	Pg	Pg	16 59 44.1	+0.4
FAGN				Sg	Sg	16 59 45.6	+0.2
T0104	**Madonna delle**	**0.14**	**309**	Pg	Pg	16 59 45.3	+0.5
T0104				Sg	Sg	16 59 47.9	+0.8
PTQR	**Pietraquaria**	**0.26**	**195**	Pg	Pg	16 59 47.4	+0.7
PTQR				Sg	Sb	16 59 51.7	-1.1
	3.0nm,0.2s						
FIAM	**Fiamignano**	**0.28**	**270**	Pg	Pg	16 59 47.7	+0.6
FIAM				Sg	Sg	16 59 52.2	+1.2
	182nm,1.9s						

ISCJB ***06*** *17:08:04.7±0.4,59.90N±0.04×153.17W±0.08, h135km±3km,mb3.4/3, Error ellipse: s-maj=7.7km s-min=5.1km az=40.9*
IDC ***06*** *17:08:05.6±8.7,60.09N×153.41W,h116km±68km,mb3.3/3, mb1 3.2/5,mb1mx3.0/28,mbtmp3.1/5,MS3.6/2,Ms1 3.6/2, ms1mx3.0/28, Error ellipse: s-maj=67.8km s-min=37.3km az=24.0*
NEIC ***06*** *17:08:06.8,59.87N×153.16W,h127km,MG2.8(AEIC), After AEIC.*

ISC 06 17:08:05.6±0.9,59.91N±0.04×153.20W±0.05, h133km±5km,n66,σ0.86/74,mb3.6/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.08**	**55**	P	**Pn**	**17 08 23.6**	**-0.1**
ILS				S	**Sn**	**17 08 37.2**	**-0.2**
ILW	**Iliamna West**	**0.15**	**12**	P	**Pn**	**17 08 23.8**	**-0.2**
ILW				S	**Sn**	**17 08 37.4**	**-0.5**
OPT	**Oil Point**	**0.26**	**183**	P	**Pn**	**17 08 23.9**	**-0.1**
OPT				S	**Sn**	**17 08 36.7**	**-1.2**
AUI	**Augustine Isla**	**0.59**	**191**	P	**Pn**	**17 08 25.2**	**-0.3**
RSO	**Redoubt South**	**0.60**	**22**	P	**Pn**	**17 08 26.1**	**+0.2**
RDWB	**Redoubt West**	**0.61**	**17**	P	**Pn**	**17 08 25.9**	**0.0**
RDWB				S	**Sn**	**17 08 40.4**	**-0.8**
NCT	**North Crescent**	**0.67**	**12**	P	**Pn**	**17 08 26.3**	**+0.2**
NCT				S	**Sn**	**17 08 41.6**	**-0.2**
DFR	**Drift River**	**0.73**	**20**	P	**Pn**	**17 08 26.6**	**0.0**
NKA	**Nikishka**	**1.28**	**49**	P	**Pn**	**17 08 33.7**	**+2.2**
CKJ	**Chakachamna La**	**1.36**	**18**	P	**Pn**	**17 08 33.0**	**+0.6**
SPBG	**Spurr Blockage**	**1.41**	**17**	P	**Pn**	**17 08 33.8**	**+0.8**
BGL	**Barrier Glacie**	**1.42**	**16**	P	**Pn**	**17 08 33.9**	**+0.9**
CGLM	**Capps Glacier**	**1.52**	**22**	P	**Pn**	**17 08 34.9**	**+0.7**
SLKM	**Skilak Lake**	**1.60**	**67**	P	**Pn**	**17 08 35.5**	**+0.5**
STLK	**Strandline Lak**	**1.73**	**22**	P	**Pn**	**17 08 37.1**	**+0.6**
KVTA	**Katmai Vly 10**	**1.88**	**216**	P	**Pn**	**17 08 37.9**	**-0.3**
KAKN	**Katmai Knife C**	**1.88**	**211**	P	**Pn**	**17 08 38.0**	**-0.3**
KAKN				S	**Sn**	**17 09 01.8**	**-1.6**
SEW	**Seward**	**1.90**	**83**	P	**Pn**	**17 08 38.5**	**+0.1**
SEW				S	**Sn**	**17 09 01.8**	**-1.7**
FIB	**Fire Island**	**1.96**	**49**	P	**Pn**	**17 08 40.2**	**+1.1**
KCE	**Katmai Mt Cerb**	**1.96**	**212**	P	**Pn**	**17 08 39.8**	**+0.6**
KELA	**Mount Kelaz**	**1.97**	**223**	P	**Pn**	**17 08 39.0**	**-0.4**
SUA	**Susitna One**	**1.97**	**37**	P	**Pn**	**17 08 40.1**	**+0.7**
RC01	**Rabbit Creek A**	**2.08**	**54**	P	**Pn**	**17 08 40.8**	**+0.1**
RC01				S	**Sn**	**17 09 06.8**	**-0.8**
KDAK	**Kodiak Island**	**2.16**	**171**	P	**Pn**	**17 08 42.4**	**+0.8**
SKT	**Skwentna**	**2.23**	**21**	P	**Pn**	**17 08 42.9**	**+0.3**
PWL	**Port Wells**	**2.60**	**66**	P	**Pn**	**17 08 46.5**	**-0.6**
PMR	**Palmer**	**2.62**	**48**	P	**Pn**	**17 08 46.5**	**-0.8**
PPLA	**Purkeypile**	**3.04**	**9**	P	**Pn**	**17 08 54.0**	**+1.2**
GLI	**Glacier Island**	**3.18**	**70**	P	**Pn**	**17 08 55.1**	**+0.5**
TT01	**Tatalina**	**3.30**	**337**	P	**Pn**	**17 08 56.1**	**0.0**
HIN	**Hinchinbrook I**	**3.38**	**79**	P	**Pn**	**17 08 57.4**	**+0.1**
SCM	**Sheep Creek Mo**	**3.46**	**54**	P	**Pn**	**17 08 57.8**	**-0.5**
JPK	**Jack Peak**	**3.46**	**68**	P	**Pn**	**17 08 57.6**	**-0.8**
VLZ	**Valdez**	**3.61**	**67**	P	**Pn**	**17 08 59.5**	**-0.6**
KTH	**Kantishna Hill**	**3.81**	**16**	P	**Pn**	**17 09 02.7**	**-0.2**
TRF	**Thorofare Moun**	**3.81**	**20**	P	**Pn**	**17 09 02.9**	**-0.1**
DIV	**Divide**	**3.87**	**68**	P	**Pn**	**17 09 03.6**	**-0.1**
RND	**Reindeer**	**4.07**	**29**	P	**Pn**	**17 09 06.3**	**0.0**
GOAT	**Goat Mountain**	**4.28**	**77**	P	**Pn**	**17 09 09.5**	**+0.4**
MCK	**McKinley**	**4.33**	**26**	P	**Pn**	**17 09 10.0**	**+0.2**
BMRM	**Bremner River**	**4.39**	**72**	P	**Pn**	**17 09 10.7**	**+0.2**
BWN	**Browne**	**4.62**	**21**	P	**Pn**	**17 09 13.9**	**+0.4**
HARP	**HAARP**	**4.63**	**54**	P	**Pn**	**17 09 13.6**	**-0.1**
PAX	**Paxson**	**4.81**	**47**	P	**Pn**	**17 09 16.2**	**0.0**
GLB	**Gilahina Butte**	**4.87**	**68**	P	**Pn**	**17 09 16.6**	**-0.2**
WRH	**Wood River Hil**	**5.16**	**25**	P	**Pn**	**17 09 20.2**	**-0.6**
MLY	**Manley**	**5.26**	**11**	P	**Pn**	**17 09 22.4**	**+0.3**
CCB	**Clear Creek Bu**	**5.38**	**26**	P	**Pn**	**17 09 23.1**	**-0.5**
BALM	**Baldy**	**5.49**	**73**	P	**Pn**	**17 09 26.0**	**+0.7**
MDM	**Murphy Dome**	**5.57**	**22**	P	**Pn**	**17 09 26.0**	**-0.2**
ILAR	**Eielson Array**	**5.69**	**28**	P	**Pn**	**17 09 27.4**	**-0.4**
ILAR				S	**Sn**	**17 10 29.1**	**-3.0**
ILAR	**Eielson Array**	**5.69**	**28**	P	**Pn**	**17 09 27.4**	**-0.4**
	1.7nm,0.3s,baz=216,slow=14,SNR=130						
ILAR				S	**Sn**	**17 10 29.1**	**-3.0**
	0.3nm,0.3s,baz=216,slow=26,SNR=3.7						
ILB	**Eielson Array**	**5.69**	**28**	P	**Pn**	**17 09 27.2**	**-0.6**
SCRK	**Sand Creek**	**5.96**	**43**	P	**Pn**	**17 09 30.7**	**-0.9**
IM3	**Indian Mountai**	**6.10**	**358**	P	**Pn**	**17 09 33.6**	**+0.3**
BCA3	**Beaver Creek A**	**6.31**	**55**	P	**Pn**	**17 09 36.2**	**0.0**
DLBC	**Dease Lake**	**11.96**	**87**	LR	LR	17 15 37.1	
	comp=Z,68nm,18.6s,baz=51,slow=37						
YKA	**Yellowknife Ar**	**18.58**	**65**	P	**P**	**17 12 13.6**	**+1.6**
YKA	**Yellowknife Ar**	**18.58**	**65**	P	**P**	**17 12 13.6**	**+1.6**
	0.1nm,0.3s,baz=278,slow=10,SNR=6.6						
JMIC	**Jan Mayen**	**47.05**	**15**	LR	LR	17 35 30.8	
	comp=Z,320nm,21.2s,baz=247,slow=35						
ZALV	**Zalesovo Beam**	**57.38**	**323**	P	**P**	**17 17 40.4**	**+0.9**
ZALV	**Zalesovo Beam**	**57.38**	**323**	P	**P**	**17 17 40.4**	**+0.9**
	1.1nm,0.4s,baz=34,slow=6.2,SNR=6.3						
BVAR	**Borovoye Array**	**62.10**	**332**	P	**P**	**17 18 12.2**	**+0.5**
BVAR	**Borovoye Array**	**62.10**	**332**	P	**P**	**17 18 12.2**	**+0.5**
	0.4nm,0.6s,baz=33,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**64.44**	**321**	P	**P**	**17 18 27.2**	**0.0**
MKAR	**Makanchi Array**	**64.44**	**321**	P	**P**	**17 18 27.2**	**0.0**
	0.1nm,0.6s,baz=44,slow=6.5,SNR=2.5						

CASC ***06*** *17:12:11.8±1.8,12.04N±87.80W,h16km±9km,MD4.0*
ISCJB ***06*** *17:12:12.9±0.5,12.04N±0.06×87.76W±0.06,h62km±6km, mb4.1/14, Error ellipse: s-maj=12.6km s-min=4.2km az=42.1*
IDC ***06*** *17:12:16.3±1.3,12.31N×87.39W,h71km±13km,mb3.9/13, mb1 4.1/15,mb1mx3.8/28,mbtmp3.8/15,MS3.7/4, Ms1 3.7/4,ms1mx3.5/37, Error ellipse: s-maj=31.1km s-min=8.1km az=47.0*

ISC 06 17:12:14.9±1.2,12.13N±0.07×87.69W±0.06,h62km±11km, n40,σ1.53/46,mb4.3/14,1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.07**	**87**	*e*P	**Pn**	**17 12 32.3**	**-1.7**
CNCH	**Conchagua**	**1.15**	**353**	*e*P	**Pn**	**17 12 33.4**	**-1.7**
CNCH				*e*S	**Sn**	**17 12 52.2**	**+2.2**
BLLM	**Bellamira**	**1.41**	**338**	*e*P	**Pn**	**17 12 36.6**	**-1.9**
BLLM				*e*S	**Sn**	**17 12 57.8**	**+1.6**
VSM	**San Miguel**	**1.41**	**336**	*e*P	**Pn**	**17 12 36.8**	**-1.9**
HUEN		**1.49**	**82**	*e*P	**Pn**	**17 12 38.4**	**-1.1**
HUEN				*e*S	**Sn**	**17 13 00.4**	**+2.2**
CAHU	**Cacacuatique**	**1.71**	**343**	*e*P	**Pn**	**17 12 41.7**	**-0.9**
SNVI	**San Vicente**	**1.85**	**323**	*e*P	**Pn**	**17 12 42.8**	**-1.7**
SNVI				*e*S	**Sn**	**17 13 08.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.95**	**12**	*e*P	**Pn**	**17 12 45.6**	**-0.2**
LFRS	**El Faro**	**2.00**	**318**	*e*P	**Pn**	**17 12 45.2**	**-1.3**
LBRS	**Las Brisas**	**2.07**	**320**	*e*P	**Pn**	**17 12 46.5**	**-1.0**
LFU	**La Fuente**	**2.12**	**319**	*e*P	**Pn**	**17 12 46.3**	**-1.9**
SNET	**Serv Nac Est T**	**2.16**	**316**	*e*P	**Pn**	**17 12 47.0**	**-1.6**
BOQS	**Boqueron**	**2.23**	**316**	*e*P	**Pn**	**17 12 48.2**	**-1.5**
BOQS				*e*S	**Sn**	**17 13 16.2**	**0.0**
SBLS	**San Blas**	**2.54**	**312**	*e*P	**Pn**	**17 12 52.5**	**-1.5**
SNJE	**San Jose**	**2.54**	**313**	*e*P	**Pn**	**17 12 52.5**	**-1.5**
JTS	**JuntasAbangare**	**3.25**	**124**	P	**Pn**	**17 13 02.4**	**-1.1**
	4.6nm,0.3s,

SNGZ	Shannon Statio	1.65	91	PN	Pn	17 20 57.6	-0.1	
POWZ	Post Office Ro	1.67	166	PN	Pn	17 20 57.1	-0.7	
DVHZ	Dannevirke	1.69	155	PN	Pn	17 20 57.5	-0.5	
PXZ	Pawanui	1.79	135	PN	Pn	17 20 58.8	0.0	
PXZ				AML	AML	17 21 28.7		
PXZ				AML	AML	17 21 28.7		
PXZ				AML	AML	17 21 29.3		
PXZ				AML	AML	17 21 29.4		
PRHZ	Porangahau	1.85	144	PN	Pn	17 20 59.3	-0.1	
MWZ	Matawai	1.86	77	⇓PN	Pn	17 20 58.9	-0.7	
MWZ				AML	AML	17 21 29.4		
MWZ				AML	AML	17 21 30.1		
PRWZ	Pori Road	1.87	162	PN	Pn	17 20 59.2	-0.4	
MRZ	Mangatainoka R	1.91	172	⇑PN	Pn	17 20 59.0	-0.9	
MRZ				AML	AML	17 21 28.1		
MRZ				AML	AML	17 21 29.6		
KNZ	Kokohu	1.93	98	⇓PN	Pn	17 21 00.1	0.0	
ANWZ	Angora Road	1.94	151	PN	Pn	17 21 00.0	-0.2	
RIGZ	Rimuhau	1.98	89	PN	Pn	17 21 00.7	-0.1	
OGWZ	Otaki Gorge	2.04	181	⇑PN	Pn	17 21 00.5	-0.8	
BFZ	Birch Farm	2.06	158	PN	Pn	17 21 00.6	-0.9	
PRGZ	Paritu Road	2.08	95	PN	Pn	17 21 01.7	-0.1	
KIW	Kapiti Island	2.10	187	PN	Pn	17 21 00.6	-1.3	
KIW				AML	AML	17 21 31.2		
KIW				AML	AML	17 21 31.3		
MHGZ	Mahia Peninsul	2.12	101	PN	Pn	17 21 02.3	+0.2	
HOWZ	Holdsworth Sta	2.13	174	⇑PN	Pn	17 21 01.0	-1.2	
DUWZ	D'Urville Isla	2.26	206	⇓PN	Pn	17 21 02.0	-1.6	
CAW	Cannon Point	2.34	183	PN	Pn	17 21 02.8	-1.5	
CAW				AML	AML	17 21 35.4		
CAW				AML	AML	17 21 37.1		
TMWZ	Te Maipa	2.39	168	PN	Pn	17 21 03.5	-1.3	
MTW	Mount Morrison	2.39	175	⇑PN	Pn	17 21 03.3	-1.5	
MTW				AML	AML	17 21 38.0		
MTW				AML	AML	17 21 38.0		
WEL	Wellington	2.53	188	⇓PN	Pn	17 21 04.7	-1.7	
TCW	Tory Channel	2.54	196	⇑PN	Pn	17 21 05.0	-1.5	
TCW				AML	AML	17 21 06.4		
TCW				AML	AML	17 21 06.4		
SNZO	South Karori	2.56	189	PN	Pn	17 21 04.9	-1.7	
SNZO				AML	AML	17 21 40.7		
SNZO				AML	AML	17 21 40.7		
PAWZ	Paruwai Farm	2.61	177	⇑PN	Pn	17 21 05.6	-1.6	
PAWZ				AML	AML	17 21 41.9		
PAWZ				AML	AML	17 21 42.1		
MSWZ	Moikau Station	2.64	180	PN	Pn	17 21 05.8	-1.7	
MSWZ				AML	AML	17 21 41.7		
MSWZ				AML	AML	17 21 42.0		
BHW	Baring Head	2.65	186	PN	Pn	17 21 05.7	-1.9	
BHW				AML	AML	17 21 41.5		
BHW				AML	AML	17 21 42.1		
TRWZ	Traveller	2.65	172	PN	Pn	17 21 06.1	-1.5	
TRWZ				AML	AML	17 21 42.9		
TRWZ				AML	AML	17 21 43.8		
MXZ	Matakaoa Point	2.71	65	PN	Pn	17 21 07.7	-0.6	
PLWZ	Palliser	2.79	180	PN	Pn	17 21 07.3	-1.9	
NNZ	Nelson	2.82	210	⇑PN	Pn	17 21 07.2	-2.4	
TUWZ	Tuamarina	2.83	200	⇓PN	Pn	17 21 07.7	-1.9	
TUWZ				AML	AML	17 21 08.6		
TUWZ				AML	AML	17 21 08.8		
QRZ	Quartz Range	2.92	225	PN	Pn	17 21 07.6	-3.0	
BSWZ	Blackbirch Sta	3.12	199	PN	Pn	17 21 11.1	-1.7	
THZ	Tophouse	3.48	210	⇑PN	Pn	17 21 14.2	-3.0	
DSZ	Denniston Nort	3.96	220	⇓PN	Pn	17 21 19.4	-3.5	
LTZ	Lake Taylor	4.59	208	PN	Pn	17 21 27.6	-3.1	
OXZ	Oxford	5.15	207	PN	Pn	17 21 33.5	-4.1	
MQZ	McQueen's Vall	5.30	201	PN	Pn	17 21 35.2	-4.2	
RPZ	Rata Peaks	5.85	211	PN	Pn	17 21 42.3	-4.3	
LBZ	Lake Benmore	6.76	212	PN	Pn	17 21 53.6	-4.6	
ODZ	Otahua Downs	7.14	207	⇑PN	Pn	17 21 59.4	-3.5	
EAZ	Earnscleugh	7.81	212	PN	Pn	17 22 07.0	-4.6	

IDC ***06*** *17:20:50.2±0.6,9.˙16S×158.˙03E,h0km,mb4.2/16, mb1 4.3/17,mb1mx4.2/23,mbtmp4.1/17,ML3.3/1,Error ellipse: s-maj=18.0km s-min=15.3km az=164.0*

ISCJB ***06*** *17:20:52.9±0.6,9.˙1S±0.˙1×158.˙0E±0.˙1, h27km,mb4.1/16, Error ellipse: s-maj=17.2km s-min=12.1km az=40.1*

ISC 06 17:20:54.1±0.6,9.˙3S±0.˙1×158.˙07E±0.˙08,h27km,n20, σ1§29/21,mb4.1/16,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	1.86	95	Pn			Pn	17 21 23.1	-1.2
	29nm,0.3s,baz=350,slow=23,SNR=35								
HNR				Pg			Pb	17 21 25.4	-2.0
	29nm,0.3s,baz=180,slow=20,SNR=37								
HNR				Lg			Lg	17 21 59.8	
	115nm,0.3s,baz=37,slow=20,SNR=6.1								
HNR	Honiara	1.86	95	*i* P			Pb	17 21 30.0	+2.5
CTA	Charters Tower	15.68	225	Pn			P	17 24 35.2	-2.0
	0.1nm,0.3s,baz=57,slow=18,SNR=2.8								
WRA	Warramunga Arr	25.26	243	P			P	17 26 18.5	+0.2
	5.0nm,0.7s,baz=67,slow=9.6,SNR=32								
ASAR	Alice Springs	27.17	235	P			P	17 26 34.5	-1.1
	1.8nm,0.8s,baz=69,slow=8.7,SNR=18								
STKA	Stephens Creek	27.20	212	P			P	17 26 36.0	+0.3
	3.1nm,0.9s,baz=56,slow=11,SNR=4.4								
KSRS	Korea Array	54.38	331	P			P	17 30 19.6	+0.9
	2.0nm,0.8s,baz=133,slow=8.9,SNR=4.7								
PETK	Petropavlovsk-	62.13	360	P			P	17 31 12.0	-0.6
	5.2nm,0.8s,baz=153,slow=8.2,SNR=8.8								
CMAR	Chiang Mai Arr	64.50	295	P			P	17 31 29.6	+0.5
	3.3nm,0.8s,baz=122,slow=5.0,SNR=21								
SONM	Songino Array	72.89	326	P			P	17 32 21.6	+0.7
	1.3nm,0.8s,baz=138,slow=6.0,SNR=7.2								
QSPA	South Pole Qui	80.72	180	P			P	17 33 07.2	+2.3
	1.2nm,0.6s,baz=295,slow=2.3,SNR=10								
ILAR	Eielson Array	84.39	21	P			P	17 33 23.1	-0.6
	0.5nm,0.4s,baz=261,slow=5.1,SNR=9.6								
MKAR	Makanchi Array	87.11	318	P			P	17 33 37.5	-0.1
	2.1nm,0.8s,baz=109,slow=5.5,SNR=14								
ZALV	Zelesovo Beam	87.76	325	P			P	17 33 39.1	-1.4
	0.8nm,0.5s,baz=100,slow=5.1,SNR=4.6								
KURBB	Kurchatov Arra	90.52	321	P			P	17 33 52.6	-1.0
	0.3nm,0.6s,baz=102,slow=3.7,SNR=4.6								
NVAR	Mina Array Bea	90.75	51	P			P	17 33 56.0	+0.8
	0.9nm,0.8s,baz=249,slow=6.4,SNR=6.9								
AAK	Ala-Archa	91.51	313	P			P	17 33 58.3	-0.3
	0.3nm,0.3s,baz=178,slow=18,SNR=4.7								
BVAR	Borovoye Array	95.93	323	P			P	17 34 17.3	-1.2
	0.8nm,0.8s,baz=108,slow=4.8,SNR=5.4								
YKA	Yellowknife Ar	96.91	28	P			P	17 34 22.7	+0.1
	0.2nm,0.5s,baz=262,slow=4.5,SNR=3.7								
BDFB	Brasilia	144.22	134	PKP			PKPdf	17 40 28.8	0.0
	6.0nm,0.8s,baz=331,slow=3.6,SNR=5.5								

NOU ***06*** *17:27:29.8±0.9,3.˙36S×152.˙50E,h30km±999km*

BJI ***06*** *17:27:53.3,4.˙32S×152.˙01E,h203km,mB5.1/37,mb5.1/56*

MOS ***06*** *17:27:53.7±1.0,4.˙37S×151.˙73E,h193km,mb5.4/41,Error ellipse: s-maj=7.2km s-min=5.6km az=97.5*

ISCJB ***06*** *17:27:54.1±0.4,4.˙43S±0.˙02×151.˙72E±0.˙02,h199km±3km, mb5.2/197,Error ellipse: s-maj=3.7km s-min=2.9km az=11.9*

GCMT ***06*** *17:27:55.3±0.1,4.˙52S×151.˙79E,h195km±1km, MW5.6/119,Moment Tensor Solution. s92,c150; s119,c227; Duration: 1§6 Moment tensor: Scale 10¹⁷ Nm; Mrr1.05±.04; Mθθ-0.60±.04; Mϕϕ-0.44±.05; Mrθ0.82±.03; Mθϕ1.80±.04; Mϕr-2.55±.04; Best double couple: Mo3.31400×10¹⁷ NP1:ϕ₁163.00000°,δ78.00000°, λ117.00000°. NP2:ϕ₂275.00000°,δ29.00000°,λ24.00000°. Principal axes: T 3.0210, Plg49.0000°, Azm103.0000°; N 0.5890, Plg26.0000°, Azm337.0000°; P -3.6070, Plg28.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***06*** *17:27:55.4±0.4,4.˙42S×151.˙72E,h199km±3km,mb5.0/35, mb1 5.0/38,mb1mx5.0/38,mbtmp5.5/38,MS4.4/10, Ms1 4.4/10,ms1mx4.0/38 Error ellipse: s-maj=8.6km s-min=5.7km az=61.0*

NEIC ***06*** *17:27:55.3±0.1,4.˙41S×151.˙75E,mb5.3/113,Error ellipse: s-maj=3.4km s-min=3.1km az=129.0*

DJA ***06*** *17:27:58.4±2.3,4.˙3S±12.˙×15.˙2E±1.˙7,h216km±14km, M5.7/30,mb5.6/30,mB6.0/28,MLv6.2/1,Mw(mB)5.6/28, Mwp5.4/1*

ISC 06 17:27:55.3±0.2,4.˙43S±0.˙03×151.˙74E±0.˙03,h201km±1km, h202km:pP-P,n830,σ1§24/1007,mb5.2/190,141C-116D,

New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	Rabaul	0.48	61	⇑P			Pn	17 28 21.0	-1.5
	baz=0.4,SNR=1000								
RABL				⇑S			S	17 28 42.0	-1.8
	baz=0.4,SNR=5.1								
MANU	Manus Island	4.97	298	⇑P			Pn	17 29 09.6	+0.1
	baz=5.0,SNR=180								
PMG	Port Moresby	6.72	222	P			Pn	17 29 31.8	-0.2
	9.3nm35µm2µm,1.2s								
PMG	Port Moresby	6.72	222	*e*Pn			Pn	17 29 31.8	-0.2
PMG				S			S	17 30 46.2	-2.3
PMG	Port Moresby	6.72	222	P			Pn	17 29 31.8	-0.2
	322nm,0.3s,baz=46,slow=5.4,SNR=765								
PMG				S			S	17 30 46.2	-2.3
	254nm,0.3s,baz=138,slow=23,SNR=9.2								
PMG				LR			LR	17 32 06.5	
	comp=Z,6µm,19.9s,baz=146,slow=37								
HNR	Honiara	9.54	122	P			Pn	17 30 07.7	-1.0
HNR				S			S	17 31 54.9	-0.8
HNR	Honiara	9.54	122	P			Pn	17 30 07.7	-1.0
	49nm,0.3s,baz=227,slow=2.4,SNR=46								
HNR				S			S	17 31 54.9	-0.8
	baz=346,slow=19,SNR=1.6								
HNR				LR			LR	17 33 35.4	
	comp=Z,2µm,18.3s,baz=314,slow=36								
JAY	Jayapura	11.18	279	⇓P			Pn	17 30 30.0	+0.1
	baz=11,SNR=98								
GENI	Genyem	11.70	279	P			Pn	17 30 37.5	+1.1
	5µm,1.2s,47µm								
COEN	Coen	12.69	221	*e*Pn			Pn	17 30 50.8	+1.7
COEN	Coen	12.69	221	⇑P			Pn	17 30 50.7	+1.7
	baz=13,SNR=407								
SRPI	Serui, Papua	15.69	279	P			Pn	17 31 26.1	+0.1
	1µm,1.1s,18µm								
BAKI	Biak	15.94	281	P			Pn	17 31 30.3	+1.2
	3µm,1.4s,35µm								
CTA	Charters Tower	16.46	199	P			Pn	17 31 36.4	+1.2
CTA				S			S	17 34 36.7	+0.2
CTA	Charters Tower	16.46	199	P			Pn	17 31 36.4	+1.2
	52nm,0.3s,baz=21,slow=12,SNR=599								
CTA				S			S	17 34 36.7	+0.2
	0.2nm,0.3s,baz=73,slow=19,SNR=3.0								
CTAO	Charters Tower	16.46	199	*e*P			Pn	17 31 36.5	+1.2
CTAO				pmax			pmax		
	comp=Z,879nm,1.1s								
CTAO	Charters Tower	16.46	199	*e*Pn			Pn	17 31 36.5	+1.2
	comp=Z,879nm,1.1s								
MWPI	Manokwari, Pap	18.02	281	P			x	17 31 53.0	
	comp=Z,2µm,1.3s,comp=Z,26µm								
GUMO	Guam	19.16	339	*e*P			Pn	17 32 05.8	-1.1
	comp=Z,126nm,1.1s								
FAKI	Fak Fak	19.51	274	P			P	17 32 07.9	+0.3
	comp=Z,1µm,1.8s,comp=Z,20µm								
FAKI	Fak Fak	19.51	274	⇑P			P	17 32 08.0	+0.4
	baz=20,SNR=30								
QIS	Mount Isa	19.91	215	⇓P			P	17 32 12.2	+0.4
	baz=20,SNR=265								
SAUI	Saumlaki	20.63	259	P			P	17 32 20.4	+0.9
	comp=Z,586nm,1.4s,comp=Z,7µm								
KDU	Kakadu	20.73	245	⇓P			P	17 32 20.0	-0.6
	baz=21,SNR=106								
SWI	Sorong	20.76	279	P			P	17 32 21.5	+0.6
	comp=Z,738nm,1.1s,comp=Z,10µm								
PALU	Palau	20.83	304	⇓P			P	17 32 22.3	+0.7
	baz=21,SNR=37								
EIDS	Eidsvold	20.83	182	*e*P			P	17 32 22.0	+0.5
	comp=Z,216nm,1.1s								
EIDS	Eidsvold	20.83	182	⇓P			P	17 32 21.9	+0.4
	baz=21,SNR=46								
BNDI	Bandanaira	21.77	269	P			P	17 32 33.0	+1.6
	comp=Z,758nm,1.7s,comp=Z,14µm								
TARA	Tarawa	21.93	75	*e*P			P	17 32 30.3	-2.6
RMQ	Roma	22.12	187	⇓P			P	17 32 34.4	-0.3
	baz=22,SNR=112								
NOUC	Port Laguerre	22.53	143	*e*P			P	17 32 36.9	-1.6
DZM	Mont Dzumac	22.60	142	*e*P			P	17 32 39.8	+0.6
	comp=Z,1µm,1.1s								
DZM	Mont Dzumac	22.60	142	P			P	17 32 39.8	+0.6
DZM				S			S	17 36 33.5	+1.9
DZM				ScP			ScP	17 39 46.6	+2.5
DZM	Mont Dzumac	22.60	142	P			P	17 32 39.8	+0.6
	comp=Z,427nm,0.8s,baz=339,slow=8.8,SNR=209								
DZM				S			S	17 36 33.5	+1.9
	comp=Z,17nm,1.1s,baz=133,slow=14,SNR=2.7								
DZM				LR			LR	17 39 19.9	
	comp=Z,856nm,20.6s,baz=333,slow=30								
DZM				ScP			ScP	17 39 46.6	+2.5
	comp=Z,50nm,1.1s,baz=66,slow=8.5,SNR=10								
DZM	Mont Dzumac	22.60	142	*e*P			P	17 32 38.3	-0.9
NORM	Noumea	22.74	142	*e*P			P	17 32 39.9	-0.4
LASL	Noumea	22.77	142	*e*P			P	17 32 39.5	-1.1
MSAI	Masohi	22.79	272	P			P	17 32 40.5	-0.4
	comp=Z,58nm,1.4s,comp=Z,852nm								
PLUM	Mont Dore	22.87	142	*e*P			P	17 32 41.3	-0.2
WRAB	Tennant Creek	22.91	226	P			P	17 32 42.6	+0.7
	comp=Z,13µm,0.6s								
WRAB	Tennant Creek	22.91	226	*d i*P			P	17 32 41.9	0.0
WRAB	Tennant Creek	22.91	226	*e*P			P	17 32 42.1	+0.3
	comp=Z,3µm,1.1s								
WRA	Warramunga Arr	22.92	226	P			P	17 32 42.6	+0.6
WRA				S			S	17 36 35.0	-1.7
WRA				ScP			ScP	17 39 45.0	+0.1
WRA	Warramunga Arr	22.92	226	P			P	17 32 42.7	+0.6
	comp=Z,710nm,0.4s,baz=51,slow=10.0,SNR=1553								
WRA				S			S	17 36 35.0	-1.7
	comp=Z,66nm,0.9s,baz=46,slow=16,SNR=7.3								
WRA				ScP			ScP	17 39 45.0	+0.1
	comp=Z,24nm,0.9s,baz=50,slow=2.9,SNR=10								
QLP	Quilpie	23.17	197	⇓P			P	17 32 44.8	+0.6
	baz=23,SNR=373								
LBMI	Labuha	24.51	278	P			P	17 32 57.6	+1.1
	comp=Z,686nm,1.2s,comp=Z,9µm								
NLAI	Namlea	24.62	272	P			P	17 32 57.6	+0.1
	comp=Z,112nm,1.6s,comp=Z,3µm								
TNTI	Ternate	24.90	281	P			P	17 33 00.3	+0.3
	comp=Z,712nm,1.2s,comp=Z,7µm								
TNTI	Ternate	24.90	281	*e*P			P	17 33 00.6	+0.6
	comp=Z,815nm,1.1s								
KNRA	Kununurra	25.20	242	⇓P			P	17 33 02.5	-0.3
	baz=25,SNR=57								
AS31	Alice Springs	25.73	220	*e*P			P	17 33 07.1	-0.4
ASAR	Alice Springs	25.73	220	P			P	17 33 07.7	+0.2
ASAR				S			S	17 37 20.5	-1.0
ASAR				ScP			ScP	17 39 53.2	+0.6
ASAR	Alice Springs	25.73	220	P			P	17 33 07.7	+0.2
	comp=Z,49nm,0.3s,baz=50,slow=9.0,SNR=682								
ASAR				S			S	17 37 20.5	-1.0
	comp=Z,9.1nm,0.5s,baz=47,slow=14,SNR=6.6								
ASAR				ScP			ScP	17 39 53.2	+0.6
	comp=Z,14nm,0.9s,baz=46,slow=3.6,SNR=8.1								
ASAR				LR			LR	17 43 51.8	
	comp=Z,1µm,19.6s,baz=66,slow=37								
ARMA	Armidale	25.85	180	*e*P			P	17 33 09.2	+0.7
	comp=Z,248nm,1.4s								
ARMA				*e*pP			pP	17 33 48.8	-0.2
ARMA	Armidale	25.85	180	P			P	17 33 09.4	+0.8
	baz=26,SNR=73								
CMSA	Cobar Meteorol	27.56	191	⇑P			P	17 33 23.7	0.0
	baz=28,SNR=114								
MATI	Mati	27.84	294	*e*P			P	17 33 25.4	-0.9
KMSI	Cibinong	28.18	279	P			P	17 33 30.2	+0.8
	comp=Z,784nm,1.1s,comp=Z,8µm								
MGCD	Mangrove Creek	28.64	181	⇑P			P	17 33 34.3	+1.1
	baz=29,SNR=38								
STKA	Stephens Creek	28.92	198	*e*P			P	17 33 35.4	-0.3
	comp=Z,48nm,1.3s								
STKA				S			S	17 38 07.3	-4.0
STKA	Stephens Creek	28.92	198	P			P	17 33 35.4	-0.3
	comp=Z,32nm,0.5s,baz=3.9,slow=8.8,SNR=155								
STKA				S			S	17 38 07.3	-4.0
	comp=Z,19nm,1.2s,baz=255,slow=20,SNR=2.3								
STKA				LR			LR	17 45 19.0	
	comp=Z,518nm,19.2s,baz=9.2,slow=36								
LUWI	Luwuk	29.13	276	P			P	17 33 39.0	+1.2
	comp=Z,148nm,2.2s,comp=Z,3µm								
GTOI	Gorontalo	29.15	279	P			P	17 33 40.7	+2.8
	comp=Z,293nm,1.0s,comp=Z,4µm								
BUTP	Butuan	29.25	297	*e*P			P	17 33 42.0	+3.2
BUKP	Musuan	29.29	295	*e*P			P	17 33 39.8	+0.5
CTBH	Cotabato--PC H	29.78	293	⇑P			P	17 33 44.3	+0.8
YNG	Young	29.88	186	⇑P			P	17 33 45.1	+0.9
	baz=30,SNR=13								
MRSI	Marisa	30.17	279	P			P	17 33 46.5	-0.5
	comp=Z,73nm,1.3s,comp=Z,944nm								
APSI	Ampana	30.26	276	P			P	17 33 48.9	+1.1
	comp=Z,162nm,1.5s,comp=Z,3µm								
MSLP	Maasin	30.44	298	*e*P			P	17 33 49.6	+0.3
WRKA	Warakurna	30.45	225	⇑P			P	17 33 48.9	-0.5
	baz=31,SNR=986								
BESP	Borongan	30.63	302	*e*P			P	17 33 51.8	+0.9
PAGZ	Pagadian	30.81	293	*e*P			P	17 33 53.8	+1.2
CNB	Canberra Magne	30.82	184	⇑P			P	17 33 53.5	+1.0
	baz=31,SNR=30								
CAN	Canberra	30.85	184	*e*P			P	17 33 53.4	+0.7
CAN				pmax			pmax		
	comp=Z,235nm,1.6s								
CAN	Canberra	30.85	184	*e*P			P	17 33 53.4	+0.7
	comp=Z,235nm,1.6s								
HTT	Hallett	31.24	201	⇑P			P	17 33 56.4	+0.2
	baz=31,SNR=135								
BNSI	Bone	31.54	269	P			P	17 33 59.9	+0.9
	comp=Z,72nm,1.8s,comp=Z,1µm								
BBOO	Buckleboo	31.82	206	*e*P			P	17 34 01.0	-0.2
	comp=Z,10µm,1.3s								
BBOO	Buckleboo	31.82	206	⇑P			P	17 34 00.8	-0.4
	baz=32,SNR=211								
KAPI	Kappang	31.89	268	*e*P			P	17 34 02.2	+0.2
	comp=Z,728nm,1.8s								
KAPI				*e*ScP			ScP	17 40 14.9	+2.6
MILA	Mila	32.56	184	⇑P			P	17 34 08.8	+1.2
	baz=33,SNR=11								
GUIM	Jordan	32.65	297	*e*P			P	17 34 09.1	+0.4
PVCP	Virac	32.72	304	*e*P			P	17 34 09.7	+0.5
TOO	Toolangi	33.48	189	⇑P			P	17 34 16.4	+0.8
	baz=34,SNR=10								
OTRP	Odiongan	33.93	300	*e*P			P	17 34 20.0	+0.3
CUYO	Cuyo Island	34.14	297	*e*P			P	17 34 22.5	+0.9
FORT	Forrest	34.42	218	*e*P			P	17 34 23.3	-0.5
	comp=Z,722nm,0.9s								
FORT	Forrest	34.42	218	⇑P			P	17 34 23.4	-0.3
	baz=34,SNR=110								
MYLDM	Lahad Datu	34.55	286	*e*P			P	17 34 27.1	+2.0
	comp=Z,274nm,1.4s								
MYLDM	Lahad Datu	34.55	286	⇑P			P	17 34 26.8	+1.7
BOAC	Boac	34.60	301	*e*P			P	17 34 26.4	+1.0
SJMP	San Jose	34.76	299	*e*P			P	17 34 28.8	+2.0
TSM	Tawau	34.93	284	⇓P			P	17 34 29.5	+1.1
TGY	Tagaytay City	35.68	302	P			P	17 34 34.5	-0.2
TGY	Tagaytay City	35.68	302	P			P	17 34 34.5	-0.2
	comp=Z,73nm,0.3s,baz=310,slow=21,SNR=5.8								
ENPP	El Nido	35.71	296	*e*P			P	17 34 36.2	+1.2
SDKM	Sandakan	35.92	286	⇑P			P	17 34 38.0	+1.1
BALP	Baler	35.96	305	*e*P			P	17 34 36.8	-0.2
PALP	Palanan	35.98	307	*e*P			P	17 34 38.7	+1.4
BATP	Bataraza	36.30	291	*e*P			P	17 34 40.0	0.0
CAUP	Cauayan	36.40	306	*e*P			P	17 34 42.4	+1.6
KNTN	Kanton	36.50	89	*e*P			P	17 34 42.3	+0.6
	comp=Z,345nm,1.3s								
OUZ	Omahuta	36.71	149	*e*P			P	17 34 45.1	+2.0
	comp=Z,142nm,1.0s								
OUZ				*e*ScP			ScP	17 40 33.4	+4.4
KKM	Kota Kinabalu	36.97	286	*e*P			P	17 34 45.9	+0.1
	comp=Z,164nm,1.4s								
KKM				*e*pP			pP	17 35 26.9	-1.0
KKM	Kota Kinabalu	36.97	286	⇑P			P	17 34 45.9	+0.1
	baz=37,SNR=11								
KKM	Kota Kinabalu	36.97	286	⇓P			P	17 34 46.0	+0.1
AFI	Afiamalu	37.17	107	*e*P			P	17 34 47.5	+0.1
	comp=Z,344nm,1.1s								
AFI	Afiamalu	37.17	107	P			P	17 34 47.9	+0.4
	comp=Z,221nm,1.0s,baz=238,slow=3.1,SNR=14								
APYP	Conner	37.36	307	*e*P			P	17 34 49.3	+0.4
JAGI	Jajag, Banyuwa	37.56	262	*e*P			P	17 34 48.5	-2.2
	comp=Z,59nm,1.0s								
JAGI	Jajag, Banyuwa	37.56	262	⇓P			P	17 34 48.8	-1.8
	baz=38,SNR=5.7								
RAO	Raoul Island	37.88	134	P			P	17 34 53.5	+0.3
RAO	Raoul Island	37.88	134	P			P	17 34 53.5	+0.3
	comp=Z,157nm,0.3s,baz=108,slow=20,SNR=2.9								
MOO	Moorlands	38.07	185	⇑P			P	17 34 56.4	+1.9
	baz=38,SNR=8.7								
JOW	Kunigami	38.48	325	*e*P			P	17 34 59.8	+1.7
JOW	Kunigami	38.48	325	P			P	17 34 59.2	+1.1
	comp=Z,14nm,0.9s,baz=147,slow=12,SNR=10								
TAU	Tasmania

NWAO LR LR 17 54 34.0
comp=Z,991nm,18.5s,baz=48,slow=37
DCZ Deep Cove 43.05 164 *e*P **P 17 35 36.4 +1.3**
comp=Z,47nm,1.0s
QZH Quanzhou 43.48 314 P **P 17 35 36.5 -2.4**
QZH S **S 17 41 48.5 -3.8**
QZH SS SS 17 45 02.6 -12
QZH pmax pmax
comp=Z,190nm,0.9s
QZH LR LR
comp=Z,2µm,25.8s
WHZ Wether Hill Ro 43.65 164 *e*P **P 17 35 39.5 -0.5**
CISI Cisompet, Garu 43.78 264 *e*P **P 17 35 41.0 -0.7**
comp=Z,601nm,1.5s
LEM Lembang 43.97 265 ⇓P **P 17 35 43.2 0.0**
baz=44,SNR=4.7
RKGY Rocky Gully 44.03 223 ⇓P **P 17 35 43.1 -0.1**
baz=44,SNR=193
SSE Sheshan 45.80 323 *e*P **P 17 35 59.5 +2.3**
SSE pP **pP 17 36 43.4 +2.5**
SSE sP **sP 17 37 06.9 +3.4**
SSE PP **PP 17 37 48.8 +0.6**
SSE S **S 17 42 25.5 -0.1**
SSE sS **sS 17 43 42.1 -0.3**
SSE pmax pmax
comp=Z,43nm,0.8s
SSE pmax pmax
comp=Z,31nm,3.5s
SSE LR LR
comp=Z,460nm,20.4s
SSE LR LR
comp=Z,250nm,20.3s
SSE LR LR
comp=Z,530nm,18.2s
DLV T Lat 45.98 291 *e*P **P 17 35 59.5 +0.4**
ERM Erimo 46.88 351 *e*P **P 17 36 05.7 +0.4**
ERM pmax pmax
comp=Z,89nm,1.2s
KSRS Korea Array 47.20 334 P **P 17 36 08.4 +0.6**
comp=Z,23nm,1.0s,baz=150,slow=9.0,SNR=34
KSRS pP **pP 17 36 52.8 +0.9**
comp=Z,9.4nm,0.8s,baz=150,slow=8.2,SNR=3.3
KSRS ScP **ScP 17 41 09.6 -1.2**
comp=Z,3.9nm,0.9s,baz=136,slow=5.6,SNR=9.5
KSAR Wonju Array Be 47.21 334 P **P 17 36 08.4 +0.5**
KSAR pP **pP 17 36 52.8 +0.8**
KSAR ScP **ScP 17 41 09.6 -1.2**
QIZ Qiongzhong 47.38 301 P **P 17 36 08.8 -0.8**
INCN Inchon 47.80 333 *e*P **P 17 36 14.3 +1.7**
comp=Z,166nm,1.1s
INCN *e*pP pP 17 37 02.0 +5.4
NJ2 Nanjing 47.90 322 *e*P **P 17 36 15.1 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
MYKOM Kota Tinggi 48.25 276 *e*P **P 17 36 16.7 +0.2**
comp=Z,266nm,1.5s
MYKOM *e*pP **pP 17 37 01.4 +0.8**
ASAJ Asahikawa 49.02 351 P **P 17 36 22.0 +0.3**
ASAJ Asahikawa 49.02 351 P **P 17 36 22.0 +0.3**
comp=Z,66nm,1.0s,baz=239,slow=30,SNR=7.8
KTGM Kuala Trenggan 49.51 281 ⇑P **P 17 36 26.8 +0.8**
UBPT Khong Chiam 49.83 294 P **P 17 36 30.0 +1.7**
comp=Z,39nm,0.8s
RAR Rarotonga 49.89 114 P **P 17 36 29.2 +0.5**
RAR Rarotonga 49.89 114 P **P 17 36 29.2 +0.5**
comp=Z,155nm,1.2s,baz=24,slow=0.0,SNR=4.9
MCQ Macquarie Isla 50.26 175 *e*P **P 17 36 32.6 +1.7**
MCQ Macquarie Isla 50.26 175 *e*P **P 17 36 32.6 +1.7**
comp=Z,11µm,0.9s
MCQ Macquarie Isla 50.26 175 ⇑P **P 17 36 31.9 +1.0**
baz=50,SNR=4.2
VLA Vladivostok 50.62 341 *e*P **P 17 36 33.8 0.0**
VLA pmax pmax
comp=Z,89nm,1.2s
FRIM Kepong 50.65 278 ⇑P **P 17 36 35.0 +0.4**
XMAS Kiritimati 51.18 84 *e*P **P 17 36 37.4 -1.1**
comp=Z,197nm,1.0s
IPM Ipoh 51.43 279 *e*P **P 17 36 39.1 -1.4**
comp=Z,205nm,1.7s
IPM *e*pP **pP 17 37 23.2 -1.9**
IPM Ipoh 51.43 279 ⇓P **P 17 36 40.7 +0.3**
USRK Ussuriysk Arra 51.56 342 P **P 17 36 41.4 +0.6**
comp=Z,33nm,0.9s,baz=169,slow=8.5,SNR=30
YSS Yuzh-Sakhalins 51.77 352⇑ *e*P **P 17 36 41.0 -1.3**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 51.77 352 *e*P **P 17 36 42.1 -0.1**
comp=Z,71nm,1.1s
KULM Kulim 51.94 280 *e*pP pP 17 37 26.5 -2.4
MDJ Mudanjiang 52.71 340 P **P 17 36 49.1 -0.1**
MDJ pmax pmax
comp=Z,44nm,1.3s
MDJ pmax pmax
comp=Z,320nm,5.3s
MDJ Mudanjiang 52.71 340 *e*P **P 17 36 49.2 -0.1**
comp=Z,50nm,1.1s
ENH Enshi 53.13 313 *e*P **P 17 36 53.2 +0.5**
comp=Z,72nm,1.2s
CHAI Chaiyaphum 53.21 293 P **P 17 36 54.7 +1.3**
comp=Z,10.0nm,1.1s
PSI Prapat 53.27 277 P **P 17 36 53.1 -0.9**
PSI pP **pP 17 37 39.0 0.0**
PSI Prapat 53.27 277 P **P 17 36 53.1 -0.9**
comp=Z,4.0nm,0.4s,baz=152,slow=10,SNR=6.6
PSI pP **pP 17 37 39.0 0.0**
comp=Z,43nm,1.0s,baz=160,slow=4.1,SNR=5.5
GYA Guiyang 53.33 308⇑ *i*P **P 17 36 55.8 +1.5**
GYA pP **pP 17 37 42.6 +3.3**
GYA PcP **PcP 17 38 02.2 +3.1**
GYA PP **PP 17 39 01.0 +4.1**
GYA ScP **ScP 17 41 37.4 -0.3**
GYA PcS **PcS 17 41 59.2 +0.6**
GYA S **S 17 44 12.6 +2.0**
GYA SS **SS 17 47 53.8 +0.2**
GYA pmax pmax
comp=Z,30nm,1.2s
GYA pmax pmax
comp=Z,110nm,6.5s
GYA LR LR
comp=Z,850nm,19.3s
GYA LR LR
comp=Z,540nm,18.9s
GYA LR LR
comp=Z,620nm,18.7s
PATY Pattaya 53.39 290 P **P 17 36 57.1 +2.4**
comp=Z,12nm,1.2s,comp=Z,852nm
SLVN Son La 53.40 301 *e*P **P 17 36 56.1 +1.3**
CN2 Changchun 53.53 336 ⇑P **P 17 36 55.4 +0.1**
CN2 *e*pP **pP 17 37 41.4 +1.1**
CN2 PcP **PcP 17 37 59.2 -0.1**
CN2 ScP **ScP 17 41 36.0 -1.9**
CN2 *e*S **S 17 44 11.1 -1.3**
CN2 sS **sS 17 45 31.6 +0.3**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,700nm,20.0s
PBKT Sadao Pong 54.34 294 P **P 17 37 02.8 +1.2**
comp=Z,44nm,1.8s
GSI Gunungsitoli 54.42 275 *e*pP pP 17 37 46.5 -1.0
SURT Suratani 54.43 284 P **P 17 37 03.4 +1.1**
comp=Z,24nm,1.0s
PKDT Phuket 54.67 283 P **P 17 37 05.9 +1.9**
comp=Z,49nm,1.6s,comp=Z,2µm
HABR Khabarovsk 54.67 346 *e*P **P 17 37 02.6 -0.7**
HABR *e**PP **pP 17 37 46.1 -2.5**
HABR *e* 17 38 01.7
HABR *e**SP **sP 17 38 08.2 -2.6**
HABR *e* 17 39 05.8
HABR *e*S **S 17 44 24.9 -2.5**
HABR *e* 17 44 34.7
HABR *e**SS **sS 17 45 44.1 -2.4**
HABR *e* 17 46 29.5
HABR *e*SS **SS 17 48 12.4 -1.2**
HABR pmax pmax
comp=N,22nm,1.2s
HABR pmax pmax
comp=E,62nm,1.8s
HABR pmax pmax
comp=Z,147nm,1.2s
HABR MLR MLR
comp=Z,614nm,24.0s
BJI Beijing 55.01 327 P **P 17 37 06.4 +0.5**
BJI pP **pP 17 37 52.4 +1.2**
BJI sP **sP 17 38 14.4 +1.0**
BJI S **S 17 44 31.1 -1.1**
BJI sS **sS 17 45 51.5 +0.1**
BJI pmax pmax
comp=Z,13nm,1.4s
BJI pmax pmax
comp=Z,130nm,4.5s
BJI LR LR
comp=Z,730nm,21.0s
BJI LR LR
comp=Z,480nm,18.8s
BJI LR LR
comp=Z,460nm,23.8s
SRDT SRDT 55.41 291 P **P 17 37 10.8 +1.6**
comp=Z,233nm,2.0s
KIP Kipapa 55.51 60 *e*P **P 17 37 11.2 +1.4**
KIP pmax pmax
comp=Z,319nm,1.5s
KIP Kipapa 55.51 60 *e*P **P 17 37 11.2 +1.4**
comp=Z,319nm,1.5s
XAN Xi'an 55.63 317 P **P 17 37 10.5 -0.1**
XAN pP **pP 17 37 56.9 +0.9**
XAN PP PP 17 39 23.0 +5.8
XAN S **S 17 44 35.3 -5.6**
XAN ScS **ScS 17 46 36.3 -3.2**
XAN pmax pmax
comp=Z,15nm,1.2s
XAN LR LR
comp=Z,420nm,20.3s
XAN LR LR
comp=Z,140nm,23.4s
XAN LR LR
comp=Z,200nm,21.4s
KMI Kunming 55.91 304 ⇑P **P 17 37 14.9 +2.0**
KMI pP **pP 17 37 58.8 +0.4**
KMI PcP **PcP 17 38 10.7 +1.5**
KMI sP **sP 17 38 23.7 +3.2**
KMI PP **PP 17 39 24.2 +4.2**
KMI S **S 17 44 45.5 +0.3**
KMI sS **sS 17 46 05.8 +1.2**
KMI ScS **ScS 17 46 39.0 -3.2**
KMI SS **SS 17 48 35.4 +1.0**
KMI pmax pmax
comp=Z,42nm,1.4s
KMI pmax pmax
comp=Z,230nm,3.1s
KMI LR LR
comp=Z,360nm,15.8s
KMI LR LR
comp=Z,430nm,15.0s
KMI LR LR
comp=Z,390nm,17.2s
KHLT Khaolaem Dam 56.02 291 P **P 17 37 16.1 +2.5**
comp=Z,27nm,1.3s
KLR Kul'dur 56.20 344 ⇓ *i*P P 17 37 10.2 -4.1
KLR *e* 17 37 58.7
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,1µm,12.0s
CM31 Chiang Mai Arr 56.77 295 *e*P **P 17 37 20.4 +1.5**
comp=Z,46nm,0.8s
CM31 *e*pP **pP 17 38 05.6 +1.1**
CMAR Chiang Mai Arr 56.77 295 P **P 17 37 20.2 +1.4**
CMAR pP **pP 17 38 04.3 -0.1**
CMAR ⇑ *e* 18 07 22.6
CMAR Chiang Mai Arr 56.77 295 P **P 17 37 20.2 +1.4**
comp=Z,40nm,0.9s,baz=114,slow=5.2,SNR=207
CMAR pP **pP 17 38 04.3 -0.1**
comp=Z,13nm,0.9s,baz=114,slow=5.3,SNR=2.8
CMAR PKP2bc 18 07 22.6
comp=Z,3.4nm,1.1s,baz=286,slow=3.1,SNR=9.6
CHTO Chiang Mai 56.88 296 *e*P **P 17 37 20.9 +1.3**
CHTO *e**PP **pP 17 38 04.6 -0.6**
CHTO pmax pmax
comp=Z,38nm,1.4s
CHTO Chiang Mai 56.88 296 P **P 17 37 20.6 +1.0**
comp=Z,372nm,1.4s,comp=Z,4µm
CHTO Chiang Mai 56.88 296 *e*P **P 17 37 20.9 +1.3**
comp=Z,38nm,1.4s
CHTO *e*pP **pP 17 38 04.6 -0.6**
PET Petropavlovsk 57.53 5 *e*P **P 17 37 23.8 +0.3**
PEA0B Petropavlovsk- 57.54 4 *e*P **P 17 37 23.7 +0.1**
PEA0B *e*pP **pP 17 38 06.8 -2.6**
PETK Petropavlovsk- 57.54 4 P **P 17 37 23.7 +0.1**
PETK *PP **pP 17 38 09.1 -0.3**
PETK Petropavlovsk- 57.54 4 P **P 17 37 23.7 +0.1**
PETK pP **pP 17 38 09.1 -0.3**
PETK Petropavlovsk- 57.54 4 P **P 17 37 23.7 +0.1**
comp=Z,46nm,1.0s,baz=167,slow=7.4,SNR=53
PETK pP **pP 17 38 09.1 -0.3**
comp=Z,8.5nm,0.8s,baz=169,slow=8.9,SNR=2.8
MHMT Maesarieng 57.59 295 P **P 17 37 25.9 +1.3**
comp=Z,24nm,1.4s,comp=Z,359nm
CD2 Chengdu 57.70 311 ⇑ *i*P **P 17 37 26.5 +1.3**
CD2 pP **pP 17 38 10.2 -0.8**
CD2 PcP PcP 17 38 21.2 +5.3
CD2 sP **sP 17 38 31.5 -1.5**
CD2 PP **PP 17 39 37.0 +1.4**
CD2 S **S 17 45 07.8 -0.3**
CD2 sS **sS 17 46 28.1 +0.1**
CD2 ScS **ScS 17 46 56.2 +1.5**
CD2 SS **SS 17 49 04.5 +2.4**
CD2 pmax pmax
comp=Z,130nm,0.8s
CD2 pmax pmax
comp=Z,230nm,5.9s
HHC Hu-ho-hao-te 58.13 325 *e*P **P 17 37 26.9 -1.2**
HHC pP **PcP 17 38 16.4 -1.1**
HHC sP **sP 17 38 37.6 +1.6**
HHC PP **PP 17 39 39.9 +0.5**
HHC S **S 17 45 10.8 -2.8**
HHC SS **SS 17 49 10.3 +1.6**
HHC pmax pmax
comp=Z,56nm,1.2s
HHC pmax pmax
comp=Z,290nm,5.4s
HHC LR LR
comp=Z,880nm,14.9s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,1µm,18.6s
PPT Papeete 58.84 108 P **P 17 37 35.1 +1.7**
PPT Papeete 58.84 108 P **P 17 37 35.1 +1.7**
comp=Z,152nm,0.8s,baz=305,slow=4.9,SNR=15
PPT2 Papeete2 58.84 108⇑ *i*P **P 17 37 35.5 +2.1**
comp=Z,204nm,1.0s
PAE Paea 58.85 108⇑ *i*P **P 17 37 35.1 +1.8**
comp=Z,20nm,0.9s
BTO Baotou 58.88 324 *e*P P 17 37 27.9 -5.4
TIAR Tiarei 59.06 108⇑ *i*P **P 17 37 37.0 +2.2**
comp=Z,128nm,0.9s
TVO Taravao 59.17 108⇑ *i*P **P 17 37 37.8 +2.2**
comp=Z,80nm,1.1s
TBI Tubuai 59.67 114⇑ *i*P **P 17 37 40.5 +1.6**
comp=Z,403nm,1.1s
LZH Lanzhou 60.23 316 *e*P **P 17 37 44.8 +2.1**
LZH PcP **PcP 17 38 29.6 +3.6**
LZH pP **pP 17 38 32.3 +3.5**
LZH sP **sP 17 38 51.7 +0.9**
LZH *eS **S 17 45 41.3 +0.5**
LZH sS **sS 17 47 05.4 +4.1**
LZH SS **SS 17 49 45.3 +3.4**
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,490nm,15.2s
LZH LR LR
comp=Z,930nm,19.6s
LZH LR LR
comp=Z,1µm,19.8s
PMOR Pomariorio Ree 60.25 105⇑ *i*P **P 17 37 44.7 +1.8**
comp=Z,974nm,1.4s
HIA Hailar 60.27 336 *e*P **P 17 37 43.2 +0.7**
comp=Z,45nm,1.1s
HIA *e* 17 38 24.9
MEH Mehetia 60.30 108⇑ *i*P **P 17 37 45.0 +1.7**
comp=Z,82nm,1.1s
VAH Vaihoa 60.52 105⇑ *i*P **P 17 37 46.2 +1.4**
comp=Z,247nm,1.1s
GTA Gaotai 64.67 318 P **P 17 38 13.6 +1.6**
GTA pP **pP 17 39 01.8 +3.0**
GTA sP **sP 17 39 24.3 +3.7**
GTA ScP 17 42 28.6
GTA S **S 17 46 35.3 -0.7**
GTA ScS **ScS 17 47 47.9 +0.8**
GTA sS **sS 17 47 59.8 +2.2**
GTA SS **SS 17 50 53.2 +2.1**
GTA pmax pmax
comp=Z,44nm,1.0s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=Z,250nm,17.6s
GTA LR LR
comp=Z,290nm,18.0s
GTA LR LR
comp=Z,370nm,18.1s
CIT Chita 64.92 335 *e*P **P 17 38 13.9 +0.7**
CIT *e* 17 39 03.4
CIT *e* 17 39 21.5
CIT pmax pmax
comp=Z,84nm,1.4s
ULN Ulaanbaatar 65.13 329 *e*P **P 17 38 16.3 +1.5**
comp=Z,45nm,1.3s
ULN *e*pP **pP 17 39 03.8 +2.2**
SONM Songino Array 65.45 328 P **P 17 38 17.9 +1.1**
SONM pP **pP 17 39 04.0 +0.3**
SONM P'P' 18 06 53.0
SONM ⇑ *e* 18 07 00.1
SONM Songino Array 65.45 328 P **P 17 38 17.9 +1.1**
comp=Z,47nm,1.2s,baz=134,slow=4.6,SNR=59
SONM pP **pP 17 39 04.0 +0.3**
comp=Z,7.7nm,0.7s,baz=137,slow=4.1,SNR=3.4
SONM PKPPKP **P'P'df** 18 06 53.0 -1.9
comp=Z,0.5nm,0.8s,baz=311,slow=6.2,SNR=3.5
SONM PKP2bc 18 07 00.1
comp=Z,1.7nm,1.0s,baz=336,slow=1.5,SNR=6.4
LSA Lhasa 67.16 305 P **P 17 38 29.4 +0.9**
LSA pmax pmax
comp=Z,60nm,1.3s
LSA Lhasa 67.16 305 *e*P **P 17 38 29.7 +1.2**
LSA pmax pmax
comp=Z,64nm,1.1s
LSA Lhasa 67.16 305 *e*P **P 17 38 29.7 +1.2**
comp=Z,64nm,1.1s
SEY Seymchan 67.17 0 *e*P P 17 38 34.6 +7.3
CASY Casey 68.06 197 *e*P **P 17 38 32.5 -0.3**
comp=Z,103nm,1.3s
YAK Yakutsk 68.41 349 *e*P **P 17 38 32.8 -2.1**
YAK *e* 17 39 21.9
YAK *e* 17 48 09.7
YAK pmax pmax
comp=Z,47nm,1.2s
YAK pmax pmax
comp=N,29nm,1.7s
YAK pmax pmax
comp=E,11nm,1.5s
YAK MLR MLR
comp=Z,964nm,23.0s
YAK MLR MLR
comp=E,412nm,20.0s
YAK Yakutsk 68.41 349 *e*P **P 17 38 34.0 -0.9**
comp=E,68nm,1.1s
YAK *e*pP **pP 17 39 23.5 +1.3**
ZAK Zakamensk 68.63 329 ⇓ *i*P **P 17 38 37.2 +0.4**
ZAK *e* 17 39 23.6
ZAK pmax pmax
comp=Z,28nm,1.3s
TLY Talaya 69.23 330 *e*P **P 17 38 41.4 +1.1**
TLY *e* 17 39 31.0
TLY pmax pmax
comp=Z,20nm,1.4s
IRK Irkutsk 69.27 331 *e*P **P 17 38 40.4 -0.1**
IRK *e* 17 39 25.8
IRK pmax pmax
comp=Z,43nm,1.4s
TAPN Taplejung 69.31 301 *e*P **P 17 38 42.0 +0.3**
comp=Z,332nm,1.2s
ODAN Odare 69.45 301 *e*P **P 17 38 42.9 +0.4**
comp=Z,362nm,1.2s
RAMN Ramite 70.15 301 *e*P **P 17 38 47.2 +0.4**
MOY Mondy 70.56 329 *e*P **P 17 38 49.6 +1.1**
MOY pmax pmax
comp=Z,41nm,1.5s
JIRN Jiri 70.70 301 *e*P **P 17 38 50.5 +0.3**
GUN Gumba 71.03 301 *e*P **P 17 38 52.6 +0.4**
comp=Z,487nm,1.2s
PKI Pulchoki 71.34 301 *e*P **P 17 38 54.0 0.0**
comp=Z,263nm,1.2s
KKN Kakani 71.51 301 *e*P **P 17 38 55.1 +0.2**
comp=Z,244nm,1.2s
DMN Daman 71.61 301 *e*P **P 17 38 55.9 +0.4**
comp=Z,432nm,1.1s
PALK Pallekele 71.84 279 *e*pP pP 17 39 47.7 +3.1
GKN Gorkha 72.11 301 *e*P **P 17 38 58.5 +0.1**
comp=Z,463nm,1.2s
RKT Rikitea 72.90 113⇑ *i*P **P 17 39 03.9 +0.9**
comp=Z,185nm,1.3s
KOLN Koldanda 72.94 301 *e*P **P 17 39 03.4 0.0**
comp=Z,310nm,1.1s
DANN Dangsing 72.95 301 *e*P **P 17 39 03.1 -0.4**
comp=Z,266nm,1.2s
VNDA Vanda 73.24 178 *e*P **P 17 39 04.3 +0.4**
comp=Z,15nm,0.9s
VNDA Vanda 73.24 178 P **P 17 39 04.5 +0.6**
comp=Z,6.5nm,0.6s,baz=335,slow=5.2,SNR=26
GAMB Gambell 73.31 16 *e*P **P 17 39 04.2 -0.3**
comp=Z,47nm,1.3s
GAMB *e*pP **pP 17 39 52.0 -0.3**
MIR Mirnyy 73.90 201 ⇓ *i*P **P 17 39 08.0 +0.2**
MIR pmax pmax
comp=Z,270nm,1.5s
WMQ Urumqi 74.76 318 P **P 17 39 14.0 +0.6**
WMQ PcP **PcP 17 39 29.0 +2.5**
WMQ pP **pP 17 39 59.7 -1.8**
WMQ sP **sP 17 40 20.1 -2.9**
WMQ SS **SS 17 53 26.8 +1.1**
WMQ pmax pmax
comp=Z,51nm,1.2s
WMQ pmax pmax
comp=Z,140nm,4.0s
WMQ LR LR
comp=Z,170nm,9.8s
WMQ LR LR
comp=Z,450nm,16.0s
WMQ LR LR
comp=Z,170nm,39.0s
HYB Hyderabad 75.38 289 *i*P **P 17 39 15.0 -2.4**
HYB *e*pP **pP 17 40 03.0 -2.6**
TNA Tin City 75.73 16 *e*P **P 17 39 18.5 +0.2**
TNA *e*pP **pP 17 40 08.0 +1.4**
LGTI Lohaghat 76.20 302 *ex* P 17 39 26.8 +5.0
SVW2 Sparrevohn 76.90 23 *e*P **P 17 39 25.7 +0.6**
comp=Z,26nm,1.0s
TIXI Tiksi 77.39 353 *e*P **P 17 39 26.4 -1.2**
TIXI *e**PP **pP 17 40 15.8 -0.2**
TIXI Tiksi 77.39 353 *e*P **P 17 39 26.4 -1.2**
TIXI *e*pP **pP 17 40 15.8 -0.2**
SEW Seward 78.91 26 *e*P **P 17 39 35.0 -1.1**
comp=Z,117nm,1.2s
PPLA Purkeypile 79.24 23 *e*P **P 17 39 36.6 -1.4**
comp=Z,87nm,1.5s
RC01 Rabbit Creek A 79.28 25 *e*P **P 17 39 37.1 -1.0**
comp=Z,81nm,1.1s
RC01 *e*pP **pP 17 40 22.4 -4.3**
MKAR Makanchi Array 79.36 319 P **P 17 39 39.5 +0.6**
MKAR Makanchi Array 79.36 319 P **P 17 39 39.5 +0.6**
MKAR PKKPbc **PKKPbc 17 58 27.6 -1.9**
MKAR P'P' 18 06 30.8
MKAR Makanchi Array 79.36 319 P **P 17 39 39.5 +0.6**
comp=Z,24nm,0.9s,baz=103,slow=6.2,SNR=136
MKAR PKKPbc **PKKPbc 17 58 27.6 -1.9**
comp=Z,1.0nm,0.8s,baz=294,slow=1.9,SNR=10
MKAR PKPPKP **P'P'df** 18 06 30.8 -0.3
comp=Z,0.7nm,0.9s,baz=338,slow=2.9,SNR=5.1
CAST Castle Rocks 79.56 22 *e*P **P 17 39 39.4 -0.2**
comp=Z,25nm,1.0s
PMR Palmer 79.78 25 *e*P **P 17 39 40.2 -0.6**
PMR pmax pmax

	comp=Z,55nm,1.1s								
PMR	**Palmer**	**79.78**	**25**	*e*P		**P**	**17 39 40.2**	**-0.6**	
	comp=Z,55nm,1.1s								
KTH	**Kantishna Hill**	**80.07**	**22**	*e*P		**P**	**17 39 41.2**	**-1.2**	
	comp=Z,634nm,1.6s								
KTH				*e*pP		**pP**	**17 40 27.3**	**-3.9**	
TRF	**Thorofare Moun**	**80.26**	**23**	*e*P		**P**	**17 39 41.6**	**-1.9**	
	comp=Z,49nm,1.6s								
TRF				*e*pP		**pP**	**17 40 31.1**	**-1.2**	
ZAA0	**Zalesovo Array**	**80.26**	**327**	*e*P		**P**	**17 39 42.4**	**-1.1**	
ZAA0				*e*pP		**pP**	**17 40 31.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**80.26**	**327**	*i* P		**P**	**17 39 43.2**	**-0.4**	
ZALV				pmax	pmax				
	comp=Z,12nm,0.4s								
ZALV	**Zalesovo Beam**	**80.26**	**327**	P		**P**	**17 39 43.1**	**-0.4**	
ZALV				pP		**pP**	**17 40 32.6**	**+0.3**	
ZALV				PKKPbc		**PKKPbc**	**17 58 25.6**	**-2.2**	
ZALV	**Zalesovo Beam**	**80.26**	**327**	P		**P**	**17 39 43.1**	**-0.4**	
	comp=Z,12nm,0.4s,baz=106,slow=5.3,SNR=108								
ZALV				pP		**pP**	**17 40 32.6**	**+0.3**	
	comp=Z,9.7nm,0.7s,baz=106,slow=5.4,SNR=4.2								
ZALV				PKKPbc		**PKKPbc**	**17 58 25.6**	**-2.2**	
	comp=Z,0.6nm,0.5s,baz=345,slow=5.2,SNR=4.3								
IM04	**Indian Mountai**	**80.37**	**20**	*e*P		**P**	**17 39 43.5**	**-0.4**	
IM04				*e*pP		**pP**	**17 40 33.7**	**+1.0**	
MCK	**McKinley**	**80.93**	**23**	*e*P		**P**	**17 39 45.6**	**-1.3**	
MCK				*e**PP		**pP**	**17 40 31.5**	**-4.2**	
MCK				pmax	pmax				
	comp=Z,99nm,1.1s								
MCK	**McKinley**	**80.93**	**23**	*e*P		**P**	**17 39 45.6**	**-1.3**	
	comp=Z,99nm,1.1s								
MCK				*e*pP		**pP**	**17 40 31.5**	**-4.2**	
DIV	**Divide**	**81.00**	**26**	*e*P		**P**	**17 39 46.8**	**-0.6**	
	comp=Z,70nm,1.2s								
DIV				*e*pP		**pP**	**17 40 31.4**	**-4.9**	
RAGM	**Ragged Mountai**	**81.15**	**27**	*e*P		**P**	**17 39 49.4**	**+1.2**	
BMRM	**Bremner River**	**81.44**	**26**	*e*P		**P**	**17 39 49.4**	**-0.3**	
BMRM				*e*pP		**pP**	**17 40 39.3**	**+0.7**	
KSH	**Kashi**	**81.89**	**311**	*i* P		**P**	**17 39 54.7**	**+2.0**	
KSH				*es*P		**sP**	**17 41 06.4**	**+3.5**	
KSH				*e*PP		**PP**	**17 43 05.3**	**+2.2**	
KSH				*e*S		**S**	**17 49 46.2**	**-3.4**	
KSH				*es*S		**sS**	**17 51 12.6**	**-2.4**	
KSH				pmax	pmax				
	comp=Z,33nm,1.2s								
KSH				pmax	pmax				
	comp=Z,140nm,3.8s								
KSH				LR	LR				
	comp=Z,130nm,5.1s								
KSH				LR	LR				
	comp=Z,160nm,6.6s								
KSH				LR	LR				
	comp=Z,140nm,7.3s								
COLA	**College**	**81.90**	**22**	*d i* P		**P**	**17 39 49.4**	**-2.5**	
COLA				*e**PP		**pP**	**17 40 41.6**	**+0.7**	
COLA				pmax	pmax				
	comp=Z,228nm,1.2s								
COLA	**College**	**81.90**	**22**	*e*P		P	17 39 46.5	-5.4	
	comp=Z,8.5nm,0.8s								
COLA				*e*pP		pP	17 40 40.4	-0.5	
PAX	**Paxson**	**81.95**	**24**	*e*P		**P**	**17 39 52.1**	**-0.2**	
PAX	**Paxson**	**81.95**	**24**	*e*P		**P**	**17 39 52.1**	**-0.2**	
ILAR	**Eielson Array**	**82.21**	**22**	P		**P**	**17 39 52.3**	**-1.3**	
ILAR				pP		**pP**	**17 40 42.4**	**-0.2**	
ILAR				PKKPbc		**PKKPbc**	**17 58 20.7**	**-3.2**	
ILAR	**Eielson Array**	**82.21**	**22**	P		**P**	**17 39 52.3**	**-1.3**	
	comp=Z,13nm,0.6s,baz=248,slow=5.4,SNR=126								
ILAR				pP		**pP**	**17 40 42.4**	**-0.2**	
	comp=Z,9.0nm,0.7s,baz=248,slow=5.3,SNR=4.9								
ILAR				PKKPbc		**PKKPbc**	**17 58 20.7**	**-3.2**	
	comp=Z,0.6nm,0.6s,baz=357,slow=1.3,SNR=13								
COLD	**Coldfoot**	**82.26**	**19**	*e*P		**P**	**17 39 54.1**	**+0.3**	
	comp=Z,42nm,1.3s								
ULHL	**Ulahol**	**82.30**	**313**	*i* P		**P**	**17 39 56.2**	**+1.4**	
ULHL	**Ulahol**	**82.30**	**313**	P		**P**	**17 39 56.2**	**+1.4**	
	SNR=6.8								
MENT	**Mentasta**	**82.65**	**25**	*e*P		**P**	**17 39 55.1**	**-0.8**	
DOT	**Dot Lake**	**82.81**	**24**	*e*P		**P**	**17 39 56.3**	**-0.5**	
	comp=Z,73nm,1.2s								
DOT				*e*pP		**pP**	**17 40 43.4**	**-2.4**	
KURK	**Kurchatov**	**82.83**	**322**	P		**P**	**17 39 57.6**	**+0.5**	
	comp=Z,157nm,1.1s,SNR=37								
KURK	**Kurchatov**	**82.83**	**322**	P		**P**	**17 39 57.2**	**+0.1**	
KURK				*PP		**pP**	**17 40 45.1**	**-1.0**	
KURK				pmax	pmax				
	comp=Z,21nm,1.0s								
KURK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KURK	**Kurchatov**	**82.83**	**322**	*e*P		**P**	**17 39 56.5**	**-0.6**	
	comp=Z,38nm,1.1s								
KURK				pP		**pP**	**17 40 45.1**	**-1.0**	
KURBB	**Kurchatov Arra**	**82.86**	**322**	P		**P**	**17 39 57.2**	**0.0**	
	comp=Z,21nm,1.0s,baz=104,slow=4.3,SNR=117								
KURBB				pP		**pP**	**17 40 45.1**	**-1.2**	
	comp=Z,2.9nm,0.9s,baz=106,slow=4.3,SNR=1.7								
TKM2	**Tokmak 2**	**82.92**	**314**	*i* P		**P**	**17 39 58.4**	**+0.4**	
TKM2	**Tokmak 2**	**82.92**	**314**	P		**P**	**17 39 58.4**	**+0.4**	
	SNR=31								
TKM2	**Tokmak 2**	**82.92**	**314**	*e*P		**P**	**17 39 58.5**	**+0.4**	
KZA	**Kyzart**	**82.98**	**313**	*i* P		**P**	**17 40 00.2**	**+1.6**	
KZA	**Kyzart**	**82.98**	**313**	P		**P**	**17 40 00.2**	**+1.6**	
	SNR=53								
KBK	**Karagaybulak**	**83.33**	**314**	*i* P		**P**	**17 40 01.0**	**+0.9**	
KBK	**Karagaybulak**	**83.33**	**314**	P		**P**	**17 40 01.0**	**+0.9**	
	SNR=30								
CHMS	**Chumysh**	**83.54**	**314**	*i* P		**P**	**17 40 01.5**	**+0.6**	
CHMS	**Chumysh**	**83.54**	**314**	P		**P**	**17 40 01.6**	**+0.6**	
	SNR=15								
UCH	**Uchtor**	**83.55**	**313**	*i* P		**P**	**17 40 02.7**	**+1.2**	
UCH	**Uchtor**	**83.55**	**313**	P		**P**	**17 40 02.8**	**+1.2**	
	SNR=76								
FRU	**Bishkek**	**83.60**	**314**	⇓*i* P		**P**	**17 40 02.5**	**+1.2**	
FRU				*e**PP		**pP**	**17 40 49.0**	**-1.4**	
FRU				*e*S		**S**	**17 50 04.0**	**-2.5**	
FRU				pmax	pmax				
	comp=Z,130nm,1.8s								
FRU				smax	smax				
	comp=E,220nm,3.4s								
AAK	**Ala-Archa**	**83.65**	**314**	P		**P**	**17 40 02.0**	**+0.3**	
	comp=E,204nm,1.0s,SNR=34								
AAK	**Ala-Archa**	**83.65**	**314**	*d i* P		**P**	**17 40 02.4**	**+0.8**	
AAK				pmax	pmax				
	comp=Z,96nm,1.2s								
AAK	**Ala-Archa**	**83.65**	**314**	P		**P**	**17 40 02.5**	**+0.8**	
	SNR=41								
AAK	**Ala-Archa**	**83.65**	**314**	*e*P		**P**	**17 40 02.3**	**+0.6**	
	comp=Z,41nm,1.0s								
AAK				PKKPbc		**PKKPbc**	**17 58 20.1**	**+0.4**	
AAK	**Ala-Archa**	**83.65**	**314**	P		**P**	**17 40 02.7**	**+1.1**	
	comp=Z,27nm,0.9s,baz=109,slow=4.5,SNR=93								
AAK				PKKPbc		**PKKPbc**	**17 58 20.1**	**+0.4**	
	comp=Z,0.4nm,0.3s,baz=136,slow=2.4,SNR=5.4								
USP	**Ospenovka**	**83.77**	**314**	*i* P		**P**	**17 40 02.8**	**+0.7**	
USP	**Ospenovka**	**83.77**	**314**	P		**P**	**17 40 02.8**	**+0.7**	
	SNR=69								
AML	**Almayashu**	**84.13**	**313**	*i* P		**P**	**17 40 05.7**	**+1.3**	
AML	**Almayashu**	**84.13**	**313**	P		**P**	**17 40 05.7**	**+1.3**	
	SNR=118								
EKS2	**Erkin-Say**	**84.17**	**314**	*e*P		**P**	**17 40 05.3**	**+1.0**	
EKS2				*e**PP		**pP**	**17 40 52.9**	**-0.6**	
EKS2	**Erkin-Say**	**84.17**	**314**	P		**P**	**17 40 05.3**	**+1.0**	
	SNR=88								
EKS2	**Erkin-Say**	**84.17**	**314**	*e*P		**P**	**17 40 05.2**	**+1.0**	
EKS2				*e*pP		**pP**	**17 40 52.9**	**-0.6**	
EGAK	**Eagle**	**84.43**	**23**	*e*P		**P**	**17 40 05.3**	**+0.4**	
	comp=Z,42nm,1.0s								
EGAK				*e*pP		**pP**	**17 40 54.9**	**+0.8**	
HYT	**Haines Junctio**	**84.59**	**28**	*e*P		**P**	**17 40 06.6**	**+0.6**	
HYT				*e*pP		**pP**	**17 40 54.7**	**-0.5**	
DAWY	**Dawson**	**84.88**	**24**	*e*P		**P**	**17 40 07.5**	**+0.2**	
DAWY				*e*pP		**pP**	**17 40 53.4**	**-3.1**	
MAW	**Mawson**	**85.51**	**203**	P		**P**	**17 40 10.2**	**0.0**	
MAW	**Mawson**	**85.51**	**203**	P		**P**	**17 40 10.2**	**0.0**	
	comp=Z,27nm,0.7s,baz=71,slow=5.5,SNR=18								
MAW				LR		LR	18 16 24.7		
	comp=Z,95nm,18.9s,baz=58,slow=34								
QSPA	**South Pole Qui**	**85.53**	**180**	*e*P		**P**	**17 40 10.7**	**+0.1**	
	comp=Z,24nm,0.7s								
QSPA	**South Pole Qui**	**85.53**	**180**	P		**P**	**17 40 10.7**	**+0.1**	
	comp=Z,25nm,0.6s,baz=337,slow=1.1,SNR=166								
KBL	**Kabul**	**86.49**	**305**	*e*P		**P**	**17 40 15.3**	**-0.7**	
KBL				pmax	pmax				
	comp=Z,24nm,0.9s								
KBL	**Kabul**	**86.49**	**305**	*e*P		**P**	**17 40 15.3**	**-0.7**	
	comp=Z,24nm,0.9s								
KBL	**Kabul**	**86.49**	**305**	⇓P		**P**	**17 40 15.2**	**-0.9**	
	baz=87,SNR=7.8								
KK31	**Karatay Array**	**86.61**	**314**	P		**P**	**17 40 15.8**	**-0.4**	
KK31				pmax	pmax				
	comp=Z,38nm,1.3s								
KKAR	**Karatay Array**	**86.61**	**314**	*e*P		**P**	**17 40 15.5**	**-0.7**	
KKAR	**Karatay Array**	**86.61**	**314**	*e*P		**P**	**17 40 15.5**	**-0.7**	
DLBC	**Dease Lake**	**87.61**	**31**	*e*P		**P**	**17 40 20.5**	**-0.2**	
BVA0	**Borovoye Array**	**88.31**	**323**	*i* P		**P**	**17 40 22.6**	**-1.4**	
BVA0				pmax	pmax				
	comp=Z,21nm,1.0s								
BVAR	**Borovoye Array**	**88.31**	**323**	P		**P**	**17 40 23.6**	**-0.4**	
BVAR	**Borovoye Array**	**88.31**	**323**	P		**P**	**17 40 23.6**	**-0.4**	
BVAR	**Borovoye Array**	**88.31**	**323**	P		**P**	**17 40 23.6**	**-0.4**	
	comp=Z,11nm,0.7s,baz=106,slow=5.9,SNR=86								
BRVK	**Borovoye**	**88.38**	**323**	P		**P**	**17 40 23.0**	**-1.3**	
	comp=Z,110nm,1.0s,SNR=14								
BRVK	**Borovoye**	**88.38**	**323**	*e*P		**P**	**17 40 23.5**	**-0.8**	
BRVK				*e**PP		**pP**	**17 41 11.9**	**-2.1**	
BRVK				pmax	pmax				
	comp=Z,24nm,1.2s								
BRVK	**Borovoye**	**88.38**	**323**	*e*P		**P**	**17 40 23.5**	**-0.8**	
	comp=Z,24nm,1.2s								
BRVK				*e*pP		**pP**	**17 41 11.8**	**-2.1**	
INK	**Inuvik**	**88.49**	**21**	*e*P		**P**	**17 40 23.4**	**-1.0**	
	comp=Z,50nm,1.3s								
INK				*e*pP		**pP**	**17 41 11.8**	**-2.3**	
KEBM	**Edson Butte**	**88.53**	**47**	*e*P		**P**	**17 40 25.6**	**+0.3**	
	comp=Z,135nm,1.6s								
KMRM	**Mail Ridge**	**88.67**	**50**	*e*P		**P**	**17 40 27.2**	**+1.1**	
	comp=Z,70nm,1.4s								
KRMB	**Red Mountain**	**88.68**	**48**	*e*P		**P**	**17 40 26.4**	**+0.2**	
	comp=Z,156nm,1.3s								
KHMM	**Horse Mountain**	**88.73**	**49**	*e*P		**P**	**17 40 26.8**	**+0.4**	
	comp=Z,40nm,1.0s								
HOPS	**Hopland**	**89.02**	**51**	*e*P		**P**	**17 40 27.3**	**-0.3**	
	comp=Z,33nm,1.3s								
RNO	**Roman Nose**	**89.09**	**46**	P		**P**	**17 40 29.1**	**+1.2**	
KTRM	**Thompson Ridge**	**89.12**	**48**	P		**P**	**17 40 29.1**	**+0.9**	
OSR	**Olympics--Salm**	**89.38**	**42**	P		**P**	**17 40 30.2**	**+1.0**	
NLWA	**Neilton Lookou**	**89.43**	**43**	*e*P		**P**	**17 40 29.4**	**0.0**	
	comp=Z,57nm,1.1s								
HUMO	**Hull Mountain**	**89.51**	**47**	*e*P		**P**	**17 40 30.5**	**+0.6**	
	comp=Z,73nm,1.0s								
N02D	**Trinity Center**	**89.51**	**49**	⇑P		**P**	**17 40 30.7**	**+0.7**	
	baz=90								
E03A	**Lebam**	**89.53**	**43**	*e*P		**P**	**17 40 30.6**	**+0.8**	
	comp=Z,93nm,1.0s								
G03D	**McMinnville, O**	**89.58**	**45**	⇓P		**P**	**17 40 31.3**	**+1.2**	
	baz=90								
YBH	**Yreka Blue Hor**	**89.59**	**48**	*e*P		**P**	**17 40 30.9**	**+0.5**	
YBH	**Yreka Blue Hor**	**89.59**	**48**	P		**P**	**17 40 30.8**	**+0.4**	
	comp=Z,48nm,1.1s,baz=194,slow=1.7,SNR=63								
WDC	**Whiskeytown Da**	**89.59**	**49**	*e*P		**P**	**17 40 30.8**	**+0.5**	
WDC				pmax	pmax				
	comp=Z,55nm,1.4s								
WDC	**Whiskeytown Da**	**89.59**	**49**	*e*P		**P**	**17 40 30.8**	**+0.5**	
	comp=Z,55nm,1.4s								
BMW	**Boistfort Moun**	**89.75**	**44**	P		**P**	**17 40 31.5**	**+0.5**	
BMW	**Boistfort Moun**	**89.75**	**44**	P		**P**	**17 40 31.5**	**+0.5**	
I04A	**Tendick Farm,**	**90.03**	**46**	⇑P		**P**	**17 40 32.4**	**0.0**	
	baz=90								
J04D	**Umpqua Nationa**	**90.19**	**47**	P		**P**	**17 40 33.6**	**+0.3**	
	baz=90								
M04C	**Macdoel**	**90.25**	**48**	⇑P		**P**	**17 40 33.8**	**+0.3**	
	baz=90								
F04A	**Amboy**	**90.25**	**44**	*e*P		**P**	**17 40 33.6**	**+0.4**	
	comp=Z,39nm,1.0s								
OHCM	**Honcut**	**90.28**	**51**	*e*P		**P**	**17 40 33.5**	**0.0**	
H04A	**Detroit Lake**	**90.28**	**45**	*e*P		**P**	**17 40 33.6**	**+0.1**	
	comp=Z,33nm,1.1s								
FL2	**Flat Top 2**	**90.33**	**44**	P		**P**	**17 40 34.3**	**+0.5**	
TDL	**Tradedollar La**	**90.44**	**44**	P		**P**	**17 40 34.9**	**+0.7**	
LON	**Longmire**	**90.75**	**43**	*e*P		**P**	**17 40 36.1**	**+0.4**	
LON	**Longmire**	**90.75**	**43**	*e*P		**P**	**17 40 36.1**	**+0.4**	
J05D	**Fort Rock, OR**	**90.83**	**47**	⇓P		**P**	**17 40 36.8**	**+0.6**	
	baz=91								
I05D	**Terrebonne, OR**	**90.85**	**46**	⇑P		**P**	**17 40 36.4**	**+0.2**	
	baz=91								
CMB	**Columbia Colle**	**91.02**	**52**	*e*P		**P**	**17 40 37.1**	**0.0**	
CMB				pmax	pmax				
	comp=Z,33nm,1.1s								
CMB	**Columbia Colle**	**91.02**	**52**	*e*P		**P**	**17 40 37.1**	**0.0**	
	comp=Z,33nm,1.1s								
SMMC	**Simmler**	**91.11**	**55**	⇓P		**P**	**17 40 38.3**	**+0.7**	
	baz=91,SNR=7.0								
B06A	**Marblemount**	**91.14**	**42**	*e*P		**P**	**17 40 37.5**	**+0.2**	
	comp=Z,24nm,1.1s								
BEKR	**Beckworth**	**91.19**	**50**	*e*P		**P**	**17 40 37.9**	**-0.1**	
	comp=Z,48nm,1.6s								
PKM	**Peak Mountain**	**91.22**	**55**	⇓P		**P**	**17 40 39.3**	**+1.0**	
	baz=91,SNR=18								
SBC	**Santa Barbara**	**91.27**	**56**	⇓P		**P**	**17 40 39.1**	**+0.9**	
	baz=91								
BSC	**Santa Cruz Isl**	**91.30**	**56**	⇓P		**P**	**17 40 38.8**	**+0.3**	
	baz=91,SNR=7.7								
MOD	**Modoc**	**91.40**	**48**	*e*P		**P**	**17 40 39.1**	**+0.2**	
	comp=Z,20nm,1.1s								
G06A	**Carlson Farm,**	**91.43**	**45**	*e*P		**P**	**17 40 38.5**	**-0.3**	
LTY	**Liberty**	**91.58**	**43**	*e*P		**P**	**17 40 39.5**	**0.0**	
	comp=Z,9.4nm,0.7s								
BLG	**Laguna Peak**	**91.78**	**56**	P		**P**	**17 40 41.1**	**+0.4**	
	baz=92								
WAKR	**Walker**	**91.80**	**52**	*e*P		**P**	**17 40 41.1**	**+0.2**	
VES	**Vestal, Richgr**	**91.89**	**54**	⇓P		**P**	**17 40 40.9**	**-0.2**	
	baz=92,SNR=9.6								
PAHR	**Pah Rah Range**	**91.93**	**51**	*e*P		**P**	**17 40 41.5**	**+0.1**	
ARVC	**Arvin**	**92.05**	**55**	⇓P		**P**	**17 40 42.3**	**+0.5**	
	baz=92								
WTV	**Waterville**	**92.10**	**43**	P		**P**	**17 40 41.7**	**-0.1**	
OSI	**Osito Adit**	**92.10**	**56**	⇑P		**P**	**17 40 42.8**	**+0.7**	
	baz=92								
SCI	**San Clemente I**	**92.14**	**57**	⇑P		**P**	**17 40 42.8**	**+0.6**	
	baz=92								
MDW	**Midway**	**92.15**	**44**	P		**P**	**17 40 42.6**	**+0.6**	
MDW	**Midway**	**92.15**	**44**	P		**P**	**17 40 42.6**	**+0.6**	
I07A	**Izee**	**92.15**	**46**	*e*P		**P**	**17 40 42.2**	**0.0**	
	comp=Z,59nm,1.2s								
MLAC	**Mammoth Lakes**	**92.21**	**53**	⇓P		**P**	**17 40 43.2**	**+0.4**	
	baz=92								
CIS	**Catalina Islan**	**92.28**	**57**	⇓P		**P**	**17 40 43.5**	**+0.5**	
	baz=92,SNR=18								
HAWA	**Hanford**	**92.29**	**44**	*e*P		**P**	**17 40 43.2**	**+0.6**	
	comp=Z,20nm,0.9s								
ISA	**Isabella**	**92.37**	**55**	*e*P		**P**	**17 40 43.5**	**+0.1**	
ISA				pmax	pmax				
	comp=Z,8.0nm,1.1s								
ISA	**Isabella**	**92.37**	**55**	*e*P		**P**	**17 40 43.5**	**+0.1**	
	comp=Z,8.1nm,1.1s								
ISA	**Isabella**	**92.37**	**55**	⇑P		**P**	**17 40 43.3**	**-0.1**	
	baz=92,SNR=27								
DECC	**Green Verdugo**	**92.40**	**56**	⇑P		**P**	**17 40 43.9**	**+0.4**	
	baz=92								
MTUM	**Tungsten Hills**	**92.41**	**53**	*e*P		**P**	**17 40 44.2**	**+0.5**	
MRIV	**Mauritius Mete**	**92.46**	**250**	*e*P		**P**	**17 40 43.4**	**-0.7**	
PASC	**Pasadena Art C**	**92.52**	**56**	*e*P		**P**	**17 40 44.5**	**+0.5**	
	comp=Z,72nm,1.0s								
B08A	**Colville Reser**	**92.56**	**42**	*e*P		**P**	**17 40 43.5**	**-0.5**	
	comp=Z,30nm,1.3s								
G08A	**Pilot Rock**	**92.62**	**45**	*e*P		**P**	**17 40 44.3**	**-0.1**	
	comp=Z,53nm,1.4s								
MWC	**Mount Wilson**	**92.62**	**56**	*e*P		**P**	**17 40 45.1**	**+0.3**	
MWC	**Mount Wilson**	**92.62**	**56**	*e*P		**P**	**17 40 45.1**	**+0.3**	
TIN	**Tinemaha**	**92.66**	**53**	⇓P		**P**	**17 40 45.1**	**+0.4**	
	baz=93,SNR=12								
WVOR	**Wild Horse Val**	**92.67**	**48**	*e*P		**P**	**17 40 44.8**	**+0.1**	
WVOR				pmax	pmax				
	comp=Z,45nm,1.1s								
WVOR	**Wild Horse Val**	**92.67**	**48**	*e*P		**P**	**17 40 44.8**	**+0.1**	
	comp=Z,45nm,1.1s								
NVAR	**Mina Array Bea**	**92.68**	**52**	P		**P**	**17 40 45.2**	**+0.2**	
NVAR	**Mina Array Bea**	**92.68**	**52**	P		**P**	**17 40 45.2**	**+0.2**	
	comp=Z,46nm,1.1s,baz=264,slow=5.9,SNR=123								
EDW2	**Edwards Air Fo**	**92.72**	**55**	⇓P		**P**	**17 40 45.3**	**+0.3**	
	baz=93,SNR=40								
CWC	**Cottonwood Cre**	**92.74**	**54**	⇓P		**P**	**17 40 45.6**	**+0.4**	
	baz=93,SNR=19								
D08A	**Wollman Farm,**	**92.75**	**43**	*e*P		**P**	**17 40 45.2**	**+0.4**	
	comp=Z,15nm,0.9s								
NV11	**Mina Array Sit**	**92.80**	**52**	*e*P		**P**	**17 40 45.4**	**-0.1**	
BFSC	**Mount Baldy Ra**	**92.95**	**56**	⇓P		**P**	**17 40 46.4**	**+0.1**	
	baz=93,SNR=14								
LRMC	**Laurel Mountai**	**93.00**	**55**	⇓P		**P**	**17 40 46.9**	**+0.5**	
	baz=93,SNR=73								
MPMC	**Manual Prospec**	**93.19**	**54**	⇓P		**P**	**17 40 47.7**	**+0.4**	
	baz=93,SNR=52								
C09A	**Chrisman Ranch**	**93.23**	**42**	*e*P		**P**	**17 40 46.8**	**-0.3**	
	comp=Z,18nm,1.0s								
E09A	**Wood Farm, Sta**	**93.25**	**44**	*e*P		**P**	**17 40 47.1**	**0.0**	
	comp=Z,45nm,1.1s								
MURC	**Murrieta**	**93.30**	**57**	⇓P		**P**	**17 40 48.1**	**+0.4**	
	baz=93,SNR=5.5								
109C	**Camp Elliot, M**	**93.34**	**57**	⇓P		**P**	**17 40 48.7**	**+0.9**	
	baz=93								
GRAC	**Grapevine Rang**	**93.34**	**53**	⇓P		**P**	**17 40 48.7**	**+0.8**	
	baz=93								
TPH	**Tonopah**	**93.51**	**52**	*e*P		**P**	**17 40 48.8**	**0.0**	
TPH	**Tonopah**	**93.51**	**52**	*e*P		**P**	**17 40 48.8**	**0.0**	
RRX	**Edison Barstow**	**93.53**	**55**	⇑P		**P**	**17 40 49.3**	**+0.6**	
	baz=94								
BBRC	**Big Bear Solar**	**93.57**	**56**	⇑P		**P**	**17 40 49.4**	**+0.2**	
	baz=94								
BMN	**Battle Mountai**	**93.63**	**50**	*e*P		**P**	**17 40 49.4**	**+0.2**	
BMN	**Battle Mountai**	**93.63**	**50**	*e*P		**P**	**17 40 49.4**	**+0.2**	
SYO	**Syowa Base**	**93.67**	**200**	⇑*e*P		**P**	**17 40 46.2**	**-2.3**	
BAR	**Barrett**	**93.69**	**58**	*e*P		**P**	**17 40 50.3**	**+0.8**	
	comp=Z,49nm,1.3s								
GSC	**Goldstone**	**93.71**	**55**	*e*P		**P**	**17 40 50.3**	**+0.7**	
GSC	**Goldstone**	**93.71**	**55**	*e*P		**P**	**17 40 50.3**	**+0.7**	
GSC	**Goldstone**	**93.71**	**55**	⇑P		**P**	**17 40 49.9**	**+0.3**	
	baz=94,SNR=7.9								
FURC	**Furnace Creek,**	**93.72**	**54**	⇓P		**P**	**17 40 50.0**	**+0.5**	
	baz=94,SNR=13								
F10A	**Beach Ranch, E**	**93.87**	**44**	*e*P		**P**	**17 40 49.8**	**-0.3**	
	comp=Z,30nm,1.1s								
MONP	**Monument Peak**	**93.92**	**57**	⇑P		**P**	**17 40 51.8**	**+1.1**	
	baz=94,SNR=50								
PFO	**Pinyon Flat Ob**	**93.92**	**57**	P		**P**	**17 40 51.0**	**+0.3**	
	comp=Z,224nm,1.0s,SNR=18								
PFO	**Pinyon Flat Ob**	**93.92**	**57**	*e*P		**P**	**17 40 51.2**	**+0.5**	
PFO	**Pinyon Flat Ob**	**93.92**	**57**	P		**P**	**17 40 51.4**	**+0.7**	
	comp=Z,32nm,0.9s,baz=269,slow=3.5,SNR=36								
PFO				LR		LR	18 15 24.7		
	comp=Z,166nm,21.6s,baz=304,slow=30								
PFO	**Pinyon Flat Ob**	**93.92**	**57**	⇓P		**P**	**17 40 51.0**	**+0.3**	
	baz=94,SNR=25								
NEW	**Newport**	**94.03**	**42**	*e*P		**P**	**17 40 50.8**	**+0.1**	
	comp=Z,24nm,1.0s								
NEW	**Newport**	**94.03**	**42**	⇑P		**P**	**17 40 50.7**	**0.0**	
	baz=94,SNR=13								
HEC	**Hector,Ludlow**	**94.08**	**56**	⇓P		**P**	**17 40 51.5**	**+0.2**	
	baz=94,SNR=11								
SHOC	**Shoshone**	**94.17**	**54**	⇓P		**P**	**17 40 51.8**	**+0.2**	
	baz=94,SNR=6.9								
DVTC	**Desert V Tower**	**94.17**	**58**	⇑P		**P**	**17 40 52.7**	**+0.9**	
	baz=94,SNR=22								
SVE	**Sverdlovsk**	**94.28**	**327**	⇑*e*P		**P**	**17 40 51.0**	**-0.6**	
SVE				pmax	pmax				
	comp=Z,17nm,1.8s								
BELC	**Belle Mtn. Jos**	**94.32**	**56**	⇑P		**P**	**17 40 52.9**	**+0.5**	
	baz=94,SNR=27								
**

baz=98
TMUT Trail Mountain 98.24 51 *e*P Pdif 17 41 11.1 +0.7
YFT Old Faithful 98.38 46 *e*P Pdif 17 41 11.4 +0.6
comp=Z,18nm,1.0s
REDW Red Top Meadow 98.40 47 *e*P Pdif 17 41 11.3 +0.4
MOOW Moose Ponds 98.47 47 *e*P Pdif 17 41 11.3 +0.2
FLWY Flagg Ranch 98.49 46 *e*P Pdif 17 41 12.0 +0.8
comp=Z,16nm,1.3s
H17A Grant Village 98.57 46 *e*P Pdif 17 41 13.1 +1.5
H17A Grant Village 98.57 46 ⇓Pdiff Pdif 17 41 12.9 +1.2
baz=99
LOHW Long Hollow 98.58 47 *e*P Pdif 17 41 11.8 +0.2
I17A Pilgrim Ck. 98.58 46 ⇑Pdiff Pdif 17 41 12.3 +0.6
baz=99
TUC Tucson 98.66 58 *e*P Pdif 17 41 14.2 +2.1
TUC Tucson 98.66 58 *e*P Pdif 17 41 14.2 +2.1
SRU San Rafael 98.77 51 *e*P Pdif 17 41 12.9 +0.3
SRU San Rafael 98.77 51 *e*P Pdif 17 41 12.9 +0.3
EGMT Eagleton 98.96 42 *e*P Pdif 17 41 13.3 +0.3
comp=Z,24nm,1.4s
EGMT Eagleton 98.96 42 ⇑Pdiff Pdif 17 41 13.2 +0.2
baz=99
LPIG La Paz 99.04 66 LR LR 18 19 59.9
comp=Z,108nm,18.9s,baz=226,slow=32
H18A Shoshone NF, C 99.21 46 P **Pdif 17 41 15.3 +0.9**
baz=99
X18A Snowflake 99.33 56 ⇓Pdiff **Pdif 17 41 16.3 +1.2**
baz=99
BW06 Boulder Array 99.38 48 *e*Pdif **Pdif 17 41 14.8 -0.5**
comp=Z,14nm,1.1s
PDAR Pinedale Array 99.38 48 P **Pdif 17 41 14.7 -0.6**
PDAR PKiKP **PKiKP 17 45 43.5 -0.4**
PDAR PKKPbc **PKKPbc 17 57 38.4 -1.2**
PDAR Pinedale Array 99.38 48 P **Pdif 17 41 14.7 -0.6**
comp=Z,8.3nm,0.9s,baz=239,slow=2.7,SNR=44
PDAR PKiKP **PKiKP 17 45 43.5 -0.4**
comp=Z,0.7nm,0.7s,baz=263,slow=4.5,SNR=3.3
PDAR PKKPbc **PKKPbc 17 57 38.4 -1.2**
comp=Z,0.4nm,0.4s,baz=103,slow=6.4,SNR=5.9
C19A Slack Wire Ran 99.45 42 ⇓Pdiff **Pdif 17 41 15.5 +0.3**
baz=99
B19A Brinkman Farms 99.47 42 ⇑Pdiff **Pdif 17 41 15.9 +0.6**
baz=100
W18A Petrified Fore 99.50 55 *e*Pdif **Pdif 17 41 17.6 +1.7**
W18A Petrified Fore 99.50 55 ⇓Pdiff **Pdif 17 41 17.1 +1.2**
baz=100
A19A Klindworth Far 99.57 41 P **Pdif 17 41 16.1 +0.3**
baz=100
D19A Cripps Ranch, 99.61 43 ⇑Pdiff **Pdif 17 41 16.1 +0.1**
baz=100
F19A Roth Farm, Mol 99.65 44 ⇑Pdiff **Pdif 17 41 16.7 +0.4**
baz=100
H19A Powell 99.69 46 ⇓Pdiff **Pdif 17 41 17.3 +0.9**
baz=100
E19A Rath Farm, Rou 99.72 44 ⇓Pdiff **Pdif 17 41 16.8 +0.4**
baz=100
I19A Meeteetse 99.72 46 ⇓Pdiff **Pdif 17 41 17.2 +0.5**
baz=100
J19A Crowheart 99.72 47 ⇑Pdiff **Pdif 17 41 17.0 +0.3**
baz=100
319A Douglas 99.95 59 ⇓Pdiff **Pdif 17 41 19.7 +1.8**
baz=100
PV04 Paradox Valley 100.06 52 *e*Pdif **Pdif 17 41 18.4 +0.1**
B20A Solberg Farm, 100.09 42 ⇓Pdiff **Pdif 17 41 18.6 +0.6**
baz=100
A20A Cobblestone Ra 100.11 41 ⇓Pdiff **Pdif 17 41 18.6 +0.5**
baz=100
D20A Manuel Ranch, 100.12 43 ⇓Pdiff **Pdif 17 41 18.6 +0.4**
baz=100
C20A Veseth Ranch, 100.16 42 ⇓Pdiff **Pdif 17 41 18.8 +0.4**
baz=100
G20A Bridger 100.20 45 ⇑Pdiff **Pdif 17 41 19.5 +0.8**
baz=100
F20A Billings 100.21 44 ⇑Pdiff **Pdif 17 41 19.2 +0.6**
baz=100
I20A Worland 100.35 46 ⇑Pdiff **Pdif 17 41 20.0 +0.6**
baz=100
H20A Greybull 100.41 46 ⇑Pdiff **Pdif 17 41 19.6 0.0**
baz=100
J20A Shoshoni 100.42 47 ⇓Pdiff **Pdif 17 41 20.2 +0.4**
baz=100
MVCO Mesa Verde 100.43 53 *e*Pdif **Pdif 17 41 20.6 +0.6**
MVCO Mesa Verde 100.43 53 ⇑Pdiff **Pdif 17 41 20.7 +0.6**
baz=100
O20A White River Ci 100.50 50 *e*Pdif **Pdif 17 41 20.6 +0.4**
O20A White River Ci 100.50 50 ⇓Pdiff **Pdif 17 41 20.6 +0.4**
baz=100
320A Kipp Ranch, An 100.59 59 ⇑Pdiff **Pdif 17 41 23.2 +2.4**
baz=101
B21A Ellsworth Farm 100.76 42 ⇑Pdiff **Pdif 17 41 21.8 +0.8**
baz=101
A21A Bergtoll Ranch 100.76 41 ⇑Pdiff **Pdif 17 41 21.8 +0.8**
baz=101
J21A Lysite 100.89 47 ⇑Pdiff **Pdif 17 41 22.4 +0.5**
baz=101
I21A Big Trails, Te 100.96 46 ⇓Pdiff **Pdif 17 41 22.7 +0.5**
baz=101
K21A Alcova 101.08 48 ⇑Pdiff **Pdif 17 41 23.2 +0.5**
baz=101
121A Cookes Peak, D 101.19 58 ⇑Pdiff **Pdif 17 41 25.7 +2.2**
baz=101
F22A Rosebud 101.53 44 ⇓Pdiff **Pdif 17 41 25.1 +0.6**
baz=102
SMCO Snowmass 101.53 51 *e*Pdif **Pdif 17 41 25.9 +0.8**
I22A 9 Mile Ranch, 101.54 46 ⇑Pdiff **Pdif 17 41 25.3 +0.6**
baz=102
G22A Birney 101.56 45 ⇓Pdiff **Pdif 17 41 25.7 +1.0**
baz=102
H22A Clearmont 101.57 46 ⇓Pdiff **Pdif 17 41 25.5 +0.7**
baz=102
J22A Midwest 101.58 47 ⇓Pdiff **Pdif 17 41 25.2 +0.3**
baz=102
K22A Casper 101.61 48 *e*Pdif **Pdif 17 41 25.2 +0.2**
K22A Casper 101.61 48 ⇑Pdiff **Pdif 17 41 25.3 +0.2**
baz=102
M22A Cedar Creek Ra 101.66 49 ⇓Pdiff **Pdif 17 41 26.0 +0.6**
baz=102
P22A Eagle 101.67 51 ⇓Pdiff **Pdif 17 41 26.2 +0.7**
baz=102
L22A Ellis Ranch, M 101.73 48 ⇓Pdiff **Pdif 17 41 26.5 +0.8**
baz=102
S22A 4UR Ranch, Cre 101.73 53 ⇑Pdiff **Pdif 17 41 26.7 +0.8**
baz=102
V22A San Miguel Ran 101.77 54 ⇑Pdiff **Pdif 17 41 26.7 +0.6**
baz=102
O22A Kremmling 101.79 50 ⇓Pdiff **Pdif 17 41 26.6 +0.5**
baz=102
U22A Llaves 101.79 54 ⇓Pdiff **Pdif 17 41 27.4 +1.2**
baz=102
N22A Wattenberg Ran 101.81 49 ⇓Pdiff **Pdif 17 41 26.5 +0.3**
baz=102
C23A Lambert 102.04 42 ⇑Pdiff **Pdif 17 41 27.5 +0.8**
baz=102
BNM Barren Site 102.09 56 *e*Pdif **Pdif 17 41 28.6 +1.1**
comp=Z,3.9nm,1.2s
G23A Biddle 102.19 45 ⇑Pdiff **Pdif 17 41 28.5 +1.0**
baz=102
N23A Red Feather La 102.19 49 ⇑Pdiff **Pdif 17 41 28.8 +0.9**
baz=102
ANMO Albuquerque 102.19 55 P **Pdif 17 41 28.9 +1.0**
ANMO Albuquerque 102.19 55 P **Pdif 17 41 28.9 +1.0**
comp=Z,2.4nm,0.9s,baz=272,slow=5.4,SNR=4.7
SNAA Sanae 102.25 188 P **Pdif 17 41 26.5 -0.7**
SNAA Sanae 102.25 188 P **Pdif 17 41 26.5 -0.7**
comp=Z,0.7nm,0.8s,baz=297,slow=2.3,SNR=3.5
K23A Bowen Ranch, D 102.27 47 ⇑Pdiff **Pdif 17 41 28.4 +0.4**
baz=102
O23A Lake Granby, G 102.27 50 ⇓Pdiff **Pdif 17 41 28.6 +0.4**
baz=102
L23A Garrett 102.27 48 ⇓Pdiff **Pdif 17 41 28.4 +0.3**
baz=102
V23A Ortiz Mt. (NFS 102.37 55 ⇓Pdiff **Pdif 17 41 29.8 +1.1**
baz=102
X23A Hourglass Bar 102.43 56 ⇑Pdiff **Pdif 17 41 30.2 +1.2**
baz=102
R23A Moffat 102.49 52 ⇑Pdiff **Pdif 17 41 30.1 +0.8**
baz=102
ISCO Idaho Springs 102.53 50 ⇓Pdiff **Pdif 17 41 30.3 +0.8**
baz=102
Y23A Lovelace Mesa, 102.58 56 ⇑Pdiff **Pdif 17 41 30.4 +0.7**
baz=103
A24A Westby 102.68 41 ⇑Pdiff **Pdif 17 41 30.3 +0.8**
baz=103
SDCO Great Sand Dun 102.78 52 *e*Pdif **Pdif 17 41 30.7 +0.1**
H24A Dirks Ranch, A 102.83 45 ⇓Pdiff **Pdif 17 41 31.4 +1.0**
baz=103
I24A Kuemmerle Ranc 102.88 46 ⇓Pdiff **Pdif 17 41 31.4 +0.8**
baz=103
T24B San Luis 102.93 53 ⇑Pdiff **Pdif 17 41 32.6 +1.4**
baz=103
Q24A Divide 102.96 51 ⇓Pdiff **Pdif 17 41 32.0 +0.7**
baz=103
N24A Carr 103.00 49 ⇑Pdiff **Pdif 17 41 32.2 +0.9**
baz=103
S24A Houchin Ranch, 103.02 53 ⇑Pdiff **Pdif 17 41 32.8 +1.2**
baz=103
W24A Lazy 6 Ranch, 103.04 55 ⇓Pdiff **Pdif 17 41 33.5 +1.8**
baz=103
R24A Sanders Place, 103.05 52 ⇑Pdiff **Pdif 17 41 32.6 +0.9**
baz=103
V24A Rampart Ranch, 103.11 54 ⇑Pdiff **Pdif 17 41 33.6 +1.6**
baz=103
224A Cornudas Mount 103.12 58 ⇓Pdiff **Pdif 17 41 33.6 +1.6**
baz=103
RSSD Black Hills 103.27 46 *e*P **Pdif 17 41 31.7 -0.8**
RSSD pmax pmax
comp=Z,2.0nm,0.4s
RSSD Black Hills 103.27 46 *e*Pdif **Pdif 17 41 31.7 -0.8**
comp=Z,1.9nm,0.4s
J25A Sunshine Ranch 103.53 47 ⇑Pdiff **Pdif 17 41 33.8 +0.3**
baz=104
L25A Engebretsen Ra 103.55 48 ⇑Pdiff **Pdif 17 41 34.7 +1.0**
baz=104
S25A Robets Cordova 103.63 52 ⇑Pdiff **Pdif 17 41 34.9 +0.7**
baz=104
325A Bean Ranch, Si 103.63 59 ⇓Pdiff **Pdif 17 41 35.4 +1.0**
baz=104
V25A Rancho No Teng 103.64 54 ⇑Pdiff **Pdif 17 41 35.4 +1.1**
baz=104
P25A Willow Gulch B 103.67 51 ⇑Pdiff **Pdif 17 41 35.3 +1.0**
baz=104
R25A Fountain Ranch 103.71 52 ⇓Pdiff **Pdif 17 41 35.4 +0.9**
baz=104
U25A Circle Dot Ran 103.76 54 ⇓Pdiff **Pdif 17 41 36.0 +1.1**
baz=104
W25A X Bar L Ranch, 103.81 55 ⇓Pdiff **Pdif 17 41 36.2 +1.2**
baz=104
J26A Sides Ranch, S 104.06 47 ⇓Pdiff **Pdif 17 41 36.7 +0.8**
baz=104
K26A Motz Farm, Whi 104.06 47 ⇓Pdiff **Pdif 17 41 36.7 +0.8**
baz=104
Q26A Hugo 104.23 51 ⇑Pdiff **Pdif 17 41 37.9 +1.1**
baz=104
M26A McRoberts Ranc 104.24 48 ⇓Pdiff **Pdif 17 41 38.0 +1.2**
baz=104
O26A Horse Wrangler 104.25 50 ⇑Pdiff **Pdif 17 41 37.8 +0.9**
baz=104
226B Tecolote Peak, 104.28 58 ⇑Pdiff **Pdif 17 41 39.0 +1.9**
baz=104
U26A Atchley Ranch, 104.29 54 ⇓Pdiff **Pdif 17 41 38.3 +1.1**
baz=104
P26A Davis Ranch, A 104.30 50 ⇓Pdiff **Pdif 17 41 38.5 +1.4**
baz=104
V26A Tequesquite Ra 104.31 54 ⇑Pdiff **Pdif 17 41 38.0 +0.8**
baz=104
T26A Comanche Natio 104.34 53 ⇑Pdiff **Pdif 17 41 38.2 +0.8**
baz=104
Z26A Caprock 104.35 57 ⇓Pdiff **Pdif 17 41 38.4 +1.0**
baz=104
W26A Owens Ranch, T 104.39 55 ⇓Pdiff **Pdif 17 41 38.7 +1.2**
baz=104
S26A Kim 104.40 52 ⇑Pdiff **Pdif 17 41 38.8 +1.2**
baz=104
526A Mary Lane Ranc 104.46 60 ⇓Pdiff **Pdif 17 41 39.6 +1.5**
baz=104
R27A Eads 104.86 52 ⇓Pdiff **Pdif 17 41 40.1 +0.5**
baz=105
TXAR Lajitas Array 104.87 61 PKiKP **PKiKP 17 45 53.8 -0.2**
TXAR PKKPbc **PKKPbc 17 57 22.6 -0.2**
TXAR Lajitas Array 104.87 61 PKiKP **PKiKP 17 45 53.8 -0.2**
comp=Z,0.8nm,0.9s,baz=222,slow=1.7,SNR=3.9
TXAR PKKPbc **PKKPbc 17 57 22.6 -0.2**
comp=Z,0.4nm,0.7s,baz=85,slow=1.4,SNR=3.7
P27A Ficken Ranch, 104.89 50 ⇓Pdiff **Pdif 17 41 40.7 +1.0**
baz=105
627A Terlingua Ranc 105.11 61 ⇑PKiKP **PKiKP 17 45 55.2 +0.7**
baz=105
P28A Saint Francis 105.52 50 ⇓PKiKP **PKiKP 17 45 55.3 +0.4**
baz=106
529A Stev Forest Ra 106.08 60 ⇑PKiKP **PKiKP 17 45 56.7 +0.5**
baz=106
ARCES ARCESS Array B 106.20 343 PKiKP **PKiKP 17 45 54.8 -0.4**
ARCES ARCESS Array B 106.20 343 PKiKP **PKiKP 17 45 54.8 -0.4**
comp=Z,0.7nm,0.7s,baz=77,slow=4.0,SNR=5.5
Z29A Hungry Hill Ra 106.25 57 ⇑PKiKP **PKiKP 17 45 56.4 0.0**
baz=106
429A Davenport Ranc 106.32 60 ⇓PKiKP **PKiKP 17 45 57.2 +0.6**
baz=106
A30A Hoffart Farm, 106.38 40 ⇑PKiKP **PKiKP 17 45 57.2 +1.1**
baz=106
U30A WK&E Inc. Balk 106.76 53 ⇑PKiKP **PKiKP 17 45 58.0 +0.7**
baz=107
530A J-C Ranch, Com 106.84 60 ⇑PKiKP **PKiKP 17 45 58.4 +0.8**
baz=107
631A Perdido Creek 107.56 61 ⇑PKiKP **PKiKP 17 45 59.2 +0.3**
baz=108
ULM Lac du Bonnet 107.61 39 PKiKP **PKiKP 17 45 57.5 -0.9**
ULM Lac du Bonnet 107.61 39 PKiKP **PKiKP 17 45 57.5 -0.9**
comp=Z,2.6nm,0.7s,baz=236,slow=1.9,SNR=4.5
OBN Obninsk 107.84 327 ⇑*iP* **Pdif 17 41 51.9 -0.3**
OBN *e* 17 46 24.7
OBN *e*S **SKSac 17 52 14.7 +2.2**
OBN *e*SS SS 18 01 36.7 +18
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN MLR MLR
comp=Z,200nm,20.0s
Z32A Haskell 108.10 57 ⇑PKiKP **PKiKP 17 46 00.5 +0.7**
baz=108
JCT Junction City 108.13 60 ⇑PKiKP **PKiKP 17 46 00.3 +0.3**
baz=108
632A Uvalde 108.23 61 ⇓PKiKP **PKiKP 17 46 00.8 +0.6**
baz=108
ECSD EROS Data Cent 108.62 45 ⇑PKiKP **PKiKP 17 46 00.6 +0.1**
baz=109
333A Richland Sprin 108.74 59 ⇓PKiKP **PKiKP 17 46 01.7 +0.6**
baz=109
434A Burnet 109.41 59 ⇑PKiKP **PKiKP 17 46 02.5 +0.1**
baz=109
FINES FINESS Array B 110.28 335 Pdif **Pdif 17 42 02.2 -0.7**
FINES PKiKP **PKiKP 17 46 02.9 -0.1**
FINES FINESS Array B 110.28 335 Pdiff **Pdif 17 42 02.2 -0.7**
comp=Z,1.2nm,0.8s,baz=76,slow=2.4,SNR=7.2
FINES PKiKP **PKiKP 17 46 02.9 -0.1**
comp=Z,2.3nm,0.9s,baz=111,slow=4.3,SNR=4.5
AKASG Malin Array Be 113.58 324 PKiKP **PKiKP 17 46 09.2 -0.4**
AKASG PP **PP 17 47 00.2 -4.1**
AKASG SKP 17 49 24.7
AKASG PKKPbc **PKKPbc 17 56 53.5 -2.2**
AKASG Malin Array Be 113.58 324 PKiKP **PKiKP 17 46 09.2 -0.4**
comp=Z,0.6nm,0.4s,baz=59,slow=2.5,SNR=12
AKASG PP **PP 17 47 00.2 -4.1**
comp=Z,0.8nm,0.6s,baz=58,slow=2.5,SNR=4.3
AKASG SKP 17 49 24.7
comp=Z,0.8nm,0.6s,baz=52,slow=2.8,SNR=4.9
AKASG PKKPbc **PKKPbc 17 56 53.5 -2.2**
comp=Z,1.1nm,0.6s,baz=261,slow=3.8,SNR=10
FRB Frobisher Bay 114.01 18 PKiKP PKPdf 17 46 09.4 -0.6
FRB Frobisher Bay 114.01 18 PKiKP PKPdf 17 46 09.4 -0.6
comp=Z,2.6nm,0.7s,baz=290,slow=4.6,SNR=3.6
BRTR Keskin Array B 114.27 312 PKiKP PKPdf 17 46 10.8 -0.6
BRTR PP **PP 17 47 11.1 +1.2**
BRTR PKKPbc **PKKPbc 17 56 53.2 +0.1**
BRTR Keskin Array B 114.27 312 PKiKP PKPdf 17 46 10.8 -0.6
comp=Z,0.4nm,0.4s,baz=27,slow=0.5,SNR=3.4
BRTR PP **PP 17 47 11.1 +1.2**
comp=Z,1.9nm,1.0s,baz=99,slow=7.6,SNR=5.6
BRTR PKKPbc **PKKPbc 17 56 53.2 +0.1**
comp=Z,2.0nm,0.8s,baz=211,slow=3.9,SNR=8.9
NB2 NORSAR Subarra 116.20 340 PKPdf **PKPdf 17 46 13.8 -0.6**
comp=Z,0.6nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 116.20 340 PKP **PKPdf 17 46 13.6 -0.8**
NOA SKP 17 49 30.4
NOA NORSAR Array B 116.20 340 PKP **PKPdf 17 46 13.6 -0.8**
comp=Z,0.8nm,0.7s,baz=45,slow=1.9,SNR=4.0
NOA SKP 17 49 30.3
comp=Z,0.8nm,0.6s,baz=49,slow=2.0,SNR=3.7
SFIN Scholer Farm 116.33 47 ⇑PKiKP **PKiKP 17 46 15.4 +0.1**
baz=116
MLR Muntele Rosu 117.69 320 PKKPbc PKKPbc 17 56 40.0 -1.5
MLR Muntele Rosu 117.69 320 PKKPbc PKKPbc 17 56 40.0 -1.5
comp=Z,0.8nm,0.6s,baz=194,slow=8.9,SNR=7.8
KOLS Kolonicke sedl 118.40 325 *e*PKiKP **PKPdf 17 46 19.8 +0.8**
KOLS Kolonicke sedl 118.40 325 *e*PKP **PKPdf 17 46 19.8 +0.8**
STHS Stebnicka Huta 118.75 326 *e*PKiKP **PKPdf 17 46 18.7 -0.9**
STHS Stebnicka Huta 118.75 326 *e*PKP **PKPdf 17 46 18.7 -0.9**
CRVS Cervenica-Dubn 118.88 325 *e*PKiKP **PKPdf 17 46 19.9 0.0**
CRVS Cervenica-Dubn 118.88 325 *e*PKP **PKPdf 17 46 19.9 0.0**
ACSO Alum Creek Sta 119.35 46 *e*PKPdf **PKPdf 17 46 20.4 -0.7**
LBTB Lobatse 120.09 238 PKP **PKPdf 17 46 22.1 -0.9**
LBTB PKKPbc **PKKPbc 17 56 33.0 +0.8**
LBTB Lobatse 120.09 238 PKP **PKPdf 17 46 22.1 -0.9**
comp=Z,1.7nm,0.4s,baz=229,slow=9.7,SNR=5.8
LBTB PKKPbc **PKKPbc 17 56 33.0 +0.8**
comp=Z,6.1nm,0.9s,baz=322,slow=1.6,SNR=5.8
SADO Sadowa 120.12 40 PKP **PKPdf 17 46 22.1 -0.3**
SADO Sadowa 120.12 40 PKP **PKPdf 17 46 22.1 -0.3**
comp=Z,3.2nm,0.6s,baz=288,slow=2.1,SNR=5.9
TKL Tuckaleechee C 120.28 51 PKP **PKPdf 17 46 22.8 -0.2**
TKL Tuckaleechee C 120.28 51 PKP **PKPdf 17 46 22.8 -0.2**
comp=Z,10nm,0.6s,baz=145,slow=3.2,SNR=5.2
PLCA Paso Flores 120.70 144 PKP **PKPdf 17 46 23.7 -0.1**
PLCA SKP 17 49 42.9
PLCA Paso Flores 120.70 144 PKP **PKPdf 17 46 23.7 -0.1**
comp=Z,3.6nm,0.6s,baz=264,slow=3.2,SNR=8.5
PLCA SKP 17 49 42.9
comp=Z,8.0nm,1.0s,baz=175,slow=3.0,SNR=7.6
LSZ Lusaka 120.78 249 PKP **PKPdf 17 46 25.1 +0.5**
LSZ Lusaka 120.78 249 PKP **PKPdf 17 46 25.1 +0.5**
comp=Z,3.8nm,0.5s,baz=93,slow=11,SNR=4.3
TIGA Tifton 121.64 56 ⇓PKiKP **PKiKP 17 46 26.3 +0.4**
baz=122
BRG Berggiesshubel 121.82 330 *e*PKP pPKPdf 17 47 16.7 -1.0
comp=Z,9.8nm,1.4s
CLL Collm 122.02 331 *e*PKiKP **PKPdf 17 46 26.0 +0.2**
CLL Collm 122.02 331 *e*PKPdf **PKPdf 17 46 26.0 +0.2**
CLL *e*SKPdf **SKPdf 17 49 42.0 -0.2**
CLL LmV 18 43 00.0
comp=Z,100nm,19.3s
IDI Anoyia 122.23 309 PKP **PKPdf 17 46 26.9 +0.1**
IDI Anoyia 122.23 309 PKP **PKPdf 17 46 26.9 +0.1**
comp=Z,8.0nm,0.8s,baz=355,slow=10,SNR=7.7
BLA Blacksburg 122.31 48 *e*PKiKP **PKPdf 17 46 26.6 -0.3**
BLA Blacksburg 122.31 48 *e*PKPdf **PKPdf 17 46 26.6 -0.3**
KMSC Kings Mountain 122.33 51 *e*PKPdf **PKPdf 17 46 27.0 +0.1**
KMSC Kings Mountain 122.33 51 ⇑PKiKP **PKiKP 17 46 27.2 +0.1**
baz=122
CONA Conrad Observa 122.56 326 ⇓*i*PKiKP **PKPdf 17 46 27.1 0.0**
comp=Z,4.8nm,1.3s
LONY Lake Ozonia 123.05 38 *e*PKPdf **PKPdf 17 46 27.6 -0.4**
KHC Kasperske Hory 123.08 328 *e*PKiKP **PKPdf 17 46 28.0 0.0**
KHC Kasperske Hory 123.08 328 *e*PKPdf **PKPdf 17 46 28.0 0.0**
GERES GERESS Array B 123.19 328 PKP **PKPdf 17 46 28.3 0.0**
GERES SKP 17 49 44.5
GERES PKKPbc **PKKPab 17 56 19.9 0.0**
GERES GERESS Array B 123.19 328 PKP **PKPdf 17 46 28.3 0.0**
comp=Z,1.3nm,0.5s,baz=82,slow=1.9,SNR=28
GERES SKP 17 49 44.5
comp=Z,1.2nm,0.6s,baz=61,slow=1.8,SNR=8.2
GERES PKKPbc **PKKPab 17 56 19.9 0.0**
comp=Z,0.4nm,0.7s,baz=189,slow=5.0,SNR=4.4
MDV Middlebury 124.23 38 *e*PKPdf **PKPdf 17 46 30.3 +0.1**
EKA Eskdalemuir Ar 125.37 343 PKP **PKPdf 17 46 32.0 -0.1**
EKA Eskdalemuir Ar 125.37 343 PKP **PKPdf 17 46 32.0 -0.1**
comp=Z,0.8nm,0.4s,baz=18,slow=3.2,SNR=7.8
MOTA Moosalm 125.48 328 ⇑*i*PKiKP **PKiKP 17 46 33.0 -0.2**
comp=Z,4.5nm,0.6s
FETA Feichten 125.89 328 ⇓*i*PKiKP **PKiKP 17 46 33.8 -0.2**
comp=Z,6.9nm,1.0s
DAVOX Davos/Dischmat 126.49 328 PKP **PKPdf 17 46 35.3 +0.5**
DAVOX Davos/Dischmat 126.49 328 PKP **PKPdf 17 46 35.3 +0.5**
comp=Z,1.6nm,0.4s,baz=113,slow=0.5,SNR=6.9
GIVF Givet 126.63 334 *e*PKiKP **PKPdf 17 46 36.2 +1.5**
GIVF Givet 126.63 334 *e*PKiKP **PKPdf 17 46 36.2 +1.5**
GIVF Givet 126.63 334 *e*PKPdf **PKPdf 17 46 36.2 +1.5**
BAIF Baives 126.93 334 *e*PKiKP **PKPdf 17 46 36.4 +1.1**
comp=Z,49nm,1.3s
BAIF Baives 126.93 334 *e*PKiKP **PKPdf 17 46 36.4 +1.1**
BAIF Baives 126.93 334 *e*PKPdf **PKPdf 17 46 36.4 +1.1**
HAU Haudompre 127.44 331 *e*PKiKP **PKPdf 17 46 36.0 -0.4**
HAU Haudompre 127.44 331 *e*PKiKP **PKPdf 17 46 36.0 -0.4**
HAU Haudompre 127.44 331 *e*PKPdf **PKPdf 17 46 36.0 -0.4**
MEZF Maizieres J'vi 127.69 333 *e*PKiKP **PKPdf 17 46 38.4 +1.6**
MEZF Maizieres J'vi 127.69 333 *e*PKPdf **PKPdf 17 46 38.4 +1.6**
CFAA Coronel Fontan 127.73 136 PKP **PKPdf 17 46 37.5 0.0**
CFAA Coronel Fontan 127.73 136 PKP **PKPdf 17 46 37.5 0.0**
comp=Z,2.6nm,0.8s,baz=245,slow=3.2,SNR=33
ATAH Atahualpa 128.66 103 PKP **PKPdf 17 46 42.0 +1.9**
ATAH Atahualpa 128.66 103 PKP **PKPdf 17 46 42.0 +1.9**
comp=Z,20nm,0.8s,baz=267,slow=3.3,SNR=13
LPL La Plagne 128.97 329 *e*PKiKP **PKPdf 17 46 39.7 +0.1**
LPL La Plagne 128.97 329 *e*PKiKP **PKPdf 17 46 39.7 +0.1**
LPL La Plagne 128.97 329 *e*PKPdf **PKPdf 17 46 39.7 +0.1**
LPG La Plagne 128.97 329 *e*PKiKP **PKPdf 17 46 39.7 0.0**
comp=Z,4.0nm,0.6s
LPG La Plagne 128.97 329 *e*PKiKP **PKPdf 17 46 39.7 0.0**
LPG La Plagne 128.97 329 *e*PKPdf **PKPdf 17 46 39.7 0.0**
LOR Lormes 129.14 332 *e*PKiKP **PKPdf 17 46 40.8 +1.2**
comp=Z,39nm,1.4s
LOR Lormes 129.14 332 *e*PKPdf **PKPdf 17 46 40.8 +1.2**
TSUM Tsumeb 129.15 241 SKPbc SKPbc 17 49 43.6 +0.9
comp=Z,38nm,1.0s,baz=92,slow=4.0,SNR=16
SSF Saint Saulge 129.46 332 *e*PKiKP **PKPdf 17 46 41.4 +1.2**
comp=Z,35nm,1.3s
SSF Saint Saulge 129.46 332 *e*PKiKP **PKPdf 17 46 41.4 +1.2**
SSF Saint Saulge 129.46 332 *e*PKPdf **PKPdf 17 46 41.4 +1.2**
SAOF Saorge 129.55 327 PKP SKPab 17 49 43.0 -0.2
SMF Signal de Mont 129.60 332 *e*PKiKP **PKPdf 17 46 40.4 -0.1**
comp=Z,15nm,1.1s
SMF Signal de Mont 129.60 332 *e*PKiKP **PKPdf 17 46 40.4 -0.1**
SMF Signal de Mont 129.60 332 *e*PKPdf **PKPdf 17 46 40.4 -0.1**
OTAV Otavalo 129.69 93 *e*PKPdf **PKPdf 17 46 40.2 -2.0**
TOUF Mont Tournerai 129.70 327 PKP SKPab 17 49 43.0 -1.1
LUCF Luceram 129.72 327 PKP SKPab 17 49 44.3 +0.3
MVIF Mont Vial 129.82 327 PKP SKPab 17 49 44.3 -0.2
OG25 Le Caire 130.09 328 PKP **SKPab 17 49 46.1 +0.6**
PLDF La Plantade 130.20 331 PKP **SKPab 17 49 46.4 +0.5**
SSB Saint Sauveur 130.24 330 PKP **SKPab 17 49 45.8 -0.3**
PB10 Plate Boundary 130.28 126 ⇑*iP* **SKPab 17 49 48.1 +1.2**
OG26 St.-Nazaire-De 130.35 329 PKP **SKPab 17 49 46.3 -0.3**
TCF Toulx Ste Croi 130.63 332 *e*PKiKP **PKPdf 17 46 44.1 +1.6**
comp=Z,10.0nm,0.8s
TCF Toulx Ste Croi 130.63 332 *e*PKiKP **PKPdf 17 46 44.1 +1.6**
TCF Toulx Ste Croi 130.63 332 *e*PKPdf **PKPdf 17 46 44.1 +1.6**
PYM Petit Puy Mans 130.65 331 PKP **SKPab 17 49 47.6 -0.2**
LBL Lubilhac 130.92 331 PKP **SKPab 17 49 48.3 -0.6**
FRNF Fournols 131.13 331 PKP **SKPab 17 49 50.4 +0.6**
PB06 Plate Boundary 131.46 126 ⇑*iP* **SKPab 17 49 54.4 +2.3**
PB07 Plate Boundary 131.66 124 ⇑*iP* **SKPab 17 49 55.4 +2.4**
PB04 Plate Boundary 131.74 125 ⇓*iP* **SKPab 17 49 53.9 +0.9**
PATCX Punta Patache 131.85 123 ⇓*iP* **SKPab 17 49 55.4 +1.7**
PB09 Plate Boundary 132.16 125 ⇓*iP* **SKPdf 17 49 57.9 -4.6**
PB01 Plate Boundary 132.30 124 *i*P **SKPab 17 49 56.5 +0.9**
PSGC Pisagua 132.41 122 ⇓*iP* **SKPab 17 49 57.8 +1.7**
PB11 Plate Boundary 132.74 122 ⇑*iP* **SKPab 17 49 58.9 +1.3**
MNMC Minimini 133.06 121 ⇑*iP* **SKPdf 17 50 00.7 -3.6**
KEST Kesra 133.41 317 PKP **PKPdf 17 46 50.1 +2.0**
KEST SKPbc **SKPbc 17 49 57.1 -0.5**
KEST Kesra 133.41 317 PKP **PKPdf 17 46 50.1 +2.0**
comp=Z,1.0nm,0.8s,baz=307,slow=7.8,SNR=4.2
KEST SKPbc **SKPbc 17 49 57.1 -0.5**
comp=Z,7.0nm,1.0s,baz=306,slow=6.7,SNR=12
ROSC El Rosal 134.08 88 SKPab **SKPab 17 50 04.3 +0.4**
ROSC El Rosal 134.08 88 SKPab **SKPab 17 50 04.3 +0.4**
comp=Z,15nm,0.7s,baz=102,slow=18,SNR=5.5
LPAZ La Paz 135.52 119 *e*PKPdf **PKPdf 17 46 53.0 -0.3**
LPAZ PKP **PKPdf 17 46 54.6 +1.4**
LPAZ SKPab **SKPab 17 50 09.4 -1.0**
LPAZ La Paz 135.52 119 PKP **PKPdf 17 46 54.6 +1.4**
comp=Z,11nm,0.9s,baz=84,slow=1.1,SNR=13
LPAZ SKPab **SKPab 17 50 09.4 -1.0**
comp=Z,89nm,1.2s,baz=259,slow=1.5,SNR=42
CPUP Villa Florida 138.44 139 PKP **PKPdf 17 46 58.0 +0.4**
CPUP SKPbc **SKPbc 17 50 14.2 +0.9**
CPUP Villa Florida 138.44 139 PKP **PKPdf 17 46 58.0 +0.4**
comp=Z,3.2nm,0.6s,baz=294,slow=2.3,SNR=5.2
CPUP SKPbc **SKPbc 17 50 14.2 +0.9**
comp=Z,9.2nm,0.8s,baz=237,slow=3.0,SNR=7.3
ESDC Sonseca Array 138.60 331 PP PP 17 49 50.8 +1.1
ESDC SKPbc **SKPbc 17 50 13.7 +0.3**
ESDC Sonseca Array 138.60 331 PP PP 17 49 50.8 +1.1
comp=Z,1.6nm,0.8s,baz=34,slow=5.6,SNR=6.3
ESDC SKPbc **SKPbc 17 50 13.7 +0.3**
comp=Z,1.6nm,0.8s,baz=19,slow=4.2,SNR=6.0
LSP Las Mesas 139.66 67 *e*PKPpre PKPpre 17 46 55.1
LSP *e*PKPdf **PKPdf 17 47 00.7 +0.6**
CRPR Cabo Rojo, PR 139.68 67 *e*PKPdf **PKPdf 17 47 00.4 +0.4**

CELP	**Cerrillos**	**140.15**	**67**	*e*PKPpre	PKPpre	17 46 53.1		
CELP				*e*PKPdf	**PKPdf**	**17 47 01.0**	**0.0**	
SIV	**San Ignacio**	**141.71**	**123**	PKPpre	PKPpre	17 46 58.0		
SIV				PKP	**PKPdf**	**17 47 04.0**	**+0.2**	
SIV				SKPbc	**SKiKP**	**17 50 23.1**	**-0.8**	
SIV	**San Ignacio**	**141.71**	**123**	PKhKP	PKPpre	17 46 58.0		
	comp=Z,6.5nm,0.7s,baz=243,slow=5.0,SNR=17							
SIV				PKP	**PKPdf**	**17 47 04.0**	**+0.2**	
	comp=Z,8.3nm,0.7s,baz=266,slow=2.5,SNR=12							
SIV				SKPbc	**SKiKP**	**17 50 23.1**	**-0.8**	
	comp=Z,23nm,1.0s,baz=234,slow=2.4,SNR=16							
TAM	**Tamanrasset**	**142.59**	**302**	*e*PKHKP	PKPpre	17 47 01.3		
TAM	**Tamanrasset**	**142.59**	**302**	*e*PKPpre	PKPpre	17 47 01.3		
ANWB	**Willy Bob**	**144.64**	**66**	*e*P	**PKPab**	**17 47 07.4**	**-0.7**	
ANWB	**Willy Bob**	**144.64**	**66**	*e*PKPdf	**PKPab**	**17 47 07.8**	**-0.3**	
SSG	**Sans Toucher**	**145.19**	**68**	*e*P	**PKPbc**	**17 47 10.2**	**0.0**	
FNG	**Fond-Bernard**	**145.20**	**68**	*e*P	**PKPbc**	**17 47 10.2**	**+0.1**	
SCG	**Saint Claude**	**145.21**	**68**	*e*P	**PKPab**	**17 47 10.2**	**-0.1**	
TAG	**Tarade**	**145.22**	**68**	*e*P	**PKPdf**	**17 47 10.1**	**-0.1**	
ECG	**Echelle**	**145.23**	**68**	*e*P	**PKPdf**	**17 47 08.3**	**-1.9**	
PHG	**Guadaloupe-2**	**145.25**	**68**	*e*P	**PKPab**	**17 47 10.4**	**-0.1**	
BCG	**Bois Riant Cap**	**145.25**	**68**	*e*P	**PKPdf**	**17 47 10.1**	**0.0**	
DOG	**Dongo Capester**	**145.27**	**68**	*e*P	**PKPbc**	**17 47 10.2**	**0.0**	
SEG	**Port Louis**	**145.27**	**67**	*e*P	**PKPdf**	**17 47 09.8**	**-0.2**	
TBG	**Guadaloupe-3**	**145.29**	**68**	*e*P	**PKPbc**	**17 47 10.2**	**0.0**	
BBL	**Barber's Block**	**145.54**	**69**	*e*P	**PKPbc**	**17 47 11.0**	**0.0**	
MGG	**Marie-Galante**	**145.58**	**68**	*e*P	**PKPbc**	**17 47 11.1**	**0.0**	
FDF	**Fort de France**	**146.04**	**70**	*e*PKP2	**PKPdf**	**17 47 11.9**	**+0.5**	
FDF	**Fort de France**	**146.04**	**70**	*e*P	**PKPbc**	**17 47 12.4**	**-0.2**	
FDF	**Fort de France**	**146.04**	**70**	*e*PKPdf	**PKPdf**	**17 47 11.9**	**+0.5**	
BIM	**Bigot**	**146.16**	**70**	*e*P	**PKPab**	**17 47 13.9**	**-0.1**	
TRMF	**Trois Ilets**	**146.18**	**70**	*e*P	**PKPab**	**17 47 13.7**	**-0.3**	
ZAM	**Aeronautique**	**146.19**	**70**	*e*P	**PKPbc**	**17 47 13.0**	**0.0**	
LPMF	**Morne Lapointe**	**146.25**	**70**	*e*P	**PKPbc**	**17 47 12.8**	**-0.3**	
SVB	**Belmont**	**146.27**	**73**	*e*P	**PKPdf**	**17 47 10.2**	**-1.6**	
MVM	**Montagne Vaucl**	**146.32**	**70**	*e*P	**PKPbc**	**17 47 13.6**	**+0.2**	
PTGA	**Pitinga**	**147.91**	**98**	*e*PKPdf	**PKPdf**	**17 47 15.2**	**+0.6**	
PTGA				PKPbc	**PKPbc**	**17 47 18.2**	**+0.4**	
PTGA				SKPbc	**SKiKP**	**17 50 37.6**	**+0.8**	
PTGA	**Pitinga**	**147.91**	**98**	PKPbc	**PKPbc**	**17 47 18.2**	**+0.4**	
	comp=Z,137nm,1.0s,baz=256,slow=2.9,SNR=48							
PTGA				SKPbc	**SKiKP**	**17 50 37.6**	**+0.8**	
	comp=Z,7.9nm,0.9s,baz=270,slow=1.9,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**149.19**	**288**	*e*PKPdf	**PKPdf**	**17 47 16.1**	**-0.4**	
TOA0				*e*PKPbc	**PKPbc**	**17 47 20.7**	**-0.3**	
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	**PKPbc**	**17 47 20.7**	**-0.3**	
TORD				SKPbc		17 50 38.8		
TORD				PP	**PP**	**17 50 54.2**	**-0.3**	
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	**PKPbc**	**17 47 20.7**	**-0.3**	
	comp=Z,59nm,0.9s,baz=17,slow=2.2,SNR=218							
TORD				SKPbc		17 50 38.8		
	comp=Z,6.5nm,1.1s,baz=22,slow=2.2,SNR=4.6							
TORD				PP	**PP**	**17 50 54.2**	**-0.3**	
	comp=Z,3.3nm,0.9s,baz=71,slow=5.2,SNR=3.6							
BDFB	**Brasilia**	**152.07**	**136**	PKP	**PKPdf**	**17 47 22.1**	**+1.0**	
BDFB				PKPbc	**PKiKP**	**17 47 28.1**	**-0.1**	
BDFB				PKPab	**PKPab**	**17 47 38.6**	**+0.6**	
BDFB	**Brasilia**	**152.07**	**136**	PKP	**PKPdf**	**17 47 22.1**	**+1.0**	
	comp=Z,11nm,0.8s,baz=166,slow=2.4,SNR=12							
BDFB				PKPbc	**PKiKP**	**17 47 28.1**	**-0.1**	
	comp=Z,47nm,0.7s,baz=234,slow=1.4,SNR=40							
BDFB				PKPab	**PKPab**	**17 47 38.6**	**+0.6**	
	comp=Z,44nm,0.7s,baz=193,slow=5.3,SNR=15							
KIC	**Kosan Boka**	**156.51**	**276**	*e*PKIKP	PKPdf	17 47 37.3	+10	
	comp=Z,112nm,1.2s							
DBIC	**Dimbokro**	**156.60**	**277**	PKPbc	PKPdf	17 47 36.8	+9.4	
DBIC				PKPab	**PKPab**	**17 47 56.8**	**-0.7**	
DBIC	**Dimbokro**	**156.60**	**277**	PKPbc	PKPdf	17 47 36.8	+9.4	
	comp=Z,1.4nm,0.3s,baz=104,slow=3.2,SNR=6.0							
DBIC				PKPab	**PKPab**	**17 47 56.8**	**-0.7**	
	comp=Z,28nm,1.1s,baz=72,slow=5.5,SNR=8.8							
TIC	**Toumodi**	**156.77**	**276**	*e*PKIKP	PKPdf	17 47 37.5	+10	
	comp=Z,113nm,1.3s							
LIC	**Lamto**	**156.80**	**275**	*e*PKP2	**PKPab**	**17 47 57.3**	**-1.1**	
	comp=Z,74nm,1.2s							
LIC	**Lamto**	**156.80**	**275**	*e*PKIKP	PKPdf	17 47 37.8	+10	
	comp=Z,84nm,1.2s							

*ISCJB **06** 17:53:47.3±1.1,20°.5S±0°.2×178°.1W±0°.2, h534km, mb3.6/6, Error ellipse: s-maj=31.1km s-min=19.9km az=138.0*
*IDC **06** 17:53:55.9±6.5,20°.87S×178°.09W, h640km±92km, mb3.0/6, mb1 3.2/7, mb1mx3.0/20, mbtmp3.0/7, Error ellipse: s-maj=52.2km s-min=26.3km az=5.0*

ISC 06 17:53:48.0±1.2,20°.6S±0°.2×178°.0W±0°.2, h534km, n8, σ0s93/7, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.14**	**193**	**P**	**P**	**17 57 27.4**	**-0.5**
	0.7nm,0.3s,baz=17,slow=3.0,SNR=4.8						
CTA	**Charters Tower**	**33.51**	**264**	**P**	**P**	**17 59 43.9**	**+0.4**
	3.8nm,0.5s,baz=91,slow=11,SNR=15						
STKA	**Stephens Creek**	**37.78**	**244**	P	**P**	**18 00 19.4**	**+0.5**
	1.0nm,0.5s,baz=346,slow=20,SNR=8.2						
ASAR	**Alice Springs**	**44.53**	**257**	P	**P**	**18 01 12.3**	**-0.2**
	2.3nm,0.4s,baz=92,slow=7.3,SNR=126						
WRA	**Warramunga Arr**	**44.62**	**262**	P	**P**	**18 01 12.7**	**-0.5**
	0.8nm,0.3s,baz=96,slow=7.6,SNR=47						
NVAR	**Mina Array Bea**	**81.05**	**43**	P	**P**	**18 05 08.8**	**+1.1**
	0.2nm,0.4s,baz=224,slow=7.6,SNR=2.6						
ILAR	**Eielson Array**	**88.37**	**13**	P	**P**	**18 05 41.4**	**-1.2**
	0.2nm,0.5s,baz=217,slow=5.3,SNR=5.0						
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPab	18 12 17.1	-1.5
	0.4nm,0.5s,baz=39,slow=4.1,SNR=5.1						

WEL 06 18:32:00.2±0.5,38°.66S×175°.45E, h212km±3km, ML3.7/7, 14C-2D, Error ellipse: s-maj=3.1km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.41**	**181**	PN	Pn	18 32 28.2	-0.3
KRVZ	**Karewarewa**	**0.46**	**161**	⇑PN	Pn	18 32 28.7	0.0
WTVZ	**West Tongariro**	**0.47**	**166**	PN	Pn	18 32 28.6	-0.1
HIZ	**Hauiti**	**0.49**	**287**	PN	Pn	18 32 28.0	-0.6
HIZ				SN	S	18 32 51.5	+0.8
NGZ	**Ngauruhoe**	**0.53**	**167**	PN	Pn	18 32 28.9	0.0
OTVZ	**Ofurere**	**0.53**	**162**	PN	Pn	18 32 29.1	+0.1
COVZ	**Chateau Observ**	**0.55**	**172**	⇑PN	Pn	18 32 28.8	-0.2
WPVZ	**Whakapapa**	**0.55**	**172**	PN	Pn	18 32 28.9	-0.1
FWVZ	**Far West T-bar**	**0.60**	**172**	PN	Pn	18 32 29.2	-0.2
TUVZ	**Tukino**	**0.63**	**165**	PN	Pn	18 32 29.4	+0.1
WNVZ	**Wahianoa**	**0.68**	**170**	⇑PN	Pn	18 32 29.5	-0.1
MOVZ	**Moawhango**	**0.79**	**163**	PN	Pn	18 32 29.6	-0.4
BHHZ	**Black Hill Sta**	**0.96**	**150**	⇑PN	Pn	18 32 30.8	-0.2
BHHZ				SN	S	18 32 53.8	-1.2
BKZ	**Black Stump Fm**	**0.96**	**122**	⇑PN	Pn	18 32 31.1	+0.1
BKZ				SN	S	18 32 54.5	-0.4
BKZ				AML	AML	18 32 57.4	
WAZ	**Wanganui**	**1.16**	**198**	⇑PN	Pn	18 32 31.7	-0.6
MCHZ	**McNeill Hill**	**1.25**	**129**	⇑PN	Pn	18 32 33.8	+0.9
URZ	**Urewera**	**1.36**	**74**	⇑PN	Pn	18 32 33.3	-0.5
URZ				SN	S	18 32 58.7	-1.0
PNHZ	**Pukenui**	**1.39**	**155**	PN	Pn	18 32 33.8	-0.2
TSZ	**Takapari Road**	**1.46**	**164**	⇑PN	Pn	18 32 34.2	-0.4
SNGZ	**Shannon Statio**	**1.48**	**95**	PN	Pn	18 32 35.2	+0.4
KAHZ	**Kahuranaki**	**1.59**	**136**	PN	Pn	18 32 36.2	+0.4
WPHZ	**Waipukurau**	**1.60**	**152**	PN	Pn	18 32 35.7	-0.1
CKHZ	**Cape Kidnapper**	**1.61**	**129**	PN	Pn	18 32 36.6	+0.7
MWZ	**Matawai**	**1.66**	**80**	PN	Pn	18 32 36.5	0.0
MWZ				SN	S	18 33 03.7	-0.7
DVHZ	**Dannevirke**	**1.73**	**161**	PN	Pn	18 32 36.3	-0.7
POWZ	**Post Office Ro**	**1.75**	**172**	PN	Pn	18 32 36.3	-0.9
PXZ	**Pawanui**	**1.76**	**142**	⇑PN	Pn	18 32 37.1	-0.1
PXZ				AML	AML	18 33 08.6	
PXZ				AML	AML	18 33 09.6	
KNZ	**Kokohu**	**1.78**	**102**	PN	Pn	18 32 37.8	+0.4
RIGZ	**Rimuhau**	**1.81**	**92**	PN	Pn	18 32 38.2	+0.4
PRHZ	**Porangahau**	**1.85**	**151**	⇓PN	Pn	18 32 37.9	-0.2
PRGZ	**Paritu Road**	**1.92**	**99**	PN	Pn	18 32 39.3	+0.5
PRWZ	**Pori Road**	**1.94**	**168**	PN	Pn	18 32 38.1	-0.8
ANWZ	**Angora Road**	**1.97**	**157**	PN	Pn	18 32 38.7	-0.5
MHGZ	**Mahia Peninsul**	**1.98**	**105**	PN	Pn	18 32 40.0	+0.6
MRZ	**Mangatainoka R**	**2.00**	**177**	⇑PN	Pn	18 32 38.2	-1.4
MRZ				AML	AML	18 33 10.0	
MRZ				AML	AML	18 33 10.2	
BFZ	**Birch Farm**	**2.11**	**163**	PN	Pn	18 32 39.5	-1.2
OGWZ	**Otaki Gorge**	**2.17**	**186**	⇑PN	Pn	18 32 39.8	-1.4
CNGZ	**Carnagh Statio**	**2.17**	**86**	PN	Pn	18 32 41.9	+0.6
HOWZ	**Holdsworth Sta**	**2.24**	**179**	⇑PN	Pn	18 32 40.2	-1.8
KIW	**Kapiti Island**	**2.24**	**190**	PN	Pn	18 32 39.9	-2.1
DUWZ	**D'Urville Isla**	**2.44**	**208**	PN	Pn	18 32 41.6	-2.6
CAW	**Cannon Point**	**2.47**	**187**	⇑PN	Pn	18 32 42.3	-2.1
CAW				AML	AML	18 33 17.0	
CAW				AML	AML	18 33 20.5	
TMWZ	**Te Maipa**	**2.47**	**172**	PN	Pn	18 32 42.6	-1.9
MTW	**Mount Morrison**	**2.50**	**179**	PN	Pn	18 32 42.5	-2.2
MXZ	**Matakaoa Point**	**2.50**	**65**	PN	Pn	18 32 44.0	-0.8
TCW	**Tory Channel**	**2.71**	**199**	PN	Pn	18 32 44.6	-2.4
TCW				AML	AML	18 33 20.5	
TCW				AML	AML	18 33 21.1	
SNZO	**South Karori**	**2.71**	**192**	PN	Pn	18 32 44.5	-2.5
SNZO				AML	AML	18 33 48.0	
PAWZ	**Paruwai Farm**	**2.72**	**180**	PN	Pn	18 32 43.0	-4.2
MSWZ	**Moikau Station**	**2.76**	**183**	PN	Pn	18 32 45.1	-2.5
TUWZ	**Tuamarina**	**3.00**	**202**	PN	Pn	18 32 47.6	-2.8
TUWZ				AML	AML	18 33 25.6	
TUWZ				AML	AML	18 33 26.3	
NNZ	**Nelson**	**3.01**	**211**	⇓PN	Pn	18 32 47.0	-3.5
QRZ	**Quartz Range**	**3.12**	**225**	PN	Pn	18 32 47.3	-4.5
BSWZ	**Blackbirch Sta**	**3.28**	**201**	PN	Pn	18 32 50.9	-2.8
THZ	**Tophouse**	**3.66**	**211**	PN	Pn	18 32 53.6	-4.7
KHZ	**Kahutara**	**4.03**	**201**	PN	Pn	18 32 59.0	-3.6
MQZ	**McQueen's Vall**	**5.47**	**202**	PN	Pn	18 33 15.1	-5.6

IDC 06 18:39:20.0±2.5,7°.46S×119°.39E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=254.6km s-min=26.2km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**132**	P	P	18 43 43.2	-1.1
	0.1nm,0.3s,baz=304,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**21.30**	**141**	P	P	18 44 09.4	+0.9
	0.8nm,0.8s,baz=315,slow=9.4,SNR=16						
MKAR	**Makanchi Array**	**63.27**	**332**	P	P	18 49 50.5	-0.1
	0.2nm,0.5s,baz=154,slow=7.2,SNR=6.4						

*ISCJB **06** 19:07:28.2±0.4, 16°.96N±0°.05×94°.29W±0°.04, h141km±6km, mb3.9/7, Error ellipse: s-maj=9.0km s-min=5.2km az=20.1*
*IDC **06** 19:07:28.0±2.5, 16°.86N×94°.12W, h124km±25km, mb3.7/8, mb1 3.9/12, mb1mx3.7/29, mbtmp3.7/12, MS3.9/2, Ms1 3.9/2, ms1mx3.0/37, Error ellipse: s-maj=30.3km s-min=11.9km az=58.0*
*MEX **06** 19:07:31.4±1.1, 16°.68N×94°.41W, h159km±19km, MD4.1*

ISC 06 19:07:29.2±0.8, 16°.95N±0°.06×94°.29W±0°.05, h138km±10km, n21, σ1s21/25, mb4.0/7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.61**	**140**	*e*P	**Pn**	**19 07 59.8**	**+0.8**
PCIG				*i* S	**Sn**	**19 08 22.7**	**+0.8**
HUIG	**Huatulco**	**2.10**	**236**	*e*P	**Pn**	**19 08 03.6**	**-1.2**
HUIG				*i* S	**Sn**	**19 08 30.8**	**-1.2**
VHO	**Vista Hermosa**	**2.34**	**273**	*e*P	**Pn**	**19 08 09.5**	**+1.6**
VHO				*e*S	**Sn**	**19 08 38.6**	**+1.0**
THIG		**2.81**	**136**	*e*P	**Pn**	**19 08 14.5**	**+0.8**
THIG				*i* S	**Sn**	**19 08 48.7**	**+0.7**
LVIG	**Laguna Verde**	**3.42**	**324**	*e*P	**Pn**	**19 08 21.5**	**-0.1**
LVIG				*e*S	**Sn**	**19 09 00.6**	**-1.4**
PNIG	**Pinotepa**	**3.72**	**262**	*e*P	**Pn**	**19 08 24.9**	**-0.5**
PNIG				*i* S	**Sn**	**19 09 07.6**	**-1.4**
TLIG	**Tlapa**	**4.13**	**279**	*e*P	**Pn**	**19 08 32.3**	**+1.3**
TLIG				*e*S	**Sn**	**19 09 18.4**	**-0.5**
APG	**El Apazote**	**4.16**	**117**	P	Pn	19 08 27.5	-4.0
	6.9nm,0.3s,baz=315,slow=11,SNR=92						
APG				S	Sn	19 09 12.2	-7.5
	65nm,0.3s,baz=334,slow=13,SNR=25						
TEIG	**Tepich**	**6.57**	**59**	P	**Pn**	**19 09 01.3**	**-2.2**
	6.4nm,0.3s,baz=270,slow=2.4,SNR=34						
TEIG				S	**Sn**	**19 10 16.9**	**-0.4**
	baz=31,slow=19,SNR=2.6						
JTS	**JuntasAbangare**	**11.23**	**125**	P	**Pn**	**19 10 03.9**	**-2.0**
	1.3nm,0.3s,baz=313,slow=18,SNR=3.7						
TXAR	**Lajitas Array**	**15.04**	**327**	P	**P**	**19 10 57.3**	**+0.6**
	0.3nm,0.3s,baz=148,slow=14,SNR=38						
ANMO	**Albuquerque**	**20.97**	**331**	P	**P**	**19 12 03.5**	**+1.9**
	3.1nm,0.7s,baz=156,slow=11,SNR=8.5						
PDAR	**Pinedale Array**	**28.84**	**336**	P	**P**	**19 13 15.9**	**+1.1**
	0.4nm,0.7s,baz=158,slow=13,SNR=4.0						
NVAR	**Mina Array Bea**	**30.00**	**320**	P	P	19 13 28.4	+3.3
	2.9nm,0.9s,baz=136,slow=8.5,SNR=16						
SADO	**Sadowa**	**30.53**	**22**	LR	LR	19 28 44.6	
	comp=Z,138nm,18.1s,baz=181,slow=42						
LPAZ	**La Paz**	**41.90**	**141**	P	**P**	**19 15 07.1**	**+0.1**
	1.0nm,0.4s,baz=242,slow=3.3,SNR=4.6						
SIV	**San Ignacio**	**46.31**	**133**	P	**P**	**19 15 40.4**	**-1.0**
	6.2nm,0.7s,baz=314,slow=8.4,SNR=16						
YKA	**Yellowknife Ar**	**47.68**	**347**	P	**P**	**19 15 51.4**	**0.0**
	3.1nm,0.7s,baz=152,slow=7.3,SNR=71						
INK	**Inuvik**	**57.01**	**344**	P	**P**	**19 17 00.4**	**+0.3**
	2.7nm,0.7s,baz=126,slow=8.0,SNR=15						
ILAR	**Eielson Array**	**59.28**	**337**	P	**P**	**19 17 16.4**	**+0.4**
	0.4nm,0.6s,baz=147,slow=4.8,SNR=13						
AFI	**Afiamalu**	**82.40**	**253**	LR	LR	19 49 49.2	
	comp=Z,90nm,18.6s,baz=14,slow=31						

*IDC **06** 19:15:07.6±1.8, 16°.27S×173°.32W, h0km, mb3.9/5, mb1 4.3/6, mb1mx3.9/21, mbtmp4.0/6, ML2.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/39, Error ellipse: s-maj=108.7km s-min=20.3km az=144.0*

ISC 06 19:15:12.6±2.1, 15°.75S±0°.6×173°.5W±0°.5, h26km, n10, σ1s57/11, mb3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.47**	**43**	Pn	**Pn**	**19 15 52.0**	**+0.7**
	17nm,0.3s,baz=130,slow=23,SNR=5.6						
AFI				Sn	**Sn**	**19 16 17.8**	**-2.8**
	57nm,0.3s,baz=21,slow=22,SNR=9.6						
DZM	**Mont Dzumac**	**19.97**	**249**	LR	LR	19 25 57.6	
	comp=Z,189nm,21.7s,baz=204,slow=33						
HNR	**Honiara**	**26.62**	**280**	LR	LR	19 28 15.8	
	comp=Z,184nm,19.6s,baz=293,slow=29						
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**19 24 00.9**	**-1.7**
	0.6nm,0.5s,baz=93,slow=6.7,SNR=13						
WRA				PcP	**PcP**	**19 25 23.6**	**-0.1**
	0.5nm,0.9s,baz=94,slow=3.5,SNR=2.7						
ASAR	**Alice Springs**	**49.90**	**252**	P	**P**	**19 24 03.0**	**-1.4**
	4.4nm,0.6s,baz=89,slow=7.5,SNR=39						
ASAR				PcP	**PcP**	**19 25 23.9**	**-0.7**
	0.3nm,0.7s,baz=96,slow=4.7,SNR=2.5						
NVAR	**Mina Array Bea**	**74.64**	**42**	P	**P**	**19 26 50.4**	**+0.3**
	0.9nm,0.7s,baz=234,slow=8.5,SNR=7.3						
PDAR	**Pinedale Array**	**82.58**	**42**	P	**P**	**19 27 33.6**	**-0.1**
	0.8nm,0.8s,baz=198,slow=3.0,SNR=6.2						
ILAR	**Eielson Array**	**82.78**	**11**	P	**P**	**19 27 36.0**	**+2.0**
	0.2nm,0.5s,baz=226,slow=6.3,SNR=4.6						
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc	**PKPab**	**19 34 52.6**	**+0.3**
	1.0nm,0.6s,baz=119,slow=3.0,SNR=6.2						
GERES	**GERESS Array B**	**146.44**	**351**	PKPbc	**PKPab**	**19 34 53.7**	**+1.4**
	0.4nm,0.8s,baz=50,slow=5.2,SNR=3.6						

IDC 06 19:53:45.0±1.3, 0°.49N×125°.30E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=171.7km s-min=19.5km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.16**	**157**	P	P	19 58 42.0	-0.7
	1.5nm,0.6s,baz=335,slow=11,SNR=20						
ASAR	**Alice Springs**	**25.43**	**161**	P	P	19 59 15.0	+0.4
	1.3nm,0.5s,baz=344,slow=11,SNR=34						
ASAR				PcP	PcP	20 02 46.9	-0.3
	0.2nm,0.4s,baz=354,slow=2.2,SNR=4.9						
STKA	**Stephens Creek**	**35.70**	**156**	P	P	20 00 45.2	-0.1
	1.5nm,0.5s,baz=324,slow=8.7,SNR=6.5						
MKAR	**Makanchi Array**	**59.43**	**327**	P	P	20 03 49.4	-0.2
	0.1nm,0.3s,baz=122,slow=8.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**63.72**	**329**	P	P	20 04 18.4	0.0
	0.3nm,0.7s,baz=125,slow=5.9,SNR=6.1						

IDC 06 19:55:05.6±1.6, 2°.23N×124°.41E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=191.6km s-min=21.7km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.10**	**157**	P	P	20 00 22.7	-0.4
	0.5nm,0.4s,baz=335,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**27.35**	**161**	P	P	20 00 53.4	+0.7
	0.3nm,1.0s,baz=342,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**57.49**	**327**	P	P	20 04 56.2	-0.4
	0.2nm,0.4s,baz=123,slow=6.8,SNR=6.7						
KURBB	**Kurchatov Arra**	**61.77**	**329**	P	P	20 05 26.1	+0.1
	0.3nm,0.6s,baz=131,slow=6.6,SNR=4.9						

IDC 06 20:07:54.2±55.0, 22°.46S×179°.31W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=989.3km s-min=144.9km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.86**	**246**	P	P	20 14 55.2	-0.7
	1.5nm,0.5s,baz=92,slow=8.8,SNR=10.0						
ASAR	**Alice Springs**	**42.91**	**259**	P	P	20 15 54.8	-0.2
	0.7nm,0.4s,baz=92,slow=7.7,SNR=31						
WRA	**Warramunga Arr**	**43.15**	**264**	P	P	20 15 57.3	+0.4
	1.4nm,0.4s,baz=100,slow=8.4,SNR=18						

*CSEM **06** 20:19:21.6±0.5, 50°.20N×19°.11E, h2km, Error ellipse: s-maj=14.5km s-min=4.5km az=1.0*

PRU 06 20:19:22.6, 50°.18N×19°.11E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.14**	**326**	*e*Pg	Pg	20 19 27.4	+2.2
CHZP				*e*Sg	Sg	20 19 30.2	+3.2
OJC	**Ojcow**	**0.44**	**85**	*e*Pg	Pg	20 19 29.6	-1.6
OJC				*e*Sg	Sg	20 19 35.4	-1.6
OJC	**Ojcow**	**0.44**	**85**	*e*Pg	Pg	20 19 29.6	-1.6
OJC				*e*Sg	Sg	20 19 35.4	-1.6
OKC	**Ostrava-Krasne**	**0.71**	**241**	*e*PG	Pg	20 19 35.4	-0.8
OKC				*e*SG	Sg	20 19 46.2	+0.8
	comp=Z,6.7nm,0.3s						
OKC	**Ostrava-Krasne**	**0.71**	**241**	Pg	Pg	20 19 35.4	-0.8
OKC				Sg	Sg	20 19 46.2	+0.8
	6.7nm,0.3s						
MORC	**Moravsky Berou**	**1.09**	**249**	*e*Pg	Pg	20 19 42.7	-0.9
MORC				*e*Sg	Sg	20 19 57.7	-0.1
NIE	**Niedzica**	**1.09**	**134**	*e*Pg	Pg	20 19 41.3	-2.3
NIE				*e*Sg	Sg	20 19 57.0	-0.8
NIE	**Niedzica**	**1.09**	**134**	*e*Pg	Pg	20 19 41.3	-2.3
NIE				*e*Sg	Sg	20 19 57.0	-0.8
STHS	**Stebnicka Huta**	**1.58**	**118**	*e*PG	Pg	20 19 54.3	+1.4
STHS				*e*SN	Sn	20 20 12.6	-0.5
STHS	**Stebnicka Huta**	**1.58**	**118**	*e*Pg	Pg	20 19 54.3	+1.4
STHS				*e*Sn	Sn	20 20 12.6	-0.5
DPC	**Dobruska-Polom**	**1.80**	**277**	*e*PG	Pn	20 19 55.6	+0.7
DPC				*e*SG	Sb	20 20 19.9	+0.3
DPC	**Dobruska-Polom**	**1.80**	**277**	Pg	Pn	20 19 55.6	+0.7
DPC				Sg	Sb	20 20 19.9	+0.3
VRAC	**Vranov**	**1.85**	**243**	*e*Pn	Pn	20 19 55.3	-0.3

RIGZ	**Rimuhau**	**2.94**	**188**	PN	Pn	20 32 31.9	0.0		
SNGZ	**Shannon Statio**	**3.08**	**194**	PN	Pn	20 32 34.4	+0.9		
SNGZ				SN	S	20 33 14.4	+1.5		
PRGZ	**Paritu Road**	**3.15**	**186**	PN	Pn	20 32 34.2	0.0		
KNZ	**Kokohu**	**3.27**	**189**	PN	Pn	20 32 35.5	-0.1		
RAHZ	**Arahi**	**3.27**	**197**	PN	Pn	20 32 36.2	+0.5		
RAHZ				SN	S	20 33 17.7	+0.9		
MHGZ	**Mahia Peninsul**	**3.37**	**185**	PN	Pn	20 32 37.0	+0.1		
WHHZ	**Waihua**	**3.39**	**194**	PN	Pn	20 32 37.5	+0.4		
WHHZ				SN	S	20 33 20.6	+1.2		
NMHZ	**Naumai**	**3.51**	**199**	PN	Pn	20 32 39.2	+0.5		
BKZ	**Black Stump Fm**	**3.67**	**203**	PN	Pn	20 32 40.9	+0.3		
BKZ				SN	S	20 33 25.8	+0.2		
BKZ				AML	AML	20 33 44.0			
MCHZ	**McNeill Hill**	**3.87**	**199**	PN	Pn	20 32 43.1	+0.2		
CKHZ	**Cape Kidnapper**	**3.99**	**194**	PN	Pn	20 32 43.5	-0.8		
FWVZ	**Far West T-bar**	**4.10**	**212**	PN	Pn	20 32 46.2	+0.2		
BHHZ	**Black Hill Sta**	**4.10**	**205**	PN	Pn	20 32 45.4	-0.5		
KAHZ	**Kahuranaki**	**4.16**	**195**	PN	Pn	20 32 46.2	-0.3		
PXZ	**Pawanui**	**4.39**	**195**	PN	Pn	20 32 48.2	-1.1		
PXZ				AML	AML	20 33 42.9			
PXZ				AML	AML	20 33 42.9			
PXZ				AML	AML	20 33 43.4			
PXZ				AML	AML	20 33 43.4			
PNHZ	**Pukenui**	**4.45**	**201**	PN	Pn	20 32 49.0	-1.2		
WPHZ	**Waipukurau**	**4.52**	**199**	PN	Pn	20 32 50.3	-0.7		
TSZ	**Takapari Road**	**4.65**	**203**	PN	Pn	20 32 51.5	-1.3		
PRHZ	**Porangahau**	**4.66**	**196**	PN	Pn	20 32 51.8	-1.1		
PRHZ				SN	S	20 33 46.1	-1.7		
ANWZ	**Angora Road**	**4.88**	**197**	PN	Pn	20 32 54.6	-1.0		
POWZ	**Post Office Ro**	**5.01**	**203**	PN	Pn	20 32 55.8	-1.5		
PRWZ	**Pori Road**	**5.10**	**200**	PN	Pn	20 32 58.0	-0.5		
BFZ	**Birch Farm**	**5.15**	**198**	PN	Pn	20 32 57.5	-1.5		
MRZ	**Mangatainoka R**	**5.32**	**203**	PN	Pn	20 32 59.5	-1.7		
MRZ				AML	AML	20 34 00.8			
MRZ				AML	AML	20 34 01.5			
TIWZ	**Tintock**	**5.33**	**200**	PN	Pn	20 33 00.0	-1.4		
TIWZ				AML	AML	20 34 01.9			
TIWZ				AML	AML	20 34 04.8			
HOWZ	**Holdsworth Sta**	**5.55**	**202**	PN	Pn	20 33 02.3	-2.0		
OGWZ	**Otaki Gorge**	**5.59**	**205**	PN	Pn	20 33 02.7	-2.0		
TMWZ	**Te Maipa**	**5.64**	**199**	PN	Pn	20 33 03.3	-2.0		
KIW	**Kapiti Island**	**5.73**	**207**	PN	Pn	20 33 04.4	-2.0		
MTW	**Mount Morrison**	**5.80**	**201**	PN	Pn	20 33 04.9	-2.4		
CAW	**Cannon Point**	**5.89**	**205**	PN	Pn	20 33 06.2	-2.3		
CAW				AML	AML	20 34 16.6			
CAW				AML	AML	20 34 16.7			
TRWZ	**Traveller**	**5.97**	**199**	PN	Pn	20 33 07.3	-2.2		
TRWZ				AML	AML	20 34 16.6			
DUWZ	**D'Urville Isla**	**6.08**	**213**	PN	Pn	20 33 08.9	-2.1		
BHW	**Baring Head**	**6.22**	**205**	PN	Pn	20 33 10.2	-2.6		
BHW				AML	AML	20 34 22.3			
PLWZ	**Palliser**	**6.25**	**202**	PN	Pn	20 33 10.7	-2.5		
TCW	**Tory Channel**	**6.27**	**209**	PN	Pn	20 33 10.6	-2.8		
TCW				AML	AML	20 34 23.3			
TCW				AML	AML	20 34 31.7			
TUWZ	**Tuamarina**	**6.59**	**210**	PN	Pn	20 33 14.9	-2.6		
TUWZ				AML	AML	20 34 30.8			
TUWZ				AML	AML	20 34 35.5			
NNZ	**Nelson**	**6.66**	**214**	PN	Pn	20 33 16.0	-2.4		
BSWZ	**Blackbirch Sta**	**6.86**	**209**	PN	Pn	20 33 18.5	-2.5		
THZ	**Tophouse**	**7.31**	**214**	PN	Pn	20 33 24.8	-2.1		
OXZ	**Oxford**	**8.95**	**211**	PN	Pn	20 33 44.5	-3.7		
MQZ	**McQueen's Vall**	**9.03**	**207**	PN	Pn	20 33 44.8	-4.3		

NIED ***06*** *20:39:00, 42˙.00N× 142˙.30E, h62km, Mw4.4 Best double couple: M₀4.11000×10¹⁵ NP1:φ₀=207.00000°, δ23.00000°, λ101.00000°. NP2:φ₀14.00000°, δ67.00000°, λ85.00000°.*

BJI ***06*** *20:39:32.4, 41˙.70N× 142˙.83E, h56km, mB5.0/12, mb4.6/25, Ms4.3/4, Ms7 4.1/4*

MOS ***06*** *20:39:37.9± 1.0, 42˙.04N× 142˙.25E, h63km, mb5.0/44, Error ellipse: s-maj=7.6km s-min=4.9km az=107.4*

ISCJB ***06*** *20:39:38.7± 0.2, 41˙.98N± 0˙.02× 142˙.31E± 0˙.03, h71km± 1km, mb4.5/96, Error ellipse: s-maj=4.9km s-min=2.9km az=137.6*

JMA ***06*** *20:39:38.9± 0.1, 41˙.96N× 142˙.33E, h69km± 2km, M4.1 Broadband fault plane solution: P waves. NP1: φ₀=28.00000°, δ81.00000°, λ101.00000°. NP2: φ₀=158.00000°, δ14.00000°, λ41.00000°. Principal axes: T Plg53.0000°, Azm311.0000°; N Plg11.0000°, Azm207.0000°; P Plg35.0000°, Azm109.0000°;*

JMA Felt II J1.

IDC ***06*** *20:39:40.2± 0.6, 42˙.03N× 142˙.28E, h69km± 4km, mb4.1/28, mb1 4.2/34, mb1mx4.2/35, mbtmp4.1/34, MS3.2/11, Ms1 3.2/11, ms1mx3.1/44 Error ellipse: s-maj=11.4km s-min=6.7km az=107.0*

NEIC ***06*** *20:39:40.1± 0.2, 42˙.02N× 142˙.29E, mb4.9/42, MW4.3(NIED), Error ellipse: s-maj=5.6km s-min=3.7km az=136.0*

NEIC Recorded [2 JMA] in southern Hokkaido and [1 JMA] in southwestern Hokkaido. Also recorded [2 JMA] in Aomori, Honshu.

ISC 06 20:39:39.7± 0.5, 41˙.99N± 0˙.03× 142˙.32E± 0˙.03, h66km± 3km, h65km: pP-P, n350, σ1 s07/390, mb4.6/96, 25C-20D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.43**	**48**	⇑P		**Pn**	**20 39 50.6**	**-0.9**
JNBK				*e*S		**Sn**	**20 39 59.7**	**-0.3**
ERM	**Erimo**	**0.62**	**87**	*d i*PN		**Pn**	**20 39 53.2**	**-0.2**
ERM	**Erimo**	**0.62**	**87**	*e*P		**Pn**	**20 39 53.1**	**-0.3**
JEM	**Erimo**	**0.62**	**87**	⇑P		**Pn**	**20 39 53.2**	**-0.2**
JEM				*e*S		**Sn**	**20 40 03.4**	**0.0**
JBT2	**Biratori 2**	**0.79**	**2**	P		**Pn**	**20 39 55.0**	**-0.3**
JBT2				*e*S		**Sn**	**20 40 07.4**	**+0.5**
JKB	**Kayabe**	**0.97**	**264**	⇓P		**Pn**	**20 39 57.0**	**-0.5**
JKB				*e*S		**Sn**	**20 40 10.3**	**-0.5**
JCH	**Churui**	**0.99**	**51**	⇑P		**Pn**	**20 39 57.7**	**-0.1**
JCH				*e*S		**Sn**	**20 40 11.8**	**+0.5**
JEW	**Eniwo**	**1.07**	**323**	⇓P		**Pn**	**20 39 58.9**	**+0.1**
JEW				*e*S		**Sn**	**20 40 13.0**	**-0.1**
JNB	**Noboribetsu**	**1.07**	**297**	⇓P		**Pn**	**20 39 57.9**	**-0.9**
JNB				*e*S		**Sn**	**20 40 12.9**	**-0.1**
JOT	**Ohata**	**1.13**	**238**	⇓P		**Pn**	**20 39 58.9**	**-0.7**
JOT				*e*S		**Sn**	**20 40 13.6**	**-0.9**
JFR	**Furan**	**1.19**	**10**	⇓P		**Pn**	**20 40 00.1**	**-0.3**
JFR				*e*S		**Sn**	**20 40 16.2**	**+0.3**
JOB	**Onbets**	**1.44**	**50**	⇓P		**Pn**	**20 40 04.5**	**+0.8**
JOB				*e*S		**Sn**	**20 40 23.2**	**+1.4**
JYM2	**Yakumo 2**	**1.46**	**276**	⇓P		**Pn**	**20 40 03.4**	**-0.6**
JSR	**Shiriuchi**	**1.50**	**253**	P		**Pn**	**20 40 04.0**	**-0.5**
JSR				*e*S		**Sn**	**20 40 22.0**	**-1.1**
JAB	**Ashibetsu**	**1.52**	**357**	⇓P		**Pn**	**20 40 05.3**	**+0.6**
JAB				*e*S		**Sn**	**20 40 25.7**	**+2.1**
JTM	**Tenmabayashi**	**1.53**	**219**	P		**Pn**	**20 40 04.5**	**-0.4**
JAR	**Ashorobuto**	**1.69**	**39**	P		**Pn**	**20 40 06.9**	**-0.1**
JAR				*e*S		**Sn**	**20 40 29.0**	**+1.3**
JANG	**Nango**	**1.73**	**201**	P		**Pn**	**20 40 07.2**	**-0.4**
JANG				*e*S		**Sn**	**20 40 28.3**	**-0.3**
JHR	**Hokuryu**	**1.81**	**346**	⇓P		**Pn**	**20 40 09.5**	**+0.9**
JHR				*e*S		**Sn**	**20 40 33.2**	**+2.6**
ASAJ	**Asahikawa**	**2.14**	**5**	P		**Pn**	**20 40 13.9**	**+0.9**
ASAJ				S		**Sn**	**20 40 38.8**	**+0.2**
ASAJ	**Asahikawa**	**2.14**	**5**	P		**Pn**	**20 40 13.9**	**+0.9**
	90nm,0.3s,baz=214,slow=11,SNR=174							
ASAJ				S		**Sn**	**20 40 38.8**	**+0.2**
	94nm,0.3s,baz=182,slow=32,SNR=16							
YUK	**Yuzh-Kuril'sk**	**3.30**	**51**	*d i*PN		**Pn**	**20 40 28.7**	**-0.2**
YUK				*i* S		**Sn**	**20 41 06.7**	**-0.3**
YUK				pmax	pmax			
	comp=Z,646nm,0.4s							
YUK				pmax	pmax			
	comp=E,266nm,0.5s							
YUK				pmax	pmax			
	comp=N,111nm,0.2s							
YUK				smax	smax			
	comp=N,954nm,0.5s							
YUK				smax	smax			
	comp=E,2.0nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.97**	**3**	⇓*i*PN		**Pn**	**20 40 53.5**	**+1.8**
YSS				pmax	pmax			
	comp=Z,70nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.97**	**3**	*e*P		**Pn**	**20 40 53.7**	**+2.0**
KUR	**Kuril'sk**	**5.17**	**49**	*e*PN		**Pn**	**20 40 56.0**	**+1.6**
KUR				S		**Sn**	**20 41 53.0**	**+0.4**
KUR				pmax	pmax			
	comp=Z,190nm,0.5s							
KUR				smax	smax			
	comp=N,480nm,0.8s							
KUR				smax	smax			
	comp=E,150nm,0.5s							
MAJO	**Matsushiro**	**6.31**	**212**	*e*PN		**Pn**	**20 41 11.2**	**+1.1**
MAJO	**Matsushiro**	**6.31**	**212**	*e*P		**Pn**	**20 41 10.6**	**+0.5**
	comp=E,23nm,0.6s							
MAT	**Matsushiro**	**6.31**	**212**	P		**Pn**	**20 41 10.7**	**+0.6**
MAT				*e*S		**Sn**	**20 42 22.0**	**+1.3**
MJAR	**Matsushiro Arr**	**6.31**	**212**	P		**Pn**	**20 41 10.4**	**+0.3**
MJAR	**Matsushiro Arr**	**6.31**	**212**	P		**Pn**	**20 41 10.4**	**+0.3**
	comp=E,1.5nm,0.3s,baz=21,slow=15,SNR=71							
MJAR				LR		LR	20 44 10.3	
	comp=E,166nm,21.0s,baz=75,slow=43							
USRK	**Ussuriysk Arra**	**7.88**	**290**	P		**Pn**	**20 41 31.6**	**+0.1**
	comp=E,1.0nm,0.3s,baz=94,slow=14,SNR=40							
USRK				LR		LR	20 44 39.4	
	comp=E,114nm,20.9s,baz=93,slow=38							
HABR	**Khabarovsk**	**8.27**	**324**	PN		**Pn**	**20 41 34.0**	**-2.7**
HABR				pmax	pmax			
	comp=Z,28nm,1.9s							
KLR	**Kul'dur**	**10.35**	**318**	*e*PN		**Pn**	**20 42 03.6**	**-1.6**
KSRS	**Korea Array**	**11.97**	**253**	P		**Pn**	**20 42 28.6**	**+1.2**
	comp=E,1.5nm,0.3s,baz=60,slow=14,SNR=20							
KSRS				S		**Sn**	**20 44 44.7**	**+5.4**
	comp=E,0.5nm,0.3s,baz=69,slow=23,SNR=6.6							
KSRS				LR		LR	20 46 56.4	
	comp=E,66nm,18.1s,baz=329,slow=36							
KSAR	**Wonju Array Be**	**12.01**	**253**	P		**Pn**	**20 42 28.6**	**+0.7**
KSAR				S		**Sn**	**20 44 44.7**	**+4.6**
JNU	**Nakatsue**	**12.67**	**229**	P		**Pn**	**20 42 36.5**	**-0.5**
JNU	**Nakatsue**	**12.67**	**229**	P		**Pn**	**20 42 36.5**	**-0.5**
	comp=E,0.2nm,0.3s,baz=354,slow=5.7,SNR=2.3							
JNU				LR		LR	20 47 18.8	
	comp=Z,92nm,20.3s,baz=60,slow=36							
PETK	**Petropavlovsk-**	**15.18**	**38**	P		**Pn**	**20 43 08.5**	**-1.5**
PETK	**Petropavlovsk-**	**15.18**	**38**	P		**Pn**	**20 43 08.5**	**-1.5**
PETK	**Petropavlovsk-**	**15.18**	**38**	P		**Pn**	**20 43 08.5**	**-1.5**
	comp=E,0.5nm,0.3s,baz=210,slow=10,SNR=7.2							
PETK				LR		LR	20 49 02.8	
	comp=E,56nm,19.8s,baz=114,slow=37							
HIA	**Hailar**	**17.35**	**302**	*e*P		**Pn**	**20 43 36.2**	**-1.1**
	comp=E,6.7nm,0.8s							
JOW	**Kunigami**	**19.01**	**222**	LR		LR	20 51 30.4	
	comp=E,11nm,21.9s,baz=270,slow=37							
BJI	**Beijing**	**19.80**	**273**	P		**P**	**20 44 02.8**	**-1.9**
BJI				pmax	pmax			
	comp=Z,22nm,1.1s							
BJT	**Baijiatuan**	**19.82**	**273**	*e*P		**P**	**20 44 02.9**	**-1.9**
	comp=Z,12nm,0.5s							
YAK	**Yakutsk**	**21.45**	**344**	*e*P		**P**	**20 44 17.7**	**-4.5**
YAK				*e*			20 48 05.7	
YAK				pmax	pmax			
	comp=E,15nm,0.9s							
SEY	**Seymchan**	**21.80**	**12**	P		**P**	**20 44 23.7**	**-2.3**
SEY	**Seymchan**	**21.80**	**12**	P		**P**	**20 44 23.7**	**-2.3**
SEY	**Seymchan**	**21.80**	**12**	P		**P**	**20 44 23.7**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=1.9,slow=23,SNR=18							
ULN	**Ulaanbaatar**	**25.50**	**295**	*e*P		**P**	**20 45 01.7**	**-0.2**
	comp=Z,4.9nm,0.8s							
SONM	**Songino Array**	**25.94**	**295**	P		**P**	**20 45 05.8**	**-0.1**
SONM				PcP		**PcP**	**20 48 33.6**	**+0.8**
SONM	**Songino Array**	**25.94**	**295**	P		**P**	**20 45 05.8**	**-0.1**
	comp=E,5.4nm,0.6s,baz=75,slow=8.8,SNR=29							
SONM				PcP		**PcP**	**20 48 33.6**	**+0.8**
	comp=E,0.9nm,0.7s,baz=134,slow=1.7,SNR=3.5							
SONM				LR		LR	20 55 30.1	
	comp=E,71nm,21.1s,baz=47,slow=37							
TLY	**Talaya**	**27.88**	**304**	*e*P		**P**	**20 45 23.5**	**+0.4**
TLY				pmax	pmax			
	comp=E,6.0nm,0.9s							
TLY	**Talaya**	**27.88**	**304**	*e*P		**P**	**20 45 22.9**	**-0.3**
	comp=E,6.0nm,0.9s							
ZAK	**Zakamensk**	**28.03**	**301**	*e*P		**P**	**20 45 23.2**	**-1.4**
ZAK				pmax	pmax			
	comp=E,3.0nm,1.4s							
ENH	**Enshi**	**28.81**	**257**	*e*P		P	20 45 28.2	-3.4
	comp=Z,7.5nm,0.8s							
MOY	**Mondy**	**29.53**	**303**	*e*P		**P**	**20 45 37.5**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**30.42**	**129**	T		T	21 17 22.0	
	baz=326,slow=76,SNR=198							
H11N1	**WAKE ISLAND Hy**	**30.43**	**129**	T		T	21 17 32.5	
	baz=326,slow=76,SNR=184							
H11N3	**WAKE ISLAND Hy**	**30.44**	**129**	T		T	21 17 33.0	
	baz=326,slow=76,SNR=199							
TIXI	**Tiksi**	**30.48**	**352**	*e*P		**P**	**20 45 44.0**	**-1.8**
H11S1	**WAKE ISLAND Hy**	**31.28**	**131**	T		T	21 18 29.7	
	baz=328,slow=76,SNR=283							
H11S3	**WAKE ISLAND Hy**	**31.28**	**131**	T		T	21 18 20.2	
	baz=328,slow=76,SNR=198							
H11S2	**WAKE ISLAND Hy**	**31.30**	**131**	T		T	21 18 36.2	
	baz=328,slow=76,SNR=221							
GTA	**Gaotai**	**32.09**	**280**	*e*P		**P**	**20 46 00.5**	**-0.1**
GTA				PcP		**PcP**	**20 48 49.6**	**+1.1**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
SLVN	**Son La**	**38.22**	**249**	*e*P		**P**	**20 46 53.5**	**+0.2**
ZAA0	**Zalesovo Array**	**39.26**	**308**	*e*P		**P**	**20 47 01.1**	**-0.4**
ZALV	**Zalesovo Beam**	**39.26**	**308**	P		**P**	**20 47 01.3**	**-0.2**
ZALV				*PP		**pP**	**20 47 18.6**	**+0.8**
ZALV							20 49 09.4	
ZALV							20 52 51.9	
ZALV	**Zalesovo Beam**	**39.26**	**308**	P		**P**	**20 47 01.3**	**-0.2**
ZALV				pP		**pP**	**20 47 18.6**	**+0.8**
ZALV				PcP		**PcP**	**20 49 09.4**	**+0.2**
ZALV				ScP		**ScP**	**20 52 51.9**	**0.0**
ZALV	**Zalesovo Beam**	**39.26**	**308**	P		**P**	**20 47 01.3**	**-0.2**
	comp=Z,6.5nm,0.5s,baz=89,slow=8.2,SNR=47							
ZALV				pP		**pP**	**20 47 18.6**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=88,slow=11,SNR=3.2							
ZALV				PcP		**PcP**	**20 49 09.4**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=90,slow=3.4,SNR=6.2							
ZALV				ScP		**ScP**	**20 52 51.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=50,slow=2.5,SNR=3.0							
ZALV				LR		LR	21 03 56.5	
	comp=Z,31nm,20.9s,baz=189,slow=37							
IM04	**Indian Mountai**	**42.06**	**33**	*e*P		**P**	**20 47 23.9**	**-0.7**
MK31	**Makanchi Array**	**42.26**	**298**	*e*P		**P**	**20 47 26.0**	**-0.4**
MK31	**Makanchi Array**	**42.26**	**298**	*e*P		**P**	**20 47 26.0**	**-0.4**
MKAR	**Makanchi Array**	**42.26**	**298**	P		**P**	**20 47 26.1**	**-0.3**
MKAR							20 49 19.5	
MKAR	**Makanchi Array**	**42.26**	**298**	P		**P**	**20 47 26.1**	**-0.3**
MKAR				PcP		**PcP**	**20 49 19.5**	**+0.3**
MKAR	**Makanchi Array**	**42.26**	**298**	P		**P**	**20 47 26.1**	**-0.3**
	comp=Z,8.8nm,0.7s,baz=84,slow=9.6,SNR=112							
MKAR				PcP		**PcP**	**20 49 19.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=74,slow=4.9,SNR=3.8							
LSA	**Lhasa**	**42.67**	**270**	P		**P**	**20 47 30.9**	**+0.4**
LSA	**Lhasa**	**42.67**	**270**	*e*P		**P**	**20 47 31.3**	**+0.8**
LSA				pmax	pmax			
	comp=Z,9.0nm,1.0s							
LSA	**Lhasa**	**42.67**	**270**	*e*P		**P**	**20 47 31.3**	**+0.8**
	comp=Z,9.0nm,1.0s							
CHTO	**Chiang Mai**	**43.37**	**251**	*e*P		**P**	**20 47 36.0**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CHTO	**Chiang Mai**	**43.37**	**251**	*e*P		**P**	**20 47 36.0**	**+0.3**
	comp=Z,5.1nm,0.7s							
KURK	**Kurchatov**	**43.58**	**304**	P		**P**	**20 47 37.3**	**+0.3**
KURK	**Kurchatov**	**43.58**	**304**	P		**P**	**20 47 37.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**43.61**	**251**	P		**P**	**20 47 37.6**	**0.0**
CMAR				PcP		**PcP**	**20 49 24.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**43.61**	**251**	P		**P**	**20 47 37.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=43,slow=7.6,SNR=12							
CMAR				PcP		**PcP**	**20 49 24.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=36,slow=1.5,SNR=6.3							
CMAR				LR		LR	21 06 35.1	
	comp=Z,30nm,19.2s,baz=40,slow=37							
KURBB	**Kurchatov Arra**	**43.66**	**304**	P		**P**	**20 47 37.2**	**-0.3**
	comp=Z,17nm,0.7s,baz=76,slow=8.6,SNR=143							
ILAR	**Eielson Array**	**44.98**	**35**	P		**P**	**20 47 47.9**	**-0.2**
ILAR	**Eielson Array**	**44.98**	**35**	P		**P**	**20 47 47.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=258,slow=5.4,SNR=38							
TAPN	**Taplejung**	**46.48**	**270**	*e*P		**P**	**20 48 01.2**	**+0.5**
	comp=Z,25nm,0.8s							
ODAN	**Odare**	**46.99**	**269**	*e*P		**P**	**20 48 04.7**	**+0.1**
	comp=Z,16nm,0.7s							
JIRN	**Jiri**	**47.45**	**271**	*e*P		**P**	**20 48 08.6**	**+0.3**
	comp=Z,9.0nm,0.3s							
RAMN	**Ramite**	**47.53**	**270**	*e*P		**P**	**20 48 08.9**	**+0.1**
	comp=Z,44nm,0.8s							
GUN	**Gumba**	**47.54**	**272**	*e*P		**P**	**20 48 09.2**	**+0.2**
	comp=Z,49nm,0.5s							
BRVK	**Borovoye**	**47.92**	**309**	*e*P		**P**	**20 48 11.1**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
BRVK	**Borovoye**	**47.92**	**309**	*e*P		**P**	**20 48 11.1**	**-0.1**
	comp=Z,3.6nm,0.4s							
TKM2	**Tokmak 2**	**48.04**	**295**	*e*P		**P**	**20 48 12.6**	**+0.1**
TKM2				pmax	pmax			
	comp=Z,23nm,0.6s							
TKM2	**Tokmak 2**	**48.04**	**295**	P		**P**	**20 48 12.9**	**+0.4**
	SNR=6.9							
TKM2	**Tokmak 2**	**48.04**	**295**	*e*P		**P**	**20 48 12.6**	**+0.1**
	comp=Z,23nm,0.6s							
KKN	**Kakani**	**48.05**	**272**	*e*P		**P**	**20 48 12.8**	**0.0**
	comp=Z,32nm,0.8s							
PKI	**Pulchoki**	**48.08**	**272**	*e*P		**P**	**20 48 13.0**	**-0.1**
	comp=Z,18nm,0.6s							
DMN	**Daman**	**48.28**	**272**	*e*P		**P**	**20 48 14.8**	**+0.2**
	comp=Z,24nm,0.7s							
GKN	**Gorkha**	**48.42**	**273**	*e*P		**P**	**20 48 15.4**	**-0.1**
	comp=Z,20nm,0.4s							
KBK	**Karagaybulak**	**48.58**	**295**	*i* P		**P**	**20 48 16.8**	**+0.2**
KBK	**Karagaybulak**	**48.58**	**295**	P		**P**	**20 48 16.8**	**+0.2**
	SNR=30							
KZA	**Kyzart**	**48.61**	**294**	*i* P		**P**	**20 48 17.5**	**+0.4**
KZA	**Kyzart**	**48.61**	**294**	P		**P**	**20 48 17.5**	**+0.4**
	SNR=9.4							
USP	**Ospenovka**	**48.64**	**296**	*i* P		**P**	**20 48 16.9**	**0.0**
USP	**Ospenovka**	**48.64**	**296**	P		**P**	**20 48 17.0**	**0.0**
	SNR=14							
DANN	**Dangsing**	**48.89**	**273**	*e*P		**P**	**20 48 19.9**	**+0.6**
	comp=Z,71nm,0.5s							
AAK	**Ala-Archa**	**48.90**	**295**	*ce*P		**P**	**20 48 18.7**	**-0.3**
AAK				pmax	pmax			
	comp=Z,11nm,1.2s							
AAK	**Ala-Archa**	**48.90**	**295**	P		**P**	**20 48 19.1**	**0.0**
	SNR=5.1							
AAK	**Ala-Archa**	**48.90**	**295**	*e*P		**P**	**20 48 18.8**	**-0.3**
	comp=Z,7.6nm,0.6s							
KSH	**Kashi**	**49.18**	**291**	*i* P		P	20 48 25.0	+3.8
KSH				*e*PP		**PP**	**20 50 18.9**	**+3.7**
KSH				*e*PcS		**PcS**	**20 53 42.9**	**+2.8**
KSH				*e*S		**S**	**20 55 27.1**	**+5.2**
KSH				*e*SS		**SS**	**20 58 54.5**	**+1.0**
KSH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,51nm,4.9s							
KSH				LR	LR			
	comp=Z,140nm,5.5s							
KSH				LR	LR			
	comp=Z,100nm,5.2s							
KSH				LR	LR			
	comp=Z,130nm,6.3s							
KOLN	**Koldanda**	**49.32**	**273**	*e*P		**P**	**20 48 22.7**	**+0.2**
	comp=Z,15nm,0.4s							
EKS2	**Erkin-Say**	**49.37**	**295**	*i* P		**P**	**20 48 22.5**	**-0.1**
EKS2	**Erkin-Say**	**49.37**	**295**	P		**P**	**20 48 22.6**	**-0.1**
	SNR=19							
EKS2	**Erkin-Say**	**49.37**	**295**	*e*P		**P**	**20 48 22.3**	**-0.3**
	comp=Z,9.1nm,0.6s							
KSM	**Kuching**	**49.54**	**224**	*e*P		**P**	**20 48 25.1**	**+1.1**
	comp=Z,11nm,0.8s							
AML	**Almayashu**	**49.64**	**295**	*i* P		**P**	**20 48 25.5**	**+0.5**
AML	**Almayashu**	**49.64**	**295**	P		**P**	**20 48 25.5**	**+0.5**
	SNR=8.7							
INK	**Inuvik**	**49.69**	**29**	P		**P**	**20 48 24.2**	**-0.3**
INK	**Inuvik**	**49.69**	**29**	P		**P**	**20 48 24.2**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=281,slow=8.7,SNR=9.3							
HYT	**Haines Junctio**	**49.96**	**39**	*e*P		**P**	**20 48 28.3**	**+1.5**
KKAR	**Karatay Array**	**51.37**	**297**	*e*P		**P**	**20 48 37.0**	**-0.6**
KKAR				*e**PP		**pP**	**20 48 55.3**	**+0.9**
KKAR				pmax	pmax			
	comp=Z,11nm,0.6s							
KKAR	**Karatay Array**	**51.37**	**297**	*e*P		**P**	**20 48 37.0**	**-0.6**
	com

KIV	Kislovodsk	68.23	310	⇓	*e*P	P	20 50 33.9	+0.6
KIV					*e*S	S	20 59 32.3	+3.6
KIV					*i* SS	SS	21 03 58.3	+6.4
KIV					pmax	pmax		
	comp=Z,26nm,1.3s							
KIV					MLR	MLR		
	comp=Z,100nm,16.0s							
KIV	**Kislovodsk**	**68.23**	**310**		*e*P	**P**	20 50 34.3	+1.0
	comp=Z,31nm,1.1s							
ZEI	**Tsey**	**68.24**	**308**		*e*P	**P**	20 50 32.5	-1.1
ZEI					pmax	pmax		
	comp=Z,8.0nm,1.0s							
KBZ	**Khabaz**	**68.25**	**310**		P	**P**	20 50 33.9	+0.6
KBZ	**Khabaz**	**68.25**	**310**		P	**P**	20 50 33.9	+0.6
KBZ	**Khabaz**	**68.25**	**310**		P	**P**	20 50 33.9	+0.6
	comp=Z,7.6nm,0.9s,baz=59,slow=6.3,SNR=14							
IDID	**Didziasalis**	**68.73**	**326**		*e*P	**P**	20 50 34.8	-1.3
ISAL	**Salakas**	**68.80**	**327**		*e*P	**P**	20 50 35.2	-1.3
ISAL					AMB	AMB	20 50 37.1	
	comp=Z,5.0nm,1.1s							
IIGN	**Ignalina**	**68.91**	**327**		*e*P	**P**	20 50 36.0	-1.3
IIGN					AMB	AMB	20 50 37.3	
	comp=Z,2.2nm,0.7s							
FFC	**Flin Flon**	**69.18**	**34**		*e*P	**P**	20 50 38.3	-0.7
FFC					pmax	pmax		
	comp=Z,9.0nm,1.0s							
FFC	**Flin Flon**	**69.18**	**34**		*e*P	**P**	20 50 38.3	-0.7
	comp=Z,8.8nm,1.0s							
NB2	**NORSAR Subarra**	**69.90**	**337**		P	**P**	20 50 42.7	-0.6
	comp=Z,3.5nm,0.5s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**69.90**	**337**		P	**P**	20 50 42.7	-0.6
NOA	**NORSAR Array B**	**69.90**	**337**		P	**P**	20 50 42.7	-0.6
	comp=Z,4.7nm,0.6s,baz=37,slow=6.1,SNR=23							
AKASG	**Malin Array Be**	**70.83**	**322**		P	**P**	20 50 48.5	-0.6
AKASG	**Malin Array Be**	**70.83**	**322**		P	**P**	20 50 48.5	-0.6
AKASG	**Malin Array Be**	**70.83**	**322**		P	**P**	20 50 48.5	-0.6
	comp=Z,6.4nm,0.6s,baz=44,slow=6.0,SNR=53							
KIEV	**Kiev**	**70.84**	**322**	⇓	*i* P	**P**	20 50 48.8	-0.3
KIEV	**Kiev**	**70.84**	**322**		*e*P	**P**	20 50 48.2	-0.9
	comp=Z,6.3nm,0.7s							
NVAR	**Mina Array Bea**	**71.51**	**55**		P	**P**	20 50 55.0	+1.3
NVAR					pP	**PcP**	20 51 12.7	-0.1
NVAR	**Mina Array Bea**	**71.51**	**55**		P	**P**	20 50 55.0	+1.3
	comp=Z,1.3nm,0.7s,baz=292,slow=6.5,SNR=9.6							
NVAR					pP	**PcP**	20 51 12.7	-0.1
	comp=Z,0.9nm,0.6s,baz=298,slow=7.0,SNR=4.3							
FRB	**Frobisher Bay**	**71.80**	**14**		P	**P**	20 50 53.9	-0.8
FRB	**Frobisher Bay**	**71.80**	**14**		P	**P**	20 50 53.9	-0.8
	comp=Z,6.2nm,0.7s,baz=314,slow=6.9,SNR=5.3							
STKA	**Stephens Creek**	**73.51**	**181**		P	**P**	20 51 05.8	+0.7
STKA	**Stephens Creek**	**73.51**	**181**		P	**P**	20 51 05.8	+0.7
	comp=Z,1.2nm,0.8s,baz=326,slow=2.7,SNR=3.2							
BEL	**Belsk**	**73.69**	**327**		*e*P	**P**	20 51 06.7	+0.6
BEL	**Belsk**	**73.69**	**327**		*e*P	**P**	20 51 06.6	+0.5
PDAR	**Pinedale Array**	**73.73**	**47**		P	**P**	20 51 07.5	+0.6
PDAR	**Pinedale Array**	**73.73**	**47**		P	**P**	20 51 07.5	+0.6
	comp=Z,2.9nm,0.7s,baz=267,slow=2.4,SNR=23							
KWP	**Kalwaria Pacla**	**74.53**	**324**		*e*P	**P**	20 51 11.4	+0.3
KWP					pmax	pmax		
	comp=Z,9.0nm,0.7s							
KWP	**Kalwaria Pacla**	**74.53**	**324**		*e*P	**P**	20 51 11.6	+0.5
KWP	**Kalwaria Pacla**	**74.53**	**324**	⇑	*i* P	**P**	20 51 11.2	+0.1
KWP	**Kalwaria Pacla**	**74.53**	**324**		*e*P	**P**	20 51 11.4	+0.3
	comp=Z,9.1nm,0.7s							
BUR08	**Bucovina Ar. S**	**74.86**	**321**		*e*P	**P**	20 51 13.1	-0.1
BURAR	**Bucovina Array**	**74.87**	**321**	⇑	*i* P	**P**	20 51 13.3	+0.1
TESR	**Tescani**	**74.99**	**320**	⇑	*i* P	**P**	20 51 14.4	+0.6
TESR	**Tescani**	**74.99**	**320**	⇑	*i* P	**P**	20 51 14.4	+0.6
ULM	**Lac du Bonnet**	**75.00**	**34**		P	**P**	20 51 13.5	-0.2
ULM	**Lac du Bonnet**	**75.00**	**34**		P	**P**	20 51 13.5	-0.2
	comp=Z,1.4nm,0.3s,baz=300,slow=3.4,SNR=4.7							
CFR	**Carcaliu**	**75.22**	**318**	⇑	*i* P	**P**	20 51 14.4	-0.7
KOLS	**Kolonicke sedl**	**75.23**	**324**		*e*P	**P**	20 51 13.6	-1.6
KOLS	**Kolonicke sedl**	**75.23**	**324**		*e*P	**P**	20 51 13.6	-1.6
STHS	**Stebnicka Huta**	**75.32**	**325**		*e*P	**P**	20 51 16.7	+1.0
STHS					pmax	pmax		
	comp=Z,5.0nm,0.7s							
STHS	**Stebnicka Huta**	**75.32**	**325**		*e*P	**P**	20 51 16.7	+1.0
OJC	**Ojcow**	**75.33**	**326**		*e*P	**P**	20 51 15.9	+0.2
OJC	**Ojcow**	**75.33**	**326**		*e*P	**P**	20 51 15.9	+0.2
VRI	**Vrincioaia**	**75.42**	**319**	⇑	*i* P	**P**	20 51 14.9	-1.4
CRVS	**Cervenica-Dubn**	**75.61**	**324**		*e*P	**P**	20 51 17.8	+0.5
CRVS					pmax	pmax		
	comp=Z,6.0nm,1.2s							
CRVS	**Cervenica-Dubn**	**75.61**	**324**		*e*P	**P**	20 51 17.8	+0.5
NIE	**Niedzica**	**75.72**	**325**		*e*P	**P**	20 51 15.9	-2.1
NIE	**Niedzica**	**75.72**	**325**		*e*P	**P**	20 51 18.9	+0.9
DOPR	**Dopca**	**75.99**	**320**	⇑	*i* P	**P**	20 51 20.3	+0.7
DOPR	**Dopca**	**75.99**	**320**	⇑	*i* P	**P**	20 51 20.3	+0.7
MLR	**Muntele Rosu**	**76.07**	**320**	⇓	*i* P	pP	20 51 38.5	+0.5
BR131	**Keskin Array S**	**76.11**	**311**		*e*P	**P**	20 51 20.6	+0.1
	comp=Z,2.0nm,0.6s							
BRTR	**Keskin Array B**	**76.11**	**311**		P	**P**	20 51 20.9	+0.3
BRTR	**Keskin Array B**	**76.11**	**311**		P	**P**	20 51 20.9	+0.3
	comp=Z,2.7nm,0.7s,baz=71,slow=4.1,SNR=13							
KSP	**Ksiaz**	**76.27**	**328**		*e*P	**P**	20 51 21.0	0.0
CJR	**Cluj-Napoca**	**76.28**	**322**	⇑	*i* P	**P**	20 51 21.9	+0.7
ANTO	**Ankara**	**76.48**	**312**	⇓	*i* P	**P**	20 51 23.4	+0.9
VOIR		**76.54**	**320**	⇑	*i* P	**P**	20 51 22.7	-0.1
MORC	**Moravsky Berou**	**76.60**	**327**		*e*P	**P**	20 51 22.9	-0.1
MORC					pmax	pmax		
	comp=Z,7.0nm,0.9s							
MORC	**Moravsky Berou**	**76.60**	**327**	⇑	*i* P	**P**	20 51 22.9	-0.1
MORC	**Moravsky Berou**	**76.60**	**327**		*e*P	**P**	20 51 22.9	-0.1
	comp=Z,6.9nm,0.9s							
DPC	**Dobruska-Polom**	**76.64**	**328**		*e*P	**P**	20 51 24.1	+0.9
DPC	**Dobruska-Polom**	**76.64**	**328**		*e*P	**P**	20 51 24.1	+0.9
ARR	**Arges**	**76.79**	**320**	⇑	*i* P	**P**	20 51 24.8	+0.6
BRG	**Berggiesshubel**	**77.15**	**329**		*e*(P)	**P**	20 51 25.3	-0.7
	comp=Z,3.5nm,1.1s							
BRG	**Berggiesshubel**	**77.15**	**329**		*e*P	**P**	20 51 25.3	-0.7
BRG					pmax	pmax		
	comp=Z,4.0nm,1.1s							
CLL	**Collm**	**77.15**	**330**		*i* P	**P**	20 51 25.6	-0.4
CLL					pmax	pmax		
	comp=Z,8.0nm,1.0s							
CLL	**Collm**	**77.15**	**330**		*i* P	**P**	20 51 25.6	-0.4
	comp=Z,8.0nm,1.0s							
GZR	**Gura Zlata**	**77.65**	**321**	⇑	*i* P	**P**	20 51 29.2	+0.2
BZS	**Buzias**	**78.02**	**322**	⇑	*i* P	**P**	20 51 30.6	-0.3
KHC	**Kasperske Hory**	**78.69**	**329**		*e*P	**P**	20 51 34.8	+0.2
KHC	**Kasperske Hory**	**78.69**	**329**		*e*P	**P**	20 51 34.8	+0.2
KHC	**Kasperske Hory**	**78.69**	**329**		*e*P	**P**	20 51 34.7	+0.2
	comp=Z,6.0nm,0.9s							
CONA	**Conrad Observa**	**78.74**	**327**	⇓	*i* P	**P**	20 51 35.9	+0.9
	comp=Z,7.5nm,1.4s							
GERES	**GERESS Array B**	**78.87**	**328**		P	**P**	20 51 35.5	-0.2
GERES	**GERESS Array B**	**78.87**	**328**		P	**P**	20 51 35.5	-0.2
	comp=Z,1.5nm,0.7s,baz=36,slow=5.0,SNR=16							
PKSM	**Moragy**	**78.90**	**324**	⇑	*i* P	**P**	20 51 35.9	+0.2
VTS	**Vitosha**	**79.54**	**319**	⇓	*i* P	**P**	20 51 40.2	+0.7
GRUS	**Gruza**	**79.75**	**321**		*e*P	**P**	20 51 40.5	+0.1
MMB	**Musomiste**	**80.03**	**318**	⇓	*i* P	**P**	20 51 42.8	+0.7
SOKA	**Soboth**	**80.08**	**326**		*i* P	**P**	20 51 42.6	+0.3
	comp=Z,7.8nm,0.7s,SNR=13							
IVAS	**Ivanjica**	**80.25**	**321**		*e*P	**P**	20 51 43.3	+0.1
SCHQ	**Schefferville**	**80.39**	**17**		P	**P**	20 51 43.8	+0.1
SCHQ	**Schefferville**	**80.39**	**17**		P	**P**	20 51 43.8	+0.1
	comp=Z,5.7nm,1.0s,baz=29,slow=19,SNR=4.1							
OBKA	**Obir**	**80.41**	**326**	⇑	*i* P	**P**	20 51 44.4	+0.3
	comp=Z,4.8nm,0.7s							
KBA	**Koelnbreinsper**	**80.44**	**327**	⇑	*i* P	**P**	20 51 44.9	+0.6
	comp=Z,8.3nm,1.1s							
GIVF	**Givet**	**81.03**	**334**		*e*P	**P**	20 51 46.5	-0.7
GIVF	**Givet**	**81.03**	**334**		*e*P	**P**	20 51 46.5	-0.7
GIVF	**Givet**	**81.03**	**334**		*e*P	**P**	20 51 46.5	-0.7
MOTA	**Moosalm**	**81.11**	**329**	⇑	*i* P	**P**	20 51 47.9	+0.1
	comp=Z,8.3nm,0.8s,SNR=9.1							
RETA	**Reutte**	**81.12**	**329**	⇑	*i* P	**P**	20 51 48.1	+0.2
	comp=Z,12nm,1.2s							
BAIF	**Baives**	**81.27**	**334**		*e*P	**P**	20 51 47.7	-0.7
BAIF	**Baives**	**81.27**	**334**		*e*P	**P**	20 51 47.7	-0.7
BAIF	**Baives**	**81.27**	**334**		*e*P	**P**	20 51 47.7	-0.7
FETA	**Feichten**	**81.52**	**329**		*i* P	**P**	20 51 50.4	+0.3
	comp=Z,8.0nm,1.2s,SNR=5.3							
CDF	**Champ du Feu**	**81.63**	**332**		*e*P	**P**	20 51 50.1	-0.4
	comp=Z,8.0nm,0.8s							
CDF	**Champ du Feu**	**81.63**	**332**		*e*P	**P**	20 51 50.1	-0.4
CDF					pmax	pmax		
	comp=Z,8.0nm,0.8s							
CDF	**Champ du Feu**	**81.63**	**332**		*e*P	**P**	20 51 50.1	-0.4
	comp=Z,8.0nm,0.8s							
PAGF	**Fort de Pagny**	**82.05**	**333**		*e*P	**P**	20 51 52.5	-0.1
	comp=Z,3.6nm,0.7s							
PAGF	**Fort de Pagny**	**82.05**	**333**		*e*P	**P**	20 51 52.5	-0.1
	comp=Z,3.6nm,0.7s							
HINF	**Hinteralfeld**	**82.29**	**332**		*e*P	**P**	20 51 53.0	-0.9
HINF	**Hinteralfeld**	**82.29**	**332**		*e*P	**P**	20 51 53.0	-0.9
HINF	**Hinteralfeld**	**82.29**	**332**		*e*P	**P**	20 51 53.0	-0.9
HAU	**Haudompre**	**82.31**	**332**		*e*P	**P**	20 51 53.3	-0.7
	comp=Z,5.4nm,0.7s							
HAU					*e*R			
	comp=Z,79nm,18.2s							
HAU	**Haudompre**	**82.31**	**332**		*e*P	**P**	20 51 53.3	-0.7
HAU					pmax	pmax		
	comp=Z,5.0nm,0.7s							
HAU	**Haudompre**	**82.31**	**332**		*e*P	**P**	20 51 53.3	-0.7
	comp=Z,5.4nm,0.7s							
SFTF	**Sexfontaines**	**82.59**	**333**		*e*P	**P**	20 51 55.0	-0.4
	comp=Z,12nm,0.9s							
SFTF	**Sexfontaines**	**82.59**	**333**		*e*P	**P**	20 51 55.0	-0.4
	comp=Z,12nm,0.9s							
LOR	**Lormes**	**83.80**	**333**		*e*P	**P**	20 52 01.1	-0.6
	comp=Z,13nm,0.8s							
LOR					*e*R			
	comp=Z,74nm,22.2s							
LOR	**Lormes**	**83.80**	**333**		*e*P	**P**	20 52 01.1	-0.6
	comp=Z,13nm,0.8s							
FLN	**La Foliniere**	**83.87**	**336**		*e*P	**P**	20 52 01.4	-0.6
FLN	**La Foliniere**	**83.87**	**336**		*e*P	**P**	20 52 01.4	-0.6
FLN	**La Foliniere**	**83.87**	**336**		*e*P	**P**	20 52 01.4	-0.6
LDF	**La Druitiere**	**83.91**	**336**		*e*P	**P**	20 52 02.0	-0.2
LDF	**La Druitiere**	**83.91**	**336**		*e*P	**P**	20 52 02.0	-0.2
LDF	**La Druitiere**	**83.91**	**336**		*e*P	**P**	20 52 02.0	-0.2
SSF	**Saint Saulge**	**84.10**	**333**		*e*P	**P**	20 52 02.7	-0.5
	comp=Z,13nm,0.8s							
SSF	**Saint Saulge**	**84.10**	**333**		*e*P	**P**	20 52 02.7	-0.5
SSF					pmax	pmax		
	comp=Z,13nm,0.8s							
SSF	**Saint Saulge**	**84.10**	**333**		*e*P	**P**	20 52 02.7	-0.5
	comp=Z,13nm,0.8s							
LPL	**La Plagne**	**84.29**	**330**		*e*P	**P**	20 52 04.4	-0.1
	comp=Z,5.4nm,0.6s							
LPL	**La Plagne**	**84.29**	**330**		*e*P	**P**	20 52 04.4	-0.1
LPL					pmax	pmax		
	comp=Z,5.0nm,0.6s							
LPL	**La Plagne**	**84.29**	**330**		*e*P	**P**	20 52 04.4	-0.1
	comp=Z,5.4nm,0.6s							
LPG	**La Plagne**	**84.30**	**330**		*e*P	**P**	20 52 04.5	-0.1
	comp=Z,6.9nm,0.6s							
LPG	**La Plagne**	**84.30**	**330**		*e*P	**P**	20 52 04.5	-0.1
LPG					pmax	pmax		
	comp=Z,7.0nm,0.6s							
LPG	**La Plagne**	**84.30**	**330**		*e*P	**P**	20 52 04.5	-0.1
	comp=Z,6.9nm,0.6s							
GRR	**Gorron**	**84.32**	**336**		*e*P	**P**	20 52 03.9	-0.4
	comp=Z,11nm,0.7s							
GRR	**Gorron**	**84.32**	**336**		*e*P	**P**	20 52 03.9	-0.4
GRR					pmax	pmax		
	comp=Z,11nm,0.7s							
GRR	**Gorron**	**84.32**	**336**		*e*P	**P**	20 52 03.9	-0.4
	comp=Z,11nm,0.7s							
SMF	**Signal de Mont**	**84.35**	**333**		*e*P	**P**	20 52 04.1	-0.4
	comp=Z,17nm,0.8s							
SMF	**Signal de Mont**	**84.35**	**333**		*e*P	**P**	20 52 04.1	-0.4
SMF					pmax	pmax		
	comp=Z,17nm,0.8s							
SMF	**Signal de Mont**	**84.35**	**333**		*e*P	**P**	20 52 04.1	-0.4
	comp=Z,17nm,0.8s							
AVF	**Avril sur Loir**	**84.39**	**333**		*e*P	**P**	20 52 04.4	-0.2
	comp=Z,22nm,0.7s							
AVF	**Avril sur Loir**	**84.39**	**333**		*e*P	**P**	20 52 04.4	-0.2
AVF					pmax	pmax		
	comp=Z,22nm,0.7s							
AVF	**Avril sur Loir**	**84.39**	**333**		*e*P	**P**	20 52 04.4	-0.2
	comp=Z,22nm,0.7s							
BGF	**Bois d'Agland**	**84.76**	**333**		*e*P	**P**	20 52 06.7	+0.1
BGF	**Bois d'Agland**	**84.76**	**333**		*e*P	**P**	20 52 06.7	+0.1
BGF	**Bois d'Agland**	**84.76**	**333**		*e*P	**P**	20 52 06.7	+0.1
SGMF	**Saint Gilles**	**84.94**	**337**		*e*P	**P**	20 52 07.1	-0.3
SGMF	**Saint Gilles**	**84.94**	**337**		*e*P	**P**	20 52 07.1	-0.3
SGMF	**Saint Gilles**	**84.94**	**337**		*e*P	**P**	20 52 07.1	-0.3
MBDF	**Montbardon**	**84.95**	**330**		*e*P	**P**	20 52 07.0	-0.7
	comp=Z,11nm,0.7s							
MBDF	**Montbardon**	**84.95**	**330**		*e*P	**P**	20 52 07.0	-0.7
MBDF					pmax	pmax		
	comp=Z,11nm,0.7s							
MBDF	**Montbardon**	**84.95**	**330**		*e*P	**P**	20 52 07.0	-0.7
	comp=Z,11nm,0.7s							
ORIF	**Oris-en-Rattie**	**85.11**	**331**		*e*P	**P**	20 52 07.4	-1.1
	comp=Z,9.3nm,0.8s							
ORIF					*e*R			
	comp=Z,67nm,18.8s							
ORIF	**Oris-en-Rattie**	**85.11**	**331**		*e*P	**P**	20 52 07.4	-1.1
ORIF					pmax	pmax		
	comp=Z,9.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**85.11**	**331**		*e*P	**P**	20 52 07.4	-1.1
	comp=Z,9.3nm,0.8s							
TCF	**Toulx Ste Croi**	**85.21**	**333**		*e*P	**P**	20 52 08.7	-0.1
TCF	**Toulx Ste Croi**	**85.21**	**333**		*e*P	**P**	20 52 08.7	-0.1
TCF	**Toulx Ste Croi**	**85.21**	**333**		*e*P	**P**	20 52 08.7	-0.1
QUIF	**Quistinic**	**85.42**	**338**		*e*P	**P**	20 52 09.5	-0.3
QUIF	**Quistinic**	**85.42**	**338**		*e*P	**P**	20 52 09.5	-0.3
QUIF	**Quistinic**	**85.42**	**338**		*e*P	**P**	20 52 09.5	-0.3
SBF	**Sospel**	**85.43**	**329**		*e*P	**P**	20 52 08.7	-1.3
	comp=Z,36nm,0.8s							
SBF	**Sospel**	**85.43**	**329**		*e*P	**P**	20 52 08.7	-1.3
SBF					pmax	pmax		
	comp=Z,36nm,0.8s							
SBF	**Sospel**	**85.43**	**329**		*e*P	**P**	20 52 08.7	-1.3
	comp=Z,36nm,0.8s							
VIVF	**Saint-Julien-l**	**85.60**	**331**		*e*P	**P**	20 52 10.7	-0.1
	comp=Z,12nm,0.8s							
VIVF	**Saint-Julien-l**	**85.60**	**331**		*e*P	**P**	20 52 10.7	-0.1
VIVF					pmax	pmax		
	comp=Z,12nm,0.8s							
VIVF	**Saint-Julien-l**	**85.60**	**331**		*e*P	**P**	20 52 10.7	-0.1
	comp=Z,12nm,0.8s							
MFF	**Saint Martin d**	**85.69**	**335**		*e*P	**P**	20 52 11.4	+0.2
	comp=Z,18nm,0.9s							
MFF	**Saint Martin d**	**85.69**	**335**		*e*P	**P**	20 52 11.4	+0.2
MFF					pmax	pmax		
	comp=Z,18nm,0.9s							
MFF	**Saint Martin d**	**85.69**	**335**		*e*P	**P**	20 52 11.4	+0.2
	comp=Z,18nm,0.9s							
PGF	**Pioggiola**	**85.92**	**327**		*e*P	**P**	20 52 12.1	-0.5
	comp=Z,61nm,1.1s							
PGF	**Pioggiola**	**85.92**	**327**		*e*P	**P**	20 52 12.1	-0.5
PGF					pmax	pmax		
	comp=Z,61nm,1.1s							
PGF	**Pioggiola**	**85.92**	**327**		*e*P	**P**	20 52 12.1	-0.5
	comp=Z,61nm,1.1s							
SMRF	**Simiane la Rot**	**86.03**	**330**		*e*P	**P**	20 52 13.0	0.0
SMRF	**Simiane la Rot**	**86.03**	**330**		*e*P	**P**	20 52 13.0	0.0
RJF	**Les Rejaudoux**	**86.30**	**333**		*e*P	**P**	20 52 14.4	+0.1
RJF					*e*R			
	comp=Z,70nm,20.8s							
RJF	**Les Rejaudoux**	**86.30**	**333**		*e*P	**P**	20 52 14.4	+0.1
RJF	**Les Rejaudoux**	**86.30**	**333**		*e*P	**P**	20 52 14.4	+0.1
CAF	**Calviac**	**86.45**	**333**		*e*P	**P**	20 52 15.6	+0.6
	comp=Z,30nm,0.8s							
CAF	**Calviac**	**86.45**	**333**		*e*P	**P**	20 52 15.6	+0.6
CAF					pmax	pmax		
	comp=Z,30nm,0.8s							
CAF	**Calviac**	**86.45**	**333**		*e*P	**P**	20 52 15.6	+0.6
	comp=Z,30nm,0.8s							
TXAR	**Lajitas Array**	**86.56**	**53**		P	**P**	20 52 17.1	+1.2
TXAR	**Lajitas Array**	**86.56**	**53**		P	**P**	20 52 17.1	+1.2
	comp=Z,1.1nm,0.7s,baz=291,slow=3.8,SNR=7.7							
LASF	**Ste Croix**	**86.57**	**331**		*e*P	**P**	20 52 15.7	+0.1
LASF	**Ste Croix**	**86.57**	**331**		*e*P	**P**	20 52 15.7	+0.1
LFF	**La Frestale**	**86.88**	**334**		*e*P	**P**	20 52 17.5	+0.4
	comp=Z,18nm,0.8s							
LFF	**La Frestale**	**86.88**	**334**		*e*P	**P**	20 52 17.5	+0.4
LFF					pmax	pmax		
	comp=Z,18nm,0.8s							
LFF	**La Frestale**	**86.88**	**334**		*e*P	**P**	20 52 17.5	+0.4
	comp=Z,18nm,0.8s							
ETSF	**Etsaut**	**89.13**	**334**		*e*P	**P**	20 52 28.4	+0.5
	comp=Z,11nm,0.9s							
ETSF	**Etsaut**	**89.13**	**334**		*e*P	**P**	20 52 28.4	+0.5
ETSF					pmax	pmax		
	comp=Z,11nm,0.9s							
ETSF	**Etsaut**	**89.13**	**334**		*e*P	**P**	20 52 28.4	+0.5
	comp=Z,11nm,0.9s							
KEST	**Kesra**	**91.49**	**323**		P	**P**	20 52 38.5	-0.6
KEST	**Kesra**	**91.49**	**323**		P	**P**	20 52 38.5	-0.6
	comp=Z,0.9nm,0.7s,baz=220,slow=21,SNR=4.7							
ESDC	**Sonseca Array**	**93.14**	**335**		P	**P**	20 52 45.5	-1.0
ESDC	**Sonseca Array**	**93.14**	**335**		P	**P**	20 52 45.5	-1.0
	comp=Z,0.5nm,0.6s,baz=22,slow=4.1,SNR=5.3							
ESDC					LR	LR	21 38 22.4	
	comp=Z,46nm,18.8s,baz=95,slow=38							
MDT	**Midelt**	**99.59**	**332**		LR	LR	21 41 38.7	
	comp=Z,50nm,19.6s,baz=206,slow=37							
TORD	**Torodi Ar. Bea**	**114.25**	**317**		PP	**PP**	20 59 05.0	-2.3
TORD	**Torodi Ar. Bea**	**114.25**	**317**		PP	**PP**	20 59 05.0	-2.3
	comp=Z,1.2nm,1.1s,baz=26,slow=5.9,SNR=4.8							
H03N2	**Juan Fernandez**	**146.53**	**89**		T	T	23 42 38.5	
	baz=298,slow=75,SNR=30							
H03N3	**Juan Fernandez**	**146.54**	**89**		T	T	23 42 39.5	
	baz=298,slow=75,SNR=28							
H03N1	**Juan Fernandez**	**146.55**	**89**		T	T	23 42 39.3	
	baz=298,slow=75,SNR=33							

CSEM ***06*** *20:48:36.8±0.3, 37.61N×35.71E, h15km, MD2.2, Error ellipse: s-maj=7.2km s-min=4.8km az=73.0*
ISK ***06*** *20:48:36.5, 37.59N×35.67E, h14km, MD2.2*
ISCJB ***06*** *20:48:37.0±1.3, 37.61N±0.06×35.70E±0.05, h13km±10km, Error ellipse: s-maj=10.3km s-min=6.9km az=9.3*
DDA ***06*** *20:48:38.0, 37.58N×35.68E, h7km, MD2.6*

ISC 06 20:48:36.9±1.1, 37.58N±0.05×35.69E±0.04, h16km±7km, n17, σ0°41/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.15**	**132**		*e*PG	**Pb**	**20 48 41.3**	**-0.1**
KOZT					*e*SG	**Sg**	**20 48 43.5**	**-0.1**
KOZT	**Kozan**	**0.15**	**132**		*e*Pg	**Pb**	**20 48 41.3**	**-0.1**
KOZT					*e*Sg	**Sg**	**20 48 43.5**	**-0.1**
CEYT	**Ceyhan**	**0.57**	**175**		*e*PG	**Pb**	**20 48 48.5**	**0.0**
CEYT					*e*SG	**Sb**	**20 48 56.9**	**+0.4**
CEYT	**Ceyhan**	**0.57**	**175**		*e*Pg	**Pb**	**20 48 48.5**	**0.0**
CEYT					*e*Sg	**Sb**	**20 48 56.9**	**+0.4**
KARA	**Karaisali**	**0.59**	**238**		*e*PG	**Pg**	**20 48 48.5**	**-0.1**
KARA					*e*SG	**Sb**	**20 48 57.1**	**0.0**
KARA	**Karaisali**	**0.59**	**238**		*e*Pg	**Pg**	**20 48 48.5**	**-0.1**
KARA					*e*Sg	**Sb**	**20 48 57.2**	**0.0**
YURE	**YUREGIR**	**0.76**	**183**		*e*P	**Pb**	**20 48 52.2**	**+0.5**
YURE					*i* S	**Sn**	**20 49 04.0**	**-0.1**
YURE	**YUREGIR**	**0.76**	**183**		*e*P	**Pb**	**20 48 52.2**	**+0.5**
YURE					*i* S	**Sn**	**20 49 04.0**	**-0.1**
GULE	**Gulek**	**0.78**	**248**		*i* P	**Pn**	**20 48 53.3**	**-0.2**
GULE					*i* S	**Sn**	**20 49 05.0**	**+0.1**
GULE	**Gulek**	**0.78**	**248**		*i* P	**Pn**	**20 48 53.3**	**-0.2**
GULE					*i* S	**Sn**	**20 49 05.0**	**+0

s-min=150.7km az=79.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.27**	**6**	LR	LR	22 35 25.9	
	comp=Z,123nm,20.7s,baz=180,slow=32						
CTA	**Charters Tower**	**37.90**	**268**	P	P	22 37 20.2	+1.0
	4.2nm,0.5s,baz=104,slow=10.0,SNR=8.0						
STKA	**Stephens Creek**	**40.60**	**249**	P	P	22 37 40.4	-1.3
	1.6nm,0.9s,baz=86,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**49.32**	**259**	P	P	22 38 43.0	-0.5
	1.1nm,0.5s,baz=88,slow=7.9,SNR=24						
WRA	**Warramunga Arr**	**48.79**	**264**	P	P	22 38 47.2	0.0
	2.8nm,0.6s,baz=104,slow=7.8,SNR=26						

ISCJB ***06*** *22:31:46.2±0.6,21.64N±0.05×143.1E±0.2,h311km, mb3.5/12, Error ellipse: s-maj=21.1km s-min=7.1km az=174.3*

IDC ***06*** *22:31:46.3±4.0,21.63N×143.07E,h295km±40km, mb3.3/13, mb1 3.5/15, mb1mx3.4/29, mbtmp3.3/15, Error ellipse: s-maj=23.4km s-min=10.3km az=84.0*

ISC 06 22:31:47.7±0.7, 21.69N±0.08×143.0E±0.2, h311km, n26, σ0.92/29, mb3.5/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.44**	**352**	S	**S**	**22 34 16.3**	**-1.2**
	15nm,0.3s,baz=302,slow=21,SNR=2.2						
CBIJ	**Chichi jima**	**5.44**	**352**	P	Pn	22 33 19.3	+8.6
CBIJ				S	**S**	**22 34 14.9**	**-2.6**
BSO1	**Boso 1**	**13.04**	**352**	P	**P**	**22 34 43.3**	**+1.3**
BSO3	**Boso 3**	**13.25**	**351**	P	**Pn**	**22 34 45.2**	**+0.5**
BSO4	**Boso 4**	**13.46**	**350**	P	**Pn**	**22 34 48.6**	**+1.2**
JHU	**Hanno**	**14.49**	**348**	P	**P**	**22 34 58.7**	**+0.2**
JRY	**Ryogami san**	**14.72**	**347**	P	**Pn**	**22 35 02.4**	**-0.1**
JAG	**Ashikaga**	**15.01**	**349**	P	**P**	**22 35 05.1**	**+0.9**
JAG				*e*S	**S**	**22 37 46.0**	**-1.4**
MJAR	**Matsushiro Arr**	**15.38**	**345**	P	**P**	**22 35 08.6**	**+0.2**
	1.2nm,0.3s,baz=170,slow=10,SNR=9.2						
JNU	**Nakatsue**	**15.68**	**319**	P	**Pn**	**22 35 13.5**	**-0.2**
	1.2nm,0.3s,baz=116,slow=6.7,SNR=8.0						
JHS	**Saijyo**	**15.86**	**329**	P	**Pn**	**22 35 16.4**	**+0.6**
JMK	**Ichinoseki**	**17.28**	**355**	P	**Pn**	**22 35 30.8**	**-1.3**
KSRS	**Korea Array**	**20.44**	**324**	P	**P**	**22 36 02.4**	**+0.1**
	5.0nm,0.6s,baz=146,slow=8.9,SNR=16						
USRK	**Ussuriysk Arra**	**24.24**	**340**	P	**P**	**22 36 37.9**	**+0.9**
	1.6nm,0.6s,baz=159,slow=8.9,SNR=8.1						
SONM	**Songino Array**	**39.26**	**321**	P	**P**	**22 38 47.7**	**+0.7**
	0.4nm,0.5s,baz=141,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**42.24**	**192**	P		**22 39 10.8**	**-0.6**
	3.7nm,0.5s,baz=17,slow=9.0,SNR=35				**P**		
ASAR	**Alice Springs**	**45.95**	**192**	P	**P**	**22 39 39.8**	**-0.8**
	0.8nm,0.6s,baz=16,slow=12,SNR=15						
STKA	**Stephens Creek**	**53.28**	**182**	P	**P**	**22 40 34.7**	**-0.6**
	1.7nm,0.4s,baz=351,slow=7.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**54.13**	**322**	P	**P**	**22 40 41.1**	**0.0**
	0.5nm,0.4s,baz=97,slow=10,SNR=2.8						
ZALV				PcP	**PcP**	**22 41 41.6**	**+0.1**
	0.7nm,0.4s,baz=89,slow=4.4,SNR=3.7						
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**22 40 45.6**	**+0.9**
	0.5nm,0.6s,baz=85,slow=9.3,SNR=6.1						
MKAR				PcP	**PcP**	**22 41 43.8**	**+0.3**
	0.3nm,0.6s,baz=85,slow=3.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**57.44**	**317**	P	**P**	**22 41 05.4**	**+0.9**
	1.1nm,0.4s,baz=93,slow=7.6,SNR=28						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**22 41 35.8**	**-0.1**
	0.3nm,0.6s,baz=258,slow=5.7,SNR=8.5						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**22 43 04.3**	**+0.7**
	1.0nm,0.6s,baz=292,slow=5.9,SNR=18						
FINES	**FINESS Array B**	**83.13**	**334**	P	**P**	**22 43 38.4**	**-0.5**
	0.9nm,0.5s,baz=68,slow=4.1,SNR=9.1						
PDAR	**Pinedale Array**	**87.49**	**45**	P	**P**	**22 44 01.4**	**+0.4**
	0.2nm,0.4s,baz=343,slow=2.8,SNR=4.0						
PLCA	**Paso Flores**	**145.85**	**131**	PKPbc	**PKPab**	**22 50 51.5**	**-0.6**
	5.1nm,0.7s,baz=251,slow=4.0,SNR=12						

MEX 06 22:36:15.1±0.7, 17.18N×94.77W, h187km±16km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.88**	**267**	*e*P	Pn	22 36 50.8	-0.9
VHO				*i* S	Sn	22 37 17.6	-2.4
HUIG	**Huatulco**	**1.91**	**223**	*e*P	Pn	22 36 49.9	-1.8
HUIG				*e*S	Sn	22 37 18.6	-1.6
PCIG		**2.09**	**134**	*e*P	Pn	22 36 52.9	-0.8
PCIG				*i* S	Sn	22 37 20.9	-2.7
PNIG	**Pinotepa**	**3.31**	**257**	*e*P	Pn	22 37 06.3	-1.6
PNIG				*e*S	Sn	22 37 46.9	-2.3
TLIG	**Tlapa**	**3.65**	**277**	*e*P	Pn	22 37 10.8	-1.4
TLIG				*e*S	Sn	22 37 54.6	-2.2

IDC ***06*** *22:41:49.2±1.2,32.53S×71.71W,h0km,mb4.3/4, mb1 4.1/7,mb1mx3.9/18,mbtmp4.0/7,ML4.2/3,MS3.4/5, Ms1 3.4/5,ms1mx3.2/20, Error ellipse: s-maj=32.3km s-min=16.9km az=136.0*

ISCJB ***06*** *22:41:52.9±0.7,32.61S±0.03×71.74W±0.06,h39km±7km, mb4.1/5,MS3.6/2, Error ellipse: s-maj=9.2km s-min=5.7km az=171.0*

NEIC ***06*** *22:41:54.0,32.67S×71.63W,h32km,ML4.7(GUC), After GUC.*

NEIC Felt [III] at Puchuncavi, Quintero, Santiago, Valparaiso, Villa Alemana and Vina del Mar.

GUC ***06*** *22:41:54.0±0.5,32.67S×71.64W,h32km±2km,ML4.6*

ISC 06 22:41:53.9±1.0, 32.67S±0.04×71.69W±0.06, h31km±6km, n63, σ1.93/70, mb4.3/5, 11C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**58**	*e*P	**Pb**	**22 42 00.8**	**-0.2**
PACH	**Papudo**	**0.25**	**58**	*e*P	**Pb**	**22 42 00.8**	**-0.2**
IHA	**Instituto Hidr**	**0.35**	**173**	↑*i*P	**Pb**	**22 42 02.1**	**-0.1**
IHA	**Instituto Hidr**	**0.35**	**173**	↑*i*P	**Pb**	**22 42 02.1**	**-0.1**
IHA				S	**Sb**	**22 42 07.6**	**-0.3**
JACH	**Jahuel**	**0.93**	**91**	↑*i*P	**Pn**	**22 42 09.9**	**-0.9**
JACH	**Jahuel**	**0.93**	**91**	↑*i*P	**Pn**	**22 42 09.9**	**-0.9**
PEL	**Peldehue**	**0.97**	**119**	*e*P	**Pn**	**22 42 11.0**	**-0.4**
PEL				*i* S	**Sn**	**22 42 24.1**	**0.0**
PEL				AML	AML	22 42 26.3	
	comp=E,70μm,0.3s						
RCDM	**Rinconada Maip**	**1.10**	**138**	AML	AML	22 42 30.8	
	comp=E,19μm,0.2s						
RCDM	**Rinconada Maip**	**1.10**	**138**	*e*P	**Pn**	**22 42 13.6**	**+0.4**
RCDM				*e*S	**Sn**	**22 42 27.3**	**-0.1**
SAN	**Santiago**	**1.16**	**132**	↑*e*P	**Pn**	**22 42 14.2**	**+0.2**
SAN				*i* S	**Sn**	**22 42 29.2**	**+0.3**
SAN	**Santiago**	**1.16**	**132**	↑*e*P	**Pn**	**22 42 14.2**	**+0.2**
SAN				*i* S	**Sn**	**22 42 29.2**	**+0.3**
STL	**Santa Lucia**	**1.17**	**131**	↓*i*P	**Pn**	**22 42 14.1**	**0.0**
STL				*i* S	**Sn**	**22 42 29.3**	**+0.3**
TACH	**Talagante**	**1.17**	**147**	↑*e*P	**Pn**	**22 42 14.1**	**+0.1**
TACH	**Talagante**	**1.17**	**147**	↑*e*P	**Pn**	**22 42 14.1**	**+0.1**
CLCH	**Cerro Calan**	**1.21**	**127**	↓*i*P	**Pn**	**22 42 14.8**	**+0.1**
CLCH				*i* S	**Sn**	**22 42 30.4**	**+0.3**
CLCH				AML	AML	22 42 31.9	
	comp=N,29μm,0.5s						
LACH	**Col Las Americ**	**1.25**	**129**	*e*P	**Pn**	**22 42 15.5**	**+0.3**
LACH				*e*S	**Sn**	**22 42 31.7**	**+0.8**
LACH	**Col Las Americ**	**1.25**	**129**	*e*P	**Pn**	**22 42 15.5**	**+0.3**
LACH				*e*S	**Sn**	**22 42 31.7**	**+0.8**
ANTU	**Antumapu**	**1.26**	**136**	↓*e*P	**Pn**	**22 42 15.8**	**+0.4**
ANTU				*e*S	**Sn**	**22 42 32.1**	**+0.9**
ANTU				AML	AML	22 42 36.4	
	comp=E,14μm,0.7s						
ANTU	**Antumapu**	**1.26**	**136**	↓*e*P	**Pn**	**22 42 15.8**	**+0.4**
ANTU				*e*S	**Sn**	**22 42 32.1**	**+0.9**
LNV	**Longovilo**	**1.30**	**170**	P	**Pn**	**22 42 15.9**	**0.0**
PCH	**Pirque**	**1.37**	**134**	*e*P	**Pn**	**22 42 17.4**	**+0.5**
PCH	**Pirque**	**1.37**	**134**	*e*P	**Pn**	**22 42 17.4**	**+0.5**
CHCH	**Chadas Angostu**	**1.53**	**146**	*e*P	**Pn**	**22 42 20.1**	**+1.1**
CHCH	**Chadas Angostu**	**1.53**	**146**	*e*P	**Pn**	**22 42 20.1**	**+1.1**
CACH	**El Canelo**	**1.71**	**148**	↑*e*P	**Pb**	**22 42 23.5**	**-1.2**
CACH	**El Canelo**	**1.71**	**148**	↑*e*P	**Pb**	**22 42 23.5**	**-1.2**
LMEL	**Las Melosas**	**1.71**	**134**	↓*e*P	**Pn**	**22 42 22.6**	**+0.9**
LMEL				*e*S	**Sb**	**22 42 45.1**	**-0.9**
LMEL				AML	AML	22 42 48.5	
	comp=N,10μm,0.2s						
LMEL	**Las Melosas**	**1.71**	**134**	↓*e*P	**Pn**	**22 42 22.6**	**+0.9**
LMEL				*e*S	**Sb**	**22 42 45.1**	**-0.9**
NICH	**Los Niches**	**2.36**	**171**	P	**Pb**	**22 42 33.2**	**-2.5**
TALC	**Talca**	**2.72**	**179**	P	**Pb**	**22 42 41.1**	**-0.7**
CFAA	**Coronel Fontan**	**3.12**	**71**	Pn	**Pn**	**22 42 43.5**	**+2.6**
CFAA				Lg	Lg	22 43 26.0	
CFAA	**Coronel Fontan**	**3.12**	**71**	Pn	**Pn**	**22 42 43.5**	**+2.6**
	comp=N,3.9nm,0.3s,baz=249,slow=10,SNR=54						
CFAA				Pg	**Pb**	**22 42 47.2**	**-1.5**
	comp=N,5.4nm,0.3s,baz=236,slow=3.6,SNR=45						
CFAA				Lg	Lg	22 43 26.0	
	comp=N,5.5nm,0.3s,baz=149,slow=14,SNR=3.6						
LCO	**Las Campanas**	**3.75**	**13**	*e*Pn	**Pn**	**22 42 49.7**	**-0.1**
LCO				*e*Sn	**Sn**	**22 43 31.5**	**-1.5**
H03N1	**Juan Fernandez**	**6.11**	**261**	T	T	22 49 47.2	
	baz=85,slow=74,SNR=608						
H03N3	**Juan Fernandez**	**6.12**	**261**	T	T	22 49 48.0	
	baz=85,slow=74,SNR=432						
H03N2	**Juan Fernandez**	**6.13**	**261**	T	T	22 49 49.2	
	baz=85,slow=74,SNR=439						
PLCA	**Paso Flores**	**8.10**	**174**	Pn	**Pn**	**22 43 50.5**	**+1.1**
PLCA				Lg	Lg	22 46 01.6	
PLCA	**Paso Flores**	**8.10**	**174**	Pn	**Pn**	**22 43 50.5**	**+1.1**
	comp=N,0.6nm,0.3s,baz=344,slow=9.7,SNR=12						
PLCA				Lg	Lg	22 46 01.6	
	comp=N,0.1nm,0.3s,baz=258,slow=23,SNR=3.1						
PLCA				LR	LR	22 46 55.2	
	comp=N,116nm,20.3s,baz=180,slow=37						
TRQA	**Tornquist**	**9.58**	**127**	*e*Pn	**Pn**	**22 44 08.9**	**-0.7**
	comp=N,8.7nm,0.6s						
TRQA				*e*Sn	**Sn**	**22 45 54.5**	**-1.6**
CPUP	**Villa Florida**	**14.01**	**67**	Pn	**Pn**	**22 45 10.0**	**-0.2**
CPUP				Sn	**Sn**	**22 47 47.2**	**+2.6**
CPUP	**Villa Florida**	**14.01**	**67**	Pn	**Pn**	**22 45 10.0**	**-0.2**
	comp=N,0.7nm,0.3s,baz=229,slow=11,SNR=4.2						
CPUP				Sn	**Sn**	**22 47 47.2**	**+2.6**
	comp=N,0.4nm,0.3s,baz=124,slow=5.6,SNR=4.3						
CPUP				LR	LR	22 50 57.6	
	comp=N,170nm,19.5s,baz=238,slow=39						
SIV	**San Ignacio**	**19.20**	**33**	P	**P**	**22 46 14.8**	**-0.5**
SIV	**San Ignacio**	**19.20**	**33**	P	**P**	**22 46 14.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=3.5						
SIV				LR	LR	22 54 57.4	
	comp=N,87nm,21.9s,slow=41						
SAML	**Samuel**	**24.89**	**20**	*e*P	**P**	**22 47 12.9**	**-1.0**
	comp=N,3.6nm,1.0s						
BDFB	**Brasilia**	**27.36**	**57**	P	**P**	**22 47 35.1**	**-1.4**
BDFB	**Brasilia**	**27.36**	**57**	P	**P**	**22 47 35.1**	**-1.4**
	comp=N,6.3nm,0.9s,baz=214,slow=7.0,SNR=8.0						
BDFB				LR	LR	22 59 17.6	
	comp=N,69nm,20.2s,baz=46,slow=38						
SNAA	**Sanae**	**52.70**	**158**	P	**P**	**22 51 05.4**	**+0.3**
SNAA	**Sanae**	**52.70**	**158**	P	**P**	**22 51 05.4**	**+0.3**
	comp=N,0.9nm,0.8s,baz=287,slow=7.7,SNR=3.9						
QSPA	**South Pole Qui**	**57.56**	**180**	P	**P**	**22 51 42.0**	**+1.7**
QSPA	**South Pole Qui**	**57.56**	**180**	P	**P**	**22 51 42.0**	**+1.7**
	comp=N,5.3nm,0.9s,baz=142,slow=3.1,SNR=7.9						
LBTB	**Lobatse**	**82.60**	**115**	LR	LR	23 24 42.3	
	comp=N,70nm,19.9s,baz=156,slow=31						
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**22 54 18.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P	**P**	**22 54 18.6**	**-0.2**
	comp=N,2.4nm,0.8s,baz=258,slow=4.1,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**26.07**	**270**	T	T	01 19 50.6	
	baz=121,slow=74,SNR=38						
H11S1	**WAKE ISLAND Hyd**	**26.09**	**270**	T	T	01 19 53.0	
	baz=121,slow=74,SNR=44						
H11S3	**WAKE ISLAND Hyd**	**26.09**	**270**	T	T	01 19 52.6	
	baz=121,slow=74,SNR=41						
H11N3	**WAKE ISLAND Hyd**	**26.45**	**271**	T	T	01 20 19.8	
	baz=156,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hyd**	**26.47**	**271**	T	T	01 20 19.7	
H11N2	**WAKE ISLAND Hyd**	**26.47**	**271**	T	T	01 20 20.6	
	baz=123,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc	**PKPbc**	**23 01 47.2**	**-0.2**
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc	**PKPbc**	**23 01 47.2**	**-0.2**
	comp=N,3.5nm,0.6s,baz=301,slow=3.0,SNR=22						
MKAR	**Makanchi Array**	**155.66**	**47**	PKPab	**PKPab**	**23 02 10.4**	**-0.2**
MKAR	**Makanchi Array**	**155.66**	**47**	PKPab	**PKPab**	**23 02 10.4**	**-0.2**
	comp=N,0.8nm,0.7s,baz=290,slow=4.2,SNR=8.3						

IDC 06 22:58:15.6±46.0, 15.65S×171.71W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=906.5km s-min=179.0km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.33**	**241**	P	P	23 06 35.7	+0.1
	0.7nm,0.6s,baz=86,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**51.37**	**257**	P	P	23 07 22.1	-0.4
	0.2nm,0.4s,baz=95,slow=6.9,SNR=10.0						
ASAR	**Alice Springs**	**51.58**	**252**	P	P	23 07 24.1	-0.1
	2.1nm,0.5s,baz=88,slow=8.2,SNR=35						

IDC 06 22:58:31.7±7.8, 20.37S×65.10W, h398km±54km, mb3.1/2, mb1 3.1/4, mb1mx2.9/18, mbtmp3.0/4, Error ellipse: s-maj=103.4km s-min=42.1km az=19.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**5.79**	**42**	P	Pn	23 00 02.1	-0.1
	0.7nm,0.3s,baz=245,slow=9.5,SNR=16						
SIV				S	S	23 01 15.9	+0.1
	0.1nm,0.3s,baz=319,slow=23,SNR=1.3						
BDFB	**Brasilia**	**16.91**	**77**	P	P	23 02 05.6	+0.5
	0.2nm,0.3s,baz=256,slow=9.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**73.62**	**69**	P	P	23 09 23.6	+0.1
	0.8nm,0.4s,baz=255,slow=6.1,SNR=19						
YKA	**Yellowknife Ar**	**91.35**	**339**	P	P	23 10 53.4	+0.5
	0.1nm,0.5s,baz=129,slow=4.3,SNR=4.1						
MKAR	**Makanchi Array**	**142.60**	**38**	PKP	PKPdf	23 17 16.3	-1.9
	0.2nm,0.4s,baz=344,slow=4.2,SNR=4.8						

PLV 06 23:27:17.4±1.9, 22.74N×102.62E, h17km±88km, ML3.5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPV	**Sa-pa**	**1.19**	**109**	*e*Pg	Pg	23 27 41.5	+0.9
SPV				*e*Sg	Sg	23 27 57.4	+1.0
SPV				AML	AML	23 28 03.6	
	comp=N,1μm,0.3s						
SLVN	**Son La**	**1.83**	**139**	*e*Pg	Pg	23 27 53.0	+0.2
SLVN				*e*Sg	Sg	23 28 17.6	+0.9
VTVB	**Vinh Tuy**	**2.16**	**102**	*e*Pg	Pg	23 27 58.6	-0.3
VTVB				*e*Sg	Sg	23 28 27.6	+0.6
HGVB	**Ha Giang**	**2.19**	**87**	*e*Pg	Pg	23 27 59.6	+0.1
HGVB				*e*Sg	Sg	23 28 28.8	+0.8
DHV	**Doan Hung**	**2.62**	**114**	*e*Pg	Pg	23 28 06.8	-0.9
DHV				*e*Sg	Sg	23 28 41.3	-0.4

MEX 06 23:58:44.5±0.3, 15.69N×97.98W, h18km±17km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**348**	*i* P	Pb	23 58 56.1	-2.4
PNIG				*i* S	Sb	23 59 04.7	-3.2
HUIG	**Huatulco**	**1.80**	**87**	*e*P	Pn	23 59 11.6	-3.1
HUIG				*e*S	Sn	23 59 32.5	-4.7
VHO	**Vista Hermosa**	**1.82**	**41**	*e*P	Pn	23 59 12.1	-3.2
VHO				*e*S	Sn	23 59 33.6	-4.5
TLIG	**Tlapa**	**1.94**	**343**	*e*P	Pn	23 59 14.4	-2.5
TLIG				*e*S	Sn	23 59 36.6	-4.4
CMIG	**Matias Romero**	**3.28**	**64**	*e*P	Pn	23 59 32.4	-2.6
CMIG				*e*S	Sn	00 00 10.3	-3.4

IDC ***07*** *00:12:23.3±0.8,8.95S×157.91E,h0km,mb3.8/9, mb1 4.1/9,mb1mx4.0/18,mbtmp3.8/9,MS3.3/5,Ms1 3.2/5, ms1mx3.0/36, Error ellipse: s-maj=24.0km s-min=13.7km az=2.0*

ISCJB ***07*** *00:12:25.4±0.6,9.10S±0.1×157.9E±0.1,h23km,mb3.8/11, MS3.3/3, Error ellipse: s-maj=20.1km s-min=13.7km az=143.8*

NEIC ***07*** *00:12:27.7±0.6,9.07S×158.14E,h35km,mb4.1/3, Error ellipse: s-maj=17.8km s-min=13.1km az=158.0*

ISC 07 00:12:26.5±0.7, 9.13S±0.1×158.09E±0.09, h23km, n25, σ1.06/24, mb3.8/11, MS3.3/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.87**	**102**	Pn	**Pn**	**00 12 55.5**	**-1.7**
HNR				Pg	**Pb**	**00 13 00.7**	**+0.6**
HNR				Lg	Lg	00 13 29.2	
HNR	**Honiara**	**1.87**	**102**	Pn	**Pn**	**00 12 55.5**	**-1.7**
	38nm,0.3s,baz=208,slow=7.9,SNR=5.7						
HNR				Pg	**Pb**	**00 13 00.7**	**+0.6**
	261nm,0.3s,baz=224,slow=4.6,SNR=23						
HNR				Lg	Lg	00 13 29.2	
	265nm,0.3s,baz=242,slow=20,SNR=5.1						
HNR				LR	LR	00 13 36.9	
	comp=Z,411nm,19.7s,baz=297,slow=36						
PMG	**Port Moresby**	**10.79**	**267**	LR	LR	00 18 54.9	
	comp=Z,146nm,18.3s,baz=93,slow=37						
WRAB	**Tennant Creek**	**25.36**	**242**	*e*P	**P**	**00 17 51.3**	**-0.9**
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**25.37**	**242**	P	**P**	**00 17 51.9**	**-0.4**
WRA	**Warramunga Arr**	**25.37**	**242**	P	**P**	**00 17 51.9**	**-0.4**
	2.8nm,0.7s,baz=68,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**27.31**	**235**	P	**P**	**00 18 09.0**	**-0.8**
ASAR	**Alice Springs**	**27.31**	**235**	P	**P**	**00 18 09.0**	**-0.8**
	1.0nm,0.8s,baz=68,slow=9.2,SNR=10						
STKA	**Stephens Creek**	**27.39**	**212**	*e*P	**P**	**00 18 10.5**	**+0.2**
	0.7nm,0.8s						
STKA	**Stephens Creek**	**27.39**	**212**	P	**P**	**00 18 10.2**	**-0.1**
	3.6nm,1.0s,baz=47,slow=18,SNR=4.6						
STKA				LR	LR	00 28 52.7	
	comp=Z,79nm,18.5s,baz=210,slow=36						
NWAO	**Narrogin (SRO)**	**44.53**	**232**	LR	LR	00 37 20.8	
	comp=Z,45nm,20.7s,baz=34,slow=34						
KSRS	**Korea Array**	**54.21**	**330**	LR	LR	00 43 02.9	
	comp=Z,20nm,21.7s,baz=76,slow=34						
VNDA	**Vanda**	**68.47**	**179**	*e*P	**P**	**00 23 27.6**	**+1.2**
	26nm,1.7s						
SONM	**Songino Array**	**72.73**	**326**	P	**P**	**00 23 53.5**	**+0.5**
SONM	**Songino Array**	**72.73**	**326**	P	**P**	**00 23 53.5**	**+0.5**
	0.3nm,0.5s,baz=114,slow=6.5,SNR=1.7						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**00 24 54.6**	**-1.0**
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**00 24 54.6**	**-1.0**
	0.5nm,0.9s,baz=278,slow=5.7,SNR=4.9						
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**00 25 09.8**	**-0.2**
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**00 25 09.8**	**-0.2**
	0.4nm,0.6s,baz=92,slow=6.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**87.60**	**325**	P	**P**	**00 25 11.3**	**-1.4**
ZALV	**Zalesovo Beam**	**87.60**	**325**	P	**P**	**00 25 11.3**	**-1.4**
	0.4nm,0.7s,baz=151,slow=3.3,SNR=1.8						
NVAR	**Mina Array Bea**	**90.60**	**51**	P	**P**	**00 25 29.4**	**+1.8**
NVAR	**Mina Array Bea**	**90.60**	**51**	P	**P**	**00 25 29.4**	**+1.8**
	0.8nm,0.8s,baz=246,slow=6.3,SNR=5.4						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**00 25 55.3**	**+0.5**
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**00 25 55.3**	**+0.5**
	0.1nm,0.6s,baz=269,slow=4.8,SNR=2.5						

ISCJB ***07*** *00:21:51.1±0.7,6.53S±0.07×125.40E±0.09,h544km, mb3.5/3, Error ellipse: s-maj=12.5km s-min=9.3km az=20.7*

IDC ***07*** *00:21:53.8±4.2,6.27S×126.12E,h564km±61km,mb3.0/3, mb1 3.4/5,mb1mx3.0/20,mbtmp3.2/5, Error ellipse: s-maj=26.2km s-min=13.3km az=65.0*

ISC 07 00:21:52.3±0.9, 6.58S±0.10×125.5E±0.1, h544km, n16, σ1.12/19, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.38**	**201**	P	**P**	**00 23 09.5**	**0.0**
	baz=3.5,SNR=3.1						
SOEI				S	**S**	**00 24 09.3**	**-3.0**
	baz=3.5,SNR=5.9						
FAKI	**Fak Fak**	**7.66**	**62**	P	**P**	**00 23 47.6**	**+1.0**
	baz=7.6,SNR=23						
FAKI				S	**S**	**00 25 18.1**	**-2.0**
	baz=7.6,SNR=11						
MTN	**Manton Dam**	**8.35**	**139**	P	**P**	**00 23 53.1**	**-0.2**
	baz=8.4,SNR=22						
KDU	**Kakadu**	**9.18**	**132**	P	**P**	**00 24 01.4**	**-0.4**
	baz=9.2,SNR=5.3						
KNRA	**Kununurra**	**9.60**	**161**	P	**P**	**00 24 05.8**	**-0.2**
	baz=9.7,SNR=15						
WRA	**Warramunga Arr**	**15.83**	**148**	P	**P**	**00 25 09.1**	**-1.3**
	2.5nm,0.3s,baz=327,slow=10,SNR=70						
WRKA	**Warakurna**	**18.55**	**172**	P	**P**	**00 25 36.3**	**+0.8**
	baz=19,SNR=4.7						
ASAR	**Alice Springs**	**18.82**	**155**	P	**P**	**00 25 38.5**	**+0.4**
	2.5nm,0.3s,baz=343,slow=15,SNR=115						
ASAR				S	**S**	**00 28 42.0**	**+0.5**
	baz=344,slow=25,SNR=8.2						
COEN	**Coen**	**18.88**	**114**	P	**P**	**00 25 39.0**	**+0.4**
	baz=19,SNR=6.7						
QIS	**Mount Isa**	**19.51**	**137**	P	**P

baz=38,SNR=4.9
HTT Hallett 37.22 246 P P 00 51 29.9 +0.5
baz=39,SNR=6.7
HTT S S 00 56 51.0 +12
baz=39,SNR=3.6
BBOO Buckleboo 39.59 247 P P 00 51 48.4 -0.3
baz=41,SNR=8.2
ASAR Alice Springs 42.16 260 P P 00 52 09.2 -0.1
10nm,0.8s,baz=100,slow=7.1,SNR=85
ASAR ScP **ScP 00 56 55.0 +1.9**
2.0nm,0.8s,baz=106,slow=4.2,SNR=12
WRA Warramunga Arr 42.52 266 P P 00 52 11.5 -0.7
14nm,0.5s,baz=103,slow=8.3,SNR=79
KDU Kakadu 46.38 275 P P 00 52 41.1 -0.9
baz=48,SNR=4.6
FORT Forrest 46.45 249 P P 00 52 42.0 -0.4
baz=48,SNR=21
WRKA Warakurna 46.97 257 P P 00 52 46.1 -0.3
baz=49,SNR=16
MTN Manton Dam 47.55 274 P P 00 52 49.4 -1.5
baz=49,SNR=3.7
KNRA Kununurra 48.79 270 P P 00 53 00.0 -0.1
baz=50,SNR=15
MEEK Meekatharra 55.25 253 P P 00 53 46.1 -0.4
baz=57,SNR=4.4
BLDU Ballidu 56.17 248 P P 00 53 52.5 -0.3
baz=58,SNR=8.8
MORW Morawa 57.01 250 P P 00 53 58.5 -0.2
baz=58,SNR=5.8
QSPA South Pole Qui 66.30 180 P P 00 54 59.8 +1.0
1.5nm,0.4s,baz=109,slow=1.1,SNR=3.8
PETK Petropavlovsk- 79.02 346 P P 00 56 11.1 -0.9
1.9nm,0.6s,baz=116,slow=9.1,SNR=5.7
CMAR Chiang Mai Arr 89.59 290 P P 00 57 06.2 +1.3
1.3nm,0.3s,baz=140,slow=4.0,SNR=6.5
TXAR Lajitas Array 90.28 58 P P 00 57 08.5 +0.5
0.4nm,0.7s,baz=216,slow=6.2,SNR=5.4
ARCES ARCESS Array B 131.80 348 PKP PKPdf 01 03 14.2 -1.4
2.1nm,0.8s,baz=81,slow=3.1,SNR=5.8
FINES FINESS Array B 138.37 342 PKP PKPdf 01 03 27.9 -0.1
1.4nm,0.9s,baz=59,slow=2.9,SNR=5.5
FINES SKPbc **SKPbc 01 06 12.8 -0.7**
1.7nm,0.7s,baz=49,slow=3.8,SNR=6.7
NB2 NORSAR Subarra141.99 351 PKP PKPpre 01 03 29.3
comp=Z,0.7nm,0.6s,baz=9.7,slow=2.9
NOA NORSAR Array B141.99 351 PKhKP PKPpre 01 03 28.6
comp=Z,0.8nm,0.6s,baz=14,slow=4.5,SNR=5.5
AKASG Malin Array Be 144.93 327 PKP PKPdf 01 03 39.0 -1.0
comp=Z,2.8nm,0.5s,baz=42,slow=4.3,SNR=43
AKASG SKPbc **SKPbc 01 06 29.8 -0.6**
comp=Z,1.6nm,0.7s,baz=45,slow=2.7,SNR=12
BRTR Keskin Array B 147.59 307 PKPbc PKPdf 01 03 47.6 +2.6
comp=Z,2.3nm,0.5s,baz=146,slow=4.5,SNR=11
GERES GERESS Array B 152.79 340 PKPbc PKPbc 01 03 59.2 -1.1
comp=Z,0.2nm,0.4s,baz=42,slow=2.2,SNR=4.3

*IDC **07** 00:49:38.6±1.3, 13.°99N×92.°12W, h0km, mb3.9/6, mb1 4.3/8, mb1mx3.9/24, mbtmp4.0/8, ML4.0/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/34, Error ellipse: s-maj=26.6km s-min=20.3km az=25.0*
*ISCJB **07** 00:49:39.8±1.1, 13.°90N±0.°05×92.°42W±0.°03, h18km±7km, mb3.9/11, MS3.4/4, Error ellipse: s-maj=9.5km s-min=3.4km az=21.1*
*MEX **07** 00:49:40.6±0.5, 13.°85N×92.°30W, h63km±46km, MD4.4*
*CASC **07** 00:49:42.4±1.7, 14.°10N×92.°32W, h78km±17km, MD4.2*
*NEIC **07** 00:49:43.1±0.9, 14.°05N×92.°26W, h35km, mb4.1/6, MD4.3(MEX), Error ellipse: s-maj=18.7km s-min=9.3km az=207.0*

ISC 07 00:49:43.2±2.2, 14.°02N±0.°06×92.°38W±0.°03, h30km±15km, n127, σ1ŝ42/133, mb4.0/11, MS3.3/4, 36C-34D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.78**	**68**	*eP*		**Pn**	**Sn**	**00 49 57.8**	**-0.3**
JAT				*eS*		**Sn**	**Sn**	**00 50 10.3**	**+1.5**
THIG		**0.89**	**7**	*eP*		**Pn**	**Sn**	**00 49 57.9**	**-1.8**
THIG				*i* S		**Sb**	**Sb**	**00 50 11.8**	**+0.1**
THIG		**0.89**	**7**	*eP*		**Pn**	**Sn**	**00 49 57.9**	**-1.8**
THIG				*i* S		**Sb**	**Sb**	**00 50 11.8**	**+0.1**
PCG	**Pacaya**	**1.75**	**78**	*eP*		**Pn**	**Sn**	**00 50 09.9**	**-1.9**
PCG				*eS*		**Sn**	**Sn**	**00 50 32.1**	**-1.2**
PCIG		**1.86**	**334**	*eP*		**Pn**	**Sn**	**00 50 11.3**	**-1.7**
PCIG				*i* S		**Sn**	**Sn**	**00 50 35.3**	**-0.3**
PCIG		**1.86**	**334**	*eP*		**Pn**	**Sn**	**00 50 11.3**	**-1.7**
PCIG				*i* S		**Sn**	**Sn**	**00 50 35.3**	**-0.3**
IXG	**Ixpaco**	**1.87**	**85**	*eP*		**Pn**	**Sn**	**00 50 11.7**	**-1.6**
IXG				*eS*		**Sn**	**Sn**	**00 50 35.9**	**-0.1**
NBG	**Las Nubes**	**2.05**	**74**	*eP*		**Pn**	**Sn**	**00 50 14.9**	**-0.9**
NBG				*eS*		**Sn**	**Sn**	**00 50 39.7**	**-0.8**
APG	**El Apazote**	**2.09**	**62**	Pn		Pn	Pn	00 50 12.9	-3.5
APG				Sn		**Sn**	**Sn**	**00 50 37.1**	**-4.5**
APG	**El Apazote**	**2.09**	**62**	Pn		Pn	Pn	00 50 12.9	-3.5
	27nm,0.3s,baz=224,slow=7.4,SNR=436								
APG				Sn		**Sn**	**Sn**	**00 50 37.1**	**-4.5**
	27nm,0.3s,baz=150,slow=7.3,SNR=4.9								
RBDL	**Robledal**	**2.61**	**88**	*eP*		**Pn**	**Sn**	**00 50 22.4**	**-1.2**
RTR	**El Retiro**	**2.65**	**92**	*eP*		**Pn**	**Sn**	**00 50 23.0**	**-1.1**
SBLS	**San Blas**	**2.68**	**94**	*eP*		**Pn**	**Sn**	**00 50 23.1**	**-1.4**
SNJE	**San Jose**	**2.69**	**93**	*eP*		**Pn**	**Sn**	**00 50 23.5**	**-1.2**
SNJE				*eS*		**Sn**	**Sn**	**00 50 56.5**	**+0.1**
MRL	**Marmol**	**2.80**	**68**	*eP*		**Pn**	**Sn**	**00 50 25.4**	**-0.8**
MRL				*eS*		**Sn**	**Sn**	**00 51 02.2**	**+3.2**
BOQS	**Boqueron**	**3.02**	**95**	*eP*		**Pn**	**Sn**	**00 50 28.1**	**-1.1**
LFU	**La Fuente**	**3.18**	**94**	*eP*		**Pn**	**Sn**	**00 50 30.1**	**-1.2**
LFRS	**El Faro**	**3.24**	**97**	*eP*		**Pn**	**Sn**	**00 50 31.7**	**-0.5**
CMIG	**Matias Romero**	**3.89**	**322**	*i* P		**Pn**	**Sn**	**00 50 40.4**	**-0.7**
CMIG				*i* S		**Sn**	**Sn**	**00 51 25.4**	**-0.4**
CMIG	**Matias Romero**	**3.89**	**322**	*i* P		**Pn**	**Sn**	**00 50 40.4**	**-0.7**
CMIG				*i* S		**Sn**	**Sn**	**00 51 25.4**	**-0.4**
HUIG	**Huatulco**	**4.00**	**296**	*i* P		**Pn**	**Sn**	**00 50 40.0**	**-2.5**
HUIG				*i* S		**Sn**	**Sn**	**00 51 27.7**	**-0.8**
HUIG	**Huatulco**	**4.00**	**296**	*eP*		**Pn**	**Sn**	**00 50 40.0**	**-2.5**
HUIG				*eS*		**Sn**	**Sn**	**00 51 27.7**	**-0.8**
TGUH	**Tegucigalpa,Un**	**4.95**	**89**	Pn		Pn	Pn	00 50 51.1	-4.4
VHO	**Vista Hermosa**	**5.18**	**306**	*eP*		**Pn**	**Sn**	**00 50 57.6**	**-1.3**
VHO				*i* S		**Sn**	**Sn**	**00 51 57.1**	**-0.6**
VHO	**Vista Hermosa**	**5.18**	**306**	*eP*		**Pn**	**Sn**	**00 50 57.6**	**-1.3**
VHO				*i* S		**Sn**	**Sn**	**00 51 57.1**	**-0.6**
TLIG	**Tlapa**	**6.92**	**301**	*eP*		**Pn**	**Sn**	**00 51 22.4**	**-0.4**
TLIG				*eS*		**Sn**	**Sn**	**00 52 40.2**	**-0.4**
TEIG	**Tepich**	**7.31**	**32**	*e*Pn		**Pn**	**Sn**	**00 51 26.3**	**-1.7**
	36nm,0.6s								
TEIG				*e*Sn		**Sn**	**Sn**	**00 52 47.2**	**-2.8**
TEIG	**Tepich**	**7.31**	**32**	Pn		**Pn**	**Sn**	**00 51 27.3**	**-0.7**
	4.2nm,0.3s,baz=227,slow=7.1,SNR=18								
TEIG				Sn		**Sn**	**Sn**	**00 52 49.4**	**-0.5**
	baz=285,slow=20,SNR=1.2								
TEIG				LR		LR	LR	00 54 38.6	
	comp=Z,122nm,19.7s,baz=79,slow=42								
JTS	**JuntasAbangare**	**8.15**	**116**	Pn		**Pn**	**Pn**	**00 51 39.0**	**-0.6**
JTS	**JuntasAbangare**	**8.15**	**116**	Pn		**Pn**	**Pn**	**00 51 39.0**	**-0.6**
	0.3nm,0.3s,baz=320,slow=18,SNR=2.0								
832A	**Faith Ranch, C**	**15.86**	**335**	⇑P		**P**	**P**	**00 53 29.3**	**+1.6**
	baz=16								
732A	**Laxson Ranch,**	**16.25**	**335**	⇑P		**P**	**P**	**00 53 33.6**	**+1.5**
	baz=16								
628A	**Black Gap, Mar**	**18.21**	**329**	⇑P		**P**	**P**	**00 53 55.6**	**+1.8**
	baz=18								
H06E1	**SOCORRO T-PHAS**	**18.41**	**287**	T		T	T	01 12 56.9	
	SNR=12								
529A	**Stev Forest Ra**	**18.42**	**332**	⇑P		**Pn**	**Pn**	**00 53 57.8**	**+1.3**
	baz=18								
627A	**Terlingua Ranc**	**18.43**	**328**	⇑P		**Pn**	**Pn**	**00 53 59.4**	**+2.8**
	baz=18								
TXAR	**Lajitas Array**	**18.48**	**327**	P		**Pn**	**Pn**	**00 53 59.3**	**+2.1**
TXAR	**Lajitas Array**	**18.48**	**327**	P		**Pn**	**Pn**	**00 53 59.3**	**+2.1**
	0.1nm,0.3s,baz=147,slow=12,SNR=14								
430A	**Baggett Ranch,**	**18.57**	**335**	⇓P		**Pn**	**Pn**	**00 54 00.0**	**+1.8**
	baz=19								
429A	**Davenport Ranc**	**18.71**	**334**	⇓P		**Pn**	**Pn**	**00 54 02.0**	**+2.1**
	baz=19								
331A	**San Angelo**	**18.73**	**338**	⇑P		**Pn**	**Pn**	**00 54 00.8**	**+0.6**
	baz=19								
233A	**Rising Star**	**18.88**	**343**	⇑P		**Pn**	**Pn**	**00 54 04.3**	**+2.3**
	baz=19								
626A	**Big Bend Ranch**	**18.90**	**327**	⇑P		**Pn**	**Pn**	**00 54 04.1**	**+1.8**
	baz=19,SNR=5.1								
232A	**Coleman**	**18.99**	**341**	⇑P		**Pn**	**Pn**	**00 54 05.0**	**+1.7**
	baz=19								
330A	**Mertzon**	**19.10**	**336**	⇓P		**Pn**	**Pn**	**00 54 05.0**	**+0.4**
	baz=19								
527A	**Woodward Ranch**	**19.11**	**329**	⇓P		**Pn**	**Pn**	**00 54 06.0**	**+1.1**
	baz=19								
134A	**White-Moore Ra**	**19.19**	**345**	⇑P		**Pn**	**Pn**	**00 54 06.9**	**+1.2**
	baz=19								
526A	**Mary Lane Ranc**	**19.28**	**328**	⇓P		**Pn**	**Pn**	**00 54 08.3**	**+1.4**
	baz=19								
329A	**Wagon Wheel Ra**	**19.49**	**335**	⇑P		**Pn**	**Pn**	**00 54 09.8**	**+0.5**
	baz=20								
427A	**Harper Ranch,**	**19.58**	**331**	⇓P		**Pn**	**Pn**	**00 54 11.1**	**+0.7**
	baz=20								
ABTX	**Abilene, Hawle**	**19.67**	**342**	⇑P		**Pn**	**Pn**	**00 54 11.6**	**+0.2**
	baz=20								
328A	**Wristen Ranch,**	**19.76**	**333**	⇓P		**Pn**	**Pn**	**00 54 12.7**	**+0.2**
	baz=20,SNR=11								
Z34A	**Collier Ranch,**	**19.91**	**346**	⇑P		**Pn**	**Pn**	**00 54 14.2**	**0.0**
	baz=20								
Z33A	**Whitaker Ranch**	**20.04**	**344**	⇓P		Pn	Pn	00 54 16.1	+0.3
	baz=20								
326A	**Caldwell Ranch**	**20.24**	**330**	⇓P		**P**	**P**	**00 54 17.4**	**+1.2**
	baz=20,SNR=7.0								
Z32A	**Haskell**	**20.26**	**343**	⇑P		Pn	Pn	00 54 17.7	-0.7
	baz=20								
228A	**UT Block 9, Go**	**20.29**	**334**	⇑P		Pn	Pn	00 54 18.1	-0.8
	baz=20								
425A	**Indio Mountain**	**20.32**	**327**	⇓P		Pn	Pn	00 54 19.0	-0.3
	baz=20								
129A	**Stewart Farms,**	**20.45**	**337**	⇓P		**P**	**P**	**00 54 19.2**	**+0.8**
	baz=20								
MIAR	**Mount Ida**	**20.46**	**357**	*e*P		**P**	**P**	**00 54 18.3**	**-0.2**
	14nm,1.3s								
227A	**Bennet, Jal**	**20.51**	**333**	⇓P		Pn	Pn	00 54 20.5	-0.9
	baz=21								
128A	**Castleberry Fa**	**20.69**	**335**	⇓P		**P**	**P**	**00 54 21.5**	**+0.5**
	baz=21,SNR=6.3								
Y33A	**Hilltop Ranch,**	**20.69**	**345**	⇓P		Pn	Pn	00 54 22.9	-0.4
	baz=21								
Z30A	**Sanderson Ranc**	**20.77**	**339**	⇓P		**P**	**P**	**00 54 22.0**	**+0.2**
	baz=21								
325A	**Bean Ranch, Si**	**20.78**	**328**	⇑P		**P**	**P**	**00 54 23.4**	**+1.3**
	baz=21,SNR=6.0								
Z29A	**Hungry Hill Ra**	**20.95**	**338**	⇑P		**P**	**P**	**00 54 24.4**	**+0.6**
	baz=21								
226B	**Tecolote Peak,**	**20.96**	**331**	⇑P		Pn	Pn	00 54 25.5	-1.1
	baz=21,SNR=13								
X34A	**Smith Ranch, M**	**21.08**	**347**	⇓P		**P**	**P**	**00 54 27.5**	**+2.4**
	baz=21								
127A	**Arkansas Junct**	**21.10**	**333**	⇑P		**P**	**P**	**00 54 26.8**	**+1.3**
	baz=21								
324A	**Moseley Ranch,**	**21.10**	**327**	⇓P		**P**	**P**	**00 54 26.6**	**+1.1**
	baz=21,SNR=7.6								
Y31A	**Rekieta Farm,**	**21.10**	**342**	⇓P		**P**	**P**	**00 54 27.0**	**+1.6**
	baz=21								
X33A	**Lawton**	**21.17**	**346**	⇑P		**P**	**P**	**00 54 27.7**	**+1.6**
	baz=21								
MNTX	**Cornudas Mount**	**21.25**	**328**	*e*P		**P**	**P**	**00 54 27.1**	**+0.1**
	7.8nm,1.4s								
225A	**Deer Hill, Car**	**21.30**	**330**	⇓P		**P**	**P**	**00 54 29.2**	**+1.5**
	baz=21,SNR=9.4								
126A	**Clayton Basin,**	**21.37**	**332**	⇓P		**P**	**P**	**00 54 29.4**	**+1.0**
	baz=22								
Z27A	**Tatum**	**21.59**	**335**	⇓P		**P**	**P**	**00 54 30.8**	**+0.1**
	baz=22,SNR=5.8								
224A	**Cornudas Mount**	**21.63**	**328**	⇑P		**P**	**P**	**00 54 32.3**	**+1.1**
	baz=22,SNR=14								
X31A	**McDonald Ranch**	**21.64**	**343**	⇓P		**P**	**P**	**00 54 32.4**	**+1.2**
	baz=22								
X30A	**Coker Ranch, T**	**21.74**	**341**	⇓P		**P**	**P**	**00 54 33.6**	**+1.4**
	baz=22								
Z26A	**Caprock**	**21.88**	**333**	⇓P		**P**	**P**	**00 54 33.5**	**-0.4**
	baz=22,SNR=5.6								
Z25A	**Roswell**	**22.22**	**332**	⇓P		**P**	**P**	**00 54 38.1**	**+0.6**
	baz=22,SNR=6.2								
Z24A	**Sheppen Canyo**	**22.56**	**331**	⇓P		**P**	**P**	**00 54 42.4**	**+1.1**
	baz=23,SNR=21								
W29A	**Amraillo**	**22.61**	**340**	⇑P		**P**	**P**	**00 54 41.3**	**-0.3**
	baz=23								
Y25A	**Mesa, Roswell**	**22.75**	**333**	⇑P		**P**	**P**	**00 54 43.6**	**+0.5**
	baz=23,SNR=11								
Z23A	**Rita Site, Whi**	**22.93**	**329**	⇑P		**P**	**P**	**00 54 46.9**	**+1.8**
	baz=23,SNR=5.8								
W27A	**Bowe Ranch, En**	**23.06**	**337**	⇓P		**P**	**P**	**00 54 46.1**	**-0.3**
	baz=23								
121A	**Cookes Peak, D**	**23.18**	**325**	⇑P		**P**	**P**	**00 54 49.8**	**+2.1**
	baz=23,SNR=5.1								
Z22A	**Elephant Butte**	**23.30**	**328**	⇑P		**P**	**P**	**00 54 50.2**	**+1.4**
	baz=23								
Y23A	**Lovelace Mesa,**	**23.39**	**330**	⇑P		**P**	**P**	**00 54 51.1**	**+1.5**
	baz=24,SNR=12								
W25A	**X Bar L Ranch,**	**23.75**	**335**	⇓P		**P**	**P**	**00 54 53.4**	**+0.2**
	baz=24,SNR=6.2								
BNM	**Barren Site**	**23.84**	**330**	*e*P		**P**	**P**	**00 54 54.7**	**+0.6**
	6.6nm,1.1s								
X23A	**Hourglass Bar**	**23.98**	**331**	⇓P		**P**	**P**	**00 54 56.2**	**+0.8**
	baz=24								
V26A	**Tequesquite Ra**	**23.99**	**337**	⇓P		**P**	**P**	**00 54 56.0**	**+0.6**
	baz=24								
W24A	**Lazy 6 Ranch,**	**24.15**	**333**	⇓P		**P**	**P**	**00 54 57.9**	**+0.9**
	baz=24,SNR=6.9								
U27A	**Thompson Grove**	**24.19**	**339**	⇓P		**P**	**P**	**00 54 58.3**	**+1.1**
	baz=24								
V25A	**Rancho No Teng**	**24.35**	**335**	⇑P		**P**	**P**	**00 54 60.0**	**+1.2**
	baz=24								
ANMO	**Albuquerque**	**24.40**	**331**	*e*P		**P**	**P**	**00 55 00.0**	**+0.7**
	2.5nm,0.8s								
ANMO	**Albuquerque**	**24.40**	**331**	P		**P**	**P**	**00 55 00.3**	**+1.0**
	2.0nm,0.8s,baz=143,slow=11,SNR=10								
V24A	**Rampart Ranch,**	**24.53**	**334**	⇑P		**P**	**P**	**00 55 01.7**	**+1.2**
	baz=25								
V23A	**Ortiz Mt. (NFS**	**24.94**	**333**	⇓P		**P**	**P**	**00 55 05.4**	**+1.2**
	baz=25								
R31A	**Burdett**	**24.99**	**347**	⇑P		**P**	**P**	**00 55 05.3**	**+0.9**
	baz=25								
R30A	**Dighton**	**25.16**	**345**	⇑P		**P**	**P**	**00 55 06.7**	**+0.7**
	baz=25								
ATAH	**Atahualpa**	**25.19**	**146**	LR		LR	LR	01 03 42.7	
	comp=Z,58nm,18.2s,baz=258,slow=34								
V22A	**San Miguel Ran**	**25.41**	**332**	⇑P		**P**	**P**	**00 55 10.2**	**+1.8**
	baz=26								
U23A	**El Rito**	**25.43**	**333**	⇓P		**P**	**P**	**00 55 10.1**	**+1.4**
	baz=26,SNR=9.0								
U22A	**Llaves**	**25.77**	**332**	⇑P		**P**	**P**	**00 55 13.4**	**+1.7**
	baz=26								
Q30A	**Quinter**	**25.81**	**346**	⇑P		**P**	**P**	**00 55 13.3**	**+1.5**
	baz=26								
S22A	**4UR Ranch, Cre**	**26.90**	**334**	⇑P		**P**	**P**	**00 55 23.0**	**+1.0**
	baz=27								
MVCO	**Mesa Verde**	**27.20**	**331**	*e*P		**P**	**P**	**00 55 25.2**	**+0.6**
	7.8nm,1.0s								
MVCO	**Mesa Verde**	**27.20**	**331**	⇑P		**P**	**P**	**00 55 26.1**	**+1.5**
	baz=27,SNR=5.9								
PFO	**Pinyon Flat Ob**	**29.29**	**316**	LR		LR	LR	01 07 40.2	
	comp=Z,60nm,20.6s,baz=282,slow=37								
PDAR	**Pinedale Array**	**32.25**	**336**	P		**P**	**P**	**00 56 10.9**	**+1.6**
PDAR	**Pinedale Array**	**32.25**	**336**	P		**P**	**P**	**00 56 10.9**	**+1.6**
	0.3nm,0.7s,baz=156,slow=7.8,SNR=4.0								
NVAR	**Mina Array Bea**	**33.43**	**321**	P		**P**	**P**	**00 56 22.1**	**+2.5**
NVAR	**Mina Array Bea**	**33.43**	**321**	P		**P**	**P**	**00 56 22.1**	**+2.5**
	2.0nm,0.7s,baz=131,slow=8.5,SNR=13								
HLID	**Hailey**	**34.98**	**332**	*e*P		**P**	**P**	**00 56 33.3**	**+0.3**
	1.8nm,0.9s								
MCMT	**McKenzie Canyo**	**35.30**	**334**	*e*P		**P**	**P**	**00 56 36.2**	**+0.5**
	2.6nm,1.0s								
YBH	**Yreka Blue Hor**	**38.12**	**322**	LR		LR	LR	01 14 00.1	
	comp=Z,66nm,18.6s,baz=148,slow=38								
SIV	**San Ignacio**	**42.97**	**133**	P		**P**	**P**	**00 57 38.3**	**-1.6**
SIV	**San Ignacio**	**42.97**	**133**	P		**P**	**P**	**00 57 38.3**	**-1.6**
	2.4nm,0.7s,baz=304,slow=7.6,SNR=7.2								
SCHQ	**Schefferville**	**45.33**	**21**	LR		LR	LR	01 18 48.6	
	comp=Z,128nm,18.2s,baz=35,slow=39								
YKA	**Yellowknife Ar**	**50.92**	**347**	P		**P**	**P**	**00 58 40.0**	**-1.4**
YKA	**Yellowknife Ar**	**50.92**	**347**	P		**P**	**P**	**00 58 40.0**	**-1.4**
	2.2nm,0.7s,baz=151,slow=7.4,SNR=40								
ILAR	**Eielson Array**	**62.68**	**337**	P		**P**	**P**	**01 00 04.9**	**+0.1**
ILAR	**Eielson Array**	**62.68**	**337**	P		**P**	**P**	**01 00 04.9**	**+0.1**
	1.2nm,0.9s,baz=170,slow=3.3,SNR=9.0								
CMAR	**Chiang Mai Arr**	**145.85**	**341**	PKPbc		**PKPbc**	**PKPbc**	**01 09 20.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**145.85**	**341**	PKPbc		**PKPbc**	**PKPbc**	**01 09 20.6**	**+0.1**
	2.7nm,0.7s,baz=340,slow=3.6,SNR=4.3								

*IDC **07** 00:53:49.8±19.0, 30.°93N×72.°63E, h0km, mb3.9/2, mb1 3.6/3, mb1mx3.2/28, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=351.9km s-min=63.8km az=160.0*
*NNC **07** 00:55:00.7±7.6, 36.°95N×70.°83E, h156km±173km, mb2.7, mpv3.7, Error ellipse: s-maj=73.0km s-min=40.5km az=8.0*

ISC 07 00:54:59.1±2.5, 36.°8N±0.°2×71.°0E±0.°1, h200km, n16, σ0ŝ97/19, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.67**	**21**	P		**Pn**	**Pn**	**00 56 23.3**	**+0.9**
	SNR=62								
UCH	**Uchtor**	**6.02**	**26**	P		**Pn**	**Pn**	**00 56 27.9**	**+1.0**
	SNR=20								
KZA	**Kyzart**	**6.17**	**31**	P		**Pn**	**Pn**	**00 56 29.2**	**+0.4**
	SNR=9.0								
EKS2	**Erkin-Say**	**6.19**	**19**	P		**Pn**	**Pn**	**00 56 30.1**	**+1.3**
	SNR=6.8								
KK31	**Karatay Array**	**6.26**	**357**	⇑P		**Pn**	**Pn**	**00 56 30.3**	**+0.7**
	0.6nm,0.3s,baz=176,slow=12								
KK31				⇑S		**Sn**	**Sn**	**00 57 40.3**	**-1.3**
	5.7nm,0.6s,baz=182,slow=23								
AAK	**Ala-Archa**	**6.38**	**24**	⇓P		**Pn**	**Pn**	**00 56 32.4**	**+1.2**
	4.7nm,0.4s								
AAK				⇑S		**Sn**	**Sn**	**00 57 43.8**	**-0.5**
	4.8nm,0.7s								
AAK	**Ala-Archa**	**6.38**	**24**	P		**Pn**	**Pn**	**00 56 32.6**	**+1.4**
	SNR=16								
KBK	**Karagaybulak**	**6.55**	**26**	P		**Pn**	**Pn**	**00 56 34.9**	**+1.3**
	SNR=7.0								
ULHL	**Ulahol**	**6.74**	**35**	P		**Pn**	**Pn**	**00 56 36.6**	**+0.6**
	SNR=6.4								
USP	**Ospenovka**	**6.95**	**22**	P		**Pn**	**Pn**	**00 56 39.6**	**+1.0**
	SNR=8.9								
TKM2	**Tokmak 2**	**7.02**	**29**	⇓P		**Pn**	**Pn**	**00 56 40.2**	**+0.5**
	7.0nm,0.7s								
TKM2				⇓S		**Sn**	**Sn**	**00 57 59.4**	**-0.1**
	1.9nm,0.8s								
TKM2	**Tokmak 2**	**7.02**	**29**	P		**Pn**	**Pn**	**00 56 40.5**	**+0.8**
	SNR=11								
MKAR	**Makanchi Array**	**13.01**	**37**	P		**Pn**	**Pn**	**00 57 55.9**	**-0.6**
	0.0nm,0.3s,baz=214,slow=14,SNR=4.8								
AB31	**Akbulak array**	**14.79**	**330**	⇑P		**P**	**P**	**00 58 20.1**	**+0.7**
	0.1nm,0.3s,baz=140,slow=13,SNR=4.7								
ZALV	**Zalesovo Beam**	**19.60**	**25**	P		**P**	**P**	**00 59 11.4**	**-0.5**
	0.7nm,0.4s,baz=215,slow=9.5,SNR=5.2								
FINES	**FINESS Array B**	**37.21**	**326**	P		**P**	**P**	**01 01 49.7**	**-1.0**
	3.4nm,1.1s,baz=120,slow=8.2,SNR=4.0								

IDC 07 01:11:51.3±2.2, 21.°93S×175.°90W, h0km, mb3.8/3, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=98.3km s-min=27.0km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.88**	**27**	P		**Pn**	**Pn**	**01 14 02.2**	**+1.0**
	18nm,0.3s,baz=250,slow=2.2,SNR=5.8								
AFI				Sn		**Sn**	**Sn**	**01 15 33.7**	**-8.4**
	3.1nm,0.3s,baz=132,slow=23,SNR=1.6								
STKA	**Stephens Creek**	**38.97**	**246**	LR		LR	LR	**01 33 47.4**	
	comp=Z,57nm,19.7s,baz=24,slow=34								
ASAR	**Alice Springs**	**46.12**	**258**	P		P	P	**01 20 17.6**	**-0.1**
	1.2nm,0.4s,baz=96,slow=7.1,SNR=21								
WRA	**Warramunga Arr**	**46.36**	**263**	P		P	P	**01 20 19.1**	**-0.5**
	0.8nm,0.6s,baz=94,slow=8.1,SNR=23								
TXAR	**Lajitas Array**	**86.19**	**56**	P		P	P	**01 24 34.0**	**-1.0**
	0.3nm,0.8s,baz=236,slow=5.9,SNR=4.0								
AKASG	**Malin Array Be**	**145.20**	**332**	PKPbc		PKPdf	PKPdf	**01 31 30.6**	**-0.1**
	0.2nm,0.3s,baz=40,slow=4.1,SNR=4.1								

*NIED **07

CN2	**Changchun**	**14.60**	**306**	*e*P		Pn		01 39 25.5	-4.9
CN2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CN2					pmax	pmax			
	comp=Z,200nm,4.0s								
CN2					LR	LR			
	comp=Z,600nm,14.0s								
CN2					LR	LR			
	comp=Z,400nm,14.0s								
CN2					LR	LR			
	comp=Z,500nm,15.0s								
BJI	**Beijing**	**20.49**	**288**	P		**P**		**01 40 38.7**	**-2.7**
BJI					LR	LR			
	comp=Z,270nm,16.4s								
BJI					LR	LR			
	comp=Z,330nm,12.8s								
BJI					LR	LR			
	comp=Z,110nm,18.5s								
CLNS	**Chul'man**	**23.49**	**336**	*e*P		**P**		**01 41 13.5**	**+0.4**
CLNS					pmax	pmax			
	comp=Z,17nm,1.1s								
CLNS					pmax	pmax			
	comp=N,12nm,1.2s								
CLNS					pmax	pmax			
	comp=E,6.0nm,1.0s								
YAK	**Yakutsk**	**26.86**	**347**	*e*P		**P**		**01 41 42.7**	**-1.1**
YAK					pmax	pmax			
	comp=Z,28nm,0.9s								
YAK					pmax	pmax			
	comp=E,6.0nm,1.1s								
YAK					pmax	pmax			
	comp=N,22nm,1.2s								
YAK					MLR	MLR			
	comp=Z,200nm,14.0s								
YAK					MLR	MLR			
	comp=N,156nm,14.0s								
XAN	**Xi'an**	**26.92**	**275**	P		**P**		**01 41 43.6**	**-1.2**
XAN				pP		**pP**		**01 41 53.7**	**+1.0**
XAN				sP		**sP**		**01 41 58.6**	**+2.5**
XAN					pmax	pmax			
	comp=N,2.0nm,0.8s								
XAN					LR	LR			
	comp=N,140nm,12.1s								
XAN					LR	LR			
	comp=N,69nm,11.7s								
H11N2	**WAKE ISLAND Hy**	**27.49**	**120**	T		T		02 11 24.5	
	baz=315,slow=76,SNR=31								
H11N1	**WAKE ISLAND Hy**	**27.50**	**120**	T		T		02 11 21.6	
	baz=315,slow=76,SNR=19								
H11N3	**WAKE ISLAND Hy**	**27.51**	**120**	T		T		02 11 32.0	
	baz=315,slow=76,SNR=24								
ENH	**Enshi**	**27.61**	**267**	*e*P		**P**		**01 41 50.1**	**-0.8**
	comp=N,10nm,0.6s								
ULN	**Ulaanbaatar**	**28.05**	**305**	*e*P		**P**		**01 41 55.0**	**+0.1**
	comp=N,9.2nm,1.0s								
H11S1	**WAKE ISLAND Hy**	**28.18**	**122**	T		T		02 11 57.7	
	baz=317,slow=75,SNR=36								
H11S3	**WAKE ISLAND Hy**	**28.18**	**122**	T		T		02 12 14.3	
	baz=317,slow=75,SNR=41								
H11S2	**WAKE ISLAND Hy**	**28.20**	**122**	T		T		02 12 04.3	
	baz=317,slow=75,SNR=29								
SONM	**Songino Array**	**28.47**	**305**	P		**P**		**01 41 58.9**	**+0.3**
SONM	**Songino Array**	**28.47**	**305**	P		**P**		**01 41 58.9**	**+0.3**
	comp=N,9.0nm,0.9s,baz=101,slow=8.7,SNR=26								
SONM					LR	LR		01 53 42.9	
	comp=N,137nm,20.3s,baz=176,slow=37								
ZAK	**Zakamensk**	**30.99**	**309**	*e*P		**P**		**01 42 17.9**	**-2.9**
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.2s								
TLY	**Talaya**	**31.06**	**312**	*e*P		**P**		**01 42 22.7**	**+1.3**
TLY					pmax	pmax			
	comp=Z,15nm,1.1s								
TLY					MLR	MLR			
	comp=Z,273nm,14.0s								
MOY	**Mondy**	**32.67**	**311**	*e*P		**P**		**01 42 36.3**	**+0.7**
QIZ	**Qiongzhong**	**32.94**	**247**	P		**P**		**01 42 39.6**	**+1.5**
QIZ				S		**S**		**01 47 54.8**	**+0.3**
QIZ					LR	LR			
	comp=Z,80nm,17.4s								
GTA	**Gaotai**	**33.10**	**288**	*e*P		**P**		**01 42 39.3**	**-0.2**
GTA				pP		**pP**		**01 42 42.8**	**-4.8**
GTA				sP		sP		01 42 45.7	-5.2
GTA					pmax	pmax			
	comp=Z,7.0nm,0.9s								
GTA					pmax	pmax			
	comp=Z,73nm,4.3s								
GTA					LR	LR			
	comp=Z,140nm,16.6s								
GTA					LR	LR			
	comp=Z,250nm,16.6s								
GTA					LR	LR			
	comp=Z,220nm,17.1s								
CMAR	**Chiang Mai Arr**	**41.64**	**256**	P		**P**		**01 43 51.9**	**0.0**
CMAR	**Chiang Mai Arr**	**41.64**	**256**	P		**P**		**01 43 51.9**	**0.0**
	comp=Z,2.6nm,0.3s,baz=45,slow=5.2,SNR=2.1								
CMAR					LR	LR		02 02 50.1	
	comp=Z,45nm,19.1s,baz=83,slow=38								
LSA	**Lhasa**	**42.61**	**276**	*e*P		**P**		**01 44 01.0**	**+0.7**
LSA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
LSA	**Lhasa**	**42.61**	**276**	*e*P		**P**		**01 44 01.0**	**+0.7**
	comp=Z,6.4nm,0.8s								
ZAA0	**Zalesovo Array**	**42.66**	**313**	*e*P		**P**		**01 43 59.3**	**-0.4**
ZALV	**Zalesovo Beam**	**42.66**	**313**	P		**P**		**01 44 00.0**	**+0.2**
ZALV								01 45 51.2	
ZALV					pmax	pmax			
	comp=Z,8.0nm,0.9s								
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**42.66**	**313**	P		**P**		**01 43 60.0**	**+0.2**
ZALV				PcP		**PcP**		**01 45 51.2**	**-0.1**
ZALV	**Zalesovo Beam**	**42.66**	**313**	P		**P**		**01 43 60.0**	**+0.2**
	comp=Z,7.6nm,0.9s,baz=94,slow=6.5,SNR=30								
ZALV				PcP		**PcP**		**01 45 51.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=129,slow=2.1,SNR=3.7								
MK31	**Makanchi Array**	**44.79**	**303**	*e*P		**P**		**01 44 17.1**	**0.0**
MK31	**Makanchi Array**	**44.79**	**303**	*e*P		**P**		**01 44 17.1**	**0.0**
MKAR	**Makanchi Array**	**44.79**	**303**	P		**P**		**01 44 17.2**	**+0.1**
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MKAR					MLR	MLR			
	comp=Z,110nm,19.8s								
MKAR	**Makanchi Array**	**44.79**	**303**	P		**P**		**01 44 17.2**	**+0.1**
MKAR	**Makanchi Array**	**44.79**	**303**	P		**P**		**01 44 17.2**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=91,slow=9.9,SNR=33								
MKAR					LR	LR		02 03 40.2	
	comp=Z,110nm,19.8s,baz=352,slow=37								
KURK	**Kurchatov**	**46.65**	**309**	*c*P		**P**		**01 44 31.3**	**-0.3**
KURK					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KURK	**Kurchatov**	**46.65**	**309**	*e*P		**P**		**01 44 31.3**	**-0.3**
	comp=Z,12nm,0.8s								
KURK				*e*				01 44 42.5	
ILAR	**Eielson Array**	**49.94**	**32**	P		**P**		**01 44 57.5**	**+0.6**
ILAR	**Eielson Array**	**49.94**	**32**	P		**P**		**01 44 57.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=263,slow=5.4,SNR=12								
TKM2	**Tokmak 2**	**50.27**	**299**	*e*P		**P**		**01 45 00.7**	**+0.7**
TKM2					pmax	pmax			
	comp=Z,6.0nm,0.8s								
TKM2	**Tokmak 2**	**50.27**	**299**	*e*P		**P**		**01 45 00.7**	**+0.7**
	comp=Z,6.4nm,0.8s								
KSH	**Kashi**	**51.01**	**295**	*e*P		P		01 45 09.7	+4.2
KSH				*es*P		sP		01 45 23.6	+6.5
KSH				*e*PP		**PP**		**01 47 02.2**	**+0.3**
KSH				*e*PcS		**PcS**		**01 50 17.9**	**-1.1**
KSH				*e*S		**S**		**01 52 22.5**	**+1.5**
KSH				*e*SS		**SS**		**01 55 55.3**	**-0.6**
KSH					pmax	pmax			
	comp=Z,2.0nm,0.8s								
KSH					pmax	pmax			
	comp=Z,49nm,5.3s								
KSH					LR	LR			
	comp=Z,40nm,4.4s								
KSH					LR	LR			
	comp=Z,25nm,9.2s								
KSH					LR	LR			
	comp=Z,18nm,3.3s								
AAK	**Ala-Archa**	**51.13**	**299**	*e*P		**P**		**01 45 07.0**	**+0.6**
AAK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
AAK	**Ala-Archa**	**51.13**	**299**	*e*P		**P**		**01 45 06.3**	**-0.1**
	comp=Z,5.2nm,1.0s								
BVAR	**Borovoye Array**	**51.31**	**313**	LR		LR		02 08 02.0	
	comp=Z,197nm,18.7s,baz=326,slow=37								
BRVK	**Borovoye**	**51.37**	**313**	*e*P		**P**		**01 45 08.3**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,7.0nm,1.0s								
BRVK	**Borovoye**	**51.37**	**313**	*e*P		**P**		**01 45 07.8**	**0.0**
	comp=Z,3.4nm,0.8s								
KKAR	**Karatay Array**	**53.78**	**301**	*e*P		**P**		**01 45 25.8**	**0.0**
KKAR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KKAR	**Karatay Array**	**53.78**	**301**	*e*P		**P**		**01 45 25.8**	**0.0**
	comp=Z,7.1nm,0.9s								
INK	**Inuvik**	**54.89**	**27**	P		**P**		**01 45 34.5**	**+1.1**
INK	**Inuvik**	**54.89**	**27**	P		**P**		**01 45 34.5**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=282,slow=5.3,SNR=14								
SVE	**Sverdlovsk**	**55.92**	**319**	*e*P		**P**		**01 45 42.0**	**+1.0**
SVE					pmax	pmax			
	comp=Z,15nm,1.1s								
SVE					MLR	MLR			
	comp=Z,335nm,19.0s								
WRAB	**Tennant Creek**	**56.37**	**188**	*ce*P		P		01 45 54.3	+10
WRAB					pmax	pmax			
	comp=Z,29nm,1.5s								
WRAB	**Tennant Creek**	**56.37**	**188**	*e*P		**P**		**01 45 44.6**	**0.0**
	comp=Z,5.8nm,1.0s								
WRA	**Warramunga Arr**	**56.38**	**188**	P		**P**		**01 45 43.5**	**-1.1**
WRA	**Warramunga Arr**	**56.38**	**188**	P		**P**		**01 45 43.5**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=6.8,slow=7.4,SNR=8.7								
ARU	**Arti**	**57.13**	**319**	*d*P		**P**		**01 45 49.4**	**-0.3**
ARU								01 47 53.3	
ARU					S	**S**		**01 53 40.1**	**-2.8**
ARU					SS	**SS**		**01 57 27.1**	**-4.3**
ARU					pmax	pmax			
	comp=Z,24nm,1.7s								
ARU					MLR	MLR			
	comp=Z,180nm,18.0s								
ARU	**Arti**	**57.13**	**319**	*e*P		**P**		**01 45 49.7**	**0.0**
	comp=Z,8.5nm,1.1s								
ABKAR	**Akbulak array**	**58.67**	**311**	*e*P		**P**		**01 46 00.2**	**-0.3**
	comp=Z,2.9nm,0.7s								
ASAR	**Alice Springs**	**60.11**	**188**	P		**P**		**01 46 10.6**	**-0.2**
ASAR	**Alice Springs**	**60.11**	**188**	P		**P**		**01 46 10.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=11,slow=9.7,SNR=4.4								
PRGR	**Permogore**	**61.56**	**327**	*e*P		**P**		**01 46 17.6**	**-2.6**
PRGR					pmax	pmax			
	comp=Z,10.0nm,1.2s								
YKA	**Yellowknife Ar**	**64.28**	**30**	P		**P**		**01 46 38.8**	**+0.6**
YKA	**Yellowknife Ar**	**64.28**	**30**	P		**P**		**01 46 38.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=302,slow=6.8,SNR=8.0								
ARCES	**ARCESS Array B**	**64.80**	**340**	P		**P**		**01 46 42.0**	**+0.4**
ARCES	**ARCESS Array B**	**64.80**	**340**	P		**P**		**01 46 42.0**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=65,slow=17,SNR=2.6								
ARCES					LR	LR		02 18 14.3	
	comp=Z,79nm,18.2s,baz=27,slow=39								
STKA	**Stephens Creek**	**67.82**	**180**	P		**P**		**01 47 01.5**	**+0.3**
STKA	**Stephens Creek**	**67.82**	**180**	P		**P**		**01 47 01.5**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=337,slow=7.7,SNR=1.9								
OBN	**Obninsk**	**68.88**	**324**	*e*P		**P**		**01 47 08.0**	**+0.3**
OBN				*e*				01 47 15.7	
OBN					pmax	pmax			
	comp=Z,31nm,2.5s								
OBN					MLR	MLR			
	comp=Z,100nm,14.0s								
FINES	**FINESS Array B**	**69.62**	**333**	P		**P**		**01 47 12.2**	**0.0**
FINES	**FINESS Array B**	**69.62**	**333**	P		**P**		**01 47 12.2**	**0.0**
	comp=Z,4.6nm,0.8s,baz=140,slow=9.2,SNR=8.7								
FINES					LR	LR		02 20 08.0	
	comp=Z,76nm,19.8s,baz=55,slow=38								
KIV	**Kislovodsk**	**71.64**	**311**	*e*P		**P**		**01 47 25.2**	**+0.2**
KIV				*SP		**sP**		**01 47 34.0**	**-2.8**
KIV								01 47 49.0	
KIV					pmax	pmax			
	comp=Z,6.0nm,0.7s								
KIV					MLR	MLR			
	comp=Z,100nm,20.0s								
MCMT	**McKenzie Canyo**	**74.80**	**45**	*e*P		**P**		**01 47 44.5**	**+0.7**
	comp=Z,1.2nm,0.4s								
NB2	**NORSAR Subarra**	**74.99**	**338**	P		**P**		**01 47 44.5**	**+0.2**
	comp=Z,8.7nm,1.1s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**74.99**	**338**	P		**P**		**01 47 44.5**	**+0.2**
NOA	**NORSAR Array B**	**74.99**	**338**	P		**P**		**01 47 44.5**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=39,slow=5.7,SNR=9.4								
NOA					LR	LR		02 23 52.9	
	comp=Z,80nm,18.0s,baz=40,slow=38								
AKASG	**Malin Array Be**	**75.08**	**323**	P		**P**		**01 47 44.8**	**-0.1**
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.7s								
AKASG	**Malin Array Be**	**75.08**	**323**	P		**P**		**01 47 44.8**	**-0.1**
AKASG	**Malin Array Be**	**75.08**	**323**	P		**P**		**01 47 44.8**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=46,slow=5.9,SNR=26								
NVAR	**Mina Array Bea**	**75.16**	**53**	P		**P**		**01 47 47.6**	**+1.6**
NVAR	**Mina Array Bea**	**75.16**	**53**	P		**P**		**01 47 47.6**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=292,slow=7.2,SNR=3.7								
PDAR	**Pinedale Array**	**77.95**	**46**	P		**P**		**01 48 00.7**	**-1.0**
PDAR	**Pinedale Array**	**77.95**	**46**	P		**P**		**01 48 00.7**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=272,slow=1.9,SNR=4.7								
BRTR	**Keskin Array B**	**79.59**	**312**	P		**P**		**01 48 10.8**	**+0.1**
BRTR	**Keskin Array B**	**79.59**	**312**	P		**P**		**01 48 10.8**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=102,slow=4.8,SNR=8.2								
BRTR					LR	LR		02 27 53.5	
	comp=Z,32nm,21.1s,baz=301,slow=39								
DPC	**Dobruska-Polom**	**81.26**	**328**	*e*P		**P**		**01 48 19.9**	**+0.6**
DPC	**Dobruska-Polom**	**81.26**	**328**	*e*P		**P**		**01 48 19.9**	**+0.6**
CLL	**Collm**	**81.90**	**330**	*i*P		**P**		**01 48 22.9**	**+0.3**
CLL				*e*				01 48 32.0	
CLL					pmax	pmax			
	comp=Z,5.0nm,1.1s								
CLL	**Collm**	**81.90**	**330**	*i*P		**P**		**01 48 22.9**	**+0.3**
	comp=Z,5.0nm,1.1s								
CLL				*e*(pP)		**pP**		**01 48 32.0**	**+0.7**
CLL				LmV				02 27 00.0	
	comp=Z,100nm,18.0s								
KHC	**Kasperske Hory**	**83.34**	**329**	*e*P		**P**		**01 48 30.5**	**+0.3**
KHC				*e*				01 48 42.7	
KHC	**Kasperske Hory**	**83.34**	**329**	*e*P		**P**		**01 48 30.5**	**+0.3**
KHC				*ep*P		**pP**		**01 48 42.7**	**+3.7**
GERES	**GERESS Array B**	**83.51**	**328**	P		**P**		**01 48 31.4**	**+0.3**
GERES	**GERESS Array B**	**83.51**	**328**	P		**P**		**01 48 31.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=38,slow=5.2,SNR=8.4								
GERES					LR	LR		02 30 45.2	
	comp=Z,76nm,18.2s,baz=5.6,slow=39								
TXAR	**Lajitas Array**	**90.31**	**53**	P		**P**		**01 49 05.4**	**+0.8**
TXAR	**Lajitas Array**	**90.31**	**53**	P		**P**		**01 49 05.4**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=302,slow=2.4,SNR=3.8								
KEST	**Kesra**	**95.81**	**323**	LR		LR		02 38 00.5	
	comp=Z,48nm,18.4s,baz=278,slow=39								

WEL 07 01:48:57.1±0.3, 41.10S×173.26E, h94km±2km, ML2.6/1, Error ellipse: s-maj=1.8km s-min=1.6km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.15**	**144**	SN	Sn	01 49 20.0	-0.3
QRZ	**Quartz Range**	**0.62**	**296**	PN	Pn	01 49 13.1	-0.1
QRZ				SN	Sn	01 49 24.8	-0.5
THZ	**Tophouse**	**0.72**	**202**	PN	Pn	01 49 13.7	-0.5
THZ				SN	Sn	01 49 26.8	-0.2
TCW	**Tory Channel**	**0.78**	**99**	PN	Pn	01 49 14.5	-0.1

DJA 07 01:57:09.0±1.2, 1.N±7.×9.7E±, h11km±7km, M3.6/5, MLv3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.66**	**74**	P	Pb	01 57 22.5	-0.1
GSI				S	Sg	01 57 30.4	-0.2
SNSI	**Sinabang, Aceh**	**1.42**	**334**	P	Pn	01 57 32.7	-2.1
TPTI		**2.14**	**6**	P	Pn	01 57 44.9	+0.2
TPTI				S	Sn	01 58 12.1	+0.9
KCSI	**Kotacane, Aceh**	**2.53**	**19**	P	Pn	01 57 50.2	+0.2
PSI	**Prapat**	**2.59**	**50**	P	x	01 57 50.5	
MNSI	**Mandailing Nat**	**2.66**	**97**	P	Pn	01 57 51.1	-0.7

*NIED **07** 01:57:00, 36.30N×141.80E, h20km, Mw4.0 Best double couple: M0 1.11000×10^15 NP1:ϕs 182.00000°, δ 24.00000°, λ 67.00000°. NP2:ϕ 27.00000°, δ 68.00000°, λ 100.00000°.*
*ISCJB **07** 01:57:24.4±1.4, 36.26N±0.04×142.00E±0.07, h21km±9km, mb3.8/18, MS3.3/1, Error ellipse: s-maj=9.0km s-min=7.2km az=173.3*
*MOS **07** 01:57:26.1±0.9, 36.19N×141.88E, h33km, mb4.2/15, Error ellipse: s-maj=17.6km s-min=11.4km az=40.8*
*JMA **07** 01:57:26.5±0.3, 36.28N×141.81E, h60km, M3.6*
*BJI **07** 01:57:28.2, 36.40N×141.70E, h38km, mb4.4/7, Ms4.4/1, Ms7 4.3/1*
*IDC **07** 01:57:29.6±3.9, 36.18N×141.78E, h45km±35km, mb3.5/13, mb1 3.7/14, mb1mx3.6/26, mbtmp3.6/14, ML3.6/1, MS3.1/4, Ms1 3.1/4, ms1mx2.9/40, Error ellipse: s-maj=27.0km s-min=20.6km az=78.0*

ISC 07 01:57:23.6±1.8, 36.27N±0.05×141.93E±0.07, h3km±10km, n46, σ 0.82/44, mb3.9/18, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.03**	**237**	P	**Pb**	**01 57 44.3**	**+0.2**
CHOJ				*e*S	**Sb**	**01 57 58.4**	**+0.4**
JHO	**Hitachi**	**1.15**	**288**	P	**Pg**	**01 57 45.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.23**	**313**	P	**Pg**	**01 57 46.6**	**-0.6**
JFK	**Kawauchi**	**1.39**	**323**	P	**Pn**	**01 57 49.4**	**-0.5**
BSO1	**Boso 1**	**1.78**	**206**	P	**Pn**	**01 57 54.9**	**+0.1**
BSO1				*e*S	**Sb**	**01 58 18.0**	**-1.1**
JFT	**Otama**	**1.79**	**315**	P	**Pn**	**01 57 55.6**	**+0.3**
JFT				*e*S	**Sn**	**01 58 18.5**	**0.0**
JMM	**Marumori**	**1.84**	**331**	P	**Pn**	**01 57 56.2**	**+0.2**
BSO3	**Boso 3**	**1.86**	**219**	P	**Pn**	**01 57 56.5**	**+0.4**
JAG	**Ashikaga**	**2.00**	**275**	P	**Pn**	**01 57 57.6**	**-0.7**
JFY	**Yanaizu**	**2.12**	**303**	P	**Pn**	**01 58 00.6**	**+0.7**
JKT	**Katashina**	**2.21**	**284**	P	**Pn**	**01 58 01.7**	**+0.4**
MJA0	**Matsu Arr-Jizo**	**2.98**	**276**	*e*P	**Pn**	**01 58 12.7**	**+0.9**
MJA0				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.01**	**276**	P	**Pn**	**01 58 12.7**	**+0.5**
	comp=Z,8.1nm,0.3s,baz=107,slow=8.8,SNR=66						
MJAR				S	**Sn**	**01 58 51.0**	**+2.2**
	comp=Z,5.6nm,0.3s,baz=83,slow=14,SNR=6.1						
MAJO	**Matsushiro**	**3.01**	**276**	*e*P	**Pn**	**01 58 12.5**	**+0.3**
MAT	**Matsushiro**	**3.01**	**276**	P	**Pn**	**01 58 13.3**	**+1.1**
MAT				S	**Sn**	**01 58 48.7**	**-0.1**
ASAJ	**Asahikawa**	**7.86**	**4**	LR	LR	02 02 20.8	
	comp=Z,82nm,18.2s,baz=321,slow=37						
USRK	**Ussuriysk Arra**	**10.97**	**319**	LR	LR	02 03 46.4	
	comp=Z,83nm,18.5s,baz=175,slow=34						
KSRS	**Korea Array**	**11.28**	**280**	LR	LR	02 03 58.4	
	comp=Z,90nm,21.1s,baz=170,slow=35						
YAK	**Yakutsk**	**26.91**	**347**	*e*P	**P**	**02 03 04.8**	**-0.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**27.40**	**120**	T	T	02 31 52.1	
	baz=315,slow=76,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**27.41**	**120**	T	T	02 31 46.5	
	baz=315,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**27.42**	**120**	T	T	02 31 52.8	
	baz=315,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	02 32 38.5	
	baz=318,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	02 32 50.6	
	baz=318,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	02 32 46.1	
	baz=318,slow=75,SNR=8.8						
SONM	**Songino Array**	**28.56**	**305**	P	**P**	**02 03 21.3**	**+0.6**
	comp=N,2.0nm,0.7s,baz=102,slow=9.1,SNR=8.5						
ZAK	**Zakamensk**	**31.07**	**309**	*e*P	P	02 03 33.0	-10
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZALV	**Zalesovo Beam**	**42.74**	**313**	P	**P**	**02 05 21.9**	**+0.1**
ZALV						02 07 12.8	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.74**	**313**	P	**P**	**02 05 21.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=91,slow=7.4,SNR=8.3						
ZALV				PcP	**PcP**	**02 07 12.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=56,slow=3.6,SNR=2.4						
MKAR	**Makanchi Array**	**44.88**	**303**	P	**P**	**02 05 39.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,34nm,18.2s						
MKAR	**Makanchi Array**	**44.88**	**303**	P	**P**	**02 05 39.2**	**0.0**
	comp=Z,1.8nm,0.8s,baz=89,slow=9.9,SNR=14						
MKAR				LR	LR	02 24 02.6	
	comp=Z,34nm,18.1s,baz=358,slow=36						
KURK	**Kurchatov**	**46.73**	**309**	*e*P	**P**	**02 05 53.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**49.92**	**32**	P	**P**	**02 06 19.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=260,slow=6.4,SNR=6.3						
BRVK	**Borovoye**	**51.45**	**313**	*e*P	**P**	**02 06 30.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**56.36**	**189**	P	**P**	**02 07 05.2**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=6.2,slow=7.4,SNR=6.8						
ARU	**Arti**	**57.21**	**319**	*d*P	**P**	**02 07 11.9**	**+0.2**
ARU						02 09 16.6	
ARU				S	**S**	**02 15 05.4**	**-2.5**
ARU				SS	**SS**	**02 18 57.0**	**+0.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ASAR	**Alice Springs**	**60.09**	**188**	P	**P**	**02 07 31.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=8.8,slow=8.4,SNR=2.4						
YKA	**Yellowknife Ar**	**64.27**	**30**	P	**P**	**02 08 00.6**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=299,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**69.69**	**333**	P	**P**	**02 08

ANIG	**Ahuacatlan**	**3.38 324**	*e*P	Pn	02 18 39.1	-1.7
ANIG			*e*S	Sn	02 19 17.3	-2.4
TLIG	**Tlapa**	**3.73 101**	*e*P	Pn	02 18 45.7	0.0
TLIG			*e*S	Sn	02 19 27.3	-1.2

*IDC **07** 02:21:24.6±4.0, 13.°34N×92.°11W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/24, mbtmp3.7/6, ML3.9/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=73.3km s-min=34.1km az=166.0*

ISC 07 02:21:32.2±2.2, 13.°7N±0.°2×92.°1W±0.°1, h37km, n7, σ1§44/9, mb3.5/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.06**	**51**	Pn	**Pn**	**02 22 04.1**	**-0.4**
	16nm,0.3s,baz=230,slow=7.8,SNR=263						
APG				Sn	**Sn**	**02 22 30.6**	**+1.5**
	14nm,0.3s,baz=161,slow=21,SNR=3.7						
TEIG	**Tepich**	**7.46**	**29**	Pn	**Pn**	**02 23 19.9**	**+1.4**
	5.8nm,0.3s,baz=222,slow=5.8,SNR=14						
TEIG				Sn	**Sn**	**02 24 39.6**	**-2.2**
	baz=72,slow=19,SNR=0.9						
TEIG				LR	LR	02 26 47.3	
	comp=Z,39nm,18.1s,baz=31,slow=42						
TXAR	**Lajitas Array**	**18.89**	**327**	P	**Pn**	**02 25 50.7**	**+0.2**
	0.1nm,0.3s,baz=149,slow=12,SNR=6.1						
ANMO	**Albuquerque**	**24.81**	**331**	P	**P**	**02 26 51.9**	**+0.7**
	0.9nm,0.7s,baz=156,slow=12,SNR=4.5						
NVAR	**Mina Array Bea**	**33.84**	**322**	P	**P**	**02 28 12.0**	**+0.6**
	0.5nm,0.7s,baz=133,slow=7.5,SNR=4.3						
YKA	**Yellowknife Ar**	**51.29**	**347**	P	**P**	**02 30 31.2**	**-1.1**
	0.6nm,0.6s,baz=152,slow=7.5,SNR=16						
CMAR	**Chiang Mai Arr**	**146.24**	**341**	PKPbc	**PKPbc**	**02 41 08.7**	**-1.0**
	1.0nm,0.3s,baz=342,slow=4.7,SNR=1.4						

*IDC **07** 02:24:20.3±1.0, 21.°32S×171.°31E, h0km, mb4.2/9, mb1 4.5/11, mb1mx4.3/21, mbtmp4.3/11, ML4.1/2, MS4.2/22, Ms1 4.3/22, ms1mx4.1/32, Error ellipse: s-maj=25.7km s-min=21.4km az=150.0*

*ISCJB **07** 02:24:23.4±0.5, 21.°33S±0.°08×171.°38E±0.°04, h33km, mb4.3/13, MS4.3/18, Error ellipse: s-maj=11.9km s-min=6.0km az=178.3*

*NEIC **07** 02:24:25.3±2.3, 21.°39S×171.°34E, h35km±20km, mb4.8/5, Error ellipse: s-maj=19.6km s-min=12.1km az=210.0*

*GCMT **07** 02:24:25.3±0.2, 21.°34S×171.°57E, h15km±1km, MW5.1/91, Moment Tensor Solution. s36,c52; s91,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.32±.16; $M_{\theta\theta}$5.35±.16; $M_{\phi\phi}$-4.03±.13; $M_{r\theta}$0.47±.25; $M_{\theta\phi}$-0.59±.12; $M_{\phi r}$-0.64±.29; Best double couple: M=4.81100×10^{16} NP1:ϕ_s318.00000°, δ85.00000°, λ-12.00000°. NP2: ϕ_s49.00000°, δ78.00000°, λ-175.00000°. Principal axes: T 5.4270, Plg4.0000°, Azm4.0000°; N -1.2310, Plg77.0000°, Azm114.0000°; P -4.1960, Plg12.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 02:24:25.2±0.5, 21.°31S±0.°09×171.°39E±0.°06, h35km, n83, σ1§57/66, mb4.3/13, MS4.4/18, 1C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.27**	**258**	*e*P	**Pn**	**02 25 26.9**	**-0.9**
BAYA				*e*S	**Sn**	**02 26 18.4**	**+1.9**
DZM	**Mont Dzumac**	**4.66**	**260**	*e*Pn	**Pn**	**02 25 32.4**	**-0.9**
	40nm,0.3s						
DZM	**Mont Dzumac**	**4.66**	**260**	Pn	**Pn**	**02 25 32.7**	**-0.5**
DZM				Sn	**Sn**	**02 26 26.9**	**+0.6**
DZM	**Mont Dzumac**	**4.66**	**260**	Pn	**Pn**	**02 25 32.7**	**-0.5**
	16nm,0.3s,baz=86,slow=17,SNR=106						
DZM				Sn	**Sn**	**02 26 26.9**	**+0.6**
	baz=109,slow=17,SNR=1.8						
NOUC	**Port Laguerre**	**4.80**	**260**	*e*P	**Pn**	**02 25 32.8**	**-2.2**
NOUC				*e*S	**Sn**	**02 26 24.8**	**-4.6**
NFK	**Norfolk Island**	**8.31**	**201**	P	Pn	02 26 19.8	-3.5
	baz=8.5,SNR=8.5						
RAO	**Raoul Island**	**12.49**	**131**	LR	LR	02 30 26.5	
	comp=Z,573nm,18.8s,baz=354,slow=29						
OUZ	**Omahuta**	**14.00**	**173**	*e*Pn	**Pn**	**02 27 39.4**	**-1.7**
	38nm,1.2s						
HNR	**Honiara**	**16.15**	**315**	LR	LR	02 33 39.6	
	comp=Z,545nm,19.3s,baz=144,slow=35						
URZ	**Urewera**	**17.60**	**165**	P	**Pn**	**02 28 27.6**	**-0.1**
URZ	**Urewera**	**17.60**	**165**	P	**Pn**	**02 28 27.6**	**-0.1**
	0.3nm,0.3s,baz=15,slow=7.2,SNR=14						
URZ				LR	LR	02 33 33.4	
	comp=Z,2μm,21.2s,baz=347,slow=31						
AFI	**Afiamalu**	**17.64**	**68**	LR	LR	02 33 34.1	
	comp=Z,496nm,19.7s,baz=213,slow=31						
EIDS	**Eidsvold**	**19.08**	**254**	*e*P	**Pn**	**02 28 46.8**	**+0.9**
	86nm,1.6s						
EIDS	**Eidsvold**	**19.08**	**254**	P	**Pn**	**02 28 49.5**	**+3.6**
	baz=20,SNR=4.7						
ARMA	**Armidale**	**19.94**	**239**	P	**Pn**	**02 28 58.7**	**+2.5**
	baz=20,SNR=5.9						
RMQ	**Roma**	**21.32**	**252**	P	**P**	**02 29 11.5**	**+2.3**
	baz=22,SNR=9.6						
RPZ	**Rata Peaks**	**22.35**	**181**	P	**P**	**02 29 19.9**	**-0.2**
RPZ	**Rata Peaks**	**22.35**	**181**	P	**P**	**02 29 19.9**	**-0.2**
	20nm,0.8s,baz=42,slow=11,SNR=4.3						
RPZ				LR	LR	02 36 45.0	
	comp=Z,911nm,20.6s,baz=0.3,slow=33						
CTA	**Charters Tower**	**23.54**	**268**	P	**P**	**02 29 32.4**	**-0.2**
CTA	**Charters Tower**	**23.54**	**268**	P	**P**	**02 29 32.4**	**-0.2**
	6.0nm,0.8s,baz=90,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**23.54**	**268**	*e*P	**P**	**02 29 32.4**	**-0.2**
	10nm,0.9s						
CNB	**Canberra Magne**	**23.82**	**229**	P	**P**	**02 29 36.7**	**+1.6**
	baz=24,SNR=13						
CMSA	**Cobar Meteorol**	**25.11**	**241**	P	**P**	**02 29 48.5**	**+1.6**
	baz=26,SNR=12						
QLP	**Quilpie**	**25.34**	**253**	P	**P**	**02 29 50.7**	**+1.7**
	baz=26,SNR=4.9						
RAR	**Rarotonga**	**26.86**	**95**	LR	LR	02 37 45.2	
	comp=Z,472nm,21.9s,baz=248,slow=30						
TOO	**Toolangi**	**27.65**	**228**	S	**S**	**02 34 52.5**	**+3.1**
	baz=28,SNR=3.9						
STKA	**Stephens Creek**	**28.56**	**242**	*e*P	**P**	**02 30 16.6**	**-1.4**
	0.5nm,0.9s						
STKA	**Stephens Creek**	**28.56**	**242**	P	**P**	**02 30 16.6**	**-1.4**
	2.3nm,0.9s,baz=80,slow=3.5,SNR=3.7						
STKA				LR	LR	02 41 02.8	
	comp=Z,524nm,18.4s,baz=68,slow=35						
WRAB	**Tennant Creek**	**34.65**	**265**	*e*P	**P**	**02 31 09.2**	**-2.4**
	14nm,1.0s						
AS31	**Alice Springs**	**34.65**	**259**	*e*P	**P**	**02 31 11.0**	**-0.6**
ASAR	**Alice Springs**	**34.66**	**259**	P	**P**	**02 31 10.6**	**-1.1**
ASAR	**Alice Springs**	**34.66**	**259**	P	**P**	**02 31 10.6**	**-1.1**
	2.8nm,0.8s,baz=83,slow=9.0,SNR=15						
ASAR				LR	LR	02 44 28.9	
	comp=Z,373nm,20.0s,baz=97,slow=35						
WRA	**Warramunga Arr**	**34.66**	**265**	P	**P**	**02 31 09.6**	**-2.0**
WRA	**Warramunga Arr**	**34.66**	**265**	P	**P**	**02 31 09.6**	**-2.0**
	5.3nm,0.9s,baz=102,slow=8.0,SNR=18						
WRA				LR	LR	02 45 18.2	
	comp=Z,728nm,19.6s,baz=95,slow=36						
TBI	**Tubuai**	**36.20**	**101**	*e*S	**S**	**02 37 03.1**	**+0.3**
	118nm,28.8s						
TBI				*e*LQ	LQ	02 39 24.0	
	496nm,30.0s						
TBI				*e*LR	LR	02 41 08.2	
	570nm,30.8s						
PPT2	**Papeete2**	**36.93**	**91**	*e*S	**S**	**02 37 16.2**	**+2.0**
	122nm,27.2s						
PPT2				*e*LR	LR	02 41 31.9	
	835nm,26.5s						
PPT	**Papeete**	**36.93**	**91**	LR	LR	02 43 08.3	
	comp=Z,184nm,20.6s,baz=358,slow=30						
WRKA	**Warakurna**	**39.67**	**256**	P	**P**	**02 31 57.1**	**+2.9**
	baz=40,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**39.82**	**353**	T	T	03 14 14.1	
	baz=166,SNR=22						
H11S3	**WAKE ISLAND Hy**	**39.82**	**353**	T	T	03 14 17.8	
	baz=166,SNR=16						
H11S1	**WAKE ISLAND Hy**	**39.84**	**353**	T	T	03 14 12.3	
	baz=166,SNR=13						
H11N1	**WAKE ISLAND Hy**	**41.01**	**354**	T	T	03 15 47.8	
	baz=175,slow=77,SNR=12						
H11N3	**WAKE ISLAND Hy**	**41.01**	**354**	T	T	03 15 47.6	
	baz=175,slow=77,SNR=11						
H11N2	**WAKE ISLAND Hy**	**41.02**	**354**	T	T	03 15 48.0	
	baz=175,slow=77,SNR=12						

MEEK	**Meekatharra**	**48.24**	**253**	P	**P**	**02 33 04.0**	**+1.0**
	baz=49,SNR=4.1						
NWAO	**Narrogin (SRO)**	**49.11**	**244**	LR	LR	02 52 16.4	
	comp=Z,569nm,20.0s,baz=97,slow=34						
RKT	**Rikitea**	**49.45**	**103**	*e*S	**S**	**02 40 17.1**	**-0.4**
	136nm,26.5s						
RKT				*e*LR	LR	02 47 13.6	
	338nm,31.0s						
VNDA	**Vanda**	**56.45**	**182**	LR	LR	02 54 03.0	
	comp=Z,345nm,21.2s,baz=11,slow=32						
MJAR	**Matsushiro Arr**	**65.52**	**331**	P	**P**	**02 35 06.9**	**+1.7**
MJAR	**Matsushiro Arr**	**65.52**	**331**	P	**P**	**02 35 06.9**	**+1.7**
	4.8nm,1.1s,baz=172,slow=8.0,SNR=4.2						
MJAR				LR	LR	02 58 07.9	
	comp=Z,136nm,20.1s,baz=115,slow=31						
QSPA	**South Pole Qui**	**68.76**	**180**	*e*P	**P**	**02 35 24.0**	**-1.5**
	8.4nm,1.0s						
ASAJ	**Asahikawa**	**70.25**	**338**	LR	LR	03 01 45.4	
	comp=Z,183nm,19.7s,baz=310,slow=32						
KSRS	**Korea Array**	**71.35**	**325**	LR	LR	03 02 22.1	
	comp=Z,90nm,19.0s,baz=255,slow=32						
USRK	**Ussuriysk Arra**	**74.50**	**332**	LR	LR	03 04 06.2	
	comp=Z,126nm,19.1s,baz=148,slow=32						
PETK	**Petropavlovsk-**	**75.05**	**352**	LR	LR	03 03 01.2	
	comp=Z,288nm,20.8s,baz=164,slow=31						
MAW	**Mawson**	**77.28**	**202**	LR	LR	03 04 23.7	
	comp=Z,187nm,18.7s,baz=258,slow=31						
SNAA	**Sanae**	**87.18**	**182**	*e*P	**P**	**02 37 07.0**	**-0.5**
	18nm,1.5s						
ISA	**Isabella**	**87.23**	**50**	*e*P	**P**	**02 37 08.0**	**-0.3**
	2.1nm,1.4s						
NVAR	**Mina Array Bea**	**88.67**	**48**	LR	LR	03 07 12.3	
	comp=Z,187nm,21.1s,baz=109,slow=29						
SONM	**Songino Array**	**90.08**	**322**	P	**P**	**02 37 20.0**	**-1.6**
SONM	**Songino Array**	**90.08**	**322**	P	**P**	**02 37 20.0**	**-1.6**
	1.2nm,1.0s,baz=174,slow=2.8,SNR=2.9						
ILAR	**Eielson Array**	**91.61**	**17**	P	**P**	**02 37 27.1**	**-1.0**
ILAR	**Eielson Array**	**91.61**	**17**	P	**P**	**02 37 27.1**	**-1.0**
	0.6nm,0.9s,baz=243,slow=4.7,SNR=4.3						
ILAR				LR	LR	03 10 17.3	
	comp=Z,192nm,21.6s,baz=129,slow=30						
TXAR	**Lajitas Array**	**95.98**	**61**	P	**P**	**02 37 49.8**	**+0.6**
TXAR	**Lajitas Array**	**95.98**	**61**	P	**P**	**02 37 49.8**	**+0.6**
	0.3nm,0.9s,baz=257,slow=3.2,SNR=2.0						
PDAR	**Pinedale Array**	**96.54**	**47**	LR	LR	03 12 22.3	
	comp=Z,123nm,20.2s,baz=249,slow=30						
INK	**Inuvik**	**97.87**	**18**	LR	LR	03 15 34.7	
	comp=Z,166nm,19.7s,baz=292,slow=31						
KRLC	**Kraliky**	**144.99**	**331**	*e*PKP	PKPbc	02 43 54.6	-3.4
DPC	**Dobruska-Polom**	**144.99**	**332**	*e*PKP	PKPbc	02 43 55.9	-2.2
UPC	**Upice**	**145.01**	**332**	*e*PKP	**PKPdf**	**02 43 59.7**	**+1.0**
UPC				*ep*PKP	**PKiKP**	**02 44 05.4**	**+2.9**
BRG	**Berggiesshubel**	**145.60**	**335**	*e*P	**PKPdf**	**02 43 59.4**	**-0.2**
	13nm,1.7s						
CLL	**Collm**	**145.63**	**336**	*e*PKPbc	**PKPdf**	**02 43 59.0**	**-0.7**
CLL				*e*(pPKPbc)		02 44 08.0	
CLL				⇓*i*		02 44 24.5	
	comp=Z,16nm,1.4s						
PRU	**Pruhonice**	**146.03**	**333**	*e*PKP	**PKPbc**	**02 44 01.1**	**-0.2**
PRU				*ep*PKP	**pPKPdf**	**02 44 09.1**	**-2.8**
NKC	**Novy Kostel**	**146.69**	**335**	*e*PKP	**PKPab**	**02 44 04.3**	**-0.1**
CONA	**Conrad Observa**	**146.94**	**329**	⇑*i*PKiKP	**PKiKP**	**02 44 06.2**	**-0.4**
	comp=Z,3.3nm,1.0s						
KHC	**Kasperske Hory**	**147.09**	**333**	*e*PKP	**PKPab**	**02 44 05.3**	**-0.7**
KHC				*ep*PKP	**pPKPdf**	**02 44 14.5**	**+0.7**
KHC	**Kasperske Hory**	**147.09**	**333**	*e*PKPbc	**PKPab**	**02 44 05.4**	**-0.7**
GERES	**GERESS Array B**	**147.25**	**332**	PKPbc	**PKPab**	**02 44 06.6**	**-0.1**
GERES	**GERESS Array B**	**147.25**	**332**	PKPbc	**PKPab**	**02 44 06.6**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=29,slow=3.0,SNR=10						
MOTA	**Moosalm**	**149.52**	**333**	⇓*i*PKiKP	**PKiKP**	**02 44 12.6**	**+0.5**
	comp=Z,4.0nm,0.8s						
TUE	**Stuetta**	**150.95**	**334**	*e*PKPbc	**PKPbc**	**02 44 16.7**	**+2.2**
TORD	**Torodi Ar. Bea**	**167.25**	**232**	PKPab	**PKPab**	**02 45 34.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**167.25**	**232**	PKPab	**PKPab**	**02 45 34.0**	**+0.9**
	comp=Z,1.1nm,1.2s,baz=225,slow=1.2,SNR=3.6						

*IDC **07** 02:35:01.4±0.8, 8.°35S×157.°10E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/18, mbtmp4.0/7, MS3.8/3, Ms1 3.8/3, ms1mx3.0/28, Error ellipse: s-maj=23.5km s-min=16.2km az=15.0*

ISC 07 02:35:03.3±0.8, 8.°5S±0.°2×157.°30E±0.°09, h16km, n12, σ0§94/12, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.80**	**111**	Pn	**Pn**	**02 35 47.3**	**-0.1**
	15nm,0.3s,baz=201,slow=4.7,SNR=4.6						
HNR				Pg	**Pg**	**02 35 57.5**	**+0.5**
	70nm,0.3s,baz=10,slow=0.9,SNR=9.4						
HNR				Lg	Lg	02 36 35.4	
	49nm,0.3s,baz=183,slow=21,SNR=7.6						
HNR	**Honiara**	**2.80**	**111**	*e*P	**Pb**	**02 35 52.0**	**-0.9**
PMG	**Port Moresby**	**10.06**	**264**	LR	LR	02 40 20.5	
	comp=Z,324nm,18.2s,baz=100,slow=32						
WRA	**Warramunga Arr**	**24.98**	**240**	P	**P**	**02 40 25.3**	**-1.2**
	5.9nm,0.9s,baz=65,slow=9.5,SNR=14						
WRA				PcP	**PcP**	**02 44 01.4**	**-0.3**
	0.9nm,0.7s,baz=68,slow=2.8,SNR=6.7						
ASAR	**Alice Springs**	**27.03**	**233**	P	**P**	**02 40 43.9**	**-1.2**
	0.7nm,0.6s,baz=62,slow=9.1,SNR=8.2						
STKA	**Stephens Creek**	**27.51**	**210**	P	**P**	**02 40 50.9**	**+1.7**
	3.8nm,0.7s,baz=29,slow=12,SNR=11						
SONM	**Songino Array**	**71.79**	**327**	P	**P**	**02 46 24.9**	**-0.4**
	0.5nm,0.6s,baz=156,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**86.00**	**318**	P	**P**	**02 47 43.1**	**0.0**
	1.1nm,0.7s,baz=104,slow=5.7,SNR=12						
ZALV	**Zalesovo Beam**	**86.66**	**326**	P	**P**	**02 47 46.2**	**+0.1**
	0.5nm,0.6s,baz=115,slow=6.7,SNR=3.7						
ZALV				LR	LR	03 23 27.8	
	comp=Z,63nm,21.0s,baz=157,slow=34						
BVAR	**Borovoye Array**	**94.82**	**323**	LR	LR	03 27 45.1	
	comp=Z,68nm,21.1s,baz=84,slow=33						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**02 48 32.6**	**+0.6**
	0.2nm,0.7s,baz=262,slow=4.7,SNR=4.9						
BDFB	**Brasilia**	**145.34**	**134**	PKPbc	**PKPdf**	**02 54 42.4**	**+0.7**
	5.3nm,0.9s,baz=249,slow=0.7,SNR=6.8						

NNC 07 03:08:59.0±3.0, 38.°40N×71.°26E, h0km, mb3.5, mpv3.0, 8C-4D, Error ellipse: s-maj=23.1km s-min=17.9km az=179.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.73**	**353**	Pn	Pn	03 10 11.3	-0.4
	0.5nm,0.3s,baz=181,slow=14,SNR=26						
KK31				⇑Pg	Pb	03 10 24.2	+1.3
	1.0nm,0.5s,baz=173,slow=12,SNR=3.6						
KK31				⇓Sn	Sn	03 11 09.9	+2.6
	1.3nm,0.3s						
KK31				⇑Lg	Lg	03 11 27.1	
	2.7nm,0.5s,baz=173,slow=32,SNR=3.9						
AAK	**Ala-Archa**	**4.89**	**29**	⇓Pn	Pn	03 10 14.9	+0.8
	5.8nm,1.4s						
AAK				⇑Pg	Pb	03 10 28.9	+3.0
	4.3nm,1.2s						
AAK				⇓Sn	Sn	03 11 12.1	+0.5
	4.2nm,0.7s						
AAK				⇑Lg	Lg	03 11 32.3	
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**5.59**	**35**	⇓Pn	Pn	03 10 23.7	-0.1
	1.2nm,0.5s						
TKM2				⇑Lg	Lg	03 11 54.5	
	5.0nm,1.4s						
AB31	**Akbulak array**	**13.56**	**327**	⇑P	Pn	03 12 11.7	-0.9
	0.8nm,0.8s,baz=165,slow=12,SNR=7.0						
AB31				⇑S	Sn	03 14 42.9	-1.0
	0.3nm,0.5s						
AKTO	**Aktyubinsk**	**15.28**	**326**	⇑P	Pn	03 12 35.2	-0.6
	2.1nm,1.0s						

*GCMT **07** 03:11:20.0±0.2, 56.°45S×143.°12W, h24km±1km, MW5.3/92, Moment Tensor Solution. s71,c104; s92,c147; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$0.82±.02; $M_{\phi\phi}$-0.68±.02; $M_{r\theta}$0.10±.03; $M_{\theta\phi}$0.62±.02; $M_{\phi r}$0.12±.03; Best double couple: M_o0.98400×10^{17} NP1:ϕ_s25.00000°, δ89.00000°, λ172.00000°. NP2:ϕ_s115.00000°, δ82.00000°, λ1.00000°. Principal axes: T 1.0550, Plg6.0000°, Azm340.0000°; N -0.1430, Plg82.0000°, Azm201.0000°; P -0.9130, Plg6.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **07** 03:11:21.1±1.0, 56.°90S×144.°55W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.8/12, mbtmp3.7/2, MS4.3/11, Ms1 4.3/11, ms1mx4.0/20 Error ellipse: s-maj=128.6km s-min=38.0km az=178.0*

ISC 07 03:11:21.8±1.3, 56.°0S±0.°2×144.°4W±0.°3, h10km, n41, σ0§99/9, MS4.3/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.43**	**202**	LR	LR	03 25 37.5	
	comp=Z,472nm,20.7s,baz=76,slow=31						
TBI	**Tubuai**	**32.80**	**351**	*e*S	**S**	**03 23 12.2**	**+0.3**
	222nm,27.5s						
TBI				*e*LR	LR	03 26 28.5	
	2μm,29.2s,baz=178						
TBI	**Tubuai**	**32.80**	**351**	*e*T	T	03 52 37.0	
	59nm,0.3s						
RKT	**Rikitea**	**33.53**	**16**	*e*LQ	LQ	03 25 24.9	
	1μm,33.2s						
RKT				*e*LR	LR	03 26 50.0	
	1μm,29.2s,baz=195						
RKT	**Rikitea**	**33.53**	**16**	*e*T	T	03 53 07.7	
	8.7nm,0.2s						
TVO	**Taravao**	**38.30**	**352**	*e*T	T	03 59 29.7	
	1.5nm,0.2s						
PAE	**Paea**	**38.44**	**352**	*e*T	T	03 59 37.1	
	2.4nm,0.2s						
PPT2	**Papeete2**	**38.51**	**352**	*e*S	**S**	**03 24 39.4**	**-0.4**
	318nm,26.5s						
PPT2				*e*LR	LR	03 29 03.8	
	2μm,28.5s						
PPT2	**Papeete2**	**38.51**	**352**	*e*T	T	03 59 38.4	
	5.4nm,0.3s						
TIAR	**Tiarei**	**38.53**	**352**	*e*T	T	03 59 35.3	
	3.1nm,0.3s						
PPT	**Papeete**	**38.54**	**352**	LR	LR	03 30 49.6	
	comp=Z,458nm,19.0s,baz=179,slow=30						
VAH	**Vaihoa**	**40.73**	**355**	*e*T	T	04 02 30.2	
	58nm,0.2s						
PMOR	**Pomariorio Ree**	**40.97**	**355**	*e*T	T	04 02 54.4	
	4.1nm,0.3s						
DZM	**Mont Dzumac**	**49.48**	**293**	*e*LR	LR	03 34 31.2	
	753nm,24.1s						
H03N3	**Juan Fernandez**	**49.52**	**92**	T	T	04 12 34.5	
	baz=222,slow=75,SNR=738						
H03N2	**Juan Fernandez**	**49.52**	**92**	T	T	04 12 34.3	
	baz=222,slow=75,SNR=519						
H03N1	**Juan Fernandez**	**49.53**	**92**	T	T	04 12 35.8	
	baz=222,slow=75,SNR=811						
MAW	**Mawson**	**55.09**	**192**	LR	LR	03 41 37.4	
	comp=Z,429nm,18.4s,baz=154,slow=34						
STKA	**Stephens Creek**	**55.53**	**263**	LR	LR	03 40 17.2	
	comp=Z,371nm,20.2s,baz=56,slow=31						
ASAR	**Alice Springs**	**66.17**	**263**	P	**P**	**03 22 08.6**	**-0.9**
	0.7nm,0.8s,baz=159,slow=6.3,SNR=7.0						
ASAR				LR	LR	03 46 58.8	
	comp=Z,324nm,21.7s,baz=169,slow=32						
CPUP	**Villa Florida**	**66.98**	**103**	LR	LR	03 46 47.4	
	comp=Z,223nm,18.1s,baz=200,slow=32						
H01W1	**Cape Leeuwin H**	**67.74**	**241**	T	T	04 37 26.3	
	baz=143,slow=76,SNR=86						
H01W2	**Cape Leeuwin H**	**67.75**	**240**	T	T	04 37 31.0	
	baz=143,slow=76,SNR=99						
H01W3	**Cape Leeuwin H**	**67.76**	**240**	T	T	04 37 32.5	
	baz=143,slow=76,SNR=37						
WRA	**Warramunga Arr**	**68.88**	**266**	P	**P**	**03 22 27.7**	**+1.1**
	0.6nm,0.9s,baz=147,slow=5.7,SNR=4.3						
WRA				LR	LR	03 46 59.2	
	comp=Z,194nm,21.8s,baz=140,slow=31						
JTS	**JuntasAbangare**	**82.25**	**59**	LR	LR	03 52 54.2	
	comp=Z,70nm,19.2s,baz=171,slow=30						
ROSC	**El Rosal**	**83.00**	**71**	LR	LR	03 53 07.6	
	comp=Z,147nm,20.1s,baz=268,slow=30						
LPIG	**La Paz**	**84.84**	**31**	LR	LR	03 52 15.8	
	comp=Z,102nm,20.2s,baz=153,slow=29						
NVAR	**Mina Array Bea**	**96.61**	**20**	LR	LR	03 58 30.1	
	comp=Z,149nm,18.4s,baz=156,slow=29						
H10S3	**ASCENSION HYDR**	**103.11**	**129**	T	T	05 20 23.1	
	baz=207,slow=75,SNR=15						
H10S2	**ASCENSION HYDR**	**103.12**	**129**	T	T	05 20 19.5	
	baz=207,slow=75,SNR=10						
H10S1	**ASCENSION HYDR**	**103.13**	**129**	T	T	05 20 21.9	
	baz=207,slow=75,SNR=13						
H10N3	**ASCENSION HYDR**	**104.17**	**128**	T	T	05 21 36.0	
H10N1	**ASCENSION HYDR**	**104.18**	**128**	T	T	05 21 36.4	
H10N2	**ASCENSION HYDR**	**104.19**	**128**	T	T	05 21 37.4	
ILAR	**Eielson Array**	**120.43**	**359**	PKP	PKPdf	03 30 15.7	+3.9
	0.7nm,0.8s,baz=206,slow=3.6,SNR=6.2						
TORD	**Torodi Ar. Bea**	**129.88**	**135**	PKP	**PKPdf**	**03 30 31.8**	**+0.4**
	0.2nm,0.7s,baz=185,slow=2.8,SNR=2.3						
ESDC	**Sonseca Array**	**149.33**	**105**	PKPbc	**PKPbc**	**03 31 09.8**	**-0.3**
	0.6nm,0.6s,baz=294,slow=1.5,SNR=4.5						
MKAR	**Makanchi Array**	**150.01**	**272**	PKPbc	**PKPbc**	**03 31 10.4**	**-1.1**
	1.0nm,0.8s,baz=118,slow

WEL 07 03:25:47.6±0.3, 37°27'S×177°32'E, h142km±2km, ML3.6/7, 1C, Error ellipse: s-maj=2.4km s-min=2.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.84**	**111**	PN	Pn	03 26 10.1	-0.1
OPRZ	**Ohinepanea**	**0.84**	**226**	PN	Pn	03 26 10.5	+0.2
URZ	**Urewera**	**1.01**	**189**	⇑PN	Pn	03 26 11.6	-0.1
URZ				SN	Sn	03 26 29.9	-0.2
URZ				AML	AML	03 26 30.6	
MWZ	**Matawai**	**1.08**	**171**	PN	Pn	03 26 12.4	0.0
MWZ				SN	Sn	03 26 31.6	+0.2
MWZ				AML	AML	03 26 32.6	
CNGZ	**Carnagh Statio**	**1.41**	**150**	PN	Pn	03 26 15.9	+0.3
RIGZ	**Rimuhau**	**1.48**	**166**	PN	Pn	03 26 16.2	-0.2
SNGZ	**Shannon Statio**	**1.51**	**179**	PN	Pn	03 26 16.4	-0.4
RAHZ	**Arahi**	**1.66**	**186**	PN	Pn	03 26 18.4	+0.1
PRGZ	**Paritu Road**	**1.71**	**165**	PN	Pn	03 26 18.6	-0.4
KNZ	**Kokohu**	**1.77**	**171**	PN	Pn	03 26 19.1	-0.5
WHHZ	**Waihua**	**1.81**	**182**	PN	Pn	03 26 19.7	-0.3
NMHZ	**Naumai**	**1.87**	**192**	PN	Pn	03 26 21.1	+0.2
MHGZ	**Mahia Peninsul**	**1.94**	**166**	PN	Pn	03 26 21.3	-0.2
BKZ	**Black Stump Fm**	**2.01**	**199**	AML	AML	03 26 51.3	
CKHZ	**Cape Kidnapper**	**2.40**	**184**	PN	Pn	03 26 26.2	-0.8
BHHZ	**Black Hill Sta**	**2.43**	**204**	PN	Pn	03 26 26.3	-1.2
KAHZ	**Kahuranaki**	**2.55**	**188**	PN	Pn	03 26 28.0	-1.0
PXZ	**Pawanui**	**2.79**	**187**	PN	Pn	03 26 30.2	-1.7
PXZ				AML	AML	03 27 06.8	
PNHZ	**Pukenui**	**2.79**	**198**	PN	Pn	03 26 30.1	-1.9
TSZ	**Takapari Road**	**2.99**	**200**	PN	Pn	03 26 32.3	-2.2
PRHZ	**Porangahau**	**3.04**	**190**	PN	Pn	03 26 33.6	-1.6
ANWZ	**Angora Road**	**3.26**	**191**	PN	Pn	03 26 35.7	-2.2
BFZ	**Birch Farm**	**3.51**	**193**	PN	Pn	03 26 38.8	-2.4
MRZ	**Mangatainoka R**	**3.65**	**201**	PN	Pn	03 26 40.0	-3.1
HOWZ	**Holdsworth Sta**	**3.89**	**201**	PN	Pn	03 26 42.7	-3.5
HOWZ				SN	Sn	03 27 26.6	-5.1
OGWZ	**Otaki Gorge**	**3.92**	**205**	PN	Pn	03 26 43.4	-3.1

*ISCJB **07** 03:35:35.5±0.5, 10°.71N±0°.04×62°.42W±0°.03, h87km±9km, Error ellipse: s-maj=6.8km s-min=4.3km az=158.6*
*FUNV **07** 03:35:37.0, 10°.69N×62°.33W, h28km, MW3.1*
*TRN **07** 03:35:38.7, 10°.80N×62°.33W, h72km, MD3.5*

ISC 07 03:35:36.0±1.3, 10°.70N±0°.04×62°.42W±0°.04, h87km±12km, n20, σ1°28/35, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.66**	**90**	*e*P	**Pn**	**03 35 52.4**	**+0.6**
TCE				*e*S	**Sn**	**03 36 02.5**	**-1.1**
CRUV	**Carupano**	**0.80**	**268**	⇑*i*P	**Pn**	**03 35 53.4**	**+0.2**
CRUV				*e*S	**Sn**	**03 36 04.8**	**-1.3**
TRN	**Trinidad (W)**	**1.00**	**93**	*e*P	**Pn**	**03 35 56.5**	**+1.1**
TRN				*e*S	**Sn**	**03 36 09.0**	**-1.0**
TPP	**Pointe-a-Pierr**	**1.03**	**112**	*e*P	**Pn**	**03 35 57.2**	**+1.5**
TPP				*e*S	**Sn**	**03 36 11.6**	**+1.0**
TBH	**Brigand Hill**	**1.35**	**99**	*e*P	**Pn**	**03 36 00.9**	**+1.2**
TBH				*e*S	**Sn**	**03 36 18.0**	**+0.4**
GRW	**Mount Saint Ca**	**1.63**	**27**	*e*P	**Pn**	**03 36 04.2**	**+0.9**
GRW				*e*S	**Sn**	**03 36 22.8**	**-1.3**
TPR	**Prospect**	**1.69**	**73**	*e*P	**Pn**	**03 36 05.1**	**+1.2**
TPR				*e*S	**Sn**	**03 36 24.2**	**-1.0**
BOT	**Bacolet**	**1.74**	**74**	*e*P	**Pn**	**03 36 05.8**	**+1.2**
BOT				*e*S	**Sn**	**03 36 25.8**	**-0.6**
TOSP	**Speyside**	**1.95**	**72**	*e*P	**Pn**	**03 36 07.5**	**+0.2**
TOSP				*e*S	**Sn**	**03 36 29.7**	**-1.6**
PCRV	**Puerto La Cruz**	**2.24**	**257**	*e*P	**Pn**	**03 36 13.0**	**+1.7**
PCRV				*e*S	**Sn**	**03 36 38.5**	**+0.2**
RIOV	**Rio Grande**	**2.68**	**167**	*e*P	**Pn**	**03 36 17.5**	**+0.4**
RIOV				*e*S	**Sn**	**03 36 47.3**	**-1.5**
SVB	**Belmont**	**2.80**	**24**	*e*P	**Pn**	**03 36 20.5**	**+1.7**
SVB				*e*S	**Sn**	**03 36 50.9**	**-0.8**
PRGV	**PARIAGUAN**	**2.92**	**229**	*e*P	**Pn**	**03 36 21.3**	**+0.9**
MCLT	**Moule a Chique**	**3.32**	**26**	*e*P	**Pn**	**03 36 26.7**	**+0.9**
MCLT				*e*S	**Sn**	**03 37 01.6**	**-2.8**
CUPV	**Cœpira**	**3.37**	**259**	*e*P	**Pn**	**03 36 28.4**	**+1.8**
CUPV				*e*S	**Sn**	**03 37 06.3**	**+0.7**
LUEV	**Luepa**	**4.92**	**169**	*e*P	**Pn**	**03 36 47.2**	**-0.5**
BAUV	**El Baul**	**5.81**	**253**	*e*P	**Pn**	**03 37 00.4**	**+0.8**
BAUV				*e*S	**Sn**	**03 38 02.4**	**-2.4**
MAPV	**Macapo**	**6.00**	**262**	*e*P	**Pn**	**03 37 03.3**	**+1.0**
MONV	**Montecano**	**7.51**	**280**	*e*P	**Pn**	**03 37 23.6**	**+0.7**
SOCV	**Socops**	**8.66**	**255**	*e*P	**Pn**	**03 37 38.0**	**-0.5**

*IDC **07** 03:42:56.3±1.0, 30°.65N×83°.41E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.6/29, mbtmp3.6/11, ML4.3/1, MS4.2/1, Ms1 4.2/1, ms1mx2.4/42, Error ellipse: s-maj=29.7km s-min=20.5km az=51.0*
*ISCJB **07** 03:42:57.3±0.8, 30°.6N±0°.1×83°.4E±0°.2, h18km, mb3.5/9, MS4.2/1, Error ellipse: s-maj=23.3km s-min=12.9km az=146.2*

ISC 07 03:42:59.1±1.0, 30°.7N±0°.2×83°.4E±0°.2, h18km, n15, σ1°02/13, mb3.5/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.99**	**247**	*e*P	Pg	03 44 03.9	+7.4
AAK	**Ala-Archa**	**13.89**	**332**	Pn	**P**	**03 46 20.9**	**-2.5**
	0.1nm,0.3s,baz=164,slow=19,SNR=2.7						
MKAR	**Makanchi Array**	**16.11**	**357**	Pn	**Pn**	**03 46 45.1**	**+0.5**
	0.1nm,0.3s,baz=173,slow=11,SNR=9.1						
CMAR	**Chiang Mai Arr**	**18.63**	**127**	P	**P**	**03 47 15.8**	**0.0**
	0.4nm,0.3s,baz=305,slow=10,SNR=6.7						
KURBB	**Kurchatov Arra**	**20.25**	**351**	P	**P**	**03 47 33.5**	**+0.2**
	2.1nm,0.9s,baz=172,slow=9.8,SNR=10						
ZALV	**Zalesovo Beam**	**23.27**	**2**	P	**P**	**03 48 05.8**	**+0.3**
	1.2nm,0.7s,baz=190,slow=7.5,SNR=8.1						
BVAR	**Borovoye Array**	**24.26**	**341**	P	**P**	**03 48 15.8**	**+0.8**
	0.3nm,0.7s,baz=157,slow=7.8,SNR=2.5						
SONM	**Songino Array**	**24.56**	**39**	P	**P**	**03 48 18.8**	**+0.8**
	0.8nm,0.6s,baz=251,slow=9.0,SNR=3.1						
AKASG	**Malin Array Be**	**44.55**	**313**	P	**P**	**03 51 10.0**	**+0.3**
	0.3nm,0.6s,baz=81,slow=7.4,SNR=5.2						
FINES	**FINESS Array B**	**48.02**	**327**	P	**P**	**03 51 37.0**	**+0.2**
	3.4nm,1.0s,baz=81,slow=12,SNR=3.0						
KMBO	**Kilima Mbogo**	**54.07**	**243**	LR	LR	04 17 16.4	
	comp=Z,223nm,20.5s,baz=95,slow=38						
WRA	**Warramunga Arr**	**70.22**	**129**	P	**P**	**03 54 11.1**	**-0.1**
	1.2nm,0.8s,baz=321,slow=6.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**76.36**	**277**	P	**P**	**03 54 48.2**	**+0.5**
	0.1nm,0.4s,baz=43,slow=53,SNR=3.3						
ILAR	**Eielson Array**	**77.12**	**20**	P	**P**	**03 54 51.2**	**0.0**
	0.8nm,0.8s,baz=283,slow=4.4,SNR=8.1						
YKA	**Yellowknife Ar**	**86.02**	**8**	P	**P**	**03 55 36.8**	**-1.4**
	0.4nm,0.9s,baz=342,slow=5.1,SNR=5.3						

*IDC **07** 03:48:36.0±1.3, 30°.64N×83°.51E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/27, mbtmp3.6/8, Error ellipse: s-maj=52.9km s-min=21.4km az=58.0*

ISC 07 03:48:39.6±1.2, 30°.7N±0°.2×83°.6E±0°.3, h18km, n12, σ1°03/11, mb3.7/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.17**	**247**	*e*P	Pg	03 49 44.8	+4.4
AAK	**Ala-Archa**	**13.93**	**331**	Pn	**P**	**03 52 06.3**	**+2.0**
	0.1nm,0.3s,baz=12,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**16.07**	**357**	Pn	**P**	**03 52 27.8**	**-0.1**
	0.1nm,0.3s,baz=179,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**18.53**	**128**	P	**Pn**	**03 52 56.9**	**+1.5**
	0.6nm,0.3s,baz=320,slow=11,SNR=8.6						
KURBB	**Kurchatov Arra**	**20.23**	**351**	P	**P**	**03 53 13.2**	**-0.3**
	2.3nm,0.8s,baz=172,slow=9.8,SNR=20						
ZALV	**Zalesovo Beam**	**23.22**	**2**	P	**P**	**03 53 46.0**	**+0.5**
	0.8nm,0.4s,baz=186,slow=9.8,SNR=8.1						
AKASG	**Malin Array Be**	**44.65**	**313**	P	**P**	**03 56 50.1**	**-0.9**
	0.5nm,0.5s,baz=80,slow=7.4,SNR=5.5						
FINES	**FINESS Array B**	**48.07**	**327**	P	**P**	**03 57 17.2**	**-0.5**
	1.2nm,0.6s,baz=120,slow=7.5,SNR=8.0						
WRA	**Warramunga Arr**	**70.11**	**129**	P	**P**	**03 59 50.4**	**-0.8**
	0.9nm,0.8s,baz=326,slow=6.5,SNR=4.7						
ASAR	**Alice Springs**	**72.47**	**132**	P	**P**	**04 00 05.0**	**-0.4**
	0.2nm,0.5s,baz=332,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**77.02**	**20**	P	**P**	**04 00 30.9**	**-0.2**
	0.8nm,0.8s,baz=296,slow=4.3,SNR=8.3						
YKA	**Yellowknife Ar**	**85.95**	**8**	P	**P**	**04 01 17.8**	**-0.6**
	0.4nm,0.8s,baz=337,slow=4.7,SNR=6.4						

*IDC **07** 03:51:32.5±1.4, 15°.04N×95°.38W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.7/24, mbtmp3.6/8, ML3.6/3, MS3.7/4, Ms1 3.8/4, ms1mx3.0/33, Error ellipse: s-maj=31.8km s-min=21.9km az=33.0*
*MEX **07** 03:51:34.2±0.8, 14°.91N×95°.70W, h18km±41km, MD4.2*

ISC 07 03:51:31.5±3.4, 15°.03N±0°.08×95°.65W±0°.05, h3km±22km, n19, σ2°35/24, mb3.7/5, MS4.2/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.86**	**329**	*i* P	**Pb**	**03 51 48.8**	**-0.4**
HUIG				*i* S	**Sb**	**03 51 59.8**	**-1.4**
PANG	**Puerto Angel**	**1.02**	**309**	*e*P	**Pb**	**03 51 50.8**	**-1.1**
PANG				*e*S	**Sb**	**03 52 03.0**	**-2.7**
CMIG	**Matias Romero**	**2.18**	**20**	*i* P	**Pn**	**03 52 09.2**	**+0.5**
CMIG				*e*S	**Sn**	**03 52 35.5**	**-0.8**
VHO	**Vista Hermosa**	**2.29**	**333**	*i* P	**Pn**	**03 52 09.6**	**-0.8**
VHO				*i* S	**Sn**	**03 52 38.2**	**-1.0**
PCIG		**2.44**	**74**	*i* P	**Pn**	**03 52 11.5**	**-0.8**
PCIG				*i* S	**Sn**	**03 52 40.2**	**-2.4**
PNIG	**Pinotepa**	**2.75**	**300**	*e*P	**Pn**	**03 52 15.4**	**-1.2**
PNIG				*i* S	**Sn**	**03 52 46.6**	**-3.7**
THIG		**3.27**	**92**	*e*P	**Pn**	**03 52 22.6**	**-1.1**
THIG				*e*S	**Sn**	**03 53 00.7**	**-2.6**
TLIG	**Tlapa**	**3.77**	**312**	*e*P	**Pn**	**03 52 30.1**	**-0.6**
TLIG				*i* S	**Sn**	**03 53 12.7**	**-3.2**
APG	**El Apazote**	**5.01**	**90**	Pn	Pn	03 52 46.0	-1.9
	1.1nm,0.3s,baz=285,slow=14,SNR=13						
APG				Sn	**Sn**	**03 53 41.8**	**-4.6**
	2.2nm,0.3s,baz=34,slow=6.5,SNR=4.1						
TEIG	**Tepich**	**8.72**	**53**	Pn	Pn	03 53 37.5	-1.2
	2.1nm,0.3s,baz=51,slow=1.8,SNR=12						
TEIG				Sn	**Sn**	**03 55 14.2**	**-3.5**
	3.2nm,0.3s,baz=88,slow=21,SNR=9.1						
TEIG				LR	LR	03 57 17.4	
	comp=Z,93nm,21.7s,baz=288,slow=41						
TXAR	**Lajitas Array**	**16.05**	**334**	Pn	**P**	**03 55 24.2**	**+2.2**
	0.0nm,0.3s,baz=153,slow=11,SNR=4.6						
PDAR	**Pinedale Array**	**30.12**	**339**	P	**P**	**03 57 44.8**	**+2.0**
	0.3nm,0.7s,baz=144,slow=11,SNR=2.4						
NVAR	**Mina Array Bea**	**30.71**	**324**	P	**P**	**03 57 51.0**	**+3.0**
	0.6nm,0.8s,baz=145,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**49.27**	**349**	P	**P**	**04 00 22.6**	**+1.3**
	0.6nm,0.7s,baz=154,slow=7.5,SNR=8.9						
PLCA	**Paso Flores**	**60.17**	**158**	P	**P**	**04 01 41.6**	**+0.8**
	0.9nm,0.7s,baz=336,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**60.53**	**337**	P	**P**	**04 01 44.5**	**+1.6**
	0.7nm,0.6s,baz=140,slow=6.1,SNR=8.9						
NOA	**NORSAR Array B**	**84.91**	**28**	LR	LR	04 41 21.9	
	comp=Z,46nm,18.5s,baz=0.0,slow=35						
FINES	**FINESS Array B**	**91.04**	**24**	LR	LR	04 46 20.1	
	comp=Z,118nm,21.3s,baz=108,slow=36						
AKASG	**Malin Array Be**	**98.77**	**32**	LR	LR	04 49 19.9	
	comp=Z,74nm,19.9s,baz=265,slow=35						

*ISCJB **07** 04:08:38.8±0.9, 34°.90N±0°.03×26°.75E±0°.03, h12km±6km, mb3.3/4, Error ellipse: s-maj=4.8km s-min=3.4km az=16.0*
*IDC **07** 04:08:38.6±1.1, 34°.92N×26°.76E, h0km, mb3.5/4, mb1 3.4/7, mb1mx3.3/26, mbtmp3.4/7, ML3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/28, Error ellipse: s-maj=26.1km s-min=16.0km az=177.0*
*ISK **07** 04:08:38.3, 35°.02N×26°.76E, h5km, MD4.0*
*CSEM **07** 04:08:39.7±0.2, 34°.95N×26°.76E, h2km, ML3.3, Error ellipse: s-maj=5.7km s-min=3.8km az=9.0*
*ATH **07** 04:08:40.8, 35°.02N×26°.60E, h19km±2km, MD3.5/24*
*THE **07** 04:08:42.7, 35°.09N×26°.49E, h0km±1km, ML3.3/1, Error ellipse: s-maj=3.7km s-min=1.0km az=162.0*
*HLW **07** 04:08:43.9, 34°.89N×26°.85E, h18km±13km, Md3.9, Ml3.0*

ISC 07 04:08:39.9±1.2, 34°.95N±0°.04×26°.68E±0°.03, h8km±9km, n121, σ1°21/143, mb3.3/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.41**	**293**	P	**Pg**	**04 08 47.5**	**-0.4**
ZKR				S	**Sg**	**04 08 52.3**	**-1.1**
ZKR	**Zakros**	**0.41**	**293**	PG	**Pg**	**04 08 47.7**	**-0.3**
ZKR				*e*SG	**Sg**	**04 08 54.3**	**+1.0**
ZKR	**Zakros**	**0.41**	**293**	*e*PB	**Pg**	**04 08 47.6**	**-0.4**
ZKR				*e*SB	**Sg**	**04 08 53.0**	**-0.3**
ZKR	**Zakros**	**0.41**	**293**	P	**Pg**	**04 08 47.5**	**-0.4**
ZKR				S	**Sg**	**04 08 52.3**	**-1.1**
ZKR				*e*Sb	**Sg**	**04 08 53.0**	**-0.3**
ZKR				*e*Sg	Sg	04 08 54.3	+0.9
KARP	**Karpathos**	**0.71**	**34**	P	**Pg**	**04 08 53.2**	**-0.5**
KARP				S	**Sb**	**04 09 05.0**	**+0.3**
KARP	**Karpathos**	**0.71**	**34**	*e*PB	**Pg**	**04 08 53.5**	**-0.2**
KARP				*e*SN	**Sg**	**04 09 04.9**	**+0.3**
KARP	**Karpathos**	**0.71**	**34**	P	**Pg**	**04 08 53.2**	**-0.5**
KARP	**Karpathos**	**0.71**	**34**	*e*Pb	**Pg**	**04 08 53.5**	**-0.2**
KARP				*e*Sn	**Sb**	**04 09 04.9**	**+0.3**
NPS	**Neapolis**	**0.93**	**290**	*e*PN	**Pg**	**04 08 57.2**	**-0.5**
NPS				*e*SN	**Sg**	**04 09 08.8**	**-1.0**
NPS	**Neapolis**	**0.93**	**290**	*e*Pn	**Pg**	**04 08 57.2**	**-0.5**
LAST	**Lasithi**	**1.00**	**282**	P	**Pg**	**04 08 58.5**	**-0.7**
LAST				S	**Sg**	**04 09 11.8**	**-0.5**
LAST	**Lasithi**	**1.00**	**282**	*e*PN	**Pg**	**04 08 58.5**	**-0.7**
LAST				*e*SN	**Sg**	**04 09 11.4**	**-0.9**
LAST	**Lasithi**	**1.00**	**282**	*e*Pn	**Pg**	**04 08 58.5**	**-0.7**
LAST				*e*Sn	**Sg**	**04 09 11.4**	**-0.9**
IDI	**Anoyia**	**1.50**	**283**	P	**Pb**	**04 09 07.8**	**-0.3**
IDI	**Anoyia**	**1.50**	**283**	*e*PN	**Pb**	**04 09 07.7**	**-0.3**
IDI				*e*SN	**Sg**	**04 09 28.4**	**+0.1**
IDI	**Anoyia**	**1.50**	**283**	*e*PN	**Pb**	**04 09 08.2**	**0.0**
IDI	**Anoyia**	**1.50**	**283**	Pn	**Pb**	**04 09 08.1**	**0.0**
	20nm,0.3s,baz=100,slow=17,SNR=104						
IDI				Sn	**Sg**	**04 09 29.4**	**+1.2**
	52nm,0.3s,baz=25,slow=19,SNR=15						
IDI	**Anoyia**	**1.50**	**283**	P	**Pb**	**04 09 07.8**	**-0.3**
IDI	**Anoyia**	**1.50**	**283**	*e*Pn	**Pb**	**04 09 08.2**	**0.0**
IDI				*e*Sn	**Sg**	**04 09 28.4**	**+0.1**
SIVA	**Sivas**	**1.54**	**273**	P	**Pb**	**04 09 08.4**	**-0.1**
SIVA	**Sivas**	**1.54**	**273**	*e*PN	**Pb**	**04 09 08.5**	**-0.1**
SIVA	**Sivas**	**1.54**	**273**	*e*Pn	**Pb**	**04 09 08.5**	**-0.1**
ARG	**Arkhangelos**	**1.73**	**43**	P	**Pg**	**04 09 12.4**	**-0.6**
ARG				S	**Sg**	**04 09 36.5**	**+1.0**
ARG	**Arkhangelos**	**1.73**	**43**	*e*PN	**Pg**	**04 09 12.6**	**-0.4**
ARG	**Arkhangelos**	**1.73**	**43**	P	**Pg**	**04 09 12.4**	**-0.6**
ARG				S	**Sg**	**04 09 36.5**	**+1.0**
SANT	**Santorini**	**1.73**	**325**	P	**Pn**	**04 09 10.0**	**-0.4**
SANT	**Santorini**	**1.73**	**325**	*e*PN	**Pn**	**04 09 08.9**	**-1.4**
SANT	**Santorini**	**1.73**	**325**	*e*PN	**Pn**	**04 09 09.5**	**-0.9**
SANT	**Santorini**	**1.73**	**325**	*e*Pn	**Pn**	**04 09 09.5**	**-0.9**
SANT	**Santorini**	**1.73**	**325**	P	**Pn**	**04 09 10.0**	**-0.4**
VAM	**Vamos**	**2.08**	**283**	P	**Pb**	**04 09 17.1**	**-0.8**
VAM	**Vamos**	**2.08**	**283**	*e*PN	**Pb**	**04 09 17.9**	**0.0**
VAM	**Vamos**	**2.08**	**283**	P	**Pb**	**04 09 17.1**	**-0.8**
VAM	**Vamos**	**2.08**	**283**	*e*Pn	**Pb**	**04 09 17.9**	**0.0**
BODT	**Bodrum**	**2.17**	**14**	*e*PN	**Pn**	**04 09 15.6**	**-0.7**
BODT	**Bodrum**	**2.17**	**14**	*e*Pn	**Pn**	**04 09 15.6**	**-0.7**
APE	**Apeiranthos**	**2.31**	**337**	P	**Pn**	**04 09 18.0**	**-0.4**
APE				S	**Sn**	**04 09 46.1**	**-0.9**
APE	**Apeiranthos**	**2.31**	**337**	*e*PN	**Pn**	**04 09 17.6**	**-0.7**
APE	**Apeiranthos**	**2.31**	**337**	*e*PB	**Pn**	**04 09 17.9**	**-0.4**
APE	**Apeiranthos**	**2.31**	**337**	*e*Pn	**Pn**	**04 09 17.6**	**-0.7**
APE	**Apeiranthos**	**2.31**	**337**	*e*Pb	**Pn**	**04 09 17.9**	**-0.4**
APE				S	**Sn**	**04 09 46.1**	**-0.9**
DALY	**Dalyan (Mu˘la**	**2.46**	**40**	*e*PN	**Pn**	**04 09 18.7**	**-1.6**
DALY	**Dalyan (Mu˘la**	**2.46**	**40**	*e*Pn	**Pn**	**04 09 18.7**	**-1.6**
FETY	**Fethiye**	**2.58**	**49**	*e*PN	**Pn**	**04 09 20.0**	**-2.0**
FETY	**Fethiye**	**2.58**	**49**	*e*Pn	**Pn**	**04 09 20.0**	**-2.0**
ELL	**Elmali**	**3.18**	**55**	*e*PN	**Pn**	**04 09 29.5**	**-0.9**
ELL	**Elmali**	**3.18**	**55**	*e*Pn	**Pn**	**04 09 29.5**	**-0.9**
KYTH	**Kithira**	**3.25**	**295**	*e*PN	**Pn**	**04 09 32.2**	**+1.0**
KYTH	**Kithira**	**3.25**	**295**	*e*Pn	**Pn**	**04 09 32.2**	**+1.0**
BLCB	**Balcova**	**3.44**	**5**	*e*PN	**Pn**	**04 09 32.6**	**-1.2**
BLCB	**Balcova**	**3.44**	**5**	*e*Pn	**Pn**	**04 09 32.6**	**-1.2**
CHOS	**Chios island**	**3.46**	**352**	*e*PN	**Pn**	**04 09 33.3**	**-1.0**
CHOS	**Chios island**	**3.46**	**352**	*e*PN	**Pn**	**04 09 34.1**	**-0.2**
CHOS	**Chios island**	**3.46**	**352**	*e*Pn	**Pn**	**04 09 34.1**	**-0.2**
VLI	**Veliai**	**3.51**	**301**	P	**Pn**	**04 09 35.3**	**+0.5**
VLI	**Veliai**	**3.51**	**301**	*e*PN	**Pn**	**04 09 35.5**	**+0.7**
VLI	**Veliai**	**3.51**	**301**	*e*Pn	**Pn**	**04 09 35.5**	**+0.7**
SLUM		**3.66**	**200**	P	**Pn**	**04 09 37.7**	**+0.8**
	baz=203						
SLUM		**3.66**	**200**	P	**Pn**	**04 09 37.7**	**+0.8**
DID	**Didima**	**3.77**	**314**	*e*PN	**Pn**	**04 09 39.5**	**+1.1**
DID	**Didima**	**3.77**	**314**	*e*Pn	**Pn**	**04 09 39.5**	**+1.1**
HMAT	**Matruh**	**3.86**	**175**	P	**Pn**	**04 09 39.7**	**0.0**
	baz=176						
HMAT				S	**Sn**	**04 10 22.1**	**-3.2**
HMAT	**Matruh**	**3.86**	**175**	P	**Pn**	**04 09 39.7**	**0.0**
HMAT				S	**Sn**	**04 10 22.1**	**-3.2**
KHL	**Karahalli**	**4.07**	**33**	*e*PN	**Pn**	**04 09 42.4**	**-0.2**
KHL	**Karahalli**	**4.07**	**33**	*e*Pn	**Pn**	**04 09 42.4**	**-0.2**
VLX	**Vlachokerasia**	**4.23**	**306**	*e*PN	**Pn**	**04 09 46.5**	**+1.7**
VLX	**Vlachokerasia**	**4.23**	**306**	*e*Pn	**Pn**	**04 09 46.5**	**+1.7**
LTK	**Loutraki**	**4.28**	**317**	*e*PN	**Pn**	**04 09 47.5**	**+2.1**
LTK	**Loutraki**	**4.28**	**317**	*e*Pn	**Pn**	**04 09 47.5**	**+2.1**
SUTC	**Sutluce-Ispart**	**4.31**	**53**	*e*PN	**Pn**	**04 09 45.8**	**-0.1**
SUTC	**Sutluce-Ispart**	**4.31**	**53**	*e*Pn	**Pn**	**04 09 45.8**	**-0.1**
MRKA	**Markates**	**4.49**	**327**	*e*PN	**Pn**	**04 09 50.0**	**+1.7**
MRKA	**Markates**	**4.49**	**327**	*e*Pn	**Pn**	**04 09 50.0**	**+1.7**
GUR	**Goura**	**4.59**	**312**	*e*PN	**Pn**	**04 09 52.0**	**+2.2**
GUR	**Goura**	**4.59**	**312**	*e*Pn	**Pn**	**04 09 52.0**	**+2.2**
LKR	**Lokris**	**4.73**	**322**	*e*PN	**Pn**	**04 09 53.2**	**+1.7**
LKR	**Lokris**	**4.73**	**322**	*e*Pn	**Pn**	**04 09 53.2**	**+1.7**
KLV	**Kalavryta, Ach**	**4.78**	**312**	*e*PN	**Pn**	**04 09 54.2**	**+1.9**
KLV	**Kalavryta, Ach**	**4.78**	**312**	*e*Pn	**Pn**	**04 09 54.2**	**+1.9**
DSF	**Desfina**	**4.80**	**317**	*e*PN	**Pn**	**04 09 54.9**	**+2.3**
DSF	**Desfina**	**4.80**	**317**	*e*Pn	**Pn**	**04 09 54.9**	**+2.3**
SMIA	**Simia**	**4.80**	**326**	*e*PN	**Pn**	**04 09 53.1**	**+0.5**
SMIA	**Simia**	**4.80**	**326**	*e*Pn	**Pn**	**04 09 53.1**	**+0.5**
DRO	**Drossia**	**5.00**	**308**	*e*PN	**Pn**	**04 09 57.1**	**+1.8**
DRO	**Drossia**	**5.00**	**308**	*e*Pn	**Pn**	**04 09 57.1**	**+1.8**
LAKA	**Lakka**	**5.01**	**312**	*e*PN	**Pn**	**04 09 57.6**	**+2.2**
LAKA	**Lakka**	**5.01**	**312**	*e*Pn	**Pn**	**04 09 57.6**	**+2.2**
KALE	**Kalithea**	**5.01**	**315**	*e*PN	**Pn**	**04 09 57.4**	**+1.9**
KALE	**Kalithea**	**5.01**	**315**	*e*Pn	**Pn**	**04 09 57.4**	**+1.9**
LEF	**Lefka**	**5.10**	**86**	*e*PN	**Pn**	**04 09 55.9**	**-0.8**
LEF	**Lefka**	**5.10**	**86**	*e*Pn	**Pn**	**04 09 55.9**	**-0.8**
EFP	**Efpalio**	**5.17**	**314**	*e*PN	**Pn**	**04 10 00.3**	**+2.7**
EFP	**Efpalio**	**5.17**	**314**	*e*Pn	**Pn**	**04 10 00.3**	**+2.7**
MAKR	**Makrakomi, Fth**	**5.45**	**319**	*e*PN	**Pn**	**04 10 03.8**	**+2.4**
MAKR	**Makrakomi, Fth**	**5.45**	**319**	*e*Pn	**Pn**	**04 10 03.8**	**+2.4**
CSS	**Prodhromos**	**5.46**	**88**	*e*PN	**Pn**	**04 10 01.6**	**-0.1**
CSS	**Prodhromos**	**5.46**	**88**	*e*Pn	**Pn**	**04 10 01.6**	**-0.1**
KONT	**Konya--Tatoy**	**5.47**	**55**	*e*PN	**Pn**	**04 10 02.0**	**+0.2**
KONT	**Konya--Tatoy**	**5.47**	**55**	*e*Pn	**Pn**	**04 10 02.

WRA	**Warramunga Arr**	**24.39**	**240**	P	P	04 56 43.0	+0.7	
	1.1nm,0.9s,baz=69,slow=9.9,SNR=5.9							
STKA	**Stephens Creek**	**27.11**	**209**	P	P	04 57 06.7	-0.1	
	0.5nm,0.3s,baz=34,slow=11,SNR=3.6							
MKAR	**Makanchi Array**	**85.67**	**318**	P	P	05 04 02.3	-0.5	
	0.3nm,0.7s,baz=96,slow=4.9,SNR=2.4							

IDC 07 04:57:53.1±2.0, 6°13N×126°93E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=167.9km s-min=23.5km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.92**	**164**	P	P	05 03 35.0	-1.2
	0.5nm,0.8s,baz=344,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**30.39**	**167**	P	P	05 04 08.5	+1.3
	0.2nm,0.4s,baz=348,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**55.72**	**324**	P	P	05 07 32.1	+0.5
	0.3nm,0.6s,baz=126,slow=7.9,SNR=1.6						
KURBB	**Kurchatov Arra**	**59.84**	**327**	P	P	05 07 59.9	-0.5
	0.4nm,0.5s,baz=128,slow=6.4,SNR=5.8						

*IDC **07** 04:58:17.9±1.2, 30°86N×141°89E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/25, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=48.3km s-min=20.7km az=79.0*
*ISCJB **07** 04:58:19.3±1.0, 30°9N±0°1×141°9E±0°3, h24km, mb3.8/6, Error ellipse: s-maj=37.5km s-min=16.4km az=167.5*

ISC 07 04:58:21.5±1.2, 30°9N±0°2×141°9E±0°3, h24km, n7, σ0°34/7, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.44**	**333**	Pn	**Pn**	**04 59 55.1**	**+0.2**
	1.0nm,0.3s,baz=152,slow=11,SNR=12						
MKAR	**Makanchi Array**	**47.94**	**307**	P	**P**	**05 06 57.7**	**-0.3**
	0.9nm,0.8s,baz=92,slow=8.5,SNR=6.8						
WRA	**Warramunga Arr**	**51.02**	**189**	P	**P**	**05 07 21.4**	**-0.3**
	0.9nm,0.4s,baz=5.2,slow=7.5,SNR=10						
ILAR	**Eielson Array**	**54.58**	**30**	P	**P**	**05 07 47.4**	**-0.1**
	0.6nm,0.9s,baz=271,slow=7.1,SNR=2.8						
ASAR	**Alice Springs**	**54.75**	**189**	P	**P**	**05 07 49.6**	**+0.5**
	0.4nm,0.4s,baz=359,slow=4.9,SNR=9.7						
BVAR	**Borovoye Array**	**55.13**	**316**	P	**P**	**05 07 51.9**	**+0.2**
	0.6nm,0.7s,baz=104,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**79.44**	**323**	P	**P**	**05 10 25.6**	**-0.1**
	0.4nm,0.4s,baz=52,slow=5.2,SNR=7.6						

IDC 07 05:04:28.4±6.9, 5°62S×147°58E, h168km±77km, mb3.0/1, mb1 3.2/3, mb1mx2.9/17, mbtmp3.0/3, Error ellipse: s-maj=146.4km s-min=49.6km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**186**	P	Pn	05 05 26.8	+0.5
	2.6nm,0.3s,baz=348,slow=9.3,SNR=3.3						
PMG				S	Sn	05 06 11.8	+0.2
	6.6nm,0.3s,baz=360,slow=23,SNR=6.5						
WRA	**Warramunga Arr**	**19.19**	**221**	P	P	05 08 39.4	-0.1
	0.4nm,0.3s,baz=42,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**22.25**	**215**	P	P	05 09 12.2	+0.3
	0.7nm,0.5s,baz=48,slow=8.5,SNR=12						
TORD	**Torodi Ar. Bea**	**145.55**	**285**	PKPbc	PKPdf	05 23 47.0	-0.6
	0.2nm,0.6s,baz=77,slow=4.0,SNR=2.4						

*ISCJB **07** 05:08:25.4±1.0, 34°46N±0°06×69°8E±0°1, h24km, Error ellipse: s-maj=15.4km s-min=5.8km az=154.8*
*NNC **07** 05:08:34.8±2.9, 34°81N×69°57E, h77km±29km, mb3.7, mpv4.2, Error ellipse: s-maj=23.6km s-min=20.2km az=127.0*

ISC 07 05:08:26.2±1.5, 34°45N±0°09×69°5E±0°1, h24km, n23, σ2°09/24, 5C-5D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**6.91**	**113**	*e*P	**Pn**	**05 10 08.0**	**+1.9**
AML	**Almayashu**	**8.34**	**22**	P	**Pn**	**05 10 29.2**	**+3.2**
	SNR=11						
KK31	**Karatay Array**	**8.68**	**5**	P	**Pn**	**05 10 31.6**	**+1.3**
	5.3nm,0.5s,baz=187,slow=14,SNR=61						
KK31				⇓S	**Sn**	**05 12 06.8**	**-0.6**
	3.1nm,0.4s,baz=181,slow=22,SNR=8.8						
UCH	**Uchtor**	**8.70**	**25**	P	**Pn**	**05 10 31.7**	**+0.8**
	SNR=8.6						
EKS2	**Erkin-Say**	**8.85**	**21**	P	**Sn**	**05 12 11.2**	**-0.5**
	SNR=5.4						
AAK	**Ala-Archa**	**9.05**	**24**	⇑P	**Pn**	**05 10 38.3**	**+2.8**
	6.5nm,0.7s						
AAK				⇓S	**Sn**	**05 12 14.2**	**-2.5**
	24nm,0.8s						
AAK	**Ala-Archa**	**9.05**	**24**	P	**Pn**	**05 10 38.5**	**+3.0**
	SNR=8.3						
CHMS	**Chumysh**	**9.46**	**24**	P	Pn	05 10 44.5	+3.5
	SNR=6.3						
USP	**Ospenovka**	**9.62**	**22**	P	Pn	05 10 46.8	+3.6
	SNR=5.4						
TKM2	**Tokmak 2**	**9.70**	**27**	⇓P	Pn	05 10 47.8	+3.4
	9.4nm,1.1s						
TKM2				⇓S	**Sn**	**05 12 31.5**	**-1.2**
	7.6nm,0.9s						
PYUN	**Piuthan**	**13.13**	**115**	*e*P	**Pn**	**05 11 30.5**	**-1.0**
DANN	**Dangsing**	**13.59**	**113**	*e*P	**Pn**	**05 11 35.1**	**-2.6**
	16nm,0.8s						
KOLN	**Koldanda**	**13.77**	**115**	*e*P	**Pn**	**05 11 38.7**	**-1.4**
	4.1nm,0.4s						
DMN	**Daman**	**14.99**	**113**	*e*P	**Pn**	**05 11 53.7**	**-3.1**
	11nm,0.6s						
PKI	**Pulchoki**	**15.24**	**112**	*e*P	**Pn**	**05 11 57.4**	**-2.8**
	9.6nm,0.5s						
GUN	**Gumba**	**15.43**	**111**	*e*P	**Pn**	**05 12 01.6**	**-1.1**
	18nm,0.8s						
MK31	**Makanchi Array**	**15.66**	**34**	⇓P	**Pn**	**05 12 06.7**	**+1.5**
	1.6nm,0.7s,baz=215,slow=10,SNR=11						
JIRN	**Jiri**	**15.79**	**111**	*e*P	**Pn**	**05 12 06.1**	**-1.3**
	16nm,0.6s						
AB31	**Akbulak array**	**16.41**	**337**	P	**Pn**	**05 12 16.3**	**+1.5**
	0.9nm,0.5s,baz=153,slow=12,SNR=22						
AB31				⇓S	**Sn**	**05 15 13.4**	**-2.7**
	1.0nm,0.6s,baz=161,slow=21,SNR=4.8						
TAPN	**Taplejung**	**17.12**	**109**	*e*P	**Pn**	**05 12 21.7**	**-2.6**
	8.9nm,0.8s						
AKTO	**Aktyubinsk**	**18.06**	**336**	⇑P	**P**	**05 12 36.9**	**+1.2**
	6.3nm,1.5s						
BVA0	**Borovoye Array**	**18.58**	**2**	⇑P	**P**	**05 12 42.1**	**+0.7**
	4.9nm,1.4s,baz=174,slow=11,SNR=9.9						
BRVK	**Borovoye**	**18.61**	**1**	⇑P	**P**	**05 12 41.2**	**-0.5**
	5.5nm,1.0s						

*IDC **07** 05:08:30.4±2.3, 24°26S×179°97W, h483km±23km, mb3.7/12, mb1 3.9/12, mb1mx3.7/19, mbtmp3.7/12, Error ellipse: s-maj=20.5km s-min=17.5km az=142.0*
*ISCJB **07** 05:08:32.7±0.7, 24°26S±0°08×179°9E±0°1, h517km, mb4.0/12, Error ellipse: s-maj=13.9km s-min=10.8km az=13.5*

ISC 07 05:08:33.4±0.7, 24°4S±0°1×180°0E±0°1, h517km, n34, σ1°17/36, mb4.0/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.07**	**189**	S	**S**	**05 14 00.8**	**-1.1**
	1.2nm,0.3s,baz=64,slow=24,SNR=12						
ARMA	**Armidale**	**25.82**	**250**	P	**P**	**05 13 25.0**	**+1.6**
	baz=22,SNR=6.3						
EIDS	**Eidsvold**	**26.20**	**262**	P	**P**	**05 13 27.3**	**+0.6**
	baz=22,SNR=5.0						
RMQ	**Roma**	**28.22**	**259**	P	**P**	**05 13 46.1**	**+1.7**
	baz=24,SNR=5.3						
CMSA	**Cobar Meteorol**	**31.01**	**249**	P	**P**	**05 14 09.0**	**+0.5**
	baz=27,SNR=18						
QLP	**Quilpie**	**32.26**	**258**	P	**P**	**05 14 19.4**	**+0.2**
	baz=28,SNR=11						
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**05 14 38.6**	**+0.4**
	6.9nm,0.6s,baz=89,slow=9.6,SNR=38						
PMG	**Port Moresby**	**34.61**	**290**	P	**P**	**05 14 38.5**	**-0.7**
	19nm,0.6s,baz=56,slow=4.3,SNR=6.0						
COEN	**Coen**	**36.15**	**280**	P	**P**	**05 14 52.6**	**+0.5**
	baz=32,SNR=11						
HTT	**Hallett**	**36.85**	**246**	P	**P**	**05 14 57.8**	**+0.1**
	baz=33,SNR=14						
BBOO	**Buckleboo**	**39.23**	**247**	P	**P**	**05 15 16.3**	**-0.7**
	baz=35,SNR=44						

ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**05 15 38.5**	**-0.3**	
	5.2nm,0.5s,baz=95,slow=7.1,SNR=64							
ASAR				ScP	**ScP**	05 20 26.5	+3.1	
	1.7nm,0.9s,baz=109,slow=4.0,SNR=7.4							
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**05 15 41.2**	**-0.8**	
	9.6nm,0.3s,baz=99,slow=8.3,SNR=152							
WRA				ScP	**ScP**	05 20 28.9	+3.8	
	4.7nm,0.9s,baz=101,slow=4.2,SNR=16							
FORT	**Forrest**	**46.11**	**250**	P	**P**	**05 16 10.2**	**-0.8**	
	baz=42,SNR=21							
KDU	**Kakadu**	**46.29**	**276**	P	**P**	**05 16 11.7**	**-0.9**	
	baz=42,SNR=7.0							
MTN	**Manton Dam**	**47.45**	**275**	P	**P**	**05 16 20.4**	**-0.9**	
	baz=43,SNR=5.9							
KNRA	**Kununurra**	**48.65**	**270**	P	**P**	**05 16 30.1**	**-0.2**	
	baz=44,SNR=11							
MEEK	**Meekatharra**	**54.94**	**254**	P	**P**	**05 17 14.6**	**-1.1**	
	baz=51,SNR=7.3							
BLDU	**Ballidu**	**55.82**	**249**	P	**P**	**05 17 20.9**	**-0.8**	
	baz=52,SNR=12							
MORW	**Morawa**	**56.68**	**250**	P	**P**	**05 17 27.2**	**-0.5**	
	baz=52,SNR=5.3							
QSPA	**South Pole Qui**	**65.72**	**180**	P	**P**	**05 18 26.9**	**+0.4**	
	3.3nm,0.9s,baz=185,slow=1.3,SNR=6.7							
MJAR	**Matsushiro Arr**	**72.25**	**326**	P	**P**	**05 19 05.4**	**-0.6**	
	0.9nm,0.6s,baz=164,slow=5.9,SNR=4.6							
MAW	**Mawson**	**77.31**	**200**	P	**P**	**05 19 34.5**	**+0.6**	
	3.5nm,0.9s,baz=95,slow=11,SNR=1.3							
PETK	**Petropavlovsk-**	**79.54**	**347**	P	**P**	**05 19 45.7**	**-0.3**	
	8.3nm,1.0s,baz=181,slow=7.2,SNR=2.6							
USRK	**Ussuriysk Arra**	**81.13**	**327**	P	**P**	**05 19 54.8**	**+0.3**	
	1.6nm,0.6s,baz=143,slow=4.2,SNR=6.4							
NVAR	**Mina Array Bea**	**85.11**	**44**	P	**P**	**05 20 14.4**	**-0.5**	
	0.4nm,0.7s,baz=224,slow=8.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**05 20 38.0**	**+1.6**	
	1.1nm,0.4s,baz=147,slow=3.7,SNR=4.0							
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**05 20 41.5**	**+0.3**	
	1.4nm,0.7s,baz=214,slow=6.6,SNR=20							
BVAR	**Borovoye Array**	**120.76**	**319**	PKP	**PKPdf**	**05 26 24.8**	**-1.4**	
	0.5nm,0.3s,baz=127,slow=2.8,SNR=6.9							
ARCES	**ARCESS Array B**	**132.33**	**348**	PKP	**PKPdf**	**05 26 47.3**	**-0.5**	
	3.1nm,1.0s,baz=69,slow=2.8,SNR=7.6							
FINES	**FINESS Array B**	**138.87**	**341**	PKP	**PKPdf**	**05 27 00.5**	**+0.3**	
	1.1nm,0.6s,baz=85,slow=3.6,SNR=6.1							
AKASG	**Malin Array Be**	**145.33**	**327**	PKPbc	**PKPdf**	**05 27 11.7**	**-0.2**	
	1.7nm,0.4s,baz=46,slow=4.3,SNR=24							
BRTR	**Keskin Array B**	**147.82**	**307**	PKPbc	**PKPbc**	**05 27 19.6**	**-0.8**	
	1.5nm,0.7s,baz=127,slow=5.0,SNR=8.6							
MMAI	**Mount Meron Ar**	**147.85**	**294**	PKPbc	**PKPbc**	**05 27 21.1**	**+0.6**	
	4.9nm,0.5s,baz=80,slow=6.0,SNR=8.0							

KRSC 07 05:12:28.2±1.2, 50°44N×157°62E, h41km±31km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**285**	*i* P	Pn	05 12 46.6	+1.0
SKR				*i* S	Sn	05 12 58.8	+0.4
PAU	**Pauzhetka**	**1.15**	**334**	*e*P	Pn	05 12 49.7	+1.9
PAU				*e*S	Sn	05 13 04.4	+2.2
ASAK	**Asacha**	**1.95**	**5**	*e*P	Pn	05 13 01.6	+2.7
ASAK				*e*S	Sn	05 13 26.1	+3.8
RUS	**Russkaya**	**2.07**	**15**	*e*P	Pn	05 13 02.1	+1.7
RUS				*e*S	Sn	05 13 26.5	+1.6
MTVR	**Mutnovka**	**2.07**	**10**	*e*P	Pn	05 13 02.9	+2.2
MTVR				*e*S	Sn	05 13 27.7	+2.3

*MEX **07** 05:49:13.4±0.5, 30°23N×113°71W, h7km±9km, MD4.1*
*ISCJB **07** 05:49:16.8±0.8, 30°13N±0°06×113°78W±0°04, h10km, mb4.1/6, MS3.7/13, Error ellipse: s-maj=9.1km s-min=4.5km az=3.8*
*IDC **07** 05:49:19.3±1.7, 30°48N×113°77W, h0km, mb3.7/3, mb1 3.9/9, mb1mx3.8/28, mbtmp3.7/9, ML3.8/4, MS3.6/19, Ms1 3.6/19, ms1mx3.4/44, Error ellipse: s-maj=30.2km s-min=12.7km az=37.0*
*NEIC **07** 05:49:21.0±1.0, 30°30N×113°74W, h10km, mb4.1/8, Error ellipse: s-maj=13.0km s-min=7.0km az=215.0*

ISC 07 05:49:20.1±0.9, 30°30N±0°07×113°89W±0°05, h10km, n106, σ1°58/74, mb4.0/6, MS3.6/13, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.55**	**299**	*e*P	Pn	05 49 40.4	-7.8
SPIG				*i* S	Sn	05 50 01.6	-7.0
214A	**Organ Pipe Nat**	**1.90**	**29**	⇓*i* Pn	Pn	05 49 49.1	-3.4
MBIG	**Mexicali**	**2.38**	**332**	*i* P	Pn	05 49 50.3	-8.9
MBIG				*i* S	Sn	05 50 22.5	-5.9
GLA	**Glamis**	**2.86**	**344**	*e*Pn	Pn	05 50 01.0	-4.8
HSIG		**2.86**	**116**	*i* P	Pn	05 49 54.7	-11
HSIG				*i* S	Sn	05 50 25.7	-15
HSIG		**2.86**	**116**	*e*P	Pn	05 49 54.7	-11
HSIG				*e*S	Sn	05 50 25.7	-15
SRIG	**Santa Rosalia**	**3.30**	**154**	*i* P	Pn	05 50 01.3	-11
SRIG				*i* S	Sn	05 50 38.1	-13
TUC	**Tucson**	**3.33**	**52**	*e*Pn	**Pn**	**05 50 09.7**	**-2.6**
BAR	**Barrett**	**3.36**	**316**	*e*Pn	Pn	05 50 06.6	-6.0
PFO	**Pinyon Flat Ob**	**3.95**	**327**	*e*Pn	Pn	05 50 14.0	-7.0
PFO				Pg	Pb	05 50 34.0	+4.0
PFO				Lg	Lg	05 51 24.0	
PFO				*e*Sg	**Sg**	**05 51 26.4**	**-0.6**
PFO	**Pinyon Flat Ob**	**3.95**	**327**	Pn	Pn	05 50 14.9	-6.0
	0.4nm,0.3s,baz=141,slow=12,SNR=9.9						
PFO				Pg	Pb	05 50 34.0	+4.0
	5.7nm,0.3s,baz=174,slow=14,SNR=27						
PFO				Lg	Lg	05 51 24.0	
	4.4nm,0.3s,baz=228,slow=10,SNR=5.3						
PFO				LR	LR	05 51 50.4	
	comp=Z,1μm,20.8s,baz=175,slow=39						
LDFC	**Landfair**	**4.88**	**348**	*e*Pn	**Pn**	**05 50 31.8**	**-1.8**
MWC	**Mount Wilson**	**5.27**	**319**	Pn	Pb	05 50 49.8	-2.6
WUAZ	**Wupatki**	**5.62**	**21**	*e*Pn	**Pn**	**05 50 43.3**	**-0.5**
121A	**Cookes Peak, D**	**5.68**	**65**	*e*Pn	**Pn**	**05 50 44.2**	**-0.4**
	52nm,0.8s						
121A				*e*Sg	**Sg**	**05 52 24.5**	**+2.1**
W18A	**Petrified Fore**	**5.95**	**35**	*e*Pn	**Pn**	**05 50 48.4**	**0.0**
W18A				*e*Sg	Sg	05 52 37.3	+6.3
SHPR	**Sheep Range**	**6.28**	**351**	*e*Pn	**Pn**	**05 50 51.5**	**-1.5**
ISA	**Isabella**	**6.59**	**325**	*e*Pn	Pn	05 50 53.1	-4.0
LPIG	**La Paz**	**6.95**	**152**	Pn	**Pn**	**05 51 04.1**	**+2.1**
LPIG	**La Paz**	**6.95**	**152**	Pn	**Pn**	**05 51 04.1**	**+2.1**
	0.1nm,0.3s,baz=252,slow=2.0,SNR=8.0						
LPIG				LR	LR	05 53 38.6	
	comp=Z,856nm,20.3s,baz=324,slow=37						
LAZ	**Ladron**	**7.03**	**53**	*e*Pn	**Pn**	**05 51 01.8**	**-1.4**
	10nm,1.0s						
CCUT	**Cedar City**	**7.25**	**3**	*e*Pn	**Pn**	**05 51 05.8**	**-0.5**
BNM	**Barren Site**	**7.25**	**56**	*e*Pn	**Pn**	**05 51 05.7**	**-0.7**
	3.8nm,0.4s						
MNTX	**Cornudas Mount**	**7.44**	**77**	*e*Pn	**Pn**	**05 51 08.4**	**-0.3**
	6.4nm,0.9s						
MNTX				*e*Sg	**Sg**	**05 53 20.6**	**+1.8**
ARUT	**Antelope Range**	**7.48**	**3**	*e*Pn	**Pn**	**05 51 07.1**	**-2.3**
	1μm,1.2s						
ANMO	**Albuquerque**	**7.80**	**52**	*e*Pn	**Pn**	**05 51 13.2**	**-0.6**
ANMO				Sn	**Sn**	**05 52 41.8**	**-0.5**
ANMO				Lg	Lg	05 53 35.1	
ANMO	**Albuquerque**	**7.80**	**52**	Pn	**Pn**	**05 51 12.9**	**-0.9**
	0.4nm,0.3s,baz=232,slow=13,SNR=24						
ANMO				Sn	**Sn**	**05 52 41.8**	**-0.5**
	0.4nm,0.3s,baz=198,slow=20,SNR=3.4						
ANMO				Lg	Lg	05 53 35.1	
	0.4nm,0.3s,baz=337,slow=22,SNR=3.2						
ANMO				LR	LR	05 54 03.7	
	comp=Z,86nm,19.2s,baz=244,slow=37						
R11A	**Troy Canyon, C**	**8.15**	**351**	*e*Pn	**Pn**	**05 51 17.4**	**-1.2**
MVCO	**Mesa Verde**	**8.23**	**32**	*e*Pn	**Pn**	**05 51 20.0**	**+0.3**
TPH	**Tonopah**	**8.23**	**341**	*e*Pn	**Pn**	**05 51 21.5**	**+1.7**
TPH				*e*Pg	Pg	05 52 06.3	+8.6
MVU	**Marysvale**	**8.30**	**9**	*e*Pn	**Pn**	**05 51 21.9**	**+1.1**
NVAR	**Mina Array Bea**	**8.89**	**337**	Pn	**Pn**	**05 51 29.9**	**+1.0**
NVAR	**Mina Array Bea**	**8.89**	**337**	Pn	**Pn**	**05 51 29.9**	**+1.0**
	0.0nm,0.3s,baz=158,slow=15,SNR=10						
NVAR				LR	LR	05 54 58.7	
	comp=Z,367nm,19.4s,baz=216,slow=39						
TXAR	**Lajitas Array**	**8.94**	**94**	Pn	**Pn**	**05 51 29.9**	**+0.5**
TXAR				Lg	Lg	05 54 11.2	
TXAR	**Lajitas Array**	**8.94**	**94**	Pn	**Pn**	**05 51 29.9**	**+0.5**
	0.3nm,0.3s,baz=260,slow=15,SNR=12						
TXAR				Lg	Lg	05 54 11.2	
	0.3nm,0.3s,baz=261,slow=24,SNR=5.1						
TXAR				LR	LR	05 55 12.9	
	comp=Z,547nm,20.8s,baz=0.0,slow=40						

PV01	**Paradox Valley**	**8.97**	**28**	*e*Pn	**Pn**	**05 51 29.2**	**-0.7**	
	1μm,1.1s							
PV04	**Paradox Valley**	**9.06**	**26**	*e*Pn	**Pn**	**05 51 33.7**	**+2.6**	
SRU	**San Rafael**	**9.22**	**17**	*e*Pn	**Pn**	**05 51 34.2**	**+1.0**	
WAKR	**Walker**	**9.38**	**332**	*e*Pn	**Pn**	**05 51 37.6**	**+2.1**	
	24nm,1.5s							
MPU	**Maple Canyon**	**9.87**	**10**	*e*Pn	**Pn**	**05 51 45.0**	**+2.8**	
DUG	**Dugway**	**9.91**	**5**	*e*Pn	**Pn**	**05 51 44.5**	**+1.8**	
PAHR	**Pah Rah Range**	**10.41**	**336**	*e*Pn	**Pn**	**05 51 51.3**	**+1.7**	
ELK	**Elko**	**10.48**	**354**	Pn	Pn	05 51 44.1	-6.5	
ELK				Lg	Lg	05 55 07.0		
ELK	**Elko**	**10.48**	**354**	Pn	Pn	05 51 44.1	-6.5	
	0.1nm,0.3s,baz=102,slow=16,SNR=5.6							
ELK				Lg	Lg	05 55 07.0		
	baz=269,slow=21,SNR=2.9							
ELK				LR	LR	05 55 57.1		
	comp=Z,227nm,21.3s,baz=180,slow=39							
CTU	**Camp Tracy**	**10.52**	**9**	*e*Pn	Pn	05 51 54.4	+3.3	
BEKR	**Beckworth**	**10.91**	**333**	*e*Pn	**Pn**	**05 51 57.4**	**+0.9**	
	12nm,1.4s							
HVU	**Hansel Valley**	**11.49**	**4**	*e*Pn	**Pn**	**05 52 06.7**	**+2.3**	
JCT	**Junction City**	**12.17**	**86**	*e*Pn	**Pn**	**05 52 11.5**	**-2.1**	
MOD	**Modoc**	**12.68**	**338**	*e*Pn	**Pn**	**05 52 22.1**	**+1.5**	
WVOR	**Wild Horse Val**	**12.70**	**344**	*e*Pn	**Pn**	**05 52 22.9**	**+2.1**	
KSCO	**Kaye Shedlock'**	**12.70**	**44**	*e*Pn	Pn	05 52 27.9	+7.0	
KMRM	**Mail Ridge**	**12.73**	**324**	*e*Pn	Pn	05 52 27.8	+6.6	
PDAR	**Pinedale Array**	**12.92**	**14**	Pn	**Pn**	**05 52 24.7**	**+0.7**	
PDAR	**Pinedale Array**	**12.92**	**14**	Pn	**Pn**	**05 52 24.7**	**+0.7**	
	0.1nm,0.3s,baz=171,slow=10,SNR=9.7							
PHWY	**Pilot Hill**	**12.93**	**30**	*e*Pn	Pn	05 52 29.3	+5.1	
HLID	**Hailey**	**13.24**	**358**	*e*Pn	Pn	05 52 31.6	+3.3	
REDW	**Red Top Meadow**	**13.26**	**10**	*e*Pn	Pn	05 52 32.4	+3.8	
YBH	**Yreka Blue Hor**	**13.45**	**330**	Pn	**Pn**	**05 52 32.9**	**+1.9**	
YBH	**Yreka Blue Hor**	**13.45**	**330**	Pn	**Pn**	**05 52 32.9**	**+1.9**	
	0.2nm,0.3s,baz=169,slow=3.8,SNR=4.5							
YBH				LR	LR	05 57 21.2		
	comp=Z,233nm,19.9s,baz=152,slow=36							
FXWY	**Fox Creek**	**13.51**	**9**	*e*Pn	**Pn**	**05 52 33.3**	**+1.3**	
J08A	**Circle Bar Ran**	**13.54**	**346**	*e*Pn	**Pn**	**05 52 33.6**	**+1.4**	
LOHW	**Long Hollow**	**13.54**	**10**	*e*Pn	**Pn**	**05 52 34.3**	**+1.9**	
MOOW	**Moose Ponds**	**13.66**	**10**	*e*Pn	**Pn**	**05 52 36.0**	**+2.0**	
IMW	**Indian Meadow**	**13.78**	**9**	*e*Pn	Pn	05 52 38.8	+3.1	
FLWY	**Flagg Ranch**	**13.99**	**10**	*e*Pn	Pn	05 52 41.7	+3.1	
H17A	**Grant Village**	**14.31**	**10**	*e*P	**Pn**	**05 52 44.6**	**+1.6**	
	13nm,1.4s							
I07A	**Izee**	**14.46**	**344**	*e*Pn	**Pn**	**05 52 46.9**	**+2.0**	
MCMT	**McKenzie Canyo**	**14.53**	**3**	*e*Pn	**Pn**	**05 52 46.6**	**+0.7**	
	3.7nm,1.2s							
DLMT	**Dillon**	**15.07**	**4**	*e*Pn	**Pn**	**05 52 55.9**	**+2.7**	
	18nm,1.4s							
BOZ	**Bozeman (W)**	**15.43**	**6**	*e*Pn	**Pn**	**05 52 59.9**	**+2.0**	
G08A	**Pilot Rock**	**15.49**	**347**	*e*Pn	**Pn**	**05 52 56.7**	**-2.0**	
	9.7nm,1.2s							
LRM	**Limekiln Ridge**	**15.54**	**4**	*e*Pn	**Pn**	**05 53 00.8**	**+1.4**	
	81nm,1.4s							
GCMT	**Greycliff**	**15.82**	**11**	*e*Pn	**Pn**	**05 53 05.0**	**+2.0**	
	10nm,1.4s							
RSSD	**Black Hills**	**15.86**	**27**	*e*Pn	**Pn**	**05 53 04.7**	**+1.1**	
F10A	**Beach Ranch, E**	**15.87**	**351**	*e*Pn	**P**	**05 53 08.1**	**+0.8**	
HRY	**Holter Researc**	**16.47**	**5**	*e*Pn	**Pn**	**05 53 10.2**	**-1.1**	
	9.0nm,1.2s							
MSO	**Missoula**	**16.51**	**360**	*e*Pn	**Pn**	**05 53 13.3**	**+1.5**	
CHMT	**Chamberlain Mo**	**16.60**	**2**	*e*Pn	**Pn**	**05 53 14.2**	**+1.2**	
SLMT	**Seeley Lake**	**16.92**	**1**	*e*Pn	**Pn**	**05 53 17.9**	**+0.9**	
LAO	**LASA Array**	**17.42**	**18**	*e*Pn	**Pn**	**05 53 21.9**	**-1.3**	
BSMT	**Bassoo Peak**	**17.54**	**358**	*e*P	**Pn**	**05 53 25.0**	**+0.1**	
	13nm,1.4s							
EGMT	**Eagleton**	**17.98**	**9**	*e*P	**P**	**05 53 31.4**	**+0.7**	

0.9nm,0.7s,baz=330,slow=6.0,SNR=5.9
PMG Port Moresby 70.77 117 LR LR 06 43 26.0
comp=Z,75nm,18.2s,baz=226,slow=36
ILAR Eielson Array 71.33 22 P **P** **06 11 56.9 +2.2**
0.5nm,0.9s,baz=317,slow=4.9,SNR=3.9
ASAR Alice Springs 72.56 137 P **P** **06 12 02.5 -0.1**
1.5nm,0.7s,baz=326,slow=6.3,SNR=19
TORD Torodi Ar. Bea 80.12 279 P **P** **06 12 47.2 +1.4**
0.8nm,0.9s,baz=34,slow=3.6,SNR=4.1
YKA Yellowknife Ar 80.84 11 P **P** **06 12 50.3 +1.4**
0.5nm,0.9s,baz=349,slow=4.8,SNR=6.2
STKA Stephens Creek 83.19 137 P **P** **06 12 59.4 -2.2**
1.4nm,0.9s,baz=293,slow=8.2,SNR=2.8

CASC 07 06:03:26.7±2.3, 14°02N×90°09W, h154km±12km, MD3.6, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.45**	**106**	*e*P	Pn	06 03 47.8	-0.7
RTR				*e*S	Sn	06 04 06.8	+1.7
SBLS	**San Blas**	**0.48**	**111**	*e*P	Pn	06 03 47.9	-0.9
SBLS				*e*S	Sn	06 04 07.6	+2.1
NBG	**Las Nubes**	**0.62**	**336**ǁ	*e*P	Pn	06 03 50.0	+0.5
LBRS	**Las Brisas**	**1.05**	**105**	*e*P	Pn	06 03 52.3	-0.1
MRL	**Marmol**	**1.11**	**20**ǁ	*e*P	Pn	06 03 53.9	+0.8
MRL				*e*S	Sn	06 04 13.8	+0.5

IDC 07 06:15:49.6±1.6, 1°83N×123°49E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/22, mbtmp3.6/4, MS3.6/2, Ms1 3.6/2, ms1mx2.9/29, Error ellipse: s-maj=199.5km s-min=22.8km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.12**	**154**	P	P	06 21 07.2	-0.2
	0.6nm,0.3s,baz=333,slow=11,SNR=21						
ASAR	**Alice Springs**	**27.30**	**159**	P	P	06 21 36.5	+0.3
	0.2nm,0.3s,baz=338,slow=8.2,SNR=10						
CTA	**Charters Tower**	**31.20**	**135**	LR	LR	06 33 39.6	
	comp=Z,147nm,21.4s,baz=232,slow=34						
STKA	**Stephens Creek**	**37.67**	**154**	P	P	06 23 06.9	+0.1
	1.1nm,0.6s,baz=321,slow=12,SNR=4.6						
SONM	**Songino Array**	**48.16**	**345**	LR	LR	06 45 35.8	
	comp=Z,42nm,19.6s,baz=221,slow=37						
MKAR	**Makanchi Array**	**57.33**	**327**	P	P	06 25 39.1	-0.4
	0.3nm,0.4s,baz=118,slow=9.0,SNR=9.0						

IDC 07 06:17:12.2±1.5, 8°61S×157°03E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/25, Error ellipse: s-maj=46.6km s-min=16.8km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.99**	**106**	Pn	Pn	06 17 55.8	-5.1
	6.0nm,0.3s,baz=300,slow=18,SNR=1.7						
HNR				Pg	Pb	06 18 06.9	+0.5
	44nm,0.3s,baz=286,slow=1.1,SNR=17						
HNR				Lg	Lg	06 18 47.1	
	106nm,0.3s,baz=289,slow=22,SNR=15						
HNR	**Honiara**	**2.99**	**106**	*e*P	Pb	06 18 06.0	-0.4
PMG	**Port Moresby**	**9.79**	**265**	LR	LR	06 23 04.9	
	comp=Z,160nm,20.6s,baz=119,slow=36						
WRA	**Warramunga Arr**	**24.68**	**240**	P	P	06 22 36.7	+1.6
	1.5nm,1.1s,baz=66,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**26.73**	**233**	P	P	06 22 52.1	-1.6
	0.5nm,1.1s,baz=69,slow=10,SNR=2.6						
ASAR				LR	LR	06 33 17.8	
	comp=Z,64nm,19.7s,baz=299,slow=36						
STKA	**Stephens Creek**	**27.24**	**210**	LR	LR	06 33 44.4	
	comp=Z,48nm,20.6s,baz=25,slow=36						
MKAR	**Makanchi Array**	**85.94**	**318**	P	P	06 29 54.2	-0.2
	0.9nm,0.7s,baz=104,slow=3.9,SNR=6.9						

*IDC **07** 06:19:05.4±1.7, 1°85S×99°58E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML3.4/1, Error ellipse: s-maj=89.0km s-min=15.8km az=57.0*
*NEIC **07** 06:19:06.5±0.6, 1°93S×99°56E, h10km, mb4.1/4, Error ellipse: s-maj=25.7km s-min=7.7km az=61.0*
NEIC Felt [III] at Padang and Painan, Sumatra.
*DJA **07** 06:19:15.1±2.1, 1°S±14°×10°E±°, h24km±9km, M4.1/5, MLv4.1/5*

ISC 07 06:19:11.5±0.8, 1°61S±0°08×99°95E±0°09, h33km, n36, σ0s76/34, mb4.1/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.86**	**36**	P	**Pb**	**06 19 28.6**	**+0.5**
PDSI				S	**Sn**	**06 19 37.4**	**-1.3**
PPI	**Padang Panjang**	**1.23**	**21**	P	**Pb**	**06 19 34.4**	**+0.2**
BKNI	**Bangkinang**	**2.21**	**30**	P	**Pb**	**06 19 50.6**	**-0.2**
MNSI	**Mandailing Nat**	**2.42**	**351**	P	**Pn**	**06 19 50.0**	**+1.2**
RGRI	**Rengat**	**2.69**	**62**	P	**Pn**	**06 19 53.4**	**+0.9**
PSI	**Prapat**	**4.50**	**347**	Pn	**Pn**	**06 20 17.9**	**+0.4**
PSI	**Prapat**	**4.50**	**347**	Pn	**Pn**	**06 20 17.9**	**+0.4**
	1.6nm,0.3s,baz=192,slow=9.9,SNR=3.8						
KULM	**Kulim**	**6.89**	**6**	*e*Pn	**Pn**	**06 20 52.3**	**+2.1**
CMAR	**Chiang Mai Arr**	**19.96**	**357**	P	**Pn**	**06 23 42.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**19.96**	**357**	P	**Pn**	**06 23 42.2**	**-0.8**
	0.9nm,0.3s,baz=186,slow=9.9,SNR=5.8						
H08S2	**Diego Garcia H**	**28.01**	**257**	T	T	06 53 34.4	
	baz=80,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**28.01**	**257**	T	T	06 53 34.4	
	baz=80,slow=75,SNR=9.9						
H08S1	**Diego Carcia H**	**28.02**	**257**	T	T	06 53 34.4	
	baz=80,slow=75,SNR=10						
LSA	**Lhasa**	**32.25**	**346**	P	**P**	**06 25 38.5**	**+0.8**
	2.6nm,0.6s						
WRA	**Warramunga Arr**	**38.23**	**121**	P	**P**	**06 26 28.3**	**-0.5**
WRA	**Warramunga Arr**	**38.23**	**121**	P	**P**	**06 26 28.3**	**-0.5**
	0.7nm,0.3s,baz=303,slow=9.1,SNR=9.3						
WRAB	**Tennant Creek**	**38.24**	**121**	*e*P	**P**	**06 26 28.0**	**-0.8**
	0.6nm,0.5s						
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**06 26 39.4**	**-0.2**
ASAR				PcP	**PcP**	**06 28 47.6**	**+0.7**
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**06 26 39.4**	**-0.2**
	0.3nm,0.5s,baz=302,slow=8.2,SNR=7.5						
ASAR				PcP	**PcP**	**06 28 47.6**	**+0.7**
	0.4nm,0.6s,baz=304,slow=2.0,SNR=5.0						
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**06 27 59.0**	**+0.2**
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**06 27 59.0**	**+0.2**
	1.2nm,0.5s,baz=298,slow=7.3,SNR=5.9						
TKM2	**Tokmak 2**	**49.46**	**337**	*e*P	**P**	**06 27 58.3**	**-0.6**
	1.0nm,0.5s						
MK31	**Makanchi Array**	**50.64**	**344**	*e*P	**P**	**06 28 07.3**	**-0.2**
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**06 28 07.5**	**-0.1**
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**06 28 07.5**	**-0.1**
	0.9nm,0.3s,baz=160,slow=8.8,SNR=39						
KURBB	**Kurchatov Arra**	**55.16**	**344**	P	**P**	**06 28 40.2**	**-0.6**
	0.7nm,0.4s,baz=211,slow=5.6,SNR=4.8						
KURK	**Kurchatov**	**55.22**	**344**	P	**P**	**06 28 40.2**	**-1.0**
ZALV	**Zalesovo Beam**	**56.78**	**349**	P	**P**	**06 28 51.4**	**-0.8**
ZALV	**Zalesovo Beam**	**56.78**	**349**	P	**P**	**06 28 51.4**	**-0.8**
	2.9nm,1.0s,baz=163,slow=5.6,SNR=8.8						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**06 29 12.7**	**-0.8**
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**06 29 12.7**	**-0.8**
	0.5nm,0.4s,baz=137,slow=9.9,SNR=7.5						
ABKAR	**Akbulak array**	**61.27**	**331**	*e*P	**P**	**06 29 23.2**	**-0.4**
	0.9nm,0.6s						
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**06 31 48.5**	**-0.3**
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**06 31 48.5**	**-0.3**
	3.6nm,1.0s,baz=94,slow=5.1,SNR=6.3						
TXAR	**Lajitas Array**	**144.42**	**37**	PKP	PKPbc	06 38 43.6	-0.1
TXAR	**Lajitas Array**	**144.42**	**37**	PKP	PKPbc	06 38 43.6	-0.1
	0.2nm,0.4s,baz=184,slow=0.9,SNR=5.4						

*MOS **07** 06:23:44.3±1.9, 52°77N×107°28E, h10km, mb4.3/1, Error ellipse: s-maj=17.1km s-min=10.9km az=49.6*
*BYKL **07** 06:23:44.3±0.2, 52°77N×107°28E*

ISC 07 06:23:42.9±0.7, 52°73N±0°02×107°38E±0°03, h10km, n33, σ1s77/61, 3C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRG	**Tyrgan**	**0.63**	**273**	*e*PG	**Pb**	**06 23 55.6**	**-0.4**
TRG				*e*		06 24 04.3	
TRG				pmax	pmax		
	comp=Z,397nm,0.1s						
TRG				smax	smax		
	comp=E,1μm,0.2s						
TRG	**Tyrgan**	**0.63**	**273**ǁ	*i*Pg	**Pb**	**06 23 55.4**	**-0.6**
TRG				*e*Sg	**Sb**	**06 24 03.9**	**-1.0**
TRG				Pmax			
	comp=E,398nm,0.1s						
TRG				Smax			
	comp=E,1μm,0.2s						
KAB	**Kabansk**	**0.82**	**213**	*e*Pg	**Pn**	**06 24 00.3**	**-0.2**
KAB				*e*Sg	**Sb**	**06 24 10.5**	**+0.2**
KAB				Pmax			
	comp=E,276nm,0.3s						
KAB				Smax			
	comp=E,2μm,0.5s						
OGRR	**Ongureny**	**0.92**	**8**	*e*PG	**Pb**	**06 24 01.1**	**+0.1**
OGRR				*e*		06 24 13.3	
OGRR				pmax	pmax		
	comp=Z,155nm,0.3s						
OGRR				smax	smax		
	comp=E,582nm,0.5s						
OGRR	**Ongureny**	**0.92**	**8**ǁ	*i*Pg	**Pb**	**06 24 01.0**	**+0.1**
OGRR				*e*Pb	**Pn**	**06 24 02.8**	**+0.9**
OGRR				*e*Sg	**Sg**	**06 24 12.6**	**+0.1**
OGRR				max			
	comp=E,134nm,0.1s						
OGRR				Smax			
	comp=E,472nm,0.1s						
HRMR	**Khuramsha**	**1.14**	**194**ǁ	*i*Pg	**Pn**	**06 24 05.7**	**+0.8**
HRMR				*e*Sg	**Sn**	**06 24 21.0**	**+0.4**
HRMR				*e*Sb	**Sg**	**06 24 23.1**	**+3.6**
HRMR				Pmax			
	comp=E,490nm,0.2s						
HRMR				max			
	comp=E,2μm,0.3s						
LSTR	**Listvyanka**	**1.79**	**242**	*e*PN	**Pb**	**06 24 15.7**	**0.0**
LSTR				*e*		06 24 38.5	
LSTR				pmax	pmax		
	comp=Z,44nm,0.4s						
LSTR				smax	smax		
	comp=N,253nm,0.3s						
LSTR	**Listvyanka**	**1.79**	**242**	*e*Pg	**Pb**	**06 24 15.5**	**-0.2**
LSTR				*e*		06 24 17.4	
LSTR				*e*Sn	**Sn**	**06 24 36.8**	**+0.2**
LSTR				*e*Sg	**Sb**	**06 24 38.5**	**+0.3**
LSTR				Pmax			
	comp=N,44nm,0.2s						
LSTR				Smax			
	comp=N,255nm,0.3s						
IRK	**Irkutsk**	**1.96**	**257**	*e*PN	**Pb**	**06 24 18.9**	**+0.2**
IRK				*e*		06 24 43.8	
IRK				pmax	pmax		
	comp=Z,199nm,0.2s						
IRK				smax	smax		
	comp=N,822nm,0.3s						
IRK	**Irkutsk**	**1.96**	**257**	*e*Pg	**Pb**	**06 24 19.2**	**+0.5**
IRK				*e*Sg	**Sb**	**06 24 43.9**	**+0.6**
IRK				Pmax			
	comp=N,156nm,0.1s						
IRK				Smax			
	comp=N,845nm,0.3s						
TLY	**Talaya**	**2.53**	**247**	*e*PN	**Pb**	**06 24 27.4**	**-1.0**
TLY				*e*		06 24 59.8	
TLY				pmax	pmax		
	comp=Z,25nm,0.3s						
TLY				smax	smax		
	comp=N,116nm,0.4s						
TLY	**Talaya**	**2.53**	**247**	*e*Pn	**Pn**	**06 24 24.9**	**+0.9**
TLY				*e*Pg	**Pb**	**06 24 28.7**	**+0.3**
TLY				*e*Sn	**Sn**	**06 24 55.1**	**+0.2**
TLY				*e*Sg	**Sb**	**06 25 00.5**	**+0.9**
TLY				Pmax			
	comp=N,22nm,0.2s						
TLY				Smax			
	comp=N,118nm,0.3s						
YLYR	**Ulyunkhan**	**3.10**	**45**	*e*PN	**Pn**	**06 24 33.3**	**+1.4**
YLYR				*e*		06 24 40.4	
YLYR				*e*S	**Sn**	**06 25 10.7**	**+1.8**
YLYR				*e*		06 25 20.1	
YLYR				pmax	pmax		
	comp=Z,12nm,0.3s						
YLYR				smax	smax		
	comp=E,88nm,0.7s						
YLYR	**Ulyunkhan**	**3.10**	**45**	*e*Pn	**Pn**	**06 24 33.3**	**+1.4**
YLYR				*e*Pg	**Pg**	**06 24 41.6**	**-0.7**
YLYR				*e*Sn	**Sn**	**06 25 10.8**	**+1.8**
YLYR				*e*Sg	**Sg**	**06 25 20.5**	**-1.9**
YLYR				Pmax			
	comp=E,10.0nm,0.4s						
YLYR				Smax			
	comp=E,85nm,0.7s						
ARS	**Arshan**	**3.15**	**257**	*e*PN	**Pb**	**06 24 39.2**	**+0.2**
ARS				*e*		06 25 18.8	
ARS				pmax	pmax		
	comp=Z,144nm,0.6s						
ARS				smax	smax		
	comp=E,768nm,0.6s						
ARS	**Arshan**	**3.15**	**257**	*e*Pn	**Pn**	**06 24 33.7**	**+1.1**
ARS				*e*Pg	**Pb**	**06 24 39.4**	**+0.4**
ARS				*e*Sn	**Sn**	**06 25 09.5**	**-0.7**
ARS				*e*Sg	**Sb**	**06 25 19.9**	**+2.5**
ARS				Pmax			
	comp=E,144nm,0.6s						
ARS				Smax			
	comp=E,767nm,0.8s						
NIZ	**Nizh Angarsk**	**3.30**	**22**	*e*PN	**Pn**	**06 24 36.0**	**+1.4**
NIZ				*e*		06 24 43.0	
NIZ				*e*S	**Sn**	**06 25 14.9**	**+1.1**
NIZ				*e*		06 25 25.4	
NIZ				pmax	pmax		
	comp=Z,22nm,0.4s						
NIZ				smax	smax		
	comp=N,148nm,0.5s						
NIZ	**Nizh Angarsk**	**3.30**	**22**	*e*Pn	**Pn**	**06 24 36.0**	**+1.4**
NIZ				*e*Pg	**Pb**	**06 24 43.9**	**+2.4**
NIZ				*e*		06 24 49.4	
NIZ				*e*Sg	**Sg**	**06 25 26.2**	**-2.5**
NIZ				Pmax			
	comp=N,22nm,0.4s						
NIZ				Smax			
	comp=N,149nm,0.6s						
ZAK	**Zakamensk**	**3.48**	**229**	*e*Pn	**Pn**	**06 24 39.5**	**+2.4**
ZAK				*e*Pg	**Pg**	**06 24 47.3**	**-2.2**
ZAK				*e*Sg	**Sg**	**06 25 31.3**	**-3.2**
ZAK				Pmax			
	comp=N,6.0nm,0.2s						
ZAK				Smax			
	comp=N,30nm,0.4s						
CIT	**Chita**	**3.85**	**98**	*e*PN	**Pg**	**06 24 54.3**	**-2.2**
CIT				*e*		06 25 45.2	
CIT				pmax	pmax		
	comp=Z,60nm,0.4s						
CIT				smax	smax		
	comp=E,230nm,0.7s						
CIT	**Chita**	**3.85**	**98**	*e*Sg	**Sg**	**06 25 45.6**	**-0.7**
CIT				Smax			
	comp=E,205nm,0.4s						
KMO	**Kumora**	**3.87**	**34**	*e*Sg	**Sg**	**06 25 43.8**	**-3.2**
KMO				Smax			
	comp=E,78nm,0.8s						
MOY	**Mondy**	**4.07**	**257**	*e*PN	Pn	06 24 48.7	+3.4
MOY				*e*		06 24 57.8	
MOY	**Mondy**	**4.07**	**257**	*e*Pn	Pn	06 24 48.4	+3.1
MOY				*e*Pg	**Pb**	**06 24 56.1**	**+1.4**
MOY				*e*PgPg	**PbPb**	**06 24 58.1**	**+0.2**
MOY				*e*		06 25 02.3	
MOY				*e*Sg	**Sb**	**06 25 46.7**	**+2.7**
MOY				*e*		06 26 00.4	
MOY				max			
	comp=E,49nm,0.5s						
MOY				Smax			
	comp=E,173nm,0.6s						
KPC	**Khapcheranga**	**4.37**	**132**	*e*PN	**Pn**	**06 24 50.3**	**+1.0**
KPC				*e*		06 25 04.1	
KPC				*e*		06 26 01.6	
KPC				pmax	pmax		
	comp=Z,39nm,0.5s						
KPC				smax	smax		
	comp=E,123nm,0.7s						
KPC	**Khapcheranga**	**4.37**	**132**	*e*Pn	**Pn**	**06 24 50.7**	**+1.4**
KPC				*e*Pg	**Pg**	**06 25 04.1**	**-2.4**
KPC				*e*		06 25 06.2	
KPC				*e*Sn	**Sn**	**06 25 41.8**	**+1.6**
KPC				*e*Sg	**Sg**	**06 26 01.3**	**-1.7**
KPC				max			
	comp=E,31nm,0.5s						
KPC				Smax			
	comp=E,115nm,1.1s						
UKT	**Uakit**	**4.59**	**51**	*e*Pn	**Pn**	**06 24 54.7**	**+2.3**
UKT				*e*Sg	**Sg**	**06 26 07.6**	**-2.7**
UKT				Smax			
	comp=E,37nm,0.8s						
ORL	**Orlik**	**4.62**	**271**	*e*PN	**Pn**	**06 24 55.3**	**+2.5**
ORL				*e*		06 25 06.9	
ORL				*e*		06 26 04.1	
ORL				pmax	pmax		
	comp=Z,24nm,0.7s						
ORL				smax	smax		
	comp=N,64nm,0.6s						
ULN	**Ulaanbaatar**	**4.88**	**183**	*e*Sg	**Sg**	**06 26 17.2**	**-2.3**
SVKR	**Severomuysk**	**4.95**	**44**	*e*Sg	**Sg**	**06 26 18.6**	**-3.0**
SVKR				Smax			
	comp=N,130nm,0.8s						
NLYR	**Nelyaty**	**6.12**	**49**	*e*PN	Pb	06 25 26.1	-3.5
NLYR				*e*		06 25 35.9	
NLYR				*e*		06 26 55.1	
NLYR				pmax	pmax		
	comp=Z,15nm,0.7s						
NLYR				smax	smax		
	comp=N,46nm,1.1s						
NLYR	**Nelyaty**	**6.12**	**49**	*e*Pn	**Pn**	**06 25 15.2**	**+1.8**
NLYR				*e*		06 25 29.2	
NLYR				*e*Pg	Pg	06 25 35.6	-4.5
NLYR				*e*Sg	**Sg**	**06 26 54.2**	**-5.1**
NLYR				Pmax			
	comp=N,4.0nm,0.5s						
NLYR				Smax			
	comp=N,47nm,1.0s						
TUP	**Tupik**	**7.67**	**72**	*e*Pg	Pb	06 26 02.4	+6.5
TUP				*e*Sg	Sg	06 27 42.2	-6.7
TUP				Smax			
	comp=N,69nm,1.4s						

IDC 07 06:38:02.4±0.9, 14°97S×70°66W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/20, mbtmp3.8/6, ML2.4/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/24, Error ellipse: s-maj=44.3km s-min=23.7km az=71.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**9.30**	**98**	Pn	Pn	06 40 22.6	+4.7
	0.2nm,0.3s,baz=283,slow=12,SNR=10						
SIV				Sn	Sn	06 42 20.2	+17
	0.3nm,0.3s,baz=351,slow=19,SNR=2.9						
CFAA	**Coronel Fontan**	**16.71**	**173**	Pn	Pn	06 41 57.5	-0.5
	0.0nm,0.3s,baz=348,slow=10,SNR=5.7						
PTGA	**Pitinga**	**17.65**	**38**	P	P	06 42 13.4	+2.4
	0.6nm,0.3s,baz=214,slow=15,SNR=8.9						
PTGA				LR	LR	06 49 39.4	
	comp=Z,166nm,18.3s,baz=223,slow=40						
H03N1	**Juan Fernandez**	**19.86**	**201**	T	T	07 00 58.9	
	baz=21,slow=75,SNR=56						
H03N2	**Juan Fernandez**	**19.86**	**201**	T	T	07 01 03.3	
	baz=21,slow=75,SNR=46						
H03N3	**Juan Fernandez**	**19.88**	**201**	T	T	07 01 02.3	
	baz=21,slow=75,SNR=60						
BDFB	**Brasilia**	**21.85**	**95**	LR	LR	06 52 39.3	
	comp=Z,113nm,21.6s,baz=280,slow=40						
PLCA	**Paso Flores**	**25.67**	**180**	P	P	06 43 34.2	0.0
	4.8nm,1.0s,baz=359,slow=13,SNR=6.1						
TXAR	**Lajitas Array**	**54.36**	**324**	P	P	06 47 30.9	-0.3
	0.6nm,0.7s,baz=146,slow=8.5,SNR=7.5						
PDAR	**Pinedale Array**	**67.65**	**330**	P	P	06 49 01.6	0.0
	0.3nm,0.6s,baz=134,slow=7.8,SNR=3.2						
DBIC	**Dimbokro**	**68.66**	**77**	LR	LR	07 20 42.4	
	comp=Z,57nm,18.5s,baz=244,slow=37						
TORD	**Torodi Ar. Bea**	**76.86**	**72**	P	P	06 49 56.7	-0.2
	0.4nm,0.6s,baz=262,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	**84.50**	**341**	P	P	06 50 36.5	-0.3
	2.2nm,0.6s,baz=134,slow=5.2,SNR=85						
KEST	**Kesra**	**90.73**	**53**	LR	LR	07 34 07.9	
	comp=Z,25nm,18.4s,baz=271,slow=37						
ZALV	**Zalesovo Beam**	**136.62**	**21**	PKP	PKPdf	06 57 26.7	+0.3
	1.0nm,0.6s,baz=273,slow=2.5,SNR=4.4						
SONM	**Songino Array**	**147.14**	**4**	PKPbc	PKPbc	06 57 47.9	+0.2
	0.8nm,0.5s,baz=352,slow=8.5,SNR=5.1						

*ISCJB **07** 06:45:34.4±1.7, 5°4S±0°3×152°1E±0°4, h45km, mb3.5/4, Error ellipse: s-maj=72.0km s-min=12.9km az=41.6*
*IDC **07** 06:45:36.6±6.5, 5°42S×152°18E, h54km±55km, mb3.4/4, mb1 3.7/5, mb1mx3.4/19, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=70.1km s-min=32.9km az=124.0*

ISC 07 06:45:35.8±2.0, 5°3S±0°4×152°2E±0°5, h45km, n6, σ1s23/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.44**	**231**	P	**Pn**	**06 47 09.7**	**+1.6**
	1.5nm,0.3s,baz=28,slow=6.1,SNR=3.6						
PMG				S	**Sn**	**06 48 19.7**	**-0.6**
	2.8nm,0.3s,baz=73,slow=16,SNR=7.3						
WRA	**Warramunga Arr**	**22.65**	**229**	P	**P**	**06 50 31.9**	**-1.5**
	0.8nm,0.5s,baz=54,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**25.36**	**222**	P	**P**	**06 50 58.0**	**-0.9**
	1.1nm,0.7s,baz=57,slow=8.3,SNR=14						
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**06 57 42.2**	**-0.2**
	0.3nm,0.7s,baz=90,slow=4.3,SNR=3.2						
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**	**06 57 55.6**	**+0.2**
	0.7nm,0.7s,baz=253,slow=5.5,SNR=9.8						
TORD	**Torodi Ar. Bea**	**149.90**	**287**	PKPbc	**PKPbc**	**07 05 22.3**	**0.0**
	0.2nm,0.3s,baz=97,slow=2.9,SNR=5.5						

IDC 07 06:58:04.0±2.0, 2°91N×125°85E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=188.9km s-min=24.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.20**	**160**	P	P	07 03 22.8	+0.3
	0.6nm,0.5s,baz=339,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**27.56**	**164**	P	P	07 03 53.1	+0.2
	0.2nm,0.7s,baz=1.8,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**57.73**	**326**	P	P	07 07 56.4	-0.4
	0.4nm,0.5s,baz=116,slow=7.3,SNR=9.3						

*JMA **07** 07:03:42.7±0.2, 25°08N×126°27E, h47km, M3.8*
*ISCJB **07** 07:03:43.5±0.8, 25°25N±0°08×126°10E±0°07, h27km±7km, mb3.3/3, Error ellipse: s-maj=17.0km s-min=4.5km az=142.2*
*IDC **07** 07:03:43.3±4.5, 25°26N×127°20E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=334.5km s-min=33.4km az=95.0*

ISC 07 07:03:43.2±3.4, 25°23N±0°08×126°12E±0°06, h16km±23km, n16, σ1s24/24, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.80**	**235**	P	**Pb**	**07 03 58.3**	**-0.4**
JOGS				S	**Sb**	**07 04 09.6**	**+0.4**
JMJ	**Miyako jima 2**	**0.86**	**242**	P	**Pb**	**07 03 59.2**	**-0.5**
JMJ				*e*S	**Sb**	**07 04 11.1**	**+0.2**
JKE	**Kume jima 2**	**1.25**	**29**	P	**Pn**	**07 04 05.2**	**-0.8**
JKE				*e*S	**Sb**	**07 04 21.5**	**-0.7**
JTJ	**Tarama**	**1.42**	**246**	P	**Pn**	**07 04 07

IDC **07** 07:09:14.6±3.6, 12°.83N×87°.31W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/21, mbtmp3.6/4, Error ellipse: s-maj=70.4km s-min=60.4km az=3.0

ISC 07 07:09:19.9±2.2, **12°.9N**±0°.3×**87°.3W**±0°.4, **h35**km, **n6**, σ1**s36**/6, **mb3.8**/4, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.34**	**320**	P		**P**	**07 14 16.3**	**+1.3**
	0.3nm,0.5s,baz=141,slow=9.4,SNR=5.0							
ULM	**Lac du Bonnet**	**37.94**	**351**	P		**P**	**07 16 33.0**	**-1.0**
	1.3nm,0.4s,baz=166,slow=6.6,SNR=4.1							
SCHQ	**Schefferville**	**44.85**	**17**	P		**P**	**07 17 31.9**	**+1.2**
	1.4nm,0.4s,baz=212,slow=7.6,SNR=7.8							
YKA	**Yellowknife Ar**	**53.25**	**345**	P		**P**	**07 18 33.6**	**-1.2**
	0.2nm,0.5s,baz=147,slow=6.6,SNR=9.4							
WRA	**Warramunga Arr**	**139.51**	**254**	PKP		**PKPdf**	**07 28 44.9**	**+0.2**
	0.9nm,0.6s,baz=90,slow=2.5,SNR=13							
ASAR	**Alice Springs**	**139.54**	**249**	PKP		**PKPdf**	**07 28 44.6**	**-0.1**
	0.5nm,0.6s,baz=79,slow=1.9,SNR=10							

NIED **07** 07:11:00, 27°.90N×128°.90E, h50km, Mw4.8 Best double couple: M0 1.85000×10^16 NP1:φs336.00000°, δ45.00000°, λ47.00000°. NP2:φs210.00000°, δ59.00000°, λ125.00000°.

ISCJB **07** 07:11:35.0±0.3, 27°.91N±0°.02×128°.88E±0°.02, h48km±2km, mb5.0/139, MS4.1/30, Error ellipse: s-maj=4.3km s-min=2.7km az=144.0

BJI **07** 07:11:34.8, 27°.69N×128°.90E, h57km, mB4.8/41, mb4.7/55, Ms4.3/51, Ms7 4.0/48

NEIC **07** 07:11:35.6±0.1, 27°.90N×128°.88E, mb5.1/68, MW4.8(NIED), Error ellipse: s-maj=5.1km s-min=3.4km az=134.0

NEIC Recorded [4 JMA] on Tokuno-shima, [3 JMA] on Amami-oshima and Uke-jima, [2 JMA] on Okino-erabu-shima and [1 JMA] on Kikaiga-jima and Yoron-jima.

JMA **07** 07:11:35.3±0.1, 27°.95N×128°.88E, h44km±1km, M4.8 JMA Felt IV J1.

MOS **07** 07:11:36.0±1.1, 27°.83N×128°.89E, h66km, mb5.2/64, MS4.0/13, Error ellipse: s-maj=7.7km s-min=4.3km az=107.9

IDC **07** 07:11:36.1±1.8, 27°.89N×128°.88E, h55km±15km, mb4.5/26, mb1 4.6/30, mb1mx4.6/34, mbtmp4.5/30, ML4.3/3, MS3.9/20, Ms1 3.9/20, ms1mx3.8/36, Error ellipse: s-maj=13.5km s-min=9.5km az=76.0

ISC 07 07:11:36.0±0.3, **27°.86N**±0°.03×**128°.99E**±0°.03, **h51**km±2km, **h51**km:**pP-P**, **n540**, σ1**s23**/643, **mb5.0**/142, **MS4.0**/30, **94C-95D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.08**	**204**	P		**Pn**	**07 11 42.6**	**-1.4**
JTK				S		**Sn**	**07 11 47.7**	**-1.9**
JAMN	**Amaminishikomi**	**0.42**	**23**	P		**Pn**	**07 11 44.8**	**-1.6**
JAMN				S		**Sn**	**07 11 51.5**	**-2.4**
JAM	**Amami Oshima**	**0.78**	**45**	P		**Pn**	**07 11 49.7**	**-1.1**
JAM				S		**Sn**	**07 11 59.8**	**-1.7**
JZK	**Kikaishima**	**0.98**	**62**	P		**Pn**	**07 11 54.3**	**+0.8**
JOW	**Kunigami**	**1.20**	**212**	P		**Pn**	**07 11 56.3**	**-0.2**
JOW				S		**Sn**	**07 12 11.4**	**-0.4**
JOW	**Kunigami**	**1.20**	**212**	*e*Sn		**Sn**	**07 12 13.1**	**+1.3**
JOW				*e*Sn		**Sn**	**07 12 13.1**	**+1.3**
JIH	**Iheya**	**1.22**	**228**	P		**Pn**	**07 11 56.1**	**-0.7**
JIH				*e*S		**Sn**	**07 12 11.2**	**-1.0**
JAGN	**Aguni-jima**	**2.00**	**231**	P		**Pn**	**07 12 06.9**	**-0.5**
JAGN				S		**Sn**	**07 12 31.4**	**+0.1**
JJT2	**Tamagusuku 2**	**2.04**	**213**	P		**Pn**	**07 12 08.3**	**+0.4**
JNN	**Nakanoshima**	**2.12**	**21**	P		**Pn**	**07 12 07.8**	**-1.3**
JNN				S		**Sn**	**07 12 31.8**	**-2.5**
JKE	**Kume jima 2**	**2.49**	**233**	P		**Pn**	**07 12 13.5**	**-0.5**
JKC	**Kuchinoerabu**	**2.80**	**22**	P		**Pn**	**07 12 17.5**	**-0.8**
JKC				S		**Sn**	**07 12 48.6**	**-2.3**
JTN	**Tanegashima 3**	**3.28**	**32**	P		**Pn**	**07 12 25.2**	**+0.2**
JNU	**Nakatsue**	**5.49**	**17**	P		**Pn**	**07 12 57.5**	**+2.2**
	27nm,0.3s,baz=311,slow=1.4,SNR=136							
JNU				S		**Sn**	**07 13 58.8**	**+1.6**
	baz=185,slow=12,SNR=1.4							
TATO	**Taipei**	**7.31**	**249**	*e*Pn		**Pn**	**07 13 22.4**	**+2.2**
SSE	**Sheshan**	**7.53**	**297**	P		**Pn**	**07 13 23.0**	**-0.1**
SSE				pmax	pmax			
	comp=Z,56nm,0.8s							
SSE				pmax	pmax			
	comp=Z,200nm,7.0s							
SSE				LR	LR			
	comp=N,610nm,20.8s							
SSE				LR	LR			
	comp=E,600nm,20.8s							
SSE				LR	LR			
	comp=Z,1μm,18.2s							
YULB	**Yu-li**	**8.24**	**239**	*e*Sn		**Sn**	**07 15 03.7**	**-1.0**
SSLB	**Suanglung**	**8.29**	**243**	*e*Sn		**Sn**	**07 15 02.6**	**-3.5**
SSLB				*e*Sn		**Sn**	**07 15 02.6**	**-3.5**
TJN	**Taejon**	**8.60**	**351**	*e*P		Pn	07 13 41.2	+3.3
KSAR	**Wonju Array Be**	**9.60**	**355**	P		**Pn**	**07 13 54.1**	**+2.6**
KSRS	**Korea Array**	**9.61**	**355**	P		**Pn**	**07 13 54.1**	**+2.5**
	1.9nm,0.3s,baz=177,slow=14,SNR=29							
NJ2	**Nanjing**	**9.73**	**298**	*e*P		**Pn**	**07 13 54.2**	**+0.9**
NJ2				S		**Sn**	**07 15 44.0**	**+2.9**
NJ2				pmax	pmax			
	comp=Z,80nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,480nm,6.0s							
NJ2				LR	LR			
	comp=N,930nm,18.8s							
NJ2				LR	LR			
	comp=E,1μm,23.9s							
NJ2				LR	LR			
	comp=Z,730nm,24.1s							
MAJO	**Matsushiro**	**11.65**	**40**	⇓*e*P		Pn	07 14 23.9	+4.3
MJAR	**Matsushiro Arr**	**11.65**	**40**	P		**Pn**	**07 14 22.0**	**+2.4**
MJAR	**Matsushiro Arr**	**11.65**	**40**	P		**Pn**	**07 14 22.0**	**+2.4**
	0.6nm,0.3s,baz=225,slow=15,SNR=4.9							
JCJ	**Chichijima**	**11.74**	**91**	LR		LR	07 18 18.8	
	comp=Z,900nm,19.8s,baz=249,slow=34							
WHN	**Wuhan**	**13.06**	**285**	P		**Pn**	**07 14 42.0**	**+3.1**
WHN				LR	LR			
WHN	comp=N,960nm,12.5s			LR	LR			
	comp=E,2μm,12.3s							
WHN				LR	LR			
	comp=Z,2μm,13.5s							
SNY	**Shenyang**	**14.62**	**344**	⇑P		**Pn**	**07 15 02.3**	**+2.6**
SNY				pmax	pmax			
	comp=Z,16nm,1.2s							
SNY				pmax	pmax			
	comp=Z,410nm,4.9s							
SNY				LR	LR			
	comp=N,680nm,15.2s							
SNY				LR	LR			
	comp=E,890nm,15.5s							
SNY				LR	LR			
	comp=Z,720nm,16.7s							
VLA	**Vladivostok**	**15.41**	**8**	*c* *i*P		**P**	**07 15 13.1**	**-0.6**
VLA				pmax	pmax			
	comp=Z,168nm,2.5s							
BJT	**Baijiatuan**	**16.11**	**322**	*e*P		**P**	**07 15 21.9**	**+0.4**
	comp=Z,84nm,0.8s							
BJI	**Beijing**	**16.12**	**322**	P		**P**	**07 15 20.9**	**-0.7**
BJI				pP		**pP**	**07 15 35.3**	**+2.2**
BJI				sP		**sP**	**07 15 40.4**	**+0.7**
BJI				pmax	pmax			
	comp=Z,67nm,1.1s							
BJI				pmax	pmax			
	comp=Z,240nm,5.8s							
BJI				LR	LR			
	comp=Z,380nm,18.3s							
BJI				LR	LR			
	comp=Z,530nm,20.3s							
BJI				LR	LR			
	comp=Z,340nm,26.1s							
CN2	**Changchun**	**16.16**	**351**	*e*P		**P**	**07 15 25.1**	**+3.1**
CN2				pmax	pmax			
	comp=Z,50nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,500nm,17.0s							
CN2				LR	LR			
	comp=Z,700nm,17.0s							
CN2				LR	LR			
	comp=Z,500nm,20.0s							
USRK	**Ussuriysk Arra**	**16.48**	**8**	P		**P**	**07 15 25.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=189,slow=11,SNR=6.5							
MDJ	**Mudanjiang**	**16.73**	**2**	P		**P**	**07 15 30.3**	**+2.0**
MDJ				pmax	pmax			
	comp=Z,18nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,100nm,3.1s							
MDJ	**Mudanjiang**	**16.73**	**2**	*e*Pn		**P**	**07 15 30.2**	**+1.8**
	comp=Z,21nm,0.9s							
ENH	**Enshi**	**17.22**	**283**	*e*Pn		**P**	**07 15 34.0**	**+0.1**
	comp=Z,48nm,0.8s							
XAN	**Xi'an**	**18.27**	**295**	P		**Pn**	**07 15 46.0**	**+0.2**
XAN				pP		**pP**	**07 15 52.8**	**-4.3**
XAN				S		**S**	**07 19 11.6**	**-0.2**
XAN				ScP		**ScP**	**07 23 48.3**	**+1.3**
XAN				pmax	pmax			
	comp=Z,22nm,0.6s							
XAN				pmax	pmax			
	comp=Z,30nm,3.7s							
XAN				LR	LR			
	comp=Z,190nm,13.3s							
XAN				LR	LR			
	comp=Z,140nm,14.1s							
XAN				LR	LR			
	comp=Z,190nm,13.3s							
HHC	**Hu-ho-hao-te**	**19.31**	**317**	*e*P		**Pn**	**07 15 58.3**	**-0.1**
HHC				pP		**pP**	**07 16 07.7**	**-0.9**
HHC				sP		**sP**	**07 16 14.8**	**-0.3**
HHC				S		**S**	**07 19 30.2**	**-2.7**
HHC				sS		sS	07 19 43.6	-8.1
HHC				PcP		**PcP**	**07 20 20.1**	**+2.4**
HHC				PcS		**PcS**	**07 23 52.7**	**-2.1**
HHC				pmax	pmax			
	comp=Z,19nm,0.6s							
HHC				pmax	pmax			
	comp=Z,230nm,6.2s							
HHC				LR	LR			
	comp=Z,810nm,12.7s							
HHC				LR	LR			
	comp=Z,770nm,13.5s							
HHC				LR	LR			
	comp=Z,730nm,13.1s							
ASAJ	**Asahikawa**	**19.56**	**30**	P		**P**	**07 15 59.8**	**+0.3**
ASAJ	**Asahikawa**	**19.56**	**30**	P		**P**	**07 15 59.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=146,slow=7.2,SNR=4.1							
ASAJ				LR	LR		07 23 07.8	
	comp=Z,234nm,20.1s,baz=168,slow=35							
QIZ	**Qiongzhong**	**19.62**	**248**	P		**P**	**07 16 00.6**	**+0.3**
QIZ				pP		**pP**	**07 16 12.0**	**0.0**
QIZ				sP		**sP**	**07 16 18.5**	**0.0**
QIZ				S		**S**	**07 19 38.2**	**-0.9**
QIZ				pmax	pmax			
	comp=Z,160nm,4.5s							
QIZ				LR	LR			
	comp=Z,280nm,22.3s							
QIZ				LR	LR			
	comp=Z,200nm,19.5s							
QIZ				LR	LR			
	comp=Z,360nm,23.7s							
GYA	**Guiyang**	**19.91**	**271**	P		**Pn**	**07 16 05.4**	**-0.2**
GYA				pP		**pP**	**07 16 16.2**	**+0.5**
GYA				sP		**sP**	**07 16 24.0**	**+2.2**
GYA				S		**S**	**07 19 41.7**	**-3.3**
GYA				sS		sS	07 19 57.2	-6.8
GYA				SS		**SnSn**	**07 20 08.9**	**+5.2**
GYA				ScP		**ScP**	**07 23 52.2**	**+1.2**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GYA				pmax	pmax			
	comp=Z,90nm,4.7s							
GYA				LR	LR			
	comp=Z,680nm,14.3s							
GYA				LR	LR			
	comp=Z,560nm,15.9s							
GYA				LR	LR			
	comp=Z,650nm,14.7s							
HABR	**Khabarovsk**	**21.11**	**11**	P		**P**	**07 16 15.7**	**-0.5**
HABR				*e**SP		**sP**	**07 16 37.3**	**+2.8**
HABR				*e*			07 16 38.1	
HABR				*e*S		**S**	**07 20 09.6**	**+1.4**
HABR				*e*			07 20 19.4	
HABR				*e*SS		**SnSn**	**07 20 36.5**	**+3.7**
HABR				*e*			07 27 34.9	
HABR				pmax	pmax			
	comp=Z,34nm,1.5s							
HABR				MLR	MLR			
	comp=Z,160nm,19.0s							
KLR	**Kul'dur**	**21.45**	**5**	*e*P		**P**	**07 16 16.0**	**-3.8**
YSS	**Yuzh-Sakhalins**	**21.91**	**26**	*e*P		**P**	**07 16 26.0**	**+1.2**
CD2	**Chengdu**	**22.18**	**284**	⇓*i*P		**P**	**07 16 27.2**	**-0.7**
CD2				pP		**pP**	**07 16 40.2**	**+0.4**
CD2				sP		**sP**	**07 16 46.8**	**+0.6**
CD2				PP		**PnPn**	**07 16 55.3**	**+3.4**
CD2				S		**S**	**07 20 22.8**	**-6.4**
CD2				sS		Sn	07 20 43.2	+0.1
CD2				SS		**SnSn**	**07 21 04.3**	**+5.2**
CD2				pmax	pmax			
	comp=Z,100nm,1.0s							
CD2				pmax	pmax			
	comp=Z,100nm,5.4s							
CD2				LR	LR			
	comp=Z,570nm,17.8s							
CD2				LR	LR			
	comp=Z,1μm,15.5s							
CD2				LR	LR			
	comp=Z,930nm,14.9s							
LZH	**Lanzhou**	**22.81**	**297**	*e*P		**P**	**07 16 35.3**	**+0.6**
LZH				pP		**pP**	**07 16 46.1**	**-0.4**
LZH				sP		**sP**	**07 16 51.5**	**-1.5**
LZH				*e*S		**S**	**07 20 37.0**	**-3.2**
LZH				sS		Sn	07 20 57.6	-0.6
LZH				SS		**SnSn**	**07 21 20.4**	**+5.8**
LZH				pmax	pmax			
	comp=Z,34nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,4.7s							
LZH				LR	LR			
	comp=Z,150nm,9.5s							
LZH				LR	LR			
	comp=Z,550nm,12.4s							
LZH				LR	LR			
	comp=Z,610nm,14.3s							
KMI	**Kunming**	**23.64**	**269**	P		**P**	**07 16 42.7**	**-0.2**
KMI				S		**S**	**07 20 52.0**	**-2.1**
KMI				pmax	pmax			
	comp=Z,21nm,0.6s							
KMI				LR	LR			
	comp=Z,300nm,18.4s							
KMI				LR	LR			
	comp=Z,280nm,14.6s							
KMI				LR	LR			
	comp=Z,300nm,16.5s							
KDM	**Kudat**	**23.80**	**211**	⇓P		**P**	**07 16 44.9**	**+0.7**
MYLDM	**Lahad Datu**	**24.66**	**206**	⇑P		P	07 16 56.9	+4.8
SDKM	**Sandakan**	**24.78**	**209**	⇑P		**P**	**07 16 54.0**	**+0.8**
KKM	**Kota Kinabalu**	**24.86**	**212**	*e*P		**P**	**07 16 54.0**	**0.0**
KKM	**Kota Kinabalu**	**24.86**	**212**	⇑P		**P**	**07 16 54.5**	**+0.6**
TSM	**Tawau**	**25.72**	**206**	⇓P		**P**	**07 17 03.4**	**+1.7**
SONM	**Songino Array**	**26.59**	**325**	P		**P**	**07 17 08.6**	**-0.8**
SONM	**Songino Array**	**26.59**	**325**	P		**P**	**07 17 08.6**	**-0.8**
	comp=Z,10nm,0.8s,baz=143,slow=8.4,SNR=33							
GTA	**Gaotai**	**26.77**	**303**	P		**P**	**07 17 10.0**	**-1.1**
GTA				pP		**pP**	**07 17 21.9**	**-2.3**
GTA				sP		**sP**	**07 17 27.3**	**-3.1**
GTA				PcP		**PcP**	**07 20 33.3**	**+0.1**
GTA				S		**S**	**07 21 39.8**	**-3.8**
GTA				sS		sS	07 22 00.2	-5.6
GTA				SS		**SnSn**	**07 22 52.0**	**+0.7**
GTA				pmax	pmax			
	comp=Z,22nm,0.6s							
GTA				pmax	pmax			
	comp=Z,110nm,5.7s							
GTA				LR	LR			
	comp=Z,280nm,16.2s							
GTA				LR	LR			
	comp=Z,360nm,18.5s							
GTA				LR	LR			
	comp=Z,530nm,18.1s							
CHAI	**Chaiyaphum**	**27.67**	**250**	P		**P**	**07 17 19.6**	**+0.3**
	comp=Z,6.6nm,1.0s							
PBKT	**Sadao Pong**	**28.20**	**252**	P		**P**	**07 17 24.4**	**+0.5**
	comp=Z,33nm,0.9s							
CHTO	**Chiang Mai**	**28.95**	**258**	P		**P**	**07 17 30.8**	**+0.1**
	comp=Z,50nm,0.7s							
CMAR	**Chiang Mai Arr**	**29.10**	**258**	P		**P**	**07 17 31.1**	**-1.0**
CMAR				PcP		**PcP**	**07 20 39.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**29.10**	**258**	P		**P**	**07 17 31.1**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=66,slow=5.5,SNR=11							
CMAR				PcP		**PcP**	**07 20 39.8**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=104,slow=0.8,SNR=10							
CMAR				LR		LR	07 29 38.7	
	comp=Z,189nm,19.0s,baz=212,slow=37							
ZAK	**Zakamensk**	**29.79**	**326**	*e*P		**P**	**07 17 35.0**	**-2.9**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.8s							
SBUM	**Sibu**	**29.92**	**215**	*e*P		**P**	**07 17 39.7**	**+0.4**
	comp=Z,9.0nm,1.0s							
SBUM	**Sibu**	**29.92**	**215**	⇓P		**P**	**07 17 39.6**	**+0.4**
TLY	**Talaya**	**30.46**	**328**	*e*P		P	07 17 48.3	+4.6
TLY				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,267nm,17.0s							
PETK	**Petropavlovsk-**	**32.96**	**32**	P		**P**	**07 18 04.9**	**-0.8**
PETK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
PETK				MLR	MLR			
	comp=Z,101nm,19.6s							
PETK	**Petropavlovsk-**	**32.96**	**32**	P		**P**	**07 18 04.9**	**-0.8**
PETK	**Petropavlovsk-**	**32.96**	**32**	P		**P**	**07 18 04.9**	**-0.8**
	comp=Z,8.8nm,0.8s,baz=199,slow=4.1,SNR=6.3							
PETK				LR		LR	07 31 45.8	
	comp=Z,101nm,19.6s,baz=219,slow=37							
LSA	**Lhasa**	**33.12**	**282**	*e*P		**P**	**07 18 08.0**	**+0.1**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.4s							
LSA	**Lhasa**	**33.12**	**282**	*e*P		**P**	**07 18 08.0**	**+0.1**
	comp=Z,5.8nm,0.4s							
SHL	**Shillong**	**33.14**	**275**	*ex*		**P**	**07 18 08.0**	**+0.2**
KTGM	**Kuala Trenggan**	**33.25**	**232**	⇓P		**P**	**07 18 06.0**	**-2.6**
PET	**Petropavlovsk**	**33.37**	**33**	*e*P		**P**	**07 18 09.8**	**+0.7**
YAK	**Yakutsk**	**34.17**	**1**	*e*P		**P**	**07 18 18.8**	**+2.8**
KULM	**Kulim**	**35.06**	**235**	⇓P		**P**	**07 18 24.0**	**-0.2**
IPM	**Ipoh**	**35.34**	**234**	*e*P		**P**	**07 18 26.8**	**+0.1**
	comp=Z,16nm,0.8s							
IPM	**Ipoh**	**35.34**	**234**	⇑P		**P**	**07 18 27.1**	**+0.4**
MYKOM	**Kota Tinggi**	**35.36**	**227**	*e*P		**P**	**07 18 28.2**	**+1.4**
	comp=Z,35nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**35.51**	**95**	T		T	07 56 05.5	
	baz=293,slow=75,SNR=135							
H11N1	**WAKE ISLAND Hy**	**35.52**	**95**	T		T	07 56 03.5	
	baz=293,slow=75,SNR=101							
H11N3	**WAKE ISLAND Hy**	**35.52**	**95**	T		T	07 56 04.1	
	baz=293,slow=75,SNR=167							
KGM	**Kluang**	**35.53**	**228**	⇑P		**P**	**07 18 29.8**	**+1.5**
H11S3	**WAKE ISLAND Hy**	**35.77**	**97**	T		T	07 56 19.8	
	baz=295,slow=73,SNR=41							
H11S1	**WAKE ISLAND Hy**	**35.78**	**97**	T		T	07 56 15.1	
	baz=295,slow=73,SNR=24							
H11S2	**WAKE ISLAND Hy**	**35.79**	**97**	T		T	07 56 28.4	
	baz=295,slow=73,SNR=32							
TAPN	**Taplejung**	**36.46**	**279**	*e*P		**P**	**07 18 36.5**	**0.0**
	comp=Z,16nm,0.6s							
WMQ	**Urumqi**	**36.65**	**307**	P		**P**	**07 18 38.4**	**+0.7**
WMQ				pP		**pP**	**07 18 53.6**	**+2.5**
WMQ				sP		**sP**	**07 19 00.8**	**+3.7**
WMQ				PP		**PnPn**	**07 20 04.4**	**+2.3**
WMQ				PcP		**PcP**	**07 21 00.9**	**+1.2**
WMQ				S		**S**	**07 24 16.3**	**-1.0**
WMQ				pmax	pmax			
	comp=Z,11nm,0.6s							
WMQ				pmax	pmax			
	comp=Z,15nm,6.7s							
WMQ				LR	LR			
	comp=Z,250nm,22.5s							
WMQ				LR	LR			
	comp=Z,180nm,23.7s							
WMQ				LR	LR			
	comp=Z,220nm,24.8s							
ODAN	**Odare**	**36.83**	**278**	*e*P		**P**	**07 18 39.1**	**-0.5**
	comp=Z,53nm,0.4s							
RAMN	**Ramite**	**37.51**	**279**	*e*P		**P**	**07 18 44.0**	**-1.3**
	comp=Z,21nm,0.7s							
JIRN	**Jiri**	**37.73**	**280**	*e*P		**P**	**07 18 47.1**	**-0.3**
	comp=Z,20nm,0.5s							
GUN	**Gumba**	**37.95**	**280**	*e*P		**P**	**07 18 49.5**	**+0.3**
	comp=Z,48nm,0.4s							
SEY	**Seymchan**	**38.27**	**17**	⇑*e*P		**P**	**07 18 53.6**	**+2.6**
SEY	**Seymchan**	**38.27**	**17**	P		**P**	**07 18 50.6**	**-0.4**
SEY	**Seymchan**	**38.27**	**17**	P		**P**	**07 18 50.6**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=37,slow=22,SNR=9.6							
PKI	**Pulchoki**	**38.43**	**280**	*e*P		**P**	**07 18 52.4**	**-0.8**
	comp=Z,35nm,0.5s							
KKN	**Kakani**	**38.50**	**280**	*e*P		**P**	**07 18 53.2**	**-0.5**
	comp=Z,33nm,0.5s							
DMN	**Daman**	**38.68**	**280**	*e*P		**P**	**07 18 54.1**	**-1.2**
	comp=Z,46nm,0.9s							
GKN	**Gorkha**	**39.02**	**281**	*e*P		**P**	**07 18 56.9**	**-1.1**
	comp=Z,50nm,0.6s							
DANN	**Dangsing**	**39.72**	**282**	*e*P		**P**	**07 19 03.8**	**-0.1**
	comp=Z,68nm,0.6s							
KOLN	**Koldanda**	**39.96**	**281**	*e*P		**P**	**07 19 05.5**	**-0.4**
	comp=Z,17nm,0.5s							
PYUN	**Piuthan**	**40.43**	**282**	*e*P		**P**	**07 19 09.5**	**-0.3**
	comp=Z,53nm,0.7s							
MK31	**Makanchi Array**	**40.98**	**310**	*e*P		**P**	**07 19 13.1**	**-0.7**
MK31	**Makanchi Array**	**40.98**	**310**	*e*P		**P**	**07 19 13.1**	**-0.7**
MKAR	**Makanchi Array**	**40.98**	**310**	P		**P**	**07 19 13.1**	**-0.7**
MKAR							07 21 12.8	
MKAR				pmax	pmax			
	comp=Z,11nm,0.8s							
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MKAR				pmax	pmax			
	comp=N,1.0nm,0.9s							
MKAR				MLR	MLR			
	comp=Z,95nm,19.5s							
MKAR	**Makanchi Array**	**40.98**	**310**	P		**P**	**07 19 13.1**	**-0.7**
MKAR				PcP		**PcP**	**07 21 12.8**	**-0.4**
MKAR				ScP		**ScP**	**07 24 59.2**	**+0.5**
MKAR	**Makanchi Array**	**40.98**	**310**	P		**P**	**07 19 13.1**	**-0.7**
	comp=Z,11nm,0.8s,baz=99,slow=9.6,SNR=80							
MKAR				PcP		**PcP**	**07 21 12.8**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=74,slow=4.3,SNR=4.3							
MKAR				ScP		**ScP**	**07 24 59.2**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=108,slow=4.0,SNR=4.2							
MKAR				LR		LR	07 37 52.7	
	comp=Z,95nm,19.5s,baz=352,slow=39							
PMG	**Port Moresby**	**41.01**	**152**	P		**P**	**07 19 14.3**	**0.0**
PMG	**Port Moresby**	**41.01**	**152**	P		**P**	**07 19 14.3**	**0.0**
	comp=Z,30nm,0.7s,baz=357,slow=5.4,SNR=11							
PMG				LR		LR	07 34 37.7	
	comp=Z,245nm,19.0s,baz=155,slow=34							
ZAA0	**Zalesovo Array**	**41.38**	**321**	*e*P		**P**	**07 19 16.2**	**-0.7**
ZALV	**Zalesovo Beam**	**41.38**	**321**	P		**P**	**07 19 16.2**	**-0.8**
ZALV							07 21 13.5	
ZALV				pmax	pmax			
	comp=Z,8.0nm,0.6s							
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV				pmax	pmax			
	comp=N,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**41.38**	**321**	P		**P**	**07 19 16.1**	**-0.8**
ZALV				PcP		**PcP**	**07 21 13.5**	**-0.7**
ZALV				ScP		**Sc

comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,95nm,4.5s
KSH LR LR
comp=Z,80nm,5.6s
KSH LR LR
comp=Z,110nm,5.7s
KSH LR LR
comp=Z,130nm,4.3s
TKM2 Tokmak 2 45.31 304 *e*P **P 07 19 49.0 0.0**
TKM2 *e* 07 21 27.7
TKM2 pmax pmax
comp=Z,22nm,0.6s
TKM2 Tokmak 2 45.31 304 P **P 07 19 49.5 +0.5**
SNR=30
TKM2 Tokmak 2 45.31 304 *e*P **P 07 19 49.0 0.0**
comp=Z,22nm,0.6s
TKM2 *e*PcP **PcP 07 21 27.6 -0.4**
KZA Kyzart 45.55 303 *i* P **P 07 19 52.1 +0.9**
KZA Kyzart 45.55 303 P **P 07 19 52.1 +0.9**
SNR=9.7
KBK Karagaybulak 45.78 304 *i* P **P 07 19 52.7 0.0**
KBK Karagaybulak 45.78 304 P **P 07 19 52.8 0.0**
SNR=9.4
CHMS Chumysh 45.93 304 *i* P **P 07 19 53.8 +0.1**
CHMS Chumysh 45.93 304 P **P 07 19 53.9 +0.1**
SNR=13
UCH Uchtor 46.10 303 *i* P **P 07 19 56.6 +1.0**
UCH Uchtor 46.10 303 P **P 07 19 56.6 +1.0**
SNR=34
AAK Ala-Archa 46.12 304*de*P **P 07 19 55.2 -0.2**
AAK pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 46.12 304 P **P 07 19 55.5 +0.1**
SNR=7.0
AAK Ala-Archa 46.12 304 *e*P **P 07 19 55.4 0.0**
comp=Z,5.8nm,0.6s
AAK Ala-Archa 46.12 304 P **P 07 19 54.4 -1.0**
comp=Z,5.9nm,0.6s,baz=124,slow=6.0,SNR=21
USP Ospenovka 46.12 304 *i* P **P 07 19 55.0 -0.3**
USP Ospenovka 46.12 304 P **P 07 19 55.0 -0.3**
SNR=6.2
AML Almayashu 46.71 303 *i* P **P 07 20 01.7 +1.4**
AML Almayashu 46.71 303 P **P 07 20 01.7 +1.4**
SNR=8.3
WRAB Tennant Creek 47.79 173*c i*P **P 07 20 07.9 -0.4**
WRAB pmax pmax
comp=Z,100nm,0.7s
WRAB Tennant Creek 47.79 173 *e*P **P 07 20 08.0 -0.4**
comp=Z,48nm,0.8s
WRA Warramunga Arr 47.80 173 P **P 07 20 08.2 -0.3**
WRA Warramunga Arr 47.80 173 P **P 07 20 08.2 -0.3**
comp=Z,47nm,0.7s,baz=353,slow=8.4,SNR=268
WRA LR LR 07 38 40.1
comp=Z,89nm,18.6s,baz=70,slow=34
KK31 Karatay Array 49.04 304 *e*P **P 07 20 17.6 -0.3**
KK31 pmax pmax
comp=Z,11nm,0.5s
KKAR Karatay Array 49.04 304 *e*P **P 07 20 17.8 -0.1**
KKAR pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 49.04 304 *e*P **P 07 20 17.8 -0.1**
comp=Z,12nm,0.6s
BVA0 Borovoye Array 49.52 317 *i* P **P 07 20 20.3 -1.1**
BVA0 pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 49.59 317*d i*P **P 07 20 21.1 -0.8**
BRVK *i* *PP **pP 07 20 36.5 +0.8**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 49.59 317 *e*P **P 07 20 21.2 -0.8**
comp=Z,10nm,0.6s
BRVK *e*PcP **PcP 07 21 42.3 -0.5**
CTA Charters Tower 50.51 159 P **P 07 20 29.7 +0.5**
CTA Charters Tower 50.51 159 P **P 07 20 29.7 +0.5**
comp=Z,18nm,0.7s,baz=340,slow=9.7,SNR=36
CTAO Charters Tower 50.51 159 *e*P **P 07 20 29.7 +0.5**
CTAO *e**PP **pP 07 20 42.8 -0.3**
CTAO pmax pmax
comp=Z,19nm,0.8s
CTAO Charters Tower 50.51 159 *e*P **P 07 20 29.7 +0.5**
comp=Z,19nm,0.8s
CTAO *e*pP **pP 07 20 42.8 -0.3**
KBL Kabul 51.07 293 *e*P **P 07 20 33.7 +0.1**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 51.07 293 *e*P **P 07 20 33.7 +0.1**
comp=Z,14nm,0.8s
AS31 Alice Springs 51.44 174 *e*P **P 07 20 36.1 -0.1**
ASAR Alice Springs 51.45 174 P **P 07 20 35.8 -0.4**
ASAR Alice Springs 51.45 174 P **P 07 20 35.8 -0.4**
comp=Z,13nm,0.5s,baz=2.7,slow=14,SNR=251
TNA Tin City 53.88 27 *e*P **P 07 20 54.2 +0.6**
comp=Z,35nm,1.2s
TNA *e*pP **pP 07 21 07.4 -0.3**
AB31 Akbulak array 56.04 312 *i* P **P 07 21 08.4 -1.1**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 56.04 312 *e*P **P 07 21 08.8 -0.7**
comp=Z,14nm,0.6s
ARU Arti 56.54 321*d i*P **P 07 21 11.5 -1.5**
ARU S **S 07 28 59.1 -1.6**
ARU pmax pmax
comp=Z,11nm,1.7s
ARU MLR MLR
comp=Z,216nm,17.0s
IM04 Indian Mountai 59.72 28 *e*P **P 07 21 35.4 +0.3**
IM04 *e*pP **pP 07 21 47.8 -1.4**
PPLA Purkeypile 60.54 31 *e*P **P 07 21 41.6 +0.7**
comp=Z,19nm,0.7s
STKA Stephens Creek 60.61 168 P **P 07 21 41.2 -0.3**
STKA Stephens Creek 60.61 168 P **P 07 21 41.2 -0.3**
comp=Z,7.6nm,0.6s,baz=337,slow=7.1,SNR=27
BBOO Buckleboo 60.71 173 *e*P **P 07 21 41.6 -0.5**
comp=Z,149nm,0.6s
KTH Kantishna Hill 61.06 30 *e*P **P 07 21 45.9 +1.6**
comp=Z,34nm,1.4s
KTH *e*pP **pP 07 21 57.8 -0.7**
COLD Coldfoot 61.10 26 *e*P **P 07 21 44.6 +0.1**
comp=Z,22nm,1.3s
COLD *e*pP **pP 07 21 57.6 -1.1**
ARMA Armidale 61.86 158 *e*P **P 07 21 50.8 +0.8**
comp=Z,32nm,1.3s
ARMA *e*pP **pP 07 22 04.4 +0.1**
RC01 Rabbit Creek A 61.87 33 *e*P **P 07 21 49.4 -0.3**
comp=Z,4.1nm,0.4s
PMR Palmer 62.09 32 *e*P **P 07 21 51.9 +0.7**
PMR pmax pmax
comp=Z,38nm,1.3s
PMR Palmer 62.09 32 *e*P **P 07 21 51.9 +0.7**
comp=Z,38nm,1.3s
PMR *e*pP **pP 07 22 03.9 -1.5**
COLA College 62.27 29⇑ *e*P **P 07 21 53.2 +0.9**
COLA pmax pmax
comp=Z,26nm,0.6s
COLA College 62.27 29 *e*P **P 07 21 53.1 +0.8**
comp=Z,6.8nm,0.6s
ILAR Eielson Array 62.69 29 P **P 07 21 54.0 -1.2**
ILAR Eielson Array 62.69 29 P **P 07 21 54.0 -1.2**
comp=Z,2.5nm,0.6s,baz=272,slow=6.0,SNR=26
ILAR LR LR 07 50 40.4
comp=Z,47nm,19.0s,baz=323,slow=37
PRGR Permogore 62.79 328 P **P 07 21 52.7 -3.1**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
DOT Dot Lake 64.09 30 *e*P **P 07 22 04.1 -0.4**
comp=Z,33nm,1.2s
BMRM Bremner River 64.35 33 *e*P **P 07 22 06.9 +0.7**
comp=Z,31nm,0.9s
BMRM *e*pP **pP 07 22 19.8 -0.7**
APA Apatity 66.66 335⇓ *i*P **P 07 22 20.6 -0.3**
APA MLR MLR
comp=Z,500nm,12.0s
INK Inuvik 67.13 24 *e*P **P 07 22 23.8 -0.1**
comp=Z,23nm,1.1s
INK *e*pP **pP 07 22 37.1 -1.2**
VRHR Novokhopersk 67.26 317 *e*P **P 07 22 22.6 -2.5**
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.6s
HYT Haines Junctio 67.75 32 *e*P **P 07 22 29.0 +0.9**
HYT *e*pP **pP 07 22 41.7 -0.9**
DUS Dusheti 67.91 307 P **P 07 22 31.4 +1.9**

KEV Kevo 68.17 338 *e*P **P 07 22 29.8 -0.7**
KEV pmax pmax
comp=Z,5.0nm,0.4s
KEV Kevo 68.17 338 *e*p **P 07 22 29.8 -0.7**
comp=Z,5.4nm,0.4s
ZEI Tsey 68.26 308 *e*P **P 07 22 29.7 -2.1**
ZEI pmax pmax
comp=Z,27nm,0.8s
GNI Garni 68.49 305 LR LR 07 53 55.2
comp=Z,49nm,18.6s,baz=100,slow=37
ONI Oni 68.63 308 P **P 07 22 34.7 +0.8**
KBZ Khabaz 68.66 309 P **P 07 22 33.9 0.0**
KBZ pmax pmax
comp=Z,28nm,0.7s
KBZ MLR MLR
comp=Z,110nm,21.5s
KBZ Khabaz 68.66 309 P **P 07 22 33.9 0.0**
KBZ Khabaz 68.66 309 P **P 07 22 33.9 0.0**
comp=Z,28nm,0.7s,baz=91,slow=5.8,SNR=58
KBZ LR LR 07 55 05.0
comp=Z,110nm,21.5s,baz=255,slow=38
VSR Storozhevoye 68.71 318 *e*P **P 07 22 32.2 -1.9**
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
KIV Kislovodsk 68.73 309*ke*P **P 07 22 34.1 -0.4**
KIV *e* 07 22 47.9
KIV *e* 07 22 57.3
KIV pmax pmax
comp=Z,30nm,1.2s
KIV MLR MLR
comp=Z,100nm,23.0s
KIV Kislovodsk 68.73 309 *e*P **P 07 22 33.8 -0.8**
comp=Z,29nm,0.9s
ARCES ARCESS Array B 68.74 338 P **P 07 22 33.1 -0.9**
ARCES ARCESS Array B 68.74 338 P **P 07 22 33.1 -0.9**
comp=Z,2.0nm,0.5s,baz=79,slow=6.8,SNR=22
ARCES LR LR 07 57 00.2
comp=Z,97nm,21.9s,baz=91,slow=40
JOF Joensuu 68.95 331 *e*P **P 07 22 34.9 -0.5**
JOF pmax pmax
comp=Z,13nm,0.5s
JOF Joensuu 68.95 331 *e*p **P 07 22 34.9 -0.5**
comp=Z,13nm,0.5s
OBN Obninsk 68.96 322⇑ *e*P **P 07 22 35.8 +0.2**
OBN pmax pmax
comp=Z,6.0nm,0.5s
AFI Afiamalu 70.81 118 LR LR 07 46 58.1
comp=Z,116nm,21.0s,baz=289,slow=30
KAF Kangasniemi 71.41 331 *e*P **P 07 22 49.5 -1.0**
KAF Kangasniemi 71.41 331 *e*p **P 07 22 49.5 -1.0**
baz=66,slow=5.8
FINES FINESS Array B 71.78 330 P **P 07 22 51.5 -1.2**
FINES FINESS Array B 71.78 330 P **P 07 22 51.5 -1.2**
comp=Z,12nm,0.6s,baz=66,slow=5.9,SNR=73
FINES LR LR 07 57 50.4
comp=Z,187nm,18.9s,baz=53,slow=39
ANN Anapa 71.98 312 *e*P P 07 22 50.8 -3.4
ANN pmax pmax
comp=Z,56nm,1.0s
VSU Vasula 72.74 327*c i*P **P 07 22 58.1 -0.4**
VSU pmax pmax
comp=Z,93nm,0.7s
RES Resolute Bay 73.83 11 *e*P **P 07 23 04.3 -0.4**
comp=Z,20nm,0.6s
SIM Simferopol' 74.10 313 *e*P **P 07 23 07.5 +0.7**
SIM pmax pmax
comp=Z,18nm,0.7s
NACGM Naroch 74.26 324 *e* **P 07 23 05.0 -2.5**
AKASG Malin Array Be 74.73 319 P **P 07 23 09.0 -1.3**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG MLR MLR
comp=Z,180nm,19.6s
AKASG Malin Array Be 74.73 319 P **P 07 23 09.0 -1.3**
AKASG Malin Array Be 74.73 319 P **P 07 23 09.0 -1.3**
comp=Z,2.9nm,0.4s,baz=57,slow=6.2,SNR=32
AKASG LR LR 07 58 30.0
comp=Z,180nm,19.6s,baz=60,slow=38
AK01 Malin Array Si 74.75 319 *e*P **P 07 23 09.0 -1.4**
KIEV Kiev 74.75 319*de*P **P 07 23 09.1 -1.3**
AK02 Malin Array Si 74.76 319 *e*P **P 07 23 09.1 -1.4**
BR131 Keskin Array S 76.57 308 *e*P **P 07 23 21.1 -0.2**
comp=Z,3.6nm,0.6s
BRTR Keskin Array B 76.57 308 P **P 07 23 20.4 -0.9**
BRTR Keskin Array B 76.57 308 P **P 07 23 20.4 -0.9**
comp=Z,5.0nm,0.6s,baz=109,slow=4.9,SNR=30
BRTR LR LR 08 02 03.0
comp=Z,66nm,20.7s,baz=231,slow=40
YKW3 Yellowknife Ar 76.73 25 *e*P **P 07 23 20.9 -0.6**
comp=Z,0.8nm,1.4s
YKW3 *e*pP **pP 07 23 34.5 -1.6**
YKA Yellowknife Ar 76.77 25 P **P 07 23 21.8 0.0**
YKA Yellowknife Ar 76.77 25 P **P 07 23 21.7 0.0**
comp=Z,2.3nm,0.5s,baz=304,slow=5.8,SNR=56
CFR Carcaliu 77.83 315⇓ P **P 07 23 28.2 +0.2**
CFR Carcaliu 77.83 315⇓ *i*P **P 07 23 28.2 +0.2**
NB2 NORSAR Subarra 78.15 334 P **P 07 23 27.7 -1.9**
comp=Z,2.7nm,0.6s,baz=50,slow=5.6
NOA NORSAR Array B 78.15 334 P **P 07 23 27.8 -1.7**
NOA NORSAR Array B 78.15 334 P **P 07 23 27.8 -1.7**
comp=Z,3.5nm,0.6s,baz=51,slow=5.6,SNR=20
NOA LR LR 08 00 26.4
comp=Z,58nm,19.5s,baz=55,slow=38
TLB Topalu 78.17 314⇑ P **P 07 23 29.2 -0.7**
TLB Topalu 78.17 314⇑ *i*P **P 07 23 29.2 -0.7**
VRI Vrincioaia 78.39 316⇑ P **P 07 23 32.1 +0.9**
VRI Vrincioaia 78.39 316⇑ *i*P **P 07 23 32.0 +0.9**
BUR08 Bucovina Ar. S 78.47 318 *e*P **P 07 23 30.9 -0.8**
BURAR Bucovina Array 78.48 318⇑ P **P 07 23 31.0 -0.7**
BURAR Bucovina Array 78.48 318⇑ *i*P **P 07 23 31.0 -0.7**
KWP Kalwaria Pacla 78.94 321 *e*P **P 07 23 34.4 +0.3**
KWP Kalwaria Pacla 78.94 321⇓ *i*P **P 07 23 34.2 +0.1**
KWP Kalwaria Pacla 78.94 321 *e*P **P 07 23 33.9 -0.2**
comp=Z,20nm,0.7s
MLR Muntele Rosu 79.06 316⇓ *i*P **P 07 23 35.0 0.0**
DOPR Dopca 79.17 316⇑ *i*P **P 07 23 35.3 -0.1**
SUMG Summit 79.46 356 *e*P **P 07 23 36.8 -0.2**
SUMG pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 79.46 356 *i* P **P 07 23 36.7 -0.2**
comp=Z,14nm,0.7s
SUMG Summit 79.46 356 *e*P **P 07 23 36.8 -0.2**
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 79.54 320 *e*P **P 07 23 37.1 -0.3**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 79.54 320 *e*P **P 07 23 37.1 -0.3**
SCO Scoresbysund 79.76 350 *i* P **P 07 23 37.7 -0.4**
SCO pmax pmax
comp=Z,3.0nm,0.7s
SCO Scoresbysund 79.76 350 *i* P **P 07 23 37.7 -0.4**
comp=Z,3.2nm,0.7s
STHS Stebnicka Huta 79.87 321 *e*P **P 07 23 39.3 +0.1**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 79.87 321 *e*P **P 07 23 39.3 +0.1**
ARR Arges 79.92 316⇓ *i*P **P 07 23 39.8 +0.2**
CRVS Cervenica-Dubn 80.02 320 *e*P **P 07 23 40.4 +0.4**
CRVS pmax pmax
comp=Z,4.0nm,0.7s
CRVS Cervenica-Dubn 80.02 320 *e*P **P 07 23 40.4 +0.4**
OJC Ojcow 80.25 322 *e*P **P 07 23 40.8 -0.4**
OJC Ojcow 80.25 322 *e*P **P 07 23 40.8 -0.4**
OJC *e*PcP **PcP 07 23 48.7 +0.4**
NIE Niedzica 80.39 321 *e*P **P 07 23 42.2 +0.2**
NIE Niedzica 80.39 321 *e*P **P 07 23 42.2 +0.2**
PSZ Piszkesteto 81.42 320⇑ P **P 07 23 46.8 -0.8**
PSZ Piszkesteto 81.42 320⇑ *i*P **P 07 23 46.8 -0.8**
RZN Rozhen 81.69 313 *e*P **P 07 23 48.7 -0.5**
MORC Moravsky Berou 81.72 322⇓ P **P 07 23 49.2 +0.2**
MORC Moravsky Berou 81.72 322⇓ *i*P **P 07 23 49.2 +0.2**
MORC Moravsky Berou 81.72 322 *e*P **P 07 23 49.1 0.0**
comp=Z,6.1nm,0.8s
KSP Ksiaz 81.78 324 *e*P **P 07 23 49.4 +0.1**
KSP Ksiaz 81.78 324 *e*P **P 07 23 49.7 +0.4**
KRLC Kraliky 81.96 323 *e*P **P 07 23 50.2 -0.1**
KRLC Kraliky 81.96 323 *e*P **P 07 23 50.2 -0.1**
KRLC *e*PCP **PcP 07 23 55.5 -0.3**
DPC Dobruska-Polom 82.05 323 *e*P **P 07 23 50.9 +0.1**
DPC Dobruska-Polom 82.05 323 *e*P **P 07 23 50.9 +0.1**
UPC Upice 82.12 324 *e*P **P 07 23 51.6 +0.5**

UPC Upice 82.12 324 *e*P **P 07 23 51.6 +0.5**
UPC *e*PCP **PcP 07 23 56.6 +0.2**
VTS Vitosha 82.20 314⇓ P **P 07 23 52.2 +0.3**
VTS Vitosha 82.20 314 *e*P **P 07 23 51.7 -0.2**
VTS Vitosha 82.20 314⇓ *i*P **P 07 23 52.2 +0.3**
MMB Musomiste 82.38 313⇑ P **P 07 23 52.7 0.0**
MMB Musomiste 82.38 313 *e*P **P 07 23 51.7 -1.0**
MMB Musomiste 82.38 313⇑ *i*P **P 07 23 52.7 0.0**
EDM Edmonton 82.86 32 *e*P **P 07 23 55.4 +0.4**
EDM Edmonton 82.86 32 *e*P **P 07 23 55.4 +0.4**
EDM *e*pP **pP 07 24 08.5 -1.3**
BSEG Bad Segeberg 82.89 328 *e*P **P 07 23 55.4 +0.4**
comp=Z,9.0nm,0.8s
BRG Berggiesshubel 82.98 325 *e*P **P 07 23 55.9 +0.3**
comp=Z,4.9nm,0.9s
BRG comp=N,200nm,14.9s
BRG comp=E,222nm,19.4s
BRG comp=Z,243nm,14.9s
BRG Berggiesshubel 82.98 325 *e*P **P 07 23 55.9 +0.3**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
BRG comp=N,200nm,14.9s
BRG MLR MLR
BRG comp=E,222nm,19.4s
BRG MLR MLR
comp=Z,243nm,14.9s
BRG Berggiesshubel 82.98 325 *e*P **P 07 23 56.0 +0.4**
comp=Z,2.0nm,0.7s
PKSM Moragy 83.07 319⇓ P **P 07 23 55.5 -0.6**
PKSM Moragy 83.07 319⇓ *i*P **P 07 23 55.5 -0.6**
TREC Trest 83.09 323 *e*P **P 07 23 56.4 +0.2**
TREC Trest 83.09 323 *e*P **P 07 23 56.4 +0.2**
PRU Pruhonice 83.19 324 *e*P **P 07 23 57.2 +0.5**
PRU MLR MLR
comp=Z,200nm,17.0s
PRU Pruhonice 83.19 324 *e*P **P 07 23 57.2 +0.5**
PRU *e*PCP **PcP 07 24 02.6 +1.5**
PRU AMS AMS 08 04 30.0
comp=Z,200nm,17.0s
CLL Collm 83.20 325 *i* P **P 07 23 56.3 -0.4**
CLL *e* 07 24 16.0
CLL pmax pmax
comp=Z,19nm,0.7s
CLL Collm 83.20 325 *e*P **P 07 23 57.0 +0.3**
comp=Z,19nm,0.7s
CLL Collm 83.20 325 *i* P **P 07 23 56.3 -0.4**
comp=Z,19nm,0.7s
CLL *es*P **sP 07 24 16.0 -1.2**
CLL LmH 07 58 00.0
comp=N,200nm,19.5s
CLL LmH 07 58 00.0
comp=E,100nm,20.4s
I04A Tendick Farm, 83.33 44⇑ P **P 07 23 58.4 +0.8**
baz=83
HAWA Hanford 83.62 40 *e*P **P 07 23 59.8 +0.8**
comp=E,3.8nm,0.8s
HAWA *e*pP **pP 07 24 12.9 -0.9**
HUMO Hull Mountain 83.63 45 *e*P **P 07 24 00.1 +1.0**
comp=E,13nm,1.2s
HUMO *e*pP **pP 07 24 13.3 -0.7**
CONA Conrad Observa 83.67 322⇑ *i*P **P 07 23 59.5 +0.2**
comp=E,16nm,0.8s,SNR=7.9
I05D Terrebonne, OR 83.69 43⇓ P **P 07 24 00.4 +1.0**
baz=84
J04D Umpqua Nationa 83.82 44⇑ P **P 07 24 01.2 +0.9**
baz=84
NEUB Neuenburg 83.88 326 *e*P **P 07 24 00.8 +0.7**
comp=Z,19nm,0.7s
NEW Newport 83.90 38 *e*P **P 07 24 01.0 +0.6**
comp=Z,6.5nm,0.8s
NEW *e*pP **pP 07 24 14.1 -1.2**
NEW Newport 83.90 38⇑ P **P 07 24 01.1 +0.6**
baz=84
TANN Tannenbergstha 84.01 325 *e*P **P 07 24 01.4 +0.4**
comp=Z,3.0nm,0.8s
NKC Novy Kostel 84.13 325 *e*P **P 07 24 01.4 -0.1**
NKC Novy Kostel 84.13 325 *e*P **P 07 24 01.4 -0.1**
CLZ Clausthal 84.17 327 *e*P **P 07 24 01.8 +0.1**
comp=Z,12nm,0.7s
KHC Kasperske Hory 84.20 323*ce*P **P 07 24 02.4 +0.5**
KHC pmax pmax
comp=Z,30nm,0.7s
KHC Kasperske Hory 84.20 323 *e*P **P 07 24 02.3 +0.3**
KHC *ex* x 07 24 09.6
KHC *es*P **sP 07 24 19.5 -3.0**
KHC Kasperske Hory 84.20 323 *e*P **P 07 24 02.2 +0.3**
comp=Z,6.1nm,0.8s
GEC2 GERESS Array S 84.31 323 *e*P **P 07 24 02.9 +0.4**
comp=Z,7.0nm,0.8s
GERES GERESS Array B 84.31 323 P **P 07 24 02.2 -0.4**
GERES PKKPbc **PKKPbc 07 42 13.8 -1.2**
GERES GERESS Array B 84.31 323 P **P 07 24 02.2 -0.4**
comp=Z,7.7nm,0.7s,baz=56,slow=5.0,SNR=60
GERES PKKPbc **PKKPbc 07 42 13.8 -1.2**
comp=Z,0.3nm,0.5s,baz=231,slow=3.1,SNR=4.2
GERES LR LR 08 05 35.9
comp=Z,150nm,18.1s,baz=272,slow=38
J05D Fort Rock, OR 84.33 44⇓ P **P 07 24 04.2 +1.4**
baz=84
MANZ Manzenberg 84.45 325 *e*P **P 07 24 03.7 +0.5**
comp=Z,5.0nm,0.7s
ROTZ Rotzenmuhle 84.54 324 *e*P **P 07 24 04.5 +0.9**
comp=Z,8.0nm,0.8s
N02D Trinity Center 84.66 46⇓ P **P 07 24 05.5 +1.1**
baz=84
M04C Macdoel 84.77 45⇓ P **P 07 24 06.2 +1.1**
baz=85
UBBA Unterbreizbach 85.00 326 *e*P **P 07 24 06.2 +0.5**
comp=Z,2.0nm,0.7s
IBBN Ibbenburen 85.12 328 *e*P **P 07 24 06.0 -0.4**
comp=Z,18nm,0.6s
OBKA Obir 85.23 321⇑ *i*PcP **P 07 24 07.2 0.0**
comp=Z,12nm,0.9s
PDKS Podkum 85.24 320 *i* P **P 07 24 07.4 +0.2**
BSMT Bassoo Peak 85.41 37 *e*P **P 07 24 09.0 +0.8**
comp=Z,8.6nm,0.8s
BSMT *e*pP **pP 07 24 22.4 -0.7**
SFJD Kangerlussuaq 85.44 360 *i* P **P 07 24 07.1 -0.6**
comp=Z,19nm,0.8s
RJOB Jochberg 85.46 323 *e*P **P 07 24 09.2 +0.9**
comp=Z,18nm,0.8s
BLMT Blacktail Moun 85.54 37 *e*P **P 07 24 10.0 +1.1**
comp=Z,26nm,1.3s
BLMT *e*pP **pP 07 24 23.6 -0.2**
KBA Koelnbreinsper 85.56 322⇑ *i*PcP **P 07 24 09.1 +0.2**
comp=Z,10nm,0.8s
MOD Modoc 85.67 44 *e*P **P 07 24 10.4 +0.8**
comp=Z,27nm,1.2s
MOD *e*pP **pP 07 24 24.1 -0.3**
SWMT Swartz Lake 86.04 37 *e*P **P 07 24 11.2 -0.1**
comp=Z,14nm,1.2s
SWMT *e*pP **pP 07 24 24.8 -1.3**
ABTA Abfaltersbach 86.21 322⇓ *i*P **P 07 24 10.7 -1.4**
comp=Z,16nm,0.8s,SNR=7.0
SLMT Seeley Lake 86.47 37 *e*P **P 07 24 13.3 -0.2**
comp=Z,17nm,0.8s
SLMT *e*pP **pP 07 24 27.1 -1.3**
MSO Missoula 86.49 38⇑ P **P 07 24 14.4 +1.0**
baz=86
FCC Fort Churchill 86.58 21 *e*P **P 07 24 12.7 -0.7**
FCC pmax pmax
comp=Z,1.0nm,1.1s
FCC Fort Churchill 86.58 21 *e*P **P 07 24 12.7 -0.7**
comp=Z,0.7nm,1.1s
FCC *e*pP **pP 07 24 25.7 -2.6**
MOTA Moosalm 86.60 323⇑ *i*P **P 07 24 13.3 -0.8**
comp=Z,9.1nm,0.6s,SNR=11
BEKR Beckworth 86.77 46 *e*P **P 07 24 15.5 +0.5**
comp=Z,7.0nm,0.9s
BEKR *e*pP **pP 07 24 29.0 -1.0**
FFC Flin Flon 86.84 27 *e*P **P 07 24 14.7 -0.2**
FFC *e**PP **pP 07 24 28.3 -1.5**
FFC pmax pmax
comp=Z,38nm,1.3s
FFC Flin Flon 86.84 27 *e*P **P 07 24 14.7 -0.2**
comp=Z,38nm,1.3s
FFC *e*pP **pP 07 24 28.3 -1.5**
FETA Feichten 87.01 323⇑ *i*PcP **P 07 24 16.3 +0.2**
comp=Z,4.8nm,0.6s
BFO Black Forest 87.42 325 *e*P **P 07 24 19.1 +1.2**
comp=Z,3.0nm,0.8s
MFID Camas Ranch 87.49 41 *e*P **P 07 24 18.9 +0.5**

comp=Z,24nm,1.5s
MFID eP P 07 24 32.6 -0.8
HRY Holter Researc 87.69 37 eP P 07 24 20.0 +0.6
comp=Z,12nm,0.8s
HRY eP P 07 24 33.4 -0.8
CMB Columbia Colle 87.77 48 eP P 07 24 20.4 +0.6
CMB pmax pmax
comp=Z,17nm,1.1s
CMB Columbia Colle 87.77 48 eP P 07 24 20.4 +0.6
comp=Z,17nm,1.1s
CMB eP P 07 24 33.6 -1.1
A19A Klindworth Far 87.84 34 ⇓P P 07 24 20.6 +0.7
baz=88,SNR=7.3
CDF Champ du Feu 87.90 325 eP P 07 24 21.2 +1.0
CDF Champ du Feu 87.90 325 eP P 07 24 21.2 +1.0
CDF Champ du Feu 87.90 325 eP P 07 24 21.2 +1.0
LRM Limekiln Ridge 87.92 38 eP P 07 24 21.4 +0.8
comp=Z,217nm,1.4s
LRM eP P 07 24 35.0 -0.5
EGMT Eagleton 87.93 35 eP P 07 24 20.8 +0.5
comp=Z,33nm,1.1s
EGMT eP P 07 24 33.8 -1.5
B19A Brinkman Farms 88.06 34 ⇓P P 07 24 21.4 +0.5
baz=88
TUE Stuetta 88.09 323 eP P 07 24 21.8 +0.5
comp=Z,9.4nm,0.7s
HLID Hailey 88.22 41 eP P 07 24 23.1 +1.2
comp=Z,7.3nm,0.9s
HLID eP P 07 24 36.9 0.0
HLID Hailey 88.22 41 ⇓P P 07 24 23.2 +1.2
baz=88
A20A Cobblestone Ra 88.28 34 ⇓P P 07 24 22.3 +0.3
baz=88
MCMT McKenzie Canyo 88.33 39 eP P 07 24 23.2 +0.7
comp=Z,5.5nm,1.5s
MCMT eP P 07 24 36.8 -0.7
BOZ Bozeman (W) 88.48 38 eP P 07 24 23.9 +0.8
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 88.48 38 eP P 07 24 23.9 +0.8
comp=Z,5.6nm,0.8s
BOZ eP P 07 24 37.2 -0.8
C19A Slack Wire Ran 88.48 35 ⇓P P 07 24 23.8 +0.8
baz=88,SNR=6.8
B20A Solberg Farm, 88.52 34 ⇑P P 07 24 23.7 +0.6
baz=88
A21A Bergtoll Ranch 88.69 33 ⇑P P 07 24 24.4 +0.5
baz=88,SNR=10
NVAR Mina Array Bea 88.89 46 P P 07 24 25.7 +0.4
NVAR Mina Array Bea 88.89 46 P P 07 24 25.7 +0.4
comp=Z,2.6nm,0.7s,baz=298,slow=6.2,SNR=21
D19A Cripps Ranch, 88.94 35 ⇓P P 07 24 25.7 +0.6
baz=89,SNR=8.7
MLAC Mammoth Lakes 89.01 47 ⇓P P 07 24 26.3 +0.4
baz=89
C20A Veseth Ranch, 89.02 34 ⇑P P 07 24 26.1 +0.6
baz=89
B21A Ellsworth Farm 89.03 34 ⇑P P 07 24 26.0 +0.5
baz=89
A22A Carney Farms, 89.17 33 ⇑P P 07 24 26.4 +0.2
baz=89,SNR=16
D20A Manuel Ranch, 89.37 35 ⇓P P 07 24 28.1 +0.9
baz=89,SNR=6.1
E19A Rath Farm, Rou 89.45 36 ⇓P P 07 24 28.4 +0.8
baz=89,SNR=10
A23A Redstone 89.69 32 ⇓P P 07 24 29.3 +0.7
baz=89
CABF La Chapelle 89.70 325 eP P 07 24 28.7 0.0
comp=Z,23nm,1.1s
CABF La Chapelle 89.70 325 eP P 07 24 28.7 0.0
CABF pmax pmax
comp=Z,23nm,1.1s
CABF La Chapelle 89.70 325 eP P 07 24 28.7 0.0
comp=Z,23nm,1.1s
E20A Meyer Farm, Mu 89.77 35 ⇓P P 07 24 29.9 +0.9
baz=90,SNR=7.0
F19A Roth Farm, Mol 89.78 36 ⇑P P 07 24 29.6 +0.5
baz=90,SNR=6.1
H17A Grant Village 89.85 38 eP P 07 24 32.7 +3.0
comp=Z,36nm,1.3s
PKM Peak Mountain 89.91 50 ⇑P P 07 24 31.4 +1.4
baz=90
D21A La Casta Ranch 89.96 35 ⇓P P 07 24 30.5 +0.5
baz=90,SNR=10
B23A Brockton 89.98 33 ⇑P P 07 24 30.5 +0.6
baz=90,SNR=6.6
C22A Vida 90.05 34 ⇓P P 07 24 30.8 +0.6
baz=90
RLMT Red Lodge 90.09 37 eP P 07 24 31.7 +0.9
comp=Z,33nm,1.4s
RLMT eP P 07 24 45.7 -0.1
LPL La Plagne 90.10 324 eP P 07 24 28.2 -2.6
comp=Z,6.2nm,0.7s
LPL La Plagne 90.10 324 eP P 07 24 28.2 -2.6
LPL pmax pmax
comp=Z,6.0nm,0.7s
LPL La Plagne 90.10 324 eP P 07 24 28.2 -2.6
comp=Z,6.2nm,0.7s
LPG La Plagne 90.10 323 eP P 07 24 28.0 -2.9
comp=Z,11nm,0.8s
LPG La Plagne 90.10 323 eP P 07 24 28.0 -2.9
LPG pmax pmax
comp=Z,11nm,0.8s
LPG La Plagne 90.10 323 eP P 07 24 28.0 -2.9
comp=Z,11nm,0.8s
A24A Westby 90.12 32 ⇑P P 07 24 31.4 +0.8
baz=90
I17A Pilgrim Ck. 90.16 39 ⇓P P 07 24 33.2 +2.1
baz=90
D22A Cohagen 90.31 34 ⇓P P 07 24 32.2 +0.7
baz=90,SNR=5.8
C23A Lambert 90.35 33 ⇓P P 07 24 32.6 +0.9
baz=90
DGMT Dagmar 90.35 32 eP P 07 24 32.4 +0.8
comp=Z,46nm,1.2s
DGMT eP P 07 24 46.1 -0.6
DGMT Dagmar 90.35 32 ⇑P P 07 24 32.6 +0.9
baz=90
ISA Isabella 90.38 49 ⇑P P 07 24 32.5 +0.4
baz=90
LOR Lormes 90.38 326 eP P 07 24 32.5 +0.7
LOR Lormes 90.38 326 eP P 07 24 32.5 +0.7
ARVC Arvin 90.44 49 ⇑P P 07 24 33.5 +1.2
baz=90
A25A Svangstu Ranch 90.52 31 ⇓P P 07 24 33.6 +1.2
baz=90
H19A Powell 90.53 37 ⇓P P 07 24 34.0 +1.3
baz=90
G20A Bridger 90.58 36 ⇓P P 07 24 33.9 +0.9
baz=90
LAO LASA Array 90.61 34 eP P 07 24 33.6 +0.6
comp=Z,31nm,1.2s
LAO eP P 07 24 47.3 -0.6
R11A Troy Canyon, C 90.67 45 ⇓P P 07 24 34.5 +0.9
baz=90
SSF Saint Saulge 90.69 326 eP P 07 24 33.8 +0.6
SSF Saint Saulge 90.69 326 eP P 07 24 33.8 +0.6
SSF Saint Saulge 90.69 326 eP P 07 24 33.8 +0.6
F21A Absaloka Mine, 90.74 35 ⇑P P 07 24 34.5 +0.9
baz=90
D23A Lindsay 90.78 34 ⇓P P 07 24 34.6 +0.9
baz=90
PPT Papeete 90.78 109 LR LR 08 02 21.0
comp=Z,115nm,19.0s,baz=334,slow=34
PPT2 Papeete2 90.80 109 eLR LR 07 53 27.8
comp=Z,186nm,28.2s
MPMC Manual Prospec 90.80 48 ⇑P P 07 24 35.0 +0.8
baz=91
C24A Savage 90.91 33 ⇑P P 07 24 35.2 +0.9
baz=91
E22A Miles City 90.92 34 ⇓P P 07 24 35.0 +0.7
baz=91,SNR=5.2
I19A Meeteetse 90.95 38 ⇓P P 07 24 35.5 +0.7
baz=91
PMOR Pomariorio Ree 90.98 106 eT T 09 04 46.1
comp=Z,3.8nm,0.2s
B25A Knox Farm, Ray 90.98 32 ⇑P P 07 24 35.8 +1.2
baz=91
LRMC Laurel Mountai 91.00 49 ⇑P P 07 24 36.0 +0.9
baz=91
TPNV Topopah Spring 91.08 47 ⇑P P 07 24 36.0 +0.6
baz=91,SNR=6.4
EDW2 Edwards Air Fo 91.15 49 ⇓P P 07 24 37.0 +1.3
baz=91
H20A Greybull 91.18 37 ⇓P P 07 24 36.4 +0.7
baz=91
F22A Rosebud 91.21 35 ⇑P P 07 24 36.7 +0.9
baz=91
DUG Dugway 91.24 42 eP P 07 24 37.6 +1.5
DUG pmax pmax
comp=Z,13nm,1.2s
DUG Dugway 91.24 42 eP P 07 24 37.6 +1.5
comp=Z,13nm,1.2s
DUG epP pP 07 24 50.8 -0.3
DUG Dugway 91.24 42 ⇑P P 07 24 37.0 +0.9
baz=91,SNR=5.9
D24A Glendive 91.24 33 ⇓P P 07 24 36.9 +1.0
baz=91
B26A Jensen Ranch, 91.33 31 ⇓P P 07 24 37.3 +1.0
baz=91
C25A Freed Ranch, W 91.33 32 ⇓P P 07 24 37.4 +1.2
baz=91
J19A Crowheart 91.43 38 ⇑P P 07 24 38.1 +1.1
baz=91
I20A Worland 91.47 37 ⇑P P 07 24 38.3 +1.2
baz=91
PDAR Pinedale Array 91.47 39 P P 07 24 37.2 0.0
PDAR Pinedale Array 91.47 39 P P 07 24 37.2 0.0
comp=Z,3.2nm,0.8s,baz=336,slow=0.7,SNR=20
G22A Birney 91.58 36 ⇓P P 07 24 38.4 +0.8
baz=91
H21A Big Horn, Sher 91.59 36 ⇑P P 07 24 38.7 +1.0
baz=91
E24A Baker 91.64 34 ⇓P P 07 24 38.1 +0.4
baz=91
SHOC Shoshone 91.68 48 ⇓P P 07 24 38.6 +0.5
baz=92
F23A Volborg 91.69 35 ⇑P P 07 24 38.5 +0.5
baz=91,SNR=6.0
GSC Goldstone 91.69 48 eP P 07 24 39.2 +1.0
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone 91.69 48 eP P 07 24 39.2 +1.0
comp=Z,7.2nm,1.0s
GSC epP pP 07 24 52.3 -0.9
GSC Goldstone 91.69 48 ⇓P P 07 24 39.2 +1.0
baz=92
D25A Fairfield 91.70 33 ⇑P P 07 24 38.4 +0.4
baz=92
BFSC Mount Baldy Ra 91.74 50 ⇑P P 07 24 39.5 +1.0
baz=92
C26A Wahner Farm, P 91.80 32 ⇑P P 07 24 39.5 +1.1
baz=92
A28A Rude Farm, Bot 91.83 30 ⇑P P 07 24 39.7 +1.1
baz=92
J20A Shoshoni 91.90 38 ⇓P P 07 24 40.1 +1.0
baz=92
H22A Clearmont 91.98 36 ⇓P P 07 24 40.2 +0.8
baz=92
I21A Big Trails, Te 92.01 37 ⇓P P 07 24 40.4 +0.7
baz=92
DAU Daniels Canyon 92.03 42 eP P 07 24 41.4 +1.4
DAU pmax pmax
comp=Z,10.0nm,1.2s
DAU Daniels Canyon 92.03 42 eP P 07 24 41.4 +1.4
comp=Z,10nm,1.2s
SHPR Sheep Range 92.05 47 eP P 07 24 41.3 +1.3
comp=Z,13nm,1.3s
SHPR epP pP 07 24 55.2 +0.3
G23A Biddle 92.05 35 ⇑P P 07 24 40.3 +0.6
baz=92
KMBO Kilima Mbogo 92.06 270 P P 07 24 39.9 -0.6
KMBO Kilima Mbogo 92.06 270 P P 07 24 39.9 -0.6
comp=Z,0.8nm,0.5s,baz=25,slow=22,SNR=2.7
F24A Ekalaka 92.08 34 ⇑P P 07 24 40.6 +0.8
baz=92
E25A Miller Ranch, 92.13 33 ⇑P P 07 24 40.7 +0.7
baz=92
B28A Dugan Ranch, T 92.13 30 ⇑P P 07 24 40.7 +0.8
baz=92
C27A Sayler Ranch, 92.15 31 ⇑P P 07 24 41.0 +1.0
baz=92
TUQ Turquoise Moun 92.19 48 ⇓P P 07 24 41.5 +0.9
baz=92,SNR=6.4
D26A Manning 92.21 32 ⇓P P 07 24 41.1 +0.8
baz=92
BBRC Big Bear Solar 92.23 49 ⇑P P 07 24 41.7 +0.8
baz=92
J21A Lysite 92.25 37 ⇑P P 07 24 41.7 +0.9
baz=92,SNR=6.3
A29A Manning Farm, 92.28 29 ⇑P P 07 24 41.2 +0.7
baz=92
HEC Hector,Ludlow 92.28 48 ⇓P P 07 24 41.8 +0.9
baz=92
I22A 9 Mile Ranch, 92.39 37 ⇓P P 07 24 41.7 +0.4
baz=92
MURC Murrieta 92.42 50 ⇓P P 07 24 42.4 +0.8
baz=92
G24A Alzada 92.46 35 ⇑P P 07 24 42.3 +0.7
baz=92
F25A Bowman 92.51 34 ⇓P P 07 24 42.6 +0.8
baz=92
E26A Carlson Angus 92.60 33 ⇓P P 07 24 42.4 +0.2
baz=92
C28A Hausauer Farms 92.66 31 ⇓P P 07 24 43.4 +1.0
baz=92
ULM Lac du Bonnet 92.66 27 P P 07 24 41.9 -0.4
ULM Lac du Bonnet 92.66 27 P P 07 24 41.9 -0.4
comp=Z,8.8nm,0.8s,baz=317,slow=4.6,SNR=14
A30A Hoffart Farm, 92.67 29 ⇑P P 07 24 42.7 +0.4
baz=92
J22A Midwest 92.72 37 P P 07 24 42.9 0.0
baz=92
GMRC Granite Mounta 92.76 48 ⇓P P 07 24 43.9 +0.7
baz=93,SNR=6.6
H24A Dirks Ranch, A 92.80 35 ⇑P P 07 24 43.7 +0.5
baz=93
K21A Alcova 92.83 38 ⇑P P 07 24 44.5 +1.0
baz=93
109C Camp Elliot, M 92.91 50 ⇑P P 07 24 45.0 +1.3
baz=93
PFO Pinyon Flat Ob 92.92 49 eP P 07 24 44.9 +0.9
comp=Z,12nm,1.0s
PFO epP pP 07 24 58.5 -0.5
PFO Pinyon Flat Ob 92.92 49 ⇑P P 07 24 44.7 +0.7
baz=93,SNR=12
LDFC Landfair 92.94 48 eP P 07 24 45.0 +1.0
comp=Z,16nm,1.2s
LDFC epP pP 07 24 58.5 -0.6
F26A Lodgepole 92.95 33 ⇑P P 07 24 44.7 +0.9
baz=93
D28A Regan 92.97 31 ⇑P P 07 24 44.9 +1.1
baz=93
BELC Belle Mtn. Jos 93.00 49 ⇑P P 07 24 44.9 +0.5
baz=93,SNR=6.1
B30A Myrvik Farm, E 93.03 29 ⇓P P 07 24 44.5 +0.5
baz=93
G25A Newell 93.05 34 ⇓P P 07 24 45.2 +0.9
baz=93
E27A Carson 93.06 32 ⇑P P 07 24 45.2 +1.0
baz=93
K22A Casper 93.21 38 ⇓P P 07 24 45.7 +0.4
baz=93
F27A Lemmon 93.25 33 ⇑P P 07 24 46.0 +0.8
baz=93
BAR Barrett 93.32 50 eP P 07 24 46.5 +0.8
comp=Z,7.3nm,0.9s
BAR epP pP 07 25 00.1 -0.6
H25A Fruitdale 93.37 35 ⇑P P 07 24 46.6 +0.8
baz=93
MONP Monument Peak 93.37 50 ⇓P P 07 24 47.1 +0.9
baz=93,SNR=7.1
I24A Kuemmerle Ranc 93.38 36 ⇓P P 07 24 46.3 +0.4
baz=93
IRM Iron Mountain 93.47 48 ⇑P P 07 24 47.4 +1.1
baz=93,SNR=9.6
N20A Spence Gulch, 93.48 40 P P 07 24 46.7 +0.2
baz=93
BC3 Big Chuckawall 93.57 49 ⇑P P 07 24 47.5 +0.6
baz=93,SNR=8.6
G27A Dupree 93.65 33 ⇓P P 07 24 48.1 +1.1
baz=93
TBI Tubuai 93.65 114 eLR LR 07 54 49.6
comp=Z,163nm,35.2s
DVTC Desert V Tower 93.72 50 ⇑P P 07 24 48.6 +1.0
baz=94
W13A Hualapai Mount 93.72 47 ⇓P P 07 24 48.7 +0.9
baz=94,SNR=7.1
I25A Rochford 93.73 35 P P 07 24 47.7 +0.1
baz=94
SWSC Sam W. Stewart 93.76 50 ⇓P P 07 24 48.5 +0.9
baz=94
H26A Fairpoint 93.78 34 ⇓P P 07 24 48.6 +0.9
baz=94
F28A McLaughlin 93.85 32 ⇓P P 07 24 48.6 +0.7
baz=94
D30A Buchanan 93.85 30 ⇓P P 07 24 48.8 +1.0
baz=94
U15A North Rim 93.92 45 ⇓P P 07 24 49.7 +0.9
baz=94,SNR=5.4
O20A White River Ci 93.95 40 ⇑P P 07 24 49.5 +0.8
baz=94
M22A Cedar Creek Ra 94.03 38 ⇑P P 07 24 50.1 +1.1
baz=94
L23A Garrett 94.03 37 ⇓P P 07 24 49.4 +0.3
baz=94
PDMCI Parker Dam,Lak 94.05 48 ⇑P P 07 24 50.0 +1.1
baz=94
H27A Howes 94.12 34 ⇓P P 07 24 50.2 +1.0
baz=94
Y12C Blythe 94.13 48 ⇓P P 07 24 50.7 +1.3
baz=94
AGMN Agassiz Nation 94.19 28 ⇑P P 07 24 50.0 +0.6
baz=94
GLA Glamis 94.35 49 eP P 07 24 51.7 +1.2
GLA e*PP pP 07 25 05.7 +0.3
GLA pmax pmax
comp=Z,4.0nm,1.1s
GLA Glamis 94.35 49 eP P 07 24 51.7 +1.2
comp=Z,4.4nm,1.1s
GLA epP pP 07 25 05.7 +0.3
GLA Glamis 94.35 49 ⇓P P 07 24 51.6 +1.1
baz=94
I27A Quinn 94.54 34 ⇑P P 07 24 51.8 +0.6
baz=94
J26A Sides Ranch, S 94.56 35 ⇑P P 07 24 52.2 +0.9
baz=94
O22A Kremmling 94.90 39 ⇑P P 07 24 53.6 +0.5
baz=95
KEST Kesra 94.93 315 LR LR 08 16 50.8
comp=Z,18nm,19.8s,baz=286,slow=41
Y14A Wickenburg 95.01 47 ⇓P P 07 24 54.7 +1.2
baz=95
I28A Midland 95.03 34 ⇓P P 07 24 54.1 +0.8
baz=95
WUAZ Wupatki 95.07 45 ⇓P P 07 24 54.9 +1.0
baz=95
PV01 Paradox Valley 95.09 42 eP P 07 24 54.6 +0.6
comp=Z,230nm,1.0s
PV01 epP pP 07 25 08.8 -0.2
J27A Elkhorn Farm, 95.15 35 ⇑P P 07 24 54.6 +0.6
baz=95
P22A Eagle 95.16 40 ⇑P P 07 24 55.3 +1.0
baz=95
O23A Lake Granby, G 95.22 39 ⇑P P 07 24 55.6 +1.0
baz=95
X16A Lo Mia Camp, P 95.72 46 ⇓P P 07 24 57.9 +1.0
baz=96
214A Organ Pipe Nat 96.36 49 eP P 07 25 00.4 +0.8
comp=Z,4.5nm,1.3s
214A epP pP 07 25 14.1 -0.6
S25A Robets Cordova 97.81 40 ⇓P Pdif 07 25 06.8 +0.4
baz=98
ESDC Sonseca Array 99.79 325 LR LR 08 12 17.4
comp=Z,76nm,18.5s,baz=65,slow=36
TXAR Lajitas Array 104.03 46 Pdif **Pdif 07 25 37.3 +3.3**
TXAR Lajitas Array 104.03 46 Pdiff **Pdif 07 25 37.3 +3.3**
comp=Z,0.2nm,0.7s,baz=270,slow=0.9,SNR=2.8
330A Mertzon 104.12 43 P **Pdif 07 25 34.7 +0.4**
baz=104
TORD Torodi Ar. Bea 114.68 301 PKP PKPdf 07 30 10.0 -1.4
TORD Torodi Ar. Bea 114.68 301 PKP PKPdf 07 30 10.0 -1.4
comp=Z,0.9nm,0.6s,baz=1.4,slow=2.0,SNR=10
ATAH Atahualpa 146.88 57 PKPbc **PKPdf 07 31 11.8 -0.2**
ATAH Atahualpa 146.88 57 PKPbc **PKPdf 07 31 11.8 -0.2**
comp=Z,9.8nm,0.7s,baz=299,slow=5.2,SNR=7.7
USHA Ushuaia 150.22 160 PKPbc **PKPbc 07 31 21.1 +0.3**
USHA Ushuaia 150.22 160 PKPbc **PKPbc 07 31 21.1 +0.3**
comp=Z,7.8nm,0.8s,baz=272,slow=3.0,SNR=5.6
PTGA Pitinga 151.69 19 PKPbc **PKPbc 07 31 25.6 0.0**
PTGA Pitinga 151.69 19 PKPbc **PKPbc 07 31 25.6 0.0**
comp=Z,18nm,0.6s,baz=321,slow=4.3,SNR=23
PLCA Paso Flores 159.43 134 PKPab **PKPab 07 32 07.8 +0.9**
PLCA Paso Flores 159.43 134 PKPab **PKPab 07 32 07.8 +0.9**
comp=Z,1.8nm,0.6s,baz=240,slow=6.4,SNR=6.7
SIV San Ignacio 164.96 40 PKP **PKPdf 07 31 36.0 +0.9**
SIV San Ignacio 164.96 40 PKP **PKPdf 07 31 36.0 +0.9**
comp=Z,2.0nm,0.8s,baz=303,slow=2.6,SNR=4.4

IDC 07 07:28:24.7±1.5, 8.46S×157.42E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/19, mbtmp4.1/5, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/32, Error ellipse: s-maj=37.3km s-min=14.8km az=10.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.67**	**111**	Pn		Pn	Pn	07 29 07.6	-1.4
	26nm,0.3s,baz=203,slow=14,SNR=5.3								
HNR				Pg		Pb		07 29 13.9	+0.4
	70nm,0.3s,baz=306,slow=2.6,SNR=17								
HNR				LR		LR		07 29 42.1	
	comp=Z,231nm,19.9s,baz=253,slow=29								
HNR				Lg		Lg		07 29 49.4	
	78nm,0.3s,baz=91,slow=17,SNR=4.9								
HNR	**Honiara**	**2.67**	**111**	*e*P		Pb		07 29 13.0	-0.5
HNR				*i* S		Sg		07 29 54.0	+3.3
CTA	**Charters Tower**	**15.82**	**222**	Pn		P		07 32 12.1	-0.9
	0.2nm,0.3s,baz=29,slow=17,SNR=3.4								
WRA	**Warramunga Arr**	**25.08**	**240**	P		P		07 33 50.8	-0.4
	3.8nm,0.6s,baz=66,slow=9.7,SNR=42								
ASAR	**Alice Springs**	**27.12**	**233**	P		P		07 34 08.1	-1.7
	1.4nm,0.9s,baz=62,slow=9.4,SNR=12								
STKA	**Stephens Creek**	**27.56**	**210**	P		P		07 34 15.4	+1.9
	2.6nm,0.5s,baz=48,slow=15,SNR=5.2								
MKAR	**Makanchi Array**	**86.09**	**318**	P		P		07 41 08.5	+0.9
	0.6nm,0.6s,baz=98,slow=6.6,SNR=6.6								

*ISCJB **07** 07:28:30.6±0.6, 18.76S±0.09×169.5E±0.1, h246km, mb4.3/9, Error ellipse: s-maj=16.4km s-min=8.3km az=41.5*
*NEIC **07** 07:28:31.1±1.5, 18.70S×169.45E, h234km±17km, mb4.4/7, Error ellipse: s-maj=27.0km s-min=11.7km az=152.0*
*IDC **07** 07:28:32.7±3.0, 18.97S×169.47E, h250km±29km, mb4.1/8, mb1 4.2/9, mb1mx3.9/20, mbtmp4.0/9, Error ellipse: s-maj=40.4km s-min=19.7km az=159.0*

ISC 07 07:28:32.2±0.7, 18.8S±0.1×169.5E±0.1, h246km, n46, σ1.1 1/47, mb4.4/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**221**	*e*Pn		Pn	Pn	07 29 38.5	-0.9
DZM				*e*S		S	S	07 30 32.5	-0.4
DZM	**Mont Dzumac**	**4.30**	**221**	P		P	Pn	07 29 38.6	-0.9
	6.5nm,0.3s,baz=59,slow=17,SNR=43								
NOUC	**Port Laguerre**	**4.41**	**222**	*e*P		Pn	Pn	07 29 39.9	-0.7
EIDS	**Eidsvold**	**18.23**	**246**	*e*P		P	P	07 32 28.8	+1.1
	8.1nm,0.5s								
EIDS	**Eidsvold**	**18.23**	**246**	P		P	P	07 32 28.7	+1.1
	baz=20,SNR=10								
AFI	**Afiamalu**	**18.64**	**78**	*e*P		P	P	07 32 32.6	+0.4
ARMA	**Armidale**	**19.88**	**231**	*e*P		P	P	07 32 45.9	+0.6
	6.8nm,0.7s								
ARMA	**Armidale**	**19.88**	**231**	P		P	P	07 32 46.0	+0.7
	baz=22,SNR=9.3								
TARA	**Tarawa**	**20.34**	**10**	*e*P		P	P	07 32 47.3	-2.9
	87nm,0.8s								
RMQ	**Roma**	**20.56**	**244**	P		P	P	07 32 53.6	+1.0
	baz=22,SNR=14								
CTA	**Charters Tower**	**21.93**	**263**	P		P	P	07 33 06.0	-0.1
CTA	**Charters Tower**	**21.93**	**263**	P		P	P	07 33 06.0	-0.1
	6.0nm,0.4s,baz=87,slow=12,SNR=18								
CTAO	**Charters Tower**	**21.93**	**263**	*e*P		P	P	07 33 06.5	+0.4
	5.7nm,0.4s								
PMG	**Port Moresby**	**23.55**	**290**	*e*P		P	P	07 33 22.1	+1.2
	14nm,0.6s								
PMG	**Port Moresby**	**23.55**	**290**	P		P	P	07 33 22.3	+1.4
	16nm,0.7s,baz=91,slow=5.6,SNR=7.3								
CNB	**Canberra Magne**	**24.22**	**223**	P		P	P	07 33 27.1	+0.3
	baz=26,SNR=7.9								
QLP	**Quilpie**	**24.50**	**247**	P		P	P	07 33 29.3	0.0
	baz=26,SNR=6.2								
CMSA	**Cobar Meteorol**	**24.90**	**235**	P		P	P	07 33 32.6	-0.3
	baz=27,SNR=22								
STKA	**Stephens Creek**	**28.25**	**237**	*e*P		P	P	07 34 02.8	0.0
	2.6nm,0.6s								
STKA	**Stephens Creek**	**28.25**	**237**	P		P	P	07 34 03.1	+0.3
	12nm,0.6s,baz=65,slow=8.6,SNR=54								
MOO	**Moorlands**	**30.18**	**214**	P		P	P	07 34 19.7	0.0

baz=32,SNR=4.0
HTT Hallett 30.91 236 P **P** **07 34 26.1 -0.2**
baz=33,SNR=9.4
BBOO Buckleboo 32.99 238 P **P** **07 34 44.0 -0.3**
baz=35,SNR=15
WRAB Tennant Creek 33.12 262 *e*P **P** **07 34 44.3 -1.3**
4.3nm,0.4s
WRA Warramunga Arr 33.12 262 P **P** **07 34 44.4 -1.2**
WRA Warramunga Arr 33.12 262 P **P** **07 34 44.4 -1.2**
6.5nm,0.5s,baz=83,slow=6.4,SNR=102
AS31 Alice Springs 33.44 255 *e*P **P** **07 34 47.8 -0.6**
ASAR Alice Springs 33.44 255 P **P** **07 34 47.7 -0.7**
ASAR Alice Springs 33.44 255 P **P** **07 34 47.7 -0.7**
50nm,0.4s,baz=81,slow=8.9,SNR=655
KDU Kakadu 36.08 274 P **P** **07 35 10.5 -0.4**
baz=38,SNR=3.7
MTN Manton Dam 37.30 273 P **P** **07 35 21.4 +0.1**
baz=39,SNR=4.0
WRKA Warakurna 38.58 253 P **P** **07 35 31.3 -0.6**
baz=41,SNR=15
KNRA Kununurra 38.95 268 P **P** **07 35 34.2 -0.6**
baz=41,SNR=7.0
MEEK Meekatharra 47.30 251 P **P** **07 36 41.0 -0.6**
baz=49,SNR=11
CMAR Chiang Mai Arr 78.54 294 P **P** **07 40 09.1 +2.2**
CMAR Chiang Mai Arr 78.54 294 P **P** **07 40 09.1 +2.2**
1.1nm,0.4s,baz=128,slow=3.2,SNR=4.0
NVAR Mina Array Bea 88.36 48 P **P** **07 40 58.3 +1.7**
NVAR Mina Array Bea 88.36 48 P **P** **07 40 58.3 +1.7**
1.4nm,0.8s,baz=239,slow=7.6,SNR=7.7
ILAR Eielson Array 89.77 17 P **P** **07 41 00.9 -1.4**
ILAR Eielson Array 89.77 17 P **P** **07 41 00.9 -1.4**
0.9nm,0.7s,baz=246,slow=5.0,SNR=10
YKA Yellowknife Ar 100.20 27 P **Pdif** **07 41 51.7 +2.0**
YKA Yellowknife Ar 100.20 27 P **Pdif** **07 41 51.7 +2.0**
0.3nm,0.6s,baz=256,slow=4.6,SNR=2.5
ARCES ARCESS Array B 124.72 345 PKP **PKPdf** **07 47 01.1 -0.8**
ARCES ARCESS Array B 124.72 345 PKP **PKPdf** **07 47 01.1 -0.8**
1.6nm,0.9s,baz=56,slow=2.2,SNR=5.9
GERES GERESS Array B 144.23 332 PKP **PKPab** **07 47 37.5 +0.1**
GERES GERESS Array B 144.23 332 PKP **PKPab** **07 47 37.5 +0.1**
0.4nm,0.7s,baz=20,slow=3.1,SNR=3.8

*ISCJB **07** 07:31:24.1±0.6, 19.8S±0.1×177.9W±0.1, h350km, mb3.9/15, Error ellipse: s-maj=19.9km s-min=11.2km az=141.7*
*IDC **07** 07:31:26.2±2.2, 19.89S×177.77W, h364km±23km, mb3.6/15, mb1 3.9/17, mb1mx3.8/23, mbtmp3.7/17, Error ellipse: s-maj=19.4km s-min=12.1km az=147.0*
ISC 07 07:31:24.9±0.6, **19.9S**±0.1×**177.8W**±0.1, **h350**km, **n20,** σ1§**07**/21, **mb4.0**/15, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.27**	**45**	P	**Pn**	**07 33 23.2**	**+0.8**
	6.6nm,0.3s,baz=332,slow=2.0,SNR=18						
AFI				S	S	07 34 51.0	-7.2
	14nm,0.3s,baz=196,slow=23,SNR=8.3						
URZ	**Urewera**	**18.83**	**193**	P	**P**	**07 35 20.8**	**+0.3**
	2.0nm,0.3s,baz=332,slow=5.4,SNR=7.9						
CTA	**Charters Tower**	**33.77**	**263**	P	**P**	**07 37 36.4**	**+1.2**
	10nm,0.6s,baz=94,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.25**	**244**	P	**P**	**07 38 13.1**	**+0.4**
	2.0nm,0.6s,baz=84,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**44.87**	**256**	P	**P**	**07 39 06.0**	**-0.1**
	3.9nm,0.6s,baz=96,slow=8.2,SNR=33						
WRA	**Warramunga Arr**	**44.90**	**261**	P	**P**	**07 39 05.7**	**-0.6**
	0.8nm,0.3s,baz=96,slow=7.5,SNR=35						
MJAR	**Matsushiro Arr**	**69.85**	**323**	P	**P**	**07 41 57.9**	**-0.7**
	1.8nm,0.5s,baz=40,slow=0.8,SNR=5.0						
PETK	**Petropavlovsk-**	**75.75**	**345**	P	**P**	**07 42 32.1**	**-0.4**
	4.7nm,0.8s,baz=132,slow=7.5,SNR=8.7						
USRK	**Ussuriysk Arra**	**78.59**	**326**	P	**P**	**07 42 49.4**	**+1.0**
	6.6nm,1.1s,baz=145,slow=5.3,SNR=4.4						
NVAR	**Mina Array Bea**	**80.44**	**43**	P	**P**	**07 42 59.3**	**+0.6**
	1.9nm,0.8s,baz=232,slow=8.1,SNR=9.4						
SEY	**Seymchan**	**85.84**	**347**	P	**P**	**07 43 24.8**	**-0.4**
	2.9nm,0.6s,baz=166,slow=18,SNR=4.6						
TXAR	**Lajitas Array**	**86.55**	**57**	P	**P**	**07 43 31.0**	**+1.4**
	0.8nm,0.8s,baz=227,slow=6.6,SNR=5.7						
ILAR	**Eielson Array**	**87.68**	**13**	P	**P**	**07 43 32.9**	**-1.1**
	1.5nm,0.8s,baz=227,slow=8.1,SNR=24						
PDAR	**Pinedale Array**	**88.36**	**43**	P	**P**	**07 43 37.9**	**-0.2**
	0.9nm,0.7s,baz=214,slow=2.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**90.12**	**289**	P	**P**	**07 43 47.2**	**+0.8**
	1.1nm,0.3s,baz=110,slow=4.0,SNR=4.3						
CFAA	**Coronel Fontan**	**95.28**	**126**	P	**P**	**07 44 10.7**	**+0.6**
	0.2nm,0.3s,baz=108,slow=6.4,SNR=41						
YKA	**Yellowknife Ar**	**95.88**	**25**	P	**P**	**07 44 11.2**	**-0.6**
	0.4nm,0.8s,baz=239,slow=4.1,SNR=3.6						
BRTR	**Keskin Array B**	**146.59**	**313**	PKPbc	**PKPdf**	**07 50 24.7**	**+0.8**
	0.5nm,0.6s,baz=111,slow=3.7,SNR=2.8						
GERES	**GERESS Array B**	**149.68**	**345**	PKPbc	**PKPbc**	**07 50 32.3**	**-1.3**
	0.9nm,0.8s,baz=56,slow=3.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**173.27**	**176**	PKP	**PKPdf**	**07 50 50.8**	**-2.7**
	0.6nm,0.8s,baz=167,slow=1.3,SNR=3.6						
TORD				PKPab	**PKPab**	**07 52 22.0**	**-1.4**
	0.3nm,0.4s,baz=173,slow=4.5,SNR=5.2						

*IDC **07** 07:34:58.5±1.5, 14.96S×174.11W, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.3/19, mbtmp4.2/8, MS4.0/16, Ms1 4.0/16, ms1mx3.9/31, Error ellipse: s-maj=93.7km s-min=19.3km az=147.0*
ISC 07 07:35:00.2±1.4, **15.0S**±0.5×**174.1W**±0.4, **h10**km, **n39,** σ1§**39**/10, **mb4.0**/8, **MS4.1**/14, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.48**	**65**	Pn	Pn	07 35 34.5	-6.2
	26nm,0.3s,baz=247,slow=23,SNR=9.3						
AFI				Sn	Sn	07 35 58.7	-13
	52nm,0.3s,baz=259,slow=21,SNR=7.2						
RAR	**Rarotonga**	**14.94**	**117**	LR	LR	07 43 13.9	
	comp=Z,217nm,18.9s,baz=222,slow=33						
DZM	**Mont Dzumac**	**19.75**	**246**	*e*LR	LR	07 44 16.4	
	910nm,30.1s						
DZM	**Mont Dzumac**	**19.75**	**246**	LR	LR	07 44 59.0	
	comp=Z,190nm,19.4s,baz=205,slow=30						
PAE	**Paea**	**23.66**	**100**	*e*T	T	08 04 20.3	
	4.1nm,0.2s						
PPT2	**Papeete2**	**23.66**	**100**	*e*LQ	LQ	07 44 46.0	
	1µm,27.5s						
PPT2	**Papeete2**	**23.66**	**100**	*e*T	T	08 04 16.2	
	7.3nm,0.3s						
TIAR	**Tiarei**	**23.88**	**100**	*e*T	T	08 04 36.9	
	4.6nm,0.3s						
TVO	**Taravao**	**23.98**	**100**	*e*T	T	08 04 44.1	
	2.1nm,0.3s						
URZ	**Urewera**	**24.45**	**197**	LR	LR	07 48 35.2	
	comp=Z,351nm,18.6s,baz=18,slow=33						
TBI	**Tubuai**	**24.67**	**113**	*e*LQ	LQ	07 45 13.7	
	904nm,28.0s						
TBI				*e*LR	LR	07 46 19.0	
	347nm,29.0s						
TBI	**Tubuai**	**24.67**	**113**	*e*T	T	08 05 42.5	
	19nm,0.3s						
PMOR	**Pomariorio Ree**	**25.30**	**93**	*e*T	T	08 06 18.4	
	3.1nm,0.2s						
VAH	**Vaihoa**	**25.54**	**94**	*e*T	T	08 06 44.7	
	7.3nm,0.3s						
HNR	**Honiara**	**25.96**	**279**	LR	LR	07 48 50.8	
	comp=Z,368nm,21.1s,baz=307,slow=32						
RKT	**Rikitea**	**37.75**	**108**	*e*T	T	08 21 59.6	
	7.7nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.27**	**330**	T	T	08 23 03.3	
	baz=153,slow=77,SNR=456						
H11S3	**WAKE ISLAND Hy**	**38.29**	**330**	T	T	08 23 03.5	
	baz=153,slow=77,SNR=530						
H11S1	**WAKE ISLAND Hy**	**38.29**	**330**	T	T	08 22 55.2	
	baz=153,slow=77,SNR=416						
H11N3	**WAKE ISLAND Hy**	**39.23**	**331**	T	T	08 24 06.6	
	baz=152,slow=77,SNR=328						
H11N1	**WAKE ISLAND Hy**	**39.24**	**331**	T	T	08 24 07.1	
	baz=152,slow=77,SNR=424						
H11N2	**WAKE ISLAND Hy**	**39.25**	**331**	T	T	08 24 14.1	
	baz=152,slow=77,SNR=367						
STKA	**Stephens Creek**	**43.67**	**239**	P	**P**	**07 43 06.3**	**+0.9**
	2.1nm,0.8s,baz=82,slow=8.3,SNR=4.8						
STKA				LR	LR	07 58 56.5	
	comp=Z,134nm,19.9s,baz=25,slow=33						
WRA	**Warramunga Arr**	**49.30**	**256**	P	**P**	**07 43 48.6**	**-1.1**
	7.7nm,1.2s,baz=90,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**49.61**	**252**	P	**P**	**07 43 51.5**	**-0.6**
	15nm,0.7s,baz=86,slow=8.1,SNR=46						
ASAR				LR	LR	08 02 47.9	
	comp=Z,201nm,21.5s,baz=92,slow=34						
MJAR	**Matsushiro Arr**	**68.20**	**320**	LR	LR	08 08 50.0	
	comp=Z,139nm,20.4s,baz=125,slow=30						
NVAR	**Mina Array Bea**	**74.47**	**42**	P	**P**	**07 46 38.9**	**-0.3**
	3.3nm,1.1s,baz=233,slow=6.3,SNR=13						
NVAR				LR	LR	08 12 00.0	
	comp=Z,115nm,20.1s,baz=115,slow=30						
KSRS	**Korea Array**	**75.40**	**316**	LR	LR	08 18 08.0	
	comp=Z,52nm,18.0s,baz=313,slow=34						
USRK	**Ussuriysk Arra**	**76.66**	**323**	LR	LR	08 15 37.7	
	comp=Z,126nm,21.4s,baz=37,slow=32						
BBB	**Bella Bella**	**77.82**	**27**	LR	LR	08 12 31.8	
	comp=Z,77nm,19.5s,baz=243,slow=29						
TXAR	**Lajitas Array**	**80.94**	**56**	P	**P**	**07 47 15.1**	**-0.2**
	1.6nm,1.1s,baz=217,slow=5.8,SNR=5.2						
TXAR				LR	LR	08 14 15.6	
	comp=Z,120nm,19.8s,baz=115,slow=29						
DLBC	**Dease Lake**	**81.56**	**22**	LR	LR	08 19 52.8	
	comp=Z,86nm,18.1s,baz=224,slow=33						
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**07 47 21.8**	**+0.8**
	1.4nm,0.9s,baz=232,slow=5.7,SNR=11						
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**	**07 47 23.7**	**+0.8**
	0.9nm,0.9s,baz=238,slow=2.8,SNR=5.8						
PDAR				LR	LR	08 17 32.1	
	comp=Z,93nm,19.9s,baz=267,slow=31						
YKA	**Yellowknife Ar**	**89.99**	**24**	P	**P**	**07 47 57.8**	**-1.7**
	0.5nm,0.9s,baz=243,slow=4.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**91.86**	**288**	LR	LR	08 27 53.2	
	comp=Z,30nm,21.7s,baz=133,slow=35						
ULM	**Lac du Bonnet**	**94.03**	**39**	LR	LR	08 24 50.3	
	comp=Z,136nm,18.1s,baz=308,slow=32						
BRTR	**Keskin Array B**	**145.42**	**321**	PKPbc	**PKPab**	**07 54 38.4**	**-0.7**
	0.6nm,0.8s,baz=144,slow=2.7,SNR=2.7						
GERES	**GERESS Array B**	**145.64**	**351**	PKPbc	**PKPab**	**07 54 42.0**	**+2.5**
	1.0nm,0.7s,baz=48,slow=2.0,SNR=7.0						

*IDC **07** 07:39:41.3±0.7, 31.28S×179.65W, h327km±8km, mb3.6/6, mb1 3.8/8, mb1mx3.6/19, mbtmp4.5/8, Error ellipse: s-maj=17.3km s-min=13.6km az=117.0*
ISC 07 07:39:44.5±1.1, **31.58S**±0.08×**179.8W**±0.1, **h350**km, **n56,** σ1§**54**/58, **mb3.7**/6, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.84**	**36**	P	Pn	07 40 34.5	-8.0
	386nm,0.3s,baz=91,slow=23,SNR=14						
RAO				S	S	07 41 18.0	-11
	451nm,0.3s,baz=266,slow=23,SNR=8.7						
MXZ	**Matakaoa Point**	**6.17**	**194**	PN	**Pn**	**07 41 17.0**	**-0.2**
MXZ				SN	**S**	**07 42 32.0**	**-0.3**
MWZ	**Matawai**	**7.09**	**197**	*e*PN	**Pn**	**07 41 26.8**	**-1.1**
MWZ				SN	**S**	**07 42 52.4**	**+0.5**
URZ	**Urewera**	**7.13**	**200**	P	**Pn**	**07 41 27.2**	**-1.1**
	7.8nm,0.3s,baz=13,slow=2.9,SNR=27						
URZ				S	**S**	**07 42 54.1**	**+1.4**
	97nm,0.3s,baz=258,slow=23,SNR=19						
URZ	**Urewera**	**7.13**	**200**	PN	**Pn**	**07 41 27.1**	**-1.1**
URZ				SN	**S**	**07 42 54.5**	**+1.8**
RIGZ	**Rimuhau**	**7.38**	**195**	PN	**Pn**	**07 41 31.2**	**-0.1**
SNGZ	**Shannon Statio**	**7.56**	**197**	PN	**Pn**	**07 41 34.0**	**+0.7**
PRGZ	**Paritu Road**	**7.57**	**194**	PN	**Pn**	**07 41 33.3**	**-0.2**
ALRZ	**Allen Road**	**7.65**	**203**	PN	**Pn**	**07 41 36.7**	**+2.3**
KNZ	**Kokohu**	**7.71**	**195**	PN	**Pn**	**07 41 32.6**	**-2.4**
RAHZ	**Arahi**	**7.75**	**198**	PN	**Pn**	**07 41 37.5**	**+1.8**
MHGZ	**Mahia Peninsul**	**7.79**	**193**	PN	**Pn**	**07 41 36.2**	**+0.2**
WHHZ	**Waihua**	**7.86**	**197**	PN	**Pn**	**07 41 37.2**	**+0.3**
NMHZ	**Naumai**	**8.00**	**199**	PN	**Pn**	**07 41 39.7**	**+1.2**
BKZ	**Black Stump Fm**	**8.15**	**201**	PN	**Pn**	**07 41 40.1**	**-0.3**
HIZ	**Hauiti**	**8.19**	**211**	PN	**P**	**07 41 42.6**	**-1.0**
MCHZ	**McNeill Hill**	**8.35**	**199**	PN	**Pn**	**07 41 42.6**	**-0.1**
CKHZ	**Cape Kidnapper**	**8.45**	**197**	PN	**P**	**07 41 45.2**	**-1.4**
BHHZ	**Black Hill Sta**	**8.58**	**202**	PN	**Pn**	**07 41 42.6**	**-2.9**
WNVZ	**Wahianoa**	**8.59**	**205**	PN	**Pn**	**07 41 46.4**	**+0.7**
KAHZ	**Kahuranaki**	**8.63**	**197**	PN	**Pn**	**07 41 43.4**	**-2.7**
PXZ	**Pawanui**	**8.86**	**197**	PN	**Pn**	**07 41 48.1**	**-0.6**
PNHZ	**Pukenui**	**8.93**	**200**	PN	**Pn**	**07 41 47.7**	**-1.9**
TSZ	**Takapari Road**	**9.13**	**201**	PN	**Pn**	**07 41 49.8**	**-2.2**
PRHZ	**Porangahau**	**9.14**	**197**	PN	**P**	**07 41 53.1**	**-1.1**
DVHZ	**Dannevirke**	**9.29**	**199**	PN	**Pn**	**07 41 53.7**	**-0.2**
POWZ	**Post Office Ro**	**9.50**	**201**	PN	**Pn**	**07 41 56.9**	**+0.5**
MRZ	**Mangatainoka R**	**9.80**	**201**	PN	Pn	07 41 56.6	-3.4
HOWZ	**Holdsworth Sta**	**10.04**	**201**	PN	**Pn**	**07 42 01.5**	**-1.3**
TMWZ	**Te Maipa**	**10.12**	**199**	PN	**Pn**	**07 42 03.0**	**-0.8**
KIW	**Kapiti Island**	**10.20**	**203**	PN	**Pn**	**07 42 03.1**	**-1.6**
TUWZ	**Tuamarina**	**11.04**	**205**	PN	Pn	07 42 10.3	-4.4
NNZ	**Nelson**	**11.07**	**208**	PN	**Pn**	**07 42 12.4**	**-2.7**
QRZ	**Quartz Range**	**11.11**	**212**	PN	**Pn**	**07 42 13.8**	**-1.8**
RPZ	**Rata Peaks**	**14.10**	**208**	P	**P**	**07 42 49.1**	**0.0**
	2.4nm,0.3s,baz=59,slow=5.9,SNR=3.9						
RPZ				S	**S**	**07 45 19.1**	**-3.1**
	10.0nm,0.3s,baz=168,slow=19,SNR=11						
DZM	**Mont Dzumac**	**15.48**	**304**	P	**P**	**07 43 04.6**	**0.0**
	0.8nm,0.3s,baz=151,slow=19,SNR=9.2						
LHI	**Lord Howe Isla**	**18.01**	**265**	P	P	07 43 37.5	+5.9
	baz=21,SNR=3.8						
ARMA	**Armidale**	**24.48**	**265**	P	**P**	**07 44 36.5**	**+3.2**
	baz=28,SNR=10						
MGCD	**Mangrove Creek**	**24.58**	**258**	P	**P**	**07 44 37.5**	**+3.4**
	baz=28,SNR=10						
CMSA	**Cobar Meteorol**	**29.32**	**261**	P	**P**	**07 45 18.2**	**+2.1**
	baz=33,SNR=11						
QLP	**Quilpie**	**31.72**	**270**	P	**P**	**07 45 38.0**	**+0.9**
	baz=35,SNR=3.6						
CTA	**Charters Tower**	**32.49**	**282**	P	**P**	**07 45 44.0**	**+0.2**
	1.4nm,0.5s,baz=105,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**32.71**	**259**	P	**P**	**07 45 47.2**	**+1.6**
	8.5nm,0.4s,baz=101,slow=10,SNR=36						
HTT	**Hallett**	**34.69**	**256**	P	**P**	**07 46 04.7**	**+2.2**
	baz=38,SNR=14						
BBOO	**Buckleboo**	**37.16**	**256**	P	**P**	**07 46 24.4**	**+1.1**
	baz=40,SNR=18						
ASAR	**Alice Springs**	**41.51**	**269**	P	**P**	**07 46 58.3**	**-0.7**
	1.3nm,0.3s,baz=108,slow=7.3,SNR=30						
WRA	**Warramunga Arr**	**42.61**	**274**	P	**P**	**07 47 06.9**	**-0.9**
	2.4nm,0.3s,baz=111,slow=8.1,SNR=103						
WRA				ScP	**ScP**	**07 52 09.6**	**+0.1**
	0.4nm,0.7s,baz=103,slow=3.8,SNR=5.0						
FORT	**Forrest**	**44.25**	**257**	P	**P**	**07 47 20.6**	**0.0**
	baz=48,SNR=24						
WRKA	**Warakurna**	**45.80**	**265**	P	**P**	**07 47 31.8**	**-1.1**
	baz=49,SNR=19						
VNDA	**Vanda**	**46.78**	**185**	P	**P**	**07 47 42.2**	**+2.8**
	1.4nm,0.5s,baz=20,slow=7.0,SNR=6.9						
KNRA	**Kununurra**	**49.26**	**276**	P	**P**	**07 47 58.5**	**-0.7**
	baz=52,SNR=6.2						
MEEK	**Meekatharra**	**53.41**	**259**	P	**P**	**07 48 29.3**	**-0.4**
	baz=57,SNR=4.4						
MORW	**Morawa**	**54.71**	**255**	P	**P**	**07 48 38.2**	**-0.7**
	baz=58,SNR=5.5						
PLCA	**Paso Flores**	**82.83**	**134**	P	**P**	**07 51 30.2**	**-0.4**
	1.2nm,0.8s,baz=248,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**145.68**	**338**	PKPbc	**PKPdf**	**07 58 39.0**	**-1.8**
	1.3nm,0.4s,baz=36,slow=1.8,SNR=12						
TORD	**Torodi Ar. Bea**	**161.61**	**185**	PKPab	**PKPab**	**07 59 51.3**	**0.0**
	0.6nm,0.4s,baz=172,slow=4.9,SNR=10						

*IDC **07** 08:01:13.7±0.5, 8.63S×157.58E, h0km, mb4.5/15, mb1 4.7/17, mb1mx4.6/21, mbtmp4.5/17, ML4.0/2, MS3.7/9, Ms1 3.7/9, ms1mx3.5/30, Error ellipse: s-maj=16.4km s-min=12.4km az=18.0*
*ISCJB **07** 08:01:14.2±0.3, 8.70S±0.05×157.51E±0.05, h10km, mb4.8/44, MS4.1/12, Error ellipse: s-maj=7.9km s-min=6.4km az=35.1*
*NEIC **07** 08:01:19.2±0.3, 8.71S×157.58E, h35km, mb4.8/19, Error ellipse: s-maj=11.8km s-min=7.4km az=145.0*
*BJI **07** 08:01:21.5, 8.06S×157.26E, h35km, mB5.2/27, mb5.0/34, Ms5.0/16, Ms7 4.6/16*
ISC 07 08:01:16.9±0.4, **8.76S**±0.08×**157.70E**±0.06, **h17**km, **n96,** σ1§**62**/100, **mb4.8**/44, **MS4.0**/12, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.32**	**107**	Pn	**Pn**	**08 01 53.9**	**-0.4**
HNR				Lg	Lg	08 02 32.0	
HNR	**Honiara**	**2.32**	**107**	Pn	**Pn**	**08 01 53.9**	**-0.4**
	55nm,0.3s,baz=261,slow=2.9,SNR=18						
HNR				Pg	**Pb**	**08 01 59.3**	**+1.0**
	410nm,0.3s,baz=218,slow=8.0,SNR=54						
HNR				Lg	Lg	08 02 32.0	
	260nm,0.3s,baz=74,slow=23,SNR=9.8						
HNR				LR	LR	08 02 50.4	
	comp=Z,659nm,18.2s,baz=305,slow=39						
PMG	**Port Moresby**	**10.43**	**266**	Pn	**Pn**	**08 03 44.4**	**-1.4**
PMG	**Port Moresby**	**10.43**	**266**	LR	LR	08 07 07.8	
	comp=Z,368nm,21.1s,baz=74,slow=34						
COEN	**Coen**	**15.14**	**249**	*e*Pn	**Pn**	**08 04 51.4**	**+1.2**
	83nm,1.0s						
COEN	**Coen**	**15.14**	**249**	P	**Pn**	**08 04 51.1**	**+0.9**
	baz=12,SNR=4.8						
DZM	**Mont Dzumac**	**15.68**	**149**	LR	LR	08 09 25.5	
	comp=Z,237nm,18.1s,baz=23,slow=31						
CTA	**Charters Tower**	**15.79**	**223**	Pn	**Pn**	**08 04 59.6**	**+1.0**
CTA	**Charters Tower**	**15.79**	**223**	Pn	**Pn**	**08 04 59.6**	**+1.0**
	0.3nm,0.3s,baz=42,slow=13,SNR=7.2						
CTAO	**Charters Tower**	**15.79**	**223**	*e*Pn	**Pn**	**08 04 59.6**	**+1.0**
	44nm,1.2s						
EIDS	**Eidsvold**	**17.68**	**200**	P	**P**	**08 05 24.4**	**+1.1**
	baz=15,SNR=8.1						
RMQ	**Roma**	**19.56**	**205**	P	**P**	**08 05 44.9**	**+0.9**
	baz=17,SNR=16						
QIS	**Mount Isa**	**21.04**	**234**	P	**P**	**08 05 59.8**	**-0.4**
	baz=18,SNR=17						
QLP	**Quilpie**	**21.84**	**214**	P	**P**	**08 06 07.9**	**-0.8**
	baz=19,SNR=13						
ARMA	**Armidale**	**22.28**	**194**	PFAKE		08 06 30.0	+16
ARMA				LR	LR		
	comp=Z,300nm,20.6s						
WRAB	**Tennant Creek**	**25.16**	**241**	*e*P	**P**	**08 06 39.5**	**-2.0**
	comp=Z,22nm,1.0s						
WRA	**Warramunga Arr**	**25.17**	**241**	P	**P**	**08 06 40.0**	**-1.7**
WRA				PcP	**PcP**	**08 10 15.3**	**-0.3**
WRA	**Warramunga Arr**	**25.17**	**241**	P	**P**	**08 06 40.0**	**-1.7**
	comp=Z,23nm,1.0s,baz=66,slow=9.8,SNR=40						
WRA				PcP	**PcP**	**08 10 15.3**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=70,slow=2.7,SNR=19						
WRA				LR	LR	08 15 58.6	
	comp=Z,288nm,20.1s,baz=65,slow=35						
CMSA	**Cobar Meteorol**	**25.27**	**205**	P	**P**	**08 06 41.3**	**-1.0**
	baz=22,SNR=8.1						
AS31	**Alice Springs**	**27.16**	**234**	*e*P	**P**	**08 06 57.1**	**-2.6**
ASAR	**Alice Springs**	**27.16**	**234**	P	**P**	**08 06 57.1**	**-2.6**
ASAR				PcP	**PcP**	**08 10 19.9**	**-0.3**
ASAR	**Alice Springs**	**27.16**	**234**	P	**P**	**08 06 57.1**	**-2.6**
	comp=Z,3.2nm,1.0s,baz=61,slow=9.0,SNR=22						
ASAR				PcP	**PcP**	**08 10 19.9**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=69,slow=2.4,SNR=14						
ASAR				LR	LR	08 17 01.4	
	comp=Z,212nm,19.1s,baz=122,slow=35						
STKA	**Stephens Creek**	**27.44**	**211**	*e*P	**P**	**08 07 03.2**	**+1.2**
STKA				PcP	**PcP**	**08 10 20.0**	**-0.6**
STKA	**Stephens Creek**	**27.44**	**211**	P	**P**	**08 07 03.2**	**+1.2**
	comp=Z,8.4nm,0.8s,baz=34,slow=11,SNR=31						
STKA				PcP	**PcP**	**08 10 20.0**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=289,slow=4.7,SNR=3.8						
STKA				LR	LR	08 16 31.3	
	comp=Z,148nm,19.3s,baz=20,slow=33						
H11S3	**WAKE ISLAND Hy**	**28.50**	**18**	T	T	08 35 38.4	
	baz=199,slow=78,SNR=33						
H11S2	**WAKE ISLAND Hy**	**28.50**	**18**	T	T	08 35 33.4	
	baz=199,slow=78,SNR=33						
H11S1	**WAKE ISLAND Hy**	**28.52**	**18**	T	T	08 35 34.6	
	baz=199,slow=78,SNR=18						
BBOO	**Buckleboo**	**31.20**	**217**	*e*P	P	08 07 33.5	-1.9
	comp=Z,717nm,1.9s						
WRKA	**Warakurna**	**32.34**	**236**	P	P	08 07 42.9	-2.7
	baz=29,SNR=4.6						
MJAR	**Matsushiro Arr**	**48.65**	**339**	P	P	08 09 57.1	-3.0
MJAR	**Matsushiro Arr**	**48.65**	**339**	P	P	08 09 57.1	-3.0
	comp=Z,2.0nm,0.7s,baz=138,slow=2.1,SNR=4.5						
JNU	**Nakatsue**	**48.86**	**330**	*e*P	**P**	**08 10 00.3**	**-1.5**
JNU	**Nakatsue**	**48.86**	**330**	P	**P**	**08 10 00.3**	**-1.5**
	comp=Z,20nm,0.9s,baz=84,slow=13,SNR=3.5						
KSRS	**Korea Array**	**53.76**	**331**	P	**P**	**08 10 37.2**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=144,slow=7.9,SNR=7.0						
KSRS				LR	LR	08 31 50.3	
	comp=Z,67nm,18.2s,baz=166,slow=34						
KSAR	**Wonju Array Be**	**53.77**	**331**	P	**P**	**08 10 37.2**	**-1.3**
ASAJ	**Asahikawa**	**54.38**	**347**	LR	LR	08 30 46.9	
	comp=Z,102nm,19.7s,baz=195,slow=33						
QIZ	**Qiongzhong**	**54.66**	**301**	P	**P**	**08 10 43.7**	**-1

comp=Z,170nm,4.8s
GTA Gaotai 71.86 316 P **P** **08 12 38.4 -0.9**
GTA pP **pP** **08 12 49.1 +4.3**
GTA sP sP 08 12 53.1 +6.2
GTA S S 08 21 54.5 -5.1
GTA sS **sS** **08 22 12.5 +3.7**
GTA SKS SKSac 08 22 35.3 -7.4
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,85nm,7.1s
GTA LR LR
comp=Z,120nm,17.6s
GTA LR LR
comp=Z,140nm,18.1s
GTA LR LR
comp=Z,120nm,18.5s
ULN Ulaanbaatar 71.93 327 *e*P **P** **08 12 39.2 -0.4**
comp=Z,9.3nm,1.2s
SONM Songino Array 72.27 326 P **P** **08 12 40.4 -1.2**
SONM Songino Array 72.27 326 P **P** **08 12 40.4 -1.2**
comp=Z,3.5nm,1.0s,baz=132,slow=6.4,SNR=12
SHL Shillong 72.50 300 *e*P **P** **08 12 42.5 -0.9**
RC01 Rabbit Creek A 80.81 23 *e*P **P** **08 13 28.7 -0.7**
comp=Z,9.3nm,0.7s
QSPA South Pole Qui 81.22 180 *e*P **P** **08 13 32.1 +0.2**
comp=Z,12nm,1.2s
WMQ Urumqi 81.94 317 P **P** **08 13 36.5 +0.6**
WMQ pP pP 08 13 47.0 +5.4
WMQ sP sP 08 13 50.9 +7.3
TRF Thorofare Moun 82.06 21 *e*P **P** **08 13 34.9 -1.4**
comp=Z,11nm,1.0s
RAGM Ragged Mountai 82.44 25 *e*P P 08 13 44.7 +6.5
comp=Z,97nm,0.7s
MCK McKinley 82.71 21 *e*P **P** **08 13 38.5 -0.9**
comp=Z,29nm,1.0s
COLA College 83.77 20 *e*P **P** **08 13 43.2 -1.6**
comp=Z,2.4nm,0.9s
ILAR Eielson Array 84.05 21 P P 08 13 44.3 -2.0
ILAR Eielson Array 84.05 21 P P 08 13 44.3 -2.0
comp=Z,3.5nm,1.0s,baz=262,slow=4.2,SNR=19
MK31 Makanchi Array 86.50 318 *e*P **P** **08 13 57.7 -1.3**
MKAR Makanchi Array 86.50 318 P **P** **08 13 57.7 -1.3**
MKAR Makanchi Array 86.50 318 P **P** **08 13 57.7 -1.3**
comp=Z,2.5nm,0.6s,baz=100,slow=6.1,SNR=30
ZALV Zalesovo Beam 87.14 326 P P 08 13 59.5 -2.4
ZALV Zalesovo Beam 87.14 326 P P 08 13 59.5 -2.4
comp=Z,1.5nm,0.9s,baz=76,slow=6.3,SNR=4.3
BBB Bella Bella 87.33 36 LR LR 08 43 13.4
comp=Z,65nm,21.7s,baz=253,slow=29
KSH Kashi 89.19 310 *e*P P 08 14 17.2 +5.0
KSH *e*S **S** **08 25 03.2 +2.2**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,54nm,9.3s
KSH LR LR
comp=Z,60nm,6.6s
KSH LR LR
comp=Z,58nm,4.5s
KSH LR LR
comp=Z,93nm,7.2s
WAKR Walker 89.86 51 *e*P **P** **08 14 16.6 +1.2**
comp=Z,16nm,1.8s
ISA Isabella 90.07 54 *e*P **P** **08 14 17.4 +1.1**
comp=Z,4.0nm,1.0s
MWC Mount Wilson 90.15 56 *e*P **P** **08 14 17.7 +0.9**
comp=Z,14nm,0.9s
MTUM Tungsten Hills 90.32 52 *e*P **P** **08 14 18.9 +1.3**
NVAR Mina Array Bea 90.72 51 P **P** **08 14 20.5 +1.0**
NVAR Mina Array Bea 90.72 51 P **P** **08 14 20.5 +1.0**
comp=Z,5.6nm,0.9s,baz=253,slow=7.0,SNR=27
WVOR Wild Horse Val 91.20 47 *e*P **P** **08 14 22.2 +0.7**
comp=Z,4.4nm,1.1s
J08A Circle Bar Ran 91.49 47 *e*P **P** **08 14 22.8 0.0**
comp=Z,11nm,1.3s
TPH Tonopah 91.49 52 *e*P **P** **08 14 24.1 +1.1**
comp=Z,6.5nm,1.0s
SHPR Sheep Range 92.86 54 *e*P **P** **08 14 31.0 +1.6**
comp=Z,5.3nm,1.4s
HLID Hailey 94.44 47 *e*P **P** **08 14 37.1 +0.6**
comp=Z,7.9nm,1.6s
YKA Yellowknife Ar 96.64 28 P **P** **08 14 45.6 -0.2**
YKA Yellowknife Ar 96.64 28 P **P** **08 14 45.6 -0.2**
comp=Z,0.5nm,0.7s,baz=263,slow=4.8,SNR=10.0
PDAR Pinedale Array 97.89 48 P **P** **08 14 52.2 0.0**
PDAR Pinedale Array 97.89 48 P **P** **08 14 52.3 0.0**
comp=Z,0.5nm,0.2s,baz=267,slow=3.4,SNR=3.3
CLL Collm 128.62 332 *e*PKPdf **PKPdf** **08 20 24.0 +0.8**
BDFB Brasilia 144.83 133 PKPbc **PKPab** **08 20 53.0 -0.2**
BDFB Brasilia 144.83 133 PKPbc **PKPab** **08 20 53.0 -0.2**
comp=Z,9.4nm,0.8s,baz=198,slow=3.3,SNR=12
ESDC Sonseca Array 145.13 335 PKP **PKPbc** **08 20 52.6 -0.8**
ESDC Sonseca Array 145.13 335 PKP **PKPbc** **08 20 52.6 -0.8**
comp=Z,0.9nm,0.7s,baz=356,slow=3.9,SNR=4.8
TAM Tamanrasset 149.89 301 *e*PKPbc **PKPbc** **08 21 07.2 -0.1**
TAM *e*PKPab **PKPab** **08 21 12.2 -0.6**
TORD Torodi Ar. Bea 156.05 283 PKP **PKPdf** **08 21 08.8 -2.6**
TORD Torodi Ar. Bea 156.05 283 PKP **PKPdf** **08 21 08.8 -2.6**
comp=Z,0.8nm,0.8s,baz=64,slow=4.0,SNR=2.5

*ISCJB **07** 08:07:18.7±0.5,27.86N±0.07×129.0E±0.1,h52km±4km, mb3.6/6,MS3.5/1, Error ellipse: s-maj=18.9km s-min=5.0km az=35.2*
*JMA **07** 08:07:19.3±0.1,27.95N×128.86E,h43km±1km,M3.6*
JMA Felt I J1.
*IDC **07** 08:07:23.0±4.0,27.82N×129.26E,h76km±37km,mb3.5/6, mb1 3.7/7,mb1mx3.4/27,mbtmp3.5/7,ML3.6/1,MS3.2/2, Ms1 3.2/2,ms1mx2.9/30,Error ellipse: s-maj=45.6km s-min=17.8km az=85.0*

ISC 07 08:07:19.6±0.9,27.90N±0.07×128.96E±0.09,h43km±7km, n20,σ1§00/21,mb3.8/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTK	**Tokunoshima**	**0.11**	**185**	P		**Pn**	**08 07 26.6**	**-0.1**
JTK				S		**Sn**	**08 07 31.9**	**+0.3**
JAMN	**Amaminishikomi**	**0.39**	**29**	P		**Pn**	**08 07 28.9**	**-0.2**
JAMN				S		**Sn**	**08 07 35.7**	**-0.1**
JAM	**Amami Oshima**	**0.76**	**48**	P		**Pn**	**08 07 33.9**	**-0.1**
JAM				S		**Sn**	**08 07 44.2**	**-0.2**
JZK	**Kikaishima**	**0.98**	**65**	P		**Pn**	**08 07 38.6**	**+1.6**
JOW	**Kunigami**	**1.23**	**210**	P		**Pn**	**08 07 40.5**	**+0.2**
JOW				*e*S		**Sn**	**08 07 55.4**	**-0.3**
JIH	**Iheya**	**1.23**	**226**	P		**Pn**	**08 07 40.3**	**-0.1**
JIH				S		**Sn**	**08 07 55.9**	**+0.1**
JAGN	**Aguni-jima**	**2.01**	**230**	P		**Pn**	**08 07 51.4**	**+0.3**
JNN	**Nakanoshima**	**2.10**	**22**	P		**Pn**	**08 07 52.4**	**+0.2**
JNN				S		**Sn**	**08 08 16.2**	**-0.9**
JKE	**Kume jima 2**	**2.49**	**232**	P		**Pn**	**08 07 58.0**	**+0.3**
JNU	**Nakatsue**	**5.46**	**17**	P		Pn	08 08 41.7	+3.2
	1.9nm,0.3s,baz=91,slow=22,SNR=9.0							
JNU				LR		LR	08 10 21.3	
	comp=Z,147nm,18.7s,baz=79,slow=33							
SONM	**Songino Array**	**26.54**	**325**	P		**P**	**08 12 56.7**	**+3.3**
	0.9nm,0.5s,baz=136,slow=7.6,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**35.53**	**95**	T		T	08 51 48.3	
	baz=293,slow=75,SNR=7.1							
H11N1	**WAKE ISLAND Hy**	**35.53**	**95**	T		T	08 51 50.4	
	baz=293,slow=75,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**35.55**	**95**	T		T	08 51 44.2	
	baz=293,slow=75,SNR=8.0							
WRA	**Warramunga Arr**	**47.84**	**173**	P		**P**	**08 15 52.2**	**-1.1**
	0.3nm,0.5s,baz=354,slow=8.4,SNR=16							
BVAR	**Borovoye Array**	**49.48**	**317**	LR		LR	08 41 08.2	
	comp=Z,42nm,18.6s,baz=66,slow=41							
ASAR	**Alice Springs**	**51.49**	**174**	P		**P**	**08 16 20.3**	**-0.6**
	0.6nm,0.5s,baz=353,slow=7.9,SNR=14							
INK	**Inuvik**	**67.11**	**24**	P		**P**	**08 18 07.9**	**-0.3**
	0.6nm,0.6s,baz=272,slow=5.3,SNR=5.7							
FINES	**FINESS Array B**	**71.74**	**330**	P		**P**	**08 18 36.5**	**-0.5**
	1.0nm,0.7s,baz=90,slow=4.2,SNR=3.9							
YKA	**Yellowknife Ar**	**76.74**	**25**	P		**P**	**08 19 05.6**	**-0.5**
	0.1nm,0.4s,baz=301,slow=6.0,SNR=5.1							

*ISCJB **07** 08:29:04.9±0.3,53.39S±0.03×159.47E±0.05,h10km, mb5.2/44,MS5.1/142,Error ellipse: s-maj=5.2km s-min=3.6km az=44.6*
*IDC **07** 08:29:04.8±0.4,53.42S×159.45E,h0km,mb4.9/15, mb1 5.0/16,mb1mx4.9/18,mbtmp4.9/16,ML4.4/1,MS5.0/19, Ms1 5.0/19,ms1mx4.9/26,Error ellipse: s-maj=19.2km s-min=13.3km az=80.0*
*NEIC **07** 08:29:06.3±0.2,53.52S×159.28E,h10km,mb5.3/24, MS5.1/117,MW5.6,Error ellipse: s-maj=7.5km s-min=5.6km az=106.0*
*GCMT **07** 08:29:06.3±0.1,53.55S×158.84E,h19km,MW5.7/111, Moment Tensor Solution. s97,c167; s111,c270; Duration: 1§6 Moment tensor: Scale 10¹⁷Nm; Mrr-0.34±.04; Mθθ3.53±.04; Mφφ-3.19±.04; Mrθ-0.45±.09; Mθφ1.06±.04; Mφr0.66±.10; Best double couple: M₀3.62100×10¹⁷ NP1:φ≡126.00000°,δ84.00000°, λ-13.00000°. NP2:φ≡217.00000°,δ77.00000°, λ-174.00000°. Principal axes: T 3.7240, Plg5.0000°, Azm172.0000°; N -0.2030, Plg76.0000°, Azm283.0000°; P -3.5180, Plg13.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **07** 08:29:07.5±2.8,53.59S×158.88E,h10km,mb5.2/12, MS5.0/10 Error ellipse: s-maj=24.8km s-min=7.9km az=101.2*
*BJI **07** 08:29:18.0,52.30S×159.30E,h10km,mB5.5/12,mb5.4/15, Ms5.3/14,Ms7 4.9/15*
*NEIC **07** 08:29:31.8±0.0,53.29S×158.16E,h10km,Moment Tensor Solution. s123 Moment tensor: Scale 10¹⁷Nm; Mrr-0.19; Mθθ3.21; Mφφ-3.02; Mrθ-1.33; Mθφ0.57; Mφr0.10; Best double couple: M₀3.40000×10¹⁷ NP1:φ≡311.00000°, δ80.00000°,λ17.00000°. NP2:φ≡218.00000°,δ73.00000°, λ170.00000°. Principal axes: T 3.7100, Plg18.0000°, Azm175.0000°; N -0.6200, Plg70.0000°, Azm340.0000°; P -3.0900, Plg4.0000°, Azm83.0000°;*

ISC 07 08:29:07.5±0.2,53.50S±0.04×159.48E±0.05,h10km,n516, σ1§94/403,mb5.2/44,MS5.1/143,46C-33D,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MCQ	**Macquarie Isla**	**1.05**	**197**	↑*i*P		Pb	08 29 22.0	-5.8
MCQ				*e*			08 29 42.0	
MCQ	**Macquarie Isla**	**1.05**	**197**	↑*i*Pg		Pb	08 29 22.0	-5.8
MCQ				*e*Sn		**Sg**	**08 29 42.0**	**+0.7**
APZ	**The Paps**	**8.62**	**43**	PN		**Pn**	**08 31 09.5**	**-2.6**
APZ				SN		Sn	08 32 36.3	-13
SYZ	**Scrubby Hill**	**9.33**	**46**	PN		**Pn**	**08 31 20.1**	**-1.8**
WHZ	**Wether Hill Ro**	**9.37**	**39**	*e*Pn		**Pn**	**08 31 20.5**	**-2.0**
WHZ				*e*Sn		**Sn**	**08 33 05.3**	**-2.6**
WHZ	**Wether Hill Ro**	**9.37**	**39**	PN		**Pn**	**08 31 20.5**	**-2.0**
DCZ	**Deep Cove**	**9.45**	**35**	*e*Pn		**Pn**	**08 31 21.0**	**-2.5**
MLZ	**Mavora Lakes**	**9.92**	**38**	PN		**Pn**	**08 31 28.2**	**-1.8**
TUZ	**Tuapeka**	**10.00**	**45**	PN		**Pn**	**08 31 29.8**	**-1.3**
HHSZ	**Highcliff Hill**	**10.47**	**48**	PN		**Pn**	**08 31 36.6**	**-0.9**
WKZ	**Wanaka**	**10.68**	**40**	*e*PN		**Pn**	**08 31 38.9**	**-1.5**
ODZ	**Otahua Downs**	**11.15**	**45**	*e*Pn		**Pn**	**08 31 44.3**	**-2.6**
ODZ				*e*Sn		**Sn**	**08 33 51.9**	**+0.3**
ODZ	**Otahua Downs**	**11.15**	**45**	PN		**Pn**	**08 31 44.4**	**-2.5**
JCZ	**Jackson Bay**	**11.23**	**37**	PN		**Pn**	**08 31 48.1**	**+0.1**
RPZ	**Rata Peaks**	**12.41**	**43**	*e*Pn		**Pn**	**08 32 03.8**	**-0.3**
RPZ				Sn		**Sn**	**08 34 21.1**	**-1.2**
RPZ				*e*Sn		Sn	08 34 21.8	-0.6
RPZ	**Rata Peaks**	**12.41**	**43**	Pn		**Pn**	**08 32 03.8**	**-0.3**
	2.3nm,0.3s,baz=188,slow=7.1,SNR=5.0							
RPZ				Sn		**Sn**	**08 34 21.1**	**-1.2**
	2.5nm,0.3s,baz=217,slow=20,SNR=5.8							
RPZ				LR		LR	08 35 46.0	
	comp=Z,7μm,20.9s,baz=206,slow=32							
MQZ	**McQueen's Vall**	**13.09**	**47**	PN		**Pn**	**08 32 12.2**	**-1.1**
TAU	**Tasmania Unive**	**13.32**	**318**	Pn		Pn	08 32 12.0	-4.4
	2μm,0.5s,SNR=63							
TAU	**Tasmania Unive**	**13.32**	**318**	*e*P		Pn	08 32 12.5	-3.9
TAU	**Tasmania Unive**	**13.32**	**318**	*e*Pn		Pn	08 32 12.5	-3.9
TAU				*e*Sn		Sn	08 34 32.9	-11
KHZ	**Kahutara**	**14.51**	**46**	*e*Pn		**Pn**	**08 32 31.5**	**-1.3**
MILA	**Mila**	**17.94**	**332**	↓P		**Pn**	**08 33 16.7**	**-0.3**
	baz=18,SNR=41							
BKZ	**Black Stump Fm**	**18.46**	**46**	*e*Pn		**Pn**	**08 33 25.4**	**+2.1**
	84nm,0.9s							
TOO	**Toolangi**	**18.64**	**323**	↑P		**P**	**08 33 24.9**	**-0.3**
	baz=18,SNR=24							
URZ	**Urewera**	**19.48**	**46**	*e*P		**Pn**	**08 33 35.5**	**-0.1**
	130nm,1.1s							
URZ				S		Sn	08 37 05.5	-8.6
URZ	**Urewera**	**19.48**	**46**	P		**Pn**	**08 33 35.5**	**-0.1**
	2.8nm,0.3s,baz=233,slow=5.8,SNR=28							
URZ				S		Sn	08 37 05.5	-8.6
	0.2nm,0.3s,baz=352,slow=7.1,SNR=1.9							
URZ				LR		LR	08 40 58.5	
	comp=Z,13μm,18.1s,baz=224,slow=37							
CNB	**Canberra Magne**	**19.52**	**335**	P		**P**	**08 33 35.0**	**+0.1**
	baz=19,SNR=13							
CAN	**Canberra**	**19.61**	**334**	*e*P		**P**	**08 33 34.7**	**-1.2**
CAN				pmax		pmax		
	comp=Z,205nm,1.3s							
CAN	**Canberra**	**19.61**	**334**	*e*P		**P**	**08 33 34.7**	**-1.2**
	comp=Z,205nm,1.3s							
CAN	**Canberra**	**19.61**	**334**	↑P		**P**	**08 33 36.0**	**+0.1**
	baz=19							
RIV	**Riverview**	**20.53**	**340**	↑P		**P**	**08 33 46.0**	**+0.2**
	baz=20							
YNG	**Young**	**20.74**	**333**	↑P		**P**	**08 33 47.7**	**-0.4**
	baz=20,SNR=16							
ARPS	**Mount Arapiles**	**20.75**	**317**	P		**P**	**08 33 47.8**	**-0.3**
	baz=20,SNR=24							
OUZ	**Omahuta**	**20.80**	**34**	*e*P		Pn	08 33 50.7	-0.5
	comp=Z,66nm,1.0s							
MGCD	**Mangrove Creek**	**21.14**	**340**	↓P		**P**	**08 33 52.5**	**+0.1**
	baz=21,SNR=5.6							
ARMA	**Armidale**	**23.76**	**343**	*e*P		**P**	**08 34 19.0**	**-1.0**
	comp=Z,70nm,1.5s							
ARMA	**Armidale**	**23.76**	**343**	↑P		**P**	**08 34 19.1**	**-0.9**
	baz=23,SNR=8.7							
CMSA	**Cobar Meteorol**	**24.10**	**330**	P		**P**	**08 34 22.0**	**-1.1**
	baz=24,SNR=24							
VNDA	**Vanda**	**24.14**	**179**	*e*P		**P**	**08 34 21.6**	**-1.5**
VNDA				S		**S**	**08 38 38.7**	**-1.8**
VNDA	**Vanda**	**24.14**	**179**	P		**P**	**08 34 21.9**	**-1.2**
	comp=Z,79nm,1.1s,baz=345,slow=9.2,SNR=41							
VNDA				S		**S**	**08 38 38.7**	**-1.8**
	comp=Z,6.5nm,1.1s,baz=27,slow=9.0,SNR=1.8							
VNDA				LR		LR	08 42 09.4	
	comp=Z,5μm,18.7s,baz=4.2,slow=32							
SBA	**Scott Base**	**24.60**	**176**	*e*P		**P**	**08 34 26.7**	**-0.6**
SBA				pmax		pmax		
	comp=Z,447nm,1.5s							
SBA	**Scott Base**	**24.60**	**176**	*e*P		**P**	**08 34 26.7**	**-0.6**
	comp=Z,447nm,1.5s							
HTT	**Hallett**	**24.83**	**316**	↑P		**P**	**08 34 28.2**	**-1.7**
	baz=24,SNR=19							
STKA	**Stephens Creek**	**25.15**	**322**	*e*P		**P**	**08 34 31.8**	**-0.8**
	comp=Z,16nm,1.1s							
STKA				S		**S**	**08 39 02.8**	**+5.3**
STKA	**Stephens Creek**	**25.15**	**322**	P		**P**	**08 34 31.9**	**-0.8**
	comp=Z,17nm,0.8s,baz=147,slow=10,SNR=30							
STKA				S		**S**	**08 39 02.8**	**+5.3**
	comp=Z,2.3nm,0.9s,baz=15,slow=20,SNR=1.3							
STKA				LR		LR	08 41 55.4	
	comp=Z,2μm,21.5s,baz=154,slow=31							
BBOO	**Buckleboo**	**26.60**	**312**	*e*P		**P**	**08 34 43.9**	**-1.9**
	comp=Z,621nm,1.1s							
BBOO	**Buckleboo**	**26.60**	**312**	↓P		**P**	**08 34 44.3**	**-1.5**
	baz=26,SNR=11							
CASY	**Casey**	**26.86**	**222**	*e*P		**P**	**08 34 46.3**	**-1.5**
	comp=Z,132nm,1.0s							
CASY				LR		LR		
	comp=Z,2μm,19.0s							
RMQ	**Roma**	**28.14**	**339**	↑P		**P**	**08 34 57.6**	**-2.0**
	baz=28,SNR=10							
EIDS	**Eidsvold**	**28.79**	**344**	*e*P		**P**	**08 35 04.5**	**-0.9**
	comp=Z,21nm,1.1s							
EIDS	**Eidsvold**	**28.79**	**344**	↓P		**P**	**08 35 04.2**	**-1.1**
	baz=28							
QLP	**Quilpie**	**29.18**	**331**	↑P		**P**	**08 35 07.9**	**-0.9**
	baz=29,SNR=9.2							
RAO	**Raoul Island**	**29.33**	**43**	LR		LR	08 45 52.3	
	comp=Z,3μm,19.1s,baz=204,slow=34							
DZM	**Mont Dzumac**	**31.82**	**12**	*e*P		**P**	**08 35 33.7**	**+1.4**
	comp=Z,104nm,1.6s							
DZM				*e*S		**S**	**08 40 42.3**	**-0.3**
	comp=Z,2μm,27.8s							
DZM				*e*LQ		LQ	08 42 27.3	
	comp=Z,6μm,24.7s							
DZM				*e*LR		LR	08 43 48.0	
	comp=Z,6μm,23.2s							
DZM	**Mont Dzumac**	**31.82**	**12**	*e*P		**P**	**08 35 34.0**	**+1.7**
	comp=Z,147nm,1.8s							
DZM	**Mont Dzumac**	**31.82**	**12**	P		P	08 35 29.0	-3.3
	comp=Z,7.8nm,1.0s,baz=170,slow=11,SNR=2.3							
DZM				LR		LR	08 46 08.6	
	comp=Z,3μm,18.6s,baz=198,slow=32							
FORT	**Forrest**	**32.10**	**302**	*e*P		**P**	**08 35 32.8**	**-1.8**
	comp=Z,38nm,0.7s							
FORT	**Forrest**	**32.10**	**302**	↓P		**P**	**08 35 33.1**	**-1.5**
	baz=32							
CTA	**Charters Tower**	**34.87**	**338**	P		**P**	**08 35 57.8**	**-1.0**
CTA	**Charters Tower**	**34.87**	**338**	P		**P**	**08 35 57.8**	**-1.0**
	comp=Z,12nm,1.0s,baz=164,slow=11,SNR=12							
CTA				LR		LR	08 49 21.4	
	comp=Z,2μm,18.1s,baz=274,slow=35							
CTA	**Charters Tower**	**34.87**	**338**	↑P		**P**	**08 35 57.7**	**-1.0**
	baz=35							
CTAO	**Charters Tower**	**34.87**	**338**	*e*P		**P**	**08 35 57.8**	**-1.0**
CTAO				pmax		pmax		
	comp=Z,35nm,1.1s							
CTAO				MLR		MLR		
	comp=Z,2μm,20.0s							
CTAO	**Charters Tower**	**34.87**	**338**	*e*P		**P**	**08 35 57.8**	**-1.0**
	comp=Z,35nm,1.1s							
CTAO				LR		LR		
	comp=Z,2μm,20.0s							
KMBL	**Kambalda**	**34.88**	**294**	↑P		**P**	**08 35 57.0**	**-1.9**
	baz=34							
RKGY	**Rocky Gully**	**35.24**	**285**	↓P		**P**	**08 36 00.4**	**-1.5**
	baz=35							
ASAR	**Alice Springs**	**35.49**	**317**	P		**P**	**08 36 02.1**	**-2.0**
ASAR				PcP		**PcP**	**08 38 30.9**	**-2.6**
ASAR	**Alice Springs**	**35.49**	**317**	P		**P**	**08 36 02.1**	**-2.0**
	comp=Z,6.4nm,0.7s,baz=151,slow=8.0,SNR=68							
ASAR				PcP		**PcP**	**08 38 30.9**	**-2.6**
	comp=Z,3.5nm,0.8s,baz=141,slow=3.9,SNR=1.9							
ASAR				LR		LR	08 48 58.0	
	comp=Z,2μm,18.2s,baz=154,slow=34							
AS31	**Alice Springs**	**35.49**	**317**	*e*P		**P**	**08 36 02.1**	**-2.1**
QIS	**Mount Isa**	**36.25**	**327**	P		**P**	**08 36 09.0**	**-1.7**
	baz=36,SNR=7.5							
NWAO	**Narrogin (SRO)**	**36.31**	**287**	P		**P**	**08 36 08.8**	**-2.3**
NWAO	**Narrogin (SRO)**	**36.31**	**287**	P		**P**	**08 36 08.8**	**-2.3**
	comp=Z,12nm,0.8s,baz=116,slow=5.0,SNR=6.0							
QSPA	**South Pole Qui**	**36.62**	**180**	P		**P**	**08 36 13.1**	**-0.5**
QSPA				LR		LR		
	comp=Z,3μm,19.0s							
QSPA	**South Pole Qui**	**36.62**	**180**	P		**P**	**08 36 13.1**	**-0.5**
	comp=Z,60nm,0.9s,baz=6.8,slow=3.4,SNR=118							
H01W1	**Cape Leeuwin H**	**36.68**	**282**	T		T	09 14 53.0	
	baz=134,slow=75							
H01W2	**Cape Leeuwin H**	**36.69**	**282**	T		T	09 14 53.6	
	baz=134,slow=75							
H01W3	**Cape Leeuwin H**	**36.70**	**282**	T		T	09 14 54.3	
	baz=134,slow=75,SNR=8516							
WRKA	**Warakurna**	**36.76**	**308**	↑P		**P**	**08 36 13.1**	**-1.9**
	baz=36,SNR=11							
KLBR	**Kellerberrin**	**37.01**	**289**	↓P		**P**	**08 36 15.4**	**-1.6**
	baz=37,SNR=11							
MTSU	**Mount Surprise**	**37.21**	**336**	↑P		**P**	**08 36 18.3**	**-0.5**
	baz=37							
BLDU	**Ballidu**	**38.33**	**289**	↑P		**P**	**08 36 26.0**	**-2.2**
	baz=38,SNR=4.7							
WRA	**Warramunga Arr**	**38.67**	**320**	P		P	08 36 28.3	-2.9
WRA				PcP		**PcP**	**08 38 41.7**	**-1.4**
WRA	**Warramunga Arr**	**38.67**	**320**	P		P	08 36 28.3	-2.9
	comp=Z,6.3nm,0.8s,baz=156,slow=7.2,SNR=40							
WRA				PcP		**PcP**	**08 38 41.7**	**-1.4**
	comp=Z,4.5nm,0.8s,baz=165,slow=2.7,SNR=8.0							
WRA				LR		LR	08 52 06.2	
	comp=Z,2μm,19.3s,baz=155,slow=36							
WRAB	**Tennant Creek**	**38.68**	**320**	P		P	08 36 28.0	-3.3
	comp=Z,140nm,1.0s,SNR=10							
WRAB	**Tennant Creek**	**38.68**	**320**	*e*P		P	08 36 28.5	-2.8
WRAB				pmax		pmax		
	comp=Z,30nm,1.0s							
WRAB				MLR		MLR		
	comp=Z,2μm,20.0s							
WRAB	**Tennant Creek**	**38.68**	**320**	*e*P		P	08 36 28.5	-2.8
	comp=Z,30nm,1.0s							
WRAB				LR		LR		
	comp=Z,2μm,20.0s							
MORW	**Morawa**	**39.88**	**290**	↓P		**P**	**08 36 39.8**	**-1.5**
	baz=40,SNR=16							
MEEK	**Meekatharra**	**40.36**	**295**	↓P		**P**	**08 36 43.6**	**-1.7**
	baz=40,SNR=4.0							
COEN	**Coen**	**41.50**	**336**	*e*P		**P**	**08 36 53.4**	**-1.3**
	comp=Z,267nm,0.9s							
COEN	**Coen**	**41.50**	**336**	P		**P**	**08 36 53.4**	**-1.3**
	baz=41,SNR=22							
HNR	**Honiara**	**43.94**	**1**	LR		LR	08 53 22.1	
	comp=Z,2μm,18.0s,baz=161,slow=33							
MBWA	**Marble Bar**	**44.23**	**301**	*e*P		**P**	**08 37 14.1**	**-2.7**
	comp=Z,24nm,0.7s							
MBWA				LR		LR		
	comp=Z,1μm,20.0s							
MAW	**Mawson**	**44.41**	**213**	*e*P		**P**	**08 37 16.0**	**-1.7**
	comp=Z,13nm,0.9s							
MAW				PcP		**PP**	**08 39 03.3**	**+2.4**
MAW	**Mawson**	**44.41**	**213**	P		**P**	**08 37 16.4**	**-1.3**
	comp=Z,61nm,1.0s,baz=111,slow=9.4,SNR=13							
MAW				PcP		**PP**	**08 39 03.3**	**+2.4**
	comp=Z,26nm,0.9s,baz=70,slow=3.3,SNR=4.9							
MAW				LR		LR	08 54 33.5	
	comp=Z,3μm,18.3s,baz=301,slow=34							
RAR	**Rarotonga**	**44.70**	**60**	LR		LR	08 52 42.2	
	comp=Z,1μm,18.0s,baz=217,slow=32							
KNRA	**Kununurra**	**44.75**	**316**	↓P		**P**	**08 37 19.2**	**-1.8**
	baz=44,SNR=3.2							
PMG	**Port Moresby**	**45.08**	**343**	LR		LR	08 54 17.3	
	comp=Z,3μm,18.4s,baz=343,slow=34							
AFI	**Afiamalu**	**45.55**	**41**	P		**P**	**08 37 25.2**	**-2.2**
AFI				LR		LR		
	comp=Z,901nm,19.0s							
AFI	**Afiamalu**	**45.55**	**41**	P		**P**	**08 37 25.2**	**-2.2**
	comp=Z,46nm,1.0s,baz=23,slow=15,SNR=3.7							
KDU	**Kakadu**	**46.01**	**322**	↑P		**P**	**08 37 29.0**	**-2.0**
	baz=46							
MTN	**Manton Dam**	**46.37**	**320**	↑P		**P**	**08 37 31.2**	**-2.6**
	baz=46							
TBI	**Tubuai**	**48.61**	**72**	*e*S		**S**	**08 44 54.0**	**+1.0**
	comp=Z,1μm,28.5s							
TBI				*e*LQ		LQ

EFI East Falkland 70.58 156⇑ *e*P P 08 40 25.7 +3.4
EFI pmax pmax
comp=Z,380nm,1.7s
KULM Kulim 76.44 299 PFAKE 08 41 10.0 +13
KULM LR LR
comp=Z,395nm,20.0s
PLCA Paso Flores 76.73 143 *e*P **P** **08 40 59.2 +0.5**
comp=Z,8.8nm,1.1s
PLCA Paso Flores 76.73 143 P **P** **08 40 58.9 +0.1**
comp=Z,4.5nm,1.1s,baz=188,slow=6.6,SNR=5.3
PLCA LR LR 09 07 54.0
comp=Z,416nm,18.6s,baz=89,slow=30
H03N3 Juan Fernandez 79.73 134 T T 10 09 29.6
baz=206,slow=73,SNR=3690
H03N2 Juan Fernandez 79.74 134 T T 10 09 18.7
baz=206,slow=73,SNR=2280
H03N1 Juan Fernandez 79.75 134 T T 10 09 30.9
baz=206,slow=73,SNR=3166
RER Riviere de l'E 81.06 247 PFAKE 08 41 30.0 +7.2
RER LR LR
comp=Z,962nm,19.0s
CHBT CHBT 81.93 304 P P 08 41 31.7 +4.5
comp=Z,37nm,1.2s,comp=Z,3μm
TRQA Tornquist 82.02 148 *e*P **P** **08 41 26.6 -1.1**
comp=Z,56nm,1.5s
TRQA LR LR
comp=Z,502nm,20.0s
H08S2 Diego Garcia H 82.12 268 T T 10 11 34.7
baz=143,slow=75,SNR=539
H08S1 Diego Garcia H 82.13 268 T T 10 11 35.8
baz=143,slow=75,SNR=345
H08S3 Diego Garcia H 82.14 268 T T 10 11 36.2
baz=143,slow=75,SNR=521
DGAR Diego Garcia 82.33 268⇑ *e*P **P** **08 41 31.6 +2.2**
QIZ Qiongzhong 83.90 314 PFAKE 08 41 50.0 +13
QIZ LR LR
comp=Z,290nm,20.0s
H08N1 Diego Garcia H 84.03 267 T T 10 13 58.9
baz=140,slow=75,SNR=3986
H08N3 Diego Garcia H 84.05 267 T T 10 14 02.3
baz=140,slow=75,SNR=2050
H08N2 Diego Garcia H 84.06 267 T T 10 14 01.2
baz=140,slow=75,SNR=3578
YHNB Yeheng 84.55 326 PFAKE 08 41 50.0 +9.4
YHNB LR LR
comp=Z,532nm,19.0s
KHLT Khaolaem Dam 85.55 302 P P 08 41 51.0 +5.3
comp=Z,8.4nm,1.3s
LCO Las Campanas 87.03 138 PFAKE 08 42 00.0 +6.6
LCO LR LR
comp=Z,486nm,19.0s
SUR Sutherland 87.26 214 *e*P **P** **08 41 52.9 -1.5**
comp=Z,82nm,1.1s
ABPO Ambohimpanom 87.38 241 *e*P **P** **08 41 55.2 +0.1**
ABPO pmax pmax
comp=Z,78nm,1.2s
ABPO MLR MLR
comp=Z,1μm,20.0s
ABPO Ambohimpanom 87.38 241 *e*P **P** **08 41 55.2 +0.1**
comp=Z,78nm,1.2s
ABPO LR LR
comp=Z,1μm,20.0s
CMAR Chiang Mai Arr 88.47 304 P **P** **08 41 59.4 -0.5**
CMAR Chiang Mai Arr 88.47 304 P **P** **08 41 59.4 -0.5**
comp=Z,3.2nm,0.7s,baz=160,slow=2.9,SNR=10.0
CHTO Chiang Mai 88.78 304 *e*P **P** **08 42 01.1 -0.2**
CHTO pmax pmax
comp=Z,33nm,1.3s
CHTO MLR MLR
comp=Z,361nm,22.0s
CHTO Chiang Mai 88.78 304 P P 08 42 04.6 +3.3
comp=Z,80nm,1.1s,comp=Z,2μm
CHTO Chiang Mai 88.78 304 *e*P **P** **08 42 01.1 -0.2**
comp=Z,33nm,1.3s
CHTO LR LR
comp=Z,361nm,22.0s
SSE Sheshan 90.56 328 P P 08 42 16.8 +7.5
SSE S **S** **08 53 08.7 +4.3**
SSE sS sS 08 53 14.4 +4.4
SSE SS **SS** **08 59 06.7 +0.2**
SSE pmax pmax
comp=Z,37nm,1.0s
SSE pmax pmax
comp=Z,160nm,6.1s
SSE LR LR
comp=Z,380nm,19.4s
SSE LR LR
comp=Z,180nm,19.4s
SSE LR LR
comp=Z,490nm,19.5s
MJAR Matsushiro Arr 91.55 343 P **P** **08 42 13.0 -0.8**
MJAR Matsushiro Arr 91.55 343 P **P** **08 42 13.0 -0.8**
comp=Z,12nm,1.1s,baz=173,slow=6.3,SNR=6.6
MJAR LR LR 09 22 29.2
comp=Z,281nm,19.0s,baz=170,slow=35
MAJO Matsushiro 91.55 343⇑ *e*P P 08 42 18.5 +4.7
MAJO pmax pmax
comp=Z,51nm,1.5s
GYA Guiyang 91.81 314 P P 08 42 25.0 +10
GYA PP PP 08 46 04.2 +9.4
GYA SKS **SKSac** **08 52 54.3 +6.2**
GYA S **ScS** **08 53 21.2 +2.3**
GYA SS **SS** **08 59 28.4 +3.5**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,6.2s
GYA LR LR
comp=Z,680nm,21.4s
GYA LR LR
comp=Z,560nm,22.2s
GYA LR LR
comp=Z,620nm,21.8s
NJ2 Nanjing 92.20 326 *e*P P 08 42 25.1 +8.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
LBTB Lobatse 92.21 221 P **P** **08 42 15.7 -1.8**
LBTB Lobatse 92.21 221 P **P** **08 42 15.7 -1.8**
comp=Z,4.0nm,0.9s,baz=119,slow=5.1,SNR=3.8
KMI Kunming 92.38 311 P P 08 42 28.6 +10
KMI sP sP 08 42 34.7 +12
KMI S **ScS** **08 53 26.9 +3.0**
KMI sS sS 08 53 32.7 +5.4
KMI SS **SS** **08 59 34.1 +0.8**
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI pmax pmax
comp=Z,120nm,6.6s
KMI LR LR
comp=Z,330nm,23.1s
KMI LR LR
comp=Z,500nm,23.1s
KMI LR LR
comp=Z,430nm,21.5s
LVC Limon Verde 93.44 136 *e*P **P** **08 42 24.1 +0.6**
comp=Z,6.4nm,1.1s
LVC LR LR
comp=Z,381nm,20.0s
CPUP Villa Florida 94.33 147 P **P** **08 42 26.1 -1.1**
CPUP Villa Florida 94.33 147 P **P** **08 42 26.1 -1.1**
comp=Z,3.3nm,0.8s,baz=242,slow=0.9,SNR=4.0
CPUP LR LR 09 19 21.6
comp=Z,358nm,20.4s,baz=179,slow=32
MSEY Mahe Island 94.54 256 PFAKE 08 42 40.0 +12
MSEY LR LR
comp=Z,1μm,19.0s
KSRS Korea Array 94.61 335 LR LR 09 24 05.1
comp=Z,356nm,18.9s,baz=164,slow=35
INCN Inchon 94.97 334 PFAKE 08 42 40.0 +10
INCN LR LR
comp=Z,487nm,19.0s
CD2 Chengdu 96.93 314 *e*P P 08 42 46.2 +7.5
CD2 sP sP 08 42 53.5 +10
CD2 PP PP 08 46 42.3 +7.6
CD2 SKS **SKSac** **08 53 22.1 +6.7**
CD2 S **ScS** **08 54 03.1 +1.9**
CD2 sS sS 08 54 09.5 +3.1
CD2 SS **SS** **09 00 38.7 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,230nm,6.4s
CD2 LR LR
comp=Z,350nm,21.4s
CD2 LR LR
comp=Z,490nm,16.6s
CD2 LR LR
comp=Z,530nm,39.7s
ASAJ Asahikawa 98.31 348 LR LR 09 23 10.0
comp=Z,618nm,20.5s,baz=202,slow=33
NNA Nana 99.13 124 PFAKE 08 43 00.0 +11
NNA LR LR
comp=Z,391nm,20.0s
LSZ Lusaka 99.82 227 PFAKE 08 43 00.0 +7.7
LSZ LR LR
comp=Z,2μm,19.0s
BJT Baijiatuau 100.35 328 PFAKE 08 43 00.0 +6.3
BJT LR LR
comp=Z,429nm,21.0s
BJI Beijing 100.37 328 P **Pdif** **08 43 02.4 +8.6**
BJI PP **PP** **08 47 04.6 +3.8**
BJI S **Sdif** **08 54 32.1 +2.8**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI LR LR
comp=Z,390nm,18.2s
BJI LR LR
comp=Z,260nm,21.7s
BJI LR LR
comp=Z,290nm,25.0s
TSUM Tsumeb 100.49 216 PFAKE 08 43 00.0 +4.7
TSUM LR LR
comp=Z,1μm,20.0s
MDJ Mudanjiang 101.03 339 P **Pdif** **08 43 05.1 +8.5**
MDJ PP **PP** **08 47 06.4 +0.7**
MDJ S **Sdif** **08 54 39.0 +4.4**
MDJ SS **SS** **09 01 32.9 -1.8**
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,120nm,3.4s
MDJ LR LR
comp=Z,520nm,26.3s
MDJ LR LR
comp=Z,410nm,22.9s
MDJ LR LR
comp=Z,510nm,29.2s
MDJ Mudanjiang 101.03 339 PFAKE 08 43 10.0 +13
MDJ LR LR
comp=Z,455nm,21.0s
LZH Lanzhou 101.36 317 *e*P **Pdif** **08 43 07.4 +8.8**
LZH pP pP 08 43 11.9 +10
LZH sP 08 43 15.1
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.2s
LZH LR LR
comp=Z,380nm,15.2s
LZH LR LR
comp=Z,690nm,18.3s
LZH LR LR
comp=Z,510nm,19.0s
LSA Lhasa 101.73 304 PFAKE 08 43 10.0 +9.2
LSA LR LR
comp=Z,236nm,21.0s
PET Petropavlovsk 106.15 359 PFAKE 08 47 40.0
PET LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 107.63 243 PFAKE 08 47 50.0
KMBO LR LR
comp=Z,414nm,19.0s
HIA Hailar 107.75 334 PFAKE 08 47 40.0
HIA LR LR
comp=Z,368nm,20.0s
SAML Samuel 108.07 135 PFAKE 08 47 50.0
SAML LR LR
comp=Z,282nm,21.0s
OTAV Otavalo 108.70 117 PFAKE 08 47 50.0
OTAV LR LR
comp=Z,114nm,19.0s
ULN Ulaanbaatar 110.33 325 PFAKE 08 47 50.0
ULN LR LR
comp=Z,305nm,21.0s
PFO Pinyon Flat Ob 112.97 64 PFAKE 08 48 00.0
PFO LR LR
comp=Z,759nm,20.0s
JTS JuntasAbangare 113.33 105 PFAKE 08 48 00.0
JTS LR LR
comp=Z,399nm,20.0s
WMQ Urumqi 114.71 311 PKP PKPdf 08 47 57.1 +10
WMQ PP PP 08 48 52.3 +6.4
WMQ AMB AMB
comp=Z,16nm,13.1s
WMQ LR LR
comp=Z,600nm,39.0s
WMQ LR LR
comp=Z,510nm,35.8s
WMQ LR LR
comp=Z,300nm,29.0s
TLY Talaya 114.75 325 PFAKE 08 48 00.0 +13
TLY LR LR
comp=Z,342nm,19.0s
TGUH Tegucigalpa,Un 114.99 100 PFAKE 08 48 00.0 +11
TGUH LR LR
comp=Z,317nm,22.0s
TUC Tucson 115.10 69 PFAKE 08 48 00.0 +12
TUC LR LR
comp=Z,766nm,19.0s
BCIP Isla Barro Col 115.34 110 PFAKE 08 48 00.0 +11
BCIP LR LR
comp=Z,355nm,20.0s
NVAR Mina Array Bea 115.65 60 PKP **PKPdf** **08 47 49.7 +0.2**
NVAR PKKPab **PKKPab** **08 58 24.6 -0.5**
NVAR Mina Array Bea 115.65 60 PKP **PKPdf** **08 47 49.7 +0.2**
comp=Z,0.4nm,0.7s,baz=207,slow=5.8,SNR=2.6
NVAR PKKPab **PKKPab** **08 58 24.6 -0.5**
comp=Z,1.5nm,1.0s,baz=43,slow=3.4,SNR=5.8
PTGA Pitinga 116.82 135 PFAKE 08 48 00.0 +7.7
PTGA LR LR
comp=Z,267nm,20.0s
TXAR Lajitas Array 116.94 77 PKP **PKPdf** **08 47 50.9 -1.2**
TXAR Lajitas Array 116.94 77 PKP **PKPdf** **08 47 50.9 -1.2**
comp=Z,0.2nm,0.8s,baz=216,slow=4.5,SNR=3.0
KSH Kashi 117.12 300 *e*PKP **PKPdf** **08 47 55.1 +2.9**
KSH *es*PKP 08 48 09.3
KSH *e*PP PP 08 48 49.0 -14
KSH *e*SKS **SKSdf** **08 55 02.1 -2.0**
WUAZ Wupatki 117.16 66 PFAKE 08 48 00.0 +7.6
WUAZ LR LR
comp=Z,471nm,20.0s
YAK Yakutsk 117.56 345 *e*PKIKP **PKPdf** **08 47 56.5 +4.4**
YAK Yakutsk 117.56 345 PFAKE 08 48 00.0 +7.9
YAK LR LR
comp=Z,327nm,21.0s
MNTX Cornudas Mount 117.71 74 PFAKE 08 48 00.0 +6.6
MNTX LR LR
comp=Z,594nm,19.0s
WVOR Wild Horse Val 118.47 56 PFAKE 08 48 10.0 +15
WVOR LR LR
comp=Z,717nm,21.0s
ASCN Ascension 118.59 187 PFAKE 08 48 10.0 +14
ASCN LR LR
comp=Z,677nm,19.0s
TEIG Tepich 119.21 95 PFAKE 08 48 10.0 +13
TEIG LR LR
comp=Z,383nm,20.0s
430A Baggett Ranch, 119.43 77 P **PKPdf** **08 47 55.9 -0.9**
baz=120
MK31 Makanchi Array 119.45 310 *e*PKIKP **PKPdf** **08 47 55.7 -0.6**
MK31 Makanchi Array 119.45 310 *e*PKPdf **PKPdf** **08 47 55.7 -0.6**
MKAR Makanchi Array 119.45 310 PKIKP **PKPdf** **08 47 53.7 -2.6**
MKAR Makanchi Array 119.45 310 PKP **PKPdf** **08 47 53.7 -2.6**
MKAR Makanchi Array 119.45 310 PKP **PKPdf** **08 47 53.7 -2.6**
comp=Z,1.4nm,0.8s,baz=198,slow=1.4,SNR=3.5
ANMO Albuquerque 119.47 70 PFAKE 08 48 10.0 +13
ANMO LR LR
comp=Z,897nm,20.0s
RCBR Riachuelo 119.49 162 PFAKE 08 48 10.0 +13
RCBR LR LR
comp=Z,393nm,22.0s
NLWA Neilton Lookou 119.65 50 PFAKE 08 48 10.0 +13
NLWA LR LR
comp=Z,810nm,20.0s
DUG Dugway 119.82 62 PFAKE 08 48 10.0 +13
DUG LR LR
comp=Z,501nm,20.0s
TKM2 Tokmak 2 119.82 303 PFAKE 08 48 10.0 +13
TKM2 LR LR
comp=Z,233nm,21.0s
MVCO Mesa Verde 119.98 67 PFAKE 08 48 10.0 +12
MVCO LR LR
comp=Z,400nm,20.0s
JCT Junction City 120.04 78 PFAKE 08 48 10.0 +12
JCT LR LR
comp=Z,757nm,22.0s
AAK Ala-Archa 120.17 302⇑ *i*PKIKP **PKPdf** **08 48 01.7 +3.7**
AAK Ala-Archa 120.17 302 PKP **PKPdf** **08 47 55.6 -2.4**
AAK LR LR
comp=Z,231nm,21.0s
AAK Ala-Archa 120.17 302 PKP **PKPdf** **08 47 55.6 -2.4**
comp=Z,0.5nm,0.4s,baz=233,slow=15,SNR=2.1
EKS2 Erkin-Say 120.56 301 *e*PKIKP **PKPdf** **08 48 01.8 +3.1**
EKS2 MLR MLR
comp=Z,226nm,19.0s
EKS2 Erkin-Say 120.56 301 *e*PKPdf **PKPdf** **08 48 01.8 +3.1**
EKS2 LR LR
comp=Z,226nm,19.0s
W25A X Bar L Ranch, 120.80 71 P **PKPdf** **08 47 57.9 -1.6**
baz=121
HAWA Hanford 120.93 53 PFAKE 08 48 10.0 +11
HAWA LR LR
comp=Z,634nm,19.0s
333A Richland Sprin 121.14 78 P **PKPdf** **08 47 57.7 -2.3**
baz=121
Z30A Sanderson Ranc 121.31 75 P **PKPdf** **08 47 58.9 -1.5**
baz=122
TNA Tin City 121.32 15 *e*PKPdf **PKPdf** **08 47 58.4 -0.8**
HLID Hailey 121.41 58 PFAKE 08 48 10.0 +10
HLID LR LR
comp=Z,485nm,19.0s
U25A Circle Dot Ran 121.68 70 P **PKPdf** **08 47 59.8 -1.3**
baz=122
233A Rising Star 121.69 78 P **PKPdf** **08 47 59.3 -1.8**
baz=122
335A Moody 122.02 80 P **PKPdf** **08 48 00.5 -1.2**
baz=122
SDCO Great Sand Dun 122.02 69 PFAKE 08 48 10.0 +8.1
SDCO LR LR
comp=Z,511nm,20.0s
Z32A Haskell 122.28 76 P **PKPdf** **08 48 01.3 -0.9**
baz=123
AHID Auburn Hatcher 122.55 61 PFAKE 08 48 10.0 +7.4
AHID LR LR
comp=Z,703nm,19.0s
KKAR Karatay Array 122.55 300 *e*PKIKP **PKPdf** **08 48 03.9 +1.6**
KKAR Karatay Array 122.55 300 *e*PKPdf **PKPdf** **08 48 03.9 +1.6**
WRAK Wrangell Islan 122.91 38 PFAKE 08 48 10.0 +7.5
WRAK LR LR
comp=Z,625nm,19.0s
TRF Thorofare Moun 123.00 24 *e*PKPdf **PKPdf** **08 48 01.4 -1.3**
Z34A Collier Ranch, 123.24 78 P **PKPdf** **08 48 02.7 -1.2**
baz=124
BW06 Boulder Array 123.36 62 PFAKE 08 48 10.0 +5.8
BW06 LR LR
comp=Z,608nm,20.0s
PDAR Pinedale Array 123.36 62 PKP **PKPdf** **08 48 03.2 -1.0**
PDAR Pinedale Array 123.36 62 PKP **PKPdf** **08 48 03.2 -1.0**
comp=Z,0.5nm,0.9s,baz=272,slow=4.4,SNR=3.1
ISCO Idaho Springs 123.41 67 PFAKE 08 48 20.0 +15
ISCO LR LR
comp=Z,452nm,19.0s
NEW Newport 123.42 53 PFAKE 08 48 10.0 +6.1
NEW LR LR
comp=Z,784nm,20.0s
NEW Newport 123.42 53 P **PKPdf** **08 48 02.8 -1.0**
baz=124
MCK McKinley 123.57 25 *e*PKIKP **PKPdf** **08 48 02.5 -1.1**
MCK McKinley 123.57 25 *e*PKPdf **PKPdf** **08 48 02.5 -1.1**
ZALV Zalesovo Beam 123.60 317 PKIKP **PKPdf** **08 48 04.4 +0.5**
ZALV Zalesovo Beam 123.60 317 PKP **PKPdf** **08 48 04.4 +0.5**
ZALV Zalesovo Beam 123.60 317 PKP **PKPdf** **08 48 04.4 +0.5**
comp=Z,0.7nm,0.5s,baz=190,slow=4.0,SNR=2.5
WMOK Wichita Mounta 123.71 76 PFAKE 08 48 20.0 +15
WMOK LR LR
comp=Z,602nm,20.0s
KURBB Kurchatov Arra 123.94 311 PKP **PKPdf** **08 48 03.0 -1.7**
comp=Z,1.0nm,0.6s,baz=129,slow=1.5,SNR=6.9
MSO Missoula 123.95 56 P **PKPdf** **08 48 04.2 -0.8**
baz=124
KURK Kurchatov 123.96 311⇑ *i*PKIKP **PKPdf** **08 48 09.4 +4.7**
KURK Kurchatov 123.96 311 *e*PKPdf **PKPdf** **08 48 03.4 -1.4**
KURK LR LR
comp=Z,124nm,22.0s
J19A Crowheart 123.97 62 P **PKPdf** **08 48 04.6 -0.7**
baz=124
NATX Nacogdoches 124.00 81 PFAKE 08 48 20.0 +15
NATX LR LR
comp=Z,611nm,19.0s
LRM Limekiln Ridge 124.00 57 *e*PKPdf **PKPdf** **08 48 04.9 -0.5**
BSMT Bassoo Peak 124.25 54 *e*PKPdf **PKPdf** **08 48 04.3 -1.4**
BOZ Bozeman (W) 124.29 58 PFAKE 08 48 20.0 +14
BOZ LR LR
comp=Z,402nm,20.0s
CHMT Chamberlain Mo 124.35 56 *e*PKPdf **PKPdf** **08 48 06.4 +0.4**
SWMT Swartz Lake 124.40 55 *e*PKPdf **PKPdf** **08 48 06.2 +0.3**
K21A Alcova 124.49 63 P **PKPdf** **08 48 05.6 -0.8**
baz=125
I19A Meeteetse 124.54 61 P **PKPdf** **08 48 06.3 -0.1**
baz=125
J20A Shoshoni 124.55 62 P **PKPdf** **08 48 06.0 -0.4**
baz=125
H18A Shoshone NF, C 124.63 60 P **PKPdf** **08 48 06.4 -0.2**
baz=125
COLA College 124.78 24⇑ *i*PKIKP **PKPdf** **08 48 09.4 +3.6**
COLA College 124.78 24 PFAKE 08 48 20.0 +14
COLA LR LR
comp=Z,340nm,21.0s
J21A Lysite 124.88 63 P **PKPdf** **08 48 06.3 -0.7**
baz=125
HRY Holter Researc 124.92 57 *e*PKPdf **PKPdf** **08 48 06.9 -0.1**
ILAR Eielson Array 124.94 25 PKP **PKPdf** **08 48 04.0 -2.3**
ILAR PKKPbc **PKKPab** **08 57 44.5 +1.2**
ILAR Eielson Array 124.94 25 PKP **PKPdf** **08 48 04.0 -2.3**
comp=Z,1.3nm,1.0s,baz=272,slow=2.5,SNR=8.4
ILAR PKKPbc **PKKPab** **08 57 44.5 +1.2**
comp=Z,0.5nm,0.8s,baz=29,slow=2.1,SNR=3.3
L23A Garrett 124.97 65 P **PKPdf** **08 48 06.6 -0.7**
baz=125
H19A Powell 124.98 61 P **PKPdf** **08 48 06.7 -0.4**
baz=125
RLMT Red Lodge 125.14 60 PFAKE 08 48 20.0 +12
RLMT LR LR
comp=Z,580nm,20.0s
I21A Big Trails, Te 125.28 62 P **PKPdf** **08 48 06.1 -1.7**
baz=126
J22A Midwest 125.44 63 P **PKPdf** **08 48 06.6 -1.4**
baz=126
G20A Bridger 125.75 60 P **PKPdf** **08 48 07.3 -1.2**
baz=126
I22A 9 Mile Ranch, 125.76 63 P **PKPdf** **08 48 08.0 -0.6**
baz=126
R31A Burdett 125.77 72 P **PKPdf** **08 48 08.0 -0.7**
baz=126
F19A Roth Farm, Mol 125.81 59 P **PKPdf** **08 48 08.3 -0.3**
baz=126
Q30A Quinter 125.85 71 P **PKPdf** **08 48 08.4 -0.5**
baz=126
COLD Coldfoot 126.17 22 *e*PKPdf **PKPdf** **08 48 08.7 +0.2**
P30A Selden 126.22 71 P **PKPdf** **08 48 08.7 -0.8**
baz=126
E19A Rath Farm, Rou 126.30 59 P **PKPdf** **08 48 08.9 -0.6**
baz=127
R32A Long Quarter, 126.32 73 P **PKPdf** **08 48 09.0 -0.8**
baz=127
I23A Meade Ranch, G 126.35 63 P **PKPdf** **08 48 09.3 -0.5**
baz=127
M27A Reverse DX Ran 126.38 67 P **PKPdf** **08 48 09.1 -0.8**
baz=127
DAWY Dawson 126.40 29 *e*PKPdf **PKPdf** **08 48 08.7 -0.4**
EGAK Eagle 126.45 27 PFAKE 08 48 20.0 +11
EGAK LR LR
comp=Z,471nm,20.0s
MIAR Mount Ida 126.61 80 PFAKE 08 48 20.0 +10
MIAR LR LR
comp=Z,380nm,19.0s
E20A Meyer Farm, Mu 126.66 59 P **PKPdf** **08 48 09.3 -0.8**
baz=127
TIXI Tiksi 126.71 348⇑ *i*PKIKP **PKPdf** **08 48 12.0 +2.6**
TIXI Tiksi 126.71 348 PFAKE 08 48 20.0 +11
TIXI LR LR
comp=Z,794nm,21.0s
Q32A Meitler Ranch, 126.80 72 P **PKPdf** **08 48 09.5 -1.2**
baz=127
EGMT Eagleton 126.85 57 PFAKE 08 48 20.0 +9.5
EGMT LR LR
comp=Z,385nm,20.0s

J25A Sunshine Ranch 126.86 65 P PKPdf 08 48 09.7 -1.0
baz=127
D20A Manuel Ranch, 127.05 59 P PKPdf 08 48 10.8 -0.1
baz=127
P32A Huiting Farm, 127.20 72 P PKPdf 08 48 10.6 -0.8
baz=128
RSSD Black Hills 127.22 64 *e*PKIKP PKPdf 08 48 10.2 -1.3
RSSD Black Hills 127.22 64 *e*PKPdf PKPdf 08 48 10.2 -1.3
I25A Rochford 127.32 64 P PKPdf 08 48 09.9 -1.8
baz=128
H24A Dirks Ranch, A 127.36 63 P PKPdf 08 48 09.9 -1.7
baz=128
F23A Volborg 127.56 62 P PKPdf 08 48 11.1 -0.8
baz=128
D21A La Casta Ranch 127.62 59 P PKPdf 08 48 11.0 -1.0
baz=128
LAO LASA Array 127.77 60 *e*PKPdf PKPdf 08 48 12.4 +0.1
LAO LR LR
comp=Z,666nm,19.0s
KSU1 Kansas State U 127.99 73 *e*PKPdf PKPdf 08 48 11.8 -1.0
KSU1 LR LR
comp=Z,993nm,20.0s
KSU1 Kansas State U 127.99 73 P PKPdf 08 48 11.6 -1.3
baz=128
D22A Cohagen 128.09 60 P PKPdf 08 48 11.5 -1.4
baz=128
A20A Cobblestone Ra 128.33 57 P PKPdf 08 48 13.1 -0.2
baz=129
C23A Lambert 129.03 60 P PKPdf 08 48 14.5 -0.2
baz=129
OXF Oxford 129.05 83 *e*PKIKP PKPdf 08 48 13.7 -1.3
OXF Oxford 129.05 83 *e*PKPdf PKPdf 08 48 13.7 -1.3
J30A Dallas 129.17 68 P PKPdf 08 48 14.7 -0.3
baz=130
BVAR Borovoye Array 129.30 309 PKIKP PKPdf 08 48 13.5 -1.4
BVAR Borovoye Array 129.30 309 PKP PKPdf 08 48 13.5 -1.4
BVAR Borovoye Array 129.30 309 PKP PKPdf 08 48 13.5 -1.4
comp=Z,1.4nm,0.5s,baz=107,slow=1.5,SNR=3.1
BRVK Borovoye 129.37 309 ⇓*i*PKIKP PKPdf 08 48 18.6 +3.6
BRVK Borovoye 129.37 309 *e*PKPdf PKPdf 08 48 13.7 -1.4
BRVK LR LR
comp=Z,197nm,21.0s
DGMT Dagmar 129.97 60 PFAKE 08 48 30.0 +14
DGMT LR LR
comp=Z,495nm,19.0s
ECSD EROS Data Cent 131.03 69 PFAKE 08 48 30.0 +11
ECSD LR LR
comp=Z,765nm,19.0s
WVT Waverly 131.10 82 *e*PKIKP PKPdf 08 48 19.9 +1.0
WVT Waverly 131.10 82 *e*PKPdf PKPdf 08 48 19.9 +1.0
INK Inuvik 131.12 27 *e*PKPdf PKPdf 08 48 17.2 -0.6
SCIA State Center 131.78 73 PFAKE 08 48 30.0 +10
SCIA LR LR
comp=Z,931nm,20.0s
GOGA Godfrey 131.82 88 PFAKE 08 48 30.0 +10
GOGA LR LR
comp=Z,456nm,19.0s
WCI Wyandotte Cave 133.41 81 *e*PKIKP PKPdf 08 48 21.6 -1.6
WCI Wyandotte Cave 133.41 81 *e*PKPdf PKPdf 08 48 21.6 -1.6
YKA Yellowknife Ar 133.67 40 PKPpre PKPpre 08 48 17.1
YKA PKP PKPdf 08 48 21.5 -1.3
YKA Yellowknife Ar 133.67 40 PKhKP PKPpre 08 48 17.1
comp=Z,0.3nm,0.7s,baz=225,slow=2.5,SNR=6.0
YKA PKP PKPdf 08 48 21.5 -1.3
comp=Z,0.7nm,0.8s,baz=220,slow=2.7,SNR=8.4
BLO Bloomington 133.90 80 *e*PKIKP PKPdf 08 48 22.3 -1.8
BLO Bloomington 133.90 80 *e*PKPdf PKPdf 08 48 22.3 -1.8
JFWS Jewell Farm 134.12 74 PFAKE 08 48 40.0 +16
JFWS LR LR
comp=Z,779nm,19.0s
AGMN Agassiz Nation 134.26 64 PFAKE 08 48 40.0 +16
AGMN LR LR
comp=Z,708nm,20.0s
FFC Flin Flon 134.80 54 PFAKE 08 48 40.0 +15
FFC LR LR
comp=Z,347nm,21.0s
GNI Garni 134.96 280 PFAKE 08 48 40.0 +14
GNI LR LR
comp=Z,240nm,20.0s
ULM Lac du Bonnet 135.38 62 PKP PKPdf 08 48 24.6 -1.8
ULM Lac du Bonnet 135.38 62 PKP PKPdf 08 48 24.6 -1.8
comp=Z,1.5nm,0.7s,baz=294,slow=3.6,SNR=2.7
TOA0 Torodi Ar. Sit 136.06 212 *e*PKPdf PKPdf 08 48 24.4 -4.4
TORD Torodi Ar. Bea 136.06 212 PKPpre PKPpre 08 48 14.8
TORD Torodi Ar. Bea 136.06 212 PKhKP PKPpre 08 48 14.8
comp=Z,1.0nm,0.8s,baz=180,slow=2.7,SNR=3.1
SVE Sverdlovsk 136.08 308 *e*PKIKP PKPdf 08 48 31.2 +3.7
SVE pmax pmax
comp=Z,11nm,1.1s
BLA Blacksburg 136.23 87 PFAKE 08 48 40.0 +11
BLA LR LR
comp=Z,375nm,19.0s
EYMN Ely 136.43 67 PFAKE 08 48 40.0 +11
EYMN LR LR
comp=Z,461nm,19.0s
ACSO Alum Creek Sta 136.67 82 PFAKE 08 48 40.0 +11
ACSO LR LR
comp=Z,563nm,21.0s
ARU Arti 136.85 307 *i* PKIKP PKPdf 08 48 31.8 +2.8
ARU Arti 136.85 307 *e*PKPdf PKPdf 08 48 31.4 +2.4
ARU LR LR
comp=Z,211nm,19.0s
ZEI Tsey 137.11 283 *i* PKIKP PKPdf 08 48 38.3 +8.1
ZEI pmax pmax
comp=Z,7.0nm,1.3s
AAM Ann Arbor 137.56 79 PFAKE 08 48 40.0 +9.2
AAM LR LR
comp=Z,531nm,21.0s
KBZ Khabaz 138.26 283 PKIKP PKPdf 08 48 30.0 -2.0
KBZ Khabaz 138.26 283 PKP PKPdf 08 48 30.0 -2.0
KBZ Khabaz 138.26 283 PKP PKPdf 08 48 30.0 -2.0
comp=Z,2.0nm,0.9s,baz=90,slow=11,SNR=2.5
CSS Prodhromos 138.32 266 PFAKE 08 48 40.0 +7.5
CSS LR LR
comp=Z,69nm,21.0s
KIV Kislovodsk 138.52 283 *d i*PKIKP PKPdf 08 48 31.3 -1.3
KIV SS SS 09 09 41.0 +3.4
KIV pmax pmax
comp=Z,13nm,1.2s
KIV Kislovodsk 138.52 283 PFAKE 08 48 40.0 +7.4
KIV LR LR
comp=Z,232nm,20.0s
CBN Corbin 138.70 88 PFAKE 08 48 40.0 +7.0
CBN LR LR
comp=Z,412nm,19.0s
ERPA Erie 139.61 81 PFAKE 08 48 50.0 +15
ERPA LR LR
comp=Z,754nm,19.0s
BR131 Keskin Array S 141.28 272 *e*PKPdf PKPdf 08 48 33.5 -4.3
BRTR Keskin Array B 141.28 272 PKP PKPdf 08 48 34.3 -3.6
BRTR Keskin Array B 141.28 272 PKP PKPdf 08 48 34.3 -3.6
comp=Z,1.1nm,0.8s,baz=106,slow=3.1,SNR=3.3
SACV Santiago Islan 141.49 175 PFAKE 08 48 50.0 +11
SACV LR LR
comp=Z,375nm,22.0s
ANTO Ankara 141.88 271 PFAKE 08 48 50.0 +11
ANTO LR LR
comp=Z,288nm,19.0s
ISP Isparta 141.92 267 PFAKE 08 48 50.0 +11
ISP LR LR
comp=Z,250nm,20.0s
BINY Binghamton 142.03 84 PFAKE 08 48 50.0 +11
BINY LR LR
comp=Z,723nm,19.0s
VRHR Novokhopersk 142.98 292 *e*PKIKP PKPdf 08 48 40.3 0.0
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
TAM Tamanrasset 143.54 223 *e*PKIKP PKPbc 08 48 40.2 +0.5
TAM MLR MLR
comp=Z,482nm,19.0s
TAM Tamanrasset 143.54 223 *e*PKPdf PKPbc 08 48 40.2 +0.5
TAM LR LR
comp=Z,482nm,19.0s
VORD Divnogorie 144.21 291 *e*PKIKP PKPdf 08 48 42.2 -0.2
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,7.0nm,0.9s
LONY Lake Ozonia 144.27 82 PFAKE 08 48 50.0 +7.2
LONY LR LR
comp=Z,537nm,21.0s
VSR Storozhevoye 144.40 291 *e*PKIKP PKPdf 08 48 43.3 +0.5
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
RES Resolute Bay 144.67 26 *e*PKPbc PKPab 08 48 40.0 -1.3
PRGR Permogore 145.08 310 *e*PKIKP PKPdf 08 48 44.2 +0.6
PRGR pmax pmax
comp=Z,34nm,0.9s
LBNH Lisbon 145.63 84 PFAKE 08 49 00.0 +14
LBNH LR LR
comp=Z,383nm,20.0s
LTK Loutraki 146.53 260 P PKPab 08 48 49.6 +0.2
LTK Loutraki 146.53 260 P PKPab 08 48 49.6 +0.2
MRKA Markates 146.62 262 P PKPab 08 48 50.7 +0.9
GUR Goura 146.84 260 P PKPab 08 48 50.9 +0.1
GUR Goura 146.84 260 P PKPab 08 48 50.9 +0.1
PSN Preselentsi 146.92 273 ⇓PKP2 PKPab 08 48 51.9 +1.2
PSN Preselentsi 146.92 273 ⇓*i*P PKPab 08 48 51.9 +1.2
KLV Kalavryta, Ach 147.03 260 P PKPdf 08 48 48.4 +0.6
KLV Kalavryta, Ach 147.03 260 P PKPdf 08 48 48.4 +0.6
MOS Moscow 147.10 298 *e*PKP2 PKPab 08 48 51.9 +0.8
MOS *e* 08 52 18.3
MOS pmax pmax
comp=Z,66nm,1.3s
PRD Provadia 147.11 272 *e*P PKPbc 08 48 50.6 +0.8
JMB Yambol 147.17 270 P PKPab 08 48 51.4 -0.4
JMB Yambol 147.17 270 PKP2 PKPab 08 48 51.4 -0.4
JMB Yambol 147.17 270 P PKPab 08 48 51.4 -0.4
TIRR Tirgusor 147.22 274 ⇓PKP2 PKPbc 08 48 49.8 -0.3
TIRR Tirgusor 147.22 274 ⇓*i*P PKPbc 08 48 49.8 -0.3
TIRR Tirgusor 147.22 274 *e*PKPdf PKPdf 08 48 46.7 -1.0
KALE Kalithea 147.27 260 P PKPab 08 48 52.9 +0.5
KALE Kalithea 147.27 260 P PKPab 08 48 52.9 +0.5
XOR Xorichti 147.28 262 P PKPab 08 48 52.3 0.0
XOR Xorichti 147.28 262 P PKPab 08 48 52.3 0.0
KDZ Kurdzhali 147.38 268 ⇓PKP2 PKPab 08 48 51.8 -0.9
KDZ Kurdzhali 147.38 268 ⇓*i*P PKPab 08 48 51.8 -0.9
EFP Efpalio 147.43 260 P PKPab 08 48 52.5 -0.4
OBN Obninsk 147.44 296 ⇑PKP2 PKPdf 08 48 49.0 +1.2
OBN *i* 08 48 51.5
OBN pmax pmax
comp=Z,88nm,0.9s
OBN Obninsk 147.44 296 PFAKE 08 49 00.0 +7.6
OBN LR LR
comp=Z,260nm,20.0s
FYTO Fytoko, Volos 147.46 262 P PKPab 08 48 52.9 -0.1
FYTO Fytoko, Volos 147.46 262 P PKPab 08 48 52.9 -0.1
TLB Topalu 147.51 274 ⇓PKP2 PKPbc 08 48 49.8 -1.1
TLB Topalu 147.51 274 ⇓*i*P PKPbc 08 48 49.8 -1.1
AGG Agios Georgios 147.57 261 P PKPab 08 48 53.2 -0.3
AGG Agios Georgios 147.57 261 PKP2 PKPab 08 48 53.2 -0.3
AGG Agios Georgios 147.57 261 P PKPab 08 48 53.2 -0.3
MAKR Makrakomi, Fth 147.68 261 P PKPab 08 48 53.9 0.0
MAKR Makrakomi, Fth 147.68 261 P PKPab 08 48 53.9 0.0
PKME Peaks-Kenny Pk 147.76 85 *e*PKPbc PKPbc 08 48 51.9 +0.4
CFR Carcaliu 147.78 275 ⇓*i*P PKPab 08 48 53.1 -1.0
NVR Nevrokopi 148.13 266 P PKPab 08 48 54.3 -1.4
NVR Nevrokopi 148.13 266 P PKPab 08 48 54.3 -1.4
KIS Kishinev 148.33 279 *e*PKP2 PKPab 08 48 55.0 -1.2
KIS Kishinev 148.33 279 *e*PKP PKPab 08 48 55.0 -1.2
KIS *e*L L 10 06 14.0
KIS LRM MLR 10 10 18.0
comp=Z,300nm,18.0s
MMB Musomiste 148.35 266 *e*P PKPbc 08 48 54.1 +0.8
MMB Musomiste 148.35 266 ⇓*i*P PKPbc 08 48 52.8 -0.5
PGB Panagyurishte 148.67 268 *e*P PKPbc 08 48 55.6 +1.5
GRG Griva 148.76 264 P PKPab 08 48 56.6 -1.6
GRG Griva 148.76 264 PKP2 PKPab 08 48 56.6 -1.6
GRG Griva 148.76 264 P PKPab 08 48 56.6 -1.6
VRI Vrincioaia 148.99 275 ⇑*i*P PKPbc 08 48 56.9 +2.1
PLOR Plostina 149.02 275 ⇓PKP2 PKPab 08 48 58.9 -0.3
PLOR Plostina 149.02 275 ⇓*i*P PKPab 08 48 58.9 -0.3
MLR Muntele Rosu 149.25 274 ⇓*i*P PKPbc 08 48 55.5 -0.1
VTS Vitosha 149.26 267 P PKPbc 08 48 58.1 +2.3
VTS Vitosha 149.26 267 ⇑PKP2 PKPbc 08 48 56.4 +0.6
VTS Vitosha 149.26 267 *e*P PKPbc 08 48 57.5 +1.7
VTS Vitosha 149.26 267 ⇑*i*P PKPbc 08 48 56.4 +0.6
VTS Vitosha 149.26 267 P PKPbc 08 48 58.1 +2.3
TESR Tescani 149.37 276 ⇓*i*P PKPbc 08 48 54.9 -0.8
VOIR 149.76 273 ⇑PKP2 PKPbc 08 48 59.5 +2.7
VOIR 149.76 273 ⇑*i*P PKPbc 08 48 59.5 +2.7
AKASG Malin Array Be 149.81 285 PKPbc PKPdf 08 48 53.8 +2.0
AKASG Malin Array Be 149.81 285 PKPbc PKPdf 08 48 53.8 +2.0
comp=Z,13nm,0.8s,baz=86,slow=2.6,SNR=18
KIEV Kiev 149.82 285 ⇑*i*PKP2 PKPbc 08 48 55.6 -1.0
KIEV Kiev 149.82 285 *e*PKPbc PKPbc 08 48 55.0 -1.6
KIEV *e*PKPab PKPab 08 49 00.1 -2.1
KIEV LR LR
comp=Z,264nm,22.0s
DOPR Dopca 149.84 274 ⇑*i*P PKPbc 08 48 57.8 +0.9
WDD Wield Dalam 149.89 248 PFAKE 08 49 00.0 +2.7
WDD LR LR
comp=Z,569nm,20.0s
SKO Skopje 149.95 265 P PKPbc 08 48 58.8 +1.5
SKO Skopje 149.95 265 PKP2 PKPbc 08 48 58.8 +1.5
SKO Skopje 149.95 265 P PKPbc 08 48 58.8 +1.5
ARR Arges 149.97 273 ⇑*i*P PKPbc 08 48 57.4 +0.1
PHP Peshkopia 150.37 263 P PKPbc 08 49 00.7 +2.4
PHP Peshkopia 150.37 263 PKIKP PKPbc 08 49 00.7 +2.4
PHP Peshkopia 150.37 263 P PKPbc 08 49 00.7 +2.4
LVZ Lovozero 150.62 321 PFAKE 08 49 00.0 +1.9
LVZ LR LR
comp=Z,334nm,20.0s
BURAR Bucovina Array 150.76 277 ⇓*i*P PKPab 08 49 03.1 -3.3
BUR08 Bucovina Ar. S 150.79 277 *e*PKPbc PKPbc 08 48 59.1 -0.2
BUR08 *e*PKPab PKPab 08 49 05.4 -1.1
CEL Celeste 150.81 253 *e*PKPbc PKPbc 08 49 02.6 +3.1
CEL LR LR
comp=Z,340nm,19.0s
TIP Timpagrande 150.93 256 P PKPbc 08 49 02.4 +2.6
TIP Timpagrande 150.93 256 *e*PKPdf PKPdf 08 48 51.3 -2.8
TIP *e*PKPbc PKiKP 08 49 03.0 +2.6
TIP *e*PKPab PKPab 08 49 07.2 -0.1
TIP LR LR
comp=Z,259nm,22.0s
GZR Gura Zlata 151.09 272 ⇑PKIKP PKPbc 08 48 59.2 -0.8
GZR Gura Zlata 151.09 272 ⇑*i*P PKPbc 08 48 59.2 -0.8
CLTB Caltabellotta 151.85 249 PFAKE 08 49 10.0 -1.1
CLTB LR LR
comp=Z,449nm,21.0s
MICGM Minsk 151.97 292 *e* PKPab 08 49 09.0 -2.0
MNK Minsk 152.00 292 *e*PKIKP PKPbc 08 49 02.0 +0.4
CUC Castrocucco 152.02 256 PFAKE 08 49 10.0 -1.7
CUC LR LR
comp=Z,283nm,20.0s
DIVS Divibare 152.05 267 P PKPbc 08 49 04.8 +2.6
KBS Kingsbay 152.16 347 PFAKE 08 49 00.0 -1.3
KBS LR LR
comp=Z,348nm,20.0s
SIRR Siria 152.21 272 ⇑*i*P PKPbc 08 49 04.8 +2.4
KEST Kesra 152.59 242 *e*PKPbc PKPbc 08 49 07.6 +3.9
KEST *e*PKPab PKPab 08 49 14.4 +0.1
KEST Kesra 152.59 242 PKPbc PKPbc 08 49 04.3 +0.6
comp=Z,6.7nm,0.9s,baz=177,slow=2.2,SNR=13
TRPA Tarpa 152.60 276 ⇓*i*P PKPbc 08 49 06.3 +3.1
TRPA Tarpa 152.60 276 ⇓*e* PKPbc 08 49 06.6 +3.4
NACGM Naroch 152.70 292 *e* PKPbc 08 49 05.0 +1.8
UZH Uzhgorod 152.97 277 *e*PKIKP PKPbc 08 49 04.8 +0.8
UZH *e* 08 49 15.8
KOLS Kolonicke sedl 153.12 278 *e*PKP PKPbc 08 49 07.4 +3.1
KEV Kevo 153.15 325 PFAKE 08 49 10.0 -5.5
KEV LR LR
comp=Z,466nm,19.0s
KWP Kalwaria Pacla 153.16 279 *e*PKP PKPbc 08 49 07.2 +2.8
KWP Kalwaria Pacla 153.16 279 ⇓*i*P PKPbc 08 49 07.8 +3.4
KWP Kalwaria Pacla 153.16 279 PFAKE 08 49 10.0 +5.6
KWP LR LR
comp=Z,350nm,20.0s
SCHQ Schefferville 153.23 68 PKPbc PKPbc 08 49 04.2 -0.2
SCHQ Schefferville 153.23 68 PKPbc PKPbc 08 49 04.2 -0.2
comp=Z,3.3nm,0.7s,baz=101,slow=5.2,SNR=3.3
CRVS Cervenica-Dubn 153.58 277 *e*PKP PKPbc 08 49 08.2 +2.8
PKSN Nyarlorinc 153.60 272 ⇓*e* PKPbc 08 49 09.1 +3.7
ARCES ARCESS Array B 153.71 325 PKPbc PKPbc 08 49 03.1 -1.8
ARCES ARCESS Array B 153.71 325 PKPbc PKPbc 08 49 03.2 -1.8
comp=Z,3.4nm,0.9s,baz=111,slow=4.9,SNR=3.9
PKSM Moragy 153.99 270 ⇑*i*P PKPbc 08 49 09.1 +2.8
PKSM Moragy 153.99 270 ⇑*e* PKPbc 08 49 08.4 +2.1
PSZ Piszkesteto 154.07 274 PFAKE 08 49 10.0 +3.5
PSZ LR LR
comp=Z,259nm,19.0s
PKS7 Kunszentmiklos 154.09 272 ⇑*e* PKPbc 08 49 10.5 +4.0
KAF Kangasniemi 154.15 308 *ep* PKPbc 08 49 09.2 +3.1
FIA1 FINESS Array S 154.22 307 *e*PKPdf PKPdf 08 48 57.3 -0.7
FIA1 *e*PKPbc PKiKP 08 49 07.8 +1.4
FINES FINESS Array B 154.22 307 PKPbc PKPbc 08 49 04.8 -1.5
FINES FINESS Array B 154.22 307 PKPbc PKPbc 08 49 04.8 -1.5
comp=Z,4.7nm,0.6s,baz=92,slow=4.2,SNR=24
PKS9 Tamasi 154.39 270 ⇑*e* PKPbc 08 49 12.2 +5.1
PKSG 154.72 272 ⇑*e* PKPbc 08 49 11.3 +3.5
CSKK Cs˙‡kako 154.78 272 ⇓*e* PKPbc 08 49 10.0 +2.0
PKST T¨¨s 154.87 271 *e* PKPbc 08 49 12.3 +4.1
VSL Villasalto 155.33 248 PFAKE 08 49 10.0 +10
VSL LR LR
comp=Z,403nm,19.0s
ARSA Arzberg 156.37 269 ⇓*i*PKPab PKPab 08 49 31.1 +1.1
comp=Z,21nm,1.0s
CONA Conrad Observa 156.48 271 ⇑*i*PKPab PKPab 08 49 32.0 +1.5
comp=Z,9.6nm,1.3s
KBA Koelnbreinsper 157.58 267 ⇑*i*PKPab PKPab 08 49 36.4 +1.0
comp=Z,7.4nm,1.1s
VLC Villacollemand 157.77 258 PFAKE 08 49 10.0 +6.6
VLC LR LR
comp=Z,607nm,21.0s
GERES GERESS Array B 158.18 272 PKPab PKPab 08 49 38.3 +0.4
GERES GERESS Array B 158.18 272 PKPab PKPab 08 49 38.3 +0.4
comp=Z,1.3nm,0.6s,baz=132,slow=4.3,SNR=9.3
RTC Rabat Centre 158.22 212 PFAKE 08 49 10.0 +5.8
RTC LR LR
comp=Z,902nm,20.0s
KHC Kasperske Hory 158.37 272 *e*PKP2 PKPab 08 49 32.5 -6.1
KHC Kasperske Hory 158.37 272 *e*PKPAB PKPab 08 49 39.5 +0.9
BRG Berggiesshubel 158.83 277 *e*PKP PKPdf 08 49 10.7 +6.3
comp=Z,8.3nm,1.3s
BRG SS SS 09 13 24.0 -1.1
BRG
comp=N,262nm,29.4s
BRG
comp=E,289nm,18.8s
BRG
comp=Z,475nm,23.0s
BRG Berggiesshubel 158.83 277 *e*PKIKP PKPdf 08 49 10.7 +6.3
BRG SS SS 09 13 24.0 -1.1
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG MLR MLR
comp=N,262nm,29.4s
BRG MLR MLR
comp=E,289nm,18.8s
BRG MLR MLR
comp=Z,475nm,23.0s
FETA Feichten 159.11 265 ⇑*i*PKPab PKPab 08 49 43.1 +1.1
comp=Z,15nm,1.2s
RETA Reutte 159.32 266 ⇑*i*PKPab PKPab 08 49 44.8 +1.9
comp=Z,24nm,1.4s
CLL Collm 159.53 277 *e*PKP2 PKPab 08 49 45.0 +1.5
CLL MLR MLR
comp=Z,300nm,19.1s
CLL Collm 159.53 277 *e*PKPab PKPab 08 49 45.0 +1.5
CLL *e*(PP) 08 53 34.0
CLL *e*PSKS 09 03 56.0
CLL *e*PPS PPS 09 07 18.0
CLL *e* 09 08 30.0
CLL *e*SS SS 09 13 31.0 -1.6
CLL *e*PSS PSS 09 14 29.0
CLL *e*PSPS 09 15 00.0
CLL *e*SSS SSS 09 19 46.0
CLL *e*SSSS 09 23 54.0
CLL LmH 10 13 00.0
comp=N,300nm,19.6s
CLL LmH 10 13 00.0
comp=E,200nm,19.9s
CLL LmV 10 14 00.0
comp=Z,300nm,19.1s
TUE Stuetta 159.66 262 PFAKE 08 49 20.0 +14
TUE LR LR
comp=Z,503nm,21.0s
DAVA Damuels 159.75 264 ⇑*i*PKPab PKPab 08 49 46.7 +1.9
comp=Z,25nm,1.2s
BNI Bardonecchia 160.44 255 PFAKE 08 49 20.0 +13
BNI LR LR
comp=Z,662nm,20.0s
ORIF Oris-en-Rattie 160.82 254 *e*PKIKP PKPdf 08 49 05.5 -1.5
comp=Z,4.0nm,0.6s
ORIF Oris-en-Rattie 160.82 254 *e*PKIKP PKPdf 08 49 05.5 -1.5
ORIF Oris-en-Rattie 160.82 254 *e*PKPdf PKPdf 08 49 05.5 -1.5
BFO Black Forest 161.16 266 PFAKE 08 49 20.0 +13
BFO LR LR
comp=Z,472nm,21.0s
NOA NORSAR Array B 161.41 307 PKPab PKPab 08 49 52.3 +0.8
NOA NORSAR Array B 161.41 307 PKPab PKPab 08 49 52.3 +0.8
comp=Z,1.0nm,0.7s,baz=102,slow=4.4,SNR=3.7
SSB Saint Sauveur 161.80 253 PFAKE 08 49 20.0 +12
SSB LR LR
comp=Z,733nm,20.0s
ECH Echery 161.81 264 PFAKE 08 49 20.0 +12
ECH LR LR
comp=Z,653nm,20.0s
ESDC Sonseca Array 162.16 226 PKPab PKPab 08 49 54.9 -0.5
ESDC Sonseca Array 162.16 226 PKPab PKPab 08 49 54.9 -0.5
comp=Z,3.5nm,0.9s,baz=156,slow=3.9,SNR=6.5
PAB San Pablo 162.21 225 PFAKE 08 49 20.0 +11
PAB LR LR
comp=Z,556nm,19.0s
KONO Kongsberg 162.41 303 PFAKE 08 49 20.0 +12
KONO LR LR
comp=Z,472nm,20.0s
PAGF Fort de Pagny 162.81 264 *e*PKIKP PKPdf 08 49 07.9 -0.9
comp=Z,2.2nm,0.6s
PAGF Fort de Pagny 162.81 264 *e*PKPdf PKPdf 08 49 07.9 -0.9
WLF Walferdange 163.03 268 PFAKE 08 49 20.0 +11
WLF LR LR
comp=Z,453nm,20.0s
MTE Manteigas 164.22 219 PFAKE 08 49 20.0 +10
MTE LR LR
comp=Z,775nm,20.0s
ESK Eskdalemuir 169.74 287 PFAKE 08 49 20.0 +6.0
ESK LR LR
comp=Z,386nm,19.0s

NNC 07 08:41:45.7±5.9, 34.86N×69.51E, h215km±67km, mb2.5, mpv3.5, 3C-1D, Error ellipse: s-maj=46.4km s-min=34.9km az=8.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.27**	**5**	P		Pn		08 43 41.7	-0.6
	1.0nm,0.4s,baz=181,slow=12,SNR=35								
KK31				⇓S		S		08 45 15.4	-0.2
	1.1nm,0.5s,baz=183,slow=21,SNR=6.4								
AAK	**Ala-Archa**	**8.68**	**25**	P		Pn		08 43 48.3	+0.5
AAK				S		S		08 45 25.8	0.0
TKM2	**Tokmak 2**	**9.34**	**29**	P		Pn		08 43 56.3	-0.1
TKM2				S		S		08 45 43.2	+1.8
MK31	**Makanchi Array**	**15.33**	**35**	⇑P		Pn		08 45 12.0	+0.8
	0.5nm,0.7s,baz=205,slow=9.3,SNR=4.9								
AB31	**Akbulak array**	**16.02**	**337**	⇑P		Pn		08 45 19.3	-0.1
	1.8nm,1.1s								
AKTO	**Aktyubinsk**	**17.68**	**335**	⇑P		P		08 45 35.8	-1.0
	1.6nm,1.2s								

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*VIE **07** 08:54:47.6±1.3, 44.81N×17.57E, h8km, mb2.3/2, ML2.5/3, Error ellipse: s-maj=13.6km s-min=4.8km az=167.0 53 km SW of Slavonski Brod*
*BEO **07** 08:54:49.9±0.3, 44.78N×17.22E, h7km, 3km, ML2.5/1*
*CSEM **07** 08:54:49.7±0.1, 44.76N×17.20E, h8km, ML2.5, Error ellipse: s-maj=5.0km s-min=2.8km az=24.0*

ISC 07 08:54:49.5±0.8, 44.78N±0.03×17.23E±0.02, h9km±5km, n51, σ1.900/90, 5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.04**	**222**	*e*Pg		**Pg**		**08 54 51.1**	**-0.3**
BLY				*e*Sg		**Sg**		**08 54 52.9**	**+0.2**
BLY	**Banja Luka**	**0.04**	**222**	*e*Pg		**Pg**		**08 54 51.1**	**-0.3**
BLY				*e*Sg		**Sg**		**08 54 52.9**	**+0.2**
SISC	**Sisak**	**0.92**	**319**	Sg		**Sn**		**08 55 21.5**	**-0.3**
SISC	**Sisak**	**0.92**	**319**	Sg		**Sn**		**08 55 21.5**	**-0.3**
UDBI	**Udbina**	**1.07**	**257**	*e*Pg		**Pg**		**08 55 08.4**	**-1.7**

UDBI				Sg	Sb	08 55 25.1	+0.7
UDBI	Udbina	1.07	257	ePg	Pg	08 55 08.4	-1.7
UDBI				Sg	Sb	08 55 25.1	+0.7
BOJS	Bojanci	1.57	298	i Pn	Pn	08 55 18.0	+0.5
BOJS				i Sn	Sg	08 55 41.9	+1.8
BOJS							
	comp=Z,39nm,0.4s						
BOJS	Bojanci	1.57	298	Pn	Pn	08 55 18.0	+0.5
BOJS				i Sn	Sg	08 55 41.9	+1.8
	comp=Z,39nm,0.4s						
TEKS	Tekeris	1.66	97	ePn	Pn	08 55 18.5	-0.3
TEKS				eSn	Sn	08 55 40.2	0.0
TEKS	Tekeris	1.66	97	ePn	Pn	08 55 18.5	-0.3
TEKS				eSn	Sn	08 55 40.2	0.0
GOLS	Golise	1.67	318	i Pn	Pn	08 55 18.4	-0.5
GOLS				i Sn	Sg	08 55 46.0	+2.9
GOLS	Golise	1.67	318	i Pn	Pn	08 55 18.4	-0.5
GOLS				i Sn	Sg	08 55 46.0	+2.9
NVLJ	Novalja	1.69	263	ePn	Pn	08 55 19.4	+0.2
NVLJ				Sn	Sb	08 55 42.7	+0.5
NVLJ	Novalja	1.69	263	ePn	Pn	08 55 19.4	+0.2
NVLJ				Sn	Sb	08 55 42.6	+0.5
PKSM	Moragy	1.74	34	ePn	Pb	08 55 21.2	-0.4
PKSM				eSn	Sn	08 55 42.6	+0.4
PKSM	Moragy	1.74	34	⇓iP	Pb	08 55 21.3	-0.4
PKSM				S	Sn	08 55 43.0	+0.8
PKSM	Moragy	1.74	34	ePn	Pb	08 55 21.2	-0.4
PKSM				eSn	Sn	08 55 42.6	+0.4
BBLS	Lazići	1.81	120	ePn	Pn	08 55 21.5	+0.6
BBLS				eSn	Sn	08 55 45.3	+1.3
BBLS	Lazići	1.81	120	ePn	Pn	08 55 21.5	+0.6
BBLS				eSn	Sn	08 55 45.3	+1.3
FGSL	Fruska Gora	1.87	78	ePn	Pn	08 55 22.0	+0.3
FRGS	Fruska Gora	1.87	78	ePn	Pn	08 55 22.0	+0.3
STON	Ston	1.94	170	ePn	Pn	08 55 21.6	-1.0
STON				Sn	Sn	08 55 46.9	-0.1
STON	Ston	1.94	170	ePn	Pn	08 55 21.6	-1.0
STON				Sn	Sn	08 55 46.9	-0.1
VISS	Visnje	1.97	302	ePn	Pb	08 55 24.7	-0.8
VISS							
	comp=Z,11nm,0.3s						
VISS	Visnje	1.97	302	ePn	Pb	08 55 24.7	-0.8
	comp=Z,11nm,0.3s						
DIVS	Divibare	2.10	108	ePn	Pn	08 55 26.1	+1.3
DIVS				eSn	Sn	08 55 52.3	+1.3
DIVS	Divibare	2.10	108	ePn	Pn	08 55 26.1	+1.3
DIVS				eSn	Sn	08 55 52.3	+1.3
CEY	Cerknica	2.20	297	i Pn	Pb	08 55 29.4	0.0
CEY				i Sn	Sg	08 55 59.1	-1.0
CEY	Cerknica	2.20	297	i Pn	Pb	08 55 29.4	0.0
CEY				i Sn	Sg	08 55 59.1	-1.0
TRUS	Trudelj	2.34	103	ePn	Pn	08 55 28.5	+0.3
TRUS				eSn	Sn	08 55 57.5	+0.5
TRUS	Trudelj	2.34	103	ePn	Pn	08 55 28.5	+0.3
TRUS				eSn	Sn	08 55 57.5	+0.5
SKDS	Skadanscina	2.40	290	i Pn	Pn	08 55 29.5	+0.6
SKDS							
	comp=Z,8.0nm,0.3s						
SKDS	Skadanscina	2.40	290	i Pn	Pn	08 55 29.5	+0.6
	comp=Z,8.0nm,0.3s						
IVAS	Ivanjica	2.43	119	ePn	Pn	08 55 30.1	+0.7
IVAS				eSn	Sn	08 56 00.3	+1.1
IVAS	Ivanjica	2.43	119	ePn	Pn	08 55 30.1	+0.7
IVAS				eSn	Sn	08 56 00.3	+1.1
SJES	Sjenica	2.50	127	ePn	Pn	08 55 30.8	+0.4
SJES				eSn	Sn	08 56 01.8	+0.8
OBKA	Obir	2.55	314	⇓iPn	Pn	08 55 32.2	+1.1
OBKA				⇓iSn	Sb	08 56 05.9	-1.1
OBKA	Obir	2.55	314	Pn	Pn	08 55 32.2	+1.1
OBKA				Sn	Sb	08 56 05.9	-1.1
GRUS	Gruza	2.66	108	ePn	Pn	08 55 33.5	+1.0
GRUS				eSn	Sn	08 56 06.0	+1.2
GRUS	Gruza	2.66	108	ePn	Pn	08 55 33.5	+1.0
GRUS				eSn	Sn	08 56 06.0	+1.2
ARSA	Arzberg	2.74	335	ePn	Pn	08 55 32.7	-0.9
ARSA				eSn	Sn	08 56 08.3	+1.5
ARSA	Arzberg	2.74	335	⇓iPn	Pn	08 55 32.8	-0.8
ARSA	Arzberg	2.74	335	Pn	Pn	08 55 32.8	-0.8
ARSA				eSn	Sn	08 56 08.3	+1.5
PDG	Podgorica	2.77	147	ePn	Pn	08 55 34.9	+0.8
PDG				eSn	Sn	08 56 08.2	+0.6
PDG	Podgorica	2.77	147	ePn	Pn	08 55 34.9	+0.8
PDG				eSn	Sn	08 56 08.2	+0.6
BZS	Buzias	3.21	73	ePn	Pn	08 55 41.6	+1.5
BZS				eSn	Sn	08 56 18.9	+0.4
BZS	Buzias	3.21	73	S	Sg	08 56 30.0	-2.7
BZS	Buzias	3.21	73	ePn	Pn	08 55 41.6	+1.5
BZS				eSn	Sn	08 56 18.9	+0.4
CONA	Conrad Observa	3.29	344	⇓iPn	Pn	08 55 40.5	-0.7
CONA	Conrad Observa	3.29	344	Pn	Pn	08 55 40.5	-0.7
ZAPS	Zavoj	4.18	109	ePn	Pn	08 55 53.3	-0.2
ZAPS				eSn	Sn	08 56 42.1	-0.3

WEL 07 08:57:53.7±0.4, 38°.39S×176°.08E, h146km±3km, ML3.5/6, 4C-3D, Error ellipse: s-maj=2.4km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.43	278	PN	Pn	08 58 15.0	+0.6
KATZ	Kakaramea	0.65	207	PN	Pn	08 58 16.1	+0.4
KRVZ	Karewarewa	0.78	206	PN	Pn	08 58 16.8	+0.2
WTVZ	West Tongariro	0.82	208	PN	Pn	08 58 17.1	+0.3
URZ	Urewera	0.82	81	⇓PN	Pn	08 58 16.3	-0.4
URZ				SN	Sn	08 58 34.0	-0.2
URZ				AML	AML	08 58 34.9	
BKZ	Black Stump Fm	0.84	157	PN	Pn	08 58 17.1	+0.2
BKZ				SN	Sn	08 58 34.6	-0.1
BKZ				AML	AML	08 58 36.3	
TWVZ	Taurewa	0.84	216	⇑PN	Pn	08 58 17.3	+0.3
NGZ	Ngauruhoe	0.87	205	PN	Pn	08 58 17.5	+0.2
COVZ	Chateau Observ	0.91	207	PN	Pn	08 58 17.8	+0.3
WPVZ	Whakapapa	0.91	207	⇑PN	Pn	08 58 17.9	+0.3
RAHZ	Arahi	0.95	124	PN	Pn	08 58 18.3	+0.6
FWVZ	Far West T-bar	0.95	205	PN	Pn	08 58 17.9	-0.2
WHVZ	Whangaehu Hut	0.97	203	PN	Pn	08 58 18.3	+0.1
HIZ	Hauiti	0.97	262	⇓PN	Pn	08 58 18.3	+0.4
WNVZ	Wahianoa	1.01	202	PN	Pn	08 58 17.4	-1.1
MOVZ	Moawhango	1.04	194	PN	Pn	08 58 17.1	-1.5
SNGZ	Shannon Statio	1.06	112	PN	Pn	08 58 19.2	+0.4
BHHZ	Black Hill Sta	1.09	181	PN	Pn	08 58 18.9	-0.2
WHHZ	Waihua	1.13	127	PN	Pn	08 58 19.5	+0.2
MWZ	Matawai	1.14	88	PN	Pn	08 58 19.3	-0.1
MWZ				SN	Sn	08 58 38.4	-0.7
MWZ				AML	AML	08 58 38.8	
MWZ				AML	AML	08 58 39.9	
MWZ				AML	AML	08 58 40.7	
MCHZ	McNeill Hill	1.16	155	PN	Pn	08 58 20.4	+0.9
VRZ	Vera Road	1.26	234	PN	Pn	08 58 19.0	-1.5
RIGZ	Rimuhau	1.36	104	PN	Pn	08 58 21.7	+0.1
KNZ	Kokohu	1.40	117	⇑PN	Pn	08 58 21.9	0.0
MKAZ	Moumakai	1.47	330	⇓PN	Pn	08 58 22.7	0.0
CKHZ	Cape Kidnapper	1.48	149	⇑PN	Pn	08 58 23.2	+0.4
PRGZ	Paritu Road	1.51	111	PN	Pn	08 58 23.1	0.0
PNHZ	Pukenui	1.52	176	PN	Pn	08 58 22.9	-0.4
KAHZ	Kahuranaki	1.53	156	PN	Pn	08 58 23.6	+0.2
MHGZ	Mahia Peninsul	1.62	119	PN	Pn	08 58 24.4	+0.1
WPHZ	Waipukurau	1.69	171	PN	Pn	08 58 24.7	-0.4
PXZ	Pawanui	1.75	160	PN	Pn	08 58 25.3	-0.3
DVHZ	Dannevirke	1.91	178	PN	Pn	08 58 26.6	-0.9
PRHZ	Porangahau	1.92	167	PN	Pn	08 58 27.2	-0.5
POWZ	Post Office Ro	2.01	187	PN	Pn	08 58 27.7	-1.1
ANWZ	Angora Road	2.09	172	PN	Pn	08 58 28.9	-0.7
PRWZ	Pori Road	2.16	182	PN	Pn	08 58 29.5	-1.0
BFZ	Birch Farm	2.29	177	PN	Pn	08 58 30.7	-1.3
MRZ	Mangatainoka R	2.30	190	PN	Pn	08 58 30.6	-1.6
MRZ				AML	AML	08 59 01.5	
MRZ				AML	AML	08 59 01.6	
OGWZ	Otaki Gorge	2.52	196	PN	Pn	08 58 33.2	-1.7
HOWZ	Holdsworth Sta	2.54	190	PN	Pn	08 58 33.2	-2.0
KIW	Kapiti Island	2.62	200	PN	Pn	08 58 34.2	-2.0
TMWZ	Te Maipa	2.71	183	PN	Pn	08 58 35.2	-2.1
MTW	Mount Morrison	2.80	189	PN	Pn	08 58 36.0	-2.4
CAW	Cannon Point	2.82	196	PN	Pn	08 58 36.4	-2.3
CAW				AML	AML	08 58 37.2	
CAW				AML	AML	08 58 37.6	
TRWZ	Traveller	3.02	186	PN	Pn	08 58 38.8	-2.4
MSWZ	Moikau Station	3.08	192	PN	Pn	08 58 39.2	-2.8
MSWZ				AML	AML	08 58 39.8	
MSWZ				AML	AML	08 58 40.2	
BHW	Baring Head	3.15	197	PN	Pn	08 58 40.1	-2.7
PLWZ	Palliser	3.24	191	PN	Pn	08 58 41.0	-3.0
TUWZ	Tuamarina	3.45	208	ePN	Pn	08 58 42.7	-3.9
MQZ	McQueen's Vall	5.91	205	PN	Pn	08 59 13.4	-5.6

IDC 07 09:15:31.7±3.4, 13°.70N×92°.20W, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.7/24, mbtmp3.6/7, ML3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx3.2/22, Error ellipse: s-maj=66.2km s-min=26.4km az=167.0
ISCJB 07 09:15:38.1±1.1, 14°.0N±0°.1×92°.35W±0°.06, h46km, mb3.4/4, MS3.6/1, Error ellipse: s-maj=18.4km s-min=6.7km az=15.3
CASC 07 09:15:38.3±1.6, 13°.98N×92°.35W, h40km±146km, MD3.9
ISC 07 09:15:39.9±1.2, 14°.0N±0°.1×92°.30W±0°.09, h46km, n16, σ1s10/17, mb3.5/4, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.74	61	⇓eP	Pn	09 15 53.0	-1.0
PCG	Pacaya	1.70	75	eP	Pn	09 16 05.9	-1.5
APG	El Apazote	2.06	60	Pn	Pn	09 16 08.6	-3.7
	18nm,0.3s,baz=241,slow=12,SNR=407						
APG				Sn	Sn	09 16 37.5	+0.6
	36nm,0.3s,baz=319,slow=20,SNR=6.5						
RBDL	Robledal	2.54	86	i P	Pn	09 16 17.8	-1.0
RTR	El Retiro	2.58	91	i P	Pn	09 16 19.0	-0.4
SBLS	San Blas	2.61	92	i P	Pn	09 16 18.9	-0.9
SBLS				eS	Sn	09 16 52.3	+1.9
MRL	Marmol	2.76	66	eP	Pn	09 16 22.2	+0.4
BOQS	Boqueron	2.94	94	i P	Pn	09 16 24.4	0.0
BOQS				eS	Sn	09 16 58.9	+0.2
TEIG	Tepich	7.32	31	Pn	Pn	09 17 23.8	-0.5
	4.6nm,0.3s,baz=274,slow=9.0,SNR=14						
TXAR	Lajitas Array	18.57	327	P	Pn	09 19 54.4	+0.6
	0.0nm,0.3s,baz=148,slow=12,SNR=5.4						
ANMO	Albuquerque	24.49	331	P	P	09 20 55.1	+0.1
	0.6nm,0.8s,baz=164,slow=13,SNR=4.7						
ATAH	Atahualpa	25.10	146	LR	LR	09 28 32.7	
	comp=Z,185nm,18.8s,baz=303,slow=32						
NVAR	Mina Array Bea	33.52	321	P	P	09 22 17.4	+2.0
	0.4nm,0.6s,baz=147,slow=8.8,SNR=4.3						
YKA	Yellowknife Ar	51.00	347	P	P	09 24 35.4	-1.5
	0.6nm,0.6s,baz=152,slow=7.3,SNR=15						
ILAR	Eielson Array	62.76	337	P	P	09 25 59.6	-0.5
	0.3nm,0.8s,baz=114,slow=9.0,SNR=4.0						
CMAR	Chiang Mai Arr	145.93	341	PKPbc	PKPab	09 35 15.2	-0.6
	0.7nm,0.3s,baz=338,slow=3.7,SNR=5.5						

IDC 07 09:20:10.9±5.0, 17°.66S×174°.79W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.6/19, mbtmp4.1/2, Error ellipse: s-maj=305.6km s-min=65.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.06	259	P	P	09 28 52.0	-0.5
	0.3nm,0.4s,baz=96,slow=6.9,SNR=16						
ASAR	Alice Springs	48.17	254	P	P	09 28 53.6	+0.3
	2.9nm,0.5s,baz=88,slow=8.7,SNR=85						
FINES	FINESS Array B	133.84	346	PKP	PKPdf	09 39 29.0	-0.4
	1.6nm,0.8s,baz=46,slow=6.0,SNR=4.3						

IDC 07 09:29:03.0±1.2, 8°.54S×157°.03E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=40.4km s-min=18.4km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	3.01	107	Pn	Pn	09 29 51.8	-0.2
	4.8nm,0.3s,baz=225,slow=11,SNR=2.3						
HNR				Lg	Lg	09 30 39.0	
	12nm,0.3s,baz=149,slow=23,SNR=11						
HNR	Honiara	3.01	107	P	Pb	09 29 57.0	-0.6
WRA	Warramunga Arr	24.71	240	P	P	09 34 26.1	-0.1
	0.8nm,0.8s,baz=66,slow=9.5,SNR=3.5						
ILAR	Eielson Array	84.07	21	P	P	09 41 35.0	-0.3
	0.6nm,1.0s,baz=231,slow=5.6,SNR=3.0						
MKAR	Makanchi Array	85.89	318	P	P	09 41 45.3	+0.4
	0.4nm,0.6s,baz=102,slow=6.5,SNR=4.8						

IDC 07 10:02:58.5±2.6, 35°.85N×89°.52E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/28, mbtmp3.4/6, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/22, Error ellipse: s-maj=48.2km s-min=43.8km az=152.0
ISCJB 07 10:03:02.3±1.5, 36°.0N±0°.1×89°.4E±0°.2, h33km, mb3.2/3, Error ellipse: s-maj=25.2km s-min=16.6km az=141.9
ISC 07 10:03:03.8±1.8, 36°.0N±0°.2×89°.5E±0°.2, h35km, n6, σ2s09/7, mb3.1/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.09	336	Pn	Pn	10 05 51.1	-2.3
	0.0nm,0.3s,baz=157,slow=16,SNR=4.9						
MKAR				Sn	Sn	10 08 09.2	+2.4
	0.2nm,0.3s,baz=137,slow=29,SNR=6.9						
KURBB	Kurchatov Arra	16.65	335	Pn	Pn	10 06 51.9	-2.4
	0.1nm,0.3s,baz=145,slow=12,SNR=26						
SONM	Songino Array	17.25	41	P	Pn	10 07 02.0	0.0
	0.1nm,0.3s,baz=219,slow=16,SNR=2.2						
SONM				LR	LR	10 14 03.0	
	comp=Z,108nm,19.3s,baz=248,slow=38						
BVAR	Borovoye Array	21.71	328	P	P	10 07 51.8	+0.2
	0.6nm,0.7s,baz=142,slow=16,SNR=3.2						
YKA	Yellowknife Ar	79.98	11	P	P	10 15 09.7	+0.8
	0.1nm,0.6s,baz=334,slow=5.8,SNR=3.7						
TORD	Torodi Ar. Bea	80.64	279	P	P	10 15 14.0	+0.6
	0.5nm,0.7s,baz=39,slow=4.0,SNR=3.6						

ISCJB 07 10:24:46.3±1.4, 37°.8N±0°.1×72°.2E±0°.1, h200km, mb3.2/1, Error ellipse: s-maj=17.5km s-min=12.8km az=28.9
IDC 07 10:24:47.9±11.0, 37°.51N×72°.54E, h225km±245km, mb3.0/1, mb1 2.9/3, mb1mx2.6/27, mbtmp2.9/3, ML3.4/2, Error ellipse: s-maj=595.1km s-min=67.9km az=129.0
NNC 07 10:24:52.3±2.5, 39°.03N×72°.47E, h418km±103km, mb1.7, mpv3.2, Error ellipse: s-maj=105.3km s-min=17.8km az=4.0
ISC 07 10:24:47.1±1.9, 37°.8N±0°.1×72°.3E±0°.1, h200km, n12, σ1s14/15, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.48	13	P	Pn	10 25 56.0	+0.7
	SNR=29						
UCH	Uchtor	4.76	20	P	Pn	10 25 59.5	+0.6
	SNR=5.9						
KZA	Kyzart	4.86	27	P	Pn	10 26 00.3	+0.2
	SNR=6.8						
EKS2	Erkin-Say	5.01	13	P	Pn	10 26 02.8	+1.1
	SNR=11						
AAK	Ala-Archa	5.14	18	⇑P	Pn	10 26 04.5	+1.1
	2.5nm,0.3s						
AAK				⇑S	Sn	10 27 03.9	+0.3
	6.0nm,0.5s						
AAK	Ala-Archa	5.14	18	P	Pn	10 26 04.6	+1.2
	SNR=7.1						
ULHL	Ulahol	5.40	33	P	Pn	10 26 06.7	-0.1
	SNR=7.0						
KK31	Karatay Array	5.49	346	P	Pn	10 26 09.1	+1.3
	0.9nm,0.2s,baz=152,slow=10,SNR=76						
KK31				⇓S	Sn	10 27 10.4	-1.2
	3.5nm,0.5s,baz=159,slow=22,SNR=10.0						
TKM2	Tokmak 2	5.73	25	⇓P	Pn	10 26 10.1	-0.9
	5.7nm,1.0s						
TKM2				⇑S	Sn	10 27 15.4	-1.9
	2.8nm,0.8s						
MKAR	Makanchi Array	11.66	36	P	Pn	10 27 28.9	+1.4
	0.1nm,0.3s,baz=217,slow=13,SNR=3.2						
ZALV	Zalesovo Beam	18.33	24	P	P	10 28 47.2	+0.9
	0.4nm,0.3s,baz=224,slow=11,SNR=14						
TORD	Torodi Ar. Bea	66.78	269	P	P	10 35 16.7	-0.6
	0.3nm,0.4s,baz=48,slow=6.2,SNR=5.5						

IDC 07 10:44:46.8±1.8, 17°.95N×147°.73E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.2/3, Error ellipse: s-maj=317.8km s-min=28.3km az=113.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	18.02	85	T	T	11 08 33.8	
	baz=276,SNR=12						
H11S1	WAKE ISLAND Hy	18.03	85	T	T	11 08 38.2	
	baz=276,SNR=6.4						
H11S2	WAKE ISLAND Hy	18.03	85	T	T	11 08 42.8	
	baz=276,SNR=6.2						
WRA	Warramunga Arr	39.88	200	P	P	10 52 22.9	+0.2
	0.5nm,0.7s,baz=24,slow=9.3,SNR=5.2						
ASAR	Alice Springs	43.51	199	P	P	10 52 51.9	-0.5
	0.1nm,0.4s,baz=13,slow=6.7,SNR=5.1						
YKA	Yellowknife Ar	77.74	28	P	P	10 56 45.5	0.0
	0.2nm,0.8s,baz=284,slow=4.7,SNR=3.2						

GUC 07 10:54:23.5±0.5, 21°.25S×68°.96W, h122km±3km, ML3.6, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.53	292	⇑iP	Pn	10 54 42.5	+0.5
PB01				i S	Sn	10 54 56.5	+0.4
PB01				AML	AML	10 54 57.2	
	comp=N,2µm,0.3s						
PB09	Plate Boundary	0.61	206	⇑iP	Pn	10 54 43.0	+0.4
PB09				i S	Sn	10 54 57.9	+0.7
PB09				AML	AML	10 54 58.2	
	comp=N,2µm,0.6s						
PB07	Plate Boundary	0.99	241	⇑iP	Pn	10 54 46.8	+0.9
PB07				i S	Sn	10 55 03.7	+0.9
PB07				AML	AML	10 55 04.8	
	comp=E,1µm,0.3s						
PB04	Plate Boundary	1.13	206	⇑iP	Pn	10 54 52.7	+5.7
PB04				i S	Sn	10 55 14.6	+10
PB04				AML	AML	10 55 18.4	
	comp=N,488nm,0.1s						
PATCX	Punta Patache	1.19	290	⇑iP	Pn	10 54 49.1	+1.3
PATCX				i S	Sn	10 55 08.2	+1.9
PATCX				AML	AML	10 55 09.1	
	comp=N,2µm,0.3s						
PB06	Plate Boundary	1.56	201	⇑iP	Pn	10 54 52.6	+0.6
PB06				i S	Sn	10 55 14.8	+1.0
PSGC	Pisagua	1.97	326	⇑iP	Pn	10 54 56.9	0.0
PSGC				i S	Sn	10 55 22.7	+0.4
MNMC	Minimini	2.19	344	⇑iP	Pn	10 55 00.3	+0.4
MNMC				i S	Sn	10 55 28.7	+1.1
MNMC				AML	AML	10 55 33.3	
	comp=N,513nm,0.2s						
CEN1	Los Morros	2.42	208	⇑iP	Pn	10 55 06.4	+3.8
CEN1				i S	Sn	10 55 39.1	+6.5

NNC 07 11:02:50.7±2.8, 38°.83N×71°.25E, h0km, mb3.7, mpv3.3, 7C-7D, Error ellipse: s-maj=21.1km s-min=12.6km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	4.31	353	Pn	Pn	11 03 57.1	-0.4
	1.5nm,0.5s,baz=174,slow=13,SNR=25						
KK31				⇑Pg	Pb	11 04 10.3	+3.0
	1.8nm,0.5s,baz=158,slow=10,SNR=9.7						
KK31				⇑Sn	Sn	11 04 49.9	+1.4
	5.1nm,0.7s,baz=181,slow=24,SNR=3.9						
KK31				⇑Lg	Lg	11 05 09.6	
	5.5nm,0.6s,baz=169,slow=30,SNR=3.6						
AAK	Ala-Archa	4.53	32	⇓Pn	Pn	11 04 01.8	+1.0
	7.2nm,1.4s						
AAK				⇓Pg	Pb	11 04 13.2	+1.9
	5.5nm,0.6s						
AAK				⇑Sn	Sn	11 04 54.5	+0.2
	7.0nm,0.7s						
AAK				⇓Lg	Lg	11 05 14.5	
	8.3nm,0.8s						
TKM2	Tokmak 2	5.25	37	⇓Pn	Pn	11 04 11.0	+0.3
	2.1nm,0.5s						
TKM2				⇑Pg	Pb	11 04 27.5	+3.8
	9.0nm,1.4s						
TKM2				⇑Sn	Sn	11 05 13.5	+1.4
	4.9nm,1.0s						
TKM2				⇓Lg	Lg	11 05 36.7	
	3.4nm,0.7s						
AB31	Akbulak array	13.21	326	⇑P	Pn	11 05 56.7	-2.7
	0.4nm,0.5s						
AB31				⇓S	Sn	11 08 24.2	-2.7
	0.6nm,0.6s						
AKTO	Aktyubinsk	14.92	325	⇓P	Pn	11 06 20.0	-2.8
	2.1nm,0.9s						

CSEM 07 11:03:46.3, 37°.68N×25°.22W, h2km, ML2.4, After PDA
PDA 07 11:03:46.3±0.6, 37°.68N×25°.22W, h2km, MD3.6, ML2.4, Error ellipse: s-maj=7.4km s-min=1.2km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.36	281	eP	Pg	11 03 52.7	-0.5
PDA				eS	Sg	11 03 57.8	-0.1
PDA				A	A	11 03 59.7	
	238nm,0.3s						
PDA	Ponta Delgada	0.36	281	eP	Pg	11 03 52.7	-0.5
PDA				eS	Sg	11 03 57.8	-0.1
PSET	Sete Cidades	0.43	290	eP	Pg	11 03 53.9	-0.7
PSET				eS	Sg	11 04 00.0	-0.2
PSET				A	A	11 04 06.4	
	734nm,0.4s						
PSET	Sete Cidades	0.43	290	eP	Pg	11 03 53.9	-0.7
PSET				eS	Sg	11 04 00.0	-0.2
PSMN	Pico do Norte,	0.68	170	eP	Pg	11 03 58.2	-1.2
PSMN				eS	Sg	11 04 06.6	-1.7
PSMN				A	A	11 04 09.7	
	24nm,0.1s						
PSMN	Pico do Norte,	0.68	170	eP	Pg	11 03 58.2	-1.2
PSMN				eS	Sg	11 04 06.6	-1.7
PSMA	Santa Maria	0.68	174	eP	Pg	11 03 58.0	-1.4
PSMA				eS	Sg	11 04 06.7	-1.6
PSMA				A	A	11 04 09.0	
	51nm,0.4s						

JMA 07 11:26:47.8±0.2, 37°.22N×142°.15E, h28km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	1.03	279	P	Pn	11 27 06.3	-0.1
JFK				S	Sn	11 27 19.6	-0.3
ONAJ	Iwakimizuishiy	1.09	264	P	Pn	11 27 07.1	-0.1
ONAJ				eS	Sn	11 27 21.4	0.0
JMM	Marumori	1.26	301	P	Pn	11 27 09.7	+0.2
JIO	Ouri	1.39	333	P	Pn	11 27 11.5	+0.2
JHO	Hitachi	1.41	245	P	Pn	11 27 11.4	-0.2
JFT	Otama	1.48	282	P	Pb	11 27 13.8	-0.8
JOU	Okura	1.64	315	P	Pn	11 27 15.9	+1.1
JOU				S	Sn	11 27 36.3	+1.3
JMK	Ichinoseki	1.88	337	P	Pn	11 27 19.4	+1.4
MAT	Matsushiro	3.23	259	P	Pn	11 27 39.5	+2.8
MAT				eS	Sn	11 28 17.2	+2.9

IDC 07 11:35:26.1±3.6, 23°.47S×68°.25W, h83km±31km, mb3.6/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=55.8km s-min=23.3km az=107.0
ISCJB 07 11:35:27.2±0.5, 23°.54S±0°.04×68°.43W±0°.07, h120km±7km, mb3.6/2, Error ellipse: s-maj=9.9km s-min=5.9km az=173.9
NEIC 07 11:35:28.4, 23°.41S×68°.57W, h127km, MG4.0(GUC), After GUC.
GUC 07 11:35:29.0±0.4, 23°.45S×68°.50W, h111km±3km, ML3.9
SJA 07 11:35:56.6±0.4, 25°.83S×68°.37W, h206km±13km, ML3.2, MW3.6
ISC 07 11:35:28.3±0.9, 23°.50S±0°.05×68°.41W±0°.06, h116km±8km, n32, σ1s22/46, 12D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.62	18	eP	Pn	11 35 47.8	+0.7
SPCH				i S	Sn	11 36 01.6	+0.5
SPCH	San Pedro de A	0.62	18	eP	Pn	11 35 48.6	+1.5
SPCH				S	Sn	11 36 01.4	+0.3
LVC	Limon Verde	1.00	332	ePn	Pn	11 35 49.8	-0.5
LVC				eSn	Sn	11 36 05.9	-0.9

PB06	**Plate Boundary**	**1.33 306**	⇓	*i* P	**Pn**	**11 35 53.5**	**-0.2**
PB06				*i* S	**Sn**	**11 36 12.4**	**-0.6**
PB06				AML	AML	11 36 14.8	
	comp=E,2µm,0.6s						
PB06	**Plate Boundary**	**1.33 306**	⇓	*i* P	**Pn**	**11 35 53.5**	**-0.2**
PB06				*i* S	**Sn**	**11 36 12.4**	**-0.6**
PB04	**Plate Boundary**	**1.58 321**		*e*P	Pn	11 36 00.9	+4.5
PB04				*i* S	Sn	11 36 25.8	+8.0
PB04				AML	AML	11 36 36.8	
	comp=N,766nm,0.3s						
PB04	**Plate Boundary**	**1.58 321**	⇓	*i* P	Pn	11 36 00.9	+4.5
PB04				*i* S	Sn	11 36 25.5	+7.7
CEN1	**Los Morros**	**1.65 273**	⇓	*i* P	**Pn**	**11 35 59.6**	**+2.3**
CEN1				*i* S	**Sn**	**11 36 22.5**	**+3.0**
CEN1	**Los Morros**	**1.65 273**	⇓	*i* P	**Pn**	**11 35 59.6**	**+2.3**
CEN1				*i* S	**Sn**	**11 36 22.5**	**+3.0**
ANCH	**Antofagasta**	**1.84 264**	⇓	*i* P	**Pn**	**11 35 59.5**	**-0.2**
ANCH				*i* S	**Sn**	**11 36 22.8**	**-0.8**
ANCH	**Antofagasta**	**1.84 264**	⇓	*i* P	**Pn**	**11 35 59.5**	**-0.2**
ANCH				*i* S	**Sn**	**11 36 22.8**	**-0.8**
PB09	**Plate Boundary**	**1.86 335**	⇓	*i* P	**Pn**	**11 36 00.2**	**+0.1**
PB09				*i* S	**Sn**	**11 36 24.0**	**-0.2**
PB09				AML	AML	11 36 28.9	
	comp=N,2µm,0.5s						
PB09	**Plate Boundary**	**1.86 335**	⇓	*i* P	**Pn**	**11 36 00.1**	**0.0**
PB09				*i* S	**Sn**	**11 36 24.0**	**-0.2**
PB10	**Plate Boundary**	**1.97 269**		*e*P	**Pn**	**11 36 15.5**	**+0.3**
PB10				*i* S	**Sn**	**11 36 26.0**	**-0.3**
PB10				AML	AML	11 36 34.6	
	comp=N,1µm,0.7s						
PB07	**Plate Boundary**	**2.23 322**	⇓	*i* P	**Pn**	**11 36 04.2**	**-0.5**
PB07				*i* S	**Sn**	**11 36 31.6**	**-0.9**
PB07				AML	AML	11 36 35.8	
	comp=N,743nm,0.4s						
PB07	**Plate Boundary**	**2.23 322**	⇓	*i* P	**Pn**	**11 36 04.2**	**-0.5**
PB07				*i* S	**Sn**	**11 36 31.3**	**-1.2**
PB01	**Plate Boundary**	**2.64 338**		*e*P	**Pn**	**11 36 09.0**	**-0.9**
PB01				*i* S	**Sn**	**11 36 40.3**	**-1.6**
PB01				AML	AML	11 36 46.7	
	comp=E,870nm,0.3s						
PB01	**Plate Boundary**	**2.64 338**	⇓	*i* P	**Pn**	**11 36 09.0**	**-0.9**
PB01				*i* S	**Sn**	**11 36 40.8**	**-1.1**
LCO	**Las Campanas**	**5.86 200**		*e*Pn	**Pn**	**11 36 51.4**	**-1.7**
	comp=E,136nm,0.5s						
AGUA	**GUANDACOL**	**5.96 181**		*e*P	**Pn**	**11 36 55.1**	**+0.8**
AGUA				*e*S	Sn	11 37 38.2	-23
ACLC	**CERRO LA CRUZ**	**6.04 168**		*e*P	**Pn**	**11 36 56.8**	**+1.3**
ACLC				*e*S	Sn	11 37 41.7	-22
AVFE	**Valle Fertil**	**7.18 173**		*e*P	**Pn**	**11 37 10.6**	**-0.2**
AVFE				IAML		11 39 09.3	
	comp=Z,13nm,0.6s						
AMOG	**MOGNA**	**7.41 181**		*e*P	**Pn**	**11 37 12.9**	**-0.9**
RTLL	**Cerro Villicun**	**7.80 180**		*e*P	**Pn**	**11 37 18.2**	**-0.9**
CFAA	**Coronel Fontan**	**8.07 179**		P	**Pn**	**11 37 22.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=352,slow=14,SNR=16						
CFAA				S	**Sn**	**11 38 50.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=2.6						
RTLS	**Leoncito**	**8.30 185**		*e*P	**Pn**	**11 37 25.3**	**-0.8**
AUSP	**Uspallata**	**8.73 185**		*e*P	**Pn**	**11 37 30.8**	**-1.1**
ASAL	**Salagasta**	**9.06 182**		*e*P	**Pn**	**11 37 34.4**	**-1.8**
SIV	**San Ignacio**	**10.17 44**		P	Pn	11 37 47.4	-3.9
	comp=Z,3.5nm,0.3s,baz=252,slow=12,SNR=34						
SIV				S	Sn	11 39 32.8	-11
	comp=Z,0.3nm,0.3s,baz=146,slow=18,SNR=2.4						
TORD	**Torodi Ar. Bea**	**77.60 70**		P	**P**	**11 47 12.8**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=240,slow=5.4,SNR=16						
YKA	**Yellowknife Ar**	**93.22 340**		P	**P**	**11 48 30.3**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=138,slow=4.6,SNR=8.0						
MKAR	**Makanchi Array**	**146.95 38**		PKPbc	**PKPbc**	**11 54 58.4**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=318,slow=1.6,SNR=4.1						

*CSEM **07** 11:42:46.1,51.1′31N×16.1′09E,h0km,After GFU*
PRU 07 11:42:43.2,51.1′41N×16.1′10E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.58**	**168**	*e*Pg	Pg	11 42 54.4	0.0
KSP				*e*Sg	Sg	11 43 02.6	+0.7
UPC	**Upice**	**0.91**	**184**	*e*PG	Pg	11 43 00.8	+0.2
UPC				*e*SG	Sg	11 43 12.4	0.0
UPC	**Upice**	**0.91**	**184**	Pg	Pg	11 43 00.8	+0.2
UPC				Sg	Sg	11 43 12.4	0.0
DPC	**Dobruska-Polom**	**1.07**	**172**	*e*PG	Pg	11 43 02.7	-1.1
DPC				*e*SG	Sg	11 43 17.3	-0.5
DPC	**Dobruska-Polom**	**1.07**	**172**	Pg	Pg	11 43 02.7	-1.1
DPC				Sg	Sg	11 43 17.3	-0.5
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG	Pn	11 43 09.1	+0.3
PVCC				*e*SG	Sg	11 43 25.6	+0.3
	comp=Z,16nm,0.2s						
PVCC	**Panska Ves**	**1.31**	**228**	Pg	Pn	11 43 09.1	+0.3
PVCC				Sg	Sg	11 43 25.6	+0.3
	16nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**249**	PG	Pn	11 43 09.4	-1.4
BRG				SG	Sg	11 43 29.8	-0.4
	8.1nm,0.4s						
PRU	**Pruhonice**	**1.73**	**215**	*e*SG	Sn	11 43 37.4	0.0
	comp=Z,3.3nm,0.4s						
PRU	**Pruhonice**	**1.73**	**215**	Sg	Sn	11 43 37.4	0.0
	3.3nm,0.4s						
CLL	**Collm**	**1.94**	**268**	*e*Sg	Sb	11 43 44.0	-0.3
NKC	**Novy Kostel**	**2.60**	**244**	*e*SG	Sg	11 44 07.0	+0.2
	comp=Z,3.7nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**244**	Sg	Sg	11 44 07.0	+0.2
	3.7nm,0.3s						

*CSEM **07** 11:43:43.1±0.9,50.1′50N×18.1′92E,h1km,Error ellipse: s-maj=13.5km s-min=9.5km az=56.0*
PRU 07 11:43:44.4,50.1′39N×18.1′87E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.13**	**142**	*e*Pg	Pg	11 43 46.6	-0.2
CHZP				*e*Sg	Sg	11 43 48.4	-0.1
OJC	**Ojcow**	**0.62**	**106**	*e*Pg	Pg	11 43 55.8	-0.5
OJC				*e*Sg	Sg	11 44 07.4	+0.3
OKC	**Ostrava-Krasne**	**0.72**	**220**	*e*PG	Pg	11 43 58.0	-0.3
OKC				*e*SG	Sg	11 44 07.6	-0.1
	comp=Z,5.6nm,0.3s						
OKC	**Ostrava-Krasne**	**0.72**	**220**	Pg	Pg	11 43 58.0	-0.3
OKC				Sg	Sg	11 44 07.6	-0.1
	5.6nm,0.3s						
MORC	**Moravsky Berou**	**1.05**	**235**	*e*Pg	Pg	11 44 05.0	+0.3
MORC				*e*Sg	Sg	11 44 18.8	+0.4
NIE	**Niedzica**	**1.35**	**136**	*e*Pg	Pg	11 44 10.1	-0.2
NIE				*e*Sg	Sg	11 44 27.7	-0.1
KRLC	**Kraliky**	**1.38**	**258**	*e*SG	Sb	11 44 29.1	-0.2
KRLC	**Kraliky**	**1.38**	**258**	Sg	Sb	11 44 29.1	-0.2
DPC	**Dobruska-Polom**	**1.63**	**270**	*e*PG	Pn	11 44 14.5	0.0
DPC				*e*SG	Sn	11 44 36.2	0.0
DPC	**Dobruska-Polom**	**1.63**	**270**	Pg	Pn	11 44 14.5	0.0
DPC				Sg	Sn	11 44 36.2	0.0

*IDC **07** 11:47:11.7±1.1,8.7′0S×157.1′43E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.8/19,mbtmp3.9/6,ML3.9/1,MS2.9/2, Ms1 2.9/2,ms1mx2.7/27,Error ellipse: s-maj=32.6km s-min=14.0km az=10.0*
*ISCJB **07** 11:47:12.7±1.1,8.8′S±0.2′×157.1′4E±0.1′,h17km,mb3.8/5, Error ellipse: s-maj=27.2km s-min=20.3km az=176.3*
ISC 07 11:47:14.3±1.0,8.8′S±0.2′×157.1′49E±0.1′0,h17km,n13, σ0s68/7,mb4.0/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.52**	**106**	Pn	**Pn**	**11 47 54.3**	**-0.2**
	26nm,0.3s,baz=164,slow=6.0,SNR=12						
HNR				Pg	**Pg**	**11 47 59.3**	**+0.2**
	81nm,0.3s,baz=191,slow=5.2,SNR=20						
HNR				LR	LR	11 48 20.1	
	comp=Z,241nm,18.8s,baz=59,slow=26						
HNR				Lg	Lg	11 48 34.1	
	70nm,0.3s,baz=102,slow=19,SNR=7.9						
PMG	**Port Moresby**	**10.22**	**266**	LR	LR	11 52 59.0	
	comp=Z,61nm,21.5s,baz=245,slow=34						
WRA	**Warramunga Ar**	**24.99**	**241**	P	**P**	**11 52 37.4**	**-0.1**
	2.5nm,0.6s,baz=66,slow=9.4,SNR=22						
ASAR	**Alice Springs**	**27.00**	**234**	P	**P**	**11 52 54.6**	**-0.9**
	0.8nm,0.9s,baz=63,slow=9.5,SNR=6.7						
STKA	**Stephens Creek**	**27.33**	**210**	P	**P**	**11 52 59.0**	**+0.5**
	1.1nm,0.5s,baz=48,slow=15,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	12 21 35.4	
	baz=200,slow=77,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	12 21 33.9	
	baz=200,slow=77,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.58**	**19**	T	T	12 21 54.0	
	baz=200,slow=77,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**29.77**	**18**	T	T	12 23 40.2	
	baz=179						
H11N3	**WAKE ISLAND Hy**	**29.78**	**18**	T	T	12 23 37.8	
	baz=179						
H11N2	**WAKE ISLAND Hy**	**29.79**	**18**	T	T	12 23 35.2	
	baz=179						
CMAR	**Chiang Mai Arr**	**63.77**	**295**	P	**P**	**11 57 46.5**	**+0.6**
	0.7nm,0.6s,baz=129,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**86.36**	**318**	P	**P**	**11 59 55.2**	**-0.5**
	1.0nm,0.7s,baz=101,slow=5.3,SNR=9.9						

*IDC **07** 12:00:45.7±2.8,6.6′62S×129.0′09E,h0km,mb3.5/1, mb1 3.8/3,mb1mx3.5/18,mbtmp3.6/3,ML3.8/2,MS3.7/1, Ms1 3.7/1,ms1mx2.8/26,Error ellipse: s-maj=270.1km s-min=31.2km az=68.0*
*ISCJB **07** 12:00:57.5±0.7,6.6′61S±0.0′04×130.0′5E±0.0′.1,h146km, mb3.2/1,Error ellipse: s-maj=14.5km s-min=5.9km az=3.5*
ISC 07 12:00:58.6±0.9,6.6′61S±0.0′06×130.0′4E±0.0′.1,h146km,n12, σ2s31/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.12**	**27**	P	**Pn**	**12 01 59.9**	**-0.4**
	baz=4.1,SNR=27						
FAKI				S	**Sn**	**12 02 45.7**	**-2.7**
	baz=4.1,SNR=14						
MTN	**Manton Dam**	**6.24**	**173**	P	**Pn**	**12 02 29.8**	**+1.4**
	baz=6.3,SNR=47						
MTN				S	**Sn**	**12 03 38.0**	**-0.7**
	baz=6.3,SNR=12						
KDU	**Kakadu**	**6.38**	**161**	P	**Pn**	**12 02 31.9**	**+1.5**
	baz=6.5,SNR=89						
KDU				S	**Sn**	**12 03 40.5**	**-1.8**
	baz=6.5,SNR=8.1						
SOEI	**Soe**	**6.79**	**242**	P	**Pn**	**12 02 37.0**	**+1.0**
	baz=6.8,SNR=5.6						
KNRA	**Kununurra**	**9.14**	**190**	P	**Pn**	**12 03 06.8**	**-0.4**
	baz=9.2,SNR=74						
KNRA				S	**Sn**	**12 04 43.0**	**-5.8**
	baz=9.2,SNR=5.5						
WRA	**Warramunga Arr**	**13.80**	**164**	Pn	**Pn**	**12 04 07.4**	**-0.8**
	0.5nm,0.3s,baz=337,slow=15,SNR=36						
WRA				Sn	Sn	12 06 33.6	-7.5
	2.0nm,0.3s,baz=352,slow=20,SNR=15						
COEN	**Coen**	**14.56**	**121**	P	**P**	**12 04 21.2**	**+0.9**
	baz=15,SNR=5.5						
QIS	**Mount Isa**	**16.51**	**148**	P	**P**	**12 04 44.9**	**+3.1**
	baz=17,SNR=3.1						
ASAR	**Alice Springs**	**17.30**	**169**	P	**Pn**	**12 04 52.8**	**+1.5**
	0.3nm,0.3s,baz=344,slow=10,SNR=24						
ASAR				S	S	12 07 54.5	-8.8
	0.2nm,0.3s,baz=337,slow=19,SNR=4.0						
WRKA	**Warakurna**	**18.43**	**186**	P	**Pn**	**12 05 05.4**	**+0.6**
	baz=19,SNR=10						
MJAR	**Matsushiro Arr**	**43.55**	**9**	LR	LR	12 23 07.5	
	comp=Z,84nm,20.4s,baz=30,slow=31						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**12 11 43.1**	**+0.5**
	0.2nm,0.4s,baz=116,slow=8.2,SNR=6.4						

IDC 07 12:19:56.6±55.0,17.1′1S×175.1′48W,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.6/19,mbtmp3.6/3,Error ellipse: s-maj=1033.0km s-min=175.1km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.46**	**241**	P	P	12 27 46.2	+0.8
	0.8nm,0.7s,baz=73,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**47.53**	**258**	P	P	12 28 33.9	-0.3
	0.2nm,0.3s,baz=97,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**47.70**	**253**	P	P	12 28 34.8	-0.7
	0.3nm,0.5s,baz=86,slow=8.3,SNR=7.7						

CASC 07 12:27:40.3±3.2,8.2′1N×82.2′83W,h23km±14km,MD3.8,1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.60**	**13**	⇓ *i* P	Pb	12 27 51.3	-1.1
BRU2				*e*S	Sb	12 28 00.2	-0.3
TBS2		**0.61**	**16**	*e*P	Pb	12 27 52.7	+0.1
TBS2				*e*S	Sn	12 28 03.8	+0.8
BRU	**Baru**	**0.65**	**24**	*e*P	Pb	12 27 52.1	-1.6
CTCR	**Cotoan**	**0.69**	**6**	*e*P	Pn	12 28 00.2	+5.2
BUS	**Buona Vista**	**1.62**	**326**	*e*P	Pn	12 28 07.3	-0.9
QCR	**Quepos**	**1.79**	**313**	*e*P	Pn	12 28 09.2	-0.7
QCR				*e*S	Sn	12 28 31.8	-0.1
URSC	**Urasca**	**1.87**	**330**	*e*P	Pn	12 28 11.2	+0.1
URSC				*e*S	Sn	12 28 34.6	+0.3
SJS	**Escuela Geolog**	**2.10**	**325**	*e*P	Pn	12 28 14.0	-0.3
CGA2	**Cerro Gallo 2**	**2.42**	**318**	*e*P	Pn	12 28 20.7	+2.0
CGA2				*e*S	Sn	12 28 50.2	+2.5
PTP	**Ponta Puerca**	**19.48**	**58**	*e*P	x	12 27 44.4	

*IDC **07** 12:30:05.9±0.8,8.7′3S×157.1′58E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/19,mbtmp3.7/8,ML3.5/1,MS3.5/2, Ms1 3.5/2,ms1mx2.9/27,Error ellipse: s-maj=27.0km s-min=13.6km az=6.0*
*ISCJB **07** 12:30:07.0±0.8,8.8′S±0.2′×157.1′6E±0.1′,h17km,mb3.6/7, MS4.0/1,Error ellipse: s-maj=24.1km s-min=16.0km az=161.3*
ISC 07 12:30:08.3±0.8,8.8′S±0.2′×157.1′69E±0.1′09,h17km,n11, σ0s94/12,mb3.7/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.31**	**106**	Pn	**Pn**	**12 30 45.5**	**-0.1**
	12nm,0.3s,baz=270,slow=5.1,SNR=14						
HNR				Pg	**Pg**	**12 30 51.9**	**-0.8**
	40nm,0.3s,baz=260,slow=11,SNR=17						
HNR				Lg	Lg	12 31 22.8	
	54nm,0.3s,baz=68,slow=17,SNR=6.0						
HNR	**Honiara**	**2.31**	**106**	*e*P	**Pn**	**12 30 46.0**	**+0.4**
PMG	**Port Moresby**	**10.42**	**266**	LR	LR	12 36 14.1	
	comp=Z,79nm,21.7s,baz=288,slow=36						
WRA	**Warramunga Arr**	**25.15**	**241**	P	**P**	**12 35 32.0**	**-0.9**
	1.6nm,1.0s,baz=67,slow=9.3,SNR=7.5						
WRA				PcP	**PcP**	**12 39 06.8**	**-0.1**
	0.3nm,0.6s,baz=69,slow=3.0,SNR=5.4						
ASAR	**Alice Springs**	**27.13**	**234**	P	**P**	**12 35 49.8**	**-1.0**
	0.4nm,0.9s,baz=67,slow=9.5,SNR=3.6						
ASAR				PcP	**PcP**	**12 39 11.4**	**0.0**
	0.3nm,0.7s,baz=68,slow=0.9,SNR=5.0						
STKA	**Stephens Creek**	**27.39**	**211**	P	**P**	**12 35 54.6**	**+1.6**
	1.4nm,0.7s,baz=20,slow=13,SNR=5.2						
FITZ	**Fitzroy Crossi**	**32.46**	**250**	LR	LR	12 48 14.5	
	comp=Z,272nm,19.3s,baz=299,slow=34						
CMAR	**Chiang Mai Arr**	**63.97**	**295**	P	**P**	**12 40 41.0**	**-0.2**
	0.7nm,0.8s,baz=125,slow=5.1,SNR=5.4						
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**12 42 49.6**	**-0.9**
	0.3nm,0.6s,baz=98,slow=6.3,SNR=4.7						
NVAR	**Mina Array Bea**	**90.75**	**51**	P	**P**	**12 43 12.4**	**+1.4**
	1.1nm,0.8s,baz=248,slow=7.8,SNR=7.7						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**12 43 37.5**	**+0.1**
	0.2nm,0.7s,baz=272,slow=4.9,SNR=4.1						

*ISCJB **07** 12:35:15.3±0.3,7.8′8S±0.0′03×118.1′98E±0.0′04,h34km, mb4.2/8,MS3.4/2,Error ellipse: s-maj=6.1km s-min=4.1km az=165.0*
*DJA **07** 12:35:16.5±1.3,8.8′S±4.4′×11.1′9E±.1′,h24km±19km,M4.5/10, mb4.7/1,mB4.9/1,MLv4.4/10,Mw(mB)4.2/1*
*IDC **07** 12:35:17.6±0.7,7.8′1S×119.0′1E,h39km±5km,mb4.0/7, mb1 4.1/8,mb1mx3.8/24,mbtmp4.0/8,ML4.0/1,MS3.4/2, Ms1 3.5/2,ms1mx2.9/29,Error ellipse: s-maj=54.6km s-min=12.8km az=59.0*
*NEIC **07** 12:35:17.1±0.4,7.8′0S×119.0′7E,h35km,mb4.0/2,Error ellipse: s-maj=15.7km s-min=5.4km az=64.0*
ISC 07 12:35:17.4±0.5,7.8′3S±0.0′5×119.0′3E±0.0′6,h34km, h34km:pP-P,n58,σ1s15/64,mb4.2/8,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**1.07**	**128**	P	x	12 35 34.5	
LBFI				S	x	12 35 48.3	

WSI	**Waingapu**	**2.22**	**146**	S	Sn	12 36 01.8	-16
	baz=0.7,SNR=3.7						
BKSI	**Bulukumba**	**2.71**	**24**	P	**Pn**	**12 35 58.4**	**-0.3**
BKSI				S	**Sn**	**12 36 30.8**	**+0.5**
KAPI	**Kappang**	**2.88**	**14**	*e*Pn	**Pn**	**12 36 00.5**	**-0.5**
BNSI	**Bone**	**3.57**	**17**	P	**Pn**	**12 36 11.5**	**+1.1**
BNSI				S	**Sn**	**12 36 54.0**	**+2.6**
SRBI	**Singaraja**	**3.79**	**266**	P	**Pn**	**12 36 11.7**	**-1.8**
DNP	**Denpasar**	**3.88**	**257**	P	**Pn**	**12 36 17.5**	**+2.8**
SPSI	**Sidrap Palu**	**3.90**	**11**	P	**Pn**	**12 36 16.0**	**+0.9**
SPSI				S	**Sn**	**12 37 01.0**	**+1.3**
KKSI	**Kolaka, Sulawe**	**4.47**	**36**	P	x	12 36 25.6	
JAGI	**Jajag, Banyuwa**	**4.87**	**262**	P	**Pn**	**12 36 26.9**	**-1.5**
MMSI	**Mamuju**	**5.10**	**359**	P	x	12 36 31.6	
GMJI	**Gumukmas**	**5.55**	**265**	P	Pn	12 36 43.9	+6.2
KNRA	**Kununurra**	**12.31**	**130**	P	**Pn**	**12 38 08.9**	**-1.6**
	baz=11,SNR=3.6						
MTN	**Manton Dam**	**12.90**	**114**	P	**Pn**	**12 38 16.3**	**-2.3**
	baz=12,SNR=4.4						
KKM	**Kota Kinabalu**	**14.06**	**348**	Pn	**Pn**	**12 38 33.1**	**-1.4**
KDU	**Kakadu**	**14.08**	**111**	P	Pn	12 38 27.5	-7.1
	baz=13,SNR=4.6						
KDU				S	Sn	12 40 55.2	-15
	baz=13,SNR=3.4						
MEEK	**Meekatharra**	**18.71**	**181**	P	**Pn**	**12 39 35.5**	**+1.7**
	baz=18,SNR=3.7						
WRA	**Warramunga Arr**	**19.11**	**131**	P	**P**	**12 39 36.5**	**-1.1**
WRA	**Warramunga Arr**	**19.11**	**131**	P	**P**	**12 39 36.5**	**-1.1**
	0.4nm,0.3s,baz=307,slow=12,SNR=26						
WRAB	**Tennant Creek**	**19.11**	**131**	*e*P	**P**	**12 39 36.5**	**-1.1**
	3.2nm,0.6s						
WRKA	**Warakurna**	**19.27**	**154**	P	**P**	**12 39 39.8**	**+0.4**
	baz=18,SNR=6.5						
AS31	**Alice Springs**	**21.25**	**140**	*e*P	**P**	**12 40 00.5**	**-0.4**
ASAR	**Alice Springs**	**21.25**	**140**	P	**P**	**12 40 00.7**	**-0.2**
ASAR				PcP	**PcP**	**12 44 03.8**	**-1.5**
ASAR	**Alice Springs**	**21.25**	**140**	P	**P**	**12 40 00.7**	**-0.2**
	5.3nm,0.6s,baz=324,slow=13,SNR=54						
ASAR				PcP	**PcP**	**12 44 03.8**	**-1.5**
	0.2nm,0.5s,baz=317,slow=1.3,SNR=4.7						
MORW	**Morawa**	**21.32**	**187**	P	**P**	**12 40 04.4**	**+2.9**
	baz=20,SNR=3.7						
BLDU	**Ballidu**	**22.78**	**185**	P	**P**	**12 40 16.6**	**-0.5**
	baz=22,SNR=15						
QIS	**Mount Isa**	**23.58**	**125**	P	**P**	**12 40 25.3**	**0.0**
	baz=22,SNR=7.0						
COEN	**Coen**	**24.47**	**107**	P	**P**	**12 40 33.7**	**+0.2**
	baz=23,SNR=4.9						
NWAO	**Narrogin (SRO)**	**25.03**	**184**	P	**P**	**12 40 38.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**25.03**	**184**	P	**P**	**12 40 38.1**	**-0.4**
	12nm,0.8s,baz=346,slow=10,SNR=6.0						
RKGY	**Rocky Gully**	**26.72**	**184**	P	**P**	**12 40 57.3**	**+3.6**
	baz=26,SNR=4.5						
BBOO	**Buckleboo**	**29.45**	**150**	P	**P**	**12 41 17.9**	**-0.3**
	baz=28,SNR=7.0						
HTT	**Hallett**	**31.43**	**147**	P	**P**	**12 41 36.1**	**+0.4**
	baz=30,SNR=3.1						
STKA	**Stephens Creek**	**31.84**	**142**	P	**P**	**12 41 39.6**	**+0.3**
STKA				pP	**pP**	**12 41 51.0**	**+1.9**
STKA	**Stephens Creek**	**31.84**	**142**	P	**P**	**12 41 39.6**	**+0.3**
	2.9nm,0.6s,baz=308,slow=6.2,SNR=13						
STKA				pP	**pP**	**12 41 51.0**	**+1.9**
	2.8nm,0.5s,baz=318,slow=9.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**32.79**	**323**	LR	LR	12 56 48.2	
	comp=Z,48nm,19.7s,baz=60,slow=39						
TAPN	**Taplejung**	**46.29**	**320**	*e*P	**P**	**12 43 40.6**	**+0.2**
RAMN	**Ramite**	**46.72**	**319**	*e*P	**P**	**12 43 44.2**	**+0.4**
	15nm,0.8s						
JIRN	**Jiri**	**47.47**	**319**	*e*P	**P**	**12 43 49.8**	**+0.1**
	14nm,0.8s						
MJAR	**Matsushiro Arr**	**47.66**	**21**	LR	LR	13 05 12.5	
	comp=Z,57nm,18.1s,baz=45,slow=38						
GUN	**Gumba**	**47.85**	**319**	*e*P	**P**	**12 43 52.5**	**-0.1**
	36nm,0.9s						
PKI	**Pulchoki**	**47.92**	**319**	*e*P	**P**	**12 43 53.3**	**+0.1**
	13nm,0.8s						
DMN	**Daman**	**48.15**	**318**	*e*P	**P**	**12 43 54.6**	**-0.2**
	18nm,0.8s						
GKN	**Gorkha**	**48.72**	**318**	*e*P	**P**	**12 43 58.7**	**-0.4**
	10nm,0.6s						
KOLN	**Koldanda**	**49.26**	**317**	*e*P	**P**	**12 44 02.9**	**-0.4**
	20nm,0.8s						
DANN	**Dangsing**	**49.53**	**318**	*e*P	**P**	**12 44 05.0**	**-0.5**
	40nm,0.7s						
NFK	**Norfolk Island**	**50.54**	**121**	P	P	12 44 18.4	+5.5
	baz=49,SNR=3.7						
MK31	**Makanchi Array**	**63.43**	**333**	*e*P	**P**	**12 45 43.6**	**-0.2**
MKAR	**Makanchi Array**	**63.43**	**333**	P	**P**	**12 45 43.6**	**-0.2**
MKAR				pP	**pP**	**12 45 54.9**	**+0.6**
MKAR	**Mak

DURS	**Dursunbey**	**1.30**	**244**	*i* P		**Pb**	**12 40 31.7**	**-0.1**
DURS				*i* S		**Sg**	**12 40 50.9**	**+1.7**
DURS	**Dursunbey**	**1.30**	**244**	*i* P		**Pb**	**12 40 31.7**	**-0.1**
DURS				*i* S		**Sg**	**12 40 50.9**	**+1.7**
BGKT	**Bogazkoy**	**1.37**	**318**	*e*PN		**Pn**	**12 40 31.5**	**-0.8**
BGKT	**Bogazkoy**	**1.37**	**318**	*e*Pn		**Pn**	**12 40 31.5**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.38**	**121**	*e*PN		**Pb**	**12 40 32.9**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.38**	**121**	*e*Pn		**Pb**	**12 40 32.9**	**-0.3**
DEMI	**Demirci**	**1.50**	**222**	*i* P		**Pg**	**12 40 36.2**	**+0.1**
DEMI				*i* S		**Sg**	**12 40 57.8**	**+2.3**
DEMI	**Demirci**	**1.50**	**222**	*i* P		**Pg**	**12 40 36.2**	**+0.1**
DEMI				*i* S		**Sg**	**12 40 57.8**	**+2.3**
CTKS	**Kestanelik-??a**	**1.55**	**314**	*e*PN		**Pn**	**12 40 34.1**	**-0.7**
CTKS	**Kestanelik-??a**	**1.55**	**314**	*e*Pn		**Pn**	**12 40 34.1**	**-0.7**
SGKT	**Sivrigoynuk**	**1.62**	**75**	*i* P		**Pb**	**12 40 36.7**	**-0.7**
SGKT				*i* S		**Sg**	**12 41 01.1**	**+1.5**
SGKT	**Sivrigoynuk**	**1.62**	**75**	*i* P		**Pb**	**12 40 36.7**	**-0.7**
SGKT				*i* S		**Sg**	**12 41 01.1**	**+1.5**
BOLV	**Bolvadin**	**1.63**	**153**	*i* P		**Pb**	**12 40 37.7**	**+0.2**
BOLV				*i* S		**Sg**	**12 40 59.4**	**-0.3**
BOLV	**Bolvadin**	**1.63**	**153**	*i* P		**Pb**	**12 40 37.7**	**+0.2**
BOLV				*i* S		**Sg**	**12 40 59.4**	**-0.3**
BCAM	**Yenicaga**	**1.71**	**67**	*i* P		**Pn**	**12 40 37.2**	**+0.1**
BCAM				*i* S		**Sg**	**12 41 04.0**	**+1.8**
BCAM	**Yenicaga**	**1.71**	**67**	*i* P		**Pn**	**12 40 37.2**	**+0.1**
BCAM				*i* S		**Sg**	**12 41 04.0**	**+1.8**
KHAL	**Karahalli**	**1.84**	**192**	*i* P		**Pb**	**12 40 40.5**	**-0.5**
KHAL				*i* S		**Sg**	**12 41 05.7**	**-0.8**
KHAL	**Karahalli**	**1.84**	**192**	*i* P		**Pb**	**12 40 40.5**	**-0.5**
KHAL				*i* S		**Sg**	**12 41 05.7**	**-0.8**

BUC 07 12:41:03.8±1.0, 44°36N×28°57E, h14$^{km}_{\pm 3km}$, MD1.9/2, 2C-6D, Error ellipse: s-maj=11.6km s-min=7.9km az=32.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIRR	**Tirgusor**	**0.15**	**311**	⇑*i*P	Pg	12 41 07.6	+0.1
TIRR				S	Sg	12 41 10.6	+0.6
TIRR	**Tirgusor**	**0.15**	**311**	⇑*i*P	Pg	12 41 07.6	+0.1
TIRR				*i* S	Sg	12 41 10.6	+0.6
TLB	**Topalu**	**0.44**	**301**	⇓*i*P	Pg	12 41 12.9	+0.4
TLB				S	Sb	12 41 19.9	+0.1
TLB	**Topalu**	**0.44**	**301**	⇓*i*P	Pg	12 41 12.9	+0.4
TLB				*i* S	Sb	12 41 19.9	+0.1
TLB	**Topalu**	**0.44**	**301**	⇓*i*P	Pg	12 41 12.9	+0.4
CFR	**Carcaliu**	**0.87**	**340**	⇓*i*P	Pb	12 41 20.9	+0.2
CFR				S	Sb	12 41 33.1	+0.8
CFR	**Carcaliu**	**0.87**	**340**	⇓*i*P	Pb	12 41 20.9	+0.2
CFR				*i* S	Sb	12 41 33.1	+0.8
CFR	**Carcaliu**	**0.87**	**340**	⇓*i*P	Pb	12 41 20.9	+0.2

*ISCJB **07** 12:44:04.1±0.3, 25°.98N±0°.03×105°.27E±0°.04, h10km, mb3.9/19, MS2.8/1, Error ellipse: s-maj=5.5km s-min=4.0km az=144.4*

*IDC **07** 12:44:04.6±0.7, 26°.05N×105°.30E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.9/29, mbtmp3.9/17, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=22.6km s-min=14.8km az=55.0*

*BJI **07** 12:44:05.8, 26°.01N×105°.27E, h10km, mb4.0/10, ML4.0/16, Ms3.7/1, Ms7 3.7/6*

*NEIC **07** 12:44:06.3±0.3, 26°.01N×105°.31E, h10km, mb4.0/3, Error ellipse: s-maj=6.8km s-min=5.6km az=103.0*

ISC 07 12:44:06.0±0.4, 25°.98N±0°.04×105°.27E±0°.04, h10km, n59, σ1°63/69, mb4.0/19, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**1.34**	**69**	Pg	**Pn**	**12 44 30.0**	**-0.9**
GYA				Sg	**Sn**	**12 44 47.9**	**-1.0**
GYA				smax	smax		
	comp=N,3μm,0.8s						
GYA				smax	smax		
	comp=E,2μm,0.9s						
KMI	**Kunming**	**2.44**	**250**	Pn	**Pn**	**12 44 47.2**	**+1.2**
KMI				Pg	**Pg**	**12 44 51.2**	**-1.5**
KMI				Sn	**Sn**	**12 45 17.2**	**+1.2**
KMI				Sg	**Sg**	**12 45 23.1**	**-1.2**
KMI				smax	smax		
	comp=N,590nm,0.8s						
KMI				smax	smax		
	comp=E,300nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,3.8s						
KMI				LR	LR		
	comp=E,2μm,3.8s						
KMI				LR	LR		
	comp=Z,1μm,4.4s						
KMI	**Kunming**	**2.44**	**250**	Pn	**Pn**	**12 44 47.2**	**+1.2**
KMI				Pg	**Pg**	**12 44 51.2**	**-1.5**
KMI				Sn	**Sn**	**12 45 17.2**	**+1.2**
KMI				Sg	**Sg**	**12 45 23.1**	**-1.2**
SLVN	**Son La**	**4.79**	**195**	*e*Pn	**Pn**	**12 45 18.7**	**+0.5**
SLVN				*e*Pg	**Pg**	**12 45 35.7**	**-2.1**
CD2	**Chengdu**	**5.09**	**345**	Pn	**Pn**	**12 45 23.3**	**+0.9**
CD2				Pg	Pg	12 45 39.2	-4.3
CD2				Sn	**Sn**	**12 46 16.4**	**-4.8**
CD2				smax	smax		
	comp=N,370nm,1.2s						
CD2				smax	smax		
	comp=E,270nm,1.7s						
CD2				LR	LR		
	comp=Z,970nm,7.7s						
ENH	**Enshi**	**5.67**	**40**	*e*Pn	**Pn**	**12 45 31.7**	**+1.4**
QIZ	**Qiongzhong**	**8.11**	**148**	P	**Pg**	**12 46 39.8**	**-1.4**
QIZ				S	Sb	12 47 57.7	-5.5
QIZ				LR	LR		
	comp=N,510nm,7.7s						
QIZ				LR	LR		
	comp=Z,680nm,9.1s						
QIZ	**Qiongzhong**	**8.11**	**148**	Pn	**Pn**	**12 46 04.0**	**+0.2**
QIZ				*e*Lg	Lg	12 48 25.0	
XAN	**Xi'an**	**8.63**	**21**	P	**Pn**	**12 46 10.6**	**-0.4**
XAN				S	**Sn**	**12 47 44.3**	**-4.2**
XAN				LR	LR		
	comp=Z,280nm,9.1s						
XAN				LR	LR		
	comp=Z,170nm,8.6s						
XAN				LR	LR		
	comp=Z,120nm,10.6s						
CHTO	**Chiang Mai**	**9.22**	**221**	*e*Pn	**Pn**	**12 46 20.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**9.50**	**219**	Pn	**Pn**	**12 46 24.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**9.50**	**219**	Pn	**Pn**	**12 46 24.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=26,slow=13,SNR=8.4						
LZH	**Lanzhou**	**10.15**	**353**	*e*P	Pn	12 46 34.4	+2.5
LZH				pP		12 46 37.2	
LZH				sP		12 46 39.4	
LZH				*e*S	**Sn**	**12 48 27.7**	**+1.8**
LZH				sS		12 48 33.1	
LZH				SS	**SnSn**	**12 48 45.0**	**+6.9**
LSA	**Lhasa**	**13.03**	**290**	*e*Pn	**Pn**	**12 47 13.0**	**+1.4**
	comp=Z,9.6nm,0.9s						
GTA	**Gaotai**	**14.15**	**342**	*e*P	**Pn**	**12 47 26.3**	**-0.3**
GTA				pP	P	12 47 30.9	-3.4
GTA				sP		12 47 33.1	
GTA				S	**Sn**	**12 50 04.3**	**+0.5**
GTA				sS	S	12 50 09.5	-16
GTA				SS	**SnSn**	**12 50 20.4**	**+3.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				LR	LR		
	comp=Z,240nm,11.4s						
TAPN	**Taplejung**	**15.76**	**279**	*e*P	**Pn**	**12 47 44.0**	**-4.3**
	comp=Z,29nm,1.1s						
RAMN	**Ramite**	**16.75**	**277**	*e*P	Pn	12 47 54.4	-6.6
	comp=Z,22nm,1.0s						
JIRN	**Jiri**	**17.11**	**280**	*e*P	Pn	12 48 00.1	-5.6
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**17.39**	**281**	*e*P	Pn	12 48 03.5	-5.7
	comp=Z,23nm,0.8s						
PKI	**Pulchoki**	**17.80**	**280**	*e*P	Pn	12 48 07.2	-7.1
	comp=Z,14nm,0.8s						
KKN	**Kakani**	**17.92**	**280**	*e*P	Pn	12 48 09.4	-6.2
	comp=Z,16nm,0.8s						
DMN	**Daman**	**18.07**	**280**	*e*P	Pn	12 48 10.8	-6.7
	comp=Z,18nm,1.0s						
DANN	**Dangsing**	**19.28**	**282**	*e*P	P	12 48 24.9	-6.4
	comp=Z,15nm,0.7s						
SONM	**Songino Array**	**21.83**	**2**	P	**P**	**12 48 57.8**	**-0.8**
SONM	**Songino Array**	**21.83**	**2**	P	**P**	**12 48 57.8**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=181,slow=10.0,SNR=9.9						
ULN	**Ulaanbaatar**	**21.89**	**3**	*e*P	**P**	**12 48 59.6**	**+0.4**
	comp=Z,12nm,1.4s						
KSAR	**Wonju Array Be**	**22.32**	**54**	P	**P**	**12 49 03.8**	**0.0**
KSRS	**Korea Array**	**22.35**	**54**	P	**P**	**12 49 03.8**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=245,slow=11,SNR=7.4						
KSRS				LR	LR	12 57 54.0	
	comp=Z,30nm,18.4s,baz=260,slow=37						
JNU	**Nakatsue**	**23.35**	**66**	P	**P**	**12 49 15.2**	**+0.6**
JNU	**Nakatsue**	**23.35**	**66**	P	**P**	**12 49 15.2**	**+0.6**
	comp=Z,13nm,0.9s,baz=259,slow=2.3,SNR=3.8						
MK31	**Makanchi Array**	**27.63**	**325**	*e*P	**P**	**12 49 55.8**	**+2.1**
MKAR	**Makanchi Array**	**27.63**	**325**	P	**P**	**12 49 54.4**	**+0.6**
MKAR				PcP	**PcP**	**12 53 11.1**	**+0.2**
MKAR	**Makanchi Array**	**27.63**	**325**	P	**P**	**12 49 54.4**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=139,slow=8.9,SNR=12						
MKAR				PcP	**PcP**	**12 53 11.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=144,slow=3.2,SNR=5.1						
AAK	**Ala-Archa**	**30.15**	**311**	P	**P**	**12 50 17.2**	**+0.9**
AAK	**Ala-Archa**	**30.15**	**311**	P	**P**	**12 50 17.2**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=152,slow=13,SNR=3.5						
ZALV	**Zalesovo Beam**	**31.80**	**337**	P	**P**	**12 50 30.1**	**-0.4**
ZALV	**Zalesovo Beam**	**31.80**	**337**	P	**P**	**12 50 30.1**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=143,slow=8.2,SNR=14						
KURBB	**Kurchatov Arra**	**32.02**	**327**	P	**P**	**12 50 32.7**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=131,slow=9.4,SNR=17						
KURBB				PcP	**PcP**	**12 53 22.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=116,slow=2.3,SNR=4.4						
KURK	**Kurchatov**	**32.03**	**327**	*e*P	**P**	**12 50 32.4**	**-0.2**
	comp=Z,2.0nm,1.0s						
KURK				PcP	**PcP**	**12 53 22.0**	**-0.2**
ABKAR	**Akbulak array**	**41.95**	**316**	*e*P	**P**	**12 51 56.9**	**+0.1**
	comp=Z,1.9nm,0.6s						
WRA	**Warramunga Arr**	**53.67**	**145**	P	**P**	**12 53 28.5**	**+0.4**
WRA	**Warramunga Arr**	**53.67**	**145**	P	**P**	**12 53 28.5**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=330,slow=8.9,SNR=5.8						
ASAR	**Alice Springs**	**56.60**	**148**	P	**P**	**12 53 50.0**	**+0.7**
ASAR	**Alice Springs**	**56.60**	**148**	P	**P**	**12 53 50.0**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=321,slow=6.7,SNR=5.8						
AKASG	**Malin Array Be**	**61.69**	**315**	P	**P**	**12 54 23.2**	**-0.9**
AKASG	**Malin Array Be**	**61.69**	**315**	P	**P**	**12 54 23.2**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=73,slow=7.0,SNR=7.3						
ARCES	**ARCESS Array B**	**62.35**	**337**	P	**P**	**12 54 27.9**	**-0.4**
ARCES	**ARCESS Array B**	**62.35**	**337**	P	**P**	**12 54 27.9**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=96,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**62.41**	**328**	P	**P**	**12 54 28.8**	**0.0**
FINES	**FINESS Array B**	**62.41**	**328**	P	**P**	**12 54 28.8**	**0.0**
	comp=Z,2.3nm,0.7s,baz=96,slow=7.7,SNR=6.0						
STKA	**Stephens Creek**	**67.17**	**147**	P	**P**	**12 55 00.4**	**+0.2**
STKA	**Stephens Creek**	**67.17**	**147**	P	**P**	**12 55 00.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=280,slow=12,SNR=3.8						
NOA	**NORSAR Array B**	**69.53**	**329**	P	**P**	**12 55 13.9**	**-0.8**
NOA	**NORSAR Array B**	**69.53**	**329**	P	**P**	**12 55 13.9**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=75,slow=6.3,SNR=3.3						
ILAR	**Eielson Array**	**74.01**	**25**	P	**P**	**12 55 40.5**	**-1.0**
ILAR	**Eielson Array**	**74.01**	**25**	P	**P**	**12 55 40.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=282,slow=4.5,SNR=4.0						
YKA	**Yellowknife Ar**	**86.27**	**17**	P	**P**	**12 56 47.4**	**-0.3**
YKA	**Yellowknife Ar**	**86.27**	**17**	P	**P**	**12 56 47.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=327,slow=5.3,SNR=7.6						
SDV	**Santo Domingo**	**145.12**	**353**	*e*PKPab	**PKPab**	**13 03 43.4**	**-0.8**

IDC 07 12:53:57.4±49.0, 16°.40S×178°.33W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=900.1km s-min=156.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.44**	**240**	P	P	13 01 29.6	+0.1
	0.4nm,0.4s,baz=72,slow=9.6,SNR=4.4						
WRA	**Warramunga Arr**	**45.00**	**258**	P	P	13 02 15.4	+0.4
	0.2nm,0.4s,baz=92,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**45.29**	**253**	P	P	13 02 16.5	-0.9
	2.9nm,0.5s,baz=88,slow=8.3,SNR=81						

IDC 07 13:03:10.5±3.8, 4°.54S×155°.18E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/18, mbtmp3.2/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/12, Error ellipse: s-maj=166.3km s-min=52.1km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.43**	**231**	P	P	13 08 40.9	+0.7
	0.2nm,0.3s,baz=57,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**27.98**	**225**	P	P	13 09 02.4	-0.8
	0.1nm,0.4s,baz=57,slow=9.3,SNR=12						
RAR	**Rarotonga**	**46.72**	**115**	LR	LR	13 28 32.0	
	comp=Z,102nm,18.2s,baz=226,slow=33						
TORD	**Torodi Ar. Bea**	**152.47**	**290**	PKPbc	PKPbc	13 23 09.8	0.0
	0.2nm,0.3s,baz=66,slow=2.2,SNR=5.2						

*IDC **07** 13:14:51.9±3.8, 40°.26S×174°.65E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.7/15, mbtmp3.6/2, Error ellipse: s-maj=172.4km s-min=50.6km az=176.0*

*ISCJB **07** 13:15:03.5±0.3, 40°.42S±0°.02×174°.20E±0°.04, h112km±4km, mb3.5/2, Error ellipse: s-maj=5.2km s-min=3.0km az=26.2*

*WEL **07** 13:15:06.1±0.1, 40°.38S×174°.23E, h91km±2km, ML4.4/20, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0*

WEL Felt from Taranaki to Nelson, maximum reported intensity MM 4.

ISC 07 13:15:05.0±0.9, 40°.41S±0°.04×174°.20E±0°.04, h103km±6km, n112, σ0°87/118, 16C-8D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.45**	**208**	PN	**Pn**	**13 15 20.5**	**-0.3**
DUWZ				SN	**Sn**	**13 15 31.2**	**-1.3**
KIW	**Kapiti Island**	**0.70**	**130**	⇑PN	**Pn**	**13 15 22.7**	**0.0**
KIW				SN	**Sn**	**13 15 34.5**	**-1.5**
KIW				AML	AML	13 15 35.6	
TCW	**Tory Channel**	**0.81**	**176**	⇑PN	**Pn**	**13 15 24.0**	**+0.3**
TCW				SN	**Sn**	**13 15 36.9**	**-0.8**
TCW				AML	AML	13 15 38.3	
OGWZ	**Otaki Gorge**	**0.84**	**119**	⇑PN	**Pn**	**13 15 24.2**	**+0.1**
OGWZ				SN	**Sn**	**13 15 36.9**	**-1.4**
WAZ	**Wanganui**	**0.89**	**43**	PN	**Pn**	**13 15 24.8**	**+0.2**
CAW	**Cannon Point**	**0.96**	**137**	⇑PN	**Pn**	**13 15 25.7**	**+0.5**
CAW				SN	**Sn**	**13 15 39.8**	**-0.6**
CAW				AML	AML	13 15 42.0	
WEL	**Wellington**	**0.98**	**154**	PN	**Pn**	**13 15 25.6**	**+0.2**
WEL				SN	**Sn**	**13 15 40.0**	**-0.6**
SNZO	**South Karori**	**0.98**	**157**	PN	**Pn**	**13 15 25.9**	**+0.5**
SNZO				AML	AML	13 15 41.9	
SNZO				AML	AML	13 15 41.9	
SNZO				AML	AML	13 15 44.4	
SNZO				AML	AML	13 15 44.4	
NNZ	**Nelson**	**1.02**	**217**	PN	**Pn**	**13 15 26.0**	**+0.1**
NMEZ	**Namu Road**	**1.03**	**346**	PN	**Pn**	**13 15 25.5**	**-0.5**
TUWZ	**Tuamarina**	**1.04**	**191**	⇑PN	**Pn**	**13 15 26.1**	**+0.1**
TUWZ				AML	AML	13 15 42.0	
TUWZ				AML	AML	13 15 42.7	
MRZ	**Mangatainoka R**	**1.08**	**104**	PN	**Pn**	**13 15 26.6**	**0.0**
MRZ				AML	AML	13 15 42.0	
MRZ				AML	AML	13 15 42.3	
DFE	**Dawson Falls**	**1.08**	**356**	PN	**Pn**	**13 15 26.5**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.11**	**116**	PN	**Pn**	**13 15 26.9**	**0.0**
BHW	**Baring Head**	**1.12**	**153**	⇑PN	**Pn**	**13 15 27.3**	**+0.4**
BHW				AML	AML	13 15 47.6	
BHW				AML	AML	13 15 48.8	
KHEZ	**Kahui Hut**	**1.12**	**353**	⇓PN	**Pn**	**13 15 26.8**	**-0.3**
NEZ	**North Egmont**	**1.14**	**356**	⇑PN	**Pn**	**13 15 26.8**	**-0.4**
NWEZ	**Newall Road**	**1.16**	**347**	⇓PN	**Pn**	**13 15 27.2**	**-0.2**
POWZ	**Post Office Ro**	**1.20**	**90**	PN	**Pn**	**13 15 27.6**	**-0.2**
DREZ	**Durham Road**	**1.22**	**360**	PN	**Pn**	**13 15 27.9**	**-0.2**
PKE	**Pukeiti**	**1.22**	**352**	PN	**Pn**	**13 15 27.9**	**-0.3**
MTW	**Mount Morrison**	**1.24**	**128**	PN	**Pn**	**13 15 28.5**	**+0.2**
MTW				AML	AML	13 15 45.1	
MTW				AML	AML	13 15 45.6	
MSWZ	**Moikau Station**	**1.28**	**142**	PN	**Pn**	**13 15 29.2**	**+0.4**
MSWZ				AML	AML	13 15 53.2	
MSWZ				AML	AML	13 15 55.9	
BSWZ	**Blackbirch Sta**	**1.33**	**191**	⇑PN	**Pn**	**13 15 30.2**	**+0.8**
BSWZ				AML	AML	13 15 50.0	
BSWZ				AML	AML	13 15 50.5	
MHEZ	**Mangahewa**	**1.33**	**4**	PN	**Pn**	**13 15 29.4**	**0.0**
TIWZ	**Tintock**	**1.33**	**107**	PN	**Pn**	**13 15 29.4**	**0.0**
TIWZ				AML	AML	13 15 46.4	
TIWZ				AML	AML	13 15 49.4	
CMWZ	**Cape Campbell**	**1.34**	**180**	⇑PN	**Pn**	**13 15 30.9**	**+1.4**
CMWZ				AML	AML	13 15 58.0	
CMWZ				AML	AML	13 16 04.0	
QRZ	**Quartz Range**	**1.34**	**251**	PN	**Pn**	**13 15 28.6**	**-0.9**
PAWZ	**Paruwai Farm**	**1.34**	**137**	PN	**Pn**	**13 15 29.9**	**+0.4**
PAWZ				AML	AML	13 15 47.2	
PAWZ				AML	AML	13 15 47.6	
VRZ	**Vera Road**	**1.35**	**19**	PN	**Pn**	**13 15 29.6**	**0.0**
PRWZ	**Pori Road**	**1.36**	**97**	PN	**Pn**	**13 15 29.8**	**+0.1**
TSZ	**Takapari Road**	**1.39**	**76**	⇑PN	**Pn**	**13 15 29.9**	**-0.3**
TSZ				AML	AML	13 15 50.4	
TSZ				AML	AML	13 16 21.6	
PLWZ	**Palliser**	**1.41**	**146**	⇑PN	**Pn**	**13 15 30.7**	**+0.3**
MTVZ	**Mangateitei**	**1.41**	**44**	PN	**Pn**	**13 15 30.5**	**+0.1**
PKVZ	**Pokaka**	**1.42**	**39**	PN	**Pn**	**13 15 30.4**	**-0.2**
TMWZ	**Te Maipa**	**1.46**	**119**	PN	**Pn**	**13 15 31.2**	**+0.2**
TRWZ	**Traveller**	**1.50**	**132**	PN	**Pn**	**13 15 31.6**	**+0.2**
TRWZ				AML	AML	13 15 53.7	
TRWZ				AML	AML	13 15 57.8	
DVHZ	**Dannevirke**	**1.51**	**86**	PN	**Pn**	**13 15 30.9**	**-0.6**
TRVZ	**Turoa**	**1.52**	**44**	PN	**Pn**	**13 15 31.8**	**-0.1**
WNVZ	**Wahianoa**	**1.52**	**45**	PN	**Pn**	**13 15 31.8**	**-0.1**
DRZ	**Dome Shelter**	**1.54**	**43**	PN	**Pn**	**13 15 32.8**	**+0.5**
FWVZ	**Far West T-bar**	**1.55**	**43**	⇓PN	**Pn**	**13 15 32.1**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.55**	**44**	PN	**Pn**	**13 15 32.1**	**-0.2**
MOVZ	**Moawhango**	**1.56**	**51**	PN	**Pn**	**13 15 31.8**	**-0.4**
BFZ	**Birch Farm**	**1.58**	**101**	PN	**Pn**	**13 15 32.2**	**-0.2**
WPVZ	**Whakapapa**	**1.59**	**41**	PN	**Pn**	**13 15 32.3**	**-0.3**
COVZ	**Chateau Observ**	**1.59**	**41**	PN	**Pn**	**13 15 32.3**	**-0.3**
TUVZ	**Tukino**	**1.60**	**45**	PN	**Pn**	**13 15 32.5**	**-0.2**
CPWZ	**Castlepoint**	**1.60**	**109**	PN	**Pn**	**13 15 33.3**	**+0.7**
PNHZ	**Pukenui**	**1.61**	**73**	PN	**Pn**	**13 15 32.5**	**-0.3**
NGZ	**Ngauruhoe**	**1.64**	**42**	PN	**Pn**	**13 15 33.0**	**-0.2**
TWVZ	**Taurewa**	**1.64**	**36**	PN	**Pn**	**13 15 32.9**	**-0.3**
THZ	**Tophouse**	**1.67**	**216**	⇓PN	**Pn**	**13 15 33.8**	**+0.2**
WTVZ	**West Tongariro**	**1.68**	**40**	PN	**Pn**	**13 15 33.3**	**-0.4**
OTVZ	**Oturere**	**1.68**	**43**	PN	**Pn**	**13 15 33.8**	**0.0**
BHHZ	**Black Hill Sta**	**1.70**	**58**	PN	**Pn**	**13 15 33.4**	**-0.6**
KRVZ	**Karewarewa**	**1.72**	**41**	PN	**Pn**	**13 15 33.8**	**-0.4**
ANWZ	**Angora Road**	**1.74**	**92**	PN	**Pn**	**13 15 34.1**	**-0.2**
WPHZ	**Waipukurau**	**1.75**	**79**	PN	**Pn**	**13 15 34.2**	**-0.3**
KATZ	**Kakaramea**	**1.84**	**39**	PN	**Pn**	**13 15 35.6**	**-0.2**
HIZ	**Hauiti**	**1.96**	**15**	PN	**Pn**	**13 15 36.8**	**-0.4**
RATZ	**Rangitukua**	**1.96**	**39**	PN	**Pn**	**13 15 37.7**	**+0.5**
WATZ	**Wairara**	**2.07**	**35**	PN	**Pn**	**13 15 38.6**	**0.0**
PXZ	**Pawanui**	**2.07**	**80**	⇑PN	**Pn**	**13 15 37.9**	**-0.7**
PXZ				AML	AML	13 16 11.4	
PXZ				AML	AML	13 16 11.5	
PXZ				AML	AML	13 16 48.0	
PXZ				AML	AML	13 16 48.1	
KAHZ	**Kahuranaki**	**2.14**	**74**	PN	**Pn**	**13 15 39.1**	**-0.5**
MCHZ	**McNeill Hill**	**2.15**	**64**	PN	**Pn**	**13 15 38.9**	**-0.7**
BKZ	**Black Stump Fm**	**2.16**	**56**	PN	**Pn**	**13 15 38.8**	**-1.0**
BKZ				AML	AML	13 16 06.2	
BKZ				AML	AML	13 16 12.4	
DSZ	**Denniston Nort**	**2.25**	**233**	PN	**Pn**	**13 15 40.8**	**-0.1**
TLZ	**Tolley Road**	**2.32**	**27**	PN	**Pn**	**13 15 41.3**	**-0.6**
CKHZ	**Cape Kidnapper**	**2.33**	**72**	PN	**Pn**	**13 15 41.5**	**-0.5**
ALRZ	**Allen Road**	**2.48**	**43**	PN	**Pn**	**13 15 42.9**	**-1.1**
WHHZ	**Waihua**	**2.69**	**61**	PN	**Pn**	**13 15 45.2**	**-1.5**
UTU	**Utuhina**	**2.71**	**35**	PN	**Pn**	**13 15 46.7**	**-0.3**
LTZ	**Lake Taylor**	**2.78**	**211**	PN	**Pn**	**13 15 47.5**	**-0.4**
TOZ	**Tahuroa Road**	**2.86**	**21**	⇑PN	**Pn**	**13 15 48.5**	**-0.5**
SNGZ	**Shannon Statio**	**2.92**	**57**	PN	**Pn**	**13 15 48.1**	**-1.7**
KNZ	**Kokohu**	**3.02**	**64**	PN	**Pn**	**13 15 48.7**	**-2.3**
URZ	**Urewera**	**3.11**	**47**	PN	**Pn**	**13 15 49.9**	**-2.4**
URZ				AML	AML	13 16 26.2	
URZ				AML	AML	13 16 26.3	
MHGZ	**Mahia Peninsul**	**3.12**	**67**	PN	**Pn**	**13 15 50.7**	**-1.7**
TGRZ	**Tauranga**	**3.12**	**32**	PN	**Pn**	**13 15 52.2**	**-0.2**
OPRZ	**Ohinepanea**	**3.15**	**36**	PN	**Pn**

Ms1 3.6/14, ms1mx3.4/39, Error ellipse: s-maj=15.9km s-min=15.1km az=107.0

ISCJB ***07*** *13:24:07.8±1.1, 36°.25N±0°.03×141°.97E±0°.05, h29km±7km, mb4.3/42, MS3.7/14, Error ellipse: s-maj=6.6km s-min=5.3km az=23.0*

MOS ***07*** *13:24:08.9±1.0, 36°.30N×141°.90E, h33km, mb4.7/30, Error ellipse: s-maj=10.0km s-min=6.3km az=117.3*

BJI ***07*** *13:24:09.4, 36°.22N×141°.59E, h28km, mB5.0/11, mb4.6/20, Ms4.2/8, Ms7 3.8/8*

JMA ***07*** *13:24:09.1±0.3, 36°.27N×141°.79E, h71km, M4.1*

JMA Felt I J1.

NEIC ***07*** *13:24:11.1±1.2, 36°.24N×141°.75E, h38km±10km, mb4.6/11, MW4.2(NIED), Error ellipse: s-maj=11.2km s-min=8.7km az=96.0*

NEIC Recorded [1 JMA] in Ibaraki.

ISC 07 13:24:09.9±0.8, 36°29N±0°.04×141°85E±0°.05, h27km±4km, n136, σ1s09/142, mb4.4/42, MS3.7/14, 12C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.99**	**234**	⇓P		**Pn**	**13 24 27.0**	**-1.1**
CHOJ				S		**Sn**	**13 24 41.4**	**+0.2**
JHO	**Hitachi**	**1.08**	**288**	⇓P		**Pn**	**13 24 27.9**	**-1.4**
JHO				*e*S		**Sb**	**13 24 43.3**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.17**	**314**	⇓P		**Pn**	**13 24 29.2**	**-1.4**
JFK	**Kawauchi**	**1.33**	**324**	P		**Pn**	**13 24 32.5**	**-0.3**
JFK				S		**Sn**	**13 24 50.1**	**+0.4**
JFT	**Otama**	**1.73**	**316**	P		**Pn**	**13 24 38.4**	**+0.2**
BSO1	**Boso 1**	**1.78**	**204**	P		**Pn**	**13 24 38.0**	**-0.4**
JMM	**Marumori**	**1.79**	**332**	P		**Pn**	**13 24 38.7**	**-0.4**
BSO3	**Boso 3**	**1.84**	**217**	P		**Pn**	**13 24 39.2**	**-0.3**
JAG	**Ashikaga**	**1.94**	**275**	P		**Pn**	**13 24 40.2**	**-0.9**
JFY	**Yanaizu**	**2.05**	**304**	P		**Pn**	**13 24 43.1**	**+0.4**
MJAR	**Matsushiro Arr**	**2.95**	**276**	Pn		**Pn**	**13 24 55.2**	**+0.2**
MJAR				Sn		**Sn**	**13 25 31.2**	**+1.7**
MJAR	**Matsushiro Arr** 43nm,0.3s,baz=115,slow=8.8,SNR=213	**2.95**	**276**	Pn		**Pn**	**13 24 55.2**	**+0.2**
MJAR	27nm,0.3s,baz=94,slow=15,SNR=6.6			Sn		**Sn**	**13 25 31.2**	**+1.7**
MAJO	**Matsushiro**	**2.95**	**276**	*c* *i*P		**Pn**	**13 24 56.0**	**+1.0**
MAJO	**Matsushiro**	**2.95**	**276**	*e*Pn		**Pn**	**13 24 55.8**	**+0.7**
MAT	**Matsushiro**	**2.95**	**276**	P		**Pn**	**13 24 55.7**	**+0.7**
MAT				S		**Sb**	**13 25 33.1**	**-4.3**
JHJ2	**Mitsune**	**3.58**	**208**	*e*Pn		**Pn**	**13 25 03.1**	**-0.6**
JHJ2				*e*Sn		**Sn**	**13 25 43.0**	**-2.2**
ERM	**Erimo**	**5.81**	**10**	⇑*e*P		**Pn**	**13 25 32.6**	**-1.7**
ASAJ	**Asahikawa**	**7.84**	**4**	Pn		**Pn**	**13 26 01.6**	**-0.6**
ASAJ				Sn		**Sn**	**13 27 28.1**	**-1.9**
ASAJ	**Asahikawa** 1.7nm,0.3s,baz=236,slow=17,SNR=12	**7.84**	**4**	Pn		**Pn**	**13 26 01.6**	**-0.6**
ASAJ	1.3nm,0.3s,baz=73,slow=19,SNR=3.9			Sn		**Sn**	**13 27 28.1**	**-1.9**
ASAJ	comp=Z,344nm,18.1s,baz=152,slow=45			LR		LR	13 30 02.9	
YUK	**Yuzh-Kuril'sk**	**8.32**	**20**	*c* *i*P		Pn	13 26 12.0	+3.2
YUK				*i*S		Sn	13 27 48.8	+6.9
YUK	comp=N,124nm,0.5s			pmax		pmax		
YUK	comp=E,30nm,0.5s			pmax		pmax		
YUK	comp=E,167nm,0.5s			pmax		pmax		
YUK	comp=Z,1μm,2.1s			smax		smax		
YUK	comp=N,3μm,2.3s			smax		smax		
YUK	comp=E,1μm,2.3s			MLR		MLR		
YUK	comp=N,3μm,6.0s			MLR		MLR		
JNU	**Nakatsue** comp=Z,355nm,18.1s,baz=72,slow=40	**9.57**	**254**	LR		LR	13 30 23.4	
USRK	**Ussuriysk Arra** comp=Z,0.5nm,0.3s,baz=126,slow=13,SNR=5.9	**10.91**	**319**	Pn		**Pn**	**13 26 46.9**	**+2.6**
USRK	comp=Z,419nm,18.4s,baz=256,slow=37			LR		LR	13 30 49.4	
KSRS	**Korea Array** comp=Z,0.4nm,0.3s,baz=92,slow=14,SNR=9.4	**11.22**	**280**	Pn		Pn	13 26 52.1	+3.7
KSRS	comp=Z,212nm,20.9s,baz=6.8,slow=36			LR		LR	13 30 52.8	
KSAR	**Wonju Array Be**	**11.25**	**280**	Pn		Pn	13 26 52.1	+3.3
HABR	**Khabarovsk**	**13.17**	**340**	*e*P		**Pn**	**13 27 13.8**	**-1.2**
HABR				*e*S		**Sn**	**13 29 38.5**	**-1.9**
HABR	comp=E,11nm,2.0s			pmax		pmax		
HABR	comp=Z,188nm,14.0s			MLR		MLR		
HABR	comp=Z,11nm,1.3s			pmax		pmax		
YAK	**Yakutsk**	**26.87**	**347**	*e*P		**P**	**13 29 46.9**	**-1.2**
YAK	comp=Z,27nm,1.1s			pmax		pmax		
YAK	comp=N,15nm,1.2s			pmax		pmax		
YAK	comp=E,6.0nm,1.3s			pmax		pmax		
YAK	**Yakutsk** comp=E,17nm,0.6s	**26.87**	**347**	*e*P		**P**	**13 29 47.0**	**-1.2**
XAN	**Xi'an**	**26.94**	**275**	P		**P**	**13 29 48.3**	**-0.9**
XAN				pP		**pP**	**13 29 58.7**	**+1.7**
XAN	comp=E,2.0nm,0.7s			pmax		pmax		
XAN	comp=E,120nm,7.3s			LR		LR		
XAN	comp=E,61nm,9.4s			LR		LR		
H11N2	**WAKE ISLAND Hy** baz=320,SNR=29	**27.47**	**120**	T		T	13 59 19.4	
H11N1	**WAKE ISLAND Hy** baz=320,slow=75,SNR=24	**27.48**	**120**	T		T	14 00 03.7	
H11N3	**WAKE ISLAND Hy** baz=320,slow=75,SNR=16	**27.49**	**120**	T		T	13 59 34.4	
ENH	**Enshi** comp=E,14nm,0.6s	**27.63**	**267**	*e*P		**P**	**13 29 53.4**	**-1.9**
ULN	**Ulaanbaatar** comp=E,4.8nm,0.7s	**28.07**	**305**	*e*P		**P**	**13 29 57.5**	**-1.7**
H11S1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=37	**28.16**	**122**	T		T	14 00 15.9	
H11S3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=26	**28.16**	**122**	T		T	14 00 10.4	
H11S2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=27	**28.18**	**122**	T		T	14 00 12.7	
SONM	**Songino Array**	**28.50**	**305**	P		**P**	**13 30 03.6**	**+0.6**
SONM	**Songino Array** comp=E,8.5nm,0.9s,baz=102,slow=8.5,SNR=24	**28.50**	**305**	P		**P**	**13 30 03.6**	**+0.6**
SONM	comp=E,138nm,18.8s,baz=8.0,slow=38			LR		LR	13 42 20.8	
ZAK	**Zakamensk** comp=E,5.0nm,1.2s	**31.01**	**309**	⇑*i*P		**P**	**13 30 25.6**	**+0.4**
ZAK				pmax		pmax		
TLY	**Talaya**	**31.09**	**312**	*e*P		**P**	**13 30 26.5**	**+0.7**
TLY				*e*			13 31 34.6	
TLY	comp=E,7.0nm,0.9s			pmax		pmax		
TLY	comp=E,168nm,14.0s			MLR		MLR		
TLY	**Talaya** comp=E,13nm,1.3s	**31.09**	**312**	*e*P		**P**	**13 30 23.6**	**-2.1**
QIZ	**Qiongzhong**	**32.95**	**247**	P		**P**	**13 30 43.6**	**+1.2**
QIZ				S		**S**	**13 35 59.1**	**+0.1**
QIZ	comp=Z,49nm,17.3s			LR		LR		
GTA	**Gaotai**	**33.12**	**288**	*e*P		**P**	**13 30 44.3**	**+0.4**
GTA				pP		**pP**	**13 30 50.5**	**-1.4**
GTA				sP		**sP**	**13 30 54.1**	**-1.1**
GTA	comp=E,8.0nm,1.2s			pmax		pmax		
GTA	comp=E,140nm,5.2s			pmax		pmax		
GTA	comp=E,130nm,16.1s			LR		LR		
GTA	comp=E,210nm,16.6s			LR		LR		
GTA	comp=E,210nm,15.7s			LR		LR		
TIXI	**Tiksi** comp=E,4.0nm,1.4s	**36.07**	**353**	⇑*i*P		**P**	**13 31 08.6**	**-0.2**
TIXI				pmax		pmax		
CMAR	**Chiang Mai Arr**	**41.66**	**256**	P		**P**	**13 31 56.4**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.7s,baz=49,slow=5.8,SNR=9.4	**41.66**	**256**	P		**P**	**13 31 56.4**	**+0.1**
CMAR	comp=Z,36nm,20.0s,baz=50,slow=37			LR		LR	13 49 56.6	
ZAA0	**Zalesovo Array**	**42.68**	**313**	*e*P		P	13 32 00.1	-4.0
ZALV	**Zalesovo Beam**	**42.68**	**313**	P		**P**	**13 32 04.8**	**+0.7**
ZALV							13 33 56.1	
ZALV	comp=Z,5.0nm,0.7s			pmax		pmax		
ZALV	comp=Z,1.0nm,0.5s			pmax		pmax		
ZALV	comp=Z,113nm,18.2s			MLR		MLR		
ZALV	**Zalesovo Beam**	**42.68**	**313**	P		**P**	**13 32 04.8**	**+0.7**
ZALV				PcP		**PcP**	**13 33 56.1**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,5.3nm,0.7s,baz=94,slow=6.4,SNR=23	**42.68**	**313**	P		**P**	**13 32 04.8**	**+0.7**
ZALV	comp=Z,1.1nm,0.5s,baz=149,slow=2.3,SNR=4.1			PcP		**PcP**	**13 33 56.1**	**+0.5**
ZALV	comp=Z,113nm,18.2s,baz=248,slow=37			LR		LR	13 50 38.8	
MK31	**Makanchi Array**	**44.81**	**303**	*e*P		**P**	**13 32 20.5**	**-1.0**
MK31	**Makanchi Array**	**44.81**	**303**	*e*P		**P**	**13 32 20.5**	**-1.0**
MKAR	**Makanchi Array**	**44.81**	**303**	*c**e*P		**P**	**13 32 21.8**	**+0.4**
MKAR	comp=Z,5.0nm,0.7s			pmax		pmax		
MKAR	**Makanchi Array**	**44.81**	**303**	P		**P**	**13 32 21.9**	**+0.4**
MKAR	**Makanchi Array** comp=Z,5.0nm,0.8s,baz=89,slow=10.0,SNR=43	**44.81**	**303**	P		**P**	**13 32 21.9**	**+0.4**
MKAR	comp=E,58nm,18.8s,baz=266,slow=38			LR		LR	13 52 11.1	
TAPN	**Taplejung** comp=Z,7.9nm,0.5s	**46.35**	**275**	*e*P		**P**	**13 32 34.5**	**+0.3**
KURK	**Kurchatov**	**46.67**	**309**	*c* *i*P		**P**	**13 32 36.1**	**+0.1**
KURK				*i* *PP		**pP**	**13 32 47.1**	**+2.9**
KURK	comp=E,11nm,0.8s			pmax		pmax		
KURK	**Kurchatov** comp=E,11nm,0.8s	**46.67**	**309**	*e*P		**P**	**13 32 35.4**	**-0.6**
KURBB	**Kurchatov Arra** comp=Z,7.0nm,0.7s,baz=84,slow=7.8,SNR=57	**46.74**	**309**	P		**P**	**13 32 36.8**	**+0.2**
RAMN	**Ramite** comp=Z,35nm,0.6s	**47.41**	**275**	*e*P		**P**	**13 32 42.7**	**+0.3**
JIRN	**Jiri** comp=Z,57nm,1.1s	**47.44**	**276**	*e*P		**P**	**13 32 43.4**	**+0.6**
GUN	**Gumba** comp=Z,42nm,1.0s	**47.58**	**277**	*e*P		**P**	**13 32 44.4**	**+0.5**
PKI	**Pulchoki** comp=Z,26nm,1.1s	**48.10**	**276**	*e*P		**P**	**13 32 48.0**	**+0.1**
KKN	**Kakani** comp=Z,11nm,0.6s	**48.12**	**277**	*e*P		**P**	**13 32 48.3**	**+0.4**
DMN	**Daman** comp=Z,22nm,1.1s	**48.33**	**277**	*e*P		**P**	**13 32 49.6**	**0.0**
GKN	**Gorkha** comp=E,67nm,1.0s	**48.54**	**277**	*e*P		**P**	**13 32 51.4**	**+0.3**
DANN	**Dangsing** comp=Z,54nm,0.9s	**49.10**	**278**	*e*P		**P**	**13 32 56.1**	**+0.6**
KOLN	**Koldanda** comp=Z,32nm,1.0s	**49.47**	**278**	*e*P		**P**	**13 32 58.4**	**+0.2**
COLA	**College**	**49.52**	**32**	⇑*e*P		**P**	**13 32 58.0**	**+0.2**
COLA	comp=Z,77nm,5.0s			pmax		pmax		
ILAR	**Eielson Array**	**49.94**	**32**	P		**P**	**13 33 01.9**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,baz=265,slow=5.6,SNR=7.7	**49.94**	**32**	P		**P**	**13 33 01.9**	**+0.8**
TKM2	**Tokmak 2**	**50.30**	**299**	*e*P		**P**	**13 33 03.4**	**-0.9**
TKM2	comp=Z,10.0nm,0.8s			pmax		pmax		
TKM2	**Tokmak 2** comp=Z,9.9nm,0.8s	**50.30**	**299**	*e*P		**P**	**13 33 03.4**	**-0.9**
AAK	**Ala-Archa**	**51.16**	**299**	*de*P		**P**	**13 33 11.6**	**+0.8**
AAK	comp=Z,7.0nm,1.0s			pmax		pmax		
AAK	**Ala-Archa** comp=Z,2.4nm,0.5s	**51.16**	**299**	*e*P		**P**	**13 33 10.2**	**-0.6**
BVA0	**Borovoye Array**	**51.33**	**313**	*i* P		**P**	**13 33 12.0**	**+0.3**
BVAR	**Borovoye Array**	**51.33**	**313**	P		**P**	**13 33 11.9**	**+0.1**
BVAR	comp=Z,3.0nm,0.8s			pmax		pmax		
BVAR	comp=Z,61nm,18.6s			MLR		MLR		
BVAR	**Borovoye Array**	**51.33**	**313**	P		**P**	**13 33 11.9**	**+0.1**
BVAR	**Borovoye Array** comp=Z,2.6nm,0.8s,baz=74,slow=7.0,SNR=15	**51.33**	**313**	P		**P**	**13 33 11.9**	**+0.1**
BVAR	comp=Z,61nm,18.6s,baz=242,slow=39			LR		LR	13 57 14.5	
BRVK	**Borovoye** comp=Z,5.0nm,1.0s	**51.39**	**313**	*ce*P		**P**	**13 33 12.6**	**+0.5**
BRVK	comp=Z,4.9nm,0.8s			pmax		pmax		
BRVK	**Borovoye**	**51.39**	**313**	*e*P		**P**	**13 33 10.1**	**-2.0**
KK31	**Karatay Array**	**53.80**	**301**	*e*P		**P**	**13 33 30.5**	**+0.3**
KK31	comp=Z,2.0nm,0.5s			pmax		pmax		
KKAR	**Karatay Array**	**53.80**	**301**	*e*P		**P**	**13 33 29.1**	**-1.1**
KKAR	comp=Z,2.0nm,0.4s			pmax		pmax		
KKAR	**Karatay Array** comp=Z,1.6nm,0.4s	**53.80**	**301**	*e*P		**P**	**13 33 29.1**	**-1.1**
INK	**Inuvik**	**54.89**	**27**	P		**P**	**13 33 39.3**	**+1.6**
INK	**Inuvik** comp=Z,1.4nm,0.6s,baz=280,slow=7.5,SNR=13	**54.89**	**27**	P		**P**	**13 33 39.3**	**+1.6**
INK	comp=Z,40nm,21.8s,baz=354,slow=35			LR		LR	13 55 57.3	
SVE	**Sverdlovsk**	**55.94**	**319**	⇑*e*P		**P**	**13 33 46.6**	**+1.2**
SVE	comp=Z,1.1nm,1.0s			pmax		pmax		
SVE	comp=Z,180nm,18.0s			MLR		MLR		
WRAB	**Tennant Creek**	**56.36**	**188**	⇓*e*P		**P**	**13 33 48.9**	**+0.1**
WRAB	comp=Z,15nm,1.5s			pmax		pmax		
WRA	**Warramunga Arr**	**56.37**	**188**	P		**P**	**13 33 48.0**	**-0.9**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s,baz=7.0,slow=7.5,SNR=17	**56.37**	**188**	P		**P**	**13 33 48.0**	**-0.9**
ARU	**Arti**	**57.15**	**319**	*c* *i*P		**P**	**13 33 54.3**	**+0.3**
ARU				S		**S**	**13 41 49.1**	**+1.7**
ARU				SS		**SS**	**13 45 31.9**	**-4.1**
ARU	comp=Z,9.0nm,1.0s			pmax		pmax		
ARU	**Arti** comp=Z,3.4nm,0.8s	**57.15**	**319**	*e*P		**P**	**13 33 52.2**	**-1.8**
AB31	**Akbulak array**	**58.69**	**311**	P		**P**	**13 34 04.6**	**-0.3**
AB31	comp=Z,3.0nm,0.6s			pmax		pmax		
ABKAR	**Akbulak array** comp=Z,3.3nm,0.6s	**58.69**	**311**	*e*P		**P**	**13 34 04.4**	**-0.5**
AKTO	**Aktyubinsk**	**59.44**	**312**	P		**P**	**13 34 09.8**	**-0.3**
AKTO	comp=Z,3.0nm,0.8s			pmax		pmax		
AKTO	**Aktyubinsk**	**59.44**	**312**	P		**P**	**13 34 09.8**	**-0.3**
AKTO	**Aktyubinsk** comp=Z,2.8nm,0.8s,baz=74,slow=11,SNR=11	**59.44**	**312**	P		**P**	**13 34 09.8**	**-0.3**
AS31	**Alice Springs**	**60.10**	**188**	*e*P		P	13 34 11.2	-3.7
ASAR	**Alice Springs**	**60.10**	**188**	P		**P**	**13 34 14.6**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.5nm,0.9s,baz=3.9,slow=6.1,SNR=7.3	**60.10**	**188**	P		**P**	**13 34 14.6**	**-0.3**
RES	**Resolute Bay**	**63.23**	**14**	P		**P**	**13 34 35.7**	**+0.4**
RES	**Resolute Bay** comp=Z,2.0nm,0.7s,baz=294,slow=5.7,SNR=3.8	**63.23**	**14**	P		**P**	**13 34 35.7**	**+0.4**
YKA	**Yellowknife Ar**	**64.28**	**30**	P		**P**	**13 34 43.6**	**+1.2**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,baz=302,slow=6.8,SNR=7.6	**64.28**	**30**	P		**P**	**13 34 43.6**	**+1.2**
ARCES	**ARCESS Array B**	**64.82**	**340**	P		**P**	**13 34 46.3**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.7s,baz=55,slow=7.8,SNR=5.2	**64.82**	**340**	P		**P**	**13 34 46.3**	**+0.4**
STKA	**Stephens Creek**	**67.81**	**180**	P		**P**	**13 35 04.8**	**-0.5**
STKA	**Stephens Creek** comp=Z,0.8nm,0.7s,baz=334,slow=16,SNR=2.9	**67.81**	**180**	P		**P**	**13 35 04.8**	**-0.5**
FINES	**FINESS Array B**	**69.64**	**333**	P		**P**	**13 35 17.7**	**+1.2**
FINES	**FINESS Array B** comp=Z,3.0nm,0.7s,baz=45,slow=8.4,SNR=6.7	**69.64**	**333**	P		**P**	**13 35 17.7**	**+1.2**
FINES	comp=Z,38nm,18.6s,baz=293,slow=36			LR		LR	14 06 27.5	
KBZ	**Khabaz**	**71.66**	**311**	P		**P**	**13 35 29.9**	**+0.8**
KBZ	comp=Z,3.0nm,1.0s			pmax		pmax		
KBZ	comp=Z,46nm,19.8s			MLR		MLR		
KBZ	**Khabaz**	**71.66**	**311**	P		**P**	**13 35 29.9**	**+0.8**
KBZ	**Khabaz** comp=Z,2.9nm,1.0s,baz=240,slow=8.1,SNR=3.4	**71.66**	**311**	P		**P**	**13 35 29.9**	**+0.8**
KBZ	comp=Z,46nm,19.8s,baz=13,slow=40			LR		LR	14 11 57.8	
KIV	**Kislovodsk**	**71.66**	**311**	P		**P**	**13 35 29.0**	**-0.3**
KIV	comp=Z,7.0nm,1.0s			pmax		pmax		
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.6s,baz=40,slow=5.9	**75.01**	**338**	P		**P**	**13 35 49.3**	**+0.6**
NOA	**NORSAR Array B**	**75.01**	**338**	P		**P**	**13 35 49.1**	**+0.5**
NOA	**NORSAR Array B** comp=Z,3.6nm,0.9s,baz=39,slow=5.7,SNR=9.3	**75.01**	**338**	P		**P**	**13 35 49.1**	**+0.5**
NOA	comp=Z,57nm,18.2s,baz=30,slow=38			LR		LR	14 11 22.6	
AKASG	**Malin Array Be**	**75.10**	**323**	*ce*P		**P**	**13 35 49.5**	**+0.2**
AKASG	comp=Z,5.0nm,0.7s			pmax		pmax		
AKASG	**Malin Array Be**	**75.10**	**323**	P		**P**	**13 35 49.5**	**+0.2**
AKASG	**Malin Array Be** comp=Z,5.3nm,0.7s,baz=46,slow=6.1,SNR=23	**75.10**	**323**	P		**P**	**13 35 49.5**	**+0.2**
AK01	**Malin Array Si**	**75.11**	**323**	*e*P		**P**	**13 35 47.9**	**-1.4**
KIEV	**Kiev**	**75.11**	**323**	*d* *i*P		**P**	**13 35 49.7**	**+0.3**
AK02	**Malin Array Si**	**75.14**	**323**	*e*P		**P**	**13 35 47.7**	**-1.8**
PDAR	**Pinedale Array**	**77.94**	**46**	P		**P**	**13 36 07.3**	**+1.4**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.8s,baz=278,slow=1.0,SNR=4.8	**77.94**	**46**	P		**P**	**13 36 07.3**	**+1.4**
BRTR	**Keskin Array B**	**79.61**	**312**	P		**P**	**13 36 15.8**	**+0.8**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.8s,baz=29,slow=5.6,SNR=4.3	**79.61**	**312**	P		**P**	**13 36 15.8**	**+0.8**
CLL	**Collm**	**81.92**	**330**	*e*P		**P**	**13 36 27.0**	**+0.1**
CLL	**Collm**	**81.92**	**330**	*e*P		**P**	**13 36 27.0**	**+0.1**
GERES	**GERESS Array B**	**83.53**	**328**	P		**P**	**13 36 35.7**	**+0.2**
GERES	**GERESS Array B** comp=Z,1.1nm,0.6s,baz=32,slow=6.3,SNR=6.3	**83.53**	**328**	P		**P**	**13 36 35.7**	**+0.2**
GERES	comp=Z,64nm,18.8s,baz=47,slow=39			LR		LR	14 18 40.9	
ESK	**Eskdalemuir**	**83.98**	**341**	*i* P		P	13 36 41.8	+4.3
TORD	**Torodi Ar. Bea**	**118.11**	**315**	PKP		**PKPdf**	**13 42 54.1**	**-0.8**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.6s,baz=26,slow=1.2,SNR=2.3	**118.11**	**315**	PKP		**PKPdf**	**13 42 54.1**	**-0.8**
LPAZ	**La Paz**	**146.76**	**61**	PKPbc		**PKPbc**	**13 43 51.1**	**+0.4**
LPAZ	**La Paz** comp=Z,1.1nm,0.6s,baz=359,slow=7.1,SNR=5.8	**146.76**	**61**	PKPbc		**PKPbc**	**13 43 51.1**	**+0.4**

TIR ***07*** *13:24:37.4, 41°.65N×20°.76E, h0km, ML3.1*

ATH ***07*** *13:24:42.5, 41°.71N×20°.77E, h8km±3km, MD3.4/20*

THE ***07*** *13:24:42.7, 41°.67N×20°.77E, h0km±1km, ML3.6/2, Error ellipse: s-maj=1.5km s-min=0.6km az=128.0*

PDG ***07*** *13:24:43.7±0.8, 41°.58N×20°.70E, h11km±1km, ML3.1/10, Error ellipse: s-maj=1.0km s-min=1.2km az=0.0*

SOF ***07*** *13:24:43.4, 41°.83N×20°.68E, h2km, MD2.9*

CSEM ***07*** *13:24:44.2±0.1, 41°.58N×20°.73E, h2km, ML3.6, Error ellipse: s-maj=3.7km s-min=2.2km az=51.0*

SKO ***07*** *13:24:44.5, 41°.59N×20°.90E, h12km, M2.8, ML3.3*

BEO ***07*** *13:24:45.0±0.4, 41°.56N×20°.83E, h0km, ML2.9/1*

ISC 07 13:24:44.0±0.5, 41°61N±0°.01×20°82E±0°.01, h6km±5km, n204, σ1s39/250, 27C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.30**	**285**	*i* Pg		Pg	13 24 47.6	-2.2
PHP				*i* Sg		**Sg**	**13 24 51.9**	**-1.9**
PHP	**Peshkopia**	**0.30**	**285**	P		Pg	13 24 47.7	-2.1
PHP				S		**Sg**	**13 24 51.3**	**-2.5**
PHP	**Peshkopia**	**0.30**	**285**	P		Pg	13 24 47.7	-2.1
PHP				S		**Sg**	**13 24 51.3**	**-2.5**
OHR	**Ohrid**	**0.49**	**182**	*i* Pg		**Pb**	**13 24 54.3**	**-0.9**
OHR	**Ohrid**	**0.49**	**182**	*i* Pg		**Pb**	**13 24 54.2**	**-0.9**
SKO	**Skopje**	**0.59**	**51**	P		**Pg**	**13 24 54.8**	**-0.5**
SKO				S		**Sb**	**13 25 03.8**	**-1.5**
SKO	**Skopje**	**0.59**	**51**	*e*Pg		**Pg**	**13 24 55.0**	**-0.3**
SKO	**Skopje**	**0.59**	**51**	⇑*i*Pg		**Pb**	**13 24 55.3**	**-1.4**
SKO				*i* Sg		**Sb**	**13 25 05.0**	**-0.3**
SKO	comp=E,2μm,0.8s			*e*Lg		Lg	13 25 05.2	
SKO	comp=N,1μm,0.3s			*e*Lg		Lg	13 25 05.5	
SKO	**Skopje**	**0.59**	**51**	⇑*i*Pg		**Pb**	**13 24 55.3**	**-1.4**
SKO				*i* Sg		**Sb**	**13 25 04.9**	**-0.3**
SKO	comp=N,1μm,0.3s			*e*Lg		Lg	13 25 05.4	
PRZK	**Prizren**	**0.61**	**355**	P		**Pg**	**13 24 54.9**	**-0.7**
PRZK				S		**Sg**	**13 25 03.9**	**+0.4**
BIA	**Bitola**	**0.70**	**147**	P		**Pg**	**13 24 56.6**	**-0.8**
BIA				S		**Sn**	**13 25 08.3**	**-3.3**
BIA	**Bitola**	**0.70**	**147**	*i* Pg		**Pb**	**13 24 57.8**	**-0.8**
BIA				*i* Sg		**Sn**	**13 25 09.5**	**-2.1**
BIA	**Bitola**	**0.70**	**147**	P		**Pg**	**13 24 56.6**	**-0.8**
BIA	**Bitola**	**0.70**	**147**	*i* Pg		**Pb**	**13 24 57.7**	**-0.8**
BIA				S		**Sn**	**13 25 08.3**	**-3.3**
BIA				*i* Sg		**Sn**	**13 25 09.5**	**-2.1**
PUK	**Puka**	**0.82**	**302**	*i* PG		Pg	13 24 57.6	-2.2
PUK				*i* SG		**Sg**	**13 25 08.4**	**-2.0**
PUK	**Puka**	**0.82**	**302**	*i* Pg		Pg	13 24 57.6	-2.2
PUK				*i* Sg		**Sg**	**13 25 08.4**	**-2.0**
ZATK	**Zatriq**	**0.85**	**350**	P		**Pg**	**13 25 00.4**	**0.0**
FNA	**Florina**	**0.92**	**153**	P		**Pg**	**13 25 01.0**	**-0.6**
FNA				S		**Sn**	**13 25 16.0**	**-1.1**
FNA	**Florina**	**0.92**	**153**	*e*PB		**Pg**	**13 25 01.1**	**-0.6**
FNA				*e*SB		**Sn**	**13 25 16.2**	**-0.9**
FNA	**Florina**	**0.92**	**153**	*e*Pb		**Pg**	**13 25 01.1**	**-0.6**
FNA				S		**Sn**	**13 25 16.0**	**-1.1**
GJIK	**Gjilan**	**0.97**	**28**	P		**Pg**	**13 25 02.3**	**-0.2**
GJIK				S		**Sn**	**13 25 17.0**	**-1.3**
KBN	**Korca**	**0.98**	**182**	P		**Pb**	**13 25 02.3**	**-1.1**
KBN				S		**Sn**	**13 25 18.1**	**-0.6**
KBN	**Korca**	**0.98**	**182**	P		**Pb**	**13 25 02.3**	**-1.1**
PEJK	**Peje**	**1.11**	**339**	P		**Pb**	**13 25 03.9**	**-1.8**
PEJK				S		**Sb**	**13 25 19.7**	**-0.7**
PVY	**Plav**	**1.18**	**327**	⇑*i*Pg		**Pn**	**13 25 04.6**	**-2.5**
PVY				*e*Sg		**Sb**	**13 25 22.2**	**-0.2**
PVY	**Plav**	**1.18**	**327**	⇑*i*Pg		**Pn**	**13 25 04.6**	**-2.5**
NEST	**Nestorio**	**1.20**	**172**	P		**Pn**	**13 25 06.2**	**-1.2**
NEST				S		**Sn**	**13 25 25.0**	**+0.9**
NEST	**Nestorio**	**1.20**	**172**	P		**Pn**	**13 25 06.2**	**-1.2**
SMRK	**Smrekonice**	**1.27**	**4**	P		**Pn**	**13 25 07.6**	**-0.7**
VAY	**Valandovo**	**1.34**	**102**	P		**Pg**	**13 25 08.4**	**-1.3**
VAY				S		**Sg**	**13 25 28.4**	**+1.3**
VAY	**Valandovo**	**1.34**	**102**	⇓*i*Pg		**Pg**	**13 25 09.2**	**-0.5**
VAY				*i* Sg		**Sg**	**13 25 26.9**	**-0.2**

BUM					*e*Sg	**Sb**	**13 25 35.0**	**+0.6**
BUM	**Brajici-Budva**	**1.60**	**296**	⇑	*e*Pg	**Pn**	**13 25 12.1**	**-0.8**
KNT	**Kendrikon**	**1.62**	**105**		P	**Pb**	**13 25 13.0**	**-1.3**
KNT	**Kendrikon**	**1.62**	**105**		*e*PG	**Pg**	**13 25 13.7**	**-1.4**
KNT					*e*SB	**Sg**	**13 25 37.3**	**+1.2**
KNT	**Kendrikon**	**1.62**	**105**		P	**Pb**	**13 25 13.0**	**-1.3**
KNT	**Kendrikon**	**1.62**	**105**		*e*Pg	**Pg**	**13 25 13.7**	**-1.4**
KNT					*e*Sb	**Sg**	**13 25 37.3**	**+1.2**
SELS	**Selova**	**1.63**	**8**		*e*Pn	**Pb**	**13 25 14.7**	**+0.3**
SELS					*e*Sn	**Sg**	**13 25 37.1**	**+0.9**
KKB	**Krupnik**	**1.71**	**81**		P	**Pg**	**13 25 16.2**	**-0.5**
KKB					S	**Sg**	**13 25 40.8**	**+1.9**
KKB	**Krupnik**	**1.71**	**81**		P	**Sg**	**13 25 16.2**	**-0.5**
KKB					S	**Sg**	**13 25 40.8**	**+1.9**
SJES	**Sjenica**	**1.77**	**339**		*e*Pn	**Pb**	**13 25 17.1**	**+0.2**
SJES					*e*Sn	**Sb**	**13 25 40.6**	**+1.2**
NKME	**Niksic**	**1.81**	**310**	⇑	*i*Pn	**Pn**	**13 25 15.1**	**-0.7**
NKME					*e*Sn	**Sn**	**13 25 40.1**	**+1.0**
NKME	**Niksic**	**1.81**	**310**	⇑	*i*Pn	**Pn**	**13 25 15.1**	**-0.7**
NKY	**Niksic**	**1.82**	**312**	⇑	*i*Pn	**Pn**	**13 25 14.8**	**-1.1**
NKY					*e*Sn	**Sn**	**13 25 40.0**	**+0.7**
NKY	**Niksic**	**1.82**	**312**	⇑	*i*Pn	**Pn**	**13 25 14.8**	**-1.1**
HCY	**Herceg Novi**	**1.93**	**297**	⇑	*i*Pn	**Pn**	**13 25 16.9**	**-0.4**
HCY					*e*Sn	**Sn**	**13 25 42.2**	**+0.3**
HCY	**Herceg Novi**	**1.93**	**297**	⇑	*i*Pn	**Pn**	**13 25 16.9**	**-0.4**
HCY					*e*Sn	**Sn**	**13 25 42.2**	**+0.3**
JAN	**Janina**	**1.95**	**179**		*e*PG	**Pg**	**13 25 20.8**	**-0.5**
JAN	**Janina**	**1.95**	**179**		*e*Pg	**Pg**	**13 25 20.8**	**-0.5**
LIT	**Litokhoron**	**1.96**	**139**		P	**Pb**	**13 25 17.9**	**-2.3**
LIT	**Litokhoron**	**1.96**	**139**		*e*PN	**Pb**	**13 25 19.0**	**-1.2**
LIT	**Litokhoron**	**1.96**	**139**		P	**Pb**	**13 25 17.9**	**-2.3**
LIT	**Litokhoron**	**1.96**	**139**		*e*Pn	**Pb**	**13 25 19.0**	**-1.2**
HORT	**Hortiatis**	**1.99**	**120**		P	**Pb**	**13 25 18.2**	**-2.5**
HORT	**Hortiatis**	**1.99**	**120**		*e*PN	**Pb**	**13 25 20.1**	**-0.6**
HORT	**Hortiatis**	**1.99**	**120**		P	**Pb**	**13 25 18.2**	**-2.5**
HORT	**Hortiatis**	**1.99**	**120**		*e*Pn	**Pb**	**13 25 20.1**	**-0.6**
PLE	**Pljevlja**	**2.02**	**329**		*e*Pn	**Pn**	**13 25 18.6**	**-0.1**
PLE					*e*Sn	**Sn**	**13 25 44.6**	**+0.2**
PLE	**Pljevlja**	**2.02**	**329**		*e*Pn	**Pn**	**13 25 18.6**	**-0.1**
PLE					*e*Sn	**Sn**	**13 25 44.6**	**+0.2**
VTS	**Vitosha**	**2.03**	**60**		P	**Pn**	**13 25 17.3**	**-1.6**
VTS	**Vitosha**	**2.03**	**60**		*e*Pn	**Pb**	**13 25 20.7**	**-0.6**
VTS					*e*Sn	**Sg**	**13 25 47.1**	**-2.0**
VTS	**Vitosha**	**2.03**	**60**		P	**Pb**	**13 25 19.8**	**-1.5**
VTS	**Vitosha**	**2.03**	**60**	⇑	*i*P	**Pg**	**13 25 22.0**	**-0.8**
VTS	**Vitosha**	**2.03**	**60**		P	**Pb**	**13 25 19.8**	**-1.5**
VTS	**Vitosha**	**2.03**	**60**		*e*Pn	**Pb**	**13 25 20.7**	**-0.6**
VTS					*e*Sn	**Sg**	**13 25 47.1**	**-2.0**
IVAS	**Ivanjica**	**2.03**	**346**		*e*Pn	**Pb**	**13 25 21.2**	**-0.1**
IVAS					*e*Sn	**Sb**	**13 25 46.6**	**-0.3**
IVAS	**Ivanjica**	**2.03**	**346**		*e*Pn	**Pb**	**13 25 21.2**	**-0.1**
IVAS					*e*Sn	**Sb**	**13 25 46.6**	**-0.3**
KEK	**Kerkira**	**2.05**	**203**		*e*PN	**Pb**	**13 25 20.3**	**-1.2**
KEK	**Kerkira**	**2.05**	**203**		*e*Pn	**Pb**	**13 25 20.3**	**-1.2**
SOH	**Sokhos**	**2.06**	**112**		P	**Pb**	**13 25 19.4**	**-2.5**
SOH	**Sokhos**	**2.06**	**112**		*e*PG	**Pg**	**13 25 21.6**	**-1.9**
SOH	**Sokhos**	**2.06**	**112**		P	**Pb**	**13 25 19.4**	**-2.5**
SOH	**Sokhos**	**2.06**	**112**		*e*Pg	**Pg**	**13 25 21.6**	**-1.9**
BRY	**Bratogost**	**2.13**	**308**	⇓	*i*Pn	**Pn**	**13 25 20.0**	**-0.3**
BRY					*e*Sn	**Sn**	**13 25 48.2**	**+1.0**
BRY	**Bratogost**	**2.13**	**308**	⇓	*i*Pn	**Pn**	**13 25 20.0**	**-0.3**
UPM	**Unac-Piva**	**2.14**	**319**	⇓	*i*Pn	**Pn**	**13 25 19.5**	**-0.9**
UPM					*e*Sn	**Sn**	**13 25 47.2**	**-0.1**
UPM	**Unac-Piva**	**2.14**	**319**	⇓	*i*Pn	**Pn**	**13 25 19.5**	**-0.9**
UPM	**Unac-Piva**	**2.14**	**319**		P	**Pb**	**13 25 23.8**	**+0.6**
UPM					*e*Sn	**Sn**	**13 25 47.2**	**-0.1**
ZAPS	**Zavoj**	**2.14**	**38**		*e*Pn	**Pb**	**13 25 23.7**	**-0.4**
ZAPS					*e*Sn	**Sg**	**13 25 50.5**	**-2.1**
SRS	**Serrai**	**2.14**	**102**		*e*PN	**Pb**	**13 25 21.6**	**-1.5**
SRS	**Serrai**	**2.14**	**102**		*e*Pn	**Pb**	**13 25 21.6**	**-1.5**
MMB	**Musomiste**	**2.18**	**90**		P	**Pg**	**13 25 23.8**	**-1.9**
MMB	**Musomiste**	**2.18**	**90**	⇓	*i*P	**Pg**	**13 25 24.6**	**-1.1**
MMB	**Musomiste**	**2.18**	**90**		P	**Pg**	**13 25 23.8**	**-1.9**
THL	**Klokotos Trika**	**2.23**	**156**		*e*PN	**Pb**	**13 25 23.7**	**-1.0**
THL	**Klokotos Trika**	**2.23**	**156**		*e*Pn	**Pb**	**13 25 23.7**	**-1.0**
GRUS	**Gruza**	**2.28**	**358**		*e*Pn	**Pb**	**13 25 24.1**	**-1.5**
GRUS					*e*Sn	**Sb**	**13 25 54.1**	**+0.1**
GRUS	**Gruza**	**2.28**	**358**		*e*Pn	**Pb**	**13 25 24.1**	**-1.5**
GRUS					*e*Sn	**Sb**	**13 25 54.1**	**+0.1**
NVR	**Nevrokopi**	**2.30**	**95**		*e*PN	**Pb**	**13 25 24.4**	**-1.4**
NVR	**Nevrokopi**	**2.30**	**95**		*e*Pn	**Pb**	**13 25 24.4**	**-1.4**
PLG	**Polygyros**	**2.33**	**121**		*e*PN	**Pb**	**13 25 24.6**	**-1.9**
PLG	**Polygyros**	**2.33**	**121**		*e*Pn	**Pb**	**13 25 24.6**	**-1.9**
BOLS	**Boljevac**	**2.37**	**20**		*e*Pn	**Pb**	**13 25 26.3**	**-0.8**
BOLS					*e*Sn	**Sb**	**13 25 56.4**	**-0.2**
BOLS	**Boljevac**	**2.37**	**20**		*e*Pn	**Pb**	**13 25 26.3**	**-0.8**
BOLS					*e*Sn	**Sb**	**13 25 56.4**	**-0.2**
DIVS	**Divibare**	**2.56**	**346**		*e*Pn	**Pb**	**13 25 28.8**	**-1.6**
DIVS					*e*Sn	**Sb**	**13 26 01.2**	**-1.0**
DIVS	**Divibare**	**2.56**	**346**		*e*Pn	**Pb**	**13 25 28.8**	**-1.6**
DIVS					*e*Sn	**Sb**	**13 26 01.2**	**-1.0**
STON	**Ston**	**2.64**	**300**		*e*Pn	**Pn**	**13 25 27.3**	**+0.1**
STON					Sn	**Sn**	**13 26 01.2**	**+1.7**
STON	**Ston**	**2.64**	**300**		*e*Pn	**Pn**	**13 25 29.4**	**+2.3**
STON					*e*Sn	**Sn**	**13 26 01.8**	**+2.3**
STON	**Ston**	**2.64**	**300**		*e*Pn	**Pn**	**13 25 27.2**	**+0.1**
STON					*e*Sn	**Sn**	**13 26 01.8**	**+2.3**
SVIS	**Svilajnac**	**2.67**	**6**		*e*Pn	**Pb**	**13 25 30.1**	**-2.1**
PAIG	**Paliouri**	**2.74**	**127**		*e*PN	Pb	13 25 30.4	-3.0
PAIG	**Paliouri**	**2.74**	**127**		*e*Pn	Pb	13 25 30.4	-3.0
MPEP	**Malo Peshtene**	**2.78**	**50**		P	**Pg**	**13 25 37.1**	**0.0**
MAKR	**Makrakomi, Fth**	**2.78**	**158**		*e*PB	Pb	13 25 30.8	-3.2
MAKR	**Makrakomi, Fth**	**2.78**	**158**		*e*Pb	Pb	13 25 30.8	-3.2
EVR	**Evrytania**	**2.79**	**164**		*e*PN	Pb	13 25 31.5	-2.8
EVR	**Evrytania**	**2.79**	**164**		*e*Pn	Pb	13 25 31.5	-2.8
AGG	**Agios Georgios**	**2.83**	**155**		P	**Pn**	**13 25 30.2**	**+0.5**
AGG	**Agios Georgios**	**2.83**	**155**		*e*PB	**Pn**	**13 25 30.6**	**+0.9**
AGG	**Agios Georgios**	**2.83**	**155**		P	**Pn**	**13 25 30.2**	**+0.5**
AGG	**Agios Georgios**	**2.83**	**155**		*e*Pb	**Pn**	**13 25 30.6**	**+0.9**
KAVA	**Kavala**	**2.84**	**101**		*e*PB	Pb	13 25 31.1	-4.1
XOR	**Xorichti**	**2.88**	**140**		P	**Pn**	**13 25 30.0**	**-0.4**
XOR	**Xorichti**	**2.88**	**140**		*e*PN	**Pn**	**13 25 31.2**	**+0.8**
XOR	**Xorichti**	**2.88**	**140**		P	**Pn**	**13 25 30.0**	**-0.4**
XOR	**Xorichti**	**2.88**	**140**		*e*Pn	**Pn**	**13 25 31.2**	**+0.8**
RZN	**Rozhen**	**2.92**	**87**		P	**Pb**	**13 25 34.0**	**-2.5**
RZN	**Rozhen**	**2.92**	**87**		P	**Pb**	**13 25 34.0**	**-2.5**
PLD	**Plovdiv**	**2.94**	**79**		*e*Pn	Pb	13 25 33.1	-3.7
PLD	**Plovdiv**	**2.94**	**79**		*e*Pn	Pb	13 25 33.1	-3.7
PDO	**Prodromos**	**3.02**	**175**		P	**Pn**	**13 25 32.4**	**+0.1**
PDO	**Prodromos**	**3.02**	**175**		*e*PN	**Pn**	**13 25 34.7**	**+1.7**
PDO	**Prodromos**	**3.02**	**175**		P	**Pn**	**13 25 32.4**	**+0.1**
PDO	**Prodromos**	**3.02**	**175**		*e*Pn	**Pn**	**13 25 34.0**	**+1.7**
KDZ	**Kurdzhali**	**3.44**	**88**	⇑	*i*P	Pb	13 25 41.4	-4.0
KDZ	**Kurdzhali**	**3.44**	**88**	⇑	*i*P	Pb	13 25 41.4	-4.0
LAKA	**Lakka**	**3.48**	**165**		*e*PN	Pb	13 25 41.5	-4.5
LAKA	**Lakka**	**3.48**	**165**		*e*Pn	Pb	13 25 41.5	-4.5
MRKA	**Markates**	**3.59**	**143**		*e*PN	**Pn**	**13 25 41.8**	**+1.6**
MRKA	**Markates**	**3.59**	**143**		*e*Pn	**Pn**	**13 25 41.8**	**+1.6**
FGSL	**Fruska Gora**	**3.62**	**349**		*e*Pn	**Pn**	**13 25 43.0**	**+2.3**
FRGS	**Fruska Gora**	**3.63**	**349**		*e*Pn	**Pn**	**13 25 43.0**	**+2.3**
KLV	**Kalavryta, Ach**	**3.70**	**164**		*e*PN	Pn	13 25 44.2	+2.4
KLV	**Kalavryta, Ach**	**3.70**	**164**		*e*Pn	Pn	13 25 44.2	+2.4
GUR	**Goura**	**3.85**	**162**		*e*PB	Pb	13 25 47.8	-4.5
GUR	**Goura**	**3.85**	**162**		*e*Pb	Pb	13 25 47.8	-4.5
TIP	**Timpagrande**	**3.94**	**233**		P	**Pn**	**13 25 44.1**	**-0.9**
TIP					S	**Sn**	**13 26 32.5**	**+0.9**
TIP	**Timpagrande**	**3.94**	**233**		P	**Pn**	**13 25 44.1**	**-0.9**
LTK	**Loutraki**	**3.94**	**155**		*e*PN	Pn	13 25 47.6	+2.6
LTK	**Loutraki**	**3.94**	**155**		*e*Pn	Pn	13 25 47.6	+2.6
ALN	**Alexandroupoli**	**4.00**	**98**		P	**Pn**	**13 25 46.6**	**+0.8**
ALN	**Alexandroupoli**	**4.00**	**98**		*e*PN	Pn	13 25 47.8	+2.0
ALN	**Alexandroupoli**	**4.00**	**98**		P	**Pn**	**13 25 46.6**	**+0.8**
ALN	**Alexandroupoli**	**4.00**	**98**		*e*Pn	Pn	13 25 47.8	+2.0
BZS	**Buzias**	**4.05**	**8**	⇑	*i*P	**Pn**	**13 25 48.8**	**+2.3**
BZS	**Buzias**	**4.05**	**8**	⇑	*i*P	**Pn**	**13 25 48.8**	**+2.3**
BLY	**Banja Luka**	**4.12**	**321**		*e*Pn	**Pn**	**13 25 49.3**	**+1.9**
BLY	**Banja Luka**	**4.12**	**321**		*e*Pn	**Pn**	**13 25 49.3**	**+1.9**
ARR	**Arges**	**4.67**	**35**	⇑	*i*P	**Pn**	**13 25 57.2**	**+2.1**
ARR	**Arges**	**4.67**	**35**	⇑	*i*P	**Pn**	**13 25 57.2**	**+2.1**
SIRR	**Siria**	**4.70**	**7**	⇓	*i*P	Pn	13 25 59.6	+4.2
SIRR	**Siria**	**4.70**	**7**	⇓	*i*P	Pn	13 25 59.6	+4.2
UDBI	**Udbina**	**4.72**	**310**		*e*Pn	**Pn**	**13 25 57.5**	**+1.8**
UDBI					Sn	**Sn**	**13 26 51.2**	**+0.4**
UDBI	**Udbina**	**4.72**	**310**		*e*Pn	**Pn**	**13 25 57.5**	**+1.8**
UDBI					Sn	**Sn**	**13 26 51.2**	**+0.4**
PYL	**PYLOS**	**4.76**	**171**		*e*PN	**Pn**	**13 25 57.3**	**+1.1**
PYL	**PYLOS**	**4.76**	**171**		*e*Pn	**Pn**	**13 25 57.3**	**+1.1**
PKSM	**Moragy**	**4.87**	**342**		*e*Pn	**Pn**	**13 26 00.1**	**+2.4**
PKSM	**Moragy**	**4.87**	**342**	⇓	*i*P	**Pn**	**13 25 58.9**	**+1.2**
PKSM	**Moragy**	**4.87**	**342**	⇓	*i*P	**Pn**	**13 25 58.9**	**+1.2**
PKSM	**Moragy**	**4.87**	**342**		*e*Pn	**Pn**	**13 26 00.1**	**+2.4**
VOIR		**4.91**	**37**	⇑	*i*P	Pn	13 26 00.6	+2.2
VOIR		**4.91**	**37**	⇑	*i*P	Pn	13 26 00.6	+2.2
NVLJ	**Novalja**	**5.27**	**306**		*e*Pn	**Pn**	**13 26 03.0**	**-0.2**
NVLJ					Sn	**Sn**	**13 27 03.6**	**-0.5**
NVLJ	**Novalja**	**5.27**	**306**		*e*Pn	**Pn**	**13 26 03.0**	**-0.2**
NVLJ					Sn	**Sn**	**13 27 03.6**	**-0.5**
MLR	**Muntele Rosu**	**5.38**	**42**	⇓	*i*P	Pn	13 26 08.3	+3.5
MLR	**Muntele Rosu**	**5.38**	**42**	⇓	*i*P	Pn	13 26 08.3	+3.5
KYTH	**Kithira**	**5.59**	**161**		*e*PN	Pn	13 26 12.3	+4.6
BOJS	**Bojanci**	**5.62**	**316**		*i* Pn	**Pn**	**13 26 09.7**	**+1.7**
BOJS	**Bojanci**	**5.62**	**316**		*i* Pn	**Pn**	**13 26 09.7**	**+1.7**
CEY	**Cerknica**	**6.21**	**314**		*i* Pn	**Pn**	**13 26 17.9**	**+1.7**
CEY	**Cerknica**	**6.21**	**314**		*i* Pn	**Pn**	**13 26 17.9**	**+1.7**
PERS	**Pernice**	**6.49**	**323**		*i* Pn	**Pn**	**13 26 21.6**	**+1.6**
PERS	**Pernice**	**6.49**	**323**		*i* Pn	**Pn**	**13 26 21.6**	**+1.6**
OBKA	**Obir**	**6.67**	**319**	⇑	*i*Pn	**Pn**	**13 26 24.1**	**+1.6**
OBKA	**Obir**	**6.67**	**319**		Pn	**Pn**	**13 26 24.1**	**+1.6**
BURAR	**Bucovina Array**	**6.77**	**26**	⇑	*i*P	**Pn**	**13 26 25.7**	**+1.7**
BURAR	**Bucovina Array**	**6.77**	**26**	⇑	*i*P	**Pn**	**13 26 25.7**	**+1.7**
ABTA	**Abfaltersbach**	**7.88**	**314**	⇑	*i*Pn	**Pn**	**13 26 39.1**	**0.0**
ABTA					⇓ *i*Sn	**Sn**	**13 28 09.0**	**+0.4**
ABTA	**Abfaltersbach**	**7.88**	**314**		Pn	**Pn**	**13 26 39.1**	**0.0**
ABTA					Sn	**Sn**	**13 28 09.0**	**+0.4**
FETA	**Feichten**	**9.03**	**310**	⇓	*i*Pn	**Pn**	**13 26 55.4**	**+0.4**
FETA					⇓ *i*Sn	**Sn**	**13 28 37.4**	**+0.3**
FETA	**Feichten**	**9.03**	**310**		Pn	**Pn**	**13 26 55.4**	**+0.4**
FETA					Sn	**Sn**	**13 28 37.4**	**+0.3**
ZAPS	**Zavoj**	**1.49**	**354**		*e*Pg	Pb	14 35 05.1	+0.6
ZAPS					*e*Sg	Sb	14 35 24.0	+0.7

IDC 07 13:56:52.1±3.6, 8°.49S×156°.50E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=101.7km s-min=39.8km az=108.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.27**	**240**	P		P		14 02 12.1	+0.8
	0.3nm,0.5s,baz=64,slow=8.5,SNR=4.2								
ASAR	**Alice Springs**	**26.37**	**232**	P		P		14 02 28.4	-1.9
	0.2nm,0.7s,baz=57,slow=9.2,SNR=3.3								
STKA	**Stephens Creek**	**27.08**	**209**	P		P		14 02 37.3	+0.7
	1.3nm,0.8s,baz=32,slow=9.5,SNR=3.0								
MKAR	**Makanchi Array**	**85.50**	**318**	P		P		14 09 32.7	+0.6
	0.4nm,0.7s,baz=101,slow=5.0,SNR=4.6								

*ISCJB **07** 14:01:47.7±0.7, 21°.8N±0°.1×144°.3E±0°.2, h114km, mb3.7/13, Error ellipse: s-maj=22.4km s-min=16.4km az=0.5*
*IDC **07** 14:01:58.5±4.4, 21°.75N×144°.18E, h201km±41km, mb3.3/13, mb1 3.6/14, mb1mx3.4/27, mbtmp3.3/14, Error ellipse: s-maj=19.8km s-min=12.7km az=90.0*
ISC 07 14:01:49.1±0.9, 21°.7N±0°.1×144°.3E±0°.2, h114km, n15, σ1s18/16, mb3.8/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.70**	**342**	P		**P**		**14 05 27.5**	**+1.9**
	0.4nm,0.3s,baz=165,slow=10.0,SNR=4.7								
KSRS	**Korea Array**	**21.14**	**321**	P		**P**		**14 06 27.3**	**+2.4**
	6.9nm,0.7s,baz=144,slow=8.7,SNR=28								
SONM	**Songino Array**	**40.00**	**320**	P		**P**		**14 09 12.9**	**+0.1**
	0.5nm,0.5s,baz=131,slow=6.4,SNR=4.1								
WRA	**Warramunga Arr**	**42.54**	**194**	P		**P**		**14 09 34.4**	**+0.7**
	0.2nm,0.3s,baz=12,slow=8.8,SNR=7								
CMAR	**Chiang Mai Arr**	**42.63**	**274**	P		**P**		**14 09 34.6**	**+0.2**
	0.3nm,0.4s,baz=70,slow=6.8,SNR=3.4								
ASAR	**Alice Springs**	**46.23**	**193**	P		**P**		**14 10 03.5**	**+0.4**
	0.2nm,0.8s,baz=8.8,slow=6.9,SNR=9.0								
ZALV	**Zalesovo Beam**	**54.85**	**321**	P		**P**		**14 11 06.2**	**-1.2**
	0.4nm,0.3s,baz=104,slow=9.3,SNR=3.4								
MKAR	**Makanchi Array**	**55.46**	**313**	P		**P**		**14 11 11.4**	**-0.5**
	0.5nm,0.5s,baz=89,slow=8.6,SNR=17								
MKAR				PcP		**PcP**		**14 12 09.8**	**-1.0**
	0.5nm,0.5s,baz=72,slow=6.7,SNR=6.6								
ILAR	**Eielson Array**	**61.54**	**27**	P		**P**		**14 11 53.3**	**-0.5**
	0.9nm,0.7s,baz=258,slow=4.9,SNR=9.7								
YKA	**Yellowknife Ar**	**75.94**	**28**	P		**P**		**14 13 23.3**	**+0.2**
	0.7nm,0.6s,baz=290,slow=5.7,SNR=11								
ARCES	**ARCESS Array B**	**79.24**	**342**	P		**P**		**14 13 40.7**	**-0.6**
	1.3nm,0.7s,baz=70,slow=8.2,SNR=7.0								
NVAR	**Mina Array Bea**	**82.30**	**52**	P		**P**		**14 13 59.7**	**+1.1**
	0.9nm,0.6s,baz=290,slow=5.9,SNR=11								
KBZ	**Khabaz**	**83.11**	**314**	P		**P**		**14 14 02.1**	**-0.2**
	2.6nm,0.9s,baz=252,slow=2.9,SNR=4.0								
FINES	**FINESS Array B**	**83.61**	**335**	P		**P**		**14 14 02.8**	**-1.7**
	1.3nm,0.4s,baz=72,slow=4.9,SNR=22								
TORD	**Torodi Ar. Bea**	**129.54**	**310**	PKP		**PKPdf**		**14 20 44.7**	**-0.8**
	0.2nm,0.4s,baz=84,slow=1.4,SNR=4.5								

CASC 07 14:15:13.3±1.6, 13°.62N×91°.35W, h2km±16km, MD3.6, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.75**	**338**	*e*P		Pb		14 15 29.0	-0.1
RTR	**El Retiro**	**1.68**	**80**	*i* P		Pn		14 15 43.7	-0.3
RTR				*e*S		Sg		14 16 07.8	0.0
SBLS	**San Blas**	**1.69**	**82**	⇑ *i*P		Pn		14 15 43.1	-1.1
SBLS				*e*S		Sb		14 16 07.7	+0.1
SNJE	**San Jose**	**1.71**	**81**	*e*P		Pn		14 15 43.6	-0.9
MRL	**Marmol**	**2.16**	**48**	*e*P		Pn		14 15 51.6	+1.1
SNVI	**San Vicente**	**2.44**	**90**	*e*P		Pn		14 15 54.4	0.0
SNVI				*e*S		Sn		14 16 26.2	+1.2

*SKO **07** 14:34:36.9, 41°.78N×22°.91E, h19km, M1.0, ML1.6*
*THE **07** 14:34:37.1, 41°.78N×22°.89E, h5km±2km, ML1.7/3, Error ellipse: s-maj=2.1km s-min=0.7km az=270.0*
*BEO **07** 14:34:38.3±0.4, 41°.81N×22°.68E, h0km, ML1.4/2*
CSEM 07 14:34:37.0±0.2, 41°.79N×22°.86E, h15km, ML1.4, Error ellipse: s-maj=4.7km s-min=2.9km az=84.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.52**	**205**	P		Pg		14 34 47.5	+0.2
VAY				S		Sg		14 34 54.3	0.0
VAY	**Valandovo**	**0.52**	**205**	*e*Pg		Pg		14 34 47.4	+0.1
VAY				*i* Sg		Sg		14 34 53.7	-0.6
VAY	**Valandovo**	**0.52**	**205**	*e*Pg		Pg		14 34 48.1	+0.2
VAY				*i* Sg		Sb		14 34 55.0	-0.1
VAY				*e*Lg		Lg		14 34 55.3	
	comp=E,24nm,0.5s								
VAY				*e*Lg		Lg		14 34 55.3	
	comp=N,13nm,0.4s								
VAY	**Valandovo**	**0.52**	**205**	*e*Pg		Pg		14 34 47.4	+0.1
VAY				*i* Sg		Sg		14 34 53.7	-0.6
VAY				S		Sb		14 34 54.3	-0.9
VAY				*e*Lg		Lg		14 34 55.3	
	comp=N,13nm,0.4s								
KNT	**Kendrikon**	**0.63**	**178**	P		Pg		14 34 49.2	-0.2
KNT				S		Sg		14 34 57.6	-0.2
VTS	**Vitosha**	**0.84**	**18**	P		Pb		14 34 53.3	-0.2
VTS				S		Sg		14 35 04.6	-0.2
VTS	**Vitosha**	**0.84**	**18**	*e*Pg		Pn		14 34 55.1	+0.6
VTS				*i* Sg		Sb		14 35 05.0	+0.2
VTS	**Vitosha**	**0.84**	**18**	P		Pb		14 34 53.3	-0.2
VTS	**Vitosha**	**0.84**	**18**	*e*Pg		Pn		14 34 55.1	+0.6
VTS				S		Sg		14 34 57.6	-0.2
VTS				*i* Sg		Sb		14 35 05.0	+0.2
SRS	**Serrai**	**0.87**	**141**	P		Pb		14 34 53.1	-0.7
SRS				S		Sg		14 35 05.8	+0.4
SRS	**Serrai**	**0.87**	**141**	P		Pb		14 34 53.1	-0.7
SRS				S		Sg		14 35 05.8	+0.4
NVR	**Nevrokopi**	**0.87**	**120**	P		Pb		14 34 53.2	-0.7
NVR				S		Sb		14 35 05.1	-0.3
NVR	**Nevrokopi**	**0.87**	**120**	P		Pb		14 34 53.2	-0.7
NVR				S		Sb		14 35 05.1	-0.3
GRG	**Griva**	**0.90**	**203**	P		Pb		14 34 53.7	-0.8
GRG				S		Sg		14 35 06.6	+0.1
SOH	**Sokhos**	**1.04**	**159**	P		Pb		14 34 56.6	-0.2
SOH				S		Sg		14 35 10.8	0.0
SOH	**Sokhos**	**1.04**	**159**	P		Pb		14 34 56.6	-0.2
SOH				S		Sg		14 35 10.8	0.0
KAVA	**Kavala**	**1.48**	**122**	P		Pb		14 35 03.7	-0.4
KAVA				S		Sb		14 35 23.0	+0.3
KAVA	**Kavala**	**1.48**	**122**	P		Pb		14 35 03.7	-0.4
KAVA				S		Sb		14 35 23.0	+0.3

*ISCJB **07** 14:35:25.4±0.9, 19°.45S±0°.03×70°.70W±0°.04, h33km±6km, mb4.7/55, MS4.1/11, Error ellipse: s-maj=6.9km s-min=4.0km az=142.8*
*GUC **07** 14:35:26.6±0.6, 19°.55S×70°.68W, h34km±2km, ML5.0*
*NEIC **07** 14:35:26.0, 19°.55S×70°.67W, h34km, mb4.7/39, ML5.0(GUC), After GUC.*
NEIC Felt [III] at Alto Hospicio and Iquique and [II] at Huara, Pisagua and Pozo Almonte.
*IDC **07** 14:35:26.8±0.7, 19°.42S×70°.56W, h31km±3km, mb4.4/15, mb1 4.5/17, mb1mx4.5/23, mbtmp4.6/17, ML5.2/2, MS3.9/11, Ms1 3.9/11, ms1mx3.8/20, Error ellipse: s-maj=19.3km s-min=15.6km az=41.0*
*BJI **07** 14:35:27.6, 19°.00S×69°.30W, h35km, mB5.4/7, Ms5.2/5, Ms7 4.9/6*
ISC 07 14:35:26.4±0.5, 19°.46S±0°.04×70°.68W±0°.05, h32km±3km, h32km:pP-P, n299, σ1s29/319, mb4.7/56, MS4.1/11, 6C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.55**	**105**	⇓ *i*P		**Pb**		**14 35 37.2**	**-0.6**
PSGC				*i* S		**Sb**		**14 35 44.9**	**-0.6**

527A	Woodward Ranch	58.63	327	P		P	14 45 21.7 +0.9
	baz=59						
ABTX	Abilene, Hawle	58.73	331	eP		P	14 45 21.9 +0.5
ABTX	Abilene, Hawle	58.73	331	P		P	14 45 22.4 +1.0
	baz=59						
526A	Mary Lane Ranc	58.81	326	P		P	14 45 23.3 +1.2
	baz=59						
329A	Wagon Wheel Ra	58.89	329	P		P	14 45 23.2 +0.7
	baz=59						
Z33A	Whitaker Ranch	58.91	333	P		P	14 45 22.9 +0.4
	baz=59						
Y34A	Reagan Ranch,	59.05	334	P		P	14 45 24.3 +0.8
	baz=59						
131A	Roby	59.11	331	P		P	14 45 24.6 +0.6
	baz=60						
328A	Wristen Ranch,	59.21	328	P		P	14 45 25.5 +0.7
	baz=60						
130A	Snyder	59.32	330	P		P	14 45 26.5 +1.1
	baz=60						
SIUC	Southern Illin	59.48	343	eP		P	14 45 24.8 -1.6
	comp=N,22nm,0.8s						
Z31A	Sharp Cattle R	59.54	331	P		P	14 45 27.7 +0.8
	baz=60						
326A	Caldwell Ranch	59.75	327	P		P	14 45 27.6 -0.9
	baz=60						
Y32A	R-V Farms, Ver	59.81	332	P		P	14 45 28.8 +0.1
	baz=60						
425A	Indio Mountain	59.86	326	P		P	14 45 29.5 +0.2
	baz=60						
Z30A	Sanderson Ranc	59.97	331	P		P	14 45 30.5 +0.6
	baz=60						
TUL1	Tulsa	59.98	337	P		P	14 45 31.0 +1.1
	baz=60						
128A	Castleberry Fa	60.06	329	P		P	14 45 30.8 +0.2
	baz=60						
Y31A	Rekieta Farm,	60.14	332	P		P	14 45 31.5 +0.5
	baz=60						
Z29A	Hungry Hill Ra	60.21	330	P		P	14 45 31.9 +0.2
	baz=60						
226B	Tecolote Peak,	60.45	327	P		P	14 45 34.9 +1.6
	baz=61						
324A	Moseley Ranch,	60.63	326	P		P	14 45 35.2 +0.5
	baz=61						
W32A	Sentinel	60.68	333	P		P	14 45 35.2 +0.5
	baz=61						
Y29A	Porterfield Fa	60.69	331	P		P	14 45 35.5 +0.6
	baz=61						
MNTX	Cornudas Mount	60.78	326	eP		P	14 45 35.0 -0.5
	comp=N,3.0nm,1.3s						
225A	Deer Hill, Car	60.82	327	P		P	14 45 36.5 +0.6
	baz=61						
Z27A	Tatum	60.98	329	P		P	14 45 37.4 +0.5
	baz=61						
V32A	Arapaho	61.10	334	P		P	14 45 38.2 +0.7
	baz=62						
224A	Cornudas Mount	61.15	326	P		P	14 45 38.6 +0.4
	baz=62						
Y27A	Causey	61.42	329	P		P	14 45 40.3 +0.5
	baz=62						
124A	Stringfield Ra	61.61	327	P		P	14 45 42.5 +1.1
	baz=62						
Z25A	Roswell	61.69	328	P		P	14 45 41.5 -0.3
	baz=62						
Y25A	Mesa, Roswell	62.19	328	P		P	14 45 45.2 +0.1
	baz=62						
X26A	CR and CF Fran	62.27	329	P		P	14 45 45.5 -0.1
	baz=63						
Z23A	Rita Site, Whi	62.45	327	P		P	14 45 48.0 +1.2
	baz=63						
U28A	Mallet	63.03	332	P		P	14 45 51.1 +0.5
	baz=63						
W25A	X Bar L Ranch,	63.12	329	P		P	14 45 51.9 +0.6
	baz=64						
V26A	Tequesquite Ra	63.27	330	P		P	14 45 53.1 +0.8
	baz=64						
BNM	Barren Site	63.35	327	eP		P	14 45 53.9 +1.0
	comp=N,4.9nm,1.2s						
X23A	Hourglass Bar	63.47	328	P		P	14 45 55.4 +1.8
	baz=64						
V25A	Rancho No Teng	63.70	330	P		P	14 45 56.3 +1.2
	baz=64						
Q32A	Meitler Ranch,	63.73	336	P		P	14 45 55.7 +0.6
	baz=64						
U26A	Atchley Ranch,	63.74	331	P		P	14 45 56.2 +0.8
	baz=64						
LAZ	Ladron	63.81	327	ePn		P	14 45 55.5 -0.5
	comp=N,4.2nm,1.2s						
T27A	Campo	63.82	332	P		P	14 45 56.5 +0.7
	baz=64						
U25A	Circle Dot Ran	64.05	330	P		P	14 45 58.6 +1.1
	baz=64						
T26A	Comanche Natio	64.31	331	P		P	14 46 00.3 +1.1
	baz=65						
Q30A	Quinter	64.38	335	P		P	14 46 01.1 +1.8
	baz=65						
SADO	Sadowa	64.38	353	P		P	14 45 59.2 +0.1
SADO				pP		pP	14 46 09.3 +0.3
SADO	Sadowa	64.38	353	P		P	14 45 59.2 +0.1
	comp=N,8.9nm,0.7s,baz=239,slow=2.2,SNR=5.6						
SADO				pP		pP	14 46 09.3 +0.3
	comp=N,7.7nm,0.8s,baz=269,slow=3.5,SNR=2.9						
P31A	Stockton	64.51	336	P		P	14 46 01.0 +0.8
	baz=65						
Q29A	Oakley	64.61	334	P		P	14 46 01.8 +0.8
	baz=65						
S26A	Kim	64.62	332	P		P	14 46 02.4 +1.3
	baz=65						
T25A	Trinidad	64.65	331	P		P	14 46 02.2 +0.8
	baz=65						
SNAA	Sanae	64.74	161	eP		P	14 46 01.2 -0.2
	comp=N,4.3nm,0.6s						
V22A	San Miguel Ran	64.88	328	P		P	14 46 04.7 +1.7
	baz=65						
S25A	Robets Cordova	65.09	331	P		P	14 46 05.4 +1.1
	baz=65						
R26A	Arlington	65.17	332	P		P	14 46 05.7 +1.0
	baz=66						
S24A	Houchin Ranch,	65.43	330	P		P	14 46 08.1 +1.5
	baz=66						
SDCO	Great Sand Dun	65.65	330	eP		P	14 46 08.2 +0.2
	comp=N,7.3nm,1.0s						
X16A	Lo Mia Camp, P	66.14	324	P		P	14 46 13.2 +2.2
	baz=66						
R23A	Moffat	66.16	330	P		P	14 46 12.2 +1.0
	baz=66						
S22A	4UR Ranch, Cre	66.28	329	P		P	14 46 13.7 +1.6
	baz=67						
Q24A	Divide	66.48	331	P		P	14 46 14.4 +1.1
	baz=67						
P25A	Willow Gulch B	66.49	332	P		P	14 46 14.5 +1.3
	baz=67						
WUAZ	Wupatki	66.91	325	P		P	14 46 18.1 +2.1
	baz=67						
ECSD	EROS Data Cent	67.23	340	eP		P	14 46 17.8 +0.2
	comp=N,21nm,1.5s						
ECSD	EROS Data Cent	67.23	340	P		P	14 46 18.6 +1.0
	baz=68						
ISCO	Idaho Springs	67.36	331	eP		P	14 46 18.2 -0.7
	comp=N,3.8nm,1.0s						
ISCO	Idaho Springs	67.36	331	P		P	14 46 19.5 +0.5
	baz=68						
SMCO	Snowmass	67.49	330	eP		P	14 46 21.5 +1.7
	comp=N,54nm,2.4s						
K29A	Lazy Trails An	67.66	337	P		P	14 46 22.1 +1.7
	baz=68						
P22A	Eagle	67.72	331	P		P	14 46 22.7 +1.6
	baz=68						
O23A	Lake Granby, G	67.83	332	P		P	14 46 23.5 +1.7
	baz=68						
J30A	Dallas	67.85	338	P		P	14 46 23.8 +2.2
	baz=68						
BAR	Barrett	67.98	319	eP		P	14 46 22.7 +0.1
	comp=N,6.2nm,0.8s						
IRM	Iron Mountain	68.08	321	P		P	14 46 24.9 +1.7
	baz=68						
O22A	Kremmling	68.08	331	P		P	14 46 24.7 +1.3
	baz=68						
U15A	North Rim	68.08	325	P		P	14 46 25.4 +1.9
	baz=68						
M24A	Cheyenne	68.38	333	P		P	14 46 26.9 +1.8
	baz=69						
N23A	Red Feather La	68.40	332	P		P	14 46 26.3 +0.9
	baz=69						
BELC	Belle Mtn. Jos	68.47	321	P		P	14 46 26.9 +1.1
	baz=69						
N22A	Wattenberg Ran	68.55	332	P		P	14 46 27.8 +1.5
	baz=69						
M23A	Laramie	68.77	332	P		P	14 46 29.4 +1.8
	baz=69						
O20A	White River Ci	68.85	330	P		P	14 46 29.6 +1.5
	baz=69						
SRU	San Rafael	69.17	328	eP		P	14 46 30.3 +0.3
	comp=N,6.8nm,0.9s						
J26A	Sides Ranch, S	69.19	335	P		P	14 46 32.0 +2.0
	baz=70						
HEC	Hector,Ludlow	69.24	321	P		P	14 46 33.2 +2.6
	baz=70						
L23A	Garrett	69.28	333	P		P	14 46 32.4 +1.6
	baz=70						
N20A	Spence Gulch,	69.41	330	P		P	14 46 33.3 +1.7
	baz=70						
I27A	Quinn	69.44	336	P		P	14 46 33.2 +1.7
	baz=70						
LIC	Lamto	69.45	75	eP		P	14 46 30.8 -1.3
	comp=N,32nm,1.0s						
CCUT	Cedar City	69.49	325	eP		P	14 46 30.9 -1.2
	comp=N,8.6nm,1.0s						
MVU	Marysvale	69.58	326	eP		P	14 46 32.4 -0.3
	comp=N,7.9nm,1.0s						
TIC	Toumodi	69.62	75	eP		P	14 46 31.9 -1.3
	comp=N,4.8nm,0.2s						
ARUT	Antelope Range	69.70	325	eP		P	14 46 34.8 +1.4
	comp=N,221nm,1.0s						
KIC	Kosan Boka	69.76	75	eP		P	14 46 33.0 -1.1
	comp=N,20nm,0.6s						
DBIC	Dimbokro	69.78	75	P		P	14 46 33.3 -0.8
DBIC	Dimbokro	69.78	75	P		P	14 46 33.3 -0.8
	comp=N,9.1nm,0.7s,baz=216,slow=6.2,SNR=12						
DBIC					LR	LR	15 15 36.5
	comp=N,103nm,18.2s,baz=232,slow=35						
G28A	Parade	69.88	338	P		P	14 46 35.2 +1.1
	baz=70						
I25A	Rochford	70.04	335	P		P	14 46 37.4 +2.0
	baz=70						
RSSD	Black Hills	70.25	335	eP		P	14 46 35.8 -0.8
	comp=N,2.8nm,0.8s						
EDW2	Edwards Air Fo	70.27	320	P		P	14 46 38.5 +1.7
	baz=71						
K21A	Alcova	70.38	332	P		P	14 46 39.2 +1.7
	baz=71						
MPU	Maple Canyon	70.41	328	eP		P	14 46 38.3 +0.6
	comp=N,5.9nm,0.8s						
G27A	Dupree	70.51	337	P		P	14 46 39.4 +1.4
	baz=71						
TPNV	Topopah Spring	70.67	323	P		P	14 46 41.6 +2.2
	baz=71						
J22A	Midwest	70.67	333	P		P	14 46 40.7 +1.6
	baz=71						
FURC	Furnace Creek,	70.69	322	P		P	14 46 41.6 +2.4
	baz=71						
QSPA	South Pole Qui	70.72	180	eP		P	14 46 38.7 -0.5
F27A	Lemmon	70.96	337	P		P	14 46 42.5 +1.7
	baz=71						
H24A	Dirks Ranch, A	70.97	335	P		P	14 46 41.7 +0.8
	baz=71						
J21A	Lysite	71.03	333	P		P	14 46 43.3 +1.8
	baz=71						
I22A	9 Mile Ranch,	71.06	333	P		P	14 46 43.2 +1.7
	baz=71						
ISA	Isabella	71.09	320	eP		P	14 46 44.3 +2.5
	comp=N,4.4nm,0.9s						
E28A	Huff	71.10	339	P		P	14 46 43.3 +1.8
	baz=72						
DUG	Dugway	71.14	327	eP		P	14 46 40.9 -1.2
	comp=N,7.2nm,1.0s						
DUG	Dugway	71.14	327	P		P	14 46 43.7 +1.6
	baz=72						
F26A	Lodgepole	71.18	337	P		P	14 46 43.5 +1.3
	baz=72						
R11A	Troy Canyon, C	71.28	324	eP		P	14 46 44.2 +1.1
R11A	Troy Canyon, C	71.28	324	P		P	14 46 44.5 +1.5
	baz=72						
I21A	Big Trails, Te	71.34	333	P		P	14 46 44.2 +1.0
	baz=72						
PDAR	Pinedale Array	71.52	331	P		P	14 46 45.6 +1.1
PDAR					pP	pP	14 46 54.3 -0.1
PDAR	Pinedale Array	71.52	331	P		P	14 46 45.6 +1.1
	comp=N,0.9nm,0.8s,baz=120,slow=8.8,SNR=5.7						
PDAR					pP	pP	14 46 54.3 -0.1
	comp=N,1.0nm,0.7s,baz=133,slow=7.2,SNR=5.3						
PDAR					LR	LR	15 20 58.7
	comp=N,54nm,18.7s,baz=353,slow=38						
E26A	Carlson Angus	71.63	337	P		P	14 46 46.1 +1.2
	baz=72						
J19A	Crowheart	71.68	331	P		P	14 46 46.2 +0.9
	baz=72						
G23A	Biddle	71.68	335	P		P	14 46 46.0 +0.8
	baz=72						
D26A	Manning	72.10	338	P		P	14 46 48.6 +1.0
	baz=72						
F23A	Volborg	72.12	335	P		P	14 46 49.0 +1.3
	baz=72						
I19A	Meeteetse	72.26	332	P		P	14 46 50.2 +1.3
	baz=73						
HVU	Hansel Valley	72.31	328	eP		P	14 46 50.2 +1.1
	comp=N,14nm,1.3s						
B29A	Wagenman Farm,	72.31	340	P		P	14 46 49.7 +0.9
	baz=73						
E24A	Baker	72.39	336	P		P	14 46 50.9 +1.5
	baz=73						
G21A	Lodge Grass	72.44	334	P		P	14 46 50.5 +0.7
	baz=73						
F22A	Rosebud	72.51	335	P		P	14 46 50.2 +0.1
	baz=73						
REDW	Red Top Meadow	72.58	330	eP		P	14 46 52.0 +1.2
	comp=N,7.3nm,1.0s						
TBI	Tubuai	72.59	251	eS		SKiKP	14 56 27.0 +3.3
	comp=N,61nm,28.0s						
TBI	Tubuai	72.59	251	eLR		LR	15 09 23.3
	comp=N,173nm,26.2s						
C26A	Wahner Farm, P	72.66	338	P		P	14 46 52.0 +1.1
	baz=73						
MOOW	Moose Ponds	72.83	331	eP		P	14 46 53.2 +1.0
	comp=N,26nm,2.3s						
D24A	Glendive	72.86	337	P		P	14 46 53.9 +1.8
	baz=73						
G20A	Bridger	72.86	333	P		P	14 46 53.3 +1.0
	baz=73						
I17A	Pilgrim Ck.	72.89	331	P		P	14 46 54.2 +1.6
	baz=73						
ULM	Lac du Bonnet	72.89	343	P		P	14 46 51.8 -0.3
ULM					pP	pP	14 47 00.7 -1.3
ULM	Lac du Bonnet	72.89	343	P		P	14 46 51.8 -0.3
	comp=N,1.8nm,0.5s,baz=164,slow=8.5,SNR=3.4						
ULM					pP	pP	14 47 00.7 -1.3
	comp=N,3.6nm,0.5s,baz=158,slow=6.7,SNR=5.7						
ULM					LR	LR	15 24 54.6
	comp=N,85nm,18.0s,baz=328,slow=41						
IMW	Indian Meadow	73.03	331	eP		P	14 46 53.2 -0.3
	comp=N,66nm,2.7s						
H18A	Shoshone NF, C	73.06	332	P		P	14 46 55.0 +1.4
	baz=73						
FLWY	Flagg Ranch	73.07	331	eP		P	14 46 53.4 -0.3
	comp=N,57nm,2.0s						
LAO	LASA Array	73.24	335	eP		P	14 46 54.5 +0.1
	comp=N,138nm,2.8s						
D23A	Lindsay	73.24	336	P		P	14 46 56.1 +1.7
	baz=74						
H17A	Grant Village	73.25	331	eP		P	14 46 55.0 +0.3
	comp=N,4.7nm,0.4s						
F20A	Billings	73.30	334	P		P	14 46 56.4 +1.6
	baz=74						
E21A	Keefer Ranch,	73.46	335	P		P	14 46 57.0 +1.4
	baz=74						
D22A	Cohagen	73.60	336	P		P	14 46 57.9 +1.4
	baz=74						
F19A	Roth Farm, Mol	73.68	333	P		P	14 46 58.2 +1.1
	baz=74						
D21A	La Casta Ranch	73.85	335	P		P	14 46 59.9 +1.9
	baz=74						
E20A	Meyer Farm, Mu	73.86	334	P		P	14 46 59.8 +1.8
	baz=74						
C22A	Vida	73.98	336	P		P	14 47 00.4 +1.7
	baz=74						
SCHQ	Schefferville	74.06	2	P		P	14 46 59.5 +0.6
SCHQ	Schefferville	74.06	2	P		P	14 46 59.5 +0.6
	comp=N,6.7nm,0.9s,baz=236,slow=3.2,SNR=5.3						
E19A	Rath Farm, Rou	74.10	334	P		P	14 47 01.0 +1.5
	baz=74						
PPT2	Papeete2	74.17	257	eLR		LR	15 10 17.6
	comp=N,110nm,24.5s						
PPT	Papeete	74.17	257	LR		LR	15 10 23.6
	comp=N,124nm,21.5s,baz=343,slow=28						
B23A	Brockton	74.24	337	P		P	14 47 01.6 +1.4
	baz=75						
A24A	Westby	74.27	338	P		P	14 47 02.0 +1.7
	baz=75						
D20A	Manuel Ranch,	74.33	334	P		P	14 47 01.8 +1.0
	baz=75						
PAHR	Pah Rah Range	74.35	323	eP		P	14 47 01.5 +0.3
	comp=N,10nm,1.1s						
HLID	Hailey	74.44	329	eP		P	14 47 01.7 0.0
	comp=N,8.6nm,1.1s						
HLID	Hailey	74.44	329	P		P	14 47 04.1 +2.4
	baz=75						
MCMT	McKenzie Canyo	74.63	330	eP		P	14 47 02.5 -0.4
	comp=N,3.5nm,1.1s						
BOZ	Bozeman (W)	74.69	332	eP		P	14 47 02.6 -0.4
	comp=N,86nm,2.8s						
D19A	Cripps Ranch,	74.69	334	P		P	14 47 04.3 +1.4
	baz=75						
C20A	Veseth Ranch,	74.78	335	P		P	14 47 05.0 +1.7
	baz=75						
A22A	Carney Farms,	75.02	337	P		P	14 47 06.0 +1.3
	baz=75						
MFID	Camas Ranch	75.04	328	eP		P	14 47 07.0 +2.0
	comp=N,24nm,1.6s						
C19A	Slack Wire Ran	75.22	334	P		P	14 47 06.9 +1.0
	baz=76						
B20A	Solberg Farm,	75.37	335	P		P	14 47 08.3 +1.6
	baz=76						
A21A	Bergtoll Ranch	75.39	336	P		P	14 47 08.0 +1.2
	baz=76						
A20A	Cobblestone Ra	75.69	336	P		P	14 47 09.9 +1.3
	baz=76						
EGMT	Eagleton	75.74	334	P		P	14 47 10.2 +1.3
	baz=76						
B19A	Brinkman Farms	75.75	335	P		P	14 47 10.4 +1.4
	baz=76						
A19A	Klindworth Far	76.05	335	P		P	14 47 11.3 +0.6
	baz=76						
MOD	Modoc	76.35	324	eP		P	14 47 14.0 +1.4
	comp=N,22nm,2.8s						
MSO	Missoula	76.64	331	eP		P	14 47 16.0 +1.9
	comp=N,16nm,1.6s						
MSO	Missoula	76.64	331	P		P	14 47 16.5 +2.5
	baz=77						
M04C	Macdoel	77.12	323	P		P	14 47 17.6 +0.6
	baz=77						
I07A	Izee	77.40	326	eP		P	14 47 20.3 +1.9
	comp=N,6.8nm,1.1s						
J05D	Fort Rock, OR	77.78	325	P		P	14 47 22.1 +1.5
	baz=78						
TOA0	Torodi Ar. Sit	78.26	71	eP		P	14 47 22.3 -1.5
TORD	Torodi Ar. Bea	78.26	71	P		P	14 47 22.8 -1.0
TORD	Torodi Ar. Bea	78.26	71	P		P	14 47 22.8 -1.0
	comp=N,10nm,0.6s,baz=252,slow=5.4,SNR=91						
TORD					LR	LR	15 20 23.7
	comp=N,160nm,19.5s,baz=225,slow=34						
WALA	Waterton Lakes	78.30	333	eP		P	14 47 23.9 +0.6
	comp=N,3.3nm,2.6s						
C09A	Chrisman Ranch	79.37	330	eP		P	14 47 30.4 +1.3
	comp=N,22nm,1.5s						
EDM	Edmonton	81.22	336	eP		P	14 47 38.1 -0.9
TSUM	Tsumeb	82.23	108	eP		P	14 47 43.7 -1.6
	comp=N,12nm,1.2s						
ESDC	Sonseca Array	85.57	45	P		P	14 48 02.6 +0.9
ESDC	Sonseca Array	85.57	45	P		P	14 48 02.6 +0.9
	comp=N,2.8nm,0.9s,baz=252,slow=6.2,SNR=6.4						
YKA	Yellowknife Ar	88.72	341	P		P	14 48 16.7 +0.4
YKA	Yellowknife Ar	88.72	341	P		P	14 48 16.7 +0.4
	comp=N,3.0nm,0.7s,baz=135,slow=4.8,SNR=64						
YKW3	Yellowknife Ar	88.78	341	eP		P	14 48 16.9 +0.3
KEST	Kesra	93.41	53	LR		LR	15 29 17.9
	comp=N,43nm,19.4s,baz=235,slow=35						
INK	Inuvik	98.47	340	P		P	14 49 00.9 0.0
INK	Inuvik	98.47	340	P		P	14 49 00.9 0.0
	comp=N,0.8nm,0.9s,baz=98,slow=2.8,SNR=3.2						
STKA	Stephens Creek	120.31	212	PKP		PKPdf	14 54 15.4 +0.4
STKA	Stephens Creek	120.31	212	PKP		PKPdf	14 54 15.4 +0.4
	comp=N,1.0nm,0.7s,baz=310,slow=8.5,SNR=3.5						
H11S2	WAKE ISLAND Hyl	25.94	279	T		T	17 13 27.3
	baz=104,slow=72,SNR=722						
H11S1	WAKE ISLAND Hyl	25.95	279	T		T	17 13 35.6
	baz=104,slow=72,SNR=458						
H11S3	WAKE ISLAND Hyl	25.96	279	T		T	17 13 40.9
	baz=104,slow=72,SNR=458						
H11N3	WAKE ISLAND Hyl	25.98	281	T		T	17 13 31.0
	baz=103,slow=75,SNR=143						
H11N2	WAKE ISLAND Hyl	25.99	281	T		T	17 13 56.1
	baz=103,slow=75,SNR=159						
H11N1	WAKE ISLAND Hyl	25.99	281	T		T	17 13 33.3
	baz=103,slow=75,SNR=86						
SEY	Seymchan	127.57	337	PKP		PKPdf	14 54 28.9 +1.1
SEY	Seymchan	127.57	337	PKP		PKPdf	14 54 28.9 +1.1
	comp=N,0.9nm,0.4s,baz=124,slow=5.1,SNR=3.9						
ASAR	Alice Springs	130.89	210	PKP		PKPdf	14 54 35.5 +0.1
ASAR	Alice Springs	130.89	210	PKP		PKPdf	14 54 35.5 +0.1
	comp=N,1.2nm,0.4s,baz=115,slow=1.7,SNR=44						
WRA	Warramunga Arr	133.80	213	PKP		PKPdf	14 54 41.5 +0.5
WRA	Warramunga Arr	133.80	213	PKP		PKPdf	14 54 41.5 +0.5
	comp=N,1.5nm,0.4s,baz=142,slow=1.7,SNR=34						
BVAR	Borovoye Array	135.01	32	PKP		PKPdf	14 54 43.6 +1.3
BVAR	Borovoye Array	135.01	32	PKP		PKPdf	14 54 43.6 +1.3
	comp=N,1.0nm,0.8s,baz=270,slow=1.5,SNR=5.2						
ZAA0	Zalesovo Array	140.77	23	ePKPdf		PKPdf	14 54 52.9 +0.1
ZALV	Zalesovo Beam	140.77	23	PKPpre		PKPpre	14 54 47.6
ZALV				PKP		PKPdf	14 54 53.5 +0.8
ZALV	Zalesovo Beam	140.77	23	PKhKP		PKPpre	14 54 47.6
	comp=N,1.2nm,0.4s,baz=333,slow=3.5,SNR=5.1						
ZALV				PKP		PKPdf	14 54 53.5 +0.8
	comp=N,1.3nm,0.4s,baz=318,slow=1.9,SNR=9.9						
AAK	Ala-Archa	142.66	44	PKP		PKPdf	14 54 55.3 -1.4
AAK	Ala-Archa	142.66	44	PKP		PKPdf	14 54 55.3 -1.4
	comp=N,1.9nm,0.8s,baz=157,slow=4.8,SNR=8.7						
MK31	Makanchi Array	144.89	33	ePKPdf		PKPdf	14 55 00.0 -0.3
MKAR	Makanchi Array	144.89	33	PKP		PKPdf	14 55 00.1 -0.2
MKAR	Makanchi Array	144.89	33	PKP		PKPdf	14 55 00.1 -0.2
	comp=N,12nm,0.7s,baz=322,slow=3.4,SNR=116						
KSH	Kashi	145.04	48	PKP		PKPdf	14 55 01.0 0.0
KSH				sPKP			14 55 15.3
KSH				eSKS		SKSdf	15 02 05.1 -3.1
KSH				AMB		AMB	
	comp=N,75nm,6.3s						
KSH				LR		LR	
	comp=N,18nm,4.2s						
KSH				LR		LR	
	comp=N,29nm,3.7s						
KSH				LR		LR	
	comp=N,29nm,6.7s						
USRK	Ussuriysk Arra	148.90	328	PKPbc		PKPbc	14 55 11.7 +0.6
	comp=N,3.5nm,0.8s,baz=20,slow=3.7,SNR=7.2						
USRK				pPKPbc		pPKPbc	14 55 22.4 +0.9
	comp=N,4.6nm,0.8s,baz=26,slow=2.0,SNR=6.1						
WMQ	Urumqi	149.70	32	PKPbc		PKPdf	14 55 07.2 -1.3
WMQ				LR		LR	
	comp=N,53nm,19.9s						
WMQ				LR		LR	
	comp=N,43nm,19.9s						
SONM	Songino Array	151.59	4	PKPbc		PKPbc	14 55 18.5 +0.9
SONM				pPKPbc		pPKPbc	14 55 28.8 +0.8
SONM	Songino Array	151.59	4	PKPbc		PKPbc	14 55 18.5 +0.9
	comp=N,3.0nm,0.5s,baz=328,slow=1.7,SNR=11						
SONM				pPKPbc		pPKPbc	14 55 28.8 +0.8
	comp=N,2.6nm,0.6s,baz=332,slow=1.7,SNR=7.2						
HHC	Hu-ho-hao-te	158.59	355	ePKP		PKPdf	14 55 19.6 -1.5
HHC				PP		PP	14 59 38.4 +3.0
HHC				SKS		SKSdf	15 02 26.3 +1.6
HHC				SKKS		SKKSac	15 06 22.9 -0.4
HHC				SS		SS	15 19 32.8 -1.7
HHC				AM

mb1 3.9/15,mb1mx3.8/31,mbtmp3.8/15,ML3.6/6,MS2.9/1, Ms1 2.9/1,ms1mx2.2/41,Error ellipse: s-maj=18.0km s-min=16.7km az=149.0
DDA ***07*** *14:35:34.6,36°.65N×30°.05E,h19km,MD3.7*
ISCJB ***07*** *14:35:34.5±0.5,36°.63N±0°.02×29°.98E±0°.02,h3km±4km, mb3.9/9,Error ellipse: s-maj=3.9km s-min=2.9km az=6.6*
CSEM ***07*** *14:35:35.3±0.1,36°.63N×29°.98E,h2km,ML3.6,Error ellipse: s-maj=4.2km s-min=2.8km az=26.0*
ISK ***07*** *14:35:35.2,36°.69N×29°.96E,h6km,ML3.6*

ISC 07 14:35:33.9±1.1,**36°.62N**±0°.02×**30°.03E**±0°.02,**h1**km±8km, **n134,**σ1**§26**/156,**mb3.9**/9,**10C-4D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELL	**Elmali**	**0.16**	**323**	***e***PG	**Pg**	**14 35 36.8**	**-0.3**
ELL				*e*SG	**Sg**	**14 35 38.9**	**-0.4**
ELL	**Elmali**	**0.16**	**323**	*e*Pg	**Pg**	**14 35 36.8**	**-0.3**
ELL				*e*Sg	**Sg**	**14 35 38.9**	**-0.4**
KORT	**Korkueli**	**0.46**	**34**	*i* P	**Pg**	**14 35 42.4**	**-0.4**
KORT				*i* S	**Sb**	**14 35 51.5**	**-0.8**
KORT	**Korkueli**	**0.46**	**34**	*i* P	**Pg**	**14 35 42.4**	**-0.4**
KORT				*i* S	**Sb**	**14 35 51.5**	**-0.8**
AKAS	**Kas**	**0.52**	**222**	*i* P	**Pg**	**14 35 44.1**	**+0.3**
AKAS				*i* S	**Sb**	**14 35 54.9**	**+1.0**
AKAS	**Kas**	**0.52**	**222**	*i* P	**Pg**	**14 35 44.1**	**+0.3**
AKAS				*i* S	**Sb**	**14 35 54.9**	**+1.0**
ANTB	**Antalya**	**0.57**	**60**	***e***PG	**Pb**	**14 35 46.7**	**-0.1**
ANTB				*e*SG	**Sb**	**14 35 55.9**	**+0.5**
ANTB	**Antalya**	**0.57**	**60**	*e*Pg	**Pb**	**14 35 46.7**	**-0.1**
ANTB				*e*Sg	**Sb**	**14 35 55.9**	**+0.5**
GOLH	**Golhisar**	**0.72**	**329**	*i* P	**Pg**	**14 35 46.9**	**-0.9**
GOLH				*i* S	**Sg**	**14 35 58.5**	**+1.3**
GOLH	**Golhisar**	**0.72**	**329**	*i* P	**Pg**	**14 35 46.9**	**-0.9**
GOLH				*i* S	**Sg**	**14 35 58.5**	**+1.3**
FETY	**Fethiye**	**0.76**	**272**	***e***PG	**Pg**	**14 35 49.1**	**+0.6**
FETY	**Fethiye**	**0.76**	**272**	*e*Pg	**Pg**	**14 35 49.1**	**+0.6**
BCK	**Bucak**	**0.95**	**28**	***e***PG	**Pb**	**14 35 53.6**	**+0.3**
BCK				*e*SG	**Sb**	**14 36 06.5**	**+0.1**
BCK	**Bucak**	**0.95**	**28**	*e*Pg	**Pb**	**14 35 53.6**	**+0.3**
BCK				*e*Sg	**Sb**	**14 36 06.5**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.12**	**281**	***e***PG	**Pg**	**14 35 55.7**	**+0.2**
DALY				*e*SG	**Sb**	**14 36 11.1**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.12**	**281**	*e*Pg	**Pg**	**14 35 55.7**	**+0.2**
DALY				*e*Sg	**Sb**	**14 36 11.1**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.16**	**42**	***e***PN	**Pn**	**14 35 58.2**	**+0.8**
SUTC	**Sutluce-Ispart**	**1.16**	**42**	*e*Pn	**Pn**	**14 35 58.2**	**+0.8**
TURN	**Turunc**	**1.18**	**283**	*i* P	Pn	14 36 02.3	+4.8
TURN				*i* S	Sn	14 36 25.6	+12
DNZL	**Cakiroluk**	**1.33**	**324**	*i* P	**Pg**	**14 35 59.8**	**+0.4**
DNZL				*i* S	**Sn**	**14 36 21.3**	**+3.1**
DNZL	**Cakiroluk**	**1.33**	**324**	*i* P	**Pg**	**14 35 59.8**	**+0.4**
ARG	**Arkhangelos**	**1.59**	**256**	*e*P	**Pg**	**14 36 05.3**	**+0.9**
KHL	**Karahalli**	**1.75**	**347**	***e***PN	**Pn**	**14 36 05.9**	**+0.4**
KHL	**Karahalli**	**1.75**	**347**	*e*Pn	**Pn**	**14 36 05.9**	**+0.4**
KHAL	**Karahalli**	**1.80**	**346**	*i* P	**Pn**	**14 36 06.4**	**+0.2**
KHAL				*i* S	**Sg**	**14 36 31.8**	**0.0**
KHAL	**Karahalli**	**1.80**	**346**	*i* P	**Pn**	**14 36 06.4**	**+0.2**
GAZI	**Gazipasa**	**1.88**	**101**	*i* P	**Pb**	**14 36 08.5**	**-0.6**
GAZI				*i* S	**Sg**	**14 36 35.5**	**+1.1**
GAZI	**Gazipasa**	**1.88**	**101**	*i* P	**Pb**	**14 36 08.5**	**-0.6**
GAZI				*i* S	**Sg**	**14 36 35.5**	**+1.1**
SHUT	**Suhut-Afyon**	**1.98**	**12**	***e***PN	**Pn**	**14 36 09.4**	**+0.8**
SHUT	**Suhut-Afyon**	**1.98**	**12**	*e*Pn	**Pn**	**14 36 09.4**	**+0.8**
BDRM	**Kayabasi**	**2.12**	**283**	*i* P	**Pb**	**14 36 12.2**	**-1.0**
BDRM				*i* S	**Sb**	**14 36 40.8**	**+0.7**
BDRM	**Kayabasi**	**2.12**	**283**	*i* P	**Pb**	**14 36 12.2**	**-1.0**
BDRM				*i* S	**Sb**	**14 36 40.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.16**	**308**	***e***PN	**Pn**	**14 36 11.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.16**	**308**	*e*Pn	**Pn**	**14 36 11.8**	**+0.6**
KULA	**Kula-Manisa**	**2.18**	**330**	***e***PN	**Pn**	**14 36 12.0**	**+0.6**
KULA	**Kula-Manisa**	**2.18**	**330**	*e*PN	**Pn**	**14 36 12.0**	**+0.6**
BODT	**Bodrum**	**2.23**	**282**	***e***PN	**Pn**	**14 36 12.4**	**+0.4**
BODT	**Bodrum**	**2.23**	**282**	*e*Pn	**Pn**	**14 36 12.4**	**+0.4**
KONT	**Konya--Tatoy**	**2.28**	**54**	***e***PN	**Pb**	**14 36 14.7**	**-1.2**
KONT	**Konya--Tatoy**	**2.28**	**54**	*e*Pn	**Pb**	**14 36 14.7**	**-1.2**
ERMK	**Ermenek**	**2.32**	**89**	*i* P	**Pb**	**14 36 16.1**	**-0.5**
ERMK				*i* S	**Sg**	**14 36 49.6**	**+1.2**
ERMK	**Ermenek**	**2.32**	**89**	*i* P	**Pb**	**14 36 16.1**	**-0.5**
ERMK				*i* S	**Sg**	**14 36 49.6**	**+1.2**
LADK	**Ladik-KONYA**	**2.44**	**49**	***e***PN	**Pb**	**14 36 17.4**	**-1.3**
LADK	**Ladik-KONYA**	**2.44**	**49**	*e*Pn	**Pb**	**14 36 17.4**	**-1.3**
AKMC	**Akamas** baz=325	**2.45**	**130**	P	**Pn**	**14 36 16.7**	**+1.6**
AKMC	**Akamas**	**2.45**	**130**	P	**Pn**	**14 36 16.7**	**+1.6**
GCAM	**G?zelcaml?**	**2.48**	**297**	*i* P	**Pn**	**14 36 16.7**	**+1.3**
GCAM				*i* S	**Sg**	**14 36 53.2**	**-0.5**
GCAM	**G?zelcaml?**	**2.48**	**297**	*i* P	**Pn**	**14 36 16.7**	**+1.3**
GCAM	**G?zelcaml?**	**2.48**	**297**	*i* S	**Sg**	**14 36 53.2**	**-0.5**
ALFC	**Alevga** baz=320	**2.54**	**124**	P	**Pn**	**14 36 17.1**	**+0.7**
ALFC				S	**Sb**	**14 36 51.9**	**-0.3**
ALFC	**Alevga**	**2.54**	**124**	P	**Pn**	**14 36 17.1**	**+0.7**
ALFC				S	**Sb**	**14 36 51.9**	**-0.3**
PPCY	**Paphos** baz=326	**2.56**	**132**	P	**Pb**	**14 36 18.7**	**-1.9**
PPCY	**Paphos**	**2.56**	**132**	P	**Pb**	**14 36 18.7**	**-1.9**
KARP	**Karpathos**	**2.56**	**246**	*e*P	**Pn**	**14 36 18.2**	**+1.6**
DEMI	**Demirci**	**2.63**	**337**	*i* P	**Pn**	**14 36 17.7**	**0.0**
DEMI	**Demirci**	**2.63**	**337**	*i* P	**Pn**	**14 36 17.7**	**0.0**
LEF	**Lefka**	**2.76**	**122**	***e***PN	**Pn**	**14 36 19.5**	**+0.2**
LEF	**Lefka**	**2.76**	**122**	*e*Pn	**Pn**	**14 36 19.5**	**+0.2**
SMG	**Samos**	**2.77**	**294**	*e*P	**Pn**	**14 36 20.1**	**+0.6**
IZM	**Izmir**	**2.83**	**310**	***e***PN	**Pn**	**14 36 21.2**	**+0.9**
IZM	**Izmir**	**2.83**	**310**	*e*Pn	**Pn**	**14 36 21.2**	**+0.9**
AKHS	**Akhisar**	**2.86**	**323**	*i* P	**Pn**	**14 36 21.0**	**+0.3**
AKHS	**Akhisar**	**2.86**	**323**	*i* P	**Pn**	**14 36 21.0**	**+0.3**
AKS	**Akhisar**	**2.86**	**323**	***e***PN	**Pn**	**14 36 21.7**	**+1.0**
AKS	**Akhisar**	**2.86**	**323**	*e*Pn	**Pn**	**14 36 21.7**	**+1.0**
BLCB	**Balcova**	**2.96**	**307**	***e***PN	**Pn**	**14 36 22.9**	**+0.9**
BLCB	**Balcova**	**2.96**	**307**	*e*Pn	**Pn**	**14 36 23.0**	**+0.9**
IKL	**Isikli**	**2.97**	**96**	***e***PN	**Pb**	**14 36 25.1**	**-2.5**
IKL	**Isikli**	**2.97**	**96**	*e*Pn	**Pb**	**14 36 25.1**	**-2.5**
SZAC	**Souni-Zanaja** baz=321	**2.97**	**128**	P	**Pn**	**14 36 24.0**	**+1.7**
SZAC	**Souni-Zanaja**	**2.97**	**128**	P	**Pn**	**14 36 24.0**	**+1.7**
SVRH	**Sivrihisar-ESK**	**3.06**	**22**	***e***PN	**Pn**	**14 36 25.1**	**+1.6**
SVRH	**Sivrihisar-ESK**	**3.06**	**22**	*e*Pn	**Pn**	**14 36 25.1**	**+1.6**
LFK	**Lefkose**	**3.14**	**114**	***e***PN	**Pb**	**14 36 27.9**	**-2.6**
LFK	**Lefkose**	**3.14**	**114**	*e*Pn	**Pb**	**14 36 27.9**	**-2.6**
CSS	**Prodhromos** baz=315	**3.15**	**121**	P	**Pn**	**14 36 25.0**	**+0.3**
CSS	**Prodhromos**	**3.15**	**121**	P	**Pn**	**14 36 25.0**	**+0.3**
SULT	**Sultanhani-AKS**	**3.19**	**59**	***e***PN	**Pn**	**14 36 27.2**	**+1.9**
SULT	**Sultanhani-AKS**	**3.19**	**59**	*e*Pn	**Pn**	**14 36 27.2**	**+1.9**
CAVI	**Cavuskoy**	**3.58**	**358**	***e***PN	**Pn**	**14 36 31.9**	**+1.3**
CAVI	**Cavuskoy**	**3.58**	**358**	*e*Pn	**Pn**	**14 36 31.9**	**+1.3**
MERS	**Mersin**	**3.62**	**85**	***e***PN	**Pn**	**14 36 33.8**	**+2.7**
MERS	**Mersin**	**3.62**	**85**	*e*Pn	**Pn**	**14 36 33.8**	**+2.7**
CHOS	**Chios island**	**3.62**	**300**	*e*P	**Pn**	**14 36 33.0**	**+1.8**
APE	**Apeiranthos**	**3.64**	**278**	*e*P	**Pn**	**14 36 32.5**	**+1.1**
ADVT	**Abdulvahap**	**3.82**	**357**	***e***PN	**Pn**	**14 36 35.3**	**+1.5**
ADVT	**Abdulvahap**	**3.82**	**357**	*e*Pn	**Pn**	**14 36 35.3**	**+1.5**
NPS	**Neapolis**	**3.83**	**251**	*e*P	**Pn**	**14 36 35.1**	**+1.0**
KCTX	**Karacabey (Bur**	**3.87**	**341**	***e***PN	**Pn**	**14 36 36.0**	**+1.4**
KCTX	**Karacabey (Bur**	**3.87**	**341**	*e*Pn	**Pn**	**14 36 36.0**	**+1.4**
GONE	**Gonen-Balikesi**	**3.89**	**332**	***e***PN	**Pn**	**14 36 35.5**	**+0.7**
GONE	**Gonen-Balikesi**	**3.89**	**332**	*e*Pn	**Pn**	**14 36 35.5**	**+0.7**
MDUB	**Mudurnu**	**3.95**	**13**	***e***PN	**Pn**	**14 36 37.1**	**+1.3**
MDUB	**Mudurnu**	**3.95**	**13**	*e*Pn	**Pn**	**14 36 37.1**	**+1.3**
ARMT	**Armutlu**	**4.05**	**347**	***e***PN	**Pn**	**14 36 37.8**	**+0.8**
ARMT	**Armutlu**	**4.05**	**347**	*e*Pn	**Pn**	**14 36 37.8**	**+0.8**
KARA	**Karaisali**	**4.08**	**79**	***e***PN	**Pn**	**14 36 40.4**	**+3.0**
KARA	**Karaisali**	**4.08**	**79**	*e*Pn	**Pn**	**14 36 40.4**	**+3.0**
BRTR	**Keskin Array B** 1.2nm,0.3s,baz=206,slow=14,SNR=15	**4.21**	**41**	Pn	**Pn**	**14 36 40.1**	**+0.8**
BRTR	0.9nm,0.3s,baz=210,slow=26,SNR=6.5			Sn	**Sn**	**14 37 30.9**	**+1.7**
EZN	**Ezine**	**4.33**	**319**	***e***PN	**Pn**	**14 36 41.7**	**+0.8**
EZN	**Ezine**	**4.33**	**319**	*e*Pn	**Pn**	**14 36 41.7**	**+0.8**
KRBG	**Karabiga-Canak**	**4.34**	**331**	***e***PN	**Pn**	**14 36 41.7**	**+0.8**
KRBG	**Karabiga-Canak**	**4.34**	**331**	*e*Pn	**Pn**	**14 36 41.7**	**+0.8**
IDI	**Anoyia** 1.8nm,0.3s,baz=76,slow=16,SNR=11	**4.38**	**254**	Pn	**Pn**	**14 36 42.1**	**+0.5**
IDI	2.1nm,0.3s,baz=241,slow=19,SNR=2.6			Sn	**Sn**	**14 37 34.2**	**+1.0**
RKY	**Sarkoy-Tekirda**	**4.64**	**332**	***e***PN	**Pn**	**14 36 46.5**	**+1.4**
RKY	**Sarkoy-Tekirda**	**4.64**	**332**	*e*Pn	**Pn**	**14 36 46.5**	**+1.4**
MMAI	**Mount Meron Ar** 6.0nm,0.3s,baz=319,slow=12,SNR=16	**5.70**	**128**	Pn	**Pn**	**14 37 00.1**	**+0.4**
MMAI				LR	LR	14 39 42.4	
KDZ	**Kurdzhali** comp=Z,105nm,18.7s,baz=250,slow=44	**6.17**	**326**	⇑*i*P	**Pn**	**14 37 08.3**	**+2.1**
KDZ	**Kurdzhali**	**6.17**	**326**	⇑*i*P	**Pn**	**14 37 08.3**	**+2.1**
MMB	**Musomiste**	**6.97**	**317**	⇑*i*P	**Pn**	**14 37 18.7**	**+1.5**
MMB	**Musomiste**	**6.97**	**317**	⇑*i*P	**Pn**	**14 37 18.7**	**+1.5**
ASF	**Jabal al Asfar** 0.8nm,0.3s,baz=337,slow=8.9,SNR=10	**7.20**	**126**	Pn	**Pn**	**14 37 19.6**	**-0.9**
TIRR	**Tirgusor**	**7.93**	**352**	⇓*i*P	**Pn**	**14 37 32.7**	**+2.5**
TIRR	**Tirgusor**	**7.93**	**352**	⇓*i*P	**Pn**	**14 37 32.7**	**+2.5**
EIL	**Elat** 1.0nm,0.3s,baz=334,slow=16,SNR=7.7	**8.06**	**148**	Pn	**Pn**	**14 37 31.3**	**-0.9**
CFR	**Carcaliu**	**8.67**	**351**	⇑*i*P	**Pn**	**14 37 42.6**	**+2.2**
CFR	**Carcaliu**	**8.67**	**351**	⇑*i*P	**Pn**	**14 37 42.6**	**+2.2**
MLR	**Muntele Rosu**	**9.38**	**342**	⇓*i*P	Pn	14 37 54.1	+3.7
MLR	**Muntele Rosu** 0.1nm,0.3s,baz=81,slow=14,SNR=4.8	**9.38**	**342**	Pn	**Pn**	**14 37 51.8**	**+1.5**
PLOR	**Plostina**	**9.57**	**346**	⇑*i*P	Pn	14 37 56.6	+3.8
VRI	**Vrincioaia**	**9.57**	**346**	⇓*i*P	Pn	14 37 56.7	+3.9
VOIR		**9.58**	**338**	⇑*i*P	**Pn**	**14 37 55.7**	**+2.7**
VOIR		**9.58**	**338**	⇑*i*P	**Pn**	**14 37 55.7**	**+2.7**
BURAR	**Bucovina Array**	**11.55**	**344**	⇑*i*P	Pn	14 38 24.4	+4.4
GERES	**GERESS Array B** 0.1nm,0.3s,baz=134,slow=9.5,SNR=5.8	**17.08**	**321**	P	**P**	**14 39 36.2**	**+0.4**
AKTO	**Aktyubinsk** 1.9nm,0.6s,baz=259,slow=6.5,SNR=9.1	**24.37**	**47**	P	**P**	**14 40 52.8**	**-0.6**
FINES	**FINESS Array B** 2.8nm,0.9s,baz=170,slow=12,SNR=6.1	**24.97**	**355**	P	**P**	**14 40 58.4**	**-0.3**
ARCES	**ARCESS Array B** 3.3nm,1.0s,baz=161,slow=7.7,SNR=5.0	**33.07**	**357**	P	**P**	**14 42 09.5**	**-1.2**
TORD	**Torodi Ar. Bea** 0.8nm,0.9s,baz=32,slow=8.3,SNR=4.4	**34.51**	**235**	P	**P**	**14 42 23.8**	**0.0**
KURBB	**Kurchatov Arra** 1.0nm,0.5s,baz=284,slow=9.9,SNR=18	**37.12**	**52**	P	**P**	**14 42 45.2**	**-0.6**
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=269,slow=9.0,SNR=32	**39.66**	**58**	P	**P**	**14 43 06.6**	**-0.7**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=259,slow=11,SNR=5.9	**41.13**	**47**	P	**P**	**14 43 18.1**	**-1.3**
SONM	**Songino Array** 1.0nm,0.5s,baz=290,slow=6.9,SNR=4.3	**55.48**	**53**	P	**P**	**14 45 10.0**	**-0.4**
CMAR	**Chiang Mai Arr** 1.1nm,0.7s,baz=298,slow=8.4,SNR=10	**62.51**	**87**	P	**P**	**14 45 57.8**	**-1.6**

ISCJB ***07*** *14:44:08.6±0.8,2°.94N±0°.09×123°.8E±0°.1,h400km, mb3.5/5, Error ellipse: s-maj=20.3km s-min=11.8km az=168.4*
IDC ***07*** *14:44:09.2±20.0,2°.94N×123°.89E,h393km±256km, mb3.2/5,mb1 3.4/5,mb1mx3.0/22,mbtmp3.2/5, Error ellipse: s-maj=117.8km s-min=29.6km az=72.0*

ISC 07 14:44:10.4±1.0,**2°.9N**±0°.1×**123°.8E**±0°.2,**h400**km,**n15,** σ1**§19**/16,**mb3.5/5,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk** baz=3.6,SNR=3.2	**4.01**	**194**	P	**Pn**	**14 45 24.6**	**+2.0**
LUWI	baz=3.6,SNR=7.0			S	**S**	**14 46 19.0**	**-2.2**
SOEI	**Soe** baz=12,SNR=4.0	**12.55**	**178**	P	**Pn**	**14 46 58.1**	**0.0**
JAGI	**Jajag, Banyuwa** baz=14,SNR=5.9	**14.79**	**220**	P	**P**	**14 47 21.9**	**+1.2**
MTN	**Manton Dam** baz=17,SNR=7.2	**17.24**	**155**	P	**P**	**14 47 47.8**	**+0.9**
KDU	**Kakadu** baz=18,SNR=5.6	**17.71**	**151**	P	**P**	**14 47 52.9**	**+1.0**
KNRA	**Kununurra** baz=19,SNR=6.2	**19.08**	**165**	P	**P**	**14 48 05.8**	**-0.5**
WRA	**Warramunga Arr** 1.9nm,0.3s,baz=340,slow=9.4,SNR=51	**24.93**	**156**	P	**P**	**14 48 58.5**	**-1.0**
QIS	**Mount Isa** baz=28,SNR=4.9	**27.99**	**147**	P	**P**	**14 49 27.4**	**+0.8**
WRKA	**Warakurna** baz=28,SNR=6.2	**28.09**	**171**	P	**P**	**14 49 26.0**	**-1.4**
ASAR	**Alice Springs** 0.7nm,0.4s,baz=337,slow=6.8,SNR=52	**28.16**	**160**	P	**P**	**14 49 27.4**	**-0.8**
BBOO	**Buckleboo** baz=37,SNR=11	**37.35**	**163**	P	**P**	**14 50 45.9**	**-0.8**
STKA	**Stephens Creek** 1.0nm,0.3s,baz=337,slow=9.8,SNR=12	**38.48**	**155**	P	**P**	**14 50 56.4**	**+0.3**
HTT	**Hallett** baz=39,SNR=4.2	**38.84**	**160**	P	**P**	**14 50 59.0**	**0.0**
SONM	**Songino Array** 0.7nm,0.7s,baz=166,slow=6.1,SNR=1.9	**47.24**	**344**	P	**P**	**14 52 05.5**	**+0.3**
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=126,slow=7.8,SNR=28	**56.62**	**327**	P	**P**	**14 53 12.3**	**-1.1**

IDC ***07*** *14:50:41.7±2.1,23°.63S×179°.92W,h492km±22km, mb3.5/10,mb1 3.8/12,mb1mx3.6/20,mbtmp3.6/12,Error ellipse: s-maj=27.2km s-min=14.5km az=148.0*
ISCJB ***07*** *14:50:43.9±0.4,23°.69S±0°.09×179°.88E±0°.07,h518km, mb3.9/10,Error ellipse: s-maj=12.9km s-min=6.7km az=151.8*

ISC 07 14:50:44.1±0.5,**23°.8S**±0°.1×**179°.98E**±0°.08,**h518**km,**n54,** σ1**§40**/57,**mb4.0**/10,**6C-3D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue** baz=10,SNR=3.7	**10.52**	**65**	P	**P**	**14 53 09.3**	**+2.2**
NIUE	baz=10,SNR=9.1			S	**S**	**14 55 03.8**	**-1.1**
AFI	**Afiamalu** 2.4nm,0.3s,baz=4.7,slow=20,SNR=7.5	**12.57**	**40**	P	P	14 53 22.8	-6.1
AFI	2.0nm,0.3s,baz=360,slow=19,SNR=3.8			S	S	14 55 33.9	-11
URZ	**Urewera** 8.8nm,0.3s,baz=332,slow=2.7,SNR=51	**14.59**	**189**	P	**P**	**14 53 47.9**	**-1.7**
URZ	1.5nm,0.3s,baz=227,slow=21,SNR=8.6			S	**S**	**14 56 21.5**	**-1.1**
LHI	**Lord Howe Isla** baz=20,SNR=3.6	**20.02**	**243**	P	P	14 54 34.9	-7.1
ARMA	**Armidale** baz=26,SNR=7.6	**26.03**	**249**	P	**P**	**14 55 38.5**	**+2.7**
EIDS	**Eidsvold** baz=26,SNR=7.7	**26.30**	**261**	P	**P**	**14 55 39.7**	**+1.6**
MGCD	**Mangrove Creek** baz=27,SNR=5.1	**26.96**	**243**	P	**P**	**14 55 46.6**	**+2.8**
RMQ	**Roma** baz=29,SNR=7.1	**28.35**	**258**	P	**P**	**14 55 58.6**	**+2.5**
CNB	**Canberra Magne** baz=29,SNR=5.2	**28.87**	**240**	P	**P**	**14 56 03.2**	**+2.6**
MILA	**Mila** baz=30,SNR=5.7	**29.52**	**236**	P	**P**	**14 56 08.6**	**+2.3**
CMSA	**Cobar Meteorol** baz=32,SNR=20	**31.22**	**248**	P	**P**	**14 56 22.3**	**+1.4**
QLP	**Quilpie** baz=33,SNR=5.4	**32.39**	**258**	P	**P**	**14 56 32.1**	**+1.2**
STKA	**Stephens Creek** 2.4nm,0.4s,baz=99,slow=8.9,SNR=16	**34.73**	**248**	P	**P**	**14 56 52.1**	**+1.5**
STKA	1.0nm,0.4s,baz=98,slow=4.4,SNR=4.0			PcP	**PcP**	**14 59 10.8**	**+0.9**
HTT	**Hallett** baz=37,SNR=9.8	**37.08**	**246**	P	**P**	**14 57 11.2**	**+1.0**
BBOO	**Buckleboo** baz=40,SNR=20	**39.45**	**247**	P	**P**	**14 57 29.8**	**+0.4**
ASAR	**Alice Springs** 6.9nm,0.7s,baz=96,slow=7.2,SNR=190	**42.02**	**261**	P	**P**	**14 57 50.6**	**+0.5**
ASAR	1.0nm,0.7s,baz=107,slow=4.4,SNR=10			ScP	**ScP**	**15 02 37.0**	**+2.7**
ASAR	0.4nm,0.8s,baz=120,slow=14,SNR=4.7			S	**S**	**15 03 30.3**	**-1.3**
WRA	**Warramunga Arr** 7.6nm,0.5s,baz=90,slow=6.1,SNR=316	**42.39**	**266**	P	**P**	**14 57 52.7**	**-0.3**
WRA	1.1nm,0.7s,baz=91,slow=3.5,SNR=4.9			PcP	**PcP**	**14 59 34.2**	**-0.3**
WRA	1.1nm,0.9s,baz=106,slow=15,SNR=4.3			S	**S**	**15 03 33.6**	**-3.3**
KDU	**Kakadu** baz=46,SNR=3.9	**46.26**	**275**	P	**P**	**14 58 22.6**	**-0.3**
FORT	**Forrest** baz=47,SNR=27	**46.31**	**250**	P	**P**	**14 58 23.2**	**+0.1**
WRKA	**Warakurna** baz=47,SNR=42	**46.83**	**257**	P	**P**	**14 58 27.6**	**+0.4**
MTN	**Manton Dam** baz=48,SNR=5.2	**47.43**	**274**	P	**P**	**14 58 31.3**	**-0.5**
KNRA	**Kununurra** baz=49,SNR=21	**48.66**	**270**	P	**P**	**14 58 41.3**	**+0.4**
KLBR	**Kellerberrin** baz=55,SNR=5.3	**54.99**	**247**	P	**P**	**14 59 26.9**	**+0.4**
MEEK	**Meekatharra** baz=55,SNR=4.7	**55.11**	**253**	P	**P**	**14 59 27.2**	**-0.2**
NWAO	**Narrogin (SRO)** 3.7nm,0.6s,baz=135,slow=7.1,SNR=4.5	**55.24**	**246**	P	**P**	**14 59 28.3**	**+0.1**
BLDU	**Ballidu**	**56.03**	**248**	P	**P**	**14 59 33.9**	**+0.1**
	baz=56,SNR=11						
MORW	**Morawa** baz=57,SNR=6.8	**56.88**	**250**	P	**P**	**14 59 39.9**	**+0.3**
MAW	**Mawson** 6.3nm,0.6s,baz=128,slow=3.2,SNR=4.7	**77.81**	**200**	P	**P**	**15 01 48.5**	**+1.3**
NVAR	**Mina Array Bea** 0.5nm,0.5s,baz=230,slow=7.4,SNR=6.0	**84.72**	**44**	P	**P**	**15 02 23.6**	**+0.1**
CMAR	**Chiang Mai Arr** 1.0nm,0.8s,baz=141,slow=2.9,SNR=7.2	**89.48**	**290**	P	**P**	**15 02 47.5**	**+1.3**
TXAR	**Lajitas Array** 1.4nm,0.6s,baz=206,slow=5.4,SNR=5.8	**90.41**	**58**	P	**P**	**15 02 51.5**	**+1.1**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=235,slow=4.3,SNR=3.8	**91.97**	**14**	P	**P**	**15 02 55.1**	**-1.5**
PDAR	**Pinedale Array** 0.7nm,0.7s,baz=222,slow=3.3,SNR=6.1	**92.65**	**44**	P	**P**	**15 02 60.0**	**-0.7**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=208,slow=0.8,SNR=10	**112.09**	**313**	PKiKP	**PKiKP**	**15 08 19.0**	**-1.4**
BVAR	**Borovoye Array** 1.2nm,0.4s,baz=136,slow=2.2,SNR=20	**120.37**	**319**	PKP	**PKPdf**	**15 08 35.1**	**-0.9**
ARCES	**ARCESS Array B** 1.9nm,0.8s,baz=11,slow=1.2,SNR=8.8	**131.81**	**348**	PKP	**PKPdf**	**15 08 56.4**	**-1.0**
FINES	**FINESS Array B** 0.6nm,0.6s,baz=27,slow=4.7,SNR=5.3	**138.37**	**341**	PKhKP	PKPpre	15 09 00.2	
FINES	3.4nm,0.9s,baz=132,slow=1.2,SNR=8.3			PKP	**PKPdf**	**15 09 09.0**	**-0.8**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,baz=13,slow=3.2	**142.01**	**351**	PKP	PKPpre	15 09 11.5	
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=275,slow=3.1,SNR=2.9	**142.01**	**351**	PKhKP	PKPpre	15 09 11.1	
AKASG	**Malin Array Be** comp=Z,4.0nm,0.6s,baz=44,slow=4.0,SNR=35	**144.90**	**327**	PKP	**PKPdf**	**15 09 20.9**	**-0.8**
SORM	**Soroca**	**146.93**	**324**	⇑*i*P	PKPpre	15 09 20.9	
BRTR	**Keskin Array B** comp=Z,1.9nm,0.6s,baz=136,slow=4.0,SNR=7.5	**147.52**	**307**	PKPbc	**PKPbc**	**15 09 29.6**	**-0.6**
KWP	**Kalwaria Pacla**	**148.69**	**331**	⇑*i*P	**PKPbc**	**15 09 32.2**	**-0.4**
CFR	**Carcaliu**	**148.76**	**320**	⇑*i*P	**PKPbc**	**15 09 32.3**	**-0.6**
BURAR	**Bucovina Array**	**148.90**	**326**	⇑*i*P	**PKPbc**	**15 09 34.2**	**+0.9**
MLR	**Muntele Rosu**	**149.84**	**322**	⇓*i*P	**PKPbc**	**15 09 35.5**	**-0.2**
VOIR		**150.37**	**323**	⇓*i*P	**PKPbc**	**15 09 37.2**	**+0.4**
ARR	**Arges**	**150.65**	**323**	⇑*i*P	**PKPbc**	**15 09 38.5**	**+1.0**
MORC	**Moravsky Berou**	**150.68**	**336**	⇓*i*P	**PKPbc**	**15 09 37.1**	**-0.2**
CLL	**Collm** comp=Z,9.0nm,0.8s	**150.78**	**343**	*i* PKP	**PKPbc**	**15 09 37.0**	**-0.4**
BRG	**Berggiesshubel** comp=Z,5.8nm,0.5s	**150.91**	**342**	*i* P	**PKPbc**	**15 09 37.5**	**-0.3**
LOT	**Lotru**	**151.06**	**324**	⇑*i*P	**PKPbc**	**15 09 35.8**	**-2.7**
GERES	**GERESS Array B** comp=Z,0.4nm,0.4s,baz=135,slow=0.4,SNR=5.9	**152.78**	**340**	PKPbc	**PKPbc**	**15 09 41.1**	**-1.0**
TORD	**

BEY				*e*Sg	**Sg**	**15 04 22.8**	**+2.1**
IVA	**Berane**	**1.45**	**333**	*i*Pg	**Pb**	**15 04 01.7**	**-0.1**
IVA				*e*Sg	**Sg**	**15 04 22.8**	**+2.1**
BUM	**Brajici-Budva**	**1.58**	**298**	⇑*i*Pg	**Pb**	**15 04 03.9**	**-0.1**
BUM				*e*Sg	**Sg**	**15 04 27.5**	**+2.6**
BUM	**Brajici-Budva**	**1.58**	**298**	⇑*i*Pg	**Pb**	**15 04 03.9**	**-0.1**
BUM				*e*Sg	**Sg**	**15 04 27.5**	**+2.6**
KNT	**Kendrikon**	**1.65**	**104**	P	**Pn**	**15 04 02.5**	**-1.5**
KNT				S	**Sb**	**15 04 25.9**	**-0.4**
KNT	**Kendrikon**	**1.65**	**104**	*e*PB	**Pb**	**15 04 04.7**	**-0.4**
KNT				*e*SB	**Sg**	**15 04 27.5**	**+0.5**
KNT	**Kendrikon**	**1.65**	**104**	P	**Pn**	**15 04 02.5**	**-1.5**
KNT	**Kendrikon**	**1.65**	**104**	*e*Pb	**Pb**	**15 04 04.7**	**-0.4**
KNT				S	**Sb**	**15 04 25.9**	**-0.4**
KNT				*e*Sb	**Sg**	**15 04 27.5**	**+0.5**
SELS	**Selova**	**1.66**	**9**	*e*Pn	**Pn**	**15 04 04.2**	**0.0**
SELS				*e*Sn	**Sb**	**15 04 26.9**	**+0.2**
SJES	**Sjenica**	**1.79**	**341**	*e*Pn	**Pn**	**15 04 05.7**	**-0.3**
SJES				*i* Sn	**Sb**	**15 04 30.1**	**-0.3**
NKME	**Niksic**	**1.80**	**312**	⇓*i*Pn	**Pb**	**15 04 07.1**	**-0.7**
NKME				*e*Sn	**Sg**	**15 04 32.1**	**+0.1**
NKME	**Niksic**	**1.80**	**312**	⇓*i*Pn	**Pb**	**15 04 07.1**	**-0.7**
NKME				*e*Sn	**Sg**	**15 04 32.1**	**+0.1**
NKY	**Niksic**	**1.81**	**313**	⇓*i*Pn	**Pn**	**15 04 06.7**	**+0.3**
NKY				*e*Sn	**Sg**	**15 04 31.9**	**-0.4**
NKY	**Niksic**	**1.81**	**313**	⇓*i*Pn	**Pn**	**15 04 06.7**	**+0.3**
NKY				*e*Sn	**Sg**	**15 04 31.9**	**-0.4**
HCY	**Herceg Novi**	**1.91**	**298**	*e*Pn	**Pb**	**15 04 08.5**	**-1.1**
HCY				*e*Sn	**Sg**	**15 04 35.0**	**-0.5**
HCY	**Herceg Novi**	**1.91**	**298**	*e*Pn	**Pb**	**15 04 08.5**	**-1.1**
HCY				*e*Sn	**Sg**	**15 04 35.0**	**-0.5**
KEK	**Kerkira**	**2.01**	**202**	*e*PN	**Pb**	**15 04 10.8**	**-0.5**
KEK	**Kerkira**	**2.01**	**202**	*e*Pn	**Pb**	**15 04 10.8**	**-0.5**
PLE	**Pljevlja**	**2.03**	**330**	*e*Pn	**Pn**	**15 04 09.8**	**+0.4**
PLE				*e*Sn	**Sb**	**15 04 37.1**	**-0.4**
PLE	**Pljevlja**	**2.03**	**330**	*e*Pn	**Pn**	**15 04 09.8**	**+0.4**
PLE				*e*Sn	**Sb**	**15 04 37.1**	**-0.4**
IVAS	**Ivanjica**	**2.05**	**347**	*e*Pn	**Pb**	**15 04 11.1**	**-0.9**
IVAS				*e*Sn	**Sn**	**15 04 35.5**	**-0.3**
IVAS	**Ivanjica**	**2.05**	**347**	*e*Pn	**Pb**	**15 04 11.1**	**-0.9**
IVAS				*e*Sn	**Sn**	**15 04 35.5**	**-0.3**
VTS	**Vitosha**	**2.07**	**60**	*e*Pn	**Pn**	**15 04 11.0**	**+1.0**
VTS				*i* Sn	**Sn**	**15 04 37.2**	**+0.8**
VTS	**Vitosha**	**2.07**	**60**	*e*Pn	**Pn**	**15 04 11.0**	**+1.0**
VTS				*i* Sn	**Sn**	**15 04 37.2**	**+0.8**
BRY	**Bratogost**	**2.13**	**309**	*e*Pn	**Pn**	**15 04 11.6**	**+0.9**
BRY				*e*Sn	**Sb**	**15 04 39.7**	**-0.5**
BRY	**Bratogost**	**2.13**	**309**	*e*Pn	**Pn**	**15 04 11.6**	**+0.9**
BRY				*e*Sn	**Sb**	**15 04 39.7**	**-0.5**
UPM	**Unac-Piva**	**2.14**	**320**	*e*Pn	**Pn**	**15 04 11.9**	**+1.0**
UPM				*e*Sn	**Sb**	**15 04 40.2**	**-0.4**
UPM	**Unac-Piva**	**2.14**	**320**	*e*Pn	**Pn**	**15 04 11.9**	**+1.0**
UPM				*e*Sn	**Sb**	**15 04 40.2**	**-0.4**
SRS	**Serrai**	**2.17**	**101**	*e*PN	**Pb**	**15 04 12.8**	**-1.2**
SRS	**Serrai**	**2.17**	**101**	*e*Pn	**Pb**	**15 04 12.8**	**-1.2**
ZAPS	**Zavoj**	**2.18**	**38**	*e*Pn	**Pb**	**15 04 12.9**	**-1.3**
ZAPS				*e*Sn	**Sb**	**15 04 41.1**	**-0.6**
THL	**Klokotos Trika**	**2.22**	**155**	*e*PN	**Pb**	**15 04 13.4**	**-1.5**
THL	**Klokotos Trika**	**2.22**	**155**	*e*Pn	**Pb**	**15 04 13.4**	**-1.5**
GRUS	**Gruza**	**2.31**	**359**	*e*Pn	**Pn**	**15 04 13.5**	**+0.4**
GRUS				*e*Sn	**Sb**	**15 04 43.7**	**-1.7**
GRUS	**Gruza**	**2.31**	**359**	*e*Pn	**Pn**	**15 04 13.5**	**+0.4**
GRUS				*e*Sn	**Sb**	**15 04 43.7**	**-1.7**
NVR	**Nevrokopi**	**2.33**	**95**	*e*PN	**Pb**	**15 04 15.8**	**-0.9**
NVR	**Nevrokopi**	**2.33**	**95**	*e*Pn	**Pb**	**15 04 15.8**	**-0.9**
DIVS	**Divibare**	**2.58**	**347**	*e*Pn	**Pn**	**15 04 17.8**	**+0.8**
DIVS				*e*Sn	**Sn**	**15 04 50.1**	**+1.1**
DIVS	**Divibare**	**2.58**	**347**	*e*Pn	**Pn**	**15 04 17.8**	**+0.8**
DIVS				*e*Sn	**Sn**	**15 04 50.1**	**+1.1**
STON	**Ston**	**2.63**	**300**	*e*Pn	**Pn**	**15 04 19.0**	**+1.6**
STON				Sn	**Sb**	**15 04 53.1**	**-1.4**
STON	**Ston**	**2.63**	**300**	*e*Pn	**Pn**	**15 04 19.0**	**+1.6**
STON				Sn	**Sb**	**15 04 53.1**	**-1.4**
SVIS	**Svilajnac**	**2.70**	**7**	*e*Pn	**Pn**	**15 04 20.1**	**+1.6**
SVIS				*e*Sn	**Sn**	**15 04 53.4**	**+1.6**
AGG	**Agios Georgios**	**2.81**	**155**	*e*PN	**Pn**	**15 04 21.4**	**+1.3**
AGG	**Agios Georgios**	**2.81**	**155**	*e*Pn	**Pn**	**15 04 21.4**	**+1.3**
FGSL	**Fruska Gora**	**3.65**	**349**	*e*Pn	**Pn**	**15 04 31.3**	**-0.2**
FRGS	**Fruska Gora**	**3.65**	**349**	*e*Pn	**Pn**	**15 04 31.3**	**-0.2**
UDBI	**Udbina**	**4.71**	**310**	*e*Pn	**Pn**	**15 04 48.7**	**+2.6**
UDBI	**Udbina**	**4.71**	**310**	*e*Pn	**Pn**	**15 04 48.7**	**+2.6**
NVLJ	**Novalja**	**5.26**	**307**	⇑*i*Pn	**Pn**	**15 04 54.6**	**+1.0**
NVLJ				Sn	**Sn**	**15 05 54.2**	**-0.5**

*ISCJB **07** 15:14:17.6±0.9, 38°.27N±0°.04×141°.68E±0°.09, h65km±6km, mb3.4/3, Error ellipse: s-maj=12.0km s-min=5.4km az=18.8*

*JMA **07** 15:14:18.9, 38°.26N×141°.58E, h60km±1km, M3.4*

*IDC **07** 15:14:21.2±3.3, 38°.99N×140°.27E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=66.0km s-min=23.1km az=112.0*

ISC 07 15:14:18.2±1.4, 38°.26N±0°.05×141°.70E±0°.09, h57km±9km, n17, σ0s86/30, mb3.5/3, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.34**	**305**	⇑P	**Pn**	**15 14 28.9**	**+0.5**
JIO				S	**Sn**	**15 14 36.0**	**+0.3**
JMK	**Ichinoseki**	**0.78**	**331**	⇑P	**Pn**	**15 14 33.9**	**+0.5**
JMK				*e*S	**Sn**	**15 14 44.9**	**+0.5**
JMM	**Marumori**	**0.82**	**241**	⇑P	**Pn**	**15 14 33.4**	**-0.4**
JMM				*e*S	**Sn**	**15 14 44.1**	**-1.1**
JOU	**Okura**	**0.82**	**277**	⇓P	**Pn**	**15 14 33.7**	**-0.2**
JOU				*e*S	**Sn**	**15 14 44.6**	**-0.8**
JFK	**Kawauchi**	**1.11**	**216**	⇑P	**Pn**	**15 14 37.6**	**-0.1**
JFK				*e*S	**Sn**	**15 14 51.8**	**-0.3**
JYK	**Kaneyama**	**1.24**	**302**	⇓P	**Pn**	**15 14 39.3**	**0.0**
JYK				*e*S	**Sn**	**15 14 54.6**	**-0.5**
JOM	**Ohasama**	**1.25**	**345**	P	**Pn**	**15 14 40.1**	**+0.6**
JOM				*e*S	**Sn**	**15 14 55.8**	**+0.5**
JYS	**Shirataka**	**1.29**	**269**	⇓P	**Pn**	**15 14 39.9**	**-0.1**
JYS				*e*S	**Sn**	**15 14 56.1**	**-0.2**
JFT	**Otama**	**1.31**	**236**	P	**Pn**	**15 14 40.4**	**+0.1**
JFT				*e*S	**Sn**	**15 14 56.0**	**-0.8**
JRG	**Rokugo**	**1.40**	**324**	P	**Pn**	**15 14 42.4**	**+0.8**
JRG				*e*S	**Sn**	**15 14 59.8**	**+0.7**
JYA	**Atsumi**	**1.59**	**282**	P	**Pn**	**15 14 44.0**	**-0.1**
JYA				*e*S	**Sn**	**15 15 03.3**	**-0.4**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=30,slow=14,SNR=10	**3.27**	**239**	Pn	**Pn**	**15 15 09.1**	**+2.1**
MJAR	0.9nm,0.3s,baz=176,slow=22,SNR=4.1			Sn	**Sn**	**15 15 46.5**	**+1.8**
MAT	**Matsushiro**	**3.27**	**239**	P	**Pn**	**15 15 09.0**	**+2.0**
MAT				S	Sn	15 15 53.0	+8.3
ASAJ	**Asahikawa** 0.6nm,0.3s,baz=8.5,slow=9.8,SNR=7.2	**5.89**	**6**	Pn	**Pn**	**15 15 42.7**	**-0.1**
ASAJ	0.4nm,0.3s,baz=303,slow=12,SNR=2.1			Sn	**Sn**	**15 16 47.8**	**-1.0**
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=94,slow=8.7,SNR=2.6	**41.26**	**311**	P	**P**	**15 21 57.4**	**-0.1**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=84,slow=9.3,SNR=4.3	**43.67**	**301**	P	**P**	**15 22 16.6**	**-0.7**
KURBB	**Kurchatov Arra** 0.7nm,0.7s,baz=81,slow=8.0,SNR=7.6	**45.43**	**307**	P	**P**	**15 22 30.6**	**-0.6**

IDC 07 15:18:37.9±1.6, 3°.01N×126°.08E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=176.4km s-min=18.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.5nm,0.6s,baz=340,slow=10,SNR=14	**24.21**	**161**	P	P	15 23 56.3	-0.1
ASAR	**Alice Springs** 0.5nm,0.6s,baz=343,slow=9.5,SNR=9.6	**27.59**	**164**	P	P	15 24 27.6	+0.5
STKA	**Stephens Creek** 2.2nm,0.7s,baz=340,slow=9.6,SNR=7.0	**37.70**	**158**	P	P	15 25 55.0	-0.3
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=124,slow=7.8,SNR=11	**57.78**	**326**	P	P	15 28 30.5	-0.5
KURBB	**Kurchatov Arra** 0.6nm,0.8s,baz=127,slow=6.2,SNR=8.9	**62.00**	**328**	P	P	15 29 00.0	+0.2

*IDC **07** 15:26:15.0±1.8, 7°.44S×121°.21E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/28, Error ellipse: s-maj=238.0km s-min=20.9km az=57.0*

*ISCJB **07** 15:26:17.7±0.5, 8°.02S±0°.04×120°.56E±0°.05, h33km, mb3.7/3, MS3.8/1, Error ellipse: s-maj=8.0km s-min=5.7km az=161.4*

*DJA **07** 15:26:19.1±0.3, 8°.S±3°×120°.0E±°, h23km, M3.9/7, MLv3.9/7*

ISC 07 15:26:19.3±0.8, 7°.99S±0°.06×120°.60E±0°.07, h33km, n22, σ1s02/18, mb3.8/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**0.85**	**235**	P	x	15 26 33.2	
LBFI				S	x	15 26 43.6	
WSI	**Waingapu**	**1.69**	**190**	P	**Pb**	**15 26 48.8**	**-1.1**
WSI	**Waingapu** baz=0.7,SNR=9.2	**1.69**	**190**	S	**Pb**	**15 26 48.5**	**-1.4**
MMRI	**Maumere**	**1.74**	**112**	P	**Pb**	**15 26 49.0**	**-1.7**
MMRI				S	**Sb**	**15 27 11.8**	**-0.4**
BKSI	**Bulukumba**	**2.70**	**350**	P	**Pn**	**15 27 00.0**	**-0.4**
BKSI				S	**Sn**	**15 27 32.0**	**+0.1**
BNSI	**Bone**	**3.60**	**352**	P	**Pn**	**15 27 14.4**	**+1.5**
KKSI	**Kolaka, Sulawe**	**3.94**	**15**	P	x	15 27 18.7	
KKSI				S	x	15 28 09.0	
SOEI	**Soe**	**4.02**	**116**	P	Pb	15 27 25.2	-4.4
SOEI				S	Sn	15 27 32.5	-33
SOEI	**Soe** baz=3.6,SNR=10	**4.02**	**116**	P	Pb	15 27 24.4	-5.2
SPSI	**Sidrap Palu**	**4.09**	**348**	P	**Pn**	**15 27 18.8**	**-0.7**
JAGI	**Jajag, Banyuwa** baz=6.5,SNR=5.6	**6.40**	**265**	P	Pb	15 28 01.9	-8.2
KNRA	**Kununurra** baz=10,SNR=6.6	**11.05**	**134**	P	**Pn**	**15 28 54.6**	**-0.5**
MTN	**Manton Dam** baz=11,SNR=10.0	**11.42**	**116**	P	**Pn**	**15 29 00.9**	**+0.7**
KDU	**Kakadu** baz=12,SNR=3.9	**12.57**	**113**	P	**Pn**	**15 29 16.8**	**+0.8**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=309,slow=13,SNR=30	**17.84**	**133**	P	**Pn**	**15 30 24.8**	**-0.4**
WRKA	**Warakurna** baz=18,SNR=10	**18.47**	**157**	P	**Pn**	**15 30 33.9**	**+1.0**
ASAR	**Alice Springs** 1.9nm,0.7s,baz=330,slow=12,SNR=36	**20.14**	**142**	P	**P**	**15 30 51.8**	**+0.9**
QIS	**Mount Isa** baz=22,SNR=4.7	**22.22**	**126**	P	**P**	**15 31 14.2**	**+0.9**
STKA	**Stephens Creek** 0.6nm,0.4s,baz=340,slow=11,SNR=4.5	**30.77**	**143**	P	**P**	**15 32 32.8**	**+0.9**
ASAJ	**Asahikawa** comp=Z,87nm,20.9s,baz=246,slow=35	**55.56**	**19**	LR	LR	15 58 22.6	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=153,slow=6.8,SNR=5.6	**64.31**	**332**	P	**P**	**15 36 51.3**	**-0.3**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=133,slow=6.2,SNR=3.2	**68.68**	**338**	P	**P**	**15 37 18.2**	**-1.2**

WEL 07 15:29:20.1±0.3, 38°.12S×176°.18E, h173km±3km, ML3.7/10, 4C-1D, Error ellipse: s-maj=2.1km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.75**	**101**	PN	Pn	15 29 44.9	-0.4
URZ				SN	Sn	15 30 04.3	-0.4
URZ				AML	AML	15 30 05.2	
RATZ	**Rangitukua**	**0.81**	**203**	PN	Pn	15 29 45.9	+0.1
KRVZ	**Karewarewa**	**1.06**	**203**	PN	Pn	15 29 47.6	-0.1
RAHZ	**Arahi**	**1.07**	**138**	⇑PN	Pn	15 29 48.1	+0.4
BKZ	**Black Stump Fm**	**1.07**	**167**	PN	Pn	15 29 47.6	-0.1
BKZ				SN	Sn	15 30 08.4	-0.8
MWZ	**Matawai**	**1.09**	**102**	⇑PN	Pn	15 29 47.5	-0.3
MWZ				SN	Sn	15 30 08.6	-0.6
MWZ				AML	AML	15 30 09.5	
MWZ				AML	AML	15 30 14.1	
NMHZ	**Naumai**	**1.09**	**153**	PN	Pn	15 29 48.6	+0.7
WTVZ	**West Tongariro**	**1.10**	**205**	PN	Pn	15 29 47.9	-0.1
HIZ	**Hauiti**	**1.11**	**249**	PN	Pn	15 29 48.3	+0.4
OTVZ	**Oturere**	**1.12**	**201**	SN	Sn	15 30 09.9	-0.1
SNGZ	**Shannon Statio**	**1.13**	**126**	PN	Pn	15 29 48.4	+0.2
SNGZ				SN	Sn	15 30 09.8	0.0
COVZ	**Chateau Observ**	**1.19**	**205**	PN	Pn	15 29 48.6	-0.1
WPVZ	**Whakapapa**	**1.19**	**204**	PN	Pn	15 29 48.7	0.0
FWVZ	**Far West T-bar**	**1.23**	**203**	PN	Pn	15 29 49.3	0.0
WHHZ	**Waihua**	**1.27**	**139**	PN	Pn	15 29 49.6	+0.3
MOVZ	**Moawhango**	**1.33**	**194**	PN	Pn	15 29 49.3	-0.6
BHHZ	**Black Hill Sta**	**1.37**	**184**	PN	Pn	15 29 49.7	-0.5
RIGZ	**Rimuhau**	**1.38**	**116**	PN	Pn	15 29 50.4	+0.1
MCHZ	**McNeill Hill**	**1.38**	**163**	PN	Pn	15 29 50.8	+0.5
KUZ	**Kuaotunu**	**1.42**	**345**	PN	Pn	15 29 50.7	0.0
KNZ	**Kokohu**	**1.48**	**128**	PN	Pn	15 29 51.1	-0.1
VRZ	**Vera Road**	**1.50**	**227**	PN	Pn	15 29 51.6	+0.2
PRGZ	**Paritu Road**	**1.56**	**121**	PN	Pn	15 29 51.9	-0.1
CNGZ	**Carnagh Statio**	**1.64**	**103**	⇓PN	Pn	15 29 53.3	+0.5
CKHZ	**Cape Kidnapper**	**1.69**	**156**	PN	Pn	15 29 53.3	0.0
MHGZ	**Mahia Peninsul**	**1.70**	**128**	PN	Pn	15 29 53.5	+0.1
KAHZ	**Kahuranaki**	**1.76**	**162**	⇑PN	Pn	15 29 54.0	-0.1
MXZ	**Matakaoa Point**	**1.78**	**72**	PN	Pn	15 29 53.8	-0.5
MXZ				AML	AML	15 30 32.2	
PNHZ	**Pukenui**	**1.79**	**179**	PN	Pn	15 29 53.7	-0.8
TSZ	**Takapari Road**	**1.94**	**185**	PN	Pn	15 29 55.0	-1.1
WPHZ	**Waipukurau**	**1.95**	**174**	PN	Pn	15 29 55.4	-0.7
PXZ	**Pawanui**	**1.98**	**165**	⇑PN	Pn	15 29 55.6	-0.8
PXZ				AML	AML	15 30 26.8	
PRHZ	**Porangahau**	**2.17**	**171**	PN	Pn	15 29 57.5	-1.1
POWZ	**Post Office Ro**	**2.29**	**188**	PN	Pn	15 29 58.4	-1.5
ANWZ	**Angora Road**	**2.35**	**174**	PN	Pn	15 29 59.3	-1.2
MRZ	**Mangatainoka R**	**2.58**	**190**	PN	Pn	15 30 01.3	-2.1
MRZ				AML	AML	15 30 35.5	
MRZ				AML	AML	15 30 37.8	
OGWZ	**Otaki Gorge**	**2.81**	**196**	PN	Pn	15 30 03.8	-2.1
HOWZ	**Holdsworth Sta**	**2.82**	**190**	PN	Pn	15 30 03.8	-2.4
KIW	**Kapiti Island**	**2.91**	**199**	PN	Pn	15 30 04.7	-2.6
KIW				AML	AML	15 30 42.4	
TMWZ	**Te Maipa**	**2.99**	**184**	PN	Pn	15 30 05.7	-2.6
MTW	**Mount Morrison**	**3.08**	**190**	PN	Pn	15 30 06.4	-3.0
MTW				AML	AML	15 30 45.3	
MTW				AML	AML	15 30 46.1	
CAW	**Cannon Point**	**3.10**	**196**	PN	Pn	15 30 07.0	-2.7
TRWZ	**Traveller**	**3.30**	**186**	PN	Pn	15 30 09.2	-2.8
MSWZ	**Moikau Station**	**3.37**	**192**	PN	Pn	15 30 09.7	-3.2
MSWZ				AML	AML	15 30 51.4	
MSWZ				AML	AML	15 30 51.5	
TCW	**Tory Channel**	**3.42**	**205**	PN	Pn	15 30 10.4	-3.1
TCW				AML	AML	15 30 53.1	
TCW				AML	AML	15 30 53.2	
PLWZ	**Palliser**	**3.52**	**191**	PN	Pn	15 30 11.5	-3.4
TUWZ	**Tuamarina**	**3.73**	**207**	PN	Pn	15 30 14.1	-3.3
BSWZ	**Blackbirch Sta**	**4.00**	**206**	PN	Pn	15 30 17.8	-3.2
THZ	**Tophouse**	**4.42**	**214**	PN	Pn	15 30 25.0	-1.5
KHZ	**Kahutara**	**4.74**	**204**	PN	Pn	15 30 26.9	-3.6
KHZ				AML	AML	15 30 30.7	
MQZ	**McQueen's Vall**	**6.19**	**204**	PN	Pn	15 30 43.7	-5.6

*BYKL **07** 15:40:58.1±0.2, 56°.66N×117°.97E, h10km±3km*

MOS 07 15:40:59.0±2.9, 56°.38N×117°.47E, h6km, mb4.3/1, 4C-1D, Error ellipse: s-maj=27.5km s-min=21.9km az=115.7, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.68**	**40**	⇑*i*Pg	Pg	15 41 03.8	-8.4
CRS				*i* Sg	Sg	15 41 07.6	-14
CRS	178nm,0.1s			Pmax			
CRS	725nm,0.3s			Smax			
NLYR	**Nelyaty**	**0.99**	**277**	*e*PG	Pn	15 41 20.6	+1.1
NLYR				*e*		15 41 36.9	
NLYR	comp=Z,70nm,0.2s			pmax	pmax		
NLYR	comp=N,551nm,1.7s			smax	smax		
NLYR	**Nelyaty**	**0.99**	**277**	⇑*i*Pg	Pn	15 41 20.7	+1.2
NLYR				*e*Pb	Pb	15 41 22.5	+3.9
NLYR				*e*Sg	Sn	15 41 36.6	+2.8
NLYR	comp=N,66nm,0.3s			max			
NLYR	comp=N,449nm,0.6s			Smax			
KHNR	**Khani**	**1.49**	**67**	⇑*i*Pg	Pn	15 41 19.0	-7.3
KHNR				*e*Sg	Sn	15 41 33.9	-12
SVKR	**Severomuysk**	**2.20**	**265**	*e*Pn	Pb	15 41 40.0	+0.7
SVKR				*e*Pg	Pg	15 41 43.4	+2.1
SVKR				*e*Sn	Sg	15 42 09.1	-0.8
SVKR				*e*Sg	Sb	15 42 15.5	+8.7
SVKR	comp=N,54nm,0.3s			Pmax			
SVKR	comp=N,305nm,0.5s			Smax			
YKLR	**Yuktali**	**2.33**	**83**	*e*Pn	Pn	15 41 33.6	-4.2
YKLR				*e*Pg	Pb	15 41 34.6	-6.8
YKLR				*e*Sg	Sn	15 42 01.6	-5.2
UKT	**Uakit**	**2.34**	**249**	*e*Pn	Pb	15 41 42.1	+0.4
UKT				*e*Pg	Pg	15 41 46.4	+2.4
UKT				*e*Sg	Sg	15 42 21.9	+7.5
UKT	comp=N,7.0nm,0.2s			Pmax			
UKT	comp=N,75nm,0.4s			Smax			
BOD	**Bodaibo**	**2.38**	**309**	*e*PN	Pn	15 41 37.5	-1.0
BOD				*e*		15 41 41.0	
BOD				*e*		15 42 12.2	
BOD	comp=Z,23nm,0.4s			pmax	pmax		
BOD	comp=N,397nm,0.5s			smax	smax		
BOD	**Bodaibo**	**2.38**	**309**	*e*Pn	Pn	15 41 38.5	0.0
BOD				*e*Pg	Pb	15 41 41.5	-0.8
BOD				*e*Sn	Sn	15 42 08.0	0.0
BOD				*e*Sg	Sb	15 42 12.7	+0.8
BOD	comp=N,22nm,0.2s			Pmax			
BOD	comp=N,269nm,0.2s			Smax			
TUP	**Tupik**	**2.42**	**143**	*e*PN	Pn	15 41 39.4	+0.3
TUP				*e*		15 41 43.5	
TUP				*e*S	Sn	15 42 10.7	+1.7
TUP				*e*		15 42 16.4	
TUP	comp=Z,55nm,0.3s			pmax	pmax		
TUP	comp=N,237nm,0.5s			smax	smax		
TUP	**Tupik**	**2.42**	**143**	⇓*i*Pn	Pn	15 41 39.7	+0.6
TUP				*e*Pg	Pb	15 41 43.1	+0.2
TUP				*e*PgPg	PnPn	15 41 48.0	+1.8
TUP				*e*Sg	Sg	15 42 16.5	-0.2
TUP	comp=N,56nm,0.3s			max			
TUP	comp=N,235nm,0.2s			Smax			
YOA	**Uoyan**	**3.22**	**268**	*e*Pg	Pg	15 42 02.7	+2.0
YOA				*e*Sg	Sg	15 42 47.7	+5.3
YOA	comp=N,21nm,0.1s			Pmax			
YOA	comp=N,261nm,0.4s			Smax			
KMO	**Kumora**	**3.54**	**265**	*e*PN	Pn	15 41 57.9	+3.3
KMO				*e*S	Sb	15 42 42.6	-2.8
KMO	comp=Z,6.0nm,0.4s			pmax	pmax		
KMO	comp=N,85nm,1.1s			smax	smax		
KMO	**Kumora**	**3.54**	**265**	*e*Pn	Pn	15 41 58.2	+3.6
KMO				*e*Pg	Pg	15 42 06.8	-0.1
KMO				*e*Sg	Sg	15 42 57.5	+4.6
KMO	comp=N,12nm,0.5s			Pmax			
KMO	comp=N,86nm,1.1s			Smax			
YLYR	**Ulyunkhan**	**3.88**	**250**	⇑*i*Pn	Pn	15 42 03.5	+4.3
YLYR				*e*Sn	Sb	15 42 51.6	-3.5
YLYR				*e*Sg	Sg	15 43 09.0	+5.3
YLYR	comp=N,25nm,0.4s			Smax			
VTMR	**Vitim**	**4.04**	**322**	*e*Pn	Pn	15 42 00.0	-1.3
VTMR				*e*		15 42 03.8	
VTMR				*e*Pg	Pb	15 42 10.3	-0.2
VTMR				*e*Sn	Sn	15 42 47.3	-1.6
VTMR				*e*Sg	Sb	15 43 02.6	+3.1
IENR	**Iengra**	**4.12**	**89**	*e*Pn	Pn	15 41 57.7	-4.8
IENR				*e*Pg	Pb	15 42 05.6	-6.3
IENR				*e*Sn	Sn	15 42 41.1	-10
IENR				*e*Sg	Sb	15 42 55.4	-6.5
CLNS	**Chul'man**	**4.13**	**81**	*e*PN	Pn	15 42 07.3	+4.7
CLNS				*e*S	Sn	15 42 56.0	+4.8
CLNS	**Chul'man**	**4.13**	**81**	*e*Pg	Pn	15 42 07.2	+4.6
CLNS				*e*Sg	Sn	15 42 56.2	+5.0
NIZ	**Nizh Angarsk**	**4.49**	**266**	*e*Pn	Pn	15 42 11.0	+3.5
NIZ				*e*Pg	Pg	15 42 25.1	+0.2
NIZ				*e*Sg	Sg	15 43 27.0	+3.9
NIZ	comp=N,5.0nm,0.6s			Pmax			
NIZ	comp=N,30nm,0.6s			Smax			
OGRR	**Ongureny**	**6.31**	**248**	*e*Pn	Pn	15 42 36.9	+4.4
OGRR				*e*Sn	Sn	15 43 49.6	+4.7
OGRR				*e*Sg	Sg	15 44 23.5	+2.0
OGRR	comp=N,14nm,0.9s			Smax			
KPC	**Khapcheranga**	**7.36**	**207**	*e*PN	Pn	15 42 49.5	+2.5
KPC				*e*		15 43 15.3	
KPC	comp=Z,25nm,0.4s			pmax	pmax		
KPC	**Khapcheranga**	**7.36**	**207**	*e*Pn	Pn	15 42 50.2	+3.2
KPC				*e*Sg	Sg	15 44 58.1	+2.9
KPC	com

MOS ***07*** *15:48:27.4±2.7, 19.94S×175.67W, h33km, mb5.2/10,*
Error ellipse: s-maj=14.5km s-min=13.5km az=46.9
ISC 07 15:48:21.3±0.5, 21.55S±0.08×174.57W±0.08, h33km±1km,
h33km:pP-P, n244, σ1§43/265, mb5.0/54, MS4.2/14, 25C-9D,
Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.05**	**20**	Pn	Pn	15 50 07.8	-8.3
AFI				*e*Sn	Sn	15 51 28.6	-17
AFI				Sn	Sn	15 51 31.2	-15
AFI	**Afiamalu**	**8.05**	**20**	Pn	Pn	15 50 07.8	-8.3
	3.3nm,0.3s,baz=36,slow=22,SNR=7.4						
AFI				Sn	Sn	15 51 31.2	-15
	6.7nm,0.3s,baz=171,slow=23,SNR=5.1						
RAO	**Raoul Island**	**8.24**	**201**	*e*Pn	Pn	15 50 04.8	-14
RAO				Sn	Sn	15 51 36.8	-14
RAO	**Raoul Island**	**8.24**	**201**	Sn	Sn	15 51 36.8	-14
	90nm,0.3s,baz=288,slow=20,SNR=3.2						
RAO				LR	LR	15 52 55.0	
	comp=Z,239nm,20.6s,baz=294,slow=34						
RAR	**Rarotonga**	**13.79**	**91**	*e*Pn	Pn	15 51 21.2	-13
RAR				*e*Sn	Sn	15 53 40.9	-26
RAR	**Rarotonga**	**13.79**	**91**	Pn	Pn	15 51 21.2	-13
	15nm,0.3s,baz=221,slow=10.0,SNR=19						
RAR				LR	LR	15 56 00.4	
	comp=Z,570nm,19.6s,baz=242,slow=34						
DZM	**Mont Dzumac**	**17.64**	**265**	*e*P	**P**	**15 52 25.6**	**+0.2**
	59nm,1.2s						
DZM				*e*LR	LR	15 56 30.4	
	265nm,25.6s						
DZM	**Mont Dzumac**	**17.64**	**265**	P	**P**	**15 52 27.3**	**+1.9**
DZM	**Mont Dzumac**	**17.64**	**265**	P	**P**	**15 52 27.3**	**+1.9**
	0.3nm,0.3s,baz=73,slow=17,SNR=7.5						
URZ	**Urewera**	**18.13**	**201**	P	**Pn**	**15 52 28.9**	**-1.6**
URZ				S	Sn	15 55 30.7	-21
URZ	**Urewera**	**18.13**	**201**	P	**Pn**	**15 52 28.9**	**-1.6**
	0.5nm,0.3s,baz=39,slow=2.2,SNR=3.6						
URZ				S	Sn	15 55 30.7	-21
	0.1nm,0.3s,baz=10,slow=23,SNR=3.1						
KNTN	**Kanton**	**18.87**	**9**	*e*Pn	Pn	15 52 46.1	+6.5
	170nm,0.7s						
TBI	**Tubuai**	**23.27**	**99**	*e*LR	LR	15 58 45.2	
	308nm,21.2s						
PPT2	**Papeete2**	**23.86**	**85**	*e*LR	LR	15 58 56.1	
	291nm,21.2s						
PPT	**Papeete**	**23.87**	**85**	LR	LR	16 01 35.6	
	comp=Z,476nm,18.4s,baz=196,slow=34						
RPZ	**Rata Peaks**	**25.13**	**205**	P	**P**	**15 53 45.3**	**+2.1**
RPZ	**Rata Peaks**	**25.13**	**205**	P	**P**	**15 53 45.3**	**+2.1**
	16nm,0.6s,baz=300,slow=12,SNR=6.9						
HNR	**Honiara**	**27.30**	**292**	LR	LR	16 03 43.4	
	comp=Z,122nm,18.2s,baz=189,slow=34						
RKT	**Rikitea**	**36.58**	**100**	*e*S	S	16 00 52.1	-13
	182nm,35.2s						
RKT				*e*LR	LR	16 04 53.5	
	223nm,22.2s						
CTAO	**Charters Tower**	**36.59**	**265**	*e*P	**P**	**15 55 23.7**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**36.59**	**265**	*e*P	**P**	**15 55 23.7**	**-0.8**
	comp=Z,9.4nm,0.8s						
PMG	**Port Moresby**	**38.70**	**282**	P	**P**	**15 55 41.2**	**-1.3**
PMG	**Port Moresby**	**38.70**	**282**	P	**P**	**15 55 41.2**	**-1.3**
	comp=Z,17nm,0.9s,baz=107,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**40.25**	**246**	*e*P	**P**	**15 55 53.7**	**-1.5**
	comp=Z,0.9nm,0.9s						
STKA	**Stephens Creek**	**40.25**	**246**	P	**P**	**15 55 54.6**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=96,slow=12,SNR=6.9						
STKA				LR	LR	16 12 05.1	
	comp=Z,288nm,18.1s,baz=28,slow=36						
COEN	**Coen**	**40.85**	**273**	*e*P	**P**	**15 56 01.8**	**+1.5**
	comp=Z,33nm,0.8s						
AS31	**Alice Springs**	**47.41**	**257**	*e*P	**P**	**15 56 51.5**	**-1.4**
AS31				*e*PcP	**PcP**	**15 58 22.8**	**-0.4**
ASAR	**Alice Springs**	**47.41**	**257**	P	**P**	**15 56 52.0**	**-0.9**
ASAR				PcP	**PcP**	**15 58 23.2**	**0.0**
ASAR				S	**S**	**16 03 43.8**	**-1.4**
ASAR	**Alice Springs**	**47.41**	**257**	P	**P**	**15 56 52.0**	**-0.9**
	comp=Z,10nm,0.8s,baz=91,slow=8.3,SNR=96						
ASAR				PcP	**PcP**	**15 58 23.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=105,slow=3.6,SNR=5.4						
ASAR				S	**S**	**16 03 43.8**	**-1.4**
	comp=Z,1.1nm,1.1s,baz=95,slow=15,SNR=5.7						
WRAB	**Tennant Creek**	**47.63**	**262**	*d*/*i*P	**P**	**15 56 52.9**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,53nm,1.2s						
WRAB	**Tennant Creek**	**47.63**	**262**	*e*P	**P**	**15 56 52.7**	**-1.8**
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**47.63**	**262**	P	**P**	**15 56 53.2**	**-1.4**
WRA	**Warramunga Arr**	**47.63**	**262**	P	**P**	**15 56 53.2**	**-1.4**
	comp=Z,11nm,0.9s,baz=98,slow=7.8,SNR=54						
WRA				LR	LR	16 16 51.5	
	comp=Z,255nm,18.5s,baz=105,slow=36						
FORT	**Forrest**	**51.84**	**247**	*e*P	**P**	**15 57 24.9**	**-1.5**
	comp=Z,20nm,0.7s						
KAPI	**Kappang**	**65.57**	**274**	P	**P**	**15 59 02.1**	**-0.2**
KAPI	**Kappang**	**65.57**	**274**	P	**P**	**15 59 02.1**	**-0.2**
QSPA	**South Pole Qui**	**68.53**	**180**	*e*P	**P**	**15 59 20.9**	**+0.5**
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**68.53**	**180**	P	**P**	**15 59 21.6**	**+1.2**
	comp=Z,6.8nm,1.0s						
MJAR	**Matsushiro Arr**	**72.98**	**322**	P	**P**	**15 59 47.6**	**-0.1**
MJAR	**Matsushiro Arr**	**72.98**	**322**	P	**P**	**15 59 47.6**	**-0.1**
	comp=Z,9.2nm,0.8s,baz=159,slow=6.4,SNR=16						
MAJO	**Matsushiro**	**72.98**	**322**	⇑*i*P	**P**	**15 59 45.5**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,91nm,1.0s						
MAJO	**Matsushiro**	**72.98**	**322**	*e*P	**P**	**15 59 46.3**	**-1.4**
MAT	**Matsushiro**	**72.98**	**322**	P	**P**	**15 59 48.0**	**+0.3**
KKM	**Kota Kinabalu**	**73.12**	**284**	P	**P**	**15 59 47.8**	**-1.3**
KSM	**Kuching**	**76.73**	**277**	*e*P	**P**	**16 00 09.6**	**-0.3**
	comp=Z,16nm,0.8s						
KMRM	**Mail Ridge**	**77.58**	**37**	*e*P	**P**	**16 00 14.7**	**+0.5**
	comp=Z,111nm,2.3s						
EDW2	**Edwards Air Fo**	**77.66**	**45**	P	**P**	**16 00 13.4**	**-1.3**
	baz=78						
CMB	**Columbia Colle**	**78.10**	**41**	P	**P**	**16 00 16.0**	**-1.1**
CMB	**Columbia Colle**	**78.10**	**41**	P	**P**	**16 00 16.0**	**-1.1**
PETK	**Petropavlovsk-**	**78.14**	**343**	P	**P**	**16 00 17.3**	**+0.4**
PETK	**Petropavlovsk-**	**78.14**	**343**	P	**P**	**16 00 17.2**	**+0.4**
PETK	**Petropavlovsk-**	**78.14**	**343**	P	**P**	**16 00 17.2**	**+0.4**
	comp=Z,8.6nm,0.8s,baz=120,slow=5.0,SNR=9.8						
LRMC	**Laurel Mountai**	**78.22**	**44**	P	**P**	**16 00 17.5**	**-0.4**
	baz=78						
WDC	**Whiskeytown Da**	**78.48**	**38**	*e*P	P	16 00 22.4	+3.4
WDC				*e**PP	pP	16 00 38.0	+8.5
WDC				pmax	pmax		
	comp=Z,117nm,2.9s						
WDC	**Whiskeytown Da**	**78.48**	**38**	*e*P	P	16 00 22.4	+3.4
	comp=Z,117nm,2.9s						
WDC				*e*pP	pP	16 00 38.0	+8.5
CWC	**Cottonwood Cre**	**78.55**	**43**	P	**P**	**16 00 19.5**	**-0.2**
	baz=79						
MPMC	**Manual Prospec**	**78.70**	**44**	P	**P**	**16 00 19.4**	**-1.2**
	baz=79						
WAKR	**Walker**	**78.98**	**41**	*e*P	**P**	**16 00 21.1**	**-1.0**
PMSA	**Palmer Station**	**79.04**	**156**	*e*P	P	16 00 31.9	+10
	comp=Z,7.2nm,0.4s						
NVAR	**Mina Array Bea**	**79.63**	**42**	P	**P**	**16 00 25.3**	**-0.3**
NVAR	**Mina Array Bea**	**79.63**	**42**	P	**P**	**16 00 25.3**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=229,slow=8.8,SNR=13						
NV11	**Mina Array Sit**	**79.72**	**42**	*e*P	**P**	**16 00 24.9**	**-1.2**
KSRS	**Korea Array**	**79.81**	**317**	P	**P**	**16 00 27.2**	**+0.8**
	comp=Z,4.7nm,1.0s,baz=126,slow=6.2,SNR=8.2						
KSRS				LR	LR	16 31 53.6	
	comp=Z,45nm,19.1s,baz=11,slow=33						
KSAR	**Wonju Array Be**	**79.83**	**317**	P	**P**	**16 00 27.2**	**+0.7**
TPNV	**Topopah Spring**	**80.03**	**44**	P	**P**	**16 00 27.1**	**-0.7**
	baz=80						
R11A	**Troy Canyon, C**	**81.28**	**43**	P	**P**	**16 00 33.1**	**-1.4**
MAW	**Mawson**	**81.64**	**199**	P	**P**	**16 00 36.1**	**+0.3**
MAW	**Mawson**	**81.64**	**199**	P	**P**	**16 00 36.1**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=117,slow=9.4,SNR=3.9						
USRK	**Ussuriysk Arra**	**81.66**	**324**	P	**P**	**16 00 37.8**	**+1.7**
	comp=Z,4.2nm,0.8s,baz=126,slow=6.1,SNR=9.4						
U15A	**North Rim**	**82.33**	**46**	P	**P**	**16 00 39.6**	**-0.6**
	baz=82						
MYKOM	**Kota Tinggi**	**82.83**	**275**	*e*P	**P**	**16 00 43.7**	**+0.8**
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**83.03**	**308**	*e*P	**P**	**16 00 45.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
MDJ	**Mudanjiang**	**83.24**	**323**	P	**P**	**16 00 46.4**	**+2.1**
MDJ				pP	**pP**	**16 00 55.9**	**+1.1**
MDJ				sP	**sP**	**16 00 59.6**	**+0.9**
MDJ				PP	**PP**	**16 03 55.8**	**-0.6**
MDJ				S	**SKSac**	**16 11 04.9**	**+1.0**
MDJ				SS	**SS**	**16 16 31.6**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.5s						
MDJ				LR	LR		
	comp=Z,36nm,18.9s						
MDJ				LR	LR		
	comp=Z,55nm,20.2s						
MDJ				LR	LR		
	comp=Z,90nm,21.1s						
MDJ	**Mudanjiang**	**83.24**	**323**	*e*P	**P**	**16 00 46.0**	**+1.7**
	comp=Z,10nm,0.8s						
G08A	**Pilot Rock**	**83.54**	**36**	*e*P	**P**	**16 00 45.5**	**-0.5**
MVU	**Marysvale**	**83.54**	**44**	*e*P	**P**	**16 00 47.1**	**+0.8**
	comp=Z,6.2nm,1.2s						
MFID	**Camas Ranch**	**84.15**	**39**	*e*P	P	16 00 45.7	-3.5
	comp=Z,7.2nm,1.1s						
Z22A	**Elephant Butte**	**84.38**	**51**	P	**P**	**16 00 49.9**	**-0.8**
	baz=84						
TMUT	**Trail Mountain**	**84.63**	**44**	*e*P	**P**	**16 00 54.7**	**+2.7**
	comp=Z,11nm,0.9s						
F10A	**Beach Ranch, E**	**84.91**	**36**	*e*P	**P**	**16 00 52.0**	**-1.0**
	comp=Z,13nm,1.0s						
TXAR	**Lajitas Array**	**84.95**	**56**	P	**P**	**16 00 54.4**	**+0.9**
TXAR	**Lajitas Array**	**84.95**	**56**	P	**P**	**16 00 54.4**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=234,slow=7.7,SNR=3.1						
TXAR				LR	LR	16 33 56.2	
	comp=Z,98nm,19.2s,baz=180,slow=32						
SRU	**San Rafael**	**84.98**	**45**	*e*P	**P**	**16 00 55.4**	**+1.8**
SRU				pmax	pmax		
	comp=Z,16nm,1.5s						
SRU	**San Rafael**	**84.98**	**45**	*e*P	**P**	**16 00 55.4**	**+1.8**
	comp=Z,16nm,1.5s						
HLID	**Hailey**	**85.06**	**39**	*e*P	**P**	**16 00 52.4**	**-1.5**
HLID	**Hailey**	**85.06**	**39**	P	**P**	**16 00 53.1**	**-0.8**
	baz=85						
CN2	**Changchun**	**85.11**	**321**	*e*P	**P**	**16 00 55.2**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
426A	**McDonald Obser**	**85.30**	**55**	P	**P**	**16 00 54.8**	**-0.7**
	baz=85						
Y23A	**Lovelace Mesa,**	**85.38**	**51**	P	**P**	**16 00 54.4**	**-1.3**
	baz=86						
ANMO	**Albuquerque**	**85.59**	**50**	*e*P	**P**	**16 00 54.8**	**-1.9**
	comp=Z,8.7nm,1.1s						
WHN	**Wuhan**	**85.66**	**305**	P	P	16 00 52.1	-4.8
427A	**Hayter Ranch,**	**85.86**	**55**	P	**P**	**16 00 57.2**	**-0.9**
	baz=86						
PLCA	**Paso Flores**	**86.22**	**132**	LR	LR	16 35 24.3	
	comp=Z,115nm,18.3s,baz=273,slow=33						
Y25A	**Mesa, Roswell**	**86.36**	**51**	P	**P**	**16 00 58.9**	**-1.6**
	baz=86						
IPM	**Ipoh**	**86.44**	**276**	*e*P	**P**	**16 01 01.8**	**+0.6**
	comp=Z,18nm,1.0s						
W24A	**Lazy 6 Ranch,**	**86.47**	**50**	P	**P**	**16 01 00.3**	**-0.8**
	baz=87						
328A	**Wristen Ranch,**	**86.56**	**54**	P	**P**	**16 01 00.3**	**-1.1**
	baz=87						
Z26A	**Caprock**	**86.57**	**52**	P	**P**	**16 00 59.8**	**-1.7**
	baz=87						
X25A	**Clemmons Ranch**	**86.67**	**51**	P	**P**	**16 01 01.4**	**-0.7**
	baz=87						
S22A	**4UR Ranch, Cre**	**86.73**	**47**	P	**P**	**16 01 01.5**	**-1.0**
	baz=87						
KTH	**Kantishna Hill**	**86.83**	**10**	*e*P	**P**	**16 01 03.7**	**+1.7**
TRF	**Thorofare Moun**	**86.84**	**11**	*e*P	**P**	**16 01 00.6**	**-1.6**
	comp=Z,186nm,2.5s						
SNAA	**Sanae**	**86.85**	**177**	*e*P	**P**	**16 01 02.9**	**+0.7**
	comp=Z,91nm,2.7s						
429A	**Davenport Ranc**	**86.91**	**55**	P	**P**	**16 01 01.6**	**-1.6**
	baz=87						
Y26A	**Elida**	**86.99**	**52**	P	**P**	**16 01 03.0**	**-0.6**
	baz=87						
W25A	**X Bar L Ranch,**	**87.15**	**50**	P	**P**	**16 01 03.2**	**-1.1**
	baz=87						
V25A	**Rancho No Teng**	**87.34**	**50**	P	**P**	**16 01 04.2**	**-1.1**
	baz=88						
MCK	**McKinley**	**87.34**	**11**	*e*P	**P**	**16 01 04.5**	**+0.1**
MCK				pmax	pmax		
	comp=Z,16nm,1.1s						
MCK	**McKinley**	**87.34**	**11**	*e*P	**P**	**16 01 04.5**	**+0.1**
	comp=Z,16nm,1.1s						
SMCO	**Snowmass**	**87.36**	**46**	*e*P	**P**	**16 01 08.2**	**+2.6**
	comp=Z,3.8nm,0.9s						
N20A	**Spence Gulch,**	**87.36**	**44**	P	**P**	**16 01 04.3**	**-1.1**
	baz=88						
Y27A	**Causey**	**87.46**	**52**	P	**P**	**16 01 04.5**	**-1.3**
	baz=88						
PDAR	**Pinedale Array**	**87.56**	**42**	P	**P**	**16 01 04.8**	**-1.5**
PDAR	**Pinedale Array**	**87.56**	**42**	P	**P**	**16 01 04.8**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=208,slow=2.4,SNR=10						
SDCO	**Great Sand Dun**	**87.65**	**48**	*e*P	**P**	**16 01 05.3**	**-1.6**
S24A	**Houchin Ranch,**	**87.80**	**48**	P	**P**	**16 01 07.0**	**-0.6**
	baz=88						
W27A	**Bowe Ranch, En**	**88.08**	**51**	P	**P**	**16 01 09.0**	**+0.2**
	baz=88						
O22A	**Kremmling**	**88.14**	**45**	P	**P**	**16 01 08.4**	**-0.8**
	baz=88						
SEY	**Seymchan**	**88.15**	**346**	⇓*e*P	**P**	**16 01 05.9**	**-2.4**
SEY	**Seymchan**	**88.15**	**346**	P	**P**	**16 01 07.8**	**-0.5**
SEY	**Seymchan**	**88.15**	**346**	P	**P**	**16 01 07.8**	**-0.5**
	comp=Z,7.8nm,0.9s,baz=309,slow=23,SNR=9.5						
532A	**Rocksprings**	**88.23**	**57**	P	**P**	**16 01 08.5**	**-1.0**
	baz=88						
EFI	**East Falkland**	**88.45**	**146**	P	P	16 01 05.2	-4.9
GSI	**Gunungsitoli**	**88.48**	**272**	*e*P	**P**	**16 01 12.9**	**+1.8**
	comp=Z,30nm,1.0s						
WALA	**Waterton Lakes**	**88.56**	**35**	P	**P**	**16 01 11.7**	**+0.9**
COLA	**College**	**88.58**	**11**	⇓*e*P	P	16 01 05.6	-4.6
COLA				pmax	pmax		
	comp=Z,21nm,1.0s						
COLA	**College**	**88.58**	**11**	*e*P	**P**	**16 01 09.8**	**-0.4**
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**88.66**	**11**	P	**P**	**16 01 10.0**	**-0.6**
ILAR	**Eielson Array**	**88.66**	**11**	P	**P**	**16 01 10.0**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=220,slow=5.8,SNR=7.3						
ILAR				LR	LR	16 40 47.4	
	comp=Z,65nm,18.2s,baz=226,slow=36						
IM04	**Indian Mountai**	**88.67**	**8**	P	**P**	**16 01 09.8**	**-0.9**
J21A	**Lysite**	**89.18**	**42**	P	**P**	**16 01 13.4**	**-0.5**
	baz=89						
ENH	**Enshi**	**89.29**	**303**	*e*P	**P**	**16 01 15.9**	**+1.4**
	comp=Z,23nm,1.1s						
R26A	**Arlington**	**89.33**	**48**	P	**P**	**16 01 13.3**	**-1.3**
	baz=90						
Q26A	**Hugo**	**89.58**	**48**	P	**P**	**16 01 13.6**	**-2.2**
	baz=90						
R27A	**Eads**	**89.78**	**48**	P	**P**	**16 01 16.0**	**-0.7**
	baz=90						
J22A	**Midwest**	**89.82**	**43**	P	**P**	**16 01 16.7**	**-0.1**
	baz=90						
GYA	**Guiyang**	**89.96**	**298**	*e*P	**P**	**16 01 19.4**	**+1.6**
GYA				pP	**pP**	**16 01 30.2**	**+1.8**
GYA				PP	**PP**	**16 04 55.2**	**+3.9**
GYA				SKS	**SKSac**	**16 11 44.8**	**-1.8**
GYA				S	**S**	**16 12 07.6**	**-1.1**
GYA				sS	**sS**	**16 12 25.0**	**-1.2**
GYA				SS	**SS**	**16 18 10.7**	**+3.1**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.7s						
GYA				LR	LR		
	comp=Z,560nm,21.0s						
GYA				LR	LR		
	comp=Z,490nm,22.5s						
GYA				LR	LR		
	comp=Z,540nm,21.4s						
C19A	**Slack Wire Ran**	**90.52**	**38**	P	**P**	**16 01 19.3**	**-0.5**
	baz=91						
XAN	**Xi'an**	**91.33**	**306**	P	**P**	**16 01 25.1**	**+1.2**
XAN				pP	**pP**	**16 01 35.4**	**+0.9**
XAN				S	**S**	**16 12 19.5**	**-1.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,24nm,5.5s						
A20A	**Cobblestone Ra**	**91.76**	**37**	P	**P**	**16 01 25.4**	**-0.2**
	baz=92						
HHC	**Hu-ho-hao-te**	**92.39**	**313**	*e*P	**P**	**16 01 27.3**	**-1.5**
HHC				pP	**pP**	**16 01 37.9**	**-1.5**
HHC				sP	**sP**	**16 01 42.2**	**-1.0**
HHC				PP	**PP**	**16 05 11.6**	**+1.4**
HHC				SKS	**SKSac**	**16 11 56.8**	**-3.0**
HHC				S	**S**	**16 12 26.5**	**-3.6**
HHC				sS	**sS**	**16 12 44.0**	**-3.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,340nm,6.4s						
HHC				LR	LR		
	comp=Z,270nm,20.3s						
HHC				LR	LR		
	comp=Z,390nm,20.0s						
HHC				LR	LR		
	comp=Z,190nm,21.2s						
KMI	**Kunming**	**92.69**	**296**	P	**P**	**16 01 33.0**	**+2.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CM31	**Chiang Mai Arr**	**93.49**	**288**	*e*P	**P**	**16 01 35.2**	**+1.0**
	comp=Z,6.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P	**P**	**16 01 36.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P	**P**	**16 01 36.0**	**+1.8**
	comp=Z,4.6nm,0.9s,baz=121,slow=2.8,SNR=40						
CHTO	**Chiang Mai**	**93.61**	**289**	*e*P	**P**	**16 01 36.1**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**93.61**	**289**	*e*P	**P**	**16 01 36.1**	**+1.3**
	comp=Z,1.5nm,0.8s						
DGMT	**Dagmar**	**93.69**	**39**	*e*P	**P**	**16 01 36.4**	**+1.9**
	comp=Z,22nm,1.0s						
CD2	**Chengdu**	**94.06**	**302**	*e*P	**P**	**16 01 37.2**	**+0.6**
CD2				sP	**sP**	**16 01 52.3**	**+1.3**
CD2				PP	**PP**	**16 05 26.8**	**+3.3**
CD2				SKS	**SKSac**	**16 12 07.9**	**-1.4**
CD2				S	**S**	**16 12 42.8**	**-2.4**
CD2				sS	**sS**	**16 13 01.2**	**-1.7**
CD2				SS	**SS**	**16 19 08.1**	**+1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,190nm,4.8s						
CD2				LR	LR		
	comp=Z,140nm,15.5s						
CD2				LR	LR		
	comp=Z,120nm,13.1s						
LZH	**Lanzhou**	**95.96**	**306**	*e*P	**P**	**16 01 44.9**	**-0.4**
LZH				pP	**pP**	**16 01 54.6**	**-1.4**
LZH				sP	**sP**	**16 01 59.6**	**-0.2**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
YKA	**Yellowknife Ar**	**96.15**	**24**	P	**P**	**16 01 44.8**	**-0.5**
YKA	**Yellowknife Ar**	**96.15**	**24**	P	**P**	**16 01 44.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=238,slow=4.5,SNR=9.6						
LPAZ	**La Paz**	**98.70**	**111**	LR	LR	16 39 29.4	
	comp=Z,157nm,18.5s,baz=82,slow=31						
WMQ	**Urumqi**	**110.04**	**310**	P	**PKiKP**	**16 06 49.0**	**-0.5**
WMQ				LR	LR		
	comp=Z,21nm,21.8s						
WMQ				LR	LR		
	comp=Z,42nm,29.0s						
ZALV	**Zalesovo Beam**	**113.32**	**321**	P	**Pdif**	**16 02 58.4**	**-3.7**
ZALV	**Zalesovo Beam**	**113.32**	**321**	Pdif	**Pdif**	**16 02 58.4**	**-3.7**
ZALV	**Zalesovo Beam**	**113.32**	**321**	Pdiff	**Pdif**	**16 02 58.4**	**-3.7**
	comp=Z,0.6nm,0.5s,baz=72,slow=9.5,SNR=4.3						
KURK	**Kurchatov**	**116.94**	**317**	PKiKP	**PKPdf**	**16 07 01.6**	**-0.8**
KURK	**Kurchatov**	**116.94**	**317**	PKP	**PKPdf**	**16 07 01.6**	**-0.8**
KURBB	**Kurchatov Arra**	**117.00**	**317**	PKP	**PKPdf**	**16 07 01.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=110,slow=1.5,SNR=2.8						
KSH	**Kashi**	**118.12**	**304**	*e*PKP	**PKPdf**	**16 07 09.2**	**+4.0**
KSH				*es*PKP		16 07 23.7	
KSH				*e*PP	**PP**	**16 08 23.9**	**+3.1**
KSH				*e*SKS	**SKSdf**	**16 14 16.3**	**+1.3**
KSH				*e*SKKS	**SKKSac**	**16 15 13.1**	**-5.6**
KSH				AMB	AMB		
	comp=Z,26nm,6.6s						
KSH				LR	LR		
	comp=Z,47nm,5.0s						
KSH				LR	LR		
	comp=Z,57nm,5.6s						
KSH				LR	LR		
	comp=Z,60nm,5.2s						
BRVK	**Borovoye**	**122.00**	**320**	⇑*i*PKiKP	**PKPdf**	**16 07 10.8**	**-1.3**
ARU	**Arti**	**127.88**	**326**	*i* PKiKP	**PKPdf**	**16 07 22.2**	**-1.0**
ARU						16 09 21.7	
ARU						16 14 27.6	
ARU				SS	SS	16 26 18.8	-17
SUW	**Suwalki**	**144.89**	**342**	*e*PKP	PKPbc	16 07 54.1	+0.3
SUW	**Suwalki**	**144.89**	**342**	*e*PKPdf	**PKPab**	**16 07 53.1**	**-0.7**
AKASG	**Malin Array Be**	**145.44**	**333**	PKPbc	**PKPbc**	**16 07 55.1**	**-0.5**
AKASG	**Malin Array Be**	**145.44**	**333**	PKPbc	**PKPbc**	**16 07 55.1**	**-0.5**
	comp=Z,7.0nm,0.7s,baz=37,slow=3.9,SNR=29						
AKBB	**Malin Array Si**	**145.44**	**333**	*e*PKPdf	**PKPbc**	**16 07 54.6**	**-1.1**
AK01	**Malin Array Si**	**145.45**	**333**	*e*PKPdf	**PKPdf**	**16 07 54.7**	**-1.0**
KIEV	**Kiev**	**145.45**	**333**	*c i*PKHKP	PKPpre	16 07 54.2	
KIEV	**Kiev**	**145.45**	**333**	*e*PKPdf	**PKPdf**	**16 07 55.0**	**-0.7**
AK02	**Malin Array Si**	**145.48**	**333**	*e*PKPdf	**PKPdf**	**16 07 54.7**	**-1.1**
BSEG	**Bad Segeberg**	**147.45**	**355**	*e*PKPbc	**PKPbc**	**16 08 02.0**	**+0.5**
LVV	**L'vov**	**148.18**	**337**	*e*PK

PRU	Pruhonice	150.72 348	⇑ePKP	PKPbc	16 08 10.2	+0.3
PRU			epPKP	PKPab	16 08 21.5	+4.6
MLR	Muntele Rosu	150.79 330	⇓iP	PKPbc	16 08 10.4	-0.1
NKC	Novy Kostel	150.84 351	ePKIKP	PKPbc	16 08 10.7	+0.4
NKC	Novy Kostel	150.84 351	⇑ePKP	PKPbc	16 08 10.7	+0.4
MANZ	Manzenberg	151.13 351	ePKPbc	PKPbc	16 08 11.5	+0.5
TREC	Trest	151.18 346	⇑ePKP	PKPbc	16 08 11.0	-0.1
VOIR		151.25 331	⇓iP	PKPbc	16 08 11.6	+0.1
TNS	Taunus Mts	151.29 356	ePKPbc	PKPbc	16 08 11.5	+0.2
ROTZ	Rotzenmuhle	151.33 351	ePKPbc	PKPbc	16 08 11.9	+0.5
ARR	Arges	151.49 331	⇑iP	PKPbc	16 08 12.9	+0.9
GRF	Grafenberg Arr	151.54 352	ePKPbc	PKPbc	16 08 12.3	+0.4
KHC	Kasperske Hory	151.72 349	⇑ePKP	PKPbc	16 08 11.7	-0.6
KHC			epPKP	PKPab	16 08 25.6	+4.4
KHC	Kasperske Hory	151.72 349	ePKPbc	PKPbc	16 08 11.8	-0.6
GEC2	GERESS Array S	151.97 348	ePKIKP	PKPbc	16 08 13.6	+0.6
GEC2	GERESS Array S	151.97 348	ePKPbc	PKPbc	16 08 13.2	+0.2
GEC2	GERESS Array S	151.97 348	ePKPdf	PKPbc	16 08 13.6	+0.6
GERES	GERESS Array B	151.97 348	PKPbc	PKPbc	16 08 12.4	-0.7
GERES	GERESS Array B	151.97 348	PKPbc	PKPbc	16 08 12.4	-0.7
	comp=Z,1.8nm,0.8s,baz=35,slow=3.3,SNR=12					
CONA	Conrad Observa	152.38 345	⇑iPKiKP	PKPbc	16 08 13.9	-0.1
	comp=Z,5.4nm,0.9s					
BZS	Buzias	152.57 335	⇑PKIKP	PKPbc	16 08 14.1	-0.2
BZS	Buzias	152.57 335	⇑iP	PKPbc	16 08 14.1	-0.2
PKSM	Moragy	153.14 339	⇓PKIKP	PKPbc	16 08 15.3	-0.3
PKSM	Moragy	153.14 339	⇓iP	PKPbc	16 08 15.3	-0.3
BFO	Black Forest	153.18 356	ePKPbc	PKPbc	16 08 15.7	+0.1
RJOB	Jochberg	153.21 349	ePKPbc	PKPbc	16 08 15.6	-0.2

BYKL ***07*** *15:58:33.3±0.1, 56.68N×117.98E, h9km±3km*

MOS 07 15:58:31.7±1.8, 56.74N×118.01E, h9km, mb4.5/1, 9C-1D, Error ellipse: s-maj=20.5km s-min=12.8km az=50.4, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.21**	**41**	ePG	Pg	15 58 38.9	+2.7
CRS				e		15 58 42.9	
CRS				pmax	pmax		
	comp=Z,479nm,0.3s						
CRS				smax	smax		
	comp=N,898nm,0.3s						
CRS	**Chara**	**0.21**	**41**	⇑iPg	Pg	15 58 39.0	+2.8
CRS				eSg	Sg	15 58 43.0	+3.8
KHNR	**Khani**	**1.10**	**80**	⇑iPg	Pn	15 58 54.2	+0.9
KHNR				eSg	Sn	15 59 09.0	+0.4
NLYR	**Nelyaty**	**1.30**	**260**	⇑iPG	Pn	15 58 55.8	-0.3
NLYR				e		15 59 12.5	
NLYR				pmax	pmax		
	comp=Z,359nm,0.7s						
NLYR				smax	smax		
	comp=N,3μm,1.0s						
NLYR	**Nelyaty**	**1.30**	**260**	⇑iPg	Pn	15 58 55.9	-0.2
NLYR				Pmax		15 59 00.1	
	comp=N,259nm,0.2s						
NLYR				eSg	Sb	15 59 12.8	-0.4
NLYR				Smax		15 59 16.3	
	comp=N,3μm,0.9s						
YKLR	**Yuktali**	**2.02**	**93**	ePn	Pb	15 59 08.5	0.0
YKLR				ePg	Pg	15 59 09.8	-0.6
YKLR				eSg	Sg	15 59 36.5	0.0
BOD	**Bodaibo**	**2.43**	**298**	ePN	Pn	15 59 12.8	+1.2
BOD				e		15 59 16.3	
BOD				e		15 59 47.6	
BOD				pmax	pmax		
	comp=Z,165nm,0.2s						
BOD				smax	smax		
	comp=N,1μm,0.4s						
BOD	**Bodaibo**	**2.43**	**298**	ePn	Pn	15 59 13.2	+1.6
BOD				⇓iPg	Pb	15 59 16.8	+1.2
BOD				Pmax		15 59 17.0	
	comp=N,165nm,0.2s						
BOD				eSg	Sg	15 59 47.8	-2.0
BOD				Smax		15 59 49.5	
	comp=N,1μm,0.4s						
SVKR	**Severomuysk**	**2.55**	**258**	ePN	Pb	15 59 18.2	+0.5
SVKR				e		15 59 50.8	
SVKR				pmax	pmax		
	comp=Z,219nm,0.5s						
SVKR				smax	smax		
	comp=N,1μm,0.4s						
SVKR	**Severomuysk**	**2.55**	**258**	ePn	Pn	15 59 14.2	+0.9
SVKR				ePg	Pb	15 59 18.4	+0.7
SVKR				Pmax		15 59 26.3	
	comp=N,212nm,0.2s						
SVKR				eSg	Sb	15 59 50.8	+1.5
SVKR				eSgSg	SnSn	15 59 58.3	+3.2
SVKR				max		16 00 00.9	
	comp=N,1μm,0.5s						
TUP	**Tupik**	**2.57**	**154**	ePN	Pn	15 59 14.7	+1.2
TUP				e		15 59 18.5	
TUP				e		15 59 51.8	
TUP				pmax	pmax		
	comp=Z,225nm,0.4s						
TUP				smax	smax		
	comp=N,1μm,1.0s						
TUP	**Tupik**	**2.57**	**154**	⇑iPn	Pn	15 59 14.7	+1.2
TUP				ePg	Pb	15 59 18.1	+0.1
TUP				Pmax		15 59 20.0	
	comp=N,239nm,0.5s						
TUP				eSn	Sn	15 59 46.1	+1.2
TUP				eSg	Sb	15 59 51.9	+2.2
TUP				e		16 00 01.5	
TUP				max		16 00 03.4	
	comp=N,1μm,0.6s						
UKT	**Uakit**	**2.76**	**245**	ePN	Pn	15 59 17.3	+1.1
UKT				e		15 59 21.4	
UKT				e		15 59 57.1	
UKT				pmax	pmax		
	comp=Z,55nm,0.4s						
UKT				smax	smax		
	comp=N,389nm,0.6s						
UKT	**Uakit**	**2.76**	**245**	ePn	Pn	15 59 17.2	+1.0
UKT				⇑iPg	Pb	15 59 21.7	+0.4
UKT				Pmax		15 59 23.8	
	comp=N,56nm,0.5s						
UKT				eSg	Sb	15 59 57.0	+1.7
UKT				Smax		15 59 58.8	
	comp=N,399nm,0.4s						
YOA	**Uoyan**	**3.54**	**263**	⇑iPN	Pb	15 59 36.1	+1.5
YOA				i		16 00 23.6	
YOA				pmax	pmax		
	comp=Z,91nm,0.3s						
YOA				smax	smax		
	comp=E,2μm,0.7s						
YOA	**Uoyan**	**3.54**	**263**	ePg	Pb	15 59 36.3	+1.7
YOA				Pmax		15 59 40.9	
	comp=E,108nm,0.2s						
YOA				eSn	Sn	16 00 09.7	+0.8
YOA				eSg	Sg	16 00 23.0	-2.6
YOA				Smax		16 00 28.4	
	comp=E,2μm,0.7s						
CLNS	**Chul'man**	**3.79**	**86**	ePN	Pn	15 59 33.5	+3.3
CLNS				e		16 00 27.2	
CLNS				pmax	pmax		
	comp=Z,29nm,0.3s						
CLNS				pmax	pmax		
	comp=E,12nm,0.3s						
CLNS				pmax	pmax		
	comp=N,11nm,0.3s						
CLNS				smax	smax		
	comp=Z,166nm,0.5s						
CLNS				smax	smax		
	comp=N,968nm,1.2s						
CLNS				smax	smax		
	comp=E,285nm,0.4s						
CLNS	**Chul'man**	**3.79**	**86**	ePn	Pn	15 59 33.5	+3.3
CLNS				ePg	Pb	15 59 41.2	+2.5
CLNS				eSn	Sn	16 00 15.7	+0.8
CLNS				eSg	Sg	16 00 29.9	-3.5
IENR	**Iengra**	**3.83**	**95**	e	Pn	15 59 10.1	-21
IENR				ePn	Pb	15 59 33.2	-6.3
IENR				eSg	Sg	16 00 30.5	-4.3
KMO	**Kumora**	**3.89**	**260**	ePN	Pn	15 59 34.1	+2.5
KMO				e		15 59 42.9	
KMO				eS	Sn	16 00 17.5	+0.1
KMO				e		16 00 30.8	
KMO				pmax	pmax		
	comp=Z,50nm,0.4s						
KMO				smax	smax		
	comp=E,465nm,0.8s						
KMO	**Kumora**	**3.89**	**260**	ePn	Pn	15 59 33.3	+1.7
KMO				e		15 59 36.1	
KMO				ePg	Pb	15 59 42.3	+1.9
KMO				Pmax		15 59 46.7	
	comp=E,64nm,0.4s						
KMO				eSn	Sn	16 00 15.9	-1.5
KMO				eSg	Sg	16 00 32.3	-4.3
KMO				Smax		16 00 38.7	
	comp=E,465nm,0.9s						
VTMR	**Vitim**	**3.97**	**315**	ePn	Pn	15 59 35.8	+3.2
VTMR				ePg	Pg	15 59 45.4	-2.3
VTMR				eSn	Sn	16 00 21.5	+2.3
VTMR				eSg	Sg	16 00 37.7	-1.3
TNDR	**Tynda**	**4.09**	**110**	ePn	Pn	15 59 36.9	+2.4
TNDR				ePg	Pb	15 59 46.9	+2.9
TNDR				eSn	Sn	16 00 23.4	+0.9
TNDR				eSg	Sg	16 00 39.1	-4.1
YLYR	**Ulyunkhan**	**4.29**	**247**	ePN	Pg	15 59 50.8	-3.1
YLYR				e		16 00 43.2	
YLYR				pmax	pmax		
	comp=Z,19nm,0.4s						
YLYR				smax	smax		
	comp=E,167nm,0.6s						
YLYR	**Ulyunkhan**	**4.29**	**247**	⇑iPn	Pn	15 59 38.8	+1.6
YLYR				ePg	Pb	15 59 49.9	+2.6
YLYR				Pmax		15 59 53.0	
	comp=E,19nm,0.5s						
YLYR				eSn	Sn	16 00 26.9	-0.5
YLYR				eSg	Sg	16 00 44.6	-5.0
YLYR				Smax		16 00 46.7	
	comp=E,167nm,0.5s						
ALDR	**Aldan**	**4.39**	**62**	ePn	Pn	15 59 41.0	+2.4
ALDR				eSn	Sn	16 00 31.6	+1.8
ALDR				eSg	Sg	16 00 50.6	-2.2
NIZ	**Nizh Angarsk**	**4.82**	**262**	ePN	Pb	16 00 00.1	+3.8
NIZ				e		16 00 59.7	
NIZ				pmax	pmax		
	comp=Z,39nm,0.6s						
NIZ				smax	smax		
	comp=N,130nm,0.9s						
NIZ	**Nizh Angarsk**	**4.82**	**262**	ePn	Pn	15 59 47.3	+2.9
NIZ				ePg	Pb	16 00 00.1	+3.8
NIZ				e		16 00 04.7	
NIZ				max		16 00 07.8	
	comp=N,40nm,0.6s						
NIZ				eSn	Sn	16 00 38.9	-1.5
NIZ				eSg	Sg	16 01 01.7	-4.8
NIZ				Smax		16 01 12.5	
	comp=N,129nm,0.5s						
CIT	**Chita**	**5.40**	**211**	eSg	Sg	16 01 18.4	-6.7
CIT				Smax		16 01 22.9	
	comp=N,311nm,0.7s						
SYVR	**Suvo**	**5.53**	**239**	ePN	Pn	15 59 55.1	+0.9
SYVR	**Suvo**	**5.53**	**239**	ePn	Pn	15 59 55.2	+1.0
SYVR				e		15 59 57.7	
SYVR				ePg	Pb	16 00 12.9	+4.5
SYVR				Pmax		16 00 19.3	
	comp=N,15nm,1.0s						
SYVR				eSn	Sn	16 00 56.0	-1.9
SYVR				eSg	Sg	16 01 23.1	-6.1
SYVR				Smax		16 01 43.1	
	comp=N,118nm,1.0s						
MXMB	**Maximikha**	**6.37**	**241**	ePn	Pn	16 00 08.2	+2.5
MXMB				max		16 00 16.5	
	comp=N,10.0nm,0.6s						
MXMB				eSn	Sn	16 01 13.9	-4.6
MXMB				eSg	Sg	16 01 47.9	-8.2
MXMB				Smax		16 02 07.6	
	comp=N,175nm,1.0s						
OGRR	**Ongureny**	**6.72**	**247**	ePN	Pn	16 00 10.3	-0.2
OGRR				e		16 00 32.1	
OGRR				e		16 02 00.1	
OGRR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OGRR				smax	smax		
	comp=N,72nm,1.4s						
OGRR	**Ongureny**	**6.72**	**247**	⇑iPn	Pn	16 00 12.0	+1.5
OGRR				e		16 00 14.5	
OGRR				ePg	Pb	16 00 33.4	+4.7
OGRR				Pmax		16 00 41.5	
	comp=N,9.0nm,0.8s						
OGRR				eSn	Sn	16 01 24.0	-3.2
OGRR				eSg	Sg	16 01 59.9	-7.5
OGRR				Smax		16 02 09.1	
	comp=N,70nm,1.2s						
ZRHB	**Zarechye**	**7.56**	**241**	ePg	Pb	16 00 49.0	+6.0
ZRHB				Pmax		16 01 03.5	
	comp=N,23nm,0.7s						
ZRHB				eSg	Sg	16 02 25.7	-8.7
ZRHB				Smax		16 03 07.0	
	comp=N,282nm,1.1s						
TRG	**Tyrgan**	**7.84**	**244**	ePn	Pn	16 00 27.8	+2.0
TRG				ePg	Pb	16 00 54.0	+6.3
TRG				Pmax		16 01 01.3	
	comp=N,2.0nm,0.3s						
TRG				eSn	Sn	16 01 51.7	-2.9
TRG				eSg	Sg	16 02 35.8	-7.3
TRG				Smax		16 02 53.2	
	comp=N,39nm,1.5s						
YAK	**Yakutsk**	**7.97**	**43**	ePN	Pn	16 00 27.6	+0.1
YAK				e		16 00 55.5	
YAK				e		16 01 56.7	
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YAK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
YAK				smax	smax		
	comp=E,12nm,0.5s						
YAK				smax	smax		
	comp=N,5.0nm,0.3s						
YAK				smax	smax		
	comp=Z,39nm,8.9s						
KAB	**Kabansk**	**8.12**	**239**	eSg	Sg	16 02 44.1	-8.1
KAB				Smax		16 03 13.0	
	comp=Z,509nm,1.6s						
HRMR	**Khuramsha**	**8.26**	**236**	eSn	Sn	16 02 00.4	-4.6
HRMR				eSg	Sg	16 02 47.2	-9.5
HRMR				Smax		16 03 12.7	
	comp=Z,190nm,1.1s						
TLY	**Talaya**	**9.82**	**245**	eSg	Sn	16 03 35.5	+52
TLY				Smax		16 04 08.4	
	comp=Z,20nm,1.3s						
ARS	**Arshan**	**10.30**	**249**	eSg	Sn	16 03 50.5	+55
ARS				Smax		16 04 13.3	
	comp=Z,69nm,1.0s						
ZAK	**Zakamensk**	**10.82**	**240**	eP	Pn	16 01 18.3	+12
ZAK				e		16 03 11.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MOY	**Mondy**	**11.18**	**250**	e		16 03 54.8	
MOY				eSg		16 04 17.9	
MOY				Smax		16 04 20.8	
	comp=Z,47nm,1.5s						

ISCJB ***07*** *15:59:21.9±1.0, 17.4S±0.2×178.9W±0.2, h539km, mb3.8/7, Error ellipse: s-maj=41.8km s-min=12.6km az=139.5*
IDC ***07*** *15:59:21.2±11.0, 17.35S×178.86W, h519km±140km, mb3.4/7, mb1 3.7/7, mb1mx3.4/20, mbtmp3.4/7, Error ellipse: s-maj=74.4km s-min=37.1km az=161.0*

ISC 07 15:59:22.9±1.4, 17.3S±0.3×179.0W±0.3, h539km, n20, σ0.95/19, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NFK	**Norfolk Island**	**16.75**	**223**	P	P	16 02 42.2	-7.6
	baz=18,SNR=5.2						
ARMA	**Armidale**	**29.77**	**239**	P	**P**	**16 04 47.0**	**+0.8**
	baz=31,SNR=6.5						
CNB	**Canberra Magne**	**33.37**	**231**	P	**P**	**16 05 16.6**	**-0.2**
	baz=35,SNR=7.5						
CMSA	**Cobar Meteorol**	**34.97**	**239**	P	**P**	**16 05 30.3**	**+0.1**
	baz=36,SNR=12						
QLP	**Quilpie**	**35.23**	**248**	P	**P**	**16 05 33.0**	**+0.6**
	baz=36,SNR=4.2						
QLP				S	S	16 10 59.2	+31
	baz=36,SNR=4.1						
TOO	**Toolangi**	**37.13**	**230**	P	**P**	**16 05 47.7**	**-0.3**
	baz=39,SNR=8.2						
STKA	**Stephens Creek**	**38.44**	**240**	P	**P**	**16 05 59.1**	**+0.4**
	4.3nm,0.5s,baz=93,slow=8.7,SNR=29						
HTT	**Hallett**	**40.98**	**239**	P	**P**	**16 06 19.2**	**+0.1**
	baz=42,SNR=21						
BBOO	**Buckleboo**	**43.22**	**240**	P	**P**	**16 06 36.5**	**-0.2**
	baz=45,SNR=49						
WRA	**Warramunga Arr**	**44.19**	**259**	P	**P**	**16 06 44.6**	**+0.1**
	1.6nm,0.5s,baz=92,slow=6.9,SNR=66						
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**16 06 46.8**	**+0.6**
	18nm,0.5s,baz=89,slow=7.8,SNR=649						
KDU	**Kakadu**	**47.00**	**269**	P	**P**	**16 07 07.6**	**+1.7**
	baz=48,SNR=3.9						
WRKA	**Warakurna**	**49.50**	**252**	P	**P**	**16 07 24.8**	**+0.3**
	baz=51,SNR=29						
KNRA	**Kununurra**	**49.99**	**264**	P	**P**	**16 07 29.0**	**+0.9**
	baz=51,SNR=4.7						
LUWI	**Luwuk**	**59.44**	**279**	P	**P**	**16 08 31.7**	**-2.7**
	baz=60,SNR=4.8						
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**16 10 33.5**	**+0.1**
	0.8nm,0.7s,baz=226,slow=8.3,SNR=5.8						
SEY	**Seymchan**	**83.04**	**347**	P	**P**	**16 10 52.6**	**+1.2**
	1.3nm,0.5s,baz=46,slow=23,SNR=22						
ILAR	**Eielson Array**	**85.41**	**13**	P	**P**	**16 11 02.8**	**-0.2**
	0.4nm,0.4s,baz=224,slow=5.4,SNR=17						
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**16 11 12.3**	**-0.4**
	0.5nm,0.5s,baz=218,slow=3.3,SNR=6.2						
GERES	**GERESS Array B**	**146.86**	**345**	PKPbc	**PKPbc**	**16 18 04.8**	**-0.1**
	0.4nm,0.4s,baz=20,slow=4.3,SNR=6.4						

IDC 07 16:10:10.0±27.0, 18.12S×178.24W, h571km±252km, mb2.6/3, mb1 2.9/3, mb1mx2.7/19, mbtmp2.6/3, Error ellipse: s-maj=325.8km s-min=47.0km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.76**	**260**	P	P	16 17 33.2	-0.6
	0.2nm,0.5s,baz=96,slow=6.9,SNR=6.3						
ASAR	**Alice Springs**	**44.89**	**254**	P	P	16 17 34.9	+0.1
	0.8nm,0.6s,baz=88,slow=8.5,SNR=18						
ASAR				PcP	PcP	16 19 03.8	-0.3
	0.1nm,0.5s,baz=99,slow=3.6,SNR=4.6						
ILAR	**Eielson Array**	**86.05**	**13**	P	P	16 21 50.2	-0.1
	0.5nm,0.9s,baz=218,slow=4.6,SNR=7.6						

IDC ***07*** *16:16:42.1±1.2, 4.67S×153.12E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, Error ellipse: s-maj=37.9km s-min=24.5km az=87.0*
ISCJB ***07*** *16:16:48.1±0.9, 4.8S±0.1×153.2E±0.1, h55km, mb3.8/7, Error ellipse: s-maj=21.5km s-min=11.8km az=43.1*

ISC 07 16:16:49.3±1.2, 4.8S±0.2×153.2E±0.2, h55km, n9, σ0.59/10, mb3.6/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.57**	**232**	Pn	**Pn**	**16 18 37.7**	**+0.6**
	1.9nm,0.3s,baz=39,slow=15,SNR=8.2						
PMG				Sn	**Sn**	**16 20 01.1**	**-0.5**
	1.3nm,0.3s,baz=97,slow=16,SNR=5.3						
DZM	**Mont Dzumac**	**21.44**	**145**	P	**P**	**16 21 33.1**	**0.0**
	3.7nm,0.7s,baz=252,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**23.77**	**229**	P	**P**	**16 21 56.4**	**-0.7**
	1.0nm,0.6s,baz=52,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**26.45**	**223**	P	**P**	**16 22 21.9**	**+0.5**
	0.4nm,0.5s,baz=54,slow=9.3,SNR=15						
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**	**16 28 56.5**	**+0.4**
	0.3nm,0.5s,baz=94,slow=8.0,SNR=7.4						
KURBB	**Kurchatov Arra**	**84.04**	**322**	P	**P**	**16 29 13.7**	**-0.4**
	0.5nm,0.8s,baz=114,slow=4.1,SNR=6.6						
AAK	**Ala-Archa**	**84.96**	**313**	P	**P**	**16 29 19.6**	**+0.6**
	0.9nm,0.5s,baz=135,slow=5.7,SNR=4.7						
BVAR	**Borovoye Array**	**89.48**	**323**	P	**P**	**16 29 39.8**	**-0.6**
	1.3nm,0.6s,baz=112,slow=6.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.70**	**288**	PKPbc	**PKPbc**	**16 36 36.1**	**-0.3**
	0.6nm,0.3s,baz=80,slow=2.2,SNR=10						

IDC 07 16:41:56.1±2.0, 5.32S×152.16E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=133.2km s-min=23.2km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.41**	**230**	Pn	Pn	16 43 33.9	+1.9
	0.7nm,0.3s,baz=25,slow=14,SNR=4.1						
PMG				Sn	Sn	16 44 44.5	-1.5
	0.6nm,0.3s,baz=299,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**22.63**	**228**	P	P	16 46 58.7	-0.2
	0.5nm,0.5s,baz=53,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.34**	**222**	P	P	16 47 24.7	-0.4
	1.1nm,0.7s,baz=54,slow=9.2,SNR=17						
ILAR	**Eielson Array**	**82.87**	**22**	P	P	16 54 22.4	0.0
	0.4nm,0.6s,baz=246,slow=5.1,SNR=8.6						
TORD	**Torodi Ar. Bea**	**149.86**	**287**	PKPbc	PKPbc	17 01 49.2	-0.2
	0.2nm,0.6s,baz=104,slow=3.7,SNR=3.7						

ISCJB ***07*** *16:43:20.5±0.5, 10.60N±0.03×62.47W±0.02, h16km±6km, Error ellipse: s-maj=5.2km s-min=2.9km az=152.0*
TRN ***07*** *16:43:20.9, 10.70N×62.39W, h1km, MD3.8*
FUNV ***07*** *16:43:20.6, 10.48N×62.36W, h3km, MW4.2*

ISC 07 16:43:20.4±1.0, 10.54N±0.03×62.42W±0.03, h15km±7km, n42, σ1.29/69, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.22**	**60**	eP	**Pg**	**16 43 24.9**	**-0.5**
GUIV				eS	**Sg**	**16 43 27.7**	**-1.1**
TCE	**Chacachacare**	**0.67**	**76**	⇑iP	**Pb**	**16 43 33.6**	**-0.3**
TCE				eS	**Sb**	**16 43 42.4**	**-0.6**
CRUV	**Carupano**	**0.82**	**280**	eP	**Pb**	**16 43 36.1**	**-0.1**
CRUV				eS	**Sb**	**16 43 47.2**	**+0.1**
TPP	**Pointe-a-Pierr**	**0.98**	**103**	eP	**Pg**	**16 43 40.6**	**+1.3**
TPP				eS	**Sn**	**16 43 54.2**	**+1.1**
TRN	**Trinidad (W)**	**1.00**	**84**	eP	**Pb**	**16 43 39.3**	**-0.2**
TRN				eS	**Sb**	**16 43 53.0**	**+0.4**
TBH	**Brigand Hill**	**1.33**	**92**	eP	**Pg**	**16 43 47.5**	**+1.5**
TBH				eS	**Sg**	**16 44 05.8**	**+2.4**
TPR	**Prospect**	**1.74**	**68**	eP	**Pn**	**16 43 50.9**	**+0.9**
TPR				eS	**Sb**	**16 44 14.0**	**+0.3**
GRW	**Mount Saint Ca**	**1.77**	**25**	eP	**Pn**	**16 43 51.4**	**+0.8**
GRW				eS	**Sn**	**16 44 13.6**	**+0.5**
BOT	**Bacolet**	**1.78**	**69**	eP	**Pb**	**16 43 52.5**	**-0.3**
BOT				eS	**Sb**	**16 44 15.1**	**+0.1**
GRHS	**Sauteurs**	**1.84**	**24**	eP	**Pn**	**16 43 52.4**	**+0.9**
GRHS				eS	**Sn**	**16 44 14.0**	**-0.5**
GRSS	**Sisters**	**1.92**	**24**	eP	**Pn**	**16 43 53.3**	**+0.8**
GRSS				eS	**Sn**	**16 44 16.9**	**+0.5**
TOSP	**Speyside**	**2.00**	**68**	eP	**Pb**	**16 43 55.2**	**-1.2**
TOSP				eS	**Sb**	**16 44 20.9**	**-0.3**
PCRV	**Puerto La Cruz**	**2.21**	**261**	eP	**Pn**	**16 43 57.4**	**+0.8**
PCRV				eS	**Sn**	**16 44 24.4**	**+0.7**
RIOV	**Rio Grande**	**2.52**	**166**	eP	**Pn**	**16 44 01.5**	**+0.6**
RIOV				eS	**Sn**	**16 44 30.9**	**-0.5**
PRGV	**PARIAGUAN**	**2.82**	**231**	eP	**Pn**	**16 44 05.5**	**+0.5**
PRGV				eS	**Sn**	**16 44 39.4**	**+0.7**
FCV	**Fort Charlotte**	**2.85**	**24**	eP	**Pn**	**16 44 06.2**	**+0.9**
FCV				eS	**Sn**	**16 44 38.7**	**-0.7**
SVB	**Belmont**	**2.95**	**23**	eP	**Pn**	**16 44 07.6**	**+0.8**
SVB				eS	**Sn**	**16 44 41.2**	**-0.7**
SVV	**Soufriere Volc**	**3.00**	**23**	eP	**Pn**	**16 44 09.1**	**+1.6**
SVV				eS	**Sn**	**16 44 43.6**	**+0.4**
BHS	**Barnard House**	**3.02**	**25**	eP	**Pn**	**16 44 07.7**	**0.0**
BHS				eS	**Sn**	**16 44 43.0**	**-0.6**
SSV	**Crater Summit**	**3.02**	**23**	eP	**Pn**	**16 44 09.2**	**+1.4**
SSV				eS	**Sn**	**16 44 44.3**	**+0.6**

ECG	Echelle	5.52	8	*e*P	Pn	16 44 42.6	+0.3
BCG	Bois Riant Cap	5.57	8	*e*P	Pn	16 44 42.1	-0.7
BAUV	El Baul	5.76	255	*e*P	Pn	16 44 45.8	+0.4
BAUV				*e*S	Sn	16 45 49.1	-2.3
DEG	La Desirade	5.89	13	*e*P	Pn	16 44 47.1	-0.2
MAPV	Macapo	5.99	264	*e*P	Pn	16 44 48.8	+0.3
MAPV				*e*S	Sn	16 45 54.4	-2.5
TEPV	Terepaima	6.69	266	*e*P	Pn	16 44 59.2	+0.9
SKI	Saint Kitts	6.76	357	*e*P	Pn	16 45 00.6	+1.4
MONV	Montecano	7.54	281	*e*P	Pn	16 45 10.8	+0.9

IDC 07 16:59:12.8±1.0, 13°.92N×145°.18E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.6/6, Error ellipse: s-maj=49.9km s-min=21.8km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.30**	**198**	P	P	17 06 09.1	-0.6
	0.1nm,0.3s,baz=16,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**38.94**	**197**	P	P	17 06 41.1	+0.3
	0.2nm,0.8s,baz=20,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**61.46**	**316**	P	P	17 09 32.0	+0.7
	0.1nm,0.5s,baz=87,slow=9.1,SNR=3.2						
ILAR	**Eielson Array**	**68.15**	**25**	P	P	17 10 14.4	-0.1
	0.5nm,0.4s,baz=250,slow=5.7,SNR=20						
YKA	**Yellowknife Ar**	**82.43**	**27**	P	P	17 11 37.4	+0.7
	0.3nm,0.4s,baz=287,slow=5.1,SNR=6.8						
FINES	**FINESS Array B**	**90.99**	**335**	P	P	17 12 17.0	-1.7
	1.8nm,0.9s,baz=90,slow=6.9,SNR=2.6						

*ISCJB **07** 17:01:25.5±0.6, 32°.26N±0°.05×105°.41E±0°.06, h11km, mb3.3/3, Error ellipse: s-maj=9.0km s-min=5.1km az=37.0*
*IDC **07** 17:01:27.0±1.5, 32°.21N×105°.58E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.2/27, mbtmp3.2/5, ML3.3/1, Error ellipse: s-maj=63.2km s-min=26.3km az=62.0*
*BJI **07** 17:01:28.1, 32°.42N×105°.15E, h22km, ML3.5/16*

ISC 07 17:01:27.8±0.7, 32°.26N±0°.04×105°.40E±0°.05, h11km, n9, σ1°.39/18, mb3.5/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.94**	**226**	Pn	**Pn**	**17 02 00.9**	**+0.1**
CD2				Pg	**Pb**	**17 02 03.0**	**-0.3**
CD2				Sn	**Sb**	**17 02 27.5**	**-0.1**
CD2				Sg	**Sg**	**17 02 29.2**	**-1.1**
CD2				smax	smax		
	comp=N,4μm,0.7s						
CD2				smax	smax		
	comp=E,5μm,0.7s						
XAN	**Xi'an**	**3.44**	**58**	Pn	**Pn**	**17 02 24.1**	**+2.7**
XAN				Pg	**Pg**	**17 02 33.9**	**+0.1**
XAN				Sn	**Sn**	**17 03 00.6**	**-1.7**
XAN				Sg	**Sg**	**17 03 15.5**	**-3.0**
XAN				smax	smax		
	comp=N,150nm,0.5s						
XAN				smax	smax		
	comp=E,86nm,0.6s						
LZH	**Lanzhou**	**4.03**	**342**	*e*Pn	**Pn**	**17 02 29.3**	**-0.2**
LZH				Pg	**Pb**	**17 02 38.8**	**0.0**
LZH				Sn	**Sn**	**17 03 16.6**	**-0.2**
LZH				Sg	**Sb**	**17 03 27.3**	**-0.3**
LZH				smax	smax		
	comp=N,160nm,1.0s						
LZH				smax	smax		
	comp=E,270nm,0.8s						
GTA	**Gaotai**	**8.45**	**329**	*e*P	**Pn**	**17 03 28.9**	**-1.3**
GTA				pP	pP	17 03 32.0	
GTA				sP		17 03 35.0	
CMAR	**Chiang Mai Arr**	**14.93**	**204**	Pn	**Pn**	**17 04 59.0**	**+0.1**
	baz=23,slow=9.8,SNR=4.6						
SONM	**Songino Array**	**15.57**	**3**	Pn	**Pn**	**17 05 07.4**	**+0.1**
	0.1nm,0.3s,baz=187,slow=19,SNR=2.9						
MKAR	**Makanchi Array**	**22.87**	**316**	P	**P**	**17 06 33.7**	**+2.5**
	0.5nm,0.8s,baz=130,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**58.84**	**148**	P	**P**	**17 11 26.0**	**-0.6**
	0.2nm,0.6s,baz=340,slow=7.5,SNR=3.2						
ASAR	**Alice Springs**	**61.93**	**150**	P	**P**	**17 11 48.4**	**+0.7**
	0.5nm,0.9s,baz=328,slow=6.9,SNR=3.8						

*IDC **07** 17:07:35.2±1.4, 5°.37S×152°.24E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=59.4km s-min=20.8km az=119.0*
*ISCJB **07** 17:07:39.9±1.2, 5°.5S±0°.2×152°.3E±0°.2, h45km, mb3.5/5, Error ellipse: s-maj=42.6km s-min=12.7km az=43.4*

ISC 07 17:07:41.5±1.3, 5°.4S±0°.2×152°.3E±0°.3, h45km, n7, σ0°.61/8, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.42**	**232**	Pn	**Pn**	**17 09 13.4**	**-0.2**
	1.5nm,0.3s,baz=40,slow=13,SNR=6.5						
PMG				Sn	**Sn**	**17 10 26.4**	**+0.8**
	4.0nm,0.3s,baz=303,slow=23,SNR=8.8						
WRA	**Warramunga Arr**	**22.63**	**229**	P	**P**	**17 12 37.9**	**-0.9**
	0.8nm,0.4s,baz=52,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.33**	**222**	P	**P**	**17 13 04.0**	**-0.4**
	1.0nm,0.7s,baz=57,slow=9.3,SNR=17						
STKA	**Stephens Creek**	**28.14**	**200**	P	**P**	**17 13 29.6**	**+0.1**
	0.4nm,0.5s,baz=21,slow=19,SNR=2.6						
MKAR	**Makanchi Array**	**80.46**	**319**	P	**P**	**17 19 48.6**	**-0.2**
	0.2nm,0.7s,baz=108,slow=4.7,SNR=3.1						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**17 20 01.7**	**+0.3**
	0.6nm,0.7s,baz=251,slow=5.0,SNR=8.3						
TORD	**Torodi Ar. Bea**	**150.00**	**287**	PKPbc	**PKPbc**	**17 27 28.5**	**+0.3**
	0.5nm,0.7s,baz=86,slow=2.4,SNR=5.6						

WEL 07 17:14:53.1±0.4, 36°.42S×177°.29E, h166km±5km, ML3.6/6, Error ellipse: s-maj=7.2km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.41**	**145**	PN	Pn	17 15 23.2	+0.2
MXZ				SN	Sn	17 15 46.0	-0.1
URZ	**Urewera**	**1.85**	**184**	PN	Pn	17 15 29.2	+1.7
URZ				*e*SN	Sn	17 15 54.1	-0.1
MWZ	**Matawai**	**1.93**	**174**	*e*PN	Pn	17 15 28.8	+0.4
MWZ				AML	AML	17 16 06.0	
MWZ				AML	AML	17 16 06.1	
CNGZ	**Carnagh Statio**	**2.19**	**161**	PN	Pn	17 15 31.4	+0.1
RIGZ	**Rimuhau**	**2.32**	**171**	PN	Pn	17 15 33.0	+0.1
RIGZ				SN	Sn	17 16 02.8	-1.1
KNZ	**Kokohu**	**2.62**	**173**	PN	Pn	17 15 35.8	-0.6
BKZ	**Black Stump Fm**	**2.82**	**193**	PN	Pn	17 15 39.2	+0.3
MCHZ	**McNeill Hill**	**3.06**	**189**	PN	Pn	17 15 42.5	+0.7
MCHZ				SN	Sn	17 16 18.9	-1.0
CKHZ	**Cape Kidnapper**	**3.24**	**183**	PN	Pn	17 15 43.4	-0.7
KAHZ	**Kahuranaki**	**3.39**	**185**	PN	Pn	17 15 45.4	-0.6
PXZ	**Pawanui**	**3.63**	**185**	PN	Pn	17 15 47.4	-1.6
PXZ				SN	Sn	17 16 27.9	-4.6
TSZ	**Takapari Road**	**3.79**	**196**	PN	Pn	17 15 49.7	-1.3
ANWZ	**Angora Road**	**4.09**	**189**	PN	Pn	17 15 53.4	-1.4
BFZ	**Birch Farm**	**4.34**	**191**	PN	Pn	17 15 55.6	-2.5
OGWZ	**Otaki Gorge**	**4.70**	**200**	PN	Pn	17 16 00.4	-2.4
KIW	**Kapiti Island**	**4.81**	**202**	PN	Pn	17 16 02.5	-1.9
TCW	**Tory Channel**	**5.34**	**205**	PN	Pn	17 16 08.9	-2.2
TUWZ	**Tuamarina**	**5.65**	**206**	PN	Pn	17 16 12.3	-2.9

*NIED **07** 17:31:00,24°.80N×122°.30E, h8km, Mw3.9 Best double couple: M0 7.17000×10^14 NP1:φs 164.00000°, δ 44.00000°, λ 0.00000°. NP2:φs 74.00000°, δ 90.00000°, λ 134.00000°.*
*IDC **07** 17:31:09.0±1.4, 24°.48N×120°.89E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.4/26, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=91.4km s-min=24.9km az=77.0*
*ISCJB **07** 17:31:09.9±0.4, 24°.81N±0°.02×122°.39E±0°.02, h3km±3km, mb3.8/3, Error ellipse: s-maj=3.9km s-min=2.8km az=8.5*
*TAP **07** 17:31:10.8, 24°.82N×122°.32E, h18km, ML4.2, C*
*JMA **07** 17:31:11.4±0.1, 24°.77N×122°.34E, h47km±4km, M3.8*

ISC 07 17:31:10.7±1.0, 24°.80N±0°.02×122°.34E±0°.02, h12km±8km, n68, σ0°.90/118, mb3.8/3, 8C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.37**	**277**	↑*i*P	**Pg**	**17 31 18.6**	**+0.4**
	baz=266						
EGS				*e*S	**Sg**	**17 31 23.3**	**+0.1**
	baz=266						
TWB1	**Santiao Chiao**	**0.38**	**303**	↑*i*P	**Pg**	**17 31 18.7**	**+0.3**
	baz=302						
TWB1				S	**Sg**	**17 31 23.6**	**+0.1**
	baz=302						
TWC	**Suao**	**0.48**	**247**	↓*i*P	**Pg**	**17 31 20.3**	**0.0**
	baz=249						
TWC				S	**Sg**	**17 31 26.3**	**-0.4**
	baz=249						
ILA	**Ilan**	**0.54**	**267**	↑P	**Pb**	**17 31 21.6**	**-0.5**
	baz=256						
ILA				S	**Sb**	**17 31 29.5**	**-0.3**
	baz=256						
NWF	**Wu-fen Shan**	**0.58**	**298**	↑P	**Pb**	**17 31 22.7**	**-0.1**
	baz=309						
NWF				S	**Sb**	**17 31 30.8**	**-0.2**
	baz=309						
ENA	**Nanau**	**0.66**	**236**	↓*i*P	**Pg**	**17 31 23.4**	**-0.1**
	baz=233						
ENA				*e*S	**Sg**	**17 31 32.1**	**-0.1**
	baz=233						
YOJ	**Yonaguni jima**	**0.70**	**119**	P	**Pg**	**17 31 24.6**	**+0.4**
YOJ				S	**Sb**	**17 31 34.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.70**	**119**	↓P	**Pg**	**17 31 24.7**	**+0.4**
	baz=119						
YOJ				*i* S	**Sb**	**17 31 34.7**	**+0.4**
	baz=119						
TWA	**Mucha**	**0.71**	**285**	P	**Pb**	**17 31 24.9**	**-0.1**
	baz=283						
TWA				S	**Sb**	**17 31 34.7**	**-0.1**
	baz=283						
ENTT	**Nioudou**	**0.72**	**258**	*e*P	**Pg**	**17 31 24.6**	**-0.1**
	baz=255						
ENTT				*e*S	**Sb**	**17 31 35.0**	**-0.1**
	baz=255						
EHP	**Heping Village**	**0.73**	**228**	*e*P	**Pb**	**17 31 25.3**	**0.0**
	baz=237						
EHP				S	**Sb**	**17 31 35.2**	**-0.2**
	baz=237						
TAP1	**Taipei**	**0.78**	**288**	P	**Pb**	**17 31 26.6**	**-0.9**
	baz=286						
TAP1				*e*S	**Sb**	**17 31 37.1**	**+0.4**
	baz=286						
TAP	**Taipei**	**0.80**	**288**	*e*P	**Pb**	**17 31 26.4**	**0.0**
	baz=286						
TAP				*e*S	**Sb**	**17 31 37.1**	**0.0**
	baz=286						
TWY	**Chenhua**	**0.82**	**305**	↑P	**Pg**	**17 31 26.9**	**+0.3**
	baz=305						
TWY				S	**Sb**	**17 31 38.2**	**+0.2**
	baz=305						
PCYT	**Pengchaiyu**	**0.86**	**344**	*e*P	**Pb**	**17 31 26.8**	**-0.8**
	baz=344						
PCYT				*e*S	**Sg**	**17 31 39.2**	**+0.5**
	baz=344						
TWS1	**Kuangyinshan**	**0.89**	**290**	↑P	**Pn**	**17 31 28.4**	**-0.6**
	baz=289						
TWS1				S	**Sg**	**17 31 40.1**	**+0.5**
	baz=289						
NSK	**Sanguang**	**0.90**	**262**	↑*i*P	**Pb**	**17 31 27.8**	**-0.5**
	baz=269						
NSK				*e*S	**Sb**	**17 31 38.6**	**-1.7**
	baz=269						
NNS	**Nan Shan**	**0.95**	**248**	P	**Pb**	**17 31 28.9**	**-0.3**
	baz=235						
NNS				*e*S	**Sg**	**17 31 41.5**	**0.0**
	baz=235						
TWD	**Chiawan**	**0.99**	**224**	↓*i*P	**Pb**	**17 31 29.4**	**-0.3**
	baz=229						
TWD				*e*S	**Sg**	**17 31 42.4**	**-0.2**
	baz=229						
HWA	**Hwalien**	**1.06**	**219**	*e*P	**Pg**	**17 31 31.9**	**+0.8**
	baz=230						
HWA				*e*S	**Sn**	**17 31 46.2**	**+0.2**
	baz=230						
NCU	**National Centr**	**1.06**	**279**	*e*P	**Pg**	**17 31 41.4**	**+0.2**
	baz=278						
NCU				*e*S	**Sg**	**17 31 44.7**	**-0.3**
	baz=278						
WHF	**Hehuan Shan**	**1.18**	**237**	↓P	**Pn**	**17 31 33.1**	**-0.3**
	baz=235						
WHF				S	**Sb**	**17 31 48.5**	**-0.1**
	baz=235						
TWT	**Tachien**	**1.19**	**243**	*e*P	**Pg**	**17 31 33.5**	**-0.1**
	baz=233						
TWT				S	**Sg**	**17 31 49.6**	**+0.4**
	baz=233						
ESF	**Shoufeng Towns**	**1.20**	**220**	*e*P	**Pg**	**17 31 35.2**	**+1.4**
	baz=202						
NSTT	**Nanjuang**	**1.23**	**262**	↑P	**Pb**	**17 31 33.8**	**0.0**
	baz=261						
NSTT				*e*S	**Sg**	**17 31 51.0**	**+0.7**
	baz=261						
HSN	**Hsinchu**	**1.25**	**270**	*e*P	**Pn**	**17 31 33.2**	**-0.7**
	baz=270						
HSN				*e*S	**Sb**	**17 31 49.6**	**-0.6**
	baz=270						
ESL	**Shilin**	**1.28**	**220**	*e*P	**Pb**	**17 31 34.9**	**+0.1**
	baz=237						
ESL				*e*S	**Sg**	**17 31 52.5**	**+0.5**
	baz=237						
IRIF	**Iriomote-Funau**	**1.35**	**110**	P	**Pn**	**17 31 33.8**	**-1.5**
NSY	**Sanyi**	**1.49**	**255**	*e*P	**Pg**	**17 31 39.5**	**+0.2**
	baz=254						
NSY				*e*S	**Sg**	**17 31 59.1**	**+0.5**
	baz=254						
TWQ1	**Liyutan**	**1.50**	**253**	*e*P	**Pb**	**17 31 38.5**	**0.0**
	baz=251						
TWQ1				*e*S	**Sg**	**17 31 59.5**	**+0.6**
	baz=251						
HATJ	**Hateruma jima**	**1.53**	**119**	P	**Pn**	**17 31 36.8**	**-0.9**
EHY	**Hungye**	**1.59**	**216**	*e*P	**Pn**	**17 31 38.7**	**+0.1**
	baz=198						
EHY				*e*S	**Sb**	**17 32 00.1**	**+0.1**
	baz=198						
SMLT	**Sun Moon Lake**	**1.60**	**236**	*e*P	**Pg**	**17 31 41.1**	**-0.3**
	baz=234						
SMLT				*e*S	**Sg**	**17 32 01.2**	**-1.0**
	baz=234						
JKRS	**Kuro-shima**	**1.62**	**110**	P	**Pn**	**17 31 38.1**	**-0.9**
TYC	**Yuchr**	**1.62**	**237**	*e*P	**Pg**	**17 31 41.1**	**-0.7**
	baz=235						
TYC				*e*S	**Sg**	**17 32 01.9**	**-0.9**
	baz=235						
TCU	**Taichung**	**1.65**	**247**	*e*P	**Pg**	**17 31 42.3**	**-0.1**
	baz=265						
TCU				*e*S	**Sg**	**17 32 03.1**	**-0.7**
	baz=265						
JIJ	**Ishigaki jima**	**1.70**	**104**	P	**Pn**	**17 31 38.9**	**-1.2**
TWF1	**Yuli**	**1.73**	**214**	*e*P	**Pn**	**17 31 40.7**	**+0.2**
	baz=200						
TWF1				*e*S	**Sg**	**17 32 05.0**	**-1.2**
	baz=200						
WNT	**Mingjian**	**1.77**	**239**	*e*P	**Pb**	**17 31 43.6**	**+0.6**
	baz=258						
WNT				*e*S	**Sg**	**17 32 07.8**	**+0.2**
	baz=258						
YUS	**Yu-Shan**	**1.82**	**225**	*e*P	**Pb**	**17 31 43.6**	**-0.6**
	baz=208						
YUS				*e*S	**Sb**	**17 32 07.0**	**-0.2**
	baz=208						
ALS	**Alishan**	**1.90**	**228**	*e*P	**Pb**	**17 31 45.2**	**-0.3**
	baz=210						
ALS				*e*S	**Sg**	**17 32 11.6**	**-0.3**
	baz=210						
CHKT	**Chengkung**	**1.91**	**208**	*e*P	**Pn**	**17 31 43.0**	**-0.1**
	baz=194						
CHKT				*e*S	**Sn**	**17 32 06.7**	**-0.3**
	baz=194						
CHN5	**Tsauling**	**1.93**	**232**	*e*P	**Pb**	**17 31 45.8**	**-0.1**
	baz=232						
CHN5				*e*S	**Sg**	**17 32 12.1**	**-0.8**
	baz=232						
WGK	**Gukeng**	**1.96**	**236**	*e*P	**Pb**	**17 31 46.5**	**+0.1**
	baz=252						
WGK				*e*S	**Sg**	**17 32 12.3**	**-1.7**
	baz=252						
ELDTW	**Lidau**	**2.01**	**217**	*e*P	**Pn**	**17 31 45.0**	**+0.5**
	baz=203						
ELDTW				*e*S	**Sn**	**17 32 10.3**	**+0.7**
	baz=203						
JTJ	**Tarama**	**2.15**	**94**	P	**Pn**	**17 31 46.0**	**-0.4**
CHY	**Chiayi**	**2.18**	**234**	*e*P	**Pb**	**17 31 48.4**	**-1.6**
	baz=251						
CHY				*e*S	**Sb**	**17 32 17.0**	**0.0**
	baz=251						
STYT	**Tauyuan**	**2.18**	**222**	*e*P	**Pb**	**17 31 48.5**	**-1.6**
	baz=206						
STYT				*e*S	**Sb**	**17 32 15.9**	**-1.1**
	baz=206						
WTP	**Ta-pu**	**2.21**	**226**	*e*P	**Pb**	**17 31 49.3**	**-1.3**
	baz=210						
WTP				*e*S	**Sb**	**17 32 18.6**	**+0.6**
	baz=210						
WSF	**Szhu**	**2.25**	**240**	*e*P	**Pn**	**17 31 49.0**	**+1.2**
	baz=255						
WSF				*e*S	**Sb**	**17 32 18.8**	**-0.3**
	baz=255						
TWK	**Hsinying**	**2.28**	**228**	*e*P	**Pb**	**17 31 51.0**	**-0.8**
	baz=212						
TWK				*e*S	**Sb**	**17 32 18.9**	**-1.0**
	baz=212						
TWG	**Pinlang**	**2.29**	**211**	*e*P	**Pn**	**17 31 48.1**	**-0.1**
	baz=210						
TWG				*e*S	**Sn**	**17 32 15.8**	**-0.5**
	baz=210						
CHN1	**Nanshi**	**2.31**	**226**	*e*P	**Pb**	**17 31 50.5**	**-1.8**
	baz=227						
CHN1				*e*S	**Sb**	**17 32 21.4**	**+0.7**
	baz=227						
SGST	**Jiashian**	**2.35**	**224**	*e*P	**Pb**	**17 31 51.3**	**-1.6**
	baz=208						
SGST				*e*S	**Sb**	**17 32 22.1**	**+0.2**
	baz=208						
CHN3	**Shinhua**	**2.49**	**227**	*e*P	**Pn**	**17 31 52.5**	**+1.4**
	baz=228						
CHN3				*e*S	**Sb**	**17 32 23.7**	**-2.3**
	baz=228						
ECL	**Taimali**	**2.53**	**210**	*e*P	**Pn**	**17 31 51.4**	**-0.2**
	baz=209						
TWM1	**Shoushan**	**2.64**	**222**	*e*P	**Pb**	**17 31 55.4**	**-2.5**
	baz=221						
SGLT	**Jiouru**	**2.67**	**220**	*e*P	**Pn**	**17 31 55.4**	**+1.9**
	baz=204						
EAST	**Anshuo**	**2.77**	**210**	*e*P	**Pn**	**17 31 55.8**	**+0.9**
	baz=209						
LAY	**Lan-yu**	**2.84**	**195**	*e*P	**Pn**	**17 31 55.8**	**-0.1**
	baz=193						
SCZT	**Fangliau**	**2.88**	**214**	*e*P	**Pn**	**17 31 58.2**	**+1.8**
	baz=199						
SCZT				*e*S	**Sn**	**17 32 32.6**	**+1.6**
	baz=199						
TWK1	**Hengchun**	**3.17**	**207**	*e*P	**Pn**	**17 32 02.7**	**+2.2**
	baz=196						
QZH	**Quanzhou**	**3.41**	**273**	Pn	**Pn**	**17 32 01.2**	**-2.4**
QZH				Sn	Sn	17 32 37.5	-6.5
QZH				smax	smax		
	comp=N,240nm,0.7s						
QZH				smax	smax		
	comp=E,130nm,0.7s						
KNM	**Kinmen**	**3.58**	**265**	*e*P	**Pn**	**17 32 06.8**	**+0.8**
	baz=264						
KSRS	**Korea Array**	**13.49**	**19**	Pn	**P**	**17 34 33.1**	**+2.0**
	comp=E,0.2nm,0.3s,baz=200,slow=11,SNR=6.6						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**17 36 43.2**	**-2.4**
	comp=E,0.9nm,0.9s,baz=149,slow=9.4,SNR=3.9						
WRA	**Warramunga Arr**	**45.98**	**164**	P	**P**	**17 39 34.2**	**+0.3**
	comp=E,3.0nm,0.9s,baz=346,slow=8.7,SNR=34						
ASAR	**Alice Springs**	**49.47**	**166**	P	**P**	**17 40 01.8**	**+0.9**
	comp=E,1.0nm,0.9s,baz=348,slow=8.5,SNR=5.9						

*IDC **07** 17:33:15.9±7.2, 12°.80S×166°.75E, h116km±72km, mb3.6/8, mb1 3.8/9, mb1mx3.6/20, mbtmp3.9/9, Error ellipse: s-maj=53.7km s-min=27.6km az=150.0*
*ISCJB **07** 17:33:20.9±1.0, 13°.08S±0°.07×166°.8E±0°.2, h180km, mb3.6/8, Error ellipse: s-maj=29.1km s-min=10.3km az=176.6*

ISC 07 17:33:21.8±1.1, 13°.11S±0°.09×166°.9E±0°.2, h180km, n10, σ0°.92/11, mb3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.92**	**183**	P	**Pn**	**17 35 27.2**	**-0.1**
	3.1nm,0.3s,baz=28,slow=23,SNR=98						
DZM				S	**Sn**	**17 37 06.3**	**-0.7**
	0.8nm,0.3s,baz=142,slow=19,SNR=5.3						
STKA	**Stephens Creek**	**29.81**	**227**	P	**P**	**17 39 13.8**	**+1.9**
	2.9nm,0.7s,baz=57,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**31.92**	**253**	P	**P**	**17 39 29.9**	**-0.9**
	0.5nm,0.6s,baz=85,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**32.96**	**247**	P	**P**	**17 39 39.1**	**-0.7**
	1.2nm,0.6s,baz=71,slow=9.7,SNR=33						
CMAR	**Chiang Mai Arr**	**73.99**	**294**	P	**P**	**17 44 37.7**	**-0.4**
	0.5nm,0.8s,baz=125,slow=5.6,SNR=5.2						
SONM	**Songino Array**	**81.00**	**324**	P	**P**	**17 45 16.1**	**-0.5**
	0.4nm,0.3s,baz=147,slow=6.4,SNR=2.8						
ILAR	**Eielson Array**	**85.10**	**18**	P	**P**	**17 45 37.1**	**+0.1**
	0.8nm,1.0s,baz=240,slow=4.9,SNR=6.2						
MKAR	**Makanchi Array**	**95.80**	**317**	P	**P**	**17 46 28.1**	**+0.5**
	0.3nm,0.6s,baz=83,slow=9.1,SNR=7.1						
ZALV	**Zalesovo Beam**	**95.89**	**324**	P	**P**	**17 46 27.2**	**-0.6**
	0.3nm,0.6s,baz=128,slow=4.4,SNR=2.8						
ARCES	**ARCESS Array B**	**118.61**	**346**	PKP	**PKPdf**	**17 51 48.5**	**+0.8**
	2.6nm,1.0s,baz=62,slow=2.0,SNR=8.7						

*ISN **07** 17:46:02.4±2.1, 36°.63N×40°.67E, h0km±999km, ML3.5*
*DDA **07** 17:46:04.0, 36°.13N×41°.13E, h6km, MD3.7*
*ISK **07** 17:46:10.9, 36°.53N×41°.28E, h6km, MD3.6, ML3.6*
*NSSC **07** 17:46:11.2±0.7, 36°.67N×41°.40E, h12km±24km, ML3.4*
*CSEM **07** 17:46:12.4±0.3, 36°.57N×41°.22E, h5km, ML3.4, Error ellipse: s-maj=7.7km s-min=6.1km az=174.0*

ISC 07 17:46:10.7±1.5, 36°.46N±0°.03×41°.24E±0°.03, h1km±11km, n65, σ1°.44/74, 4C-5D, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBSD	**Kabsdagh**	**0.78**	**314**	↑*e*P	**Pg**	**17 46 23.2**	**-2.4**
KBSD				*e*S	**Sg**	**17 46 36.5**	**+0.7**
KBSD				AML	AML	17 46 57.8	
	comp=Z,462nm,0.7s						
KBSD	**Kabsdagh**	**0.78**	**314**	*e*P	**Pg**	**17 46 25.0**	**-0.7**
	SNR=75						
KBSD				*e*S	**Sg**	**17 46 36.5**	**+0.7**
	comp=Z,462nm,0.7s,SNR=59						
MZRK	**Al-Mazaregh**	**0.79**	**217**	↓*e*P	Pg	17 46 16.0	-10
MZRK				AML	AML	17 46 34.3	
	comp=Z,2μm,0.5s						
SFNV	**Sufian**	**0.91**	**268**	↓*e*P	Pg	17 46 20.7	-7.5
MARD	**Mardin**	**0.93**	**337**	*i* P	**Pg**	**17 46 27.6**	**-1.0**
MARD				*i* S	**Sn**	**17 46 44.5**	**-0.7**
MAZI	**Mazidag**	**1.18**	**328**	*e*PN	**Pg**	**17 46 33.0**	**-0.4**
MAZI				*e*SN	**Sb**	**17 46 49.5**	**-0.5**
MAZI	**Mazidag**	**1.18**	**328**	*e*Pn	**Pg**	**17 46 33.0**	**-0.4**
MAZI				*e*Sn	**Sb**	**17 46 49.5**	**-0.5**
SIRN	**S˜–rnak**	**1.40**	**42**	*i* P	**Pn**	**17 46 36.4**	**-1.1**
SIRN				*i* S	**Sn**	**17 47 00.8**	**+4.1**
SIRT	**Sirnak**	**1.42**	**42**	*e*PN	**Pn**	**17 46 36.4**	**-1.4**
BEST	**Besiri**	**

VRTB	**Varto-Mus**	**2.70**	**4**	*e*PN	**Pn**	17 46 55.2	-0.3
VRTB	**Varto-Mus**	**2.70**	**4**	*e*Pn	**Pn**	17 46 55.2	-0.3
PTK	**Pertek**	**2.84**	**329**	*e*PN	**Pn**	17 46 57.2	-0.2
PTK	**Pertek**	**2.84**	**329**	*e*Pn	**Pn**	17 46 57.2	-0.2
GZT	**Gaziantep**	**3.08**	**288**	*i* P	Pn	17 46 55.5	-5.2
GZT				*i* S	**Sb**	**17 47 43.1**	**-1.4**
AKCD	**Akcadag**	**3.21**	**306**	*i* P	Pn	17 46 58.5	-4.0
AKCD				*i* S	**Sn**	**17 47 40.1**	**-1.5**
AKCD	**Akcadag**	**3.21**	**306**	*i* P	Pn	17 46 58.5	-4.0
ERZN	**Erzincan**	**3.34**	**339**	*e*PN	**Pn**	**17 47 04.0**	**-0.2**
KUZU	**Kuzuini**	**3.36**	**277**	*i* P	**Pn**	**17 47 05.4**	**+0.9**
KUZU				*i* S	**Sn**	**17 47 43.4**	**-1.7**
KUZU	**Kuzuini**	**3.36**	**277**	*i* P	**Pn**	**17 47 05.4**	**+0.9**
KUZU				*i* S	**Sn**	**17 47 43.4**	**-1.7**
EZM	**Erzurum**	**3.44**	**2**	*e*PN	**Pn**	**17 47 05.5**	**-0.3**
EZM	**Erzurum**	**3.44**	**2**	*e*Pn	**Pn**	**17 47 05.5**	**-0.3**
EZC	**Erzincan**	**3.61**	**336**	*e*Pn	Pn	17 47 04.1	-3.8
DARE	**Darende-Malaty**	**3.65**	**306**	*e*PN	**Pn**	**17 47 09.9**	**+1.4**
DARE	**Darende-Malaty**	**3.65**	**306**	*e*Pn	**Pn**	**17 47 10.0**	**+1.4**
ILIC	**ilic-Erzincan**	**3.66**	**326**	*e*PN	**Pn**	**17 47 09.5**	**+0.9**
ILIC	**ilic-Erzincan**	**3.66**	**326**	*e*Pn	**Pn**	**17 47 09.5**	**+0.9**
RABH	**Abou Rabah**	**3.86**	**240**	*e*P	Pn	17 47 06.4	-5.0
BTCH	**Batrach**	**3.88**	**265**	⇑*e*P	Pn	17 47 03.0	-8.7
BTCH				*e*S	**Sn**	**17 47 58.4**	**+0.4**
BTCH				AML	AML	17 48 13.0	
	comp=N,344nm,0.6s						
BTCH				AML	AML	17 48 13.2	
	comp=E,414nm,0.7s						
BTCH				AML	AML	17 48 16.8	
	comp=Z,213nm,0.6s						
BTCH	**Batrach**	**3.88**	**265**	*e*P	**Pn**	**17 47 13.5**	**+1.8**
	SNR=45						
BTCH				*e*S	**Sn**	**17 47 58.4**	**+0.4**
	comp=Z,414nm,0.7s,SNR=40						
WRDH	**Warideh**	**4.03**	**258**	*e*P	Pn	17 47 06.6	-7.0
TAHT	**Tahtakopru-Hat**	**4.08**	**270**	*e*PN	**Pn**	**17 47 16.4**	**+2.1**
TAHT	**Tahtakopru-Hat**	**4.08**	**270**	*e*Pn	**Pn**	**17 47 16.4**	**+2.1**
BHD	**Baghdad**	**4.10**	**140**	*e*PN4	**Pn**	**17 47 12.8**	**-1.7**
BHD				*e*SN4	**Sn**	**17 48 01.1**	**-2.0**
BHD	**Baghdad**	**4.10**	**140**	*e*Pn	**Pn**	**17 47 12.8**	**-1.7**
	SNR=39						
SLNF	**Slenfeh**	**4.16**	**260**	*e*P	Pn	17 47 10.0	-5.5
BIDA	**Albida**	**4.25**	**252**	*e*P	**Pn**	**17 47 18.8**	**+2.1**
BIDA				*e*S	**Sn**	**17 48 07.6**	**+0.6**
BIDA				AML	AML	17 48 17.1	
	comp=Z,396nm,0.6s						
BIDA				AML	AML	17 48 18.0	
	comp=E,97nm,0.6s						
BIDA				AML	AML	17 48 29.7	
	comp=N,435nm,0.7s						
BIDA	**Albida**	**4.25**	**252**	*e*P	**Pn**	**17 47 18.8**	**+2.1**
	SNR=45						
BIDA				*e*S	**Sn**	**17 48 07.6**	**+0.6**
	comp=N,435nm,0.7s,SNR=40						
ARNB	**Al Arnab**	**4.30**	**264**	*e*S	**Sn**	**17 48 08.1**	**-0.2**
ARNB				AML	AML	17 48 25.4	
	comp=N,136nm,0.7s						
ARNB				AML	AML	17 48 25.7	
	comp=E,213nm,0.6s						
ARNB				AML	AML	17 48 27.9	
	comp=Z,213nm,0.5s						
ARNB	**Al Arnab**	**4.30**	**264**	*e*P	**Pn**	**17 47 19.3**	**+1.9**
	SNR=45						
ARNB				*e*S	**Sn**	**17 48 08.1**	**-0.2**
	comp=Z,86nm,0.7s,SNR=40						
MARH	**Ras Al Marh**	**4.59**	**239**	*e*P	Pn	17 47 12.5	-9.0
MARH				AML	AML	17 48 37.3	
	comp=Z,86nm,0.6s						
ZALF	**Zalf**	**4.77**	**223**	*e*P	Pn	17 47 13.8	-10
ZALF				AML	AML	17 48 34.2	
	comp=E,86nm,0.7s						
IBDR	**Badra**	**5.11**	**130**	*e*Pn	**Pn**	**17 47 27.9**	**-0.5**
IBDR				*e*Sn	**Sn**	**17 48 27.8**	**-0.2**
SALA	**Sala**	**5.27**	**226**	⇓*e*P	Pn	17 47 20.4	-11
NSR	**Nassriya**	**6.80**	**142**	*e*Pn	**Pn**	**17 47 51.8**	**+0.2**
NSR				*e*SN4		17 49 09.3	

*NNC **07** 17:55:31.1±8.3,32.˚50N×69.˚03E, h0km, mb3.8, Error ellipse: s-maj=94.9km s-min=67.9km az=91.0*

ISC 07 17:55:31.0±3.7, 32.˚1N±0.˚2×69.˚8E±0.˚3, h29km, n10, σ1§29/12, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**11.01**	**3**	⇓P	**Pn**	**17 58 07.2**	**+0.6**
	0.7nm,0.4s,baz=190,slow=14,SNR=29						
KK31				⇑S	**Sn**	**18 00 06.8**	**-2.0**
	0.3nm,0.3s,baz=189,slow=22,SNR=5.8						
AAK	**Ala-Archa**	**11.17**	**18**	⇓P	**Pn**	**17 58 09.2**	**+0.3**
	3.0nm,0.7s						
AAK				⇑S	**Sn**	**18 00 13.7**	**+0.8**
	2.2nm,0.8s						
DANN	**Dangsing**	**12.65**	**104**	*e*P	**Pn**	**17 58 29.8**	**+0.6**
	5.5nm,0.5s						
KOLN	**Koldanda**	**12.73**	**106**	*e*P	**Pn**	**17 58 31.7**	**+1.4**
	5.6nm,0.3s						
GKN	**Gorkha**	**13.49**	**104**	*e*P	**Pn**	**17 58 40.1**	**-0.6**
	4.7nm,0.4s						
PKI	**Pulchoki**	**14.29**	**104**	*e*P	**Pn**	**17 58 50.8**	**-0.9**
GUN	**Gumba**	**14.55**	**102**	*e*P	**Pn**	**17 58 54.3**	**-1.0**
	13nm,0.6s						
JIRN	**Jiri**	**14.90**	**103**	*e*P	**Pn**	**17 58 58.6**	**-1.4**
	5.1nm,0.4s						
TAPN	**Taplejung**	**16.27**	**102**	*e*P	**Pn**	**17 59 16.1**	**-1.7**
MK31	**Makanchi Array**	**17.55**	**30**	P	**P**	**17 59 35.1**	**+0.8**
	0.6nm,0.5s,baz=208,slow=13,SNR=16						

*IDC **07** 17:56:20.9±1.1,5.˚97S×153.˚71E, h0km, mb4.0/15, mb1 4.0/16, mb1mx4.0/23, mbtmp4.0/16, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=38.1km s-min=17.0km az=112.0*

*ISCJB **07** 17:56:23.8±0.9, 6.˚0S±0.˚1×153.˚6E±0.˚1, h32km, mb4.0/15, MS3.5/2, Error ellipse: s-maj=24.9km s-min=8.8km az=40.9*

ISC 07 17:56:25.8±0.9, 6.˚0S±0.˚1×153.˚7E±0.˚2, h32km, n22, σ0§94/22, mb4.1/15, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.28**	**242**	Pn	**Pn**	**17 58 10.7**	**+0.6**
	2.9nm,0.3s,baz=32,slow=11,SNR=13						
PMG				Sn	**Sn**	**17 59 30.9**	**-0.9**
	1.5nm,0.3s,baz=136,slow=22,SNR=3.8						
PMG				LR	LR	18 01 07.4	
	comp=Z,124nm,18.2s,baz=23,slow=39						
WRA	**Warramunga Arr**	**23.34**	**232**	P	**P**	**18 01 30.3**	**-1.4**
	0.8nm,0.6s,baz=56,slow=9.8,SNR=6.3						
WRA				PcP	**PcP**	**18 05 19.1**	**+0.9**
	0.4nm,0.4s,baz=58,slow=2.7,SNR=6.2						
ASAR	**Alice Springs**	**25.89**	**225**	P	**P**	**18 01 54.5**	**-0.6**
	0.6nm,0.6s,baz=57,slow=9.2,SNR=19						
ASAR				PcP	**PcP**	**18 05 26.4**	**+2.6**
	0.3nm,0.5s,baz=64,slow=2.4,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**27.52**	**28**	T	T	18 30 32.1	
	baz=206,slow=75						
H11S2	**WAKE ISLAND Hy**	**27.52**	**28**	T	T	18 30 24.8	
	baz=206,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.54**	**28**	T	T	18 30 35.2	
	baz=206						
STKA	**Stephens Creek**	**28.11**	**202**	P	**P**	**18 02 14.9**	**0.0**
	0.4nm,0.5s,baz=59,slow=12,SNR=2.4						
STKA				LR	LR	18 13 57.4	
	comp=Z,86nm,18.0s,baz=25,slow=38						
KSRS	**Korea Array**	**49.45**	**333**	P	**P**	**18 05 12.8**	**-0.2**
	2.2nm,0.9s,baz=147,slow=8.5,SNR=4.0						
USRK	**Uesuriysk Arra**	**53.66**	**341**	P	**P**	**18 05 44.6**	**+0.3**
	0.8nm,0.4s,baz=150,slow=7.2,SNR=4.2						
PETK	**Petropavlovsk-**	**58.98**	**3**	P	**P**	**18 06 22.2**	**0.0**
	3.7nm,1.0s,baz=157,slow=5.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**59.17**	**296**	P	**P**	**18 06 24.9**	**+0.7**
	0.4nm,0.6s,baz=121,slow=5.8,SNR=5.0						
FX1	**Attu Island--F**	**60.95**	**13**	P	**P**	**18 06 35.3**	**-0.4**
	5.1nm,0.6s,baz=203,slow=7.7,SNR=2.4						
SONM	**Songino Array**	**67.79**	**328**	P	**P**	**18 07 21.4**	**+0.6**
	0.8nm,0.5s,baz=142,slow=6.3,SNR=5.5						
MKAR	**Makanchi Array**	**81.79**	**319**	P	**P**	**18 08 42.2**	**+0.5**
	1.2nm,0.6s,baz=91,slow=7.4,SNR=29						
ZALV	**Zalesovo Beam**	**82.62**	**326**	P	**P**	**18 08 45.5**	**-0.3**
	2.4nm,0.4s,baz=117,slow=5.8,SNR=17						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**18 08 45.8**	**-1.6**
	0.2nm,0.6s,baz=247,slow=5.1,SNR=6.6						
KURBB	**Kurchatov Arra**	**85.27**	**322**	P	**P**	**18 08 59.3**	**-0.1**
	1.2nm,0.7s,baz=108,slow=3.5,SNR=20						

AAK	**Ala-Archa**	**86.11**	**313**	P	**P**	**18 09 03.3**	**-0.8**
	0.3nm,0.3s,baz=140,slow=7.9,SNR=2.2								
BVAR	**Borovoye Array**	**90.71**	**323**	P	**P**	**18 09 24.8**	**-0.7**
	2.0nm,0.6s,baz=108,slow=4.8,SNR=9.4								
PDAR	**Pinedale Array**	**99.01**	**48**	LR	LR	18 49 08.2			
	comp=Z,25nm,19.4s,baz=311,slow=32								
GERES	**GERESS Array B**	**125.52**	**329**	PKP	**PKPdf**	**18 15 25.0**	**+0.9**		
	0.2nm,0.5s,baz=20,slow=3.1,SNR=2.7								
TORD	**Torodi Ar. Bea**	**151.49**	**286**	PKP	**PKPdf**	**18 16 11.3**	**-0.2**		
	0.8nm,1.1s,baz=101,slow=2.9,SNR=3.1								
TORD				PKPbc	**PKPbc**	**18 16 17.7**	**0.0**		
	1.3nm,0.6s,baz=62,slow=2.4,SNR=9.1								

*ISCJB **07** 18:09:31.3±0.8, 37.˚25N±0.˚02×122.˚07W±0.˚04, h4km±6km, mb4.1/6, MS3.5/8, Error ellipse: s-maj=5.5km s-min=2.7km az=144.2*

*IDC **07** 18:09:33.0±1.0, 37.˚35N×121.˚88W, h0km, mb3.9/5, mb1 4.0/10, mb1mx3.8/31, mbtmp3.8/10, ML4.0/5, MS3.3/13, Ms1 3.3/13, ms1mx3.1/41, Error ellipse: s-maj=12.9km s-min=8.5km az=33.0*

*NEIC **07** 18:09:35.0, 37.˚48N×121.˚80W, h11km, MW4.1(BRK), After NCEDC.*

NEIC Felt [IV] at Milpitas and San Jose; [III] at Alviso, Atherton, Campbell, Cupertino, Fremont, Hayward, La Honda, Loma Mar, Mount Hamilton, Mountain View, Newark, Nicasio, Oakland, Palo Alto, Pleasanton, Redwood City, San Ramon, Santa Clara, Sunnyvale, Sunol and Union City. Felt widely in the San Francisco Bay area.

ISC 07 18:09:34.9±0.8, 37.˚38N±0.˚04×121.˚91W±0.˚04, h10km±5km, n171, σ1§31/167, mb4.2/6, MS3.4/8, 40C-48D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAC	**San Andreas**	**0.45**	**297**	*e*Pg	**Pb**	**18 09 44.4**	**-0.6**
SAO	**San Andreas Ge**	**0.72**	**149**	*e*Pg	**Pb**	**18 09 49.7**	**+0.3**
MCCM	**Marconi Confer**	**1.09**	**315**	*e*Pg	**Pg**	**18 09 53.4**	**-2.4**
CMB	**Columbia Colle**	**1.37**	**61**	*e*P	**Pn**	**18 09 57.3**	**-2.9**
HOPS	**Hopland**	**1.85**	**331**	*e*Pn	**Pn**	**18 10 04.3**	**-2.4**
WAKR	**Walker**	**2.25**	**59**	*e*Pn	**Pn**	**18 10 11.9**	**-0.5**
RCTC	**Rector, Farmer**	**2.39**	**116**	⇑P	**Pn**	**18 10 12.4**	**-1.7**
	baz=2.4,SNR=29						
RCTC				⇑S	**Sn**	**18 10 43.2**	**-0.3**
	baz=2.4						
MLAC	**Mammoth Lakes**	**2.45**	**83**	⇓P	**Pn**	**18 10 14.9**	**-0.4**
	baz=2.4,SNR=102						
MLAC				⇓Sb	**Sg**	**18 10 53.2**	**-0.6**
	baz=2.4						
SMMC	**Simmler**	**2.58**	**143**	⇓P	**Pn**	**18 10 15.9**	**-0.9**
	baz=2.6,SNR=12						
KCPM	**Cahto Peak**	**2.65**	**331**	*e*Pn	**Pn**	**18 10 16.4**	**-1.5**
KIPM	**Iron Peak**	**2.72**	**334**	*e*Pn	**Pn**	**18 10 17.8**	**-1.0**
VES	**Vestal, Richgr**	**2.74**	**123**	⇓P	**Pn**	**18 10 17.5**	**-1.4**
	baz=2.7,SNR=72						
VES				⇑S	**Sn**	**18 10 51.9**	**-0.3**
	baz=2.7						
BEKR	**Beckworth**	**2.76**	**26**	*e*Pn	**Pn**	**18 10 18.0**	**-1.4**
TIN	**Tinemaha**	**2.95**	**95**	⇑P	**Pn**	**18 10 22.2**	**+0.2**
	baz=2.9,SNR=62						
TIN				⇑Sb	**Sb**	**18 11 05.1**	**+1.2**
	baz=2.9						
PKM	**Peak Mountain**	**3.00**	**145**	⇑P	**Pn**	**18 10 22.1**	**-0.6**
	baz=3.0,SNR=29						
NVAR	**Mina Array Bea**	**3.04**	**69**	Pn	**Pn**	**18 10 22.5**	**-0.7**
NVAR				Pg	**Pb**	**18 10 26.8**	**-2.4**
NVAR				Lg	Lg	18 11 10.0	
NVAR	**Mina Array Bea**	**3.04**	**69**	Pn	**Pn**	**18 10 22.5**	**-0.7**
	12nm,0.3s,baz=252,slow=16,SNR=118						
NVAR				Pg	**Pb**	**18 10 26.8**	**-2.4**
	44nm,0.3s,baz=263,slow=18,SNR=125						
NVAR				Lg	Lg	18 11 10.0	
	93nm,0.3s,baz=228,slow=32,SNR=8.1						
PAHR	**Pah Rah Range**	**3.05**	**40**	*e*Pn	**Pn**	**18 10 21.6**	**-1.7**
NV11	**Mina Array Sit**	**3.15**	**69**	*e*Pn	**Pn**	**18 10 23.3**	**-1.4**
CWC	**Cottonwood Cre**	**3.21**	**106**	⇓P	**Pn**	**18 10 25.3**	**-0.2**
	baz=3.1,SNR=28						
CWC				⇓Sb	**Sb**	**18 11 12.8**	**+1.6**
	baz=3.1						
WDC	**Whiskeytown Da**	**3.23**	**351**	*e*Pn	Pn	18 10 22.4	-3.3
ISA	**Isabella**	**3.25**	**121**	*e*Pn	**Pn**	**18 10 25.1**	**-0.9**
ISA	**Isabella**	**3.25**	**121**	⇑P	**Pn**	**18 10 25.2**	**-0.9**
	baz=3.2,SNR=117						
ARVC	**Arvin**	**3.35**	**131**	⇓P	**Pn**	**18 10 26.8**	**-0.6**
	baz=3.4,SNR=29						
SBC	**Santa Barbara**	**3.43**	**148**	⇑P	**Pn**	**18 10 28.5**	**+0.1**
	baz=3.5						
GRAC	**Grapevine Rang**	**3.64**	**95**	⇓Sb	**Sb**	**18 11 26.8**	**+3.2**
	baz=3.6						
N02D	**Trinity Center**	**3.64**	**350**	⇑P	**Pn**	**18 10 29.4**	**-2.1**
	baz=3.6						
N02D				⇓S	**Sn**	**18 11 16.1**	**+1.6**
	baz=3.6						
KHMM	**Horse Mountain**	**3.77**	**338**	*e*Pn	**Pn**	**18 10 32.7**	**-0.5**
OSI	**Osito Adit**	**3.78**	**136**	*e*Pn	**Pn**	**18 10 32.1**	**-1.2**
TPH	**Tonopah**	**3.78**	**78**	*e*Pn	**Pn**	**18 10 33.0**	**-0.4**
MPMC	**Manual Prospec**	**3.79**	**109**	⇑P	**Pn**	**18 10 32.3**	**-1.2**
	baz=3.7,SNR=26						
BSC	**Santa Cruz Isl**	**3.85**	**151**	⇑P	**Pn**	**18 10 33.3**	**-0.9**
	baz=3.9,SNR=8.9						
LRMC	**Laurel Mountai**	**3.90**	**118**	⇓P	**Pn**	**18 10 34.0**	**-0.9**
	baz=3.9,SNR=30						
LRMC				⇑Sb	**Sb**	**18 11 33.2**	**+2.2**
	baz=3.9						
BLG	**Laguna Peak**	**4.00**	**144**	⇑S	**Sn**	**18 11 21.5**	**-1.7**
	baz=4.0						
EDW2	**Edwards Air Fo**	**4.03**	**127**	P	**Pn**	**18 10 36.2**	**-0.6**
	baz=4.0,SNR=41						
EDW2				⇑Sb	**Sb**	**18 11 36.8**	**+1.9**
	baz=4.0						
YBH	**Yreka Blue Hor**	**4.39**	**352**	*e*Pn	**Pn**	**18 10 41.5**	**-0.2**
YBH				Sn	**Sn**	**18 11 34.7**	**+1.7**
YBH	**Yreka Blue Hor**	**4.39**	**352**	Pn	**Pn**	**18 10 42.0**	**+0.3**
	2.0nm,0.3s,baz=174,slow=10.0,SNR=19						
YBH				Sn	**Sn**	**18 11 34.7**	**+1.7**
	2.0nm,0.3s,baz=204,slow=10.0,SNR=7.9						
YBH				LR	LR	18 12 47.3	
	comp=Z,239nm,20.2s,baz=170,slow=44						
M04C	**Macdoel**	**4.40**	**1**	⇑P	**Pn**	**18 10 41.4**	**-0.5**
	baz=4.3						
PASC	**Pasadena Art C**	**4.41**	**136**	*e*Pn	**Pn**	**18 10 41.4**	**-0.5**
KRMB	**Red Mountain**	**4.42**	**340**	*e*Pn	**Pn**	**18 10 42.5**	**+0.4**
MWC	**Mount Wilson**	**4.44**	**134**	*e*Pn	**Pn**	**18 10 42.0**	**-0.5**
TPNV	**Topopah Spring**	**4.54**	**94**	⇓P	**Pn**	**18 10 43.0**	**-0.8**
	baz=4.5						
TPNV				⇓Sb	**Sb**	**18 11 52.2**	**+2.6**
	baz=4.5						
GSC	**Goldstone**	**4.61**	**115**	*e*Pn	**Pn**	**18 10 43.8**	**-0.9**
GSC	**Goldstone**	**4.61**	**115**	⇓P	**Pn**	**18 10 43.8**	**-0.9**
	baz=4.6,SNR=16						
BFSC	**Mount Baldy Ra**	**4.66**	**131**	⇓P	**Pn**	**18 10 44.7**	**-0.8**
	baz=4.7,SNR=27						
MOD	**Modoc**	**4.68**	**15**	*e*Pn	**Pn**	**18 10 46.6**	**+0.8**
RRX	**Edison Barstow**	**4.69**	**121**	⇓P	**Pn**	**18 10 45.2**	**-0.5**
	baz=4.7						
RRX				⇑S	**Sn**	**18 11 40.0**	**-0.3**
	baz=4.7						
BMN	**Battle Mountai**	**4.76**	**49**	*e*Pn	**Pn**	**18 10 45.5**	**-1.3**
SHOC	**Shoshone**	**4.76**	**106**	⇓P	**Pn**	**18 10 46.1**	**-0.6**
	baz=4.7						
CIS	**Catalina Islan**	**4.89**	**143**	⇓P	**Pn**	**18 10 47.5**	**-1.0**
	baz=4.9,SNR=10						
CIS				⇑S	**Sn**	**18 11 43.1**	**-2.1**
	baz=4.9						
R11A	**Troy Canyon, C**	**5.09**	**77**	*e*Pn	**Pn**	**18 10 52.4**	**+0.9**
R11A	**Troy Canyon, C**	**5.09**	**77**	⇓P	**Pn**	**18 10 50.5**	**-1.0**
	baz=5.0						
R11A				⇑Sb	**Sb**	**18 12 08.7**	**+3.2**
	baz=5.0						
KBO	**Bosley Butte**	**5.15**	**340**	*e*Pn	**Pn**	**18 10 52.1**	**0.0**
	46nm,0.9s						
SCI	**San Clemente I**	**5.18**	**147**	⇑P	**Pn**	**18 10 51.4**	**-1.1**
	baz=5.2						
SCI				⇑S	**Sn**	**18 11 51.2**	**-1.1**
	baz=5.2						
HEC	**Hector,Ludlow**	**5.18**	**118**	⇓P	**Pn**	**18 10 51.5**	**-1.1**
	baz=5.1,SNR=15						
TUQ	**Turquoise Moun**	**5.20**	**110**	⇓P	**Pn**	**18 10 51.9**	**-1.0**
	baz=5.1,SNR=20						
HUMO	**Hull Mountain**	**5.28**	**352**	*e*Pn	**Pn**	**18 10 55.2**	**+1.3**
	17nm,0.8s						
MURC	**Murrieta**	**5.38**	**133**	⇑P	**Pn**	**18 10 55.5**	**+0.2**
	baz=5.4						
MURC				⇑S	**Sn**	**18 11 56.9**	**-0.4**
	baz=5.4						
SHPR	**Sheep Range**	**5.47**	**97**	*e*Pn	**Pn**	**18 10 57.0**	**+0.4**
	51nm,0.9s						
WVOR	**Wild Horse Val**	**5.64**	**25**	*e*Pn	**Pn**	**18 10 59.5**	**+0.6**
	45nm,1.0s						
GMRC	**Granite Mounta**	**5.69**	**115**	⇑P	**Pn**	**18 10 58.6**	**-1.0**
	baz=5.6,SNR=13						
KEBM	**Edson Butte**	**5.79**	**342**	*e*Pn	**Pn**	**18 11 02.9**	**+2.0**
	97nm,1.0s						
PFO	**Pinyon Flat Ob**	**5.82**	**129**	*e*Pn	**Pn**	**18 10 59.4**	**-2.0**
	28nm,0.7s						
PFO				Lg	Lg	18 12 34.1	
PFO	**Pinyon Flat Ob**	**5.82**	**129**	Pn	**Pn**	**18 11 00.3**	**-1.2**
	3.3nm,0.3s,baz=319,slow=12,SNR=16						
PFO				Lg	Lg	18 12 34.1	
	0.4nm,0.3s,baz=170,slow=14,SNR=4.1						
PFO				LR	LR	18 13 30.8	
	comp=Z,495nm,18.9s,baz=308,slow=41						
PFO	**Pinyon Flat Ob**	**5.82**	**129**	⇑P	**Pn**	**18 11 00.6**	**-0.9**
	baz=5.8,SNR=5.7						
J04D	**Umpqua Nationa**	**5.86**	**359**	⇑P	**Pn**	**18 11 01.7**	**-0.2**
	baz=5.8						
BELC	**Belle Mtn. Jos**	**5.87**	**123**	P	**Pn**	**18 11 01.3**	**-0.9**
	baz=5.9,SNR=35						
J05D	**Fort Rock, OR**	**5.92**	**5**	⇑P	**Pn**	**18 11 01.6**	**-1.2**
	baz=5.8						
LDFC	**Landfair**	**5.95**	**111**	*e*Pn	**Pn**	**18 11 04.8**	**+1.5**
MONP	**Monument Peak**	**6.34**	**133**	⇓P	**Pn**	**18 11 07.8**	**-0.9**
	baz=6.4,SNR=8.9						
BAR	**Barrett**	**6.36**	**136**	*e*Pn	**Pn**	**18 11 08.7**	**+0.1**
	9.4nm,0.4s						
IRM	**Iron Mountain**	**6.36**	**118**	P	**Pn**	**18 11 07.6**	**-1.1**
	baz=6.3,SNR=13						
I04A	**Tendick Farm,**	**6.42**	**357**	⇓P	**Pn**	**18 11 09.8**	**+0.2**
	baz=6.3						
BC3	**Big Chuckawall**	**6.44**	**123**	⇓P	**Pn**	**18 11 08.2**	**-1.8**
	baz=6.4,SNR=20						
PINOR	**Pine Mountain**	**6.47**	**7**	*e*P	**Pn**	**18 11 12.5**	**+2.3**
	21nm,0.7s						
ARUT	**Antelope Range**	**6.74**	**84**	*e*Pn	**Pn**	**18 11 13.3**	**-0.7**
	480nm,0.7s						
CCUT	**Cedar City**	**6.80**	**86**	*e*Pn	**Pn**	**18 11 16.5**	**+1.6**
	52nm,1.2s						
PDMCI	**Parker Dam,Lak**	**7.02**	**114**	⇓P	**Pn**	**18 11 17.6**	**0.0**
	baz=7.0						
Y12C	**Blythe**	**7.02**	**119**	⇓P	**Pn**	**18 11 16.6**	**-1.1**
	baz=7.0						
GLA	**Glamis**	**7.22**	**125**	*e*Pn	**Pn**	**18 11 18.8**	**-1.8**
	6.6nm,0.4s						
GLA	**Glamis**	**7.22**	**125**	⇓P	**Pn**	**18 11 19.0**	**-1.6**
	baz=7.2,SNR=9.0						
MFID	**Camas Ranch**	**7.60**	**36**	Pn	**Pn**	**18 11 25.2**	**-0.7**
	12nm,0.8s						
DUG	**Dugway**	**7.64**	**66**	*e*Pn	Pn	18 11 23.0	-3.4
	16nm,0.8s						
DUG	**Dugway**	**7.64**	**66**	⇓P	**Pn**	**18 11 25.5**	**-0.9**
	baz=7.5						
MVU	**Marysvale**	**7.74**	**79**	*e*Pn	**Pn**	**18 11 28.8**	**+0.9**
	16nm,0.8s						
BGU	**Big Grassy Mou**	**7.75**	**60**	*e*Pn	**Pn**	**18 11 27.9**	**-0.1**
	9.7nm,1.1s						
U15A	**North Rim**	**7.76**	**94**	⇓P	**Pn**	**18 11 28.6**	**+0.4**
	baz=7.7						
Y14A	**Wickenburg**	**8.02**	**113**	⇓P	**Pn**	**18 11 32.0**	**+0.5**
	baz=8.0						
HVU	**Hansel Valley**	**8.31**	**55**	*e*Pn	Pn	18 11 32.0	-3.5
	14nm,1.0s						
HLID	**Hailey**	**8.41**	**40**	*e*Pn	**Pn**	**18 11 36.1**	**-0.8**
	6.7nm,0.8s						
HLID	**Hailey**	**8.41**	**40**	⇑P	**Pn**	**18 11 36.0**	**-1.0**
	baz=8.3						
TMUT	**Trail Mountain**	**8.62**	**74**	*e*Pn	**Pn**	**18 11 37.4**	**-2.6**
	15nm,0.9s						
WUAZ	**Wupatki**	**8.69**	**99**	*e*Pn	**Pn**	**18 11 39.3**	**-1.5**
	11nm,0.9s						
DAU	**Daniels Canyon**	**8.84**	**67**	Pn	**Pn**	**18 11 41.7**	**-1.3**
	7.2nm,1.0s						
SRU	**San Rafael**	**9.12**	**76**	*e*Pn	**Pn**	**18 11 47.7**	**+1.0**
	17nm,0.8s						
MCMT	**McKenzie Canyo**	**10.10**	**40**	*e*

TXAR				Sn	**Sn**	**18 16 44.8**	**-2.1**
	0.4nm,0.3s,baz=306,slow=15,SNR=6.1						
TXAR				LR	LR	18 20 07.6	
	comp=Z,48nm,18.3s,baz=0.0,slow=37						
A25A	**Svangstu Ranch**	**17.87**	**44**	⇓P	**P**	**18 13 45.0**	**+0.7**
	baz=18						
D30A	**Buchanan**	**19.64**	**53**	⇑P	**P**	**18 14 04.1**	**+0.5**
	baz=20						
ECSD	**EROS Data Cent**	**20.20**	**64**	⇑P	Pn	18 14 11.8	+0.2
	baz=20						
DLBC	**Dease Lake**	**21.73**	**348**	LR	LR	18 22 52.9	
	comp=Z,122nm,19.2s,baz=170,slow=37						
FFC	**Flin Flon**	**22.05**	**32**	*eP*	**P**	**18 14 29.8**	**+0.2**
ULM	**Lac du Bonnet**	**22.63**	**47**	LR	LR	18 22 53.6	
	comp=Z,96nm,18.6s,baz=236,slow=35						
YKA	**Yellowknife Ar**	**25.54**	**8**	P	**P**	**18 15 03.9**	**+0.4**
YKA	**Yellowknife Ar**	**25.54**	**8**	P	**P**	**18 15 03.9**	**+0.4**
	0.4nm,0.7s,baz=194,slow=9.9,SNR=9.7						
DAWY	**Dawson**	**28.71**	**344**	*eP*	**P**	**18 15 32.6**	**+0.5**
ILAR	**Eielson Array**	**31.17**	**340**	P	**P**	**18 15 55.0**	**+1.2**
ILAR	**Eielson Array**	**31.17**	**340**	P	**P**	**18 15 55.0**	**+1.2**
	1.1nm,0.7s,baz=156,slow=8.8,SNR=31						
ILAR				LR	LR	18 26 02.9	
	comp=Z,39nm,21.8s,baz=128,slow=32						
INK	**Inuvik**	**31.65**	**352**	LR	LR	18 30 46.4	
	comp=Z,86nm,18.6s,baz=117,slow=40						
SEY	**Seymchan**	**55.61**	**326**	P	**P**	**18 19 11.4**	**+0.9**
SEY	**Seymchan**	**55.61**	**326**	P	**P**	**18 19 11.4**	**+0.9**
	1.4nm,0.7s,baz=203,slow=9.6,SNR=6.3						
PETK	**Petropavlovsk-**	**55.77**	**314**	P	**P**	**18 19 12.7**	**+0.9**
PETK	**Petropavlovsk-**	**55.77**	**314**	P	**P**	**18 19 12.7**	**+0.9**
	4.6nm,0.9s,baz=75,slow=14,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**63.59**	**275**	T	T	19 28 34.0	
	baz=59						
H11N2	**WAKE ISLAND Hy**	**63.59**	**275**	T	T	19 28 29.0	
	baz=59						
H11N1	**WAKE ISLAND Hy**	**63.61**	**275**	T	T	19 28 28.1	
	baz=59						
H11S1	**WAKE ISLAND Hy**	**64.41**	**274**	T	T	19 29 29.0	
	baz=60,slow=75						
H11S2	**WAKE ISLAND Hy**	**64.42**	**274**	T	T	19 29 40.6	
	baz=60						
H11S3	**WAKE ISLAND Hy**	**64.43**	**274**	T	T	19 29 45.6	
	baz=60,slow=75						
ARCES	**ARCESS Array B**	**70.74**	**12**	LR	LR	18 53 35.8	
	comp=Z,18nm,18.4s,baz=304,slow=37						
NOA	**NORSAR Array B**	**74.75**	**22**	LR	LR	18 54 00.3	
	comp=Z,19nm,20.0s,baz=330,slow=36						
FINES	**FINESS Array B**	**78.13**	**15**	P	**P**	**18 21 33.6**	**-0.2**
FINES	**FINESS Array B**	**78.13**	**15**	P	**P**	**18 21 33.6**	**-0.2**
	2.6nm,1.0s,baz=28,slow=3.3,SNR=3.7						
GERES	**GERESS Array B**	**85.54**	**28**	LR	LR	19 00 51.0	
	comp=Z,34nm,18.2s,baz=293,slow=36						
HHC	**Hu-ho-hao-te**	**88.04**	**322**	*eP*	**P**	**18 22 23.2**	**-2.4**
HHC				sP	**sP**	**18 22 30.9**	**+0.7**
HHC				PP	**PP**	**18 25 50.7**	**-0.7**
HHC	**Hu-ho-hao-te**	**88.04**	**322**	SKS	**SKSac**	**18 32 50.2**	**-4.2**
HHC	**Hu-ho-hao-te**	**88.04**	**322**	S	S	18 33 03.7	-5.8
HHC	**Hu-ho-hao-te**	**88.04**	**322**	SS	SS	18 38 53.7	-2.4
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,7.5s						
HHC				LR	LR		
	comp=N,130nm,20.5s						
HHC				LR	LR		
	comp=E,170nm,21.4s						
HHC				LR	LR		
	comp=Z,88nm,21.2s						
WMQ	**Urumqi**	**94.83**	**339**	*eP*	**P**	**18 22 58.4**	**+1.4**

*ISCJB **07** 18:21:48.3±0.7, 6°.03S±0°.06×127°.79E±0°.10, h400km, mb3.3/3, Error ellipse: s-maj=13.4km s-min=8.5km az=171.0*

*IDC **07** 18:21:50.8±8.7, 6°.11S×127°.80E, h412km±111km, mb3.0/3, mb1 3.3/5, mb1mx3.0/19, mbtmp4.0/5, Error ellipse: s-maj=107.8km s-min=37.5km az=62.0*

ISC 07 18:21:49.3±0.9, **6°.00S**±0°.08×**127°.9E**±0°.1, **h400km**, **n10, s19****33/12, mb3.4/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.33**	**55**	P	**Pn**	**18 23 16.0**	**+1.1**
	baz=6.0,SNR=46						
FAKI				S	**S**	**18 24 22.9**	**-1.5**
	baz=6.0,SNR=6.3						
LUWI	**Luwuk**	**7.08**	**314**	P	**Pn**	**18 23 32.7**	**-1.3**
	baz=7.0,SNR=3.9						
MTN	**Manton Dam**	**7.52**	**155**	P	**P**	**18 23 39.5**	**+0.1**
	baz=7.5,SNR=12						
KDU	**Kakadu**	**8.04**	**146**	P	**P**	**18 23 45.8**	**+0.6**
	baz=8.1,SNR=8.5						
KNRA	**Kununurra**	**9.65**	**175**	P	**Pn**	**18 24 03.8**	**+0.5**
	baz=9.4,SNR=6.3						
WRA	**Warramunga Arr**	**15.22**	**156**	P	**P**	**18 25 04.5**	**+0.2**
	1.3nm,0.3s,baz=334,slow=11,SNR=56						
WRA				S	**S**	**18 27 42.5**	**-3.0**
	0.2nm,0.3s,baz=333,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**18.50**	**162**	P	**P**	**18 25 39.4**	**+0.2**
	0.7nm,0.3s,baz=344,slow=11,SNR=104						
STKA	**Stephens Creek**	**28.76**	**155**	P	**P**	**18 27 12.7**	**+0.4**
	0.6nm,0.5s,baz=328,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**66.25**	**328**	P	**P**	**18 31 56.8**	**+0.8**
	0.6nm,0.4s,baz=115,slow=8.6,SNR=25						
ZALV	**Zalesovo Beam**	**69.77**	**335**	P	**P**	**18 32 17.9**	**+0.4**
	0.5nm,0.6s,baz=163,slow=7.2,SNR=4.5						

*IDC **07** 18:34:56.9±3.6, 0°.93S×100°.34E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML4.4/1, Error ellipse: s-maj=161.7km s-min=21.7km az=57.0*

*ISCJB **07** 18:35:05.2±0.9, 0°.92S±0°.09×100°.4E±0°.1, h86km, mb3.5/4, Error ellipse: s-maj=19.8km s-min=12.6km az=170.2*

*DJA **07** 18:35:14.3±0.7, 0°.5S±3°×10°.0E±°, h10km, M2.6/2, MLv2.6/2*

ISC 07 18:35:06.6±1.3, **0°.9S**±0°.1×**100°.4E**±0°.2, **h86km**, **n12, s19****28/9, mb3.5/4, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.03**	**105**	P	**Pn**	**18 35 17.4**	**-1.3**
PDSI				S	Sn	18 35 34.5	+6.8
PPI	**Padang Panjang**	**0.45**	**355**	P	**Pn**	**18 35 18.3**	**-2.2**
PPI				S	Sn	18 35 21.8	-9.0
BKNI	**Bangkinang**	**1.36**	**26**	S	**Sn**	**18 35 48.9**	**+0.5**
MNSI	**Mandailing Nat**	**1.89**	**333**	P	**Pn**	**18 35 37.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.30**	**356**	P	**Pn**	**18 39 25.8**	**-0.9**
	0.4nm,0.3s,baz=184,slow=9.9,SNR=3.4						
H08S2	**Diego Garcia H**	**28.64**	**256**	T	T	19 08 51.4	
	baz=78,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**28.64**	**256**	T	T	19 08 46.2	
	baz=78,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**28.66**	**256**	T	T	19 08 41.1	
	baz=78,slow=76,SNR=12						
WRA	**Warramunga Arr**	**38.19**	**122**	P	**P**	**18 42 19.1**	**+1.0**
	0.4nm,0.9s,baz=304,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**39.56**	**127**	P	**P**	**18 42 30.4**	**+0.9**
	0.3nm,0.6s,baz=301,slow=7.6,SNR=9.9						
MKAR	**Makanchi Array**	**50.10**	**344**	P	**P**	**18 43 53.2**	**+0.3**
	0.2nm,0.3s,baz=150,slow=8.7,SNR=9.1						
ZALV	**Zalesovo Beam**	**56.18**	**349**	P	**P**	**18 44 38.0**	**+0.7**
	0.3nm,0.3s,baz=169,slow=7.1,SNR=3.3						

IDC 07 18:49:39.9±52.0, **15°.99S×173°.33W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=992.1km s-min=188.5km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.86**	**197**	LR	LR	18 57 23.8	
	comp=Z,76nm,21.4s,baz=287,slow=34						
STKA	**Stephens Creek**	**43.81**	**240**	P	P	18 57 48.2	+0.4
	1.1nm,0.9s,baz=94,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**49.78**	**257**	P	P	18 58 34.5	-0.3
	0.3nm,0.6s,baz=95,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**50.00**	**252**	P	P	18 58 36.2	-0.3
	0.7nm,0.6s,baz=89,slow=8.4,SNR=24						

*JMA **07** 19:01:54.1±0.3, 32°.46N×137°.75E, h403km, M3.2*

*ISCJB **07** 19:01:56.9±0.7, 32°.79N±0°.10×137°.80E±0°.10, h388km±6km, mb2.7/5, Error ellipse: s-maj=17.5km s-min=9.8km az=146.7*

*IDC **07** 19:01:58.7±2.1, 32°.96N×138°.22E, h406km±57km, mb2.5/5, mb1 2.6/6, mb1mx2.5/29, mbtmp3.2/6, Error ellipse: s-maj=155.4km s-min=18.5km az=66.0*

ISC 07 19:01:57.9±1.0, **32°.8N**±0°.1×**137°.75E**±0°.09, **h383**km±**9**km, **n24,** σ1**946/30, mb2.8/5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**1.15**	**316**	P	**Pn**	**19 02 48.0**	**+0.8**
JIE	**Ise**	**1.81**	**332**	P	**Pn**	**19 02 51.4**	**+0.5**
JWZ	**Kozaga**	**1.85**	**294**	P	**Pn**	**19 02 50.5**	**-0.7**
JKN2	**Miekihoku**	**1.89**	**320**	P	**Pn**	**19 02 51.5**	**+0.1**
JWY	**Kouya**	**2.29**	**309**	P	**Pn**	**19 02 54.3**	**+0.1**
JEG	**Eigenji**	**2.58**	**335**	P	**Pn**	**19 02 57.4**	**+1.1**
JOD2	**Odawara 2**	**2.70**	**24**	P	**Pn**	**19 02 59.5**	**+2.3**
JOD2				*eS*	**S**	**19 03 48.8**	**+3.7**
JAI	**Aioi**	**2.93**	**291**	P	**Pn**	**19 02 58.5**	**-0.6**
BSO3	**Boso 3**	**3.05**	**48**	P	**Pn**	**19 02 59.9**	**+0.2**
BSO3				*eS*	**S**	**19 03 49.2**	**-0.6**
JWT	**Wachi**	**3.15**	**322**	P	**Pn**	**19 03 01.4**	**+0.5**
BSO1	**Boso 1**	**3.27**	**55**	P	**Pn**	**19 03 01.0**	**-0.3**
JHU	**Hanno**	**3.30**	**22**	P	**Pn**	**19 03 03.1**	**+0.9**
JHU				*eS*	**S**	**19 03 53.1**	**-1.2**
JRY	**Ryogami san**	**3.35**	**16**	P	**Pn**	**19 03 04.5**	**+1.8**
JMN	**Monobe**	**3.37**	**287**	P	**Pn**	**19 03 02.4**	**-0.5**
MJAR	**Matsushiro Arr**	**3.75**	**6**	P	**Pn**	**19 03 07.0**	**+0.6**
	0.3nm,0.3s,baz=181,slow=11,SNR=5.1						
JAG	**Ashikaga**	**3.88**	**21**	P	**Pn**	**19 03 08.0**	**+0.4**
JYT	**Yasato**	**3.97**	**30**	P	**Pn**	**19 03 08.5**	**+0.1**
JYT				*eS*	**S**	**19 04 03.0**	**-2.6**
JHO	**Hitachi**	**4.46**	**31**	P	**Pn**	**19 03 13.4**	**+0.1**
JHO				*eS*	**S**	**19 04 11.1**	**-3.3**
JFK	**Kawauchi**	**5.23**	**29**	P	**Pn**	**19 03 22.3**	**+1.0**
JFK				*eS*	**S**	**19 04 26.7**	**-2.5**
MKAR	**Makanchi Array**	**43.95**	**305**	P	**P**	**19 09 29.5**	**+0.8**
	0.2nm,0.5s,baz=87,slow=7.9,SNR=1.3						
KURBB	**Kurchatov Arra**	**46.35**	**311**	P	**P**	**19 09 47.8**	**+0.6**
	0.2nm,0.4s,baz=90,slow=9.1,SNR=5.0						
BVAR	**Borovoye Array**	**51.28**	**314**	P	**P**	**19 10 23.9**	**-0.2**
	0.2nm,0.3s,baz=93,slow=8.7,SNR=8.8						
WRA	**Warramunga Arr**	**52.55**	**184**	P	**P**	**19 10 33.6**	**-0.1**
	0.2nm,0.3s,baz=360,slow=7.7,SNR=5.5						
ASAR	**Alice Springs**	**56.27**	**184**	P	**P**	**19 11 00.5**	**+0.3**
	0.2nm,0.8s,baz=20,slow=12,SNR=3.1						

IDC 07 19:02:14.2±7.1, **19°.60S×172°.84W, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.7/21, mbtmp3.9/2, MS3.8/13, Ms1 3.7/13, ms1mx3.5/29, Error ellipse: s-maj=478.1km s-min=36.8km az=150.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.52**	**259**	*eP*	P	19 06 42.5	-0.9
	63nm,1.4s						
DZM				*e*LR	LR	19 11 00.2	
	871nm,25.9s						
DZM	**Mont Dzumac**	**19.52**	**259**	LR	LR	19 12 42.5	
	comp=Z,444nm,19.9s,baz=46,slow=32						
TBI	**Tubuai**	**22.07**	**104**	*eT*	T	19 33 34.8	
	12nm,0.4s						
PAE	**Paea**	**22.12**	**89**	*eT*	T	19 32 48.3	
	3.0nm,0.3s						
RKT	**Rikitea**	**35.38**	**103**	*eT*	T	19 50 03.1	
	2.3nm,0.3s						
PMG	**Port Moresby**	**39.94**	**279**	LR	LR	19 24 24.1	
	comp=Z,68nm,18.1s,baz=96,slow=33						
STKA	**Stephens Creek**	**42.54**	**244**	LR	LR	19 26 02.2	
	comp=Z,120nm,18.2s,baz=30,slow=34						
ASAR	**Alice Springs**	**49.44**	**255**	P	P	19 11 05.8	-0.6
	3.0nm,0.8s,baz=88,slow=7.5,SNR=22						
ASAR				LR	LR	19 29 57.8	
	comp=Z,227nm,20.7s,baz=94,slow=34						
WRA	**Warramunga Arr**	**49.53**	**260**	LR	LR	19 31 44.4	
	comp=Z,46nm,19.2s,baz=150,slow=36						
MJAR	**Matsushiro Arr**	**72.48**	**320**	LR	LR	19 37 55.1	
	comp=Z,28nm,21.2s,baz=130,slow=39						
NVAR	**Mina Array Bea**	**77.10**	**41**	P	P	19 14 09.2	-0.6
	0.4nm,0.6s,baz=218,slow=8.7,SNR=3.5						
KSRS	**Korea Array**	**79.52**	**316**	LR	LR	19 43 45.6	
	comp=Z,31nm,18.4s,baz=127,slow=31						
USRK	**Ussuriysk Arra**	**81.05**	**323**	LR	LR	19 42 42.6	
	comp=Z,90nm,21.1s,baz=123,slow=30						
TXAR	**Lajitas Array**	**82.52**	**55**	LR	LR	19 43 32.4	
	comp=Z,35nm,21.6s,baz=0.0,slow=30						
MAW	**Mawson**	**84.01**	**199**	LR	LR	19 53 13.1	
	comp=Z,55nm,19.9s,baz=73,slow=36						
PDAR	**Pinedale Array**	**85.03**	**41**	LR	LR	19 46 33.6	
	comp=Z,38nm,18.6s,baz=266,slow=31						
PLCA	**Paso Flores**	**86.32**	**132**	LR	LR	19 48 29.2	
	comp=Z,30nm,20.1s,baz=226,slow=32						
ULM	**Lac du Bonnet**	**96.84**	**39**	LR	LR	19 54 24.7	
	comp=Z,56nm,18.4s,baz=307,slow=32						
BRTR	**Keskin Array B**	**149.66**	**317**	PKPbc	PKPbc	19 22 07.3	+1.0
	1.0nm,0.9s,baz=52,slow=2.0,SNR=4.6						

IDC 07 19:13:51.9±1.9, **7°.51S×81°.50W, h0km, mb3.2/1, mb1 3.7/2, mb1mx3.5/19, mbtmp3.5/2, ML3.9/1, MS2.9/2, Ms1 3.0/2, ms1mx2.7/9, Error ellipse: s-maj=67.1km s-min=31.5km az=4.0, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.10**	**83**	Pn	Pn	19 14 43.0	+0.2
	15nm,0.3s,baz=290,slow=4.8,SNR=64						
ATAH				Sn	Sn	19 15 20.8	-0.1
	9.9nm,0.3s,baz=150,slow=10,SNR=4.6						
LPAZ	**La Paz**	**15.71**	**125**	LR	LR	19 23 19.0	
	comp=Z,37nm,19.8s,baz=9.5,slow=36						
PTGA	**Pitinga**	**22.50**	**74**	LR	LR	19 27 37.7	
	comp=Z,46nm,21.6s,baz=228,slow=37						
H03N2	**Juan Fernandez**	**25.91**	**175**	T	T	19 47 19.7	
	baz=353						
H03N1	**Juan Fernandez**	**25.91**	**175**	T	T	19 47 41.9	
	baz=353						
H03N3	**Juan Fernandez**	**25.93**	**175**	T	T	19 47 11.3	
	baz=353						
YKA	**Yellowknife Ar**	**74.30**	**345**	P	P	19 25 30.9	+0.1
	0.1nm,0.6s,baz=138,slow=5.7,SNR=3.4						
ASAR	**Alice Springs**	**133.56**	**227**	PKP	PKPdf	19 33 10.8	-0.6
	0.3nm,0.7s,baz=127,slow=2.0,SNR=5.0						
WRA	**Warramunga Arr**	**135.41**	**232**	PKP	PKPdf	19 33 14.6	-0.3
	0.7nm,0.7s,baz=116,slow=2.4,SNR=7.5						

MEX 07 19:20:12.0±0.2, **18°.27N×100°.68W, h60km±3km, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.32**	**88**	*i* P	Pn	19 20 20.9	-1.4
ARIG				*i* S	Sn	19 20 27.9	-1.9
ZIIG	**Zihuatanejo**	**1.00**	**229**	*eP*	Pn	19 20 28.5	-1.5
ZIIG				*i* S	Sn	19 20 41.4	-1.9
PLIG	**Platanillo**	**1.12**	**84**	*eP*	Pn	19 20 30.4	-1.4
PLIG				*e*S	Sn	19 20 44.6	-2.0
TLIG	**Tlapa**	**2.13**	**109**	*eP*	Pn	19 20 44.3	-1.2
TLIG				*e*S	Sn	19 21 09.0	-2.0

IDC 07 19:20:30.3±2.6, **7°.80S×119°.00E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=236.1km s-min=27.4km az=52.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.15**	**131**	P	P	19 24 55.1	-0.3
	0.2nm,0.3s,baz=305,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.29**	**140**	P	P	19 25 18.9	+0.3
	1.1nm,0.7s,baz=316,slow=9.1,SNR=21						
MKAR	**Makanchi Array**	**63.39**	**333**	P	P	19 31 01.6	-0.1
	0.3nm,0.7s,baz=131,slow=7.1,SNR=4.2						

IDC 07 19:31:08.4±7.0, **31°.29S×178°.75W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/18, mbtmp3.6/2, Error ellipse: s-maj=297.9km s-min=55.8km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.42**	**268**	P	P	19 39 03.9	-1.2
	0.4nm,0.5s,baz=111,slow=7.0,SNR=9.6						
WRA	**Warramunga Arr**	**43.49**	**273**	P	P	19 39 14.5	+0.8
	0.5nm,0.3s,baz=111,slow=8.1,SNR=21						
FINES	**FINESS Array B**	**145.75**	**339**	PKPbc	PKPdf	19 50 47.8	-0.4
	1.7nm,0.9s,baz=27,slow=3.2,SNR=7.6						

*IDC **07** 19:38:54.7±1.2, 0°.79N×97°.19E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML3.5/2, MS3.1/1, Ms1 3.3/1, ms1mx2.6/40, Error ellipse: s-maj=24.2km s-min=19.7km az=87.0*

*ISCJB **07** 19:38:56.0±0.8, 0°.79N±0°.07×97°.09E±0°.07, h25km, mb3.7/6, Error ellipse: s-maj=10.2km s-min=8.4km az=44.4*

*DJA **07** 19:38:56.8±1.5, 1°.1N±9°×9°.7E±°, h24km±8km, M3.8/7, MLv3.8/7*

ISC 07 19:38:58.2±1.1, **0°.88N**±0°.10×**97°.16E**±0°.08, **h25**km, **n24,** σ1**817/16, mb3.9/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.59**	**45**	P	**Pn**	**19 39 10.8**	**-0.3**
GSI				S	**Sn**	**19 39 19.6**	**-0.4**
SNSI	**Sinabang, Aceh**	**1.73**	**331**	P	**Pn**	**19 39 25.1**	**-1.7**
SNSI				S	**Sn**	**19 39 48.2**	**+0.1**
TPTI		**2.36**	**1**	P	**Pn**	**19 39 33.9**	**-1.6**
MNSI	**Mandailing Nat**	**2.42**	**92**	P	**Pn**	**19 39 35.6**	**-0.7**
PSI	**Prapat**	**2.60**	**43**	P	x	19 39 37.9	
PSI	**Prapat**	**2.60**	**43**	P	**Pn**	**19 39 37.0**	**-1.9**
	4.0nm,0.3s,baz=226,slow=5.6,SNR=6.9						
PSI				Lg	Lg	19 40 17.4	
	5.8nm,0.3s,baz=224,slow=9.3,SNR=4.2						
KCSI	**Kotacane, Aceh**	**2.69**	**13**	P	**Pn**	**19 39 40.6**	**+0.6**
TSI	**Tuntungan**	**2.96**	**28**	P	**Pn**	**19 39 44.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.55**	**6**	P	**Pn**	**19 43 00.2**	**-1.2**
	0.1nm,0.3s,baz=197,slow=12,SNR=5.7						
CMAR				LR	LR	19 50 43.3	
	comp=Z,53nm,18.4s,baz=120,slow=40						
H08S2	**Diego Garcia H**	**26.02**	**251**	T	T	20 11 37.7	
	baz=71,slow=75,SNR=395						
H08S3	**Diego Garcia H**	**26.02**	**251**	T	T	20 11 33.3	
	baz=71,slow=75,SNR=426						
H08S1	**Diego Carcia H**	**26.03**	**251**	T	T	20 11 34.3	
	baz=71,slow=75,SNR=490						
H08N1	**Diego Carcia H**	**27.07**	**254**	T	T	20 13 47.5	
	baz=158,slow=78,SNR=9.1						
H08N2	**Diego Garcia H**	**27.09**	**254**	T	T	20 13 46.0	
	baz=158,slow=78,SNR=6.0						
H08N3	**Diego Garcia H**	**27.09**	**254**	T	T	20 13 43.0	
	baz=158,slow=78,SNR=9.8						
H01W3	**Cape Leeuwin H**	**38.97**	**158**	T	T	20 27 40.5	
	baz=333,slow=75,SNR=6.3						
H01W2	**Cape Leeuwin H**	**38.98**	**158**	T	T	20 27 41.1	
	baz=333,slow=75,SNR=7.0						
H01W1	**Cape Leeuwin H**	**38.98**	**158**	T	T	20 27 37.6	
	baz=333,slow=75,SNR=6.6						
WRA	**Warramunga Arr**	**41.90**	**122**	P	**P**	**19 46 46.4**	**-0.7**
	0.3nm,0.5s,baz=304,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**43.24**	**127**	P	**P**	**19 46 57.6**	**-0.3**
	0.2nm,0.3s,baz=301,slow=7.7,SNR=7.2						
SONM	**Songino Array**	**47.45**	**8**	P	**P**	**19 47 30.8**	**-0.3**
	0.3nm,0.4s,baz=194,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**47.54**	**346**	P	**P**	**19 47 33.5**	**+1.9**
	1.0nm,0.4s,baz=160,slow=8.8,SNR=52						
ZALV	**Zalesovo Beam**	**53.87**	**351**	P	**P**	**19 48 20.2**	**+1.0**
	1.1nm,0.4s,baz=172,slow=7.1,SNR=7.6						
FINES	**FINESS Array B**	**80.26**	**333**	P	**P**	**19 51 07.7**	**+1.1**
	1.4nm,0.8s,baz=117,slow=1.6,SNR=2.6						

IDC 07 19:50:56.4±1.4, **30°.69N×103°.07E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/25, mbtmp3.4/4, Error ellipse: s-maj=370.8km s-min=22.0km az=54.0, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**22.72**	**321**	P	P	19 55 58.6	-1.3
	0.9nm,1.0s,baz=134,slow=10,SNR=5.4						
KURBB	**Kurchatov Arra**	**27.04**	**324**	P	P	19 56 41.4	+1.1
	0.4nm,0.8s,baz=129,slow=9.9,SNR=5.5						
WRA	**Warramunga Arr**	**58.64**	**145**	P	P	20 00 55.5	-0.1
	0.4nm,0.5s,baz=338,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**61.61**	**148**	P	P	20 01 16.0	0.0
	0.2nm,0.8s,baz=336,slow=8.3,SNR=3.7						

IDC 07 19:54:41.2±5.8, **15°.25S×72°.98W, h139**km±44km, **mb3.1/2, mb1 3.3/4, mb1mx3.1/20, mbtmp3.6/4, Error ellipse: s-maj=63.6km s-min=48.4km az=41.0, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.78**	**103**	P	Pn	19 55 52.1	-0.3
	0.2nm,0.3s,baz=301,slow=9.6,SNR=3.2						
PTGA	**Pitinga**	**19.32**	**43**	P	P	19 58 55.8	0.0
	0.9nm,0.3s,baz=204,slow=15,SNR=12						
TORD	**Torodi Ar. Bea**	**79.08**	**73**	P	P	20 06 30.8	0.0
	0.4nm,0.7s,baz=268,slow=5.7,SNR=2.5						
YKA	**Yellowknife Ar**	**84.06**	**342**	P	P	20 06 55.8	0.0
	0.3nm,0.7s,baz=134,slow=5.0,SNR=7.7						

MEX 07 19:56:36.0±0.4, **17°.76N×100°.02W, h60**km±**9**km, **MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

baz=9.9,SNR=3.8
KNRA Kununurra 12.24 182 P **Pn** **20 02 37.0 +1.1**
baz=12,SNR=6.5
WRA Warramunga Arr 17.25 163 P **Pn** **20 03 39.2 -2.8**
0.4nm,0.3s,baz=343,slow=13,SNR=16
WRA S **Sn** **20 06 47.5 -5.5**
0.1nm,0.3s,baz=334,slow=22,SNR=3.1
COEN Coen 17.43 128 P **P** **20 03 48.1 +3.0**
baz=18,SNR=4.5
QIS Mount Isa 19.91 150 P **P** **20 04 12.1 -0.3**
baz=20,SNR=14
ASAR Alice Springs 20.71 167 P **P** **20 04 20.3 -0.7**
4.7nm,0.5s,baz=349,slow=11,SNR=57
ASAR S **S** **20 08 05.3 -4.8**
2.1nm,0.8s,baz=349,slow=21,SNR=8.1
ASAR PcP **PcP** **20 08 30.6 +0.8**
0.6nm,0.4s,baz=12,slow=1.8,SNR=7.9
ASAR LR LR 20 12 53.7
comp=Z,97nm,18.5s,baz=12,slow=38
WRKA Warakurna 21.56 182 P **P** **20 04 31.7 +1.6**
baz=22,SNR=7.0
CTA Charters Tower 23.58 136 P **P** **20 04 52.3 +1.1**
3.2nm,0.7s,baz=350,slow=19,SNR=4.7
STKA Stephens Creek 30.70 159 P **P** **20 05 56.0 +1.0**
1.8nm,0.9s,baz=336,slow=11,SNR=4.5
STKA LR LR 20 19 04.3
comp=Z,85nm,21.7s,baz=23,slow=38
CMAR Chiang Mai Arr 36.78 307 P **P** **20 06 45.8 -2.3**
0.8nm,0.3s,baz=129,slow=7.1,SNR=8.0
CMAR PcP **PcP** **20 09 11.2 +1.4**
1.1nm,1.0s,baz=134,slow=2.6,SNR=5.9
CMAR LR LR 20 22 45.8
comp=Z,16nm,20.1s,baz=108,slow=38
KSRS Korea Array 40.63 359 P **P** **20 07 20.9 +0.9**
1.3nm,0.9s,baz=177,slow=10,SNR=3.1
KSRS LR LR 20 22 15.0
comp=Z,16nm,20.1s,baz=345,slow=33
ASAJ Asahikawa 48.80 13 LR LR 20 28 03.4
comp=Z,31nm,20.0s,baz=328,slow=35
SONM Songino Array 54.74 341 P **P** **20 09 10.1 +0.6**
1.2nm,1.0s,baz=150,slow=8.2,SNR=5.4
MKAR Makanchi Array 64.72 326 P **P** **20 10 18.5 +0.5**
1.3nm,0.8s,baz=124,slow=7.8,SNR=16
ZALV Zalesovo Beam 67.95 334 P **P** **20 10 38.2 -0.3**
0.8nm,0.7s,baz=121,slow=5.7,SNR=5.0
KURBB Kurchatov Arra 68.97 328 P **P** **20 10 44.9 -0.1**
2.0nm,0.8s,baz=124,slow=6.3,SNR=30
TORD Torodi Ar. Bea 127.16 284 PKP **PKPdf** **20 18 46.2 +1.3**
0.7nm,0.7s,baz=88,slow=2.0,SNR=4.6

*CRAAG **07** 20:13:49.9, 36°11N×2°74E, Ml4.2*
*CSEM **07** 20:13:50.5±0.2, 36°09N×2°71E, h2km, ML4.2, Error ellipse: s-maj=6.4km s-min=3.4km az=170.0*
*ISCJB **07** 20:13:51.3±0.6, 36°20N±0°05×2°73E±0°05, h15km±9km, Error ellipse: s-maj=9.1km s-min=5.5km az=157.3*
*MDD **07** 20:13:51.5±0.5, 36°10N×2°73E, h0km, mb3.9/13, Error ellipse: s-maj=8.2km s-min=4.3km az=173.0, PRXIMO*

ISC 07 20:13:51.0±1.1, 36°15N±0°05×2°71E±0°02, h9km±9km, n64, σ1§24/77, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.20**	**75**	P	**Pg**	**20 13 55.0**	**-0.2**
EMHD	**Djebel Mahouad**	**0.20**	**75**	P	**Pg**	**20 13 55.0**	**-0.2**
EMHD	**Djebel Mahouad**	**0.20**	**75**	P	**Pg**	**20 13 55.0**	**-0.2**
ADJB	**Djebel Djouab**	**0.59**	**89**	P	**Pg**	**20 14 02.0**	**-0.4**
ADJB	**Djebel Djouab**	**0.59**	**89**	P	**Pg**	**20 14 02.0**	**-0.4**
ADJB	**Djebel Djouab**	**0.59**	**89**	P	**Pg**	**20 14 02.0**	**-0.4**
ABA	**Alger-Bouzarea**	**0.70**	**22**	P	**Pb**	**20 14 05.5**	**+0.1**
ABA	**Alger-Bouzarea**	**0.70**	**22**	P	**Pb**	**20 14 05.5**	**+0.1**
ABA	**Alger-Bouzarea**	**0.70**	**22**	P	**Pb**	**20 14 05.5**	**+0.1**
AKET	**Djebel Ketaf**	**0.95**	**96**	P	**Pg**	**20 14 09.0**	**-0.3**
AKET	**Djebel Ketaf**	**0.95**	**96**	P	**Pg**	**20 14 09.0**	**-0.3**
AKET	**Djebel Ketaf**	**0.95**	**96**	P	**Pg**	**20 14 09.0**	**-0.3**
EBNR	**Beni Rached**	**0.97**	**279**	P	**Pg**	**20 14 09.7**	**+0.1**
EBNR	**Beni Rached**	**0.97**	**279**	P	**Pg**	**20 14 09.7**	**+0.1**
ECHA	**Ech Chlef**	**1.09**	**270**	P	**Pg**	**20 14 11.0**	**-0.9**
ECHA	**Ech Chlef**	**1.09**	**270**	P	**Pg**	**20 14 11.0**	**-0.9**
ECHF	**Ech Chlef**	**1.11**	**271**	P	**Pg**	**20 14 11.0**	**-1.3**
ECHF	**Ech Chlef**	**1.11**	**271**	P	**Pg**	**20 14 11.0**	**-1.3**
EANR	**'Ain N'Sour**	**1.32**	**262**	P	**Pn**	**20 14 15.5**	**-0.1**
EANR	**'Ain N'Sour**	**1.32**	**262**	P	**Pn**	**20 14 15.5**	**-0.1**
EANR	**'Ain N'Sour**	**1.32**	**262**	P	**Pn**	**20 14 15.5**	**-0.1**
ETRT	**Tiaret**	**1.38**	**237**	P	**Pn**	**20 14 16.4**	**0.0**
ETRT	**Tiaret**	**1.38**	**237**	P	**Pn**	**20 14 16.4**	**0.0**
ETRT	**Tiaret**	**1.38**	**237**	P	**Pn**	**20 14 16.4**	**0.0**
OKGL	**Djebel Kef Gue** 50nm,0.2s,SNR=7.9	**1.68**	**267**	P	**Pb**	**20 14 22.0**	**-0.1**
OKGL	333nm,0.4s,SNR=4.0			S	**Sg**	**20 14 44.9**	**-0.1**
OKGL	**Djebel Kef Gue** 50nm,0.2s,SNR=7.9	**1.68**	**267**	P	**Pb**	**20 14 22.0**	**-0.1**
OKGL	333nm,0.4s,SNR=4.0			S	**Sg**	**20 14 44.9**	**-0.1**
OJGS	**Djebel Guires**	**1.72**	**249**	P	**Pg**	**20 14 25.0**	**+1.0**
OJGS	**Djebel Guires**	**1.72**	**249**	P	**Pg**	**20 14 25.0**	**+1.0**
OJGS	**Djebel Guires**	**1.72**	**249**	P	**Pg**	**20 14 25.0**	**+1.0**
SET	**Setif**	**2.17**	**88**	P	**Pg**	**20 14 34.0**	**+1.3**
SET	**Setif**	**2.17**	**88**	P	**Pg**	**20 14 34.0**	**+1.3**
CKHR	**Kef el Ahmar**	**2.27**	**93**	P	**Pg**	**20 14 34.4**	**-0.1**
CKHR	**Kef el Ahmar**	**2.27**	**93**	P	**Pg**	**20 14 34.4**	**-0.1**
ODJA	**Bouhanifia**	**2.47**	**252**	P	Pn	20 14 20.0	-11
ODJA	**Bouhanifia**	**2.47**	**252**	P	Pn	20 14 20.0	-11
EIBI	**Ibiza** 6.0nm,0.2s,SNR=7.9	**3.07**	**340**	P	**Pn**	**20 14 40.8**	**+1.1**
EIBI	15nm,0.3s,SNR=7.9			S	**Sn**	**20 15 14.6**	**-1.9**
EIBI	**Ibiza** 6.0nm,0.2s,SNR=7.9	**3.07**	**340**	P	**Pn**	**20 14 40.8**	**+1.1**
EIBI	15nm,0.3s,SNR=7.9			S	**Sn**	**20 15 14.6**	**-1.9**
EBEN	**Beniarda** 0.5nm,0.2s,SNR=7.9	**3.46**	**318**	P	**Pn**	**20 14 46.2**	**+1.1**
EBEN	1.3nm,0.3s,SNR=7.9			S	**Sn**	**20 15 25.4**	**-0.8**
EBEN	**Beniarda** 0.5nm,0.2s,SNR=7.9	**3.46**	**318**	P	**Pn**	**20 14 46.2**	**+1.1**
EBEN	1.3nm,0.3s,SNR=7.9			S	**Sn**	**20 15 25.4**	**-0.8**
OLHC	**Oulhaca**	**3.48**	**256**	P	Pn	20 14 22.0	-23
OLHC	**Oulhaca**	**3.48**	**256**	P	Pn	20 14 22.0	-23
ETOS	**Mallorca** 3.4nm,0.2s,SNR=7.9	**3.61**	**1**	P	**Pn**	**20 14 47.6**	**+0.5**
ETOS	3.8nm,0.3s,SNR=7.9			S	**Sn**	**20 15 29.3**	**-0.6**
ETOS	**Mallorca** 3.4nm,0.2s,SNR=7.9	**3.61**	**1**	P	**Pn**	**20 14 47.6**	**+0.5**
ETOS	3.8nm,0.3s,SNR=7.9			S	**Sn**	**20 15 29.3**	**-0.6**
CMAH	**Djebel Manchou**	**3.83**	**81**	P	**Pn**	**20 14 50.0**	**-0.1**
CMAH	**Djebel Manchou**	**3.83**	**81**	P	**Pn**	**20 14 50.0**	**-0.1**
CMAH	**Djebel Manchou**	**3.83**	**81**	P	**Pn**	**20 14 50.0**	**-0.1**
ETOB	**Tobarra** 1.7nm,0.2s,SNR=16	**4.21**	**308**	P	**Pn**	**20 14 56.5**	**+1.1**
ETOB	2.5nm,0.3s,SNR=5.8			S	**Sn**	**20 15 46.4**	**+1.8**
ETOB	**Tobarra** 1.7nm,0.2s,SNR=16	**4.21**	**308**	P	**Pn**	**20 14 56.5**	**+1.1**
ETOB	2.5nm,0.3s,SNR=5.8			S	**Sn**	**20 15 46.4**	**+1.8**
EBER	**Berja** 3.8nm,0.3s,SNR=12	**4.57**	**281**	P	**Pn**	**20 15 00.9**	**+0.5**
EBER	3.6nm,0.3s,SNR=7.9			S	**Sn**	**20 15 52.7**	**-1.1**
EBER	**Berja** 3.8nm,0.3s,SNR=12	**4.57**	**281**	P	**Pn**	**20 15 00.9**	**+0.5**
EBER	3.6nm,0.3s,SNR=7.9			S	**Sn**	**20 15 52.7**	**-1.1**
EMOS	**Mosqueruela** 1.5nm,0.2s,SNR=8.0	**4.90**	**330**	P	**Pn**	**20 15 06.1**	**+1.2**
EMOS	3.3nm,0.3s,SNR=7.9			S	**Sn**	**20 15 58.5**	**-3.3**
EMOS	**Mosqueruela** 1.5nm,0.2s,SNR=8.0	**4.90**	**330**	P	**Pn**	**20 15 06.1**	**+1.2**
EQES	**Quesada** 1.4nm,0.3s,SNR=7.9	**4.92**	**291**	P	**Pn**	**20 15 06.4**	**+1.3**
EQES	2.1nm,0.3s,SNR=4.1			S	**Sn**	**20 16 03.9**	**+1.8**
EQES	**Quesada** 1.4nm,0.3s,SNR=7.9	**4.92**	**291**	P	**Pn**	**20 15 06.4**	**+1.3**
EQES	2.1nm,0.3s,SNR=4.1			S	**Sn**	**20 16 03.9**	**+1.8**
EMIR	**Miracle** 2.2nm,0.3s,SNR=7.9	**5.83**	**351**	P	**Pn**	**20 15 19.6**	**+2.0**
EMIR	1.9nm,0.4s,SNR=4.0			S	**Sn**	**20 16 22.1**	**-2.6**
EMIR	**Miracle** 2.2nm,0.3s,SNR=7.9	**5.83**	**351**	P	**Pn**	**20 15 19.6**	**+2.0**
EMIJ	**Mijas** 0.6nm,0.2s,SNR=4.0	**6.05**	**276**	P	**Pn**	**20 15 19.3**	**-1.4**
EMIJ	**Mijas** 0.6nm,0.2s,SNR=4.0	**6.05**	**276**	P	**Pn**	**20 15 19.3**	**-1.4**
EJON	**La Jonquera** 2.1nm,0.3s,SNR=7.9	**6.29**	**1**	P	**Pn**	**20 15 25.5**	**+1.5**
EJON	0.9nm,0.3s,SNR=4.0			S	**Sn**	**20 16 32.0**	**-4.0**
EJON	**La Jonquera** 2.1nm,0.3s,SNR=7.9	**6.29**	**1**	P	**Pn**	**20 15 25.5**	**+1.5**
SJAF	**Saint Jean de** 1.9nm,0.2s,SNR=4.0	**6.33**	**1**	P	**Pn**	**20 15 26.1**	**+1.7**
SJAF	**Saint Jean de** 1.9nm,0.2s,SNR=4.0	**6.33**	**1**	P	**Pn**	**20 15 26.1**	**+1.7**
CSOR	**Sort** 0.6nm,0.2s,SNR=7.9	**6.34**	**349**	P	**Pn**	**20 15 26.1**	**+1.5**
CSOR	**Sort** 0.6nm,0.2s,SNR=7.9	**6.34**	**349**	P	**Pn**	**20 15 26.1**	**+1.5**

IDC 07 20:21:30.8±2.2, 20°22S×70°73W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.6/2, MS2.6/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=68.5km s-min=45.7km az=168.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.8nm,0.3s,baz=209,slow=5.3,SNR=14	**4.63**	**33**	Pn	Pn	20 22 42.7	-0.2
LPAZ	comp=Z,59nm,19.4s,baz=180,slow=37			LR	LR	20 24 22.4	
SIV	**San Ignacio** 0.5nm,0.3s,baz=270,slow=12,SNR=5.5	**10.10**	**67**	Pn	Pn	20 23 57.5	+0.2
H03N1	**Juan Fernandez** baz=31,slow=75,SNR=29	**15.04**	**207**	T	T	20 41 34.6	
H03N2	**Juan Fernandez** baz=31,slow=75,SNR=38	**15.05**	**207**	T	T	20 41 37.3	
H03N3	**Juan Fernandez** baz=31,slow=75,SNR=30	**15.06**	**207**	T	T	20 41 44.2	
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=248,slow=6.0,SNR=10	**78.55**	**71**	P	P	20 33 34.3	-0.4
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=134,slow=5.0,SNR=4.9	**89.43**	**341**	P	P	20 34 28.4	-0.6
H11S2	**WAKE ISLAND Hy** baz=103,slow=73,SNR=18	**26.01**	**279**	T	T	22 59 40.2	
H11S1	**WAKE ISLAND Hy** baz=103,slow=73,SNR=8.3	**26.02**	**279**	T	T	22 59 48.6	
H11S3	**WAKE ISLAND Hy** baz=103,slow=73,SNR=9.1	**26.03**	**279**	T	T	22 59 41.5	
H11N3	**WAKE ISLAND Hy** baz=104	**26.07**	**280**	T	T	22 59 42.4	
H11N2	**WAKE ISLAND Hy** baz=104	**26.08**	**280**	T	T	22 59 44.1	
H11N1	**WAKE ISLAND Hy** baz=104	**26.08**	**280**	T	T	22 59 49.0	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=323,slow=4.4,SNR=5.4	**145.56**	**33**	PKPbc	PKPab	20 41 11.6	+0.1

CASC 07 20:21:59.4±2.0, 11°38N×86°35W, h45km±39km, MD3.7, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.83**	**343**	*i* P	Pn	20 22 14.9	+0.1
COPN				*e* S	Sn	20 22 25.4	-0.5
HUEN		**0.97**	**10**	*e* P	Pn	20 22 17.2	+0.6
HUEN				*e* S	Sn	20 22 29.8	+0.6
GBS2	**Las Lilas**	**1.03**	**121**	*i* P	Pn	20 22 17.5	0.0
GBS2				*i* S	Sn	20 22 32.1	+1.3
GBS3	**Finca Las Im˜¡**	**1.06**	**124**	*i* P	Pn	20 22 17.7	-0.2
LAPC	**Finca la Perla**	**1.08**	**124**	*i* P	Pn	20 22 18.0	-0.2
BUEV	**Buena Vista**	**1.09**	**122**	*i* P	Pn	20 22 18.4	0.0
BUEV				*i* S	Sn	20 22 32.7	+0.4
CNGN	**Cerro Negro**	**1.17**	**343**	*i* P	Pn	20 22 19.2	-0.2
CNGN				*e* S	Sn	20 22 34.0	-0.2
MESS	**Mesas**	**1.30**	**119**	*i* P	Pn	20 22 21.5	+0.3
MESS				*i* S	Sn	20 22 38.1	+0.7
COLC	**Colonia**	**1.33**	**122**	*i* P	Pn	20 22 21.9	+0.3
COLC				*i* S	Sn	20 22 39.1	+1.0
CUI	**Cuipilapa**	**1.36**	**122**	*i* P	Pn	20 22 22.4	+0.3
VCR	**Vista de Mar**	**1.43**	**150**	*e* P	Pn	20 22 25.4	+2.3
VCR				*e* S	Sn	20 22 40.4	-0.4
JCR	**Jicaral**	**1.94**	**141**	*e* P	Pn	20 22 30.5	+0.5
JCR				*e* S	Sn	20 22 52.1	-1.3
CGA2	**Cerro Gallo 2**	**2.29**	**126**	*e* P	Pn	20 22 35.0	+0.1
CGA2				*e* S	Sn	20 23 02.8	+0.7
CNCH	**Conchagua**	**2.38**	**323**	*e* P	Pn	20 22 36.1	-0.1
CNCH				*e* S	Sn	20 23 04.9	+0.7
BLLM	**Bellamira**	**2.76**	**318**	*e* P	Pn	20 22 42.0	+0.7
VSM	**San Miguel**	**2.77**	**317**	*e* P	Pn	20 22 42.1	+0.4
URSC	**Urasca**	**2.96**	**121**	*e* P	Pn	20 22 44.8	+0.7
CAHU	**Cacacuatique**	**2.99**	**323**	*e* P	Pn	20 22 44.9	+0.3
BUS	**Buena Vista**	**3.12**	**125**	*e* P	Pn	20 22 47.1	+0.3
BUS				*e* S	Sn	20 23 23.5	+0.2
SNVI	**San Vicente**	**3.29**	**313**	*e* P	Pn	20 22 49.5	+0.8
LFRS	**El Faro**	**3.46**	**310**	*e* P	Pn	20 22 51.3	+0.3

*IPEC **07** 20:32:23.7±0.2, 50°42N×18°91E, h0km±1km, ML2.2/3, Error ellipse: s-maj=2.5km s-min=1.2km az=172.0*
*ISCJB **07** 20:32:23.0±0.5, 50°40N±0°04×18°81E±0°03, h0km, Error ellipse: s-maj=6.2km s-min=2.2km az=14.1*
*CSEM **07** 20:32:24.9±0.3, 50°36N×18°82E, h2km, ML3.0/7, Error ellipse: s-maj=8.8km s-min=3.2km az=7.0*
*IDC **07** 20:32:25.3±1.2, 50°32N×18°81E, h0km, mb1 3.2/2, mb1mx2.9/22, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=23.0km s-min=8.7km az=139.0*
*PRU **07** 20:32:25.7, 50°32N×18°81E, h0km*
*VIE **07** 20:32:26.4±0.9, 49°71N×19°05E, h0km, mb1.8/2, ML2.5/3, Error ellipse: s-maj=6.2km s-min=4.8km az=113.0 59 km ESE of Ostrava Suspected Mining induced.*

ISC 07 20:32:25.0±0.8, 50°26N±0°04×18°82E±0°02, h0km, n39, σ1§04/69, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.11**	**75**	*e* Pg	**Pg**	**20 32 26.9**	**-0.3**
CHZP				*e* Sg	**Sg**	**20 32 28.6**	**0.0**
OKC	**Ostrava-Krasne**	**0.61**	**226**	*e* PG	**Pb**	**20 32 38.4**	**-0.1**
OKC	comp=Z,34nm,0.2s			*e* SG	**Sb**	**20 32 48.0**	**+0.4**
OKC	**Ostrava-Krasne**	**0.61**	**226**	Pg	**Pb**	**20 32 38.4**	**-0.1**
OKC	34nm,0.2s			Sg	**Sb**	**20 32 48.0**	**+0.4**
OJC	**Ojcow**	**0.63**	**94**	*e* Pg	**Pg**	**20 32 35.9**	**-1.1**
OJC				*e* Sg	**Sg**	**20 32 44.6**	**-0.6**
OJC	**Ojcow**	**0.63**	**94**	*e* Pg	**Pg**	**20 32 35.9**	**-1.1**
OJC				*e* Sg	**Sg**	**20 32 44.6**	**-0.6**
MORC	**Moravsky Berou** baz=53	**0.96**	**240**	*e* Pg	**Pb**	**20 32 44.4**	**-0.1**
MORC	35nm,0.3s,baz=53			*e* Sg	**Sb**	**20 32 57.8**	**+0.1**
NIE	**Niedzica**	**1.28**	**131**	*e* Pg	**Pg**	**20 32 49.5**	**-0.1**
NIE				*e* Sg	**Sn**	**20 33 07.9**	**-0.2**
NIE	**Niedzica**	**1.28**	**131**	*e* Pg	**Pg**	**20 32 49.5**	**-0.1**
DPC	**Dobruska-Polom**	**1.60**	**274**	*e* PG	**Pn**	**20 32 54.3**	**-0.3**
DPC				*e* SG	**Sb**	**20 33 16.1**	**-0.2**
DPC	**Dobruska-Polom**	**1.60**	**274**	Pg	**Pn**	**20 32 54.3**	**-0.3**
DPC				Sg	**Sb**	**20 33 16.1**	**-0.2**
KSP	**Ksiaz**	**1.71**	**291**	*e* Pn	**Pb**	**20 32 57.0**	**-0.4**
KSP				*e* Pg	**Pg**	**20 33 00.2**	**+2.4**
KSP				*e* Sn	**Sg**	**20 33 20.5**	**+0.4**
KSP				*e* Sg	**Sb**	**20 33 24.0**	**+4.6**
KSP	**Ksiaz**	**1.71**	**291**	*e* Pg	**Pg**	**20 32 57.7**	**-0.1**
KSP				*e* Sg	**Sg**	**20 33 20.4**	**+0.4**
VRAC	**Vranov** 2.0nm,0.3s,baz=60,slow=14,SNR=16	**1.73**	**237**	Pn	**Pb**	**20 32 57.0**	**-0.7**
VRAC	5.7nm,0.3s,baz=144,slow=16,SNR=13			Lg	Lg	20 33 21.4	
VRAC	**Vranov**	**1.73**	**237**	*e* Pn	**Pn**	**20 32 56.8**	**+0.5**
VRAC	24nm,0.4s,baz=53			*e* Sg	**Sg**	**20 33 22.0**	**+1.4**
STHS	**Stebnicka Huta**	**1.78**	**117**	*e* PN	**Pb**	**20 32 58.4**	**-0.1**
STHS				*e* SG	**Sg**	**20 33 25.0**	**+2.8**
STHS	**Stebnicka Huta**	**1.78**	**117**	*e* Pn	**Pb**	**20 32 58.4**	**-0.1**
STHS				*e* Sg	**Sg**	**20 33 25.0**	**+2.8**
UPC	**Upice**	**1.81**	**279**	*e* SG	**Sg**	**20 33 23.4**	**+0.1**
UPC	**Upice**	**1.81**	**279**	Sg	**Sg**	**20 33 23.4**	**+0.1**
KRUC	**Moravsky** baz=49	**1.98**	**234**	*e* Pn	**Pn**	**20 33 00.4**	**+0.6**
CRVS	**Cervenica-Dubn**	**2.19**	**127**	*e* PN	**Pb**	**20 33 05.7**	**+0.2**
CRVS				*e* SN	**Sn**	**20 33 31.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**2.19**	**127**	*e* Pn	**Pb**	**20 33 05.7**	**+0.2**
CRVS				*e* Sn	**Sn**	**20 33 31.0**	**+0.5**
TREC	**Trest** comp=Z,11nm,0.5s	**2.37**	**247**	*e* SG	**Sg**	**20 33 40.5**	**-0.5**
TREC	**Trest** 11nm,0.5s	**2.37**	**247**	Sg	**Sg**	**20 33 40.5**	**-0.5**
KOLS	**Kolonicke sedl**	**2.61**	**119**	*e* PN	**Pn**	**20 33 08.9**	**+0.5**
KOLS				*e* SN	**Sn**	**20 33 38.6**	**-2.2**
KOLS				*e* SG	**Sg**	**20 33 49.4**	**+0.6**
KOLS	**Kolonicke sedl**	**2.61**	**119**	*e* Pn	**Pn**	**20 33 08.9**	**+0.5**
KOLS				*e* Sn	**Sn**	**20 33 38.6**	**-2.2**
KOLS				*e* Sg	**Sg**	**20 33 49.4**	**+0.6**
PRU	**Pruhonice**	**2.77**	**266**	*e* PN	**Pn**	**20 33 10.2**	**-0.4**
PRU				*e* PG	**Pb**	**20 33 15.0**	**-0.3**
PRU				*e* SG	**Sg**	**20 33 52.9**	**-1.0**
PRU	**Pruhonice** 6.9nm,0.8s	**2.77**	**266**	Pn	**Pn**	**20 33 10.2**	**-0.4**
PRU				Sg	**Sg**	**20 33 52.9**	**-1.0**
PRA	**Prague** 6.9nm,0.8s	**2.83**	**268**	PG	**Pb**	**20 33 16.0**	**-0.3**
CONA	**Conrad Observa** 3.0nm,0.4s	**3.04**	**221**	⇑*i* Sg	**Sb**	**20 33 57.4**	**-0.3**
CONA	**Conrad Observa** 3.0nm,0.4s	**3.04**	**221**	Sg	**Sb**	**20 33 57.4**	**-0.3**
BRG	**Berggiesshubel** 7.2nm,0.6s	**3.17**	**283**	PG	**Pg**	**20 33 25.2**	**-0.5**
BRG				SG	**Sg**	**20 34 05.6**	**-1.2**
KHC	**Kasperske Hory**	**3.59**	**254**	*e* PN	**Pn**	**20 33 22.2**	**+0.3**
KHC				*e* PG	**Pb**	**20 33 29.1**	**-0.2**
KHC				*e* SG	**Sg**	**20 34 19.3**	**-0.9**
KHC	**Kasperske Hory** 7.2nm,0.4s	**3.59**	**254**	Pn	**Pn**	**20 33 22.2**	**+0.3**
KHC				Sg	**Sg**	**20 34 19.3**	**-0.9**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=61,slow=15,SNR=5.9	**3.62**	**249**	Pn	**Pn**	**20 33 23.1**	**+0.7**
GERES	0.5nm,0.3s,baz=63,slow=15,SNR=15			Pg	**Pb**	**20 33 30.1**	**+0.2**
GERES	1.6nm,0.3s,baz=64,slow=28,SNR=8.6			Lg	Lg	20 34 19.5	
CLL	**Collm**	**3.84**	**288**	*e* Pg	**Pg**	**20 33 39.0**	**+0.5**
CLL	comp=Z,8.0nm,0.8s			*e* Sg	**Sg**	**20 34 29.0**	**+0.8**
NKC	**Novy Kostel** comp=Z,3.8nm,0.4s	**4.09**	**272**	*e* SG	**Sg**	**20 34 35.9**	**-0.4**
NKC	**Novy Kostel** comp=Z,3.8nm,0.4s	**4.09**	**272**	Sg	**Sg**	**20 34 35.9**	**-0.4**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=269,slow=13,SNR=3.2	**6.66**	**82**	Pg	**Pb**	**20 34 20.0**	**-1.5**
AKASG	comp=Z,0.5nm,0.3s,baz=277,slow=26,SNR=5.0			Lg	Lg	20 35 54.9	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=7.0	**11.91**	**17**	Pn	Pn	20 35 10.5	-5.4
FINES	comp=Z,0.1nm,0.3s,baz=197,slow=23,SNR=2.7			Sn	Sn	20 37 15.8	-14

*MAN **07** 20:35:59, 4°91N×127°49E, h28km, mb5.0, ML3.9, MS4.0*
*IDC **07** 20:36:03.5±1.4, 5°43N×126°35E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, MS2.8/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=145.9km s-min=17.2km az=65.0*

ISC 07 20:36:07.1±2.8, 5°9N±0°1×127°3E±0°2, h32km±20km, n14, σ1§48/15, mb3.8/6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.47**	**318**	*e* P	**Pb**	**20 36 34.6**	**+0.7**
MATI				*e* S	Sb	20 36 58.1	+5.8
DMPH	**Davao City--Mi**	**2.12**	**305**	⇑*e* P	**Pb**	**20 36 44.8**	**-0.2**
DMPH				*e* S	**Sb**	**20 37 14.5**	**+3.6**
BUKP	**Musuan**	**2.96**	**313**	*e* P	**Pb**	**20 36 57.2**	**-2.1**
BUTP	**Butuan**	**3.50**	**333**	*e* P	**Pb**	**20 37 07.6**	**-0.8**
BUTP				*e* S	Sb	20 37 58.1	+7.7
CGP	**Cagayan de Oro**	**3.62**	**316**	⇑*e* P	Pb	20 37 06.5	-4.0
CGP				*e* S	**Sb**	**20 37 53.0**	**-1.1**
PAGZ	**Pagadian**	**4.32**	**298**	*e* P	Pb	20 37 15.4	-7.0
PAGZ				*e* S	**Sb**	**20 38 12.4**	**-1.7**
WRA	**Warramunga Arr** 1.1nm,0.4s,baz=342,slow=10,SNR=7.1	**26.56**	**165**	P	**P**	**20 41 42.7**	**+0.3**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=342,slow=6.7,SNR=7.4	**30.05**	**168**	P	**P**	**20 42 13.7**	**+0.2**
ASAR	0.3nm,0.6s,baz=348,slow=2.0,SNR=4.3			PcP	**PcP**	**20 45 14.4**	**-0.7**
CMAR	**Chiang Mai Arr** comp=Z,18nm,20.5s,baz=45,slow=36	**30.32**	**297**	LR	LR	20 54 00.5	
STKA	**Stephens Creek** 1.2nm,0.8s,baz=330,slow=14,SNR=2.7	**39.93**	**161**	P	**P**	**20 43 38.4**	**0.0**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=116,slow=7.5,SNR=21	**56.14**	**324**	P	**P**	**20 45 44.4**	**+0.7**
KURBB	**Kurchatov Arra** 0.8nm,0.5s,baz=124,slow=6.5,SNR=12	**60.26**	**327**	P	**P**	**20 46 12.6**	**+0.3**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=123,slow=7.1,SNR=5.5	**65.85**	**326**	P	**P**	**20 46 49.9**	**+0.4**
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=52,slow=2.1,SNR=4.1	**122.73**	**290**	PKP	**PKPdf**	**20 55 00.2**	**-0.6**

DJA 07 20:50:27.3±0.4, 0°S±4°×122°5E±°, h77km±16km, M3.6/10, MLv3.6/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.58**	**300**	P	Pn	20 50 55.0	+1.5
KMSI				S	Sn	20 51 14.0	+0.7
SANI	**Sanana**	**1.92**	**160**	P	Pn	20 50 58.2	+0.1
SANI				S	Sn	20 51 22.1	+0.6
LBMI	**Labuha**	**2.20**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.78**	**157**	P	P	21 19 44.8	-1.2
	0.8nm,0.7s,baz=335,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**25.07**	**162**	P	P	21 20 19.5	+0.8
	1.3nm,0.9s,baz=346,slow=12,SNR=9.6						
MKAR	**Makanchi Array**	**59.83**	**327**	P	P	21 24 59.5	-0.1
	0.2nm,0.5s,baz=120,slow=8.5,SNR=6.1						

NIED ***07*** *21:20:00,29.˚10N×141.˚90E,h8km,Mw4.4 Best double couple: M₀4.24000×10¹⁵ NP1:φ₀281.00000°,δ20.00000°, λ-163.00000°. NP2:φ₀175.00000°,δ84.00000°, λ-71.00000°.*

IDC ***07*** *21:20:20.0±0.7,29.˚16N×142.˚29E,h0km,mb4.0/15, mb1 4.1/19,mb1mx4.0/28,mbtmp3.9/19,ML3.5/4,MS3.5/14, Ms1 3.6/14,ms1mx3.3/40,Error ellipse: s-maj=25.0km s-min=13.8km az=83.0*

ISCJB ***07*** *21:20:21.9±0.5,29.˚17N±0.˚04×142.˚2E±0.˚1,h27km, mb4.2/22,MS3.6/10,Error ellipse: s-maj=15.7km s-min=4.7km az=168.2*

NEIC ***07*** *21:20:23.5±2.2,29.˚17N×142.˚24E,h23km±15km,mb4.7/7, MW4.3(NIED),Error ellipse: s-maj=12.9km s-min=6.6km az=79.0*

ISC 07 21:20:23.8±0.6,29.˚14N±0.˚05×142.˚3E±0.˚1,h27km,n60, σ1ꬹ03/56,mb4.3/22,MS3.6/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.04**	**182**	*e*Pn	**Pn**	**21 20 56.8**	**+0.4**
CBIJ				Sn	**Sn**	**21 21 18.1**	**-2.8**
JCJ	**Chichijima**	**2.04**	**182**	Pn	**Pn**	**21 20 56.3**	**-0.1**
	12nm,0.3s,baz=285,slow=20,SNR=2.6						
JCJ				Sn	**Sn**	**21 21 18.1**	**-2.8**
	44nm,0.3s,baz=283,slow=23,SNR=4.4						
MJAR	**Matsushiro Arr**	**8.14**	**336**	Pn	**Pn**	**21 22 20.1**	**-0.1**
MJAR				Sn	**Sn**	**21 23 50.3**	**-1.0**
MJAR	**Matsushiro Arr**	**8.14**	**336**	Pn	**Pn**	**21 22 20.1**	**-0.1**
	3.2nm,0.3s,baz=157,slow=9.6,SNR=29						
MJAR				Sn	**Sn**	**21 23 50.3**	**-1.0**
	0.4nm,0.3s,baz=210,slow=31,SNR=3.5						
MJAR				LR	LR	21 25 30.2	
	comp=Z,245nm,19.5s,baz=170,slow=38						
MAJO	**Matsushiro**	**8.14**	**336**	*e*Pn	**Pn**	**21 22 18.4**	**-1.9**
	14nm,0.4s						
MAT	**Matsushiro**	**8.14**	**336**	P	**Pn**	**21 22 20.1**	**-0.1**
MAT				S	**Sn**	**21 23 50.2**	**-1.1**
JNU	**Nakatsue**	**10.54**	**295**	LR	LR	21 27 01.2	
	comp=Z,400nm,18.1s,baz=100,slow=38						
KSRS	**Korea Array**	**14.58**	**308**	Pn	**Pn**	**21 23 49.4**	**+1.1**
	0.2nm,0.3s,baz=108,slow=14,SNR=3.5						
KSRS				LR	LR	21 29 37.2	
	comp=Z,170nm,18.2s,baz=124,slow=38						
KSAR	**Wonju Array Be**	**14.60**	**308**	Pn	**Pn**	**21 23 49.4**	**+0.8**
USRK	**Ussuriysk Arra**	**17.13**	**334**	P	**Pn**	**21 24 21.7**	**+0.5**
	0.3nm,0.3s,baz=150,slow=8.9,SNR=5.6						
USRK				LR	LR	21 31 49.8	
	comp=Z,86nm,18.4s,baz=140,slow=40						
H11N2	**WAKE ISLAND Hy**	**24.25**	**107**	T	T	21 51 24.5	
	baz=300						
H11N1	**WAKE ISLAND Hy**	**24.25**	**107**	T	T	21 51 18.7	
	baz=300						
H11N3	**WAKE ISLAND Hy**	**24.27**	**107**	T	T	21 51 16.9	
	baz=300						
H11S3	**WAKE ISLAND Hy**	**24.67**	**110**	T	T	21 51 31.8	
	baz=143						
H11S1	**WAKE ISLAND Hy**	**24.67**	**110**	T	T	21 51 44.9	
	baz=143						
H11S2	**WAKE ISLAND Hy**	**24.69**	**110**	T	T	21 51 33.3	
	baz=143						
ULN	**Ulaanbaatar**	**32.93**	**314**	*e*P	**P**	**21 26 54.9**	**-1.2**
	6.0nm,1.0s						
SONM	**Songino Array**	**33.33**	**314**	P	**P**	**21 26 59.3**	**-0.3**
SONM	**Songino Array**	**33.33**	**314**	P	**P**	**21 26 59.3**	**-0.3**
	2.6nm,0.9s,baz=125,slow=8.8,SNR=12						
SONM				LR	LR	21 40 09.5	
	comp=Z,52nm,19.6s,baz=247,slow=36						
SEY	**Seymchan**	**34.44**	**8**	P	**P**	**21 27 08.9**	**+0.1**
SEY	**Seymchan**	**34.44**	**8**	P	**P**	**21 27 08.9**	**+0.1**
	1.5nm,0.6s,baz=239,slow=5.9,SNR=2.7						
CHTO	**Chiang Mai**	**40.71**	**265**	*e*P	**P**	**21 28 01.7**	**-0.7**
	7.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**40.85**	**265**	P	**P**	**21 28 03.0**	**-0.6**
CMAR				PcP	**PcP**	**21 30 06.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**40.85**	**265**	P	**P**	**21 28 03.0**	**-0.6**
	1.3nm,0.8s,baz=64,slow=6.4,SNR=12						
CMAR				PcP	**PcP**	**21 30 06.8**	**+2.6**
	0.4nm,0.7s,baz=62,slow=3.3,SNR=4.5						
CMAR				LR	LR	21 45 21.8	
	comp=Z,72nm,20.0s,baz=55,slow=37						
ZAA0	**Zalesovo Array**	**48.02**	**318**	*e*P	**P**	**21 29 00.1**	**-0.3**
ZALV	**Zalesovo Beam**	**48.02**	**318**	P	**P**	**21 29 00.6**	**+0.2**
ZALV	**Zalesovo Beam**	**48.02**	**318**	P	**P**	**21 29 00.6**	**+0.2**
	1.7nm,0.5s,baz=103,slow=6.4,SNR=15						
MK31	**Makanchi Array**	**49.26**	**308**	*e*P	**P**	**21 29 08.5**	**-1.7**
MKAR	**Makanchi Array**	**49.26**	**308**	P	**P**	**21 29 10.3**	**+0.2**
MKAR	**Makanchi Array**	**49.26**	**308**	P	**P**	**21 29 10.3**	**+0.2**
	1.9nm,0.6s,baz=89,slow=10,SNR=26						
MKAR				LR	LR	21 51 00.6	
	comp=Z,66nm,18.1s,baz=82,slow=37						
WRA	**Warramunga Arr**	**49.39**	**190**	P	**P**	**21 29 11.1**	**-0.2**
WRA	**Warramunga Arr**	**49.39**	**190**	P	**P**	**21 29 11.1**	**-0.2**
	3.7nm,0.7s,baz=10.0,slow=8.2,SNR=27						
KURK	**Kurchatov**	**51.63**	**313**	*e*P	**P**	**21 29 27.5**	**-0.4**
	10nm,1.0s						
ASAR	**Alice Springs**	**53.11**	**190**	P	**P**	**21 29 39.0**	**-0.2**
ASAR	**Alice Springs**	**53.11**	**190**	P	**P**	**21 29 39.0**	**-0.2**
	0.7nm,0.9s,baz=1.3,slow=4.4,SNR=9.6						
TKM2	**Tokmak 2**	**54.33**	**304**	*e*P	**P**	**21 29 48.1**	**-0.1**
ILAR	**Eielson Array**	**55.89**	**29**	P	**P**	**21 29 58.5**	**-0.4**
ILAR	**Eielson Array**	**55.89**	**29**	P	**P**	**21 29 58.5**	**-0.4**
	0.5nm,0.9s,baz=254,slow=6.1,SNR=5.7						
DZM	**Mont Dzumac**	**55.98**	**153**	LR	LR	21 53 51.3	
	comp=Z,50nm,18.6s,baz=36,slow=36						
BRVK	**Borovoye**	**56.67**	**317**	*e*P	**P**	**21 30 04.8**	**+0.2**
	8.3nm,0.9s						
KKAR	**Karatay Array**	**57.97**	**305**	*e*P	**P**	**21 30 14.2**	**+0.1**
	2.9nm,0.5s						
STKA	**Stephens Creek**	**60.68**	**181**	P	**P**	**21 30 34.4**	**+1.7**
STKA	**Stephens Creek**	**60.68**	**181**	P	**P**	**21 30 34.4**	**+1.7**
	0.8nm,0.8s,baz=0.0,slow=10,SNR=1.6						
ARU	**Arti**	**62.87**	**322**	*e*P	**P**	**21 30 46.2**	**-1.0**
	6.8nm,1.0s						
ABKAR	**Akbulak array**	**63.74**	**314**	*e*P	**P**	**21 30 53.4**	**+0.3**
	3.3nm,0.5s						
YKA	**Yellowknife Ar**	**70.32**	**29**	P	**P**	**21 31 34.7**	**+0.1**
YKA	**Yellowknife Ar**	**70.32**	**29**	P	**P**	**21 31 34.7**	**+0.1**
	0.4nm,0.5s,baz=294,slow=6.3,SNR=6.4						
FINES	**FINESS Array B**	**76.16**	**334**	P	**P**	**21 32 09.1**	**0.0**
FINES	**FINESS Array B**	**76.16**	**334**	P	**P**	**21 32 09.1**	**0.0**
	1.7nm,0.9s,baz=113,slow=4.4,SNR=6.8						
FINES				LR	LR	22 08 38.5	
	comp=Z,39nm,18.0s,baz=202,slow=38						
KBZ	**Khabaz**	**76.69**	**313**	P	**P**	**21 32 13.3**	**+0.9**
KBZ	**Khabaz**	**76.69**	**313**	P	**P**	**21 32 13.3**	**+0.9**
	3.0nm,0.8s,baz=119,slow=3.4,SNR=7.0						
NVAR	**Mina Array Bea**	**79.20**	**52**	LR	LR	22 03 28.5	
	comp=Z,50nm,20.7s,baz=76,slow=33						
AKASG	**Malin Array Be**	**81.03**	**324**	P	**P**	**21 32 35.7**	**-0.4**
AKASG	**Malin Array Be**	**81.03**	**324**	P	**P**	**21 32 35.7**	**-0.4**
	0.3nm,0.4s,baz=54,slow=5.3,SNR=3.8						
AKASG				LR	LR	22 11 04.3	
	comp=Z,73nm,19.6s,baz=30,slow=38						
NOA	**NORSAR Array B**	**81.75**	**338**	P	**P**	**21 32 40.9**	**+1.0**
NOA	**NORSAR Array B**	**81.75**	**338**	P	**P**	**21 32 40.9**	**+1.0**
	0.7nm,0.8s,baz=39,slow=24,SNR=4.1						
NOA				LR	LR	22 14 06.1	
	comp=Z,24nm,18.2s,baz=25,slow=40						
PDAR	**Pinedale Array**	**82.71**	**45**	LR	LR	22 05 22.9	
	comp=Z,21nm,21.9s,baz=323,slow=33						
BRTR	**Keskin Array B**	**84.68**	**313**	P	**P**	**21 32 56.2**	**+0.7**
BRTR	**Keskin Array B**	**84.68**	**313**	P	**P**	**21 32 56.2**	**+0.7**
	2.0nm,1.0s,baz=95,slow=3.6,SNR=7.3						
LPIG	**La Paz**	**92.44**	**61**	LR	LR	22 09 30.4	
	comp=Z,17nm,21.1s,baz=310,slow=32						

ISCJB ***07*** *21:31:33.8±0.5,4.˚55N±0.˚06×94.˚85E±0.˚06,h48km, mb4.0/13,Error ellipse: s-maj=10.2km s-min=4.9km az=43.8*

IDC ***07*** *21:31:36.6±0.8,4.˚69N×95.˚07E,h52km±6km,mb3.7/13, mb1 3.8/15,mb1mx3.7/27,mbtmp3.9/15,Error ellipse: s-maj=27.7km s-min=10.0km az=41.0*

DJA ***07*** *21:31:38.2±1.0,4.˚N±5.˚×9.˚5E±.˚,h15km,M4.2/8,mb4.6/1, mB5.0/1,MLv4.0/8,Mw(mB)4.3/1*

ISC 07 21:31:36.0±0.6,4.˚60N±0.˚07×94.˚96E±0.˚08,h48km,n27, σ1ꬹ24/32,mb4.0/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**2.08**	**72**	P	**Pn**	**21 32 09.0**	**+0.6**
SNSI	**Sinabang, Aceh**	**2.57**	**148**	P	**Pn**	**21 32 15.5**	**+0.4**
SNSI				S	**Sn**	**21 32 44.1**	**-1.1**
TPTI		**2.58**	**121**	S	**Sn**	**21 32 43.1**	**-2.5**
KCSI	**Kotacane, Aceh**	**3.00**	**111**	P	**Pn**	**21 32 21.1**	**0.0**
LASI	**Langsa, Aceh**	**3.00**	**93**	P	x	21 32 23.9	
LASI				S	x	21 32 59.0	
TSI	**Tuntungan**	**3.76**	**107**	P	**Pn**	**21 32 30.2**	**-1.3**
TSI				S	**Sn**	**21 33 17.9**	**+3.4**
GSI	**Gunungsitoli**	**4.19**	**141**	P	**Pn**	**21 32 37.9**	**+0.5**
GSI				S	**Sn**	**21 33 25.4**	**+0.3**
PSI	**Prapat**	**4.34**	**114**	P	x	21 32 41.8	
PSI	**Prapat**	**4.34**	**114**	P	**Pn**	**21 32 41.6**	**+2.0**
	2.0nm,0.3s,baz=331,slow=13,SNR=9.2						
PSI				S	**Sn**	**21 33 29.5**	**+0.5**
	3.5nm,0.3s,baz=253,slow=12,SNR=5.6						
MNSI	**Mandailing Nat**	**5.96**	**129**	P	**Pn**	**21 33 03.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**14.31**	**15**	P	**Pn**	**21 34 56.2**	**+0.3**
	0.1nm,0.3s,baz=208,slow=11,SNR=2.9						
H08S2	**Diego Garcia H**	**25.50**	**242**	T	T	22 04 00.7	
	baz=62,slow=75,SNR=9.2						
H08S3	**Diego Garcia H**	**25.50**	**242**	T	T	22 04 03.6	
	baz=62,slow=75,SNR=8.4						
H08S1	**Diego Carcia H**	**25.52**	**242**	T	T	22 04 04.1	
	baz=62,slow=75,SNR=6.9						
MKAR	**Makanchi Array**	**43.44**	**347**	P	**P**	**21 39 34.0**	**-0.2**
	1.2nm,0.4s,baz=166,slow=8.3,SNR=54						
MKAR				PcP	**PcP**	**21 41 22.2**	**+0.4**
	0.2nm,0.6s,baz=150,slow=3.2,SNR=3.7						
SONM	**Songino Array**	**44.18**	**11**	P	**P**	**21 39 39.0**	**-1.3**
	0.4nm,0.7s,baz=196,slow=7.8,SNR=3.0						
SONM				PcP	**PcP**	**21 41 24.6**	**+0.1**
	0.2nm,0.5s,baz=191,slow=4.3,SNR=3.6						
KSRS	**Korea Array**	**44.45**	**38**	P	**P**	**21 39 40.1**	**-2.3**
	0.6nm,0.4s,baz=220,slow=7.8,SNR=3.0						
WRA	**Warramunga Arr**	**45.74**	**124**	P	**P**	**21 39 53.0**	**+0.1**
	3.1nm,0.7s,baz=302,slow=9.4,SNR=38						
ASAR	**Alice Springs**	**47.23**	**128**	P	**P**	**21 40 05.0**	**+0.4**
	0.9nm,0.5s,baz=297,slow=7.8,SNR=18						
ASAR				pP	**pP**	**21 40 19.0**	**+1.3**
	0.8nm,0.6s,baz=300,slow=7.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**49.89**	**352**	P	**P**	**21 40 24.0**	**-0.5**
	2.2nm,0.5s,baz=187,slow=8.1,SNR=13						
USRK	**Ussuriysk Arra**	**51.12**	**34**	P	**P**	**21 40 33.6**	**-0.4**
	1.6nm,0.7s,baz=236,slow=4.7,SNR=5.6						
STKA	**Stephens Creek**	**57.29**	**133**	P	**P**	**21 41 17.3**	**-1.8**
	1.8nm,0.9s,baz=310,slow=17,SNR=3.9						
BRTR	**Keskin Array B**	**65.19**	**312**	P	**P**	**21 42 12.8**	**+0.1**
	0.8nm,0.6s,baz=132,slow=7.5,SNR=7.5						
BRTR				pP	**pP**	**21 42 28.0**	**+1.7**
	0.6nm,0.6s,baz=129,slow=8.1,SNR=4.0						
AKASG	**Malin Array Be**	**71.22**	**322**	P	**P**	**21 42 49.6**	**-0.4**
	0.5nm,0.5s,baz=91,slow=5.4,SNR=11						
AKASG				pP	**pP**	**21 43 04.4**	**+0.6**
	0.4nm,0.5s,baz=93,slow=5.1,SNR=2.5						
FINES	**FINESS Array B**	**75.97**	**332**	P	**P**	**21 43 17.8**	**+0.1**
	1.0nm,0.4s,baz=100,slow=4.5,SNR=17						
FINES				pP	**pP**	**21 43 32.1**	**+0.6**
	2.4nm,0.9s,baz=147,slow=2.8,SNR=1.1						
ARCES	**ARCESS Array B**	**78.60**	**340**	P	**P**	**21 43 32.6**	**+0.3**
	1.2nm,0.5s,baz=101,slow=6.7,SNR=16						
GERES	**GERESS Array B**	**80.80**	**319**	P	**P**	**21 43 45.6**	**+0.8**
	0.5nm,0.5s,baz=114,slow=6.0,SNR=6.5						

IDC 07 21:37:37.1±4.6,17.˚06S×174.˚16W,h0km,mb3.8/3, mb1 4.2/3,mb1mx3.8/20,mbtmp3.8/3,MS3.2/2,Ms1 3.2/2, ms1mx2.7/33,Error ellipse: s-maj=333.3km s-min=30.8km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.89**	**37**	LR	LR	21 39 47.0	
	comp=Z,141nm,19.5s,baz=268,slow=33						
HNR	**Honiara**	**26.30**	**283**	LR	LR	21 51 32.9	
	comp=Z,126nm,19.6s,baz=128,slow=32						
ASAR	**Alice Springs**	**48.92**	**253**	P	P	21 46 25.4	0.0
	1.0nm,0.8s,baz=86,slow=7.8,SNR=12						
NVAR	**Mina Array Bea**	**76.05**	**42**	P	P	21 49 28.4	+1.6
	0.5nm,0.6s,baz=230,slow=9.3,SNR=5.1						
PDAR	**Pinedale Array**	**83.98**	**42**	P	P	21 50 08.2	-1.5
	0.5nm,0.9s,baz=234,slow=3.1,SNR=3.6						
BRTR	**Keskin Array B**	**146.95**	**319**	PKPbc	PKPbc	21 57 21.2	-0.9
	0.9nm,0.9s,baz=70,slow=1.7,SNR=5.9						

IDC 07 21:41:16.0±6.4,48.˚36S×129.˚28E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.6/13,mbtmp3.4/3,ML3.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.7/9,Error ellipse: s-maj=138.1km s-min=102.7km az=120.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.53**	**315**	T	T	22 02 57.6	
	baz=151,slow=74,SNR=7.4						
H01W2	**Cape Leeuwin H**	**17.53**	**315**	T	T	22 02 55.2	
	baz=151,slow=74,SNR=7.2						
H01W3	**Cape Leeuwin H**	**17.54**	**315**	T	T	22 02 53.4	
	baz=151,slow=74,SNR=5.8						
NWAO	**Narrogin (SRO)**	**17.88**	**325**	LR	LR	21 49 35.7	
	comp=Z,71nm,21.0s,baz=68,slow=28						
STKA	**Stephens Creek**	**18.92**	**34**	P	P	21 45 37.0	-1.2
	0.1nm,0.3s,baz=193,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**24.91**	**10**	P	P	21 46 41.2	+0.6
	0.4nm,0.8s,baz=192,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**28.64**	**10**	P	P	21 47 14.4	+0.2
	0.5nm,0.9s,baz=192,slow=7.9,SNR=2.6						
YKA	**Yellowknife Ar**	**142.77**	**44**	PKP	PKPdf	22 00 48.3	-1.6
	0.1nm,0.5s,baz=276,slow=4.4,SNR=3.2						

ISCJB ***07*** *21:54:06.1±0.4,40.˚70N±0.˚05×135.˚98E±0.˚06,h400km, mb3.1/11,Error ellipse: s-maj=7.5km s-min=5.7km az=26.9*

IDC ***07*** *21:54:07.0±1.1,40.˚72N×135.˚55E,h374km±12km, mb2.9/11,mb1 3.1/15,mb1mx3.0/29,mbtmp2.9/15,Error ellipse: s-maj=16.0km s-min=13.9km az=12.0*

JMA ***07*** *21:54:06.0±0.4,40.˚61N×136.˚06E,h416km,M3.7*

ISC 07 21:54:07.0±0.7,40.˚69N±0.˚07×136.˚09E±0.˚07,h400km,n27, σ1ꬹ57/30,mb3.1/11,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**2.98**	**91**	P	**Pn**	**21 55 10.4**	**+0.4**
JRG	**Rokugo**	**3.72**	**109**	P	**Pn**	**21 55 17.4**	**+1.0**
JRG				*e*S	**S**	**21 56 13.7**	**+1.0**
JOT	**Ohata**	**3.81**	**78**	P	**Pn**	**21 55 17.8**	**+0.6**
JMK	**Ichinoseki**	**4.32**	**112**	P	**Pn**	**21 55 22.6**	**+0.5**
JMK				*e*S	**S**	**21 56 22.7**	**-0.3**
MJAR	**Matsushiro Arr**	**4.46**	**157**	P	**Pn**	**21 55 23.9**	**+0.3**
	0.3nm,0.3s,baz=329,slow=11,SNR=5.6						
JFT	**Otama**	**4.58**	**132**	P	**Pn**	**21 55 25.2**	**+0.5**
JMM	**Marumori**	**4.61**	**126**	P	**Pn**	**21 55 25.1**	**+0.1**
JMM				S	**S**	**21 56 27.8**	**-0.6**
USRK	**Ussuriysk Arra**	**4.64**	**320**	P	Pn	21 55 21.3	-3.8
	1.9nm,0.3s,baz=144,slow=9.9,SNR=76						
JFK	**Kawauchi**	**4.99**	**130**	P	**Pn**	**21 55 28.2**	**-0.8**
JFK				*e*S	**S**	**21 56 32.7**	**-2.9**
JRY	**Ryogami san**	**5.16**	**154**	P	**Pn**	**21 55 32.3**	**+1.5**
JCH	**Churui**	**5.78**	**68**	P	**Pn**	**21 55 38.7**	**+1.6**
JCH				S	**S**	**21 56 47.5**	**-3.0**
ASAJ	**Asahikawa**	**5.91**	**52**	P	**Pn**	**21 55 39.6**	**+1.2**
	5.9nm,0.3s,baz=265,slow=8.0,SNR=38						
ASAJ				S	**S**	**21 56 51.6**	**-1.5**
	0.9nm,0.3s,baz=36,slow=19,SNR=4.7						
JOD2	**Odawara 2**	**5.91**	**155**	P	**Pn**	**21 55 38.9**	**+0.1**
KSRS	**Korea Array**	**7.13**	**246**	P	**Pn**	**21 55 49.0**	**-3.0**
	0.5nm,0.3s,baz=58,slow=11,SNR=13						
BSO1	**Boso 1**	**7.17**	**146**	P	**P**	**21 55 52.1**	**-0.4**
NEM2	**Nemuro 2**	**7.67**	**66**	P	**P**	**21 55 59.0**	**+0.5**
NEM2				*e*S	**S**	**21 57 24.9**	**-4.0**
SONM	**Songino Array**	**22.34**	**299**	P	**P**	**21 58 31.7**	**-0.9**
	0.9nm,0.5s,baz=94,slow=9.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**36.38**	**309**	P	**P**	**22 00 33.9**	**-1.0**
	0.4nm,0.4s,baz=69,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**38.70**	**298**	P	**P**	**22 00 52.8**	**-1.3**
	0.7nm,0.7s,baz=88,slow=10,SNR=9.8						
ILAR	**Eielson Array**	**48.70**	**34**	P	P	22 02 16.2	+3.9
	0.3nm,0.6s,baz=271,slow=6.1,SNR=6.7						
ARCES	**ARCESS Array B**	**59.07**	**337**	P	**P**	**22 03 27.4**	**+1.2**
	8.6nm,1.2s,baz=58,slow=9.0,SNR=4.0						
WRA	**Warramunga Arr**	**60.34**	**182**	P	**P**	**22 03 37.7**	**+2.3**
	0.3nm,1.0s,baz=0.4,slow=7.5,SNR=2.9						
YKA	**Yellowknife Ar**	**62.71**	**30**	P	P	22 03 54.4	+3.9
	0.1nm,0.4s,baz=308,slow=6.2,SNR=3.5						
FINES	**FINESS Array B**	**63.61**	**330**	P	**P**	**22 03 57.0**	**+0.6**
	0.8nm,0.5s,baz=69,slow=7.9,SNR=8.0						
AKASG	**Malin Array Be**	**68.84**	**319**	P	**P**	**22 04 30.0**	**+0.7**
	0.2nm,0.4s,baz=46,slow=6.3,SNR=4.4						
NVAR	**Mina Array Bea**	**76.03**	**51**	P	P	22 05 17.1	+5.2
	0.2nm,0.5s,baz=300,slow=7.2,SNR=2.9						
GERES	**GERESS Array B**	**77.38**	**325**	P	**P**	**22 05 19.2**	**+0.3**
	0.2nm,0.5s,baz=17,slow=7.2,SNR=3.4						

IDC ***07*** *21:56:40.5±7.5,20.˚46S×176.˚81W,h193km,68km, mb4.0/11,mb1 4.2/12,mb1mx3.9/23,mbtmp4.0/12,Error ellipse: s-maj=26.1km s-min=22.9km az=73.0*

ISCJB ***07*** *21:56:49.5±0.4,20.˚57S±0.˚07×176.˚78W±0.˚07,h297km, mb4.1/13,Error ellipse: s-maj=11.1km s-min=7.5km az=146.5*

NEIC ***07*** *21:56:50.8±3.0,20.˚64S×176.˚91W,h292km±27km,mb4.7/4, Error ellipse: s-maj=18.3km s-min=12.8km az=74.0*

ISC 07 21:56:51.2±0.5,20.˚64S±0.˚09×176.˚86W±0.˚09,h297km, n57,σ1ꬹ21/62,mb4.1/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.71**	**78**	P	**Pn**	**21 58 27.0**	**-2.1**
	baz=7.0,SNR=19						
NIUE				S	S	21 59 40.4	-7.7
	baz=7.0,SNR=10						
AFI	**Afiamalu**	**8.27**	**37**	S	S	22 00 06.7	-17
	15nm,0.3s,baz=229,slow=19,SNR=5.8						
DZM	**Mont Dzumac**	**15.62**	**262**	*e*Pn	**Pn**	**22 00 17.5**	**+0.3**
	24nm,0.6s						
DZM	**Mont Dzumac**	**15.62**	**262**	P	**Pn**	**22 00 17.8**	**+0.6**
	3.0nm,0.3s,baz=82,slow=17,SNR=32						
URZ	**Urewera**	**18.32**	**195**	*e*P	**P**	**22 00 43.3**	**-1.0**
	9.4nm,0.3s						
URZ				S	**S**	**22 03 57.0**	**-0.8**
URZ	**Urewera**	**18.32**	**195**	P	**P**	**22 00 41.5**	**-2.8**
	4.6nm,0.3s,baz=332,slow=0.3,SNR=17						
URZ				S	**S**	**22 03 57.0**	**-0.8**
	1.9nm,0.3s,baz=97,slow=21,SNR=10						
KHZ	**Kahutara**	**23.17**	**198**	*e*P	**P**	**22 01 32.1**	**+0.1**
RPZ	**Rata Peaks**	**25.12**	**201**	*e*P	**P**	**22 01 48.6**	**-1.1**
RPZ	**Rata Peaks**	**25.12**	**201**	P	**P**	**22 01 49.2**	**-0.4**
	10nm,0.4s,baz=44,slow=1.3,SNR=6.2						
EIDS	**Eidsvold**	**29.84**	**255**	P	**P**	**22 02 32.1**	**+0.5**
	baz=30,SNR=4.6						
ARMA	**Armidale**	**29.97**	**245**	P	**P**	**22 02 35.1**	**+2.3**
	baz=30,SNR=6.1						
MGCD	**Mangrove Creek**	**31.05**	**240**	P	**P**	**22 02 43.9**	**+1.7**
	baz=31,SNR=7.5						
CNB	**Canberra Magne**	**33.03**	**237**	P	**P**	**22 03 00.6**	**+1.2**
	baz=33,SNR=7.2						
CMSA	**Cobar Meteorol**	**35.18**	**244**	P	**P**	**22 03 17.9**	**+0.2**
	baz=35,SNR=17						
TOO	**Toolangi**	**36.68**	**234**	P	**P**	**22 03 31.4**	**+1.1**
	baz=37,SNR=6.5						
COEN	**Coen**	**38.66**	**273**	P	**P**	**22 03 47.7**	**+0.7**
	baz=38,SNR=6.7						
STKA	**Stephens Creek**	**38.69**	**245**	*e*P	**P**	**22 03 46.9**	**-0.3**
	1.5nm,1.0s						
STKA	**Stephens Creek**	**38.69**	**245**	P	**P**	**22 03 47.1**	**0.0**
	5.4nm,0.7s,baz=89,slow=11,SNR=11						
HTT	**Hallett**	**41.10**	**243**	P	**P**	**22 04 07.3**	**+0.4**
	baz=41,SNR=3.9						
BBOO	**Buckleboo**	**43.44**	**244**	P	**P**	**22 04 25.7**	**+0.1**
	baz=43,SNR=15						
AS31	**Alice Springs**	**45.52**	**257**	*e*P	**P**	**22 04 41.5**	**-0.6**
ASAR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.20**	**331**	*e*PB	**Pg**	**21 58 49.0**	**+0.7**
ARG				*e*SB	**Sg**	**21 58 52.5**	**+1.5**
ARG	**Arkhangelos**	**0.20**	**331**	*e*Pb	**Pg**	**21 58 49.0**	**+0.7**
ARG				*e*Sb	**Sg**	**21 58 52.5**	**+1.5**
DALY	**Dalyan (Mu˘la**	**0.84**	**23**	*e*PG	**Pg**	**21 59 00.5**	**0.0**
DALY				*e*SG	**Sb**	**21 59 12.3**	**-1.1**
DALY	**Dalyan (Mu˘la**	**0.84**	**23**	*e*Pg	**Pg**	**21 59 00.5**	**0.0**
DALY				*e*Sg	**Sb**	**21 59 12.4**	**-1.1**
TURN	**Turunc**	**0.88**	**19**	*i* P	Pg	21 58 58.1	-3.1
TURN				*i* S	**Sg**	**21 59 11.5**	**-1.2**
TURN	**Turunc**	**0.88**	**19**	*i* P	Pg	21 58 58.1	-3.1
TURN				*i* S	**Sg**	**21 59 11.5**	**-1.2**
FETY	**Fethiye**	**0.90**	**48**	*e*PG	**Pg**	**21 59 01.0**	**-0.6**
FETY				*e*SG	**Sb**	**21 59 15.1**	**0.0**
FETY	**Fethiye**	**0.90**	**48**	*e*Pg	**Pg**	**21 59 01.0**	**-0.6**
FETY				*e*Sg	**Sb**	**21 59 15.1**	**0.0**
KARP	**Karpathos**	**1.01**	**241**	*e*PB	**Pg**	**21 59 03.6**	**0.0**
KARP				*e*SN	**Sn**	**21 59 19.3**	**-1.0**
KARP	**Karpathos**	**1.01**	**241**	*e*Pb	**Pg**	**21 59 03.6**	**0.0**
KARP				*e*Sn	**Sn**	**21 59 19.3**	**-1.0**
AKAS	**Kas**	**1.11**	**79**	*i* P	**Pb**	**21 59 06.2**	**-0.1**
AKAS				*i* S	**Sn**	**21 59 27.0**	**+4.0**
AKAS	**Kas**	**1.11**	**79**	*i* P	**Pb**	**21 59 06.0**	**-0.3**
AKAS				*i* S	**Sn**	**21 59 24.8**	**+1.8**
AKAS	**Kas**	**1.11**	**79**	*i* P	**Pb**	**21 59 06.0**	**-0.3**
AKAS				*i* S	**Sn**	**21 59 24.8**	**+1.8**
BDRM	**Kayabasi**	**1.21**	**328**	*i* P	**Pb**	**21 59 07.9**	**-0.1**
BDRM				*i* S	**Sn**	**21 59 25.9**	**+0.6**
BDRM	**Kayabasi**	**1.21**	**328**	*i* P	**Pn**	**21 59 08.1**	**-0.2**
BDRM				*i* S	**Sn**	**21 59 25.9**	**+0.6**
BDRM	**Kayabasi**	**1.21**	**328**	*i* P	**Pn**	**21 59 08.1**	**-0.2**
BDRM				*i* S	**Sn**	**21 59 25.9**	**+0.6**
BODT	**Bodrum**	**1.27**	**324**	*e*PN	**Pg**	**21 59 08.6**	**-0.1**
BODT				*e*SN	**Sb**	**21 59 26.0**	**+0.2**
BODT	**Bodrum**	**1.27**	**324**	*e*Pn	**Pg**	**21 59 08.6**	**-0.1**
BODT				*e*Sn	**Sb**	**21 59 26.0**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.50**	**42**	*e*PN	**Pb**	**21 59 12.7**	**-0.3**
GLHS				*e*SN	**Sg**	**21 59 33.9**	**+1.3**
GLHS	**Glhisar (BURDU**	**1.50**	**42**	*e*Pn	**Pb**	**21 59 12.7**	**-0.3**
GLHS				*e*Sn	**Sg**	**21 59 33.9**	**+1.3**
ELL	**Elmali**	**1.52**	**62**	*e*PN	**Pg**	**21 59 13.4**	**0.0**
ELL	**Elmali**	**1.52**	**62**	*e*Pn	**Pg**	**21 59 13.4**	**0.0**
GOLH	**Golhisar**	**1.60**	**41**	*i* P	**Pg**	**21 59 14.8**	**-0.1**
GOLH				*i* S	**Sg**	**21 59 38.8**	**+3.2**
GOLH	**Golhisar**	**1.60**	**41**	*i* P	**Pg**	**21 59 14.8**	**-0.1**
GOLH				*i* S	**Sg**	**21 59 38.8**	**+3.2**
DNZL	**Cakiroluk**	**1.77**	**21**	*i* P	**Pg**	**21 59 18.5**	**+0.3**
DNZL				*i* S	**Sg**	**21 59 43.4**	**+2.2**
DNZL	**Cakiroluk**	**1.77**	**21**	*i* P	**Pg**	**21 59 18.5**	**+0.3**
DNZL				*i* S	**Sg**	**21 59 43.4**	**+2.2**
GCAM	**G?zelcaml?**	**1.85**	**334**	*i* P	**Pb**	**21 59 19.0**	**+0.2**
GCAM				*i* S	**Sg**	**21 59 43.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.85**	**334**	*i* P	**Pb**	**21 59 19.0**	**+0.2**
GCAM				*i* S	**Sg**	**21 59 43.9**	**+0.2**
ZKR	**Zakros**	**1.89**	**242**	*e*PN	**Pb**	**21 59 19.1**	**-0.5**
ZKR	**Zakros**	**1.89**	**242**	*e*Pn	**Pb**	**21 59 19.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.93**	**352**	*e*PN	**Pn**	**21 59 18.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.93**	**352**	*e*Pn	**Pn**	**21 59 18.2**	**0.0**
KORT	**Korkueli**	**1.95**	**60**	*i* P	**Pn**	**21 59 19.3**	**+0.8**
KORT				*i* S	**Sg**	**21 59 46.7**	**-0.2**
KORT	**Korkueli**	**1.95**	**60**	*i* P	**Pn**	**21 59 19.3**	**+0.8**
KORT				*i* S	**Sg**	**21 59 46.7**	**-0.2**
SMG	**Samos**	**2.02**	**326**	*e*PN	**Pn**	**21 59 18.8**	**-0.5**
SMG				*e*SN	**Sn**	**21 59 44.4**	**-0.7**
SMG	**Samos**	**2.02**	**326**	*e*Pn	**Pn**	**21 59 18.8**	**-0.5**
SMG				*e*Sn	**Sn**	**21 59 44.4**	**-0.7**
ANTB	**Antalya**	**2.12**	**65**	*e*PN	**Pb**	**21 59 22.3**	**-1.1**
ANTB	**Antalya**	**2.12**	**65**	*e*Pn	**Pb**	**21 59 22.3**	**-1.1**
NPS	**Neapolis**	**2.28**	**251**	*e*PN	**Pn**	**21 59 23.4**	**+0.4**
NPS				*e*SN	**Sn**	**21 59 51.6**	**0.0**
NPS	**Neapolis**	**2.28**	**251**	*e*Pn	**Pn**	**21 59 23.4**	**+0.4**
NPS				*e*Sn	**Sn**	**21 59 51.6**	**0.0**
APE	**Apeiranthos**	**2.42**	**296**	*e*PN	**Pn**	**21 59 24.6**	**-0.3**
APE	**Apeiranthos**	**2.42**	**296**	*e*Pn	**Pn**	**21 59 24.6**	**-0.3**
LAST	**Lasithi**	**2.42**	**250**	*e*PN	**Pn**	**21 59 25.6**	**+0.7**
LAST	**Lasithi**	**2.42**	**250**	*e*Pn	**Pn**	**21 59 25.6**	**+0.7**
MANT	**Manisa**	**2.46**	**6**	*i* P	**Pn**	**21 59 26.5**	**+0.8**
MANT	**Manisa**	**2.46**	**6**	*i* P	**Pn**	**21 59 26.5**	**+0.8**
KULA	**Kula-Manisa**	**2.50**	**7**	*e*PN	**Pn**	**21 59 26.5**	**+0.5**
KULA	**Kula-Manisa**	**2.50**	**7**	*e*Pn	**Pn**	**21 59 26.5**	**+0.5**
KHL	**Karahalli**	**2.50**	**24**	*e*PN	**Pn**	**21 59 26.9**	**+0.8**
KHL	**Karahalli**	**2.50**	**24**	*e*Pn	**Pn**	**21 59 26.9**	**+0.8**
KHAL	**Karahalli**	**2.53**	**23**	*i* P	**Pn**	**21 59 26.7**	**+0.2**
KHAL				*i* S	**Sg**	**22 00 04.2**	**-1.4**
KHAL	**Karahalli**	**2.53**	**23**	*i* P	**Pn**	**21 59 26.7**	**+0.2**
BLCB	**Balcova**	**2.54**	**338**	*e*PN	**Pn**	**21 59 27.1**	**+0.7**
BLCB	**Balcova**	**2.54**	**338**	*e*Pn	**Pn**	**21 59 27.1**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.64**	**56**	*e*PN	**Pn**	**21 59 28.9**	**+1.0**
SUTC	**Sutluce-Ispart**	**2.64**	**56**	*e*Pn	**Pn**	**21 59 28.9**	**+1.0**
AKHS	**Akhisar**	**2.86**	**353**	*i* P	**Pn**	**21 59 31.0**	**+0.1**
AKHS	**Akhisar**	**2.86**	**353**	*i* P	**Pn**	**21 59 31.2**	**+0.3**
AKHS				*i* S	**Sn**	**22 00 07.3**	**+1.4**
AKHS	**Akhisar**	**2.86**	**353**	*i* P	**Pn**	**21 59 31.2**	**+0.3**
AKHS				*i* S	**Sn**	**22 00 07.3**	**+1.4**
AKS	**Akhisar**	**2.86**	**353**	*e*PN	**Pn**	**21 59 31.0**	**+0.1**
AKS	**Akhisar**	**2.86**	**353**	*e*Pn	**Pn**	**21 59 31.0**	**+0.1**
CHOS	**Chios island**	**2.93**	**324**	*e*PN	**Pn**	**21 59 31.4**	**-0.5**
CHOS	**Chios island**	**2.93**	**324**	*e*Pn	**Pn**	**21 59 31.4**	**-0.5**
SIVA	**Sivas**	**2.98**	**251**	*e*PN	**Pn**	**21 59 34.0**	**+1.4**
SIVA	**Sivas**	**2.98**	**251**	*e*Pn	**Pn**	**21 59 34.0**	**+1.4**
DEMI	**Demirci**	**3.02**	**7**	*i* P	**Pn**	**21 59 35.0**	**+1.7**
DEMI				*i* S	**Sb**	**22 00 14.4**	**-1.9**
DEMI	**Demirci**	**3.02**	**7**	*i* P	**Pn**	**21 59 35.0**	**+1.7**
DEMI				*i* S	**Sb**	**22 00 14.4**	**-1.9**
GDZ	**Gediz**	**3.20**	**17**	*i* P	**Pn**	**21 59 36.5**	**+0.8**
GDZ				*i* S	**Sn**	**22 00 13.1**	**-1.4**
GDZ	**Gediz**	**3.20**	**17**	*i* P	**Pn**	**21 59 36.5**	**+0.8**
GDZ				*i* S	**Sn**	**22 00 13.1**	**-1.4**
GAZI	**Gazipasa**	**3.30**	**85**	*i* P	Pn	21 59 33.3	-3.6
GAZI				*i* S	**Sn**	**22 00 14.7**	**-2.0**
GAZI	**Gazipasa**	**3.30**	**85**	*i* P	Pn	21 59 33.3	-3.6
GAZI				*i* S	**Sn**	**22 00 14.7**	**-2.0**
TVSB	**Tavsanli**	**3.54**	**15**	*e*PN	**Pn**	**21 59 40.8**	**+0.4**
TVSB	**Tavsanli**	**3.54**	**15**	*e*Pn	**Pn**	**21 59 40.8**	**+0.4**
DURS	**Dursunbey**	**3.56**	**3**	*i* P	**Pn**	**21 59 41.5**	**+0.9**
DURS				*i* S	**Sn**	**22 00 25.3**	**+1.9**
DURS	**Dursunbey**	**3.56**	**3**	*i* P	**Pn**	**21 59 41.5**	**+0.9**
DURS				*i* S	**Sn**	**22 00 25.3**	**+1.9**
PRK	**Paraskevi**	**3.57**	**335**	*e*PN	**Pn**	**21 59 40.8**	**+0.2**
PRK	**Paraskevi**	**3.57**	**335**	*e*Pn	**Pn**	**21 59 40.8**	**+0.2**
KYTH	**Kithira**	**4.22**	**275**	*e*PN	**Pn**	**21 59 51.4**	**+1.7**
KYTH	**Kithira**	**4.22**	**275**	*e*Pn	**Pn**	**21 59 51.4**	**+1.7**
VLI	**Veliai**	**4.34**	**281**	*e*PN	**Pn**	**21 59 52.8**	**+1.6**
VLI	**Veliai**	**4.34**	**281**	*e*Pn	**Pn**	**21 59 52.8**	**+1.6**
LIA	**Limnos Island**	**4.55**	**329**	*e*PN	**Pn**	**21 59 54.9**	**+0.8**
LIA	**Limnos Island**	**4.55**	**329**	*e*Pn	**Pn**	**21 59 54.9**	**+0.8**
ITM	**Ithomi**	**5.21**	**285**	*e*PN	Pn	22 00 07.9	+4.6

*IDC **07** 22:26:39.3±2.2,0.˘44N×125.˘35E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/21,mbtmp3.5/3,Error ellipse: s-maj=265.0km s-min=25.3km az=64.0*

*ISCJB **07** 22:26:49.3±0.6,0.˘24S±0.˘06×124.˘20E±0.˘04,h88km, mb3.3/3,Error ellipse: s-maj=9.3km s-min=5.5km az=14.0*

*DJA **07** 22:26:49.4±0.4,0˚S±5˚×12˚4E±˚,h87km±9km,M4.1/7, MLv4.1/7*

ISC 07 22:26:50.7±1.0,0.˘26S±0.˘07×124.˘16E±0.˘05,h88km,n11, σ1s40/14,mb3.3/3,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.85**	**348**	P	**Pn**	**22 27 07.6**	**-1.0**
KMSI				S	**Sn**	**22 27 21.5**	**-0.5**
GTOI	**Gorontalo**	**1.46**	**308**	P	**Pn**	**22 27 16.7**	**+0.9**
LUWI	**Luwuk**	**1.59**	**241**	P	**Pn**	**22 27 17.7**	**+0.2**
LUWI				S	**Sn**	**22 27 38.5**	**+0.7**
MRSI	**Marisa**	**2.34**	**288**	P	**Pn**	**22 27 25.7**	**-1.6**
MRSI				S	**Sn**	**22 27 56.2**	**+0.8**
APSI	**Ampana**	**2.59**	**256**	P	**Pn**	**22 27 30.1**	**-0.6**
LBMI	**Labuha**	**3.36**	**96**	P	**Pn**	**22 27 40.0**	**-1.1**
LBMI				S	**Sn**	**22 28 19.2**	**-0.8**
TNTI	**Ternate**	**3.37**	**72**	S	**Sn**	**22 28 23.8**	**+3.6**
TOLI	**Toli-Toli**	**3.64**	**292**	P	x	22 27 43.2	
TOLI				S	x	22 28 26.4	
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=337,slow=9.7,SNR=16	**21.95**	**154**	P	**P**	**22 31 37.2**	**-0.2**
ASAR	**Alice Springs**	**25.11**	**159**	P	**P**	**22 32 07.8**	**+0.2**
	1.4nm,0.6s,baz=337,slow=7.4,SNR=25						
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=120,slow=8.1,SNR=5.6	**59.45**	**328**	P	**P**	**22 36 44.4**	**0.0**

IDC 07 22:43:46.1±5.1,11.˘45S×166.˘16E,h68km±36km,mb3.3/3, mb1 3.7/5,mb1mx3.4/21,mbtmp3.9/5,ML4.2/2,MS3.0/2, Ms1 3.0/2,ms1mx2.7/11,Error ellipse: s-maj=61.8km s-min=37.0km az=63.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 16nm,0.3s,baz=256,slow=0.9,SNR=5.6	**6.43**	**288**	P	Pn	22 45 18.2	0.0
HNR	comp=Z,140nm,20.2s,baz=63,slow=39			LR	LR	22 47 54.6	
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=20,slow=19,SNR=4.9	**10.57**	**179**	P	Pn	22 46 14.8	-0.1
PMG	**Port Moresby** comp=Z,55nm,21.2s,baz=42,slow=33	**18.79**	**274**	LR	LR	22 54 12.9	
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=81,slow=9.2,SNR=5.2	**31.73**	**251**	P	P	22 50 04.1	+0.3
ASAR	**Alice Springs** 0.5nm,0.9s,baz=64,slow=10,SNR=5.2	**32.98**	**244**	P	P	22 50 14.3	-0.4
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=107,slow=4.6,SNR=5.0	**94.09**	**317**	P	P	22 56 57.0	-0.1

*ISCJB **07** 22:48:42.5±0.7,21.˘64N±0.˘06×143.˘3E±0.˘1,h311km, mb3.5/16,Error ellipse: s-maj=16.8km s-min=8.7km az=179.7*

*IDC **07** 22:48:43.4±2.2,21.˘59N×143.˘20E,h300km±20km, mb3.3/16,mb1 3.4/19,mb1mx3.4/29,mbtmp3.3/19,Error ellipse: s-maj=19.0km s-min=10.6km az=81.0*

ISC 07 22:48:44.2±0.7,21.˘68N±0.˘08×143.˘2E±0.˘2,h311km,n33, σ0s89/36,mb3.5/16,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 40nm,0.3s,baz=305,slow=19,SNR=4.6	**5.47**	**350**	P	**Pn**	**22 50 06.6**	**-1.0**
JCJ				S	**S**	**22 51 11.9**	**-2.9**
MJAR	**Matsushiro Arr** 2.1nm,0.3s,baz=171,slow=11,SNR=16	**15.44**	**345**	P	**P**	**22 52 05.6**	**+0.2**
MAT	**Matsushiro** 0.5nm,0.3s,baz=184,slow=18,SNR=3.1	**15.44**	**345**	P	**P**	**22 52 06.2**	**+0.8**
JNU	**Nakatsue** 3.1nm,0.6s,baz=148,slow=8.7,SNR=11	**15.80**	**319**	P	**Pn**	**22 52 11.3**	**-0.2**
KSRS	**Korea Array** 1.5nm,0.5s,baz=135,slow=6.5,SNR=5.9	**20.55**	**323**	P	**P**	**22 53 00.9**	**+1.1**
USRK	**Ussuriysk Arra** 0.4nm,0.4s,baz=134,slow=6.8,SNR=6.8	**24.31**	**340**	P	**P**	**22 53 34.9**	**+0.8**
SONM	**Songino Array** 1.6nm,0.4s,baz=82,slow=6.5,SNR=13	**39.37**	**320**	P	**P**	**22 55 45.4**	**+1.0**
CMAR	**Chiang Mai Arr** 1.7nm,0.4s,baz=15,slow=9.0,SNR=61	**41.61**	**274**	P	**P**	**22 56 03.5**	**+0.7**
WRA	**Warramunga Arr** 1.7nm,0.4s,baz=15,slow=9.0,SNR=61	**42.27**	**192**	P	**P**	**22 56 06.9**	**-1.1**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=16,slow=12,SNR=13	**45.98**	**192**	P	**P**	**22 56 36.1**	**-1.1**
TAPN	**Taplejung** 6.3nm,0.5s	**50.48**	**288**	*e*P	**P**	**22 57 12.1**	**+0.3**
ODAN	**Odare** 4.1nm,0.4s	**50.82**	**288**	*e*P	**P**	**22 57 14.3**	**0.0**
RAMN	**Ramite** 5.9nm,0.6s	**51.51**	**288**	*e*P	**P**	**22 57 19.8**	**+0.4**
JIRN	**Jiri** 11nm,0.7s	**51.79**	**289**	*e*P	**P**	**22 57 21.9**	**+0.4**
GUN	**Gumba** 4.2nm,0.4s	**52.03**	**289**	*e*P	**P**	**22 57 23.6**	**+0.3**
PKI	**Pulchoki** 4.3nm,0.7s	**52.49**	**289**	*e*P	**P**	**22 57 25.7**	**-0.9**
KKN	**Kakani**	**52.58**	**289**	*e*P	**P**	**22 57 26.7**	**-0.4**
DMN	**Daman** 4.2nm,0.4s	**52.75**	**289**	*e*P	**P**	**22 57 27.8**	**-0.6**
STKA	**Stephens Creek** 0.7nm,0.4s,baz=331,slow=24,SNR=4.2	**53.27**	**182**	P	**P**	**22 57 30.8**	**-0.8**
DANN	**Dangsing** 16nm,0.3s	**53.84**	**290**	*e*P	**P**	**22 57 36.8**	**+0.5**
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=104,slow=6.3,SNR=5.7	**54.25**	**322**	P	**P**	**22 57 39.0**	**+0.5**
ZALV	1.2nm,0.4s,baz=130,slow=3.4,SNR=7.0			PcP	**PcP**	**22 58 38.1**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=86,slow=10.0,SNR=11	**54.74**	**313**	P	**P**	**22 57 42.6**	**+0.5**
MKAR	0.6nm,0.4s,baz=73,slow=4.7,SNR=8.0			PcP	**PcP**	**22 58 40.8**	**+0.3**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=269,slow=5.0,SNR=5.1	**62.04**	**27**	P	**P**	**22 58 32.2**	**+0.4**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=293,slow=5.8,SNR=7.0	**76.45**	**28**	P	**P**	**23 00 01.0**	**+1.3**
ARCES	**ARCESS Array B** 2.1nm,0.7s,baz=82,slow=8.8,SNR=7.6	**78.95**	**342**	P	**P**	**23 00 14.0**	**+0.7**
JOF	**Joensuu** 2.2nm,0.3s	**80.34**	**334**	*e*p	**P**	**23 00 21.0**	**+0.1**
KBZ	**Khabaz** 1.9nm,0.7s,baz=117,slow=2.3,SNR=7.1	**82.41**	**314**	P	**P**	**23 00 33.1**	**+1.1**
FINES	**FINESS Array B** 1.6nm,0.4s,baz=67,slow=4.5,SNR=26	**83.21**	**334**	P	**P**	**23 00 35.5**	**-0.3**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=51,slow=5.1,SNR=4.5	**87.54**	**324**	P	**P**	**23 00 56.0**	**-1.2**
BRTR	**Keskin Array B** 0.3nm,0.7s,baz=72,slow=4.1,SNR=3.0	**90.38**	**313**	P	**P**	**23 01 09.8**	**-1.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=102,slow=0.6,SNR=6.5	**128.78**	**309**	PKP	**PKPdf**	**23 07 15.5**	**-0.1**
PLCA	**Paso Flores** 2.5nm,0.6s,baz=225,slow=5.0,SNR=10	**145.72**	**131**	PKPbc	**PKPab**	**23 07 48.1**	**+0.2**
LPAZ	**La Paz** 1.3nm,0.5s,baz=223,slow=1.6,SNR=4.6	**149.91**	**85**	PKPbc	**PKPbc**	**23 08 00.2**	**+0.8**

IDC 07 22:52:40.9±1.9,8.˘07S×157.˘67E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.7/19,mbtmp3.8/5,ML3.4/1,Error ellipse: s-maj=41.8km s-min=15.5km az=19.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 6.8nm,0.3s,baz=224,slow=15,SNR=1.4	**2.63**	**121**	Pn	Pn	22 53 23.9	-0.8
HNR	36nm,0.3s,baz=331,slow=1.0,SNR=8.9			Pg	Pb	22 53 30.1	+1.2
HNR	27nm,0.3s,baz=358,slow=22,SNR=6.5			Lg	Lg	22 54 04.1	
HNR	**Honiara**	**2.63**	**121**	*e*P	Pb	22 53 29.0	+0.1
HNR				*e*S	Sg	22 54 05.0	-0.5
WRA	**Warramunga Arr** 2.1nm,0.6s,baz=67,slow=9.3,SNR=16	**25.49**	**240**	P	P	22 58 10.8	-0.4
ASAR	**Alice Springs** 0.5nm,0.8s,baz=59,slow=9.1,SNR=3.5	**27.55**	**233**	P	P	22 58 31.4	+1.5
STKA	**Stephens Creek** 1.8nm,0.7s,baz=51,slow=6.5,SNR=6.2	**28.02**	**210**	P	P	22 58 32.9	-0.9
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=104,slow=4.6,SNR=2.4	**85.96**	**318**	P	P	23 05 23.0	-0.2

IDC 07 22:53:07.5±1.0,14.˘00N×145.˘63E,h0km,mb3.5/6, mb1 3.8/6,mb1mx3.6/24,mbtmp3.5/6,Error ellipse: s-maj=54.3km s-min=22.0km az=100.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy** baz=262,slow=73,SNR=14	**20.70**	**75**	T	T	23 19 59.9	
H11S1	**WAKE ISLAND Hy** baz=262,slow=73,SNR=11	**20.71**	**75**	T	T	23 20 05.6	
H11S2	**WAKE ISLAND Hy** baz=262,slow=73,SNR=9.2	**20.71**	**75**	T	T	23 19 58.7	
H11N1	**WAKE ISLAND Hy** baz=262,slow=75	**21.11**	**71**	T	T	23 21 02.4	
H11N2	**WAKE ISLAND Hy** baz=262,slow=75	**21.12**	**71**	T	T	23 21 08.4	
H11N3	**WAKE ISLAND Hy** baz=262,slow=75	**21.13**	**71**	T	T	23 21 00.5	
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=20,slow=9.8,SNR=3.1	**35.52**	**198**	P	P	23 00 06.0	-0.3
ASAR	**Alice Springs** 0.1nm,0.4s,baz=16,slow=10,SNR=3.9	**39.16**	**197**	P	P	23 00 37.1	-0.2
STKA	**Stephens Creek** 1.0nm,0.5s,baz=334,slow=7.5,SNR=5.1	**45.78**	**185**	P	P	23 01 31.0	0.0
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=93,slow=8.2,SNR=6.1	**61.71**	**316**	P	P	23 03 27.7	0.0
ILAR	**Eielson Array** 0.3nm,0.9s,baz=240,slow=5.9,SNR=4.0	**67.88**	**25**	P	P	23 04 07.1	-0.4
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=283,slow=4.8,SNR=5.4	**82.15**	**28**	P	P	23 05 30.4	+0.4

MEX 07 22:54:51.4±0.4,17.˘12N×94.˘74W,h144km±5km,MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.14**	**260**	*i* P	Pn	22 55 09.4	-1.4
CMIG				*i* S	Sn	22 55 23.6	-2.0
HUIG	**Huatulco**	**1.88**	**225**	*e*P	Pn	22 55 23.4	-1.4
HUIG				*i* S	Sn	22 55 49.1	-1.3
VHO	**Vista Hermosa**	**1.91**	**269**	*e*P	Pn	22 55 24.2	-1.2
VHO				*i* S	Sn	22 55 49.4	-2.1
PCIG		**2.02**	**134**	*e*P	Pn	22 55 25.2	-1.2
PCIG				*e*S	Sn	22 55 52.3	-1.0
PNIG	**Pinotepa**	**3.33**	**258**	*e*P	Pn	22 55 40.7	-2.1
PNIG				*e*S	Sn	22 56 20.4	-2.2
TLIG	**Tlapa**	**3.69**	**277**	*e*P	Pn	22 55 46.8	-0.8
TLIG				*i* S	Sn	22 56 29.5	-1.6

IDC 07 23:38:31.3±2.2,8.˘64S×128.˘61E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.3/18,mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=261.7km s-min=31.5km az=64.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=332,slow=14,SNR=25	**12.53**	**154**	Pn	Pn	23 41 30.7	-0.3
WRA	0.7nm,0.3s,baz=339,slow=21,SNR=8.7			Sn	Sn	23 43 46.0	-5.5
ASAR	**Alice Springs** 0.2nm,0.3s,baz=344,slow=10,SNR=6.5	**15.78**	**162**	Pn	Pn	23 42 15.5	+0.4
ASAR	0.1nm,0.3s,baz=348,slow=26,SNR=3.9			Sn	Sn	23 45 06.2	-4.6
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=138,slow=6.9,SNR=3.4	**68.85**	**328**	P	P	23 49 37.8	0.0

MEX 07 23:38:43.1±0.9,17.˘74N×101.˘21W,h40km±11km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.28**	**241**	*e*P	Pn	23 38 49.3	-1.8
ZIIG				*e*S	Sn	23 38 55.3	-1.4
ARIG	**Puente Sto Nin**	**0.98**	**57**	*i* P	Pn	23 38 58.1	-2.4
ARIG				*i* S	Sn	23 39 11.0	-2.2
ACX	**Acapulco**	**1.56**	**124**	*i* P	Pn	23 39 10.5	+2.2
ACX				*e*S	Sn	23 39 29.0	+1.7
PLIG	**Platanillo**	**1.75**	**68**	*e*P	Pn	23 39 09.8	-1.3
PLIG				*i* S	Sn	23 39 30.7	-1.6
MOIG	**Morelia**	**1.93**	**1**	*e*P	Pn	23 39 12.6	-1.1
MOIG				*e*S	Sn	23 39 33.7	-3.3
MMIG	**Aquila**	**2.10**	**285**	*e*P	Pn	23 39 14.5	-1.3
MMIG				*i* S	Sn	23 39 37.9	-2.9
YAIG	**Yautepec**	**2.32**	**61**	*e*P	Pn	23 39 16.9	-2.2
YAIG				*e*S	Sn	23 39 44.2	-2.3
TLIG	**Tlapa**	**2.53**	**94**	*e*P	Pn	23 39 20.8	-1.1
TLIG				*i* S	Sn	23 39 50.2	-1.3

IDC 07 23:58:45.0±49.0,16.˘14S×175.˘23W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/19,mbtmp3.7/3,Error ellipse: s-maj=929.9km s-min=187.6km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.3nm,0.3s,baz=90,slow=10,SNR=2.8	**42.14**	**240**	P	P	00 06 39.6	+0.2
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=93,slow=8.0,SNR=3.9	**47.96**	**258**	P	P	00 07 25.2	-0.7
ASAR	**Alice Springs** 1.6nm,0.6s,baz=88,slow=8.3,SNR=31	**48.20**	**253**	P	P	00 07 27.9	+0.1

*NEIC **08** 00:01:19.6,40.˘13S×174.˘91E,h22km,ML3.9(WEL),After WEL.*

NEIC Felt in the Wanganui area.

WEL 08 00:01:18.6±0.1,40.˘08S×174.˘87E,h12km,ML3.9/43, 8C-12D,Error ellipse: s-maj=1.1km s-min=0.5km az=90.0,MM 4.,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.34**	**16**	⇑P*	Pb	00 01 27.7	+1.1
WAZ				AML	AML

DUWZ				AML	AML	00 01 56.5	
DUWZ	**D'Urville Isla**	**1.02**	**225**	Pn	Pb	00 01 37.6	-0.7
DVHZ	**Dannevirke**	**1.02**	**103**	P*	Pb	00 01 37.5	-0.8
DVHZ	**Dannevirke**	**1.02**	**103**	Pn	Pb	00 01 37.5	-0.8
COVZ	**Chateau Observ**	**1.02**	**31**	⇓P*	Pb	00 01 37.1	-1.3
KHEZ	**Kahui Hut**	**1.02**	**320**	P*	Pn	00 01 39.7	+0.8
PNHZ	**Pukenui**	**1.04**	**81**	⇓P*	Pb	00 01 37.1	-1.5
PNHZ	**Pukenui**	**1.04**	**81**	Pn	Pb	00 01 37.1	-1.5
CAW	**Cannon Point**	**1.04**	**172**	P*	Pb	00 01 37.4	-1.2
CAW				AML	AML	00 01 51.9	
CAW				AML	AML	00 01 53.6	
CAW	**Cannon Point**	**1.04**	**172**	Pn	Pb	00 01 37.4	-1.2
TIWZ	**Tintock**	**1.04**	**132**	⇓P*	Pb	00 01 38.0	-0.8
TIWZ				AML	AML	00 01 53.6	
TIWZ				AML	AML	00 01 54.5	
TIWZ	**Tintock**	**1.04**	**132**	Pn	Pb	00 01 38.0	-0.8
NGZ	**Ngauruhoe**	**1.07**	**32**	P*	Pb	00 01 37.9	-1.4
NGZ				AML	AML	00 01 58.4	
NGZ				AML	AML	00 01 59.1	
NGZ	**Ngauruhoe**	**1.07**	**32**	Pn	Pb	00 01 37.9	-1.4
MHEZ	**Mangahewa**	**1.08**	**337**	P*	Pn	00 01 41.7	+2.0
MHEZ	**Mangahewa**	**1.08**	**337**	Pn	Pn	00 01 41.7	+2.0
BHHZ	**Black Hill Sta**	**1.10**	**58**	⇓P*	Pb	00 01 37.5	-2.2
BHHZ	**Black Hill Sta**	**1.10**	**58**	Pn	Pb	00 01 37.5	-2.2
TWVZ	**Taurewa**	**1.10**	**24**	P*	Pb	00 01 38.1	-1.6
TWVZ	**Taurewa**	**1.10**	**24**	Pn	Pb	00 01 38.1	-1.6
OTVZ	**Oturere**	**1.10**	**34**	⇑P*	Pb	00 01 38.7	-1.2
OTVZ				AML	AML	00 01 58.4	
OTVZ				AML	AML	00 02 01.5	
OTVZ	**Oturere**	**1.10**	**34**	Pn	Pb	00 01 38.7	-1.2
WTVZ	**West Tongariro**	**1.11**	**30**	⇑P*	Pb	00 01 38.5	-1.4
WTVZ				AML	AML	00 01 55.9	
WTVZ				AML	AML	00 01 52.4	
WTVZ	**West Tongariro**	**1.11**	**30**	Pn	Pb	00 01 38.5	-1.4
PKE	**Pukeiti**	**1.11**	**322**	P*	Pg	00 01 41.6	+1.5
PKE				AML	AML	00 02 00.1	
PKE				AML	AML	00 02 01.8	
PKE	**Pukeiti**	**1.11**	**322**	Pn	Pg	00 01 41.6	+1.5
KRVZ	**Karewarewa**	**1.15**	**32**	P*	Pb	00 01 38.8	-1.9
KRVZ				AML	AML	00 02 00.5	
KRVZ				AML	AML	00 02 01.0	
KRVZ	**Karewarewa**	**1.15**	**32**	Pn	Pb	00 01 38.8	-1.9
MTW	**Mount Morrison**	**1.18**	**156**	P*	Pn	00 01 39.8	-1.2
MTW				AML	AML	00 01 56.5	
MTW				AML	AML	00 01 56.9	
MTW	**Mount Morrison**	**1.18**	**156**	Pn	Pn	00 01 39.8	-1.2
WEL	**Wellington**	**1.21**	**183**	P*	Pn	00 01 40.6	-0.8
WEL	**Wellington**	**1.21**	**183**	Pn	Pn	00 01 40.6	-0.8
WPHZ	**Waipukurau**	**1.21**	**90**	P*	Pn	00 01 40.7	-0.7
WPHZ	**Waipukurau**	**1.21**	**90**	Pn	Pn	00 01 40.7	-0.7
BFZ	**Birch Farm**	**1.21**	**120**	*e*P*	Pn	00 01 40.5	-1.0
BFZ	**Birch Farm**	**1.21**	**120**	Pn	Pn	00 01 40.1	-1.4
TCW	**Tory Channel**	**1.22**	**201**	P*	Pn	00 01 40.0	-1.4
TCW				AML	AML	00 01 58.0	
TCW				AML	AML	00 01 58.6	
TCW	**Tory Channel**	**1.22**	**201**	Pn	Pn	00 01 40.0	-1.4
SNZO	**South Karori**	**1.23**	**186**	P*	Pn	00 01 40.6	-1.1
SNZO				AML	AML	00 01 56.6	
SNZO				AML	AML	00 01 57.3	
SNZO				AML	AML	00 01 59.0	
SNZO				AML	AML	00 01 59.0	
SNZO	**South Karori**	**1.23**	**186**	Pn	Pn	00 01 40.6	-1.1
KATZ	**Kakaramea**	**1.27**	**30**	PN	Pn	00 01 41.3	-1.2
KATZ				AML	AML	00 02 00.7	
KATZ				AML	AML	00 02 01.3	
KATZ	**Kakaramea**	**1.27**	**30**	Pn	Pn	00 01 41.3	-1.2
ANWZ	**Angora Road**	**1.29**	**108**	PN	Pn	00 01 41.8	-0.7
TMWZ	**Te Maipa**	**1.29**	**143**	PN	Pn	00 01 40.9	-1.6
TMWZ	**Te Maipa**	**1.29**	**143**	Pn	Pn	00 01 40.9	-1.6
CPWZ	**Castlepoint**	**1.31**	**130**	PN	Pn	00 01 42.7	-0.1
BHW	**Baring Head**	**1.33**	**180**	PN	Pn	00 01 42.3	-0.7
BHW				AML	AML	00 02 00.3	
BHW				AML	AML	00 02 00.9	
BHW	**Baring Head**	**1.33**	**180**	Pn	Pn	00 01 42.3	-0.7
RITZ	**Rihia Road**	**1.34**	**35**	PN	Pn	00 01 42.8	-0.5
RITZ				AML	AML	00 02 07.8	
RITZ				AML	AML	00 02 10.6	
RITZ	**Rihia Road**	**1.34**	**35**	Pn	Pn	00 01 42.8	-0.5
MSWZ	**Moikau Station**	**1.37**	**168**	PN	Pn	00 01 42.7	-0.9
MSWZ				AML	AML	00 02 03.5	
MSWZ				AML	AML	00 02 03.7	
MSWZ	**Moikau Station**	**1.37**	**168**	Pn	Pn	00 01 42.7	-0.9
PAWZ	**Paruwai Farm**	**1.37**	**162**	PN	Pn	00 01 42.8	-0.8
PAWZ				AML	AML	00 02 03.8	
PAWZ				AML	AML	00 02 04.4	
PAWZ	**Paruwai Farm**	**1.37**	**162**	Pn	Pn	00 01 42.8	-0.8
PRHZ	**Porangahau**	**1.37**	**98**	PN	Pn	00 01 40.4	-3.2
PRHZ	**Porangahau**	**1.37**	**98**	Pn	Pn	00 01 40.4	-3.2
RATZ	**Rangitukua**	**1.40**	**30**	PN	Pn	00 01 44.0	0.0
RATZ				AML	AML	00 02 10.3	
RATZ				AML	AML	00 02 10.9	
RATZ	**Rangitukua**	**1.40**	**30**	Pn	Pn	00 01 44.0	0.0
TRWZ	**Traveller**	**1.46**	**155**	PN	Pn	00 01 44.5	-0.3
TRWZ				AML	AML	00 02 08.3	
TRWZ				AML	AML	00 02 08.8	
TRWZ	**Traveller**	**1.46**	**155**	Pn	Pn	00 01 44.5	-0.3
PLWZ	**Palliser**	**1.52**	**169**	PN	Pn	00 01 45.1	-0.6
PLWZ	**Palliser**	**1.52**	**169**	Pn	Pn	00 01 45.1	-0.6
HATZ	**Hinemaiaia**	**1.52**	**39**	PN	Pn	00 01 44.6	-1.1
HATZ				AML	AML	00 02 09.2	
HATZ				AML	AML	00 02 11.5	
HATZ	**Hinemaiaia**	**1.52**	**39**	Pn	Pn	00 01 44.6	-1.1
TUWZ	**Tuamarina**	**1.52**	**207**	PN	Pn	00 01 44.7	-1.0
TUWZ				AML	AML	00 02 09.4	
TUWZ				AML	AML	00 02 10.8	
TUWZ	**Tuamarina**	**1.52**	**207**	Pn	Pn	00 01 44.7	-1.0
WATZ	**Wairara**	**1.52**	**26**	PN	Pn	00 01 45.1	-0.7
WATZ				AML	AML	00 02 13.8	
WATZ				AML	AML	00 02 14.4	
WATZ	**Wairara**	**1.52**	**26**	Pn	Pn	00 01 45.1	-0.6
MCHZ	**McNeill Hill**	**1.55**	**66**	PN	Pn	00 01 46.5	+0.5
MCHZ	**McNeill Hill**	**1.55**	**66**	Pn	Pn	00 01 46.5	+0.5
BKZ	**Black Stump Fm**	**1.55**	**55**	PN	Pn	00 01 45.4	-0.7
BKZ				AML	AML	00 02 11.3	
BKZ				AML	AML	00 02 11.5	
BKZ	**Black Stump Fm**	**1.55**	**55**	Pn	Pn	00 01 45.4	-0.7
HIZ	**Hauiti**	**1.56**	**360**	⇓PN	Pn	00 01 45.9	-0.3
HIZ				AML	AML	00 02 09.3	
HIZ				AML	AML	00 02 09.7	
HIZ	**Hauiti**	**1.56**	**360**	Pn	Pn	00 01 46.0	-0.3
KAHZ	**Kahuranaki**	**1.57**	**80**	PN	Pn	00 01 45.8	-0.6
KAHZ	**Kahuranaki**	**1.57**	**80**	Pn	Pn	00 01 45.8	-0.6
NNZ	**Nelson**	**1.60**	**224**	PN	Pn	00 01 46.5	-0.3
NNZ				AML	AML	00 02 15.1	
NNZ				AML	AML	00 02 18.0	
NNZ	**Nelson**	**1.60**	**224**	Pn	Pn	00 01 46.5	-0.3
NMHZ	**Naumai**	**1.79**	**57**	PN	Pn	00 01 49.7	+0.2
NMHZ	**Naumai**	**1.79**	**57**	Pn	Pn	00 01 49.7	+0.3
BSWZ	**Blackbirch Sta**	**1.80**	**204**	PN	Pn	00 01 50.1	+0.6
BSWZ				AML	AML	00 02 19.7	
BSWZ				AML	AML	00 02 21.7	
BSWZ	**Blackbirch Sta**	**1.80**	**204**	Pn	Pn	00 01 50.1	+0.6
ALRZ	**Allen Road**	**1.90**	**38**	PN	Pn	00 01 50.2	-0.6
ALRZ	**Allen Road**	**1.90**	**38**	Pn	Pn	00 01 50.2	-0.6
QRZ	**Quartz Range**	**1.93**	**247**	PN	Pn	00 01 51.2	-0.2
QRZ	**Quartz Range**	**1.93**	**247**	Pn	Pn	00 01 51.2	-0.2
PRRZ	**Plateau Road**	**1.98**	**37**	PN	Pn	00 01 52.8	+0.9
PRRZ	**Plateau Road**	**1.98**	**37**	Pn	Pn	00 01 52.9	+0.9
RAHZ	**Arahi**	**2.07**	**57**	PN	Pn	00 01 52.8	-0.5
RAHZ	**Arahi**	**2.07**	**57**	Pn	Pn	00 01 52.8	-0.5
TARZ	**Mount Tarawera**	**2.24**	**35**	PN	Pn	00 01 57.2	+1.5
TARZ	**Mount Tarawera**	**2.24**	**35**	Pn	Pn	00 01 57.2	+1.5
THZ	**Tophouse**	**2.24**	**221**	⇓PN	Pn	00 01 56.6	+0.9
THZ				AML	AML	00 02 35.7	
THZ				AML	AML	00 02 36.2	
THZ	**Tophouse**	**2.24**	**221**	Pn	Pn	00 01 56.6	+0.9
URZ	**Urewera**	**2.52**	**45**	PN	Pn	00 01 58.0	-1.4
URZ				AML	AML	00 02 30.6	
URZ	**Urewera**	**2.52**	**45**	Pn	Pn	00 01 58.0	-1.4
MWZ	**Matawai**	**2.70**	**51**	PN	Pn	00 02 01.1	-0.9
MWZ				AML	AML	00 02 48.0	
MWZ	**Matawai**	**2.70**	**51**	Pn	Pn	00 02 01.1	-0.9
DSZ	**Denniston Nort**	**2.86**	**233**	PN	Pn	00 02 04.5	+0.4
DSZ	**Denniston Nort**	**2.86**	**233**	Pn	Pn	00 02 04.5	+0.4
LTZ	**Lake Taylor**	**3.33**	**215**	AML	AML	00 03 09.8	
LTZ	**Lake Taylor**	**3.33**	**215**	Pn	Pn	00 02 09.7	-0.9
MQZ	**McQueen's Vall**	**3.98**	**204**	PN	Pn	00 02 16.4	-3.1
MQZ	**McQueen's Vall**	**3.98**	**204**	Pn	Pn	00 02 16.4	-3.1

*CRAAG **08** 00:13:21.9, 35°.55′N×7°.73′E, Ml3.5*

CSEM 08 00:13:21.9, 35°.55′N×7°.73′E, h0km, ML3.5, After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABSA	**Djebel Ababsia**	**0.75**	**344**	P	Pg	00 13 36.7	+0.2
ABSA	**Djebel Ababsia**	**0.75**	**344**	P	Pg	00 13 36.7	+0.2
CMAH	**Djebel Manchou**	**1.10**	**347**	P	Pg	00 13 41.7	-1.5
CMAH	**Djebel Manchou**	**1.10**	**347**	P	Pg	00 13 41.7	-1.5
CKFL	**Kef-Lekhel**	**1.18**	**316**	P	Pg	00 13 42.7	-2.0
CKFL	**Kef-Lekhel**	**1.18**	**316**	P	Pg	00 13 42.7	-2.0
CTEI	**Djebel Teioual**	**1.19**	**296**	P	Pg	00 13 43.0	-2.0
CTEI	**Djebel Teioual**	**1.19**	**296**	P	Pg	00 13 43.0	-2.0
CASM	**Ain Smara**	**1.23**	**306**	P	Pg	00 13 43.2	-2.4
CASM	**Ain Smara**	**1.23**	**306**	P	Pg	00 13 43.2	-2.4
CAEH	**'Ain El Ouahch**	**1.42**	**330**	P	Pn	00 13 46.0	-3.0
CAEH	**'Ain El Ouahch**	**1.42**	**330**	P	Pn	00 13 46.0	-3.0
SET	**Setif**	**2.00**	**290**	P	Pn	00 13 49.0	-8.1
SET	**Setif**	**2.00**	**290**	P	Pn	00 13 49.0	-8.1

IDC 08 00:18:35.6±5.5, 3°.13S×139°.13E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/16, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=217.2km s-min=31.9km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.36**	**195**	P	Pn	00 22 38.7	-0.8
	0.2nm,0.3s,baz=17,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.04**	**193**	P	P	00 23 21.5	+0.3
	0.6nm,0.9s,baz=19,slow=9.1,SNR=6.6						
MKAR	**Makanchi Array**	**70.37**	**322**	P	P	00 29 51.6	+0.1
	0.2nm,0.5s,baz=106,slow=8.0,SNR=4.2						

*IDC **08** 00:29:33.5±1.6, 10°.04N×125°.60E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=175.7km s-min=18.6km az=69.0*

*ISCJB **08** 00:29:36.5±0.9, 10°.33N±0°.10×126°.4E±0°.1, h44km, mb3.4/6, MS2.7/1, Error ellipse: s-maj=17.3km s-min=11.7km az=38.2*

ISC 08 00:29:38.8±1.2, 10°.3N±0°.1×126°.3E±0°.1, h44km, n8, σ0s93/8, mb3.4/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.96**	**239**	⇑*i*P	**Pn**	**00 29 56.1**	**+0.1**
SCPH				*i* S	**Sn**	**00 30 08.4**	**-0.1**
KSRS	**Korea Array**	**27.09**	**3**	LR	LR	00 45 08.8	
	comp=Z,22nm,19.3s,baz=180,slow=34						
WRA	**Warramunga Arr**	**31.06**	**165**	P	**P**	**00 35 53.2**	**+0.3**
	0.3nm,0.6s,baz=341,slow=8.8,SNR=2.9						
ASAR	**Alice Springs**	**34.55**	**168**	P	**P**	**00 36 23.1**	**-0.3**
	0.2nm,0.6s,baz=355,slow=7.5,SNR=2.8						
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**00 37 18.9**	**+1.0**
	0.2nm,0.6s,baz=156,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**52.04**	**323**	P	**P**	**00 38 44.0**	**-0.2**
	0.5nm,0.6s,baz=121,slow=7.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**54.63**	**331**	P	**P**	**00 39 01.3**	**-1.7**
	0.3nm,0.5s,baz=130,slow=6.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**56.09**	**325**	P	**P**	**00 39 13.3**	**-0.2**
	0.5nm,0.5s,baz=125,slow=6.7,SNR=11						

*IDC **08** 00:50:32.1±0.6, 16°.79S×173°.52W, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.5/25, mbtmp4.4/18, ML3.0/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/33, Error ellipse: s-maj=26.4km s-min=14.3km az=131.0*

*NEIC **08** 00:50:33.3±0.4, 16°.75S×173°.57W, h10km, mb4.7/3, Error ellipse: s-maj=19.9km s-min=8.9km az=133.0*

*SZGRF **08** 00:50:41.2, 15°.98S×174°.23W, h33km, Tonga Islands*

ISC 08 00:50:40.7±0.6, 16°.8S±0°.1×173°.5W±0°.1, h66km, n135, σ1s08/115, mb4.3/19, 21C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.30**	**31**	*e*Pn	Pn	00 51 23.8	-6.3
AFI				*e*Sn	**Sn**	**00 52 03.6**	**-4.6**
AFI	**Afiamalu**	**3.30**	**31**	Pn	Pn	00 51 25.9	-4.1
	18nm,0.3s,baz=2.0,slow=12,SNR=5.7						
AFI				Sn	Sn	00 51 55.7	-13
	59nm,0.3s,baz=37,slow=22,SNR=11						
AFI				LR	LR	00 52 19.4	
	comp=Z,335nm,21.4s,baz=6.2,slow=32						
NIUE	**Niue**	**4.14**	**124**	P	Pn	00 51 33.7	-7.9
	baz=3.2,SNR=32						
NIUE				S	Sn	00 52 15.5	-13
	baz=3.2,SNR=7.3						
RAR	**Rarotonga**	**13.76**	**111**	LR	LR	00 57 13.2	
	comp=Z,232nm,20.7s,baz=255,slow=29						
DZM	**Mont Dzumac**	**19.60**	**251**	*e*LR	LR	00 59 58.4	
	486nm,25.6s						
DZM	**Mont Dzumac**	**19.60**	**251**	P	**P**	**00 55 02.4**	**-1.5**
DZM	**Mont Dzumac**	**19.60**	**251**	P	**P**	**00 55 02.4**	**-1.5**
	0.2nm,0.3s,baz=81,slow=19,SNR=2.2						
DZM				LR	LR	01 00 57.3	
	comp=Z,142nm,21.5s,baz=35,slow=32						
PAE	**Paea**	**22.90**	**96**	*e*T	T	01 18 43.1	
	2.9nm,0.3s						
PPT2	**Papeete2**	**22.91**	**96**	*e*LR	LR	01 00 55.3	
	260nm,26.2s						
PPT	**Papeete**	**22.91**	**96**	LR	LR	01 02 11.5	
	comp=Z,105nm,19.6s,baz=268,slow=31						
URZ	**Urewera**	**22.95**	**199**	*e*P	**P**	**00 55 38.5**	**-1.0**
URZ	**Urewera**	**22.95**	**199**	P	**P**	**00 55 38.1**	**-1.4**
	8.0nm,0.5s,baz=236,slow=1.2,SNR=9.0						
TVO	**Taravao**	**23.21**	**96**	*e*T	T	01 19 06.9	
	1.5nm,0.3s						
TBI	**Tubuai**	**23.53**	**110**	*e*LR	LR	01 01 19.9	
	339nm,27.2s						
TBI	**Tubuai**	**23.53**	**110**	*e*T	T	01 19 41.4	
	9.0nm,0.3s						
VAH	**Vaihoa**	**24.95**	**90**	*e*T	T	01 21 12.7	
	9.4nm,0.3s						
HNR	**Honiara**	**26.81**	**282**	LR	LR	01 05 30.7	
	comp=Z,260nm,18.8s,baz=130,slow=34						
ARMA	**Armidale**	**34.55**	**240**	*e*P	**P**	**00 57 22.1**	**-1.2**
	8.9nm,0.8s						
ARMA	**Armidale**	**34.55**	**240**	P	**P**	**00 57 22.6**	**-0.6**
	baz=36,SNR=6.1						
RKT	**Rikitea**	**36.73**	**106**	*e*T	T	01 36 05.1	
	3.7nm,0.4s						
CMSA	**Cobar Meteorol**	**39.77**	**241**	P	**P**	**00 58 06.2**	**-1.1**
	baz=42,SNR=24						
H11S2	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	01 40 52.0	
	baz=157						
H11S3	**WAKE ISLAND Hy**	**40.06**	**330**	T	T	01 40 53.0	
	baz=157						
H11S1	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	01 40 53.3	
	baz=157						
QLP	**Quilpie**	**40.29**	**249**	P	**P**	**00 58 10.6**	**-1.1**
	baz=42,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**41.02**	**331**	T	T	01 41 53.7	
	baz=155,slow=75						
H11N1	**WAKE ISLAND Hy**	**41.02**	**331**	T	T	01 41 52.9	
	baz=155,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.03**	**331**	T	T	01 41 55.7	
	baz=155						
STKA	**Stephens Creek**	**43.26**	**241**	*e*P	**P**	**00 58 35.0**	**-1.0**
	3.6nm,0.9s						
STKA	**Stephens Creek**	**43.26**	**241**	P	**P**	**00 58 35.2**	**-0.7**
	16nm,0.8s,baz=87,slow=9.6,SNR=37						
STKA				LR	LR	01 14 11.5	
	comp=Z,64nm,19.8s,baz=25,slow=33						
HTT	**Hallett**	**45.74**	**239**	P	**P**	**00 58 54.9**	**-0.8**
	baz=48,SNR=6.1						
BBOO	**Buckleboo**	**48.03**	**241**	*e*P	**P**	**00 59 11.4**	**-2.2**
	148nm,0.8s						
BBOO	**Buckleboo**	**48.03**	**241**	P	**P**	**00 59 12.8**	**-0.7**
	baz=50,SNR=15						
WRAB	**Tennant Creek**	**49.41**	**258**	*e*P	**P**	**00 59 22.3**	**-2.0**
WRA	**Warramunga Arr**	**49.42**	**258**	P	**P**	**00 59 22.4**	**-2.0**
WRA				PcP	**PcP**	**01 00 46.6**	**+0.6**
WRA	**Warramunga Arr**	**49.42**	**258**	P	**P**	**00 59 22.4**	**-2.0**
	1.5nm,0.4s,baz=96,slow=7.4,SNR=69						
WRA				PcP	**PcP**	**01 00 46.6**	**+0.6**
	0.6nm,0.5s,baz=91,slow=3.5,SNR=3.5						
WRA				LR	LR	01 17 56.4	
	comp=Z,52nm,19.5s,baz=60,slow=33						
AS31	**Alice Springs**	**49.58**	**253**	*e*P	**P**	**00 59 23.9**	**-1.7**
ASAR	**Alice Springs**	**49.58**	**253**	P	**P**	**00 59 24.4**	**-1.3**
ASAR	**Alice Springs**	**49.58**	**253**	P	**P**	**00 59 24.4**	**-1.3**
	26nm,0.7s,baz=88,slow=8.5,SNR=367						
WRKA	**Warakurna**	**54.62**	**251**	P	**P**	**01 00 01.9**	**-1.1**
	baz=57,SNR=22						
VNDA	**Vanda**	**62.03**	**186**	P	**P**	**01 00 55.5**	**+1.7**
VNDA	**Vanda**	**62.03**	**186**	P	**P**	**01 00 55.5**	**+1.7**
	1.0nm,1.0s,baz=7.2,slow=8.2,SNR=5.0						
MEEK	**Meekatharra**	**63.19**	**248**	P	**P**	**01 01 01.0**	**-1.4**
	baz=65,SNR=3.3						
MJAR	**Matsushiro Arr**	**69.88**	**320**	LR	LR	01 25 48.5	
	comp=Z,83nm,20.9s,baz=110,slow=30						
ASAJ	**Asahikawa**	**72.61**	**328**	P	**P**	**01 02 02.4**	**+1.3**
ASAJ	**Asahikawa**	**72.61**	**328**	P	**P**	**01 02 02.4**	**+1.3**
	6.9nm,0.6s,baz=82,slow=19,SNR=4.0						
PETK	**Petropavlovsk-**	**73.87**	**342**	P	**P**	**01 02 08.7**	**+0.4**
PETK	**Petropavlovsk-**	**73.87**	**342**	P	**P**	**01 02 08.7**	**+0.4**
	5.7nm,0.7s,baz=122,slow=8.9,SNR=8.7						
YBH	**Yreka Blue Hor**	**74.75**	**37**	P	**P**	**01 02 14.3**	**+0.5**
YBH	**Yreka Blue Hor**	**74.75**	**37**	P	**P**	**01 02 14.3**	**+0.5**
	1.8nm,0.7s,baz=183,slow=2.6,SNR=4.7						
NVAR	**Mina Array Bea**	**75.42**	**42**	P	**P**	**01 02 18.5**	**+0.6**
NVAR	**Mina Array Bea**	**75.42**	**42**	P	**P**	**01 02 18.5**	**+0.6**
	1.5nm,0.8s,baz=231,slow=10,SNR=10.0						
KSRS	**Korea Array**	**77.03**	**316**	P	**P**	**01 02 28.9**	**+2.2**
	1.2nm,0.7s,baz=111,slow=6.8,SNR=3.1						
KSRS				LR	LR	01 33 56.2	
	comp=Z,43nm,18.7s,baz=84,slow=34						
KSAR	**Wonju Array Be**	**77.05**	**316**	P	**P**	**01 02 28.9**	**+2.0**
USRK	**Ussuriysk Arra**	**78.38**	**323**	P	**P**	**01 02 36.2**	**+2.1**
	1.1nm,0.6s,baz=130,slow=4.5,SNR=3.3						
TXAR	**Lajitas Array**	**81.47**	**56**	LR	LR	01 32 56.8	
	comp=Z,38nm,18.1s,baz=180,slow=31						
PDAR	**Pinedale Array**	**83.36**	**42**	P	**P**	**01 03 01.1**	**+0.1**
PDAR	**Pinedale Array**	**83.36**	**42**	P	**P**	**01 03 01.1**	**+0.1**
	2.8nm,0.8s,baz=214,slow=3.7,SNR=24						
ILAR	**Eielson Array**	**83.79**	**11**	P	**P**	**01 03 02.1**	**-0.3**
ILAR	**Eielson Array**	**83.79**	**11**	P	**P**	**01 03 02.1**	**-0.3**
	0.8nm,0.7s,baz=213,slow=5.2,SNR=17						
PLCA	**Paso Flores**	**88.71**	**132**	LR	LR	01 34 53.6	
	comp=Z,50nm,19.5s,baz=107,slow=30						
YKA	**Yellowknife Ar**	**91.38**	**23**	P	**P**	**01 03 39.2**	**+0.2**
YKA	**Yellowknife Ar**	**91.38**	**23**	P	**P**	**01 03 39.2**	**+0.2**
	1.2nm,1.0s,baz=236,slow=4.5,SNR=9.9						
CMAR	**Chiang Mai Arr**	**92.91**	**288**	P	**P**	**01 03 49.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**92.91**	**288**	P	**P**	**01 03 49.2**	**+2.1**
	1.9nm,0.6s,baz=106,slow=2.3,SNR=11						
CMAR				LR	LR	01 40 50.4	
	comp=Z,24nm,19.5s,baz=125,slow=32						
CHTO	**Chiang Mai**	**93.01**	**289**	*e*P	**P**	**01 03 47.8**	**+0.2**
	2.4nm,0.6s						
SONM	**Songino Array**	**95.76**	**318**	P	**P**	**01 04 00.5**	**+0.8**
SONM	**Songino Array**	**95.76**	**318**	P	**P**	**01 04 00.5**	**+0.8**
	0.2nm,0.4s,baz=117,slow=5.0,SNR=4.3						
MKAR	**Makanchi Array**	**111.67**	**314**	PKiKP	**PKiKP**	**01 09 06.8**	**-1.2**
MKAR	**Makanchi Array**	**111.67**	**314**	PKiKP	**PKiKP**	**01 09 06.8**	**-1.2**
	0.3nm,0.7s,baz=85,slow=2.0,SNR=5.0						
BVAR	**Borovoye Array**	**118.86**	**322**	PKP	**PKPdf**	**01 09 21.8**	**+0.3**
BVAR	**Borovoye Array**	**118.86**	**322**	PKP	**PKPdf**	**01 09 21.8**	**+0.3**
	0.5nm,0.5s,baz=28,slow=3.5,SNR=3.7						
ARCES	**ARCESS Array B**	**125.92**	**352**	PKP	**PKPdf**	**01 09 34.0**	**-0.6**
ARCES	**ARCESS Array B**	**125.92**	**352**	PKP	**PKPdf**	**01 09 34.0**	**-0.6**
	3.3nm,0.9s,baz=338,slow=5.2,SNR=4.8						
KWP	**Kalwaria Pacla**	**144.66**	**342**	*e*PKPdf	**PKPdf**	**01 10 09.7**	**-0.2**
KMBO	**Kilima Mbogo**	**144.81**	**243**	PKP	**PKPdf**	**01 10 11.4**	**-0.2**
KMBO	**Kilima Mbogo**	**144.81**	**243**	PKP	**PKPdf**	**01 10 11.4**	**-0.2**

TORD	**Torodi Ar. Bea**	**146.81**	**285**	PKPbc	**PKPbc**	**01 33 00.1**	**+0.2**
	0.2nm,0.3s,baz=109,slow=3.1,SNR=5.1							
BDFB	**Brasilia**	**152.88**	**142**	PKPbc	**PKPbc**	**01 33 15.3**	**+0.3**
	1.8nm,0.3s,baz=342,slow=4.6,SNR=3.3							

*TAP **08** 01:23:36.9, 23°.82N × 121°.08E, h29km, ML3.6, B*
*JMA **08** 01:23:37.4±0.1, 23°.83N × 121°.08E, h15km*
*ISCJB **08** 01:23:38.0±0.2, 23°.82N±0°.01 × 121°.09E±0°.02, h28km±2km, Error ellipse: s-maj=2.7km s-min=1.8km az=33.4*

ISC 08 01:23:37.8±0.9, 23°.83N±0°.02 × 121°.08E±0°.02, h27km±6km, n56, σ0s55/107, 6C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.17**	**289**	⇓*i*P		**Pb**	**01 23 43.4**	**-0.2**
	baz=297							
SMLT				*i* S		**Sb**	**01 23 47.7**	**+0.3**
	baz=297							
TYC	**Yuchr**	**0.21**	**291**	⇓*i*P		**Pb**	**01 23 43.7**	**-0.2**
	baz=299							
TYC				S		**Sb**	**01 23 48.3**	**+0.2**
	baz=299							
ESL	**Shilin**	**0.33**	**92**	⇑*e*P		**Pb**	**01 23 45.2**	**-0.3**
	baz=92							
YUS	**Yu-Shan**	**0.35**	**199**	⇑P		**Pb**	**01 23 46.1**	**-0.1**
	baz=205							
YUS				*e*S		**Sb**	**01 23 51.6**	**-0.3**
	baz=205							
WHF	**Hehuan Shan**	**0.36**	**28**	⇓*i*P		**Pb**	**01 23 46.0**	**-0.3**
	baz=27							
WHF				S		**Sb**	**01 23 51.5**	**-0.6**
	baz=27							
WNT	**Mingjian**	**0.36**	**278**	⇓*i*P		**Pb**	**01 23 46.2**	**+0.2**
	baz=279							
WNT				*i* S		**Sn**	**01 23 52.7**	**-0.8**
	baz=279							
EHY	**Hungye**	**0.39**	**145**	⇑*i*P		**Pb**	**01 23 46.1**	**-0.3**
	baz=141							
EHY				*i* S		**Sb**	**01 23 52.0**	**-0.2**
	baz=141							
ESF	**Shoufeng Towns**	**0.40**	**84**	*e*P		**Pb**	**01 23 46.9**	**+0.4**
	baz=83							
ESF				*e*S		**Sb**	**01 23 53.1**	**+0.7**
	baz=83							
ALS	**Alishan**	**0.40**	**218**	⇑*i*P		**Pb**	**01 23 46.7**	**-0.1**
	baz=226							
ALS				S		**Sb**	**01 23 53.2**	**+0.4**
	baz=226							
CHN5	**Tsauling**	**0.43**	**238**	⇑*i*P		**Pb**	**01 23 46.8**	**-0.3**
	baz=240							
CHN5				*e*S		**Sb**	**01 23 53.9**	**+0.5**
	baz=240							
TWT	**Tachien**	**0.43**	**12**	⇓P		**Pb**	**01 23 46.6**	**-0.7**
	baz=7.0							
TWT				S		**Sb**	**01 23 53.1**	**-0.5**
	baz=7.0							
TEGC	**Jichi Village**	**0.44**	**105**	*e*P		**Pn**	**01 23 48.3**	**0.0**
	baz=105							
TEGC				*e*S		**Sn**	**01 23 55.3**	**-0.2**
	baz=105							
TCU	**Taichung**	**0.49**	**311**	⇓P		**Pb**	**01 23 48.2**	**+0.3**
	baz=311							
TCU				*e*S		**Sn**	**01 23 55.8**	**-0.8**
	baz=311							
WGK	**Gukeng**	**0.49**	**254**	P		**Pb**	**01 23 47.8**	**-0.2**
	baz=255							
WGK				*e*S		**Sn**	**01 23 56.1**	**-0.6**
	baz=255							
HWA	**Hwalien**	**0.51**	**73**	P		**Pb**	**01 23 48.1**	**-0.2**
	baz=68							
HWA				S		**Sb**	**01 23 56.1**	**+0.8**
	baz=68							
TWF1	**Yuli**	**0.51**	**157**	⇓*i*P		**Pb**	**01 23 48.1**	**-0.3**
	baz=151							
TWF1				S		**Sb**	**01 23 55.2**	**-0.3**
	baz=151							
TWD	**Chiawan**	**0.54**	**62**	*i* P		**Pb**	**01 23 48.2**	**-0.5**
	baz=62							
TWD				*i* S		**Sb**	**01 23 55.9**	**-0.3**
	baz=62							
TWQ1	**Liyutan**	**0.59**	**332**	⇓*i*P		**Pb**	**01 23 49.8**	**+0.2**
	baz=331							
TWQ1				*e*S		**Sn**	**01 23 59.0**	**-0.2**
	baz=331							
CHN2	**Minshiung**	**0.62**	**242**	*e*P		**Pb**	**01 23 50.6**	**+0.4**
	baz=243							
ELDTW	**Lidau**	**0.64**	**185**	⇓*e*P		**Pb**	**01 23 50.0**	**-0.5**
	baz=178							
ELDTW				*e*S		**Sb**	**01 23 58.9**	**-0.2**
	baz=178							
CHN4	**Tsaushan**	**0.65**	**223**	⇑P		**Pb**	**01 23 50.2**	**-0.5**
	baz=225							
CHN4				*e*S		**Sn**	**01 24 00.4**	**-0.2**
	baz=225							
NSY	**Sanyi**	**0.65**	**334**	⇓P		**Pn**	**01 23 51.2**	**-0.1**
	baz=333							
NSY				*e*S		**Sn**	**01 24 01.4**	**+0.6**
	baz=333							
NNS	**Nan Shan**	**0.67**	**24**	P		**Pb**	**01 23 50.5**	**-0.6**
	baz=23							
NNS				*e*S		**Sb**	**01 23 59.7**	**-0.4**
	baz=23							
CHY	**Chiayi**	**0.68**	**241**	*e*P		**Pb**	**01 23 50.7**	**-0.5**
	baz=250							
CHY				*e*S		**Sn**	**01 24 01.3**	**-0.1**
	baz=250							
WTP	**Ta-pu**	**0.72**	**216**	*e*P		**Pb**	**01 23 51.1**	**-0.6**
	baz=223							
WTP				*e*S		**Sb**	**01 24 01.6**	**+0.2**
	baz=223							
STYT	**Tauyuan**	**0.72**	**204**	P		**Pb**	**01 23 51.5**	**-0.4**
	baz=211							
STYT				S		**Sb**	**01 24 01.7**	**+0.2**
	baz=211							
WTCT	**Ta-ch'eng**	**0.73**	**273**	P		**Pb**	**01 23 51.5**	**-0.5**
	baz=274							
WTCT				*e*S		**Sn**	**01 24 02.5**	**0.0**
	baz=274							
CHKT	**Chengkung**	**0.77**	**160**	*e*P		**Pb**	**01 23 52.2**	**-0.5**
	baz=148							
CHKT				*e*S		**Sn**	**01 24 03.8**	**+0.2**
	baz=148							
TWK	**Hsinying**	**0.78**	**224**	*e*P		**Pb**	**01 23 52.2**	**-0.6**
	baz=225							
TWK				*e*S		**Sn**	**01 24 03.6**	**-0.2**
	baz=225							
NSTT	**Nanjuang**	**0.80**	**355**	*e*P		**Pb**	**01 23 53.1**	**-0.1**
	baz=354							
NSTT				*e*S		**Sn**	**01 24 04.2**	**-0.2**
	baz=354							
WSF	**Szhu**	**0.81**	**257**	*e*P		**Pb**	**01 23 52.4**	**-0.8**
	baz=257							
WSF				*e*S		**Sn**	**01 24 04.2**	**-0.3**
	baz=257							
CHN1	**Nanshi**	**0.81**	**218**	*e*P		**Pb**	**01 23 52.9**	**-0.6**
	baz=220							
CHN1				*e*S		**Sn**	**01 24 04.8**	**+0.1**
	baz=220							
ENA	**Nanau**	**0.85**	**45**	P		**Pn**	**01 23 53.3**	**-0.7**
	baz=46							
ENA				*e*S		**Sb**	**01 24 04.6**	**-0.5**
	baz=46							
SGST	**Jiashian**	**0.87**	**212**	*e*P		**Pn**	**01 23 54.1**	**-0.2**
	baz=222							
SGST				*e*S		**Sn**	**01 24 06.1**	**0.0**
	baz=222							
NSK	**Sanguang**	**0.88**	**17**	⇓*i*P		**Pn**	**01 23 54.2**	**-0.3**
	baz=27							
NSK				*e*S		**Sb**	**01 24 05.8**	**-0.3**
	baz=27							
ENTT	**Nioudou**	**0.93**	**29**	*e*P		**Pb**	**01 23 55.6**	**+0.3**
	baz=28							
ENTT				*e*S		**Sn**	**01 24 07.7**	**+0.2**
	baz=28							
CHN8	**Yiju**	**0.93**	**239**	*e*P		**Pn**	**01 23 54.5**	**-0.6**
	baz=230							
CHN8				*e*S		**Sn**	**01 24 08.0**	**+0.5**
	baz=230							
HSN	**Hsinchu**	**0.98**	**354**	*e*P		**Pn**	**01 23 55.8**	**+0.1**
	baz=354							
HSN				*e*S		**Sn**	**01 24 10.1**	**+1.4**
	baz=354							
CHN3	**Shinhua**	**0.99**	**221**	*e*P		**Pb**	**01 23 56.9**	**+0.5**
	baz=223							
CHN3				*e*S		**Sb**	**01 24 11.0**	**+2.0**
	baz=223							
TWG	**Pinlang**	**1.00**	**180**	*e*P		**Pn**	**01 23 55.8**	**-0.3**
	baz=172							
TWG				*e*S		**Sb**	**01 24 09.9**	**+0.5**
	baz=172							
SCLT	**Jiali**	**1.04**	**231**	*e*P		**Pn**	**01 23 56.4**	**-0.2**
	baz=220							
SCLT				*e*S		**Sb**	**01 24 11.0**	**+0.6**
	baz=220							
TWE	**Neicheng**	**1.04**	**31**	*e*P		**Pb**	**01 23 57.1**	**-0.1**
	baz=31							
TWE				*e*S		**Sb**	**01 24 11.0**	**+0.5**
	baz=31							
TWC	**Suao**	**1.05**	**42**	*e*P		**Pn**	**01 23 57.0**	**+0.2**
	baz=35							
TWC				*e*S		**Sb**	**01 24 10.8**	**0.0**
	baz=35							
TWM1	**Shoushan**	**1.17**	**211**	*e*P		**Pb**	**01 23 59.2**	**-0.1**
	baz=200							
TWA	**Mucha**	**1.24**	**22**	*e*P		**Pb**	**01 24 00.7**	**+0.1**
	baz=6.0							
TWA				*e*S		**Sb**	**01 24 16.7**	**+0.5**
	baz=6.0							
TWS1	**Kuangyinshan**	**1.31**	**14**	*e*P		**Pn**	**01 24 00.5**	**+0.2**
	baz=355							
TWS1				*e*S		**Sn**	**01 24 17.4**	**+0.6**
	baz=355							
NWF	**Wu-fen Shan**	**1.40**	**27**	*e*P		**Pb**	**01 24 02.8**	**-0.5**
	baz=12							
NWF				*e*S		**Sb**	**01 24 21.1**	**+0.4**
	baz=12							
WDGT	**Dungji**	**1.42**	**247**	*e*P		**Pn**	**01 24 01.1**	**-0.7**
	baz=248							
WDGT				*e*S		**Sn**	**01 24 19.9**	**+0.4**
	baz=248							
TWB1	**Santiao Chiao**	**1.44**	**35**	*e*P		**Pn**	**01 24 02.2**	**0.0**
	baz=36							
TWB1				*e*S		**Sb**	**01 24 22.0**	**+0.1**
	baz=36							
EAST	**Anshuo**	**1.45**	**188**	*e*P		**Pn**	**01 24 02.3**	**0.0**
	baz=205							
EAST				*e*S		**Sn**	**01 24 21.4**	**+0.9**
	baz=205							
SCZT	**Fangliau**	**1.51**	**196**	*e*P		**Pn**	**01 24 03.2**	**+0.2**
	baz=212							
SCZT				*e*S		**Sb**	**01 24 23.0**	**-0.9**
	baz=212							
TWK1	**Hengchun**	**1.89**	**188**	*e*P		**Pn**	**01 24 08.7**	**+0.3**
	baz=173							
TWK1				*e*S		**Sn**	**01 24 32.0**	**+0.7**
	baz=173							
KNM	**Kinmen**	**2.49**	**284**	*e*P		**Pn**	**01 24 16.8**	**+0.3**
	baz=282							
HATJ	**Hateruma jima**	**2.51**	**84**	*e*S		**Sn**	**01 24 46.5**	**0.0**
JKRS	**Kuro-shima**	**2.71**	**81**	P		**Pn**	**01 24 20.9**	**+1.3**
JKRS				*e*S		**Sn**	**01 24 52.8**	**+1.3**
JIJ	**Ishigaki jima**	**2.85**	**79**	P		**Pn**	**01 24 21.3**	**-0.3**
JIJ				S		**Sn**	**01 24 52.8**	**-2.2**

MEX 08 02:36:39.5±0.6, 16°.33N × 99°.28W, h14km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.77**	**314**	*e*P		Pg	02 36 53.1	-1.4
ACX				*i* S		Sg	02 37 02.5	-2.2
PNIG	**Pinotepa**	**1.11**	**87**	*e*P		Pb	02 36 56.6	-3.9
PNIG				*i* S		Sb	02 37 10.7	-4.1
TLIG	**Tlapa**	**1.40**	**29**	*e*P		Pn	02 37 00.8	-4.0
TLIG				*e*S		Sn	02 37 18.4	-4.9
PLIG	**Platanillo**	**2.06**	**354**	*e*P		Pn	02 37 10.9	-3.0
PLIG				*e*S		Sn	02 37 35.0	-4.5
ARIG	**Puente Sto Nin**	**2.19**	**332**	*e*P		Pn	02 37 12.5	-3.1
ARIG				*e*S		Sn	02 37 37.7	-4.9
ZIIG	**Zihuatanejo**	**2.45**	**302**	*e*P		Pn	02 37 16.0	-3.0
ZIIG				*e*S		Sn	02 37 44.2	-4.6
YAIG	**Yautepec**	**2.53**	**5**	*i* P		Pn	02 37 16.6	-3.8
YAIG				*i* S		Sn	02 37 47.3	-3.8
HUIG	**Huatulco**	**3.10**	**100**	*e*P		Pn	02 37 25.5	-2.5
HUIG				*e*S		Sn	02 37 59.3	-5.7

*IDC **08** 02:42:19.8±2.2, 5°.65S × 104°.30E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=85.2km s-min=23.4km az=50.0*
*ISCJB **08** 02:42:26.5±2.0, 5°.6S±0°.4 × 104°.4E±0°.5, h68km, mb3.6/6, Error ellipse: s-maj=80.6km s-min=18.5km az=141.6*

ISC 08 02:42:29.3±2.3, 5°.6S±0°.4 × 104°.5E±0°.5, h68km, n9, σ1s34/6, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**31.90**	**264**	T		T	03 22 22.4	
	baz=88,slow=75							
H08S3	**Diego Garcia H**	**31.91**	**265**	T		T	03 22 30.3	
	baz=88,slow=75							
H08S1	**Diego Carcia H**	**31.92**	**264**	T		T	03 22 25.2	
	baz=88							
WRA	**Warramunga Arr**	**32.31**	**119**	P		**P**	**02 48 50.8**	**-1.4**
	0.9nm,1.3s,baz=290,slow=10,SNR=3.1							
ASAR	**Alice Springs**	**33.52**	**125**	P		**P**	**02 49 03.9**	**+1.2**
	0.2nm,0.7s,baz=304,slow=8.5,SNR=3.1							
USRK	**Ussuriysk Arra**	**55.34**	**24**	P		**P**	**02 51 56.9**	**+0.8**
	1.2nm,0.8s,baz=214,slow=4.4,SNR=3.7							
MKAR	**Makanchi Array**	**55.72**	**342**	P		**P**	**02 51 59.1**	**+0.2**
	0.3nm,0.4s,baz=149,slow=8.9,SNR=9.4							
ZALV	**Zalesovo Beam**	**61.55**	**347**	P		**P**	**02 52 38.2**	**-1.0**
	0.9nm,0.4s,baz=153,slow=6.0,SNR=9.2							
BVAR	**Borovoye Array**	**65.10**	**338**	P		**P**	**02 53 02.0**	**-0.7**
	0.2nm,0.3s,baz=148,slow=7.4,SNR=2.9							

*IDC **08** 02:43:58.5±1.1, 6°.37S × 104°.41E, h0km, mb4.0/13, mb1 4.0/13, mb1mx3.9/25, mbtmp4.0/13, Error ellipse: s-maj=49.4km s-min=17.3km az=50.0*
*NEIC **08** 02:44:04.5±2.4, 6°.26S × 104°.61E, h38km±19km, mb4.4/6, Error ellipse: s-maj=25.6km s-min=7.3km az=224.0*
*DJA **08** 02:44:05.7±1.4, 7°.S±9°.×10°.4E±°, h16km±10km, M4.1/11, MLv4.1/11*

ISC 08 02:44:04.2±0.7, 6°.51S±0°.10 × 104°.41E±0°.08, h40km, n54, σ1s31/49, mb4.1/19, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.99**	**5**	P		**Pn**	**02 44 22.6**	**+1.0**
CGJI	**Cibinong**	**1.28**	**95**	P		**Pn**	**02 44 26.7**	**+1.1**
CGJI				S		**Sn**	**02 44 41.4**	**-0.1**
LWLI	**Liwa**	**1.52**	**347**	P		**Pn**	**02 44 31.6**	**+2.5**
KLI	**Kotabumi**	**1.70**	**15**	P		**Pn**	**02 44 34.5**	**+3.1**
SBJI	**Serang**	**1.75**	**77**	P		Pn	02 44 36.5	+4.4
KLSI		**1.84**	**10**	P		**Pn**	**02 44 36.0**	**+2.7**
MDSI	**Maura Dua**	**2.03**	**353**	P		**Pn**	**02 44 38.7**	**+2.8**
SKJI	**Sukabumi**	**2.19**	**103**	P		Pn	02 44 46.7	+8.6
DBJI	**Dramaga**	**2.33**	**91**	P		**Pn**	**02 44 42.0**	**+2.0**
CBJI	**Citeko**	**2.43**	**88**	P		Pn	02 44 45.5	+4.1
MNAI	**Manna**	**2.58**	**326**	P		**Pn**	**02 44 45.3**	**+1.8**
LHSI	**Lahat**	**2.81**	**342**	P		Pn	02 44 50.1	+3.4
CISI	**Cisompet, Garu**	**3.54**	**107**	P		**Pn**	**02 44 58.5**	**+1.8**
KULM	**Kulim**	**12.31**	**342**	*e*Pn		**Pn**	**02 46 54.7**	**-2.4**
KAPI	**Kapping**	**15.34**	**85**	*e*Pn		**Pn**	**02 47 37.4**	**-0.6**
KKM	**Kota Kinabalu**	**17.16**	**44**	*e*Pn		Pn	02 47 56.3	-4.9
CMAR	**Chiang Mai Arr**	**25.39**	**348**	P		**P**	**02 49 26.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**25.39**	**348**	P		**P**	**02 49 26.5**	**-1.5**
	1.0nm,0.3s,baz=179,slow=7.2,SNR=5.1							
H08S2	**Diego Garcia H**	**31.69**	**266**	T		T	03 24 07.0	
	baz=89,slow=76,SNR=24							
H08S3	**Diego Garcia H**	**31.70**	**266**	T		T	03 24 07.6	
	baz=89,slow=76,SNR=22							
H08S1	**Diego Carcia H**	**31.71**	**266**	T		T	03 24 06.5	
	baz=89,slow=76,SNR=14							
WRA	**Warramunga Arr**	**31.97**	**118**	P		**P**	**02 50 26.9**	**+0.2**
WRA	**Warramunga Arr**	**31.97**	**118**	P		**P**	**02 50 26.9**	**+0.2**
	0.4nm,0.4s,baz=287,slow=12,SNR=3.3							
WRAB	**Tennant Creek**	**31.98**	**118**	*e*P		**P**	**02 50 26.5**	**-0.3**
	1.5nm,0.5s							
ASAR	**Alice Springs**	**33.08**	**124**	P		**P**	**02 50 35.6**	**-0.9**
ASAR	**Alice Springs**	**33.08**	**124**	P		**P**	**02 50 35.6**	**-0.9**
	0.1nm,0.3s,baz=304,slow=7.9,SNR=2.9							
PMG	**Port Moresby**	**42.42**	**97**	*e*P		**P**	**02 51 55.4**	**0.0**
	12nm,0.9s							
CTAO	**Charters Tower**	**42.76**	**113**	*e*P		**P**	**02 51 55.7**	**-2.5**
	6.9nm,1.1s							
STKA	**Stephens Creek**	**42.89**	**131**	P		**P**	**02 52 00.2**	**+1.2**
STKA	**Stephens Creek**	**42.89**	**131**	P		**P**	**02 52 00.2**	**+1.2**
	1.2nm,0.5s,baz=328,slow=6.7,SNR=4.8							
SONM	**Songino Array**	**54.14**	**2**	P		**P**	**02 53 25.2**	**-0.2**
SONM				PcP		**PcP**	**02 54 29.3**	**-0.4**
SONM	**Songino Array**	**54.14**	**2**	P		**P**	**02 53 25.2**	**-0.2**
	0.2nm,0.4s,baz=184,slow=8.4,SNR=4.5							
SONM				PcP		**PcP**	**02 54 29.3**	**-0.4**
	0.7nm,0.5s,baz=182,slow=3.9,SNR=6.6							
TKM2	**Tokmak 2**	**55.73**	**335**	*e*P		**P**	**02 53 36.6**	**-0.5**
	2.6nm,0.4s							
USRK	**Ussuriysk Arra**	**56.28**	**24**	P		**P**	**02 53 40.0**	**-0.7**
	2.5nm,0.6s,baz=196,slow=5.5,SNR=13							
EKS2	**Erkin-Say**	**56.32**	**333**	*e*P		**P**	**02 53 41.2**	**-0.1**
	4.3nm,0.9s							
MK31	**Makanchi Array**	**56.59**	**342**	*e*P		**P**	**02 53 42.2**	**-0.7**
MKAR	**Makanchi Array**	**56.59**	**342**	P		**P**	**02 53 42.1**	**-0.9**
MKAR	**Makanchi Array**	**56.59**	**342**	P		**P**	**02 53 42.1**	**-0.9**
	1.1nm,0.4s,baz=154,slow=8.9,SNR=32							
KURBB	**Kurchatov Arra**	**61.15**	**341**	P		**P**	**02 54 13.3**	**-1.2**
	1.1nm,0.7s,baz=156,slow=6.1,SNR=11							
KURK	**Kurchatov**	**61.20**	**342**	*e*P		**P**	**02 54 13.9**	**-0.8**
	1.1nm,0.8s							
ZALV	**Zalesovo Beam**	**62.45**	**347**	P		**P**	**02 54 22.0**	**-1.2**
ZALV	**Zalesovo Beam**	**62.45**	**347**	P		**P**	**02 54 22.0**	**-1.2**
	3.4nm,0.4s,baz=157,slow=5.9,SNR=28							
BVAR	**Borovoye Array**	**65.94**	**338**	P		**P**	**02 54 44.9**	**-1.2**
BVAR	**Borovoye Array**	**65.94**	**338**	P		**P**	**02 54 44.9**	**-1.2**
	0.5nm,0.3s,baz=129,slow=7.1,SNR=9.6							
ABKAR	**Akbulak array**	**67.70**	**330**	*e*P		**P**	**02 54 56.9**	**-0.4**
AKTO	**Aktyubinsk**	**69.41**	**330**	P		**P**	**02 55 07.9**	**-0.1**
AKTO	**Aktyubinsk**	**69.41**	**330**	P		**P**	**02 55 07.9**	**-0.1**
	0.6nm,0.3s,baz=124,slow=6.0,SNR=4.0							
BRTR	**Keskin Array B**	**79.59**	**312**	P		**P**	**02 56 07.8**	**+0.2**
BRTR	**Keskin Array B**	**79.59**	**312**	P		**P**	**02 56 07.8**	**+0.2**
	0.8nm,0.7s,baz=132,slow=7.1,SNR=6.6							
BUR08	**Bucovina Ar. S**	**87.55**	**318**	*e*P		**P**	**02 56 49.8**	**+1.6**
FINES	**FINESS Array B**	**90.13**	**332**	P		**P**	**02 56 59.9**	**0.0**
FINES	**FINESS Array B**	**90.13**	**332**	P		**P**	**02 56 59.9**	**0.0**
	1.9nm,1.0s,baz=103,slow=3.0,SNR=3.8							
TXAR	**Lajitas Array**	**145.13**	**46**	PKPbc		**PKPdf**	**03 03 38.3**	**0.0**
TXAR	**Lajitas Array**	**145.13**	**46**	PKPbc		**PKPdf**	**03 03 38.3**	**0.0**
	0.7nm,0.6s,baz=256,slow=1.5,SNR=5.8							

*IDC **08** 03:19:52.8±0.7, 8°.84S × 158°.06E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.1/13, ML4.1/1, MS3.6/6, Ms1 3.6/6, ms1mx3.1/28, Error ellipse: s-maj=24.1km s-min=18.5km az=144.0*
*ISCJB **08** 03:19:54.5±0.4, 8°.92S±0°.07 × 158°.13E±0°.07, h23km, mb4.2/16, MS3.6/4, Error ellipse: s-maj=11.3km s-min=8.5km az=141.4*
*NEIC **08** 03:19:57.5±0.3, 8°.95S × 158°.17E, h35km, mb4.5/5, Error ellipse: s-maj=9.4km s-min=7.0km az=141.0*

ISC 08 03:19:56.5±0.6, 8°.9S±0°.1 × 158°.03E±0°.06, h23km, n58, σ1s43/54, mb4.2/15, MS3.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.98**	**107**		Pn	**Pn**	**03 20 26.2**	**-2.3**
HNR					Sn	**Sb**	**03 20 58.2**	**+2.2**
HNR	**Honiara**	**1.98**	**107**		Pn	**Pn**	**03 20 26.2**	**-2.3**
	96nm,0.3s,baz=221,slow=6.7,SNR=15							
HNR					Sn	**Sb**	**03 20 58.2**	**+2.2**
	434nm,0.3s,baz=136,slow=19,SNR=10							
HNR	**Honiara**	**1.98**	**107**	*i* P		Pn	03 20 25.0	-3.5
HNR				*i* S		**Sb**	**03 20 57.0**	**+1.0**
PMG	**Port Moresby**	**10.75**	**266**	LR		LR	03 26 15.8	
	comp=Z,347nm,20.0s,baz=146,slow=36							
COEN	**Coen**	**15.41**	**249**	*e*Pn		**P**	**03 23 35.4**	**-1.6**
COEN				*e*P		**pP**	**03 23 39.8**	**-3.6**
DZM	**Mont Dzumac**	**15.42**	**149**	*e*Pn		**Pn**	**03 23 30.9**	**-1.9**
DZM	**Mont Dzumac**	**15.42**	**149**	LR		LR	03 28 49.5	
	comp=Z,183nm,18.2s,baz=27,slow=35							
CTA	**Charters Tower**	**15.94**	**224**	Pn		**Pn**	**03 23 40.1**	**+0.7**
CTA	**Charters Tower**	**15.94**	**224**	Pn		**Pn**	**03 23 40.1**	**+0.7**
	0.5nm,0.3s,baz=46,slow=15,SNR=3.3							
CTAO	**Charters Tower**	**15.94**	**224**	*e*Pn		**Pn**	**03 23 40.5**	**+1.1**
JAY	**Jayapura**	**18.35**	**289**	P		Pn	03 24 18.7	+9.0
	baz=19,SNR=3.1							
QIS	**Mount Isa**	**21.25**	**235**	P		**P**	**03 24 43.9**	**+2.7**
	baz=22,SNR=4.0							
QLP	**Quilpie**	**21.94**	**215**	P		**P**	**03 24 53.0**	**+4.5**
	baz=23,SNR=6.2							
CMSA	**Cobar Meteorol**	**25.31**	**205**	P		**P**	**03 25 22.4**	**+0.9**
	baz=26,SNR=7.2							
KDU	**Kakadu**	**25.38**	**259**	P		**P**	**03 25 24.6**	**+2.3**
	baz=26,SNR=4.6							
WRAB	**Tennant Creek**	**25.40**	**242**	*e*P		**P**	**03 25 22.7**	**+0.3**
	7.5nm,0.8s							
WRA	**Warramunga Arr**	**25.41**	**242**	P		**P**	**03 25 23.0**	**+0.4**
WRA				PcP		**PcP**	**03 28 54.9**	**+0.2**
WRA	**Warramunga Arr**	**25.41**	**242**	P		**P**	**03 25 23.0**	**+0.4**
	7.1nm,0.8s,baz=66,slow=9.6,SNR=35							
WRA				PcP		**PcP**	**03 28 54.9**	**+0.2**
	0.4nm,0.7s,baz=69,slow=2.4,SNR=5.0							
AS31	**Alice Springs**	**27.37**	**235**	*e*P		**P**	**03 25 39.8**	**-0.4**
ASAR	**Alice Springs**	**27.37**	**235**	P		**P**	**03 25 39.8**	**-0.5**
ASAR				PcP		**PcP**	**03 28 59.6**	**+0.3**
ASAR	**Alice Springs**	**27.37**	**235**	P		**P**	**03 25 39.8**	**-0.5**
	2.0nm,0.8s,baz=68,slow=8.1,SNR=13							
ASAR				PcP		**PcP**	**03 28 59.6**	**+0.3**
	0.3nm,0.6s,baz=72,slow=3.0,SNR=2.8							
STKA	**Stephens Creek**	**27.52**	**211**	*e*P		**P**	**03 25 39.8**	**-1.6**
	1.7nm,1.0s							
STKA	**Stephens Creek**	**27.52**	**

*IDC **08** 03:24:48.4±1.1,8.˝71S×157.˝63E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.7/19,mbtmp3.8/6,ML3.7/1,Error ellipse: s-maj=32.3km s-min=20.7km az=153.0*
*ISCJB **08** 03:24:49.9±0.9,8.˝7S±0.˝2×157.˝50E±0.˝07,h17km,mb3.6/5, Error ellipse: s-maj=23.9km s-min=10.4km az=3.2*
ISC 08 03:24:51.0±1.1,8˝8S±0˝2×157˝71E±0˝09,h17km,n7, σ1°21/8,mb3.9/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.30**	**106**	Pn		**Pn**	**03 25 27.6**	**-0.5**
	19nm,0.3s,baz=236,slow=3.6,SNR=4.1							
HNR						**Sb**	**03 26 01.8**	**+1.6**
	169nm,0.3s,baz=118,slow=22,SNR=9.0							
HNR	**Honiara**	**2.30**	**106**	*e*P		**Pb**	**03 25 31.0**	**-1.0**
WRA	**Warramunga Arr**	**25.16**	**241**	P		**P**	**03 30 15.9**	**+0.3**
	1.7nm,0.5s,baz=67,slow=9.5,SNR=9.9							
ASAR	**Alice Springs**	**27.15**	**234**	P		**P**	**03 30 32.5**	**-1.1**
	0.4nm,0.7s,baz=64,slow=9.4,SNR=3.4							
STKA	**Stephens Creek**	**27.41**	**211**	P		**P**	**03 30 36.7**	**+0.9**
	2.4nm,0.7s,baz=34,slow=12,SNR=7.7							
ILAR	**Eielson Array**	**84.08**	**21**	P		**P**	**03 37 20.0**	**-0.5**
	0.3nm,0.4s,baz=250,slow=4.9,SNR=17							
YKA	**Yellowknife Ar**	**96.67**	**28**	P		**P**	**03 38 21.1**	**+1.1**
	0.1nm,0.7s,baz=257,slow=4.4,SNR=2.9							

*IDC **08** 03:26:26.7±1.1,8.˝24S×157.˝35E,h0km,mb4.2/5, mb1 4.4/7,mb1mx4.0/20,mbtmp4.3/7,ML4.3/2,Error ellipse: s-maj=31.9km s-min=20.2km az=152.0*
*ISCJB **08** 03:26:28.3±0.6,8.˝36S±0.˝10×157.˝30E±0.˝06,h16km, mb4.1/8,Error ellipse: s-maj=14.2km s-min=7.9km az=2.5*
*NEIC **08** 03:26:32.4±1.7,8.˝42S×157.˝41E,h36km±16km,mb4.4/3, Error ellipse: s-maj=17.8km s-min=8.9km az=160.0*
ISC 08 03:26:29.6±0.8,8˝4S±0˝1×157˝45E±0˝07,h16km,n23, σ0°95/25,mb4.3/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.69**	**113**	Pn		**Pn**	**03 27 13.1**	**+0.8**
HNR				Sn		**Sb**	**03 27 49.3**	**-0.9**
HNR	**Honiara**	**2.69**	**113**	Pn		**Pn**	**03 27 13.1**	**+0.8**
	134nm,0.3s,baz=288,slow=9.0,SNR=3.9							
HNR				Sn		**Sb**	**03 27 49.3**	**-0.9**
	102nm,0.3s,baz=180,slow=18,SNR=3.8							
COEN	**Coen**	**15.06**	**247**	*e*Pn		**Pn**	**03 30 01.8**	**-0.1**
CTA	**Charters Tower**	**15.91**	**222**	Pn		**Pn**	**03 30 14.4**	**+1.5**
CTA	**Charters Tower**	**15.91**	**222**	Pn		**Pn**	**03 30 14.4**	**+1.5**
	0.3nm,0.3s,baz=53,slow=13,SNR=6.5							
CTAO	**Charters Tower**	**15.91**	**222**	*e*Pn		**Pn**	**03 30 13.2**	**+0.2**
DZM	**Mont Dzumac**	**16.15**	**149**	*e*Pn		**Pn**	**03 30 15.9**	**-0.2**
WRAB	**Tennant Creek**	**25.14**	**240**	*e*P		**P**	**03 31 53.4**	**-0.8**
	5.7nm,0.5s							
WRA	**Warramunga Arr**	**25.15**	**240**	P		**P**	**03 31 54.0**	**-0.2**
WRA	**Warramunga Arr**	**25.15**	**240**	P		**P**	**03 31 54.0**	**-0.2**
	12nm,0.9s,baz=67,slow=9.5,SNR=36							
AS31	**Alice Springs**	**27.20**	**233**	*e*P		**P**	**03 32 11.7**	**-1.1**
ASAR	**Alice Springs**	**27.20**	**233**	P		**P**	**03 32 11.4**	**-1.4**
ASAR	**Alice Springs**	**27.20**	**233**	P		**P**	**03 32 11.4**	**-1.4**
	2.0nm,0.9s,baz=64,slow=9.2,SNR=12							
STKA	**Stephens Creek**	**27.65**	**210**	P		**P**	**03 32 16.9**	**+0.1**
STKA	**Stephens Creek**	**27.65**	**210**	P		**P**	**03 32 16.9**	**+0.1**
	4.1nm,0.7s,baz=36,slow=13,SNR=14							
FORT	**Forrest**	**35.35**	**227**	*e*P		**P**	**03 33 23.2**	**-1.3**
VNDA	**Vanda**	**69.17**	**179**	*e*P		**P**	**03 37 35.3**	**+0.5**
	3.6nm,1.2s							
MCK	**McKinley**	**82.43**	**21**	*e*P		**P**	**03 38 52.6**	**+1.8**
	4.8nm,0.8s							
ILAR	**Eielson Array**	**83.76**	**21**	P		**P**	**03 38 56.9**	**-0.7**
ILAR	**Eielson Array**	**83.76**	**21**	P		**P**	**03 38 56.9**	**-0.7**
	0.5nm,0.9s,baz=240,slow=5.4,SNR=3.4							
MK31	**Makanchi Array**	**86.03**	**318**	*e*P		**P**	**03 39 09.2**	**-0.3**
NVAR	**Mina Array Bea**	**90.66**	**51**	P		**P**	**03 39 32.0**	**0.0**
NVAR	**Mina Array Bea**	**90.66**	**51**	P		**P**	**03 39 32.0**	**0.0**
	1.0nm,0.9s,baz=249,slow=6.8,SNR=5.1							

*IDC **08** 03:26:36.6±1.7,51.˝86N×170.˝42W,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.7/34,mbtmp3.8/12,ML3.6/2,Error ellipse: s-maj=48.2km s-min=17.2km az=2.0*
*NEIC **08** 03:26:40.3,51.˝82N×170.˝83W,h20km,ML3.4(AEIC),After AEIC.*
*ISCJB **08** 03:26:41.4±1.0,51.˝8N±0.˝1×170.˝40W±0.˝08,h52km±7km, mb3.9/10,Error ellipse: s-maj=20.3km s-min=4.3km az=160.6*
ISC 08 03:26:43.4±1.7,51°9N±0°1×170°41W±0°06,h49km±14km, n47,σ0°83/47,mb3.8/10,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.45**	**41**	P		**Pn**	**03 27 05.3**	**-1.8**
NIKH				S		**Sn**	**03 27 25.0**	**+0.1**
OKSP	**Okmok Steeple**	**1.89**	**43**	P		**Pn**	**03 27 12.2**	**-0.9**
OKFG	**Magazine Ridge**	**2.16**	**44**	P		**Pn**	**03 27 10.1**	**-0.7**
OKFG				S		**Sn**	**03 27 44.4**	**+2.1**
MSOM	**Makushin Julie**	**2.85**	**46**	P		**Pn**	**03 27 26.0**	**-0.4**
MREP	**Makushin Rep't**	**2.94**	**48**	P		**Pn**	**03 27 27.6**	**-0.1**
MSW	**Makushin Switc**	**2.99**	**46**	P		**Pn**	**03 27 28.0**	**-0.3**
MSW				S		**Sn**	**03 28 04.1**	**+1.2**
UNV	**Unalaska Valle**	**3.08**	**49**	P		**Pn**	**03 27 28.4**	**-1.0**
UNV				S		**Sn**	**03 28 05.6**	**+0.7**
GSMY	**Great Sitkin M**	**3.49**	**275**	P		**Pn**	**03 27 34.7**	**-0.5**
AKGG	**Akutan Green G**	**3.53**	**47**	P		**Pn**	**03 27 36.6**	**+0.9**
GSTD	**Great Sitkin T**	**3.55**	**275**	P		**Pn**	**03 27 35.4**	**-0.5**
GSTD				S		**Sn**	**03 28 17.5**	**+0.8**
GSCK	**Great Sitkin C**	**3.56**	**274**	P		**Pn**	**03 27 35.8**	**-0.2**
ADAG	**Mount Adagdak**	**3.83**	**274**	P		**Pn**	**03 27 40.4**	**+0.6**
ADK	**Adak**	**3.89**	**272**	P		**Pn**	**03 27 39.8**	**-0.7**
ADK				S		**Sn**	**03 28 25.1**	**+0.3**
KINC	**Kanaga Island**	**4.16**	**273**	P		**Pn**	**03 27 45.0**	**+0.8**
FALS	**False Pass**	**5.14**	**52**	P		**Pn**	**03 27 59.3**	**+1.6**
SPIA	**Saint Paul Isl**	**5.34**	**53**	P		**Pn**	**03 27 59.8**	**-0.1**
DTNA	**Dutton South F**	**5.86**	**53**	P		**Pn**	**03 28 07.8**	**+0.2**
ILAR	**Eielson Array**	**17.71**	**34**	P		**Pn**	**03 30 44.7**	**-1.5**
ILAR	**Eielson Array**	**17.71**	**34**	P		**Pn**	**03 30 44.7**	**-1.5**
	0.0nm,0.3s,baz=225,slow=9.8,SNR=3.7							
PETK	**Petropavlovsk-**	**19.37**	**286**	P		**P**	**03 31 05.5**	**+0.8**
PETK	**Petropavlovsk-**	**19.37**	**286**	P		**P**	**03 31 05.5**	**+0.8**
	0.5nm,0.3s,baz=97,slow=12,SNR=4.3							
INK	**Inuvik**	**24.11**	**33**	P		**P**	**03 31 53.1**	**-0.8**
INK	**Inuvik**	**24.11**	**33**	P		**P**	**03 31 53.1**	**-0.8**
	1.9nm,0.7s,baz=229,slow=9.5,SNR=12							
YKA	**Yellowknife Ar**	**31.04**	**48**	P		**P**	**03 32 57.0**	**+0.9**
YKA	**Yellowknife Ar**	**31.04**	**48**	P		**P**	**03 32 56.9**	**+0.9**
	0.9nm,0.7s,baz=271,slow=7.8,SNR=28							
H11N2	**WAKE ISLAND Hy**	**36.68**	**217**	T		T	04 12 37.9	
	baz=26							
H11N3	**WAKE ISLAND Hy**	**36.68**	**217**	T		T	04 12 37.6	
	baz=26							
H11N1	**WAKE ISLAND Hy**	**36.69**	**217**	T		T	04 12 32.8	
	baz=26							
H11S1	**WAKE ISLAND Hy**	**37.87**	**217**	T		T	04 14 13.9	
	baz=17							
H11S2	**WAKE ISLAND Hy**	**37.88**	**217**	T		T	04 14 07.0	
	baz=17							
H11S3	**WAKE ISLAND Hy**	**37.88**	**217**	T		T	04 14 06.9	
	baz=17							
PDAR	**Pinedale Array**	**41.13**	**78**	P		**P**	**03 34 22.1**	**-0.6**
PDAR	**Pinedale Array**	**41.13**	**78**	P		**P**	**03 34 22.1**	**-0.6**
	0.6nm,0.9s,baz=289,slow=5.5,SNR=3.3							
FRB	**Frobisher Bay**	**49.74**	**35**	P		**P**	**03 35 30.6**	**+0.4**
FRB	**Frobisher Bay**	**49.74**	**35**	P		**P**	**03 35 30.6**	**+0.4**
	5.2nm,1.0s,baz=335,slow=14,SNR=4.4							
SONM	**Songino Array**	**50.99**	**301**	P		**P**	**03 35 39.9**	**-0.1**
SONM	**Songino Array**	**50.99**	**301**	P		**P**	**03 35 39.9**	**-0.1**
	0.6nm,0.7s,baz=74,slow=5.8,SNR=5.1							
TXAR	**Lajitas Array**	**53.41**	**88**	P		**P**	**03 35 57.9**	**-0.2**
TXAR	**Lajitas Array**	**53.41**	**88**	P		**P**	**03 35 57.9**	**-0.2**
	0.6nm,0.6s,baz=296,slow=6.4,SNR=4.9							
KURK	**Kurchatov**	**62.30**	**318**	P		**P**	**03 37 00.7**	**+0.7**
KURBB	**Kurchatov Arra**	**62.41**	**318**	P		**P**	**03 37 00.7**	**0.0**
	0.5nm,0.5s,baz=42,slow=7.2,SNR=9.3							
MKAR	**Makanchi Array**	**63.67**	**313**	P		**P**	**03 37 09.1**	**-0.1**
MKAR	**Makanchi Array**	**63.67**	**313**	P		**P**	**03 37 09.1**	**-0.1**
	0.7nm,0.8s,baz=50,slow=8.0,SNR=7.1							
BVAR	**Borovoye Array**	**63.72**	**324**	P		**P**	**03 37 10.0**	**+0.6**
BVAR	**Borovoye Array**	**63.72**	**324**	P		**P**	**03 37 10.0**	**+0.6**
	1.3nm,0.6s,baz=48,slow=6.7,SNR=8.8							
AKTO	**Aktyubinsk**	**70.10**	**329**	P		**P**	**03 37 49.5**	**-0.5**
AKTO	**Aktyubinsk**	**70.10**	**329**	P		**P**	**03 37 49.5**	**-0.5**
	2.2nm,0.6s,baz=49,slow=7.1,SNR=9.8							

*NIED **08** 03:29:00,22.˝80N×122.˝60E,h17km,Mw3.9 Best double couple: M07.89000×1014 NP1:φ0=73.00000°,δ60.00000°, λ-6.00000°. NP2:φ0=166.00000°,δ85.00000°, λ-149.00000°.*
*JMA **08** 03:29:36.7±0.2,22.˝82N×122.˝57E,h43km,M3.6*
*ISCJB **08** 03:29:37.6±0.4,22.˝84N±0.˝03×122.˝59E±0.˝02, h38km±20km,Error ellipse: s-maj=5.2km s-min=2.9km az=148.8*
*TAP **08** 03:29:38.3,22.˝81N×122.˝52E,h53km,ML4.1,C*
ISC 08 03:29:35.5±1.1,22˝80N±0˝04×122˝60E±0˝03,h20km±11km, n52,σ1°09/94,5C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**1.18**	**285**	⇑*i*P		**Pn**	**03 29 56.7**	**-0.1**
CHKT	baz=289			S		**Sn**	**03 30 09.8**	**-2.5**
LAY	**Lan-yu**	**1.23**	**232**	*e*P		**Pn**	**03 29 57.4**	**-0.2**
LAY	baz=236			*e*S		**Sn**	**03 30 11.4**	**-2.2**
TWF1	**Yuli**	**1.32**	**295**	⇑*i*P		**Pn**	**03 29 59.0**	**+0.2**
TWF1	baz=296			*e*S		**Sn**	**03 30 14.2**	**-1.7**
TTN	**Taitung**	**1.34**	**268**	*e*P		**Pn**	**03 29 59.5**	**+0.5**
TTN	baz=267			*e*S		**Sn**	**03 30 16.0**	**-0.3**
EHY	**Hungye**	**1.37**	**301**	P		**Pn**	**03 29 59.5**	**0.0**
EHY	baz=302			S		**Sn**	**03 30 15.9**	**-1.2**
TWG	**Pinlang**	**1.41**	**271**	P		**Pn**	**03 30 00.6**	**+0.5**
TWG	baz=270			S		**Sn**	**03 30 17.0**	**-1.0**
ESL	**Shilin**	**1.48**	**314**	*e*P		**Pn**	**03 30 00.7**	**-0.2**
ESL	baz=315			*e*S		**Sn**	**03 30 17.3**	**-2.3**
ELDTW	**Lidau**	**1.51**	**285**	P		**Pn**	**03 30 01.7**	**+0.2**
ELDTW	baz=293			*e*S		**Sn**	**03 30 19.1**	**-1.6**
ECL	**Taimali**	**1.53**	**263**	P		**Pn**	**03 30 02.2**	**+0.5**
ECL	baz=261			S		**Sn**	**03 30 20.2**	**-0.8**
TWD	**Chiawan**	**1.58**	**324**	*e*P		**Pn**	**03 30 01.5**	**-0.8**
TWD	baz=335			*e*S		**Sn**	**03 30 18.9**	**-3.2**
YUS	**Yu-Shan**	**1.67**	**295**	P		**Pn**	**03 30 04.8**	**+0.8**
YUS	baz=295			*e*S		**Sn**	**03 30 24.4**	**-0.6**
EAST	**Anshuo**	**1.67**	**256**	P		**Pn**	**03 30 04.6**	**+1.0**
EAST	baz=263			*e*S		**Sn**	**03 30 23.8**	**-0.7**
HATJ	**Hateruma jima**	**1.67**	**41**	P		**Pn**	**03 30 04.3**	**+0.7**
HATJ				S		**Sn**	**03 30 24.0**	**-0.4**
YOJ	**Yonaguni jima**	**1.70**	**13**	P		**Pb**	**03 30 05.3**	**-0.7**
YOJ				S		**Sn**	**03 30 25.2**	**+0.1**
STYT	**Tauyuan**	**1.74**	**282**	*e*P		**Pn**	**03 30 05.7**	**+1.1**
	baz=283							
ALS	**Alishan**	**1.80**	**294**	*e*P		**Pb**	**03 30 07.3**	**-0.6**
	baz=299							
ENA	**Nanau**	**1.81**	**334**	P		**Pn**	**03 30 06.4**	**+1.0**
ENA	baz=329			*e*S		**Sn**	**03 30 26.9**	**-0.9**
TSEB	**Hengchuen, Pin**	**1.81**	**241**	*e*P		**Pb**	**03 30 08.2**	**+0.3**
TSEB	baz=240			*e*S		**Sn**	**03 30 28.5**	**+0.7**
WHF	**Hehuan Shan**	**1.82**	**318**	⇑P		**Pn**	**03 30 06.5**	**+0.5**
WHF	baz=319			S		**Sn**	**03 30 27.0**	**-1.6**
IRIF	**Iriomote-Funau**	**1.85**	**34**	P		**Pn**	**03 30 07.0**	**+1.0**
IRIF				S		**Sn**	**03 30 28.3**	**-0.5**
TWK1	**Hengchun**	**1.87**	**243**	*e*P		**Pb**	**03 30 07.8**	**-1.1**
TWK1	baz=241			*e*S		**Sn**	**03 30 29.3**	**+0.1**
SCZT	**Fangliau**	**1.88**	**257**	*e*P		**Pb**	**03 30 08.1**	**-1.0**
	baz=261							
SGST	**Jiashian**	**1.88**	**279**	*e*P		**Pb**	**03 30 08.8**	**-0.3**
SGST	baz=279			*e*S		**Sn**	**03 30 29.8**	**+0.1**
WTP	**Ta-pu**	**1.89**	**284**	⇑P		**Pb**	**03 30 08.9**	**-0.3**
	baz=284							
HEN	**Hengchun**	**1.90**	**246**	*e*P		**Pb**	**03 30 09.0**	**-0.4**
HEN	baz=238			*e*S		**Sn**	**03 30 29.5**	**-0.4**
SMLT	**Sun Moon Lake**	**1.90**	**305**	P		**Pn**	**03 30 08.2**	**+1.4**
SMLT	baz=306			*e*S		**Sn**	**03 30 29.5**	**-0.8**
CHN4	**Tsaushan**	**1.93**	**287**	P		**Pb**	**03 30 09.8**	**-0.1**
CHN4	baz=293			*e*S		**Sb**	**03 30 33.9**	**+0.2**
JKRS	**Kuro-shima**	**1.93**	**42**	P		**Pn**	**03 30 08.1**	**+1.0**
JKRS				S		**Sn**	**03 30 30.2**	**-0.6**
TWC	**Suao**	**1.93**	**339**	P		**Pn**	**03 30 08.3**	**+1.2**
TWC	baz=341			S		**Sn**	**03 30 29.6**	**-1.3**
CHN5	**Tsauling**	**1.94**	**295**	⇑P		**Pb**	**03 30 10.1**	**-0.1**
	baz=299							
CHN5				*e*S		**Sn**	**03 30 31.6**	**+0.3**
	baz=299							
TYC	**Yuchr**	**1.94**	**305**	*e*P		**Pn**	**03 30 08.7**	**+1.4**
TYC	baz=311			*e*S		**Sn**	**03 30 31.5**	**+0.3**
CHN1	**Nanshi**	**1.95**	**282**	*e*P		**Pb**	**03 30 10.2**	**-0.1**
CHN1	baz=281			*e*S		**Sb**	**03 30 33.6**	**-0.6**
TWT	**Tachien**	**1.95**	**318**	*e*P		**Pn**	**03 30 09.2**	**+1.6**
TWT	baz=319			*e*S		**Sn**	**03 30 31.0**	**-0.6**
NNS	**Nan Shan**	**1.99**	**326**	*e*P		**Pn**	**03 30 09.1**	**+1.0**
NNS	baz=327			*e*S		**Sn**	**03 30 31.5**	**-0.9**
TWK	**Hsinying**	**2.00**	**284**	*e*P		**Pb**	**03 30 10.9**	**-0.3**
TWK	baz=293			*e*S		**Sb**	**03 30 35.2**	**-0.6**
TWM1	**Shoushan**	**2.01**	**271**	*e*P		**Pb**	**03 30 11.4**	**+0.1**
	baz=267							
WNT	**Mingjian**	**2.06**	**302**	*e*P		**Pb**	**03 30 12.2**	**-0.1**
	baz=303							
ENTT	**Nioudou**	**2.07**	**333**	*e*P		**Pn**	**03 30 10.3**	**+1.3**
ENTT	baz=335			*e*S		**Sn**	**03 30 33.7**	**-0.5**
CHN3	**Shinhua**	**2.08**	**278**	*e*P		**Pb**	**03 30 13.5**	**+1.0**
	baz=277							
CHN3				*e*S		**Sb**	**03 30 41.1**	**+3.1**
	baz=277							
TWE	**Neicheng**	**2.10**	**336**	*e*P		**Pn**	**03 30 10.9**	**+1.5**
TWE	baz=338			*e*S		**Sn**	**03 30 35.0**	**0.0**
JIJ	**Ishigaki jima**	**2.11**	**42**	P		**Pn**	**03 30 10.0**	**+0.4**
JIJ				S		**Sn**	**03 30 33.7**	**-1.5**
CHY	**Chiayi**	**2.12**	**290**	*e*P		**Pb**	**03 30 12.5**	**-0.7**
	baz=290							
EGS		**2.13**	**343**	*e*P		**Pb**	**03 30 13.5**	**+0.1**
	baz=357							
NSK	**Sanguang**	**2.19**	**329**	P		**Pn**	**03 30 12.2**	**+1.4**
NSK	baz=330			S		**Sn**	**03 30 36.6**	**-0.7**
TCU	**Taichung**	**2.22**	**308**	*e*P		**Pb**	**03 30 14.2**	**-0.7**
	baz=309							
TWB1	**Santiao Chiao**	**2.27**	**346**	*e*P		**Pb**	**03 30 14.1**	**-1.7**
	baz=360							
TWB1				*e*S		**Sn**	**03 30 38.5**	**-0.8**
	baz=360							
TWQ1	**Liyutan**	**2.28**	**313**	*e*P		**Pb**	**03 30 15.0**	**-1.0**
	baz=319							
TWQ1				*e*S		**Sn**	**03 30 41.3**	**+1.8**
	baz=319							
NSTT	**Nanjuang**	**2.34**	**322**	*e*P		**Pb**	**03 30 15.9**	**-1.1**
	baz=330							
NSTT				*e*S		**Sn**	**03 30 41.0**	**0.0**
	baz=330							
TWA	**Mucha**	**2.37**	**337**	*e*P		**Pn**	**03 30 15.1**	**+2.0**
	baz=339							
TWA				*e*S		**Sn**	**03 30 42.6**	**+1.0**
	baz=339							
NWF	**Wu-fen Shan**	**2.38**	**342**	*e*P		**Pb**	**03 30 16.1**	**-1.7**
	baz=343							
NWF				*e*S		**Sn**	**03 30 43.1**	**+0.9**
	baz=343							
TWS1	**Kuangyinshan**	**2.54**	**335**	*e*P		**Pn**	**03 30 16.8**	**+1.3**
	baz=336							
JTJ	**Tarama**	**2.66**	**46**	P		**Pn**	**03 30 18.2**	**+1.0**
JTJ				S		**Sn**	**03 30 48.1**	**-0.7**

*IDC **08** 03:31:08.6±0.4,15.˝37N×45.˝76W,h0km,mb4.3/31, mb1 4.4/31,mb1mx4.4/35,mbtmp4.3/31,MS3.9/27, Ms1 3.9/27,ms1mx3.9/32,Error ellipse: s-maj=14.8km s-min=10.8km az=131.0*
*MOS **08** 03:31:08.2±1.3,15.˝27N×45.˝90W,h10km,mb4.9/46,Error ellipse: s-maj=8.9km s-min=5.3km az=53.6*
*BJI **08** 03:31:09.4,15.˝30N×45.˝70W,h10km,mB4.2/1,Ms5.1/4, Ms7 4.7/4*
*ISCJB **08** 03:31:09.4±0.2,15.˝32N±0.˝04×45.˝78W±0.˝02,h15km, mb4.5/102,MS4.0/30,Error ellipse: s-maj=5.4km s-min=2.8km az=168.4*
*GCMT **08** 03:31:10.4±0.2,15.˝35N×45.˝71W,h16km±1km,MW4.9/68, Moment Tensor Solution. s26,c29; s68,c108; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.36±.09; Mθθ-0.61±.07; Mφφ0.97±.09; Mrθ0.38±.24; Mθφ-2.28±.08; Mφr1.22±.30; Best double couple: Mo2.74700×1016 NP1:φs188.00000°,δ83.00000°,λ-28.00000°. NP2: φs281.00000°,δ62.00000°,λ-173.00000°. Principal axes: T 2.7990, Plg15.0000°, Azm238.0000°; N -0.1030, Plg61.0000°, Azm356.0000°; P -2.6950, Plg25.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 03:31:10.4±0.1,15.˝30N×45.˝75W,h10km,mb4.7/59 Error ellipse: s-maj=4.2km s-min=2.7km az=160.0*
ISC 08 03:31:11.3±0.3,15˝28N±0˝06×45˝84W±0˝05,h15km,n559, σ0°87/547,mb4.6/102,MS4.0/30,132C-137D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**13.47**	**263**	*e*Pn		**Pn**	**03 34 23.5**	**+1.5**
MVM	**Montagne Vaucl**	**14.57**	**269**	*e*P		**Pn**	**03 34 37.5**	**+0.4**
LPMF	**Morne Lapointe**	**14.64**	**269**	*e*P		**Pn**	**03 34 38.0**	**0.0**
DEG	**La Desirade**	**14.69**	**276**	*e*P		**P**	**03 34 46.5**	**+1.6**
ZAM	**Aeronautique**	**14.70**	**269**	*e*P		**Pn**	**03 34 38.9**	**+0.1**
MCLT	**Moule a Chique**	**14.71**	**266**	*e*P		**Pn**	**03 34 38.7**	**-0.2**
BVM	**Bellevue**	**14.72**	**270**	*e*P		**Pn**	**03 34 39.4**	**+0.3**
TRMF	**Trois Ilets**	**14.72**	**269**	*e*P		**Pn**	**03 34 39.2**	**0.0**
BIM	**Bigot**	**14.74**	**269**	*e*P		**Pn**	**03 34 40.8**	**+1.4**
SLB	**Belfond**	**14.79**	**266**	*e*P		**Pn**	**03 34 39.5**	**-0.6**
SLB	**Belfond**	**14.79**	**266**	*e*		P	03 34 51.0	+5.0
FDF	**Fort de France**	**14.80**	**270**	*e*P		**Pn**	**03 34 41.2**	**+0.9**
FDF				pmax		pmax		
	comp=Z,89nm,0.8s							
FDF	**Fort de France**	**14.80**	**270**	*e*P		**Pn**	**03 34 39.4**	**-0.9**
FDF	**Fort de France**	**14.80**	**270**	*e*Pn		**Pn**	**03 34 41.1**	**+0.9**
	comp=Z,89nm,0.8s							
TOSP	**Speyside**	**14.84**	**256**	*e*P		**Pn**	**03 34 40.4**	**-0.4**
SSV	**Crater Summit**	**15.01**	**264**	*e*P		**Pn**	**03 34 43.0**	**-0.1**
SSV	**Crater Summit**	**15.01**	**264**	*e*		P	03 34 54.4	+6.0
SVV	**Soufriere Volc**	**15.03**	**264**	*e*P		**Pn**	**03 34 43.3**	**0.0**
SVV	**Soufriere Volc**	**15.03**	**264**	*e*		P	03 34 54.7	+6.1
BOT	**Bacolet**	**15.05**	**256**	*e*P		**Pn**	**03 34 43.8**	**+0.2**
BOT	**Bacolet**	**15.05**	**256**	*e*		**P**	**03 34 51.6**	**+2.8**
SVB	**Belmont**	**15.07**	**264**	*e*P		**Pn**	**03 34 44.3**	**+0.4**
SVB				*e*S		**Sn**	**03 37 24.8**	**-5.9**
TPR	**Prospect**	**15.10**	**256**	*e*P		**Pn**	**03 34 44.5**	**+0.3**
MLG	**Mont-d'or**	**15.31**	**275**	*e*P		**Pn**	**03 34 46.0**	**-1.0**
LZG	**Guadaloupe-1**	**15.37**	**275**	*e*P		**Pn**	**03 34 46.8**	**-1.0**
TBH	**Brigand Hill**	**15.59**	**254**	*e*P		**Pn**	**03 34 52.3**	**+1.6**
GRGR	**Grenville**	**15.68**	**260**	*e*Pn		**Pn**	**03 34 51.8**	**-0.1**
GRW	**Mount Saint Ca**	**15.68**	**261**	*e*P		**Pn**	**03 34 52.2**	**+0.2**
TRN	**Trinidad (W)**	**15.85**	**255**	*e*P		**Pn**	**03 34 54.4**	**+0.3**
TPP	**Pointe-a-Pierr**	**16.00**	**254**	*e*P		**Pn**	**03 34 57.4**	**+1.4**
TCE	**Chacachacare**	**16.16**	**256**	*e*P		**P**	**03 34 59.8**	**-1.4**
CELP	**Cerrillos**	**20.06**	**281**	*e*P		**P**	**03 35 44.3**	**+0.1**
PTGA	**Pitinga**	**21.17**	**223**	*e*P		**P**	**03 35 56.5**	**+0.3**
	comp=Z,22nm,0.5s							
PTGA	**Pitinga**	**21.17**	**223**	LR		LR	03 43 04.4	
	comp=Z,593nm,21.8s,baz=35,slow=34							
RCBR	**Riachuelo**	**23.17**	**154**	LR		LR	03 43 02.6	
	comp=Z,378nm,18.5s,baz=334,slow=31							
SDV	**Santo Domingo**	**25.05**	**258**	*e*P		**P**	**03 36 36.6**	**+1.2**
	comp=Z,3.2nm,0.9s							
BBTS	**Babate**	**28.31**	**87**	LR		LR	03 45 21.5	
	comp=Z,360nm,19.1s,baz=231,slow=30							
SAML	**Samuel**	**29.58**	**217**	*e*P		**P**	**03 37 17.0**	**+1.1**
	comp=Z,2.4nm,0.9s							
ROSC	**El Rosal**	**29.86**	**253**	*e*P		**P**	**03 37 19.6**	**+0.7**
ROSC	**El Rosal**	**29.86**	**253**	P		**P**	**03 37 20.2**	**+1.3**
	comp=Z,6.8nm,0.6s,baz=102,slow=21,SNR=6.0							
ROSC				LR		LR	03 48 36.4	
	comp=Z,208nm,21.2s,baz=15,slow=35							
BDFB	**Brasilia**	**30.80**	**184**	P		**P**	**03 37 27.3**	**+0.6**
BDFB	**Brasilia**	**30.80**	**

WVT **Waverly** 42.74 307 *e*P P 03 39 08.5 +0.4
comp=Z,4.2nm,0.7s
CPUP **Villa Florida** 42.85 195 *e*P P 03 39 09.5 +0.6
comp=Z,2.2nm,1.3s
CPUP **Villa Florida** 42.85 195 P P 03 39 09.3 +0.4
comp=Z,2.3nm,0.6s,baz=13,slow=7.3,SNR=4.3
CPUP LR LR 03 56 20.6
comp=Z,86nm,18.8s,baz=3.8,slow=35
SFIN **Scholer Farm** 43.68 313 ⇑P P 03 39 15.7 +0.1
baz=44
ESDC **Sonseca Array** 43.85 48 P P 03 39 16.5 -0.6
ESDC **Sonseca Array** 43.85 48 P P 03 39 16.5 -0.6
comp=Z,1.2nm,0.6s,baz=253,slow=7.4,SNR=6.0
ESDC LR LR 03 52 59.6
comp=Z,167nm,19.1s,baz=250,slow=30
LVC **Limon Verde** 43.92 211 *e*P P 03 39 17.4 -0.6
comp=Z,5.0nm,0.8s
TOA0 **Torodi Ar. Sit** 46.06 86 *e*P P 03 39 33.0 -1.9
TORD **Torodi Ar. Bea** 46.06 86 P P 03 39 33.3 -1.6
TORD **Torodi Ar. Bea** 46.06 86 P P 03 39 33.3 -1.6
comp=Z,6.1nm,0.8s,baz=284,slow=7.7,SNR=30
TORD LR LR 03 55 55.8
comp=Z,224nm,18.8s,baz=275,slow=32
SJPF **Ste Jean** 47.04 45 *e*P P 03 39 42.3 0.0
comp=Z,128nm,1.4s
SJPF **Ste Jean** 47.04 45 *e*P P 03 39 42.3 0.0
SJPF pmax pmax
comp=Z,128nm,1.4s
SJPF **Ste Jean** 47.04 45 *e*P P 03 39 42.3 0.0
comp=Z,128nm,1.4s
NATX **Nacogdoches** 47.28 299 *e*P P 03 39 45.3 +1.0
comp=Z,37nm,0.8s
ROSF **Rostrenen** 47.98 37 *e*P P 03 39 49.2 -0.3
ROSF **Rostrenen** 47.98 37 *e*P P 03 39 49.2 -0.3
ROSF **Rostrenen** 47.98 37 *e*P P 03 39 49.2 -0.3
EPF **Esparros** 48.08 45 *e*P P 03 39 51.2 +0.8
EPF **Esparros** 48.08 45 *e*P P 03 39 51.2 +0.8
EPF **Esparros** 48.08 45 *e*P P 03 39 51.2 +0.8
SGMF **Saint Gilles** 48.36 38 *e*P P 03 39 51.5 -0.9
SGMF **Saint Gilles** 48.36 38 *e*P P 03 39 51.5 -0.9
SGMF **Saint Gilles** 48.36 38 *e*P P 03 39 51.5 -0.9
TUL1 **Tulsa** 48.93 304 ⇓P P 03 39 57.1 +0.1
baz=49
TAM **Tamanrasset** 48.93 73 *e*P P 03 39 57.1 -0.3
TAM pmax pmax
comp=Z,13nm,1.5s
TAM **Tamanrasset** 48.93 73 *e*P P 03 39 57.1 -0.3
comp=Z,13nm,1.5s
LFF **La Frestale** 49.04 43 *e*P P 03 39 57.6 -0.1
LFF **La Frestale** 49.04 43 *e*P P 03 39 57.6 -0.1
LFF **La Frestale** 49.04 43 *e*P P 03 39 57.6 -0.1
MFF **Saint Martin d** 49.12 41 *e*P P 03 39 58.3 +0.1
MFF **Saint Martin d** 49.12 41 *e*P P 03 39 58.3 +0.1
MFF **Saint Martin d** 49.12 41 *e*P P 03 39 58.3 +0.1
SPMN **St. Paul** 49.40 317 ⇓P P 03 40 01.0 +0.6
baz=49
GRR **Gorron** 49.44 38 *e*P P 03 40 00.5 -0.1
GRR **Gorron** 49.44 38 *e*P P 03 40 00.5 -0.1
GRR **Gorron** 49.44 38 *e*P P 03 40 00.5 -0.1
535A **Dale** 49.55 297 ⇑P P 03 40 01.9 0.0
baz=50
CAF **Calviac** 49.91 44 *e*P P 03 40 04.3 -0.1
comp=Z,16nm,0.8s
CAF **Calviac** 49.91 44 *e*P P 03 40 04.3 -0.1
CAF pmax pmax
comp=Z,16nm,0.8s
CAF **Calviac** 49.91 44 *e*P P 03 40 04.3 -0.1
comp=Z,16nm,0.8s
LDF **La Druitiere** 49.97 38 *e*P P 03 40 04.4 -0.3
LDF **La Druitiere** 49.97 38 *e*P P 03 40 04.4 -0.3
LDF **La Druitiere** 49.97 38 *e*P P 03 40 04.4 -0.3
Y34A **Reagan Ranch,** 50.18 302 ⇓P P 03 40 06.8 +0.2
baz=50
434A **Burnet** 50.23 297 ⇑P P 03 40 06.6 -0.4
baz=50
Z34A **Collier Ranch,** 50.23 301 ⇑P P 03 40 07.0 +0.1
baz=50
KSU1 **Kansas State U** 50.25 308 *e*P P 03 40 06.4 -0.7
comp=Z,3.8nm,0.5s
KSU1 **Kansas State U** 50.25 308 ⇓P P 03 40 07.1 0.0
baz=50
334A **Lometa** 50.25 298 ⇓P P 03 40 07.1 -0.1
baz=50
V34A **Guthrie** 50.29 304 ⇑P P 03 40 07.5 +0.1
baz=50
734A **La Parita Cree** 50.32 295 ⇓P P 03 40 07.7 0.0
baz=50
534A **Blanco** 50.33 296 ⇑P P 03 40 07.7 -0.1
baz=50
TCF **Toulx Ste Croi** 50.50 42 *e*P P 03 40 08.4 -0.4
comp=Z,65nm,1.5s
TCF **Toulx Ste Croi** 50.50 42 *e*P P 03 40 08.4 -0.4
TCF pmax pmax
comp=Z,65nm,1.5s
TCF **Toulx Ste Croi** 50.50 42 *e*P P 03 40 08.4 -0.4
comp=Z,65nm,1.5s
233A **Rising Star** 50.88 299 ⇑P P 03 40 11.9 -0.1
baz=51
333A **Richland Sprin** 50.89 298 ⇓P P 03 40 12.1 +0.1
baz=51
633A **Saathoff Ranch** 50.90 296 ⇓P P 03 40 13.0 +0.9
baz=51
Y33A **Hilltop Ranch,** 50.90 302 ⇑P P 03 40 12.0 -0.1
baz=51
FRB **Frobisher Bay** 50.91 347 P P 03 40 10.9 -0.6
FRB **Frobisher Bay** 50.91 347 P P 03 40 10.9 -0.6
comp=Z,4.5nm,0.8s,baz=139,slow=8.1,SNR=4.7
Z33A **Whitaker Ranch** 50.92 301 ⇑P P 03 40 12.1 -0.1
baz=51
433A **Art** 50.92 297 ⇓P P 03 40 12.3 0.0
baz=51
733A **Divot King Ran** 50.95 295 ⇓P P 03 40 12.5 0.0
baz=51
133A **Hamilton Ranch** 50.97 300 ⇓P P 03 40 12.6 0.0
baz=51
BGF **Bois d'Agland** 51.00 42 *e*P P 03 40 11.9 -0.7
comp=Z,28nm,1.1s
BGF **Bois d'Agland** 51.00 42 *e*P P 03 40 11.9 -0.7
BGF pmax pmax
comp=Z,28nm,1.1s
BGF **Bois d'Agland** 51.00 42 *e*P P 03 40 11.9 -0.7
comp=Z,28nm,1.1s
T33A **Patterson Ranc** 51.09 305 ⇑P P 03 40 14.0 +0.6
baz=51
R33A **Olander Ranch,** 51.13 307 ⇑P P 03 40 13.8 +0.1
baz=51
HYF **Humbligny** 51.13 41 *e*P P 03 40 13.6 0.0
HYF **Humbligny** 51.13 41 *e*P P 03 40 13.6 0.0
Q33A **Connelly Farm,** 51.16 308 ⇑P P 03 40 13.9 0.0
baz=51
CFAA **Coronel Fontan** 51.34 205 P P 03 40 15.0 -0.3
CFAA **Coronel Fontan** 51.34 205 P P 03 40 15.0 -0.3
comp=Z,0.4nm,0.7s,baz=345,slow=5.0,SNR=4.9
AVF **Avril sur Loir** 51.41 42 *e*P P 03 40 15.5 -0.1
comp=Z,6.5nm,0.7s
AVF **Avril sur Loir** 51.41 42 *e*P P 03 40 15.5 -0.1
AVF pmax pmax
comp=Z,7.0nm,0.7s
AVF **Avril sur Loir** 51.41 42 *e*P P 03 40 15.5 -0.1
comp=Z,6.5nm,0.7s
632A **Uvalde** 51.43 296 ⇓P P 03 40 16.5 +0.3
baz=52
ECSD **EROS Data Cent** 51.48 314 ⇑P P 03 40 16.4 +0.2
baz=52
V32A **Arapaho** 51.49 304 ⇑P P 03 40 17.2 +0.7
baz=52
X32A **Elmer** 51.50 302 ⇓P P 03 40 17.1 +0.5
baz=52
232A **Coleman** 51.50 299 ⇑P P 03 40 16.6 0.0
baz=52
JCT **Junction City** 51.51 297 *e*P P 03 40 18.4 +1.6
JCT **Junction City** 51.51 297 *e*P P 03 40 18.4 +1.6
Z32A **Haskell** 51.52 301 ⇓P P 03 40 17.0 +0.3
baz=52
332A **Millersview** 51.54 298 ⇓P P 03 40 16.9 0.0
baz=52
732A **Laxson Ranch,** 51.55 295 ⇓P P 03 40 17.5 +0.5
baz=52
U32A **Winter Ranch,** 51.56 304 ⇑P P 03 40 17.6 +0.5
baz=52
W32A **Sentinel** 51.57 303 ⇑P P 03 40 17.6 +0.5
baz=52
532A **Rocksprings** 51.58 296 ⇓P P 03 40 17.4 +0.2
baz=52
ABTX **Abilene, Hawle** 51.58 300 ⇑P P 03 40 17.4 +0.2
baz=52

SSF **Saint Saulge** 51.61 41 *e*P P 03 40 16.7 -0.4
SSF **Saint Saulge** 51.61 41 *e*P P 03 40 16.7 -0.4
SSF **Saint Saulge** 51.61 41 *e*P P 03 40 16.7 -0.4
SMF **Signal de Mont** 51.68 42 *e*P P 03 40 15.2 -2.5
SMF **Signal de Mont** 51.68 42 *e*P P 03 40 15.2 -2.5
SMF **Signal de Mont** 51.68 42 *e*P P 03 40 15.2 -2.5
Q32A **Meitler Ranch,** 51.71 308 ⇓P P 03 40 18.3 +0.2
baz=52
R32A **Long Quarter,** 51.71 307 ⇓P P 03 40 18.4 +0.3
baz=52
P32A **Huiting Farm,** 51.87 309 ⇓P P 03 40 19.4 +0.1
baz=52
LOR **Lormes** 51.91 41 *e*P P 03 40 18.4 -1.0
comp=Z,12nm,1.0s
LOR *e*R
comp=Z,92nm,20.8s
LOR **Lormes** 51.91 41 *e*P P 03 40 18.4 -1.0
comp=Z,12nm,1.0s
BGNE **Belgrade** 51.95 311 ⇑P P 03 40 19.9 +0.1
baz=52
Z31A **Sharp Cattle R** 52.07 300 ⇓P P 03 40 21.0 +0.1
baz=52
231A **Bronte** 52.08 299 ⇓P P 03 40 20.8 -0.2
baz=52
X31A **McDonald Ranch** 52.09 302 ⇓P P 03 40 20.4 -0.6
baz=52
631A **Perdido Creek** 52.11 295 ⇓P P 03 40 20.8 -0.4
baz=52
331A **San Angelo** 52.11 298 ⇓P P 03 40 21.2 0.0
baz=52
T31A **Randall Ranch,** 52.22 305 ⇓P P 03 40 22.2 +0.3
baz=52
431A **Sonora** 52.22 297 ⇑P P 03 40 22.0 -0.1
baz=52
U31A **Nine Bar Ranch** 52.24 304 ⇓P P 03 40 22.3 +0.3
baz=52
Y31A **Rekieta Farm,** 52.24 301 ⇑P P 03 40 21.9 -0.2
baz=52,SNR=5.7
R31A **Buell** 52.31 307 ⇓P P 03 40 22.6 0.0
baz=52,SNR=5.8
Q31A **Ellis** 52.35 308 ⇓P P 03 40 23.0 +0.2
baz=52
P31A **Stockton** 52.44 308 ⇑P P 03 40 23.6 +0.1
baz=52
L31A **Butterfield Fa** 52.63 312 ⇓P P 03 40 25.4 +0.5
baz=53
Y30A **Stafford Cattl** 52.76 301 ⇑P P 03 40 26.4 +0.4
baz=53
330A **Mertzon** 52.76 298 ⇑P P 03 40 26.2 +0.2
baz=53
430A **Baggett Ranch,** 52.77 297 ⇓P P 03 40 26.4 +0.3
baz=53
530A **J-C Ranch, Com** 52.82 296 ⇓P P 03 40 26.5 +0.1
baz=53
Z30A **Sanderson Ranc** 52.89 300 ⇑P P 03 40 27.0 +0.1
baz=53
R30A **Dighton** 52.89 307 ⇓P P 03 40 27.4 +0.5
baz=53
U30A **WK&E Inc. Balk** 52.90 304 ⇓P P 03 40 27.2 +0.2
baz=53
S30A **Montezuma** 52.93 306 ⇑P P 03 40 27.6 +0.4
baz=53
Q30A **Quinter** 52.97 307 ⇓P P 03 40 28.0 +0.5
baz=53
SFTF **Sexfontaines** 52.98 41 *e*P P 03 40 26.5 -0.8
comp=Z,25nm,1.0s
SFTF **Sexfontaines** 52.98 41 *e*P P 03 40 26.5 -0.8
comp=Z,25nm,1.0s
MBDF **Montbardon** 53.02 45 *e*P P 03 40 27.6 -0.3
comp=Z,30nm,1.0s
MBDF **Montbardon** 53.02 45 *e*P P 03 40 27.6 -0.3
MBDF pmax pmax
comp=Z,30nm,1.0s
MBDF **Montbardon** 53.02 45 *e*P P 03 40 27.6 -0.3
comp=Z,30nm,1.0s
O30A **MW Ranch, Wils** 53.08 309 ⇓P P 03 40 28.8 +0.6
baz=53
KEST **Kesra** 53.09 57 LR LR 03 59 55.1
comp=Z,68nm,19.4s,baz=280,slow=33
MEZF **Maizieres J'vi** 53.09 40 *e*P P 03 40 28.1 0.0
comp=Z,54nm,1.1s
MEZF **Maizieres J'vi** 53.09 40 *e*P P 03 40 28.1 0.0
comp=Z,54nm,1.1s
P30A **Selden** 53.10 308 ⇑P P 03 40 28.8 +0.4
baz=53
CABF **La Chapelle** 53.13 43 *e*P P 03 40 28.6 +0.1
CABF **La Chapelle** 53.13 43 *e*P P 03 40 28.6 +0.1
CABF **La Chapelle** 53.13 43 *e*P P 03 40 28.6 +0.1
BAIF **Baives** 53.15 38 *e*P P 03 40 28.3 -0.2
comp=Z,14nm,0.9s
BAIF **Baives** 53.15 38 *e*P P 03 40 28.3 -0.2
BAIF pmax pmax
comp=Z,14nm,0.9s
BAIF **Baives** 53.15 38 *e*P P 03 40 28.3 -0.2
comp=Z,14nm,0.9s
ULM **Lac du Bonnet** 53.22 322 *e*P P 03 40 27.8 -1.2
comp=Z,7.2nm,0.9s
ULM **Lac du Bonnet** 53.22 322 P P 03 40 27.6 -1.4
comp=Z,7.3nm,0.7s,baz=116,slow=5.5,SNR=12
ULM LR LR 03 59 27.2
comp=Z,210nm,18.4s,baz=66,slow=32
M30A **Dale-Ortello V** 53.23 311 ⇓P P 03 40 29.6 +0.2
baz=53
429A **Davenport Ranc** 53.32 297 ⇓P P 03 40 30.0 -0.2
baz=53
Z29A **Hungry Hill Ra** 53.37 300 ⇑P P 03 40 30.4 -0.1
baz=53
J30A **Dallas** 53.38 313 ⇓P P 03 40 30.4 0.0
baz=53
Y29A **Porterfield Fa** 53.40 301 ⇑P P 03 40 30.5 -0.2
baz=53
S29A **Ulysses** 53.44 306 ⇑P P 03 40 30.8 -0.1
baz=54
129A **Stewart Farms,** 53.44 299 ⇓P P 03 40 31.4 +0.3
baz=54
329A **Wagon Wheel Ra** 53.45 298 ⇑P P 03 40 31.3 +0.1
baz=54
AMTX **Amarillo** 53.52 302 *e*P P 03 40 32.1 +0.5
comp=Z,116nm,2.6s
AMTX **Amarillo** 53.52 302 ⇑P P 03 40 31.9 +0.3
baz=54
W29A **Amraillo** 53.52 303 ⇓P P 03 40 32.1 +0.5
baz=54
PAGF **Fort de Pagny** 53.53 40 *e*P P 03 40 31.3 -0.1
PAGF **Fort de Pagny** 53.53 40 *e*P P 03 40 31.3 -0.1
Q29A **Oakley** 53.54 307 ⇓P P 03 40 31.8 +0.1
baz=54
529A **Stev Forest Ra** 53.58 296 ⇑P P 03 40 32.2 +0.1
baz=54
G30A **Faulkton** 53.61 315 ⇓P P 03 40 32.3 +0.3
baz=54
O29A **4D Ranch, Culb** 53.63 309 ⇑P P 03 40 32.7 +0.4
baz=54
P29A **Atwood** 53.63 308 ⇑P P 03 40 32.7 +0.4
baz=54
N29A **Votaw Ranch, W** 53.64 310 ⇓P P 03 40 32.9 +0.5
baz=54
HAU **Haudompre** 53.74 41 *e*P P 03 40 33.0 +0.1
HAU *e*R
comp=Z,82nm,17.2s
HAU **Haudompre** 53.74 41 *e*P P 03 40 33.0 +0.1
HAU **Haudompre** 53.74 41 *e*P P 03 40 33.0 +0.1
L29A **Maesberg Ranch** 53.79 311 ⇓P P 03 40 33.6 +0.2
baz=54
M29A **Burnside Ranch** 53.81 310 ⇓P P 03 40 33.7 0.0
baz=54
K29A **Lazy Trails An** 53.83 312 ⇑P P 03 40 33.6 -0.2
baz=54
E30A **Jud** 53.85 317 ⇓P P 03 40 33.8 +0.1
baz=54
Y28A **McKinney Farm,** 53.88 301 ⇑P P 03 40 33.7 -0.6
baz=54
D30A **Buchanan** 53.93 318 ⇑P P 03 40 33.9 -0.4
baz=54,SNR=6.4
C30A **Mose, Pekin** 53.93 318 ⇓P P 03 40 34.1 -0.3
baz=54
Z28A **Tucker Farm, M** 53.94 300 ⇑P P 03 40 34.7 0.0
baz=54
J29A **Okreek** 53.99 313 ⇓P P 03 40 34.8 0.0
baz=54
HINF **Hinteralfeld** 54.00 41 *e*P P 03 40 34.3 -0.6
comp=Z,20nm,1.1s
HINF **Hinteralfeld** 54.00 41 *e*P P 03 40 34.3 -0.6
HINF pmax pmax
comp=Z,20nm,1.1s
HINF **Hinteralfeld** 54.00 41 *e*P P 03 40 34.3 -0.6
comp=Z,20nm,1.1s

428A **Kincaid Ranch,** 54.01 297 ⇓P P 03 40 35.9 +0.6
baz=54
S28A **Manter** 54.05 305 ⇓P P 03 40 36.0 +0.6
baz=54
B30A **Myrvik Farm, E** 54.08 319 ⇑P P 03 40 35.2 -0.1
baz=54
R28A **Tribune** 54.09 306 ⇑P P 03 40 35.8 +0.1
baz=54
I29A **Vivian Onida** 54.12 314 ⇑P P 03 40 35.9 +0.1
baz=54
628A **Black Gap, Mar** 54.13 295 ⇓P P 03 40 36.6 +0.5
baz=54
U28A **Mallet** 54.14 304 ⇓P P 03 40 36.5 +0.4
baz=54
T28A **Walsh** 54.15 305 ⇑P P 03 40 36.6 +0.4
baz=54
328A **Wristen Ranch,** 54.15 298 ⇓P P 03 40 36.0 -0.2
baz=54
WLF **Walferdange** 54.18 39 *e*P P 03 40 31.7 -4.3
WLF pmax pmax
comp=Z,8.0nm,0.9s
WLF **Walferdange** 54.18 39 *e*P P 03 40 31.7 -4.3
comp=Z,8.0nm,0.9s
A30A **Hoffart Farm,** 54.22 320 ⇑P P 03 40 36.4 0.0
baz=54
Q28A **Sharon Springs** 54.22 307 ⇓P P 03 40 37.3 +0.6
baz=54
N28A **Pribbeno Ranch** 54.29 309 ⇓P P 03 40 37.3 +0.1
baz=54
M28A **Bar X Bar Ranc** 54.30 310 ⇑P P 03 40 38.0 +0.7
baz=54
MSTX **Muleshoe** 54.32 301 *e*P P 03 40 38.0 +0.4
comp=Z,12nm,1.1s
MSTX **Muleshoe** 54.32 301 ⇑P P 03 40 37.6 +0.1
baz=54
627A **Terlingua Ranc** 54.57 295 ⇓P P 03 40 39.7 +0.3
baz=55
K28A **Ten Mile Ranch** 54.58 312 ⇓P P 03 40 39.3 +0.2
baz=55
T27A **Campo** 54.62 305 ⇑P P 03 40 39.8 +0.1
baz=55
U27A **Thompson Grove** 54.62 304 ⇑P P 03 40 39.7 0.0
baz=55
Z27A **Tatum** 54.63 300 ⇑P P 03 40 39.5 -0.3
baz=55
427A **Hayter Ranch,** 54.63 297 ⇑P P 03 40 39.8 0.0
baz=55
Y27A **Causey** 54.63 301 ⇓P P 03 40 40.2 +0.3
baz=55,SNR=7.8
J28A **Allard Ranch,** 54.64 313 ⇑P P 03 40 39.9 +0.3
baz=55
X27A **F and S Farms,** 54.65 302 ⇑P P 03 40 39.8 -0.2
baz=55
W27A **Bowe Ranch, En** 54.66 302 ⇓P P 03 40 39.9 -0.1
baz=55
MDND **Maddock** 54.70 318 ⇓P P 03 40 40.5 +0.6
baz=55
I28A **Midland** 54.73 313 ⇑P P 03 40 40.2 0.0
baz=55
527A **Woodward Ranch** 54.78 296 ⇓P P 03 40 41.3 +0.3
baz=55,SNR=8.0
A29A **Manning Farm,** 54.80 320 ⇓P P 03 40 40.0 -0.6
baz=55,SNR=5.1
TXAR **Lajitas Array** 54.80 295 P P 03 40 40.8 -0.3
TXAR **Lajitas Array** 54.80 295 P P 03 40 40.8 -0.3
comp=Z,1.0nm,0.8s,baz=116,slow=8.5,SNR=5.2
TXAR LR LR 04 02 40.4
comp=Z,67nm,19.9s,baz=340,slow=34
G28A **Parade** 54.81 315 ⇓P P 03 40 40.9 +0.1
baz=55
R27A **Eads** 54.85 306 ⇓P P 03 40 42.1 +0.8
baz=55
P27A **Ficken Ranch,** 54.88 308 ⇓P P 03 40 41.9 +0.4
baz=55
O27A **Beecher Island** 54.91 309 ⇓P P 03 40 42.0 +0.3
baz=55
N27A **Anderson Farm,** 55.06 309 ⇓P P 03 40 43.6 +0.8
baz=55
L27A **T5 Ranch, Ells** 55.13 311 ⇓P P 03 40 43.5 +0.2
baz=55
J27A **Elkhorn Farm,** 55.15 312 ⇓P P 03 40 44.0 +0.6
baz=55
426A **McDonald Obser** 55.16 297 ⇑P P 03 40 44.4 +0.6
baz=55,SNR=6.8
C28A **Hausauer Farms** 55.17 318 ⇑P P 03 40 43.6 +0.3
baz=55
526A **Mary Lane Ranc** 55.19 296 ⇑P P 03 40 45.0 +1.0
baz=55
K27A **Flueckinger Fa** 55.20 312 ⇓P P 03 40 43.9 +0.1
baz=55
W26A **Owens Ranch, T** 55.24 302 ⇑P P 03 40 44.8 +0.6
baz=55
126A **Clayton Basin,** 55.26 299 ⇑P P 03 40 44.7 +0.4
baz=55
Z26A **Caprock** 55.27 300 ⇑P P 03 40 44.8 +0.5
baz=55
S26A **Kim** 55.29 305 ⇓P P 03 40 45.2 +0.7
baz=55
V26A **Tequesquite Ra** 55.33 303 ⇑P P 03 40 45.2 +0.3
baz=55
T26A **Comanche Natio** 55.33 305 ⇓P P 03 40 45.4 +0.5
baz=55
U26A **Atchley Ranch,** 55.36 304 ⇑P P 03 40 45.4 +0.3
baz=55
R26A **Arlington** 55.36 306 ⇑P P 03 40 45.9 +0.9
baz=55
B28A **Dugan Ranch, T** 55.37 319 ⇑P P 03 40 45.2 +0.5
baz=55
P26A **Davis Ranch, A** 55.46 308 ⇓P P 03 40 46.5 +0.7
baz=56
Q26A **Hugo** 55.50 307 ⇓P P 03 40 46.8 +0.7
baz=56
O26A **Horse Wrangler** 55.55 308 ⇑P P 03 40 46.7 +0.4
baz=56
G27A **Dupree** 55.58 315 ⇓P P 03 40 46.6 +0.2
baz=56
M26A **McRoberts Ranc** 55.63 310 ⇑P P 03 40 46.4 -0.4
baz=56
DAVOX **Davos/Dischmat** 55.67 43 P P 03 40 46.6 -0.5
DAVOX **Davos/Dischmat** 55.67 43 P P 03 40 46.6 -0.5
comp=Z,2.7nm,0.7s,baz=262,slow=9.4,SNR=5.5
F27A **Lemmon** 55.76 315 ⇑P P 03 40 47.7 +0.1
baz=56,SNR=6.3
DAVA **Damuels** 55.81 43 ⇑*i*pP P 03 40 48.6 +0.5
comp=Z,8.9nm,1.0s
K26A **Motz Farm, Whi** 55.88 311 ⇓P P 03 40 49.2 +0.6
baz=56
Z25A **Roswell** 55.88 300 ⇓P P 03 40 49.0 +0.2
baz=56
C27A **Sayler Ranch,** 55.89 318 ⇓P P 03 40 49.0 +0.5
baz=56
U25A **Circle Dot Ran** 55.89 304 ⇑P P 03 40 49.9 +1.0
baz=56,SNR=6.0
225A **Deer Hill, Car** 55.91 299 ⇓P P 03 40 49.8 +0.7
baz=56
Y25A **Mesa, Roswell** 55.91 301 ⇑P P 03 40 49.7 +0.7
baz=56
J26A **Sides Ranch, S** 55.93 312 ⇓P P 03 40 49.3 +0.4
baz=56
T25A **Trinidad** 55.97 305 ⇓P P 03 40 50.3 +0.7
baz=56
425A **Indio Mountain** 55.99 297 ⇓P P 03 40 51.3 +1.6
baz=56
325A **Bean Ranch, Si** 56.00 298 ⇑P P 03 40 50.9 +1.1
baz=56
V25A **Rancho No Teng** 56.00 303 ⇑P P 03 40 50.2 +0.5
baz=56
FCC **Fort Churchill** 56.05 332 *e*P P 03 40 49.2 -0.2
FCC **Fort Churchill** 56.05 332 *e*P P 03 40 49.2 -0.2
comp=Z,0.5nm,1.5s
S25A **Robets Cordova** 56.05 305 ⇑P P 03 40 50.5 +0.4
baz=56
Q25A **Bedland, Calha** 56.06 307 ⇑P P 03 40 50.2 0.0
baz=56
P25A **Willow Gulch B** 56.09 307 ⇑P P 03 40 51.7 +1.4
baz=56
O25A **Wiggins** 56.14 308 ⇓P P 03 40 51.6 +1.0
baz=56
F26A **Lodgepole** 56.20 315 ⇓P P 03 40 51.3 +0.6
baz=56
M25A **Palm-Egli Farm** 56.30 310 ⇓P P 03 40 52.2 +0.5
baz=56
C26A **Wahner Farm, P** 56.30 318 ⇓P P 03 40 51.5 0.0
baz=56
D26A **Manning** 56.32 317 ⇓P P 03 40 51.6 0.0
baz=56
MNTX **Cornudas Mount** 56.36 298 *e*P P 03 40 52.4 +0.2
comp=Z,1.9nm,0.8s

Z24A Sheeppen Canyo 56.43 300 ⇑P P 03 40 53.0 +0.2
baz=56

324A Moseley Ranch, 56.44 298 ⇓P P 03 40 52.8 -0.1
baz=56,SNR=5.5

224A Cornudas Mount 56.50 298 ⇓P P 03 40 53.5 +0.3
baz=56,SNR=9.4

V24A Rampart Ranch, 56.52 303 ⇓P P 03 40 54.0 +0.4
baz=56

A26A Wade Farm, Ken 56.56 319 ⇑P P 03 40 53.8 +0.5
baz=57

G25A Newell 56.56 314 ⇓P P 03 40 53.8 +0.4
baz=57

H25A Fruitdale 56.56 314 ⇓P P 03 40 53.6 +0.2
baz=57

W24A Lazy 6 Ranch, 56.59 302 ⇑P P 03 40 55.1 +1.1
baz=57

MOTA Moosalm 56.63 43⇑*i*P P 03 40 51.8 -2.1
comp=Z,5.4nm,0.8s

S24A Houchin Ranch, 56.66 305 ⇓P P 03 40 55.6 +1.0
baz=57

T24B San Luis 56.74 304 ⇓P P 03 40 56.2 +1.1
baz=57

RSSD Black Hills 56.77 313 *e*P P 03 40 55.7 +0.6
RSSD pmax pmax
comp=Z,2.0nm,0.7s

RSSD Black Hills 56.77 313 *e*P P 03 40 55.7 +0.6
comp=Z,2.3nm,0.7s

N24A Carr 56.82 309 ⇑P P 03 40 54.8 -0.7
baz=57

M24A Cheyenne 56.87 310 ⇑P P 03 40 56.2 +0.3
baz=57,SNR=5.4

SDCO Great Sand Dun 56.90 305 *e*P P 03 40 56.7 +0.5
comp=Z,2.5nm,0.9s

D25A Fairfield 56.94 317 ⇓P P 03 40 56.6 +0.6
baz=57

Y23A Lovelace Mesa, 57.04 301 ⇑P P 03 40 58.1 +1.0
baz=57

AQU L'Aquila 57.20 49 *e*P P 03 40 57.9 -0.1
comp=Z,19nm,1.0s

ISCO Idaho Springs 57.23 308 *e*P P 03 41 00.3 +1.8

ISCO Idaho Springs 57.23 308 *e*P P 03 41 00.3 +1.8

ISCO Idaho Springs 57.23 308 ⇓P P 03 40 59.4 +0.9
baz=57,SNR=5.4

H24A Dirks Ranch, A 57.26 314 ⇑P P 03 40 58.6 +0.2
baz=57

T23A Casias Ranch, 57.26 304 ⇑P P 03 41 00.0 +1.3
baz=57

U23A El Rito 57.32 304 ⇓P P 03 41 00.7 +1.6
baz=57,SNR=12

SUMG Summit 57.44 3 *e*P P 03 41 02.8 +3.2
SUMG pmax pmax
comp=Z,5.0nm,0.8s

SUMG Summit 57.44 3 *i*P P 03 41 02.8 +3.2
comp=Z,5.1nm,0.8s

E24A Baker 57.46 316 ⇑P P 03 41 00.5 +0.7
baz=58

O23A Lake Granby, G 57.51 308 ⇑P P 03 41 01.7 +1.2
baz=58

BNM Barren Site 57.52 301 *e*P P 03 41 01.3 +0.7

M23A Laramie 57.54 310 ⇓P P 03 41 01.7 +1.1
baz=58

L23A Garrett 57.62 310 ⇑P P 03 41 01.7 +0.5
baz=58

N23A Red Feather La 57.62 309 ⇓P P 03 41 02.1 +0.8
baz=58

C24A Savage 57.76 317 ⇑P P 03 41 02.4 +0.6
baz=58

Z22A Elephant Butte 57.76 300 ⇓P P 03 41 03.3 +1.1
baz=58

A24A Westby 57.81 319 ⇓P P 03 41 02.7 +0.5
baz=58

DGMT Dagmar 57.83 318 *e*P P 03 41 02.4 +0.1
comp=Z,18nm,0.9s

DGMT Dagmar 57.83 318 ⇑P P 03 41 03.3 +1.0
baz=58

222A Williams Famil 57.84 298 ⇑P P 03 41 03.8 +1.0
baz=58

G23A Biddle 57.93 314 ⇑P P 03 41 03.3 +0.3
baz=58

S22A 4UR Ranch, Cre 57.95 305 ⇓P P 03 41 04.8 +1.1
baz=58

O22A Kremmling 57.99 308 ⇓P P 03 41 05.5 +1.6
baz=58

N22A Wattenberg Ran 58.00 309 ⇑P P 03 41 05.6 +1.7
baz=58

P22A Eagle 58.08 307 ⇑P P 03 41 05.7 +1.2
baz=58

L22A Ellis Ranch, M 58.15 310 ⇑P P 03 41 05.8 +0.9
baz=58

M22A Cedar Creek Ra 58.18 309 ⇑P P 03 41 05.7 +0.6
baz=58

D23A Lindsay 58.20 316 ⇓P P 03 41 05.9 +0.9
baz=58

NKC Novy Kostel 58.22 40 *i*P P 03 41 05.4 +0.4

NKC Novy Kostel 58.22 40 *i*P P 03 41 05.4 +0.4

FFC Flin Flon 58.31 326 *e*P P 03 41 04.9 -0.6
FFC pmax pmax
comp=Z,7.0nm,0.9s

FFC Flin Flon 58.31 326 *e*P P 03 41 04.9 -0.6
comp=Z,7.0nm,0.9s

C23A Lambert 58.32 317 ⇑P P 03 41 06.6 +0.8
baz=58

B23A Brockton 58.34 318 ⇑P P 03 41 06.5 +0.6
baz=58,SNR=5.6

121A Cookes Peak, D 58.43 299 ⇑P P 03 41 06.8 -0.2
baz=58

I22A 9 Mile Ranch, 58.47 312 ⇓P P 03 41 07.1 +0.2
baz=58

H22A Clearmont 58.49 313 ⇑P P 03 41 07.3 +0.2
baz=58

E22A Miles City 58.55 315 ⇑P P 03 41 07.8 +0.4
baz=59

G22A Birney 58.56 314 ⇓P P 03 41 07.9 +0.3
baz=59

F22A Rosebud 58.63 315 ⇓P P 03 41 08.4 +0.4
baz=59

KHC Kasperske Hory 58.66 41*de*P P 03 41 07.6 -0.5
KHC pmax pmax
comp=Z,58nm,2.5s

KHC Kasperske Hory 58.66 41 *i*P P 03 41 07.4 -0.7

KHC Kasperske Hory 58.66 41 *e*P P 03 41 07.4 -0.7

GERES GERESS Array B 58.68 42 P P 03 41 07.2 -1.1

GERES GERESS Array B 58.68 42 P P 03 41 07.2 -1.1
comp=Z,1.1nm,0.8s,baz=243,slow=5.7,SNR=6.1
GERES LR LR 04 01 58.2
comp=Z,62nm,18.6s,baz=278,slow=32

C22A Vida 58.77 317 ⇓P P 03 41 09.3 +0.5
baz=59,SNR=6.3

LAO LASA Array 58.78 316 *e*P P 03 41 10.2 +1.2

D22A Cohagen 58.84 316 ⇑P P 03 41 09.8 +0.4
baz=59

CLL Collm 58.84 39 *i*P P 03 41 08.9 -0.3
CLL *e*S S 03 49 17.0 +2.7
CLL pmax pmax
comp=Z,17nm,1.0s

CLL Collm 58.84 39 *i*P P 03 41 08.9 -0.3
comp=Z,17nm,1.0s
CLL *e*S S 03 49 17.0 +2.7
CLL *e*SS SS 03 53 12.0 +4.4
CLL LmV 04 00 00.0
comp=Z,100nm,20.8s

H21A Big Horn, Sher 58.98 313 ⇑P P 03 41 10.7 +0.2
baz=59

I21A Big Trails, Te 59.03 312 ⇑P P 03 41 10.3 -0.6
baz=59,SNR=5.4

320A Kipp Ranch, An 59.04 298 ⇓P P 03 41 12.3 +1.1
baz=59

A22A Carney Farms, 59.06 318 ⇑P P 03 41 11.4 +0.6
baz=59

J21A Lysite 59.07 312 ⇑P P 03 41 11.4 +0.2
baz=59

MVCO Mesa Verde 59.23 304 ⇓P P 03 41 12.3 -0.2
baz=59

O20A White River Ci 59.27 308 ⇑P P 03 41 13.5 +0.8
baz=59

PV01 Paradox Valley 59.35 305 *e*P P 03 41 15.1 +1.7

PRU Pruhonice 59.47 41 *i*P P 03 41 15.6 +2.0

PRU Pruhonice 59.47 41 *i*P P 03 41 15.6 +2.0

J20A Shoshoni 59.54 312 ⇓P P 03 41 14.6 +0.2
baz=60

PVCC Panska Ves 59.61 40 *i*P P 03 41 20.3 +5.7

I20A Worland 59.65 312 ⇓P P 03 41 15.0 -0.1
baz=60

B21A Ellsworth Farm 59.65 317 ⇑P P 03 41 15.7 +0.7
baz=60

319A Douglas 59.69 298 ⇑P P 03 41 16.1 +0.5
baz=60

A21A Bergtoll Ranch 59.71 318 ⇑P P 03 41 15.8 +0.5
baz=60

CONA Conrad Observa 59.90 43⇑*i*P P 03 41 15.6 -1.1
comp=Z,4.4nm,0.8s

G20A Bridger 59.90 314 ⇑P P 03 41 17.0 +0.2
baz=60

F20A Billings 59.94 314 ⇓P P 03 41 17.8 +0.7
baz=60

E20A Meyer Farm, Mu 60.04 315 ⇑P P 03 41 18.2 +0.5
baz=60

D20A Manuel Ranch, 60.15 316 ⇑P P 03 41 18.9 +0.5
baz=60

J19A Crowheart 60.23 311 ⇓P P 03 41 19.1 -0.1
baz=60

PLCA Paso Flores 60.27 201 *e*P P 03 41 19.3 +0.1
comp=Z,14nm,1.3s

PLCA Paso Flores 60.27 201 P P 03 41 19.4 +0.1
comp=Z,1.4nm,0.7s,baz=66,slow=9.0,SNR=7.0
PLCA LR LR 04 07 37.6
comp=Z,130nm,20.6s,baz=274,slow=36

I19A Meeteetse 60.28 312 ⇓P P 03 41 19.5 -0.1
baz=60

X18A Snowflake 60.28 301 ⇓P P 03 41 20.6 +0.8
baz=60

B20A Solberg Farm, 60.31 317 ⇓P P 03 41 20.2 +0.7
baz=60

A20A Cobblestone Ra 60.33 318 ⇑P P 03 41 20.1 +0.4
baz=60

H19A Powell 60.36 313 ⇓P P 03 41 20.2 +0.1
baz=60

E19A Rath Farm, Rou 60.48 315 ⇓P P 03 41 20.5 -0.3
baz=60

UPC Upice 60.51 40 *i*P P 03 41 20.9 +0.2

UPC Upice 60.51 40 *i*P P 03 41 20.9 +0.2

BW06 Boulder Array 60.54 311 *e*P P 03 41 21.1 -0.2
comp=Z,5.5nm,1.2s

PDAR Pinedale Array 60.54 311 P P 03 41 21.2 -0.2

PDAR Pinedale Array 60.54 311 P P 03 41 21.2 -0.2
comp=Z,1.0nm,0.8s,baz=124,slow=7.9,SNR=8.1
PDAR LR LR 04 04 24.4
comp=Z,131nm,19.9s,baz=97,slow=33

VRAC Vranov 60.63 42 P P 03 41 20.0 -1.7

VRAC Vranov 60.63 42 P P 03 41 20.0 -1.7
comp=Z,3.9nm,0.8s,baz=252,slow=8.4,SNR=5.0
VRAC LR LR 04 05 16.9
comp=Z,119nm,18.8s,baz=254,slow=34

D19A Cripps Ranch, 60.66 316 ⇓P P 03 41 22.7 +0.7
baz=61

DPC Dobruska-Polom 60.67 41 *i*P P 03 41 22.1 +0.2

DPC Dobruska-Polom 60.67 41 *i*P P 03 41 22.1 +0.2

H18A Shoshone NF, C 60.84 313 ⇑P P 03 41 23.3 -0.1
baz=61

C19A Slack Wire Ran 60.86 316 ⇓P P 03 41 23.7 +0.4
baz=61

A19A Klindworth Far 60.87 318 ⇓P P 03 41 24.2 +0.9
baz=61

B19A Brinkman Farms 60.92 317 ⇑P P 03 41 24.4 +0.8
baz=61

TUC Tucson 60.96 299 *e*P P 03 41 24.8 +0.5
TUC pmax pmax
comp=Z,3.0nm,0.8s

TUC Tucson 60.96 299 *e*P P 03 41 24.8 +0.5
comp=Z,2.8nm,0.8s

NOA NORSAR Array B 61.03 28 LR LR 04 03 53.2
comp=Z,60nm,18.4s,baz=255,slow=32

MORC Moravsky Berou 61.33 41 *e*P P 03 41 26.1 -0.3
MORC pmax pmax
comp=Z,2.0nm,0.8s

MORC Moravsky Berou 61.33 41 *e*P P 03 41 26.1 -0.3
comp=Z,2.3nm,0.8s

EGMT Eagleton 61.38 317 ⇑P P 03 41 26.6 -0.3
baz=61

I17A Pilgrim Ck. 61.40 312 ⇓P P 03 41 27.5 +0.2
baz=61

WUAZ Wupatki 61.48 302 *e*P P 03 41 29.2 +1.4
comp=Z,6.1nm,1.0s

WUAZ Wupatki 61.48 302 ⇑P P 03 41 29.3 +1.4
baz=62

X16A Lo Mia Camp, P 61.52 301 ⇑P P 03 41 29.3 +1.2
baz=62

DAU Daniels Canyon 61.60 308 *e*P P 03 41 29.3 +0.6
DAU pmax pmax
comp=Z,6.0nm,0.7s

DAU Daniels Canyon 61.60 308 *e*P P 03 41 29.3 +0.6
comp=Z,5.8nm,0.7s

OKC Ostrava-Krasne 61.73 41 *i*P P 03 41 29.4 +0.4

OKC Ostrava-Krasne 61.73 41 *i*P P 03 41 29.4 +0.4

YMR Madison River 61.76 313 *e*P P 03 41 30.4 +0.7
comp=Z,9.3nm,0.8s

U15A North Rim 62.24 303 ⇓P P 03 41 34.4 +1.3
baz=62,SNR=5.9

BOZ Bozeman (W) 62.34 314 *e*P P 03 41 33.2 -0.2
BOZ pmax pmax
comp=Z,4.0nm,1.0s

BOZ Bozeman (W) 62.34 314 *e*P P 03 41 33.2 -0.2
comp=Z,3.9nm,1.0s

SPUT South Promonto 62.56 309 *e*P P 03 41 35.4 +0.4
comp=Z,10nm,1.0s

PSZ Piszkesteto 62.57 44 *e*P P 03 41 35.1 +0.3
PSZ pmax pmax
comp=Z,4.0nm,0.9s

PSZ Piszkesteto 62.57 44 *e*P P 03 41 35.1 +0.3
comp=Z,4.0nm,0.9s

214A Organ Pipe Nat 62.69 298 ⇓P P 03 41 36.4 +0.6
baz=63

DUG Dugway 62.77 308 *e*P P 03 41 36.6 +0.2
DUG pmax pmax
comp=Z,3.0nm,0.9s

DUG Dugway 62.77 308 *e*P P 03 41 36.6 +0.2
comp=Z,2.8nm,0.9s

DUG Dugway 62.77 308 ⇑P P 03 41 37.2 +0.8
baz=63

BGU Big Grassy Mou 62.97 308 *e*P P 03 41 38.2 +0.4
comp=Z,4.9nm,1.1s

STHS Stebnicka Huta 63.65 42 *e*P P 03 41 39.1 -2.8
STHS pmax pmax
comp=Z,4.0nm,1.4s

STHS Stebnicka Huta 63.65 42 *e*P P 03 41 39.1 -2.8
STHS *e*PCP PcP 03 42 16.8 -1.3

CRVS Cervenica-Dubn 63.73 43 *e*P P 03 41 43.1 +0.7
CRVS pmax pmax
comp=Z,9.0nm,1.2s

CRVS Cervenica-Dubn 63.73 43 *e*P P 03 41 43.1 +0.7

PDMCI Parker Dam,Lak 63.75 301 ⇓P P 03 41 44.0 +1.2
baz=64

SLMT Seeley Lake 63.79 315 *e*P P 03 41 42.6 -0.4
comp=Z,5.0nm,1.0s

HLID Hailey 64.14 311 *e*P P 03 41 45.3 -0.1
comp=Z,4.0nm,1.0s

HLID Hailey 64.14 311 ⇓P P 03 41 45.6 +0.1
baz=64

SWMT Swartz Lake 64.16 316 *e*P P 03 41 45.2 -0.2

UZH Uzhgorod 64.25 43⇑*i*P P 03 41 46.1 +0.3
UZH *e* 03 41 54.1

KOLS Kolonicke sedl 64.27 43 *e*P P 03 41 46.5 +0.6
KOLS pmax pmax
comp=Z,6.0nm,1.2s

KOLS Kolonicke sedl 64.27 43 *e*P P 03 41 46.5 +0.6

IRM Iron Mountain 64.59 301 ⇑P P 03 41 48.9 +0.6
baz=65

BSMT Bassoo Peak 64.72 316 *e*P P 03 41 49.2 +0.1

R11A Troy Canyon, C 64.88 305 ⇓P P 03 41 50.7 +0.3
baz=65

GMRC Granite Mounta 64.99 302 ⇑P P 03 41 52.0 +0.8
baz=65

RES Resolute Bay 65.13 347 *e*P P 03 41 51.1 0.0
comp=Z,14nm,1.6s

TUQ Turquoise Moun 65.19 302 ⇑P P 03 41 53.2 +0.8
baz=65

BELC Belle Mtn. Jos 65.30 301 ⇓P P 03 41 54.2 +1.1
baz=65

TPNV Topopah Spring 65.42 304 ⇑P P 03 41 55.0 +1.1
baz=65

SHOC Shoshone 65.47 303 ⇓P P 03 41 54.6 +0.6
baz=66

LVV L'vov 65.50 42 *e*P P 03 41 53.4 -0.5

HEC Hector,Ludlow 65.54 302 ⇑P P 03 41 55.3 +0.7
baz=66

PFO Pinyon Flat Ob 65.69 300 ⇑P P 03 41 56.4 +0.7
baz=66

MONP Monument Peak 65.70 299 ⇓P P 03 41 56.7 +0.9
baz=66

GSC Goldstone 65.91 302 *e*P P 03 41 58.1 +1.1
GSC pmax pmax
comp=Z,3.0nm,0.7s

GSC Goldstone 65.91 302 *e*P P 03 41 58.0 +1.1
comp=Z,2.7nm,0.7s

BUR08 Bucovina Ar. S 66.11 44 *e*P P 03 41 58.0 -0.1

NEW Newport 66.31 316 *e*P P 03 41 59.0 -0.3
comp=Z,9.6nm,1.0s

NEW Newport 66.31 316 ⇓P P 03 41 59.5 +0.2
baz=66

MLR Muntele Rosu 66.52 47 P P 03 42 00.6 -0.2

MLR Muntele Rosu 66.52 47 P P 03 42 00.6 -0.2
comp=Z,2.6nm,1.1s,baz=332,slow=3.2

BFSC Mount Baldy Ra 66.66 301 ⇓P P 03 42 03.0 +1.1
baz=67

YKA Yellowknife Ar 66.78 332 P P 03 42 00.2 -1.7

YKA Yellowknife Ar 66.78 332 P P 03 42 00.2 -1.7
comp=Z,0.9nm,0.9s,baz=100,slow=7.7,SNR=12

EDW2 Edwards Air Fo 66.90 302 ⇓P P 03 42 03.8 +0.4
baz=67

NVAR Mina Array Bea 67.01 306 P P 03 42 04.0 -0.2

NVAR Mina Array Bea 67.01 306 P P 03 42 04.0 -0.2
comp=Z,1.0nm,0.8s,baz=76,slow=5.1,SNR=6.2
NVAR LR LR 04 09 21.7
comp=Z,101nm,19.1s,baz=254,slow=34

ISA Isabella 67.26 303 ⇑P P 03 42 06.5 +0.9
baz=67

EFI East Falkland 67.52 188⇑*e*P P 03 42 07.4 +0.8

FINES FINESS Array B 68.06 30 P P 03 42 09.1 -0.9

FINES FINESS Array B 68.06 30 P P 03 42 09.1 -0.9
comp=Z,1.7nm,0.8s,baz=278,slow=5.6,SNR=5.2
FINES LR LR 04 04 42.0
comp=Z,87nm,20.3s,baz=206,slow=30

KIEV Kiev 68.87 41⇓*e*P P 03 42 14.9 -0.4

KIEV Kiev 68.87 41 *e*P P 03 42 14.4 -0.8
comp=Z,2.9nm,0.7s

AK01 Malin Array Si 68.87 41 *e*P P 03 42 14.2 -1.1

AKASG Malin Array Be 68.88 41 P P 03 42 13.8 -1.5

AKASG Malin Array Be 68.88 41 P P 03 42 13.8 -1.5

AKASG Malin Array Be 68.88 41 P P 03 42 13.8 -1.5
comp=Z,3.4nm,0.7s,baz=269,slow=4.6,SNR=8.7

ARCES ARCESS Array B 69.28 21 P P 03 42 17.0 -0.5

ARCES ARCESS Array B 69.28 21 P P 03 42 17.0 -0.5
comp=Z,7.0nm,1.1s,baz=341,slow=5.5,SNR=4.1
ARCES LR LR 04 06 56.8
comp=Z,56nm,20.2s,baz=287,slow=31

J04D Umpqua Nationa 69.75 311 ⇑P P 03 42 21.8 +0.6
baz=70

BR131 Keskin Array S 72.38 53 *e*P P 03 42 36.9 -0.2
comp=Z,3.5nm,0.9s

BRTR Keskin Array B 72.38 53 P P 03 42 36.2 -0.9

BRTR Keskin Array B 72.38 53 P P 03 42 36.2 -0.9
comp=Z,2.8nm,0.9s,baz=259,slow=5.0,SNR=16
BRTR LR LR 04 12 16.7
comp=Z,42nm,20.7s,baz=47,slow=34

OBN Obninsk 73.28 36⇑*e*P P 03 42 41.1 -0.8
OBN *e* 03 42 57.3
OBN *e* 03 45 24.1
OBN *e*SS SS 03 56 52.8 +1.5
OBN pmax pmax
comp=Z,20nm,1.6s

INK Inuvik 75.07 337 *e*P P 03 42 51.5 -0.6
comp=Z,5.8nm,1.1s

INK Inuvik 75.07 337 P P 03 42 51.2 -0.9
comp=Z,1.0nm,0.7s,baz=74,slow=8.0,SNR=9.7

VSR Storozhevoye 75.14 40 *e*P P 03 42 51.5 -1.4
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s

VORD Divnogorie 75.24 41 *e*P P 03 42 52.7 -0.8
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,9.0nm,0.8s
VORD pmax pmax
comp=Z,9.0nm,0.8s

VRHR Novokhopersk 76.69 40 *e*P P 03 43 00.1 -1.6
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s

PRGR Permogore 77.39 29 *e*P P 03 43 05.6 +0.2
PRGR *e* 03 43 14.0
PRGR pmax pmax
comp=Z,18nm,0.8s

KIV Kislovodsk 78.51 47⇑*e*P P 03 43 12.7 +0.5
KIV *e* 03 43 19.6
KIV *e* 03 46 09.6
KIV pmax pmax
comp=Z,11nm,1.7s

KIV Kislovodsk 78.51 47 *e*P P 03 43 12.3 +0.1
comp=Z,5.1nm,0.8s

KBZ Khabaz 78.70 48 P P 03 43 12.8 -0.3

KBZ Khabaz 78.70 48 P P 03 43 12.8 -0.3

KBZ Khabaz 78.70 48 P P 03 43 12.8 -0.3
comp=Z,2.9nm,1.0s,baz=324,slow=2.9,SNR=4.0
KBZ LR LR 04 13 24.3
comp=Z,68nm,20.7s,baz=290,slow=32

ZEI Tsey 79.60 48 *e*P P 03 43 17.0 -1.3
ZEI pmax pmax
comp=Z,3.0nm,1.0s

LBTB Lobatse 80.29 119 *e*P P 03 43 21.8 -0.4
comp=Z,17nm,1.5s

GNI Garni 80.75 51 *e*P P 03 43 24.4 -0.1
comp=Z,8.3nm,1.1s

GNI Garni 80.75 51 P P 03 43 24.2 -0.4
comp=Z,0.7nm,0.3s,baz=67,slow=3.3,SNR=3.6

ILAR Eielson Array 80.94 335 P P 03 43 24.8 -0.1

ILAR Eielson Array 80.94 335 P P 03 43 24.8 -0.1
comp=Z,3.3nm,0.7s,baz=72,slow=4.6,SNR=48
ILAR LR LR 04 14 42.3
comp=Z,83nm,20.6s,baz=98,slow=32

COLA College 81.31 335 *e*P P 03 43 26.8 0.0
COLA pmax pmax
comp=Z,10.0nm,1.1s

COLA College 81.31 335 *e*P P 03 43 26.8 0.0
comp=Z,10nm,1.1s

MCK McKinley 82.11 334 *e*P P 03 43 30.9 -0.2
MCK pmax pmax
comp=Z,5.0nm,0.9s

MCK McKinley 82.11 334 *e*P P 03 43 30.9 -0.2
comp=Z,5.2nm,0.9s

ARU Arti 85.15 33 *e*P P 03 43 47.1 +0.3

ARU Arti 85.15 33 *e*P P 03 43 47.1 +0.3

SVE Sverdlovsk 86.08 32 *e*P P 03 43 52.0 +0.6
SVE pmax pmax
comp=Z,8.0nm,1.0s

AKTO Aktyubinsk 86.93 38 P P 03 43 55.7 0.0

AKTO Aktyubinsk 86.93 38 P P 03 43 55.7 0.0

AKTO Aktyubinsk 86.93 38 P P 03 43 55.7 0.0
comp=Z,3.3nm,1.1s,baz=293,slow=8.2,SNR=3.8

ABKAR Akbulak array 88.51 39 *e*P P 03 44 03.5 +0.2
comp=Z,4.1nm,0.9s

SNAA Sanae 91.44 168 *e*P P 03 44 17.0 +0.5
comp=Z,6.5nm,1.3s

TIXI Tiksi 93.21 2⇑*e*P P 03 44 24.4 -0.3
TIXI pmax pmax
comp=Z,4.0nm,1.0s

KURK Kurchatov 98.33 32 P Pdif 03 44 48.7 +0.2

KURK Kurchatov 98.33 32 P Pdif 03 44 48.6 +0.2

KURBB Kurchatov Arra 98.34 32 P Pdif 03 44 48.6 +0.1
comp=Z,0.3nm,0.8s,baz=300,slow=5.3,SNR=3.6

KSH Kashi 103.15 42 *e*P Pdif 03 45 12.2 +1.8

KSH *e*PP PKiKP 03 49 31.2 +1.2

KSH *e*SKS SKSac 03 55 49.9 -0.3

KSH *e*S Sdif 03 56 56.7 -0.5

KSH *e*sS sS 03 57 04.4
KSH pmax pmax
comp=Z,60nm,3.3s

WMQ Urumqi 107.48 33 Pdif Pdif 03 45 31.6 +2.1

WMQ PP PP 03 50 00.3 +3.9

WMQ AMB AMB
comp=Z,8.0nm,10.1s

WMQ LR LR
comp=Z,73nm,24.6s

WMQ LR LR
comp=Z,81nm,27.8s

WMQ LR LR
comp=Z,74nm,26.2s

HHC Hu-ho-hao-te 120.35 20 *e*PKP PKPdf 03 49 56.0 -6.5

HHC SKS SKSdf 03 57 06.6 -7.8

HHC LR LR
comp=Z,330nm,16.0s

HHC LR LR
comp=Z,300nm,16.0s

HHC LR LR

comp=Z,130nm,12.2s
LZH Lanzhou 121.41 29 *e*PKP **PKPdf** 03 50 04.1 **-0.7**
LZH sPKP 03 50 08.6
LZH LR LR
comp=Z,150nm,18.1s
LZH LR LR
comp=Z,160nm,18.0s
LZH LR LR
comp=Z,200nm,20.2s
CD2 Chengdu 125.56 32 *e*PKP **PKPdf** **03 50 11.6 -1.1**
GYA Guiyang 130.64 33 *e*Pdif **Pdif** **03 47 10.6 -2.3**
GYA PKP **PKPdf** **03 50 21.2 -1.4**
GYA PP **PP** **03 52 40.8 +4.4**
NJ2 Nanjing 130.70 17 *e*PKP **PKPdf** **03 50 21.2 -1.2**

*ISCJB **08** 03:31:55.6±2.0, 17°.3N±0°.4×40°.4E±0°.2, h10km, mb3.6/6, MS2.6/1, Error ellipse: s-maj=53.8km s-min=23.4km az=158.7*
*IDC **08** 03:31:56.4±2.2, 17°.42N×40°.30E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.4/26, mbtmp3.6/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=62.7km s-min=26.2km az=158.0*
ISC 08 03:31:58.0±2.2, 17°.4N±0°.4×40°.3E±0°.2, h10km, n7, σ0§43/6, mb3.7/6, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
BRTR	**Keskin Array B**	**22.96**	**347**	P		**P**	**03 37 02.8**	**+0.1**
	0.9nm,0.9s,baz=163,slow=8.7,SNR=7.2							
GNI	**Garni**	**22.97**	**9**	LR		LR	03 46 37.4	
	comp=Z,21nm,18.8s,baz=82,slow=38							
TORD	**Torodi Ar. Bea**	**37.42**	**269**	P		**P**	**03 39 11.7**	**0.0**
	1.6nm,0.9s,baz=79,slow=8.3,SNR=7.2							
KURBB	**Kurchatov Arra**	**45.01**	**34**	P		**P**	**03 40 13.8**	**+0.2**
	0.3nm,0.7s,baz=239,slow=8.3,SNR=4.8							
MKAR	**Makanchi Array**	**45.28**	**40**	P		**P**	**03 40 15.7**	**-0.2**
	0.6nm,0.9s,baz=227,slow=7.7,SNR=3.3							
ZALV	**Zalesovo Beam**	**50.03**	**33**	P		**P**	**03 40 52.0**	**-0.6**
	1.1nm,0.7s,baz=249,slow=7.6,SNR=5.6							
SONM	**Songino Array**	**61.29**	**45**	P		**P**	**03 42 14.1**	**+0.3**
	0.6nm,0.8s,baz=275,slow=6.9,SNR=4.3							

*ISCJB **08** 03:39:41.8±0.5, 23°.17S±0°.04×66°.6W±0°.1, h208km, mb3.6/6, Error ellipse: s-maj=15.0km s-min=5.2km az=3.4*
*SJA **08** 03:39:41.3±0.4, 23°.37S×66°.52W, h356km±30km, MD3.8, ML3.3, MW3.0*
*IDC **08** 03:39:41.6±1.5, 23°.19S×66°.67W, h196km±14km, mb3.5/6, mb1 3.6/11, mb1mx3.4/22, mbtmp4.0/11, Error ellipse: s-maj=19.7km s-min=11.9km az=97.0*
ISC 08 03:39:42.2±0.6, 23°.22S±0°.05×66°.8W±0°.1, h208km, n22, σ1§90/27, mb3.6/6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CYA	**Choya**	**5.27**	**170**	*e*P		**Pn**	**03 41 03.3**	**+3.0**
CYA				IAML			03 41 04.5	
	comp=Z,4.4nm,0.7s							
CYA				*i* S		**S**	**03 42 03.4**	**+1.6**
ACLC	**CERRO LA CRUZ**	**6.18**	**181**	*e*P		**Pn**	**03 41 13.8**	**+1.7**
AGUA	**GUANDACOL**	**6.42**	**193**	*e*P		**Pn**	**03 41 17.6**	**+2.5**
LPAZ	**La Paz**	**7.01**	**349**	P		**Pn**	**03 41 24.2**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=163,slow=7.7,SNR=32							
LPAZ				S		**S**	**03 42 41.4**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=302,slow=16,SNR=5.1							
APLL	**PUNTA DE LOS L**	**7.15**	**178**	*e*P		**Pn**	**03 41 25.3**	**+0.9**
AVFE	**Valle Fertil**	**7.43**	**184**	*i* P		**Pn**	**03 41 28.9**	**+0.7**
AVFE				*i* S		**S**	**03 42 48.8**	**-3.6**
AVFE				IAML			03 42 53.6	
	comp=Z,7.4nm,0.3s							
AMOG	**MOGNA**	**7.83**	**191**	*e*P		**Pn**	**03 41 34.2**	**+0.9**
AMOG				*i* S		**S**	**03 42 57.7**	**-4.2**
RTLL	**Cerro Villicun**	**8.21**	**190**	*e*P		**Pn**	**03 41 38.5**	**+0.3**
CFAA	**Coronel Fontan**	**8.45**	**188**	P		**Pn**	**03 41 42.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=22,slow=9.3,SNR=11							
CFAA				S		**S**	**03 43 12.8**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=276,slow=20,SNR=9.2							
CFAA	**Coronel Fontan**	**8.45**	**188**	*e*P		**Pn**	**03 41 41.4**	**+0.1**
SIV	**San Ignacio**	**8.99**	**38**	P		**Pn**	**03 41 46.5**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=230,slow=12,SNR=16							
PLCA	**Paso Flores**	**17.74**	**189**	P		**Pn**	**03 43 36.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=20,slow=11,SNR=6.7							
BDFB	**Brasilia**	**19.24**	**70**	P		**P**	**03 43 51.4**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=247,slow=11,SNR=14							
PTGA	**Pitinga**	**23.32**	**17**	P		**P**	**03 44 30.2**	**-1.7**
	comp=Z,2.9nm,0.6s,baz=206,slow=15,SNR=6.3							
RCBR	**Riachuelo**	**34.42**	**65**	P		**P**	**03 46 10.4**	**+0.2**
	comp=Z,15nm,1.2s,baz=100,slow=7.4,SNR=4.7							
SNAA	**Sanae**	**60.02**	**161**	P		**P**	**03 49 28.3**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=306,slow=14,SNR=3.0							
TORD	**Torodi Ar. Bea**	**76.12**	**69**	P		**P**	**03 51 06.4**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=258,slow=5.9,SNR=20							
PDAR	**Pinedale Array**	**76.58**	**329**	P		**P**	**03 51 11.2**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=118,slow=7.2,SNR=3.1							
YKA	**Yellowknife Ar**	**93.46**	**340**	P		**P**	**03 52 34.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=133,slow=4.8,SNR=6.9							
ASAR	**Alice Springs**	**129.24**	**205**	PKP		**PKPdf**	**03 58 26.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=129,slow=2.5,SNR=3.1							
WRA	**Warramunga Arr**	**132.40**	**207**	PKP		**PKPdf**	**03 58 33.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=161,slow=1.9,SNR=9.3							
MKAR	**Makanchi Array**	**145.81**	**39**	PKPbc		**PKPbc**	**03 58 57.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=314,slow=3.0,SNR=15							

IDC 08 04:05:27.3±1.8, 8°.61S×125°.18E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=164.9km s-min=31.2km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**14.33**	**143**	Pn		Pn	04 08 52.5	+0.8
	0.4nm,0.3s,baz=319,slow=13,SNR=28							
WRA				Sn		Sn	04 11 23.1	-8.4
	0.3nm,0.3s,baz=116,slow=30,SNR=7.4							
ASAR	**Alice Springs**	**17.14**	**152**	P		Pn	04 09 27.8	-0.8
	0.2nm,0.3s,baz=320,slow=12,SNR=10							
ASAR				S		Sn	04 12 28.9	-11
	0.2nm,0.3s,baz=310,slow=21,SNR=7.1							
MKAR	**Makanchi Array**	**67.06**	**329**	P		P	04 16 22.5	0.0
	0.4nm,0.5s,baz=130,slow=7.0,SNR=9.6							

*ISCJB **08** 04:09:32.9±0.3, 7°.50S±0°.04×128°.11E±0°.06, h142km, mb4.3/26, Error ellipse: s-maj=8.5km s-min=4.5km az=158.0*
*NEIC **08** 04:09:37.0±0.7, 7°.52S×128°.24E, h173km±8km, mb4.5/14, Error ellipse: s-maj=10.5km s-min=7.0km az=213.0*
*IDC **08** 04:09:39.6±3.9, 7°.63S×127°.98E, h199km±39km, mb3.7/8, mb1 3.9/10, mb1mx3.7/21, mbtmp3.8/10, Error ellipse: s-maj=26.0km s-min=12.2km az=53.0*
ISC 08 04:09:33.6±0.4, 7°.67S±0°.05×128°.10E±0°.08, h142km, n50, σ1§88/61, mb4.4/26, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SAUI	**Saumlaki**	**3.19**	**96**	*e*Pn		Pn	04 10 26.9	+3.9
SOEI	**Soe**	**4.32**	**241**	*e*Pn		Pn	04 10 43.4	+5.5
FAKI	**Fak Fak**	**6.27**	**41**	*e*Pn		**Pn**	**04 11 02.8**	**-1.2**
LUWI	**Luwuk**	**8.46**	**321**	*e*Pn		Pn	04 11 37.7	+4.5
KAPI	**Kappang**	**8.71**	**287**	*e*Pn		Pn	04 11 40.9	+4.4
WRAB	**Tennant Creek**	**13.61**	**154**	*e*Pn		**Pn**	**04 12 42.2**	**+1.3**
WRAB				*e*Sn		**Sn**	**04 15 07.4**	**-4.2**
WRA	**Warramunga Arr**	**13.61**	**154**	P		**Pn**	**04 12 42.0**	**+1.0**
	4.7nm,0.3s,baz=327,slow=13,SNR=51							
WRA				S		**Sn**	**04 15 08.0**	**-3.7**
	5.8nm,0.3s,baz=325,slow=24,SNR=19							
MBWA	**Marble Bar**	**15.66**	**210**	*e*Pn		**P**	**04 13 10.9**	**+3.2**
MBWA				*e*S		**Sn**	**04 15 58.6**	**-2.2**
COEN	**Coen**	**16.07**	**114**	*e*Pn		**P**	**04 13 13.6**	**+1.3**
COEN				*e*S		Sn	04 16 00.5	-10
AS31	**Alice Springs**	**16.85**	**161**	*e*P		**Pn**	**04 13 25.1**	**+3.9**
AS31				*e*S		**Sn**	**04 16 28.2**	**-1.2**
ASAR	**Alice Springs**	**16.85**	**161**	P		**Pn**	**04 13 23.8**	**+2.6**
	2.2nm,0.3s,baz=340,slow=11,SNR=125							
ASAR				S		**S**	**04 16 27.2**	**-2.0**
	1.4nm,0.3s,baz=318,slow=18,SNR=10.0							
KKM	**Kota Kinabalu**	**18.06**	**319**	*e*P		**Pn**	**04 13 37.3**	**+1.4**
	18nm,0.9s							
SBUM	**Sibu**	**18.76**	**302**	*e*P		**Pn**	**04 13 44.2**	**+0.2**
	26nm,0.8s							
PMG	**Port Moresby**	**18.93**	**97**	*e*P		**P**	**04 13 43.6**	**-0.1**
	52nm,0.8s							
PMG	**Port Moresby**	**18.93**	**97**	P		**Pn**	**04 13 48.0**	**+2.1**
	1.4nm,0.3s,baz=270,slow=6.2,SNR=9.8							
KSM	**Kuching**	**19.94**	**296**	*e*P		**Pn**	**04 13 57.6**	**-0.1**
	24nm,0.7s							
CTA	**Charters Tower**	**21.48**	**127**	P		**P**	**04 14 13.1**	**+1.9**
	5.0nm,0.5s,baz=299,slow=12,SNR=8.7							
CTAO	**Charters Tower**	**21.48**	**127**	*e*P		**P**	**04 14 13.4**	**+2.2**
	6.5nm,0.7s							
STKA	**Stephens Creek**	**27.17**	**154**	P		**P**	**04 15 05.9**	**+2.1**
	1.9nm,0.5s,baz=330,slow=8.6,SNR=10							
IPM	**Ipoh**	**29.59**	**293**	*e*P		**P**	**04 15 26.3**	**+0.8**
	12nm,0.8s							
KULM	**Kulim**	**30.26**	**294**	*e*P		**P**	**04 15 31.5**	**+0.1**
	9.8nm,0.7s							
PSI	**Prapat**	**30.91**	**289**	P		**P**	**04 15 36.8**	**-0.6**
	2.2nm,0.4s,baz=288,slow=8.0,SNR=4.4							
SLVN	**Son La**	**37.35**	**321**	*e*P		**P**	**04 16 32.8**	**+0.1**
	6.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**38.75**	**312**	P		**P**	**04 16 44.0**	**-0.4**
	1.1nm,0.3s,baz=143,slow=7.5,SNR=8.4							
CHTO	**Chiang Mai**	**38.98**	**313**	*e*P		**P**	**04 16 46.6**	**+0.3**
	3.1nm,0.5s							
GYA	**Guiyang**	**39.80**	**329**	*e*P		**P**	**04 16 55.0**	**+1.9**
GYA				pP		pP	04 17 32.8	+8.3
GYA				sP		sP	04 17 52.4	+12
GYA				PP		**PnPn**	**04 18 34.2**	**+1.9**
GYA				PcP		**PcP**	**04 18 56.6**	**0.0**
GYA				ScP		**ScP**	**04 22 29.0**	**-3.4**
GYA				S		**S**	**04 22 47.3**	**+0.3**
GYA				ScS		**ScS**	**04 26 41.4**	**-4.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**44.90**	**330**	*e*P		**P**	**04 17 35.7**	**+1.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
XAN	**Xi'an**	**45.29**	**337**	P		**P**	**04 17 35.3**	**-2.0**
XAN				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BJI	**Beijing**	**48.74**	**348**	P		**P**	**04 18 02.3**	**-1.5**
BJI				S		**S**	**04 24 55.3**	**-0.4**
BJI				pmax		pmax		
	comp=Z,8.0nm,1.0s							
BJI				LR		LR		
	comp=Z,54nm,19.0s							
LZH	**Lanzhou**	**49.14**	**334**	↓P		**P**	**04 18 06.9**	**-0.3**
LZH				pP		pP	04 18 46.1	+6.4
LZH				sP		sP	04 19 05.8	+10
LZH				PcP		**PcP**	**04 19 27.2**	**-1.3**
LZH				PP		**PP**	**04 20 04.0**	**+1.6**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,78nm,5.8s							
HHC	**Hu-ho-hao-te**	**50.63**	**344**	*e*P		**P**	**04 18 20.6**	**+2.3**
HHC				pP		pP	04 18 59.5	+8.6
HHC				PP		PP	04 20 22.2	+6.5
HHC				pmax		pmax		
	comp=Z,41nm,1.1s							
HHC				pmax		pmax		
	comp=Z,180nm,4.5s							
CN2	**Changchun**	**51.29**	**358**	*e*P		**P**	**04 18 26.0**	**+3.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
LSA	**Lhasa**	**51.41**	**318**	*e*P		**P**	**04 18 24.8**	**0.0**
	9.0nm,0.7s							
MDJ	**Mudanjiang**	**52.06**	**1**	P		**P**	**04 18 30.0**	**+1.3**
MDJ				pmax		pmax		
	comp=Z,78nm,5.3s							
GTA	**Gaotai**	**53.68**	**333**	*e*P		**P**	**04 18 39.9**	**-1.0**
GTA				pP		pP	04 19 19.6	+5.7
GTA				sP		sP	04 19 39.3	+10
GTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
ULN	**Ulaanbaatar**	**58.34**	**343**	*e*P		**P**	**04 19 13.0**	**-0.9**
	4.6nm,1.0s							
SONM	**Songino Array**	**58.50**	**343**	P		**P**	**04 19 15.1**	**+0.1**
	3.2nm,0.8s,baz=164,slow=8.1,SNR=24							
WMQ	**Urumqi**	**62.95**	**328**	P		**P**	**04 19 45.6**	**+0.5**
WMQ				pP		**PcP**	**04 20 26.7**	**+4.8**
WMQ				sP		sP	04 20 45.9	+11
WMQ				LR		LR		
	comp=N,31nm,19.5s							
WMQ				LR		LR		
	comp=E,26nm,21.6s							
WMQ				LR		LR		
	comp=Z,21nm,20.2s							
KSH	**Kashi**	**67.25**	**319**	*e*P		**P**	**04 20 12.2**	**-0.9**
KSH				*e*PP		**PP**	**04 22 42.2**	**-1.1**
KSH				*e*PcS			04 24 44.1	
KSH				*e*S		S	04 28 46.9	-10
KSH				pmax		pmax		
	comp=Z,25nm,2.0s							
KSH				pmax		pmax		
	comp=Z,140nm,3.4s							
KSH				LR		LR		
	comp=N,55nm,3.1s							
KSH				LR		LR		
	comp=E,59nm,3.4s							
KSH				LR		LR		
	comp=Z,50nm,4.4s							
MK31	**Makanchi Array**	**67.77**	**328**	*e*P		**P**	**04 20 15.2**	**-0.8**
MKAR	**Makanchi Array**	**67.77**	**328**	P		**P**	**04 20 15.2**	**-0.9**
	1.1nm,0.6s,baz=126,slow=7.6,SNR=13							
AAK	**Ala-Archa**	**69.85**	**321**	*e*P		**P**	**04 20 29.2**	**+0.1**
	17nm,1.5s							
EKS2	**Erkin-Say**	**70.31**	**320**	*e*P		**P**	**04 20 31.4**	**-0.5**
	39nm,1.9s							
ZALV	**Zalesovo Beam**	**71.36**	**335**	P		**P**	**04 20 36.4**	**-1.5**
	1.4nm,0.6s,baz=127,slow=5.0,SNR=8.9							
KURK	**Kurchatov**	**72.12**	**329**	*e*P		**P**	**04 20 41.1**	**-1.3**
	6.1nm,1.4s							
SEY	**Seymchan**	**72.82**	**11**	P		**P**	**04 20 44.9**	**-1.4**
	1.7nm,0.6s,baz=246,slow=23,SNR=5.1							
ABKAR	**Akbulak array**	**81.87**	**322**	*e*P		**P**	**04 21 36.2**	**-0.8**
YKA	**Yellowknife Ar**	**109.18**	**26**	PKiKP		**PKiKP**	**04 27 46.3**	**0.0**
	0.1nm,0.5s,baz=289,slow=2.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**127.08**	**281**	PKP		**PKPdf**	**04 28 20.6**	**-1.4**
	0.3nm,0.4s,baz=52,slow=2.1,SNR=8.1							
LPAZ	**La Paz**	**151.28**	**146**	PKPbc		**PKPbc**	**04 29 12.2**	**+0.1**
	0.4nm,0.4s,baz=162,slow=9.6,SNR=4.5							

IDC 08 04:20:59.4±1.1, 3°.61N×125°.24E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/23, mbtmp3.4/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=59.0km s-min=21.0km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
FITZ	**Fitzroy Crossi**	**21.57**	**179**	LR		LR	04 36 22.2	
	comp=Z,77nm,18.7s,slow=43							
WRA	**Warramunga Arr**	**25.05**	**159**	P		P	04 26 24.0	-1.6
	0.5nm,1.0s,baz=339,slow=10,SNR=5.7							
ASAR	**Alice Springs**	**28.39**	**163**	P		P	04 26 57.6	+1.8
	0.2nm,0.6s,baz=350,slow=10,SNR=3.4							
SONM	**Songino Array**	**46.96**	**343**	P		P	04 29 31.6	-0.6
	0.2nm,0.5s,baz=148,slow=8.5,SNR=2.5							
PETK	**Petropavlovsk-**	**56.11**	**23**	P		P	04 30 40.8	+0.2
	1.9nm,0.7s,baz=240,slow=11,SNR=4.9							
MKAR	**Makanchi Array**	**56.82**	**326**	P		P	04 30 45.8	+0.1
	0.2nm,0.7s,baz=122,slow=6.3,SNR=4.9							
KURBB	**Kurchatov Arra**	**61.05**	**328**	P		P	04 31 14.9	-0.1
	0.2nm,0.5s,baz=132,slow=5.0,SNR=4.3							

*ISCJB **08** 04:23:34.4±1.0, 38°.66N±0°.09×71°.17E±0°.09, h10km, mb3.5/5, Error ellipse: s-maj=13.0km s-min=9.2km az=154.4*
*IDC **08** 04:23:35.2±2.2, 38°.90N×71°.23E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/28, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=53.2km s-min=20.7km az=157.0*
*NNC **08** 04:23:38.1±3.0, 38°.89N×71°.35E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=23.2km s-min=15.9km az=0.0*
ISC 08 04:23:35.8±1.4, 38°.7N±0°.1×71°.29E±0°.09, h10km, n22, σ1§77/24, mb3.5/5, 9C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
AML	**Almayashu**	**3.90**	**27**	P		**Pn**	**04 24 36.4**	**+0.1**
	SNR=13							
UCH	**Uchtor**	**4.31**	**34**	P		**Pn**	**04 24 44.1**	**+2.3**
	SNR=6.3							
EKS2	**Erkin-Say**	**4.40**	**25**	P		**Pn**	**04 24 44.6**	**+1.8**
	SNR=13							
KK31	**Karatay Array**	**4.45**	**353**	↓Pn		**Pn**	**04 24 45.0**	**+1.6**
	13nm,0.3s,baz=173,slow=13,SNR=307							
KK31				↑Sn		**Sn**	**04 25 37.0**	**+1.7**
	5.4nm,0.4s,baz=160,slow=20,SNR=3.7							
KK31				↑Lg		Lg	04 25 53.5	
	16nm,0.5s							
AAK	**Ala-Archa**	**4.64**	**31**	↓Pn		**Pn**	**04 24 47.9**	**+1.8**
	17nm,0.8s							
AAK				↑Sn		**Sn**	**04 25 38.3**	**-1.8**
	20nm,0.7s							
AAK				↓Lg		Lg	04 25 56.7	
	29nm,0.9s							
AAK	**Ala-Archa**	**4.64**	**31**	P		**Pn**	**04 24 48.3**	**+2.2**
	SNR=10							
KBK	**Karagaybulak**	**4.85**	**34**	P		Pn	04 24 52.4	+3.4
	SNR=8.2							
CHMS	**Chumysh**	**5.05**	**30**	P		Pn	04 24 54.4	+2.8
	SNR=8.9							
USP	**Ospenovka**	**5.18**	**27**	P		**Pn**	**04 24 55.7**	**+2.2**
	SNR=17							
ULHL	**Ulahol**	**5.19**	**45**	P		**Pn**	**04 24 53.6**	**-0.2**
	SNR=7.2							
TKM2	**Tokmak 2**	**5.35**	**36**	↓Pn		**Pn**	**04 24 57.2**	**+1.3**
	22nm,1.6s							
TKM2				↑Pg		Pg	04 25 13.5	-4.7
	18nm,1.0s							
TKM2				↑Sn		**Sn**	**04 25 59.1**	**+1.5**
	9.7nm,0.7s							
TKM2				↑Lg		Lg	04 26 23.3	
	15nm,0.7s							
MK31	**Makanchi Array**	**11.44**	**41**	↑P		**Pn**	**04 26 17.7**	**-1.6**
	1.8nm,0.9s							
MKAR	**Makanchi Array**	**11.44**	**41**	Pn		**Pn**	**04 26 18.6**	**-0.6**
	0.1nm,0.3s,baz=228,slow=14,SNR=9.7							
AB31	**Akbulak array**	**13.34**	**326**	↑P		**Pn**	**04 26 44.2**	**-0.9**
	1.2nm,0.6s							
AB31				↑S		**Sn**	**04 29 10.9**	**-2.5**
	1.0nm,0.6s,baz=133,slow=27,SNR=5.2							
BVA0	**Borovoye Array**	**14.36**	**358**	P		**Pn**	**04 26 58.2**	**-0.9**
	2.4nm,1.1s,baz=162,slow=12,SNR=7.7							
AKTO	**Aktyubinsk**	**15.05**	**326**	↓P		**Pn**	**04 27 10.7**	**+2.3**
	5.4nm,1.5s							
ZALV	**Zalesovo Beam**	**17.85**	**27**	P		**Pn**	**04 27 40.9**	**-3.3**
	0.3nm,0.3s,baz=223,slow=11,SNR=7.0							
SONM	**Songino Array**	**26.96**	**59**	P		**P**	**04 29 19.7**	**+2.2**
	0.3nm,0.7s,baz=271,slow=9.5,SNR=3.0							
FINES	**FINESS Array B**	**35.82**	**324**	P		**P**	**04 30 35.1**	**0.0**
	4.2nm,1.2s,baz=108,slow=6.2,SNR=5.9							
ARCES	**ARCESS Array B**	**39.22**	**337**	P		**P**	**04 31 03.5**	**-0.4**
	3.1nm,0.9s,baz=119,slow=10,SNR=8.1							
TORD	**Torodi Ar. Bea**	**66.01**	**268**	P		**P**	**04 34 23.0**	**+0.1**
	0.2nm,0.5s,baz=50,slow=5.2,SNR=4.8							
YKA	**Yellowknife Ar**	**79.06**	**3**	P		**P**	**04 35 38.7**	**-1.1**
	0.1nm,0.6s,baz=348,slow=5.8,SNR=4.2							

*IDC **08** 04:29:04.7±0.5, 8°.80S×157°.69E, h0km, mb4.7/21, mb1 4.8/24, mb1mx4.8/26, mbtmp4.6/24, ML4.0/3, MS4.3/21, Ms1 4.3/21, ms1mx4.1/30, Error ellipse: s-maj=17.1km s-min=13.6km az=99.0*
*MOS **08** 04:29:04.7±4.0, 8°.80S×157°.69E, h33km, mb5.2/22, Error ellipse: s-maj=8.9km s-min=5.3km az=53.6*
*GCMT **08** 04:29:08.7±0.2, 8°.79S×157°.67E, h12km, MW5.0/77, Moment Tensor Solution. s48,c56; s77,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.65±.16; $M_{\theta\theta}$1.49±.14; $M_{\phi\phi}$-4.15±.13; $M_{r\theta}$1.51±.40; $M_{\theta\phi}$1.48±.10; $M_{\phi r}$-1.97±.33; Best double couple: M≈4.48600×10^{16} NP1:ϕ_s144.00000°, δ66.00000°, λ63.00000°. NP2: ϕ_s15.00000°, δ36.00000°, λ135.00000°. Principal axes: T 3.7860, Plg60.0000°, Azm14.0000°; N 1.3910, Plg25.0000°, Azm156.0000°; P -5.1870, Plg16.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 04:29:08.6, 8°.43S×157°.83E, h27km, mB5.2/33, mb4.9/44, Ms5.0/28, Ms7 4.7/12*
*NEIC **08** 04:29:08.7±2.2, 8°.80S×157°.62E, h23km±15km, mb5.2/54, Error ellipse: s-maj=6.2km s-min=5.3km az=150.0*
*ISCJB **08** 04:29:09.3±0.1, 8°.75S±0°.03×157°.52E±0°.03, h33km, mb5.0/92, MS4.3/29, Error ellipse: s-maj=4.9km s-min=3.9km az=143.5*
ISC 08 04:29:10.1±0.3, 8°.81S±0°.05×157°.70E±0°.04, h33km±1km, h33km:pP-P, n323, σ1§28/344, mb5.1/89, MS4.3/30, 40C-44D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
HNR	**Honiara**	**2.31**	**106**	P		**Pn**	**04 29 44.0**	**-1.9**
HNR				Sn		**Sn**	**04 30 19.9**	**+0.7**
HNR	**Honiara**	**2.31**	**106**	Pn		**Pn**	**04 29 43.9**	**-1.9**
	48nm,0.3s,baz=300,slow=4.2,SNR=17							
HNR				Sn		**Sb**	**04 30 19.9**	**+0.7**
	738nm,0.3s,baz=288,slow=17,SNR=13							
HNR				LR		LR	04 30 39.2	
	comp=Z,7μm,20.7s,baz=111,slow=41							
HNR	**Honiara**	**2.31**	**106**	*i* P		Pn	04 29 42.0	-3.8
HNR				*i* S		**Sb**	**04 30 22.0**	**+2.8**
PMG	**Port Moresby**	**10.42**	**266**	*e*Pn		Pn	04 31 40.8	+3.4
PMG	**Port Moresby**	**10.42**	**266**	Pn		**Pn**	**04 31 40.0**	**+2.6**
	0.7nm,0.3s,baz=63,slow=4.3,SNR=4.0							
COEN	**Coen**	**15.13**	**249**	*e*Pn		**P**	**04 32 44.2**	**-2.2**
PATS	**Pohnpei**	**15.55**	**2**	P		**Pn**	**04 32 46.0**	**-1.1**
	baz=16,SNR=4.6							
DZM	**Mont Dzumac**	**15.64**	**148**	*e*P		**Pn**	**04 32 48.7**	**+0.5**
	143nm,1.5s							
DZM				*e*LR

comp=Z,838nm,21.8s,baz=54,slow=35
STKA Stephens Creek 27.40 211 *e*P **P 04 34 53.1 +0.4**
comp=Z,6.0nm,0.7s
STKA Stephens Creek 27.40 211 P **P 04 34 52.8 +0.1**
comp=Z,17nm,0.8s,baz=20,slow=9.8,SNR=33
STKA LR LR 04 45 07.3
comp=Z,835nm,18.9s,baz=28,slow=35
CNB Canberra Magne 27.46 195 ⇓P **P 04 34 56.0 +2.7**
baz=28,SNR=5.3
SWI Sorong 27.48 285 P P 04 35 00.9 +7.3
comp=Z,25nm,0.8s
H11S3 WAKE ISLAND Hy 28.54 18 T T 05 03 36.7
baz=199,slow=77,SNR=134
H11S2 WAKE ISLAND Hy 28.54 18 T T 05 03 37.9
baz=199,slow=77,SNR=147
H11S1 WAKE ISLAND Hy 28.56 18 T T 05 03 45.6
baz=199,slow=77,SNR=102
KNRA Kununurra 29.07 254 P **P 04 35 08.2 +0.4**
baz=29,SNR=6.1
H11N1 WAKE ISLAND Hy 29.75 18 T T 05 05 22.9
baz=197,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 29.76 18 T T 05 05 23.6
baz=197,slow=75,SNR=38
H11N2 WAKE ISLAND Hy 29.77 18 T T 05 05 24.3
baz=197,slow=75,SNR=45
HTT Hallett 30.01 213 P **P 04 35 16.2 +0.2**
baz=30,SNR=6.7
AFI Afiamalu 30.34 102 LR LR 04 45 12.7
comp=Z,466nm,20.4s,baz=282,slow=32
LBMI Labuha 31.14 283 P P 04 35 38.9 +13
BBOO Buckleboo 31.16 217 *e*P **P 04 35 26.2 0.0**
BBOO Buckleboo 31.16 217 ⇑P **P 04 35 26.1 0.0**
baz=31,SNR=12
ARPS Mount Arapiles 31.34 205 ⇓P **P 04 35 28.6 +1.0**
baz=32,SNR=7.8
SANI Sanana 32.25 280 P P 04 35 41.7 +5.8
WRKA Warakurna 32.32 236 ⇓P **P 04 35 35.5 -0.9**
baz=32,SNR=14
FORT Forrest 35.23 228 *e*P **P 04 36 01.6 -0.1**
comp=Z,60nm,1.1s
FORT Forrest 35.23 228 ⇓P **P 04 36 01.8 +0.2**
baz=35
RPZ Rata Peaks 36.68 164 *e*P **P 04 36 13.9 +0.1**
comp=Z,432nm,1.6s
RPZ Rata Peaks 36.68 164 LR LR 04 50 00.7
comp=Z,517nm,18.6s,baz=310,slow=34
RPZ Rata Peaks 36.68 164 S **P 04 36 13.5 -0.4**
comp=Z,6.1nm,0.3s,baz=297,slow=23,SNR=13
RPZ Rata Peaks 36.68 164 *e*SN **P 04 36 14.2 +0.3**
RPZ Rata Peaks 36.68 164 S **P 04 36 13.5 -0.4**
ODZ Otahua Downs 37.80 165 *e*P **P 04 36 23.7 +0.4**
comp=Z,61nm,1.3s
KAPI Kappang 37.84 273 *e*P **P 04 36 22.2 -2.0**
comp=Z,181nm,1.1s
MBWA Marble Bar 38.57 247 *e*P **P 04 36 29.6 -0.5**
comp=Z,30nm,1.1s
JCJ Chichijima 38.73 338 LR LR 04 50 19.5
comp=Z,290nm,18.3s,baz=208,slow=33
KMBL Kambalda 40.15 231 ⇓P **P 04 36 43.4 +0.2**
baz=40,SNR=7.0
MEEK Meekatharra 41.02 239 P **P 04 36 50.7 +0.2**
baz=41,SNR=7.2
JAGI Jajag, Banyuwa 43.03 267 ⇑P **P 04 37 05.9 -1.2**
baz=43,SNR=5.7
KKM Kota Kinabalu 43.91 288 *e*P **P 04 37 13.5 -0.7**
comp=Z,41nm,1.2s
MORW Morawa 43.95 237 ⇑P **P 04 37 14.6 +0.4**
baz=44
NWAO Narrogin (SRO) 44.38 231 P **P 04 37 16.6 -1.0**
NWAO Narrogin (SRO) 44.38 231 P **P 04 37 16.6 -1.0**
comp=Z,11nm,0.9s,baz=91,slow=6.5,SNR=4.6
NWAO LR LR 04 55 25.0
comp=Z,668nm,19.7s,baz=65,slow=36
KSM Kuching 48.32 280 *e*P **P 04 37 48.8 -0.1**
comp=Z,46nm,1.4s
MJAR Matsushiro Arr 48.69 339 P **P 04 37 49.2 -2.1**
MJAR Matsushiro Arr 48.69 339 P **P 04 37 49.2 -2.1**
comp=Z,4.4nm,0.7s,baz=168,slow=9.2,SNR=6.4
MJAR LR LR 04 55 08.7
comp=Z,210nm,19.4s,baz=145,slow=32
MAJO Matsushiro 48.69 339 ⇓*e*P **P 04 37 50.2 -1.1**
MAJO pmax pmax
comp=Z,230nm,2.5s
MAJO Matsushiro 48.69 339 *e*P **P 04 37 50.1 -1.3**
comp=Z,10nm,0.7s
JNU Nakatsue 48.89 330 *e*P **P 04 37 52.5 -0.5**
comp=Z,151nm,2.3s
JNU Nakatsue 48.89 330 P **P 04 37 51.9 -1.1**
comp=Z,25nm,0.9s,baz=116,slow=3.6,SNR=8.7
PPT Papeete 51.93 105 LR LR 04 54 26.8
comp=Z,437nm,19.6s,baz=197,slow=29
PPT2 Papeete2 51.93 105 *e*LR LR 04 53 13.5
comp=Z,1µm,30.0s
TBI Tubuai 52.51 113 *e*LQ LQ 04 51 21.6
comp=Z,1µm,32.2s
TBI *e*LR LR 04 53 31.0
comp=Z,628nm,32.5s
KSRS Korea Array 53.80 331 P **P 04 38 28.9 -0.8**
comp=Z,11nm,1.2s,baz=148,slow=7.4,SNR=14
KSRS LR LR 04 59 05.5
comp=Z,115nm,18.0s,baz=315,slow=34
KSAR Wonju Array Be 53.81 331 P **P 04 38 28.9 -0.8**
QIZ Qiongzhong 54.68 301 P **P 04 38 36.8 +0.4**
QIZ pP **pP 04 38 46.2 -0.2**
QIZ PP **PP 04 40 38.8 -0.5**
QIZ S **S 04 46 15.4 +0.7**
QIZ sS **sS 04 46 29.7 -1.5**
QIZ SS **SS 04 49 59.2 +1.0**
QIZ pmax pmax
comp=Z,44nm,2.4s
NJ2 Nanjing 55.02 319 *e*P **P 04 38 39.7 +1.1**
NJ2 pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 57.09 348 *e*P **P 04 38 53.6 +0.5**
YSS Yuzh-Sakhalins 57.09 348 *e*P **P 04 38 53.5 +0.5**
USRK Ussuriysk Arra 57.67 338 P **P 04 38 56.9 -0.4**
comp=Z,10nm,1.0s,baz=145,slow=8.4,SNR=11
MDJ Mudanjiang 58.92 337 P **P 04 39 06.5 +0.5**
MDJ pP **pP 04 39 15.7 -0.4**
MDJ sP **sP 04 39 19.3 -0.7**
MDJ ScP **ScP 04 43 53.7 +0.4**
MDJ PcS **PcS 04 43 57.3 +0.6**
MDJ S **S 04 47 10.8 +0.9**
MDJ pmax pmax
comp=Z,18nm,1.3s
MDJ pmax pmax
comp=Z,190nm,3.8s
MDJ LR LR
comp=Z,120nm,22.6s
MDJ LR LR
comp=Z,81nm,21.9s
MDJ Mudanjiang 58.92 337 *e*P **P 04 39 06.2 +0.1**
comp=Z,33nm,1.3s
PSI Prapat 59.71 278 P **P 04 39 13.5 +1.2**
PSI Prapat 59.71 278 P **P 04 39 13.5 +1.2**
comp=Z,4.9nm,0.6s,baz=178,slow=16,SNR=5.8
CN2 Changchun 59.98 333 *e*P **P 04 39 13.0 -0.3**
CN2 *e*pP **pP 04 39 23.1 -0.3**
CN2 *e*S **S 04 47 22.2 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CHAI Chaiyaphum 60.37 294 P P 04 39 22.4 +5.8
comp=Z,5.2nm,1.0s
ENH Enshi 60.43 312 *e*P **P 04 39 16.2 -0.5**
comp=Z,15nm,0.9s
HABR Khabarovsk 60.43 343 *e*P **P 04 39 14.2 -2.1**
HABR *e**SP **sP 04 39 28.2 -2.1**
HABR *e* 04 39 58.6
HABR *e* 04 41 27.4
HABR *e*PPP PPP 04 42 50.7
HABR *e*S **S 04 47 27.3 -1.9**
HABR *e**SS **sS 04 47 44.5 -1.3**
HABR *e* 04 49 01.6
HABR *e*SS **SS 04 51 26.8 -0.9**
HABR pmax pmax
comp=Z,17nm,1.4s
HABR MLR MLR
comp=Z,196nm,18.0s
GYA Guiyang 60.67 307 P **P 04 39 21.0 +2.4**
GYA pP **pP 04 39 31.2 +2.5**
GYA PP **PP 04 41 37.5 +4.8**
GYA ScP **ScP 04 44 01.0 -0.7**
GYA S **S 04 47 33.6 +0.2**
GYA SS **SS 04 51 34.9 +2.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.3s
GYA LR LR
comp=Z,680nm,18.6s
GYA LR LR
comp=Z,590nm,19.2s
GYA LR LR
comp=Z,670nm,18.8s
SLVN Son La 60.71 300 *e*P **P 04 39 19.6 +0.7**
comp=Z,24nm,1.2s
GSI Gunungsitoli 60.74 276 *e*P **P 04 39 18.4 -0.8**
comp=Z,54nm,1.0s
PBKT Sadao Pong 61.52 294 P P 04 39 30.3 +6.0
comp=Z,20nm,1.4s
PET Petropavlovsk 61.59 1 *e*P **P 04 39 26.4 +2.3**
PETK Petropavlovsk- 61.67 0 P **P 04 39 24.3 -0.4**
PETK Petropavlovsk- 61.67 0 P **P 04 39 24.2 -0.4**
PETK Petropavlovsk- 61.67 0 P **P 04 39 24.2 -0.4**
comp=Z,4.7nm,0.9s,baz=159,slow=5.9,SNR=3.7
PETK LR LR 05 02 44.3
comp=Z,184nm,19.2s,baz=268,slow=33
BJI Beijing 61.93 325 P **P 04 39 29.1 +2.5**
BJI S **S 04 47 49.7 +1.2**
BJI pmax pmax
comp=Z,8.0nm,0.9s
KLR Kul'dur 62.11 341 *e*P P 04 39 23.0 -4.7
NANT Nan 62.53 296 P **P 04 39 32.0 +0.9**
comp=Z,84nm,1.0s
FX1 Attu Island--F 62.85 10 *e*P **P 04 39 33.2 +0.6**
XAN Xi'an 62.86 315 P **P 04 39 32.8 -0.3**
XAN pP **pP 04 39 43.3 0.0**
XAN S **S 04 47 58.9 -1.8**
XAN ScS **SKSac 04 49 19.7 -4.0**
XAN pmax pmax
comp=Z,4.0nm,1.2s
XAN pmax pmax
comp=Z,26nm,4.8s
XAN LR LR
comp=Z,120nm,20.4s
XAN LR LR
comp=Z,59nm,21.5s
KMI Kunming 63.24 304 P **P 04 39 37.2 +1.2**
KMI pP **pP 04 39 42.8 -3.4**
KMI pmax pmax
comp=Z,20nm,0.9s
CRAI Chiangrai 63.33 298 P **P 04 39 37.6 +1.1**
comp=Z,19nm,1.2s,comp=Z,741nm
CMAR Chiang Mai Arr 63.98 295 P **P 04 39 39.8 -0.9**
CMAR Chiang Mai Arr 63.98 295 P **P 04 39 39.8 -0.9**
comp=Z,2.5nm,0.3s,baz=117,slow=4.8,SNR=20
CMAR LR LR 05 08 22.3
comp=Z,81nm,18.4s,baz=132,slow=37
CHTO Chiang Mai 64.10 296 *e*P **P 04 39 41.8 +0.3**
CHTO pmax pmax
comp=Z,27nm,1.1s
CHTO Chiang Mai 64.10 296 P P 04 39 46.2 +4.7
comp=Z,103nm,1.2s
CHTO Chiang Mai 64.10 296 *e*P **P 04 39 41.8 +0.3**
comp=Z,27nm,1.1s
ADK Adak 64.34 17 *e*P **P 04 39 43.1 +0.7**
ADK pmax pmax
comp=Z,20nm,0.8s
ADK Adak 64.34 17 *e*P **P 04 39 43.0 +0.7**
comp=Z,20nm,0.8s
CD2 Chengdu 65.02 310 ⇓*i*P **P 04 39 48.2 +0.8**
CD2 sP **sP 04 40 04.2 +2.8**
CD2 PcP **PcP 04 40 20.3 +0.1**
CD2 PP **PP 04 42 13.1 +2.3**
CD2 S **S 04 48 26.1 -1.5**
CD2 sS **sS 04 48 39.6 -4.8**
CD2 SS **SS 04 52 44.1 +3.8**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,220nm,6.0s
CD2 LR LR
comp=Z,190nm,17.8s
CD2 LR LR
comp=Z,190nm,14.2s
CD2 LR LR
comp=Z,240nm,10.7s
HHC Hu-ho-hao-te 65.14 323 *e*P **P 04 39 49.9 +1.9**
HHC sP **sP 04 40 04.8 +2.8**
HHC PP **PP 04 42 13.4 +1.7**
HHC S **S 04 48 30.1 +1.3**
HHC sS **sS 04 48 45.5 -0.1**
HHC SS **SS 04 52 41.3 -0.6**
HHC pmax pmax
comp=Z,19nm,1.2s
HHC pmax pmax
comp=Z,250nm,4.4s
HHC LR LR
comp=Z,310nm,13.6s
HHC LR LR
comp=Z,320nm,10.8s
HHC LR LR
comp=Z,290nm,15.9s
RKT Rikitea 65.79 111 *e*LR LR 04 59 44.6
comp=Z,431nm,33.8s
LZH Lanzhou 67.48 315 *e*P **P 04 40 05.0 +1.8**
LZH pP **pP 04 40 15.5 +2.1**
LZH sP **sP 04 40 20.3 +3.0**
LZH PP **PP 04 42 36.0 +3.6**
LZH *e*S **S 04 48 57.5 0.0**
LZH sS **sS 04 49 14.0 -0.4**
LZH *e*SS **SS 04 53 18.7 +0.1**
LZH pmax pmax
comp=Z,27nm,1.5s
LZH pmax pmax
comp=Z,130nm,6.1s
LZH LR LR
comp=Z,380nm,15.0s
LZH LR LR
comp=Z,260nm,14.7s
LZH LR LR
comp=Z,460nm,18.0s
VNDA Vanda 68.72 179 *e*P **P 04 40 09.2 -0.9**
comp=Z,20nm,1.5s
VNDA Vanda 68.72 179 P **P 04 40 09.3 -0.7**
comp=Z,3.5nm,1.0s,baz=340,slow=2.0,SNR=6.1
VNDA LR LR 05 06 34.7
comp=Z,167nm,18.3s,baz=354,slow=33
CLNS Chul'man 70.76 342 *e*P **P 04 40 21.9 -1.0**
CLNS pmax pmax
comp=Z,15nm,1.2s
CLNS pmax pmax
comp=N,6.0nm,1.4s
CLNS pmax pmax
comp=E,7.0nm,1.3s
SEY Seymchan 71.64 357 ⇓*e*P **P 04 40 27.9 -0.2**
GTA Gaotai 71.89 316 P **P 04 40 31.1 +0.8**
GTA pP **pP 04 40 41.5 +0.9**
GTA sP **sP 04 40 45.4 +1.0**
GTA S **S 04 49 49.4 +0.2**
GTA sS **sS 04 50 06.1 -0.1**
GTA SKS **SKSac 04 50 28.9 -3.1**
GTA SS **SS 04 54 27.8 +1.5**
GTA pmax pmax
comp=E,11nm,1.5s
GTA pmax pmax
comp=E,130nm,5.2s
GTA LR LR
comp=E,140nm,16.6s
GTA LR LR
comp=E,130nm,16.6s
ULN Ulaanbaatar 71.97 327 *e*P **P 04 40 31.0 +0.4**
comp=E,15nm,1.3s
SONM Songino Array 72.31 326 P **P 04 40 33.4 +0.8**
SONM Songino Array 72.31 326 P **P 04 40 33.4 +0.8**
comp=E,3.3nm,1.0s,baz=142,slow=5.8,SNR=19
SONM LR LR 05 09 59.2
comp=E,116nm,18.7s,baz=66,slow=34
SHL Shillong 72.52 300 *e*P **P 04 40 34.5 +0.1**
YAK Yakutsk 73.91 347 *e*P **P 04 40 40.7 -0.8**
YAK pmax pmax
comp=Z,27nm,0.8s
YAK Yakutsk 73.91 347 *e*P **P 04 40 40.7 -0.8**
comp=Z,27nm,0.8s
ZAK Zakamensk 75.44 327 ⇑*i*P **P 04 40 50.9 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 75.98 329 *e*P **P 04 40 54.9 +1.1**
TLY *e*S S 04 50 23.8 -11
TLY *e* 04 50 59.3
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,114nm,18.0s
TLY Talaya 75.98 329 *e*P **P 04 40 53.8 0.0**
comp=Z,7.6nm,0.9s
GAMB Gambell 76.02 13 *e*P **P 04 40 53.6 -0.1**
comp=Z,15nm,1.0s
PALK Pallekele 78.38 279 *e*P **P 04 41 08.0 0.0**
TNA Tin City 78.40 14 *e*P **P 04 41 07.4 +0.4**
comp=Z,33nm,1.1s
SVW2 Sparrevohn 78.68 21 *e*P **P 04 41 10.0 +1.2**
MDRS Chennai 79.92 285 *ex* P 04 41 10.2 -6.2
MDRS *ex* x 04 45 38.2
RC01 Rabbit Creek A 80.85 23 *e*P **P 04 41 21.5 +1.1**
comp=Z,33nm,0.9s
QSPA South Pole Qui 81.18 180 *e*P **P 04 41 19.7 -2.7**
comp=Z,35nm,1.4s
QSPA South Pole Qui 81.18 180 P **P 04 41 20.7 -1.6**
comp=Z,6.7nm,0.8s,baz=52,slow=2.1,SNR=3.6
PMR Palmer 81.39 23 *e*P **P 04 41 23.5 +0.2**
PMR pmax pmax
comp=Z,28nm,1.0s
PMR Palmer 81.39 23 *e*P **P 04 41 23.5 +0.2**
comp=Z,28nm,1.0s
CAST Castle Rocks 81.45 20 *e*P **P 04 41 23.6 -0.1**
KTH Kantishna Hill 81.94 21 *e*P **P 04 41 25.7 -0.6**
comp=Z,46nm,1.0s
WMQ Urumqi 81.97 317 P **P 04 41 27.8 +0.9**
WMQ pP **pP 04 41 38.2 +0.9**
WMQ sP **sP 04 41 42.1 +1.0**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ LR LR
comp=Z,94nm,39.8s
WMQ LR LR
comp=Z,35nm,23.3s
TRF Thorofare Moun 82.10 21 *e*P **P 04 41 26.7 -0.5**
comp=Z,22nm,0.7s
TIXI Tiksi 82.53 351 ⇓*e*P **P 04 41 28.6 -0.5**
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 82.53 351 *e*P **P 04 41 28.7 -0.3**
comp=Z,11nm,1.1s
IM04 Indian Mountai 82.57 18 *e*P **P 04 41 29.0 -0.4**
MCK McKinley 82.75 21 *e*P **P 04 41 29.5 -1.0**
MCK pmax pmax
comp=Z,120nm,1.0s
MCK McKinley 82.75 21 *e*P **P 04 41 29.5 -1.0**
comp=Z,120nm,1.0s
MAW Mawson 83.76 203 LR LR 05 16 19.7
comp=Z,229nm,18.1s,baz=243,slow=34
COLA College 83.81 20 *d i*P **P 04 41 35.5 -0.3**
COLA College 83.81 20 *e*P **P 04 41 35.0 -0.8**
comp=Z,68nm,1.0s
ILAR Eielson Array 84.09 21 P **P 04 41 36.2 -1.1**
ILAR Eielson Array 84.09 21 P **P 04 41 36.2 -1.1**
comp=Z,13nm,1.0s,baz=262,slow=4.3,SNR=64
ILAR LR LR 05 16 52.7
comp=Z,172nm,18.1s,baz=258,slow=34
MENT Mentasta 84.24 23 *e*P **P 04 41 38.6 +0.5**
COLD Coldfoot 84.48 18 *e*P **P 04 41 40.3 +1.1**
comp=Z,17nm,1.1s
DOT Dot Lake 84.49 22 *e*P **P 04 41 40.0 +0.6**
comp=Z,38nm,1.0s
HYT Haines Junctio 85.78 26 *e*P **P 04 41 46.4 +0.4**
EGAK Eagle 86.16 22 *e*P **P 04 41 47.8 +0.2**
comp=Z,26nm,1.1s
MK31 Makanchi Array 86.53 318 *e*P **P 04 41 49.0 -0.9**
MK31 Makanchi Array 86.53 318 *e*P **P 04 41 49.0 -0.9**
MKAR Makanchi Array 86.53 318 *ce*P **P 04 41 51.2 +1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 86.53 318 P **P 04 41 49.9 -0.1**
MKAR Makanchi Array 86.53 318 P **P 04 41 49.9 -0.1**
comp=Z,1.2nm,0.5s,baz=93,slow=6.6,SNR=14
ZAA0 Zalesovo Array 87.17 326 *e*P **P 04 41 52.2 -0.7**
ZALV Zalesovo Beam 87.17 326 P **P 04 41 52.4 -0.4**
ZALV Zalesovo Beam 87.17 326 P **P 04 41 52.4 -0.4**
ZALV Zalesovo Beam 87.17 326 P **P 04 41 52.4 -0.4**
comp=Z,0.9nm,0.6s,baz=90,slow=2.9,SNR=2.6
ZALV LR LR 05 21 27.6
comp=Z,90nm,18.9s,baz=252,slow=36
N02D Trinity Center 87.95 48 ⇑P **P 04 41 59.1 +2.1**
baz=88
BSC Santa Cruz Isl 88.85 56 ⇑P **P 04 42 03.3 +2.0**
baz=89
PKM Peak Mountain 88.87 55 ⇑P **P 04 42 03.2 +1.6**
baz=89
J04D Umpqua Nationa 88.90 46 P **P 04 42 02.4 +0.8**
baz=89
CMB Columbia Colle 89.06 51 *e*P **P 04 42 02.5 +0.2**
CMB pmax pmax
comp=Z,8.0nm,1.4s
CMB Columbia Colle 89.06 51 *e*P **P 04 42 02.5 +0.2**
comp=Z,8.1nm,1.4s
KSH Kashi 89.22 310 *e*P **P 04 42 05.0 +1.9**
KSH *e*PP **PP 04 45 37.0 +3.1**
KSH *e*SKS **SKSac 04 52 29.4 -1.6**
KSH *e*S **S 04 52 48.3 -2.1**
KSH *e*sS **sS 04 53 05.8 -2.1**
KSH pmax pmax
comp=Z,8.0nm,1.4s
KSH pmax pmax
comp=Z,38nm,4.1s
KSH LR LR
comp=Z,100nm,4.6s
KSH LR LR
comp=Z,94nm,4.8s
KSH LR LR
comp=Z,85nm,5.4s
J05D Fort Rock, OR 89.53 46 P **P 04 42 05.4 +0.9**
baz=90
SCI San Clemente I 89.54 57 ⇑P **P 04 42 05.8 +1.3**
baz=90
RCTC Rector, Farmer 89.61 53 ⇑P **P 04 42 06.3 +1.5**
baz=90
VES Vestal, Richgr 89.65 54 ⇓P **P 04 42 06.2 +1.2**
baz=90
I05D Terrebonne, OR 89.69 45 ⇑P **P 04 42 06.5 +1.4**
baz=90
ARVC Arvin 89.72 55 ⇓P **P 04 42 06.6 +1.3**
baz=90
CIS Catalina Islan 89.74 56 ⇓P **P 04 42 06.7 +1.2**
baz=90
WAKR Walker 89.89 51 *e*P **P 04 42 07.3 +1.0**
KURK Kurchatov 89.91 321 ⇓*e*P **P 04 42 05.0 -0.8**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 89.91 321 *e*P **P 04 42 05.1 -0.7**
comp=Z,3.7nm,1.4s
MOD Modoc 89.92 48 *e*P **P 04 42 07.0 +0.7**
comp=Z,7.6nm,1.2s
KURBB Kurchatov Arra 89.94 321 P **P 04 42 05.0 -1.0**
comp=Z,0.5nm,1.0s,baz=111,slow=6.1,SNR=4.1
ISA Isabella 90.10 54 *e*P **P 04 42 08.8 +1.6**
ISA Isabella 90.10 54 *e*P **P 04 42 08.8 +1.6**
ISA Isabella 90.10 54 ⇓P **P 04 42 08.4 +1.2**
baz=90,SNR=8.8
PAHR Pah Rah Range 90.16 50 *e*P **P 04 42 09.3 +1.8**
MWC Mount Wilson 90.17 56 *e*P **P 04 42 09.4 +1.7**
MWC pmax pmax
comp=Z,50nm,1.3s
MWC Mount Wilson 90.17 56 *e*P **P 04 42 09.4 +1.7**
comp=Z,50nm,1.3s
MTUM Tungsten Hills 90.34 52 *e*P **P 04 42 10.2 +1.7**
EDW2 Edwards Air Fo 90.35 55 ⇑P **P 04 42 09.8 +1.4**
baz=90,SNR=11
INK Inuvik 90.47 20 *e*P **P 04 42 07.5 -0.5**
comp=Z,13nm,1.3s
BFSC Mount Baldy Ra 90.50 56 ⇑P **P 04 42 10.2 +1.0**
baz=91,SNR=10
TIN Tinemaha 90.55 53 ⇓P **P 04 42 10.8 +1.4**
baz=91
LRMC Laurel Mountai 90.70 54 ⇓P **P 04 42 11.3 +1.3**
baz=91,SNR=8.1
109C Camp Elliot, M 90.72 57 ⇑P **P 04 42 11.4 +1.4**
baz=91
NVAR Mina Array Bea 90.75 51 P **P 04 42 12.0 +1.6**
NVAR Mina Array Bea 90.75 51 P **P 04 42 12.0 +1.6**
comp=Z,12nm,0.9s,baz=247,slow=6.9,SNR=52

NVAR				LR	LR	05 19 39.2		
	comp=Z,112nm,18.9s,baz=94,slow=33							
MURC	**Murrieta**	**90.77**	**56**	⇑P	**P**	**04 42 11.7**	**+1.3**	
	baz=91							
NV11	**Mina Array Sit**	**90.86**	**51**	*e*P	**P**	**04 42 11.8**	**+1.0**	
MPMC	**Manual Prospec**	**90.96**	**54**	P	**P**	**04 42 12.8**	**+1.4**	
	baz=91							
E07A	**Sunnyside**	**91.17**	**43**	*e*P	**P**	**04 42 11.5**	**-0.4**	
GRAC	**Grapevine Rang**	**91.22**	**53**	⇑P	**P**	**04 42 13.6**	**+1.2**	
	baz=91							
WVOR	**Wild Horse Val**	**91.23**	**47**	*e*P	**P**	**04 42 13.8**	**+1.4**	
WVOR				pmax	pmax			
	comp=Z,16nm,1.2s							
WVOR	**Wild Horse Val**	**91.23**	**47**	*e*P	**P**	**04 42 13.8**	**+1.4**	
	comp=Z,16nm,1.2s							
MONP	**Monument Peak**	**91.29**	**57**	⇑P	**P**	**04 42 14.6**	**+1.5**	
	baz=91,SNR=5.8							
HAWA	**Hanford**	**91.36**	**43**	*e*P	**P**	**04 42 13.9**	**+1.2**	
GSC	**Goldstone**	**91.38**	**55**	*e*P	**P**	**04 42 14.0**	**+0.8**	
GSC	**Goldstone**	**91.38**	**55**	*e*P	**P**	**04 42 13.9**	**+0.8**	
GSC	**Goldstone**	**91.38**	**55**	⇓P	**P**	**04 42 14.2**	**+1.0**	
	baz=92,SNR=6.3							
PFO	**Pinyon Flat Ob**	**91.38**	**56**	⇑P	**P**	**04 42 14.7**	**+1.4**	
	baz=92							
DVTC	**Desert V Tower**	**91.52**	**57**	⇓P	**P**	**04 42 15.1**	**+1.2**	
	baz=92							
TPH	**Tonopah**	**91.52**	**52**	*e*P	**P**	**04 42 14.7**	**+0.8**	
TPH				pmax	pmax			
	comp=Z,16nm,1.0s							
TPH	**Tonopah**	**91.52**	**52**	*e*P	**P**	**04 42 14.7**	**+0.8**	
	comp=Z,16nm,1.0s							
J08A	**Circle Bar Ran**	**91.52**	**47**	*e*P	**P**	**04 42 14.8**	**+1.1**	
FURC	**Furnace Creek,**	**91.53**	**53**	⇓P	**P**	**04 42 15.2**	**+1.4**	
	baz=92,SNR=16							
BELC	**Belle Mtn. Jos**	**91.82**	**56**	⇑P	**P**	**04 42 16.6**	**+1.3**	
	baz=92,SNR=7.0							
SHOC	**Shoshone**	**91.90**	**54**	⇓P	**P**	**04 42 16.8**	**+1.3**	
	baz=92,SNR=8.8							
TPNV	**Topopah Spring**	**92.09**	**53**	*e*P	**P**	**04 42 18.3**	**+1.7**	
TPNV	**Topopah Spring**	**92.09**	**53**	*e*P	**P**	**04 42 18.3**	**+1.7**	
TPNV	**Topopah Spring**	**92.09**	**53**	⇑P	**P**	**04 42 17.4**	**+0.8**	
	baz=92,SNR=13							
TUQ	**Turquoise Moun**	**92.11**	**55**	⇑P	**P**	**04 42 17.7**	**+1.1**	
	baz=92							
BC3	**Big Chuckawall**	**92.21**	**56**	P	**P**	**04 42 17.2**	**0.0**	
	baz=92							
GMRC	**Granite Mounta**	**92.22**	**55**	⇑P	**P**	**04 42 18.2**	**+1.1**	
	baz=92,SNR=9.2							
IRM	**Iron Mountain**	**92.54**	**56**	⇓P	**P**	**04 42 20.1**	**+1.5**	
	baz=93,SNR=7.5							
LDFC	**Landfair**	**92.71**	**55**	*e*P	**P**	**04 42 21.3**	**+1.9**	
	comp=Z,28nm,1.3s							
R11A	**Troy Canyon, C**	**92.84**	**52**	*e*P	**P**	**04 42 21.2**	**+1.2**	
	comp=Z,13nm,1.2s							
R11A	**Troy Canyon, C**	**92.84**	**52**	⇑P	**P**	**04 42 21.3**	**+1.3**	
	baz=93,SNR=21							
SHPR	**Sheep Range**	**92.89**	**54**	*e*P	**P**	**04 42 21.7**	**+1.4**	
	comp=Z,18nm,1.3s							
Y12C	**Blythe**	**92.99**	**56**	⇑P	**P**	**04 42 22.4**	**+1.8**	
	baz=93							
NEW	**Newport**	**93.31**	**42**	*e*P	**P**	**04 42 20.7**	**-1.0**	
	comp=Z,4.3nm,1.1s							
NEW	**Newport**	**93.31**	**42**	⇓P	**P**	**04 42 21.9**	**+0.2**	
	baz=93							
W13A	**Hualapai Mount**	**93.71**	**55**	⇓P	**P**	**04 42 25.5**	**+1.4**	
	baz=94							
HLID	**Hailey**	**94.47**	**47**	*e*P	**P**	**04 42 28.6**	**+1.2**	
	comp=Z,9.6nm,1.2s							
HLID	**Hailey**	**94.47**	**47**	⇓P	**P**	**04 42 28.4**	**+1.0**	
	baz=95,SNR=8.8							
DUG	**Dugway**	**95.22**	**50**	*e*P	**P**	**04 42 32.2**	**+1.3**	
DUG				pmax	pmax			
	comp=Z,3.0nm,1.1s							
DUG	**Dugway**	**95.22**	**50**	*e*P	**P**	**04 42 32.2**	**+1.3**	
	comp=Z,3.3nm,1.1s							
DUG	**Dugway**	**95.22**	**50**	⇓P	**P**	**04 42 32.0**	**+1.2**	
	baz=95							
BVAR	**Borovoye Array**	**95.35**	**323**	P	**P**	**04 42 29.6**	**-1.3**	
BVAR	**Borovoye Array**	**95.35**	**323**	P	**P**	**04 42 29.6**	**-1.3**	
BVAR	**Borovoye Array**	**95.35**	**323**	P	**P**	**04 42 29.6**	**-1.3**	
	comp=Z,1.0nm,0.9s,baz=66,slow=1.8,SNR=4.8							
BRVK	**Borovoye**	**95.42**	**323**	⇑*e*P	**P**	**04 42 30.4**	**-0.8**	
BRVK				pmax	pmax			
	comp=Z,8.0nm,2.8s							
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**04 42 36.9**	**+0.2**	
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**04 42 36.9**	**+0.2**	
	comp=Z,1.5nm,0.9s,baz=264,slow=4.8,SNR=17							
YKW3	**Yellowknife Ar**	**96.68**	**28**	*e*P	**P**	**04 42 36.2**	**-0.5**	
	comp=Z,0.2nm,1.1s							
BOZ	**Bozeman (W)**	**96.69**	**45**	*e*P	**P**	**04 42 37.8**	**+0.4**	
BOZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
BOZ	**Bozeman (W)**	**96.69**	**45**	*e*P	**P**	**04 42 37.8**	**+0.4**	
	comp=Z,3.8nm,1.1s							
I17A	**Pilgrim Ck.**	**97.28**	**47**	⇓P	Pdif	04 42 41.4	+1.0	
	baz=97							
BW06	**Boulder Array**	**97.92**	**48**	*e*P	Pdif	04 42 43.3	+0.1	
	comp=Z,4.2nm,1.0s							
PDAR	**Pinedale Array**	**97.92**	**48**	P	Pdif	04 42 43.4	+0.2	
PDAR	**Pinedale Array**	**97.92**	**48**	P	Pdif	04 42 43.4	+0.2	
	comp=Z,2.3nm,0.9s,baz=254,slow=3.6,SNR=13							
PDAR				LR	LR	05 21 24.0		
	comp=Z,112nm,19.0s,baz=124,slow=32							
H18A	**Shoshone NF, C**	**97.99**	**46**	⇑P	Pdif	04 42 43.8	+0.3	
	baz=98							
EGMT	**Eagleton**	**98.18**	**43**	⇓P	**P**	**04 42 43.9**	**-0.1**	
	baz=98							
F19A	**Roth Farm, Mol**	**98.58**	**45**	⇑Pdif	Pdif	04 42 46.5	+0.6	
	baz=99							
C19A	**Slack Wire Ran**	**98.63**	**43**	⇑Pdif	Pdif	04 42 46.7	+0.7	
	baz=99							
SNAA	**Sanae**	**98.66**	**186**	*e*P	Pdif	04 42 46.5	+0.8	
	comp=Z,5.6nm,1.1s							
D19A	**Cripps Ranch,**	**98.71**	**44**	⇓Pdif	Pdif	04 42 47.1	+0.7	
	baz=99							
E19A	**Rath Farm, Rou**	**98.73**	**44**	⇓Pdif	Pdif	04 42 47.1	+0.5	
	baz=99							
B19A	**Brinkman Farms**	**98.75**	**42**	⇓Pdif	Pdif	04 42 47.2	+0.7	
	baz=99							
E20A	**Meyer Farm, Mu**	**99.19**	**44**	⇑Pdif	**Pdif**	**04 42 49.1**	**+0.5**	
	baz=99							
D20A	**Manuel Ranch,**	**99.21**	**44**	⇓Pdif	**Pdif**	**04 42 49.1**	**+0.4**	
	baz=99							
J21A	**Lysite**	**99.50**	**47**	⇑Pdif	**Pdif**	**04 42 50.6**	**+0.4**	
	baz=100							
I21A	**Big Trails, Te**	**99.64**	**47**	⇓Pdif	**Pdif**	**04 42 51.3**	**+0.6**	
	baz=100							
B21A	**Ellsworth Farm**	**100.03**	**42**	⇓Pdif	**Pdif**	**04 42 52.5**	**+0.3**	
	baz=100							
A21A	**Bergtoll Ranch**	**100.11**	**42**	⇓Pdif	**Pdif**	**04 42 53.2**	**+0.7**	
	baz=100							
J22A	**Midwest**	**100.21**	**47**	⇑Pdif	**Pdif**	**04 42 54.1**	**+0.8**	
	baz=100							
I22A	**9 Mile Ranch,**	**100.23**	**47**	⇓Pdif	**Pdif**	**04 42 53.6**	**+0.3**	
	baz=100							
N23A	**Red Feather La**	**100.50**	**50**	⇑Pdif	**Pdif**	**04 42 55.2**	**+0.4**	
	baz=101							
D22A	**Cohagen**	**100.55**	**44**	⇓Pdif	**Pdif**	**04 42 54.9**	**+0.3**	
	baz=101							
W24A	**Lazy 6 Ranch,**	**100.63**	**56**	⇑Pdif	**Pdif**	**04 42 55.2**	**-0.2**	
	baz=101							
F23A	**Volborg**	**101.05**	**45**	⇓Pdif	**Pdif**	**04 42 57.5**	**+0.6**	
	baz=101							
C23A	**Lambert**	**101.24**	**43**	⇑Pdif	**Pdif**	**04 42 58.0**	**+0.4**	
	baz=101							
B23A	**Brockton**	**101.38**	**42**	⇓Pdif	**Pdif**	**04 42 59.1**	**+0.9**	
	baz=102							
KIV	**Kislovodsk**	**114.02**	**314**	*e*PKIKP	PKPdf	04 47 42.7	-3.5	
KIV				pmax	pmax			
	comp=Z,4.0nm,1.2s							
JTS	**JuntasAbangare**	**118.28**	**83**	*e*PKPdf	**PKPdf**	**04 47 53.7**	**-1.4**	
SIM	**Simferopol'**	**119.69**	**317**	*i* PKIKP	PKPdf	04 48 09.5	+13	
SIM				*e*		04 55 05.0		
SIM				pmax	pmax			
	comp=Z,30nm,16.8s							
KMBO	**Kilima Mbogo**	**119.85**	**264**	*e*PKPdf	**PKPdf**	**04 47 59.1**	**+0.7**	
TRQA	**Tornquist**	**120.47**	**144**	*e*PKPdf	**PKPdf**	**04 47 59.3**	**+0.5**	
AKASG	**Malin Array Be**	**120.56**	**325**	PKIKP	**PKPdf**	**04 47 57.2**	**-1.2**	
AKASG	**Malin Array Be**	**120.56**	**325**	PKP	**PKPdf**	**04 47 57.2**	**-1.2**	
AKASG	**Malin Array Be**	**120.56**	**325**	PKP	**PKPdf**	**04 47 57.2**	**-1.2**	
	comp=Z,0.2nm,0.4s,baz=46,slow=3.1,SNR=2.8							
BRTR	**Keskin Array B**	**121.58**	**311**	PKP	**PKPdf**	**04 48 01.1**	**+0.1**	
BRTR	**Keskin Array B**	**121.58**	**311**	PKP	**PKPdf**	**04 48 01.1**	**+0.1**	
	comp=Z,0.8nm,0.9s,baz=169,slow=7.3,SNR=4.5							
NNA	**Nana**	**121.98**	**110**	*e*PKPdf	**PKPdf**	**04 48 02.7**	**+0.4**	
LBTB	**Lobatse**	**122.50**	**233**	*e*PKPdf	**PKPdf**	**04 48 03.1**	**0.0**	
CSS	**Prodhromos**	**123.03**	**306**	*e*PKPdf	**PKPdf**	**04 48 03.5**	**-0.2**	
OTAV	**Otavalo**	**123.45**	**96**	*e*PKPdf	**PKPdf**	**04 48 06.2**	**+0.5**	
KOLS	**Kolonicke sedl**	**125.35**	**325**	*e*PKIKP	**PKPdf**	**04 48 08.3**	**+0.6**	
KOLS	**Kolonicke sedl**	**125.35**	**325**	*e*PKP	**PKPdf**	**04 48 08.3**	**+0.6**	
PSZ	**Piszkesteto**	**127.24**	**325**	*e*PKIKP	**PKPdf**	**04 48 10.6**	**-0.8**	
PSZ	**Piszkesteto**	**127.24**	**325**	*e*PKPdf	**PKPdf**	**04 48 10.6**	**-0.8**	
MORC	**Moravsky Berou**	**127.43**	**328**	*e*PKIKP	**PKPdf**	**04 48 10.5**	**-1.2**	
MORC	**Moravsky Berou**	**127.43**	**328**	*e*PKPdf	**PKPdf**	**04 48 10.5**	**-1.2**	
ROSC	**El Rosal**	**128.22**	**91**	*e*PKPdf	**PKPdf**	**04 48 15.4**	**+0.6**	
ROSC	**El Rosal**	**128.22**	**91**	*e*PKP	**PKPdf**	**04 48 15.3**	**+0.6**	
LPAZ	**La Paz**	**128.24**	**119**	PKP	**PKPdf**	**04 48 14.8**	**-0.2**	
LPAZ				*e*PKPdf	**PKiKP**	**04 48 15.6**	**+0.1**	
LPAZ	**La Paz**	**128.24**	**119**	PKP	**PKPdf**	**04 48 14.8**	**-0.2**	
	comp=Z,2.1nm,1.1s,baz=179,slow=6.5,SNR=4.9							
GERES	**GERESS Array B**	**129.97**	**330**	PKP	**PKPdf**	**04 48 17.6**	**+0.9**	
GERES	**GERESS Array B**	**129.97**	**330**	PKP	**PKPdf**	**04 48 17.6**	**+0.9**	
	comp=Z,0.2nm,0.5s,baz=333,slow=0.4,SNR=3.7							
CPUP	**Villa Florida**	**131.24**	**137**	*e*PKPdf	**PKPdf**	**04 48 17.8**	**-1.8**	
TSUM	**Tsumeb**	**131.84**	**234**	*e*PKPdf	**PKPdf**	**04 48 21.4**	**+0.3**	
AQU	**L'Aquila**	**134.19**	**323**	*e*PKPdf	**PKPdf**	**04 48 22.3**	**-2.5**	
KEST	**Kesra**	**140.62**	**318**	*e*PKPdf	**PKPdf**	**04 48 35.7**	**-1.2**	
BDFB	**Brasilia**	**144.80**	**134**	PKP	PKPbc	04 48 44.2	+0.4	
BDFB	**Brasilia**	**144.80**	**134**	PKP	PKPbc	04 48 44.2	+0.4	
	comp=Z,24nm,0.9s,baz=254,slow=2.6,SNR=16							
ESDC	**Sonseca Array**	**145.16**	**335**	PKPbc	**PKPbc**	**04 48 43.5**	**-0.9**	
ESDC	**Sonseca Array**	**145.16**	**335**	PKPbc	**PKPbc**	**04 48 43.5**	**-0.9**	
	comp=Z,2.8nm,0.9s,baz=21,slow=2.2,SNR=5.9							
TAM	**Tamanrasset**	**149.91**	**301**	*e*PKP2	**PKPbc**	**04 48 58.7**	**+0.6**	
TAM	**Tamanrasset**	**149.91**	**301**	*e*PKPbc	**PKPbc**	**04 48 58.7**	**+0.6**	
TAM				*e*PKPab	**PKPab**	**04 49 03.5**	**-0.2**	
TORD	**Torodi Ar. Bea**	**156.06**	**283**	PKP	**PKPdf**	**04 49 02.8**	**+0.6**	
TORD	**Torodi Ar. Bea**	**156.06**	**283**	PKP	**PKPdf**	**04 49 02.8**	**+0.6**	
	comp=Z,0.7nm,0.9s,baz=48,slow=2.1,SNR=2.8							
DBIC	**Dimbokro**	**162.58**	**264**	*e*PKPdf	**PKPdf**	**04 49 08.2**	**-1.5**	
DBIC				*e*PKPab	**PKPab**	**04 49 55.1**	**-2.9**	

BJI ***08*** *04:30:34.7, 31.33S×178.99W, h398km, mB5.1/5, mb4.7/11*
ISCJB ***08*** *04:30:37.8±0.2, 31.42S±0.02×179.82W±0.04, h400km, mb4.6/52, Error ellipse: s-maj=5.0km s-min=2.7km az=23.9*
MOS ***08*** *04:30:37.3±1.3, 31.14S×179.72W, h398km, mb4.8/12, Error ellipse: s-maj=12.4km s-min=11.8km az=179.4*
NEIC ***08*** *04:30:37.5±0.6, 31.34S×179.64W, h396km±5km, mb4.6/19, Error ellipse: s-maj=7.7km s-min=6.1km az=142.0*
IDC ***08*** *04:30:39.4±1.1, 30.95S×179.87W, h400km±11km, mb4.2/18, mb1 4.4/20, mb1mx4.3/23, mbtmp4.9/20, Error ellipse: s-maj=11.6km s-min=9.5km az=171.0*

ISC 08 04:30:37.7±0.3, 31.42S±0.05×179.62W±0.05, h400km, n394, σ1°41/410, mb4.7/51, 26C-34D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.62**	**35**		*e*Pn		**Pn**	**04 31 36.0**	**-2.0**
RAO					*e*S		S	04 32 07.3	-19
RAO	**Raoul Island**	**2.62**	**35**	P			**Pn**	**04 31 36.3**	**-1.7**
	422nm,0.3s,baz=84,slow=11,SNR=21								
MXZ	**Matakaoa Point**	**6.36**	**195**	PN			**Pn**	**04 32 14.9**	**+0.8**
MXZ				SN			**S**	**04 33 31.3**	**-1.5**
OUZ	**Omahuta**	**6.82**	**234**	*e*Pn			P	04 32 23.8	+3.8
OUZ				*e*S			S	04 33 49.5	+7.2
PUZ	**Puketiti**	**6.86**	**194**	*e*PN			**P**	**04 32 20.5**	**+0.2**
PUZ				*e*SN			**S**	**04 33 42.6**	**-0.5**
OPRZ	**Ohinepanea**	**7.14**	**205**	*e*PN			**P**	**04 32 24.0**	**+0.6**
CNGZ	**Carnagh Statio**	**7.27**	**194**	*e*PN			**P**	**04 32 25.5**	**+0.6**
MWZ	**Matawai**	**7.28**	**198**	PN			**P**	**04 32 25.1**	**0.0**
MWZ				*e*SN			**S**	**04 33 51.6**	**-0.2**
EDRZ	**Edgecumbe**	**7.31**	**203**	*e*PN			**P**	**04 32 27.2**	**+1.8**
URZ	**Urewera**	**7.33**	**201**	*e*Pn			**P**	**04 32 25.3**	**-0.2**
URZ				*e*S			**S**	**04 33 52.6**	**-0.1**
URZ	**Urewera**	**7.33**	**201**	P			**P**	**04 32 26.9**	**+1.4**
	160nm,0.3s,baz=291,slow=2.8,SNR=70								
URZ				S			**S**	**04 33 53.9**	**+1.2**
	228nm,0.3s,baz=242,slow=23,SNR=15								
URZ	**Urewera**	**7.33**	**201**	*e*PN			**P**	**04 32 25.2**	**-0.3**
URZ				*e*SN			**S**	**04 33 52.3**	**-0.4**
RIGZ	**Rimuhau**	**7.58**	**196**	*e*PN			**P**	**04 32 28.0**	**-0.3**
KNZ	**Kokohu**	**7.90**	**196**	*e*PN			**Pn**	**04 32 31.0**	**-0.3**
RAHZ	**Arahi**	**7.95**	**199**	*e*PN			**P**	**04 32 32.0**	**-0.4**
RAHZ				*e*SN			**S**	**04 34 05.1**	**-0.6**
MHGZ	**Mahia Peninsul**	**7.97**	**194**	*e*PN			**P**	**04 32 33.2**	**+0.6**
WHHZ	**Waihua**	**8.06**	**198**	*e*PN			**Pn**	**04 32 32.8**	**-0.4**
BKZ	**Black Stump Fm**	**8.35**	**201**	*e*PN			**Pn**	**04 32 36.0**	**-0.7**
HIZ	**Hauiti**	**8.40**	**211**	*e*PN			**P**	**04 32 39.7**	**+2.3**
MCHZ	**McNeill Hill**	**8.55**	**200**	*e*PN			**P**	**04 32 38.6**	**-0.4**
CKHZ	**Cape Kidnapper**	**8.65**	**197**	*e*PN			**P**	**04 32 39.9**	**-0.3**
TUVZ	**Tukino**	**8.73**	**205**	*e*PN			**P**	**04 32 40.8**	**-0.4**
MOVZ	**Moawhango**	**8.81**	**204**	*e*PN			**Pn**	**04 32 41.2**	**-0.8**
KAHZ	**Kahuranaki**	**8.83**	**198**	*e*PN			**P**	**04 32 41.7**	**-0.5**
PKVZ	**Pokaka**	**8.86**	**206**	PN			**P**	**04 32 42.2**	**-0.4**
MTVZ	**Mangateitei**	**8.90**	**205**	*e*PN			**P**	**04 32 44.4**	**+1.4**
PXZ	**Pawanui**	**9.05**	**197**	*e*PN			**Pn**	**04 32 43.7**	**-0.9**
TSZ	**Takapari Road**	**9.34**	**201**	*e*PN			**P**	**04 32 46.1**	**-1.7**
POWZ	**Post Office Ro**	**9.70**	**201**	*e*PN			**P**	**04 32 51.3**	**-0.5**
BFZ	**Birch Farm**	**9.82**	**199**	*e*P			**Pn**	**04 32 53.4**	**-0.2**
MRZ	**Mangatainoka R**	**10.00**	**201**	*e*PN			**P**	**04 32 53.2**	**-2.0**
MRZ				*e*SN			**S**	**04 34 47.9**	**-0.7**
TIWZ	**Tintock**	**10.02**	**200**	*e*PN			**P**	**04 32 55.0**	**-0.3**
KIW	**Kapiti Island**	**10.40**	**204**	*e*PN			**P**	**04 32 58.5**	**-1.1**
PAWZ	**Paruwai Farm**	**10.71**	**200**	*e*PN			**Pn**	**04 33 04.2**	**+0.4**
DUWZ	**D'Urville Isla**	**10.71**	**207**	*e*PN			**P**	**04 33 02.0**	**-1.1**
DUWZ				*e*SN			**S**	**04 35 01.5**	**-1.6**
SNZO	**South Karori**	**10.87**	**203**	*e*Pn			**Pn**	**04 33 06.0**	**+0.3**
SNZO				*e*S			**S**	**04 35 05.2**	**-1.0**
SNZO	**South Karori**	**10.87**	**203**	*e*PN			**Pn**	**04 33 05.0**	**-0.6**
TCW	**Tory Channel**	**10.94**	**205**	*e*PN			**P**	**04 33 04.5**	**-1.0**
NFK	**Norfolk Island**	**11.02**	**279**	⇓P			**Pn**	**04 33 08.6**	**+1.0**
	baz=11,SNR=11								
TUWZ	**Tuamarina**	**11.25**	**206**	*e*PN			**P**	**04 33 07.6**	**-1.3**
NNZ	**Nelson**	**11.28**	**208**	*e*PN			**P**	**04 33 08.5**	**-0.8**
BSWZ	**Blackbirch Sta**	**11.52**	**205**	*e*PN			**Pn**	**04 33 12.8**	**-0.4**
THZ	**Tophouse**	**11.93**	**208**	*e*PN			**P**	**04 33 16.0**	**-0.6**
KHZ	**Kahutara**	**12.26**	**205**	*e*P			**P**	**04 33 20.1**	**+0.1**
KHZ	**Kahutara**	**12.26**	**205**	*e*PN			**P**	**04 33 19.8**	**-0.3**
DSZ	**Denniston Nort**	**12.39**	**211**	*e*PN			**P**	**04 33 21.4**	**-0.2**
OXZ	**Oxford**	**13.60**	**207**	*e*PN			**Pn**	**04 33 35.8**	**-1.5**
OXZ				*e*SN			**S**	**04 35 57.7**	**-3.6**
MQZ	**McQueen's Vall**	**13.70**	**204**	*e*PN			**Pn**	**04 33 37.0**	**-1.4**
RPZ	**Rata Peaks**	**14.31**	**208**	P			**P**	**04 33 44.9**	**+2.3**
RPZ	**Rata Peaks**	**14.31**	**208**	P			**P**	**04 33 44.9**	**+2.3**
	4.3nm,0.3s,baz=46,slow=7.9,SNR=8.9								
RPZ	**Rata Peaks**	**14.31**	**208**	*e*PN			**P**	**04 33 44.4**	**+1.8**
LBZ	**Lake Benmore**	**15.22**	**209**	*e*PN			P	04 33 57.2	+4.7
DZM	**Mont Dzumac**	**15.53**	**303**	*e*P			**P**	**04 33 57.2**	**+1.0**
	246nm,1.1s								
DZM	**Mont Dzumac**	**15.53**	**303**	P			**P**	**04 33 56.5**	**+0.4**
DZM	**Mont Dzumac**	**15.53**	**303**	P			**P**	**04 33 56.5**	**+0.4**
	2.5nm,0.3s,baz=99,slow=17,SNR=12								
DZM	**Mont Dzumac**	**15.53**	**303**	*e*P			**P**	**04 33 56.1**	**-0.1**
ODZ	**Otahua Downs**	**15.59**	**206**	*e*PN			**P**	**04 34 00.1**	**+3.8**
JCZ	**Jackson Bay**	**15.60**	**213**	*e*PN			**P**	**04 33 57.7**	**+1.1**
NOUC	**Port Laguerre**	**15.61**	**303**	*e*P			**P**	**04 33 58.4**	**+1.5**
WHZ	**Wether Hill Ro**	**17.38**	**210**	*e*P			**P**	**04 34 16.4**	**+0.9**
LHI	**Lord Howe Isla**	**18.18**	**264**	⇓P			**P**	**04 34 26.5**	**+2.3**
	baz=18,SNR=9.2								
AFI	**Afiamalu**	**18.86**	**24**	*e*P			**P**	**04 34 29.5**	**-2.0**
	290nm,0.9s								
AFI	**Afiamalu**	**18.86**	**24**	P			**P**	**04 34 29.8**	**-1.8**
	30nm,0.3s,baz=357,slow=6.2,SNR=22								
ARMA	**Armidale**	**24.66**	**265**	⇓P			**P**	**04 35 27.4**	**+3.0**
	baz=25,SNR=6.7								
MGCD	**Mangrove Creek**	**24.77**	**258**	⇑P			**P**	**04 35 27.6**	**+2.4**
	baz=25,SNR=14								
CNB	**Canberra Magne**	**26.14**	**253**	⇓P			**P**	**04 35 41.0**	**+3.5**
	baz=26,SNR=6.0								
MILA	**Mila**	**26.34**	**249**	⇑P			**P**	**04 35 42.0**	**+2.6**
	baz=26,SNR=6.1								
EIDS	**Eidsvold**	**26.42**	**276**	⇓P			**P**	**04 35 40.7**	**+0.6**
	baz=26								
CAN	**Canberra**	**26.43**	**253**	⇓P			**P**	**04 35 43.0**	**+2.8**
	baz=26								
TOO	**Toolangi**	**29.29**	**248**	⇓P			**P**	**04 36 06.6**	**+1.4**
	baz=29								
CMSA	**Cobar Meteorol**	**29.51**	**261**	⇑P			**P**	**04 36 08.8**	**+1.5**
	baz=30,SNR=10								
PAE	**Paea**	**30.45**	**70**	*e*P			**P**	**04 36 17.5**	**+1.9**
	15nm,1.0s								
PPT2	**Papeete2**	**30.50**	**70**	*e*P			**P**	**04 36 18.1**	**+2.1**
	71nm,1.1s								
PPT	**Papeete**	**30.51**	**70**	P			**P**	**04 36 18.1**	**+2.0**
PPT	**Papeete**	**30.51**	**70**	P			**P**	**04 36 18.1**	**+2.0**
	80nm,1.0s,baz=241,slow=13,SNR=3.0								
TIAR	**Tiarei**	**30.70**	**70**	*e*P			**P**	**04 36 20.4**	**+2.7**
	32nm,0.8s								
QLP	**Quilpie**	**31.88**	**269**	⇓P			**P**	**04 36 28.3**	**+0.4**
	baz=32,SNR=5.5								
ARPS	**Mount Arapiles**	**32.20**	**250**	⇑P			**P**	**04 36 33.0**	**+2.4**
	baz=32,SNR=7.4								
CTA	**Charters Tower**	**32.62**	**282**	P			**P**	**04 36 34.7**	**+0.5**
CTA	**Charters Tower**	**32.62**	**282**	P			**P**	**04 36 34.7**	**+0.5**
	40nm,0.5s,baz=109,slow=10,SNR=46								
CTA	**Charters Tower**	**32.62**	**282**	⇓P			**P**	**04 36 34.4**	**+0.1**
	baz=32								
CTAO	**Charters Tower**	**32.62**	**282**	*e*P			**P**	**04 36 34.7**	**+0.5**
CTAO	**Charters Tower**	**32.62**	**282**	*e*P			**P**	**04 36 34.7**	**+0.5**
STKA	**Stephens Creek**	**32.90**	**259**	P			**P**	**04 36 38.5**	**+1.9**
STKA	**Stephens Creek**	**32.90**	**259**	P			**P**	**04 36 38.5**	**+1.9**
	36nm,0.7s,baz=101,slow=9.2,SNR=29								
VAH	**Vaihoa**	**33.35**	**69**	*e*P			**P**	**04 36 42.5**	**+2.0**
	99nm,1.1s								
HTT	**Hallett**	**34.89**	**255**	⇓P			**P**	**04 36 54.8**	**+1.3**
	baz=35,SNR=27								
MTSU	**Mount Surprise**	**35.15**	**283**	⇓P			**P**	**04 36 55.7**	**-0.1**
	baz=35								
BBOO	**Buckleboo**	**37.36**	**256**	*e*P			**P**	**04 37 14.9**	**+0.8**
	735nm,0.7s								
BBOO	**Buckleboo**	**37.36**	**256**	P			**P**	**04 37 14.7**	**+0.6**
	baz=37,SNR=69								
PMG	**Port Moresby**	**37.82**	**298**	*e*P			**P**	**04 37 17.8**	**-0.3**
	18nm,0.8s								
QIS	**Mount Isa**	**38.02**	**277**	P			**P**	**04 37 19.7**	**-0.1**
	baz=38,SNR=5.4						

GLA Glamis 88.62 49 *e*P **P** **04 42 47.7 +1.0**
comp=Z,5.4nm,0.8s
GLA Glamis 88.62 49 P **P** **04 42 49.4 +2.7**
baz=89
MDJ Mudanjiang 88.69 326 P **P** **04 42 47.3 +0.6**
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,100nm,3.8s
IRM Iron Mountain 89.11 48 P **P** **04 42 51.9 +2.9**
baz=89
113A Mohawk Valley, 89.13 50 P P 04 42 52.4 +3.4
baz=89
Y12C Blythe 89.25 49 P **P** **04 42 52.5 +3.0**
baz=89
214A Organ Pipe Nat 89.26 51 P **P** **04 42 52.8 +3.1**
baz=89
HABR Khabarovsk 89.27 332 *e*P **P** **04 42 47.6 -1.6**
HABR *e* 04 46 24.8
HABR *e*PPP PPP 04 48 24.0
HABR *e*S **SKSac** **04 52 38.0 -1.8**
HABR *e* 04 53 05.4
HABR *e*SS **SS** **04 59 08.8 -1.2**
HABR SSS SSS 05 02 47.7
HABR pmax pmax
comp=Z,22nm,1.5s
HABR pmax pmax
comp=Z,26nm,1.6s
HABR MLR MLR
comp=Z,98nm,20.0s
CFAA Coronel Fontan 89.74 127 P P 04 42 55.8 +3.7
CFAA Coronel Fontan 89.74 127 P P 04 42 55.8 +3.7
comp=Z,0.4nm,0.7s,baz=226,slow=5.3,SNR=6.4
NVAR Mina Array Bea 89.94 44 P **P** **04 42 55.1 +2.2**
NVAR Mina Array Bea 89.94 44 P **P** **04 42 55.1 +2.2**
comp=Z,3.2nm,0.7s,baz=225,slow=7.4,SNR=5.8
Z14A Wintersburg 90.04 50 P **P** **04 42 56.2 +2.9**
baz=90
CN2 Changchun 90.12 324 *e*P **P** **04 42 53.8 +0.5**
CN2 *e*pP **pP** **04 44 24.7 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
M04C Macdoel 90.20 39 P **P** **04 42 56.4 +2.4**
baz=90
TPNV Topopah Spring 90.20 46 P **P** **04 42 56.4 +2.3**
baz=90
Y14A Wickenburg 90.36 50 P **P** **04 42 57.3 +2.5**
baz=90
K04D Chiloquin, OR 90.83 39 P **P** **04 42 58.8 +2.0**
baz=91
TUC Tucson 90.84 52 *e*P **P** **04 42 57.5 +0.4**
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 90.84 52 *e*P **P** **04 42 57.5 +0.4**
comp=Z,6.1nm,0.9s
GYA Guiyang 90.86 301 *e*P **P** **04 42 58.6 +1.2**
GYA pP **pP** **04 44 30.0 +0.3**
GYA sP **sP** **04 45 10.4 -0.5**
GYA PP **PP** **04 46 42.8 +2.6**
GYA SKS **SKSac** **04 52 50.0 -0.3**
GYA S **S** **04 53 19.6 +0.3**
GYA sS **sS** **04 56 01.2 -2.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
J04D Umpqua Nationa 91.06 38 P **P** **04 43 00.1 +2.1**
baz=91
I04A Tendick Farm, 91.29 38 P **P** **04 43 00.8 +2.0**
baz=92
J05D Fort Rock, OR 91.56 38 P **P** **04 43 02.4 +2.1**
baz=92
X16A Lo Mia Camp, P 91.67 50 P **P** **04 43 04.0 +3.0**
baz=92
PINOR Pine Mountain 92.11 38 *e*P **P** **04 43 04.7 +2.2**
comp=Z,19nm,0.9s
I05D Terrebonne, OR 92.23 38 P **P** **04 43 05.0 +1.9**
baz=92
U15A North Rim 92.35 48 P **P** **04 43 06.9 +2.7**
baz=92
WVOR Wild Horse Val 92.40 40 *e*P **P** **04 43 05.5 +1.4**
WVOR pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 92.40 40 *e*P **P** **04 43 05.5 +1.4**
comp=Z,5.8nm,1.0s
CMAR Chiang Mai Arr 92.43 290 P **P** **04 43 06.1 +1.4**
CMAR Chiang Mai Arr 92.43 290 P **P** **04 43 06.1 +1.4**
comp=Z,1.2nm,0.4s,baz=141,slow=3.7,SNR=4.6
BJI Beijing 92.68 316 P **P** **04 43 04.8 -0.4**
BJI sP **sP** **04 45 17.3 -1.6**
BJI S **ScS** **04 53 37.9 +2.1**
BJI sS **sS** **04 56 24.0 +4.0**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI pmax pmax
comp=Z,120nm,3.3s
NNA Nana 94.47 107 *e*P **P** **04 43 12.9 -1.3**
comp=Z,6.9nm,0.6s
LVC Limon Verde 94.65 120 *e*P **P** **04 43 13.9 -1.3**
comp=Z,6.6nm,1.1s
ANMO Albuquerque 95.30 52 *e*P **P** **04 43 17.7 +0.1**
CD2 Chengdu 95.46 303 *e*P **P** **04 43 19.1 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
HHC Hu-ho-hao-te 95.95 315 *e*P P 04 43 16.1 -4.2
HHC pP pP 04 44 49.4 -3.5
HHC sP sP 04 45 31.3 -2.8
HHC SKS **SKSac** **04 53 12.1 -5.1**
HHC Hu-ho-hao-te 95.95 315 S **SKKSac** **04 53 49.6 +5.9**
HHC Hu-ho-hao-te 95.95 315 SS SS 05 00 40.3 -5.3
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,320nm,4.2s
SEY Seymchan 96.66 348⇓ *e*P **P** **04 43 21.5 -1.3**
PDAR Pinedale Array 97.84 44 P **P** **04 43 29.3 +0.4**
PDAR PKKPbc **PKKPbc** **05 00 03.5 +1.0**
PDAR Pinedale Array 97.84 44 P **P** **04 43 29.3 +0.4**
comp=Z,0.8nm,0.7s,baz=254,slow=2.6,SNR=2.6
PDAR PKKPbc **PKKPbc** **05 00 03.5 +1.0**
comp=Z,0.4nm,0.5s,baz=100,slow=4.8,SNR=4.0
BOZ Bozeman (W) 98.34 41 *e*P **P** **04 43 32.0 +1.1**
BOZ pmax pmax
comp=Z,2.0nm,1.0s
BOZ Bozeman (W) 98.34 41 *e*P **P** **04 43 32.0 +1.1**
comp=Z,2.2nm,1.0s
COLA College 99.14 13⇑ *e*P **Pdif** **04 43 33.2 -0.6**
COLA pmax pmax
comp=Z,3.0nm,0.4s
COLA College 99.14 13 *e*Pdif **Pdif** **04 43 32.8 -1.0**
ILAR Eielson Array 99.24 14 P **Pdif** **04 43 34.5 +0.2**
ILAR PKiKP **PKiKP** **04 48 01.5 -0.2**
ILAR Eielson Array 99.24 14 P **Pdif** **04 43 34.5 +0.2**
comp=Z,0.8nm,0.8s,baz=218,slow=5.9,SNR=4.9
ILAR PKiKP **PKiKP** **04 48 01.5 -0.2**
comp=Z,0.4nm,0.6s,baz=266,slow=1.9,SNR=6.3
JTS JuntasAbangare 99.24 84 *e*Pdif **Pdif** **04 43 34.1 -1.4**
BCIP Isla Barro Col 103.04 87 *e*Pdif **Pdif** **04 43 50.6 -1.8**
INK Inuvik 105.14 16 *e*PKP **PKiKP** **04 48 12.5 +0.2**
YKA Yellowknife Ar 106.97 26 PKiKP **PKiKP** **04 48 16.3 +0.5**
YKA PKKPbc **PKKPbc** **04 59 35.5 -0.6**
YKA Yellowknife Ar 106.97 26 PKiKP **PKiKP** **04 48 16.3 +0.5**
comp=Z,0.4nm,0.5s,baz=252,slow=1.6,SNR=2.1
YKA PKKPbc **PKKPbc** **04 59 35.5 -0.6**
comp=Z,0.2nm,0.6s,baz=36,slow=3.1,SNR=6.7
ULM Lac du Bonnet 109.75 43 *e*PKP **PKiKP** **04 48 20.4 -1.0**
SDV Santo Domingo 110.76 92 *e*PKP **PKiKP** **04 48 21.3 -3.5**
SUR Sutherland 113.66 199 *e*PKP **PKiKP** **04 48 29.1 -0.8**
FCC Fort Churchill 114.08 35 *e*PKIKP **PKiKP** **04 48 28.9 -0.5**
FCC Fort Churchill 114.08 35 *e*PKP **PKiKP** **04 48 28.9 -0.5**
MK31 Makanchi Array 117.36 310 *e*PKIKP **PKPdf** **04 48 35.6 -0.6**
MK31 Makanchi Array 117.36 310 *e*PKPdf **PKPdf** **04 48 35.6 -0.6**
MKAR Makanchi Array 117.36 310 PKIKP **PKPdf** **04 48 36.0 -0.2**
MKAR Makanchi Array 117.36 310 PKP **PKPdf** **04 48 36.0 -0.2**
MKAR Makanchi Array 117.36 310 PKP **PKPdf** **04 48 36.0 -0.2**
comp=Z,1.8nm,0.7s,baz=186,slow=0.5,SNR=30
MKAR Makanchi Array 117.36 310⇑ P **PKPdf** **04 48 35.5 -0.7**
baz=117
ZALV Zalesovo Beam 117.87 318 PKIKP **PKPdf** **04 48 36.5 -0.4**
ZALV Zalesovo Beam 117.87 318 PKP **PKPdf** **04 48 36.5 -0.4**
ZALV Zalesovo Beam 117.87 318 PKP **PKPdf** **04 48 36.5 -0.4**
comp=Z,1.1nm,0.6s,baz=129,slow=2.4,SNR=6.2
RES Resolute Bay 118.64 18 *e*PKPdf **PKPdf** **04 48 37.7 0.0**
KSH Kashi 119.56 301 *e*PKP **PKPdf** **04 48 39.0 -1.8**
KSH *es*PKP 04 51 00.1
KSH *e*SKS **SKSdf** **04 55 11.2 -2.9**
KSH AMB AMB
comp=Z,56nm,5.7s
KURK Kurchatov 120.75 314 *e*PKIKP **PKPdf** **04 48 42.4 -0.1**
KURK Kurchatov 120.75 314 *e*PKPdf **PKPdf** **04 48 42.4 -0.1**
KURBB Kurchatov Arra 120.78 313 PKP **PKPdf** **04 48 42.5 -0.1**
comp=Z,4.4nm,0.6s,baz=107,slow=1.9,SNR=44
TKM2 Tokmak 2 120.81 304 *e*PKIKP **PKPdf** **04 48 43.2 0.0**
TKM2 Tokmak 2 120.81 304 *e*PKPdf **PKPdf** **04 48 43.2 0.0**
AAK Ala-Archa 121.52 304 *e*PKIKP **PKPdf** **04 48 44.9 +0.4**
AAK Ala-Archa 121.52 304 *e*PKPdf **PKPdf** **04 48 44.9 +0.4**
AAK Ala-Archa 121.52 304 PKP **PKPdf** **04 48 44.9 +0.4**
comp=Z,2.3nm,0.6s,baz=119,slow=2.1,SNR=6.6
EKS2 Erkin-Say 122.04 304 *e*PKIKP **PKPdf** **04 48 45.0 -0.5**
EKS2 Erkin-Say 122.04 304 *e*PKPdf **PKPdf** **04 48 45.0 -0.5**
KK31 Karatay Array 124.47 303 *i* PKIKP **PKPdf** **04 48 50.3 +0.3**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 124.47 303 *e*PKIKP **PKPdf** **04 48 50.2 +0.2**
KKAR Karatay Array 124.47 303 *e*PKPdf **PKPdf** **04 48 50.2 +0.2**
BVA0 Borovoye Array 126.16 315 *i* PKIKP **PKPdf** **04 48 53.0 +0.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 126.16 315 PKIKP **PKPdf** **04 48 53.2 +0.4**
BVAR Borovoye Array 126.16 315 PKP **PKPdf** **04 48 53.2 +0.4**
BVAR Borovoye Array 126.16 315 PKP **PKPdf** **04 48 53.2 +0.4**
comp=Z,4.4nm,0.5s,baz=140,slow=1.6,SNR=30
BRVK Borovoye 126.22 315*c* *i*PKIKP **PKPdf** **04 48 53.4 +0.5**
BRVK Borovoye 126.22 315 *e*PKPdf **PKPdf** **04 48 53.3 +0.3**
TSUM Tsumeb 127.02 200 *e*PKPdf **PKPdf** **04 48 55.4 -0.4**
SCHQ Schefferville 127.93 43 PKP **PKPdf** **04 48 56.0 -0.2**
SCHQ Schefferville 127.93 43 PKP **PKPdf** **04 48 56.0 -0.2**
comp=Z,1.8nm,0.4s,baz=198,slow=15,SNR=6.4
KMBO Kilima Mbogo 132.35 234 *e*PKPdf **PKPdf** **04 49 05.3 -0.9**
AB31 Akbulak array 132.51 310 *i* PKIKP **PKPdf** **04 49 05.8 +0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 132.51 310 ⇓P **PKPdf** **04 49 06.8 +1.8**
baz=132
ARU Arti 132.98 320 *i* PKIKP **PKPdf** **04 49 06.7 +1.0**
ARU 04 51 37.7
ARU Arti 132.98 320 *e*PKPdf **PKPdf** **04 49 05.5 -0.2**
AKTO Aktyubinsk 133.75 312 PKIKP **PKPdf** **04 49 07.3 0.0**
AKTO pmax pmax
comp=Z,7.0nm,1.1s
SUMG Summit 134.05 15 *i* PKIKP **PKPdf** **04 49 11.0 +3.2**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 134.05 15 *i* P **PKPdf** **04 49 11.0 +3.2**
comp=Z,4.2nm,0.9s
KEV Kevo 138.79 346 *e*PKHKP PKPpre 04 49 06.0
KEV pmax pmax
comp=Z,27nm,1.3s
KEV Kevo 138.79 346 *ep* PKPpre 04 49 06.0
comp=Z,27nm,1.3s
SCO Scoresbysund 138.97 11 *i* PKIKP **PKPdf** **04 49 19.0 +2.6**
SCO pmax pmax
comp=Z,2.0nm,0.7s
SCO Scoresbysund 138.97 11 *i* P **PKPdf** **04 49 19.0 +2.6**
comp=Z,2.3nm,0.7s
ARCES ARCESS Array B 139.28 347 PKPpre PKPpre 04 49 09.6
ARCES ARCESS Array B 139.28 347 PKhKP PKPpre 04 49 09.6
comp=Z,7.2nm,0.9s,baz=39,slow=3.1,SNR=17
DGRG David-gareji 142.81 298 P **PKPdf** **04 49 22.4 -1.8**
JOF Joensuu 142.83 337 *e*PKHKP PKPpre 04 49 19.5
JOF pmax pmax
comp=Z,11nm,0.8s
JOF Joensuu 142.83 337 *ep* PKPpre 04 49 19.5
comp=Z,11nm,0.8s
GNI Garni 143.29 296 *e*PKPdf PKPbc 04 49 24.1 +1.0
ZEI Tsey 143.85 301 *e*PKIKP PKPab 04 49 23.8 -1.0
ZEI pmax pmax
comp=Z,13nm,1.3s
VRHR Novokhopersk 143.90 315 *e*PKIKP PKPab 04 49 23.3 -1.1
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
BORG Borgarnes 144.03 16 *e*PKPdf PKPbc 04 49 24.5 +0.1
KONS Konsvik 144.06 351 *e*P PKPbc 04 49 24.9 +0.4
KONS IAmb IAmb 04 49 25.1
comp=Z,20nm,0.4s
FLOS Flostrand 144.18 351 *e*P PKPbc 04 49 25.1 +0.2
FLOS IAmb IAmb 04 49 25.4
comp=Z,92nm,0.7s
MOR8 Moi Rana 144.19 350 *e*P PKPbc 04 49 24.0 -1.0
ONI Oni 144.19 300 P **PKPdf** **04 49 27.1 +0.5**
MOS Moscow 144.36 324 *e*PKHKP PKPpre 04 49 22.6
MOS pmax pmax
comp=Z,42nm,1.1s
KBZ Khabaz 144.50 302 PKIKP **PKPdf** **04 49 27.5 +0.5**
KBZ Khabaz 144.50 302 PKP **PKPdf** **04 49 27.4 +0.5**
KBZ Khabaz 144.50 302 PKP **PKPdf** **04 49 27.4 +0.5**
comp=Z,8.7nm,0.7s,baz=103,slow=1.1,SNR=16
KIV Kislovodsk 144.63 303*de* PKIKP PKPbc 04 49 27.4 +0.2
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 144.63 303 *e*PKPdf **PKPab** **04 49 27.7 +0.2**
KAF Kangasniemi 145.02 339 *e*PKIKP **PKPdf** **04 49 26.5 -0.8**
KAF pmax pmax
comp=Z,26nm,0.4s
KAF Kangasniemi 145.02 339 *ep* **PKPdf** **04 49 26.5 -0.8**
comp=Z,26nm,0.4s
OBN Obninsk 145.19 324*de* PKIKP **PKPdf** **04 49 28.3 +0.5**
OBN pmax pmax
comp=Z,45nm,0.8s
OBN Obninsk 145.19 324 *e*PKPbc **PKPdf** **04 49 28.3 +0.5**
VSR Storozhevoye 145.33 316 *e*PKIKP **PKPdf** **04 49 27.4 -0.8**
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,90nm,0.8s
VORD Divnogorie 145.34 316 *e*PKP2 **PKPdf** **04 49 28.6 +0.4**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,60nm,0.8s
FIA1 FINESS Array S 145.60 338 *e*PKPbc **PKPbc** **04 49 29.2 -0.3**
FINES FINESS Array B 145.60 338 PKPbc **PKPbc** **04 49 29.4 -0.1**
FINES FINESS Array B 145.60 338 PKPbc **PKPbc** **04 49 29.4 -0.1**
comp=Z,57nm,0.4s,baz=48,slow=4.0,SNR=786
MOL Molde 148.50 354 *e*P **PKPbc** **04 49 37.8 +0.5**
NB2 NORSAR Subarra1 149.53 350 PKP **PKPbc** **04 49 39.9 0.0**
comp=Z,13nm,0.5s,baz=13,slow=2.6
NB2 NORSAR Subarra1 149.53 350 PKP **PKPbc** **04 49 39.9 0.0**
baz=13,slow=2.6
NOA NORSAR Array B 149.53 350 PKPbc **PKPbc** **04 49 40.1 +0.2**
NOA NORSAR Array B 149.53 350 PKPbc **PKPbc** **04 49 40.1 +0.2**
comp=Z,19nm,0.7s,baz=14,slow=4.1,SNR=57
FOO Floro 149.66 356 *e*P **PKPbc** **04 49 40.8 +0.7**
FOO IAmb IAmb 04 49 41.0
comp=Z,11nm,0.6s
NAO01 NORSAR Array S 149.76 350 *e*PKPbc **PKPbc** **04 49 40.5 +0.1**
NAO01 *e*PKPab **PKPab** **04 49 46.9 -0.5**
NACGM Naroch 149.97 329 *e* **PKPbc** **04 49 40.0 -1.1**
HYA Hoyanger 150.00 354 *e*P **PKPbc** **04 49 41.5 +0.6**
SIM Simferopol' 150.47 307 *e*PKIKP **PKPbc** **04 49 44.2 +1.6**
SIM pmax pmax
comp=Z,15nm,0.8s
ASK Askoy 150.76 355 *e*P **PKPbc** **04 49 43.6 +0.9**
RUND Rundenannen 150.81 355 *e*P **PKPbc** **04 49 42.7 -0.3**
BER Bergen 150.85 355 *e*P **PKPbc** **04 49 43.5 +0.6**
BER IAmb IAmb 04 49 44.3
comp=Z,20nm,0.7s
KONO Kongsberg 151.10 350 *e*P **PKPbc** **04 49 43.9 +0.4**
ODD1 Odda 151.20 353 *e*P **PKPbc** **04 49 44.7 +0.9**
ODD1 IAmb IAmb 04 49 45.3
comp=Z,4.1nm,0.7s
AKASG Malin Array Be 151.23 320 PKIKP **PKPbc** **04 49 44.4 +0.3**
AKASG Malin Array Be 151.23 320 PKPbc **PKPbc** **04 49 44.4 +0.3**
AKASG Malin Array Be 151.23 320 PKPbc **PKPbc** **04 49 44.4 +0.3**
comp=Z,20nm,0.8s,baz=56,slow=2.8,SNR=50
AKBB Malin Array Si 151.23 320 *e*PKIKP **PKPbc** **04 49 44.2 +0.1**
AKBB Malin Array Si 151.23 320 *e*PKPbc **PKPbc** **04 49 44.2 +0.1**
AK01 Malin Array Si 151.24 320 *e*PKPbc **PKPbc** **04 49 44.4 -0.3**
KIEV Kiev 151.24 320 *e*PKIKP **PKPbc** **04 49 43.8 -0.3**
KIEV Kiev 151.24 320 *e*PKPbc **PKPbc** **04 49 43.8 -0.3**
AK02 Malin Array Si 151.26 320 *e*PKPbc **PKPbc** **04 49 44.1 -0.1**
BLS5 Blasjo 151.70 353 *e*P **PKPbc** **04 49 45.9 +0.9**
BLS5 IAmb IAmb 04 49 47.9
comp=Z,9.4nm,0.6s
BR131 Keskin Array S 151.83 296 *e*PKPbc **PKPbc** **04 49 46.3 +0.3**
BRTR Keskin Array B 151.83 296 PKPbc **PKPbc** **04 49 46.4 +0.3**
BRTR PKPab **PKPab** **04 49 56.6 -0.4**
BRTR Keskin Array B 151.83 296 PKPbc **PKPbc** **04 49 46.4 +0.3**
comp=Z,5.2nm,0.5s,baz=138,slow=4.0,SNR=52
BRTR PKPab **PKPab** **04 49 56.6 -0.4**
comp=Z,3.5nm,0.8s,baz=138,slow=4.4,SNR=8.2
KMY Karmoy 152.01 355 *e*P **PKPbc** **04 49 46.5 +0.9**
KMY IAmb IAmb 04 49 47.0
comp=Z,20nm,0.5s
SUW Suwalki 152.12 331 *e*PKPdf **PKPbc** **04 49 46.5 +0.5**
SUW *e*PKPbc **PKiKP** **04 49 50.8 +4.6**
SUW *e*PKPab **PKPab** **04 49 56.5 -0.9**
CSS Prodhromos 152.27 286 *e*PKPbc **PKPbc** **04 49 47.1 +0.1**
ANTO Ankara 152.46 297 ⇓PKIKP **PKPbc** **04 49 48.0 +0.6**
ANTO Ankara 152.46 297⇓ *i*P **PKPbc** **04 49 48.0 +0.6**
HOMB Homborsund 152.58 351 *e*P **PKPbc** **04 49 47.9 +1.0**
SNART Snartemo 152.68 352 *e*P **PKPbc** **04 49 48.2 +1.1**
CFR Carcaliu 154.40 310 ⇓PKIKP **PKPbc** **04 49 52.0 +0.8**
CFR Carcaliu 154.40 310⇓ *i*P **PKPbc** **04 49 52.0 +0.8**
TESR Tescani 154.77 314⇑ *i*P **PKPab** **04 50 09.1 0.0**
VRI Vrincioaia 155.01 313⇑ PKP2 **PKPab** **04 50 10.0 -0.2**
VRI Vrincioaia 155.01 313⇑ *i*P **PKPab** **04 50 10.0 -0.2**
BUR08 Bucovina Ar. S 155.08 318 *e*PKPab **PKPab** **04 50 10.2 -0.3**
BURAR Bucovina Array 155.08 318⇑ PKP2 **PKPab** **04 50 10.7 +0.2**
BURAR Bucovina Array 155.08 318⇑ *i*P **PKPab** **04 50 10.7 +0.2**
KWP Kalwaria Pacla 155.28 324 ⇓PKP2 **PKPab** **04 50 10.7 -0.4**
KWP Kalwaria Pacla 155.28 324 *e*PKP **PKPab** **04 50 11.2 +0.1**
KWP Kalwaria Pacla 155.28 324⇓ *i*P **PKPab** **04 50 10.7 -0.4**
KWP Kalwaria Pacla 155.28 324 *e*PKPdf **PKPdf** **04 49 43.8 +0.2**
KWP *e*PKPab **PKPab** **04 50 10.9 -0.2**
BAPR Bucharest-Chil 156.02 310⇓ *i*P PKPab 04 50 28.4 +14
VOIR 156.26 313 ⇓PKP2 **PKPab** **04 50 16.0 +0.4**
VOIR 156.26 313⇓ *i*P **PKPab** **04 50 16.0 +0.4**
TRPA Tarpa 156.29 321⇓ *i*P **PKPab** **04 50 18.6 +3.1**
BSEG Bad Segeberg 156.39 345 *e*PKPab **PKPab** **04 50 15.6 -0.1**
DRGR 156.97 318 ⇓PKP2 **PKPab** **04 50 19.2 +0.6**
DRGR 156.97 318⇓ *i*P **PKPab** **04 50 19.1 +0.5**
LOT Lotru 157.05 314⇑ *i*P **PKPab** **04 50 20.7 +1.6**
KSP Ksiaz 157.28 333 *e*PKP2 **PKPab** **04 50 19.8 +0.1**
KSP Ksiaz 157.28 333 *e*PKP **PKPab** **04 50 19.8 +0.1**
MORC Moravsky Berou 157.60 330⇑ PKP2 **PKPab** **04 50 21.2 0.0**
MORC Moravsky Berou 157.60 330⇑ *i*P **PKPab** **04 50 21.2 0.0**
MORC Moravsky Berou 157.60 330 *e*PKPab **PKPab** **04 50 20.5 -0.6**
UPC Upice 157.66 333 *i* PKP2 **PKPab** **04 50 21.8 +0.5**
UPC Upice 157.66 333 *i* PKPAB **PKPab** **04 50 21.8 +0.5**
DPC Dobruska-Polom 157.66 332 *i* PKP2 **PKPab** **04 50 20.7 -0.7**
DPC Dobruska-Polom 157.66 332 *i* PKPAB **PKPab** **04 50 20.7 -0.7**
PSZ Piszkesteto 157.81 323 *e*PKP2 **PKPab** **04 50 20.4 -1.8**
PSZ Piszkesteto 157.81 323 *e*PKPab **PKPab** **04 50 20.4 -1.8**
CLL Collm 158.05 338 *i* PKP2 **PKPab** **04 50 22.4 -0.6**
CLL pmax pmax
comp=Z,14nm,0.8s
CLL Collm 158.05 338 *e*PKPab **PKPab** **04 50 22.4 -0.6**
CLL Collm 158.05 338 *i* PKPab **PKPab** **04 50 22.4 -0.6**
comp=Z,14nm,0.8s
BRG Berggiesshubel 158.11 337 *e*PKP **PKPab** **04 50 23.1 -0.1**
comp=Z,14nm,1.0s
BRG Berggiesshubel 158.11 337 *e*PKP2 **PKPab** **04 50 23.1 -0.1**
BRG pmax pmax
comp=Z,14nm,1.0s
BRG Berggiesshubel 158.11 337 *e*PKPab **PKPab** **04 50 23.2 -0.1**
PVCC Panska Ves 158.18 335 *i* PKP2 **PKPab** **04 50 20.4 -3.2**
PVCC Panska Ves 158.18 335 *i* PKPAB **PKPab** **04 50 20.4 -3.2**
CLZ Clausthal 158.31 343 *e*PKPab **PKPab** **04 50 24.2 0.0**
VRAC Vranov 158.36 330⇑ *i*P **PKPab** **04 50 26.3 +1.9**
IBBN Ibbenburen 158.44 348 *e*PKPab **PKPab** **04 50 24.7 +0.1**
PRU Pruhonice 158.64 334 *i* PKP2 **PKPab** **04 50 25.5 -0.1**
PRU Pruhonice 158.64 334 *i* PKPAB **PKPab** **04 50 25.5 -0.1**
VTS Vitosha 158.70 308⇑ PKP2 **PKPab** **04 50 27.1 +0.7**
VTS Vitosha 158.70 308⇑ *i*P **PKPab** **04 50 27.0 +0.7**
TREC Trest 158.83 332 *i* PKP2 **PKPab** **04 50 26.7 +0.2**
TREC Trest 158.83 332 *i* PKPAB **PKPab** **04 50 26.7 +0.2**
WTSB Winterswijk 158.94 349 *e*PKP PKPab 04 50 36.6 +10
NKC Novy Kostel 159.16 338 *i* PKP2 **PKPab** **04 50 27.5 -0.4**
NKC Novy Kostel 159.16 338 *i* PKPAB **PKPab** **04 50 27.5 -0.4**
KHC Kasperske Hory 159.70 334 *i* PKP2 **PKPab** **04 50 30.1 -0.2**
KHC Kasperske Hory 159.70 334 *i* PKPAB **PKPab** **04 50 30.1 -0.2**
CONA Conrad Observa 159.72 329⇑ *i*PKPab **PKPab** **04 50 30.3 -0.2**
comp=Z,9.5nm,1.1s
GEC2 GERESS Array S 159.89 334 *e*PKPab **PKPab** **04 50 30.7 -0.5**
GERES GERESS Array B 159.89 334 PKPab **PKPab** **04 50 30.3 -0.9**
GERES GERESS Array B 159.89 334 PKPab **PKPab** **04 50 30.3 -0.9**
comp=Z,3.0nm,0.8s,baz=38,slow=5.0,SNR=14
HGN Heimansgroeve 160.24 350 *e*PKP **PKPab** **04 50 32.0 -0.5**
TNS Taunus Mts 160.27 345 *e*PKPab **PKPab** **04 50 32.4 -0.4**
RJOB Jochberg 161.14 333 *e*PKPab **PKPab** **04 50 36.2 -0.5**
WLF Walferdange 161.27 348 *e*PKIKP **PKPdf** **04 49 47.8 -3.0**
WLF *e* 04 50 35.6
WLF Walferdange 161.27 348 *e*PKPdf **PKPdf** **04 49 47.8 -3.0**
WLF *e*PKPab **PKPab** **04 50 35.6 -1.5**
TOA0 Torodi Ar. Sit 161.77 184 *e*PKPdf **PKPdf** **04 49 52.7 +0.4**
TOA0 *e*PKPab **PKPab** **04 50 42.6 +2.6**
TORD Torodi Ar. Bea 161.77 184 PKPab **PKPab** **04 50 43.1 +3.1**
TORD Torodi Ar. Bea 161.77 184 PKPab **PKPab** **04 50 43.1 +3.1**
comp=Z,0.8nm,0.5s,baz=160,slow=4.1,SNR=6.1
ABTA Abfaltersbach 162.06 332⇑ *i*PKPab **PKPab** **04 50 39.2 -1.6**
comp=Z,6.5nm,0.8s
TIP Timpagrande 164.56 305 *e*PKPdf **PKPdf** **04 49 55.1 +0.7**
AQU L'Aquila 164.93 320 *e*PKPdf **PKPdf** **04 49 53.1 -1.5**
AQU *e*PKPab **PKPab** **04 50 52.6 -0.9**
BNI Bardonecchia 165.53 342 *e*PKP2 **PKPab** **04 50 55.4 -0.7**
BNI Bardonecchia 165.53 342 *e*PKPab **PKPab** **04 50 55.4 -0.7**

NIED ***08*** *04:46:00,42.˙80N×144.˙90E,h35km,Mw3.6 Best double couple: M₀2.90000×10¹⁴ NP1:φ₀67.00000°,δ65.00000°, λ173.00000°. NP2:φ₀160.00000°,δ84.00000°,λ25.00000°.*
ISCJB ***08*** *04:46:57.0±0.7,42.˙70N±0.˙06×144.˙98E±0.˙05,h60km±5km, mb3.8/9, Error ellipse: s-maj=10.0km s-min=5.0km az=158.3*
MOS ***08*** *04:46:57.1±1.0,42.˙62N×144.˙89E,h69km,mb4.3/4, Error ellipse: s-maj=21.4km s-min=14.3km az=80.5*
JMA ***08*** *04:46:58.4±0.1,42.˙77N×144.˙94E,h54km±1km,M4.0*
JMA Felt II J1.
IDC ***08*** *04:46:59.6±2.9,42.˙65N×144.˙84E,h69km±22km,mb3.4/8, mb1 3.6/10,mb1mx3.4/28,mbtmp3.7/10, Error ellipse: s-maj=24.3km s-min=20.8km az=7.0*
SKHL ***08*** *04:46:59.8±0.6,42.˙83N×144.˙92E,h81km±5km,mb4.3/3, msh5.5/2*

ISC 08 04:46:58.0±1.2, 42.˙71N±0.˙08×144.˙96E±0.˙04, h50km±9km, n34,σ1°11/41, mb3.5/9, 3C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.34**	**326**	P	**Pn**	**04 47 07.8**	**+0.3**
JAK				*e*S	**Sn**	**04 47 14.9**	**+0.6**
JOB	**Onbets**	**0.85**	**283**	⇓P	**Pn**	**04 47 13.9**	**+0.2**
NEM2	**Nemuro 2**	**0.87**	**41**	P	**Pn**	**04 47 13.8**	**-0.2**
NEM2				*e*S	**Sn**	**04 47 25.3**	**-0.3**
JNK	**Nakash**	**0.89**	**349**	⇑P	**Pn**	**04 47 13.8**	**-0.5**
JNK				*e*S	**Sn**	**04 47 25.0**	**-1.1**
JAR	**Ashorobuto**	**1.05**	**304**	⇓P	**Pn**	**04 47 16.3**	**-0.1**
JAR				*e*S	**Sn**	**04 47 30.0**	**0.0**
JCH	**Churui**	**1.18**	**266**	P	**Pn**	**04 47 18.6**	**+0.4**
JCH				*e*S	**Sn**	**04 47 33.7**	**+0.6**
JRA	**Rausu**	**1.23**	**6**	⇑P	**Pn**	**04 47 18.8**	**0.0**
JRA				*e*S	**Sn**	**04 47 33.9**	**-0.4**
JTKR	**Abashiri--Toko**	**1.47**	**329**	⇓P	**Pn**	**04 47 22.6**	**+0.5**
JTKR				*e*S	**Sn**	**04 47 41.0**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.48**	**26***c*	*i*PN	**Pn**	**04 47 22.4**	**+0.2**
YUK				*i* S	**Sn**	**04 47 39.7**	**-0.6**
YUK				pmax	pmax		
	comp=N,157nm,0.2s						
YUK				pmax	pmax		
	comp=E,70nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,305nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.48**	**26**	*e*P	**Pn**	**04 47 22.4**	**+0.2**
YUK				AMB	AMB	04 47 22.8	
	comp=E,157nm,0.2s						
YUK				AMB	AMB	04 47 22.8	
	comp=E,71nm,0.2s						

YUK AMB AMB 04 47 22.8
comp=E,1µm,0.2s
YUK eS Sn **04 47 39.7 -0.6**
YUK A A 04 47 42.0
comp=E,310nm,0.2s
YUK A A 04 47 42.0
comp=E,1µm,0.2s
HRK Horoka 1.54 300 eP **Pn 04 47 23.5 +0.4**
HRK eS **Sn 04 47 41.2 -0.7**
SHO Shikotan 1.79 49 eP **Pn 04 47 26.8 +0.4**
SHO AMB AMB 04 47 27.4
comp=E,23nm,0.3s
SHO eS **Sn 04 47 46.5 -1.5**
SHO A A 04 47 48.9
comp=E,53nm,0.3s
SHO A A 04 47 48.9
comp=E,92nm,0.3s
JKA Kamikawa-asahi 2.22 310 eP **Pn 04 47 33.4 +1.1**
ASAJ Asahikawa 2.22 310 P **Pn 04 47 33.4 +1.1**
comp=E,26nm,0.3s,baz=158,slow=8.7,SNR=70
ASAJ S **Sn 04 48 01.0 +2.4**
comp=E,12nm,0.3s,baz=236,slow=30,SNR=13
KUR Kuril'sk 3.28 39 PN Pn 04 47 50.5 +3.7
KUR S **Sn 04 48 28.0 +3.5**
KUR pmax pmax
comp=Z,370nm,1.0s
KUR smax smax
comp=N,140nm,0.9s
KUR smax smax
comp=E,90nm,0.6s
KUR Kuril'sk 3.28 39 eP **Pn 04 47 50.0 +3.2**
KUR AMB AMB 04 47 57.0
comp=E,370nm,1.0s
KUR eS **Sn 04 48 26.0 +1.5**
KUR A A 04 48 34.9
comp=E,140nm,0.7s
KUR A A 04 48 34.9
comp=E,90nm,0.7s
MJAR Matsushiro Arr 8.07 222 P **Pn 04 48 52.4 -0.1**
comp=E,0.9nm,0.3s,baz=31,slow=12,SNR=7.7
SONM Songino Array 27.41 294 P **P 04 52 38.7 -0.2**
comp=E,1.0nm,0.8s,baz=82,slow=7.2,SNR=7.1
H11N2 WAKE ISLAND Hy 29.45 134 T T 05 24 04.5
baz=329,slow=76,SNR=278
H11N1 WAKE ISLAND Hy 29.46 134 T T 05 24 05.7
baz=329,slow=76,SNR=166
H11N3 WAKE ISLAND Hy 29.46 134 T T 05 24 06.2
baz=329,slow=76,SNR=179
H11S1 WAKE ISLAND Hy 30.36 136 T T 05 25 11.4
baz=331,slow=77,SNR=238
H11S3 WAKE ISLAND Hy 30.36 136 T T 05 25 18.1
baz=331,slow=77,SNR=188
H11S2 WAKE ISLAND Hy 30.38 136 T T 05 25 19.5
baz=331,slow=77,SNR=154
ILAR Eielson Array 43.27 35 P **P 04 54 54.2 0.0**
comp=E,0.8nm,0.7s,baz=281,slow=8.5,SNR=10
MKAR Makanchi Array 43.65 298 P **P 04 54 56.7 -0.8**
MKAR Makanchi Array 43.65 298 P **P 04 54 56.7 -0.8**
comp=E,0.4nm,0.4s,baz=80,slow=9.4,SNR=11
KURK Kurchatov 44.78 304 P **P 04 55 06.2 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.2s
KURBB Kurchatov Arra 44.87 304 P **P 04 55 06.2 -0.9**
comp=Z,1.6nm,0.2s,baz=73,slow=9.0,SNR=4.8
BVAR Borovoye Array 48.92 309 P **P 04 55 37.8 -1.0**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 48.92 309 P **P 04 55 37.8 -1.0**
comp=Z,0.5nm,0.4s,baz=74,slow=8.9,SNR=7.4
YKA Yellowknife Ar 57.55 33 P **P 04 56 41.6 -0.3**
comp=Z,0.1nm,0.7s,baz=304,slow=7.7,SNR=3.0
FINES FINESS Array B 65.06 332 P **P 04 57 32.0 -0.7**
comp=Z,1.7nm,0.8s,baz=61,slow=10.0,SNR=3.7
PDAR Pinedale Array 71.80 48 P **P 04 58 16.5 +1.1**
comp=Z,0.2nm,0.4s,baz=287,slow=7.3,SNR=2.7

*DJA **08** 04:49:30.3±2.7,5°N±21°×12°8E±1°5,h10km,M4.8/7, mb4.9/7,mB5.5/4,MLv4.7/6,Mw(mB)5.0/4*
*IDC **08** 04:49:42.1±1.1,3°55N×126°54E,h0km,mb4.2/9, mb1 4.3/9,mb1mx4.1/24,mbtmp4.2/9,MS3.6/1,Ms1 3.6/1, ms1mx3.0/29,Error ellipse: s-maj=131.1km s-min=15.3km az=67.0*
*ISCJB **08** 04:49:46.7±0.4,3°78N±0°05×127°06E±0°08,h48km, mb4.3/19,MS3.5/1,Error ellipse: s-maj=11.1km s-min=6.6km az=163.7*
*NEIC **08** 04:49:47.2±2.8,3°66N×126°83E,h35km±26km,mb4.5/12, Error ellipse: s-maj=16.1km s-min=5.7km az=68.0*

ISC 08 04:49:48.7±0.6,3°73N±0°08×126°96E±0°10,h48km,n50, σ1°02/48,mb4.3/18,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.42**	**268**	P	**Pn**	**04 50 11.5**	**-0.7**
TNTI	**Ternate**	**2.97**	**172**	P	**Pn**	**04 50 34.3**	**+0.9**
LBMI	**Labuha**	**4.38**	**173**	P	**Pn**	**04 50 54.0**	**+1.3**
	84nm,0.8s,0.3nm						
CTBH	**Cotabato--PC H**	**4.39**	**322**	*i*P	**Pn**	**04 50 56.0**	**+3.1**
GTOI	**Gorontalo**	**5.00**	**232**	P	Pn	04 51 05.6	+4.3
	37nm,1.0s,757nm0.1nm						
MRSI	**Marisa**	**5.96**	**237**	P	**Pn**	**04 51 17.4**	**+2.9**
	39nm,0.7s,0.2nm						
LUWI	**Luwuk**	**6.32**	**221**	P	Pn	04 51 27.9	+8.5
	89nm,0.9s,4µm0.3nm						
APSI	**Ampana**	**7.03**	**229**	P	Pn	04 51 35.3	+6.2
	74nm,0.8s,737nm						
PCI	**Palu**	**8.48**	**237**	P	**Pn**	**04 51 50.9**	**+1.9**
	2µm,0.9s,42µm						
SBUM	**Sibu**	**14.77**	**265**	P	x	04 53 24.1	
CGJI	**Cibinong**	**23.59**	**244**	P	**P**	**04 54 54.1**	**-1.2**
COEN	**Coen**	**23.83**	**138**	*e*P	**P**	**04 54 58.2**	**+0.6**
WRAB	**Tennant Creek**	**24.62**	**163**	*e*P	**P**	**04 55 04.0**	**-0.8**
	28nm,0.8s						
WRA	**Warramunga Arr**	**24.62**	**163**	P	**P**	**04 55 03.8**	**-1.0**
WRA	**Warramunga Arr**	**24.62**	**163**	P	**P**	**04 55 03.8**	**-1.0**
	20nm,0.7s,baz=343,slow=10,SNR=60						
MBWA	**Marble Bar**	**25.73**	**196**	*e*P	**P**	**04 55 13.1**	**-1.8**
	9.7nm,1.0s						
KULM	**Kulim**	**26.27**	**274**	*e*P	**P**	**04 55 19.5**	**-0.4**
	7.5nm,0.9s						
PSI	**Prapat**	**28.00**	**269**	LR	LR	05 07 53.2	
	comp=Z,117nm,19.4s,baz=146,slow=40						
AS31	**Alice Springs**	**28.06**	**166**	*e*P	**P**	**04 55 34.9**	**-1.0**
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**04 55 34.5**	**-1.4**
ASAR				PcP	**PcP**	**04 58 50.7**	**+1.0**
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**04 55 34.5**	**-1.4**
	0.9nm,0.4s,baz=338,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**04 58 50.7**	**+1.0**
	0.8nm,0.7s,baz=344,slow=2.4,SNR=5.8						
FORT	**Forrest**	**34.34**	**178**	*e*P	**P**	**04 56 30.7**	**-0.2**
	5.1nm,0.6s						
BJT	**Baijiatuan**	**37.42**	**346**	*e*P	**P**	**04 56 57.3**	**+0.1**
	9.6nm,0.3s						
STKA	**Stephens Creek**	**38.05**	**160**	*e*P	**P**	**04 57 02.1**	**-0.6**
	3.0nm,1.0s						
STKA	**Stephens Creek**	**38.05**	**160**	P	**P**	**04 57 02.3**	**-0.4**
	6.5nm,0.7s,baz=331,slow=8.3,SNR=22						
ULN	**Ulaanbaatar**	**47.18**	**342**	*e*P	**P**	**04 58 17.4**	**+0.6**
	2.1nm,0.8s						
SONM	**Songino Array**	**47.37**	**341**	P	**P**	**04 58 17.9**	**-0.2**
SONM				PcP	**PcP**	**04 59 49.1**	**+0.9**
SONM	**Songino Array**	**47.37**	**341**	P	**P**	**04 58 17.9**	**-0.2**
	1.1nm,0.7s,baz=155,slow=10.0,SNR=7.3						
SONM				PcP	**PcP**	**04 59 49.1**	**+0.9**
	0.8nm,0.9s,baz=148,slow=4.6,SNR=4.1						
TLY	**Talaya**	**51.59**	**342**	*e*P	**P**	**04 58 50.9**	**+0.7**
	2.1nm,0.8s						
MK31	**Makanchi Array**	**57.68**	**325**	*e*P	**P**	**04 59 34.3**	**-0.1**
MKAR	**Makanchi Array**	**57.68**	**325**	P	**P**	**04 59 34.1**	**-0.2**
MKAR	**Makanchi Array**	**57.68**	**325**	P	**P**	**04 59 34.1**	**-0.2**
	1.4nm,0.7s,baz=121,slow=7.9,SNR=20						
EKS2	**Erkin-Say**	**61.00**	**318**	*e*P	**P**	**04 59 56.4**	**-1.1**
	14nm,1.3s						
KURK	**Kurchatov**	**61.86**	**327**	*e*P	**P**	**05 00 02.8**	**-0.1**
BVAR	**Borovoye Array**	**67.44**	**327**	P	**P**	**05 00 38.9**	**-0.5**
BVAR	**Borovoye Array**	**67.44**	**327**	P	**P**	**05 00 38.9**	**-0.5**
	0.7nm,0.7s,baz=120,slow=8.5,SNR=1.8						
BRVK	**Borovoye**	**67.51**	**327**	*e*P	**P**	**05 00 39.8**	**0.0**
	3.0nm,0.9s						
ABKAR	**Akbulak array**	**72.29**	**321**	*e*P	**P**	**05 01 08.8**	**-0.4**
VNDA	**Vanda**	**83.40**	**173**	*e*P	**P**	**05 02 11.1**	**+0.7**
	1.7nm,0.8s						
VNDA	**Vanda**	**83.40**	**173**	P	**P**	**05 02 10.5**	**+0.1**
	1.3nm,0.8s,baz=304,slow=8.1,SNR=3.8						
BR131	**Keskin Array S**	**90.19**	**310**	*e*P	**P**	**05 02 44.0**	**-0.5**
	2.0nm,1.1s						
BRTR	**Keskin Array B**	**90.19**	**310**	P	**P**	**05 02 44.1**	**-0.4**
BRTR	**Keskin Array B**	**90.19**	**310**	P	**P**	**05 02 44.1**	**-0.4**
	0.9nm,0.9s,baz=101,slow=6.4,SNR=5.6						
AKASG	**Malin Array Be**	**92.03**	**321**	P	**P**	**05 02 51.9**	**-0.6**
AKASG	**Malin Array Be**	**92.03**	**321**	P	**P**	**05 02 51.9**	**-0.6**
	1.0nm,0.7s,baz=66,slow=4.7,SNR=5.9						
BUR08	**Bucovina Ar. S**	**95.15**	**318**	*e*P	**P**	**05 03 07.5**	**+0.3**
PSZ	**Piszkesteto**	**98.57**	**319**	*e*P	Pdif	05 03 23.0	+0.3
	2.8nm,0.9s						
TOA0	**Torodi Ar. Sit**	**123.13**	**288**	*e*PKPdf	**PKPdf**	**05 08 41.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**123.13**	**288**	PKP	**PKPdf**	**05 08 41.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**123.13**	**288**	PKP	**PKPdf**	**05 08 41.3**	**+0.2**
	0.5nm,0.8s,baz=31,slow=3.1,SNR=3.0						

KRSC 08 04:51:55.0±1.4,54°78N×164°58E,h41km±27km,ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.91**	**62**	*e*P	Pn	04 52 11.9	+0.7
BKI				*e*S	Sn	04 52 22.2	-0.9
MKZ	**Mys Kozlova**	**1.67**	**263**	*e*P	Pn	04 52 25.3	+3.7
MKZ				*e*S	Sn	04 52 44.7	+2.9
KBTR	**Krutoberegovo**	**1.75**	**326**	*e*P	Pn	04 52 24.0	+1.3
KBTR				*e*S	Sn	04 52 42.7	-1.1
KZV	**Kizimen**	**2.49**	**279**	*e*P	Pn	04 52 37.0	+3.8
KZV				*e*S	Sn	04 53 05.2	+2.7
SMKR	**Semkarok**	**2.52**	**317**	P	Pn	04 52 37.4	+3.9
SMKR				S	Sn	04 53 06.0	+2.9
TUMR	**Tumrok**	**2.60**	**283**	*e*P	Pn	04 52 39.0	+4.4
TUMR				*e*S	Sn	04 53 08.6	+3.5
KMNR	**Kamenistaya**	**2.67**	**293**	*e*P	Pn	04 52 40.1	+4.5
KMNR				S	Sn	04 53 10.8	+4.1
SRKR	**Sorokina**	**2.69**	**316**	P	Pn	04 52 40.3	+4.5
SRKR				S	Sn	04 53 10.8	+3.6
KLY	**Klyuchi**	**2.71**	**306**	P	Pn	04 52 38.1	+2.2
KLY				*e*S	Sn	04 53 07.7	+0.3
SRDR	**Sredinnyy**	**3.16**	**301**	P	Pn	04 52 47.3	+5.0
SRDR				S	Sn	04 53 23.6	+4.8
SPN	**Mys Shipunski**	**3.18**	**240**	S	Sn	04 53 21.0	+2.1
NLC	**Nalytchevo**	**3.48**	**245**	*e*P	Pn	04 52 50.2	+3.6
NLC				*e*S	Sn	04 53 28.3	+1.8
SDLR	**Sedlovina**	**3.68**	**248**	*e*P	Pn	04 52 54.1	+4.7
SDLR				S	Sn	04 53 34.5	+2.8
KRER	**Koryakskii**	**3.74**	**249**	*e*P	Pn	04 52 55.4	+5.0
KRER				S	Sn	04 53 36.9	+3.6
UGLR	**Uglovaya**	**3.74**	**247**	*e*P	Pn	04 52 55.8	+5.5
UGLR				S	Sn	04 53 37.3	+4.1
AVH	**Avacha**	**3.76**	**249**	*e*P	Pn	04 52 55.8	+5.3
AVH				S	Sn	04 53 38.2	+4.6
KRX	**Arik**	**3.77**	**250**	*e*P	Pn	04 52 56.1	+5.4
KRX				S	Sn	04 53 37.6	+3.6
KOK	**Koryaka**	**3.81**	**249**	*e*P	Pn	04 52 56.4	+5.2
KOK				S	Sn	04 53 38.5	+3.8
GNL	**Ganaly**	**4.04**	**257**	*e*P	Pn	04 52 59.8	+5.4
RUS	**Russkaya**	**4.31**	**239**	P	Pn	04 53 01.6	+3.7
MTVR	**Mutnovka**	**4.45**	**241**	*e*P	Pn	04 53 04.8	+4.8
MTVR				*e*S	Sn	04 53 53.1	+2.5

IDC 08 04:59:11.4±2.6,23°62S×68°80W,h0km,mb3.7/2, mb1 3.7/3,mb1mx3.5/16,mbtmp3.5/3,ML3.3/1,Error ellipse: s-maj=81.6km s-min=52.6km az=55.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.33**	**5**	Pn	Pn	05 01 00.5	-0.1
	0.2nm,0.3s,baz=176,slow=12,SNR=8.9						
TORD	**Torodi Ar. Bea**	**77.98**	**70**	P	P	05 11 11.9	-0.2
	0.4nm,0.6s,baz=249,slow=5.7,SNR=8.2						
YKA	**Yellowknife Ar**	**93.21**	**341**	P	P	05 12 26.8	-0.5
	0.2nm,0.6s,baz=144,slow=4.3,SNR=4.4						
MKAR	**Makanchi Array**	**147.26**	**38**	PKPbc	PKPbc	05 18 56.7	-0.1
	0.2nm,0.6s,baz=349,slow=2.6,SNR=3.2						

DDA 08 05:02:28.7,37°01N×36°71E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.37**	**128**	*i* P	Pg	05 02 36.4	+0.3
KUZU				*i* S	Sg	05 02 41.9	+0.8

IDC 08 05:04:30.6±1.7,2°53N×124°03E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/22,mbtmp3.7/4,Error ellipse: s-maj=183.9km s-min=25.1km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.52**	**156**	P	P	05 09 51.8	-0.2
	1.3nm,0.3s,baz=334,slow=10,SNR=37						
ASAR	**Alice Springs**	**27.76**	**160**	P	P	05 10 21.9	+0.6
	0.5nm,0.4s,baz=342,slow=7.2,SNR=10						
STKA	**Stephens Creek**	**38.07**	**155**	P	P	05 11 50.7	-0.4
	1.0nm,0.4s,baz=346,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**57.04**	**327**	P	P	05 14 18.2	-0.3
	0.2nm,0.4s,baz=120,slow=7.9,SNR=5.0						

*BJI **08** 05:15:28.0,44°07N×149°01E,h45km,mB5.0/3,mb4.6/6*
*ISCJB **08** 05:15:35.6±0.7,44°40N±0°05×148°13E±0°07,h66km±5km, mb3.8/23,Error ellipse: s-maj=9.8km s-min=5.2km az=42.4*
*MOS **08** 05:15:35.7±0.9,44°51N×148°15E,h67km,mb4.4/19,Error ellipse: s-maj=11.6km s-min=9.3km az=105.3*
*JMA **08** 05:15:35.2±0.3,44°02N×147°97E,h0km,M5.0*
*SKHL **08** 05:15:36.6±0.8,44°46N×148°13E,h85km±3km,mb5.3/4, msh6.0/3*
*IDC **08** 05:15:39.5±2.5,44°51N×148°08E,h83km±21km,mb3.6/19, mb1 3.8/22,mb1mx3.7/28,mbtmp3.6/22,MS3.0/2, Ms1 3.0/2,ms1mx2.7/38,Error ellipse: s-maj=19.0km s-min=12.7km az=152.0*

ISC 08 05:15:36.0±1.2,44°36N±0°06×148°18E±0°07,h55km±9km, n81,σ1°10/86,mb3.8/23,1C-4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.90**	**346**	*i* PN	**Pn**	**05 15 52.5**	**0.0**
KUR				*e*S	**Sn**	**05 16 04.8**	**+0.2**
KUR				pmax	pmax		
	comp=N,1µm,0.3s						
KUR				pmax	pmax		
	comp=E,1µm,0.3s						
KUR				pmax	pmax		
	comp=Z,2µm,0.3s						
KUR				smax	smax		
	comp=N,4µm,0.5s						
KUR				smax	smax		
	comp=E,7µm,0.5s						
KUR	**Kuril'sk**	**0.90**	**346**	*e*P	**Pn**	**05 15 52.5**	**0.0**
KUR				AMB	AMB	05 15 53.1	
	comp=E,1µm,0.3s						
KUR				AMB	AMB	05 15 53.1	
	comp=E,1µm,0.3s						
KUR				AMB	AMB	05 15 53.1	
	comp=E,2µm,0.3s						
KUR				*e*S	**Sn**	**05 16 05.0**	**+0.4**
KUR				A	A	05 16 05.0	
	comp=E,4µm,0.5s						
KUR				A	A	05 16 05.0	
	comp=E,7µm,0.5s						
KUR				A	A	05 16 09.0	
	comp=E,20µm,2.0s						
KUR				A	A	05 16 09.0	
	comp=E,8µm,2.0s						
SHO	**Shikotan**	**1.09**	**244**	*e*P	**Pn**	**05 15 54.6**	**-0.4**
SHO				AMB	AMB	05 15 54.9	
	comp=E,752nm,0.4s						
SHO				*e*S	**Sn**	**05 16 07.5**	**-1.6**
SHO				A	A	05 16 07.9	
	comp=E,296nm,0.4s						
SHO				A	A	05 16 07.9	
	comp=E,838nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**260**	*d i* PN	**Pn**	**05 16 03.2**	**0.0**
YUK				*i* S	**Sn**	**05 16 23.2**	**-0.7**
YUK				pmax	pmax		
	comp=N,418nm,0.2s						
YUK				pmax	pmax		
	comp=E,767nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				smax	smax		
	comp=E,1µm,0.2s						
YUK				smax	smax		
	comp=N,3µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**260**	*e*P	**Pn**	**05 16 03.2**	**0.0**
YUK				AMB	AMB	05 16 04.8	
	comp=N,420nm,0.2s						
YUK				AMB	AMB	05 16 04.8	
	comp=N,790nm,0.2s						
YUK				AMB	AMB	05 16 04.8	
	comp=N,2µm,0.2s						
YUK				*e*S	**Sn**	**05 16 23.2**	**-0.7**
YUK				A	A	05 16 32.5	
	comp=N,3µm,0.2s						
YUK				A	A	05 16 32.5	
	comp=N,1µm,0.2s						
NEM2	**Nemuro 2**	**2.03**	**241**	P	**Pn**	**05 16 06.9**	**-0.8**
NEM2				*e*S	**Sn**	**05 16 30.0**	**-1.8**
JRA	**Rausu**	**2.24**	**260**	P	**Pn**	**05 16 11.5**	**+0.9**
JRA				*e*S	**Sn**	**05 16 38.4**	**+1.3**
JNK	**Nakash**	**2.62**	**254**	P	**Pn**	**05 16 16.3**	**+0.5**
JNK				*e*S	**Sn**	**05 16 46.2**	**-0.1**
JAK	**Akkeshi**	**2.87**	**243**	P	**Pn**	**05 16 18.9**	**-0.4**
JTKR	**Abashiri--Toko**	**3.10**	**264**	P	**Pn**	**05 16 23.2**	**+0.9**
JAR	**Ashorobuto**	**3.37**	**253**	P	**Pn**	**05 16 27.3**	**+1.3**
JAR				*e*S	**Sn**	**05 17 05.8**	**+1.1**
JOB	**Onbets**	**3.48**	**247**	P	**Pn**	**05 16 28.1**	**+0.6**
JOB				*e*S	**Sn**	**05 17 07.0**	**-0.4**
JMP	**Maruseppu**	**3.49**	**266**	P	**Pn**	**05 16 28.9**	**+1.2**
JCH	**Churui**	**3.92**	**245**	P	**Pn**	**05 16 33.5**	**-0.1**
JCH				*e*S	**Sn**	**05 17 18.0**	**-0.3**
JKK2	**Kamakawa 2**	**3.94**	**265**	P	**Pn**	**05 16 37.1**	**+3.2**
JKA	**Kamikawa-asahi**	**4.02**	**268**	*e*P	**Pn**	**05 16 37.3**	**+2.4**
ASAJ	**Asahikawa**	**4.02**	**268**	P	**Pn**	**05 16 37.3**	**+2.4**
	comp=N,5.7nm,0.3s,baz=82,slow=7.2,SNR=16						
ASAJ				LR	LR	05 18 27.3	
	comp=N,157nm,19.9s,baz=192,slow=42						
ERM	**Erimo**	**4.36**	**239**	*d i* PN	**Pn**	**05 16 42.2**	**+2.6**
ERM	**Erimo**	**4.36**	**239**	*e*P	**Pn**	**05 16 42.2**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.47**	**244**	P	**Pn**	**05 16 42.2**	**+1.0**
JWK2	**Keihoku**	**4.57**	**284**	P	**Pn**	**05 16 44.9**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.60**	**306**	*i e*PN	**Pn**	**05 16 42.6**	**-0.3**
YSS				*e*S	**Sn**	**05 17 34.0**	**-1.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax	smax		
	comp=E,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.60**	**306**	*e*P	**Pn**	**05 16 42.6**	**-0.3**
YSS				AMB	AMB	05 16 43.3	
	comp=E,30nm,0.5s						
YSS				*e*S	**Sn**	**05 17 34.0**	**-1.0**
YSS				A	A	05 17 36.9	
	comp=E,50nm,0.7s						
JHR	**Hokuryu**	**4.70**	**265**	P	Pn	05 16 47.7	+3.5
JKB	**Kayabe**	**5.79**	**247**	P	**Pn**	**05 17 00.1**	**+0.9**
JKB				*e*S	**Sn**	**05 18 02.5**	**-1.7**
TYV	**Tymovskoe**	**7.50**	**332**	*e*P	Pn	05 17 18.8	-3.7
PETK	**Petropavlovsk-**	**10.76**	**32**	PN	Pn	**05 18 08.4**	**+1.2**
PETK	**Petropavlovsk-**	**10.76**	**32**	P	**Pn**	**05 18 08.4**	**+1.2**
	comp=E,0.3nm,0.3s,baz=280,slow=18,SNR=3.9						
PETK				LR	LR	05 21 53.9	
	comp=E,88nm,20.5s,baz=230,slow=35						
USRK	**Ussuriysk Arra**	**11.61**	**275**	P	Pn	05 18 22.5	+3.6
	comp=E,0.3nm,0.3s,baz=86,slow=13,SNR=5.8						
KLR	**Kul'dur**	**12.26**	**299**	*e*PN	**Pn**	**05 18 28.2**	**+0.5**
KLR	**Kul'dur**	**12.26**	**299**	*e*P	**Pn**	**05 18 28.2**	**+0.5**
EKMR	**Ekimchan**	**13.28**	**316**	*e*P	**Pn**	**05 18 39.3**	**-2.3**
EKMR				AMB	AMB	05 18 42.5	
	comp=E,6.0nm,0.8s						
YAK	**Yakutsk**	**20.74**	**335**	*e*P	**P**	**05 20 11.7**	**+0.1**
SONM	**Songino Array**	**28.93**	**292**	P	**P**	**05 21 29.8**	**0.0**
	comp=E,1.0nm,0.8s,baz=87,slow=8.2,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**29.10**	**142**	T	T	05 52 24.9	
	baz=334,slow=76,SNR=294						
H11N1	**WAKE ISLAND Hy**	**29.11**	**142**	T	T	05 52 24.5	
	baz=334,slow=76,SNR=320						
H11N3	**WAKE ISLAND Hy**	**29.12**	**142**	T	T	05 52 28.7	
	baz=334,slow=76,SNR=360						
H11S1	**WAKE ISLAND Hy**	**30.09**	**143**	T	T	05 53 41.3	
	baz=336,slow=77,SNR=835						
H11S3	**WAKE ISLAND Hy**	**30.10**	**143**	T	T	05 53 31.8	
	baz=336,slow=77,SNR=426						
H11S2	**WAKE ISLAND Hy**	**30.11**	**143**	T	T	05 53 42.3	
	baz=336,slow=77,SNR=410						
TLY	**Talaya**	**30.28**	**300**	*e*P	**P**	**05 21 42.6**	**+1.0**
COLA	**College**	**40.14**	**37**	*i e*P	**P**	**05 23 04.6**	**-1.3**
COLA				pmax	pmax		
	comp=Z,12nm,0.9s						
ILAR	**Eielson Array**	**40.55**	**37**	P	**P**	**05 23 10.0**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=271,slow=8.7,SNR=17						
ZALV	**Zalesovo Beam**	**41.23**	**307**	P	**P**	**05 23 14.6**	**-0.5**
ZALV						05 25 13.0	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**41.23**	**307**	P	**P**	**05 23 14.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=80,slow=10,SNR=2.1						
ZALV				PcP	**PcP**	**05 25 13.0**	**0.0**
	comp=Z,2.0nm,0.4s,baz=73,slow=2.9,SNR=11						
MKAR	**Makanchi Array**	**44.96**	**297**	*e*P	**P**	**05 23 45.0**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.96**	**297**	P	**P**	**05 23 45.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=77,slow=8.6,SNR=18						
MKAR				PcP	**PcP**	**05 25 25.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=63,slow=4.0,SNR=8.5						
INK	**Inuvik**	**45.50**	**31**	P	**P**	**05 23 48.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=293,slow=4.7,SNR=13						
CMAR	**Chiang Mai Arr**	**48.41**	**254**	P	**P**	**05 24 13.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=35,slow=7.0,SNR=4.1						
BRVK	**Borovoye**	**49.73**	**309**	*i e*P	**P**	**05 24 21.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TAPN	**Taplejung**	**50.74**	**272**	*e*P	**P**	**05 24 31.1**	**+0.5**
	comp=Z,7.7nm,0.7s						
JIRN	**Jiri**	**51.65**	**273**	*e*P	**P**	**05 24 38.0**	**+0.5**
	comp=Z,6.9nm,0.3s						
GUN	**Gumba**	**51.72**	**273**	*e*P	**P**	**05 24 38.2**	**+0.2**
	comp=Z,15nm,0.6s						
RAMN	**Ramite**	**51.77**	**272**	*e*P	**P**	**05 24 38.5**	**+0.2**
	comp=Z,26nm,0.4s						
KKN	**Kakani**	**52.22**	**274**	*e*P	**P**	**05 24 42.3**	**+0.7**
	comp=Z,4.2nm,0.3s						
PKI	**Pulchoki**	**52.26**	**273**	*e*P	**P**	**05 24 42.0**	**0.0**
	comp=Z,10.0nm,0.7s						
DMN	**Daman**	**52.45**	**274**	*e*P	**P

comp=Z,0.6nm,0.5s,baz=39,slow=5.8,SNR=5.2

BRTR	**Keskin Array B**	**77.66**	**314**	P		**P**		**05 27 26.9**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=75,slow=2.4,SNR=6.9								
GERES	**GERESS Array B**	**78.98**	**331**	P		**P**		**05 27 32.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=44,slow=4.4,SNR=3.0								
TXAR	**Lajitas Array**	**81.69**	**57**	P		**P**		**05 27 49.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=308,slow=6.2,SNR=4.0								
TORD	**Torodi Ar. Bea**	**115.15**	**324**	PKP		**PKPdf**		**05 34 10.0**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=52,slow=1.6,SNR=4.9								
H03N2	**Juan Fernandez**	**142.22**	**90**	T		T		08 13 53.8	
	baz=302,slow=75,SNR=18								
H03N3	**Juan Fernandez**	**142.23**	**90**	T		T		08 13 55.8	
	baz=302,slow=75,SNR=15								
H03N1	**Juan Fernandez**	**142.23**	**90**	T		T		08 13 54.5	
	baz=302,slow=75,SNR=14								

MEX 08 05:21:20.4±0.4, 15°23N×93°77W, h26km±20km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.71**	**48**	*i* P	Pb	05 21 31.8	-2.4
PCIG				*i* S	Sb	05 21 41.0	-2.6
THIG		**1.49**	**102**	*eP*	Pn	05 21 43.7	-1.7
THIG				*eS*	Sn	05 22 00.6	-3.4
CMIG	**Matias Romero**	**2.14**	**330**	*eP*	Pn	05 21 52.2	-2.2
CMIG				*eS*	Sn	05 22 17.1	-3.0
HUIG	**Huatulco**	**2.32**	**284**	*eP*	Pn	05 21 55.7	-1.2
HUIG				*eS*	Sn	05 22 21.3	-3.2

IDC ***08*** *05:29:46.1±2.7, 10°.30S×118°.69E, h0km, mb3.5/3, mb1 3.3/5, mb1mx3.3/18, mbtmp3.2/5, ML3.2/2, Error ellipse: s-maj=155.8km s-min=25.4km az=51.0*

ISC 08 05:29:52.6±1.0, 10°.25S±0°.1×118°.73E±0°.09, h37km, n10, σ3°30/10, mb3.5/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.62**	**72**	P	**Pn**	**05 30 16.2**	**-2.4**
	baz=1.4,SNR=5.7						
WSI				S	**Sn**	**05 30 44.0**	**+5.7**
	baz=1.4,SNR=6.2						
JAGI	**Jajag, Banyuwa**	**4.83**	**290**	P	Pn	05 31 10.0	+7.3
	baz=5.0,SNR=4.6						
MTN	**Manton Dam**	**12.44**	**103**	S	**Sn**	**05 35 04.4**	**-0.1**
	baz=12,SNR=3.8						
MEEK	**Meekatharra**	**16.37**	**180**	P	**P**	**05 33 42.1**	**-0.1**
	baz=17,SNR=6.6						
WRA	**Warramunga Arr**	**17.91**	**125**	P	**Pn**	**05 33 55.2**	**-3.7**
	0.1nm,0.3s,baz=297,slow=15,SNR=4.8						
MORW	**Morawa**	**18.96**	**187**	P	**Pn**	**05 34 16.3**	**+4.7**
	baz=19,SNR=3.6						
ASAR	**Alice Springs**	**19.74**	**135**	P	**P**	**05 34 17.9**	**-1.5**
	0.1nm,0.3s,baz=314,slow=10,SNR=6.7						
SONM	**Songino Array**	**58.78**	**350**	P	**P**	**05 39 47.4**	**+0.3**
	0.2nm,0.6s,baz=164,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**5**		P	**P**	**05 40 31.1**	**-0.2**
	0.2nm,0.5s,baz=160,slow=6.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**70.04**	**339**	P	**P**	**05 40 59.9**	**-0.5**
	0.3nm,0.3s,baz=163,slow=5.3,SNR=2.7						

IDC 08 05:52:03.4±3.4, 55°73N×85°94E, h0km, mb1 2.9/2, mb1mx2.7/29, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=30.3km s-min=5.2km az=21.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**200**	*i*		06 03 10.0	
	baz=20,slow=354,SNR=5.8						
ZALV	**Zalesovo Beam**	**1.90**	**200**	Pn	Pn	05 52 36.1	-1.0
	1.8nm,0.3s,baz=24,slow=16,SNR=24						
ZALV				Lg	Lg	05 53 03.9	
	1.9nm,0.3s,baz=19,slow=28,SNR=10						
KURBB	**Kurchatov Arra**	**6.78**	**224**	Pn	Pn	05 53 44.3	+0.2
	0.2nm,0.3s,baz=42,slow=14,SNR=8.7						
MKAR	**Makanchi Array**	**9.24**	**196**	Pn	Pn	05 54 17.3	-0.5
	0.0nm,0.3s,baz=17,slow=13,SNR=4.1						

IDC ***08*** *06:04:04.2±0.7, 12°.33N×141°.90E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/26, mbtmp3.8/11, MS2.9/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=27.5km s-min=19.4km az=80.0*

ISCJB ***08*** *06:04:07.3±0.5, 12°.24N±0°.09×141°.8E±0°.1, h33km, mb3.9/14, MS2.9/1, Error ellipse: s-maj=15.4km s-min=12.0km az=18.6*

NEIC ***08*** *06:04:10.0±1.9, 12°.26N×141°.89E, h41km±19km, mb4.6/3, Error ellipse: s-maj=17.3km s-min=10.7km az=99.0*

ISC 08 06:04:09.2±0.6, 12°.3N±0°.1×141°.9E±0°.1, h33km, n36, σ0°89/34, mb3.9/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.20**	**66**	*e*Pn	**Pn**	**06 04 57.8**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**24.70**	**72**	T	T	06 35 05.3	
	baz=260,slow=68,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**24.72**	**72**	T	T	06 35 03.5	
	baz=260,slow=68,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**24.72**	**72**	T	T	06 35 04.4	
	baz=260,slow=68,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**25.14**	**70**	T	T	06 35 36.8	
	baz=258,slow=75,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**25.15**	**70**	T	T	06 35 37.3	
	baz=258,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**25.16**	**70**	T	T	06 35 37.9	
	baz=258,slow=75,SNR=7.4						
WRAB	**Tennant Creek**	**32.87**	**193**	*e*P	**P**	**06 10 39.3**	**-1.0**
	15nm,1.5s						
WRA	**Warramunga Arr**	**32.88**	**193**	P	**P**	**06 10 39.8**	**-0.6**
WRA	**Warramunga Arr**	**32.88**	**193**	P	**P**	**06 10 39.8**	**-0.6**
	1.5nm,0.7s,baz=11,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**36.58**	**192**	P	**P**	**06 11 12.0**	**-0.3**
ASAR	**Alice Springs**	**36.58**	**192**	P	**P**	**06 11 12.0**	**-0.3**
	0.4nm,0.4s,baz=20,slow=12,SNR=13						
CMAR	**Chiang Mai Arr**	**41.75**	**280**	P	**P**	**06 11 56.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**41.75**	**284**	P	**P**	**06 11 56.5**	**+0.9**
	0.8nm,0.4s,baz=93,slow=3.6,SNR=2.7						
CMAR				LR	LR	06 28 52.0	
	comp=Z,16nm,18.9s,baz=120,slow=36						
FORT	**Forrest**	**44.84**	**197**	*e*P	**P**	**06 12 20.2**	**-0.1**
	18nm,0.9s						
SONM	**Songino Array**	**46.15**	**327**	P	**P**	**06 12 31.2**	**+0.5**
SONM	**Songino Array**	**46.15**	**327**	P	**P**	**06 12 31.2**	**+0.5**
	0.3nm,0.7s,baz=120,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**60.40**	**317**	P	**P**	**06 14 15.9**	**+0.5**
MKAR	**Makanchi Array**	**60.40**	**317**	P	**P**	**06 14 15.9**	**+0.5**
	0.9nm,0.8s,baz=98,slow=8.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**60.98**	**325**	P	**P**	**06 14 19.8**	**+0.6**
ZALV	**Zalesovo Beam**	**60.98**	**325**	P	**P**	**06 14 19.8**	**+0.6**
	0.3nm,0.4s,baz=96,slow=7.2,SNR=3.2						
KURK	**Kurchatov**	**63.69**	**321**	*e*P	**P**	**06 14 37.8**	**+0.5**
	2.4nm,1.1s						
ILAR	**Eielson Array**	**70.98**	**25**	P	**P**	**06 15 21.6**	**-1.6**
ILAR	**Eielson Array**	**70.98**	**25**	P	**P**	**06 15 21.6**	**-1.6**
	0.4nm,0.8s,baz=242,slow=5.0,SNR=3.9						
AKTO	**Aktyubinsk**	**76.72**	**319**	P	**P**	**06 15 57.0**	**-0.1**
AKTO	**Aktyubinsk**	**76.72**	**319**	P	**P**	**06 15 57.0**	**-0.1**
	0.7nm,0.6s,baz=69,slow=11,SNR=3.2						
YKA	**Yellowknife Ar**	**85.34**	**27**	P	**P**	**06 16 42.3**	**-0.5**
YKA	**Yellowknife Ar**	**85.34**	**27**	P	**P**	**06 16 42.3**	**-0.5**
	0.1nm,0.8s,baz=287,slow=4.7,SNR=3.3						
NVAR	**Mina Array Bea**	**90.01**	**51**	P	**P**	**06 17 06.9**	**+0.9**
NVAR	**Mina Array Bea**	**90.01**	**51**	P	**P**	**06 17 06.9**	**+0.9**
	0.3nm,0.5s,baz=285,slow=5.8,SNR=3.9						
FINES	**FINESS Array B**	**91.07**	**334**	P	**P**	**06 17 08.4**	**-1.8**
FINES	**FINESS Array B**	**91.07**	**334**	P	**P**	**06 17 08.4**	**-1.8**
	0.8nm,0.7s,baz=64,slow=8.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**133.09**	**301**	PKP	**PKPdf**	**06 23 22.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**133.09**	**301**	PKP	**PKPdf**	**06 23 22.1**	**-0.3**
	0.2nm,0.5s,baz=30,slow=4.1,SNR=2.7						
LPAZ	**La Paz**	**150.69**	**101**	*e*PKPdf	**PKPdf**	**06 23 55.7**	**+1.5**
LPAZ				*e*PKPbc	**PKiKP**	**06 24 00.3**	**-0.1**
LPAZ				*e*PKPab	**PKPab**	**06 24 07.1**	**+0.5**
LPAZ	**La Paz**	**150.69**	**101**	PKP	**PKPdf**	**06 23 55.8**	**+1.7**
	2.9nm,0.6s,baz=256,slow=4.3,SNR=12						
LPAZ				PKPbc	**PKiKP**	**06 24 00.3**	**-0.1**
	2.9nm,0.6s,baz=289,slow=2.4,SNR=13						
LPAZ				PKPab	**PKPab**	**06 24 07.0**	**+0.3**
	3.8nm,0.6s,baz=324,slow=0.7,SNR=13						

IDC ***08*** *06:10:28.4±0.7, 12°.33N×141°.96E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.6/6, Error ellipse: s-maj=34.1km s-min=20.9km az=90.0*

ISCJB ***08*** *06:10:31.0±0.8, 12°.3N±0°.1×142°.0E±0°.3, h33km, mb3.8/7, Error ellipse: s-maj=38.6km s-min=18.7km az=3.6*

ISC 08 06:10:33.2±0.8, 12°.3N±0°.2×141°.9E±0°.3, h33km, n9, σ1°13/10, mb3.7/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.91**	**193**	P	**P**	**06 17 03.9**	**-0.7**
	0.8nm,0.7s,baz=10,slow=9.8,SNR=6.6						
ASAR	**Alice Springs**	**36.61**	**192**	P	**P**	**06 17 36.5**	**-0.1**
	0.3nm,0.4s,baz=21,slow=11,SNR=13						
MKAR	**Makanchi Array**	**60.45**	**317**	P	**P**	**06 20 40.4**	**+0.6**
	0.7nm,0.9s,baz=96,slow=7.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**61.02**	**325**	P	**P**	**06 20 44.5**	**+1.1**
	0.3nm,0.5s,baz=107,slow=9.2,SNR=2.3						
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**06 21 46.5**	**-0.5**
	0.2nm,0.6s,baz=267,slow=5.4,SNR=4.0						
NVAR	**Mina Array Bea**	**89.94**	**51**	P	**P**	**06 23 28.8**	**-0.9**
	0.4nm,0.7s,baz=284,slow=7.3,SNR=3.3						
FINES	**FINESS Array B**	**91.09**	**334**	P	**P**	**06 23 33.3**	**-1.0**
	4.6nm,1.1s,baz=64,slow=3.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**133.16**	**301**	PKP	**PKPdf**	**06 29 46.5**	**-0.1**
	0.2nm,0.6s,baz=4.1,slow=2.1,SNR=2.6						
LPAZ	**La Paz**	**150.61**	**101**	PKPbc	**PKPbc**	**06 30 25.1**	**+1.5**
	2.3nm,0.6s,baz=232,slow=3.0,SNR=14						
LPAZ				PKPab	**PKPab**	**06 30 31.9**	**+1.5**
	2.1nm,0.7s,baz=272,slow=5.2,SNR=8.0						

IDC ***08*** *06:49:14.3±2.7, 55°.44N×85°.95E, h0km, mb1 2.9/3, mb1mx2.8/30, mbtmp2.9/3, ML3.1/3, Error ellipse: s-maj=26.0km s-min=3.9km az=25.0*

NNC ***08*** *06:49:18.0±4.2, 55°.32N×86°.02E, h26km±25km, mb3.6, mpv3.2, Error ellipse: s-maj=35.2km s-min=26.5km az=148.0*

ISC 08 06:49:14.7±4.2, 55°.6N±0°.2×86°.1E±0°.2, h35km, n8, σ1°56/13, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**205**	*i*		06 59 50.0	
	baz=23,slow=354,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.82**	**205**	Pn	**Pn**	**06 49 42.2**	**-1.2**
	4.0nm,0.3s,baz=32,slow=16,SNR=70						
ZALV				Sn	**Sn**	**06 50 07.8**	**+2.5**
	3.5nm,0.3s,baz=27,slow=25,SNR=16						
KURK	**Kurchatov**	**6.65**	**226**	⇑Pn	**Pn**	**06 50 50.1**	**+0.4**
	0.7nm,1.1s						
KURK				⇑Sn	**Sn**	**06 52 04.8**	**+0.5**
	1.3nm,1.0s						
KURK				⇑Lg	Lg	06 52 43.4	
	3.5nm,1.5s						
KURBB	**Kurchatov Arra**	**6.76**	**226**	⇓Pn	**Pn**	**06 50 51.7**	**+0.4**
	3.3nm,1.1s						
KURBB				⇑Sn	**Sn**	**06 52 05.6**	**-1.3**
	5.3nm,1.3s						
KURBB				⇓Lg	Lg	06 52 46.7	
	6.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.76**	**226**	Pn	**Pn**	**06 50 51.3**	**0.0**
	0.2nm,0.3s,baz=44,slow=13,SNR=10						
KURBB				Lg	Lg	06 52 47.6	
	0.1nm,0.3s,baz=55,slow=32,SNR=6.3						
MK31	**Makanchi Array**	**9.14**	**197**	Pn	**Pn**	**06 51 25.4**	**+1.4**
	4.5nm,1.5s,baz=22,slow=14,SNR=4.1						
MK31				⇓Sn	**Sn**	**06 53 03.7**	**-1.9**
	3.6nm,1.3s,baz=140,slow=18,SNR=5.7						
MK31				⇑Lg	Lg	06 53 54.7	
	2.9nm,0.9s,baz=36,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**9.14**	**197**	Pn	**Pn**	**06 51 24.1**	**+0.1**
	0.1nm,0.3s,baz=20,slow=14,SNR=6.2						
MKAR				Sn	**Sn**	**06 53 05.3**	**-0.2**
	0.0nm,0.3s,baz=37,slow=22,SNR=4.2						
MKAR				Lg	Lg	06 53 57.6	
	0.0nm,0.3s,baz=34,slow=31,SNR=6.5						
BVAR	**Borovoye Array**	**9.54**	**261**	Pn	**Pn**	**06 51 32.1**	**+2.6**
	0.2nm,0.3s,baz=74,slow=16,SNR=4.5						
BVAR				Sn	**Sn**	**06 53 14.2**	**-1.1**
	0.1nm,0.3s,baz=56,slow=24,SNR=2.6						

NIED ***08*** *06:59:00, 37°.30N×140°.70E, h83km, Mw4.0 Best double couple: Mo1.32000×10^15 NP1:ϕs289.00000°, δ27.00000°, λ16.00000°. NP2:ϕs184.00000°, δ83.00000°, λ116.00000°.*

ISCJB ***08*** *06:59:39.9±0.4, 37°.27N±0°.04×140°.77E±0°.05, h90km±2km, mb3.8/19, Error ellipse: s-maj=8.1km s-min=5.1km az=42.1*

IDC ***08*** *06:59:40.6±0.6, 37°.28N×140°.74E, h80km±3km, mb3.7/18, mb1 3.9/19, mb1mx3.8/27, mbtmp4.0/19, MS3.0/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=15.0km s-min=7.4km az=152.0*

JMA ***08*** *06:59:41.4, 37°.30N×140°.67E, h79km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕs5.00000°, δ85.00000°, λ-128.00000°. NP2:ϕs268.00000°, δ39.00000°, λ-8.00000°. Principal axes: T Plg29.0000°, Azm125.0000°; N Plg38.0000°, Azm9.0000°; P Plg38.0000°, Azm241.0000°;*

JMA Felt III J1.

ISC 08 06:59:40.6±0.5, 37°.27N±0°.05×140°.74E±0°.05, h81km±3km, n51, σ0°91/63, mb3.9/19, 10C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.14**	**47**	⇑P	**Pn**	**06 59 53.1**	**+0.8**
JFK				S	**Sn**	**07 00 01.7**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.17**	**165**	⇓P	**Pn**	**06 59 53.3**	**+0.9**
ONAJ				S	**Sn**	**07 00 02.2**	**+1.1**
JFT	**Otama**	**0.41**	**308**	⇑P	**Pn**	**06 59 53.9**	**+0.2**
JFT				S	**Sn**	**07 00 03.8**	**+0.4**
JMM	**Marumori**	**0.60**	**4**	⇑P	**Pn**	**06 59 55.7**	**+0.5**
JMM				S	**Sn**	**07 00 06.1**	**0.0**
JFY	**Yanaizu**	**0.84**	**280**	⇑P	**Pn**	**06 59 57.9**	**+0.1**
JFY				S	**Sn**	**07 00 10.5**	**-0.2**
JYS	**Shirataka**	**1.09**	**331**	⇑P	**Pn**	**07 00 01.3**	**+0.5**
JYS				S	**Sn**	**07 00 16.8**	**+0.9**
JOU	**Okura**	**1.10**	**357**	⇑P	**Pn**	**07 00 01.6**	**+0.8**
JOU				S	**Sn**	**07 00 17.0**	**+1.0**
JNS	**Sasagawa**	**1.26**	**296**	P	**Pn**	**07 00 02.5**	**-0.3**
JIO	**Ouri**	**1.28**	**22**	⇓P	**Pn**	**07 00 03.4**	**+0.4**
JIO				S	**Sn**	**07 00 19.8**	**-0.1**
JKT	**Katashina**	**1.30**	**248**	P	**Pn**	**07 00 04.6**	**+1.2**
JAG	**Ashikaga**	**1.33**	**231**	⇓P	**Pn**	**07 00 04.7**	**+0.9**
JAG				S	**Sn**	**07 00 22.4**	**+1.2**
JHK	**Hiroka**	**1.38**	**270**	⇑P	**Pn**	**07 00 04.8**	**+0.5**
JHK				S	**Sn**	**07 00 22.8**	**+0.6**
JYA	**Atsumi**	**1.55**	**329**	⇑P	**Pn**	**07 00 07.5**	**+0.9**
JYA				S	**Sn**	**07 00 27.6**	**+1.3**
JYK	**Kaneyama**	**1.68**	**350**	⇑P	**Pn**	**07 00 09.1**	**+0.9**
JAW	**Awa shima**	**1.68**	**316**	⇑P	**Pn**	**07 00 08.6**	**+0.5**
MJAR	**Matsushiro Arr**	**2.16**	**251**	P	**Pn**	**07 00 15.8**	**+1.3**
	34nm,0.3s,baz=59,slow=10,SNR=134						
MJAR				S	**Sn**	**07 00 41.5**	**+1.0**
	22nm,0.3s,baz=86,slow=25,SNR=12						
MAT	**Matsushiro**	**2.16**	**251**	P	**Pn**	**07 00 15.9**	**+1.3**
MAT				S	**Sn**	**07 00 40.8**	**+0.2**
JNU	**Nakatsue**	**9.07**	**246**	LR	LR	07 05 43.1	
	comp=Z,74nm,18.8s,baz=71,slow=40						
USRK	**Ussuriysk Arra**	**9.59**	**319**	P	**Pn**	**07 01 57.7**	**+2.0**
	0.8nm,0.3s,baz=129,slow=13,SNR=23						
KSRS	**Korea Array**	**10.21**	**275**	P	**Pn**	**07 02 06.7**	**+2.6**
	0.4nm,0.3s,baz=86,slow=14,SNR=15						
KSRS				LR	LR	07 05 15.6	
	comp=Z,41nm,18.5s,baz=62,slow=33						
SONM	**Songino Array**	**27.21**	**304**	P	**P**	**07 05 15.6**	**-1.2**
	1.2nm,0.6s,baz=106,slow=9.0,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.73**	**120**	T	T	07 35 37.1	
	baz=316,slow=76,SNR=178						
H11N1	**WAKE ISLAND Hy**	**28.73**	**120**	T	T	07 35 37.7	
	baz=316,slow=76,SNR=268						
H11N3	**WAKE ISLAND Hy**	**28.75**	**120**	T	T	07 35 37.9	
	baz=316,slow=76,SNR=214						
H11S1	**WAKE ISLAND Hy**	**29.44**	**122**	T	T	07 36 33.8	
	baz=319,slow=75,SNR=332						
H11S3	**WAKE ISLAND Hy**	**29.44**	**122**	T	T	07 36 31.6	
	baz=319,slow=75,SNR=294						
H11S2	**WAKE ISLAND Hy**	**29.45**	**122**	T	T	07 36 33.8	
	baz=319,slow=75,SNR=251						
ZALV	**Zalesovo Beam**	**41.36**	**312**	P	**P**	**07 07 18.2**	**-0.1**
	5.4nm,0.6s,baz=94,slow=6.7,SNR=29						
MKAR	**Makanchi Array**	**43.54**	**302**	P	**P**	**07 07 36.0**	**-0.2**
	4.5nm,0.7s,baz=89,slow=10,SNR=67						

MKAR				pP		**pP**		**07 07 54.6**	**-1.0**
	1.1nm,0.7s,baz=80,slow=9.1,SNR=3.1								
ILAR	**Eielson Array**	**49.58**	**32**	P		**P**		**07 08 23.5**	**+0.4**
	0.3nm,0.6s,baz=267,slow=5.8,SNR=8.6								
ILAR				pP		**pP**		**07 08 44.2**	**+1.2**
	0.4nm,0.5s,baz=263,slow=5.5,SNR=3.6								
ILAR				sP		**sP**		**07 08 51.6**	**-0.5**
	1.3nm,0.6s,baz=266,slow=6.0,SNR=12								
BVAR	**Borovoye Array**	**50.02**	**312**	P		**P**		**07 08 26.1**	**-0.5**
	0.7nm,0.5s,baz=87,slow=8.6,SNR=5.6								
INK	**Inuvik**	**54.42**	**27**	P		**P**		**07 09 00.2**	**+1.3**
	0.9nm,0.9s,baz=272,slow=3.1,SNR=3.6								
INK				pP		**pP**		**07 09 20.1**	**+1.1**
	0.8nm,0.5s,baz=313,slow=6.4,SNR=2.7								
INK				sP		**sP**		**07 09 28.6**	**+0.4**
	1.2nm,0.7s,baz=292,slow=9.0,SNR=3.9								
WRA	**Warramunga Arr**	**57.22**	**187**	P		**P**		**07 09 19.1**	**-0.3**
	1.4nm,0.5s,baz=4.5,slow=7.2,SNR=33								
WRA				sP		**sP**		**07 09 47.5**	**-1.3**
	1.3nm,0.5s,baz=5.4,slow=7.5,SNR=5.1								
ARCES	**ARCESS Array B**	**63.59**	**339**	P		**P**		**07 10 02.2**	**-0.1**
	6.7nm,1.0s,baz=30,slow=5.6,SNR=3.8								
YKA	**Yellowknife Ar**	**63.87**	**30**	P		**P**		**07 10 04.1**	**-0.2**
	0.2nm,0.7s,baz=302,slow=6.5,SNR=3.5								
JOF	**Joensuu**	**65.50**	**332**	*e*p		P		07 10 29.1	+14
KAF	**Kangasniemi**	**67.85**	**332**	*e*p		**P**		**07 10 28.4**	**-1.4**
	2.2nm,0.4s								
FINES	**FINESS Array B**	**68.36**	**332**	P		**P**		**07 10 32.7**	**-0.2**
	3.8nm,0.9s,baz=46,slow=5.5,SNR=7.8								
STKA	**Stephens Creek**	**68.79**	**179**	P		**P**		**07 10 34.9**	**-1.0**
	1.0nm,0.6s,baz=336,slow=6.0,SNR=5.0								
KBZ	**Khabaz**	**70.34**	**310**	P		**P**		**07 10 45.1**	**-0.4**
	1.5nm,0.7s,baz=51,slow=6.1,SNR=4.4								
NB2	**NORSAR Subarra**	**73.76**	**337**	P		**P**		**07 11 05.1**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=19,slow=6.2								
NOA	**NORSAR Array B**	**73.76**	**337**	P		**P**		**07 11 05.5**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=39,slow=6.2,SNR=4.3								
NOA				pP		**pP**		**07 11 25.9**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.9,SNR=2.9								
NOA				LR		LR		07 46 58.2	
	comp=Z,14nm,18.2s,baz=285,slow=38								
AKASG	**Malin Array Be**	**73.78**	**322**	P		**P**		**07 11 05.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=46,slow=6.3,SNR=13								
AKASG				pP		**pP**		**07 11 26.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=47,slow=5.9,SNR=4.0								
NVAR	**Mina Array Bea**	**75.27**	**53**	P		**P**		**07 11 16.2**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=293,slow=5.8,SNR=5.9								
NVAR				sP		**sP**		**07 11 45.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=299,slow=6.1,SNR=3.5								
PDAR	**Pinedale Array**	**77.88**	**45**	P		**P**		**07 11 30.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=258,slow=2.5,SNR=3.5								
PDAR				sP		**sP**		**07 11 59.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=321,slow=1.9,SNR=2.8								
BRTR	**Keskin Array B**	**78.30**	**311**	P		**P**		**07 11 31.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=54,slow=3.7,SNR=3.2								
GERES	**GERESS Array B**	**82.23**	**328**	P		**P**		**07 11 52.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=38,slow=5.0,SNR=3.6								
LPAZ	**La Paz**	**147.03**	**58**	PKPbc		**PKPbc**		**07 19 16.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=304,slow=3.6,SNR=4.4								
H03N2	**Juan Fernandez**	**147.58**	**95**	T		T		10 04 22.8	
	baz=288,slow=75,SNR=27								
H03N3	**Juan Fernandez**	**147.59**	**95**	T		T		10 04 25.0	
	baz=288,slow=75,SNR=37								
H03N1	**Juan Fernandez**	**147.59**	**95**	T		T		10 04 14.8	
	baz=288,slow=75,SNR=33								

CASC ***08*** *07:00:14.7±1.1, 12°.90N×90°.70W, h0km±5km, MD3.9, ML3.7*

IDC ***08*** *07:00:24.3±3.1, 13°.29N×90°.17W, h79km±26km, mb3.6/12, mb1 3.9/14, mb1mx3.7/28, mbtmp4.0/14, MS3.6/5, Ms1 3.6/5, ms1mx3.1/32, Error ellipse: s-maj=37.1km s-min=13.7km az=53.0*

NEIC ***08*** *07:00:25.3±1.4, 13°.25N×90°.25W, h89km±13km, mb4.3/16, Error ellipse: s-maj=18.0km s-min=10.0km az=222.0*

**ISC 08 07:00:16.8±

428A	Kincaid Ranch, baz=21	20.97	330	⇓P		P	07 04 59.4	+1.0
527A	Woodward Ranch baz=21,SNR=5.7	20.98	327	⇑P		P	07 05 00.4	+1.8
133A	Hamilton Ranch baz=21	21.04	340	⇓P		P	07 04 59.3	+0.3
526A	Mary Lane Ranc baz=21,SNR=15	21.18	326	⇑P		P	07 05 02.6	+2.0
427A	Hayter Ranch, baz=21	21.43	328	⇑P		P	07 05 04.6	+1.3
328A	Wristen Ranch, baz=22,SNR=22	21.57	330	⇑P		P	07 05 05.7	+0.9
426A	McDonald Obser baz=22,SNR=9.1	21.62	327	⇓P		P	07 05 06.4	+0.9
Z33A	Whitaker Ranch baz=22	21.62	341	⇓P		P	07 05 05.9	+0.7
Z32A	Haskell baz=22	21.87	340	⇑P		P	07 05 08.1	+0.1
326A	Caldwell Ranch baz=22,SNR=7.9	22.10	328	⇑P		P	07 05 11.1	+0.6
129A	Stewart Farms, baz=22	22.19	334	⇑P		P	07 05 10.8	-0.7
425A	Indio Mountain baz=22,SNR=11	22.23	325	⇓P		P	07 05 12.4	+0.4
227A	Bennet, Jal baz=22	22.32	330	⇓P		P	07 05 13.8	+0.9
128A	Castleberry Fa baz=22	22.45	333	⇑P		P	07 05 13.7	-0.6
SWET	Sewanee comp=Z,6.9nm,0.7s	22.57	10	*e*P		P	07 05 15.1	-0.5
Z29A	Hungry Hill Ra baz=23	22.67	335	⇑P		P	07 05 15.4	-1.2
325A	Bean Ranch, Si baz=23	22.67	326	⇓P		P	07 05 17.0	+0.3
Y31A	Rekieta Farm, baz=23	22.74	339	⇑P		P	07 05 18.0	+0.8
226B	Tecolote Peak, baz=23	22.80	329	⇓P		P	07 05 18.9	+0.8
127A	Arkansas Junct baz=23	22.90	331	⇓P		P	07 05 18.6	-0.4
Z28A	Tucker Farm, M baz=23	22.98	334	⇑P		P	07 05 18.3	-1.5
324A	Moseley Ranch, baz=23,SNR=6.0	23.00	326	⇑P		P	07 05 20.0	-0.1
GDL2	Guadalupe Moun	23.00	329	*e*P		P	07 05 21.7	+1.6
MNTX	Cornudas Mount comp=Z,6.0nm,1.0s	23.14	326	*e*P		P	07 05 20.9	-0.5
W34A	Bridge Creek, baz=23	23.16	345	⇑P		P	07 05 20.7	-0.8
225A	Deer Hill, Car baz=23,SNR=5.0	23.17	328	⇓P		P	07 05 22.1	+0.2
Y29A	Porterfield Fa baz=23	23.18	336	⇓P		P	07 05 22.1	+0.2
X31A	McDonald Ranch baz=23	23.25	340	⇑P		P	07 05 22.1	-0.3
Z27A	Tatum baz=23	23.37	332	⇓P		P	07 05 22.5	-1.3
TUL1	Tulsa baz=23	23.37	349	⇑P		P	07 05 22.0	-1.7
X30A	Coker Ranch, T baz=23	23.39	338	⇓P		P	07 05 22.4	-1.5
TKL	Tuckaleechee C	23.43	14	*e*P		P	07 05 24.0	-0.3
TKL	Tuckaleechee C comp=Z,4.0nm,0.7s,baz=192,slow=12,SNR=7.6	23.43	14	P		P	07 05 23.9	-0.5
TKL	comp=Z,174nm,18.1s,baz=205,slow=39			LR		LR	07 15 31.0	
Y28A	McKinney Farm, baz=23	23.45	335	⇑P		P	07 05 23.4	-1.2
224A	Cornudas Mount baz=24,SNR=12	23.51	327	⇑P		P	07 05 25.6	+0.4
Z26A	Caprock baz=24	23.68	331	⇓P		P	07 05 25.9	-1.0
X29A	Tulia baz=24	23.70	337	⇓P		P	07 05 26.0	-1.1
MSTX	Muleshoe	23.73	334	*e*P		P	07 05 26.9	-0.4
MSTX	Muleshoe baz=24	23.73	334	⇑P		P	07 05 25.8	-1.5
Y27A	Causey baz=24,SNR=8.1	23.82	333	⇓P		P	07 05 27.1	-1.1
AMTX	Amarillo comp=Z,5.9nm,0.6s	24.08	337	*e*P		P	07 05 29.8	-0.8
AMTX	Amarillo baz=24	24.08	337	⇓P		P	07 05 29.3	-1.3
Y26A	Elida baz=24	24.15	332	⇓P		P	07 05 30.6	-0.7
Z24A	Sheeppen Canyo baz=24,SNR=5.8	24.41	329	⇑P		P	07 05 35.1	+1.4
Y25A	Mesa, Roswell baz=24	24.56	331	⇓P		P	07 05 36.3	+1.2
X26A	CR and CF Fran baz=25	24.67	333	⇓P		P	07 05 36.1	0.0
W27A	Bowe Ranch, En baz=25	24.79	335	⇑P		P	07 05 36.8	-0.3
121A	Cookes Peak, D	25.11	324	*e*P		P	07 05 42.6	+2.5
121A	Cookes Peak, D baz=25,SNR=8.7	25.11	324	⇓P		P	07 05 42.5	+2.4
Y23A	Lovelace Mesa, baz=25	25.24	329	⇓P		P	07 05 42.9	+1.7
WCI	Wyandotte Cave comp=Z,25nm,1.1s	25.48	8	*e*P		P	07 05 42.5	-0.7
W25A	X Bar L Ranch, baz=25	25.52	333	⇑P		P	07 05 44.0	+0.3
V26A	Tequesquite Ra baz=26	25.72	335	⇓P		P	07 05 46.5	+1.0
U27A	Thompson Grove baz=26	25.87	337	⇓P		P	07 05 48.1	+1.2
V25A	Rancho No Teng baz=26	26.11	333	⇓P		P	07 05 50.1	+1.0
U26A	Atchley Ranch, baz=26	26.21	335	⇓P		P	07 05 50.5	+0.4
S29A	Ulysses baz=26	26.35	341	⇑P		P	07 05 51.9	+0.8
U25A	Circle Dot Ran baz=26	26.50	334	⇑P		P	07 05 53.5	+0.9
T25A	Trinidad baz=27	27.13	335	⇑P		P	07 06 00.9	+2.6
U23A	El Rito baz=27	27.23	332	⇓P		P	07 06 00.6	+1.4
V22A	San Miguel Ran baz=27	27.23	330	⇑P		P	07 06 00.7	+1.4
P32A	Huiting Farm, baz=27	27.53	346	⇑P		P	07 06 02.7	+1.0
R25A	Fountain Ranch baz=28	27.95	336	⇑P		P	07 06 05.9	+0.4
X16A	Lo Mia Camp, P baz=29	28.60	322	⇑P		P	07 06 13.5	+2.0
S22A	4UR Ranch, Cre baz=29	28.68	332	⇑P		P	07 06 13.6	+1.3
MVCO	Mesa Verde baz=29	29.04	329	⇓P		P	07 06 16.7	+1.3
PV04	Paradox Valley	30.17	330	*e*P		P	07 06 26.6	+1.3
U15A	North Rim baz=30	30.49	324	⇑P		P	07 06 29.6	+1.3
BC3	Big Chuckawall baz=31	30.67	316	⇑P		P	07 06 31.9	+2.1
N20A	Spence Gulch, baz=32	31.85	334	⇑P		P	07 06 40.9	+0.7
SPMN	St. Paul	32.24	357	*e*P		P	07 06 41.9	-1.5
SPMN	St. Paul baz=32	32.24	357	⇓P		P	07 06 42.2	-1.1
R11A	Troy Canyon, C	33.72	323	*e*P		P	07 06 59.0	+2.5
R11A	Troy Canyon, C baz=34	33.72	323	⇑P		P	07 06 58.5	+1.9
ISA	Isabella baz=34	33.86	317	⇑P		P	07 07 00.4	+2.6
PDAR	Pinedale Array comp=Z,0.4nm,0.6s,baz=146,slow=9.8,SNR=2.8	33.99	335	P		P	07 06 58.1	-0.8
F26A	Lodgepole baz=34	34.39	345	⇓P		P	07 07 02.2	0.0
I20A	Worland baz=34	34.41	337	⇑P		P	07 07 02.7	+0.2
D30A	Buchanan baz=35	34.77	350	⇑P		P	07 07 04.1	-1.2
E26A	Carlson Angus baz=35	34.92	346	⇑P		P	07 07 06.6	-0.1
REDW	Red Top Meadow comp=Z,4.5nm,0.7s	35.03	334	*e*P		P	07 07 08.4	+0.5
LOHW	Long Hollow comp=Z,12nm,1.8s	35.12	334	*e*P		P	07 07 09.4	+0.7
D28A	Regan baz=35	35.18	348	⇓P		P	07 07 08.8	-0.1
C30A	Mose, Pekin baz=35	35.30	351	⇑P		P	07 07 09.0	-0.9
I17A	Pilgrim Ck. baz=35	35.36	335	⇑P		P	07 07 11.4	+0.7
NVAR	Mina Array Bea comp=Z,1.3nm,0.7s,baz=132,slow=8.3,SNR=10	35.40	321	P		P	07 07 13.0	+1.8
E24A	Baker baz=35	35.48	344	⇑P		P	07 07 12.0	+0.4
AGMN	Agassiz Nation comp=Z,7.0nm,0.6s	35.54	354	*e*P		P	07 07 10.1	-1.8
AGMN	Agassiz Nation baz=35	35.54	354	⇓P		P	07 07 11.2	-0.7
MDND	Maddock	35.63	349	*e*P		P	07 07 12.0	-0.7
D24A	Glendive baz=36	36.00	344	⇑P		P	07 07 16.3	+0.4
B30A	Myrvik Farm, E baz=36	36.00	351	⇓P		P	07 07 15.2	-0.7
F19A	Roth Farm, Mol baz=36	36.34	338	⇑P		P	07 07 19.0	0.0
B28A	Dugan Ranch, T baz=36	36.34	349	⇓P		P	07 07 18.4	-0.5
A30A	Hoffart Farm, baz=36	36.48	351	⇓P		P	07 07 19.3	-0.7
CMB	Columbia Colle comp=Z,1.8nm,1.0s	36.48	319	*e*P		P	07 07 21.7	+1.5
D22A	Cohagen baz=36	36.56	342	⇑P		P	07 07 21.1	+0.3
A29A	Manning Farm, baz=36	36.60	350	⇓P		P	07 07 20.3	-0.8
B26A	Jensen Ranch, baz=36	36.66	347	⇓P		P	07 07 20.5	-1.1
HLID	Hailey comp=Z,2.5nm,1.1s	36.80	331	*e*P		P	07 07 22.9	-0.1
HLID	Hailey baz=37	36.80	331	⇓P		P	07 07 23.7	+0.7
C23A	Lambert baz=37	36.86	343	⇓P		P	07 07 23.3	0.0
C22A	Vida baz=37	37.01	343	⇑P		P	07 07 24.6	+0.1
A26A	Wade Farm, Ken baz=37	37.11	347	⇓P		P	07 07 25.1	-0.2
D19A	Cripps Ranch, baz=37	37.44	339	⇑P		P	07 07 28.8	+0.5
ULM	Lac du Bonnet comp=Z,4.3nm,0.6s,baz=171,slow=7.0,SNR=6.7	37.47	354	P		P	07 07 25.6	-2.7
ULM	comp=Z,45nm,19.0s,baz=36,slow=42			LR		LR	07 26 42.5	
LRM	Limekiln Ridge	37.68	335	*e*P		P	07 07 30.9	+0.4
A22A	Carney Farms, baz=38	38.15	344	⇓P		P	07 07 34.9	+0.7
WVOR	Wild Horse Val comp=Z,4.3nm,1.0s	38.18	326	*e*P		P	07 07 36.3	+1.7
A21A	Bergtoll Ranch baz=38	38.43	343	⇓P		P	07 07 37.2	+0.6
B19A	Brinkman Farms baz=38	38.58	340	⇑P		P	07 07 38.1	+0.2
J08A	Circle Bar Ran comp=Z,4.5nm,0.8s	38.72	327	*e*P		P	07 07 40.5	+1.3
F10A	Beach Ranch, E comp=Z,8.2nm,0.7s	39.94	331	*e*P		P	07 07 49.4	+0.2
SIV	San Ignacio comp=Z,1.2nm,0.8s,baz=307,slow=11,SNR=3.8	40.92	134	P		P	07 07 59.4	+1.8
SCHQ	Schefferville comp=Z,3.2nm,0.6s,baz=236,slow=12,SNR=7.1	45.74	19	P		P	07 08 33.8	-2.3
SCHQ	comp=Z,65nm,19.2s,baz=312,slow=36			LR		LR	07 27 25.8	
YKA	Yellowknife Ar comp=Z,0.7nm,0.6s,baz=146,slow=7.0,SNR=34	52.40	346	P		P	07 09 25.8	-1.1
DLBC	Dease Lake comp=Z,2.0nm,0.8s,baz=156,slow=10.0,SNR=3.8	54.21	336	P		P	07 09 40.9	+0.5
RES	Resolute Bay comp=Z,2.8nm,0.6s	61.79	359	*e*P		P	07 10 31.0	-2.2
INK	Inuvik comp=Z,3.5nm,1.0s	61.87	343	*e*P		P	07 10 33.2	-0.6
INK	Inuvik comp=Z,1.5nm,0.7s,baz=124,slow=7.3,SNR=7.0	61.87	343	P		P	07 10 32.9	-0.9
ILAR	Eielson Array comp=Z,0.7nm,0.7s,baz=122,slow=5.5,SNR=16	64.38	337	P		P	07 10 49.8	-0.7
SUMG	Summit comp=Z,1.7nm,0.4s	66.89	15	*e*P		P	07 11 05.8	-1.3
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.9s,baz=292,slow=5.6,SNR=2.4	89.23	77	P		P	07 13 10.7	-0.7
FINES	FINESS Array B comp=Z,36nm,18.0s,baz=143,slow=35	90.85	25	LR		LR	07 53 05.9	
CN2	Changchun	114.71	332	*e*PKP		PKPdf	07 18 53.0	-2.5
MAW	Mawson	122.64	168	PKP		PKPdf	07 19 10.3	+0.4
HHC	Hu-ho-hao-te comp=Z,2.1nm,0.5s,baz=150,slow=2.1,SNR=5.6	122.72	340	*e*PKP		PKPdf	07 19 09.1	-2.1
HHC				sPKP			07 19 47.5	
HHC				PP		PP	07 20 53.3	+5.7
HHC				SKS		SKSac	07 26 09.6	-1.2
HHC				SKKS		SKKSac	07 27 31.0	-16
WMQ	Urumqi	123.50	2	PKP		PKPdf	07 19 10.5	-2.0
KSH	Kashi	126.33	13	*e*PKP		PKPdf	07 19 19.4	+1.3
KSH				*es*PKP			07 19 55.7	
KSH				*e*SKS		SKSdf	07 26 19.5	-9.4
LZH	Lanzhou	129.39	345	*e*PKP		PKPdf	07 19 23.0	-1.1
LZH				sPKP			07 20 00.6	
LZH	comp=Z,160nm,20.1s			LR		LR		
CMAR	Chiang Mai Arr comp=Z,1.5nm,0.5s,baz=335,slow=3.4,SNR=8.2	147.44	343	PKPbc		PKPdf	07 20 00.4	+3.2

*ISCJB **08** 07:23:50.7±1.2,5°.4S±0°.1×147°.2E±0°.2, h195km, mb3.5/4, Error ellipse: s-maj=24.2km s-min=13.4km az=16.4*
*IDC **08** 07:23:52.6±2.5,5°.49S×147°.03E, h198km±20km, mb3.2/4, mb1 3.5/6, mb1mx3.2/18, mbtmp3.3/6, MS2.7/1, Ms1 2.7/1, ms1mx2.5/11, Error ellipse: s-maj=43.4km s-min=14.6km az=122.0*

ISC 08 07:23:52.3±1.4, 5°.5S±0°.1×147°.0E±0°.2, h195km, n8, σ0s95/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby 5.8nm,0.3s,baz=12,slow=5.7,SNR=15	3.93	178	P	Pn	07 24 53.7	+0.6
PMG	12nm,0.3s,baz=204,slow=21,SNR=6.3			S	Sn	07 25 40.0	-0.9
HNR	Honiara comp=Z,34nm,20.7s,baz=208,slow=34	13.41	108	LR	LR	07 31 33.6	
WRA	Warramunga Arr 0.9nm,0.3s,baz=43,slow=11,SNR=32	18.97	219	P	P	07 27 59.8	+0.7
WRA	0.1nm,0.3s,baz=40,slow=22,SNR=4.9			S	S	07 31 22.6	-1.5
ASAR	Alice Springs 1.7nm,0.5s,baz=29,slow=8.6,SNR=36	22.09	214	P	P	07 28 32.6	+0.8
ASAR	0.7nm,0.8s,baz=28,slow=16,SNR=5.4			S	S	07 32 21.6	+0.5
STKA	Stephens Creek 0.9nm,0.8s,baz=20,slow=11,SNR=3.1	26.78	190	P	P	07 29 14.1	-0.1
VNDA	Vanda 0.7nm,0.5s,baz=328,slow=8.7,SNR=6.9	72.46	177	P	P	07 34 57.2	+0.3
ILAR	Eielson Array 0.2nm,0.7s,baz=267,slow=5.3,SNR=4.9	84.97	23	P	P	07 36 04.6	-0.7
TORD	Torodi Ar. Bea 0.3nm,0.6s,baz=78,slow=3.8,SNR=3.3	144.97	285	PKP	PKPbc	07 43 05.5	-1.5

*IDC **08** 07:27:16.5±1.1, 55°.32N×169°.30E, h0km, mb3.2/5, mb1 3.5/6, mb1mx3.3/29, mbtmp3.3/6, ML3.2/1, Error ellipse: s-maj=27.7km s-min=12.9km az=47.0*
*ISCJB **08** 07:27:19.1±0.9, 55°.2N±0°.1×169°.3E±0°.2, h33km, mb3.2/5, Error ellipse: s-maj=22.5km s-min=9.9km az=136.2*

ISC 08 07:27:21.0±1.1, 55°.2N±0°.1×169°.4E±0°.1, h35km, n12, σ0s72/7, mb3.2/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	Attu Island--F 9.1nm,0.3s,baz=306,slow=9.4,SNR=122	3.23	135	Pn	Pn	07 28 08.7	-0.5
FX1	16nm,0.3s,baz=84,slow=22,SNR=12			Sn	Sn	07 28 47.1	+0.7
ILAR	Eielson Array 0.4nm,0.7s,baz=258,slow=8.3,SNR=6.3	23.38	48	P	P	07 32 26.1	0.0
H11N2	WAKE ISLAND Hy baz=4.5,slow=77,SNR=6.6	35.47	184	T	T	08 12 08.1	
H11N3	WAKE ISLAND Hy baz=4.5,slow=77,SNR=5.8	35.49	184	T	T	08 12 10.0	
H11N1	WAKE ISLAND Hy baz=4.5,slow=77,SNR=7.6	35.49	184	T	T	08 12 11.9	
H11S1	WAKE ISLAND Hy baz=5.3,SNR=7.8	36.70	184	T	T	08 13 39.5	
H11S3	WAKE ISLAND Hy baz=5.3,SNR=7.4	36.71	184	T	T	08 13 41.5	
H11S2	WAKE ISLAND Hy baz=5.3,SNR=11	36.71	184	T	T	08 13 41.7	
YKA	Yellowknife Ar 0.1nm,0.6s,baz=296,slow=7.8,SNR=3.2	37.81	47	P	P	07 34 34.2	+0.7
SONM	Songino Array 0.2nm,0.5s,baz=88,slow=6.3,SNR=2.8	38.65	286	P	P	07 34 41.3	+0.4
PDAR	Pinedale Array 0.3nm,0.3s,baz=302,slow=8.4,SNR=3.6	51.69	68	P	P	07 36 23.7	-0.7
BVAR	Borovoye Array 0.3nm,0.5s,baz=46,slow=8.4,SNR=2.4	53.20	312	P	P	07 36 34.9	-0.3

*CSEM **08** 07:52:45.5±0.3, 36°.42N×22°.11E, h2km, MD3.5, Error ellipse: s-maj=7.1km s-min=3.2km az=53.0*
*ATH **08** 07:52:46.6, 36°.49N×22°.18E, h14km±1km, MD3.5/38, ML3.2*
*THE **08** 07:52:46.1, 36°.44N×22°.13E, h0km±1km, ML3.6/9, Error ellipse: s-maj=2.4km s-min=0.6km az=222.0*
*HLW **08** 07:52:52.7, 36°.36N×22°.79E, h10km±9km, Md3.3, Ml2.9*
*IDC **08** 07:52:53.6±9.7, 36°.69N×21°.99E, h75km±60km, mb3.4/6, mb1 3.4/7, mb1mx3.2/27, mbtmp3.3/7, ML2.2/1, Error ellipse: s-maj=101.5km s-min=32.0km az=25.0*

ISC 08 07:52:45.3±1.2, 36°.41N±0°.03×22°.10E±0°.03, h10km±8km, n112, σ1s31/140, mb3.8/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	PYLOS	0.57	330	P	Pg	07 52 56.2	-0.1
PYL				S	Sg	07 53 04.9	+1.0
PYL	PYLOS	0.57	330	*e*PB	Pg	07 52 56.3	-0.1
PYL				*e*SB	Sg	07 53 04.2	+0.3
PYL	PYLOS	0.57	330	*e*Pb	Pg	07 52 56.3	-0.1
PYL				S	Sg	07 53 04.9	+1.0
VLI	Veliai	0.74	65	P	Pg	07 52 59.7	+0.1
VLI	Veliai	0.74	65	*e*PB	Pg	07 52 59.7	+0.1
VLI				*e*SB	Sg	07 53 08.1	-1.2
VLI	Veliai	0.74	65	P	Pg	07 52 59.7	+0.1
KYTH	Kithira	0.77	99	P	Pb	07 53 00.7	0.0
KYTH	Kithira	0.77	99	*e*PB	Pb	07 53 00.9	+0.2
KYTH	Kithira	0.77	99	P	Pb	07 53 00.7	0.0
ITM	Ithomi	0.79	350	P	Pg	07 52 59.9	-0.6
ITM				S	Sg	07 53 11.5	+0.7
ITM	Ithomi	0.79	350	*e*PG	Pg	07 53 00.2	-0.3
ITM				*e*SB	Sg	07 53 11.1	+0.3
ITM	Ithomi	0.79	350	P	Pg	07 52 59.9	-0.6
ITM				S	Sg	07 53 11.5	+0.7
VLX	Vlachokerasia	0.99	13	P	Pg	07 53 03.0	-0.8
VLX	Vlachokerasia	0.99	13	*e*PG	Pg	07 53 03.2	-1.2
VLX				*e*SB	Sg	07 53 16.0	-1.3
VLX	Vlachokerasia	0.99	13	P	Pg	07 53 03.6	-0.8
ANKY	Antikythira Is	1.11	119	P	Pb	07 53 07.0	+0.4
ANKY				S	Sn	07 53 23.0	+0.8
ANKY	Antikythira Is	1.11	119	*e*PG	Pb	07 53 06.9	+0.4
ANKY				*e*SB	Sn	07 53 23.2	+1.0
ANKY	Antikythira Is	1.11	119	*e*Pg	Pb	07 53 06.9	+0.4
ANKY				*e*Sb	Sn	07 53 23.2	+1.0
AMT	Artemida-Makis	1.17	345	P	Pg	07 53 07.3	-0.5
AMT				S	Sb	07 53 24.0	+1.2
AMT	Artemida-Makis	1.17	345	*e*PG	Pg	07 53 07.3	-0.5
AMT				*e*SB	Sg	07 53 23.1	+0.1
AMT	Artemida-Makis	1.17	345	P	Pg	07 53 07.3	-0.5
AMT				*e*Sb	Sg	07 53 23.1	+0.1
AMT				S	Sb	07 53 24.0	+1.2
DID	Didima	1.43	39	P	Pn	07 53 11.7	+0.4
DID				S	Sn	07 53 31.8	+1.7
DID	Didima	1.43	39	*e*PB	Pn	07 53 12.0	+0.7
DID	Didima	1.43	39	P	Pn	07 53 11.7	+0.4
DID	Didima	1.43	39	*e*Pb	Pn	07 53 12.0	+0.7
DID				S	Sn	07 53 31.8	+1.7
GUR	Goura	1.54	7	P	Pn	07 53 13.1	+0.2
GUR				S	Sn	07 53 34.6	+1.5
GUR	Goura	1.54	7	*e*PG	Pn	07 53 13.2	+0.3
GUR	Goura	1.54	7	P	Pn	07 53 13.1	+0.2
GUR				S	Sn	07 53 34.6	+1.5
DRO	Drossia	1.58	349	P	Pn	07 53 14.4	+1.1
DRO				S	Sg	07 53 35.9	-0.1
DRO	Drossia	1.58	349	*e*PG	Pb	07 53 14.8	+0.2
DRO	Drossia	1.58	349	P	Pn	07 53 14.4	+1.1
DRO	Drossia	1.58	349	*e*Pg	Pb	07 53 14.8	+0.2
DRO				S	Sg	07 53 35.9	-0.1
KLV	Kalavryta, Ach	1.64	1	P	Pn	07 53 15.1	+0.9
KLV				S	Sb	07 53 37.7	+1.4
KLV	Kalavryta, Ach	1.64	1	*e*PG	Pn	07 53 15.3	+1.1
KLV	Kalavryta, Ach	1.64	1	P	Pn	07 53 15.1	+0.9
KLV				S	Sb	07 53 37.7	+1.4
RLS	Riolos of Patr	1.73	343	P	Pn	07 53 16.7	+1.3
RLS	Riolos of Patr	1.73	343	*e*PG	Pg	07 53 18.0	-0.4
RLS	Riolos of Patr	1.73	343	P	Pn	07 53 16.7	+1.3
RLS	Riolos of Patr	1.73	343	*e*Pg	Pg	07 53 18.0	-0.4
NAIG	Nisos Aigina	1.75	39	*e*PG	Pb	07 53 18.3	+0.8
NAIG	Nisos Aigina	1.75	39	*e*Pg	Pb	07 53 18.3	+0.8
LTK	Loutraki	1.76	23	P	Pn	07 53 16.8	+1.0
LTK				S	Sn	07 53 40.4	+2.1
LTK	Loutraki	1.76	23	*e*PG	Pb	07 53 18.0	+0.4
LTK	Loutraki	1.76	23	P	Pn	07 53 16.8	+1.0
LTK	Loutraki	1.76	23	*e*Pg	Pb	07 53 18.0	+0.4
LTK				S	Sn	07 53 40.4	+2.1
LAKA	Lakka	1.83	357	P	Pn	07 53 17.8	+0.9
LAKA	Lakka	1.83	357	*e*PN	Pb	07 53 18.8	-0.2
LAKA	Lakka	1.83	357	P	Pn	07 53 17.8	+0.9
LAKA	Lakka	1.83	357	*e*Pn	Pb	07 53 18.8	-0.2
VAM	Vamos	1.97	120	*e*PN	Pb	07 53 21.4	+0.1
KALE	Kalithea	1.98	1	P	Pn	07 53 20.2	+1.2
KALE				S	Sn	07 53 45.2	+1.3
KALE	Kalithea	1.98	1	*e*PG	Pb	07 53 21.8	+0.3
KALE	Kalithea	1.98	1	P	Pn	07 53 20.2	+1.2
KALE	Kalithea	1.98	1	*e*Pg	Pb	07 53 21.8	+0.3
KALE				S	Sn	07 53 45.2	+1.3
EFP	Efpalio	2.02	356	P	Pn	07 53 19.7	+0.2
EFP				S	Sn	07 53 46.7	+1.9
EFP	Efpalio	2.02	356	*e*PG	Pb	07 53 22.8	+0.6
EFP	Efpalio	2.02	356	P	Pn	07 53 19.7	+0.2
EFP	Efpalio	2.02	356	*e*Pg	Pb	07 53 22.8	+0.6
EFP				S	Sn	07 53 46.7	+1.9
ATH	Athens Observa	2.03	39	*e*PN	Pn	07 53 21.1	+1.6
ATH	Athens Observa	2.03	39	*e*Pn	Pn	07 53 21.1	+1.6
DSF	Desfina	2.03	9	P	Pn	07 53 20.5	+0.9
DSF	Desfina	2.03	9	*e*PG	Pb	07 53 22.8	+0.5
DSF	Desfina	2.03	9	P	Pn	07 53 20.5	+0.9
DSF	Desfina	2.03	9	*e*Pg	Pb	07 53 22.8	+0.5
PTL	Penteli	2.16	40	*e*PN	Pn	07 53 23.0	+1.6
PTL	Penteli	2.16	40	*e*Pn	Pn	07 53 23.0	+1.6
LKR	Lokris	2.35	17	*e*PN	Pn	07 53 25.4	+1.4
LKR	Lokris	2.35	17	*e*Pn	Pn	07 53 25.4	+1.4
MRKA	Markates	2.58	27	*e*PN	Pn	07 53 29.2	+2.0
MRKA	Markates	2.58	27	*e*Pn	Pn	07 53 29.2	+2.0
MAKR	Makrakomi, Fth	2.60	1	*e*PN	Pb	07 53 31.3	-0.8
AGG	Agios Georgios	2.62	4	*e*PN	Pb	07 53 31.0	-1.3
AGG	Agios Georgios	2.62	4	*e*Pn	Pb	07 53 31.0	-1.3
APE	Apeiranthos	2.83	75	*e*PN	Pn	07 53 31.5	+0.9
APE	Apeiranthos	2.83	75	*e*Pn	Pn	07 53 31.5	+0.9
SKIA	Skiathos	2.96	21	*e*PN	Pn	07 53 33.7	+1.3
SKIA	Skiathos	2.96	21	*e*Pn	Pn	07 53 33.7	+1.3
LAST	Lasithi	3.01	113	*e*PN	Pn	07 53 36.2	+3.1
XOR	Xorichti	3.08	16	*e*PB	Pn	07 53 36.9	+2.9
XOR	Xorichti	3.08	16	*e*Pb	Pn	07 53 36.9	+2.9
AOS	Alonnisos	3.10	26	*e*PN	Pn	07 53 36.2	+1.9
AOS	Alonnisos	3.10	26	*e*Pn	Pn	07 53 36.2	+1.9
THL	Klokotos Trika	3.16	359	*e*PB	Pn	07 53 38.2	+3.2
THL	Klokotos Trika	3.16

SUZ 11.12 123 P **Pn** 07 55 23.8 -0.6
FINES **FINESS Array B** 25.19 4 P **P** 07 58 09.2 -1.5
comp=N,1.1nm,0.7s,baz=189,slow=7.9,SNR=2.7
NOA **NORSAR Array B** 25.61 348 P **P** 07 58 11.5 -3.0
comp=N,0.5nm,0.7s,baz=152,slow=10,SNR=2.4
ARCES **ARCESS Array B** 33.24 2 P **P** 07 59 21.6 -0.6
comp=N,3.0nm,0.9s,baz=189,slow=10.0,SNR=3.4
MKAR **Makanchi Array** 45.18 57 P **P** 08 01 00.7 -1.5
comp=N,0.5nm,0.3s,baz=268,slow=8.1,SNR=15
ZALV **Zalesovo Beam** 45.96 47 P **P** 08 01 09.2 +1.0
comp=N,0.4nm,0.3s,baz=270,slow=10,SNR=4.3
YKA **Yellowknife Ar** 75.48 341 P **P** 08 04 28.1 -1.1
comp=N,0.2nm,0.9s,baz=34,slow=5.3,SNR=2.7

IDC 08 08:04:51.6±3.5, **6°28S**×**149°24E**, **h0**km, **mb3.3**/1, **mb1 4.0**/3, **mb1mx3.5**/18, **mbtmp3.8**/3, **ML2.7**/1, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.5**/18, **Error ellipse: s-maj=122.4km s-min=36.4km az=114.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**213**	Pn	Pn	08 05 52.3	+1.8
	4.8nm,0.3s,baz=333,slow=6.0,SNR=8.4						
PMG				Sn	Sn	08 06 35.2	0.0
	11nm,0.3s,baz=204,slow=13,SNR=10						
WRA	**Warramunga Arr**	**19.85**	**225**	P	P	08 09 23.9	-0.5
	0.8nm,0.3s,baz=51,slow=11,SNR=31						
ASAR	**Alice Springs**	**22.73**	**219**	P	P	08 09 54.8	-0.6
	0.6nm,0.4s,baz=56,slow=9.5,SNR=18						
FITZ	**Fitzroy Crossi**	**25.85**	**241**	LR	LR	08 20 34.0	
	comp=Z,63nm,20.1s,baz=50,slow=36						
TORD	**Torodi Ar. Bea**	**147.32**	**285**	PKPbc	PKPbc	08 24 37.8	-0.5
	0.7nm,1.0s,baz=72,slow=2.5,SNR=5.4						

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*BJI **08** 08:15:20.9, 1°.38S×120°.11E, h39km, mB5.1/26, mb5.0/41, Ms4.5/21, Ms7 4.5/10*
*IDC **08** 08:15:22.3±0.5, 0°.67S×119°.87E, h0km, mb4.5/22, mb1 4.6/22, mb1mx4.5/29, mbtmp4.5/22, MS3.9/17, Ms1 3.9/17, ms1mx3.7/29, Error ellipse: s-maj=23.9km s-min=12.0km az=63.0*
*MOS **08** 08:15:22.3±3.9, 0°.67S×119°.87E, h40km, mb5.2/28, Error ellipse: s-maj=63.6km s-min=39.1km az=106.5*
*DJA **08** 08:15:26.1±0.3, 1°S±3°×12°.0E±°, h10km, M5.0/18, mb5.2/5, mB5.2/4, MLv5.1/18, Mw(mB)4.6/4*
*ISCJB **08** 08:15:27.7±0.2, 0°.57S±0°.03×119°.98E±0°.03, h45km, mb4.8/66, MS4.0/21, Error ellipse: s-maj=4.6km s-min=3.3km az=143.4*
*GCMT **08** 08:15:28.5±0.3, 0°.50S×120°.00E, h20km±1km, MW4.8/64, Moment Tensor Solution. s15,c17; s64,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.51±.13; Mθθ=1.34±.09; Mϕϕ=0.83±.12; Mrθ=0.63±.17; Mϕθ=-1.73±.07; Mrϕ=0.80±.20; Best double couple: Mo=2.24900×10^16 NP1:ϕs=343.00000°, δ85.00000°, λ=-25.00000°. NP2: ϕs=73.00000°, δ65.00000°, λ=-179.00000°. Principal axes: T 2.5840, Plg17.0000°, Azm31.0000°; N -0.6680, Plg65.0000°, Azm161.0000°; P -1.9150, Plg18.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 08:15:28.6±0.7, 0°.67S×119°.87E, h42km±7km, mb4.8/23 Error ellipse: s-maj=8.5km s-min=5.0km az=50.0*
NEIC Felt [III] at Palu.
*KLM **08** 08:15:30.8, 0°.67S×120°.17E, h38km, mb5.0, ML4.9, MS5.7*
ISC 08 08:15:29.3±0.3, **0°.60S**±0°.04×**119°.90E**±0°.05, **h45**km, **n198, s142**/207, **mb4.8**/66, **MS3.9**/24, **8C-14D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.77**	**100**	P	**Pn**	**08 15 56.0**	**-1.5**
TOLI	**Toli-Toli**	**1.93**	**28**	P	x	08 15 58.9	
MRSI	**Marisa**	**2.30**	**62**	P	Pn	08 16 00.0	-4.7
MMSI	**Mamuju**	**2.30**	**206**	P	x	08 16 01.1	
LUWI	**Luwuk**	**2.90**	**99**	P	**Pn**	**08 16 11.7**	**-1.3**
LUWI	**Luwuk**	**2.90**	**99**	*e*Pn	**Pn**	**08 16 11.7**	**-1.3**
LUWI	**Luwuk**	**2.90**	**99**	P	**Pn**	**08 16 11.3**	**-1.7**
	baz=2.9,SNR=57						
MJSI	**Majene**	**3.07**	**197**	P	x	08 16 15.4	
BKB	**Balikpapan**	**3.08**	**258**	P	**Pn**	**08 16 14.6**	**-0.8**
GTOI	**Gorontalo**	**3.34**	**68**	P	Pn	08 16 14.1	-4.9
SPSI	**Sidrap Palu**	**3.34**	**182**	P	**Pn**	**08 16 18.0**	**-1.1**
BNSI	**Bone**	**3.78**	**177**	P	**Pn**	**08 16 25.7**	**+0.6**
KKSI	**Kolaka, Sulawe**	**3.96**	**154**	P	x	08 16 30.5	
KMSI	**Cibinong**	**4.24**	**74**	P	**Pn**	**08 16 31.7**	**+0.3**
KAPI	**Kappang**	**4.39**	**182**	*e*Pn	**Pn**	**08 16 32.4**	**-1.1**
KAPI				*e*Sn	Sn	08 17 28.9	+5.6
BKSI	**Bulukumba**	**4.70**	**177**	P	**Pn**	**08 16 37.1**	**-0.6**
TSM	**Tawau**	**5.27**	**337**	↑P	**Pn**	**08 16 45.1**	**-0.4**
BBSI	**Bau Bau**	**5.54**	**151**	P	**Pn**	**08 16 48.6**	**-0.6**
	146nm,1.2s,2μm1.0nm						
BBKI	**Banjar Baru**	**5.80**	**241**	P	Pn	08 17 03.6	+11
MYLDM	**Lahad Datu**	**5.91**	**346**	P	x	08 16 55.1	
	562nm,0.9s,4μm1.7nm						
MYLDM	**Lahad Datu**	**5.91**	**346**	*e*Pn	**Pn**	**08 16 54.9**	**+0.6**
MYLDM	**Lahad Datu**	**5.91**	**346**	↑P	**Pn**	**08 16 56.0**	**+1.7**
SANI	**Sanana**	**6.25**	**103**	P	**Pn**	**08 16 55.9**	**-3.1**
	132nm,0.8s,1μm0.4nm						
SDKM	**Sandakan**	**6.76**	**336**	↓P	**Pn**	**08 17 05.6**	**-0.6**
LBMI	**Labuha**	**7.60**	**90**	P	**Pn**	**08 17 17.2**	**-0.3**
	144nm,0.8s,1μm0.7nm						
NLAI	**Namlea**	**7.66**	**110**	P	**Pn**	**08 17 17.9**	**-0.4**
BTM	**Bintulu**	**7.79**	**299**	↓P	**Pn**	**08 17 20.6**	**+0.4**
KDM	**Kudat**	**8.07**	**338**	↓P	Pn	08 17 27.5	+3.5
SBUM	**Sibu**	**8.26**	**292**	P	x	08 17 24.9	
SBUM	**Sibu**	**8.26**	**292**	*e*Pn	**Pn**	**08 17 25.0**	**-1.6**
SBUM	**Sibu**	**8.26**	**292**	↑P	**Pn**	**08 17 26.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**9.69**	**216**	P	Pn	08 17 55.5	+9.2
KSM	**Kuching**	**9.81**	**282**	*e*Pn	**Pn**	**08 17 46.8**	**-1.1**
KSM	**Kuching**	**9.81**	**282**	↑P	**Pn**	**08 17 49.9**	**+2.0**
SOEI	**Soe**	**10.08**	**155**	P	Pn	08 17 54.6	+2.9
SOEI	**Soe**	**10.08**	**155**	*e*Pn	Pn	08 17 56.6	+5.0
SOEI	**Soe**	**10.08**	**155**	P	Pn	08 17 57.0	+5.4
	baz=10,SNR=3.7						
SWI	**Sorong**	**11.36**	**91**	P	Pn	08 18 12.7	+3.6
BJII	**Banjamegara**	**12.17**	**236**	P	x	08 18 37.2	
KPJI	**Karang Pucung**	**12.82**	**238**	P	**Pn**	**08 18 30.6**	**+1.5**
KLSI		**15.69**	**255**	P	**P**	**08 19 09.9**	**-0.9**
KASI	**Kota Agung**	**16.14**	**252**	P	**P**	**08 19 14.5**	**-1.3**
MDSI	**Maura Dua**	**16.17**	**256**	P	**P**	**08 19 16.1**	**-0.1**
MYKOM	**Kota Tinggi**	**16.23**	**278**	↓P	**P**	**08 19 16.6**	**-0.2**
LWLI	**Liwa**	**16.42**	**254**	P	**P**	**08 19 20.1**	**+1.1**
MTN	**Manton Dam**	**16.49**	**138**	P	**P**	**08 19 21.5**	**+1.8**
	baz=17,SNR=3.9						
LHSI	**Lahat**	**16.68**	**259**	P	**P**	**08 19 23.3**	**+1.5**
KGM	**Kluang**	**16.78**	**279**	↓P	**P**	**08 19 23.9**	**+0.9**
KDU	**Kakadu**	**17.31**	**134**	P	**P**	**08 19 29.7**	**+1.0**
	baz=17,SNR=3.7						
KNRA	**Kununurra**	**17.35**	**150**	P	**P**	**08 19 31.0**	**+1.9**
	baz=18,SNR=4.8						
KTGM	**Kuala Trenggan**	**17.75**	**290**	↓P	**P**	**08 19 35.0**	**+1.3**
FRIM	**Kepong**	**18.66**	**282**	↓P	**Pn**	**08 19 46.8**	**+2.4**
IPM	**Ipoh**	**19.52**	**285**	*e*P	**P**	**08 19 52.9**	**-0.3**
	30nm,0.9s						
IPM	**Ipoh**	**19.52**	**285**	↑P	**Pn**	**08 19 54.3**	**-0.5**
KULM	**Kulim**	**20.10**	**287**	*e*P	**P**	**08 19 59.1**	**-0.3**
	40nm,1.0s						
KULM	**Kulim**	**20.10**	**287**	↑P	**P**	**08 19 59.9**	**+0.5**
PSI	**Prapat**	**21.24**	**279**	P	**P**	**08 20 09.0**	**-2.9**
PSI	**Prapat**	**21.24**	**279**	P	**P**	**08 20 09.0**	**-2.9**
	20nm,0.8s,baz=120,slow=8.1,SNR=5.2						
PSI				LR	LR	08 28 49.5	
	comp=Z,470nm,21.9s,baz=100,slow=38						
PSI	**Prapat**	**21.24**	**279**	P	**P**	**08 20 11.4**	**-0.6**
	baz=21,SNR=4.4						
QIZ	**Qiongzhong**	**21.87**	**334**	P	**P**	**08 20 19.9**	**+1.5**
QIZ				S	**S**	**08 24 21.7**	**+4.0**
SURT	**Suratani**	**23.07**	**295**	P	**P**	**08 20 32.0**	**+0.8**
	13nm,1.1s						
WRAB	**Tennant Creek**	**23.86**	**145**	*d* iP	**P**	**08 20 38.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**23.86**	**145**	*e*P	**P**	**08 20 37.0**	**-1.7**
	comp=Z,39nm,1.0s						
WRA	**Warramunga Arr**	**23.86**	**145**	P	**P**	**08 20 36.8**	**-1.9**
WRA	**Warramunga Arr**	**23.86**	**145**	P	**P**	**08 20 36.8**	**-1.9**
	comp=Z,18nm,0.9s,baz=326,slow=9.8,SNR=36						
CHAI	**Chaiyaphum**	**24.12**	**314**	P	**P**	**08 20 41.5**	**+0.3**
	comp=Z,24nm,1.0s,comp=Z,228nm						
PBKT	**Sadao Pong**	**25.30**	**313**	P	**P**	**08 20 53.3**	**+1.5**
	comp=Z,23nm,1.3s						
WRKA	**Warakurna**	**25.61**	**162**	P	**P**	**08 20 56.1**	**+1.5**
	baz=26,SNR=15						
MEEK	**Meekatharra**	**25.92**	**183**	P	**P**	**08 21 01.7**	**+4.3**
	baz=26,SNR=4.2						
COEN	**Coen**	**26.58**	**121**	*e*P	**P**	**08 21 03.5**	**0.0**
	comp=Z,220nm,1.4s						
COEN	**Coen**	**26.58**	**121**	P	**P**	**08 21 03.6**	**0.0**
	baz=27,SNR=4.6						
AS31	**Alice Springs**	**26.65**	**150**	*e*P	**P**	**08 21 05.8**	**+1.7**
ASAR	**Alice Springs**	**26.65**	**150**	P	**P**	**08 21 02.8**	**-1.3**
ASAR	**Alice Springs**	**26.65**	**150**	P	**P**	**08 21 02.8**	**-1.3**
	comp=Z,5.8nm,0.7s,baz=327,slow=8.4,SNR=40						
ASAR				LR	LR	08 32 30.2	
	comp=Z,350nm,21.7s,baz=318,slow=39						
QIS	**Mount Isa**	**27.65**	**137**	P	**P**	**08 21 14.5**	**+1.4**
	baz=28,SNR=3.9						
QIS				S	**S**	**08 25 55.7**	**+3.6**
	baz=28,SNR=4.9						
CMAR	**Chiang Mai Arr**	**27.99**	**314**	P	**P**	**08 21 16.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.99**	**314**	P	**P**	**08 21 16.4**	**+0.3**
	comp=Z,7.3nm,0.8s,baz=138,slow=7.3,SNR=30						
CRAI	**Chiangrai**	**28.19**	**318**	P	**P**	**08 21 18.5**	**+0.7**
	comp=Z,7.7nm,1.1s						
CHTO	**Chiang Mai**	**28.22**	**314**	*e*P	**P**	**08 21 18.7**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**28.22**	**314**	P	**P**	**08 21 19.0**	**+0.9**
	comp=Z,53nm,0.9s						
CHTO	**Chiang Mai**	**28.22**	**314**	*e*P	**P**	**08 21 18.7**	**+0.6**
	comp=Z,4.8nm,0.8s						
MHMT	**Maesarieng**	**28.55**	**312**	P	**P**	**08 21 22.1**	**+1.0**
	comp=Z,8.5nm,0.8s						
GYA	**Guiyang**	**29.78**	**336**	P	**P**	**08 21 34.2**	**+2.2**
GYA				pP	**pP**	**08 21 44.5**	**+0.5**
GYA				PcP	**PcP**	**08 24 35.6**	**+0.6**
GYA				S	**S**	**08 26 29.3**	**+3.7**
GYA				sS	**sS**	**08 26 47.5**	**+1.8**
GYA				ScP	**ScP**	**08 28 13.2**	**-0.4**
GYA				ScS	**ScS**	**08 32 07.5**	**-1.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,580nm,16.8s						
GYA				LR	LR		
	comp=Z,510nm,17.0s						
GYA				LR	LR		
	comp=Z,560nm,16.6s						
KMI	**Kunming**	**30.49**	**328**	P	**P**	**08 21 40.6**	**+2.1**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
WHN	**Wuhan**	**31.42**	**351**	P	**P**	**08 21 48.8**	**+2.5**
CTAO	**Charters Tower**	**32.25**	**129**	*e*P	**P**	**08 21 54.9**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**32.25**	**129**	*e*P	**P**	**08 21 54.9**	**+1.1**
	comp=Z,10nm,1.1s						
ENH	**Enshi**	**32.26**	**343**	*e*P	**P**	**08 21 54.5**	**+0.7**
	comp=Z,6.8nm,0.7s						
QLP	**Quilpie**	**34.86**	**140**	P	**P**	**08 22 19.2**	**+2.8**
	baz=35,SNR=11						
CD2	**Chengdu**	**34.89**	**335**	↑*i*P	**P**	**08 22 17.2**	**+0.5**
CD2				sP	**sP**	**08 22 32.6**	**-1.5**
CD2				PP	**PP**	**08 23 36.5**	**0.0**
CD2				S	**S**	**08 27 46.3**	**+1.3**
CD2				sS	**sS**	**08 28 04.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				pmax	pmax		
	comp=Z,190nm,5.9s						
CD2				LR	LR		
	comp=Z,180nm,13.1s						
JCJ	**Chichijima**	**34.90**	**36**	LR	LR	08 36 07.9	
	comp=Z,69nm,18.8s,baz=218,slow=36						
JNU	**Nakatsue**	**35.10**	**16**	LR	LR	08 36 08.4	
	comp=Z,82nm,18.6s,baz=203,slow=35						
BBOO	**Buckleboo**	**35.47**	**156**	*e*P	**P**	**08 22 20.3**	**-1.3**
	comp=Z,221nm,0.8s						
BBOO	**Buckleboo**	**35.47**	**156**	P	**P**	**08 22 23.2**	**+1.6**
	baz=36,SNR=5.9						
XAN	**Xi'an**	**35.97**	**344**	P	**P**	**08 22 25.6**	**-0.3**
XAN				pP	**pP**	**08 22 37.1**	**-0.9**
XAN				S	**S**	**08 28 03.6**	**+2.1**
XAN				pmax	pmax		
	comp=Z,22nm,4.8s						
XAN				LR	LR		
	comp=Z,130nm,14.3s						
HTT	**Hallett**	**37.23**	**153**	P	**P**	**08 22 35.8**	**-0.8**
	baz=37,SNR=28						
STKA	**Stephens Creek**	**37.26**	**149**	*e*P	**P**	**08 22 36.2**	**-0.7**
	comp=Z,5.9nm,1.0s						
STKA	**Stephens Creek**	**37.26**	**149**	P	**P**	**08 22 35.9**	**-0.9**
	comp=Z,19nm,0.8s,baz=322,slow=10,SNR=18						
STKA				LR	LR	08 40 24.7	
	comp=Z,277nm,18.1s,baz=226,slow=40						
KSAR	**Wonju Array Be**	**38.57**	**10**	P	**P**	**08 22 48.8**	**+1.0**
KSRS	**Korea Array**	**38.58**	**10**	P	**P**	**08 22 48.8**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=188,slow=7.4,SNR=6.5						
KSRS				LR	LR	08 39 06.5	
	comp=Z,131nm,18.2s,baz=91,slow=37						
CMSA	**Cobar Meteorol**	**39.27**	**144**	P	**P**	**08 22 53.6**	**-0.2**
	baz=39,SNR=26						
BJT	**Baijiatuan**	**40.57**	**356**	*e*P	**P**	**08 23 05.3**	**+0.9**
	comp=Z,46nm,0.8s						
BJI	**Beijing**	**40.59**	**356**	P	**P**	**08 23 05.4**	**+0.8**
BJI				S	**S**	**08 29 15.1**	**+4.1**
BJI				SS	**SnSn**	**08 32 21.6**	**+1.6**
BJI				pmax	pmax		
	comp=Z,57nm,0.8s						
BJI				LR	LR		
	comp=Z,190nm,17.4s						
BJI				LR	LR		
	comp=Z,180nm,22.8s						
MAJO	**Matsushiro**	**40.68**	**23**	*e*P	**P**	**08 23 05.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,45nm,1.5s						
MAJO	**Matsushiro**	**40.68**	**23**	*e*P	**P**	**08 23 05.2**	**-0.2**
	comp=Z,45nm,1.5s						
MJAR	**Matsushiro Arr**	**40.68**	**23**	P	**P**	**08 23 04.2**	**-1.2**
MJAR	**Matsushiro Arr**	**40.68**	**23**	P	**P**	**08 23 04.2**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=187,slow=9.8,SNR=5.4						
MJAR				LR	LR	08 38 23.1	
	comp=Z,179nm,20.9s,baz=215,slow=34						
LSA	**Lhasa**	**40.75**	**320**	P	**P**	**08 23 07.1**	**+0.5**
LSA	**Lhasa**	**40.75**	**320**	*e*P	**P**	**08 23 08.2**	**+1.6**
LSA				pmax	pmax		
	comp=Z,22nm,0.9s						
LSA	**Lhasa**	**40.75**	**320**	*e*P	**P**	**08 23 08.2**	**+1.6**
	comp=Z,22nm,0.9s						
ARPS	**Mount Arapiles**	**41.32**	**153**	P	**P**	**08 23 10.3**	**-0.4**
	baz=42,SNR=17						
YNG	**Young**	**42.83**	**144**	P	P	08 23 26.8	+3.7
	baz=43,SNR=6.7						
GTA	**Gaotai**	**43.87**	**337**	*e*P	**P**	**08 23 32.6**	**+1.1**
GTA				pP	**pP**	**08 23 42.7**	**-1.2**
GTA				sP	**sP**	**08 23 46.6**	**-2.5**
GTA				PcP	**PcP**	**08 25 17.5**	**+0.3**
GTA				S	**S**	**08 30 01.9**	**+2.2**
GTA				pmax	pmax		
	comp=Z,16nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,4.3s						
GTA				LR	LR		
	comp=Z,150nm,16.2s						
GTA				LR	LR		
	comp=Z,180nm,15.2s						
CN2	**Changchun**	**44.48**	**6**	*e*P	**P**	**08 23 37.0**	**+0.8**
CN2				*e*S	**S**	**08 30 10.9**	**+2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
MDJ	**Mudanjiang**	**45.84**	**10**	P	**P**	**08 23 46.7**	**-0.2**
MDJ				pP	**pP**	**08 23 55.8**	**-3.5**
MDJ				sP	sP	08 23 59.0	-5.6
MDJ				PcS	**PcS**	**08 29 17.9**	**0.0**
MDJ				S	**S**	**08 30 29.1**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,17nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,93nm,4.4s						
MDJ	**Mudanjiang**	**45.84**	**10**	*e*P	**P**	**08 23 46.6**	**-0.3**
	comp=Z,32nm,1.3s						
USRK	**Ussuriysk Arra**	**45.89**	**12**	P	**P**	**08 23 46.6**	**-0.7**
	comp=Z,4.7nm,0.6s,baz=195,slow=7.8,SNR=12						
USRK				LR	LR	08 43 51.6	
	comp=Z,120nm,19.1s,baz=51,slow=37						
LHI	**Lord Howe Isla**	**48.12**	**134**	P	**P**	**08 24 06.2**	**+1.2**
	baz=48,SNR=3.4						
ASAJ	**Asahikawa**	**48.91**	**22**	LR	LR	08 42 37.6	
	comp=Z,110nm,20.5s,baz=66,slow=33						
ULN	**Ulaanbaatar**	**49.55**	**349**	*e*P	**P**	**08 24 16.7**	**+0.8**
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**49.66**	**348**	P	**P**	**08 24 17.1**	**+0.5**
SONM	**Songino Array**	**49.66**	**348**	P	**P**	**08 24 17.1**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=169,slow=8.3,SNR=36						
ZAK	**Zakamensk**	**52.74**	**347**	↓*i*P	**P**	**08 24 39.7**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMQ	**Urumqi**	**52.75**	**331**	P	**P**	**08 24 40.9**	**+1.0**
WMQ				pP	**pP**	**08 24 50.9**	**-1.6**
WMQ				sP	**sP**	**08 24 54.8**	**-2.9**
WMQ				ScP	**ScP**	**08 29 43.4**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,16nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,85nm,7.5s						
WMQ				LR	LR		
	comp=Z,94nm,25.3s						
WMQ				LR	LR		
	comp=Z,87nm,23.1s						
TLY	**Talaya**	**53.88**	**348**	*e*P	**P**	**08 24 48.6**	**+0.7**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TLY	**Talaya**	**53.88**	**348**	*e*P	**P**	**08 24 48.5**	**+0.7**
	comp=Z,9.7nm,1.0s						
MOY	**Mondy**	**54.48**	**346**	*e*P	**P**	**08 24 53.5**	**+1.1**
KSH	**Kashi**	**56.60**	**320**	*i* P	**P**	**08 25 08.9**	**+1.0**
KSH				*e*PP	**PP**	**08 27 16.0**	**+1.7**
KSH				*e*PcS	**PcS**	**08 30 04.9**	**+0.1**
KSH				*e*S	**S**	**08 32 55.2**	**-1.7**
KSH				pmax	pmax		
	comp=Z,13nm,0.7s						
KSH				pmax	pmax		
	comp=Z,57nm,6.6s						
KSH				LR	LR		
	comp=Z,130nm,4.2s						
KSH				LR	LR		
	comp=Z,120nm,6.1s						
KSH				LR	LR		
	comp=Z,84nm,6.6s						
MK31	**Makanchi Array**	**57.54**	**330**	*i* P	**P**	**08 25 14.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,20nm,1.0s						
MK31	**Makanchi Array**	**57.54**	**330**	*e*P	**P**	**08 25 14.6**	**+0.3**
MKAR	**Makanchi Array**	**57.54**	**330**	*e*P	**P**	**08 25 14.8**	**+0.5**
MKAR	**Makanchi Array**	**57.54**	**330**	*e*P	**P**	**08 25 14.8**	**+0.5**
MKAR	**Makanchi Array**	**57.54**	**330**	P	**P**	**08 25 14.9**	**+0.6**
	comp=Z,12nm,0.8s,baz=134,slow=7.7,SNR=118						
KBL	**Kabul**	**58.99**	**312**	*e*P	**P**	**08 25 24.5**	**-0.4**
KBL				pmax	pmax		
	comp=Z,26nm,0.8s						
KBL	**Kabul**	**58.99**	**312**	*e*P	**P**	**08 25 24.5**	**-0.4**
	comp=Z,26nm,0.8s						
KBL	**Kabul**	**58.99**	**312**	P	**P**	**08 25 24.7**	**-0.2**
	baz=59,SNR=7.2						
AAK	**Ala-Archa**	**59.27**	**322**	↓*i*P	**P**	**08 25 27.0**	**+0.4**
AAK				pmax	pmax		
	comp=Z,35nm,2.5s						
AAK	**Ala-Archa**	**59.27**	**322**	*e*P	**P**	**08 25 27.2**	**+0.6**
	comp=Z,4.5nm,0.6s						
AAK	**Ala-Archa**	**59.27**	**322**	P	**P**	**08 25 27.4**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=127,slow=10,SNR=13						
AAK				LR	LR	08 53 24.1	
	comp=Z,83nm,20.7s,baz=189,slow=38						
ZAA0	**Zalesovo Array**	**61.62**	**337**	*e*P	**P**	**08 25 41.4**	**-0.8**
ZALV	**Zalesovo Beam**	**61.62**	**337**	P	**P**	**08 25 41.3**	**-0.9**
ZALV	**Zalesovo Beam**	**61.62**	**337**	P	**P**	**08 25 41.3**	**-0.9**
ZALV	**Zalesovo Beam**	**61.62**	**337**	P	**P**	**08 25 41.3**	**-0.9**
	comp=Z,5.5nm,0.6s,baz=136,slow=6.2,SNR=32						
KURBB	**Kurchatov Arra**	**61.97**	**332**	P	**P**	**08 25 44.6**	**0.0**
	comp=Z,8.7nm,0.7s,baz=139,slow=6.2,SNR=96						
KURK	**Kurchatov**	**61.99**	**332**	P	**P**	**08 25 44.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,18nm,0.9s						
KURK	**Kurchatov**	**61.99**	**332**	*e*P	**P**	**08 25 44.8**	**+0.1**
	comp=Z,18nm,0.9s						
KK31	**Karatay Array**	**61.99**	**321**	*i* P	**P**	**08 25 43.8**	**-1.2**
KKAR	**Karatay Array**	**61.99**	**321**	*e*P	**P**	**08 25 45.3**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KKAR	**Karatay Array**	**61.99**	**321**	*e*P	**P**	**08 25 45.2**	**+0.3**
	comp=Z,7.4nm,1.1s						
PETK	**Petropavlovsk-**	**62.09**	**25**	P	**P**	**08 25 44.3**	**-1.1**
PETK	**Petropavlovsk-**	**62.09**	**25**	P	**P**	**08 25 44.3**	**-1.1**
PETK	**Petropavlovsk-**	**62.09**	**25**	P	**P**	**08 25 44.3**	**-1.1**
	comp=Z,6.8nm,0.8s,baz=204,slow=3.3,SNR=5.2						
PETK				LR	LR	08 51 42.9	
	comp=Z,90nm,20.9s,baz=219,slow=35						
BVA0	**Borovoye Array**	**67.43**	**330**	*i* P	**P**	**08 26 20.2**	**0.0**
BVA0				pmax	pmax		
	comp=Z,20nm,1.0s						
BVAR	**Borovoye Array**	**67.43**	**330**	P	**P**	**08 26 20.1**	**-0.1**
BVAR	**Borovoye Array**	**67.43**	**330**	P	**P**	**08 26 20.1**	**-0.1**
BVAR	**Borovoye Array**	**67.43**	**330**	P	**P**	**08 26 20.1**	**-0.1**
	comp=Z,11nm,0.8s,baz=120,slow=8.5,SNR=48						

comp=Z,4.1nm,0.9s,baz=335,slow=2.1,SNR=5.6
VORD Divnogorie 84.54 321 *e*P P **08 27 55.9 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,8.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,1.0s
VSR Storozhevoye 84.66 321 *e*P P **08 27 55.7 -2.5**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.0s
MMAI Mount Meron Ar 85.70 303 P P **08 28 04.1 0.0**
MMAI Mount Meron Ar 85.70 303 P P **08 28 04.1 0.0**
comp=E,0.7nm,0.3s,baz=106,slow=11,SNR=4.2
OBN Obninsk 86.67 325 *e*P P **08 28 07.6 -0.5**
OBN pmax pmax
comp=Z,6.0nm,1.3s
SIM Simferopol' 87.43 315 *e*P P **08 28 11.5 -0.6**
SIM pmax pmax
comp=Z,13nm,0.8s
BR131 Keskin Array S 87.50 310 *e*P P **08 28 11.3 -1.4**
comp=Z,3.2nm,0.8s
BRTR Keskin Array B 87.50 310 P P **08 28 11.6 -1.1**
BRTR Keskin Array B 87.50 310 P P **08 28 11.6 -1.1**
comp=Z,3.7nm,0.9s,baz=108,slow=4.7,SNR=18
BRTR LR LR 09 15 33.8
comp=Z,40nm,18.8s,baz=310,slow=41
AKASG Malin Array Be 90.89 321 *ce*P P **08 28 26.8 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 90.89 321 P P **08 28 26.2 -2.0**
AKASG Malin Array Be 90.89 321 P P **08 28 26.2 -2.0**
comp=Z,0.6nm,0.7s,baz=80,slow=3.6,SNR=4.7
ILAR Eielson Array 91.91 25 LR LR 09 09 45.9
comp=Z,78nm,19.9s,baz=57,slow=36
ARCES ARCESS Array B 92.10 339 LR LR 09 15 41.9
comp=Z,62nm,20.7s,baz=25,slow=39
CLL Collm 100.98 322 *e*PP PP 08 33 23.0 +0.5
TORD Torodi Ar. Bea 117.57 284 PKP **PKPdf 08 34 09.6 -1.8**
TORD Torodi Ar. Bea 117.57 284 PKP **PKPdf 08 34 09.5 -1.8**
comp=Z,0.5nm,0.8s,baz=96,slow=1.6,SNR=2.8
LPAZ La Paz 161.44 155 PKP **PKPdf 08 35 27.4 +0.4**
LPAZ PKPab **PKPab 08 36 12.2 +1.1**
LPAZ La Paz 161.44 155 PKP **PKPdf 08 35 27.4 +0.4**
comp=Z,1.1nm,1.0s,baz=42,slow=1.4,SNR=3.7
LPAZ PKPab **PKPab 08 36 12.2 +1.1**
comp=Z,1.6nm,0.8s,baz=199,slow=4.7,SNR=6.2

*CSEM **08** 08:24:41.3±0.1, 42°.22N×13°.50E, h2km, ML2.2/10, Error ellipse: s-maj=2.9km s-min=2.1km az=75.0*
ROM 08 08:24:40.4±0.1, 42°.22N×13°.50E, h9km, Md2.0/15, Ml1.7/9, 4C, Error ellipse: s-maj=1.0km s-min=0.8km az=87.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.08**	**51**	⇑*i*Pg	Pg	08 24 43.1	+0.5
FAGN				Sg	Sg	08 24 44.3	+0.1
	2μm,0.4s						
FAGN	**Fagnano**	**0.08**	**51**	⇑*i*Pg	Pg	08 24 43.1	+0.5
FAGN				Sg	Sg	08 24 44.3	+0.1
	2μm,0.4s						
AQU	**L'Aquila**	**0.16**	**331**	Pg	Pg	08 24 44.5	+0.6
AQU				Sg	Sg	08 24 47.1	+0.9
	264nm,0.5s						
AQU	**L'Aquila**	**0.16**	**331**	Pg	Pg	08 24 44.5	+0.6
AQU				Sg	Sg	08 24 47.1	+0.9
	264nm,0.5s						
T0104	**Madonna delle**	**0.19**	**319**	Pg	Pg	08 24 44.7	+0.3
T0104				Sg	Sg	08 24 47.9	+0.8
PTQR	**Pietraquaria**	**0.21**	**201**	⇑*i*Pg	Pg	08 24 45.8	+1.0
PTQR				Sg	Sg	08 24 49.2	+1.4
	16nm,0.2s						
PTQR	**Pietraquaria**	**0.21**	**201**	⇑*i*Pg	Pg	08 24 45.8	+1.0
PTQR				Sg	Sg	08 24 49.2	+1.4
	16nm,0.2s						
FIAM	**Fiamignano**	**0.29**	**280**	Pg	Pg	08 24 47.0	+0.6
FIAM				Sg	Sg	08 24 51.6	+1.2
	54nm,0.5s						
FIAM	**Fiamignano**	**0.29**	**280**	Pg	Pg	08 24 47.0	+0.6
FIAM				Sg	Sg	08 24 51.6	+1.2
	54nm,0.5s						
VCEL	**Villa Celiera**	**0.31**	**55**	Pg	Pg	08 24 47.3	+0.6
VCEL				Sg	Sb	08 24 53.2	-0.4
	204nm,0.3s						
VCEL	**Villa Celiera**	**0.31**	**55**	Pg	Pg	08 24 47.3	+0.6
VCEL				Sg	Sb	08 24 53.2	-0.4
	204nm,0.3s						
CAMP	**Campotosto**	**0.33**	**348**	Pg	Pg	08 24 47.6	+0.5
CAMP				Sg	Sb	08 24 53.6	-0.6
CAMP	**Campotosto**	**0.33**	**348**	Pg	Pg	08 24 47.6	+0.5
CAMP				Sg	Sb	08 24 53.6	-0.6
VVLD	**Villa Vallelon**	**0.36**	**166**	Pg	Pg	08 24 48.1	+0.5
VVLD				Sg	Sb	08 24 54.0	-0.9
	38nm,0.5s						
VVLD	**Villa Vallelon**	**0.36**	**166**	Pg	Pg	08 24 48.1	+0.5
VVLD				Sg	Sb	08 24 54.0	-0.9
	38nm,0.5s						
INTR	**Introdacqua**	**0.36**	**124**	Pg	Pg	08 24 48.1	+0.4
INTR				Sg	Sb	08 24 54.1	-1.0
INTR	**Introdacqua**	**0.36**	**124**	Pg	Pg	08 24 48.1	+0.4
INTR				Sg	Sb	08 24 54.1	-1.0
TERO	**Teramo**	**0.41**	**10**	Pg	Pg	08 24 48.5	-0.1
TERO				Sg	Sb	08 24 55.6	-0.9
	54nm,0.5s						
TERO	**Teramo**	**0.41**	**10**	Pg	Pg	08 24 48.5	-0.1
TERO				Sg	Sb	08 24 55.6	-0.9
	54nm,0.5s						
SMA1	**SAN MARTINO**	**0.43**	**343**	Pg	Pg	08 24 49.5	+0.5
SMA1				Sg	Sb	08 24 56.7	-0.5
	54nm,0.3s						
GUAR	**Guarcino**	**0.45**	**199**	Pg	Pg	08 24 49.7	+0.5
	29nm,0.2s						
GUAR	**Guarcino**	**0.45**	**199**	Pg	Pg	08 24 49.7	+0.5
	29nm,0.2s						
LPEL	**Lama dei Pelig**	**0.53**	**108**	Pg	Pg	08 24 50.9	0.0
LPEL				Sg	Sb	08 24 59.3	-0.7
	61nm,0.3s						
LPEL	**Lama dei Pelig**	**0.53**	**108**	Pg	Pg	08 24 50.9	0.0
LPEL				Sg	Sb	08 24 59.3	-0.7
	61nm,0.3s						
SDI	**San Donato**	**0.56**	**156**	Pg	Pg	08 24 51.6	+0.3
SDI				Sg	Sb	08 25 00.3	-0.3
	16nm,0.2s						
SDI	**San Donato**	**0.56**	**156**	Pg	Pg	08 24 51.6	+0.3
SDI				Sg	Sb	08 25 00.3	-0.3
	16nm,0.2s						
NRCA	**Norcia**	**0.68**	**335**	Pg	Pg	08 24 53.4	-0.3
NRCA				Sg	Sb	08 25 04.4	+0.1
	252nm,2.5s						
NRCA	**Norcia**	**0.68**	**335**	Pg	Pg	08 24 53.4	-0.3
NRCA				Sg	Sb	08 25 04.4	+0.1
	252nm,2.5s						

*CSEM **08** 08:25:22.4±0.1, 45°.77N×14°.20E, h12km, ML2.0/6, Error ellipse: s-maj=2.0km s-min=1.6km az=62.0*
*VIE **08** 08:25:23.6±0.8, 45°.83N×14°.32E, h10km±6km, ML1.5/1, Error ellipse: s-maj=4.9km s-min=2.2km az=56.0 30 km SE of Idrija*
LJU 08 08:25:21.9, 45°.77N×14°.22E, h16km, ML1.4, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEY	**Cerknica**	**0.15**	**103**	*i*Pg	Pg	08 25 26.2	+0.1
CEY				*i*Sg	Sb	08 25 29.3	-0.2
CEY							
	comp=Z,10.0nm,0.1s						
CEY	**Cerknica**	**0.15**	**103**	*i*Pg	Pg	08 25 26.2	+0.2
CEY				*i*Sg	Sb	08 25 29.3	-0.1
	comp=Z,10.0nm,0.1s						
JAVS	**Javornik**	**0.16**	**319**	*i*Pg	Pg	08 25 26.2	-0.1
JAVS				*i*Sg	Sg	08 25 29.1	-0.1
JAVS							
	comp=Z,70nm,0.1s						
JAVS	**Javornik**	**0.16**	**319**	*i*Pg	Pg	08 25 26.2	0.0
JAVS				*i*Sg	Sg	08 25 29.1	0.0
	comp=Z,70nm,0.1s						
SKDS	**Skadanscina**	**0.27**	**212**	⇓*i*Pg	Pg	08 25 27.6	-0.2
SKDS				*i*Sg	Sg	08 25 32.2	+0.4
SKDS							
	comp=Z,22nm,0.0s						
SKDS	**Skadanscina**	**0.27**	**212**	⇓*i*Pg	Pg	08 25 27.6	-0.2
SKDS				*i*Sg	Sg	08 25 32.2	+0.4
	comp=Z,22nm,0.0s						
KNDS	**Knezji Dol**	**0.27**	**155**	*i*Sg	Sb	08 25 32.6	-0.4
KNDS	**Knezji Dol**	**0.27**	**155**	*i*Sg	Sb	08 25 32.6	-0.4
CRNS	**Crni Vrh**	**0.31**	**6**	*i*Pg	Pg	08 25 28.7	+0.1
CRNS				*i*Sg	Sg	08 25 33.5	+0.4
CRNS							
	comp=Z,7.0nm,0.1s						
VOJS	**Vojsko**	**0.35**	**318**	*i*Pg	Pg	08 25 29.1	-0.1
VOJS				*i*Sg	Sg	08 25 34.5	+0.2
VOJS							
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.35**	**318**	*i*Pg	Pg	08 25 29.1	-0.2
VOJS				*i*Sg	Sg	08 25 34.5	+0.2
	comp=Z,4.0nm,0.1s						
VISS	**Visnje**	**0.44**	**86**	*i*Pg	Pb	08 25 31.1	-0.2
VISS				*i*Sg	Sg	08 25 37.2	+0.4
VISS	**Visnje**	**0.44**	**86**	*i*Pg	Pb	08 25 31.1	-0.2
VISS				*i*Sg	Sg	08 25 37.2	+0.4
VNDS	**Vrh nad Dolski**	**0.47**	**46**	*i*Pg	Pb	08 25 31.9	0.0
VNDS				*i*Sg	Sg	08 25 38.2	+0.3
VNDS							
	comp=Z,8.0nm,0.2s						
GBRS	**Gornja Briga**	**0.48**	**120**	*i*Pg	Pg	08 25 31.8	+0.2
MOZS	**Mozjanca**	**0.55**	**17**	*i*Pg	Pb	08 25 33.4	+0.2
MOZS	**Mozjanca**	**0.55**	**17**	*i*Pg	Pb	08 25 33.4	+0.2
PDKS	**Podkum**	**0.62**	**62**	*i*Pg	Pb	08 25 34.7	+0.3
PDKS				*e*Sg	Sb	08 25 43.0	+0.1
PDKS							
	comp=Z,7.0nm,0.1s						
PDKS	**Podkum**	**0.62**	**62**	*i*Pg	Pb	08 25 34.7	+0.3
PDKS				*e*Sg	Sb	08 25 43.0	+0.1
	comp=Z,6.0nm,0.1s						
OBKA	**Obir**	**0.77**	**17**	⇑*i*Pg	Pg	08 25 37.6	+0.4
OBKA				⇑*i*Sg	Sg	08 25 47.0	-0.5
	comp=Z,5.6nm,0.2s						
OBKA	**Obir**	**0.77**	**17**	Pg	Pg	08 25 37.6	+0.5
OBKA				Sg	Sg	08 25 47.0	-0.5
	comp=Z,5.6nm,0.2s						
NVLJ	**Novalja**	**1.29**	**159**	*e*Pg	Pg	08 25 47.2	+0.3
NVLJ				Sg	Sg	08 26 04.5	+0.8
NVLJ	**Novalja**	**1.29**	**159**	*e*Pg	Pg	08 25 47.1	+0.2
NVLJ	**Novalja**	**1.29**	**159**	Sg	Sg	08 26 04.5	+0.8

*CSEM **08** 08:25:56.8±0.7, 41°.37N×19°.87E, h2km, ML2.6, Error ellipse: s-maj=14.4km s-min=6.0km az=30.0*
*PDG **08** 08:25:56.9±0.3, 41°.39N×19°.88E, h5km±1km, ML2.6/8, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*
*BEO **08** 08:26:00.9±0.5, 41°.61N×20°.05E, h0km, ML2.2/8*
ISC 08 08:25:56.7±1.4, 41°.35N±0°.06×19°.89E±0°.03, h6km±10km, n46, σ1$31/78, 3C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRME	**Dracevica, Mon**	**0.98**	**328**	⇓*i*Pg	Pg	08 26 14.0	-1.6
DRME				*e*Sg	Sb	08 26 29.6	+0.2
DRME	**Dracevica, Mon**	**0.98**	**328**	⇓*i*Pg	Pg	08 26 14.0	-1.6
DRME				*e*Sg	Sb	08 26 29.6	+0.2
BIA	**Bitola**	**1.14**	**107**	*e*Pg	Pg	08 26 17.3	-1.2
BIA	**Bitola**	**1.14**	**107**	*e*Pg	Pg	08 26 17.2	-1.2
PDG	**Podgorica**	**1.17**	**337**	*e*Pg	Pg	08 26 18.6	-0.6
PDG				*e*Sg	Sg	08 26 32.9	-1.6
PDG	**Podgorica**	**1.17**	**337**	*e*Pg	Pg	08 26 18.6	-0.6
PDG				*e*Sg	Sb	08 26 35.1	+0.2
TTG	**Podgorica**	**1.17**	**337**	⇑*i*Pg	Pg	08 26 17.1	-2.1
TTG				*e*Sg	Sb	08 26 35.1	+0.2
BUM	**Brajici-Budva**	**1.20**	**322**	⇓*i*Pg	Pg	08 26 18.4	-1.4
BUM				*e*Sg	Sb	08 26 36.0	+0.2
BUM	**Brajici-Budva**	**1.20**	**322**	⇓*i*Pg	Pg	08 26 18.4	-1.4
BUM				*e*Sg	Sb	08 26 36.0	+0.2
PVY	**Plav**	**1.24**	**2**	⇓*i*Pg	Pg	08 26 19.0	-1.5
PVY				*e*Sg	Sn	08 26 38.0	+0.1
PVY	**Plav**	**1.24**	**2**	⇓*i*Pg	Pg	08 26 19.0	-1.5
PVY				*e*Sg	Sn	08 26 38.0	+0.1
SKO	**Skopje**	**1.32**	**62**	*i*Pg	Pg	08 26 21.0	-1.0
SKO				*e*Sg	Sg	08 26 38.5	-0.6
SKO	**Skopje**	**1.32**	**62**	*i*Pg	Pg	08 26 21.0	-1.0
SKO				*e*Sg	Sg	08 26 38.4	-0.6
HCY	**Herceg Novi**	**1.51**	**317**	⇓*i*Pg	Pg	08 26 24.5	+0.2
HCY				*e*Sg	Sg	08 26 47.5	+2.3
HCY	**Herceg Novi**	**1.51**	**317**	⇓*i*Pg	Pg	08 26 24.5	+0.2
HCY				*e*Sg	Sg	08 26 47.5	+2.3
BEY	**Berane**	**1.52**	**0**	⇓*i*Pg	Pn	08 26 23.8	-0.7
BEY				*e*Sg	Sg	08 26 47.6	+2.1
IVA	**Berane**	**1.52**	**0**	⇓*i*Pg	Pn	08 26 23.8	-0.7
IVA				*e*Sg	Sg	08 26 47.6	+2.1
NKME	**Niksic**	**1.57**	**334**	⇓*i*Pg	Pn	08 26 24.7	-0.6
NKME				*e*Sg	Sg	08 26 49.1	+1.8
NKME	**Niksic**	**1.57**	**334**	⇓*i*Pg	Pn	08 26 24.7	-0.6
NKME				*e*Sg	Sg	08 26 49.1	+1.8
NKY	**Niksic**	**1.60**	**336**	⇑*i*Pg	Pn	08 26 26.1	+0.4
NKY				*e*Sg	Sg	08 26 50.4	+2.2
NKY	**Niksic**	**1.60**	**336**	⇑*i*Pg	Pn	08 26 26.1	+0.4
NKY				*e*Sg	Sg	08 26 50.4	+2.2
BRY	**Bratogost**	**1.84**	**327**	⇓*i*Pn	Pb	08 26 30.5	-0.4
BRY				*e*Sn	Sg	08 26 56.3	+0.4
BRY	**Bratogost**	**1.84**	**327**	⇓*i*Pn	Pb	08 26 30.5	-0.4
SJES	**Sjenica**	**1.91**	**2**	*e*Pn	Pn	08 26 30.5	+0.6
SJES				*e*Sn	Sn	08 26 53.3	-1.0
SJES	**Sjenica**	**1.91**	**2**	*e*Pn	Pn	08 26 30.5	+0.6
VAY	**Valandovo**	**2.02**	**90**	⇓*i*Pn	Pb	08 26 33.6	-0.2
VAY				*e*Sn	Sb	08 26 59.1	-0.1
VAY	**Valandovo**	**2.02**	**90**	⇓*i*Pn	Pb	08 26 33.6	-0.2
VAY				*e*Sn	Sb	08 26 59.1	-0.1
SELS	**Selova**	**2.08**	**26**	*e*Pn	Pn	08 26 33.2	+1.1
SELS				*e*Sn	Sn	08 26 56.4	-2.0
STON	**Ston**	**2.22**	**314**	*e*Pn	Pg	08 26 38.6	-0.7
STON				*e*Sn	Sb	08 27 05.6	+0.5
STON	**Ston**	**2.22**	**314**	*e*Pn	Pg	08 26 38.6	-0.7
STON	**Ston**	**2.22**	**314**	*e*Sn	Sb	08 27 05.6	+0.5
IVAS	**Ivanjica**	**2.23**	**5**	*e*Pn	Pn	08 26 35.0	+0.7
IVAS	**Ivanjica**	**2.23**	**5**	*e*Pn	Pn	08 26 35.0	+0.7
GRUS	**Gruza**	**2.61**	**13**	*e*Pn	Pn	08 26 41.3	+1.9
GRUS				*e*Sn	Sn	08 27 09.4	-2.0
GRUS	**Gruza**	**2.61**	**13**	*e*Pn	Pn	08 26 41.3	+1.9
GRUS	**Gruza**	**2.61**	**13**	*e*Sn	Sn	08 27 09.4	-2.0
DIVS	**Divibare**	**2.74**	**2**	*e*Pn	Pn	08 26 43.5	+2.1
DIVS				*e*Sn	Sn	08 27 13.8	-1.1
DIVS	**Divibare**	**2.74**	**2**	*e*Pn	Pn	08 26 43.5	+2.1
DIVS				*e*Sn	Sn	08 27 13.8	-1.1
VTS	**Vitosha**	**2.77**	**62**	*e*Pn	Pn	08 26 44.4	+2.6
VTS				*e*Sn	Sn	08 27 15.2	-0.4
VTS	**Vitosha**	**2.77**	**62**	*e*Pn	Pn	08 26 44.4	+2.6
VTS				*e*Sn	Sn	08 27 15.2	-0.4
ZAPS	**Zavoj**	**2.80**	**46**	*e*Pn	Pn	08 26 43.9	+1.8
ZAPS				*e*Sn	Sn	08 27 15.6	-0.6
ZAPS	**Zavoj**	**2.80**	**46**	*e*Pn	Pn	08 26 43.9	+1.8
ZAPS				*e*Sn	Sn	08 27 15.6	-0.6
TRUS	**Trudelj**	**2.89**	**7**	*e*Pn	Pn	08 26 44.6	+1.3
TRUS	**Trudelj**	**2.89**	**7**	*e*Pn	Pn	08 26 44.6	+1.3
TEKS	**Tekeris**	**3.21**	**355**	*e*Pn	Pn	08 26 48.5	+0.9
TEKS	**Tekeris**	**3.21**	**355**	*e*Pn	Pn	08 26 48.5	+0.9

IDC 08 08:46:45.9±1.8, 5°.65S×147°.50E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=110.3km s-min=29.2km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.12**	**221**	P	P	08 51 10.7	0.0
	0.2nm,0.3s,baz=41,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**22.18**	**215**	P	P	08 51 43.9	0.0
	0.4nm,0.4s,baz=50,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**26.67**	**191**	P	P	08 52 26.6	0.0
	1.2nm,0.7s,baz=24,slow=12,SNR=3.2						
ILAR	**Eielson Array**	**84.97**	**23**	P	P	08 59 22.8	0.0
	0.1nm,0.5s,baz=258,slow=6.4,SNR=4.2						

*ISCJB **08** 08:50:39.9±0.2, 16°.80N±0°.03×94°.10W±0°.02, h156km±2km, mb4.4/82, Error ellipse: s-maj=4.6km s-min=2.6km az=29.7*
*MEX **08** 08:50:40.9±1.2, 16°.87N×94°.11W, h147km±10km, MD4.6*
*NEIC **08** 08:50:40.9, 16°.87N×94°.11W, h147km, mb4.6/78, MD4.6(MEX), After MEX.*
NEIC Felt at Tuxtla Gutierrez.
*IDC **08** 08:50:41.1±0.7, 17°.01N×93°.85W, h145km±5km, mb3.9/17, mb1 4.1/21, mb1mx4.0/29, mbtmp4.4/21, MS3.0/3, Ms1 3.0/3, ms1mx2.7/32, Error ellipse: s-maj=15.3km s-min=7.8km az=47.0*
ISC 08 08:50:40.5±0.5, 16°.91N±0°.04×94°.11W±0°.03, h146km±4km, n522, σ1$37/559, mb4.5/82, 127C-136D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.77**	**284**	*i*P	Pn	**08 51 02.6**	**-0.4**
CMIG				*i*S	Sn	**08 51 18.5**	**-1.7**
CMIG	**Matias Romero**	**0.77**	**284**	*i*P	Pn	**08 51 02.6**	**-0.4**
CMIG				*i*S	Sn	**08 51 18.5**	**-1.7**
SCX	**San Cristobal**	**1.42**	**97**	*e*P	Pn	08 51 13.0	+4.1
SCX				*i*S	Sn	**08 51 34.7**	**+4.1**
SCX	**San Cristobal**	**1.42**	**97**	*e*P	Pn	08 51 13.0	+4.1
SCX				*i*S	Sn	**08 51 34.7**	**+4.1**
PCIG		**1.47**	**144**	*i*P	Pn	**08 51 11.0**	**+1.5**
PCIG				*i*S	Sn	**08 51 32.9**	**+1.4**
PCIG		**1.47**	**144**	*i*P	Pn	**08 51 11.0**	**+1.5**
PCIG				*i*S	Sn	**08 51 32.9**	**+1.4**
HUIG	**Huatulco**	**2.23**	**240**	*e*P	Pn	**08 51 16.1**	**-2.1**
HUIG				*i*S	Sn	**08 51 45.7**	**-1.4**
HUIG	**Huatulco**	**2.23**	**240**	*e*P	Pn	**08 51 16.1**	**-2.1**
HUIG				*i*S	Sn	**08 51 45.7**	**-1.4**
OXX	**Oaxaca**	**2.51**	**274**	*e*P	Pn	08 51 25.8	+4.0
OXX				*e*S	Sn	**08 51 55.5**	**+2.0**
OXX	**Oaxaca**	**2.51**	**274**	*e*P	Pn	08 51 25.8	+4.0
OXX				*e*S	Sn	**08 51 55.5**	**+2.0**
VHO	**Vista Hermosa**	**2.52**	**274**	*e*P	Pn	**08 51 22.0**	**+0.1**
VHO				*i*S	Sn	**08 51 52.8**	**-0.9**
VHO	**Vista Hermosa**	**2.52**	**274**	*e*P	Pn	**08 51 22.0**	**+0.1**
VHO				*i*S	Sn	**08 51 52.8**	**-0.9**
PANG	**Puerto Angel**	**2.58**	**242**	*e*P	Pn	**08 51 20.0**	**-2.5**
PANG				*e*S	Sn	**08 51 53.3**	**-1.6**
THIG		**2.66**	**138**	*i*P	Pn	**08 51 23.2**	**-0.3**
THIG				*i*S	Sn	**08 51 54.5**	**-2.1**
THIG		**2.66**	**138**	*i*P	Pn	**08 51 23.2**	**-0.3**
THIG				*i*S	Sn	**08 51 54.5**	**-2.1**
SCIG	**Sabancuy**	**3.46**	**53**	*e*P	Pn	**08 51 33.0**	**-0.6**
SCIG				*i*S	Sn	**08 52 14.0**	**-0.7**
SCIG	**Sabancuy**	**3.46**	**53**	*e*P	Pn	**08 51 33.0**	**-0.6**
SCIG				*i*S	Sn	**08 52 14.0**	**-0.7**
LVIG	**Laguna Verde**	**3.56**	**322**	*e*P	Pn	**08 51 33.1**	**-1.9**
LVIG	**Laguna Verde**	**3.56**	**322**	*e*P	Pn	**08 51 33.1**	**-1.9**
PNIG	**Pinotepa**	**3.89**	**263**	*e*P	Pn	**08 51 37.2**	**-2.0**
PNIG				*i*S	Sn	**08 52 23.1**	**-1.7**
PNIG	**Pinotepa**	**3.89**	**263**	*e*P	Sn	**08 51 37.2**	**-2.0**
PNIG				*i*S	Sn	**08 52 23.1**	**-1.7**
APG	**El Apazote**	**3.98**	**118**	P	Pn	**08 51 37.8**	**-2.9**
APG				S	Sn	**08 52 23.3**	**-4.1**
APG	**El Apazote**	**3.98**	**118**	P	Pn	**08 51 37.8**	**-2.9**
	30nm,0.3s,baz=319,slow=11,SNR=411						
APG				S	Sn	**08 52 23.3**	**-4.1**
	147nm,0.3s,baz=60,slow=20,SNR=16						
APG				LR	LR	08 53 04.6	
	comp=Z,216nm,19.9s,baz=251,slow=38						
TLIG	**Tlapa**	**4.31**	**279**	*e*P	Pn	**08 51 44.9**	**-0.1**
TLIG				*i*S	Sn	**08 52 33.5**	**+1.5**
PHPU	**Puebla**	**4.41**	**299**	*e*P	Pn	**08 51 47.4**	**+1.0**
MRL	**Marmol**	**4.62**	**113**	*e*P	Pn	**08 51 49.3**	**+0.2**
PPM	**Popocatepetl**	**4.81**	**297**	*e*P	Pn	08 51 56.1	+4.3
PPM				*e*S	Sn	**08 52 46.6**	**-0.7**
PPM	**Popocatepetl**	**4.81**	**297**	*e*P	Pn	08 51 56.1	+4.3
PPM				*e*S	Sn	**08 52 46.6**	**-0.7**
AMVM	**AMECAMECA**	**4.97**	**297**	*e*P	Pn	**08 51 55.8**	**+1.9**
RBDL	**Robledal**	**5.08**	**122**	*e*P	Pn	**08 51 55.9**	**+0.7**
YAIG	**Yautepec**	**5.11**	**293**	*e*P	Pn	**08 51 55.9**	**+0.4**
YAIG				*i*S	Sn	**08 52 53.0**	**-0.9**
YAIG	**Yautepec**	**5.11**	**293**	*e*P	Pn	**08 51 55.9**	**+0.4**
YAIG				*i*S	Sn	**08 52 53.0**	**-0.9**
IIO	**Organos**	**5.14**	**302**	*e*P	Pn	**08 51 57.1**	**+1.1**
RTR	**El Retiro**	**5.24**	**124**	*e*P	Pn	**08 51 58.4**	**+1.1**
VTVM	**Tizayuca**	**5.27**	**303**	*e*P	Pn	**08 51 59.2**	**+1.4**
SNJE	**San Jose**	**5.29**	**124**	*e*P	Pn	**08 51 58.7**	**+0.8**
PLIG	**Platanillo**	**5.35**	**287**	*e*P	Pn	**08 51 59.3**	**+0.6**
PLIG				*i*S	Sn	**08 52 57.8**	**-1.8**
PLIG	**Platanillo**	**5.35**	**287**	*e*P	Pn	**08 51 59.3**	**+0.6**
PLIG				*i*S	Sn	**08 52 57.8**	**-1.8**
PBIG	**Penon de los B**	**5.36**	**299**	*e*P	Pn	**08 51 59.2**	**+0.5**
MZVM		**5.38**	**296**	*e*P	Pn	**08 52 00.7**	**+1.8**
MZVM				*e*S	Sn	**08 52 58.3**	**-1.7**
UNM	**Universidad Na**	**5.39**	**297**	*e*P	Pn	**08 51 59.4**	**0.0**
UNM				*i*S	Sn	**08 52 59.8**	**-1.0**
UNM	**Universidad Na**	**5.39**	**297**	*e*P	Pn	**08 51 59.4**	**0.0**
PTVM	**Pico Tres Padr**	**5.46**	**300**	*e*P	Pn	**08 52 00.7**	**+0.5**
ACX	**Acapulco**	**5.51**	**270**	*e*P	Pn	**08 52 02.4**	**+1.7**
MAVM	**Malinalco, Edo**	**5.52**	**293**	*e*P	Pn	**08 52 02.1**	**+1.1**
MAVM				*e*S	Sn	**08 53 01.1**	**-2.7**
ZUVM	**ZUMPANGO**	**5.54**	**302**	*e*P	Pn	**08 52 02.8**	**+1.4**
AZVM	**Cuida Lopez Ma**	**5.59**	**299**	*e*P	Pn	**08 52 03.3**	**+1.2**
BOQS	**Boqueron**	**5.62**	**123**	*e*P	Pn	**08 52 04.4**	**+2.0**
BOQS				*e*S	Sn	08 52 43.6	-23

631A	Perdido Creek baz=14,SNR=9.2	13.79	336	⇑P	P	08 53 53.2 -0.5
533A	Kerrville baz=14,SNR=23	13.86	342	⇑P	P	08 53 54.2 -0.2
532A	Rocksprings baz=14,SNR=40	14.19	339	⇓P	P	08 53 59.5 +1.4
434A	Burnet baz=14,SNR=33	14.36	345	⇓P	P	08 54 01.0 +1.1
531A	Rocksprings baz=14,SNR=10	14.45	337	⇑P	P	08 54 02.4 +1.4
JCT	Junction City 22nm,0.5s	14.48	340	ℯPn	P	08 54 01.4 +0.1
JCT	Junction City baz=15	14.48	340	⇓P	P	08 54 02.3 +1.0
433A	Art baz=15,SNR=52	14.52	343	⇓P	P	08 54 03.1 +1.4
335A	Moody baz=15,SNR=12	14.63	349	⇓P	P	08 54 04.3 +1.4
530A	J-C Ranch, Com baz=15	14.75	335	⇑P	P	08 54 06.0 +1.7
NATX	Nacogdoches	14.80	358	ℯPn	Pn	08 54 02.3 -0.4
432A	Menard baz=15	14.84	341	⇓P	P	08 54 06.4 +1.0
334A	Lometa baz=15,SNR=30	14.85	346	⇓P	P	08 54 06.9 +1.6
628A	Black Gap, Mar baz=15	14.89	329	⇑P	P	08 54 06.0 +0.1
431A	Sonora baz=15,SNR=11	14.94	338	⇑P	P	08 54 08.9 +2.4
333A	Richland Sprin baz=15,SNR=19	15.03	344	⇓P	P	08 54 08.9 +1.6
529A	Stev Forest Ra baz=15,SNR=5.8	15.11	332	⇓P	P	08 54 08.3 0.0
627A	Terlingua Ranc baz=15	15.12	327	⇓P	P	08 54 09.1 +0.6
TXAR	Lajitas Array	15.17	326	P	P	08 54 08.3 -0.7
TXAR	Lajitas Array 0.1nm,0.3s,baz=149,slow=13,SNR=8.6	15.17	326	P	P	08 54 08.3 -0.7
430A	Baggett Ranch, baz=15	15.27	336	⇑P	P	08 54 10.9 +0.8
332A	Millersview baz=15	15.30	341	⇑P	P	08 54 10.9 +0.5
WHTX	Lake Whitney	15.32	349	ℯP	P	08 54 15.1 +4.4
WHTX	Lake Whitney baz=15,SNR=7.0	15.32	349	⇑P	P	08 54 12.0 +1.3
429A	Davenport Ranc baz=16,SNR=7.4	15.40	334	⇓P	P	08 54 11.7 +0.2
331A	San Angelo baz=16	15.45	339	⇑P	P	08 54 13.5 +1.4
234A	Clairette baz=16,SNR=42	15.47	347	⇓P	P	08 54 11.8 -0.5
626A	Big Bend Ranch baz=16,SNR=8.1	15.59	326	⇓P	P	08 54 14.1 +0.4
233A	Rising Star baz=16,SNR=6.2	15.66	345	⇑P	P	08 54 15.5 +1.1
232A	Coleman baz=16,SNR=8.7	15.74	342	⇓P	P	08 54 16.0 +0.7
527A	Woodward Ranch baz=16	15.79	328	⇓P	P	08 54 17.2 +1.3
330A	Mertzon baz=16,SNR=7.2	15.80	337	⇑P	P	08 54 17.5 +1.5
428A	Kincaid Ranch, baz=16	15.83	332	⇑P	P	08 54 17.5 +1.2
MTDJ	Mount Denham 63nm,0.9s	15.86	83	ℯP	Pn	08 54 14.9 -1.0
526A	Mary Lane Ranc baz=16	15.97	327	⇑P	P	08 54 19.1 +1.2
231A	Bronte baz=16	15.99	340	⇑P	P	08 54 19.0 +1.0
134A	White-Moore Ra baz=16,SNR=16	16.01	348	⇓P	P	08 54 18.6 +0.4
329A	Wagon Wheel Ra baz=16	16.19	335	⇑P	P	08 54 20.7 +0.4
230A	Sterling City baz=16,SNR=5.3	16.21	338	⇓P	P	08 54 21.8 +1.2
133A	Hamilton Ranch baz=16	16.23	345	⇑P	P	08 54 21.3 +0.6
427A	Hayter Ranch, baz=16	16.26	330	⇓P	P	08 54 22.2 +1.0
426A	McDonald Obser baz=16,SNR=7.8	16.42	328	⇑P	P	08 54 25.3 +2.3
ABTX	Abilene, Hawle 33nm,0.5s	16.43	343	ℯP	P	08 54 24.0 +1.1
ABTX	Abilene, Hawle baz=16,SNR=11	16.43	343	⇓P	P	08 54 24.0 +1.1
328A	Wristen Ranch, baz=16,SNR=7.3	16.44	333	⇑P	P	08 54 24.7 +1.7
229A	Bryant Ranch, baz=17	16.54	336	⇓P	Pn	08 54 26.8 +2.6
Z35A	Perchaven, San baz=17,SNR=9.5	16.60	351	⇑P	Pn	08 54 26.3 +1.5
131A	Roby baz=17	16.70	341	⇑P	Pn	08 54 28.0 +2.0
Z34A	Collier Ranch, baz=17	16.75	349	⇓P	Pn	08 54 27.5 +0.8
LPIG	La Paz comp=Z,64nm,18.3s,baz=122,slow=37	16.77	298	LR	LR	09 01 03.0
130A	Snyder baz=17	16.81	340	⇑P	Pn	08 54 29.0 +1.6
Z33A	Whitaker Ranch baz=17	16.84	346	⇑P	Pn	08 54 28.9 +1.1
326A	Caldwell Ranch baz=17	16.93	330	⇓P	Pn	08 54 30.1 +1.3
228A	UT Block 9, Go baz=17	16.99	335	⇑P	Pn	08 54 31.4 +1.8
425A	Indio Mountain baz=17,SNR=9.1	17.01	326	⇑P	Pn	08 54 30.9 +0.9
Z32A	Haskell baz=17	17.03	344	⇑P	Pn	08 54 30.3 +0.3
129A	Stewart Farms, baz=17,SNR=6.2	17.16	337	⇑P	Pn	08 54 32.1 +0.5
227A	Bennet, Jal baz=17	17.19	333	⇑P	Pn	08 54 33.9 +1.8
Z31A	Sharp Cattle R baz=17,SNR=11	17.23	343	⇑P	P	08 54 32.0 +0.4
LRAL	Lakeview Retre 114nm,1.9s	17.30	20	ℯP	P	08 54 32.1 -0.2
Y34A	Reagan Ranch, baz=17,SNR=27	17.30	350	⇓P	P	08 54 32.3 -0.1
TIGA	Tifton baz=17	17.34	32	⇑P	P	08 54 32.1 -0.8
128A	Castleberry Fa baz=18	17.39	336	⇓P	P	08 54 33.9 +0.5
325A	Bean Ranch, Si baz=18	17.47	328	⇓P	Pn	08 54 35.5 +0.1
Z30A	Sanderson Ranc baz=18,SNR=12	17.50	340	⇑P	P	08 54 34.4 -0.2
MIAR	Mount Ida 24nm,0.8s	17.57	1	ℯP	P	08 54 35.2 -0.2
226B	Tecolote Peak, baz=18	17.64	331	⇓P	Pn	08 54 37.7 +0.2
Z29A	Hungry Hill Ra baz=18,SNR=8.1	17.67	339	⇑P	P	08 54 37.1 +0.6
Y32A	R-V Farms, Ver baz=18	17.69	345	⇑P	P	08 54 36.7 0.0
324A	Moseley Ranch, baz=18,SNR=10.0	17.79	327	⇑P	Pn	08 54 39.0 -0.3
127A	Arkansas Junct baz=18	17.79	334	⇑P	Pn	08 54 39.0 -0.2
GDL2	Guadalupe Moun	17.84	330	ℯP	Pn	08 54 40.2 +0.3
Y31A	Rekieta Farm, baz=18,SNR=6.1	17.86	343	⇓P	Pn	08 54 39.4 -0.6
UALR	University of 22nm,0.9s	17.87	5	ℯP	P	08 54 39.0 +0.4
X34A	Smith Ranch, M baz=18	17.94	350	⇓P	P	08 54 39.8 +0.4
MNTX	Cornudas Mount 3.7nm,0.8s	17.94	327	ℯP	Pn	08 54 40.3 -0.5
Z28A	Tucker Farm, M baz=18,SNR=7.2	17.94	337	⇓P	P	08 54 40.2 +0.6
225A	Deer Hill, Car baz=18,SNR=5.9	17.99	329	⇓P	P	08 54 40.4 +0.2
X33A	Lawton baz=18	18.00	348	⇓P	P	08 54 40.7 +0.6
X32A	Elmer baz=18,SNR=5.8	18.05	346	⇑P	P	08 54 41.2 +0.6
126A	Clayton Basin, baz=18,SNR=6.5	18.05	332	⇑P	P	08 54 40.1 -0.7
Y29A	Porterfield Fa baz=18	18.20	339	⇓P	P	08 54 42.9 +0.5
WMOK	Wichita Mounta 17nm,0.7s	18.25	348	ℯP	Pn	08 54 47.4 +2.9
GTBY	Guantanamo Bay 118nm,0.7s	18.27	78	ℯP	P	08 54 43.5 +0.3
Z27A	Tatum baz=18,SNR=15	18.29	335	⇓P	P	08 54 43.6 +0.2
224A	Cornudas Mount baz=18,SNR=10	18.31	328	⇑P	P	08 54 43.7 +0.1
X31A	McDonald Ranch baz=18	18.42	345	⇑P	P	08 54 44.6 -0.1
Y28A	McKinney Farm, baz=18,SNR=12	18.45	338	⇑P	P	08 54 45.0 -0.1
X30A	Coker Ranch, T baz=19	18.49	342	⇓P	P	08 54 45.9 +0.4
W34A	Bridge Creek, baz=19	18.55	351	⇓P	P	08 54 46.0 -0.1
Z26A	Caprock baz=19	18.57	333	⇑P	P	08 54 47.4 +0.9
W33A	Caddo, Fort Co baz=19	18.59	349	⇑P	P	08 54 46.2 -0.3
MSTX	Muleshoe baz=19	18.69	337	⇓P	P	08 54 48.1 +0.3
W32A	Sentinel baz=19	18.72	347	⇑P	P	08 54 47.8 -0.1
X29A	Tulia baz=19	18.75	340	⇑P	P	08 54 48.9 +0.6
Y27A	Causey baz=19	18.77	336	⇑P	P	08 54 48.8 +0.3
Z25A	Roswell baz=19,SNR=6.1	18.90	332	⇓P	P	08 54 50.9 +0.9
W31A	Holland Ranch, baz=19	18.94	345	⇓P	P	08 54 50.8 +0.5
X28A	Dimmitt baz=19	18.98	339	⇓P	P	08 54 51.0 +0.1
TUL1	Tulsa baz=19	18.99	356	⇑P	P	08 54 50.6 -0.2
GOGA	Godfrey 46nm,0.9s	19.03	28	ℯP	P	08 54 50.3 -1.0
Y26A	Elida baz=19	19.06	335	⇓P	P	08 54 52.3 +0.4
V34A	Guthrie baz=19,SNR=9.7	19.10	352	P	P	08 54 51.6 -0.4
123A	Bell Site, Whi baz=19	19.13	327	⇑P	Pn	08 54 54.0 -1.0
AMTX	Amarillo 40nm,1.2s	19.14	341	ℯP	P	08 54 53.0 +0.3
AMTX	Amarillo baz=19	19.14	341	⇑P	P	08 54 52.9 +0.3
222A	Williams Famil baz=19	19.18	324	⇓P	Pn	08 54 55.1 -0.4
V33A	Lossen Ranch, baz=19,SNR=6.0	19.20	350	⇓P	P	08 54 52.8 -0.4
Z24A	Sheppard Canyo baz=19,SNR=20	19.25	330	⇑P	Pn	08 54 55.6 -0.8
V32A	Arapaho baz=19	19.25	348	⇓P	P	08 54 54.3 +0.6
W29A	Amraillo baz=20	19.35	341	⇓P	P	08 54 55.5 +0.6
X27A	F and S Farms, baz=20	19.42	337	⇑P	P	08 54 55.7 0.0
Y25A	Mesa, Roswell baz=20,SNR=14	19.43	333	⇑P	P	08 54 56.6 +0.8
320A	Kipp Ranch, An baz=20,SNR=11	19.45	320	⇑P	Pn	08 54 57.7 -1.1
V31A	Spring Creek L baz=20	19.47	346	⇓P	P	08 54 56.9 +0.8
221A	Mesquite Ranch baz=20,SNR=5.5	19.49	323	⇑P	Pn	08 54 58.7 -0.5
X26A	CR and CF Fran baz=20	19.61	336	⇑P	P	08 54 58.6 +0.9
Z23A	Rita Site, Whi baz=20,SNR=14	19.61	328	⇑P	P	08 54 58.9 +1.1
SWET	Sewanee 11nm,0.7s	19.64	20	ℯP	P	08 54 57.0 -1.0
W28A	Vega baz=20	19.66	340	⇑P	P	08 54 58.7 +0.5
U34A	Anderson Ranch baz=20	19.69	352	⇓P	P	08 54 58.9 +0.5
W27A	Bowe Ranch, En baz=20,SNR=5.2	19.78	338	⇓P	P	08 55 00.3 +0.8
121A	Cooks Peak, D 31nm,0.7s	19.88	324	ℯP	Pn	08 55 02.7 -1.2
121A	Cookes Peak, D baz=20,SNR=25	19.88	324	P	Pn	08 55 03.1 -0.7
U32A	Winter Ranch, baz=20	19.88	348	⇓P	P	08 55 01.3 +0.8
319A	Douglas baz=20,SNR=20	19.95	319	P	Pn	08 55 03.8 -0.8
Z22A	Elephant Butte baz=20,SNR=14	19.98	327	⇑P	P	08 55 03.2 +1.4
U31A	Nine Bar Ranch baz=20	20.05	346	⇑P	P	08 55 03.6 +1.2
W26A	Owens Ranch, T baz=20	20.06	336	⇓P	P	08 55 03.6 +1.1
PBMO	Poplar Bluff 22nm,0.8s	20.06	9	ℯP	P	08 55 01.7 -0.7
Y23A	Lovelace Mesa, baz=20,SNR=13	20.07	330	P	Pn	08 55 04.7 -1.4
V28A	Channing baz=20	20.11	340	⇑P	P	08 55 04.4 +1.2
V27A	Dan Oppiter Fa baz=20	20.32	339	⇓P	Pn	08 55 07.4 -1.6
T33A	Patterson Ranc baz=20	20.43	350	⇓P	P	08 55 08.2 +1.8
W25A	X Bar L Ranch, baz=20,SNR=6.4	20.45	335	⇑P	Pn	08 55 09.4 -1.1
NHSC	New Hope 56nm,0.8s	20.45	35	ℯP	Pn	08 55 09.0 -1.3
BNM	Barren Site 14nm,0.9s	20.52	329	ℯP	P	08 55 09.6 +1.9
LPM	Los Pinos Moun	20.66	329	ℯP	Pn	08 55 11.2 -1.9
X23A	Hourglass Bar baz=21	20.66	331	⇓P	P	08 55 10.9 +1.7
U28A	Mallet baz=21,SNR=5.8	20.69	341	⇑P	Pn	08 55 11.6 -1.8
V26A	Tequesquite Ra baz=21,SNR=9.0	20.69	337	⇑P	Pn	08 55 12.8 -0.6
LENM	Lemitar	20.71	329	ℯP	Pn	08 55 11.9 -1.8
T31A	Randall Ranch, baz=21	20.71	347	⇓P	P	08 55 11.3 +1.9
JSC	Jenkinsville	20.79	31	ℯP	P	08 55 02.5 -7.7
TKL	Tuckaleechee C	20.82	24	ℯP	P	08 55 09.0 -1.6
TKL	Tuckaleechee C 3.4nm,0.7s,baz=178,slow=8.6,SNR=8.1	20.82	24	P	P	08 55 09.0 -1.6
W24A	Lazy 6 Ranch, baz=21	20.84	333	⇑P	P	08 55 13.1 +2.1
U27A	Thompson Grove baz=21	20.92	340	⇓P	P	08 55 13.0 +1.2
LAZ	Ladron 6.6nm,0.8s	20.98	329	ℯP	P	08 55 14.4 +1.9
V25A	Rancho No Teng baz=21,SNR=9.9	21.05	336	P	P	08 55 15.6 +2.3
ANMO	Albuquerque 12nm,0.7s	21.09	331	ℯP	P	08 55 14.8 +1.1
ANMO	Albuquerque 2.6nm,0.6s,baz=147,slow=12,SNR=15	21.09	331	P	P	08 55 14.2 +0.6
W23A	Werner Place, baz=21	21.12	332	⇓P	P	08 55 15.8 +1.8
S32A	Newby Ranch, P baz=21	21.15	349	⇑P	P	08 55 15.1 +1.0
T29A	Hugoton baz=21	21.15	344	⇓P	P	08 55 15.6 +1.4
U26A	Atchley Ranch, baz=21,SNR=11	21.21	338	P	P	08 55 16.6 +1.6
V24A	Rampart Ranch, baz=21,SNR=12	21.22	334	⇓P	P	08 55 17.3 +2.2
T28A	Walsh baz=22	21.34	342	⇓P	P	08 55 17.3 +1.1
KMSC	Kings Mountain 20nm,1.0s	21.45	30	ℯP	P	08 55 15.1 -2.2
KMSC	Kings Mountain baz=22	21.45	30	⇓P	P	08 55 16.1 -1.2
U25A	Circle Dot Ran baz=22,SNR=9.7	21.46	337	P	P	08 55 19.5 +1.9
T27A	Campo baz=22	21.47	341	⇑P	P	08 55 18.7 +0.9
TUC	Tucson 14nm,0.9s	21.52	319	ℯP	P	08 55 19.9 +1.6
S29A	Ulysses baz=22	21.54	345	⇑P	P	08 55 19.6 +1.3
R33A	Olander Ranch, baz=22	21.59	352	⇓P	P	08 55 19.8 +1.0
V23A	Ortiz Mt. (NFS baz=22,SNR=9.0	21.62	332	⇓P	P	08 55 21.2 +1.8
S28A	Manter baz=22	21.72	343	⇓P	P	08 55 21.4 +1.1
SDDR	Presa de Saban 8.8nm,0.6s	21.81	81	ℯP	P	08 55 20.0 -1.3
U24A	Moreno Valley baz=22	21.81	335	⇓P	P	08 55 23.3 +1.9
R32A	Long Quarter, baz=22	21.81	350	⇓P	P	08 55 21.8 +0.7
R31A	Burdett baz=22,SNR=6.2	21.83	348	P	P	08 55 21.8 +0.5
T26A	Comanche Natio baz=22	21.86	339	⇓P	P	08 55 23.7 +1.8
R30A	Dighton baz=22,SNR=7.3	21.98	347	P	P	08 55 23.6 +0.7
V22A	San Miguel Ran baz=22,SNR=8.4	22.09	331	P	P	08 55 25.6 +1.3
S27A	Las Animas baz=22	22.10	341	⇑P	P	08 55 25.8 +1.6
T25A	Trinidad baz=22	22.12	338	⇑P	P	08 55 25.8 +1.4
U23A	El Rito baz=22,SNR=7.8	22.12	333	⇑P	P	08 55 25.6 +1.0
S26A	Kim baz=22	22.23	340	⇓P	P	08 55 26.5 +1.0
R29A	Marienthal baz=22	22.31	345	⇑P	P	08 55 26.2 0.0
WCI	Wyandotte Cave 42nm,0.8s	22.32	16	ℯP	P	08 55 23.8 -2.5
Q32A	Meitler Ranch, baz=22	22.35	351	⇓P	P	08 55 26.0 -0.5
R28A	Tribune baz=22	22.40	344	⇓P	P	08 55 28.5 +1.4
T24B	San Luis baz=22	22.42	336	⇓P	P	08 55 29.0 +1.5
U22A	Llaves baz=22	22.45	332	⇑P	P	08 55 28.9 +1.1
Q31A	Ellis baz=23	22.50	349	⇓P	P	08 55 28.1 +0.1
X18A	Snowflake baz=23,SNR=19	22.57	324	⇓P	P	08 55 30.2 +1.3
S25A	Robets Cordova baz=23,SNR=6.9	22.59	338	⇓P	P	08 55 30.0 +1.0
R27A	Eads baz=23	22.63	342	⇑P	P	08 55 29.4 +0.2
214A	Organ Pipe Nat 8.6nm,1.0s	22.63	315	ℯP	P	08 55 30.8 +1.5
214A	Organ Pipe Nat baz=23,SNR=5.6	22.63	315	⇑P	P	08 55 31.3 +2.0
Q30A	Quinter baz=23	22.63	348	⇑P	P	08 55 30.1 +0.8
OTAV	Otavalo 45nm,1.8s	22.63	135	ℯP	P	08 55 33.2 +3.3
T23A	Casias Ranch, baz=23,SNR=6.5	22.66	335	⇑P	P	08 55 30.7 +0.9
Q29A	Oakley baz=23,SNR=6.7	22.71	346	⇑P	P	08 55 29.6 -0.5
R26A	Arlington baz=23	22.84	341	⇓P	P	08 55 32.4 +1.1
S24A	Houchin Ranch, baz=23	22.86	337	⇑P	P	08 55 33.0 +1.3
W18A	Petrified Fore 13nm,0.9s	22.89	325	ℯP	P	08 55 34.4 +2.5
W18A	Petrified Fore baz=23	22.89	325	⇑P	P	08 55 33.4 +1.6
P32A	Huiting Farm, baz=23	22.97	351	⇓P	P	08 55 32.8 +0.4
R25A	Fountain Ranch baz=23,SNR=6.4	22.97	339	⇓P	P	08 55 33.6 +1.0
P31A	Stockton baz=23	23.00	350	⇓P	P	08 55 33.1 +0.4
SDCO	Great Sand Dun 15nm,1.5s	23.06	336	ℯP	P	08 55 35.3 +1.8
Q28A	Sharon Springs baz=23	23.09	345	⇓P	P	08 55 34.0 +0.5
BLO	Bloomington 31nm,1.1s	23.15	15	ℯP	P	08 55 32.8 -1.2
P30A	Selden baz=23,SNR=7.3	23.18	348	⇑P	P	08 55 34.2 -0.1
S23A	Nye Farm, Mont baz=23	23.22	336	⇓P	P	08 55 36.3 +1.3
KSCO	Kaye Shedlock' 4.2nm,0.5s	23.25	343	ℯP	P	08 55 35.4 +0.3
R24A	Sanders Place, baz=23,SNR=7.4	23.34	338	⇑P	P	08 55 36.8 +0.8
X16A	Lo Mia Camp, P baz=23,SNR=24	23.35	322	⇑P	P	08 55 38.1 +1.9
Q26A	Hugo baz=24	23.43	341	⇓P	P	08 55 37.6 +0.8
P28A	Saint Francis baz=24	23.55	345	⇓P	P	08 55 39.1 +1.3
O32A	Brockman Farm, baz=24	23.55	352	⇑P	P	08 55 38.3 +0.6
R23A	Moffat baz=24,SNR=5.6	23.57	336	⇓P	P	08 55 39.6 +1.4
Z14A	Wintersburg baz=24	23.59	318	⇓P	P	08 55 41.0 +2.9
S22A	4UR Ranch, Cre baz=24	23.59	334	⇓P	P	08 55 40.0 +1.6
O31A	Woolen Ranch, baz=24	23.60	350	⇓P	P	08 55 38.3 +0.2
Q25A	Bedland, Calha baz=24	23.65	340	⇑P	P	08 55 40.5 +1.7
P27A	Ficken Ranch, baz=24	23.75	344	⇑P	P	08 55 40.7 +1.1
O30A	MW Ranch, Wils baz=24	23.76	349	⇑P	P	08 55 40.0 +0.3
113A	Mohawk Valley, baz=24	23.76	315	⇓P	P	08 55 42.2 +2.6
O29A	4D Ranch, Culb baz=24	23.86	347	⇑P	P	08 55 41.0 +0.5
MVCO	Mesa Verde 24nm,0.9s	23.89	331	ℯP	P	08 55 42.5 +1.6
MVCO	Mesa Verde baz=24,SNR=7.8	23.89	331	P	P	08 55 42.6 +1.6
Q24A	Divide baz=24	24.00	338	⇑P	P	08 55 43.4 +1.2
O28A	Krutsinger Ran baz=24	24.08	345	⇓P	P	08 55 43.5 +1.0
WUAZ	Wupatki 20nm,0.9s	24.09	324	ℯP	P	08 55 44.7 +2.0
WUAZ	Wupatki baz=24,SNR=11	24.09	324	P	P	08 55 44.8 +2.0
P25A	Willow Gulch B baz=24	24.17	341	⇓P	P	08 55 44.8 +1.3
SDV	Santo Domingo 4.8nm,0.7s	24.21	106	ℯP	P	08 55 43.1 -1.0
O27A	Beecher Island baz=24	24.31	344	⇓P	P	08 55 45.9 +1.2
N29A	Votaw Ranch, W baz=25	24.49	348	⇑P	P	08 55 47.4 +1.1
N28A	Pribbeno Ranch baz=25	24.56	346	⇓P	P	08 55 47.8 +0.9
P23A	Jefferson baz=25	24.61	338	⇑P	P	08 55 49.0 +1.2
GLA	Glamis baz=25	24.65	315	⇓P	P	08 55 49.9 +2.1
PV01	Paradox Valley 2µm,1.0s	24.67	332	ℯP	P	08 55 49.8 +1.7
SMCO	Snowmass 17nm,1.2s	24.87	336	ℯP	P	08 55 51.4 +1.2
N27A	Anderson Farm, baz=25	24.91	345	⇓P	P	08 55 51.2 +1.1
ISCO	Idaho Springs 6.3nm,1.0s	24.91	339	ℯP	P	08 55 51.5 +1.1
ISCO	Idaho Springs baz=25	24.91	339	⇑P	P	08 55 51.4 +1.0
OGNE	Ogallala 17nm,0.7s	24.92	346	ℯP	P	08 55 50.3 +0.1
OGNE	Ogallala baz=25	24.92	346	⇑P	P	08 55 51.0 +0.8
PDMCI	Parker Dam,Lak baz=25	24.95	318	⇑P	P	08 55 52.2 +1.8
PV04	Paradox Valley	25.03	332	ℯP	P	08 55 53.1 +1.7
PV10	Paradox Valley 416nm,0.9s	25.08	331	ℯP	P	08 55 53.9 +2.0
P22A	Eagle baz=25	25.15	337	⇓P	P	08 55 54.0 +1.5
SWSC	Sam W. Stewart baz=25	25.25	313	⇑P	P	08 55 55.2 +2.0
U15A	North Rim baz=25	25.26	324	⇓P	P	08 55 55.1 +1.6
W13A	Hualapai Mount baz=25	25.30	320	⇓P	P	08 55 55.7 +1.8
DVTC	Desert V Tower baz=25	25.31	312	⇓P	P	08 55 56.0 +2.1
O23A	Lake Granby, G baz=26	25.38	339	⇑P	P	08 55 55.4 +0.8
BC3	Big Chuckawall baz=26,SNR=7.8	25.43	315	⇓P	P	08 55 56.3 +1.4
L31A	Butterfield Fa baz=26	25.51	352	⇑P	P	08 55 55.1 -0.4
O22A	Kremmling baz=26	25.57	338	⇑P	P	08 55 56.8 +0.5
MONP	Monument Peak baz=26	25.66	312	⇓P	P	08 55 59.2 +2.0
BELC	Belle Mtn. Jos baz=26	26.00	315	⇓P	P	08 56 01.6 +1.6
PFO	Pinyon Flat Ob 5.2nm,0.9s	26.08	314	ℯP	P	08 56 03.0 +2.2
PFO	Pinyon Flat Ob	26.08	314	⇓P	P	08 56 02.5 +1.7

	baz=26								
K30A	**Basset**	26.11	351	⇑P		P	08 56 01.1	+0.3	
	baz=26								
GMRC	**Granite Mounta**	26.23	317	⇓P		P	08 56 03.8	+1.7	
	baz=26								
MURC	**Murrieta**	26.60	313	⇓P		P	08 56 06.8	+1.5	
	baz=27								
CCUT	**Cedar City**	26.66	324	*e*P		P	08 56 07.9	+1.8	
	6.2nm,1.3s								
MVU	**Marysvale**	26.73	327	*e*P		P	08 56 07.6	+0.9	
	2.2nm,1.0s								
ECSD	**EROS Data Cent**	26.83	356	*e*P		P	08 56 06.9	-0.3	
	12nm,0.6s								
ECSD	**EROS Data Cent**	26.83	356	⇓P		P	08 56 06.0	-1.2	
	baz=27								
ARUT	**Antelope Range**	26.87	325	*e*P		P	08 56 09.4	+1.5	
	50nm,0.9s								
SHPR	**Sheep Range**	27.00	320	*e*P		P	08 56 10.8	+1.7	
BFSC	**Mount Baldy Ra**	27.27	314	⇑P		P	08 56 12.3	+0.8	
	baz=27								
CIS	**Catalina Islan**	27.35	311	⇓P		P	08 56 14.5	+2.5	
	baz=27								
EDW2	**Edwards Air Fo**	27.85	315	⇑P		P	08 56 17.9	+1.4	
	baz=28								
TPNV	**Topopah Spring**	27.95	320	*e*P		P	08 56 20.0	+2.5	
	61nm,2.6s								
TPNV	**Topopah Spring**	27.95	320	⇑P		P	08 56 19.1	+1.6	
	baz=28								
LRMC	**Laurel Mountai**	27.98	316	⇑P		P	08 56 19.8	+2.0	
	baz=28								
SPMN	**St. Paul**	28.25	2	*e*P		P	08 56 18.6	-1.3	
	4.9nm,0.3s								
DUG	**Dugway**	28.32	329	⇑P		P	08 56 21.3	+0.7	
	baz=28								
R11A	**Troy Canyon, C**	28.48	323	*e*P		P	08 56 23.6	+1.5	
	3.0nm,1.1s								
R11A	**Troy Canyon, C**	28.48	323	⇑P		P	08 56 24.0	+1.8	
	baz=29								
ARVC	**Arvin**	28.56	314	⇓P		P	08 56 25.0	+2.2	
	baz=29								
ISA	**Isabella**	28.61	315	*e*P		P	08 56 25.1	+1.8	
	1.9nm,1.5s								
ISA	**Isabella**	28.61	315	⇓P		P	08 56 25.5	+2.2	
	baz=29								
H25A	**Fruitdale**	28.77	346	⇓P		P	08 56 25.6	+1.1	
	baz=29								
PDAR	**Pinedale Array**	28.95	336	P		P	08 56 27.4	+1.0	
PDAR				pP		pP	08 56 59.1	+1.8	
PDAR	**Pinedale Array**	28.95	336	P		P	08 56 27.4	+1.0	
	0.5nm,0.7s,baz=138,slow=11,SNR=3.6								
PDAR				pP		pP	08 56 59.1	+1.8	
	0.7nm,0.8s,baz=148,slow=9.8,SNR=3.5								
H24A	**Dirks Ranch, A**	29.12	345	⇑P		P	08 56 29.0	+1.3	
	baz=29								
RCTC	**Rector, Farmer**	29.49	316	⇑P		P	08 56 32.9	+1.9	
	baz=30,SNR=6.3								
HVU	**Hansel Valley**	29.52	331	*e*P		P	08 56 32.9	+1.5	
	5.9nm,0.9s								
H21A	**Big Horn, Sher**	29.71	341	⇑P		P	08 56 33.6	+0.7	
	baz=30								
G23A	**Biddle**	29.76	344	⇑P		P	08 56 33.9	+0.6	
	baz=30								
I19A	**Meeteetse**	29.83	338	⇑P		P	08 56 35.1	+0.9	
	baz=30								
H20A	**Greybull**	29.89	340	⇓P		P	08 56 34.8	+0.2	
	baz=30								
ELK	**Elko**	29.96	327	*e*P		P	08 56 37.7	+2.3	
	27nm,2.1s								
REDW	**Red Top Meadow**	29.97	335	*e*P		P	08 56 36.7	+1.3	
	18nm,1.4s								
F25A	**Bowman**	29.97	347	⇓P		P	08 56 35.3	+0.1	
	baz=30								
NV11	**Mina Array Sit**	30.06	320	*e*P		P	08 56 38.1	+2.0	
LOHW	**Long Hollow**	30.08	336	*e*P		P	08 56 36.5	+0.2	
	118nm,3.0s								
E28A	**Huff**	30.09	351	⇓P		P	08 56 36.0	-0.1	
	baz=30								
TPAW	**Teton Pass**	30.11	335	*e*P		P	08 56 36.5	-0.2	
	12nm,1.1s								
NVAR	**Mina Array Bea**	30.15	320	P		P	08 56 39.0	+2.0	
NVAR				pP		pP	08 57 10.9	+2.8	
NVAR	**Mina Array Bea**	30.15	320	P		P	08 56 39.0	+2.0	
	7.2nm,0.8s,baz=132,slow=8.7,SNR=52								
NVAR				pP		pP	08 57 10.9	+2.8	
	6.0nm,0.9s,baz=135,slow=9.5,SNR=6.1								
MOOW	**Moose Ponds**	30.25	336	*e*P		P	08 56 38.9	+1.1	
	66nm,2.9s								
E26A	**Carlson Angus**	30.29	349	⇓P		P	08 56 38.3	+0.3	
	baz=30								
D26A	**Manning**	30.82	349	⇓P		P	08 56 42.1	-0.6	
	baz=31								
WAKR	**Walker**	30.90	319	*e*P		P	08 56 45.5	+1.9	
	4.6nm,1.3s								
WAKR				*e*			08 57 17.8		
C30A	**Mose, Pekin**	30.92	354	⇑P		P	08 56 42.7	-0.8	
	baz=31								
E22A	**Miles City**	31.05	344	⇓P		P	08 56 45.5	+0.9	
	baz=31								
F20A	**Billings**	31.11	341	⇑P		P	08 56 45.9	+0.7	
	baz=31								
D25A	**Fairfield**	31.11	348	⇓P		P	08 56 45.7	+0.6	
	baz=31								
CMB	**Columbia Colle**	31.23	318	*e*P		P	08 56 47.6	+1.3	
	4.1nm,1.0s								
D24A	**Glendive**	31.29	347	⇓P		P	08 56 46.9	+0.1	
	baz=31								
C27A	**Sayler Ranch,**	31.32	350	⇓P		P	08 56 47.0	0.0	
	baz=31								
AGMN	**Agassiz Nation**	31.34	358	*e*P		P	08 56 46.1	-1.0	
	137nm,2.6s								
AGMN				*e*			08 57 47.7		
AGMN	**Agassiz Nation**	31.34	358	⇑P		P	08 56 46.4	-0.7	
	baz=32								
F19A	**Roth Farm, Mol**	31.41	340	⇓P		P	08 56 48.1	+0.2	
	baz=32								
C26A	**Wahner Farm, P**	31.53	350	⇑P		P	08 56 48.6	-0.2	
	baz=32								
D23A	**Lindsay**	31.55	345	⇓P		P	08 56 48.9	-0.1	
	baz=32								
B30A	**Myrvik Farm, E**	31.65	355	⇑P		P	08 56 48.0	-1.8	
	baz=32,SNR=5.5								
HLID	**Hailey**	31.67	331	*e*P		P	08 56 51.2	+0.9	
	3.6nm,0.8s								
HLID	**Hailey**	31.67	331	⇓P		P	08 56 50.9	+0.7	
	baz=32								
E20A	**Meyer Farm, Mu**	31.73	341	⇓P		P	08 56 50.6	-0.1	
	baz=32								
D22A	**Cohagen**	31.77	344	⇓P		P	08 56 50.9	0.0	
	baz=32								
B28A	**Dugan Ranch, T**	31.87	352	⇓P		P	08 56 51.5	-0.3	
	baz=32								
E19A	**Rath Farm, Rou**	31.90	341	⇓P		P	08 56 51.8	-0.3	
	baz=32								
MCMT	**McKenzie Canyo**	31.99	334	*e*P		P	08 56 55.1	+2.0	
	2.3nm,0.9s								
A30A	**Hoffart Farm,**	32.13	355	⇑P		P	08 56 52.6	-1.4	
	baz=32,SNR=6.0								
A29A	**Manning Farm,**	32.21	354	⇑P		P	08 56 54.1	-0.6	
	baz=32								
MFID	**Camas Ranch**	32.22	330	*e*P		P	08 56 57.9	+2.9	
	1.5nm,0.6s								
C22A	**Vida**	32.25	345	⇑P		P	08 56 55.3	+0.2	
	baz=32								
D20A	**Manuel Ranch,**	32.26	342	⇑P		P	08 56 55.5	+0.3	
	baz=32								
A28A	**Rude Farm, Bot**	32.31	352	⇑P		P	08 56 55.4	-0.3	
	baz=32								
DLMT	**Dillon**	32.32	335	*e*P		P	08 56 57.5	+1.6	
	5.7nm,1.0s								
DGMT	**Dagmar**	32.55	347	⇑P		P	08 56 57.6	0.0	
	baz=33								
D19A	**Cripps Ranch,**	32.55	341	⇓P		P	08 56 58.1	+0.3	
	baz=33								
A26A	**Wade Farm, Ken**	32.56	350	⇓P		P	08 56 57.6	-0.1	
	baz=33								
LRM	**Limekiln Ridge**	32.65	336	*e*P		P	08 56 60.0	+1.1	
	28nm,0.9s								
LRM				*e*			08 57 34.6		
B23A	**Brockton**	32.71	347	⇓P		P	08 56 59.5	+0.3	
	baz=33								
WVOR	**Wild Horse Val**	32.96	326	*e*P		P	08 57 03.2	+1.7	
	11nm,1.0s								
WVOR				*e*			08 57 47.6		
J08A	**Circle Bar Ran**	33.51	327	*e*P		P	08 57 07.7	+1.4	
	19nm,0.6s								
MSO	**Missoula**	34.06	335	⇓P		P	08 57 11.7	+0.8	
	baz=34								
F10A	**Beach Ranch, E**	34.80	331	*e*P		P	08 57 17.8	+0.5	
	13nm,0.8s								
J04D	**Umpqua Nationa**	35.42	324	⇓P		P	08 57 24.0	+1.2	
	baz=36								
NEW	**Newport**	36.51	334	*e*P		P	08 57 31.8	0.0	
	3.6nm,0.9s								
NEW	**Newport**	36.51	334	⇑P		P	08 57 32.3	+0.5	
	baz=37								
C09A	**Chrisman Ranch**	36.65	332	*e*P		P	08 57 33.4	+0.5	
	112nm,2.7s								
G03D	**McMinnville, O**	37.31	325	⇓P		P	08 57 39.7	+1.1	
	baz=37								
FFC	**Flin Flon**	38.23	353	*e*P		P	08 57 45.3	-0.9	
	2.7nm,0.6s								
EDM	**Edmonton**	39.25	342	*e*P		P	08 57 54.6	-0.1	
EDM				*e*pP		pP	08 58 26.9	+0.2	
LPAZ	**La Paz**	41.76	141	P		P	08 58 17.8	+1.4	
LPAZ	**La Paz**	41.76	141	P		P	08 58 17.8	+1.4	
	3.5nm,0.6s,baz=347,slow=6.7,SNR=33								
YKA	**Yellowknife Ar**	47.76	347	P		P	08 59 01.9	-0.6	
YKA				pP		pP	08 59 35.2	-0.4	
YKA	**Yellowknife Ar**	47.76	347	P		P	08 59 01.9	-0.6	
	1.9nm,0.5s,baz=153,slow=7.3,SNR=42								
YKA				pP		pP	08 59 35.2	-0.4	
	2.8nm,0.7s,baz=153,slow=7.5,SNR=8.4								
CPUP	**Villa Florida**	55.90	140	P		P	09 00 03.0	-0.4	
CPUP	**Villa Florida**	55.90	140	P		P	09 00 03.0	-0.4	
	0.6nm,0.3s,baz=326,slow=7.3,SNR=3.0								
INK	**Inuvik**	57.09	344	*e*P		P	09 00 11.2	-0.1	
	30nm,1.7s								
INK				*e*			09 00 47.7		
PAX	**Paxson**	57.98	335	*e*P		P	09 00 17.6	-0.1	
	7.1nm,0.9s								
PAX				*e*PcP		PcP	09 01 06.0	-2.1	
BB16B	**Bebedouro**	58.43	129	(P)		P	09 00 21.1	-0.3	
ILAR	**Eielson Array**	59.38	337	P		P	09 00 27.4	+0.2	
ILAR				pP		pP	09 01 00.7	-0.9	
ILAR	**Eielson Array**	59.38	337	P		P	09 00 27.4	+0.2	
	2.1nm,0.6s,baz=139,slow=5.3,SNR=85								
ILAR				pP		pP	09 01 00.7	-0.9	
	0.7nm,0.7s,baz=116,slow=6.5,SNR=3.5								
MCK	**McKinley**	59.72	335	*e*P		P	09 00 29.5	-0.1	
	3.7nm,0.5s								
COLA	**College**	59.80	337	*e*P		P	09 00 30.0	0.0	
	13nm,1.3s								
TRF	**Thorofare Moun**	60.16	335	*e*P		P	09 00 33.6	+0.9	
	22nm,1.0s								
TRF				*e*			09 01 20.8		
PLCA	**Paso Flores**	61.38	160	*e*P		P	09 00 42.7	+1.5	
	11nm,1.1s								
PLCA	**Paso Flores**	61.38	160	P		P	09 00 42.2	+1.1	
	6.7nm,0.8s,baz=335,slow=8.6,SNR=13								
SUMG	**Summit**	64.00	16	*i* P		P	09 00 57.3	-1.2	
	6.0nm,0.7s								
SUMG	**Summit**	64.00	16	*e*P		P	09 00 57.0	-1.5	
	6.2nm,0.6s								
SCO	**Scoresbysund**	68.24	20	*i* P		P	09 01 23.9	-1.1	
	2.5nm,0.7s								
QUIF	**Quistinic**	78.27	43	*e*P		P	09 02 23.6	-0.7	
QUIF	**Quistinic**	78.27	43	*e*P		P	09 02 23.6	-0.7	
GRR	**Gorron**	79.67	43	*e*P		P	09 02 31.4	-0.6	
	10nm,0.4s								
GRR	**Gorron**	79.67	43	*e*P		P	09 02 31.4	-0.6	
	10nm,0.4s								
FLN	**La Foliniere**	79.83	42	*e*P		P	09 02 32.2	-0.6	
	8.8nm,0.4s								
FLN	**La Foliniere**	79.83	42	*e*P		P	09 02 32.2	-0.6	
	8.8nm,0.4s								
LDF	**La Druitiere**	80.10	42	*e*P		P	09 02 33.4	-0.9	
LDF	**La Druitiere**	80.10	42	*e*P		P	09 02 33.4	-0.9	
MFF	**Saint Martin d**	80.58	44	*e*P		P	09 02 36.0	-0.9	
MFF	**Saint Martin d**	80.58	44	*e*P		P	09 02 36.0	-0.9	
SJPF	**Ste Jean**	80.70	48	*e*P		P	09 02 36.5	-1.1	
SJPF	**Ste Jean**	80.70	48	*e*P		P	09 02 36.5	-1.1	
ETSF	**Etsaut**	81.23	48	*e*P		P	09 02 39.7	-0.8	
ETSF	**Etsaut**	81.23	48	*e*P		P	09 02 39.7	-0.8	
LFF	**La Frestale**	81.61	46	*e*P		P	09 02 41.1	-1.2	
LFF	**La Frestale**	81.61	46	*e*P		P	09 02 41.1	-1.2	
SNF	**Seneffe**	82.34	40	P		P	09 02 45.3	-0.7	
NB2	**NORSAR Subarra**	82.57	28	P		P	09 02 47.2	+0.1	
	comp=Z,7.2nm,0.8s,baz=290,slow=5.3								
NOA	**NORSAR Array B**	82.57	28	P		P	09 02 47.6	+0.5	
NOA	**NORSAR Array B**	82.57	28	P		P	09 02 47.6	+0.5	
	comp=Z,4.6nm,0.7s,baz=291,slow=5.1,SNR=17								
BGF	**Bois d'Agland**	82.58	44	*e*P		P	09 02 46.7	-0.7	
	comp=Z,12nm,0.7s								
BGF	**Bois d'Agland**	82.58	44	*e*P		P	09 02 46.7	-0.7	
	comp=Z,12nm,0.7s								
AVF	**Avril sur Loir**	82.84	43	*e*P		P	09 02 47.9	-0.8	
AVF	**Avril sur Loir**	82.84	43	*e*P		P	09 02 47.9	-0.8	
SSF	**Saint Saulge**	82.86	43	*e*P		P	09 02 48.9	0.0	
SSF	**Saint Saulge**	82.86	43	*e*P		P	09 02 48.9	0.0	
BCLA	**Clavier**	82.99	39	P		P	09 02 49.4	0.0	
LOR	**Lormes**	83.03	43	*e*P		P	09 02 49.2	-0.6	
	comp=Z,8.1nm,0.7s								
LOR	**Lormes**	83.03	43	*e*P		P	09 02 49.2	-0.6	
	comp=Z,8.1nm,0.7s								
HGN	**Heinansgroeve**	83.27	39	*e*P		P	09 02 50.9	+0.1	
	comp=Z,13nm,0.8s								
SFTF	**Sexfontaines**	83.51	42	*e*P		P	09 02 51.6	-0.5	
	comp=Z,8.2nm,0.4s								
SFTF	**Sexfontaines**	83.51	42	*e*P		P	09 02 51.6	-0.5	
	comp=Z,8.2nm,0.4s								
PAGF	**Fort de Pagny**	83.83	41	*e*P		P	09 02 53.7	-0.1	
	comp=Z,3.8nm,0.4s								
PAGF	**Fort de Pagny**	83.83	41	*e*P		P	09 02 53.7	-0.1	
	comp=Z,3.8nm,0.4s								
ARCES	**ARCESS Array B**	84.02	18	P		P	09 02 54.4	0.0	
ARCES	**ARCESS Array B**	84.02	18	P		P	09 02 54.4	0.0	
	comp=Z,4.0nm,0.5s,baz=296,slow=5.0,SNR=49								
HAU	**Haudompre**	84.41	42	*e*P		P	09 02 56.3	-0.4	
	comp=Z,19nm,0.5s								
HAU	**Haudompre**	84.41	42	*e*P		P	09 02 56.3	-0.4	
	comp=Z,19nm,0.5s								
BSEG	**Bad Segeberg**	84.72	35	*e*P		P	09 02 58.1	0.0	
	comp=Z,16nm,0.9s								
HINF	**Hinteralfeld**	84.79	42	*e*P		P	09 02 57.8	-0.9	
	comp=Z,10nm,0.7s								
HINF	**Hinteralfeld**	84.79	42	*e*P		P	09 02 57.8	-0.9	
	comp=Z,10nm,0.7s								
CDF	**Champ du Feu**	84.86	41	*e*P		P	09 02 58.5	-0.6	
CDF	**Champ du Feu**	84.86	41	*e*P		P	09 02 58.5	-0.6	
TNS	**Taunus Mts**	84.96	39	*e*P		P	09 02 59.5	0.0	
	comp=Z,17nm,0.8s								
NRDL	**Niedersach Rie**	85.13	37	*e*P		P	09 03 00.1	0.0	
	comp=Z,11nm,0.8s								
SEY	**Seymchan**	85.28	335	P		P	09 03 01.1	+0.4	
SEY	**Seymchan**	85.28	335	P		P	09 03 01.1	+0.4	
	comp=Z,0.6nm,0.5s,baz=45,slow=23,SNR=6.4								
CLL	**Collm**	87.24	37	*i* P		P	09 03 11.1	+0.6	
DBIC	**Dimbokro**	87.38	84	P		P	09 03 11.4	-0.5	
DBIC	**Dimbokro**	87.38	84	P		P	09 03 11.4	-0.5	
	comp=Z,1.7nm,0.4s,baz=278,slow=5.1,SNR=6.5								
GERES	**GERESS Array B**	88.65	39	P		P	09 03 16.9	-0.6	
GERES	**GERESS Array B**	88.65	39	P		P	09 03 16.9	-0.6	
	comp=Z,1.6nm,0.8s,baz=303,slow=5.7,SNR=4.3								
FINES	**FINESS Array B**	88.73	25	P		P	09 03 16.2	-1.2	
FINES	**FINESS Array B**	88.73	25	P		P	09 03 16.2	-1.2	
	comp=Z,2.3nm,0.7s,baz=321,slow=2.4,SNR=9.3								
DPC	**Dobruska-Polom**	89.55	37	*e*P		P	09 03 21.8	+0.2	
TORD	**Torodi Ar. Bea**	91.66	76	P		P	09 03 29.4	-2.5	
TORD	**Torodi Ar. Bea**	91.66	76	P		P	09 03 29.4	-2.5	
	comp=Z,0.5nm,0.8s,baz=298,slow=6.1,SNR=2.5								
AKASG	**Malin Array Be**	96.40	32	P		P	09 03 51.2	-1.7	
AKASG	**Malin Array Be**	96.40	32	P		P	09 03 51.2	-1.7	
	comp=Z,0.4nm,0.5s,baz=290,slow=4.1,SNR=4.8								
WMQ	**Urumqi**	119.55	359	PKP		PKPdf	09 09 14.4	+1.1	
KSH	**Kashi**	123.11	9	*e*PKP		PKPdf	09 09 24.2	+3.8	
KSH				*es*PKP			09 10 23.0		
KSH				AMB		AMB			
	comp=Z,32nm,3.5s								
LZH	**Lanzhou**	124.63	342	*e*PKP		PKPdf	09 09 23.4	0.0	
LZH				sPKP			09 10 27.2		
LZH				LR		LR			
	comp=Z,140nm,18.0s								
LZH				LR		LR			
	comp=Z,140nm,18.0s								
LZH				LR		LR			
	comp=Z,180nm,20.3s								
STKA	**Stephens Creek**	127.65	243	PKP		PKPdf	09 09 30.4	+1.4	
STKA	**Stephens Creek**	127.65	243	PKP		PKPdf	09 09 30.4	+1.4	
	comp=Z,2.9nm,1.0s,baz=86,slow=2.8,SNR=8.5								
CD2	**Chengdu**	129.45	340	*e*PKP		PKPdf	09 09 31.6	-1.0	
GYA	**Guiyang**	132.40	334	*e*Pdif		Pdif	09 06 31.5	-2.4	
GYA				PKP		PKPdf	09 09 37.8	-0.6	
GYA				sPKP			09 10 41.2		
GYA				PP		PP	09 12 05.4	+3.7	
GYA				AMB		AMB			
	comp=Z,90nm,7.8s								
WRA	**Warramunga Arr**	134.06	258	PKP		PKPdf	09 09 42.0	+0.5	
WRA				pPKP		pPKPdf	09 10 19.8	-0.4	
WRA	**Warramunga Arr**	134.06	258	PKP		PKPdf	09 09 42.0	+0.5	
	comp=Z,2.1nm,0.6s,baz=82,slow=2.3,SNR=17								
WRA				pPKP		pPKPdf	09 10 19.8	-0.4	
	comp=Z,0.7nm,0.6s,baz=82,slow=1.9,SNR=3.0								
ASAR	**Alice Springs**	134.63	253	PKP		PKPdf	09 09 42.1	-0.4	
ASAR	**Alice Springs**	134.63	253	PKP		PKPdf	09 09 42.1	-0.4	
	comp=Z,0.9nm,0.6s,baz=96,slow=2.0,SNR=9.7								
CMAR	**Chiang Mai Arr**	142.59	339	PKP		PKPdf	09 09 57.8	+0.6	
CMAR	**Chiang Mai Arr**	142.59	339	PKP		PKPdf	09 09 57.8	+0.6	
	comp=Z,0.8nm,0.3s,baz=349,slow=2.8,SNR=4.3								
PSI	**Prapat**	156.57	326	PKPab		PKPab	09 10 49.4	+0.6	
PSI	**Prapat**	156.57	326	PKPab		PKPab	09 10 49.4	+0.6	
	baz=6.3,slow=5.8								

BJI ***08*** *09:10:11.7,3.7°71S×130.°13E,h33km,mB5.0/18,mb4.6/26, Ms4.6/15,Ms7 4.3/15*
IDC ***08*** *09:10:13.6±0.5,2.°91S×129.°76E,h0km,mb4.3/13, mb1 4.5/14,mb1mx4.3/23,mbtmp4.3/14,ML4.3/1,MS3.9/9, Ms1 3.9/9,ms1mx3.5/30,Error ellipse: s-maj=26.4km s-min=12.8km az=69.0*
ISCJB ***08*** *09:10:16.1±0.2,2.°95S±0.°03×129.°89E±0.°03,h25km, mb4.5/28,MS4.0/16,Error ellipse: s-maj=4.7km s-min=3.6km az=139.9*
DJA ***08*** *09:10:19.4±0.3,3.°5S±3.°×13.°0E±.°,h85km±10km,M4.8/11, mb5.0/7,mB5.3/5,MLv4.7/11,Mw(mB)4.7/5*
NEIC ***08*** *09:10:19.0±0.3,2.°91S×129.°89E,h35km,mb4.7/13,Error ellipse: s-maj=10.2km s-min=5.5km az=62.0*

ISC 08 09:10:18.2±0.3,2.°96S±0.°04×129.°95E±0.°05,h25km,n122, σ1ˢ72/145,mb4.5/28,MS3.9/16,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	1.09	249	P	**Pb**	**09 10 38.7**	**+0.3**
MSAI				S	Sn	09 10 59.5	+7.4
BNDI	**Bandanaira**	1.55	182	P	**Pb**	**09 10 48.5**	**+2.2**
FAKI	**Fak Fak**	2.30	89	P	**Pn**	**09 10 55.6**	**+1.0**
FAKI				S	**Sn**	**09 11 23.2**	**+1.1**
FAKI	**Fak Fak**	2.30	89	P	**Pn**	**09 10 55.8**	**+1.2**
	baz=2.2,SNR=113						
SWI	**Sorong**	2.46	32	P	**Pn**	**09 10 55.6**	**-1.2**
NLAI	**Namlea**	2.86	264	P	**Pn**	**09 11 02.1**	**-0.1**
LBMI	**Labuha**	3.36	313	P	**Pn**	**09 11 07.5**	**-1.7**
LBMI				S	**Sn**	**09 11 46.1**	**-2.2**
SANI	**Sanana**	4.06	283	P	**Pn**	**09 11 15.7**	**-3.1**
MWPI	**Manokwari, Pap**	4.56	64	P	x	09 11 27.9	
BAKI	**Biak**	6.40	74	P	**Pn**	**09 11 51.5**	**+0.5**
	216nm,1.0s,0.7nm						
LUWI	**Luwuk**	7.42	285	P	**Pn**	**09 12 02.6**	**-2.4**
	114nm,1.1s,4μm0.5nm						
LUWI	**Luwuk**	7.42	285	*e*Pn	**Pn**	**09 12 02.8**	**-2.2**
LUWI	**Luwuk**	7.42	285	P	**Pn**	**09 12 02.9**	**-2.1**
	baz=7.5,SNR=6.3						
APSI	**Ampana**	8.54	284	P	**Pn**	**09 12 18.7**	**-1.7**
	202nm,0.6s,3μm						
MRSI	**Marisa**	8.70	293	P	**Pn**	**09 12 20.8**	**-1.8**
	61nm,0.7s,708nm						
SOEI	**Soe**	8.80	220	P	**Pn**	**09 12 26.0**	**+2.0**
	126nm,1.3s,3μm						
MMRI	**Maumere**	9.52	233	*e*Pn	**Pn**	**09 12 35.0**	**+1.2**
MTN	**Manton Dam**	9.89	173	P	**Pn**	**09 12 38.9**	**0.0**
	baz=9.9,SNR=58						
KDU	**Kakadu**	9.98	166	P	**Pn**	**09 12 38.9**	**-1.3**
	baz=10.0,SNR=48						
SPSI	**Sidrap Palu**	10.21	264	P	**Pn**	**09 12 44.1**	**+0.8**
KAPI	**Kappang**	10.37	258	*e*Pn	Pn	09 12 49.0	+3.5
LBFI	**Labuhan Bajo,**	11.41	241	P	x	09 13 15.3	
KNRA	**Kununurra**	12.69	185	P	**Pn**	**09 13 16.4**	**-0.9**
	baz=13,SNR=8.1						
BBKI	**Banjar Baru**	15.09	268	P	**P**	**09 13 58.7**	**+3.7**
COEN	**Coen**	17.03	131	*e*Pn	**Pn**	**09 14 15.6**	**+0.7**
	543nm,1.4s						
COEN				*e*Sn	**Sn**	**09 17 17.2**	**-6.5**
CO

GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
GYA					pmax	pmax			
	comp=Z,90nm,4.8s								
GYA					LR	LR			
	comp=N,480nm,17.0s								
GYA					LR	LR			
	comp=E,360nm,17.6s								
GYA					LR	LR			
	comp=Z,470nm,16.9s								
CM01	**Chiang Mai Arr**	**37.18**	**306**	*eP*	**P**		**09 17 26.6**	**-1.0**	
CMAR	**Chiang Mai Arr**	**37.22**	**306**	P	**P**		**09 17 25.0**	**-2.9**	
CMAR	**Chiang Mai Arr**	**37.22**	**306**	P	**P**		**09 17 25.0**	**-2.9**	
	1.5nm,0.6s,baz=139,slow=8.0,SNR=15								
CHTO	**Chiang Mai**	**37.40**	**307**	*eP*	**P**		**09 17 29.5**	**-0.1**	
	6.6nm,1.5s								
LHI	**Lord Howe Isla**	**39.48**	**139**	P	**P**		**09 17 47.0**	**+0.1**	
	baz=40,SNR=4.0								
LHI					S	S		09 23 34.6	-13
	baz=40,SNR=3.7								
MJAR	**Matsushiro Arr**	**40.05**	**10**	P	**P**		**09 17 49.2**	**-2.3**	
MJAR	**Matsushiro Arr**	**40.05**	**10**	P	**P**		**09 17 49.2**	**-2.3**	
	2.9nm,0.8s,baz=187,slow=9.0,SNR=4.8								
MJAR					LR	LR		09 34 14.8	
	comp=Z,147nm,18.1s,baz=205,slow=36								
KSRS	**Korea Array**	**40.25**	**358**		LR	LR		09 33 05.1	
	comp=Z,90nm,19.6s,baz=327,slow=34								
CD2	**Chengdu**	**41.92**	**325**	*eP*	**P**		**09 18 06.8**	**-0.3**	
CD2				sP	**sP**		**09 18 20.7**	**+3.0**	
CD2				PP	**PnPn**		**09 19 47.6**	**-1.9**	
CD2				S	**S**		**09 24 23.2**	**-1.0**	
CD2				sS	**sS**		**09 24 39.8**	**+3.1**	
CD2				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CD2				pmax	pmax				
	comp=Z,100nm,4.8s								
CD2				LR	LR				
	comp=N,290nm,9.5s								
CD2				LR	LR				
	comp=Z,230nm,11.8s								
BJI	**Beijing**	**44.62**	**345**	P	**P**		**09 18 30.5**	**+1.9**	
BJI				S	**S**		**09 25 03.4**	**+0.2**	
LZH	**Lanzhou**	**45.87**	**330**	*eP*	**P**		**09 18 39.8**	**+1.0**	
LZH				pP	**pP**		**09 18 49.9**	**+3.4**	
LZH				sP	**sP**		**09 18 53.6**	**+4.1**	
LZH				PP	**PP**		**09 20 28.1**	**+1.5**	
LZH				pmax	pmax				
	comp=Z,25nm,1.3s								
LZH				pmax	pmax				
	comp=Z,78nm,6.2s								
LZH				LR	LR				
	comp=N,400nm,14.8s								
LZH				LR	LR				
	comp=E,400nm,14.2s								
LZH				LR	LR				
	comp=Z,590nm,18.0s								
CN2	**Changchun**	**46.72**	**356**	*eP*	**P**		**09 18 47.8**	**+2.6**	
CN2				*eS*	**S**		**09 25 35.1**	**+1.6**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,200nm,18.0s								
CN2				LR	LR				
	comp=E,200nm,18.0s								
CN2				LR	LR				
	comp=Z,300nm,19.0s								
USRK	**Ussuriysk Arra**	**46.98**	**2**	P	**P**		**09 18 45.8**	**-1.4**	
	2.0nm,0.6s,baz=198,slow=8.8,SNR=6.9								
MDJ	**Mudanjiang**	**47.37**	**360**	P	**P**		**09 18 50.1**	**-0.1**	
MDJ				pP	**pP**		**09 18 58.8**	**+0.9**	
MDJ				sP	**sP**		**09 19 02.9**	**+2.0**	
MDJ				PcS	**PcS**		**09 24 15.4**	**-0.4**	
MDJ				S	**S**		**09 25 41.3**	**-1.3**	
MDJ				ScS	**ScS**		**09 28 39.5**	**-3.1**	
MDJ				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,130nm,4.8s								
MDJ				LR	LR				
	comp=N,72nm,27.8s								
MDJ				LR	LR				
	comp=E,23nm,22.8s								
MDJ				LR	LR				
	comp=Z,85nm,31.8s								
ASAJ	**Asahikawa**	**48.22**	**12**	LR	LR		09 40 35.5		
	comp=Z,131nm,18.4s,baz=336,slow=38								
GTA	**Gaotai**	**50.45**	**330**	*eP*	**P**		**09 19 13.4**	**-0.8**	
GTA				pP	**pP**		**09 19 23.1**	**+1.2**	
GTA				sP	**sP**		**09 19 27.1**	**+2.2**	
GTA				PcP	**PcP**		**09 20 30.6**	**-1.6**	
GTA				S	**S**		**09 26 24.8**	**-1.8**	
GTA				sS	**sS**		**09 26 40.9**	**+1.6**	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,160nm,4.3s								
GTA				LR	LR				
	comp=N,74nm,15.2s								
GTA				LR	LR				
	comp=E,92nm,15.2s								
GTA				LR	LR				
	comp=Z,140nm,15.2s								
ULN	**Ulaanbaatar**	**54.44**	**341**	*eP*	**P**		**09 19 43.7**	**+0.1**	
	6.0nm,1.0s								
SONM	**Songino Array**	**54.63**	**341**	P	**P**		**09 19 43.9**	**-1.0**	
SONM	**Songino Array**	**54.63**	**341**	P	**P**		**09 19 43.9**	**-1.0**	
	2.2nm,1.0s,baz=152,slow=6.0,SNR=9.5								
SONA1	**Songino Array**	**54.63**	**341**	*eP*	**P**		**09 19 44.0**	**-1.0**	
WMQ	**Urumqi**	**60.02**	**326**	P	**P**		**09 20 21.6**	**-1.4**	
WMQ				pP	**pP**		**09 20 31.7**	**+0.8**	
WMQ				pmax	pmax				
	comp=Z,15nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,31nm,7.1s								
WMQ				LR	LR				
	comp=N,93nm,30.5s								
WMQ				LR	LR				
	comp=E,87nm,25.0s								
WMQ				LR	LR				
	comp=Z,62nm,28.7s								
PETK	**Petropavlovsk-**	**60.53**	**19**	P	**P**		**09 20 26.5**	**+0.2**	
PETK	**Petropavlovsk-**	**60.53**	**19**	P	**P**		**09 20 26.5**	**+0.2**	
	3.3nm,0.7s,baz=228,slow=3.7,SNR=3.5								
PETK					LR	LR		09 43 13.2	
	comp=Z,65nm,19.9s,baz=111,slow=33								
MK01	**Makanchi Array**	**64.83**	**326**	*eP*	**P**		**09 20 53.5**	**-1.6**	
MK31	**Makanchi Array**	**64.85**	**326**	*eP*	**P**		**09 20 53.9**	**-1.3**	
MKAR	**Makanchi Array**	**64.85**	**326**	*eP*	**P**		**09 20 54.0**	**-1.3**	
MKAR	**Makanchi Array**	**64.85**	**326**	P	**P**		**09 20 53.8**	**-1.5**	
	2.3nm,0.6s,baz=122,slow=8.1,SNR=39								
KSH	**Kashi**	**65.05**	**316**	*eP*	**P**		**09 20 58.2**	**+1.4**	
KSH				pmax	pmax				
	comp=Z,66nm,2.5s								
KSH				LR	LR				
	comp=N,120nm,6.4s								
KSH				LR	LR				
	comp=E,130nm,5.9s								
KSH				LR	LR				
	comp=Z,80nm,7.4s								
ZAA0	**Zalesovo Array**	**67.97**	**333**	*eP*	**P**		**09 21 13.5**	**-1.5**	
ZALV	**Zalesovo Beam**	**67.97**	**333**	P	**P**		**09 21 12.9**	**-2.1**	
ZALV	**Zalesovo Beam**	**67.97**	**333**	P	**P**		**09 21 12.9**	**-2.1**	
	1.8nm,0.5s,baz=112,slow=6.1,SNR=15								
KURK	**Kurchatov**	**69.08**	**328**	*eP*	**P**		**09 21 20.9**	**-1.1**	
	5.8nm,0.6s								
BVAR	**Borovoye Array**	**74.65**	**327**	P	**P**		**09 21 54.3**	**-1.1**	
BVAR	**Borovoye Array**	**74.65**	**327**	P	**P**		**09 21 54.3**	**-1.1**	
	1.3nm,0.5s,baz=115,slow=4.6,SNR=12								
BRVK	**Borovoye**	**74.72**	**327**	*eP*	**P**		**09 21 55.0**	**-0.8**	
	6.6nm,0.9s								
VNDA	**Vanda**	**76.44**	**173**	P	**P**		**09 22 04.1**	**-1.2**	
VNDA	**Vanda**	**76.44**	**173**	P	**P**		**09 22 04.1**	**-1.2**	
	3.2nm,1.0s,baz=314,slow=4.7,SNR=7.6								
VNDA					LR	LR		09 56 54.8	
	comp=Z,52nm,18.3s,baz=103,slow=37								
ABKAR	**Akbulak array**	**79.34**	**321**	*eP*	**P**		**09 22 20.7**	**-1.2**	
	1.7nm,0.6s								
AKTO	**Aktyubinsk**	**80.87**	**322**	LR	LR		09 58 48.5		
	comp=Z,42nm,18.1s,baz=251,slow=36								
RAYN	**Ar Rayn**	**86.08**	**294**	*eP*	**P**		**09 22 56.4**	**-1.2**	
	8.0nm,0.8s								
ILAR	**Eielson Array**	**89.74**	**25**	P	**P**		**09 23 13.8**	**-0.4**	
ILAR	**Eielson Array**	**89.74**	**25**	P	**P**		**09 23 13.8**	**-0.4**	
	0.2nm,0.5s,baz=246,slow=4.3,SNR=8.7								
ILAR					LR	LR		10 06 20.4	
	comp=Z,91nm,18.2s,baz=78,slow=38								
ARCES	**ARCESS Array B**	**97.79**	**340**		LR	LR		10 15 17.4	
	comp=Z,54nm,21.4s,baz=27,slow=40								
YKA	**Yellowknife Ar**	**104.16**	**26**	PKiKP	**PKiKP**		**09 28 35.6**	**-0.8**	
YKA	**Yellowknife Ar**	**104.16**	**26**	PKiKP	**PKiKP**		**09 28 35.6**	**-0.8**	
	0.1nm,0.5s,baz=301,slow=1.9,SNR=5.9								
JCT	**Junction City**	**125.66**	**54**	*e*PKPdf	**PKPdf**		**09 29 19.5**	**+1.1**	
TORD	**Torodi Ar. Bea**	**127.87**	**284**	PKP	**PKPdf**		**09 29 21.1**	**-1.8**	
TORD	**Torodi Ar. Bea**	**127.87**	**284**	PKP	**PKPdf**		**09 29 21.1**	**-1.8**	
	0.8nm,0.9s,baz=69,slow=1.7,SNR=3.4								
CPUP	**Villa Florida**	**150.04**	**167**	*e*PKPbc	**PKPbc**		**09 30 07.5**	**0.0**	
CPUP				*e*PKPab	**PKPab**		**09 30 13.2**	**0.0**	
CPUP	**Villa Florida**	**150.04**	**167**	PKPbc	**PKPbc**		**09 30 07.9**	**+0.4**	
	2.7nm,0.5s,baz=183,slow=4.4,SNR=6.6								
LPAZ	**La Paz**	**153.83**	**137**	PKPbc	**PKPbc**		**09 30 18.2**	**+1.1**	
LPAZ	**La Paz**	**153.83**	**137**	PKPbc	**PKPbc**		**09 30 18.2**	**+1.1**	
	0.7nm,0.4s,baz=225,slow=1.4,SNR=4.2								

PGC 08 09:21:11.1±0.8, 49.00N×129.16W, h10km, ML3.0/11, Mw3.6,21D,227km southwest of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
EDB	**Eliza Dome**	**1.59**	**56**	⇓Pn		Pn	09 21 36.8	-2.6
EDB				⇑Sn		Sn	09 21 55.7	-4.3
FHRB	**Fair Harbour**	**1.70**	**51**	⇓Pn		Pn	09 21 38.5	-2.3
FHRB				⇑Sn		Sn	09 21 58.8	-3.7
ETB	**Estevan Point**	**1.76**	**77**	⇑Pn		Pn	09 21 39.5	-2.1
PHC	**Port Hardy**	**2.04**	**32**	⇓Pn		Pn	09 21 43.8	-1.8
PHC				⇓Sn		Sn	09 22 07.0	-4.1
WOSB	**Woss**	**2.05**	**54**	⇓Pn		Pn	09 21 44.1	-1.6
WOSB				⇑Sn		Sn	09 22 06.9	-4.6
TOFB	**Tofino**	**2.14**	**85**	⇓Pn		Pn	09 21 44.6	-2.3
TOFB				⇑Sn		Sn	09 22 10.0	-3.5
TLCB	**Telegraph Cove**	**2.16**	**43**	⇓Pn		Pn	09 21 45.7	-1.5
TLCB				⇑Sn		Sn	09 22 10.3	-3.7
GDR	**Gold River**	**2.19**	**68**	⇓Pn		Pn	09 21 45.5	-2.1
BTB	**Buttle Lake**	**2.43**	**77**	⇓Pn		Pn	09 21 49.4	-1.7
BTB				⇑Sn		Sn	09 22 17.4	-3.7
NCRB	**Newcastle Ridg**	**2.46**	**54**	⇑Pn		Pn	09 21 50.3	-1.2
NCRB				⇓Sn		Sn	09 22 19.3	-2.3
MWAB	**Mount Washingt**	**2.63**	**72**	⇓Pn		Pn	09 21 52.4	-1.4
MWAB				⇓Sn		Sn	09 22 23.7	-2.1
BMSB	**Bamfield Mari**	**2.66**	**92**	⇓Pn		Pn	09 21 51.7	-2.3
BMSB				⇑Sn		Sn	09 22 22.7	-3.5
CBB	**Campbell River**	**2.68**	**66**	⇓Pn		Pn	09 21 53.2	-1.1
CBB				⇓Sn		Sn	09 22 24.6	-2.3
ALB	**Alberni**	**2.86**	**83**	⇑Pn		Pn	09 21 55.5	-1.1
MGB	**Mount Grey**	**2.94**	**88**	⇓Pn		Pn	09 21 56.4	-1.7
MGB				⇑Sn		Sn	09 22 29.7	-3.8
OCP	**Olym-Cheeka Pk**	**3.09**	**101**	⇓Pn		Pn	09 21 58.6	-1.3
PFB	**Port Renfrew**	**3.15**	**96**	⇓Pn		Pn	09 21 59.0	-1.8
PFB				⇓Sn		Sn	09 22 34.5	-4.0
BBB	**Bella Bella**	**3.26**	**11**	⇓Pn		Pn	09 22 00.9	-1.4
BBB				⇓Sn		Sn	09 22 36.2	-4.9

*ISCJB **08** 09:21:15.5±0.6, 10.49N±0.02×69.71W±0.02, h8km±4km, mb4.2/18, Error ellipse: s-maj=4.2km s-min=3.6km az=140.0*
*NEIC **08** 09:21:16.7, 10.45N×69.77W, h5km, mb4.6/12, MW4.7(CAR), After CAR.*
*FUNV **08** 09:21:16.8, 10.45N×69.76W, h5km, MW4.4*
*IDC **08** 09:21:20.3±7.3, 10.67N×69.60W, h34km±57km, mb3.7/8, mb1 4.0/10, mb1mx3.7/26, mbtmp3.9/10, ML3.0/2, Error ellipse: s-maj=29.6km s-min=17.4km az=58.0*

ISC 08 09:21:16.2±1.0, 10.48N±0.03×69.73W±0.03, h9km±6km, n54, σ1§42/65, mb4.4/18, 4C-6D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SIQV	**Siquisique**	**0.18**	**336**	⇓*i*P		**Pg**	**09 21 19.7**	**-0.3**
SIQV				*e*S		**Sg**	**09 21 22.9**	**+0.3**
CURV	**Curarigua**	**0.52**	**206**	⇑*e*P		**Pg**	**09 21 24.9**	**-1.3**
CURV				*e*S		**Sg**	**09 21 32.4**	**-0.6**
TEPV	**Terepaima**	**0.74**	**134**	⇓*e*P		**Pg**	**09 21 30.1**	**-0.4**
TEPV				*e*S		**Sb**	**09 21 41.4**	**-0.2**
QARV	**Quebrada Arrib**	**0.82**	**251**	⇑*e*P		**Pg**	**09 21 31.4**	**-0.7**
DABV	**Dabajuro**	**0.99**	**296**	⇓*e*P		**Pb**	**09 21 35.6**	**+0.1**
DABV				*e*S		**Sb**	**09 21 49.4**	**+0.6**
SANV	**Sanarito**	**0.99**	**169**	⇓*i*P		**Pg**	**09 21 34.5**	**-0.7**
SANV				*e*S		**Sg**	**09 21 47.8**	**-0.4**
JACV	**Jacura**	**1.07**	**56**	⇑*e*P		**Pb**	**09 21 37.2**	**+0.2**
JACV				*e*S		**Sn**	**09 21 53.5**	**+0.9**
MAPV	**Macapo**	**1.41**	**117**	⇓*e*P		**Pn**	**09 21 42.6**	**+0.4**
MAPV				*e*S		**Sg**	**09 22 02.5**	**+0.8**
SDV	**Santo Domingo**	**1.81**	**209**	*e*Pn		**Pn**	**09 21 48.4**	**+0.6**
SDV				*e*Sn		**Sb**	**09 22 13.7**	**+0.9**
TURV	**Turiamo**	**1.86**	**91**	*e*P		**Pn**	**09 21 48.0**	**-0.3**
TURV				*e*S		**Sn**	**09 22 13.1**	**+1.1**
BAUV	**El Baul**	**2.26**	**132**	*e*P		**Pn**	**09 21 55.1**	**+1.2**
BAUV				*e*S		**Sn**	**09 22 22.5**	**+0.6**
SOCV	**Socops**	**2.45**	**207**	*e*P		**Pn**	**09 21 57.0**	**+0.5**
SOCV				*e*S		**Sn**	**09 22 25.5**	**-1.0**
FUNV	**FUNVISIS**	**2.88**	**90**	*e*P		**Pn**	**09 22 02.8**	**+0.4**
FUNV				*e*S		**Sn**	**09 22 36.8**	**-0.4**
ELOV	**Elorza**	**3.46**	**176**	⇑*e*P		**Pn**	**09 22 11.3**	**+0.9**
ELOV				*e*S		**Sn**	**09 22 49.6**	**-2.1**
CAPV	**Capacho**	**3.64**	**225**	*e*P		**Pn**	**09 22 13.1**	**+0.1**
CUPV	**Cœpira**	**3.91**	**96**	⇓*e*P		**Pn**	**09 22 17.3**	**+0.8**
CUPV				*e*S		**Sn**	**09 23 01.2**	**-1.4**
PCRV	**Puerto La Cruz**	**5.03**	**93**	*e*P		**Pn**	**09 22 32.1**	**+0.2**
PRGV	**PARIAGUAN**	**5.30**	**108**	*e*P		**Pn**	**09 22 34.2**	**-1.4**
ROSC	**El Rosal**	**7.21**	**220**	*e*Pn		Pn	09 23 06.2	+3.9
ROSC				*e*Sn		Sn	09 24 36.1	+11
ROSC	**El Rosal**	**7.21**	**220**	Pn		Pn	09 23 06.1	+3.9
	1.9nm,0.3s,baz=94,slow=18,SNR=7.9							
ROSC						Sn			**Sn**	**09 24 29.1**	**+4.6**
	1.7nm,0.3s,baz=73,slow=19,SNR=2.1								
GRGR	**Grenville**	**8.09**	**78**	*e*Pn		**Pn**	**09 23 12.7**	**-1.4**
GRGR				*e*Sn		**Sn**	**09 24 43.4**	**-2.4**
CELP	**Cerrillos**	**8.14**	**22**	Pn		**Pn**	**09 23 16.1**	**+1.4**
RIOV	**Rio Grande**	**8.18**	**106**	*e*P		**Pn**	**09 23 14.0**	**-1.2**
SDDR	**Presa de Saban**	**8.59**	**350**	*e*Pn		**Pn**	**09 23 22.1**	**+1.2**
SDDR				*e*Sn		**Sn**	**09 24 53.2**	**-4.7**
LUEV	**Luepa**	**9.39**	**119**	*e*P		**Pn**	**09 23 30.2**	**-1.8**
MTDJ	**Mount Denham**	**10.79**	**316**	Pn		**Pn**	**09 23 50.7**	**-0.3**
OTAV	**Otavalo**	**13.37**	**221**	*e*Pn		Pn	09 24 30.6	+3.9
PTGA	**Pitinga**	**14.78**	**138**	Pn		**Pn**	**09 24 44.8**	**-0.9**
PTGA	**Pitinga**	**14.78**	**138**	Pn		**Pn**	**09 24 46.1**	**+0.5**
	0.2nm,0.3s,baz=146,slow=22,SNR=2.7								
TEIG	**Tepich**	**20.32**	**301**	P		Pn	09 25 54.0	-0.8
	3.9nm,0.6s,baz=47,slow=2.5,SNR=5.5								
SAML	**Samuel**	**20.37**	**161**	*e*P		**P**	**09 25 53.2**	**-0.1**
	6.3nm,0.8s								
NNA	**Nana**	**23.41**	**198**	*e*P		**P**	**09 26 26.1**	**+0.3**
	20nm,1.1s								
LPAZ	**La Paz**	**26.64**	**177**	P		**P**	**09 27 00.1**	**+4.0**
	0.5nm,0.5s,baz=0.0,slow=10,SNR=2.8								
HKT	**Hockley**	**31.09**	**312**	*e*P		**P**	**09 27 36.4**	**+1.5**
LVC	**Limon Verde**	**32.90**	**179**	*e*P		P	09 27 47.4	-3.8
	1.1nm,0.6s								
AGMN	**Agassiz Nation**	**43.60**	**335**	*e*P		**P**	**09 29 20.5**	**-0.3**
	8.0nm,0.8s								
PV01	**Paradox Valley**	**44.34**	**315**	*e*P		**P**	**09 29 28.8**	**+1.6**
WUAZ	**Wupatki**	**45.24**	**310**	*e*P		**P**	**09 29 36.0**	**+1.7**
	5.4nm,1.0s								
PDAR	**Pinedale Array**	**47.27**	**320**	P		**P**	**09 29 51.0**	**+0.7**
	1.1nm,0.9s,baz=113,slow=8.9,SNR=6.8								
LOHW	**Long Hollow**	**48.36**	**321**	*e*P		**P**	**09 29 59.5**	**+0.8**
	14nm,1.6s								
REDW	**Red Top Meadow**	**48.39**	**320**	*e*P		**P**	**09 29 59.9**	**+0.9**
	8.3nm,0.9s								
TPAW	**Teton Pass**	**48.52**	**320**	*e*P		**P**	**09 30 00.9**	**+0.9**
	4.6nm,0.8s								
MOOW	**Moose Ponds**	**48.52**	**321**	*e*P		**P**	**09 30 02.2**	**+2.3**
	14nm,1.8s								
FXWY	**Fox Creek**	**48.64**	**320**	*e*P		**P**	**09 30 01.6**	**+0.7**
	32nm,2.4s								
BGU	**Big Grassy Mou**	**48.67**	**316**	*e*P		P	09 30 04.3	+3.2
	20nm,2.5s								
MCMT	**McKenzie Canyo**	**50.37**	**321**	*e*P		**P**	**09 30 15.4**	**+1.3**
	1.0nm,0.6s								
PLCA	**Paso Flores**	**50.96**	**181**	P		**P**	**09 30 19.6**	**+1.3**
	1.9nm,0.9s,baz=335,slow=9.0,SNR=3.7								
NVAR	**Mina Array Bea**	**51.46**	**311**	P		**P**	**09 30 23.2**	**+0.8**
	0.6nm,0.6s,baz=115,slow=6.1,SNR=6.3								
YKA	**Yellowknife Ar**	**61.07**	**338**	P		**P**	**09 31 29.1**	**-1.2**
	1.8nm,0.7s,baz=122,slow=6.9,SNR=27								
TORD	**Torodi Ar. Bea**	**69.76**	**80**	P		**P**	**09 32 26.8**	**-0.7**
	1.0nm,0.5s,baz=278,slow=6.1,SNR=14								
ILAR	**Eielson Array**	**75.11**	**334**	P		**P**	**09 32 58.0**	**-0.5**
	0.4nm,0.6s,baz=102,slow=4.4,SNR=8.2								
CMAR	**Chiang Mai Arr**	**149.15**	**21**	PKPbc		**PKPbc**	**09 41 05.6**	**-0.5**
	0.8nm,0.4s,baz=325,slow=4.4,SNR=4.8								
ASAR	**Alice Springs**	**153.93**	**237**	PKPbc		**PKPbc**	**09 41 15.8**	**-1.3**
	0.5nm,0.7s,baz=112,slow=2.2,SNR=5.8								
WRA	**Warramunga Arr**	**154.97**	**245**	PKPbc		**PKPbc**	**09 41 18.0**	**-1.4**
	0.6nm,0.7s,baz=104,slow=2.5,SNR=4.8								

*IDC **08** 09:31:33.2±0.4, 10.43N×69.73W, h0km, mb4.4/23, mb1 4.6/26, mb1mx4.5/30, mbtmp4.4/26, ML3.8/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/35, Error ellipse: s-maj=15.5km s-min=12.0km az=48.0*
*ISCJB **08** 09:31:34.5±0.6, 10.51N±0.02×69.67W±0.02, h12km±3km, mb4.7/105, MS3.9/8, Error ellipse: s-maj=3.2km s-min=2.7km az=42.0*
*BJI **08** 09:31:34.9, 10.50N×69.60W, h10km, mB5.1/1, Ms5.2/4, Ms7 4.8/3*
*NEIC **08** 09:31:35.6, 10.44N×69.74W, h5km, mb4.7/81, MW4.8(CAR), After CAR.*
*FUNV **08** 09:31:35.4, 10.44N×69.75W, h1km, MW4.8*

ISC 08 09:31:34.8±0.8, 10.48N±0.03×69.73W±0.03, h7km±5km, n519, σ1§13/558, mb4.8/105, MS3.6/8, 154C-159D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SIQV	**Siquisique**	**0.19**	**336**	⇓*i*P		**Pg**	**09 31 38.9**	**+0.4**
SIQV				*e*S		**Sg**	**09 31 42.2**	**+1.1**
CURV	**Curarigua**	**0.52**	**206**	⇑*i*P		**Pg**	**09 31 44.2**	**-0.5**
CURV				*e*S		**Sg**	**09 31 51.7**	**+0.2**
TEPV	**Terepaima**	**0.73**	**134**	⇓*e*P		**Pg**	**09 31 49.4**	**+0.5**
QARV	**Quebrada Arrib**	**0.83**	**251**	⇑*i*P		**Pg**	**09 31 50.6**	**0.0**
QARV				*e*S		**Sg**	**09 32 01.6**	**+0.2**
SANV	**Sanarito**	**0.99**	**169**	⇓*i*P		**Pg**	**09 31 53.8**	**0.0**
SANV				*e*S		**Sg**	**09 32 06.7**	**+0.1**
DABV	**Dabajuro**	**0.99**	**296**	⇓*e*P		**Pn**	**09 31 54.9**	**-0.3**
DABV				*e*S		**Sb**	**09 32 08.3**	**+0.6**
JACV	**Jacura**	**1.07**	**55**	⇑*e*P		**Pn**	**09 31 56.4**	**+0.1**
JACV				*e*S		**Sn**	**09 32 12.7**	**+1.3**
MAPV	**Macapo**	**1.41**	**117**	⇓*e*P		**Pg**	**09 32 01.8**	**0.0**
MAPV				*e*S		**Sg**	**09 32 21.3**	**+1.2**
SDV	**Santo Domingo**	**1.81**	**210**	*e*Pn		**Pn**	**09 32 07.4**	**+0.8**
SDV				*e*Sn		**Sb**	**09 32 32.0**	**+0.5**
TURV	**Turiamo**	**1.86**	**91**	⇑*e*P		**Pn**	**09 32 06.9**	**-0.2**
TURV				*e*S		**Sb**	**09 32 31.9**	**-0.7**
BAUV	**El Baul**	**2.26**	**132**	*e*P		**Pn**	**09 32 13.6**	**+1.1**
BAUV				*e*S		**Sn**	**09 32 40.6**	**-0.1**
SOCV	**Socops**	**2.45**	**207**	⇑*e*P		**Pn**	**09 32 15.7**	**+0.6**
SOCV				*e*S		**Sn**	**09 32 44.8**	**-0.6**
FUNV	**FUNVISIS**	**2.87**	**90**	*e*P		**Pn**	**09 32 20.5**	**-0.6**
FUNV				*e*S		**Sn**	**09 32 56.1**	**+0.1**
ELOV	**Elorza**	**3.46**	**176**	⇑*e*P		**Pn**	**09 32 30.2**	**+1.0**
CAPV	**Capacho**	**3.64**	**225**	⇑*e*P		**Pn**	**09 32 32.3**	**+0.5**
CUPV	**Cœpira**	**3.90**	**96**	⇑*e*P		**Pn**	**09 32 36.2**	**+0.9**
CUPV				*e*S		**Sn**	**09 33 19.4**	**-2.0**
PCRV	**Puerto La Cruz**	**5.02**	**93**	*e*P		**Pn**	**09 32 51.2**	**+0.6**
PRGV	**PARIAGUAN**	**5.29**	**108**	*e*P		**Pn**	**09 32 54.3**	**-0.1**
CRUV	**Carupano**	**6.39**	**88**	*e*P		**Pn**	**09 33 10.0**	**+0.7**
ROSC	**El Rosal**	**7.21**	**220**	Pn		**Pn**	**09 33 24.1**	**+3.1**
ROSC				Sn		**Sn**	**09 34 47.1**	**+3.6**
ROSC				*e*Sn		Sn	09 34 49.6	+6.2
ROSC	**El Rosal**	**7.21**	**220**	Pn		**Pn**	**09 33 24.1**	**+3.1**
	13nm,0.3s,baz=94,slow=13,SNR=27								
ROSC						Sn			**Sn**	**09 34 47.1**	**+3.6**
	4.4nm,0.3s,baz=72,slow=19,SNR=2.0					

335A	Moody baz=33	32.97 313	⇓P	P	09 38 11.7	+1.2
833A	Chaparral WMA, baz=33	32.99 307	⇓P	P	09 38 12.2	+1.6
733A	Divot King Ran baz=33	33.09 307	⇓P	P	09 38 12.5	+0.9
434A	Burnet baz=33	33.34 312	⇓P	P	09 38 14.2	+0.6
633A	Saathoff Ranch baz=33	33.35 309	⇓P	P	09 38 14.3	+0.6
832A	Faith Ranch, C baz=34	33.44 306	⇑P	P	09 38 15.4	+0.9
SFIN	Scholer Farm baz=34	33.52 336	⇑P	P	09 38 16.0	+0.9
533A	Kerrville baz=34	33.54 310	⇓P	P	09 38 16.3	+0.9
334A	Lometa baz=34	33.59 312	⇑P	P	09 38 16.2	+0.5
732A	Laxson Ranch, baz=34	33.63 307	⇑P	P	09 38 16.7	+0.5
135A	Vickery Place, baz=34	33.67 315	⇓P	P	09 38 17.0	+0.5
BDFB	Brasilia	33.70 140	P	P	09 38 17.6	+0.6
BDFB	Brasilia comp=Z,4.1nm,0.8s,baz=350,slow=3.9,SNR=4.7	33.70 140	P	P	09 38 17.6	+0.6
BDFB			LR	LR	09 52 06.1	
632A	Uvalde baz=34,SNR=11 comp=Z,165nm,20.0s,baz=236,slow=37	33.84 308	⇑P	P	09 38 19.1	+1.0
234A	Clairette baz=34	33.87 314	⇓P	P	09 38 19.0	+0.7
433A	Art baz=34	33.92 311	⇓P	P	09 38 19.0	+0.3
333A	Richland Sprin baz=34	34.13 312	⇓P	P	09 38 20.9	+0.4
532A	Rocksprings baz=34	34.22 309	⇑P	P	09 38 22.1	+0.7
JCT	Junction City baz=34	34.31 310	⇑P	P	09 38 22.4	+0.2
631A	Perdido Creek baz=34,SNR=15	34.41 308	⇓P	P	09 38 23.4	+0.4
233A	Rising Star baz=34	34.43 313	⇑P	P	09 38 23.7	+0.5
Z34A	Collier Ranch, baz=34	34.48 316	⇑P	P	09 38 24.2	+0.7
432A	Menard baz=35	34.50 310	⇓P	P	09 38 24.4	+0.6
TUL1	Tulsa comp=Z,7.0nm,0.8s	34.64 321	eP	P	09 38 26.1	+1.2
TUL1	Tulsa baz=35	34.64 321	⇓P	P	09 38 25.3	+0.4
332A	Millersview baz=35	34.71 311	⇓P	P	09 38 26.5	+0.9
531A	Rocksprings baz=35	34.73 309	⇓P	P	09 38 26.4	+0.6
133A	Hamilton Ranch baz=35	34.75 314	⇑P	P	09 38 26.7	+0.8
232A	Coleman baz=35	34.90 312	⇓P	P	09 38 27.9	+0.6
Z33A	Whitaker Ranch baz=35	35.02 315	⇑P	P	09 38 28.8	+0.6
431A	Sonora baz=35	35.02 310	⇑P	P	09 38 29.0	+0.7
X34A	Smith Ranch, M baz=35	35.13 318	⇑P	P	09 38 30.5	+1.3
331A	San Angelo baz=35,SNR=9.6	35.19 311	⇓P	P	09 38 30.3	+0.6
ABTX	Abilene, Hawle comp=Z,5.9nm,0.6s	35.28 313	eP	P	09 38 31.4	+0.9
ABTX	Abilene, Hawle baz=35	35.28 313	⇓P	P	09 38 31.0	+0.5
Y33A	Hilltop Ranch, baz=35	35.33 316	⇑P	P	09 38 31.3	+0.5
530A	J-C Ranch, Com baz=35	35.33 308	⇓P	P	09 38 31.4	+0.4
231A	Bronte baz=36	35.41 312	⇓P	P	09 38 32.2	+0.5
W34A	Bridge Creek, baz=36	35.48 318	⇓P	P	09 38 32.7	+0.6
Z32A	Haskell baz=36	35.53 314	⇓P	P	09 38 33.4	+0.8
430A	Baggett Ranch, baz=36	35.55 309	⇓P	P	09 38 34.1	+1.3
X33A	Lawton baz=36	35.55 317	⇓P	P	09 38 33.3	+0.6
V34A	Guthrie baz=36	35.68 319	⇓P	P	09 38 34.7	+0.9
330A	Mertzon baz=36	35.79 310	⇑P	P	09 38 35.4	+0.4
W33A	Caddo, Fort Co baz=36	35.88 318	⇑P	P	09 38 36.1	+0.4
Y32A	R-V Farms, Ver baz=36	35.88 315	⇑P	P	09 38 36.6	+0.9
429A	Davenport Ranc baz=36	35.97 309	⇑P	P	09 38 37.1	+0.5
230A	Sterling City baz=36	35.98 311	⇓P	P	09 38 37.1	+0.6
Z31A	Sharp Cattle R baz=36	36.00 314	⇑P	P	09 38 37.3	+0.6
529A	Stev Forest Ra baz=36	36.01 308	⇑P	P	09 38 37.2	+0.4
X32A	Elmer baz=36	36.01 316	⇑P	P	09 38 37.3	+0.6
U34A	Anderson Ranch baz=36	36.06 320	⇑P	P	09 38 37.6	+0.5
V33A	Lossen Ranch, baz=36	36.16 319	⇑P	P	09 38 38.3	+0.3
628A	Black Gap, Mar baz=36	36.26 306	⇑P	P	09 38 39.3	+0.4
W32A	Sentinel baz=36	36.38 317	⇑P	P	09 38 40.0	0.0
Y31A	Rekieta Farm, baz=36	36.43 315	⇑P	P	09 38 40.9	+0.5
329A	Wagon Wheel Ra baz=36,SNR=6.1	36.44 310	⇑P	P	09 38 41.3	+0.8
229A	Bryant Ranch, baz=37	36.54 311	⇑P	P	09 38 41.2	-0.1
V32A	Arapaho baz=37	36.60 318	⇑P	P	09 38 42.0	+0.3
X31A	McDonald Ranch baz=37	36.60 316	⇓P	P	09 38 41.8	0.0
428A	Kincaid Ranch, baz=37	36.63 308	⇑P	P	09 38 42.8	+0.6
627A	Terlingua Ranc baz=37,SNR=6.1	36.64 306	⇓P	P	09 38 43.1	+0.8
Z30A	Sanderson Ranc baz=37	36.69 313	⇑P	P	09 38 43.5	+0.9
TXAR	Lajitas Array	36.82 306	P	P	09 38 44.8	+1.0
TXAR			PcP	PcP	09 41 06.0	0.0
TXAR	Lajitas Array comp=Z,2.7nm,1.0s,baz=115,slow=8.4,SNR=9.1	36.82 306	P	P	09 38 44.8	+1.0
TXAR			PcP	PcP	09 41 06.0	0.0
Y30A	comp=Z,0.4nm,0.6s,baz=123,slow=3.3,SNR=4.3 Stafford Cattl baz=37	36.83 314	⇓P	P	09 38 45.0	+1.2
W31A	Holland Ranch, baz=37	36.89 317	⇓P	P	09 38 45.0	+0.8
129A	Stewart Farms, baz=37	36.90 312	⇑P	P	09 38 44.8	+0.4
JFWS	Jewell Farm comp=Z,15nm,0.6s	36.94 335	eP	P	09 38 44.9	+0.4
U32A	Winter Ranch, baz=37	36.96 319	⇑P	P	09 38 45.4	+0.5
328A	Wristen Ranch, baz=37,SNR=6.3	37.02 309	⇑P	P	09 38 45.8	+0.4
Z29A	Hungry Hill Ra baz=37,SNR=13	37.09 313	⇓P	P	09 38 46.3	+0.3
527A	Woodward Ranch baz=37	37.10 307	⇑P	P	09 38 46.5	+0.3
X30A	Coker Ranch, T baz=37,SNR=10	37.12 315	⇓P	P	09 38 46.7	+0.5
V31A	Spring Creek L baz=37	37.16 318	⇑P	P	09 38 47.0	+0.5
228A	UT Block 9, Go baz=37	37.19 310	⇓P	P	09 38 47.5	+0.6
427A	Hayter Ranch, baz=37	37.24 308	⇑P	P	09 38 48.2	+0.8
626A	Big Bend Ranch baz=37,SNR=10	37.28 306	⇑P	P	09 38 48.4	+0.7
128A	Castleberry Fa baz=37	37.35 311	⇑P	P	09 38 48.8	+0.5
Y29A	Porterfield Fa baz=37,SNR=10	37.37 314	⇑P	P	09 38 49.3	+0.9
RCBR	Riachuelo comp=Z,7.0nm,1.2s	37.38 114	eP	P	09 38 50.3	+1.7
RCBR	Riachuelo comp=Z,19nm,1.0s,baz=275,slow=7.6,SNR=4.8	37.38 114	P	P	09 38 49.7	+1.0
526A	Mary Lane Ranc baz=38,SNR=5.5	37.45 306	⇓P	P	09 38 50.1	+0.9
Z28A	Tucker Farm, M baz=38,SNR=5.0	37.60 312	⇑P	P	09 38 50.6	+0.2
426A	McDonald Obser baz=38,SNR=9.8	37.65 307	⇓P	P	09 38 51.5	+0.5
227A	Bennet, Jal baz=38	37.67 310	⇑P	P	09 38 51.3	+0.4
X29A	Tulia baz=38	37.70 314	⇑P	P	09 38 52.0	+0.8
S32A	Newby Ranch, P baz=38	37.72 321	⇑P	P	09 38 51.8	+0.5
Y28A	McKinney Farm, baz=38	37.81 313	⇑P	P	09 38 52.4	+0.3
T31A	Randall Ranch, baz=38	37.82 319	⇓P	P	09 38 52.8	+0.7
Q33A	Connelly Farm, baz=38	37.88 323	⇓P	P	09 38 53.4	+0.8
AMTX	Amarillo comp=Z,21nm,1.0s	37.91 315	eP	P	09 38 53.6	+0.6
AMTX	Amarillo baz=38	37.91 315	⇑P	P	09 38 53.4	+0.4
127A	Arkansas Junct baz=38	38.02 311	⇓P	P	09 38 54.3	+0.3
X28A	Dimmitt baz=38	38.09 314	⇑P	P	09 38 55.2	+0.7
MSTX	Muleshoe comp=Z,3.4nm,0.5s	38.22 313	eP	P	09 38 56.0	+0.4
MSTX	Muleshoe baz=38	38.22 313	⇑P	P	09 38 55.8	+0.2
Z27A	Tatum baz=38,SNR=11	38.22 312	⇓P	P	09 38 55.7	+0.1
Q32A	Meitler Ranch, baz=38	38.31 323	⇓P	P	09 38 57.0	+0.8
V29A	Stinnett baz=38	38.34 316	⇑P	P	09 38 57.4	+0.8
226B	Tecolote Peak, baz=38	38.36 309	⇑P	P	09 38 57.7	+0.8
425A	Indio Mountain baz=38	38.45 307	⇑P	P	09 38 58.0	+0.4
R31A	Burdett baz=38,SNR=5.2	38.45 321	⇑P	P	09 38 57.8	+0.4
Y27A	Causey baz=38	38.46 313	⇓P	P	09 38 57.7	+0.1
126A	Clayton Basin, baz=39	38.51 310	⇑P	P	09 38 58.4	+0.3
CPUP	Villa Florida comp=Z,88nm,18.3s,baz=144,slow=40	38.52 162	LR	LR	09 57 04.9	
Z26A	Caprock baz=39	38.76 311	⇑P	P	09 39 00.7	+0.4
X27A	F and S Farms, baz=39	38.79 314	⇑P	P	09 39 01.0	+0.6
225A	Deer Hill, Car baz=39,SNR=12	38.88 309	⇑P	P	09 39 02.5	+1.2
R30A	Dighton baz=39	38.92 320	⇑P	P	09 39 01.9	+0.5
Y26A	Elida baz=39	38.96 312	⇓P	P	09 39 02.3	+0.4
O32A	Brockman Farm, baz=39	38.97 324	⇓P	P	09 39 02.2	+0.4
W27A	Bowe Ranch, En baz=39	38.98 314	⇓P	P	09 39 02.4	+0.5
S29A	Ulysses baz=39	39.06 319	⇓P	P	09 39 03.5	+0.9
U28A	Mallet baz=39	39.09 317	⇑P	P	09 39 03.5	+0.6
324A	Moseley Ranch, baz=39,SNR=11	39.10 308	⇑P	P	09 39 04.1	+1.0
MNTX	Cornudas Mount comp=Z,8.1nm,1.0s	39.13 308	eP	P	09 39 04.3	+1.0
P31A	Stockton baz=39	39.14 323	⇓P	P	09 39 03.6	+0.4
V27A	Dan Oppiter Fa baz=39	39.18 315	⇓P	P	09 39 04.1	+0.5
X26A	CR and CF Fran baz=39	39.25 313	⇓P	P	09 39 04.4	0.0
Q30A	Quinter baz=39	39.30 321	⇑P	P	09 39 04.6	0.0
Z25A	Roswell baz=39,SNR=14	39.32 311	⇓P	P	09 39 05.8	+0.9
224A	Cornudas Mount baz=39,SNR=24	39.40 309	⇑P	P	09 39 06.7	+1.1
U27A	Thompson Grove baz=40	39.52 316	⇓P	P	09 39 07.5	+1.0
BGNE	Belgrade comp=Z,27nm,1.0s	39.67 326	eP	P	09 39 08.2	+0.6
P30A	Selden baz=40	39.67 322	⇓P	P	09 39 07.9	+0.2
Z24A	Sheeppen Canyo baz=40,SNR=18	39.82 310	⇑P	P	09 39 10.5	+1.3
V26A	Tequesquite Ra baz=40	39.86 315	⇓P	P	09 39 10.2	+0.8
SPMN	St. Paul baz=40	39.89 334	⇑P	P	09 39 10.3	+1.0
R28A	Tribune baz=40	39.92 319	⇑P	P	09 39 10.3	+0.5
O30A	MW Ranch, Wils baz=40	39.96 323	⇓P	P	09 39 10.6	+0.6
W25A	X Bar L Ranch, baz=40	40.04 314	⇑P	P	09 39 11.7	+0.8
U26A	Atchley Ranch, baz=40,SNR=6.4	40.14 316	⇑P	P	09 39 12.2	+0.5
Q28A	Sharon Springs baz=40	40.36 320	⇓P	P	09 39 13.4	0.0
T26A	Comanche Natio baz=40	40.45 317	⇑P	P	09 39 14.7	+0.4
Z23A	Rita Site, Whi baz=40	40.45 310	⇑P	P	09 39 14.6	+0.4
V25A	Rancho No Teng baz=40	40.46 314	⇓P	P	09 39 14.8	+0.3
U25A	Circle Dot Ran baz=41	40.60 315	⇓P	P	09 39 16.0	+0.5
Y23A	Lovelace Mesa, baz=41,SNR=12	40.60 311	⇓P	P	09 39 16.6	+0.9
P28A	Saint Francis baz=41	40.61 321	⇓P	P	09 39 15.8	+0.3
W24A	Lazy 6 Ranch, baz=41	40.72 313	⇓P	P	09 39 16.7	+0.1
V24A	Rampart Ranch, baz=41,SNR=5.0	40.87 314	⇓P	P	09 39 18.9	+1.0
L30A	Spencer Herefo baz=41,SNR=7.1	40.91 325	⇓P	P	09 39 18.4	+0.5
R26A	Arlington baz=41	40.96 318	⇓P	P	09 39 18.9	+0.5
T25A	Trinidad baz=41	40.98 316	⇓P	P	09 39 19.7	+0.9
Z22A	Elephant Butte baz=41,SNR=6.6	41.00 309	⇓P	P	09 39 20.3	+1.4
M29A	Burnside Ranch baz=41	41.13 324	⇓P	P	09 39 20.6	+0.8
N28A	Pribbeno Ranch baz=41	41.16 322	⇑P	P	09 39 20.7	+0.7
U24A	Moreno Valley baz=41,SNR=5.3	41.21 315	⇓P	P	09 39 22.6	+1.8
W23A	Werner Place, baz=41	41.23 312	⇑P	P	09 39 21.9	+1.0
S25A	Rockets Cordova baz=41	41.27 317	⇑P	P	09 39 21.6	+0.5
121A	Cookes Peak, D comp=Z,10nm,0.8s	41.33 308	eP	P	09 39 23.7	+2.1
121A	Cookes Peak, D baz=41,SNR=6.1	41.33 308	⇓P	P	09 39 23.0	+1.4
Q26A	Hugo baz=41	41.35 319	⇓P	P	09 39 22.5	+0.8
ANMO	Albuquerque comp=Z,6.9nm,1.2s	41.36 312	eP	P	09 39 22.6	+0.7
L29A	Maesberg Ranch baz=42	41.41 325	⇓P	P	09 39 22.2	+0.2
R25A	Fountain Ranch baz=42	41.43 317	⇑P	P	09 39 22.5	+0.2
V23A	Ortiz Mt. (NFS baz=42	41.53 313	⇑P	P	09 39 24.2	+0.9
T24B	San Luis baz=42,SNR=5.3	41.61 315	⇓P	P	09 39 25.2	+1.2
LAZ	Lazon comp=Z,6.2nm,1.1s	41.62 311	eP	P	09 39 25.7	+1.6
K29A	Lazy Trails An baz=42	41.78 326	⇓P	P	09 39 25.6	+0.6
S24A	Houchin Ranch, baz=42	41.79 316	⇑P	P	09 39 25.9	+0.5
U23A	El Rito baz=42,SNR=22	41.81 314	⇓P	P	09 39 27.5	+1.9
N27A	Anderson Farm, baz=42	41.83 322	⇓P	P	09 39 26.4	+0.9
L28A	Connealy Angus baz=42	41.97 324	⇓P	P	09 39 27.0	+0.4
O26A	Horse Wrangler baz=42	41.97 321	⇓P	P	09 39 27.3	+0.6
R24A	Sanders Place, baz=42	42.02 317	⇓P	P	09 39 28.1	+0.8
T23A	Casias Ranch, baz=42	42.05 315	⇓P	P	09 39 29.0	+1.5
319A	Douglas baz=42	42.08 306	⇓P	P	09 39 28.9	+1.2
V22A	San Miguel Ran baz=42	42.13 313	⇓P	P	09 39 29.6	+1.4
J29A	Okreek baz=42	42.21 326	⇓P	P	09 39 28.8	+0.3
U22A	Llaves baz=42,SNR=6.1	42.31 314	⇓P	P	09 39 31.5	+1.9
Q24A	Divide baz=42	42.44 318	⇓P	P	09 39 31.2	+0.5
L27A	T5 Ranch, Ells baz=43	42.48 324	⇓P	P	09 39 31.4	+0.6
R23A	Moffat baz=43,SNR=6.2	42.48 317	⇑P	P	09 39 32.5	+1.3
I29A	Vivian Onida baz=43	42.61 327	⇓P	P	09 39 32.3	+0.5
J28A	Allard Ranch, baz=43	42.72 326	⇑P	P	09 39 33.4	+0.7
G30A	Faulkton baz=43	42.77 329	⇓P	P	09 39 33.3	+0.3
K27A	Flueckinger Fa baz=43	42.82 324	⇑P	P	09 39 33.5	-0.1
S22A	4UR Ranch, Cre baz=43	42.95 315	⇑P	P	09 39 35.1	+0.2
I28A	Midland baz=43	43.06 327	⇑P	P	09 39 35.5	+0.1
ISCO	Idaho Springs baz=43	43.19 319	⇓P	P	09 39 37.1	+0.2
K26A	Motz Farm, Whi baz=43	43.36 324	⇓P	P	09 39 38.6	+0.6
L25A	Engebretsen Ra baz=44	43.50 323	⇑P	P	09 39 39.5	+0.5
I27A	Quinn baz=44	43.59 326	⇓P	P	09 39 40.0	+0.3
TUC	Tucson comp=Z,4.4nm,1.2s	43.60 306	eP	P	09 39 40.6	+0.5
AGMN	Agassiz Nation comp=Z,24nm,0.7s	43.61 335	eP	P	09 39 40.0	+0.3
AGMN	Agassiz Nation baz=44,SNR=15	43.61 335	⇓P	P	09 39 40.3	+0.6
G28A	Parade baz=44	43.64 328	⇓P	P	09 39 40.5	+0.4
J26A	Sides Ranch, S baz=44	43.68 324	⇓P	P	09 39 41.0	+0.5
K25A	Mack Ranch, Ha baz=44	43.71 323	⇑P	P	09 39 41.0	+0.2
SMCO	Snowmass comp=Z,5.7nm,0.8s	43.76 317	eP	P	09 39 42.0	+0.4
X18A	Snowflake baz=44,SNR=19	43.78 310	⇑P	P	09 39 43.2	+1.6
P22A	Eagle baz=44	43.83 318	⇓P	P	09 39 41.9	-0.1
W18A	Petrified Fore comp=Z,4.0nm,0.7s	43.86 310	eP	P	09 39 43.8	+1.6
W18A	Petrified Fore baz=44	43.86 310	⇑P	P	09 39 42.2	0.0
MVCO	Mesa Verde baz=44	43.86 314	⇓P	P	09 39 42.1	-0.2
O22A	Kremmling baz=44,SNR=12	43.99 319	⇑P	P	09 39 43.7	+0.4
F28A	McLaughlin baz=44	44.11 329	⇑P	P	09 39 43.8	0.0
J25A	Sunshine Ranch baz=44	44.15 324	⇓P	P	09 39 44.1	-0.1
M23A	Laramie baz=44	44.17 321	⇑P	P	09 39 44.6	-0.1
N22A	Wattenberg Ran baz=44	44.27 319	⇑P	P	09 39 46.4	+0.9
C30A	Mose, Pekin baz=44	44.30 332	⇓P	P	09 39 46.0	+0.7
SCHQ	Schefferville	44.30 2	P	P	09 39 45.1	-0.1
SCHQ	Schefferville comp=Z,10.0nm,0.7s,baz=181,slow=7.2,SNR=15	44.30 2	P	P	09 39 45.1	-0.1
PV01	Paradox Valley comp=Z,2µm,1.0s	44.34 315	eP	P	09 39 48.2	+2.2
D29A	Pettibone, Tap baz=44	44.36 331	⇑P	P	09 39 46.6	+0.8
G27A	Dupree baz=44	44.38 328	⇓P	P	09 39 46.1	+0.1
L23A	Garrett baz=45	44.52 321	⇓P	P	09 39 47.8	+0.3
E28A	Huff baz=45	44.55 330	⇑P	P	09 39 46.9	-0.5
PV04	Paradox Valley	44.70 315	eP	P	09 39 50.3	+1.5
F27A	Lemmon baz=45,SNR=7.4	44.75 328	⇓P	P	09 39 48.9	-0.1
B30A	Myrvik Farm, E baz=45	44.79 333	⇓P	P	09 39 49.0	-0.2
H25A	Fruitdale baz=45	44.79 326	⇓P	P	09 39 49.4	0.0
K23A	Bowen Ranch, D baz=45	44.84 322	⇑P	P	09 39 50.7	+0.8
X16A	Lo Mia Camp, P baz=45	44.88 309	⇓P	P	09 39 51.4	+1.1
I24A	Kuemmerle Ranc baz=45	44.91 324	⇑P	P	09 39 50.6	+0.2
D28A	Regan baz=45	44.92 330	⇓P	P	09 39 51.0	+0.6
G25A	Newell baz=45	45.06 326	⇓P	P	09 39 51.9	+0.4
F26A	Lodgepole baz=45	45.08 328	⇓P	P	09 39 51.7	+0.1
O20A	White River Ci comp=Z,72nm,2.3s	45.09 318	eP	P	09 39 53.5	+1.6
O20A	White River Ci baz=45	45.09 318	⇓P	P	09 39 52.0	0.0
214A	Organ Pipe Nat baz=45	45.11 305	⇓P	P	09 39 52.1	+0.1
A30A	Hoffart Farm, baz=45,SNR=7.1	45.14 334	⇑P	P	09 39 52.1	+0.1
ULM	Lac du Bonnet	45.14 336	P	P	09 39 50.4	-1.5
ULM			eP	pP	09 39 51.2	-2.9
ULM	Lac du Bonnet comp=Z,6.8nm,0.6s,baz=144,slow=8.8,SNR=12	45.14 336	P	P	09 39 50.4	-1.5
WUAZ	Wupatki comp=Z,18nm,1.0s	45.24 310	eP	P	09 39 54.5	+1.3
WUAZ	Wupatki baz=45,SNR=14	45.24 310	⇑P	P	09 39 54.3	+1.1
B29A	Wagenman Farm, baz=45	45.26 332	⇑P	P	09 39 53.6	+0.7
K22A	Casper comp=Z,11nm,1.0s	45.33 322	eP	P	09 39 54.6	+0.8
K22A	Casper baz=45	45.33 322	⇓P	P	09 39 54.2	+0.4
E26A	Carlson Angus baz=46	45.38 328	⇓P	P	09 39 54.2	+0.2
H24A	Dirks Ranch, A baz=46	45.41 325	⇑P	P	09 39 54.9	+0.6
N20A	Spence Gulch, baz=46	45.46 318	⇑P	P	09 39 55.7	+0.7
A29A	Manning Farm, baz=46	45.54 333	⇓P	P	09 39 55.7	+0.5
B28A	Dugan Ranch, T baz=46	45.71 332	⇑P	P	09 39 57.2	+0.7
J22A	Midwest baz=46	45.73 322	⇓P	P	09 39 57.0	0.0
D26A	Manning baz=46	45.74 329	⇑P	P	09 39 56.9	+0.1
C27A	Sayler Ranch, baz=46	45.74 330	⇑P	P	09 39 57.3	+0.5
K21A	Alcova baz=46,SNR=5.9	45.77 321	⇑P	P	09 39 57.7	+0.4
Y14A	Wickenburg baz=46	45.91 307	⇑P	P	09 39 58.7	+0.3
A28A	Rude Farm, Bot baz=46	46.00 332	⇑P	P	09 39 59.0	+0.1
I22A	9 Mile Ranch, baz=46	46.01 323	⇓P	P	09 39 59.2	0.0
B27A	Peters Farms, baz=46	46.10 331	⇓P	P	09 40 00.3	+0.6
C26A	Wahner Farm, P baz=46	46.11 330	⇓P	P	09 39 59.9	+0.2
113A	Mohawk Valley, baz=46	46.13 306	⇑P	P	09 40 00.1	0.0
SRU	San Rafael comp=Z,5.0nm,0.8s	46.15 315	eP	P	09 40 01.2	+0.8
G23A	Biddle baz=46	46.15 325	⇓P	P	09 40 00.3	+0.1
J21A	Lysite baz=46	46.28 322	⇑P	P	09 40 01.6	+0.3
U15A	North Rim baz=46,SNR=10	46.29 311	⇑P	P	09 40 02.8	+1.2
I21A	Big Trails, Te baz=46,SNR=7.6	46.45 322	⇑P	P	09 40 03.2	+0.6
F23A	Volborg baz=47	46.48 326	⇑P	P	09 40 02.6	-0.1

G22A	Birney	46.67	325	⇑P		P	09 40 04.1	-0.2	baz=47
H21A	Big Horn, Sher	46.76	324	⇑P		P	09 40 05.2	+0.2	baz=47
D24A	Glendive	46.77	328	⇓P		P	09 40 05.4	+0.4	baz=47
B25A	Knox Farm, Ray	46.94	330	⇓P		P	09 40 06.8	+0.6	baz=47
F22A	Rosebud	46.99	325	⇓P		P	09 40 06.9	+0.3	baz=47,SNR=6.0
W13A	Hualapai Mount	47.00	309	⇓P		P	09 40 07.2	+0.1	baz=47
I20A	Worland	47.02	322	⇓P		P	09 40 07.3	+0.3	baz=47
Y12C	Blythe	47.04	307	⇓P		P	09 40 07.3	+0.1	baz=47
MVU	Marysvale	47.07	314	*e*P		P	09 40 09.3	+1.6	comp=Z,14nm,1.4s
C24A	Savage	47.09	328	⇑P		P	09 40 07.7	+0.3	baz=47
G21A	Lodge Grass	47.20	324	⇑P		P	09 40 08.5	+0.1	baz=47
E22A	Miles City	47.22	326	⇑P		P	09 40 09.0	+0.5	baz=47
J19A	Crowheart	47.22	321	⇓P		P	09 40 09.3	+0.6	baz=47,SNR=10
DAU	Daniels Canyon	47.24	316	*e*P		P	09 40 09.5	+0.4	
H20A	Greybull	47.24	323	⇑P		P	09 40 08.8	0.0	baz=47
D23A	Lindsay	47.27	327	⇓P		P	09 40 09.5	+0.7	baz=47
BW06	Boulder Array	47.28	320	*e*P		P	09 40 09.6	+0.4	comp=Z,5.8nm,0.9s
PDAR	Pinedale Array	47.28	320	P		P	09 40 09.2	0.0	
PDAR				PcP		PcP	09 41 39.2	-1.1	
PDAR	Pinedale Array	47.28	320	P		P	09 40 09.2	0.0	comp=Z,4.3nm,0.9s,baz=129,slow=10,SNR=19
PDAR				PcP		PcP	09 41 39.2	-1.1	comp=Z,1.9nm,0.9s,baz=132,slow=6.7,SNR=3.9
MPU	Maple Canyon	47.32	316	*e*P		P	09 40 10.5	+1.0	comp=Z,23nm,1.5s
MPU				*e*ScP		ScP	09 45 34.9	-0.3	
A25A	Svangstu Ranch	47.36	330	⇓P		P	09 40 10.2	+0.7	baz=48
JLU	Jordanelle	47.46	317	*e*P		P	09 40 12.2	+1.5	comp=Z,20nm,1.7s
JLU				*e*ScP		ScP	09 45 35.1	-0.7	
CCUT	Cedar City	47.51	312	*e*P		P	09 40 12.4	+1.3	comp=Z,71nm,2.9s
LAO	LASA Array	47.52	326	*e*P		P	09 40 11.4	+0.6	comp=Z,171nm,2.8s
DGMT	Dagmar	47.59	329	*e*P		P	09 40 12.9	+1.6	comp=Z,13nm,0.8s
DGMT	Dagmar	47.59	329	⇑P		P	09 40 12.2	+1.0	baz=48
I19A	Meeteetse	47.60	322	⇑P		P	09 40 12.3	+0.7	baz=48,SNR=14
C23A	Lambert	47.66	328	⇓P		P	09 40 13.0	+1.2	baz=48
ARUT	Antelope Range	47.66	312	*e*P		P	09 40 13.5	+1.3	comp=Z,78nm,0.8s
IRM	Iron Mountain	47.67	307	⇑P		P	09 40 13.5	+1.4	baz=48
BC3	Big Chuckawall	47.75	306	⇑P		P	09 40 14.2	+1.3	baz=48
D22A	Cohagen	47.78	327	⇓P		P	09 40 14.1	+1.3	baz=48,SNR=15
G20A	Bridger	47.78	324	⇓P		P	09 40 12.9	-0.1	baz=48,SNR=6.2
A24A	Westby	47.79	330	⇓P		P	09 40 13.5	+0.7	baz=48
SWSC	Sam W. Stewart	47.81	305	⇑P		P	09 40 13.8	+0.6	baz=48
H19A	Powell	47.94	323	⇑P		P	09 40 14.7	+0.5	baz=48
B23A	Brockton	47.98	329	⇓P		P	09 40 15.4	+1.1	baz=48
C22A	Vida	47.99	328	⇓P		P	09 40 14.8	+0.4	baz=48,SNR=5.3
F20A	Billings	48.07	324	⇑P		P	09 40 15.5	+0.3	baz=48,SNR=12
D21A	La Casta Ranch	48.17	326	⇓P		P	09 40 16.3	+0.5	baz=48,SNR=5.9
DUG	Dugway	48.21	315	*e*P		P	09 40 17.8	+1.4	comp=Z,6.1nm,1.1s
DUG	Dugway	48.21	315	⇑P		P	09 40 17.4	+1.0	baz=48
A23A	Redstone	48.25	329	⇑P		P	09 40 18.7	+2.3	baz=48
GMRC	Granite Mounta	48.27	308	⇓P		P	09 40 17.6	+0.7	baz=48
BELC	Belle Mtn. Jos	48.29	306	⇓P		P	09 40 17.6	+0.5	baz=48
MONP	Monument Peak	48.30	305	⇑P		P	09 40 17.7	+0.4	baz=48
B22A	Reddig Ranch S	48.40	328	⇑P		P	09 40 18.5	+0.9	baz=48
SHPR	Sheep Range	48.46	310	*e*P		P	09 40 19.7	+1.3	
E20A	Meyer Farm, Mu	48.47	325	⇑P		P	09 40 18.8	+0.6	baz=48,SNR=23
I17A	Pilgrim Ck.	48.51	321	⇓P		P	09 40 19.3	+0.6	baz=49
F19A	Roth Farm, Mol	48.56	324	⇑P		P	09 40 19.7	+0.8	baz=49
FLWY	Flagg Ranch	48.67	321	*e*P		P	09 40 20.7	+0.8	comp=Z,7.8nm,0.8s
BGU	Big Grassy Mou	48.68	316	*e*P		P	09 40 21.2	+1.2	comp=Z,6.0nm,1.3s
TUQ	Turquoise Moun	48.68	308	⇑P		P	09 40 20.9	+0.8	baz=49
H17A	Grant Village	48.75	321	*e*P		P	09 40 18.3	-2.3	comp=Z,3.8nm,0.8s
A22A	Carney Farms,	48.79	329	⇑P		P	09 40 21.5	+0.9	baz=49,SNR=5.7
D20A	Manuel Ranch,	48.81	326	⇑P		P	09 40 21.4	+0.6	baz=49,SNR=13
E19A	Rath Farm, Rou	48.81	325	⇓P		P	09 40 21.7	+0.8	baz=49,SNR=14
HVU	Hansel Valley	48.89	317	*e*P		P	09 40 22.4	+0.8	comp=Z,5.2nm,0.8s
GCMT	Greycliff	48.95	323	*e*P		P	09 40 22.0	0.0	comp=Z,1.1nm,1.1s
B21A	Ellsworth Farm	49.01	328	⇑P		P	09 40 23.8	+1.5	baz=49
BBRC	Big Bear Solar	49.10	306	⇓P		P	09 40 24.6	+1.2	baz=49
C20A	Veseth Ranch,	49.10	326	⇓P		P	09 40 23.6	+0.6	baz=49
MURC	Murrieta	49.13	306	⇓P		P	09 40 24.3	+0.9	baz=49
YMR	Madison River	49.13	322	*e*P		P	09 40 24.8	+1.3	comp=Z,8.7nm,0.9s
D19A	Cripps Ranch,	49.27	325	⇓P		P	09 40 25.0	+0.7	baz=49,SNR=12
A21A	Bergtoll Ranch	49.31	328	⇑P		P	09 40 25.7	+1.1	baz=49
GSC	Goldstone	49.32	308	*e*P		P	09 40 26.3	+1.3	comp=Z,2.1nm,1.3s
GSC	Goldstone	49.32	308	⇓P		P	09 40 25.5	+0.6	baz=49
TPNV	Topopah Spring	49.44	310	*e*P		P	09 40 27.0	+1.2	comp=Z,10nm,1.0s
TPNV	Topopah Spring	49.44	310	⇑P		P	09 40 26.9	+1.0	baz=50,SNR=9.5
R11A	Troy Canyon, C	49.44	312	*e*P		P	09 40 27.4	+1.5	comp=Z,3.5nm,1.0s
R11A	Troy Canyon, C	49.44	312	⇓P		P	09 40 26.7	+0.8	baz=50
QLMT	Earthquake Lak	49.50	322	*e*P		P	09 40 28.1	+1.8	
B20A	Solberg Farm,	49.55	327	⇓P		P	09 40 27.6	+1.2	baz=50
BFSC	Mount Baldy Ra	49.67	306	⇓P		P	09 40 28.6	+0.9	baz=50
C19A	Slack Wire Ran	49.69	326	⇑P		P	09 40 28.4	+0.8	baz=50
FURC	Furnace Creek,	49.74	309	⇑P		P	09 40 29.6	+1.6	baz=50,SNR=11
A20A	Cobblestone Ra	49.76	328	⇓P		P	09 40 28.9	+0.9	baz=50
BOZ	Bozeman (W)	50.04	322	*e*P		P	09 40 31.1	+0.8	comp=Z,5.6nm,0.8s
CIS	Catalina Islan	50.04	305	⇓P		P	09 40 31.0	+0.7	baz=50
B19A	Brinkman Farms	50.05	327	⇑P		P	09 40 31.0	+0.7	baz=50
LRMC	Laurel Mountai	50.06	308	⇓P		P	09 40 31.1	+0.5	baz=50
EDW2	Edwards Air Fo	50.12	307	⇑P		P	09 40 31.3	+0.3	baz=50
A19A	Klindworth Far	50.22	327	⇓P		P	09 40 32.1	+0.6	baz=50
EGMT	Eagleton	50.25	326	*e*P		P	09 40 33.0	+1.2	comp=Z,11nm,1.0s
EGMT	Eagleton	50.25	326	⇓P		P	09 40 32.6	+0.8	baz=50
MCMT	McKenzie Canyo	50.37	321	*e*P		P	09 40 34.6	+1.6	comp=Z,8.5nm,1.1s
DLMT	Dillon	50.48	322	*e*P		P	09 40 34.2	+0.6	comp=Z,16nm,1.4s
TPH	Tonopah	50.55	311	*e*P		P	09 40 35.9	+1.5	comp=Z,14nm,1.6s
HRY	Holter Researc	50.71	323	*e*P		P	09 40 36.2	+0.8	comp=Z,14nm,0.9s
ISA	Isabella	50.73	308	*e*P		P	09 40 37.0	+1.4	comp=Z,38nm,2.5s
ISA	Isabella	50.73	308	⇑P		P	09 40 36.2	+0.6	baz=51
HLID	Hailey	50.77	319	*e*P		P	09 40 36.8	+0.9	comp=Z,5.7nm,0.9s
HLID	Hailey	50.77	319	⇓P		P	09 40 36.9	+0.9	baz=51,SNR=11
ARVC	Arvin	50.85	307	⇑P		P	09 40 37.6	+1.2	baz=51
PLCA	Paso Flores	50.96	181	*e*P		P	09 40 35.7	-1.4	comp=Z,3.8nm,0.6s
PLCA	Paso Flores	50.96	181	P		P	09 40 35.2	-1.9	comp=Z,5.4nm,0.8s,baz=356,slow=9.2,SNR=12
FFC	Flin Flon	50.97	337	*e*P		P	09 40 36.7	-0.3	comp=Z,4.5nm,0.7s
VES	Vestal, Richgr	51.26	308	⇑P		P	09 40 40.5	+1.1	baz=51
NVAR	Mina Array Bea	51.47	311	P		P	09 40 42.2	+0.9	
NVAR				PcP		PcP	09 41 55.5	-0.2	
NVAR	Mina Array Bea	51.47	311	P		P	09 40 42.2	+0.9	comp=Z,2.3nm,0.6s,baz=119,slow=6.1,SNR=14
NVAR				PcP		PcP	09 41 55.5	-0.2	comp=Z,1.2nm,0.7s,baz=116,slow=4.1,SNR=3.8
MFID	Camas Ranch	51.63	318	*e*P		P	09 40 43.4	+1.1	comp=Z,9.0nm,0.8s
CHMT	Chamberlain Mo	51.65	323	*e*P		P	09 40 43.4	+0.8	comp=Z,4.9nm,1.0s
SLMT	Seeley Lake	51.96	323	*e*P		P	09 40 45.4	+0.6	comp=Z,11nm,1.2s
SWMT	Swartz Lake	52.39	323	*e*P		P	09 40 48.6	+0.7	comp=Z,4.9nm,1.0s
BSMT	Bassoo Peak	53.02	323	*e*P		P	09 40 53.8	+1.2	comp=Z,7.9nm,1.5s
WVOR	Wild Horse Val	53.13	316	*e*P		P	09 40 54.3	+0.9	comp=Z,14nm,1.3s
J08A	Circle Bar Ran	53.37	317	*e*P		P	09 40 57.4	+2.2	comp=Z,57nm,2.5s
F10A	Beach Ranch, E	53.64	320	*e*P		P	09 40 57.4	+0.3	comp=Z,173nm,2.8s
MOD	Modoc	54.09	315	*e*P		P	09 41 01.3	+0.7	comp=Z,25nm,2.6s
OHCM	Honcut	54.11	311	*e*P		P	09 41 01.7	+1.2	
I07A	Izee	54.34	317	*e*P		P	09 41 03.4	+1.1	comp=Z,11nm,1.3s
E09A	Wood Farm, Sta	54.45	321	*e*P		P	09 41 03.4	+0.5	comp=Z,12nm,0.9s
G08A	Pilot Rock	54.45	319	*e*P		P	09 41 03.6	+0.5	comp=Z,20nm,1.4s
NEW	Newport	54.60	323	*e*P		P	09 41 03.9	-0.1	comp=Z,5.6nm,0.9s
NEW	Newport	54.60	323	⇓P		P	09 41 04.0	0.0	baz=55
EDM	Edmonton	55.08	330	*e*P		P	09 41 06.8	-0.6	
C09A	Chrisman Ranch	55.08	322	*e*P		P	09 41 07.9	+0.4	comp=Z,8.6nm,0.8s
D08A	Wollman Farm,	55.16	321	*e*P		P	09 41 09.9	+1.9	comp=Z,5.2nm,0.7s
N02D	Trinity Center	55.50	313	⇑P		P	09 41 11.0	+0.3	baz=56
J04D	Umpqua Nationa	55.80	316	⇑P		P	09 41 13.4	+0.4	baz=56
B08A	Colville Reser	55.96	322	*e*P		P	09 41 13.8	-0.1	comp=Z,7.2nm,0.9s
LTY	Liberty	56.33	321	*e*P		P	09 41 17.1	+0.6	comp=Z,8.1nm,1.0s
YKA	Yellowknife Ar	61.08	338	P		P	09 41 48.5	-0.7	
YKA	Yellowknife Ar	61.08	338	P		P	09 41 48.5	-0.7	comp=Z,5.4nm,0.7s,baz=120,slow=7.0,SNR=14
TIC	Toumodi	64.01	88	*e*P		P	09 42 12.4	+2.7	comp=Z,4.9nm,0.2s
LIC	Lamto	64.07	88	⇑*i*P		P	09 42 13.0	+2.9	comp=Z,11nm,0.7s,baz=276
LIC	Lamto	64.07	88	*e*P		P	09 42 12.8	+2.7	comp=Z,17nm,0.7s
LIC	Lamto	64.07	88	⇑*i*P		P	09 42 13.0	+2.9	comp=Z,11nm,0.7s
DBIC	Dimbokro	64.17	88	*e*P		P	09 42 10.1	-0.6	
DBIC	Dimbokro	64.17	88	P		P	09 42 09.9	-0.8	comp=Z,3.9nm,0.6s,baz=281,slow=5.9,SNR=7.2
KIC	Kosan Boka	64.33	88	*e*P		P	09 42 11.4	-0.4	comp=Z,14nm,0.7s
SUMG	Summit	64.82	10	*i* P		P	09 42 14.4	0.0	comp=Z,16nm,0.9s
SUMG	Summit	64.82	10	*e*P		P	09 42 14.7	+0.3	comp=Z,17nm,0.8s
ROSF	Rostrenen	66.63	42	*e*P		P	09 42 26.7	+0.7	comp=Z,84nm,1.4s
ROSF	Rostrenen	66.63	42	*e*P		P	09 42 26.7	+0.7	comp=Z,84nm,1.4s
SCO	Scoresbysund	66.90	16	*i* P		P	09 42 30.1	+2.7	comp=Z,1.9nm,0.9s
SJPF	Ste Jean	67.23	48	*e*P		P	09 42 32.1	+2.0	comp=Z,27nm,0.9s
SJPF	Ste Jean	67.23	48	*e*P		P	09 42 32.1	+2.0	comp=Z,27nm,0.9s
MFF	Saint Martin d	68.44	44	*e*P		P	09 42 38.4	+0.8	
MFF	Saint Martin d	68.44	44	*e*P		P	09 42 38.4	+0.8	
FLN	La Foliniere	68.53	42	*e*P		P	09 42 40.3	+2.2	comp=Z,34nm,0.9s
FLN	La Foliniere	68.53	42	*e*P		P	09 42 40.3	+2.2	comp=Z,34nm,0.9s
TOA0	Torodi Ar. Sit	69.75	80	*e*P		P	09 42 46.0	-0.3	
TORD	Torodi Ar. Bea	69.75	80	P		P	09 42 45.7	-0.6	
TORD	Torodi Ar. Bea	69.75	80	P		P	09 42 45.7	-0.6	comp=Z,3.7nm,0.5s,baz=288,slow=7.1,SNR=22
BGF	Bois d'Agland	70.49	44	*e*P		P	09 42 49.2	-1.1	
BGF	Bois d'Agland	70.49	44	*e*P		P	09 42 49.2	-1.1	
INK	Inuvik	70.78	339	*e*P		P	09 42 51.1	-0.4	comp=Z,2.9nm,0.8s
SMF	Signal de Mont	71.18	44	*e*P		P	09 42 52.4	-2.1	comp=Z,14nm,0.9s
SMF	Signal de Mont	71.18	44	*e*P		P	09 42 52.4	-2.1	comp=Z,14nm,0.9s
LOR	Lormes	71.24	44	*e*P		P	09 42 55.3	+0.5	
LOR	Lormes	71.24	44	*e*P		P	09 42 55.3	+0.5	
TAM	Tamanrasset	72.50	69	*e*P		P	09 43 04.7	+1.6	comp=Z,6.0nm,1.0s
ILAR	Eielson Array	75.11	334	P		P	09 43 16.6	-0.8	
ILAR	Eielson Array	75.11	334	P		P	09 43 16.6	-0.8	comp=Z,1.6nm,0.6s,baz=112,slow=4.2,SNR=4.8
KEST	Kesra	75.12	56	*e*P		P	09 43 17.6	-0.5	
KEST	Kesra	75.12	56	P		P	09 43 18.4	+0.2	comp=Z,1.8nm,0.6s,baz=215,slow=3.7,SNR=4.4
NB2	NORSAR Subarra	76.52	30	P		P	09 43 26.1	+0.6	comp=Z,4.6nm,0.8s,baz=269,slow=6.2
NOA	NORSAR Array B	76.52	30	P		P	09 43 25.9	+0.4	
NOA	NORSAR Array B	76.52	30	P		P	09 43 25.9	+0.4	comp=Z,3.3nm,0.8s,baz=267,slow=5.9,SNR=7.3
KTH	Kantishna Hill	76.76	333	*e*P		P	09 43 28.2	+1.3	
CLL	Collm	77.36	40	*e*P		P	09 43 33.0	+2.6	
KHC	Kasperske Hory	77.79	42	*e*P		P	09 43 36.2	+3.3	
GEC2	GERESS Array S	77.88	42	*e*P		P	09 43 36.8	+3.3	comp=Z,18nm,1.6s
GERES	GERESS Array B	77.88	42	P		P	09 43 33.8	+0.3	
GERES	GERESS Array B	77.88	42	P		P	09 43 33.7	+0.3	
ARCES	ARCESS Array B	82.09	21	P		P	09 43 55.9	+0.2	comp=Z,2.5nm,0.7s,baz=270,slow=5.3,SNR=6.5
ARCES	ARCESS Array B	82.09	21	P		P	09 43 55.9	+0.2	
KEV	Kevo	82.58	20	*ep*		P	09 43 59.6	+1.4	comp=Z,4.2nm,0.8s,baz=282,slow=4.2,SNR=6.4
KAF	Kangasniemi	83.64	28	*ep*		P	09 44 01.3	-2.6	comp=Z,19nm,0.8s
FINES	FINESS Array B	83.65	29	P		P	09 44 04.0	+0.1	comp=Z,11nm,0.8s
FINES	FINESS Array B	83.65	29	P		P	09 44 04.0	+0.1	
TNA	Tin City	83.92	336	*e*P		P	09 44 06.5	+1.3	comp=Z,7.3nm,0.9s,baz=270,slow=2.8,SNR=8.7
JOF	Joensuu	85.73	27	*ep*		P	09 44 14.0	-0.4	comp=Z,7.2nm,0.8s
AKASG	Malin Array Be	87.59	39	P		P	09 44 22.7	-1.1	comp=Z,9.3nm,1.0s
AKASG	Malin Array Be	87.59	39	P		P	09 44 22.7	-1.1	comp=Z,0.2nm,0.4s,baz=265,slow=4.6,SNR=5.1
BRTR	Keskin Array B	93.46	49	P		P	09 44 50.2	-1.4	
BRTR	Keskin Array B	93.46	49	P		P	09 44 50.2	-1.4	comp=Z,1.8nm,1.0s,baz=308,slow=6.1,SNR=6.6
KSH	Kashi	120.93	31	*e*PKP		PKPdf	09 50 32.2	+3.6	
KSH				*e*SKS		SKSdf	09 57 39.3	-2.2	
KSH				LR		LR			comp=Z,36nm,4.9s
KSH				LR		LR			comp=Z,41nm,2.4s
KSH				LR		LR			comp=Z,42nm,2.8s
SONM	Songino Array	121.85	3	PKP		PKPdf	09 50 29.0	-1.2	
SONM	Songino Array	121.85	3	PKP		PKPdf	09 50 29.0	-1.2	comp=Z,0.4nm,0.7s,baz=10,slow=1.6,SNR=3.1
WMQ	Urumqi	122.19	19	PKP		PKPdf	09 50 31.8	+0.9	
CN2	Changchun	124.24	347	*e*PKP		PKPdf	09 50 30.5	-4.2	
HHC	Hu-ho-hao-te	128.92	359	*e*PKP		PKPdf	09 50 38.2	-5.7	
HHC				LR		LR			comp=Z,370nm,17.3s
HHC				LR		LR			comp=Z,540nm,17.3s
HHC				LR		LR			comp=Z,180nm,12.9s
GTA	Gaotai	129.43	10	PKP		PKPdf	09 50 44.4	-0.5	
KSRS	Korea Array	129.53	342	PKP		PKPdf	09 50 43.1	-1.9	comp=Z,1.5nm,0.7s,baz=31,slow=2.8,SNR=5.0
KSAR	Wonju Array Be	129.55	342	PKP		PKPdf	09 50 43.1	-1.9	
LZH	Lanzhou	133.29	7	*e*PKP		PKPdf	09 50 45.4	-7.0	
LZH				LR		LR			comp=Z,160nm,18.0s
LZH				LR		LR			comp=Z,160nm,18.2s
LZH				LR		LR			comp=Z,200nm,20.0s
CD2	Chengdu	138.38	8	*e*PKP		PKPdf	09 51 00.8	-1.0	
GYA	Guiyang	143.12	5	*e*PKP		PKPbc	09 51 08.7	+1.4	
GYA				PP		PP	09 54 22.0	+3.3	
GYA				AMB		AMB			comp=Z,90nm,7.6s
STKA	Stephens Creek	144.07	229	PKP		PKPbc	09 51 09.8	0.0	
STKA				*e*PKPdf		PKPdf	09 51 13.6	+1.7	
STKA	Stephens Creek	144.07	229	PKP		PKPbc	09 51 09.8	0.0	comp=Z,2.0nm,1.0s,baz=63,slow=4.1,SNR=4.4
BBOO	Buckleboo	147.48	223	*e*PKPdf		PKPdf	09 51 18.6	+0.9	
BBOO				*e*PKPbc		PKPab	09 51 21.3	-0.9	
BBOO				*e*PKPab		PKiKP	09 51 23.7	+1.2	
COEN	Coen	147.67	260	*e*PKPbc		PKPbc	09 51 20.7	-0.6	
COEN				*e*PKPab		PKPab	09 51 24.8	+1.4	
SLVN	Son La	147.78	11	*e*PKPdf		PKPdf	09 51 18.2	-0.4	
SLVN				*e*PKPbc		PKPbc	09 51 21.4	0.0	
SLVN				*e*PKPab		PKPab	09 51 23.8	+0.1	
CMAR	Chiang Mai Arr	149.15	21	PKPbc		PKPbc	09 51 23.9	-1.1	
CMAR	Chiang Mai Arr	149.15	21	PKPbc		PKPbc	09 51 23.9	-1.1	comp=Z,1.6nm,0.5s,baz=316,slow=2.5,SNR=4.5
AS31	Alice Springs	153.93	237	*e*PKPdf		PKPdf	09 51 29.6	+1.6	
AS31				*e*PKPbc		PKPbc	09 51 34.8	-1.2	
ASAR	Alice Springs	153.93	237	PKP		PKPdf	09 51 27.1	-1.0	
ASAR				PKPbc		PKPbc	09 51 34.3	-1.7	
ASAR	Alice Springs	153.93	237	PKP		PKPdf	09 51 27.1	-1.0	comp=Z,0.6nm,0.7s,baz=98,slow=1.0,SNR=7.8
ASAR				PKPbc		PKPbc	09 51 34.3	-1.7	comp=Z,3.4nm,0.6s,baz=108,slow=2.3,SNR=40
WRAB	Tennant Creek	154.97	245	*e*PKPbc		PKPbc	09 51 37.3	-1.0	
WRAB				*e*PKPab		PKPab	09 51 50.7	-2.9	
WRA	Warramunga Arr	154.97	245	PKP		PKPdf	09 51 28.1	-1.4	
WRA				PKPbc		PKPbc	09 51 37.1	-1.2	
WRA				PKPab		PKPab	09 51 51.5	-2.1	
WRA	Warramunga Arr	154.97	245	PKP		PKPdf	09 51 28.1	-1.4	comp=Z,1.0nm,0.9s,baz=84,slow=1.6,SNR=6.4
WRA				PKPbc		PKPbc	09 51 37.1	-1.2	comp=Z,1.9nm,0.5s,baz=103,slow=2.7,SNR=31
WRA				PKPab		PKPab	09 51 51.5	-2.1	comp=Z,0.9nm,0.7s,baz=101,slow=3.7,SNR=7.7

ISCJB ***08*** *09:54:18.7±0.5,35.65N±0.06×139.16E±0.08, h150km±3km,mb3.6/9, Error ellipse: s-maj=10.6km s-min=9.0km az=13.3*

IDC ***08*** *09:54:18.5±1.5,35.68N×139.34E,h137km±8km,mb3.4/9, mb1 3.5/13,mb1mx3.3/31,mbtmp3.4/13, Error ellipse: s-maj=27.9km s-min=15.9km az=79.0*

JMA ***08*** *09:54:20.8±0.1,35.63N×139.17E,h139km±1km,M3.3*

ISC 08 09:54:19.8±0.8,35.67N±0.07×139.16E±0.07,h144km±6km, n23,σ0898/31,mb3.7/9,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JRY	Ryogami san	0.41	328	P			Pn	09 54 41.0	+0.9
JRY				S			Sn	09 54 56.3	+0.7
JOD2	Odawara 2	0.41	189	P			Pn	09 54 40.2	0.0
JOD2				S			Sn	09 54 55.6	0.0
JYN	Shimob	0.53	251	P			Pn	09 54 41.0	+0.2
JYN				S			Sn	09 54 56.9	+0.2
JAG	Ashikaga	0.79	17	P			Pn	09 54 43.1	+0.8
JAG				S			Sn	09 55 00.2	+0.6
MJAR	Matsushiro Arr	1.16	319	P			Pn	09 54 45.2	-0.3
MJAR				S			Sn	09 55 03.5	-1.7
MAT	Matsushiro	1.16	319	P			Pn	09 54 46.1	+0.5
MAT				S			Sn	09 55 05.0	-0.3
MAT	Matsushiro	1.16	319	P			Pn	09 54 46.0	+0.5
MAT				S			Sn	09 55 04.9	-0.3
BSO1	Boso 1	1.80	124	P			Pn	09 54 52.2	+0.5
JGM	Miyama	1.99	272	P			Pn	09 54 55.1	+0.6
JFT	Otama	2.07	27	P			Pn	09 54 56.8	+1.4
JFT				S			Sn	09 55 24.5	+1.6
JNU	Nakatsue	7.30	252	P			Pn	09 56 06.0	+2.0
ASAJ	Asahikawa	8.84	16	P			Pn	09 56 22.8	-1.5
KSRS	Korea Array	9.22	284	P			Pn	09 56 31.4	+2.0
USRK	Ussuriysk Arra	10.14	329	P			Pn	09 56 41.5	-0.1
SONM	Songino Array	27.09	307	P			P	09 59 48.1	-0.9
MKAR	Makanchi Array	43.32	303	P			P	10 02 07.5	+0.2
KURBB	Kurchatov Arra	45.42	309	P			P	10 02 24.2	+0.3
BVAR	Borovoye Array	50.15	313	P			P	10 03 00.7	+0.4
WRA	Warramunga Arr	55.50	186	P			P	10 03 38.0	-1.8
ASAR	Alice Springs	59.22	186	P			P	10 04 05.8	-0.1
ARCES	ARCESS Array B	64.62	339	P			P	10 04 41.3	-0.1
FINES	FINESS Array B	69.16	332	P			P	10 05 10.2	0.0
AKASG	Malin Array Be	74.25	322	P			P	10 05 40.5	-0.2

0.2nm,0.3s,baz=126,slow=11,SNR=13.0; 0.3nm,0.5s,baz=88,slow=7.6,SNR=28; 1.1nm,0.5s,baz=91,slow=8.8,SNR=6.2; 1.1nm,0.8s,baz=11,slow=8.1,SNR=5.6; 0.2nm,0.4s,baz=12,slow=9.5,SNR=6.2; 3.9nm,0.8s,baz=46,slow=7.7,SNR=2.6; 1.7nm,0.9s,baz=50,slow=7.1,SNR=3.7; 0.3nm,0.4s,baz=46,slow=6.1,SNR=4.3

IDC ***08*** *09:54:23.6±0.8,30.75N×143.24E,h0km,mb3.8/9, mb1 4.0/10,mb1mx3.9/24,mbtmp3.8/10,ML3.5/1, Error ellipse: s-maj=25.0km s-min=19.7km az=87.0*

ISCJB ***08*** *09:54:26.8±0.8,30.7N±0.1×143.2E±0.2,h35km,mb3.8/9, Error ellipse: s-maj=20.7km s-min=

ASAR	**Alice Springs**	**54.84**	**190**	P		**P**	**10 03 55.0**	**-0.7**
	0.3nm,0.7s,baz=8.6,slow=6.8,SNR=3.4							
YKA	**Yellowknife Ar**	**68.50**	**29**	P		**P**	**10 05 27.4**	**0.0**
	1.0nm,1.0s,baz=295,slow=6.1,SNR=8.6							
NVAR	**Mina Array Bea**	**77.55**	**53**	P		**P**	**10 06 22.6**	**+0.9**
	1.6nm,0.9s,baz=289,slow=5.5,SNR=8.9							
BRTR	**Keskin Array B**	**84.21**	**313**	P		**P**	**10 06 56.9**	**-0.2**
	1.3nm,0.9s,baz=58,slow=3.6,SNR=7.3							

UPP ***08*** *09:57:23.6, 67°.83N×20°.20E, h1km, ML0.7, Suspected Mining explosion.*
CSEM ***08*** *09:57:23.4±0.1, 67°.81N×20°.19E, h8km, ML1.1, Error ellipse: s-maj=2.9km s-min=2.5km az=47.0, Mining explosion.*

HEL 08 09:57:24.1±0.1, 67°.83N×20°.18E, h0km, ML1.2, ML0.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**26**	*i* P	Pg	09 57 26.4	-0.5
KUA				*i* S	Sg	09 57 28.4	-0.3
NIKU	**Nikkaluokta**	**0.43**	**276**	*i* P	Pg	09 57 32.1	-0.4
NIKU	**Nikkaluokta**	**0.43**	**276**	P	Pg	09 57 32.0	-0.4
LANU	**Lannavaara**	**0.72**	**71**	*i* P	Pg	09 57 36.9	-1.0
LANU	**Lannavaara**	**0.72**	**71**	P	Pg	09 57 36.9	-1.1
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	09 57 37.0	-1.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	09 57 37.0	-1.1
MASU	**Masugnsbyn**	**0.79**	**117**	*i* P	Pg	09 57 38.4	-0.9
MASU				*i* S	Sg	09 57 49.0	-0.6
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	09 57 38.4	-0.9
MASU				S	Sg	09 57 48.9	-0.7
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	09 57 46.7	-0.4
KIF				MSG	S	09 58 04.0	+1.1
	comp=Z,2.5nm,0.4s						
KIF				*e*S	S	09 58 04.0	+1.1
KIF	**Kilpisjarvi**	**1.20**	**11**	P	Pg	09 57 46.7	-0.4
KIF				S	Sb	09 58 04.0	+0.2
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	09 57 49.7	-1.6
HEF				MSG	S	09 58 08.6	-1.6
	comp=Z,1.3nm,0.4s						
HEF				*e*S	S	09 58 08.6	-1.6
HEF				*e*RG	Rg	09 58 12.1	
HEF	**Hetta**	**1.43**	**64**	P	Pn	09 57 49.7	-1.6
HEF				S	Sg	09 58 08.6	-1.5
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	09 57 50.7	-1.5
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	09 57 50.7	-1.6
RNF	**Rovaniemi**	**2.58**	**116**	MSG	Sb	09 58 41.7	-1.7
	comp=Z,0.6nm,0.1s						
RNF				*e*SB	Sb	09 58 41.7	-1.7
RNF	**Rovaniemi**	**2.58**	**116**	Sb	Sb	09 58 41.7	-1.7

CSEM ***08*** *09:58:47.2, 64°.00N×28°.07E, h0km, ML1.3, Mining explosion. After HEL*

HEL 08 09:58:47.2±0.2, 64°.00N×28°.07E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUL	**Oulu**	**1.44**	**320**	PG	Pn	09 59 13.4	-1.1
OUL				SG	Sg	09 59 32.2	-1.1
OUL				MSG		09 59 32.2	
	comp=Z,0.9nm,0.1s						
OUL	**Oulu**	**1.44**	**320**	Pg	Pn	09 59 13.4	-1.1
OUL				Sg	Sg	09 59 32.2	-1.1
SUF	**Sumiainen**	**1.55**	**215**	RG	Rg	09 59 47.7	
JOF	**Joensuu**	**1.82**	**125**	PN	Pn	09 59 19.9	+0.2
JOF				SG	Sn	09 59 42.9	-0.5
JOF				MSG		09 59 42.9	
	comp=Z,1.0nm,0.1s						
JOF	**Joensuu**	**1.82**	**125**	Pn	Pn	09 59 19.8	+0.1
JOF				Sg	Sn	09 59 42.9	-0.5
MSF	**Maaselka**	**1.96**	**12**	PN	Pn	09 59 21.8	+0.1
MSF				SG	Sn	09 59 47.2	+0.1
MSF				MSG		09 59 47.2	
	comp=Z,0.8nm,0.1s						
MSF	**Maaselka**	**1.96**	**12**	Pn	Pn	09 59 21.8	+0.1
MSF				Sg	Sn	09 59 47.2	+0.1
KAF	**Kangasniemi**	**2.06**	**204**	PN	Pn	09 59 23.3	+0.3
KAF				SG	Sn	09 59 49.9	+0.6
KAF				MSG		09 59 49.9	
	comp=Z,1.4nm,0.1s						
KAF	**Kangasniemi**	**2.06**	**204**	Pn	Pn	09 59 23.2	+0.2
KAF				Sg	Sn	09 59 49.9	+0.6
KU6	**Riekki**	**2.18**	**20**	PN	Pn	09 59 25.8	+1.2
	baz=206						
KU6				SG	Sb	09 59 54.3	-0.7
KU6				MSG		09 59 54.3	
	comp=Z,1.6nm,0.2s						
KU6	**Riekki**	**2.18**	**20**	Pn	Pn	09 59 25.8	+1.2
KU6				Sg	Sb	09 59 54.2	-0.7
KEF	**Keuruu**	**2.34**	**220**	PN	Pn	09 59 27.7	+0.8
KEF				SG	Sb	09 59 58.4	-1.3
KEF				MSG		09 59 58.4	
	comp=Z,1.4nm,0.1s						
KEF	**Keuruu**	**2.34**	**220**	Pn	Pn	09 59 27.6	+0.7
KEF				Sg	Sb	09 59 58.4	-1.3
VAF	**Ylistaro**	**2.60**	**251**	PN	Pn	09 59 31.5	+1.1
VAF				SG	Sn	10 00 04.8	+2.1
VAF				MSG		10 00 04.8	
	comp=Z,1.1nm,0.2s						
VAF	**Ylistaro**	**2.60**	**251**	Pn	Pn	09 59 31.5	+1.1
VAF				Sg	Sn	10 00 04.7	+2.0
FIA0	**FINESS Array S**	**2.73**	**201**	PN	Pn	09 59 32.7	+0.6
	baz=25						
FIA0				SG	Sn	10 00 08.1	+2.4
FIA0				MSG		10 00 08.1	
	comp=Z,2.0nm,0.2s						
FIA0	**FINESS Array S**	**2.73**	**201**	Pn	Pn	09 59 32.7	+0.6
FIA0				Sg	Sn	10 00 08.1	+2.4
RNF	**Rovaniemi**	**2.76**	**343**	SG	Sb	10 00 09.8	-1.8
RNF				MSG		10 00 09.8	
	comp=Z,2.6nm,0.2s						
RNF	**Rovaniemi**	**2.76**	**343**	Sg	Sb	10 00 09.8	-1.8

IDC ***08*** *10:00:04.5±2.6, 64°.73N×31°.08E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=37.8km s-min=9.2km az=101.0*
HEL ***08*** *10:00:05.3±0.3, 64°.84N×30°.76E, h0km, ML1.9, Explosion*
CSEM ***08*** *10:00:06.3±0.6, 64°.87N×30°.39E, h2km, ML1.9, Error ellipse: s-maj=17.1km s-min=8.4km az=92.0, Mining explosion.*
NAO ***08*** *10:00:07.0±1.6, 64°.80N×30°.12E, ML2.1*
BER ***08*** *10:00:07.6±3.2, 64°.80N×30°.29E, h0km, ML2.1(NAO), Suspected explosion*
KOLA ***08*** *10:00:07.2, 64°.67N×30°.85E, h0km*

ISC 08 10:00:04.5±0.8, 64°.87N±0°.02×30°.63E±0°.04, h0km, n40, σ1s27/67, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.20**	**346**	PG	**Pg**	**10 00 27.8**	**+0.2**
	baz=157						
KU6				SG	**Sg**	**10 00 44.4**	**+1.3**
KU6				MSG		10 00 44.4	
	comp=Z,8.5nm,0.2s						
KU6				RG	Rg	10 00 52.9	
KU6	**Riekki**	**1.20**	**346**	Pg	**Pg**	**10 00 27.7**	**+0.2**
KU6				Sg	**Sg**	**10 00 44.4**	**+1.3**
MSF	**Maaselka**	**1.24**	**328**	PG	**Pg**	**10 00 28.3**	**+0.1**
MSF				SG	**Sb**	**10 00 45.4**	**+0.1**
MSF				MSG		10 00 45.4	
	comp=Z,4.3nm,0.4s						
MSF				RG	Rg	10 00 55.9	
MSF	**Maaselka**	**1.24**	**328**	Pg	**Pg**	**10 00 28.3**	**+0.1**
MSF				Sg	**Sb**	**10 00 45.4**	**+0.1**
JOF	**Joensuu**	**1.98**	**171**	PN	**Pn**	**10 00 38.5**	**-0.7**
JOF				SG	**Sn**	**10 01 05.2**	**+0.5**
JOF				MSG		10 01 05.2	
	comp=Z,4.8nm,0.2s						
JOF	**Joensuu**	**1.98**	**171**	Pn	**Pn**	**10 00 38.5**	**-0.7**
JOF				Sg	**Sn**	**10 01 05.1**	**+0.5**
OUL	**Oulu**	**2.02**	**278**	PN	**Pb**	**10 00 41.1**	**-1.0**
OUL				SG	**Sb**	**10 01 06.7**	**-1.0**
OUL				MSG		10 01 06.7	
	comp=Z,8.7nm,0.4s						
OUL	**Oulu**	**2.02**	**278**	Pn	**Pb**	**10 00 41.1**	**-1.0**
OUL				Sg	**Sb**	**10 01 06.7**	**-1.0**
RNF	**Rovaniemi**	**2.59**	**315**	PN	**Pb**	**10 00 50.6**	**-1.1**
RNF				SG	**Sb**	**10 01 24.8**	**+0.9**
RNF				MSG		10 01 24.8	
	comp=Z,4.0nm,0.1s						
RNF	**Rovaniemi**	**2.59**	**315**	Pn	**Pb**	**10 00 50.6**	**-1.1**
RNF				Sg	**Sb**	**10 01 24.8**	**+0.9**
APA0	**Apatity Array**	**2.91**	**18**	Pn	**Pb**	**10 00 56.0**	**-1.2**
	baz=202,slow=14						
APA0	**Apatity Array**	**2.91**	**18**	Pn	**Pb**	**10 00 56.0**	**-1.2**
	baz=202,slow=14						
APA0	**Apatity Array**	**2.91**	**18**	P	**Pb**	**10 00 56.3**	**-0.9**
APA0				S	**Sb**	**10 01 33.2**	**-0.1**
APA0	**Apatity Array**	**2.91**	**18**	Pn	**Pb**	**10 00 56.0**	**-1.2**
	SNR=50						
VRF	**Varrio**	**2.92**	**352**	PN	**Pn**	**10 00 54.0**	**+1.8**
VRF				SG	**Sb**	**10 01 35.0**	**+1.4**
VRF				MSG		10 01 35.0	
	comp=Z,4.2nm,0.4s						
VRF	**Varrio**	**2.92**	**352**	Pn	**Pn**	**10 00 54.0**	**+1.8**
VRF				Sg	**Sb**	**10 01 35.0**	**+1.4**
SUF	**Sumiainen**	**2.93**	**225**	PN	**Pb**	**10 00 55.3**	**-2.3**
SUF	**Sumiainen**	**2.93**	**225**	Pn	**Pb**	**10 00 55.2**	**-2.3**
APA	**Apatity**	**2.94**	**21**	P	**Pb**	**10 00 56.7**	**-0.9**
APA				S	**Sb**	**10 01 33.6**	**-0.5**
SGF	**Sodankyl**	**3.08**	**329**	SG	**Sb**	**10 01 38.2**	**+0.2**
SGF				MSG		10 01 38.2	
	comp=Z,2.9nm,0.2s						
SGF	**Sodankyl**	**3.08**	**329**	Sg	**Sb**	**10 01 38.2**	**+0.2**
KAF	**Kangasniemi**	**3.38**	**217**	PN	**Pn**	**10 00 59.8**	**+1.4**
KAF	**Kangasniemi**	**3.38**	**217**	Pn	**Pn**	**10 00 59.8**	**+1.4**
KEF	**Keuruu**	**3.74**	**226**	PN	**Pn**	**10 01 04.9**	**+1.5**
KEF				SG	**Sb**	**10 01 59.0**	**+1.9**
KEF				MSG		10 01 59.0	
	comp=Z,4.1nm,0.4s						
KEF	**Keuruu**	**3.74**	**226**	Pn	**Pn**	**10 01 04.9**	**+1.5**
KEF				Sg	**Sb**	**10 01 59.0**	**+1.9**
VAF	**Ylistaro**	**3.96**	**246**	SG	**Sb**	**10 02 05.9**	**+2.6**
VAF				MSG		10 02 05.9	
	comp=Z,3.9nm,0.4s						
VAF	**Ylistaro**	**3.96**	**246**	Sg	**Sb**	**10 02 05.9**	**+2.6**
FIA0	**FINESS Array S**	**4.01**	**213**	Pn	**Pn**	**10 01 06.7**	**-0.4**
	baz=33,slow=10						
FIA0				Pg	**Pb**	**10 01 15.3**	**-0.5**
	baz=24,slow=16						
FIA0				Sn	**Sn**	**10 01 52.9**	**-1.7**
	baz=45,slow=28						
FIA0				Lg	Lg	10 02 06.2	
	baz=25,slow=37						
FIA0	**FINESS Array S**	**4.01**	**213**	Pn	**Pn**	**10 01 06.7**	**-0.4**
	baz=33,slow=10						
FIA0				Pg	**Pb**	**10 01 15.3**	**-0.5**
	baz=24,slow=16						
FIA0				Sn	**Sn**	**10 01 52.9**	**-1.7**
	baz=45,slow=28						
FIA0				Lg	Lg	10 02 06.2	
	baz=25,slow=37						
FIA0	**FINESS Array S**	**4.01**	**213**	PN	**Pn**	**10 01 07.2**	**+0.2**
	baz=28						
FIA0				SG	**Sb**	**10 02 06.9**	**+2.1**
FIA0				MSG		10 02 06.9	
	comp=Z,8.2nm,0.5s						
FIA0	**FINESS Array S**	**4.01**	**213**	Pn	**Pn**	**10 01 07.2**	**+0.2**
FIA0				Sn	**Sn**	**10 01 52.9**	**-1.7**
	SNR=50						
FIA0				Lg	Lg	10 02 06.2	
	SNR=1.6						
FINES	**FINESS Array B**	**4.01**	**213**	Pn	**Pn**	**10 01 05.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=38,slow=14,SNR=5.1						
FINES				Pg	**Pb**	**10 01 15.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=34,slow=15,SNR=3.5						
FINES				Lg	Lg	10 02 09.0	
	comp=Z,2.3nm,0.3s,baz=33,slow=26,SNR=14						
ARA0	**ARCESS Array S**	**5.09**	**339**	Pn	**Pn**	**10 01 22.5**	**+0.6**
	baz=153,slow=12						
ARA0				Sn	**Sn**	**10 02 19.5**	**-1.9**
	baz=155,slow=28						
ARA0	**ARCESS Array S**	**5.09**	**339**	Pn	**Pn**	**10 01 22.5**	**+0.6**
	baz=153,slow=12						
ARA0				Sn	**Sn**	**10 02 19.5**	**-1.9**
	baz=155,slow=28						
ARA0	**ARCESS Array S**	**5.09**	**339**	Pn	**Pn**	**10 01 22.5**	**+0.6**
	SNR=50						
ARA0				Sn	**Sn**	**10 02 19.5**	**-1.9**
	SNR=50						
ARCES	**ARCESS Array B**	**5.09**	**339**	Pn	**Pn**	**10 01 22.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=155,slow=15,SNR=31						
ARCES				Sn	**Sn**	**10 02 19.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=156,slow=25,SNR=3.7						
ARCES				Lg	Lg	10 02 40.8	
	comp=Z,1.0nm,0.3s,baz=157,slow=28,SNR=7.4						
NB2	**NORSAR Subarra**	**9.62**	**255**	Pn	**Pn**	**10 02 23.2**	**-0.9**
	baz=66,slow=14						
NB2	**NORSAR Subarra**	**9.62**	**255**	Pn	**Pn**	**10 02 23.2**	**-0.9**
	baz=66,slow=14						
NB2	**NORSAR Subarra**	**9.62**	**255**	Pn	**Pn**	**10 02 23.2**	**-0.9**
	SNR=50						
NOA	**NORSAR Array B**	**9.62**	**255**	Pn	**Pn**	**10 02 23.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=58,slow=12,SNR=4.6						
NOA				Lg	Lg	10 04 57.3	
	comp=Z,0.2nm,0.3s,baz=32,slow=23,SNR=3.0						

IDC ***08*** *10:04:28.7±2.7, 6°.86N×93°.18E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/27, mbtmp3.7/7, Error ellipse: s-maj=144.5km s-min=19.6km az=56.0*
ISCJB ***08*** *10:04:30.8±2.4, 6°.9N±0°.5×93°.2E±0°.8, h27km, mb3.7/7, Error ellipse: s-maj=129.4km s-min=17.8km az=146.2*

ISC 08 10:04:33.0±2.5, 7°.0N±0°.6×93°.3E±0°.8, h27km, n7, σ1s18/7, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.78**	**348**	P	**P**	**10 12 11.3**	**-0.7**
	0.7nm,0.6s,baz=166,slow=8.2,SNR=9.2						
KURBB	**Kurchatov Arra**	**45.22**	**347**	P	**P**	**10 12 49.1**	**+1.4**
	1.3nm,0.8s,baz=172,slow=6.8,SNR=10						
ZALV	**Zalesovo Beam**	**47.34**	**353**	P	**P**	**10 13 04.8**	**+0.5**
	1.4nm,0.8s,baz=169,slow=8.4,SNR=6.2						
WRA	**Warramunga Arr**	**48.43**	**124**	P	**P**	**10 13 12.6**	**-0.8**
	0.4nm,0.8s,baz=304,slow=8.4,SNR=2.9						
BVAR	**Borovoye Array**	**49.57**	**342**	P	**P**	**10 13 22.7**	**+1.1**
	0.6nm,0.7s,baz=142,slow=7.3,SNR=2.8						
ASAR	**Alice Springs**	**49.99**	**129**	P	**P**	**10 13 26.1**	**+0.8**
	0.4nm,0.9s,baz=305,slow=6.5,SNR=3.4						
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**10 16 00.2**	**-0.6**
	2.5nm,0.9s,baz=159,slow=5.8,SNR=3.4						

CSEM ***08*** *10:05:07.3, 39°.66N×29°.47E, h7km, MD2.9, Mining explosion. After DDA*

DDA 08 10:05:07.3, 39°.66N×29°.47E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.55**	**332**	*i* P	Pg	10 05 18.0	-0.2
ULDT				*i* S	Sg	10 05 25.9	+0.4
ULDT	**Uludag**	**0.55**	**332**	*i* P	Pg	10 05 18.0	-0.2
ULDT				*i* S	Sg	10 05 25.9	+0.4
GDZ	**Gediz**	**0.57**	**179**	*i* P	Pg	10 05 18.4	-0.1
GDZ				*i* S	Sg	10 05 26.5	+0.4
GDZ	**Gediz**	**0.57**	**179**	*i* P	Pg	10 05 18.4	-0.2
GDZ				*i* S	Sg	10 05 26.5	+0.4
DURS	**Dursunbey**	**0.77**	**266**	*i* P	Pg	10 05 21.8	-0.6
DURS				*i* S	Sb	10 05 33.9	-0.1
DURS	**Dursunbey**	**0.77**	**266**	*i* P	Pg	10 05 21.8	-0.5
DURS				*i* S	Sb	10 05 33.9	-0.1
BORA	**Eskisehir**	**0.79**	**74**	*i* P	Pg	10 05 22.6	-0.1
BORA				*i* S	Sb	10 05 34.3	-0.2
BORA	**Eskisehir**	**0.79**	**74**	*i* P	Pg	10 05 22.6	-0.1
BORA				*i* S	Sb	10 05 34.3	-0.2
DEMI	**Demirci**	**0.85**	**224**	*i* P	Pg	10 05 23.8	0.0
DEMI				*i* S	Sn	10 05 40.0	+1.3
DEMI	**Demirci**	**0.85**	**224**	*i* P	Pg	10 05 23.8	0.0
DEMI				*i* S	Sn	10 05 40.0	+1.4
BUY	**Buyukada**	**1.22**	**347**	*i* P	Pn	10 05 31.0	+0.2
BUY				*i* S	Sn	10 05 48.2	+0.6
BUY	**Buyukada**	**1.22**	**347**	*i* P	Pn	10 05 31.0	+0.2
BUY				*i* S	Sn	10 05 48.2	+0.6
KHAL	**Karahalli**	**1.29**	**179**	*i* P	Pg	10 05 32.8	+0.5
KHAL	**Karahalli**	**1.29**	**179**	*i* P	Pg	10 05 32.8	+0.6
MANT	**Manisa**	**1.37**	**212**	*i* P	Pg	10 05 34.0	+0.1
MANT				*i* S	Sb	10 05 50.8	-0.6
MANT	**Manisa**	**1.37**	**212**	*i* P	Pg	10 05 34.0	+0.1
MANT				*i* S	Sb	10 05 50.8	-0.6
BALY	**Balya**	**1.43**	**274**	*i* P	Pb	10 05 34.5	0.0
BALY				*i* S	Sn	10 05 53.1	+0.2
BALY	**Balya**	**1.43**	**274**	*i* P	Pb	10 05 34.5	+0.1
BALY				*i* S	Sn	10 05 53.1	+0.2
BOLV	**Bolvadin**	**1.48**	**129**	*i* P	Pb	10 05 35.5	+0.1
BOLV				*i* S	Sg	10 05 55.5	+0.1
BOLV	**Bolvadin**	**1.48**	**129**	*i* P	Pb	10 05 35.5	0.0
BOLV				*i* S	Sg	10 05 55.5	+0.1

CSEM ***08*** *10:07:19.8, 45°.61N×26°.44E, h130km, MD3.3/4, After BUC*

BUC 08 10:07:20.5±0.9, 45°.59N×26°.47E, h122km±8km, MD3.5/2, 31C-6D, Error ellipse: s-maj=6.4km s-min=5.5km az=44.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.29**	**25**	*i* P	Pn	10 07 37.8	+0.1
PLOR				S	Sn	10 07 49.9	-0.9
PLOR	**Plostina**	**0.29**	**25**	*i* P	Pn	10 07 37.8	+0.1
PLOR				*i* S	Sn	10 07 49.9	-0.9
VRI	**Vrincioaia**	**0.33**	**33**	*i* P	Pn	10 07 38.1	+0.2
VRI	**Vrincioaia**	**0.33**	**33**	*i* P	Pn	10 07 38.1	+0.2
VRI				*i* S	Sn	10 07 50.7	-0.3
VRI	**Vrincioaia**	**0.33**	**33**	*i* P	Pn	10 07 38.1	+0.2
VRI				*i* S	Sn	10 07 50.7	-0.3
MLR	**Muntele Rosu**	**0.38**	**256**	*i* P	Pn	10 07 38.2	0.0
MLR	**Muntele Rosu**	**0.38**	**256**	*i* P	Pn	10 07 38.2	0.0
MLR				*i* S	Sn	10 07 51.0	-0.6
MLR	**Muntele Rosu**	**0.38**	**256**	*i* P	Pn	10 07 38.2	0.0
MLR				*i* S	Sn	10 07 51.0	-0.6
ISR	**Istrita**	**0.47**	**174**	S	Sn	10 07 51.6	-0.6
ISR	**Istrita**	**0.47**	**174**	*i* S	Sn	10 07 51.6	-0.6
SECR		**0.62**	**207**	*i* P	Pn	10 07 39.9	+0.4
SECR		**0.62**	**207**	*i* P	Pn	10 07 39.9	+0.4
SECR				*i* S	Sn	10 07 54.5	+0.7
SECR		**0.62**	**207**	*i* P	Pn	10 07 39.9	+0.4
SECR				*i* S	Sn	10 07 54.5	+0.7
PGOR	**Pogoanele**	**0.77**	**152**	S	Sn	10 07 56.3	+0.5
PGOR	**Pogoanele**	**0.77**	**152**	*i* S	Sn	10 07 56.3	+0.5
PGOR	**Pogoanele**	**0.77**	**152**	*i* S	Sn	10 07 56.3	+0.5
SULR		**0.92**	**190**	*i* P	Pn	10 07 42.2	+0.3
SULR		**0.92**	**190**	*i* P	Pn	10 07 42.2	+0.3
SULR				*i* S	Sn	10 07 58.5	+0.4
SULR		**0.92**	**190**	*i* P	Pn	10 07 42.2	+0.3
SULR				*i* S	Sn	10 07 58.5	+0.4
TESR	**Tescani**	**0.93**	**8**	*i* P	Pn	10 07 42.3	+0.2
TESR	**Tescani**	**0.93**	**8**	*i* P	Pn	10 07 42.3	+0.2
TESR				*i* S	Sn	10 07 57.4	-1.1
TESR	**Tescani**	**0.93**	**8**	*i* P	Pn	10 07 42.3	+0.2
TESR				*i* S	Sn	10 07 57.4	-1.1
VOIR		**1.01**	**262**	*i* P	Pn	10 07 42.7	-0.2
VOIR		**1.01**	**262**	*i* P	Pn	10 07 42.7	-0.2
VOIR				*i* S	Sn	10 07 58.1	-1.8
VOIR		**1.01**	**262**	*i* P	Pn	10 07 42.7	-0.2
VOIR				*i* S	Sn	10 07 58.1	-1.8
CFR	**Carcaliu**	**1.24**	**109**	*i* P	Pn	10 07 45.2	+0.1
CFR	**Carcaliu**	**1.24**	**109**	*i* P	Pn	10 07 45.2	+0.1
CFR				*i* S	Sn	10 08 02.2	-1.7
CFR	**Carcaliu**	**1.24**	**109**	*i* P	Pn	10 07 45.2	+0.1
CFR				*i* S	Sn	10 08 02.2	-1.7
ARR	**Arges**	**1.31**	**261**	S	Sn	10 08 04.2	-1.2
ARR	**Arges**	**1.31**	**261**	*i* S	Sn	10 08 04.2	-1.2
ARR	**Arges**	**1.31**	**261**	*i* S	Sn	10 08 04.2	-1.2
HUMR	**Humele**	**1.50**	**225**	S	Sn	10 08 07.6	-1.3
HUMR	**Humele**	**1.50**	**225**	*i* S	Sn	10 08 07.6	-1.3
HUMR	**Humele**	**1.50**	**225**	*i* S	Sn	10 08 07.6	-1.3
TLB	**Topalu**	**1.50**	**131**	||| P	Pn	10 07 48.0	0.0
TLB	**Topalu**	**1.50**	**131**	||| P	Pn	10 07 48.0	0.0
TLB				*i* S	Sn	10 08 07.3	-1.6
TLB	**Topalu**	**1.50**	**131**	||| P	Pn	10 07 48.0	0.0
TLB				*i* S	Sn	10 08 07.3	-1.6
TLCR		**1.70**	**103**	S	Sn	10 08 12.1	-1.0
TLCR		**1.70**	**103**	*i* S	Sn	10 08 12.1	-1.0
TLCR		**1.70**	**103**	*i* S	Sn	10 08 12.1	-1.0
TIRR	**Tirgusor**	**1.78**	**129**	||| P	Pn	10 07 51.4	+0.1
TIRR	**Tirgusor**	**1.78**	**129**	||| P	Pn	10 07 51.4	+0.1
TIRR				*i* S	Sn	10 08 13.3	-1.6
TIRR	**Tirgusor**	**1.78**	**129**	||| P	Pn	10 07 51.4	+0.1
TIRR				*i* S	Sn	10 08 13.3	-1.6
LOT	**Lotru**	**1.90**	**267**	*i* P	Pn	10 07 53.5	+0.5
LOT	**Lotru**	**1.90**	**267**	*i* P	Pn	10 07 53.5	+0.5
LOT	**Lotru**	**1.90**	**267**	*i* P	Pn	10 07 53.5	+0.5
BURAR	**Bucovina Array**	**2.21**	**337**	*i* P	Pn	10 07 58.6	+1.9
BURAR	**Bucovina Array**	**2.21**	**337**	*i* P	Pn	10 07 58.6	+1.9
PSN	**Preselentsi**	**2.26**	**147**	*i* P	Pn	10 07 58.1	+0.8
PSN	**Preselentsi**	**2.26**	**147**	*i* P	Pn	10 07 58.1	+0.8
PSN				*i* S	Sn	10 08 25.2	-0.4
PSN	**Preselentsi**	**2.26**	**147**	*i* P	Pn	10 07 58.1	+0.8
PSN				*i* S	Sn	10 08 25.2	-0.4

ISCJB ***08*** *10:16:59.9±0.4, 43°.45N±0°.06×136°.26E±0°.05, h400km, mb3.2/12, Error ellipse: s-maj=7.8km s-min=4.7km az=22.0*
IDC ***08*** *10:17:00.6±1.3, 43°.64N×135°.65E, h348km±16km, mb3.0/12, mb1 3.1/15, mb1mx3.0/31, mbtmp3.7/15, Error ellipse: s-maj=40.9km s-min=12.2km az=175.0*
JMA ***08*** *10:17:01.6±0.5, 43°.40N×136°.49E, h409km, M3.4*

**ISC 08 10:17:00.5±0.7, 43

0.3nm,0.6s,baz=306,slow=3.0,SNR=3.8

*IDC **08** 10:52:23.0±0.7,8.88S×157.75E,h0km,mb4.1/12, mb1 4.3/12,mb1mx4.2/18,mbtmp4.1/12,MS3.5/1, Ms1 3.5/1,ms1mx2.7/21,Error ellipse: s-maj=20.2km s-min=13.3km az=3.0*

*ISCJB **08** 10:52:25.0±0.5,8.9S±0.1×157.76E±0.0?09,h23km, mb4.1/14,Error ellipse: s-maj=16.5km s-min=12.1km az=153.7*

*NEIC **08** 10:52:27.8±0.5,9.05S×157.84E,h35km,mb4.2/2,Error ellipse: s-maj=16.4km s-min=11.3km az=174.0*

ISC 08 10:52:26.5±0.6,8.9S±0.1×157.86E±0.0?08,h23km,n41, σ1♀23/33,mb4.2/13,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.12**	**104**	Pn		**Pn**	**10 52 58.5**	**-2.0**
HNR				Lg		Lg	10 53 33.9	
HNR				TT			10 55 25.3	
HNR	**Honiara**	**2.12**	**104**	Pn		**Pn**	**10 52 58.5**	**-2.0**
	48nm,0.3s,baz=223,slow=1.7,SNR=26							
HNR				Pg		**Pb**	**10 53 05.1**	**+0.8**
	145nm,0.3s,baz=226,slow=7.2,SNR=24							
HNR				Lg		Lg	10 53 33.9	
	324nm,0.3s,baz=258,slow=23,SNR=11							
HNR				T		T	10 55 25.3	
	104nm,0.3s,baz=14,slow=13,SNR=4.0							
PMG	**Port Moresby**	**10.58**	**267**	LR		LR	10 58 48.6	
	comp=Z,252nm,18.9s,baz=108,slow=37							
WRAB	**Tennant Creek**	**25.23**	**242**	*eP*		**P**	**10 57 50.3**	**-0.7**
	6.8nm,0.9s							
WRA	**Warramunga Arr**	**25.24**	**242**	P		**P**	**10 57 49.9**	**-1.1**
WRA	**Warramunga Arr**	**25.24**	**242**	P		**P**	**10 57 49.9**	**-1.1**
	1.8nm,0.7s,baz=66,slow=9.4,SNR=17							
ASAR	**Alice Springs**	**27.20**	**235**	P		**P**	**10 58 07.2**	**-1.6**
ASAR	**Alice Springs**	**27.20**	**235**	P		**P**	**10 58 07.2**	**-1.6**
	0.4nm,0.6s,baz=62,slow=9.8,SNR=5.0							
STKA	**Stephens Creek**	**27.38**	**211**	*eP*		**P**	**10 58 13.4**	**+3.1**
STKA	**Stephens Creek**	**27.38**	**211**	P		**P**	**10 58 10.8**	**+0.5**
	3.4nm,0.6s,baz=30,slow=12,SNR=15							
H11S3	**WAKE ISLAND Hy**	**28.60**	**18**	T		T	11 26 50.7	
	baz=200,slow=77,SNR=49							
H11S2	**WAKE ISLAND Hy**	**28.61**	**18**	T		T	11 27 08.8	
	baz=200,slow=77,SNR=58							
H11S1	**WAKE ISLAND Hy**	**28.62**	**18**	T		T	11 26 46.9	
	baz=200,slow=77,SNR=37							
H11N1	**WAKE ISLAND Hy**	**29.82**	**17**	T		T	11 28 51.8	
	baz=198,slow=75,SNR=9.3							
H11N3	**WAKE ISLAND Hy**	**29.82**	**17**	T		T	11 28 47.6	
	baz=198,slow=75,SNR=17							
H11N2	**WAKE ISLAND Hy**	**29.83**	**17**	T		T	11 28 53.1	
	baz=198,slow=75,SNR=12							
AFI	**Afiamalu**	**30.15**	**102**	*eP*		**P**	**10 58 37.2**	**+1.9**
PETK	**Petropavlovsk-**	**61.79**	**360**	P		**P**	**11 02 43.5**	**+0.2**
PETK	**Petropavlovsk-**	**61.79**	**360**	P		**P**	**11 02 43.5**	**+0.2**
	7.0nm,0.9s,baz=177,slow=7.2,SNR=5.4							
CMAR	**Chiang Mai Arr**	**64.17**	**295**	P		**P**	**11 03 00.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**64.17**	**295**	P		**P**	**11 03 00.4**	**+0.5**
	0.6nm,0.3s,baz=117,slow=5.0,SNR=6.6							
SONM	**Songino Array**	**72.49**	**326**	P		**P**	**11 03 52.2**	**+0.7**
SONM	**Songino Array**	**72.49**	**326**	P		**P**	**11 03 52.2**	**+0.7**
	1.0nm,0.9s,baz=83,slow=12,SNR=3.6							
QSPA	**South Pole Qui**	**81.06**	**180**	*eP*		**P**	**11 04 39.0**	**-0.6**
	1.5nm,0.6s							
ILAR	**Eielson Array**	**84.14**	**21**	P		**P**	**11 04 54.5**	**-0.9**
ILAR	**Eielson Array**	**84.14**	**21**	P		**P**	**11 04 54.5**	**-0.9**
	1.1nm,0.5s,baz=256,slow=5.3,SNR=34							
MK31	**Makanchi Array**	**86.72**	**318**	*eP*		**P**	**11 05 08.7**	**-0.1**
MKAR	**Makanchi Array**	**86.72**	**318**	P		**P**	**11 05 08.0**	**-0.7**
MKAR	**Makanchi Array**	**86.72**	**318**	P		**P**	**11 05 08.0**	**-0.7**
	3.0nm,1.1s,baz=99,slow=6.2,SNR=9.2							
ZALV	**Zalesovo Beam**	**87.36**	**326**	P		**P**	**11 05 10.3**	**-1.4**
ZALV	**Zalesovo Beam**	**87.36**	**326**	P		**P**	**11 05 10.3**	**-1.4**
	0.4nm,0.4s,baz=97,slow=6.2,SNR=3.2							
KURK	**Kurchatov**	**90.10**	**321**	*eP*		**P**	**11 05 25.0**	**+0.3**
NVAR	**Mina Array Bea**	**90.69**	**51**	P		**P**	**11 05 29.4**	**+1.4**
NVAR	**Mina Array Bea**	**90.69**	**51**	P		**P**	**11 05 29.4**	**+1.4**
	3.0nm,1.0s,baz=263,slow=7.1,SNR=15							
NV11	**Mina Array Sit**	**90.81**	**51**	*eP*		**P**	**11 05 29.5**	**+1.0**
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**11 05 54.1**	**-0.6**
YKA	**Yellowknife Ar**	**96.70**	**28**	P		**P**	**11 05 54.1**	**-0.6**
	0.2nm,0.5s,baz=265,slow=4.6,SNR=7.4							
PDAR	**Pinedale Array**	**97.88**	**48**	P		Pdif	11 06 01.2	+0.3
PDAR	**Pinedale Array**	**97.88**	**48**	P		Pdif	11 06 01.2	+0.3
	0.4nm,0.7s,baz=226,slow=7.3,SNR=2.5							
BDFB	**Brasilia**	**144.61**	**133**	PKP		**PKPab**	**11 12 00.8**	**-0.2**
BDFB	**Brasilia**	**144.61**	**133**	PKP		**PKPab**	**11 12 00.8**	**-0.2**
	9.3nm,0.7s,baz=196,slow=3.1,SNR=14							

*NIED **08** 10:58:00,45.60N×142.70E,h290km,Mw3.9 Best double couple: M0 7.04000×10^14 NP1:♀♭63.00000°, δ39.00000°,λ150.00000°. NP2:♀♭177.00000°,δ72.00000°, λ54.00000°.*

*ISCJB **08** 10:58:40.2±0.3,45.69N±0.05×142.67E±0.07, h312km±3km,mb3.6/13,Error ellipse: s-maj=8.3km s-min=7.0km az=152.9*

*SKHL **08** 10:58:40.1±0.8,45.58N×142.78E,h318km±24km,mb4.1/3, msh4.9/2*

*MOS **08** 10:58:40.0±1.0,45.77N×142.51E,h309km,mb4.0/5,Error ellipse: s-maj=20.2km s-min=11.9km az=77.1*

*JMA **08** 10:58:40.5±0.2,45.61N×142.72E,h317km±2km,M3.9*

*IDC **08** 10:58:41.3±0.5,45.73N×142.60E,h306km±7km,mb3.4/13, mb1 3.6/18,mb1mx3.4/31,mbtmp3.4/18,Error ellipse: s-maj=15.4km s-min=10.8km az=153.0*

ISC 08 10:58:41.1±0.6,45.68N±0.05×142.73E±0.06,h307km±5km, n53,σ1♀01/63,mb3.7/13,11C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.69**	**239**	⇑P		**Pn**	**10 59 21.7**	**+0.7**
JWK2				*e*S		**S**	**10 59 52.9**	**+0.2**
JSE	**Soyaes**	**0.72**	**188**	P		**Pn**	**10 59 21.3**	**+0.1**
JSE				*e*S		**S**	**10 59 53.1**	**+0.1**
JRR	**Rishiri**	**1.14**	**242**	P		**Pn**	**10 59 23.2**	**+0.4**
JRR				*e*S		**S**	**10 59 56.4**	**+0.3**
YSS	**Yuzh-Sakhalins**	**1.28**	**1**	⇑*i*PN		**Pn**	**10 59 23.0**	**-0.5**
YSS				*e**SP		**S**	**10 59 56.0**	**-1.3**
YSS				pmax	pmax			
	comp=N,50nm,0.5s							
YSS				pmax	pmax			
	comp=Z,90nm,0.5s							
YSS	**Yuzh-Sakhalins**	**1.28**	**1**	⇑*i*P		**Pn**	**10 59 23.0**	**-0.5**
YSS				AMB	AMB		10 59 23.5	
	comp=Z,50nm,0.5s							
YSS				AMB	AMB		10 59 23.5	
	comp=Z,90nm,0.5s							
YSS				*i* S		**S**	**10 59 56.2**	**-1.1**
YSS				A		A	10 59 56.6	
	comp=Z,270nm,0.5s							
YSS				A		A	10 59 56.6	
	comp=Z,110nm,0.5s							
JSS	**Shosan**	**1.42**	**206**	⇑P		**Pn**	**10 59 24.8**	**+0.3**
JYG	**Yagishiri**	**1.55**	**217**	P		**Pn**	**10 59 25.5**	**+0.2**
ASAJ	**Asahikawa**	**1.56**	**184**	⇑P		**Pn**	**10 59 25.7**	**+0.3**
ASAJ				*e*S		**S**	**11 00 01.7**	**+1.0**
ASAJ	**Asahikawa**	**1.56**	**184**	P		**Pn**	**10 59 25.8**	**+0.3**
	comp=Z,14nm,0.3s,baz=24,slow=10.0,SNR=153							
ASAJ				S		**S**	**11 00 01.7**	**+1.0**
	baz=204,slow=20,SNR=6.4							
JMP	**Maruseppu**	**1.73**	**165**	⇑P		**Pn**	**10 59 26.7**	**+0.1**
JMP				*e*S		**S**	**11 00 02.5**	**-0.3**
JKK2	**Kamakawa 2**	**1.80**	**180**	⇑P		**Pn**	**10 59 27.4**	**+0.3**
JTKR	**Abashiri--Toko**	**1.90**	**153**	⇑P		**Pn**	**10 59 28.2**	**+0.5**
JTKR				*e*S		**S**	**11 00 04.9**	**0.0**
JHR	**Hokuryu**	**2.06**	**201**	⇑P		**Pn**	**10 59 29.1**	**+0.1**
JAR	**Ashorobuto**	**2.49**	**162**	P		**Pn**	**10 59 33.0**	**+0.4**
JAR				*e*S		**S**	**11 00 13.6**	**-0.2**
JFR	**Furan**	**2.51**	**182**	⇑P		**Pn**	**10 59 32.7**	**-0.2**
JEW	**Eniwo**	**2.98**	**198**	⇑P		**Pn**	**10 59 37.5**	**+0.3**
JAK	**Akkeshi**	**3.03**	**152**	P		**Pn**	**10 59 36.7**	**-0.9**
JCH	**Churui**	**3.09**	**171**	P		**Pn**	**10 59 36.6**	**-1.7**
NEM2	**Nemuro 2**	**3.16**	**136**	*e*S		**S**	**11 00 20.7**	**-4.4**
JNBK	**Urakawa-nobuka**	**3.39**	**180**	P		**Pn**	**10 59 39.8**	**-1.5**
JNBK				*e*S		**S**	**11 00 28.1**	**-1.4**
JKB	**Kayabe**	**3.98**	**199**	P		**Pn**	**10 59 46.3**	**-1.2**
TEY	**Ternei**	**4.37**	**264**	*e*S		**S**	**11 00 47.0**	**-1.3**
TEY				A		A	11 00 48.5	
	comp=Z,18nm,0.4s							

GRNR	**Gornyy**	**6.61**	**323**	*e*P		**Pn**	**11 00 17.5**	**-0.3**
GRNR				AMB		AMB	11 00 18.0	
	comp=Z,6.0nm,0.4s							
USRK	**Ussuriysk Arra**	**7.76**	**263**	P		**Pn**	**11 00 31.9**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=70,slow=12,SNR=64							
KLR	**Kul'dur**	**8.25**	**299**	*e*PN		Pn	11 00 33.8	-3.8
MJAR	**Matsushiro Arr**	**9.74**	**202**	*e*P		**Pn**	**11 00 55.2**	**-0.8**
MJAR	**Matsushiro Arr**	**9.74**	**202**	P		**Pn**	**11 00 55.2**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=14,slow=12,SNR=8.3							
EKMR	**Ekimchan**	**9.76**	**323**	*e*P		Pn	11 00 52.8	-3.3
EKMR				AMB		AMB	11 00 53.8	
	comp=Z,11nm,0.5s							
PETK	**Petropavlovsk-**	**12.25**	**47**	PN		**P**	**11 01 27.7**	**+0.5**
PETK	**Petropavlovsk-**	**12.25**	**47**	P		**P**	**11 01 27.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=221,slow=8.8,SNR=9.5							
BMKR	**Bomnak**	**12.67**	**321**	*e*P		Pn	11 01 27.7	-3.6
BMKR				AMB		AMB	11 01 28.2	
	comp=Z,2.0nm,0.5s							
ZEA	**Zeya**	**12.84**	**314**	*e*P		**P**	**11 01 34.8**	**+1.0**
ZEA				AMB		AMB	11 01 35.4	
	comp=Z,23nm,1.0s							
KROS	**Kirovskiy**	**13.37**	**317**	*e*P		**P**	**11 01 36.8**	**-2.8**
KROS				AMB		AMB	11 01 37.2	
	comp=Z,4.0nm,0.5s							
KSRS	**Korea Array**	**13.78**	**239**	*e*P		**Pn**	**11 01 45.4**	**+0.6**
KSRS	**Korea Array**	**13.78**	**239**	P		**Pn**	**11 01 45.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=56,slow=10,SNR=7.1							
SEY	**Seymchan**	**18.15**	**14**	P		**P**	**11 02 32.1**	**+0.6**
SEY				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SEY	**Seymchan**	**18.15**	**14**	P		**P**	**11 02 32.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=200,slow=9.8,SNR=26							
SONM	**Songino Array**	**24.85**	**288**	P		**P**	**11 03 36.2**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=84,slow=8.5,SNR=89							
SONM				ScP		**ScP**	**11 10 12.2**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=90,slow=1.9,SNR=5.0							
MKAR	**Makanchi Array**	**40.91**	**294**	P		**P**	**11 05 53.7**	**-0.3**
MKAR	**Makanchi Array**	**40.91**	**294**	P		**P**	**11 05 53.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=76,slow=9.2,SNR=5.0							
MKAR				ScP		**ScP**	**11 11 08.0**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=68,slow=5.2,SNR=3.4							
ILAR	**Eielson Array**	**41.83**	**37**	P		**P**	**11 06 00.7**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=272,slow=8.1,SNR=20							
KURK	**Kurchatov**	**41.84**	**301**	P		**P**	**11 06 01.0**	**-0.3**
KURBB	**Kurchatov Arra**	**41.92**	**301**	P		**P**	**11 06 01.0**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=68,slow=8.6,SNR=7.7							
INK	**Inuvik**	**46.35**	**31**	P		**P**	**11 06 36.0**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=291,slow=8.0,SNR=31							
YKA	**Yellowknife Ar**	**55.93**	**33**	P		**P**	**11 07 47.6**	**+0.3**
	comp=Z,7.7nm,0.6s,baz=307,slow=7.0,SNR=63							
FINES	**FINESS Array B**	**61.69**	**331**	P		**P**	**11 08 25.6**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=49,slow=8.6,SNR=7.6							
WRA	**Warramunga Arr**	**65.75**	**189**	P		**P**	**11 08 53.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=7.0,slow=6.9,SNR=3.0							
NB2	**NORSAR Subarra**	**66.63**	**337**	P		**P**	**11 08 57.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=34,slow=6.5							
NOA	**NORSAR Array B**	**66.63**	**337**	P		**P**	**11 08 58.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=36,slow=6.2,SNR=5.0							
NVAR	**Mina Array Bea**	**69.17**	**56**	P		**P**	**11 09 16.8**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=302,slow=6.8,SNR=13							
PDAR	**Pinedale Array**	**71.01**	**48**	P		**P**	**11 09 27.0**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=303,slow=1.7,SNR=14							
ULM	**Lac du Bonnet**	**71.81**	**35**	P		**P**	**11 09 30.2**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=330,slow=5.4,SNR=4.7							
TXAR	**Lajitas Array**	**84.12**	**54**	P		**P**	**11 10 39.7**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=281,slow=3.3,SNR=6.4							

NNC 08 11:01:37.6±8.0,36.87N×70.40E,h178km±164km,mb2.6, mpv3.5,4C-2D,Error ellipse: s-maj=87.0km s-min=44.4km az=24.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.22**	**1**	⇑P		Pn	11 03 08.1	+0.7
	0.9nm,0.3s,baz=195,slow=16,SNR=18							
KK31				⇑S		Sn	11 04 18.3	0.0
	0.4nm,0.3s,baz=53,slow=10,SNR=7.2							
AAK	**Ala-Archa**	**6.56**	**27**	⇑P		Pn	11 03 12.1	0.0
	4.9nm,1.1s							
AAK				⇓S		Sn	11 04 27.4	+0.7
	5.5nm,0.7s							
TKM2	**Tokmak 2**	**7.24**	**32**	⇓P		Pn	11 03 20.2	-0.9
	2.4nm,0.5s							
AB31	**Akbulak array**	**14.52**	**332**	⇑P		Pn	11 04 54.9	+0.2
	0.2nm,0.3s,baz=163,slow=12,SNR=18							

*IDC **08** 11:30:47.0±2.0,1.79N×125.86E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/21,mbtmp3.6/3,Error ellipse: s-maj=189.4km s-min=24.2km az=65.0*

*DJA **08** 11:30:53.3±0.4,2.7N±3.3×12.6E±1.1,h10km,M4.1/7,mb4.7/1, mB4.7/1,MLv3.8/7,Mw(mB)3.9/1*

*ISCJB **08** 11:30:54.3±0.8,1.79N±0.06×126.24E±0.09,h47km, mb3.5/3,Error ellipse: s-maj=13.4km s-min=7.7km az=159.0*

ISC 08 11:30:54.2±1.1,1.80N±0.07×126.28E±0.08,h47km,n10, σ1♀82/10,mb3.5/3,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.49**	**133**	P		**Pn**	**11 31 20.6**	**+2.1**
SGSI	**Sangihe**	**2.02**	**338**	P		**Pn**	**11 31 27.7**	**+1.8**
SGSI				S		**Sn**	**11 31 49.7**	**-0.2**
LBMI	**Labuha**	**2.71**	**153**	P		Pn	11 31 39.0	+3.7
GTOI	**Gorontalo**	**3.47**	**251**	P		**Pn**	**11 31 46.2**	**+0.5**
SANI	**Sanana**	**3.83**	**184**	P		**Pn**	**11 31 50.6**	**-0.1**
LUWI	**Luwuk**	**4.50**	**231**	P		**Pn**	**11 32 01.8**	**+1.9**
APSI	**Ampana**	**5.36**	**240**	P		**Pn**	**11 32 14.3**	**+2.6**
WRA	**Warramunga Arr**	**23.01**	**160**	P		**P**	**11 35 54.9**	**-0.4**
	1.1nm,0.5s,baz=338,slow=10,SNR=12							
ASAR	**Alice Springs**	**26.38**	**164**	P		**P**	**11 36 26.4**	**0.0**
	0.3nm,0.4s,baz=344,slow=7.6,SNR=6.1							
MKAR	**Makanchi Array**	**58.89**	**326**	P		**P**	**11 40 46.2**	**-2.2**
	0.5nm,0.7s,baz=122,slow=7.5,SNR=9.8							

*IDC **08** 11:31:20.2±0.6,15.43S×173.34W,h0km,mb4.3/12, mb1 4.5/12,mb1mx4.3/24,mbtmp4.3/12,MS3.9/10, Ms1 3.9/10,ms1mx3.6/34,Error ellipse: s-maj=32.0km s-min=15.6km az=136.0*

*NEIC **08** 11:31:22.0±0.3,15.43S×173.37W,h10km,mb4.7/17, Error ellipse: s-maj=15.9km s-min=5.8km az=145.0*

*ISCJB **08** 11:31:24.9±0.3,15.5S±0.1×173.40W±0.08,h42km, mb4.5/30,MS4.0/7,Error ellipse: s-maj=18.4km s-min=7.1km az=147.4*

ISC 08 11:31:26.4±0.5,15.5S±0.2×173.4W±0.1,h42km,n321, σ0♀46/299,mb4.5/30,MS4.0/7,122C-117D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**45**	*e*Pn		Pn	11 31 51.5	-8.6
AFI				*e*Sn		Sn	11 32 14.1	-12
AFI				TT			11 33 59.9	
AFI	**Afiamalu**	**2.17**	**45**	Pn		Pn	11 31 51.5	-8.6
	120nm,0.3s,baz=145,slow=2.9,SNR=64							
AFI				LR		LR	11 32 09.5	
	comp=Z,759nm,18.4s,baz=293,slow=23							
AFI				Sn		Sn	11 32 11.4	-14
	650nm,0.3s,baz=233,slow=20,SNR=21							
AFI				T		T	11 33 59.9	
	127nm,0.3s,baz=210,slow=22,SNR=2.7							
RAR	**Rarotonga**	**14.10**	**116**	LR		LR	11 39 04.9	
	comp=Z,271nm,18.5s,baz=274,slow=33							
RAO	**Raoul Island**	**14.36**	**196**	LR		LR	11 39 27.6	
	comp=Z,412nm,19.7s,baz=330,slow=34							
DZM	**Mont Dzumac**	**20.22**	**248**	*e*LR		LR	11 41 11.2	
	1μm,24.9s							
DZM	**Mont Dzumac**	**20.22**	**248**	P		**P**	**11 35 57.4**	**-0.7**
DZM	**Mont Dzumac**	**20.22**	**248**	P		**P**	**11 35 57.4**	**-0.7**
	6.1nm,1.0s,baz=100,slow=16,SNR=2.3							
DZM				LR		LR	11 42 37.6	
	comp=Z,733nm,21.6s,baz=51,slow=34							
PAE	**Paea**	**22.89**	**99**	*e*T		T	11 59 20.0	
	2.4nm,0.3s							
PPT	**Papeete**	**22.89**	**99**	LR		LR	11 42 37.2	
	comp=Z,216nm,21.6s,baz=262,slow=30							
PPT2	**Papeete2**	**22.89**	**99**	*e*LQ		LQ	11 40 43.1	
	669nm,27.5s							
PPT2				*e*LR		LR	11 41 35.3	
	440nm,23.5s,baz=270							
PPT2	**Papeete2**	**22.89**	**99**	*e*T		T	11 59 21.0	
	4.7nm,0.2s							
TVO	**Taravao**	**23.20**	**99**	*e*T		T	11 59 44.0	
	1.5nm,0.3s							
TBI	**Tubuai**	**23.84**	**113**	*e*LQ		LQ	11 41 11.0	
	640nm,29.0s							
TBI				*e*LR		LR	11 42 06.1	
	576nm,26.0s,baz=289							
TBI	**Tubuai**	**23.84**	**113**	*e*T		T	12 00 44.4	
	7.1nm,0.2s							
URZ	**Urewera**	**24.22**	**199**	P		**P**	**11 36 38.8**	**-0.5**
URZ	**Urewera**	**24.22**	**199**	P		**P**	**11 36 38.8**	**-0.5**
	3.5nm,0.5s,baz=321,slow=13,SNR=3.6							
HNR	**Honiara**	**26.74**	**280**	LR		LR	11 46 25.4	
	comp=Z,368nm,18.7s,baz=119,slow=34							
RKT	**Rikitea**	**36.93**	**108**	*e*LR		LR	11 48 03.9	
	293nm,26.2s							
RKT	**Rikitea**	**36.93**	**108**	*e*T		T	12 17 00.4	
	4.4nm,0.3s							
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T		T	12 20 20.5	
	baz=152,slow=75							
H11S3	**WAKE ISLAND Hy**	**39.05**	**329**	T		T	12 20 34.6	
	baz=152							
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T		T	12 20 25.4	
	baz=152,slow=75							
H11N3	**WAKE ISLAND Hy**	**39.99**	**330**	T		T	12 21 27.9	
	baz=156							
H11N1	**WAKE ISLAND Hy**	**39.99**	**330**	T		T	12 21 25.8	
	baz=156							
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T		T	12 21 25.4	
	baz=156							
COEN	**Coen**	**42.02**	**266**	*e*P		**P**	**11 39 15.6**	**+1.4**
	35nm,0.8s							
STKA	**Stephens Creek**	**44.05**	**240**	*e*P		**P**	**11 39 29.9**	**-0.5**
STKA	**Stephens Creek**	**44.05**	**240**	P		**P**	**11 39 29.9**	**-0.5**
	3.3nm,0.7s,baz=85,slow=7.8,SNR=11							
STKA				LR		LR	11 55 34.9	
	comp=Z,167nm,21.7s,baz=29,slow=33							
WRAB	**Tennant Creek**	**49.87**	**257**	*e*P		**P**	**11 40 15.6**	**-0.4**
	4.9nm,0.9s							
WRA	**Warramunga Arr**	**49.88**	**257**	P		**P**	**11 40 15.0**	**-1.1**
WRA	**Warramunga Arr**	**49.88**	**257**	P		**P**	**11 40 15.0**	**-1.1**
	4.1nm,1.0s,baz=92,slow=7.0,SNR=34							
AS31	**Alice Springs**	**50.14**	**252**	*e*P		**P**	**11 40 17.7**	**-0.3**
ASAR	**Alice Springs**	**50.14**	**252**	P		**P**	**11 40 17.4**	**-0.7**
ASAR	**Alice Springs**	**50.14**	**252**	P		**P**	**11 40 17.4**	**-0.7**
	6.4nm,0.6s,baz=86,slow=8.5,SNR=54							
ASAR				LR		LR	12 00 03.6	
	comp=Z,496nm,20.5s,baz=80,slow=34							
VNDA	**Vanda**	**63.32**	**186**	LR		LR	12 04 44.9	
	comp=Z,29nm,21.2s,baz=360,slow=32							
ARVC	**Arvin**	**72.12**	**45**	⇓P		**P**	**11 42 46.3**	**-0.5**
	baz=72							
VES	**Vestal, Richgr**	**72.35**	**44**	⇑P		**P**	**11 42 47.6**	**-0.5**
	baz=72							
MURC	**Murrieta**	**72.40**	**47**	⇓P		**P**	**11 42 48.1**	**-0.4**
	baz=73							
BFSC	**Mount Baldy Ra**	**72.43**	**46**	⇓P		**P**	**11 42 48.1**	**-0.7**
	baz=73							
EDW2	**Edwards Air Fo**	**72.55**	**45**	⇓P		**P**	**11 42 48.8**	**-0.6**
	baz=73							
MONP	**Monument Peak**	**72.57**	**48**	⇑P		**P**	**11 42 49.0**	**-0.7**
	baz=73							
ISA	**Isabella**	**72.66**	**44**	⇓P		**P**	**11 42 49.7**	**-0.4**
	baz=73							
PETK	**Petropavlovsk-**	**72.70**	**342**	P		**P**	**11 42 51.2**	**+1.4**
PETK	**Petropavlovsk-**	**72.70**	**342**	P		**P**	**11 42 51.2**	**+1.4**
	5.2nm,0.9s,baz=120,slow=5.7,SNR=3.8							
PFO	**Pinyon Flat Ob**	**72.93**	**47**	⇓P		**P**	**11 42 51.3**	**-0.5**
	baz=73							
SWSC	**Sam W. Stewart**	**73.04**	**48**	⇑P		**P**	**11 42 51.8**	**-0.5**
	baz=73							
LRMC	**Laurel Mountai**	**73.09**	**45**	⇓P		**P**	**11 42 52.4**	**-0.3**
	baz=73							
N02D	**Trinity Center**	**73.14**	**38**	⇓P		**P**	**11 42 52.5**	**-0.3**
	baz=73							
BELC	**Belle Mtn. Jos**	**73.46**	**47**	⇓P		**P**	**11 42 54.5**	**-0.4**
	baz=74							
GSC	**Goldstone**	**73.60**	**45**	⇑P		**P**	**11 42 54.9**	**-0.7**
	baz=74							
BC3	**Big Chuckawall**	**73.66**	**47**	⇑P		**P**	**11 42 55.5**	**-0.6**
	baz=74							
HEC	**Hector,Ludlow**	**73.67**	**46**	⇓P		**P**	**11 42 55.5**	**-0.6**
	baz=74							
**G

BNM	Barren Site 1.1nm,0.6s	80.33	51	*e*P	P	11 43 33.6	-0.1
MVCO	Mesa Verde baz=80	80.35	47	⇑P	P	11 43 34.1	+0.4
LPM	Los Pinos Moun 2.2nm,0.7s	80.40	50	*e*P	P	11 43 34.6	+0.6
325A	Bean Ranch, Si baz=80,SNR=8.7	80.41	54	⇓P	P	11 43 33.8	-0.3
526A	Mary Lane Ranc baz=81,SNR=6.6	80.56	55	⇓P	P	11 43 35.0	+0.1
TXAR	Lajitas Array	80.61	56	P	P	11 43 35.2	+0.1
TXAR	Lajitas Array 3.3nm,1.1s,baz=222,slow=5.0,SNR=12	80.61	56	P	P	11 43 35.2	+0.1
Y23A	Lovelace Mesa, baz=81	80.66	51	⇑P	P	11 43 35.1	-0.3
NEW	Newport baz=81	80.73	34	⇓P	P	11 43 35.2	-0.1
PV01	Paradox Valley 771nm,1.2s	80.73	46	*e*P	P	11 43 35.8	0.0
ANMO	Albuquerque 6.8nm,1.2s	80.80	50	*e*P	P	11 43 36.4	+0.2
225A	Deer Hill, Car baz=81,SNR=5.7	80.83	53	⇓P	P	11 43 36.4	0.0
X23A	Hourglass Bar baz=81	80.84	50	⇑P	P	11 43 36.7	+0.2
426A	McDonald Obser baz=81,SNR=8.7	80.86	55	⇓P	P	11 43 36.3	-0.3
627A	Terlingua Ranc baz=81,SNR=7.6	80.88	56	⇑P	P	11 43 36.9	+0.3
V22A	San Miguel Ran baz=81	80.90	49	⇑P	P	11 43 36.4	-0.4
Z24A	Sheeppen Canyo baz=81	80.92	52	⇑P	P	11 43 36.8	-0.1
527A	Woodward Ranch baz=81,SNR=6.3	80.97	55	⇓P	P	11 43 37.1	-0.1
W23A	Werner Place, baz=81,SNR=5.7	81.12	50	⇓P	P	11 43 37.9	0.0
U22A	Llaves baz=81	81.15	49	⇑P	P	11 43 38.1	+0.1
326A	Caldwell Ranch baz=81	81.16	54	⇓P	P	11 43 38.3	+0.3
MCMT	McKenzie Canyo 6.3nm,1.1s	81.27	39	*e*P	P	11 43 39.2	+0.7
628A	Black Gap, Mar baz=81	81.29	56	⇓P	P	11 43 38.7	-0.1
226B	Tecolote Peak, baz=81,SNR=9.7	81.32	53	⇓P	P	11 43 38.9	0.0
V23A	Ortiz Mt. (NFS baz=82,SNR=8.1	81.36	49	⇓P	P	11 43 39.8	+0.7
Z25A	Roswell baz=82	81.39	52	⇑P	P	11 43 39.0	-0.3
427A	Hayter Ranch, baz=82,SNR=6.1	81.42	55	⇑P	P	11 43 39.7	+0.2
U23A	El Rito baz=82,SNR=7.1	81.60	49	⇑P	P	11 43 40.6	+0.2
126A	Clayton Basin, baz=82	81.67	53	⇑P	P	11 43 40.7	0.0
Y25A	Mesa, Roswell baz=82	81.68	52	⇓P	P	11 43 40.5	-0.3
W24A	Lazy 6 Ranch, baz=82,SNR=5.1	81.69	50	⇑P	P	11 43 40.8	-0.1
MSO	Missoula baz=82,SNR=8.6	81.70	37	⇑P	P	11 43 40.0	-0.6
S22A	4UR Ranch, Cre baz=82,SNR=15	81.78	47	⇑P	P	11 43 41.6	+0.2
BSMT	Bassoo Peak 22nm,1.3s	81.78	35	*e*P	P	11 43 40.6	-0.5
O20A	White River Ci baz=82	81.89	45	⇓P	P	11 43 41.5	-0.3
428A	Kincaid Ranch, baz=82	81.94	55	⇑P	P	11 43 42.3	+0.1
Z26A	Caprock baz=82,SNR=8.3	81.95	52	⇑P	P	11 43 42.1	-0.1
X25A	Clemmons Ranch baz=82,SNR=5.1	81.96	51	⇓P	P	11 43 42.0	-0.3
V24A	Rampart Ranch, baz=82	82.02	50	⇓P	P	11 43 42.8	+0.1
T23A	Casias Ranch, baz=82,SNR=6.3	82.03	48	⇓P	P	11 43 42.9	+0.2
LRM	Limekiln Ridge 16nm,0.9s	82.03	38	*e*P	P	11 43 42.2	-0.3
529A	Stev Forest Ra baz=82,SNR=5.5	82.07	56	⇓P	P	11 43 42.4	-0.5
328A	Wristen Ranch, baz=82	82.10	55	⇓P	P	11 43 42.4	-0.6
QLMT	Earthquake Lak 0.5nm,0.6s	82.14	39	*e*P	P	11 43 43.6	+0.6
CHMT	Chamberlain Mo 5.0nm,1.0s	82.14	37	*e*P	P	11 43 42.9	-0.2
127A	Arkansas Junct baz=82	82.19	53	⇑P	P	11 43 43.2	-0.3
I17A	Pilgrim Ck. baz=82,SNR=6.6	82.20	40	⇑P	P	11 43 44.0	+0.5
PDAR	Pinedale Array	82.28	42	P	P	11 43 43.0	-0.9
PDAR	Pinedale Array 5.1nm,1.1s,baz=204,slow=3.3,SNR=20	82.28	42	P	P	11 43 43.0	-0.9
U24A	Moreno Valley baz=82,SNR=6.3	82.30	49	⇓P	P	11 43 44.8	+0.6
Y26A	Elida baz=82,SNR=6.8	82.34	52	⇑P	P	11 43 44.1	-0.1
S23A	Nye Farm, Mont baz=82	82.34	48	⇓P	P	11 43 44.2	-0.1
W25A	X Bar L Ranch, baz=82,SNR=5.2	82.40	50	⇓P	P	11 43 44.2	-0.4
H17A	Grant Village baz=83	82.44	40	⇑P	P	11 43 45.0	+0.3
ILAR	Eielson Array	82.49	11	P	P	11 43 43.5	-0.6
ILAR	Eielson Array 0.8nm,0.8s,baz=223,slow=4.9,SNR=8.7	82.49	11	P	P	11 43 43.5	-0.6
T24B	San Luis baz=83	82.51	48	⇑P	P	11 43 45.4	+0.1
429A	Davenport Ranc baz=83,SNR=9.8	82.53	56	⇑P	P	11 43 44.9	-0.3
V25A	Rancho No Teng baz=83,SNR=12	82.55	50	⇓P	P	11 43 45.3	-0.1
Z27A	Tatum baz=83	82.56	53	⇑P	P	11 43 45.0	-0.4
228A	UT Block 9, Go baz=83	82.56	54	⇓P	P	11 43 45.5	+0.1
X26A	CR and CF Fran baz=83,SNR=5.3	82.61	51	⇑P	P	11 43 45.0	-0.6
P22A	Eagle baz=83	82.66	46	⇓P	P	11 43 45.6	-0.3
R23A	Moffat baz=83	82.68	47	⇑P	P	11 43 45.9	-0.2
530A	J-C Ranch, Com baz=83	82.79	56	⇓P	P	11 43 46.5	0.0
329A	Wagon Wheel Ra baz=83	82.79	55	⇓P	P	11 43 46.2	-0.4
Y27A	Causey baz=83	82.83	52	⇓P	P	11 43 46.4	-0.4
128A	Castleberry Fa baz=83	82.84	53	⇑P	P	11 43 46.7	-0.1
J19A	Crowheart baz=83,SNR=6.5	82.84	42	⇑P	P	11 43 46.2	-0.6
W26A	Owens Ranch, T baz=83	82.86	51	⇓P	P	11 43 46.6	-0.4
S24A	Houchin Ranch, baz=83,SNR=7.1	82.88	48	⇓P	P	11 43 47.3	0.0
U25A	Circle Dot Ran baz=83,SNR=11	82.93	49	⇑P	P	11 43 47.0	-0.4
O22A	Kremmling baz=83,SNR=11	83.06	45	⇓P	P	11 43 48.0	-0.1
631A	Perdido Creek baz=83	83.12	57	⇓P	P	11 43 47.8	-0.4
V26A	Tequesquite Ra baz=83	83.14	50	⇓P	P	11 43 48.0	-0.3
MSTX	Muleshoe baz=83,SNR=6.3	83.16	52	⇑P	P	11 43 48.2	-0.3
Z28A	Tucker Farm, M baz=83,SNR=5.2	83.18	53	⇑P	P	11 43 48.3	-0.3
X27A	F and S Farms, baz=83,SNR=5.6	83.18	51	⇑P	P	11 43 48.5	-0.1
P23A	Jefferson baz=83	83.19	46	⇑P	P	11 43 49.1	+0.3
832A	Faith Ranch, C baz=83	83.20	58	⇑P	P	11 43 48.5	-0.1
R24A	Sanders Place, baz=83,SNR=8.3	83.21	47	⇑P	P	11 43 49.0	+0.2
T25A	Trinidad baz=83	83.24	49	⇓P	P	11 43 48.4	-0.6
I19A	Meeteetse baz=83,SNR=6.7	83.25	41	⇑P	P	11 43 48.7	-0.1
W27A	Bowe Ranch, En baz=84,SNR=9.9	83.38	51	⇓P	P	11 43 49.6	0.0
N22A	Wattenberg Ran baz=84,SNR=7.1	83.41	45	⇓P	P	11 43 49.7	-0.1
U26A	Atchley Ranch, baz=84,SNR=14	83.42	50	⇑P	P	11 43 49.6	-0.3
531A	Rocksprings baz=84,SNR=5.6	83.43	56	⇑P	P	11 43 49.7	-0.1
S25A	Robets Cordova baz=84,SNR=8.1	83.45	48	⇓P	P	11 43 50.0	+0.1
Q24A	Divide baz=84	83.50	47	⇑P	P	11 43 50.4	0.0
J20A	Shoshoni baz=84,SNR=11	83.51	42	⇑P	P	11 43 50.2	+0.1
O23A	Lake Granby, G baz=84,SNR=5.4	83.51	45	⇓P	P	11 43 50.4	0.0
Y28A	McKinney Farm, baz=84	83.53	52	⇓P	P	11 43 49.8	-0.6
ISCO	Idaho Springs baz=84	83.54	46	⇓P	P	11 43 50.6	0.0
H19A	Powell baz=84,SNR=11	83.57	40	⇑P	P	11 43 50.8	+0.4
M22A	Cedar Creek Ra baz=84,SNR=5.7	83.58	44	⇑P	P	11 43 50.4	-0.3
GCMT	Greycliff 11nm,1.3s	83.69	39	*e*P	P	11 43 51.5	+0.5
Z29A	Hungry Hill Ra baz=84	83.69	53	⇑P	P	11 43 50.6	-0.6
K21A	Alcova baz=84,SNR=7.5	83.71	43	⇑P	P	11 43 51.0	-0.2
I20A	Worland baz=84,SNR=10	83.76	41	⇓P	P	11 43 51.2	-0.2
R25A	Fountain Ranch baz=84,SNR=8.2	83.76	48	⇑P	P	11 43 51.1	-0.5
N23A	Red Feather La baz=84,SNR=6.5	83.80	45	⇓P	P	11 43 51.8	0.0
632A	Uvalde baz=84	83.80	57	⇓P	P	11 43 52.2	+0.4
X28A	Dimmitt baz=84,SNR=5.6	83.81	52	⇑P	P	11 43 51.3	-0.6
V27A	Dan Oppiter Fa baz=84	83.83	50	⇓P	P	11 43 51.7	-0.2
T26A	Comanche Natio baz=84	83.85	49	⇓P	P	11 43 51.1	-1.0
J21A	Lysite baz=84,SNR=22	83.92	42	⇑P	P	11 43 51.9	-0.4
532A	Rocksprings baz=84	83.93	57	⇓P	P	11 43 52.3	-0.2
331A	San Angelo baz=84	83.95	55	⇓P	P	11 43 52.0	-0.5
Y29A	Porterfield Fa baz=84,SNR=5.1	83.95	53	⇑P	P	11 43 52.2	-0.3
L22A	Ellis Ranch, M baz=84	83.97	44	⇓P	P	11 43 52.3	-0.3
O24A	Longmont baz=84	84.05	46	⇑P	P	11 43 53.0	0.0
H20A	Greybull baz=84,SNR=6.7	84.10	41	⇑P	P	11 43 52.7	-0.3
W28A	Vega baz=84	84.10	51	⇑P	P	11 43 53.1	-0.2
U27A	Thompson Grove baz=84	84.11	50	⇑P	P	11 43 52.8	-0.5
Q25A	Bedland, Calha baz=84	84.11	47	⇓P	P	11 43 53.0	-0.4
S26A	Kim baz=84	84.12	49	⇓P	P	11 43 52.8	-0.6
Z30A	Sanderson Ranc baz=84	84.15	53	⇑P	P	11 43 53.0	-0.6
X29A	Tulia baz=84	84.16	52	⇑P	P	11 43 53.4	-0.2
F19A	Roth Farm, Mol baz=84,SNR=9.8	84.17	39	⇓P	P	11 43 53.2	-0.1
K22A	Casper baz=84	84.20	43	⇑P	P	11 43 53.1	-0.6
M23A	Laramie baz=84,SNR=6.3	84.20	44	⇑P	P	11 43 53.5	-0.3
I21A	Big Hills, Te baz=84,SNR=11	84.23	42	⇑P	P	11 43 53.3	-0.5
231A	Bronte baz=84	84.27	55	⇑P	P	11 43 53.5	-0.6
633A	Saathoff Ranch baz=84	84.28	57	⇑P	P	11 43 54.5	+0.3
432A	Menard baz=84	84.30	56	⇑P	P	11 43 54.4	+0.1
834A	Tilden baz=84	84.31	59	⇑P	P	11 43 54.8	+0.4
AMTX	Amarillo baz=84	84.35	52	⇑P	P	11 43 53.8	-0.7
P25A	Willow Gulch B baz=85,SNR=5.8	84.42	47	⇑P	P	11 43 54.6	-0.3
R26A	Arlington baz=85,SNR=8.8	84.42	48	⇑P	P	11 43 54.7	-0.2
T27A	Campo baz=85,SNR=5.4	84.44	49	⇑P	P	11 43 54.8	-0.2
W29A	Amraillo baz=85	84.47	51	⇓P	P	11 43 55.1	-0.1
131A	Roby baz=85	84.49	54	⇓P	P	11 43 54.8	-0.4
L23A	Garrett baz=85,SNR=6.5	84.50	44	⇓P	P	11 43 55.0	-0.3
332A	Millersview baz=85	84.52	56	⇑P	P	11 43 55.9	+0.5
Y30A	Stafford Cattl baz=85	84.56	53	⇑P	P	11 43 55.5	0.0
E19A	Rath Farm, Rou baz=85,SNR=7.0	84.56	39	⇓P	P	11 43 55.3	0.0
J22A	Midwest baz=85,SNR=5.3	84.57	42	⇑P	P	11 43 55.1	-0.5
533A	Kerrville baz=85	84.61	57	⇓P	P	11 43 55.7	-0.2
F20A	Billings baz=85	84.63	40	⇓P	P	11 43 55.7	0.0
Q26A	Hugo baz=85	84.63	47	⇓P	P	11 43 55.9	-0.1
EGMT	Eagleton baz=85	84.75	37	⇓P	P	11 43 56.1	-0.1
H21A	Big Horn, Sher baz=85	84.77	41	⇑P	P	11 43 56.4	-0.1
232A	Coleman baz=85	84.78	55	⇑P	P	11 43 56.5	-0.3
I22A	9 Mile Ranch, baz=85,SNR=5.2	84.79	42	⇓P	P	11 43 56.3	-0.2
X30A	CCC Ranch, T baz=85	84.79	52	⇓P	P	11 43 56.8	+0.1
M24A	Cheyenne baz=85	84.81	45	⇓P	P	11 43 56.3	-0.5
433A	Art baz=85	84.81	56	⇑P	P	11 43 57.2	+0.3
K23A	Bowen Ranch, D baz=85	84.83	43	⇓P	P	11 43 56.5	-0.4
D19A	Cripps Ranch, baz=85,SNR=12	84.84	38	⇓P	P	11 43 56.8	+0.1
R27A	Eads baz=85	84.88	48	⇑P	P	11 43 56.8	-0.4
T28A	Walsh baz=85	84.91	49	⇑P	P	11 43 56.9	-0.5
Z31A	Sharp Cattle R baz=85	84.93	54	⇑P	P	11 43 56.8	-0.6
E20A	Meyer Farm, Mu baz=85	84.97	39	⇑P	P	11 43 57.9	+0.5
C19A	Slack Wire Ran baz=85,SNR=15	85.02	38	⇑P	P	11 43 58.2	+0.6
534A	Blanco baz=85	85.05	57	⇑P	P	11 43 58.4	+0.3
ABTX	Abilene, Hawle 22nm,1.2s	85.06	54	*e*P	P	11 43 58.1	+0.1
ABTX	Abilene, Hawle baz=85,SNR=6.3	85.06	54	⇑P	P	11 43 57.8	-0.2
Y31A	Rekieta Farm, baz=85	85.08	53	⇓P	P	11 43 57.8	-0.4
H22A	Clearmont baz=85	85.19	41	⇑P	P	11 43 58.3	-0.2
D20A	Manuel Ranch, baz=85,SNR=11	85.25	38	⇓P	P	11 43 59.2	+0.5
S28A	Manter baz=85	85.25	49	⇓P	P	11 43 59.1	+0.1
U29A	Oasis Ranch, S baz=85	85.27	50	⇑P	P	11 43 59.4	+0.3
F21A	Absaloka Mine, baz=85	85.27	40	⇑P	P	11 43 58.8	-0.1
KSCO	Kaye Shedlock' baz=85	85.30	48	⇓P	P	11 43 59.5	+0.2
O26A	Horse Wrangler baz=86	85.32	46	⇑P	P	11 43 59.3	0.0
233A	Rising Star baz=86	85.42	55	⇑P	P	11 43 59.8	-0.1
B19A	Brinkman Farms baz=86,SNR=8.3	85.43	37	⇓P	P	11 43 59.8	+0.2
Z32A	Haskell baz=86,SNR=14	85.44	54	⇑P	P	11 44 00.1	+0.2
434A	Burnet baz=86	85.50	57	⇓P	P	11 44 00.2	-0.1
G22A	Birney baz=86	85.51	41	⇓P	P	11 43 59.9	-0.3
X31A	McDonald Ranch baz=86	85.54	52	⇑P	P	11 44 00.0	-0.4
R28A	Tribune baz=86,SNR=5.3	85.62	48	⇓P	P	11 44 01.0	+0.1
133A	Hamilton Ranch baz=86	85.62	55	⇓P	P	11 44 01.2	+0.3
C20A	Veseth Ranch, baz=86,SNR=8.2	85.63	38	⇑P	P	11 44 01.2	+0.6
E21A	Keefer Ranch, baz=86	85.63	39	⇑P	P	11 44 01.8	+1.1
L25A	Engebretsen Ra baz=86	85.68	44	⇓P	P	11 44 00.9	-0.2
334A	Lometa baz=86	85.70	56	⇑P	P	11 44 01.4	+0.1
Y32A	R-V Farms, Ver baz=86,SNR=6.8	85.72	53	⇑P	P	11 44 01.4	0.0
W31A	Holland Ranch, baz=86	85.78	52	⇓P	P	11 44 01.4	-0.2
A19A	Klindworth Far baz=86	85.78	37	⇓P	P	11 44 01.3	-0.1
D21A	La Casta Ranch baz=86	85.93	39	⇑P	P	11 44 02.2	+0.1
B20A	Solberg Farm, baz=86	85.96	37	⇓P	P	11 44 02.4	+0.2
Z33A	Whitaker Ranch baz=86	85.99	54	⇑P	P	11 44 02.5	-0.2
X32A	Elmer baz=86	86.00	53	⇓P	P	11 44 02.4	-0.3
V31A	Spring Creek L baz=86	86.08	51	⇑P	P	11 44 03.3	+0.2
A20A	Cobblestone Ra baz=86	86.23	37	⇓P	P	11 44 03.4	-0.1
134A	White-Moore Ra baz=86	86.27	55	⇑P	P	11 44 04.3	+0.2
E22A	Miles City baz=86	86.28	40	⇑P	P	11 44 04.5	+0.6
W32A	Sentinel baz=86,SNR=5.6	86.29	52	⇑P	P	11 44 04.5	+0.3
F23A	Volborg baz=86	86.30	41	⇑P	P	11 44 03.9	-0.1
Y33A	Hilltop Ranch, baz=86	86.36	53	⇓P	P	11 44 04.6	+0.1
H24A	Dirks Ranch, A baz=87	86.41	42	⇑P	P	11 44 04.4	-0.2
D22A	Cohagen baz=87	86.46	39	⇓P	P	11 44 05.0	+0.3
B21A	Ellsworth Farm baz=87	86.55	38	⇓P	P	11 44 05.3	+0.2
WHTX	Lake Whitney baz=87	86.56	56	⇑P	P	11 44 06.2	+0.7
V32A	Arapaho baz=87	86.66	52	⇓P	P	11 44 06.6	+0.6
R30A	Dighton baz=87	86.70	49	⇓P	P	11 44 06.5	+0.3
J26A	Sides Ranch, S baz=87	86.76	43	⇑P	P	11 44 06.4	+0.1
A21A	Bergtoll Ranch baz=87	86.86	37	⇑P	P	11 44 06.8	+0.2
W33A	Caddo, Fort Co baz=87	86.89	52	⇑P	P	11 44 07.9	+0.8
H25A	Fruitdale baz=87	86.97	42	⇓P	P	11 44 08.0	+0.7
Q30A	Quinter baz=87	87.01	48	⇓P	P	11 44 06.9	-0.8
X34A	Smith Ranch, M baz=87	87.18	53	⇑P	P	11 44 09.3	+0.8
Z35A	Perchaven, San baz=87	87.19	54	⇓P	P	11 44 09.1	+0.6
R31A	Burdett baz=87	87.25	49	⇓P	P	11 44 09.1	+0.3
J27A	Elkhorn Farm, baz=88	87.45	44	⇓P	P	11 44 09.9	+0.2
D24A	Glendive baz=88	87.58	40	⇓P	P	11 44 10.7	+0.5
B23A	Brockton baz=88	87.77	38	⇑P	P	11 44 11.6	+0.6
YKA	Yellowknife Ar	90.13	23	P	P	11 44 21.3	-0.4
YKA	Yellowknife Ar 0.5nm,0.9s,baz=234,slow=4.4,SNR=8.9	90.13	23	P	P	11 44 21.3	-0.4
MKAR	Makanchi Array	110.90	315	PKiKP	PKiKP	11 49 53.5	-1.7
MKAR	Makanchi Array 0.3nm,0.8s,baz=81,slow=3.6,SNR=3.0	110.90	315	PKiKP	PKiKP	11 49 53.5	-1.7
KURK	Kurchatov	113.22	319	*e*PKPdf	PKiKP	11 49 59.6	+0.3
ARCES	ARCESS Array B	124.67	352	PKP	PKPdf	11 50 20.4	-0.5
ARCES	ARCESS Array B 4.2nm,0.9s,baz=0.0,slow=1.8,SNR=4.0	124.67	352	PKP	PKPdf	11 50 20.4	-0.5
KMBO	Kilima Mbogo	145.55	244	PKPbc	PKPab	11 51 03.0	+1.1
KMBO	Kilima Mbogo 0.9nm,0.3s,baz=332,slow=2.3,SNR=5.0	145.55	244	PKPbc	PKPab	11 51 03.0	+1.1
MLR	Muntele Rosu	145.94	335	PKPbc	PKPbc	11 51 01.6	-0.1
MLR	Muntele Rosu 1.5nm,0.9s,baz=76,slow=4.3,SNR=7.3	145.94	335	PKPbc	PKPbc	11 51 01.6	-0.1
KHC	Kasperske Hory	145.94	352	*e*PKPdf	PKPab	11 51 02.1	0.0
GERES	GERESS Array B	146.21	352	PKPbc	PKPdf	11 51 01.9	+0.5
GERES	GERESS Array B 1.0nm,0.6s,baz=8.5,slow=2.0,SNR=5.4	146.21	352	PKPbc	PKPdf	11 51 01.9	+0.5
BR131	Keskin Array S	146.23	321	*e*PKPbc	PKPab	11 51 03.8	+0.2
BRTR	Keskin Array B	146.23	321	PKPbc	PKPab	11 51 03.6	0.0
BRTR	Keskin Array B 3.3nm,0.9s,baz=111,slow=3.2,SNR=16	146.23	321	PKPbc	PKPab	11 51 03.6	0.0

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*ISCJB **08** 11:43:16.2±0.5, 30.°68N±0.°05×138.°09E±0.°09, h462km, mb3.5/15, Error ellipse: s-maj=11.7km s-min=5.8km az=25.9*

*JMA **08** 11:43:16.8±0.5, 30.°71N×138.°38E, h475km, M3.6*

*IDC **08** 11:43:18.3±1.3, 30.°72N×137.°92E, h474km±15km, mb3.1/13, mb1 3.3/18, mb1mx3.2/31, mbtmp4.1/18, Error ellipse: s-maj=16.1km s-min=10.1km az=93.0*

ISC 08 11:43:17.4±0.7, 30.°77N±0.°08×138.°02E±0.°10, h462km, n40, σ1966/52, mb3.5/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	3.37	325	P	P	11 44 30.5	+2.5
JKN2	Miekihoku	3.76	337	P	P	11 44 33.7	+2.6
JIE	Ise	3.77	343	P	P	11 44 34.1	+2.9
JHMK	Hamakita	4.04	357	P	P	11 44 36.1	+2.8
HMMJ	Hamamatsu 2	4.08	357	P	P	11 44 36.5	+2.7
JAO	Obara	4.53	352	P	P	11 44 40.6	+2.8
BSO3	Boso 3	4.53	27	P	P	11 44 37.7	+0.2
BSO3				*e*S	S	11 45 43.6	+0.6
JOD2	Odawara 2	4.57	11	P	P	11 44 39.0	+0.8
JNY	Yasuok	4.57	358	P	P	11 44 40.8	+2.5
BSO1	Boso 1	4.60	32	P	P	11 44 38.7	+0.8
BSO1				*e*S	S	11 45 44.8	+1.1
BSO4	Boso 4	4.63	24	*e*S	S	11 45 46.8	+1.7
JHU	Hanno	5.17	11	P	P	11 44 44.1	+0.3
JHU				*e*S	S	11 45 51.9	-2.6
JRY	Ryogami san	5.28	8	P	P	11 44 46.1	+1.2
JRY				S	S	11 45 56.1	-0.4
JYT	Yasato	5.73	18	P	P	11 44 48.6	-0.7
JYT				*e*S	S	11 46 00.7	-3.8
MJAR	Matsushiro Arr 0.9nm,0.3s,baz=172,slow=10,SNR=11	5.75	2	P	P	11 44 50.1	+0.6
MJAR				S	S	11 46 03.5	-1.4
MAT	Matsushiro 0.6nm,0.3s,baz=45,slow=24,SNR=4.8	5.76	2	P	P	11 44 50.4	+0.8
MAT				S	S	11 46 04.8	-0.2
JAG	Ashikaga	5.76	12	P	P	11 44 49.4	-0.2
JAG				S	S	11 46 01.4	-3.6
JHO	Hitachi	6.20	19	P	P	11 44 54.0	0.0
JHO				*e*S	S	11 46 11.3	-1.8
JNU	Nakatsue 1.0nm,0.3s,baz=176,slow=4.9,SNR=9.1	6.50	293	P	P	11 44 59.2	+2.0
JMK	Ichinoseki	8.57	17	P	P	11 45 20.7	+1.9
JMK				*e*S	S	11 46 56.2	-2.5
KSRS	Korea Array 1.2nm,0.3s,baz=127,slow=10,SNR=28	10.69	311	P	P	11 45 43.1	+1.4
ASAJ	Asahikawa 2.5nm,0.3s,baz=213,slow=9.1,SNR=12	13.80	14	P	P	11 46 16.1	+0.9
USRK	Ussuriysk Arra 5.0nm,0.3s,baz=147,slow=10,SNR=93	14.22	342	P	P	11 46 21.1	+1.3
SONM	Songino Array 0.6nm,0.6s,baz=124,slow=8.4,SNR=11	29.54	314	P	P	11 48 42.8	-0.1
CMAR	Chiang Mai Arr 1.7nm,0.8s,baz=64,slow=6.6,SNR=9.1	37.40	260	P	P	11 49 49.5	-0.3
MKAR	Makanchi Array 0.5nm,0.5s,baz=99,slow=8.9,SNR=18	45.34	307	P	P	11 50 52.5	-0.2
MKAR				ScP	ScP	11 55 28.7	-2.3
WRA	Warramunga Arr 0.4nm,0.4s,baz=87,slow=4.5,SNR=4.8	50.55	184	P	P	11 51 31.2	-0.9
WRA				PcP	PcP	11 52 42.2	+0.2
	0.8nm,0.7s,baz=359,slow=4.3,SNR=5.2						

ASAR Alice Springs 54.27 185 P P 11 51 58.5 -0.5
1.0nm,0.5s,baz=18,slow=12,SNR=14
ILAR Eielson Array 56.30 30 P P 11 52 13.2 +0.6
0.3nm,0.5s,baz=247,slow=5.6,SNR=13
NWAO Narrogin (SRO) 66.34 199 P P 11 53 18.3 -0.8
2.4nm,0.4s,baz=7.1,slow=8.1,SNR=4.4
KEV Kevo 68.29 340 *ep* **P 11 53 32.5 +1.9**
ARCES ARCESS Array B 68.86 340 P P 11 53 34.5 +0.4
2.3nm,0.4s,baz=65,slow=8.6,SNR=26
JOF Joensuu 70.16 332 *ep* **P 11 53 42.0 0.0**
1.8nm,0.3s
YKA Yellowknife Ar 70.64 28 P P 11 53 45.7 +0.8
0.7nm,0.6s,baz=297,slow=6.2,SNR=15
KAF Kangasniemi 72.57 333 *ep* **P 11 53 55.2 -1.0**
2.1nm,0.3s
FINES FINESS Array B 73.03 332 P P 11 53 58.4 -0.5
1.6nm,0.5s,baz=68,slow=5.6,SNR=22
AKASG Malin Array Be 77.49 322 P P 11 54 23.2 -0.9
0.4nm,0.4s,baz=52,slow=5.5,SNR=4.6
NB2 NORSAR Subarra 78.83 337 P P 11 54 30.2 -1.0
comp=Z,0.8nm,0.5s,baz=45,slow=5.3
NOA NORSAR Array B 78.83 337 P P 11 54 30.4 -0.7
comp=Z,0.9nm,0.6s,baz=44,slow=5.2,SNR=4.4
NVAR Mina Array Bea 81.07 51 P P 11 54 44.9 +1.2
comp=Z,0.3nm,0.7s,baz=309,slow=5.7,SNR=3.4

DDA ***08*** *12:09:32.8,39˚.46N×33˚.04E,h5km,MD3.3*
ISK ***08*** *12:09:32.9,39˚.49N×33˚.00E,h3km,MD3.6*
CSEM ***08*** *12:09:34.1±0.1,39˚.47N×33˚.00E,h2km,MD3.6,Error ellipse: s-maj=3.9km s-min=3.5km az=15.0*
ISC 08 12:09:33.2±0.6,39˚.47N±0˚.02×33˚.05E±0˚.02,h6km±5km, n103,σ1§69/109,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFSR	**Afˇar-Bala (A**	**0.03**	**145**		**PG**	**Pg**	**12 09 34.8**	**+0.3**
AFSR	**Afˇar-Bala (A**	**0.03**	**145**	*i*	**Pg**	**Pg**	**12 09 34.8**	**+0.3**
BBAL	**Bala**	**0.09**	**41**	*i*	**P**	**Pg**	**12 09 36.1**	**+0.8**
BBAL				*i*	S	**Sg**	**12 09 38.5**	**+1.8**
BBAL	**Bala**	**0.09**	**41**	*i*	**P**	**Pg**	**12 09 36.1**	**+0.8**
BBAL				*i*	S	**Sg**	**12 09 38.5**	**+1.8**
LOD	**Lodumlu**	**0.47**	**332**		**PG**	**Pg**	**12 09 42.0**	**-0.2**
LOD				*e*	SG	**Sb**	**12 09 49.2**	**-1.9**
LOD	**Lodumlu**	**0.47**	**332**	*i*	**Pg**	**Pg**	**12 09 42.0**	**-0.2**
LOD				*e*	Sg	**Sb**	**12 09 49.2**	**-1.9**
KAMT	**Kaman**	**0.53**	**101**		**PG**	**Pb**	**12 09 44.0**	**-0.9**
KAMT	**Kaman**	**0.53**	**101**	*i*	**Pg**	**Pb**	**12 09 44.0**	**-0.9**
CDAG	**Cicekdag**	**1.04**	**81**	*i*	**P**	**Pn**	**12 09 53.5**	**-0.9**
CDAG				*i*	S	**Sn**	**12 10 13.0**	**+3.8**
CDAG	**Cicekdag**	**1.04**	**81**	*i*	**P**	**Pn**	**12 09 53.5**	**-0.9**
CDAG				*i*	S	**Sn**	**12 10 13.0**	**+3.8**
ELDT	**Eldivan**	**1.06**	**16**	*i*	**P**	**Pn**	**12 09 53.6**	**-1.1**
ELDT				*i*	S	**Sn**	**12 10 09.7**	**-0.1**
ELDT	**Eldivan**	**1.06**	**16**	*i*	**P**	**Pn**	**12 09 53.6**	**-1.1**
ELDT				*i*	S	**Sn**	**12 10 09.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.18**	**269**		**PN**	**Pn**	**12 09 55.4**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.18**	**269**	*i*	**Pn**	**Pn**	**12 09 55.4**	**-0.9**
CANT	**Cankiri**	**1.21**	**21**	*e*	**PN**	**Pn**	**12 09 57.0**	**+0.2**
SULT	**Sultanhani-AKS**	**1.32**	**164**	*e*	**PN**	**Pg**	**12 09 58.6**	**0.0**
SULT	**Sultanhani-AKS**	**1.32**	**164**	*e*	**Pn**	**Pg**	**12 09 58.6**	**0.0**
SGKT	**Sivrigoynuk**	**1.33**	**326**	*i*	**P**	**Pg**	**12 09 58.7**	**-0.1**
SGKT	**Sivrigoynuk**	**1.33**	**326**	*i*	**P**	**Pg**	**12 09 58.7**	**-0.1**
LADK	**Ladik-KONYA**	**1.38**	**203**	*e*	**PN**	**Pg**	**12 09 59.2**	**-0.4**
LADK	**Ladik-KONYA**	**1.38**	**203**	*e*	**Pn**	**Pg**	**12 09 59.2**	**-0.4**
CORM	**Corum**	**1.41**	**60**	*e*	**PN**	**Pg**	**12 10 00.2**	**0.0**
CORM	**Corum**	**1.41**	**60**	*e*	**Pn**	**Pg**	**12 10 00.2**	**0.0**
BCAM	**Yenicaga**	**1.54**	**331**	*i*	**P**	**Pg**	**12 10 01.9**	**-0.7**
BCAM				*i*	S	**Sg**	**12 10 24.6**	**+2.0**
BCAM	**Yenicaga**	**1.54**	**331**	*i*	**P**	**Pg**	**12 10 01.9**	**-0.7**
BCAM				*i*	S	**Sg**	**12 10 24.6**	**+2.0**
KONT	**Konya--Tatoy**	**1.62**	**200**	*e*	**PN**	**Pg**	**12 10 03.2**	**-1.0**
KONT	**Konya--Tatoy**	**1.62**	**200**	*e*	**Pn**	**Pg**	**12 10 03.2**	**-1.0**
ILGA	**Ilgaz**	**1.66**	**18**	*i*	**P**	**Pg**	**12 10 04.8**	**-0.2**
ILGA				*i*	S	**Sg**	**12 10 28.5**	**+2.1**
ILGA	**Ilgaz**	**1.66**	**18**	*i*	**P**	**Pg**	**12 10 04.8**	**-0.2**
ILGA				*i*	S	**Sg**	**12 10 28.5**	**+2.1**
SEYT	**Eskypehyr**	**1.70**	**272**	*i*	**P**	**Pg**	**12 10 04.4**	**-1.4**
SEYT				*i*	S	**Sg**	**12 10 30.6**	**+2.8**
SEYT	**Eskypehyr**	**1.70**	**272**	*i*	**P**	**Pg**	**12 10 04.4**	**-1.4**
SEYT				*i*	S	**Sg**	**12 10 30.6**	**+2.8**
TOS	**Tosya**	**1.73**	**25**	*e*	**PN**	**Pb**	**12 10 04.9**	**-0.5**
TOS	**Tosya**	**1.73**	**25**	*e*	**Pn**	**Pb**	**12 10 04.9**	**-0.5**
MDUB	**Mudurnu**	**1.73**	**306**	*e*	**PN**	**Pb**	**12 10 04.3**	**-1.2**
MDUB	**Mudurnu**	**1.73**	**306**	*e*	**Pn**	**Pb**	**12 10 04.3**	**-1.2**
CTKT	**Corum**	**1.76**	**49**	*i*	**P**	**Pg**	**12 10 06.7**	**-0.3**
CTKT	**Corum**	**1.76**	**49**	*i*	**P**	**Pg**	**12 10 06.7**	**-0.3**
YOZ	**Yozgat**	**1.77**	**84**	*e*	**PN**	**Pg**	**12 10 05.7**	**-1.3**
YOZ	**Yozgat**	**1.77**	**84**	*e*	**Pn**	**Pg**	**12 10 05.7**	**-1.3**
SAFT	**Safranbolu**	**1.79**	**351**	*e*	**PN**	**Pb**	**12 10 05.1**	**-1.2**
SAFT	**Safranbolu**	**1.79**	**351**	*e*	**Pn**	**Pb**	**12 10 05.1**	**-1.2**
BOLV	**Bolvadin**	**1.80**	**246**	*i*	**P**	**Pb**	**12 10 05.2**	**-1.4**
BOLV				*i*	S	**Sg**	**12 10 33.3**	**+2.4**
BOLV	**Bolvadin**	**1.80**	**246**	*i*	**P**	**Pb**	**12 10 05.2**	**-1.4**
BOLV				*i*	S	**Sg**	**12 10 33.3**	**+2.4**
NIG	**Nigde**	**1.83**	**138**	*e*	**PN**	**Pg**	**12 10 07.1**	**-1.1**
NIG	**Nigde**	**1.83**	**138**	*e*	**Pn**	**Pg**	**12 10 07.1**	**-1.1**
BTAS	**Taskesti**	**1.92**	**306**	*i*	**P**	**Pg**	**12 10 09.7**	**-0.2**
BTAS				*i*	S	**Sg**	**12 10 37.5**	**+2.8**
BTAS	**Taskesti**	**1.92**	**306**	*i*	**P**	**Pg**	**12 10 09.7**	**-0.2**
SHUT	**Suhut-Afyon**	**2.15**	**245**	*e*	**PN**	**Pb**	**12 10 10.5**	**-2.1**
SHUT	**Suhut-Afyon**	**2.15**	**245**	*e*	**Pn**	**Pb**	**12 10 10.5**	**-2.1**
KDZE	**Karadeniz Ereo**	**2.21**	**327**	*e*	**PN**	**Pb**	**12 10 11.4**	**-2.1**
KDZE	**Karadeniz Ereo**	**2.21**	**327**	*e*	**Pn**	**Pb**	**12 10 11.4**	**-2.1**
GPA	**Golpazari**	**2.26**	**292**	*e*	**PN**	**Pb**	**12 10 11.7**	**-2.7**
GPA	**Golpazari**	**2.26**	**292**	*e*	**Pn**	**Pb**	**12 10 11.7**	**-2.7**
BNN	**Bunyan**	**2.26**	**105**	*e*	**PN**	**Pb**	**12 10 13.1**	**-1.4**
BNN	**Bunyan**	**2.26**	**105**	*e*	**Pn**	**Pb**	**12 10 13.1**	**-1.4**
BYBT	**Boyabat**	**2.38**	**33**	*e*	**PN**	**Pb**	**12 10 14.4**	**-2.1**
BYBT	**Boyabat**	**2.38**	**33**	*e*	**Pn**	**Pb**	**12 10 14.4**	**-2.1**
BOYT	**Boyabat**	**2.41**	**35**	*i*	**P**	**Pg**	**12 10 17.7**	**-1.6**
BOYT				*i*	S	**Sg**	**12 10 48.8**	**-1.7**
BOYT	**Boyabat**	**2.41**	**35**	*i*	**P**	**Pg**	**12 10 17.7**	**-1.6**
BOYT				*i*	S	**Sg**	**12 10 48.8**	**-1.7**
SUTC	**Sutluce-Ispart**	**2.56**	**219**	*e*	**PN**	**Pb**	**12 10 16.7**	**-2.9**
SUTC	**Sutluce-Ispart**	**2.56**	**219**	*e*	**Pn**	**Pb**	**12 10 16.7**	**-2.9**
CAVI	**Cavuskoy**	**2.57**	**287**	*e*	**PN**	Pb	12 10 16.7	-3.0
CAVI	**Cavuskoy**	**2.57**	**287**	*e*	**Pn**	Pb	12 10 16.7	-3.0
BZK	**Bozkurt**	**2.59**	**16**	*e*	**PN**	**Pb**	**12 10 17.4**	**-2.6**
BZK	**Bozkurt**	**2.59**	**16**	*e*	**Pn**	**Pb**	**12 10 17.4**	**-2.6**
HAVZ	**Havza**	**2.59**	**51**	*i*	**P**	**Pb**	**12 10 19.6**	**-0.5**
HAVZ				*i*	S	**Sg**	**12 10 55.8**	**-0.7**
HAVZ	**Havza**	**2.59**	**51**	*i*	**P**	**Pb**	**12 10 19.6**	**-0.5**
KARA	**Karaisali**	**2.72**	**144**	*e*	**PN**	**Pb**	**12 10 19.9**	**-2.3**
KARA	**Karaisali**	**2.72**	**144**	*e*	**Pn**	**Pb**	**12 10 19.9**	**-2.3**
ADVT	**Abdulvahap**	**2.72**	**292**	*e*	**PN**	**Pn**	**12 10 18.5**	**+1.1**
ADVT	**Abdulvahap**	**2.72**	**292**	*e*	**Pn**	**Pn**	**12 10 18.5**	**+1.1**
DIKM	**Dikmen**	**2.75**	**37**	*e*	**PN**	**Pb**	**12 10 20.2**	**-2.5**
DIKM	**Dikmen**	**2.75**	**37**	*e*	**Pn**	**Pb**	**12 10 20.2**	**-2.5**
KVT	**Kavak**	**2.80**	**54**	*e*	**PN**	**Pb**	**12 10 20.9**	**-2.7**
KVT	**Kavak**	**2.80**	**54**	*e*	**Pn**	**Pb**	**12 10 20.9**	**-2.7**
MERS	**Mersin**	**2.85**	**155**	*e*	**PN**	Pb	12 10 20.9	-3.5
MERS	**Mersin**	**2.85**	**155**	*e*	**Pn**	Pb	12 10 21.0	-3.5
KOZT	**Kozan**	**2.95**	**132**	*e*	**PN**	**Pb**	**12 10 23.4**	**-2.8**
KOZT	**Kozan**	**2.95**	**132**	*e*	**Pn**	**Pb**	**12 10 23.4**	**-2.8**
KHL	**Karahalli**	**2.98**	**248**	*e*	**PN**	**Pn**	**12 10 22.4**	**+1.3**
KHL	**Karahalli**	**2.98**	**248**	*e*	**Pn**	**Pn**	**12 10 22.4**	**+1.3**
SILT	**Sile**	**3.10**	**304**	*e*	**PN**	**Pn**	**12 10 23.8**	**+1.2**
SILT	**Sile**	**3.10**	**304**	*e*	**Pn**	**Pn**	**12 10 23.8**	**+1.2**
CEYT	**Ceyhan**	**3.25**	**138**	*e*	**PN**	Pb	12 10 27.3	-4.0
CEYT	**Ceyhan**	**3.25**	**138**	*e*	**Pn**	Pb	12 10 27.3	-4.0
IKL	**Isikli**	**3.27**	**171**	*e*	**PN**	Pb	12 10 27.1	-4.4
IKL	**Isikli**	**3.27**	**171**	*e*	**Pn**	Pb	12 10 27.2	-4.4
ARMT	**Armutlu**	**3.39**	**290**	*e*	**PN**	**Pn**	**12 10 28.1**	**+1.4**
ARMT	**Armutlu**	**3.39**	**290**	*e*	**Pn**	**Pn**	**12 10 28.1**	**+1.4**
RSDY	**Resadiye-TOKAT**	**3.42**	**73**	*e*	**PN**	Pn	12 10 29.5	+2.4
RSDY	**Resadiye-TOKAT**	**3.42**	**73**	*e*	**Pn**	Pn	12 10 29.5	+2.4
KLYT	**Kilyos**	**3.54**	**301**	*e*	**PN**	**Pn**	**12 10 30.2**	**+1.6**
KLYT	**Kilyos**	**3.54**	**301**	*e*	**Pn**	**Pn**	**12 10 30.2**	**+1.6**
KULA	**Kula-Manisa**	**3.55**	**256**	*e*	**PN**	**Pn**	**12 10 30.2**	**+1.3**
KULA	**Kula-Manisa**	**3.55**	**256**	*e*	**Pn**	**Pn**	**12 10 30.2**	**+1.3**
DARE	**Darende-Malaty**	**3.57**	**103**	*e*	**PN**	Pb	12 10 32.3	-4.5
DARE	**Darende-Malaty**	**3.57**	**103**	*e*	**Pn**	Pb	12 10 32.3	-4.5
KCTX	**Karacabey (Bur**	**3.69**	**284**	*e*	**PN**	**Pn**	**12 10 32.3**	**+1.5**
KCTX	**Karacabey (Bur**	**3.69**	**284**	*e*	**Pn**	**Pn**	**12 10 32.3**	**+1.5**
GONE	**Gonen-Balikesi**	**4.17**	**280**	*e*	**PN**	**Pn**	**12 10 39.4**	**+2.1**
GONE	**Gonen-Balikesi**	**4.17**	**280**	*e*	**Pn**	**Pn**	**12 10 39.4**	**+2.1**
ILIC	**ilic-Erzincan**	**4.27**	**89**	*e*	**PN**	Pn	12 10 41.9	+3.0
ILIC	**ilic-Erzincan**	**4.27**	**89**	*e*	**Pn**	Pn	12 10 41.9	+3.0

BJI ***08*** *12:14:56.3,5˚.89N×126˚.84E,h123km,mB5.4/41,mb5.3/67*
IDC ***08*** *12:14:58.0±1.0,6˚.04N×126˚.75E,h108km±8km,mb4.8/30, mb1 4.9/31,mb1mx4.9/32,mbtmp5.2/31,MS4.2/18, Ms1 4.3/18,ms1mx4.1/40,Error ellipse: s-maj=13.6km s-min=7.3km az=71.0*
MOS ***08*** *12:14:57.0±0.9,6˚.11N×126˚.73E,h109km,mb5.6/57,Error ellipse: s-maj=9.8km s-min=4.6km az=115.1*
ISCJB ***08*** *12:14:58.2±0.3,6˚.08N±0˚.02×126˚.79E±0˚.02,h121km±2km, mb5.3/145,Error ellipse: s-maj=4.1km s-min=2.5km az=166.4*
GCMT ***08*** *12:14:59.6±0.1,6˚.14N×126˚.78E,h107km,MW5.4/110, Moment Tensor Solution. s107,c177; s110,c213; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr0.94±.02; Mθθ-0.79±.02; Mφφ-0.15±.03; Mrθ0.27±.01; Mθφ1.06±.02; Mφr0.79±.02; Best double couple: Mo1.60800×10¹⁷ NP1:φs339.00000°,δ62.00000°, λ135.00000°. NP2:φs94.00000°,δ51.00000°,λ37.00000°. Principal axes: T 1.6090, Plg51.0000°, Azm301.0000°; N -0.0030, Plg39.0000°, Azm134.0000°; P -1.6060, Plg6.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *12:14:59.6±0.5,6˚.08N×126˚.76E,h120km±4km,mb5.3/72 Error ellipse: s-maj=4.7km s-min=3.2km az=70.0*
NEIC Felt [III PIVS] at Davao and [II PIVS] at General Santos and Koronadal. Also felt at Tagum.
KLM ***08*** *12:15:00.8,6˚.07N×126˚.89E,h142km,mb5.5,MS6.3*
MAN ***08*** *12:15:02,6˚.32N×126˚.73E,h76km,mb5.7,ML4.7,MS5.2*
MAN INTENSITY III - DAVAO CITY; INTENSITY II - GENERAL SANTOS CITY; MARBEL S. COTABATO.
DJA ***08*** *12:15:11.9±1.3,5˚N±12˚×12˚7'E±˚,h94km±19km,M5.7/23, mb5.7/23,mB6.0/22,MLv6.2/13,Mw(mB)5.6/22,Mwp5.5/5*
ISC 08 12:15:00.0±0.3,6˚.12N±0˚.03×126˚.79E±0˚.04,h124km±2km, h124km:pP-P,n668,σ1§43/794,mb5.3/144,69C-44D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.97**	**327**	*e*	**P**	**Pn**	**12 15 19.9**	**-2.3**
MATI				*e*	S	Sn	12 15 27.0	-12
DAV	**Davao City (W)**	**1.53**	**308**	*e*	**Pn**	**Pn**	**12 15 27.5**	**-0.5**
DAV				*e*	Sn	**Sn**	**12 15 48.1**	**-1.2**
DMPH	**Davao City--Mi**	**1.59**	**307**	*e*	**P**	**Pn**	**12 15 28.4**	**-0.3**
DMPH				*i*	S	**Sn**	**12 15 51.5**	**+0.8**
GSPH	**General Santos**	**1.83**	**269**	*e*	**P**	**Pn**	**12 15 28.6**	**-3.1**
GSPH				*e*	S	**Sn**	**12 15 51.5**	**-4.4**
BIPH	**Bislig**	**2.09**	**348**	*e*	**P**	**Pn**	**12 15 32.6**	**-2.3**
BIPH				*i*	S	**Sn**	**12 15 57.7**	**-3.9**
BUKP	**Musuan**	**2.45**	**316**	*e*	**P**	**Pn**	**12 15 39.0**	**-0.4**
SGSI	**Sangihe**	**2.72**	**207**	P		**Pn**	**12 15 41.4**	**-1.5**
CTBH	**Cotabato--PC H**	**2.75**	**294**	*e*	**P**	**Pn**	**12 15 42.6**	**-0.6**
BUTP	**Butuan**	**3.06**	**338**	*e*	**P**	**Pn**	**12 15 47.6**	**+0.3**
CGP	**Cagayan de Oro**	**3.11**	**318**	*i*	**P**	**Pn**	**12 15 48.7**	**+0.8**
CGP				*i*	S	**Sn**	**12 16 25.7**	**+0.7**
PAGZ	**Pagadian**	**3.79**	**297**	*e*	**P**	**Pn**	**12 15 58.0**	**+0.1**
SCPH	**Surigao**	**3.86**	**341**	*e*	**P**	**Pn**	**12 15 57.7**	**-0.1**
SCPH				*e*	S	Sn	12 16 28.3	-14
MSLP	**Maasin**	**4.42**	**335**	*e*	**P**	**Pn**	**12 16 04.2**	**-1.1**
IPIL	**Ipil**	**4.50**	**292**	*e*	**P**	**Pn**	**12 16 05.6**	**-0.8**
TBP	**Tagbilaran**	**4.58**	**321**	*e*	**P**	**Pn**	**12 16 06.8**	**-0.6**
TBP				*e*	S	**Sn**	**12 16 58.0**	**-1.8**
SNPH	**Sibulan**	**4.76**	**313**	*e*	**P**	Pn	12 16 06.0	-3.8
SNPH				*e*	S	**Sn**	**12 16 58.6**	**-5.6**
ZMPH	**Zamboanga City**	**4.76**	**280**	*i*	**P**	**Pn**	**12 16 09.1**	**-0.8**
ZMPH				*i*	S	**Sn**	**12 17 04.2**	**0.0**
LLP	**Lapu-Lapu**	**5.02**	**326**	*e*	**P**	**Pn**	**12 16 13.2**	**-0.1**
LLP				*e*	S	**Sn**	**12 17 10.3**	**-0.1**
PLP	**Palo**	**5.32**	**341**	*e*	**P**	**Pn**	**12 16 17.5**	**+0.1**
TNTI	**Ternate**	**5.34**	**174**	P		**Pn**	**12 16 15.3**	**-2.4**
TNTI	**Ternate**	**5.34**	**174**	*e*	**Pn**	**Pn**	**12 16 15.2**	**-2.4**
OCLP	**Ormoc**	**5.35**	**336**	*e*	**P**	**Pn**	**12 16 18.8**	**+1.0**
GUIM	**Jordan**	**6.11**	**317**	*e*	**P**	**Pn**	**12 16 28.7**	**+0.8**
KMSI	**Cibinong** 8μm,1.0s,75μm19μm33nm	**6.18**	**207**	P		**Pn**	**12 16 27.7**	**-1.2**
GTOI	**Gorontalo** 5μm,1.2s,49μm32μm18nm	**6.62**	**215**	P		**Pn**	**12 16 33.3**	**-1.6**
CNP	**Catarman**	**6.69**	**342**	*e*	**P**	**Pn**	**12 16 37.1**	**+1.3**
RCP	**Roxas**	**6.72**	**324**	*e*	**P**	**Pn**	**12 16 37.0**	**+0.7**
LBMI	**Labuha** 1μm,1.5s,12μm14nm	**6.75**	**174**	P		**Pn**	**12 16 34.7**	**-2.0**
MRSI	**Marisa** 6μm,0.9s,44μm18nm	**7.40**	**221**	P		**Pn**	**12 16 44.7**	**-0.8**
PALU	**Palau** baz=7.7,SNR=4.4	**7.73**	**81**		**P**	**Pn**	**12 16 48.0**	**-1.9**
TOLI	**Toli-Toli** 3μm,0.6s,27μm15μm10nm	**7.77**	**231**	P		x	12 16 49.4	
PVCP	**Virac**	**7.87**	**341**	*e*	**P**	**Pn**	**12 16 52.6**	**+0.9**
SANI	**Sanana** 504nm,1.0s,8μm8μm3.8nm	**8.15**	**186**	P		Pn	12 16 49.9	-5.7
LUWI	**Luwuk** 4μm,1.3s,35μm11nm	**8.16**	**210**	P		**Pn**	**12 16 55.5**	**-0.3**
LUWI	**Luwuk**	**8.16**	**210**	*e*	**Pn**	**Pn**	**12 16 54.9**	**-0.9**
LUWI	**Luwuk** baz=8.2,SNR=142	**8.16**	**210**		**P**	**Pn**	**12 16 54.8**	**-0.9**
SWI	**Sorong** 193nm,1.0s,3μm0.8nm	**8.25**	**147**	P		**Pn**	**12 16 55.2**	**-1.7**
MYLDM	**Lahad Datu**	**8.30**	**264**	*e*	**Pn**	**Pn**	**12 16 59.2**	**+1.6**
MYLDM	**Lahad Datu**	**8.30**	**264**	*e*	**P**	**Pn**	**12 16 59.9**	**+2.4**
APSI	**Ampana** 2μm,0.7s,20μm16μm6.5nm	**8.66**	**216**	P		**Pn**	**12 17 02.7**	**+0.2**
PPR	**Puerto Princes**	**8.77**	**295**		**P**	**Pn**	**12 17 04.2**	**+0.3**
TSM	**Tawau**	**9.06**	**259**		**P**	**Pn**	**12 17 08.5**	**+0.6**
NLAI	**Namlea** 614nm,0.8s,7μm5.2nm	**9.30**	**178**	P		Pn	12 17 06.9	-4.2
SDKM	**Sandakan**	**9.55**	**268**		**P**	**Pn**	**12 17 15.8**	**+1.3**
MSAI	**Masohi** 54nm,1.0s,794nm0.3nm	**9.64**	**167**	P		**Pn**	**12 17 16.0**	**+0.3**
TGY	**Tagaytay City**	**9.80**	**324**	P		**Pn**	**12 17 17.4**	**-0.5**
TGY	**Tagaytay City** 12nm,0.3s,baz=278,slow=12,SNR=6.4	**9.80**	**324**	P		**Pn**	**12 17 17.4**	**-0.5**
KDM	**Kudat**	**9.92**	**275**		**P**	**Pn**	**12 17 21.3**	**+1.8**
MWPI	**Manokwari, Pap** 365nm,1.2s,5μm	**10.07**	**134**	P		x	12 17 24.4	
FAKI	**Fak Fak** 158nm,1.1s,2μm	**10.51**	**149**	P		**Pn**	**12 17 27.6**	**+0.3**
FAKI	**Fak Fak**	**10.51**	**149**	*e*	**Pn**	**Pn**	**12 17 25.6**	**-1.8**
KKM	**Kota Kinabalu** 281nm,1.3s	**10.51**	**270**	*e*	**Pn**	**Pn**	**12 17 27.5**	**0.0**
KKM				*e*	Sn	**Sn**	**12 19 21.7**	**-1.9**
KKM	**Kota Kinabalu**	**10.51**	**270**		**P**	**Pn**	**12 17 28.1**	**+0.6**
KKSI	**Kolaka, Sulawe** 252nm,1.2s	**11.44**	**207**	P		x	12 17 36.2	
MMSI	**Mamuju** 504nm,1.0s,6μm	**11.77**	**222**	P		x	12 17 43.2	
SPSI	**Sidrap Palu** 200nm,1.2s,3μm	**12.22**	**215**	P		**Pn**	**12 17 48.4**	**-1.7**
BBSI	**Bau Bau**	**12.27**	**200**	P		P	12 18 07.3	+9.5
BKB	**Balikpapan** 895nm,1.4s,12μm	**12.30**	**234**	P		**Pn**	**12 17 51.7**	**+0.6**
MJSI	**Majene** 639nm,1.4s,8μm	**12.37**	**219**	P		x	12 17 53.4	
BNSI	**Bone** 360nm,1.1s,4μm	**12.40**	**213**	P		**Pn**	**12 17 51.2**	**-1.2**
KAPI	**Kappang** 2μm,1.0s,SNR=20	**13.10**	**213**	Pn		**Pn**	**12 17 59.9**	**-1.6**
KAPI	**Kappang**	**13.10**	**213**	*e*	**Pn**	**Pn**	**12 17 59.1**	**-2.4**
BKSI	**Bulukumba** 144nm,1.0s,2μm	**13.17**	**210**	P		**Pn**	**12 18 00.0**	**-2.4**
MTKI	**Muara Teweh, K** 330nm,1.0s,14μm	**13.79**	**240**	P		**P**	**12 18 16.2**	**+1.5**
SBUM	**Sibu**	**14.97**	**257**	*e*	**P**	**P**	**12 18 27.2**	**-0.7**
SBUM	**Sibu**	**14.97**	**257**		**P**	**P**	**12 18 27.1**	**-0.7**
MMRI	**Maumere** 403nm,1.5s,7μm	**15.34**	**197**	P		**Pn**	**12 18 29.0**	**-1.0**
MMRI	**Maumere** 4μm,2.6s	**15.34**	**197**	*e*	**Pn**	**Pn**	**12 18 28.1**	**-1.9**
SOEI	**Soe** 806nm,1.1s	**15.97**	**189**	*e*	**P**	**Pn**	**12 18 37.7**	**-0.3**
SOEI	**Soe** baz=16,SNR=26	**15.97**	**189**		**P**	**Pn**	**12 18 38.2**	**+0.3**
LBFI	**Labuhan Bajo,**	**16.05**	**205**	P		x	12 18 37.1	
KSM	**Kuching** 42nm,0.5s	**17.07**	**255**	*e*	**P**	**P**	**12 18 50.8**	**-0.3**
KSM				*e*	S	**S**	**12 22 05.6**	**+2.8**
KSM	**Kuching** baz=17,SNR=9.3	**17.07**	**255**		**P**	**Pn**	**12 18 52.0**	**+0.6**
KSM	**Kuching**	**17.07**	**255**		**P**	**Pn**	**12 18 51.3**	**0.0**
SSLB	**Suanglung** 62nm,0.8s	**18.44**	**343**	*e*	**P**	**P**	**12 19 05.4**	**-0.7**
SSLB				*e*	S	**S**	**12 22 25.3**	**-5.1**

DLV T Lat 18.97 289 *e* **P P 12 19 12.9 +0.8**
DLV *e* **S S 12 22 40.7 -0.6**
JAGI Jajag, Banyuwa 19.20 221 *i* **P P 12 19 14.2 -0.2**
baz=19,SNR=12
MTN Manton Dam 19.33 167 *i* **P P 12 19 15.6 -0.2**
baz=19,SNR=20
KDU Kakadu 19.52 163 *i* **P P 12 19 17.5 -0.3**
baz=20,SNR=30
QZH Quanzhou 20.30 338 *i* **P P 12 19 23.4 -2.7**
QZH S **S 12 23 03.0 -4.0**
QZH pmax pmax
comp=Z,350nm,1.0s
QZH pmax pmax
comp=Z,2μm,3.2s
JOW Kunigami 20.65 4 *e* **P P 12 19 29.4 -0.5**
JOW *e* **S S 12 23 11.6 -2.3**
QIZ Qiongzhong 20.90 309 P **P 12 19 33.0 +0.3**
QIZ S **S 12 23 20.5 +1.5**
QIZ pmax pmax
comp=Z,66nm,1.6s
QIZ pmax pmax
comp=Z,570nm,5.0s
QIZ LR LR
comp=N,930nm,15.8s
QIZ LR LR
comp=Z,740nm,12.7s
QIZ Qiongzhong 20.90 309 *e* **P P 12 19 34.1 +1.4**
195nm,1.5s
GZH Guangzhou 21.27 324 P **P 12 19 38.0 +1.4**
GZH S **S 12 23 27.2 +1.3**
GZH pmax pmax
comp=Z,1μm,5.8s
UGM Wanagama 21.39 230 *e* **P P 12 19 36.4 -1.5**
271nm,1.2s
KNRA Kununurra 21.74 175 P **P 12 19 41.0 -0.7**
baz=22,SNR=134
MYKOM Kota Tinggi 23.28 260 *e* **P P 12 19 56.6 -0.3**
633nm,2.0s
MYKOM Kota Tinggi 23.28 260 P **P 12 19 55.5 -1.4**
BTDF Bukit Timah Da 23.44 259 P **P 12 19 57.8 -0.6**
baz=24,SNR=7.4
KTGM Kuala Trenggan 23.55 269 P **P 12 19 59.4 0.0**
KGM Kluang 23.75 261 P **P 12 20 00.3 -1.0**
FRIM Kepong 25.24 265 P **P 12 20 14.3 -0.4**
SSE Sheshan 25.40 349 P **P 12 20 18.2 +2.3**
SSE sP **sP 12 20 57.0 +0.1**
SSE S **S 12 24 38.1 +4.7**
SSE pmax pmax
comp=Z,54nm,1.2s
SSE LR LR
comp=N,230nm,19.0s
SSE LR LR
comp=E,280nm,19.0s
SSE LR LR
comp=Z,300nm,15.2s
CBIJ Chichi jima 25.50 33 *e* **P P 12 20 15.4 -1.5**
38nm,0.4s
JCJ Chichijima 25.50 33 P **P 12 20 15.6 -1.3**
168nm,0.6s,baz=295,slow=21,SNR=8.5
PMG Port Moresby 25.50 127 *e* **P P 12 20 16.9 -0.2**
PMG ScP **ScP 12 27 16.6 +2.8**
PMG Port Moresby 25.50 127 P **P 12 20 16.4 -0.6**
3.6nm,0.5s,baz=297,slow=16,SNR=2.3
PMG ScP **ScP 12 27 16.6 +2.8**
7.8nm,0.8s,baz=341,

comp=Z,11nm,0.6s,baz=110,slow=7.3,SNR=64
CMAR PcP **PcP** **12 23 56.9 +0.8**
comp=Z,3.5nm,0.7s,baz=120,slow=1.4,SNR=5.2
CMAR ScP **ScP** **12 27 29.1 +2.2**
comp=Z,4.2nm,1.0s,baz=88,slow=1.2,SNR=9.8
CMAR LR LR 12 34 37.5
comp=Z,619nm,19.2s,baz=113,slow=40
KMI Kunming 29.79 312 P **P** **12 20 56.3 +0.8**
KMI S **S** **12 25 42.0 -1.2**
KMI pmax pmax
comp=Z,67nm,1.6s
KMI pmax pmax
comp=Z,380nm,3.1s
KMI LR LR
comp=Z,300nm,16.5s
KMI LR LR
comp=Z,440nm,19.3s
KMI LR LR
comp=Z,390nm,17.2s
CHTO Chiang Mai 29.91 297 *e*P **P** **12 20 56.4 0.0**
CHTO *e* 12 23 58.5
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 29.91 297 *e*P **P** **12 20 56.4 0.0**
comp=Z,4.7nm,0.6s
CHTO *e*PcP **PcP** **12 23 58.5 +2.0**
AS31 Alice Springs 30.41 167 *e*P **P** **12 21 00.2 -0.5**
ASAR Alice Springs 30.41 167 P **P** **12 21 00.1 -0.6**
ASAR ScP **ScP** **12 27 28.9 +0.1**
ASAR Alice Springs 30.41 167 P **P** **12 21 00.1 -0.6**
comp=Z,5.0nm,0.5s,baz=350,slow=7.7,SNR=77
ASAR ScP **ScP** **12 27 28.9 +0.1**
comp=Z,13nm,0.9s,baz=350,slow=3.2,SNR=14
WRKA Warakurna 31.00 177 P **P** **12 21 05.5 -0.4**
baz=31,SNR=20
GIRL Giralia 31.11 203 ⇓P **P** **12 21 07.6 +0.8**
baz=31,SNR=4.0
KSAR Wonju Array Be 31.19 2 P **P** **12 21 06.6 -0.8**
KSAR PcP **PcP** **12 24 00.7 +1.2**
KSAR ScP **ScP** **12 27 33.8 +2.7**
KSRS Korea Array 31.21 2 P **P** **12 21 06.6 -0.9**
comp=Z,1.6nm,0.5s,baz=180,slow=9.5,SNR=11
KSRS PcP **PcP** **12 24 00.7 +1.2**
comp=Z,2.5nm,0.6s,baz=179,slow=2.1,SNR=7.9
KSRS ScP **ScP** **12 27 33.8 +2.6**
comp=Z,11nm,0.9s,baz=190,slow=3.8,SNR=18
MAJO Matsushiro 32.04 17 ⇓*e*P **P** **12 21 15.2 +0.3**
MAJO pmax pmax
comp=Z,35nm,0.6s
MAJO Matsushiro 32.04 17 *e*P **P** **12 21 14.8 -0.1**
comp=Z,17nm,1.8s
MAT Matsushiro 32.04 17 P **P** **12 21 14.0 -0.9**
MJAR Matsushiro Arr 32.04 17 P **P** **12 21 13.4 -1.5**
MJAR Matsushiro Arr 32.04 17 P **P** **12 21 13.4 -1.5**
comp=Z,6.1nm,0.7s,baz=180,slow=9.0,SNR=28
CTA Charters Tower 32.33 144 P **P** **12 21 18.4 +0.8**
CTA ScP **ScP** **12 27 37.5 +2.2**
CTA Charters Tower 32.33 144 P **P** **12 21 18.4 +0.8**
comp=Z,16nm,0.9s,baz=321,slow=9.9,SNR=8.5
CTA ScP **ScP** **12 27 37.5 +2.2**
comp=Z,14nm,0.9s,baz=348,slow=4.4,SNR=5.8
CTAO Charters Tower 32.33 144 *e*P **P** **12 21 18.6 +1.0**
CTAO pmax pmax
comp=Z,24nm,0.9s
CTAO Charters Tower 32.33 144 *e*P **P** **12 21 18.6 +1.0**
comp=Z,24nm,0.9s
XAN Xi'an 32.34 332 P **P** **12 21 17.7 +0.1**
XAN S **S** **12 26 20.9 -1.6**
XAN pmax pmax
comp=Z,52nm,1.0s
XAN pmax pmax
comp=Z,73nm,2.7s
XAN LR LR
comp=Z,580nm,24.5s
XAN LR LR
comp=Z,250nm,21.5s
XAN LR LR
comp=Z,130nm,21.5s
CD2 Chengdu 32.79 322 ⇑*i*P **P** **12 21 21.6 0.0**
CD2 pP **pP** **12 21 45.8 -2.9**
CD2 PP **PP** **12 22 37.5 -0.7**
CD2 PcP **PcP** **12 24 03.5 -0.5**
CD2 S **S** **12 26 27.7 -1.9**
CD2 SS **SnSn** **12 28 36.2 -3.9**
CD2 ScS **ScS** **12 31 35.8 -1.2**
CD2 pmax pmax
comp=Z,90nm,1.3s
CD2 pmax pmax
comp=Z,490nm,7.2s
CD2 LR LR
comp=Z,580nm,15.5s
CD2 LR LR
comp=Z,550nm,14.2s
CD2 LR LR
comp=Z,820nm,14.3s
DL2 Dalian 32.97 353 P **P** **12 21 22.5 -0.5**
DL2 S **S** **12 26 31.6 -0.5**
DL2 pmax pmax
comp=Z,39nm,1.3s
DL2 pmax pmax
comp=Z,170nm,4.5s
DL2 LR LR
comp=Z,600nm,12.1s
DL2 LR LR
comp=Z,270nm,15.5s
MEEK Meekatharra 33.51 193 P **P** **12 21 27.4 -0.5**
baz=34,SNR=52
BJT Baijiatuau 35.08 346 *e*P **P** **12 21 42.2 +1.1**
comp=Z,88nm,0.5s
BJT *e*ScP **ScP** **12 27 43.9 -0.7**
BJI Beijing 35.09 346 P **P** **12 21 42.2 +0.9**
BJI pP **pP** **12 22 08.4 -0.3**
BJI sP **sP** **12 22 21.4 -1.5**
BJI PP **PP** **12 23 07.2 +3.8**
BJI PcP **PcP** **12 24 11.9 +1.6**
BJI S **S** **12 27 04.5 -0.3**
BJI sS **sS** **12 27 53.9 +1.4**
BJI LR LR
comp=Z,310nm,17.4s
BJI LR LR
comp=Z,220nm,17.9s
BJI LR LR
comp=Z,210nm,26.9s
SNY Shenyang 35.67 356 ⇓P **P** **12 21 47.7 +1.5**
SNY PP **PnPn** **12 23 15.6 +5.4**
SNY S **S** **12 27 14.7 +1.1**
SNY pmax pmax
comp=Z,10.0nm,0.5s
SNY pmax pmax
comp=Z,360nm,6.2s
SNY LR LR
comp=Z,230nm,14.2s
SNY LR LR
comp=Z,1μm,21.0s
SNY LR LR
comp=Z,600nm,23.3s
MORW Morawa 36.48 196 ⇑P **P** **12 21 53.2 -0.1**
baz=37,SNR=7.4
LZH Lanzhou 36.50 328 ⇑P **P** **12 21 55.2 +1.6**
LZH pP **pP** **12 22 23.3 +2.2**
LZH sP **sP** **12 22 38.2 +2.8**
LZH PP **PnPn** **12 23 24.1 +3.6**
LZH S **S** **12 27 28.0 +1.2**
LZH sS **sS** **12 28 15.1 +0.4**
LZH SS **SnSn** **12 30 02.4 -7.3**
LZH ScS **ScS** **12 31 55.6 -1.4**
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,410nm,5.6s
LZH LR LR
comp=Z,400nm,12.0s
LZH LR LR
comp=Z,470nm,12.6s
LZH LR LR
comp=Z,890nm,16.0s
QLP Quilpie 36.65 153 ⇓P **P** **12 21 53.7 -1.0**
baz=37,SNR=22
FORT Forrest 36.71 178 *e*P **P** **12 21 55.0 -0.2**
comp=Z,84nm,0.7s
FORT Forrest 36.71 178 P **P** **12 21 55.0 -0.2**
baz=37,SNR=26
VLA Vladivostok 37.12 6 ⇓*e*P **P** **12 21 59.6 +1.1**
VLA *e* 12 23 26.5
VLA *e*S **S** **12 27 35.0 -0.6**
VLA pmax pmax
comp=Z,20nm,0.6s
HHC Hu-ho-hao-te 37.17 341 *e*P **P** **12 21 59.5 +0.4**
HHC pP **pP** **12 22 28.9 +2.2**
HHC sP **sP** **12 22 42.0 +1.1**
HHC PP **PnPn** **12 23 28.1 -0.3**
HHC S **S** **12 27 33.4 -3.3**
HHC sS **sS** **12 28 26.4 +1.8**
HHC SS **SS** **12 30 16.5 -8.1**
HHC pmax pmax
comp=Z,96nm,0.8s
CN2 Changchun 37.55 358 *e*P **P** **12 22 02.3 +0.2**
CN2 *e*pP **pP** **12 22 29.5 -0.2**
CN2 *e*sP **sP** **12 22 42.2 -1.7**
CN2 PcP **PcP** **12 24 17.8 +0.2**
CN2 *e*S **S** **12 27 43.7 +1.6**
CN2 SS **SS** **12 30 26.9 -5.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
KMBL Kambalda 37.57 187 P **P** **12 22 02.3 -0.2**
baz=38,SNR=9.9
BLDU Balldu 37.78 194 P **P** **12 22 04.0 -0.2**
baz=38,SNR=69
USRK Ussuriysk Arra 38.20 6 P **P** **12 22 07.3 -0.3**
comp=Z,33nm,0.4s,baz=181,slow=7.8,SNR=168
MDJ Mudanjiang 38.42 3 P **P** **12 22 11.3 +1.8**
MDJ pP **pP** **12 22 35.1 -2.1**
MDJ S **S** **12 27 57.3 +2.0**
MDJ PcS **PcS** **12 28 10.9 +1.4**
MDJ pmax pmax
comp=Z,26nm,1.3s
MDJ pmax pmax
comp=Z,80nm,3.1s
MDJ LR LR
comp=Z,210nm,29.5s
MDJ LR LR
comp=Z,340nm,22.6s
MDJ LR LR
comp=Z,480nm,27.1s
MDJ Mudanjiang 38.42 3 *e*P **P** **12 22 09.1 -0.3**
comp=Z,43nm,1.1s
KLBR Kellerberrin 38.48 192 P **P** **12 22 10.1 0.0**
baz=39,SNR=30
SHL Shillong 38.55 304 *e*P **P** **12 22 10.5 -0.6**
SHL *e*S **S** **12 28 00.0 +1.9**
ERM Erimo 38.59 20 P **P** **12 22 13.3 +2.4**
comp=Z,203nm,1.1s,SNR=6.5
ERM Erimo 38.59 20 ⇓*e*P **P** **12 22 12.6 +1.7**
ERM pmax pmax
comp=Z,85nm,1.6s
RMQ Roma 38.79 148 ⇓P **P** **12 22 13.5 +0.7**
baz=39,SNR=8.7
EIDS Eidsvold 39.21 144 *e*P **P** **12 22 17.0 +0.7**
EIDS Eidsvold 39.21 144 ⇓P **P** **12 22 16.5 +0.2**
baz=39,SNR=4.9
BBOO Buckleboo 39.71 168 *e*P **P** **12 22 20.1 -0.1**
comp=Z,668nm,0.6s
BBOO Buckleboo 39.71 168 ⇓P **P** **12 22 19.9 -0.3**
baz=40,SNR=59
ASAJ Asahikawa 40.31 18 *e*P **P** **12 22 26.9 +1.8**
ASAJ Asahikawa 40.31 18 P **P** **12 22 25.8 +0.7**
comp=Z,39nm,0.4s,baz=200,slow=5.7,SNR=105
ASAJ LR LR 12 38 48.9
comp=Z,461nm,18.2s,baz=175,slow=35
STKA Stephens Creek 40.34 160 *e*P **P** **12 22 24.7 -0.8**
comp=Z,3.4nm,0.4s
STKA ScP **ScP** **12 28 05.3 +0.8**
STKA Stephens Creek 40.34 160 P **P** **12 22 25.2 -0.3**
comp=Z,25nm,0.5s,baz=336,slow=7.8,SNR=153
STKA ScP **ScP** **12 28 05.3 +0.8**
comp=Z,4.5nm,0.6s,baz=343,slow=5.2,SNR=5.0
STKA LR LR 12 40 13.9
comp=Z,465nm,21.1s,baz=116,slow=38
H11S3 WAKE ISLAND Hy 40.77 69 T T 13 07 02.1
baz=258,slow=68,SNR=31
H11S1 WAKE ISLAND Hy 40.79 69 T T 13 06 59.4
baz=258,slow=68,SNR=30
H11S2 WAKE ISLAND Hy 40.79 69 T T 13 06 48.2
baz=258,slow=68,SNR=29
LSA Lhasa 40.94 309 P **P** **12 22 31.2 0.0**
LSA pmax pmax
comp=Z,40nm,2.2s
LSA Lhasa 40.94 309 *e*P **P** **12 22 31.9 +0.8**
LSA *e* 12 24 31.5
LSA pmax pmax
comp=Z,238nm,1.7s
LSA Lhasa 40.94 309 *e*P **P** **12 22 31.9 +0.8**
comp=Z,238nm,1.7s
LSA *e*PcP **PcP** **12 24 31.4 +2.1**
HTT Hallett 40.98 164 P **P** **12 22 30.8 -0.1**
baz=41,SNR=21
GTA Gaotai 41.10 328 ⇑P **P** **12 22 32.8 +0.9**
GTA pP **pP** **12 22 58.2 -1.7**
GTA PP **PP** **12 24 11.4 +2.1**
GTA PcP **PcP** **12 24 29.9 +0.7**
GTA ScP **ScP** **12 28 08.8 +1.1**
GTA PcS **PcS** **12 28 19.8 -0.7**
GTA S **S** **12 28 35.8 +0.1**
GTA SS **SS** **12 31 40.6 -2.7**
GTA ScS **ScS** **12 32 23.8 +0.2**
GTA pmax pmax
comp=Z,130nm,1.1s
GTA pmax pmax
comp=Z,670nm,8.5s
GTA LR LR
comp=Z,900nm,22.3s
GTA LR LR
comp=Z,790nm,20.4s
GTA LR LR
comp=Z,690nm,21.8s
H11N1 WAKE ISLAND Hy 41.23 67 T T 13 05 31.8
baz=251,slow=75,SNR=4.3
H11N2 WAKE ISLAND Hy 41.24 67 T T 13 05 32.7
baz=251,slow=75,SNR=4.9
H11N3 WAKE ISLAND Hy 41.25 67 T T 13 05 27.2
baz=251,slow=75,SNR=4.3
YUK Yuzh-Kuril'sk 41.31 21 *e*P **P** **12 22 34.1 +0.8**
YUK *e* 12 24 09.4
YUK *e*PPP PPP 12 24 43.3
YUK *i*S **S** **12 28 32.8 -5.5**
YUK *e*SS **SS** **12 31 46.3 -0.6**
RKGY Rocky Gully 41.55 192 ⇓P **P** **12 22 36.7 +1.3**
baz=42,SNR=23
CMSA Cobar Meteorol 41.57 155 ⇓P **P** **12 22 35.6 0.0**
baz=42,SNR=25
HABR Khabarovsk 42.79 8 *ce*P **P** **12 22 44.6 -0.6**
HABR *e* 12 24 32.1
HABR PPP PPP 12 25 05.5
HABR *e*S **S** **12 28 58.5 -1.4**
HABR *e* 12 32 28.3
HABR pmax pmax
comp=N,12nm,1.5s
HABR pmax pmax
comp=Z,16nm,1.5s
HABR pmax pmax
comp=E,22nm,1.5s
HABR MLR MLR
comp=Z,172nm,16.0s
YSS Yuzh-Sakhalins 42.94 16 ⇓*i*P **P** **12 22 47.3 +0.8**
YSS *e**SP **sP** **12 23 28.3 -0.5**
YSS *e*S **S** **12 29 00.0 -2.2**
YSS *e*SS **SS** **12 32 16.0 -2.8**
YSS pmax pmax
comp=Z,50nm,0.6s
YSS MLR MLR
comp=Z,400nm,13.0s
YSS Yuzh-Sakhalins 42.94 16 *e*P **P** **12 22 47.5 +0.9**
comp=Z,51nm,0.5s
KLR Kul'dur 43.17 5 *e*P P 12 22 43.3 -5.0
KLR *e*S **S** **12 29 05.5 0.0**
KLR MLR MLR
comp=Z,900nm,13.0s
HIA Hailar 43.41 353 *e*P **P** **12 22 51.5 +1.2**
comp=Z,48nm,1.3s
ARMA Armidale 43.44 148 *e*P **P** **12 22 51.6 +0.7**
comp=Z,58nm,0.9s
ARMA Armidale 43.44 148 ⇑P **P** **12 22 51.3 +0.5**
baz=44,SNR=12
ULN Ulaanbaatar 44.88 341 *e*P **P** **12 23 02.4 +0.1**
comp=Z,200nm,1.7s
ARPS Mount Arapiles 44.93 163 P **P** **12 23 02.8 +0.3**
baz=45,SNR=19
SONM Songino Array 45.07 341 P **P** **12 23 03.7 0.0**
SONM PcP **PcP** **12 24 41.8 -0.6**
SONM ScP **ScP** **12 28 25.3 +1.8**
SONM Songino Array 45.07 341 P **P** **12 23 03.7 0.0**
comp=Z,26nm,1.0s,baz=156,slow=7.6,SNR=89
SONM PcP **PcP** **12 24 41.8 -0.6**
comp=Z,7.4nm,0.8s,baz=166,slow=5.7,SNR=4.0
SONM ScP **ScP** **12 28 25.3 +1.8**
comp=Z,1.9nm,0.8s,baz=151,slow=3.3,SNR=4.7
CAN Canberra 46.22 155 *e*P **P** **12 23 13.7 +0.9**
CAN pmax pmax
comp=Z,18nm,0.8s
CAN Canberra 46.22 155 *e*P **P** **12 23 13.7 +0.9**
comp=Z,18nm,0.8s
CNB Canberra Magne 46.37 154 ⇓P **P** **12 23 15.5 +1.5**
baz=46,SNR=12
TOO Toolangi 46.84 160 ⇑P **P** **12 23 18.4 +0.9**
baz=47,SNR=24
DZM Mont Dzumac 47.89 127 *e*S S 12 30 06.5 -7.8
comp=Z,164nm,35.6s
DZM *e*LR LR 12 37 10.6
comp=Z,860nm,36.1s
DZM Mont Dzumac 47.89 127 *e*P **P** **12 23 27.8 +1.7**
comp=Z,20nm,0.7s
DZM Mont Dzumac 47.89 127 LR LR 12 42 40.4
comp=Z,191nm,18.0s,baz=289,slow=35
ZAK Zakamensk 48.31 340 *e*P **P** **12 23 28.2 -0.6**
ZAK pmax pmax
comp=Z,13nm,1.2s
HYB Hyderabad 48.40 288 *i*P **P** **12 23 29.0 -1.0**
TLY Talaya 49.30 341 P **P** **12 23 37.7 +1.4**
comp=Z,305nm,0.9s,SNR=30
TLY Talaya 49.30 341 *c i*P **P** **12 23 36.9 +0.7**
TLY *e* 12 24 15.1
TLY *e* 12 25 33.6
TLY *e*S **S** **12 30 33.7 +0.7**
TLY *e* 12 33 15.2
TLY pmax pmax
comp=Z,53nm,0.9s
TLY Talaya 49.30 341 *e*P **P** **12 23 37.0 +0.7**
comp=Z,28nm,0.7s
IRK Irkutsk 49.58 342 *e*P **P** **12 23 39.4 +1.0**
IRK *e*S **S** **12 30 40.1 +3.1**
IRK pmax pmax
comp=Z,134nm,2.0s
MOY Mondy 50.17 339 *e*P **P** **12 23 43.8 +0.8**
MOY pmax pmax
comp=Z,138nm,2.5s
CLNS Chul'man 50.60 359 *e*P **P** **12 23 45.7 -0.4**
CLNS pmax pmax
comp=Z,25nm,1.3s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,1.1s
WMQ Urumqi 50.83 324 P **P** **12 23 47.8 -0.2**
WMQ pP **pP** **12 24 14.0 -3.0**
WMQ PcP **PcP** **12 25 03.3 +0.2**
WMQ PP **PP** **12 25 46.6 +1.2**
WMQ S **S** **12 30 54.2 -0.4**
WMQ pmax pmax
comp=N,74nm,1.5s
WMQ pmax pmax
comp=N,630nm,4.1s
WMQ LR LR
comp=N,340nm,10.8s
WMQ LR LR
comp=N,280nm,19.3s
WMQ LR LR
comp=N,480nm,14.9s
POO Poona 52.98 289 ⇓*ix* **P** **12 24 03.0 -1.4**
PEA0B Petropavlovsk- 53.21 23 *e*P **P** **12 24 07.4 +2.0**
PETK Petropavlovsk- 53.21 23 P **P** **12 24 07.0 +1.5**
PETK Petropavlovsk- 53.21 23 P **P** **12 24 07.0 +1.5**
PETK Petropavlovsk- 53.21 23 P **P** **12 24 07.0 +1.5**
comp=N,10nm,0.6s,baz=189,slow=4.7,SNR=61
PET Petropavlovsk 53.52 23 ⇑*i*P **P** **12 24 09.5 +1.9**
PET *e*S S 12 31 40.6 +10
PET pmax pmax
comp=Z,33nm,0.6s
PET MLR MLR
comp=Z,200nm,22.0s
PET Petropavlovsk 53.52 23 *e*P **P** **12 24 09.9 +2.3**
comp=Z,28nm,0.6s
MK31 Makanchi Array 55.65 324 *e*P **P** **12 24 23.6 +0.4**
MK31 Makanchi Array 55.65 324 *e*P **P** **12 24 23.6 +0.4**
MK31 *e*ScP **ScP** **12 29 09.3 +0.5**
MKAR Makanchi Array 55.65 324 *ce*P **P** **12 24 23.6 +0.4**
MKAR pmax pmax
comp=Z,24nm,0.4s
MKAR Makanchi Array 55.65 324 P **P** **12 24 23.9 +0.7**
MKAR PcP **PcP** **12 25 22.3 +1.0**
MKAR Makanchi Array 55.65 324 P **P** **12 24 23.9 +0.7**
comp=Z,24nm,0.4s,baz=116,slow=7.3,SNR=562
MKAR PcP **PcP** **12 25 22.3 +1.0**
comp=Z,19nm,0.7s,baz=121,slow=5.8,SNR=5.4
YAK Yakutsk 55.83 2 *e*P **P** **12 24 23.1 -1.0**
YAK *e**PP **pP** **12 24 49.7 -4.0**
YAK *e* 12 25 20.6
YAK *e* 12 26 27.9
YAK *e*S **S** **12 31 59.6 -2.0**
YAK *e* 12 33 57.0
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,36nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,26nm,2.0s
YAK smax smax
comp=N,234nm,4.4s
YAK smax smax
comp=E,89nm,3.3s
YAK Yakutsk 55.83 2 *e*P **P** **12 24 23.2 -1.0**
comp=E,69nm,0.6s
KSH Kashi 56.42 314 *i*P **P** **12 24 30.3 +1.3**
KSH sP sP 12 25 18.2 +6.0
KSH PP **PP** **12 26 36.2 +0.3**
KSH *e*S **S** **12 32 08.2 -2.2**
KSH pmax pmax
comp=E,24nm,0.9s
KSH pmax pmax
comp=E,340nm,8.1s
KSH LR LR
comp=E,450nm,20.2s
KSH LR LR
comp=E,400nm,19.8s
KSH LR LR
comp=E,140nm,6.6s
KZA Kyzart 57.92 317 *i*P **P** **12 24 40.7 +0.9**
KZA Kyzart 57.92 317 P **P** **12 24 40.7 +0.9**
SNR=16
TKM2 Tokmak 2 58.02 318 P **P** **12 24 40.7 +0.5**
TKM2 pmax pmax
comp=Z,26nm,1.0s
TKM2 Tokmak 2 58.02 318 P **P** **12 24 40.7 +0.5**
SNR=12
TKM2 Tokmak 2 58.02 318 *e*P **P** **12 24 40.5 +0.3**
comp=Z,57nm,0.9s
KBK Karagaybulak 58.35 317 *i*P **P** **12 24 43.1 +0.6**
KBK Karagaybulak 58.35 317 P **P** **12 24 43.2 +0.6**
SNR=18
UCH Uchtor 58.48 316 *i*P **P** **12 24 44.6 +0.9**
UCH Uchtor 58.48 316 P **P** **12 24 44.6 +0.9**
SNR=57
ZAA0 Zalesovo Array 58.50 332 *e*P **P** **12 24 42.8 -0.3**
ZALV Zalesovo Beam 58.50 332 P **P** **12 24 43.2 +0.1**
ZALV Zalesovo Beam 58.50 332 P **P** **12 24 43.1 +0.1**
ZALV Zalesovo Beam 58.50 332 P **P** **12 24 43.1 +0.1**
comp=Z,29nm,0.6s,baz=116,slow=6.8,SNR=147
CHMS Chumysh 58.62 317 *i*P **P** **12 24 44.2 0.0**
CHMS Chumysh 58.62 317 P **P** **12 24 44.2 0.0**
SNR=17
AAK Ala-Archa 58.65 317 P **P** **12 24 45.0 +0.4**
comp=Z,185nm,1.0s,SNR=7.1
AAK Ala-Archa 58.65 317 *i*P **P** **12 24 45.0 +0.4**
AAK Ala-Archa 58.65 317 P **P** **12 24 45.0 +0.4**
SNR=16
AAK Ala-Archa 58.65 317 *e*P **P** **12 24 44.9 +0.4**
comp=Z,34nm,1.0s
USP Ospenovka 58.89 318 *i*P **P** **12 24 46.3 +0.2**
USP Ospenovka 58.89 318 P **P** **12 24 46.3 +0.2**
SNR=34

AML Almayashu 59.01 316 *i* P **P** 12 24 47.8 +0.5
AML Almayashu 59.01 316 P **P** 12 24 47.8 +0.5
SNR=38
EKS2 Erkin-Say 59.15 317 *e*P **P** 12 24 47.9 -0.1
EKS2 pmax pmax
comp=Z,61nm,0.9s
EKS2 Erkin-Say 59.15 317 P **P** 12 24 48.6 +0.7
SNR=31
EKS2 Erkin-Say 59.15 317 *e*P **P** 12 24 47.9 -0.1
comp=Z,61nm,0.9s
SEY Seymchan 59.71 13⇓*e*P **P** 12 24 53.3 +2.1
KURK Kurchatov 59.78 327 P **P** 12 24 52.8 +0.9
comp=Z,520nm,0.6s
KURK Kurchatov 59.78 327*c i*P **P** 12 24 52.1 +0.2
KURK pmax pmax
comp=Z,188nm,1.6s
KURK Kurchatov 59.78 327 *e*P **P** 12 24 52.2 +0.2
comp=Z,47nm,0.6s
KBL Kabul 60.14 306 P **P** 12 24 54.9 -0.2
baz=60,SNR=14
KK31 Karatay Array 61.55 316 P **P** 12 25 03.7 -0.5
KK31 pmax pmax
comp=Z,45nm,0.8s
KKAR Karatay Array 61.55 316 *e*P **P** 12 25 03.9 -0.2
KKAR pmax pmax
comp=Z,62nm,0.9s
KKAR Karatay Array 61.55 316 *e*P **P** 12 25 03.9 -0.2
comp=Z,62nm,0.9s
RPZ Rata Peaks 63.68 146 *e*P **P** 12 25 19.8 +1.6
RPZ Rata Peaks 63.68 146 P **P** 12 25 17.0 -1.3
comp=Z,18nm,1.0s,baz=315,slow=2.9,SNR=4.1
RPZ LR LR 12 50 18.0
comp=Z,233nm,21.0s,baz=309,slow=33
AFI Afiamalu 64.13 109 LR LR 12 49 00.2
comp=Z,192nm,21.3s,baz=277,slow=32
URZ Urewera 64.25 138 P **P** 12 25 21.6 -0.4
URZ Urewera 64.25 138 P **P** 12 25 21.6 -0.4
comp=Z,12nm,1.0s,baz=96,slow=10,SNR=2.4
URZ LR LR 12 50 48.3
comp=Z,168nm,18.8s,baz=106,slow=34
BVA0 Borovoye Array 65.37 326 *i* P **P** 12 25 29.1 0.0
BVA0 pmax pmax
comp=Z,182nm,1.2s
BVAR Borovoye Array 65.37 326 P **P** 12 25 29.6 +0.5
BVAR Borovoye Array 65.37 326 P **P** 12 25 29.6 +0.5
BVAR Borovoye Array 65.37 326 P **P** 12 25 29.6 +0.5
comp=Z,33nm,0.5s,baz=126,slow=7.5,SNR=227
BRVK Borovoye 65.44 326 P **P** 12 25 29.8 +0.3
comp=Z,931nm,1.3s,SNR=90
BRVK Borovoye 65.44 326*c i*P **P** 12 25 29.8 +0.3
BRVK pmax pmax
comp=Z,209nm,1.1s
BRVK Borovoye 65.44 326 *e*P **P** 12 25 29.6 +0.1
comp=Z,238nm,1.2s
TIXI Tiksi 65.47 1*d i*P **P** 12 25 29.4 +0.1
TIXI pmax pmax
comp=Z,10.0nm,0.4s
TIXI Tiksi 65.47 1 *e*P **P** 12 25 29.3 0.0
comp=Z,31nm,0.8s
IDAH Dahanechah 67.32 303 *e*P **P** 12 25 42.6 +0.3
IMYA Miami 67.65 307 *e*P **P** 12 25 44.1 0.0
ISRO Mashad 68.15 307 *e*P **P** 12 25 46.8 -0.4
IMOG Moghan 68.22 306 *e*P **P** 12 25 48.0 +0.1
ITEG Tejag 68.28 303 *e*P **P** 12 25 48.6 +0.5
IPAY Payeh 68.55 307 *e*P **P** 12 25 49.5 -0.3
ABKT Ailbek 69.46 308 P **P** 12 25 55.2 0.0
comp=Z,343nm,0.9s,SNR=14
HATD Hatta, Dubai 69.91 294⇓*i*P **P** 12 25 57.2 -1.0
SNR=13
NAZ Nazwa, Dubai 70.34 294⇑P **P** 12 25 59.4 -1.4
AB31 Akbulak array 70.35 320 *i* P **P** 12 26 00.0 -0.4
AB31 pmax pmax
comp=Z,42nm,0.6s
ABKAR Akbulak array 70.35 320 *e*P **P** 12 26 00.3 -0.1
comp=Z,39nm,0.7s
FAQ Al Faqa, Dubai 70.39 294⇓P **P** 12 25 59.6 -1.5
UNV Unalaska Valle 71.44 35 *e*P **P** 12 26 07.5 +0.7
comp=Z,7.1nm,0.5s
AKTO Aktyubinsk 71.84 321 LR LR 12 57 50.8
comp=Z,190nm,21.4s,baz=292,slow=36
SVE Sverdlovsk 71.97 328*de*P **P** 12 26 10.4 +0.5
SVE pmax pmax
comp=Z,249nm,1.7s
IGLO Ghaloghah 72.69 306 *e*P **P** 12 26 14.5 -0.4
IKIA Kiasar 72.78 306 *e*P **P** 12 26 15.4 -0.1
ISRV Sarvestan 72.80 299 *e*P **P** 12 26 15.0 -0.9
IPAR Pars 72.88 299 *e*P **P** 12 26 16.2 -0.2
ARU Arti 72.96 327 P **P** 12 26 15.3 -0.6
comp=Z,543nm,0.6s,SNR=32
ARU Arti 72.96 327*c i*P **P** 12 26 15.3 -0.6
ARU 12 28 54.8
ARU PPP PPP 12 30 45.6
ARU S **S** 12 35 30.9 -1.6
ARU SS **SS** 12 40 17.7 +2.3
ARU pmax pmax
comp=Z,217nm,1.7s
ARU Arti 72.96 327 *e*P **P** 12 26 15.2 -0.6
comp=Z,138nm,1.1s
CASY Casey 73.18 187 *e*P **P** 12 26 17.3 +0.4
comp=Z,10.0nm,0.4s
IALA Alasht 73.47 306 *e*P **P** 12 26 19.4 -0.3
IFIR Firoozkooh 73.49 305 *e*P **P** 12 26 19.9 +0.2
IZEF Zefreh 73.66 302 *e*P **P** 12 26 19.0 -1.7
IPRN Peran 73.87 306 *e*P **P** 12 26 20.9 -0.9
IVRN Varamin 74.28 305 *e*P **P** 12 26 23.7 -0.4
IKLH Kolahrood 74.31 303 *e*P **P** 12 26 24.3 -0.2
IR3 Iran Long-Peri 74.88 305 *e*P **P** 12 26 27.9 +0.2
IMHD Mahdasht 75.19 305 *e*P **P** 12 26 29.1 -0.2
IGZV Ghazvin 75.58 306 *e*P **P** 12 26 31.5 -0.3
IRAZ Razeghan 75.77 305 *e*P **P** 12 26 32.6 -0.3
MIR Mirnyy 76.48 193 *e*P **P** 12 26 37.0 +1.2
MIR *e* 12 27 08.0
MIR pmax pmax
comp=Z,125nm,1.5s
ISRB Sarab 77.68 307 *e*P **P** 12 26 44.0 +0.4
ILIN Lien 78.19 304 *e*P **P** 12 26 45.4 -1.0
IHRS Heris 78.19 308 *e*P **P** 12 26 46.3 0.0
IVIS Veis 78.28 304 *e*P **P** 12 26 45.4 -1.3
IGHG Ghaleghazi 78.51 304 *e*P **P** 12 26 47.7 -0.5
IDHR Dehrash 78.66 304 *e*P **P** 12 26 47.3 -1.7
ITBZ Tabriz 78.89 308 *e*P **P** 12 26 50.7 +0.5
IAZR Azarshahr 79.02 307 *e*P **P** 12 26 51.1 +0.2
IMRD Marand 79.25 308 *e*P **P** 12 26 52.3 +0.3
DGRG David-gareji 79.55 311 P **P** 12 26 54.5 +1.1
RAYN Ar Rayn 79.61 293 P **P** 12 26 53.5 -0.7
comp=Z,375nm,0.7s,SNR=36
KDAK Kodiak Island 79.86 32 P **P** 12 26 55.3 +0.6
comp=Z,272nm,0.6s,SNR=17
KDAK Kodiak Island 79.86 32 *e*P **P** 12 26 55.8 +1.2
comp=Z,42nm,0.9s
RSO Redoubt South 80.00 30 *e*P **P** 12 26 55.9 +0.2
comp=Z,27nm,0.7s
GNI Garni 80.01 310 *e*P **P** 12 26 57.0 +0.8
comp=Z,226nm,1.6s
GNI Garni 80.01 310 *i* P **P** 12 26 57.1 +1.0
SNR=24
TBLG Delisi 80.03 311 P **P** 12 26 56.4 +0.4
DUS Dusheti 80.06 312 P **P** 12 26 57.6 +1.4
IM04 Indian Mountai 80.14 24 *e*P **P** 12 26 57.1 +1.0
GUDG Gudauri 80.23 312 P **P** 12 26 58.4 +1.0
PRGR Permogore 80.44 331⇑*i*P **P** 12 26 56.3 -1.4
PRGR *e*S **S** 12 36 48.9 -4.7
PRGR pmax pmax
comp=Z,60nm,0.6s
PPLA Purkeypile 80.49 27 *e*P **P** 12 26 58.8 +0.6
comp=Z,13nm,0.7s
ZEI Tsey 80.66 312 *e*P **P** 12 26 56.5 -3.1
ZEI pmax pmax
comp=Z,136nm,1.4s
AKH Akhalkalaki 80.96 311 P **P** 12 27 02.4 +1.2
ONI Oni 80.99 312 P **P** 12 27 02.2 +1.0
KTH Kantishna Hill 81.12 27 *e*P **P** 12 27 02.1 +0.6
comp=Z,32nm,1.1s
GOF Gofitskoye 81.28 315 *e*P **P** 12 27 02.2 -0.4
GOF pmax pmax
comp=Z,80nm,1.3s
KBZ Khabaz 81.39 313 P **P** 12 27 02.5 -0.7
KBZ Khabaz 81.39 313 P **P** 12 27 02.5 -0.7
KBZ Khabaz 81.39 313 P **P** 12 27 02.5 -0.7
comp=Z,46nm,1.2s,baz=90,slow=3.3,SNR=44
KBZ LR LR 13 05 11.5
comp=Z,116nm,19.7s,baz=70,slow=37
TRF Thorofare Moun 81.39 27 *e*P **P** 12 27 03.3 +0.3
comp=Z,24nm,0.9s
RC01 Rabbit Creek A 81.52 29 *e*P **P** 12 27 03.6 +0.1
comp=Z,38nm,1.0s
KIV Kislovodsk 81.54 313 P **P** 12 27 04.5 +0.4
comp=Z,381nm,0.7s,SNR=6.8
KIV Kislovodsk 81.54 313*c i*P **P** 12 27 04.1 0.0
KIV *e**PP **pP** 12 27 31.7 -3.9
KIV *e*S **S** 12 37 07.8 +1.8
KIV *e*SS **SS** 12 42 28.4 +3.0
KIV pmax pmax
comp=Z,82nm,1.6s
KIV Kislovodsk 81.54 313 *e*P **P** 12 27 04.1 0.0
comp=Z,128nm,1.3s
KIV Kislovodsk 81.54 313⇑*i*P **P** 12 27 04.2 0.0
SNR=11
SEW Seward 81.62 30 *e*P **P** 12 27 04.5 +0.5
comp=Z,47nm,1.1s
COLD Coldfoot 81.68 23 *e*P **P** 12 27 05.5 +1.2
comp=Z,29nm,1.0s
PMR Palmer 81.83 29 *e*P **P** 12 27 05.2 +0.1
PMR pmax pmax
comp=Z,36nm,1.0s
PMR Palmer 81.83 29 *e*P **P** 12 27 05.2 +0.1
comp=Z,36nm,1.0s
MCK McKinley 82.01 27 *e*P **P** 12 27 06.5 +0.4
MCK pmax pmax
comp=Z,74nm,1.2s
MCK McKinley 82.01 27 *e*P **P** 12 27 06.5 +0.4
comp=Z,74nm,1.2s
VRHR Novokhopersk 82.24 321 *e*P **P** 12 27 06.0 -1.4
VRHR *e*PP **pP** 12 27 43.3 +4.3
VRHR *e*S **S** 12 37 07.8 -4.8
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR smax smax
comp=N,180nm,1.5s
VRHR smax smax
comp=E,110nm,1.5s
VRHR smax smax
comp=Z,40nm,1.5s
COLA College 82.53 25⇑*i*P **P** 12 27 08.8 +0.2
COLA pmax pmax
comp=Z,48nm,1.0s
COLA College 82.53 25 *e*P **P** 12 27 08.5 -0.2
comp=Z,16nm,0.8s
ILAR Eielson Array 82.94 26 P **P** 12 27 10.3 -0.5
ILAR PKKPbc **PKKPbc** 12 45 32.4 -3.3
ILAR Eielson Array 82.94 26 P **P** 12 27 10.3 -0.5
comp=Z,15nm,1.1s,baz=242,slow=5.2,SNR=91
ILAR PKKPbc **PKKPbc** 12 45 32.4 -3.3
comp=Z,1.3nm,1.2s,baz=344,slow=2.5,SNR=4.8
ILAR LR LR 13 04 05.5
comp=Z,129nm,20.0s,baz=314,slow=36
DIV Divide 83.45 29 *e*P **P** 12 27 14.5 +0.9
comp=Z,142nm,1.2s
PAX Paxson 83.56 27 *e*P **P** 12 27 15.1 +0.9
PAX pmax pmax
comp=Z,34nm,1.2s
PAX Paxson 83.56 27 *e*P **P** 12 27 15.1 +0.9
comp=Z,34nm,1.2s
SOC Sochi 83.70 313*c i*P **P** 12 27 14.2 -1.0
SOC *e* 12 30 22.9
SOC *e*PPP PPP 12 32 25.5
SOC *e*S S 12 37 20.4 -7.3
SOC *e**SS sS 12 38 29.1 +6.8
SOC pmax pmax
comp=Z,38nm,0.6s
VORD Divnogorie 83.71 321 *e*P **P** 12 27 14.5 -0.5
VORD *e*S **S** 12 37 24.2 -3.3
VORD pmax pmax
comp=N,10.0nm,1.5s
VORD pmax pmax
comp=E,50nm,1.5s
VORD pmax pmax
comp=Z,100nm,1.5s
VORD smax smax
comp=N,130nm,2.8s
VORD smax smax
comp=E,160nm,2.8s
VORD smax smax
comp=Z,80nm,2.8s
VSR Storozhevoye 83.78 321 *e*P **P** 12 27 14.4 -1.0
VSR *e**PP **pP** 12 27 51.9 +4.8
VSR *e* 12 30 28.9
VSR *e*S S 12 37 22.0 -6.2
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR pmax pmax
comp=E,30nm,1.4s
VSR smax smax
comp=N,140nm,1.9s
VSR smax smax
comp=E,80nm,1.9s
VSR smax smax
comp=Z,60nm,1.9s
BMRM Bremner River 84.02 29 *e*P **P** 12 27 17.6 +1.1
comp=Z,61nm,1.0s
DOT Dot Lake 84.18 27 *e*P **P** 12 27 17.5 +0.2
comp=Z,24nm,1.1s
MENT Mentasta 84.36 27 *e*P **P** 12 27 19.1 +0.9
MOS Moscow 84.52 325*ci*P **P** 12 27 18.4 -0.6
MOS *e**PP pP 12 28 01.1 +10
MOS *e*S S 12 37 26.8 -8.5
MOS *e**SS sS 12 38 51.7 +22
MOS pmax pmax
comp=Z,358nm,1.7s
MOS pmax pmax
comp=Z,1μm,2.3s
MOS smax smax
comp=E,800μm,4.0s
MOS smax smax
comp=N,1200μm,4.5s
OBN Obninsk 85.15 325 P **P** 12 27 22.3 +0.1
comp=N,1μm,1.0s,SNR=9.3
OBN Obninsk 85.15 325*ci*P **P** 12 27 22.2 +0.1
OBN pmax pmax
comp=Z,103nm,0.8s
OBN Obninsk 85.15 325 *e*P **P** 12 27 22.5 +0.3
comp=Z,367nm,1.3s
LVZ Lovozero 85.18 338⇓*e*P **P** 12 27 22.0 -0.2
LVZ pmax pmax
comp=Z,17nm,1.2s
ANN Anapa 85.28 314 *e*P **P** 12 27 22.2 -0.9
ANN *e**PP **pP** 12 27 57.9 +3.1
ANN *e*S **SKSac** 12 37 31.3 -5.3
ANN pmax pmax
comp=Z,391nm,1.4s
EGAK Eagle 85.39 25 *e*P **P** 12 27 24.3 +1.1
comp=Z,6.6nm,0.7s
APA Apatity 85.68 337⇓*i*P **P** 12 27 25.0 +0.4
APA MLR MLR
comp=Z,900nm,11.0s
VNDA Vanda 85.77 173 P **P** 12 27 24.7 -0.1
VNDA Vanda 85.77 173 P **P** 12 27 24.7 -0.1
comp=Z,12nm,0.8s,baz=316,slow=6.1,SNR=27
VNDA LR LR 13 02 29.4
comp=Z,158nm,18.8s,baz=338,slow=33
PPT2 Papeete2 85.80 108 *e*S **S** 12 37 44.4 -5.1
comp=Z,162nm,26.8s
PPT2 Papeete2 85.80 108 *e*LR LR 12 54 36.1
comp=Z,303nm,26.5s
MAW Mawson 86.00 200 P **P** 12 27 27.1 +1.0
MAW Mawson 86.00 200 P **P** 12 27 27.1 +1.0
comp=Z,11nm,1.1s,baz=145,slow=12,SNR=3.5
ROOS tl_alroos 86.19 304 *e*P **P** 12 27 29.6 +1.6
DAWY Dawson 86.22 26 *e*P **P** 12 27 28.2 +0.8
TBI Tubuai 86.69 114 *e*LR LR 12 54 45.8
comp=Z,341nm,35.2s
BTCH Batrach 86.71 306 *e*P **P** 12 27 29.9 -0.5
SALA Sala 86.78 302 *e*P **P** 12 27 31.6 +0.6
WRDH Warideh 86.79 305 *e*P **P** 12 27 32.4 +1.6
MARH Ras Al Marh 86.87 304 *e*P **P** 12 27 33.9 +2.3
HAWK Haweek 86.89 304 *e*P **P** 12 27 32.3 +0.9
BIDA Albida 86.91 305 *e*P **P** 12 27 33.2 +1.7
SLNF Slenfeh 86.94 305 *e*P **P** 12 27 32.6 +1.0
TOTH TOTAH 86.98 303 *e*P **P** 12 27 32.4 +0.6
JOF Joensuu 87.09 333 *e*P **P** 12 27 31.5 -0.1
JOF pmax pmax
comp=Z,57nm,0.8s
JOF Joensuu 87.09 333 *ep* **P** 12 27 31.5 -0.1
comp=Z,57nm,0.8s
ARNB Al Arnab 87.12 306 *e*P **P** 12 27 33.9 +1.5
BRBR Barbar 87.37 303 *e*P **P** 12 27 34.5 +0.6
SIM Simferopol' 87.61 315*c i*P **P** 12 27 34.2 -0.3
SIM pmax pmax
comp=Z,135nm,2.2s
KEV Kevo 87.68 340 *e*P **P** 12 27 33.3 -1.0
KEV Kevo 87.68 340 *ep* **P** 12 27 33.3 -1.0
INK Inuvik 87.93 22 *e*P **P** 12 27 35.5 +0.1
comp=Z,20nm,1.1s
PUL Pulkovo 88.02 330⇑*e*P **P** 12 27 36.6 +0.6
PUL pmax pmax
comp=Z,77nm,0.9s
ARCES ARCESS Array B 88.24 340 P **P** 12 27 36.3 -0.7
ARCES ARCESS Array B 88.24 340 P **P** 12 27 36.3 -0.7
comp=Z,11nm,0.7s,baz=86,slow=5.9,SNR=64
ARCES LR LR 13 07 23.9
comp=Z,240nm,21.8s,baz=207,slow=36
BR131 Keskin Array S 88.55 310 *e*P **P** 12 27 38.3 -0.9
BRTR Keskin Array B 88.55 310 P **P** 12 27 38.5 -0.8
BRTR Keskin Array B 88.55 310 P **P** 12 27 38.5 -0.8
comp=Z,17nm,1.0s,baz=130,slow=5.1,SNR=23
BRTR LR LR 13 15 36.2
comp=Z,53nm,19.6s,baz=335,slow=41
ANTO Ankara 89.18 310 *e*P **P** 12 27 42.0 -0.1
ANTO pmax pmax
comp=Z,19nm,0.8s
ANTO Ankara 89.18 310⇑*i*P **P** 12 27 40.9 -1.2
ANTO Ankara 89.18 310 *e*P **P** 12 27 42.0 -0.1
comp=Z,19nm,0.8s
CSS Prodhromos 89.36 305 *e*P **P** 12 27 43.1 +0.1
comp=Z,6.6nm,0.6s
KAF Kangasniemi 89.52 332 *e*P **P** 12 27 42.7 -0.4
KAF pmax pmax
comp=Z,22nm,0.6s
KAF Kangasniemi 89.52 332 *ep* **P** 12 27 42.7 -0.4
comp=Z,22nm,0.6s
KMBO Kilima Mbogo 89.66 269 *e*P **P** 12 27 44.5 -0.5
KMBO Kilima Mbogo 89.66 269 P **P** 12 27 43.5 -1.5
comp=Z,8.8nm,0.9s,baz=46,slow=5.9,SNR=19
FIA1 FINESS Array S 89.77 332 *e*P **P** 12 27 45.2 +1.0
FINES FINESS Array B 89.77 332 P **P** 12 27 43.3 -0.9
FINES FINESS Array B 89.77 332 P **P** 12 27 43.3 -0.9
comp=Z,12nm,0.5s,baz=91,slow=4.6,SNR=58
FINES LR LR 13 10 38.7
comp=Z,114nm,18.0s,baz=68,slow=37
VSU Vasula 90.06 329⇑*e*P **P** 12 27 45.7 0.0
VSU pmax pmax
comp=Z,126nm,1.5s
AKASG Malin Array Be 90.08 321 P **P** 12 27 45.1 -0.9
AKASG 12 31 22.4
AKASG Malin Array Be 90.08 321 P **P** 12 27 45.1 -0.9
AKASG PP **PP** 12 31 22.4 +1.6
AKASG Malin Array Be 90.08 321 P **P** 12 27 45.1 -0.9
comp=Z,12nm,0.8s,baz=65,slow=4.1,SNR=4.5
AKASG PP **PP** 12 31 22.4 +1.6
comp=Z,1.2nm,0.7s,baz=66,slow=7.5,SNR=4.2
AKBB Malin Array Si 90.08 321 *e*P **P** 12 27 45.1 -0.9
AKBB Malin Array Si 90.08 321 *e*P **P** 12 27 45.1 -0.9
KIEV Kiev 90.10 321 *di*P **P** 12 27 46.0 0.0
KIEV Kiev 90.10 321 *e*P **P** 12 27 44.7 -1.3
comp=Z,56nm,1.4s
MICGM Minsk 90.22 325 *e* **P** 12 27 46.0 -0.5
MNK Minsk 90.24 325 *e*P **P** 12 27 46.0 -0.6
KIS Kishinev 90.98 317 *e*P **P** 12 27 49.0 -1.2
KIS Kishinev 90.98 317 *e*P **P** 12 27 49.0 -1.2
ISP Isparta 91.22 308 *e*P **P** 12 27 51.3 -0.4
ISP pmax pmax
comp=Z,29nm,0.7s
ISP Isparta 91.22 308 *e*P **P** 12 27 51.3 -0.4
comp=Z,29nm,0.7s
TLCR 91.30 316⇓*i*P **P** 12 27 51.4 -0.3
DLBC Dease Lake 91.68 31 LR LR 13 06 22.8
comp=Z,189nm,19.7s,baz=301,slow=34
TIRR Tirgusor 91.71 315⇓*i*P **P** 12 27 52.6 -1.0
CFR Carcaliu 91.77 316⇑*i*P **P** 12 27 53.3 -0.6
TLB Topalu 91.94 315⇑*i*P **P** 12 27 54.6 -0.1
PSN Preselentsi 92.01 314⇓*i*P **P** 12 27 55.0 0.0
TESR Tescani 92.54 317⇑*i*P **P** 12 27 58.1 +0.6
VRI Vrincioaia 92.61 316⇓*i*P **P** 12 27 58.6 +0.8
PLOR Plostina 92.67 316⇓*i*P **P** 12 27 59.0 +0.9
SUW Suwalki 93.01 325 *e*P **P** 12 27 59.8 +0.4
MLR Muntele Rosu 93.23 316⇑*i*P **P** 12 28 00.3 -0.5
BURAR Bucovina Array 93.27 318⇑*i*P **P** 12 28 02.1 +1.2
BUR08 Bucovina Ar. S 93.27 318 *e*P **P** 12 28 01.9 +1.0
JMB Yambol 93.39 313⇑*i*P **P** 12 28 00.1 -1.3
DOPR Dopca 93.51 317⇓*i*P **P** 12 28 01.5 -0.5
LVV L'vov 93.53 321 *e*P **P** 12 28 02.0 +0.1
VOIR 93.85 316⇓*i*P **P** 12 28 03.4 -0.2
CJR Cluj-Napoca 94.55 318⇓*i*P **P** 12 28 06.9 +0.2
LOT Lotru 94.73 317⇑*i*P **P** 12 28 08.5 +0.8
KOLS Kolonicke sedl 94.86 320 *e*P **P** 12 28 08.6 +0.5
KOLS pmax pmax
comp=Z,175nm,3.5s
KOLS Kolonicke sedl 94.86 320 *e*P **P** 12 28 08.6 +0.5
TRPA Tarpa 94.89 319⇑*i*P **P** 12 28 09.0 +0.8
UZH Uzhgorod 94.92 320⇑*i*P **P** 12 28 07.5 -0.8
UZH *e* 12 28 35.3
BEL Belsk 94.99 323 *e*P **P** 12 28 09.7 +1.1
STHS Stebnicka Huta 95.38 321 *e*P **P** 12 28 11.2 +0.7
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 95.38 321 *e*P **P** 12 28 11.2 +0.7
CRVS Cervenica-Dubn 95.39 320 *e*P **P** 12 28 10.8 +0.3
CRVS pmax pmax
comp=Z,99nm,2.0s
CRVS Cervenica-Dubn 95.39 320 *e*P **P** 12 28 10.8 +0.3
RES Resolute Bay 95.47 10 LR LR 13 12 58.3
comp=Z,89nm,18.1s,baz=53,slow=36
VTS Vitosha 95.80 314⇑*i*P **P** 12 28 10.8 -1.9
QSPA South Pole Qui 96.01 180 *e*P **P** 12 28 13.3 +0.3
QSPA South Pole Qui 96.01 180 P **P** 12 28 12.0 -0.9
comp=Z,9.7nm,1.0s,baz=4.1,slow=1.9,SNR=14
BZS Buzias 96.15 317⇑*i*P **P** 12 28 13.9 -0.1
NB2 NORSAR Subarra 96.68 334 P **P** 12 28 15.9 -0.2
comp=Z,12nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 96.68 334 P **P** 12 28 15.9 -0.2
baz=66,slow=4.6
NOA NORSAR Array B 96.68 334 P **P** 12 28 14.8 -1.3
NOA PP **PP** 12 32 13.9 +2.0
NOA NORSAR Array B 96.68 334 P **P** 12 28 14.8 -1.3
comp=Z,9.5nm,0.8s,baz=66,slow=4.6,SNR=28
NOA PP **PP** 12 32 13.9 +2.0
comp=Z,1.5nm,0.9s,baz=74,slow=7.9,SNR=2.6
NOA LR LR 13 13 08.2
comp=Z,153nm,20.0s,baz=55,slow=36
NAO01 NORSAR Array S 96.91 334 *e*P **P** 12 28 17.0 -0.2
comp=Z,8.1nm,0.7s
OKC Ostrava-Krasne 97.19 322 *e*P Pdif 12 28 19.1 +0.4
OKC Ostrava-Krasne 97.19 322 *e*P Pdif 12 28 19.1 +0.4
YKA Yellowknife Ar 97.31 24 P Pdif 12 28 19.0 +0.1
YKA PKKPbc **PKKPbc** 12 44 56.2 -3.2
YKA Yellowknife Ar 97.31 24 P Pdif 12 28 19.0 +0.1
comp=Z,1.3nm,0.6s,baz=299,slow=4.2,SNR=25
YKA PKKPbc **PKKPbc** 12 44 56.2 -3.2
comp=Z,0.2nm,0.5s,baz=120,slow=2.9,SNR=10.0
MORC Moravsky Berou 97.58 322 *e*P Pdif 12 28 20.7 +0.2
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 97.58 322⇑*i*P Pdif 12 28 21.9 +1.4
MORC Moravsky Berou 97.58 322 *e*P Pdif 12 28 20.7 +0.2
comp=Z,3.2nm,0.8s
KRLC Kraliky 97.94 322 *e*P Pdif 12 28 23.7 +1.6
KRLC Kraliky 97.94 322 *e*PDIFF Pdif 12 28 23.7 +1.6
KSP Ksiaz 97.98 323 *e*P Pdif 12 28 22.6 +0.4
KSP Ksiaz 97.98 323 *e*P Pdif 12 28 23.8 +1.6
PKSM Moragy 97.98 318⇑*i*P Pdif 12 28 22.9 +0.6
DPC Dobruska-Polom 98.13 323 *e*P Pdif 12 28 25.0 +2.1
DPC *e* 12 28 57.3
DPC Dobruska-Polom 98.13 323 *e*P Pdif 12 28 25.0 +2.1
DPC *ep*P pP 12 28 57.3 +2.2
UPC Upice 98.26 323 *e*P Pdif 12 28 23.7 +0.2
UPC Upice 98.26 323 *e*P Pdif 12 28 23.7 +0.2
VRAC Vranov 98.31 322⇑*i*P Pdif 12 28 25.4 +1.7
PRU Pruhonice 99.33 323 *e*P **Pdif** 12 28 29.9 +1.7
PRU Pruhonice 99.33 323 *e*PDIFF **Pdif** 12 28 29.9 +1.7
BRG Berggiesshubel 99.36 324 *e*PKP **Pdif** 12 28 28.8 +0.5
comp=Z,16nm,1.4s
BRG *i* 12 28 30.7
comp=Z,18nm,1.0s

BRG	**Berggiesshubel**	**99.36**	**324**	*e*P		**Pdif**	**12 28 28.8**	**+0.5**
BRG				pmax		pmax			
	comp=Z,16nm,1.3s								
BRG	**Berggiesshubel**	**99.36**	**324**	*e*Pdiff		**Pdif**	**12 28 28.8**	**+0.5**
CLL	**Collm**	**99.75**	**324**	*e*P		**Pdif**	**12 28 30.0**	**0.0**
CLL				pmax		pmax			
	comp=Z,25nm,1.3s								
CLL	**Collm**	**99.75**	**324**	*e*Pdiff		**Pdif**	**12 28 30.2**	**+0.2**
CLL	**Collm**	**99.75**	**324**	*e*Pdif		**Pdif**	**12 28 30.0**	**0.0**
	comp=Z,25nm,1.3s								
CLL				*e*PP		**PP**	**12 32 32.0**	**-3.5**
CLL				*es*PS			12 42 14.0		
CLL				LmV			13 12 00.0		
	comp=Z,200nm,21.1s								
RKT	**Rikitea**	**99.94**	**112**	*e*LR		LR	13 01 08.9		
	comp=Z,241nm,39.0s								
KHC	**Kasperske Hory**	**100.23**	**322**	*e*P		**Pdif**	**12 28 32.6**	**+0.3**
KHC	**Kasperske Hory**	**100.23**	**322**	*e*PDIFF		**Pdif**	**12 28 32.6**	**+0.3**
GERES	**GERESS Array B**	**100.26**	**322**	P		**Pdif**	**12 28 33.0**	**+0.5**
GERES	**GERESS Array B**	**100.26**	**322**	P		**Pdif**	**12 28 33.0**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=60,slow=5.8,SNR=9.0								
BOJS	**Bojanci**	**100.45**	**318**	*i* P		**Pdif**	**12 28 39.9**	**+6.6**
NKC	**Novy Kostel**	**100.49**	**323**	*e*P		**Pdif**	**12 28 36.0**	**+2.6**
NKC	**Novy Kostel**	**100.49**	**323**	*e*PDIFF		**Pdif**	**12 28 36.0**	**+2.6**
VISS	**Visnje**	**100.62**	**319**	*i* P		**Pdif**	**12 28 36.8**	**+2.7**
CLZ	**Clausthal**	**101.03**	**326**	*e*Pdiff		**Pdif**	**12 28 36.4**	**+0.6**
JAVS	**Javornik**	**101.10**	**319**	*e*P		**Pdif**	**12 28 38.9**	**+2.6**
GRF	**Grafenberg Arr**	**101.43**	**323**	*e*Pdiff		**Pdif**	**12 28 37.6**	**0.0**
NVAR	**Mina Array Bea**	**105.27**	**48**	Pdif		**Pdif**	**12 28 56.1**	**+0.9**
NVAR				PKiKP		**PKiKP**	**12 33 10.5**	**+1.7**
NVAR				PKKPbc		**PKKPbc**	**12 44 35.5**	**-0.4**
NVAR				PKKPab		**PKKPab**	**12 44 52.5**	**-1.2**
NVAR	**Mina Array Bea**	**105.27**	**48**	Pdiff		**Pdif**	**12 28 56.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=281,slow=6.0,SNR=5.8								
NVAR				PKiKP		**PKiKP**	**12 33 10.5**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=286,slow=3.3,SNR=3.8								
NVAR				PKKPbc		**PKKPbc**	**12 44 35.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=123,slow=4.4,SNR=4.2								
NVAR				PKKPab		**PKKPab**	**12 44 52.5**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=114,slow=4.4,SNR=6.7								
PDAR	**Pinedale Array**	**109.52**	**41**	PKiKP		**PKiKP**	**12 33 15.8**	**-0.8**
PDAR				PKKPbc		**PKKPbc**	**12 44 20.6**	**-2.3**
PDAR				PKKPab		**PKKPab**	**12 44 32.3**	**-2.6**
PDAR	**Pinedale Array**	**109.52**	**41**	PKiKP		**PKiKP**	**12 33 15.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=160,slow=2.9,SNR=3.2								
PDAR				PKKPbc		**PKKPbc**	**12 44 20.6**	**-2.3**
	comp=Z,0.6nm,0.9s,baz=122,slow=6.5,SNR=3.6								
PDAR				PKKPab		**PKKPab**	**12 44 32.3**	**-2.6**
	comp=Z,1.5nm,0.6s,baz=119,slow=5.6,SNR=11								
J21A	**Lysite**	**110.58**	**39**	P		**PKiKP**	**12 33 18.6**	**0.0**
	baz=110								
J22A	**Midwest**	**111.16**	**39**	P		**PKiKP**	**12 33 19.8**	**+0.2**
	baz=111								
PV01	**Paradox Valley**	**112.37**	**45**	*e*PKPdf		**PKiKP**	**12 33 23.7**	**+1.5**
I25A	**Rochford**	**112.51**	**37**	P		**PKiKP**	**12 33 22.3**	**+0.2**
	baz=112								
A30A	**Hoffart Farm,**	**112.54**	**30**	P		**PKiKP**	**12 33 22.3**	**+0.5**
	baz=112								
MDND	**Maddock**	**112.56**	**32**	P		**PKiKP**	**12 33 22.3**	**+0.4**
	baz=112								
M23A	**Laramie**	**112.64**	**40**	P		**PKiKP**	**12 33 22.4**	**-0.2**
	baz=113								
G27A	**Dupree**	**112.78**	**35**	P		**PKiKP**	**12 33 22.9**	**+0.4**
	baz=113								
H27A	**Howes**	**113.14**	**36**	P		**PKiKP**	**12 33 23.7**	**+0.6**
	baz=113								
O23A	**Lake Granby, G**	**113.16**	**42**	P		**PKiKP**	**12 33 24.0**	**+0.4**
	baz=113								
G28A	**Parade**	**113.54**	**35**	P		**PKiKP**	**12 33 24.1**	**+0.2**
	baz=113								
K26A	**Motz Farm, Whi**	**113.58**	**38**	P		**PKiKP**	**12 33 24.3**	**+0.2**
	baz=114								
P23A	**Jefferson**	**113.64**	**42**	P		**PKiKP**	**12 33 24.3**	**-0.4**
	baz=114								
I28A	**Midland**	**114.03**	**36**	P		PKPdf	12 33 25.0	+0.2
	baz=114								
G30A	**Faulkton**	**114.51**	**34**	P		PKPdf	12 33 26.1	+0.4
	baz=114								
P25A	**Willow Gulch B**	**114.67**	**41**	P		PKPdf	12 33 26.8	+0.4
	baz=115								
J29A	**Okreek**	**114.88**	**36**	P		PKPdf	12 33 26.5	0.0
	baz=115								
Q25A	**Bedland, Calha**	**114.94**	**42**	P		PKPdf	12 33 26.9	-0.1
	baz=115								
P26A	**Davis Ranch, A**	**115.19**	**41**	P		**PKPdf**	**12 33 28.1**	**+0.8**
	baz=115								
R25A	**Fountain Ranch**	**115.31**	**43**	P		**PKPdf**	**12 33 27.8**	**+0.2**
	baz=115								
P27A	**Ficken Ranch,**	**115.69**	**41**	P		**PKPdf**	**12 33 28.2**	**-0.1**
	baz=116								
N28A	**Pribbeno Ranch**	**115.72**	**39**	P		**PKPdf**	**12 33 28.3**	**0.0**
	baz=116								
K30A	**Basset**	**115.73**	**36**	P		**PKPdf**	**12 33 27.9**	**-0.2**
	baz=116								
T25A	**Trinidad**	**115.74**	**44**	P		**PKPdf**	**12 33 29.0**	**+0.4**
	baz=116								
R26A	**Arlington**	**115.79**	**42**	P		**PKPdf**	**12 33 29.1**	**+0.6**
	baz=116								
V24A	**Rampart Ranch,**	**115.84**	**45**	P		**PKPdf**	**12 33 29.8**	**+1.0**
	baz=116								
U25A	**Circle Dot Ran**	**116.12**	**44**	P		**PKPdf**	**12 33 29.9**	**+0.5**
	baz=116								
S26A	**Kim**	**116.13**	**43**	P		**PKPdf**	**12 33 30.0**	**+0.8**
	baz=116								
222A	**Williams Famil**	**116.19**	**50**	P		**PKPdf**	**12 33 30.6**	**+1.1**
	baz=116								
R27A	**Eads**	**116.23**	**42**	P		**PKPdf**	**12 33 30.0**	**+0.6**
	baz=116								
V25A	**Rancho No Teng**	**116.25**	**45**	P		**PKPdf**	**12 33 30.1**	**+0.5**
	baz=116								
T26A	**Comanche Natio**	**116.28**	**43**	P		**PKPdf**	**12 33 29.6**	**0.0**
	baz=116								
Q28A	**Sharon Springs**	**116.44**	**41**	P		**PKPdf**	**12 33 30.1**	**+0.3**
	baz=116								
U26A	**Atchley Ranch,**	**116.58**	**44**	P		**PKPdf**	**12 33 30.8**	**+0.6**
	baz=116								
Y24A	**Capitan**	**116.59**	**47**	P		**PKPdf**	**12 33 31.4**	**+1.1**
	baz=116								
W25A	**X Bar L Ranch,**	**116.67**	**46**	P		**PKPdf**	**12 33 30.8**	**+0.5**
	baz=117								
ECSD	**EROS Data Cent**	**116.79**	**34**	P		**PKPdf**	**12 33 30.3**	**+0.1**
	baz=117								
R28A	**Tribune**	**116.85**	**41**	P		**PKPdf**	**12 33 30.4**	**-0.2**
	baz=117								
V26A	**Tequesquite Ra**	**116.86**	**45**	P		**PKPdf**	**12 33 30.9**	**+0.2**
	baz=117								
Z24A	**Sheeppen Canyo**	**116.93**	**48**	P		**PKPdf**	**12 33 31.9**	**+0.9**
	baz=117								
T27A	**Campo**	**116.93**	**43**	P		**PKPdf**	**12 33 31.4**	**+0.6**
	baz=117								
Y25A	**Mesa, Roswell**	**117.14**	**47**	P		**PKPdf**	**12 33 31.7**	**+0.4**
	baz=117								
U27A	**Thompson Grove**	**117.20**	**44**	P		**PKPdf**	**12 33 31.9**	**+0.6**
	baz=117								
T28A	**Walsh**	**117.31**	**43**	P		**PKPdf**	**12 33 31.5**	**0.0**
	baz=117								
BGNE	**Belgrade**	**117.37**	**37**	*e*PKPdf		**PKPdf**	**12 33 31.6**	**+0.2**
224A	**Cornudas Mount**	**117.40**	**49**	P		**PKPdf**	**12 33 31.6**	**-0.2**
	baz=117								
Z25A	**Roswell**	**117.43**	**48**	P		**PKPdf**	**12 33 32.7**	**+0.9**
	baz=117								
X26A	**CR and CF Fran**	**117.47**	**46**	P		**PKPdf**	**12 33 32.4**	**+0.6**
	baz=117								
W27A	**Bowe Ranch, En**	**117.74**	**45**	P		**PKPdf**	**12 33 33.4**	**+1.0**
	baz=118								
P31A	**Stockton**	**117.75**	**39**	P		**PKPdf**	**12 33 32.2**	**+0.1**
	baz=118								
Y26A	**Elida**	**117.77**	**47**	P		**PKPdf**	**12 33 33.2**	**+0.7**
	baz=118								
R30A	**Dighton**	**117.89**	**41**	P		**PKPdf**	**12 33 33.0**	**+0.5**
	baz=118								
Z26A	**Caprock**	**117.97**	**47**	P		**PKPdf**	**12 33 33.2**	**+0.3**
	baz=118								
O32A	**Brockman Farm,**	**117.99**	**38**	P		**PKPdf**	**12 33 33.1**	**+0.5**
	baz=118								
P32A	**Huiting Farm,**	**118.17**	**39**	P		**PKPdf**	**12 33 33.3**	**+0.3**
	baz=118								
SCHQ	**Schefferville**	**118.21**	**9**	PKP		**PKPdf**	**12 33 33.3**	**+0.7**
SCHQ	**Schefferville**	**118.21**	**9**	PKP		**PKPdf**	**12 33 33.3**	**+0.7**
	comp=Z,5.6nm,1.0s,baz=106,slow=4.7,SNR=4.7								
V29A	**Stinnett**	**118.39**	**44**	P		**PKPdf**	**12 33 33.9**	**+0.4**
	baz=118								
226B	**Tecolote Peak,**	**118.41**	**49**	P		**PKPdf**	**12 33 34.4**	**+0.6**
	baz=118								
MSTX	**Muleshoe**	**118.50**	**46**	P		**PKPdf**	**12 33 34.6**	**+0.7**
	baz=118								
Z27A	**Tatum**	**118.51**	**47**	P		**PKPdf**	**12 33 34.0**	**+0.1**
	baz=118								
Q32A	**Meitler Ranch,**	**118.57**	**39**	P		**PKPdf**	**12 33 33.9**	**+0.1**
	baz=118								
U30A	**WK&E Inc. Balk**	**118.62**	**43**	P		**PKPdf**	**12 33 34.4**	**+0.4**
	baz=118								
X28A	**Dimmitt**	**118.63**	**45**	P		**PKPdf**	**12 33 34.2**	**+0.1**
	baz=119								
127A	**Arkansas Junct**	**118.72**	**48**	P		**PKPdf**	**12 33 34.8**	**+0.5**
	baz=119								
R32A	**Long Quarter,**	**118.81**	**40**	P		**PKPdf**	**12 33 34.9**	**+0.7**
	baz=119								
Y28A	**McKinney Farm,**	**118.91**	**46**	P		**PKPdf**	**12 33 35.4**	**+0.7**
	baz=119								
T31A	**Randall Ranch,**	**118.95**	**41**	P		**PKPdf**	**12 33 34.7**	**+0.2**
	baz=119								
Q33A	**Connelly Farm,**	**119.02**	**39**	P		**PKPdf**	**12 33 34.9**	**+0.3**
	baz=119								
426A	**McDonald Obser**	**119.18**	**50**	P		**PKPdf**	**12 33 35.6**	**+0.2**
	baz=119								
R33A	**Olander Ranch,**	**119.34**	**39**	P		**PKPdf**	**12 33 35.2**	**0.0**
	baz=119								
Y29A	**Porterfield Fa**	**119.34**	**46**	P		**PKPdf**	**12 33 35.7**	**+0.3**
	baz=119								
T32A	**Huddler Ranch,**	**119.40**	**41**	P		**PKPdf**	**12 33 35.9**	**+0.5**
	baz=119								
V31A	**Spring Creek L**	**119.58**	**43**	P		**PKPdf**	**12 33 36.5**	**+0.7**
	baz=120								
X30A	**Coker Ranch, T**	**119.59**	**45**	P		**PKPdf**	**12 33 36.1**	**+0.2**
	baz=120								
626A	**Big Bend Ranch**	**119.62**	**51**	P		**PKPdf**	**12 33 36.5**	**+0.4**
	baz=120								
Z29A	**Hungry Hill Ra**	**119.63**	**46**	P		**PKPdf**	**12 33 35.8**	**-0.2**
	baz=120								
KSU1	**Kansas State U**	**119.72**	**38**	*e*PKPdf		**PKPdf**	**12 33 36.7**	**+0.8**
KSU1	**Kansas State U**	**119.72**	**38**	P		**PKPdf**	**12 33 35.6**	**-0.3**
	baz=120								
527A	**Woodward Ranch**	**119.75**	**50**	P		**PKPdf**	**12 33 36.7**	**+0.3**
	baz=120								
328A	**Wristen Ranch,**	**119.76**	**49**	P		**PKPdf**	**12 33 36.5**	**+0.2**
	baz=120								
U32A	**Winter Ranch,**	**119.80**	**42**	P		**PKPdf**	**12 33 36.5**	**+0.3**
	baz=120								
129A	**Stewart Farms,**	**119.83**	**47**	P		**PKPdf**	**12 33 36.4**	**0.0**
	baz=120								
W31A	**Holland Ranch,**	**119.84**	**43**	P		**PKPdf**	**12 33 36.9**	**+0.6**
	baz=120								
Y30A	**Stafford Cattl**	**119.88**	**45**	P		**PKPdf**	**12 33 37.0**	**+0.5**
	baz=120								
Z30A	**Sanderson Ranc**	**120.03**	**46**	P		**PKPdf**	**12 33 37.1**	**+0.4**
	baz=120								
TXAR	**Lajitas Array**	**120.08**	**51**	PKP		**PKPdf**	**12 33 35.7**	**-1.3**
TXAR				SKP			12 37 03.1		
TXAR				PKKPbc		**PKKPbc**	**12 43 45.9**	**-0.2**
TXAR	**Lajitas Array**	**120.08**	**51**	PKP		**PKPdf**	**12 33 35.7**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=338,slow=2.1,SNR=4.9								
TXAR				SKP			12 37 03.1		
	comp=Z,1.1nm,0.7s,baz=207,slow=1.4,SNR=6.0								
TXAR				PKKPbc		**PKKPbc**	**12 43 45.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=120,slow=5.3,SNR=5.2								
X31A	**McDonald Ranch**	**120.12**	**44**	P		**PKPdf**	**12 33 37.2**	**+0.3**
	baz=120								
V32A	**Arapaho**	**120.15**	**42**	P		**PKPdf**	**12 33 37.9**	**+1.0**
	baz=120								
428A	**Kincaid Ranch,**	**120.17**	**49**	P		**PKPdf**	**12 33 38.5**	**+1.4**
	baz=120								
627A	**Terlingua Ranc**	**120.24**	**51**	P		**PKPdf**	**12 33 38.3**	**+0.9**
	baz=120								
Y31A	**Rekieta Farm,**	**120.28**	**45**	P		**PKPdf**	**12 33 37.8**	**+0.6**
	baz=120								
W32A	**Sentinel**	**120.35**	**43**	P		**PKPdf**	**12 33 37.3**	**0.0**
	baz=120								
U33A	**Lingo Farm, Me**	**120.36**	**41**	P		**PKPdf**	**12 33 37.8**	**+0.6**
	baz=120								
V33A	**Lossen Ranch,**	**120.60**	**42**	P		**PKPdf**	**12 33 37.4**	**-0.3**
	baz=120								
529A	**Stev Forest Ra**	**120.81**	**50**	P		**PKPdf**	**12 33 39.4**	**+1.1**
	baz=121								
429A	**Davenport Ranc**	**120.82**	**49**	P		**PKPdf**	**12 33 39.0**	**+0.7**
	baz=121								
V34A	**Guthrie**	**121.10**	**42**	P		**PKPdf**	**12 33 39.6**	**+0.9**
	baz=121								
X33A	**Lawton**	**121.18**	**43**	P		**PKPdf**	**12 33 39.6**	**+0.8**
	baz=121								
Z32A	**Haskell**	**121.19**	**45**	P		**PKPdf**	**12 33 39.7**	**+0.8**
	baz=121								
231A	**Bronte**	**121.31**	**47**	P		**PKPdf**	**12 33 39.3**	**+0.1**
	baz=121								
Y33A	**Hilltop Ranch,**	**121.39**	**44**	P		**PKPdf**	**12 33 39.8**	**+0.5**
	baz=121								
530A	**J-C Ranch, Com**	**121.47**	**49**	P		**PKPdf**	**12 33 40.2**	**+0.6**
	baz=121								
331A	**San Angelo**	**121.56**	**47**	P		**PKPdf**	**12 33 40.1**	**+0.4**
	baz=122								
Z33A	**Whitaker Ranch**	**121.70**	**45**	P		**PKPdf**	**12 33 40.6**	**+0.7**
	baz=122								
431A	**Sonora**	**121.75**	**48**	P		**PKPdf**	**12 33 40.8**	**+0.7**
	baz=122								
Y34A	**Reagan Ranch,**	**122.02**	**43**	P		**PKPdf**	**12 33 41.0**	**+0.5**
	baz=122								
332A	**Millersview**	**122.02**	**47**	P		**PKPdf**	**12 33 41.1**	**+0.6**
	baz=122								
531A	**Rocksprings**	**122.05**	**49**	P		**PKPdf**	**12 33 40.5**	**-0.2**
	baz=122								
TOA0	**Torodi Ar. Sit**	**122.20**	**290**	*e*PKPdf		**PKPdf**	**12 33 41.0**	**-0.3**
TOA0				*e*SKPdf		**SKiKP**	**12 37 06.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.20**	**290**	PKP		**PKPdf**	**12 33 41.0**	**-0.3**
TORD				SKP			12 37 06.6		
TORD	**Torodi Ar. Bea**	**122.20**	**290**	PKP		**PKPdf**	**12 33 41.0**	**-0.3**
	comp=Z,7.8nm,0.8s,baz=40,slow=1.9,SNR=36								
TORD				SKP			12 37 06.6		
	comp=Z,2.1nm,0.8s,baz=61,slow=2.0,SNR=4.1								
631A	**Perdido Creek**	**122.41**	**49**	P		**PKPdf**	**12 33 41.6**	**+0.2**
	baz=122								
JCT	**Junction City**	**122.45**	**48**	*e*PKiKP		**PKPdf**	**12 33 41.8**	**+0.3**
JCT	**Junction City**	**122.45**	**48**	*e*PKPdf		**PKPdf**	**12 33 41.8**	**+0.3**
JCT	**Junction City**	**122.45**	**48**	P		**PKPdf**	**12 33 42.0**	**+0.6**
	baz=122								
532A	**Rocksprings**	**122.55**	**48**	P		**PKPdf**	**12 33 42.2**	**+0.5**
	baz=122								
134A	**White-Moore Ra**	**122.57**	**45**	P		**PKPdf**	**12 33 42.3**	**+0.7**
	baz=122								
333A	**Richland Sprin**	**122.60**	**47**	P		**PKPdf**	**12 33 42.3**	**+0.6**
	baz=122								
433A	**Art**	**122.83**	**47**	P		**PKPdf**	**12 33 42.8**	**+0.6**
	baz=123								
234A	**Clairette**	**122.84**	**46**	P		**PKPdf**	**12 33 43.0**	**+0.9**
	baz=123								
632A	**Uvalde**	**122.95**	**49**	P		**PKPdf**	**12 33 43.3**	**+0.9**
	baz=123								
334A	**Lometa**	**123.14**	**46**	P		**PKPdf**	**12 33 43.4**	**+0.7**
	baz=123								
533A	**Kerrville**	**123.22**	**48**	P		**PKPdf**	**12 33 43.5**	**+0.6**
	baz=123								
434A	**Burnet**	**123.39**	**47**	P		**PKPdf**	**12 33 43.4**	**+0.2**
	baz=123								
832A	**Faith Ranch, C**	**123.42**	**50**	P		**PKPdf**	**12 33 44.2**	**+0.9**
	baz=123								
534A	**Blanco**	**123.66**	**48**	P		**PKPdf**	**12 33 44.4**	**+0.6**
	baz=124								
335A	**Moody**	**123.74**	**46**	P		**PKPdf**	**12 33 44.7**	**+0.8**
	baz=124								
833A	**Chaparral WMA,**	**123.85**	**50**	P		**PKPdf**	**12 33 45.5**	**+1.3**
	baz=124								
MIAR	**Mount Ida**	**124.45**	**40**	*e*PKiKP		**PKPdf**	**12 33 45.9**	**+0.8**
MIAR	**Mount Ida**	**124.45**	**40**	*e*PKPdf		**PKPdf**	**12 33 45.9**	**+0.8**
635A	**Leesville**	**124.52**	**48**	P		**PKPdf**	**12 33 46.6**	**+1.2**
	baz=124								
WVT	**Waverly**	**126.89**	**35**	*e*PKiKP		**PKPdf**	**12 33 50.1**	**+0.4**
WVT	**Waverly**	**126.89**	**35**	*e*PKPdf		**PKPdf**	**12 33 50.1**	**+0.4**
TKL	**Tuckaleechee C**	**129.48**	**32**	*e*PKPdf		**PKPdf**	**12 33 55.6**	**+0.9**
DBIC	**Dimbokro**	**130.10**	**284**	PKP		**PKPdf**	**12 33 54.2**	**-2.2**
DBIC				SKPbc		**SKPbc**	**12 37 08.9**	**+0.8**
DBIC	**Dimbokro**	**130.10**	**284**	PKP		**PKPdf**	**12 33 54.2**	**-2.2**
	comp=Z,3.9nm,0.7s,baz=90,slow=8.1,SNR=5.2								
DBIC				SKPbc		**SKPbc**	**12 37 08.9**	**+0.8**
	comp=Z,6.3nm,0.6s,baz=71,slow=4.1,SNR=8.3								
PLCA	**Paso Flores**	**142.20**	**158**	PKP		**PKPdf**	**12 34 16.3**	**-1.9**
PLCA				SKPbc		**SKiKP**	**12 37 45.8**	**-0.3**
PLCA	**Paso Flores**	**142.20**	**158**	PKP		**PKPdf**	**12 34 16.3**	**-1.9**
	comp=Z,5.6nm,1.0s,baz=315,slow=5.7,SNR=3.3								
PLCA				SKPbc		**SKiKP**	**12 37 45.8**	**-0.3**
	comp=Z,7.2nm,1.1s,baz=252,slow=6.4,SNR=3.2								
JTS	**JuntasAbangare**	**144.44**	**63**	*e*PKPdf		**PKPdf**	**12 34 22.6**	**-0.2**
TRQA	**Tornquist**	**147.22**	**167**	*e*PKPbc		**PKPbc**	**12 34 29.0**	**-0.3**
TRQA				*e*PKPab		**PKPab**	**12 34 31.3**	**+0.1**
LCO	**Las Campanas**	**151.86**	**146**	*e*PKPdf		**PKPdf**	**12 34 35.3**	**+0.4**
LCO				*e*PKPbc		**PKiKP**	**12 34 42.5**	**+0.8**
LCO				*e*PKPab		**PKPab**	**12 34 51.1**	**+0.4**
SDV	**Santo Domingo**	**157.12**	**50**	*e*PKPdf		**PKPdf**	**12 34 43.2**	**+0.8**
CPUP	**Villa Florida**	**159.52**	**169**	PKPab		**PKPab**	**12 35 23.5**	**+0.4**
CPUP	**Villa Florida**	**159.52**	**169**	PKPab		**PKPab**	**12 35 23.5**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=148,slow=3.3,SNR=5.2								
LPAZ	**La Paz**	**162.23**	**126**	PKP		**PKPdf**	**12 34 50.0**	**+1.3**
LPAZ				PKPab		**PKPab**	**12 35 37.4**	**+1.2**
LPAZ	**La Paz**	**162.23**	**126**	PKP		**PKPdf**	**12 34 50.0**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=199,slow=4.9,SNR=4.8								
LPAZ				PKPab		**PKPab**	**12 35 37.4**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=238,slow=3.5,SNR=7.1								
BDFB	**Brasilia**	**169.25**	**208**	PKP		**PKPdf**	**12 34 53.6**	**-0.1**
BDFB				PKPab		**PKPab**	**12 36 06.1**	**-0.2**
BDFB	**Brasilia**	**169.25**	**208**	PKP		**PKPdf**	**12 34 53.6**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=180,slow=5.1,SNR=3.0								
BDFB				PKPab		**PKPab**	**12 36 06.1**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=124,slow=6.6,SNR=5.2								
SAML	**Samuel**	**169.72**	**106**	*e*PKPdf		**PKPdf**	**12 34 54.6**	**+0.6**

IDC 08 12:39:42.2±0.9, 15°.55S×177°.71W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.8/8, Error ellipse: s-maj=43.9km s-min=19.2km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**23.08**	**190**	P		P	12 44 49.2	-0.4
	9.2nm,0.9s,baz=0.0,slow=4.0,SNR=3.5							
STKA	**Stephens Creek**	**40.38**	**239**	P		P	12 47 22.5	+0.4
	0.5nm,0.4s,baz=56,slow=7.3,SNR=3.3							
WRA	**Warramunga Arr**	**45.76**	**257**	P		P	12 48 05.7	-0.2
	0.2nm,0.2s,baz=95,slow=7.4,SNR=8.5							
ASAR	**Alice Springs**	**46.11**	**252**	P		P	12 48 08.5	-0.2
	1.6nm,0.6s,baz=86,slow=8.2,SNR=12							
NVAR	**Mina Array Bea**	**77.27**	**44**	P		P	12 51 39.2	+0.3
	0.4nm,0.5s,baz=230,slow=9.3,SNR=4.7							
ILAR	**Eielson Array**	**83.45**	**13**	P		P	12 52 10.8	-0.4
	0.3nm,0.5s,baz=223,slow=5.3,SNR=9.0							
TXAR	**Lajitas Array**	**84.17**	**58**	P		P	12 52 16.2	+0.3
	0.4nm,0.6s,baz=206,slow=6.0,SNR=3.3							
PDAR	**Pinedale Array**	**85.19**	**43**	P		P	12 52 20.8	-0.1
	0.2nm,0.5s,baz=260,slow=1.6,SNR=3.3							

*ISCJB **08** 12:42:34.6±0.7, 79°.88N±0°.08×0°.0E±0°.3, h10km, mb3.5/8, Error ellipse: s-maj=11.1km s-min=6.7km az=169.0*
*IDC **08** 12:42:35.1±1.0, 80°.05N×0°.58W, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.6/33, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=24.1km s-min=18.1km az=23.0*
*BER **08** 12:42:37.7±1.9, 80°.18N×0°.97E, h10km, MD2.8, ML2.8*
ISC 08 12:42:36.0±0.8, 79°.84N±0°.09×0°.13E±0°.06, h10km, n24, σ2§37/27, mb3.5/8, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**2.37**	**107**	*e*P		**Pn**	**12 43 14.2**	**-0.7**
KBS				*es*S		**Sn**	**12 43 40.5**	**-3.4**
KBS				IAML			12 43 44.0	
	comp=Z,105nm,0.4s							
SPITS	**Spitsbergen Ar**	**3.52**	**110**	Pn		**Pn**	**12 43 30.7**	**+0.1**
SPITS				Sn		**Sn**	**12 44 11.2**	**-1.1**
DAG	**Danmarks Havn**	**4.88**	**241**	*i* P		**Pn**	**12 43 48.1**	**-1

APSI Ampana 6.12 241 P **Pn** **12 56 28.6 -0.1**
1µm,0.8s,11µm5.4nm
TOLI Toli-Toli 6.27 261 P x 12 56 29.7
1µm,0.6s,13µm5.0nm
CGP Cagayan de Oro 6.71 340⇑ *e*P **Pn** **12 56 36.3 -0.3**
CGP *e*S **Sn** **12 57 50.4 -1.2**
PAGZ Pagadian 6.74 328 *e*P **Pn** **12 56 35.2 -2.0**
BUTP Butuan 6.95 349 *e*P **Pn** **12 56 40.5 +0.4**
IPIL Ipil 7.16 322 *e*P **Pn** **12 56 41.4 -1.4**
KKSI Kolaka, Sulawe 8.21 221 P x 12 56 56.2
170nm,0.6s
MSLP Maasin 8.25 345 *e*P **Pn** **12 56 56.4 -1.3**
MYLDM Lahad Datu 9.00 290 P x 12 57 09.6
322nm,0.9s,3µm
MYLDM Lahad Datu 9.00 290 *e*Pn **Pn** **12 57 09.8 +1.7**
MYLDM Lahad Datu 9.00 290 ⇑P **Pn** **12 57 09.4 +1.3**
PALU Palau 9.09 55 ⇑P **Pn** **12 57 09.3 +0.1**
baz=9.2,SNR=7.7
OCLP Ormoc 9.19 345 *e*P **Pn** **12 57 10.8 +0.1**
TSM Tawau 9.36 284 ⇑P **Pn** **12 57 12.5 -0.4**
MMSI Mamuju 9.38 239 P x 12 57 11.7
87nm,0.8s,1µm
SPSI Sidrap Palu 9.40 230 P **Pn** **12 57 13.0 -0.5**
108nm,0.7s,1µm
BNSI Bone 9.44 227 P **Pn** **12 57 12.9 -1.1**
94nm,0.6s
GUIM Jordan 9.52 333 *e*P **Pn** **12 57 14.1 -1.1**
BAKI Biak 9.69 110 P Pn 12 57 22.0 +4.6
517nm,1.3s,5µm
BKSI Bulukumba 10.08 223 P **Pn** **12 57 23.7 +1.0**
75nm,0.8s,1µm
KAPI Kappang 10.12 226 *e*Pn **Pn** **12 57 22.1 -1.1**
SDKM Sandakan 10.38 290 ⇑P **Pn** **12 57 26.7 -0.2**
KDM Kudat 11.19 296 ⇑P **Pn** **12 57 39.2 +1.3**
KKM Kota Kinabalu 11.43 290 *e*Pn **Pn** **12 57 41.9 +0.6**
102nm,0.8s
KKM Kota Kinabalu 11.43 290 ⇓P **Pn** **12 57 43.4 +2.2**
PVCP Virac 11.75 346 *e*P **Pn** **12 57 44.9 -0.6**
SOEI Soe 12.09 193 P P 12 57 56.1 -3.4
SOEI Soe 12.09 193 *e*Pn **Pn** **12 57 48.5 -1.7**
SOEI Soe 12.09 193 ⇓P **Pn** **12 57 50.5 +0.3**
baz=12,SNR=7.5
LBFI Labuhan Bajo, 12.68 214 P x 12 58 07.4
BTM Bintulu 13.93 275 ⇑P **Pn** **12 58 15.7 +1.2**
SBUM Sibu 14.76 272 P x 12 58 29.1
SBUM Sibu 14.76 272 *e*Pn **Pn** **12 58 23.4 -1.9**
SBUM Sibu 14.76 272 ⇑P **P** **12 58 27.7 -1.3**
MTNI Mataram 15.17 225 P x 12 58 33.5
158nm,0.6s,2µm
KHKI Kahang-Kahang 15.39 227 P x 12 58 36.8
MTN Manton Dam 15.41 165 ⇓P **Pn** **12 58 31.1 -2.4**
baz=15,SNR=133
SRBI Singaraja 15.51 229 P **P** **12 58 37.7 +0.4**
113nm,1.1s,1µm
JAGI Jajag, Banyuwa 16.56 230 P **P** **12 58 49.5 +0.5**
94nm,0.9s,1µm
JAGI Jajag, Banyuwa 16.56 230 ⇓P **P** **12 58 48.6 -0.4**
baz=16,SNR=7.4
KSM Kuching 16.68 268 P x 12 58 49.3
49nm,1.2s
KSM Kuching 16.68 268 *e*P **Pn** **12 58 49.2 -0.2**
82nm,1.3s
KSM Kuching 16.68 268 ⇓P **Pn** **12 58 48.9 -0.6**
baz=17,SNR=3.2
KSM Kuching 16.68 268 ⇑P **P** **12 58 50.9 +0.6**
GMJI Gumukmas 16.99 232 P **P** **12 58 53.8 +0.1**
82nm,1.2s
KNRA Kununurra 17.76 174 ⇓P **P** **12 59 00.7 -1.5**
baz=18,SNR=164
PWJI Pagerwojo 18.18 236 P **Pn** **12 59 07.6 -0.1**
73nm,0.9s
PCJI Pacitan 18.80 237 P **Pn** **12 59 14.4 -0.6**
100nm,0.7s,2µm
WOJI Wonogiri, Jawa 18.83 238 P **P** **12 59 14.3 +0.4**
43nm,1.1s
BJII Banjamegara 19.63 241 P x 12 59 24.0
45nm,0.9s
KPJI Karang Pucung 20.31 242 P **P** **12 59 28.8 -1.3**
59nm,0.9s,1µm
TWG Pinlang 21.38 345 *e*P **P** **12 59 38.5 -2.9**
85nm,0.4s
YULB Yu-li 21.86 346 P **P** **12 59 47.8 +1.2**
24nm,0.9s
COEN Coen 22.63 135 *e*P **P** **12 59 53.5 -1.4**
123nm,1.0s
COEN Coen 22.63 135 ⇑P **P** **12 59 54.1 -0.8**
baz=23,SNR=16
CGJI Cibinong 22.96 248 P **P** **12 59 56.9 -1.3**
59nm,0.9s
WRAB Tennant Creek 23.07 162 *e*P **P** **12 59 57.8 -1.4**
WRAB pmax pmax
comp=Z,174nm,0.8s
WRAB Tennant Creek 23.07 162 *e*P **P** **12 59 57.8 -1.4**
comp=Z,174nm,0.8s
WRA Warramunga Arr 23.07 162 P **P** **12 59 57.8 -1.5**
WRA Warramunga Arr 23.07 162 P **P** **12 59 57.8 -1.5**
comp=Z,90nm,0.6s,baz=343,slow=11,SNR=480
YHNB Yeheng 23.08 347 *e*P P 12 59 53.2 -6.1
comp=Z,154nm,1.7s
MYKOM Kota Tinggi 23.13 270 ⇓P **P** **13 00 02.5 +2.6**
KLSI 23.24 253 P **P** **13 00 00.0 -0.9**
comp=Z,60nm,0.8s
KGM Kluang 23.66 270 ⇑P **P** **13 00 08.7 +4.0**
KASI Kota Agung 23.71 251 P **P** **13 00 04.1 -1.1**
comp=Z,50nm,0.9s
MDSI Maura Dua 23.72 254 P **P** **13 00 03.5 -1.7**
QIZ Qiongzhong 23.76 316 P **P** **13 00 05.9 +0.3**
QIZ S **S** **13 04 15.4 +0.5**
KTGM Kuala Trenggan 24.02 278 ⇓P **P** **13 00 10.3 +2.4**
MBWA Marble Bar 24.19 197 *e*P **P** **13 00 08.0 -1.4**
comp=Z,108nm,1.1s
JOW Kunigami 24.61 3 *e*P **P** **13 00 14.0 +0.8**
comp=Z,16nm,0.8s
FRIM Kepong 25.36 273 ⇓P **P** **13 00 22.4 +2.2**
QIS Mount Isa 25.70 152 ⇑P **P** **13 00 22.5 -0.7**
baz=26,SNR=126
QIS ⇓S **S** **13 04 44.6 -1.1**
baz=26,SNR=4.4
IPM Ipoh 26.02 276 ⇑P **P** **13 00 29.1 +2.9**
KULM Kulim 26.47 278 ⇓P **P** **13 00 34.4 +4.2**
AS31 Alice Springs 26.49 166 *e*P **P** **13 00 29.2 -1.1**
ASAR Alice Springs 26.49 166 P **P** **13 00 29.3 -1.0**
ASAR PcP **PcP** **13 03 53.2 -0.1**
ASAR Alice Springs 26.49 166 P **P** **13 00 29.3 -1.0**
comp=Z,21nm,0.6s,baz=339,slow=6.3,SNR=142
ASAR PcP **PcP** **13 03 53.2 -0.1**
comp=Z,5.7nm,0.7s,baz=330,slow=2.4,SNR=5.3
WRKA Warakurna 27.01 177 ⇑P **P** **13 00 34.2 -0.8**
baz=27,SNR=105
JCJ Chichijima 28.80 29 P **P** **13 00 50.4 -0.4**
comp=Z,100nm,0.5s,baz=285,slow=20,SNR=3.3
CBIJ Chichi jima 28.80 29 P **P** **13 00 50.4 -0.4**
CTA Charters Tower 29.05 140 P **P** **13 00 51.4 -1.8**
CTA Charters Tower 29.05 140 P **P** **13 00 51.4 -1.8**
comp=Z,2.6nm,0.4s,baz=325,slow=11,SNR=8.2
CTAO Charters Tower 29.05 140 *e*P **P** **13 00 54.0 +0.9**
CTAO pmax pmax
comp=Z,5.0nm,0.7s
CTAO Charters Tower 29.05 140 *e*P **P** **13 00 54.0 +0.9**
comp=Z,4.7nm,0.7s
GSI Gunungsitoli 29.41 269 *e*P **P** **13 00 53.9 -2.5**
MEEK Meekatharra 29.70 195 ⇑P **P** **13 00 57.6 -1.2**
baz=30,SNR=73
NJ2 Nanjing 30.75 346 *e*P **P** **13 01 09.4 +1.4**
NJ2 LR LR
comp=Z,2µm,20.0s
JNU Nakatsue 31.07 6 *e*P **P** **13 01 11.2 +0.4**
JNU Nakatsue 31.07 6 P **P** **13 01 10.3 -0.5**
comp=Z,9.1nm,0.8s,baz=345,slow=10,SNR=7.7
GYA Guiyang 31.10 323 P **P** **13 01 12.8 +1.5**
GYA PP **PnPn** **13 02 19.4 +3.1**
GYA PcP **PcP** **13 04 05.6 +0.6**
GYA S **S** **13 06 11.0 +0.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.6s
CMAR Chiang Mai Arr 31.93 302 P **P** **13 01 18.4 -0.3**
CMAR PcP **PcP** **13 04 08.4 +1.1**
CMAR ScP **ScP** **13 07 42.3 -0.9**
CMAR Chiang Mai Arr 31.93 302 P **P** **13 01 18.4 -0.3**
comp=Z,0.7nm,0.3s,baz=117,slow=8.2,SNR=5.7
CMAR PcP **PcP** **13 04 08.4 +1.1**
comp=Z,1.5nm,0.7s,baz=171,slow=2.0,SNR=5.0
CMAR ScP **ScP** **13 07 42.3 -0.9**
comp=Z,0.5nm,0.3s,baz=164,slow=2.2,SNR=4.3
CMAR LR LR 13 16 16.8
comp=Z,57nm,18.2s,baz=136,slow=40
CHTO Chiang Mai 32.10 303 P **P** **13 01 19.4 -0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 32.10 303 P **P** **13 01 19.4 -0.6**
comp=Z,5.5nm,0.6s
FORT Forrest 32.72 178 *e*P **P** **13 01 24.5 -0.8**
comp=Z,391nm,0.7s
FORT Forrest 32.72 178 ⇑P **P** **13 01 24.2 -1.0**
baz=33,SNR=245
MORW Morawa 32.73 198 ⇑P **P** **13 01 24.3 -1.1**
baz=33,SNR=20
QLP Quilpie 33.03 151 ⇓P **P** **13 01 26.7 -1.3**
baz=33,SNR=20
KMBL Kambalda 33.64 188 ⇑P **P** **13 01 32.4 -1.0**
baz=34,SNR=120
BLDU Ballidu 33.98 196 ⇑P **P** **13 01 35.2 -1.1**
baz=34,SNR=51
KLBR Kellerberrin 34.64 194 ⇑P **P** **13 01 40.9 -1.1**
baz=35,SNR=24
KSAR Wonju Array Be 35.17 1 P **P** **13 01 47.2 +0.8**
KSAR ScP **ScP** **13 07 53.3 -0.9**
KSRS Korea Array 35.19 1 P **P** **13 01 47.2 +0.7**
comp=Z,8.6nm,0.7s,baz=179,slow=9.7,SNR=29
KSRS ScP **ScP** **13 07 53.3 -0.9**
comp=Z,1.8nm,0.8s,baz=194,slow=3.0,SNR=4.3
RMQ Roma 35.36 145 ⇑P **P** **13 01 47.1 -1.2**
baz=35,SNR=11
BBOO Buckleboo 35.77 167 *e*P **P** **13 01 50.5 -1.2**
comp=Z,1µm,0.8s
BBOO Buckleboo 35.77 167 ⇑P **P** **13 01 50.8 -0.9**
baz=36,SNR=134
MAJO Matsushiro 35.80 16⇑ *e*P **P** **13 01 52.1 +0.2**
MAJO pmax pmax
comp=Z,294nm,1.4s
MAJO Matsushiro 35.80 16 *e*P **P** **13 01 51.0 -0.9**
comp=Z,33nm,0.9s
MAT Matsushiro 35.80 16 P **P** **13 01 50.9 -1.0**
MJAR Matsushiro Arr 35.80 16 P **P** **13 01 50.9 -1.0**
MJAR Matsushiro Arr 35.80 16 P **P** **13 01 50.9 -1.0**
comp=Z,11nm,0.6s,baz=190,slow=8.3,SNR=32
EIDS Eidsvold 35.93 141 ⇑P **P** **13 01 52.7 -0.4**
baz=36,SNR=18
XAN Xi'an 35.97 334 P P 13 01 59.3 +5.8
XAN pP pP 13 02 14.5 +1.0
XAN pmax pmax
comp=Z,2.0nm,0.6s
NWAO Narrogin (SRO) 36.05 194 P **P** **13 01 53.3 -0.7**
NWAO Narrogin (SRO) 36.05 194 P **P** **13 01 53.3 -0.7**
comp=Z,32nm,0.6s,baz=16,slow=7.4,SNR=38
CD2 Chengdu 36.10 325 *e*P **P** **13 01 56.0 +1.4**
CD2 PP **PnPn** **13 03 22.1 +3.5**
CD2 S **S** **13 07 25.0 -3.0**
CD2 SS **SnSn** **13 09 58.2 -3.8**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,170nm,5.9s
STKA Stephens Creek 36.53 159 *e*P **P** **13 01 56.7 -1.4**
comp=Z,8.2nm,0.8s
STKA PcP **PcP** **13 04 20.5 +0.3**
STKA Stephens Creek 36.53 159 P **P** **13 01 57.6 -0.5**
comp=Z,32nm,0.7s,baz=332,slow=8.2,SNR=100
STKA PcP **PcP** **13 04 20.5 +0.3**
comp=Z,10nm,0.7s,baz=344,slow=6.2,SNR=2.8
HTT Hallett 37.10 163 ⇑P **P** **13 02 02.5 -0.5**
baz=37,SNR=26
RKGY Rocky Gully 37.72 194 ⇑P **P** **13 02 08.1 0.0**
baz=38,SNR=51
CMSA Cobar Meteorol 37.89 154 ⇓P **P** **13 02 09.3 -0.4**
baz=38,SNR=34
BJI Beijing 39.01 347 P **P** **13 02 20.2 +1.3**
BJI pmax pmax
comp=Z,18nm,0.6s
SNY Shenyang 39.66 356 ⇑P **P** **13 02 24.9 +0.6**
SNY pmax pmax
comp=Z,10.0nm,0.6s
SNY pmax pmax
comp=Z,130nm,7.6s
ARMA Armidale 39.98 146 ⇓P **P** **13 02 27.6 +0.3**
baz=40,SNR=60
LZH Lanzhou 40.03 330 *e*P P 13 02 32.1 +4.4
LZH PP **PnPn** **13 04 10.0 +4.5**
LZH PcP **PcP** **13 04 35.4 +4.2**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,79nm,5.6s
LZH LR LR
comp=Z,400nm,13.5s
LZH LR LR
comp=Z,310nm,13.0s
LZH LR LR
comp=Z,500nm,17.2s
KWAJ Kwajalein Atol 40.95 79 *i*P **P** **13 02 34.1 -1.3**
HHC Hu-ho-hao-te 41.01 342 *e*P **P** **13 02 36.0 +0.4**
HHC PP **PnPn** **13 04 16.0 -0.9**
HHC S **S** **13 08 42.5 +0.8**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,300nm,5.2s
SHL Shillong 41.05 308 *e*P **P** **13 02 39.0 +2.7**
ARPS Mount Arapiles 41.08 162 ⇓P **P** **13 02 35.8 -0.3**
baz=41,SNR=60
YNG Young 41.43 153 ⇑P **P** **13 02 39.2 +0.1**
baz=41,SNR=11
CN2 Changchun 41.54 358 *e*P **P** **13 02 42.1 +2.4**
MGCD Mangrove Creek 41.87 149 ⇓P **P** **13 02 42.8 +0.2**
baz=42,SNR=4.9
USRK Ussuriysk Arra 42.15 5 P **P** **13 02 45.2 +0.5**
comp=Z,17nm,0.7s,baz=193,slow=6.8,SNR=37
MDJ Mudanjiang 42.39 3 P **P** **13 02 47.4 +0.8**
MDJ PcS **PcS** **13 08 30.2 -0.2**
MDJ S **S** **13 09 03.7 +1.9**
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,97nm,4.2s
MDJ Mudanjiang 42.39 3 *e*P **P** **13 02 47.5 +0.8**
comp=Z,22nm,1.1s
CAN Canberra 42.56 153 *e*P **P** **13 02 48.8 +0.6**
CAN pmax pmax
comp=Z,55nm,1.2s
CAN Canberra 42.56 153 *e*P **P** **13 02 48.8 +0.6**
comp=Z,55nm,1.2s
CNB Canberra Magne 42.72 153 ⇓P **P** **13 02 49.8 +0.2**
baz=43,SNR=5.3
H11N1 WAKE ISLAND Hy 42.73 63 T T 13 46 56.7
baz=251,slow=75
H11N2 WAKE ISLAND Hy 42.75 63 T T 13 46 58.6
baz=251
H11N3 WAKE ISLAND Hy 42.75 63 T T 13 46 58.2
baz=251,slow=75
TOO Toolangi 43.05 158 ⇑P **P** **13 02 52.3 +0.1**
baz=43,SNR=6.3
LSA Lhasa 43.71 313 *e*P **P** **13 02 59.5 +1.4**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 43.71 313 *e*P **P** **13 02 59.5 +1.4**
comp=Z,9.1nm,0.8s
ASAJ Asahikawa 44.06 16 P **P** **13 03 01.1 +1.0**
ASAJ Asahikawa 44.06 16 P **P** **13 03 01.1 +1.0**
comp=Z,16nm,1.0s,baz=224,slow=8.7,SNR=12
GTA Gaotai 44.62 330 *e*P P 13 03 13.5 +8.7
GTA S S 13 09 46.4 +12
GTA ScS **ScS** **13 12 55.0 +0.6**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,91nm,5.2s
GTA LR LR
comp=Z,130nm,15.7s
GTA LR LR
comp=Z,130nm,15.7s
GTA LR LR
comp=Z,160nm,16.6s
HABR Khabarovsk 46.71 7 *e*P **P** **13 03 19.2 -1.8**
HABR *e**SP **pP** **13 03 38.6 -3.2**
HABR 13 04 51.6
HABR *e* 13 05 09.6
HABR *e*S **S** **13 10 06.6 +2.4**
HABR *e*SSS SSS 13 14 35.0
HABR pmax pmax
comp=Z,11nm,2.0s
KLR Kul'dur 47.12 4 *e*P P 13 03 20.2 -4.0
KLR pmax pmax
comp=Z,25nm,1.2s
ULN Ulaanbaatar 48.73 342 *e*P **P** **13 03 38.0 +1.1**
comp=Z,8.1nm,0.9s
SONM Songino Array 48.91 342 P **P** **13 03 39.0 +0.9**
SONM ScP **ScP** **13 08 47.6 -1.3**
SONM Songino Array 48.91 342 P **P** **13 03 39.0 +0.9**
comp=Z,1.6nm,0.6s,baz=154,slow=8.6,SNR=12
SONM ScP **ScP** **13 08 47.6 -1.3**
comp=Z,1.4nm,0.8s,baz=150,slow=4.9,SNR=6.4
ZAK Zakamensk 52.13 341 *e*P P 13 04 11.9 +10
ZAK *e* 13 11 38.7
ZAK pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 53.14 342 *e*P **P** **13 04 12.1 +2.4**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 53.14 342 *e*P **P** **13 04 12.1 +2.4**
comp=Z,5.6nm,0.8s
MOY Mondy 53.98 340 *e*P P 13 04 22.1 +6.1
WMQ Urumqi 54.20 326 P **P** **13 04 18.3 +0.7**
WMQ pP pP 13 04 44.8 +5.9
WMQ PcP **PcP** **13 05 21.2 +0.1**
WMQ PP **PP** **13 06 23.1 +2.9**
WMQ SS SKiKP 13 15 27.9 +7.1
WMQ LR LR
comp=Z,100nm,18.5s
WMQ LR LR
comp=Z,94nm,21.9s
WMQ LR LR
comp=Z,57nm,20.2s
POO Poona 54.53 291 *e*P P 13 04 25.0 +4.6
PETK Petropavlovsk- 56.83 22 P **P** **13 04 37.2 +0.9**
PETK Petropavlovsk- 56.83 22 P **P** **13 04 37.1 +0.9**
PETK ScP **ScP** **13 09 19.3 -3.7**
PETK Petropavlovsk- 56.83 22 P **P** **13 04 37.1 +0.9**
comp=Z,5.1nm,0.7s,baz=183,slow=4.9,SNR=17
PETK ScP **ScP** **13 09 19.3 -3.7**
comp=Z,6.8nm,1.0s,baz=215,slow=7.0,SNR=3.6
MK31 Makanchi Array 59.03 326 *e*P **P** **13 04 51.4 -0.4**
MK31 Makanchi Array 59.03 326 *e*P **P** **13 04 51.4 -0.4**
MKAR Makanchi Array 59.03 326 P **P** **13 04 51.3 -0.5**
MKAR Makanchi Array 59.03 326 P **P** **13 04 51.3 -0.5**
MKAR ScP **ScP** **13 09 31.2 -1.7**
MKAR Makanchi Array 59.03 326 P **P** **13 04 51.3 -0.5**
comp=Z,2.0nm,0.4s,baz=119,slow=7.8,SNR=68
MKAR ScP **ScP** **13 09 31.2 -1.7**
comp=Z,1.4nm,0.8s,baz=123,slow=4.5,SNR=4.7
KSH Kashi 59.37 316 *e*P **P** 13 05 00.6 +6.2
KSH *e*PP PP 13 07 15.2 +8.7
KSH *e*PcS **PcS** **13 09 46.2 +2.5**
KSH *e*S **S** **13 13 02.0 +5.1**
KSH *e*ScS **ScS** **13 14 36.1 -0.8**
KSH pmax pmax
comp=Z,68nm,5.0s
KSH LR LR
comp=Z,130nm,5.0s
KSH LR LR
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,150nm,5.8s
YAK Yakutsk 59.81 1 *e*P **P** **13 04 55.9 -0.9**
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.6s
YAK Yakutsk 59.81 1 *e*P **P** **13 04 57.0 +0.2**
comp=E,25nm,0.8s
RPZ Rata Peaks 60.30 145 P **P** **13 05 00.1 -0.5**
RPZ Rata Peaks 60.30 145 P **P** **13 05 00.1 -0.5**
comp=E,19nm,0.8s,baz=298,slow=7.7,SNR=4.9
TKM2 Tokmak 2 61.13 319 *e*P **P** **13 05 06.8 +0.3**
TKM2 pmax pmax
comp=Z,2.0nm,0.5s
TKM2 Tokmak 2 61.13 319 *e*P **P** **13 05 06.8 +0.3**
comp=Z,1.9nm,0.5s
URZ Urewera 61.19 136 P **P** **13 05 05.1 -1.6**
URZ Urewera 61.19 136 P **P** **13 05 05.1 -1.6**
comp=Z,23nm,1.1s,baz=297,slow=2.3,SNR=4.9
AAK Ala-Archa 61.73 318 P **P** **13 05 09.3 -1.2**
AAK Ala-Archa 61.73 318 P **P** **13 05 09.3 -1.2**
AAK Ala-Archa 61.73 318 P **P** **13 05 09.3 -1.2**
comp=Z,1.1nm,0.7s,baz=165,slow=12,SNR=3.1
ZAA0 Zalesovo Array 62.14 333 *e*P **P** **13 05 12.0 -0.7**
ZALV Zalesovo Beam 62.14 333 P **P** **13 05 11.9 -0.8**
ZALV Zalesovo Beam 62.14 333 P **P** **13 05 11.9 -0.8**
ZALV Zalesovo Beam 62.14 333 P **P** **13 05 11.9 -0.8**
comp=Z,1.3nm,0.6s,baz=123,slow=5.7,SNR=8.0
KURBB Kurchatov Arra 63.24 328 P **P** **13 05 20.2 +0.1**
comp=Z,6.3nm,0.5s,baz=128,slow=6.0,SNR=37
KURK Kurchatov 63.24 328 P **P** **13 05 18.7 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.5s
KURK Kurchatov 63.24 328 P **P** **13 05 20.2 +0.1**
SEY Seymchan 63.55 13⇑ *i*P **P** **13 05 23.4 +1.5**
SEY Seymchan 63.55 13 P **P** **13 05 22.2 +0.3**
SEY Seymchan 63.55 13 P **P** **13 05 22.2 +0.3**
comp=Z,9.8nm,1.1s,baz=15,slow=23,SNR=7.6
KK31 Karatay Array 64.59 317 *i*P **P** **13 05 29.0 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 64.59 317 *e*P **P** **13 05 32.2 +3.0**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 64.59 317 *e*P **P** **13 05 32.1 +3.0**
comp=Z,2.2nm,0.7s
BVA0 Borovoye Array 68.81 327 *i*P **P** **13 05 55.3 -0.5**
BVA0 pmax pmax
comp=Z,23nm,1.2s
BVAR Borovoye Array 68.81 327 P **P** **13 05 55.6 -0.2**
BVAR Borovoye Array 68.81 327 P **P** **13 05 55.6 -0.2**
BVAR Borovoye Array 68.81 327 P **P** **13 05 55.6 -0.2**
comp=Z,2.9nm,0.6s,baz=138,slow=8.1,SNR=27
BRVK Borovoye 68.89 327 *c i*P **P** **13 05 56.2 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 68.89 327 *e*P **P** **13 05 56.0 -0.2**
comp=Z,23nm,1.0s
TIXI Tiksi 69.45 1⇓ *i*P **P** **13 05 59.6 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 69.45 1 *e*P **P** **13 05 58.7 -0.7**
comp=Z,4.4nm,0.6s
AB31 Akbulak array 73.56 321 *i*P **P** **13 06 24.1 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 73.56 321 *e*P **P** **13 06 24.2 -0.4**
comp=Z,9.2nm,0.9s
AKTO Aktyubinsk 75.08 322 P **P** **13 06 32.7 -0.7**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 75.08 322 P **P** **13 06 33.1 -0.3**
AKTO Aktyubinsk 75.08 322 P **P** **13 06 33.1 -0.3**
comp=Z,2.0nm,0.7s,baz=112,slow=6.7,SNR=7.0
SVE Sverdlovsk 75.47 329 *e*P P 13 06 42.4 +7.0
SVE pmax pmax
comp=Z,18nm,1.0s
ARU Arti 76.44 328 *d i*P **P** **13 06 40.8 -0.1**
ARU S **S** **13 16 24.0 +4.5**
ARU SS **SS** **13 21 17.9 +2.2**
ARU pmax pmax
comp=Z,10.0nm,2.5s
ARU Arti 76.44 328 *e*P **P** **13 06 40.3 -0.6**
comp=Z,8.1nm,0.8s
VNDA Vanda 81.80 173 *e*P **P** **13 07 09.7 -0.1**
VNDA Vanda 81.80 173 P **P** **13 07 09.6 -0.1**
comp=Z,23nm,0.8s,baz=320,slow=6.1,SNR=101
MAW Mawson 82.33 200 *e*P **P** **13 07 13.0 +0.3**
MAW Mawson 82.33 200 P **P** **13 07 13.0 +0.3**
comp=Z,7.9nm,0.6s,baz=60,slow=6.6,SNR=6.4
ZEI Tsey 83.50 313 *e*P **P** **13 07 18.8 -0.8**
ZEI pmax pmax
comp=Z,18nm,1.3s
KBZ Khabaz 84.28 314 P **P** **13 07 24.0 +0.8**
KBZ Khabaz 84.28 314 P **P** **13 07 24.0 +0.8**
KBZ Khabaz 84.28 314 P **P** **13 07 24.0 +0.8**
comp=Z,0.6nm,0.5s,baz=117,slow=2.3,SNR=2.9
KIV Kislovodsk 84.44 314 *e*P **P** **13 07 24.5 +0.3**
KIV *e**PP pP 13 07 40.3 -6.8
KIV pmax pmax
comp=Z,3.0nm,1.2s

VRHR	**Novokhopersk**	**85.45**	**321**	*e*P	**P**	**13 07 27.3**	**-1.7**
VRHR				pmax	pmax			
	comp=N,4.0nm,0.8s							
VRHR				pmax	pmax			
	comp=E,6.0nm,0.8s							
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ILAR	**Eielson Array**	**86.45**	**25**	P	**P**	**13 07 32.1**	**-1.6**	
ILAR	**Eielson Array**	**86.45**	**25**	P	**P**	**13 07 32.1**	**-1.6**	
	comp=Z,0.5nm,0.8s,baz=246,slow=3.9,SNR=7.4							
VSR	**Storozhevoye**	**87.00**	**321**	*e*P	**P**	**13 07 36.4**	**-0.2**	
VSR				pmax	pmax			
	comp=N,4.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,8.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
OBN	**Obninsk**	**88.53**	**325**	P	**P**	**13 07 44.0**	**+0.3**	
OBN				*e*'PP	pP	13 07 59.6	-7.2	
OBN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ASF	**Jabal al Asfar**	**88.97**	**302**	P	**P**	**13 07 46.1**	**-0.4**	
ASF	**Jabal al Asfar**	**88.97**	**302**	P	**P**	**13 07 46.1**	**-0.4**	
	comp=Z,0.6nm,0.3s,baz=114,slow=2.0,SNR=3.0							
KMBO	**Kilima Mbogo**	**89.78**	**269**	P	**P**	**13 07 50.8**	**-0.1**	
KMBO	**Kilima Mbogo**	**89.78**	**269**	P	**P**	**13 07 50.8**	**-0.1**	
	comp=Z,0.8nm,0.2s,baz=12,slow=9.3,SNR=3.6							
BRTR	**Keskin Array B**	**91.25**	**310**	P	**P**	**13 07 57.6**	**+0.5**	
BRTR	**Keskin Array B**	**91.25**	**310**	P	**P**	**13 07 57.6**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=127,slow=3.8,SNR=1.6							
INK	**Inuvik**	**91.57**	**22**	P	**P**	**13 07 56.9**	**-0.8**	
INK	**Inuvik**	**91.57**	**22**	P	**P**	**13 07 56.9**	**-0.8**	
	comp=Z,0.8nm,0.8s,baz=297,slow=9.0,SNR=2.4							
QSPA	**South Pole Qui**	**92.03**	**180**	*e*P	**P**	**13 08 00.7**	**+0.7**	
	comp=Z,9.4nm,1.0s							
ARCES	**ARCESS Array B**	**92.05**	**340**	P	**P**	**13 07 59.5**	**-0.4**	
ARCES	**ARCESS Array B**	**92.05**	**340**	P	**P**	**13 07 59.5**	**-0.4**	
	comp=Z,4.5nm,0.9s,baz=82,slow=7.4,SNR=3.8							
AKASG	**Malin Array Be**	**93.31**	**321**	P	P	13 08 11.3	+5.2	
AKASG	**Malin Array Be**	**93.31**	**321**	P	P	13 08 11.3	+5.2	
AKASG	**Malin Array Be**	**93.31**	**321**	P	P	13 08 11.3	+5.2	
	comp=Z,1.2nm,0.7s,baz=69,slow=4.9,SNR=7.7							
YKA	**Yellowknife Ar**	**100.86**	**25**	P	**Pdif**	**13 08 40.1**	**+0.2**	
YKA				PKiKP	**PKiKP**	**13 13 05.5**	**+0.3**	
YKA				PKKPbc	**PKKPbc**	**13 24 51.8**	**-3.2**	
YKA	**Yellowknife Ar**	**100.86**	**25**	P	**Pdif**	**13 08 40.1**	**+0.2**	
	comp=Z,0.1nm,0.7s,baz=296,slow=4.4,SNR=2.8							
YKA				PKiKP	**PKiKP**	**13 13 05.4**	**+0.3**	
	comp=Z,0.1nm,0.6s,baz=296,slow=1.5,SNR=6.0							
YKA				PKKPbc	**PKKPbc**	**13 24 51.8**	**-3.2**	
	comp=Z,0.3nm,1.0s,baz=94,slow=1.7,SNR=4.8							
PDAR	**Pinedale Array**	**112.39**	**42**	PKiKP	**PKiKP**	**13 13 26.9**	**-0.6**	
PDAR				PKKPbc	**PKKPbc**	**13 24 16.6**	**-2.3**	
PDAR				PKKPab	**PKKPab**	**13 24 24.9**	**-2.0**	
PDAR	**Pinedale Array**	**112.39**	**42**	PKiKP	**PKiKP**	**13 13 26.9**	**-0.6**	
	comp=Z,0.3nm,0.8s,baz=262,slow=1.8,SNR=2.4							
PDAR				PKKPbc	**PKKPbc**	**13 24 16.6**	**-2.3**	
	comp=Z,0.5nm,0.6s,baz=113,slow=7.0,SNR=5.2							
PDAR				PKKPab	**PKKPab**	**13 24 24.9**	**-2.0**	
	comp=Z,1.2nm,0.9s,baz=129,slow=6.4,SNR=7.7							
SCHQ	**Schefferville**	**122.11**	**9**	PKP	**PKPdf**	**13 13 45.5**	**0.0**	
SCHQ	**Schefferville**	**122.11**	**9**	PKP	**PKPdf**	**13 13 45.5**	**0.0**	
	comp=Z,4.4nm,1.1s,baz=256,slow=4.2,SNR=5.1							
TXAR	**Lajitas Array**	**122.37**	**53**	PKP	**PKPdf**	**13 13 46.7**	**-0.1**	
TXAR				PKKPbc	**PKKPbc**	**13 23 42.9**	**+0.1**	
TXAR	**Lajitas Array**	**122.37**	**53**	PKP	**PKPdf**	**13 13 46.7**	**-0.1**	
	comp=Z,0.6nm,0.8s,baz=133,slow=3.8,SNR=3.2							
TXAR				PKKPbc	**PKKPbc**	**13 23 42.9**	**+0.1**	
	comp=Z,0.3nm,0.6s,baz=104,slow=2.9,SNR=3.4							
TORD	**Torodi Ar. Bea**	**123.66**	**287**	PKP	**PKPdf**	**13 13 48.9**	**-0.6**	
TORD	**Torodi Ar. Bea**	**123.66**	**287**	PKP	**PKPdf**	**13 13 48.9**	**-0.6**	
	comp=Z,3.4nm,0.6s,baz=78,slow=1.5,SNR=28							
KIC	**Kosan Boka**	**131.08**	**280**	*e*PKIKP	**PKPdf**	**13 14 03.7**	**-0.1**	
	comp=Z,14nm,0.9s							
DBIC	**Dimbokro**	**131.15**	**281**	PKP	**PKPdf**	**13 14 04.0**	**+0.2**	
DBIC				*e*PKPdf	**PKiKP**	**13 14 04.2**	**-0.7**	
DBIC	**Dimbokro**	**131.15**	**281**	PKP	**PKPdf**	**13 14 04.0**	**+0.2**	
	comp=Z,2.1nm,0.5s,baz=72,slow=8.2,SNR=6.9							
TIC	**Toumodi**	**131.31**	**281**	*e*PKIKP	**PKPdf**	**13 14 03.9**	**-0.3**	
	comp=Z,3.8nm,0.3s							
LIC	**Lamto**	**131.38**	**280**	*e*PKIKP	**PKPdf**	**13 14 04.3**	**0.0**	
	comp=Z,17nm,0.5s							
PLCA	**Paso Flores**	**138.41**	**160**	PKP	**PKPdf**	**13 14 17.6**	**+0.8**	
PLCA				*e*PKPdf	**PKiKP**	**13 14 19.9**	**+0.9**	
PLCA	**Paso Flores**	**138.41**	**160**	PKP	**PKPdf**	**13 14 17.6**	**+0.8**	
	comp=Z,3.0nm,0.7s,baz=210,slow=4.0,SNR=4.6							
LCO	**Las Campanas**	**148.38**	**149**	*e*PKPbc	**PKPbc**	**13 14 38.8**	**+0.4**	
CPUP	**Villa Florida**	**155.56**	**171**	PKP	**PKPdf**	**13 14 44.8**	**-0.5**	
CPUP				PKPab	**PKPab**	**13 15 11.3**	**0.0**	
CPUP	**Villa Florida**	**155.56**	**171**	PKP	**PKPdf**	**13 14 44.8**	**-0.5**	
	comp=Z,0.5nm,0.4s,baz=72,slow=9.6,SNR=2.5							
CPUP				PKPab	**PKPab**	**13 15 11.3**	**0.0**	
	comp=Z,6.4nm,0.8s,baz=147,slow=3.0,SNR=5.9							
LPAZ	**La Paz**	**159.50**	**134**	PKP	**PKPdf**	**13 14 51.7**	**+0.5**	
LPAZ	**La Paz**	**159.50**	**134**	PKP	**PKPdf**	**13 14 51.7**	**+0.5**	
	comp=Z,1.2nm,0.8s,baz=69,slow=2.3,SNR=3.8							

DJA 08 12:59:19.6±2.1, 1°S±2°, 120°E±°, h15km±23km, M4.2/9, MLv4.2/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.86**	**98**	P	Pn	12 59 50.8	-0.1
TOLI	**Toli-Toli**	**2.01**	**29**	P	x	12 59 52.7	
TOLI				S	x	13 00 18.9	
SGKI	**Sangatta, Kali**	**2.21**	**273**	S	Sn	13 00 23.9	+1.0
MMSI	**Mamuju**	**2.23**	**204**	P	x	12 59 54.9	
MMSI				S	x	13 00 24.1	
MRSI	**Marisa**	**2.40**	**62**	P	Pn	12 59 58.0	-0.4
MRSI				S	Sn	13 00 28.3	+0.7
LUWI	**Luwuk**	**2.99**	**98**	P	Pn	13 00 07.0	+0.5
LUWI				S	Sn	13 00 43.4	+1.3
MJSI	**Majene**	**3.01**	**196**	P	x	13 00 06.0	
MJSI				S	x	13 00 43.0	
SPSI	**Sidrap Palu**	**3.30**	**181**	P	Pn	13 00 11.6	+0.8
SPSI				S	Sn	13 00 51.1	+1.3
GTOI	**Gorontalo**	**3.44**	**68**	P	Pn	13 00 10.7	-2.0
BNSI	**Bone**	**3.75**	**175**	P	Pn	13 00 16.6	-0.3

*IDC **08** 12:59:59.1±0.5, 8.73S×157.75E, h0km, mb4.5/20, mb1 4.6/23, mb1mx4.6/24, mbtmp4.5/23, ML4.5/2, MS4.2/25, Ms1 4.3/25, ms1mx4.1/34, Error ellipse: s-maj=18.0km s-min=13.9km az=115.0*

*ISCJB **08** 13:00:00.5±0.2, 8.70S±0.0°×157.64E±0.0°, h17km, mb5.0/96, MS4.3/35, Error ellipse: s-maj=6.3km s-min=4.1km az=162.1*

*BJI **08** 13:00:04.8, 8.16S×157.79E, h29km, mB5.3/22, mb4.9/39, Ms4.9/27, Ms7 4.5/26*

*MOS **08** 13:00:04.1±2.0, 8.73S×157.79E, h33km, mb5.1/9, Error ellipse: s-maj=9.9km s-min=8.3km az=47.4*

*NEIC **08** 13:00:04.1±0.3, 8.73S×157.79E, h35km, mb5.1/26, Error ellipse: s-maj=9.7km s-min=7.0km az=128.0*

*GCMT **08** 13:00:04.1±0.2, 9.00S×157.81E, h18km, MW5.2/100, Moment Tensor Solution. s63,c87; s100,c160; Duration: 0 Moment tensor: Scale 1016Nm; Mrr6.24±.18; Mθθ-3.04±.13; Mϕϕ-3.21±.14; Mrθ2.80±.31; Mrϕ3.24±.09; Mθϕ-1.77±.32; Best double couple: Mo7.12100×1016 NP1:ϕs322.00000°, δ32.00000°, λ101.00000°. Principal axes: T 7.0960, Plg75.0000°, Azm21.0000°; N 0.0400, Plg6.0000°, Azm133.0000°; P -7.1460, Plg14.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 13:00:01.9±0.3, 8.75S±0.05×157.74E±0.04, h17km, n215, σ1§62/211, mb5.1/89, MS4.3/35, 3C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.28**	**107**	*e*Pn	**Pn**	**13 00 39.0**	**+0.1**
HNR				*e*Sn	**Sn**	**13 01 07.5**	**+0.9**
HNR	**Honiara**	**2.28**	**107**	Pn	**Pn**	**13 00 38.8**	**0.0**
	243nm,0.3s,baz=250,slow=3.3,SNR=19						
HNR				Sn	**Sg**	**13 01 15.1**	**-0.4**
	3μm,0.3s,baz=61,slow=22,SNR=22						
HNR	**Honiara**	**2.28**	**107**	*i* P	**Pg**	**13 00 48.0**	**+2.2**
PMG	**Port Moresby**	**10.47**	**266**	*e*Pn	**Pn**	**13 02 33.3**	**+1.9**
PMG				*e*Sn	**Sn**	**13 04 27.7**	**-0.7**
PMG	**Port Moresby**	**10.47**	**266**	Pn	**Pn**	**13 02 30.3**	**-1.1**
	0.4nm,0.3s,baz=198,slow=6.4,SNR=2.3						
PMG				LR	LR	13 06 22.4	
	comp=Z,2μm,20.6s,baz=73,slow=37						
COEN	**Coen**	**15.19**	**249**	*e*Pn	**Pn**	**13 03 37.7**	**+1.9**
	831nm,1.5s						
COEN				*e*Sn	**Sn**	**13 06 23.4**	**-0.4**
DZM	**Mont Dzumac**	**15.67**	**149**	*e*P	**P**	**13 03 47.6**	**+1.4**
	86nm,1.2s						
DZM				*e*LQ	LQ	13 06 45.3	
	2μm,25.1s						
DZM				*e*LR	LR	13 07 26.1	
	728nm,22.1s						
DZM	**Mont Dzumac**	**15.67**	**149**	*e*Pn	**Pn**	**13 03 40.5**	**-1.6**
	52nm,1.4s						
DZM	**Mont Dzumac**	**15.67**	**149**	Pn	**P**	**13 03 44.3**	**-1.9**
	0.4nm,0.3s,baz=324,slow=13,SNR=4.5						
DZM				LR	LR	13 08 53.7	
	comp=Z,1μm,19.2s,baz=344,slow=34						
CTA	**Charters Tower**	**15.82**	**223**	Pn	**Pn**	**13 03 45.5**	**+1.4**
CTA				Sn	Sn	13 06 30.9	-8.5
CTA	**Charters Tower**	**15.82**	**223**	Pn	**Pn**	**13 03 45.5**	**+1.4**
	0.7nm,0.3s,baz=47,slow=14,SNR=6.6						
CTA				Sn	Sn	13 06 30.9	-8.5
	0.2nm,0.3s,baz=299,slow=19,SNR=3.5						
CTA				LR	LR	13 08 53.9	
	comp=Z,743nm,19.1s,baz=150,slow=34						
CTAO	**Charters Tower**	**15.82**	**223**	*e*P	**Pn**	**13 03 44.9**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,214nm,2.0s						
CTAO	**Charters Tower**	**15.82**	**223**	*e*Pn	**Pn**	**13 03 44.9**	**+0.8**
	comp=Z,214nm,2.0s						
EIDS	**Eidsvold**	**17.70**	**200**	*e*Pn	**P**	**13 04 08.8**	**+0.2**
	comp=Z,487nm,2.8s						
ARMA	**Armidale**	**22.30**	**194**	*e*P	**P**	**13 04 58.9**	**+0.1**
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**25.20**	**241**	↓*e*P	**P**	**13 05 28.1**	**+1.1**
WRAB	**Tennant Creek**	**25.20**	**241**	*e*P	**P**	**13 05 26.9**	**-0.1**
WRA	**Warramunga Arr**	**25.22**	**241**	P	**P**	**13 05 26.9**	**-0.2**
WRA				PcP	**PcP**	**13 09 01.6**	**+0.8**
WRA	**Warramunga Arr**	**25.22**	**241**	P	**P**	**13 05 26.9**	**-0.2**
	comp=Z,29nm,0.9s,baz=67,slow=9.5,SNR=14						
WRA				PcP	**PcP**	**13 09 01.6**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=72,slow=2.3,SNR=5.0						
WRA				LR	LR	13 14 40.1	
	comp=Z,1μm,21.8s,baz=65,slow=35						
ASAR	**Alice Springs**	**27.21**	**234**	P	**P**	**13 05 43.8**	**-1.3**
ASAR	**Alice Springs**	**27.21**	**234**	P	**P**	**13 05 43.8**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=58,slow=9.2,SNR=7.0						
ASAR				LR	LR	13 15 41.4	
	comp=Z,708nm,21.3s,baz=333,slow=35						
STKA	**Stephens Creek**	**27.47**	**211**	*e*P	**P**	**13 05 47.5**	**+0.1**
	comp=Z,37nm,2.1s						
STKA	**Stephens Creek**	**27.47**	**211**	P	**P**	**13 05 48.6**	**+1.2**
	comp=Z,9.1nm,0.7s,baz=34,slow=13,SNR=5.9						
STKA				LR	LR	13 16 01.4	
	comp=Z,720nm,18.8s,baz=17,slow=35						
SWI	**Sorong**	**27.50**	**285**	P	**P**	**13 05 43.6**	**-4.2**
H11S3	**WAKE ISLAND Hy**	**28.47**	**18**	T	T	13 34 33.0	
	baz=199,slow=77,SNR=209						
H11S2	**WAKE ISLAND Hy**	**28.48**	**18**	T	T	13 34 42.8	
	baz=199,slow=77,SNR=257						
H11S1	**WAKE ISLAND Hy**	**28.49**	**18**	T	T	13 34 34.3	
	baz=199,slow=77,SNR=149						
H11N1	**WAKE ISLAND Hy**	**29.68**	**18**	T	T	13 36 37.8	
	baz=197,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**29.69**	**18**	T	T	13 36 18.1	
	baz=197,slow=75,SNR=25						
H11N2	**WAKE ISLAND Hy**	**29.70**	**18**	T	T	13 36 37.5	
	baz=197,slow=75,SNR=20						
AFI	**Afiamalu**	**30.31**	**103**	LR	LR	13 16 46.1	
	comp=Z,546nm,19.7s,baz=289,slow=33						
LBMI	**Labuha**	**31.17**	**283**	P	P	13 06 25.8	+5.4
	comp=Z,61nm,1.2s,comp=Z,1μm						
BBOO	**Buckleboo**	**31.23**	**217**	*e*P	**P**	**13 06 19.8**	**-1.0**
	comp=Z,657nm,1.3s						
SANI	**Sanana**	**32.28**	**280**	P	**P**	**13 06 31.4**	**+1.2**
	comp=Z,31nm,1.1s,comp=Z,513nm						
FITZ	**Fitzroy Crossi**	**32.53**	**250**	LR	LR	13 19 38.2	
	comp=Z,341nm,19.5s,baz=88,slow=36						
RPZ	**Rata Peaks**	**36.72**	**164**	LR	LR	13 20 48.4	
	comp=Z,516nm,18.8s,baz=324,slow=34						
PCI	**Palu**	**38.53**	**280**	P	**P**	**13 07 21.6**	**-2.4**
JCJ	**Chichijima**	**38.69**	**338**	LR	LR	13 21 19.3	
	comp=Z,357nm,18.5s,baz=122,slow=33						
MJSI	**Majene**	**38.86**	**275**	P	x	13 07 29.3	
	comp=Z,55nm,0.9s						
MTNI	**Mataram**	**41.08**	**267**	P	x	13 07 45.0	
	comp=Z,44nm,1.1s						
BKB	**Balikpapan**	**41.33**	**278**	P	P	13 07 50.6	+3.4
	comp=Z,61nm,1.0s						
MYLDM	**Lahad Datu**	**41.50**	**288**	P	x	13 07 52.9	
	comp=Z,29nm,1.5s						
KHKI	**Kahang-Kahang**	**41.65**	**267**	P	x	13 07 49.0	
	comp=Z,48nm,1.4s						
SRBI	**Singaraja**	**42.06**	**268**	P	**P**	**13 07 53.5**	**+0.3**
	comp=Z,42nm,1.1s						
RAR	**Rarotonga**	**42.73**	**112**	LR	LR	13 22 19.5	
	comp=Z,251nm,21.3s,baz=270,slow=31						
BBKI	**Banjar Baru**	**42.95**	**274**	P	**P**	**13 08 02.1**	**+1.6**
	comp=Z,84nm,1.2s,comp=Z,3μm						
ABJI	**Asem Bagus**	**43.05**	**268**	P	**P**	**13 08 01.5**	**+0.3**
	comp=Z,86nm,1.1s						
JAGI	**Jajag, Banyuwa**	**43.08**	**267**	P	**P**	**13 07 59.9**	**-1.6**
	comp=Z,117nm,1.0s,comp=Z,938nm						
NWAO	**Narrogin (SRO)**	**44.45**	**231**	P	**P**	**13 08 12.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**44.45**	**231**	P	**P**	**13 08 12.1**	**-0.3**
	comp=Z,9.3nm,0.8s,baz=16,slow=7.4,SNR=2.3						
PWJI	**Pagerwojo**	**45.43**	**267**	P	**P**	**13 08 20.0**	**-0.4**
	comp=Z,65nm,0.9s						
PCJI	**Pacitan**	**46.04**	**267**	P	**P**	**13 08 25.2**	**+0.1**
	comp=Z,229nm,1.1s,comp=Z,2μm						
WOJI	**Wonogiri, Jawa**	**46.31**	**268**	P	**P**	**13 08 28.0**	**+0.7**
	comp=Z,62nm,1.2s						
UGM	**Wanagama**	**46.70**	**267**	*e*P	**P**	**13 08 31.4**	**+1.0**
	comp=Z,103nm,1.0s						
BJII	**Banjamegara**	**47.55**	**268**	P	x	13 08 37.2	
	comp=Z,55nm,0.9s						
KPJI	**Karang Pucung**	**48.32**	**268**	P	**P**	**13 08 40.2**	**-2.8**
	comp=Z,50nm,1.0s						
MJAR	**Matsushiro Arr**	**48.65**	**339**	P	**P**	**13 08 44.1**	**-1.0**
MJAR	**Matsushiro Arr**	**48.65**	**339**	P	**P**	**13 08 44.1**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=160,slow=7.5,SNR=4.8						
MJAR				LR	LR	13 27 09.0	
	comp=Z,169nm,19.2s,baz=175,slow=34						
JNU	**Nakatsue**	**48.86**	**330**	P	P	13 08 43.7	-3.2
JNU	**Nakatsue**	**48.86**	**330**	P	P	13 08 43.7	-3.2
	comp=Z,14nm,1.0s,baz=121,slow=5.9,SNR=3.5						
JCJI	**Jatiwangi**	**49.06**	**269**	P	**P**	**13 08 49.2**	**+0.5**
	comp=Z,255nm,1.1s						
CISI	**Cisompet, Garu**	**49.41**	**268**	P	**P**	**13 08 50.2**	**-1.2**
	comp=Z,100nm,1.0s,comp=Z,1μm						
LEM	**Lembang**	**49.67**	**268**	P	**P**	**13 08 53.3**	**-0.2**
	comp=Z,106nm,0.9s						
CBJI	**Keto**	**50.47**	**269**	P	**P**	**13 08 58.9**	**-0.5**
	comp=Z,171nm,0.6s						
DBJI	**Dramaga**	**50.55**	**269**	P	**P**	**13 08 59.3**	**-0.8**
	comp=Z,70nm,1.9s						
CGJI	**Cibinong**	**51.59**	**268**	P	**P**	**13 09 06.5**	**-1.4**
	comp=Z,82nm,0.8s						
PPT	**Papeete**	**51.90**	**105**	LR	LR	13 26 04.1	
	comp=Z,229nm,20.0s,baz=6.2,slow=30						
PPT2	**Papeete2**	**51.91**	**105**	*e*S	**S**	**13 16 32.3**	**-0.5**
	comp=Z,98nm,25.8s						
PPT2				*e*LQ	LQ	13 21 58.4	
	comp=Z,533nm,24.2s						
PPT2				*e*LR	LR	13 24 07.4	
	comp=Z,717nm,29.2s,baz=288						
ERM	**Erimo**	**52.25**	**346**	↓P	**P**	**13 09 14.8**	**+2.6**
ERM				pmax	pmax		
	comp=Z,102nm,1.8s						
TBI	**Tubuai**	**52.49**	**113**	*e*LQ	LQ	13 22 16.3	
	comp=Z,1μm,31.0s						
TBI				*e*LR	LR	13 24 28.8	
	comp=Z,287nm,31.2s						
MDSI	**Maura Dua**	**53.34**	**271**	P	**P**	**13 09 18.4**	**-2.4**
	comp=Z,25nm,1.3s						
KSRS	**Korea Array**	**53.77**	**331**	P	**P**	**13 09 24.4**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=157,slow=7.4,SNR=11						
KSRS				LR	LR	13 31 27.3	
	comp=Z,96nm,19.2s,baz=320,slow=35						
KSAR	**Wonju Array Be**	**53.78**	**331**	P	**P**	**13 09 24.4**	**+0.8**
LHSI	**Lahat**	**54.07**	**272**	P	**P**	**13 09 25.4**	**-0.8**
	comp=Z,25nm,1.2s,comp=Z,1μm						
JMBI	**JAMBI**	**54.29**	**274**	P	**P**	**13 09 27.2**	**-0.6**
	comp=Z,297nm,0.5s						
ASAJ	**Asahikawa**	**54.38**	**347**	P	**P**	**13 09 26.6**	**-1.2**
ASAJ	**Asahikawa**	**54.38**	**347**	P	**P**	**13 09 26.6**	**-1.2**
	comp=Z,8.3nm,0.9s,baz=216,slow=8.7,SNR=5.6						
ASAJ				LR	LR	13 32 45.4	
	comp=Z,225nm,18.3s,baz=177,slow=36						
MNAI	**Manna**	**54.56**	**271**	P	**P**	**13 09 28.6**	**-1.2**
	comp=Z,165nm,1.6s						
QIZ	**Qiongzhong**	**54.69**	**301**	P	**P**	**13 09 32.9**	**+2.3**
QIZ				S	**S**	**13 17 08.6**	**-1.8**
QIZ				LR	LR		
	comp=Z,170nm,22.4s						
QIZ				LR	LR		
	comp=Z,330nm,18.6s						
MYKOM	**Kota Tinggi**	**54.72**	**278**	P	x	13 09 31.5	
	comp=Z,19nm,1.3s						
NJ2	**Nanjing**	**55.00**	**319**	*e*P	**P**	**13 09 31.6**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BKNI	**Bangkinang**	**57.19**	**276**	P	**P**	**13 09 48.5**	**-0.2**
	comp=Z,60nm,1.2s						
PDSI	**Padang**	**57.54**	**274**	P	**P**	**13 09 50.0**	**-1.2**
	comp=Z,14nm,1.2s						
USRK	**Ussuriysk Arra**	**57.63**	**338**	P	**P**	**13 09 51.3**	**+0.2**
	comp=Z,15nm,1.3s,baz=159,slow=11,SNR=6.0						
USRK				LR	LR	13 31 16.9	
	comp=Z,98nm,18.4s,baz=25,slow=33						
PPI	**Padang Panjang**	**57.68**	**275**	P	**P**	**13 09 51.7**	**-0.4**
	comp=Z,24nm,1.3s						
IPM	**Ipoh**	**58.05**	**281**	P	x	13 09 54.8	
	comp=Z,16nm,1.6s						
MNSI	**Mandailing Nat**	**58.71**	**276**	P	**P**	**13 09 57.9**	**-1.4**
	comp=Z,52nm,0.9s						
MDJ	**Mudanjiang**	**58.89**	**337**	P	P	13 10 03.3	+3.4
MDJ				pP	pP	13 10 12.5	+7.1
MDJ				sP	sP	13 10 16.3	+8.8
MDJ				ScP	**ScP**	**13 14 50.0**	**+0.8**
MDJ				PcS	**PcS**	**13 14 53.7**	**+2.9**
MDJ				pmax	pmax		
	comp=Z,11nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,150nm,3.4s						
MDJ				LR	LR		
	comp=Z,110nm,21.4s						
MDJ				LR	LR		
	comp=Z,76nm,19.3s						
MDJ				LR	LR		
	comp=Z,100nm,22.8s						
PSI	**Prapat**	**59.74**	**278**	P	x	13 10 05.8	
	comp=Z,15nm,1.9s						
PSI	**Prapat**	**59.74**	**278**	P	P	13 10 00.8	-5.8
PSI	**Prapat**	**59.74**	**278**	P	P	13 10 00.8	-5.8
	comp=Z,2.8nm,0.4s,baz=259,slow=5.2,SNR=5.4						
CN2	**Changchun**	**59.95**	**333**	*e*P	**P**	**13 10 05.3**	**-2.0**
CN2				*e*pP	**pP**	**13 10 15.4**	**+2.7**
CN2				*e*sP	**sP**	**13 10 19.3**	**+4.5**
CN2				*e*S	**S**	**13 18 14.6**	**-4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
TSI	**Tuntungan**	**60.24**	**279**	P	**P**	**13 10 10.1**	**+0.2**
	comp=Z,41nm,1.1s						
ENH	**Enshi**	**60.42**	**312**	*e*P	**P**	**13 10 10.1**	**-0.8**
	comp=Z,13nm,0.9s						
GYA	**Guiyang**	**60.67**	**307**	P	**P**	**13 10 15.4**	**+2.6**
GYA				pP	pP	13 10 27.4	+9.2
GYA				PP	PP	13 12 33.0	+6.3
GYA				ScP	**ScP**	**13 14 56.7**	**-1.1**
GYA				S	**S**	**13 18 30.8**	**+1.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.7s						
GYA				LR	LR		
	comp=Z,630nm,18.8s						
GYA				LR	LR		
	comp=Z,510nm,19.6s						
GYA				LR	LR		
	comp=Z,650nm,18.4s						
SLVN	**Son La**	**60.71**	**300**	*e*P	**P**	**13 10 12.9**	**-0.1**
GSI	**Gunungsitoli**	**60.77**	**276**	P	**P**	**13 10 12.7**	**-0.8**
	comp=Z,51nm,1.1s						
GSI	**Gunungsitoli**	**60.77**	**276**	*e*P	**P**	**13 10 12.8**	**-0.8**
	comp=Z,55nm,1.1s						
KCSI	**Kotacane, Aceh**	**61.01**	**279**	P	**P**	**13 10 12.8**	**-2.

HHC sS sS 13 19 40.1 +6.8
HHC ScS SKSac 13 20 25.9 -11
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,440nm,4.9s
HHC LR LR
comp=Z,410nm,14.1s
HHC LR LR
comp=Z,610nm,16.9s
HHC LR LR
comp=Z,180nm,15.8s
RKT Rikitea 65.77 111 *e*LR LR 13 30 40.4
comp=Z,311nm,31.5s
LZH Lanzhou 67.47 315 *e*P **P 13 10 58.5 +1.2**
LZH pP pP 13 11 09.5 +6.7
LZH sP sP 13 11 13.5 +8.6
LZH PP **PP 13 13 29.7 +3.4**
LZH *e*S **S 13 19 51.2 -1.9**
LZH sS sS 13 20 08.6 +6.4
LZH pmax pmax
comp=Z,25nm,1.5s
LZH pmax pmax
comp=Z,110nm,7.2s
LZH LR LR
comp=Z,300nm,15.0s
LZH LR LR
comp=Z,260nm,15.6s
LZH LR LR
comp=Z,380nm,18.0s
VNDA Vanda 68.78 179 P **P 13 11 04.4 -0.3**
VNDA Vanda 68.78 179 P **P 13 11 04.4 -0.3**
comp=Z,1.4nm,0.8s,baz=335,slow=5.8,SNR=3.0
VNDA LR LR 13 37 40.9
comp=Z,182nm,18.1s,baz=352,slow=33
SEY Seymchan 71.59 357 P P 13 11 18.5 -3.4
SEY Seymchan 71.59 357 P P 13 11 18.5 -3.4
SEY Seymchan 71.59 357 P P 13 11 18.5 -3.4
comp=Z,2.9nm,0.9s,baz=188,slow=19,SNR=2.7
GTA Gaotai 71.87 316 *e*P **P 13 11 25.2 +0.8**
GTA pP pP 13 11 35.8 +5.8
GTA sP sP 13 11 40.1 +8.1
GTA S **S 13 20 44.3 -0.5**
GTA sS **SKiKP 13 21 01.8 -0.1**
GTA SKS **SKSac 13 21 23.2 -4.7**
GTA pmax pmax
comp=Z,8.0nm,1.7s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=Z,110nm,19.0s
GTA LR LR
comp=Z,230nm,17.6s
GTA LR LR
comp=Z,210nm,16.6s
ULN Ulaanbaatar 71.94 327 *e*P **P 13 11 25.9 +1.3**
comp=Z,15nm,1.4s
SONM Songino Array 72.28 326 P P **13 11 27.4 +0.7**
SONM Songino Array 72.28 326 P P **13 11 27.3 +0.7**
comp=Z,2.5nm,0.9s,baz=141,slow=5.3,SNR=12
SONM LR LR 13 40 51.8
comp=Z,115nm,18.5s,baz=136,slow=34
YAK Yakutsk 73.86 347 *e*P **P 13 11 34.6 -0.8**
YAK pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 74.50 304 *e*P **P 13 11 40.1 -0.5**
LSA pmax pmax
comp=Z,17nm,1.2s
LSA Lhasa 74.50 304 *e*P **P 13 11 40.1 -0.5**
comp=Z,17nm,1.2s
TLY Talaya 75.95 329 *e*P **P 13 11 49.1 +1.2**
TLY *e*S **S 13 21 26.6 -3.4**
TLY *e* 13 22 01.2
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,108nm,16.0s
TNA Tin City 78.33 14 *e*P **P 13 11 59.5 -1.4**
comp=Z,48nm,2.0s
SVW2 Sparrevohn 78.61 21 *e*P **P 13 12 04.3 +1.7**
comp=Z,16nm,1.0s
RC01 Rabbit Creek A 80.78 23 *e*P **P 13 12 15.1 +0.8**
PPLA Purkeypile 81.01 21 *e*P **P 13 12 13.2 -2.5**
comp=Z,22nm,2.6s
QSPA South Pole Qui 81.24 180 *e*P **P 13 12 17.6 +0.7**
comp=Z,8.9nm,0.9s
PMR Palmer 81.32 23 *e*P **P 13 12 17.8 +0.7**
PMR pmax pmax
comp=Z,110nm,2.1s
PMR Palmer 81.32 23 *e*P **P 13 12 17.8 +0.7**
comp=Z,110nm,2.1s
CAST Castle Rocks 81.38 20 *e*P **P 13 12 17.8 +0.3**
comp=Z,13nm,0.7s
KTH Kantishna Hill 81.87 21 *e*P **P 13 12 17.4 -2.8**
comp=Z,23nm,1.0s
WMQ Urumqi 81.96 317 P **P 13 12 23.1 +2.1**
WMQ pP pP 13 12 33.5 +6.8
WMQ sP sP 13 12 37.4 +8.7
WMQ LR LR
comp=Z,37nm,24.2s
WMQ LR LR
comp=Z,74nm,25.8s
WMQ LR LR
comp=Z,38nm,22.6s
TRF Thorofare Moun 82.03 21 *e*P **P 13 12 18.8 -2.3**
comp=Z,20nm,0.8s
TIXI Tiksi 82.48 351⇑*e*P **P 13 12 23.7 +0.6**
TIXI pmax pmax
comp=Z,18nm,1.8s
TIXI Tiksi 82.48 351 *e*P **P 13 12 23.5 +0.4**
comp=Z,42nm,2.0s
IM04 Indian Mountai 82.50 18 *e*P **P 13 12 23.6 +0.2**
MCK McKinley 82.68 21 *e*P **P 13 12 22.5 -1.8**
MCK McKinley 82.68 21 *e*P **P 13 12 22.5 -1.8**
COLA College 83.74 20⇑*e*P **P 13 12 29.4 -0.3**
COLA College 83.74 20 *e*P P 13 12 26.5 -3.2
MAW Mawson 83.83 203 P **P 13 12 30.0 -0.2**
MAW Mawson 83.83 203 P **P 13 12 30.0 -0.2**
comp=Z,17nm,1.0s,baz=74,slow=4.8,SNR=5.7
ILAR Eielson Array 84.02 21 P **P 13 12 30.6 -0.6**
ILAR Eielson Array 84.02 21 P **P 13 12 30.6 -0.6**
comp=Z,4.2nm,0.6s,baz=248,slow=5.0,SNR=59
ILAR LR LR 13 48 55.1
comp=Z,184nm,18.1s,baz=236,slow=35
DOT Dot Lake 84.42 22 *e*P **P 13 12 32.6 -0.7**
comp=Z,19nm,1.0s
MK31 Makanchi Array 86.51 318 *e*P P 13 12 41.1 -3.0
MK31 Makanchi Array 86.51 318 *e*P P 13 12 41.1 -3.0
MKAR Makanchi Array 86.51 318 P **P 13 12 43.7 -0.4**
MKAR Makanchi Array 86.51 318 P **P 13 12 43.7 -0.4**
MKAR Makanchi Array 86.51 318 P **P 13 12 43.7 -0.4**
comp=Z,1.4nm,0.6s,baz=97,slow=5.5,SNR=21
ZALV Zalesovo Beam 87.15 326 P **P 13 12 47.1 +0.1**
ZALV Zalesovo Beam 87.15 326 P **P 13 12 47.0 +0.1**
ZALV Zalesovo Beam 87.15 326 P **P 13 12 47.0 +0.1**
comp=Z,0.4nm,0.4s,baz=108,slow=3.4,SNR=2.5
ZALV LR LR 13 50 57.1
comp=Z,67nm,20.9s,baz=73,slow=35
BBB Bella Bella 87.30 36 LR LR 13 43 08.8
comp=Z,277nm,20.1s,baz=284,slow=30
KSH Kashi 89.21 310 *e*P **P 13 13 00.1 +2.8**
KSH *e*sP sP 13 13 14.7 +10
KSH *e*PP **PP 13 16 33.0 +5.0**
KSH *e*SKS **SKSac 13 23 25.0 -1.9**
KSH *e*S **S 13 23 44.5 -1.7**
KSH *e*SS **SS 13 29 40.8 +0.1**
KSH pmax pmax
comp=Z,120nm,4.5s
KSH LR LR
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,150nm,4.7s
CIS Catalina Islan 89.67 56 P **P 13 12 59.9 +0.4**
baz=90
ISA Isabella 90.03 54 P **P 13 13 02.1 +0.9**
baz=90
MWC Mount Wilson 90.11 56 *e*P **P 13 12 59.3 -2.4**
MWC Mount Wilson 90.11 56 *e*P **P 13 12 59.3 -2.4**
MTUM Tungsten Hills 90.28 52 *e*P **P 13 13 04.5 +2.1**
EDW2 Edwards Air Fo 90.28 55 P **P 13 13 03.2 +0.9**
baz=90
BFSC Mount Baldy Ra 90.43 56 P **P 13 13 03.6 +0.5**
baz=90

LRMC Laurel Mountai 90.63 54 P **P 13 13 05.0 +1.0**
baz=91
NVAR Mina Array Bea 90.67 51 P **P 13 13 06.0 +1.7**
NVAR Mina Array Bea 90.67 51 P **P 13 13 06.0 +1.7**
comp=Z,2.6nm,0.8s,baz=250,slow=6.9,SNR=21
NVAR LR LR 13 47 03.4
comp=Z,142nm,19.5s,baz=284,slow=31
NV11 Mina Array Sit 90.79 51 *e*P P 13 13 01.5 -3.2
WVOR Wild Horse Val 91.16 47 *e*P **P 13 13 08.2 +1.8**
WVOR pmax pmax
comp=Z,10.0nm,1.3s
WVOR Wild Horse Val 91.16 47 *e*P **P 13 13 08.2 +1.8**
comp=Z,9.7nm,1.3s
GSC Goldstone 91.31 55 P **P 13 13 08.4 +1.2**
baz=91
PFO Pinyon Flat Ob 91.31 56 LR LR 13 45 00.9
comp=Z,315nm,19.8s,baz=286,slow=30
TPH Tonopah 91.45 52 *e*P **P 13 13 05.7 -2.2**
TPH pmax pmax
comp=Z,6.0nm,0.9s
TPH Tonopah 91.45 52 *e*P **P 13 13 05.7 -2.2**
comp=Z,5.6nm,0.9s
FURC Furnace Creek, 91.46 53 P **P 13 13 09.4 +1.7**
baz=92
HEC Hector,Ludlow 91.61 55 P **P 13 13 09.9 +1.4**
baz=92
BELC Belle Mtn. Jos 91.75 56 P **P 13 13 11.1 +1.8**
baz=92
SHOC Shoshone 91.83 54 P **P 13 13 10.7 +1.2**
baz=92
TPNV Topopah Spring 92.03 53 *e*P **P 13 13 12.2 +1.6**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 92.03 53 *e*P **P 13 13 12.2 +1.6**
comp=Z,7.3nm,0.9s
TPNV Topopah Spring 92.03 53 P **P 13 13 11.1 +0.6**
baz=92
GMRC Granite Mounta 92.15 55 P **P 13 13 12.4 +1.3**
baz=92
R11A Troy Canyon, C 92.77 52 *e*P **P 13 13 13.4 -0.6**
comp=Z,11nm,1.5s
R11A Troy Canyon, C 92.77 52 P **P 13 13 15.4 +1.5**
baz=93
SHPR Sheep Range 92.82 54 *e*P **P 13 13 13.9 -0.3**
comp=Z,28nm,1.8s
BVAR Borovoye Array 95.33 323 P **P 13 13 24.1 -1.0**
BVAR Borovoye Array 95.33 323 P **P 13 13 24.1 -1.0**
BVAR Borovoye Array 95.33 323 P **P 13 13 24.1 -1.0**
comp=Z,5.5nm,0.5s,baz=93,slow=5.9,SNR=3.6
MPU Maple Canyon 96.03 51 *e*P **P 13 13 26.9 -2.0**
comp=Z,6.1nm,0.7s
YKA Yellowknife Ar 96.61 28 P **P 13 13 30.6 -0.1**
YKA Yellowknife Ar 96.61 28 P **P 13 13 30.6 -0.1**
comp=Z,0.8nm,0.7s,baz=263,slow=4.8,SNR=20
PDAR Pinedale Array 97.85 48 P **P 13 13 35.0 -2.2**
PDAR Pinedale Array 97.85 48 P **P 13 13 35.0 -2.2**
comp=Z,1.2nm,1.0s,baz=236,slow=1.6,SNR=6.1
PDAR LR LR 13 54 16.7
comp=Z,126nm,18.7s,baz=297,slow=33
TXAR Lajitas Array 101.69 62 P **Pdif 13 13 53.7 -0.7**
TXAR Lajitas Array 101.69 62 P **Pdif 13 13 53.7 -0.7**
comp=Z,0.1nm,0.5s,baz=281,slow=6.2,SNR=4.0
AKASG Malin Array Be 120.53 325 PKIKP **PKPdf 13 18 51.9 -0.8**
AKASG Malin Array Be 120.53 325 PKP **PKPdf 13 18 51.9 -0.8**
AKASG Malin Array Be 120.53 325 PKP **PKPdf 13 18 51.9 -0.8**
comp=Z,0.1nm,0.2s,baz=64,slow=1.8,SNR=3.8
BRTR Keskin Array B 121.58 311 PKP **PKPdf 13 18 56.2 +0.9**
BRTR Keskin Array B 121.58 311 PKP **PKPdf 13 18 56.2 +0.9**
comp=Z,0.4nm,0.7s,baz=67,slow=2.6,SNR=2.6
LPAZ La Paz 128.24 119 PKP **PKPdf 13 19 08.0 -1.3**
LPAZ La Paz 128.24 119 PKP **PKPdf 13 19 08.0 -1.3**
comp=Z,2.1nm,1.0s,baz=304,slow=3.7,SNR=5.3
BDFB Brasilia 144.81 133 PKP **PKPab 13 19 38.1 0.0**
BDFB Brasilia 144.81 133 PKP **PKPab 13 19 38.1 0.0**
comp=Z,11nm,0.8s,baz=220,slow=2.8,SNR=14
TORD Torodi Ar. Bea 156.09 283 PKP **PKPdf 13 19 56.5 -0.1**
TORD PKPab **PKPab 13 20 21.9 -2.1**
TORD Torodi Ar. Bea 156.09 283 PKP **PKPdf 13 19 56.5 -0.1**
comp=Z,0.8nm,1.1s,baz=7.3,slow=2.5,SNR=3.1
TORD PKPab **PKPab 13 20 21.9 -2.1**
comp=Z,2.4nm,1.0s,baz=83,slow=2.2,SNR=3.8

*IDC **08** 13:05:39.2±0.8,8°.53S×157°.78E,h0km,mb3.9/9, mb1 4.1/10,mb1mx4.0/19,mbtmp3.8/10,ML4.1/1,Error ellipse: s-maj=24.6km s-min=13.5km az=20.0*
ISC 08 13:05:40.5±0.8,8°.6S±0°.2×157°.78E±0°.09,h10km,n11, σ1§26/12,mb3.8/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.30**	**112**		Pn	**Pn**	**13 06 17.4**	**-1.1**
	42nm,0.3s,baz=222,slow=9.2,SNR=5.8							
HNR					Pg	**Pb**	**13 06 22.9**	**+0.8**
	111nm,0.3s,baz=216,slow=8.2,SNR=13							
HNR					Lg	Lg	13 06 54.5	
	200nm,0.3s,baz=43,slow=23,SNR=16							
HNR	**Honiara**	**2.30**	**112**	*e*P		**Pb**	**13 06 23.0**	**+0.8**
HNR				*i* S		**Sg**	**13 06 54.0**	**-0.6**
WRA	**Warramunga Arr**	**25.34**	**241**	P		**P**	**13 11 05.9**	**-1.9**
	1.3nm,0.7s,baz=67,slow=9.1,SNR=5.6							
STKA	**Stephens Creek**	**27.64**	**211**	P		**P**	**13 11 30.3**	**+1.8**
	1.7nm,0.7s,baz=28,slow=13,SNR=2.1							
CMAR	**Chiang Mai Arr**	**63.95**	**295**	P		**P**	**13 16 14.6**	**+0.1**
	0.8nm,1.0s,baz=119,slow=5.2,SNR=4.7							
SONM	**Songino Array**	**72.16**	**326**	P		**P**	**13 17 06.2**	**+0.6**
	0.4nm,0.9s,baz=152,slow=6.5,SNR=2.9							
ILAR	**Eielson Array**	**83.84**	**21**	P		**P**	**13 18 09.3**	**-0.7**
	1.3nm,0.9s,baz=264,slow=4.3,SNR=6.3							
MKAR	**Makanchi Array**	**86.41**	**318**	P		**P**	**13 18 22.7**	**-0.6**
	0.3nm,0.7s,baz=100,slow=6.3,SNR=2.9							
NVAR	**Mina Array Bea**	**90.53**	**51**	P		**P**	**13 18 45.1**	**+1.8**
	0.2nm,0.7s,baz=270,slow=3.8,SNR=3.6							
PDAR	**Pinedale Array**	**97.70**	**48**	P		Pdif	13 19 17.3	+1.0
	0.4nm,0.8s,baz=236,slow=7.5,SNR=2.7							

*IDC **08** 13:10:51.7±9.3,30°.22N×140°.58E,h171km±78km,mb3.6/5, mb1 3.6/6,mb1mx3.1/27,mbtmp3.5/6,Error ellipse: s-maj=108.5km s-min=18.1km az=72.0*
*ISCJB **08** 13:10:55.2±0.6,30°.09N±0°.04×140°.1E±0°.1,h200km, mb3.6/5,Error ellipse: s-maj=16.3km s-min=5.3km az=172.5*
*JMA **08** 13:10:55.3±0.3,30°.07N×140°.12E,h234km,M3.9*
ISC 08 13:10:55.3±0.8,30°.08N±0°.06×140°.0E±0°.2,h200km,n17, σ1§76/23,mb3.7/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.02**	**357**	P		**Pn**	**13 11 48.0**	**+2.8**
CBIJ	**Chichi jima**	**3.54**	**147**	*e*S		**Sn**	**13 12 35.9**	**+0.4**
BSO1	**Boso 1**	**4.63**	**10**	P		**Pn**	**13 12 06.6**	**+2.1**
BSO1				*e*S		**Sn**	**13 12 58.1**	**-1.0**
BSO3	**Boso 3**	**4.72**	**5**	P		**Pn**	**13 12 07.5**	**+1.6**
BSO3				*e*S		**Sn**	**13 13 01.7**	**0.0**
BSO4	**Boso 4**	**4.90**	**3**	P		**Pn**	**13 12 10.5**	**+2.2**
BSO4				S		**Sn**	**13 13 05.9**	**-0.1**
JOD2	**Odawara 2**	**5.22**	**352**	P		**Pn**	**13 12 15.1**	**+2.5**
JOD2				*e*S		**Sn**	**13 13 13.8**	**+0.2**
JHU	**Hanno**	**5.79**	**354**	P		**Pn**	**13 12 20.5**	**+0.7**
JHU				*e*S		**Sn**	**13 13 25.0**	**-1.6**
JRY	**Ryogami san**	**5.99**	**351**	P		**Pn**	**13 12 23.8**	**+1.4**
JRY				*e*S		**Sn**	**13 13 31.3**	**-0.1**
JYT	**Yasato**	**6.13**	**1**	*e*S		**Sn**	**13 13 30.2**	**-4.4**
JAG	**Ashikaga**	**6.34**	**356**	P		**Pn**	**13 12 26.7**	**-0.3**
JHO	**Hitachi**	**6.53**	**4**	P		**Pn**	**13 12 29.3**	**-0.1**
KSRS	**Korea Array**	**12.45**	**309**	P		**P**	**13 13 48.5**	**-1.2**
	0.1nm,0.3s,baz=113,slow=15,SNR=5.4							
PMG	**Port Moresby**	**39.86**	**169**	P		**P**	**13 18 07.7**	**-1.9**
	12nm,0.9s,baz=323,slow=5.1,SNR=3.0							
KURBB	**Kurchatov Arra**	**49.60**	**313**	P		**P**	**13 19 25.5**	**-0.7**
	0.2nm,0.5s,baz=90,slow=7.4,SNR=4.5							
WRA	**Warramunga Arr**	**50.03**	**187**	P		**P**	**13 19 30.4**	**+0.7**
	1.7nm,0.3s,baz=6.4,slow=7.7,SNR=55							
ASAR	**Alice Springs**	**53.76**	**187**	P		**P**	**13 19 58.4**	**+1.2**
	0.6nm,0.3s,baz=1.3,slow=4.4,SNR=10							
FINES	**FINESS Array B**	**74.43**	**333**	P		**P**	**13 22 12.6**	**+1.5**
	0.9nm,0.7s,baz=43,slow=2.5,SNR=3.9							

*ISCJB **08** 13:15:40.0±0.9,48°.4N±0°.2×155°.0E±0°.2,h43km, mb3.3/6, Error ellipse: s-maj=27.1km s-min=12.6km az=139.6*
*IDC **08** 13:15:45.0±3.2,48°.47N×154°.85E,h75km±29km,mb3.0/7, mb1 3.3/9,mb1mx3.1/28,mbtmp3.4/9,Error ellipse: s-maj=37.8km s-min=19.0km az=145.0*
ISC 08 13:15:41.7±1.1,48°.5N±0°.2×155°.0E±0°.2,h43km,n18, σ1§52/8,mb3.4/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.89**	**19**	P		Pn	13 16 57.1	+4.5
	0.7nm,0.3s,baz=171,slow=14,SNR=20							
ASAJ	**Asahikawa**	**9.66**	**247**	P		**Pn**	**13 18 00.2**	**+2.2**
	0.9nm,0.3s,baz=359,slow=31,SNR=8.6							
KSRS	**Korea Array**	**22.59**	**251**	P		**P**	**13 20 36.8**	**-1.5**
	0.7nm,0.8s,baz=48,slow=11,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**30.29**	**157**	T		T	13 53 30.8	
	baz=347,slow=77,SNR=14							
H11N1	**WAKE ISLAND Hy**	**30.30**	**157**	T		T	13 53 27.4	
	baz=347,slow=77,SNR=23							
H11N3	**WAKE ISLAND Hy**	**30.30**	**157**	T		T	13 53 33.9	
	baz=347,slow=77,SNR=13							
H11S1	**WAKE ISLAND Hy**	**31.41**	**158**	T		T	13 54 58.7	
	baz=346,slow=66							
H11S3	**WAKE ISLAND Hy**	**31.42**	**158**	T		T	13 54 52.3	
	baz=346,slow=66							
H11S2	**WAKE ISLAND Hy**	**31.43**	**158**	T		T	13 54 59.1	
	baz=346,slow=66							
MKAR	**Makanchi Array**	**47.28**	**297**	P		**P**	**13 24 10.3**	**-0.3**
	0.3nm,0.7s,baz=76,slow=6.1,SNR=2.6							
KURBB	**Kurchatov Arra**	**47.56**	**303**	P		**P**	**13 24 11.5**	**-1.1**
	0.2nm,0.6s,baz=67,slow=8.4,SNR=3.9							
YKA	**Yellowknife Ar**	**48.72**	**38**	P		**P**	**13 24 21.5**	**+0.1**
	0.0nm,0.3s,baz=296,slow=6.6,SNR=3.1							
CMAR	**Chiang Mai Arr**	**54.04**	**257**	P		**P**	**13 25 01.6**	**-0.2**
	0.3nm,0.5s,baz=29,slow=8.3,SNR=3.0							
WRA	**Warramunga Arr**	**70.63**	**201**	P		**P**	**13 26 51.2**	**-1.4**
	0.3nm,0.7s,baz=14,slow=6.4,SNR=3.2							
TXAR	**Lajitas Array**	**75.50**	**62**	P		**P**	**13 27 22.9**	**+1.3**
	0.3nm,0.6s,baz=293,slow=4.8,SNR=3.5							
H03N2	**Juan Fernandez**	**137.46**	**90**	T		T	16 08 17.2	
	baz=309,slow=75							
H03N1	**Juan Fernandez**	**137.47**	**90**	T		T	16 08 14.6	
	baz=309							
H03N3	**Juan Fernandez**	**137.47**	**90**	T		T	16 08 14.5	
	baz=309,slow=75							

*KRNET **08** 13:23:46.8±0.1,38°.52N×74°.26E,h22km,mb5.2*
*ISCJB **08** 13:23:46.5±0.3,38°.42N±0°.02×74°.12E±0°.05,h113km±3km, mb4.1/37,Error ellipse: s-maj=6.4km s-min=3.3km az=174.2*
*MOS **08** 13:23:47.6±1.0,38°.44N×73°.91E,h114km,mb4.3/9,Error ellipse: s-maj=10.0km s-min=4.9km az=103.3*
*IDC **08** 13:23:48.5±2.6,38°.40N×74°.04E,h111km±22km,mb3.8/25, mb1 3.9/29,mb1mx3.8/36,mbtmp3.8/29,Error ellipse: s-maj=16.8km s-min=10.4km az=9.0*
*NEIC **08** 13:23:48.3±1.5,38°.48N×74°.02E,h107km±12km,mb4.5/9, Error ellipse: s-maj=15.1km s-min=8.0km az=186.0*
*BJI **08** 13:23:48.5,38°.55N×74°.23E,h122km,mb3.7/3*
*NNC **08** 13:23:54.0±2.4,38°.94N×73°.79E,h182km±22km,mb3.6, mpv4.6,Error ellipse: s-maj=24.0km s-min=12.3km az=8.0*
ISC 08 13:23:47.4±0.7,38°.40N±0°.04×73°.99E±0°.05,h103km±7km, n203,σ1§41/218,mb4.1/37,21C-20D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.66**	**347**	*e*P		Pn	13 24 15.2	-0.8
	baz=339							
KSH	**Kashi**	**1.91**	**53**	*i* P		Pn	13 24 15.9	-3.1
KSH				S		Sn	13 24 32.3	-11
KSH				smax	smax			
	comp=N,6μm,0.4s							
KSH				smax	smax			
	comp=E,4μm,0.2s							
DRK	**Karamyk**	**2.02**	**303**⇓	*i* P		**Pn**	**13 24 23.5**	**+2.8**
	baz=297							
OHH	**Osh**	**2.32**	**337**⇓	*i* P		**Pn**	**13 24 26.0**	**+1.7**
	baz=331							
OHH				⇓*e*S		**Sn**	**13 24 53.2**	**+0.6**
	baz=331							
BTK	**Batken**	**2.97**	**305**⇓	*i* P		Pn	13 24 37.4	+4.5
	baz=301							
ARSB	**Arslanbob**	**3.02**	**345**	*i* P		**Pn**	**13 24 35.5**	**+1.8**
	baz=341							
ARLS	**Aral**	**3.47**	**4**⇓	*i* P		**Pn**	**13 24 40.3**	**+0.7**
	baz=1.0							
AML	**Almayashu**	**3.74**	**357**	*i* PN		**Pn**	**13 24 44.7**	**+1.3**
AML	**Almayashu**	**3.74**	**357**	P		**Pn**	**13 24 44.8**	**+1.3**
	SNR=1001							
AML	**Almayashu**	**3.74**	**357**⇑	*i* P		**Pn**	**13 24 44.6**	**+1.2**
	baz=353							
AML				⇑*i* S		**Sn**	**13 25 24.6**	**-2.1**
	baz=353							
ARK	**Arkit**	**3.74**	**336**	*e*P		**Pn**	**13 24 43.8**	**+0.6**
	baz=333							
KZA	**Kyzart**	**3.80**	**14**	P		**Pn**	**13 24 45.6**	**+1.2**
	SNR=246							
KZA	**Kyzart**	**3.80**	**14**⇑	*i* P		**Pn**	**13 24 45.5**	**+1.2**
	baz=12							
KZA				⇑*i* S		**Sn**	**13 25 26.0**	**-2.3**
	baz=12							
UCH	**Uchtor**	**3.85**	**6**	*i* PN		**Pn**	**13 24 46.5**	**+1.5**
UCH	**Uchtor**	**3.85**	**6**	P		**Pn**	**13 24 46.6**	**+1.5**
	SNR=1275							
UCH	**Uchtor**	**3.85**	**6**⇓	*i* P		**Pn**	**13 24 46.4**	**+1.5**
	baz=3.0							
UCH				⇓*i* S		**Sn**	**13 25 28.3**	**-1.2**
	baz=3.0							
ULHL	**Ulahol**	**4.21**	**23**	P		**Pn**	**13 24 51.2**	**+1.6**
	SNR=7.7							
ULHL	**Ulahol**	**4.21**	**23**⇑	*i* P		**Pn**	**13 24 50.7**	**+1.1**
	baz=22							
ULHL				⇑*i* S		**Sn**	**13 25 34.8**	**-3.1**
	baz=22							
AAK	**Ala-Archa**	**4.25**	**5**	⇓P		**Pn**	**13 24 51.8**	**+1.7**
	64nm,0.4s							
AAK				⇑S		**Sn**	**13 25 38.6**	**-0.1**
	171nm,0.9s							
AAK	**Ala-Archa**	**4.25**	**5**	*d i* PN		**Pn**	**13 24 51.8**	**+1.7**
AAK				pmax	pmax			
	comp=Z,228nm,0.7s							
AAK	**Ala-Archa**	**4.25**	**5**	P		**Pn**	**13 24 51.6**	**+1.4**
	SNR=186							
AAK	**Ala-Archa**	**4.25**	**5**	*e*Pn		**Pn**	**13 24 51.5**	**+1.4**
AAK				*e*Sn		**Sn**	**13 25 37.0**	**-1.7**
AAK	**Ala-Archa**	**4.25**	**5**	P		**Pn**	**13 24 52.1**	**+2.0**
	comp=Z,60nm,0.3s,baz=166,slow=7.4,SNR=282							
AAK				S		**Sn**	**13 25 40.0**	**+1.2**
	comp=Z,16nm,0.3s,baz=162,slow=18,SNR=4.1							
AAK	**Ala-Archa**	**4.25**	**5**⇑	*i* P		**Pn**	**13 24 51.6**	**+1.4**
	baz=2.0							
AAK				⇑*i* S		**Sn**	**13 25 37.3**	**-1.4**
	baz=2.0							
EKS2	**Erkin-Say**	**4.26**	**358**	*e*PN		**Pn**	**13 24 52.0**	**+1.7**
EKS2	**Erkin-Say**	**4.26**	**358**	P		**Pn**	**13 24 52.0**	**+1.7**
	SNR=891							
EKS2	**Erkin-Say**	**4.26**	**358**	*e*Pn		**Pn**	**13 24 52.0**	**+1.7**
EKS2				*e*Sn		**Sn**	**13 25 38.0**	**-1.0**
EKS2	**Erkin-Say**	**4.26**	**358**⇑	*i* P		**Pn**	**13 24 51.8**	**+1.5**
	baz=355							
EKS2				⇑*i* S		**Sn**	**13 25 37.7**	**-1.3**
	baz=355							
KBK	**Karagaybulak**	**4.32**	**9**	*i* PN		**Pn**	**13 24 52.9**	**+1.9**
KBK	**Karagaybulak**	**4.32**	**9**	P		**Pn**	**13 24 52.9**	**+1.9**
	SNR=200							
KBK	**Karagaybulak**	**4.32**	**9**⇑	*i* P		**Pn**	**13 24 52.8**	**+1.8**
	baz=7.0							
KBK				⇑*i* S		**Sn**	**13 25 39.4**	**-1.0**
	baz=7.0							
CHMS	**Chumysh**	**4.63**	**7**	*i* PN		**Pn**	**13 24 56.8**	**+1.6**
CHMS	**Chumysh**	**4.63**	**7**	P		**Pn**	**13 24 56.8**	**+1.6**
	SNR=67							
CHMS	**Chumysh**	**4.63**	**7**⇑	*i* P		**Pn**	**13 24 56.6**	**+1.4**
	baz=5.0							
CHMS				⇑*i* S		**Sn**	**13 25 46.4**	**-1.4**
	baz=5.0							
TKM2	**Tokmak 2**	**4.68**	**15**	⇑P		**Pn**	**13 24 57.4**	**+1.5**
	comp=Z,23nm,0.5s							
TKM2				⇓S		**Sn**	**13 25 48.3**	**-0.9**
	comp=Z,95nm,0.6s							
TKM2	**Tokmak 2**	**4.68**	**15**	PN		**Pn**	**13 24 57.4**	**+1.5**
TKM2				pmax	pmax			
	comp=Z,23nm,0.5s							
TKM2	**Tokmak 2**	**4.68**	**15**	P		**Pn**	**13 24 57.5**	**+1.5**

SNR=123
TKM2 Tokmak 2 4.68 15 *e*Pn **Pn** 13 24 55.9 **-0.1**
TKM2 *e*Sn **Sn** 13 25 48.4 **-0.9**
TKM2 Tokmak 2 4.68 15 *i*P **Pn** 13 24 57.3 **+1.3**
baz=13
TKM2 ⇑*i*S **Sn** 13 25 48.0 **-1.2**
baz=13
CHCP Chirak Chowk 4.77 187 P Pn 13 25 01.3 +4.3
CEP Cherat 4.87 201 P Pn 13 25 01.9 +3.4
CEP S **Sn** 13 25 54.0 **+0.3**
USP Ospenovka 4.88 4 *i* PN **Pn** 13 24 59.9 **+1.4**
USP Ospenovka 4.88 4 P **Pn** 13 24 60.0 **+1.4**
SNR=30
KNDC Almaty 5.32 24 ⇓P **Pn** 13 25 06.4 **+2.0**
AAA Alma-Ata 5.36 24 *i* PN Pn 13 25 18.6 +14
AAA pmax pmax
comp=Z,71nm,0.4s
KK31 Karatay Array 5.39 332 ⇓P **Pn** 13 25 06.0 **+0.6**
comp=Z,78nm,0.3s
KK31 ⇑S **Sn** 13 26 02.9 **-3.4**
comp=Z,55nm,0.3s,baz=155,slow=25,SNR=5.5
KK31 Karatay Array 5.39 332 PN **Pn** 13 25 06.0 **+0.6**
KK31 pmax pmax
comp=Z,98nm,0.2s
KKAR Karatay Array 5.39 332 *e*PN **Pn** 13 25 06.1 **+0.7**
KKAR pmax pmax
comp=Z,185nm,0.3s
KKAR Karatay Array 5.39 332 *e*Pn **Pn** 13 25 06.1 **+0.7**
comp=Z,185nm,0.3s
KKAR *e*Sn **Sn** 13 26 03.2 **-3.0**
THW Thamme Wali 5.88 199 P **Pn** 13 25 14.7 **+2.5**
DLH Dalhousie 6.06 164 *e*P **Pn** 13 25 16.0 **+1.3**
DLH *e*S **Sn** 13 26 20.0 **-2.8**
DHRM DHARAMSHALA 6.42 162 *e*P **Pn** 13 25 20.9 **+1.3**
DHRM *e*S **Sn** 13 26 29.1 **-2.4**
BHK Bhakra 7.24 163 *e*P **Pn** 13 25 30.8 **+0.2**
BHK *ex* x 13 26 45.2
SDNR Sundarnagar 7.30 160 *e*P **Pn** 13 25 31.6 **+0.2**
SDNR *ex* x 13 26 46.6
SMLA Simla 7.71 159 *e*P **Pn** 13 25 36.6 **-0.2**
SMLA *e*S Sn 13 26 56.2 -6.3
DDI Dehra Dun 8.72 156 *e*P **Pn** 13 25 50.7 **-0.1**
DDI *e*S Sn 13 27 21.2 -6.3
DDI *ex* x 13 27 24.5
NDI New Delhi 10.05 164 *e*P Pn 13 26 06.5 -2.3
LGTI Lohaghat 10.32 148 *e*P Pn 13 26 08.6 -3.8
LGTI *ex* x 13 27 54.4
MK31 Makanchi Array 10.38 33 ⇓P **Pn** 13 26 13.4 **+0.2**
comp=Z,7.2nm,0.7s,baz=210,slow=14,SNR=42
MK31 Makanchi Array 10.38 33 *i*P **Pn** 13 26 13.3 **+0.2**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 10.38 33 *e*Pn **Pn** 13 26 13.0 **-0.1**
MKAR Makanchi Array 10.38 33 P **Pn** 13 26 13.4 **+0.3**
MKAR Makanchi Array 10.38 33 P **Pn** 13 26 13.4 **+0.3**
MKAR Makanchi Array 10.38 33 P **Pn** 13 26 13.4 **+0.3**
comp=Z,0.6nm,0.3s,baz=208,slow=15,SNR=60
KURBB Kurchatov Arra 12.64 13 ⇓P Pn 13 26 40.6 -2.7
comp=Z,7.7nm,0.7s
KURBB Kurchatov Arra 12.64 13 P **Pn** 13 26 41.0 **-2.3**
comp=Z,0.4nm,0.3s,baz=201,slow=12,SNR=19
KURK Kurchatov 12.75 13 ⇑P Pn 13 26 41.6 -3.1
comp=Z,3.9nm,0.8s
KURK Kurchatov 12.75 13 ⇓*e*P **Pn** 13 26 42.3 **-2.4**
KURK pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 12.75 13 *e*Pn Pn 13 26 41.9 -2.8
comp=Z,3.4nm,0.8s
AB31 Akbulak array 14.83 322 ⇑P **Pn** 13 27 09.7 **-2.0**
comp=Z,4.0nm,0.4s
AB31 ⇓S Sn 13 29 42.4 -13
comp=Z,5.5nm,0.3s
AB31 Akbulak array 14.83 322 P **Pn** 13 27 09.6 **-2.0**
AB31 S Sn 13 29 42.4 -13
AB31 pmax pmax
comp=Z,6.0nm,0.4s
AB31 smax smax
comp=N,6.0nm,0.3s
ABKAR Akbulak array 14.83 322 *e*Pn **Pn** 13 27 09.6 **-2.0**
comp=N,7.7nm,0.4s
ABKAR *e*Sn Sn 13 29 40.4 -15
BVA0 Borovoye Array 14.84 351 P **Pn** 13 27 09.3 **-2.4**
comp=N,12nm,0.5s,baz=160,slow=8.9,SNR=70
BVA0 Borovoye Array 14.84 351 *i*P **Pn** 13 27 09.3 **-2.4**
BVA0 pmax pmax
comp=Z,12nm,0.5s
BVAR Borovoye Array 14.84 351 P **Pn** 13 27 10.1 **-1.7**
BVAR S **Sn** 13 29 57.9 **+2.5**
BVAR Borovoye Array 14.84 351 P **Pn** 13 27 10.1 **-1.7**
BVAR S Sn 13 29 57.9 **+2.5**
BVAR Borovoye Array 14.84 351 P **Pn** 13 27 10.1 **-1.7**
comp=Z,1.4nm,0.3s,baz=158,slow=13,SNR=31
BVAR S **Sn** 13 29 57.9 **+2.5**
comp=Z,0.1nm,0.3s,baz=160,slow=26,SNR=2.5
BRVK Borovoye 14.89 351 ⇓P **Pn** 13 27 10.1 **-2.3**
comp=Z,28nm,0.6s
BRVK Borovoye 14.89 351 *i*P **Pn** 13 27 12.2 **-0.1**
BRVK pmax pmax
comp=Z,15nm,1.4s
BRVK Borovoye 14.89 351 *e*Pn **Pn** 13 27 10.7 **-1.6**
comp=Z,22nm,0.6s
BHPL Bhopal 15.39 168 *e*P **Pn** 13 27 16.9 **-2.0**
BHPL *ex* x 13 29 57.7
AKTO Aktyubinsk 16.54 322 ⇓P **Pn** 13 27 32.0 **-1.0**
comp=Z,11nm,0.8s
AKTO ⇓S Sn 13 30 27.0 -9.5
comp=Z,6.2nm,0.8s
AKTO Aktyubinsk 16.54 322 P **Pn** 13 27 32.4 **-0.7**
AKTO S Sn 13 30 25.9 -11
AKTO Aktyubinsk 16.54 322 P **Pn** 13 27 32.4 **-0.7**
AKTO S Sn 13 30 25.9 -11
AKTO Aktyubinsk 16.54 322 P **Pn** 13 27 32.4 **-0.7**
comp=Z,2.4nm,0.3s,baz=123,slow=12,SNR=28
AKTO S Sn 13 30 25.9 -11
comp=Z,0.6nm,0.3s,baz=21,slow=20,SNR=3.7
ZAA0 Zalesovo Array 17.23 22 *e*P **P** 13 27 39.6 **-1.7**
ZALV Zalesovo Beam 17.23 22 P **P** 13 27 40.1 **-1.3**
ZALV S **Sn** 13 30 51.2 **-1.7**
ZALV Zalesovo Beam 17.23 22 P **P** 13 27 40.1 **-1.3**
ZALV S **Sn** 13 30 51.2 **-1.7**
ZALV Zalesovo Beam 17.23 22 P **P** 13 27 40.1 **-1.3**
comp=Z,1.2nm,0.3s,baz=213,slow=12,SNR=38
ZALV S **Sn** 13 30 51.2 **-1.7**
comp=Z,0.0nm,0.3s,baz=207,slow=16,SNR=2.4
NGP Nagpur 17.73 164 *e*P **P** 13 27 45.6 **-1.6**
NGP AMB AMB 13 27 46.0
comp=Z,39nm,0.7s
BOK Bokaro 17.74 142 *e*P **P** 13 27 45.4 **-1.8**
POO Poona 19.80 180 *e*P **P** 13 28 10.0 **+0.3**
GTA Gaotai 20.10 79 *e*P Pn 13 28 17.5 +1.7
GTA pmax pmax
comp=Z,2.0nm,0.6s
SVE Sverdlovsk 20.45 339 *e*P Pn 13 28 19.9 +0.4
ARU Arti 20.76 335 *d i*P **P** 13 28 20.1 **+0.4**
ARU 13 28 50.1
ARU S **S** 13 32 05.6 **+0.2**
ARU SS Sn 13 32 32.3 +15
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 20.76 335 *e*P **P** 13 28 18.2 **-1.5**
comp=Z,6.1nm,0.6s
HYB Hyderabad 21.28 168 *i*P **P** 13 28 25.5 **-0.1**
HYB *e*S **S** 13 32 15.0 **-1.3**
HYB Hyderabad 21.28 168 *e*P **P** 13 28 25.6 **0.0**
GNI Garni 22.67 284 *e*P **P** 13 28 38.1 **-2.2**
comp=Z,19nm,1.0s
GNI Garni 22.67 284 P **P** 13 28 43.9 **+3.7**
comp=Z,2.4nm,0.5s,baz=29,slow=8.3,SNR=7.0
ZEI Tsey 23.20 290 *e*P **P** 13 28 49.4 **+4.0**
ZEI pmax pmax
comp=Z,12nm,1.5s
KBZ Khabaz 23.96 293 P **P** 13 28 50.9 **-1.1**
KBZ Khabaz 23.96 293 P **P** 13 28 50.9 **-1.1**
KBZ Khabaz 23.96 293 P **P** 13 28 50.9 **-1.1**
comp=Z,2.2nm,0.7s,baz=110,slow=12,SNR=2.8
KIV Kislovodsk 24.12 293 *e*P **P** 13 28 51.4 **-2.2**
KIV *e**PP **pP** 13 29 16.1 **+0.4**
KIV pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 25.30 58 P **P** 13 29 05.9 **+1.6**
SONM Songino Array 25.30 58 P **P** 13 29 05.9 **+1.6**
comp=Z,0.7nm,0.4s,baz=248,slow=12,SNR=8.7
VRHR Novokhopersk 26.03 310 *e*P P 13 29 27.8 +17
VRHR pmax pmax
comp=N,1.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.6s
VRHR pmax pmax
comp=Z,4.0nm,0.6s
VSR Storozhevoye 27.56 309 *e*P **P** 13 29 28.9 **+4.6**
VSR pmax pmax
comp=N,2.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 29.44 125 P **P** 13 29 42.3 **+0.9**
CMAR Chiang Mai Arr 29.44 125 P **P** 13 29 42.3 **+0.9**
comp=Z,0.6nm,0.7s,baz=316,slow=7.7,SNR=5.7
OBN Obninsk 30.14 316 *e*P **P** 13 29 48.2 **+1.0**
OBN *e*SS SS 13 36 18.0 -33
OBN pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 31.18 285 P **P** 13 29 58.4 **+1.6**
BRTR Keskin Array B 31.18 285 P **P** 13 29 58.4 **+1.6**
comp=Z,0.8nm,0.4s,baz=87,slow=6.4,SNR=8.7
AKASG Malin Array Be 33.69 306 P **P** 13 30 18.0 **-0.3**
AKASG Malin Array Be 33.69 306 P **P** 13 30 18.0 **-0.3**
AKASG Malin Array Be 33.69 306 P **P** 13 30 18.0 **-0.3**
comp=Z,0.9nm,0.4s,baz=77,slow=8.5,SNR=10
AK01 Malin Array Si 33.69 306 *e*P **P** 13 30 16.4 **-2.0**
JOF Joensuu 35.48 328 *e*P **P** 13 30 33.4 **-0.2**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 35.48 328 *e*p **P** 13 30 33.4 **-0.2**
comp=Z,2.4nm,0.4s
MLR Muntele Rosu 35.99 297 P **P** 13 30 39.9 **+1.5**
MLR Muntele Rosu 35.99 297 P **P** 13 30 39.9 **+1.5**
comp=Z,1.1nm,0.8s,baz=126,slow=17,SNR=4.6
FINES FINESS Array B 37.30 324 P **P** 13 30 49.7 **+0.7**
FINES FINESS Array B 37.30 324 P **P** 13 30 49.7 **+0.7**
comp=Z,3.0nm,0.3s,baz=117,slow=10,SNR=50
KAF Kangasniemi 37.38 325 *e*P **P** 13 30 49.8 **0.0**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 37.38 325 *e*p **P** 13 30 49.8 **0.0**
comp=Z,2.0nm,0.5s
IDI Anoyia 39.05 281 P **P** 13 31 04.7 **+0.5**
IDI Anoyia 39.05 281 P **P** 13 31 04.7 **+0.5**
comp=Z,4.4nm,0.6s,baz=3.6,slow=16,SNR=3.6
KEV Kevo 39.97 337 *e*P **P** 13 31 11.4 **+0.2**
KEV Kevo 39.97 337 *e*p **P** 13 31 11.4 **+0.2**
ARCES ARCESS Array B 40.34 336 P **P** 13 31 15.3 **+0.9**
ARCES ARCESS Array B 40.34 336 P **P** 13 31 15.3 **+0.9**
comp=Z,2.9nm,0.4s,baz=110,slow=9.1,SNR=53
GERES GERESS Array B 43.81 304 P **P** 13 31 44.4 **+1.4**
GERES GERESS Array B 43.81 304 P **P** 13 31 44.4 **+1.4**
comp=Z,1.2nm,0.7s,baz=92,slow=4.7,SNR=5.1
CLL Collm 43.89 308 *e*P **P** 13 31 41.0 **-2.4**
CLL Collm 43.89 308 *i*P **P** 13 31 44.2 **+0.8**
NB2 NORSAR Subarra 44.34 322 P **P** 13 31 46.9 **0.0**
comp=Z,1.5nm,0.5s,baz=91,slow=8.6
NOA NORSAR Array B 44.34 322 P **P** 13 31 47.1 **+0.2**
NOA NORSAR Array B 44.34 322 P **P** 13 31 47.1 **+0.2**
comp=Z,2.1nm,0.6s,baz=92,slow=7.8,SNR=7.3
SPITS Spitsbergen Ar 46.21 346 P **P** 13 32 02.8 **+1.4**
SPITS Spitsbergen Ar 46.21 346 P **P** 13 32 02.8 **+1.4**
comp=Z,12nm,1.0s
DAVOX Davos/Dischmat 46.76 302 P **P** 13 32 06.7 **+0.4**
DAVOX Davos/Dischmat 46.76 302 P **P** 13 32 06.7 **+0.4**
comp=Z,5.2nm,0.4s,baz=114,slow=6.9,SNR=13
HINF Hinteralfeld 48.50 304 *e*P **P** 13 32 20.2 **+0.6**
HINF Hinteralfeld 48.50 304 *e*P **P** 13 32 20.2 **+0.6**
HINF Hinteralfeld 48.50 304 *e*P **P** 13 32 20.2 **+0.6**
HAU Haudompre 48.78 304 *e*P **P** 13 32 22.4 **+0.7**
HAU Haudompre 48.78 304 *e*P **P** 13 32 22.4 **+0.7**
HAU Haudompre 48.78 304 *e*P **P** 13 32 22.4 **+0.7**
LPG La Plagne 49.20 301 *e*P **P** 13 32 26.5 **+1.2**
LPG La Plagne 49.20 301 *e*P **P** 13 32 26.5 **+1.2**
LPG La Plagne 49.20 301 *e*P **P** 13 32 26.5 **+1.2**
LPL La Plagne 49.20 301 *e*P **P** 13 32 26.5 **+1.2**
comp=Z,4.7nm,0.3s
LPL La Plagne 49.20 301 *e*P **P** 13 32 26.5 **+1.2**
LPL pmax pmax
comp=Z,5.0nm,0.3s
LPL La Plagne 49.20 301 *e*P **P** 13 32 26.5 **+1.2**
comp=Z,4.7nm,0.3s
MEZF Maizieres J'vi 49.48 305 *e*P **P** 13 32 28.4 **+1.4**
MEZF Maizieres J'vi 49.48 305 *e*P **P** 13 32 28.4 **+1.4**
BAIF Baives 49.62 307 *e*P **P** 13 32 28.9 **+0.9**
BAIF Baives 49.62 307 *e*P **P** 13 32 28.9 **+0.9**
BAIF Baives 49.62 307 *e*P **P** 13 32 28.9 **+0.9**
MJAR Matsushiro Arr 50.06 71 P **P** 13 32 33.2 **+1.5**
MJAR Matsushiro Arr 50.06 71 P **P** 13 32 33.2 **+1.5**
comp=Z,0.7nm,0.6s,baz=37,slow=3.5,SNR=2.9
KEST Kesra 50.70 288 P **P** 13 32 38.2 **+1.6**
KEST Kesra 50.70 288 P **P** 13 32 38.2 **+1.6**
comp=Z,1.1nm,0.5s,baz=59,slow=5.9,SNR=3.2
SMF Signal de Mont 50.79 303 *e*P **P** 13 32 37.4 **+0.4**
comp=Z,3.3nm,0.3s
SMF Signal de Mont 50.79 303 *e*P **P** 13 32 37.4 **+0.4**
SMF pmax pmax
comp=Z,3.0nm,0.3s
SMF Signal de Mont 50.79 303 *e*P **P** 13 32 37.4 **+0.4**
comp=Z,3.3nm,0.3s
AVF Avril sur Loir 51.07 304 *e*P **P** 13 32 39.6 **+0.6**
comp=Z,7.7nm,0.5s
AVF Avril sur Loir 51.07 304 *e*P **P** 13 32 39.6 **+0.6**
AVF pmax pmax
comp=Z,8.0nm,0.4s
AVF Avril sur Loir 51.07 304 *e*P **P** 13 32 39.6 **+0.6**
comp=Z,7.7nm,0.4s
TCF Toulx Ste Croi 51.98 303 *e*P **P** 13 32 46.3 **+0.5**
TCF Toulx Ste Croi 51.98 303 *e*P **P** 13 32 46.3 **+0.5**
TCF Toulx Ste Croi 51.98 303 *e*P **P** 13 32 46.3 **+0.5**
EKA Eskdalemuir Ar 52.59 315 P **P** 13 32 50.2 **0.0**
EKA Eskdalemuir Ar 52.59 315 P **P** 13 32 50.2 **0.0**
comp=Z,0.4nm,0.3s,baz=94,slow=10,SNR=5.5
LDF La Druitiere 52.75 307 *e*P **P** 13 32 51.8 **+0.3**
LDF La Druitiere 52.75 307 *e*P **P** 13 32 51.8 **+0.3**
LDF La Druitiere 52.75 307 *e*P **P** 13 32 51.8 **+0.3**
GRR Gorron 53.28 307 *e*P **P** 13 32 56.5 **+1.2**
GRR Gorron 53.28 307 *e*P **P** 13 32 56.5 **+1.2**
GRR Gorron 53.28 307 *e*P **P** 13 32 56.5 **+1.2**
ETSF Etsaut 55.02 300 *e*P **P** 13 33 09.1 **+0.9**
comp=Z,3.0nm,0.4s
ETSF Etsaut 55.02 300 *e*P **P** 13 33 09.1 **+0.9**
ETSF pmax pmax
comp=Z,3.0nm,0.4s
ETSF Etsaut 55.02 300 *e*P **P** 13 33 09.1 **+0.9**
comp=Z,3.0nm,0.4s
ESDC Sonseca Array 58.68 298 P **P** 13 33 34.5 **+0.4**
ESDC Sonseca Array 58.68 298 P **P** 13 33 34.5 **+0.4**
comp=Z,0.8nm,0.4s,baz=54,slow=7.4,SNR=8.6
MDT Midelt 62.33 291 P **P** 13 34 00.1 **+1.0**
MDT Midelt 62.33 291 P **P** 13 34 00.1 **+1.0**
comp=Z,1.8nm,0.6s,baz=18,slow=1.4,SNR=2.9
TOA0 Torodi Ar. Sit 68.13 270 *e*P P 13 34 33.0 -3.6
TORD Torodi Ar. Bea 68.13 270 P **P** 13 34 36.3 **-0.3**
TORD Torodi Ar. Bea 68.13 270 P **P** 13 34 36.3 **-0.3**
comp=Z,4.8nm,0.4s,baz=49,slow=5.7,SNR=106
ILAR Eielson Array 72.29 17 P **P** 13 34 59.8 **-1.4**
ILAR Eielson Array 72.29 17 P **P** 13 34 59.8 **-1.4**
comp=Z,0.8nm,0.8s,baz=309,slow=4.9,SNR=9.2
DBIC Dimbokro 77.16 268 P **P** 13 35 29.6 **-0.4**
DBIC Dimbokro 77.16 268 P **P** 13 35 29.6 **-0.4**
comp=Z,1.7nm,0.5s,baz=49,slow=6.2,SNR=4.5
YKA Yellowknife Ar 79.22 4 P **P** 13 35 40.9 **+0.3**
YKA Yellowknife Ar 79.22 4 P **P** 13 35 40.9 **+0.3**
comp=Z,0.7nm,0.4s,baz=348,slow=5.5,SNR=15
WRA Warramunga Arr 81.02 124 P **P** 13 35 50.4 **-0.6**
WRA Warramunga Arr 81.02 124 P **P** 13 35 50.4 **-0.6**
comp=Z,0.2nm,0.3s,baz=322,slow=4.7,SNR=7.4
SCHQ Schefferville 81.25 338 P **P** 13 35 51.9 **+0.1**
SCHQ Schefferville 81.25 338 P **P** 13 35 51.9 **+0.1**
comp=Z,3.4nm,0.8s,baz=352,slow=7.1,SNR=3.9
ASAR Alice Springs 83.44 127 P **P** 13 36 02.2 **-1.2**
ASAR Alice Springs 83.44 127 P **P** 13 36 02.2 **-1.2**
comp=Z,0.2nm,0.6s,baz=317,slow=5.0,SNR=2.7

*ISCJB **08** 13:45:28.3±0.3, 39.71N±0.02×29.47E±0.03, h0km, Error ellipse: s-maj=3.4km s-min=3.2km az=26.6*
*DDA **08** 13:45:28.6, 39.67N×29.46E, h7km, MD2.7*
*CSEM **08** 13:45:28.3±0.2, 39.70N×29.46E, h1km, MD2.6, Error ellipse: s-maj=3.5km s-min=3.4km az=48.0*
*ISK **08** 13:45:29.1, 39.78N×29.46E, h12km, MD2.6*

ISC 08 13:45:28.8±0.7, 39.70N±0.02×29.45E±0.02, h0km, n52, σ0s94/73, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.51**	**332**	*i* P	**Pg**	**13 45 38.8**	**+0.3**
ULDT				*i* S	**Sg**	**13 45 46.9**	**+1.8**
ULDT	**Uludag**	**0.51**	**332**	*i* P	**Pg**	**13 45 38.8**	**+0.3**
ULDT				*i* S	**Sg**	**13 45 46.9**	**+1.8**
CAVI	**Cavuskoy**	**0.59**	**31**	*e*PG	**Pg**	**13 45 39.7**	**-0.4**
CAVI	**Cavuskoy**	**0.59**	**31**	*e*Pg	**Pg**	**13 45 39.7**	**-0.4**
GDZ	**Gediz**	**0.61**	**178**	*i* P	**Pg**	**13 45 39.4**	**-1.0**
GDZ				*i* S	**Sg**	**13 45 49.4**	**+1.2**
GDZ	**Gediz**	**0.61**	**178**	*i* P	**Pg**	**13 45 39.4**	**-1.0**
GDZ				*i* S	**Sg**	**13 45 49.4**	**+1.2**
DURS	**Dursunbey**	**0.76**	**263**	*i* P	**Pg**	**13 45 42.8**	**-0.5**
DURS				*i* S	**Sb**	**13 45 55.2**	**-0.7**
DURS	**Dursunbey**	**0.76**	**263**	*i* P	**Pg**	**13 45 42.8**	**-0.5**
DURS				*i* S	**Sb**	**13 45 55.2**	**-0.7**
ADVT	**Abdulvahap**	**0.77**	**17**	*e*PG	**Pg**	**13 45 42.9**	**-0.6**
ADVT	**Abdulvahap**	**0.77**	**17**	*e*Pg	**Pg**	**13 45 42.9**	**-0.6**
BORA	**Eskisehir**	**0.79**	**76**	*i* P	**Pg**	**13 45 43.5**	**-0.5**
BORA				*i* S	**Sb**	**13 45 56.2**	**-0.7**
BORA	**Eskisehir**	**0.79**	**76**	*i* P	**Pg**	**13 45 43.5**	**-0.5**
BORA				*i* S	**Sb**	**13 45 56.2**	**-0.7**
DEMI	**Demirci**	**0.87**	**221**	*e*P	**Pg**	**13 45 45.0**	**-0.3**
DEMI	**Demirci**	**0.87**	**221**	*e*P	**Pg**	**13 45 45.0**	**-0.3**
ARMT	**Armutlu**	**0.98**	**333**	*e*PG	**Pg**	**13 45 47.1**	**-0.5**
ARMT				*e*SG	**Sg**	**13 46 00.2**	**0.0**
ARMT	**Armutlu**	**0.98**	**333**	*e*Pg	**Pg**	**13 45 47.1**	**-0.5**
ARMT				*e*Sg	**Sg**	**13 46 00.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.01**	**304**	*e*PG	**Pg**	**13 45 48.5**	**+0.3**
KCTX				*e*SG	**Sb**	**13 46 02.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.01**	**304**	*e*Pg	**Pg**	**13 45 48.5**	**+0.3**
KCTX				*e*Sg	**Sb**	**13 46 02.8**	**-0.3**
SEYT	**Eskypehyr**	**1.09**	**99**	*i* P	**Pg**	**13 45 49.6**	**-0.1**
SEYT				*i* S	**Sn**	**13 46 07.9**	**+0.5**
SEYT	**Eskypehyr**	**1.09**	**99**	*i* P	**Pg**	**13 45 49.6**	**-0.1**
SEYT				*i* S	**Sn**	**13 46 07.9**	**+0.5**
HRT	**Hereke**	**1.14**	**8**	*e*PG	**Pg**	**13 45 50.0**	**-0.6**
HRT	**Hereke**	**1.14**	**8**	*e*Pg	**Pg**	**13 45 50.0**	**-0.6**
BUY	**Buyukada**	**1.18**	**348**	*i* P	**Pb**	**13 45 52.0**	**-0.1**
BUY				*i* S	**Sn**	**13 46 10.9**	**+1.5**
BUY	**Buyukada**	**1.18**	**348**	*i* P	**Pb**	**13 45 52.0**	**-0.1**
BUY				*i* S	**Sn**	**13 46 10.9**	**+1.5**
KULA	**Kula-Manisa**	**1.33**	**208**	*e*PN	**Pb**	**13 45 55.1**	**+0.5**
KULA	**Kula-Manisa**	**1.33**	**208**	*e*Pn	**Pb**	**13 45 55.1**	**+0.5**
EDC	**Edincik**	**1.38**	**299**	*e*PN	**Pg**	**13 45 54.3**	**-0.9**
EDC	**Edincik**	**1.38**	**299**	*e*Pn	**Pg**	**13 45 54.3**	**-0.9**
MANT	**Manisa**	**1.39**	**210**	*i* P	**Pn**	**13 45 54.3**	**-1.3**
MANT	**Manisa**	**1.39**	**210**	*i* P	**Pn**	**13 45 54.3**	**-1.3**
ISK	**Istanbul-Kandi**	**1.40**	**348**	*e*PN	**Pn**	**13 45 53.9**	**-1.7**
ISK	**Istanbul-Kandi**	**1.40**	**348**	*e*Pn	**Pn**	**13 45 53.9**	**-1.7**
GONE	**Gonen-Balikesi**	**1.40**	**285**	*e*PN	**Pn**	**13 45 54.9**	**-0.7**
GONE	**Gonen-Balikesi**	**1.40**	**285**	*e*Pn	**Pn**	**13 45 54.9**	**-0.7**
BALY	**Balya**	**1.41**	**272**	*i* P	**Pn**	**13 45 54.3**	**-1.5**
BALY				*i* S	**Sb**	**13 46 14.9**	**+0.2**
BALY	**Balya**	**1.41**	**272**	*i* P	**Pn**	**13 45 54.3**	**-1.5**
BALY				*i* S	**Sb**	**13 46 14.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.43**	**143**	*e*PN	**Pb**	**13 45 56.2**	**-0.1**
SHUT	**Suhut-Afyon**	**1.43**	**143**	*e*Pn	**Pb**	**13 45 56.2**	**-0.1**
AKHS	**Akhisar**	**1.51**	**238**	*i* P	**Pb**	**13 45 57.4**	**-0.2**
AKHS				*i* S	**Sn**	**13 46 18.1**	**+0.6**
AKHS	**Akhisar**	**1.51**	**238**	*i* P	**Pb**	**13 45 57.4**	**-0.2**
AKHS				*i* S	**Sn**	**13 46 18.1**	**+0.6**
BOLV	**Bolvadin**	**1.52**	**130**	*i* P	**Pn**	**13 45 56.4**	**-0.9**
BOLV				*i* S	**Sn**	**13 46 21.4**	**+3.6**
BOLV	**Bolvadin**	**1.52**	**130**	*i* P	**Pn**	**13 45 56.4**	**-0.9**
MDUB	**Mudurnu**	**1.55**	**59**	*e*PN	**Pn**	**13 45 56.6**	**-1.1**
MDUB	**Mudurnu**	**1.55**	**59**	*e*Pn	**Pn**	**13 45 56.6**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.62**	**98**	*e*PN	**Pn**	**13 45 58.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.62**	**98**	*e*Pn	**Pn**	**13 45 58.3**	**-0.4**
MRMT	**Marmara Adasi**	**1.69**	**303**	*e*PN	**Pn**	**13 45 58.7**	**-0.9**
MRMT	**Marmara Adasi**	**1.69**	**303**	*e*Pn	**Pn**	**13 45 58.7**	**-0.9**
CTKS	**Kestanelik-??a**	**1.70**	**335**	*e*PN	**Pn**	**13 45 58.3**	**-1.4**
CTKS	**Kestanelik-??a**	**1.70**	**335**	*e*Pn	**Pn**	**13 45 58.3**	**-1.4**
GELI	**Tayfur-Gelibol**	**2.39**	**288**	*e*PN	**Pn**	**13 46 09.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.39**	**288**	*e*Pn	**Pn**	**13 46 09.1**	**-0.1**

*ATH **08** 13:46:27.1, 33.88N×25.42E, h5km±3km, MD3.4/7*
*IDC **08** 13:46:28.0±1.1, 33.96N×25.50E, h0km, mb3.7/7, mb1 3.7/13,mb1mx3.6/29, mbtmp3.6/13, ML2.4/3, Error ellipse: s-maj=20.5km s-min=14.2km az=50.0*
*ISCJB **08** 13:46:29.1±0.4, 33.95N±0.04×25.61E±0.05, h17km, mb3.6/7, Error ellipse: s-maj=7.1km s-min=4.4km az=150.6*
*CSEM **08** 13:46:29.0±0.2, 34.00N×25.57E, h2km, MD3.4, Error ellipse: s-maj=7.8km s-min=4.4km az=65.0*
*HLW **08** 13:46:33.1, 34.01N×25.55E, h31km±18km, Md2.5, Ml2.5*

ISC 08 13:46:30.4±0.7, 33.99N±0.04×25.47E±0.05, h17km, n37, σ1s16/42, mb3.4/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.17**	**332**	*e*PG	**Pn**	**13 46 50.5**	**-1.4**
SIVA				*e*SB	**Sn**	**13 47 08.4**	**+1.0**
SIVA	**Sivas**	**1.17**	**332**	*e*Pg	**Pn**	**13 46 50.5**	**-1.4**
SIVA				*e*Sb	**Sn**	**13 47 08.4**	**+1.0**
LAST	**Lasithi**	**1.17**	**0**	*e*PG	**Pn**	**13 46 51.0**	**-1.1**
LAST	**Lasithi**	**1.17**	**0**	*e*Pg	**Pn**	**13 46 51.0**	**-1.1**
NPS	**Neapolis**	**1.28**	**5**	*e*PB	**Pn**	**13 46 53.3**	**-0.2**
NPS	**Neapolis**	**1.28**	**5**	*e*Pb	**Pn**	**13 46 53.3**	**-0.2**
ZKR	**Zakros**	**1.28**	**28**	*e*PB	**Pn**	**13 46 53.5**	**0.0**
ZKR	**Zakros**	**1.28**	**28**	*e*Pb	**Pn**	**13 46 53.5**	**0.0**
IDI	**Anoyia**	**1.39**	**340**	Pg	**Pn**	**13 46 54.7**	**-0.3**
	4.6nm,0.3s,baz=164,slow=17,SNR=19						
IDI				Lg	Lg	13 47 14.8	
	10nm,0.3s,baz=244,slow=18,SNR=8.0						
VAM	**Vamos**	**1.76**	**324**	*e*PN	**Pb**	**13 47 01.6**	**-0.6**
VAM	**Vamos**	**1.76**	**324**	*e*Pn	**Pb**	**13 47 01.6**	**-0.6**
KARN	**Karanos**	**1.91**	**318**	*e*PN	**Pb**	**13 47 04.1**	**-0.6**
KARN	**Karanos**	**1.91**	**318**	*e*Pn	**Pb**	**13 47 04.1**	**-0.6**
KARP	**Karpathos**	**2.09**	**41**	*e*PG	**Pb**	**13 47 07.8**	**0.0**
KARP	**Karpathos**	**2.09**	**41**	*e*Pg	**Pb**	**13 47 07.8**	**0.0**
SLUM		**2.50**	**185**	P	**Pn**	**13 47 10.6**	**+0.4**
	baz=187						
SLUM				S	**Sn**	**13 47 39.1**	**-1.1**
	baz=187						
SLUM		**2.50**	**185**	P	**Pn**	**13 47 10.6**	**+0.4**
SLUM				S	**Sn**	**13 47 39.1**	**-1.1**
HMAT	**Matruh**	**3.19**	**154**	P	**Pn**	**13 47 20.0**	**+0.2**
	baz=155						
HMAT				AMP		13 48 00.0	
	comp=E,20µm,0.7s,logA/T=4.5,baz=155						
HMAT	**Matruh**	**3.19**	**154**	P	**Pn**	**13 47 20.0**	**+0.2**
AMAG	**Maghara**	**7.35**	**115**	P	**Pn**	**

YKA Yellowknife Ar 78.64 342 P P 13 58 30.3 -0.6
comp=E,0.2nm,0.6s,baz=32,slow=5.5,SNR=5.8

BUC 08 13:47:20.6±1.6, 46°36N×23°17E, h6km±11km, MD2.3/1, 5C-2D, Error ellipse: s-maj=9.6km s-min=6.0km az=124.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRGR		**0.54**	**324**	*i* P	Pb	13 47 32.0	-0.6
DRGR				S	Sg	13 47 38.9	+0.6
DRGR		**0.54**	**324**	*i* P	Pb	13 47 32.0	-0.6
DRGR				*i* S	Sg	13 47 38.9	+0.6
DRGR		**0.54**	**324**	*i* P	Pb	13 47 32.0	-0.6
LOT	**Lotru**	**1.00**	**155**	S	Sb	13 47 54.4	+0.4
LOT	**Lotru**	**1.00**	**155**	*i* S	Sb	13 47 54.4	+0.4
BZS	**Buzias**	**1.31**	**236**	*i* P	Pn	13 47 45.5	+0.1
BZS	**Buzias**	**1.31**	**236**	*i* P	Pn	13 47 45.5	+0.1
BZS				*i* S	Sn	13 48 04.8	+1.6
DOPR	**Dopca**	**1.59**	**103**	S	Sg	13 48 13.1	+1.3
DOPR	**Dopca**	**1.59**	**103**	*i* S	Sg	13 48 13.1	+1.3
VOIR		**1.60**	**124**	*i* P	Pg	13 47 51.2	-0.3
VOIR		**1.60**	**124**	*i* P	Pg	13 47 51.2	-0.3
VOIR				*i* S	Sb	13 48 11.7	+0.4
BURAR	**Bucovina Array**	**1.89**	**47**	S	Sg	13 48 20.8	-0.7
BURAR	**Bucovina Array**	**1.89**	**47**	*i* S	Sg	13 48 20.8	-0.7

MEX 08 14:01:14.7±0.4, 16°09N×96°98W, h16km±4km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.90**	**110**	*eP*	Pb	14 01 29.1	-2.9
HUIG				*eS*	Sb	14 01 39.8	-4.0
VHO	**Vista Hermosa**	**1.01**	**14**	*eP*	Pb	14 01 30.4	-3.8
VHO				*eS*	Sb	14 01 43.2	-4.2
OXX	**Oaxaca**	**1.02**	**14**	*eP*	Pb	14 01 33.9	-0.5
OXX				*eS*	Sb	14 01 46.0	-1.8
PNIG	**Pinotepa**	**1.14**	**286**	*eP*	Pn	14 01 32.4	-3.8
PNIG				*eS*	Sb	14 01 46.1	-4.6
TLIG	**Tlapa**	**2.11**	**314**	*eP*	Pn	14 01 46.3	-3.3
TLIG				*eS*	Sn	14 02 11.1	-4.6
CMIG	**Matias Romero**	**2.25**	**63**	*eP*	Pn	14 01 48.3	-3.0
CMIG				*eS*	Sn	14 02 14.6	-4.3

*IDC **08** 14:24:14.1±0.9, 2°.85N×127°.35E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, Error ellipse: s-maj=60.3km s-min=16.3km az=64.0*
*ISCJB **08** 14:24:18.7±0.8, 2°.8N±0°.2×127°.3E±0°.3, h49km, mb3.6/7, Error ellipse: s-maj=50.2km s-min=14.5km az=152.9*
ISC 08 14:24:20.6±1.0, 2°.8N±0°.2×127°.4E±0°.4, h49km, n7, σ0s40/7, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**23.13**	**122**	P	**P**	**14 29 22.8**	**+0.1**
9.1nm,0.9s,baz=302,slow=13,SNR=4.4							
WRA	**Warramunga Arr**	**23.63**	**164**	P	**P**	**14 29 27.1**	**-0.4**
2.1nm,0.7s,baz=343,slow=10,SNR=14							
ASAR	**Alice Springs**	**27.09**	**167**	P	**P**	**14 29 59.4**	**+0.5**
0.2nm,0.4s,baz=0.0,slow=8.4,SNR=3.9							
STKA	**Stephens Creek**	**37.05**	**160**	P	**P**	**14 31 25.9**	**-0.1**
0.6nm,0.4s,baz=345,slow=11,SNR=5.1							
SONM	**Songino Array**	**48.36**	**341**	P	**P**	**14 32 57.7**	**+0.1**
0.1nm,0.4s,baz=122,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**58.68**	**325**	P	**P**	**14 34 13.3**	**+0.2**
0.3nm,0.4s,baz=118,slow=7.6,SNR=9.6							
KURBB	**Kurchatov Arra**	**62.86**	**327**	P	**P**	**14 34 41.0**	**-0.4**
0.2nm,0.4s,baz=130,slow=7.1,SNR=5.2							

NEIC 08 14:24:34.0, 37°49S×147°01E, h17km, ML2.8(AUST), After AUST., Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAN	**Canberra**	**2.69**	**37**	*ePn*	Pn	14 25 16.0	-0.6
CAN				*eSn*	Sn	14 25 47.5	-1.5
STKA	**Stephens Creek**	**7.16**	**320**	*ePn*	Pn	14 26 16.7	-1.2
BBOO	**Buckleboo**	**10.11**	**294**	*ePn*	Pn	14 26 57.5	-0.8
BBOO				*eSn*	Sn	14 28 46.1	-5.2
FORT	**Forrest**	**17.05**	**288**	*ePn*	Pn	14 28 29.7	-1.8
WRAB	**Tennant Creek**	**20.68**	**324**	*eP*	P	14 29 12.8	-0.4
WRAB				*eS*	Sn	14 33 10.8	+2.2

IDC 08 14:25:30.7±1.9, 3°35N×126°98E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=164.7km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**163**	P	P	14 30 50.5	+0.8
0.6nm,0.4s,baz=343,slow=10,SNR=7.4							
ASAR	**Alice Springs**	**27.69**	**166**	P	P	14 31 20.1	-0.8
0.3nm,0.5s,baz=339,slow=7.4,SNR=4.5							
STKA	**Stephens Creek**	**37.69**	**159**	P	P	14 32 47.8	-0.3
1.2nm,0.6s,baz=333,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**58.01**	**325**	P	P	14 35 25.4	0.0
0.1nm,0.4s,baz=111,slow=7.9,SNR=3.3							

*ISCJB **08** 14:33:38.1±1.1, 26°.3N±0°.1×96°.04E±0°.09, h83km, mb3.3/3, Error ellipse: s-maj=21.3km s-min=11.5km az=9.9*
*IDC **08** 14:33:41.4±5.5, 26°.43N×96°.36E, h101km±63km, mb3.0/3, mb1 3.4/4, mb1mx2.9/27, mbtmp3.1/4, Error ellipse: s-maj=174.9km s-min=23.0km az=60.0*
ISC 08 14:33:39.6±1.4, 26°.4N±0°.2×96°.0E±0°.1, h83km, n5, σ1s39/6, mb3.7/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.80**	**259**	*ePN*	**Pn**	**14 34 36.2**	**+0.2**
SHL				*eSN*	**Sn**	**14 35 19.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**8.33**	**160**	P	**Pn**	**14 35 38.8**	**+1.2**
baz=337,slow=14,SNR=8.7							
MKAR	**Makanchi Array**	**23.10**	**335**	P	**P**	**14 38 39.2**	**+0.9**
0.2nm,0.6s,baz=135,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**59.18**	**137**	P	**P**	**14 43 30.7**	**-1.4**
0.2nm,0.3s,baz=323,slow=7.5,SNR=7.7							
ASAR	**Alice Springs**	**61.78**	**140**	P	**P**	**14 43 48.8**	**-1.1**
0.4nm,0.5s,baz=328,slow=6.9,SNR=8.5							

*IDC **08** 14:54:13.2±0.7, 7°.16S×154°.96E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML3.2/2, MS3.4/1, Ms1 3.3/1, ms1mx2.8/22, Error ellipse: s-maj=20.6km s-min=16.4km az=163.0*
*ISCJB **08** 14:54:16.0±0.6, 7°.3S±0°.1×155°.04E±0°.07, h31km, mb3.9/10, MS3.2/1, Error ellipse: s-maj=17.3km s-min=8.7km az=163.6*
ISC 08 14:54:17.6±0.7, 7°.2S±0°.1×155°.08E±0°.09, h31km, n18, σ0s96/16, mb3.9/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.30**	**115**	Pn	**Pn**	**14 55 35.7**	**+1.1**
3.9nm,0.3s,baz=222,slow=15,SNR=2.2							
HNR				Sn	Sn	14 56 44.0	+9.3
3.7nm,0.3s,baz=228,slow=12,SNR=2.4							
HNR				Lg	Lg	14 57 08.1	
5.7nm,0.3s,baz=340,slow=17,SNR=2.5							
PMG	**Port Moresby**	**8.13**	**254**	Pn	**Pn**	**14 56 13.4**	**-0.2**
0.5nm,0.3s,baz=90,slow=15,SNR=2.9							
PMG					**Sn**	**14 57 46.3**	**+1.7**
0.6nm,0.3s,baz=282,slow=18,SNR=4.7							
WRA	**Warramunga Arr**	**23.76**	**236**	P	**P**	**14 59 26.8**	**-0.8**
3.9nm,1.0s,baz=61,slow=9.6,SNR=15							
ASAR	**Alice Springs**	**26.09**	**229**	P	**P**	**14 59 48.0**	**-0.8**
1.2nm,0.6s,baz=60,slow=8.9,SNR=15							
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**15 00 00.7**	**-1.3**
4.3nm,0.8s,baz=25,slow=12,SNR=14							
STKA					LR	15 10 44.5	
comp=Z,66nm,18.9s,baz=26,slow=36							
H11S3	**WAKE ISLAND Hy**	**28.00**	**24**	T	T	15 28 30.3	
baz=200,slow=75							
H11S2	**WAKE ISLAND Hy**	**28.00**	**24**	T	T	15 28 34.1	
baz=200,slow=75							
H11S1	**WAKE ISLAND Hy**	**28.01**	**24**	T	T	15 28 33.3	
baz=200							

CMAR	**Chiang Mai Arr**	**60.95**	**296**	P	**P**	**15 04 28.5**	**+0.2**
0.6nm,0.4s,baz=119,slow=5.6,SNR=6.3							
SONM	**Songino Array**	**69.56**	**327**	P	**P**	**15 05 24.4**	**+0.7**
0.8nm,0.8s,baz=129,slow=6.9,SNR=6.0							
ILAR	**Eielson Array**	**83.55**	**21**	P	**P**	**15 06 41.9**	**-0.4**
1.0nm,1.2s,baz=239,slow=5.1,SNR=12							
MKAR	**Makanchi Array**	**83.62**	**319**	P	**P**	**15 06 43.4**	**+0.2**
0.6nm,0.7s,baz=106,slow=5.3,SNR=6.9							
NVAR	**Mina Array Bea**	**91.79**	**52**	P	**P**	**15 07 24.3**	**+1.3**
0.2nm,0.5s,baz=240,slow=4.8,SNR=3.1							
YKA	**Yellowknife Ar**	**96.49**	**28**	P	**P**	**15 07 42.6**	**-1.1**
0.3nm,0.7s,baz=266,slow=4.6,SNR=3.6							
PDAR	**Pinedale Array**	**98.78**	**48**	P	**P**	**15 07 54.6**	**-0.2**
0.2nm,0.4s,baz=116,slow=2.1,SNR=2.5							
BRTR	**Keskin Array B**	**118.59**	**311**	PKP	**PKPdf**	**15 13 02.0**	**-1.0**
0.2nm,0.5s,baz=96,slow=5.8,SNR=2.5							
BDFB	**Brasilia**	**147.77**	**135**	PKPbc	**PKPab**	**15 14 02.9**	**0.0**
1.8nm,0.4s,baz=180,slow=2.0,SNR=1.8							
TORD	**Torodi Ar. Bea**	**153.16**	**285**	PKPbc	**PKPbc**	**15 14 13.8**	**+0.4**
0.7nm,0.7s,baz=55,slow=2.0,SNR=4.6							

KRSC 08 15:01:54.7±1.3, 50°57N×159°84E, h40km±25km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.04**	**337**	*eP*	Pn	15 02 29.0	+2.5
RUS				*eS*	Sn	15 02 54.0	+3.2
MTVR	**Mutnovka**	**2.18**	**332**	*eP*	Pn	15 02 30.9	+2.3
MTVR				*eS*	Sn	15 02 57.0	+2.5
ASAK	**Asacha**	**2.19**	**327**	*eS*	Sn	15 02 58.5	+4.0
SKR	**Severo-Kuril's**	**2.37**	**274**	*eP*	Pn	15 02 33.4	+2.4
SKR				*eS*	Sn	15 03 01.3	+2.5
PET	**Petropavlovsk**	**2.57**	**344**	*eS*	Sn	15 03 06.8	+3.1
MIPR	**Malaya Ipel'ka**	**2.58**	**313**	*eP*	Pn	15 02 37.6	+3.7
NLC	**Nalytchevo**	**2.63**	**354**	S	Sn	15 03 07.4	+2.3
UGLR	**Uglovaya**	**2.72**	**347**	*i* P	Pn	15 02 38.8	+2.8
SMAR	**Somma**	**2.78**	**347**	*eP*	Pn	15 02 39.8	+2.9
SDLR	**Sedlovina**	**2.78**	**348**	*eP*	Pn	15 02 39.4	+2.6
AVH	**Avacha**	**2.79**	**346**	*eP*	Pn	15 02 40.5	+3.6
KRER	**Koryakskii**	**2.82**	**347**	*eP*	Pn	15 02 40.8	+3.3
KRER				*eS*	Sn	15 03 14.0	+3.5
KOK	**Koryaka**	**2.83**	**345**	*eP*	Pn	15 02 40.6	+3.1
GNL	**Ganaly**	**3.34**	**340**	*eP*	Pn	15 02 48.5	+3.9

WEL 08 15:15:36.9±0.8, 47°46S×165°50E, h33km, ML3.6/5, 1D, Error ellipse: s-maj=8.2km s-min=5.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.52**	**32**	PN	Pn	15 16 00.4	-1.3
PYZ				*eSN*	Sn	15 16 18.7	-1.8
APZ	**The Paps**	**1.81**	**71**	PN	Pn	15 16 04.6	-1.1
APZ				SN	Sn	15 16 25.8	-1.7
APZ				AML	AML	15 16 29.7	
DCZ	**Deep Cove**	**2.29**	**31**	PN	Pn	15 16 11.9	-0.3
DCZ				AML	AML	15 16 46.6	
DCZ				AML	AML	15 16 51.2	
WHZ	**Wether Hill Ro**	**2.30**	**48**	PN	Pn	15 16 11.7	-0.7
WHZ				SN	Sn	15 16 38.7	-0.9
WHZ				AML	AML	15 16 41.9	
SYZ	**Scrubby Hill**	**2.65**	**71**	↓PN	Pn	15 16 17.0	-0.2
MLZ	**Mavora Lakes**	**2.80**	**42**	PN	Pn	15 16 19.0	-0.5
TUZ	**Tuapeka**	**3.22**	**64**	AML	AML	15 17 07.8	
EAZ	**Earnscleugh**	**3.45**	**51**	PN	Pn	15 16 28.6	+0.3
EAZ				SN	Sn	15 17 08.8	+0.9
EAZ				AML	AML	15 17 11.1	
WKZ	**Wanaka**	**3.59**	**44**	PN	Pn	15 16 31.3	+1.0
WKZ				*eSN*	Sn	15 17 12.8	+1.3
JCZ	**Jackson Bay**	**4.08**	**35**	PN	Pn	15 16 39.0	+2.0
ODZ	**Otahua Downs**	**4.30**	**58**	PN	Pn	15 16 37.8	-2.2
ODZ				SN	Sn	15 17 28.0	-1.1

*ISCJB **08** 15:27:49.8±0.9, 8°.7S±0°.2×157°.7E±0°.1, h10km, mb3.5/5, MS3.5/1, Error ellipse: s-maj=24.9km s-min=15.3km az=171.2*
*IDC **08** 15:27:49.6±1.1, 8°.66S×157°.68E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML3.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=28.4km s-min=15.9km az=4.0*
ISC 08 15:27:51.1±1.1, 8.7S±0°.2×157.75E±0°.09, h10km, n14, σ0s47/8, mb3.7/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.28**	**108**	Pn	**Pn**	**15 28 29.0**	**+0.3**
18nm,0.3s,baz=216,slow=5.2,SNR=10							
HNR				Lg	Lg	15 29 05.2	
80nm,0.3s,baz=78,slow=16,SNR=9.1							
HNR				LR	LR	15 29 23.3	
comp=Z,75nm,20.0s,baz=323,slow=40							
HNR	**Honiara**	**2.28**	**108**	*eP*	**Pn**	**15 28 29.0**	**+0.3**
HNR				*eS*	**Sg**	**15 29 04.0**	**-0.3**
WRA	**Warramunga Arr**	**25.24**	**241**	P	**P**	**15 33 17.4**	**-0.1**
1.7nm,0.7s,baz=67,slow=9.5,SNR=17							
ASAR	**Alice Springs**	**27.23**	**234**	P	**P**	**15 33 34.8**	**-0.8**
0.5nm,0.8s,baz=76,slow=7.9,SNR=4.9							
STKA	**Stephens Creek**	**27.50**	**211**	P	**P**	**15 33 38.2**	**+0.5**
1.9nm,0.7s,baz=35,slow=13,SNR=8.0							
H11S3	**WAKE ISLAND Hy**	**28.45**	**18**	T	T	16 02 13.0	
baz=200,slow=77,SNR=22							
H11S2	**WAKE ISLAND Hy**	**28.45**	**18**	T	T	16 02 23.3	
baz=200,slow=77,SNR=20							
H11S1	**WAKE ISLAND Hy**	**28.47**	**18**	T	T	16 02 22.7	
baz=200,slow=77,SNR=12							
H11N1	**WAKE ISLAND Hy**	**29.66**	**18**	T	T	16 04 13.7	
baz=200							
H11N3	**WAKE ISLAND Hy**	**29.67**	**18**	T	T	16 04 00.7	
baz=200							
H11N2	**WAKE ISLAND Hy**	**29.68**	**18**	T	T	16 04 14.0	
baz=200							
PPT	**Papeete**	**51.90**	**105**	LR	LR	15 55 00.9	
comp=Z,50nm,21.3s,baz=170,slow=31							
ILAR	**Eielson Array**	**83.39**	**21**	P	**P**	**15 40 21.2**	**-0.2**
0.3nm,0.6s,baz=249,slow=4.9,SNR=8.8							
MKAR	**Makanchi Array**	**86.51**	**318**	P	**P**	**15 40 34.5**	**+0.1**
0.1nm,0.6s,baz=92,slow=3.3,SNR=3.2							

*IDC **08** 16:00:00.3±0.7, 9°.03S×157°.72E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.4/21, mbtmp4.2/19, ML3.5/2, MS4.2/24, Ms1 4.2/24, ms1mx4.2/28, Error ellipse: s-maj=23.6km s-min=15.4km az=108.0*
*BJI **08** 16:00:00.2, 9°.40S×157°.70E, h10km, mB5.2/24, mb4.7/37, Ms4.9/26, Ms7 4.5/29*
*ISCJB **08** 16:00:02.3±0.3, 9°.30S±0°.06×157°.89E±0°.05, h27km, mb4.6/43, MS4.3/36, Error ellipse: s-maj=8.2km s-min=6.4km az=178.6*
*GCMT **08** 16:00:04.5±0.2, 9°.24S×157°.88E, h20km±1km, MW5.0/92, Moment Tensor Solution. s44,c62; s92,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.39±.13; $M_{\theta\theta}$0.02±.12; $M_{\phi\phi}$ -0.41±.13; $M_{r\theta}$ -0.73±.22; $M_{\theta\phi}$4.14±.11; $M_{\phi r}$-0.30±.22; Best double couple: M_o4.22800×10^{16} NP1:ϕ_s272.00000°, δ84.00000°, λ11.00000°. NP2: ϕ_s181.00000°, δ80.00000°, λ174.00000°. Principal axes: T 4.0960, Plg11.0000°, Azm137.0000°; N 0.2630, Plg78.0000°, Azm299.0000°; P -4.3600, Plg3.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 16:00:04.5±0.4, 9°.22S×157°.78E, h35km, mb4.9/15 Error ellipse: s-maj=11.5km s-min=8.8km az=135.0*
ISC 08 16:00:03.1±0.4, 9°.39S±0°.05×157°.94E±0°.05, h27km, n102, σ2s09/105, mb4.7/42, MS4.3/36, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.98**	**91**	*ePn*	**Pn**	**16 00 34.8**	**-0.1**
HNR				Sn	**Sn**	**16 00 59.5**	**+0.6**
HNR	**Honiara**	**1.98**	**91**	Pn	**Pn**	**16 00 34.7**	**-0.1**
baz=243,slow=6.8							
HNR				Sn	**Sn**	**16 00 59.5**	**+0.6**
400nm,0.3s,baz=356,slow=19,SNR=15							
HNR				Lg	Lg	16 01 17.8	
241nm,0.3s,baz=84,slow=20,SNR=6.6							
HNR	**Honiara**	**1.98**	**91**	*eP*	**Pn**	**16 00 33.0**	**-1.9**
PMG	**Port Moresby**	**10.63**	**269**	*ePn*	Pn	16 02 31.5	-2.2
69nm,1.3s							
PMG	**Port Moresby**	**10.63**	**269**	Pn	Pn	16 02 37.4	+3.6
0.3nm,0.3s,baz=108,slow=20,SNR=2.1							
PMG				LR	LR	16 06 12.7	
comp=Z,2μm,18.5s,baz=255,slow=36							
DZM	**Mont Dzumac**	**15.03**	**148**	*eS*	**S**	**16 06 35.9**	**-0.7**
1μm,27.0s							
DZM				*e*LR	LR	16 07 20.0	
3μm,26.9s							
DZM	**Mont Dzumac**	**15.03**	**148**	Pn	**P**	**16 03 37.9**	**-1.0**
DZM	**Mont Dzumac**	**15.03**	**148**	Pn	**P**	**16 03 37.9**	**-1.0**
0.1nm,0.3s,baz=353,slow=17,SNR=2.8							
DZM				LR	LR	16 08 42.9	
comp=Z,1μm,18.4s,baz=317,slow=34							
COEN	**Coen**	**15.15**	**251**	*e*Pn	**Pn**	**16 03 33.5**	**-1.9**
497nm,1.1s							
CTA	**Charters Tower**	**15.51**	**225**	Pn	**Pn**	**16 03 43.1**	**+3.1**
CTA	**Charters Tower**	**15.51**	**225**	Pn	**Pn**	**16 03 43.1**	**+3.1**
0.2nm,0.3s,baz=60,slow=16,SNR=4.7							
CTAO	**Charters Tower**	**15.51**	**225**	*e*Pn	**Pn**	**16 03 41.3**	**+1.3**
52nm,1.5s							
EIDS	**Eidsvold**	**17.18**	**201**	*e*Pn	P	16 04 08.8	+6.1
ARMA	**Armidale**	**21.74**	**195**	*eP*	**P**	**16 04 53.8**	**+1.2**
17nm,1.0s							
WRAB	**Tennant Creek**	**25.08**	**243**	*eP*	**P**	**16 05 25.3**	**-0.3**
62nm,1.1s							
WRA	**Warramunga Arr**	**25.09**	**243**	P	**P**	**16 05 27.3**	**+1.6**
WRA	**Warramunga Arr**	**25.09**	**243**	P	**P**	**16 05 27.3**	**+1.6**
13nm,0.8s,baz=67,slow=9.5,SNR=45							
WRA				LR	LR	16 14 44.8	
comp=Z,1μm,21.0s,baz=75,slow=35							
AS31	**Alice Springs**	**27.00**	**235**	*eP*	**P**	**16 05 42.9**	**-0.1**
ASAR	**Alice Springs**	**27.00**	**235**	P	**P**	**16 05 44.0**	**+1.0**
ASAR	**Alice Springs**	**27.00**	**235**	P	**P**	**16 05 44.0**	**+1.0**
4.6nm,0.9s,baz=64,slow=8.9,SNR=35							
ASAR				LR	LR	16 16 03.6	
comp=Z,810nm,18.6s,baz=53,slow=36							
STKA	**Stephens Creek**	**27.03**	**212**	*eP*	**P**	**16 05 45.0**	**+1.9**
7.9nm,1.3s							
STKA	**Stephens Creek**	**27.03**	**212**	P	**P**	**16 05 46.0**	**+2.9**
13nm,1.0s,baz=33,slow=11,SNR=21							
STKA				LR	LR	16 16 01.2	
comp=Z,527nm,18.6s,baz=29,slow=35							
H11S3	**WAKE ISLAND Hy**	**29.02**	**17**	T	T	16 34 47.7	
baz=199,slow=78,SNR=40							
H11S2	**WAKE ISLAND Hy**	**29.02**	**17**	T	T	16 34 47.3	
baz=199,slow=78,SNR=58							
H11S1	**WAKE ISLAND Hy**	**29.04**	**17**	T	T	16 34 49.5	
baz=199,slow=78,SNR=29							
AFI	**Afiamalu**	**29.99**	**102**	LR	LR	16 16 06.1	
comp=Z,568nm,18.1s,baz=264,slow=32							
RAO	**Raoul Island**	**30.04**	**134**	LR	LR	16 15 52.0	
comp=Z,335nm,18.7s,baz=203,slow=31							
H11N1	**WAKE ISLAND Hy**	**30.23**	**17**	T	T	16 36 32.0	
baz=197,slow=75,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**30.24**	**17**	T	T	16 36 35.7	
baz=197,slow=75,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**30.25**	**17**	T	T	16 36 43.8	
baz=197,slow=75,SNR=5.5							
BBOO	**Buckleboo**	**30.85**	**218**	*eP*	**P**	**16 06 16.5**	**-0.6**
2μm,2.1s							
URZ	**Urewera**	**33.53**	**152**	LR	LR	16 19 06.2	
comp=Z,706nm,18.7s,baz=332,slow=34							
RPZ	**Rata Peaks**	**36.06**	**164**	LR	LR	16 20 37.4	
comp=Z,638nm,19.9s,baz=146,slow=34							
RAR	**Rarotonga**	**42.32**	**111**	LR	LR	16 22 44.6	
comp=Z,153nm,18.8s,baz=270,slow=32							
JAGI	**Jajag, Banyuwa**	**43.24**	**268**	*eP*	P	16 07 59.4	-3.1
46nm,0.9s							
MJAR	**Matsushiro Arr**	**49.31**	**339**	P	**P**	**16 08 48.3**	**-1.5**
MJAR	**Matsushiro Arr**	**49.31**	**339**	P	**P**	**16 08 48.3**	**-1.5**
2.4nm,0.9s,baz=169,slow=8.7,SNR=4.2							
MJAR					LR	16 27 10.0	
comp=Z,326nm,21.6s,baz=130,slow=33							
JNU	**Nakatsue**	**49.51**	**330**	LR	LR	16 29 09.8	
comp=Z,152nm,18.4s,baz=339,slow=36							
PPT	**Papeete**	**51.55**	**105**	LR	LR	16 26 15.6	
comp=Z,213nm,19.4s,baz=182,slow=30							
PPT2	**Papeete2**	**51.55**	**105**	*e*LQ	LQ	16 22 02.0	
7μm,33.5s							
PPT2				*e*LR	LR	16 24 18.4	
377nm,23.8s							
TBI	**Tubuai**	**52.07**	**112**	*e*LQ	LQ	16 22 18.9	
672nm,35.0s							
TBI				*e*LR	LR	16 24 33.3	
593nm,32.0s							
SSE	**Sheshan**	**53.49**	**320**	P	**P**	**16 09 24.3**	**+3.1**
SSE				S	**S**	**16 16 56.0**	**+3.5**
SSE				sS	**sS**	**16 17 02.7**	**-3.5**
SSE				pmax	pmax		
comp=Z,29nm,0.9s							
SSE				pmax	pmax		
comp=Z,150nm,4.3s							
SSE				LR	LR		
comp=N,130nm,18.7s							
SSE				LR	LR		
comp=E,190nm,18.7s							
SSE				LR	LR		
comp=Z,250nm,12.7s							
KSRS	**Korea Array**	**54.42**	**331**	P	**P**	**16 09 25.3**	**-2.6**
1.0nm,0.9s,baz=312,slow=13,SNR=4.2							
KSRS				LR	LR	16 32 24.4	
comp=Z,121nm,18.5s,baz=135,slow=36							
KSAR	**Wonju Array Be**	**54.42**	**331**	P	**P**	**16 09 25.3**	**-2.7**
ASAJ	**Asahikawa**	**55.04**	**347**	LR	LR	16 33 14.0	
comp=Z,495nm,19.0s,baz=179,slow=36							
QIZ	**Qiongzhong**	**55.18**	**301**	P	**P**	**16 09 35.8**	**+2.0**
QIZ				S	**S**	**16 17 17.1**	**+1.4**
QIZ				LR	LR		
comp=Z,440nm,30.3s							
NJ2	**Nanjing**	**55.60**	**320**	*eP*	**P**	**16 09 39.3**	**+2.7**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.7s							
NJ2				LR	LR		
comp=Z,120nm,19.9s							
WHN	**Wuhan**	**57.67

comp=Z,490nm,18.8s
PETK Petropavlovsk- 62.25 360 P **P** **16 10 21.7 -0.7**
PETK Petropavlovsk- 62.25 360 P **P** **16 10 21.7 -0.7**
8.1nm,1.1s,baz=120,slow=7.0,SNR=3.8
PETK LR LR 16 37 01.0
comp=Z,109nm,18.1s,baz=173,slow=36
BJI Beijing 62.53 325 P P 16 10 27.9 +3.4
BJI PP **PP** **16 12 41.7 -0.7**
BJI S S 16 18 58.6 +8.1
BJI SS **SS** **16 22 59.7 +4.5**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI LR LR
comp=N,160nm,17.3s
BJI LR LR
comp=E,170nm,14.8s
BJI LR LR
comp=Z,190nm,28.6s
XAN Xi'an 63.44 316 P **P** **16 10 29.9 -0.8**
XAN pP **pP** **16 10 36.3 -2.9**
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN LR LR
comp=N,160nm,21.5s
XAN LR LR
comp=Z,120nm,21.5s
CM31 Chiang Mai Arr 64.44 296 *e*P **P** **16 10 37.3 -0.3**
12nm,1.3s
CMAR Chiang Mai Arr 64.44 296 P **P** **16 10 38.0 +0.5**
CMAR Chiang Mai Arr 64.44 296 P **P** **16 10 38.0 +0.5**
4.8nm,1.0s,baz=116,slow=4.9,SNR=34
CMAR LR LR 16 36 59.5
comp=Z,69nm,18.2s,baz=317,slow=35
CHTO Chiang Mai 64.56 296 *e*P **P** **16 10 37.3 -1.1**
2.6nm,1.2s
RKT Rikitea 65.36 111 *e*LR LR 16 30 36.1
378nm,32.2s
CD2 Chengdu 65.57 310 *e*P P 16 10 48.1 +3.3
CD2 sP sP 16 10 55.1 -1.3
CD2 PP **PP** **16 13 13.8 +4.4**
CD2 S **S** **16 19 30.1 +1.4**
CD2 sS sS 16 19 37.3 -5.4
CD2 SS **SS** **16 23 44.3 +1.2**
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,250nm,8.3s
CD2 LR LR
comp=N,310nm,15.5s
CD2 LR LR
comp=E,310nm,14.3s
CD2 LR LR
comp=Z,270nm,16.6s
HHC Hu-ho-hao-te 65.74 323 *e*P **P** **16 10 48.6 +2.9**
HHC sP **sP** **16 10 58.6 +1.2**
HHC PP PP 16 13 18.5 +7.8
HHC S **S** **16 19 31.2 +0.7**
HHC sS **sS** **16 19 42.5 -2.0**
HHC SS **SS** **16 23 46.7 +1.2**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.4s
HHC LR LR
comp=N,400nm,13.7s
HHC LR LR
comp=E,560nm,20.4s
HHC LR LR
comp=Z,250nm,13.2s
LZH Lanzhou 68.05 315 *e*P P 16 11 07.6 +7.0
LZH pP pP 16 11 10.8 +1.7
LZH sP sP 16 11 12.3 0.0
LZH PP PP 16 13 39.2 +8.1
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,75nm,8.0s
LZH LR LR
comp=N,370nm,15.1s
LZH LR LR
comp=E,350nm,15.6s
LZH LR LR
comp=Z,420nm,18.2s
VNDA Vanda 68.14 179 P P 16 11 04.9 +4.7
comp=Z,1.2nm,1.0s,baz=11,slow=6.9,SNR=2.6
VNDA LR LR 16 37 47.7
comp=Z,177nm,19.1s,baz=2.5,slow=33
GTA Gaotai 72.47 316 *e*P **P** **16 11 28.5 +1.0**
GTA pP **pP** **16 11 32.6 -3.5**
GTA sP **sP** **16 11 35.4 -3.9**
GTA S **S** **16 20 50.0 -0.2**
GTA sS **SKiKP** **16 20 56.6 -4.6**
GTA SS **SS** **16 25 28.4 -1.0**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.2s
GTA LR LR
comp=Z,140nm,18.5s
GTA LR LR
comp=Z,150nm,19.5s
GTA LR LR
comp=Z,260nm,21.8s
ULN Ulaanbaatar 72.58 327 *e*P **P** **16 11 28.8 +0.8**
comp=Z,15nm,1.6s
SONM Songino Array 72.92 326 P **P** **16 11 30.6 +0.6**
SONM Songino Array 72.92 326 P **P** **16 11 30.6 +0.6**
comp=Z,1.1nm,0.7s,baz=144,slow=3.2,SNR=6.1
SONM LR LR 16 44 16.5
comp=Z,155nm,19.9s,baz=135,slow=37
LSA Lhasa 75.02 304 *e*P **P** **16 11 41.7 -1.4**
comp=Z,4.5nm,0.9s
WMQ Urumqi 82.55 317 P **P** **16 12 24.9 +1.2**
WMQ pP **PcP** **16 12 29.6 +0.8**
WMQ sP **sP** **16 12 31.9 -3.7**
WMQ PP **PP** **16 15 35.0 +1.5**
WMQ S **S** **16 22 37.8 -1.4**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ LR LR
comp=Z,94nm,21.6s
WMQ LR LR
comp=Z,260nm,27.4s
WMQ LR LR
comp=Z,180nm,23.1s
TRF Thorofare Moun 82.55 21 *e*P **P** **16 12 24.9 +1.4**
comp=Z,90nm,2.3s
IM04 Indian Mountai 83.05 18 *e*P **P** **16 12 26.8 +1.0**
MCK McKinley 83.20 21 *e*P **P** **16 12 24.9 -1.8**
comp=Z,33nm,1.1s
MAW Mawson 83.32 203 LR LR 16 43 37.5
comp=Z,159nm,20.4s,baz=337,slow=31
COLA College 84.27 20 *e*P **P** **16 12 32.0 0.0**
ILAR Eielson Array 84.54 21 P **P** **16 12 33.0 -0.4**
ILAR Eielson Array 84.54 21 P **P** **16 12 33.0 -0.4**
comp=Z,1.7nm,1.0s,baz=247,slow=5.2,SNR=13
ILAR LR LR 16 44 46.4
comp=Z,189nm,19.3s,baz=320,slow=32
MK31 Makanchi Array 87.11 318 *e*P **P** **16 12 45.4 -1.2**
MKAR Makanchi Array 87.11 318 P **P** **16 12 46.0 -0.6**
MKAR Makanchi Array 87.11 318 P **P** **16 12 46.0 -0.6**
comp=Z,1.7nm,0.7s,baz=112,slow=5.4,SNR=15
MKAR LR LR 16 50 14.6
comp=Z,86nm,20.4s,baz=138,slow=35
ZAA0 Zalesovo Array 87.78 326 *e*P **P** **16 12 47.6 -2.0**
ZALV Zalesovo Beam 87.78 326 P **P** **16 12 47.7 -1.9**
ZALV Zalesovo Beam 87.78 326 P **P** **16 12 47.7 -1.9**
comp=Z,0.6nm,0.6s,baz=116,slow=6.8,SNR=6.0
ZALV LR LR 16 50 12.3
comp=Z,86nm,21.1s,baz=125,slow=34
KSH Kashi 89.77 310 P **P** **16 13 01.6 +2.1**
KSH *e*PP **PP** **16 16 35.0 +2.9**
KSH *e*SKS **SKSac** **16 23 27.7 -1.0**
KSH *e*S **S** **16 23 47.9 -2.1**
KSH *e*SS **SS** **16 29 46.2 -1.3**
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH pmax pmax
comp=Z,41nm,3.0s
KSH LR LR
comp=Z,58nm,4.0s
KSH LR LR
comp=Z,52nm,4.5s
KSH LR LR
comp=Z,71nm,4.2s
NVAR Mina Array Bea 90.92 51 P **P** **16 13 06.8 +1.8**

NVAR Mina Array Bea 90.92 51 P **P** **16 13 06.8 +1.8**
comp=Z,0.7nm,0.7s,baz=257,slow=6.4,SNR=6.2
BVAR Borovoye Array 95.95 323 P **P** **16 13 26.8 -0.8**
BVAR PP **PP** **16 17 21.7 +1.6**
BVAR Borovoye Array 95.95 323 P **P** **16 13 26.8 -0.8**
comp=Z,1.1nm,0.9s,baz=108,slow=4.8,SNR=5.2
BVAR PP **PP** **16 17 21.7 +1.6**
comp=Z,1.3nm,1.1s,baz=99,slow=7.8,SNR=3.6
YKA Yellowknife Ar 97.08 28 P **P** **16 13 33.9 +1.6**
YKA Yellowknife Ar 97.08 28 P **P** **16 13 33.9 +1.6**
comp=Z,0.1nm,0.5s,baz=268,slow=4.1,SNR=3.2
PDAR Pinedale Array 98.13 48 P Pdif 16 13 40.3 +2.3
PDAR Pinedale Array 98.13 48 P Pdif 16 13 40.3 +2.3
comp=Z,0.6nm,0.9s,baz=14,slow=1.1,SNR=2.7
PDAR LR LR 16 53 10.5
comp=Z,134nm,19.1s,baz=266,slow=32
BDFB Brasilia 144.24 134 PKP **PKPdf** **16 19 38.5 +0.8**
BDFB Brasilia 144.24 134 PKP **PKPdf** **16 19 38.5 +0.8**
comp=Z,1.3nm,0.4s,baz=182,slow=3.8,SNR=2.1
ESDC Sonseca Array 145.78 335 PKPbc **PKPdf** **16 19 38.1 -1.6**
ESDC Sonseca Array 145.78 335 PKPbc **PKPdf** **16 19 38.1 -1.6**
comp=Z,0.1nm,0.3s,baz=38,slow=3.2,SNR=2.8
TORD Torodi Ar. Bea 156.41 281 PKPab **PKPab** **16 20 22.7 -2.2**
TORD Torodi Ar. Bea 156.41 281 PKPab **PKPab** **16 20 22.7 -2.2**
comp=Z,1.4nm,0.9s,baz=71,slow=2.1,SNR=4.8

IDC ***08*** *16:04:43.5±0.8,9.°13S×157.°99E,h0km,mb4.0/10, mb1 4.2/10,mb1mx4.0/18,mbtmp4.0/10,Error ellipse: s-maj=23.8km s-min=17.4km az=155.0*
ISCJB ***08*** *16:04:45.6±0.5,9.°12S±0.°09×157.°96E±0.°06,h23km, mb4.0/10,Error ellipse: s-maj=12.7km s-min=7.8km az=171.2*
ISC 08 16:04:47.2±0.6,9.°1S±0.°1×158.°02E±0.°08,h23km,n23, σ0.°75/18,mb4.0/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.93**	**99**	Pn	**Pn**	**16 05 18.3**	**-0.3**
	15nm,0.3s,baz=185,slow=11,SNR=8.6						
HNR				Sn	**Sn**	**16 05 42.5**	**+0.3**
	158nm,0.3s,baz=182,slow=6.7,SNR=4.7						
RMQ	**Roma**	**19.37**	**206**	P	**Pn**	**16 09 12.8**	**+0.2**
	baz=16,SNR=5.8						
QIS	**Mount Isa**	**21.09**	**235**	P	**P**	**16 09 30.8**	**+0.6**
	baz=17,SNR=7.5						
QLP	**Quilpie**	**21.73**	**215**	P	**P**	**16 09 36.7**	**-0.3**
	baz=18,SNR=3.6						
CMSA	**Cobar Meteorol**	**25.07**	**205**	P	**P**	**16 10 10.3**	**+0.3**
	baz=22,SNR=6.3						
WRA	**Warramunga Arr**	**25.28**	**242**	P	**P**	**16 10 11.0**	**-1.1**
	17nm,1.1s,baz=67,slow=9.5,SNR=8.1						
ASAR	**Alice Springs**	**27.21**	**235**	P	**P**	**16 10 28.0**	**-1.6**
	2.5nm,1.0s,baz=62,slow=10.0,SNR=7.8						
STKA	**Stephens Creek**	**27.29**	**212**	P	**P**	**16 10 30.4**	**+0.3**
	5.1nm,0.8s,baz=291,slow=13,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**28.75**	**17**	T	T	16 39 20.4	
	baz=199,slow=77,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.75**	**17**	T	T	16 39 24.8	
	baz=199,slow=77,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.76**	**17**	T	T	16 39 17.2	
	baz=199,slow=77,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**29.96**	**17**	T	T	16 41 12.3	
	baz=197						
H11N3	**WAKE ISLAND Hy**	**29.97**	**17**	T	T	16 41 08.9	
	baz=197						
H11N2	**WAKE ISLAND Hy**	**29.98**	**17**	T	T	16 41 06.3	
	baz=197						
WSI	**Waingapu**	**37.20**	**266**	P	**P**	**16 11 57.6**	**+0.5**
	baz=33,SNR=5.5						
PETK	**Petropavlovsk-**	**61.99**	**360**	P	**P**	**16 15 04.4**	**-0.9**
	2.5nm,0.9s,baz=185,slow=6.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**64.40**	**295**	P	**P**	**16 15 22.6**	**+0.6**
	1.7nm,0.9s,baz=118,slow=5.0,SNR=12						
SONM	**Songino Array**	**72.74**	**326**	P	**P**	**16 16 14.4**	**+0.7**
	0.9nm,0.9s,baz=134,slow=6.2,SNR=3.1						
ILAR	**Eielson Array**	**84.27**	**21**	P	**P**	**16 17 16.8**	**0.0**
	0.6nm,1.0s,baz=231,slow=6.8,SNR=3.4						
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**16 17 30.1**	**-0.6**
	0.9nm,0.8s,baz=110,slow=5.3,SNR=7.0						
NVAR	**Mina Array Bea**	**90.70**	**51**	P	**P**	**16 17 49.9**	**+1.2**
	0.2nm,0.5s,baz=266,slow=6.0,SNR=2.6						
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**16 18 15.6**	**-0.4**
	0.1nm,0.3s,baz=261,slow=4.9,SNR=3.2						
BDFB	**Brasilia**	**144.36**	**133**	PKP	**PKPdf**	**16 24 22.5**	**-0.2**
	1.8nm,0.5s,baz=104,slow=13,SNR=3.5						

IDC 08 16:23:52.0±4.5,56.°88S×143.°32W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.6/13,mbtmp3.5/2,MS3.8/1,Ms1 3.7/1, ms1mx3.2/13,Error ellipse: s-maj=412.4km s-min=58.8km az=160.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**33.80**	**350**	*e*T	T	17 05 25.8	
	39nm,0.3s						
RKT	**Rikitea**	**34.27**	**14**	*e*LR	LR	16 39 28.5	
	138nm,25.5s						
RKT	**Rikitea**	**34.27**	**14**	*e*T	T	17 05 50.9	
	3.2nm,0.2s						
MEH	**Mehetia**	**39.11**	**353**	*e*T	T	17 12 08.0	
	22nm,0.2s						
PPT2	**Papeete2**	**39.51**	**351**	*e*LR	LR	16 41 44.8	
	195nm,25.5s						
VAH	**Vaihoa**	**41.70**	**354**	*e*T	T	17 15 12.0	
VAH				*e*T	T	17 15 15.1	
	27nm,0.2s						
STKA	**Stephens Creek**	**55.98**	**263**	LR	LR	16 54 02.7	
	comp=Z,77nm,20.1s,baz=36,slow=32						
ASAR	**Alice Springs**	**66.61**	**262**	P	P	16 34 43.5	-0.7
	1.2nm,1.1s,baz=141,slow=6.3,SNR=5.6						
H01W1	**Cape Leeuwin H**	**67.78**	**240**	T	T	17 50 02.5	
	baz=143,slow=76,SNR=114						
H01W2	**Cape Leeuwin H**	**67.79**	**240**	T	T	17 49 57.4	
	baz=143,slow=76,SNR=150						
H01W3	**Cape Leeuwin H**	**67.80**	**240**	T	T	17 50 03.7	
	baz=143,slow=76,SNR=120						
WRA	**Warramunga Arr**	**69.38**	**265**	P	P	16 35 02.1	+0.6
	0.8nm,1.1s,baz=144,slow=5.0,SNR=2.9						
H10S3	**ASCENSION HYDR**	**102.09**	**128**	T	T	18 32 24.4	
	baz=207,slow=75,SNR=3.8						
H10S2	**ASCENSION HYDR**	**102.10**	**128**	T	T	18 32 23.9	
	baz=207,slow=75,SNR=4.3						
H10S1	**ASCENSION HYDR**	**102.11**	**128**	T	T	18 32 27.8	
	baz=207,slow=75,SNR=4.6						
ILAR	**Eielson Array**	**121.36**	**358**	PKP	PKPdf	16 42 45.1	-0.3
	1.3nm,1.1s,baz=202,slow=3.9,SNR=5.6						
MKAR	**Makanchi Array**	**150.59**	**270**	PKPbc	PKPbc	16 43 44.6	-0.2
	1.8nm,0.9s,baz=132,slow=3.4,SNR=9.5						

IDC 08 16:24:29.4±5.7,22.°71N×145.°13E,h0km,mb3.3/5, mb1 3.4/5,mb1mx3.2/26,mbtmp3.3/5,Error ellipse: s-maj=215.7km s-min=22.1km az=75.0,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.87**	**319**	P	P	16 29 13.9	+0.9
	0.9nm,0.8s,baz=143,slow=9.4,SNR=3.2						
WRA	**Warramunga Arr**	**43.68**	**195**	P	P	16 32 36.3	+0.1
	0.1nm,0.3s,baz=13,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**47.37**	**194**	P	P	16 33 05.0	-0.4
	0.4nm,1.0s,baz=13,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**55.35**	**312**	P	P	16 34 06.1	+0.9
	0.1nm,0.4s,baz=97,slow=7.1,SNR=3.2						
BVAR	**Borovoye Array**	**63.08**	**319**	P	P	16 34 57.4	-1.2
	0.2nm,0.4s,baz=96,slow=5.1,SNR=3.5						

WEL 08 16:48:03.2±0.2,45.°13S×167.°24E,h85km±1km,ML3.8/12, 5C-7D,Error ellipse: s-maj=2.2km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.35**	**190**	⇑Pn	Pn	16 48 16.1	-0.1
DCZ				SN	Sn	16 48 25.6	-0.4
DCZ				AML	AML	16 48 26.1	
DCZ				AML	AML	16 48 26.3	
DCZ				AML	AML	16 48 26.4	
MSZ	**Milford Sound**	**0.67**	**47**	⇑Pn	Pn	16 48 19.0	+0.1
MSZ				SN	Sn	16 48 30.3	-0.3
MSZ				AML	AML	16 48 31.2	
MSZ				AML	AML	16 48 31.4	
MLZ	**Mavora Lakes**	**0.69**	**109**	⇑Pn	Pn	16 48 18.7	-0.5
MLZ				SN	Sn	16 48 30.3	-0.9
MLZ				AML	AML	16 48 31.4	
WHZ	**Wether Hill Ro**	**0.91**	**147**	⇓Pn	Pn	16 48 21.3	-0.2
WHZ				SN	Sn	16 48 34.3	-0.9
WHZ				AML	AML	16 48 35.0	
WKZ	**Wanaka**	**1.29**	**77**	⇓Pn	Pn	16 48 26.2	0.0
WKZ				AML	AML	16 48 43.5	
WKZ				AML	AML	16 48 43.6	
WKZ				AML	AML	16 48 43.6	
WKZ				AML	AML	16 48 43.6	
EAZ	**Earnscleugh**	**1.46**	**95**	⇓Pn	Pn	16 48 28.0	-0.2
EAZ				AML	AML	16 48 46.7	
EAZ				AML	AML	16 48 46.8	
EAZ				AML	AML	16 48 46.8	
JCZ	**Jackson Bay**	**1.51**	**46**	⇑Pn	Pn	16 48 28.4	-0.6
JCZ				AML	AML	16 48 47.2	
JCZ				AML	AML	16 48 47.5	
APZ	**The Paps**	**1.78**	**163**	⇓Pn	Pn	16 48 31.9	-0.5
APZ				AML	AML	16 48 55.2	
APZ				AML	AML	16 48 56.4	
TUZ	**Tuapeka**	**1.87**	**117**	PN	Pn	16 48 33.2	-0.3
TUZ				AML	AML	16 48 55.5	
TUZ				AML	AML	16 48 55.8	
SYZ	**Scrubby Hill**	**1.93**	**137**	⇓Pn	Pn	16 48 33.8	-0.4
SYZ				AML	AML	16 48 34.2	
SYZ				AML	AML	16 48 57.3	
SYZ				AML	AML	16 49 01.7	
LBZ	**Lake Benmore**	**2.22**	**71**	⇓PN	Pn	16 48 36.6	-1.6
LBZ				AML	AML	16 49 03.0	
LBZ				AML	AML	16 49 03.0	
LBZ				AML	AML	16 49 03.0	
LBZ				AML	AML	16 49 03.0	
FOZ	**Fox Glacier**	**2.35**	**49**	PN	Pn	16 48 39.3	-0.6
ODZ	**Otahua Downs**	**2.41**	**89**	⇑PN	Pn	16 48 39.4	-1.3
HHSZ	**Highcliff Hill**	**2.48**	**109**	⇓PN	Pn	16 48 40.9	-0.7
RPZ	**Rata Peaks**	**3.08**	**64**	PN	Pn	16 48 47.3	-2.3
RPZ				AML	AML	16 49 22.7	
RPZ				AML	AML	16 49 22.8	
WVZ	**Waitaha Valley**	**3.25**	**52**	PN	Pn	16 48 50.0	-1.9
OXZ	**Oxford**	**3.89**	**64**	PN	Pn	16 48 57.5	-3.2
MQZ	**McQueen's Vall**	**4.13**	**72**	PN	Pn	16 49 01.4	-2.5
LTZ	**Lake Taylor**	**4.32**	**59**	PN	Pn	16 49 03.7	-2.9
DSZ	**Denniston Nort**	**4.74**	**46**	PN	Pn	16 49 10.8	-1.5
THZ	**Tophouse**	**5.32**	**53**	PN	Pn	16 49 17.1	-3.1

PGC ***08*** *17:01:01.3±0.0,66.°86N×136.°10W,h10km,ML4.0/2, Mw4.2,97km Wsw of Fort McPherson, Nt Northern Yukon Territory, Canada*
NEIC ***08*** *17:01:01.3,66.°86N×136.°10W,h10km,mb4.0/1, MW4.2(OTT),After OTT.*
IDC ***08*** *17:01:04.2±1.4,66.°98N×136.°09W,h35km±14km,mb3.6/7, mb1 3.8/10,mb1mx3.5/30,mbtmp3.6/10,ML3.6/3,MS3.4/2, Ms1 3.4/2,ms1mx2.8/52,Error ellipse: s-maj=14.1km s-min=9.6km az=123.0*
ISC 08 17:01:01.0±1.2,66.°85N±0.°04×136.°03W±0.°04,h14km±9km, n52,σ1.°972/65,mb3.6/8,6D,Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**1.75**	**32**	⇓Pn	**Pn**	**17 01 31.7**	**+0.8**
INK				⇑Sn	**Sn**	**17 01 52.7**	**-0.2**
INK				⇓Sg	**Sg**	**17 01 57.0**	**-0.2**
INK	**Inuvik**	**1.75**	**32**	P	**Pn**	**17 01 31.6**	**+0.8**
INK				*e*Pg	**Pg**	**17 01 36.7**	**+2.2**
INK				S	**Sb**	**17 01 54.7**	**+0.1**
INK				*e*Sg	**Sg**	**17 01 56.6**	**-0.6**
INK	**Inuvik**	**1.75**	**32**	Pn	**Pn**	**17 01 31.7**	**+0.8**
	39nm,0.3s,baz=213,slow=14,SNR=435						
INK				Pg	**Pg**	**17 01 37.0**	**+2.5**
	128nm,0.3s,baz=210,slow=15,SNR=56						
INK				Sn	**Sn**	**17 01 52.2**	**-0.8**
	68nm,0.3s,baz=112,slow=29,SNR=7.0						
INK				Lg	Lg	17 01 57.5	
	265nm,0.3s,baz=126,slow=31,SNR=19						
EGAK	**Eagle**	**2.97**	**228**	*e*Pn	**Pn**	**17 01 48.0**	**+0.4**
EGAK				*e*Pg	**Pg**	**17 01 56.8**	**-1.0**
EGAK				*e*Sg	**Sb**	**17 02 33.1**	**+3.4**
DAWY	**Dawson**	**3.13**	**208**	⇓Pn	**Pn**	**17 01 51.3**	**+1.3**
DAWY				⇓Sg	**Sb**	**17 02 37.3**	**+2.9**
DAWY	**Dawson**	**3.13**	**208**	P	**Pn**	**17 01 51.7**	**+1.7**
DAWY				S	**Sn**	**17 02 29.2**	**+2.0**
BM3	**Burnt Mountain**	**3.40**	**284**	P	**Pn**	**17 01 55.1**	**+1.5**
FYU	**Fort Yukon**	**3.67**	**270**	P	**Pn**	**17 01 58.9**	**+1.7**
FYU				S	**Sn**	**17 02 42.0**	**+1.8**
SCRK	**Sand Creek**	**4.40**	**233**	P	**Pn**	**17 02 08.6**	**+1.1**
BCA3	**Beaver Creek A**	**4.52**	**215**	P	**Pn**	**17 02 10.6**	**+1.5**
DOT	**Dot Lake**	**4.66**	**230**	*e*Pn	**Pn**	**17 02 11.5**	**+0.6**
DOT				*e*Pg	**Pg**	**17 02 29.1**	**-1.0**
DOT				*e*Sg	**Sg**	**17 03 32.8**	**+2.3**
IL1	**Eielson Array**	**4.93**	**250**	P	**Pn**	**17 02 15.8**	**+1.2**
ILAR	**Eielson Array**	**4.93**	**250**	Pn	**Pn**	**17 02 15.4**	**+0.8**
	0.9nm,0.3s,baz=52,slow=13,SNR=94						
ILAR				Pg	Pg	17 02 32.0	-3.3
	1.6nm,0.3s,baz=46,slow=14,SNR=17						
ILAR				Sn	**Sn**	**17 03 09.1**	**-2.3**
	3.8nm,0.3s,baz=65,slow=19,SNR=6.1						
ILAR				Lg	Lg	17 03 41.1	
	8.5nm,0.3s,baz=61,slow=30,SNR=8.0						
ILB	**Eielson Array**	**4.93**	**250**	P	**Pn**	**17 02 15.9**	**+1.3**
MENT	**Mentasta**	**5.11**	**223**	*e*Pn	**Pn**	**17 02 17.4**	**+0.3**
MENT				*e*Sg	**Sg**	**17 03 39.8**	**-5.1**
COLA	**College**	**5.24**	**253**	*e*Pn	**Pn**	**17 02 19.6**	**+0.8**
CCB	**Clear Creek Bu**	**5.33**	**251**	P	**Pn**	**17 02 21.6**	**+1.4**
WRH	**Wood River Hil**	**5.53**	**250**	P	**Pn**	**17 02 24.3**	**+1.5**
COLD	**Coldfoot**	**5.56**	**280**	P	**Pn**	**17 02 25.1**	**+1.8**
PAX	**Paxson**	**5.59**	**230**	*e*Pn	**Pn**	**17 02 22.9**	**-0.9**
PAX				*e*Sg	**Sg**	**17 03 57.8**	**-2.5**
HARP	**HAARP**	**5.94**	**226**	P	**Pn**	**17 02 29.9**	**+1.5**
WHY	**Whitehorse**	**6.24**	**175**	⇑Pn	**Pn**	**17 02 33.3**	**+0.8**
WHY	**Whitehorse**	**6.24**	**175**	P	**Pn**	**17 02 33.7**	**+1.0**
MLY	**Manley**	**6.29**	**260**	P	**Pn**	**17 02 33.8**	**+0.5**
RND	**Reindeer**	**6.42**	**243**	P	**Pn**	**17 02 35.9**	**+0.8**
TRF	**Thorofare Moun**	**6.90**	**247**	P	**Pn**	**17 02 42.8**	**+1.0**
KTH	**Kantishna Hill**	**7.08**	**249**	*e*Pn	**Pn**	**17 02 44.1**	**0.0**
KTH				*e*Sg	**Sg**	**17 04 48.5**	**+0.6**
IM3	**Indian Mountai**	**7.16**	**271**	P	**Pn**	**17 02 45.6**	**+0.5**
IM04	**Indian Mountai**	**7.17**	**271**	*e*Pn	**Pn**	**17 02 46.3**	**+0.9**
IM04				*e*Sn	**Sn**	**17 04 04.5**	**-2.1**
SML	**Sawmill**	**7.35**	**232**	Pn	Pn	17 02 51.6	+3.8
PMR	**Palmer**	**7.76**	**233**	*e*Pn	**Pn**	**17 02 55.0**	**+1.5**
RC01	**Rabbit Creek A**	**8.34**	**233**	*e*Pn	Pn	17 03 06.2	+4.9
DLBC	**Dease Lake**	**8.88**	**159**	⇓Pn	**Pn**	**17 03 10.3**	**+1.4**
DLBC	**Dease Lake**	**8.88**	**159**	*e*Pn	**Pn**	**17 03 09.5**	**+0.6**
DLBC	**Dease Lake**	**8.88**	**159**	Pn	**Pn**	**17 03 09.9**	**+1.0**
	0.7nm,0.3s,baz=349,slow=10,SNR=10						
DLBC				Lg	Lg	17 05 45.1	
	0.3nm,0.3s,baz=255,slow=19,SNR=3.5						
RSO	**Redoubt South**	**9.79**	**237**	Pn	Pn	17 03 25.5	+4.2
YKW3	**Yellowknife Ar**	**10.09**	**105**	⇓P	**Pn**	**17 03 22.8**	**-2.5**
YKW3				⇑S	Sn	17 05 06.7	-11
YKA	**Yellowknife Ar**	**10.13**	**105**	Pn	**Pn**	**17 03 23.2**	**-2.7**
	0.3nm,0.3s,baz=304,slow=13,SNR=10						
YKA				Sn	Sn	17 05 08.8	-10
	1.5nm,0.3s,baz=305,slow=23,SNR=12						
YKA				Lg	Lg	17 06 20.0	
	0.9nm,0.3s,baz=233,slow=29,SNR=5.5						
TNA	**Tin City**	**12.86**	**279**	Pn	**Pn**	**17 04 03.5**	**+0.4**
RES	**Resolute Bay**	**15.28**	**42**	*e*Pn	**Pn**	**17 04 32.3**	**-3.7**
RES	**Resolute Bay**	**15.28**	**42**	Pn	**Pn**	**17 04 32.4**	**-3.5**
	1.0nm,0.3s,baz=268,slow=15,SNR=15						
RES				Sn	Sn	17 07 09.8	-15
	0.2nm,0.3s,baz=292,slow=19,SNR=2.9						
RES				LR	LR	17 11 00.5	
	comp=Z,99nm,18.2s,baz=339,slow=39						
FFC	**Flin Flon**	**20.25**	**110**	P	Pn	17 05 43.4	+5.9
	5.6nm,0.8s						
FCC	**Fort Churchill**	**20.42**	**93**	P	**P**	**17 05 37.9**	**+0.6**
FRB	**Frobisher Bay**	**27.12**	**64**	P	**P**	**17 06 42.9**	**-0.2**
	0.8nm,0.4s,baz=306,slow=14,SNR=2.6						
PDAR	**Pinedale Array**	**28.11**	**136**	P	**P**	**17 06 54.0**	**+1.6**
	0.5nm,0.8s,baz=337,slow=6.8,SNR=4.9						
NVAR	**Mina Array Bea**	**30.20**	**152**	P	**P**	**17 07 12.6**	**+1.7**
	0.2nm,0.3s,baz=341,slow=7.8,SNR=3.8						
SCHQ	**Schefferville**	**33.86**	**76**	P	**P**	**17 07 42.4**	**-0.2**
	1.5nm,0.6s,baz=330,slow=9.2,SNR=3.4						
**TXA

FINES FINESS Array B 51.33 11 P **P** 17 10 03.2 -1.0
1.8nm,0.8s,baz=358,slow=8.3,SNR=5.0
OBN Obninsk 58.23 5 LR LR 17 38 29.8
comp=Z,46nm,18.3s,baz=271,slow=39
AKASG Malin Array Be 62.24 11 P **P** 17 11 20.6 -1.1
0.7nm,0.5s,baz=352,slow=6.4,SNR=7.2
MKAR Makanchi Array 62.98 331 P P 17 11 22.9 -3.8
0.2nm,0.7s,baz=22,slow=4.7,SNR=3.0

MAN 08 17:08:05,17′.89N×120°.75E,h33km,mb4.3,ML3.2,MS3.0, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.24**	**188**	*eP*	Pb	17 08 13.6	+1.6
ABRA				*eS*	Sb	17 08 18.8	+2.1
PIP	**Pasuquin**	**0.45**	**345**	⇓*iP*	Pn	17 08 15.8	+0.6
PIP				*eS*	Sn	17 08 24.2	+2.0
APYP	**Conner**	**0.47**	**93**	*eP*	Pn	17 08 16.6	+1.1
APYP				*eS*	Sn	17 08 24.3	+1.6

*ISCJB **08** 17:15:56.7±0.5,27°.35N±0°.08×91°.3E±0°.2,h33km, mb3.6/12,Error ellipse: s-maj=22.9km s-min=6.7km az=156.4*
*IDC **08** 17:16:01.4±3.9,27°.55N×91°.41E,h52km±38km,mb3.4/14, mb1 3.6/15,mb1mx3.5/30,mbtmp3.4/15,ML3.5/1,Error ellipse: s-maj=32.2km s-min=15.0km az=52.0*
ISC 08 17:15:58.7±0.7,27°.3N±0°.1×91°.3E±0°.2,h35km,n17, σ1§22/16,mb3.5/12,1D,Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.85**	**162**	⇓*iP*	**Pn**	**17 16 26.5**	**-1.7**
SHL				*eSN*	**Sn**	**17 16 49.0**	**-1.5**
GTK	**Gangtok**	**2.35**	**270**	*eP*	Pn	17 16 40.0	+5.0
CMAR	**Chiang Mai Arr**	**11.32**	**140**	P	**Pn**	**17 18 39.8**	**+1.7**
	0.1nm,0.3s,baz=318,slow=15,SNR=3.5						
AAK	**Ala-Archa**	**20.47**	**323**	P	Pn	17 20 35.1	-0.8
	1.6nm,0.7s,baz=104,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**20.67**	**342**	P	**P**	**17 20 35.7**	**+0.2**
	1.5nm,0.5s,baz=150,slow=13,SNR=34						
SONM	**Songino Array**	**23.64**	**26**	P	**P**	**17 21 05.7**	**-1.1**
	0.4nm,0.5s,baz=212,slow=12,SNR=3.1						
KURBB	**Kurchatov Arra**	**25.20**	**341**	P	**P**	**17 21 20.9**	**0.0**
	0.4nm,0.6s,baz=162,slow=8.4,SNR=8.0						
ZALV	**Zalesovo Beam**	**27.00**	**352**	P	**P**	**17 21 37.0**	**-0.2**
	0.9nm,0.7s,baz=168,slow=7.6,SNR=6.0						
BVAR	**Borovoye Array**	**29.99**	**334**	P	**P**	**17 22 04.1**	**+0.3**
	0.3nm,0.5s,baz=139,slow=9.0,SNR=4.3						
BRTR	**Keskin Array B**	**48.84**	**300**	P	**P**	**17 24 41.9**	**+0.9**
	0.3nm,0.6s,baz=111,slow=7.9,SNR=2.5						
AKASG	**Malin Array Be**	**51.84**	**314**	P	**P**	**17 25 03.2**	**-0.1**
	1.0nm,0.4s,baz=82,slow=6.5,SNR=12						
FINES	**FINESS Array B**	**54.55**	**328**	P	**P**	**17 25 23.2**	**+0.2**
	1.3nm,0.7s,baz=105,slow=10.0,SNR=8.1						
ARCES	**ARCESS Array B**	**56.21**	**337**	P	**P**	**17 25 34.4**	**-0.5**
	4.0nm,0.9s,baz=94,slow=7.7,SNR=3.8						
GERES	**GERESS Array B**	**61.99**	**313**	P	**P**	**17 26 15.1**	**-0.3**
	0.3nm,0.3s,baz=94,slow=3.9,SNR=4.1						
WRA	**Warramunga Arr**	**62.85**	**134**	P	**P**	**17 26 23.1**	**+1.7**
	0.5nm,0.7s,baz=319,slow=7.8,SNR=4.6						
ASAR	**Alice Springs**	**65.32**	**137**	P	**P**	**17 26 39.4**	**+1.9**
	0.2nm,0.6s,baz=319,slow=6.2,SNR=4.5						
ILAR	**Eielson Array**	**77.79**	**22**	P	**P**	**17 27 50.5**	**-1.5**
	0.3nm,0.7s,baz=310,slow=5.4,SNR=3.9						

MEX 08 17:30:20.8±1.7,17°.22N×94°.85W,h147km±14km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.13**	**195**	*eP*	Pn	17 30 39.9	-0.8
CMIG				*eS*	Sn	17 30 52.9	-2.8
OXX	**Oaxaca**	**1.80**	**266**	*eP*	Pn	17 30 56.4	+2.7
OXX				*eS*	Sn	17 31 20.0	+1.2
VHO	**Vista Hermosa**	**1.81**	**266**	*i* P	Pn	17 30 53.5	-0.3
VHO				*i* S	Sn	17 31 17.5	-1.5
HUIG	**Huatulco**	**1.88**	**220**	*eP*	Pn	17 30 52.3	-2.1
HUIG				*i* S	Sn	17 31 17.8	-2.3
PCIG		**2.17**	**134**	*eP*	Pn	17 30 59.3	+1.5
PCIG				*eS*	Sn	17 31 25.8	-0.4
LVIG	**Laguna Verde**	**2.90**	**329**	*i* P	Pn	17 31 05.0	-1.8
LVIG				*i* S	Sn	17 31 38.5	-3.9
PNIG	**Pinotepa**	**3.24**	**256**	*i* P	Pn	17 31 09.0	-2.2
PNIG				*i* S	Sn	17 31 47.7	-2.5
THIG		**3.38**	**132**	*i* P	Pn	17 31 11.6	-1.4
THIG				*i* S	Sn	17 31 50.5	-2.8
TEIG	**Tepich**	**6.91**	**63**	*i* P	Pn	17 31 59.4	-0.3
TEIG				*eS*	Sn	17 33 15.0	-2.2

*BEO **08** 17:42:56.6±4.5,38°.42N×14°.77E,h0km*
*LDG **08** 17:43:08.0±0.4,39°.57N×15°.73E,h220km,Mb4.3/30,Error ellipse: s-maj=20.0km s-min=6.7km az=15.0*
*ROM **08** 17:43:12.8±0.2,39°.77N×15°.66E,h280km±3km,Ml3.8/38, Error ellipse: s-maj=4.5km s-min=2.7km az=78.0*
*ISCJB **08** 17:43:13.5±0.2,39°.78N±0°.02×15°.45E±0°.02,h276km±1km, mb3.8/35,Error ellipse: s-maj=3.8km s-min=2.3km az=29.4*
*CSEM **08** 17:43:14.3±0.1,39°.81N×15°.41E,h273km±1km,mb3.9/27, ML3.9/8,Error ellipse: s-maj=4.4km s-min=3.0km az=24.0*
*NEIC **08** 17:43:14.2±0.4,39°.81N×15°.43E,h272km±4km,mb4.0/19, Error ellipse: s-maj=7.8km s-min=4.2km az=200.0*
*MOS **08** 17:43:14.5±0.9,39°.88N×15°.36E,h286km,mb4.0/25,Error ellipse: s-maj=6.1km s-min=4.0km az=116.6*
*IDC **08** 17:43:15.8±1.2,39°.91N×15°.47E,h279km±12km,mb3.5/21, mb1 3.6/33,mb1mx3.6/44,mbtmp4.2/33,Error ellipse: s-maj=11.4km s-min=8.1km az=20.0*
ISC 08 17:43:14.0±0.5,39°.81N±0°.04×15°.53E±0°.04,h268km±4km, n563,σ1§18/601,mb3.8/35,37C-22D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.29**	**50**	Pg	**Pn**	**17 43 49.3**	**+0.7**
CUC				Sg	**S**	**17 44 15.6**	**-0.3**
	144nm,0.5s						
CUC	**Castrocucco**	**0.29**	**50**	*e*Pn	**Pn**	**17 43 48.9**	**+0.3**
CUC				*eS*	**S**	**17 44 13.8**	**-2.1**
CUC	**Castrocucco**	**0.29**	**50**	*e*Pn	**Pn**	**17 43 48.9**	**+0.3**
CUC	**Castrocucco**	**0.29**	**50**	Pg	**Pn**	**17 43 49.3**	**+0.7**
CUC				*eS*	**S**	**17 44 13.8**	**-2.1**
CUC				Sg	**S**	**17 44 15.6**	**-0.3**
	144nm,0.5s						
BULG	**Bulgheria - Ca**	**0.29**	**337**	Pg	**Pn**	**17 43 49.8**	**+1.2**
BULG				Sg	**S**	**17 44 17.0**	**+1.0**
	371nm,0.7s						
BULG	**Bulgheria - Ca**	**0.29**	**337**	Pg	**Pn**	**17 43 49.8**	**+1.2**
BULG				Sg	**S**	**17 44 17.0**	**+1.0**
	371nm,0.7s						
MGR	**Morigerati**	**0.33**	**3**	Pg	**Pn**	**17 43 49.6**	**+1.0**
MGR				Sg	**S**	**17 44 16.3**	**+0.4**
	433nm,1.0s						
MGR	**Morigerati**	**0.33**	**3**	Pg	**Pn**	**17 43 49.6**	**+1.0**
MGR				Sg	**S**	**17 44 16.3**	**+0.4**
	433nm,1.0s						
MMN	**Mormanno**	**0.36**	**77**	Pg	**Pn**	**17 43 49.5**	**+0.9**
	122nm,0.4s						
MMN	**Mormanno**	**0.36**	**77**	Pg	**Pn**	**17 43 49.5**	**+0.9**
	122nm,0.4s						
SIRI	**Monte Sirino -**	**0.46**	**35**	Pg	**Pn**	**17 43 50.2**	**+1.2**
	392nm,1.0s						
SIRI	**Monte Sirino -**	**0.46**	**35**	Pg	**Pn**	**17 43 50.2**	**+1.2**
	392nm,1.0s						
MTSN	**Montesano sull**	**0.49**	**20**	Pg	**Pn**	**17 43 50.0**	**+0.9**
MTSN				Sg	**S**	**17 44 18.4**	**+1.6**
	131nm,1.1s						
MTSN	**Montesano sull**	**0.49**	**20**	Pg	**Pn**	**17 43 50.0**	**+0.9**
MTSN				Sg	**S**	**17 44 18.4**	**+1.6**
	131nm,1.1s						
CMPR	**Campora**	**0.54**	**341**	Pg	**Pn**	**17 43 50.2**	**+1.0**
CMPR				Sg	**S**	**17 44 17.5**	**+0.6**
	343nm,0.9s						
CMPR	**Campora**	**0.54**	**341**	Pg	**Pn**	**17 43 50.2**	**+1.0**
CMPR				Sg	**S**	**17 44 17.5**	**+0.6**
	343nm,0.9s						
SCHR	**S. Chirico Rap**	**0.57**	**47**	Pg	**Pn**	**17 43 50.6**	**+1.3**
SCHR				Sg	**S**	**17 44 18.2**	**+1.0**
	167nm,0.7s						
SALB	**San Lorenzo Be**	**0.63**	**83**	Pg	**Pn**	**17 43 50.2**	**+0.6**
SALB				Sg	**S**	**17 44 17.3**	**-0.3**
	336nm,0.4s						
SALB	**San Lorenzo Be**	**0.63**	**83**	Pg	**Pn**	**17 43 50.2**	**+0.6**
SALB				Sg	**S**	**17 44 17.3**	**-0.3**
	336nm,0.4s						
CDRU	**Civita di Ruta**	**0.70**	**346**	⇑*i*Pg	**Pn**	**17 43 50.9**	**+1.1**
CDRU				Sg	**S**	**17 44 18.3**	**+0.3**
	211nm,1.1s						
CDRU	**Civita di Ruta**	**0.70**	**346**	⇑*i*Pg	**Pn**	**17 43 50.9**	**+1.1**
CDRU				Sg	**S**	**17 44 18.3**	**+0.3**
	211nm,1.1s						
ORI	**Oriolo Calabro**	**0.75**	**70**	Pg	**Pn**	**17 43 50.9**	**+1.0**
ORI				Sg	**S**	**17 44 19.1**	**+1.0**
	873nm,0.5s						
ORI	**Oriolo Calabro**	**0.75**	**70**	Pg	**Pn**	**17 43 50.9**	**+1.0**
ORI				Sg	**S**	**17 44 19.1**	**+1.0**
	873nm,0.5s						
MCRV	**Calabrutti - M**	**1.01**	**344**	Pg	**Pn**	**17 43 52.4**	**+1.2**
	126nm,0.4s						
MCRV	**Calabrutti - M**	**1.01**	**344**	Pg	**Pn**	**17 43 52.4**	**+1.2**
	126nm,0.4s						
PIPA	**Pietrapaola**	**1.04**	**107**	Pg	**Pn**	**17 43 52.1**	**+0.8**
PIPA				Sg	**S**	**17 44 20.7**	**0.0**
	1μm,0.5s						
PIPA	**Pietrapaola**	**1.04**	**107**	Pg	**Pn**	**17 43 52.1**	**+0.8**
PIPA				Sg	**S**	**17 44 20.7**	**0.0**
	1μm,0.5s						
CSSN	**Cassano Irpino**	**1.12**	**340**	⇑*i*Pg	**Pn**	**17 43 53.1**	**+1.4**
	144nm,1.0s						
CSSN	**Cassano Irpino**	**1.12**	**340**	⇑*i*Pg	**Pn**	**17 43 53.1**	**+1.4**
	144nm,1.0s						
TIP	**Timpagrande**	**1.14**	**123**	*e*Pn	**Pn**	**17 43 52.3**	**+0.4**
TIP	**Timpagrande**	**1.14**	**123**	*e*Pn	**Pn**	**17 43 52.3**	**+0.4**
SERS	**Sersale**	**1.18**	**130**	⇓*i*Pg	**Pn**	**17 43 52.9**	**+0.7**
SERS				Sg	**S**	**17 44 21.5**	**-0.9**
	633nm,0.4s						
SERS	**Sersale**	**1.18**	**130**	⇓*i*Pg	**Pn**	**17 43 52.9**	**+0.7**
SERS				Sg	**S**	**17 44 21.5**	**-0.9**
	633nm,0.4s						
GRI	**Girifalco**	**1.20**	**145**	Pg	**Pn**	**17 43 52.9**	**+0.7**
GRI				Sg	**S**	**17 44 21.9**	**-0.5**
	794nm,0.5s						
GRI	**Girifalco**	**1.20**	**145**	Pg	**Pn**	**17 43 52.9**	**+0.7**
GRI				Sg	**S**	**17 44 21.9**	**-0.5**
	794nm,0.5s						
MATE	**Matera**	**1.23**	**47**	Pg	**Pn**	**17 43 52.4**	**+0.2**
MATE				Sg	**S**	**17 44 21.2**	**-1.3**
	798nm,0.8s						
MATE	**Matera**	**1.23**	**47**	Pg	**Pn**	**17 43 52.4**	**+0.2**
MATE				Sg	**S**	**17 44 21.2**	**-1.3**
	798nm,0.8s						
LADO	**San Nicola del**	**1.24**	**114**	⇓*i*Pg	**Pn**	**17 43 53.0**	**+0.6**
LADO				Sg	**S**	**17 44 22.3**	**-0.4**
	1μm,0.3s						
LADO	**San Nicola del**	**1.24**	**114**	⇓*i*Pg	**Pn**	**17 43 53.0**	**+0.6**
LADO				Sg	**S**	**17 44 22.3**	**-0.4**
	1μm,0.3s						
AMUR	**Altamura**	**1.37**	**36**	Pg	**Pn**	**17 43 53.7**	**+0.5**
	395nm,0.8s						
AMUR	**Altamura**	**1.37**	**36**	Pg	**Pn**	**17 43 53.7**	**+0.5**
	395nm,0.8s						
CDT	**Castel del Mon**	**1.40**	**24**	*e*Pn	**Pn**	**17 43 53.7**	**+0.4**
LLI	**Lipari**	**1.43**	**199**	Pg	**Pn**	**17 43 55.5**	**+1.8**
	955nm,0.7s						
LLI	**Lipari**	**1.43**	**199**	Pg	**Pn**	**17 43 55.5**	**+1.8**
	955nm,0.7s						
VPL	**Vulcano Piano**	**1.49**	**197**	Pg	**Pn**	**17 43 55.3**	**+1.2**
	359nm,0.7s						
VPL	**Vulcano Piano**	**1.49**	**197**	Pg	**Pn**	**17 43 55.3**	**+1.2**
	359nm,0.7s						
TAR1	**Taranto**	**1.52**	**61**	*e*Pn	**Pn**	**17 43 54.2**	**0.0**
PLAC	**Placanica**	**1.53**	**152**	⇓*i*Pg	**Pn**	**17 43 54.6**	**+0.2**
PLAC				Sg	**S**	**17 44 25.2**	**-1.1**
	604nm,0.5s						
PLAC	**Placanica**	**1.53**	**152**	⇓*i*Pg	**Pn**	**17 43 54.6**	**+0.2**
PLAC				Sg	**S**	**17 44 25.2**	**-1.1**
	604nm,0.5s						
NOCI	**Noci**	**1.53**	**50**	Pg	**Pn**	**17 43 54.7**	**+0.4**
NOCI				Sg	**S**	**17 44 24.9**	**-1.2**
	466nm,0.7s						
NOCI	**Noci**	**1.53**	**50**	Pg	**Pn**	**17 43 54.7**	**+0.4**
NOCI				Sg	**S**	**17 44 24.9**	**-1.2**
	466nm,0.7s						
MSRU	**Castanea**	**1.54**	**181**	Pg	**Pn**	**17 43 54.3**	**-0.2**
MSRU				Sg	**S**	**17 44 25.5**	**-1.0**
	569nm,0.6s						
MSRU	**Castanea**	**1.54**	**181**	Pg	**Pn**	**17 43 54.3**	**-0.2**
MSRU				Sg	**S**	**17 44 25.5**	**-1.0**
	569nm,0.6s						
CEL	**Celeste**	**1.57**	**169**	Pg	**Pn**	**17 43 54.3**	**-0.5**
CEL				Sg	**S**	**17 44 24.8**	**-2.1**
	367nm,0.7s						
CEL	**Celeste**	**1.57**	**169**	*e*Pn	**Pn**	**17 43 54.2**	**-0.6**
CEL				*eS*	**S**	**17 44 21.8**	**-5.2**
CEL	**Celeste**	**1.57**	**169**	Pg	**Pn**	**17 43 54.3**	**-0.5**
CEL				*eS*	**S**	**17 44 21.8**	**-5.2**
CEL				Sg	**S**	**17 44 24.8**	**-2.1**
	367nm,0.7s						
BAI	**Bari**	**1.66**	**38**	*i* Pn	**Pn**	**17 43 55.1**	**0.0**
PE1	**Pezze di Greco**	**1.76**	**55**	*e*Pn	**Pn**	**17 43 56.4**	**+0.5**
GATE	**Gambatesa**	**1.77**	**345**	Pg	**Pn**	**17 43 57.8**	**+1.7**
	447nm,2.6s						
GATE	**Gambatesa**	**1.77**	**345**	Pg	**Pn**	**17 43 57.8**	**+1.7**
	447nm,2.6s						
SOI	**Samo**	**1.78**	**167**	Pg	**Pn**	**17 43 56.2**	**-0.1**
	181nm,0.6s						
SOI	**Samo**	**1.78**	**167**	Pg	**Pn**	**17 43 56.2**	**-0.1**
	181nm,0.6s						
MTTG	**Motta San Giov**	**1.81**	**176**	Pg	**Pn**	**17 43 56.8**	**+0.3**
	358nm,0.6s						
MTTG	**Motta San Giov**	**1.81**	**176**	Pg	**Pn**	**17 43 56.8**	**+0.3**
	358nm,0.6s						
MSC	**Monte Massico**	**1.82**	**320**	Pg	Pn	17 44 00.1	+3.6
MSC	**Monte Massico**	**1.82**	**320**	Pg	Pn	17 44 00.1	+3.6
MPAZ	**Palizzi**	**1.89**	**168**	Pg	**Pn**	**17 43 57.2**	**0.0**
MPAZ	**Palizzi**	**1.89**	**168**	Pg	**Pn**	**17 43 57.2**	**0.0**
CIGN	**Sant'Elia a Pi**	**1.91**	**346**	Pg	**Pn**	**17 43 58.3**	**+1.1**
CIGN	**Sant'Elia a Pi**	**1.91**	**346**	Pg	**Pn**	**17 43 58.3**	**+1.1**
MS1	**Monte Sant'Ang**	**1.92**	**9**	*i* Pn	**Pn**	**17 43 57.9**	**+0.5**
MESG	**Mesagne**	**1.94**	**66**	⇓*i*Pg	**Pn**	**17 43 58.0**	**+0.5**
	475nm,0.5s						
MESG	**Mesagne**	**1.94**	**66**	⇓*i*Pg	**Pn**	**17 43 58.0**	**+0.5**
	475nm,0.5s						
RNI2	**Rionero Sannit**	**2.16**	**332**	Pg	**Pn**	**17 44 01.8**	**+2.3**
RNI2	**Rionero Sannit**	**2.16**	**332**	Pg	**Pn**	**17 44 01.8**	**+2.3**
CSLB	**Castelbuono**	**2.19**	**212**	Pg	**Pn**	**17 44 01.2**	**+1.4**
	53nm,0.5s						
CSLB	**Castelbuono**	**2.19**	**212**	Pg	**Pn**	**17 44 01.2**	**+1.4**
	53nm,0.5s						
GALF	**Gagliano Caste**	**2.22**	**200**	Pg	**Pn**	**17 44 02.1**	**+1.9**
	188nm,0.6s						
GALF	**Gagliano Caste**	**2.22**	**200**	Pg	**Pn**	**17 44 02.1**	**+1.9**
	188nm,0.6s						
ECNV	**Catenanuova**	**2.30**	**196**	Pg	**Pn**	**17 44 02.5**	**+1.7**
	713nm,1.3s						
ECNV	**Catenanuova**	**2.30**	**196**	Pg	**Pn**	**17 44 02.5**	**+1.7**
	713nm,1.3s						
SDI	**San Donato**	**2.31**	**326**	⇑*i*Pg	**Pn**	**17 44 02.4**	**+1.6**
	26nm,0.4s						
SDI	**San Donato**	**2.31**	**326**	⇑*i*Pg	**Pn**	**17 44 02.4**	**+1.6**
	26nm,0.4s						
ALJA	**Alia**	**2.48**	**215**	Pg	**Pn**	**17 44 05.5**	**+3.0**
	166nm,1.0s						
ALJA	**Alia**	**2.48**	**215**	Pg	**Pn**	**17 44 05.5**	**+3.0**
	166nm,1.0s						
VVLD	**Villa Vallelon**	**2.52**	**326**	⇑*i*Pg	**Pn**	**17 44 04.6**	**+1.8**
	90nm,0.6s						
VVLD	**Villa Vallelon**	**2.52**	**326**	⇑*i*Pg	**Pn**	**17 44 04.6**	**+1.8**
	90nm,0.6s						
INTR	**Introdacqua**	**2.52**	**331**	⇑*i*Pg	**Pn**	**17 44 04.6**	**+1.8**
	207nm,1.1s						
INTR	**Introdacqua**	**2.52**	**331**	⇑*i*Pg	**Pn**	**17 44 04.6**	**+1.8**
	207nm,1.1s						
GUAR	**Guarcino**	**2.60**	**320**	⇑*i*Pg	**Pn**	**17 44 05.2**	**+1.6**
	56nm,0.5s						
GUAR	**Guarcino**	**2.60**	**320**	⇑*i*Pg	**Pn**	**17 44 05.2**	**+1.6**
	56nm,0.5s						
HVZN	**Vizzini**	**2.70**	**194**	Pg	**Pn**	**17 44 05.6**	**+0.9**
	282nm,0.7s						
HVZN	**Vizzini**	**2.70**	**194**	Pg	**Pn**	**17 44 05.6**	**+0.9**
	282nm,0.7s						
RAFF	**Raffo Rosso**	**2.74**	**200**	Pg	**Pn**	**17 44 06.6**	**+1.6**
	1μm,2.6s						
RAFF	**Raffo Rosso**	**2.74**	**200**	Pg	**Pn**	**17 44 06.6**	**+1.6**
	1μm,2.6s						
FAGN	**Fagnano**	**2.86**	**330**	Pg	**Pn**	**17 44 08.2**	**+2.0**
	101nm,0.5s						
FAGN	**Fagnano**	**2.86**	**330**	Pg	**Pn**	**17 44 08.2**	**+2.0**
	101nm,0.5s						
CLTB	**Caltabellotta**	**2.87**	**220**	*eP*	Pn	17 44 00.3	-6.2
CLTB	**Caltabellotta**	**2.87**	**220**	*eP*	Pn	17 44 00.3	-6.2
AQU	**L'Aquila**	**3.01**	**328**	*ePn*	**Pn**	**17 44 09.6**	**+1.9**
AQU	**L'Aquila**	**3.01**	**328**	*eP*	**Pn**	**17 44 09.6**	**+1.9**
T0104	**Madonna delle**	**3.04**	**328**	Pg	**Pn**	**17 44 10.4**	**+2.3**
FIAM	**Fiamignano**	**3.06**	**324**	⇑*i*Pg	**Pn**	**17 44 10.7**	**+2.4**
	84nm,0.7s						
FIAM	**Fiamignano**	**3.06**	**324**	⇑*i*Pg	**Pn**	**17 44 10.7**	**+2.4**
	84nm,0.7s						
KEK	**Kerkira**	**3.29**	**90**	*eP*	**Pn**	**17 44 11.4**	**+0.7**
KEK	**Kerkira**	**3.29**	**90**	Pg	**Pn**	**17 44 11.2**	**+0.5**
KEK	**Kerkira**	**3.29**	**90**	Pg	**Pn**	**17 44 11.2**	**+0.5**
STON	**Ston**	**3.47**	**27**	*ePn*	**Pn**	**17 44 12.9**	**+0.3**
STON	**Ston**	**3.47**	**27**	*ePn*	**Pn**	**17 44 12.9**	**+0.3**
NRCA	**Norcia**	**3.53**	**330**	Pg	**Pn**	**17 44 15.1**	**+1.8**
	3.0nm,0.4s						
NRCA	**Norcia**	**3.53**	**330**	Pg	**Pn**	**17 44 15.1**	**+1.8**
	3.0nm,0.4s						
IGT	**Igoumenitsa**	**3.72**	**93**	*eP*	**Pn**	**17 44 16.0**	**+0.6**
PDG	**Podgorica**	**3.85**	**46**	*ePn*	**Pn**	**17 44 17.0**	**+0.2**
PDG	**Podgorica**	**3.85**	**46**	*ePn*	**Pn**	**17 44 17.0**	**+0.2**
JAN	**Janina**	**4.11**	**90**	*eP*	**Pn**	**17 44 21.5**	**+1.6**
VLS	**Valsamata**	**4.27**	**111**	*eP*	**Pn**	**17 44 22.0**	**+0.2**
PDO	**Prodromos**	**4.55**	**104**	*eP*	**Pn**	**17 44 26.3**	**+1.2**
FNA	**Florina**	**4.58**	**76**	*eP*	**Pn**	**17 44 26.2**	**+0.8**
VSL	**Villasalto**	**4.76**	**268**	P	**Pn**	**17 44 28.3**	**+0.8**
VSL	**Villasalto**	**4.76**	**268**	P	**Pn**	**17 44 28.3**	**+0.8**
SJES	**Sjenica**	**4.80**	**43**	*ePn*	**Pn**	**17 44 28.7**	**+0.7**
KZN	**Kozani**	**4.82**	**82**	*eP*	**Pn**	**17 44 28.6**	**+0.4**
EVR	**Evrytania**	**4.95**	**98**	*eP*	**Pn**	**17 44 32.0**	**+2.1**
RLS	**Riolos of Patr**	**4.95**	**109**	*eP*	**Pn**	**17 44 31.2**	**+1.4**
SKO	**Skopje**	**4.97**	**62**	*ePn*	**Pn**	**17 44 31.1**	**+1.1**
SKO	**Skopje**	**4.97**	**62**	*ePn*	**Pn**	**17 44 31.1**	**+1.1**
THL	**Klokotos Trika**	**5.01**	**91**	*eP*	**Pn**	**17 44 32.1**	**+1.6**
IVAS	**Ivanjica**	**5.12**	**41**	*ePn*	**Pn**	**17 44 33.1**	**+1.3**
IVAS	**Ivanjica**	**5.12**	**41**	*ePn*	**Pn**	**17 44 33.1**	**+1.3**
DRO	**Drossia**	**5.17**	**109**	*eP*	**Pn**	**17 44 33.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**5.17**	**97**	*eP*	**Pn**	**17 44 34.5**	**+2.0**
AGG	**Agios Georgios**	**5.33**	**96**	*eP*	**Pn**	**17 44 36.0**	**+1.7**
AMT	**Artemida-Makis**	**5.34**	**113**	*eP*	**Pn**	**17 44 35.7**	**+1.1**
LIT	**Litokhoron**	**5.36**	**85**	*eP*	**Pn**	**17 44 35.6**	**+0.9**
SELS	**Selova**	**5.41**	**49**	*ePn*	**Pn**	**17 44 35.7**	**+0.5**
DIVS	**Divibare**	**5.43**	**36**	*ePn*	**Pn**	**17 44 37.3**	**+1.8**
DIVS	**Divibare**	**5.43**	**36**	*ePn*	**Pn**	**17 44 37.3**	**+1.8**
KLV	**Kalavryta, Ach**	**5.46**	**107**	*eP*	**Pn**	**17 44 37.7**	**+1.7**
RIY	**Rijeka**	**5.57**	**352**	*ePn*	**Pn**	**17 44 38.9**	**+1.8**
VAY	**Valandovo**	**5.57**	**72**	*ePn*	**Pn**	**17 44 37.4**	**+0.2**
VAY	**Valandovo**	**5.57**	**72**	*ePn*	**Pn**	**17 44 37.4**	**+0.2**
DSF	**Desfina**	**5.62**	**102**	*eP*	**Pn**	**17 44 39.4**	**+1.5**
GRUS	**Gruza**	**5.62**	**42**	*ePn*	**Pn**	**17 44 40.6**	**+2.8**
GRUS	**Gruza**	**5.62**	**42**	*ePn*	**Pn**	**17 44 40.6**	**+2.8**
GUR	**Goura**	**5.63**	**107**	*eP*	**Pn**	**17 44 40.3**	**+2.1**
PGF	**Pioggiola**	**5.64**	**301**	*eP*	**Pn**	**17 44 37.4**	**-0.7**
PGF	**Pioggiola**	**5.64**	**301**	*eP*	**Pn**	**17 44 37.4**	**-0.7**
PGF	**Pioggiola**	**5.64**	**301**	*eP*	**Pn**	**17 44 37.4**	**-0.7**
PGF	**Pioggiola**	**5.64**	**301**	*eP*	**Pn**	**17 44 37.4**	**-0.7**
ITM	**Ithomi**	**5.66**	**116**	*eP*	**Pn**	**17 44 39.5**	**+1.0**
PYL	**PYLOS**	**5.68**	**119**	*eP*	**Pn**	**17 44 39.2**	**+0.5**
BOJS	**Bojanci**	**5.70**	**358**	*i* Pn	**Pn**	**17 44 40.7**	**+2.0**
BOJS	**Bojanci**	**5.70**	**358**	*ePn*	**Pn**	**17 44 40.1**	**+1.4**
BOJS	**Bojanci**	**5.70**	**358**	*ePn*	**Pn**	**17 44 40.1**	**+1.4**
KNT	**Kendrikon**	**5.78**	**74**	*eP*	**Pn**	**17 44 40.8**	**+1.0**
LKR	**Lokris**	**5.91**	**99**	*eP*	**Pn**	**17 44 42.6**	**+1.1**
XOR	**Xorichti**	**5.94**	**92**	*eP*	**Pn**	**17 44 43.1**	**+1.3**
NEO	**Neokhori**	**5.97**	**92**	*eP*	**Pn**	**17 44 43.4**	**+1.2**
VISS	**Visnje**	**6.01**	**355**	*i* Pn	**Pn**	**17 44 44.4**	**+1.8**
VISS

DAVA Damuels 8.53 333⇑ *i*Pn Pn 17 45 15.3 +1.3
DAVA Damuels 8.53 333 Pn Pn 17 45 15.3 +1.3
LPG La Plagne 8.61 314 *e*P Pn 17 45 15.2 0.0
comp=Z,41nm,0.6s
LPG La Plagne 8.61 314 *e*P Pn 17 45 15.2 0.0
LPG pmax pmax
comp=Z,41nm,0.6s
LPG La Plagne 8.61 314 *e*P Pn 17 45 15.2 0.0
comp=Z,41nm,0.6s
LPG La Plagne 8.61 314 *e*P Pn 17 45 15.2 0.0
comp=Z,21nm,0.6s
LPL La Plagne 8.63 314 *e*P Pn 17 45 15.0 -0.4
comp=Z,37nm,0.7s
LPL La Plagne 8.63 314 *e*P Pn 17 45 15.0 -0.4
LPL pmax pmax
comp=Z,37nm,0.7s
LPL La Plagne 8.63 314 *e*P Pn 17 45 15.0 -0.4
comp=Z,37nm,0.7s
LPL La Plagne 8.63 314 *e*P Pn 17 45 15.0 -0.4
comp=Z,18nm,0.7s
IDI Anoyia 8.69 118 P Pn 17 45 17.5 +1.3
comp=Z,2.7nm,0.3s,baz=283,slow=17,SNR=19
PSZ Piszkesteto 8.70 20 P Pn 17 45 14.5 -1.6
PSZ Piszkesteto 8.70 20 Pn Pn 17 45 14.5 -1.6
PSZ Piszkesteto 8.70 20 Pn Pn 17 45 14.5 -1.6
ORIF Oris-en-Rattie 8.78 309 *e*P Pn 17 45 16.9 -0.2
comp=Z,48nm,0.9s
ORIF Oris-en-Rattie 8.78 309 *e*P Pn 17 45 16.9 -0.2
ORIF pmax pmax
comp=Z,48nm,0.9s
ORIF Oris-en-Rattie 8.78 309 *e*P Pn 17 45 16.9 -0.2
comp=Z,48nm,0.9s
ORIF Oris-en-Rattie 8.78 309 *e*P Pn 17 45 16.9 -0.2
comp=Z,24nm,0.9s
VOIR 8.99 48⇑ *i*P P 17 45 24.0 -1.9
GERES GERESS Array B 9.13 352 P Pn 17 45 22.2 +0.7
comp=Z,0.5nm,0.3s,baz=166,slow=13,SNR=15
GERES GERESS Array B 9.13 352 P Pn 17 45 22.2 +0.7
comp=Z,1.0nm,0.3s
LAST Lasithi 9.16 117 *e*P Pn 17 45 21.9 -0.2
KHC Kasperske Hory 9.43 352⇑ *i*P Pn 17 45 25.9 +0.8
KHC Kasperske Hory 9.43 352 *e*P Pn 17 45 22.0 -3.1
KHC *ex* x 17 45 26.2
KHC *ex* x 17 45 32.0
KHC Kasperske Hory 9.43 352 *i* P Pn 17 45 25.9 +0.8
VIVF Saint-Julien-l 9.49 306 *e*P Pn 17 45 25.1 -0.8
VIVF Saint-Julien-l 9.49 306 *e*P Pn 17 45 25.1 -0.8
VIVF Saint-Julien-l 9.49 306 *e*P Pn 17 45 25.1 -0.8
VIVF Saint-Julien-l 9.49 306 *e*P Pn 17 45 25.1 -0.8
VRAC Vranov 9.53 4⇑ *i*P Pn 17 45 28.1 +1.7
VRAC Vranov 9.53 4 P Pn 17 45 27.3 +0.9
comp=Z,0.6nm,0.3s,baz=199,slow=12,SNR=10
VRAC Vranov 9.53 4 *e*Pn Pn 17 45 27.4 +1.0
MLR Muntele Rosu 9.54 50⇑ *i*P P 17 45 31.0 -1.3
MLR Muntele Rosu 9.54 50 P Pn 17 45 29.3 +2.6
comp=Z,0.1nm,0.3s,baz=290,slow=16,SNR=5.2
MLR Muntele Rosu 9.54 50 P Pn 17 45 29.3 +2.6
CABF La Chapelle 9.68 318 *e*P Pn 17 45 27.6 -0.7
comp=Z,22nm,0.4s
CABF La Chapelle 9.68 318 *e*P Pn 17 45 27.6 -0.7
CABF pmax pmax
comp=Z,22nm,0.4s
CABF La Chapelle 9.68 318 *e*P Pn 17 45 27.6 -0.7
comp=Z,22nm,0.4s
CABF La Chapelle 9.68 318 *e*P Pn 17 45 27.6 -0.7
comp=Z,11nm,0.4s
LASF Ste Croix 9.69 300 *e*P Pn 17 45 28.0 -0.4
comp=Z,27nm,0.9s
LASF Ste Croix 9.69 300 *e*P Pn 17 45 28.0 -0.4
comp=Z,27nm,0.9s
LASF Ste Croix 9.69 300 *e*P Pn 17 45 28.0 -0.4
comp=Z,14nm,0.9s
ZKR Zakros 9.70 116 *e*P Pn 17 45 29.3 +0.6
BFO Black Forest 9.97 331 *e*P Pn 17 45 32.2 +0.3
BFO pmax pmax
comp=Z,10.0nm,0.6s
BFO Black Forest 9.97 331 *e*Pn Pn 17 45 32.2 +0.3
comp=Z,10nm,0.6s
BFO Black Forest 9.97 331 *e*P Pn 17 45 32.2 +0.3
comp=Z,10.0nm,0.6s
MORC Moravsky Berou 10.07 7 *e*P Pn 17 45 34.5 +1.3
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 10.07 7⇑ *i*P Pn 17 45 34.9 +1.7
MORC Moravsky Berou 10.07 7 *e*Pn Pn 17 45 34.5 +1.3
comp=Z,3.4nm,0.6s
MORC Moravsky Berou 10.07 7 *e*P Pn 17 45 34.5 +1.3
comp=Z,3.0nm,0.6s
MSAB Monastry St. A 10.11 61⇓ *i*P P 17 45 38.2 -0.2
MSAB Monastry St. A 10.11 61⇓ *i*P P 17 45 38.2 -0.2
KARP Karpathos 10.15 111 *e*P Pn 17 45 33.5 -0.8
HINF Hinteralfeld 10.16 325 *e*P Pn 17 45 33.3 -1.0
comp=Z,47nm,0.5s
HINF Hinteralfeld 10.16 325 *e*P Pn 17 45 33.3 -1.0
HINF pmax pmax
comp=Z,47nm,0.5s
HINF Hinteralfeld 10.16 325 *e*P Pn 17 45 33.3 -1.0
comp=Z,47nm,0.5s
PRU Pruhonice 10.21 356 *e*P P 17 45 41.1 +1.6
PRU Pruhonice 10.21 356 *e*P P 17 45 41.1 +1.6
VRI Vrincioaia 10.21 50⇓ *i*P P 17 45 39.8 +0.2
VRI Vrincioaia 10.21 50⇓ *i*P P 17 45 39.8 +0.2
KRLC Kraliky 10.31 5 *e*P P 17 45 42.2 +1.6
KRLC Kraliky 10.31 5 *e*P P 17 45 42.2 +1.6
ECH Echery 10.34 327 *e*P Pn 17 45 36.5 0.0
ECH pmax pmax
comp=Z,13nm,0.6s
ECH Echery 10.34 327 *e*Pn Pn 17 45 36.5 0.0
comp=Z,13nm,0.6s
ECH Echery 10.34 327 *e*P Pn 17 45 36.5 0.0
comp=Z,13nm,0.6s
GRA1 Grafenberg Arr 10.35 344 *e*Pn Pn 17 45 36.5 0.0
GRF Grafenberg Arr 10.35 344 *e*Pn Pn 17 45 36.5 0.0
TLB Topalu 10.44 59⇓ *i*P P 17 45 42.1 0.0
TLB Topalu 10.44 59⇓ *i*P P 17 45 42.1 0.0
CDF Champ du Feu 10.44 328 *e*P Pn 17 45 38.0 +0.1
comp=Z,15nm,0.4s
CDF Champ du Feu 10.44 328 *e*P Pn 17 45 38.0 +0.1
CDF pmax pmax
comp=Z,15nm,0.4s
CDF Champ du Feu 10.44 328 *e*P Pn 17 45 38.0 +0.1
comp=Z,15nm,0.4s
CDF Champ du Feu 10.44 328 *e*P Pn 17 45 38.0 +0.1
comp=Z,7.6nm,0.4s
BURAR Bucovina Array 10.48 39⇑ *i*P P 17 45 42.4 -0.3
BURAR Bucovina Array 10.48 39⇑ *i*P P 17 45 42.4 -0.3
TESR Tescani 10.52 47⇑ *i*P P 17 45 44.8 +1.7
TESR Tescani 10.52 47⇑ *i*P P 17 45 44.8 +1.7
HAU Haudompre 10.53 324 *e*P Pn 17 45 38.8 -0.1
comp=Z,30nm,0.6s
HAU Haudompre 10.53 324 *e*P Pn 17 45 38.8 -0.1
HAU pmax pmax
comp=Z,30nm,0.6s
HAU Haudompre 10.53 324 *e*P Pn 17 45 38.8 -0.1
comp=Z,30nm,0.6s
HAU Haudompre 10.53 324 *e*P Pn 17 45 38.8 -0.1
comp=Z,15nm,0.6s
DPC Dobruska-Polom 10.56 3 *e*P P 17 45 44.9 +1.5
DPC Dobruska-Polom 10.56 3 *e*P P 17 45 44.9 +1.5
DPC *ex* x 17 45 49.8
TIRR Tirgusor 10.63 60 P P 17 45 46.0 +1.7
TIRR pmax pmax
comp=Z,12nm,1.2s
TIRR Tirgusor 10.63 60 Pn P 17 45 46.0 +1.7
comp=Z,12nm,1.2s
TIRR Tirgusor 10.63 60 P P 17 45 46.0 +1.7
comp=Z,12nm,1.2s
UPC Upice 10.71 2 *e*P P 17 45 46.4 +1.4
UPC Upice 10.71 2 *e*P P 17 45 46.4 +1.4
CFR Carcaliu 10.74 56⇑ *i*P P 17 45 47.0 +1.5
CFR Carcaliu 10.74 56⇑ *i*P P 17 45 47.0 +1.5
SMF Signal de Mont 10.92 313 *e*P Pn 17 45 41.5 -2.2
comp=Z,16nm,0.6s
SMF Signal de Mont 10.92 313 *e*P Pn 17 45 41.5 -2.2
SMF pmax pmax
comp=Z,16nm,0.6s
SMF Signal de Mont 10.92 313 *e*P Pn 17 45 41.5 -2.2
comp=Z,16nm,0.6s
TLCR 11.18 57⇓ *i*P P 17 45 51.1 +0.8
TLCR 11.18 57⇓ *i*P P 17 45 51.1 +0.8
CAF Calviac 11.19 302 *e*P Pn 17 45 46.3 -0.9
comp=Z,19nm,0.9s
CAF Calviac 11.19 302 *e*P Pn 17 45 46.3 -0.9
CAF pmax pmax
comp=Z,19nm,0.9s
CAF Calviac 11.19 302 *e*P Pn 17 45 46.3 -0.9
comp=Z,9nm,0.9s
CAF Calviac 11.19 302 *e*P Pn 17 45 46.3 -0.9
comp=Z,9.6nm,0.9s
PAGF Fort de Pagny 11.22 324 *e*P Pn 17 45 47.6 +0.2
comp=Z,5.1nm,0.7s
PAGF Fort de Pagny 11.22 324 *e*P Pn 17 45 47.6 +0.2
comp=Z,5.1nm,0.6s
PAGF Fort de Pagny 11.22 324 *e*P Pn 17 45 47.6 +0.2
comp=Z,2.5nm,0.7s
LOR Lormes 11.28 315 *e*P Pn 17 45 47.1 -1.0
comp=Z,13nm,0.6s
LOR Lormes 11.28 315 *e*P Pn 17 45 47.1 -1.0
comp=Z,13nm,0.6s
LOR Lormes 11.28 315 *e*P Pn 17 45 47.1 -1.0
comp=Z,6.6nm,0.6s
AVF Avril sur Loir 11.28 312 *e*P Pn 17 45 46.5 -1.7
comp=Z,6.9nm,0.4s
AVF Avril sur Loir 11.28 312 *e*P Pn 17 45 46.5 -1.7
AVF pmax pmax
comp=Z,7.0nm,0.4s
AVF Avril sur Loir 11.28 312 *e*P Pn 17 45 46.5 -1.7
comp=Z,6.6nm,0.4s
SFTF Sexfontaines 11.28 322 *e*P Pn 17 45 47.9 -0.3
comp=Z,13nm,0.6s
SFTF Sexfontaines 11.28 322 *e*P Pn 17 45 47.9 -0.3
comp=Z,13nm,0.6s
SFTF Sexfontaines 11.28 322 *e*P Pn 17 45 47.9 -0.3
comp=Z,6.5nm,0.6s
SSF Saint Saulge 11.35 314 *e*P Pn 17 45 47.0 -2.0
comp=Z,3.9nm,0.3s
SSF Saint Saulge 11.35 314 *e*P Pn 17 45 47.0 -2.0
SSF pmax pmax
comp=Z,4.0nm,0.3s
SSF Saint Saulge 11.35 314 *e*P Pn 17 45 47.0 -2.0
comp=Z,3.9nm,0.3s
BGF Bois d'Agland 11.45 310 *e*P Pn 17 45 50.0 -0.3
comp=Z,37nm,0.8s
BGF Bois d'Agland 11.45 310 *e*P Pn 17 45 50.0 -0.3
BGF pmax pmax
comp=Z,37nm,0.8s
BGF Bois d'Agland 11.45 310 *e*P Pn 17 45 50.0 -0.3
comp=Z,37nm,0.8s
BGF Bois d'Agland 11.45 310 *e*P Pn 17 45 50.0 -0.3
comp=Z,18nm,0.8s
MEZF Maizieres J'vi 11.49 323 *e*P Pn 17 45 50.8 +0.1
MEZF Maizieres J'vi 11.49 323 *e*P Pn 17 45 50.8 +0.1
MEZF Maizieres J'vi 11.49 323 *e*P Pn 17 45 50.8 +0.1
CLL Collm 11.64 352 *e*P Pn 17 45 53.0 +0.5
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 11.64 352 *e*P Pn 17 45 53.0 +0.5
comp=Z,4.0nm,0.8s
CLL Collm 11.64 352 *e*P Pn 17 45 53.0 +0.5
comp=Z,4.0nm,0.8s
TCF Toulx Ste Croi 11.69 308 *e*P Pn 17 45 53.4 +0.1
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 11.69 308 *e*P Pn 17 45 53.4 +0.1
TCF pmax pmax
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 11.69 308 *e*P Pn 17 45 53.4 +0.1
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 11.69 308 *e*P Pn 17 45 53.4 +0.1
comp=Z,10nm,1.0s
RJF Les Rejaudoux 11.70 303 *e*P Pn 17 45 52.2 -1.2
RJF Les Rejaudoux 11.70 303 *e*P Pn 17 45 52.2 -1.2
RJF Les Rejaudoux 11.70 303 *e*P Pn 17 45 52.2 -1.2
RJF Les Rejaudoux 11.70 303 *e*P Pn 17 45 52.2 -1.2
EPF Esparros 11.85 291 *e*P Pn 17 45 54.8 -0.5
comp=Z,20nm,1.0s
EPF Esparros 11.85 291 *e*P Pn 17 45 54.8 -0.5
EPF pmax pmax
comp=Z,20nm,1.0s
EPF Esparros 11.85 291 *e*P Pn 17 45 54.8 -0.5
comp=Z,20nm,1.0s
EPF Esparros 11.85 291 *e*P Pn 17 45 54.8 -0.5
comp=Z,10nm,1.0s
LFF La Frestale 12.08 300 *e*P Pn 17 45 56.1 -1.9
LFF La Frestale 12.08 300 *e*P Pn 17 45 56.1 -1.9
LFF La Frestale 12.08 300 *e*P Pn 17 45 56.1 -1.9
ETSF Etsaut 12.48 290 *e*P Pn 17 46 02.7 -0.4
comp=Z,8.8nm,0.4s
ETSF Etsaut 12.48 290 *e*P Pn 17 46 02.7 -0.4
ETSF pmax pmax
comp=Z,9.0nm,0.4s
ETSF Etsaut 12.48 290 *e*P Pn 17 46 02.7 -0.4
comp=Z,8.8nm,0.4s
ETSF Etsaut 12.48 290 *e*P Pn 17 46 02.7 -0.4
comp=Z,4.4nm,0.4s
GIVF Givet 12.77 327 *e*P P 17 46 08.7 +0.8
comp=Z,17nm,0.6s
GIVF Givet 12.77 327 *e*P P 17 46 08.7 +0.8
GIVF pmax pmax
comp=Z,17nm,0.6s
GIVF Givet 12.77 327 *e*P P 17 46 08.7 +0.8
comp=Z,17nm,0.6s
GIVF Givet 12.77 327 *e*P P 17 46 08.7 +0.8
comp=Z,8.6nm,0.6s
HGN Heimansgroeve 12.86 332 *e*P P 17 46 10.3 +1.4
comp=Z,15nm,1.0s
HGN Heimansgroeve 12.86 332 *e*P P 17 46 10.3 +1.4
comp=Z,15nm,1.0s
SJPF Ste Jean 12.99 290 *e*P Pn 17 46 09.2 -0.1
comp=Z,32nm,0.9s
SJPF Ste Jean 12.99 290 *e*P Pn 17 46 09.2 -0.1
SJPF pmax pmax
comp=Z,33nm,0.9s
SJPF Ste Jean 12.99 290 *e*P Pn 17 46 09.2 -0.1
comp=Z,32nm,0.9s
SJPF Ste Jean 12.99 290 *e*P Pn 17 46 09.2 -0.1
comp=Z,16nm,0.9s
BAIF Baives 13.00 326 *e*P Pn 17 46 09.3 +0.1
BAIF Baives 13.00 326 *e*P Pn 17 46 09.3 +0.1
BAIF Baives 13.00 326 *e*P Pn 17 46 09.3 +0.1
BAIF Baives 13.00 326 *e*P Pn 17 46 09.3 +0.1
MFF Saint Martin d 13.29 306 *e*P Pn 17 46 12.3 -0.5
comp=Z,59nm,1.2s
MFF Saint Martin d 13.29 306 *e*P Pn 17 46 12.3 -0.5
MFF pmax pmax
comp=Z,59nm,1.2s
MFF Saint Martin d 13.29 306 *e*P Pn 17 46 12.3 -0.5
comp=Z,59nm,1.2s
MFF Saint Martin d 13.29 306 *e*P Pn 17 46 12.3 -0.5
comp=Z,30nm,1.2s
BR131 Keskin Array S 13.94 85 *e*Pn P 17 46 23.2 +2.1
comp=Z,2.7nm,0.6s
BR131 Keskin Array S 13.94 85 *e*Pn P 17 46 23.2 +2.1
comp=Z,2.7nm,0.6s
BRTR Keskin Array B 13.94 85 P P 17 46 23.5 +2.3
comp=Z,0.3nm,0.3s,baz=268,slow=9.4,SNR=36
BRTR Keskin Array B 13.94 85 *e*P P 17 46 23.5 +2.3
LDF La Druitiere 14.23 313 *e*P Pn 17 46 23.6 -0.6
LDF La Druitiere 14.23 313 *e*P Pn 17 46 23.6 -0.6
LDF La Druitiere 14.23 313 *e*P Pn 17 46 23.6 -0.6
LDF La Druitiere 14.23 313 *e*P Pn 17 46 23.6 -0.6
AK02 Malin Array Si 14.48 37 *e*P Pn 17 46 27.6 +0.4
AK02 *e*S S 17 49 04.7 -1.9
AK02 Malin Array Si 14.48 37 *e*P Pn 17 46 27.6 +0.4
AK02 *e*S S 17 49 04.7 -1.9
AK01 Malin Array Si 14.51 37 *e*P Pn 17 46 28.0 +0.5
AK01 *e*S S 17 49 05.6 -1.6
AK01 Malin Array Si 14.51 37 *e*P Pn 17 46 28.0 +0.5
AK01 *e*S S 17 49 05.6 -1.6
KIEV Kiev 14.51 37⇑ *e*P Pn 17 46 28.1 +0.6
KIEV Kiev 14.51 37 *e*P Pn 17 46 28.2 +0.6
comp=Z,1.9nm,0.3s
KIEV *e*S S 17 49 03.8 -3.4
KIEV Kiev 14.51 37 *e*P Pn 17 46 28.1 +0.6
KIEV *e*S S 17 49 03.8 -3.4
AKASG Malin Array Be 14.52 37 *e*P Pn 17 46 28.3 +0.7
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 14.52 37 P Pn 17 46 28.3 +0.7
comp=Z,1.5nm,0.3s,baz=230,slow=11,SNR=12
AKASG S S 17 49 03.7 -3.7
comp=Z,0.4nm,0.3s,baz=224,slow=20,SNR=6.2
AKASG Malin Array Be 14.52 37 *e*P Pn 17 46 28.3 +0.7
comp=Z,2.0nm,0.3s
FLN La Foliniere 14.52 313 *e*P P 17 46 26.1 -1.3
FLN La Foliniere 14.52 313 *e*P P 17 46 26.1 -1.3
FLN La Foliniere 14.52 313 *e*P P 17 46 26.1 -1.3
FLN La Foliniere 14.52 313 *e*P P 17 46 26.1 -1.3
GRR Gorron 14.54 312 *e*P P 17 46 25.9 -1.7
GRR Gorron 14.54 312 *e*P P 17 46 25.9 -1.7
GRR Gorron 14.54 312 *e*P P 17 46 25.9 -1.7
GRR Gorron 14.54 312 *e*P P 17 46 25.9 -1.7
CSS Prodhromos 14.95 103 *e*P P 17 46 32.1 -0.2
comp=Z,1.6nm,0.6s
CSS Prodhromos 14.95 103 *e*P P 17 46 32.1 -0.2
comp=Z,1.6nm,0.6s
ESDC Sonseca Array 15.00 276 P Pn 17 46 33.9 +0.3
comp=Z,1.4nm,0.3s,baz=74,slow=11,SNR=19
SUW Suwalki 15.13 18 *e*P P 17 46 33.5 -0.4
SUW pmax pmax
comp=Z,15nm,0.4s
SUW Suwalki 15.13 18 *e*P P 17 46 33.5 -0.4
comp=Z,15nm,0.4s
SUW Suwalki 15.13 18 *e*P P 17 46 33.5 -0.4
comp=Z,15nm,0.4s
SGMF Saint Gilles 15.48 309 *e*P P 17 46 38.1 +0.2
comp=Z,50nm,1.0s
SGMF Saint Gilles 15.48 309 *e*P P 17 46 38.1 +0.2
SGMF pmax pmax
comp=Z,50nm,1.0s
SGMF Saint Gilles 15.48 309 *e*P P 17 46 38.1 +0.2
comp=Z,50nm,1.0s
SGMF Saint Gilles 15.48 309 *e*P P 17 46 38.1 +0.2
comp=Z,25nm,1.0s
QUIF Quistinic 15.71 307 *e*P P 17 46 39.3 -1.1
QUIF Quistinic 15.71 307 *e*P P 17 46 39.3 -1.1
QUIF Quistinic 15.71 307 *e*P P 17 46 39.3 -1.1
QUIF Quistinic 15.71 307 *e*P P 17 46 39.3 -1.1
ROSF Rostrenen 15.95 308 *e*P P 17 46 42.3 -0.7
comp=Z,18nm,0.6s
ROSF Rostrenen 15.95 308 *e*P P 17 46 42.3 -0.7
ROSF pmax pmax
comp=Z,18nm,0.6s
ROSF Rostrenen 15.95 308 *e*P P 17 46 42.3 -0.7
comp=Z,18nm,0.6s
ROSF Rostrenen 15.95 308 *e*P P 17 46 42.3 -0.7
comp=Z,8.9nm,0.6s
ARNB Al Arnab 16.62 97 *e*P Pn 17 46 52.4 -0.3
ARNB Al Arnab 16.62 97 *e*P Pn 17 46 52.4 -0.3
SNR=40
SLNF Slenfeh 16.90 98 *e*P Pn 17 46 55.8 -0.3
SLNF Slenfeh 16.90 98 *e*P Pn 17 46 55.8 -0.3
SNR=35
BTCH Batrach 16.93 96 *e*P P 17 46 55.3 +1.3
BTCH Batrach 16.93 96 *e*P P 17 46 55.3 +1.3
SNR=35
ANN Anapa 16.94 66 *e*P P 17 46 54.2 +0.3
ANN pmax pmax
comp=Z,31nm,0.9s
ANN Anapa 16.94 66 *e*P P 17 46 54.2 +0.3
comp=Z,31nm,0.9s
WRDH Warideh 17.08 98 *e*P Pn 17 46 57.1 -0.9
WRDH Warideh 17.08 98 *e*P Pn 17 46 57.1 -0.9
SNR=35
IIGN Ignalina 17.11 21 *e*P P 17 46 55.3 -0.3
IIGN AMB AMB 17 47 00.3
comp=Z,6.2nm,1.3s
IIGN Ignalina 17.11 21 *e*P P 17 46 55.3 -0.3
comp=Z,6.5nm,0.8s
BIDA Albida 17.19 100 *e*P P 17 46 56.0 -0.8
ISAL Salakas 17.28 21 *e*P P 17 46 57.3 -0.1
ISAL AMB AMB 17 46 58.9
comp=Z,6.5nm,0.8s
ISAL Salakas 17.28 21 *e*P P 17 46 57.3 -0.1
MMAI Mount Meron Ar 17.36 107 P Pn 17 47 00.8 -0.6
comp=Z,2.7nm,0.3s,baz=324,slow=8.2,SNR=34
HAWK Haweek 17.45 101 *e*P Pn 17 47 02.7 +0.3
BRBR Barbar 17.58 105 *e*P Pn 17 47 03.0 -1.1
BRBR Barbar 17.58 105 *e*P Pn 17 47 03.0 -1.1
SNR=35
MARH Ras Al Marh 17.71 102 *e*P P 17 47 01.4 -1.3
SOC Sochi 18.43 70 *de*P P 17 47 11.2 +1.1
SOC *e*S S 17 50 27.7 +1.6
SOC pmax pmax
comp=Z,3.0nm,0.3s
SOC Sochi 18.43 70 *e*P P 17 47 11.2 +1.1
comp=Z,3.0nm,0.3s
SOC *e*S S 17 50 27.7 +1.6
ZALF Zalf 18.83 105 *e*P Pn 17 47 17.2 -1.3
ZALF Zalf 18.83 105 *e*P Pn 17 47 17.2 -1.3
SNR=34
EIL Elat 18.86 116 P P 17 47 16.8 +2.0
comp=Z,0.3nm,0.3s,baz=345,slow=6.9,SNR=9.5
ASF Jabal al Asfar 18.87 107 P Pn 17 47 17.3 -1.7
comp=Z,0.6nm,0.3s,baz=253,slow=9.1,SNR=7.6
EKA Eskdalemuir Ar 19.91 327 P P 17 47 24.3 -1.3
baz=142,slow=11,SNR=24
EKA Eskdalemuir Ar 19.91 327 P P 17 47 24.3 -1.3
ESK Eskdalemuir 19.91 327 *e*P P 17 47 24.2 -1.5
ESK pmax pmax
comp=Z,6.0nm,0.8s
ESK Eskdalemuir 19.91 327 *e*P P 17 47 24.2 -1.5
comp=Z,6.5nm,0.8s
ESK Eskdalemuir 19.91 327 *e*P P 17 47 24.2 -1.5
comp=Z,6.0nm,0.8s
VSR Storozhevoye 20.02 47 *e*P P 17 47 27.0 +0.2
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 20.02 47 *e*P P 17 47 27.0 +0.2
KIV Kislovodsk 20.60 70 *e*P P 17 47 33.8 +0.6
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 20.60 70 P P 17 47 33.4 +0.2
KIV Kislovodsk 20.60 70 P P 17 47 33.4 +0.2
KBZ Khabaz 20.75 70 P P 17 47 35.6 +1.1
KBZ pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 20.75 70 P P 17 47 35.6 +1.1
comp=Z,6.5nm,0.8s,baz=272,slow=9.2,SNR=17
KBZ Khabaz 20.75 70 P P 17 47 35.6 +1.1
comp=Z,7.0nm,0.8s
NAO01 NORSAR Array S 21.26 354 *e*P P 17 47 38.3 -1.1
comp=Z,5.2nm,0.6s
NAO01 NORSAR Array S 21.26 354 *e*P P 17 47 38.3 -1.1
comp=Z,5.2nm,0.6s
VRHR Novokhopersk 21.39 50 *e*P P 17 47 40.6 -0.1
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR Novokhopersk 21.39 50 *e*P P 17 47 40.6 -0.1
NB2 NORSAR Subarra 21.43 354 P P 17 47 39.9 -1.1
comp=Z,4.5nm,0.6s,baz=171,slow=10
NB2 NORSAR Subarra 21.43 354 P P 17 47 39.9 -1.1
comp=Z,4.5nm,0.6s,SNR=5.4
NOA NORSAR Array B 21.43 354 P P 17 47 39.9 -1.1
comp=Z,1.4nm,0.3s,baz=168,slow=8.8,SNR=29
NOA NORSAR Array B 21.43 354 P P 17 47 39.9 -1.1
comp=Z,1.0nm,0.3s
ZEI Tsey 21.48 73 *e*P P 17 47 43.0 +1.0
ZEI pmax pmax
comp=Z,7.0nm,1.3s
ZEI Tsey 21.48 73 *e*P P 17 47 43.0 +1.0
comp=Z,7.0nm,1.3s
GNI Garni 22.35 80 P P 17 47 49.6 -0.2
GNI Garni 22.35 80 P P 17 47 49.6 -0.2
FINES FINESS Array B 22.61 13 P P 17 47 51.8 +0.1
comp=Z,16nm,0.7s,baz=189,slow=9.3,SNR=47
FINES FINESS Array B 22.61 13 *e*P P 17 47 51.8 +0.1
comp=Z,16nm,0.7s
KAF Kangasniemi 23.28 13 *e*P P 17 47 57.3 -0.5
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 23.28 13 *e*p P 17 47 57.3 -0.5
comp=Z,4.3nm,0.5s
KAF Kangasniemi 23.28 13 *e*P P 17 47 57.3 -0.5
comp=Z,4.3nm,0.5s
JOF Joensuu 25.01 17 *e*P P 17 48 12.7 -0.7
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 25.01 17 *e*p P 17 48 12.7 -0.7
comp=Z,1.5nm,0.5s
JOF Joensuu 25.01 17 *e*P P 17 48 12.7 -0.7
comp=Z,1.5nm,0.5s
TOA0 Torodi Ar. Sit 29.22 208 *e*P P 17 48 51.9 +0.6
TOA0 Torodi Ar. Sit 29.22 208 *e*P P 17 48 51.9 +0.6
TORD Torodi Ar. Bea 29.22 208 P P 17 48 52.0 +0.7
comp=Z,0.9nm,0.6s,baz=14,slow=9.8,SNR=10
ARCES ARCESS Array B 30.26 7 P P 17 48 59.2 -0.7
comp=Z,1.4nm,0.4s,baz=190,slow=9.0,SNR=46
ARCES ARCESS Array B 30.26 7 *e*P P 17 48 59.3 -0.7
comp=Z,1.0nm,0.4s

AKTK	**Aktyubinsk**	**31.41**	**56**	P		**P**	**17 49 10.3**	**+0.1**
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**31.41**	**56**	P		**P**	**17 49 10.3**	**+0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**31.41**	**56**	P		**P**	**17 49 10.3**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=258,slow=6.9,SNR=5.9							
ARU	**Arti**	**32.54**	**45**	P		**P**	**17 49 20.1**	**+0.2**
ARU	**Arti**	**32.54**	**45**	P		**P**	**17 49 20.1**	**+0.2**
ARU	**Arti**	**32.54**	**45**	P		**P**	**17 49 20.1**	**+0.2**
AB31	**Akbulak array**	**32.62**	**58**	*eP*		**P**	**17 49 21.4**	**+0.7**
AB31	**Akbulak array**	**32.62**	**58**	*eP*		**P**	**17 49 21.4**	**+0.7**
BRVK	**Borovoye**	**39.04**	**52**⇑	*eP*		**P**	**17 50 16.2**	**+1.3**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BRVK	**Borovoye**	**39.04**	**52**	*eP*		**P**	**17 50 15.9**	**+1.0**
	comp=Z,2.9nm,0.6s							
BRVK	**Borovoye**	**39.04**	**52**	*eP*		**P**	**17 50 15.9**	**+1.0**
	comp=Z,2.9nm,0.6s							
BVAR	**Borovoye Array**	**39.10**	**52**	P		**P**	**17 50 16.4**	**+0.9**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**39.10**	**52**	P		**P**	**17 50 16.4**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=256,slow=5.8							
BVAR	**Borovoye Array**	**39.10**	**52**	P		**P**	**17 50 16.4**	**+0.9**
	comp=Z,1.0nm,0.4s							
KK31	**Karatay Array**	**40.72**	**67**	P		**P**	**17 50 29.2**	**+0.3**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KK31	**Karatay Array**	**40.72**	**67**	P		**P**	**17 50 29.2**	**+0.3**
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**40.72**	**67**	*eP*		**P**	**17 50 29.2**	**+0.3**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**40.72**	**67**	*eP*		**P**	**17 50 29.1**	**+0.3**
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**40.72**	**67**	*eP*		**P**	**17 50 29.1**	**+0.2**
	comp=Z,2.0nm,0.5s							
SUMG	**Summit**	**41.88**	**339**	P		P	17 50 35.1	-3.2
SUMG	**Summit**	**41.88**	**339**	P		P	17 50 35.1	-3.2
EKS2	**Erkin-Say**	**43.15**	**67**	*eP*		**P**	**17 50 50.1**	**+1.5**
EKS2				pmax	pmax			
	comp=Z,6.0nm,0.6s							
EKS2	**Erkin-Say**	**43.15**	**67**	*eP*		**P**	**17 50 50.1**	**+1.5**
	comp=Z,6.4nm,0.6s							
EKS2	**Erkin-Say**	**43.15**	**67**	*eP*		**P**	**17 50 50.1**	**+1.5**
	comp=Z,6.0nm,0.6s							
AAK	**Ala-Archa**	**43.66**	**66**	P		**P**	**17 50 54.2**	**+1.5**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AAK	**Ala-Archa**	**43.66**	**66**	*eP*		**P**	**17 50 54.0**	**+1.3**
AAK	**Ala-Archa**	**43.66**	**66**	P		**P**	**17 50 54.2**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=301,slow=3.1,SNR=6.8							
AAK	**Ala-Archa**	**43.66**	**66**	*eP*		**P**	**17 50 54.0**	**+1.3**
TKM2	**Tokmak 2**	**44.35**	**66**	P		**P**	**17 50 59.4**	**+1.2**
TKM2				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TKM2	**Tokmak 2**	**44.35**	**66**	P		**P**	**17 50 59.4**	**+1.2**
	comp=Z,5.7nm,1.0s							
TKM2	**Tokmak 2**	**44.35**	**66**	P		**P**	**17 50 59.4**	**+1.2**
	comp=Z,6.0nm,1.0s							
KURBB	**Kurchatov Arra**	**44.41**	**54**	P		**P**	**17 50 58.7**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=286,slow=9.8,SNR=24							
KURK	**Kurchatov**	**44.45**	**54**	*eP*		**P**	**17 50 59.1**	**+0.5**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**44.45**	**54**	*eP*		**P**	**17 50 59.1**	**+0.5**
	comp=Z,1.8nm,0.6s							
KURK	**Kurchatov**	**44.45**	**54**	*eP*		**P**	**17 50 59.1**	**+0.5**
	comp=Z,2.0nm,0.6s							
SFJD	**Kangerlussuaq**	**44.87**	**329**	P		**P**	**17 51 01.1**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=104,slow=9.1,SNR=5.0							
SFJD	**Kangerlussuaq**	**44.87**	**329**	P		**P**	**17 51 01.1**	**-0.4**
	comp=Z,7.0nm,0.7s							
ZAA0	**Zalesovo Array**	**47.52**	**49**	*eP*		**P**	**17 51 22.3**	**0.0**
ZAA0	**Zalesovo Array**	**47.52**	**49**	*eP*		**P**	**17 51 22.3**	**0.0**
ZALV	**Zalesovo Beam**	**47.52**	**49**	P		**P**	**17 51 22.9**	**+0.6**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**47.52**	**49**	P		**P**	**17 51 22.9**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=276,slow=6.8,SNR=7.7							
ZALV	**Zalesovo Beam**	**47.52**	**49**	P		**P**	**17 51 22.9**	**+0.6**
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**47.77**	**59**	*eP*		**P**	**17 51 24.9**	**+0.5**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MK31	**Makanchi Array**	**47.77**	**59**	*eP*		**P**	**17 51 24.9**	**+0.5**
MK31	**Makanchi Array**	**47.77**	**59**	*eP*		**P**	**17 51 24.9**	**+0.5**
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	**47.77**	**59**	*eP*		**P**	**17 51 25.0**	**+0.6**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	**47.77**	**59**	P		**P**	**17 51 25.1**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=283,slow=7.3,SNR=120							
MKAR	**Makanchi Array**	**47.77**	**59**	*eP*		**P**	**17 51 25.0**	**+0.6**
	comp=Z,2.0nm,0.4s							
SCHQ	**Schefferville**	**54.60**	**315**	P		**P**	**17 52 14.3**	**-0.4**
	comp=Z,8.9nm,0.3s,baz=60,slow=6.0,SNR=57							
LSA	**Lhasa**	**61.26**	**74**	*eP*		**P**	**17 53 01.8**	**0.0**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LSA	**Lhasa**	**61.26**	**74**	*eP*		**P**	**17 53 01.8**	**0.0**
	comp=Z,2.7nm,0.8s							
LSA	**Lhasa**	**61.26**	**74**	*eP*		**P**	**17 53 01.8**	**0.0**
	comp=Z,3.0nm,0.8s							
SONM	**Songino Array**	**62.40**	**49**	P		**P**	**17 53 09.1**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=271,slow=6.7,SNR=6.0							
SONM	**Songino Array**	**62.40**	**49**	P		**P**	**17 53 09.1**	**+0.5**
	comp=Z,1.0nm,0.9s							
LBTB	**Lobatse**	**65.17**	**170**	P		**P**	**17 53 27.4**	**+0.7**
	comp=Z,3.5nm,0.9s							
LBTB	**Lobatse**	**65.17**	**170**	P		**P**	**17 53 27.4**	**+0.7**
	comp=Z,3.0nm,0.9s							
SADO	**Sadowa**	**66.24**	**309**	P		**P**	**17 53 34.1**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=89,slow=6.8,SNR=4.0							
YKA	**Yellowknife Ar**	**70.47**	**338**	P		**P**	**17 53 59.7**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=43,slow=6.1,SNR=7.9							
YKA	**Yellowknife Ar**	**70.47**	**338**	P		**P**	**17 53 59.7**	**+0.6**
	comp=Z,1.0nm,0.5s							
ULM	**Lac du Bonnet**	**72.03**	**321**	P		**P**	**17 54 09.2**	**+0.4**
	comp=Z,5.4nm,0.4s,baz=46,slow=5.9,SNR=9.9							
ULM	**Lac du Bonnet**	**72.03**	**321**	*eP*		**P**	**17 54 09.1**	**+0.4**
	comp=Z,5.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**73.47**	**80**	P		**P**	**17 54 17.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=304,slow=7.3,SNR=13							
CMAR	**Chiang Mai Arr**	**73.47**	**80**	P		**P**	**17 54 17.9**	**+0.2**
	comp=Z,1.0nm,0.6s							
ILAR	**Eielson Array**	**74.85**	**352**	P		**P**	**17 54 25.1**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=4.3,slow=6.5,SNR=8.3							
ILAR	**Eielson Array**	**74.85**	**352**	P		**P**	**17 54 25.1**	**+0.3**
	comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**83.95**	**323**	P		**P**	**17 55 14.8**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=62,slow=7.4,SNR=10							
TXAR	**Lajitas Array**	**90.99**	**310**	P		**P**	**17 55 49.6**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=72,slow=3.7,SNR=5.2							

IDC 08 17:43:51.0±4.1, 15°31S×173°03W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=225.0km s-min=25.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.85**	**41**	Pn	Pn	17 44 24.1	0.0
	12nm,0.3s,baz=192,slow=12,SNR=42						
AFI				Sn	Sn	17 44 42.8	-5.5
	66nm,0.3s,baz=218,slow=19,SNR=22						
STKA	**Stephens Creek**	**44.39**	**240**	P	P	17 52 03.6	0.0
	1.2nm,0.9s,baz=81,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**50.21**	**257**	P	P	17 52 49.2	0.0
	0.1nm,0.5s,baz=91,slow=7.1,SNR=5.4						
ASAR	**Alice Springs**	**50.48**	**252**	P	P	17 52 50.9	-0.3
	0.7nm,0.6s,baz=89,slow=8.3,SNR=17						

*IDC **08** 17:50:10.4±1.9, 13°.13S×166°.62E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML4.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=53.3km s-min=27.0km az=130.0*

ISC 08 17:50:16.2±2.1, 13°.1S±0°.2×166°.2E±0°.3, h20km, n8, σ1s16°/7, mb3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.15**	**300**	Pn	**Pn**	**17 51 59.9**	**+0.2**
	4.5nm,0.3s,baz=90,slow=20,SNR=3.3						
HNR				LR	LR	17 54 25.5	
	comp=Z,76nm,18.4s,baz=224,slow=34						
STKA	**Stephens Creek**	**29.34**	**226**	P	**P**	**17 56 18.9**	**+1.1**
	1.3nm,0.7s,baz=68,slow=11,SNR=4.3						
STKA				LR	LR	18 07 29.3	
	comp=Z,43nm,20.8s,baz=199,slow=35						
WRA	**Warramunga Arr**	**31.29**	**253**	P	**P**	**17 56 34.9**	**-0.3**
	0.3nm,0.7s,baz=83,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**32.36**	**246**	P	**P**	**17 56 42.9**	**-1.7**
	0.9nm,0.7s,baz=72,slow=9.3,SNR=11						
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P	**P**	**18 01 47.8**	**+0.6**
	0.7nm,0.8s,baz=114,slow=4.0,SNR=5.7						
SONM	**Songino Array**	**80.58**	**324**	P	**P**	**18 02 27.7**	**+0.3**
	0.1nm,0.5s,baz=130,slow=5.8,SNR=2.7						
ILAR	**Eielson Array**	**85.28**	**18**	P	P	18 02 46.9	-4.3
	0.3nm,1.0s,baz=231,slow=5.7,SNR=2.9						
MKAR	**Makanchi Array**	**95.32**	**317**	P	**P**	**18 03 38.2**	**-0.8**
	0.2nm,0.6s,baz=115,slow=5.5,SNR=3.4						

NNC 08 18:12:05.8±13.0, 36°.57N×70°.30E, h0km, mb3.7, mpv3.6, 2C-3D, Error ellipse: s-maj=122.5km s-min=81.6km az=147.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.53**	**1**	⇑P	Pn	18 13 44.6	+1.4
	1.2nm,0.2s						
KK31				⇓S	Sn	18 14 59.1	+0.8
	3.5nm,0.6s						
AAK	**Ala-Archa**	**6.87**	**27**	⇑P	Pn	18 13 45.7	-2.3
	6.4nm,1.4s						
AAK				⇓S	Sn	18 15 05.2	-1.8
	5.8nm,0.8s						
TKM2	**Tokmak 2**	**7.54**	**31**	⇓S	Sn	18 15 28.9	+5.2
	4.5nm,1.3s						
AB31	**Akbulak array**	**14.76**	**332**	P	Pn	18 15 36.2	+0.5
	0.1nm,0.2s,baz=161,slow=12,SNR=15						

*MOS **08** 19:03:35.7±1.2, 48°.97N×153°.24E, h145km, mb4.3/1, Error ellipse: s-maj=35.2km s-min=10.2km az=59.4*
*ISCJB **08** 19:03:36.8±0.9, 48°.9N±0°.1×153°.4E±0°.2, h153km±8km, mb3.3/10, Error ellipse: s-maj=27.1km s-min=8.2km az=142.0*
*KRSC **08** 19:03:36.0±2.5, 48°.30N×155°.13E, h167km±38km, ML4.1*
*IDC **08** 19:03:37.9±2.4, 48°.86N×153°.22E, h150km±22km, mb3.1/10, mb1 3.3/12, mb1mx3.2/27, mbtmp3.1/12, Error ellipse: s-maj=28.0km s-min=12.8km az=148.0*

ISC 08 19:03:36.6±1.2, 48°.8N±0°.1×153°.5E±0°.1, h139km±10km, n39, σ1s58/49, mb3.3/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.54**	**41**	PN	**Pn**	**19 04 16.5**	**-1.1**
SKR				*eS*	**Sn**	**19 04 46.5**	**-2.8**
SKR				smax	smax		
	comp=N,120nm,0.5s						
SKR				smax	smax		
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.54**	**41**	*eP*	**Pn**	**19 04 18.2**	**+0.6**
SKR				*eS*	**Sn**	**19 04 50.6**	**+1.3**
PAU	**Pauzhetka**	**3.42**	**37**	PN	**Pn**	**19 04 29.9**	**+1.1**
PAU				S	**Sn**	**19 05 10.5**	**+1.1**
PAU	**Pauzhetka**	**3.42**	**37**	*eP*	**Pn**	**19 04 29.9**	**+1.1**
PAU				*eS*	**Sn**	**19 05 10.5**	**+1.1**
MIPR	**Malaya Ipel'ka**	**4.06**	**30**	*eP*	**Pn**	**19 04 38.6**	**+1.4**
ASAK	**Asacha**	**4.56**	**36**	*eP*	**Pn**	**19 04 45.4**	**+1.5**
ASAK				S	**Sn**	**19 05 36.9**	**+0.6**
APC	**Apacha**	**4.74**	**28**	*eP*	**Pn**	**19 04 47.8**	**+1.6**
MTVR	**Mutnovka**	**4.75**	**37**	*iP*	**Pn**	**19 04 46.9**	**+0.5**
MTVR				*eS*	**Sn**	**19 05 39.2**	**-1.6**
RUS	**Russkaya**	**4.84**	**39**	PN	**Pn**	**19 04 47.0**	**-0.6**
RUS				S	**Sn**	**19 05 39.8**	**-3.1**
RUS	**Russkaya**	**4.84**	**39**	*eP*	**Pn**	**19 04 47.0**	**-0.6**
RUS				*eS*	**Sn**	**19 05 39.8**	**-3.1**
PETK	**Petropavlovsk-**	**5.07**	**30**	PN	**Pn**	**19 04 52.2**	**+1.6**
PETK				S	**Sn**	**19 05 45.3**	**-3.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.07**	**30**	P	**Pn**	**19 04 52.2**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=205,slow=14,SNR=49						
PETK				S	**Sn**	**19 05 45.3**	**-3.0**
	comp=Z,2.0nm,0.3s,baz=276,slow=26,SNR=2.3						
KOK	**Koryaka**	**5.55**	**34**	*eP*	**Pn**	**19 04 58.7**	**+1.7**
UGLR	**Uglovaya**	**5.55**	**35**	*eP*	**Pn**	**19 04 57.5**	**+0.4**
AVH	**Avacha**	**5.56**	**35**	*eP*	**Pn**	**19 04 59.3**	**+2.0**
SMAR	**Somma**	**5.59**	**35**	*eP*	**Pn**	**19 04 59.1**	**+1.4**
KRER	**Koryakskii**	**5.60**	**34**	*eP*	**Pn**	**19 04 59.6**	**+1.8**
KRER				S	**Sn**	**19 06 00.8**	**-0.5**
SDLR	**Sedlovina**	**5.63**	**35**	*eP*	**Pn**	**19 04 58.5**	**+0.3**
GNL	**Ganaly**	**5.64**	**28**	*eP*	**Pn**	**19 04 59.6**	**+1.3**
KZV	**Kizimen**	**7.59**	**31**	P	**Pn**	**19 05 26.2**	**+1.7**
TUMR	**Tumrok**	**7.68**	**30**	P	**Pn**	**19 05 27.0**	**+1.4**
MKZ	**Mys Kozlova**	**7.71**	**39**	PN	**Pn**	**19 05 24.0**	**-1.9**
MKZ	**Mys Kozlova**	**7.71**	**39**	*eP*	**Pn**	**19 05 24.0**	**-1.9**
MKZ				S	Sn	19 06 42.7	-8.9
ASAJ	**Asahikawa**	**8.85**	**242**	P	**Pn**	**19 05 41.3**	**0.0**
	comp=Z,0.4nm,0.3s,baz=58,slow=9.5,SNR=4.2						
KBTR	**Krutoberegovo**	**9.34**	**34**	PN	**Pn**	**19 05 46.2**	**-1.5**
KBTR	**Krutoberegovo**	**9.34**	**34**	*eP*	**Pn**	**19 05 46.2**	**-1.5**
BKI	**Bering**	**10.01**	**45**	S	Sn	19 07 35.3	-12
USRK	**Ussuriysk Arra**	**15.48**	**261**	P	**P**	**19 07 09.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=66,slow=13,SNR=6.5						
KSRS	**Korea Array**	**21.72**	**248**	P	**P**	**19 08 15.2**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=48,slow=10,SNR=5.1						
ILAR	**Eielson Array**	**34.80**	**40**	P	**P**	**19 10 14.8**	**+1.3**
	comp=Z,0.5nm,1.0s,baz=266,slow=5.5,SNR=5.6						
MKAR	**Makanchi Array**	**46.25**	**296**	P	**P**	**19 11 46.6**	**-1.0**
MKAR	**Makanchi Array**	**46.25**	**296**	P	**P**	**19 11 46.5**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=64,slow=8.2,SNR=4.5						
YKA	**Yellowknife Ar**	**49.14**	**38**	P	**P**	**19 12 10.9**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=300,slow=6.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**53.12**	**255**	P	**P**	**19 12 39.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=33,slow=7.7,SNR=5.4						
NVAR	**Mina Array Bea**	**61.28**	**64**	P	**P**	**19 13 38.3**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=306,slow=7.7,SNR=2.2						
FINES	**FINESS Array B**	**62.29**	**334**	P	**P**	**19 13 41.7**	**-1.6**
	comp=Z,2.1nm,1.0s,baz=28,slow=6.3,SNR=3.1						
PDAR	**Pinedale Array**	**63.35**	**55**	P	**P**	**19 13 51.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=322,slow=3.8,SNR=2.9						
ASAR	**Alice Springs**	**74.23**	**199**	P	**P**	**19 14 57.6**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=11,slow=6.0,SNR=5.1						
TXAR	**Lajitas Array**	**76.28**	**61**	P	**P**	**19 15 10.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=298,slow=6.0,SNR=3.6						

*IDC **08** 19:03:58.6±1.0, 9°.16S×157°.91E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/19, mbtmp3.7/9, MS3.1/4, Ms1 3.0/4, ms1mx2.7/34, Error ellipse: s-maj=28.9km s-min=20.5km az=133.0*
*ISCJB **08** 19:04:00.8±0.6, 9°.2S±0°.1×157°.93E±0°.06, h27km, mb3.7/8, MS3.2/2, Error ellipse: s-maj=18.8km s-min=9.2km az=1.3*

ISC 08 19:04:02.0±0.8, 9°.3S±0°.2×158°.10E±0°.08, h27km, n13, σ1s16°/10, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.83**	**95**	Pn	**Pb**	**19 04 34.3**	**-0.6**
	19nm,0.3s,baz=196,slow=7.9,SNR=8.8						
HNR				Sn	**Sb**	**19 04 57.9**	**+0.5**
	122nm,0.3s,baz=287,slow=11,SNR=16						
HNR				Lg	Lg	19 05 13.8	
	75nm,0.3s,baz=307,slow=20,SNR=4.7						
HNR	**Honiara**	**1.83**	**95**	*eP*	Pb	19 04 39.0	+4.1
PMG	**Port Moresby**	**10.79**	**265**	LR	LR	19 09 46.1	
	comp=Z,21nm,18.8s,baz=254,slow=33						
DZM	**Mont Dzumac**	**15.05**	**149**	LR	LR	19 12 23.6	
	comp=Z,98nm,19.5s,baz=40,slow=33						
WRA	**Warramunga Arr**	**25.29**	**243**	P	**P**	**19 09 26.2**	**-0.2**
	1.2nm,0.8s,baz=69,slow=9.0,SNR=6.6						
ASAR	**Alice Springs**	**27.20**	**235**	P	**P**	**19 09 42.9**	**-0.8**
	0.5nm,0.9s,baz=56,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**27.22**	**212**	P	**P**	**19 09 44.9**	**+1.2**
	1.5nm,0.8s,baz=40,slow=17,SNR=6.0						
STKA				LR	LR	19 18 34.8	
	comp=Z,47nm,20.8s,baz=205,slow=32						
URZ	**Urewera**	**33.56**	**152**	LR	LR	19 23 22.6	
	comp=Z,60nm,18.4s,baz=20,slow=34						
PETK	**Petropavlovsk-**	**62.13**	**360**	P	**P**	**19 14 22.4**	**+2.0**
	2.7nm,1.0s,baz=154,slow=6.3,SNR=3.4						
CMAR	**Chiang Mai Arr**	**64.53**	**295**	P	**P**	**19 14 37.5**	**+0.4**
	0.3nm,0.4s,baz=111,slow=4.0,SNR=4.9						
SONM	**Songino Array**	**72.90**	**326**	P	**P**	**19 15 27.4**	**-1.5**
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.9						
ILAR	**Eielson Array**	**84.37**	**21**	P	**P**	**19 16 30.9**	**-0.6**
	1.0nm,0.9s,baz=263,slow=6.1,SNR=4.6						
MKAR	**Makanchi Array**	**87.13**	**318**	P	**P**	**19 16 45.2**	**-0.3**
	0.7nm,0.8s,baz=102,slow=5.5,SNR=6.8						

IDC 08 19:10:29.3±4.7, 16°.46S×175°.42W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/19, mbtmp4.0/3, Error ellipse: s-maj=168.6km s-min=93.5km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.83**	**240**	P	P	19 18 21.5	+0.4
	1.5nm,0.4s,baz=84,slow=8.7,SNR=15						
WRA	**Warramunga Arr**	**47.72**	**258**	P	P	19 19 08.0	-0.3
	0.2nm,0.5s,baz=96,slow=7.1,SNR=4.7						
ASAR	**Alice Springs**	**47.94**	**253**	P	P	19 19 09.3	-0.7
	3.2nm,0.7s,baz=89,slow=7.7,SNR=66						
ASAR				PcP	PcP	19 20 38.3	-0.2
	0.1nm,0.4s,baz=110,slow=4.3,SNR=2.9						

*IDC **08** 19:48:47.9±1.2, 37°.30N×121°.86W, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.5/29, mbtmp3.4/7, ML3.5/4, MS2.6/1, Ms1 2.6/1, ms1mx2.4/32, Error ellipse: s-maj=14.7km s-min=9.7km az=33.0*
*ISCJB **08** 19:48:48.7±0.4, 37°.48N±0°.03×121°.79W±0°.03, h10km, mb3.3/4, MS2.5/1, Error ellipse: s-maj=4.7km s-min=3.1km az=31.7*
*NEIC **08** 19:48:50.0, 37°.48N×121°.79W, h10km, MW3.7(BRK), After NCEDC.*
NEIC Felt [III] at Fremont, Milpitas, Pleasanton and San Jose. Felt [II] in much of the San Francisco-Oakland Bay area, south to Gilroy and Watsonville and north from Mill Valley to Novato and Petaluma to Santa Rosa.

ISC 08 19:48:50.7±0.7, 37°.48N±0°.03×121°.80W±0°.03, h10km, n47, σ1s95/64, mb3.5/4, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAC	**San Andreas**	**0.50**	**282**	*eP*g	**Pg**	**19 48 59.6**	**-0.8**
SAC				*eS*g	**Sg**	**19 49 06.4**	**-0.6**
SAO	**San Andreas Ge**	**0.77**	**158**	*eP*g	**Pg**	**19 49 04.9**	**-0.7**
SAO				*eS*g	**Sg**	**19 49 14.8**	**-0.9**
MCCM	**Marconi Confer**	**1.08**	**308**	*eP*g	**Pb**	**19 49 09.0**	**-2.4**
MCCM				*eS*g	**Sg**	**19 49 24.0**	**-1.5**
CMB	**Columbia Colle**	**1.25**	**63**	*eP*n	**Pn**	**19 49 12.4**	**-1.9**
CMB				*eS*n	**Sb**	**19 49 28.3**	**-2.3**
HOPS	**Hopland**	**1.81**	**327**	*eP*n	**Pn**	**19 49 19.3**	**-2.6**
WAKR	**Walker**	**2.13**	**61**	*eP*n	**Pn**	**19 49 26.9**	**+0.4**
WAKR				*eS*n	**Sn**	**19 49 53.9**	**+0.7**
MLAC	**Mammoth Lakes**	**2.36**	**86**	P	**Pn**	**19 49 30.2**	**+0.5**
	baz=2.3						
MLAC				S	**Sb**	**19 50 01.1**	**-1.7**
	baz=2.3						
KCPM	**Cahto Peak**	**2.60**	**328**	*eP*n	**Pn**	**19 49 31.8**	**-1.2**
KCPM				*eP*g	**Pg**	**19 49 40.8**	**+0.1**
SMMC	**Simmler**	**2.61**	**146**	P	**Pn**	**19 49 31.2**	**-1.8**
	baz=2.6						
BEKR	**Beckworth**	**2.63**	**25**	*eP*n	**Pn**	**19 49 32.3**	**-1.2**
VES	**Vestal, Richgr**	**2.73**	**126**	P	**Pn**	**19 49 32.6**	**-2.0**
	baz=2.7						
PAHR	**Pah Rah Range**	**2.92**	**40**	*eP*n	**Pn**	**19 49 35.5**	**-1.9**
NVAR	**Mina Array Bea**	**2.92**	**70**	Pn	**Pn**	**19 49 37.3**	**-0.1**
NVAR				Pg	**Pb**	**19 49 42.4**	**-0.7**
NVAR				Lg	Lg	19 50 23.7	
NVAR	**Mina Array Bea**	**2.92**	**70**	Pn	**Pn**	**19 49 37.3**	**-0.1**
	2.7nm,0.3s,baz=253,slow=15,SNR=22						
NVAR				Pg	**Pb**	**19 49 42.3**	**-0.7**
	18nm,0.3s,baz=256,slow=18,SNR=38						
NVAR				Lg	Lg	19 50 23.7	
	19nm,0.3s,baz=237,slow=28,SNR=14						
NV11	**Mina Array Sit**	**3.04**	**71**	*eP*n	**Pn**	**19 49 38.9**	**-0.1**
NV11	

MKAR	**Makanchi Array**	**57.80**	**325**	P		**P**	**20 09 29.0**	**-0.7**
	0.6nm,0.5s,baz=122,slow=8.0,SNR=20							
BVAR	**Borovoye Array**	**67.57**	**327**	P		**P**	**20 10 34.8**	**+0.1**
	0.4nm,0.7s,baz=136,slow=9.6,SNR=3.4							

*ISCJB **08** 20:04:36.5±1.4, 47.7°N±0.2×153.9°E±0.2, h64km, mb3.7/10, Error ellipse: s-maj=31.0km s-min=9.0km az=44.0*
*MOS **08** 20:04:39.9±1.6, 47.74°N×153.98°E, h97km, mb4.1/2, Error ellipse: s-maj=29.6km s-min=12.8km az=86.2*
*SKHL **08** 20:04:41.4±2.1, 47.9°N×153.69°E, h97km±1km, mb4.8/1, msh5.4/1*
*IDC **08** 20:04:46.8±4.2, 47.98N×153.88E, h131km±31km, mb3.3/10, mb1 3.4/12, mb1mx3.2/28, mbtmp3.7/12, Error ellipse: s-maj=42.4km s-min=20.3km az=152.0*

ISC 08 20:04:38.3±1.6, 47.6N±0.2×154.0E±0.2, h64km, n31, σ2$06/26, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.36**	**24**	*e*PN	**Pn**	**20 05 27.4**	**-0.8**
SKR				*e*S	**Sn**	**20 06 03.5**	**-3.3**
SKR				smax	smax		
	comp=N,160nm,0.4s						
SKR				smax	smax		
	comp=E,160nm,0.4s						
SKR	**Severo-Kuril's**	**3.36**	**24**	*e*P	**Pn**	**20 05 27.4**	**-0.8**
SKR				AMB	AMB	20 05 28.5	
	comp=E,80nm,0.5s						
SKR				*e*rx	rx	20 05 31.5	
SKR				*e*S	**Sn**	**20 06 03.5**	**-3.3**
SKR				A	A	20 06 05.0	
	comp=E,150nm,0.4s						
SKR				A	A	20 06 05.0	
	comp=E,160nm,0.4s						
SKR				A	A	20 06 05.0	
	comp=E,80nm,0.4s						
PAU	**Pauzhetka**	**4.26**	**25**	*e*P	Pn	20 05 43.6	+3.1
PAU				*e*S	**Sn**	**20 06 28.7**	**-0.1**
PETK	**Petropavlovsk-**	**5.97**	**22**	PN	**Pn**	**20 06 07.0**	**+3.0**
PETK				S	**Sn**	**20 07 15.4**	**+4.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.97**	**22**	P	**Pn**	**20 06 07.0**	**+3.0**
	comp=Z,0.8nm,0.3s,baz=184,slow=13,SNR=13						
PETK				S	**Sn**	**20 07 15.4**	**+4.5**
	comp=Z,0.2nm,0.3s,baz=216,slow=24,SNR=2.2						
SEY	**Seymchan**	**15.35**	**357**	P	**P**	**20 08 13.7**	**-0.5**
SEY	**Seymchan**	**15.35**	**357**	P	**P**	**20 08 13.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=351,slow=23,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**29.77**	**155**	T	T	20 42 51.4	
	baz=343,slow=76,SNR=65						
H11N1	**WAKE ISLAND Hy**	**29.78**	**155**	T	T	20 42 52.5	
	baz=343,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**29.78**	**155**	T	T	20 42 55.1	
	baz=343,slow=76,SNR=54						
H11S1	**WAKE ISLAND Hy**	**30.87**	**156**	T	T	20 44 09.4	
	baz=345,slow=77,SNR=95						
H11S3	**WAKE ISLAND Hy**	**30.88**	**156**	T	T	20 44 21.3	
	baz=345,slow=77,SNR=121						
H11S2	**WAKE ISLAND Hy**	**30.89**	**156**	T	T	20 44 20.5	
	baz=345,slow=77,SNR=84						
ILAR	**Eielson Array**	**35.49**	**39**	P	**P**	**20 11 27.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=247,slow=6.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.56**	**305**	P	**P**	**20 12 26.3**	**-1.0**
ZALV	**Zalesovo Beam**	**42.56**	**305**	P	**P**	**20 12 26.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=80,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**20 13 02.9**	**-0.3**
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**20 13 02.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=75,slow=7.5,SNR=8.7						
YKA	**Yellowknife Ar**	**49.87**	**37**	P	**P**	**20 13 25.1**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=299,slow=7.0,SNR=3.8						
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**20 13 30.9**	**-0.4**
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**20 13 30.9**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=58,slow=7.8,SNR=17						
CMAR	**Chiang Mai Arr**	**53.14**	**256**	P	**P**	**20 13 52.1**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=24,slow=8.9,SNR=3.2						
ARCES	**ARCESS Array B**	**57.20**	**341**	P	**P**	**20 14 16.4**	**-1.7**
	comp=Z,4.8nm,0.9s,baz=22,slow=7.8,SNR=3.9						
FINES	**FINESS Array B**	**63.48**	**335**	P	**P**	**20 15 00.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=43,slow=7.7,SNR=14						
NB2	**NORSAR Subarra**	**67.57**	**341**	P	**P**	**20 15 27.1**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=24,slow=6.2						
NOA	**NORSAR Array B**	**67.57**	**341**	P	**P**	**20 15 27.1**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=26,slow=6.4,SNR=5.7						
AKASG	**Malin Array Be**	**71.12**	**326**	P	**P**	**20 15 48.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.12**	**326**	P	**P**	**20 15 48.5**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=33,slow=6.1,SNR=9.7						
H03N2	**Juan Fernandez**	**138.18**	**90**	T	T	22 59 09.3	
	baz=306,slow=75,SNR=5.0						
H03N1	**Juan Fernandez**	**138.20**	**90**	T	T	22 59 10.9	
	baz=306,slow=75,SNR=4.9						
H03N3	**Juan Fernandez**	**138.20**	**90**	T	T	22 59 13.8	
	baz=306,slow=75,SNR=9.0						

NEIC 08 20:14:55.6, 51.26N×179.85W, h21km, ML2.8(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.84**	**53**	P	Pb	20 15 10.3	-1.2
GAEA	**Gareloi East**	**0.87**	**52**	P	Pb	20 15 10.5	-1.5
GANE	**Gareloi Northe**	**0.88**	**50**	P	Pb	20 15 10.4	-1.7
GANE				S	Sb	20 15 23.1	-0.3
TASE	**Tanaga Southea**	**1.27**	**62**	P	Pn	20 15 16.4	-1.8
TAFL	**Tanaga Flats**	**1.32**	**67**	P	Pn	20 15 17.4	-1.4
TAFP	**Tanaga Falls P**	**1.33**	**60**	P	Pn	20 15 17.3	-1.7
TAFP				S	Sb	20 15 36.7	+0.2
TAPA	**Tanaga Point A**	**1.39**	**66**	P	Pn	20 15 17.9	-1.9
KIKV	**Kanaga Island**	**1.79**	**69**	P	Pn	20 15 24.0	-1.3
KIRH	**Kanaga Island**	**1.84**	**69**	P	Pn	20 15 24.7	-1.2
ADK	**Adak**	**2.07**	**71**	P	Pn	20 15 27.7	-1.4
ADK				S	Sn	20 15 55.3	+0.9
GSCK	**Great Sitkin C**	**2.42**	**70**	P	Pn	20 15 32.8	-1.1
GSMY	**Great Sitkin M**	**2.49**	**70**	P	Pn	20 15 34.1	-0.8

*IDC **08** 20:16:15.8±1.1, 52.41N×170.20W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.5/31, mbtmp3.6/8, ML3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/47, Error ellipse: s-maj=36.8km s-min=21.7km az=176.0*
*NEIC **08** 20:16:20.5, 52.57N×170.00W, h2km, ML3.4(AEIC), After AEIC.*
*ISCJB **08** 20:16:21.6±0.6, 52.5°N±0.1×169.91W±0.09, h44km, mb3.6/6, MS3.3/1, Error ellipse: s-maj=16.6km s-min=4.4km az=156.2*

ISC 08 20:16:22.7±0.8, 52.5N±0.1×169.87W±0.06, h44km, n25, σ1$40/30, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.78**	**52**	P	**Pn**	**20 16 35.4**	**-1.9**
NIKH				S	Sn	20 16 47.3	-0.5
OKFG	**Magazine Ridge**	**1.50**	**51**	P	**Pn**	**20 16 46.4**	**-0.6**
OKFG				S	**Sn**	**20 17 05.9**	**+0.6**
MREP	**Makushin Rep't**	**2.29**	**54**	P	**Pn**	**20 16 58.4**	**+0.3**
MSW	**Makushin Switc**	**2.34**	**51**	P	**Pn**	**20 16 59.4**	**+0.9**
UNV	**Unalaska Valle**	**2.44**	**55**	*e*Pn	**Pn**	**20 16 59.2**	**-0.6**
	150nm,0.4s						
UNV				P	**Pn**	**20 16 59.6**	**-0.3**
UNV				S	**Sn**	**20 17 30.4**	**+2.0**
AKRB	**Akutan Reef Bi**	**2.81**	**53**	P	**Pn**	**20 17 06.0**	**+1.0**
AKRB				S	**Sn**	**20 17 41.3**	**+3.7**
ZRO	**Akutan Zero**	**2.83**	**54**	P	**Pn**	**20 17 06.4**	**+1.1**
AKGG	**Akutan Green G**	**2.88**	**52**	P	**Pn**	**20 17 06.8**	**+0.8**
AKUT	**Akutan**	**2.95**	**55**	*e*Pn	**Pn**	**20 17 07.6**	**+0.7**
	73nm,0.7s						
WESN	**West Dahl Nort**	**3.77**	**55**	P	**Pn**	**20 17 19.2**	**+0.9**
GSTD	**Great Sitkin T**	**3.88**	**266**	P	**Pn**	**20 17 20.6**	**+0.7**
SSBA	**Shishaldin**	**4.11**	**54**	P	**Pn**	**20 17 23.6**	**+0.6**
ADAG	**Mount Adagdak**	**4.17**	**266**	P	**Pn**	**20 17 24.1**	**+0.4**
ADK	**Adak**	**4.24**	**264**	P	**Pn**	**20 17 25.4**	**+0.7**
KIRH	**Kanaga Island**	**4.49**	**265**	P	**Pn**	**20 17 28.9**	**+0.8**
SPIA	**Saint Paul Isl**	**4.70**	**357**	P	**Pn**	**20 17 31.8**	**+0.9**
TAFP	**Tanaga Falls P**	**5.03**	**266**	P	**Pn**	**20 17 37.8**	**+2.2**
ILAR	**Eielson Array**	**17.02**	**35**	P	**Pn**	**20 20 16.1**	**-1.0**
	0.1nm,0.3s,baz=225,slow=11,SNR=5.9						
PETK	**Petropavlovsk-**	**19.54**	**285**	P	**P**	**20 20 43.4**	**-2.8**
	0.1nm,0.3s,baz=65,slow=14,SNR=3.2						
INK	**Inuvik**	**23.41**	**34**	P	**P**	**20 21 27.3**	**+0.1**
	0.8nm,0.4s,baz=251,slow=5.2,SNR=7.0						
INK				LR	LR	20 31 34.4	
	comp=Z,96nm,19.3s,baz=76,slow=39						
NVAR	**Mina Array Bea**	**37.97**	**91**	P	**P**	**20 23 38.0**	**+1.8**
	0.2nm,0.3s,baz=316,slow=6.3,SNR=2.5						
PDAR	**Pinedale Array**	**40.68**	**79**	P	**P**	**20 23 59.6**	**+0.9**
	1.6nm,0.7s,baz=303,slow=5.0,SNR=14						
TXAR	**Chijtas Array**	**53.05**	**89**	P	**P**	**20 25 35.8**	**+0.5**
	0.3nm,0.6s,baz=304,slow=6.4,SNR=5.4						
BVAR	**Borovoye Array**	**63.42**	**324**	P	**P**	**20 26 46.9**	**-0.4**
	0.2nm,0.5s,baz=46,slow=6.6,SNR=2.9						
ASAR	**Alice Springs**	**90.25**	**230**	P	**P**	**20 29 16.4**	**-2.0**
	0.5nm,0.6s,baz=27,slow=4.9,SNR=8.4						

*IDC **08** 20:16:56.5±7.3, 9.61N×126.15E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.7/4, Error ellipse: s-maj=230.0km s-min=145.7km az=76.0*
*ISCJB **08** 20:17:03.1±2.1, 10.10N±0.06×126.6E±0.1, h49km±18km, mb3.6/4, Error ellipse: s-maj=23.5km s-min=10.3km az=175.9*
*MAN **08** 20:17:07, 9.84N×126.26E, h0km, mb4.6, ML3.5, MS3.4*

ISC 08 20:17:05.1±3.6, 10.13N±0.07×126.5E±0.2, h46km±31km, n9, σ1$42/14, mb3.6/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.07**	**251**	*e*P	**Pn**	**20 17 22.3**	**-1.4**
SCPH				*e*S	**Sn**	**20 17 37.7**	**+0.2**
BUTP	**Butuan**	**1.46**	**218**	*e*P	**Pn**	**20 17 28.3**	**-0.7**
BUTP				*e*S	**Sn**	**20 17 45.2**	**-1.6**
PLP	**Palo**	**1.83**	**304**	*e*P	**Pn**	**20 17 33.5**	**-0.6**
PLP				*e*S	**Sn**	**20 17 58.2**	**+2.0**
CGP	**Cagayan de Oro**	**2.45**	**227**	*e*P	**Pn**	**20 17 43.1**	**+0.4**
CGP				*e*S	**Sn**	**20 18 13.6**	**+2.1**
BUKP	**Musuan**	**2.66**	**213**	*e*P	**Pn**	**20 17 47.5**	**+2.0**
BUKP				*e*S	**Sn**	**20 18 15.9**	**-0.7**
SONM	**Songino Array**	**41.24**	**339**	P	**P**	**20 24 46.4**	**+0.7**
	0.3nm,0.4s,baz=155,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**52.29**	**323**	P	**P**	**20 26 11.5**	**-0.6**
	0.4nm,0.6s,baz=121,slow=8.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**54.87**	**331**	P	**P**	**20 26 30.1**	**-0.7**
	0.2nm,0.3s,baz=123,slow=7.1,SNR=2.5						
FINES	**FINESS Array B**	**86.13**	**332**	P	**P**	**20 29 40.8**	**-0.3**
	0.8nm,0.6s,baz=75,slow=6.3,SNR=5.0						

IDC 08 20:23:41.1±8.4, 0.88N×97.24E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.3/26, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=155.2km s-min=54.6km az=164.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.54**	**41**	Pn	Pn	20 24 22.8	-1.0
	1.5nm,0.3s,baz=164,slow=7.4,SNR=4.7						
PSI				Sn	Sg	20 25 06.3	+3.1
	1.0nm,0.3s,baz=288,slow=22,SNR=4.7						
CMAR	**Chiang Mai Arr**	**17.55**	**5**	P	Pn	20 27 46.8	-0.5
	0.1nm,0.3s,baz=193,slow=11,SNR=4.3						
SONM	**Songino Array**	**47.44**	**8**	P	P	20 32 17.8	+0.1
	0.3nm,0.6s,baz=198,slow=6.4,SNR=3.7						
MKAR	**Makanchi Array**	**47.56**	**346**	P	P	20 32 18.8	+0.3
	0.5nm,0.5s,baz=154,slow=8.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**53.88**	**351**	P	P	20 33 05.3	-0.6
	0.4nm,0.3s,baz=157,slow=7.8,SNR=4.5						

*ISCJB **08** 20:36:22.1±0.4, 4.60S±0.05×149.62E±0.09, h577km, mb3.7/16, Error ellipse: s-maj=11.9km s-min=6.5km az=6.3*
*IDC **08** 20:36:23.4±1.3, 4.65S×149.60E, h574km±17km, mb3.2/16, mb1 3.4/18, mb1mx3.4/23, mbtmp3.3/18, Error ellipse: s-maj=16.8km s-min=8.1km az=102.0*

ISC 08 20:36:23.6±0.7, 4.66S±0.07×149.6E±0.1, h577km, n37, σ1$05/39, mb3.7/16, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.63**	**80**	P	P	20 37 35.3	-3.5
	baz=2.3,SNR=6.5						
PMG	**Port Moresby**	**5.29**	**207**	P	**P**	**20 37 56.9**	**-0.5**
	28nm,0.3s,baz=25,slow=8.2,SNR=91						
PMG				S	**S**	**20 39 09.6**	**-4.4**
	5.4nm,0.3s,baz=163,slow=19,SNR=8.0						
COEN	**Coen**	**11.18**	**214**	P	**P**	**20 38 54.5**	**+0.6**
	baz=12,SNR=9.7						
CTA	**Charters Tower**	**15.67**	**192**	P	**P**	**20 39 39.6**	**+0.7**
	3.8nm,0.3s,baz=17,slow=12,SNR=50						
FAKI	**Fak Fak**	**17.36**	**275**	P	**P**	**20 39 54.9**	**+0.4**
	baz=18,SNR=4.6						
QIS	**Mount Isa**	**18.54**	**211**	P	**P**	**20 40 06.0**	**+0.9**
	baz=19,SNR=28						
KDU	**Kakadu**	**18.67**	**244**	P	**P**	**20 40 06.4**	**0.0**
	baz=19,SNR=17						
WRA	**Warramunga Arr**	**21.23**	**223**	P	**P**	**20 40 29.9**	**+0.4**
	11nm,0.6s,baz=47,slow=9.5,SNR=200						
WRA				S	**S**	**20 43 48.1**	**+0.2**
	2.8nm,0.8s,baz=47,slow=17,SNR=9.6						
RMQ	**Roma**	**21.72**	**182**	P	**P**	**20 40 34.9**	**+1.1**
	baz=22,SNR=6.2						
QLP	**Quilpie**	**22.39**	**193**	P	**P**	**20 40 40.4**	**+0.6**
	baz=23,SNR=6.0						
KNRA	**Kununurra**	**23.19**	**240**	P	**P**	**20 40 47.0**	**0.0**
	baz=24,SNR=3.7						
DZM	**Mont Dzumac**	**23.81**	**138**	P	**P**	**20 40 52.2**	**-0.4**
	4.7nm,0.7s,baz=285,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**24.19**	**217**	P	**P**	**20 40 56.0**	**+0.2**
	6.8nm,0.4s,baz=50,slow=7.9,SNR=123						
ASAR				S	**S**	**20 44 35.0**	**+0.4**
	0.7nm,0.7s,baz=26,slow=17,SNR=3.6						
ARMA	**Armidale**	**25.70**	**176**	P	**P**	**20 41 10.9**	**+1.8**
	baz=26,SNR=4.8						
CMSA	**Cobar Meteorol**	**26.98**	**187**	P	**P**	**20 41 21.0**	**+0.7**
	baz=28,SNR=7.8						
STKA	**Stephens Creek**	**28.09**	**195**	P	**P**	**20 41 29.9**	**-0.1**
	3.3nm,0.5s,baz=11,slow=11,SNR=18						
WRKA	**Warakurna**	**28.77**	**223**	P	**P**	**20 41 35.8**	**-0.2**
	baz=29,SNR=22						
HTT	**Hallett**	**30.30**	**198**	P	**P**	**20 41 49.3**	**+0.3**
	baz=31,SNR=14						
BBOO	**Buckleboo**	**30.72**	**203**	P	**P**	**20 41 52.5**	**-0.1**
	baz=31,SNR=14						
ARPS	**Mount Arapiles**	**32.73**	**192**	P	**P**	**20 42 10.7**	**+1.0**
	baz=33,SNR=6.6						
TOO	**Toolangi**	**32.97**	**186**	P	**P**	**20 42 13.4**	**+1.7**
	baz=34,SNR=4.8						
MEEK	**Meekatharra**	**36.77**	**230**	P	**P**	**20 42 43.3**	**-0.1**
	baz=37,SNR=7.0						
JNU	**Nakatsue**	**41.54**	**336**	P	**P**	**20 43 20.9**	**-0.8**
	9.5nm,0.5s,baz=97,slow=8.1,SNR=4.9						
CISI	**Cisompet, Garu**	**41.60**	**264**	P	**P**	**20 43 22.5**	**0.0**
	baz=42,SNR=3.3						
MJAR	**Matsushiro Arr**	**42.34**	**346**	P	**P**	**20 43 27.2**	**-0.7**
	1.3nm,0.4s,baz=167,slow=9.7,SNR=9.5						
KSRS	**Korea Array**	**46.49**	**336**	P	**P**	**20 43 59.6**	**-0.1**
	1.6nm,0.5s,baz=152,slow=8.4,SNR=8.5						
ASAJ	**Asahikawa**	**48.96**	**353**	P	**P**	**20 44 17.5**	**-0.5**
	6.7nm,0.7s,baz=28,slow=31,SNR=5.0						
CMAR	**Chiang Mai Arr**	**54.91**	**296**	P	**P**	**20 45 02.6**	**+1.4**
	0.5nm,0.5s,baz=116,slow=5.6,SNR=5.0						
PETK	**Petropavlovsk-**	**57.96**	**6**	P	**P**	**20 45 21.5**	**+0.1**
	2.5nm,0.6s,baz=165,slow=5.6,SNR=13						
SONM	**Songino Array**	**64.52**	**329**	P	**P**	**20 46 05.2**	**+0.7**
	1.0nm,0.5s,baz=147,slow=4.8,SNR=26						
VNDA	**Vanda**	**73.10**	**177**	P	**P**	**20 46 56.3**	**+0.8**
	0.5nm,0.4s,baz=336,slow=8.0,SNR=7.0						
MKAR	**Makanchi Array**	**78.12**	**320**	P	**P**	**20 47 24.1**	**+0.3**
	0.5nm,0.7s,baz=102,slow=4.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**79.27**	**327**	P	**P**	**20 47 28.4**	**-1.3**
	0.3nm,0.3s,baz=132,slow=4.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**81.71**	**323**	P	**P**	**20 47 42.4**	**0.0**
	0.2nm,0.5s,baz=101,slow=4.7,SNR=3.8						
ILAR	**Eielson Array**	**83.26**	**23**	P	**P**	**20 47 48.5**	**-1.4**
	0.8nm,0.6s,baz=252,slow=5.0,SNR=19						
GERES	**GERESS Array B**	**122.22**	**327**	PKP	**PKPdf**	**20 54 13.9**	**+0.1**
	0.4nm,0.5s,baz=80,slow=1.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.19**	**287**	PKPbc	**PKPbc**	**20 55 03.9**	**+0.2**
	1.4nm,0.3s,baz=89,slow=2.8,SNR=45						

*IDC **08** 21:06:27.9±1.1, 36.18N×21.61E, h0km, mb3.5/7, mb1 3.4/11, mb1mx3.3/31, mbtmp3.4/11, ML3.1/4, Error ellipse: s-maj=22.4km s-min=17.6km az=4.0*
*ISCJB **08** 21:06:29.9±0.9, 35.89N±0.03×21.54E±0.05, h7km±7km, mb3.5/6, Error ellipse: s-maj=8.4km s-min=4.0km az=144.9*
*CSEM **08** 21:06:31.4±0.4, 35.95N×21.67E, h2km, ML3.3, Error ellipse: s-maj=8.7km s-min=4.0km az=50.0*
*ATH **08** 21:06:32.0, 35.95N×21.67E, h26km±2km, MD3.6/31*
*THE **08** 21:06:33.1, 36.01N×21.75E, h0km±1km, ML3.3/11, Error ellipse: s-maj=2.8km s-min=1.0km az=226.0*

ISC 08 21:06:30.2±1.6, 35.91N±0.04×21.60E±0.05, h8km±10km, n104, σ1$37/132, mb3.6/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.99**	**7**	P	**Pg**	**21 06 49.0**	**-0.2**
PYL				S	**Sb**	**21 07 03.8**	**+1.1**
PYL	**PYLOS**	**0.99**	**7**	*e*PB	**Pg**	**21 06 48.9**	**-0.2**
PYL				*e*SN	**Sb**	**21 07 03.5**	**+0.8**
PYL	**PYLOS**	**0.99**	**7**	P	**Pg**	**21 06 49.0**	**-0.2**
PYL				*e*Sn	**Sb**	**21 07 03.5**	**+0.8**
KYTH	**Kithira**	**1.22**	**72**	P	**Pb**	**21 06 53.9**	**+0.4**
KYTH	**Kithira**	**1.22**	**72**	*e*PN	**Pn**	**21 06 55.0**	**+1.4**
KYTH	**Kithira**	**1.22**	**72**	P	**Pb**	**21 06 53.9**	**+0.4**
KYTH	**Kithira**	**1.22**	**72**	*e*Pn	**Pn**	**21 06 55.0**	**+1.4**
ITM	**Ithomi**	**1.29**	**12**	P	**Pg**	**21 06 54.6**	**-0.4**
ITM				S	**Sb**	**21 07 12.2**	**+0.7**
ITM	**Ithomi**	**1.29**	**12**	*e*PN	**Pg**	**21 06 54.8**	**-0.2**
ITM				*e*SN	**Sb**	**21 07 12.1**	**+0.6**
ITM	**Ithomi**	**1.29**	**12**	*e*Pn	**Pg**	**21 06 54.8**	**-0.2**
ITM				S	**Sb**	**21 07 12.2**	**+0.7**
VLI	**Veliai**	**1.35**	**53**	P	**Pn**	**21 06 56.1**	**+0.8**
VLI				S	**Sb**	**21 07 13.0**	**-0.1**
VLI	**Veliai**	**1.35**	**53**	*e*PN	**Pn**	**21 06 56.0**	**+0.8**
VLI				*e*SN	**Sn**	**21 07 13.7**	**+0.3**
VLI	**Veliai**	**1.35**	**53**	*e*Pn	**Pn**	**21 06 56.1**	**+0.8**
VLI				S	**Sb**	**21 07 13.0**	**-0.1**
ANKY	**Antikythira Is**	**1.38**	**91**	P	**Pb**	**21 06 57.4**	**+1.1**
ANKY				S	**Sn**	**21 07 15.4**	**+1.2**
ANKY	**Antikythira Is**	**1.38**	**91**	*e*PN	**Pb**	**21 06 57.4**	**+1.1**
ANKY	**Antikythira Is**	**1.38**	**91**	P	**Pb**	**21 06 57.4**	**+1.1**
ANKY				S	**Sn**	**21 07 15.4**	**+1.2**
VLX	**Vlachokerasia**	**1.58**	**23**	P	**Pn**	**21 06 59.6**	**+0.9**
VLX				S	**Sg**	**21 07 20.6**	**-0.5**
VLX	**Vlachokerasia**	**1.58**	**23**	*e*PN	**Pn**	**21 06 59.3**	**+0.6**
VLX	**Vlachokerasia**	**1.58**	**23**	*e*Pn	**Pn**	**21 06 59.3**	**+0.6**
VLX	**Vlachokerasia**	**1.58**	**23**	P	**Pn**	**21 06 59.6**	**+0.9**
VLX				S	**Sg**	**21 07 20.6**	**-0.5**
AMT	**Artemida-Makis**	**1.62**	**3**	P	**Pb**	**21 07 01.0**	**+0.7**
AMT				S	**Sg**	**21 07 22.7**	**+0.5**
AMT	**Artemida-Makis**	**1.62**	**3**	*e*PN	**Pb**	**21 07 00.6**	**+0.3**
AMT	**Artemida-Makis**	**1.62**	**3**	*e*Pn	**Pb**	**21 07 00.6**	**+0.3**
AMT	**Artemida-Makis**	**1.62**	**3**	P	**Pb**	**21 07 01.0**	**+0.7**
AMT				S	**Sg**	**21 07 22.7**	**+0.5**
KARN	**Karanos**	**1.96**	**104**	P	**Pn**	**21 07 04.7**	**+1.0**
KARN				S	**Sb**	**21 07 31.3**	**+0.7**
KARN	**Karanos**	**1.96**	**104**	*e*PB	**Pn**	**21 07 04.7**	**+1.0**
KARN	**Karanos**	**1.96**	**104**	P	**Pn**	**21 07 04.7**	**+1.0**
DRO	**Drossia**	**2.04**	**2**	P	**Pb**	**21 07 05.0**	**+0.1**
DRO				S	**Sb**	**21 07 33.0**	**0.0**
DRO	**Drossia**	**2.04**	**2**	*e*PB	**Pb**	**21 07 07.6**	**+0.1**
DRO	**Drossia**	**2.04**	**2**	P	**Pb**	**21 07 05.0**	**+0.1**
DRO				S	**Sb**	**21 07 33.0**	**0.0**
DID	**Didima**	**2.06**	**39**	P	**Pn**	**21 07 06.0**	**+0.8**
DID				S	**Sn**	**21 07 31.3**	**+0.2**
DID	**Didima**	**2.06**	**39**	*e*PB	**Pn**	**21 07 06.4**	**+1.2**
DID	**Didima**	**2.06**	**39**	P	**Pn**	**21 07 06.0**	**+0.8**
DID	**Didima**	**2.06**	**39**	*e*Pb	**Pn**	**21 07 06.4**	**+1.2**
DID				S	**Sn**	**21 07 31.3**	**+0.2**
GUR	**Goura**	**2.10**	**16**	P	**Pn**	**21 07 07.5**	**+1.7**
GUR	**Goura**	**2.10**	**16**	*e*PB	**Pn**	**21 07 07.3**	**+1.5**
GUR	**Goura**	**2.10**	**16**	*e*Pb	**Pn**	**21 07 07.3**	**+1.5**
RLS	**Riolos of Patr**	**2.14**	**357**	*e*PB	**Pb**	**21 07 09.1**	**-0.1**
RLS	**Riolos of Patr**	**2.14**	**357**	*e*Pb	**Pb**	**21 07 09.1**	**-0.1**
KLV	**Kalavryta, Ach**	**2.17**	**12**	P	**Pn**	**21 07 08.4**	**+1.1**
KLV				S	**Sn**	**21 07 35.3**	**+1.5**
**KL

TORD	**Torodi Ar. Bea**	**28.89**	**223**	P		**P**	**21 12 30.0**	**+0.4**
	comp=N,0.7nm,0.6s,baz=28,slow=9.3,SNR=8.1							
ARCES	**ARCESS Array B**	**33.75**	**2**	P		P	21 13 08.8	-3.0
	comp=N,0.7nm,0.6s,baz=191,slow=8.3,SNR=3.3							
MKAR	**Makanchi Array**	**45.79**	**57**	P		**P**	**21 14 50.4**	**-1.8**
	comp=N,0.3nm,0.4s,baz=269,slow=7.7,SNR=16							
ZALV	**Zalesovo Beam**	**46.59**	**47**	P		P	21 14 55.2	-3.2
	comp=N,0.4nm,0.5s,baz=272,slow=7.1,SNR=2.7							

WEL 08 21:15:57.7±0.5, 36°65S × 179°32W, h33 km, ML3.5/6, Error ellipse: s-maj=5.7km s-min=4.5km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.10**	**244**	PN	Pn	21 16 29.9	-0.6
MXZ				*e*SN	Sn	21 16 53.9	-1.7
PUZ	**Puketiti**	**2.39**	**233**	PN	Pn	21 16 34.1	-0.5
PUZ				*e*SN	Sn	21 17 01.7	-1.2
CNGZ	**Carnagh Statio**	**2.68**	**226**	PN	Pn	21 16 38.2	-0.4
MWZ	**Matawai**	**3.02**	**235**	PN	Pn	21 16 42.8	-0.4
MWZ				*e*SN	Sn	21 17 16.0	-2.2
RIGZ	**Rimuhau**	**3.09**	**228**	PN	Pn	21 16 43.5	-0.7
URZ	**Urewera**	**3.26**	**239**	PN	Pn	21 16 46.6	+0.1
URZ				*e*SN	Sn	21 17 22.6	-1.5
MHGZ	**Mahia Peninsul**	**3.32**	**220**	PN	Pn	21 16 46.1	-1.2
KNZ	**Kokohu**	**3.35**	**224**	*e*PN	Pn	21 16 46.2	-1.5
MCHZ	**McNeill Hill**	**4.20**	**227**	PN	Pn	21 16 58.6	-0.8
BHHZ	**Black Hill Sta**	**4.61**	**231**	PN	Pn	21 17 04.5	-0.7
TSZ	**Takapari Road**	**5.03**	**226**	*e*PN	Pn	21 17 07.6	-3.3
BFZ	**Birch Farm**	**5.31**	**219**	*e*PN	Pn	21 17 10.7	-4.0
MRZ	**Mangatainoka R**	**5.65**	**223**	*e*SN	Sn	21 18 15.9	-7.2
MRZ				AML	AML	21 18 19.5	

*IDC **08** 21:29:03.3±1.9, 33°72N × 137°65E, h0 km, mb3.2/2, mb1 3.3/3, mb1mx3.1/27, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=65.3km s-min=28.8km az=86.0*
*ISCJB **08** 21:29:10.0±0.8, 34°58N±0°08 × 139°86E±0°08, h137 km±5km, mb3.0/2, Error ellipse: s-maj=15.7km s-min=7.8km az=34.3*
*JMA **08** 21:29:11.2±0.2, 34°60N × 139°86E, h130 km±2km, M2.8*
ISC 08 21:29:11.2±1.1, 34°60N±0°09 × 139°84E±0°07, h136 km±7km, n14, σ0 s79/25, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIM2	**Oshima 3**	**0.35**	**290**	P	**Pn**	**21 29 29.8**	**-0.4**
JIM2				S	**Sn**	**21 29 43.3**	**-1.3**
TATJ	**Tateyama 2**	**0.44**	**6**	P	**Pn**	**21 29 30.9**	**+0.4**
TATJ				S	**Sn**	**21 29 45.7**	**+0.5**
BSO4	**Boso 4**	**0.57**	**46**	P	**Pn**	**21 29 31.2**	**+0.1**
BSO4				S	**Sn**	**21 29 46.9**	**+0.6**
BSO3	**Boso 3**	**0.59**	**70**	P	**Pn**	**21 29 31.0**	**0.0**
BSO3				S	**Sn**	**21 29 46.9**	**+0.8**
JIZS	**Izushimoda**	**0.80**	**279**	P	**Pn**	**21 29 33.0**	**+0.2**
JIZS				S	**Sn**	**21 29 49.0**	**-0.3**
JOD2	**Odawara 2**	**0.91**	**317**	P	**Pn**	**21 29 33.5**	**-0.2**
JOD2				S	**Sn**	**21 29 49.8**	**-1.2**
BSO1	**Boso 1**	**0.94**	**86**	P	**Pn**	**21 29 33.4**	**0.0**
BSO1				S	**Sn**	**21 29 50.3**	**-0.1**
JYN	**Shimob**	**1.39**	**311**	P	**Pn**	**21 29 38.9**	**+0.4**
JYN				S	**Sn**	**21 30 01.9**	**+2.5**
SHZ3	**Shizuoka 3**	**1.42**	**290**	P	**Pn**	**21 29 39.7**	**+0.9**
JRY	**Ryogami san**	**1.61**	**332**	P	**Pn**	**21 29 41.0**	**+0.1**
JRY				S	**Sn**	**21 30 03.3**	**-0.3**
MJAR	**Matsushiro Arr**	**2.35**	**326**	Pn	**Pn**	**21 29 49.8**	**+0.1**
	1.7nm,0.3s,baz=148,slow=10,SNR=15						
MJAR				Sn	**Sn**	**21 30 18.8**	**-0.6**
	1.7nm,0.3s,baz=206,slow=22,SNR=7.9						
MAT	**Matsushiro**	**2.35**	**326**	P	**Pn**	**21 29 49.9**	**+0.2**
MAT				S	**Sn**	**21 30 19.1**	**-0.3**
MKAR	**Makanchi Array**	**44.37**	**304**	P	**P**	**21 37 07.4**	**-0.6**
	0.1nm,0.3s,baz=86,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**54.49**	**186**	P	**P**	**21 38 25.1**	**+0.3**
	0.1nm,0.3s,baz=1.3,slow=7.6,SNR=6.5						

*ISCJB **08** 21:37:56.1±0.5, 42°02N±0°06 × 142°56E±0°05, h71 km±4km, mb3.6/11, Error ellipse: s-maj=10.0km s-min=5.5km az=151.9*
*JMA **08** 21:37:56.9±0.1, 42°03N × 142°59E, h62 km±2km, M3.4*
*IDC **08** 21:37:59.0±1.9, 42°06N × 142°66E, h86 km±13km, mb3.4/11, mb1 3.5/15, mb1mx3.4/30, mbtmp3.7/15, MS2.8/2, Ms1 2.8/2, ms1mx2.4/33, Error ellipse: s-maj=22.4km s-min=12.7km az=115.0*
ISC 08 21:37:56.9±0.7, 42°02N±0°06 × 142°55E±0°04, h64 km±6km, n35, σ0 s96/37, mb3.7/11, 3C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.30**	**30**	⇑P	**Pn**	**21 38 07.0**	**-0.5**
JNBK				*e*S	**Sn**	**21 38 14.7**	**-0.4**
JEM	**Erimo**	**0.45**	**90**	⇑P	**Pn**	**21 38 08.6**	**-0.1**
JBT2	**Biratori 2**	**0.77**	**350**	⇓P	**Pn**	**21 38 12.0**	**-0.3**
JBT2				*e*S	**Sn**	**21 38 23.5**	**-0.1**
JCH	**Churui**	**0.85**	**45**	⇑P	**Pn**	**21 38 12.9**	**-0.3**
JCH				*e*S	**Sn**	**21 38 24.8**	**-0.4**
JKB	**Kayabe**	**1.14**	**264**	P	**Pn**	**21 38 16.9**	**0.0**
JKB				*e*S	**Sn**	**21 38 31.9**	**+0.2**
JFR	**Furan**	**1.15**	**2**	P	**Pn**	**21 38 16.7**	**-0.3**
JEW	**Eniwo**	**1.16**	**316**	P	**Pn**	**21 38 17.1**	**0.0**
JNB	**Noboribetsu**	**1.21**	**292**	⇓P	**Pn**	**21 38 17.2**	**-0.6**
JNB				*e*S	**Sn**	**21 38 32.9**	**-0.5**
JOT	**Ohata**	**1.29**	**241**	⇓P	**Pn**	**21 38 19.0**	**+0.1**
JOB	**Onbets**	**1.30**	**47**	P	**Pn**	**21 38 19.8**	**+0.8**
JOB				*e*S	**Sn**	**21 38 36.5**	**+0.9**
JAB	**Ashibetsu**	**1.51**	**351**	P	**Pn**	**21 38 22.1**	**+0.3**
JAR	**Ashorobuto**	**1.56**	**35**	P	**Pn**	**21 38 22.6**	**0.0**
JAR				*e*S	**Sn**	**21 38 41.8**	**-0.1**
ASAJ	**Asahikawa**	**2.10**	**1**	P	**Pn**	**21 38 30.6**	**+0.8**
	10.0nm,0.3s,baz=222,slow=9.8,SNR=76						
ASAJ				S	**Sn**	**21 38 57.5**	**+2.7**
	10nm,0.3s,baz=62,slow=32,SNR=14						
ASAJ				LR	LR	21 39 04.9	
	comp=Z,47nm,20.3s,baz=353,slow=32						
MJAR	**Matsushiro Arr**	**6.42**	**213**	P	**Pn**	**21 39 31.9**	**+3.1**
	0.3nm,0.3s,baz=29,slow=12,SNR=4.8						
USRK	**Ussuriysk Arra**	**8.03**	**289**	P	**Pn**	**21 39 53.3**	**+2.5**
	0.1nm,0.3s,baz=98,slow=15,SNR=6.3						
KSRS	**Korea Array**	**12.14**	**253**	P	Pn	21 40 51.6	+4.6
	0.2nm,0.3s,baz=68,slow=14,SNR=7.7						
SONM	**Songino Array**	**26.08**	**295**	P	**P**	**21 43 24.4**	**-0.1**
	0.5nm,0.5s,baz=77,slow=9.1,SNR=10						
H11N2	**WAKE ISLAND Hy 30.31**		**130**	T	T	22 15 34.8	
	baz=326,slow=76,SNR=66						
H11N1	**WAKE ISLAND Hy 30.32**		**130**	T	T	22 15 42.1	
	baz=326,slow=76,SNR=68						
H11N3	**WAKE ISLAND Hy 30.33**		**130**	T	T	22 15 42.6	
	baz=326,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy 31.17**		**131**	T	T	22 16 37.2	
	baz=328,slow=76,SNR=84						
H11S3	**WAKE ISLAND Hy 31.18**		**131**	T	T	22 16 46.4	
	baz=328,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy 31.19**		**131**	T	T	22 16 47.5	
	baz=328,slow=76,SNR=88						
ZALV	**Zalesovo Beam**	**39.37**	**308**	P	**P**	**21 45 20.0**	**0.0**
	3.1nm,0.9s,baz=87,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**42.39**	**298**	P	**P**	**21 45 45.0**	**0.0**
	1.3nm,0.9s,baz=81,slow=8.9,SNR=11						
CMAR	**Chiang Mai Arr**	**43.78**	**251**	P	**P**	**21 45 57.0**	**+0.6**
	0.3nm,0.4s,baz=34,slow=6.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**43.78**	**304**	P	**P**	**21 45 56.1**	**+0.1**
	1.6nm,0.5s,baz=77,slow=8.8,SNR=8.1						
ILAR	**Eielson Array**	**44.86**	**35**	P	**P**	**21 46 03.9**	**-0.6**
	0.3nm,0.5s,baz=281,slow=6.2,SNR=5.9						
INK	**Inuvik**	**49.58**	**29**	P	**P**	**21 46 39.8**	**-1.3**
	0.3nm,0.4s,baz=296,slow=5.3,SNR=3.8						
WRA	**Warramunga Arr**	**62.11**	**189**	P	**P**	**21 48 11.1**	**-0.1**
	0.4nm,0.8s,baz=6.2,slow=6.9,SNR=6.0						
WRA				pP	**pP**	**21 48 29.0**	**+0.9**
	0.6nm,0.8s,baz=6.4,slow=7.0,SNR=3.4						
WRA				LR	LR	22 13 56.4	
	comp=Z,40nm,21.8s,baz=170,slow=35						
FINES	**FINESS Array B**	**64.83**	**332**	P	**P**	**21 48 28.4**	**-0.3**
	1.3nm,0.6s,baz=36,slow=5.2,SNR=9.5						
FINES				pP	**pP**	**21 48 45.8**	**+0.2**
	2.0nm,0.9s,baz=38,slow=9.6,SNR=1.7						
NB2	**NORSAR Subarra**	**69.94**	**337**	P	**P**	**21 49 00.7**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**21 49 00.4**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=36,slow=6.1,SNR=3.9						
AKASG	**Malin Array Be**	**70.91**	**322**	P	**P**	**21 49 06.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=43,slow=6.0,SNR=7.3						
H06E1	**SOCORRO T-PHAS**	**89.28**	**65**	T	T	23 28 22.5	
	SNR=4.8						

*IDC **08** 21:43:14.7±1.0, 19°41N × 66°23W, h0 km, mb3.9/8, mb1 4.2/8, mb1mx3.9/26, mbtmp3.9/8, Error ellipse: s-maj=39.5km s-min=21.4km az=43.0*
*ISCJB **08** 21:43:16.6±1.1, 19°52N±0°03 × 66°32W±0°03, h21 km±8km, mb3.9/8, Error ellipse: s-maj=6.0km s-min=5.1km az=26.6*
*NEIC **08** 21:43:18.9, 19°57N × 66°30W, h39 km, MD3.7(RSPR), After RSPR.*
*RSPR **08** 21:43:18.9, 19°57N × 66°30W, h39 km±32km, MD3.7/12*
ISC 08 21:43:17.1±2.2, 19°44N±0°05 × 66°32W±0°03, h14 km±14km, n53, σ0 s63/72, mb4.0/7, 14C-20D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.16**	**201**	⇑*e*P	**Pn**	**21 43 38.4**	**-0.6**
AOPR				*e*S	**Sb**	**21 43 54.6**	**+0.7**
AOPR	**Arecibo Observ**	**1.16**	**201**	⇑*e*P	**Pn**	**21 43 38.4**	**-0.6**
AGPR	**Aguadilla, PR**	**1.22**	**218**	⇑*e*P	**Pn**	**21 43 39.5**	**-0.3**
AGPR				*e*S	**Sn**	**21 43 56.7**	**+0.6**
AGPR	**Aguadilla, PR**	**1.22**	**218**	⇑*e*P	**Pn**	**21 43 39.5**	**-0.3**
CBYP	**Canovanas**	**1.24**	**159**	⇓*e*P	**Pn**	**21 43 39.8**	**-0.4**
CBYP				*e*S	**Sb**	**21 43 56.5**	**+0.2**
CBYP	**Canovanas**	**1.24**	**159**	⇓*e*P	**Pn**	**21 43 39.8**	**-0.4**
SJG	**San Juan**	**1.33**	**173**	⇓*e*P	**Pn**	**21 43 40.8**	**-0.5**
SJG				*e*S	**Sg**	**21 44 00.2**	**+0.1**
SJG	**San Juan**	**1.33**	**173**	⇓P	**Pn**	**21 43 40.8**	**-0.5**
SJG				*e*S	**Sg**	**21 44 00.2**	**+0.1**
HUMP	**Col San Antoni**	**1.36**	**161**	⇑*e*P	**Pn**	**21 43 41.4**	**-0.4**
HUMP				*e*S	**Sb**	**21 44 00.3**	**+0.6**
HUMP	**Col San Antoni**	**1.36**	**161**	⇓*e*P	**Pn**	**21 43 41.3**	**-0.5**
HUMP	**Col San Antoni**	**1.36**	**161**	⇑*e*P	**Pn**	**21 43 41.4**	**-0.4**
HUMP				*e*S	**Sb**	**21 44 00.3**	**+0.6**
CELP	**Cerrillos**	**1.38**	**190**	⇓*e*P	**Pn**	**21 43 41.6**	**-0.3**
CELP	**Cerrillos**	**1.38**	**190**	⇓*e*P	**Pn**	**21 43 41.6**	**-0.3**
OBIP	**Obispado Ponce**	**1.41**	**191**	⇑*e*P	**Pn**	**21 43 42.1**	**-0.3**
OBIP				*e*S	**Sb**	**21 44 01.8**	**+0.6**
OBIP	**Obispado Ponce**	**1.41**	**191**	⇑*e*P	**Pn**	**21 43 42.1**	**-0.3**
CPD	**Cerro la Pandu**	**1.45**	**164**	⇓*e*P	**Pn**	**21 43 42.7**	**-0.2**
CPD				*e*S	**Sb**	**21 44 02.5**	**+0.3**
CPD	**Cerro la Pandu**	**1.45**	**164**	⇓*e*P	**Pn**	**21 43 42.7**	**-0.2**
LSP	**Las Mesas**	**1.45**	**210**	⇓*e*P	**Pn**	**21 43 43.1**	**+0.1**
LSP				*e*S	**Sb**	**21 44 03.1**	**+0.9**
LSP	**Las Mesas**	**1.45**	**210**	⇓*e*P	**Pn**	**21 43 43.1**	**+0.1**
IDE	**Isla Desecheo**	**1.51**	**226**	⇑*e*P	**Pn**	**21 43 43.8**	**0.0**
IDE				*e*S	**Sn**	**21 44 02.5**	**-0.7**
IDE	**Isla Desecheo**	**1.51**	**226**	⇑*e*P	**Pn**	**21 43 43.8**	**0.0**
MTP	**Monte Pirata**	**1.52**	**151**	⇑*e*P	**Pn**	**21 43 43.7**	**-0.2**
MTP				*e*S	**Sn**	**21 44 03.5**	**-0.6**
MTP	**Monte Pirata**	**1.52**	**151**	⇑*e*P	**Pn**	**21 43 43.7**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.55**	**200**	⇓*e*P	**Pb**	**21 43 45.5**	**0.0**
GBPR	**Guanica, Bosqu**	**1.55**	**200**	⇓*e*P	**Pb**	**21 43 45.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.61**	**208**	⇓*e*P	**Pb**	**21 43 46.4**	**-0.2**
CRPR				*e*S	**Sn**	**21 44 06.2**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.61**	**208**	⇓*e*P	**Pb**	**21 43 46.4**	**-0.2**
CRPR				*e*S	**Sn**	**21 44 06.2**	**+0.6**
TBVI	**Tortola**	**1.91**	**122**	⇓*e*P	**Pn**	**21 43 49.5**	**+0.3**
TBVI				*e*S	**Sn**	**21 44 12.5**	**-0.5**
TBVI	**Tortola**	**1.91**	**122**	⇓*e*P	**Pn**	**21 43 49.5**	**+0.3**
TBVI				*e*S	**Sn**	**21 44 12.5**	**-0.5**
ABV	**Anegada**	**2.01**	**110**	⇓*e*P	**Pn**	**21 43 50.6**	**0.0**
ABVI	**Anegada Island**	**2.01**	**110**	⇓*e*P	**Pn**	**21 43 50.6**	**0.0**
CDVI	**St. Croix**	**2.23**	**138**	*e*Pn	**Pn**	**21 43 55.5**	**+1.8**
DR12	**Loma Pena Alta**	**2.96**	**258**	⇓*e*P	**Pn**	**21 44 04.1**	**+0.3**
SDDR	**Presa de Saban**	**4.71**	**265**	⇑*e*P	**Pn**	**21 44 26.7**	**-1.2**
SDDR				*e*S	**Sn**	**21 45 23.1**	**+0.6**
SDDR	**Presa de Saban**	**4.71**	**265**	⇑*e*P	**Pn**	**21 44 26.7**	**-1.2**
PTGA	**Pitinga**	**20.99**	**162**	P	**P**	**21 47 58.4**	**-1.9**
PTGA	**Pitinga**	**20.99**	**162**	P	**P**	**21 47 58.4**	**-1.9**
	5.0nm,0.5s,baz=347,slow=16,SNR=10						
TXAR	**Lajitas Array**	**35.28**	**294**	P	**P**	**21 50 12.8**	**+1.0**
TXAR	**Lajitas Array**	**35.28**	**294**	P	**P**	**21 50 12.8**	**+1.0**
	1.0nm,0.5s,baz=106,slow=9.5,SNR=17						
PDAR	**Pinedale Array**	**43.10**	**312**	P	**P**	**21 51 18.0**	**+0.7**
PDAR				PcP	**PcP**	**21 53 07.0**	**0.0**
PDAR	**Pinedale Array**	**43.10**	**312**	P	**P**	**21 51 18.0**	**+0.7**
	0.4nm,0.5s,baz=101,slow=8.5,SNR=5.2						
PDAR				PcP	**PcP**	**21 53 07.0**	**0.0**
	0.3nm,0.5s,baz=109,slow=5.2,SNR=4.5						
NVAR	**Mina Array Bea**	**48.60**	**304**	P	**P**	**21 52 01.7**	**+1.0**
NVAR	**Mina Array Bea**	**48.60**	**304**	P	**P**	**21 52 01.7**	**+1.0**
	1.1nm,0.5s,baz=87,slow=7.6,SNR=10.0						
YKA	**Yellowknife Ar**	**54.23**	**335**	P	**P**	**21 52 42.0**	**-0.1**
YKA	**Yellowknife Ar**	**54.23**	**335**	P	**P**	**21 52 42.0**	**-0.1**
	0.7nm,0.5s,baz=112,slow=7.4,SNR=15						
INK	**Inuvik**	**63.70**	**338**	P	**P**	**21 53 47.4**	**-0.4**
INK	**Inuvik**	**63.70**	**338**	P	**P**	**21 53 47.4**	**-0.4**
	0.8nm,0.5s,baz=101,slow=6.3,SNR=9.2						
TORD	**Torodi Ar. Bea**	**65.24**	**84**	P	**P**	**21 53 59.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**65.24**	**84**	P	**P**	**21 53 59.0**	**+0.2**
	0.6nm,0.7s,baz=290,slow=8.4,SNR=5.3						
ILAR	**Eielson Array**	**68.58**	**333**	P	**P**	**21 54 19.1**	**-0.1**
ILAR	**Eielson Array**	**68.58**	**333**	P	**P**	**21 54 19.2**	**-0.1**
	1.2nm,0.5s,baz=104,slow=4.0,SNR=40						
WRA	**Warramunga Arr**	**160.54**	**265**	PKP	**PKPdf**	**22 03 16.7**	**-0.7**
WRA	**Warramunga Arr**	**160.54**	**265**	PKP	**PKPdf**	**22 03 16.7**	**-0.7**
	0.6nm,0.9s,baz=64,slow=1.4,SNR=3.3						

IDC 08 21:49:20.8±5.5, 8°24S × 157°72E, h0 km, mb3.7/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/29, Error ellipse: s-maj=114.7km s-min=17.6km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.50**	**118**	Pn	Pn	21 50 01.1	-1.6
	9.7nm,0.3s,baz=258,slow=9.3,SNR=2.6						
HNR				Lg	Lg	21 50 41.9	
	21nm,0.3s,baz=217,slow=18,SNR=3.6						
HNR	**Honiara**	**2.50**	**118**	P	Pg	21 50 19.0	+10
PMG	**Port Moresby**	**10.51**	**263**	LR	LR	21 55 47.2	
	comp=Z,48nm,19.8s,baz=203,slow=37						
WRA	**Warramunga Arr**	**25.45**	**240**	P	P	21 54 51.7	+1.0
	1.2nm,0.9s,baz=68,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**27.49**	**233**	P	P	21 55 09.7	+0.5
	0.3nm,0.5s,baz=62,slow=8.8,SNR=3.1						
STKA	**Stephens Creek**	**27.90**	**210**	P	P	21 55 10.9	-1.7
	1.2nm,0.8s,baz=42,slow=12,SNR=4.1						

*NEIC **08** 21:54:11.9, 41°12S × 174°74E, h34 km, ML3.8(WEL), After WEL.*
NEIC Felt in the Raumati South-Wellington area.
WEL 08 21:54:11.8±0.1, 41°11S × 174°74E, h33 km, ML3.7/39, 7C-11D, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WEL	**Wellington**	**0.18**	**173**	⇑P*	Pb	21 54 17.9	-0.2
WEL				S*	Sb	21 54 22.7	+0.3
WEL	**Wellington**	**0.18**	**173**	P*	Pb	21 54 17.9	-0.2
WEL				S*	Sb	21 54 22.7	+0.3
SNZO	**South Karori**	**0.20**	**187**	⇓P*	Pn	21 54 18.0	0.0
SNZO				S*	Sb	21 54 22.8	0.0
SNZO				S*	Sn	21 54 22.9	+2.1
SNZO				AML	AML	21 54 24.0	
SNZO				AML	AML	21 54 24.0	
SNZO	**South Karori**	**0.20**	**187**	P*	Pn	21 54 17.9	0.0
SNZO				S*	Sb	21 54 22.8	0.0
CAW	**Cannon Point**	**0.25**	**89**	⇑P*	Pb	21 54 18.9	0.0
CAW				S*	Sb	21 54 24.1	+0.4
CAW				AML	AML	21 54 25.8	
CAW	**Cannon Point**	**0.25**	**89**	P*	Pb	21 54 18.9	0.0
CAW				S*	Sb	21 54 24.1	+0.4
KIW	**Kapiti Island**	**0.28**	**27**	P*	Pb	21 54 19.2	-0.1
KIW				AML	AML	21 54 24.8	
KIW				AML	AML	21 54 25.3	
KIW	**Kapiti Island**	**0.28**	**27**	P*	Pb	21 54 19.2	-0.1
BHW	**Baring Head**	**0.31**	**162**	⇑P*	Pb	21 54 19.5	-0.2
BHW				S*	Sn	21 54 25.1	-0.1
BHW				AML	AML	21 54 27.6	
BHW	**Baring Head**	**0.31**	**162**	P*	Pb	21 54 19.5	-0.2
BHW				S*	Sn	21 54 25.1	-0.1
TCW	**Tory Channel**	**0.36**	**254**	⇓P*	Pb	21 54 19.8	-0.5
TCW				AML	AML	21 54 26.4	
TCW				AML	AML	21 54 26.4	
TCW	**Tory Channel**	**0.36**	**254**	P*	Pb	21 54 19.9	-0.5
OGWZ	**Otaki Gorge**	**0.44**	**48**	⇑P*	Pb	21 54 21.3	-0.1
OGWZ	**Otaki Gorge**	**0.44**	**48**	P*	Pb	21 54 21.3	-0.1
MSWZ	**Moikau Station**	**0.49**	**128**	⇑P*	Pb	21 54 22.4	+0.1
MSWZ				AML	AML	21 54 31.5	
MSWZ				AML	AML	21 54 32.0	
MSWZ	**Moikau Station**	**0.49**	**128**	P*	Pb	21 54 22.4	+0.1
MTW	**Mount Morrison**	**0.58**	**95**	⇓P*	Pb	21 54 23.5	-0.1
MTW				AML	AML	21 54 33.7	
MTW				AML	AML	21 54 34.5	
MTW	**Mount Morrison**	**0.58**	**95**	P*	Pb	21 54 23.5	-0.1
PAWZ	**Paruwai Farm**	**0.58**	**118**	⇓P*	Pb	21 54 23.6	-0.1
PAWZ				AML	AML	21 54 33.9	
PAWZ				AML	AML	21 54 33.9	
PAWZ	**Paruwai Farm**	**0.58**	**118**	P*	Pb	21 54 23.6	-0.1
PLWZ	**Palliser**	**0.60**	**140**	P*	Pn	21 54 23.8	-0.3
PLWZ	**Palliser**	**0.60**	**140**	P*	Pn	21 54 23.8	-0.3
HOWZ	**Holdsworth Sta**	**0.62**	**70**	⇓P*	Pn	21 54 24.3	0.0
HOWZ	**Holdsworth Sta**	**0.62**	**70**	P*	Pn	21 54 24.3	0.0
TUWZ	**Tuamarina**	**0.68**	**242**	P*	Pn	21 54 24.1	-0.9
TUWZ				AML	AML	21 54 35.1	
TUWZ				AML	AML	21 54 35.6	
TUWZ	**Tuamarina**	**0.68**	**242**	P*	Pn	21 54 24.1	-0.9
DUWZ	**D'Urville Isla**	**0.69**	**296**	P*	Pn	21 54 24.9	-0.4
DUWZ				AML	AML	21 54 35.6	
DUWZ				AML	AML	21 54 36.3	
DUWZ	**D'Urville Isla**	**0.69**	**296**	P*	Pn	21 54 24.9	-0.4
CMWZ	**Cape Campbell**	**0.75**	**212**	P*	Pb	21 54 26.7	+0.2
CMWZ				AML	AML	21 54 39.6	
CMWZ				AML	AML	21 54 41.1	
TRWZ	**Traveller**	**0.77**	**112**	⇓P*	Pn	21 54 25.9	-0.4
TRWZ				AML	AML	21 54 41.0	
TRWZ				AML	AML	21 54 41.2	
TRWZ	**Traveller**	**0.77**	**112**	P*	Pn	21 54 25.9	-0.4
MRZ	**Mangatainoka R**	**0.78**	**55**	⇓P*	Pn	21 54 26.5	+0.1
MRZ				S*	Sb	21 54 37.7	+0.4
MRZ				AML	AML	21 54 39.8	
MRZ	**Mangatainoka R**	**0.78**	**55**	P*	Pn	21 54 26.5	+0.1
TMWZ	**Te Maipa**	**0.87**	**90**	⇓P*	Pn	21 54 27.3	-0.4
TMWZ	**Te Maipa**	**0.87**	**90**	P*	Pn	21 54 27.3	-0.4
BSWZ	**Blackbirch Sta**	**0.89**	**227**	P*	Pn	21 54 28.0	+0.1
BSWZ				AML	AML	21 54 42.7	
BSWZ				AML	AML	21 54 47.2	
BSWZ	**Blackbirch Sta**	**0.89**	**227**	P*	Pn	21 54 28.0	+0.1
NNZ	**Nelson**	**1.03**	**264**	⇓PN	Pn	21 54 29.6	-0.3
NNZ				AML	AML	21 54 44.0	
NNZ				AML	AML	21 54 44.3	
POWZ	**Post Office Ro**	**1.06**	**48**	P*	Pn	21 54 30.3	0.0
POWZ	**Post Office Ro**	**1.06**	**48**	P*	Pn	21 54 30.3	0.0
PRWZ	**Pori Road**	**1.09**	**60**	⇓P*	Pn	21 54 30.6	-0.1
CPWZ	**Castlepoint**	**1.12**	**80**	P*	Pn	21 54 31.3	+0.1
BFZ	**Birch Farm**	**1.22**	**70**	⇑P*	Pn	21 54 31.6	-0.9
BFZ				S*	Sn	21 54 48.1	+0.2
BFZ	**Birch Farm**	**1.22**	**70**	P*	Pn	21 54 31.6	-0.9
DVHZ	**Dannevirke**	**1.35**	**54**	⇑PN	Pn	21 54

MCHZ	**McNeill Hill**	**2.24**	**43**	Pn	Pn	21 54 45.8	-0.8
KATZ	**Kakaramea**	**2.25**	**19**	PN	Pn	21 54 48.7	+1.7
KATZ				AML	AML	21 55 22.7	
KATZ				AML	AML	21 55 33.9	
KATZ	**Kakaramea**	**2.25**	**19**	Pn	Pn	21 54 48.7	+1.7
DSZ	**Denniston Nort**	**2.30**	**253**	PN	Pn	21 54 47.3	-0.1
DSZ	**Denniston Nort**	**2.30**	**253**	Pn	Pn	21 54 47.3	-0.1
BKZ	**Black Stump Fm**	**2.36**	**35**	PN	Pn	21 54 49.8	+1.5
BKZ				AML	AML	21 55 31.4	
BKZ				AML	AML	21 55 38.4	
BKZ	**Black Stump Fm**	**2.36**	**35**	Pn	Pn	21 54 49.8	+1.5
RATZ	**Rangitukua**	**2.38**	**20**	PN	Pb	21 54 52.5	-1.4
RATZ				AML	AML	21 55 41.6	
RATZ	**Rangitukua**	**2.38**	**20**	Pn	Pb	21 54 52.5	-1.4
LTZ	**Lake Taylor**	**2.49**	**227**	PN	Pn	21 54 49.0	-1.0
LTZ	**Lake Taylor**	**2.49**	**227**	Pn	Pn	21 54 49.0	-1.0
HIZ	**Hauiti**	**2.59**	**2**	PN	Pn	21 54 53.1	+1.6
HIZ				AML	AML	21 55 36.7	
HIZ				AML	AML	21 55 37.3	
HIZ	**Hauiti**	**2.59**	**2**	Pn	Pn	21 54 53.1	+1.6
TLZ	**Tolley Road**	**2.85**	**13**	PN	Pn	21 54 56.5	+1.5
OXZ	**Oxford**	**2.99**	**221**	PN	Pn	21 54 55.2	-1.6
MQZ	**McQueen's Vall**	**3.02**	**210**	*e*PN	Pn	21 54 54.3	-2.9
URZ	**Urewera**	**3.38**	**33**	*e*PN	Pn	21 55 00.2	-2.1
MWZ	**Matawai**	**3.51**	**39**	PN	Pn	21 55 01.9	-2.2
MWZ	**Matawai**	**3.51**	**39**	Pn	Pn	21 55 01.9	-2.2
MKAZ	**Moumakai**	**4.01**	**5**	PN	Pn	21 55 11.6	+0.7
MKAZ	**Moumakai**	**4.01**	**5**	Pn	Pn	21 55 11.6	+0.7

IDC 08 22:25:10.6±7.4, 16°90S×178°65W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/39, Error ellipse: s-maj=326.6km s-min=37.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**22.11**	**287**	LR	LR	22 36 30.1	
	comp=Z,56nm,19.9s,baz=334,slow=31						
WRA	**Warramunga Arr**	**44.60**	**259**	P	P	22 33 24.8	-0.2
	0.2nm,0.4s,baz=94,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**44.85**	**253**	P	P	22 33 26.9	-0.1
	2.7nm,0.6s,baz=86,slow=8.5,SNR=18						
ILAR	**Eielson Array**	**84.96**	**13**	P	P	22 37 47.3	0.0
	0.1nm,0.5s,baz=224,slow=5.0,SNR=5.0						

*IDC **08** 22:47:47.8±7.5, 6°26S×130°45E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=680.5km s-min=30.5km az=71.0*

ISC 08 22:47:49.4±1.8, 6°4S±0°2×130°2E±0°4, h10km, n6, σ0s59/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.50**	**172**	P	Pn	22 49 31.2	+6.1
	baz=3.8,SNR=5.1						
KDU	**Kakadu**	**6.65**	**161**	P	Pb	22 49 36.1	-9.1
	baz=4.3,SNR=12						
KDU				S	**Sn**	**22 50 43.6**	**+0.3**
	baz=4.3,SNR=6.8						
KNRA	**Kununurra**	**9.37**	**189**	P	**Pn**	**22 50 04.7**	**+0.1**
	baz=6.3,SNR=5.3						
KNRA				S	Sn	22 51 36.7	-13
	baz=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**14.07**	**164**	Pn	**Pn**	**22 51 09.1**	**+0.1**
	0.2nm,0.3s,baz=337,slow=14,SNR=15						
WRA				Sn	Sn	22 53 33.4	-12
	0.5nm,0.3s,baz=330,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**17.56**	**169**	P	**P**	**22 51 54.8**	**-0.7**
	0.2nm,0.3s,baz=346,slow=10,SNR=12						
ASAR				S	Sn	22 54 59.1	-11
	0.1nm,0.3s,baz=352,slow=25,SNR=3.9						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**22 58 48.0**	**+0.2**
	0.4nm,0.5s,baz=118,slow=7.9,SNR=13						

IDC 08 23:02:21.2±2.1, 7°21S×127°22E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.7/2, Error ellipse: s-maj=260.2km s-min=31.1km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.42**	**152**	Pn	Pn	23 05 45.2	-1.5
	0.4nm,0.3s,baz=329,slow=13,SNR=20						
WRA				Sn	Sn	23 08 11.7	-16
	0.4nm,0.3s,baz=322,slow=27,SNR=8.6						
ASAR	**Alice Springs**	**17.57**	**159**	P	P	23 06 28.6	-0.4
	0.2nm,0.3s,baz=335,slow=11,SNR=5.7						
ASAR				S	Sn	23 09 29.0	-15
	0.1nm,0.3s,baz=312,slow=19,SNR=2.9						
MKAR	**Makanchi Array**	**66.92**	**328**	P	P	23 13 15.5	0.0
	0.2nm,0.8s,baz=128,slow=7.4,SNR=2.2						

*NIED **08** 23:40:00, 22°50N×120°50E, h53km, Mw4.2 Best double couple: M0 1.92000×10^15 NP1:ϕ=233.00000°, δ=66.00000°, λ=26.00000°. NP2:ϕ=132.00000°, δ=66.00000°, λ=154.00000°.*
*IDC **08** 23:40:20.9±1.0, 22°64N×121°98E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/24, mbtmp3.5/7, Error ellipse: s-maj=39.0km s-min=19.1km az=66.0*
*JMA **08** 23:40:22.9±0.1, 22°50N×120°52E, h41km±5km, M4.1*
*ISCJB **08** 23:40:24.2±0.3, 22°57N±0°02×120°56E±0°02, h51km±3km, mb3.4/7, Error ellipse: s-maj=3.6km s-min=2.7km az=160.8*
*TAP **08** 23:40:24.6, 22°61N×120°58E, h34km, ML4.4, B*

ISC 08 23:40:24.5±0.8, 22°58N±0°02×120°55E±0°03, h33km±2km, n77, σ1s12/126, mb3.4/7, 22C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGLT	**Jiouru**	**0.15**	**341**	⇓*i*P	**Pb**	**23 40 31.9**	**+1.2**
	baz=336						
SGLT				*e*S	**Sb**	**23 40 37.7**	**+2.8**
	baz=336						
SSD	**Sandimen**	**0.18**	**26**	⇑*i*P	**Pb**	**23 40 31.2**	**+0.2**
	baz=32						
KAU	**Kaohsiung**	**0.22**	**267**	⇓*i*P	**Pb**	**23 40 32.8**	**+1.5**
	baz=259						
KAU				*e*S	**Sb**	**23 40 38.8**	**+2.8**
	baz=259						
SCZT	**Fangliau**	**0.22**	**162**	⇑*i*P	**Pb**	**23 40 31.9**	**+0.5**
	baz=169						
SCZT				S	**Sb**	**23 40 37.1**	**+1.1**
	baz=169						
TWM1	**Shoushan**	**0.27**	**335**	⇓*i*P	**Pb**	**23 40 33.1**	**+1.1**
	baz=328						
TWP	**Hsiaoliuchiu**	**0.29**	**216**	⇑*i*P	**Pb**	**23 40 34.0**	**+1.9**
	baz=215						
TWP				S	**Sb**	**23 40 41.3**	**+4.0**
	baz=215						
EAST	**Anshuo**	**0.34**	**125**	⇓*i*P	**Pn**	**23 40 33.5**	**+0.3**
	baz=125						
EAST				*i* S	**Sb**	**23 40 39.6**	**+1.0**
	baz=125						
ECL	**Taimali**	**0.38**	**87**	⇓*i*P	**Pb**	**23 40 33.7**	**+0.4**
	baz=93						
ECL				*e*S	**Sb**	**23 40 39.9**	**+0.6**
	baz=93						
TAW	**Tawu**	**0.39**	**124**	⇓*i*P	**Pn**	**23 40 34.0**	**+0.1**
	baz=127						
TAW				*i* S	**Sn**	**23 40 40.9**	**+0.8**
	baz=127						
SGST	**Jiashian**	**0.50**	**4**	⇑*i*P	**Pb**	**23 40 35.7**	**+0.6**
	baz=10.0						
SGST				*i* S	**Sn**	**23 40 43.5**	**+0.6**
	baz=10.0						
CHN3	**Shinhua**	**0.52**	**341**	*e*P	**Pb**	**23 40 36.9**	**+1.5**
	baz=337						
CHN3				*e*S	**Sb**	**23 40 45.9**	**+2.9**
	baz=337						
TWG	**Pinlang**	**0.54**	**64**	⇑*i*P	**Pn**	**23 40 36.2**	**+0.4**
	baz=58						
TWG				S	**Sn**	**23 40 44.1**	**+0.3**
	baz=58						
TAI1	**Yung-k'ang**	**0.54**	**327**	⇓*e*P	**Pb**	**23 40 36.3**	**+0.5**
	baz=324						
TAI1				*e*S	**Sb**	**23 40 44.9**	**+1.4**
	baz=324						
TTN	**Taitung**	**0.58**	**73**	*e*P	**Pb**	**23 40 37.2**	**+0.8**
	baz=76						
TTN				*e*S	**Sb**	**23 40 47.0**	**+2.4**
	baz=76						
HEN	**Hengchun**	**0.60**	**163**	⇑*i*P	**Pb**	**23 40 37.4**	**+0.7**
	baz=155						
HEN				*e*S	**Sb**	**23 40 46.7**	**+1.7**
	baz=155						
CHN1	**Nanshi**	**0.60**	**359**	⇑*i*P	**Pn**	**23 40 36.9**	**+0.2**
	baz=356						
CHN1				S	**Sb**	**23 40 46.2**	**+1.0**
	baz=356						
STYT	**Tauyuan**	**0.61**	**19**	⇑*i*P	**Pn**	**23 40 37.0**	**+0.1**
	baz=18						
STYT				*i* S	**Sn**	**23 40 46.0**	**+0.4**
	baz=18						
WTP	**Ta-pu**	**0.67**	**5**	⇑P	**Pn**	**23 40 37.6**	**0.0**
	baz=4.0						
WTP				*e*S	**Sn**	**23 40 47.5**	**+0.5**
	baz=4.0						
SCLT	**Jiali**	**0.67**	**331**	*e*P	**Pb**	**23 40 38.1**	**+0.2**
	baz=328						
SCLT				*e*S	**Sb**	**23 40 48.1**	**+1.0**
	baz=328						
TWK1	**Hengchun**	**0.68**	**159**	⇑P	**Pb**	**23 40 38.4**	**+0.4**
	baz=153						
TWK1				S	**Sb**	**23 40 48.6**	**+1.4**
	baz=153						
TWK	**Hsinying**	**0.69**	**356**	⇑P	**Pn**	**23 40 37.9**	**0.0**
	baz=8.0						
TWK				*e*S	**Sb**	**23 40 48.5**	**+1.0**
	baz=8.0						
ELDTW	**Lidau**	**0.75**	**36**	⇑*i*P	**Pn**	**23 40 39.0**	**+0.2**
	baz=48						
ELDTW				S	**Sn**	**23 40 49.4**	**+0.4**
	baz=48						
TSEB	**Hengchuen, Pin**	**0.75**	**154**	*e*P	**Pb**	**23 40 39.2**	**-0.1**
	baz=160						
TSEB				*e*S	**Sb**	**23 40 49.8**	**+0.6**
	baz=160						
CHN8	**Yiju**	**0.82**	**338**	*e*P	**Pb**	**23 40 40.1**	**-0.3**
	baz=336						
CHN8				*e*S	**Sb**	**23 40 51.6**	**+0.4**
	baz=336						
CHKT	**Chengkung**	**0.92**	**56**	*e*P	**Pn**	**23 40 41.7**	**+0.6**
	baz=71						
CHKT				*e*S	**Sn**	**23 40 54.3**	**+1.2**
	baz=71						
CHY	**Chiayi**	**0.92**	**353**	⇑*i*P	**Pn**	**23 40 41.1**	**0.0**
	baz=352						
CHY				*e*S	**Sb**	**23 40 54.1**	**+0.1**
	baz=352						
CHN2	**Minshiung**	**0.95**	**356**	*e*P	**Pn**	**23 40 41.4**	**-0.1**
	baz=355						
CHN2				*e*S	**Sb**	**23 40 55.2**	**+0.3**
	baz=355						
ALS	**Alishan**	**0.96**	**14**	⇑*i*P	**Pn**	**23 40 41.9**	**+0.1**
	baz=5.0						
ALS				*e*S	**Sn**	**23 40 55.2**	**+0.7**
	baz=5.0						
YUS	**Yu-Shan**	**0.98**	**22**	*e*S	**Sb**	**23 40 57.4**	**+1.2**
	baz=23						
CHN5	**Tsauling**	**1.02**	**7**	⇑*i*P	**Pn**	**23 40 42.4**	**-0.2**
	baz=354						
CHN5				S	**Sn**	**23 40 56.4**	**+0.6**
	baz=354						
TWF1	**Yuli**	**1.03**	**42**	⇑P	**Pn**	**23 40 43.3**	**+0.6**
	baz=43						
TWF1				S	**Sn**	**23 40 56.3**	**+0.2**
	baz=43						
WDGT	**Dungji**	**1.06**	**310**	⇓*e*P	**Pn**	**23 40 41.9**	**-1.1**
	baz=307						
WDGT				*e*S	**Sn**	**23 40 55.1**	**-1.5**
	baz=307						
LAY	**Lan-yu**	**1.08**	**120**	⇓*i*P	**Pn**	**23 40 42.7**	**-0.6**
	baz=123						
LAY				*e*S	**Sn**	**23 40 56.6**	**-0.5**
	baz=123						
WSF	**Szhu**	**1.09**	**344**	*e*P	**Pn**	**23 40 43.2**	**-0.3**
	baz=343						
WSF				*e*S	**Sn**	**23 40 57.1**	**-0.4**
	baz=343						
WGK	**Gukeng**	**1.10**	**1**	⇑*e*P	**Pn**	**23 40 43.6**	**0.0**
	baz=350						
WGK				*e*S	**Sn**	**23 40 58.5**	**+0.9**
	baz=350						
EHY	**Hungye**	**1.17**	**38**	⇑*i*P	**Pn**	**23 40 45.2**	**+0.7**
	baz=40						
EHY				*e*S	**Sn**	**23 40 59.6**	**+0.3**
	baz=40						
WNT	**Mingjian**	**1.30**	**6**	*e*P	**Pn**	**23 40 46.2**	**-0.2**
	baz=6.0						
WNT				*e*S	**Sn**	**23 41 02.9**	**+0.4**
	baz=6.0						
WTCT	**Ta-ch'eng**	**1.30**	**349**	*e*P	**Pn**	**23 40 46.0**	**-0.3**
	baz=348						
WTCT				*e*S	**Sn**	**23 41 03.1**	**+0.5**
	baz=348						
SMLT	**Sun Moon Lake**	**1.34**	**14**	⇑*i*P	**Pn**	**23 40 47.2**	**+0.3**
	baz=15						
SMLT				*e*S	**Sn**	**23 41 04.6**	**+0.9**
	baz=15						
TYC	**Yuchr**	**1.35**	**12**	⇑*i*P	**Pn**	**23 40 47.2**	**+0.2**
	baz=13						
TYC				*e*S	**Sn**	**23 41 05.0**	**+1.3**
	baz=13						
ESL	**Shilin**	**1.48**	**33**	*e*P	**Pn**	**23 40 49.2**	**+0.5**
	baz=47						
ESL				*e*S	**Sn**	**23 41 07.7**	**+0.8**
	baz=47						
TCU	**Taichung**	**1.56**	**4**	⇑*e*P	**Pn**	**23 40 50.0**	**+0.1**
	baz=5.0						
TCU				*e*S	**Sn**	**23 41 09.9**	**+0.8**
	baz=5.0						
WHF	**Hehuan Shan**	**1.69**	**23**	*e*P	**Pn**	**23 40 52.5**	**+0.3**
	baz=11						
HWA	**Hwalien**	**1.70**	**35**	*e*P	**Pn**	**23 40 52.7**	**+0.9**
	baz=38						
TWT	**Tachien**	**1.76**	**19**	*e*P	**Pn**	**23 40 52.9**	**+0.1**
	baz=20						
TWT				*e*S	**Sn**	**23 41 15.8**	**+1.6**
	baz=20						
TWQ1	**Liyutan**	**1.77**	**7**	*e*P	**Pn**	**23 40 53.0**	**+0.1**
	baz=8.0						
TWQ1				*e*S	**Sn**	**23 41 15.0**	**+0.8**
	baz=8.0						
TWD	**Chiawan**	**1.78**	**33**	*e*P	**Pn**	**23 40 53.5**	**+0.6**
	baz=48						
NSY	**Sanyi**	**1.84**	**6**	*e*P	**Pn**	**23 40 54.0**	**+0.2**
	baz=7.0						
NSY				*e*S	**Sn**	**23 41 16.6**	**+0.7**
	baz=7.0						
NNS	**Nan Shan**	**2.00**	**22**	*e*P	**Pn**	**23 40 56.8**	**+0.6**
	baz=11						
NSTT	**Nanjuang**	**2.08**	**11**	⇑*e*P	**Pn**	**23 40 57.3**	**+0.1**
	baz=360						
ENA	**Nanau**	**2.14**	**31**	*e*P	**Pn**	**23 40 58.0**	**+0.1**
	baz=46						
NSK	**Sanguang**	**2.21**	**20**	*e*P	**Pn**	**23 40 59.3**	**+0.3**
	baz=22						
NSK				*e*S	**Sn**	**23 41 26.4**	**+1.2**
	baz=22						
ENTT	**Nioudou**	**2.25**	**24**	*e*P	**Pn**	**23 41 00.8**	**+1.3**
	baz=15						
TWC	**Suao**	**2.35**	**30**	*e*P	**Pn**	**23 41 01.0**	**+0.3**
	baz=44						
TWC				*e*S	**Sn**	**23 41 27.6**	**-0.8**
	baz=44						
TWE	**Neicheng**	**2.37**	**26**	*e*P	**Pn**	**23 41 02.2**	**+1.2**
	baz=43						
TWE				*e*S	**Sn**	**23 41 29.4**	**+0.5**
	baz=43						
NCU	**National Centr**	**2.45**	**14**	*e*P	**Pn**	**23 41 02.7**	**+0.6**
	baz=1.0						
TWA	**Mucha**	**2.57**	**22**	*e*P	**Pn**	**23 41 05.1**	**+1.3**
	baz=10.0						
TWS1	**Kuangyinshan**	**2.63**	**17**	*e*P	**Pn**	**23 41 05.1**	**+0.4**
	baz=20						
KNM	**Kinmen**	**2.66**	**314**	*e*P	**Pn**	**23 41 06.0**	**+1.0**
	baz=309						
KNM				*e*S	**Sn**	**23 41 36.9**	**+0.7**
	baz=309						
NWF	**Wu-fen Shan**	**2.73**	**24**	*e*P	**Pn**	**23 41 05.5**	**-0.5**
	baz=13						
NWF				*e*S	**Sn**	**23 41 38.6**	**+0.7**
	baz=13						
TWB1	**Santiao Chiao**	**2.75**	**28**	*e*P	**Pn**	**23 41 08.1**	**+1.7**
	baz=42						
TWB1				*e*S	**Sn**	**23 41 39.6**	**+1.1**
	baz=42						
YOJ	**Yonaguni jima**	**2.94**	**50**	P	**Pn**	**23 41 10.0**	**+1.1**
YOJ				*e*S	**Sn**	**23 41 43.9**	**+0.9**
	baz=53						
QZH	**Quanzhou**	**2.96**	**323**	*e*Pn	Pn	23 41 03.8	-5.3
QZH				Sn	Sn	23 41 34.6	-8.8
QZH				smax	smax		
	comp=N,340nm,0.5s						
QZH				smax	smax		
	comp=E,300nm,0.8s						
HATJ	**Hateruma jima**	**3.34**	**63**	*e*S	**Sn**	**23 41 52.8**	**-0.1**
IRIF	**Iriomote-Funau**	**3.41**	**59**	P	**Pn**	**23 41 16.8**	**+1.5**
IRIF				*e*S	**Sn**	**23 41 56.4**	**+1.9**
JKRS	**Kuro-shima**	**3.58**	**62**	P	**Pn**	**23 41 18.6**	**+0.9**
JKRS				*e*S	**Sn**	**23 41 59.7**	**+0.8**
JIJ	**Ishigaki jima**	**3.75**	**61**	P	**Pn**	**23 41 19.7**	**-0.3**
JIJ				*e*S	**Sn**	**23 42 02.2**	**-0.8**
JTJ	**Tarama**	**4.33**	**61**	*e*S	**Sn**	**23 42 17.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**20.64**	**262**	P	Pn	23 45 16.1	+12
	comp=E,1.0nm,0.7s,baz=62,slow=7.5,SNR=7.7						
GTA	**Gaotai**	**24.35**	**318**	*e*P	**P**	**23 45 42.5**	**+3.0**
GTA				pP	**pP**	**23 45 46.4**	**-2.7**
GTA				sP	**sP**	**23 45 49.6**	**-3.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**27.63**	**339**	P	P	23 46 14.3	+5.2
	comp=Z,0.2nm,0.6s,baz=152,slow=9.9,SNR=2.6						
MKAR	**Makanchi Array**	**39.10**	**318**	P	P	23 47 58.6	+10
	comp=Z,0.4nm,0.6s,baz=113,slow=8.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**41.28**	**328**	P	P	23 48 11.9	+5.4
	comp=Z,0.3nm,0.4s,baz=104,slow=9.2,SNR=2.5						
WRA	**Warramunga Arr**	**44.36**	**161**	P	**P**	**23 48 29.9**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=344,slow=8.8,SNR=22						
ASAR	**Alice Springs**	**47.77**	**163**	P	**P**	**23 48 58.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=347,slow=7.2,SNR=6.2						
YKA	**Yellowknife Ar**	**84.67**	**22**	P	**P**	**23 52 53.3**	**-1.3**
	comp=Z,0.1nm,0.6s,baz=310,slow=4.2,SNR=4.9						

*IDC **08** 23:45:22.0±1.9, 1°00N×126°37E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=150.8km s-min=19.3km az=68.0*
*DJA **08** 23:45:30.4±0.4, 0°N±4°×12°6E±°, h10km, M4.1/7, MLv4.1/7*
*ISCJB **08** 23:45:32.8±0.7, 0°21N±0°07×125°48E±0°04, h49km, mb3.5/3, Error ellipse: s-maj=9.7km s-min=5.5km az=17.4*

ISC 08 23:45:34.2±1.1, 0°24N±0°07×125°47E±0°04, h49km, n12, σ2s54/16, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.52**	**283**	P	**Pn**	**23 45 57.1**	**-1.9**
KMSI				S	Sn	**23 46 15.5**	**-2.2**
TNTI	**Ternate**	**1.97**	**74**	P	**Pn**	**23 46 07.3**	**+2.2**
TNTI				S	**Sn**	**23 46 25.7**	**-3.0**
LBMI	**Labuha**	**2.21**	**113**	P	**Pn**	**23 46 08.3**	**-0.1**
LBMI				S	**Sn**	**23 46 34.9**	**+0.3**
SANI	**Sanana**	**2.33**	**167**	P	**Pn**	**23 46 09.0**	**-1.1**
SANI				S	**Sn**	**23 46 35.7**	**-1.8**
GTOI	**Gorontalo**	**2.49**	**279**	P	**Pn**	**23 46 13.9**	**+1.7**
LUWI	**Luwuk**	**2.98**	**245**	P	**Pn**	**23 46 21.1**	**+2.1**
NLAI	**Namlea**	**3.82**	**155**	P	**Pn**	**23 46 30.4**	**-0.1**
APSI	**Ampana**	**3.99**	**253**	P	**Pn**	**23 46 34.8**	**+2.0**
FAKI	**Fak Fak**	**7.47**	**115**	P	**Sn**	**23 48 43.5**	**-0.5**
	baz=6.2,SNR=3.4						
WRA	**Warramunga Arr**	**21.86**	**157**	P	**P**	**23 50 20.2**	**-2.6**
	1.6nm,0.4s,baz=339,slow=9.7,SNR=19						
WRA				S	S	23 54 13.9	-8.0
	2.9nm,0.8s,baz=340,slow=21,SNR=7.7						
ASAR	**Alice Springs**	**25.13**	**162**	P	**P**	**23 50 53.9**	**-0.9**
	1.3nm,0.7s,baz=333,slow=7.6,SNR=9.2						
ASAR				S	**S**	**23 55 22.6**	**+6.2**
	2.2nm,0.7s,baz=348,slow=20,SNR=12						
MKAR	**Makanchi Array**	**59.73**	**327**	P	P	23 55 27.9	-6.1
	0.1nm,0.3s,baz=128,slow=8.1,SNR=6.2						

*IDC **08** 23:47:58.1±1.5, 6°11S×127°40E, h0km, mb3.8/3, mb1 4.3/5, mb1mx3.9/21, mbtmp4.1/5, ML4.4/2, Error ellipse: s-maj=188.7km s-min=26.5km az=67.0*

ISC 08 23:47:58.8±1.1, 6°15S±0°09×127°5E±0°1, h10km, n11, σ2s79/11, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.71**	**56**	P	**Pb**	**23 49 39.8**	**+1.2**
	baz=4.9,SNR=21						
FAKI				S	Sn	23 50 37.2	+7.9
	baz=4.9,SNR=15						
MTN	**Manton Dam**	**7.55**	**152**	P	Pb	23 50 03.9	-6.1
	baz=6.9,SNR=4.7						
MTN				S	**Sn**	**23 51 20.3**	**+5.5**
	baz=6.9,SNR=3.9						
KDU	**Kakadu**	**8.14**	**143**	P	**Pn**	**23 49 57.5**	**+0.5**
	baz=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**15.24**	**155**	Pn	**P**	**23 51 37.2**	**-2.0**
	0.9nm,0.3s,baz=332,slow=13,SNR=20						
WRA				Sn	**Sn**	**23 54 22.2**	**-0.9**
	0.6nm,0.3s,baz=332,slow=23,SNR=4.5						
COEN	**Coen**	**17.26**	**118**	P	**Pn**	**23 51 56.2**	**-3.9**
	baz=16,SNR=28						
ASAR	**Alice Springs**	**18.48**	**161**	P	**Pn**	**23 52 15.8**	**+0.6**
	3.3nm,0.3s,baz=345,slow=12,SNR=97						
QIS	**Mount Isa**	**18.52**	**142**	P	**P**	**23 52 12.6**	**-2.9**
	baz=18,SNR=9.7						
WRKA	**Warakurna**	**18.80**	**178**	P	Pn	23 52 26.7	+7.6
	baz=19,SNR=5.4						
SONM	**Songino Array**	**56.88**	**343**	P	**P**	**23 57 44.5**	**+0.5**
	0.5nm,0.7s,baz=152,slow=8.0,SNR=4.1						
MKAR	**Makanchi Array**	**66.17**	**328**	P	**P**	**23 58 47.8**	**+1.1**
	1.2nm,0.5s,baz=120,slow=8.1,SNR=35						
KURBB	**Kurchatov Arra**	**70.51**	**329**	P	**P**	**23 59 13.3**	**-0.4**
	0.4nm,0.6s,baz=132,slow=5.1,SNR=7.3						

IDC 09 00:00:31.1±14.0, 16°95S×179°12W, h431km±163km, mb3.0/5, mb1 3.3/5, mb1mx3.1/19, mbtmp3.8/5, Error ellipse: s-maj=114.1km s-min=37.6km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.51**	**240**	P	P	00 07 14.0	-0.7
	1.1nm,0.5s,baz=97,slow=8.1,SNR=4.0						
ASAR	**Alice Springs**	**44.40**	**253**	P	P	00 08 02.2	+0.2
	3.2nm,0.6s,baz=88,slow=8.1,SNR=40						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	P	00 11 50.6	+0.1
	0.5nm,0.7s,baz=224,slow=5.8,SNR=4.0						
ILAR	**Eielson Array**	**85.11**	**13**	P	P	00 12 19.3	-0.4
	0.2nm,0.4s,baz=226,slow=4.8,SNR=4.5						
TXAR	**Lajitas Array**	**86.06**	**58**	P	P	00 12 25.5	+0.1
	0.3nm,0.8s,baz=211,slow=6.3,SNR=3.3						
GERES	**GERESS Array B**	**146.51**	**345**	PKPbc	PKPbc	00 19 22.2	-0.8
	0.2nm,0.4s,baz=39,slow=3.8,SNR=2.8						

*IDC **09** 00:03:20.1±1.0, 3°11S×127°58E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/22, mbt

WRA	**Warramunga Arr**	**18.10 160**	P		**P**	**00 07 33.2**	**-1.1**
	0.4nm,0.3s,baz=339,slow=13,SNR=15							
WRA			S		**Sn**	**00 10 55.6**	**+0.1**
	0.1nm,0.3s,baz=338,slow=18,SNR=1.8							
ASAR	**Alice Springs**	**21.46 164**	P		**P**	**00 08 10.7**	**-0.2**
	4.1nm,0.8s,baz=345,slow=10,SNR=22							
ASAR			S		**S**	**00 12 05.8**	**-1.1**
	0.9nm,0.8s,baz=345,slow=19,SNR=4.9							
STKA	**Stephens Creek**	**31.61 157**	P		**P**	**00 09 44.7**	**-0.2**
	0.9nm,0.4s,baz=315,slow=10.0,SNR=4.0							
SONM	**Songino Array**	**53.90 342**	P		**P**	**00 12 46.1**	**+1.0**
	0.6nm,0.8s,baz=166,slow=7.8,SNR=4.8							
MKAR	**Makanchi Array**	**63.60 327**	P		**P**	**00 13 53.2**	**+0.6**
	0.8nm,0.8s,baz=124,slow=7.8,SNR=9.8							
KURBB	**Kurchatov Arra**	**67.88 329**	P		**P**	**00 14 20.5**	**+0.6**
	0.7nm,0.7s,baz=129,slow=5.6,SNR=11							

*ISCJB **09** 00:08:10.0±0.4, 19°.86S±0°.03×68°.87W±0°.07, h125km±5km, mb4.4/9, Error ellipse: s-maj=10.4km s-min=5.0km az=173.6*

*GUC **09** 00:08:11.8±0.3, 19°.93S×69°.08W, h123km±3km, ML4.2*

*IDC **09** 00:08:12.7±0.8, 19°.70S×68°.69W, h123km±5km, mb3.7/9, mb1 3.9/11, mb1mx3.7/20, mbtmp3.7/11, MS2.6/1, Ms1 2.6/1, ms1mx2.1/24, Error ellipse: s-maj=22.3km s-min=15.9km az=26.0*

*NEIC **09** 00:08:12.0, 19°.925×69°.04W, h117km, MG4.4(GUC), After GUC.*

ISC 09 00:08:11.5±0.6, 19°.89S±0°.03×68°.94W±0°.06, h122km±5km, n45, σ1§02/55, mb4.3/9, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB11	**Plate Boundary**	**0.69**	**280**	⇑	*iP*		**Pn**	**00 08 30.8**	**-0.4**
PB11					*i*	S	**Sn**	**00 08 45.3**	**-0.7**
PB11	**Plate Boundary**	**0.69**	**280**	⇑	*iP*		**Pn**	**00 08 30.8**	**-0.4**
PB11					*i*	S	**Sn**	**00 08 45.3**	**-0.7**
MNMC	**Minimini**	**0.97**	**320**	⇑	*iP*		**Pn**	**00 08 34.0**	**+0.2**
MNMC					*i*	S	**Sn**	**00 08 51.0**	**+0.3**
MNMC	**Minimini**	**0.97**	**320**	⇑	*iP*		**Pn**	**00 08 34.0**	**+0.2**
MNMC					*i*	S	**Sn**	**00 08 51.0**	**+0.3**
PSGC	**Pisagua**	**1.15**	**284**	⇑	*iP*		**Pn**	**00 08 35.1**	**-0.3**
PSGC					*i*	S	**Sn**	**00 08 52.6**	**-0.8**
PSGC	**Pisagua**	**1.15**	**284**	⇑	*iP*		**Pn**	**00 08 35.1**	**-0.3**
PSGC					*i*	S	**Sn**	**00 08 52.6**	**-0.8**
PB01	**Plate Boundary**	**1.26**	**204**	⇑	*iP*		**Pn**	**00 08 36.5**	**0.0**
PB01					*i*	S	**Sn**	**00 08 55.1**	**-0.4**
PB01						AML	AML	00 08 56.5	
	comp=E,8μm,0.3s								
PB01	**Plate Boundary**	**1.26**	**204**	⇑	*iP*		**Pn**	**00 08 36.5**	**0.0**
PB01					*i*	S	**Sn**	**00 08 55.1**	**-0.4**
PATCX	**Punta Patache**	**1.47**	**231**	⇑	*iP*		**Pn**	**00 08 38.4**	**-0.4**
PATCX					*e*	S	**Sn**	**00 08 58.5**	**-1.1**
PATCX						AML	AML	00 08 59.8	
	comp=N,6μm,0.6s								
PB09	**Plate Boundary**	**1.92**	**188**	⇑	*iP*		**Pn**	**00 08 44.8**	**+0.5**
PB09					*i*	S	**Sn**	**00 09 09.9**	**+0.5**
PB09						AML	AML	00 09 18.0	
	comp=N,3μm,0.5s								
PB09	**Plate Boundary**	**1.92**	**188**	⇑	*iP*		**Pn**	**00 08 44.8**	**+0.5**
PB09					*i*	S	**Sn**	**00 09 09.9**	**+0.5**
PB07	**Plate Boundary**	**2.04**	**206**		*eP*		**Pn**	**00 08 45.7**	**0.0**
PB07					*i*	S	**Sn**	**00 09 11.4**	**-0.4**
PB07						AML	AML	00 09 23.2	
	comp=E,1μm,0.4s								
PB07	**Plate Boundary**	**2.04**	**206**	⇓	*iP*		**Pn**	**00 08 45.5**	**-0.2**
PB07					*i*	S	**Sn**	**00 09 11.0**	**-0.8**
MACH	**Maria Elena**	**2.42**	**198**		*iP*		**Pn**	**00 08 50.9**	**+0.2**
MACH					*i*	S	**Sn**	**00 09 20.9**	**+0.2**
MACH	**Maria Elena**	**2.42**	**198**		*eP*		**Pn**	**00 08 51.8**	**+1.2**
LVC	**Limon Verde**	**2.71**	**179**		*ePn*		**Pn**	**00 08 54.7**	**+0.2**
LVC					*eSn*		**Sn**	**00 09 26.1**	**-1.3**
LPAZ	**La Paz**	**3.66**	**12**		*ePn*		**Pn**	**00 09 09.2**	**+2.0**
LPAZ					*eSn*		**Sn**	**00 09 48.8**	**-1.3**
LPAZ	**La Paz**	**3.66**	**12**	P			**Pn**	**00 09 09.5**	**+2.3**
	comp=E,6.4nm,0.3s,baz=197,slow=7.0,SNR=92								
ARE	**Arequipa**	**4.18**	**324**		*eP*		**Pn**	**00 09 14.0**	**+0.2**
ARE					*i*	S	**Sn**	**00 09 59.9**	**-2.2**
SIV	**San Ignacio**	**8.43**	**64**	P			**Pn**	**00 10 08.1**	**-2.8**
	comp=E,8.5nm,0.3s,baz=261,slow=12,SNR=127								
SIV						LR	LR	00 13 39.5	
	comp=E,47nm,21.3s,slow=40								
CFAA	**Coronel Fontan**	**11.69**	**177**	S			Sn	00 12 53.2	-10
	comp=E,0.1nm,0.3s,baz=91,slow=6.5,SNR=2.0								
CPUP	**Villa Florida**	**12.46**	**123**	P			**Pn**	**00 11 03.4**	**-1.3**
	comp=E,1.3nm,0.3s,baz=284,slow=12,SNR=14								
H03N1	**Juan Fernandez**	**16.16**	**211**	T			T	00 27 26.0	
	baz=33,slow=75,SNR=12								
H03N2	**Juan Fernandez**	**16.17**	**211**	T			T	00 27 23.0	
	baz=33,slow=75,SNR=14								
H03N3	**Juan Fernandez**	**16.18**	**211**	T			T	00 27 25.1	
	baz=33,slow=75,SNR=14								
BDFB	**Brasilia**	**20.37**	**81**	P			**P**	**00 12 37.6**	**-1.1**
	comp=E,1.1nm,0.6s,baz=267,slow=11,SNR=7.6								
PLCA	**Paso Flores**	**20.83**	**183**	P			Pn	00 12 47.0	-0.1
	comp=E,1.8nm,0.8s,baz=2.8,slow=20,SNR=3.7								
PTGA	**Pitinga**	**20.97**	**26**	P			**P**	**00 12 43.0**	**-2.0**
	comp=E,1.7nm,0.4s,baz=194,slow=19,SNR=5.1								
TXAR	**Lajitas Array**	**59.30**	**325**	P			**P**	**00 18 02.2**	**+1.5**
	comp=E,0.2nm,0.8s,baz=144,slow=7.8,SNR=3.2								
TXAR						pP	**pP**	**00 18 30.7**	**+0.6**
	comp=E,0.5nm,0.8s,baz=147,slow=7.4,SNR=3.8								
LIC	**Lamto**	**67.97**	**74**	*eP*			**P**	**00 18 56.6**	**-1.3**
	comp=E,22nm,1.0s								
TIC	**Toumodi**	**68.15**	**74**	*eP*			**P**	**00 18 58.1**	**-0.9**
	comp=E,99nm,1.9s								
KIC	**Kosan Boka**	**68.29**	**74**	*eP*			**P**	**00 18 59.2**	**-0.7**
	comp=E,18nm,0.5s								
DBIC	**Dimbokro**	**68.31**	**74**	P			**P**	**00 18 59.5**	**-0.5**
	comp=E,8.2nm,0.5s,baz=226,slow=7.2,SNR=28								
PDAR	**Pinedale Array**	**72.70**	**330**	P			**P**	**00 19 26.6**	**+0.3**
	comp=E,0.6nm,1.0s,baz=120,slow=5.4,SNR=3.5								
ULM	**Lac du Bonnet**	**73.78**	**342**	P			**P**	**00 19 32.2**	**+0.1**
	comp=E,2.0nm,0.5s,baz=161,slow=7.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**76.85**	**71**	P			**P**	**00 19 50.0**	**-0.5**
	comp=E,1.7nm,0.4s,baz=254,slow=5.5,SNR=61								
TORD						pP	**pP**	**00 20 21.4**	**+0.1**
	comp=E,0.5nm,0.6s,baz=253,slow=5.1,SNR=1.8								
YKA	**Yellowknife Ar**	**89.66**	**341**	P			**P**	**00 20 56.4**	**+1.3**
	comp=E,2.1nm,0.7s,baz=134,slow=4.7,SNR=40								
YKA						pP	**pP**	**00 21 28.0**	**+1.3**
	comp=E,0.4nm,0.5s,baz=132,slow=4.9,SNR=3.7								
YKA						sP	**sP**	**00 21 40.5**	**+0.9**
	comp=E,0.6nm,0.7s,baz=137,slow=4.7,SNR=3.0								
H11S2	**WAKE ISLAND Hyd**	**27.63**	**278**	T			T	02 47 06.1	
	baz=104,slow=72,SNR=36								
H11S1	**WAKE ISLAND Hyd**	**27.64**	**278**	T			T	02 47 00.9	
	baz=104,slow=72,SNR=30								
H11S3	**WAKE ISLAND Hyd**	**27.65**	**278**	T			T	02 47 01.1	
	baz=104,slow=72,SNR=30								
H11N3	**WAKE ISLAND Hyd**	**27.67**	**280**	T			T	02 47 05.7	
	baz=103,slow=75,SNR=10								
H11N2	**WAKE ISLAND Hyd**	**27.68**	**280**	T			T	02 47 07.8	
	baz=103,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hyd**	**27.69**	**280**	T			T	02 47 09.5	
	baz=103,slow=75,SNR=5.1								
WRA	**Warramunga Arr**	**134.32**	**211**	PKP			**PKPdf**	**00 27 16.8**	**+1.0**
	comp=E,0.2nm,0.4s,baz=150,slow=1.9,SNR=6.5								
WRA						pPKP	**pPKPdf**	**00 27 49.9**	**+1.1**
	comp=E,0.4nm,0.8s,baz=154,slow=1.5,SNR=1.8								
MKAR	**Makanchi Array**	**144.34**	**35**	PKP			PKPbc	00 27 32.0	+0.2
	comp=E,0.2nm,0.7s,baz=262,slow=4.1,SNR=4.2								
MKAR						pPKP	pPKPdf	00 28 06.6	+0.3
	comp=E,0.2nm,0.5s,baz=306,slow=2.8,SNR=2.3								
MKAR						sPKP		00 28 19.8	
	comp=E,0.3nm,0.8s,baz=299,slow=3.4,SNR=2.3								

*CSEM **09** 00:13:11.6, 39°.51N×29°.80W, h10km, ML3.1, After PDA*

PDA 09 00:13:11.6±1.1, 39°.51N×29°.80W, h10km, MD3.6, ML3.1, Error ellipse: s-maj=21.3km s-min=8.5km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.23**	**136**		*eP*		Pn	00 13 30.2	-4.7
PCED					*eS*		Sb	00 13 43.7	-7.2
PCED						A	A	00 13 46.0	
	125nm,0.4s								
PCED	**Cedros**	**1.23**	**136**		*eP*		Pn	00 13 30.2	-4.7
PCED					*eS*		Sb	00 13 43.7	-7.2
HOR	**Horta**	**1.34**	**137**		*eP*		Pn	00 13 31.7	-4.7
HOR					*eS*		Sb	00 13 46.5	-7.6
HOR	**Horta**	**1.34**	**137**		*eP*		Pn	00 13 31.7	-4.7
HOR					*eS*		Sb	00 13 46.5	-7.6
ROSA	**Rosais**	**1.45**	**123**		*eS*		Sn	00 13 49.4	-7.6
ROSA						A	A	00 13 50.6	
	63nm,0.7s								
ROSA	**Rosais**	**1.45**	**123**		*eS*		Sn	00 13 49.4	-7.6
PCAN	**Candelaria**	**1.47**	**135**		*eP*		Pn	00 13 33.3	-4.9
PCAN					*eS*		Sn	00 13 50.6	-6.9
PCAN						A	A	00 13 58.0	
	163nm,0.5s								
PCAN	**Candelaria**	**1.47**	**135**		*eP*		Pn	00 13 33.3	-4.9
PCAN					*eS*		Sn	00 13 50.6	-6.9
PICO	**Pico**	**1.48**	**133**		*eP*		Pn	00 13 33.9	-4.4
PICO					*eS*		Sn	00 13 50.5	-7.3
PICO	**Pico**	**1.48**	**133**		*eP*		Pn	00 13 33.9	-4.4
PICO					*eS*		Sn	00 13 50.5	-7.3
PMAN	**Manadas**	**1.60**	**123**		*eS*		Sn	00 13 53.0	-7.6
PMAN						A	A	00 13 53.6	
	52nm,0.3s								
PMAN	**Manadas**	**1.60**	**123**		*eS*		Sn	00 13 53.0	-7.6

*IDC **09** 00:16:33.5±0.6, 7°.52S×146°.93E, h0km, mb4.4/15, mb1 4.6/17, mb1mx4.5/19, mbtmp4.4/17, ML4.2/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/28, Error ellipse: s-maj=22.9km s-min=10.9km az=99.0*

*BJI **09** 00:16:34.8, 7°.35S×147°.44E, h27km, mB5.1/21, mb4.8/35, Ms4.8/15, Ms7 4.4/15*

*ISCJB **09** 00:16:36.6±0.3, 7°.53S±0°.03×146°.98E±0°.06, h32km, mb4.6/35, MS3.9/11, Error ellipse: s-maj=8.8km s-min=4.7km az=1.6*

*NEIC **09** 00:16:38.3±0.3, 7°.56S×146°.97E, h35km, mb4.8/13, Error ellipse: s-maj=12.3km s-min=5.7km az=92.0*

NEIC Felt at Wau.

*DJA **09** 00:16:39.7±1.3, 8°S±12°×14°7E±1°8, h10km, M4.5/5, mb4.5/5, MLv4.5/1*

ISC 09 00:16:38.4±0.5, 7°.57S±0°.04×147°.11E±0°.08, h32km, n99, σ1§56/115, mb4.7/34, MS3.8/11, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.82**	**178**		P		x	00 17 07.6	
PMG	**Port Moresby**	**1.82**	**178**		*ePn*		**Pn**	**00 17 07.5**	**-0.1**
PMG					*eSn*		**Sn**	**00 17 31.2**	**+1.6**
PMG	**Port Moresby**	**1.82**	**178**		Pn		**Pn**	**00 17 07.4**	**-0.1**
	296nm,0.3s,baz=20,slow=5.5,SNR=157								
PMG						Sn	**Sb**	**00 17 34.5**	**+0.8**
	262nm,0.3s,baz=359,slow=20,SNR=26								
COEN	**Coen**	**7.43**	**211**		*ePn*		**Pn**	**00 18 22.7**	**-2.0**
COEN	**Coen**	**7.43**	**211**		P		**Pn**	**00 18 24.4**	**-0.2**
	baz=5.5,SNR=6.0								
CTA	**Charters Tower**	**12.47**	**184**		Pn		**Pn**	**00 19 34.4**	**+0.6**
CTA	**Charters Tower**	**12.47**	**184**		Pn		**Pn**	**00 19 34.4**	**+0.6**
	0.6nm,0.3s,baz=352,slow=12,SNR=5.7								
CTAO	**Charters Tower**	**12.47**	**184**		*ePn*		**Pn**	**00 19 34.4**	**+0.6**
HNR	**Honiara**	**12.83**	**99**		LR		LR	00 23 38.7	
	comp=Z,59nm,19.5s,baz=191,slow=33								
QIS	**Mount Isa**	**14.81**	**209**		P		**Pn**	**00 20 04.9**	**-0.8**
	baz=13,SNR=4.1								
KDU	**Kakadu**	**15.27**	**249**		P		**Pn**	**00 20 13.7**	**+1.8**
	baz=14,SNR=3.4								
MTN	**Manton Dam**	**16.57**	**250**		S		**Sn**	**00 23 27.8**	**-3.8**
	baz=15,SNR=4.0								
SWI	**Sorong**	**17.14**	**292**		P		**P**	**00 20 41.3**	**+4.2**
	25nm,0.8s								
WRAB	**Tennant Creek**	**17.43**	**224**		*ePn*		**Pn**	**00 20 38.0**	**-1.3**
	21nm,0.8s								
WRA	**Warramunga Arr**	**17.45**	**224**		Pn		**Pn**	**00 20 38.1**	**-1.4**
WRA	**Warramunga Arr**	**17.45**	**224**		Pn		**Pn**	**00 20 38.1**	**-1.4**
	1.0nm,0.3s,baz=52,slow=12,SNR=35								
EIDS	**Eidsvold**	**18.10**	**168**		*eP*		**P**	**00 20 47.8**	**+0.2**
	22nm,1.2s								
RMQ	**Roma**	**18.88**	**175**		P		**Pn**	**00 20 59.3**	**+2.3**
	baz=17,SNR=11								
QLP	**Quilpie**	**19.10**	**188**		P		**Pn**	**00 21 00.4**	**+0.7**
	baz=17,SNR=28								
KNRA	**Kununurra**	**19.68**	**244**		P		**P**	**00 21 04.6**	**-0.4**
	baz=18,SNR=11								
ASAR	**Alice Springs**	**20.41**	**217**		P		**P**	**00 21 12.8**	**-0.2**
ASAR					S		**S**	**00 25 00.5**	**+0.4**
ASAR	**Alice Springs**	**20.41**	**217**		P		**P**	**00 21 12.8**	**-0.2**
	25nm,0.8s,baz=43,slow=11,SNR=95								
ASAR					S		**S**	**00 25 00.5**	**+0.4**
	1.5nm,1.1s,baz=42,slow=15,SNR=2.8								
ASAR					LR		LR	00 29 38.0	
	comp=Z,184nm,21.9s,baz=154,slow=39								
LBMI	**Labuha**	**20.72**	**289**		P		Pn	00 21 25.0	+6.1
	58nm,1.5s								
SANI	**Sanana**	**21.74**	**284**		P		**P**	**00 21 30.3**	**+2.9**
ARMA	**Armidale**	**23.12**	**170**		*eP*		**P**	**00 21 42.0**	**0.0**
	79nm,1.9s								
ARMA	**Armidale**	**23.12**	**170**		P		**P**	**00 21 43.6**	**+1.6**
	baz=22,SNR=6.3								
FITZ	**Fitzroy Crossi**	**23.37**	**241**		P		**P**	**00 21 42.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**23.37**	**241**		P		**P**	**00 21 42.0**	**-2.5**
	24nm,1.0s,baz=180,slow=4.2								
CMSA	**Cobar Meteorol**	**23.88**	**183**		P		**P**	**00 21 51.6**	**+2.4**
	baz=22,SNR=8.1								
STKA	**Stephens Creek**	**24.72**	**191**		*eP*		**P**	**00 21 53.8**	**-3.1**
	1.3nm,0.9s								
STKA	**Stephens Creek**	**24.72**	**191**		P		**P**	**00 21 55.9**	**-1.0**
	3.5nm,0.9s,baz=0.0,slow=11,SNR=7.1								
STKA						LR	LR	00 32 35.2	
	comp=Z,290nm,19.3s,baz=19,slow=39								
WRKA	**Warakurna**	**24.99**	**224**		P		**P**	**00 21 58.0**	**-1.5**
	baz=23,SNR=16								
YNG	**Young**	**26.62**	**178**		P		P	00 22 09.1	-5.1
	baz=25,SNR=9.4								
BBOO	**Buckleboo**	**27.13**	**201**		*eP*		**P**	**00 22 17.2**	**-1.5**
	273nm,1.4s								
BBOO	**Buckleboo**	**27.13**	**201**		P		**P**	**00 22 20.9**	**+2.3**
	baz=25,SNR=5.4								
NACB	**Ninganchiao**	**40.19**	**322**		P		**P**	**00 24 10.2**	**-1.8**
RPZ	**Rata Peaks**	**41.66**	**154**		LR		LR	00 39 12.2	
	comp=Z,175nm,19.3s,baz=319,slow=32								
PMBI	**Palembang**	**42.39**	**274**		P		P	00 24 35.6	+5.3
	baz=42,SNR=3.3								
MJAR	**Matsushiro Arr**	**44.67**	**350**		P		**P**	**00 24 46.5**	**-1.8**
MJAR	**Matsushiro Arr**	**44.67**	**350**		P		**P**	**00 24 46.4**	**-1.8**
	3.7nm,1.0s,baz=182,slow=10,SNR=6.0								
KSRS	**Korea Array**	**48.25**	**339**		P		**P**	**00 25 15.2**	**-1.2**
	5.4nm,0.9s,baz=158,slow=8.7,SNR=16								
KSRS						LR	LR	00 45 00.9	
	comp=Z,82nm,18.8s,baz=52,slow=36								
KSAR	**Wonju Array Be**	**48.25**	**339**		P		**P**	**00 25 15.2**	**-1.2**
GYA	**Guiyang**	**51.80**	**312**		*eP*		**P**	**00 25 44.2**	**+0.5**
GYA						pmax	pmax		
	comp=Z,10.0nm,1.0s								
USRK	**Ussuriysk Arra**	**53.31**	**346**		P		**P**	**00 25 53.3**	**-1.1**
	2.0nm,0.6s,baz=112,slow=5.8,SNR=5.6								
KMI	**Kunming**	**54.04**	**308**		P		**P**	**00 26 01.6**	**+1.2**
KMI						pmax	pmax		
	comp=Z,8.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**54.09**	**299**		P		**P**	**00 26 00.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**54.09**	**299**		P		**P**	**00 26 00.4**	**-0.2**
	2.3nm,0.8s,baz=124,slow=5.5,SNR=12								
CN2	**Changchun**	**54.77**	**341**		*eP*		**P**	**00 26 05.7**	**+0.7**
CN2						*ep*	**pP**	**00 26 18.4**	**+3.6**
CN2						*eS*	**S**	**00 33 42.9**	**-0.7**
XAN	**Xi'an**	**54.96**	**321**		P		**P**	**00 26 05.7**	**-1.0**
XAN						pP	**pP**	**00 26 15.7**	**-0.7**
XAN						pmax	pmax		
	comp=Z,6.0nm,1.0s								
XAN						pmax	pmax		
	comp=Z,24nm,6.0s								
BJI	**Beijing**	**55.32**	**331**		P		**P**	**00 26 09.0**	**-0.1**
BJI						pmax	pmax		
	comp=Z,9.0nm,1.0s								
BJI						LR	LR		
	comp=Z,48nm,22.1s								
CD2	**Chengdu**	**56.45**	**315**		*eP*		**P**	**00 26 17.4**	**0.0**
CD2						sP	**sP**	**00 26 32.2**	**+1.2**
CD2						PP	**PP**	**00 28 24.8**	**+1.4**
CD2						S	**S**	**00 34 04.7**	**-1.9**
CD2						SS	**SS**	**00 37 52.5**	**-1.8**
CD2						pmax	pmax		
	comp=Z,20nm,1.0s								
CD2						pmax	pmax		
	comp=Z,130nm,8.2s								
CD2						LR	LR		
	comp=N,190nm,12.0s								
CD2						LR	LR		
	comp=Z,130nm,14.2s								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**58.22**	**329**		*eP*		**P**	**00 26 29.7**	**-0.1**
HHC						sP	**sP**	**00 26 45.3**	**+1.9**
HHC						PP	PP	00 28 44.3	+5.2
HHC						S	**S**	**00 34 26.8**	**-2.9**
HHC						sS	**sS**	**00 34 45.6**	**-0.2**
HHC						SS	**SS**	**00 38 23.4**	**+1.4**
HHC						pmax	pmax		
	comp=Z,41nm,1.2s								
HHC						pmax	pmax		
	comp=Z,120nm,3.8s								
HHC						LR	LR		
	comp=N,180nm,17.3s								
HHC						LR	LR		
	comp=E,160nm,14.8s								
HHC						LR	LR		
	comp=Z,190nm,11.3s								
LZH	**Lanzhou**	**59.47**	**320**		*eP*		**P**	**00 26 38.9**	**+0.2**
LZH						pP	**pP**	**00 26 50.0**	**+1.5**
LZH						sP	**sP**	**00 26 53.9**	**+1.7**
LZH						PP	**PP**	**00 28 54.5**	**+4.2**
LZH						pmax	pmax		
	comp=Z,35nm,1.2s								
LZH						pmax	pmax		
	comp=Z,76nm,6.5s								
LZH						LR	LR		
	comp=N,360nm,15.5s								
LZH						LR	LR		
	comp=E,330nm,16.0s								
LZH						LR	LR		
	comp=Z,430nm,18.5s								
PETK	**Petropavlovsk-**	**61.11**	**7**	P			**P**	**00 26 50.1**	**+0.8**
PETK	**Petropavlovsk-**	**61.11**	**7**	P			**P**	**00 26 50.1**	**+0.8**
	4.0nm,1.0s,baz=192,slow=14,SNR=3.8								
GTA	**Gaotai**	**64.01**	**321**		*eP*		**P**	**00 27 09.3**	**+0.1**
GTA						pP	**pP**	**00 27 19.5**	**+0.4**
GTA						sP	**sP**	**00 27 23.5**	**+0.7**
GTA						pmax	pmax		
	comp=Z,12nm,1.0s								
FX1	**Attu Island--F**	**64.17**	**17**		LR		LR	00 51 17.8	
	comp=Z,42nm,20.8s,baz=244,slow=32								
LSA	**Lhasa**	**65.27**	**307**	P			**P**	**00 27 18.0**	**0.0**
ULN	**Ulaanbaatar**	**65.53**	**332**		*eP*		**P**	**00 27 18.4**	**-0.5**
	30nm,2.0s								
SONM	**Songino Array**	**65.82**	**331**	P			**P**	**00 27 20.8**	**0.0**
SONM	**Songino Array**	**65.82**	**331**	P			**P**	**00 27 20.8**	**0.0**
	2.7nm,1.1s,baz=143,slow=5.9,SNR=11								
VNDA	**Vanda**	**70.35**	**177**	P			**P**	**00 27 49.3**	**+0.7**
VNDA	**Vanda**	**70.35**	**177**	P			**P**	**00 27 49.3**	**+0.7**
	1.0nm,0.7s,baz=336,slow=8.8,SNR=6.9								
VNDA						LR	LR	00 57 37.4	
	comp=Z,104nm,18.7s,baz=81,slow=35								
WMQ	**Urumqi**	**74.05**	**320**	P			**P**	**00 28 11.6**	**+0.3**
WMQ						pP	**pP**	**00 28 21.9**	**+0.5**
WMQ						sP	**sP**	**00 28 25.9**	**+0.8**
WMQ						pmax	pmax		
	comp=Z,24nm,1.0s								
WMQ						pmax	pmax		
	comp=Z,200nm,6.0s								
WMQ						LR	LR		
	comp=N,26nm,17.4s								
WMQ						LR	LR		
	comp=E,19nm,19.4s								
WMQ						LR	LR		
	comp=Z,21nm,15.6s								
MK31	**Makanchi Array**	**78.77**	**321**		*eP*		**P**	**00 28 36.1**	**-1.9**
MKAR	**Makanchi Array**	**78.77**	**321**		*eP*		**P**	**00 28 37.9**	**-0.1**
MKAR	**Makanchi Array**	**78.77**	**321**		P		**P**	**00 28 37.8**	**-0.2**
	9.5nm,0.9s,baz=103,slow=6.5,SNR=54								
ZALV	**Zalesovo Beam**	**80.39**	**328**	P			**P**	**00 28 45.0**	**-1.6**
ZALV	**Zalesovo Beam**	**80.39**	**328**	P			**P**	**00 28 45.0**	**-1.6**
	4.5nm,0.7s,baz=111,slow=5.7,SNR=25								
KSH	**Kashi**	**80.50**	**312**	P			**P**	**00 28 48.9**	**+1.2**
KSH						*e*PP	**PP**	**00 31 55.6**	**+4.2**
KSH						*eS*	**S**	**00 38 52.1**	**-0.3**
KSH						*es*S	**ScS**	**00 39 11.4**	**-0.6**
KSH						*eSS*	**SS**	**00 44 10.0**	**+4.7**
KSH						pmax	pmax		
	comp=Z,6.0nm,1.0s								
KSH						pmax	pmax		
	comp=Z,72nm,3.8s								
KSH						LR	LR		
	comp=N,36nm,5.7s

PCAN eS Sb 00 26 49.3 0.0
PCAN A A 00 26 51.5
580nm,0.3s
PCAN Candelaria 1.20 135 eP Pn **00 26 32.8 -0.9**
PCAN eS Sb **00 26 49.3 0.0**
PICO Pico 1.21 133 eP Pn **00 26 33.3 -0.6**
PICO eS Sn **00 26 50.0 -0.1**
PICO Pico 1.21 133 eP Pn **00 26 33.3 -0.6**
PICO eS Sn **00 26 50.0 -0.1**
H07N1 FLORES T-PHASE 1.26 287 T T 00 27 29.3
SNR=61
PGRA Graciosa 1.26 103 eS Sb **00 26 48.9 -2.1**
PGRA A A 00 26 50.3
157nm,0.5s
PGRA Graciosa 1.26 103 eS Sb **00 26 48.9 -2.1**
H07S1 FLORES T-PHASE 1.27 273 T T 00 27 33.8
SNR=138
PMAN Manadas 1.34 121 eS Sn **00 26 52.6 -0.6**
PMAN Manadas 1.34 121 eS Sn **00 26 52.6 -0.6**
ADH Angra Heroismo 1.93 110 eP Pn **00 26 42.4 -1.3**
ADH eS Sn **00 27 05.8 -2.0**
ADH A A 00 27 11.1
101nm,0.3s
ADH Angra Heroismo 1.93 110 eP Pn **00 26 42.4 -1.3**
ADH eS Sn **00 27 05.8 -2.0**
PSET Sete Cidades 3.36 115 eP Pn **00 27 02.9 -0.5**
PSET Sete Cidades 3.36 115 eP Pn **00 27 02.9 -0.5**
PSMA Santa Maria 4.20 122 eP Pn **00 27 14.3 -0.6**
ESDC Sonseca Array 19.74 81 P Pn **00 30 45.4 +3.2**
0.6nm,0.7s,baz=266,slow=7.6,SNR=4.1
EKA Eskdalemuir Ar 23.80 39 P P **00 31 25.3 +1.9**
2.0nm,0.9s,baz=226,slow=8.8,SNR=3.2
DAVOX Davos/Dischmat 29.52 62 LR LR 00 41 43.6
comp=Z,48nm,21.0s,baz=266,slow=31
TORD Torodi Ar. Bea 37.95 125 P P **00 33 30.7 +2.1**
0.8nm,1.1s,baz=308,slow=7.1,SNR=2.9
FINES FINESS Array B 40.19 38 P P **00 33 46.7 -0.1**
1.7nm,0.7s,baz=316,slow=5.3,SNR=5.5
AKASG Malin Array Be 42.04 54 P P **00 34 02.9 +0.8**
0.6nm,0.5s,baz=275,slow=8.4,SNR=5.6
BRTR Keskin Array B 47.82 68 P P **00 34 48.5 0.0**
0.5nm,0.8s,baz=318,slow=7.8,SNR=4.0
YKA Yellowknife Ar 53.83 325 P P **00 35 30.6 -2.6**
0.1nm,0.6s,baz=95,slow=7.0,SNR=3.2
TXAR Lajitas Array 60.45 285 P P **00 36 18.4 -2.3**
0.3nm,0.6s,baz=65,slow=7.9,SNR=5.2
ZALV Zalesovo Beam 71.35 35 P P **00 37 30.6 +0.2**
0.7nm,0.6s,baz=298,slow=7.9,SNR=4.1
MKAR Makanchi Array 74.92 41 P P **00 37 52.5 +0.9**
1.4nm,0.8s,baz=316,slow=5.1,SNR=14
SONM Songino Array 84.79 28 P P **00 38 46.6 +1.4**
0.4nm,0.7s,baz=343,slow=4.6,SNR=5.3
ASAR Alice Springs 159.02 47 PKPab **PKPab 00 46 46.2 +0.7**
0.6nm,0.9s,baz=324,slow=6.2,SNR=4.4

*ISCJB **09** 00:26:34.7±0.8, 39°.3N±0°.1×29°.8W±0°.1, h10km, mb3.7/10, MS3.0/1, Error ellipse: s-maj=19.8km s-min=4.8km az=38.8*
*IDC **09** 00:26:35.5±1.2, 39°.47N×29°.99W, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.7/29, mbtmp3.7/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/22, Error ellipse: s-maj=35.9km s-min=19.6km az=10.0*
ISC 09 00:26:35.7±1.0, 39°.2N±0°.2×29°.8W±0°.1, h10km, n20, σ1§08/17, mb3.8/10, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.02**	**120**	*eS*		**Sb**		**00 27 09.1**	**+0.1**
PCED				A		A		00 27 10.6	
188nm,0.3s									
H07S1	**FLORES T-PHASE**	**1.09**	**283**	T		T		00 27 56.4	
HOR	**Horta**	**1.12**	**123**	*eS*		**Sn**		**00 27 12.8**	**-0.2**
H07N1	**FLORES T-PHASE**	**1.14**	**299**	T		T		00 27 54.2	
PCAN	**Candelaria**	**1.25**	**123**	*eS*		**Sn**		**00 27 17.0**	**+0.8**
PCAN				A		A		00 27 17.6	
347nm,0.3s									
PICO	**Pico**	**1.27**	**120**	*eS*		**Sn**		**00 27 16.6**	**-0.2**
ROSA	**Rosais**	**1.31**	**109**	*eS*		**Sb**		**00 27 15.6**	**-1.7**
ROSA				A		A		00 27 17.0	
174nm,0.3s									
PMAN	**Manadas**	**1.45**	**110**	*eS*		**Sn**		**00 27 19.3**	**-1.8**
PMAN				A		A		00 27 21.1	
187nm,0.4s									
ESDC	**Sonseca Array**	**19.98**	**80**	P		**Pn**		**00 31 11.4**	**+1.5**
1.4nm,0.9s,baz=349,slow=30,SNR=2.4									
TORD	**Torodi Ar. Bea**	**38.02**	**124**	P		P		00 33 57.4	+3.2
0.3nm,0.6s,baz=324,slow=7.1,SNR=3.4									
FINES	**FINESS Array B**	**40.46**	**38**	P		**P**		**00 34 14.1**	**0.0**
3.9nm,0.8s,baz=197,slow=6.0,SNR=6.5									
AKASG	**Malin Array Be**	**42.31**	**54**	P		**P**		**00 34 28.3**	**-1.0**
2.2nm,0.8s,baz=273,slow=8.7,SNR=5.2									
AKASG				LR		LR		00 51 23.3	
comp=Z,21nm,19.9s,baz=70,slow=35									
BRTR	**Keskin Array B**	**48.08**	**68**	P		**P**		**00 35 16.9**	**+1.3**
0.4nm,0.7s,baz=289,slow=7.5,SNR=3.7									
YKA	**Yellowknife Ar**	**53.86**	**325**	P		**P**		**00 35 56.8**	**-1.7**
0.2nm,0.8s,baz=72,slow=7.0,SNR=3.6									
PDAR	**Pinedale Array**	**58.16**	**301**	P		**P**		**00 36 29.3**	**-0.7**
0.7nm,0.9s,baz=69,slow=8.1,SNR=3.6									
TXAR	**Lajitas Array**	**60.30**	**285**	P		**P**		**00 36 45.0**	**+0.2**
0.5nm,0.7s,baz=70,slow=7.2,SNR=5.5									
ZALV	**Zalesovo Beam**	**71.61**	**34**	P		**P**		**00 37 57.4**	**+0.4**
0.7nm,0.6s,baz=316,slow=8.3,SNR=4.3									
MKAR	**Makanchi Array**	**75.18**	**41**	P		**P**		**00 38 19.1**	**+0.8**
2.3nm,0.8s,baz=318,slow=5.7,SNR=12									
SONM	**Songino Array**	**85.05**	**28**	P		**P**		**00 39 12.3**	**+0.7**
0.9nm,0.9s,baz=304,slow=3.7,SNR=6.0									
ASAR	**Alice Springs**	**159.29**	**47**	PKPab		**PKPab**		**00 47 12.3**	**+0.4**
0.8nm,0.8s,baz=347,slow=5.6,SNR=5.3									

*IDC **09** 00:27:39.2±1.8, 0°.66N×125°.65E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=178.6km s-min=23.7km az=64.0*
*DJA **09** 00:27:46.4±0.3, 0°.N±4°×12°.6E±°, h10km, M3.9/8, MLv3.9/8*
*ISCJB **09** 00:27:48.3±0.6, 0°.27N±0°.07×125°.48E±0°.04, h73km, mb3.5/3, Error ellipse: s-maj=9.6km s-min=5.4km az=10.8*
ISC 09 00:27:48.7±1.0, 0°.30N±0°.07×125°.50E±0°.04, h73km, n11, σ1§72/15, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.54**	**280**	P		**Pn**		**00 28 12.6**	**-1.7**
KMSI				S		**Sn**		**00 28 31.3**	**-2.4**
TNTI	**Ternate**	**1.93**	**76**	P		**Pn**		**00 28 20.2**	**+0.7**
TNTI				S		**Sn**		**00 28 43.0**	**+0.1**
LBMI	**Labuha**	**2.21**	**115**	P		**Pn**		**00 28 22.6**	**-0.6**
LBMI				S		**Sn**		**00 28 50.8**	**+1.2**
SANI	**Sanana**	**2.38**	**168**	P		**Pn**		**00 28 24.8**	**-0.8**
SANI				S		**Sn**		**00 28 52.4**	**-1.4**
GTOI	**Gorontalo**	**2.51**	**278**	P		**Pn**		**00 28 29.7**	**+2.4**
LUWI	**Luwuk**	**3.03**	**244**	P		**Pn**		**00 28 36.1**	**+1.7**
MRSI	**Marisa**	**3.56**	**273**	P		**Pn**		**00 28 42.7**	**+1.1**
APSI	**Ampana**	**4.03**	**253**	P		**Pn**		**00 28 50.0**	**+2.0**
WRA	**Warramunga Arr**	**21.90**	**157**	P		**P**		**00 32 36.2**	**+0.2**
1.0nm,0.5s,baz=336,slow=10,SNR=19									
ASAR	**Alice Springs**	**25.18**	**162**	P		**P**		**00 33 10.0**	**+2.4**
0.6nm,0.6s,baz=333,slow=8.0,SNR=7.6									
MKAR	**Makanchi Array**	**59.70**	**327**	P		**P**		**00 37 44.1**	**-1.6**
0.3nm,0.4s,baz=124,slow=7.9,SNR=13									

IDC 09 00:33:40.7±26.0, 19°.04S×173°.52W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/21, mbtmp4.2/4, Error ellipse: s-maj=484.6km s-min=154.0km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.86**	**262**	P		P		00 41 00.5	+0.9
10nm,1.1s,baz=88,slow=12,SNR=7.8									
STKA	**Stephens Creek**	**42.22**	**249**	P		P		00 41 35.7	0.0
0.7nm,0.5s,baz=88,slow=11,SNR=5.0									
ASAR	**Alice Springs**	**48.97**	**255**	P		P		00 42 28.8	-0.5
2.2nm,0.5s,baz=96,slow=7.6,SNR=25									
WRA	**Warramunga Arr**	**49.00**	**260**	P		P		00 42 28.9	-0.7
1.3nm,0.3s,baz=97,slow=7.7,SNR=47									

*ISCJB **09** 00:42:56.6±0.8, 6°.84N±0°.08×72°.99W±0°.08, h175km±8km, mb3.0/2, Error ellipse: s-maj=16.4km s-min=7.8km az=42.0*
*FUNV **09** 00:42:57.8, 6°.72N×73°.13W, h166km, MW3.6*

*IDC **09** 00:43:03.4±2.3, 6°.65N×74°.58W, h188km±24km, mb2.8/2, mb1 3.2/2, mb1mx2.8/22, mbtmp2.8/2, Error ellipse: s-maj=156.8km s-min=34.3km az=80.0*
ISC 09 00:42:57.2±1.0, 6°.83N±0°.08×73°.00W±0°.09, h171km±9km, n11, σ1§45/17, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**34**	*eP*		**Pn**		**00 43 27.3**	**+1.0**
CAPV				*eS*		**Sn**		**00 43 48.8**	**+0.2**
ROSC	**El Rosal**	**2.36**	**214**	P		**Pn**		**00 43 39.2**	**+1.0**
8.2nm,0.3s,baz=306,slow=16,SNR=32									
ROSC				S		**Sn**		**00 44 07.9**	**-2.1**
9.7nm,0.3s,baz=106,slow=21,SNR=13									
SOCV	**Socops**	**2.58**	**56**	*eP*		**Pn**		**00 43 41.4**	**+1.1**
SOCV				*eS*		**Sn**		**00 44 13.0**	**-0.8**
VIRV	**Villa del Rosa**	**3.70**	**9**	*eP*		**Pn**		**00 43 54.2**	**0.0**
VIRV				*eS*		**Sn**		**00 44 37.3**	**-1.5**
CURV	**Curarigua**	**4.37**	**43**	*eP*		**Pn**		**00 44 03.9**	**+1.0**
CURV				*eS*		**Sn**		**00 44 52.6**	**-1.7**
DABV	**Dabajuro**	**4.69**	**30**	*eP*		**Pn**		**00 44 08.3**	**+1.3**
BAUV	**El Baul**	**5.35**	**67**	*eP*		**Pn**		**00 44 16.1**	**+0.5**
BAUV				*eS*		**Sn**		**00 45 14.9**	**-2.1**
MONV	**Montecano**	**5.91**	**30**	*eP*		**Pn**		**00 44 23.4**	**+0.4**
PDAR	**Pinedale Array**	**48.14**	**324**	P		**P**		**00 51 18.8**	**-1.6**
0.6nm,1.0s,baz=87,slow=7.4,SNR=3.4									
YKA	**Yellowknife Ar**	**63.30**	**340**	P		**P**		**00 53 09.6**	**+2.1**
0.1nm,0.6s,baz=131,slow=7.6,SNR=4.4									
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc		**PKPbc**		**01 02 29.5**	**0.0**
0.6nm,0.9s,baz=107,slow=2.5,SNR=6.6									

*IDC **09** 01:04:01.3±1.8, 6°.00S×130°.25E, h0km, mb3.7/2, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=130.2km s-min=28.2km az=73.0*
ISC 09 01:04:02.5±1.1, 6°.03S±0°.09×130°.4E±0°.2, h10km, n7, σ0§90/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.62**	**31**	P		**Pg**		**01 05 12.0**	**0.0**
baz=16,SNR=5.7									
MTN	**Manton Dam**	**6.81**	**174**	P		Pn		01 05 48.2	+5.7
baz=19,SNR=13									
KDU	**Kakadu**	**6.93**	**163**	P		Pn		01 05 49.7	+5.5
baz=20,SNR=21									
WRA	**Warramunga Arr**	**14.36**	**165**	Pn		**Pn**		**01 07 25.4**	**-0.6**
0.2nm,0.3s,baz=348,slow=13,SNR=13									
WRA				Sn		Sn		01 09 52.1	-13
0.5nm,0.3s,baz=341,slow=21,SNR=9.8									
ASAR	**Alice Springs**	**17.86**	**169**	P		**P**		**01 08 13.0**	**+1.0**
0.1nm,0.3s,baz=345,slow=9.2,SNR=3.3									
ASAR				S		Sn		01 11 16.3	-14
0.1nm,0.3s,baz=344,slow=41,SNR=1.3									
SONM	**Songino Array**	**57.65**	**341**	P		**P**		**01 13 53.5**	**+0.4**
0.2nm,0.4s,baz=143,slow=4.8,SNR=2.5									
MKAR	**Makanchi Array**	**67.62**	**326**	P		**P**		**01 14 59.1**	**-0.5**
0.6nm,0.4s,baz=114,slow=7.8,SNR=35									

IDC 09 01:53:33.3±5.1, 13°.62S×167°.00E, h246km±50km, mb3.5/8, mb1 3.6/9, mb1mx3.4/21, mbtmp3.4/9, MS4.1/1, Ms1 4.1/1, ms1mx2.8/17, Error ellipse: s-maj=43.2km s-min=26.7km az=155.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.42**	**184**	P		Pn		01 55 32.7	+0.6
0.1nm,0.3s,baz=110,slow=16,SNR=1.9									
CTA	**Charters Tower**	**20.86**	**249**	P		P		01 57 57.0	+0.1
6.5nm,0.9s,baz=74,slow=15,SNR=4.2									
STKA	**Stephens Creek**	**29.53**	**228**	P		P		01 59 15.7	+0.4
3.4nm,0.4s,baz=49,slow=7.8,SNR=15									
RPZ	**Rata Peaks**	**30.19**	**174**	LR		LR		02 09 22.6	
comp=Z,313nm,19.7s,baz=359,slow=31									
WRA	**Warramunga Arr**	**31.86**	**254**	P		P		01 59 34.9	-0.9
0.8nm,0.6s,baz=86,slow=9.5,SNR=22									
WRA				PcP		PcP		02 02 20.7	+0.2
0.6nm,1.1s,baz=92,slow=6.3,SNR=4.6									
ASAR	**Alice Springs**	**32.84**	**247**	P		P		01 59 43.6	-0.7
2.5nm,0.5s,baz=75,slow=9.3,SNR=48									
CMAR	**Chiang Mai Arr**	**74.27**	**294**	P		P		02 04 45.8	+1.6
0.6nm,0.3s,baz=120,slow=5.3,SNR=4.2									
SONM	**Songino Array**	**81.46**	**324**	P		P		02 05 23.9	+0.6
0.2nm,0.5s,baz=146,slow=4.8,SNR=4.2									
ILAR	**Eielson Array**	**85.56**	**18**	P		P		02 05 42.4	-1.2
0.3nm,0.6s,baz=245,slow=4.8,SNR=4.5									
MKAR	**Makanchi Array**	**96.23**	**317**	P		P		02 06 33.6	-0.1
0.5nm,0.7s,baz=100,slow=5.6,SNR=5.5									
ARCES	**ARCESS Array B**	**119.12**	**345**	PKP		PKPdf		02 11 51.6	-0.8
3.1nm,0.8s,baz=74,slow=3.1,SNR=7.0									

*NIED **09** 02:12:00, 35°.70N×136°.00E, h5km, Mw3.3 Best double couple: Mo1.13000×10^14 NP1:ϕs40.00000°, δ53.00000°, λ171.00000°. NP2:ϕs136.00000°, δ83.00000°, λ37.00000°.*
JMA 09 02:12:25.3, 35°.74N×135°.98E, h11km±1km, M3.6, 3C-3D Broadband fault plane solution: P waves. NP1: ϕs218.00000°, δ89.00000°, λ-150.00000°. **NP2:** ϕs128.00000°, δ60.00000°, λ-1.00000°. **Principal axes:** T Plg20.0000°, Azm349.0000°; N Plg60.0000°, Azm219.0000°; P Plg21.0000°, Azm87.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.21**	**179**	⇑P		Pg		02 12 29.7	-0.1
JFM				S		Sg		02 12 32.7	-0.1
JGM	**Miyama**	**0.60**	**94**	⇓P		Pg		02 12 36.5	-0.6
JGM				S		Sg		02 12 44.9	-0.2
JKG	**Kaga**	**0.61**	**28**	⇑P		Pg		02 12 37.2	+0.1
JKG				S		Sg		02 12 45.3	+0.2
JWT	**Wachi**	**0.66**	**226**	⇓P		Pg		02 12 37.8	-0.3
JWT				S		Sg		02 12 46.2	-0.5
JKY	**Yasaka**	**0.72**	**261**	⇓P		Pg		02 12 39.0	-0.3
JKY				S		Sg		02 12 48.6	-0.2
TSUJ	**Tsu 2**	**1.09**	**161**	⇑P		Pb		02 12 45.7	-0.4
MAT	**Matsushiro**	**1.97**	**65**	P		Pn		02 12 59.5	+0.8
MAT				S		Sg		02 13 29.0	+0.2

*IDC **09** 02:21:10.1±7.8, 36°.30N×71°.27E, h183km±66km, mb3.0/4, mb1 3.1/5, mb1mx2.8/27, mbtmp2.9/5 Error ellipse: s-maj=76.5km s-min=35.3km az=148.0*
*ISCJB **09** 02:21:13.2±1.2, 36°.8N±0°.1×70°.9E±0°.1, h188km, mb3.3/3, Error ellipse: s-maj=17.5km s-min=11.0km az=41.8*
*NNC **09** 02:21:20.1±2.9, 37°.20N×71°.06E, h237km±45km, mb2.3, mpv3.4, Error ellipse: s-maj=31.5km s-min=16.6km az=4.0*
ISC 09 02:21:13.2±1.6, 36°.7N±0°.1×71°.0E±0°.1, h188km, n15, σ1§59/18, mb3.4/3, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.80**	**20**	P		**Pn**		**02 22 40.0**	**+2.0**
SNR=19									
UCH	**Uchtor**	**6.14**	**25**	P		**Pn**		**02 22 44.2**	**+1.7**
SNR=15									
KZA	**Kyzart**	**6.29**	**30**	P		**Pn**		**02 22 45.9**	**+1.6**
SNR=5.4									
EKS2	**Erkin-Say**	**6.32**	**19**	P		**Pn**		**02 22 46.7**	**+2.3**
SNR=6.7									
KK31	**Karatay Array**	**6.40**	**357**	⇓P		**Pn**		**02 22 47.3**	**+1.9**
0.2nm,0.3s,baz=186,slow=14,SNR=24									
KK31				⇑S		**Sn**		**02 23 56.2**	**-2.1**
2.9nm,0.4s,baz=185,slow=17,SNR=17									
AAK	**Ala-Archa**	**6.50**	**23**	⇑P		**Pn**		**02 22 48.4**	**+1.5**
2.0nm,0.3s									
AAK				⇑S		**Sn**		**02 23 59.6**	**-1.4**
7.4nm,0.6s									
AAK	**Ala-Archa**	**6.50**	**23**	P		**Pn**		**02 22 49.3**	**+2.4**
SNR=6.3									
TKM2	**Tokmak 2**	**7.14**	**28**	⇑P		**Pn**		**02 22 56.5**	**+1.2**
7.1nm,0.7s									
TKM2				⇓S		**Sn**		**02 24 14.9**	**-1.3**
3.6nm,1.1s									
MK31	**Makanchi Array**	**13.12**	**36**	P		**Pn**		**02 24 12.0**	**-0.4**
1.0nm,0.7s,baz=210,slow=14,SNR=8.6									
MKAR	**Makanchi Array**	**13.12**	**36**	P		**Pn**		**02 24 12.3**	**-0.1**
0.1nm,0.3s,baz=214,slow=12,SNR=8.8									
AB31	**Akbulak array**	**14.90**	**331**	⇑P		**P**		**02 24 35.1**	**-0.4**
0.6nm,0.7s,baz=143,slow=11,SNR=10									
ZALV	**Zalesovo Beam**	**19.73**	**25**	P		**P**		**02 25 28.4**	**+0.2**
0.7nm,0.3s,baz=215,slow=9.9,SNR=6.0									
NOA	**NORSAR Array B**	**44.21**	**323**	P		**P**		**02 29 04.2**	**+0.8**
0.8nm,0.6s,baz=98,slow=7.8,SNR=3.3									
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P		**P**		**02 31 36.8**	**-1.2**
0.8nm,1.0s,baz=51,slow=6.1,SNR=4.8									
YKA	**Yellowknife Ar**	**81.04**	**3**	P		**P**		**02 33 06.3**	**-0.3**
0.1nm,0.4s,baz=351,slow=5.1,SNR=3.8									

IDC 09 02:46:53.0±4.9, 7°.44S×147°.19E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=166.7km s-min=35.0km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.60**	**224**	P		P		02 50 59.2	-0.7
0.1nm,0.3s,baz=46,slow=12,SNR=4.4									
ASAR	**Alice Springs**	**20.57**	**217**	P		P		02 51 33.8	+0.2
0.4nm,0.6s,baz=37,slow=11,SNR=4.7									
MKAR	**Makanchi Array**	**78.72**	**321**	P		P		02 58 58.1	+0.7
0.3nm,0.6s,baz=114,slow=6.4,SNR=3.5									
TORD	**Torodi Ar. Bea**	**145.61**	**282**	PKPbc		PKPdf		03 06 32.8	-1.6
0.5nm,0.7s,baz=82,slow=2.3,SNR=3.5									

*ISCJB **09** 02:58:33.2±0.5, 9°.03S±0°.10×157°.56E±0°.06, h17km, mb4.2/16, MS3.6/2, Error ellipse: s-maj=14.1km s-min=8.1km az=4.7*
*IDC **09** 02:58:33.6±1.1, 8°.93S×157°.28E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, MS3.4/5, Ms1 3.4/5, ms1mx3.1/25, Error ellipse: s-maj=37.9km s-min=20.0km az=124.0*
*NEIC **09** 02:58:37.3±0.5, 9°.07S×157°.60E, h35km, mb4.5/7, Error ellipse: s-maj=13.6km s-min=10.7km az=151.0*
ISC 09 02:58:34.7±0.6, 9°.1S±0°.1×157°.63E±0°.07, h17km, n38, σ0§87/30, mb4.2/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.32**	**99**	Pn		**Pn**		**02 59 12.6**	**+0.4**
HNR				Sn		Sn		**02 59 40.5**	**+0.1**
HNR	**Honiara**	**2.32**	**99**	Pn		**Pn**		**02 59 12.6**	**+0.4**
24nm,0.3s,baz=0.4,slow=7.4,SNR=3.6									
HNR				Sn		**Sn**		**02 59 40.5**	**+0.1**
41nm,0.3s,baz=214,slow=21,SNR=8.5									
HNR				LR		LR		02 59 53.3	
comp=Z,210nm,21.6s,baz=306,slow=30									
HNR	**Honiara**	**2.32**	**99**	*eP*		**Pb**		**02 59 15.0**	**-1.2**
PMG	**Port Moresby**	**10.34**	**267**	LR		LR		03 04 33.7	
comp=Z,173nm,19.1s,baz=72,slow=36									
DZM	**Mont Dzumac**	**15.47**	**148**	LR		LR		03 07 00.0	
comp=Z,171nm,20.1s,baz=111,slow=32									
WRAB	**Tennant Creek**	**24.96**	**242**	*eP*		**P**		**03 03 57.6**	**+0.1**
11nm,1.0s									
WRA	**Warramunga Arr**	**24.97**	**242**	P		**P**		**03 03 56.3**	**-1.4**
WRA	**Warramunga Arr**	**24.97**	**242**	P		**P**		**03 03 56.3**	**-1.4**
7.9nm,0.9s,baz=68,slow=9.3,SNR=19									
ASAR	**Alice Springs**	**26.94**	**235**	P		**P**		**03 04 14.9**	**-0.6**
ASAR	**Alice Springs**	**26.94**	**235**	P		**P**		**03 04 14.9**	**-0.6**
0.8nm,0.9s,baz=64,slow=9.4,SNR=6.7									
STKA	**Stephens Creek**	**27.15**	**211**	*eP*		**P**		**03 04 18.0**	**+0.7**
1.3nm,0.8s									
STKA	**Stephens Creek**	**27.15**	**211**	P		**P**		**03 04 18.2**	**+1.0**
4.6nm,0.7s,baz=34,slow=10.0,SNR=9.5									
STKA				LR		LR		03 14 31.7	
comp=Z,48nm,18.0s,baz=28,slow=35									
H11S3	**WAKE ISLAND Hy**	**28.80**	**18**	T		T		03 32 56.6	
baz=200,slow=77,SNR=10									
H11S2	**WAKE ISLAND Hy**	**28.80**	**18**	T		T		03 32 56.1	
baz=200,slow=77,SNR=9.3									
H11S1	**WAKE ISLAND Hy**	**28.82**	**18**	T		T		03 32 59.8	
baz=200,slow=77,SNR=5.4									
RPZ	**Rata Peaks**	**36.46**	**164**	LR		LR		03 16 54.7	
comp=Z,384nm,19.1s,baz=304,slow=30									
MJAR	**Matsushiro Arr**	**48.89**	**339**	P		**P**		**03 07 18.4**	**-1.4**
MJAR	**Matsushiro Arr**	**48.89**	**339**	P		**P**		**03 07 18.4**	**-1.4**
2.5nm,0.7s,baz=163,slow=8.7,SNR=5.6									
MAJO	**Matsushiro**	**48.89**	**339**	*eP*		**P**		**03 07 18.6**	**-1.2**
6.2nm,0.7s									
KULM	**Kulim**	**58.55**	**282**	*eP*		**P**		**03 08 30.6**	**-0.4**
10.0nm,1.0s									
CMAR	**Chiang Mai Arr**	**64.02**	**296**	P		**P**		**03 09 08.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**64.02**	**296**	P		**P**		**03 09 08.3**	**+0.4**
2.4nm,0.3s,baz=118,slow=5.4,SNR=9.6									
ULN	**Ulaanbaatar**	**72.13**	**327**	*eP*		**P**		**03 09 59.3**	**+0.7**
3.1nm,1.0s									
SONM	**Songino Array**	**72.47**	**327**	P		**P**		**03 10 00.9**	**+0.4**
SONM	**Songino Array**	**72.47**	**327**	P		**P**		**03 10 00.9**	**+0.4**
1.3nm,0.8s,baz=132,slow=4.7,SNR=9.0									
MCK	**McKinley**	**83.01**	**21**	*eP*		**P**		**03 10 58.9**	**+0.1**
14nm,1.6s									
ILAR	**Eielson Array**	**84.34**	**21**	P		**P**		**03 11 05.5**	**-0.1**
ILAR	**Eielson Array**	**84.34**	**21**	P		**P**		**03 11 05.5**	**-0.1**
0.9nm,1.0s,baz=268,slow=3.9,SNR=5.8									
MK31	**Makanchi Array**	**86.66**	**318**	*eP*		**P**		**03 11 17.4**	**-0.3**
MKAR	**Makanchi Array**	**86.66**	**318**	P		**P**		**03 11 17.3**	**-0.3**
MKAR	**Makanchi Array**	**86.66**	**318**	P

0.5nm,0.8s,baz=224,slow=6.4,SNR=5.6
AKASG **Malin Array Be 146.48 324** PKPbc **PKPdf 03 44 56.6 -3.0**
0.2nm,0.3s,baz=45,slow=4.1,SNR=5.2
BRTR **Keskin Array B 148.22 304** PKPbc **PKPdf 03 45 03.9 +0.7**
0.3nm,0.6s,baz=133,slow=1.4,SNR=3.5
BRTR PKPab **PKiKP 03 45 08.7 +0.3**
0.6nm,0.6s,baz=119,slow=4.0,SNR=5.5
TORD Torodi Ar. Bea 166.58 192 PKPab **PKPab 03 46 29.4 -2.0**
0.7nm,1.0s,baz=185,slow=2.7,SNR=3.2

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*ISCJB **09** 03:28:04.2±0.9,4.5S±0.1×143.8E±0.2,h110km,mb3.6/5, Error ellipse: s-maj=25.5km s-min=15.5km az=170.8*
*IDC **09** 03:28:04.8±0.9,4.42S×143.86E,h101km±7km,mb3.4/5, mb1 3.6/7,mb1mx3.4/18,mbtmp3.4/7,Error ellipse: s-maj=34.2km s-min=17.6km az=87.0*
ISC 09 03:28:05.1±0.9,4.4S±0.1×143.9E±0.2,h110km,n8, σ1§17/10,mb3.7/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.95**	**147**	P		**Pn**		**03 29 30.6**	**-0.2**
	1.2nm,0.3s,baz=328,slow=19,SNR=2.1								
WRA	**Warramunga Arr**	**18.02**	**210**	P		**P**		**03 32 06.8**	**-0.8**
	0.8nm,0.3s,baz=34,slow=10,SNR=23								
ASAR	**Alice Springs**	**21.43**	**206**	P		**P**		**03 32 43.9**	**-0.7**
	1.7nm,0.5s,baz=32,slow=9.4,SNR=22								
VNDA	**Vanda**	**73.70**	**176**	P		**P**		**03 39 27.8**	**+1.4**
	0.9nm,0.8s,baz=336,slow=4.5,SNR=3.8								
MKAR	**Makanchi Array**	**74.30**	**321**	P		**P**		**03 39 31.5**	**+1.0**
	0.2nm,0.5s,baz=107,slow=4.8,SNR=4.9								
MKAR				pP		**pP**		**03 39 57.2**	**-1.1**
	0.5nm,0.6s,baz=107,slow=7.8,SNR=4.5								
ZALV	**Zalesovo Beam**	**76.02**	**329**	P		**P**		**03 39 41.2**	**+1.0**
	0.4nm,0.3s,baz=99,slow=4.5,SNR=3.2								
ZALV				pP		**pP**		**03 40 07.4**	**-0.7**
	0.7nm,0.7s,baz=131,slow=6.1,SNR=2.7								
ILAR	**Eielson Array**	**85.26**	**24**	P		**P**		**03 40 29.4**	**+0.2**
	0.9nm,0.7s,baz=258,slow=5.0,SNR=14								
ILAR				pP		**pP**		**03 40 56.1**	**-1.6**
	0.9nm,0.8s,baz=266,slow=5.3,SNR=5.8								
TORD	**Torodi Ar. Bea**	**141.67**	**286**	PKhKP		PKPpre		03 47 20.8	
	0.2nm,0.6s,baz=84,slow=2.5,SNR=3.2								

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*IDC **09** 03:54:23.4±1.7,5.13S×152.21E,h0km,mb3.5/5, mb1 3.8/5,mb1mx3.6/18,mbtmp3.5/5,Error ellipse: s-maj=83.0km s-min=24.6km az=126.0*
*ISCJB **09** 03:54:31.4±1.6,5.3S±0.4×152.2E±0.5,h70km,mb3.2/5, Error ellipse: s-maj=82.1km s-min=21.0km az=34.9*
ISC 09 03:54:32.6±1.7,5.3S±0.4×152.2E±0.5,h70km,n6,σ0§98/7, mb3.3/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**228**	P		**P**		**03 59 28.2**	**-0.1**
	0.7nm,0.6s,baz=53,slow=9.9,SNR=2.9								
ASAR	**Alice Springs**	**25.38**	**222**	P		**P**		**03 59 53.6**	**+0.1**
	0.4nm,0.7s,baz=58,slow=9.3,SNR=4.8								
MKAR	**Makanchi Array**	**80.27**	**319**	P		**P**		**04 06 36.3**	**+0.3**
	0.2nm,0.5s,baz=95,slow=7.2,SNR=4.8								
ILAR	**Eielson Array**	**82.83**	**22**	P		**P**		**04 06 47.6**	**-1.4**
	0.6nm,0.8s,baz=251,slow=5.0,SNR=8.0								
YKA	**Yellowknife Ar**	**96.14**	**28**	P		**P**		**04 07 53.7**	**+1.3**
	0.1nm,0.7s,baz=268,slow=5.1,SNR=3.9								
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc		**PKPbc**		**04 14 15.7**	**-0.2**
	0.7nm,0.7s,baz=71,slow=2.9,SNR=5.2								
TORD				PKPab		**PKPab**		**04 14 21.4**	**-0.1**
	0.7nm,0.7s,baz=75,slow=4.3,SNR=8.2								

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*ISCJB **09** 03:55:38.0±1.3,5.2S±0.2×152.2E±0.3,h40km,mb3.9/7, MS3.3/1,Error ellipse: s-maj=48.2km s-min=10.1km az=38.7*
*IDC **09** 03:55:38.5±7.1,5.27S×152.41E,h38km±59km,mb3.8/7, mb1 4.0/8,mb1mx3.8/19,mbtmp3.8/8,ML3.3/1,MS3.1/2, Ms1 3.1/2,ms1mx2.9/24,Error ellipse: s-maj=55.0km s-min=30.2km az=120.0*
ISC 09 03:55:38.7±1.5,5.3S±0.3×152.3E±0.3,h40km,n11, σ0§74/11,mb3.9/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.58**	**231**	Pn		**Pn**		**03 57 13.3**	**+0.3**
	3.7nm,0.3s,baz=42,slow=7.3,SNR=6.0								
PMG				Sn		**Sn**		**03 58 26.1**	**-0.7**
	5.7nm,0.3s,baz=148,slow=23,SNR=5.4								
HNR	**Honiara**	**8.60**	**119**	LR		LR		03 59 49.4	
	comp=Z,51nm,20.4s,baz=308,slow=29								
WRA	**Warramunga Arr**	**22.79**	**229**	P		**P**		**04 00 38.5**	**+0.3**
	3.4nm,0.6s,baz=52,slow=9.9,SNR=14								
ASAR	**Alice Springs**	**25.50**	**222**	P		**P**		**04 01 04.5**	**+1.0**
	2.6nm,0.7s,baz=59,slow=8.8,SNR=11								
STKA	**Stephens Creek**	**28.32**	**200**	LR		LR		04 11 40.4	
	comp=Z,76nm,18.3s,baz=206,slow=34								
SONM	**Songino Array**	**66.48**	**328**	P		**P**		**04 06 24.6**	**+0.2**
	1.7nm,1.1s,baz=161,slow=2.5,SNR=6.3								
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**		**04 07 46.4**	**+0.3**
	0.9nm,0.8s,baz=101,slow=5.0,SNR=6.6								
ZALV	**Zalesovo Beam**	**81.29**	**326**	P		**P**		**04 07 51.4**	**+0.7**
	0.4nm,0.4s,baz=152,slow=5.5,SNR=3.3								
ILAR	**Eielson Array**	**82.77**	**22**	P		**P**		**04 07 57.5**	**-0.8**
	1.7nm,0.8s,baz=247,slow=5.4,SNR=13								
YKA	**Yellowknife Ar**	**96.05**	**28**	P		**P**		**04 09 02.1**	**+0.4**
	0.3nm,0.8s,baz=271,slow=4.7,SNR=7.1								
TORD	**Torodi Ar. Bea**	**150.01**	**287**	PKPbc		**PKPbc**		**04 15 25.1**	**-1.0**
	0.5nm,0.5s,baz=88,slow=2.6,SNR=8.4								
TORD				PKPab		**PKPab**		**04 15 31.3**	**-0.6**
	2.2nm,0.8s,baz=77,slow=3.3,SNR=10								

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*ATH **09** 03:59:17.4,39.30N×21.51E,h26km±3km,MD2.7/10*
*THE **09** 03:59:17.9,39.26N×21.56E,h15km±1km,ML2.3/5,Error ellipse: s-maj=1.3km s-min=0.6km az=127.0*
*CSEM **09** 03:59:17.9±0.2,39.25N×21.54E,h20km,ML2.3,Error ellipse: s-maj=5.0km s-min=3.6km az=96.0*
*SKO **09** 03:59:18.3,39.33N×21.63E,h4km,M1.6,ML2.7*
ISC 09 03:59:17.5±1.0,39.28N±0.02×21.53E±0.02,h10km±8km, n48,σ0§81/86,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.42**	**149**	P		**Pg**		**03 59 25.7**	**-0.2**
EVR				S		**Sg**		**03 59 31.3**	**-0.2**
EVR	**Evrytania**	**0.42**	**149**	*e*PB		**Pg**		**03 59 26.6**	**+0.7**
EVR				*e*SB		**Sb**		**03 59 33.6**	**0.0**
EVR	**Evrytania**	**0.42**	**149**	P		**Pg**		**03 59 25.7**	**-0.2**
EVR	**Evrytania**	**0.42**	**149**	*e*Pb		**Pg**		**03 59 26.6**	**+0.7**
EVR				S		**Sg**		**03 59 31.3**	**-0.2**
EVR				*e*Sb		**Sb**		**03 59 33.6**	**0.0**
THL	**Klokotos Trika**	**0.47**	**53**	P		**Pg**		**03 59 26.3**	**-0.4**
THL				S		**Sb**		**03 59 34.6**	**-0.3**
THL	**Klokotos Trika**	**0.47**	**53**	*e*PB		**Pg**		**03 59 26.6**	**-0.1**
THL	**Klokotos Trika**	**0.47**	**53**	P		**Pg**		**03 59 26.3**	**-0.4**
THL	**Klokotos Trika**	**0.47**	**53**	*e*Pb		**Pg**		**03 59 26.6**	**-0.1**
THL				S		**Sb**		**03 59 34.6**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.54**	**120**	P		**Pg**		**03 59 27.5**	**-0.5**
MAKR				S		**Sg**		**03 59 35.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.54**	**120**	P		**Pg**		**03 59 27.5**	**-0.5**
MAKR				S		**Sg**		**03 59 35.3**	**+0.1**
JAN	**Janina**	**0.64**	**306**	*e*PB		**Pg**		**03 59 29.1**	**-0.9**
JAN				*e*SN		**Sg**		**03 59 39.3**	**+0.8**
JAN	**Janina**	**0.64**	**306**	*e*Pb		**Pg**		**03 59 29.1**	**-0.9**
JAN				*e*Sn		**Sg**		**03 59 39.3**	**+0.8**
PVO	**Paravola**	**0.66**	**180**	P		**Pg**		**03 59 30.4**	**0.0**
PVO				S		**Sb**		**03 59 40.1**	**-0.3**
PVO	**Paravola**	**0.66**	**180**	P		**Pg**		**03 59 30.4**	**0.0**
PVO				S		**Sb**		**03 59 40.1**	**-0.3**
AGG	**Agios Georgios**	**0.68**	**112**	P		**Pg**		**03 59 30.3**	**-0.3**
AGG	**Agios Georgios**	**0.68**	**112**	*e*PN		**Pg**		**03 59 30.7**	**+0.1**
AGG				*e*SN		**Sb**		**03 59 42.0**	**+1.2**
AGG	**Agios Georgios**	**0.68**	**112**	P		**Pg**		**03 59 30.3**	**-0.3**
AGG	**Agios Georgios**	**0.68**	**112**	*e*Pn		**Pg**		**03 59 30.7**	**+0.1**
AGG				*e*Sn		**Sb**		**03 59 42.0**	**+1.2**
PDO	**Prodromos**	**0.73**	**202**	P		**Pg**		**03 59 32.0**	**+0.3**
PDO				S		**Sg**		**03 59 42.0**	**+0.8**
PDO	**Prodromos**	**0.73**	**202**	*e*PN		**Pg**		**03 59 32.3**	**+0.6**
PDO				*e*SN		**Sb**		**03 59 43.3**	**+0.9**
PDO	**Prodromos**	**0.73**	**202**	P		**Pg**		**03 59 32.0**	**+0.3**
PDO	**Prodromos**	**0.73**	**202**	*e*Pn		**Pg**		**03 59 32.3**	**+0.6**
PDO				S		**Sg**		**03 59 42.0**	**+0.8**
PDO				*e*Sn		**Sb**		**03 59 43.3**	**+0.9**
LKD2	**Lefkada island**	**0.84**	**234**	P		**Pg**		**03 59 34.0**	**+0.3**
LKD2				S		**Sg**		**03 59 45.5**	**+0.9**
LKD2	**Lefkada island**	**0.84**	**234**	P		**Pg**		**03 59 34.0**	**+0.3**
LKD2				S		**Sg**		**03 59 45.5**	**+0.9**
EFP	**Efpalio**	**0.90**	**161**	P		**Pg**		**03 59 34.5**	**-0.4**
EFP				S		**Sg**		**03 59 46.9**	**+0.2**
EFP	**Efpalio**	**0.90**	**161**	*e*PN		**Pb**		**03 59 35.3**	**+0.1**
EFP				*e*SN		**Sn**		**03 59 49.0**	**-0.3**
EFP	**Efpalio**	**0.90**	**161**	P		**Pg**		**03 59 34.5**	**-0.4**
EFP	**Efpalio**	**0.90**	**161**	*e*Pn		**Pb**		**03 59 35.3**	**+0.1**
EFP				S		**Sg**		**03 59 46.9**	**+0.2**
EFP				*e*Sn		**Sn**		**03 59 49.0**	**-0.3**
KALE	**Kalithea**	**1.01**	**152**	P		**Pg**		**03 59 36.0**	**-0.9**
KALE	**Kalithea**	**1.01**	**152**	*e*PB		**Pg**		**03 59 36.6**	**-0.3**
KALE				*e*SN		**Sn**		**03 59 52.6**	**+0.6**
KALE	**Kalithea**	**1.01**	**152**	P		**Pg**		**03 59 36.0**	**-0.9**
KALE	**Kalithea**	**1.01**	**152**	*e*Pb		**Pg**		**03 59 36.6**	**-0.3**
KALE				*e*Sn		**Sn**		**03 59 52.6**	**+0.6**
LIT	**Litokhoron**	**1.10**	**42**	P		**Pb**		**03 59 38.0**	**-0.7**
LIT				S		**Sn**		**03 59 53.6**	**-0.8**
LIT	**Litokhoron**	**1.10**	**42**	*e*PN		**Pn**		**03 59 38.9**	**-0.2**
LIT				*e*SN		**Sn**		**03 59 54.8**	**+0.4**
LIT	**Litokhoron**	**1.10**	**42**	P		**Pb**		**03 59 38.0**	**-0.7**
LIT	**Litokhoron**	**1.10**	**42**	*e*Pn		**Pn**		**03 59 38.9**	**-0.2**
LIT				S		**Sn**		**03 59 53.6**	**-0.8**
LIT				*e*Sn		**Sn**		**03 59 54.8**	**+0.4**
DSF	**Desfina**	**1.17**	**138**	*e*PN		**Pn**		**03 59 40.0**	**+0.1**
DSF				*e*SN		**Sn**		**03 59 57.2**	**+1.3**
DSF	**Desfina**	**1.17**	**138**	*e*Pn		**Pn**		**03 59 40.0**	**+0.1**
DSF				*e*Sn		**Sn**		**03 59 57.2**	**+1.3**
XOR	**Xorichti**	**1.29**	**86**	*e*PB		**Pn**		**03 59 40.7**	**-0.9**
XOR	**Xorichti**	**1.29**	**86**	*e*Pb		**Pn**		**03 59 40.7**	**-0.9**
VLS	**Valsamata**	**1.32**	**214**	*e*PN		**Pn**		**03 59 39.1**	**-3.0**
VLS	**Valsamata**	**1.32**	**214**	*e*Pn		**Pn**		**03 59 39.1**	**-3.0**
BIA	**Bitola**	**1.74**	**355**	*e*Pn		**Pb**		**03 59 48.9**	**-0.7**
BIA				*e*Sn		**Sb**		**04 00 11.3**	**-0.3**
BIA	**Bitola**	**1.74**	**355**	*e*Pn		**Pb**		**03 59 48.9**	**-0.7**
BIA				*e*Sn		**Sb**		**04 00 11.2**	**-0.3**
VAY	**Valandovo**	**2.19**	**21**	*e*Pn		**Pn**		**03 59 55.1**	**+1.2**
VAY				*e*Sn		**Sn**		**04 00 22.4**	**+1.4**
VAY				*i* Lg		Lg		04 00 23.6	
	comp=E,5.0nm,0.8s								
VAY				*i* Lg		Lg		04 00 24.3	
	comp=N,16nm,1.0s								
VAY	**Valandovo**	**2.19**	**21**	*e*Pn		**Pn**		**03 59 55.1**	**+1.2**
VAY				*e*Sn		**Sn**		**04 00 22.4**	**+1.4**
VAY				*i* Lg		Lg		04 00 23.6	
	comp=N,5.0nm,0.8s								
SKO	**Skopje**	**2.69**	**359**	*e*Pn		**Pn**		**04 00 02.2**	**+1.3**
SKO				*e*Sn		**Sn**		**04 00 33.4**	**0.0**
SKO				*i* Lg		Lg		04 00 33.5	
	comp=N,30nm,1.2s								
SKO				*i* Lg		Lg		04 00 33.6	
	comp=E,12nm,0.9s								
SKO	**Skopje**	**2.69**	**359**	*e*Pn		**Pn**		**04 00 02.1**	**+1.3**
SKO				*e*Sn		**Sn**		**04 00 33.4**	**0.0**
SKO				*i* Lg		Lg		04 00 33.5	
	comp=E,30nm,1.2s								

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*IDC **09** 04:00:34.6±1.0,17.08S×65.31W,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.8/19,mbtmp3.8/5,ML4.1/2,Error ellipse: s-maj=32.2km s-min=25.9km az=39.0*
*ISCJB **09** 04:00:35.2±0.8,17.0S±0.1×65.16W±0.07,h14km,mb3.8/3, Error ellipse: s-maj=16.7km s-min=9.0km az=171.6*
ISC 09 04:00:35.4±0.8,17.0S±0.1×65.36W±0.07,h14km,n9, σ1§63/10,mb3.9/3,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.74**	**283**	Pn		**Pb**		**04 01 23.3**	**-1.3**
	14nm,0.3s,baz=85,slow=9.1,SNR=134								
LPAZ				Lg		Lg		04 01 58.3	
	183nm,0.3s,baz=248,slow=19,SNR=19								
SIV	**San Ignacio**	**4.22**	**78**	Pn		Pb		04 01 44.8	-4.6
	9.7nm,0.3s,baz=267,slow=9.1,SNR=284								
SIV				Pg		**Pg**		**04 01 55.8**	**-0.5**
	32nm,0.3s,baz=272,slow=14,SNR=48								
SIV				Sn		**Sn**		**04 02 26.5**	**-2.0**
	26nm,0.3s,baz=266,slow=13,SNR=7.6								
SIV				Lg		Lg		04 02 50.0	
	40nm,0.3s,baz=212,slow=22,SNR=11								
CPUP	**Villa Florida**	**11.95**	**143**	Pn		**Pn**		**04 03 26.2**	**+0.8**
	0.4nm,0.3s,baz=315,slow=14,SNR=3.2								
CFAA	**Coronel Fontan**	**14.83**	**190**	Pn		**P**		**04 04 10.0**	**-0.7**
	0.0nm,0.3s,baz=4.0,slow=11,SNR=4.9								
PLCA	**Paso Flores**	**24.13**	**190**	P		**P**		**04 05 50.1**	**-0.8**
	2.8nm,0.8s,baz=34,slow=6.6,SNR=5.6								
PDAR	**Pinedale Array**	**71.98**	**327**	P		**P**		**04 12 00.3**	**+1.3**
	0.2nm,0.5s,baz=126,slow=9.2,SNR=2.8								
TORD	**Torodi Ar. Bea**	**72.66**	**70**	P		**P**		**04 12 04.8**	**+1.5**
	1.7nm,0.6s,baz=260,slow=5.6,SNR=42								
ZALV	**Zalesovo Beam**	**136.43**	**25**	PKP		**PKPdf**		**04 19 58.9**	**+2.2**
	0.5nm,0.5s,baz=288,slow=1.4,SNR=3.4								
SONM	**Songino Array**	**148.46**	**11**	PKPbc		**PKPab**		**04 20 23.7**	**-1.4**
	0.7nm,0.7s,baz=288,slow=1.9,SNR=6.2								

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*BJI **09** 04:00:41.1,11.47N×142.74E,h57km,mB5.2/37,mb5.0/49, Ms4.5/42,Ms7 4.3/43*
*IDC **09** 04:00:43.0±0.4,12.26N×142.03E,h0km,mb4.7/22, mb1 4.8/22,mb1mx4.7/30,mbtmp4.7/22,MS4.0/29, Ms1 4.1/29,ms1mx4.0/40,Error ellipse: s-maj=19.6km s-min=10.4km az=79.0*
*MOS **09** 04:00:47.8±1.1,12.20N×141.89E,h50km,mb5.1/36,Error ellipse: s-maj=11.0km s-min=6.3km az=110.8*
*ISCJB **09** 04:00:48.9±0.9,12.16N±0.03×142.04E±0.04,h62km±8km, mb4.9/95,Error ellipse: s-maj=6.9km s-min=5.7km az=5.4*
*NEIC **09** 04:00:50.5±1.0,12.19N×141.98E,h59km±9km,mb4.9/49, Error ellipse: s-maj=6.0km s-min=4.6km az=79.0*
ISC 09 04:00:51.0±0.4,12.18N±0.05×141.99E±0.05,h62km±2km, n213,σ1§30/257,mb4.9/95,3C-7D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.14**	**63**	*e*Pn		**Pn**		**04 01 37.2**	**-0.8**
GUMO				*e*Sn		**Sn**		**04 02 18.8**	**-0.5**
FAKI	**Fak Fak**	**17.85**	**213**	*e*Pn		**P**		**04 04 55.2**	**0.0**
JOW	**Kunigami**	**19.46**	**321**	*e*P		**Pn**		**04 05 14.9**	**+0.5**
TGY	**Tagaytay City**	**20.59**	**278**	P		**P**		**04 05 24.9**	**-0.4**
TGY	**Tagaytay City**	**20.59**	**278**	P		**P**		**04 05 24.9**	**-0.4**
	108nm,0.3s,baz=68,slow=5.4,SNR=3.1								
PMG	**Port Moresby**	**22.05**	**166**	*e*P		**P**		**04 05 38.3**	**-2.4**
	80nm,1.4s								
PMG	**Port Moresby**	**22.05**	**166**	P		**P**		**04 05 40.6**	**-0.1**
	8.1nm,0.6s,baz=45,slow=10,SNR=3.3								
PMG				LR		LR		04 14 16.2	
	comp=Z,391nm,18.1s,baz=205,slow=37								
YULB	**Yu-li**	**22.61**	**302**	*e*P		**P**		**04 05 47.4**	**+0.6**
	133nm,1.4s								
NACB	**Ninganchiao**	**22.72**	**304**	*e*P		**P**		**04 05 47.5**	**-0.4**
	76nm,1.1s								
SSLB	**Suanglung**	**23.07**	**303**	*e*P		**P**		**04 05 52.5**	**+1.0**
	231nm,1.1s								
TPUB	**Ta-pu**	**23.12**	**301**	*e*P		**P**		**04 05 52.5**	**+0.4**
	84nm,1.1s								
YHNB	**Yeheng**	**23.13**	**305**	*e*P		**P**		**04 05 52.9**	**+0.7**
	121nm,1.0s								
LUWI	**Luwuk**	**23.17**	**237**	*e*P		**P**		**04 05 50.0**	**-2.5**
JNU	**Nakatsue**	**23.20**	**336**	*e*P		**P**		**04 05 52.6**	**0.0**
	24nm,0.8s								
JNU	**Nakatsue**	**23.20**	**336**	P		**P**		**04 05 52.1**	**-0.6**
	46nm,0.7s,baz=131,slow=4.5,SNR=35								
JNU				LR		LR		04 13 28.0	
	comp=Z,262nm,18.1s,baz=154,slow=33								
MJAR	**Matsushiro Arr**	**24.50**	**353**	P		**P**		**04 06 03.3**	**-1.2**
MJAR	**Matsushiro Arr**	**24.50**	**353**	P		**P**		**04 06 03.3**	**-1.2**
	10.0nm,0.8s,baz=184,slow=9.9,SNR=13								
MJAR				LR		LR		04 14 26.1	
	comp=Z,202nm,21.6s,baz=155,slow=34								
MAJO	**Matsushiro**	**24.50**	**353**	↓*i* P		**P**		**04 06 04.6**	**+0.1**
MAJO				pmax		pmax			
	comp=Z,288nm,2.1s								
MAJO	**Matsushiro**	**24.50**	**353**	*e*P		**P**		**04 06 02.9**	**-1.6**
	comp=Z,40nm,1.0s								
MAT	**Matsushiro**	**24.50**	**353**	P		**P**		**04 06 02.6**	**-1.9**
MAT				S		S		04 10 32.0	+11
H11S3	**WAKE ISLAND Hy**	**24.61**	**72**	T		T		04 31 42.2	
	baz=260,slow=63,SNR=24								
H11S1	**WAKE ISLAND Hy**	**24.63**	**72**	T		T		04 31 42.3	
	baz=260,slow=63,SNR=23								
H11S2	**WAKE ISLAND Hy**	**24.63**	**72**	T		T		04 31 42.7	
	baz=260,slow=63,SNR=23								
H11N1	**WAKE ISLAND Hy**	**25.06**	**69**	T		T		04 32 15.5	
	baz=258,slow=75,SNR=17								
H11N2	**WAKE ISLAND Hy**	**25.07**	**69**	T		T		04 32 16.5	
	baz=258,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy**	**25.08**	**69**	T		T		04 32 16.9	
	baz=258,slow=75,SNR=17								
COEN	**Coen**	**25.99**	**177**	*e*P		**P**		**04 06 17.6**	**-0.6**
KKM	**Kota Kinabalu**	**26.16**	**259**	*e*P		**P**		**04 06 19.3**	**-0.6**
	comp=Z,48nm,1.3s								
SSE	**Sheshan**	**26.90**	**318**	P		**P**		**04 06 27.2**	**+0.9**
SSE				sP		**sP**		**04 06 48.1**	**-0.6**
SSE				S		**S**		**04 11 01.3**	**+2.5**
SSE				pmax		pmax			
	comp=Z,44nm,0.9s								
SSE				pmax		pmax			
	comp=Z,100nm,5.2s								
SSE				LR		LR			
	comp=Z,200nm,17.0s								
SSE				LR		LR			
	comp=Z,270nm,17.0s								
SSE				LR		LR			
	comp=Z,380nm,19.2s								
HNR	**Honiara**	**27.92**	**139**	LR		LR		04 15 39.9	
	comp=Z,191nm,19.7s,baz=321,slow=32								
KAPI	**Kappang**	**27.94**	**234**	*e*P		**P**		**04 06 34.2**	**-1.5**
	comp=Z,126nm,0.9s								
KSRS	**Korea Array**	**28.15**	**336**	P		**P**		**04 06 36.9**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=147,slow=9.1,SNR=16								
KSRS				LR		LR		04 16 00.8	
	comp=Z,222nm,21.9s,baz=152,slow=33								
KSAR	**Wonju Array Be**	**28.16**	**336**	P		**P**		**04 06 36.9**	**-0.6**
NJ2	**Nanjing**	**29.05**	**317**	*e*P		**P**		**04 06 46.8**	**+1.4**
NJ2				S		**S**		**04 11 30.5**	**-2.1**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
NJ2				LR		LR			
	comp=Z,400nm,13.0s								
NJ2				LR		LR			
	comp=Z,210nm,11.0s								
NJ2				LR		LR			
	comp=Z,430nm,26.6s								
WHN	**Wuhan**	**31.43**	**310**	P		P		04 07 13.4	+6.9
WHN				S		**S**		**04 12 12.2**	**+2.2**
WHN				LR		LR			
	comp=Z,1μm,20.8s								
QIZ	**Qiongzhong**	**31.67**	**286**	P		**P**		**04 07 09.0**	**+0.2**
QIZ				S		**S**		**04 12 14.5**	**+0.5**
QIZ				pmax		pmax			
	comp=Z,17nm,1.4s								
QIZ				LR		LR			
	comp=Z,200nm,23.6s								
QIZ				LR		LR			
	comp=Z,510nm,25.7s								
YUK	**Yuzh-Kuril'sk**	**31.92**	**5***c*	*i*P		P		04 07 18.7	+8.1
YUK				*i* *PP		pP		04 07 34.8	+8.9
YUK				*i* SS		SS		04 14 39.3	+2.9
YUK				MLR		MLR			
	comp=N,305nm,20.0s								
YUK				MLR		MLR			
	comp=Z,194nm,20.0s								
CTA	**Charters Tower**	**32.34**	**172**	P		**P**		**04 07 15.3**	**+0.7**
CTA	**Charters Tower**	**32.34**	**172**	P		**P**		**04 07 15.3**	**+0.7**
	comp=Z,13nm,0.8s,baz=310,slow=1.9,SNR=7.2								
CTAO	**Charters Tower**	**32.34**	**172**	*e*P		**P**		**04 07 15.2**	**+0.7**
CTAO				pmax		pmax			
	comp=Z,23nm,1.0s								
CTAO	**Charters Tower**	**32.34**	**172**	*e*P		**P**		**04 07 15.2**	**+0.7**
	comp=Z,23nm,1.0s								
DLV	**T Lat**	**32.76**	**273**	*e*P		**P**		**04 07 19.1**	**+0.5**
WRAB	**Tennant Creek**	**32.78**	**193**	↑*i*P		**P**		**04 07 16.8**	**-1.7**
WRAB				pmax		pmax			
	comp=Z,100nm,1.1s								
WRAB	**Tennant Creek**	**32.78**	**193**	*e*P		**P**		**04 07 18.1**	**-0.4**
	comp=Z,34nm,1.0s								
WRA	**Warramunga Arr**	**32.80**	**193**	P		**P**		**04 07 18.1**	**-0.4**
WRA				PcP		**PcP**		**04 10 03.4**	**+0.8**
WRA	**Warramunga Arr**	**32.80**	**193**	P		**P**		**04 07 18.1**	**-0.4**
	comp=Z,17nm,0.8s,baz=11

XAN S **S** **04 13 35.7 -2.4**
XAN LR LR
comp=Z,160nm,17.4s
XAN LR LR
comp=Z,93nm,19.4s
XAN LR LR
comp=Z,120nm,22.5s
SLVN Son La 37.51 289 *e*P **P** **04 07 59.6 +0.4**
comp=Z,6.2nm,0.8s
KLR Kul'dur 37.90 349 *e*P P 04 07 57.8 -4.3
HHC Hu-ho-hao-te 39.09 322 *e*P **P** **04 08 12.9 +0.6**
HHC pP **pP** **04 08 27.2 -0.7**
HHC sP **sP** **04 08 32.0 -3.1**
HHC PP **PnPn** **04 09 47.7 +1.7**
HHC S **S** **04 14 09.1 +1.5**
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,410nm,6.5s
HHC LR LR
comp=Z,440nm,14.7s
HHC LR LR
comp=Z,440nm,14.9s
HHC LR LR
comp=Z,540nm,13.9s
KMI Kunming 39.21 295 P **P** **04 08 14.9 +1.2**
KMI pP **pP** **04 08 30.4 +1.1**
KMI PP **PnPn** **04 09 50.2 +2.5**
KMI S **S** **04 14 10.9 +0.9**
KMI sS **sS** **04 14 39.2 +2.8**
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI LR LR
comp=Z,160nm,11.1s
KMI LR LR
comp=Z,160nm,16.1s
KMI LR LR
comp=Z,300nm,29.1s
MBWA Marble Bar 39.70 214 *e*P **P** **04 08 16.0 -1.4**
CD2 Chengdu 39.89 304 ⇓*i*P **P** **04 08 19.1 0.0**
CD2 pP **pP** **04 08 35.5 +0.8**
CD2 sP **sP** **04 08 43.2 +1.3**
CD2 PP **PnPn** **04 09 56.6 +1.0**
CD2 S **S** **04 14 20.1 +0.4**
CD2 sS **sS** **04 14 47.3 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,160nm,7.2s
CD2 LR LR
comp=Z,210nm,11.9s
CD2 LR LR
comp=Z,230nm,15.5s
CD2 LR LR
comp=Z,260nm,15.5s
KULM Kulim 41.39 264 *e*P **P** **04 08 30.6 -1.0**
comp=Z,7.3nm,0.8s
DZM Mont Dzumac 41.64 145 *e*P **P** **04 08 35.0 +1.4**
comp=Z,58nm,1.1s
DZM Mont Dzumac 41.64 145 *e*LR LR 04 20 02.1
comp=Z,530nm,26.4s
DZM Mont Dzumac 41.64 145 P **P** **04 08 35.4 +1.8**
DZM Mont Dzumac 41.64 145 P **P** **04 08 35.4 +1.8**
comp=Z,22nm,1.0s,baz=353,slow=8.8,SNR=5.4
LZH Lanzhou 41.77 311 *e*P **P** **04 08 34.7 0.0**
LZH pP **pP** **04 08 50.2 -0.2**
LZH sP **sP** **04 08 57.3 -0.3**
LZH PP **PnPn** **04 10 15.8 -1.9**
LZH *e*S S 04 14 58.0 +10
LZH sS **sS** **04 15 14.8 +0.3**
LZH pmax pmax
comp=Z,65nm,1.5s
LZH pmax pmax
comp=Z,200nm,5.8s
LZH LR LR
comp=Z,360nm,14.0s
LZH LR LR
comp=Z,470nm,13.5s
LZH LR LR
comp=Z,670nm,16.0s
CMAR Chiang Mai Arr 41.91 284 P **P** **04 08 36.0 +0.1**
CMAR PcP **PcP** **04 10 31.4 +0.8**
CMAR Chiang Mai Arr 41.91 284 P **P** **04 08 36.0 +0.1**
comp=Z,3.7nm,0.5s,baz=85,slow=6.4,SNR=16
CMAR PcP **PcP** **04 10 31.4 +0.8**
comp=Z,2.1nm,0.4s,baz=96,slow=2.2,SNR=4.9
CMAR LR LR 04 24 42.7
comp=Z,249nm,18.4s,baz=286,slow=34
PETK Petropavlovsk- 42.72 14 LR LR 04 26 55.1
comp=Z,119nm,18.0s,baz=198,slow=37
STKA Stephens Creek 43.80 180 *e*P **P** **04 08 50.4 -0.5**
comp=Z,2.8nm,1.1s
STKA Stephens Creek 43.80 180 P **P** **04 08 50.8 -0.1**
comp=Z,9.3nm,0.8s,baz=350,slow=8.1,SNR=18
STKA LR LR 04 27 03.6
comp=Z,199nm,18.1s,baz=17,slow=36
FORT Forrest 44.76 197 *e*P **P** **04 08 58.9 +0.4**
comp=Z,64nm,0.8s
BBOO Buckleboo 45.09 187 *e*P **P** **04 09 01.1 +0.1**
comp=Z,774nm,0.9s
GSI Gunungsitoli 45.33 260 *e*P **P** **04 09 00.8 -2.6**
comp=Z,12nm,0.8s
ULN Ulaanbaatar 46.00 328 *e*P **P** **04 09 08.9 +0.6**
comp=Z,38nm,1.0s
GTA Gaotai 46.06 314 *e*P **P** **04 09 08.7 -0.2**
GTA pP **pP** **04 09 24.3 -0.6**
GTA sP **sP** **04 09 30.8 -1.2**
GTA PcP **PcP** **04 10 45.0 +0.5**
GTA S **S** **04 15 49.9 -0.2**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,150nm,17.8s
GTA LR LR
comp=Z,230nm,18.3s
GTA LR LR
comp=Z,260nm,18.3s
SONM Songino Array 46.33 327 P **P** **04 09 11.3 +0.5**
SONM PcP **PcP** **04 10 44.6 -0.6**
SONM Songino Array 46.33 327 P **P** **04 09 11.3 +0.5**
comp=Z,12nm,1.1s,baz=132,slow=9.0,SNR=55
SONM PcP **PcP** **04 10 44.6 -0.6**
comp=Z,1.0nm,0.6s,baz=149,slow=4.6,SNR=4.9
SONM LR LR 04 27 13.4
comp=Z,245nm,20.2s,baz=141,slow=34
ZAK Zakamensk 49.50 328 *e*P **P** **04 09 35.1 -0.2**
ZAK pmax pmax
comp=Z,37nm,1.2s
TLY Talaya 50.10 330 *e*P **P** **04 09 40.4 +0.6**
TLY pmax pmax
comp=Z,23nm,1.3s
TLY Talaya 50.10 330 *e*P **P** **04 09 40.4 +0.6**
comp=Z,23nm,1.3s
IRK Irkutsk 50.14 331 *e*P **P** **04 09 39.7 -0.4**
IRK pmax pmax
comp=Z,42nm,0.9s
NWAO Narrogin (SRO) 50.70 207 P **P** **04 09 44.4 -0.1**
NWAO Narrogin (SRO) 50.70 207 P **P** **04 09 44.4 -0.1**
comp=Z,5.9nm,0.7s,baz=49,slow=6.8,SNR=5.7
SEY Seymchan 51.22 6⇑ *e*P **P** **04 09 48.7 +0.8**
SEY Seymchan 51.22 6 P **P** **04 09 47.9 -0.1**
SEY Seymchan 51.22 6 P **P** **04 09 47.9 -0.1**
comp=Z,3.2nm,0.8s,baz=344,slow=23,SNR=3.9
MOY Mondy 51.42 328 *e*P **P** **04 09 50.4 +0.6**
WMQ Urumqi 56.11 315 P **P** **04 10 24.5 +0.3**
WMQ pP **pP** **04 10 39.4 -1.1**
WMQ sP **sP** **04 10 43.8 -3.7**
WMQ PcP **PcP** **04 11 21.4 -0.2**
WMQ PP **PP** **04 12 30.3 +0.6**
WMQ ScP **ScP** **04 15 13.9 -1.7**
WMQ S **S** **04 18 07.7 -0.9**
WMQ ScS **ScS** **04 20 09.1 +1.1**
WMQ pmax pmax
comp=Z,28nm,1.0s
WMQ pmax pmax
comp=Z,150nm,5.1s
WMQ LR LR
comp=Z,130nm,21.4s
WMQ LR LR
comp=Z,200nm,21.4s
WMQ LR LR
comp=Z,270nm,21.4s
TIXI Tiksi 59.97 355 ⇓P **P** **04 10 49.5 -1.1**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 59.97 355 *e*P **P** **04 10 49.4 -1.2**
comp=Z,4.3nm,0.9s
MK31 Makanchi Array 60.58 317 *e*P **P** **04 10 55.2 0.0**
MK31 Makanchi Array 60.58 317 *e*P **P** **04 10 55.2 0.0**
MKAR Makanchi Array 60.58 317 *i*P **P** **04 10 54.2 -1.0**
MKAR pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 60.58 317 P **P** **04 10 55.2 0.0**
MKAR Makanchi Array 60.58 317 P **P** **04 10 55.2 0.0**
comp=Z,15nm,0.9s,baz=95,slow=7.4,SNR=8.5
MKAR LR LR 04 37 33.1
comp=Z,182nm,18.4s,baz=278,slow=36
ZAA0 Zalesovo Array 61.16 325 *e*P **P** **04 10 58.1 -0.9**
ZALV Zalesovo Beam 61.16 325 *i*P **P** **04 10 58.2 -0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 61.16 325 P **P** **04 10 58.3 -0.6**
ZALV Zalesovo Beam 61.16 325 P **P** **04 10 58.3 -0.6**
comp=Z,7.5nm,0.8s,baz=110,slow=6.4,SNR=36
ZALV LR LR 04 39 55.5
comp=Z,121nm,18.1s,baz=251,slow=38
RPZ Rata Peaks 61.62 156 *e*P **P** **04 11 01.3 -0.8**
comp=Z,57nm,1.3s
RPZ Rata Peaks 61.62 156 LR LR 04 34 13.5
comp=Z,126nm,19.3s,baz=322,slow=33
TNA Tin City 63.15 21 *e*P **P** **04 11 11.8 -0.3**
comp=Z,18nm,1.5s
KURK Kurchatov 63.87 321 *e*P **P** **04 11 16.4 -0.7**
KURK pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 63.87 321 *e*P **P** **04 11 16.4 -0.7**
comp=Z,22nm,0.8s
KSH Kashi 63.88 308 P **P** **04 11 20.0 +2.4**
KSH *e*PP **PP** **04 13 41.5 +2.9**
KSH *e*PcS 04 15 57.8
KSH *e*S **S** **04 19 48.7 0.0**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH pmax pmax
comp=Z,59nm,4.4s
KSH LR LR
comp=Z,81nm,7.4s
KSH LR LR
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,140nm,5.9s
TKM2 Tokmak 2 64.54 312 *e*P **P** **04 11 21.7 -0.3**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 64.54 312 *e*P **P** **04 11 21.7 -0.3**
comp=Z,8.1nm,1.1s
AAK Ala-Archa 65.32 311⇓*e*P **P** **04 11 26.4 -0.5**
AAK pmax pmax
comp=Z,27nm,2.5s
AAK Ala-Archa 65.32 311 *e*P **P** **04 11 26.4 -0.5**
comp=Z,6.4nm,1.1s
EKS2 Erkin-Say 65.85 311 *e*P **P** **04 11 29.9 -0.4**
EKS2 pmax pmax
comp=Z,17nm,1.4s
EKS2 Erkin-Say 65.85 311 *e*P **P** **04 11 29.9 -0.4**
comp=Z,17nm,1.4s
RSO Redoubt South 67.36 29 *e*P **P** **04 11 38.3 -1.5**
comp=Z,35nm,1.0s
KKAR Karatay Array 68.27 312 *e*P **P** **04 11 45.0 -0.6**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 68.27 312 *e*P **P** **04 11 45.0 -0.6**
comp=Z,4.2nm,0.9s
KTH Kashina Hill 69.03 26 *e*P **P** **04 11 48.9 -1.0**
comp=Z,23nm,1.3s
KBL Kabul 69.21 302 *e*P **P** **04 11 50.5 -1.3**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 69.21 302 *e*P **P** **04 11 50.5 -1.3**
comp=Z,5.7nm,0.6s
TRF Thorofare Moun 69.28 26 *e*P **P** **04 11 50.3 -1.3**
comp=Z,107nm,2.1s
BVA0 Borovoye Array 69.30 322 *i*P **P** **04 11 51.1 -0.6**
BVA0 pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 69.37 322 *d*iP **P** **04 11 52.0 -0.1**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 69.37 322 *e*P **P** **04 11 51.8 -0.4**
comp=Z,28nm,1.0s
MCK McKinley 69.93 26 *e*P **P** **04 11 53.9 -1.6**
MCK pmax pmax
comp=Z,9.0nm,1.1s
MCK McKinley 69.93 26 *e*P **P** **04 11 53.9 -1.6**
comp=Z,7.7nm,1.1s
COLD Coldfoot 70.32 23 *e*P **P** **04 11 57.9 +0.2**
comp=Z,10nm,1.1s
COLA College 70.66 25 *e*P **P** **04 11 59.0 -0.8**
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA College 70.66 25 *e*P **P** **04 11 59.0 -0.8**
comp=Z,4.2nm,0.9s
ILAR Eielson Array 71.04 25 P **P** **04 12 00.4 -1.7**
ILAR Eielson Array 71.04 25 P **P** **04 12 00.4 -1.7**
comp=Z,4.0nm,0.7s,baz=251,slow=5.3,SNR=49
ILAR LR LR 04 40 53.4
comp=Z,167nm,19.3s,baz=300,slow=34
DOT Dot Lake 72.05 27 *e*P **P** **04 12 07.1 -1.2**
comp=Z,11nm,0.9s
PPT Papeete 73.74 112 LR LR 04 38 08.4
comp=Z,90nm,19.4s,baz=263,slow=30
PPT2 Papeete2 73.75 112 *e*S **S** **04 21 51.0 +5.0**
comp=Z,101nm,25.0s
PPT2 Papeete2 73.75 112 *e*LR LR 04 34 50.9
comp=Z,518nm,31.0s
SVE Sverdlovsk 75.17 326⇓*i*P **P** **04 12 26.8 +0.1**
SVE pmax pmax
comp=Z,15nm,1.3s
AB31 Akbulak array 75.70 318 *i*P **P** **04 12 28.9 -1.0**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 75.70 318 *e*P **P** **04 12 28.7 -1.1**
comp=Z,5.1nm,0.6s
TBI Tubuai 75.75 118 *e*LR LR 04 35 25.9
comp=Z,386nm,35.5s
ARU Arti 76.33 325*d*iP **P** **04 12 32.3 -0.9**
ARU S **S** **04 22 14.2 +1.0**
ARU SS **SS** **04 27 06.6 -1.4**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 76.33 325 *e*P **P** **04 12 32.5 -0.7**
comp=Z,8.2nm,0.8s
INK Inuvik 76.73 22 *e*P **P** **04 12 34.0 -1.3**
comp=Z,12nm,1.6s
AKTO Aktyubinsk 76.89 319 LR LR 04 48 44.7
comp=Z,145nm,18.2s,baz=74,slow=38
PRGR Permogore 82.39 331 *e*P P 04 13 02.9 -3.2
PRGR pmax pmax
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 84.97 350 LR LR 04 49 60.0
comp=Z,83nm,20.1s,baz=55,slow=35
YKA Yellowknife Ar 85.39 27 P **P** **04 13 20.9 -0.5**
YKA Yellowknife Ar 85.39 27 P **P** **04 13 20.9 -0.5**
comp=Z,1.0nm,0.8s,baz=288,slow=5.0,SNR=14
VRHR Novokhopersk 87.04 322 *e*P P 04 13 25.7 -4.1
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,3.0nm,0.8s
VRHR pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 87.55 342 P **P** **04 13 30.9 -1.0**
ARCES ARCESS Array B 87.55 342 P **P** **04 13 30.9 -1.0**
comp=Z,2.1nm,0.6s,baz=72,slow=7.8,SNR=11
ARCES LR LR 04 57 33.6
comp=Z,122nm,18.5s,baz=213,slow=39
GNI Garni 87.71 310 *e*P **P** **04 13 33.8 +0.3**
comp=Z,17nm,1.4s
GNI Garni 87.71 310 LR LR 04 56 51.5
comp=Z,88nm,18.7s,baz=100,slow=38
BEKR Beckworth 88.07 50 *e*P **P** **04 13 35.4 +0.1**
comp=Z,3.0nm,0.8s
NEW Newport 88.14 41 *e*P **P** **04 13 36.0 +0.8**
comp=Z,8.2nm,1.3s
KBZ Khabaz 88.15 314 LR LR 04 56 22.4
comp=Z,133nm,19.0s,baz=150,slow=38
JOF Joensuu 88.38 335 *e*P **P** **04 13 33.9 -2.0**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 88.38 335 *ep* **P** **04 13 33.9 -2.0**
comp=Z,7.0nm,0.6s
RKT Rikitea 88.43 114 *e*LR LR 04 41 44.7
comp=Z,243nm,29.0s
VORD Divnogorie 88.48 322 *e*P **P** **04 13 33.5 -3.2**
VORD pmax pmax
comp=N,5.0nm,0.9s
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD pmax pmax
comp=E,4.0nm,0.8s
VSR Storozhevoye 88.48 322 *e*P **P** **04 13 33.7 -3.0**
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
WVOR Wild Horse Val 88.68 47 *e*P **P** **04 13 38.2 +0.2**
WVOR pmax pmax
comp=Z,6.0nm,0.8s
WVOR Wild Horse Val 88.68 47 *e*P **P** **04 13 38.2 +0.2**
comp=Z,5.7nm,0.8s
OBN Obninsk 88.73 326 *e*P **P** **04 13 35.9 -1.8**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 88.73 326 LR LR 04 55 06.0
comp=Z,113nm,18.5s,baz=270,slow=37
NVAR Mina Array Bea 89.98 51 P **P** **04 13 45.0 +0.6**
NVAR Mina Array Bea 89.98 51 P **P** **04 13 45.0 +0.6**
comp=Z,5.0nm,0.7s,baz=273,slow=5.6,SNR=48
VNDA Vanda 90.26 176 *e*P **P** **04 13 45.1 +0.8**
comp=Z,9.8nm,1.5s
VNDA Vanda 90.26 176 P **P** **04 13 44.8 +0.4**
comp=Z,2.1nm,1.0s,baz=329,slow=8.7,SNR=3.6
KAF Kangasniemi 90.82 335 *e*P **P** **04 13 45.1 -2.3**
KAF pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 90.82 335 *ep* **P** **04 13 45.1 -2.3**
comp=Z,8.0nm,0.8s
FINES FINESS Array B 91.23 334 P **P** **04 13 47.2 -2.1**
FINES FINESS Array B 91.23 334 P **P** **04 13 47.2 -2.1**
comp=Z,8.0nm,0.6s,baz=63,slow=5.2,SNR=49
FINES LR LR 04 58 02.6
comp=Z,146nm,19.9s,baz=31,slow=38
HLID Hailey 91.33 45 *e*P **P** **04 13 51.3 +0.9**
comp=Z,2.8nm,1.0s
DUG Dugway 93.53 48 *e*P **P** **04 14 00.3 -0.3**
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway 93.53 48 *e*P **P** **04 14 00.3 -0.3**
comp=Z,2.6nm,0.9s
SIM Simferopol' 93.76 317 P P 04 13 54.1 -7.2
SIM pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 94.52 324 P **P** **04 14 02.3 -2.4**
AKASG Malin Array Be 94.52 324 P **P** **04 14 02.2 -2.4**
AKASG Malin Array Be 94.52 324 P **P** **04 14 02.3 -2.4**
comp=Z,0.1nm,0.3s,baz=55,slow=4.8,SNR=4.0
AKASG LR LR 04 59 17.7
comp=Z,194nm,18.2s,baz=65,slow=37
PDAR Pinedale Array 94.94 45 LR LR 04 55 29.8
comp=Z,73nm,18.5s,baz=154,slow=35
BRTR Keskin Array B 95.97 313 LR LR 05 03 59.1
comp=Z,47nm,18.6s,baz=52,slow=40
NOA NORSAR Array B 97.34 338 LR LR 05 03 40.9
comp=Z,55nm,19.9s,baz=45,slow=39
CSS Prodhromos 97.90 308 *e*P **P** **04 14 19.6 -0.9**
comp=Z,1.6nm,1.0s
BUR08 Bucovina Ar. S 98.26 322 *e*P Pdif 04 14 21.8 -0.1
EIL Elat 98.40 303 LR LR 05 03 06.1
comp=Z,76nm,18.1s,baz=197,slow=38
MLR Muntele Rosu 98.80 320 LR LR 05 01 50.7
comp=Z,31nm,20.0s,baz=51,slow=37
LBTB Lobatse 118.85 248 *e*PKPdf **PKPdf** **04 19 33.4 +0.1**
TAM Tamanrasset 124.99 309 *e*PKIKP **PKPdf** **04 19 45.8 +0.5**
TAM Tamanrasset 124.99 309 *e*PKPdf **PKPdf** **04 19 45.8 +0.5**
TORD Torodi Ar. Bea 133.27 301 PKP **PKPdf** **04 20 00.3 -0.6**
TORD Torodi Ar. Bea 133.27 301 PKP **PKPdf** **04 20 00.3 -0.6**
comp=Z,3.7nm,0.9s,baz=44,slow=3.0,SNR=15
OTAV Otavalo 138.01 76 *e*PKPdf **PKPdf** **04 20 09.7 -0.8**
PLCA Paso Flores 139.69 141 *e*PKPdf **PKPdf** **04 20 12.6 +0.3**
PLCA Paso Flores 139.69 141 PKP **PKPdf** **04 20 13.6 +1.3**
comp=Z,5.3nm,0.9s,baz=197,slow=3.6,SNR=6.6
ATAH Atahualpa 139.90 87 PKP **PKPdf** **04 20 15.4 +1.6**
ATAH Atahualpa 139.90 87 PKP **PKPdf** **04 20 15.4 +1.6**
comp=Z,3.7nm,0.6s,baz=330,slow=9.4,SNR=4.4
NNA Nana 142.05 94 *e*PKPdf **PKPdf** **04 20 17.2 0.0**
DBIC Dimbokro 142.09 298 *e*PKPdf **PKPdf** **04 20 16.6 -0.6**
DBIC Dimbokro 142.09 298 PKhKP PKPpre 04 20 12.2
comp=Z,8.9nm,1.1s,baz=90,slow=7.0,SNR=4.3
LCO Las Campanas 145.28 124 *e*PKPbc **PKPdf** **04 20 24.3 +1.5**
CFAA Coronel Fontan 146.11 130 PKPbc **PKPbc** **04 20 24.9 +0.1**
CFAA Coronel Fontan 146.11 130 PKPbc **PKPbc** **04 20 24.9 +0.1**
comp=Z,2.9nm,1.1s,baz=256,slow=1.7,SNR=3.5
TRQA Tornquist 146.51 144 *e*PKPbc **PKPbc** **04 20 25.9 +0.2**
LVC Limon Verde 148.80 114 *e*PKPbc **PKPbc** **04 20 34.4 +1.7**
LPAZ La Paz 150.53 102 *e*PKPdf **PKPdf** **04 20 33.5 +1.4**
LPAZ *e*PKPbc **PKiKP** **04 20 39.2 +0.9**
LPAZ *e*PKPab **PKPab** **04 20 46.1 +1.7**
LPAZ La Paz 150.53 102 PKP **PKPdf** **04 20 33.9 +1.8**
comp=Z,8.2nm,1.1s,baz=7.0,slow=2.7,SNR=14
LPAZ PKPbc **PKiKP** **04 20 39.1 +0.8**
comp=Z,41nm,0.7s,baz=276,slow=2.1,SNR=93
SAML Samuel 155.05 85 *e*PKPdf **PKPdf** **04 20 38.4 +0.3**
SAML *e*PKPbc PKPbc 04 20 47.0
SAML *e*PKPab **PKPab** **04 21 02.3 -0.4**
CPUP Villa Florida 157.00 131 *e*PKPdf **PKPdf** **04 20 39.5 -0.7**
CPUP *e*PKPab **PKPab** **04 21 11.8 +1.1**
SIV San Ignacio 157.31 102 PKP **PKPdf** **04 20 42.2 +1.2**
SIV PKPab **PKPab** **04 21 13.1 +0.6**
SIV San Ignacio 157.31 102 PKP **PKPdf** **04 20 42.2 +1.2**
comp=Z,3.8nm,0.9s,baz=205,slow=1.8,SNR=6.5
SIV PKPab **PKPab** **04 21 13.1 +0.6**
comp=Z,4.7nm,1.0s,baz=274,slow=6.0,SNR=5.2
BDFB Brasilia 169.69 111 PKP **PKPdf** **04 20 53.4 +0.7**
BDFB Brasilia 169.69 111 PKP **PKPdf** **04 20 53.4 +0.7**
comp=Z,3.4nm,0.8s,baz=203,slow=10,SNR=5.0

IDC 09 04:03:53.7±4.5, 57.53S×25.52W, h0km, mb4.5/1, mb1 4.7/1, mb1mx3.8/15, mbtmp4.5/1, Error ellipse: s-maj=636.3km s-min=46.1km az=26.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**51.98**	**304**	P	P	04 13 05.1	-0.1
	4.1nm,0.6s,baz=140,slow=5.8,SNR=17						
YKA	**Yellowknife Ar**	**137.88**	**316**	PKP	PKPdf	04 23 18.0	-0.5
	0.1nm,0.5s,baz=125,slow=2.2,SNR=5.2						
SONM	**Songino Array**	**149.89**	**88**	PKPbc	PKPbc	04 23 44.5	-0.4
	0.3nm,0.7s,baz=242,slow=2.4,SNR=3.1						
ILAR	**Eielson Array**	**151.78**	**309**	PKPbc	PKPbc	04 23 48.4	-0.3
	0.4nm,0.8s,baz=104,slow=3.8,SNR=4.4						

*IDC **09** 04:36:42.1±1.6, 14.68S×173.81W, h0km, mb3.8/7, mb1 4.2/7, mb1mx4.0/19, mbtmp3.8/7, MS3.7/11, Ms1 3.7/11, ms1mx3.6/25, Error ellipse: s-maj=99.6km s-min=21.9km az=149.0*

ISC 09 04:36:47.8±1.5, 14.5S±0.6×174.0W±0.4, h35km, n34, σ0.99/9, mb3.8/7, MS3.8/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.20**	**74**	Pn	Pn	04 37 10.2	-12
	86nm,0.3s,baz=169,slow=2.6,SNR=34						
AFI				Sn	Sn	04 37 29.2	-19
	329nm,0.3s,baz=201,slow=1.8,SNR=11						
DZM	**Mont Dzumac**	**20.05**	**245**	*e*LR	LR	04 46 20.1	
	329nm,26.6s						
DZM	**Mont Dzumac**	**20.05**	**245**	LR	LR	04 47 10.7	
	comp=Z,119nm,21.8s,baz=10,slow=31						
PPT	**Papeete**	**23.62**	**101**	LR	LR	04 48 21.1	
	comp=Z,112nm,19.8s,baz=261,slow=30						
PPT2	**Papeete2**	**23.63**	**101**	*e*LR	LR	04 47 19.7	
	174nm,25.2s						
PPT2	**Papeete2**	**23.63**	**101**	*e*T	T	05 05 19.4	
	6.6nm,0.4s						
PAE	**Paea**	**23.63**	**101**	*e*T	T	05 05 18.5	
	3.3nm,0.2s						
TIAR	**Tiarei**	**23.84**	**101**	*e*T	T	05 05 34.7	
	3.5nm,0.3s						
TVO	**Taravao**	**23.95**	**101**	*e*T	T	05 05 42.9	

TBI **Tubuai** 24.75 114 *e*LR LR 04 47 56.2
193nm,25.2s
URZ **Urewera** 24.94 197 LR LR 04 50 57.9
comp=Z,195nm,18.1s,baz=178,slow=34
HNR **Honiara** 26.01 278 LR LR 04 50 48.5
comp=Z,115nm,20.0s,baz=124,slow=32
RKT **Rikitea** 37.79 109 *e*LR LR 04 54 06.3
120nm,25.5s
RKT **Rikitea** 37.79 109 *e*T T 05 23 04.4
3.6nm,0.4s
H11S2 **WAKE ISLAND Hy** 37.93 329 T T 05 25 18.8
baz=150,slow=75,SNR=20
H11S3 **WAKE ISLAND Hy** 37.95 329 T T 05 25 13.4
baz=61,slow=75,SNR=14
H11S1 **WAKE ISLAND Hy** 37.95 329 T T 05 25 12.9
SNR=21
H11N3 **WAKE ISLAND Hy** 38.88 331 T T 05 26 19.1
baz=153,slow=77,SNR=13
H11N1 **WAKE ISLAND Hy** 38.89 331 T T 05 26 22.5
baz=153,slow=77,SNR=18
H11N2 **WAKE ISLAND Hy** 38.90 331 T T 05 26 21.7
baz=153,slow=77,SNR=14
WRA **Warramunga Arr** 49.52 256 P P 04 45 36.2 +0.7
1.5nm,0.7s,baz=88,slow=7.5,SNR=23
ASAR **Alice Springs** 49.87 251 P P 04 45 37.0 -1.1
9.8nm,0.7s,baz=87,slow=7.3,SNR=59
ASAR LR LR 05 04 19.0
comp=Z,146nm,21.0s,baz=89,slow=33
JCJ **Chichijima** 59.35 314 LR LR 05 06 08.5
comp=Z,142nm,20.8s,baz=353,slow=30
MJAR **Matsushiro Arr** 67.92 320 LR LR 05 12 14.5
comp=Z,71nm,20.5s,baz=130,slow=31
JNU **Nakatsue** 70.80 313 LR LR 05 16 40.0
comp=Z,51nm,19.3s,baz=241,slow=34
PETK **Petropavlovsk-** 71.63 342 LR LR 05 16 23.3
comp=Z,36nm,19.2s,baz=318,slow=33
YBH **Yreka Blue Hor** 73.23 38 LR LR 05 12 58.5
comp=Z,119nm,19.7s,baz=226,slow=30
NVAR **Mina Array Bea** 74.04 42 P P 04 48 20.3 -0.2
0.7nm,0.7s,baz=231,slow=9.3,SNR=4.9
TXAR **Lajitas Array** 80.58 56 P P 04 48 57.8 +0.6
0.3nm,0.8s,baz=213,slow=6.5,SNR=2.3
TXAR LR LR 05 21 05.9
comp=Z,51nm,18.8s,baz=185,slow=33
ILAR **Eielson Array** 81.69 11 P P 04 49 01.9 -0.2
0.7nm,0.7s,baz=226,slow=5.0,SNR=7.8
PDAR **Pinedale Array** 81.97 42 P P 04 49 03.1 -1.3
0.5nm,0.7s,baz=186,slow=1.5,SNR=4.1
YKA **Yellowknife Ar** 89.51 24 P P 04 49 41.0 +0.1
0.5nm,0.8s,baz=245,slow=4.6,SNR=7.6
BRTR **Keskin Array B** 145.13 321 PKPbc PKPdf 04 56 23.5 +1.4
2.1nm,0.8s,baz=91,slow=2.2,SNR=14
TORD **Torodi Ar. Bea** 175.57 107 PKP PKPdf 04 56 55.1 0.0
1.1nm,1.1s,baz=242,slow=3.2,SNR=3.6

*ISCJB **09** 04:40:26.8±0.6,51.51N±0.03×16.14E±0.04,h0km, Error ellipse: s-maj=4.7km s-min=3.1km az=15.7*
*IPEC **09** 04:40:27.0±0.3,51.61N×16.23E,h0km±1km,ML2.3/3, Error ellipse: s-maj=2.0km s-min=0.9km az=28.0*
*CSEM **09** 04:40:28.8±0.5,51.48N×16.11E,h2km,ML2.3, Error ellipse: s-maj=8.7km s-min=4.8km az=3.0*
*VIE **09** 04:40:29.3±0.6,51.44N×16.20E,h0km,mb2.5/3,ML2.7/4, Error ellipse: s-maj=4.5km s-min=3.6km az=21.0 68 km NW of Wroclaw Suspected Mining induced.*
*IDC **09** 04:40:29.1±0.9,51.50N×16.15E,h0km,mb1 3.5/6, mb1mx3.3/27,mbtmp3.3/6,ML2.8/5, Error ellipse: s-maj=14.3km s-min=7.8km az=118.0*
*PRU **09** 04:40:29.6,51.48N×16.12E,h0km*
ISC 09 04:40:28.1±1.0,51.54N±0.04×16.12E±0.02,h0km,n40, σ0s81/68,2C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.70	171	*e*Pg	Pg	04 40 42.2	+0.6
KSP				*e*Sg	Sg	04 40 51.5	+0.8
UPC	**Upice**	1.03	184	*e*PG	Pg	04 40 48.3	+0.4
UPC				*e*SG	Sb	04 41 02.0	-0.9
	comp=Z,36nm,0.4s						
UPC	**Upice**	1.03	184	Pg	Pg	04 40 48.3	+0.4
UPC				Sg	Sb	04 41 02.0	-0.9
	36nm,0.4s						
DPC	**Dobruska-Polom**	1.20	174	*e*PG	Pg	04 40 51.0	0.0
DPC				*e*SG	Sg	04 41 06.3	-0.2
DPC	**Dobruska-Polom**	1.20	174	Pg	Pg	04 40 51.0	0.0
DPC				Sg	Sg	04 41 06.3	-0.2
PVCC	**Panska Ves**	1.40	225	*e*PG	Pg	04 40 54.9	-0.1
PVCC				*e*SG	Sn	04 41 14.8	+0.6
	comp=Z,134nm,0.4s						
PVCC	**Panska Ves**	1.40	225	Pg	Pg	04 40 54.9	-0.1
PVCC				Sg	Sn	04 41 14.8	+0.6
	134nm,0.4s						
BRG	**Berggiesshubel**	1.52	245	PN	Pn	04 40 56.4	-0.1
BRG				PG	Pb	04 40 57.3	+0.1
BRG				SG	Sn	04 41 18.2	+1.2
	127nm,0.4s						
PRA	**Prague**	1.81	217	PN	Pn	04 41 00.0	-0.6
PRA				PG	Pb	04 41 02.0	-0.2
PRA				SG	Sb	04 41 25.0	-0.4
PRU	**Pruhonice**	1.84	213	*e*PN	Pn	04 41 00.8	-0.2
PRU				*e*PG	Pb	04 41 02.6	-0.1
PRU				*e*SG	Sg	04 41 26.7	-0.6
	comp=Z,31nm,0.4s						
PRU	**Pruhonice**	1.84	213	Pn	Pn	04 41 00.8	-0.2
CLL	**Collm**	1.96	265	*i* Pn	Pn	04 41 01.9	-0.7
CLL				*i* Pg	Pb	04 41 05.6	+0.9
CLL				*i*		04 41 08.9	
CLL				*e*Sg	Sg	04 41 31.0	-0.1
	comp=Z,29nm,0.4s						
MORC	**Moravsky Berou**	1.98	152	*e*Pn	Pn	04 41 02.3	-0.7
MORC				*e*Sg	Sb	04 41 30.2	-0.1
	comp=Z,22nm,0.7s						
OKC	**Ostrava-Krasne**	2.14	142	*e*PG	Pb	04 41 08.2	+0.5
OKC				*e*SG	Sb	04 41 33.8	-0.9
	comp=Z,27nm,0.4s						
OKC	**Ostrava-Krasne**	2.14	142	Pg	Pb	04 41 08.2	+0.5
OKC				Sg	Sb	04 41 33.8	-0.9
	comp=Z,27nm,0.4s						
VRAC	**Vranov**	2.25	172	Pn	Pn	04 41 06.7	0.0
	comp=Z,1.4nm,0.3s,baz=344,slow=14,SNR=11						
VRAC				Pg	Pg	04 41 10.5	-0.7
	comp=Z,3.4nm,0.3s,baz=359,slow=16,SNR=12						
VRAC				Lg	Lg	04 41 40.2	
	comp=Z,6.8nm,0.3s,baz=247,slow=23,SNR=11						
VRAC	**Vranov**	2.25	172	*e*Pn	Pn	04 41 06.6	0.0
VRAC				*e*Sg	Sg	04 41 39.5	-0.9
	comp=Z,16nm,0.3s						
TREC	**Trest**	2.28	190	*e*PN	Pn	04 41 07.2	+0.2
TREC				*e*PG	Pb	04 41 10.4	+0.3
TREC	**Trest**	2.28	190	Pn	Pn	04 41 07.2	+0.2
KRUC	**Moravsky**	2.48	176	*e*Pn	Pn	04 41 10.4	+0.6
KRUC	**Moravsky**	2.48	176	*e*Pg	Pb	04 41 14.3	+0.7
KRUC				*e*Sg	Sg	04 41 46.6	-1.3
	comp=Z,13nm,0.6s						
NKC	**Novy Kostel**	2.66	242	*e*PN	Pn	04 41 12.9	+0.6
NKC				*e*PG	Pg	04 41 18.8	-0.3
NKC				*e*SG	Sg	04 41 54.4	+0.8
	comp=Z,33nm,0.4s						
NKC	**Novy Kostel**	2.66	242	Pn	Pn	04 41 12.9	+0.6
OJC	**Ojcow**	2.68	118	*e*Pg	Pg	04 41 18.7	-0.8
OJC				*e*Sg	Sg	04 41 53.8	-0.4
OJC	**Ojcow**	2.68	118	*e*Pg	Pg	04 41 18.7	-0.8
OJC				*e*Sg	Sg	04 41 53.8	-0.4
KHC	**Kasperske Hory**	2.91	215	*e*PN	Pn	04 41 15.4	-0.2
KHC				*e*PG	Pb	04 41 21.6	+0.8
KHC				*e*SG	Sg	04 42 00.4	-1.0
	comp=Z,15nm,0.4s						
KHC	**Kasperske Hory**	2.91	215	Pn	Pn	04 41 15.4	-0.2
GERES	**GERESS Array B**	3.11	211	Pn	Pn	04 41 19.2	+0.7
	comp=Z,1.5nm,0.3s,baz=28,slow=12,SNR=62						
GERES				Pg	Pb	04 41 25.5	+1.2
	comp=Z,2.3nm,0.3s,baz=38,slow=16,SNR=22						
GERES				Lg	Lg	04 42 06.1	
	comp=Z,2.9nm,0.3s,baz=39,slow=26,SNR=8.2						
SMOL	**Smolenice**	3.14	164	*e*PG	Pg	04 41 27.8	-0.5
NIE	**Niedzica**	3.42	127	*e*P	Pg	04 41 33.7	+0.1
NIE				*e*S	Sg	04 42 17.4	-0.5
CONA	**Conrad Observa**	3.62	183	*i* Pn	Pn	04 41 25.9	+0.5
CONA	**Conrad Observa**	3.62	183	Pn	Pn	04 41 25.9	+0.5
STHS	**Stebnicka Huta**	3.90	121	*e*PG	Pg	04 41 45.2	+2.3
STHS	**Stebnicka Huta**	3.90	121	*e*Pg	Pg	04 41 45.2	+2.3
KBA	**Koelnbreinsper**	4.81	203	*i* Pn	Pn	04 41 42.8	+0.8
KBA	**Koelnbreinsper**	4.81	203	Pn	Pn	04 41 42.8	+0.8
DAVOX	**Davos/Dischmat**	6.27	223	Pn	Pn	04 42 04.3	+2.2
	baz=61,slow=10						
DAVOX				Sn	Sb	04 43 25.5	-8.3
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=1.8						
DAVOX				Lg	Lg	04 43 47.0	
	comp=Z,0.2nm,0.3s,baz=315,slow=20,SNR=2.2						
AKASG	**Malin Array Be**	8.29	91	Pn	Pn	04 42 26.0	-3.5
	comp=Z,0.8nm,0.3s,baz=280,slow=12,SNR=4.7						
FINES	**FINESS Array B**	11.34	25	Pn	Pn	04 43 08.1	-3.1
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=2.2						
FINES				Sn	Sn	04 45 08.9	-10
	comp=Z,0.1nm,0.3s,baz=218,slow=20,SNR=3.9						
ARCES	**ARCESS Array B**	18.60	10	Pn	P	04 44 44.6	-1.9
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=1.5						

IDC 09 04:51:52.3±3.4,4.81S×152.34E,h0km,mb3.3/2, mb1 3.7/2,mb1mx3.4/18,mbtmp3.3/2,Error ellipse: s-maj=245.4km s-min=33.2km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	23.09	228	P	P	04 56 59.8	-0.2
	0.8nm,1.0s,baz=54,slow=11,SNR=4.2						
ILAR	**Eielson Array**	82.34	22	P	P	05 04 15.2	-0.5
	0.2nm,0.7s,baz=226,slow=4.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	149.87	288	PKPbc	PKPbc	05 11 46.0	+0.3
	0.7nm,0.7s,baz=65,slow=2.3,SNR=6.3						

*NIED **09** 04:55:00,46.80N×152.80E,h8km,Mw4.0 Best double couple: M0 9.54000×10^14 NP1:φ=213.00000°,δ=25.00000°, λ=145.00000°. NP2:φ=335.00000°,δ=76.00000°,λ=69.00000°.*
*ISCJB **09** 04:55:10.8±0.5,46.68N±0.06×152.80E±0.07,h40km, mb4.0/23,MS3.3/2, Error ellipse: s-maj=11.0km s-min=4.0km az=143.4*
*MOS **09** 04:55:13.8±1.4,46.69N×152.73E,h68km,mb4.2/14, Error ellipse: s-maj=12.7km s-min=7.9km az=63.0*
*SKHL **09** 04:55:14.4±0.5,46.68N×152.76E,h74km±2km,mb4.6/6*
*IDC **09** 04:55:15.7±2.7,46.75N×152.72E,h66km±23km,mb3.6/21, mb1 3.9/24,mb1mx3.8/32,mbtmp3.7/24,MS3.3/3, Ms1 3.4/3,ms1mx2.8/42, Error ellipse: s-maj=19.6km s-min=13.3km az=142.0*
ISC 09 04:55:12.2±0.6,46.64N±0.08×152.87E±0.07,h40km,n83, σ1s49/76,mb3.9/23,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	3.77	250	*e*PN	Pn	04 56 09.7	+2.0
KUR				*i* S	Sn	04 56 52.0	+1.3
KUR				pmax	pmax		
	comp=E,160nm,0.8s						
KUR				smax	smax		
	comp=N,110nm,0.6s						
KUR				smax	smax		
	comp=E,460nm,0.5s						
KUR	**Kuril'sk**	3.77	250	*e*P	Pn	04 56 09.5	+1.8
KUR				AMB	AMB	04 56 10.0	
	comp=E,160nm,0.8s						
KUR				*e*S	Sn	04 56 51.0	+0.3
KUR				A	A	04 57 10.0	
	comp=E,110nm,0.6s						
KUR				A	A	04 57 10.0	
	comp=E,460nm,0.6s						
SKR	**Severo-Kuril's**	4.58	27	*e*PN	Pn	04 56 19.0	+0.2
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	4.58	27	*e*P	Pn	04 56 19.0	+0.2
SKR				AMB	AMB	04 56 19.5	
	comp=Z,60nm,0.5s						
SKR				*e*S	Sn	04 57 07.0	-3.7
SKR				A	A	04 57 27.5	
	comp=Z,110nm,0.5s						
SKR				A	A	04 57 27.5	
	comp=Z,80nm,0.5s						
SKR				A	A	04 57 27.5	
	comp=Z,50nm,0.5s						
SHO	**Shikotan**	5.09	239	*e*P	Pn	04 56 25.0	-0.8
SHO				*e*S	Sn	04 57 19.5	-3.8
SHO				A	A	04 57 44.4	
	comp=Z,331nm,0.8s						
YUK	**Yuzh-Kuril'sk**	5.59	245	*c i*PN	Pn	04 56 34.6	+1.9
YUK				*i* S	Sn	04 57 35.0	-0.6
YUK				pmax	pmax		
	comp=N,60nm,0.3s						
YUK				pmax	pmax		
	comp=E,95nm,0.3s						
YUK				pmax	pmax		
	comp=Z,178nm,0.3s						
YUK				smax	smax		
	comp=N,94nm,0.3s						
YUK				smax	smax		
	comp=E,429nm,0.6s						
YUK	**Yuzh-Kuril'sk**	5.59	245	*e*P	Pn	04 56 34.6	+1.9
YUK				AMB	AMB	04 56 51.5	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	04 56 51.5	
	comp=E,100nm,0.3s						
YUK				AMB	AMB	04 56 51.5	
	comp=E,180nm,0.3s						
YUK				*e*S	Sn	04 57 35.0	-0.6
YUK				A	A	04 57 57.6	
	comp=E,94nm,0.4s						
YUK				A	A	04 57 57.6	
	comp=E,429nm,0.4s						
NEM2	**Nemuro 2**	6.02	240	P	Pn	04 56 38.2	-0.5
NEM2				*e*S	Sn	04 57 42.7	-3.6
JNK	**Nakash**	6.53	245	P	Pn	04 56 46.8	+1.2
JNK				*e*S	Sn	04 57 58.8	0.0
JTKR	**Abashiri--Toko**	6.86	250	P	Pn	04 56 52.5	+2.3
YSS	**Yuzh-Sakhalins**	6.95	276	*e*PN	Pn	04 56 55.0	+3.6
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	6.95	276	*e*P	Pn	04 56 54.0	+2.6
YSS				AMB	AMB	04 56 57.8	
	comp=Z,40nm,1.0s						
PETK	**Petropavlovsk-**	7.18	24	*e*PN	Pn	04 57 00.0	+5.4
PETK	**Petropavlovsk-**	7.18	24	P	Pn	04 56 56.8	+2.3
	comp=Z,0.4nm,0.3s,baz=183,slow=14,SNR=6.1						
JAR	**Ashorobuto**	7.27	246	P	Pn	04 56 56.9	+1.1
JAR				*e*S	Sn	04 58 17.2	+0.2
PET	**Petropavlovsk**	7.40	28	*e*PN	Pn	04 57 05.2	+7.7
PET				*e*S	Sn	04 58 27.6	+7.6
PET				smax	smax		
	comp=N,39nm,0.8s						
PET				smax	smax		
	comp=N,33nm,0.7s						
PET				smax	smax		
	comp=E,31nm,0.6s						
JKA	**Kamikawa-asahi**	7.66	254	*e*P	Pn	04 57 03.6	+2.4
JKK2	**Kamakawa 2**	7.66	252	P	Pn	04 57 03.8	+2.6
ASAJ	**Asahikawa**	7.66	254	P	Pn	04 57 05.1	+3.9
ASAJ	**Asahikawa**	7.66	254	P	Pn	04 57 03.6	+2.4
	comp=E,0.9nm,0.3s,baz=97,slow=18,SNR=9.0						
TYV	**Tymovskoe**	7.96	306	*e*P	Pn	04 57 07.5	+2.3
TYV				AMB	AMB	04 57 08.8	
	comp=E,22nm,1.0s						
MYR	**Moyori**	8.12	241	*e*P	Pn	04 57 07.5	+0.1
ERM	**Erimo**	8.36	240	*e*PN	Pn	04 57 11.9	+1.2
ERM	**Erimo**	8.36	240	*e*P	Pn	04 57 11.9	+1.2
JKB	**Kayabe**	9.73	245	P	Pn	04 57 28.7	-0.8
JANG	**Nango**	10.35	237	*e*S	Sn	04 59 22.0	-11
EKMR	**Ekimchan**	14.34	304	*e*P	Pn	04 58 32.0	-0.4
EKMR				AMB	AMB	04 58 39.3	
	comp=E,4.0nm,0.5s						
KLR	**Kul'dur**	14.39	288	*e*P	P	04 58 37.9	-1.4
KLR	**Kul'dur**	14.39	288	*e*rx	rx	04 58 37.9	
FX1	**Attu Island--F**	14.50	57	P	Pn	04 58 35.0	+0.4
	comp=E,2.1nm,0.3s,baz=252,slow=20,SNR=5.4						
FX1				S	Sn	05 01 05.8	-8.0
	comp=E,0.5nm,0.3s,baz=234,slow=16,SNR=1.8						
USRK	**Ussuriysk Arra**	14.86	268	P	Pn	04 58 41.6	+2.2
	comp=E,0.9nm,0.3s,baz=72,slow=11,SNR=13						
USRK				LR	LR	05 04 04.9	
	comp=E,103nm,19.5s,baz=201,slow=36						
MAJO	**Matsushiro**	14.88	233	P	P	04 58 43.6	-1.3
MAJO				pmax	pmax		
	comp=Z,311nm,2.9s						
MJAR	**Matsushiro Arr**	14.88	233	P	P	04 58 45.6	+0.7
	comp=Z,0.5nm,0.3s,baz=38,slow=9.7,SNR=6.0						
BMKR	**Bomnak**	17.17	307	*e*P	Pn	04 59 08.0	-0.8
BMKR				AMB	AMB	04 59 11.0	
	comp=Z,2.0nm,0.6s						
KROS	**Kirovskiy**	18.14	305	*e*P	Pn	04 59 18.1	-2.6
KROS				AMB	AMB	04 59 20.0	
	comp=Z,2.0nm,0.6s						
KSRS	**Korea Array**	20.61	253	P	Pn	04 59 51.0	+0.7
	comp=Z,2.8nm,0.7s,baz=61,slow=9.4,SNR=10						
H11N2	**WAKE ISLAND Hy**	29.20	152	T	T	05 32 32.1	
	baz=342,slow=76,SNR=393						
H11N1	**WAKE ISLAND Hy**	29.22	152	T	T	05 32 33.7	
	baz=342,slow=76,SNR=252						
H11N3	**WAKE ISLAND Hy**	29.22	152	T	T	05 32 30.8	
	baz=342,slow=76,SNR=255						
H11S1	**WAKE ISLAND Hy**	30.29	153	T	T	05 33 57.3	
	baz=343,slow=77,SNR=406						
H11S3	**WAKE ISLAND Hy**	30.30	153	T	T	05 33 49.8	
	baz=343,slow=77,SNR=392						
H11S2	**WAKE ISLAND Hy**	30.30	153	T	T	05 33 56.4	
	baz=343,slow=77,SNR=350						
SONM	**Songino Array**	31.21	289	LR	LR	05 15 00.4	
	comp=Z,50nm,18.4s,baz=303,slow=38						
ILAR	**Eielson Array**	36.73	38	P	P	05 02 16.1	+0.9
	comp=Z,0.2nm,0.5s,baz=269,slow=8.3,SNR=5.3						
ILAR				LR	LR	05 16 53.0	
	comp=Z,52nm,18.2s,baz=315,slow=35						
INK	**Inuvik**	41.83	32	P	P	05 02 58.7	+1.2
	comp=Z,1.4nm,0.8s,baz=301,slow=5.9,SNR=7.6						
ZALV	**Zalesovo Beam**	42.54	306	P	P	05 03 01.4	-2.1
ZALV						05 04 55.3	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	42.54	306	P	P	05 03 01.4	-2.1
	comp=Z,0.8nm,0.4s,baz=67,slow=7.7,SNR=3.6						
ZALV				PcP	PcP	05 04 55.3	-0.1
	comp=Z,0.8nm,0.6s,baz=29,slow=3.4,SNR=4.7						
MKAR	**Makanchi Array**	46.84	297	P	P	05 03 36.8	-1.2
MKAR						05 05 10.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	46.84	297	P	P	05 03 36.8	-1.2
	comp=Z,0.8nm,0.6s,baz=67,slow=7.4,SNR=19						
MKAR				PcP	PcP	05 05 10.3	-0.1
	comp=Z,0.9nm,0.8s,baz=61,slow=3.0,SNR=5.6						
KURK	**Kurchatov**	47.28	304	*e*P	P	05 03 39.7	-1.6
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	51.11	37	P	P	05 04 11.4	+1.1
	comp=Z,0.3nm,0.6s,baz=301,slow=7.5,SNR=5.1						
YKA				PcP	PcP	05 05 25.7	+0.3
	comp=Z,0.1nm,0.8s,baz=283,slow=3.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	52.18	256	P	P	05 04 19.6	+0.7
	comp=Z,1.2nm,0.4s,baz=36,slow=7.7,SNR=8.3						
ARCES	**ARCESS Array B**	57.90	341	P	P	05 04 59.0	-0.5
	comp=Z,5.0nm,0.9s,baz=59,slow=12,SNR=4.8						
JOF	**Joensuu**	61.35	334	*e*P	P	05 05 22.4	-1.0
JOF	**Joensuu**	61.35	334	*e*p	P	05 05 22.4	-1.0
KAF	**Kangasniemi**	63.47	335	*e*P	P	05 05 36.7	-0.8
KAF	**Kangasniemi**	63.47	335	*e*p	P	05 05 36.7	-0.8
FINES	**FINESS Array B**	64.06	335	P	P	05 05 40.3	-1.1
	comp=Z,2.5nm,0.5s,baz=31,slow=8.2,SNR=39						
PDAR	**Pinedale Array**	64.94	54	P	P	05 05 48.3	+0.5
	comp=Z,0.5nm,0.8s,baz=242,slow=3.2,SNR=3.8						
NB2	**NORSAR Subarra**	68.27	341	P	P	05 06 07.9	-0.6
	comp=Z,3.0nm,0.6s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	68.27	341	P	P	05 06 08.0	-0.5
	comp=Z,3.5nm,0.8s,baz=27,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	68.36	199	P	P	05 06 09.0	-0.4
	comp=Z,0.6nm,0.9s,baz=19,slow=6.7,SNR=3.1						
KBZ	**Khabaz**	70.81	314	P	P	05 06 26.3	+1.9
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	70.81	314	P	P	05 06 26.2	+1.9
	comp=Z,1.9nm,0.7s,baz=27,slow=4.5,SNR=3.4						
AKASG	**Malin Array Be**	71.54	326	P	P	05 06 27.7	-1.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	71.54	326	P	P	05 06 27.6	-1.0
	comp=Z,2.2nm,0.5s,baz=33,slow=6.1,SNR=9.8						
ASAR	**Alice Springs**	72.06	198	P	P	05 06 32.8	+0.8
	comp=Z,0.6nm,0.6s,baz=9.2,slow=5.6,SNR=9.5						
EKA	**Eskdalemuir Ar**	76.40	346	P	P	05 06 57.5	+0.6
	comp=Z,0.4nm,0.5s,baz=24,slow=4.7,SNR=3.7						
CLL	**Collm**	76.49	335	*e*P	P	05 06 57.0	-0.5
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CLL	**Collm**	76.49	335	*e*P	P	05 06 57.0	-0.5
	comp=Z,7.0nm,1.1s						
MLR	**Muntele Rosu**	77.06	325	P	P	05 07 01.9	+0.8
	comp=Z,0.6nm,0.6s,baz=0.0,slow=4.0,SNR=6.3						
TXAR	**Lajitas Array**	77.69	60	P	P	05 07 05.8	+1.0
	comp=Z,0.3nm,0.8s,baz=298,slow=2.7,SNR=3.7						
KHC	**Kasperske Hory**	78.26	334	*e*P	P	05 07 07.5	-0.1
KHC				pmax	pmax		
	comp=Z,17nm,1.2s						
BRTR	**Keskin Array B**	78.35	317	P	P	05 07 08.8	+0.5
	comp=Z,1.3nm,0.8s,baz=34,slow=7.5,SNR=8.5						
GERES	**GERESS Array B**	78.48	334	P	P	05 07 08.7	-0.2
	comp=Z,0.9nm,0.7s,baz=28,slow=6.0,SNR=7.8						
VAH	**Vaihoa**	81.47	123	*e*T	T	05 07 32.7	
	comp=Z,6.3nm,0.3s						
MMAI	**Mount Meron Ar**	82.76	311	P	P	05 07 32.6	+0.6
	comp=Z,2.9nm,0.6s,baz=26,slow=6.5,SNR=7.3						
TBI	**Tubuai**	86.96	129	*e*T	T	05 06 49.9	
	comp=Z,11nm,0.3s						
TORD	**Torodi Ar. Bea**	115.10	329	PKP	PKPdf	05 13 48.1	-1.2
	comp=Z,0.2nm,0.6s,baz=15,slow=2.8,SNR=1.3						
H03N2	**Juan Fernandez**	138.92	90	T	T	07 49 53.9	
	baz=305,slow=75,SNR=32						
H03N3	**Juan Fernandez**	138.93	90	T	T	07 49 59.2	
	baz=305,slow=75,SNR=39						
H03N1	**Juan Fernandez**	138.93	90	T	T	07 49 55.5	
	baz=305,slow=75,SNR=37						
CPUP	**Villa Florida**	148.66	60	PKPbc	PKPbc	05 14 55.5	+0.7
	comp=Z,1.1nm,0.6s,baz=350,slow=4.2,SNR=3.2						

*ISCJB **09** 04:55:34.7±0.2,51.52N±0.01×16.11E±0.02,h0km, mb3.6/3, Error ellipse: s-maj=2.1km s-min=2.0km az=44.1*
*IPEC **09** 04:55:35.8±0.3,51.55N×16.21E,h0km±1km,ML3.0/3, Error ellipse: s-maj=1.9km s-min=0.8km az=28.0*
*CSEM **09** 04:55:36.5±0.1,51.50N×16.13E,h2km,ML3.3, Error ellip

BRG	**Berggiesshubel**	**1.53**	**245**	PN	**Pn**	**04 56 03.2 -1.5**
BRG				PG	**Pg**	**04 56 05.6 +0.2**
BRG				SG	**Sg**	**04 56 25.5 +0.4**
	185nm,0.3s					
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pn	**Pn**	**04 56 04.1 -0.6**
BRG				*e*Sg	**Sg**	**04 56 25.6 +0.4**
BRG	**Berggiesshubel**	**1.53**	**245**	Pn	**Pn**	**04 56 04.1 -0.6**
BRG				Sg	**Sg**	**04 56 25.6 +0.4**
PRA	**Prague**	**1.82**	**217**	PN	**Pn**	**04 56 08.0 -0.7**
PRA				PG	**Pb**	**04 56 10.0 -0.3**
PRA				SG	**Sn**	**04 56 32.0 -0.5**
FBE	**Freiberg**	**1.85**	**251**	*e*Pn	**Pn**	**04 56 09.7 +0.6**
FBE				*e*Sg	**Sg**	**04 56 35.4 -0.1**
FBE	**Freiberg**	**1.85**	**251**	Pn	**Pn**	**04 56 09.7 +0.6**
FBE				Sg	**Sg**	**04 56 35.4 -0.1**
PRU	**Pruhonice**	**1.85**	**214**	*e*PN	**Pn**	**04 56 08.6 -0.5**
PRU				*e*PG	**Pb**	**04 56 10.5 -0.3**
PRU				*e*SG	**Sn**	**04 56 33.2 0.0**
	comp=Z,57nm,0.3s					
PRU	**Pruhonice**	**1.85**	**214**	Pn	**Pn**	**04 56 08.6 -0.5**
RAC	**Raciborz**	**1.96**	**137**	*e*Pg	**Pb**	**04 56 12.9 +0.2**
RAC				*e*Sg	**Sb**	**04 56 38.0 +0.3**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**04 56 10.6 -0.1**
CLL				*e*Sg	**Sg**	**04 56 40.1 +0.7**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**04 56 11.0 +0.2**
CLL				*e*Pg	**Pb**	**04 56 13.0 +0.1**
CLL				*i*		04 56 17.7
CLL				*e*		04 56 29.0
CLL				*e*Sg	**Sg**	**04 56 40.0 +0.7**
	comp=Z,85nm,0.7s					
CLL				LmV		05 04 00.0
	comp=Z,300nm,18.5s					
CLL	**Collm**	**1.97**	**264**	Pn	**Pn**	**04 56 10.6 -0.1**
CLL				Sg	**Sg**	**04 56 40.1 +0.7**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**04 56 10.6 -0.4**
MORC	**Moravsky Berou**	**1.98**	**152**	⇓*i*P	**Pn**	**04 56 10.6 -0.4**
MORC	**Moravsky Berou**	**1.98**	**152**	S	**Sn**	**04 56 37.4 +0.9**
MORC	**Moravsky Berou**	**1.98**	**152**	⇓*i*P	**Pn**	**04 56 10.6 -0.4**
MORC				S	**Sn**	**04 56 37.4 +0.9**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*Pn	**Pn**	**04 56 12.5 -0.5**
OKC				*e*Sg	**Sb**	**04 56 43.0 +0.3**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*SG	**Sb**	**04 56 42.5 -0.2**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pn	**Pn**	**04 56 12.5 -0.5**
OKC				Sg	**Sb**	**04 56 43.0 +0.3**
VRAC	**Vranov**	**2.25**	**172**	⇓*i*P	**Pn**	**04 56 14.7 0.0**
VRAC	**Vranov**	**2.25**	**172**	S	**Sn**	**04 56 44.0 +0.8**
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**04 56 14.9 +0.2**
	comp=Z,5.7nm,0.3s,baz=334,slow=14,SNR=41					
VRAC				Pg	**Pg**	**04 56 20.2 +0.9**
	comp=Z,9.2nm,0.3s,baz=349,slow=17,SNR=19					
VRAC				Lg	Lg	04 56 47.1
	comp=Z,9.0nm,0.3s,baz=264,slow=22,SNR=7.4					
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**04 56 14.6 -0.1**
VRAC				S	**Sn**	**04 56 44.0 +0.8**
VRAC				*e*Sg	**Sb**	**04 56 46.6 +0.4**
	comp=Z,68nm,0.4s					
TREC	**Trest**	**2.29**	**191**	*e*PN	**Pn**	**04 56 15.4 +0.3**
TREC				*e*PG	**Pb**	**04 56 18.6 +0.3**
TREC				*e*SG	**Sb**	**04 56 47.5 +0.4**
	comp=Z,68nm,0.3s					
TREC	**Trest**	**2.29**	**191**	Pn	**Pn**	**04 56 15.4 +0.3**
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**04 56 18.1 +0.2**
KRUC	**Moravsky**	**2.49**	**176**	*e*Pg	**Pb**	**04 56 21.5 -0.2**
KRUC				*e*Sg	**Sb**	**04 56 53.3 +0.5**
	comp=Z,69nm,0.5s					
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**04 56 19.3 +0.2**
TANN	**Tannenbergstha**	**2.58**	**245**	Pn	**Pn**	**04 56 19.3 +0.2**
WERD	**Werda**	**2.65**	**247**	*e*Pn	**Pn**	**04 56 20.5 +0.3**
WERD	**Werda**	**2.65**	**247**	Pn	**Pn**	**04 56 20.5 +0.3**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**04 56 20.8 +0.4**
NKC				*e*PG	**Pg**	**04 56 27.2 -0.1**
NKC				*e*SG	**Sg**	**04 57 01.2 -0.7**
	comp=Z,64nm,0.3s					
NKC	**Novy Kostel**	**2.67**	**242**	Pn	**Pn**	**04 56 20.8 +0.4**
OJC	**Ojcow**	**2.68**	**118**	*e*Pn	**Pn**	**04 56 19.1 -1.4**
OJC				*e*Sg	**Sg**	**04 57 03.7 +1.7**
OJC	**Ojcow**	**2.68**	**118**	*e*Pn	**Pn**	**04 56 19.1 -1.4**
OJC				*e*Pg	**Pg**	**04 56 28.8 +1.4**
OJC				*e*Sg	**Sg**	**04 57 03.6 +1.5**
OJC	**Ojcow**	**2.68**	**118**	Pn	**Pn**	**04 56 19.1 -1.4**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**04 56 24.2 +0.4**
KHC				*e*PG	**Pb**	**04 56 29.0 +0.8**
KHC				*e*SN	**Sn**	**04 56 56.5 -3.0**
KHC				*e*SG	**Sb**	**04 57 06.6 +1.5**
	comp=Z,33nm,0.5s					
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**04 56 24.2 +0.4**
MANZ	**Manzenberg**	**2.99**	**240**	*e*Pn	**Pn**	**04 56 25.2 +0.4**
MANZ				*e*Sg	**Sg**	**04 57 12.7 +0.6**
MANZ	**Manzenberg**	**2.99**	**240**	Pn	**Pn**	**04 56 25.2 +0.4**
MANZ				Sg	**Sg**	**04 57 12.7 +0.6**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**04 56 26.1 +0.3**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	Pn	**Pn**	**04 56 26.1 +0.3**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**04 56 26.5 -0.1**
GEC2				*e*Sg	**Sb**	**04 57 13.9 +2.9**
GEC2	**GERESS Array S**	**3.12**	**211**	Pn	**Pn**	**04 56 26.5 -0.1**
GEC2				Sg	**Sb**	**04 57 13.9 +2.9**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**04 56 26.0 -0.6**
	comp=Z,3.0nm,0.3s,baz=30,slow=14,SNR=45					
GERES				Pg	**Pb**	**04 56 33.3 +0.8**
	comp=Z,9.0nm,0.3s,baz=29,slow=17,SNR=31					
GERES				Lg	Lg	04 57 12.2
	comp=Z,12nm,0.3s,baz=31,slow=29,SNR=6.5					
SMOL	**Smolenice**	**3.14**	**164**	*e*SG	**Sg**	**04 57 17.2 +0.1**
SMOL	**Smolenice**	**3.14**	**164**	*e*Sg	**Sg**	**04 57 17.2 +0.1**
WET	**Wettzell**	**3.18**	**222**	*e*Pn	**Pn**	**04 56 29.3 +1.9**
WET	**Wettzell**	**3.18**	**222**	Pn	**Pn**	**04 56 29.3 +1.9**
NIE	**Niedzica**	**3.42**	**127**	*e*P	**Pg**	**04 56 40.9 -0.7**
NIE				*e*S	**Sg**	**04 57 24.7 -1.1**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**04 56 34.3 +1.2**
CLZ	**Clausthal**	**3.59**	**277**	Pn	**Pn**	**04 56 34.3 +1.2**
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i*Pn	**Pn**	**04 56 33.8 +0.3**
CONA				⇑*i*Sg	**Sg**	**04 57 32.4 0.0**
	comp=Z,27nm,0.5s					
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**04 56 33.8 +0.3**
CONA				Sg	**Sg**	**04 57 32.4 0.0**
	comp=Z,27nm,0.5s					
GRA1	**Grafenberg Arr**	**3.63**	**241**	Pn	**Pn**	**04 56 34.3 +0.7**
GRA1				Sg	**Sg**	**04 57 32.3 -0.4**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**04 56 34.3 +0.7**
GRF				*e*Sg	**Sg**	**04 57 32.3 -0.4**
BSD	**Bornholm Skovb**	**3.65**	**349**	⇑*i*P	**Pn**	**04 56 34.7 +0.8**
BSD				*i* S	**Sn**	**04 57 17.3 -0.3**
BSD	**Bornholm Skovb**	**3.65**	**349**	⇑*e*P	**Pn**	**04 56 34.7 +0.8**
BSD				*i* S	**Sn**	**04 57 17.3 -0.3**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**04 56 36.7 -0.6**
STHS				*e*PG	**Pg**	**04 56 52.6 +1.8**
STHS				*e*SG	**Sg**	**04 57 45.8 +4.5**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*Pn	**Pn**	**04 56 36.7 -0.6**
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*PN	**Pn**	**04 56 43.9 +0.8**
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*Pn	**Pn**	**04 56 44.0 +0.8**
PSZ	**Piszkesteto**	**4.37**	**145**	⇑*i*P	**Pn**	**04 56 42.8 -1.1**
PSZ	**Piszkesteto**	**4.37**	**145**	⇑*i*P	**Pn**	**04 56 42.8 -1.1**
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*Pn	**Pn**	**04 56 47.4 +0.4**
KWP				*e*Pg	**Pg**	**04 57 02.3 -2.1**
KWP				*e*Sg	**Sg**	**04 58 08.7 +4.6**
KWP	**Kalwaria Pacla**	**4.61**	**112**	⇓*i*P	**Pn**	**04 56 47.0 0.0**
KWP	**Kalwaria Pacla**	**4.61**	**112**	⇓*i*P	**Pn**	**04 56 47.0 0.0**
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*Pn	**Pn**	**04 56 47.4 +0.4**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**04 56 48.9 +0.2**
KOLS				*e*PG	**Pg**	04 57 10.2 +3.5
KOLS				*e*SG	**Sg**	**04 58 11.5 +3.5**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*Pn	**Pn**	**04 56 48.9 +0.2**
BLEU	**Blekinge**	**4.78**	**358**	P	**Pn**	**04 56 50.3 +1.0**
BLEU	**Blekinge**	**4.78**	**358**	P	**Pn**	**04 56 50.3 +1.0**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i*Pn	**Pn**	**04 56 50.8 +0.6**
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn	**Pn**	**04 56 50.8 +0.6**
BJUU	**Bjuv**	**4.90**	**339**	P	**Pn**	**04 56 50.4 -0.6**
BJUU	**Bjuv**	**4.90**	**339**	P	**Pn**	**04 56 50.4 -0.6**
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**04 56 54.1 +0.1**
DEL				S	**Sn**	**04 57 50.5 -3.1**
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**04 56 54.1 +0.1**
DEL				S	**Sn**	**04 57 50.5 -3.1**
WATA	**Walderalm**	**5.15**	**217**	⇓*i*Pn	**Pn**	**04 56 55.1 +0.5**
	SNR=4.6					
WATA	**Walderalm**	**5.15**	**217**	Pn	**Pn**	**04 56 55.1 +0.5**
	SNR=4.6					
MOTA	**Moosalm**	**5.33**	**220**	⇑*i*Pn	**Pn**	**04 56 57.2 +0.2**
	SNR=5.3					
MOTA	**Moosalm**	**5.33**	**220**	Pn	**Pn**	**04 56 57.2 +0.2**
	SNR=5.3					
ABTA	**Abfaltersbach**	**5.35**	**208**	⇓*i*Pn	**Pn**	**04 56 57.7 +0.4**
	SNR=4.3					
ABTA	**Abfaltersbach**	**5.35**	**208**	Pn	**Pn**	**04 56 57.7 +0.4**
	SNR=4.3					
TRPA	**Tarpa**	**5.37**	**127**	⇑*i*P	**Pn**	**04 56 56.9 -0.6**
TRPA	**Tarpa**	**5.37**	**127**	⇑*i*P	**Pn**	**04 56 56.9 -0.6**
VXJU	**Vaexsjoe**	**5.44**	**353**	P	**Pn**	**04 56 58.8 +0.5**
VXJU	**Vaexsjoe**	**5.44**	**353**	P	**Pn**	**04 56 58.9 +0.5**
PKSM	**Moragy**	**5.58**	**162**	⇓*i*P	**Pn**	**04 57 00.5 +0.1**
PKSM	**Moragy**	**5.58**	**162**	⇓*i*P	**Pn**	**04 57 00.5 +0.1**
OSKU	**Oskarshamn**	**5.67**	**360**	P	**Pn**	**04 57 02.4 +0.9**
OSKU	**Oskarshamn**	**5.67**	**360**	P	**Pn**	**04 57 02.4 +0.9**
BYXU	**Byxelkrok**	**5.79**	**5**	P	**Pn**	**04 57 04.4 +1.3**
BYXU	**Byxelkrok**	**5.79**	**5**	P	**Pn**	**04 57 04.4 +1.3**
DAVA	**Damuels**	**5.89**	**226**	⇑*i*Pn	**Pn**	**04 57 04.4 -0.4**
DAVA				⇑Sg	**Sg**	**04 58 49.0 +3.7**
	comp=Z,18nm,0.9s					
DAVA	**Damuels**	**5.89**	**226**	Pn	**Pn**	**04 57 04.4 -0.4**
ASPU	**Aespoe**	**5.90**	**2**	P	**Pn**	**04 57 06.2 +1.5**
ASPU	**Aespoe**	**5.90**	**2**	P	**Pn**	**04 57 06.2 +1.5**
GNOU	**Gnosjoe**	**5.92**	**347**	P	**Pn**	**04 57 05.5 +0.4**
GNOU	**Gnosjoe**	**5.92**	**347**	P	**Pn**	**04 57 05.5 +0.4**
EKSU	**Eksjoe**	**6.06**	**356**	P	**Pn**	**04 57 07.8 +0.8**
EKSU	**Eksjoe**	**6.06**	**356**	P	**Pn**	**04 57 07.8 +0.8**
VSTU	**Vaestervik**	**6.14**	**2**	P	**Pn**	**04 57 09.2 +1.3**
VSTU	**Vaestervik**	**6.14**	**2**	P	**Pn**	**04 57 09.2 +1.3**
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn	**Pn**	**04 57 10.4 +0.2**
	comp=Z,0.7nm,0.3s,baz=58,slow=11,SNR=8.3					
DAVOX				Lg	Lg	04 58 54.5
	comp=Z,0.4nm,0.3s,baz=248,slow=18,SNR=3.0					
BORU	**Boraas**	**6.41**	**344**	P	**Pn**	**04 57 12.1 +0.4**
BORU	**Boraas**	**6.41**	**344**	P	**Pn**	**04 57 12.1 +0.4**
LNKU	**Linkoeping**	**6.71**	**357**	P	**Pn**	**04 57 16.4 +0.6**
LNKU	**Linkoeping**	**6.71**	**357**	P	**Pn**	**04 57 16.4 +0.6**
FKPU	**Falk**	**6.78**	**349**	P	**Pn**	**04 57 17.3 +0.6**
FKPU	**Falk**	**6.78**	**349**	P	**Pn**	**04 57 17.3 +0.6**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P	**Pn**	**04 57 21.3 0.0**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P	**Pn**	**04 57 21.3 0.0**
ASKU	**Askersund**	**7.41**	**355**	P	**Pn**	**04 57 26.2 +0.8**
ASKU	**Askersund**	**7.41**	**355**	P	**Pn**	**04 57 26.2 +0.8**
NYNU	**Nynaeshamn**	**7.56**	**7**	P	**Pn**	**04 57 28.2 +0.8**
NYNU	**Nynaeshamn**	**7.56**	**7**	P	**Pn**	**04 57 28.2 +0.8**
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**04 57 36.9 -0.6**
	comp=Z,1.4nm,0.3s,baz=278,slow=12,SNR=9.3					
AKASG				Sn	**Sn**	**04 59 08.3 -3.4**
	comp=Z,1.1nm,0.3s,baz=268,slow=24,SNR=4.4					
AKASG				Lg	Lg	05 00 08.0
	comp=Z,0.5nm,0.3s,baz=268,slow=28,SNR=4.8					
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**Pn**	**04 57 58.4 -1.2**
	comp=Z,0.3nm,0.3s,baz=164,slow=12,SNR=6.8					
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**04 58 18.0 -1.1**
	comp=Z,0.5nm,0.3s,baz=209,slow=11,SNR=23					
FINES				Sn	**Sn**	**05 00 21.1 -5.2**
	comp=Z,0.6nm,0.3s,baz=215,slow=20,SNR=8.4					
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	Pn	04 58 26.4 -3.2
	baz=104,slow=13,SNR=5.9					
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**04 59 51.4 -3.1**
	comp=Z,0.7nm,0.3s,baz=187,slow=14,SNR=14					
TORD	**Torodi Ar. Bea**	**40.03**	**202**	P	**P**	**05 03 12.2 -0.6**
	comp=Z,0.7nm,1.0s,baz=357,slow=10,SNR=4.4					
SONM	**Songino Array**	**54.89**	**55**	P	**P**	**05 05 09.7 +1.4**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.1,SNR=2.6					
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**05 05 44.5 +1.7**
	comp=Z,0.6nm,0.6s,baz=27,slow=7.0,SNR=8.3					

MEX 09 05:09:18.8±0.9, 16°.83N×100°.17W, h6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.30**	**83**	*e*P	Pg	05 09 23.5	-1.2
ACX				*i* S	Sg	05 09 27.5	-1.3
ARIG	**Puente Sto Nin**	**1.45**	**353**	*i* P	Pn	05 09 41.6	-4.0
ARIG				*e*S	Sn	05 10 00.2	-4.9
ZIIG	**Zihuatanejo**	**1.46**	**302**	*e*P	Pn	05 09 43.1	-2.5
ZIIG				*e*S	Sn	05 10 00.1	-5.0
PLIG	**Platanillo**	**1.68**	**22**	*e*P	Pn	05 09 44.7	-4.1
PLIG				*e*S	Sn	05 10 06.5	-4.3
TLIG	**Tlapa**	**1.70**	**64**	*i* P	Pn	05 09 44.6	-4.6
TLIG				*i* S	Sn	05 10 06.3	-5.0
PNIG	**Pinotepa**	**2.01**	**102**	*e*P	Pn	05 09 50.6	-2.7
PNIG				*e*S	Sn	05 10 13.8	-5.0

*JMA **09** 05:24:25.5±0.3, 43°.81N×147°.91E, h0km, M3.9*
*SKHL **09** 05:24:27.1±0.2, 44°.09N×148°.16E, h56km±5km, mb4.7/1*
ISC 09 05:24:23.7±3.1, 44°.1N±0°.1×148°.2E±0°.2, h11km±12km, n11, σ1°40/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.00**	**258**	*e*P	**Pg**	**05 24 43.1**	**+0.3**
SHO				*e*S	**Sg**	**05 24 55.3**	**-0.5**
SHO				A	A	05 24 59.3	
	134nm,0.4s						
KUR	**Kuril'sk**	**1.18**	**349**	*e*P	**Pg**	**05 24 46.2**	**-0.1**
KUR				*e*S	**Sg**	**05 25 00.5**	**-1.1**
KUR				A	A	05 25 13.0	
	400nm,0.5s						
KUR				A	A	05 25 13.0	
	150nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**269**	*e*P	**Pn**	**05 24 53.2**	**+0.4**
YUK				AMB	AMB	05 24 54.9	
	45nm,0.2s						
YUK				AMB	AMB	05 24 54.9	
	55nm,0.2s						
YUK				AMB	AMB	05 24 54.9	
	147nm,0.2s						
YUK				*e*S	**Sn**	**05 25 12.7**	**-1.5**
YUK				A	A	05 25 16.3	
	400nm,0.3s						
YUK				A	A	05 25 16.3	
	610nm,0.3s						
NEM2	**Nemuro 2**	**1.91**	**249**	P	**Pn**	**05 24 55.7**	**-0.3**
NEM2				*e*S	**Sn**	**05 25 17.7**	**-2.3**
JRA	**Rausu**	**2.21**	**267**	P	**Pn**	**05 25 01.8**	**+1.6**
JRA				*e*S	**Sn**	**05 25 28.2**	**+0.7**
JNK	**Nakash**	**2.55**	**260**	P	**Pn**	**05 25 05.7**	**+0.8**
JNK				*e*S	**Sn**	**05 25 34.6**	**-1.4**
JAK	**Akkeshi**	**2.75**	**248**	P	**Pn**	**05 25 08.0**	**+0.3**
JAK				*e*S	**Sn**	**05 25 39.2**	**-1.7**
JTKR	**Abashiri--Toko**	**3.08**	**269**	P	**Pn**	**05 25 13.8**	**+1.6**
JAR	**Ashorobuto**	**3.29**	**258**	P	**Pn**	**05 25 16.6**	**+1.5**
JAR				*e*S	**Sn**	**05 25 54.8**	**+0.6**
JOB	**Onbets**	**3.37**	**251**	P	**Pn**	**05 25 17.5**	**+1.3**
JOB				*e*S	**Sn**	**05 25 55.4**	**-0.8**
HRK	**Horoka**	**3.71**	**262**	*e*P	**Pn**	**05 25 23.4**	**+2.5**

IDC 09 05:28:06.2±2.3, 5°.15S×152°.13E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.3/3, Error ellipse: s-maj=159.0km s-min=29.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.72**	**228**	P	P	05 33 09.8	-0.2
	0.3nm,0.4s,baz=53,slow=9.9,SNR=6.3						
ASAR	**Alice Springs**	**25.45**	**222**	P	P	05 33 36.0	0.0
	0.4nm,0.6s,baz=54,slow=9.3,SNR=6.2						
ILAR	**Eielson Array**	**82.73**	**22**	P	P	05 40 31.9	+0.2
	0.4nm,0.7s,baz=251,slow=5.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**149.78**	**287**	PKPbc	PKPbc	05 47 58.8	-0.5
	0.2nm,0.6s,baz=82,slow=2.5,SNR=5.6						

*ISCJB **09** 05:29:56.4±0.7, 31°.77S±0°.04×69°.33W±0°.05, h114km±8km, Error ellipse: s-maj=9.1km s-min=3.8km az=42.9*
*GUC **09** 05:29:56.9±0.5, 31°.79S×69°.81W, h160km±5km, ML3.7*
*SJA **09** 05:29:56.5±0.9, 31°.80S×69°.26W, h110km±5km, MD3.5, ML3.4, MW3.5*
ISC 09 05:29:57.1±1.5, 31°.78S±0°.05×69°.33W±0°.06, h12km±13km, n31, σ0°59/37, 7C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.03**	**126**	*e*P	**Pn**	**05 30 12.5**	**-0.3**
AUSP	**Uspallata**	**0.45**	**187**	*e*P	**Pn**	**05 30 13.8**	**-0.3**
RTCV	**Cerro Valdivia**	**0.67**	**97**	*e*P	Pn	05 30 15.4	-0.1
RTCV				*e*S	Sn	05 30 28.5	-0.7
SJA	**San Juan**	**0.70**	**69**	*e*P	Pn	05 30 15.6	-0.1
SJA				IAML		05 30 31.8	
	comp=Z,934nm,0.2s						
RTLL	**Cerro Villicun**	**0.85**	**58**	*e*P	Pn	05 30 17.0	-0.1
ASAL	**Salagasta**	**0.91**	**153**	*e*P	**Pn**	**05 30 17.4**	**-0.2**
CFAA	**Coronel Fontan**	**0.94**	**80**	*e*P	Pn	05 30 17.5	-0.4
CFAA				*e*S	Sn	05 30 32.7	-0.8
AMOG	**MOGNA**	**1.10**	**41**	*e*P	**Pn**	**05 30 19.5**	**-0.1**
ARCO	**CERRO ARCO**	**1.11**	**163**	*e*P	**Pn**	**05 30 19.9**	**+0.2**
ARCO				IAML		05 30 38.5	
	comp=Z,2μm,0.2s						
AAGR	**Agrelo**	**1.37**	**162**	*e*P	**Pn**	**05 30 22.5**	**0.0**
JACH	**Jahuel**	**1.40**	**230**	⇑*i*P	**Pn**	**05 30 23.4**	**+0.5**
JACH				*i* S	**Sn**	**05 30 43.5**	**+1.0**
PEL	**Peldehue**	**1.78**	**220**	⇓*i*P	**Pn**	**05 30 27.2**	**-0.2**
PEL				*i* S	**Sn**	**05 30 50.7**	**+0.1**
PEL				AML	AML	05 30 52.5	
	comp=E,823nm,0.4s						
AVIZ	**Vizcacheras**	**1.82**	**158**	*e*P	**Pn**	**05 30 27.8**	**-0.2**
ROCH	**El Roble**	**1.85**	**230**	⇑*i*P	**Pn**	**05 30 28.0**	**-0.5**
ROCH				*i* S	**Sn**	**05 30 52.1**	**-0.4**
ROCH				AML	AML	05 30 58.4	
	comp=N,767nm,0.3s						
ACAN	**Cantantal**	**1.88**	**106**	*e*P	**Pn**	**05 30 28.4**	**-0.2**
CLCH	**Cerro Calan**	**1.91**	**212**	⇓*i*P	**Pn**	**05 30 29.3**	**+0.3**
CLCH				*i* S	**Sn**	**05 30 54.0**	**+0.6**
CLCH				AML	AML	05 30 56.5	
	comp=E,453nm,0.6s						
AVFE	**Valle Fertil**	**1.96**	**56**	*e*P	**Pn**	**05 30 29.6**	**0.0**
AVFE				IAML		05 30 58.4	
	comp=Z,95nm,0.3s						
SAN	**Santiago**	**2.01**	**214**	*e*P	**Pn**	**05 30 30.6**	**+0.3**
SAN				*i* S	**Sn**	**05 30 55.9**	**+0.2**
PCH	**Pirque**	**2.09**	**208**	*e*P	**Pn**	**05 30 31.9**	**+0.5**
ANTU	**Antumapu**	**2.10**	**211**	⇑*i*P	**Pn**	**05 30 31.7**	**+0.3**
ANTU				*i* S	**Sn**	**05 30 58.0**	**+0.4**
ANTU				AML	AML	05 30 59.8	
	comp=E,342nm,0.2s						
RCDM	**Rinconada Maip**	**2.11**	**216**	⇓*i*P	**Pn**	**05 30 31.4**	**-0.1**
RCDM				*i* S	**Sn**	**05 30 57.7**	**-0.3**
RCDM				AML	AML	05 30 58.9	
	comp=E,877nm,0.2s						
LMEL	**Las Melosas**	**2.19**	**199**	*e*P	**Pn**	**05 30 33.7**	**+1.0**
LMEL				AML	AML	05 31 09.9	
	comp=N,302nm,0.1s						
TACH	**Talagante**	**2.31**	**216**	⇑*i*P	**Pn**	**05 30 33.5**	**-0.5**
TACH				*i* S	**Sn**	**05 31 01.4**	**-1.1**
ACHE	**Chepes**	**2.36**	**76**	*e*P	**Pn**	**05 30 34.5**	**-0.3**
AGUA	**GUANDACOL**	**2.40**	**18**	*e*P	**Pn**	**05 30 36.5**	**+1.2**
CHCH	**Chadas Angostu**	**2.42**	**207**	⇑*i*P	**Pn**	**05 30 35.5**	**0.0**
CHCH				*i* S	**Sn**	**05 31 05.0**	**-0.1**
CACH	**El Canelo**	**2.56**	**204**	⇑*i*P	**Pn**	**05 30 38.0**	**+0.5**
CACH				*i* S	**Sn**	**05 31 09.2**	**+0.7**
APLL	**PUNTA DE LOS L**	**2.77**	**61**	*e*P	**Pn**	**05 30 39.9**	**-0.3**
LNV	**Longovilo**	**2.79**	**218**	⇑*i*P	**Pn**	**05 30 38.6**	**-1.7**
ACLC	**CERRO LA CRUZ**	**3.12**	**42**	*e*P	**Pn**	**05 30 45.0**	**+0.1**
VACH	**Vallenar**	**3.43**	**338**	*i* S	**Sn**	**05 31 28.0**	**-0.8**

IDC 09 05:32:18.6±5.1, 1°.86S×139°.71E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=204.2km s-min=27.7km az=87.0, Near north coast of Irian Jaya

| Code | Station

double couple: M_o2.20000×10^{18} NP1:ϕ_s272.00000°, δ90.00000°,λ-3.00000°. NP2:ϕ_s2.00000°,δ87.00000°, λ-180.00000°. Principal axes: T 1.7800, Plg1.0000°, Azm316.0000°; N 0.6600, Plg86.0000°, Azm82.0000°; P -2.4400, Plg2.0000°, Azm226.0000°;

*GCMT **09** 05:51:30.5±0.1,9.26S×157.82E,h12km,MW6.2/136, Moment Tensor Solution. s129,c303; s136,c517; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.51±.01; $M_{\theta\theta}$-0.15±.01; $M_{\phi\phi}$-0.35±.01; $M_{r\theta}$0.20±.04; $M_{\theta\phi}$2.76±.01; $M_{\phi r}$-0.29±.04; Best double couple: M_o2.78000×10^{18} NP1:ϕ_s1.00000°,δ87.00000°, λ-175.00000°. NP2:ϕ_s271.00000°,δ85.00000°, λ-3.00000°. Principal axes: T 2.5110, Plg2.0000°, Azm136.0000°; N 0.5380, Plg84.0000°, Azm31.0000°; P -3.0490, Plg6.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **09** 05:51:31.1,8.97S×157.94E,h36km,mB6.0/67,mb5.6/62, Ms6.2/80,Ms7 6.1/74*

*ISCJB **09** 05:51:32.7±0.1,9.17S±0.02×157.53E±0.02,h33km, mb5.8/254,MS6.2/239,Error ellipse: s-maj=3.3km s-min=2.6km az=167.7*

*MOS **09** 05:51:32.8±1.6,9.05S×157.54E,h33km,mb6.1/60, MS6.1/51,Error ellipse: s-maj=7.5km s-min=5.8km az=82.1*

*NEIC **09** 05:51:34.0±0.0,9.17S×157.61E,h15km Best double couple: NP1:ϕ_s95.00000°,δ81.00000°,λ12.00000°. NP2:ϕ_s3.00000°,δ77.00000°,λ170.00000°. Principal axes: T 1.9100, Plg15.0000°, Azm319.0000°; N 0.2000, Plg74.0000°, Azm130.0000°; P -2.1000, Plg2.0000°, Azm229.0000°;*

*NEIC **09** 05:51:47.7±0.0,9.08S×157.53E,h11km,Moment Tensor Solution. s159 Moment tensor: Scale 10^{18}Nm; M_{rr}0.14; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-0.14; $M_{r\theta}$0.67; $M_{\theta\phi}$2.61; $M_{\phi r}$0.55; Best double couple: M_o2.80000×10^{18} NP1:ϕ_s92.00000°, δ79.00000°,λ14.00000°. NP2:ϕ_s359.00000°,δ76.00000°, λ168.00000°. Principal axes: T 2.8200, Plg17.0000°, Azm315.0000°; N -0.1400, Plg72.0000°, Azm130.0000°; P -2.6800, Plg1.0000°, Azm225.0000°;*

ISC 09 05:51:33.5±0.3,9.10S±0.03×157.77E±0.04,h32km±1km, h32km:pP-P,n1174,σ1192/1157,mb5.9/238,MS6.2/247, 154C-145D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.18**	**99**	Pn	Pn	05 52 02.0	-5.5
HNR				Sn	Sn	05 52 26.6	-6.8
HNR	**Honiara**	**2.18**	**99**	Pn	Pn	05 52 02.1	-5.4
	920nm,0.3s,baz=230,slow=4.4,SNR=169						
HNR				Sn	Sn	05 52 26.6	-6.8
	7μm,0.3s,baz=249,slow=15,SNR=24						
HNR				LR	LR	05 52 55.2	
	comp=Z,474μm,20.4s,baz=2.2,slow=38						
HNR	**Honiara**	**2.18**	**99**	*i* P	Pn	05 52 02.0	-5.5
HNR				*i* S	Sn	05 52 18.0	-15
RABL	**Rabaul**	**7.40**	**311**	⇓P	**Pn**	**05 53 18.4**	**-0.9**
	baz=7.5,SNR=6.4						
PMG	**Port Moresby**	**10.47**	**267**	P	x	05 54 05.0	
	334nm,1.4s,13μm39μm						
PMG	**Port Moresby**	**10.47**	**267**	*e*Pn	Pn	05 54 05.8	+4.3
PMG	**Port Moresby**	**10.47**	**267**	Pn	**Pn**	**05 54 04.5**	**+2.9**
	0.4nm,0.3s,baz=74,slow=6.0,SNR=14						
PMG				LR	LR	05 57 51.5	
	comp=Z,113μm,18.1s,baz=79,slow=37						
COEN	**Coen**	**15.09**	**250**	*e*Pn	**Pn**	**05 55 04.2**	**-0.3**
	4μm,1.2s						
COEN	**Coen**	**15.09**	**250**	⇑P	**Pn**	**05 55 04.9**	**+0.4**
	baz=15,SNR=23						
NOUC	**Port Laguerre**	**15.31**	**149**	*e*P	**P**	**05 55 10.3**	**-1.5**
DZM	**Mont Dzumac**	**15.36**	**148**	*e*P	**Pn**	**05 55 05.9**	**-2.2**
	2μm,1.6s						
DZM				*e*S	**Sn**	**05 57 52.6**	**-4.8**
	123μm,26.7s						
DZM				*e*LR	LR	05 58 28.6	
	249μm,26.8s						
DZM	**Mont Dzumac**	**15.36**	**148**	Pn	**Pn**	**05 55 06.1**	**-2.0**
DZM	**Mont Dzumac**	**15.36**	**148**	Pn	**Pn**	**05 55 06.1**	**-2.0**
	1.1nm,0.3s,baz=356,slow=12,SNR=27						
DZM				LR	LR	06 00 11.3	
	comp=Z,121μm,18.3s,baz=320,slow=34						
DZM	**Mont Dzumac**	**15.36**	**148**	*e*P	**Pn**	**05 55 04.6**	**-3.5**
NORM	**Noumea**	**15.51**	**148**	*e*P	**Pn**	**05 55 11.4**	**+1.5**
CTA	**Charters Tower**	**15.59**	**224**	Pn	**Pn**	**05 55 07.8**	**-3.3**
CTA	**Charters Tower**	**15.59**	**224**	Pn	**Pn**	**05 55 07.8**	**-3.3**
	2.0nm,0.3s,baz=48,slow=16,SNR=20						
CTAO	**Charters Tower**	**15.59**	**224**	*e*P	**Pn**	**05 55 07.5**	**-3.6**
CTAO				pmax	pmax		
	comp=Z,136nm,0.9s						
CTAO	**Charters Tower**	**15.59**	**224**	*e*P	**Pn**	**05 55 07.5**	**-3.6**
	comp=Z,136nm,0.9s						
PATS	**Pohnpei**	**15.84**	**2**	⇑P	**Pn**	**05 55 11.8**	**-2.5**
	baz=16,SNR=3.6						
EIDS	**Eidsvold**	**17.39**	**201**	*e*P	**Pn**	**05 55 32.7**	**-1.1**
	comp=Z,3μm,2.5s						
EIDS	**Eidsvold**	**17.39**	**201**	P	**Pn**	**05 55 32.9**	**-0.8**
	baz=18,SNR=22						
JAY	**Jayapura**	**18.18**	**290**	P	**Pn**	**05 55 42.5**	**-1.2**
	baz=18,SNR=21						
GENI	**Genyem**	**18.65**	**289**	P	**P**	**05 55 49.1**	**+0.2**
	comp=Z,1μm,1.1s,comp=Z,24μmcomp=Z,57μm						
RMQ	**Roma**	**19.29**	**205**	P	**P**	**05 55 55.4**	**-0.4**
	baz=19,SNR=125						
KWAJ	**Kwajalein Atol**	**20.31**	**29**	*e*P	**P**	**05 56 06.8**	**-0.1**
KWAJ				pmax	pmax		
	comp=Z,2μm,1.4s						
KWAJ	**Kwajalein Atol**	**20.31**	**29**	*e*P	**P**	**05 56 06.8**	**-0.1**
	comp=Z,2μm,1.4s						
QIS	**Mount Isa**	**20.90**	**235**	⇓P	**P**	**05 56 13.4**	**0.0**
	baz=21,SNR=87						
QLP	**Quilpie**	**21.61**	**215**	P	**P**	**05 56 19.5**	**-1.4**
	baz=22,SNR=48						
ARMA	**Armidale**	**21.97**	**194**	*e*P	**P**	**05 56 23.8**	**-1.0**
	comp=Z,247nm,0.9s						
ARMA	**Armidale**	**21.97**	**194**	⇑P	**P**	**05 56 23.9**	**-1.0**
	baz=22,SNR=25						
LHI	**Lord Howe Isla**	**22.34**	**177**	⇓P	**P**	**05 56 27.6**	**-1.1**
	baz=22,SNR=4.8						
SRPI	**Serui, Papua**	**22.59**	**287**	P	**P**	**05 56 31.7**	**+0.2**
	comp=Z,457nm,1.2s,comp=Z,14μm						
BAKI	**Biak**	**22.94**	**289**	P	**P**	**05 56 37.0**	**+1.7**
	comp=Z,511nm,1.7s,comp=Z,13μm						
MGCD	**Mangrove Creek**	**24.77**	**193**	⇓P	**P**	**05 56 52.8**	**+0.3**
	baz=25,SNR=10						
CMSA	**Cobar Meteorol**	**24.99**	**205**	⇓P	**P**	**05 56 53.7**	**-0.7**
	baz=25,SNR=201						
WRAB	**Tennant Creek**	**25.06**	**242**	P	**P**	**05 56 54.0**	**-1.2**
	comp=Z,3μm,0.9s,SNR=48						
WRAB	**Tennant Creek**	**25.06**	**242**	⇓*e*P	**P**	**05 56 52.8**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,476nm,0.9s						
WRAB	**Tennant Creek**	**25.06**	**242**	*e*P	**P**	**05 56 54.0**	**-1.2**
	comp=Z,628nm,1.1s						
WRAB				LR	LR		
	comp=Z,64μm,20.0s						
WRA	**Warramunga Arr**	**25.07**	**242**	P	**P**	**05 56 53.9**	**-1.5**
WRA				PcP	**PcP**	**06 00 31.1**	**+1.5**
WRA				*e*		06 30 06.2	
WRA	**Warramunga Arr**	**25.07**	**242**	P	**P**	**05 56 53.9**	**-1.5**
	comp=Z,98nm,0.7s,baz=69,slow=9.2,SNR=169						
WRA				PcP	**PcP**	**06 00 31.1**	**+1.5**
	comp=Z,10nm,0.9s,baz=66,slow=2.2,SNR=5.1						
WRA				P3KPbc		06 30 06.2	
	comp=Z,2.3nm,1.0s,baz=251,slow=3.1,SNR=8.5						
KDU	**Kakadu**	**25.09**	**260**	⇓P	**P**	**05 56 54.5**	**-1.0**
	baz=25,SNR=24						
RIV	**Riverview**	**25.35**	**193**	⇑P	**P**	**05 56 58.0**	**+0.3**
	baz=26						
GUMO	**Guam**	**25.92**	**330**	*e*P	**P**	**05 57 03.5**	**+0.5**
	comp=Z,616nm,1.5s						
GUMO				LR	LR		
	comp=Z,33μm,20.0s						
FAKI	**Fak Fak**	**26.10**	**282**	P	**P**	**05 57 05.1**	**+0.4**
	comp=Z,201nm,1.4s,comp=Z,8μm						
FAKI	**Fak Fak**	**26.10**	**282**	*e*P	**P**	**05 57 05.0**	**+0.3**
FAKI	**Fak Fak**	**26.10**	**282**	P	**P**	**05 57 04.9**	**+0.3**
	baz=26,SNR=11						
SAUI	**Saumlaki**	**26.20**	**270**	P	**P**	**05 57 10.1**	**+4.5**
SAUI	**Saumlaki**	**26.20**	**270**	*e*P	**P**	**05 57 09.4**	**+3.8**
	comp=Z,5μm,1.9s						
MTN	**Manton Dam**	**26.40**	**259**	⇓P	**P**	**05 57 07.4**	**-0.1**
	baz=26,SNR=17						
YNG	**Young**	**26.52**	**198**	P	**P**	**05 57 08.1**	**-0.2**
	baz=27,SNR=21						
AS31	**Alice Springs**	**27.02**	**235**	*e*P	**P**	**05 57 12.0**	**-1.0**
ASAR	**Alice Springs**	**27.02**	**235**	P	**P**	**05 57 10.2**	**-2.9**
ASAR				*e*		06 29 58.9	
ASAR	**Alice Springs**	**27.02**	**235**	P	**P**	**05 57 10.2**	**-2.9**
	comp=Z,52nm,0.9s,baz=65,slow=8.4,SNR=167						
ASAR				LR	LR	06 07 43.4	
	comp=Z,45μm,18.2s,baz=56,slow=36						
ASAR				P3KPbc		06 29 58.9	
	comp=Z,2.2nm,1.1s,baz=226,slow=3.3,SNR=8.2						
STKA	**Stephens Creek**	**27.19**	**211**	*e*P	**P**	**05 57 13.4**	**-0.9**
	comp=Z,82nm,1.0s						
STKA	**Stephens Creek**	**27.19**	**211**	P	**P**	**05 57 14.2**	**-0.2**
	comp=Z,235nm,1.1s,baz=24,slow=11,SNR=94						
STKA				LR	LR	06 07 21.8	
	comp=Z,46μm,18.1s,baz=31,slow=35						
CNB	**Canberra Magne**	**27.20**	**195**	⇓P	**P**	**05 57 14.5**	**0.0**
	baz=27,SNR=35						
CAN	**Canberra**	**27.30**	**196**	*e*P	**P**	**05 57 15.1**	**-0.3**
CAN				pmax	pmax		
	comp=Z,267nm,1.3s						
CAN				MLR	MLR		
	comp=Z,40μm,19.0s						
CAN	**Canberra**	**27.30**	**196**	*e*P	**P**	**05 57 15.1**	**-0.3**
	comp=Z,267nm,1.3s						
CAN				LR	LR		
	comp=Z,40μm,19.0s						
CAN	**Canberra**	**27.30**	**196**	⇑P	**P**	**05 57 15.1**	**-0.3**
	baz=27						
SWI	**Sorong**	**27.62**	**286**	P	**P**	**05 57 17.0**	**-1.4**
	comp=Z,196nm,1.1s						
BNDI	**Bandanaira**	**28.03**	**277**	P	**P**	**05 57 22.0**	**0.0**
	comp=Z,1μm,1.7s,comp=Z,18μm						
PALU	**Palau**	**28.38**	**304**	⇑P	**P**	**05 57 25.3**	**+0.2**
	baz=28,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**28.80**	**18**	T	T	06 26 18.5	
	baz=199,slow=78,SNR=270						
H11S2	**WAKE ISLAND Hy**	**28.80**	**18**	T	T	06 26 17.3	
	baz=199,slow=78,SNR=1024						
H11S1	**WAKE ISLAND Hy**	**28.81**	**18**	T	T	06 26 01.5	
	baz=199,slow=78,SNR=92						
MILA	**Mila**	**28.91**	**194**	⇑P	**P**	**05 57 29.9**	**+0.2**
	baz=29,SNR=10						
KNRA	**Kununurra**	**29.05**	**254**	⇑P	**P**	**05 57 31.6**	**+0.5**
	baz=29,SNR=19						
MSAI	**Masohi**	**29.22**	**279**	P	**P**	**05 57 30.1**	**-2.5**
	comp=Z,35nm,1.5s,comp=Z,958nm						
WAKE	**Wake Island**	**29.53**	**17**	PFAKE		05 57 50.0	+15
WAKE				LR	LR		
	comp=Z,38μm,22.0s						
OUZ	**Omahuta**	**29.76**	**153**	*e*P	**P**	**05 57 37.7**	**+0.6**
	comp=Z,220nm,1.4s						
HTT	**Hallett**	**29.80**	**213**	P	**P**	**05 57 37.2**	**-0.5**
	baz=30,SNR=31						
H11N1	**WAKE ISLAND Hy**	**30.01**	**17**	T	T	06 27 57.8	
	baz=350,slow=74,SNR=40						
H11N3	**WAKE ISLAND Hy**	**30.02**	**17**	T	T	06 28 05.0	
	baz=350,slow=74,SNR=56						
H11N2	**WAKE ISLAND Hy**	**30.03**	**17**	T	T	06 27 48.2	
	baz=350,slow=74,SNR=49						
AFI	**Afiamalu**	**30.21**	**102**	*e*P	**P**	**05 57 40.4**	**-1.1**
	comp=Z,310nm,1.0s						
AFI	**Afiamalu**	**30.21**	**102**	P	**P**	**05 57 40.5**	**-1.0**
	comp=Z,130nm,1.0s,baz=39,slow=7.7,SNR=10						
AFI				LR	LR	06 07 36.1	
	comp=Z,46μm,20.2s,baz=286,slow=32						
RAO	**Raoul Island**	**30.36**	**135**	P	**P**	**05 57 42.7**	**+0.1**
RAO	**Raoul Island**	**30.36**	**135**	P	**P**	**05 57 42.7**	**+0.1**
	comp=Z,301nm,0.3s,baz=75,slow=22,SNR=9.6						
RAO				LR	LR	06 08 16.9	
	comp=Z,33μm,18.5s,baz=117,slow=33						
TOO	**Toolangi**	**30.44**	**199**	P	**P**	**05 57 42.9**	**-0.3**
	baz=31,SNR=22						
BBOO	**Buckleboo**	**30.97**	**217**	*e*P	**P**	**05 57 45.6**	**-2.4**
	comp=Z,3μm,1.0s						
BBOO	**Buckleboo**	**30.97**	**217**	⇓P	**P**	**05 57 45.8**	**-2.2**
	baz=31,SNR=46						
NLAI	**Namlea**	**31.02**	**279**	P	**P**	**05 57 50.8**	**+2.2**
	comp=Z,165nm,1.9s,comp=Z,4μm						
ARPS	**Mount Arapiles**	**31.11**	**205**	P	**P**	**05 57 48.6**	**-0.5**
	baz=31,SNR=28						
LBMI	**Labuha**	**31.28**	**284**	P	**P**	**05 57 53.5**	**+2.6**
	comp=Z,426nm,2.8s,comp=Z,11μm						
TNTI	**Ternate**	**31.83**	**286**	P	**P**	**05 57 55.4**	**-0.3**
	comp=Z,228nm,1.8s,comp=Z,6μm						
TNTI	**Ternate**	**31.83**	**286**	*e*P	**P**	**05 57 55.9**	**+0.2**
WRKA	**Warakurna**	**32.21**	**237**	⇑P	**P**	**05 57 57.0**	**-2.0**
	baz=32,SNR=221						
SANI	**Sanana**	**32.37**	**281**	P	**P**	**05 58 00.4**	**-0.1**
	comp=Z,288nm,1.2s,comp=Z,7μm						
SOEI	**Soe**	**33.05**	**266**	P	**P**	**05 58 06.6**	**+0.1**
	comp=Z,321nm,1.2s,comp=Z,6μm						
SOEI	**Soe**	**33.05**	**266**	*e*P	**P**	**05 58 05.5**	**-1.0**
SOEI	**Soe**	**33.05**	**266**	P	**P**	**05 58 06.2**	**-0.4**
	baz=33,SNR=12						
URZ	**Urewera**	**33.86**	**152**	*e*P	**P**	**05 58 11.9**	**-1.2**
	comp=Z,383nm,1.6s						
URZ	**Urewera**	**33.86**	**152**	P	**P**	**05 58 13.1**	**-0.1**
	comp=Z,78nm,1.1s,baz=14,slow=6.4,SNR=21						
URZ				LR	LR	06 09 46.3	
	comp=Z,57μm,18.8s,baz=332,slow=32						
BKZ	**Black Stump Fm**	**34.32**	**154**	*e*P	**P**	**05 58 16.5**	**-0.8**
	comp=Z,94nm,0.9s						
TAU	**Tasmania Unive**	**34.90**	**193**	*e*P	**P**	**05 58 23.2**	**+1.1**
TAU				pmax	pmax		
	comp=Z,2μm,2.8s						
TAU				MLR	MLR		
	comp=Z,19μm,19.0s						
TAU	**Tasmania Unive**	**34.90**	**193**	*e*P	**P**	**05 58 23.2**	**+1.1**
	comp=Z,2μm,2.8s						
TAU				LR	LR		
	comp=Z,19μm,19.0s						
KMSI	**Cibinong**	**35.00**	**284**	P	**P**	**05 58 23.1**	**-0.2**
	comp=Z,1μm,1.1s,comp=Z,13μm						
BBSI	**Bau Bau**	**35.08**	**273**	P	**P**	**05 58 26.3**	**+2.2**
	comp=Z,685nm,1.3s,comp=Z,11μm						
FORT	**Forrest**	**35.09**	**228**	*e*P	**P**	**05 58 23.7**	**-0.2**
	comp=Z,420nm,1.3s						
FORT	**Forrest**	**35.09**	**228**	⇓P	**P**	**05 58 23.1**	**-0.8**
	baz=35,SNR=13						
MMRI	**Maumere**	**35.10**	**268**	P	**P**	**05 58 23.7**	**-0.5**
	comp=Z,850nm,1.1s,comp=Z,9μm						
MMRI	**Maumere**	**35.10**	**268**	*e*P	**P**	**05 58 23.2**	**-1.0**
SNZO	**South Karori**	**35.41**	**158**	*e*P	**P**	**05 58 26.7**	**+0.2**
	comp=Z,530nm,1.7s						
SNZO				LR	LR		
	comp=Z,15μm,21.0s						
BFZ	**Birch Farm**	**35.48**	**155**	*e*P	**P**	**05 58 29.2**	**+2.1**
	comp=Z,488nm,1.6s						
LUWI	**Luwuk**	**35.73**	**281**	P	**P**	**05 58 30.3**	**+0.6**
	comp=Z,264nm,1.4s,comp=Z,7μm						
LUWI	**Luwuk**	**35.73**	**281**	*e*P	**P**	**05 58 29.9**	**+0.3**
LUWI	**Luwuk**	**35.73**	**281**	⇑P	**P**	**05 58 29.7**	**0.0**
	baz=36,SNR=3.9						
DAV	**Davao City (W)**	**35.87**	**296**	PFAKE		05 58 40.0	+9.1
DAV				LR	LR		
	comp=Z,20μm,19.0s						
GTOI	**Gorontalo**	**35.94**	**284**	P	**P**	**05 58 31.8**	**+0.3**
	comp=Z,398nm,1.0s,comp=Z,7μm						
KHZ	**Kahutara**	**35.97**	**160**	*e*P	**P**	**05 58 29.2**	**-2.1**
	comp=Z,844nm,1.9s						
KKSI	**Kolaka, Sulawe**	**36.19**	**275**	P	x	05 58 34.1	
	comp=Z,297nm,1.3s,comp=Z,4μm						
RPZ	**Rata Peaks**	**36.38**	**164**	*e*P	**P**	**05 58 35.2**	**+0.3**
	comp=Z,427nm,1.4s						
RPZ	**Rata Peaks**	**36.38**	**164**	P	**P**	**05 58 34.8**	**0.0**
	comp=Z,30nm,0.9s,baz=341,slow=3.4,SNR=9.1						
APSI	**Ampana**	**36.85**	**281**	P	**P**	**05 58 39.0**	**-0.3**
	comp=Z,334nm,1.3s,comp=Z,4μm						
MRSI	**Marisa**	**36.93**	**283**	P	P	05 58 36.6	-3.3
	comp=Z,106nm,1.3s,comp=Z,2μm						
CTBH	**Cotabato--PC H**	**37.13**	**295**	⇑*i*P	**P**	**05 58 42.9**	**+1.3**
DCZ	**Deep Cove**	**37.14**	**169**	*e*P	**P**	**05 58 41.5**	**+0.3**
	comp=Z,563nm,2.0s						
LBFI	**Labuhan Bajo,**	**37.43**	**268**	P	x	05 58 43.8	
	comp=Z,523nm,1.5s,comp=Z,6μm						
ODZ	**Otahua Downs**	**37.50**	**165**	*e*P	**P**	**05 58 43.7**	**-0.7**
	comp=Z,212nm,2.1s						
BKSI	**Bulukumba**	**37.52**	**273**	P	**P**	**05 58 45.0**	**+0.1**
	comp=Z,163nm,1.1s,comp=Z,3μm						
BNSI	**Bone**	**37.67**	**275**	P	**P**	**05 58 46.3**	**+0.1**
	comp=Z,274nm,1.2s,comp=Z,5μm						
KAPI	**Kappang**	**37.93**	**274**	P	**P**	**05 58 48.2**	**-0.2**
	comp=Z,1μm,1.3s,SNR=9.4						
KAPI	**Kappang**	**37.93**	**274**	*e*P	**P**	**05 58 47.8**	**-0.6**
	comp=Z,2μm,1.4s						
KAPI				LR	LR		
	comp=Z,13μm,20.0s						
SPSI	**Sidrap Palu**	**38.08**	**275**	P	**P**	**05 58 47.6**	**-2.0**
	comp=Z,164nm,1.4s,comp=Z,3μm						
TOLI	**Toli-Toli**	**38.20**	**284**	P	x	05 58 50.4	
	comp=Z,509nm,0.6s,comp=Z,23μm						
MBWA	**Marble Bar**	**38.52**	**247**	*e*P	**P**	**05 58 52.3**	**-1.0**
	comp=Z,108nm,1.0s						
MBWA				LR	LR		
	comp=Z,30μm,20.0s						
JCJ	**Chichijima**	**39.02**	**338**	LR	LR	06 14 31.3	
	comp=Z,17μm,18.7s,baz=313,slow=36						
MMSI	**Mamuju**	**39.15**	**277**	P	x	05 59 00.1	
	comp=Z,114nm,1.4s,comp=Z,4μm						
KMBL	**Kambalda**	**40.02**	**231**	P	**P**	**05 59 05.2**	**-0.5**
	baz=40,SNR=13						
MEEK	**Meekatharra**	**40.93**	**240**	P	**P**	**05 59 12.5**	**-0.8**
	baz=41,SNR=31						
MTNI	**Mataram**	**41.09**	**267**	P	x	05 59 14.1	
	comp=Z,224nm,1.4s,comp=Z,3μm						
BKB	**Balikpapan**	**41.41**	**278**	P	**P**	**05 59 19.5**	**+2.2**
	comp=Z,540nm,1.4s,comp=Z,8μm						
MYLDM	**Lahad Datu**	**41.63**	**288**	P	x	05 59 20.2	
	comp=Z,248nm,1.3s,comp=Z,6μm						
MYLDM	**Lahad Datu**	**41.63**	**288**	*e*P	**P**	**05 59 20.0**	**+0.8**
	comp=Z,473nm,1.4s						
KHKI	**Kahang-Kahang**	**41.66**	**268**	P	x	05 59 17.6	
	comp=Z,203nm,1.0s,comp=Z,3μm						
KBKI	**Kotabaru**	**41.73**	**275**	P	**P**	**05 59 20.1**	**+0.1**
	comp=Z,194nm,1.2s,comp=Z,3μm						
DNP	**Denpasar**	**42.03**	**267**	P	**P**	**05 59 23.1**	**+0.7**
	comp=Z,745nm,1.3s						
SRBI	**Singaraja**	**42.07**	**268**	P	**P**	**05 59 24.7**	**+1.9**
	comp=Z,161nm,1.4s,comp=Z,3μm						
RAR	**Rarotonga**	**42.58**	**111**	*e*P	**P**	**05 59 29.1**	**+2.2**
	comp=Z,1μm,2.4s						
RAR	**Rarotonga**	**42.58**	**111**	P	**P**	**05 59 25.7**	**-1.1**
	comp=Z,76nm,0.9s,baz=268,slow=5.2,SNR=5.6						
RAR				LR	LR	06 13 46.3	
	comp=Z,10μm,21.4s,baz=283,slow=31						
BBKI	**Banjar Baru**	**43.01**	**275**	P	**P**	**05 59 30.1**	**-0.3**
	comp=Z,365nm,1.2s,comp=Z,9μm						
ABJI	**Asem Bagus**	**43.06**	**268**	P	**P**	**05 59 31.3**	**+0.5**
	comp=Z,253nm,1.7s,comp=Z,6μm						
JAGI	**Jajag, Banyuwa**	**43.09**	**267**	P	**P**	**05 59 28.1**	**-2.9**
	comp=Z,552nm,1.3s,comp=Z,7μm						
JAGI	**Jajag, Banyuwa**	**43.09**	**267**	*e*P	**P**	**05 59 28.2**	**-2.9**
JAGI	**Jajag, Banyuwa**	**43.09**	**267**	P	**P**	**05 59 29.4**	**-1.7**
	baz=43,SNR=9.4						
KLBR	**Kellerberrin**	**43.33**	**233**	P	**P**	**05 59 31.5**	**-1.3**
	baz=43,SNR=11						
GMJI	**Gumukmas**	**43.80**	**268**	P	**P**	**05 59 35.9**	**-0.9**
	comp=Z,109nm,1.3s,comp=Z,3μm						
BLDU	**Balludu**	**43.81**	**235**	P	**P**	**05 59 35.5**	**-1.2**
	baz=44,SNR=23						
MORW	**Morawa**	**43.85**	**237**	P	**P**	**05 59 36.7**	**-0.3**
	baz=44,SNR=14						
KKM	**Kota Kinabalu**	**44.06**	**288**	*e*P	**P**	**05 59 38.5**	**-0.5**
	comp=Z,442nm,1.4s						
KKM				LR	LR		
	comp=Z,8μm,20.0s						
KKM	**Kota Kinabalu**	**44.06**	**288**	⇑P	**P**	**05 59 38.7**	**-0.3**
	baz=44						
MIDW	**Midway**	**44.20**	**32**	PFAKE		05 59 50.0	+10
MIDW				LR	LR		
	comp=Z,28μm,20.0s						
NWAO	**Narrogin (SRO)**	**44.25**	**232**	P	**P**	**05 59 39.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**44.25**	**232**	P	**P**	**05 59 39.2**	**-1.0**
	comp=Z,68nm,1.1s,baz=63,slow=6.6,SNR=16						
NWAO				LR	LR	06 18 03.3	
	comp=Z,39μm,20.2s,baz=231,slow=36						
KRKI	**Karangkates**	**44.79**	**268**	P	x	05 59 43.3	
	comp=Z,564nm,0.9s						
RKGY	**Rocky Gully**	**45.12**	**229**	⇓P	**P**	**05 59 48.3**	**+1.2**
	baz=45,SNR=4.9						
PWJI	**Pagerwojo**	**45.44**	**268**	P	**P**	**05 59 48.0**	**-1.9**
	comp=Z,292nm,1.0s,comp=Z,5μm						
JOW	**Kunigami**	**45.77**	**322**	*e*P	**P**	**05 59 53.0**	**+0.8**
	comp=Z,58nm,0.9s						
NGJI	**Ngawi**	**45.84**	**269**	P	P	05 59 58.7	+5.7
XMAS	**Kiritimati**	**45.98**	**78**	PFAKE		06 00 10.0	+16
XMAS				LR	LR		
	comp=Z,14μm,19.0s						
PCJI	**Pacitan**	**46.05**	**267**	P	**P**	**05 59 52.8**	**-1.9**
	comp=Z,720nm,1.2s,comp=Z,9μm						
PBKI	**Pangkalan Bun**	**46.26**	**275**	P	**P**	**05 59 56.8**	**+0.5**
	comp=Z,498nm,1.1s,comp=Z,9μm						
WOJI	**Wonogiri, Jawa**	**46.33**	**268**	P	**P**	**05 59 55.4**	**-1.5**
	comp=Z,361nm,1.5s,comp=Z,7μm						
UWJI	**Ujung Watu**	**46.44**	**270**	P	**P**	**05 59 56.0**	**-1.8**
	comp=Z,475nm,1.8s,comp=Z,7μm						
UGM	**Wanagama**	**46.71**	**268**	*e*P	**P**	**05 59 58.6**	**-1.4**
	comp=Z,349nm,1.1s						
UGM	**Wanagama

comp=Z,37µm,23.9s
XMI Christmas Isla 51.29 264 ⇓P **P 06 00 35.3 +0.3**
baz=51,SNR=3.2
XMIS Christmas Isla 51.33 264 ⇓P **P 06 00 33.9 -1.4**
baz=51
PAE Paea 51.79 105 *e*P **P 06 00 39.4 +0.7**
comp=Z,31nm,1.2s
PPT Papeete 51.79 105 P **P 06 00 40.6 +1.9**
PPT Papeete 51.79 105 P **P 06 00 40.6 +1.9**
comp=Z,56nm,0.7s,baz=357,slow=13,SNR=4.2
PPT LR LR 06 17 32.7
comp=Z,15µm,21.6s,baz=274,slow=30
PPT2 Papeete2 51.79 105 *e*P **P 06 00 39.9 +1.1**
comp=Z,155nm,1.4s
PPT2 *e*S **S 06 07 56.6 -2.7**
comp=Z,10µm,29.2s
PPT2 *e*LQ LQ 06 13 25.8
comp=Z,66µm,30.0s
PPT2 *e*LR LR 06 15 38.6
comp=Z,34nm,23.2s
TIAR Tiarei 52.01 105 *e*P **P 06 00 41.5 +1.1**
comp=Z,84nm,1.3s
TVO Taravao 52.10 105 *e*P **P 06 00 42.2 +1.1**
comp=Z,70nm,1.1s
TBI Tubuai 52.34 112 *e*P **P 06 00 43.6 +0.9**
comp=Z,596nm,1.3s
TBI *e*S **S 06 08 05.0 -1.5**
comp=Z,11µm,30.2s
TBI *e*LQ LQ 06 13 38.6
comp=Z,68µm,33.0s
TBI *e*LR LR 06 15 49.1
comp=Z,50µm,31.8s
ERM Erimo 52.60 346 ⇓*i*P **P 06 00 44.8 +0.6**
ERM pmax pmax
comp=Z,34nm,1.2s
ERM Erimo 52.60 346 PFAKE 06 01 00.0 +16
ERM LR LR
comp=Z,33µm,19.0s
HKC Hong Kong Obse 52.91 307 ⇑*i*P **P 06 00 48.0 +1.1**
KIP Kipapa 52.96 54 ⇓*i*P **P 06 00 47.8 +0.5**
KIP pmax pmax
comp=Z,503nm,2.0s
KIP Kipapa 52.96 54 *e*P **P 06 00 46.8 -0.4**
comp=Z,464nm,1.5s
KIP LR LR
comp=Z,26µm,19.0s
SSE Sheshan 53.16 320 P **P 06 00 49.9 +1.3**
SSE pP **pP 06 01 01.4 +3.2**
SSE S **S 06 08 19.7 +2.3**
SSE pmax pmax
comp=Z,56nm,1.0s
SSE pmax pmax
comp=Z,2µm,8.5s
SSE LR LR
comp=Z,7µm,19.6s
SSE LR LR
comp=Z,9µm,19.6s
SSE LR LR
comp=Z,12µm,19.3s
MEH Mehetia 53.24 105 *e*P **P 06 00 50.4 +0.9**
comp=Z,60nm,1.0s
DLV T Lat 53.26 292 *e*P **P 06 00 50.1 +0.3**
PMOR Pomariorio Ree 53.36 102 *e*P **P 06 00 51.8 +1.4**
comp=Z,714nm,1.2s
VAH Vaihoa 53.62 102 *e*P **P 06 00 53.4 +1.2**
comp=Z,328nm,1.3s
GZH Guangzhou 53.97 307 P **P 06 00 54.1 -0.5**
GZH S **S 06 08 30.4 +1.8**
GZH pmax pmax
comp=Z,5µm,10.3s
GZH LR LR
comp=Z,10µm,26.9s
GZH LR LR
comp=Z,21µm,23.3s
GZH LR LR
comp=Z,36µm,25.4s
YUK Yuzh-Kuril'sk 53.98 349*c* *i*P P 06 00 48.8 -5.5
YUK *i* S S 06 08 20.0 -7.9
YUK pmax pmax
comp=N,312nm,1.5s
YUK pmax pmax
comp=E,232nm,1.5s
YUK pmax pmax
comp=Z,387nm,1.5s
YUK pmax pmax
comp=Z,965nm,2.1s
KSRS Korea Array 54.09 331 P **P 06 00 55.9 +0.6**
comp=Z,24nm,0.8s,baz=149,slow=8.6,SNR=27
KSRS LR LR 06 21 25.0
comp=Z,10µm,21.3s,baz=140,slow=33
KSAR Wonju Array Be 54.10 331 P **P 06 00 55.9 +0.5**
POHA Pohakuloa 54.19 58 *e*P **P 06 00 56.5 -0.2**
comp=Z,706nm,1.4s
POHA LR LR
comp=Z,24µm,20.0s
PUH Pauahi 54.28 58 *e*P **P 06 00 56.4 -0.7**
ASAJ Asahikawa 54.72 347 *e*P **P 06 01 02.0 +2.3**
comp=Z,113nm,1.6s
ASAJ Asahikawa 54.72 347 P **P 06 01 02.0 +2.3**
comp=Z,22nm,0.8s,baz=232,slow=13,SNR=8.4
ASAJ LR LR 06 24 43.7
comp=Z,31µm,18.6s,baz=179,slow=36
INCN Inchon 54.74 330 *e*P **P 06 01 00.7 +0.6**
comp=Z,237nm,1.3s
INCN LR LR
comp=Z,8µm,19.0s
QIZ Qiongzhong 54.89 301 P **P 06 01 01.6 +0.1**
QIZ pP **pP 06 01 10.7 -0.4**
QIZ sP **sP 06 01 14.5 -0.4**
QIZ S **S 06 08 40.7 -0.5**
QIZ pmax pmax
comp=Z,66nm,1.1s
QIZ pmax pmax
comp=Z,2µm,10.6s
QIZ LR LR
comp=Z,6µm,23.2s
QIZ LR LR
comp=Z,4µm,31.0s
QIZ LR LR
comp=Z,21µm,31.0s
QIZ Qiongzhong 54.89 301 *e*P **P 06 01 01.5 0.0**
comp=Z,120nm,1.3s
QIZ LR LR
comp=Z,7µm,20.0s
NJ2 Nanjing 55.28 320 *e*P **P 06 01 04.4 +0.4**
NJ2 pP **pP 06 01 12.8 -0.9**
NJ2 sP **sP 06 01 18.3 +0.9**
NJ2 S **S 06 08 46.5 +0.5**
NJ2 sS **sS 06 09 02.5 +0.6**
NJ2 pmax pmax
comp=Z,90nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,11.4s
NJ2 LR LR
comp=Z,13µm,21.1s
NJ2 LR LR
comp=Z,9µm,19.4s
NJ2 LR LR
comp=Z,31µm,21.2s
VLA Vladivostok 57.07 338 ⇑*i*P **P 06 01 16.4 -0.2**
VLA *e* 06 02 10.0
VLA *e*S **S 06 09 11.4 +2.1**
VLA pmax pmax
comp=Z,163nm,1.7s
BKNI Bangkinang 57.25 276 *e*P **P 06 01 18.1 -0.4**
WHN Wuhan 57.35 315 P **P 06 01 18.7 -0.1**
WHN S **S 06 09 13.0 -0.5**
WHN LR LR
comp=Z,15µm,18.2s
WHN LR LR
comp=Z,32µm,21.5s
WHN LR LR
comp=Z,42µm,21.8s
YSS Yuzh-Sakhalins 57.39 348 *e*P **P 06 01 17.8 -0.9**
YSS *e**PP **pP 06 01 28.0 -0.4**
YSS *e*PPP PPP 06 04 47.0
YSS *e*S **S 06 09 15.0 +1.7**
YSS *e*PS **PnS 06 09 24.0 -3.2**
YSS pmax pmax
comp=Z,140nm,1.2s
YSS MLR MLR
comp=Z,20µm,18.0s
YSS Yuzh-Sakhalins 57.39 348 *e*P **P 06 01 18.9 +0.2**
comp=Z,171nm,1.3s
YSS LR LR
comp=Z,7µm,20.0s

PPI Padang Panjang 57.74 275 ⇓P **P 06 01 21.9 0.0**
baz=58,SNR=3.7
USRK Ussuriysk Arra 57.96 338 P **P 06 01 22.8 -0.1**
comp=Z,51nm,1.0s,baz=152,slow=6.0,SNR=34
USRK LR LR 06 26 23.2
comp=Z,10µm,18.8s,baz=133,slow=36
IPM Ipoh 58.14 281 *e*P **P 06 01 22.6 -2.1**
comp=Z,103nm,1.1s
DL2 Dalian 58.40 327 ⇑*i*P **P 06 01 26.0 0.0**
DL2 S **S 06 09 29.3 +2.4**
DL2 pmax pmax
comp=Z,50nm,1.1s
DL2 pmax pmax
comp=Z,1µm,9.5s
DL2 LR LR
comp=Z,7µm,15.1s
DL2 LR LR
comp=Z,3µm,13.5s
DL2 LR LR
comp=Z,6µm,25.9s
KULM Kulim 58.70 282 *e*P **P 06 01 27.6 -1.0**
comp=Z,98nm,1.2s
KULM LR LR
comp=Z,9µm,21.0s
TIA Tai'an 59.09 322 P **P 06 01 29.6 -1.4**
TIA PP **PP 06 03 43.3 +1.4**
TIA S **S 06 09 37.5 +1.4**
TIA pmax pmax
comp=Z,50nm,1.2s
TIA pmax pmax
comp=Z,2µm,9.8s
TIA LR LR
comp=Z,9µm,13.7s
TIA LR LR
comp=Z,7µm,17.2s
TIA LR LR
comp=Z,8µm,16.7s
MDJ Mudanjiang 59.22 337 P **P 06 01 31.0 -0.6**
MDJ pP **pP 06 01 39.3 -2.0**
MDJ sP **sP 06 01 42.8 -2.3**
MDJ ScP **ScP 06 06 15.4 -2.9**
MDJ S **S 06 09 41.6 +4.2**
MDJ sS **sS 06 09 52.7 -0.7**
MDJ pmax pmax
comp=Z,55nm,1.8s
MDJ pmax pmax
comp=Z,1µm,10.0s
MDJ LR LR
comp=Z,10µm,17.1s
MDJ LR LR
comp=Z,14µm,17.1s
MDJ LR LR
comp=Z,15µm,21.3s
MDJ Mudanjiang 59.22 337 *e*P **P 06 01 31.8 +0.1**
comp=Z,142nm,1.3s
MDJ LR LR
comp=Z,12µm,22.0s
SKR Severo-Kuril's 59.55 359 *e*P **P 06 01 31.0 -2.7**
SKR *e*S **S 06 09 38.0 -3.4**
SKR pmax pmax
comp=N,640nm,1.5s
SKR pmax pmax
comp=Z,790nm,1.5s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,2µm,6.0s
SKR pmax pmax
comp=E,2µm,5.0s
SKR pmax pmax
comp=N,5µm,12.0s
SKR pmax pmax
comp=E,8µm,10.0s
SKR MLR MLR
comp=Z,9µm,18.0s
SKR MLR MLR
comp=N,4µm,16.0s
SKR MLR MLR
comp=E,8µm,16.0s
SNY Shenyang 59.59 331 ⇓P **P 06 01 32.1 -2.1**
SNY S **S 06 09 42.5 +0.2**
SNY SS **SS 06 13 35.4 -3.0**
SNY pmax pmax
comp=E,2µm,10.5s
SNY LR LR
comp=E,9µm,25.9s
SNY LR LR
comp=E,7µm,24.3s
SNY LR LR
comp=E,14µm,37.4s
PSI Prapat 59.82 279 LR LR 06 28 15.3
comp=E,8µm,21.6s,baz=106,slow=37
PSI Prapat 59.82 279 P **P 06 01 34.3 -2.3**
baz=60,SNR=11
COCO West Island 59.86 261 *e*P **P 06 01 35.6 -1.0**
COCO pmax pmax
comp=Z,313nm,1.3s
COCO MLR MLR
comp=Z,11µm,22.0s
COCO West Island 59.86 261 *e*P **P 06 01 35.6 -1.0**
comp=Z,312nm,1.3s
COCO LR LR
comp=Z,11µm,22.0s
CN2 Changchun 60.27 334 *e*P **P 06 01 39.2 +0.3**
CN2 *e*PP **PP 06 03 54.5 +2.4**
CN2 *e*S **S 06 09 54.1 +3.2**
CN2 pmax pmax
comp=Z,70nm,1.4s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,9µm,18.0s
CN2 LR LR
comp=Z,8µm,18.0s
CN2 LR LR
comp=Z,12µm,20.0s
ENH Enshi 60.67 312 *e*P **P 06 01 41.3 -0.6**
comp=Z,64nm,0.9s
HABR Khabarovsk 60.73 343*c* *i*P **P 06 01 39.9 -2.0**
HABR *e**PP **pP 06 01 50.0 -1.6**
HABR *e**SP **sP 06 01 54.2 -1.2**
HABR *e* 06 02 22.9
HABR *e* 06 03 54.6
HABR *e*PPP PPP 06 05 19.2
HABR *e*S **S 06 09 57.1 +0.5**
HABR *e**SS **sS 06 10 13.8 +1.1**
HABR *e* 06 11 28.3
HABR *e*SS **SS 06 13 57.7 +1.7**
HABR pmax pmax
comp=Z,385nm,1.5s
HABR pmax pmax
comp=E,93nm,4.6s
HABR pmax pmax
comp=N,91nm,4.6s
HABR pmax pmax
comp=Z,455nm,1.7s
HABR MLR MLR
comp=Z,9µm,18.0s
GSI Gunungsitoli 60.84 277 *e*P **P 06 01 41.4 -2.0**
GSI Gunungsitoli 60.84 277 ⇑P **P 06 01 42.3 -1.1**
baz=61
GYA Guiyang 60.90 307 ⇑*i*P **P 06 01 45.2 +1.5**
GYA pP **pP 06 01 55.9 +2.4**
GYA PcP **PcP 06 02 27.6 +0.5**
GYA PP **PP 06 04 01.5 +3.3**
GYA ScP **ScP 06 06 25.9 -0.5**
GYA S **S 06 09 58.0 -2.0**
GYA sS **sS 06 10 17.3 +1.3**
GYA SS **SS 06 14 00.3 +0.5**
GYA pmax pmax
comp=Z,90nm,1.0s
GYA pmax pmax
comp=Z,6µm,5.1s
GYA LR LR
comp=Z,9µm,19.8s
GYA LR LR
comp=Z,7µm,20.6s
GYA LR LR
comp=Z,8µm,18.4s
SLVN Son La 60.91 301 *e*P **P 06 01 43.5 -0.3**
TAOE Nuku Hiva Isla 61.25 95 *e*LQ LQ 06 17 19.3
comp=Z,15µm,24.6s
TAOE *e*LR LR 06 19 59.7
comp=Z,16µm,22.2s
PET Petropavlovsk 61.88 1 *e*P **P 06 01 49.1 -0.4**
PET *e*S **S 06 10 06.4 -4.7**

PET *e*SS **SS 06 14 09.2 -4.7**
PET pmax pmax
comp=Z,280nm,1.4s
PET pmax pmax
comp=Z,2µm,8.2s
PET Petropavlovsk 61.88 1 *e*P **P 06 01 49.2 -0.4**
comp=Z,442nm,1.4s
PET LR LR
comp=Z,11µm,19.0s
PEA0B Petropavlovsk- 61.96 360 *e*P **P 06 01 50.3 +0.1**
PETK Petropavlovsk- 61.96 360 P **P 06 01 49.8 -0.4**
PETK Petropavlovsk- 61.96 360 P **P 06 01 49.8 -0.4**
PETK Petropavlovsk- 61.96 360 P **P 06 01 49.8 -0.4**
comp=Z,215nm,1.1s,baz=162,slow=8.2,SNR=33
BJT Baijiatuan 62.19 325 PFAKE 06 02 00.0 +8.0
BJT LR LR
comp=Z,9µm,19.0s
BJI Beijing 62.20 325 P **P 06 01 49.8 -2.2**
BJI sP **sP 06 02 06.4 +0.9**
BJI PP **PP 06 04 11.5 +2.2**
BJI S **S 06 10 18.6 +3.0**
BJI SS **SS 06 14 20.2 +0.8**
BJI pmax pmax
comp=Z,2µm,10.9s
BJI LR LR
comp=Z,6µm,23.7s
BJI LR LR
comp=Z,8µm,21.6s
BJI LR LR
comp=Z,15µm,28.4s
LHMI Lhok Sumawe 62.27 281 *e*P **P 06 01 52.2 -0.8**
KLR Kul'dur 62.41 341 *e*P P 06 01 48.2 -5.0
KLR *e*S **S 06 10 13.5 -4.5**
KLR *e* 06 14 23.5
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,300nm,1.8s
KLR pmax pmax
comp=Z,3µm,9.5s
KLR smax smax
comp=N,5µm,10.0s
KLR smax smax
comp=E,3µm,10.0s
TIY Taiyuan 62.94 321 *e*P **P 06 01 56.4 -0.7**
TIY S **S 06 10 22.4 -2.9**
TIY pmax pmax
comp=E,1µm,9.3s
TIY LR LR
comp=E,10µm,16.8s
TIY LR LR
comp=E,5µm,16.0s
TIY LR LR
comp=E,10µm,19.6s
XAN Xi'an 63.12 315 P **P 06 01 57.3 -1.1**
XAN pP **pP 06 02 07.2 -0.9**
XAN PP **PP 06 04 12.8 -4.8**
XAN S **S 06 10 24.0 -3.5**
XAN pmax pmax
comp=E,16nm,0.9s
XAN pmax pmax
comp=E,520nm,9.4s
XAN LR LR
comp=E,8µm,24.5s
XAN LR LR
comp=E,4µm,24.5s
XAN LR LR
comp=E,6µm,24.5s
FX1 Attu Island--F 63.12 10 *e*P **P 06 01 56.4 -1.5**
FX1 Attu Island--F 63.12 10 P **P 06 01 57.2 -0.7**
comp=E,44nm,0.6s,baz=144,slow=5.0,SNR=14
KMI Kunming 63.46 304 P **P 06 02 01.3 +0.3**
KMI pP **pP 06 02 11.6 +0.8**
KMI sP **sP 06 02 17.3 +2.8**
KMI PcP **PcP 06 02 39.0 +1.4**
KMI PP **PP 06 04 24.7 +3.8**
KMI S **S 06 10 30.5 -2.0**
KMI sS **sS 06 10 46.7 -1.9**
KMI SKS **SKSac 06 11 49.4 -3.2**
KMI SS **SS 06 14 40.0 -0.1**
KMI pmax pmax
comp=E,31nm,1.7s
KMI pmax pmax
comp=E,2µm,6.3s
KMI LR LR
comp=E,4µm,18.9s
KMI LR LR
comp=E,11µm,20.4s
KMI LR LR
comp=E,18µm,18.9s
CMAR Chiang Mai Arr 64.16 296 LR LR 06 30 17.4
comp=E,4µm,20.7s,baz=307,slow=36
CHTO Chiang Mai 64.28 296 *e*P **P 06 02 05.8 -0.5**
CHTO pmax pmax
comp=Z,127nm,1.2s
CHTO MLR MLR
comp=Z,4µm,21.0s
CHTO Chiang Mai 64.28 296 *e*P **P 06 02 05.8 -0.5**
comp=Z,127nm,1.2s
CHTO LR LR
comp=Z,4µm,21.0s
ADK Adak 64.60 17 *e*P **P 06 02 07.6 0.0**
ADK pmax pmax
comp=Z,489nm,1.3s
ADK MLR MLR
comp=Z,19µm,21.0s
ADK Adak 64.60 17 *e*P **P 06 02 07.5 0.0**
comp=Z,489nm,1.3s
ADK LR LR
comp=Z,19µm,21.0s
CD2 Chengdu 65.26 310 ⇑*i*P **P 06 02 12.2 -0.3**
CD2 sP **sP 06 02 27.6 +1.6**
CD2 PcP **PcP 06 02 47.6 +2.9**
CD2 PP **PP 06 04 35.9 -0.5**
CD2 S **S 06 10 52.1 -2.1**
CD2 SS **SS 06 15 10.2 +2.5**
CD2 pmax pmax
comp=Z,110nm,1.0s
CD2 pmax pmax
comp=Z,3µm,9.5s
CD2 LR LR
comp=Z,8µm,25.0s
CD2 LR LR
comp=Z,14µm,22.6s
CD2 LR LR
comp=Z,16µm,23.8s
HHC Hu-ho-hao-te 65.41 323 *e*P **P 06 02 13.0 -0.3**
HHC sP **sP 06 02 28.8 +1.9**
HHC S **S 06 10 53.2 -2.6**
HHC SS **SS 06 15 07.3 -2.4**
HHC pmax pmax
comp=Z,62nm,1.3s
HHC pmax pmax
comp=Z,3µm,5.2s
HHC LR LR
comp=Z,18µm,19.4s
HHC LR LR
comp=Z,6µm,15.7s
HHC LR LR
comp=Z,17µm,22.0s
CASY Casey 65.48 199 *e*P **P 06 02 11.7 -1.5**
comp=Z,277nm,1.6s
CASY LR LR
comp=Z,20µm,19.0s
RKT Rikitea 65.62 111 *e*P **P 06 02 16.3 +1.4**
comp=Z,140nm,1.1s
RKT *e*S **S 06 10 56.8 -2.0**
comp=Z,7µm,36.2s
RKT *e*LQ LQ 06 19 12.2
comp=Z,16µm,34.8s
RKT *e*LR LR 06 21 59.1
comp=Z,31µm,31.5s
BTO Baotou 66.19 322 *e*P **P 06 02 16.6 -1.7**
HIA Hailar 66.99 334 *e*P **P 06 02 23.7 +0.5**
comp=Z,51nm,0.9s
HIA LR LR
comp=Z,8µm,21.0s
LZH Lanzhou 67.73 315 ⇑P **P 06 02 28.7 +0.4**
LZH pP **pP 06 02 39.6 +1.4**
LZH sP **sP 06 02 43.6 +1.7**
LZH S **S 06 11 23.2 -1.0**
LZH sS **sS 06 11 41.1 +0.6**
LZH SS **SS 06 15 47.3 +1.2**
LZH pmax pmax

LZH comp=Z,170nm,1.2s pmax pmax
LZH comp=Z,2µm,8.6s LR LR
LZH comp=Z,8µm,15.8s LR LR
LZH comp=Z,10µm,16.0s LR LR
LZH comp=Z,18µm,18.5s LR LR
PBA Port Blair 67.85 287 *e*P P 06 02 30.0 +0.7
VNDA Vanda 68.43 179 *e*P **P 06 02 31.7 -0.1**
comp=Z,57nm,1.3s
VNDA Vanda 68.43 179 P **P 06 02 32.2 +0.4**
comp=Z,111nm,0.9s,baz=344,slow=7.3,SNR=21
VNDA LR LR 06 27 48.2
comp=Z,12µm,19.3s,baz=359,slow=32
SBA Scott Base 68.89 178 *e*P **P 06 02 35.9 +1.3**
SBA pmax pmax
comp=Z,227nm,1.8s
SBA MLR MLR
comp=Z,9µm,20.0s
SBA Scott Base 68.89 178 *e*P **P 06 02 35.9 +1.3**
comp=Z,227nm,1.8s
SBA LR LR
comp=Z,9µm,20.0s
UNV Unalaska Valle 69.61 22 *e*P **P 06 02 40.4 +1.0**
comp=Z,253nm,1.4s
PTCN Pitcairn Islan 70.07 113 PFAKE 06 03 00.0 +17
PTCN LR LR
comp=Z,9µm,21.0s
CLNS Chul'man 71.06 342 *e*P **P 06 02 47.6 -0.7**
CLNS *e**PP **pP 06 02 58.5 +0.3**
CLNS *e* 06 03 05.7
CLNS *e*S **S 06 12 02.6 +0.2**
CLNS *e* 06 12 46.1
CLNS pmax pmax
comp=E,24nm,1.2s
CLNS pmax pmax
comp=Z,129nm,1.3s
CLNS pmax pmax
comp=N,85nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=Z,16nm,1.3s
CLNS pmax pmax
comp=N,20nm,1.2s
CLNS smax smax
comp=E,1µm,10.5s
CLNS smax smax
comp=N,2µm,11.2s
CLNS MLR MLR
comp=E,3µm,16.0s
CLNS MLR MLR
comp=Z,6µm,18.0s
CLNS MLR MLR
comp=N,5µm,17.0s
FALS False Pass 71.53 22 *e*P **P 06 02 52.5 +1.4**
comp=N,145nm,0.9s
CIT Chita 71.71 333 *e*P P 06 02 55.6 +3.3
CIT *e* 06 03 06.6
CIT *e* 06 03 11.1
CIT pmax pmax
comp=Z,309nm,2.1s
MIR Mirnyy 71.79 202⇑ *i*P **P 06 02 53.0 +0.5**
MIR *e* 06 03 11.0
MIR *e*S **S 06 12 16.0 +5.5**
MIR *e*PS PnS 06 13 02.0 +19
MIR *e*SS **SS 06 16 50.0 +3.4**
MIR pmax pmax
comp=Z,210nm,1.0s
MIR pmax pmax
comp=Z,1µm,4.0s
SEY Seymchan 71.94 357⇓ *i*P **P 06 02 53.4 0.0**
SEY Seymchan 71.94 357 P **P 06 02 54.0 +0.7**
SEY Seymchan 71.94 357 P **P 06 02 54.0 +0.7**
comp=Z,166nm,1.3s,baz=176,slow=8.0,SNR=44
GTA Gaotai 72.14 316⇑ P **P 06 02 55.7 +0.4**
GTA pP **pP 06 03 05.6 +0.3**
GTA sP **sP 06 03 10.5 +1.5**
GTA S **S 06 12 16.4 +0.6**
GTA sS **sS 06 12 33.5 +1.3**
GTA SS **SS 06 16 54.1 +0.2**
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,2µm,6.7s
GTA LR LR
comp=Z,6µm,20.2s
GTA LR LR
comp=Z,9µm,22.8s
GTA LR LR
comp=Z,11µm,23.0s
ULN Ulaanbaatar 72.25 327 *e*P **P 06 02 55.2 -0.6**
comp=Z,91nm,1.3s
ULN LR LR
comp=Z,6µm,19.0s
SONM Songino Array 72.59 327 P **P 06 02 58.1 +0.3**
SONM P'P' 06 30 43.0
SONM Songino Array 72.59 327 P **P 06 02 58.1 +0.3**
comp=Z,18nm,0.7s,baz=135,slow=5.6,SNR=42
SONM PKPPKP **P'P'df 06 30 43.0 +2.6**
comp=Z,0.7nm,1.0s,baz=329,slow=2.6,SNR=4.8
SONM LR LR 06 33 18.7
comp=Z,10µm,22.0s,baz=128,slow=35
SHL Shillong 72.72 300⇑ *i*P **P 06 02 58.5 -0.6**
SHL *ex* **S 06 12 25.5 +2.5**
SDPT Sand Point 73.03 23 *e*P **P 06 03 00.7 +0.7**
comp=Z,452nm,1.6s
LSA Lhasa 74.72 304 P **P 06 03 11.3 +0.2**
LSA sP **sP 06 03 23.8 -1.0**
LSA S **SKiKP 06 12 39.9 +5.3**
LSA LR LR
comp=Z,2µm,25.1s
LSA LR LR
comp=Z,6µm,26.1s
LSA LR LR
comp=Z,13µm,25.1s
LSA Lhasa 74.72 304 *e*P **P 06 03 11.4 +0.2**
LSA pmax pmax
comp=Z,98nm,1.2s
LSA MLR MLR
comp=Z,10µm,22.0s
LSA Lhasa 74.72 304 *e*P **P 06 03 11.4 +0.2**
comp=Z,98nm,1.2s
LSA LR LR
comp=Z,10µm,22.0s
TLY Talaya 76.27 329 P **P 06 03 19.5 +0.5**
comp=Z,173nm,1.0s,SNR=5.8
TLY Talaya 76.27 329*c* *i*P **P 06 03 16.3 -2.7**
TLY *e* 06 03 35.1
TLY *e*S **S 06 13 03.6 +2.2**
TLY *e* 06 13 26.8
TLY *e*SS **SS 06 17 53.8 -2.1**
TLY pmax pmax
comp=Z,72nm,1.5s
TLY MLR MLR
comp=Z,5µm,17.0s
TLY Talaya 76.27 329 *e*P **P 06 03 18.6 -0.3**
comp=Z,142nm,1.7s
TLY LR LR
comp=Z,5µm,21.0s
IRK Irkutsk 76.27 329 *e*P **P 06 03 18.4 -0.6**
IRK pmax pmax
comp=Z,188nm,2.3s
GAMB Gambell 76.28 13 *e*P **P 06 03 18.4 -0.3**
comp=Z,145nm,1.2s
OHAK Old Harbor 77.23 25 *e*P **P 06 03 23.9 -0.3**
comp=Z,91nm,1.0s
BOK Bokaro 77.39 297 *e*P **P 06 03 26.4 +0.5**
BOK AMB AMB 06 03 43.0
comp=Z,139nm,6.3s
MOY Mondy 77.64 328 *e*P **P 06 03 26.1 -0.7**
MOY pmax pmax
comp=Z,143nm,3.1s
KDAK Kodiak Island 77.89 25 *e*P **P 06 03 27.8 0.0**
comp=Z,58nm,1.0s
KDAK LR LR
comp=Z,13µm,21.0s
VIS Vishakhapatnam 78.17 290 *e*P **P 06 03 30.1 -0.2**
PALK Pallekele 78.49 279 P **P 06 03 33.3 +1.1**
comp=Z,748nm,1.2s,SNR=16
PALK Pallekele 78.49 279 *e*P **P 06 03 32.9 +0.7**
comp=Z,424nm,1.3s
TNA Tin City 78.67 14 *e*P **P 06 03 31.5 -0.5**
comp=Z,173nm,1.2s

SEW Seward 80.61 24 *e*P **P 06 03 42.4 -0.2**
comp=Z,201nm,1.2s
QSPA South Pole Qui 80.89 180 PFAKE 06 04 00.0 +16
QSPA LR LR
comp=Z,8µm,19.0s
RC01 Rabbit Creek A 81.09 23 *e*P **P 06 03 44.3 -1.0**
comp=Z,490nm,1.6s
PPLA Purkeypile 81.33 21 *e*P **P 06 03 46.7 +0.1**
comp=Z,607nm,1.6s
PAF Port-aux-Franc 81.58 221 PFAKE 06 04 00.0 +12
PAF LR LR
comp=Z,11µm,19.0s
PMR Palmer 81.63 23 *e*P **P 06 03 47.5 -0.6**
PMR pmax pmax
comp=Z,401nm,1.5s
PMR Palmer 81.63 23 *e*P **P 06 03 47.5 -0.6**
comp=Z,401nm,1.5s
KTH Kantishna Hill 82.19 21 *e*P **P 06 03 49.9 -1.2**
comp=Z,294nm,1.3s
WMQ Urumqi 82.23 317 P **P 06 03 50.8 -1.0**
WMQ pP **pP 06 04 01.2 -0.6**
WMQ sP **sP 06 04 05.1 -0.4**
WMQ PP **PP 06 07 01.3 +0.7**
WMQ S **S 06 14 06.0 +0.9**
WMQ sS **sS 06 14 23.4 +1.6**
WMQ SS **SS 06 19 23.0 -2.8**
WMQ pmax pmax
comp=Z,130nm,1.5s
WMQ pmax pmax
comp=Z,720nm,4.0s
WMQ LR LR
comp=Z,8µm,23.1s
WMQ LR LR
comp=Z,7µm,23.9s
WMQ LR LR
comp=Z,14µm,24.8s
TRF Thorofare Moun 82.35 21 *e*P **P 06 03 50.8 -1.3**
comp=Z,241nm,1.4s
TRD Trivandrum 82.36 280 *e*P **P 06 03 53.4 +0.4**
TRD AMB AMB 06 04 07.9
comp=Z,112nm,1.4s
HYB Hyderabad 82.55 289 *i* P **P 06 03 53.0 -1.0**
HYB *e*PcP **PcP 06 03 58.0 -1.0**
HYB *e*PP **pP 06 04 04.0 0.0**
HYB *e*S **S 06 14 12.0 +2.7**
HYB Hyderabad 82.55 289 *e*P **P 06 03 53.0 -1.0**
DIV Divide 82.68 24 *e*P **P 06 03 54.7 +1.0**
comp=Z,253nm,1.5s
IM04 Indian Mountai 82.83 18 *e*P **P 06 03 53.9 -0.5**
TIXI Tiksi 82.83 351⇓ *i*P **P 06 03 54.4 +0.2**
TIXI pmax pmax
comp=Z,169nm,1.7s
TIXI Tiksi 82.83 351 *e*P **P 06 03 55.1 +1.0**
comp=Z,264nm,1.7s
TIXI LR LR
comp=Z,14µm,21.0s
NGP Nagpur 82.88 293 *e*P **P 06 03 53.8 -1.8**
NGP AMB AMB 06 04 11.8
comp=Z,127nm,7.8s
NGP *ex* **S 06 14 10.6 -1.9**
MCK McKinley 83.00 21 *e*P **P 06 03 54.3 -1.0**
MCK pmax pmax
comp=Z,512nm,1.1s
MCK McKinley 83.00 21 *e*P **P 06 03 54.3 -1.0**
comp=Z,512nm,1.1s
MAW Mawson 83.52 203 P **P 06 03 58.2 +0.2**
MAW Mawson 83.52 203 P **P 06 03 58.2 +0.2**
comp=Z,75nm,1.2s,baz=87,slow=6.1,SNR=12
MAW LR LR 06 38 50.3
comp=Z,7µm,19.4s,baz=89,slow=34
LGTI Lohaghat 83.73 301 *e*P **P 06 03 59.2 -0.5**
PAX Paxson 83.83 23 *e*P **P 06 03 59.4 -0.2**
PAX pmax pmax
comp=Z,184nm,1.6s
PAX Paxson 83.83 23 *e*P **P 06 03 59.4 -0.2**
comp=Z,184nm,1.6s
COLA College 84.06 20⇓ *i*P **P 06 03 59.8 -0.8**
COLA pmax pmax
comp=Z,1µm,1.8s
COLA College 84.06 20 *e*P **P 06 03 58.4 -2.2**
comp=Z,142nm,0.9s
COLA LR LR
comp=Z,10µm,20.0s
DGAR Diego Garcia 84.25 263 PFAKE 06 04 10.0 +7.2
DGAR LR LR
comp=Z,7µm,22.0s
ILAR Eielson Array 84.33 21 P **P 06 03 59.6 -2.5**
ILAR PKKPbc **PKKPbc 06 22 18.7 +1.1**
ILAR P'P' 06 30 20.0
ILAR Eielson Array 84.33 21 P **P 06 03 59.6 -2.5**
comp=Z,13nm,0.9s,baz=253,slow=4.5,SNR=65
ILAR PKKPbc **PKKPbc 06 22 18.7 +1.1**
comp=Z,0.3nm,0.5s,baz=9.9,slow=0.9,SNR=4.4
ILAR PKPPKP **P'P'df 06 30 20.0 +1.6**
comp=Z,0.3nm,0.9s,baz=10.0,slow=3.1,SNR=4.2
ILAR LR LR 06 38 11.4
comp=Z,14µm,19.8s,baz=248,slow=33
MENT Mentasta 84.48 23 *e*P **P 06 04 02.8 -0.1**
DOT Dot Lake 84.73 22 *e*P **P 06 04 04.2 +0.1**
comp=Z,118nm,0.9s
COLD Coldfoot 84.73 18 *e*P **P 06 04 04.3 +0.2**
comp=Z,261nm,1.6s
BHPL Bhopal 84.79 294 *e*P **P 06 04 04.5 -0.9**
BHPL AMB AMB 06 04 17.9
comp=Z,117nm,1.1s
SIT Sitka 85.41 30 *e*P P 06 04 10.9 +3.3
SIT pmax pmax
comp=Z,282nm,1.5s
SIT Sitka 85.41 30 *e*P P 06 04 10.9 +3.3
comp=Z,282nm,1.5s
DDI Dehra Dun 85.78 301 *e*P **P 06 04 09.3 -0.9**
DDI AMB AMB 06 04 23.3
comp=Z,183nm,2.1s
NDI New Delhi 86.13 300 *ex* P 06 04 06.0 -5.9
NDI *ex* **S 06 14 40.0 -4.7**
SKAG Skagway 86.40 28 *e*P **P 06 04 13.5 +1.1**
comp=Z,283nm,1.3s
EGAK Eagle 86.41 22 *e*P **P 06 04 12.6 +0.3**
comp=Z,457nm,1.5s
EGAK LR LR
comp=Z,12µm,20.0s
GOA Goa 86.63 286 *e*P **P 06 04 14.4 -0.1**
WRAK Wrangell Islan 86.67 32 *e*P P 06 04 17.6 +3.8
comp=Z,133nm,1.3s
WRAK LR LR
comp=Z,15µm,22.0s
SMLA Simla 86.70 302 *e*P **P 06 04 12.5 -2.1**
SMLA *e*P **PcP 06 04 13.2 -3.7**
SMLA AMB AMB 06 04 18.8
comp=Z,122nm,0.4s
MK31 Makanchi Array 86.79 318 *e*P **P 06 04 13.3 -1.4**
MK31 pmax pmax
comp=Z,89nm,1.0s
MK31 Makanchi Array 86.79 318 *e*P **P 06 04 13.6 -1.1**
MKAR Makanchi Array 86.79 318 P **P 06 04 13.7 -1.0**
MKAR Makanchi Array 86.79 318 P **P 06 04 13.7 -1.0**
MKAR PKKPbc **PKKPbc 06 22 14.1 +3.2**
MKAR P'P' 06 30 22.1
MKAR Makanchi Array 86.79 318 P **P 06 04 13.7 -1.0**
comp=Z,33nm,0.9s,baz=102,slow=5.4,SNR=127
MKAR PKKPbc **PKKPbc 06 22 14.1 +3.2**
comp=Z,1.0nm,0.8s,baz=262,slow=2.5,SNR=6.3
MKAR PKPPKP P'P'df 06 30 22.1 +6.8
comp=Z,0.5nm,0.8s,baz=287,slow=2.0,SNR=3.6
MKAR LR LR 06 41 45.7
comp=Z,5µm,21.1s,baz=97,slow=35
MKAR Makanchi Array 86.79 318⇓ P **P 06 04 13.7 -1.0**
baz=87
KCPM Cahto Peak 87.13 49 *e*P **P 06 04 17.6 +0.9**
comp=Z,83nm,1.3s
POO Poona 87.15 289 *e*P **P 06 04 16.5 -0.6**
POO AMB AMB 06 04 33.6
comp=Z,75nm,8.2s
KHMM Horse Mountain 87.31 48 *e*P **P 06 04 20.5 +2.9**
comp=Z,86nm,1.1s
HOPS Hopland 87.35 50 *e*P **P 06 04 19.6 +2.0**
comp=Z,140nm,1.2s
BHK Bhakra 87.39 302 *ex* **P 06 04 17.0 -1.0**
ZAA0 Zalesovo Array 87.45 326 *e*P **P 06 04 15.4 -2.3**
ZALV Zalesovo Beam 87.45 326 P **P 06 04 16.0 -1.7**
ZALV Zalesovo Beam 87.45 326 P **P 06 04 16.0 -1.7**
ZALV PKKPbc **PKKPbc 06 22 14.3 +4.8**
ZALV P'P' 06 30 26.0
ZALV Zalesovo Beam 87.45 326 P **P 06 04 16.0 -1.7**
comp=Z,7.0nm,0.5s,baz=108,slow=4.8,SNR=28
ZALV PKKPbc **PKKPbc 06 22 14.3 +4.8**
comp=Z,1.0nm,0.6s,baz=304,slow=3.4,SNR=4.4
ZALV PKPPKP P'P'df 06 30 26.0 +13
comp=Z,0.4nm,0.5s,baz=270,slow=3.0,SNR=4.6
ZALV LR LR 06 40 31.7
comp=Z,6µm,21.8s,baz=95,slow=34
BBB Bella Bella 87.56 36 LR LR 06 41 35.8
comp=Z,9µm,18.1s,baz=264,slow=34
DHRM DHARAMSHALA 87.67 303 *ex* P 06 04 15.9 -3.7
DHRM AMB AMB 06 04 23.8
comp=Z,125nm,1.8s
SAO San Andreas Ge 88.09 52 *e*P **P 06 04 22.9 +1.7**
SAO pmax pmax
comp=Z,545nm,2.2s
SAO San Andreas Ge 88.09 52 *e*P **P 06 04 22.9 +1.7**
comp=Z,545nm,2.2s
WDC Whiskeytown Da 88.12 49 *e*P **P 06 04 23.1 +1.8**
WDC pmax pmax
comp=Z,95nm,1.5s
WDC Whiskeytown Da 88.12 49 *e*P **P 06 04 23.1 +1.8**
comp=Z,95nm,1.5s
YBH Yreka Blue Hor 88.27 47 *e*P **P 06 04 23.9 +1.8**
comp=Z,97nm,1.4s
YBH Yreka Blue Hor 88.27 47 P **P 06 04 23.2 +1.1**
comp=Z,36nm,1.1s,baz=173,slow=3.0,SNR=10
YBH LR LR 06 41 40.2
comp=Z,7µm,18.2s,baz=259,slow=34
HUMO Hull Mountain 88.30 47 *e*P **P 06 04 23.8 +1.7**
comp=Z,171nm,1.8s
RPN Rapa Nui 88.47 117 PFAKE 06 04 30.0 +6.8
RPN LR LR
comp=Z,4µm,19.0s
DLBC Dease Lake 88.56 30 *e*P **P 06 04 25.6 +2.6**
DLBC Dease Lake 88.56 30 P **P 06 04 25.2 +2.2**
comp=Z,16nm,1.0s,baz=249,slow=8.9,SNR=8.2
DLBC LR LR 06 38 13.2
comp=Z,21µm,20.3s,baz=256,slow=32
NLWA Neilton Lookou 88.85 42 PFAKE 06 04 40.0 +15
NLWA LR LR
comp=Z,17µm,21.0s
M04C Macdoel 88.91 48⇑ P **P 06 04 27.1 +1.9**
baz=89
SMMC Simmler 88.93 54⇑ P **P 06 04 27.1 +1.9**
baz=89,SNR=9.9
BSC Santa Cruz Isl 88.95 55⇓ P **P 06 04 27.6 +2.2**
baz=89
I04A Tendick Farm, 88.97 45⇓ P **P 06 04 28.2 +2.9**
baz=89
SBC Santa Barbara 88.98 55⇑ P **P 06 04 28.1 +2.6**
baz=89
PKM Peak Mountain 88.99 55⇓ P **P 06 04 28.3 +2.6**
baz=89,SNR=22
J04D Umpqua Nationa 89.05 46⇑ P **P 06 04 28.2 +2.3**
baz=89
F04D Rainier, OR 89.10 43⇑ P P 06 04 29.4 +3.7
baz=89
K04D Chiloquin, OR 89.17 47⇓ P **P 06 04 29.4 +3.1**
baz=89
CMB Columbia Colle 89.19 51 *e*P **P 06 04 26.7 +0.3**
CMB pmax pmax
comp=Z,485nm,2.3s
CMB Columbia Colle 89.19 51 *e*P **P 06 04 26.7 +0.3**
comp=Z,485nm,2.3s
KSH Kashi 89.46 310 P **P 06 04 27.2 -0.5**
KSH PP **PP 06 07 59.0 -0.4**
KSH SKS **SKSac 06 14 52.1 -3.9**
KSH S **SKKSac 06 15 10.0 +1.6**
KSH sS **sS 06 15 29.4 -3.8**
KSH pmax pmax
comp=Z,520nm,4.4s
KSH LR LR
comp=Z,2µm,12.6s
KSH LR LR
comp=Z,3µm,15.5s
KSH LR LR
comp=Z,3µm,15.4s
AAA Alma-Ata 89.56 314 *e*P **P 06 04 29.4 +1.4**
AAA *e*S **SKSac 06 14 59.1 +2.8**
AAA pmax pmax
comp=Z,2µm,9.8s
AAA smax smax
comp=E,5µm,10.1s
AAA MLR MLR
comp=Z,8µm,20.0s
BEKR Beckworth 89.59 50 *e*P **P 06 04 29.0 +0.5**
comp=Z,253nm,2.1s
SCI San Clemente I 89.65 57⇓ P **P 06 04 31.1 +2.4**
baz=90
J05D Fort Rock, OR 89.69 46⇑ P **P 06 04 31.8 +3.1**
baz=90
RCTC Rector, Farmer 89.73 53⇑ P **P 06 04 31.8 +2.9**
baz=90
VES Vestal, Richgr 89.76 54⇓ P **P 06 04 30.8 +1.7**
baz=90,SNR=17
OSI Osito Adit 89.81 55 *e*P **P 06 04 31.5 +2.1**
comp=Z,201nm,1.5s
OSI Osito Adit 89.81 55⇓ P **P 06 04 31.8 +2.4**
baz=90
ARVC Arvin 89.83 55⇓ P **P 06 04 31.9 +2.5**
baz=90,SNR=21
I05D Terrebonne, OR 89.84 45⇓ P **P 06 04 31.7 +2.4**
baz=90
CIS Catalina Islan 89.85 56⇑ P **P 06 04 31.7 +2.1**
baz=90,SNR=20
WAKR Walker 90.01 51 *e*P **P 06 04 31.1 +0.6**
comp=Z,320nm,1.8s
PINOR Pine Mountain 90.06 46 *e*P **P 06 04 32.3 +2.0**
MOD Modoc 90.06 48 *e*P **P 06 04 31.2 +0.7**
comp=Z,118nm,1.5s
DECC Green Verdugo 90.06 55⇓ P **P 06 04 33.2 +2.6**
baz=90
PASC Pasadena Art C 90.17 56 *e*P **P 06 04 31.9 +0.9**
comp=Z,230nm,1.6s
KURK Kurchatov 90.17 321 P **P 06 04 29.8 -0.9**
comp=Z,120nm,1.5s,SNR=17
KURK Kurchatov 90.17 321⇓ *i*P **P 06 04 29.7 -0.9**
KURK pmax pmax
comp=Z,55nm,1.6s
KURK Kurchatov 90.17 321 *e*P **P 06 04 28.1 -2.5**
comp=Z,54nm,1.4s
KURK PKKPbc **PKKPbc 06 22 05.8 +3.1**
KURK LR LR
comp=Z,4µm,19.0s
KURBB Kurchatov Arra 90.21 321 P **P 06 04 29.6 -1.2**
comp=Z,17nm,1.2s,baz=106,slow=3.0,SNR=46
KURBB PKPPKP **PKKPbc 06 22 05.8 +3.2**
comp=Z,1.0nm,0.9s,baz=294,slow=3.0,SNR=7.0
ISA Isabella 90.22 54 *e*P **P 06 04 31.7 +0.4**
ISA pmax pmax
comp=Z,38nm,1.5s
ISA Isabella 90.22 54 *e*P **P 06 04 31.7 +0.4**
comp=Z,38nm,1.5s
ISA Isabella 90.22 54⇑ P **P 06 04 33.1 +1.8**
baz=90,SNR=44
MWC Mount Wilson 90.28 56 *e*P **P 06 04 32.0 +0.2**
MWC pmax pmax
comp=Z,250nm,1.3s
MWC Mount Wilson 90.28 56 *e*P **P 06 04 32.0 +0.2**
comp=Z,250nm,1.3s
PAHR Pah Rah Range 90.29 50 *e*P **P 06 04 32.4 +0.7**
comp=Z,231nm,1.4s
MLAC Mammoth Lakes 90.31 52⇓ P **P 06 04 35.0 +3.1**
baz=90
TKM2 Tokmak 2 90.44 313 *e*P **P 06 04 29.8 -2.6**
TKM2 pmax pmax
comp=Z,46nm,1.4s
TKM2 MLR MLR
comp=Z,5µm,20.0s
TKM2 Tokmak 2 90.44 313 *e*P **P 06 04 29.8 -2.6**
comp=Z,46nm,1.4s
TKM2 LR LR
comp=Z,5µm,20.0s
EDW2 Edwards Air Fo 90.46 55⇑ P **P 06 04 34.8 +2.4**
baz=91,SNR=68
BFSC Mount Baldy Ra 90.61 56⇓ P **P 06 04 35.3 +2.0**
baz=91,SNR=32
TIN Tinemaha 90.67 53⇑ P **P 06 04 36.4 +2.9**
baz=91
INK Inuvik 90.72 20 *e*P **P 06 04 31.9 -0.8**
comp=Z,195nm,1.6s
INK Inuvik 90.72 20 P **P 06 04 31.1 -1.7**
comp=Z,20nm,1.1s,baz=243,slow=7.2,SNR=22
INK LR LR 06 43 52.6
comp=Z,13µm,19.3s,baz=243,slow=35
LRMC Laurel Mountai 90.81 54⇑ P **P 06 04 36.8 +2.7**
baz=91,SNR=51
109C Camp Elliot, M 90.82 57⇑ P **P 06 04 36.5 +2.5**

baz=91,SNR=7.2
MURC Murrieta 90.87 56 ⇑P P 06 04 36.2 +1.8
baz=91,SNR=16
NVAR Mina Array Bea 90.87 51 P P 06 04 35.4 +0.9
NVAR P'P' 06 30 25.3
NVAR Mina Array Bea 90.87 51 P P 06 04 35.4 +0.9
comp=Z,21nm,0.9s,baz=247,slow=5.9,SNR=52
NVAR PKPPKP P'P'df 06 30 25.3 +16
comp=Z,0.7nm,0.9s,baz=62,slow=3.6,SNR=4.2
NVAR LR LR 06 39 12.5
comp=Z,9μm,19.3s,baz=98,slow=32
NV11 Mina Array Sit 90.99 51 *e*P P 06 04 35.5 +0.5
FRU Bishkek 91.13 313 *e*P P 06 04 38.0 +2.6
BAR Barrett 91.14 57 *e*P P 06 04 36.5 +0.9
comp=Z,122nm,1.6s
AAK Ala-Archa 91.18 313 P P 06 04 35.6 -0.2
comp=Z,149nm,0.9s,SNR=6.0
AAK Ala-Archa 91.18 313 ⇓*i*P P 06 04 35.0 -0.8
AAK pmax pmax
comp=Z,109nm,1.7s
AAK Ala-Archa 91.18 313 *e*P P 06 04 34.4 -1.4
comp=Z,50nm,1.3s
AAK Ala-Archa 91.18 313 P P 06 04 35.3 -0.5
comp=Z,10nm,0.9s,baz=149,slow=3.4,SNR=18
AAK LR LR 06 46 41.8
comp=Z,4μm,18.4s,baz=214,slow=36
BBRC Big Bear Solar 91.22 56 ⇓P P 06 04 38.4 +2.2
baz=91
ETW Entiat 91.23 42 P P 06 04 36.5 +0.6
RRX Edison Barstow 91.26 55 ⇑P P 06 04 39.0 +2.9
baz=92
NLW Nelson Butte 91.33 42 P P 06 04 38.0 +1.7
GRAC Grapevine Rang 91.34 53 ⇓P P 06 04 39.4 +2.9
baz=92,SNR=43
WVOR Wild Horse Val 91.38 47 *e*P P 06 04 37.3 +0.7
WVOR pmax pmax
comp=Z,189nm,1.4s
WVOR MLR MLR
comp=Z,6μm,19.0s
WVOR Wild Horse Val 91.38 47 *e*P P 06 04 37.3 +0.7
comp=Z,189nm,1.4s
WVOR LR LR
comp=Z,6μm,19.0s
MONP Monument Peak 91.39 57 ⇑P P 06 04 39.7 +2.7
baz=92,SNR=31
PFO Pinyon Flat Ob 91.48 56 P P 06 04 38.2 +0.9
comp=Z,127nm,1.3s,SNR=10
PFO Pinyon Flat Ob 91.48 56 *e*P P 06 04 37.7 +0.4
comp=Z,137nm,1.8s
PFO Pinyon Flat Ob 91.48 56 P P 06 04 37.2 -0.1
comp=Z,17nm,1.2s,baz=264,slow=3.3,SNR=16
PFO LR LR 06 40 10.1
comp=Z,19μm,19.1s,baz=266,slow=32
PFO Pinyon Flat Ob 91.48 56 ⇑P P 06 04 39.4 +2.1
baz=92,SNR=16
GSC Goldstone 91.49 55 *e*P P 06 04 37.9 +0.6
GSC pmax pmax
comp=Z,90nm,1.4s
GSC Goldstone 91.49 55 *e*P P 06 04 37.9 +0.6
comp=Z,90nm,1.4s
GSC Goldstone 91.49 55 ⇓P P 06 04 39.6 +2.3
baz=92,SNR=30
WTV Waterville 91.50 42 P P 06 04 37.4 +0.4
HAWA Hanford 91.52 43 *e*P P 06 04 37.8 +0.8
comp=Z,53nm,1.4s
HAWA LR LR
comp=Z,15μm,20.0s
DVTC Desert V Tower 91.62 57 ⇑P P 06 04 40.7 +2.8
baz=92
TPH Tonopah 91.64 52 *e*P P 06 04 38.8 +0.7
TPH pmax pmax
comp=Z,108nm,1.1s
TPH Tonopah 91.64 52 *e*P P 06 04 38.8 +0.7
comp=Z,108nm,1.1s
FURC Furnace Creek, 91.65 53 ⇓P P 06 04 40.5 +2.7
baz=92,SNR=45
EKS2 Erkin-Say 91.71 313 *e*P P 06 04 36.7 -1.4
EKS2 pmax pmax
comp=Z,41nm,1.3s
EKS2 MLR MLR
comp=Z,5μm,22.0s
EKS2 Erkin-Say 91.71 313 *e*P P 06 04 36.7 -1.4
comp=Z,41nm,1.3s
EKS2 LR LR
comp=Z,5μm,22.0s
HEC Hector,Ludlow 91.79 55 ⇑P P 06 04 40.9 +2.2
baz=92,SNR=36
BHJ Bhuj 91.82 293 *ex* P 06 04 29.2 -10
SWSC Sam W. Stewart 91.92 57 ⇓P P 06 04 41.0 +1.8
baz=92,SNR=18
BELC Belle Mtn. Jos 91.92 56 ⇓P P 06 04 41.0 +1.6
baz=92,SNR=41
SHOC Shoshone 92.01 54 ⇑P P 06 04 41.5 +1.9
baz=92,SNR=27
BMN Battle Mountai 92.06 50 *e*P P 06 04 41.9 +2.0
BMN pmax pmax
comp=Z,138nm,1.4s
BMN Battle Mountai 92.06 50 *e*P P 06 04 41.9 +2.0
comp=Z,138nm,1.4s
TPNV Topopah Spring 92.21 53 ⇓P P 06 04 41.8 +1.1
baz=92,SNR=47
TUQ Turquoise Moun 92.22 55 ⇓P P 06 04 42.4 +1.7
baz=92,SNR=34
OD2 Odessa Site #2 92.27 43 P P 06 04 40.3 -0.2
BC3 Big Chuckawall 92.31 56 ⇑P P 06 04 42.5 +1.4
baz=92,SNR=21
GMRC Granite Mounta 92.33 55 ⇑P P 06 04 42.9 +1.7
baz=92,SNR=30
IRM Iron Mountain 92.64 56 ⇑P P 06 04 44.7 +2.1
baz=93,SNR=30
GLA Glamis 92.74 57 *e*P P 06 04 43.9 +0.9
GLA pmax pmax
comp=Z,15nm,1.4s
GLA Glamis 92.74 57 *e*P P 06 04 43.9 +0.9
comp=Z,15nm,1.4s
GLA Glamis 92.74 57 ⇓P P 06 04 44.8 +1.7
baz=93,SNR=9.7
LDFC Landfair 92.82 55 *e*P P 06 04 45.4 +2.0
comp=Z,179nm,1.2s
R11A Troy Canyon, C 92.96 52 *e*P P 06 04 44.4 +0.3
R11A Troy Canyon, C 92.96 52 ⇓P P 06 04 45.2 +1.1
baz=93,SNR=72
SHPR Sheep Range 93.01 54 *e*P P 06 04 45.1 +0.8
comp=Z,236nm,1.8s
Y12C Blythe 93.09 56 ⇓P P 06 04 46.4 +1.8
baz=93,SNR=8.2
NEW Newport 93.48 42 *e*P P 06 04 46.1 0.0
comp=Z,39nm,1.3s
NEW Newport 93.48 42 P P 06 04 45.6 -0.5
comp=Z,7.3nm,1.0s,baz=234,slow=4.4,SNR=7.1
NEW LR LR 06 40 00.7
comp=Z,15μm,20.6s,baz=255,slow=31
NEW Newport 93.48 42 ⇑P P 06 04 48.5 +2.4
baz=94
PDMCI Parker Dam,Lak 93.49 56 ⇑P P 06 04 49.6 +3.2
baz=94,SNR=8.5
113A Mohawk Valley, 93.58 58 ⇓P P 06 04 49.9 +3.0
baz=94
MFID Camas Ranch 93.58 47 *e*P P 06 04 46.9 +0.1
comp=Z,158nm,1.6s
ELK Elko 93.60 49 LR LR 06 40 02.1
comp=Z,4μm,18.9s,baz=0.0,slow=31
W13A Hualapai Mount 93.82 55 ⇓P P 06 04 50.1 +1.9
baz=94,SNR=18
KK31 Karatay Array 94.15 313 *i*P P 06 04 47.5 -1.8
KK31 pmax pmax
comp=Z,51nm,1.4s
KKAR Karatay Array 94.15 313 *e*P P 06 04 48.1 -1.2
KKAR pmax pmax
comp=Z,77nm,1.5s
KKAR Karatay Array 94.15 313 *e*P P 06 04 48.1 -1.2
comp=Z,77nm,1.5s
214A Organ Pipe Nat 94.26 58 *e*P P 06 04 52.3 +2.3
214A Organ Pipe Nat 94.26 58 ⇓P P 06 04 53.4 +3.4
baz=94
Z14A Wintersburg 94.34 57 ⇑P P 06 04 53.7 +3.3
baz=94
Y14A Wickenburg 94.37 56 ⇑P P 06 04 53.1 +2.5
baz=95
CCUT Cedar City 94.58 53 *e*P P 06 04 52.8 +1.1
comp=Z,375nm,2.4s
HLID Hailey 94.62 47 *e*P P 06 04 52.1 +0.5
comp=Z,82nm,1.4s
HLID LR LR
comp=Z,9μm,19.0s
HLID Hailey 94.62 47 ⇓P P 06 04 53.7 +2.0
baz=95

BSMT Bassoo Peak 94.96 42 *e*P P 06 04 53.2 +0.1
comp=Z,15nm,1.3s
U15A North Rim 95.28 54 ⇑P P 06 04 57.9 +2.9
baz=96,SNR=12
DUG Dugway 95.36 50 *e*P P 06 04 55.9 +0.8
DUG pmax pmax
comp=Z,71nm,1.7s
DUG MLR MLR
comp=Z,5μm,21.0s
DUG Dugway 95.36 50 *e*P P 06 04 55.9 +0.8
comp=Z,71nm,1.7s
DUG LR LR
comp=Z,5μm,21.0s
DUG Dugway 95.36 50 ⇓P P 06 04 57.3 +2.3
baz=96,SNR=17
MSO Missoula 95.39 44 ⇓P P 06 04 59.8 +4.8
baz=96
LPIG La Paz 95.40 67 LR LR 06 44 36.2
comp=Z,9μm,18.2s,baz=259,slow=33
SWMT Swartz Lake 95.44 43 *e*P P 06 04 55.4 +0.1
comp=Z,7.6nm,1.3s
HVU Hansel Valley 95.58 49 *e*P P 06 04 56.6 +0.6
HVU pmax pmax
comp=Z,142nm,1.4s
HVU Hansel Valley 95.58 49 *e*P P 06 04 56.6 +0.6
comp=Z,142nm,1.4s
MVU Marysvale 95.61 52 *e*P P 06 04 58.6 +2.2
comp=Z,113nm,1.9s
BVA0 Borovoye Array 95.62 323 *i*P P 06 04 53.3 -2.4
BVA0 pmax pmax
comp=Z,62nm,1.4s
BVAR Borovoye Array 95.62 323 P P 06 04 53.9 -1.8
BVAR Borovoye Array 95.62 323 P P 06 04 53.9 -1.8
BVAR Borovoye Array 95.62 323 P P 06 04 53.9 -1.8
comp=Z,13nm,0.8s,baz=107,slow=5.0,SNR=44
BVAR LR LR 06 48 08.8
comp=Z,7μm,21.1s,baz=83,slow=36
BRVK Borovoye 95.69 323 P P 06 04 54.2 -1.8
comp=Z,141nm,1.4s,SNR=11
BRVK Borovoye 95.69 323*c i*P P 06 04 54.4 -1.6
BRVK pmax pmax
comp=Z,58nm,1.7s
BRVK Borovoye 95.69 323 *e*P P 06 04 53.9 -2.1
comp=Z,58nm,1.4s
BRVK LR LR
comp=Z,9μm,21.0s
WALA Waterton Lakes 95.70 41 *e*P P 06 04 55.2 -1.2
comp=Z,1.0nm,1.3s
X16A Lo Mia Camp, P 95.72 56 ⇑P P 06 05 01.3 +4.5
baz=96
SPUT South Promonto 95.77 49 *e*P P 06 04 57.1 +0.2
comp=Z,37nm,1.2s
CHMT Chamberlain Mo 95.87 44 *e*P P 06 04 56.7 -0.6
comp=Z,23nm,1.7s
NLU North Lily Min 95.89 51 *e*P P 06 04 59.4 +1.9
comp=Z,53nm,1.3s
MCMT McKenzie Canyo 95.90 46 *e*P P 06 05 00.1 +2.5
comp=Z,12nm,1.2s
WUAZ Wupatki 95.91 55 *e*P P 06 05 02.0 +4.3
comp=Z,32nm,1.4s
WUAZ *e*PP PP 06 08 46.7 -3.6
WUAZ LR LR
comp=Z,14μm,22.0s
WUAZ Wupatki 95.91 55 ⇓P P 06 05 02.7 +5.0
baz=96
TUC Tucson 96.01 58 *e*P P 06 05 01.5 +3.4
TUC *e* 06 08 49.0
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC MLR MLR
comp=Z,15μm,20.0s
TUC Tucson 96.01 58 *e*P P 06 05 01.5 +3.4
comp=Z,7.8nm,1.0s
TUC *e*PP PP 06 08 49.0 -2.0
TUC LR LR
comp=Z,15μm,20.0s
CTU Camp Tracy 96.22 50 *e*P P 06 05 00.7 +1.7
comp=Z,45nm,1.2s
MPU Maple Canyon 96.23 51 *e*P P 06 05 00.5 +1.4
comp=Z,51nm,1.4s
LRM Limekiln Ridge 96.30 45 *e*P P 06 05 00.2 +0.9
comp=Z,140nm,1.3s
JLU Jordanelle 96.44 50 *e*P P 06 05 02.1 +2.0
comp=Z,53nm,1.4s
TMUT Trail Mountain 96.48 51 *e*P P 06 05 01.9 +1.6
comp=Z,55nm,1.3s
EDM Edmonton 96.54 37 *e*P P 06 04 59.8 -0.2
EDM *e* 06 08 53.1
EDM Edmonton 96.54 37 *e*P P 06 04 59.8 -0.2
EDM *e*PP PP 06 08 53.1 -1.4
DAU Daniels Canyon 96.56 50 *e*P P 06 05 02.3 +1.6
DAU pmax pmax
comp=Z,36nm,1.2s
DAU Daniels Canyon 96.56 50 *e*P P 06 05 02.3 +1.6
comp=Z,36nm,1.2s
BOZ Bozeman (W) 96.85 45 *e*P P 06 05 02.5 +0.8
BOZ pmax pmax
comp=Z,18nm,1.0s
BOZ MLR MLR
comp=Z,11μm,20.0s
BOZ Bozeman (W) 96.85 45 *e*P P 06 05 02.5 +0.8
comp=Z,18nm,1.0s
BOZ LR LR
comp=Z,11μm,20.0s
YKA Yellowknife Ar 96.90 28 P P 06 04 59.6 -1.7
YKA PP PP 06 08 54.9 -2.0
YKA PKKPbc PKKPbc 06 21 45.4 0.0
YKA Yellowknife Ar 96.90 28 P P 06 04 59.6 -1.7
comp=Z,6.6nm,0.9s,baz=262,slow=4.6,SNR=30
YKA PP PP 06 08 54.8 -2.0
comp=Z,4.6nm,1.2s,baz=264,slow=7.7,SNR=4.9
YKA PKKPbc PKKPbc 06 21 45.4 0.0
comp=Z,0.7nm,0.9s,baz=85,slow=2.5,SNR=4.5
QLMT Earthquake Lak 96.91 46 *e*P P 06 05 03.6 +1.6
comp=Z,3.2nm,1.1s
X18A Snowflake 96.96 56 ⇑P P 06 05 07.7 +5.2
baz=97
SRU San Rafael 96.99 52 *e*P P 06 05 04.1 +1.6
SRU pmax pmax
comp=Z,46nm,1.7s
SRU San Rafael 96.99 52 *e*P P 06 05 04.1 +1.6
comp=Z,46nm,1.7s
319A Douglas 97.18 59 ⇑P Pdif 06 05 09.2 +5.6
baz=97
W18A Petrified Fore 97.20 56 ⇑P Pdif 06 05 09.7 +6.0
baz=97
YMR Madison River 97.22 46 *e*P Pdif 06 05 05.6 +2.0
comp=Z,49nm,1.2s
I17A Pilgrim Ck. 97.43 47 ⇓P Pdif 06 05 08.0 +3.5
baz=98,SNR=11
H17A Grant Village 97.47 46 *e*P Pdif 06 05 07.5 +2.8
H17A Grant Village 97.47 46 ⇓P Pdif 06 05 08.2 +3.5
baz=98,SNR=5.8
RER Riviere de l'E 97.79 247 PFAKE 06 05 20.0 +13
RER LR LR
comp=Z,4μm,20.0s
320A Kipp Ranch, An 97.81 60 ⇓P Pdif 06 05 10.4 +4.0
baz=98
BW06 Boulder Array 98.06 48 *e*P Pdif 06 05 08.0 +0.6
comp=Z,20nm,1.0s
BW06 LR LR
comp=Z,8μm,20.0s
PDAR Pinedale Array 98.06 48 PP PP 06 09 03.5 -3.3
PDAR Pinedale Array 98.06 48 PP PP 06 09 03.5 -3.3
comp=Z,3.2nm,1.1s,baz=278,slow=4.3,SNR=4.4
PDAR LR LR 06 45 27.9
comp=Z,7μm,19.2s,baz=280,slow=33
H18A Shoshone NF, C 98.14 46 ⇑P Pdif 06 05 09.8 +2.0
baz=98
PV04 Paradox Valley 98.18 52 *e*P Pdif 06 05 09.4 +1.4
GCMT Greycliff 98.23 45 *e*P Pdif 06 05 10.6 +2.7
comp=Z,17nm,1.1s
EGMT Eagleton 98.34 43 PFAKE 06 05 20.0 +12
EGMT LR LR
comp=Z,9μm,19.0s
EGMT Eagleton 98.34 43 ⇑P Pdif 06 05 10.3 +1.9
baz=98
MVCO Mesa Verde 98.39 54 *e*P Pdif 06 05 11.8 +2.8
comp=Z,31nm,1.5s
MVCO LR LR
comp=Z,7μm,21.0s
MVCO Mesa Verde 98.39 54 ⇑P Pdif 06 05 13.0 +4.0
baz=99,SNR=6.4
PV01 Paradox Valley 98.42 53 *e*P Pdif 06 05 11.4 +2.3
comp=Z,1μm,1.2s
RLMT Red Lodge 98.46 46 PFAKE 06 05 20.0 +11
RLMT LR LR

comp=Z,9μm,20.0s
J19A Crowheart 98.47 48 ⇑P Pdif 06 05 11.5 +2.4
baz=99
221A Mesquite Ranch 98.51 59 ⇓P Pdif 06 05 11.7 +2.2
baz=99
121A Cookes Peak, D 98.56 58 *e*P Pdif 06 05 13.5 +3.7
121A Cookes Peak, D 98.56 58 ⇑P Pdif 06 05 14.2 +4.4
baz=99
I19A Meeteetse 98.57 47 ⇓P Pdif 06 05 11.7 +2.1
baz=99
H19A Powell 98.63 46 ⇑P Pdif 06 05 11.9 +2.1
baz=99,SNR=17
F19A Roth Farm, Mol 98.74 45 ⇓P Pdif 06 05 12.2 +2.0
baz=99,SNR=15
C19A Slack Wire Ran 98.80 43 ⇓P Pdif 06 05 12.3 +2.0
baz=99
O20A White River Ci 98.83 51 ⇓P Pdif 06 05 13.1 +2.3
baz=99,SNR=9.5
N20A Spence Gulch, 98.87 50 ⇓P Pdif 06 05 13.0 +1.9
baz=99
D19A Cripps Ranch, 98.88 44 ⇑P Pdif 06 05 12.1 +1.4
baz=99
E19A Rath Farm, Rou 98.89 44 ⇑P Pdif 06 05 12.6 +1.8
baz=99,SNR=14
B19A Brinkman Farms 98.91 42 ⇓P Pdif 06 05 13.2 +2.4
baz=99
A19A Klindworth Far 99.08 42 ⇑P **Pdif** **06 05 13.8 +2.2**
baz=99
222A Williams Famil 99.09 59 ⇓P **Pdif** **06 05 14.1 +2.0**
baz=99
J20A Shoshoni 99.18 47 ⇑P **Pdif** **06 05 14.7 +2.4**
baz=99
I20A Worland 99.19 47 ⇓P **Pdif** **06 05 14.1 +1.8**
baz=99
G20A Bridger 99.21 46 ⇑P **Pdif** **06 05 14.5 +2.2**
baz=99,SNR=9.9
F20A Billings 99.29 45 ⇑P **Pdif** **06 05 15.1 +2.4**
baz=100
H20A Greybull 99.32 46 ⇑P **Pdif** **06 05 15.1 +2.3**
baz=100
E20A Meyer Farm, Mu 99.35 44 ⇓P **Pdif** **06 05 15.4 +2.6**
baz=100,SNR=12
D20A Manuel Ranch, 99.38 44 ⇑P **Pdif** **06 05 15.8 +2.9**
baz=100
C20A Veseth Ranch, 99.50 43 ⇑P **Pdif** **06 05 15.7 +2.2**
baz=100
B20A Solberg Farm, 99.53 42 ⇓P **Pdif** **06 05 15.7 +2.1**
baz=100
V22A San Miguel Ran 99.56 55 ⇑P **Pdif** **06 05 16.1 +1.8**
baz=100
A20A Cobblestone Ra 99.61 42 ⇑P **Pdif** **06 05 16.1 +2.1**
baz=100
U22A Llaves 99.64 55 ⇓P **Pdif** **06 05 16.6 +2.1**
baz=100
J21A Lysite 99.65 48 ⇑P **Pdif** **06 05 16.4 +2.0**
baz=100,SNR=26
BNM Barren Site 99.66 57 *e*Pdif **Pdif** **06 05 19.1 +4.4**
comp=Z,9.7nm,1.1s
BNM *e*PP PP 06 09 17.2 -2.0
LPM Los Pinos Moun 99.67 57 *e*Pdif **Pdif** **06 05 19.1 +4.4**
comp=Z,12nm,1.3s
K21A Alcova 99.75 48 ⇑P **Pdif** **06 05 16.7 +1.9**
baz=100
S22A 4UR Ranch, Cre 99.76 53 ⇓P **Pdif** **06 05 16.2 +1.0**
baz=100
I21A Big Trails, Te 99.79 47 ⇑P **Pdif** **06 05 16.3 +1.4**
baz=100
ANMO Albuquerque 99.86 56 *e*Pdif **Pdif** **06 05 18.9 +3.3**
comp=Z,7.5nm,1.2s
ANMO Albuquerque 99.86 56 LR LR 06 42 39.6
comp=Z,13μm,21.8s,baz=86,slow=31
G21A Lodge Grass 99.92 46 ⇑P **Pdif** **06 05 17.6 +2.2**
baz=100,SNR=15
P22A Eagle 99.94 51 ⇑P **Pdif** **06 05 18.9 +3.1**
baz=100
PMSA Palmer Station 99.99 163 PFAKE 06 05 30.0 +15
PMSA LR LR
comp=Z,5μm,22.0s
H21A Big Horn, Sher 100.01 46 ⇓P **Pdif** **06 05 19.6 +3.7**
baz=100
E21A Keefer Ranch, 100.08 44 ⇑P **Pdif** **06 05 18.2 +2.1**
baz=100
Y23A Lovelace Mesa, 100.12 57 ⇑P **Pdif** **06 05 18.3 +1.6**
baz=100
O22A Kremmling 100.13 51 ⇓P **Pdif** **06 05 18.6 +1.9**
baz=100
V23A Ortiz Mt. (NFS 100.14 55 ⇓P **Pdif** **06 05 19.1 +2.3**
baz=100
D21A La Casta Ranch 100.16 44 ⇑P **Pdif** **06 05 19.0 +2.6**
baz=100
M22A Cedar Creek Ra 100.17 50 ⇓P **Pdif** **06 05 19.1 +2.3**
baz=100
B21A Ellsworth Farm 100.19 42 ⇑P **Pdif** **06 05 19.7 +3.2**
baz=100
N22A Wattenberg Ran 100.24 50 ⇓P **Pdif** **06 05 19.9 +2.7**
baz=100
A21A Bergtoll Ranch 100.28 42 ⇓P **Pdif** **06 05 19.7 +2.9**
baz=100
K22A Casper 100.28 48 ⇑P **Pdif** **06 05 20.4 +3.2**
baz=100
L22A Ellis Ranch, M 100.32 49 ⇓P **Pdif** **06 05 20.4 +3.0**
baz=100
J22A Midwest 100.36 47 ⇑P **Pdif** **06 05 20.3 +2.9**
baz=100
I22A 9 Mile Ranch, 100.37 47 ⇑P **Pdif** **06 05 19.9 +2.4**
baz=100
324A Moseley Ranch, 100.42 60 ⇓P **Pdif** **06 05 21.5 +3.5**
baz=101
224A Cornudas Mount 100.43 59 ⇓P **Pdif** **06 05 21.8 +3.7**
baz=101
H22A Clearmont 100.50 46 ⇓P **Pdif** **06 05 20.8 +2.8**
baz=101,SNR=11
MNTX Cornudas Mount 100.52 59 PFAKE 06 05 30.0 +12
MNTX LR LR
comp=Z,14μm,20.0s
124A Stringfield Ra 100.53 58 ⇓P **Pdif** **06 05 20.7 +2.1**
baz=101
G22A Birney 100.57 46 ⇓P **Pdif** **06 05 21.0 +2.6**
baz=101
R23A Moffat 100.58 53 ⇑P **Pdif** **06 05 21.1 +2.3**
baz=101
F22A Rosebud 100.61 45 ⇓P **Pdif** **06 05 21.1 +2.6**
baz=101,SNR=6.6
O23A Lake Granby, G 100.62 51 ⇑P **Pdif** **06 05 21.5 +2.6**
baz=101
Y24A Capitan 100.63 57 ⇓P **Pdif** **06 05 21.4 +2.5**
baz=101
N23A Red Feather La 100.63 50 ⇑P **Pdif** **06 05 21.5 +2.6**
baz=101
P23A Jefferson 100.63 52 ⇑P **Pdif** **06 05 21.4 +2.4**
baz=101
Z24A Sheeppen Canyo 100.65 58 ⇑P **Pdif** **06 05 21.7 +2.6**
baz=101
LAO LASA Array 100.67 44 *e*Pdif **Pdif** **06 05 20.1 +1.4**
comp=Z,48nm,1.3s
LAO LR LR
comp=Z,13μm,20.0s
D22A Cohagen 100.71 44 ⇑P **Pdif** **06 05 21.8 +3.0**
baz=101
425A Indio Mountain 100.79 60 ⇑P **Pdif** **06 05 22.8 +3.1**
baz=101
SDCO Great Sand Dun 100.81 53 *e*Pdif **Pdif** **06 05 23.9 +4.1**
SDCO LR LR
comp=Z,6μm,19.0s
M23A Laramie 100.83 49 ⇓P **Pdif** **06 05 21.5 +1.8**
baz=101
ISCO Idaho Springs 100.83 51 PFAKE 06 05 30.0 +10
ISCO LR LR
comp=Z,9μm,19.0s
ISCO Idaho Springs 100.83 51 ⇑P **Pdif** **06 05 23.0 +3.2**
baz=101
325A Bean Ranch, Si 100.85 60 ⇑P **Pdif** **06 05 23.0 +3.1**
baz=101
E22A Miles City 100.85 44 ⇑P **Pdif** **06 05 22.8 +3.3**
baz=101
T24B San Luis 100.87 54 ⇑P **Pdif** **06 05 23.1 +3.0**
baz=101
L23A Garrett 100.87 49 ⇑P **Pdif** **06 05 23.1 +3.2**
baz=101
C22A Vida 100.93 43 ⇓P **Pdif** **06 05 23.2 +3.4**
baz=101
A22A Carney Farms, 100.94 42 ⇓P **Pdif** **06 05 21.2 +1.4**
baz=101
K23A Bowen Ranch, D 100.95 48 ⇑P **Pdif** **06 05 21.9 +1.8**
baz=101
225A Deer Hill, Car 101.02 59 ⇓P **Pdif** **06 05 21.7 +1.0**
baz=101
S24A Houchin Ranch, 101.03 53 ⇓P **Pdif** **06 05 23.6 +2.8**

baz=101
R24A Sanders Place, 101.15 53 ⇓P **Pdif 06 05 23.0 +1.9**
baz=101
Q24A Divide 101.15 52 ⇑P **Pdif 06 05 25.2 +3.9**
baz=101
Z25A Roswell 101.19 58 ⇑P **Pdif 06 05 22.1 +0.7**
baz=101
G23A Biddle 101.20 46 ⇓P **Pdif 06 05 22.9 +1.8**
baz=101
F23A Volborg 101.21 45 ⇓P **Pdif 06 05 23.2 +2.1**
baz=101,SNR=9.0
Y25A Mesa, Roswell 101.25 57 ⇓P **Pdif 06 05 24.4 +2.8**
baz=101
MSEY Mahe Island 101.35 263 PFAKE 06 05 30.0 +7.6
MSEY LR LR
comp=Z,5μm,22.0s
D23A Lindsay 101.38 44 ⇑P **Pdif 06 05 23.8 +2.0**
baz=102
C23A Lambert 101.41 43 ⇑P **Pdif 06 05 24.0 +2.1**
baz=102
V25A Rancho No Teng 101.42 55 ⇓P **Pdif 06 05 26.1 +3.7**
baz=102
N24A Carr 101.43 50 ⇑P **Pdif 06 05 25.2 +2.9**
baz=102
626A Big Bend Ranch 101.44 62 ⇑P **Pdif 06 05 27.2 +4.7**
baz=102
SVE Sverdlovsk 101.46 326 *e*P **Pdif 06 05 21.0 -0.8**
SVE *e*S **SKSac 06 15 54.9 -3.8**
SVE *e* 06 16 52.2
SVE pmax pmax
comp=Z,21nm,1.7s
SVE MLR MLR
comp=Z,8μm,18.0s
SVE MLR MLR
comp=E,6μm,18.0s
SVE MLR MLR
comp=N,2μm,17.0s
W25A X Bar L Ranch, 101.51 56 ⇓P **Pdif 06 05 23.9 +1.1**
baz=102
526A Mary Lane Ranc 101.51 61 ⇓P **Pdif 06 05 27.0 +4.0**
baz=102
B23A Brockton 101.54 42 ⇑P **Pdif 06 05 24.6 +2.1**
baz=102
226B Tecolote Peak, 101.58 59 ⇓P **Pdif 06 05 26.0 +2.9**
baz=102
426A McDonald Obser 101.61 61 ⇑P **Pdif 06 05 25.8 +2.4**
baz=102
U25A Circle Dot Ran 101.61 55 ⇑P **Pdif 06 05 26.2 +2.9**
baz=102
T25A Trinidad 101.65 54 ⇓P **Pdif 06 05 26.3 +2.8**
baz=102
S25A Robets Cordova 101.65 53 ⇓P **Pdif 06 05 26.3 +2.9**
baz=102
J24A Dixon Ranch, L 101.68 48 ⇓P **Pdif 06 05 26.4 +3.1**
baz=102
326A Caldwell Ranch 101.69 60 ⇑P **Pdif 06 05 26.8 +3.2**
baz=102
I24A Kuemmerle Ranc 101.72 47 ⇓P **Pdif 06 05 26.0 +2.6**
baz=102
H24A Dirks Ranch, A 101.79 46 ⇑P **Pdif 06 05 25.9 +2.1**
baz=102,SNR=15
R25A Fountain Ranch 101.79 53 ⇓P **Pdif 06 05 27.1 +3.2**
baz=102
TXAR Lajitas Array 101.83 62 P **Pdif 06 05 26.0 +1.7**
TXAR PP **PP 06 09 34.2 -1.4**
TXAR PKKPbc **PKKPbc 06 21 32.1 +1.7**
TXAR Lajitas Array 101.83 62 P **Pdif 06 05 26.0 +1.7**
comp=N,0.3nm,0.7s,baz=204,slow=2.7,SNR=5.8
TXAR PP **PP 06 09 34.2 -1.4**
comp=N,9.0nm,1.3s,baz=235,slow=4.4,SNR=8.9
TXAR PKKPbc **PKKPbc 06 21 32.1 +1.7**
comp=N,0.5nm,0.7s,baz=109,slow=4.0,SNR=6.3
F24A Ekalaka 101.88 45 ⇓P **Pdif 06 05 26.4 +2.3**
baz=102
G24A Alzada 101.89 46 ⇓P **Pdif 06 05 26.4 +2.2**
baz=102
C24A Savage 101.92 43 ⇓P **Pdif 06 05 26.2 +2.1**
baz=102
527A Woodward Ranch 101.93 61 ⇑P **Pdif 06 05 26.9 +2.1**
baz=102
AB31 Akbulak array 101.93 318 *i* P **Pdif 06 05 21.2 -2.9**
AB31 pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 101.93 318 *e*Pdif **Pdif 06 05 21.8 -2.3**
comp=Z,3.2nm,0.8s
D24A Glendive 101.98 44 ⇑P **Pdif 06 05 28.0 +3.6**
baz=102
E24A Baker 101.99 44 ⇓P **Pdif 06 05 26.9 +2.4**
baz=102
DGMT Dagmar 102.07 42 PFAKE 06 05 40.0 +15
DGMT LR LR
comp=Z,7μm,22.0s
DGMT Dagmar 102.07 42 ⇓P **Pdif 06 05 26.6 +1.8**
baz=102
W26A Owens Ranch, T 102.07 56 ⇓P **Pdif 06 05 26.8 +1.5**
baz=102
627A Terlingua Ranc 102.08 62 ⇓P **Pdif 06 05 26.7 +1.3**
baz=102
RSSD Black Hills 102.15 47 *e*P **Pdif 06 05 26.4 +0.9**
RSSD pmax pmax
comp=Z,47nm,1.6s
RSSD Black Hills 102.15 47 *e*Pdif **Pdif 06 05 26.4 +0.9**
comp=Z,47nm,1.6s
RSSD *e*PP **PP 06 09 33.0 -4.6**
U26A Atchley Ranch, 102.15 55 ⇓P **Pdif 06 05 27.8 +2.2**
baz=102
I25A Rochford 102.36 47 ⇓P **Pdif 06 05 28.1 +1.6**
baz=102
S26A Kim 102.41 53 ⇓P **Pdif 06 05 28.8 +2.1**
baz=103
Q26A Hugo 102.42 52 ⇓P **Pdif 06 05 28.3 +1.6**
baz=103
Z27A Tatum 102.45 58 ⇑P **Pdif 06 05 29.2 +2.2**
baz=103
R26A Arlington 102.45 53 ⇑P **Pdif 06 05 29.5 +2.6**
baz=103
H25A Fruitdale 102.47 46 ⇓P **Pdif 06 05 29.2 +2.5**
baz=103
628A Black Gap, Mar 102.52 62 ⇑P **Pdif 06 05 30.0 +2.7**
baz=103
P26A Davis Ranch, A 102.57 51 ⇓P **Pdif 06 05 29.4 +2.0**
baz=103
F25A Bowman 102.57 45 ⇓P **Pdif 06 05 30.0 +2.8**
baz=103
G25A Newell 102.60 46 ⇓P **Pdif 06 05 29.8 +2.5**
baz=103
ARU Arti 102.61 326 *d i*P **Pdif 06 05 26.3 -0.7**
ARU 06 09 39.6
ARU PPP PPP 06 11 50.3
ARU S **SKSac 06 16 03.2 -1.1**
ARU SP **SP 06 18 42.4 -1.0**
ARU PS **PS 06 18 50.9 +2.9**
ARU SSS SSS 06 28 13.0
ARU pmax pmax
comp=Z,13nm,1.7s
ARU MLR MLR
comp=Z,8μm,20.0s
ARU Arti 102.61 326 *e*Pdif **Pdif 06 05 25.3 -1.7**
comp=Z,11nm,1.4s
ARU LR LR
comp=Z,8μm,20.0s
D25A Fairfield 102.67 44 ⇑P **Pdif 06 05 29.7 +2.2**
baz=103
C25A Freed Ranch, W 102.71 43 ⇑P **Pdif 06 05 31.1 +3.4**
baz=103
B25A Knox Farm, Ray 102.76 43 ⇓P **Pdif 06 05 30.5 +2.5**
baz=103
428A Kincaid Ranch, 102.77 61 ⇓P **Pdif 06 05 31.4 +3.0**
baz=103
A25A Svangstu Ranch 102.79 42 ⇓P **Pdif 06 05 30.6 +2.6**
baz=103
J26A Sides Ranch, S 102.83 48 ⇑P **Pdif 06 05 31.3 +2.9**
baz=103
I26A New Underwood 102.99 47 ⇓P **Pdif 06 05 31.0 +1.9**
baz=103
F26A Lodgepole 103.12 45 ⇑P **Pdif 06 05 33.1 +3.5**
baz=103
AKTO Aktyubinsk 103.16 320 P **Pdif 06 05 27.5 -2.1**
AKTO 06 09 47.7
AKTO Aktyubinsk 103.16 320 Pdif **Pdif 06 05 27.4 -2.1**
AKTO PP **PKiKP 06 09 47.7 -1.4**
AKTO Aktyubinsk 103.16 320 Pdiff **Pdif 06 05 27.4 -2.1**
comp=Z,3.4nm,1.0s,baz=67,slow=2.5,SNR=5.7
AKTO PP **PKiKP 06 09 47.7 -1.4**
comp=Z,2.2nm,0.6s,baz=105,slow=7.2,SNR=5.3
N27A Anderson Farm, 103.21 50 ⇓P **Pdif 06 05 32.3 +2.2**
baz=103
E26A Carlson Angus 103.26 44 ⇓P **Pdif 06 05 33.0 +2.8**
baz=103
RES Resolute Bay 103.28 15 Pdif **Pdif 06 05 29.4 -0.1**
RES Resolute Bay 103.28 15 Pdiff **Pdif 06 05 29.4 -0.1**
comp=Z,11nm,1.2s,baz=295,slow=5.5,SNR=8.3
FFC Flin Flon 103.30 36 PFAKE 06 05 40.0 +10
FFC LR LR
comp=Z,9μm,22.0s
C26A Wahner Farm, P 103.49 43 ⇑P **Pdif 06 05 32.8 +1.7**
baz=104
H27A Howes 103.55 46 ⇑P **Pdif 06 05 33.7 +2.1**
baz=104
I27A Quinn 103.58 47 ⇑P **Pdif 06 05 34.3 +2.6**
baz=104
F27A Lemmon 103.58 45 ⇓P **Pdif 06 05 33.4 +1.8**
baz=104
OGNE Ogallala 103.59 50 PFAKE 06 05 40.0 +8.1
OGNE LR LR
comp=Z,7μm,19.0s
J27A Elkhorn Farm, 103.61 48 ⇑P **Pdif 06 05 34.3 +2.4**
baz=104
G27A Dupree 103.65 46 ⇑P **Pdif 06 05 33.9 +2.0**
baz=104
Y29A Porterfield Fa 103.75 57 ⇓P **Pdif 06 05 33.6 +0.9**
baz=104
O28A Krutsinger Ran 103.79 51 ⇓P **Pdif 06 05 36.4 +3.7**
baz=104
E27A Carson 103.88 44 ⇑P **Pdif 06 05 35.3 +2.3**
baz=104
530A J-C Ranch, Com 103.90 61 ⇑P **Pdif 06 05 36.1 +2.7**
baz=104
J28A Allard Ranch, 104.17 48 ⇑P **Pdif 06 05 36.6 +2.3**
baz=104
I28A Midland 104.21 47 ⇓P **Pdif 06 05 37.6 +3.1**
baz=104
H28A Mission Ridge 104.31 46 ⇓P **Pdif 06 05 36.5 +1.6**
baz=104
G28A Parade 104.37 46 ⇑P **Pdif 06 05 36.9 +1.8**
baz=104
F28A McLaughlin 104.43 45 ⇓P **Pdif 06 05 38.9 +3.5**
baz=105
431A Sonora 104.55 61 ⇓P **Pdif 06 05 38.8 +2.5**
baz=105
531A Rocksprings 104.58 61 ⇓P **Pdif 06 05 36.3 -0.2**
baz=105
B28A Dugan Ranch, T 104.62 42 ⇓P **Pdif 06 05 38.0 +1.9**
baz=105
331A San Angelo 104.73 60 ⇑P **Pdif 06 05 40.2 +3.2**
baz=105
J29A Okreek 104.84 48 ⇓P **Pdif 06 05 37.6 +0.4**
baz=105
H29A Onida 104.88 46 ⇑P **PKiKP 06 09 53.3 +0.8**
baz=105
P30A Selden 104.97 52 ⇓P **PKiKP 06 09 52.9 +0.1**
baz=105
832A Faith Ranch, C 105.01 63 ⇓P **PKiKP 06 09 54.3 +1.1**
baz=105
Z31A Sharp Cattle R 105.02 58 ⇑P **PKiKP 06 09 54.0 +0.9**
baz=105
W31A Holland Ranch, 105.21 56 ⇓P **PKiKP 06 09 55.0 +1.7**
baz=105
JCT Junction City 105.24 61 PFAKE 06 10 10.0
JCT LR LR
comp=Z,11μm,21.0s
332A Millersview 105.31 60 ⇓P **PKiKP 06 09 54.1 +0.4**
baz=106
WMOK Wichita Mounta 106.16 57 PFAKE 06 10 10.0
WMOK LR LR
comp=Z,12μm,20.0s
KVTX Kingsville 106.83 64 PFAKE 06 10 10.0
KVTX LR LR
comp=Z,12μm,20.0s
FCC Fort Churchill 107.12 31 *e*P **Pdif 06 05 50.3 +3.4**
FCC pmax pmax
comp=Z,2.0nm,2.2s
FCC Fort Churchill 107.12 31 *e*Pdif **Pdif 06 05 50.3 +3.4**
comp=Z,2.0nm,2.2s
ULM Lac du Bonnet 107.40 40 PP PP 06 10 09.8 -6.3
ULM Lac du Bonnet 107.40 40 PP PP 06 10 09.8 -6.3
comp=Z,4.1nm,1.1s,baz=248,slow=4.2,SNR=3.1
ECSD EROS Data Cent 107.52 47 PFAKE 06 10 10.0
ECSD LR LR
comp=Z,7μm,20.0s
AGMN Agassiz Nation 107.63 42 PFAKE 06 10 10.0
AGMN LR LR
comp=Z,8μm,20.0s
KSU1 Kansas State U 107.80 52 PFAKE 06 10 10.0
KSU1 LR LR
comp=Z,8μm,19.0s
HOPEN Hopen 108.07 350 *e*PP PP 06 10 21.4 +1.3
HOPEN *e*SKSac **SKSac 06 16 30.2 +2.2**
HOPEN *e*SS **SS 06 25 34.1 +3.4**
HOPEN IAMs_20 IAMs_20 06 57 49.5
comp=Z,8μm,19.1s
KBS Kingsbay 108.19 353 *e*PP PP 06 10 21.0 0.0
KBS *e*SS SS 06 25 36.7 +4.4
KBS IAMs_20 IAMs_20 06 51 37.4
comp=Z,8μm,26.0s
KBS Kingsbay 108.19 353 PFAKE 06 10 10.0
KBS LR LR
comp=Z,6μm,21.0s
NATX Nacogdoches 109.65 60 PFAKE 06 10 10.0
NATX LR LR
comp=Z,17μm,21.0s
SCIA State Center 110.17 49 PFAKE 06 10 10.0
SCIA LR LR
comp=Z,8μm,20.0s
MIAR Mount Ida 110.46 57 PFAKE 06 10 20.0
MIAR LR LR
comp=Z,19μm,22.0s
LVZ Lovozero 110.46 340 PFAKE 06 10 10.0
LVZ LR LR
comp=Z,6μm,21.0s
BJO Bjornoya 110.51 349 IAMs_20 IAMs_20 06 58 22.8
comp=Z,8μm,25.5s
EYMN Ely 110.57 42 PFAKE 06 10 10.0
EYMN LR LR
comp=Z,6μm,21.0s
MAK Makhachkala 110.96 312 *e*P **Pdif 06 06 00.1 -4.3**
MAK *i* 06 10 38.7
MAK *e*PPP PPP 06 13 08.9
MAK *e* 06 16 38.8
MAK *e* 06 17 10.1
MAK *e*PS **PS 06 20 07.4 -6.3**
MAK *e*SS SS 06 26 02.1 -9.4
MAK *e*SSS SSS 06 30 25.1
MAK pmax pmax
comp=Z,229nm,1.4s
MAK MLR MLR
comp=Z,8μm,19.0s
APA Apatity 111.04 340 ⇓ *i*P **Pdif 06 06 03.0 -1.2**
APA *i* 06 16 46.0
APA *i* PS **PS 06 20 06.0 -7.3**
PAYG Puerto Ayora 111.55 94 PFAKE 06 10 20.0
PAYG LR LR
comp=Z,4μm,21.0s
KEV Kevo 111.82 344 PFAKE 06 10 20.0
KEV LR LR
comp=Z,8μm,22.0s
EFI East Falkland 112.06 157 PFAKE 06 10 20.0
EFI LR LR
comp=Z,3μm,20.0s
JFWS Jewell Farm 112.22 47 PFAKE 06 10 20.0
JFWS LR LR
comp=Z,11μm,20.0s
ARCES ARCESS Array B 112.37 344 PKiKP **PKiKP 06 10 06.5 +0.7**
ARCES PKKPbc **PKKPbc 06 20 57.7 -0.9**
ARCES ARCESS Array B 112.37 344 PKiKP **PKiKP 06 10 06.5 +0.7**
comp=Z,3.7nm,0.9s,baz=61,slow=3.9,SNR=7.0
ARCES PKKPbc **PKKPbc 06 20 57.7 -0.9**
comp=Z,3.9nm,1.0s,baz=335,slow=4.7,SNR=6.6
DGRG David-gareji 112.73 311 P **PP 06 10 57.4 +2.4**
TBLG Delisi 113.16 311 P **PP 06 10 57.0 -1.1**
VRHR Novokhopersk 113.35 322 *e*PKIKP **PKiKP 06 10 05.2 -2.9**
VRHR *e* 06 11 00.5
VRHR *e*SS SS 06 26 50.1 +7.5
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,50nm,2.0s
VRHR pmax pmax
comp=E,150nm,2.0s
VRHR pmax pmax
comp=Z,210nm,2.0s
VRHR MLR MLR
comp=N,6μm,24.0s
VRHR MLR MLR
comp=Z,8μm,24.0s
VRHR MLR MLR
comp=E,1μm,19.0s
GNI Garni 113.39 310 PFAKE 06 10 20.0
GNI LR LR
comp=Z,4μm,22.0s
ONI Oni 113.97 313 P **PP 06 10 59.3 -4.5**
TRO Tromso 114.05 345 *e*PP **PP 06 11 06.2 +3.1**
TRO *e*SS **SS 06 26 57.5 +7.0**
TRO IAMs_20 IAMs_20 06 58 11.2
comp=Z,9μm,23.8s
AKH Akhalkalaki 114.14 311 P PP 06 10 51.4 -14
CLDR Caldiran 114.16 309 *e*P **PP 06 11 09.3 +3.9**
KBZ Khabaz 114.16 314 PP **PP 06 11 03.8 -1.2**
KBZ Khabaz 114.16 314 PP **PP 06 11 03.8 -1.2**
comp=Z,4.3nm,1.0s,baz=99,slow=10,SNR=3.9
MOS Moscow 114.21 328 *i* PKIKP PKPdf 06 10 14.5 +4.9
MOS *e* 06 11 04.8
MOS *e*PPP PPP 06 13 31.0
KIV Kislovodsk 114.27 314 *i* PKIKP PKPdf 06 10 10.9 +0.7
KIV *i* 06 11 07.9
KIV *i* PS **PS 06 20 45.0 +0.7**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,4μm,17.0s
KIV Kislovodsk 114.27 314 PFAKE 06 10 20.0 +10
KIV LR LR
comp=Z,6μm,19.0s
CUKT Cukurca 114.66 307 *e*P **PP 06 11 06.4 -2.5**
VORD Divnogorie 114.80 322 *e*PKIKP PKPdf 06 10 07.7 -3.2
VORD *e* 06 11 06.6
VORD *e*SP SP 06 20 41.1 -2.8
VORD *e*SS **SS 06 27 02.7 +1.0**
VORD pmax pmax
comp=N,5.0nm,1.0s
VORD pmax pmax
comp=E,7.0nm,1.0s
VORD pmax pmax
comp=Z,5.0nm,1.0s
VORD pmax pmax
comp=N,230nm,4.5s
VORD pmax pmax
comp=E,260nm,4.5s
VORD pmax pmax
comp=Z,480nm,4.5s
VORD MLR MLR
comp=N,8μm,25.0s
VORD MLR MLR
comp=E,6μm,25.0s
VORD MLR MLR
comp=Z,8μm,25.0s
VSR Storozhevoye 114.80 323 *e*PKIKP PKPdf 06 10 08.5 -2.4
VSR *e* 06 11 07.2
VSR *e*SP SP 06 20 41.4 -2.5
VSR *e*SS **SS 06 27 07.8 +6.0**
VSR pmax pmax
comp=N,3.0nm,1.2s
VSR pmax pmax
comp=E,7.0nm,1.2s
VSR pmax pmax
comp=Z,9.0nm,1.2s
VSR pmax pmax
comp=N,200nm,3.0s
VSR pmax pmax
comp=E,130nm,3.0s
VSR pmax pmax
comp=Z,360nm,3.0s
VSR MLR MLR
comp=N,7μm,26.0s
VSR MLR MLR
comp=Z,9μm,26.0s
VSR MLR MLR
comp=E,5μm,25.0s
OBN Obninsk 114.99 327 ⇑ *i* PKIKP PKPdf 06 10 14.1 +3.0
OBN *e* 06 11 10.6
OBN *i* 06 16 59.2
OBN *i* PS **PKKPbc 06 20 45.0 -4.2**
OBN *i* SS SS 06 27 03.5 -0.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,8μm,19.0s
OBN Obninsk 114.99 327 PFAKE 06 10 20.0 +8.9
OBN LR LR
comp=Z,10μm,21.0s
TEIG Tepich 115.50 72 PFAKE 06 10 30.0 +17
TEIG LR LR
comp=Z,8μm,22.0s
BRAL Brewton 116.18 60 PFAKE 06 10 30.0 +16
BRAL LR LR
comp=Z,10μm,22.0s
TGUH Tegucigalpa,Un 116.25 79 PFAKE 06 10 30.0 +15
TGUH LR LR
comp=Z,4μm,21.0s
SOC Sochi 116.45 314 *e*P **Pdif 06 06 24.1 -4.7**
SOC *e* 06 11 16.5
SOC *e* 06 16 57.6
SOC *e*PS **PS 06 21 01.0 -3.0**
SOC *e*SS SS 06 27 21.2 -2.7
SOC MLR MLR
comp=Z,8μm,21.0s
BAYT Ayd¨ıntepe-Bay 116.82 311 *e*P **PP 06 11 25.6 +1.6**
FINES FINESS Array B 116.96 336 PKP **PKPdf 06 10 15.1 +0.4**
FINES FINESS Array B 116.96 336 PKP **PKPdf 06 10 15.1 +0.4**
comp=Z,5.4nm,0.9s,baz=90,slow=7.6,SNR=8.9
AAM Ann Arbor 117.12 47 PFAKE 06 10 30.0 +14
AAM LR LR
comp=Z,14μm,19.0s
MAZI Mazidag 117.12 307 *e*P **PP 06 11 27.8 +1.6**
DYBB Diyarbakir 117.27 308 *e*P **PP 06 11 29.2 +2.1**
PTK Pertek 117.68 309 *e*P **PP 06 11 32.2 +2.1**
ANN Anapa 117.74 316 *i* PKIKP **PKPdf 06 10 13.0 -3.7**
ANN *e* 06 11 28.3
ANN *e*PPP PPP 06 13 58.4
ANN *e* 06 17 03.3
ANN *e*PS **PS 06 21 16.7 +1.2**
ANN *e*SSS SSS 06 32 06.0
ANN pmax pmax
comp=N,7.0nm,0.6s
ANN pmax pmax
comp=Z,30nm,1.2s
ANN pmax pmax
comp=E,16nm,1.1s
ACSO Alum Creek Sta 118.07 49 PFAKE 06 10 30.0 +12
ACSO LR LR
comp=Z,8μm,19.0s
JTS JuntasAbangare 118.25 83 PFAKE 06 10 30.0 +11
JTS LR LR
comp=Z,8μm,19.0s
GOGA Godfrey 118.92 57 PFAKE 06 10 30.0 +11
GOGA LR LR
comp=Z,16μm,21.0s
SFJD Kangerlussuaq 119.07 12 PFAKE 06 10 30.0 +11
SFJD LR LR
comp=Z,7μm,20.0s
KVT Kavak 119.69 312 *e*P **PP 06 11 42.5 -1.2**
ERPA Erie 119.80 46 PFAKE 06 10 30.0 +9.2
ERPA LR LR
comp=Z,8μm,20.0s
MICGM Minsk 119.80 329 *e*PKP PKPdf 06 10 11.0 -9.4
MNK Minsk 119.83 329 *e*PKIKP PKPdf 06 10 11.0 -9.4
MNK *e* 06 11 46.0
MNK *e* 06 17 16.0
MNK *e*PS PS 06 21 22.0 -12
MNK MLR MLR
comp=Z,39μm,18.0s
MNK MLR MLR
comp=Z,20μm,20.0s
MNK MLR MLR
comp=E,14μm,20.0s
LCO Las Campanas 119.85 131 PFAKE 06 10 30.0 +8.3
LCO LR LR
comp=Z,6μm,22.0s
KMRS Kahramanmaras 119.88 308 *e*P **PP 06 11 46.2 +1.1**
KMBO Kilima Mbogo 119.89 263 PKP **PKPdf 06 10 22.1 0.0**
KMBO *e*PKPdf **PKiKP 06 10 23.1 +0.9**
KMBO LR LR
comp=Z,5μm,20.0s
KMBO Kilima Mbogo 119.89 263 PKP **PKPdf 06 10 22.1 0.0**

comp=Z,4.7nm,1.0s,baz=24,slow=3.9,SNR=8.6
IDID Didziasalis 119.97 330 *e*P **PKPdf 06 10 18.6 -2.1**
IDID AMB AMB 06 10 26.9
comp=Z,20nm,1.2s
ISAL Salakas 120.13 331 *e*P **PKPdf 06 10 20.1 -0.9**
ISAL AMB AMB 06 10 25.2
comp=Z,9.6nm,1.2s
NACGM Naroch 120.16 330 *e*PP PP 06 11 34.0 -12
TRQA Tornquist 120.20 144 PFAKE 06 10 30.0 +8.2
TRQA LR LR
comp=Z,4μm,19.0s
IIGN Ignalina 120.20 330 *e*P **PKPdf 06 10 20.6 -0.6**
IIGN AMB AMB 06 10 24.9
comp=Z,12nm,1.1s
TAHT Tahtakopru-Hat 120.68 307 *e*P **PP 06 11 51.4 +0.8**
BLA Blacksburg 120.68 52 PFAKE 06 10 30.0 +7.3
BLA LR LR
comp=Z,15μm,22.0s
AKASG Malin Array Be 120.83 325 PKIKP **PKPdf 06 10 21.7 -0.8**
AKASG 06 11 52.5
AKASG Malin Array Be 120.83 325 PKP **PKPdf 06 10 21.7 -0.8**
AKASG PP **PP 06 11 52.5 +1.5**
AKASG PKKPbc **PKKPbc 06 20 30.1 +2.0**
AKASG Malin Array Be 120.83 325 PKP **PKPdf 06 10 21.7 -0.8**
comp=Z,6.7nm,0.8s,baz=62,slow=2.3,SNR=20
AKASG PP **PP 06 11 52.5 +1.5**
comp=Z,0.3nm,0.3s,baz=49,slow=6.5,SNR=4.7
AKASG PKKPbc **PKKPbc 06 20 30.1 +2.0**
comp=Z,1.1nm,0.7s,baz=258,slow=3.3,SNR=9.1
AKBB Malin Array Si 120.83 325 *e*PKIKP **PKPdf 06 10 23.0 +0.5**
AKBB Malin Array Si 120.83 325 *e*PKPdf **PKPdf 06 10 23.0 +0.5**
AK01 Malin Array Si 120.84 325 *e*PKPdf **PKPdf 06 10 22.9 +0.3**
KIEV Kiev 120.85 325 *e*PKIKP **PKPdf 06 10 22.9 +0.4**
KIEV MLR MLR
comp=Z,6μm,19.0s
KIEV Kiev 120.85 325 *e*PKPdf **PKPdf 06 10 22.9 +0.4**
KIEV LR LR
comp=Z,6μm,19.0s
ASF Jabal al Asfar 120.86 302 PKP **PKPdf 06 10 24.5 +1.3**
ASF PP **PP 06 11 53.6 +1.5**
ASF Jabal al Asfar 120.86 302 PKP **PKPdf 06 10 24.5 +1.3**
comp=Z,2.2nm,0.8s,baz=120,slow=2.2,SNR=5.0
ASF PP **PP 06 11 53.6 +1.5**
comp=Z,3.7nm,0.8s,baz=49,slow=1.2,SNR=7.0
AK02 Malin Array Si 120.86 325 *e*PKPdf **PKPdf 06 10 21.4 -1.1**
BZK Bozkurt 120.93 314 *e*P **PP 06 11 51.4 -0.7**
TBLU Trondheim 121.13 344 *e*PP PP 06 11 51.5 -0.9
KARA Karaisali 121.37 308 *e*P **PP 06 11 55.8 +0.5**
BHL Bhannes 121.59 304 *e*P PP 06 11 50.4 -6.6
CANT Cankiri 121.59 312 *e*P **PP 06 11 56.5 -0.2**
NHSC New Hope 121.69 57 PFAKE 06 10 40.0 +15
NHSC LR LR
comp=Z,18μm,20.0s
ATAH Atahualpa 121.76 104 PP PP 06 12 05.0 +5.9
ATAH Atahualpa 121.76 104 PP PP 06 12 05.0 +5.9
comp=Z,2.0nm,0.5s,baz=212,slow=8.2,SNR=4.6
SUR Sutherland 121.80 223 PFAKE 06 10 40.0 +15
SUR LR LR
comp=Z,7μm,19.0s
NNA Nana 121.82 110 PFAKE 06 10 40.0 +14
NNA LR LR
comp=Z,2μm,19.0s
BRTR Keskin Array B 121.83 311 PKP **PKPdf 06 10 24.1 -0.8**
BRTR PP **PP 06 12 01.7 +3.3**
BRTR PKKPbc **PKKPbc 06 20 24.4 +0.1**
BRTR Keskin Array B 121.83 311 PKP **PKPdf 06 10 24.1 -0.8**
comp=Z,1.9nm,1.0s,baz=116,slow=2.9,SNR=8.0
BRTR PP **PP 06 12 01.7 +3.3**
comp=Z,3.7nm,1.0s,baz=100,slow=4.4,SNR=4.6
BRTR PKKPbc **PKKPbc 06 20 24.4 +0.1**
comp=Z,0.6nm,0.7s,baz=220,slow=3.2,SNR=3.7
MERS Mersin 121.87 308 *e*P **PP 06 11 58.8 0.0**
MMAI Mount Meron Ar 121.96 303 PKP **PKPdf 06 10 25.4 +0.1**
MMAI Mount Meron Ar 121.96 303 PKP **PKPdf 06 10 25.4 +0.1**
comp=Z,2.2nm,0.6s,baz=50,slow=6.6,SNR=5.7
SULT Sultanhani-AKS 122.32 310 *e*P **PP 06 12 03.2 +1.4**
AFSR Af˙ar-Bala (A 122.32 311 *e*P **PP 06 12 01.0 -0.8**
ANTO Ankara 122.41 312 *e*PKIKP **PKPdf 06 10 27.1 +1.1**
ANTO MLR MLR
comp=Z,2μm,20.0s
ANTO Ankara 122.41 312 *e*PKPdf **PKPdf 06 10 27.1 +1.1**
ANTO LR LR
comp=Z,2μm,20.0s
SUW Suwalki 122.41 330 *e*PKIKP **PKPdf 06 10 27.0 +1.6**
SUW Suwalki 122.41 330 *e*PKP **PKPdf 06 10 28.7 +3.3**
SUW Suwalki 122.41 330 *e*PKPdf **PKPdf 06 10 27.0 +1.6**
LOD Lodumlu 122.43 312 *e*P **PP 06 12 03.2 +0.8**
NB2 NORSAR Subarra 122.57 341 PKPdf **PKPdf 06 10 24.0 -1.6**
comp=Z,5.2nm,0.8s,baz=44,slow=1.9
NB2 NORSAR Subarra 122.57 341 PKPdf **PKPdf 06 10 24.0 -1.6**
baz=44,slow=1.9
NOA NORSAR Array B 122.57 341 PKP **PKPdf 06 10 24.7 -0.9**
NOA PP **PP 06 12 05.5 +3.2**
NOA NORSAR Array B 122.57 341 PKP **PKPdf 06 10 24.7 -0.9**
comp=Z,7.5nm,0.9s,baz=42,slow=1.9,SNR=12
NOA PP **PP 06 12 05.5 +3.2**
comp=Z,10nm,1.2s,baz=39,slow=6.3,SNR=4.4
BINY Binghamton 122.62 45 PFAKE 06 10 40.0 +14
BINY LR LR
comp=Z,10μm,20.0s
KIS Kishinev 122.65 321 *e*PKIKP **PKPdf 06 10 30.0 +3.9**
KIS *e* 06 12 00.0
KIS *e*PS **PS 06 22 00.0 +0.6**
KIS Kishinev 122.65 321 *e*PKP **PKPdf 06 10 30.0 +3.9**
KIS Kishinev 122.65 321 *e*PP PP 06 12 00.0 -3.4
KIS *e*SKS SKSac 06 17 08.0 -17
KIS *e*SKKS **SKKSac 06 19 01.0 +0.5**
KIS Kishinev 122.65 321 *e*PS PS 06 22 00.0 +0.6
KIS LRM MLR 07 05 52.0
comp=Z,2μm,16.0s
IKL Isikli 122.67 307 *e*P **PP 06 12 03.9 -0.2**
LONY Lake Ozonia 122.74 42 PFAKE 06 10 40.0 +14
LONY LR LR
comp=Z,6μm,20.0s
CBN Corbin 122.78 50 PFAKE 06 10 40.0 +13
CBN LR LR
comp=Z,13μm,22.0s
EIL Elat 122.90 299 PKP **PKPdf 06 10 26.4 -0.8**
EIL PP **PP 06 12 09.8 +3.8**
EIL Elat 122.90 299 PKP **PKPdf 06 10 26.4 -0.8**
comp=Z,5.2nm,0.8s,baz=70,slow=6.8,SNR=4.0
EIL PP **PP 06 12 09.8 +3.8**
comp=Z,9.9nm,1.0s,baz=38,slow=7.5,SNR=3.7
LFK Lefkose 123.02 306 *e*P **PP 06 12 06.9 +0.3**
BCIP Isla Barro Col 123.18 85 PFAKE 06 10 40.0 +12
BCIP LR LR
comp=Z,6μm,20.0s
LADK Ladik-KONYA 123.20 310 *e*P **PP 06 12 06.9 -0.9**
CSS Prodhromos 123.25 306 *e*PKPdf **PKPdf 06 10 28.3 +0.6**
CSS LR LR
comp=Z,811nm,20.0s
KONT Konya--Tatoy 123.27 310 *e*P **PP 06 12 06.9 -1.3**
OTAV Otavalo 123.35 96 *e*PKPdf **PKPdf 06 10 31.1 +2.1**
OTAV LR LR
comp=Z,4μm,20.0s
FOO Floro 123.89 345 *e*PP PP 06 12 12.6 +1.5
FOO IAMs_20 IAMs_20 07 00 28.3
comp=Z,2μm,26.2s
MDV Middlebury 123.90 42 *e*PKPdf **PKPdf 06 10 30.3 +1.7**
HYA Hoyanger 123.95 344 *e*PP PP 06 12 12.2 +0.7
HYA IAMs_20 IAMs_20 07 06 45.6
comp=Z,7μm,21.2s
KONO Kongsberg 124.16 341 *e*PP PP 06 12 12.5 -0.5
KONO IAMs_20 IAMs_20 07 03 09.3
comp=Z,14μm,24.6s
KONO Kongsberg 124.16 341 PFAKE 06 10 40.0 +11
KONO LR LR
comp=Z,9μm,20.0s
LVV L'vov 124.19 326 *i* PKIKP **PKPdf 06 10 31.7 +2.7**
LVV *e* 06 22 08.3
SILT Sile 124.29 314 *e*P **PP 06 12 13.5 -1.3**
HRT Hereke 124.39 314 *e*P **PP 06 12 15.0 -0.5**
SUE Sulen 124.42 344 *e*PP PP 06 12 15.9 +1.3
SUE IAMs_20 IAMs_20 07 07 22.8
comp=Z,7μm,21.4s
SUTC Sutluce-Ispart 124.44 309 *e*P **PP 06 12 16.5 +0.4**
BORG Borgarnes 124.44 360 PFAKE 06 10 40.0 +11
BORG LR LR
comp=Z,4μm,20.0s
SHUT Suhut-Afyon 124.46 311 *e*P **PP 06 12 17.2 +1.0**
ADVT Abdulvahap 124.46 313 *e*P **PP 06 12 14.2 -1.7**
CAVI Cavuskoy 124.47 313 *e*P **PP 06 12 15.7 -0.3**
LVC Limon Verde 124.47 125 PFAKE 06 10 40.0 +9.3
LVC LR LR
comp=Z,4μm,22.0s
LSZ Lusaka 124.48 244 *e*PKPdf **PKPdf 06 10 31.0 +0.3**
LSZ LR LR
comp=Z,5μm,20.0s
BUR08 Bucovina Ar. S 124.57 323 *e*PKPdf **PKPdf 06 10 31.3 +1.4**
LBNH Lisbon 124.64 42 PFAKE 06 10 40.0 +10
LBNH LR LR
comp=Z,8μm,19.0s
KLYT Kilyos 124.68 314 *e*P **PP 06 12 16.5 -0.9**
ISP Isparta 124.70 310 PFAKE 06 10 40.0 +10
ISP LR LR
comp=Z,3μm,20.0s
ISK Istanbul-Kandi 124.73 314 *e*P **PP 06 12 17.9 +0.2**
BEL Belsk 124.83 329 *e*PKIKP **PKPdf 06 10 33.3 +3.2**
BEL Belsk 124.83 329 *e*PKP **PKPdf 06 10 33.3 +3.2**
BER Bergen 124.83 344 *e*PP PP 06 12 16.7 -0.7
BER *e*SS SS 06 29 10.4 +0.9
BER IAMs_20 IAMs_20 07 02 11.9
comp=Z,5μm,22.0s
GEMT Gemlik 124.86 313 *e*P **PP 06 12 17.9 -0.7**
BGKT Bogazkoy 124.90 314 *e*P **PP 06 12 18.7 -0.1**
TVSB Tavsanli 124.99 312 *e*P **PP 06 12 19.4 -0.3**
KWP Kalwaria Pacla 125.02 326 *e*PKIKP **PKPdf 06 10 30.9 +0.3**
KWP MLR MLR
comp=Z,9μm,20.0s
KWP Kalwaria Pacla 125.02 326 *e*PKP **PKPdf 06 10 32.0 +1.4**
KWP Kalwaria Pacla 125.02 326 *e*PKPdf **PKPdf 06 10 30.9 +0.3**
KWP LR LR
comp=Z,9μm,20.0s
ARMT Armutlu 125.05 314 *e*P **PP 06 12 17.2 -2.7**
MLR Muntele Rosu 125.09 320⇑ *i*P **PKPdf 06 10 30.6 -0.4**
MLR Muntele Rosu 125.09 320 PKP **PKPdf 06 10 31.3 +0.2**
MLR Muntele Rosu 125.09 320 PKP **PKPdf 06 10 31.3 +0.2**
comp=Z,3.0nm,1.1s,baz=6.9,slow=3.3,SNR=7.7
MDNY Mudanya-Bursa 125.10 313 *e*P **PP 06 12 20.1 -0.1**
CTYL Yal??k??y-??at 125.13 315 *e*P **PP 06 12 19.4 -1.0**
BSD Bornholm Skovb 125.51 335 *i* P **PP 06 12 25.5 +3.4**
BSD
comp=Z,7μm,19.0s
KCTX Karacabey (Bur 125.51 313 *e*P **PP 06 12 22.4 -0.7**
KOLS Kolonicke sedl 125.63 325 *e*PKIKP **PKPdf 06 10 32.5 +0.7**
KOLS Kolonicke sedl 125.63 325 *e*PKP **PKPdf 06 10 32.5 +0.7**
MTDJ Mount Denham 125.67 74 PFAKE 06 10 40.0 +7.1
MTDJ LR LR
comp=Z,3μm,20.0s
VOIR 125.68 320⇑ *i*P **PKPdf 06 10 34.0 +1.9**
GKP Gorka Klasztor 125.70 332 *e*PKIKP **PKPdf 06 10 33.7 +2.0**
GKP Gorka Klasztor 125.70 332 *e*PKP **PKPdf 06 10 33.6 +1.9**
UZH Uzhgorod 125.78 325 *e*PKHKP PKPpre 06 10 12.0
UZH *e* 06 10 33.6
UZH *i* 06 10 38.4
UZH *i* 06 10 46.4
UZH *e* 06 33 59.6
UZH MLR MLR
comp=N,3μm,20.0s
UZH MLR MLR
comp=E,4μm,20.0s
UZH MLR MLR
comp=Z,1μm,20.0s
KMY Karmoy 125.83 343 *e*PP PP 06 12 23.7 -0.3
KMY IAMs_20 IAMs_20 07 07 19.5
comp=Z,7μm,24.3s
KULA Kula-Manisa 125.88 311 *e*P **PP 06 12 23.8 -1.8**
PKME Peaks-Kenny Pk 125.90 40 PFAKE 06 10 40.0 +7.6
PKME LR LR
comp=Z,10μm,20.0s
MRMT Marmara Adasi 125.94 314 *e*P **PP 06 12 24.6 -1.3**
STHS Stebnicka Huta 125.94 326 *e*PKIKP **PKPdf 06 10 34.6 +2.2**
STHS Stebnicka Huta 125.94 326 *e*PKP **PKPdf 06 10 34.6 +2.2**
ARR Arges 125.97 321⇑ *i*P **PKPdf 06 10 32.8 +0.1**
GONE Gonen-Balikesi 126.07 313 *e*P **PP 06 12 27.5 +0.8**
BALB Balikesir 126.08 313 *e*P **PP 06 12 28.3 +1.5**
CRVS Cervenica-Dubn 126.10 326 *e*PKIKP **PKPdf 06 10 33.8 +1.1**
CRVS Cervenica-Dubn 126.10 326 *e*PKP **PKPdf 06 10 33.8 +1.1**
COP Copenhagen 126.12 336 *i* P **PP 06 12 28.8 +2.7**
COP
comp=Z,3μm,20.0s
OJC Ojcow 126.27 328 *e*PKIKP **PKPdf 06 10 34.3 +1.3**
OJC *e* 06 12 30.2
OJC MLR MLR
comp=Z,7μm,19.9s
OJC Ojcow 126.27 328 *e*PKPdf **PKPdf 06 10 34.3 +1.3**
OJC *e*PP **PP 06 12 30.2 +2.7**
OJC L L 07 06 34.0
comp=Z,7μm,19.9s
NIE Niedzica 126.45 327 *e*PKIKP **PKPdf 06 10 35.7 +2.3**
NIE *e* 06 12 31.5
NIE MLR MLR
comp=Z,6μm,21.3s
NIE Niedzica 126.45 327 *e*PKPdf **PKPdf 06 10 35.7 +2.3**
NIE *e*PP **PP 06 12 31.5 +2.8**
NIE L L 07 03 58.0
comp=Z,6μm,21.3s
AYDB Zeytinkoy-Aydi 126.64 311 *e*P **PP 06 12 29.7 -1.0**
MUD Monsted U'grnd 126.77 339 *i* P **PP 06 12 33.5 +3.1**
MUD
comp=Z,5μm,17.0s
BLCB Balcova 127.12 312 *e*P **PP 06 12 34.9 +1.2**
OKC Ostrava-Krasne 127.36 328 *e*PKIKP **PKPdf 06 10 35.9 +0.8**
OKC *e* 06 10 48.7
OKC *e* 06 12 29.9
OKC MLR MLR
comp=Z,5μm,18.6s
OKC Ostrava-Krasne 127.36 328 *e*PKPdf **PKPdf 06 10 35.9 +0.8**
OKC *ex* x 06 10 48.7
OKC *e*PP **PP 06 12 29.9 -4.8**
OKC AMS AMS 07 10 10.0
comp=Z,5μm,18.6s
PSZ Piszkesteto 127.51 325 *e*PKIKP **PKPdf 06 10 36.2 +0.7**
PSZ MLR MLR
comp=Z,9μm,21.0s
PSZ Piszkesteto 127.51 325 *e*PKPdf **PKPdf 06 10 36.2 +0.7**
PSZ LR LR
comp=Z,9μm,21.0s
PSZ Piszkesteto 127.51 325⇑ *e* **PKPdf 06 10 37.8 +2.3**
KSP Ksiaz 127.69 330 *e*PKIKP **PKPdf 06 10 39.1 +3.4**
KSP *e* 06 12 33.0
KSP *e*SP SP 06 22 39.5 +1.1
KSP *e*SS **SS 06 29 47.0 +1.0**
KSP MLR MLR
comp=Z,37μm,23.1s
KSP Ksiaz 127.69 330 *e*PKP **PKPdf 06 10 39.0 +3.4**
MORC Moravsky Berou 127.71 328 *e*PKIKP **PKPdf 06 10 37.0 +1.2**
MORC Moravsky Berou 127.71 328 *e*PKPdf **PKPdf 06 10 37.0 +1.2**
BZS Buzias 127.72 322⇑ *i*P **PKPdf 06 10 35.8 -0.1**
GTBY Guantanamo Bay 127.88 72 PFAKE 06 10 50.0 +13
GTBY LR LR
comp=Z,4μm,19.0s
DPC Dobruska-Polom 127.98 330 *e*PKIKP **PKPdf 06 10 37.8 +1.5**
DPC *e* 06 10 51.9
DPC *e* 06 12 35.0
DPC Dobruska-Polom 127.98 330 *e*PKPdf **PKPdf 06 10 37.8 +1.5**
DPC *ex* x 06 10 51.9
DPC *e*PP **PP 06 12 35.0 -3.8**
DPC *ex* x 06 30 03.0
DPC AMS AMS 07 09 50.0
UPC Upice 128.04 330 *e*PKIKP **PKPdf 06 10 37.7 +1.4**
UPC *e* 06 10 52.2
UPC Upice 128.04 330 *e*PKPdf **PKPdf 06 10 37.7 +1.4**
UPC *ex* x 06 10 52.2
LPAZ La Paz 128.04 119 *e*PKPdf **PKPdf 06 10 38.0 -0.1**
LPAZ PKP **PKPdf 06 10 38.2 +0.1**
LPAZ La Paz 128.04 119 PKP **PKPdf 06 10 38.2 +0.1**
comp=Z,17nm,1.2s,baz=18,slow=1.9,SNR=19
VTS Vitosha 128.14 318⇑ *i*P **PKPdf 06 10 38.5 +1.5**
ROSC El Rosal 128.15 91 *e*PKPdf **PKPdf 06 10 40.4 +2.3**
BSEG Bad Segeberg 128.24 336 *e*PKPdf **PKPdf 06 10 38.3 +1.7**
PKS7 Kunszentmiklos 128.41 325⇑ *e* **PKPdf 06 10 39.6 +2.5**
VRAC Vranov 128.49 328 PKP **PKPdf 06 10 38.8 +1.6**
VRAC Vranov 128.49 328 PKP **PKPdf 06 10 38.8 +1.6**
comp=Z,9.1nm,1.0s,baz=94,slow=0.9,SNR=7.3
SMOL Smolenice 128.53 327 *e*PKIKP **PKPdf 06 10 38.5 +1.2**
SMOL Smolenice 128.53 327 *e*PKP **PKPdf 06 10 38.5 +1.2**
PKSG 128.65 325⇓ *e* **PKPdf 06 10 40.7 +3.1**
PVCC Panska Ves 128.73 331 *e*PKIKP **PKPdf 06 10 39.3 +1.6**
PVCC *e* 06 12 41.8
PVCC MLR MLR
comp=Z,10μm,21.6s
PVCC Panska Ves 128.73 331 *e*PKPdf **PKPdf 06 10 39.3 +1.6**
PVCC *e*PP **PP 06 12 41.8 -1.8**
PVCC *ex* x 06 14 58.4
PVCC AMS AMS 07 09 40.0
comp=Z,10μm,21.6s
CSKK Cs˙‡kako 128.74 326⇑ *e*PKPdf **PKPdf 06 10 38.0 +0.2**
BRG Berggiesshubel 128.80 331 PDIFF **Pdif 06 07 18.0 -5.6**
BRG Berggiesshubel 128.80 331 *i* PKP **PKPdf 06 10 39.6 +1.9**
comp=Z,8.8nm,1.1s
BRG *i* 06 10 41.6
comp=Z,49nm,2.5s
BRG *i* 06 10 54.5
comp=Z,58nm,1.4s
BRG *e*PP PP 06 12 36.7 -7.4
comp=Z,92nm,2.6s
BRG *e* 06 24 30.2
comp=Z,23nm,1.9s
BRG SS SS 06 29 45.0 -15
BRG
comp=N,8μm,20.2s
BRG
comp=E,3μm,19.7s
BRG
comp=Z,10μm,20.8s
BRG Berggiesshubel 128.80 331 *i* PKIKP **PKPdf 06 10 39.7 +1.9**
BRG *i* 06 10 54.5
BRG *e* 06 24 30.2
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,59nm,1.3s
BRG pmax pmax
comp=Z,23nm,1.8s
BRG MLR MLR
comp=N,8μm,20.2s
BRG MLR MLR
comp=E,3μm,19.7s
BRG MLR MLR
comp=Z,10μm,20.8s
BRG Berggiesshubel 128.80 331 *e*PKPdf **PKPdf 06 10 39.4 +1.6**
PKST T˜˙s 128.93 326⇑ *e* **PKPdf 06 10 39.9 +1.7**
CLL Collm 128.95 332⇑ *i*PKIKP **PKPdf 06 10 39.0 +1.0**
CLL pmax pmax
comp=Z,11nm,1.1s
CLL MLR MLR
comp=Z,7μm,21.1s
CLL Collm 128.95 332 *e*PKPdf **PKPdf 06 10 39.4 +1.4**
CLL Collm 128.95 332⇑ *i*PKPdf **PKPdf 06 10 39.0 +1.0**
comp=Z,11nm,1.1s
CLL ⇓ *i*pPKPdf **PKiKP 06 10 41.1 +2.4**
comp=Z,26nm,1.1s
CLL *e*PP **PP 06 12 47.0 +2.1**
CLL *e* 06 13 01.0
CLL *e* 06 13 39.0
CLL *e*(SKPdf) 06 14 06.0
CLL *e* 06 15 01.0
CLL *e*PP PPP 06 15 30.0
CLL *e*SKSP 06 22 40.0
CLL *e*PPS PPS 06 24 30.0
CLL *e*SS SS 06 30 03.0 +1.5
CLL *e*PSPS 06 30 42.0
CLL *e*SSS SSS 06 34 48.0
CLL Lm MLR 07 08 00.0
comp=N,7μm,21.9s
CLL Lm MLR 07 08 00.0
comp=E,4μm,19.9s
CLL Lm MLR 07 08 00.0
comp=Z,7μm,21.1s
SANT Santorini 129.00 310 PFAKE 06 10 50.0 +11
SANT LR LR
comp=Z,3μm,21.0s
TREC Trest 129.06 329 *e*PKIKP **PKPdf 06 10 40.2 +1.8**
TREC *e* 06 10 53.4
TREC *e* 06 12 45.4
TREC MLR MLR
comp=Z,11μm,22.5s
TREC Trest 129.06 329 *e*PKPdf **PKPdf 06 10 40.2 +1.8**
TREC *ex* x 06 10 53.4
TREC *e*PP **PP 06 12 45.4 -0.5**
TREC AMS AMS 07 07 50.0
comp=Z,11μm,22.5s
PRA Prague 129.09 330 PKPdf **PKPdf 06 10 40.0 +1.7**
PRA PP **PP 06 12 44.0 -1.9**
PRU Pruhonice 129.09 330 *e*PKIKP **PKPdf 06 10 39.7 +1.3**
PRU *e* 06 10 53.6
PRU *e* 06 12 43.6
PRU *e* 06 30 09.8
PRU MLR MLR
comp=Z,10μm,20.4s
PRU Pruhonice 129.09 330 *e*PKPdf **PKPdf 06 10 39.7 +1.3**
PRU *ex* x 06 10 53.6
PRU *e*PP **PP 06 12 43.6 -2.4**
PRU *ex* x 06 15 01.3
PRU *e*SS SS 06 30 09.8 +6.4
PRU AMS AMS 07 10 20.0
comp=Z,10μm,20.4s
VAY Valandovo 129.13 317 *e*PKP **PKPdf 06 10 39.8 +1.1**
PKS9 Tamasi 129.17 325⇑ *e* **PKPdf 06 10 37.0 -1.6**
PKSM Moragy 129.17 324⇓ *i*P **PKPdf 06 10 38.7 +0.1**
PKSM Moragy 129.17 324⇑ *e* **PKPdf 06 10 40.4 +1.8**
NRDL Niedersach Rie 129.38 335 *e*PKPdf **PKPdf 06 10 40.7 +2.0**
SKO Skopje 129.59 318 *e*PKP **PKPdf 06 10 41.1 +1.5**
CONA Conrad Observa 129.72 327⇑ *i*pPKPdf **PKPdf 06 10 41.8 +2.1**
comp=Z,42nm,1.9s,SNR=8.9
CLZ Clausthal 129.74 334 *e*PKPdf **PKPdf 06 10 41.4 +1.8**
TANN Tannenbergstha 129.81 332 *e*PKPdf **PKPdf 06 10 41.3 +1.5**
NKC Novy Kostel 129.94 332 *e*PKIKP **PKPdf 06 10 42.2 +2.2**
NKC *e* 06 10 54.4
NKC MLR MLR
comp=Z,5μm,20.3s
NKC Novy Kostel 129.94 332 *e*PKPdf **PKPdf 06 10 42.2 +2.2**
NKC *ex* x 06 10 54.4
NKC AMS AMS 07 10 00.0
comp=Z,5μm,20.3s
KHC Kasperske Hory 130.13 330 *e*PKIKP **PKPdf 06 10 42.3 +1.9**
KHC *e* 06 10 56.0
KHC *e* 06 30 20.7
KHC MLR MLR
comp=Z,9μm,19.1s
KHC Kasperske Hory 130.13 330 *e*PKPdf **PKPdf 06 10 42.3 +1.9**
KHC *ex* x 06 10 56.0
KHC *ex* x 06 11 22.0
KHC *e*PP **PP 06 12 47.7 -5.1**
KHC *e*SKP 06 14 02.7
KHC *e*SS SS 06 30 20.7 +4.4
KHC AMS AMS 07 11 20.0
comp=Z,9μm,19.1s
KHC Kasperske Hory 130.13 330 *e*PKPdf **PKPdf 06 10 42.5 +2.1**
GEC2 GERESS Array S 130.25 329 *e*PKPdf **PKPdf 06 10 42.2 +1.5**
GERES GERESS Array B 130.25 329 PKP **PKPdf 06 10 42.0 +1.2**
GERES GERESS Array B 130.25 329 PKP **PKPdf 06 10 42.0 +1.2**
comp=Z,3.8nm,0.8s,baz=50,slow=2.1,SNR=23
ROTZ Rotzenmuhle 130.37 331 *e*PKPdf **PKPdf 06 10 42.8 +2.0**
IBBN Ibbenburen 130.48 336 *e*PKPdf **PKPdf 06 10 42.7 +1.8**
UBBA Unterbreizbach 130.64 334 *e*PKPdf **PKPdf 06 10 42.8 +1.7**
GRF Grafenberg Arr 130.89 332 *e*PKPdf **PKPdf 06 10 43.4 +1.6**
GRF *e*L L 07 11 26.6
comp=Z,5μm,21.4s
CPUP Villa Florida 130.98 137 *e*PKPdf **PKPdf 06 10 42.4 -0.2**
CPUP PKP **PKPdf 06 10 43.0 +0.3**
CPUP Villa Florida 130.98 137 PKP **PKPdf 06 10 43.0 +0.3**
comp=Z,11nm,1.1s,baz=202,slow=2.8,SNR=5.6
BUG Bochum--Univer 131.34 336 *e*PKPdf **PKPdf 06 10 44.2 +1.7**
RJOB Jochberg 131.44 329 *e*PKPdf **PKPdf 06 10 45.8 +2.8**
GRTK Grand Turk 131.44 69 PFAKE 06 11 00.0 +16
GRTK LR LR
comp=Z,5μm,20.0s
EKA Eskdalemuir Ar 131.47 346 PKP **PKPdf 06 10 44.2 +1.5**
EKA Eskdalemuir Ar 131.47 346 PKP **PKPdf 06 10 44.2 +1.5**
comp=Z,2.4nm,0.8s,baz=358,slow=2.0,SNR=5.1
ESK Eskdalemuir 131.50 346 PFAKE 06 10 50.0 +7.2
ESK LR LR
comp=Z,4μm,22.0s
SDDR Presa de Saban 131.55 73 PFAKE 06 11 00.0 +16
SDDR LR LR
comp=Z,6μm,21.0s
TSUM Tsumeb 131.72 234 PFAKE 06 11 00.0 +16
TSUM LR LR
comp=Z,9μm,19.0s
TNS Taunus Mts 131.76 334 *e*PKPdf **PKPdf 06 10 45.4 +1.9**
FUR Furstenfeldbru 131.91 330 *e*PKPdf **PKPdf 06 10 47.1 +3.3**
SDV Santo Domingo 132.22 86 *e*PKPdf **PKPdf 06 10 45.7 +0.1**
SDV *e*SKPdf **SKPdf 06 14 19.6 +0.9**
SDV LR LR
comp=Z,1μm,20.0s
ABTA Abfaltersbach 132.23 328⇑ *i*PKiKP **PKiKP 06 10 46.0 +0.4**
comp=Z,38nm,2.1s
WTTA Wattenberg 132.34 329⇑ *i*PKiKP **PKPdf 06 10 45.3 +0.5**
comp=Z,71nm,1.7s,SNR=9.7

STU	**Stuttgart**	**132.48**	**332**	*e*PKIKP	**PKPdf**	**06 10 46.0**	**+1.2**
STU	**Stuttgart**	**132.48**	**332**	*e*PKPdf	**PKPdf**	**06 10 46.4**	**+1.6**
STU	**Stuttgart**	**132.48**	**332**	*e*PKPdf	**PKPdf**	**06 10 46.0**	**+1.2**
MEM	**Membach**	**132.49**	**336**	PKP	**PKPdf**	**06 10 45.9**	**+1.1**
MOTA	**Moosalm**	**132.55**	**330**	*i* PKPdf	**PKPdf**	**06 10 44.2**	**-1.0**
	comp=Z,13nm,0.7s,SNR=6.1						
LANF	**Langenberg**	**132.96**	**333**	PKP	**PKPdf**	**06 10 48.2**	**+2.5**
FETA	**Feichten**	**132.96**	**329**	*i* PKPdf	**PKPdf**	**06 10 44.6**	**-1.4**
	comp=Z,18nm,1.0s						
TRIS	**Tristan da Cun**	**133.14**	**191**	PFAKE		06 11 00.0	+14
TRIS				LR	LR		
	comp=Z,4μm,19.0s						
WLF	**Walferdange**	**133.16**	**335**	PKP	**PKPdf**	**06 10 48.0**	**+1.9**
WLF	**Walferdange**	**133.16**	**335**	*e*PKIKP	**PKPdf**	**06 10 47.5**	**+1.4**
WLF				MLR	MLR		
	comp=Z,7μm,21.0s						
WLF	**Walferdange**	**133.16**	**335**	*e*PKPdf	**PKPdf**	**06 10 48.1**	**+2.0**
WLF	**Walferdange**	**133.16**	**335**	*e*PKPdf	**PKPdf**	**06 10 47.5**	**+1.4**
WLF				LR	LR		
	comp=Z,7μm,21.0s						
BFO	**Black Forest**	**133.19**	**332**	*i* PKIKP	PKPdf	06 10 52.5	+6.3
BFO	**Black Forest**	**133.19**	**332**	*e*PKPdf	**PKPdf**	**06 10 48.3**	**+2.1**
BFO	**Black Forest**	**133.19**	**332**	PFAKE		06 11 00.0	+14
BFO				LR	LR		
	comp=Z,4μm,19.0s						
DOU	**Dourbes**	**133.45**	**336**	PKP	**PKPdf**	**06 10 47.4**	**+0.8**
BAIF	**Baives**	**133.63**	**337**	*e*PKIKP	**PKPdf**	**06 10 44.7**	**-2.2**
	comp=Z,96nm,1.5s						
BAIF	**Baives**	**133.63**	**337**	*e*PKIKP	**PKPdf**	**06 10 44.7**	**-2.2**
BAIF	**Baives**	**133.63**	**337**	*e*PKPdf	**PKPdf**	**06 10 44.7**	**-2.2**
ECH	**Echery**	**133.81**	**333**	PKP	**PKPdf**	**06 10 51.2**	**+3.8**
ECH	**Echery**	**133.81**	**333**	PFAKE		06 11 00.0	+13
ECH				LR	LR		
	comp=Z,6μm,20.0s						
TUE	**Stuetta**	**134.03**	**330**	*e*PKPdf	**PKPdf**	**06 10 48.2**	**+0.1**
TUE				LR	LR		
	comp=Z,11μm,21.0s						
TIP	**Timpagrande**	**134.06**	**317**	PFAKE		06 11 00.0	+12
TIP				LR	LR		
	comp=Z,3μm,21.0s						
MOF	**Molkenrain**	**134.09**	**333**	PKP	**PKPdf**	**06 10 49.3**	**+1.3**
SIV	**San Ignacio**	**134.17**	**123**	PKP	**PKPdf**	**06 10 49.0**	**0.0**
SIV				PP	**PP**	**06 13 20.9**	**+1.1**
SIV	**San Ignacio**	**134.17**	**123**	PKP	**PKPdf**	**06 10 49.0**	**0.0**
	comp=Z,4.0nm,0.8s,baz=277,slow=2.2,SNR=6.8						
SIV				PP	**PP**	**06 13 20.9**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=238,slow=13,SNR=3.0						
PAGF	**Fort de Pagny**	**134.19**	**334**	*e*PKIKP	**PKPdf**	**06 10 45.7**	**-2.4**
	comp=Z,53nm,1.9s						
PAGF	**Fort de Pagny**	**134.19**	**334**	*e*PKPdf	**PKPdf**	**06 10 45.7**	**-2.4**
CUC	**Castrocucco**	**134.27**	**319**	PFAKE		06 11 00.0	+11
CUC				LR	LR		
	comp=Z,5μm,21.0s						
THEF	**They Montfort**	**134.32**	**334**	PKP	**PKPdf**	**06 10 50.1**	**+1.8**
BBSR	**BB Station**	**134.45**	**53**	PFAKE		06 11 00.0	+11
BBSR				LR	LR		
	comp=Z,6μm,21.0s						
AQU	**L'Aquila**	**134.46**	**323**	PFAKE		06 11 00.0	+11
AQU				LR	LR		
	comp=Z,8μm,22.0s						
MEZF	**Maizieres J'vi**	**134.51**	**335**	*e*PKIKP	**PKPdf**	**06 10 46.8**	**-1.8**
	comp=Z,149nm,1.5s						
MEZF	**Maizieres J'vi**	**134.51**	**335**	*e*PKPdf	**PKPdf**	**06 10 46.8**	**-1.8**
LOMF	**Lomont**	**134.60**	**332**	PKP	**PKPdf**	**06 10 50.8**	**+1.8**
SFTF	**Sexfontaines**	**134.75**	**334**	*e*PKIKP	**PKPdf**	**06 10 47.1**	**-2.0**
	comp=Z,183nm,1.8s						
SFTF	**Sexfontaines**	**134.75**	**334**	*e*PKPdf	**PKPdf**	**06 10 47.1**	**-2.0**
VLC	**Villacollemand**	**135.05**	**327**	PFAKE		06 11 00.0	+10
VLC				LR	LR		
	comp=Z,8μm,20.0s						
CEL	**Celeste**	**135.11**	**316**	PFAKE		06 11 00.0	+10
CEL				LR	LR		
	comp=Z,4μm,19.0s						
SAML	**Samuel**	**135.45**	**113**	*e*PKPdf	**PKPdf**	**06 10 51.0**	**-0.4**
SAML				*e*PP	**PP**	**06 13 29.9**	**+1.7**
SAML				LR	LR		
	comp=Z,6μm,21.0s						
CABF	**La Chapelle**	**135.49**	**332**	*e*PKIKP	**PKPdf**	**06 10 48.4**	**-2.3**
CABF	**La Chapelle**	**135.49**	**332**	*e*PKIKP	**PKPdf**	**06 10 48.4**	**-2.3**
CABF	**La Chapelle**	**135.49**	**332**	*e*PKPdf	**PKPdf**	**06 10 48.4**	**-2.3**
LOR	**Lormes**	**135.98**	**334**	*e*PKIKP	**PKPdf**	**06 10 49.4**	**-2.1**
	comp=Z,58nm,1.3s						
LOR				*e*R			
	comp=Z,3μm,20.0s						
LOR	**Lormes**	**135.98**	**334**	*e*PKPdf	**PKPdf**	**06 10 49.4**	**-2.1**
LPG	**La Plagne**	**136.00**	**331**	*e*PKIKP	**PKPdf**	**06 10 50.3**	**-1.6**
	comp=Z,28nm,0.9s						
LPG	**La Plagne**	**136.00**	**331**	*e*PKIKP	**PKPdf**	**06 10 50.3**	**-1.6**
LPG	**La Plagne**	**136.00**	**331**	*e*PKPdf	**PKPdf**	**06 10 50.3**	**-1.6**
SSF	**Saint Saulge**	**136.29**	**335**	*e*PKIKP	**PKPdf**	**06 10 49.9**	**-2.1**
	comp=Z,58nm,1.2s						
SSF	**Saint Saulge**	**136.29**	**335**	*e*PKIKP	**PKPdf**	**06 10 49.9**	**-2.1**
SSF	**Saint Saulge**	**136.29**	**335**	*e*PKPdf	**PKPdf**	**06 10 49.9**	**-2.1**
BNI	**Bardonecchia**	**136.35**	**330**	*e*PKIKP	**PKPdf**	**06 10 53.1**	**+0.7**
BNI				MLR	MLR		
	comp=Z,7μm,20.0s						
BNI	**Bardonecchia**	**136.35**	**330**	*e*PKPdf	**PKPdf**	**06 10 53.1**	**+0.7**
BNI				LR	LR		
	comp=Z,7μm,20.0s						
SMF	**Signal de Mont**	**136.47**	**334**	*e*PKIKP	**PKPdf**	**06 10 50.3**	**-2.1**
SMF	**Signal de Mont**	**136.47**	**334**	*e*PKIKP	**PKPdf**	**06 10 50.3**	**-2.1**
SMF	**Signal de Mont**	**136.47**	**334**	*e*PKPdf	**PKPdf**	**06 10 50.3**	**-2.1**
MBDF	**Montbardon**	**136.54**	**330**	*e*PKIKP	**PKPdf**	**06 10 51.4**	**-1.4**
	comp=Z,20nm,0.9s						
MBDF	**Montbardon**	**136.54**	**330**	*e*PKIKP	**PKPdf**	**06 10 51.4**	**-1.4**
MBDF	**Montbardon**	**136.54**	**330**	*e*PKPdf	**PKPdf**	**06 10 51.4**	**-1.4**
ORIF	**Oris-en-Rattie**	**136.84**	**331**	*e*PKIKP	**PKPdf**	**06 10 51.2**	**-2.0**
	comp=Z,18nm,0.8s						
ORIF				*e*R			
	comp=Z,10μm,21.5s						
ORIF	**Oris-en-Rattie**	**136.84**	**331**	*e*PKIKP	**PKPdf**	**06 10 51.2**	**-2.0**
ORIF	**Oris-en-Rattie**	**136.84**	**331**	*e*PKPdf	**PKPdf**	**06 10 51.2**	**-2.0**
SSB	**Saint Sauveur**	**137.20**	**332**	PFAKE		06 11 10.0	+16
SSB				LR	LR		
	comp=Z,4μm,20.0s						
WDD	**Wield Dalam**	**137.25**	**314**	PFAKE		06 11 10.0	+16
WDD				LR	LR		
	comp=Z,4μm,21.0s						
VIVF	**Saint-Julien-l**	**137.46**	**332**	*e*PKIKP	**PKPdf**	**06 10 52.4**	**-1.9**
	comp=Z,49nm,1.2s						
VIVF	**Saint-Julien-l**	**137.46**	**332**	*e*PKIKP	**PKPdf**	**06 10 52.4**	**-1.9**
VIVF	**Saint-Julien-l**	**137.46**	**332**	*e*PKPdf	**PKPdf**	**06 10 52.4**	**-1.9**
PYM	**Petit Puy Mans**	**137.53**	**334**	PKP	**PKPdf**	**06 10 58.6**	**+4.1**
SMRF	**Simiane la Rot**	**137.68**	**330**	*e*PKIKP	**PKPdf**	**06 10 52.6**	**-2.1**
	comp=Z,230nm,1.7s						
SMRF	**Simiane la Rot**	**137.68**	**330**	*e*PKPdf	**PKPdf**	**06 10 52.6**	**-2.1**
LBL	**Lubilhac**	**137.83**	**333**	PKP	**PKPdf**	**06 10 59.3**	**+4.3**
VSL	**Villasalto**	**138.62**	**322**	PFAKE		06 11 10.0	+13
VSL				LR	LR		
	comp=Z,4μm,22.0s						
BB16B	**Bebedouro**	**140.41**	**139**	*i*	PKPdf	06 10 54.4	-6.1
BB16B				*i*		06 10 59.9	
BB16B				*i*		06 11 04.2	
BB16B				*i*		06 11 09.7	
BB16B				*i*		06 11 12.7	
BB16B				*i*		06 11 16.4	
ANWB	**Willy Bob**	**140.66**	**73**	PFAKE		06 11 10.0	+9.2
ANWB				LR	LR		
	comp=Z,4μm,21.0s						
GRGR	**Grenville**	**141.16**	**82**	PFAKE		06 11 10.0	+8.2
GRGR				LR	LR		
	comp=Z,4μm,21.0s						
PTGA	**Pitinga**	**141.17**	**103**	PKP	**PKPdf**	**06 11 01.8**	**-0.1**
PTGA				*e*PKPdf	**PKiKP**	**06 11 02.3**	**-2.4**
PTGA				LR	LR		
	comp=Z,3μm,21.0s						
PTGA	**Pitinga**	**141.17**	**103**	PKP	**PKPdf**	**06 11 01.8**	**-0.1**
	comp=Z,13nm,1.0s,baz=267,slow=5.2,SNR=9.5						
FDF	**Fort de France**	**141.55**	**78**	PFAKE		06 11 10.0	+7.4
FDF				LR	LR		
	comp=Z,3μm,19.0s						
MSKU	**Masuku**	**142.72**	**255**	PKP	**PKPdf**	**06 11 02.4**	**-2.3**
MSKU	**Masuku**	**142.72**	**255**	PKP	**PKPdf**	**06 11 02.4**	**-2.3**
	comp=Z,6.8nm,0.6s,baz=3.5,slow=0.2,SNR=4.7						
BBGH	**Gun Hill**	**143.18**	**80**	PFAKE		06 11 20.0	+15
BBGH				LR	LR		
	comp=Z,6μm,20.0s						
BDFB	**Brasilia**	**144.56**	**134**	PKP	**PKPab**	**06 11 05.4**	**-1.0**
BDFB	**Brasilia**	**144.56**	**134**	PKP	**PKPab**	**06 11 05.4**	**-1.0**
	comp=Z,32nm,0.9s,baz=203,slow=2.8,SNR=25						
PBRG	**Braganca**	**144.67**	**340**	*e*PKP	**PKPdf**	**06 11 07.9**	**+0.5**
PGAV	**Gavieira, Arco**	**145.03**	**342**	*e*PKP	**PKPdf**	**06 11 09.7**	**+1.6**
PCAB	**Cabril**	**145.18**	**341**	*e*PKP	**PKPdf**	**06 11 09.9**	**+1.6**
MVO	**Moncorvo**	**145.34**	**340**	*e*PKP	**PKPdf**	**06 11 10.7**	**+2.1**
MVO	**Moncorvo**	**145.34**	**340**	*e*LQ	LQ	06 51 47.3	
MVO	**Moncorvo**	**145.34**	**340**	*e*LR	LR	07 02 35.8	
	comp=Z,5μm,20.0s						
POLO	**Lamas de Olo**	**145.41**	**341**	*e*PKP	**PKPab**	**06 11 10.4**	**+1.6**
ESDC	**Sonseca Array**	**145.46**	**335**	PKPbc	**PKPab**	**06 11 09.3**	**+0.4**
ESDC				PP	**PP**	**06 14 30.7**	**+2.8**
ESDC	**Sonseca Array**	**145.46**	**335**	PKPbc	**PKPab**	**06 11 09.3**	**+0.4**
	comp=Z,20nm,1.1s,baz=27,slow=2.7,SNR=23						
ESDC				PP	**PP**	**06 14 30.7**	**+2.8**
	comp=Z,3.7nm,0.9s,baz=19,slow=6.4,SNR=4.4						
PVRL	**Vila Real**	**145.47**	**341**	*e*PKP	**PKPab**	**06 11 11.8**	**+2.8**
PAB	**San Pablo**	**145.72**	**335**	*e*PKP2	**PKPab**	**06 11 10.5**	**+0.5**
PAB				MLR	MLR		
	comp=Z,5μm,21.0s						
PAB	**San Pablo**	**145.72**	**335**	*e*PKPdf	**PKPab**	**06 11 10.5**	**+0.5**
PAB				LR	LR		
	comp=Z,5μm,21.0s						
PTO	**Porto**	**145.88**	**341**	*e*PKP	**PKPab**	**06 11 11.2**	**+0.8**
PVIS	**Viseu**	**146.03**	**340**	*e*PKP	**PKPab**	**06 11 11.5**	**+0.4**
MTE	**Manteigas**	**146.20**	**340**	*e*PKP	**PKPab**	**06 11 12.4**	**+0.6**
MTE	**Manteigas**	**146.20**	**340**	*e*LQ	LQ	06 54 43.0	
MTE				*e*LR	LR	07 02 38.5	
	comp=Z,6μm,22.0s						
MTE	**Manteigas**	**146.20**	**340**	*e*PKPbc	**PKPab**	**06 11 11.9**	**+0.2**
MTE				LR	LR		
	comp=Z,6μm,21.0s						
PCBR	**Castelo Branco**	**146.67**	**339**	*e*PKP	**PKPbc**	**06 11 12.8**	**+0.4**
PCAS	**Casmilo, Conde**	**146.83**	**341**	*e*PKP	**PKPab**	**06 11 14.5**	**+0.4**
PMRV	**Marv??o**	**147.01**	**339**	*e*PKP	**PKPab**	**06 11 14.7**	**-0.2**
PMRV	**Marv??o**	**147.01**	**339**	*e*LQ	LQ	06 55 22.3	
PMRV				*e*LR	LR	07 02 43.3	
	comp=Z,6μm,22.0s						
PTOM	**Tomar**	**147.19**	**340**	*e*PKP	**PKPab**	**06 11 15.0**	**-0.5**
PMTG	**Montargil**	**147.62**	**339**	*e*PKP	**PKPbc**	**06 11 14.2**	**-0.9**
EVO	**Evora**	**148.03**	**339**	*e*PKIKP	**PKPdf**	**06 11 11.0**	**-2.1**
	comp=Z,330nm,1.6s						
EVO				*e*R			
	comp=Z,10μm,22.5s						
EVO	**Evora**	**148.03**	**339**	*e*PKP	**PKPbc**	**06 11 15.3**	**-0.9**
EVOP	**Sao Brissos**	**148.07**	**339**	*e*PKPdf	**PKPdf**	**06 11 11.0**	**-2.1**
PMAFR	**Mafra**	**148.08**	**341**	*e*PKP	**PKPab**	**06 11 18.1**	**-1.0**
LIS	**Lisbon**	**148.25**	**340**	*e*P	**PKPdf**	**06 11 12.6**	**-0.8**
LIS				AMS	AMS	07 20 30.8	
	comp=Z,10μm,20.6s						
LIS	**Lisbon**	**148.25**	**340**	*e*P	**PKPdf**	**06 11 12.6**	**-0.8**
LIS	**Lisbon**	**148.25**	**340**	A	A	07 20 30.8	
	comp=Z,10μm,20.6s						
LIS	**Lisbon**	**148.25**	**340**	*e*PKIKP	**PKPdf**	**06 11 12.6**	**-0.8**
PBEJ	**Beja**	**148.42**	**338**	*e*PKP	**PKPbc**	**06 11 17.7**	**+0.4**
PNCL	**Nicolau / Gran**	**148.58**	**339**	*e*PKP	**PKPbc**	**06 11 18.2**	**+0.5**
MESJ	**Messejana**	**148.72**	**338**	*e*P	**PKPdf**	**06 11 13.5**	**-0.7**
MESJ				AMS	AMS	07 21 06.8	
	comp=Z,6μm,20.5s						
MESJ	**Messejana**	**148.72**	**338**	*e*P	**PKPdf**	**06 11 13.5**	**-0.7**
MESJ	**Messejana**	**148.72**	**338**	A	A	07 21 06.8	
	comp=Z,6μm,20.5s						
MESJ	**Messejana**	**148.72**	**338**	*e*PKIKP	**PKPdf**	**06 11 13.5**	**-0.7**
PCVE	**Castro Verde**	**148.83**	**338**	*e*PKP	**PKPbc**	**06 11 18.0**	**-0.3**
PVAQ	**Vaqueiros**	**148.91**	**337**	*e*PKP	**PKPbc**	**06 11 18.0**	**-0.5**
PVAQ	**Vaqueiros**	**148.91**	**337**	*e*LQ	LQ	06 56 16.0	
PVAQ				*e*LR	LR	07 04 59.5	
	comp=Z,6μm,20.0s						
PBDV	**Barranco-do-Ve**	**149.13**	**337**	*e*PKP	**PKPab**	**06 11 23.2**	**-0.2**
PTEO	**Sao Teotonio**	**149.16**	**339**	*e*PKP	**PKPbc**	**06 11 21.1**	**+2.0**
MORF	**Marmelete**	**149.34**	**338**	*e*PKP	**PKPab**	**06 11 23.5**	**-0.8**
MORF	**Marmelete**	**149.34**	**338**	*e*PKIKP	**PKPdf**	**06 11 14.1**	**-1.2**
PFVI	**Vila Bisbo**	**149.56**	**339**	*e*PKP	**PKPbc**	**06 11 18.2**	**-2.0**
TAM	**Tamanrasset**	**150.12**	**300**	*e*PKP2	**PKPbc**	**06 11 21.2**	**-0.9**
TAM				MLR	MLR		
	comp=Z,4μm,20.0s						
TAM	**Tamanrasset**	**150.12**	**300**	*e*PKPbc	**PKPbc**	**06 11 21.2**	**-0.9**
TAM				LR	LR		
	comp=Z,4μm,20.0s						
SHEL	**Horse Pasture**	**150.23**	**213**	PFAKE		06 11 30.0	+1.6
SHEL				LR	LR		
	comp=Z,5μm,20.0s						
MDT	**Midelt**	**151.32**	**328**	PKPbc	**PKPdf**	**06 11 21.7**	**+3.0**
MDT	**Midelt**	**151.32**	**328**	PKPbc	**PKPdf**	**06 11 21.7**	**+3.0**
	comp=Z,35nm,1.1s,baz=70,slow=1.7,SNR=13						
RTC	**Rabat Centre**	**151.48**	**333**	PFAKE		06 11 30.0	-3.1
RTC				LR	LR		
	comp=Z,4μm,22.0s						
TOA0	**Torodi Ar. Sit**	**156.19**	**282**	*e*PKPdf	**PKPdf**	**06 11 27.7**	**+1.8**
TORD	**Torodi Ar. Bea**	**156.19**	**282**	PKP	**PKPdf**	**06 11 25.4**	**-0.5**
TORD				PP	**PP**	**06 15 35.1**	**+3.6**
TORD	**Torodi Ar. Bea**	**156.19**	**282**	PKP	**PKPdf**	**06 11 25.4**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=46,slow=1.2,SNR=8.8						
TORD				PP	**PP**	**06 15 35.1**	**+3.6**
	comp=Z,3.7nm,1.0s,baz=50,slow=3.0,SNR=3.6						
RCBR	**Riachuelo**	**159.86**	**137**	PFAKE		06 11 40.0	+9.5
RCBR				LR	LR		
	comp=Z,5μm,19.0s						
ASCN	**Ascension**	**161.35**	**205**	PFAKE		06 11 40.0	+7.9
ASCN				LR	LR		
	comp=Z,6μm,21.0s						
KIC	**Kosan Boka**	**162.46**	**262**	*e*PKP1	**PKPdf**	**06 11 33.3**	**+0.1**
	comp=Z,66nm,1.0s						
DBIC	**Dimbokro**	**162.62**	**263**	PKP	**PKPdf**	**06 11 34.2**	**+0.9**
DBIC				PKPab	**PKPab**	**06 12 21.5**	**-0.3**
DBIC				PP	**PP**	**06 16 09.5**	**+3.0**
DBIC	**Dimbokro**	**162.62**	**263**	PKP	**PKPdf**	**06 11 34.2**	**+0.9**
	comp=Z,9.9nm,1.1s,baz=255,slow=0.4,SNR=6.1						
DBIC				PKPab	**PKPab**	**06 12 21.5**	**-0.3**
	comp=Z,19nm,1.1s,baz=105,slow=6.1,SNR=6.3						
DBIC				PP	**PP**	**06 16 09.5**	**+3.0**
	comp=Z,7.5nm,0.9s,baz=52,slow=9.9,SNR=3.5						
LIC	**Lamto**	**162.71**	**262**	*e*PKIKP	**PKPdf**	**06 11 30.6**	**-2.9**
	comp=Z,72nm,1.5s						
LIC				*e*R			
	comp=Z,13μm,22.0s						
LIC	**Lamto**	**162.71**	**262**	*e*PKP1	**PKPdf**	**06 11 34.2**	**+0.7**
	comp=Z,95nm,1.0s						
LIC	**Lamto**	**162.71**	**262**	*e*PKPdf	**PKPdf**	**06 11 30.6**	**-2.9**
TIC	**Toumodi**	**162.78**	**263**	*e*PKP1	**PKPdf**	**06 11 33.9**	**+0.4**
	comp=Z,50nm,1.1s						
BBTS	**Babate**	**172.15**	**315**	PKP	**PKPdf**	**06 11 42.1**	**+2.0**
BBTS	**Babate**	**172.15**	**315**	PKP	**PKPdf**	**06 11 42.1**	**+2.0**
	comp=Z,49nm,1.1s,baz=237,slow=1.5,SNR=4.2						
SACV	**Santiago Islan**	**174.01**	**13**	PFAKE		06 11 50.0	+9.1
SACV				LR	LR		
	comp=Z,7μm,21.0s						

DJA 09 05:51:46.1±1.1, 4°S±10°×10°2E±°, h69km±10km, M3.7/7, MLv3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBSI	**MBSI**	**0.51**	**9**	P	x	05 52 00.1	
MBSI				S	x	05 52 11.6	
MNAI	**Manna**	**0.77**	**97**	P	Pn	05 52 02.7	+1.0
MNAI				S	Sn	05 52 15.9	+2.6
LHSI	**Lahat**	**1.40**	**72**	P	Pn	05 52 10.4	+0.7
MDSI	**Maura Dua**	**1.99**	**96**	P	Pn	05 52 17.5	-0.1
MDSI				S	Sn	05 52 42.7	+1.0
LWLI	**Liwa**	**2.00**	**112**	P	Pn	05 52 18.2	+0.2
LWLI				S	Sn	05 52 42.4	+0.2
KLSI		**2.57**	**99**	P	Pn	05 52 25.8	+0.4
KASI	**Kota Agung**	**2.61**	**119**	P	Pn	05 52 26.0	-0.1
KASI				S	Sn	05 52 54.8	-1.9

*IDC **09** 06:01:32.9±0.8, 9°11S×157°90E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.1/1, MS4.7/1, Ms1 4.7/1, ms1mx4.2/33, Error ellipse: s-maj=30.5km s-min=20.9km az=137.0*

*ISCJB **09** 06:01:35.1±0.6, 9°2S±0°1×157°91E±0°06, h23km, mb3.8/9, Error ellipse: s-maj=19.2km s-min=9.2km az=178.7*

ISC 09 06:01:36.3±0.8, 9°2S±0°2×158°07E±0°08, h23km, n10, σ0s87/11, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.87**	**97**	Pn	**Pb**	**06 02 08.8**	**-0.9**
	6.5nm,0.3s,baz=60,slow=17,SNR=1.2						
HNR				Sn	**Sb**	**06 02 32.7**	**+0.1**
	106nm,0.3s,baz=193,slow=19,SNR=6.7						
HNR				LR	LR	06 02 43.6	
	comp=Z,18μm,21.6s,baz=223,slow=35						
WRA	**Warramunga Arr**	**25.29**	**242**	P	**P**	**06 07 00.2**	**-1.0**
	2.5nm,1.0s,baz=69,slow=9.7,SNR=4.6						
ASAR	**Alice Springs**	**27.20**	**235**	P	**P**	**06 07 18.6**	**0.0**
	1.1nm,0.8s,baz=69,slow=10.0,SNR=4.3						
STKA	**Stephens Creek**	**27.25**	**212**	P	**P**	**06 07 19.0**	**+0.2**
	3.4nm,0.9s,baz=60,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**72.84**	**326**	P	**P**	**06 13 03.1**	**-0.3**
	0.4nm,0.7s,baz=145,slow=5.3,SNR=2.3						
QSPA	**South Pole Qui**	**80.78**	**180**	P	**P**	**06 13 48.4**	**+0.5**
	1.0nm,0.7s,baz=46,slow=13,SNR=5.3						
ILAR	**Eielson Array**	**84.33**	**21**	P	**P**	**06 14 05.5**	**-0.6**
	1.0nm,0.8s,baz=245,slow=5.5,SNR=9.8						
MKAR	**Makanchi Array**	**87.07**	**318**	P	**P**	**06 14 19.5**	**-0.7**
	0.9nm,0.7s,baz=98,slow=5.7,SNR=5.0						
NVAR	**Mina Array Bea**	**90.71**	**51**	P	**P**	**06 14 39.4**	**+1.6**
	0.5nm,0.5s,baz=265,slow=5.3,SNR=5.2						
YKA	**Yellowknife Ar**	**96.86**	**28**	P	**P**	**06 15 05.9**	**+0.7**
	0.2nm,0.8s,baz=256,slow=3.6,SNR=3.0						

*TIR **09** 06:04:09.8, 37°91N×21°69E, h10km, ML3.2*

*ISCJB **09** 06:04:14.6±0.3, 38°33N±0°01×21°73E±0°02, h8km±2km, mb3.8/9, Error ellipse: s-maj=2.0km s-min=1.7km az=165.6*

*SKO **09** 06:04:15.0, 38°23N×21°85E, h4km, M3.0, ML3.6*

*ATH **09** 06:04:14.5, 38°34N×21°75E, h15km, MD3.3/50, ML3.7*

*CSEM **09** 06:04:15.0±0.1, 38°34N×21°75E, h2km, ML3.9, Error ellipse: s-maj=2.4km s-min=1.9km az=54.0*

*THE **09** 06:04:15.3, 38°34N×21°75E, h1km, ML3.9/17, Error ellipse: s-maj=0.8km s-min=0.3km az=267.0*

*IDC **09** 06:04:19.9±1.9, 38°47N×21°67E, h40km±18km, mb3.6/9, mb1 3.7/16, mb1mx3.6/34, mbtmp3.6/16, ML3.6/7, Error ellipse: s-maj=17.5km s-min=15.6km az=24.0*

ISC 09 06:04:15.4±0.7, 38°34N±0°01×21°75E±0°01, h9km±4km, n273, σ0s98/397, mb3.7/9, 8C-17D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.07**	**152**	P	**Pg**	**06 04 17.0**	**-0.3**
UPR				S	**Sg**	**06 04 18.0**	**-0.7**
UPR	**University Cam**	**0.07**	**152**	P	**Pg**	**06 04 17.0**	**-0.3**
UPR				S	**Sg**	**06 04 18.0**	**-0.7**
EFP	**Efpalio**	**0.15**	**55**	P	**Pg**	**06 04 18.8**	**+0.2**
EFP				S	**Sg**	**06 04 20.7**	**-0.2**
EFP	**Efpalio**	**0.15**	**55**	*e*PB	**Pg**	**06 04 18.8**	**+0.2**
EFP				*e*SB	**Sg**	**06 04 21.6**	**+0.7**
EFP	**Efpalio**	**0.15**	**55**	P	**Pg**	**06 04 18.8**	**+0.2**
EFP				S	**Sg**	**06 04 20.7**	**-0.2**
EFP				*e*Sb	**Sg**	**06 04 21.6**	**+0.7**
LAKA	**Lakka**	**0.21**	**119**	P	**Pg**	**06 04 19.7**	**+0.1**
LAKA	**Lakka**	**0.21**	**119**	*e*PB	**Pg**	**06 04 19.8**	**+0.1**
LAKA	**Lakka**	**0.21**	**119**	P	**Pg**	**06 04 19.7**	**+0.1**
KALE	**Kalithea**	**0.31**	**81**	P	**Pg**	**06 04 21.7**	**+0.1**
KALE	**Kalithea**	**0.31**	**81**	*e*PB	**Pg**	**06 04 21.6**	**0.0**
KALE				*e*SB	**Sg**	**06 04 26.0**	**+0.3**
KALE	**Kalithea**	**0.31**	**81**	P	**Pg**	**06 04 21.6**	**0.0**
KALE				*e*Sb	**Sg**	**06 04 26.0**	**+0.3**
PVO	**Paravola**	**0.33**	**328**	P	**Pg**	**06 04 21.5**	**-0.3**
PVO				S	**Sg**	**06 04 26.2**	**0.0**
PVO	**Paravola**	**0.33**	**328**	P	**Pg**	**06 04 21.6**	**-0.3**
PVO				S	**Sg**	**06 04 26.2**	**0.0**
RLS	**Riolos of Patr**	**0.36**	**218**	P	**Pg**	**06 04 22.3**	**-0.1**
RLS				S	**Sg**	**06 04 27.1**	**-0.1**
RLS	**Riolos of Patr**	**0.36**	**218**	*e*PB	**Pg**	**06 04 22.3**	**-0.1**
RLS

ITM					S	Sn	06 04 54.0	0.0	
ITM	**Ithomi**	**1.17**	**173**		*e*PN	Pg	06 04 36.8	-1.0	
ITM					*e*SN	Sg	06 04 52.5	-0.4	
ITM	**Ithomi**	**1.17**	**173**		*e*Pn	Pg	06 04 36.8	-1.0	
ITM					*e*Sn	Sg	06 04 52.5	-0.4	
ITM					S	Sn	06 04 54.0	0.0	
THL	**Klokotos Trika**	**1.24**	**10**		P	Pn	06 04 38.3	-0.6	
THL					S	Sn	06 04 56.4	+0.7	
THL	**Klokotos Trika**	**1.24**	**10**		*e*PN	Pn	06 04 37.7	-1.2	
THL					*e*SN	Sb	06 04 54.8	-0.2	
THL	**Klokotos Trika**	**1.24**	**10**		*e*Pn	Pn	06 04 37.7	-1.2	
THL	**Klokotos Trika**	**1.24**	**10**		P	Pn	06 04 38.3	-0.6	
THL					*e*Sn	Sb	06 04 54.8	-0.2	
THL					S	Sn	06 04 56.4	+0.7	
SMIA	**Simia**	**1.27**	**64**		P	Pn	06 04 38.9	-0.4	
SMIA	**Simia**	**1.27**	**64**		*e*PN	Pn	06 04 38.6	-0.7	
SMIA					*e*SN	Sb	06 04 56.1	+0.3	
SMIA	**Simia**	**1.27**	**64**		*e*Pn	Pn	06 04 38.6	-0.7	
SMIA	**Simia**	**1.27**	**64**		P	Pn	06 04 38.9	-0.4	
SMIA					*e*Sn	Sb	06 04 56.1	+0.3	
FYTO	**Fytoko, Volos**	**1.42**	**41**		P	Pn	06 04 41.5	+0.2	
FYTO					S	Sg	06 05 01.5	+0.6	
DID	**Didima**	**1.44**	**125**		P	Pn	06 04 41.6	-0.1	
DID					S	Sg	06 05 01.8	+0.1	
DID	**Didima**	**1.44**	**125**		*e*PN	Pn	06 04 41.4	-0.3	
DID					*e*SN	Sb	06 05 01.3	+0.4	
DID	**Didima**	**1.44**	**125**		P	Pn	06 04 41.6	-0.1	
DID					*e*Sn	Sb	06 05 01.3	+0.4	
PYL	**PYLOS**	**1.44**	**180**		P	Pn	06 04 41.4	-0.3	
PYL	**PYLOS**	**1.44**	**180**		*e*PN	Pn	06 04 41.3	-0.4	
PYL					*e*SN	Sg	06 05 01.7	0.0	
JAN	**Janina**	**1.49**	**332**		*e*PN	Pn	06 04 42.4	0.0	
JAN					*e*SN	Sn	06 05 02.5	+0.5	
JAN	**Janina**	**1.49**	**332**		*e*Pn	Pn	06 04 42.4	0.0	
JAN					*e*Sn	Sn	06 05 02.5	+0.5	
MRKA	**Markates**	**1.49**	**75**		P	Pn	06 04 42.2	-0.1	
MRKA					S	Sg	06 05 02.9	-0.3	
MRKA	**Markates**	**1.49**	**75**		*e*PN	Pn	06 04 42.1	-0.2	
MRKA					*e*SN	Sg	06 05 03.3	+0.1	
MRKA	**Markates**	**1.49**	**75**		P	Pn	06 04 42.2	-0.1	
MRKA					S	Sg	06 05 02.9	-0.3	
MRKA					*e*Sn	Sg	06 05 03.3	+0.1	
NAIG	**Nisos Aigina**	**1.49**	**112**		*e*PN	Pn	06 04 42.7	+0.3	
NAIG	**Nisos Aigina**	**1.49**	**112**		*e*Pn	Pn	06 04 42.7	+0.3	
MEV	**Metsovon**	**1.50**	**345**		P	Pn	06 04 43.2	+0.6	
MEV	**Metsovon**	**1.50**	**345**		P	Pn	06 04 43.2	+0.6	
NEO	**Neokhori**	**1.50**	**50**		P	Pn	06 04 42.5	-0.1	
NEO					S	Sb	06 05 03.5	+0.8	
NEO	**Neokhori**	**1.50**	**50**		*e*PN	Pn	06 04 42.4	-0.1	
NEO					*e*SN	Sb	06 05 03.4	+0.8	
NEO	**Neokhori**	**1.50**	**50**		P	Pn	06 04 42.5	-0.1	
NEO					*e*Sn	Sb	06 05 03.4	+0.8	
XOR	**Xorichti**	**1.52**	**47**		P	Pn	06 04 42.8	0.0	
XOR	**Xorichti**	**1.52**	**47**		*e*PN	Pn	06 04 43.0	+0.2	
XOR					*e*SN	Sg	06 05 04.3	0.0	
XOR	**Xorichti**	**1.52**	**47**		*e*Pn	Pn	06 04 43.0	+0.2	
XOR					*e*Sn	Sg	06 05 04.3	0.0	
SKIA	**Skiathos**	**1.58**	**58**		P	Pn	06 04 43.6	+0.1	
SKIA	**Skiathos**	**1.58**	**58**		*e*PN	Pn	06 04 43.8	+0.3	
SKIA					*e*SN	Sb	06 05 05.2	+0.5	
SKIA	**Skiathos**	**1.58**	**58**		*e*Pn	Pn	06 04 43.8	+0.3	
SKIA					*e*Sn	Sb	06 05 05.2	+0.5	
ATH	**Athens Observa**	**1.59**	**103**		P	Pn	06 04 43.5	-0.3	
ATH					S	Sg	06 05 06.5	-0.1	
ATH	**Athens Observa**	**1.59**	**103**		*e*PN	Pn	06 04 44.1	+0.3	
ATH					*e*SN	Sb	06 05 05.3	+0.1	
ATH	**Athens Observa**	**1.59**	**103**		P	Pn	06 04 43.5	-0.3	
ATH	**Athens Observa**	**1.59**	**103**		*e*Pn	Pn	06 04 44.1	+0.3	
IGT	**Igoumenitsa**	**1.62**	**318**		P	Pn	06 04 43.9	-0.3	
IGT	**Igoumenitsa**	**1.62**	**318**		*e*PN	Pn	06 04 45.1	+0.9	
IGT					*e*SN	Sb	06 05 06.8	+0.7	
IGT	**Igoumenitsa**	**1.62**	**318**		P	Pn	06 04 43.9	-0.3	
IGT	**Igoumenitsa**	**1.62**	**318**		*e*Pn	Pn	06 04 45.1	+0.9	
IGT					*e*Sn	Sb	06 05 06.8	+0.7	
ATHU	**Athens Univers**	**1.65**	**102**		P	Pn	06 04 44.6	+0.1	
ATHU					S	Sb	06 05 07.5	+0.7	
ATHU	**Athens Univers**	**1.65**	**102**		P	Pn	06 04 44.6	+0.1	
ATHU					S	Sb	06 05 07.5	+0.7	
PTL	**Penteli**	**1.69**	**99**		P	Pn	06 04 45.0	-0.2	
PTL					S	Sb	06 05 08.3	+0.2	
PTL	**Penteli**	**1.69**	**99**		*e*PN	Pn	06 04 45.4	+0.2	
PTL					*e*SN	Sn	06 05 07.6	+0.6	
PTL	**Penteli**	**1.69**	**99**		P	Pn	06 04 45.0	-0.2	
PTL	**Penteli**	**1.69**	**99**		*e*Pn	Pn	06 04 45.4	+0.2	
PTL					*e*Sn	Sn	06 05 07.6	+0.6	
PTL					S	Sb	06 05 08.3	+0.2	
LIT	**Litokhoron**	**1.85**	**18**		P	Pn	06 04 47.7	+0.4	
LIT					S	Sn	06 05 12.0	+1.1	
LIT	**Litokhoron**	**1.85**	**18**		*e*PN	Pn	06 04 47.9	+0.6	
LIT					*e*SN	Sn	06 05 12.0	+1.1	
AOS	**Alonnisos**	**1.86**	**63**		P	Pn	06 04 47.2	-0.2	
AOS	**Alonnisos**	**1.86**	**63**		*e*PN	Pn	06 04 47.4	0.0	
AOS					*e*SN	Sn	06 05 11.8	+0.7	
AOS	**Alonnisos**	**1.86**	**63**		*e*Pn	Pn	06 04 47.4	0.0	
AOS					*e*Sn	Sn	06 05 11.8	+0.7	
VLI	**Veliai**	**1.88**	**149**		P	Pn	06 04 48.0	+0.4	
VLI					S	Sb	06 05 13.6	+0.3	
VLI	**Veliai**	**1.88**	**149**		*e*PN	Pn	06 04 48.1	+0.4	
VLI					*e*SN	Sb	06 05 13.4	+0.1	
VLI	**Veliai**	**1.88**	**149**		*e*Pn	Pn	06 04 48.1	+0.4	
KZN	**Kozani**	**1.96**	**1**		*e*PN	Pn	06 04 49.6	+0.7	
KZN					*e*SN	Sn	06 05 14.9	+1.2	
KZN	**Kozani**	**1.96**	**1**		*e*Pn	Pn	06 04 49.6	+0.7	
KZN					*e*Sn	Sn	06 05 14.9	+1.2	
KEK	**Kerkira**	**2.04**	**313**		*e*PN	Pn	06 04 50.6	+0.6	
KEK					*e*SN	Sn	06 05 16.8	+1.2	
KEK	**Kerkira**	**2.04**	**313**		*e*Pn	Pn	06 04 50.6	+0.6	
KEK					*e*Sn	Sn	06 05 16.8	+1.2	
SRN	**Sarande**	**2.05**	**319**		*i* PN	Pb	06 04 52.1	-0.7	
SRN	**Sarande**	**2.05**	**319**		*i* Pn	Pb	06 04 52.1	-0.7	
PAIG	**Paliouri**	**2.18**	**43**		P	Pn	06 04 51.6	-0.3	
PAIG	**Paliouri**	**2.18**	**43**		*e*PB	Pn	06 04 51.7	-0.2	
PAIG					*e*SN	Sn	06 05 20.1	+1.1	
PAIG	**Paliouri**	**2.18**	**43**		P	Pn	06 04 51.6	-0.3	
PAIG					*e*Sn	Sn	06 05 20.1	+1.1	
KYTH	**Kithira**	**2.30**	**153**		*e*PN	Pn	06 04 54.2	+0.7	
KYTH	**Kithira**	**2.30**	**153**		*e*Pn	Pn	06 04 54.2	+0.7	
KBN	**Korca**	**2.40**	**342**		*i* PN	Pb	06 04 58.5	-0.2	
KBN					*i* SN	Sg	06 05 35.6	+3.2	
KBN	**Korca**	**2.40**	**342**		*i* Pn	Pb	06 04 58.5	-0.2	
PLG	**Polygyros**	**2.42**	**32**		*e*PN	Pn	06 04 55.4	+0.2	
PLG					*e*SN	Sn	06 05 25.3	+0.4	
PLG	**Polygyros**	**2.42**	**32**		*e*Pn	Pn	06 04 55.4	+0.2	
PLG					*e*Sn	Sn	06 05 25.3	+0.4	
FNA	**Florina**	**2.46**	**353**		*e*PN	Pn	06 04 56.6	+0.9	
FNA					*e*SN	Sn	06 05 27.2	+1.3	
FNA	**Florina**	**2.46**	**353**		*e*Pn	Pn	06 04 56.6	+0.9	
FNA					*e*Sn	Sn	06 05 27.2	+1.3	
THE	**Thessaloniki**	**2.48**	**22**		*e*PB	Pn	06 04 56.3	+0.4	
THE					*e*SN	Sn	06 05 27.4	+1.2	
THE	**Thessaloniki**	**2.48**	**22**		*e*Pb	Pn	06 04 56.3	+0.4	
THE					*e*Sn	Sn	06 05 27.4	+1.2	
HORT	**Hortiatis**	**2.48**	**24**		*e*PB	Pn	06 04 56.4	+0.3	
HORT					*e*SN	Sn	06 05 28.1	+1.5	
BIA	**Bitola**	**2.69**	**353**		*e*Pn	Pn	06 05 01.6	+2.6	
BIA					*e*Sn	Sb	06 05 35.6	-1.5	
BIA	**Bitola**	**2.69**	**353**		*e*Pn	Pn	06 05 01.5	+2.6	
BIA					*e*Sn	Sb	06 05 35.5	-1.5	
ANKY	**Antikythira Is**	**2.76**	**153**		*e*PN	Pn	06 05 00.1	+0.3	
ANKY	**Antikythira Is**	**2.76**	**153**		*e*Pn	Pn	06 05 00.1	+0.3	
SOH	**Sokhos**	**2.77**	**26**		P	Pn	06 05 00.6	+0.6	
SOH	**Sokhos**	**2.77**	**26**		*e*PN	Pn	06 05 00.9	+0.9	
SOH					*e*SN	Sn	06 05 33.7	+0.1	
SOH	**Sokhos**	**2.77**	**26**		P	Pn	06 05 00.6	+0.6	
SOH	**Sokhos**	**2.77**	**26**		*e*Pn	Pn	06 05 00.9	+0.9	
SOH					*e*Sn	Sn	06 05 33.7	+0.1	
KNT	**Kendrikon**	**2.95**	**17**		P	Pn	06 05 03.3	+0.8	
KNT	**Kendrikon**	**2.95**	**17**		*e*PN	Pn	06 05 03.5	+1.0	
KNT					*e*SN	Sn	06 05 39.3	+1.2	
KNT	**Kendrikon**	**2.95**	**17**		P	Pn	06 05 03.3	+0.8	
KNT					*e*Sn	Sn	06 05 39.3	+1.2	
VAY	**Valandovo**	**3.04**	**12**		*i* Pn	Pn	06 05 04.9	+1.2	
VAY					*e*Sn	Sb	06 05 44.1	-2.9	
VAY					*e*Lg	Lg	06 05 49.7		
	comp=E,146nm,1.1s								
VAY					*e*Lg	Lg	06 05 49.9		
	comp=N,148nm,0.8s								
VAY	**Valandovo**	**3.04**	**12**		*i* Pn	Pn	06 05 04.9	+1.2	
VAY					*e*Sn	Sb	06 05 44.0	-2.9	
VAY					*e*Lg	Lg	06 05 49.9		
	comp=N,148nm,0.8s								
LIA	**Limnos Island**	**3.09**	**59**		*e*PN	Pn	06 05 04.8	+0.5	
LIA	**Limnos Island**	**3.09**	**59**		*e*Pn	Pn	06 05 04.8	+0.5	
SRS	**Serrai**	**3.12**	**27**		P	Pn	06 05 05.7	+1.0	
SRS	**Serrai**	**3.12**	**27**		*e*PN	Pn	06 05 05.8	+1.0	
SRS					*e*SN	Sn	06 05 42.5	+0.4	
SRS	**Serrai**	**3.12**	**27**		P	Pn	06 05 05.7	+1.0	
SRS					*e*SN	Sn	06 05 42.5	+0.4	
APE	**Apeiranthos**	**3.26**	**112**		*e*PN	Pn	06 05 07.6	+0.9	
APE	**Apeiranthos**	**3.26**	**112**		*i*/P	Pn	06 05 05.7	-1.0	
APE	**Apeiranthos**	**3.26**	**112**		*i*/P	Pn	06 05 05.7	-1.0	
APE	**Apeiranthos**	**3.26**	**112**		*e*PN	Pn	06 05 07.6	+0.9	
SIGR	**SIGRI**	**3.33**	**74**		*e*PN	Pn	06 05 07.6	0.0	
SIGR	**SIGRI**	**3.33**	**74**		*e*PN	Pn	06 05 07.6	0.0	
CHOS	**Chios island**	**3.39**	**88**		P	Pn	06 05 09.1	+0.6	
CHOS	**Chios island**	**3.39**	**88**		*e*PN	Pn	06 05 09.4	+0.9	
CHOS	**Chios island**	**3.39**	**88**		P	Pn	06 05 09.1	+0.6	
CHOS	**Chios island**	**3.39**	**88**		*e*Pn	Pn	06 05 09.4	+0.9	
KAVA	**Kavala**	**3.41**	**38**		*e*PN	Pn	06 05 08.3	-0.3	
KAVA					*e*SN	Sn	06 05 50.1	+1.0	
KAVA	**Kavala**	**3.41**	**38**		*e*Pn	Pn	06 05 08.3	-0.3	
KAVA					*e*Sn	Sn	06 05 50.1	+1.0	
KARN	**Karanos**	**3.41**	**149**		*e*PN	Pn	06 05 09.9	+1.1	
KARN	**Karanos**	**3.41**	**149**		*e*Pn	Pn	06 05 09.9	+1.1	
NVR	**Nevrokopi**	**3.42**	**28**		*e*PN	Pn	06 05 09.8	+0.9	
NVR	**Nevrokopi**	**3.42**	**28**		*e*Pn	Pn	06 05 09.8	+0.9	
VAM	**Vamos**	**3.53**	**145**		*e*PN	Pn	06 05 11.8	+1.5	
VAM	**Vamos**	**3.53**	**145**		*e*Pn	Pn	06 05 11.8	+1.5	
MMB	**Musomiste**	**3.58**	**24**		*i*/P	Pn	06 05 11.9	+0.7	
MMB	**Musomiste**	**3.58**	**24**		*i*/P	Pn	06 05 11.9	+0.7	
SKO	**Skopje**	**3.63**	**356**		*i* Pn	Pn	06 05 14.5	+2.7	
SKO					*e*SN	Sn	06 05 58.2	+3.3	
SKO					*e*Lg	Lg	06 06 00.7		
	comp=N,342nm,2.2s								
SKO					*e*Lg	Lg	06 06 04.5		
	comp=E,103nm,1.2s								
SKO	**Skopje**	**3.63**	**356**		*i* Pn	Pn	06 05 14.5	+2.7	
SKO					*e*Sn	Sn	06 05 58.1	+3.3	
SKO					*e*Lg	Lg	06 06 04.5		
	comp=E,103nm,1.2s								
PRK	**Paraskevi**	**3.65**	**74**		*e*PN	Pn	06 05 12.6	+0.6	
PRK	**Paraskevi**	**3.65**	**74**		*e*Pn	Pn	06 05 12.6	+0.6	
IDI	**Anoyia**	**3.95**	**139**		Pn	Pn	06 05 19.0	+2.7	
	comp=E,1.8nm,0.3s,baz=317,slow=16,SNR=10								
IDI					Sn	Sn	06 06 05.5	+2.6	
	comp=E,5.6nm,0.3s,baz=308,slow=22,SNR=3.3								
RDO	**Rodhopi**	**4.05**	**45**		*e*PN	Pn	06 05 17.1	-0.4	
RDO	**Rodhopi**	**4.05**	**45**		*e*Pn	Pn	06 05 17.1	-0.4	
SMG	**Samos**	**4.07**	**97**		*e*PN	Pn	06 05 18.7	+0.9	
SMG	**Samos**	**4.07**	**97**		*e*Pn	Pn	06 05 18.7	+0.9	
SIVA	**Sivas**	**4.13**	**142**		*e*PN	Pn	06 05 20.1	+1.5	
SIVA	**Sivas**	**4.13**	**142**		*e*Pn	Pn	06 05 20.1	+1.5	
BLCB	**Balcova**	**4.16**	**88**		*e*P	Pn	06 05 19.2	+0.2	
BLCB	**Balcova**	**4.16**	**88**		*e*P	Pn	06 05 19.2	+0.2	
ENEZ	**Enez**	**4.16**	**54**		*e*P	Pn	06 05 23.8	+4.8	
ENEZ	**Enez**	**4.16**	**54**		*e*P	Pn	06 05 23.8	+4.8	
ALN	**Alexandroupoli**	**4.19**	**51**		*e*PN	Pn	06 05 20.5	+1.1	
ALN	**Alexandroupoli**	**4.19**	**51**		*e*Pn	Pn	06 05 20.5	+1.1	
GELI	**Tayfur-Gelibol**	**4.20**	**59**		*e*P	Pn	06 05 12.6	-6.9	
IZM	**Izmir**	**4.33**	**88**		*e*P	Pn	06 05 19.9	-1.6	
IZM	**Izmir**	**4.33**	**88**		*e*P	Pn	06 05 19.9	-1.6	
KDZ	**Kurdzhali**	**4.34**	**39**		*i*/P	Pn	06 05 20.2	-1.4	
KDZ	**Kurdzhali**	**4.34**	**39**		*i*/P	Pn	06 05 20.2	-1.4	
ERIK	**Erikli-Kesan**	**4.36**	**56**		*e*P	Pn	06 05 13.3	-8.5	
LAST	**Lasithi**	**4.36**	**136**		*e*PN	Pn	06 05 23.1	+1.2	
LAST	**Lasithi**	**4.36**	**136**		*e*Pn	Pn	06 05 23.1	+1.2	
NPS	**Neapolis**	**4.37**	**134**		*e*PN	Pn	06 05 23.2	+1.3	
NPS	**Neapolis**	**4.37**	**134**		*e*Pn	Pn	06 05 23.2	+1.3	
LPK	**Lapseki**	**4.38**	**61**		*e*P	Pn	06 05 21.8	-0.3	
LPK	**Lapseki**	**4.38**	**61**		*e*P	Pn	06 05 21.8	-0.3	
VTS	**Vitosha**	**4.39**	**14**		*i*/P	Pn	06 05 24.5	+2.2	
VTS	**Vitosha**	**4.39**	**14**		*i*/P	Pn	06 05 24.5	+2.2	
KRBG	**Karabiga-Canak**	**4.76**	**63**		*e*P	Pn	06 05 26.4	-0.9	
KRBG	**Karabiga-Canak**	**4.76**	**63**		*e*P	Pn	06 05 26.4	-0.9	
ZKR	**Zakros**	**4.82**	**131**		*e*PN	Pn	06 05 30.0	+1.9	
ZKR	**Zakros**	**4.82**	**131**		*e*Pn	Pn	06 05 30.0	+1.9	
AYDB	**Zeytinkoy-Aydi**	**4.86**	**93**		*e*P	Pn	06 05 31.0	+2.3	
AYDB	**Zeytinkoy-Aydi**	**4.86**	**93**		*e*P	Pn	06 05 31.0	+2.3	
GONE	**Gonen-Balikesi**	**4.92**	**68**		*e*P	Pn	06 05 29.7	+0.3	
GONE	**Gonen-Balikesi**	**4.92**	**68**		*e*P	Pn	06 05 29.7	+0.3	
EDRB	**Edirne**	**5.19**	**46**		*e*P	Pn	06 05 32.4	-0.8	
EDRB	**Edirne**	**5.19**	**46**		*e*P	Pn	06 05 32.4	-0.8	
KULA	**Kula-Manisa**	**5.43**	**86**		*e*P	Pn	06 05 35.0	-1.6	
KULA	**Kula-Manisa**	**5.43**	**86**		*e*P	Pn	06 05 35.0	-1.6	
BOLS	**Boljevac**	**5.49**	**2**		*i*/Pn	Pn	06 05 39.6	+2.4	
DALY	**Dalyan (Mu˘la**	**5.69**	**103**		*e*P	Pn	06 05 40.9	+0.8	
DALY	**Dalyan (Mu˘la**	**5.69**	**103**		*e*P	Pn	06 05 40.9	+0.8	
FETY	**Fethiye**	**6.08**	**104**		*e*P	Pn	06 05 48.1	+2.7	
FETY	**Fethiye**	**6.08**	**104**		*e*P	Pn	06 05 48.1	+2.7	
KHL	**Karahalli**	**6.11**	**88**		*e*P	Pn	06 05 40.2	-5.7	
TVSB	**Tavsanli**	**6.12**	**77**		*e*P	Pn	06 05 47.5	+1.4	
TVSB	**Tavsanli**	**6.12**	**77**		*e*P	Pn	06 05 47.5	+1.4	
ELL	**Elmali**	**6.68**	**101**		*e*P	Pn	06 05 50.8	-3.0	
FGSL	**Fruska Gora**	**6.96**	**349**		*i*/Pn	Pn	06 05 58.2	+0.7	
ARR	**Arges**	**7.34**	**16**		*i*/P	Pn	06 06 06.3	+3.5	
SUTC	**Sutluce-Ispart**	**7.37**	**94**		*e*P	Pn	06 06 01.3	-1.9	
SUTC	**Sutluce-Ispart**	**7.37**	**94**		*e*P	Pn	06 06 01.3	-1.9	
VOIR		**7.51**	**18**		*i*/P	Pn	06 06 06.8	+1.8	
VOIR		**7.51**	**18**		*i*/P	Pn	06 06 06.8	+1.8	
MDUB	**Mudurnu**	**7.62**	**71**		*e*P	Pn	06 06 07.8	+1.2	
MDUB	**Mudurnu**	**7.62**	**71**		*e*P	Pn	06 06 07.8	+1.2	
MLR	**Muntele Rosu**	**7.80**	**22**		*i*/P	Pn	06 06 11.3	+2.2	
MLR	**Muntele Rosu**	**7.80**	**22**		Pn	Pn	06 06 10.9	+1.8	
	comp=E,0.1nm,0.3s,baz=116,slow=12,SNR=8.5								
MLR	**Muntele Rosu**	**7.80**	**22**		*i*/P	Pn	06 06 11.3	+2.2	
NVLJ	**Novalja**	**8.08**	**322**		*i* Pn	Pn	06 06 47.5	-0.8	
NVLJ					Sn	Sn	06 07 41.0	-3.2	
NVLJ	**Novalja**	**8.08**	**322**		*i* Pn	Pn	06 06 12.0	-0.8	
PKSM	**Moragy**	**8.20**	**345**		*i*/P	Pn	06 06 13.3	-1.1	
PKSM	**Moragy**	**8.20**	**345**		*i*/*e*	Pn	06 06 13.2	-1.1	
PKSM					*e*		06 06 23.1		
PKSM	**Moragy**	**8.20**	**345**		*i*/P	Pn	06 06 13.3	-1.1	
PLOR	**Plostina**	**8.34**	**24**		*i*/P	Pn	06 06 20.4	+3.9	
VRI	**Vrincioaia**	**8.38**	**25**		*i*/P	Pn	06 06 20.7	+3.7	
BRTR	**Keskin Array B**	**9.36**	**78**		Pn	Pn	06 06 32.8	+2.3	
	comp=E,1.1nm,0.3s,baz=261,slow=12,SNR=38								
PSZ	**Piszkesteto**	**9.67**	**353**		*i*/P	Pn	06 06 37.9	+3.2	
PSZ	**Piszkesteto**	**9.67**	**353**		*i*/P	Pn	06 06 37.9	+3.2	
SOKA	**Soboth**	**9.69**	**331**		*i*/Pn	Pn	06 06 34.6	-0.4	
SOKA	**Soboth**	**9.69**	**331**		Pn	Pn	06 06 34.6	-0.4	
ABTA	**Abfaltersbach**	**10.81**	**324**		*i*/Pn	Pn	06 06 49.6	-0.7	
ABTA	**Abfaltersbach**	**10.81**	**324**		Pn	Pn	06 06 49.6	-0.7	
MOTA	**Moosalm**	**11.91**	**322**		*i*/Pn	Pn	06 07 04.6	-0.8	
MOTA	**Moosalm**	**11.91**	**322**		Pn	Pn	06 07 04.6	-0.8	
GERES	**GERESS Array B**	**12.00**	**334**		Pn	Pn	06 07 07.2	+0.5	
	comp=E,0.2nm,0.3s,baz=157,slow=14,SNR=9.2								
DAVOX	**Davos/Dischmat**	**12.14**	**318**		Pn	Pn	06 07 09.4	+0.7	
	comp=E,0.3nm,0.3s,baz=174,slow=17,SNR=2.7								
AKASG	**Malin Array Be**	**13.45**	**21**		Pn	Pn	06 07 27.7	+1.5	
	comp=E,0.1nm,0.3s,baz=211,slow=13,SNR=3.0								
ESDC	**Sonseca Array**	**20.01**	**282**		P	P	06 08 48.7	+0.3	
	comp=E,0.2nm,0.3s,baz=77,slow=11,SNR=6.1								
FINES	**FINESS Array B**	**23.29**	**5**		P	P	06 09 21.5	-1.6	
	comp=E,1.3nm,0.7s,baz=163,slow=7.4,SNR=4.5								
NB2	**NORSAR Subarra**	**23.66**	**347**		P	P	06 09 26.1	-0.8	
	comp=Z,1.3nm,0.6s,baz=153,slow=10								
NB2	**NORSAR Subarra**	**23.66**	**347**		P	P	06 09 26.1	-0.8	
	comp=Z,1.3nm,0.6s,SNR=5.2								
NOA	**NORSAR Array B**	**23.66**	**347**		P	P	06 09 25.6	-1.3	
	comp=Z,2.4nm,0.8s,baz=153,slow=9.2,SNR=9.2								
EKA	**Eskdalemuir Ar**	**23.86**	**323**		P	P	06 09 27.9	-0.9	
	comp=Z,3.8nm,0.8s,baz=121,slow=11,SNR=8.8								
TORD	**Torodi Ar. Bea**	**30.77**	**221**		P	P	06 10 32.4	+1.1	
	comp=Z,0.7nm,0.6s,baz=32,slow=9.3,SNR=5.8								
ARCES	**ARCESS Array B**	**31.32**	**3**		P	P	06 10 33.9	-1.7	
	comp=Z,1.9nm,0.8s,baz=196,slow=8.2,SNR=5.2								
KURBB	**Kurchatov Arra**	**41.35**	**54**		P	P	06 12 01.4	0.0	
	comp=Z,0.8nm,0.5s,baz=280,slow=8.7,SNR=13								
MKAR	**Makanchi Array**	**44.39**	**59**		P	P	06 12 26.2	+0.1	
	comp=Z,3.6nm,0.5s,baz=276,slow=7.3,SNR=109								
ZALV	**Zalesovo Beam**	**44.86**	**48**		P	P	06 12 29.4	-0.3	
	comp=Z,2.2nm,0.5s,baz=271,slow=9.2,SNR=6.3								
YKA	**Yellowknife Ar**	**73.56**	**340**		P	P	06 15 48.4	+0.1	
	comp=Z,0.1nm,0.4s,baz=34,slow=5.2,SNR=4.6								

IDC 09 06:19:51.4±3.4, 2.74S×101.25E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmpg3.6/5, Error ellipse: s-maj=196.9km s-min=25.1km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.04**	**259**	T	T	06 55 04.3	
	baz=83,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**29.05**	**259**	T	T	06 55 05.4	
	baz=83,slow=75,SNR=8.1						
H08S1	**Diego Carcia H**	**29.06**	**259**	T	T	06 55 06.2	
	baz=83,slow=75,SNR=6.3						
WRA	**Warramunga Arr**	**36.55**	**120**	P	P	06 26 58.8	-0.4
	0.3nm,0.5s,baz=306,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**37.81**	**126**	P	P	06 27 10.3	+0.4
	0.4nm,1.0s,baz=304,slow=8.7,SNR=2.1						
MKAR	**Makanchi Array**	**52.08**	**344**	P	P	06 29 03.6	+0.5
	0.2nm,0.5s,baz=142,slow=7.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**58.12**	**349**	P	P	06 29 46.2	-0.5
	0.3nm,0.

baz=300
ARSB Arslanbob 2.06 9 *e*P Pg 06 58 36.8 +1.0
baz=9.0
ARSB *e*S Sg 06 59 04.6 +2.0
baz=9.0
ARK Arkit 2.54 350 *e*P Pg 06 58 45.1 +0.2
baz=350
ARK *e*S Sg 06 59 19.7 +1.7
baz=350
AML Almayashu 2.97 17⇑*i*P Pb 06 58 50.2 0.0
baz=17
AML ⇑*i*S Sb 06 59 27.4 +0.2
baz=17
UCH Uchtor 3.29 27⇑*i*P Pb 06 58 54.9 -0.9
baz=27
UCH ⇑*i*S Sb 06 59 37.1 +0.4
baz=27
EKS2 Erkin-Say 3.49 15⇑*i*P Pb 06 58 57.9 -0.9
baz=15
EKS2 ⇑*i*S Sb 06 59 41.6 -0.1
baz=15
AAK Ala-Archa 3.65 23⇑*i*P Pb 06 59 00.7 -0.8
baz=23
AAK ⇑*i*S Sb 06 59 45.7 -0.7
baz=23
KBK Karagaybulak 3.82 28⇑*i*P Pb 06 59 03.3 -1.2
baz=28
KBK ⇑*i*S Sb 06 59 51.4 0.0
baz=28
CHMS Chumysh 4.06 24⇑*i*P Pb 06 59 05.4 -2.9
baz=24
CHMS ⇑*i*S Sb 06 59 55.7 -2.2
baz=24

IDC ***09*** *07:04:29.5±0.6, 9.°10S×157.°72E, h0km, mb4.7/19, mb1 4.9/21,mb1mx4.9/23,mbtmp4.7/21,ML4.0/2,MS4.8/21, Ms1 4.8/21,ms1mx4.6/34,Error ellipse: s-maj=22.2km s-min=14.9km az=105.0*

BJI ***09*** *07:04:30.5, 9.°73S×157.°57E, h26km, mB5.6/24,mb5.1/45, Ms5.3/26,Ms7 5.0/26*

ISCJB ***09*** *07:04:32.0±0.2, 9.°16S±0.°03×157.°63E±0.°03, h23km, mb5.2/105,MS4.9/29,Error ellipse: s-maj=5.2km s-min=4.1km az=137.2*

MOS ***09*** *07:04:33.0±1.2, 9.°19S×157.°75E, h33km,mb5.5/24,Error ellipse: s-maj=8.9km s-min=8.4km az=48.9*

GCMT ***09*** *07:04:34.7±0.2, 9.°13S×157.°72E, h12km±1km, MW5.3/92, Moment Tensor Solution. s21,c23; s92,c142; Duration: 1s1 Moment tensor: Scale 10**17**Nm; Mrr0.30±.05; Mθθ0.06±.04; Mϕϕ-0.35±.04; Mrθ-0.13±.11; Mθϕ1.00±.03; Mϕr-0.17±.10; Best double couple: M=1.05200×10**17** NP1:ϕs184.00000°,δ79.00000°,λ166.00000°. NP2: ϕs277.00000°,δ76.00000°,λ11.00000°. Principal axes: T 0.9350, Plg18.0000°, Azm140.0000°; N 0.2340, Plg72.0000°, Azm327.0000°; P -1.1690, Plg2.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *07:04:34.7±0.2, 9.°22S×157.°70E, h35km, mb5.3/63 Error ellipse: s-maj=6.3km s-min=4.9km az=140.0*

ISC 09 07:04:33.3±0.3, 9.°22S±0.°05×157.°80E±0.°04, h23km, n314, σ1s42/325, mb5.3/103, MS4.8/29, 23C-22D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.13**	**96**		Pn		**Pn**	**07 05 05.1**	**-2.4**
HNR					Pg		**Pb**	**07 05 13.9**	**+2.6**
HNR					Sn		**Sn**	**07 05 30.4**	**-3.0**
HNR					Lg		Lg	07 05 42.8	
HNR	**Honiara**	**2.13**	**96**		Pn		Pn	07 05 04.7	-2.8
	149nm,0.3s,baz=232,slow=5.7,SNR=20								
HNR					Pg		**Pb**	**07 05 13.9**	**+2.6**
	166nm,0.3s,baz=346,slow=2.5,SNR=13								
HNR					Sn		**Sn**	**07 05 30.4**	**-3.0**
	602nm,0.3s,baz=201,slow=7.4,SNR=7.4								
HNR					Lg		Lg	07 05 42.8	
	355nm,0.3s,baz=234,slow=9.9,SNR=5.9								
HNR					LR		LR	07 05 58.7	
	comp=Z,6μm,21.3s,baz=298,slow=40								
HNR	**Honiara**	**2.13**	**96**	*i*	P		Pn	07 05 04.0	-3.5
HNR				*i*	S		Sb	07 05 47.0	+10
RABL	**Rabaul**	**7.50**	**311**	⇑	P		Pn	07 06 25.9	+4.6
	baz=7.4,SNR=3.6								
PMG	**Port Moresby**	**10.50**	**268**		P		x	07 07 11.0	
	105nm,1.7s								
PMG	**Port Moresby**	**10.50**	**268**	*e*	P		Pn	07 07 06.1	+3.6
PMG	**Port Moresby**	**10.50**	**268**		P		Pn	07 07 05.9	+3.4
	0.5nm,0.3s,baz=41,slow=7.7,SNR=4.3								
PMG					LR		LR	07 10 39.7	
	comp=Z,5μm,20.8s,baz=253,slow=36								
COEN	**Coen**	**15.07**	**250**	*e*	P		**P**	**07 08 07.8**	**-2.3**
COEN	**Coen**	**15.07**	**250**	⇑	P		**Pn**	**07 08 06.9**	**+1.9**
	baz=15,SNR=8.1								
DZM	**Mont Dzumac**	**15.24**	**148**	*e*	P		**Pn**	**07 08 09.6**	**+2.3**
DZM	148nm,1.4s			*e*	LR		LR	07 11 46.9	
	7μm,27.1s								
DZM	**Mont Dzumac**	**15.24**	**148**		Pn		**Pn**	**07 08 08.5**	**+1.2**
DZM	**Mont Dzumac**	**15.24**	**148**		Pn		**Pn**	**07 08 08.5**	**+1.2**
	0.2nm,0.3s,baz=4.7,slow=16,SNR=5.8								
DZM					LR		LR	07 12 52.6	
	comp=Z,4μm,20.5s,baz=320,slow=33								
CTA	**Charters Tower**	**15.53**	**225**		Pn		**Pn**	**07 08 08.9**	**-2.0**
CTA	**Charters Tower**	**15.53**	**225**		Pn		**Pn**	**07 08 08.9**	**-2.0**
	0.9nm,0.3s,baz=52,slow=14,SNR=12								
CTA					LR		LR	07 13 26.2	
	comp=Z,4μm,18.6s,baz=45,slow=34								
CTA	**Charters Tower**	**15.53**	**225**	⇑	P		**Pn**	**07 08 09.4**	**-1.6**
	baz=15								
CTAO	**Charters Tower**	**15.53**	**225**	*e*	P		**Pn**	**07 08 09.1**	**-1.8**
CTAO					pmax		pmax		
	comp=Z,150nm,1.4s								
CTAO	**Charters Tower**	**15.53**	**225**	*e*	P		**Pn**	**07 08 09.1**	**-1.8**
	comp=Z,150nm,1.4s								
MTSU	**Mount Surprise**	**15.80**	**234**	⇓	P		**Pn**	**07 08 13.9**	**-0.6**
	baz=16								
EIDS	**Eidsvold**	**17.29**	**201**	*e*	P		**Pn**	**07 08 32.0**	**-1.2**
	comp=Z,110nm,1.4s								
EIDS	**Eidsvold**	**17.29**	**201**	⇑	P		**P**	**07 08 34.3**	**-0.3**
	baz=17,SNR=7.8								
JAY	**Jayapura**	**18.25**	**290**		P		**Pn**	**07 08 44.5**	**-0.8**
	baz=18,SNR=6.7								
GENI	**Genyem**	**18.72**	**290**		P		**Pn**	**07 08 51.1**	**+0.1**
	comp=Z,214nm,0.9s,comp=Z,6μm								
RMQ	**Roma**	**19.19**	**205**	⇓	P		**Pn**	**07 08 57.8**	**+1.3**
	baz=19,SNR=56								
QIS	**Mount Isa**	**20.86**	**235**	⇓	P		**P**	**07 09 14.7**	**+0.9**
	baz=21,SNR=29								
QLP	**Quilpie**	**21.52**	**215**	⇑	P		**P**	**07 09 21.0**	**+0.2**
	baz=21,SNR=32								
ARMA	**Armidale**	**21.86**	**194**	*e*	P		**P**	**07 09 24.2**	**-0.4**
	comp=Z,47nm,1.1s								
ARMA	**Armidale**	**21.86**	**194**	⇓	P		**P**	**07 09 25.0**	**+0.4**
	baz=22,SNR=12								
CMSA	**Cobar Meteorol**	**24.90**	**205**	⇑	P		**P**	**07 09 54.0**	**-0.6**
	baz=25,SNR=19								
WRAB	**Tennant Creek**	**25.03**	**242**		P		**P**	**07 09 55.7**	**-0.2**
	comp=Z,332nm,1.1s,SNR=8.1								
WRAB	**Tennant Creek**	**25.03**	**242**	⇑	*e*P		**P**	**07 09 55.4**	**-0.5**
WRAB					pmax		pmax		
	comp=Z,315nm,1.7s								
WRAB					MLR		MLR		
	comp=Z,7μm,17.0s								
WRAB	**Tennant Creek**	**25.03**	**242**	*e*	P		**P**	**07 09 55.7**	**-0.2**
	comp=Z,95nm,1.2s								
WRA	**Warramunga Arr**	**25.04**	**242**		P		**P**	**07 09 55.5**	**-0.6**
WRA					PcP		**PcP**	**07 13 30.7**	**0.0**
WRA	**Warramunga Arr**	**25.04**	**242**		P		**P**	**07 09 55.5**	**-0.6**
	comp=Z,22nm,0.9s,baz=68,slow=9.4,SNR=74								
WRA					PcP		**PcP**	**07 13 30.7**	**0.0**
	comp=Z,3.1nm,1.0s,baz=76,slow=2.4,SNR=3.8								
WRA					LR		LR	07 19 32.3	
	comp=Z,3μm,18.4s,baz=55,slow=36								
FAKI	**Fak Fak**	**26.15**	**282**		P		**P**	**07 10 07.4**	**+1.3**
	comp=Z,58nm,1.3s								
FAKI	**Fak Fak**	**26.15**	**282**	*e*	P		**P**	**07 10 06.5**	**+0.4**
	comp=Z,78nm,1.1s								
FAKI	**Fak Fak**	**26.15**	**282**	⇓	P		**P**	**07 10 05.3**	**-0.8**
	baz=26,SNR=3.1								
YNG	**Young**	**26.41**	**198**	⇓	P		**P**	**07 10 09.2**	**+0.9**
	baz=26,SNR=10								
AS31	**Alice Springs**	**26.98**	**235**	*e*	P		**P**	**07 10 12.1**	**-1.4**
ASAR	**Alice Springs**	**26.98**	**235**		P		**P**	**07 10 12.6**	**-1.0**
ASAR					PcP		**PcP**	**07 13 35.4**	**+0.3**
ASAR	**Alice Springs**	**26.98**	**235**		P		**P**	**07 10 12.6**	**-1.0**
	comp=Z,18nm,1.0s,baz=63,slow=9.5,SNR=24								
ASAR					PcP		**PcP**	**07 13 35.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=82,slow=2.7,SNR=3.7								
ASAR					LR		LR	07 20 22.5	
	comp=Z,2μm,19.1s,baz=71,slow=35								
CNB	**Canberra Magne**	**27.09**	**195**		P		**P**	**07 10 15.9**	**+1.4**
	baz=27,SNR=7.5								
STKA	**Stephens Creek**	**27.10**	**211**	*e*	P		**P**	**07 10 14.9**	**+0.4**
	comp=Z,21nm,1.0s								
STKA	**Stephens Creek**	**27.10**	**211**		P		**P**	**07 10 15.1**	**+0.6**
	comp=Z,49nm,0.8s,baz=14,slow=9.9,SNR=65								
STKA					LR		LR	07 19 28.9	
	comp=Z,3μm,18.5s,baz=31,slow=33								
CAN	**Canberra**	**27.20**	**196**	*e*	P		**P**	**07 10 16.0**	**+0.6**
CAN					pmax		pmax		
	comp=Z,66nm,1.6s								
CAN	**Canberra**	**27.20**	**196**	*e*	P		**P**	**07 10 16.0**	**+0.6**
	comp=Z,66nm,1.6s								
CAN	**Canberra**	**27.20**	**196**	⇑	P		**P**	**07 10 16.4**	**+1.0**
	baz=27								
SWI	**Sorong**	**27.68**	**286**		P		**P**	**07 10 18.9**	**-1.0**
	comp=Z,53nm,1.0s								
PALU	**Palau**	**28.47**	**305**	⇑	P		**P**	**07 10 26.9**	**0.0**
	baz=28								
H11S3	**WAKE ISLAND Hy**	**28.90**	**18**		T		T	07 39 11.5	
	baz=199,slow=77,SNR=66								
H11S2	**WAKE ISLAND Hy**	**28.90**	**18**		T		T	07 39 04.4	
	baz=199,slow=77,SNR=74								
H11S1	**WAKE ISLAND Hy**	**28.92**	**18**		T		T	07 39 05.7	
	baz=199,slow=77,SNR=45								
HTT	**Hallett**	**29.72**	**213**		P		**P**	**07 10 38.4**	**+0.5**
	baz=30,SNR=6.0								
H11N1	**WAKE ISLAND Hy**	**30.11**	**17**		T		T	07 41 04.2	
	baz=197,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy**	**30.12**	**17**		T		T	07 40 50.9	
	baz=197,slow=75,SNR=12								
H11N2	**WAKE ISLAND Hy**	**30.13**	**17**		T		T	07 40 54.7	
	baz=197,slow=75,SNR=14								
AFI	**Afiamalu**	**30.16**	**102**		LR		LR	07 20 04.3	
	comp=Z,2μm,20.3s,baz=280,slow=31								
RAO	**Raoul Island**	**30.26**	**134**		LR		LR	07 21 29.1	
	comp=Z,1μm,18.5s,baz=180,slow=34								
TOO	**Toolangi**	**30.34**	**200**		P		**P**	**07 10 44.4**	**+1.1**
	baz=30,SNR=4.4								
BBOO	**Buckleboo**	**30.90**	**217**	*e*	P		**P**	**07 10 47.8**	**-0.5**
	comp=Z,2μm,1.5s								
BBOO	**Buckleboo**	**30.90**	**217**		P		**P**	**07 10 48.1**	**-0.2**
	baz=31,SNR=15								
ARPS	**Mount Arapiles**	**31.01**	**205**		P		**P**	**07 10 50.1**	**+0.9**
	baz=31,SNR=7.1								
WRKA	**Warakurna**	**32.17**	**237**		P		**P**	**07 10 58.4**	**-1.2**
	baz=32,SNR=11								
URZ	**Urewera**	**33.74**	**152**		LR		LR	07 23 16.8	
	comp=Z,2μm,19.1s,baz=138,slow=33								
FORT	**Forrest**	**35.03**	**228**	*e*	P		**P**	**07 11 23.6**	**-0.8**
	comp=Z,98nm,1.3s								
MMRI	**Maumere**	**35.12**	**268**		P		**P**	**07 11 24.2**	**-1.2**
	comp=Z,158nm,1.3s								
MMRI	**Maumere**	**35.12**	**268**	*e*	P		**P**	**07 11 24.1**	**-1.2**
	comp=Z,229nm,1.2s								
LUWI	**Luwuk**	**35.78**	**281**	*e*	P		**P**	**07 11 31.4**	**+0.3**
LUWI	**Luwuk**	**35.78**	**281**	⇑	P		**P**	**07 11 31.2**	**+0.1**
	baz=36								
RPZ	**Rata Peaks**	**36.26**	**164**		LR		LR	07 25 16.7	
	comp=Z,2μm,19.1s,baz=322,slow=34								
APSI	**Ampana**	**36.91**	**281**		P		**P**	**07 11 39.9**	**-0.8**
	comp=Z,103nm,1.2s,comp=Z,1μm								
BNSI	**Bone**	**37.71**	**275**		P		**P**	**07 11 47.9**	**+0.4**
	comp=Z,105nm,1.3s,comp=Z,1μm								
KAPI	**Kappang**	**37.97**	**274**	*e*	P		**P**	**07 11 49.0**	**-0.6**
	comp=Z,320nm,1.0s								
SPSI	**Sidrap Palu**	**38.11**	**275**		P		**P**	**07 11 49.4**	**-1.5**
	comp=Z,52nm,1.2s								
JCJ	**Chichijima**	**39.15**	**338**		LR		LR	07 26 51.2	
	comp=Z,595nm,19.8s,baz=352,slow=34								
KMBL	**Kambalda**	**39.97**	**231**	⇓	P		**P**	**07 12 06.3**	**0.0**
	baz=40,SNR=7.1								
MEEK	**Meekatharra**	**40.89**	**240**		P		**P**	**07 12 13.7**	**-0.3**
	baz=41,SNR=5.5								
BKB	**Balikpapan**	**41.45**	**279**		P		**P**	**07 12 20.5**	**+1.8**
	comp=Z,270nm,1.0s								
MYLDM	**Lahad Datu**	**41.70**	**289**	*e*	P		**P**	**07 12 21.2**	**+0.5**
	comp=Z,90nm,1.3s								
MYLDM	**Lahad Datu**	**41.70**	**289**	⇓	P		**P**	**07 12 21.0**	**+0.3**
TSM	**Tawau**	**41.99**	**287**	⇑	P		**P**	**07 12 23.6**	**+0.4**
RAR	**Rarotonga**	**42.51**	**111**		LR		LR	07 25 54.7	
	comp=Z,913nm,18.7s,baz=84,slow=30								
BBKI	**Banjar Baru**	**43.05**	**275**		P		**P**	**07 12 31.3**	**-0.4**
	comp=Z,162nm,1.0s,comp=Z,6μm								
SDKM	**Sandakan**	**43.07**	**288**	⇓	P		**P**	**07 12 32.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**43.11**	**267**		P		**P**	**07 12 30.0**	**-2.3**
	comp=Z,191nm,1.1s,comp=Z,2μm								
JAGI	**Jajag, Banyuwa**	**43.11**	**267**	*e*	P		**P**	**07 12 30.3**	**-1.9**
	comp=Z,194nm,1.0s								
JAGI	**Jajag, Banyuwa**	**43.11**	**267**	⇓	P		**P**	**07 12 30.2**	**-2.1**
	baz=43,SNR=7.5								
KKM	**Kota Kinabalu**	**44.13**	**289**	⇓	P		**P**	**07 12 40.4**	**-0.1**
KRKI	**Karangkates**	**44.81**	**268**		P		x	07 12 45.2	
	comp=Z,215nm,0.9s,comp=Z,22μm								
PWJI	**Pagerwojo**	**45.46**	**268**		P		**P**	**07 12 49.1**	**-2.0**
	comp=Z,71nm,1.5s,comp=Z,2μm								
JOW	**Kurigami**	**45.88**	**322**	*e*	P		**P**	**07 12 54.4**	**+0.2**
	comp=Z,5.1nm,0.8s								
PCJI	**Pacitan**	**46.07**	**267**		P		**P**	**07 12 55.2**	**-0.7**
	comp=Z,247nm,1.0s,comp=Z,3μm								
BTM	**Bintulu**	**46.24**	**283**	⇑	P		**P**	**07 12 57.0**	**-0.2**
UGM	**Wanagama**	**46.74**	**268**	⇑	P		**P**	**07 13 00.6**	**-0.6**
	baz=46								
SBUM	**Sibu**	**46.87**	**282**		P		x	07 13 02.2	
	comp=Z,37nm,1.9s								
SBUM	**Sibu**	**46.87**	**282**	*e*	P		**P**	**07 13 02.5**	**+0.3**
	comp=Z,57nm,1.4s								
SBUM	**Sibu**	**46.87**	**282**	⇓	P		**P**	**07 13 01.9**	**-0.2**
YULB	**Yu-li**	**48.22**	**313**	*e*	P		**P**	**07 13 11.6**	**-0.8**
	comp=Z,34nm,0.8s								
KSM	**Kuching**	**48.48**	**280**		P		x	07 13 13.9	
KSM	**Kuching**	**48.48**	**280**	*e*	P		**P**	**07 13 14.6**	**-0.1**
	comp=Z,55nm,1.0s								
KSM	**Kuching**	**48.48**	**280**		P		**P**	**07 13 14.6**	**-0.1**
	baz=48,SNR=7.0								
KSM	**Kuching**	**48.48**	**280**	⇑	P		**P**	**07 13 14.2**	**-0.5**
NACB	**Ngangzhiao**	**48.48**	**314**	*e*	P		**P**	**07 13 14.2**	**-0.3**
	comp=Z,87nm,1.0s								
TPUB	**Ta-pu**	**48.65**	**312**	*e*	P		**P**	**07 13 14.2**	**-1.6**
	comp=Z,241nm,1.6s								
SSLB	**Suanglung**	**48.70**	**313**	*e*	P		**P**	**07 13 15.6**	**-0.7**
	comp=Z,41nm,0.9s								
YHNB	**Yeheng**	**48.95**	**314**	*e*	P		**P**	**07 13 17.9**	**-0.3**
	comp=Z,116nm,0.8s								
TATO	**Taipei**	**49.06**	**315**	*e*	P		**P**	**07 13 18.6**	**-0.3**
	comp=Z,124nm,1.0s								
MJAR	**Matsushiro Arr**	**49.10**	**339**		P		**P**	**07 13 17.3**	**-1.8**
MJAR	**Matsushiro Arr**	**49.10**	**339**		P		**P**	**07 13 17.3**	**-1.8**
	comp=Z,3.7nm,0.9s,baz=175,slow=9.5,SNR=4.8								
MJAR					LR		LR	07 31 16.6	
	comp=Z,812nm,18.9s,baz=180,slow=33								
MAJO	**Matsushiro**	**49.10**	**339**		P		**P**	**07 13 18.6**	**-0.5**
MAJO					pmax		pmax		
	comp=Z,36nm,0.6s								
JNU	**Nakatsue**	**49.29**	**330**	*e*	P		**P**	**07 13 19.4**	**-1.3**
	comp=Z,20nm,1.1s								
JNU	**Nakatsue**	**49.29**	**330**		LR		LR	07 29 47.3	
	comp=Z,950nm,20.6s,baz=333,slow=31								
CISI	**Cisompet, Garu**	**49.44**	**268**	*e*	P		**P**	**07 13 20.0**	**-2.2**
	comp=Z,68nm,1.0s								
PPT	**Papeete**	**51.73**	**105**		LR		LR	07 30 50.1	
	comp=Z,355nm,18.3s,baz=82,slow=30								
PPT2	**Papeete2**	**51.73**	**105**	*e*	LQ		LQ	07 26 34.4	
	comp=Z,2μm,29.0s								
PPT2				*e*	LR		LR	07 28 43.4	
	comp=Z,972nm,24.5s								
TBI	**Tubuai**	**52.27**	**112**	*e*	LQ		LQ	07 26 40.4	
	comp=Z,2μm,34.5s								
TBI				*e*	LR		LR	07 28 58.5	
	comp=Z,1μm,30.5s								
KSRS	**Korea Array**	**54.20**	**331**		P		**P**	**07 13 56.1**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=145,slow=7.5,SNR=9.2								
KSRS					LR		LR	07 33 12.4	
	comp=Z,682nm,19.4s,baz=320,slow=32								
KSAR	**Wonju Array Be**	**54.21**	**331**		P		**P**	**07 13 56.1**	**-1.1**
MYKOM	**Kota Tinggi**	**54.84**	**279**	⇓	P		**P**	**07 14 01.5**	**-0.7**
ASAJ	**Asahikawa**	**54.84**	**347**		LR		LR	07 36 17.1	
	comp=Z,1μm,18.4s,baz=159,slow=35								
QIZ	**Qiongzhong**	**54.98**	**301**		P		**P**	**07 14 03.5**	**+0.4**
QIZ					S		**S**	**07 21 44.9**	**+0.8**
QIZ					LR		LR		
	comp=Z,1μm,19.2s								
NJ2	**Nanjing**	**55.39**	**320**	*e*	P		**P**	**07 14 06.2**	**+0.4**
NJ2					S		**S**	**07 21 48.5**	**-0.7**
NJ2					pmax		pmax		
	comp=Z,30nm,0.8s								
NJ2					LR		LR		
	comp=Z,850nm,17.5s								
NJ2					LR		LR		
	comp=Z,1μm,19.8s								
NJ2					LR		LR		
	comp=Z,9μm,16.4s								
KGM	**Kluang**	**55.41**	**279**	⇓	P		**P**	**07 14 05.2**	**-1.2**
KTGM	**Kuala Trenggan**	**56.36**	**283**	⇓	P		**P**	**07 14 11.6**	**-1.6**
VLA	**Vladivostok**	**57.19**	**338**	⇓	*e*P		**P**	**07 14 17.0**	**-1.5**
VLA					S		**S**	**07 22 10.1**	**-2.7**
VLA					pmax		pmax		
	comp=Z,47nm,1.6s								
FRIM	**Kepong**	**57.33**	**280**	⇓	P		**P**	**07 14 18.6**	**-1.4**
WHN	**Wuhan**	**57.46**	**315**		P		**P**	**07 14 20.4**	**-0.2**
YSS	**Yuzh-Sakhalins**	**57.51**	**348**	*e*	P		**P**	**07 14 16.2**	**-4.4**
USRK	**Ussuriysk Arra**	**58.08**	**338**		P		**P**	**07 14 23.6**	**-1.1**
	comp=Z,10.0nm,1.0s,baz=143,slow=6.3,SNR=12								
USRK					LR		LR	07 36 07.3	
	comp=Z,490nm,18.1s,baz=22,slow=33								
IPM	**Ipoh**	**58.19**	**281**	*e*	P		**P**	**07 14 24.5**	**-1.7**
	comp=Z,4.3nm,0.4s								
IPM	**Ipoh**	**58.19**	**281**	⇑	P		**P**	**07 14 25.1**	**-1.1**
KULM	**Kulim**	**58.75**	**282**	⇑	P		**P**	**07 14 29.1**	**-0.9**
MDJ	**Mudanjiang**	**59.34**	**337**		P		**P**	**07 14 32.7**	**-0.8**
MDJ					pP		**pP**	**07 14 41.8**	**+1.0**
MDJ					sP		**sP**	**07 14 45.5**	**+2.0**
MDJ					pmax		pmax		
	comp=Z,20nm,1.8s								
MDJ					pmax		pmax		
	comp=Z,180nm,5.2s								
MDJ	**Mudanjiang**	**59.34**	**337**	*e*	P		**P**	**07 14 31.9**	**-1.6**
	comp=Z,71nm,1.7s								
PSI	**Prapat**	**59.86**	**279**	⇑	P		**P**	**07 14 35.6**	**-2.3**
	baz=60,SNR=6.7								
CN2	**Changchun**	**60.39**	**334**	*e*	P		P	07 14 44.4	+3.7
CN2				*e*	PP		PP	07 17 00.7	+6.5
CN2				*e*	S		**S**	**07 22 52.7**	**-1.6**
CN2					pmax		pmax		
	comp=Z,10.0nm,1.1s								
CN2					pmax		pmax		
	comp=Z,200nm,4.0s								
CN2					LR		LR		
	comp=Z,800nm,15.0s								
CN2					LR		LR		
	comp=Z,600nm,15.0s								
CN2					LR		LR		
	comp=Z,700nm,16.0s								
ENH	**Enshi**	**60.77**	**312**	*e*	P		**P**	**07 14 42.9**	**-0.8**
	comp=Z,39nm,1.2s								
GSI	**Gunungsitoli**	**60.88**	**277**	*e*	P		**P**	**07 14 42.9**	**-1.8**
	comp=Z,82nm,1.0s								
GSI	**Gunungsitoli**	**60.88**	**277**	⇓	P		**P**	**07 14 43.7**	**-1.0**
	baz=61								
SLVN	**Son La**	**61.00**	**301**	*e*	P		**P**	**07 14 44.8**	**-0.6**
	comp=Z,75nm,1.6s								
GYA	**Guiyang**	**61.00**	**307**	⇑	*i*P		**P**	**07 14 47.2**	**+1.8**
GYA					pP		pP	07 14 58.2	+5.5
GYA					PcP		**PcP**	**07 15 30.7**	**+2.1**
GYA					PP		**PP**	**07 17 04.3**	**+4.3**
GYA					ScP		**ScP**	**07 19 28.0**	**-0.9**
GYA					S		**S**	**07 23 02.1**	**-0.9**
GYA					sS		**sS**	**07 23 19.0**	**+4.0**
GYA					SS		**SS**	**07 27 03.4**	**+0.4**
GYA					pmax		pmax		
	comp=Z,30nm,1.0s								
GYA					pmax		pmax		
	comp=Z,160nm,5.4s								
GYA					LR		LR		
	comp=Z,650nm,19.5s								
GYA					LR		LR		
	comp=Z,560nm,20.0s								
GYA					LR		LR		
	comp=Z,620nm,18.8s								
PET	**Petropavlovsk**	**62.00**	**1**	*e*	P		**P**	**07 14 51.6**	**+0.2**
PET					pmax		pmax		
	comp=Z,36nm,1.0s								
PETK	**Petropavlovsk-**	**62.08**	**360**		P		**P**	**07 14 51.4**	**-0.6**
PETK	**Petropavlovsk-**	**62.08**	**360**		P		**P**	**07 14 51.4**	**-0.6**
PETK	**Petropavlovsk-**	**62.08**	**360**		P		**P**	**07 14 51.4**	**-0.6**
	comp=Z,8.1nm,0.9s,baz=156,slow=7.8,SNR=6.3								
PETK					LR		LR	07 36 41.0	
	comp=Z,438nm,19.7s,baz=347,slow=31								
KLR	**Kul'dur**	**62.53**	**341**	*e*	P		P	07 14 49.8	-5.3
KLR					pmax		pmax		
	comp=Z,38nm,1.4s								
XAN	**Xi'an**	**63.22**	**316**		P		**P**	**07 14 59.0**	**-1.1**
XAN					pP		**pP**	**07 15 09.0**	**+1.6**
XAN					sP		**sP**	**07 15 14.0**	**+3.8**
XAN					pmax		pmax		
	comp=Z,10.0nm,0.9s								
KMI	**Kunming**	**63.55**	**304**	⇑	P		**P**	**07 15 02.7**	**0.0**
KMI					pP		**pP**	**07 15 13.2**	**+3.2**
KMI					sP		**sP**	**07 15 17.5**	**+4.7**
K

GTA					SS	SS	07 29 55.2	-2.0	
GTA					pmax	pmax			
	comp=Z,20nm,1.1s								
GTA					pmax	pmax			
	comp=Z,290nm,5.2s								
GTA					LR	LR			
	comp=Z,410nm,16.1s								
GTA					LR	LR			
	comp=Z,860nm,16.9s								
GTA					LR	LR			
	comp=Z,520nm,18.8s								
ULN	**Ulaanbaatar**	**72.36**	**327**	*e*P	**P**		07 15 57.2	-0.4	
	comp=Z,16nm,1.2s								
SONM	**Songino Array**	**72.70**	**327**	P	**P**		07 15 59.7	+0.1	
SONM	**Songino Array**	**72.70**	**327**	P	**P**		07 15 59.7	+0.1	
	comp=Z,5.5nm,0.8s,baz=138,slow=5.5,SNR=48								
SHL	**Shillong**	**72.81**	**300**	*e*P	**P**		07 16 00.5	-0.2	
LSA	**Lhasa**	**74.81**	**304**	P	**P**		07 16 12.8	+0.1	
LSA	**Lhasa**	**74.81**	**304**	*e*P	**P**		07 16 12.8	+0.1	
LSA				pmax	pmax				
	comp=Z,28nm,1.2s								
LSA	**Lhasa**	**74.81**	**304**	*e*P	**P**		07 16 12.8	+0.1	
	comp=Z,28nm,1.2s								
TLY	**Talaya**	**76.38**	**329**	*e*P	**P**		07 16 20.1	-0.6	
TLY				*e*			07 16 34.8		
TLY				pmax	pmax				
	comp=Z,15nm,1.7s								
TLY	**Talaya**	**76.38**	**329**	*e*P	**P**		07 16 20.1	-0.6	
PALK	**Pallekele**	**78.54**	**279**	*e*P	**P**		07 16 33.9	+0.3	
	comp=Z,1μm,2.7s								
TNA	**Tin City**	**78.78**	**14**	*e*P	**P**		07 16 32.8	-0.9	
	comp=Z,17nm,1.4s								
SVW2	**Sparrevohn**	**79.03**	**21**	*e*P	**P**		07 16 36.0	+0.7	
	comp=Z,45nm,1.4s								
RC01	**Rabbit Creek A**	**81.19**	**23**	*e*P	**P**		07 16 46.1	-0.7	
	comp=Z,26nm,1.4s								
PPLA	**Purkeypile**	**81.43**	**21**	*e*P	**P**		07 16 47.9	-0.4	
	comp=Z,40nm,1.5s								
PMR	**Palmer**	**81.73**	**23**	*e*P	**P**		07 16 49.2	-0.5	
PMR				pmax	pmax				
	comp=Z,79nm,1.7s								
PMR	**Palmer**	**81.73**	**23**	*e*P	**P**		07 16 49.2	-0.5	
	comp=Z,79nm,1.7s								
CAST	**Castle Rocks**	**81.80**	**20**	*e*P	**P**		07 16 49.6	-0.5	
	comp=Z,12nm,0.8s								
KTH	**Kantishna Hill**	**82.29**	**21**	*e*P	**P**		07 16 51.5	-1.2	
	comp=Z,308nm,1.6s								
WMQ	**Urumqi**	**82.33**	**317**	P	**P**		07 16 53.0	-0.4	
WMQ				pP	**pP**		07 17 03.4	+2.5	
WMQ				sP	**sP**		07 17 07.3	+3.6	
WMQ				PP	**PP**		07 20 03.5	+1.0	
WMQ				S	**S**		07 27 06.0	-2.2	
WMQ				sS	**ScS**		07 27 21.8	-2.0	
WMQ				pmax	pmax				
	comp=Z,27nm,1.5s								
WMQ				LR	LR				
	comp=Z,430nm,17.6s								
WMQ				LR	LR				
	comp=Z,290nm,20.6s								
WMQ				LR	LR				
	comp=Z,490nm,25.5s								
TRF	**Thorofare Moun**	**82.45**	**21**	*e*P	**P**		07 16 52.5	-1.2	
	comp=Z,14nm,0.9s								
HYB	**Hyderabad**	**82.61**	**289**	*i* P	**P**		07 16 54.0	-1.4	
IM04	**Indian Mountai**	**82.93**	**18**	*e*P	**P**		07 16 55.5	-0.5	
TIXI	**Tiksi**	**82.95**	**351**	*i*P	**P**		07 16 54.5	-1.4	
TIXI				pmax	pmax				
	comp=Z,21nm,1.7s								
TIXI	**Tiksi**	**82.95**	**351**	*e*P	**P**		07 16 54.0	-1.9	
	comp=Z,22nm,1.5s								
MCK	**McKinley**	**83.10**	**21**	*e*P	**P**		07 16 56.1	-0.8	
MCK				pmax	pmax				
	comp=Z,53nm,1.0s								
MCK	**McKinley**	**83.10**	**21**	*e*P	**P**		07 16 56.1	-0.8	
	comp=Z,53nm,1.0s								
COLA	**College**	**84.16**	**20**	⇑*i*P	**P**		07 17 00.9	-1.4	
COLA				pmax	pmax				
	comp=Z,168nm,1.2s								
COLA	**College**	**84.16**	**20**	*e*P	**P**		07 17 00.8	-1.4	
	comp=Z,7.9nm,0.9s								
ILAR	**Eielson Array**	**84.44**	**21**	P	**P**		07 17 02.4	-1.3	
ILAR	**Eielson Array**	**84.44**	**21**	P	**P**		07 17 02.4	-1.3	
	comp=Z,12nm,1.0s,baz=260,slow=4.5,SNR=55								
DOT	**Dot Lake**	**84.83**	**22**	*e*P	**P**		07 17 05.8	0.0	
	comp=Z,19nm,0.9s								
COLD	**Coldfoot**	**84.84**	**18**	*e*P	**P**		07 17 05.5	-0.2	
	comp=Z,28nm,1.6s								
EGAK	**Eagle**	**86.50**	**22**	*e*P	**P**		07 17 13.6	-0.4	
	comp=Z,63nm,1.4s								
DAWY	**Dawson**	**86.82**	**23**	*e*P	**P**		07 17 16.0	+0.4	
MK31	**Makanchi Array**	**86.90**	**318**	*i* P	**P**		07 17 15.4	-1.0	
MK31				pmax	pmax				
	comp=Z,23nm,0.9s								
MK31	**Makanchi Array**	**86.90**	**318**	*e*P	**P**		07 17 15.2	-1.2	
MKAR	**Makanchi Array**	**86.90**	**318**	*i* P	**P**		07 17 15.5	-0.9	
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MKAR	**Makanchi Array**	**86.90**	**318**	*e*P	**P**		07 17 15.5	-0.9	
MKAR	**Makanchi Array**	**86.90**	**318**	P	**P**		07 17 15.5	-0.9	
	comp=Z,10nm,0.7s,baz=101,slow=5.9,SNR=96								
ZALV	**Zalesovo Beam**	**87.57**	**326**	P	**P**		07 17 17.0	-2.4	
ZALV	**Zalesovo Beam**	**87.57**	**326**	P	**P**		07 17 17.0	-2.4	
ZALV	**Zalesovo Beam**	**87.57**	**326**	P	**P**		07 17 17.0	-2.4	
	comp=Z,5.9nm,0.8s,baz=108,slow=4.8,SNR=31								
CMB	**Columbia Colle**	**89.24**	**51**	*e*P	**P**		07 17 30.3	+2.5	
CMB				pmax	pmax				
	comp=Z,26nm,1.7s								
CMB	**Columbia Colle**	**89.24**	**51**	*e*P	**P**		07 17 30.3	+2.5	
	comp=Z,26nm,1.7s								
KSH	**Kashi**	**89.56**	**310**	P	**P**		07 17 30.8	+1.5	
KSH				*e*PP	**PP**		07 21 04.0	+2.8	
KSH				*e*SKS	**SKSac**		07 27 56.3	-2.4	
KSH				*e*S	**S**		07 28 16.0	-3.2	
KSH				*e*sS	**sS**		07 28 33.2	+1.4	
KSH				pmax	pmax				
	comp=Z,18nm,1.2s								
KSH				pmax	pmax				
	comp=Z,200nm,4.3s								
KSH				LR	LR				
	comp=Z,530nm,13.7s								
KSH				LR	LR				
	comp=Z,200nm,10.7s								
KSH				LR	LR				
	comp=Z,580nm,13.5s								
ARVC	**Arvin**	**89.87**	**55**	P	**P**		07 17 31.8	+1.0	
	baz=90								
CIS	**Catalina Islan**	**89.89**	**56**	P	**P**		07 17 31.5	+0.6	
	baz=90								
I05D	**Terrebonne, OR**	**89.91**	**45**	P	**P**		07 17 31.5	+0.7	
	baz=90								
WAKR	**Walker**	**90.07**	**51**	*e*P	**P**		07 17 33.0	+1.2	
ISA	**Isabella**	**90.26**	**54**	*e*P	**P**		07 17 32.6	-0.1	
ISA				pmax	pmax				
	comp=Z,7.0nm,1.7s								
ISA	**Isabella**	**90.26**	**54**	*e*P	**P**		07 17 32.6	-0.1	
	comp=Z,7.2nm,1.7s								
ISA	**Isabella**	**90.26**	**54**	P	**P**		07 17 33.2	+0.6	
	baz=90								
KURK	**Kurchatov**	**90.28**	**321**	P	**P**		07 17 30.7	-1.6	
	comp=Z,34nm,1.1s,SNR=8.1								
KURK	**Kurchatov**	**90.28**	**321**	*c i*P	**P**		07 17 30.3	-2.0	
KURK				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KURK				MLR	MLR				
	comp=Z,336nm,16.0s								
KURK	**Kurchatov**	**90.28**	**321**	*e*P	**P**		07 17 30.1	-2.1	
	comp=Z,14nm,1.5s								
KURBB	**Kurchatov Arra**	**90.32**	**321**	P	**P**		07 17 30.8	-1.6	
	comp=Z,3.9nm,0.9s,baz=107,slow=3.2,SNR=40								
EDW2	**Edwards Air Fo**	**90.50**	**55**	P	**P**		07 17 34.7	+1.0	
	baz=91								
MTUM	**Tungsten Hills**	**90.52**	**52**	*e*P	**P**		07 17 35.5	+1.6	
TKM2	**Tokmak 2**	**90.55**	**313**	*i* P	**P**		07 17 33.6	-0.3	
TKM2	**Tokmak 2**	**90.55**	**313**	P	**P**		07 17 33.7	-0.3	
	SNR=5.0								
KZA	**Kyzart**	**90.62**	**312**	*i* P	**P**		07 17 34.5	-0.1	
KZA	**Kyzart**	**90.62**	**312**	P	**P**		07 17 34.6	-0.1	
	SNR=7.3								
TIN	**Tinemaha**	**90.72**	**53**	P	**P**		07 17 35.8	+1.0	
	baz=91								
INK	**Inuvik**	**90.82**	**20**	*e*P	**P**		07 17 34.0	-0.4	
	comp=Z,38nm,1.6s								
LRMC	**Laurel Mountai**	**90.86**	**54**	P	**P**		07 17 36.4	+0.9	
	baz=91								
MURC	**Murrieta**	**90.91**	**56**	P	**P**		07 17 36.6	+0.9	
	baz=91								

NVAR	**Mina Array Bea**	**90.92**	**51**	P	**P**		07 17 36.4	+0.6	
NVAR	**Mina Array Bea**	**90.92**	**51**	P	**P**		07 17 36.4	+0.6	
	comp=Z,2.7nm,0.9s,baz=247,slow=6.4,SNR=15								
I07A	**Izee**	**91.14**	**46**	*e*P	**P**		07 17 37.2	+0.7	
	comp=Z,26nm,1.5s								
CHMS	**Chumysh**	**91.17**	**313**	*i* P	**P**		07 17 36.2	-0.4	
CHMS	**Chumysh**	**91.17**	**313**	P	**P**		07 17 36.2	-0.4	
	SNR=6.4								
UCH	**Uchtor**	**91.19**	**312**	*i* P	**P**		07 17 37.6	+0.3	
UCH	**Uchtor**	**91.19**	**312**	P	**P**		07 17 37.6	+0.3	
	SNR=8.6								
AAK	**Ala-Archa**	**91.28**	**313**	⇓*e*P	**P**		07 17 37.1	-0.3	
AAK				pmax	pmax				
	comp=Z,53nm,2.1s								
AAK	**Ala-Archa**	**91.28**	**313**	*e*P	**P**		07 17 37.0	-0.3	
	comp=Z,42nm,1.9s								
AAK	**Ala-Archa**	**91.28**	**313**	P	**P**		07 17 36.7	-0.6	
	comp=Z,3.8nm,0.8s,baz=124,slow=1.4,SNR=12								
GRAC	**Grapevine Rang**	**91.39**	**53**	P	**P**		07 17 39.2	+1.4	
	baz=92								
WVOR	**Wild Horse Val**	**91.44**	**47**	*e*P	**P**		07 17 39.0	+1.0	
WVOR				pmax	pmax				
	comp=Z,27nm,1.5s								
WVOR	**Wild Horse Val**	**91.44**	**47**	*e*P	**P**		07 17 39.0	+1.0	
	comp=Z,27nm,1.5s								
PFO	**Pinyon Flat Ob**	**91.53**	**56**	P	**P**		07 17 39.6	+1.0	
	baz=92								
FURC	**Furnace Creek,**	**91.70**	**53**	P	**P**		07 17 40.2	+1.1	
	baz=92								
TPH	**Tonopah**	**91.70**	**52**	*e*P	**P**		07 17 40.3	+0.9	
TPH				pmax	pmax				
	comp=Z,31nm,1.6s								
TPH	**Tonopah**	**91.70**	**52**	*e*P	**P**		07 17 40.3	+0.9	
	comp=Z,31nm,1.6s								
J08A	**Circle Bar Ran**	**91.73**	**46**	*e*P	**P**		07 17 40.5	+1.2	
AML	**Almayashu**	**91.77**	**312**	*i* P	**P**		07 17 39.8	-0.1	
AML	**Almayashu**	**91.77**	**312**	P	**P**		07 17 39.8	-0.1	
	SNR=6.0								
HEC	**Hector,Ludlow**	**91.84**	**55**	P	**P**		07 17 41.0	+1.0	
	baz=92								
BELC	**Belle Mtn. Jos**	**91.97**	**56**	P	**P**		07 17 41.4	+0.8	
	baz=92								
SHOC	**Shoshone**	**92.06**	**54**	P	**P**		07 17 41.4	+0.5	
	baz=92								
TPNV	**Topopah Spring**	**92.26**	**53**	*e*P	**P**		07 17 43.0	+1.0	
TPNV				pmax	pmax				
	comp=Z,73nm,1.9s								
TPNV	**Topopah Spring**	**92.26**	**53**	*e*P	**P**		07 17 43.0	+1.0	
	comp=Z,73nm,1.9s								
TPNV	**Topopah Spring**	**92.26**	**53**	P	**P**		07 17 42.7	+0.7	
	baz=92								
TUQ	**Turquoise Moun**	**92.27**	**55**	P	**P**		07 17 43.0	+0.9	
	baz=92								
GMRC	**Granite Mounta**	**92.37**	**55**	P	**P**		07 17 43.1	+0.6	
	baz=92								
IRM	**Iron Mountain**	**92.69**	**56**	P	**P**		07 17 45.0	+1.1	
	baz=93								
R11A	**Troy Canyon, C**	**93.01**	**52**	*e*P	**P**		07 17 46.3	+0.8	
	comp=Z,24nm,1.5s								
R11A	**Troy Canyon, C**	**93.01**	**52**	P	**P**		07 17 46.3	+0.8	
	baz=93								
SHPR	**Sheep Range**	**93.05**	**54**	*e*P	P		07 17 50.8	+5.1	
	comp=Z,42nm,1.8s								
MFID	**Camas Ranch**	**93.64**	**47**	*e*P	**P**		07 17 48.9	+0.8	
	comp=Z,3.2nm,1.3s								
KK31	**Karatay Array**	**94.25**	**313**	*i* P	**P**		07 17 49.8	-1.0	
KK31				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**94.25**	**313**	*e*P	**P**		07 17 49.9	-1.0	
KKAR	**Karatay Array**	**94.25**	**313**	*e*P	**P**		07 17 49.9	-1.0	
HLID	**Hailey**	**94.68**	**47**	*e*P	**P**		07 17 54.5	+1.5	
	comp=Z,18nm,1.4s								
HLID	**Hailey**	**94.68**	**47**	P	**P**		07 17 53.9	+0.8	
	baz=95								
BGU	**Big Grassy Mou**	**95.34**	**50**	*e*P	**P**		07 17 56.6	+0.5	
	comp=Z,6.3nm,1.6s								
HVU	**Hansel Valley**	**95.64**	**49**	*e*P	**P**		07 17 58.0	+0.6	
HVU				pmax	pmax				
	comp=Z,21nm,1.5s								
HVU	**Hansel Valley**	**95.64**	**49**	*e*P	**P**		07 17 58.0	+0.6	
	comp=Z,21nm,1.5s								
BVAR	**Borovoye Array**	**95.73**	**323**	P	**P**		07 17 55.6	-1.8	
BVAR	**Borovoye Array**	**95.73**	**323**	P	**P**		07 17 55.6	-1.8	
BVAR	**Borovoye Array**	**95.73**	**323**	P	**P**		07 17 55.6	-1.8	
	comp=Z,7.4nm,0.8s,baz=104,slow=6.3,SNR=38								
BRVK	**Borovoye**	**95.80**	**323**	P	**P**		07 17 56.6	-1.0	
	comp=Z,63nm,0.8s,SNR=5.5								
BRVK	**Borovoye**	**95.80**	**323**	⇓*i*P	**P**		07 17 56.1	-1.5	
BRVK				pmax	pmax				
	comp=Z,16nm,1.3s								
BRVK	**Borovoye**	**95.80**	**323**	*e*P	**P**		07 17 55.9	-1.8	
	comp=Z,13nm,1.1s								
JLU	**Jordanelle**	**96.49**	**50**	*e*P	**P**		07 18 03.0	+1.6	
	comp=Z,3.3nm,1.1s								
YKA	**Yellowknife Ar**	**96.99**	**28**	P	**P**		07 18 02.3	-0.5	
YKA	**Yellowknife Ar**	**96.99**	**28**	P	**P**		07 18 02.3	-0.5	
	comp=Z,1.2nm,0.9s,baz=264,slow=4.5,SNR=3.2								
PDAR	**Pinedale Array**	**98.12**	**48**	P	Pdif		07 18 08.9	+0.1	
PDAR	**Pinedale Array**	**98.12**	**48**	P	Pdif		07 18 08.9	+0.1	
	comp=Z,0.5nm,0.8s,baz=222,slow=2.0,SNR=3.9								
TXAR	**Lajitas Array**	**101.86**	**62**	PP	PP		07 22 39.9	+3.0	
TXAR	**Lajitas Array**	**101.86**	**62**	PP	PP		07 22 39.9	+3.0	
	comp=Z,0.7nm,1.0s,baz=264,slow=6.3,SNR=4.4								
ABKAR	**Akbulak array**	**102.04**	**318**	*e*Pdif	**Pdif**		07 18 23.3	-2.4	
ZEI	**Tsey**	**113.71**	**313**	*i* PKIKP			07 23 07.0		
ZEI				pmax	pmax				
	comp=Z,16nm,0.7s								
AKASG	**Malin Array Be**	**120.95**	**325**	PKIKP	**PKPdf**		07 23 22.9	-1.0	
AKASG	**Malin Array Be**	**120.95**	**325**	PKP	**PKPdf**		07 23 22.9	-1.0	
AKASG	**Malin Array Be**	**120.95**	**325**	PKP	**PKPdf**		07 23 22.9	-1.0	
	comp=Z,2.0nm,0.9s,baz=64,slow=2.0,SNR=7.6								
BRTR	**Keskin Array B**	**121.92**	**311**	PKP	**PKPdf**		07 23 25.4	-1.0	
BRTR	**Keskin Array B**	**121.92**	**311**	PKP	**PKPdf**		07 23 25.4	-1.0	
	comp=Z,1.0nm,0.9s,baz=48,slow=1.8,SNR=5.1								
KOLS	**Kolonicke sedl**	**125.75**	**325**	*e*PKIKP	PKPdf		07 23 25.7	-7.5	
KOLS	**Kolonicke sedl**	**125.75**	**325**	*e*	PKPdf		07 23 25.7	-7.5	
CRVS	**Cervenica-Dubn**	**126.22**	**326**	*e*PKIKP	**PKPdf**		07 23 33.4	-0.7	
CRVS	**Cervenica-Dubn**	**126.22**	**326**	*e*PKP	**PKPdf**		07 23 33.4	-0.7	
LPAZ	**La Paz**	**127.96**	**119**	PKP	**PKPdf**		07 23 39.8	+0.6	
LPAZ	**La Paz**	**127.96**	**119**	PKP	**PKPdf**		07 23 39.8	+0.6	
	comp=Z,4.5nm,1.2s,baz=200,slow=15,SNR=3.7								
GERES	**GERESS Array B**	**130.37**	**329**	PKP	**PKPdf**		07 23 41.8	-0.4	
GERES	**GERESS Array B**	**130.37**	**329**	PKP	**PKPdf**		07 23 41.8	-0.4	
	comp=Z,0.7nm,0.8s,baz=48,slow=2.0,SNR=6.2								
BDFB	**Brasilia**	**144.45**	**134**	PKP	PKPbc		07 24 07.6	+0.2	
BDFB	**Brasilia**	**144.45**	**134**	PKP	PKPbc		07 24 07.6	+0.2	
	comp=Z,6.6nm,0.7s,baz=200,slow=3.6,SNR=15								
PCAB	**Cabril**	**145.30**	**341**	*e*PKP	**PKPdf**		07 24 09.9	+0.3	
MVO	**Moncorvo**	**145.46**	**340**	*e*PKP	**PKPab**		07 24 10.8	+0.7	
POLO	**Lamas de Olo**	**145.53**	**341**	*e*PKP	**PKPab**		07 24 10.6	+0.2	
ESDC	**Sonseca Array**	**145.57**	**335**	PKPbc	**PKPdf**		07 24 09.8	-0.4	
ESDC	**Sonseca Array**	**145.57**	**335**	PKPbc	**PKPdf**		07 24 09.8	-0.4	
	comp=Z,5.3nm,1.0s,baz=25,slow=3.5,SNR=15								
PVRL	**Vila Real**	**145.59**	**341**	*e*PKP	**PKPab**		07 24 10.6	0.0	
PVIS	**Viseu**	**146.16**	**340**	*e*PKP	**PKPab**		07 24 13.3	+0.6	
MTE	**Manteigas**	**146.32**	**340**	*e*PKP	**PKPab**		07 24 14.2	+0.8	
PMRV	**Marv??o**	**147.13**	**339**	*e*PKP	**PKPbc**		07 24 14.7	-0.2	
PTOM	**Tomar**	**147.31**	**340**	*e*PKP	**PKPab**		07 24 17.5	+0.4	
PMTG	**Montargil**	**147.74**	**339**	*e*PKP	**PKPab**		07 24 17.9	-0.9	
PVAQ	**Vaqueiros**	**149.03**	**337**	*e*PKP	**PKPbc**		07 24 18.6	-1.4	
TAM	**Tamanrasset**	**150.20**	**300**	*e*PKIKP	**PKPbc**		07 24 24.3	+0.8	
TAM	**Tamanrasset**	**150.20**	**300**	*e*PKPbc	**PKPbc**		07 24 24.3	+0.8	
TORD	**Torodi Ar. Bea**	**156.24**	**282**	PKPbc	PKPdf		07 24 35.7	+8.6	
TORD				PKPab	**PKPab**		07 24 55.1	+0.1	
TORD	**Torodi Ar. Bea**	**156.24**	**282**	PKPbc	PKPdf		07 24 35.7	+8.6	
	comp=Z,1.8nm,1.0s,baz=76,slow=2.3,SNR=4.8								
TORD				PKPab	**PKPab**		07 24 55.1	+0.1	
	comp=Z,2.8nm,0.9s,baz=79,slow=3.5,SNR=6.5								
KIC	**Kosan Boka**	**162.47**	**262**	*e*P	**PKPab**		07 25 21.2	-1.0	
	comp=Z,41nm,1.2s								
LIC	**Lamto**	**162.72**	**261**	*e*P	**PKPab**		07 25 22.7	-0.6	
	comp=Z,31nm,1.0s								
TIC	**Toumodi**	**162.79**	**263**	*e*P	**PKPab**		07 25 22.9	-0.7	
	comp=Z,5.9nm,0.3s								

*ISCJB **09** 07:09:25.7±0.7,21.04S±0.06×67.0W±0.1,h194km, mb3.3/3,Error ellipse: s-maj=17.5km s-min=8.1km az=178.7*

*IDC **09** 07:09:29.6±1.8,20.75S×66.96W,h216km±16km,mb3.2/4, mb1 3.4/7,mb1mx3.2/19,mbtmp3.3/7,Error ellipse: s-maj=21.4km s-min=17.3km az=63.0*

ISC 09 07:09:27.1±1.0,20.96S±0.09×67.0W±0.1,h194km,n8, σ1°17/8,mb3.4/3,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.76**	**347**	P		P	**Pn**	**07 10 40.4**	**+1.4**
	1.7nm,0.3s,baz=157,slow=9.1,SNR=67								
LPAZ				S		Sn	**Sn**	**07 11 34.7**	**-0.7**
	0.6nm,0.3s,baz=289,slow=22,SNR=5.6								
SIV	**San Ignacio**	**7.49**	**50**	P		P	**Pn**	**07 11 14.3**	**+0.5**
	4.5nm,0.3s,baz=261,slow=11,SNR=54								
CFAA	**Coronel Fontan**	**10.66**	**186**	P		P	**Pn**	**07 11 55.3**	**+0.3**
	0.0nm,0.3s,baz=6.4,slow=6.7,SNR=2.2								
CFAA				S		Sn		07 13 47.2	-6.6
	0.1nm,0.3s,baz=306,slow=5.7,SNR=2.2								
BDFB	**Brasilia**	**18.79**	**77**	P		P	**P**	**07 13 33.4**	**+1.3**
	0.9nm,0.3s,baz=251,slow=9.8,SNR=12								
PLCA	**Paso Flores**	**19.94**	**188**	P		P	Pn	07 13 47.3	-1.2
	1.8nm,0.7s,baz=352,slow=11,SNR=4.2								
PDAR	**Pinedale Array**	**74.55**	**329**	P		P	**P**	**07 20 44.6**	**-0.2**
	0.3nm,0.6s,baz=128,slow=5.8,SNR=2.6								
TORD	**Torodi Ar. Bea**	**75.50**	**70**	P		P	**P**	**07 20 49.2**	**-1.3**
	0.7nm,0.4s,baz=252,slow=5.8,SNR=10								
YKA	**Yellowknife Ar**	**91.28**	**340**	P		P	**P**	**07 22 09.2**	**-0.7**
	0.2nm,0.6s,baz=132,slow=4.4,SNR=7.8								

*IDC **09** 07:10:32.5±0.7,9.14S×157.95E,h0km,mb4.5/11, mb1 4.6/11,mb1mx4.4/20,mbtmp4.4/11,Error ellipse: s-maj=24.8km s-min=16.8km az=157.0*

*ISCJB **09** 07:10:34.7±0.3,9.21S±0.06×157.94E±0.05,h23km, mb4.6/24,MS4.9/2,Error ellipse: s-maj=8.9km s-min=6.1km az=162.9*

*BJI **09** 07:10:35.0,9.39S×158.50E,h43km,mB5.3/11,mb4.7/17, Ms5.2/6,Ms7 4.8/7*

*NEIC **09** 07:10:37.9±1.4,9.17S×157.93E,h38km±13km,mb4.8/7, Error ellipse: s-maj=14.3km s-min=6.9km az=153.0*

ISC 09 07:10:36.8±0.5,9.18S±0.08×158.01E±0.06,h23km,n71, σ1°69/72,mb4.8/24,MS4.9/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.92**	**98**			Pn	**Pn**	**07 11 08.5**	**+0.3**
HNR						Sn	**Sn**	**07 11 32.3**	**+0.6**
HNR	**Honiara**	**1.92**	**98**			Pn	**Pn**	**07 11 07.6**	**-0.6**
	68nm,0.3s,baz=226,slow=4.0,SNR=12								
HNR						Sn	**Sn**	**07 11 32.3**	**+0.6**
	1μm,0.3s,baz=189,slow=23,SNR=15								
HNR	**Honiara**	**1.92**	**98**	*i* P		**Pn**	**Pn**	**07 11 07.0**	**-1.2**
COEN	**Coen**	**15.29**	**251**	*e*P		**Pn**	**Pn**	**07 14 11.2**	**-0.2**
COEN	**Coen**	**15.29**	**251**	P		P	**P**	**07 14 17.3**	**+1.3**
	baz=12,SNR=7.2								
RMQ	**Roma**	**19.32**	**206**	P		**Pn**	**Pn**	**07 15 02.1**	**+0.5**
	baz=16,SNR=11								
QIS	**Mount Isa**	**21.06**	**235**	P		P	**P**	**07 15 19.7**	**+0.3**
	baz=17,SNR=13								
QLP	**Quilpie**	**21.68**	**215**	P		P	**P**	**07 15 25.9**	**-0.1**
	baz=18,SNR=5.5								
ARMA	**Armidale**	**21.96**	**195**	*e*P		P	**P**	**07 15 30.5**	**+1.3**
	13nm,1.0s								
ARMA	**Armidale**	**21.96**	**195**	P		P	**P**	**07 15 33.3**	**+4.2**
	baz=19,SNR=3.6								
CMSA	**Cobar Meteorol**	**25.02**	**206**	P		P	**P**	**07 16 01.9**	**+2.7**
	baz=22,SNR=9.8								
WRAB	**Tennant Creek**	**25.24**	**242**	*e*P		P	**P**	**07 16 00.2**	**-1.2**
	19nm,0.8s								
WRA	**Warramunga Arr**	**25.25**	**242**	P		P	**P**	**07 16 00.1**	**-1.4**
WRA	**Warramunga Arr**	**25.25**	**242**	P		P	**P**	**07 16

	comp=Z,400nm,19.1s							
MCK	**McKinley**	**82.98**	**21**	*e*P		**P**	**07 22 59.8**	**-0.1**
	15nm,1.0s							
COLA	**College**	**84.05**	**20**	*e*P		**P**	**07 23 04.5**	**-0.8**
	5.2nm,0.8s							
ILAR	**Eielson Array**	**84.32**	**21**	P		**P**	**07 23 06.0**	**-0.6**
ILAR	**Eielson Array**	**84.32**	**21**	P		**P**	**07 23 06.0**	**-0.6**
	2.5nm,0.9s,baz=262,slow=4.7,SNR=15							
IL1	**Eielson Array**	**84.32**	**21**	*e*P		**P**	**07 23 05.6**	**-1.1**
MKAR	**Makanchi Array**	**87.01**	**318**	P		**P**	**07 23 19.4**	**-1.0**
MKAR	**Makanchi Array**	**87.01**	**318**	P		**P**	**07 23 19.4**	**-1.0**
	2.4nm,0.7s,baz=89,slow=5.2,SNR=6.1							
KSH	**Kashi**	**89.70**	**310**	P		**P**	**07 23 34.5**	**+1.0**
KSH				*e*PP		**PP**	**07 27 09.1**	**+3.3**
KSH				*e*SKS		**SKSac**	**07 34 00.3**	**-2.7**
KSH				*e*S		**S**	**07 34 21.1**	**-3.0**
KSH				*e*SS		**SS**	**07 40 22.3**	**+1.2**
KSH				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KSH				pmax	pmax			
	comp=Z,290nm,7.9s							
KSH				LR	LR			
	comp=Z,83nm,8.2s							
NV01	**Mina Array Sit**	**90.73**	**51**	*e*P		**P**	**07 23 38.1**	**-0.4**
NVAR	**Mina Array Bea**	**90.73**	**51**	P		**P**	**07 23 38.4**	**-0.1**
NVAR	**Mina Array Bea**	**90.73**	**51**	P		**P**	**07 23 38.4**	**-0.1**
	0.7nm,0.9s,baz=158,slow=20,SNR=3.0							
BORC	**Borrego Spring**	**91.30**	**57**	*e*P		**P**	**07 23 39.3**	**-1.6**
WCU	**Willow Creek**	**95.62**	**52**	*e*P		**P**	**07 24 00.2**	**-0.9**
BVAR	**Borovoye Array**	**95.83**	**323**	P		**P**	**07 23 59.1**	**-2.3**
BVAR	**Borovoye Array**	**95.83**	**323**	P		**P**	**07 23 59.1**	**-2.3**
	2.5nm,0.8s,baz=120,slow=7.5,SNR=3.7							
YKA	**Yellowknife Ar**	**96.86**	**28**	P		**P**	**07 24 05.7**	**-0.1**
YKA	**Yellowknife Ar**	**96.86**	**28**	P		**P**	**07 24 05.6**	**-0.1**
	0.5nm,0.9s,baz=266,slow=4.3,SNR=6.7							
AKASG	**Malin Array Be**	**121.04**	**325**	PKP		**PKPdf**	**07 29 26.6**	**-0.9**
AKASG	**Malin Array Be**	**121.04**	**325**	PKP		**PKPdf**	**07 29 26.6**	**-0.9**
	0.1nm,0.2s,baz=70,slow=1.4,SNR=2.6							
BDFB	**Brasilia**	**144.32**	**134**	PKP		PKPbc	07 30 10.8	+0.2
BDFB	**Brasilia**	**144.32**	**134**	PKP		PKPbc	07 30 10.8	+0.2
	1.0nm,0.4s,baz=104,slow=8.4,SNR=3.6							

*ISCJB **09** 07:15:33.6±0.3, 46°.23N×106°.04×106°.44E±0°.06, h10km, mb4.1/21, Error ellipse: s-maj=6.5km s-min=4.7km az=148.5*

*IDC **09** 07:15:34.2±0.8, 46°.14N×106°.22E, h0km, mb3.9/12, mb1 4.1/16, mb1mx3.9/29, mbtmp3.9/16, ML3.1/3, Error ellipse: s-maj=18.2km s-min=12.6km az=83.0*

*NEIC **09** 07:15:35.1±1.9, 46°.18N×106°.38E, h7km±11km, mb4.5/4, Error ellipse: s-maj=10.7km s-min=7.0km az=199.0*

*BJI **09** 07:15:36.1, 46°.33N×106°.29E, h33km, mB5.0/5, mb4.3/6, ML4.8/5, Ms4.5/5, Ms7 4.2/2*

*MOS **09** 07:15:37.3±0.9, 46°.20N×106°.22E, h33km, mb4.7/11, Error ellipse: s-maj=15.3km s-min=7.0km az=115.4*

ISC 09 07:15:36.0±0.5, 46°28N±0°.05×106°35E±0°.06, h10km, n72, σ1§07/72, mb4.2/21, 1C-2D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**1.53**	**2**	Pg	**Pg**	**07 16 05.8**	**+0.5**
	baz=332,slow=341						
I34MN				Lg	Lg	07 16 25.9	
	baz=252,slow=3.8						
SONM	**Songino Array**	**1.56**	**1**	Pg	**Pb**	**07 16 06.2**	**+1.2**
SONM				Lg	Lg	07 16 27.3	
SONM	**Songino Array**	**1.56**	**1**	Pg	**Pb**	**07 16 06.2**	**+1.2**
	654nm,0.3s,baz=186,slow=17,SNR=1767						
SONM				Lg	Lg	07 16 27.3	
	4µm,0.3s,baz=147,slow=32,SNR=84						
ULN	**Ulaanbaatar**	**1.66**	**17**	*e*Pn	**Pb**	**07 16 07.3**	**+0.6**
ZAK	**Zakamensk**	**4.59**	**335**	*e*P	**Pn**	**07 16 45.9**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,639nm,0.8s						
TLY	**Talaya**	**5.69**	**343**	*e*P	**Pn**	**07 17 01.0**	**+0.4**
TLY				pmax	pmax		
	comp=Z,94nm,0.6s						
TLY	**Talaya**	**5.69**	**343**	*e*P	**Pn**	**07 17 01.0**	**+0.4**
	comp=Z,214nm,0.6s						
TLY				*e*Sg	**Sg**	**07 18 36.0**	**-2.6**
IRK	**Irkutsk**	**6.12**	**348**	*e*P	**Pn**	**07 17 06.8**	**+0.3**
IRK				pmax	pmax		
	comp=Z,139nm,0.2s						
MOY	**Mondy**	**6.44**	**329**	*e*P	**Pn**	**07 17 11.6**	**+0.7**
MOY				pmax	pmax		
	comp=Z,288nm,0.9s						
HHC	**Hu-ho-hao-te**	**6.62**	**143**	*e*Pn	**Pn**	**07 17 13.6**	**+0.2**
HHC				Sn	**Sn**	**07 18 27.3**	**-1.6**
HHC				smax	smax		
	comp=Z,1µm,0.8s						
HHC				smax	smax		
	comp=Z,820nm,0.9s						
GTA	**Gaotai**	**8.37**	**217**	*e*P	**Pn**	**07 17 37.4**	**0.0**
GTA				pP	pP	07 17 41.7	
GTA				S	**Sn**	**07 19 14.7**	**+2.7**
GTA				sS	sS	07 19 22.3	
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,1µm,4.5s						
GTA				LR	LR		
	comp=Z,1µm,11.6s						
GTA				LR	LR		
	comp=Z,1µm,11.6s						
GTA				LR	LR		
	comp=Z,990nm,14.3s						
HIA	**Hailar**	**9.50**	**67**	*e*Pn	**Pn**	**07 17 52.6**	**-0.2**
	comp=Z,14nm,0.6s						
BJI	**Beijing**	**9.51**	**127**	P	**Pn**	**07 17 52.1**	**-0.7**
BJI				pmax	pmax		
	comp=Z,34nm,0.6s						
BJT	**Baijiatuau**	**9.52**	**128**	*e*Pn	**Pn**	**07 17 51.0**	**-2.0**
XAN	**Xi'an**	**12.38**	**170**	P	Pn	07 18 42.8	+10
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**15.76**	**307**	P	**Pn**	**07 19 19.3**	**+1.5**
ZALV	**Zalesovo Beam**	**15.76**	**307**	Pn	**Pn**	**07 19 19.3**	**+1.5**
ZALV				Lg	Lg	07 23 50.4	
ZALV	**Zalesovo Beam**	**15.76**	**307**	Pn	**Pn**	**07 19 19.3**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=117,slow=8.9,SNR=9.1						
ZALV				Lg	Lg	07 23 50.4	
	comp=Z,0.2nm,0.3s,baz=125,slow=20,SNR=6.4						
MK31	**Makanchi Array**	**16.55**	**281**	*e*P	**P**	**07 19 29.1**	**-1.5**
MK31	**Makanchi Array**	**16.55**	**281**	*e*P	**P**	**07 19 29.1**	**-1.5**
MKAR	**Makanchi Array**	**16.55**	**281**	P	**Pn**	**07 19 28.6**	**+0.5**
MKAR	**Makanchi Array**	**16.55**	**281**	Pn	**Pn**	**07 19 28.6**	**+0.5**
MKAR				Lg	Lg	07 24 13.1	
MKAR	**Makanchi Array**	**16.55**	**281**	Pn	**Pn**	**07 19 28.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=85,slow=12,SNR=7.0						
MKAR				Lg	Lg	07 24 13.1	
	comp=Z,0.2nm,0.3s,baz=79,slow=26,SNR=5.7						
USRK	**Ussuriysk Arra**	**18.16**	**87**	P	**P**	**07 19 50.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=298,slow=8.2,SNR=5.0						
USRK				Lg	Lg	07 25 08.1	
	comp=Z,0.2nm,0.3s,baz=294,slow=30,SNR=5.9						
KSAR	**Wonju Array Be**	**18.27**	**111**	P	P	07 19 56.9	+7.3
KSRS	**Korea Array**	**18.29**	**111**	P	P	07 19 56.9	+7.1
	comp=Z,0.1nm,0.3s,baz=300,slow=9.9,SNR=8.4						
KURK	**Kurchatov**	**18.85**	**294**	‖*e*P	**Pn**	**07 19 56.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,22nm,1.0s						
KURK	**Kurchatov**	**18.85**	**294**	*e*P	**Pn**	**07 19 56.0**	**-0.4**
	comp=Z,18nm,0.8s						
KURBB	**Kurchatov Arra**	**18.90**	**293**	P	**Pn**	**07 19 57.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=95,slow=12,SNR=56						
AAK	**Ala-Archa**	**22.94**	**272**	*e*P	**P**	**07 20 41.9**	**+1.5**
AAK				pmax	pmax		
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**22.94**	**272**	*e*P	**P**	**07 20 41.9**	**+1.5**
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**22.94**	**272**	P	**P**	**07 20 42.2**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=169,slow=6.6,SNR=3.6						
BVA0	**Borovoye Array**	**24.05**	**299**	*i* P	**P**	**07 20 50.2**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,23nm,1.3s						
BVAR	**Borovoye Array**	**24.05**	**299**	P	**P**	**07 20 51.0**	**0.0**
BVAR	**Borovoye Array**	**24.05**	**299**	P	**P**	**07 20 51.0**	**0.0**
BVAR	**Borovoye Array**	**24.05**	**299**	P	**P**	**07 20 51.0**	**0.0**
	comp=Z,3.7nm,0.6s,baz=94,slow=9.7,SNR=19						
BRVK	**Borovoye**	**24.11**	**300**	*d* iP	**P**	**07 20 51.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,15nm,0.8s						
BRVK	**Borovoye**	**24.11**	**300**	*e*P	**P**	**07 20 51.3**	**-0.3**
	comp=Z,17nm,1.0s						
SVE	**Sverdlovsk**	**29.77**	**308**	*e*P	**P**	**07 21 42.6**	**+0.2**
ARU	**Arti**	**30.92**	**307**	*c* iP	**P**	**07 21 52.3**	**-0.3**
ARU						07 22 51.9	
ARU				S	**S**	**07 26 54.8**	**-1.7**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**30.92**	**307**	*e*P	**P**	**07 21 52.2**	**-0.4**
	comp=Z,6.0nm,0.8s						
AB31	**Akbulak array**	**30.95**	**293**	*i* P	**P**	**07 21 52.8**	**-0.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAK	**Makhachkala**	**41.18**	**287**	*e*P	P	07 23 13.7	-6.7
VRHR	**Novokhopersk**	**41.77**	**301**	*e*P	**P**	**07 23 23.5**	**-1.6**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR	**Storozhevoye**	**43.18**	**302**	*e*P	**P**	**07 23 35.5**	**-1.1**
VSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OBN	**Obninsk**	**43.34**	**308**	*e*P	**P**	**07 23 36.4**	**-1.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARCES	**ARCESS Array B**	**44.51**	**330**	P	**P**	**07 23 46.8**	**-0.3**
ARCES	**ARCESS Array B**	**44.51**	**330**	P	**P**	**07 23 46.8**	**-0.3**
	comp=Z,5.1nm,1.0s,baz=56,slow=9.0,SNR=5.6						
FINES	**FINESS Array B**	**46.52**	**319**	P	**P**	**07 24 02.9**	**-0.3**
FINES	**FINESS Array B**	**46.52**	**319**	P	**P**	**07 24 02.9**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=76,slow=7.4,SNR=20						
AKASG	**Malin Array Be**	**49.14**	**305**	P	**P**	**07 24 22.7**	**-0.8**
AKASG	**Malin Array Be**	**49.14**	**305**	P	**P**	**07 24 22.7**	**-0.8**
AKASG	**Malin Array Be**	**49.14**	**305**	P	**P**	**07 24 22.7**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=53,slow=8.8,SNR=13						
BRTR	**Keskin Array B**	**51.86**	**291**	P	**P**	**07 24 44.8**	**+0.3**
BRTR	**Keskin Array B**	**51.86**	**291**	P	**P**	**07 24 44.8**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=89,slow=5.4,SNR=13						
NB2	**NORSAR Subarra**	**53.20**	**323**	P	**P**	**07 24 52.9**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=60,slow=7.9						
NOA	**NORSAR Array B**	**53.20**	**323**	P	**P**	**07 24 53.2**	**-0.8**
NOA	**NORSAR Array B**	**53.20**	**323**	P	**P**	**07 24 53.2**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=61,slow=7.5,SNR=4.3						
ILAR	**Eielson Array**	**55.59**	**30**	P	**P**	**07 25 13.2**	**+1.9**
ILAR	**Eielson Array**	**55.59**	**30**	P	**P**	**07 25 13.2**	**+1.9**
	comp=Z,0.7nm,1.1s,baz=298,slow=8.0,SNR=3.2						
CLL	**Collm**	**57.63**	**312**	*e*P	**P**	**07 25 26.0**	**+0.1**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**57.63**	**312**	*e*P	**P**	**07 25 26.0**	**+0.1**
	comp=Z,5.0nm,0.8s						
GERES	**GERESS Array B**	**58.69**	**309**	P	**P**	**07 25 33.2**	**-0.4**
GERES	**GERESS Array B**	**58.69**	**309**	P	**P**	**07 25 33.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=49,slow=6.2,SNR=4.3						
YKA	**Yellowknife Ar**	**66.75**	**19**	P	**P**	**07 26 27.8**	**+1.0**
YKA	**Yellowknife Ar**	**66.75**	**19**	P	**P**	**07 26 27.8**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=333,slow=6.5,SNR=5.0						
WRA	**Warramunga Arr**	**70.61**	**152**	P	**P**	**07 26 50.4**	**-1.0**
WRA	**Warramunga Arr**	**70.61**	**152**	P	**P**	**07 26 50.4**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=344,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	**73.96**	**154**	P	**P**	**07 27 10.8**	**-0.6**
ASAR	**Alice Springs**	**73.96**	**154**	P	**P**	**07 27 10.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=346,slow=6.5,SNR=12						
TORD	**Torodi Ar. Bea**	**90.46**	**290**	P	**P**	**07 28 37.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**90.46**	**290**	P	**P**	**07 28 37.1**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=38,slow=4.6,SNR=3.1						

*IDC **09** 07:23:38.2±1.2, 9°.06S×158°.20E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=32.1km s-min=21.7km az=177.0*

*ISCJB **09** 07:23:40.7±0.9, 9°.1S±0°.2×158°.07E±0°.07, h23km, mb3.5/5, Error ellipse: s-maj=25.9km s-min=10.4km az=2.7*

ISC 09 07:23:41.7±1.0, 9°.1S±0°.2×158°.23E±0°.09, h23km, n7, σ1§42/7, mb3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.73**	**101**	Pn	**Pn**	**07 24 08.8**	**-1.5**
	7.8nm,0.3s,baz=328,slow=21,SNR=2.1						
HNR				Sn	**Sb**	**07 24 35.4**	**+1.4**
	72nm,0.3s,baz=217,slow=21,SNR=5.1						
HNR	**Honiara**	**1.73**	**101**	*e*P	Pb	07 24 25.0	+12
WRA	**Warramunga Arr**	**25.47**	**242**	P	**P**	**07 29 07.2**	**-1.2**
	1.1nm,0.7s,baz=68,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**27.39**	**235**	P	**P**	**07 29 25.5**	**-0.2**
	0.9nm,0.9s,baz=72,slow=8.6,SNR=6.3						
STKA	**Stephens Creek**	**27.42**	**212**	P	**P**	**07 29 26.9**	**+1.2**
	1.5nm,0.7s,baz=37,slow=14,SNR=4.8						
SONM	**Songino Array**	**72.84**	**326**	P	**P**	**07 35 09.7**	**+0.9**
	0.1nm,0.4s,baz=138,slow=7.9,SNR=1.6						
MKAR	**Makanchi Array**	**87.10**	**318**	P	**P**	**07 36 25.4**	**-0.3**
	0.3nm,0.5s,baz=98,slow=4.8,SNR=4.8						

*IDC **09** 07:32:45.9±0.8, 12°.28N×141°.89E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, Error ellipse: s-maj=34.5km s-min=21.2km az=83.0*

*ISCJB **09** 07:32:49.2±0.8, 12°.2N±0°.1×141°.7E±0°.2, h33km, mb3.7/10, Error ellipse: s-maj=31.6km s-min=16.9km az=178.3*

ISC 09 07:32:50.9±0.8, 12°.3N±0°.2×141°.8E±0°.2, h33km, n17, σ1§05/11, mb3.8/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**24.73**	**72**	T	T	08 03 44.4	
	baz=260,slow=68,SNR=12						
H11S1	**WAKE ISLAND Hy**	**24.75**	**72**	T	T	08 03 45.5	
	baz=260,slow=68,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**24.75**	**72**	T	T	08 03 46.8	
	baz=260,slow=68,SNR=12						
H11N1	**WAKE ISLAND Hy**	**25.18**	**70**	T	T	08 04 19.2	
	baz=264,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**25.18**	**70**	T	T	08 04 19.1	
H11N3	**WAKE ISLAND Hy**	**25.19**	**70**	T	T	08 04 23.2	
	baz=253,slow=75,SNR=4.3						
WRA	**Warramunga Arr**	**32.84**	**193**	P	**P**	**07 39 21.1**	**-0.6**
	1.1nm,0.9s,baz=7.5,slow=8.8,SNR=5.3						
ASAR	**Alice Springs**	**36.53**	**192**	P	**P**	**07 39 53.7**	**0.0**
	0.3nm,0.7s,baz=21,slow=12,SNR=4.6						
SONM	**Songino Array**	**46.18**	**327**	P	**P**	**07 41 12.5**	**-0.2**
	0.4nm,0.8s,baz=140,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**60.42**	**317**	P	**P**	**07 42 58.4**	**+1.1**
	0.7nm,0.9s,baz=120,slow=7.1,SNR=4.8						
KURBB	**Kurchatov Arra**	**63.75**	**321**	P	**P**	**07 43 20.2**	**+0.7**
	1.3nm,0.8s,baz=104,slow=6.6,SNR=14						
BVAR	**Borovoye Array**	**69.15**	**322**	P	**P**	**07 43 53.8**	**-0.2**
	0.6nm,0.5s,baz=111,slow=8.1,SNR=5.8						
ILAR	**Eielson Array**	**71.03**	**25**	P	**P**	**07 44 03.6**	**-1.7**
	0.3nm,0.7s,baz=257,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**85.39**	**27**	P	**P**	**07 45 25.0**	**+0.2**
	0.2nm,0.8s,baz=289,slow=5.3,SNR=2.4						
NVAR	**Mina Array Bea**	**90.05**	**51**	P	**P**	**07 45 49.4**	**+1.4**
	0.4nm,0.6s,baz=270,slow=6.3,SNR=2.8						
FINES	**FINESS Array B**	**91.10**	**334**	P	**P**	**07 45 50.9**	**-1.2**
	3.0nm,1.0s,baz=1.1,slow=7.5,SNR=3.5						
LPAZ	**La Paz**	**150.69**	**101**	PKPbc	**PKPbc**	**07 52 42.2**	**+0.8**
	2.3nm,0.7s,baz=296,slow=2.1,SNR=12						

IDC 09 08:07:11.0±6.5, 8°.29S×158°.07E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.5/34, Error ellipse: s-maj=142.5km s-min=32.0km az=8.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.17**	**122**	Pn	Pn	08 07 48.4	-0.1
	16nm,0.3s,baz=234,slow=9.2,SNR=2.4						
HNR				LR	LR	08 08 41.6	
	comp=Z,373nm,18.0s,baz=343,slow=42						
HNR	**Honiara**	**2.17**	**122**	P	Pg	08 07 56.0	+3.3
WRA	**Warramunga Arr**	**25.72**	**241**	P	P	08 12 43.9	+0.5
	1.1nm,0.7s,baz=69,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**27.74**	**234**	P	P	08 13 00.4	-1.2
	0.3nm,0.6s,baz=66,slow=9.7,SNR=6.4						
STKA	**Stephens Creek**	**28.03**	**211**	P	P	08 13 04.7	+0.6
	1.3nm,0.9s,baz=61,slow=13,SNR=3.9						
QSPA	**South Pole Qui**	**81.69**	**180**	LR	LR	08 50 26.2	
	comp=Z,278nm,18.6s,baz=303,slow=32						

*ISCJB **09** 08:21:15.8±0.8, 5°.2S±0°.1×152°.1E±0°.1, h70km, mb3.8/10, Error ellipse: s-maj=24.0km s-min=8.2km az=33.1*

*IDC **09** 08:21:17.8±5.1, 5°.31S×152°.43E, h85km±45km, mb3.7/10, mb1 3.9/11, mb1mx3.7/21, mbtmp3.7/11, Error ellipse: s-maj=38.1km s-min=23.6km az=114.0*

ISC 09 08:21:17.5±1.0, 5°.1S±0°.1×152°.1E±0°.2, h70km, n21, σ1§80/19, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.87**	**7**	P	**Pn**	**08 21 34.1**	**-0.3**
	baz=0.9,SNR=182						
PMG	**Port Moresby**	**6.50**	**228**	P	**Pn**	**08 22 52.4**	**+1.8**
	3.0nm,0.3s,baz=17,slow=6.4,SNR=8.3						
PMG				S	**Sn**	**08 24 00.6**	**-2.7**
	8.3nm,0.3s,baz=152,slow=23,SNR=10						
JAY	**Jayapura**	**11.61**	**282**	P	Pn	08 23 54.1	-6.3
	baz=11,SNR=3.2						
QIS	**Mount Isa**	**19.59**	**217**	P	**P**	**08 25 37.8**	**-2.4**
	baz=20,SNR=7.1						
KDU	**Kakadu**	**20.77**	**247**	P	**P**	**08 25 50.8**	**-2.1**
	baz=20,SNR=13						
MTN	**Manton Dam**	**22.06**	**248**	P	**P**	**08 26 08.8**	**+2.1**
	baz=22,SNR=6.9						
MTN				S	Sn	08 30 29.0	+8.1
	baz=22,SNR=3.9						
QLP	**Quilpie**	**22.67**	**198**	P	**P**	**08 26 13.7**	**+0.5**
	baz=23,SNR=3.6						
WRA	**Warramunga Arr**	**22.72**	**228**	P	**P**	**08 26 13.1**	**-0.8**
	3.9nm,0.6s,baz=53,slow=9.9,SNR=17						
KNRA	**Kununurra**	**25.20**	**243**	P	P	08 26 25.2	-12
	baz=25,SNR=6.4						
KNRA				S	**S**	**08 30 54.7**	**-2.6**
	baz=25,SNR=5.1						
ASAR	**Alice Springs**	**25.46**	**222**	P	**P**	**08 26 38.7**	**-0.5**
	1.5nm,0.7s,baz=54,slow=9.1,SNR=19						
STKA	**Stephens Creek**	**28.42**	**199**	P	**P**	**08 27 05.0**	**-0.6**
	2.3nm,0.9s,baz=340,slow=14,SNR=3.4						
MEEK	**Meekatharra**	**38.46**	**232**	P	**P**	**08 28 35.6**	**+2.7**
	baz=38,SNR=7.0						
SMRI	**Semarang**	**41.42**	**265**	P	P	08 28 51.6	-6.0
	baz=41,SNR=4.4						
SONM	**Songino Array**	**66.15**	**328**	P	**P**	**08 31 59.5**	**+1.8**
	0.8nm,0.6s,baz=146,slow=4.6,SNR=6.0						
MKAR	**Makanchi Array**	**80.04**	**319**	P	**P**	**08 33 21.0**	**+1.4**
	0.6nm,0.6s,baz=100,slow=6.9,SNR=5.6						
ILAR	**Eielson Array**	**82.68**	**22**	P	**P**	**08 33 31.9**	**-1.2**
	2.2nm,0.8s,baz=245,slow=5.6,SNR=30						
KURBB	**Kurchatov Arra**	**83.55**	**322**	P	**P**	**08 33 38.6**	**+0.7**
	1.7nm,1.0s,baz=112,slow=4.6,SNR=11						
BVAR	**Borovoye Array**	**89.01**	**323**	P	**P**	**08 34 04.3**	**-0.3**
	1.3nm,0.6s,baz=107,slow=6.0,SNR=8.1						
NVAR	**Mina Array Bea**	**92.83**	**52**	P	P	08 34 19.3	-3.8
	0.2nm,0.5s,baz=266,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**	**08 34 36.8**	**+0.2**
	0.3nm,0.6s,baz=272,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**149.68**	**287**	PKPbc	**PKPbc**	**08 40 58.5**	**-1.9**
	0.7nm,0.6s,baz=89,slow=1.7,SNR=6.3						

*IDC **09** 08:22:39.6±1.0, 55°.39S×26°.76W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/15, mbtmp4.0/3, Error ellipse: s-maj=43.2km s-min=30.4km az=90.0*

ISC 09 08:22:43.5±1.1, 55°.4S±0°.2×26°.8W±0°.3, h25km, n6, σ0§89/6, mb4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**47.23**	**183**	P	**P**	**08 31 13.8**	**+0.1**
	1.9nm,0.7s,baz=184,slow=7.0,SNR=11						
LPAZ	**La Paz**	**50.19**	**304**	P	**P**	**08 31 37.7**	**-0.1**
	0.7nm,0.6s,baz=155,slow=5.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**72.38**	**29**	P	**P**	**08 34 07.4**	**+0.2**
	1.2nm,0.5s,baz=197,slow=6.6,SNR=14						
YKA	**Yellowknife Ar**	**135.84**	**318**	PKP	**PKPdf**	**08 42 01.5**	**+1.1**
	0.1nm,0.5s,baz=135,slow=1.9,SNR=4.0						
ILAR	**Eielson Array**	**149.85**	**312**	PKPbc	**PKPbc**	**08 42 29.1**	**-0.7**
	1.6nm,0.9s,baz=122,slow=1.2,SNR=13						
SONM	**Songino Array**	**150.46**	**85**	PKPbc	**PKPbc**	**08 42 31.3**	**-0.7**
	0.7nm,0.5s,baz=208,slow=3.9,SNR=7.9						

*CSEM **09** 08:27:30.1±0.8, 29°.66N×50°.95E, h10km, ML3.5, Error ellipse: s-maj=34.0km s-min=19.3km az=82.0*

*

ellipse: s-maj=81.1km s-min=24.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.60**	**228**	Pn	Pn	08 55 17.4	+1.9
	0.8nm,0.3s,baz=30,slow=8.1,SNR=2.4						
PMG				Sn	Sn	08 56 29.7	-1.9
	2.3nm,0.3s,baz=152,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**22.82**	**228**	P	P	08 58 41.0	-0.9
	0.6nm,0.5s,baz=50,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**25.57**	**222**	P	P	08 59 07.3	-0.7
	0.4nm,0.4s,baz=55,slow=9.9,SNR=7.6						
MKAR	**Makanchi Array**	**79.98**	**319**	P	P	09 05 49.8	+1.3
	0.2nm,0.6s,baz=98,slow=6.0,SNR=3.8						
ILAR	**Eielson Array**	**82.56**	**22**	P	P	09 06 00.8	-1.0
	0.4nm,0.7s,baz=246,slow=4.9,SNR=4.7						

*ISCJB **09** 09:00:27.3±0.4, 23.07S±0.03×66.43W±0.06, h225km±7km, mb3.9/9, Error ellipse: s-maj=8.9km s-min=4.6km az=171.1*

*NEIC **09** 09:00:28.1±0.5, 23.07S×66.34W, h215km±6km, mb4.3/7, Error ellipse: s-maj=9.0km s-min=6.8km az=93.0*

*IDC **09** 09:00:28.0±1.4, 23.03S×66.31W, h210km±13km, mb3.9/5, mb1 4.1/11, mb1mx3.9/20, mbtmp4.0/11, Error ellipse: s-maj=19.9km s-min=12.9km az=89.0*

*GUC **09** 09:00:30.9±0.3, 22.91S×67.02W, h254km±19km, ML4.9*

*SJA **09** 09:00:56.0±0.5, 25.39S×66.61W, h254km±12km, MD3.9, ML4.2, MW3.9*

ISC 09 09:00:27.9±0.6, 23°10S±0.05×66°45W±0.06, h219km±6km, n87, σ1°55/104, mb4.2/9, 12C-4D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.32**	**281**	*e*Pn	**Pn**	**09 01 13.6**	**+2.3**
PB06	**Plate Boundary**	**2.90**	**277**	↑*i*P	**Pn**	**09 01 19.2**	**+1.7**
PB06				AML	AML	09 01 59.6	
	comp=N,1μm,0.2s						
PB06	**Plate Boundary**	**2.90**	**277**	↑*i*P	**Pn**	**09 01 19.2**	**+1.7**
PB04	**Plate Boundary**	**2.92**	**286**	↑*i*P	Pn	09 01 25.8	+8.2
PB04				*i* S	S	09 02 07.4	+11
PB04				AML	AML	09 02 11.6	
	comp=N,1μm,0.8s						
PB04	**Plate Boundary**	**2.92**	**286**	↑*i*P	Pn	09 01 25.8	+8.2
PB04				*i* S	S	09 02 07.4	+11
MACH	**Maria Elena**	**3.18**	**286**	↓*i*P	**Pn**	**09 01 22.4**	**+1.6**
MACH				*i* S	**S**	**09 02 01.5**	**-0.6**
MACH	**Maria Elena**	**3.18**	**286**	↓*i*P	**Pn**	**09 01 22.4**	**+1.6**
MACH				*i* S	**S**	**09 02 01.5**	**-0.6**
CEN1	**Los Morros**	**3.46**	**264**	↓*i*P	Pn	09 01 27.8	+3.8
CEN1				*i* S	**S**	**09 02 10.5**	**+2.7**
CEN1	**Los Morros**	**3.46**	**264**	↓*i*P	Pn	09 01 27.8	+3.8
CEN1				*i* S	**S**	**09 02 10.5**	**+2.7**
PB01	**Plate Boundary**	**3.48**	**305**	↑*i*P	**Pn**	**09 01 25.4**	**+1.2**
PB01				*e*S	**S**	**09 02 06.9**	**-1.3**
PB01				AML	AML	09 02 11.8	
	comp=N,2μm,0.3s						
PB01	**Plate Boundary**	**3.48**	**305**	↑*i*P	**Pn**	**09 01 25.4**	**+1.2**
PB01				*i* S	**S**	**09 02 08.0**	**-0.2**
ANCH	**Antofagasta**	**3.68**	**260**	↑*i*P	**Pn**	**09 01 27.4**	**+0.9**
ANCH				*i* S	**S**	**09 02 10.8**	**-1.6**
ANCH	**Antofagasta**	**3.68**	**260**	↑*i*P	**Pn**	**09 01 27.4**	**+0.9**
ANCH				*i* S	**S**	**09 02 10.8**	**-1.6**
PB10	**Plate Boundary**	**3.79**	**263**	↑*i*P	**Pn**	**09 01 29.4**	**+1.5**
PB10				*i* S	**S**	**09 02 10.9**	**-0.9**
PATCX	**Punta Patache**	**4.11**	**303**	↑*i*P	**Pn**	**09 01 32.1**	**+0.3**
PATCX				*i* S	**S**	**09 02 19.6**	**-2.5**
PSGC	**Pisagua**	**4.88**	**315**	*i* P	**Pn**	**09 01 40.5**	**-0.9**
PSGC				*e*S	**S**	**09 02 35.1**	**-4.2**
PSGC	**Pisagua**	**4.88**	**315**	*i* P	**Pn**	**09 01 40.5**	**-0.9**
PSGC				*e*S	**S**	**09 02 35.1**	**-4.2**
CYA	**Choya**	**5.36**	**174**	*e*P	Pn	09 01 50.6	+3.4
CYA				IAML		09 01 51.1	
	comp=Z,132nm,0.4s						
CYA				*e*S	S	09 02 30.7	-19
ACLC	**CERRO LA CRUZ**	**6.32**	**184**	*e*P	**Pn**	**09 02 01.2**	**+1.5**
AGUA	**GUANDACOL**	**6.62**	**196**	*e*P	**Pn**	**09 02 05.0**	**+1.6**
LPAZ	**La Paz**	**6.95**	**347**	*e*Pn	**Pn**	**09 02 09.4**	**+1.1**
LPAZ				*e*S	**S**	**09 03 27.1**	**-1.1**
LPAZ	**La Paz**	**6.95**	**347**	P	**Pn**	**09 02 09.3**	**+1.1**
	comp=Z,21nm,0.3s,baz=157,slow=8.4,SNR=505						
LPAZ				S	**S**	**09 03 26.1**	**-2.0**
	comp=Z,2.9nm,0.3s,baz=324,slow=17,SNR=9.9						
LCO	**Las Campanas**	**7.02**	**212**	*e*Pn	**Pn**	**09 02 08.6**	**-0.2**
LCO				*e*S	S	09 03 18.2	-11
APLL	**PUNTA DE LOS L**	**7.27**	**181**	*e*P	**Pn**	**09 02 12.4**	**+0.7**
AVFE	**Valle Fertil**	**7.59**	**187**	*e*P	**Pn**	**09 02 16.2**	**+0.4**
AVFE				IAML		09 02 18.5	
	comp=Z,171nm,0.3s						
AMOG	**MOGNA**	**8.02**	**193**	*e*P	**Pn**	**09 02 21.7**	**+0.3**
ACHE	**Chepes**	**8.04**	**181**	*e*P	**Pn**	**09 02 21.9**	**+0.1**
ARE	**Arequipa**	**8.12**	**323**	*e*P	**Pn**	**09 02 22.0**	**-1.1**
ARE				*e*S	S	09 02 48.5	-6.8
TCA	**Tanti**	**8.38**	**169**	*e*P	**Pn**	**09 02 26.5**	**+0.7**
TCA				IAML		09 02 28.6	
	comp=Z,66nm,0.5s						
RTLL	**Cerro Villicun**	**8.40**	**192**	*e*P	**Pn**	**09 02 26.5**	**+0.2**
CFAA	**Coronel Fontan**	**8.62**	**190**	P	**Pn**	**09 02 28.8**	**-0.3**
CFAA				S	**S**	**09 04 02.0**	**-4.4**
CFAA	**Coronel Fontan**	**8.62**	**190**	P	**Pn**	**09 02 28.8**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=14,slow=12,SNR=106						
CFAA				S	**S**	**09 04 02.0**	**-4.4**
	comp=Z,1.5nm,0.3s,baz=227,slow=18,SNR=7.2						
CFAA	**Coronel Fontan**	**8.62**	**190**	*e*P	**Pn**	**09 02 29.4**	**+0.3**
SIV	**San Ignacio**	**8.70**	**37**	P	**Pn**	**09 02 29.4**	**-0.9**
SIV	**San Ignacio**	**8.70**	**37**	P	**Pn**	**09 02 29.4**	**-0.9**
	comp=Z,24nm,0.3s,baz=228,slow=14,SNR=236						
CPUP	**Villa Florida**	**8.90**	**113**	*e*Pn	**Pn**	**09 02 32.6**	**-0.1**
CPUP	**Villa Florida**	**8.90**	**113**	P	**Pn**	**09 02 32.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=277,slow=12,SNR=14						
RTLS	**Leoncito**	**9.03**	**196**	*e*P	**Pn**	**09 02 35.5**	**+0.9**
ACAN	**Cantantal**	**9.17**	**184**	*e*P	**Pn**	**09 02 35.6**	**-0.5**
AUSP	**Uspallata**	**9.46**	**195**	*e*P	**Pn**	**09 02 41.1**	**+1.0**
ASAL	**Salagasta**	**9.69**	**192**	*e*P	**Pn**	**09 02 43.2**	**+0.3**
AAGR	**Agrelo**	**10.17**	**191**	*i* P	**Pn**	**09 02 49.6**	**+0.6**
SAML	**Samuel**	**14.41**	**13**	*e*Pn	**Pn**	**09 03 42.0**	**-0.2**
NNA	**Nana**	**14.83**	**316**	*e*Pn	**P**	**09 03 47.8**	**0.0**
TRQA	**Tornquist**	**15.40**	**167**	*e*P	**P**	**09 03 53.2**	**-0.7**
	comp=Z,6.8nm,0.6s						
TRQA				*e*S	**S**	**09 06 43.7**	**-0.5**
BB16B	**Bebedouro**	**16.69**	**86**	↑*i*P	**P**	**09 04 08.7**	**+0.4**
BB16B				*i*		09 04 11.1	
BB16B				*i*		09 04 15.4	
BB16B				*i*		09 04 19.9	
BB16B				*i*		09 04 24.5	
PLCA	**Paso Flores**	**17.92**	**190**	*e*P	**Pn**	**09 04 23.3**	**-0.7**
	comp=Z,33nm,0.8s						
PLCA	**Paso Flores**	**17.92**	**190**	P	**Pn**	**09 04 23.6**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=11,slow=11,SNR=59						
BDFB	**Brasilia**	**18.90**	**70**	*e*P	**P**	**09 04 33.2**	**+0.7**
BDFB	**Brasilia**	**18.90**	**70**	P	**P**	**09 04 33.0**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=246,slow=12,SNR=59						
PTGA	**Pitinga**	**23.11**	**17**	*e*P	**P**	**09 05 13.8**	**-0.8**
	comp=Z,7.9nm,0.7s						
PTGA	**Pitinga**	**23.11**	**17**	P	**P**	**09 05 13.9**	**-0.8**
	comp=Z,13nm,1.0s,baz=204,slow=14,SNR=13						
SDV	**Santo Domingo**	**32.05**	**352**	*e*P	**P**	**09 06 35.3**	**+0.8**
	comp=Z,2.5nm,1.1s						
RCBR	**Riachuelo**	**34.08**	**64**	*e*P	**P**	**09 06 51.4**	**-0.6**
	comp=Z,10nm,0.9s						
TXAR	**Lajitas Array**	**63.24**	**324**	P	P	09 10 37.5	+4.2
TXAR	**Lajitas Array**	**63.24**	**324**	P	P	09 10 37.5	+4.2
	comp=Z,0.1nm,0.3s,baz=155,slow=7.7,SNR=6.8						
DBIC	**Dimbokro**	**67.04**	**72**	*e*P	**P**	**09 10 56.8**	**-1.1**
	comp=Z,3.8nm,0.5s						
DBIC	**Dimbokro**	**67.04**	**72**	P	**P**	**09 10 57.0**	**-1.0**
	comp=Z,4.0nm,0.5s,baz=211,slow=11,SNR=6.4						
QSPA	**South Pole Qui**	**67.11**	**180**	*e*P	**P**	**09 10 58.8**	**+1.1**
	comp=Z,3.8nm,0.8s						
SYO	**Syowa Base**	**74.21**	**159**	P	**P**	**09 11 42.5**	**+2.3**
TOA0	**Torodi Ar. Sit**	**75.78**	**69**	*e*P	**P**	**09 11 49.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**75.78**	**69**	P	**P**	**09 11 49.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**75.78**	**69**	P	**P**	**09 11 49.6**	**-0.5**
	comp=Z,4.8nm,0.4s,baz=260,slow=5.8,SNR=70						
ESDC	**Sonseca Array**	**85.40**	**43**	P	**P**	**09 12 41.6**	**+1.0**
ESDC	**Sonseca Array**	**85.40**	**43**	P	**P**	**09 12 41.6**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=225,slow=5.4,SNR=6.7						
YKA	**Yellowknife Ar**	**93.45**	**340**	P	**P**	**09 13 18.7**	**+0.8**
YKA	**Yellowknife Ar**	**93.45**	**340**	P	**P**	**09 13 18.7**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=133,slow=4.7,SNR=6.4						
ASAR	**Alice Springs**	**129.48**	**204**	PKP	**PKPdf**	**09 19 13.2**	**+1.9**
ASAR	**Alice Springs**	**129.48**	**204**	PKP	**PKPdf**	**09 19 13.1**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=85,slow=2.1,SNR=3.5						
WRA	**Warramunga Arr**	**132.66**	**207**	PKP	**PKPdf**	**09 19 19.4**	**+2.1**
WRA	**Warramunga Arr**	**132.66**	**207**	PKP	**PKPdf**	**09 19 19.4**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=148,slow=1.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**142.36**	**28**	PKPpre	PKPpre	09 19 30.9	
ZALV	**Zalesovo Beam**	**142.36**	**28**	PKhKP	PKPpre	09 19 30.9	
	comp=Z,0.8nm,0.5s,baz=317,slow=4.6,SNR=4.7						
KSH	**Kashi**	**144.26**	**54**	PKP	PKPbc	09 19 37.1	+0.2
KSH				*e*PKP		09 20 58.2	
KSH				*e*SKS	**SKSdf**	**09 26 25.0**	**-1.6**
KSH				AMB	AMB		
	comp=Z,80nm,5.5s						
MK31	**Makanchi Array**	**145.51**	**39**	*e*PKPbc	**PKPab**	**09 19 41.3**	**+0.4**
MKAR	**Makanchi Array**	**145.51**	**39**	PKPbc	**PKPab**	**09 19 41.4**	**+0.5**
MKAR	**Makanchi Array**	**145.51**	**39**	PKPbc	**PKPab**	**09 19 41.4**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=308,slow=3.2,SNR=34						
WMQ	**Urumqi**	**150.33**	**40**	PKPbc	**PKPdf**	**09 19 46.9**	**-0.9**
SONM	**Songino Array**	**154.66**	**11**	PKPbc	**PKPbc**	**09 20 04.1**	**+1.3**
SONM				PKPab	**PKPab**	**09 20 19.1**	**+0.6**
SONM	**Songino Array**	**154.66**	**11**	PKPbc	**PKPbc**	**09 20 04.1**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=275,slow=2.3,SNR=4.6						
SONM				PKPab	**PKPab**	**09 20 19.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=324,slow=3.9,SNR=4.0						
HHC	**Hu-ho-hao-te**	**162.22**	**5**	*e*PKP	**PKPdf**	**09 20 01.5**	**-1.9**
HHC				sPKP		09 21 20.7	
HHC				PKS	**PKSdf**	**09 23 32.6**	**-4.0**
HHC				PP	**PP**	**09 24 39.2**	**+4.0**
HHC				SS	SS	09 44 38.3	+1.9
HHC				AMB	AMB		
	comp=Z,170nm,6.8s						
LZH	**Lanzhou**	**164.56**	**31**	*e*PKP	**PKPdf**	**09 20 05.4**	**-0.4**
LZH				pPKP	**PKPab**	**09 21 01.5**	**-0.5**
LZH				sPKP		09 21 25.0	
LZH				LR	LR		
	comp=Z,110nm,18.0s						
LZH				LR	LR		
	comp=Z,100nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,20.1s						
CMAR	**Chiang Mai Arr**	**165.59**	**106**	PKPab	**PKPab**	**09 21 06.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**165.59**	**106**	PKPab	**PKPab**	**09 21 06.7**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=251,slow=4.6,SNR=7.8						
CD2	**Chengdu**	**168.31**	**46**	*e*PKP	**PKPdf**	**09 20 07.8**	**-0.9**
KMI	**Kunming**	**169.92**	**76**	PKP	**PKPdf**	**09 20 09.1**	**-1.0**
GYA	**Guiyang**	**172.91**	**60**	*e*PKP	**PKPdf**	**09 20 10.2**	**-1.2**
GYA				pPKP	**pPKPdf**	**09 21 07.6**	**-0.6**
GYA				sPKP		09 21 28.0	
GYA				PKPab	**PKPab**	**09 21 39.8**	**+0.5**
GYA				PKS	**PKSdf**	**09 23 40.5**	**-3.3**
GYA				PP	**PP**	**09 25 32.6**	**+1.3**
GYA				AMB	AMB		
	comp=Z,80nm,7.9s						

*IDC **09** 09:10:01.7±1.0, 9.12S×158.00E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, Error ellipse: s-maj=29.6km s-min=21.0km az=140.0*

*ISCJB **09** 09:10:03.5±0.7, 9.12S±0.1×158.01E±0.07, h23km, mb3.8/7, Error ellipse: s-maj=20.3km s-min=9.4km az=1.6*

ISC 09 09:10:05.1±0.8, 9°12S±0°2×158°09E±0°08, h23km, n9, σ1°18/10, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.86**	**98**	Pn	**Pn**	**09 10 34.9**	**-0.6**
	23nm,0.3s,baz=303,slow=11,SNR=9.0						
HNR				Sn	**Sn**	**09 10 58.6**	**+0.3**
	119nm,0.3s,baz=211,slow=6.3,SNR=11						
HNR				LR	LR	09 11 18.5	
	comp=Z,396nm,19.7s,baz=156,slow=39						
HNR	**Honiara**	**1.86**	**98**	*e*P	**Pb**	**09 10 38.0**	**-0.3**
WRA	**Warramunga Arr**	**25.32**	**242**	P	**P**	**09 15 29.3**	**-1.0**
	1.1nm,0.7s,baz=69,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**27.24**	**235**	P	**P**	**09 15 46.2**	**-1.5**
	0.7nm,0.8s,baz=68,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**27.29**	**212**	P	**P**	**09 15 49.6**	**+1.6**
	1.4nm,0.6s,baz=40,slow=14,SNR=4.9						
PETK	**Petropavlovsk-**	**62.03**	**360**	P	**P**	**09 20 22.8**	**-0.7**
	5.5nm,1.1s,baz=169,slow=6.9,SNR=4.8						
SONM	**Songino Array**	**72.82**	**326**	P	**P**	**09 21 32.5**	**+0.4**
	0.4nm,0.6s,baz=151,slow=4.8,SNR=3.3						
MKAR	**Makanchi Array**	**87.05**	**318**	P	**P**	**09 22 48.6**	**-0.3**
	0.6nm,0.6s,baz=104,slow=6.1,SNR=7.0						
NVAR	**Mina Array Bea**	**90.67**	**51**	P	**P**	**09 23 08.0**	**+1.6**
	0.6nm,0.8s,baz=288,slow=5.2,SNR=4.2						

*NNC **09** 09:14:21.6±14.0, 38.59N×73.37E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=109.6km s-min=79.0km az=163.0*

ISC 09 09:14:20.9±4.8, 38°3N±0°3×73°4E±0°1, h107km, n8, σ0°96/11, 4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.87**	**3**	P	**Pn**	**09 15 19.4**	**+0.6**
	SNR=7.7						
UCH	**Uchtor**	**4.05**	**12**	P	**Pn**	**09 15 21.2**	**0.0**
	SNR=29						
KZA	**Kyzart**	**4.06**	**20**	P	**Pn**	**09 15 21.3**	**-0.2**
	SNR=9.0						
EKS2	**Erkin-Say**	**4.40**	**4**	P	**Pn**	**09 15 26.6**	**+0.9**
	SNR=26						
AAK	**Ala-Archa**	**4.44**	**11**	↑Pn	**Pn**	**09 15 26.4**	**+0.2**
	1.7nm,0.3s						
AAK				↑Sn	**Sn**	**09 16 18.6**	**+1.5**
	4.8nm,0.7s						
TKM2	**Tokmak 2**	**4.94**	**19**	↑Pn	**Pn**	**09 15 32.4**	**-0.7**
	5.8nm,0.5s						
TKM2				↑Sn	**Sn**	**09 16 28.3**	**-0.9**
	2.3nm,0.6s						
TKM2	**Tokmak 2**	**4.94**	**19**	P	**Pn**	**09 15 33.3**	**+0.2**
	SNR=6.5						
KK31	**Karatay Array**	**5.30**	**337**	Pn	**Pn**	**09 15 38.1**	**+0.4**
	0.9nm,0.3s,baz=136,slow=14,SNR=8.1						
KK31				↓Sn	**Sn**	**09 16 36.0**	**-1.5**
	13nm,0.5s,baz=152,slow=21,SNR=36						

*IDC **09** 09:44:35.9±1.0, 55.41S×26.44W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=45.8km s-min=29.9km az=85.0*

*ISCJB **09** 09:44:40.7±0.9, 55.4S±0.2×26.4W±0.4, h38km, mb4.2/6, Error ellipse: s-maj=34.3km s-min=16.7km az=143.8*

ISC 09 09:44:41.8±0.9, 55.4S±0.2×26.4W±0.2, h38km, n13, σ1°39/11, mb4.4/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.92**	**277**	*e*Pn	Pn	09 45 56.5	-10
SNAA	**Sanae**	**19.16**	**157**	*e*P	**Pn**	**09 49 04.6**	**+2.0**
	5.7nm,0.6s						
TRQA	**Tornquist**	**29.48**	**291**	*e*P	**P**	**09 50 41.9**	**-0.1**
	11nm,1.0s						
LVC	**Limon Verde**	**45.36**	**299**	*e*P	**P**	**09 52 58.1**	**+1.7**
	6.0nm,0.6s						
VNDA	**Vanda**	**47.22**	**182**	P	**P**	**09 53 07.9**	**-2.2**
	6.7nm,0.7s						
VNDA	**Vanda**	**47.22**	**182**	P	**P**	**09 53 09.6**	**-0.6**
	1.5nm,0.7s,baz=206,slow=3.6,SNR=9.6						
LPAZ	**La Paz**	**50.37**	**304**	*e*P	P	09 53 40.1	+4.4
	4.4nm,0.7s						
LPAZ	**La Paz**	**50.37**	**304**	P	**P**	**09 53 36.1**	**+0.4**
	0.6nm,0.5s,baz=238,slow=8.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**72.30**	**29**	P	**P**	**09 56 03.1**	**-0.1**
	1.0nm,0.6s,baz=193,slow=6.6,SNR=7.6						
ASAR	**Alice Springs**	**99.46**	**162**	P	**Pdif**	**09 58 21.3**	**+0.8**
	0.4nm,0.9s,baz=181,slow=3.8,SNR=2.1						
YKA	**Yellowknife Ar**	**135.98**	**318**	PKP	**PKPdf**	**10 03 56.5**	**-0.5**
	0.2nm,0.7s,baz=131,slow=2.4,SNR=5.7						
ILAR	**Eielson Array**	**150.01**	**312**	PKPbc	**PKPbc**	**10 04 25.0**	**-1.5**
	1.0nm,0.8s,baz=67,slow=1.5,SNR=11						
SONM	**Songino Array**	**150.26**	**85**	PKPbc	**PKPbc**	**10 04 28.2**	**+0.3**
	0.3nm,0.4s,baz=33,slow=41,SNR=3.4						

*NEIC **09** 09:44:46.0±0.4, 56.63S×29.30W, h10km, mb4.6/5, Error ellipse: s-maj=23.7km s-min=10.2km az=221.0*

*ISCJB **09** 09:44:48.7±0.9, 55.4S±0.2×26.6W±0.4, h10km, mb4.5/4, Error ellipse: s-maj=36.4km s-min=22.6km az=179.5*

*IDC **09** 09:44:48.2±0.8, 55.37S×26.62W, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.2/15, mbtmp4.5/4, Error ellipse: s-maj=38.9km s-min=27.6km az=85.0*

ISC 09 09:44:49.4±0.7, 55.4S±0.2×26.8W±0.3, h10km, n25, σ1°10/25, mb4.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.25**	**183**	P	**P**	**09 53 22.3**	**+0.4**
	7.9nm,0.7s,baz=190,slow=5.4,SNR=24						
LPAZ	**La Paz**	**50.20**	**304**	P	**P**	**09 53 47.2**	**+1.2**
	2.3nm,0.6s,baz=128,slow=9.0,SNR=10						
TOA0	**Torodi Ar. Sit**	**72.35**	**29**	*e*P	**P**	**09 56 16.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**72.35**	**29**	P	**P**	**09 56 15.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.35**	**29**	P	**P**	**09 56 15.9**	**+0.7**
	6.6nm,0.8s,baz=200,slow=6.6,SNR=26						
ASAR	**Alice Springs**	**99.55**	**162**	P	**Pdif**	**09 58 34.4**	**+1.6**
ASAR	**Alice Springs**	**99.55**	**162**	P	**Pdif**	**09 58 34.4**	**+1.6**
	0.5nm,0.7s,baz=180,slow=3.6,SNR=7.4						
FINES	**FINESS Array B**	**123.68**	**27**	PKP	**PKPdf**	**10 03 45.4**	**-0.3**
FINES	**FINESS Array B**	**123.68**	**27**	PKP	**PKPdf**	**10 03 45.4**	**-0.3**
	1.6nm,0.9s,baz=180,slow=1.0,SNR=3.6						
AKTO	**Aktyubinsk**	**126.73**	**53**	PKP	**PKPdf**	**10 03 50.8**	**-1.1**
AKTO	**Aktyubinsk**	**126.73**	**53**	PKP	**PKPdf**	**10 03 50.8**	**-1.1**
	1.7nm,1.0s,baz=261,slow=6.5,SNR=3.8						
BVAR	**Borovoye Array**	**134.21**	**57**	PKP	**PKPdf**	**10 04 06.1**	**+0.1**
BVAR	**Borovoye Array**	**134.21**	**57**	PKP	**PKPdf**	**10 04 06.1**	**+0.1**
	1.7nm,0.9s,baz=225,slow=0.8,SNR=6.3						
YKA	**Yellowknife Ar**	**135.84**	**318**	PKP	**PKPdf**	**10 04 07.8**	**-0.9**
YKA	**Yellowknife Ar**	**135.84**	**318**	PKP	**PKPdf**	**10 04 07.8**	**-0.9**
	0.8nm,0.8s,baz=126,slow=2.0,SNR=13						
KURBB	**Kurchatov Arra**	**136.79**	**64**	PKP	**PKPdf**	**10 04 12.2**	**+1.3**
	0.3nm,0.6s,baz=229,slow=2.8,SNR=4.7						
KURK	**Kurchatov**	**136.89**	**64**	PKP	**PKPdf**	**10 04 12.2**	**+1.1**
INK	**Inuvik**	**145.44**	**321**	*e*PKPbc	**PKPab**	**10 04 25.8**	**-0.3**
ILAR	**Eielson Array**	**149.85**	**312**	PKPbc	**PKPbc**	**10 04 37.8**	**-0.4**
ILAR	**Eielson Array**	**149.85**	**312**	PKPbc	**PKPbc**	**10 04 37.8**	**-0.4**
	5.6nm,0.9s,baz=120,slow=1.3,SNR=22						
SONM	**Songino Array**	**150.43**	**85**	PKPbc	**PKPbc**	**10 04 39.9**	**-0.3**
SONM	**Songino Array**	**150.43**	**85**	PKPbc	**PKPbc**	**10 04 39.9**	**-0.3**
	3.7nm,0.8s,baz=225,slow=1.4,SNR=15						
MCK	**McKinley**	**150.54**	**310**	*e*PKPdf	PKPdf	10 04 27.7	-6.7
MCK				*e*PKPab	**PKiKP**	**10 04 40.1**	**-0.4**
ULN	**Ulaanbaatar**	**150.82**	**85**	*e*PKPbc	**PKPbc**	**10 04 41.1**	**0.0**
TRF	**Thorofare Moun**	**151.08**	**309**	*e*PKPbc	**PKPbc**	**10 04 38.1**	**-3.2**

IDC 09 09:45:03.3±2.5, 54.30N×85.96E, h0km, mb1 2.5/2, mb1mx2.5/29, mbtmp2.5/2, ML2.8/2, Error ellipse: s-maj=18.7km s-min=5.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**243**	*i*		09 50 00.1	
	baz=62,slow=358						
ZALV	**Zalesovo Beam**	**0.76**	**243**	Pg	Pg	09 45 16.1	-1.8
	0.4nm,0.3s,baz=62,slow=18,SNR=5.1						
ZALV				Lg	Lg	09 45 29.2	
	2.1nm,0.3s,baz=64,slow=29,SNR=24						
ZALV				Rg	Rg	09 45 35.5	
	30nm,1.2s,baz=63,slow=35,SNR=26						
KURBB	**Kurchatov Arra**	**5.85**	**234**	Pn	Pn	09 46 32.2	+1.0
	0.1nm,0.3s,baz=50,slow=13,SNR=4.9						
KURBB				Lg	Lg	09 48 17.2	
	0.1nm,0.3s,baz=57,slow=29,SNR=4.0						
MKAR	**Makanchi Array**	**7.87**	**199**	Pn	Pn	09 46 59.9	+0.9
	0.1nm,0.3s,baz=19,slow=13,SNR=6.4						
MKAR				Sn	Sn	09 48 28.7	-0.1
	0.0nm,0.3s,baz=18,slow=20,SNR=2.5						
MKAR				Lg	Lg	09 49 11.6	
	0.0nm,0.3s,baz=38,slow=33,SNR=2.5						

**IDC 09 09:50:24.8±2.2, 53.99N×86.61E, h0km, mb1 2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**218**	P	**Pg**	**11 18 23.3**	**+0.1**
YOJ				S	**Sg**	**11 18 32.5**	**0.0**
IRIF	**Iriomote-Funau**	**0.72**	**163**	P	**Pb**	**11 18 23.9**	**-0.1**
IRIF				S	**Sb**	**11 18 33.6**	**-0.3**
JIJ	**Ishigaki jima**	**0.88**	**138**	P	**Pg**	**11 18 26.4**	**0.0**
JIJ				S	**Sg**	**11 18 37.9**	**0.0**
JKRS	**Kuro-shima**	**0.91**	**149**	P	**Pb**	**11 18 27.3**	**0.0**
JKRS				S	**Sb**	**11 18 39.7**	**+0.2**
HATJ	**Hateruma jima**	**1.00**	**164**	P	**Pb**	**11 18 28.7**	**-0.2**
HATJ				S	**Sb**	**11 18 41.8**	**-0.3**
JTJ	**Tarama**	**1.16**	**109**	P	**Pg**	**11 18 31.8**	**+0.1**
SONM	**Songino Array**	**26.48**	**334**	P	**P**	**11 23 45.9**	**-1.0**
	0.1nm,0.3s,baz=144,slow=8.2,SNR=2.1						
SONM				LR	LR	11 35 47.9	
	comp=Z,61nm,18.6s,baz=188,slow=40						
MKAR	**Makanchi Array**	**39.23**	**314**	P	**P**	**11 25 38.3**	**+0.3**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=2.1						
MKAR				LR	LR	11 41 35.9	
	comp=Z,32nm,18.1s,baz=89,slow=36						
ZALV	**Zalesovo Beam**	**40.72**	**326**	LR	LR	11 44 05.4	
	comp=Z,37nm,18.1s,baz=61,slow=38						
KURBB	**Kurchatov Arra**	**42.85**	**319**	P	**P**	**11 26 08.0**	**+0.3**
	0.3nm,0.8s,baz=107,slow=8.3,SNR=2.9						
FITZ	**Fitzroy Crossi**	**42.92**	**177**	LR	LR	11 46 29.0	
	comp=Z,19nm,19.5s,baz=59,slow=40						
AAK	**Ala-Archa**	**43.69**	**306**	LR	LR	11 47 00.1	
	comp=Z,36nm,19.5s,baz=208,slow=40						
WRA	**Warramunga Arr**	**45.92**	**166**	P	**P**	**11 26 33.0**	**+0.4**
	0.8nm,0.7s,baz=348,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**49.44**	**167**	P	**P**	**11 27 00.1**	**+0.3**
	0.2nm,0.4s,baz=345,slow=6.9,SNR=3.2						

*IDC **09** 11:28:24.4±0.9, 32°.31N×105°.06E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.6/28, mbtmp3.6/11, ML3.8/2, Error ellipse: s-maj=46.3km s-min=17.3km az=61.0*

*ISCJB **09** 11:28:25.4±0.5, 32°.34N±0°.05×105°.12E±0°.07, h15km, mb3.6/9, Error ellipse: s-maj=10.1km s-min=5.0km az=39.3*

ISC 09 11:28:26.9±0.7, 32°.39N±0°.04×105°.04E±0°.05, h15km, n14, σ1§79/22, mb3.6/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.84**	**217**	*e*Pn	**Pn**	**11 28 58.1**	**+0.1**
CD2				Pg	**Pg**	**11 29 03.4**	**+1.2**
CD2				Sn	**Sn**	**11 29 21.3**	**+0.3**
CD2				Sg	**Sg**	**11 29 24.3**	**-1.8**
CD2				smax	smax		
	comp=N,680nm,0.8s						
CD2				smax	smax		
	comp=E,720nm,0.7s						
XAN	**Xi'an**	**3.65**	**62**	Pn	**Pn**	**11 29 25.1**	**+2.2**
XAN				Pg	**Pg**	**11 29 38.0**	**+1.2**
XAN				Sn	**Sn**	**11 30 04.6**	**-1.1**
XAN				Sg	**Sg**	**11 30 21.2**	**-2.9**
XAN				smax	smax		
	comp=N,70nm,0.6s						
XAN				smax	smax		
	comp=E,33nm,0.5s						
XAN				LR	LR		
	comp=N,100nm,15.3s						
XAN				LR	LR		
	comp=E,67nm,12.3s						
XAN				LR	LR		
	comp=Z,47nm,7.8s						
LZH	**Lanzhou**	**3.81**	**345**	Pg	**Pg**	**11 29 39.0**	**-1.0**
LZH				Sn	**Sn**	**11 30 14.6**	**+4.6**
LZH				Sg	**Sg**	**11 30 26.6**	**-2.9**
LZH				smax	smax		
	comp=N,120nm,1.0s						
LZH				smax	smax		
	comp=E,160nm,1.0s						
LZH				LR	LR		
	comp=N,290nm,4.2s						
LZH				LR	LR		
	comp=E,270nm,4.5s						
LZH				LR	LR		
	comp=Z,290nm,5.4s						
CMAR	**Chiang Mai Arr**	**14.92**	**203**	Pn	**Pn**	**11 31 56.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=27,slow=10,SNR=2.9						
SONM	**Songino Array**	**15.46**	**3**	P	**P**	**11 32 06.7**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=178,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**22.56**	**316**	P	**P**	**11 33 27.9**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=115,slow=9.6,SNR=8.1						
ZALV	**Zalesovo Beam**	**25.93**	**332**	P	**P**	**11 33 58.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=146,slow=10,SNR=2.5						
KURBB	**Kurchatov Arra**	**26.71**	**321**	P	**P**	**11 34 06.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=132,slow=8.2,SNR=8.6						
ARCES	**ARCESS Array B**	**56.41**	**335**	P	**P**	**11 38 07.3**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=338,slow=9.2,SNR=4.7						
FINES	**FINESS Array B**	**56.95**	**326**	P	**P**	**11 38 11.9**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=89,slow=8.8,SNR=8.9						
WRA	**Warramunga Arr**	**59.12**	**148**	P	**P**	**11 38 26.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=341,slow=7.5,SNR=7.2						
ASAR	**Alice Springs**	**62.19**	**150**	P	**P**	**11 38 47.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=335,slow=6.4,SNR=4.6						
NOA	**NORSAR Array B**	**64.00**	**327**	P	**P**	**11 38 59.5**	**0.0**
	comp=Z,1.1nm,1.0s,baz=73,slow=6.8,SNR=2.9						
YKA	**Yellowknife Ar**	**80.23**	**17**	P	**P**	**11 40 37.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=328,slow=4.5,SNR=4.0						

WEL 09 11:46:46.9±0.5, 37°.52S×179°.02W, h33km, ML4.0/4, 1C-1D, Error ellipse: s-maj=5.5km s-min=2.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.12**	**268**	⇓P	Pn	11 47 19.2	-0.8
MXZ				AML	AML	11 47 41.8	
MXZ				AML	AML	11 47 41.8	
MXZ				AML	AML	11 47 49.6	
MXZ				AML	AML	11 47 49.6	
CNGZ	**Carnagh Statio**	**2.39**	**245**	PN	Pn	11 47 23.3	-0.4
CNGZ				SN	Sn	11 47 50.7	-1.2
RIGZ	**Rimuhau**	**2.80**	**244**	PN	Pn	11 47 28.8	-0.6
PRGZ	**Paritu Road**	**2.81**	**239**	PN	Pn	11 47 29.0	-0.5
PRGZ				SN	Sn	11 47 59.9	-2.5
MWZ	**Matawai**	**2.85**	**252**	PN	Pn	11 47 28.8	-1.2
MWZ				AML	AML	11 47 59.2	
MWZ				AML	AML	11 48 04.9	
MHGZ	**Mahia Peninsul**	**2.92**	**235**	PN	Pn	11 47 30.3	-0.6
KNZ	**Kokohu**	**3.00**	**239**	PN	Pn	11 47 31.1	-1.0
SNGZ	**Shannon Statio**	**3.13**	**245**	PN	Pn	11 47 33.2	-0.8
URZ	**Urewera**	**3.15**	**255**	PN	Pn	11 47 33.8	-0.3
URZ				AML	AML	11 48 06.7	
URZ				AML	AML	11 48 07.6	
WHHZ	**Waihua**	**3.33**	**241**	PN	Pn	11 47 36.1	-0.5
TARZ	**Mount Tarawera**	**3.61**	**257**	PN	Pn	11 47 39.8	-0.8
NMHZ	**Naumai**	**3.64**	**243**	PN	Pn	11 47 40.4	-0.6
MCHZ	**McNeill Hill**	**3.87**	**239**	PN	Pn	11 47 44.1	0.0
BKZ	**Black Stump Fm**	**3.89**	**244**	⇑PN	Pn	11 47 43.5	-1.0
KAHZ	**Kahuranaki**	**3.93**	**233**	PN	Pn	11 47 44.0	-1.0
PXZ	**Pawanui**	**4.08**	**231**	PN	Pn	11 47 45.5	-1.4
KUZ	**Kuaotunu**	**4.27**	**279**	PN	Pn	11 47 48.4	-1.1
BHHZ	**Black Hill Sta**	**4.33**	**241**	PN	Pn	11 47 49.4	-1.1
PRHZ	**Porangahau**	**4.36**	**230**	PN	Pn	11 47 50.0	-0.8
PNHZ	**Pukenui**	**4.44**	**236**	PN	Pn	11 47 50.9	-1.0
WNVZ	**Wahianoa**	**4.59**	**245**	PN	Pn	11 47 53.7	-0.5
MKAZ	**Moumakai**	**4.65**	**273**	PN	Pn	11 47 54.2	-0.5
TSZ	**Takapari Road**	**4.67**	**236**	PN	Pn	11 47 53.1	-2.0
BFZ	**Birch Farm**	**4.85**	**228**	PN	Pn	11 47 55.5	-2.1
PRWZ	**Pori Road**	**4.94**	**231**	PN	Pn	11 47 57.6	-1.2
MRZ	**Mangatainoka R**	**5.24**	**232**	PN	Pn	11 48 01.1	-1.8
MRZ				AML	AML	11 48 56.0	
MTW	**Mount Morrison**	**5.59**	**228**	PN	Pn	11 48 04.6	-3.1

*IDC **09** 11:51:54.3±3.4, 13°.06N×91°.23W, h0km, mb3.7/6, mb1 4.1/9, mb1mx3.8/26, mbtmp3.7/9, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=63.1km s-min=30.2km az=142.0*

ISC 09 11:51:58.4±1.3, 13°.10N±0°.1×91°.10W±0°.08, h33km, n16, σ1§40/17, mb3.7/6, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.38**	**338**	⇓*e*P	**Pn**	**11 52 19.5**	**-1.9**
PCG	**Pacaya**	**1.43**	**19**	*e*P	**Pb**	**11 52 25.6**	**+0.8**
NBG	**Las Nubes**	**1.71**	**25**	*e*P	**Pb**	**11 52 30.7**	**+1.4**
APG	**El Apazote**	**2.05**	**17**	Pn	**Pn**	**11 52 30.6**	**-0.3**
	32nm,0.3s,baz=188,slow=11,SNR=152						
APG				Sn	**Sb**	**11 52 58.4**	**-2.0**
	27nm,0.3s,baz=113,slow=23,SNR=7.7						
LFRS	**El Faro**	**2.06**	**73**	*i* P	**Pn**	**11 52 28.7**	**-2.2**
LFRS				*e*S	Pb	11 52 40.8	+5.5
LFRS				AML	AML	11 52 42.1	
	comp=Z,558nm,0.7s						
MRL	**Marmol**	**2.44**	**34**	*e*P	**Pb**	**11 52 42.1**	**+0.4**
VSM	**San Miguel**	**2.77**	**82**	*e*S	**Pn**	**11 52 40.6**	**-0.2**
VSM				AML	AML	11 52 44.4	
	comp=Z,404nm,0.2s						
TEIG	**Tepich**	**7.64**	**20**	Pn	**Pn**	**11 53 49.2**	**+1.7**
	comp=Z,6.6nm,0.3s,baz=222,slow=1.8,SNR=43						
TEIG				LR	LR	11 56 52.1	
	comp=Z,143nm,18.5s,baz=22,slow=39						
TXAR	**Lajitas Array**	**19.98**	**326**	P	**P**	**11 56 27.1**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=157,slow=9.4,SNR=9.9						
TKL	**Tuckaleechee C**	**23.47**	**15**	P	**P**	**11 57 05.9**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=172,slow=9.0,SNR=5.7						
ANMO	**Albuquerque**	**25.87**	**330**	P	**P**	**11 57 27.6**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=171,slow=7.1,SNR=4.5						
PDAR	**Pinedale Array**	**33.66**	**335**	P	**P**	**11 58 35.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.9,SNR=2.8						
PTGA	**Pitinga**	**33.77**	**112**	LR	LR	12 12 46.5	
	comp=Z,64nm,19.3s,baz=34,slow=37						
NVAR	**Mina Array Bea**	**34.97**	**321**	P	**P**	**11 58 49.5**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=137,slow=7.1,SNR=7.6						
YKA	**Yellowknife Ar**	**52.16**	**346**	P	**P**	**12 01 04.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=148,slow=7.7,SNR=12						
YKA				PcP	**PcP**	**12 02 18.7**	**+1.8**
	comp=Z,0.1nm,0.7s,baz=151,slow=4.1,SNR=5.4						
ILAR	**Eielson Array**	**64.07**	**337**	P	**P**	**12 02 28.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=108,slow=5.8,SNR=4.2						

IDC 09 11:53:19.3±1.4, 9°.05S×157°.04E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=51.9km s-min=23.9km az=5.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.89**	**98**	Pn	Pn	11 54 05.6	-1.0
	24nm,0.3s,baz=214,slow=7.3,SNR=10.0						
HNR				Sn	Sn	11 54 44.3	+2.1
	40nm,0.3s,baz=54,slow=23,SNR=9.8						
WRA	**Warramunga Arr**	**24.47**	**241**	P	P	11 58 40.5	+0.2
	1.1nm,0.8s,baz=67,slow=9.9,SNR=7.9						
CMAR	**Chiang Mai Arr**	**63.49**	**296**	P	P	12 03 52.2	+0.4
	1.2nm,0.4s,baz=106,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**86.27**	**318**	P	P	12 06 02.7	-0.4
	0.7nm,0.9s,baz=100,slow=6.7,SNR=4.6						

*ISCJB **09** 11:59:10.3±2.6, 9°.07S±0°.05×157°.66E±0°.04, h3km±16km, mb4.9/61, MS3.9/34, Error ellipse: s-maj=8.7km s-min=7.0km az=151.8*

*IDC **09** 11:59:10.6±0.6, 9°.10S×157°.81E, h0km, mb4.6/17, mb1 4.7/20, mb1mx4.7/22, mbtmp4.5/20, ML3.9/3, MS3.8/30, Ms1 3.8/30, ms1mx3.7/38, Error ellipse: s-maj=18.6km s-min=14.8km az=107.0*

*BJI **09** 11:59:14.9, 9°.06S×157°.52E, h30km, mB5.2/27, mb4.9/38, Ms5.0/17, Ms7 4.5/19*

*MOS **09** 11:59:14.5±1.0, 9°.07S×157°.57E, h33km, mb5.1/15, Error ellipse: s-maj=11.1km s-min=9.1km az=59.8*

*NEIC **09** 11:59:15.8±0.3, 9°.18S×157°.75E, h35km, mb5.0/33, Error ellipse: s-maj=7.9km s-min=5.9km az=130.0*

ISC 09 11:59:14.0±0.3, 9°.17S±0°.06×157°.86E±0°.05, h23km, h23km:pP-P, n200, σ1§52/203, mb4.9/61, MS3.9/34, 5C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.08**	**97**	*e*Pn	**Pn**	**11 59 46.3**	**-1.2**
HNR				Sn	**Sn**	**12 00 10.8**	**-1.8**
HNR	**Honiara**	**2.08**	**97**	Pn	**Pn**	**11 59 46.3**	**-1.2**
	88nm,0.3s,baz=224,slow=6.2,SNR=21						
HNR				Sn	**Sn**	**12 00 10.8**	**-1.8**
	255nm,0.3s,baz=233,slow=7.0,SNR=9.7						
HNR				LR	LR	12 00 45.6	
	comp=Z,2μm,20.1s,baz=292,slow=44						
HNR	**Honiara**	**2.08**	**97**	*e*P	**Pn**	**11 59 45.0**	**-2.5**
HNR				*i* S	Sb	12 00 39.0	+23
RABL	**Rabaul**	**7.51**	**311**	P	Pn	12 01 08.3	+6.0
	baz=7.4,SNR=3.3						
PMG	**Port Moresby**	**10.56**	**268**	*e*Pn	**Pn**	**12 01 42.2**	**-1.9**
PMG	**Port Moresby**	**10.56**	**268**	LR	LR	12 05 30.1	
	comp=Z,1μm,18.8s,baz=78,slow=36						
COEN	**Coen**	**15.15**	**250**	*e*Pn	**Pn**	**12 02 46.0**	**-0.6**
	1μm,1.9s						
COEN	**Coen**	**15.15**	**250**	P	**P**	**12 02 50.1**	**-1.6**
	baz=15,SNR=7.7						
DZM	**Mont Dzumac**	**15.25**	**148**	*e*P	**P**	**12 02 51.5**	**-1.3**
	54nm,1.3s						
DZM				*e*LR	LR	12 06 27.0	
	960nm,26.1s						
DZM	**Mont Dzumac**	**15.25**	**148**	Pn	**Pn**	**12 02 48.2**	**+0.1**
DZM	**Mont Dzumac**	**15.25**	**148**	Pn	**Pn**	**12 02 48.2**	**+0.1**
	0.2nm,0.3s,baz=128,slow=22,SNR=4.9						
DZM				LR	LR	12 07 43.8	
	comp=Z,357nm,21.5s,baz=3.5,slow=34						
CTA	**Charters Tower**	**15.60**	**225**	Pn	**Pn**	**12 02 50.9**	**-1.8**
CTA	**Charters Tower**	**15.60**	**225**	Pn	**Pn**	**12 02 50.9**	**-1.8**
	0.4nm,0.3s,baz=44,slow=14,SNR=4.2						
CTA				LR	LR	12 08 17.1	
	comp=Z,489nm,20.3s,baz=29,slow=35						
CTAO	**Charters Tower**	**15.60**	**225**	*e*P	**Pn**	**12 02 50.7**	**-1.9**
CTAO				pmax	pmax		
	comp=Z,28nm,1.1s						
CTAO	**Charters Tower**	**15.60**	**225**	*e*Pn	**Pn**	**12 02 50.7**	**-1.9**
	comp=Z,28nm,1.1s						
EIDS	**Eidsvold**	**17.35**	**201**	*e*P	**Pn**	**12 03 14.2**	**-0.5**
	comp=Z,12nm,0.9s						
JAY	**Jayapura**	**18.29**	**290**	P	**P**	**12 03 30.5**	**+3.9**
	baz=18,SNR=5.2						
RMQ	**Roma**	**19.26**	**205**	P	**Pn**	**12 03 39.0**	**+0.9**
	baz=19,SNR=24						
QIS	**Mount Isa**	**20.93**	**235**	P	Pn	12 03 56.8	-1.1
	baz=20,SNR=18						
QLP	**Quilpie**	**21.60**	**215**	P	**P**	**12 04 03.8**	**+1.5**
	baz=21,SNR=5.7						
ARMA	**Armidale**	**21.92**	**195**	*e*P	**P**	**12 04 08.9**	**+3.0**
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**21.92**	**195**	P	**P**	**12 04 09.1**	**+3.1**
	baz=22,SNR=5.0						
CMSA	**Cobar Meteorol**	**24.96**	**205**	P	**P**	**12 04 36.6**	**+0.7**
	baz=25,SNR=15						
WRAB	**Tennant Creek**	**25.11**	**242**	P	**P**	**12 04 37.0**	**-0.3**
	comp=Z,204nm,0.8s,SNR=12						
WRAB	**Tennant Creek**	**25.11**	**242**	⇓*i* P	**P**	**12 04 37.0**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,98nm,1.2s						
WRAB	**Tennant Creek**	**25.11**	**242**	*e*P	**P**	**12 04 36.2**	**-1.1**
	comp=Z,28nm,0.8s						
WRA	**Warramunga Arr**	**25.12**	**242**	P	**P**	**12 04 37.1**	**-0.4**
WRA				PcP	**PcP**	**12 08 11.7**	**+0.1**
WRA	**Warramunga Arr**	**25.12**	**242**	P	**P**	**12 04 37.1**	**-0.4**
	comp=Z,25nm,0.9s,baz=68,slow=10.0,SNR=44						
WRA				PcP	**PcP**	**12 08 11.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=76,slow=2.6,SNR=5.4						
WRA				LR	LR	12 14 04.0	
	comp=Z,385nm,18.9s,baz=80,slow=36						
KDU	**Kakadu**	**25.16**	**260**	P	**P**	**12 04 38.6**	**+0.8**
	baz=25,SNR=4.7						
AS31	**Alice Springs**	**27.05**	**235**	*e*P	**P**	**12 04 54.6**	**-0.4**
ASAR	**Alice Springs**	**27.06**	**235**	P	**P**	**12 04 54.2**	**-0.7**
ASAR				PcP	**PcP**	**12 08 16.4**	**+0.4**
ASAR	**Alice Springs**	**27.06**	**235**	P	**P**	**12 04 54.2**	**-0.7**
	comp=Z,7.9nm,1.1s,baz=69,slow=10,SNR=33						
ASAR				PcP	**PcP**	**12 08 16.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=79,slow=2.2,SNR=3.8						
ASAR				LR	LR	12 15 14.2	
	comp=Z,256nm,19.3s,baz=62,slow=36						
STKA	**Stephens Creek**	**27.17**	**211**	P	**P**	**12 04 57.1**	**+1.2**
STKA	**Stephens Creek**	**27.17**	**211**	P	**P**	**12 04 57.1**	**+1.2**
	comp=Z,24nm,0.8s,baz=22,slow=9.7,SNR=26						
STKA				LR	LR	12 16 44.4	
	comp=Z,163nm,18.2s,baz=27,slow=39						
H11S3	**WAKE ISLAND Hy**	**28.84**	**18**	T	T	12 34 11.1	
	SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.84**	**18**	T	T	12 33 51.0	
	SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.86**	**18**	T	T	12 33 48.9	
	SNR=7.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**29.79**	**213**	P	P	12 05 24.9	+5.7
	baz=30,SNR=3.7						
AFI	**Afiamalu**	**30.11**	**102**	LR	LR	12 15 40.2	
	comp=Z,128nm,19.5s,baz=258,slow=33						
RAO	**Raoul Island**	**30.25**	**135**	LR	LR	12 15 28.6	
	comp=Z,54nm,19.1s,baz=52,slow=32						
BBOO	**Buckleboo**	**30.97**	**217**	*e*P	**P**	**12 05 29.4**	**-0.2**
	comp=Z,238nm,0.8s						
BBOO	**Buckleboo**	**30.97**	**217**	P	**P**	**12 05 29.5**	**-0.1**
	baz=31,SNR=12						
WRKA	**Warakurna**	**32.25**	**237**	P	**P**	**12 05 39.9**	**-1.1**
	baz=32,SNR=7.9						
FITZ	**Fitzroy Crossi**	**32.50**	**251**	LR	LR	12 17 57.9	
	comp=Z,190nm,20.3s,baz=70,slow=35						
URZ	**Urewera**	**33.75**	**152**	LR	LR	12 18 07.1	
	comp=Z,268nm,19.3s,baz=332,slow=34						
FORT	**Forrest**	**35.11**	**228**	*e*P	**P**	**12 06 05.8**	**0.0**
	comp=Z,12nm,0.6s						
RPZ	**Rata Peaks**	**36.28**	**164**	LR	LR	12 19 58.1	
	comp=Z,239nm,19.3s,baz=130,slow=34						
KAPI	**Kappang**	**38.02**	**274**	*e*P	**P**	**12 06 30.6**	**-0.3**
	comp=Z,307nm,1.3s						
MBWA	**Marble Bar**	**38.57**	**248**	P	**P**	**12 06 35.8**	**+0.4**
	comp=Z,24nm,1.1s						
MEEK	**Meekatharra**	**40.97**	**240**	P	**P**	**12 06 56.3**	**+0.9**
	baz=41,SNR=3.4						
JAGI	**Jajag, Banyuwa**	**43.17**	**267**	*e*P	**P**	**12 07 11.3**	**-2.2**
	comp=Z,110nm,1.1s						
JAGI	**Jajag, Banyuwa**	**43.17**	**267**	P	**P**	**12 07 11.7**	**-1.8**
	baz=43,SNR=7.4						
KKM	**Kota Kinabalu**	**44.17**	**288**	*e*P	**P**	**12 07 19.4**	**-2.2**
	comp=Z,32nm,1.1s						
NWAO	**Narrogin (SRO)**	**44.28**	**232**	LR	LR	12 24 59.2	
	comp=Z,206nm,21.2s,baz=63,slow=35						
TPUB	**Ta-pu**	**48.66**	**312**	*e*P	**P**	**12 07 56.3**	**-0.3**
	comp=Z,28nm,0.9s						
SSLB	**Suanglung**	**48.72**	**313**	*e*P	**P**	**12 07 56.4**	**-0.7**
	comp=Z,24nm,0.9s						
YHNB	**Yeheng**	**48.96**	**314**	*e*P	**P**	**12 07 59.3**	**+0.3**
	comp=Z,60nm,0.8s						
MJAR	**Matsushiro Arr**	**49.08**	**339**	P	**P**	**12 07 57.3**	**-2.3**
MJAR	**Matsushiro Arr**	**49.08**	**339**	P	**P**	**12 07 57.3**	**-2.3**
	comp=Z,3.3nm,0.7s,baz=167,slow=8.5,SNR=8.7						
MJAR				LR	LR	12 31 02.2	
	comp=Z,20nm,18.1s,baz=105,slow=39						
JNU	**Nakatsue**	**49.29**	**330**	P	**P**	**12 08 01.0**	**-0.3**
JNU	**Nakatsue**	**49.29**	**330**	P	**P**	**12 08 01.0**	**-0.3**
	comp=Z,8.5nm,0.8s,baz=294,slow=3.6,SNR=5.1						
JNU				LR	LR	12 27 04.3	
	comp=Z,45nm,19.8s,baz=156,slow=34						
PPT	**Papeete**	**51.68**	**105**	LR	LR	12 25 15.5	
	comp=Z,62nm,21.6s,baz=218,slow=30						
PPT2	**Papeete2**	**51.68**	**105**	*e*LR	LR	12 23 23.1	
	comp=Z,145nm,24.8s						
TBI	**Tubuai**	**52.22**	**112**	*e*LR	LR	12 23 34.7	
	comp=Z,182nm,31.8s						
KSRS	**Korea Array**	**54.20**	**331**	P	**P**	**12 08 37.0**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=140,slow=6.1,SNR=6.4						
KSRS				LR	LR	12 30 57.3	
	comp=Z,36nm,20.2s,baz=155,slow=35						
KSAR	**Wonju Array Be**	**54.20**	**331**	P	**P**	**12 08 37.0**	**-0.9**
ASAJ	**Asahikawa**	**54.81**	**347**	LR	LR	12 32 06.0	
	comp=Z,136nm,19.2s,baz=172,slow=36						
QIZ	**Qiongzhong**	**55.01**	**301**	P	**P**	**12 08 41.7**	**-2.3**
QIZ				S	**S**	**12 16 27.8**	**+2.5**
QIZ				LR	LR		
	comp=Z,68nm,29.2s						
NJ2	**Nanjing**	**55.40**	**320**	*e*P	**P**	**12 08 47.4**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
WHN	**Wuhan**	**57.47**	**315**	P	**P**	**12 09 01.8**	**+0.4**
USRK	**Ussuriysk Arra**	**58.06**	**338**	P	**P**	**12 09 05.4**	**+0.1**
	comp=Z,4.5nm,0.9s,baz=152,slow=7.2,SNR=4.9						
MDJ	**Mudanjiang**	**59.32**	**337**	P	P	12 09 16.5	+2.4
MDJ				pP	pP	12 09 27.0	+5.6
MDJ				sP	sP	12 09 29.8	+5.7
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,95nm,3.7s						
CN2	**Changchun**	**60.38**	**333**	*e*SS	SS	12 21 40.1	+7.0
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,3μm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
ENH	**Enshi**	**60.79**	**312**	*e*P	**P**	**12 09 24.4**	**-0.2**
	comp=Z,8.8nm,0.7s						
GSI	**Gunungsitoli**	**60.94**	**277**	*e*P	**P**	**12 09 24.6**	**-1.3**
GYA	**Guiyang**	**61.02**	**307**	⇑*i* P	**P**	**12 09 28.4**	**+2.1**
GYA				pP	pP	12 09 38.6	+5.0
GYA				PcP

	comp=Z,220nm,3.7s							
HHC					LR	LR		
	comp=Z,230nm,12.2s							
HHC					LR	LR		
	comp=Z,180nm,11.2s							
HHC					LR	LR		
	comp=Z,200nm,11.6s							
LZH	**Lanzhou**	**67.85**	**315**	*e*P	**P**		**12 10 11.0 +0.2**	
LZH				pP	**pP**		**12 10 21.8 +3.6**	
LZH				sP	sP		12 10 26.0 +5.0	
LZH				*e*PP	**PP**		**12 12 42.5 +1.7**	
LZH				*e*S	**S**		**12 19 06.0 -2.2**	
LZH				sS	**sS**		**12 19 22.6 +2.2**	
LZH				*e*SS	**SS**		**12 23 28.7 -1.7**	
LZH				pmax	pmax			
	comp=Z,23nm,1.5s							
LZH				pmax	pmax			
	comp=Z,100nm,8.2s							
LZH				LR	LR			
	comp=Z,220nm,15.2s							
LZH				LR	LR			
	comp=Z,200nm,15.4s							
LZH				LR	LR			
	comp=Z,340nm,18.1s							
VNDA	**Vanda**	**68.36**	**179**	P	**P**		**12 10 14.2 +1.1**	
VNDA	**Vanda**	**68.36**	**179**	P	**P**		**12 10 14.2 +1.1**	
	comp=Z,2.2nm,0.9s,baz=352,slow=7.0,SNR=6.7							
SEY	**Seymchan**	**72.01**	**357**	*e*P	**P**		**12 10 37.4 +1.8**	
GTA	**Gaotai**	**72.26**	**316**	*e*P	**P**		**12 10 38.7 +0.9**	
GTA				pP	**pP**		**12 10 49.2 +4.0**	
GTA				sP	sP		12 10 53.1 +5.1	
GTA				pmax	pmax			
	comp=Z,11nm,0.8s							
ULN	**Ulaanbaatar**	**72.36**	**327**	*e*P	**P**		**12 10 39.4 +1.2**	
	comp=Z,84nm,3.0s							
SONM	**Songino Array**	**72.70**	**326**	P	**P**		**12 10 41.0 +0.8**	
SONM	**Songino Array**	**72.70**	**326**	P	**P**		**12 10 41.0 +0.8**	
	comp=Z,2.8nm,0.7s,baz=138,slow=5.5,SNR=30							
SONM				LR	LR		12 42 45.9	
	comp=Z,32nm,19.6s,baz=112,slow=36							
SHL	**Shillong**	**72.84**	**300**	*e*P	**P**		**12 10 42.0 +0.4**	
YAK	**Yakutsk**	**74.30**	**347**	*e*P	**P**		**12 10 47.9 -1.2**	
YAK				pmax	pmax			
	comp=Z,24nm,1.4s							
YAK	**Yakutsk**	**74.30**	**347**	*e*P	**P**		**12 10 48.9 -0.3**	
	comp=Z,15nm,0.4s							
LSA	**Lhasa**	**74.83**	**304**	*e*P	**P**		**12 10 53.4 -0.2**	
LSA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**74.83**	**304**	*e*P	**P**		**12 10 53.4 -0.2**	
	comp=Z,6.0nm,0.8s							
ZAK	**Zakamensk**	**75.83**	**327**	*e*P	**P**		**12 10 55.7 -2.7**	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
TLY	**Talaya**	**76.38**	**329**	*e*P	**P**		**12 11 01.4 0.0**	
TLY				pmax	pmax			
	comp=Z,5.0nm,1.2s							
TLY	**Talaya**	**76.38**	**329**	*e*P	**P**		**12 11 01.4 0.0**	
	comp=Z,5.4nm,1.2s							
TAPN	**Taplejung**	**76.95**	**301**	*e*P	**P**		**12 11 05.6 +0.1**	
	comp=Z,30nm,1.0s							
ODAN	**Odare**	**77.07**	**300**	*e*P	**P**		**12 11 06.3 +0.2**	
	comp=Z,37nm,0.9s							
RAMN	**Ramite**	**77.77**	**300**	*e*P	**P**		**12 11 09.8 -0.3**	
	comp=Z,5.2nm,0.5s							
JIRN	**Jiri**	**78.33**	**301**	*e*P	**P**		**12 11 13.5 +0.2**	
	comp=Z,19nm,0.7s							
GUN	**Gumba**	**78.66**	**301**	*e*P	**P**		**12 11 15.4 +0.3**	
	comp=Z,35nm,0.8s							
TNA	**Tin City**	**78.72**	**14**	*e*P	**P**		**12 11 14.9 +0.8**	
PKI	**Pulchoki**	**78.97**	**300**	*e*P	**P**		**12 11 16.7 -0.1**	
	comp=Z,18nm,0.7s							
SVW2	**Sparrevohn**	**78.97**	**21**	*e*P	**P**		**12 11 17.5 +1.9**	
	comp=Z,12nm,1.0s							
KKN	**Kakani**	**79.14**	**301**	*e*P	**P**		**12 11 17.7 +0.1**	
DMN	**Daman**	**79.23**	**300**	*e*P	**P**		**12 11 18.4 +0.2**	
	comp=Z,60nm,1.0s							
GKN	**Gorkha**	**79.74**	**301**	*e*P	**P**		**12 11 20.8 0.0**	
KOLN	**Koldanda**	**80.56**	**300**	*e*P	**P**		**12 11 25.0 -0.3**	
	comp=Z,55nm,0.9s							
DANN	**Dangsing**	**80.58**	**301**	*e*P	**P**		**12 11 25.1 -0.4**	
	comp=Z,23nm,0.8s							
QSPA	**South Pole Qui**	**80.82**	**180**	*e*P	**P**		**12 11 26.4 +0.6**	
	comp=Z,5.0nm,0.8s							
QSPA				*e*PcP	**pP**		**12 11 33.7 +0.4**	
PYUN	**Piuthan**	**81.17**	**300**	*e*P	**P**		**12 11 27.7 -0.8**	
	comp=Z,39nm,0.9s							
PMR	**Palmer**	**81.66**	**23**	*e*P	**P**		**12 11 30.1 0.0**	
PMR				pmax	pmax			
	comp=Z,15nm,0.9s							
PMR	**Palmer**	**81.66**	**23**	*e*P	**P**		**12 11 30.1 0.0**	
	comp=Z,15nm,0.9s							
KTH	**Kantishna Hill**	**82.22**	**21**	*e*P	**P**		**12 11 32.9 -0.2**	
	comp=Z,101nm,1.0s							
WMQ	**Urumqi**	**82.34**	**317**	P	**P**		**12 11 34.6 +0.4**	
WMQ				pP	**pP**		**12 11 45.0 +3.3**	
WMQ				sP	sP		12 11 48.9 +4.5	
WMQ				LR	LR			
	comp=Z,48nm,22.7s							
WMQ				LR	LR			
	comp=Z,27nm,25.8s							
WMQ				LR	LR			
	comp=Z,52nm,29.2s							
TRF	**Thorofare Moun**	**82.38**	**21**	*e*P	**P**		**12 11 32.6 -1.4**	
	comp=Z,16nm,0.9s							
HYB	**Hyderabad**	**82.66**	**289**	*i* P	**P**		**12 11 35.5 -0.8**	
IM04	**Indian Mountai**	**82.87**	**18**	*e*P	**P**		**12 11 36.9 +0.5**	
TIXI	**Tiksi**	**82.92**	**351**	⇓*i*P	**P**		**12 11 36.1 -0.3**	
TIXI				pmax	pmax			
	comp=Z,13nm,2.5s							
TIXI	**Tiksi**	**82.92**	**351**	*e*P	**P**		**12 11 36.8 +0.4**	
	comp=Z,8.5nm,1.4s							
MCK	**McKinley**	**83.03**	**21**	*e*P	**P**		**12 11 37.0 -0.3**	
MCK	**McKinley**	**83.03**	**21**	*e*P	**P**		**12 11 37.0 -0.3**	
MAW	**Mawson**	**83.49**	**203**	LR	LR		12 45 56.1	
	comp=Z,34nm,18.0s,baz=98,slow=34							
COLA	**College**	**84.10**	**20**	⇑*i*P	**P**		**12 11 41.9 -0.7**	
COLA				pmax	pmax			
	comp=Z,118nm,1.2s							
COLA	**College**	**84.10**	**20**	*e*P	**P**		**12 11 42.0 -0.7**	
	comp=Z,6.4nm,0.8s							
ILAR	**Eielson Array**	**84.37**	**21**	P	**P**		**12 11 43.4 -0.7**	
ILAR	**Eielson Array**	**84.37**	**21**	P	**P**		**12 11 43.4 -0.7**	
	comp=Z,7.0nm,1.0s,baz=255,slow=5.0,SNR=42							
ILAR				LR	LR		12 43 37.4	
	comp=Z,41nm,21.9s,baz=217,slow=32							
DOT	**Dot Lake**	**84.77**	**22**	*e*P	**P**		**12 11 47.2 +1.1**	
EGAK	**Eagle**	**86.44**	**22**	*e*P	**P**		**12 11 55.8 +1.4**	
	comp=Z,17nm,1.0s							
MK31	**Makanchi Array**	**86.90**	**318**	*e*P	**P**		**12 11 56.9 -0.2**	
MK31	**Makanchi Array**	**86.90**	**318**	*e*P	**P**		**12 11 56.9 -0.2**	
MKAR	**Makanchi Array**	**86.90**	**318**	*ce*P	**P**		**12 11 57.0 -0.1**	
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MKAR	**Makanchi Array**	**86.90**	**318**	P	**P**		**12 11 57.0 -0.1**	
MKAR	**Makanchi Array**	**86.90**	**318**	P	**P**		**12 11 57.0 -0.1**	
	comp=Z,7.3nm,0.7s,baz=99,slow=6.1,SNR=77							
ZAA0	**Zalesovo Array**	**87.56**	**326**	*e*P	**P**		**12 11 59.0 -1.1**	
ZALV	**Zalesovo Beam**	**87.56**	**326**	P	**P**		**12 11 59.0 -1.1**	
ZALV	**Zalesovo Beam**	**87.56**	**326**	P	**P**		**12 11 59.0 -1.1**	
ZALV	**Zalesovo Beam**	**87.56**	**326**	P	**P**		**12 11 59.0 -1.1**	
	comp=Z,3.1nm,0.7s,baz=103,slow=5.3,SNR=17							
BBB	**Bella Bella**	**87.57**	**36**	LR	LR		12 48 24.1	
	comp=Z,60nm,18.0s,baz=324,slow=34							
YBH	**Yreka Blue Hor**	**88.25**	**47**	LR	LR		12 42 37.3	
	comp=Z,77nm,20.9s,baz=291,slow=30							
DLBC	**Dease Lake**	**88.58**	**30**	LR	LR		12 45 56.5	
	comp=Z,111nm,18.7s,baz=290,slow=32							
PKM	**Peak Mountain**	**88.96**	**55**	P	**P**		**12 12 07.8 +0.4**	
	baz=89							
CMB	**Columbia Colle**	**89.16**	**51**	*e*P	P		12 12 17.1 +9.0	
	comp=Z,15nm,1.6s							
KSH	**Kashi**	**89.57**	**310**	P	**P**		**12 12 12.1 +2.0**	
KSH				*e*PP	**PP**		**12 15 44.6 +2.6**	
KSH				*e*SKS	**SKSac**		**12 22 37.7 -1.8**	
KSH				*e*S	**S**		**12 22 57.3 -2.8**	
KSH				*e*sS	**sS**		**12 23 14.9 +2.2**	
KSH				*e*SS	**SS**		**12 28 56.1 -0.4**	
KSH				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KSH				pmax	pmax			
	comp=Z,130nm,4.8s							
KSH				LR	LR			
	comp=Z,120nm,6.2s							
KSH				LR	LR			
	comp=Z,99nm,5.9s							
KSH				LR	LR			
	comp=Z,150nm,4.8s							
J05D	**Fort Rock, OR**	**89.67**	**46**	P	**P**		**12 12 11.6 +1.1**	
	baz=90							
ISA	**Isabella**	**90.19**	**54**	P	**P**		**12 12 14.0 +1.0**	
	baz=90							
PAHR	**Pah Rah Range**	**90.27**	**50**	*e*P	**P**		**12 12 15.7 +2.3**	
	comp=Z,10nm,1.2s							
KURK	**Kurchatov**	**90.29**	**321**	⇑*i*P	**P**		**12 12 12.4 -0.6**	
KURK				pmax	pmax			
	comp=Z,5.0nm,1.4s							
KURK	**Kurchatov**	**90.29**	**321**	*e*P	**P**		**12 12 12.0 -1.0**	
	comp=Z,2.4nm,1.0s							
EDW2	**Edwards Air Fo**	**90.43**	**55**	P	**P**		**12 12 16.2 +2.1**	
	baz=91							
BFSC	**Mount Baldy Ra**	**90.58**	**56**	P	**P**		**12 12 16.5 +1.5**	
	baz=91							
INK	**Inuvik**	**90.76**	**20**	LR	LR		12 46 35.5	
	comp=Z,54nm,20.5s,baz=293,slow=31							
LRMC	**Laurel Mountai**	**90.78**	**54**	P	**P**		**12 12 17.2 +1.4**	
	baz=91							
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**		**12 12 18.3 +2.1**	
NVAR	**Mina Array Bea**	**90.85**	**51**	P	**P**		**12 12 18.3 +2.1**	
	comp=Z,4.1nm,0.8s,baz=254,slow=6.7,SNR=19							
NVAR				LR	LR		12 49 26.6	
	comp=Z,57nm,18.0s,baz=102,slow=33							
AAK	**Ala-Archa**	**91.30**	**313**	⇓*e*P	**P**		**12 12 18.5 +0.4**	
AAK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
AAK	**Ala-Archa**	**91.30**	**313**	*e*P	**P**		**12 12 18.1 0.0**	
WVOR	**Wild Horse Val**	**91.36**	**47**	*e*P	**P**		**12 12 19.9 +1.5**	
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.1s							
WVOR	**Wild Horse Val**	**91.36**	**47**	*e*P	**P**		**12 12 19.9 +1.5**	
	comp=Z,7.0nm,1.1s							
TPH	**Tonopah**	**91.62**	**52**	*e*P	**P**		**12 12 21.5 +1.7**	
TPH				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TPH	**Tonopah**	**91.62**	**52**	*e*P	**P**		**12 12 21.5 +1.7**	
	comp=Z,7.5nm,1.0s							
FURC	**Furnace Creek,**	**91.62**	**53**	P	**P**		**12 12 21.2 +1.7**	
	baz=92							
BELC	**Belle Mtn. Jos**	**91.89**	**56**	P	**P**		**12 12 22.4 +1.4**	
	baz=92							
TPNV	**Topopah Spring**	**92.19**	**53**	*e*P	P		12 12 24.9 +2.5	
TPNV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
TPNV	**Topopah Spring**	**92.19**	**53**	*e*P	P		12 12 24.9 +2.5	
	comp=Z,6.6nm,1.0s							
TPNV	**Topopah Spring**	**92.19**	**53**	P	**P**		**12 12 24.2 +1.8**	
	baz=92							
GMRC	**Granite Mounta**	**92.30**	**55**	P	**P**		**12 12 24.5 +1.6**	
	baz=92							
IRM	**Iron Mountain**	**92.61**	**56**	P	**P**		**12 12 25.7 +1.4**	
	baz=93							
R11A	**Troy Canyon, C**	**92.94**	**52**	P	**P**		**12 12 27.1 +1.3**	
	baz=93							
NEW	**Newport**	**93.47**	**42**	LR	LR		12 48 26.3	
	comp=Z,77nm,18.6s,baz=268,slow=32							
NEW	**Newport**	**93.47**	**42**	P	**P**		**12 12 28.5 +0.6**	
	baz=94							
HLID	**Hailey**	**94.61**	**47**	P	**P**		**12 12 34.3 +0.9**	
	baz=95							
BRVK	**Borovoye**	**95.80**	**323**	⇓*i*P	**P**		**12 12 37.4 -1.0**	
BRVK				pmax	pmax			
	comp=Z,8.0nm,1.7s							
BRVK	**Borovoye**	**95.80**	**323**	*e*P	**P**		**12 12 36.9 -1.4**	
	comp=Z,4.7nm,1.1s							
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**		**12 12 43.5 +0.3**	
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**		**12 12 43.5 +0.3**	
	comp=Z,0.8nm,0.8s,baz=261,slow=4.5,SNR=17							
PDAR	**Pinedale Array**	**98.04**	**48**	P	Pdif		12 12 49.9 +0.7	
PDAR	**Pinedale Array**	**98.04**	**48**	P	Pdif		12 12 49.9 +0.7	
	comp=Z,0.9nm,1.0s,baz=242,slow=4.7,SNR=5.0							
PDAR				LR	LR		12 52 33.8	
	comp=Z,42nm,18.6s,baz=300,slow=33							
H19A	**Powell**	**98.61**	**46**	P	Pdif		12 12 51.9 +0.4	
	baz=99							
BFO	**Black Forest**	**133.30**	**332**	*c i* PKIKP	**PKPdf**		**12 18 27.0 -1.3**	
BDFB	**Brasilia**	**144.44**	**134**	PKP	**PKPdf**		**12 18 48.7 -0.9**	
BDFB	**Brasilia**	**144.44**	**134**	PKP	**PKPdf**		**12 18 48.7 -0.9**	
	comp=Z,8.4nm,0.7s,baz=251,slow=3.6,SNR=11							
ESDC	**Sonseca Array**	**145.56**	**335**	PKPbc	**PKPbc**		**12 18 50.1 -0.8**	
ESDC	**Sonseca Array**	**145.56**	**335**	PKPbc	**PKPbc**		**12 18 50.1 -0.8**	
	comp=Z,1.5nm,0.9s,baz=15,slow=4.1,SNR=6.6							
TAM	**Tamanrasset**	**150.23**	**300**	*e*PKP2	**PKPbc**		**12 19 05.6 +1.3**	
TAM	**Tamanrasset**	**150.23**	**300**	*e*PKPbc	**PKPbc**		**12 19 05.6 +1.3**	
TORD	**Torodi Ar. Bea**	**156.29**	**282**	PKP	**PKPdf**		**12 19 06.7 -1.2**	
TORD	**Torodi Ar. Bea**	**156.29**	**282**	PKP	**PKPdf**		**12 19 06.7 -1.2**	
	comp=Z,0.4nm,0.8s,baz=321,slow=1.8,SNR=2.4							
DBIC	**Dimbokro**	**162.70**	**263**	PKPab	**PKPab**		**12 20 03.6 -0.3**	
DBIC	**Dimbokro**	**162.70**	**263**	PKPab	**PKPab**		**12 20 03.6 -0.3**	
	comp=Z,6.3nm,1.2s,baz=45,slow=1.0,SNR=4.3							

IDC 09 12:11:45.2±7.1,**16°57S**×**171°80W**,**h0**km,**mb3.5/2, mb1 3.8/2**,**mb1mx3.4/21**,**mbtmp3.5/2**,**Error ellipse: s-maj=332.1km s-min=65.1km az=142.0**,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.09**	**258**	P	P	12 20 49.8	-0.2
	0.2nm,0.3s,baz=94,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**51.23**	**253**	P	P	12 20 51.0	0.0
	0.4nm,0.5s,baz=95,slow=8.1,SNR=13						
BRTR	**Keskin Array B**	**148.03**	**321**	PKPbc	PKPbc	12 31 32.4	-0.9
	0.4nm,0.7s,baz=276,slow=2.6,SNR=3.6						

MEX 09 12:15:23.5±0.6,**16°14N**×**97°39W**,**h27**km±47km,**MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.75**	**290**	*i* P	Pb	12 15 35.2	-2.9
PNIG				*i* S	Sb	12 15 45.9	-2.1
VHO	**Vista Hermosa**	**1.12**	**34**	*i* P	Pn	12 15 41.1	-2.6
VHO				*i* S	Sn	12 15 54.6	-3.8
HUIG	**Huatulco**	**1.28**	**107**	*e*P	Pn	12 15 43.5	-2.2
HUIG				*i* S	Sn	12 15 59.2	-2.9
TLIG	**Tlapa**	**1.81**	**322**	*i* P	Pn	12 15 51.5	-1.6
TLIG				*i* S	Sn	12 16 13.0	-2.3

IDC ***09*** *12:27:06.6±2.1,31°.32S×177°.82W,h0km,mb4.3/5, mb1 4.4/7,mb1mx4.1/22,mbtmp4.3/7,ML3.2/1,Error ellipse: s-maj=49.5km s-min=24.8km az=119.0*
ISCJB ***09*** *12:27:09.8±2.7,31°.33S±0°.10×177°.8W±0°.4,h35km, mb4.5/8,Error ellipse: s-maj=51.9km s-min=7.0km az=13.9*
NEIC ***09*** *12:27:12.2±1.3,31°.31S×177°.81W,h41km±10km,mb4.5/1, Error ellipse: s-maj=25.1km s-min=10.4km az=109.0*

ISC 09 12:27:11.7±1.8,**31°27S**±0°.09×**177°.8W**±0°.3,**h35**km,**n26,** σ0**s80**/30,**mb4.5/8**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.01**	**357**	Pn	**Pn**	**12 27 44.2**	**+1.0**
RAO				Sn	**Sn**	**12 28 06.2**	**-0.9**
RAO	**Raoul Island**	**2.01**	**357**	Pn	**Pn**	**12 27 44.2**	**+1.0**
	87nm,0.3s,baz=76,slow=22,SNR=4.3						
RAO				Sn	**Sn**	**12 28 06.2**	**-0.9**
	205nm,0.3s,baz=115,slow=23,SNR=9.1						
URZ	**Urewera**	**8.14**	**210**	Pn	**Pn**	**12 29 07.1**	**-0.3**
URZ				Sn	**Sn**	**12 30 38.4**	**+0.2**
URZ	**Urewera**	**8.14**	**210**	Pn	**Pn**	**12 29 07.1**	**-0.3**
	0.3nm,0.3s,baz=234,slow=14,SNR=8.1						
URZ				Sn	**Sn**	**12 30 38.4**	**+0.2**
	2.1nm,0.3s,baz=209,slow=22,SNR=10						
CMSA	**Cobar Meteorol**	**31.09**	**260**	P	**P**	**12 33 29.0**	**+2.3**
	baz=30,SNR=6.4						
QLP	**Quilpie**	**33.46**	**268**	P	**P**	**12 33 48.4**	**+0.8**
	baz=32,SNR=3.8						
CTA	**Charters Tower**	**34.13**	**280**	P	**P**	**12 33 53.8**	**+0.4**
CTA	**Charters Tower**	**34.13**	**280**	P	**P**	**12 33 53.8**	**+0.4**
	1.8nm,0.5s,baz=109,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**34.48**	**258**	P	**P**	**12 33 56.9**	**+0.5**
STKA	**Stephens Creek**	**34.48**	**258**	P	**P**	**12 33 56.9**	**+0.5**
	1.3nm,0.3s,baz=102,slow=8.9,SNR=4.2						
HTT	**Hallett**	**36.45**	**255**	P	**P**	**12 34 14.0**	**+0.6**
	baz=36,SNR=3.4						
BBOO	**Buckleboo**	**38.92**	**255**	*e*P	**P**	**12 34 33.7**	**-0.5**
	58nm,0.6s						
BBOO	**Buckleboo**	**38.92**	**255**	P	**P**	**12 34 33.9**	**-0.3**
	baz=38,SNR=5.4						
COEN	**Coen**	**39.70**	**287**	*e*P	**P**	**12 34 41.1**	**+0.3**
	24nm,0.8s						
AS31	**Alice Springs**	**43.26**	**268**	*e*P	**P**	**12 35 09.2**	**-0.8**
ASAR	**Alice Springs**	**43.26**	**268**	P	**P**	**12 35 09.4**	**-0.6**
ASAR	**Alice Springs**	**43.26**	**268**	P	**P**	**12 35 09.4**	**-0.6**
	5.9nm,0.7s,baz=105,slow=7.5,SNR=91						
WRAB	**Tennant Creek**	**44.32**	**273**	*e*P	**P**	**12 35 17.5**	**-1.0**
	6.4nm,0.8s						
WRA	**Warramunga Arr**	**44.33**	**273**	P	**P**	**12 35 17.7**	**-0.9**
WRA	**Warramunga Arr**	**44.33**	**273**	P	**P**	**12 35 17.7**	**-0.9**
	4.9nm,0.7s,baz=111,slow=8.0,SNR=64						
FITZ	**Fitzroy Crossi**	**52.55**	**270**	P	**P**	**12 36 21.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.55**	**270**	P	**P**	**12 36 21.1**	**-0.8**
	1.4nm,0.7s,baz=90,slow=9.1						
FINES	**FINESS Array B**	**146.02**	**340**	PKPbc	**PKPbc**	**12 46 47.1**	**+0.1**
FINES	**FINESS Array B**	**146.02**	**340**	PKPbc	**PKPbc**	**12 46 47.1**	**+0.1**
	1.5nm,0.4s,baz=44,slow=4.2,SNR=17						
BRTR	**Keskin Array B**	**153.17**	**297**	PKPbc	**PKPbc**	**12 47 05.6**	**-0.3**
BRTR	**Keskin Array B**	**153.17**	**297**	PKPbc	**PKPbc**	**12 47 05.6**	**-0.3**
	1.0nm,1.1s,baz=20,slow=4.6,SNR=3.1						

IDC ***09*** *12:34:10.5±1.4,5°.25S×152°.36E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.7/19,mbtmp3.7/9,ML2.4/1,Error ellipse: s-maj=48.1km s-min=19.5km az=124.0*
ISCJB ***09*** *12:34:19.9±1.0,5°.0S±0°.1×151°.9E±0°.2,h70km,mb3.5/8, Error ellipse: s-maj=27.1km s-min=9.9km az=37.1*

ISC 09 12:34:21.8±1.1,**5°0S**±0°.1×**152°0E**±0°.2,**h70**km,**n18,** σ2**s03**/17,**mb3.6/8**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.81**	**15**	S	**Pn**	**12 34 38.3**	**+0.2**
	baz=0.4,SNR=211						
PMG	**Port Moresby**	**6.48**	**227**	Pn	Pn	12 35 49.9	-4.7
	0.4nm,0.3s,baz=37,slow=10,SNR=2.6						
PMG				Sn	**Sn**	**12 37 06.1**	**-1.0**
	9.5nm,0.3s,baz=117,slow=16,SNR=8.2						
QIS	**Mount Isa**	**19.59**	**217**	P	**Pn**	**12 38 46.5**	**+0.1**
	baz=20,SNR=3.8						
KDU	**Kakadu**	**20.70**	**247**	P	P	**12 38 56.5**	**0.0**
	baz=21,SNR=9.1						
MTN	**Manton Dam**	**21.99**	**248**	P	P	**12 39 13.3**	**+3.0**
	baz=22,SNR=4.5						
WRA	**Warramunga Arr**	**22.70**	**228**	P	P	**12 39 16.0**	**-1.9**
	1.0nm,0.8s,baz=55,slow=9.9,SNR=6.0						
KNRA	**Kununurra**	**25.14**	**243**	P	P	**12 39 42.8**	**+2.2**
	baz=26,SNR=10						
ASAR	**Alice Springs**	**25.45**	**221**	P	P	**12 39 40.5**	**-2.9**
	0.7nm,0.7s,baz=61,slow=9.2,SNR=14						
LUWI	**Luwuk**	**29.40**	**277**	S	**S**	**12 45 04.7**	**-3.3**
	baz=30,SNR=6.9						
MEEK	**Meekatharra**	**38.43**	**232**	P	P	**12 41 40.0**	**+3.1**
	baz=39,SNR=3.6						
PMBI	**Palembang**	**47.11**	**271**	P	P	12 42 41.4	-5.9
	baz=47,SNR=8.8						
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P	P	**12 44 02.3**	**+0.1**
	0.3nm,0.5s,baz=111,slow=5.1,SNR=2.9						
SONM	**Songino Array**	**66.03**	**328**	P	P	**12 45 03.0**	**+1.8**
	0.4nm,0.8s,baz=140,slow=3.2,SNR=2.7						
MKAR	**Makanchi Array**	**79.91**	**319**	P	P	**12 46 24.6**	**+1.4**
	0.4nm,0.6s,baz=98,slow=7.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**80.83**	**327**	P	P	**12 46 27.1**	**-0.8**
	0.5nm,0.5s,baz=120,slow=6.6,SNR=4.3						
ILAR	**Eielson Array**	**82.64**	**22**	P	P	**12 46 35.8**	**-1.4**
	1.2nm,0.7s,baz=244,slow=5.5,SNR=18						
YKA	**Yellowknife Ar**	**95.98**	**28**	P	P	**12 47 39.6**	**-1.3**
	0.2nm,0.6s,baz=277,slow=5.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.56**	**287**	PKPbc	**PKPbc**	**12 54 03.6**	**-0.7**
	0.4nm,0.7s,baz=49,slow=1.1,SNR=3.2						

IDC ***09*** *13:05:45.5±0.9,9°.12S×157°.77E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.8/19,mbtmp3.8/9,ML3.3/1,MS3.2/1, Ms1 3.1/1,ms1mx2.7/34,Error ellipse: s-maj=30.0km s-min=20.9km az=146.0*
ISCJB ***09*** *13:05:47.2±0.7,9°.2S±0°.1×157°.83E±0°.07,h23km,mb3.6/8, MS3.1/1,Error ellipse: s-maj=21.2km s-min=9.4km az=179.8*

ISC 09 13:05:48.9±0.8,**9°2S**±0°.2×**157°.85E**±0°.08,**h23**km,**n10,** σ1**s16**/11,**mb3.8/8**,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.09**	**97**	Pn	**Pn**	**13 06 21.9**	**-0.6**
	8.2nm,0.3s,baz=117,slow=12,SNR=4.8						
HNR				Sn	**Sn**	**13 06 46.5**	**-1.3**
	145nm,0.3s,baz=205,slow=21,SNR=14						
HNR	**Honiara**	**2.09**	**97**	*e*P	**Pb**	**13 06 27.0**	**+0.9**
WRA	**Warramunga Arr**

IDC 09 13:40:20.8±3.0, 3°27'S×135°96'E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.1/3, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/11, Error ellipse: s-maj=127.1km s-min=30.3km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.64**	**185**	Pn	Pn	13 44 16.6	+0.9
	0.1nm,0.3s,baz=6.9,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**20.37**	**185**	P	P	13 44 58.8	-0.5
	0.8nm,0.9s,baz=10,slow=11,SNR=6.9						
HNR	**Honiara**	**24.60**	**106**	LR	LR	13 53 44.6	
	comp=Z,53nm,19.9s,baz=312,slow=33						
MKAR	**Makanchi Array**	**68.58**	**324**	P	P	13 51 25.7	0.0
	0.1nm,0.6s,baz=102,slow=6.7,SNR=3.7						

IDC 09 13:42:08.3±3.6, 6°16N×82°74W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.7/23, mbtmp3.6/7, ML4.0/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/30, Error ellipse: s-maj=122.0km s-min=28.3km az=38.0

CASC 09 13:42:11.3±3.1, 6°43N×82°56W, h4km±42km, MD3.9

ISC 09 13:42:10.7±1.3, 6°3N±0°1×82°59W±0°08, h10km, n25, σ1§21/24, mb3.5/5, MS3.3/6, 3C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.39**	**346**	*e*P	**Pn**	**13 42 49.0**	**-1.0**
ACR				*e*S	**Sn**	**13 43 15.4**	**-3.9**
BRU2	**Volcan**	**2.46**	**358**	⇑*i*P	**Pn**	**13 42 51.2**	**+0.1**
BRU2				*e*S	**Sn**	**13 43 21.4**	**+0.1**
CTCR	**Cotoan**	**2.57**	**356**	⇑*i*P	**Pn**	**13 42 52.7**	**+0.1**
CNI	**Changuinola**	**3.08**	**1**	⇑*e*P	**Pn**	**13 43 00.5**	**+1.1**
CNI				*e*S	**Sn**	**13 43 38.0**	**+1.7**
BUS	**Buena Vista**	**3.42**	**340**	⇓*e*P	**Pn**	**13 43 05.2**	**+0.7**
QCR	**Quepos**	**3.46**	**333**	*e*P	**Pn**	**13 43 04.5**	**-0.1**
QCR				*e*S	**Sn**	**13 43 46.5**	**+0.8**
SJS	**Escuela Geolog**	**3.88**	**338**	*e*P	**Pn**	**13 43 11.7**	**+1.2**
BCIP	**Isla Barro Col**	**3.93**	**44**	*e*P	**Pn**	**13 43 10.5**	**-0.7**
UPA	**Univ. de Panam**	**4.02**	**49**	*e*P	**Pn**	**13 43 12.3**	**-0.1**
UPA				*e*S	**Sn**	**13 43 59.8**	**+0.2**
CGA2	**Cerro Gallo 2**	**4.12**	**333**	*e*P	**Pn**	**13 43 14.6**	**+0.8**
JCR	**Jicaral**	**4.31**	**325**	*e*P	**Pn**	**13 43 16.7**	**+0.3**
JTS	**JuntasAbangare**	**4.59**	**330**	Pn	**Pn**	**13 43 20.9**	**+0.7**
	9.5nm,0.3s,baz=129,slow=9.9,SNR=26						
JTS				Sn	**Sn**	**13 44 14.7**	**+1.1**
	baz=342,slow=19,SNR=2.7						
JTS				LR	LR	13 44 30.5	
	comp=Z,70nm,18.8s,baz=174,slow=31						
APG	**El Apazote**	**11.59**	**319**	Pn	**Pn**	**13 44 57.7**	**+1.2**
	0.6nm,0.3s,baz=150,slow=18,SNR=5.1						
APG				LR	LR	13 49 01.9	
	comp=Z,135nm,19.1s,baz=98,slow=36						
ATAH	**Atahualpa**	**14.01**	**163**	LR	LR	13 50 13.6	
	comp=Z,219nm,18.9s,baz=352,slow=35						
TEIG	**Tepich**	**14.89**	**339**	LR	LR	13 50 58.8	
	comp=Z,100nm,18.8s,baz=60,slow=35						
PTGA	**Pitinga**	**23.64**	**106**	LR	LR	13 56 30.1	
	comp=Z,48nm,19.3s,baz=66,slow=36						
LPAZ	**La Paz**	**26.63**	**148**	LR	LR	13 59 17.8	
	comp=Z,110nm,20.9s,baz=322,slow=39						
TKL	**Tuckaleechee C**	**29.22**	**358**	LR	LR	13 58 34.0	
	comp=Z,55nm,19.8s,baz=268,slow=34						
TXAR	**Lajitas Array**	**30.33**	**322**	LR	LR	14 00 06.6	
	comp=Z,29nm,18.2s,baz=0.0,slow=36						
SIV	**San Ignacio**	**30.74**	**136**	LR	LR	14 00 20.7	
	comp=Z,92nm,18.9s,baz=290,slow=36						
PDAR	**Pinedale Array**	**43.42**	**331**	P	**P**	**13 50 12.5**	**-1.6**
	0.4nm,0.9s,baz=159,slow=8.7,SNR=2.1						
PDAR				LR	LR	14 11 51.8	
	comp=Z,39nm,18.1s,baz=0.5,slow=41						
YKA	**Yellowknife Ar**	**60.78**	**344**	P	**P**	**13 52 22.6**	**0.0**
	0.3nm,0.8s,baz=139,slow=6.7,SNR=5.8						
ILAR	**Eielson Array**	**73.53**	**336**	P	**P**	**13 53 43.1**	**-0.5**
	0.5nm,0.9s,baz=163,slow=4.7,SNR=4.7						
ESDC	**Sonseca Array**	**77.24**	**51**	P	**P**	**13 54 05.8**	**+0.3**
	0.1nm,0.3s,baz=273,slow=7.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**83.04**	**78**	P	**P**	**13 54 38.1**	**+0.9**
	0.3nm,0.7s,baz=286,slow=4.4,SNR=2.0						

ISCJB 09 13:47:03.2±0.9, 60°9S×0°2×25°4W±0°5, h11km, mb3.7/5, MS3.3/2, Error ellipse: s-maj=41.9km s-min=16.5km az=142.8

IDC 09 13:47:03.1±0.9, 60°86S×25°51W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/19, Error ellipse: s-maj=43.5km s-min=27.9km az=39.0

ISC 09 13:47:04.8±0.8, 60°8S±0°2×25°2W±0°2, h11km, n14, σ1§09/12, mb3.8/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**14.07**	**150**	Pn	**Pn**	**13 50 22.2**	**-1.6**
	1.7nm,0.3s,baz=310,slow=14,SNR=92						
SNAA				Sn	Sn	13 52 46.2	-14
	0.5nm,0.3s,baz=332,slow=18,SNR=3.6						
SNAA				LR	LR	13 54 28.1	
	comp=Z,60nm,18.8s,baz=30,slow=32						
USHA	**Ushuaia**	**23.43**	**265**	LR	LR	13 57 36.3	
	comp=Z,94nm,21.4s,baz=113,slow=27						
PLCA	**Paso Flores**	**34.05**	**285**	LR	LR	14 06 33.3	
	comp=Z,68nm,20.8s,baz=90,slow=34						
CFAA	**Coronel Fontan**	**40.48**	**296**	P	**P**	**13 54 43.0**	**-0.3**
	0.1nm,0.4s,baz=150,slow=8.2,SNR=5.3						
VNDA	**Vanda**	**41.91**	**182**	P	**P**	**13 54 56.8**	**+2.2**
	1.9nm,1.0s,baz=239,slow=3.3,SNR=3.8						
LPAZ	**La Paz**	**53.97**	**306**	P	**P**	**13 56 28.5**	**-0.7**
	1.2nm,0.5s,baz=116,slow=8.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**76.72**	**27**	P	**P**	**13 58 56.9**	**+1.1**
	2.4nm,0.8s,baz=202,slow=6.4,SNR=1.9						
ASAR	**Alice Springs**	**94.19**	**161**	P	**P**	**14 00 23.8**	**+0.1**
	0.3nm,0.6s,baz=182,slow=3.7,SNR=6.0						
FINES	**FINESS Array B**	**128.05**	**28**	PKP	**PKPdf**	**14 06 08.9**	**-0.2**
	1.9nm,0.9s,baz=260,slow=3.3,SNR=4.2						
YKA	**Yellowknife Ar**	**140.27**	**313**	PKP	**PKPdf**	**14 06 31.9**	**-0.1**
	0.1nm,0.5s,baz=133,slow=2.0,SNR=5.9						
RES	**Resolute Bay**	**142.60**	**336**	PKP	**PKPdf**	**14 06 35.2**	**-0.7**
	0.9nm,0.3s,baz=151,slow=1.0,SNR=5.6						
SONM	**Songino Array**	**149.71**	**93**	PKPbc	**PKPbc**	**14 06 54.0**	**+0.4**
	1.0nm,0.8s,baz=220,slow=3.5,SNR=4.3						
INK	**Inuvik**	**149.99**	**315**	PKPbc	**PKPbc**	**14 06 52.6**	**-0.9**
	1.5nm,0.6s,baz=107,slow=1.3,SNR=9.8						
ILAR	**Eielson Array**	**153.84**	**304**	PKPbc	**PKPbc**	**14 07 02.4**	**0.0**
	0.5nm,0.9s,baz=165,slow=4.3,SNR=4.3						

IDC 09 13:55:59.5±0.8, 15°32S×173°34W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/24, mbtmp4.2/8, ML3.1/1, MS3.3/10, Ms1 3.3/10, ms1mx3.1/33, Error ellipse: s-maj=36.6km s-min=18.0km az=133.0

ISCJB 09 13:56:01.6±0.7, 15°2S±0°2×173°3W±0°2, h29km, mb4.1/7, MS3.3/9, Error ellipse: s-maj=31.4km s-min=8.9km az=139.1

ISC 09 13:56:03.4±0.8, 15°3S±0°2×173°2W±0°2, h29km, n27, σ1§26/12, mb4.2/7, MS3.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.94**	**47**	Pn	**Pn**	**13 56 35.4**	**+0.9**
	425nm,0.3s,baz=178,slow=1.0,SNR=1091						
AFI				Sn	**Sn**	**13 56 55.2**	**-2.7**
	773nm,0.3s,baz=39,slow=20,SNR=10						
AFI				LR	LR	13 57 03.7	
	comp=Z,213nm,21.0s,baz=258,slow=31						
DZM	**Mont Dzumac**	**20.41**	**248**	*e*P	Pn	14 00 45.2	+4.6
	67nm,1.1s						
DZM				*e*LR	LR	14 05 29.6	
	264nm,28.6s						
DZM	**Mont Dzumac**	**20.41**	**248**	LR	LR	14 07 06.6	
	comp=Z,142nm,20.7s,baz=38,slow=33						
PPT	**Papeete**	**22.81**	**99**	LR	LR	14 07 14.0	
	comp=Z,73nm,21.9s,baz=246,slow=30						
PPT2	**Papeete2**	**22.81**	**99**	*e*LR	LR	14 06 16.5	
	251nm,28.5s						
TBI	**Tubuai**	**23.81**	**113**	*e*LR	LR	14 06 50.1	
	239nm,30.5s						
URZ	**Urewera**	**24.46**	**199**	P	**P**	**14 01 19.7**	**-0.1**
	6.3nm,0.3s,baz=291,slow=2.3,SNR=9.1						
HNR	**Honiara**	**26.82**	**279**	LR	LR	14 09 36.4	
	comp=Z,58nm,19.2s,baz=114,slow=31						
H11S2	**WAKE ISLAND Hy**	**38.92**	**329**	T	T	14 44 15.9	
	baz=150,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.93**	**329**	T	T	14 44 14.7	
	baz=150,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	14 44 17.2	
	baz=150,slow=76,SNR=8.9						
PMG	**Port Moresby**	**39.09**	**274**	LR	LR	14 15 46.7	
	comp=Z,27nm,21.1s,baz=118,slow=30						
H11N3	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	14 45 20.6	
	baz=149,slow=77,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	14 45 20.9	
	baz=149,slow=77,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	14 45 22.2	
	baz=149,slow=77,SNR=8.6						
STKA	**Stephens Creek**	**44.25**	**240**	P	**P**	**14 04 09.6**	**-0.9**
	1.9nm,0.7s,baz=61,slow=7.4,SNR=6.5						
STKA				LR	LR	14 21 39.3	
	comp=Z,42nm,19.3s,baz=37,slow=35						
WRA	**Warramunga Arr**	**50.04**	**257**	P	**P**	**14 04 54.7**	**-1.1**
	1.7nm,0.6s,baz=96,slow=7.9,SNR=28						
WRA				PcP	**PcP**	**14 06 15.6**	**+0.1**
	0.8nm,0.7s,baz=90,slow=3.8,SNR=6.0						
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**14 04 57.0**	**-0.9**
	5.0nm,0.7s,baz=86,slow=8.2,SNR=87						
MJAR	**Matsushiro Arr**	**68.93**	**320**	LR	LR	14 30 50.0	
	comp=Z,19nm,21.5s,baz=80,slow=30						
JNU	**Nakatsue**	**71.81**	**313**	LR	LR	14 38 17.2	
	comp=Z,24nm,18.1s,baz=74,slow=35						
LPIG	**La Paz**	**72.82**	**58**	LR	LR	14 32 08.8	
	comp=Z,61nm,20.5s,baz=27,slow=30						
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**14 07 37.5**	**+0.2**
	0.5nm,0.6s,baz=224,slow=8.3,SNR=4.9						
QSPA	**South Pole Qui**	**74.80**	**180**	P	**P**	**14 07 41.2**	**+0.4**
	4.6nm,1.0s,baz=357,slow=2.2,SNR=7.2						
KSRS	**Korea Array**	**76.17**	**315**	LR	LR	14 40 26.1	
	comp=Z,16nm,18.4s,baz=25,slow=35						
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**14 08 22.9**	**+1.2**
	0.3nm,0.6s,baz=228,slow=7.1,SNR=5.0						
GERES	**GERESS Array B**	**146.01**	**352**	PKPbc	**PKPab**	**14 15 41.6**	**+0.5**
	0.8nm,0.8s,baz=330,slow=1.9,SNR=3.5						
BRTR	**Keskin Array B**	**146.14**	**321**	PKPbc	**PKPab**	**14 15 43.1**	**+1.1**
	7.1nm,1.0s,baz=113,slow=2.0,SNR=26						

NIED 09 14:01:00, 43°10N×144°90E, h65km, Mw3.9 Best double couple: M0 7.77000×10^14 NP1:φs=241.00000°, δ28.00000°, λ127.00000°. NP2:φs=21.00000°, δ68.00000°, λ72.00000°.

ISCJB 09 14:01:02.1±0.4, 42°99N±0°04×144°87E±0°04, h69km±3km, mb3.7/23, Error ellipse: s-maj=7.0km s-min=4.1km az=146.6

IDC 09 14:01:02.9±0.7, 43°03N×144°83E, h58km±5km, mb3.5/21, mb1 3.7/23, mb1mx3.6/30, mbtmp3.5/23, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=15.0km s-min=12.1km az=157.0

MOS 09 14:01:03.0±1.0, 42°99N×144°78E, h77km, mb4.1/14, Error ellipse: s-maj=12.4km s-min=8.2km az=72.5

JMA 09 14:01:03.5±0.1, 43°02N×144°85E, h61km±1km, M4.0

JMA Felt II J1.

SKHL 09 14:01:04.0±0.3, 47°67N×146°47E, h73km±9km, mb5.2/2, msh6.0/2

ISC 09 14:01:03.0±0.6, 43°01N±0°05×144°86E±0°03, h59km±4km, n66, σ1§06/79, mb3.8/23, 6C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.12**	**263**	⇑P	**Pn**	**14 01 12.6**	**+0.7**
JAK				*e*S	**Sn**	**14 01 19.3**	**+1.0**
JNK	**Nakash**	**0.58**	**350**	⇓P	**Pn**	**14 01 15.9**	**+0.1**
JNK				*e*S	**Sn**	**14 01 24.9**	**-0.2**
NEM2	**Nemuro 2**	**0.73**	**61**	⇑P	**Pn**	**14 01 17.7**	**+0.2**
NEM2				*e*S	**Sn**	**14 01 27.9**	**-0.3**
JOB	**Onbets**	**0.76**	**262**	⇓P	**Pn**	**14 01 18.5**	**+0.6**
JOB				*e*S	**Sn**	**14 01 29.3**	**+0.5**
JAR	**Ashorobuto**	**0.85**	**290**	⇓P	**Pn**	**14 01 19.2**	**+0.2**
JAR				*e*S	**Sn**	**14 01 31.4**	**+0.6**
JRA	**Rausu**	**0.95**	**11**	⇑P	**Pn**	**14 01 20.9**	**+0.7**
JRA				*e*S	**Sn**	**14 01 33.6**	**+0.6**
JCH	**Churui**	**1.17**	**251**	⇓P	**Pn**	**14 01 23.4**	**+0.2**
JCH				*e*S	**Sn**	**14 01 37.9**	**-0.4**
JTKR	**Abashiri--Toko**	**1.19**	**324**	P	**Pn**	**14 01 24.3**	**+0.9**
JTKR				*e*S	**Sn**	**14 01 39.9**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**1.25**	**35**	*e*PN	**Pn**	**14 01 25.1**	**+0.8**
YUK				*i* S	**Sn**	**14 01 41.1**	**+0.9**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,176nm,0.2s						
YUK				pmax	pmax		
	comp=E,248nm,0.4s						
YUK				smax	smax		
	comp=N,5μm,0.4s						
YUK				smax	smax		
	comp=E,4μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.25**	**35**	*e*P	**Pn**	**14 01 25.1**	**+0.8**
YUK				AMB	AMB	14 01 25.5	
	comp=E,180nm,0.3s						
YUK				AMB	AMB	14 01 25.5	
	comp=E,250nm,0.3s						
YUK				AMB	AMB	14 01 25.5	
	comp=E,2μm,0.3s						
YUK				*e*S	**Sn**	**14 01 41.1**	**+0.9**
YUK				A	A	14 01 41.7	
	comp=E,5μm,0.4s						
YUK				A	A	14 01 41.7	
	comp=E,4μm,0.4s						
YUK				A	A	14 01 41.8	
	comp=E,4μm,0.4s						
YUK				A	A	14 01 41.8	
	comp=E,4μm,0.4s						
HRK	**Horoka**	**1.35**	**290**	*e*P	**Pn**	**14 01 26.4**	**+0.8**
HRK				*e*S	**Sn**	**14 01 43.0**	**+0.4**
JMP	**Maruseppu**	**1.48**	**313**	⇓P	**Pn**	**14 01 28.2**	**+0.9**
ERM	**Erimo**	**1.61**	**232**	*c i*PN	**Pn**	**14 01 30.9**	**+1.9**
ERM	**Erimo**	**1.61**	**232**	*e*P	**Pn**	**14 01 30.9**	**+1.9**
SHO	**Shikotan**	**1.67**	**58**	*e*P	**Pn**	**14 01 30.1**	**+0.2**
SHO				*e*S	**Sn**	**14 01 49.5**	**-0.7**
JKA	**Kamikawa-asahi**	**1.98**	**305**	*e*P	**Pn**	**14 01 35.4**	**+1.3**
ASAJ	**Asahikawa**	**1.98**	**305**	P	**Pn**	**14 01 35.4**	**+1.2**
	comp=E,41nm,0.3s,baz=146,slow=9.5,SNR=567						
ASAJ				S	**Sn**	**14 02 01.9**	**+4.0**
	comp=E,20nm,0.3s,baz=252,slow=20,SNR=3.7						
KUR	**Kuril'sk**	**3.10**	**43**	*e*PN	Pn	14 01 53.8	+4.4
KUR				*e*S	**Sn**	**14 02 28.5**	**+3.3**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax	smax		
	comp=N,360nm,0.5s						
KUR				smax	smax		
	comp=E,280nm,0.7s						
KUR	**Kuril'sk**	**3.10**	**43**	*e*P	**Pn**	**14 01 52.0**	**+2.6**
KUR				AMB	AMB	14 01 55.6	
	comp=E,100nm,0.6s						
KUR				*e*S	**Sn**	**14 02 28.5**	**+3.3**
KUR				A	A	14 02 39.0	
	comp=E,360nm,0.6s						
KUR				A	A	14 02 39.0	
	comp=E,280nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.22**	**340**	*i* PN	**Pn**	**14 02 06.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.22**	**340**	*e*P	**Pn**	**14 02 05.0**	**+0.4**
YSS				*e*S	**Sn**	**14 02 51.3**	**-1.3**
TYV	**Tymovskoe**	**8.00**	**350**	*e*P	**Pn**	**14 02 56.2**	**-0.2**
TYV				AMB	AMB	14 02 58.8	
	comp=E,11nm,0.8s						
MJA0	**Matsu Arr-Jizo**	**8.22**	**220**	*e*PN	**Pn**	**14 03 00.2**	**+0.6**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**8.24**	**221**	*ce*PN	**Pn**	**14 03 00.1**	**+0.3**
MAJO	**Matsushiro**	**8.24**	**221**	*e*P	**Pn**	**14 03 00.1**	**+0.3**
MAT	**Matsushiro**	**8.24**	**221**	P	**Pn**	**14 03 00.1**	**+0.3**
MJAR	**Matsushiro Arr**	**8.24**	**221**	P	**Pn**	**14 03 00.3**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=28,slow=14,SNR=18						
KSRS	**Korea Array**	**14.07**	**252**	P	**Pn**	**14 04 20.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=61,slow=14,SNR=2.9						
SONM	**Songino Array**	**27.23**	**294**	P	**P**	**14 06 41.0**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=84,slow=8.6,SNR=10						
H11N2	**WAKE ISLAND Hy**	**29.70**	**135**	T	T	14 38 12.6	
	baz=329,slow=76,SNR=446						
H11N1	**WAKE ISLAND Hy**	**29.71**	**135**	T	T	14 38 15.9	
	baz=329,slow=76,SNR=352						
H11N3	**WAKE ISLAND Hy**	**29.72**	**134**	T	T	14 38 15.1	
	baz=329,slow=76,SNR=302						
H11S1	**WAKE ISLAND Hy**	**30.62**	**136**	T	T	14 39 21.8	
	baz=331,slow=77,SNR=530						
H11S3	**WAKE ISLAND Hy**	**30.63**	**136**	T	T	14 39 22.4	
	baz=331,slow=77,SNR=441						
H11S2	**WAKE ISLAND Hy**	**30.64**	**136**	T	T	14 39 21.3	
	baz=331,slow=77,SNR=453						
ZALV	**Zalesovo Beam**	**40.12**	**307**	P	**P**	**14 08 32.1**	**-0.5**
ZALV				PcP	**PcP**	14 10 35.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**40.12**	**307**	P	**P**	**14 08 32.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=68,slow=8.1,SNR=3.4						
ZALV				PcP	**PcP**	**14 10 35.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=90,slow=2.9,SNR=5.9						
ZALV				LR	LR	14 27 52.5	
	comp=Z,19nm,19.6s,baz=70,slow=40						
ILAR	**Eielson Array**	**43.06**	**36**	P	**P**	**14 08 56.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=258,slow=5.7,SNR=7.0						
MKAR	**Makanchi Array**	**43.45**	**298**	P	**P**	**14 08 59.4**	**-0.5**
MKAR						14 10 46.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**43.45**	**298**	P	**P**	**14 08 59.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=75,slow=8.7,SNR=22						
MKAR				PcP	**PcP**	**14 10 46.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=78,slow=2.9,SNR=3.3						
KURK	**Kurchatov**	**44.56**	**304**	*d i*P	**P**	**14 09 08.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,2.3s						
KURBB	**Kurchatov Arra**	**44.64**	**304**	P	**P**	**14 09 08.8**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=74,slow=8.8,SNR=15						
KURBB				pP	**pP**	**14 09 24.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=72,slow=8.9,SNR=3.5						
CMAR	**Chiang Mai Arr**	**45.72**	**252**	P	**P**	**14 09 17.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=46,slow=6.9,SNR=4.9						
INK	**Inuvik**	**47.88**	**30**	P	**P**	**14 09 34.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=297,slow=6.4,SNR=3.4						
AAK	**Ala-Archa**	**50.17**	**295**	P	**P**	**14 09 52.2**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**50.17**	**295**	P	**P**	**14 09 52.2**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=143,slow=5.1,SNR=3.8						
RES	**Resolute Bay**	**56.15**	**16**	P	**P**	**14 10 35.7**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=300,slow=8.1,SNR=7.4						
YKA	**Yellowknife Ar**	**57.33**	**33**	P	**P**	**14 10 44.6**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=302,slow=6.7,SNR=5.0						
YKA				pP	**pP**	**14 10 58.4**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=300,slow=6.7,SNR=3.7						
ARCES	**ARCESS Array B**	**59.35**	**339**	P	**P**	**14 10 58.3**	**-0.1**
	comp=Z,6.6nm,1.0s,baz=64,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**63.38**	**191**	P	**P**	**14 11 26.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=7.8,slow=6.8,SNR=3.3						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**14 11 34.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=41,slow=8.0,SNR=9.3						
ASAR	**Alice Springs**	**67.11**	**191**	P	**P**	**14 11 50.5**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=19,slow=6.0,SNR=5.1						
ASAR				pP	**pP**	**14 12 06.5**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=10,slow=5.7,SNR=3.0						
KBZ	**Khabaz**	**69.03**	**311**	P	**P**	**14 12 01.9**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**69.03**	**311**	P	**P**	**14 12 01.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=58,slow=6.5,SNR=4.3						
NVAR	**Mina Array Bea**	**69.38**	**56**	P	**P**	**14 12 05.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=286,slow=6.4,SNR=3.5						
NVAR				pP	**pP**	**14 12 21.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=304,slow=6.4,SNR=2.5						
NOA	**NORSAR Array B**	**69.67**	**338**	P	**P**	**14 12 05.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=33,slow=6.4,SNR=4.4						
AKASG	**Malin Array Be**	**71.17**	**323**	P	**P**	**14 12 14.6**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.17**	**323**	P	**P**	**14 12 14.6**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=40,slow=6.2,SNR=7.2						
PDAR	**Pinedale Array**	**71.65**	**48**	P	**P**	**14 12 18.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=328,slow=3.2,SNR=4.6						
CLL	**Collm**	**77.18**	**331**	*e*P	**P**	**14 12 49.0**	**-1.1**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**77.18**	**331**	*e*P	**P**	**14 12 49.0**	**-1.1**
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**78.97**	**330**	P	**P**	**14 13 00.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=40,slow=7.7,SNR=3.6						
TXAR	**Lajitas Array**	**84.44**	**55**	P	**P**	**14 13 29.8**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=298,slow=4.0,SNR=2.8						
TXAR				pP	**pP**	**14 13 45.6**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=306,slow=4.2,SNR=3.9						
H03N2	**Juan Fernandez**	**144.64**	**89**	T	T	17 01 58.3	
	baz=299,slow=75,SNR=8.3						
H03N3	**Ju

NLWA				*e*Sn	**Sn**	14 21 25.7	-1.5	
OOW	**Octopus West**	**4.94**	**40**	P	**Pn**	14 20 31.8	-0.7	
F04A	**Amboy**	**4.96**	**65**	*e*Pn	**Pn**	14 20 32.7	-0.1	
KHMM	**Horse Mountain**	**4.97**	**128**	*e*Pn	**Pn**	14 20 32.0	-0.9	
YBH	**Yreka Blue Hor**	**5.10**	**115**	Pn	**Pn**	14 20 34.1	-0.6	
YBH				Sn	**Sn**	14 21 33.0	-0.4	
YBH	**Yreka Blue Hor**	**5.10**	**115**	Pn	**Pn**	14 20 34.1	-0.6	
	0.6nm,0.3s,baz=223,slow=11,SNR=18							
YBH				Sn	**Sn**	14 21 33.0	-0.4	
	0.2nm,0.3s,baz=146,slow=11,SNR=2.8							
YBH				LR	LR	14 22 34.1		
	comp=Z,164nm,20.1s,baz=282,slow=39							
OBC	**Olympics--Boni**	**5.21**	**38**	P	**Pn**	14 20 35.3	-0.9	
TDH	**Tom, Dick, Har**	**5.22**	**74**	P	**Pn**	14 20 37.1	+0.7	
OSD	**Olympics--Snow**	**5.23**	**42**	P	**Pn**	14 20 35.8	-0.7	
TDL	**Tradedollar La**	**5.25**	**62**	P	**Pn**	14 20 37.2	+0.4	
VBEM	**Beaver Butte**	**5.32**	**77**	P	**Pn**	14 20 39.2	+1.5	
VLL	**Laurance Lake**	**5.33**	**72**	P	**Pn**	14 20 39.0	+1.1	
GULW	**Guler Mountain**	**5.51**	**68**	P	**Pn**	14 20 41.3	+1.0	
LON	**Longmire**	**5.67**	**59**	*e*Pn	**Pn**	14 20 41.0	-1.6	
LON				*e*Sn	**Sn**	14 21 46.3	-1.1	
D05A	**Enumclaw**	**5.77**	**55**	*e*Pn	**Pn**	14 20 43.2	-0.7	
PINOR	**Pine Mountain**	**5.80**	**90**	*e*Pn	**Pn**	14 20 43.5	-0.7	
	11nm,0.4s							
WDC	**Whiskeytown Da**	**5.85**	**124**	*e*Pn	**Pn**	14 20 44.2	-0.7	
PGC	**Sidney**	**5.95**	**37**	*e*Pn	**Pn**	14 20 44.4	-1.8	
JCW	**Jim Creek**	**6.37**	**47**	P	**Pn**	14 20 52.5	+0.5	
LTY	**Liberty**	**6.60**	**58**	*e*Pn	**Pn**	14 20 55.5	+0.3	
HOPS	**Hopland**	**6.68**	**137**	*e*Pn	**Pn**	14 20 56.4	+0.1	
I07A	**Izee**	**6.77**	**86**	*e*Pn	**Pn**	14 20 58.6	+1.0	
B06A	**Marblemount**	**6.81**	**46**	*e*Pn	**Pn**	14 20 58.4	+0.4	
A05A	**Maple Falls**	**6.82**	**41**	*e*Pn	**Pn**	14 20 58.4	+0.1	
VDB	**Vedder Mountai**	**6.83**	**41**	P	**Pn**	14 20 58.1	-0.3	
E07A	**Sunnyside**	**6.85**	**65**	*e*Pn	**Pn**	14 20 59.5	+0.8	
HAWA	**Hanford**	**7.01**	**67**	*e*Pn	**Pn**	14 20 58.9	-2.0	
G08A	**Pilot Rock**	**7.19**	**77**	*e*Pn	**Pn**	14 21 03.4	-0.1	
D08A	**Wollman Farm,**	**7.62**	**63**	*e*Pn	**Pn**	14 21 09.7	+0.5	
WVOR	**Wild Horse Val**	**7.66**	**99**	*e*Pn	**Pn**	14 21 08.9	-1.0	
BBB	**Bella Bella**	**8.16**	**3**	Pn	**Pn**	14 21 18.0	+1.5	
BBB	**Bella Bella**	**8.16**	**3**	Pn	**Pn**	14 21 18.0	+1.5	
	0.3nm,0.3s,baz=198,slow=13,SNR=3.7							
BBB				LR	LR	14 24 05.0		
	comp=Z,140nm,20.4s,baz=241,slow=36							
CMB	**Columbia Colle**	**8.80**	**130**	*e*Pn	**Pn**	14 21 25.0	-0.5	
	10nm,1.5s							
NEW	**Newport**	**9.19**	**59**	*e*Pn	**Pn**	14 21 28.1	-2.7	
NEW	**Newport**	**9.19**	**59**	Pn	**Pn**	14 21 29.9	-0.8	
	0.3nm,0.3s,baz=249,slow=12,SNR=7.6							
NEW				LR	LR	14 24 58.1		
	comp=Z,179nm,18.7s,baz=163,slow=38							
NVAR	**Mina Array Bea**	**9.75**	**122**	Pn	**Pn**	14 21 40.1	+1.4	
NVAR	**Mina Array Bea**	**9.75**	**122**	Pn	**Pn**	14 21 40.1	+1.4	
	0.1nm,0.3s,baz=302,slow=14,SNR=3.5							
HLID	**Hailey**	**10.48**	**88**	*e*Pn	**Pn**	14 21 48.2	-0.4	
	4.5nm,1.0s							
SLMT	**Seeley Lake**	**11.25**	**68**	*e*Pn	**Pn**	14 22 00.1	+1.0	
ISA	**Isabella**	**11.58**	**133**	*e*Pn	**Pn**	14 22 03.2	-0.4	
	1.9nm,1.3s							
CCUT	**Cedar City**	**13.43**	**114**	*e*Pn	Pn	14 22 32.2	+3.2	
PDAR	**Pinedale Array**	**14.12**	**88**	Pn	**Pn**	14 22 40.5	+2.1	
PDAR	**Pinedale Array**	**14.12**	**88**	Pn	**Pn**	14 22 40.4	+2.1	
	0.1nm,0.3s,baz=288,slow=12,SNR=4.6							
PFO	**Pinyon Flat Ob**	**14.22**	**133**	LR	LR	14 27 32.5		
	comp=Z,84nm,21.0s,baz=1.2,slow=35							
DLBC	**Dease Lake**	**14.42**	**358**	LR	LR	14 27 47.0		
	comp=Z,99nm,20.8s,baz=172,slow=36							
WUAZ	**Wupatki**	**15.92**	**116**	Pn	**Pn**	14 23 03.1	+0.8	
	10nm,1.2s							
LAZ	**Ladron**	**19.37**	**112**	Pn	**P**	14 23 44.3	+0.3	
	5.7nm,1.6s							
ANMO	**Albuquerque**	**19.51**	**110**	Pn	**P**	14 23 45.7	+0.1	
ANMO	**Albuquerque**	**19.51**	**110**	P	**P**	14 23 45.9	+0.3	
	0.1nm,0.3s,baz=328,slow=8.3,SNR=2.4							
YKA	**Yellowknife Ar**	**20.27**	**19**	P	**P**	14 23 52.6	-0.8	
YKA	**Yellowknife Ar**	**20.27**	**19**	P	**P**	14 23 52.6	-0.8	
	1.6nm,0.9s,baz=209,slow=10,SNR=15							
FFC	**Flin Flon**	**20.39**	**49**	*e*P	**P**	14 23 52.8	-2.0	
	7.6nm,1.3s							
ILAR	**Eielson Array**	**23.08**	**340**	P	**P**	14 24 22.8	-0.7	
ILAR	**Eielson Array**	**23.08**	**340**	P	**P**	14 24 22.8	-0.7	
	1.6nm,1.0s,baz=168,slow=8.5,SNR=9.0							
ILAR				LR	LR	14 31 48.9		
	comp=Z,82nm,19.2s,baz=359,slow=33							
ULM	**Lac du Bonnet**	**23.17**	**63**	P	**P**	14 24 24.8	+0.3	
ULM	**Lac du Bonnet**	**23.17**	**63**	P	**P**	14 24 24.8	+0.3	
	3.0nm,0.7s,baz=272,slow=11,SNR=5.0							
ECSD	**EROS Data Cent**	**23.19**	**79**	*e*P	**P**	14 24 24.8	0.0	
	7.1nm,1.0s							
INK	**Inuvik**	**24.44**	**356**	LR	LR	14 33 47.0		
	comp=Z,92nm,18.2s,baz=345,slow=36							
TXAR	**Lajitas Array**	**24.87**	**118**	P	**P**	14 24 42.0	+1.1	
TXAR	**Lajitas Array**	**24.87**	**118**	P	**P**	14 24 42.0	+1.1	
	0.5nm,0.7s,baz=310,slow=7.8,SNR=5.6							
WMOK	**Wichita Mounta**	**24.95**	**102**	*e*P	**P**	14 24 43.5	+2.0	
	30nm,1.9s							
SADO	**Sadowa**	**35.10**	**71**	LR	LR	14 40 48.4		
	comp=Z,164nm,19.6s,baz=232,slow=37							
TKL	**Tuckaleechee C**	**35.27**	**88**	LR	LR	14 40 39.1		
	comp=Z,148nm,18.4s,baz=256,slow=36							
H11N3	**WAKE ISLAND Hy**	**58.12**	**267**	T	T	15 31 43.4		
	baz=51,slow=75,SNR=1.38							
H11N2	**WAKE ISLAND Hy**	**58.12**	**267**	T	T	15 31 46.8		
	baz=51,slow=75,SNR=812							
H11N1	**WAKE ISLAND Hy**	**58.14**	**267**	T	T	15 31 48.0		
	baz=51,slow=75,SNR=724							
H11S1	**WAKE ISLAND Hy**	**59.05**	**266**	T	T	15 32 54.5		
	baz=48,slow=75,SNR=86							
H11S2	**WAKE ISLAND Hy**	**59.06**	**266**	T	T	15 32 54.1		
	baz=48,slow=75,SNR=105							
H11S3	**WAKE ISLAND Hy**	**59.07**	**266**	T	T	15 32 55.3		
	baz=48,slow=75,SNR=92							

*ISCJB **09** 14:24:36.7±0.6,39°.41N±0°.02×14°.58E±0°.03,h16km±5km, mb3.7/12,MS3.4/16,Error ellipse: s-maj=4.3km s-min=3.6km az=16.5*

*ROM **09** 14:24:37.4±0.2,39°.38N×14°.74E,h14km±3km,Ml3.8/26, Error ellipse: s-maj=3.7km s-min=1.9km az=102.0*

*CSEM **09** 14:24:37.9±0.2,39°.36N×14°.72E,h20km,ML3.8,Error ellipse: s-maj=4.7km s-min=3.8km az=78.0*

*LDG **09** 14:24:38.6±0.2,39°.28N×14°.79E,h15km,Ml4.0/4,Error ellipse: s-maj=6.9km s-min=4.7km az=67.0*

*IDC **09** 14:24:38.2±0.9,39°.68N×14°.50E,h0km,mb3.7/11, mb1 3.8/19,mb1mx3.7/35,mbtmp3.6/19,ML3.7/8,MS3.3/22, Ms1 3.4/22,ms1mx3.2/43,Error ellipse: s-maj=16.7km s-min=14.1km az=124.0*

ISC 09 14:24:37.4±1.2,39°.42N±0°.03×14°.68E±0°.03,h11km±8km, n154,σ1$43/159,mb3.8/12,MS3.3/16,1C-2D,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STR3	**STROMBOLI 3**	**0.75**	**145**	Pg	**Pg**	**14 24 52.0**	**0.0**
BULG	**Bulgheria - Ca**	**0.85**	**39**	Pg	**Pg**	**14 24 53.8**	**-0.1**
BULG	**Bulgheria - Ca**	**0.85**	**39**	Pg	**Pg**	**14 24 53.8**	**-0.1**
IACL	**Alicudi**	**0.92**	**196**	Pg	**Pb**	**14 24 54.2**	**-1.2**
	2μm,0.7s						
IACL	**Alicudi**	**0.92**	**196**	Pg	**Pb**	**14 24 54.2**	**-1.2**
	2μm,0.7s						
MGR	**Morigerati**	**0.98**	**43**	Pg	**Pb**	**14 24 55.6**	**-0.9**
MGR				Sg	**Sg**	**14 25 08.9**	**-0.4**
	4μm,0.9s						
MGR	**Morigerati**	**0.98**	**43**	Pg	**Pb**	**14 24 55.6**	**-0.9**
MGR				Sg	**Sg**	**14 25 08.9**	**-0.4**
	4μm,0.9s						
CMPR	**Campora**	**1.02**	**28**	Pg	**Pb**	**14 24 56.1**	**-1.1**
CMPR				Sg	**Sb**	**14 25 09.6**	**-1.0**
CMPR	**Campora**	**1.02**	**28**	Pg	**Pb**	**14 24 56.1**	**-1.1**
CMPR				Sg	**Sb**	**14 25 09.6**	**-1.0**
CUC	**Castrocucco**	**1.05**	**56**	Pg	**Pb**	**14 24 57.2**	**-0.4**
	3μm,0.7s						
CUC	**Castrocucco**	**1.05**	**56**	Pg	**Pb**	**14 24 57.2**	**-0.4**
	3μm,0.7s						
VPL	**Vulcano Piano**	**1.06**	**167**	Pg	**Pb**	**14 24 57.0**	**-0.9**
	5μm,1.5s						
VPL	**Vulcano Piano**	**1.06**	**167**	Pg	**Pb**	**14 24 57.0**	**-0.9**
	5μm,1.5s						
MMN	**Mormanno**	**1.12**	**65**	Pg	**Pb**	**14 24 58.0**	**-0.8**
	2μm,0.7s						
MMN	**Mormanno**	**1.12**	**65**	Pg	**Pb**	**14 24 58.0**	**-0.8**
	2μm,0.7s						
CDRU	**Civita di Ruta**	**1.17**	**24**	Pg	**Pb**	**14 24 58.3**	**-1.5**
	4μm,0.8s						
CDRU	**Civita di Ruta**	**1.17**	**24**	Pg	**Pb**	**14 24 58.3**	**-1.5**
	4μm,0.8s						
MTSN	**Montesano sull**	**1.18**	**44**	Pg	**Pb**	**14 24 59.3**	**-0.7**
	2μm,0.8s						
MTSN	**Montesano sull**	**1.18**	**44**	Pg	**Pb**	**14 24 59.3**	**-0.7**
	2μm,0.8s						
SIRI	**Monte Sirino -**	**1.19**	**50**	Pg	**Pb**	**14 24 59.4**	**-0.7**
	6μm,1.1s						
SIRI	**Monte Sirino -**	**1.19**	**50**	Pg	**Pb**	**14 24 59.4**	**-0.7**
	6μm,1.1s						
MSRU	**Castanea**	**1.32**	**150**	Pg	**Pn**	**14 24 59.9**	**-2.0**
	1μm,0.8s						
MSRU	**Castanea**	**1.32**	**150**	Pg	**Pn**	**14 24 59.9**	**-2.0**
	1μm,0.8s						
SCHR	**S. Chirico Rap**	**1.33**	**54**	Pg	**Pn**	**14 25 01.6**	**-0.4**
	4μm,1.5s						
SALB	**San Lorenzo Be**	**1.36**	**70**	Pg	**Pn**	**14 25 02.0**	**-0.6**
SALB	**San Lorenzo Be**	**1.36**	**70**	Pg	**Pn**	**14 25 02.0**	**-0.6**
OVO	**Vesuviano**	**1.43**	**351**	Pg	**Pg**	**14 25 05.0**	**+0.2**
OVO	**Vesuviano**	**1.43**	**351**	Pg	**Pg**	**14 25 05.0**	**+0.2**
OC9	**Casamicciola**	**1.46**	**336**	Pg	**Pg**	**14 25 06.1**	**+0.7**
OC9	**Casamicciola**	**1.46**	**336**	Pg	**Pg**	**14 25 06.1**	**+0.7**
MRLC	**Muro Lucano**	**1.47**	**25**	Pg	**Pb**	**14 25 04.3**	**-0.6**
MRLC	**Muro Lucano**	**1.47**	**25**	Pg	**Pb**	**14 25 04.3**	**-0.6**
GRI	**Girifalco**	**1.48**	**113**	Pg	**Pn**	**14 25 02.8**	**-1.2**
	852nm,0.4s						
GRI	**Girifalco**	**1.48**	**113**	Pg	**Pn**	**14 25 02.8**	**-1.2**
	852nm,0.4s						
CEL	**Celeste**	**1.49**	**140**	Pg	**Pn**	**14 25 02.5**	**-1.8**
	531nm,0.7s						
CEL	**Celeste**	**1.49**	**140**	Pg	**Pn**	**14 25 02.5**	**-1.8**
	531nm,0.7s						
ORI	**Oriolo Calabro**	**1.51**	**64**	Pg	**Pb**	**14 25 04.9**	**-0.6**
	3μm,0.9s						
ORI	**Oriolo Calabro**	**1.51**	**64**	Pg	**Pb**	**14 25 04.9**	**-0.6**
	3μm,0.9s						
MMME	**Mongiuffi-Meli**	**1.55**	**163**	Pg	**Pn**	**14 25 03.9**	**-1.1**
	531nm,0.7s						
MMME	**Mongiuffi-Meli**	**1.55**	**163**	Pg	**Pn**	**14 25 03.9**	**-1.1**
	531nm,0.7s						
SNAL	**S. Angelo Dei**	**1.56**	**15**	Pg	**Pn**	**14 25 05.1**	**-0.1**
SNAL	**S. Angelo Dei**	**1.56**	**15**	Pg	**Pn**	**14 25 05.1**	**-0.1**
SERS	**Sersale**	**1.60**	**103**	Pg	**Pn**	**14 25 05.1**	**-0.8**
	845nm,0.9s						
SERS	**Sersale**	**1.60**	**103**	Pg	**Pn**	**14 25 05.1**	**-0.8**
	845nm,0.9s						
MTTG	**Motta San Giov**	**1.62**	**150**	Pg	**Pn**	**14 25 04.6**	**-1.4**
	901nm,0.8s						
MTTG	**Motta San Giov**	**1.62**	**150**	Pg	**Pn**	**14 25 04.6**	**-1.4**
	901nm,0.8s						
TIP	**Timpagrande**	**1.63**	**98**	Pg	**Pn**	**14 25 05.6**	**-0.6**
	1μm,1.5s						
TIP	**Timpagrande**	**1.63**	**98**	Pg	**Pn**	**14 25 05.6**	**-0.6**
	1μm,1.5s						
CRAC	**Craco**	**1.65**	**54**	Pg	**Pg**	**14 25 08.2**	**-0.9**
	3μm,0.9s						
CRAC	**Craco**	**1.65**	**54**	Pg	**Pg**	**14 25 08.2**	**-0.9**
	3μm,0.9s						
CAFE	**Carife**	**1.66**	**15**	Pg	**Pn**	**14 25 06.7**	**0.0**
CAFE	**Carife**	**1.66**	**15**	Pg	**Pn**	**14 25 06.7**	**0.0**
ACER	**Acerenza**	**1.68**	**35**	Pg	**Pb**	**14 25 07.3**	**-1.1**
ACER	**Acerenza**	**1.68**	**35**	Pg	**Pb**	**14 25 07.3**	**-1.1**
PLAC	**Placanica**	**1.68**	**125**	Pg	**Pn**	**14 25 05.8**	**-1.0**
PLAC	**Placanica**	**1.68**	**125**	Pg	**Pn**	**14 25 05.8**	**-1.0**
VENT	**Ventotene**	**1.68**	**325**	Pg	**Pn**	**14 25 08.1**	**+1.3**
	2μm,1.0s						
VENT	**Ventotene**	**1.68**	**325**	Pg	**Pn**	**14 25 08.1**	**+1.3**
	2μm,1.0s						
SOI	**Samo**	**1.72**	**141**	Pg	**Pn**	**14 25 05.9**	**-1.4**
	1μm,1.5s						
SOI	**Samo**	**1.72**	**141**	Pg	**Pn**	**14 25 05.9**	**-1.4**
	1μm,1.5s						
MRB1	**Monte Rocchett**	**1.72**	**7**	Pg	**Pn**	**14 25 07.6**	**+0.2**
	9μm,1.4s						
MRB1	**Monte Rocchett**	**1.72**	**7**	Pg	**Pn**	**14 25 07.6**	**+0.2**
	9μm,1.4s						
MPAZ	**Palizzi**	**1.79**	**144**	Pg	**Pn**	**14 25 07.2**	**-1.2**
MPAZ	**Palizzi**	**1.79**	**144**	Pg	**Pn**	**14 25 07.2**	**-1.2**
MIGL	**Miglionico**	**1.80**	**48**	Pg	**Pb**	**14 25 09.9**	**-0.5**
	16μm,1.6s						
MIGL	**Miglionico**	**1.80**	**48**	Pg	**Pb**	**14 25 09.9**	**-0.5**
	16μm,1.6s						
PSB1	**Pescosannita**	**1.81**	**3**	Pg	**Pn**	**14 25 08.4**	**-0.2**
	6μm,1.8s						
PSB1	**Pescosannita**	**1.81**	**3**	Pg	**Pn**	**14 25 08.4**	**-0.2**
	6μm,1.8s						
PALZ	**Palazzo San Ge**	**1.81**	**32**	Pg	**Pn**	**14 25 08.8**	**+0.2**
PALZ	**Palazzo San Ge**	**1.81**	**32**	Pg	**Pn**	**14 25 08.8**	**+0.2**
IPES	**Pescosannita**	**1.82**	**4**	Pg	**Pn**	**14 25 08.5**	**-0.2**
MODR	**Mondragone**	**1.83**	**341**	Pg	**Pn**	**14 25 09.8**	**+0.9**
	1μm,0.8s						
MODR	**Mondragone**	**1.83**	**341**	Pg	**Pn**	**14 25 09.8**	**+0.9**
	1μm,0.8s						
MATE	**Matera**	**1.98**	**51**	Pg	**Pn**	**14 25 11.7**	**+0.8**
	1μm,0.8s						
MATE	**Matera**	**1.98**	**51**	Pg	**Pn**	**14 25 11.7**	**+0.8**
	1μm,0.8s						
MRVN	**Minervino Murg**	**2.01**	**35**	Pg	**Pn**	**14 25 10.9**	**-0.5**
MRVN	**Minervino Murg**	**2.01**	**35**	Pg	**Pn**	**14 25 10.9**	**-0.5**
CDT	**Castel del Mon**	**2.06**	**36**	*e*Pn	**Pn**	**14 25 12.2**	**+0.1**
CDT				*e*Sn	**Sn**	**14 25 37.1**	**-0.7**
AMUR	**Altamura**	**2.10**	**44**	Pg	**Pn**	**14 25 12.9**	**+0.4**
AMUR	**Altamura**	**2.10**	**44**	Pg	**Pn**	**14 25 12.9**	**+0.4**
AGST	**Augusta-Monte**	**2.20**	**169**	Pg	**Pn**	**14 25 13.8**	**-0.1**
	1μm,1.5s						
AGST	**Augusta-Monte**	**2.20**	**169**	Pg	**Pn**	**14 25 13.8**	**-0.1**
	1μm,1.5s						
NOCI	**Noci**	**2.28**	**52**	Pg	**Pn**	**14 25 15.0**	**-0.1**
NOCI	**Noci**	**2.28**	**52**	Pg	**Pn**	**14 25 15.0**	**-0.1**
TAR1	**Taranto**	**2.29**	**60**	*e*Pn	**Pn**	**14 25 15.2**	**+0.1**
TAR1				*e*Sn	**Sb**	**14 25 44.0**	**-3.0**
BAI	**Bari**	**2.38**	**44**	*e*Pn	**Pb**	**14 25 18.2**	**-2.2**
BAI				*e*Sn	**Sn**	**14 25 45.5**	**-0.1**
PE1	**Pezze di Greco**	**2.52**	**56**	*e*Pn	**Pn**	**14 25 19.3**	**+1.0**
PE1				*e*Sn	**Sn**	**14 25 45.8**	**-3.2**
STON	**Ston**	**4.14**	**32**	*i* Pn	**Pn**	**14 25 40.4**	**-0.2**
STON				Sn	**Sn**	**14 26 26.6**	**-2.2**
STON	**Ston**	**4.14**	**32**	*i* Pn	**Pn**	**14 25 40.3**	**-0.2**
STON				Sn	**Sn**	**14 26 26.6**	**-2.2**
NVLJ	**Novalja**	**5.14**	**2**	*i* Pn	**Pn**	**14 25 54.6**	**+0.2**
NVLJ				Sn	**Sn**	**14 26 49.7**	**-4.0**
NVLJ	**Novalja**	**5.14**	**2**	*i* Pn	**Pn**	**14 25 54.5**	**+0.2**
NVLJ				Sn	**Sn**	**14 26 49.7**	**-4.0**
UDBI	**Udbina**	**5.17**	**9**	*e*Pn	**Pn**	**14 25 57.0**	**+2.2**
UDBI	**Udbina**	**5.17**	**9**	*e*Pn	**Pn**	**14 25 57.0**	**+2.2**
PGF	**Pioggiola**	**5.32**	**308**	*e*Pn	**Pn**	**14 25 56.4**	**-0.5**
PGF				*e*Sn	**Sn**	**14 26 53.6**	**-4.6**
	65nm,0.4s						
PGF	**Pioggiola**	**5.32**	**308**	*e*Pn	**Pn**	**14 25 56.4**	**-0.5**
PGF				*e*Sn	**Sn**	**14 26 53.6**	**-4.6**
	32nm,0.4s						
KEST	**Kesra**	**5.61**	**231**	Pn	**Pn**	**14 26 02.5**	**+1.6**
	1.5nm,0.3s,baz=324,slow=5.5,SNR=26						
KEST				Sn	**Sn**	**14 27 04.7**	**-0.7**
	baz=66,slow=20,SNR=2.1						
KEST				LR	LR	14 28 27.5	
	comp=Z,163nm,19.3s,baz=360,slow=40						
SBF	**Sospel**	**7.01**	**312**	*e*Pn	**Pn**	**14 26 19.1**	**-1.0**
SBF				*e*Sn	**Sn**	**14 27 34.7**	**-5.1**
	27nm,0.4s						
SBF	**Sospel**	**7.01**	**312**	*e*Pn	**Pn**	**14 26 19.1**	**-1.0**
OBKA	**Obir**	**7.09**	**359**	*i*/Pn	**Pn**	**14 26 21.1**	**-0.1**
OBKA	**Obir**	**7.09**	**359**	Pn	**Pn**	**14 26 21.1**	**-0.1**
SOKA	**Soboth**	**7.26**	**2**	*i*/Pn	**Pn**	**14 26 23.5**	**0.0**
SOKA	**Soboth**	**7.26**	**2**	Pn	**Pn**	**14 26 23.5**	**0.0**
LMR	**La Mourre**	**7.28**	**305**	*e*Pn	**Pn**	**14 26 21.3**	**-2.5**
LMR				*e*Sn	Sn	14 27 39.5	-6.9
	21nm,0.4s						
LMR	**La Mourre**	**7.28**	**305**	*e*Pn	**Pn**	**14 26 21.3**	**-2.5**
ARSA	**Arzberg**	**7.85**	**4**	*e*Pn	**Pn**	**14 26 31.9**	**+0.3**
MBDF	**Montbardon**	**7.92**	**315**	*e*Pn	**Pn**	**14 26 33.7**	**+1.1**
MBDF				*e*Sn	**Sn**	**14 27 58.8**	**-3.5**
	7.2nm,0.5s						
MBDF	**Montbardon**	**7.92**	**315**	*e*Pn	**Pn**	**14 26 33.7**	**+1.1**
DAVOX	**Davos/Dischmat**	**8.15**	**336**	Pn	**Pn**	**14 26 37.3**	**+1.4**
	0.3nm,0.3s,baz=166,slow=12,SNR=4.0						
SMRF	**Simiane la Rot**	**8.19**	**307**	*e*Pn	**Pn**	**14 26 36.4**	**+0.1**
SMRF	**Simiane la Rot**	**8.19**	**307**	*e*Pn	**Pn**	**14 26 36.4**	**+0.1**
RJOB	**Jochberg**	**8.43**	**351**	*e*Pn	**Pn**	**14 26 40.6**	**+1.1**
ORIF	**Oris-en-Rattie**	**8.54**	**313**	*e*Pn	**Pn**	**14 26 42.1**	**+1.0**
ORIF	**Oris-en-Rattie**	**8.54**	**313**	*e*Pn	**Pn**	**14 26 42.1**	**+1.0**
CONA	**Conrad Observa**	**8.55**	**5**	*i*/Pn	**Pn**	**14 26 41.2**	**0.0**
CONA	**Conrad Observa**	**8.55**	**5**	Pn	**Pn**	**14 26 41.2**	**0.0**
LASF	**Ste Croix**	**9.33**	**303**	*e*Pn	**Pn**	**14 26 49.8**	**-2.1**
LASF	**Ste Croix**	**9.33**	**303**	*e*Pn	**Pn**	**14 26 49.8**	**-2.1**
GEC2	**GERESS Array S**	**9.45**	**356**	*e*Pn	**Pn**	**14 26 53.6**	**0.0**
GERES	**GERESS Array B**	**9.45**	**356**	Pn	**Pn**	**14 26 53.0**	**-0.6**
	1.3nm,0.3s,baz=173,slow=14,SNR=35						
GERES				Sn	Sn	14 28 33.2	-6.6
	0.3nm,0.3s,baz=168,slow=23,SNR=3.5						
CABF	**La Chapelle**	**9.55**	**322**	*e*Pn	**Pn**	**14 26 57.6**	**+2.7**
CABF	**La Chapelle**	**9.55**	**322**	*e*Pn	**Pn**	**14 26 57.6**	**+2.7**
KHC	**Kasperske Hory**	**9.74**	**356**	*e*PN	**Pn**	**14 26 57.2**	**-0.3**
WET	**Wettzell**	**9.81**	**353**	*e*Pn	**Pn**	**14 27 00.3**	**+1.9**
VRAC	**Vranov**	**9.98**	**7**	LR	LR	14 31 11.5	
	comp=Z,133nm,20.3s,baz=199,slow=40						
MLR	**Muntele Rosu**	**10.30**	**50**	Pn	Pn	14 27 09.0	+3.8
	0.0nm,0.3s,baz=180,slow=15,SNR=4.2						
MLR				LR	LR	14 31 29.5	
	comp=Z,83nm,19.3s,baz=263,slow=40						
BGF	**Bois d'Agland**	**11.22**	**313**	*e*Pn	**Pn**	**14 27 17.8**	**+0.1**
BGF	**Bois d'Agland**	**11.22**	**313**	*e*Pn	**Pn**	**14 27 17.8**	**+0.1**
ESDC	**Sonseca Array**	**14.39**	**277**	Pn	**Pn**	**14 28 00.7**	**-0.4**
	0.3nm,0.3s,baz=84,slow=14,SNR=6.5						
ESDC				LR	LR	14 33 09.4	
	comp=Z,210nm,18.3s,baz=90,slow=36						
BRTR	**Keskin Array B**	**14.63**	**83**	Pn	**P**	**14 28 09.7**	**-1.1**
	0.1nm,0.3s,baz=270,slow=16,SNR=3.7						
BRTR				LR	LR	14 34 33.1	
	comp=Z,124nm,18.5s,baz=274,slow=40						
AKASG	**Malin Array Be**	**15.23**	**37**	Pn	**Pn**	**14 28 11.5**	**-0.8**
	0.3nm,0.3s,baz=235,slow=9.2,SNR=2.8						
MDT	**Midelt**	**16.91**	**253**	Pn	**P**	**14 28 36.6**	**+0.4**
	0.1nm,0.3s,baz=72,slow=6.4,SNR=2.5						
MMAI	**Mount Meron Ar**	**17.88**	**105**	LR	LR	14 37 36.5	
	comp=Z,57nm,18.4s,baz=325,slow=43						
EKA	**Eskdalemuir Ar**	**19.89**	**329**	P	**P**	**14 29 08.3**	**-0.3**
	baz=120,slow=12,SNR=3.1						
OBN	**Obninsk**	**21.47**	**36**	P	**P**	**14 29 27.2**	**+1.5**
	9.6nm,0.4s,baz=264,slow=18,SNR=3.6						
KBZ	**Khabaz**	**21.50**	**69**	P	**P**	**14 29 29.0**	**+2.9**
	3.0nm,0.8s,baz=288,slow=12,SNR=4.4						
KBZ				LR	LR	14 40 09.3	
	comp=Z,44nm,18.4s,baz=244,slow=43						
NB2	**NORSAR Subarra**	**21.75**	**355**	P	**P**	**14 29 30.9**	**+2.1**
	comp=Z,5.9nm,1.1s,baz=171,slow=10						
NB2	**NORSAR Subarra**	**21.75**	**355**	P	**P**	**14 29 30.9**	**+2.1**
	comp=Z,5.9nm,1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.88**	**234**	*eP*	**Pb**	**15 47 48.5**	**-1.4**
MKZ				S	**Sb**	**15 47 58.4**	**-2.9**
KBTR	**Krutoberegovo**	**1.14**	**356**	*eP*	**Pg**	**15 47 55.6**	**+0.6**
KBTR				*eS*	**Sg**	**15 48 11.1**	**+1.2**
KZV	**Kizimen**	**1.53**	**272**	*eP*	**Pn**	**15 47 59.1**	**-0.7**
KZV				S	**Sn**	**15 48 17.6**	**-1.7**
BZGR	**Bezymyannyi-Gr**	**1.55**	**305**	P	**Pn**	**15 48 00.2**	**+0.2**
TUMR	**Tumrok**	**1.63**	**278**	*eP*	**Pn**	**15 48 01.3**	**+0.3**
TUMR				*eS*	**Sn**	**15 48 20.6**	**-1.0**
KMNR	**Kamenistaya**	**1.69**	**295**	*eP*	**Pn**	**15 48 02.6**	**+0.7**
KMNR				*eS*	**Sn**	**15 48 23.2**	**-0.1**
SMKR	**Semkarok**	**1.73**	**331**	P	**Pn**	**15 48 03.6**	**+1.2**
SMKR				S	**Sn**	**15 48 24.7**	**+0.6**
BKI	**Bering**	**1.73**	**85**	*i* P	**Pb**	**15 48 03.9**	**-0.5**
BKI				*i* S	**Sb**	**15 48 25.3**	**-0.5**
BDR	**Baidarnaya**	**1.79**	**327**	P	**Pn**	**15 48 04.2**	**+0.9**
BDR				S	**Sn**	**15 48 25.6**	**-0.1**
KPT	**Kopyto**	**1.79**	**301**	P	**Pn**	**15 48 04.2**	**+0.9**
KLY	**Klyuchi**	**1.80**	**314**	P	**Pn**	**15 48 03.1**	**-0.2**
KLY				S	**Sn**	**15 48 23.8**	**-1.9**
SRKR	**Sorokina**	**1.88**	**328**	P	**Pn**	**15 48 04.0**	**-0.4**
SRKR				S	**Sn**	**15 48 25.7**	**-2.0**
KOZ	**Kozyrevsk**	**2.01**	**301**	P	**Pn**	**15 48 06.9**	**+0.7**
KOZ				S	**Sn**	**15 48 30.6**	**-0.3**
SRDR	**Sredinnyy**	**2.22**	**305**	P	**Pn**	**15 48 10.7**	**+1.6**
SRDR				S	**Sn**	**15 48 37.3**	**+1.2**
ESO	**Esso**	**2.57**	**291**	*i* P	**Pn**	**15 48 14.0**	**+0.1**
ESO				*eS*	**Sn**	**15 48 42.5**	**-2.2**
SPN	**Mys Shipunskii**	**2.63**	**222**	S	**Sn**	**15 48 44.4**	**-1.8**
SDLR	**Sedlovina**	**3.00**	**235**	P	**Pn**	**15 48 20.7**	**+0.8**
SDLR				*eS*	**Sn**	**15 48 54.0**	**-1.4**
KRER	**Koryakskii**	**3.04**	**236**	P	**Pn**	**15 48 21.8**	**+1.2**
KRER				S	**Sn**	**15 48 56.7**	**0.0**
SMAR	**Somma**	**3.05**	**235**	P	**Pn**	**15 48 21.7**	**+1.1**
KRX	**Arik**	**3.06**	**238**	P	**Pn**	**15 48 22.4**	**+1.7**
KRX				S	**Sn**	**15 48 57.0**	**0.0**
UGLR	**Uglovaya**	**3.07**	**234**	P	**Pn**	**15 48 22.6**	**+1.8**
UGLR				S	**Sn**	**15 48 58.3**	**+1.1**
AVH	**Avacha**	**3.07**	**236**	P	**Pn**	**15 48 22.3**	**+1.4**
AVH				*eS*	**Sn**	**15 48 57.3**	**+0.1**
KOK	**Koryaka**	**3.11**	**237**	P	**Pn**	**15 48 22.5**	**+1.2**
KOK				S	**Sn**	**15 48 57.8**	**-0.3**
GNL	**Ganaly**	**3.24**	**247**	*eP*	**Pn**	**15 48 24.3**	**+1.1**
PET	**Petropavlovsk**	**3.27**	**233**	*eP*	**Pn**	**15 48 25.1**	**+1.7**
PET				*eS*	**Sn**	**15 49 02.0**	**+0.2**
PETK	**Petropavlovsk-** 3.0nm,0.3s,baz=65,slow=18,SNR=47	**3.67**	**240**	Pn	**Pn**	**15 48 29.6**	**+0.6**
PETK				Sn	**Sn**	**15 49 15.3**	**+3.5**
	0.7nm,0.3s,baz=76,slow=20,SNR=2.8						
RUS	**Russkaya**	**3.74**	**227**	P	**Pn**	**15 48 30.2**	**+0.3**
MTVR	**Mutnovka**	**3.84**	**229**	P	**Pn**	**15 48 33.3**	**+1.8**
MTVR				S	**Sn**	**15 49 17.0**	**+0.7**
ASAK	**Asacha**	**4.04**	**230**	P	**Pn**	**15 48 37.0**	**+2.9**
ASAK				S	**Sn**	**15 49 22.8**	**+1.8**
MIPR	**Malaya Ipel'ka**	**4.63**	**235**	P	**Pn**	**15 48 42.8**	**+0.6**
FX1	**Attu Island--F** 2.1nm,0.3s,baz=326,slow=15,SNR=14	**6.41**	**106**	Pn	**Pn**	**15 49 07.2**	**+0.7**
FX1				Sn	**Sn**	**15 50 15.3**	**-3.9**
	2.3nm,0.3s,baz=134,slow=17,SNR=11						
MJAR	**Matsushiro Arr** 1.8nm,1.0s,baz=4.7,slow=10,SNR=4.3	**25.10**	**233**	P	**P**	**15 52 56.8**	**+0.1**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=272,slow=9.0,SNR=5.6	**26.22**	**48**	P	**P**	**15 53 07.6**	**+1.0**
H11N2	**WAKE ISLAND Hy** baz=356	**35.41**	**174**	T	T	16 31 57.1	
H11N3	**WAKE ISLAND Hy** baz=356	**35.43**	**174**	T	T	16 31 58.8	
H11N1	**WAKE ISLAND Hy** baz=356	**35.43**	**174**	T	T	16 31 57.8	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=45,slow=7.6,SNR=2.0	**48.81**	**296**	P	**P**	**15 56 17.2**	**+0.2**
FINES	**FINESS Array B** 1.6nm,0.9s,baz=33,slow=8.3,SNR=3.3	**58.95**	**337**	P	**P**	**15 57 29.6**	**-1.2**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=14,slow=5.4,SNR=4.0	**82.28**	**207**	P	**P**	**15 59 54.4**	**+1.2**

*IDC **09** 16:15:32.9±1.6,8°.32S×117°.95E,h0km,mb3.9/6, mb1 3.9/7,mb1mx3.7/21,mbtmp3.8/7,ML3.8/1,MS3.7/1, Ms1 3.9/1,ms1mx2.7/30,Error ellipse: s-maj=84.7km s-min=13.0km az=56.0*

*ISCJB **09** 16:15:39.3±0.6,8°.11S±0°.07×118°.65E±0°.06,h33km, mb3.9/6,MS3.6/1,Error ellipse: s-maj=10.2km s-min=7.3km az=34.6*

*DJA **09** 16:15:41.5±0.4,8°.5S±5°×111°.8E±°,h10km,M4.3/7,MLv4.3/7*

ISC 09 16:15:40.2±0.8,8°.05S±0°.08×118°.49E±0°.08,h35km,n22, σ1°53/14,mb3.9/6,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.45**	**107**	P	x	16 16 08.1	
MTNI	**Mataram**	**2.37**	**256**	P	x	16 16 20.7	
WSI	**Waingapu**	**2.41**	**132**	P	Pn	16 16 24.2	+7.1
WSI	**Waingapu** baz=2.6,SNR=9.7	**2.41**	**132**	P	Pn	16 16 21.6	+4.4
KHKI	**Kahang-Kahang**	**2.87**	**264**	P	x	16 16 41.8	
BKSI	**Bulukumba**	**3.16**	**31**	P	**Pn**	**16 16 28.2**	**+0.7**
BNSI	**Bone**	**3.96**	**24**	P	**Pn**	**16 16 41.4**	**+2.8**
ABJI	**Asem Bagus**	**4.22**	**273**	P	**Pn**	**16 16 43.5**	**+1.4**
JAGI	**Jajag, Banyuwa** baz=4.1,SNR=37	**4.31**	**264**	P	Pn	16 16 39.0	-4.3
BLJI	**Banyuglugur**	**4.86**	**273**	P	Pn	16 16 54.4	+3.6
KNRA	**Kununurra** baz=13,SNR=7.6	**12.59**	**128**	P	**Pn**	**16 18 38.0**	**+1.1**
MTN	**Manton Dam** baz=14,SNR=8.1	**13.32**	**112**	P	**Pn**	**16 18 46.5**	**-0.4**
MEEK	**Meekatharra** baz=19,SNR=7.7	**18.49**	**180**	P	**Pn**	**16 19 55.9**	**+2.2**
WRKA	**Warakurna** baz=20,SNR=8.3	**19.32**	**152**	P	**Pn**	**16 20 03.4**	**-0.3**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=304,slow=12,SNR=16	**19.38**	**129**	P	**P**	**16 20 02.8**	**-0.5**
WRA				S	S	16 23 32.1	-8.5
	0.1nm,0.3s,baz=305,slow=23,SNR=3.0						
ASAR	**Alice Springs** 3.4nm,0.6s,baz=312,slow=9.4,SNR=47	**21.44**	**138**	P	**P**	**16 20 25.0**	**-0.5**
ASAR				S	Sn	16 24 26.1	-4.4
	0.4nm,0.6s,baz=310,slow=24,SNR=5.7						
STKA	**Stephens Creek** 4.3nm,1.1s,baz=318,slow=11,SNR=4.5	**32.01**	**141**	P	**P**	**16 22 02.5**	**-0.9**
CMAR	**Chiang Mai Arr** comp=Z,113nm,18.3s,baz=96,slow=42	**32.64**	**324**	LR	LR	16 38 25.1	
KSRS	**Korea Array** 1.7nm,1.0s,baz=187,slow=9.7,SNR=5.2	**46.12**	**10**	P	**P**	**16 24 01.8**	**+0.7**
SONM	**Songino Array** 0.3nm,0.4s,baz=163,slow=7.5,SNR=4.4	**56.66**	**350**	P	**P**	**16 25 19.2**	**-0.8**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=157,slow=7.6,SNR=6.9	**63.38**	**333**	P	**P**	**16 26 04.3**	**-1.8**
ZALV	**Zalesovo Beam** 1.2nm,0.7s,baz=116,slow=6.7,SNR=7.2	**67.98**	**339**	P	**P**	**16 26 33.8**	**-1.8**

*NIED **09** 16:31:00,42°.70N×143°.20E,h160km,Mw3.9 Best double couple: M0 9.38000×10^14 NP1:φ=67.00000°, δ17.00000°,λ-120.00000°. NP2:φ=278.00000°, δ76.00000°,λ-82.00000°.*

*MOS **09** 16:31:28.7±0.9,42°.57N×143°.18E,h50km,mb4.4/13,Error ellipse: s-maj=25.9km s-min=13.3km az=101.1*

*ISCJB **09** 16:31:36.9±0.3,42°.64N±0°.03×143°.17E±0°.04, h120km±2km,mb3.9/21,Error ellipse: s-maj=6.2km s-min=4.6km az=136.5*

*IDC **09** 16:31:38.3±1.2,42°.63N×143°.19E,h118km±8km,mb3.6/18, mb1 3.7/21,mb1mx3.6/32,mbtmp3.5/21,Error ellipse: s-maj=14.2km s-min=12.0km az=129.0*

*JMA **09** 16:31:39.1±0.1,42°.68N×143°.16E,h103km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φ=84.00000°,δ87.00000°,λ97.00000°. NP2:φ=195.00000°, δ7.00000°,λ21.00000°. Principal axes: T Plg47.0000°, Azm1.0000°; N Plg7.0000°, Azm264.0000°; P Plg42.0000°, Azm168.0000°;*

JMA Felt II J1.

ISC 09 16:31:37.9±0.6,42°.64N±0°.04×143°.17E±0°.04,h114km±5km, n62,σ0°63/74,mb3.8/21,4C-11D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.15**	**101**	⇑P	**Pn**	**16 31 53.5**	**-0.1**
JCH				*eS*	**Sn**	**16 32 04.3**	**-1.2**
JNBK	**Urakawa-nobuka**	**0.47**	**220**	⇑P	**Pn**	**16 31 55.7**	**+0.7**
JNBK				*eS*	**Sn**	**16 32 08.5**	**+0.6**
JOB	**Onbets**	**0.56**	**62**	⇓P	**Pn**	**16 31 56.1**	**+0.6**
JOB				*eS*	**Sn**	**16 32 08.9**	**+0.1**
JBT2	**Biratori 2**	**0.61**	**283**	⇓P	**Pn**	**16 31 56.1**	**+0.2**
JBT2				*eS*	**Sn**	**16 32 09.2**	**-0.3**
JEM	**Erimo**	**0.63**	**181**	⇑P	**Pn**	**16 31 56.8**	**+0.7**
JEM				*eS*	**Sn**	**16 32 10.7**	**+1.0**
JFR	**Furan**	**0.67**	**321**	⇓P	**Pn**	**16 31 56.0**	**-0.4**
JFR				*eS*	**Sn**	**16 32 09.3**	**-1.1**
JAR	**Ashorobuto**	**0.79**	**34**	⇓P	**Pn**	**16 31 57.6**	**+0.2**
JAR				*eS*	**Sn**	**16 32 11.7**	**-0.4**
JAB	**Ashibetsu**	**1.10**	**322**	⇓P	**Pn**	**16 32 00.6**	**+0.1**
JAB				*eS*	**Sn**	**16 32 17.7**	**+0.1**
JAK	**Akkeshi**	**1.18**	**72**	⇓P	**Pn**	**16 32 01.4**	**+0.2**
JAK				*eS*	**Sn**	**16 32 18.5**	**-0.4**
JKK2	**Kamakawa 2**	**1.27**	**346**	⇓P	**Pn**	**16 32 02.5**	**+0.2**
JEW	**Eniwo**	**1.28**	**279**	⇓P	**Pn**	**16 32 02.7**	**+0.3**
JEW				*eS*	**Sn**	**16 32 20.9**	**-0.1**
JMP	**Maruseppu**	**1.37**	**6**	P	**Pn**	**16 32 04.0**	**+0.6**
JMP				*eS*	**Sn**	**16 32 23.4**	**+0.5**
JTKR	**Abashiri--Toko**	**1.43**	**22**	⇓P	**Pn**	**16 32 04.4**	**+0.3**
JTKR				*eS*	**Sn**	**16 32 24.2**	**+0.2**
JNK	**Nakash**	**1.48**	**50**	⇓P	**Pn**	**16 32 04.7**	**+0.1**
JNK				*eS*	**Sn**	**16 32 24.6**	**-0.4**
JHR	**Hokuryu**	**1.52**	**317**	⇓P	**Pn**	**16 32 05.8**	**+0.6**
JHR				*eS*	**Sn**	**16 32 26.8**	**+0.8**
ASAJ	**Asahikawa** 66nm,0.3s,baz=199,slow=9.5,SNR=634	**1.53**	**344**	P	**Pn**	**16 32 06.0**	**+0.8**
ASAJ				S	**Sn**	**16 32 27.6**	**+1.5**
	20nm,0.3s,baz=114,slow=19,SNR=13						
JKB	**Kayabe**	**1.75**	**245**	P	**Pn**	**16 32 07.5**	**-0.5**
JKB				*eS*	**Sn**	**16 32 29.0**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**2.41**	**54**	*c i* PN	**Pn**	**16 32 17.3**	**+1.1**
YUK				pmax	pmax		
	comp=N,79nm,0.2s						
YUK				pmax	pmax		
	comp=E,100nm,0.2s						
YUK				pmax	pmax		
	comp=Z,468nm,0.2s						
MAT	**Matsushiro**	**7.20**	**214**	P	**Pn**	**16 33 21.2**	**+0.8**
MAT				*eS*	**Sn**	**16 34 42.0**	**+1.4**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.3s,baz=26,slow=12,SNR=23	**7.20**	**214**	P	**Pn**	**16 33 20.9**	**+0.4**
MJAR				S	Sn	16 34 56.7	+16
	comp=Z,0.6nm,0.3s,baz=87,slow=17,SNR=3.1						
USRK	**Ussuriysk Arra** comp=Z,0.0nm,0.3s,baz=106,slow=15,SNR=2.8	**8.29**	**285**	P	**Pn**	**16 33 35.6**	**+0.5**
PETK	**Petropavlovsk-**	**14.28**	**38**	P	**Pn**	**16 34 54.2**	**-0.4**
PETK	**Petropavlovsk-** comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=12	**14.28**	**38**	P	**Pn**	**16 34 54.2**	**-0.4**
SEY	**Seymchan**	**21.03**	**12**	P	**P**	**16 36 10.7**	**-1.5**
SEY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SEY	**Seymchan** comp=Z,5.5nm,0.5s,baz=191,slow=9.9,SNR=38	**21.03**	**12**	P	**P**	**16 36 10.7**	**-1.5**
H11N2	**WAKE ISLAND Hy** baz=328,slow=76,SNR=74	**30.37**	**131**	T	T	17 09 24.8	
H11N1	**WAKE ISLAND Hy** baz=328,slow=76,SNR=47	**30.38**	**131**	T	T	17 09 22.0	
H11N3	**WAKE ISLAND Hy** baz=328,slow=76,SNR=52	**30.38**	**131**	T	T	17 09 26.1	
H11S1	**WAKE ISLAND Hy** baz=330,slow=76,SNR=64	**31.25**	**133**	T	T	17 10 30.3	
H11S3	**WAKE ISLAND Hy** baz=330,slow=76,SNR=50	**31.25**	**133**	T	T	17 10 28.2	
H11S2	**WAKE ISLAND Hy** baz=330,slow=76,SNR=52	**31.27**	**133**	T	T	17 10 27.8	
ZALV	**Zalesovo Beam**	**39.35**	**307**	P	**P**	**16 38 55.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.3s,baz=92,slow=9.2,SNR=18	**39.35**	**307**	P	**P**	**16 38 55.7**	**0.0**
MKAR	**Makanchi Array**	**42.51**	**297**	P	**P**	**16 39 21.8**	**0.0**
MKAR						16 41 12.5	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array** comp=Z,2.2nm,0.6s,baz=79,slow=9.6,SNR=20	**42.51**	**297**	P	**P**	**16 39 21.8**	**0.0**
MKAR				PcP	**PcP**	**16 41 12.5**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=70,slow=5.7,SNR=2.7						
KURK	**Kurchatov**	**43.73**	**304**	P	**P**	**16 39 32.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KURBB	**Kurchatov Arra** comp=Z,5.4nm,0.5s,baz=71,slow=8.8,SNR=30	**43.81**	**304**	P	**P**	**16 39 32.3**	**+0.2**
ILAR	**Eielson Array** comp=Z,0.6nm,0.4s,baz=270,slow=7.2,SNR=16	**44.09**	**35**	P	**P**	**16 39 34.2**	**0.0**
BVAR	**Borovoye Array**	**47.94**	**309**	P	**P**	**16 40 05.0**	**+0.4**
BVAR						16 41 31.4	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array** comp=Z,1.7nm,0.4s,baz=74,slow=8.5,SNR=19	**47.94**	**309**	P	**P**	**16 40 05.0**	**+0.4**
BVAR				PcP	**PcP**	**16 41 31.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=66,slow=4.9,SNR=2.6						
INK	**Inuvik** comp=Z,0.4nm,0.3s,baz=287,slow=9.2,SNR=8.4	**48.81**	**29**	P	**P**	**16 40 11.4**	**+0.5**
AKTO	**Akkubinsk**	**56.03**	**310**	P	**P**	**16 41 04.9**	**+0.4**
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.4s,baz=79,slow=11,SNR=3.8	**56.03**	**310**	P	**P**	**16 41 04.9**	**+0.4**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.5s,baz=306,slow=6.7,SNR=11	**58.31**	**32**	P	**P**	**16 41 20.4**	**0.0**
YKA				pP	**pP**	**16 41 48.7**	**+0.8**
	comp=Z,0.1nm,0.2s,baz=305,slow=6.7,SNR=5.3						
KEV	**Kevo**	**58.70**	**339**	*eP*	**P**	**16 41 22.7**	**-0.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo** comp=Z,1.1nm,0.3s	**58.70**	**339**	*ep*	**P**	**16 41 22.7**	**-0.2**
ARCES	**ARCESS Array B** comp=Z,2.2nm,0.7s,baz=54,slow=9.1,SNR=5.9	**59.24**	**339**	P	**P**	**16 41 26.8**	**+0.1**
JOF	**Joensuu**	**61.68**	**331**	*eP*	**P**	**16 41 43.4**	**+0.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu** comp=Z,1.0nm,0.3s	**61.68**	**331**	*ep*	**P**	**16 41 43.4**	**+0.1**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.8s,baz=7.5,slow=6.9,SNR=7.7	**62.80**	**189**	P	**P**	**16 41 51.0**	**-0.2**
FINES	**FINESS Array B** comp=Z,2.2nm,0.4s,baz=51,slow=7.3,SNR=46	**64.50**	**332**	P	**P**	**16 42 01.6**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.5nm,0.9s,baz=2.6,slow=6.1,SNR=3.9	**66.53**	**189**	P	**P**	**16 42 14.9**	**-0.5**
ASAR				pP	**PcP**	**16 42 44.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=17,slow=6.8,SNR=4.7						
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.5s,baz=34,slow=6.5	**69.54**	**337**	P	**P**	**16 42 33.5**	**-0.4**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.7s,baz=36,slow=6.1,SNR=4.8	**69.54**	**337**	P	**P**	**16 42 33.6**	**-0.2**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=305,slow=6.4,SNR=2.4	**70.62**	**55**	P	**P**	**16 42 41.3**	**+0.2**
AKASG	**Malin Array Be**	**70.70**	**322**	P	**P**	**16 42 40.7**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be** comp=Z,0.8nm,0.5s,baz=41,slow=6.2,SNR=8.9	**70.70**	**322**	P	**P**	**16 42 40.7**	**-0.3**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=354,slow=2.7,SNR=7.1	**72.83**	**47**	P	**P**	**16 42 54.7**	**+0.4**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=290,slow=3.7,SNR=3.1	**85.67**	**54**	P	**P**	**16 44 03.9**	**-0.2**
H03N2	**Juan Fernandez** baz=316	**145.89**	**89**	T	T	19 34 12.9	
H03N3	**Juan Fernandez** baz=316	**145.91**	**89**	T	T	19 34 12.3	
H03N1	**Juan Fernandez** baz=316	**145.91**	**89**	T	T	19 34 12.3	

*NIED **09** 16:44:00,34°.60N×137°.60E,h20km,Mw4.1 Best double couple: M0 1.50000×10^15 NP1:φ=5.00000°,δ77.00000°, λ-9.00000°. NP2:φ=97.00000°,δ81.00000°,λ-167.00000°.*

*ISCJB **09** 16:44:48.4±0.3,34°.56N±0°.03×137°.61E±0°.04,h37km±4km, mb3.6/12,MS2.8/1,Error ellipse: s-maj=6.8km s-min=4.5km az=39.0*

*JMA **09** 16:44:49.3,34°.56N×137°.61E,h26km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φ=272.00000°,δ88.00000°,λ155.00000°. NP2:φ=3.00000°, δ65.00000°,λ2.00000°. Principal axes: T Plg19.0000°, Azm224.0000°; N Plg65.0000°, Azm87.0000°; P Plg16.0000°, Azm320.0000°;*

JMA Felt III J1.

*IDC **09** 16:44:57.6±2.0,35°.21N×137°.36E,h69km±18km,mb3.4/11, mb1 3.5/14,mb1mx3.4/31,mbtmp3.4/14,MS2.9/2, Ms1 2.9/2,ms1mx2.5/21 Error ellipse: s-maj=18.3km s-min=16.9km az=33.0*

ISC 09 16:44:48.7±0.9,34°.56N±0°.03×137°.65E±0°.03,h31km±6km, n34,σ1°26/41,mb3.8/12,8C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK04	**Tokai 4**	**0.26**	**133**	⇓P	**Pb**	**16 44 56.1**	**+0.5**
JHMK	**Hamakita**	**0.27**	**20**	P	**Pb**	**16 44 55.8**	**0.0**
JHMK				S	**Sn**	**16 45 00.5**	**-1.1**
HMMJ	**Hamamatsu 2**	**0.30**	**12**	⇑P	**Pb**	**16 44 56.3**	**0.0**
HMMJ				S	**Sn**	**16 45 01.1**	**-1.4**
TTO5	**TONANKAI O.B.S**	**0.31**	**170**	⇓P	**Pb**	**16 44 56.7**	**+0.4**
JKKG	**Kakegawa**	**0.35**	**50**	P	**Pb**	**16 44 57.2**	**+0.3**
JKKG				*eS*	**Sn**	**16 45 03.5**	**-0.1**
JAA	**Atsumi**	**0.42**	**280**	P	**Pb**	**16 44 57.7**	**-0.3**
JAA				S	**Sb**	**16 45 03.7**	**-0.6**
TK03	**Tokai 3**	**0.47**	**146**	P	**Pb**	**16 44 59.0**	**+0.3**
TTO4	**TONANKAI O.B.S**	**0.56**	**189**	⇑P	**Pb**	**16 44 59.7**	**-0.3**
TTO4				S	**Sb**	**16 45 08.3**	**+0.7**
TK02	**Tokai 2**	**0.62**	**172**	P	**Pb**	**16 45 00.4**	**-0.8**
SHZ3	**Shizuoka 3**	**0.68**	**42**	⇑P	**Pb**	**16 45 02.2**	**-0.2**
SHZ3				S	**Sn**	**16 45 12.7**	**+0.7**
JIE	**Ise**	**0.80**	**258**	⇑P	**Pb**	**16 45 03.0**	**-0.8**
JIE				S	**Sn**	**16 45 13.3**	**-1.4**
TTO2	**TONANKAI O.B.S**	**0.97**	**212**	⇑P	**Pb**	**16 45 05.3**	**-0.7**
TSUJ	**Tsu 2**	**1.02**	**279**	⇓P	**Pb**	**16 45 06.7**	**-0.3**
TTO1	**TONANKAI O.B.S**	**1.18**	**218**	⇑P	**Pb**	**16 45 08.1**	**-0.8**
JKN2	**Miekihoku**	**1.18**	**255**	⇑P	**Pb**	**16 45 09.5**	**+0.4**
JYN	**Shimob**	**1.19**	**38**	⇑P	**Pb**	**16 45 09.8**	**+0.4**
MJAR	**Matsushiro Arr** 174nm,0.3s,baz=190,slow=14,SNR=1364	**2.03**	**13**	P	**Pn**	**16 45 22.3**	**+1.4**
MAT	**Matsushiro**	**2.03**	**13**	P	**Pn**	**16 45 22.4**	**+1.5**
MAT				S	**Sb**	**16 45 48.6**	**-1.2**
JNU	**Nakatsue** 1.4nm,0.3s,baz=60,slow=9.8,SNR=22	**5.81**	**258**	P	**Pn**	**16 46 14.5**	**+1.6**
JNU				S	**Sn**	**16 47 23.5**	**+5.0**
	1.0nm,0.3s,baz=211,slow=18,SNR=2.4						
KSRS	**Korea Array** 0.3nm,0.3s,baz=107,slow=14,SNR=6.0	**8.39**	**293**	P	**Pn**	**16 46 50.0**	**+1.8**
KSRS				S	**Sn**	**16 48 20.5**	**-1.4**
	0.2nm,0.3s,baz=116,slow=24,SNR=3.0						
KSRS				LR	LR	16 50 07.8	
	comp=Z,61nm,19.1s,baz=100,slow=39						
ASAJ	**Asahikawa** 0.4nm,0.3s,baz=219,slow=13,SNR=3.8	**10.28**	**20**	P	**Pn**	**16 47 15.1**	**+1.0**
USRK	**Ussuriysk Arra** 0.1nm,0.3s,baz=156,slow=15,SNR=2.6	**10.57**	**337**	P	**Pn**	**16 47 16.9**	**-1.2**
SONM	**Songino Array** 0.7nm,0.6s,baz=119,slow=9.4,SNR=6.1	**26.79**	**309**	P	**P**	**16 50 26.3**	**+0.2**
SONM				LR	LR	17 00 40.2	
	comp=Z,29nm,21.4s,baz=55,slow=36						
CMAR	**Chiang Mai Arr** 0.2nm,0.8s,baz=48,slow=7.6,SNR=2.9	**37.91**	**255**	P	P	16 52 07.6	+4.3
MKAR	**Makanchi Array** 1.7nm,0.8s,baz=89,slow=9.8,SNR=18	**42.89**	**304**	P	**P**	**16 52 44.9**	**+0.6**
KURBB	**Kurchatov Arra** 1.4nm,0.8s,baz=89,slow=7.9,SNR=17	**45.16**	**310**	P	**P**	**16 53 02.6**	**+0.2**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=67,slow=8.0,SNR=4.1	**50.00**	**313**	P	**P**	**16 53 40.1**	**+0.1**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=279,slow=6.7,SNR=5.5	**53.20**	**31**	P	**P**	**16 54 05.3**	**+1.6**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=0.3,slow=7.7,SNR=6.4	**54.29**	**184**	P	P	16 54 21.5	+9.4
ASAR	**Alice Springs** 0.5nm,0.8s,baz=16,slow=7.9,SNR=5.1	**58.02**	**184**	P	P	16 54 47.7	+9.0
AKTO	**Aktyubinsk** 0.9nm,0.7s,baz=69,slow=8.6,SNR=4.6	**58.05**	**312**	P	**P**	**16 54 38.8**	**+0.1**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=72,slow=4.5,SNR=8.5	**69.55**	**332**	P	**P**	**16 55 54.5**	**+0.2**
AKASG	**Malin Array Be** 0.9nm,0.7s,baz=50,slow=5.7,SNR=8.0	**74.34**	**321**	P	**P**	**16 56 21.2**	**-2.0**
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=83,slow=4.5,SNR=5.2	**78.15**	**310**	P	**P**	**16 56 45.9**	**+0.7**

IDC 09 16:51:17.7±2.6,5°.84N×123°.67E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/24,mbtmp3.5/3,Error ellipse: s-maj=320.6km s-min=24.7km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=336,slow=9.5,SNR=10.0	**27.68**	**158**	P	P	16 57 07.6	-0.1
ASAR	**Alice Springs** 0.6nm,1.1s,baz=338,slow=7.1,SNR=8.9	**30.98**	**162**	P	P	16 57 37.1	+0.1
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=122,slow=7.8,SNR=11	**54.10**	**326**	P	P	17 00 44.4	-0.1

**IDC 09 16:

JIZS				S	Sn	17 02 02.1	+0.2
JYN	**Shimob**	**1.07**	**287**	P	Pn	17 01 49.1	+0.6
JYN				S	Sn	17 02 05.8	+0.5
BSO1	**Boso 1**	**1.10**	**118**	P	Pn	17 01 48.4	+0.2
BSO1				S	Sn	17 02 05.6	+0.8
JRY	**Ryogami san**	**1.11**	**319**	P	Pn	17 01 49.3	+0.4
JRY				S	Sn	17 02 06.3	+0.4
JAG	**Ashikaga**	**1.27**	**347**	P	Pn	17 01 50.4	-0.2
JAG				S	Sn	17 02 08.2	-0.9
MJAR	**Matsushiro Arr**	**1.87**	**317**	P	Pn	17 01 58.1	+0.3
	14nm,0.3s,baz=156,slow=11,SNR=251						
MJAR				S	Sn	17 02 21.8	-0.1
	17nm,0.3s,baz=202,slow=22,SNR=17						
MAT	**Matsushiro**	**1.87**	**317**	P	Pn	17 01 58.4	+0.6
MAT				S	Sn	17 02 22.6	+0.7
JCJ	**Chichijima**	**8.32**	**165**	P	Pn	17 03 19.3	-4.8
	11nm,0.3s,baz=288,slow=20,SNR=3.1						
ASAJ	**Asahikawa**	**9.18**	**13**	P	**Pn**	**17 03 32.8**	**-2.9**
	1.1nm,0.3s,baz=205,slow=14,SNR=17						
H11N2	**WAKE ISLAND Hy**	**28.43**	**116**	T	T	17 36 53.0	
	baz=311,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.43**	**116**	T	T	17 36 57.4	
	baz=311,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.45**	**116**	T	T	17 36 58.2	
	baz=311,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.05**	**118**	T	T	17 37 41.2	
	baz=314,slow=75,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**29.05**	**118**	T	T	17 37 44.2	
	baz=314,slow=75,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**29.07**	**118**	T	T	17 37 45.9	
	baz=314,slow=75,SNR=6.9						
ZALV	**Zalesovo Beam**	**42.22**	**314**	P	**P**	**17 09 08.7**	**+0.8**
	0.3nm,0.3s,baz=110,slow=7.0,SNR=3.2						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**17 09 23.8**	**+1.2**
	0.4nm,0.6s,baz=88,slow=9.5,SNR=8.6						
WRA	**Warramunga Arr**	**55.06**	**186**	P	**P**	**17 10 46.1**	**-0.4**
	0.3nm,0.3s,baz=2.4,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**58.79**	**186**	P	**P**	**17 11 11.7**	**-1.1**
	0.2nm,0.4s,baz=18,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**69.84**	**332**	P	**P**	**17 12 24.6**	**+0.3**
	2.4nm,1.0s,baz=56,slow=8.5,SNR=4.3						
TXAR	**Lajitas Array**	**92.29**	**51**	P	**P**	**17 14 23.8**	**-0.3**
	0.1nm,0.5s,baz=316,slow=6.2,SNR=3.3						

*IDC **09** 17:32:07.0±0.9,35°.34N×27°.84E,h0km,mb3.7/9,*
mb1 3.8/15,mb1mx3.7/29,mbtmp3.7/15,ML3.5/6,Error
ellipse: s-maj=21.1km s-min=13.2km az=173.0
*HLW **09** 17:32:07.0,35°.34N×27°.97E,h0km±7km,Md3.1*
*ISK **09** 17:32:07.8,35°.08N×27°.70E,h45km,ML3.8*
*CSEM **09** 17:32:09.4±0.1,35°.25N×27°.95E,h2km,ML3.4,Error*
ellipse: s-maj=3.4km s-min=2.5km az=4.0
*ISCJB **09** 17:32:10.7±0.7,35°.20N±0°.02×27°.94E±0°.02,h33km±7km,*
mb3.7/9,Error ellipse: s-maj=3.5km s-min=2.8km az=18.3
*DDA **09** 17:32:11.1,35°.50N×27°.91E,h7km,ML3.9*
*ATH **09** 17:32:12.9,35°.46N×27°.77E,h30km±1km,MD3.8/36*
*THE **09** 17:32:13.5,35°.47N×27°.73E,h2km±1km,ML3.4/2,Error*
ellipse: s-maj=2.7km s-min=0.8km az=138.0

ISC 09 17:32:09.9±1.2,35°.24N±0°.03×27°.89E±0°.03,h16km±8km,
n236,σ1§33/261,mb3.7/9,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.67**	**298**	P	**Pg**	**17 32 22.9**	**-0.2**
KARP				S	**Sg**	**17 32 30.7**	**-1.3**
KARP	**Karpathos**	**0.67**	**298**	*e*PN	**Pg**	**17 32 23.2**	**+0.1**
KARP				*e*SN	**Sg**	**17 32 32.2**	**+0.2**
KARP	**Karpathos**	**0.67**	**298**	P	**Pg**	**17 32 22.9**	**-0.2**
KARP	**Karpathos**	**0.67**	**298**	*e*Pn	**Pg**	**17 32 23.2**	**+0.1**
KARP				S	**Sg**	**17 32 30.7**	**-1.3**
KARP				*e*Sn	**Sg**	**17 32 32.2**	**+0.2**
ARG	**Arkhangelos**	**1.00**	**11**	P	**Pb**	**17 32 29.3**	**+0.4**
ARG				S	**Sg**	**17 32 41.6**	**-0.8**
ARG	**Arkhangelos**	**1.00**	**11**	*e*PN	**Pb**	**17 32 29.3**	**+0.4**
ARG				*e*SN	**Sg**	**17 32 40.4**	**-2.0**
ARG	**Arkhangelos**	**1.00**	**11**	P	**Pb**	**17 32 29.3**	**+0.4**
ARG				*e*Sn	**Sg**	**17 32 40.4**	**-2.0**
ARG				S	**Sg**	**17 32 41.6**	**-0.8**
ZKR	**Zakros**	**1.37**	**265**	P	**Pb**	**17 32 36.2**	**+0.9**
ZKR	**Zakros**	**1.37**	**265**	*e*PB	**Pb**	**17 32 36.2**	**+0.9**
ZKR	**Zakros**	**1.37**	**265**	P	**Pb**	**17 32 36.2**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.70**	**21**	*e*PN	**Pn**	**17 32 39.2**	**+0.3**
DALY				*e*SN	**Sn**	**17 33 01.3**	**+1.0**
DALY	**Dalyan (Mu¨la**	**1.70**	**21**	*e*Pn	**Pn**	**17 32 39.3**	**+0.3**
DALY				*e*Sn	**Sn**	**17 33 01.3**	**+1.0**
FETY	**Fethiye**	**1.70**	**34**	*e*PN	**Pn**	**17 32 39.4**	**+0.3**
FETY	**Fethiye**	**1.70**	**34**	*e*Pn	**Pn**	**17 32 39.4**	**+0.3**
AKS	**Kas**	**1.71**	**54**	*i* P	**Pn**	**17 32 40.5**	**+1.2**
AKAS				*i* S	**Sb**	**17 33 03.1**	**+0.5**
AKAS	**Kas**	**1.71**	**54**	*i* P	**Pn**	**17 32 40.6**	**+1.2**
AKAS				*i* S	**Sb**	**17 33 03.1**	**+0.5**
TURN	**Turunc**	**1.73**	**19**	*i* P	**Pn**	**17 32 38.8**	**-0.7**
TURN	**Turunc**	**1.73**	**19**	*i* P	**Pn**	**17 32 38.8**	**-0.7**
BDRM	**Kayabasi**	**1.86**	**349**	*i* P	**Pn**	**17 32 41.5**	**+0.2**
BDRM				*i* S	**Sg**	**17 33 09.2**	**-0.7**
BDRM	**Kayabasi**	**1.86**	**349**	*i* P	**Pn**	**17 32 41.5**	**+0.2**
BDRM				*i* S	**Sg**	**17 33 09.2**	**-0.7**
NPS	**Neapolis**	**1.86**	**272**	P	**Pb**	**17 32 43.7**	**+0.1**
NPS				S	**Sn**	**17 33 05.8**	**+1.3**
NPS	**Neapolis**	**1.86**	**272**	*e*PB	**Pb**	**17 32 43.8**	**+0.1**
NPS	**Neapolis**	**1.86**	**272**	P	**Pb**	**17 32 43.7**	**+0.1**
NPS				S	**Sn**	**17 33 05.8**	**+1.3**
BODT	**Bodrum**	**1.88**	**346**	*e*PN	**Pn**	**17 32 40.5**	**-1.0**
BODT	**Bodrum**	**1.88**	**346**	*e*Pn	**Pn**	**17 32 40.5**	**-1.0**
LAST	**Lasithi**	**1.98**	**269**	P	**Pb**	**17 32 45.0**	**-0.6**
LAST	**Lasithi**	**1.98**	**269**	*e*PN	**Pb**	**17 32 45.2**	**-0.4**
LAST	**Lasithi**	**1.98**	**269**	P	**Pb**	**17 32 45.0**	**-0.6**
ELL	**Elmali**	**2.23**	**47**	*e*PN	**Pn**	**17 32 46.9**	**+0.5**
ELL	**Elmali**	**2.23**	**47**	*e*Pn	**Pn**	**17 32 46.9**	**+0.5**
SANT	**Santorini**	**2.28**	**301**	*e*PN	**Pn**	**17 32 48.0**	**+1.0**
SANT	**Santorini**	**2.28**	**301**	*e*Pn	**Pn**	**17 32 48.0**	**+1.0**
GLHS	**Glhisar (BURDU**	**2.32**	**34**	*e*PN	**Pn**	**17 32 48.0**	**+0.5**
GLHS	**Glhisar (BURDU**	**2.32**	**34**	*e*Pn	**Pn**	**17 32 48.1**	**+0.5**
GOLH	**Golhisar**	**2.41**	**34**	*i* P	**Pn**	**17 32 51.2**	**+2.3**
GOLH	**Golhisar**	**2.41**	**34**	*i* P	**Pn**	**17 32 51.2**	**+2.3**
AYDN	**Tasoluk**	**2.42**	**360**	*i* P	**Pg**	**17 32 58.4**	**+2.0**
AYDN				*i* S	**Sg**	**17 33 29.7**	**+1.9**
IDI	**Anoyia**	**2.45**	**272**	Pn	**Pn**	**17 32 48.4**	**-1.0**
	9.2nm,0.3s,baz=97,slow=12,SNR=42						
IDI				Pg	Pb	17 32 51.2	-2.6
	9.2nm,0.3s,baz=104,slow=16,SNR=42						
GCAM	**G?zelcaml?**	**2.52**	**348**	*i* P	**Pn**	**17 32 50.6**	**+0.4**
GCAM	**G?zelcaml?**	**2.52**	**348**	*i* P	**Pn**	**17 32 50.6**	**+0.4**
SMG	**Samos**	**2.61**	**341**	P	**Pn**	**17 32 51.8**	**+0.3**
SMG	**Samos**	**2.61**	**341**	*e*PN	**Pn**	**17 32 52.1**	**+0.6**
SMG	**Samos**	**2.61**	**341**	P	**Pn**	**17 32 51.8**	**+0.3**
SMG	**Samos**	**2.61**	**341**	*e*Pn	**Pn**	**17 32 52.1**	**+0.6**
DNZL	**Cakiroluk**	**2.62**	**21**	*i* P	**Pn**	**17 32 53.0**	**+1.1**
DNZL	**Cakiroluk**	**2.62**	**21**	*i* P	**Pn**	**17 32 53.0**	**+1.1**
APE	**Apeiranthos**	**2.64**	**314**	P	**Pn**	**17 32 52.3**	**+0.3**
APE				S	**Sn**	**17 33 22.8**	**-1.0**
APE	**Apeiranthos**	**2.64**	**314**	*e*PN	**Pn**	**17 32 52.5**	**+0.5**
APE	**Apeiranthos**	**2.64**	**314**	P	**Pn**	**17 32 52.3**	**+0.3**
APE				S	**Sn**	**17 33 22.8**	**-1.0**
KORT	**Korkueli**	**2.66**	**48**	*i* P	**Pn**	**17 32 55.0**	**+2.7**
KORT	**Korkueli**	**2.66**	**48**	*i* P	**Pn**	**17 32 55.0**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**0**	*e*PN	**Pn**	**17 32 53.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**0**	*e*Pn	**Pn**	**17 32 53.1**	**+0.1**
VAM	**Vamos**	**3.02**	**274**	P	**Pn**	**17 32 59.3**	**+2.1**
VAM	**Vamos**	**3.02**	**274**	*e*PN	**Pn**	**17 33 00.0**	**+2.8**
VAM	**Vamos**	**3.02**	**274**	P	**Pn**	**17 32 59.3**	**+2.1**
VAM	**Vamos**	**3.02**	**274**	*e*Pn	**Pn**	**17 33 00.0**	**+2.8**
BCK	**Bucak**	**3.11**	**44**	*e*PN	**Pn**	**17 32 59.3**	**+0.8**
BCK	**Bucak**	**3.11**	**44**	*e*Pn	**Pn**	**17 32 59.3**	**+0.8**
IZM	**Izmir**	**3.20**	**351**	*e*PN	**Pn**	**17 32 59.6**	**-0.1**
IZM	**Izmir**	**3.20**	**351**	*e*Pn	**Pn**	**17 32 59.6**	**-0.1**
BLCB	**Balcova**	**3.22**	**348**	*e*PN	**Pn**	**17 32 59.9**	**0.0**
BLCB	**Balcova**	**3.22**	**348**	*e*Pn	**Pn**	**17 32 59.9**	**0.0**
KARN	**Karanos**	**3.25**	**274**	P	**Pn**	**17 33 02.6**	**+2.2**
KARN	**Karanos**	**3.25**	**274**	*e*PN	**Pn**	**17 33 03.1**	**+2.7**
KARN	**Karanos**	**3.25**	**274**	P	**Pn**	**17 33 02.6**	**+2.2**
KARN	**Karanos**	**3.25**	**274**	*e*Pn	**Pn**	**17 33 03.1**	**+2.7**
KULA	**Kula-Manisa**	**3.33**	**10**	*e*PN	**Pn**	**17 33 01.8**	**+0.3**
KULA	**Kula-Manisa**	**3.33**	**10**	*e*Pn	**Pn**	**17 33 01.8**	**+0.3**
KHL	**Karahalli**	**3.35**	**23**	*e*PN	**Pn**	**17 33 01.7**	**-0.1**
KHL	**Karahalli**	**3.35**	**23**	*e*Pn	**Pn**	**17 33 01.7**	**-0.1**
SUTC	**Sutluce-Ispart**	**3.36**	**47**	*e*PN	**Pn**	**17 33 02.9**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.36**	**47**	*e*Pn	**Pn**	**17 33 02.9**	**+0.9**
KHAL	**Karahalli**	**3.38**	**22**	*i* P	**Pn**	**17 33 02.5**	**+0.2**
KHAL	**Karahalli**	**3.38**	**22**	*i* P	**Pn**	**17 33 02.5**	**+0.2**
CHOS	**Chios island**	**3.47**	**335**	*e*PN	**Pn**	**17 33 03.8**	**+0.3**
CHOS	**Chios island**	**3.47**	**335**	*e*Pn	**Pn**	**17 33 03.8**	**+0.3**
AKHS	**Akhisar**	**3.64**	**359**	*i* P	**Pn**	**17 33 05.8**	**+0.1**
AKHS				*i* S	**Sn**	**17 33 49.4**	**+1.1**
AKHS	**Akhisar**	**3.64**	**359**	*i* P	**Pn**	**17 33 05.8**	**+0.1**
AKHS				*i* S	**Sn**	**17 33 49.4**	**+1.1**
AKS	**Akhisar**	**3.64**	**359**	*e*PN	**Pn**	**17 33 05.4**	**-0.2**
AKS	**Akhisar**	**3.64**	**359**	*e*Pn	**Pn**	**17 33 05.4**	**-0.2**
GAZI	**Gazipasa**	**3.74**	**73**	*i* P	**Pn**	**17 33 07.3**	**+0.2**
GAZI				*i* S	**Sn**	**17 33 50.2**	**-0.6**
GAZI	**Gazipasa**	**3.74**	**73**	*i* P	**Pn**	**17 33 07.3**	**+0.2**
GAZI				*i* S	**Sn**	**17 33 50.2**	**-0.6**
ANKY	**Antikythira Is**	**3.79**	**281**	P	**Pn**	**17 33 09.6**	**+1.8**
ANKY	**Antikythira Is**	**3.79**	**281**	*e*PN	**Pn**	**17 33 09.3**	**+1.5**
ANKY	**Antikythira Is**	**3.79**	**281**	*e*Pn	**Pn**	**17 33 09.3**	**+1.5**
ANKY	**Antikythira Is**	**3.79**	**281**	P	**Pn**	**17 33 09.6**	**+1.8**
KYTH	**Kithira**	**4.08**	**286**	P	**Pn**	**17 33 12.9**	**+1.2**
KYTH	**Kithira**	**4.08**	**286**	*e*PN	**Pn**	**17 33 13.0**	**+1.2**
KYTH	**Kithira**	**4.08**	**286**	P	**Pn**	**17 33 12.9**	**+1.2**
LEF	**Lefka**	**4.10**	**90**	*e*PN	**Pn**	**17 33 12.3**	**+0.3**
LEF	**Lefka**	**4.10**	**90**	*e*Pn	**Pn**	**17 33 12.3**	**+0.3**
HMAT	**Matruh**	**4.18**	**189**	S	**Sn**	**17 34 02.1**	**+0.4**
	baz=190						
HMAT	**Matruh**	**4.18**	**189**	S	**Sn**	**17 34 02.1**	**+0.4**
VLI	**Veliai**	**4.28**	**292**	P	**Pn**	**17 33 15.2**	**+0.7**
VLI	**Veliai**	**4.28**	**292**	*e*PN	**Pn**	**17 33 15.2**	**+0.7**
VLI	**Veliai**	**4.28**	**292**	P	**Pn**	**17 33 15.2**	**+0.7**
PTL	**Penteli**	**4.28**	**312**	*e*PN	**Pn**	**17 33 16.4**	**+1.8**
PTL	**Penteli**	**4.28**	**312**	*e*Pn	**Pn**	**17 33 16.4**	**+1.8**
ERMK	**Ermenek**	**4.31**	**70**	*i* P	**Pn**	**17 33 17.5**	**+2.4**
ERMK				*i* S	**Sn**	**17 34 08.2**	**+3.0**
ERMK	**Ermenek**	**4.31**	**70**	*i* P	**Pn**	**17 33 17.5**	**+2.4**
ERMK				*i* S	**Sn**	**17 34 08.2**	**+3.0**
SLUM		**4.35**	**212**	P	**Pn**	**17 33 16.1**	**+0.6**
	baz=212						
SLUM		**4.35**	**212**	P	**Pn**	**17 33 16.1**	**+0.6**
DURS	**Dursunbey**	**4.38**	**6**	*i* P	**Pn**	**17 33 16.2**	**+0.2**
DURS	**Dursunbey**	**4.38**	**6**	*i* P	**Pn**	**17 33 16.2**	**+0.2**
DID	**Didima**	**4.38**	**302**	*e*PN	**Pn**	**17 33 17.3**	**+1.4**
DID	**Didima**	**4.38**	**302**	*e*Pn	**Pn**	**17 33 17.3**	**+1.4**
TVSB	**Tavsanli**	**4.39**	**16**	*e*PN	**Pn**	**17 33 16.4**	**+0.3**
TVSB	**Tavsanli**	**4.39**	**16**	*e*Pn	**Pn**	**17 33 16.4**	**+0.3**
BALB	**Balikesir**	**4.40**	**360**	*e*PN	**Pn**	**17 33 17.0**	**+1.0**
BALB	**Balikesir**	**4.40**	**360**	*e*Pn	**Pn**	**17 33 17.0**	**+1.0**
KONT	**Konya--Tatoy**	**4.50**	**52**	*e*PN	**Pn**	**17 33 19.1**	**+1.5**
KONT	**Konya--Tatoy**	**4.50**	**52**	*e*Pn	**Pn**	**17 33 19.1**	**+1.5**
BALY	**Balya**	**4.50**	**357**	*i* P	**Pn**	**17 33 17.9**	**+0.3**
BALY	**Balya**	**4.50**	**357**	*i* P	**Pn**	**17 33 17.9**	**+0.3**
LFK	**Lefkose**	**4.62**	**88**	*e*PN	**Pn**	**17 33 20.1**	**+0.9**
LFK	**Lefkose**	**4.62**	**88**	*e*Pn	**Pn**	**17 33 20.1**	**+0.9**
LADK	**Ladik-KONYA**	**4.66**	**49**	*e*PN	**Pn**	**17 33 21.1**	**+1.3**
LADK	**Ladik-KONYA**	**4.66**	**49**	*e*Pn	**Pn**	**17 33 21.1**	**+1.3**
EZN	**Ezine**	**4.75**	**345**	*e*PN	**Pn**	**17 33 21.3**	**+0.4**
EZN	**Ezine**	**4.75**	**345**	*e*Pn	**Pn**	**17 33 21.3**	**+0.4**
GONE	**Gonen-Balikesi**	**4.81**	**358**	*e*PN	**Pn**	**17 33 21.8**	**+0.1**
GONE	**Gonen-Balikesi**	**4.81**	**358**	*e*Pn	**Pn**	**17 33 21.8**	**+0.1**
IKL	**Isikli**	**4.82**	**76**	*e*PN	**Pn**	**17 33 23.0**	**+1.1**
IKL	**Isikli**	**4.82**	**76**	*e*Pn	**Pn**	**17 33 23.0**	**+1.1**
LTK	**Loutraki**	**4.84**	**307**	*e*PN	**Pn**	**17 33 23.3**	**+1.1**
LTK	**Loutraki**	**4.84**	**307**	*e*Pn	**Pn**	**17 33 23.3**	**+1.1**
MRKA	**Markates**	**4.88**	**316**	*e*PN	**Pn**	**17 33 24.8**	**+2.0**
MRKA	**Markates**	**4.88**	**316**	*e*Pn	**Pn**	**17 33 24.8**	**+2.0**
KCTX	**Karacabey (Bur**	**5.04**	**4**	*e*PN	**Pn**	**17 33 25.6**	**+0.7**
KCTX	**Karacabey (Bur**	**5.04**	**4**	*e*Pn	**Pn**	**17 33 25.6**	**+0.7**
EDC	**Edincik**	**5.10**	**360**	*e*PN	**Pn**	**17 33 26.4**	**+0.6**
EDC	**Edincik**	**5.10**	**360**	*e*Pn	**Pn**	**17 33 26.4**	**+0.6**
EREN	**Erenkoy**	**5.14**	**85**	*e*PN	**Pn**	**17 33 27.3**	**+1.0**
EREN	**Erenkoy**	**5.14**	**85**	*e*Pn	**Pn**	**17 33 27.3**	**+1.0**
KRBG	**Karabiga-Canak**	**5.17**	**355**	*e*PN	**Pn**	**17 33 26.6**	**-0.1**
KRBG	**Karabiga-Canak**	**5.17**	**355**	*e*Pn	**Pn**	**17 33 26.6**	**-0.1**
LKR	**Lokris**	**5.19**	**312**	*e*PN	**Pn**	**17 33 29.5**	**+2.5**
LKR	**Lokris**	**5.19**	**312**	*e*Pn	**Pn**	**17 33 29.5**	**+2.5**
CAVI	**Cavuskoy**	**5.20**	**17**	*e*PN	**Pn**	**17 33 27.6**	**+0.5**
CAVI	**Cavuskoy**	**5.20**	**17**	*e*Pn	**Pn**	**17 33 27.6**	**+0.5**
ITM	**Ithomi**	**5.20**	**294**	*e*PN	**Pn**	**17 33 28.7**	**+1.6**
ITM	**Ithomi**	**5.20**	**294**	*e*Pn	**Pn**	**17 33 28.7**	**+1.6**
LPK	**Lapseki**	**5.21**	**350**	*e*PN	**Pn**	**17 33 27.7**	**+0.5**
LPK	**Lapseki**	**5.21**	**350**	*e*Pn	**Pn**	**17 33 27.7**	**+0.5**
GUR	**Goura**	**5.21**	**303**	*e*PN	**Pn**	**17 33 29.1**	**+1.7**
GUR	**Goura**	**5.21**	**303**	*e*Pn	**Pn**	**17 33 29.1**	**+1.7**
SMIA	**Simia**	**5.22**	**316**	*e*PN	**Pn**	**17 33 29.6**	**+2.2**
SMIA	**Simia**	**5.22**	**316**	*e*Pn	**Pn**	**17 33 29.6**	**+2.2**
KIZK	**Mersin**	**5.23**	**74**	*i* P	**Pn**	**17 33 30.4**	**+2.9**
KIZK				*i* S	**Sn**	**17 34 27.9**	**+0.4**
KIZK	**Mersin**	**5.23**	**74**	*i* P	**Pn**	**17 33 30.4**	**+2.9**
KIZK				*i* S	**Sn**	**17 34 27.9**	**+0.4**
GELI	**Tayfur-Gelibol**	**5.28**	**348**	*e*PN	**Pn**	**17 33 28.6**	**+0.6**
GELI	**Tayfur-Gelibol**	**5.28**	**348**	*e*Pn	**Pn**	**17 33 28.7**	**+0.6**
SKIA	**Skiathos**	**5.28**	**319**	*e*PN	**Pn**	**17 33 29.4**	**+1.2**
SKIA	**Skiathos**	**5.28**	**319**	*e*Pn	**Pn**	**17 33 29.4**	**+1.2**
DSF	**Desfina**	**5.34**	**308**	*e*PN	**Pn**	**17 33 30.9**	**+1.8**
DSF	**Desfina**	**5.34**	**308**	*e*Pn	**Pn**	**17 33 30.9**	**+1.8**
ARMT	**Armutlu**	**5.38**	**8**	*e*PN	**Pn**	**17 33 29.8**	**+0.2**
ARMT	**Armutlu**	**5.38**	**8**	*e*Pn	**Pn**	**17 33 29.8**	**+0.2**
KLV	**Kalavryta, Ach**	**5.40**	**303**	*e*PN	**Pn**	**17 33 32.3**	**+2.4**
KLV	**Kalavryta, Ach**	**5.40**	**303**	*e*Pn	**Pn**	**17 33 32.3**	**+2.4**
SULT	**Sultanhani-AKS**	**5.40**	**55**	*e*PN	**Pn**	**17 33 30.7**	**+0.7**
SULT	**Sultanhani-AKS**	**5.40**	**55**	*e*Pn	**Pn**	**17 33 30.7**	**+0.7**
RKY	**Sarkoy-Tekirda**	**5.47**	**354**	*e*PN	**Pn**	**17 33 31.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**5.47**	**354**	*e*Pn	**Pn**	**17 33 31.3**	**+0.4**
AMT	**Artemida-Makis**	**5.49**	**296**	*e*PN	**Pn**	**17 33 33.0**	**+1.9**
AMT	**Artemida-Makis**	**5.49**	**296**	*e*Pn	**Pn**	**17 33 33.0**	**+1.9**
ERIK	**Erikli-Kesan**	**5.54**	**349**	*e*PN	**Pn**	**17 33 31.8**	**+0.1**
ERIK	**Erikli-Kesan**	**5.54**	**349**	*e*Pn	**Pn**	**17 33 31.8**	**+0.1**
KALE	**Kalithea**	**5.58**	**306**	*e*PN	Pn	17 33 35.9	+3.4
LAKA	**Lakka**	**5.61**	**304**	*e*PN	**Pn**	**17 33 35.5**	**+2.7**
LAKA	**Lakka**	**5.61**	**304**	*e*Pn	**Pn**	**17 33 35.5**	**+2.7**
MERS	**Mersin**	**5.62**	**71**	*e*PN	**Pn**	**17 33 33.8**	**+0.9**
MERS	**Mersin**	**5.62**	**71**	*e*Pn	**Pn**	**17 33 33.8**	**+0.9**
ENEZ	**Enez**	**5.66**	**347**	*e*PN	**Pn**	**17 33 33.7**	**+0.3**
ENEZ	**Enez**	**5.66**	**347**	*e*Pn	**Pn**	**17 33 33.7**	**+0.3**
DRO	**Drossia**	**5.66**	**300**	*e*PN	**Pn**	**17 33 36.4**	**+2.9**
DRO	**Drossia**	**5.66**	**300**	*e*Pn	**Pn**	**17 33 36.4**	**+2.9**
AGG	**Agios Georgios**	**5.83**	**312**	*e*PN	**Pn**	**17 33 38.3**	**+2.5**
AGG	**Agios Georgios**	**5.83**	**312**	*e*Pn	**Pn**	**17 33 38.3**	**+2.5**
ALLN	**Alexandroupoli**	**5.84**	**346**	*e*PN	**Pn**	**17 33 37.2**	**+1.4**
ALLN	**Alexandroupoli**	**5.84**	**346**	*e*Pn	**Pn**	**17 33 37.2**	**+1.4**
MAKR	**Makrakomi, Fth**	**5.95**	**311**	*e*PN	**Pn**	**17 33 40.5**	**+3.1**
MAKR	**Makrakomi, Fth**	**5.95**	**311**	*e*Pn	**Pn**	**17 33 40.5**	**+3.1**
SLVT	**Silivri**	**5.99**	**2**	*e*PN	**Pn**	**17 33 38.4**	**+0.4**
SLVT	**Silivri**	**5.99**	**2**	*e*Pn	**Pn**	**17 33 38.4**	**+0.4**
CTKS	**Kestanelik-??a**	**6.01**	**4**	*e*PN	**Pn**	**17 33 38.9**	**+0.6**
CTKS	**Kestanelik-??a**	**6.01**	**4**	*e*Pn	**Pn**	**17 33 38.9**	**+0.6**
SILT	**Sile**	**6.07**	**13**	*e*PN	**Pn**	**17 33 39.6**	**+0.6**
SILT	**Sile**	**6.07**	**13**	*e*Pn	**Pn**	**17 33 39.6**	**+0.6**
EVR	**Evrytania**	**6.09**	**309**	*e*PN	Pn	17 33 42.8	+3.3
EVR	**Evrytania**	**6.09**	**309**	*e*Pn	Pn	17 33 42.8	+3.3
RDO	**Rodhopi**	**6.18**	**343**	*e*PN	**Pn**	**17 33 42.7**	**+2.1**
RDO	**Rodhopi**	**6.18**	**343**	*e*Pn	**Pn**	**17 33 42.7**	**+2.1**
PDO	**Prodromos**	**6.33**	**304**	*e*PN	**Pn**	**17 33 45.4**	**+2.7**
PDO	**Prodromos**	**6.33**	**304**	*e*Pn	**Pn**	**17 33 45.4**	**+2.7**
HHAG	**Hagoal**	**6.35**	**145**	S	**Sn**	**17 34 52.3**	**-2.9**
	baz=145						
THL	**Klokotos Trika**	**6.37**	**314**	*e*PN	**Pn**	**17 33 46.3**	**+3.2**
THL	**Klokotos Trika**	**6.37**	**314**	*e*Pn	**Pn**	**17 33 46.3**	**+3.2**
AMAG	**Maghara**	**6.40**	**134**	P	**Pn**	**17 33 43.2**	**-0.4**
	baz=135						
AMAG	**Maghara**	**6.40**	**134**	P	**Pn**	**17 33 43.2**	**-0.4**
BRTR	**Keskin Array B**	**6.40**	**44**	Pn	**Pn**	**17 33 44.0**	**+0.2**
	0.3nm,0.3s,baz=216,slow=15,SNR=9.4						
BRTR				Sn	**Sn**	**17 34 55.0**	**-1.6**
	0.4nm,0.3s,baz=212,slow=26,SNR=6.8						
RSH		**6.49**	**129**	P	**Pn**	**17 33 44.8**	**-0.1**
	baz=130						
RSH		**6.49**	**129**	P	**Pn**	**17 33 44.8**	**-0.1**
GLL	**Jalalah**	**6.50**	**149**	P	**Pn**	**17 33 45.2**	**+0.2**
	baz=150						
GLL	**Jalalah**	**6.50**	**149**	P	**Pn**	**17 33 45.2**	**+0.2**
MMAI	**Mount Meron Ar**	**6.61**	**107**	Pn	**Pn**	**17 33 45.1**	**-1.5**
	2.1nm,0.3s,baz=310,slow=12,SNR=6.4						
MMAI				Sn	**Sn**	**17 35 01.6**	**-0.1**
	3.0nm,0.3s,baz=302,slow=26,SNR=6.7						
EDRB	**Edirne**	**6.66**	**353**	*e*PN	**Pn**	**17 33 47.1**	**-0.1**
EDRB	**Edirne**	**6.66**	**353**	*e*Pn	**Pn**	**17 33 47.1**	**-0.1**
KOZT	**Kozan**	**6.79**	**68**	*e*PN	**Pn**	**17 33 49.6**	**+0.7**
KOZT	**Kozan**	**6.79**	**68**	*e*Pn	**Pn**	**17 33 49.6**	**+0.7**
TAHT	**Tahtakopru-Hat**	**6.84**	**78**	*e*PN	**Pn**	**17 33 49.9**	**+0.3**
TAHT	**Tahtakopru-Hat**	**6.84**	**78**	*e*Pn	**Pn**	**17 33 49.9**	**+0.3**
CORM	**Corum**	**7.27**	**45**	*e*PN	**Pn**	**17 33 56.1**	**+0.4**
CORM	**Corum**	**7.27**	**45**	*e*Pn	**Pn**	**17 33 56.1**	**+0.4**
HNKL	**Nakhl**	**7.38**	**134**	S	**Sn**	**17 35 17.6**	**-2.9**
	baz=135						
ASF	**Jabal al Asfar**	**8.10**	**110**	Pn	**Pn**	**17 34 07.

baz=1.0,SNR=12
J22A ⇓S Sg 18 11 18.3 -0.4
baz=1.0
I22A 9 Mile Ranch, 0.97 296 ⇓P Pg 18 11 08.3 -0.9
baz=1.0,SNR=81
I22A ⇑S Sg 18 11 21.3 -0.5
baz=1.0
J25A Sunshine Ranch 1.08 94 ⇓P Pg 18 11 09.7 -1.4
baz=1.0,SNR=47
J25A ⇓S Sg 18 11 24.3 -0.8
baz=1.0
H23A Clabaugh Cattl 1.10 355 ⇓P Pg 18 11 10.4 -1.2
baz=0.9
H23A ⇑S Sg 18 11 25.6 -0.3
baz=0.9
RSSD Black Hills 1.11 53 *e*Pg Pg 18 11 09.5 -2.3
K22A Casper 1.23 229 *e*Pn Pg 18 11 13.0 -1.0
K22A Casper 1.23 229 ⇓P Pg 18 11 13.0 -1.0
baz=1.4,SNR=11
K22A ⇓S Sg 18 11 28.7 -1.2
baz=1.4
I25A Rochford 1.25 63 ⇓P Pg 18 11 13.1 -1.4
baz=1.1
I25A ⇓S Sg 18 11 30.2 -0.4
baz=1.1
K25A Mack Ranch, Ha 1.34 129 ⇑S Sg 18 11 32.4 -1.1
baz=1.4
H22A Clearmont 1.37 326 ⇓P Pg 18 11 15.6 -1.2
baz=1.3,SNR=10
H22A ⇑S Sg 18 11 35.0 +0.4
baz=1.3
H24A Dirks Ranch, A 1.38 22 ⇑P Pg 18 11 15.8 -1.2
baz=1.2
L23A Garrett 1.39 193 ⇑P Pn 18 11 15.9 -1.5
baz=1.6,SNR=111
L23A ⇓S Sg 18 11 34.4 -0.7
baz=1.6
L24A Wheatland 1.44 170 ⇓P Pn 18 11 17.1 -1.0
baz=1.6,SNR=6.6
L24A ⇑S Sg 18 11 36.2 -0.7
baz=1.6
I21A Big Trails, Te 1.50 284 ⇓P Pn 18 11 17.4 -1.6
baz=1.6,SNR=71
I21A ⇑S Sn 18 11 38.4 -0.9
baz=1.6
J21A Lysite 1.59 266 ⇑P Pn 18 11 18.6 -1.5
baz=1.7,SNR=23
J26A Sides Ranch, S 1.61 95 ⇓P Pn 18 11 18.8 -1.6
baz=1.5
L25A Engebretsen Ra 1.63 143 ⇑P Pn 18 11 19.1 -1.5
baz=1.7,SNR=19
L22A Ellis Ranch, M 1.67 211 ⇑P Pn 18 11 19.7 -1.6
baz=1.9,SNR=20
K21A Alcova 1.67 241 ⇑Pb Pn 18 11 20.9 -0.3
baz=1.9,SNR=50
H25A Fruitdale 1.67 46 ⇓P Pn 18 11 19.7 -1.5
baz=1.5,SNR=9.7
K26A Motz Farm, Whi 1.72 116 ⇓Pg Pn 18 11 22.1 +0.3
baz=1.7,SNR=16
H21A Big Horn, Sher 1.72 313 ⇓P Pn 18 11 21.4 -0.6
baz=1.7,SNR=14
G23A Biddle 1.74 357 ⇓P Pn 18 11 21.6 -0.5
baz=1.6,SNR=31
G22A Birney 1.90 338 ⇑P Pn 18 11 23.8 -0.5
baz=1.8
G24A Alzada 1.96 18 ⇑P Pn 18 11 24.3 -0.9
baz=1.8,SNR=9.6
M23A Laramie 2.02 190 ⇑Pb Pn 18 11 27.0 +0.9
baz=2.2
M24A Cheyenne 2.02 170 ⇑Pg Pb 18 11 28.2 -0.2
baz=2.2
J20A Shoshoni 2.05 268 ⇓Pb Pn 18 11 27.9 +1.5
baz=2.2
I20A Worland 2.12 284 ⇑Pb Pn 18 11 28.9 +1.5
baz=2.2,SNR=33
G25A Newell 2.18 37 ⇑P Pn 18 11 27.8 -0.4
baz=2.0
H20A Greybull 2.21 298 ⇓P Pn 18 11 28.3 -0.4
baz=2.2,SNR=18
M25A Palm-Egli Farm 2.22 156 ⇑Pg Pb 18 11 32.2 +0.6
baz=2.3
G21A Lodge Grass 2.24 322 ⇓P Pn 18 11 28.5 -0.5
baz=2.2,SNR=12
G20A Bridger 2.74 311 ⇑Pb Pb 18 11 39.4 -1.1
baz=2.7,SNR=13
BW06 Boulder Array 3.21 259 *e*Pn Pn 18 11 44.8 +2.3
PDAR Pinedale Array 3.21 259 Pn Pb 18 11 46.7 -1.9
PDAR Pg Pg 18 11 52.4 +0.3
PDAR Lg Lg 18 12 31.4
PDAR Pinedale Array 3.21 259 Pn Pb 18 11 46.7 -1.9
2.0nm,0.3s,baz=74,slow=18,SNR=46
PDAR Pg Pg 18 11 52.4 +0.3
6.6nm,0.3s,baz=73,slow=21,SNR=44
PDAR Lg Lg 18 12 31.4
4.6nm,0.3s,baz=68,slow=33,SNR=4.4
LAO LASA Array 3.29 349 *e*Pn Pn 18 11 45.3 +1.9
RLMT Red Lodge 3.31 301 *e*Pn Pn 18 11 45.7 +1.9
OGNE Ogallala 3.48 135 *e*Pn Pb 18 11 51.9 -1.2
ISCO Idaho Springs 3.67 184 *e*Pn Pb 18 11 54.9 -1.6
GCMT Greycliff 3.90 308 *e*Pn Pn 18 11 56.2 +4.3
H17A Grant Village 3.94 285 *e*Pn Pn 18 11 57.3 +4.8
O20A White River Ci 4.00 215 *e*Pn Pb 18 11 58.7 -3.3
YFT Old Faithful 4.13 286 *e*Pn Pb 18 12 01.1 -3.2
D20A Manuel Ranch, 4.15 332 ⇓P Pn 18 11 55.2 0.0
baz=4.1,SNR=7.4
YMR Madison River 4.27 288 *e*Pn Pb 18 12 04.5 -2.1
QLMT Earthquake Lak 4.63 289 *e*Pn Pn 18 12 08.0 +6.0
BOZ Bozeman (W) 5.04 298 *e*Pn Pn 18 12 11.1 +3.6
7.4nm,0.4s
DGMT Dagmar 5.06 8 *e*Pn Pn 18 12 08.4 +0.7
DAU Daniels Canyon 5.40 238 *e*Pn Pb 18 12 20.2 -5.8
12nm,0.5s
JLU Jordanelle 5.42 240 *e*Pn Pn 18 12 19.0 +6.3
11nm,0.6s
CTU Camp Tracy 5.56 242 *e*Pn Pn 18 12 18.1 +3.4
5.9nm,0.5s
MCMT McKenzie Canyo 5.62 287 *e*Pg Pg 18 12 36.3 -1.8
2.6nm,0.4s
LRM Limekiln Ridge 5.63 297 *e*Pn Pn 18 12 20.1 +4.4
24nm,0.4s
BGNE Belgrade 5.66 109 *e*Pn Pn 18 12 16.3 +0.4
39nm,0.3s
HRY Holter Researc 5.66 307 *e*Pn Pn 18 12 19.7 +3.7
9.9nm,0.4s
SDCO Great Sand Dun 5.72 182 *e*Pn Pn 18 12 24.3 +7.3
1.7nm,0.5s
SPUT South Promonto 5.73 250 *e*Pn Pn 18 12 22.9 +5.8
7.2nm,0.7s
PV04 Paradox Valley 5.76 210 *e*Pn Pn 18 12 24.4 +6.9
HVU Hansel Valley 5.78 256 *e*Pn Pn 18 12 22.7 +5.0
4.7nm,0.4s
MPU Maple Canyon 5.87 236 Pn Pn 18 12 24.3 +5.3
9.2nm,0.7s
SRU San Rafael 5.88 224 *e*Pn Pn 18 12 23.7 +4.6
12nm,0.5s
PV01 Paradox Valley 5.88 206 *e*Pn Pn 18 12 26.3 +7.1
666nm,0.8s
TMUT Trail Mountain 6.10 229 *e*Pn Pn 18 12 27.3 +5.0
8.0nm,0.5s
ECSD EROS Data Cent 6.30 85 *e*Pn Pn 18 12 24.7 0.0
7.1nm,0.4s
DUG Dugway 6.51 242 *e*Pn Pn 18 12 32.9 +5.2
3.1nm,0.7s
CHMT Chamberlain Mo 6.61 304 *e*Pn Pn 18 12 33.4 +4.3
2.8nm,0.7s
HLID Hailey 6.64 274 *e*Pn Pn 18 12 32.3 +2.7
3.0nm,0.8s
MVCO Mesa Verde 6.71 203 *e*Pn Pn 18 12 39.5 +8.9
4.1nm,0.6s
SLMT Seeley Lake 6.91 306 *e*Pn Pn 18 12 36.3 +3.1
5.1nm,0.7s
MVU Marysvale 7.22 229 *e*Pn Pn 18 12 43.6 +6.1
2.6nm,0.4s
YBMT Yellow Bay 7.53 309 *e*Pn Pn 18 12 46.6 +4.8
3.9nm,0.3s
KSU1 Kansas State U 7.85 121 *e*Pn Pn 18 12 50.8 +4.9
13nm,0.5s
I10CA LAC DU BONNET 9.25 40 *i* 19 06 20.0
baz=222,slow=324,SNR=5.2
ULM Lac du Bonnet 9.35 40 *e*Pn Pn 18 13 07.0 +0.5
2.3nm,0.4s
ULM Pn Pn 18 13 07.3 +0.8
ULM Sn Sn 18 14 52.7 +0.4
ULM Lg Lg 18 15 47.5
ULM Lac du Bonnet 9.35 40 Pn Pn 18 13 07.3 +0.8
1.1nm,0.3s,baz=227,slow=14,SNR=9.9
ULM Sn Sn 18 14 52.7 +0.4
0.2nm,0.3s,baz=95,slow=11,SNR=3.2
ULM Lg Lg 18 15 47.5
0.3nm,0.3s,baz=324,slow=19,SNR=4.1
NVAR Mina Array Bea 11.06 247 Pg Pn 18 13 59.5 +29
0.1nm,0.3s,baz=59,slow=8.8,SNR=4.3
TXAR Lajitas Array 14.16 174 Pg 18 15 23.5
0.1nm,0.3s,baz=34,slow=3.4,SNR=3.0
TXAR Lg Lg 18 18 11.1
0.1nm,0.3s,baz=6.0,slow=27,SNR=3.7
YKA Yellowknife Ar 19.83 347 P Pn 18 15 26.8 +2.7
YKA Yellowknife Ar 19.83 347 P Pn 18 15 26.7 +2.7
0.2nm,0.4s,baz=156,slow=12,SNR=6.4

IDC 09 18:42:50.4±58.0, 15.96S×175.52W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/19, mbtmp4.0/3, Error ellipse: s-maj=1091.0km s-min=172.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.99**	**240**	P		P		18 50 43.8	+0.2
	0.9nm,0.4s,baz=90,slow=10,SNR=5.4								
WRA	**Warramunga Arr**	**47.73**	**257**	P		P		18 51 29.0	-0.5
	0.4nm,0.5s,baz=94,slow=7.3,SNR=9.0								
ASAR	**Alice Springs**	**48.00**	**252**	P		P		18 51 31.5	-0.1
	4.0nm,0.5s,baz=90,slow=7.9,SNR=78								

IDC 09 18:47:21.5±2.1, 5.31S×152.64E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML2.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=153.1km s-min=25.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.79**	**233**	Pn		Pn		18 49 03.7	+1.1
	0.5nm,0.3s,baz=78,slow=16,SNR=2.7								
PMG				Sn		Sn		18 50 16.4	-4.3
	2.8nm,0.3s,baz=112,slow=15,SNR=10								
CTA	**Charters Tower**	**15.95**	**202**	LR		LR		18 55 18.1	
	comp=Z,169nm,21.8s,baz=56,slow=30								
WRA	**Warramunga Arr**	**22.99**	**229**	P		P		18 52 27.3	-0.9
	1.1nm,0.8s,baz=54,slow=9.7,SNR=3.6								
ASAR	**Alice Springs**	**25.67**	**223**	P		P		18 52 53.4	0.0
	0.4nm,0.5s,baz=55,slow=9.6,SNR=4.0								
ILAR	**Eielson Array**	**82.69**	**22**	P		P		18 59 46.9	+0.1
	0.4nm,0.6s,baz=246,slow=6.1,SNR=7.3								
TORD	**Torodi Ar. Bea**	**150.31**	**287**	PKP		PKPdf		19 07 10.4	-0.4
	0.9nm,1.2s,baz=72,slow=0.5,SNR=2.7								

*BJI **09** 18:56:26.8, 42.94N×80.99E, h5km, ML3.7/10*
*IDC **09** 18:56:27.0±2.0, 42.95N×80.86E, h0km, mb3.9/1, mb1 3.5/8, mb1mx3.3/33, mbtmp3.5/8, ML3.4/7, MS2.8/3, Ms1 2.8/3, ms1mx2.4/52, Error ellipse: s-maj=25.1km s-min=11.4km az=141.0*
*NNC **09** 18:56:28.5±1.7, 42.91N×80.93E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=17.1km s-min=7.6km az=136.0*
ISC 09 18:56:28.6±1.1, 42.85N±0.08×81.11E±0.07, h10km, n32, σ1s54/35, 18C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.06**	**278**	⇑Pn		Pn		18 57 17.2	+0.1
	86nm,0.5s								
KNDC				⇑Lg		Lg		18 57 59.7	
	584nm,0.9s								
ULHL	**Ulahol**	**3.65**	**262**	P		Pn		18 57 24.9	-0.3
	SNR=23								
MK31	**Makanchi Array**	**4.03**	**12**	⇓Pn		Pn		18 57 30.6	+0.2
	1.4nm,0.2s,baz=182,slow=12,SNR=1109								
MK31				⇓Pg		Pb		18 57 41.0	+1.4
	13nm,0.5s,baz=204,slow=14,SNR=43								
MK31				⇓Lg		Lg		18 58 33.1	
	57nm,0.7s,baz=203,slow=30,SNR=4.4								
MKAR	**Makanchi Array**	**4.03**	**12**	Pn		Pn		18 57 30.7	+0.3
	3.2nm,0.3s,baz=192,slow=13,SNR=221								
MKAR				Pg		Pb		18 57 40.5	+0.9
	16nm,0.3s,baz=191,slow=15,SNR=89								
MKAR				Lg		Lg		18 58 34.2	
	17nm,0.3s,baz=200,slow=30,SNR=8.1								
MKAR				LR		LR		18 58 35.0	
	comp=Z,38nm,20.5s,baz=281,slow=32								
TKM2	**Tokmak 2**	**4.05**	**273**	⇑Pn		Pn		18 57 31.0	+0.2
	7.8nm,0.4s								
TKM2				⇓Lg		Lg		18 58 30.9	
	86nm,0.5s								
TKM2	**Tokmak 2**	**4.05**	**273**	P		Pn		18 57 31.4	+0.6
	SNR=12								
KZA	**Kyzart**	**4.40**	**262**	P		Pn		18 57 36.5	+0.7
	SNR=9.2								
KBK	**Karagaybulak**	**4.54**	**270**	P		Pn		18 57 38.0	+0.5
	SNR=13								
CHMS	**Chumysh**	**4.67**	**274**	P		Pb		18 57 50.0	-0.5
	SNR=8.8								
USP	**Ospenovka**	**4.86**	**277**	P		Pn		18 57 40.9	-0.9
	SNR=10								
AAK	**Ala-Archa**	**4.87**	**270**	⇓Pn		Pn		18 57 42.0	-0.1
	3.0nm,0.6s								
AAK				⇑Pg		Pb		18 57 52.4	-1.7
	18nm,0.5s								
AAK				⇑Lg		Lg		18 58 58.4	
	59nm,0.6s								
AAK	**Ala-Archa**	**4.87**	**270**	P		Pb		18 57 54.1	-0.1
	SNR=13								
AAK	**Ala-Archa**	**4.87**	**270**	Pn		Pn		18 57 41.8	-0.3
	1.1nm,0.3s,baz=87,slow=6.4,SNR=9.2								
AAK				Pg		Pb		18 57 54.2	+0.1
	6.8nm,0.3s,baz=86,slow=14,SNR=44								
AAK				Lg		Lg		18 58 56.2	
	4.9nm,0.3s,baz=220,slow=21,SNR=5.7								
AAK				LR		LR		18 59 44.5	
	comp=Z,54nm,18.1s,baz=48,slow=42								
WMQ	**Urumqi**	**4.90**	**76**	Pg		Pb		18 57 54.9	+0.3
WMQ				smax		smax			
	comp=N,26nm,0.5s								
WMQ				smax		smax			
	comp=E,59nm,0.5s								
UCH	**Uchtor**	**4.91**	**265**	P		Pn		18 57 43.2	+0.4
	SNR=5.5								
KSH	**Kashi**	**5.11**	**231**	Pg		Pg		18 58 06.6	+0.2
KSH				smax		smax			
	comp=N,12nm,0.6s								
KSH				smax		smax			
	comp=E,24nm,0.6s								
EKS2	**Erkin-Say**	**5.40**	**270**	P		Pb		18 58 04.3	+1.2
	SNR=8.0								
KK31	**Karatay Array**	**7.77**	**275**	⇑Pg		Pb		18 58 46.5	+3.1
	4.9nm,0.7s								
KK31				⇑Lg		Lg		19 00 30.6	
	12nm,0.6s								
KURBB	**Kurchatov Arra**	**7.97**	**348**	⇓Pn		Pn		18 58 22.8	-1.5
	2.3nm,0.9s								
KURBB				⇑Sn		Sn		18 59 58.5	+4.0
	19nm,0.7s								
KURBB				⇓Lg		Lg		19 00 37.6	
	47nm,0.8s								
KURBB	**Kurchatov Arra**	**7.97**	**348**	Pn		Pn		18 58 21.1	-3.3
	0.3nm,0.3s,baz=174,slow=12,SNR=7.9								
KURBB				Lg		Lg		19 00 36.1	
	1.3nm,0.3s,baz=172,slow=32,SNR=7.2								
KURK	**Kurchatov**	**8.05**	**349**	⇑Pn		Pn		18 58 23.4	-2.0
	2.5nm,0.6s								
KURK				⇑Sn		Sn		18 59 58.1	+1.6
	11nm,1.1s								
KURK				⇑Lg		Lg		19 00 38.5	
	17nm,0.9s								
ZALV	**Zalesovo Beam**	**11.37**	**11**	Pn		Pn		18 59 09.4	-1.5
	0.9nm,0.3s,baz=191,slow=13,SNR=18								
ZALV				Sn		Sn		19 01 10.4	-7.5
	0.3nm,0.3s,baz=195,slow=22,SNR=4.1								
ZALV				Lg		Lg		19 02 26.5	
	baz=208,slow=24,SNR=2.6								
BVA0	**Borovoye Array**	**12.44**	**329**	⇑Pn		Pn		18 59 27.8	+2.2
	1.4nm,1.1s,baz=332,slow=42,SNR=4.5								
BVA0				⇑Sn		Sn		19 01 45.6	+1.5
	2.0nm,0.7s								
BVA0				⇑Lg		Lg		19 03 04.7	
	6.9nm,0.8s,baz=147,slow=26,SNR=3.9								
BVAR	**Borovoye Array**	**12.44**	**329**	Pn		Pn		18 59 21.7	-3.9
	0.1nm,0.3s,baz=130,slow=16,SNR=2.8								
BVAR				Lg		Lg		19 02 55.2	
	0.4nm,0.3s,baz=119,slow=24,SNR=4.1								
BRVK	**Borovoye**	**12.51**	**328**	⇑Pn		Pn		18 59 28.3	+1.8
	2.8nm,0.7s								
BRVK				⇑Sn		Sn		19 01 46.8	+1.0
	2.7nm,0.7s								
BRVK				⇓Lg		Lg		19 03 05.7	
	21nm,1.0s								
AB31	**Akbulak array**	**16.00**	**301**	⇑Pn		Pn		19 00 11.0	-2.5
	0.9nm,0.8s,baz=105,slow=9.7,SNR=4.0								
AKTO	**Aktyubinsk**	**17.53**	**304**	⇑Pn		Pn		19 00 31.8	-1.1
	1.3nm,0.9s								
AKTO	**Aktyubinsk**	**17.53**	**304**	P		Pn		19 00 29.4	-3.5
	0.0nm,0.3s,baz=103,slow=17,SNR=2.5								
SONM	**Songino Array**	**18.42**	**66**	P		Pn		19 00 45.7	+1.6
	0.2nm,0.3s,baz=273,slow=11,SNR=11								
FINES	**FINESS Array B**	**37.17**	**319**	P		P		19 03 37.2	-2.2
	1.3nm,0.8s,baz=92,slow=11,SNR=6.4								
JNU	**Nakatsue**	**39.91**	**87**	LR		LR		19 21 27.8	
	comp=Z,329nm,20.6s,baz=83,slow=37								
NWAO	**Narrogin (SRO)**	**82.36**	**150**	LR		LR		19 48 13.8	
	comp=Z,24nm,21.1s,baz=245,slow=38								

KRSC 09 19:01:03.8±1.2, 49.79N×156.71E, h21km±10km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**337**	*e*P		Pb		19 01 21.6	-0.3
SKR				*i* S		Sn		19 01 34.9	-0.4
PAU	**Pauzhetka**	**1.68**	**2**	P		Pb		19 01 33.9	0.0
PAU				*e*S		Sb		19 01 55.2	+0.6
MIPR	**Malaya Ipel'ka**	**2.49**	**1**	P		Pn		19 01 44.7	+1.6
MTVR	**Mutnovka**	**2.85**	**18**	P		Pn		19 01 50.5	+2.3
MTVR				S		Sb		19 02 25.4	-3.2
RUS	**Russkaya**	**2.88**	**23**	P		Pn		19 01 50.2	+1.8
RUS				S		Sn		19 02 25.0	+2.7
UGLR	**Uglovaya**	**3.67**	**20**	P		Pn		19 02 03.3	+3.9
AVH	**Avacha**	**3.70**	**19**	P		Pb		19 02 04.2	-4.3
KOK	**Koryaka**	**3.70**	**18**	P		Pb		19 02 04.5	-4.1
SMAR	**Somma**	**3.71**	**20**	P		Pn		19 02 03.9	+3.7
KRER	**Koryakskii**	**3.74**	**19**	P		Pn		19 02 04.6	+4.1
SDLR	**Sedlovina**	**3.74**	**20**	P		Pn		19 02 03.5	+3.0
KRX	**Arik**	**3.77**	**18**	P		Pn		19 02 04.9	+4.0
GNL	**Ganaly**	**3.98**	**11**	P		Pn		19 02 07.1	+3.4

*IDC **09** 19:19:59.0±0.8, 26.84N×53.55E, h0km, mb3.8/20, mb1 3.9/21, mb1mx3.9/33, mbtmp3.9/21, ML3.4/1, Error ellipse: s-maj=21.0km s-min=13.3km az=174.0*
*ISCJB **09** 19:20:00.0±0.3, 26.96N±0.04×53.51E±0.04, h10km, mb4.0/22, Error ellipse: s-maj=5.8km s-min=5.2km az=154.4*
*CSEM **09** 19:20:01.1±0.3, 26.88N×53.58E, h2km, ML3.7, Error ellipse: s-maj=9.2km s-min=5.7km az=148.0*
*TEH **09** 19:20:02.3, 27.05N×53.73E, h16km, ML3.7*
ISC 09 19:20:00.7±0.5, 26.92N±0.04×53.60E±0.04, h10km, n55, σ1s48/60, mb3.8/22, 4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**2.49**	**350**	*e*Pn		Pb		19 20 44.2	-1.6
ISRV				*e*				19 21 40.9	
	comp=Z,5μm,0.4s								
ISRV	**Sarvestan**	**2.49**	**350**	*e*Pn		Pb		19 20 44.2	-1.6
IBND	**Bandar-abas**	**2.67**	**78**	*e*Pn		Pn		19 20 45.5	+1.7
IBND				*e*Sg		Sg		19 21 26.1	-0.4
IBND				*e*				19 21 48.1	
	comp=Z,7μm,0.4s								
IBND	**Bandar-abas**	**2.67**	**78**	*e*Pn		Pn		19 20 45.5	+1.7
IBND				*e*Sg		Sg		19 21 26.1	-0.4
NAZ	**Nazwa, Dubai**	**2.67**	**136**	⇓*i*P		Pb		19 20 46.9	-1.8
	SNR=16								
ASUD	**Al Ashush, Dub**	**2.76**	**145**	⇓*i*P		Pb		19 20 48.1	-2.1
	SNR=31								
FAQ	**Al Faqa, Dubai**	**2.81**	**140**	⇓*i*P		Pn		19 20 48.2	+2.5
	SNR=7.3								
IPAR	**Pars**	**2.95**	**351**	*e*Pn		Pn		19 20 50.7	+2.7
IPAR				*e*				19 21 44.5	
	comp=Z,2μm,0.4s								
IPAR	**Pars**	**2.95**	**351**	*e*Pn		Pn		19 20 50.7	+2.7
HATD	**Hatta, Dubai**	**3.09**	**132**	⇓*i*P		Pn		19 20 51.8	+2.2
	SNR=8.7								
IKAZ	**Kazeroun**	**3.25**	**332**	*e*Pn		Pn		19 20 53.7	+1.7
IKAZ				*e*				19 21 58.1	
	comp=Z,3μm,0.3s								
IKAZ	**Kazeroun**	**3.25**	**332**	*e*Pn		Pn		19 20 53.7	+1.7
BTHS		**3.79**	**222**	P		Pn		19 21 00.5	+1.2
	baz=222								
BTHS		**3.79**	**222**	P		Pn		19 21 00.0	+0.7
BOQSS		**3.93**	**256**	S		Sn		19 21 48.1	+0.7
	baz=254								
BOQSS		**3.93**	**256**	P		Pn		19 21 03.0	+1.8
	baz=254								
BOQSS		**3.93**	**256**	P		Pn		19 21 03.0	+1.8
BOQSS				S		Sn		19 21 48.0	+0.6
IMEH	**Mehriz**	**4.54**	**11**	*e*Pn		Pn		19 21 11.8	+2.0
IMEH				*e*				19 22 09.8	
	comp=Z,572nm,0.2s								
IMEH	**Mehriz**	**4.54**	**11**	*e*Pn		Pn		19 21 11.8	+2.0
IBAF	**Bafgh**	**4.96**	**20**	*e*Pn		Pn		19 21 16.9	+1.4
IBAF				*e*				19 21 46.9	
	comp=Z,370nm,0.2s								
IBAF				*e*Sn		Sn		19 22 11.7	-1.3
IBAF	**Bafgh**	**4.96**	**20**	*e*Pn		Pn		19 21 16.9	+1.4
IBAF				*e*Sn		Sn		19 22 11.7	-1.3
ISAD	**Sadrabad**	**4.98**	**1**	*e*Pn		Pn		19 21 18.1	+2.3
ISAD	**Sadrabad**	**4.98**	**1**	*e*Pn		Pn		19 21 18.1	+2.3
KFJS		**5.18**	**285**	P		Pn		19 21 18.5	+0.1
	baz=284								
KFJS		**5.18**	**285**	P		Pn		19 21 18.0	-0.4
ICHK	**Chekchek**	**5.35**	**7**	*e*Pn		Pn		19 21 22.7	+1.8
ICHK				*e*				19 22 26.7	
	comp=Z,418nm,0.2s								
ICHK	**Chekchek**	**5.35**	**7**	*e*Pn		Pn		19 21 22.7	+1.8
IPIR	**Pirpir**	**6.21**	**338**	*e*Pn		Pn		19 21 34.0	+1.2
IPIR				*e*				19 22 11.7	
	comp=N,280nm,0.2s								
IPIR	**Pirpir**	**6.21**	**338**	*e*Pn		Pn		19 21 34.0	+1.2
IKOO	**Kooshah**	**7.22**	**39**	*e*Pn		Pn		19 21 49.1	+2.5
IKOO	**Kooshah**	**7.22**	**39**	*e*Pn		Pn		19 21 49.1	+2.5
EIL	**Elat**	**16.66**	**284**	Pn		Pn		19 23 54.5	+0.2
	comp=N,0.1nm,0.3s,baz=68,slow=11,SNR=2.2								
BRTR	**Keskin Array B**	**20.95**	**313**	P		P		19 24 44.6	+0.7
	comp=N,1.6nm,0.7s,baz=128,slow=13,SNR=14								
AAK	**Ala-Archa**	**23.15**	**42**	P		P		19 25 09.8	+2.4
	comp=N,1.4nm,0.6s,baz=240,slow=15,SNR=4.2								
AKTO	**Aktyubinsk**	**23.72**	**7**	P		P		19 25 14.8	+2.0
	comp=N,1.5nm,0.7s,baz=172,slow=10,SNR=5.0								
IDI	**Anoyia**	**25.89**	**296**	P		P		19 25 34.0	+1.0
	comp=N,5.8nm,0.7s,baz=84,slow=10,SNR=3.7								
BVAR	**Borovoye Array**	**28.93**	**21**	P		P		19 26 00.0	+0.1
	comp=N,0.7nm,0.6s,baz=211,slow=8.3,SNR=6.0								
MKAR	**Makanchi Array**	**30.08**	**41**	P		P		19 26 10.8	+0.6
	comp=N,1.1nm,0.5s,baz=232,slow=10,SNR=24								
AKASG	**Malin Array Be**	**30.15**	**328**	P		P		19 26 10.4	-0.3
	comp=N,0.4nm,0.4s,baz=136,slow=8.0,SNR=3.6								
KURBB	**Kurchatov Arra**	**30.36**	**32**	P		P		19 26 12.6	+0.1
	comp=N,0.4nm,0.2s,baz=232,slow=8.5,SNR=5.8								
ZALV	**Zalesovo Beam**	**35.45**	**32**	P		P		19 26 57.3	+0.2
	comp=N,2.3nm,0.5s,baz=242,slow=8.6,SNR=17								
FINES	**FINESS Array B**	**39.16**	**339**	P		P		19 27 27.7	-0.7
	comp=N,0.8nm,0.3s,baz=143,slow=9.2,SNR=18								
CMAR	**Chiang Mai Arr**	**42.49**	**92**	P		P		19 27 57.7	+1.2
	comp=N,0.8nm,0.8s,baz=285,slow=9.4,SNR=9.5								
SONM	**Songino Array**	**45.85**	**48**	P		P		19 28 23.9	+0.7
	comp=N,1.4nm,1.0s,baz=267,slow=6.8,SNR=7.2								
ESDC	**Sonseca Array**	**49

*ISCJB **09** 19:21:41.5±0.3,3.86N±0.04×122.99E±0.04, h545km, mb3.9/20, Error ellipse: s-maj=6.8km s-min=3.9km az=140.0*
*DJA **09** 19:21:42.7±0.7,4.4°N±9.9°×12.3°E±°, h539km±6km, M3.9/18, mb4.6/18, mB4.6/6, MLv3.6/2, Mw(mB)3.9/6*
*KLM **09** 19:21:42.4, 4.12N×122.97E, h561km, mb4.5, ML4.3, MS5.3*
*IDC **09** 19:21:43.5±1.2, 3.74N×122.86E, h560km±15km, mb3.4/20, mb1 3.5/20, mb1mx3.3/32, mbtmp4.3/20, Error ellipse: s-maj=19.0km s-min=7.7km az=61.0*

ISC 09 19:21:42.4±0.4, 3.79N±0.07×122.92E±0.08, h545km, n96, σ0§98/95, mb3.9/20, 6C-8D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	Gorontalo	3.14	178	P	P	19 22 57.2	-0.7
MRSI	Marisa	3.44	197	P	P	19 23 00.4	+0.5
MYLDM	Lahad Datu	4.62	288	P	x	19 23 10.9	
MYLDM	Lahad Datu	4.62	288	⇑P	P	19 23 09.2	+0.5
LUWI	Luwuk baz=4.8,SNR=3.3	4.81	182	P	P	19 23 10.5	+0.1
LUWI	baz=4.8,SNR=8.9			S	S	19 24 20.2	-1.9
TSM	Tawau	5.06	276	⇑P	P	19 23 13.6	+1.1
TNTI	Ternate 228nm,1.1s,4μm	5.36	124	P	P	19 23 15.6	+0.5
SDKM	Sandakan	5.99	288	⇑P	P	19 23 21.3	+0.5
LBMI	Labuha 49nm,0.4s,1μm	6.35	134	P	P	19 23 24.6	+0.5
SANI	Sanana 28nm,0.8s,1μm	6.56	152	P	P	19 23 24.5	-1.6
KDM	Kudat	6.81	297	⇓P	P	19 23 28.2	-0.1
KKM	Kota Kinabalu 92nm,0.8s,1μm	7.04	289	P	x	19 23 30.8	
KKM	Kota Kinabalu baz=7.0,SNR=18	7.04	289	P	P	19 23 31.1	+0.3
KKM	Kota Kinabalu	7.04	289	⇑P	P	19 23 30.9	+0.1
MMSI	Mamuju 60nm,0.6s,1μm	7.59	212	P	x	19 23 35.6	
BKB	Balikpapan 137nm,0.9s	7.84	230	P	P	19 23 39.7	+1.3
NLAI	Namlea 153nm,0.7s,1μm	8.14	149	P	P	19 23 42.8	+1.4
SPSI	Sidrap Palu 65nm,0.7s	8.33	202	P	P	19 23 44.0	+0.7
BTM	Bintulu	9.84	267	⇓P	P	19 23 59.8	+1.1
SBUM	Sibu 28nm,0.8s	10.77	263	P	x	19 24 09.5	
SBUM	Sibu	10.77	263	⇑P	P	19 24 09.4	+1.2
FAKI	Fak Fak baz=12,SNR=16	11.46	125	P	P	19 24 16.3	+0.9
KSM	Kuching	12.81	260	P	P	19 24 29.8	+0.5
KSM	Kuching baz=13,SNR=4.5	12.81	260	⇓P	P	19 24 29.9	+0.6
SOEI	Soe baz=14,SNR=25	13.53	174	P	P	19 24 36.8	-0.1
JAGI	Jajag, Banyuwa baz=15,SNR=18	15.00	216	P	P	19 24 51.9	-0.1
GMJI	Gumukmas 53nm,1.0s	15.27	218	P	P	19 25 00.7	+5.9
KRKI	Karangkates 214nm,0.8s	15.81	221	P	x	19 25 01.4	
UGM	Wanagama baz=17,SNR=5.6	16.98	227	P	P	19 25 11.3	+0.1
BJII	Banjamegara 68nm,1.1s	17.20	230	P	x	19 25 15.2	
TGJI	Tegal 50nm,1.0s	17.38	232	P	x	19 25 16.8	
KPJI	Karang Pucung 80nm,0.9s	17.81	232	P	P	19 25 20.1	+1.3
MTN	Manton Dam baz=18,SNR=39	18.43	154	P	P	19 25 24.3	-0.2
LEM	Lembang 62nm,0.9s	18.57	235	P	P	19 25 27.2	+1.2
LEM	Lembang baz=18,SNR=7.0	18.57	235	P	P	19 25 27.2	+1.2
KDU	Kakadu baz=19,SNR=37	18.93	150	P	P	19 25 28.8	-0.2
CBJI	Cideko 126nm,1.1s	18.98	238	P	P	19 25 31.9	+2.3
MYKOM	Kota Tinggi	19.15	265	⇓P	P	19 25 31.4	+0.2
KGM	Kluang	19.66	265	⇓P	P	19 25 35.4	-0.4
KTGM	Kuala Trenggan	19.78	275	⇓P	P	19 25 36.1	-0.8
KNRA	Kununurra baz=20,SNR=12	20.19	163	P	P	19 25 40.7	+0.2
KASI	Kota Agung 55nm,1.1s	20.60	243	P	P	19 25 45.7	+1.4
LWLI	Liwa	20.77	245	P	P	19 25 47.2	+1.2
FRIM	Kepong	21.26	269	⇑P	P	19 25 49.6	-0.7
IPM	Ipoh	21.85	273	⇓P	P	19 25 54.8	-0.8
KULM	Kulim	22.25	275	⇓P	P	19 25 58.5	-0.7
PSI	Prapat 2.3nm,0.5s,baz=187,slow=4.5,SNR=5.1	23.98	268	P	P	19 26 13.7	-0.9
WRA	Warramunga Arr 15nm,0.3s,baz=336,slow=9.5,SNR=101	26.12	155	P	P	19 26 32.7	-0.7
WRA	1.7nm,0.5s,baz=340,slow=3.0,SNR=17			ScP	ScP	19 32 29.0	-2.1
COEN	Coen baz=27,SNR=7.8	26.74	132	P	P	19 26 38.1	-0.8
PMG	Port Moresby 16nm,0.8s,baz=329,slow=6.6,SNR=7.0	27.49	119	P	P	19 26 45.3	-0.1
CMAR	Chiang Mai Arr 1.1nm,1.0s,baz=127,slow=6.9,SNR=9.4	27.61	304	P	P	19 26 47.2	+0.7
WRKA	Warakurna baz=29,SNR=47	29.13	170	P	P	19 26 59.8	+0.1
QIS	Mount Isa baz=29,SNR=31	29.22	147	P	P	19 27 00.9	+0.4
ASAR	Alice Springs 7.5nm,0.4s,baz=340,slow=7.2,SNR=378	29.32	159	P	P	19 27 01.4	+0.1
ASAR	1.5nm,0.6s,baz=338,slow=2.9,SNR=12			ScP	ScP	19 32 39.1	-1.9
MEEK	Meekatharra baz=31,SNR=8.0	30.54	188	P	P	19 27 11.3	-0.5
MORW	Morawa baz=34,SNR=4.9	33.34	191	P	P	19 27 35.4	-0.1
KSRS	Korea Array 0.7nm,0.7s,baz=183,slow=9.0,SNR=3.9	33.81	7	P	P	19 27 41.0	+1.6
FORT	Forrest baz=35,SNR=34	34.73	172	P	P	19 27 47.5	+0.4
KMBL	Kambalda baz=35,SNR=8.2	34.98	182	P	P	19 27 49.2	-0.1
KLBR	Kellerberrin baz=36,SNR=9.4	35.53	188	P	P	19 27 53.5	-0.3
NWAO	Narrogin (SRO) 2.8nm,0.4s,baz=27,slow=11,SNR=6.4	36.92	188	P	P	19 28 05.1	-0.2
BBOO	Buckleboo baz=39,SNR=34	38.48	162	P	P	19 28 18.4	+0.3
STKA	Stephens Creek 12nm,0.6s,baz=330,slow=7.3,SNR=58	39.67	155	P	P	19 28 28.5	+0.8
HTT	Hallett baz=40,SNR=14	40.00	159	P	P	19 28 31.2	+0.9
TAPN	Taplejung	40.96	309	eP	P	19 28 38.9	+0.5
ODAN	Odare 11nm,0.8s	40.98	308	eP	P	19 28 39.0	+0.5
USRK	Ussuriysk Arra 1.8nm,1.0s,baz=211,slow=8.4,SNR=4.5	41.03	10	P	P	19 28 38.9	+0.6
CMSA	Cobar Meteorol baz=41,SNR=18	41.29	150	P	P	19 28 42.0	+1.4
RAMN	Ramite 12nm,0.7s	41.64	307	eP	P	19 28 44.5	+0.7
JIRN	Jiri 10nm,0.2s	42.29	308	eP	P	19 28 49.5	+0.5
GUN	Gumba 34nm,0.5s	42.65	308	eP	P	19 28 52.3	+0.5
PKI	Pulchoki 8.9nm,0.2s	42.87	307	eP	P	19 28 53.5	0.0
KKN	Kakani 13nm,0.5s	43.07	308	eP	P	19 28 55.1	+0.2
DMN	Daman	43.13	307	eP	P	19 28 55.6	+0.2
GKN	Gorkha 12nm,0.6s	43.67	308	eP	P	19 28 59.7	+0.1
ARMA	Armidale baz=44,SNR=12	43.71	143	P	P	19 29 02.2	+2.5
ARPS	Mount Arapiles baz=44,SNR=21	44.05	158	P	P	19 29 02.7	+0.7
KOLN	Koldanda 54nm,0.6s	44.40	307	eP	P	19 29 05.9	+0.7
DANN	Dangsing 44nm,0.6s	44.52	307	eP	P	19 29 06.6	+0.3
PYUN	Piuthan 52nm,0.5s	45.03	307	eP	P	19 29 10.7	+0.6
MGCD	Mangrove Creek baz=46,SNR=5.4	45.45	146	P	P	19 29 15.2	+2.3
SONM	Songino Array 0.3nm,0.3s,baz=168,slow=8.0,SNR=7.5	46.12	345	P	P	19 29 18.2	+0.3
SONM	0.2nm,0.7s,baz=160,slow=4.6,SNR=2.8			ScP	ScP	19 33 42.8	-1.5
CNB	Canberra Magne baz=46,SNR=20	46.15	150	P	P	19 29 19.7	+1.4
CNB	baz=46,SNR=31			S	S	19 35 22.6	-2.0
MILA	Mila baz=48,SNR=20	47.42	151	S	S	19 35 44.5	+2.3
MKAR	Makanchi Array 4.0nm,0.3s,baz=124,slow=7.6,SNR=201	55.38	327	P	P	19 30 25.6	+0.4
MKAR	1.2nm,0.5s,baz=134,slow=3.8,SNR=8.8			PcP	PcP	19 31 16.9	-0.6
MKAR	0.4nm,0.6s,baz=138,slow=3.9,SNR=4.0			ScP	ScP	19 34 22.8	-1.4
AAK	Ala-Archa 0.7nm,0.3s,baz=111,slow=8.6,SNR=5.2	57.79	319	P	P	19 30 42.6	+0.6
ZALV	Zalesovo Beam 0.9nm,0.4s,baz=123,slow=5.5,SNR=6.6	58.86	335	P	P	19 30 48.2	-0.5
KURBB	Kurchatov Arra 2.8nm,0.5s,baz=130,slow=6.5,SNR=24	59.68	329	P	P	19 30 54.2	0.0
URZ	Urewera 4.4nm,0.6s,baz=269,slow=5.6,SNR=8.3	65.22	135	P	P	19 31 30.2	-0.2
BVAR	Borovoye Array 0.8nm,0.3s,baz=133,slow=8.0,SNR=12	65.22	328	P	P	19 31 29.8	-0.3
AKTO	Aktyubinsk 2.4nm,0.3s,baz=104,slow=6.9,SNR=11	71.27	322	P	P	19 32 06.8	0.0
VNDA	Vanda 0.8nm,0.8s,baz=292,slow=8.0,SNR=4.0	83.99	172	P	P	19 33 14.6	-0.3
ASF	Jabal al Asfar 2.1nm,0.7s,baz=55,slow=4.3,SNR=4.2	84.63	302	P	P	19 33 18.6	-0.6
FINES	FINESS Array B 1.0nm,0.5s,baz=43,slow=3.4,SNR=9.8	89.97	332	P	P	19 33 42.3	-1.2
FRB	Frobisher Bay 2.0nm,0.4s,baz=270,slow=2.0,SNR=4.9	112.09	5	PKiKP	PKiKP	19 39 13.9	-1.7
TORD	Torodi Ar. Bea 0.2nm,0.3s,baz=74,slow=2.0,SNR=6.0	119.28	287	PKP	PKPdf	19 39 29.5	-1.4

*IDC **09** 19:31:23.4±1.8, 14.09N×121.62E, h114km±18km, mb3.0/4, mb1 3.2/4, mb1mx2.9/25, mbtmp3.3/4, Error ellipse: s-maj=65.8km s-min=21.7km az=68.0*
*ISCJB **09** 19:31:24.1±0.8, 13.57N±0.09×120.9E±0.1, h123km±6km, mb3.2/4, Error ellipse: s-maj=18.4km s-min=14.2km az=0.3*
*MAN **09** 19:31:24, 13.51N×121.03E, h116km, mb4.4, ML3.3, MS3.1*

ISC 09 19:31:25.0±1.0, 13.56N±0.08×120.9E±0.1, h118km±8km, n10, σ0§80/11, mb3.2/4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	Puerto Galera	0.09	133	⇑eP	Pn	19 31 40.8	-0.5
PGP				i S	Sn	19 31 53.0	-0.4
TGY	Tagaytay City 47nm,0.3s,baz=188,slow=15,SNR=6.1	0.54	5	P	Pn	19 31 43.4	+0.3
TGY	232nm,0.3s,baz=336,slow=23,SNR=34			S	Sn	19 31 57.0	+0.3
BOAC	Boac	0.94	96	eP	Pn	19 31 50.3	+4.1
BOAC				eS	Sn	19 32 02.9	+0.6
BUSP	Coron	1.69	203	eP	Pn	19 31 55.0	+0.4
CUYO	Cuyo Island	2.70	177	eP	Pn	19 32 06.3	-1.1
ENPP	El Nido	2.74	212	eP	Pn	19 32 08.3	+0.3
WRA	Warramunga Arr 0.4nm,1.1s,baz=334,slow=9.5,SNR=3.2	35.83	158	P	P	19 38 13.8	+0.4
ASAR	Alice Springs 0.3nm,0.8s,baz=340,slow=7.2,SNR=4.2	39.13	161	P	P	19 38 42.3	+1.1
MKAR	Makanchi Array 0.6nm,1.0s,baz=145,slow=6.3,SNR=3.1	46.25	324	P	P	19 39 37.6	-0.9
ILAR	Eielson Array 0.5nm,1.1s,baz=268,slow=8.0,SNR=4.1	78.79	26	P	P	19 43 08.5	-6.0

WEL 09 19:37:38.2±0.4, 37.54S×179.98W, h33km, ML3.5/7, Error ellipse: s-maj=3.9km s-min=2.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.36	269	PN	Pn	19 38 00.4	-0.6
MXZ				AML	AML	19 38 14.7	
MXZ				SN	Sn	19 38 16.7	-1.2
PUZ	Puketiti	1.50	249	PN	Pn	19 38 01.9	-0.9
PUZ				SN	Sn	19 38 20.7	-0.6
CNGZ	Carnagh Statio	1.72	236	PN	Pn	19 38 05.8	0.0
MWZ	Matawai	2.13	247	PN	Pn	19 38 10.6	-0.9
MWZ				SN	Sn	19 38 34.7	-2.2
RIGZ	Rimuhau	2.13	236	PN	Pn	19 38 11.0	-0.5
RIGZ				SN	Sn	19 38 36.1	-0.8
PRGZ	Paritu Road	2.18	230	PN	Pn	19 38 11.7	-0.5
MHGZ	Mahia Peninsul	2.31	225	PN	Pn	19 38 13.4	-0.6
KNZ	Kokohu	2.37	231	PN	Pn	19 38 13.7	-1.0
KNZ				SN	Sn	19 38 39.8	-2.8
URZ	Urewera	2.41	252	PN	Pn	19 38 15.5	+0.1
BKZ	Black Stump Fm	3.21	239	PN	Pn	19 38 25.6	-0.9
MCHZ	McNeill Hill	3.23	233	PN	Pn	19 38 26.0	-0.6
KAHZ	Kahuranaki	3.34	227	PN	Pn	19 38 26.8	-1.3
PXZ	Pawanui	3.50	224	AML	AML	19 39 33.5	
BHHZ	Black Hill Sta	3.66	237	PN	Pn	19 38 31.7	-1.0
TSZ	Takapari Road	4.05	230	PN	Pn	19 38 35.8	-2.1

IDC 09 19:47:15.3±1.1, 10.48S×120.41E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/17, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=53.5km s-min=22.9km az=70.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=300,slow=13,SNR=7.9	16.40	127	Pn	Pn	19 51 05.6	-1.5
WRA	0.0nm,0.3s,baz=292,slow=25,SNR=3.0			Sn	Sn	19 53 54.3	-16
ASAR	Alice Springs 0.2nm,0.3s,baz=315,slow=12,SNR=16	18.38	137	P	P	19 51 32.5	+0.6
ASAR	0.1nm,0.3s,baz=307,slow=24,SNR=4.3			S	Sn	19 54 46.0	-12
H08S2	Diego Garcia H baz=107	47.37	269	T	T	20 47 47.3	
H08S3	Diego Garcia H baz=107	47.38	269	T	T	20 47 47.6	
H08S1	Diego Garcia H baz=107	47.39	269	T	T	20 47 46.6	
SONM	Songino Array 0.2nm,0.5s,baz=153,slow=6.7,SNR=4.0	59.37	349	P	P	19 57 19.9	+0.3
MKAR	Makanchi Array 0.3nm,0.6s,baz=153,slow=6.5,SNR=6.7	66.40	332	P	P	19 58 06.3	+0.1
MAW	Mawson 3.5nm,0.3s,baz=75,slow=12,SNR=7.9	68.34	200	P	P	19 58 18.2	0.0
ZALV	Zalesovo Beam 0.5nm,0.5s,baz=131,slow=4.1,SNR=3.9	70.91	339	P	P	19 58 33.6	-0.6

*IDC **09** 20:01:54.7±0.8, 2.39N×126.78E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=40.3km s-min=14.4km az=67.0*
*ISCJB **09** 20:01:59.9±0.6, 2.60N±0.06×126.95E±0.08, h53km, mb3.8/8, Error ellipse: s-maj=11.7km s-min=7.5km az=150.6*
*DJA **09** 20:02:00.5±0.9, 2°N±7°×12°7E±°, h10km, M4.0/7, mb4.4/3, MLv3.8/7*

ISC 09 20:02:01.9±0.8, 2.55N±0.08×126.98E±0.09, h53km, n22, σ1§82/24, mb3.8/8, Northern Moluccca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.81	168	P	Pn	20 02 29.4	-1.2
TNTI				S	Sn	20 02 54.1	+1.7
LBMI	Labuha	3.21	171	P	Pn	20 02 50.3	+0.5
LBMI				S	Sn	20 03 31.8	+5.0
GTOI	Gorontalo	4.40	244	P	Pn	20 03 06.9	+0.8
SANI	Sanana	4.67	192	P	Pn	20 03 07.2	-2.7
MRSI	Marisa 38nm,0.6s,0.2nm	5.44	248	P	Pn	20 03 21.6	+1.1
SWI	Sorong	5.46	128	P	Pn	20 03 23.3	+2.6
LUWI	Luwuk 74nm,1.1s,0.3nm	5.51	230	P	Pn	20 03 20.8	-0.7
LUWI	Luwuk baz=5.8,SNR=8.2	5.51	230	P	Pn	20 03 22.9	+1.5
MTN	Manton Dam baz=16,SNR=6.8	15.84	165	P	P	20 05 43.5	-0.9
KDU	Kakadu baz=17,SNR=4.2	16.09	160	P	P	20 05 46.9	-0.3
KNRA	Kununurra baz=19,SNR=7.6	18.19	174	P	P	20 06 09.0	-1.5
FITZ	Fitzroy Crossi baz=180,slow=20	20.56	184	P	P	20 06 34.1	-2.2
WRA	Warramunga Arr 1.5nm,0.3s,baz=340,slow=11,SNR=47	23.49	162	P	P	20 07 04.8	-2.3
QIS	Mount Isa baz=27,SNR=5.3	26.09	152	P	P	20 07 30.3	-0.5
ASAR	Alice Springs 0.3nm,0.3s,baz=345,slow=7.6,SNR=9.7	26.91	166	P	P	20 07 36.6	-1.6
WRKA	Warakurna baz=28,SNR=7.1	27.45	177	P	P	20 07 42.3	-0.7
WRKA	baz=28,SNR=5.7			S	S	20 12 46.0	+26
CMAR	Chiang Mai Arr 1.1nm,0.8s,baz=117,slow=7.5,SNR=12	31.69	302	P	P	20 08 19.8	-0.9
KSRS	Korea Array 0.5nm,0.6s,baz=185,slow=9.6,SNR=3.3	34.75	1	P	P	20 08 48.9	+1.8
STKA	Stephens Creek 3.6nm,0.7s,baz=334,slow=8.2,SNR=12	36.94	159	P	P	20 09 05.5	-0.5
DZM	Mont Dzumac 6.4nm,0.9s,baz=102,slow=19,SNR=2.6	45.66	124	P	P	20 10 17.7	0.0
SONM	Songino Array 0.4nm,0.8s,baz=167,slow=9.4,SNR=3.4	48.49	342	P	P	20 10 39.8	+0.3
MKAR	Makanchi Array 0.4nm,0.4s,baz=124,slow=6.6,SNR=11	58.66	326	P	P	20 11 53.3	-0.6

*IDC **09** 20:03:09.0±1.9, 16.61S×172.71W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/22, mbtmp4.0/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=60.3km s-min=31.3km az=120.0*
*ISCJB **09** 20:03:11.0±1.7, 16.5S±0.2×172.8W±0.3, h24km, mb3.9/5, MS3.0/1, Error ellipse: s-maj=50.4km s-min=27.6km az=27.2*

ISC 09 20:03:12.1±1.8, 16.6S±0.3×172.7W±0.4, h24km, n7, σ0§48/6, mb4.0/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera 3.0nm,0.4s,baz=300,slow=2.8,SNR=5.2	23.39	201	P	P	20 08 19.0	-0.1
HNR	Honiara comp=Z,42nm,21.2s,baz=136,slow=33	27.57	282	LR	LR	20 18 25.2	
STKA	Stephens Creek 2.1nm,0.8s,baz=95,slow=11,SNR=3.8	44.05	241	P	P	20 11 18.2	-0.1
WRA	Warramunga Arr 1.0nm,0.6s,baz=96,slow=7.1,SNR=21	50.25	258	P	P	20 12 06.8	0.0
ASAR	Alice Springs 4.1nm,0.6s,baz=88,slow=8.2,SNR=57	50.41	253	P	P	20 12 08.4	+0.4
ILAR	Eielson Array 0.1nm,0.6s,baz=231,slow=6.2,SNR=3.1	83.47	11	P	P	20 15 37.5	+0.3
BRTR	Keskin Array B 0.3nm,0.5s,baz=118,slow=2.5,SNR=3.6	147.50	320	PKPbc	PKPab	20 22 56.0	-0.7

*ISCJB **09** 20:07:39.4±0.4, 33.83N±0.07×136.83E±0.07, h379km±3km, mb3.0/9, Error ellipse: s-maj=13.0km s-min=6.7km az=147.4*
*IDC **09** 20:07:39.8±0.8, 33.79N×136.77E, h367km±8km, mb2.8/9, mb1 3.1/13, mb1mx3.0/30, mbtmp2.8/13, Error ellipse: s-maj=16.9km s-min=12.2km az=117.0*
*JMA **09** 20:07:40.0±0.2, 33.80N×136.76E, h377km±2km, M2.8*

ISC 09 20:07:40.3±0.7, 33.85N±0.08×136.83E±0.07, h373km±6km, n38, σ1§29/52, mb3.0/9, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO1	TONANKAI O.B.S	0.23	190	P	Pn	20 08 27.5	+1.1
JIE	Ise	0.55	349	P	Pn	20 08 27.9	+0.8
JIE				S	S	20 09 05.1	+0.3
JKN2	Miekihoku	0.60	310	P	Pn	20 08 27.6	+0.4
JKN2				S	S	20 09 04.7	-0.3
TK02	Tokai 2	0.78	82	P	Pn	20 08 29.0	+1.6
JWZ	Kozaga	0.98	252	P	Pn	20 08 28.1	-0.3
JWZ				S	S	20 09 03.7	-3.4
JWY	Kouya	1.09	290	P	Pn	20 08 29.3	+0.4
JWM	Minabe	1.23	271	P	Pn	20 08 29.3	-0.1
JWM				S	S	20 09 07.6	-1.3
JHMK	Hamakita	1.23	38	P	Pn	20 08 30.1	+0.9
JHE	Heguri	1.24	311	P	Pn	20 08 29.8	+0.4
JHE				S	S	20 09 08.0	-1.0
HMMJ	Hamamatsu 2	1.25	36	P	Pn	20 08 30.4	+1.0
HMMJ				S	S	20 09 10.3	+1.3
JAO	Obara	1.46	14	P	Pn	20 08 31.4	+0.9
JAO				S	S	20 09 12.0	+1.0
SHZ3	Shizuoka 3	1.67	43	P	Pn	20 08 32.8	+1.2
JNY	Yasuok	1.73	29	P	Pn	20 08 32.9	+0.9
JGM	Miyama	1.85	357	P	Pn	20 08 33.1	+0.4
JAI	Aioi	1.98	269	P	Pn	20 08 33.4	-0.1
JKS	Kasai	2.00	305	P	Pn	20 08 33.4	-0.2
JHU	Hanno	2.84	45	P	Pn	20 08 40.5	+0.6
JHU				eS	S	20 09 27.0	-1.1
MAT	Matsushiro	2.92	22	P	Pn	20 08 41.0	+0.4
MAT				S	S	20 09 29.8	+0.5
MJAR	Matsushiro Arr 2.5nm,0.3s,baz=191,slow=10,SNR=60	2.92	22	P	Pn	20 08 41.0	+0.5
MJAR	baz=171,slow=8.4,SNR=3.0			S	S	20 09 28.8	-0.6
BSO4	Boso 4	3.12	68	P	Pn	20 08 42.6	+0.4
BSO4				eS	S	20 09 31.8	-0.4
BSO3	Boso 3	3.19	72	P	Pn	20 08 40.4	-2.3
JAG	Ashikaga	3.35	39	P	Pn	20 08 43.8	-0.6
JAG				eS	S	20 09 36.0	-0.2
JYT	Yasato	3.64	48	P	Pn	20 08 46.3	-0.8
JYT				eS	S	20 09 37.5	-3.6
JHO	Hitachi	4.12	47	P	Pn	20 08 51.0	-0.8
JHO				eS	S	20 09 42.6	-7.0
JFK	Kawauchi	4.81	42	P	Pn	20 08 58.3	-0.6
JFK				eS	S	20 09 58.0	-4.7
JNU	Nakatsue 0.8nm,0.3s,baz=198,slow=18,SNR=10	5.03	263	P	Pn	20 09 01.1	-0.2
JNU	0.2nm,0.3s,baz=90,slow=3.0,SNR=3.6			S	S	20 09 58.5	-8.5
KSRS	Korea Array 0.4nm,0.3s,baz=116,slow=12,SNR=16	8.09	299	P	Pn	20 09 36.0	+0.3
JOW	Kunigami	10.17	229	P	P	20 10 01.5	+0.7
USRK	Ussuriysk Arra 0.5nm,0.3s,baz=151,slow=11,SNR=12	11.00	341	P	P	20 10 09.6	-0.1
CMAR	Chiang Mai Arr 0.3nm,0.5s,baz=51,slow=7.6,SNR=6.3	37.07	255	P	P	20 14 16.2	-0.3
MKAR	Makanchi Array 0.3nm,0.9s,baz=79,slow=10,SNR=4.4	42.73	304	P	P	20 15 01.8	-0.4
WRA	Warramunga Arr 0.6nm,0.3s,baz=359,slow=7.7,SNR=22	53.54	183	P	P	20 16 23.5	-0.6
ILAR	Eielson Array 0.3nm,0.9s,baz=249,slow=4.7,SNR=4.7	54.16	31	P	P	20 16 28.4	+0.4
ASAR	Alice Springs 0.2nm,0.3s,baz=0.1,slow=5.7,SNR=10	57.26	183	P	P	20 16 49.6	-0.7
YKA	Yellowknife Ar 0.1nm,0.4s,baz=301,slow=5.2,SNR=4.6	68.41	28	P	P	20 18 03.1	+0.6
FINES	FINESS Array B 1.6nm,0.9s,baz=49,slow=6.7,SNR=11	69.85	331	P	P	20 18 10.7	-0.5
NVAR	Mina Array Bea 0.4nm,0.6s,baz=299,slow=5.8,SNR=3.6	79.89	50	P	P	20 19 10.8	+1.8
PDAR	Pinedale Array 0.6nm,0.9s,baz=329,slow=2.6,SNR=4.6	82.55	43	P	P	20 19 23.5	+0.8

IDC 09 20:17:19.7±1.4, 1.93N×125.74E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/22, mbtmp3.1/3, Error ellipse: s-maj=108.4km s-min=24.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.3nm,0.3s,baz=340,slow=11,SNR=13	23.32	159	P	P	20 22 28.3	-1.3
ASAR	Alice Springs 0.2nm,0.6s,baz=345,slow=11,SNR=3.2	26.66	163	P	P	20 23 02.2	+1.8
MKAR	Makanchi Array 0.1nm,0.4s,baz=122,slow=6.4,SNR=8.5	58.47	326	P	P	20 27 16.8	-0.8
YKA	Yellowknife Ar 0.3nm,

*DJA **09** 20:19:47.7±0.5,1°S±5°×9°9E±°,h10km,M4.4/13,mb4.5/5, mB5.5/1,MLv4.3/13,Mw(mB)5.0/1*
*NEIC **09** 20:19:47.1±1.2,1°47S×99°44E,h38km±9km,mb4.3/9, Error ellipse: s-maj=13.4km s-min=7.3km az=50.0*
*KLM **09** 20:19:50.2,1°27S×99°31E,h32km,mb4.1,ML4.0,MS5.0*
ISC 09 20:19:46.3±0.5,1°44S±0°07×**99°40E**±0°07,**h30**km,**n92,** σ1§**20**/82,**mb4.2**/19,**4C-2D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.18**	**64**	P	**Pn**	**20 20 06.4**	**-0.5**
PPI	**Padang Panjang**	**1.39**	**46**	P	**Pn**	**20 20 09.6**	**-0.1**
PPI	**Padang Panjang** baz=1.2,SNR=45	**1.39**	**46**	P	**Pn**	**20 20 10.0**	**+0.3**
MNSI	**Mandailing Nat**	**2.22**	**5**	P	**Pn**	**20 20 21.7**	**+0.5**
BKNI	**Bangkinang**	**2.40**	**43**	P	**Pn**	**20 20 24.9**	**+1.3**
BKNI	**Bangkinang**	**2.40**	**43**	*e*Pn	**Pn**	**20 20 23.9**	**+0.4**
BKNI	**Bangkinang** baz=2.2,SNR=10	**2.40**	**43**	P	**Pn**	**20 20 24.7**	**+1.1**
GSI	**Gunungsitoli**	**3.28**	**326**	P	**Pn**	**20 20 36.3**	**+0.6**
GSI	**Gunungsitoli**	**3.28**	**326**	*e*Pn	**Pn**	**20 20 35.7**	**+0.1**
PSI	**Prapat**	**4.24**	**354**	P	x	20 20 48.3	
PSI	**Prapat**	**4.24**	**354**	Pn	**Pn**	**20 20 48.5**	**-0.5**
PSI	**Prapat** 2.0nm,0.3s,baz=156,slow=11,SNR=6.1	**4.24**	**354**	Pn	**Pn**	**20 20 48.5**	**-0.5**
PSI	2.9nm,0.3s,baz=165,slow=7.0,SNR=14			Pg	Pb	20 20 54.6	-5.6
PSI	comp=Z,217nm,19.8s,baz=178,slow=44			LR	LR	20 22 43.8	
PSI	**Prapat** baz=4.2,SNR=6.3	**4.24**	**354**	P	**Pn**	**20 20 51.5**	**+2.5**
JMBI	**JAMBI**	**4.25**	**93**	P	Pb	20 21 12.3	+12
MNAI	**Manna** baz=4.5,SNR=13	**4.59**	**129**	P	**Pn**	**20 20 54.6**	**+0.9**
MNAI	baz=4.5,SNR=12			S	**Sn**	**20 21 46.4**	**+0.4**
LHSI	**Lahat**	**4.75**	**120**	P	Pb	20 21 04.5	-4.5
TSI	**Tuntungan**	**4.97**	**350**	P	**Pn**	**20 21 00.4**	**+1.4**
FRIM	**Kepong**	**5.15**	**26**	⇑P	**Pn**	**20 21 03.8**	**+2.4**
KCSI	**Kotacane, Aceh** 34nm,0.7s,0.3nm	**5.19**	**342**	P	**Pn**	**20 21 03.3**	**+1.3**
KGM	**Kluang**	**5.21**	**49**	⇑P	**Pn**	**20 21 05.4**	**+3.2**
MYKOM	**Kota Tinggi**	**5.48**	**54**	⇑P	Pn	20 21 09.4	+3.4
MDSI	**Maura Dua** 25nm,0.8s,0.1nm	**5.65**	**123**	P	**Pn**	**20 21 10.2**	**+1.9**
LWLI	**Liwa** 63nm,0.8s,4µm0.5nm	**5.86**	**128**	P	Pn	20 21 16.7	+5.5
IPM	**Ipoh** 32nm,1.2s,0.1nm	**6.10**	**15**	P	x	20 21 16.8	
IPM	**Ipoh** 19nm,0.6s	**6.10**	**15**	*e*Pn	**Pn**	**20 21 16.6**	**+2.1**
IPM	**Ipoh**	**6.10**	**15**	⇓P	**Pn**	**20 21 16.9**	**+2.4**
KLSI		**6.23**	**121**	P	**Pn**	**20 21 18.0**	**+1.8**
KULM	**Kulim** 13nm,0.7s	**6.80**	**11**	*e*P	**Pn**	**20 21 25.4**	**+1.3**
KULM	**Kulim**	**6.80**	**11**	⇓P	**Pn**	**20 21 26.0**	**+1.9**
KTGM	**Kuala Trenggan**	**7.69**	**29**	⇑P	**Pn**	**20 21 38.9**	**+2.6**
CISI	**Cisompet, Garu** baz=10,SNR=4.3	**10.36**	**126**	P	**Pn**	**20 22 12.3**	**-0.7**
UGM	**Wanagama** baz=13,SNR=3.9	**12.81**	**120**	P	**Pn**	**20 22 47.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.77**	**359**	P	**P**	**20 24 14.0**	**-0.2**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=188,slow=9.9,SNR=19	**19.77**	**359**	P	**P**	**20 24 14.0**	**-0.2**
CHTO	**Chiang Mai** 2.3nm,0.7s	**20.13**	**359**	Pn	P	20 24 13.0	-5.1
WSI	**Waingapu**	**22.33**	**112**	P	**P**	**20 24 39.5**	**-2.4**
H08S2	**Diego Garcia H** baz=78,slow=75,SNR=63	**27.51**	**256**	T	T	20 53 32.1	
H08S3	**Diego Garcia H** baz=78,slow=75,SNR=79	**27.51**	**256**	T	T	20 53 32.4	
H08S1	**Diego Garcia H** baz=78,slow=75,SNR=56	**27.53**	**256**	T	T	20 53 30.0	
ODAN	**Odare** 6.2nm,0.6s	**30.42**	**338**	*e*P	**P**	**20 25 57.6**	**+1.1**
TAPN	**Taplejung**	**30.75**	**339**	*e*P	**P**	**20 26 01.1**	**+1.6**
RAMN	**Ramnite**	**30.80**	**337**	*e*P	**P**	**20 26 01.4**	**+1.6**
JIRN	**Jiri** 7.4nm,0.7s	**31.60**	**337**	*e*P	**P**	**20 26 08.4**	**+1.4**
GUN	**Gumba** 9.2nm,0.6s	**31.94**	**337**	*e*P	**P**	**20 26 11.2**	**+1.2**
LSA	**Lhasa** 2.8nm,0.6s	**31.95**	**346**	*e*P	**P**	**20 26 11.4**	**+1.2**
GKN	**Gorkha** 4.0nm,0.5s	**32.53**	**335**	*e*P	**P**	**20 26 15.9**	**+1.0**
KOLN	**Koldanda** 8.5nm,0.7s	**32.77**	**334**	*e*P	**P**	**20 26 18.2**	**+1.1**
ENH	**Enshi**	**32.97**	**16**	P	P	20 26 15.2	-3.3
DANN	**Dangsing** 5.0nm,0.5s	**33.20**	**334**	*e*P	**P**	**20 26 21.9**	**+0.9**
H01W3	**Cape Leeuwin H** baz=335,slow=75,SNR=17	**36.00**	**159**	T	T	21 04 32.6	
H01W2	**Cape Leeuwin H** baz=335,slow=75,SNR=19	**36.02**	**159**	T	T	21 04 30.6	
H01W1	**Cape Leeuwin H** baz=335,slow=75,SNR=14	**36.02**	**159**	T	T	21 04 35.0	
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**20 27 07.7**	**-1.0**
WRA	**Warramunga Arr** 1.9nm,0.6s,baz=303,slow=9.1,SNR=13	**38.80**	**121**	P	**P**	**20 27 07.7**	**-1.0**
WRAB	**Tennant Creek** 11nm,1.2s	**38.80**	**121**	*e*P	**P**	**20 27 07.3**	**-1.4**
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**20 27 19.1**	**-0.3**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=302,slow=7.7,SNR=10	**40.07**	**126**	P	**P**	**20 27 19.0**	**-0.3**
KSAR	**Wonju Array Be**	**46.82**	**31**	P	**P**	**20 28 11.4**	**-2.1**
KSRS	**Korea Array** 0.5nm,0.6s,baz=227,slow=7.6,SNR=4.7	**46.85**	**31**	P	**P**	**20 28 11.4**	**-2.3**
HTT	**Hallett** baz=49,SNR=4.4	**48.81**	**135**	P	**P**	**20 28 30.1**	**+1.0**
TKM2	**Tokmak 2** 3.1nm,0.8s	**49.08**	**337**	*e*P	**P**	**20 28 32.7**	**+1.5**
SONM	**Songino Array**	**49.45**	**6**	P	**P**	**20 28 34.5**	**+0.8**
SONM				PcP	**PcP**	**20 29 56.0**	**+0.3**
SONM	**Songino Array** 0.8nm,0.7s,baz=190,slow=9.8,SNR=12	**49.45**	**6**	P	**P**	**20 28 34.5**	**+0.8**
SONM	0.5nm,0.5s,baz=189,slow=4.3,SNR=4.1			PcP	**PcP**	**20 29 56.0**	**+0.3**
ULN	**Ulaanbaatar** 3.5nm,1.1s	**49.55**	**7**	P	**P**	**20 28 34.8**	**+0.2**
EKS2	**Erkin-Say** 6.3nm,1.0s	**49.60**	**335**	*e*P	**P**	**20 28 35.2**	**+0.2**
STKA	**Stephens Creek** 0.7nm,0.8s	**49.97**	**132**	*e*P	**P**	**20 28 37.9**	**0.0**
STKA	**Stephens Creek** 2.8nm,0.7s,baz=313,slow=7.0,SNR=8.4	**49.97**	**132**	P	**P**	**20 28 38.5**	**+0.6**
MK31	**Makanchi Array**	**50.33**	**345**	*e*P	**P**	**20 28 40.9**	**+0.6**
MKAR	**Makanchi Array**	**50.33**	**345**	P	**P**	**20 28 41.2**	**+0.8**
MKAR	**Makanchi Array** 2.4nm,0.6s,baz=150,slow=8.0,SNR=27	**50.33**	**345**	P	**P**	**20 28 41.2**	**+0.8**
USRK	**Ussuriysk Arra** 2.5nm,0.8s,baz=251,slow=3.0,SNR=5.4	**53.95**	**29**	P	**P**	**20 29 06.1**	**-1.2**
KURK	**Kurchatov** 1.4nm,0.8s	**54.90**	**344**	*e*P	**P**	**20 29 14.4**	**+0.3**
ZAA0	**Zalesovo Array**	**56.51**	**350**	*e*P	**P**	**20 29 25.2**	**-0.4**
ZALV	**Zalesovo Beam**	**56.51**	**350**	P	**P**	**20 29 26.1**	**+0.6**
ZALV	**Zalesovo Beam** 2.9nm,0.6s,baz=188,slow=6.7,SNR=15	**56.51**	**350**	P	**P**	**20 29 26.1**	**+0.6**
ABKAR	**Akbulak array**	**60.86**	**332**	*e*P	**P**	**20 29 55.1**	**-0.9**
KBZ	**Khabaz**	**67.49**	**319**	P	**P**	**20 30 39.8**	**+0.2**
KBZ	**Khabaz** 1.6nm,0.7s,baz=108,slow=10,SNR=3.6	**67.49**	**319**	P	**P**	**20 30 39.8**	**+0.2**
BRTR	**Keskin Array B**	**72.50**	**312**	P	**P**	**20 31 08.9**	**-1.7**
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=126,slow=6.0,SNR=3.6	**72.50**	**312**	P	**P**	**20 31 08.9**	**-1.7**
TIXI	**Tiksi**	**75.40**	**9**	*e*P	**P**	**20 31 25.8**	**-1.0**
SUR	**Sutherland**	**79.59**	**237**	P	**P**	**20 31 51.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**80.46**	**319**	*e*P	**P**	**20 31 56.1**	**+0.6**
FINES	**FINESS Array B**	**83.34**	**332**	P	**P**	**20 32 10.1**	**-0.1**
FINES	**FINESS Array B** 1.3nm,0.8s,baz=90,slow=7.2,SNR=12	**83.34**	**332**	P	**P**	**20 32 10.1**	**-0.1**
GERES	**GERESS Array B**	**88.23**	**319**	P	**P**	**20 32 34.4**	**-0.5**
GERES	**GERESS Array B** 0.5nm,0.7s,baz=164,slow=4.9,SNR=4.0	**88.23**	**319**	P	**P**	**20 32 34.4**	**-0.5**
QSPA	**South Pole Qui** 3.6nm,1.1s	**88.52**	**180**	*e*P	**P**	**20 32 36.3**	**+0.4**
QSPA				P	**P**	**20 32 36.3**	**+0.4**
QSPA	**South Pole Qui** 0.7nm,0.6s,baz=280,slow=4.6,SNR=5.8	**88.52**	**180**	P	**P**	**20 32 36.3**	**+0.4**
TXAR	**Lajitas Array**	**144.61**	**36**	PKP	**PKPdf**	**20 39 20.6**	**-0.3**
TXAR	**Lajitas Array** 1.4nm,0.6s,baz=275,slow=1.5,SNR=16	**144.61**	**36**	PKP	**PKPdf**	**20 39 20.6**	**-0.3**
JCT	**Junction City**	**145.85**	**30**	*e*PKPdf	**PKPdf**	**20 39 23.1**	**+0.2**

*ISCJB **09** 20:25:25.8±0.5,31°8S±0°1×57°7E±0°1,h11km,mb4.1/16,*

Error ellipse: s-maj=16.9km s-min=13.9km az=136.0
*IDC **09** 20:25:26.1±0.9,31°74S×57°81E,h0km,mb3.9/11, mb1 4.1/12,mb1mx3.9/28,mbtmp4.0/12,ML3.8/1,Error ellipse: s-maj=31.6km s-min=22.3km az=47.0*
*NEIC **09** 20:25:27.1±0.5,31°78S×57°62E,h10km,mb4.6/5,Error ellipse: s-maj=16.4km s-min=13.6km az=213.0*
ISC 09 20:25:27.3±0.6,**31°8S**±0°1×**57°6E**±0°1,**h11**km,**n47,** σ1§**08**/35,**mb4.2**/16,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.16**	**322**	Pn	**Pn**	**20 29 16.1**	**+1.4**
OPO	**Ambohidratompo** 0.3nm,0.3s,baz=115,slow=17,SNR=2.9	**16.16**	**322**	Pn	**Pn**	**20 29 16.1**	**+1.4**
H08S1	**Diego Garcia H** baz=210,slow=75	**27.71**	**33**	T	T	20 59 58.7	
H08S2	**Diego Garcia H** baz=210	**27.72**	**33**	T	T	21 00 02.8	
H08S3	**Diego Garcia H** baz=210,slow=75	**27.73**	**33**	T	T	21 00 00.2	
H08N3	**Diego Garcia H** baz=204,slow=76,SNR=8.2	**28.22**	**29**	T	T	21 00 35.3	
H08N1	**Diego Garcia H** baz=204,slow=76,SNR=6.0	**28.23**	**29**	T	T	21 00 36.5	
H08N2	**Diego Garcia H** baz=204,slow=76,SNR=6.8	**28.24**	**29**	T	T	21 00 42.1	
LBTB	**Lobatse**	**28.89**	**275**	P	**P**	**20 31 25.1**	**-1.3**
CASY	**Casey** 15nm,1.1s	**46.62**	**154**	P	P	20 33 48.2	-6.9
H01W2	**Cape Leeuwin H** baz=193,slow=75	**46.80**	**110**	T	T	21 22 56.7	
H01W3	**Cape Leeuwin H** baz=193,slow=75	**46.80**	**110**	T	T	21 22 58.1	
H01W1	**Cape Leeuwin H** baz=193	**46.81**	**110**	T	T	21 22 57.5	
SNAA	**Sanae** 4.2nm,1.1s	**50.96**	**201**	*e*P	**P**	**20 34 29.0**	**+0.4**
QSPA	**South Pole Qui**	**58.40**	**180**	P	**P**	**20 35 24.5**	**+1.8**
QSPA	**South Pole Qui** 1.7nm,1.0s,baz=242,slow=2.5,SNR=3.5	**58.40**	**180**	P	**P**	**20 35 24.5**	**+1.8**
KSM	**Kuching**	**59.82**	**67**	P	P	20 35 27.2	-5.9
CM31	**Chiang Mai Arr** 2.1nm,0.8s	**63.75**	**44**	*e*P	**P**	**20 35 58.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**63.75**	**44**	P	**P**	**20 35 59.3**	**-0.1**
CMAR	**Chiang Mai Arr** 1.4nm,0.8s,baz=230,slow=6.8,SNR=15	**63.75**	**44**	P	**P**	**20 35 59.3**	**-0.1**
ASAR	**Alice Springs**	**66.78**	**104**	P	**P**	**20 36 17.9**	**-1.3**
ASAR	**Alice Springs** 1.2nm,0.8s,baz=240,slow=5.9,SNR=13	**66.78**	**104**	P	**P**	**20 36 17.9**	**-1.3**
WRA	**Warramunga Arr**	**68.80**	**101**	P	**P**	**20 36 31.9**	**-0.1**
WRA	**Warramunga Arr** 1.6nm,0.8s,baz=241,slow=5.2,SNR=9.9	**68.80**	**101**	P	**P**	**20 36 31.9**	**-0.1**
WRAB	**Tennant Creek** 4.1nm,0.8s	**68.81**	**101**	*e*P	**P**	**20 36 32.0**	**-0.1**
LSA	**Lhasa** 4.2nm,0.8s	**68.93**	**31**	P	P	20 36 40.1	+7.2
TORD	**Torodi Ar. Bea**	**69.72**	**301**	P	**P**	**20 36 38.7**	**+1.1**
TORD	**Torodi Ar. Bea** 0.9nm,1.0s,baz=138,slow=2.0,SNR=3.5	**69.72**	**301**	P	**P**	**20 36 38.7**	**+1.1**
DBIC	**Dimbokro**	**70.69**	**291**	P	**P**	**20 36 40.9**	**-2.7**
BRTR	**Keskin Array B**	**74.53**	**341**	P	**P**	**20 37 06.9**	**+0.9**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=181,slow=9.8,SNR=3.1	**74.53**	**341**	P	**P**	**20 37 06.9**	**+0.9**
MKAR	**Makanchi Array**	**81.31**	**17**	P	**P**	**20 37 43.8**	**+0.4**
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=195,slow=6.6,SNR=6.8	**81.31**	**17**	P	**P**	**20 37 43.8**	**+0.4**
KURBB	**Kurchatov Arra** 1.7nm,0.9s,baz=207,slow=5.6,SNR=14	**84.09**	**13**	P	**P**	**20 37 58.6**	**+0.9**
KURK	**Kurchatov**	**84.20**	**13**	P	**P**	**20 37 58.6**	**+0.3**
BVAR	**Borovoye Array**	**85.17**	**8**	P	**P**	**20 38 04.1**	**+1.0**
BVAR	**Borovoye Array** 2.6nm,0.8s,baz=179,slow=5.9,SNR=18	**85.17**	**8**	P	**P**	**20 38 04.1**	**+1.0**
ZALV	**Zalesovo Beam**	**88.56**	**16**	P	**P**	**20 38 18.4**	**-1.2**
ZALV	**Zalesovo Beam** 0.5nm,0.6s,baz=160,slow=4.6,SNR=3.3	**88.56**	**16**	P	**P**	**20 38 18.4**	**-1.2**
SONM	**Songino Array**	**90.52**	**30**	P	**P**	**20 38 29.1**	**-0.1**
SONM	**Songino Array** 0.3nm,0.9s,baz=211,slow=1.7,SNR=2.5	**90.52**	**30**	P	**P**	**20 38 29.1**	**-0.1**
SCHQ	**Schefferville**	**134.92**	**318**	PKP	**PKPdf**	**20 44 44.5**	**-1.4**
SCHQ	**Schefferville** 4.6nm,0.9s,baz=90,slow=3.0,SNR=3.0	**134.92**	**318**	PKP	**PKPdf**	**20 44 44.5**	**-1.4**
YKA	**Yellowknife Ar**	**148.85**	**353**	PKPbc	**PKPbc**	**20 45 14.6**	**+0.3**
YKA	**Yellowknife Ar** 1.5nm,0.7s,baz=1.6,slow=2.7,SNR=43	**148.85**	**353**	PKPbc	**PKPbc**	**20 45 14.6**	**+0.3**
ULM	**Lac du Bonnet**	**153.00**	**321**	PKPbc	**PKPbc**	**20 45 24.1**	**-0.3**
ULM	**Lac du Bonnet** 2.5nm,0.7s,baz=62,slow=1.9,SNR=4.5	**153.00**	**321**	PKPbc	**PKPbc**	**20 45 24.1**	**-0.3**

*IDC **09** 20:28:10.8±2.8,32°07S×57°74E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/26,mbtmp3.7/5,ML3.8/1,Error ellipse: s-maj=96.6km s-min=39.8km az=40.0*
ISC 09 20:28:11.7±2.7,**32°1S**±0°5×**57°5E**±0°4,**h11**km,**n15,** σ1§**07**/6,**mb3.7**/4,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo** 0.4nm,0.3s,baz=153,slow=9.0,SNR=2.6	**16.37**	**323**	Pn	**P**	**20 32 04.2**	**-0.4**
H08S1	**Diego Garcia H** baz=191	**28.05**	**33**	T	T	21 02 45.6	
H08S2	**Diego Garcia H** baz=191	**28.06**	**33**	T	T	21 02 46.0	
H08S3	**Diego Garcia H** baz=191	**28.07**	**33**	T	T	21 02 47.2	
H08N3	**Diego Garcia H** baz=200	**28.57**	**29**	T	T	21 03 25.5	
H08N1	**Diego Garcia H** baz=200	**28.58**	**29**	T	T	21 03 32.5	
H08N2	**Diego Garcia H** baz=200	**28.59**	**29**	T	T	21 03 28.7	
H01W2	**Cape Leeuwin H** baz=256	**46.77**	**110**	T	T	21 26 34.6	
H01W3	**Cape Leeuwin H** baz=256	**46.78**	**110**	T	T	21 26 34.3	
H01W1	**Cape Leeuwin H** baz=256	**46.79**	**110**	T	T	21 26 37.6	
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=234,slow=7.7,SNR=3.5	**64.07**	**44**	P	**P**	**20 38 46.1**	**+0.3**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=233,slow=5.7,SNR=3.7	**66.80**	**104**	P	**P**	**20 39 03.3**	**-0.3**
KURBB	**Kurchatov Arra** 0.3nm,0.9s,baz=209,slow=5.9,SNR=3.0	**84.45**	**13**	P	**P**	**20 40 42.7**	**-1.2**
BVAR	**Borovoye Array** 0.8nm,0.9s,baz=132,slow=2.1,SNR=3.7	**85.52**	**8**	P	**P**	**20 40 50.3**	**+1.1**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=2.2,slow=3.0,SNR=5.1	**149.18**	**353**	PKPbc	**PKPbc**	**20 48 00.0**	**+0.6**

IDC 09 20:28:40.7±2.1,**2°47N**×127°32E,**h0**km,**mb3.3**/4, **mb1 3.4**/4,**mb1mx3.3**/22,**mbtmp3.3**/4,**Error ellipse: s-maj=204.1km s-min=21.4km az=67.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=341,slow=11,SNR=9.7	**23.31**	**163**	P	P	20 33 50.2	-0.3
ASAR	**Alice Springs** 0.3nm,0.8s,baz=349,slow=9.6,SNR=4.2	**26.75**	**166**	P	P	20 34 22.6	+0.3
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=114,slow=8.2,SNR=4.6	**58.92**	**325**	P	P	20 38 43.4	+1.6
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=131,slow=6.4,SNR=4.1	**63.12**	**328**	P	P	20 39 08.8	-1.3

*ARO **09** 20:34:26.5,15°N±533°×4°0E±10°0,h15km±99km,ML5.0*
*CSEM **09** 20:34:39.8±0.4,14°35N×40°11E,h2km,mb4.3/7,Error ellipse: s-maj=17.1km s-min=7.1km az=19.0*
*IDC **09** 20:34:39.6±1.4,14°34N×40°10E,h0km,mb3.9/15, mb1 4.0/16,mb1mx3.9/28,mbtmp3.9/16,ML3.4/1,MS3.3/8, Ms1 3.4/8,ms1mx3.0/36,Error ellipse: s-maj=32.6km s-min=19.3km az=165.0*
*NEIC **09** 20:34:39.9±0.7,14°19N×40°19E,h10km,mb4.4/8,Error ellipse: s-maj=14.0km s-min=9.4km az=175.0*
*DHMR **09** 20:34:40.2±0.4,14°17N×40°10E,h20km±110km,ML4.1*
ISC 09 20:34:41.1±3.2,**14°30N**±0°06×**40°03E**±0°05,**h11**km±22km, **n93,**σ1§**08**/94,**mb4.0**/24,**MS3.4**/8,**Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.06**	**135**	*e*P	**Pn**	**20 35 28.5**	**-1.0**
TDD	**Tadjoura Ara**	**3.75**	**131**	*e*P	**Pn**	**20 35 37.6**	**-1.3**
SGH	**Sud-Ghoubbet**	**3.81**	**138**	*e*P	**Pn**	**20 35 38.4**	**-1.6**
UDYN	**Al 'Udayn**	**3.84**	**94**	*i* P	**Pn**	**20 35 40.0**	**-0.3**
UDYN				*i* S	**Sn**	**20 36 27.0**	**+1.5**
UDYN	comp=E,586nm,0.6s			AML	AML	20 36 52.3	
ATD	**Arta Tunnel**	**3.89**	**135**	*e*P	**Pn**	**20 35 40.8**	**-0.2**
ATD				*e*S	**Sb**	**20 36 40.1**	**+3.1**
OBO	**Obock**	**3.92**	**126**	*e*P	**Pn**	**20 35 40.8**	**-0.5**
OBO				*e*S	**Sb**	**20 36 39.7**	**+1.8**
GBR	**Grand-Bara**	**3.93**	**143**	*e*P	Pn	20 35 44.7	+3.2
TRBA	**At Turbah**	**4.11**	**104**	*i* P	**Pn**	**20 35 43.4**	**-0.8**
TRBA				*i* S	**Sn**	**20 36 32.6**	**+0.2**
TRBA	comp=N,730nm,0.5s			AML	AML	20 36 57.7	
ATA	**Atar**	**4.20**	**132**	*e*P	Pn	20 35 49.1	+4.0
DHBB	**Dhamar BB**	**4.24**	**86**	*i* P	**Pn**	**20 35 45.7**	**-0.2**
DHBB				*i* S	**Sn**	**20 36 36.7**	**+1.1**
DHBB	**Dhamar BB**	**4.24**	**86**	*i* P	**Pn**	**20 35 45.7**	**-0.2**
DHBB				*i* S	**Sn**	**20 36 36.7**	**+1.1**
DAMY	**Dhamar**	**4.24**	**86**	*e*Pn	Pn	20 35 42.2	-3.8
DAMY				*e*Pb	Pb	20 35 51.6	-4.3
DAMY				*e*Pg	Pg	20 35 59.2	-3.1
DAMY	**Dhamar**	**4.24**	**86**	*e*Pn	Pn	20 35 42.2	-3.8
LBOS		**5.08**	**94**	*i* P	**Pn**	**20 35 56.8**	**-0.8**
LBOS				*i* S	**Sn**	**20 36 56.3**	**-0.2**
BDHA	**Al Bayda'**	**5.38**	**93**	*i* P	**Pn**	**20 36 00.8**	**-0.9**
BDHA				*i* S	**Sn**	**20 37 03.7**	**-0.1**
BDHA	**Al Bayda'**	**5.38**	**93**	*i* P	**Pn**	**20 36 00.8**	**-0.9**
BDHA				*i* S	**Sn**	**20 37 03.7**	**-0.1**
FURI	**Furi**	**5.53**	**194**	P	**Pn**	**20 36 04.2**	**+0.4**
FURI				S	**Sg**	**20 37 38.0**	**-0.9**
ASF	**Jabal al Asfar**	**18.02**	**351**	P	**Pn**	**20 38 52.2**	**+0.5**
ASF	**Jabal al Asfar** comp=N,0.1nm,0.3s,baz=100,slow=15,SNR=3.4	**18.02**	**351**	P	**Pn**	**20 38 52.2**	**+0.5**
CSS	**Prodhromos** comp=N,4.2nm,1.3s	**21.44**	**345**	P	**P**	**20 39 30.0**	**+0.6**
CSS	**Prodhromos** comp=N,4.2nm,1.3s	**21.44**	**345**	P	**P**	**20 39 30.0**	**+0.6**
SANT	**Santorini** comp=N,189nm,1.1s	**25.56**	**332**	P	**P**	**20 40 11.7**	**+1.6**
SANT	**Santorini** comp=N,189nm,1.1s	**25.56**	**332**	P	**P**	**20 40 11.7**	**+1.6**
BRTR	**Keskin Array B**	**25.94**	**349**	P	**P**	**20 40 13.3**	**-0.4**
BRTR	**Keskin Array B** comp=N,1.6nm,1.0s,baz=171,slow=10,SNR=6.0	**25.94**	**349**	P	**P**	**20 40 13.3**	**-0.4**
BRTR	**Keskin Array B** comp=N,16nm,1.3s	**25.94**	**349**	P	**P**	**20 40 13.3**	**-0.4**
GNI	**Garni** comp=N,46nm,19.5s,baz=176,slow=38	**26.08**	**8**	P	**P**	**20 40 16.3**	**+1.3**
GNI	**Garni** comp=N,16nm,1.3s	**26.08**	**8**	LR	LR	20 51 08.9	
GNI	**Garni** comp=N,16nm,1.3s	**26.08**	**8**	P	**P**	**20 40 16.3**	**+1.3**
ANTO	**Ankara** comp=N,7.8nm,0.7s	**26.25**	**347**	P	**P**	**20 40 14.8**	**-1.6**
ANTO	**Ankara** comp=N,7.8nm,0.7s	**26.25**	**347**	P	**P**	**20 40 14.8**	**-1.6**
TAM	**Tamanrasset** comp=N,3.7nm,0.9s	**33.72**	**290**	*e*P	**P**	**20 41 25.3**	**+2.4**
TAM	**Tamanrasset** comp=N,3.7nm,0.9s	**33.72**	**290**	*e*P	**P**	**20 41 25.3**	**+2.4**
KEST	**Kesra** comp=N,18nm,21.2s,baz=309,slow=36	**34.81**	**313**	LR	LR	20 55 28.0	
TOA0	**Torodi Ar. Sit**	**37.23**	**273**	*e*P	**P**	**20 41 53.9**	**+0.8**
TOA0	**Torodi Ar. Sit**	**37.23**	**273**	*e*P	**P**	**20 41 53.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**37.23**	**273**	P	**P**	**20 41 54.3**	**+1.3**
TORD	**Torodi Ar. Bea** comp=N,3.3nm,0.8s,baz=91,slow=8.5,SNR=19	**37.23**	**273**	P	**P**	**20 41 54.3**	**+1.3**
TORD	comp=N,80nm,20.2s,baz=130,slow=36			LR	LR	20 56 47.9	
TORD	**Torodi Ar. Bea**	**37.23**	**273**	P	**P**	**20 41 54.3**	**+1.3**
AKASG	**Malin Array Be**	**37.35**	**349**	P	**P**	**20 41 53.6**	**0.0**
AKASG	**Malin Array Be** comp=N,1.8nm,0.7s,baz=167,slow=7.0,SNR=8.2	**37.35**	**349**	P	**P**	**20 41 53.6**	**0.0**
AKASG	**Malin Array Be**	**37.35**	**349**	P	**P**	**20 41 53.6**	**0.0**
PSZ	**Piszkesteto** comp=N,9.1nm,1.0s	**37.45**	**338**	*e*P	**P**	**20 41 54.6**	**0.0**
PSZ	**Piszkesteto** comp=N,9.1nm,1.0s	**37.45**	**338**	*e*P	**P**	**20 41 54.6**	**0.0**
AKTO	**Aktyubinsk**	**38.89**	**18**	P	**P**	**20 42 06.6**	**0.0**
AKTO	**Aktyubinsk** comp=N,2.3nm,1.0s,baz=234,slow=8.1,SNR=4.9	**38.89**	**18**	P	**P**	**20 42 06.6**	**0.0**
AKTO	**Aktyubinsk**	**38.89**	**18**	P	**P**	**20 42 06.6**	**0.0**
MORC	**Moravsky Berou** comp=N,4.9nm,1.2s	**39.86**	**337**	P	**P**	**20 42 15.3**	**+0.5**
MORC	**Moravsky Berou** comp=N,4.9nm,1.2s	**39.86**	**337**	P	**P**	**20 42 15.3**	**+0.5**
GERES	**GERESS Array B**	**40.69**	**333**	P	**P**	**20 42 22.0**	**+0.3**
GERES	**GERESS Array B** comp=N,1.3nm,0.6s,baz=130,slow=6.8,SNR=14	**40.69**	**333**	P	**P**	**20 42 22.0**	**+0.3**
GERES	**GERESS Array B**	**40.69**	**333**	P	**P**	**20 42 22.0**	**+0.3**
ARU	**Arti** comp=N,6.9nm,1.1s

4.3nm,0.8s
TKM2 ⇑Lg Lg 20 40 11.5
4.8nm,0.5s
AAK Ala-Archa 6.42 296 ⇓Pg Pg 20 39 06.5 -4.5
4.6nm,1.0s
AAK ⇓Sn Sn 20 40 00.0 +2.0
3.6nm,0.8s
AAK ⇓Lg Lg 20 40 30.7
7.6nm,0.8s
MK31 Makanchi Array 6.69 360 ⇑Pn Pn 20 38 50.0 +2.6
0.4nm,0.3s,baz=181,slow=12,SNR=60
MK31 Sn Sn 20 40 04.7 +0.4
0.9nm,0.5s,baz=180,slow=25,SNR=7.6
MK31 ⇓Lg Lg 20 40 42.8
2.3nm,0.5s,baz=173,slow=24,SNR=3.9

*IDC **09** 20:59:39.4±1.9, 43°.14N×104°.58W±0°.02, h0km, mb2.6/1, mb1 3.4/4, mb1mx3.3/30, mbtmp3.0/4, ML3.8/3, Error ellipse: s-maj=22.1km s-min=15.6km az=5.0*
*ISCJB **09** 20:59:48.7±0.2, 43°.98N±0°.01×105°.30W±0°.02, h0km, Error ellipse: s-maj=2.0km s-min=1.9km az=147.8*
*NEIC **09** 20:59:48.9±0.3, 43°.99N×105°.24W, h0km, ML3.3, Error ellipse: s-maj=4.9km s-min=4.4km az=49.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SSE of Gillette.

ISC 09 20:59:46.7±0.7, 43°.86N±0°.02×105°.17W±0°.02, h0km, n103, σ1§32/108, 40C-40D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.2,SNR=1000	**0.23**	**295**	⇑P			**Pg**	**20 59 52.4**	**+1.2**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=183	**0.40**	**90**	P			**Pn**	**20 59 58.8**	**-1.0**
I24A	baz=0.5			⇓S			**Sb**	**21 00 04.6**	**+1.2**
J23A	**Dilts Ranch, B** baz=0.6,SNR=53	**0.54**	**211**	⇑P			**Pn**	**21 00 00.4**	**-1.3**
J23A	baz=0.6			⇓S			**Sb**	**21 00 07.6**	**+0.2**
J24A	**Dixon Ranch, L** baz=0.8,SNR=253	**0.65**	**145**	P			**Pn**	**21 00 04.2**	**+0.8**
J24A	baz=0.8			⇓S			**Sn**	**21 00 14.8**	**+0.5**
H23A	**Clabaugh Cattl** baz=0.6,SNR=38	**0.72**	**347**	⇑P			**Pg**	**21 00 00.8**	**+0.3**
H23A	baz=0.6			⇑S			**Sg**	**21 00 07.4**	**-2.4**
RSSD	**Black Hills**	**0.86**	**72**	*e*Pg			**Pn**	**21 00 05.8**	**-0.5**
I22A	**9 Mile Ranch,** baz=0.9,SNR=197	**0.95**	**272**	⇑P			**Pb**	**21 00 05.7**	**-0.4**
I22A	baz=0.9			⇓S			**Sg**	**21 00 17.5**	**+0.4**
H24A	**Dirks Ranch, A** baz=0.9,SNR=267	**0.99**	**27**	P			**Pb**	**21 00 06.8**	**0.0**
H24A	baz=0.9			⇓S			**Sg**	**21 00 19.7**	**+1.2**
J22A	**Midwest** baz=1.1,SNR=48	**1.05**	**245**	P			**Pb**	**21 00 07.9**	**0.0**
J22A	baz=1.1			⇓S			**Sb**	**21 00 22.4**	**+0.2**
I25A	**Rochford** baz=1.1	**1.05**	**81**	⇑P			**Pn**	**21 00 10.2**	**+1.3**
I25A	baz=1.1			⇑S			**Sn**	**21 00 25.6**	**+1.2**
J25A	**Sunshine Ranch** baz=1.2,SNR=108	**1.10**	**115**	⇑P			Pn	21 00 11.9	+2.4
J25A	baz=1.2			⇑S			**Sn**	**21 00 28.1**	**+2.6**
H22A	**Clearmont** baz=1.0,SNR=106	**1.12**	**311**	⇓P			**Pg**	**21 00 07.8**	**-0.3**
K23A	**Bowen Ranch, D** baz=1.3,SNR=24	**1.16**	**197**	⇓P			**Pn**	**21 00 12.3**	**+2.0**
K23A	baz=1.3			⇑S			**Sn**	**21 00 29.5**	**+2.5**
K24A	**Anderson Ranch** baz=1.3,SNR=19	**1.17**	**167**	⇓P			Pn	21 00 13.2	+2.7
K24A	baz=1.3			⇓S			**Sn**	**21 00 31.0**	**+3.8**
G23A	**Biddle** baz=1.2,SNR=283	**1.35**	**353**	⇓P			**Pn**	**21 00 12.3**	**-0.6**
H25A	**Fruitdale** baz=1.3,SNR=65	**1.36**	**56**	⇓P			**Pb**	**21 00 14.8**	**+1.7**
H25A	baz=1.3			⇑S			**Sn**	**21 00 34.0**	**+2.1**
I21A	**Big Trails, Te** baz=1.5,SNR=298	**1.53**	**269**	P			**Pn**	**21 00 15.5**	**0.0**
I21A	baz=1.5			⇓S			**Sn**	**21 00 35.9**	**-0.3**
H21A	**Big Horn, Sher** baz=1.4,SNR=159	**1.54**	**300**	⇓P			**Pn**	**21 00 15.5**	**-0.1**
H21A	baz=1.4			⇑S			**Sn**	**21 00 35.1**	**-1.3**
G24A	**Alzada** baz=1.5,SNR=70	**1.56**	**20**	⇓P			**Pb**	**21 00 16.6**	**0.0**
G24A	baz=1.5			⇑S			**Sn**	**21 00 36.9**	**0.0**
K22A	**Casper**	**1.56**	**220**	*e*Pn			**Pg**	**21 00 17.9**	**+1.3**
K22A	**Casper** baz=1.6,SNR=195	**1.56**	**220**	⇑P			**Pg**	**21 00 18.2**	**+1.5**
K22A	baz=1.6			⇓S			**Sg**	**21 00 40.4**	**+3.5**
G22A	**Birney** baz=1.4	**1.57**	**330**	⇑P			**Pn**	**21 00 15.9**	**-0.1**
G22A	baz=1.4			⇓S			**Sn**	**21 00 36.3**	**-0.9**
K25A	**Mack Ranch, Ha** baz=1.7,SNR=50	**1.57**	**142**	⇑Pb			Pg	21 00 21.0	+4.1
K25A	baz=1.7			⇓S			Sn	21 00 42.7	+5.5
J26A	**Sides Ranch, S** baz=1.7,SNR=57	**1.62**	**109**	⇓P			Pg	21 00 21.0	+3.2
I26A	**New Underwood** baz=1.7,SNR=45	**1.68**	**84**	Pb			Pg	21 00 22.0	+3.1
J21A	**Lysite** baz=1.7	**1.73**	**253**	⇑P			**Pb**	**21 00 19.3**	**-0.2**
J21A	baz=1.7			⇑S			**Sg**	**21 00 42.3**	**0.0**
L23A	**Garrett** baz=1.9,SNR=193	**1.79**	**193**	⇑P			**Pg**	**21 00 22.6**	**+1.6**
G25A	**Newell** baz=1.8,SNR=39	**1.83**	**43**	⇓Pb			**Pg**	**21 00 22.8**	**+1.0**
L24A	**Wheatland** baz=2.0,SNR=20	**1.83**	**174**	⇑P			Pg	21 00 23.8	+2.0
F23A	**Volborg** baz=1.7,SNR=122	**1.86**	**355**	⇑P			**Pn**	**21 00 21.1**	**+1.1**
F23A	baz=1.7			⇑S			**Sn**	**21 00 43.7**	**-0.6**
K26A	**Motz Farm, Whi** baz=2.0,SNR=52	**1.86**	**128**	⇑P			Pg	21 00 24.6	+2.2
H26A	**Fairpoint** baz=1.9	**1.88**	**66**	⇑Pb			**Pg**	**21 00 24.9**	**+2.2**
L25A	**Engebretsen Ra** baz=2.1,SNR=14	**1.93**	**152**	⇓P			Pg	21 00 25.6	+2.0
K21A	**Alcova** baz=2.0,SNR=153	**1.95**	**232**	⇓P			**Pg**	**21 00 24.3**	**+0.1**
G21A	**Lodge Grass** baz=1.9,SNR=107	**1.99**	**314**	P			**Pn**	**21 00 22.6**	**+0.9**
F24A	**Ekalaka** baz=1.9,SNR=12	**2.05**	**14**	⇑P			**Pb**	**21 00 24.4**	**-0.4**
L22A	**Ellis Ranch, M** baz=2.1,SNR=36	**2.05**	**207**	⇑P			**Pg**	**21 00 26.6**	**+0.5**
F22A	**Rosebud** baz=1.9,SNR=89	**2.06**	**338**	⇓P			**Pn**	**21 00 23.4**	**+0.7**
H20A	**Greybull** baz=2.0,SNR=88	**2.12**	**288**	⇑P			**Pn**	**21 00 24.9**	**+1.3**
I20A	**Worland** baz=2.1,SNR=142	**2.14**	**273**	⇓P			**Pb**	**21 00 25.3**	**-1.1**
J20A	**Shoshoni** baz=2.2	**2.17**	**257**	⇓Pb			**Pg**	**21 00 28.0**	**-0.4**
I27A	**Quinn** baz=2.3	**2.26**	**84**	⇑P			**Pg**	**21 00 29.0**	**-1.0**
H27A	**Howes** baz=2.3	**2.35**	**70**	⇓P			**Pg**	**21 00 31.3**	**-0.5**
J27A	**Elkhorn Farm,** baz=2.5	**2.38**	**104**	⇓P			**Pg**	**21 00 32.9**	**+0.5**
F25A	**Bowman** baz=2.3,SNR=21	**2.40**	**30**	⇑P			**Pb**	**21 00 30.6**	**-0.2**
F21A	**Absaloka Mine,** baz=2.3,SNR=16	**2.40**	**325**	⇑P			**Pn**	**21 00 28.0**	**+0.7**
M24A	**Cheyenne** baz=2.5,SNR=51	**2.41**	**174**	⇓P			**Pg**	**21 00 32.7**	**-0.2**
M23A	**Laramie** baz=2.5	**2.43**	**190**	⇑P			**Pg**	**21 00 32.3**	**-0.9**
K27A	**Flueckinger Fa** baz=2.5,SNR=8.3	**2.44**	**117**	⇓P			**Pg**	**21 00 32.8**	**-0.6**
G20A	**Bridger** baz=2.5,SNR=172	**2.56**	**303**	P			**Pn**	**21 00 30.1**	**+0.5**
M25A	**Palm-Egli Farm** baz=2.7	**2.56**	**161**	⇑P			**Pg**	**21 00 35.3**	**-0.5**
E22A	**Miles City** baz=2.5,SNR=22	**2.63**	**348**	⇓P			**Pn**	**21 00 31.2**	**+0.7**
F26A	**Lodgepole** baz=2.6	**2.67**	**41**	⇓P			**Pb**	**21 00 34.3**	**-1.1**
M22A	**Cedar Creek Ra** baz=2.8	**2.67**	**204**	⇓P			**Pg**	**21 00 36.1**	**-1.9**
I19A	**Meeteetse** baz=2.7,SNR=19	**2.76**	**275**	⇓P			**Pn**	**21 00 34.5**	**+2.0**
E24A	**Baker** baz=2.6,SNR=34	**2.77**	**13**	⇓P			**Pn**	**21 00 34.5**	**+2.1**
G27A	**Dupree** baz=2.7	**2.77**	**56**	⇑P			**Pb**	**21 00 35.9**	**-1.2**
H19A	**Powell** baz=2.8,SNR=19	**2.85**	**288**	⇓P			**Pn**	**21 00 35.0**	**+1.3**
F20A	**Billings** baz=2.7,SNR=14	**2.87**	**313**	⇑P			**Pn**	**21 00 34.2**	**+0.4**
LAO	**LASA Array**	**2.92**	**346**	*e*Pn			**Pn**	**21 00 34.9**	**+0.4**
N23A	**Red Feather La** baz=3.1,SNR=33	**3.02**	**191**	⇓P			**Pb**	**21 00 40.6**	**-1.0**
RLMT	**Red Lodge**	**3.19**	**295**	*e*Pn			**Pn**	**21 00 39.3**	**+1.0**
D24A	**Glendive** baz=3.2,SNR=25	**3.31**	**10**	P			**Pn**	**21 00 42.2**	**+2.5**
D23A	**Lindsay** baz=3.2,SNR=24	**3.31**	**360**	⇑P			**Pn**	**21 00 41.8**	**+1.9**
H18A	**Shoshone NF, C** baz=3.2,SNR=10	**3.33**	**286**	⇑P			**Pn**	**21 00 41.5**	**+1.3**
F19A	**Roth Farm, Mol** baz=3.2,SNR=118	**3.34**	**308**	P			**Pn**	**21 00 41.2**	**+1.0**
D22A	**Cohagen** baz=3.2,SNR=10	**3.36**	**348**	⇓P			**Pn**	**21 00 41.4**	**+0.8**
BW06	**Boulder Array**	**3.38**	**253**	*e*Pn			**Pn**	**21 00 43.1**	**+2.1**
PDAR	**Pinedale Array**	**3.38**	**253**	Pn			**Pn**	**21 00 42.4**	**+1.4**
PDAR				Pg			**Pb**	**21 00 48.0**	**+0.4**
PDAR				Lg			Lg	21 01 31.4	
PDAR	**Pinedale Array** 3.2nm,0.3s,baz=68,slow=13,SNR=40	**3.38**	**253**	Pn			**Pn**	**21 00 42.4**	**+1.4**
PDAR	3.6nm,0.3s,baz=68,slow=19,SNR=61			Pg			**Pb**	**21 00 48.0**	**+0.4**
PDAR	7.6nm,0.3s,baz=72,slow=34,SNR=12			Lg			Lg	21 01 31.4	
D21A	**La Casta Ranch** baz=3.3,SNR=6.2	**3.45**	**339**	⇑P			**Pn**	**21 00 42.2**	**+0.5**
N27A	**Anderson Farm,** baz=3.8,SNR=9.5	**3.63**	**146**	⇑P			**Pb**	**21 00 48.8**	**-3.0**
E19A	**Rath Farm, Rou** baz=3.5	**3.64**	**317**	⇓P			**Pn**	**21 00 44.4**	**0.0**
OGNE	**Ogallala**	**3.73**	**140**	*e*Pn			Pb	21 00 49.5	-4.0
GCMT	**Greycliff**	**3.73**	**303**	*e*Pn			**Pn**	**21 00 46.9**	**+1.2**
M28A	**Bar X Bar Ranc** baz=3.8,SNR=5.1	**3.74**	**130**	⇓P			**Pb**	**21 00 50.5**	**-3.1**
N20A	**Spence Gulch,** baz=3.9,SNR=22	**3.80**	**218**	⇓P			Pb	21 00 50.4	-4.3
D20A	**Manuel Ranch,** baz=3.7,SNR=15	**3.84**	**328**	⇓P			**Pn**	**21 00 47.3**	**+0.1**
C22A	**Vida** baz=3.8,SNR=13	**3.91**	**353**	⇑P			**Pn**	**21 00 50.3**	**+2.2**
H17A	**Grant Village**	**3.92**	**280**	*e*Pn			**Pn**	**21 00 51.1**	**+2.7**
C23A	**Lambert** baz=3.8,SNR=94	**3.94**	**360**	P			**Pn**	**21 00 50.9**	**+2.4**
ISCO	**Idaho Springs**	**4.07**	**185**	*e*Pn			Pb	21 00 54.8	-4.7
O20A	**White River Ci**	**4.37**	**213**	*e*Pn			Pn	21 00 58.4	+3.9
O20A	**White River Ci** baz=4.5,SNR=10.0	**4.37**	**213**	P			Pb	21 00 58.7	-5.8
DGMT	**Dagmar**	**4.66**	**8**	*e*Pn			**Pn**	**21 00 60.0**	**+1.7**
BOZ	**Bozeman (W)**	**4.93**	**293**	*e*Pn			**Pn**	**21 01 02.8**	**+0.6**
HRY	**Holter Researc** 23nm,0.5s	**5.49**	**304**	*e*Pn			**Pn**	**21 01 10.4**	**+0.5**
R26A	**Arlington** baz=5.8,SNR=16	**5.71**	**166**	P			Pn	21 01 17.0	+4.2
SDCO	**Great Sand Dun** 1.0nm,0.6s	**6.12**	**182**	*e*Pn			Pn	21 01 22.3	+3.7
CHMT	**Chamberlain Mo** 3.5nm,0.4s	**6.45**	**301**	*e*Pn			**Pn**	**21 01 23.4**	**+0.3**
SLMT	**Seeley Lake** 4.2nm,0.6s	**6.75**	**303**	*e*Pn			**Pn**	**21 01 27.4**	**+0.3**
SWMT	**Swartz Lake** 3.1nm,0.6s	**7.17**	**304**	*e*Pn			**Pn**	**21 01 32.7**	**-0.2**
YBMT	**Yellow Bay** 8.9nm,0.6s	**7.35**	**306**	*e*Pn			**Pn**	**21 01 36.2**	**+0.8**
JTMT	**Jette** 1.6nm,0.4s	**7.45**	**305**	*e*Pn			**Pn**	**21 01 37.1**	**+0.3**
I10CA	**LAC DU BONNET** baz=222,slow=336,SNR=1.0	**8.89**	**41**	*i*				21 53 20.0	
ULM	**Lac du Bonnet**	**9.00**	**42**	Pn			**Pn**	**21 01 58.0**	**+0.2**
ULM	**Lac du Bonnet** 0.9nm,0.3s,baz=225,slow=11,SNR=8.7	**9.00**	**42**	Pn			**Pn**	**21 01 58.0**	**+0.2**
NEW	**Newport**	**9.40**	**302**	Pn			**Pn**	**21 02 03.9**	**+0.5**
NEW	**Newport** 0.2nm,0.3s,baz=104,slow=18,SNR=3.4	**9.40**	**302**	Pn			**Pn**	**21 02 03.9**	**+0.5**
NVAR	**Mina Array Bea**	**11.29**	**246**	Pn			**Pn**	**21 02 27.9**	**-1.6**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=58,slow=12,SNR=2.9	**11.29**	**246**	Pn			**Pn**	**21 02 27.9**	**-1.6**
YKA	**Yellowknife Ar**	**19.46**	**347**	P			**P**	**21 04 14.6**	**-0.1**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=156,slow=13,SNR=5.8	**19.46**	**347**	P			**P**	**21 04 14.6**	**-0.1**

*ISCJB **09** 21:03:30.6±0.2, 43°.73N±0°.01×105°.32W±0°.02, h0km, Error ellipse: s-maj=2.1km s-min=1.8km az=6.6*
*IDC **09** 21:03:31.3±1.6, 43°.68N×105°.41W, h0km, mb1 3.7/5, mb1mx3.4/31, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=28.6km s-min=9.6km az=149.0*
*NEIC **09** 21:03:37.5±0.7, 43°.66N×106°.00W, h0km, ML3.2, Error ellipse: s-maj=11.3km s-min=8.1km az=155.0, Suspected Mining explosion.*
NEIC 35 km [20 miles] NE of Midwest.

ISC 09 21:03:31.1±0.7, 43°.74N±0°.02×105°.33W±0°.02, h0km, n125, σ0§93/136, 40C-43D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.2,SNR=905	**0.24**	**337**	⇑P			**Pg**	**21 03 36.8**	**+1.2**
J23A	**Dilts Ranch, B** baz=0.4,SNR=198	**0.38**	**205**	⇑P			**Pg**	**21 03 39.1**	**+0.8**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=533	**0.52**	**77**	⇓P			**Pg**	**21 03 41.3**	**+0.1**
J24A	**Dixon Ranch, L** baz=0.6,SNR=217	**0.64**	**130**	⇓P			**Pg**	**21 03 43.4**	**0.0**
J24A	baz=0.6			⇓S			**Sg**	**21 03 51.4**	**-0.2**
H23A	**Clabaugh Cattl** baz=0.8,SNR=69	**0.82**	**357**	⇑P			**Pg**	**21 03 46.7**	**-0.1**
H23A	baz=0.8			⇑S			**Sg**	**21 03 58.0**	**+0.6**
I22A	**9 Mile Ranch,** baz=0.9,SNR=1000	**0.85**	**281**	P			**Pg**	**21 03 47.6**	**+0.3**
I22A	baz=0.9			⇑S			**Sb**	**21 03 59.2**	**-1.5**
J22A	**Midwest** baz=0.9,SNR=95	**0.90**	**249**	P			**Pg**	**21 03 48.1**	**-0.1**
K23A	**Bowen Ranch, D** baz=1.0	**1.01**	**192**	⇓P			**Pg**	**21 03 49.9**	**-0.5**
K23A	baz=1.0			⇑S			**Sg**	**21 04 03.4**	**-0.2**
K24A	**Anderson Ranch** baz=1.1,SNR=99	**1.09**	**160**	⇑P			**Pg**	**21 03 51.4**	**-0.5**
H22A	**Clearmont** baz=1.1	**1.12**	**320**	⇑P			**Pg**	**21 03 52.7**	**0.0**
H24A	**Dirks Ranch, A** baz=1.1	**1.15**	**29**	⇑P			**Pg**	**21 03 52.4**	**-0.7**
H24A	baz=1.1			⇑S			**Sg**	**21 04 08.2**	**+0.2**
J25A	**Sunshine Ranch** baz=1.1,SNR=622	**1.17**	**107**	⇓P			**Pg**	**21 03 52.7**	**-0.7**
J25A	baz=1.1			⇓S			**Sg**	**21 04 07.7**	**-0.8**
I25A	**Rochford** baz=1.2	**1.19**	**76**	⇓P			**Pg**	**21 03 53.0**	**-0.9**
I25A	baz=1.2			⇓S			**Sg**	**21 04 09.4**	**+0.1**
K22A	**Casper**	**1.40**	**219**	*e*Pg			**Pg**	**21 03 56.8**	**-1.0**
K22A				*e*Sn			**Sn**	**21 04 18.7**	**+1.5**
K22A	**Casper** baz=1.4,SNR=173	**1.40**	**219**	⇑P			**Pg**	**21 03 57.0**	**-0.8**
I21A	**Big Trails, Te** baz=1.4	**1.42**	**273**	⇑P			**Pg**	**21 03 57.5**	**-0.8**
I21A	baz=1.4			⇓S			**Sn**	**21 04 17.6**	**-0.3**
G23A	**Biddle** baz=1.5	**1.46**	**358**	⇑P			**Pn**	**21 03 58.0**	**-0.8**
G23A				⇓Sb			**Sg**	**21 04 18.5**	**+0.6**
H21A	**Big Horn, Sher** baz=1.5,SNR=484	**1.52**	**306**	⇓P			**Pn**	**21 03 59.4**	**-0.2**
H25A	**Fruitdale** baz=1.5,SNR=70	**1.53**	**54**	⇓P			**Pn**	**21 03 59.1**	**-0.6**
H25A	baz=1.5			⇓Sb			**Sn**	**21 04 20.0**	**-0.3**
K25A	**Mack Ranch, Ha** baz=1.5,SNR=198	**1.56**	**136**	⇓Pb			**Pg**	**21 04 00.2**	**+0.1**
J21A	**Lysite** baz=1.6,SNR=33	**1.59**	**256**	⇓P			**Pn**	**21 03 59.8**	**-0.8**
J21A	baz=1.6			⇓Sb			**Sn**	**21 04 22.7**	**+0.8**
G22A	**Birney** baz=1.6	**1.63**	**335**	⇑Pb			**Pn**	**21 04 01.5**	**+0.4**
G22A	baz=1.6			⇓S			**Sn**	**21 04 23.2**	**+0.4**
L23A	**Garrett** baz=1.7,SNR=1000	**1.65**	**190**	⇓Pb			**Pn**	**21 04 01.3**	**-0.3**
L23A	baz=1.7			⇑Sb			**Sn**	**21 04 24.3**	**+0.7**
J26A	**Sides Ranch, S** baz=1.7,SNR=52	**1.70**	**104**	⇑Pb			**Pn**	**21 04 02.0**	**0.0**
G24A	**Alzada** baz=1.7,SNR=42	**1.71**	**22**	⇓Pb			**Pn**	**21 04 02.6**	**+0.2**
L24A	**Wheatland** baz=1.7,SNR=85	**1.72**	**170**	Pb			**Pn**	**21 04 02.8**	**+0.3**
K21A	**Alcova** baz=1.8,SNR=375	**1.79**	**232**	⇓Pb			**Pn**	**21 04 04.1**	**+0.7**
I26A	**New Underwood** baz=1.8	**1.81**	**80**	⇑Pb			**Pn**	**21 04 04.1**	**+0.5**
L25A	**Engebretsen Ra** baz=1.9,SNR=37	**1.88**	**147**	⇓Pb			**Pn**	**21 04 05.5**	**+0.9**
K26A	**Motz Farm, Whi** baz=1.9,SNR=68	**1.89**	**123**	Pb			**Pn**	**21 04 05.5**	**+0.8**
L22A	**Ellis Ranch, M** baz=1.9,SNR=253	**1.89**	**206**	⇑P			**Pn**	**21 04 05.5**	**+0.7**
F23A	**Volborg** baz=2.0,SNR=159	**1.98**	**359**	⇓P			**Pn**	**21 04 06.3**	**+0.4**
G25A	**Newell** baz=2.0,SNR=155	**2.00**	**43**	⇑P			**Pn**	**21 04 07.1**	**+1.0**
G21A	**Lodge Grass** baz=2.0,SNR=122	**2.00**	**318**	P			**Pn**	**21 04 06.7**	**+0.5**
I20A	**Worland** baz=2.1,SNR=665	**2.03**	**277**	⇑P			**Pn**	**21 04 07.7**	**+0.9**
H26A	**Fairpoint** baz=2.0	**2.04**	**64**	⇓Pb			**Pn**	**21 04 08.5**	**+1.8**
J20A	**Shoshoni** baz=2.1,SNR=285	**2.04**	**260**	⇑Pb			**Pb**	**21 04 08.8**	**-0.3**
H20A	**Greybull** baz=2.1,SNR=248	**2.06**	**292**	⇓P			**Pn**	**21 04 07.5**	**+0.5**
F22A	**Rosebud** baz=2.1,SNR=313	**2.14**	**342**	⇓P			**Pn**	**21 04 08.5**	**+0.4**
F24A	**Ekalaka** baz=2.2,SNR=12	**2.19**	**16**	⇓P			**Pn**	**21 04 10.6**	**+1.7**
M23A	**Laramie** baz=2.3	**2.29**	**187**	⇑P			**Pn**	**21 04 11.8**	**+1.5**
M24A	**Cheyenne** baz=2.3,SNR=249	**2.31**	**170**	⇓P			**Pn**	**21 04 11.9**	**+1.4**
L26A	**Underwood Farm** baz=2.4	**2.38**	**135**	⇑P			**Pn**	**21 04 13.0**	**+1.6**
I27A	**Quinn** baz=2.4	**2.39**	**81**	⇓P			**Pn**	**21 04 13.7**	**+2.1**
F21A	**Absaloka Mine,** baz=2.5	**2.44**	**329**	⇓P			**Pn**	**21 04 11.8**	**-0.4**
K27A	**Flueckinger Fa** baz=2.5,SNR=42	**2.49**	**114**	⇑P			**Pn**	**21 04 14.6**	**+1.7**
H27A	**Howes** baz=2.5,SNR=34	**2.50**	**68**	⇑P			**Pn**	**21 04 14.4**	**+1.3**
G20A	**Bridger** baz=2.6,SNR=210	**2.54**	**307**	P			**Pn**	**21 04 13.5**	**-0.1**
I19A	**Meeteetse** baz=2.7,SNR=192	**2.66**	**278**	⇑P			**Pn**	**21 04 16.9**	**+1.4**
E22A	**Miles City** baz=2.7,SNR=19	**2.73**	**351**	P			**Pn**	**21 04 16.0**	**-0.3**
H19A	**Powell** baz=2.8,SNR=98	**2.79**	**291**	P			**Pn**	**21 04 18.5**	**+1.4**
F20A	**Billings** baz=2.9,SNR=31	**2.87**	**317**	P			**Pn**	**21 04 18.2**	**-0.1**
N23A	**Red Feather La** baz=2.9,SNR=58	**2.88**	**189**	⇓P			**Pn**	**21 04 19.8**	**+1.3**
E24A	**Baker** baz=2.9,SNR=60	**2.91**	**14**	P			**Pn**	**21 04 19.6**	**+0.9**
G27A	**Dupree** baz=2.9,SNR=13	**2.93**	**55**	P			**Pn**	**21 04 19.1**	**+0.2**
E21A	**Keefer Ranch,** baz=3.1,SNR=11	**3.06**	**337**	⇓P			**Pn**	**21 04 21.8**	**+1.1**
E25A	**Miller Ranch,** baz=3.1,SNR=11	**3.08**	**26**	⇑P			**Pn**	**21 04 22.4**	**+1.4**
F27A	**Lemmon** baz=3.2,SNR=8.5	**3.18**	**47**	⇑P			**Pn**	**21 04 23.5**	**+1.1**
BW06	**Boulder Array**	**3.24**	**254**	*e*Pn			**Pn**	**21 04 24.1**	**+0.7**
BW06				*e*Sn			Sn	21 04 55.6	-7.2
PDAR	**Pinedale Array**	**3.24**	**254**	Pn			**Pn**	**21 04 24.6**	**+1.2**
PDAR				Lg			Lg	21 05 09.8	
PDAR	**Pinedale Array** 7.6nm,0.3s,baz=76,slow=16,SNR=38	**3.24**	**254**	Pn			**Pn**	**21 04 24.6**	**+1.2**
PDAR	21nm,0.3s,baz=75,slow=31,SNR=9.5			Lg			Lg	21 05 09.8	
H18A	**Shoshone NF, C** baz=3.3,SNR=39	**3.25**	**288**	⇓P			**Pn**	**21 04 24.5**	**+0.9**
F19A	**Roth Farm, Mol** baz=3.3,SNR=218	**3.33**	**311**	P			**Pn**	**21 04 25.0**	**+0.6**
E26A	**Carlson Angus** baz=3.4,SNR=6.5	**3.40**	**36**	⇓P			**Pn**	**21 04 26.2**	**+0.7**
D23A	**Lindsay** baz=3.4,SNR=39	**3.43**	**1**	P			**Pn**	**21 04 26.5**	**+0.7**
D24A	**Glendive** baz=3.4,SNR=58	**3.45**	**11**	⇑P			**Pn**	**21 04 27.2**	**+1.2**
D22A	**Cohagen** baz=3.5,SNR=11	**3.46**	**350**	⇓P			**Pn**	**21 04 26.7**	**+0.4**
D21A	**La Casta Ranch** baz=3.5,SNR=14	**3.52**	**341**	P			**Pn**	**21 04 27.1**	**0.0**
N27A	**Anderson Farm,** baz=3.6,SNR=12	**3.59**	**144**	⇓P			**Pn**	**21 04 29.3**	**+1.1**
E19A	**Rath Farm, Rou** baz=3.7,SNR=14	**3.66**	**319**	⇓P			**Pn**	**21 04 29.7**	**+0.8**
D25A	**Fairfield** baz=3.7,SNR=29	**3.69**	**22**	⇑P			**Pn**	**21 04 31.2**	**+1.8**
OGNE	**Ogallala**	**3.71**	**138**	*e*Pn			**Pn**	**21 04 30.2**	**+0.4**
OGNE				*e*Sn			**Sg**	**21 05 32.6**	**+2.3**
M28A	**Bar X Bar Ranc** baz=3.7,SNR=16	**3.75**	**127**	⇑P			**Pn**	**21 04 31.2**	**+1.0**
C24A	**Savage** baz=3.8,SNR=24	**3.84**	**9**	P			**Pn**	**21 04 32.9**	**+1.4**
D26A	**Manning** baz=3.9,SNR=5.3	**3.87**	**31**	⇑P			**Pn**	**21 04 33.1**	**+1.3**
D20A	**Manuel Ranch,** baz=3.9,SNR=68	**3.89**	**330**	⇑P			**Pn**	**21 04 33.4**	**+1.3**
C22A	**Vida** baz=4.0,SNR=29	**4.02**	**355**	⇓P			**Pn**	**21 04 35.2**	**+1.2**
C23A	**Lambert** baz=4.1,SNR=55	**4.06**	**1**	P			**Pn**	**21 04 35.7**	**+1.2**
G29A	**Hoven** baz=4.1,SNR=9.8	**4.13**	**68**	⇑P			**Pn**	**21 04 36.2**	**+0.7**
YMR	**Madison River**	**4.15**	**285**	*e*Pn			**Pn**	**21 04 37.1**	**+1.1**
O20A	**White River Ci**	**4.21**	**212**	*e*Pn			**Pn**	**21 04 37.9**	**+1.2**
C25A	**Freed Ranch, W** baz=4.2,SNR=19	**4.23**	**19**	P			**Pn**	**21 04 38.5**	**+1.7**
P26A	**Davis Ranch, A** baz=4.4,SNR=20	**4.44**	**160**	P			**

8.3nm,0.5s
R26A Arlington 5.62 165 ⇑P Pn 21 04 56.3 +0.3
baz=5.6,SNR=45
A26A Wade Farm, Ken 5.64 23 ⇑P Pn 21 04 56.3 +0.1
baz=5.6,SNR=7.9
R25A Fountain Ranch 5.65 172 ⇑P Pn 21 04 56.9 +0.5
baz=5.6,SNR=8.9
CTU Camp Tracy 5.66 240 *e*Pn Pn 21 04 56.6 +0.1
4.8nm,0.3s
MDND Maddock 5.74 42 *e*Pn Pn 21 05 06.3 +8.9
BGNE Belgrade 5.79 111 *e*Pn **Pb** **21 05 12.8 -0.2**
HVU Hansel Valley 5.82 253 *e*Pn Pn **21 04 59.5 +0.8**
MPU Maple Canyon 6.00 234 *e*Pn Pn 21 05 02.2 +1.0
8.6nm,0.7s
R28A Tribune 6.02 153 ⇑P Pn 21 05 01.3 -0.1
baz=6.0,SNR=20
SRU San Rafael 6.05 222 *e*Pn Pn **21 05 02.6 +0.6**
18nm,0.3s
S25A Robets Cordova 6.11 173 P Pn **21 05 03.0 +0.1**
baz=6.1,SNR=12
PV01 Paradox Valley 6.12 205 *e*Pn Pn **21 05 04.3 +1.4**
TMUT Trail Mountain 6.26 227 *e*Pn Pn **21 05 06.0 +1.0**
7.0nm,0.4s
S26A Kim 6.28 166 P Pn **21 05 05.5 +0.5**
baz=6.3,SNR=11
ECSD EROS Data Cent 6.32 87 *e*Pn Pb 21 05 19.9 -1.9
10.0nm,0.3s
ECSD EROS Data Cent 6.32 87 ⇑P Pn **21 05 05.1 -0.4**
baz=6.3,SNR=7.7
BGU Big Grassy Mou 6.36 246 *e*Pn Pn **21 05 05.1 -1.1**
1.5nm,0.3s
DUG Dugway 6.61 240 *e*Pn Pn **21 05 10.2 +0.6**
3.5nm,0.3s
DUG Dugway 6.61 240 P Pn **21 05 10.4 +0.8**
baz=6.6,SNR=27
MVCO Mesa Verde 6.96 201 *e*Pn Pn **21 05 17.1 +2.6**
6.1nm,0.6s
U28A Mallet 7.73 161 ⇑P Pn **21 05 25.3 +0.3**
baz=7.7,SNR=10.0
ULM Lac du Bonnet 9.17 41 Pn Pn **21 05 43.5 -1.0**
ULM Lac du Bonnet 9.17 41 Pn Pn **21 05 43.5 -1.0**
1.8nm,0.3s,baz=230,slow=11,SNR=7.4
NEW Newport 9.37 303 Pn Pn **21 05 47.2 -0.1**
NEW Newport 9.37 303 Pn Pn **21 05 47.2 -0.1**
0.2nm,0.3s,baz=98,slow=19,SNR=2.4
NVAR Mina Array Bea 11.13 246 Pn Pn 21 06 14.9 +3.3
0.2nm,0.3s,baz=59,slow=13,SNR=3.4
YKA Yellowknife Ar 19.55 347 P **P** **21 07 59.7 -0.4**
0.1nm,0.3s,baz=164,slow=12,SNR=7.0

MEX 09 21:05:58.1±0.5, **16°47'N**×**93°92'W**, **h222**km±14km, **MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.01**	**138**	*i* P	Pn	21 06 29.8	-0.5
PCIG				*e*S	S	21 06 52.2	-3.1
HUIG	**Huatulco**	**2.21**	**252**	*e*P	Pn	21 06 38.9	-1.6
HUIG				*e*S	S	21 07 11.4	-2.0
VHO	**Vista Hermosa**	**2.76**	**283**	*e*P	Pn	21 06 45.6	-0.9
VHO				*i* S	S	21 07 21.7	-2.6
PNIG	**Pinotepa**	**4.04**	**270**	*e*P	Pn	21 06 59.9	-1.4
TLIG	**Tlapa**	**4.58**	**284**	*e*S	S	21 08 00.4	-2.6

*NEIC **09** 21:11:52.5±1.0, 43°.59N×105°.13W, h0km, ML2.8, Error ellipse: s-maj=15.9km s-min=10.7km az=175.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] WSW of Newcastle.
*ISCJB **09** 21:11:53.7±0.3, 44°.14N±0°.02×105°.39W±0°.03, h0km, Error ellipse: s-maj=3.0km s-min=2.5km az=152.8*
*IDC **09** 21:11:54.3±1.4, 44°.51N×105°.83W, h0km, mb1 3.5/3, mb1mx3.2/29, mbtmp3.1/3,ML2.9/3, Error ellipse: s-maj=60.8km s-min=9.9km az=144.0*
ISC 09 21:11:53.5±0.7, **44°15'N**±0°.02×**105°42'W**±0°.02, **h0**km, **n56,** σ0**95**/61, **18C-20D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.19**	**189**	⇓P	**Pg**	**21 11 58.8**	**+1.7**
	baz=0.2,SNR=85						
H23A	**Clabaugh Cattl**	**0.41**	**2**	⇑P	**Pg**	**21 12 02.1**	**+0.7**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.64**	**116**	P	**Pg**	**21 12 06.5**	**+0.7**
	baz=0.6,SNR=47						
J23A	**Dilts Ranch, B**	**0.75**	**187**	⇑P	**Pb**	**21 12 08.9**	**-0.6**
	baz=0.8,SNR=11						
I22A	**9 Mile Ranch,**	**0.81**	**252**	⇓P	**Pb**	**21 12 10.0**	**-0.5**
	baz=0.8,SNR=67						
I22A				⇓S	**Sb**	**21 12 21.4**	**-0.6**
	baz=0.8						
H24A	**Dirks Ranch, A**	**0.86**	**46**	⇓P	**Pg**	**21 12 10.0**	**-0.1**
	baz=0.8						
J24A	**Dixon Ranch, L**	**0.99**	**146**	⇑P	**Pb**	**21 12 13.1**	**-0.5**
	baz=1.0,SNR=40						
RSSD	**Black Hills**	**1.00**	**91**	*e*Pg	**Pg**	**21 12 12.6**	**-0.1**
J22A	**Midwest**	**1.06**	**226**	⇑P	**Pb**	**21 12 14.2**	**-0.7**
	baz=1.1,SNR=16						
I25A	**Rochford**	**1.23**	**95**	⇓P	**Pg**	**21 12 16.9**	**-0.1**
	baz=1.2						
G22A	**Birney**	**1.24**	**330**	⇓P	**Pg**	**21 12 17.6**	**+0.4**
	baz=1.2						
H21A	**Big Horn, Sher**	**1.26**	**293**	⇑P	**Pb**	**21 12 18.0**	**-0.1**
	baz=1.3,SNR=6.4						
G24A	**Alzada**	**1.38**	**31**	⇓P	**Pn**	**21 12 19.6**	**-0.6**
	baz=1.4						
G24A				⇑S	**Sg**	**21 12 38.2**	**+0.3**
	baz=1.4						
H25A	**Fruitdale**	**1.39**	**70**	⇑P	**Pn**	**21 12 19.7**	**-0.6**
	baz=1.4						
I21A	**Big Trails, Te**	**1.39**	**257**	⇓P	**Pg**	**21 12 19.6**	**-0.5**
	baz=1.4,SNR=77						
I21A				⇓S	**Sb**	**21 12 38.8**	**0.0**
	baz=1.4						
J25A	**Sunshine Ranch**	**1.40**	**122**	⇑P	**Pg**	**21 12 20.1**	**-0.2**
	baz=1.4,SNR=29						
J25A				⇑S	**Sb**	**21 12 38.5**	**-0.5**
	baz=1.4						
K24A	**Anderson Ranch**	**1.49**	**163**	⇓P	**Pb**	**21 12 22.1**	**-0.1**
	baz=1.5,SNR=11						
F23A	**Volborg**	**1.57**	**0**	⇑P	**Pn**	**21 12 22.5**	**-0.2**
	baz=1.6						
F23A				⇑S	**Sn**	**21 12 44.3**	**+0.5**
	baz=1.6						
G21A	**Lodge Grass**	**1.67**	**311**	⇓P	**Pn**	**21 12 24.5**	**+0.4**
	baz=1.7,SNR=9.5						
G21A				⇓Sb	**Sg**	**21 12 47.9**	**+0.8**
	baz=1.7						
J21A	**Lysite**	**1.67**	**242**	⇓S	**Sg**	**21 12 46.6**	**-0.6**
	baz=1.7						
K22A	**Casper**	**1.70**	**209**	*e*Pg	**Pb**	**21 12 24.7**	**-1.1**
K22A	**Casper**	**1.70**	**209**	⇓P	**Pg**	**21 12 25.6**	**-0.5**
	baz=1.7,SNR=28						
K22A				⇓S	**Sg**	**21 12 47.4**	**-0.7**
	baz=1.7						
F22A	**Rosebud**	**1.73**	**340**	⇑P	**Pn**	**21 12 25.3**	**+0.3**
	baz=1.7						
G25A	**Newell**	**1.77**	**53**	⇑Pb	**Pn**	**21 12 26.4**	**+0.9**
	baz=1.8,SNR=7.4						
F24A	**Ekalaka**	**1.83**	**22**	Sb	**Sb**	**21 12 52.1**	**+0.6**
	baz=1.8						
H20A	**Greybull**	**1.88**	**281**	⇓P	**Pn**	**21 12 27.7**	**+0.7**
	baz=1.9,SNR=16						
H20A				S	**Sb**	**21 12 52.9**	**0.0**
	baz=1.9						
J26A	**Sides Ranch, S**	**1.90**	**115**	⇑Pb	**Pb**	**21 12 28.7**	**-0.3**
	baz=1.9,SNR=33						
K25A	**Mack Ranch, Ha**	**1.91**	**143**	⇓Pb	**Pb**	**21 12 28.9**	**-0.4**
	baz=1.9,SNR=12						
H26A	**Fairpoint**	**1.96**	**75**	⇑Pb	**Pb**	**21 12 29.9**	**-0.2**
	baz=1.9						
I20A	**Worland**	**1.96**	**265**	⇓P	**Pb**	**21 12 29.3**	**-0.8**
	baz=2.0,SNR=33						
K21A	**Alcova**	**2.02**	**222**	⇑P	**Pb**	**21 12 30.5**	**-0.7**
	baz=2.0,SNR=17						
L23A	**Garrett**	**2.04**	**186**	⇓P	**Pb**	**21 12 30.0**	**-1.6**
	baz=2.1,SNR=26						
J20A	**Shoshoni**	**2.09**	**248**	Pb	**Pb**	**21 12 32.3**	**0.0**
	baz=2.1						
L24A	**Wheatland**	**2.13**	**170**	Pb	**Pb**	**21 12 32.9**	**-0.2**
	baz=2.1						
K26A	**Motz Farm, Whi**	**2.18**	**131**	⇑Pb	**Pb**	**21 12 32.9**	**-1.1**
	baz=2.2,SNR=16						
L22A	**Ellis Ranch, M**	**2.24**	**200**	Pb	**Pb**	**21 12 34.7**	**-0.3**
	baz=2.3						
F25A	**Bowman**	**2.26**	**37**	⇓Pb	**Pb**	**21 12 34.6**	**-0.6**
	baz=2.2,SNR=8.4						
G20A	**Bridger**	**2.26**	**299**	P	Pn	**21 12 32.5**	**+0.2**
	baz=2.3,SNR=17						
I27A	**Quinn**	**2.43**	**91**	Pb	**Pb**	**21 12 37.9**	**-0.2**
	baz=2.4						
H27A	**Howes**	**2.45**	**77**	Pb	**Pb**	**21 12 38.2**	**-0.2**
	baz=2.4						
E24A	**Baker**	**2.54**	**18**	⇑P	**Pn**	**21 12 36.0**	**0.0**
	baz=2.5,SNR=11						
LAO	**LASA Array**	**2.60**	**348**	*e*Pn	**Pn**	**21 12 39.0**	**+2.1**
LAO				*e*Sn	**Sg**	**21 13 16.5**	**-0.6**
RLMT	**Red Lodge**	**2.91**	**291**	*e*Pn	**Pn**	**21 12 42.9**	**+1.6**
PDAR	**Pinedale Array**	**3.31**	**247**	Pn	Pn	**21 12 48.5**	**+1.7**
PDAR	**Pinedale Array**	**3.31**	**247**	Pn	**Pn**	**21 12 48.5**	**+1.7**
	0.5nm,0.3s,baz=64,slow=16,SNR=16						
PDAR				Lg	Lg	21 13 35.5	
	3.4nm,0.3s,baz=60,slow=31,SNR=18						
BW06	**Boulder Array**	**3.31**	**247**	*e*Pn	**Pn**	**21 12 48.2**	**+1.4**
GCMT	**Greycliff**	**3.43**	**300**	*e*Pn	**Pb**	**21 12 53.8**	**-1.4**
OGNE	**Ogallala**	**4.07**	**141**	*e*Pg	Pn	**21 12 59.2**	**+2.2**
DGMT	**Dagmar**	**4.41**	**11**	*e*Pn	Pn	21 13 07.2	+5.5
BOZ	**Bozeman (W)**	**4.66**	**291**	*e*Pn	Pn	21 13 10.7	+5.4
	1.7nm,0.5s						
HRY	**Holter Researc**	**5.19**	**302**	*e*Pn	Pn	21 13 18.9	+6.4
	4.1nm,0.4s						
SPUT	**South Promonto**	**5.90**	**244**	*e*Pg	Pg	21 13 42.8	-3.8
	2.9nm,0.7s						
ECSD	**EROS Data Cent**	**6.37**	**91**	*e*Pn	**Pn**	**21 13 26.1**	**-2.6**
	4.0nm,0.7s						
ULM	**Lac du Bonnet**	**8.91**	**43**	Pn	**Pn**	**21 14 02.2**	**-1.3**
ULM	**Lac du Bonnet**	**8.91**	**43**	Pn	**Pn**	**21 14 02.2**	**-1.3**
	0.6nm,0.3s,baz=230,slow=13,SNR=5.7						
NVAR	**Mina Array Bea**	**11.24**	**244**	Pn	**Pn**	**21 14 37.5**	**+1.9**
	0.1nm,0.3s,baz=40,slow=13,SNR=3.2						

*IDC **09** 21:17:24.7±1.5, 2°.23N×96°.39E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=37.8km s-min=19.7km az=27.0*
*ISCJB **09** 21:17:29.5±0.8, 2°.58N±0°.08×96°.58E±0°.08, h30km, mb3.7/6, Error ellipse: s-maj=12.4km s-min=10.2km az=33.0.*
*DJA **09** 21:17:33.8±0.4, 3°.N×3°.x9°.7E×°, h10km, M3.4/6, MLv3.4/6*
ISC 09 21:17:30.7±0.9, **2°61'N**±0°.07×**96°67'E**±0°.10, **h30**km, **n20,** σ1**15**/14, **mb3.7/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.40**	**240**	P	Pn	21 17 46.0	+5.6
SNSI				S	Sn	21 17 57.3	+10
TPTI		**0.82**	**38**	P	**Pn**	**21 17 46.4**	**+0.1**
TPTI				S	**Sb**	**21 17 56.4**	**-1.0**
KCSI	**Kotacane, Aceh**	**1.43**	**50**	P	**Pn**	**21 17 55.2**	**+0.5**
GSI	**Gunungsitoli**	**1.58**	**145**	P	**Pn**	**21 17 56.6**	**-0.1**
TSI	**Tuntungan**	**2.09**	**65**	P	**Pb**	**21 18 06.5**	**-1.5**
PSI	**Prapat**	**2.26**	**85**	P	x	21 18 07.7	
PSI	**Prapat**	**2.26**	**85**	Pn	**Pn**	**21 18 07.0**	**+0.8**
	2.1nm,0.3s,baz=272,slow=12,SNR=8.0						
PSI				Pg	**Pb**	**21 18 12.5**	**+1.5**
	2.6nm,0.3s,baz=302,slow=19,SNR=12						
CMAR	**Chiang Mai Arr**	**15.91**	**8**	Pn	**P**	**21 21 16.8**	**+0.7**
	0.1nm,0.3s,baz=200,slow=11,SNR=7.4						
H08S2	**Diego Garcia H**	**26.18**	**247**	T	T	21 50 02.0	
	baz=67,slow=75						
H08S3	**Diego Garcia H**	**26.18**	**247**	T	T	21 50 01.7	
	baz=67,slow=75						
H08S1	**Diego Carcia H**	**26.20**	**247**	T	T	21 50 02.5	
	baz=67,slow=75						
H01W3	**Cape Leeuwin H**	**40.74**	**158**	T	T	22 08 14.2	
	baz=169,slow=76						
H01W2	**Cape Leeuwin H**	**40.75**	**158**	T	T	22 08 09.8	
	baz=169,slow=76						
H01W1	**Cape Leeuwin H**	**40.75**	**158**	T	T	22 08 11.3	
	baz=169,slow=76						
WRA	**Warramunga Arr**	**43.23**	**123**	P	**P**	**21 25 28.4**	**-1.3**
	0.5nm,0.8s,baz=300,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**45.76**	**346**	P	**P**	**21 25 50.8**	**+1.3**
	0.5nm,0.4s,baz=160,slow=8.9,SNR=30						
SONM	**Songino Array**	**45.83**	**9**	P	**P**	**21 25 50.4**	**+0.3**
	0.3nm,0.5s,baz=189,slow=9.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**52.09**	**351**	P	**P**	**21 26 39.2**	**+1.4**
	0.9nm,0.3s,baz=180,slow=8.9,SNR=10						
AKASG	**Malin Array Be**	**73.83**	**322**	P	**P**	**21 29 02.7**	**+0.3**
	0.2nm,0.3s,baz=88,slow=5.7,SNR=3.7						
FINES	**FINESS Array B**	**78.52**	**332**	P	**P**	**21 29 27.4**	**-1.5**
	1.2nm,1.0s,baz=101,slow=1.4,SNR=4.5						

*ISK **09** 21:42:11.4, 35°.86N×28°.98E, h10km, MD3.6*
*ISCJB **09** 21:42:13.9±0.8, 35°.86N±0°.03×29°.13E±0°.03, h27km±8km, Error ellipse: s-maj=5.8km s-min=4.1km az=10.1*
*CSEM **09** 21:42:14.6±0.2, 35°.91N×29°.10E, h20km, MD3.6, Error ellipse: s-maj=5.0km s-min=3.9km az=28.0*
*ATH **09** 21:42:16.2, 36°.07N×28°.95E, h66km±10km*
*NIC **09** 21:42:16.9±0.1, 35°.86N×29°.28E, h61km, mb4.2, ML3.8*
*HLW **09** 21:42:22.8, 35°.32N×29°.27E, h10km±11km, Md3.2, Ml2.8*
ISC 09 21:42:14.9±1.1, **35°91N**±0°.04×**29°09E**±0°.03, **h32**km±12km, **n61,** σ1**29**/77, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.72**	**360**	*e*PG	**Pb**	**21 42 27.5**	**-1.6**
FETY				*e*SG	**Sb**	**21 42 38.4**	**-0.4**
FETY	**Fethiye**	**0.72**	**360**	*e*Pg	**Pb**	**21 42 27.5**	**-1.6**
FETY				*e*Sg	**Sb**	**21 42 38.4**	**-0.4**
ARG	**Arkhangelos**	**0.84**	**292**	*e*P	**Pb**	**21 42 31.3**	**+0.3**
ARG				*e*S	**Sn**	**21 42 42.5**	**+0.7**
ARG	**Arkhangelos**	**0.84**	**292**	*e*P	**Pb**	**21 42 31.3**	**+0.3**
ARG				*e*S	**Sn**	**21 42 42.5**	**+0.7**
DALY	**Dalyan (Mu˘la**	**0.97**	**339**	*e*PG	**Pn**	**21 42 30.9**	**-1.4**
DALY				*e*SG	**Sn**	**21 42 44.4**	**-0.6**
DALY	**Dalyan (Mu˘la**	**0.97**	**339**	*e*Pg	**Pn**	**21 42 30.9**	**-1.4**
DALY				*e*Sg	**Sn**	**21 42 44.4**	**-0.6**
ELL	**Elmali**	**1.07**	**38**	*e*PN	**Pn**	**21 42 34.5**	**+0.7**
ELL				*e*SN	**Sb**	**21 42 50.8**	**+2.2**
ELL	**Elmali**	**1.07**	**38**	*e*Pn	**Pn**	**21 42 34.5**	**+0.7**
ELL				*e*Sn	**Sb**	**21 42 50.8**	**+2.2**
GLHS	**Glhisar (BURDU**	**1.29**	**15**	*e*PN	**Pb**	**21 42 38.1**	**-0.5**
GLHS	**Glhisar (BURDU**	**1.29**	**15**	*e*Pn	**Pb**	**21 42 38.1**	**-0.5**
KARP	**Karpathos**	**1.61**	**258**	*e*P	**Pb**	**21 42 42.9**	**-1.1**
KARP				*e*S	**Sn**	**21 43 02.0**	**+1.1**
KARP	**Karpathos**	**1.61**	**258**	*e*P	**Pb**	**21 42 42.9**	**-1.1**
KARP				*e*S	**Sn**	**21 43 02.0**	**+1.1**
BODT	**Bodrum**	**1.84**	**309**	*e*PN	**Pn**	**21 42 43.4**	**-0.9**
BODT	**Bodrum**	**1.84**	**309**	*e*Pn	**Pn**	**21 42 43.4**	**-0.9**
BCK	**Bucak**	**1.96**	**38**	*e*PN	**Pn**	**21 42 46.8**	**+0.7**
BCK	**Bucak**	**1.96**	**38**	*e*Pn	**Pn**	**21 42 46.8**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.19**	**44**	*e*PN	**Pn**	**21 42 50.5**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.19**	**44**	*e*Pn	**Pn**	**21 42 50.5**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**335**	*e*PN	**Pn**	**21 42 50.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**335**	*e*Pn	**Pn**	**21 42 50.0**	**-0.1**
ZKR	**Zakros**	**2.47**	**252**	*e*P	**Pn**	**21 42 55.0**	**+2.0**
ZKR				*e*S	**Sn**	**21 43 23.2**	**+1.0**
ZKR	**Zakros**	**2.47**	**252**	*e*P	**Pn**	**21 42 55.0**	**+2.0**
ZKR				*e*S	**Sn**	**21 43 23.2**	**+1.0**
KULA	**Kula-Manisa**	**2.62**	**353**	*e*PN	**Pn**	**21 42 55.2**	**+0.1**
KULA	**Kula-Manisa**	**2.62**	**353**	*e*Pn	**Pn**	**21 42 55.2**	**+0.1**
AKMC	**Akamas**	**2.79**	**107**	P	**Pn**	**21 42 57.6**	**+0.2**
	baz=289						
AKMC	**Akamas**	**2.79**	**107**	P	**Pn**	**21 42 57.6**	**+0.2**
PPCY	**Paphos**	**2.85**	**110**	P	**Pn**	**21 42 58.5**	**+0.3**
	baz=292						
PPCY	**Paphos**	**2.85**	**110**	P	Pn	**21 42 58.5**	**+0.3**
NPS	**Neapolis**	**2.91**	**258**	*e*P	**Pn**	**21 43 00.7**	**+1.7**
NPS	**Neapolis**	**2.91**	**258**	*e*P	**Pn**	**21 43 00.7**	**+1.7**
ALFC	**Alevga**	**2.96**	**104**	P	**Pn**	**21 42 59.7**	**-0.1**
	baz=285						
ALFC				S	**Sn**	**21 43 33.6**	**-0.7**
ALFC	**Alevga**	**2.96**	**104**	P	**Pn**	**21 42 59.7**	**-0.1**
ALFC				S	**Sn**	**21 43 33.6**	**-0.7**
BLCB	**Balcova**	**2.96**	**327**	*e*PN	**Pn**	**21 43 00.1**	**+0.4**
BLCB	**Balcova**	**2.96**	**327**	*e*Pn	**Pn**	**21 43 00.1**	**+0.4**
LAST	**Lasithi**	**3.04**	**257**	*e*P	**Pn**	**21 43 02.7**	**+1.8**
LAST	**Lasithi**	**3.04**	**257**	*e*P	**Pn**	**21 43 02.7**	**+1.8**
LEF	**Lefka**	**3.20**	**103**	*e*PN	**Pn**	**21 43 03.2**	**+0.2**
LEF	**Lefka**	**3.20**	**103**	*e*Pn	**Pn**	**21 43 03.2**	**+0.2**
SZAC	**Souni-Zanaja**	**3.31**	**109**	P	**Pn**	**21 43 04.9**	**+0.3**
	baz=291						
SZAC				S	**Sn**	**21 43 41.9**	**-1.0**
SZAC	**Souni-Zanaja**	**3.31**	**109**	P	**Pn**	**21 43 04.9**	**+0.3**
SZAC				S	**Sn**	**21 43 41.9**	**-1.0**
KONT	**Konya--Tatoy**	**3.32**	**51**	*e*PN	**Pn**	**21 43 06.6**	**+1.9**
KONT	**Konya--Tatoy**	**3.32**	**51**	*e*Pn	**Pn**	**21 43 06.6**	**+1.9**
LADK	**Ladik-KONYA**	**3.48**	**48**	*e*PN	**Pn**	**21 43 08.6**	**+1.7**
LADK	**Ladik-KONYA**	**3.48**	**48**	*e*Pn	**Pn**	**21 43 08.6**	**+1.7**
LFK	**Lefkose**	**3.68**	**99**	*e*PN	**Pn**	**21 43 10.6**	**+1.0**
LFK	**Lefkose**	**3.68**	**99**	*e*Pn	**Pn**	**21 43 10.6**	**+1.0**
IKL	**Isikli**	**3.74**	**84**	*e*PN	**Pn**	**21 43 12.1**	**+1.7**
IKL	**Isikli**	**3.74**	**84**	*e*Pn	**Pn**	**21 43 12.1**	**+1.7**
KARA	**Karaisali**	**4.99**	**73**	*e*PN	**Pn**	**21 43 30.3**	**+2.7**
KARA	**Karaisali**	**4.99**	**73**	*e*Pn	**Pn**	**21 43 30.3**	**+2.7**
HMAT	**Matruh**	**5.08**	**200**	S	**Sn**	**21 44 21.6**	**-5.0**
	baz=204						
HMAT				AMP		21 45 00.0	
	comp=E,20μm,1.7s,logA/T=4.1,baz=204						
RSH		**6.28**	**141**	P	**Pn**	**21 43 46.2**	**+0.9**
	baz=138						
RSH				S	Sn	21 44 49.3	-6.6
	baz=138						
RSH		**6.28**	**141**	P	**Pn**	**21 43 46.2**	**+0.9**
AMAG	**Maghara**	**6.29**	**146**	P	Pn	**21 43 45.4**	**-0.1**
	baz=143						
AMAG	**Maghara**	**6.29**	**146**	P	**Pn**	**21 43 45.4**	**-0.1**
SUZ		**6.82**	**151**	P	**Pn**	**21 43 53.0**	**+0.1**
	baz=150						
SUZ		**6.82**	**151**	P	**Pn**	**21 43 53.0**	**+0.1**
HKAT	**Jabal Katrina**	**8.46**	**149**	P	**Pn**	**21 44 15.5**	**+0.1**
	baz=148						
HKAT	**Jabal Katrina**	**8.46**	**149**	P	**Pn**	**21 44 15.5**	**+0.1**
TR2		**8.47**	**151**	P	**Pn**	**21 44 15.8**	**+0.4**
	baz=150						
TR2		**8.47**	**151**	P	**Pn**	**21 44 15.8**	**+0.4**

IDC 09 21:56:06.7±4.9, **19°47S**×**175°50W**, **h0**km, **mb3.7**/2, **mb1 4.0**/2, **mb1mx3.6**/19, **mbtmp3.7**/2, **Error ellipse: s-maj=288.6km s-min=42.1km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.05**	**255**	P	P	22 04 40.9	+0.5
	2.3nm,0.7s,baz=90,slow=8.3,SNR=28						
WRA	**Warramunga Arr**	**47.08**	**261**	P	P	22 04 39.7	-1.0
	0.3nm,0.7s,baz=98,slow=6.4,SNR=8.8						
AKASG	**Malin Array Be**	**143.19**	**334**	PKP	PKPbc	22 15 39.8	+0.2
	0.1nm,0.4s,baz=40,slow=4.6,SNR=4.3						
BRTR	**Keskin Array B**	**147.82**	**315**	PKPbc	PKPbc	22 15 54.0	-0.2
	0.4nm,0.6s,baz=115,slow=5.3,SNR=3.8						
DAVOX	**Davos/Dischmat**	**152.40**	**352**	PKPbc	PKPbc	22 16 05.2	+0.1
	baz=225,slow=10.0						

*ISCJB **09** 21:57:24.3±0.4, 40°.57N±0°.03×112°.15W±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=3.4km az=30.1*
*NEIC **09** 21:57:24.4±0.6, 40°.54N×112°.20W, h0km, ML1.5, Error ellipse: s-maj=8.6km s-min=5.6km az=60.0, Suspected Mining explosion.*
NEIC 10 km [5 miles] E of Tooele.
*IDC **09** 21:57:33.6±1.1, 40°.73N×111°.64W, h0km, mb1 3.3/3, mb1mx3.0/30, mbtmp2.8/3, ML3.2/3, Error ellipse: s-maj=23.3km s-min=9.1km az=131.0*
ISC 09 21:57:25.1±0.8, **40°57'N**±0°.03×**112°14W**±0°.03, **h0**km, **n20,** σ1**27**/31, **Utah**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTU	**Camp Tracy**	**0.32**	**67**	*e*Pg	**Pg**	**21 57 31.3**	**+0.1**
CTU				*e*Sg	**Sg**	**21 57 36.7**	**+1.3**
JLU	**Jordanelle**	**0.53**	**86**	*e*Pg	**Pg**	**21 57 35.1**	**0.0**
JLU				*e*Sg	**Sg**	**21 57 41.8**	**-0.1**
NLU	**North Lily Min**	**0.61**	**175**	*e*Pg	**Pg**	**21 57 35.1**	**-1.7**
NLU				*e*Sg	**Sg**	**21 57 45.0**	**+0.3**
DUG	**Dugway**	**0.64**	**234**	*e*Pg	**Pg**	**21 57 35.5**	**-1.8**
DUG				*e*Sg	**Sg**	**21 57 46.8**	**+1.3**
MPU	**Maple Canyon**	**0.67**	**145**	*e*Pg	**Pg**	**21 57 36.7**	**-1.3**
MPU				*e*Sg	**Sb**	**21 57 51.4**	**+1.6**
DAU	**Daniels Canyon**	**0.69**	**103**	*e*Pg	**Pg**	**21 57 38.4**	**+0.1**
DAU				*e*Sg	**Sg**	**21 57 47.6**	**+0.4**
BGU	**Big Grassy Mou**	**0.77**	**298**	*e*Pg	**Pg**	**21 57 39.3**	**-0.4**
BGU				*e*Sg	**Sb**	**21 57 52.0**	**-0.5**
SPUT	**South Promonto**	**0.78**	**342**	*e*Pg	**Pg**	**21 57 38.5**	**-1.4**
HVU	**Hansel Valley**	**1.30**	**339**	*e*Pg	**Pg**	**21 57 48.6**	**-1.4**
HVU				*e*Sg	**Sg**	**21 58 06.6**	**-0.3**
TMUT	**Trail Mountain**	**1.46**	**150**	*e*Pn	**Pn**	**21 57 51.5**	**-1.4**
TMUT				*e*Sn	**Sn**	**21 58 13.1**	**+0.2**
SRU	**San Rafael**	**1.91**	**139**	*e*Pn	**Pn**	**21 57 59.0**	**-0.1**
SRU				*e*Sn	**Sn**	**21 58 22.3**	**-1.7**
MVU	**Marysvale**	**2.06**	**182**	*e*Pn	**Pn**	**21 58 01.0**	**-0.2**
BW06	**Boulder Array**	**2.93

comp=Z,40nm,18.0s,baz=276,slow=35
SFJD Kangerlussuaq 30.18 344 LR LR 22 26 47.9
comp=Z,73nm,18.1s,baz=157,slow=32
GERES GERESS Array B 32.35 58 LR LR 22 28 59.6
comp=Z,33nm,21.5s,baz=278,slow=33
NOA NORSAR Array B 33.36 36 LR LR 22 29 00.3
comp=Z,39nm,20.9s,baz=255,slow=32
SADO Sadowa 36.61 295 LR LR 22 30 55.3
comp=Z,108nm,21.9s,baz=174,slow=33
TORD Torodi Ar. Bea 38.06 124 P P 22 18 29.9 +3.6
1.1nm,1.1s,baz=331,slow=8.3,SNR=4.0
TORD LR LR 22 33 50.9
comp=Z,57nm,18.1s,baz=150,slow=36
DBIC Dimbokro 39.45 139 LR LR 22 33 10.1
comp=Z,53nm,19.8s,baz=318,slow=33
FINES FINESS Array B 40.40 38 P **P 22 18 45.8 +0.4**
2.1nm,0.8s,baz=243,slow=6.1,SNR=4.6
FINES LR LR 22 33 30.1
comp=Z,51nm,20.9s,baz=347,slow=33
ARCES ARCESS Array B 41.85 26 LR LR 22 32 50.8
comp=Z,61nm,21.0s,baz=11,slow=31
AKASG Malin Array Be 42.27 54 P **P 22 19 01.2 +0.4**
1.2nm,0.7s,baz=277,slow=8.1,SNR=9.0
RCBR Riachuelo 45.17 189 LR LR 22 32 54.3
comp=Z,46nm,19.5s,baz=57,slow=29
ULM Lac du Bonnet 46.74 306 LR LR 22 37 22.5
comp=Z,56nm,19.1s,baz=44,slow=34
BRTR Keskin Array B 48.05 68 P **P 22 19 49.1 +2.0**
0.4nm,0.7s,baz=273,slow=6.9,SNR=3.6
BRTR LR LR 22 40 21.6
comp=Z,16nm,18.3s,baz=290,slow=36
PTGA Pitinga 48.41 222 LR LR 22 36 21.5
comp=Z,21nm,20.1s,baz=4.0,slow=31
ROSC El Rosal 52.77 241 LR LR 22 39 42.0
comp=Z,26nm,19.9s,baz=86,slow=32
TEIG Tepich 53.26 267 LR LR 22 38 25.0
comp=Z,38nm,20.0s,baz=110,slow=31
YKA Yellowknife Ar 53.80 325 P **P 22 20 27.7 -2.1**
0.2nm,0.8s,baz=70,slow=7.4,SNR=3.6
PDAR Pinedale Array 58.13 301 P **P 22 21 00.3 -1.1**
0.3nm,0.5s,baz=70,slow=10,SNR=3.8
PDAR LR LR 22 45 22.1
comp=Z,83nm,18.1s,baz=12,slow=36
TXAR Lajitas Array 60.28 285 P **P 22 21 16.8 +0.3**
0.3nm,0.6s,baz=45,slow=5.2,SNR=4.5
TXAR LR LR 22 46 25.1
comp=Z,43nm,18.6s,baz=0.0,slow=35
NEW Newport 60.46 310 LR LR 22 45 16.2
comp=Z,118nm,18.9s,baz=32,slow=34
BVAR Borovoye Array 65.25 41 LR LR 22 49 36.6
comp=Z,33nm,18.2s,baz=354,slow=36
LPAZ La Paz 65.80 221 LR LR 22 46 48.6
comp=Z,28nm,20.8s,baz=20,slow=32
NVAR Mina Array Bea 66.04 301 LR LR 22 52 13.3
comp=Z,49nm,18.0s,baz=34,slow=38
PFO Pinyon Flat Ob 67.35 295 LR LR 22 52 49.2
comp=Z,75nm,18.2s,baz=193,slow=37
LPIG La Paz 68.09 284 LR LR 22 50 55.9
comp=Z,36nm,20.4s,baz=26,slow=35
KURBB Kurchatov Arra 70.75 40 P **P 22 22 24.2 +0.5**
0.6nm,0.8s,baz=311,slow=6.2,SNR=5.7
ZALV Zalesovo Beam 71.55 34 P **P 22 22 28.8 +0.4**
0.5nm,0.7s,baz=325,slow=7.4,SNR=3.0
MKAR Makanchi Array 75.13 41 P **P 22 22 50.6 +0.9**
1.6nm,0.9s,baz=306,slow=5.0,SNR=10
SONM Songino Array 84.98 28 P **P 22 23 43.3 +0.3**
0.6nm,1.0s,baz=318,slow=6.0,SNR=4.6
ASAJ Asahikawa 96.76 5 LR LR 23 06 43.2
comp=Z,27nm,18.2s,baz=349,slow=35
ASAR Alice Springs 159.24 46 PKPab **PKPab 22 31 44.0 +0.6**
0.6nm,0.9s,baz=350,slow=4.7,SNR=4.2

*ISCJB **09** 22:17:22.9±0.5, 39.24N±0.09×29.88W±0.07, h10km, mb3.7/6, Error ellipse: s-maj=14.1km s-min=3.7km az=27.9*
*CSEM **09** 22:17:25.6, 39.50N×29.82W, h4km, ML3.5, After PDA*
*PDA **09** 22:17:25.6±1.0, 39.50N×29.82W, h4km±9km, MD3.6, ML3.5, Error ellipse: s-maj=12.1km s-min=3.4km az=26.0*
*IDC **09** 22:17:28.6±2.6, 40.50N×30.24W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/30, mbtmp3.7/7, Error ellipse: s-maj=92.0km s-min=29.4km az=171.0*
ISC 09 22:17:23.4±0.9, 39.2N±0.1×29.89W±0.08, h10km, n24, σ1s53/31, mb3.8/6, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.04**	**281**	*eS*	**Sg**	**22 17 55.1**	**-1.9**
PCED	**Cedros**	**1.08**	**120**	*eP*	**Pn**	**22 17 44.5**	**0.0**
PCED				*eS*	**Sb**	**22 17 58.5**	**+0.3**
PCED				A	A	22 18 00.5	
	364nm,0.4s						
PCED	**Cedros**	**1.08**	**120**	*eP*	**Pn**	**22 17 44.5**	**0.0**
PCED				*eS*	**Sb**	**22 17 58.5**	**+0.3**
H07N1	**FLORES T-PHASE**	**1.08**	**299**	*eS*	**Sg**	**22 17 54.3**	**-4.0**
HOR	**Horta**	**1.18**	**123**	*eP*	**Pg**	**22 17 46.2**	**+0.2**
HOR				*eS*	**Sn**	**22 18 01.8**	**-0.2**
HOR	**Horta**	**1.18**	**123**	*eP*	**Pg**	**22 17 46.2**	**+0.2**
HOR				*eS*	**Sn**	**22 18 01.8**	**-0.2**
PCAN	**Candelaria**	**1.31**	**123**	*eS*	**Sn**	**22 18 04.9**	**-0.3**
PCAN				A	A	22 18 06.3	
	328nm,0.3s						
PCAN	**Candelaria**	**1.31**	**123**	*eS*	**Sn**	**22 18 04.9**	**-0.3**
PICO	**Pico**	**1.33**	**120**	*eP*	**Pg**	**22 17 48.3**	**-0.6**
PICO				*eS*	**Sn**	**22 18 05.5**	**-0.3**
PICO	**Pico**	**1.33**	**120**	*eP*	**Pg**	**22 17 48.3**	**-0.6**
PICO				*eS*	**Sn**	**22 18 05.5**	**-0.3**
ROSA	**Rosais**	**1.36**	**109**	*eP*	**Pn**	**22 17 47.7**	**-0.8**
ROSA				*eS*	**Sb**	**22 18 04.1**	**-2.4**
ROSA				A	A	22 18 05.2	
	110nm,0.2s						
ROSA	**Rosais**	**1.36**	**109**	*eP*	**Pn**	**22 17 47.7**	**-0.8**
ROSA				*eS*	**Sb**	**22 18 04.1**	**-2.4**
PMAN	**Manadas**	**1.51**	**111**	*eS*	**Sn**	**22 18 07.7**	**-2.4**
PMAN				A	A	22 18 09.8	
	146nm,0.4s						
PMAN	**Manadas**	**1.51**	**111**	*eS*	**Sn**	**22 18 07.7**	**-2.4**
TOPO	**Topo**	**1.65**	**110**	*eP*	**Pn**	**22 17 51.6**	**-0.8**
TOPO				*eS*	**Sn**	**22 18 11.4**	**-2.2**
TOPO	**Topo**	**1.65**	**110**	*eP*	**Pn**	**22 17 51.6**	**-0.8**
TOPO				*eS*	**Sn**	**22 18 11.4**	**-2.2**
ESDC	**Sonseca Array**	**20.02**	**80**	P	Pn	22 22 05.8	+7.7
	1.4nm,0.8s,baz=291,slow=9.1,SNR=5.8						
FINES	**FINESS Array B**	**40.46**	**38**	P	**P**	**22 25 02.7**	**+0.9**
	2.6nm,0.8s,baz=254,slow=5.2,SNR=4.2						
AKASG	**Malin Array Be**	**42.33**	**54**	P	**P**	**22 25 17.8**	**+0.6**
	0.8nm,0.7s,baz=274,slow=8.6,SNR=5.4						
TXAR	**Lajitas Array**	**60.25**	**285**	P	P	22 27 35.2	+3.2
	0.3nm,0.7s,baz=76,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.61**	**34**	P	P	22 28 46.6	+1.9
	0.5nm,0.6s,baz=302,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**75.19**	**41**	P	**P**	**22 29 07.6**	**+1.6**
	1.3nm,0.8s,baz=324,slow=6.0,SNR=12						
SONM	**Songino Array**	**85.04**	**28**	P	**P**	**22 30 00.8**	**+1.5**
	0.5nm,0.9s,baz=328,slow=5.3,SNR=4.3						
ASAR	**Alice Springs**	**159.30**	**46**	PKPab	**PKPab**	**22 38 01.6**	**+2.1**
	0.6nm,0.8s,baz=358,slow=6.3,SNR=5.7						

RSPR 09 22:45:12.0, 18.09N×68.55W, h145km±2km, MD3.7/7, 8C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**1.05**	**311**	*eP*	Pn	22 45 35.9	-0.9
DR12				*eS*	Sn	22 45 55.8	-0.1
IDE	**Isla Desecheo**	**1.06**	**74**	*eP*	Pn	22 45 36.6	-0.2
IDE	**Isla Desecheo**	**1.06**	**74**	*eS*	Sn	22 45 55.7	-0.1
CRPR	**Cabo Rojo, PR**	**1.37**	**93**	*eP*	Pn	22 45 40.2	+0.4
CRPR	**Cabo Rojo, PR**	**1.37**	**93**	*eS*	Sn	22 46 01.0	0.0
AGPR	**Aguadilla, PR**	**1.41**	**74**	*eP*	Pn	22 45 40.7	+0.4
AGPR	**Aguadilla, PR**	**1.41**	**74**	*eS*	Sn	22 46 02.4	+0.5
GBPR	**Guanica, Bosqu**	**1.59**	**94**	*eS*	Sn	22 46 05.1	-0.1
AOPR	**Arecibo Observ**	**1.72**	**81**	*eP*	Pn	22 45 43.8	+0.1
AOPR	**Arecibo Observ**	**1.72**	**81**	*eS*	Sn	22 46 08.2	+0.3
CELP	**Cerrillos**	**1.87**	**90**	*eP*	Pn	22 45 45.8	+0.5
CBYP	**Canovanas**	**2.56**	**86**	*eP*	Pn	22 45 52.8	-1.0
HUMP	**Col San Antoni**	**2.56**	**88**	*eP*	Pn	22 45 53.4	-0.3
MTP	**Monte Pirata**	**2.85**	**89**	*eP*	Pn	22 45 57.8	+0.5
MTP	**Monte Pirata**	**2.85**	**89**	*eS*	Sn	22 46 32.4	+0.3

TRN 09 22:48:22.8, 11.57N×60.12W, h25km, MD3.8, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.49**	**237**	*eP*	Pn	22 48 34.8	+0.6
TOSP				*eS*	Sn	22 48 42.5	+0.6
GRW	**Mount Saint Ca**	**1.62**	**292**	*eP*	Pn	22 48 50.4	+0.4
GRW				*eS*	Sb	22 49 12.2	-0.1
FCV	**Fort Charlotte**	**1.92**	**325**	*eP*	Pn	22 48 55.5	+1.5
SVB	**Belmont**	**2.02**	**327**	*eP*	Pn	22 48 56.5	+1.0
SVB				*eS*	Sn	22 49 21.4	+1.4
SSV	**Crater Summit**	**2.04**	**329**	*eP*	Pb	22 48 57.6	-1.7
SVV	**Soufriere Volc**	**2.04**	**329**	*eP*	Pn	22 48 56.8	+1.1
MCLT	**Moule a Chique**	**2.27**	**339**	*eP*	Pn	22 49 00.3	+1.4
MCLT				*eS*	Sn	22 49 26.7	+0.5
SLB	**Belfond**	**2.42**	**338**	*eP*	Pn	22 49 02.1	+1.1
SLB				*eS*	Sn	22 49 31.7	+1.9

IDC 09 23:04:01.1±2.0, 0.87N×125.98E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=183.0km s-min=24.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.25**	**159**	P	P	23 08 58.4	-1.4
	0.3nm,0.4s,baz=337,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.58**	**163**	P	P	23 09 33.2	+1.1
	0.3nm,0.5s,baz=345,slow=12,SNR=6.4						
MKAR	**Makanchi Array**	**59.49**	**327**	P	P	23 14 06.0	-0.1
	0.1nm,0.4s,baz=122,slow=7.4,SNR=4.4						

*IDC **09** 23:20:31.1±2.2, 37.46N±0.05×142.18E±0.08, h0km±11km, n21, σ0s95/26, Off east coast of Honshu*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.04**	**265**	P	**Pb**	**23 20 52.2**	**+0.2**
JFK				S	**Sg**	**23 21 04.6**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.16**	**252**	P	**Pg**	**23 20 53.7**	**+0.4**
ONAJ				*eS*	**Sg**	**23 21 06.7**	**-1.6**
JMM	**Marumori**	**1.17**	**291**	P	**Pb**	**23 20 54.4**	**+0.2**
JMM				S	**Sg**	**23 21 08.7**	**0.0**
JIO	**Ouri**	**1.19**	**327**	P	**Pn**	**23 20 55.3**	**+0.4**
JIO				S	**Sg**	**23 21 09.3**	**+0.1**
JFT	**Otama**	**1.46**	**273**	P	**Pb**	**23 20 59.4**	**+0.2**
JFT				S	**Sb**	**23 21 17.0**	**-1.4**
JOU	**Okura**	**1.50**	**307**	P	**Pb**	**23 21 00.1**	**+0.3**
JOU				S	**Sn**	**23 21 18.3**	**-1.2**
JMK	**Ichinoseki**	**1.67**	**333**	P	**Pb**	**23 21 02.8**	**+0.2**
JMK				*eS*	**Sn**	**23 21 22.7**	**-0.9**
JYS	**Shirataka**	**1.83**	**295**	*eS*	**Sn**	**23 21 27.9**	**+0.1**
JFY	**Yanaizu**	**1.97**	**269**	P	**Pb**	**23 21 07.0**	**-0.8**
JFY				*eS*	**Sn**	**23 21 30.5**	**-0.6**
JYK	**Kaneyama**	**2.04**	**316**	P	**Pn**	**23 21 08.1**	**+1.4**
JYK				*eS*	**Sn**	**23 21 32.7**	**-0.1**
JOM	**Ohasama**	**2.12**	**341**	P	**Pb**	**23 21 09.8**	**-0.6**
MJAR	**Matsushiro Arr**	**3.31**	**255**	Pn	**Pn**	**23 21 23.0**	**-1.1**
	0.2nm,0.3s,baz=73,slow=9.7,SNR=3.0						
MJAR				Sn	**Sn**	**23 22 05.9**	**+1.8**
	0.9nm,0.3s,baz=82,slow=16,SNR=4.7						
MAT	**Matsushiro**	**3.31**	**255**	P	**Pn**	**23 21 25.3**	**+1.2**
MAT				*eS*	**Sn**	**23 22 05.8**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	23 56 03.1	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	23 56 02.3	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**27.87**	**123**	T	T	23 55 58.1	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	23 56 51.1	
	baz=320						
H11S3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	23 56 54.1	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	23 56 57.4	
	baz=320						
MKAR	**Makanchi Array**	**44.41**	**302**	P	**P**	**23 28 43.9**	**+0.5**
	0.3nm,0.7s,baz=84,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**57.57**	**189**	P	**P**	**23 30 21.9**	**-0.7**
	0.2nm,0.4s,baz=7.2,slow=7.3,SNR=7.3						

*CSEM **09** 23:37:11.9, 39.43N×29.91W, h10km, ML3.2, After PDA*
PDA 09 23:37:11.9±1.1, 39.43N×29.91W, h10km, MD3.6, ML3.2, Error ellipse: s-maj=22.0km s-min=9.4km az=41.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.24**	**130**	*eP*	Pn	23 37 30.4	-4.9
PCED				*eS*	Sb	23 37 44.1	-7.3
PCED				A	A	23 37 46.7	
	180nm,0.2s						
PCED	**Cedros**	**1.24**	**130**	*eP*	Pn	23 37 30.4	-4.9
PCED				*eS*	Sb	23 37 44.1	-7.3
HOR	**Horta**	**1.35**	**132**	*eS*	Sb	23 37 47.0	-7.5
HOR	**Horta**	**1.35**	**132**	*eS*	Sb	23 37 47.0	-7.5
PCAN	**Candelaria**	**1.47**	**131**	*eP*	Pn	23 37 33.7	-4.8
PCAN				*eS*	Sn	23 37 50.9	-7.0
PCAN				A	A	23 37 52.6	
	271nm,0.2s						
PCAN	**Candelaria**	**1.47**	**131**	*eP*	Pn	23 37 33.7	-4.8
PCAN				*eS*	Sn	23 37 50.9	-7.0
ROSA	**Rosais**	**1.48**	**118**	*eS*	Sn	23 37 50.4	-7.7
ROSA				A	A	23 37 52.4	
	76nm,0.3s						
ROSA	**Rosais**	**1.48**	**118**	*eS*	Sn	23 37 50.4	-7.7
PICO	**Pico**	**1.49**	**128**	*i P*	Pn	23 37 34.3	-4.5
PICO				*eS*	Sn	23 37 50.9	-7.4
PMAN	**Manadas**	**1.63**	**119**	*eS*	Sn	23 37 54.1	-7.6
PMAN				A	A	23 37 58.5	
	87nm,0.3s						
PMAN	**Manadas**	**1.63**	**119**	*eS*	Sn	23 37 54.1	-7.6

*IDC **10** 00:24:55.7±0.3, 7.72S×107.92E, h0km, mb4.8/37, mb1 4.8/38, mb1mx4.8/41, mbtmp4.8/38, ML4.5/1, MS4.4/6, Ms1 4.5/6, ms1mx4.0/42, Error ellipse: s-maj=15.1km s-min=9.8km az=60.0*
*BJI **10** 00:25:02.9, 7.80S×107.90E, h69km, mB5.1/25, mb4.9/36, Ms5.1/19, Ms7 4.8/18*
*MOS **10** 00:25:04.5±1.4, 7.69S×107.90E, h68km, mb5.2/35, Error ellipse: s-maj=10.5km s-min=5.7km az=115.7*
*DJA **10** 00:25:04.5±0.4, 8°S±2°×10°8E±°, h21km±3km, M5.3/42, mb5.4/42, mB5.7/27, MLv5.5/40, Mw(mB)5.3/27*
*ISCJB **10** 00:25:04.3±0.3, 7.85S±0.03×107.89E±0.02, h81km±2km, mb5.0/103, Error ellipse: s-maj=5.4km s-min=2.9km az=25.6*
*NEIC **10** 00:25:04.2±0.6, 7.91S×107.88E, h65km±5km, mb5.1/32, Error ellipse: s-maj=7.1km s-min=5.0km az=224.0*
NEIC One person died from a heart attack in Garut and two people injured at Kampungbaru. Felt [V] at Garut; [IV] at Bandung, Ciamis and Pangandaran; [III] at Cianjur. Also felt at Bogor and Ciampea.
*KLM **10** 00:25:06.3, 8.25S×107.70E, h70km, mb5.1, ML5.2, MS5.9*
ISC 10 00:25:04.8±0.3, 7.91S±0.04×107.92E±0.03, h71km±2km, h71km:pP-P, n552, σ1s36/543, mb5.1/103, 49C-54D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.36**	**343**	P	**Pn**	**00 25 15.4**	**-1.2**
CISI				S	**Sn**	**00 25 23.7**	**-1.6**
CISI	**Cisompet, Garu**	**0.36**	**343**	*ePn*	**Pn**	**00 25 15.2**	**-1.4**
CISI				*eSn*	**Sn**	**00 25 24.0**	**-1.2**
CISI	**Cisompet, Garu**	**0.36**	**343**	⇓P	**Pn**	**00 25 15.2**	**-1.4**
	baz=0.3,SNR=1000						
CMJI	**Cimerak**	**0.53**	**77**	P	**Pn**	**00 25 16.8**	**-1.2**
CMJI				S	**Sn**	**00 25 26.0**	**-1.7**
LEM	**Lembang**	**1.11**	**344**	P	**Pn**	**00 25 26.1**	**+1.1**
LEM	**Lembang**	**1.11**	**344**	⇓P	**Pn**	**00 25 26.1**	**+1.1**
	baz=1.0,SNR=756						
KPJI	**Karang Pucung**	**1.15**	**60**	P	**Pn**	**00 25 25.6**	**+0.4**
SKJI	**Sukabumi**	**1.62**	**303**	P	**Pn**	**00 25 31.7**	**+0.2**
SKJI				S	**Sn**	**00 25 52.8**	**+1.1**
BJII	**Banjamegara**	**1.86**	**72**	P	x	00 25 34.5	
BJII				S	x	00 26 01.1	
TNG	**Tangerang**	**2.14**	**324**	P	**Pn**	**00 25 41.5**	**+3.1**
TNG				S	**Sn**	**00 26 09.7**	**+5.7**
SBJI	**Serang**	**2.51**	**315**	P	**Pn**	**00 25 45.2**	**+1.8**
CGJI	**Cibinong**	**2.56**	**300**	P	**Pn**	**00 25 43.6**	**-0.5**
CGJI				S	**Sn**	**00 26 12.8**	**-1.4**
UGM	**Wanagama**	**2.57**	**90**	P	**Pn**	**00 25 43.7**	**-0.6**
UGM				S	**Sn**	**00 26 13.8**	**-0.8**
UGM	**Wanagama**	**2.57**	**90**	*ePn*	**Pn**	**00 25 43.5**	**-0.8**
UGM				*eSn*	**Sn**	**00 26 12.4**	**-2.2**
UGM	**Wanagama**	**2.57**	**90**	⇓P	**Pn**	**00 25 44.0**	**-0.3**
	baz=2.8,SNR=952						
SMRI	**Semarang**	**2.64**	**71**	P	**Pn**	**00 25 46.8**	**+1.7**
SMRI				S	**Sn**	**00 26 17.5**	**+1.4**
SMRI	**Semarang**	**2.64**	**71**	*ePn*	**Pn**	**00 25 46.7**	**+1.7**
SMRI				*eSn*	**Sn**	**00 26 17.4**	**+1.3**
SMRI	**Semarang**	**2.64**	**71**	⇓P	**Pn**	**00 25 46.8**	**+1.7**
	baz=2.8,SNR=168						
WOJI	**Wonogiri, Jawa**	**2.97**	**89**	P	**Pn**	**00 25 49.1**	**-0.6**
PCJI	**Pacitan**	**3.23**	**95**	P	**Pn**	**00 25 53.1**	**-0.1**
UWJI	**Ujung Watu**	**3.34**	**64**	P	**Pn**	**00 25 55.9**	**+1.2**
XMI	**Christmas Isla**	**3.35**	**221**	⇑P	Pn	00 25 51.0	-4.0
	baz=3.3,SNR=311						
XMIS	**Christmas Isla**	**3.40**	**221**	*ePn*	Pn	00 25 51.2	-4.4
XMIS				*eSn*	Sn	00 26 25.2	-10
XMIS	**Christmas Isla**	**3.40**	**221**	⇓P	Pn	00 25 51.2	-4.4
	baz=3.4						
NGJI	**Ngawi**	**3.55**	**82**	P	**Pn**	**00 25 59.3**	**+1.8**
PWJI	**Pagerwojo**	**3.84**	**92**	P	**Pn**	**00 26 01.3**	**-0.3**
KASI	**Kota Agung**	**4.15**	**305**	P	**Pn**	**00 26 07.0**	**+1.3**
KLI	**Kotabumi**	**4.29**	**315**	P	Pn	00 26 11.8	+4.1
KRKI	**Karangkates**	**4.49**	**94**	P	x	00 26 11.9	
KLSI		**4.50**	**315**	P	Pn	00 26 14.3	+3.7
GRJI	**Gresik**	**4.62**	**78**	P	**Pn**	**00 26 12.8**	**+0.6**
LWLI	**Liwa**	**4.79**	**307**	P	**Pn**	**00 26 17.4**	**+2.7**
MDSI	**Maura Dua**	**5.04**	**312**	P	**Pn**	**00 26 19.8**	**+1.9**
	342nm,1.0s,5μm1.7nm						
TPI	**Tanjungpandan**	**5.12**	**357**	P	**Pn**	**00 26 20.9**	**+1.8**
	323nm,0.7s,3μm1.4nm						
GMJI	**Gumukmas**	**5.48**	**94**	P	**Pn**	**00 26 24.4**	**+0.5**
	485nm,0.9s,6μm4.0nm						
BLJI	**Banyuglugur**	**5.62**	**89**	P	**Pn**	**00 26 27.3**	**+1.4**
	511nm,0.8s,10μm2.7nm						
LHSI	**Lahat**	**5.96**	**313**	P	Pn	00 26 35.2	+4.6
	355nm,0.8s,4μm1.8nm						
KMMI	**Kalianget**	**6.05**	**82**	P	**Pn**	**00 26 31.5**	**-0.3**
	140nm,0.7s,1.1nm						
MNAI	**Manna**	**6.07**	**305**	P	**Pn**	**00 26 33.2**	**+1.2**
	662nm,0.7s,15μm3.3nm						
MNAI	**Manna**	**6.07**	**305**	*ePn*	**Pn**	**00 26 33.2**	**+1.2**
MNAI				*eSn*	**Sn**	**00 27 38.0**	**-2.1**
JAGI	**Jajag, Banyuwa**	**6.19**	**96**	P	**Pn**	**00 26 34.6**	**+0.9**
	711nm,0.9s,12μm4.5nm						
JAGI	**Jajag, Banyuwa**	**6.19**	**96**	*ePn*	**Pn**	**00 26 33.8**	**+0.1**
JAGI				*eSn*	**Sn**	**00 27 40.0**	**-3.1**
JAGI	**Jajag, Banyuwa**	**6.19**	**96**	P	**Pn**	**00 26 33.9**	**+0.2**
	baz=6.4,SNR=49						
ABJI	**Asem Bagus**	**6.25**	**89**	P	**Pn**	**00 26 36.2**	**+1.7**
	716nm,0.8s,6μm2.9nm						
PBKI	**Pangkalan Bun**	**6.37**	**36**	P	**Pn**	**00 26 38.7**	**+2.5**
	582nm,0.8s,15μm2.4nm						
BYJI	**Banyuwangi**	**6.38**	**93**	P	x	00 26 40.8	
	748nm,0.7s,14μm4.3nm						
SRBI	**Singaraja**	**7.22**	**92**	P	Pn	00 26 51.0	+3.3
	390nm,0.7s,5μm2.5nm						
DNP	**Denpasar**	**7.25**	**97**	P	Pn	00 26 52.2	+4.0
	899nm,0.4s,26μm7.9nm						
JMBI	**JAMBI**	**7.55**	**325**	P	Pn	00 26 59.1	+6.8
KHKI	**Kahang-Kahang**	**7.62**	**94**	P	x	00 26 55.0	
	220nm,0.7s,3μm1.2nm						
BBKI	**Banjar Baru**	**8.18**	**58**	P	Pn	00 27 06.1	+5.3
	173nm,1.3s						
STKI	**Sintang**	**8.68**	**24**	P	Pn	00 27 11.6	+3.9
	88nm,1.1s,9μm1.0nm						
KBKI	**Kotabaru**	**9.39**	**61**	P	Pn	00 27 28.8	+11
TPRI	**Tanjung Pinang**	**9.40**	**339**	P	Pn	00 27 21.5	+4.0
	127nm,0.6s,3μm						
KSM	**Kuching**	**9.62**	**14**	P	x	00 27 23.3	
	36nm,0.6s						
KSM	**Kuching**	**9.62**	**14**	*ePn*	**Pn**	**00 27 22.5**	**+1.9**
KSM				*eSn*	**Sn**	**00 29 08.1**	**+1.1**
KSM	**Kuching**	**9.62**	**14**	⇑S		00 30 14.2	
KSM	**Kuching**	**9.62**	**14**	⇓P	**Pn**	**00 27 23.5**	**+3.0**
PDSI	**Padang**	**10.18**	**313**	P	**Pn**	**00 27 26.5**	**-1.7**
	61nm,0.4s,2μm						
MYKOM	**Kota Tinggi**	**10.45**	**337**	P	x	00 27 36.3	
	76nm,0.7s,1μm						
MYKOM	**Kota Tinggi**	**10.45**	**337**	*ePn*	Pn	00 27 35.8	+3.8
MYKOM	**Kota Tinggi**	**10.45**	**337**	⇑P	Pn	00 27 36.5	+4.6
MYKOM	**Kota Tinggi**	**10.45**	**337**	⇓S		00 30 37.8	
PPI	**Padang Panjang**	**10.54**	**314**	P	**Pn**	**00 27 35.5**	**+2.4**
	54nm,1.4s						
BKNI	**Bangkinang**	**10.68**	**320**	P	Pn	00 27 48.8	+14
BKNI	**Bangkinang**	**10.68**	**320**	*ePn*	**Pn**	**00 27 35.0**	**0.0**
KGM	**Kluang**	**10.87**	**335**	⇓P	Pn	00 27 42.8	+5.1
SBUM	**Sibu**	**11.14**	**23**	P	x	00 27 48.9	
SBUM	**Sibu**	**11.14**	**23**	*ePn*	Pn	00 27 45.6	+4.2
SBUM	**Sibu**	**11.14**	**23**	⇓S		00 31 04.2	
SBUM	**Sibu**	**11.14**	**23**	⇓P	Pn	00 27 46.0	+4.6
COCO	**West Island**	**11.72**	**248**	*i P*	**Pn**	**00 27 49.2**	**0.0**
MJSI	**Majene**	**11.82**	**69**	P	x	00 27 57.2	
LBFI	**Labuhan Bajo,**	**11.86**	**94**	P	x	00 27 55.7	
	188nm,0.7s						
KAPI	**Kappang**	**12.10**	**77**	*ePn*	**Pn**	**00 27 55.4**	**+1.0**
MMSI	**Mamuju**	**12.10**	**65**	P	x	00 28 03.6	
BKSI	**Bulukumba**	**12.39**	**79**	P	**P**	**00 28 06.3**	**-1.4**
SPSI	**Sidrap Palu**	**12.41**	**72**	P	**P**	**00 28 05.0**	**-3.0**
BNSI	**Bone**	**12.60**	**75**	P	P	00 28 06.1	-4.0

42nm,0.6s,903nm
KDU Kakadu 24.61 103 P P 00 30 18.5 -0.2
baz=25,SNR=6.6
FAKI Fak Fak 24.71 80 P P 00 30 23.2 +3.5
76nm,0.6s,2µm
FAKI Fak Fak 24.71 80 P P 00 30 19.4 -0.3
baz=25,SNR=12
WRKA Warakurna 25.85 134 P P 00 30 31.3 +1.3
baz=26,SNR=23
NWAO Narrogin (SRO) 26.35 162 P P 00 30 34.0 -0.3
NWAO Narrogin (SRO) 26.35 162 P P 00 30 34.0 -0.3
6.1nm,0.8s,baz=326,slow=8.9,SNR=5.8
NWAO LR LR 00 40 07.6
comp=Z,824nm,21.9s,baz=338,slow=34
QIZ Qiongzhong 26.83 4 P P 00 30 39.1 +0.3
QIZ sP **sP 00 31 03.2 -0.6**
QIZ S **S 00 35 13.3 +3.1**
QIZ LR LR
comp=N,520nm,13.7s
QIZ LR LR
comp=Z,980nm,16.5s
H01W3 Cape Leeuwin H 27.45 169 T T 01 00 42.6
baz=347,slow=76,SNR=5.9
H01W1 Cape Leeuwin H 27.46 169 T T 01 00 38.7
baz=347,slow=76,SNR=4.2
H01W2 Cape Leeuwin H 27.46 169 T T 01 00 42.1
baz=347,slow=76,SNR=14
CM01 Chiang Mai Arr 27.61 341 *eP* **P 00 30 45.5 -0.3**
CM01 *ePcP* **PcP 00 34 03.4 +1.4**
CM01 *eScP* ScP 00 37 29.2 -7.4
CMAR Chiang Mai Arr 27.66 341 P P 00 30 43.7 -2.5
CMAR Chiang Mai Arr 27.66 341 P P 00 30 43.7 -2.5
1.7nm,0.4s,baz=178,slow=8.9,SNR=16
CMAR LR LR 00 42 11.5
comp=Z,345nm,21.8s,baz=172,slow=38
CHTO Chiang Mai 27.99 342 *eP* **P 00 30 48.8 -0.3**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 27.99 342 *eP* **P 00 30 48.8 -0.3**
comp=Z,1.5nm,0.9s
WRA Warramunga Arr 28.24 118 PcP PcP 00 34 04.1 +0.6
WRA Warramunga Arr 28.24 118 PcP PcP 00 34 04.1 +0.6
comp=Z,1.4nm,0.4s,baz=309,slow=2.1,SNR=3.8
WRAB Tennant Creek 28.25 118 P P 00 30 48.0 -3.5
comp=Z,129nm,0.4s,SNR=35
WRAB Tennant Creek 28.25 118⇑ *eP* **P 00 30 48.4 -3.1**
WRAB pmax pmax
comp=Z,34nm,0.9s
WRAB Tennant Creek 28.25 118 *eP* **P 00 30 49.0 -2.5**
comp=Z,27nm,0.8s
ASAR Alice Springs 29.42 125 P P 00 31 02.9 +1.0
ASAR PcP **PcP 00 34 06.8 +0.3**
ASAR Alice Springs 29.42 125 P P 00 31 02.9 +1.0
comp=Z,2.6nm,0.5s,baz=300,slow=8.6,SNR=40
ASAR PcP **PcP 00 34 06.8 +0.3**
comp=Z,2.3nm,0.5s,baz=298,slow=2.0,SNR=6.3
ASAR LR LR 00 42 53.9
comp=Z,326nm,20.9s,baz=315,slow=36
AS01 Alice Springs 29.46 125 *eP* **P 00 31 02.9 +0.6**
AS01 *ePcP* **PcP 00 34 06.7 +0.1**
AS01 *eScP* **ScP 00 37 44.0 +1.6**
FORT Forrest 29.54 143 *eP* **P 00 31 04.0 +1.2**
comp=Z,52nm,0.7s
PALU Palau 30.50 61 ⇓P **P 00 31 11.0 -0.5**
baz=31,SNR=4.0
PALK Pallekele 31.05 298 *eP* **P 00 31 18.2 +1.8**
comp=Z,60nm,1.4s
KMI Kunming 33.22 351 P P 00 31 38.2 +2.8
KMI pP **pP 00 31 54.4 +2.0**
KMI sP **sP 00 32 03.5 +2.8**
KMI PP **PP 00 32 50.9 -0.9**
KMI S **S 00 36 51.7 +1.1**
KMI sS **sS 00 37 20.3 +0.6**
KMI pmax pmax
comp=Z,5.0nm,0.9s
KMI pmax pmax
comp=Z,110nm,4.0s
KMI LR LR
comp=Z,400nm,16.7s
KMI LR LR
comp=Z,610nm,16.0s
KMI LR LR
comp=Z,630nm,20.8s
TPUB Ta-pu 33.41 22 *eP* **P 00 31 37.4 +0.5**
comp=Z,21nm,0.8s
YULB Yu-li 33.74 22 *eP* **P 00 31 39.7 -0.1**
comp=Z,74nm,1.7s
SSLB Suanglung 33.98 22 *eP* **P 00 31 42.1 +0.3**
comp=Z,17nm,0.6s
GYA Guiyang 34.18 358 P P 00 31 45.6 +1.9
GYA pP **pP 00 32 02.8 +2.1**
GYA sP **sP 00 32 11.6 +2.6**
GYA PP **PP 00 33 02.1 -0.3**
GYA PcP **PcP 00 34 20.0 +0.7**
GYA S **S 00 37 07.3 +2.0**
GYA sS **sS 00 37 35.6 +1.2**
GYA ScP **ScP 00 37 58.8 +0.5**
GYA ScS **ScS 00 41 59.7 -1.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,560nm,17.3s
GYA LR LR
comp=Z,490nm,17.8s
GYA LR LR
comp=Z,520nm,17.0s
NACB Ninganchiao 34.56 22 *eP* **P 00 31 46.9 +0.1**
comp=Z,244nm,2.4s
YHNB Yeheng 34.93 22 *eP* **P 00 31 52.6 +2.4**
comp=Z,572nm,2.7s
COEN Coen 35.10 103 *eP* **P 00 31 50.3 -1.4**
comp=Z,184nm,1.0s
COEN Coen 35.10 103 ⇓P **P 00 31 51.4 -0.2**
baz=35,SNR=7.8
H08S2 Diego Garcia H 35.10 268 T T 01 09 06.1
baz=93,slow=76,SNR=1691
H08S3 Diego Garcia H 35.11 268 T T 01 09 06.8
baz=93,slow=76,SNR=1620
H08S1 Diego Garcia H 35.12 268 T T 01 09 07.5
baz=93,slow=76,SNR=1174
H08N1 Diego Garcia H 36.55 270 T T 01 11 22.0
baz=150,slow=75,SNR=67
H08N2 Diego Garcia H 36.67 270 T T 01 11 46.6
baz=150,slow=75,SNR=61
H08N3 Diego Garcia H 36.67 270 T T 01 11 27.5
baz=150,slow=75,SNR=98
MTSU Mount Surprise 36.81 110 ⇓P **P 00 32 07.9 +1.5**
baz=37
HYB Hyderabad 38.41 311 *i* P **P 00 32 20.0 +0.2**
HYB *es*P **sP 00 32 43.0 -2.3**
CD2 Chengdu 38.80 354 *eP* **P 00 32 22.5 -0.4**
CD2 sP **sP 00 32 48.1 -0.2**
CD2 PP **PnPn 00 33 57.8 +1.8**
CD2 S **S 00 38 15.7 +0.2**
CD2 SS **SS 00 41 01.5 -7.8**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,100nm,5.2s
PMG Port Moresby 38.80 95 *eP* **P 00 32 22.9 -0.2**
comp=Z,29nm,0.8s
PMG Port Moresby 38.80 95 P **P 00 32 23.0 -0.2**
comp=Z,27nm,0.7s,baz=248,slow=3.7,SNR=5.8
CTA Charters Tower 39.01 112 P **P 00 32 25.9 +1.1**
CTA Charters Tower 39.01 112 P **P 00 32 25.9 +1.1**
comp=Z,4.8nm,0.8s,baz=292,slow=11,SNR=2.9
CTAO Charters Tower 39.01 112 *eP* **P 00 32 24.1 -0.7**
CTAO pmax pmax
comp=Z,28nm,1.1s
CTAO Charters Tower 39.01 112 *eP* **P 00 32 24.1 -0.7**
comp=Z,28nm,1.1s
QLP Quilpie 39.13 123⇑P **P 00 32 27.9 +2.2**
baz=39,SNR=5.5
STKA Stephens Creek 39.36 132 *eP* **P 00 32 28.9 +1.4**
comp=Z,10nm,1.0s
STKA PcP **PcP 00 34 35.6 +0.8**
STKA Stephens Creek 39.36 132 P **P 00 32 28.9 +1.4**
comp=Z,36nm,0.5s,baz=309,slow=7.7,SNR=57
STKA PcP **PcP 00 34 35.6 +0.8**
comp=Z,5.4nm,0.5s,baz=313,slow=5.2,SNR=4.5
ODAN Odare 39.89 331 *eP* **P 00 32 30.0 -2.2**
comp=Z,26nm,0.4s
TAPN Taplejung 40.15 332 *eP* **P 00 32 32.5 -1.9**
comp=Z,20nm,0.6s
RAMN Ramite 40.35 330 *eP* **P 00 32 33.9 -2.1**
comp=Z,15nm,0.4s
NGP Nagpur 40.47 316 *eP* **P 00 32 35.6 -1.3**
NGP AMB AMB 00 32 41.1
comp=Z,17nm,0.4s
LSA Lhasa 40.72 337 *eP* **P 00 32 38.9 -0.5**
LSA pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 40.72 337 *eP* **P 00 32 38.9 -0.5**
comp=Z,12nm,1.0s
NJ2 Nanjing 41.08 14 *eP* P 00 32 45.7 +4.0
NJ2 pmax pmax
comp=Z,20nm,0.6s
JIRN Jiri 41.14 330 *eP* **P 00 32 40.7 -2.0**
comp=Z,22nm,0.3s
PKI Pulchoki 41.46 329 *eP* **P 00 32 43.6 -1.7**
comp=Z,8.3nm,0.3s
PKIN Phulchoki 41.47 329 *eP* **P 00 32 43.6 -1.7**
comp=Z,8.2nm,0.4s
GUN Gumba 41.50 330 *eP* **P 00 32 43.2 -2.4**
comp=Z,20nm,0.3s
AKL Akola 41.61 314 *eP* **P 00 32 43.4 -2.8**
DMN Daman 41.64 329 *eP* **P 00 32 44.8 -1.9**
comp=Z,18nm,0.5s
KKN Kakani 41.70 329 *eP* **P 00 32 44.7 -2.4**
comp=Z,15nm,0.5s
ARPS Mount Arapiles 42.14 138 ⇓P **P 00 32 52.0 +1.7**
baz=42,SNR=10
GKN Gorkha 42.20 329 *eP* **P 00 32 48.7 -2.5**
comp=Z,34nm,0.3s
CMSA Cobar Meteorol 42.29 129 ⇓P **P 00 32 52.6 +1.0**
baz=42,SNR=20
KOLN Koldanda 42.56 327 *eP* **P 00 32 51.7 -2.4**
comp=Z,49nm,0.5s
POO Poona 42.66 308⇓ *iP* **P 00 32 53.0 -1.9**
comp=Z,50nm,0.8s
DANN Dangsing 42.94 328 *eP* **P 00 32 54.9 -2.4**
comp=Z,85nm,0.4s
LZH Lanzhou 43.93 355 *eP* **P 00 33 04.6 -0.3**
LZH pP **pP 00 33 22.5 0.0**
LZH sP **sP 00 33 31.2 +0.6**
LZH *ePP* **PcP 00 34 50.0 +0.1**
LZH *eS* **S 00 39 30.2 -1.3**
LZH sS **sS 00 40 01.5 +0.1**
LZH *eSS* SS 00 42 40.7 -10
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,150nm,5.2s
LZH LR LR
comp=Z,520nm,12.6s
LZH LR LR
comp=Z,490nm,12.0s
LZH LR LR
comp=Z,1µm,17.3s
YNG Young 45.53 131 ⇓P **P 00 33 19.7 +2.1**
baz=46
JNU Nakatsue 46.28 27 P P 00 33 23.3 -0.1
JNU PcP **PcP 00 34 57.9 -0.1**
JNU Nakatsue 46.28 27 P P 00 33 23.3 -0.1
comp=Z,5.9nm,0.9s,baz=270,slow=5.1,SNR=3.0
JNU PcP **PcP 00 34 57.9 -0.1**
comp=Z,6.4nm,0.8s,baz=116,slow=4.7,SNR=3.0
BISR Bishrakh 46.70 322 *ex* P 00 33 21.0 -5.7
BISR AMB AMB 00 33 23.2
comp=Z,51nm,0.9s
NDI New Delhi 46.91 322 *eP* **P 00 33 28.0 -0.5**
JOSI Joshimath 46.94 326 *ex* **sP 00 33 53.2 -1.5**
JOSI AMB AMB 00 34 03.7
comp=Z,53nm,0.9s
KHET Khetri 47.36 320 *eP* **P 00 33 30.9 -1.1**
KHET AMB AMB 00 33 31.9
comp=Z,17nm,0.5s
GTA Gaotai 47.67 351 *eP* **P 00 33 35.8 +1.4**
GTA pP **pP 00 33 54.1 +2.0**
GTA sP **sP 00 34 03.7 +3.5**
GTA PcP **PcP 00 35 03.3 +0.5**
GTA pmax pmax
comp=Z,4.0nm,0.6s
BJT Baijiatuau 48.29 8 *eP* **P 00 33 38.0 -0.9**
BJT *ePcP* **PcP 00 35 05.6 +0.7**
BJI Beijing 48.31 8 P **P 00 33 38.2 -0.9**
BJI pmax pmax
comp=Z,23nm,0.6s
HHC Hu-ho-hao-te 48.63 4 *eP* **P 00 33 41.0 -0.7**
HHC pP **pP 00 33 58.4 -1.1**
HHC sP **sP 00 34 03.4 -4.1**
HHC PcP **PcP 00 35 03.4 -2.8**
HHC PP **PP 00 35 32.4 -2.9**
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,200nm,4.6s
KSAR Wonju Array Be 48.82 21 P P 00 33 43.1 +0.1
KSAR PcP **PcP 00 35 06.8 0.0**
KSRS Korea Array 48.85 21 P P 00 33 43.1 -0.1
comp=Z,0.7nm,0.4s,baz=211,slow=7.2,SNR=3.6
KSRS PcP **PcP 00 35 06.8 -0.1**
comp=Z,3.7nm,0.9s,baz=222,slow=3.5,SNR=4.3
SDNR Sundarnagar 49.11 324 *eP* **P 00 33 45.6 +0.2**
MJAR Matsushiro Arr 52.56 31 P P 00 34 08.4 -2.9
MJAR PcP **PcP 00 35 21.6 +0.9**
MJAR Matsushiro Arr 52.56 31 P P 00 34 08.4 -2.9
comp=Z,1.0nm,0.6s,baz=204,slow=8.5,SNR=6.5
MJAR PcP **PcP 00 35 21.6 +0.9**
comp=Z,3.8nm,0.9s,baz=273,slow=4.4,SNR=4.4
CN2 Changchun 53.86 16 *eP* **P 00 34 23.6 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 54.65 342 P P 00 34 27.6 +1.1
WMQ pmax pmax
comp=Z,6.0nm,0.9s
WMQ pmax pmax
comp=Z,31nm,8.5s
WMQ LR LR
comp=Z,770nm,28.5s
WMQ LR LR
comp=Z,3µm,28.0s
WMQ LR LR
comp=Z,530nm,20.7s
SONM Songino Array 55.51 359 P P 00 34 32.7 0.0
SONM PcP **PcP 00 35 31.8 -0.1**
SONM Songino Array 55.51 359 P P 00 34 32.7 0.0
comp=Z,5.5nm,0.5s,baz=179,slow=7.9,SNR=31
SONM PcP **PcP 00 35 31.8 -0.1**
comp=Z,16nm,0.5s,baz=176,slow=3.7,SNR=29
SONA1 Songino Array 55.52 359 *eP* **P 00 34 32.8 0.0**
SONA1 *ePcP* **PcP 00 35 31.6 -0.4**
ULN Ulaanbaatar 55.53 359 *eP* **P 00 34 32.8 0.0**
comp=Z,9.1nm,0.5s
KSH Kashi 55.70 330 P P 00 34 32.0 -2.2
KSH *es*P **sP 00 35 00.1 -0.2**
KSH *eP* **PP 00 36 37.5 -1.8**
KSH *ePcS* **PcS 00 39 30.9 -2.3**
KSH *eS* S 00 42 07.3 -8.2
KSH *eScS* **ScS 00 44 10.6 -6.5**
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,50nm,6.0s
KSH LR LR
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,130nm,4.2s
KSH LR LR
comp=Z,210nm,5.5s
KBL Kabul 55.98 321 *eP* **P 00 34 34.9 -1.5**
KBL pmax pmax
comp=Z,12nm,0.6s
KBL Kabul 55.98 321 *eP* **P 00 34 34.9 -1.5**
comp=Z,12nm,0.6s
KBL Kabul 55.98 321 ⇓P **P 00 34 35.6 -0.8**
baz=56,SNR=9.1
USRK Ussuriysk Arra 56.24 21 P P 00 34 36.3 -1.5
comp=Z,2.9nm,0.5s,baz=202,slow=7.7,SNR=15
ZAK Zakamensk 58.19 357 *eP* **P 00 34 51.4 -0.1**
ZAK *e* 01 35 42.1
ZAK pmax pmax
comp=Z,3.0nm,1.6s
TKM2 Tokmak 2 58.52 333 *eP* **P 00 34 52.5 -1.7**
TKM2 pmax pmax
comp=Z,21nm,0.6s
TKM2 Tokmak 2 58.52 333 *eP* **P 00 34 52.5 -1.7**
comp=Z,21nm,0.6s
AAK Ala-Archa 58.81 332⇑ *eP* **P 00 34 56.1 0.0**
AAK pmax pmax
comp=Z,25nm,2.1s
AAK Ala-Archa 58.81 332 *eP* **P 00 34 55.4 -0.7**
AAK *ePcP* **PcP 00 35 45.8 +0.7**
AAK Ala-Archa 58.81 332 P **P 00 34 55.0 -1.1**
comp=Z,1.8nm,0.5s,baz=152,slow=3.1,SNR=14
AAK PcP **PcP 00 35 46.2 +1.2**
comp=Z,4.2nm,0.5s,baz=110,slow=4.2,SNR=7.6
MK01 Makanchi Array 59.02 340 *eP* **P 00 34 55.5 -1.9**
MK31 Makanchi Array 59.05 340 *i* P **P 00 34 55.5 -2.0**
MK31 pmax pmax
comp=Z,8.0nm,0.4s
MKAR Makanchi Array 59.05 340 *i* P **P 00 34 55.4 -2.1**
MKAR pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 59.05 340 *eP* **P 00 34 55.9 -1.6**
MKAR Makanchi Array 59.05 340 P **P 00 34 55.4 -2.1**
comp=Z,17nm,0.6s,baz=150,slow=7.7,SNR=247
MKAR Makanchi Array 59.05 340 ⇓P **P 00 34 55.6 -1.9**
baz=59
EKS2 Erkin-Say 59.17 331 *eP* **P 00 34 58.0 -0.6**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 59.17 331 *eP* **P 00 34 58.0 -0.6**
comp=Z,10nm,0.8s
ABPO Ambohimpanom 59.80 253 *eP* **P 00 35 03.4 0.0**
ABPO pmax pmax
comp=Z,94nm,2.0s
ABPO Ambohimpanom 59.80 253 *eP* **P 00 35 03.4 0.0**
comp=Z,94nm,2.0s
OPO Ambohidratompo 59.83 253 P P 00 35 05.4 +1.8
OPO Ambohidratompo 59.83 253 P P 00 35 05.4 +1.8
comp=Z,8.0nm,0.7s,baz=79,slow=3.6,SNR=6.9
UOSS Wadi Hilu 60.01 305 P P 00 35 04.3 -0.3
comp=Z,185nm,0.6s,SNR=10
HATD Hatta, Dubai 60.02 304⇓ *iP* **P 00 35 05.1 +0.5**
SNR=16
FAQ Al Faqa, Dubai 60.43 304⇑ *iP* **P 00 35 07.3 -0.1**
SNR=27
NAZ Nazwa, Dubai 60.48 304 ⇓P **P 00 35 07.8 +0.1**
ASAJ Asahikawa 60.53 28 *eP* **P 00 35 08.2 +0.6**
comp=Z,224nm,2.0s
ASAJ Asahikawa 60.53 28 P **P 00 35 06.0 -1.7**
comp=Z,9.3nm,0.8s,baz=190,slow=11,SNR=4.8
ASAJ LR LR 01 01 52.0
comp=Z,4µm,21.8s,baz=82,slow=37
ASUD Al Ashush, Dub 60.59 304⇑ *iP* **P 00 35 08.8 +0.3**
SNR=23
KLR Kul'dur 60.60 18 *eP* P 00 35 02.2 -5.9
IDAH Dahanechah 61.02 314 *eP* **P 00 35 11.1 -0.5**
KK31 Karatay Array 61.10 329 *i* P **P 00 35 10.2 -1.4**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 61.10 329 *eP* **P 00 35 10.5 -1.1**
KKAR Karatay Array 61.10 329 *eP* **P 00 35 10.5 -1.1**
ITEG Tejag 61.90 314 *eP* **P 00 35 16.8 -0.7**
YSS Yuzh-Sakhalins 62.77 26 *eP* **P 00 35 20.5 -2.2**
YSS *e* 00 35 40.0
IMYA Miami 62.84 318 *eP* **P 00 35 22.4 -1.3**
IBAF Bafgh 63.57 311 *eP* **P 00 35 27.4 -1.1**
KURBB Kurchatov Arra 63.61 340 P **P 00 35 27.0 -1.2**
comp=Z,6.8nm,0.5s,baz=150,slow=6.0,SNR=109
IPAY Payeh 63.65 317 *eP* **P 00 35 28.5 -0.5**
KURK Kurchatov 63.66 340 P **P 00 35 27.7 -0.8**
comp=Z,64nm,0.5s,SNR=16
KURK Kurchatov 63.66 340 *i* P **P 00 35 27.5 -1.0**
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURK Kurchatov 63.66 340 P **P 00 35 27.0 -1.5**
IKRD Kardeh 64.15 317 *eP* P 00 35 27.3 -5.1
IMEH Mehriz 64.19 310 *eP* **P 00 35 30.1 -2.7**
ZAA0 Zalesovo Array 64.64 345 *eP* **P 00 35 33.4 -1.4**
ZALV Zalesovo Beam 64.64 345 *i* P **P 00 35 33.2 -1.6**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV Zalesovo Beam 64.64 345 P **P 00 35 33.2 -1.6**
ZALV Zalesovo Beam 64.64 345 P **P 00 35 33.2 -1.6**
comp=Z,4.5nm,0.4s,baz=152,slow=6.4,SNR=28
IPAR Pars 64.69 308 *eP* **P 00 35 36.3 +0.2**
ICHK Chekchek 64.75 311 *eP* **P 00 35 35.6 -0.8**
ABKT Ailbek 65.05 318 P **P 00 35 37.4 -0.5**
comp=Z,228nm,0.4s,SNR=14
RPZ Rata Peaks 65.24 135 P **P 00 35 41.0 +1.9**
RPZ Rata Peaks 65.24 135 P **P 00 35 41.0 +1.9**
comp=Z,7.4nm,0.5s,baz=257,slow=5.5,SNR=4.0
IZEF Zefreh 66.61 311 *eP* **P 00 35 47.4 -1.0**
IANJ Anjilo 66.66 314 *eP* **P 00 35 47.9 -0.6**
MAW Mawson 66.77 197 P **P 00 35 50.5 +2.1**
MAW Mawson 66.77 197 P **P 00 35 50.5 +2.1**
comp=Z,9.5nm,0.7s,baz=22,slow=8.1,SNR=7.0
IKIA Kiasar 67.18 315 *eP* **P 00 35 52.2 +0.3**
IGLO Ghaloghah 67.22 315 *eP* **P 00 35 52.9 +0.8**
ISHM Shahmirzad 67.26 314 *eP* **P 00 35 52.2 -0.2**
IKLH Kolahrood 67.36 311 *eP* **P 00 35 53.9 +0.8**
IFIR Firoozkooh 67.57 314 *eP* **P 00 35 54.1 -0.2**
QAM Ghamsar 67.66 311 *eP* **P 00 35 56.6 +1.6**
IALA Alasht 67.74 314 *eP* **P 00 35 55.7 +0.2**
IVRN Varamin 68.01 313 *eP* **P 00 35 56.8 -0.2**
IDMV Damavand 68.06 313 *eP* **P 00 35 56.8 -0.7**
IPRN Peran 68.15 314 *eP* **P 00 35 57.1 -0.8**
RAYN Ar Rayn 68.49 299 P **P 00 36 00.0 -0.1**
comp=Z,50nm,0.5s,SNR=7.6
BVA0 Borovoye Array 68.56 337 *i* P **P 00 35 58.4 -1.5**
BVA0 pmax pmax
comp=Z,20nm,1.0s
BVAR Borovoye Array 68.56 337 P **P 00 35 58.7 -1.1**
BVAR Borovoye Array 68.56 337 P **P 00 35 58.7 -1.1**
BVAR Borovoye Array 68.56 337 P **P 00 35 58.7 -1.1**
comp=Z,17nm,0.6s,baz=148,slow=9.0,SNR=49
BRVK Borovoye 68.62 337 P **P 00 35 59.6 -0.6**
comp=Z,134nm,0.5s,SNR=7.6
BRVK Borovoye 68.62 337⇑ *eP* **P 00 35 59.9 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 68.62 337 *eP* **P 00 35 59.6 -0.6**
comp=Z,15nm,0.8s
URZ Urewera 68.81 128 P **P 00 36 02.1 +0.3**
URZ Urewera 68.81 128 P **P 00 36 02.1 +0.3**
comp=Z,4.2nm,0.6s,baz=330,slow=5.9,SNR=2.7
IRAZ Razeghan 69.51 312 *eP* **P 00 36 06.2 -0.2**
AB31 Akbulak array 70.66 329 P **P 00 36 11.5 -1.4**
AB31 pmax pmax
comp=Z,29nm,0.5s
ABKAR Akbulak array 70.66 329 *eP* **P 00 36 11.9 -1.0**
ABKAR Akbulak array 70.66 329⇑P **P 00 36 12.1 -0.7**
baz=71
IGHG Ghaleghazi 71.56 310 *eP* **P 00 36 17.0 -1.9**
YAK Yakutsk 71.75 11 *eP* **P 00 36 21.7 +2.6**
YAK pmax pmax
comp=Z,12nm,0.9s
IDHR Dehrash 71.85 310 *eP* **P 00 36 18.9 -1.8**
IBST Bostanabad 72.70 313 *eP* **P 00 36 24.2 -1.5**
IHRS Heris 72.86 314 *eP* **P 00 36 25.3 -1.3**
ITBZ Tabriz 73.46 314 *eP* **P 00 36 29.2 -0.9**
PEA0 Petropavlovsk- 73.94 29 *eP* **P 00 36 31.3 -1.1**
PEA0 *ePcP* **PcP 00 36 49.1 +1.7**
PETK Petropavlovsk- 73.94 29 P **P 00 36 31.7 -0.6**
PETK Petropavlovsk- 73.94 29 P **P 00 36 31.7 -0.6**
PETK Petropavlovsk- 73.94 29 P **P 00 36 31.7 -0.6**
comp=Z,4.3nm,0.5s,baz=193,slow=4.7,SNR=14
IMRD Marand 73.97 314 *eP* **P 00 36 33.3 +0.2**
VNDA Vanda 74.92 170 *eP* **P 00 36 38.0 +0.3**
comp=Z,29nm,1.4s
VNDA Vanda 74.92 170 P **P 00 36 38.7 +1.1**
comp=Z,9.0nm,0.8s,baz=309,slow=6.7,SNR=24
SYO Syowa Base 74.97 200‖ *eX* **PcP 00 36 49.2 -2.4**
SVE Sverdlovsk 75.21 335⇑ *iP* **P 00 36 39.3 -0.3**
SVE pmax pmax
comp=Z,29nm,0.9s
GNI Garni 75.24 315 *eP* **P 00 36 41.0 +0.7**
comp=Z,41nm,1.6s
GNI Garni 75.24 315 P **P 00 36 40.7 +0.3**
comp=Z,3.0nm,0.4s,baz=203,slow=2.2,SNR=6.1
DGRG David-gareji 75.34 316 P **P 00 36 41.4 +0.7**
ARU Arti 75.83 334 P **P 00 36 42.8 -0.4**
comp=Z,90nm,0.7s,SNR=7.3
ARU Arti 75.83 334*d iP* **P 00 36 42.2 -1.0**
ARU 00 39 27.6
ARU S **S 00 46 20.6 +0.9**
ARU SS **SS 00 51 14.2 +0.8**
ARU pmax pmax
comp=Z,9.0nm,0.6s
TBLG Delisi 75.89 316 P **P 00 36 40.9 -3.0**
SBA Scott Base 75.99 169 *eP* **P 00 36 44.1 +0.3**

SBA pmax pmax
comp=Z,426nm,2.9s
SBA Scott Base 75.99 169 *eP* **P 00 36 44.1 +0.3**
comp=Z,426nm,2.9s
GUDG Gudauri 76.36 317 P **P 00 36 47.4 +0.6**
AKH Akhalkalaki 76.61 316 P **P 00 36 48.2 0.0**
ZEI Tsey 76.88 317 *eP* **P 00 36 50.0 +0.3**
ZEI pmax pmax
comp=Z,7.0nm,0.5s
ONI Oni 77.11 317 P P 00 36 54.7 +3.9
EZM Erzurum 77.54 314 *e*PN **P 00 36 51.8 -1.8**
KBZ Khabaz 77.93 318 P **P 00 36 55.2 0.0**
KBZ Khabaz 77.93 318 P **P 00 36 55.2 0.0**
KBZ Khabaz 77.93 318 P **P 00 36 55.2 0.0**
comp=Z,5.6nm,0.8s,baz=130,slow=4.4,SNR=12
LSZ Lusaka 78.10 256 *eP* **P 00 36 55.8 -1.2**
comp=Z,9.2nm,0.6s
KIV Kislovodsk 78.16 318 *eP* **P 00 36 56.6 -0.1**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 78.16 318 ⇓P **P 00 36 56.2 -0.5**
SEY Seymchan 78.35 19 *eP* **P 00 36 57.9 +0.7**
GOF Gofitskoye 78.37 319 *eP* **P 00 36 57.0 -0.7**
ASF Jabal al Asfar 78.42 305 P **P 00 36 59.2 +0.9**
ASF Jabal al Asfar 78.42 305 P **P 00 36 59.2 +0.9**
comp=Z,5.7nm,0.5s,baz=56,slow=9.2,SNR=18
EIL Elat 79.33 302 P **P 00 37 03.9 +0.6**
EIL Elat 79.33 302 P **P 00 37 03.9 +0.6**
comp=Z,8.5nm,0.5s,baz=78,slow=1.2,SNR=12
LBTB Lobatse 79.78 246 *eP* **P 00 37 06.5 +0.5**
comp=Z,124nm,2.4s
MMAI Mount Meron Ar 79.87 306 P **P 00 37 07.2 +0.9**
MMAI Mount Meron Ar 79.87 306 P **P 00 37 07.2 +0.9**
comp=Z,6.0nm,0.5s,baz=91,slow=8.4,SNR=34
TIXI Tiksi 80.59 7 *eP* **P 00 37 07.5 -1.7**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
VRHR Novokhopersk 81.66 324 *eP* **P 00 37 14.1 -1.2**
VRHR pmax pmax
comp=Z,40nm,0.7s
VRHR pmax pmax
comp=N,50nm,1.8s
VRHR pmax pmax
comp=E,20nm,1.8s
CSS Prodhromos 82.06 307 *eP* **P 00 37 17.6 -0.2**
comp=E,8.4nm,1.3s
QSPA South Pole Qui 82.09 180 *eP* **P 00 37 18.0 +0.5**
comp=E,16nm,0.9s
QSPA South Pole Qui 82.09 180 P **P 00 37 18.0 +0.5**
comp=E,7.3nm,0.7s,baz=198,slow=0.4,SNR=17
VORD Divnogorie 82.97 324 *eP* **P 00 37 20.0 -2.1**
VORD pmax pmax
comp=Z,50nm,1.7s
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
BRTR Keskin Array B 83.11 312 P **P 00 37 22.8 -0.6**
BRTR Keskin Array B 83.11 312 P **P 00 37 22.8 -0.6**
comp=E,5.6nm,0.8s,baz=139,slow=6.5,SNR=41
VSR Storozhevoye 83.14 324 *eP* **P 00 37 21.1 -1.9**
VSR pmax pmax
comp=Z,40nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.6s
ANTO Ankara 83.78 312 *eP* **P 00 37 24.6 -2.1**
ANTO pmax pmax
comp=Z,17nm,1.2s
ANTO Ankara 83.78 312 *eP* **P 00 37 24.6 -2.1**
comp=Z,17nm,1.2s
PRGR Permogore 84.27 335⇑*i*P **P 00 37 27.5 -1.0**
PRGR pmax pmax
comp=Z,18nm,0.6s
MOS Moscow 85.63 328 *eP* **P 00 37 35.4 -0.1**
MOS *e* 00 38 04.1
MOS pmax pmax
comp=Z,37nm,0.6s
OBN Obninsk 85.98 327 P **P 00 37 36.3 -0.9**
comp=Z,397nm,0.5s,SNR=5.8
OBN Obninsk 85.98 327 *eP* **P 00 37 36.5 -0.7**
OBN pmax pmax
comp=Z,41nm,1.6s
OBN Obninsk 85.98 327 P **P 00 37 35.8 -1.4**
OBN Obninsk 85.98 327 P **P 00 37 35.8 -1.4**
comp=Z,37nm,0.6s,baz=124,slow=4.6,SNR=12
TLCR 87.95 316⇑*i*P **P 00 37 47.8 +0.8**
TIRR Tirgusor 88.06 315 *eP* **P 00 37 47.9 +0.3**
TIRR pmax pmax
comp=Z,420nm,2.5s
TIRR Tirgusor 88.06 315⇑*i*P **P 00 37 46.2 -1.4**
TIRR Tirgusor 88.06 315 *eP* **P 00 37 47.9 +0.3**
comp=Z,420nm,2.5s
CFR Carcaliu 88.42 316⇑*i*P **P 00 37 49.8 +0.6**
LEOM Leova 88.63 317⇑*i*P **P 00 37 50.8 +0.6**
IDI Anoyia 88.87 306 P **P 00 37 51.4 -0.3**
IDI Anoyia 88.87 306 P **P 00 37 51.4 -0.3**
comp=Z,4.5nm,0.4s,baz=49,slow=22,SNR=7.8
SNAA Sanae 88.94 197 *eP* **P 00 37 52.2 +0.9**
comp=Z,26nm,1.0s
JMB Yambol 88.94 313⇑*i*P **P 00 37 52.8 +1.0**
AKASG Malin Array Be 88.97 321 *i* P **P 00 37 50.7 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 88.97 321 P **P 00 37 50.5 -1.2**
AKASG Malin Array Be 88.97 321 P **P 00 37 50.5 -1.2**
comp=Z,2.3nm,0.5s,baz=86,slow=4.7,SNR=24
KIEV Kiev 88.98 321⇑*eP* **P 00 37 52.7 +1.0**
KIEV Kiev 88.98 321 *eP* **P 00 37 51.0 -0.7**
comp=Z,234nm,1.0s
MLR Muntele Rosu 89.99 316⇑*i*P **P 00 37 57.4 +0.6**
MLR Muntele Rosu 89.99 316 P **P 00 37 57.0 +0.2**
MLR Muntele Rosu 89.99 316 P **P 00 37 57.0 +0.2**
comp=Z,1.1nm,0.5s,baz=273,slow=0.6,SNR=30
PRAR RASCA 90.17 318⇑*i*P **P 00 37 57.4 0.0**
ARR Arges 90.88 316⇑*i*P **P 00 38 00.7 -0.2**
BURAR Bucovina Array 90.89 318⇓*i*P **P 00 38 02.2 +1.3**
BUR04 Bucovina Ar. S 90.89 318 *eP* **P 00 38 01.5 +0.6**
VTS Vitosha 91.42 313⇑*i*P **P 00 38 03.5 0.0**
GZR Gura Zlata 92.17 315⇑*i*P **P 00 38 07.0 +0.2**
DRGR 92.44 317⇑*i*P **P 00 38 08.6 +0.6**
FINES FINESS Array B 93.00 332 P **P 00 38 09.5 -0.7**
FINES PKKPbc **PKKPdf 00 55 19.8 -0.6**
FINES FINESS Array B 93.00 332 P **P 00 38 09.5 -0.7**
comp=Z,5.7nm,0.6s,baz=114,slow=7.2,SNR=58
FINES PKKPbc **PKKPdf 00 55 19.8 -0.6**
comp=Z,1.5nm,0.9s,baz=262,slow=3.8,SNR=4.7
BZS Buzias 93.01 315⇑*i*P **P 00 38 09.5 -1.1**
MSKU Masuku 94.05 268 LR LR 01 16 46.9
comp=Z,387nm,19.4s,baz=351,slow=33
KEV Kevo 94.22 340 *eP* **P 00 38 14.8 -0.8**
KEV Kevo 94.22 340 *eP* **P 00 38 14.8 -0.8**
comp=Z,241nm,1.1s
ARA0 ARCESS Array S 94.70 340 *eP* **P 00 38 16.6 -1.3**
ARCES ARCESS Array B 94.70 340 P **P 00 38 16.4 -1.5**
ARCES ARCESS Array B 94.70 340 P **P 00 38 16.4 -1.5**
comp=Z,3.0nm,0.6s,baz=93,slow=4.9,SNR=15
MORC Moravsky Berou 96.22 319 *eP* **P 00 38 25.3 0.0**
MORC Moravsky Berou 96.22 319 *eP* **P 00 38 25.3 0.0**
comp=Z,240nm,1.4s
GEC2 GERESS Array S 98.67 318 *eP* Pdif 00 38 36.7 +0.3
GEC2 GERESS Array S 98.67 318 *eP* Pdif 00 38 36.7 +0.2
GERES GERESS Array B 98.67 318 P **P 00 38 35.8 -0.6**
GERES GERESS Array B 98.67 318 P **P 00 38 35.8 -0.6**
comp=Z,0.9nm,0.6s,baz=85,slow=3.8,SNR=14
ILAR Eielson Array 103.57 25 PKiKP **PKiKP 00 43 16.7 +0.8**
ILAR PKKPbc **PKKPbc 00 54 50.9 -2.1**
ILAR Eielson Array 103.57 25 PKiKP **PKiKP 00 43 16.7 +0.8**
comp=Z,0.5nm,0.6s,baz=239,slow=3.0,SNR=4.8
ILAR PKKPbc **PKKPbc 00 54 50.9 -2.1**
comp=Z,0.2nm,0.6s,baz=80,slow=1.5,SNR=4.5
TORD Torodi Ar. Bea 107.49 281 PKiKP **PKiKP 00 43 24.6 0.0**
TORD Torodi Ar. Bea 107.49 281 PKiKP **PKiKP 00 43 24.6 0.0**
comp=Z,1.7nm,0.5s,baz=59,slow=1.2,SNR=36
EKA Eskdalemuir Ar 108.41 326 PKiKP **PKiKP 00 43 25.4 +0.3**
EKA Eskdalemuir Ar 108.41 326 PKiKP **PKiKP 00 43 25.4 +0.3**
comp=Z,1.9nm,0.8s,baz=47,slow=1.5,SNR=3.3
ESDC Sonseca Array 111.83 310 PKiKP **PKiKP 00 43 32.6 +0.5**
ESDC Sonseca Array 111.83 310 PKiKP **PKiKP 00 43 32.6 +0.5**
comp=Z,4.0nm,1.0s,baz=5.8,slow=3.5,SNR=6.3
MDT Midelt 113.17 302 PKiKP **PKiKP 00 43 35.7 +0.8**
MDT Midelt 113.17 302 PKiKP **PKiKP 00 43 35.7 +0.8**
comp=Z,11nm,1.3s,baz=39,slow=6.5,SNR=4.2
DBIC Dimbokro 113.38 274 PKiKP **PKiKP 00 43 36.0 +0.3**
DBIC Dimbokro 113.38 274 PKiKP **PKiKP 00 43 36.0 +0.3**
comp=Z,1.9nm,0.5s,baz=86,slow=2.9,SNR=8.3
YKA Yellowknife Ar 117.39 21 PKP **PKPdf 00 43 41.7 -0.3**
YKA PKKPbc **PKKPbc 00 54 08.2 +0.5**
YKA PKKP **PKKPdf 00 54 34.0 -1.1**
YKA Yellowknife Ar 117.39 21 PKP **PKPdf 00 43 41.7 -0.3**
comp=Z,2.9nm,0.4s,baz=319,slow=2.2,SNR=8
YKA PKKPbc **PKKPbc 00 54 08.2 +0.5**
comp=Z,0.1nm,0.4s,baz=120,slow=2.8,SNR=4.4
YKA PKKP **PKKPdf 00 54 33.9 -1.1**
comp=Z,0.2nm,0.4s,baz=128,slow=2.8,SNR=7.1
SFJD Kangerlussuaq 119.21 351 PKP **PKPdf 00 43 45.1 -0.3**
SFJD Kangerlussuaq 119.21 351 PKP **PKPdf 00 43 45.1 -0.3**
comp=Z,5.9nm,0.8s,baz=90,slow=1.0,SNR=2.9
NEW Newport 124.70 35 PKP **PKPdf 00 43 57.3 +0.7**
NEW Newport 124.70 35 PKP **PKPdf 00 43 57.3 +0.7**
comp=Z,1.1nm,0.5s,baz=344,slow=7.4,SNR=3.8
WAKR Walker 127.68 47 *e*PKPpre PKPpre 00 43 50.0
WAKR *ep*PKPdf pPKPdf 00 44 23.9 +0.8
PDAR Pinedale Array 132.17 37 PKP **PKPdf 00 44 11.7 +0.4**
PDAR Pinedale Array 132.17 37 PKP **PKPdf 00 44 11.6 +0.4**
comp=Z,1.8nm,0.6s,baz=131,slow=1.1,SNR=8.5
SCHQ Schefferville 133.01 356 PKP **PKPdf 00 44 12.7 +0.6**
SCHQ Schefferville 133.01 356 PKP **PKPdf 00 44 12.7 +0.6**
comp=Z,20nm,1.0s,baz=259,slow=5.2,SNR=11
ULM Lac du Bonnet 133.37 21 PKP **PKPdf 00 44 13.2 +0.3**
ULM Lac du Bonnet 133.37 21 PKP **PKPdf 00 44 13.2 +0.3**
comp=Z,3.7nm,0.5s,baz=9.6,slow=2.3,SNR=4.9
EYMN Ely 136.82 19 *e*PKPdf **PKPdf 00 44 19.5 0.0**
LAZ Ladron 138.36 46 *e*PKPpre PKPpre 00 44 12.4
ECSD EROS Data Cent 138.36 27 *e*PKPpre PKPpre 00 44 10.5
KSU1 Kansas State U 141.91 32 *e*PKPpre PKPpre 00 44 25.3
PKME Peaks-Kenny Pk 142.70 357 *e*PKPpre PKPpre 00 44 26.4
328A Wristen Ranch, 143.04 47 P PKPbc 00 44 28.3 0.0
baz=143
CPUP Villa Florida 143.08 202 *e*PKPpre PKPab 00 44 28.4 +1.6
Z30A Sanderson Ranc 143.13 43 ⇓P PKPbc 00 44 29.3 +0.9
baz=143
LCO Las Campanas 143.27 182 *e*PKPdf **PKPdf 00 44 30.8 -1.3**
U34A Anderson Ranch 143.33 35 P PKPbc 00 44 29.2 +0.4
baz=143
LONY Lake Ozonia 143.36 3 *e*PKPpre PKPab 00 44 28.4 +0.9
PTN Potsdam (NY) 143.39 3 *e*PKIKP PKPbc 00 44 28.3 -0.4
PTN Potsdam (NY) 143.39 3 *e*PKPpre PKPbc 00 44 28.3 -0.3
WVL Waterville 143.42 357 *e*PKPdf **PKPdf 00 44 30.4 -1.1**
TX31 Lajitas Ar. Si 143.46 50 *e*PKPdf PKPbc 00 44 30.2 +0.7
TXAR Lajitas Array 143.46 50 PKP PKPbc 00 44 30.1 +0.6
TXAR Lajitas Array 143.46 50 PKP PKPbc 00 44 30.1 +0.6
comp=Z,3.0nm,0.5s,baz=259,slow=0.8,SNR=80
329A Wagon Wheel Ra 143.58 46 ⇑P PKPbc 00 44 30.3 +0.5
baz=144
X32A Elmer 143.63 40 P PKPbc 00 44 30.3 +0.5
baz=144
WMOK Wichita Mounta 143.74 39 *e*PKIKP PKPbc 00 44 30.3 +0.2
WMOK Wichita Mounta 143.74 39 *e*PKPdf PKPbc 00 44 30.3 +0.2
Z31A Sharp Cattle R 143.77 42 ⇑P PKPbc 00 44 31.1 +0.9
baz=144
Y32A R-V Farms, Ver 143.79 40 ⇓P PKPbc 00 44 30.8 +0.5
baz=144
LBNH Lisbon 143.81 360 *e*PKIKP PKPbc 00 44 29.9 0.0
LBNH Lisbon 143.81 360 *e*PKPdf PKPbc 00 44 29.9 0.0
230A Sterling City 143.96 45 ⇓P **PKPdf 00 44 31.9 -1.0**
baz=144,SNR=9.5
W34A Bridge Creek, 144.02 37 P PKPbc 00 44 31.4 +0.5
baz=144
MDV Middlebury 144.03 1 *e*PKPdf **PKPab 00 44 30.2 +0.2**
X33A Lawton 144.04 39 P PKPbc 00 44 31.3 +0.3
baz=144
429A Davenport Ranc 144.11 47 ⇓P **PKPdf 00 44 32.7 -0.5**
baz=144
Z32A Haskell 144.21 41 ⇑P **PKPdf 00 44 32.4 -0.8**
baz=144,SNR=17
Y33A Hilltop Ranch, 144.31 40 ⇑P PKPbc 00 44 32.3 +0.5
baz=144
HNH Hanover 144.34 0 *e*PKPdf PKPbc 00 44 31.9 +0.4
231A Bronte 144.48 44 ⇓P **PKPdf 00 44 33.2 -0.6**
baz=144,SNR=13
430A Baggett Ranch, 144.49 46 ⇓P **PKPdf 00 44 33.4 -0.5**
baz=144
ABTX Abilene, Hawle 144.52 42 *e*PKPdf **PKPdf 00 44 33.9 0.0**
ABTX Abilene, Hawle 144.52 42 ⇑P **PKPdf 00 44 33.5 -0.3**
baz=144,SNR=6.6
ACCN Adirondack Com 144.63 2 *e*PKPdf **PKPab 00 44 32.0 -0.3**
Z33A Whitaker Ranch 144.69 41 ⇑P **PKPdf 00 44 34.1 0.0**
baz=145
TUL1 Tulsa 144.69 34 *e*PKPdf PKPbc 00 44 33.2 +0.3
TUL1 Tulsa 144.69 34 P PKPbc 00 44 33.3 +0.4
baz=145
530A J-C Ranch, Com 144.77 47 ⇓P **PKPdf 00 44 34.9 +0.5**
baz=145,SNR=7.8
331A San Angelo 144.77 45 ⇓P **PKPdf 00 44 34.2 -0.1**
baz=145,SNR=6.7
Y34A Reagan Ranch, 144.89 39 ⇑P **PKPdf 00 44 34.4 +0.1**
baz=145,SNR=11
MMNY Mt. Morris Dam 144.94 7 *e*PKPab **PKPab 00 44 33.2 -0.2**
232A Coleman 144.97 43 ⇑P **PKPdf 00 44 35.1 +0.4**
baz=145,SNR=5.9
SFIN Scholer Farm 144.99 20 *e*PKPab PKPbc 00 44 33.6 -0.2
SFIN Scholer Farm 144.99 20 P **PKPab 00 44 33.8 0.0**
baz=145
431A Sonora 145.00 46 ⇓P **PKPdf 00 44 35.0 +0.2**
baz=145,SNR=8.2
133A Hamilton Ranch 145.01 42 ⇑P **PKPdf 00 44 35.3 +0.6**
baz=145,SNR=9.8
Z34A Collier Ranch, 145.17 40 ⇑P **PKPdf 00 44 35.2 +0.3**
baz=145,SNR=10
332A Millersview 145.20 44 ⇓P **PKPdf 00 44 36.0 +0.9**
baz=145
ERPA Erie 145.22 10 *e*PKPbc PKPbc **00 44 34.1 -0.3**
TRY Troy 145.29 2 *e*PKPab **PKPab 00 44 34.7 0.0**
SLM Saint Louis 145.30 25 *e*PKIKP **PKPbc 00 44 34.6 -0.2**
SLM Saint Louis 145.30 25 *e*PKPbc **PKPbc 00 44 34.6 -0.2**
531A Rocksprings 145.33 47 ⇑P **PKPab 00 44 36.2 +0.7**
baz=145,SNR=12
233A Rising Star 145.39 42 ⇓P **PKPab 00 44 36.5 +1.0**
baz=145,SNR=12
432A Menard 145.46 45 ⇓P **PKPab 00 44 36.3 +0.4**
baz=145,SNR=7.5
HRV Adam Dziewonsk 145.54 359 *e*PKIKP **PKPdf 00 44 35.3 +0.1**
HRV Adam Dziewonsk 145.54 359 *e*PKPdf **PKPdf 00 44 35.2 +0.1**
134A White-Moore Ra 145.59 41 ⇑P **PKPab 00 44 37.2 +1.0**
baz=146,SNR=11
Z35A Perchaven, San 145.62 39 ⇑P **PKPab 00 44 36.5 +0.2**
baz=146,SNR=11
ALLY Alegheny Colle 145.64 11 *e*PKPdf **PKPdf 00 44 35.6 +0.2**
WES Weston 145.65 359 *e*PKIKP **PKPdf 00 44 35.2 -0.2**
WES Weston 145.65 359 *e*PKPdf **PKPdf 00 44 35.2 -0.2**
BINY Binghamton 145.67 5 *e*PKPdf **PKPbc 00 44 36.0 +0.1**
JCT Junction City 145.69 45 *e*PKP2 **PKPab 00 44 37.4 +0.7**
JCT Junction City 145.69 45 *e*PKPdf **PKPab 00 44 37.4 +0.7**
JCT Junction City 145.69 45 ⇓P **PKPab 00 44 37.7 +1.0**
baz=146,SNR=24
631A Perdido Creek 145.73 48 P **PKPab 00 44 37.0 +0.1**
baz=146
333A Richland Sprin 145.76 43 ⇑P **PKPab 00 44 37.1 +0.2**
baz=146,SNR=7.0
QUA2 Belchertown 145.77 0 *e*PKPdf **PKPab 00 44 36.4 -0.2**
532A Rocksprings 145.81 46 ⇑P **PKPab 00 44 37.7 +0.5**
baz=146
234A Clairette 145.91 42 ⇓P **PKPab 00 44 38.0 +0.5**
baz=146,SNR=8.2
433A Art 146.02 44 ⇓P **PKPab 00 44 38.1 +0.1**
baz=146,SNR=6.7
135A Vickery Place, 146.03 40 ⇑P **PKPab 00 44 38.3 +0.4**
baz=146,SNR=6.8
BRYW Bryant College 146.12 359 *e*PKPdf **PKPbc 00 44 37.2 -0.1**
334A Lometa 146.26 43 ⇓P **PKPab 00 44 39.5 +0.6**
baz=146
WHTX Lake Whitney 146.36 41 *e*PKPdf **PKPdf 00 44 35.5 -1.5**
WHTX *e*PKPab **PKPab 00 44 39.7 +0.5**
WHTX Lake Whitney 146.36 41 ⇓P **PKPab 00 44 39.6 +0.5**
baz=146
ACSO Alum Creek Sta 146.37 15 *e*PKPdf **PKPbc 00 44 37.7 -0.3**
533A Kerrville 146.46 45 ⇑P **PKPab 00 44 39.7 0.0**
baz=146,SNR=5.5
SIUC Southern Illin 146.51 25 *e*PKPdf **PKPdf 00 44 36.9 -0.1**
732A Laxson Ranch, 146.54 48 ⇓P **PKPab 00 44 40.1 +0.2**
baz=146,SNR=8.1
434A Burnet 146.55 44 ⇓P **PKPab 00 44 39.9 -0.1**
baz=146
BDFB Brasilia 146.60 226 *e*PKPdf **PKPdf 00 44 38.0 +0.1**
BDFB Brasilia 146.60 226 PKPbc **PKPbc 00 44 39.7 +0.1**
comp=Z,14nm,0.5s,baz=117,slow=1.5,SNR=23
633A Saathoff Ranch 146.71 46 ⇑P **PKPab 00 44 40.4 -0.2**
baz=147
YLE Yale 146.72 1 *e*PKPdf **PKPab 00 44 39.7 -0.5**
832A Faith Ranch, C 146.78 49 P **PKPab 00 44 40.4 -0.5**
baz=147
335A Moody 146.83 42 ⇑P **PKPab 00 44 40.7 -0.3**
baz=147
534A Blanco 146.88 45 ⇓P **PKPab 00 44 40.8 -0.5**
baz=147
ODNJ Ogdensburg 146.88 4 *e*PKPdf **PKPbc 00 44 39.4 -0.1**
USIN University of 146.92 23 *e*PKPdf **PKPbc 00 44 39.1 -0.6**
MIAR Mount Ida 146.93 34 *e*PKP2 **PKPbc 00 44 39.8 0.0**
MIAR Mount Ida 146.93 34 *e*PKPdf **PKPbc 00 44 39.8 0.0**
PAL Palisades 147.00 3 *e*PKP2 **PKPbc 00 44 39.6 -0.2**
PAL Palisades 147.00 3 *e*PKPdf **PKPbc 00 44 39.6 -0.2**
833A Chaparral WMA, 147.19 48 P **PKPbc 00 44 41.5 +0.8**
baz=147
WCI Wyandotte Cave 147.19 21 *e*PKP2 **PKPbc 00 44 40.8 +0.3**
WCI Wyandotte Cave 147.19 21 *e*PKPdf **PKPbc 00 44 40.8 +0.3**
LUPA Lehigh Univers 147.31 5 *e*PKPdf **PKPbc 00 44 40.5 -0.2**
UALR University of 147.41 32 *e*PKPdf **PKPbc 00 44 41.6 +0.4**
734A La Parita Cree 147.51 47 P **PKPbc 00 44 42.6 +1.0**
baz=148
535A Dale 147.51 44 ⇓P **PKPbc 00 44 41.9 +0.4**
baz=148
GNAR Gosnell 147.61 28 *e*PKPdf **PKPbc 00 44 41.4 -0.3**
933A Laredo 147.66 49 P **PKPab 00 44 43.3 -1.1**
baz=148
GLAT Glass 147.69 27 *e*PKPdf **PKPdf 00 44 40.4 +1.4**
635A Leesville 147.75 45 ⇓P **PKPbc 00 44 43.3 +1.1**
baz=148
MVL Millersville 147.82 6 *e*PKPdf **PKPbc 00 44 41.8 -0.3**
834A Tilden 147.91 48 P **PKPab 00 44 44.2 -1.2**
baz=148
934A Benavides 148.23 49 P **PKPab 00 44 45.2 -1.5**
baz=148
SDMD Soldier's Deli 148.34 7 *e*PKPdf **PKPbc 00 44 42.1 -1.4**
835A Beeville 148.35 47 P **PKPab 00 44 45.6 -1.6**
baz=148
034A Hebbronville 148.39 50 P **PKPab 00 44 45.9 -1.5**
baz=148
WVT Waverly 148.44 25 *e*PKP2 **PKPbc 00 44 43.9 0.0**
WVT Waverly 148.44 25 *e*PKPbc **PKPbc 00 44 43.9 0.0**
LVC Limon Verde 149.51 186 *e*PKPbc **PKPbc 00 44 49.4 +2.1**
TZTN Tazewell 149.63 18 *e*PKPdf **PKPdf 00 44 43.1 +0.9**
TZTN *e*PKPbc **PKPbc 00 44 47.2 +0.3**
BLA Blacksburg 149.86 13 *e*PKPdf **PKPdf 00 44 43.1 +0.5**
BLA *e*PKPbc **PKPbc 00 44 46.6 -0.8**
JSRW J. Sargeant Re 149.88 9 *e*PKPdf **PKPdf 00 44 43.5 +1.0**
JSRW *e*PKPbc **PKPbc 00 44 47.8 +0.4**
VWCC Virginia Weste 149.92 13 *e*PKPdf **PKPdf 00 44 43.2 +0.5**
SWET Sewanee 149.99 23 *e*PKPbc **PKPbc 00 44 47.3 -0.5**
URVA University of 150.06 9 *e*PKPbc **PKPbc 00 44 48.3 +0.5**
CPCT Cooper Cave 150.31 21 *e*PKPdf **PKPdf 00 44 44.8 +1.5**
CPCT *e*PKPbc **PKiKP 00 44 49.7 +0.4**
TKL Tuckaleechee C 150.37 20 *e*PKPdf **PKPdf 00 44 44.1 +0.7**
TKL *e*PKPbc **PKPbc 00 44 49.0 +0.3**
KMSC Kings Mountain 151.59 16 *e*PKPbc **PKPbc 00 44 51.8 +0.2**
KMSC Kings Mountain 151.59 16 P **PKPbc 00 44 51.1 -0.4**
baz=152
GOGA Godfrey 152.52 21 *e*PKIKP **PKPbc 00 44 53.8 +0.1**
GOGA Godfrey 152.52 21 *e*PKPbc **PKPbc 00 44 53.8 +0.1**
BRAL Brewton 153.09 29 *e*PKPbc **PKPbc 00 44 55.4 +0.4**

ISCJB ***10*** *00:25:16.2±0.7, 14°35S±0°07×167°5E±0°1, h170km, mb4.6/9, Error ellipse: s-maj=13.9km s-min=9.7km az=3.2*
IDC ***10*** *00:25:20.1±4.2, 14°52S×167°43E, h192km±34km, mb4.2/7, mb1 4.1/8, mb1mx3.9/24, mbtmp4.7/8, Error ellipse: s-maj=32.6km s-min=19.8km az=47.0*
NEIC ***10*** *00:25:20.5±1.4, 14°50S×167°45E, h200km±13km, mb4.7/7, Error ellipse: s-maj=12.6km s-min=9.2km az=178.0*

ISC 10 00:25:17.3±0.7, 14°38S±0°07×167°5E±0°1, h170km, n44, σ0s92/45, mb4.5/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
					Op	ISC	
DZM	**Mont Dzumac**	**7.71**	**187**	*e*Pn		**Pn**	**00 27 08.2**	**+1.2**
	59nm,0.8s						
DZM				*e*Sn		**Sn**	**00 28 31.4**	**-2.1**
DZM	**Mont Dzumac**	**7.71**	**187**	P		**Pn**	**00 27 08.1**	**+1.2**
	6.0nm,0.3s,baz=38,slow=18,SNR=37						
DZM				S		**Sn**	**00 28 33.2**	**-0.4**
	3.7nm,0.3s,baz=121,slow=22,SNR=5.6						
DZM	**Mont Dzumac**	**7.71**	**187**	*e*P		**Pn**	**00 27 07.8**	**+0.8**
DZM				*e*S		**Sn**	**00 28 35.5**	**+2.0**
EIDS	**Eidsvold**	**18.87**	**232**	*e*P		**P**	**00 29 25.3**	**+0.6**
	43nm,1.2s						
EIDS	**Eidsvold**	**18.87**	**232**	P		**Pn**	**00 29 26.5**	**-0.7**
	baz=19,SNR=4.6						
AFI	**Afiamalu**	**20.14**	**91**	*e*P		**P**	**00 29 40.0**	**+1.4**
	126nm,1.0s						
PMG	**Port Moresby**	**20.47**	**282**	P		**P**	**00 29 42.9**	**+0.9**
PMG	**Port Moresby**	**20.47**	**282**	P		**P**	**00 29 42.9**	**+0.9**
	11nm,0.8s,baz=96,slow=9.6,SNR=4.0						
CTA	**Charters Tower**	**21.03**	**251**	P		**P**	**00 29 48.6**	**+0.7**
CTA	**Charters Tower**	**21.03**	**251**	P		**P**	**00 29 48.6**	**+0.7**
	2.7nm,0.4s,baz=86,slow=17,SNR=3.7						
RMQ	**Roma**	**21.23**	**233**	P		**P**	**00 29 51.5**	**+1.4**
	baz=22,SNR=7.3						
ARMA	**Armidale**	**21.62**	**220**	*e*P		**P**	**00 29 54.7**	**+0.5**
	24nm,1.3s						
ARMA	**Armidale**	**21.62**	**220**	P		**P**	**00 29 55.5**	**+1.3**
	baz=22,SNR=9.9						
MGCD	**Mangrove Creek**	**23.93**	**216**	P		**P**	**00 30 17.1**	**+1.4**
	baz=24,SNR=7.0						
QLP	**Quilpie**	**24.87**	**237**	P		**P**	**00 30 24.7**	**+0.4**
	baz=25,SNR=11						
CMSA	**Cobar Meteorol**	**26.25**	**226**	P		**P**	**00 30 37.4**	**+0.6**
	baz=27,SNR=7.9						
STKA	**Stephens Creek**	**29.36**	**229**	*e*P		**P**	**00 31 04.8**	**+0.3**
	3.3nm,0.6s						
STKA	**Stephens Creek**	**29.36**	**229**	P		**P**	**00 31 05.0**	**+0.6**
	15nm,0.5s,baz=60,slow=11,SNR=64						
TOO	**Toolangi**	**30.24**	**216**	P		**P**	**00 31 12.8**	**+0.6**
	baz=31,SNR=12						
ARPS	**Mount Arapiles**	**31.93**	**221**	P		**P**	**00 31 27.7**	**+0.7**
	baz=32,SNR=6.9						
HTT	**Hallett**	**32.09**	**229**	P		**P**	**00 31 29.0**	**+0.5**
	baz=32,SNR=13						
BBOO	**Buckleboo**	**33.94**	**232**	*e*P		**P**	**00 31 44.5**	**0.0**
	281nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.09**	**239**	P		**P**	**00 33 46.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**49.09**	**239**	P		**P**	**00 33 46.6**	**-1.1**
	20nm,0.9s,baz=48,slow=4.4,SNR=5.0						
VNDA	**Vanda**	**63.22**	**181**	*e*P		**P**	**00 35 25.8**	**-1.2**
	18nm,1.6s						
CMAR	**Chiang Mai Arr**	**74.98**	**294**	P		**P**	**00 36 40.4**	**0.0**
CMAR	**Chiang Mai Arr**	**74.98**	**294**	P		**P**	**00 36 40.4**	**0.0**
	1.6nm,0.7s,baz=124,slow=4.1,SNR=6.6						
QSPA	**South Pole Qui**	**75.65**	**180**	*e*P		**P**	**00 36 42.1**	**-1.5**
	8.2nm,0.9s						
QSPA	**South Pole Qui**	**75.65**	**180**	P		**P**	**00 36 42.8**	**-0.8**
	9.2nm,0.9s,baz=5.0,slow=3.0,SNR=15						
ULN	**Ulaanbaatar**	**81.96**	**324**	*e*P		**P**	**00 37 18.4**	**+0.1**
MK31	**Makanchi Array**	**97.08**	**316**	*e*P		**P**	**00 38 29.4**	**-0.6**
MKAR	**Makanchi Array**	**97.08**	**316**	P		Pdif	00 38 30.5	+0.4
MKAR	**Makanchi Array**	**97.08**	**316**	P		Pdif	00 38 30.5	+0.4
	2.2nm,0.8s,baz=100,slow=5.6,SNR=3.8						
ARCES	**ARCESS Array B**	**119.96**	**346**	PKP		**PKPdf**	**00 43 46.9**	**-0.1**
	12nm,1.1s,baz=43,slow=1.6,SNR=10						
FINES	**FINESS Array B**	**125.47**	**338**	PKP		**PKPdf**	**00 43 57.7**	**-0.1**
	5.7nm,0.9s,baz=116,slow=3.2,SNR=7.3						
NB2	**NORSAR Subarra**	**130.33**	**345**	SKPa		**SKPbc**	**00 47 14.3**	**-0.3**
	comp=Z,7.9nm,1.1s,baz=38,slow=4.8						
NB2	**NORSAR Subarra**	**130.33**	**345**	SKPa		**SKPbc**	**00 47 14.3**	**-0.3**
	baz=38,slow=4.8						
BRTR	**Keskin Array B**	**132.42**	**311**	PKP		**PKPdf**	**00 44 12.6**	**+0.

DJA ***10*** *00:25:32.1±1.0,4˚N±9˚×12˚7E±˚,h10km,M4.8/10,mb5.0/7, mB5.2/6,MLv4.9/10,Mw(mB)4.6/6*

ISC 10 00:25:33.7±0.8,36.0N±0.0B×126.8E±0.1,h48km,n24, σ1§**50**/19,**mb4.5**/8,**1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.30**	**274**	P	Pn	00 25 51.9	-3.6
TNTI	**Ternate**	**2.86**	**169**	P	**Pn**	**00 26 17.7**	**+0.8**
KMSI	**Cibinong**	**4.14**	**223**	P	**Pn**	**00 26 36.8**	**+2.4**
CTBH	**Cotabato--PC H**	**4.42**	**325**	⇓*i*P	**Pn**	**00 26 40.6**	**+2.4**
GTOI	**Gorontalo**	**4.82**	**232**	P	Pn	**00 26 44.0**	**+0.2**
SANI	**Sanana**	**5.68**	**189**	P	**Pn**	**00 26 53.9**	**-1.6**
	27nm,0.8s,903nm0.3nm						
MRSI	**Marisa**	**5.79**	**238**	P	**Pn**	**00 26 57.8**	**+0.7**
	231nm,0.8s,2μm0.7nm						
LUWI	**Luwuk**	**6.14**	**221**	P	**Pn**	**00 27 04.2**	**+2.3**
	233nm,0.8s,1.1nm						
SWI	**Sorong**	**6.27**	**135**	P	**Pn**	**00 27 06.3**	**+2.6**
	105nm,0.4s,2μm0.5nm						
NLAI	**Namlea**	**6.80**	**178**	P	**Pn**	**00 27 12.6**	**+1.6**
	40nm,0.6s,910nm0.6nm						
APSI	**Ampana**	**6.85**	**229**	P	**Pn**	**00 27 12.9**	**+1.3**
	214nm,1.2s,2μm0.7nm						
MYLDM	**Lahad Datu**	**8.45**	**281**	P	x	00 27 33.9	
WRA	**Warramunga Arr**	**24.54**	**163**	P	**P**	**00 30 48.3**	**-0.7**
	11nm,0.7s,baz=340,slow=10,SNR=89						
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**00 32 10.6**	**+0.3**
	2.7nm,0.5s,baz=180,slow=9.4,SNR=14						
BJI	**Beijing**	**37.53**	**347**	P	**P**	**00 32 43.0**	**-0.1**
BJI				pmax	pmax		
	comp=Z,24nm,0.9s						
USRK	**Ussuriysk Arra**	**40.68**	**6**	P	**P**	**00 33 09.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=163,slow=6.2,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**41.69**	**66**	T	T	01 17 53.4	
	baz=248						
H11S2	**WAKE ISLAND Hy**	**41.71**	**66**	T	T	01 17 55.9	
	baz=248						
H11S1	**WAKE ISLAND Hy**	**41.71**	**66**	T	T	01 17 57.4	
	baz=248						
ASAJ	**Asahikawa**	**42.68**	**17**	P	**P**	**00 33 25.1**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=201,slow=14,SNR=3.9						
SONM	**Songino Array**	**47.45**	**341**	P	**P**	**00 34 02.8**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=161,slow=8.0,SNR=18						
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**00 35 04.2**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=211,slow=9.8,SNR=4.3						
AKASG	**Malin Array Be**	**92.05**	**321**	P	**P**	**00 38 36.3**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=75,slow=4.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**123.05**	**288**	PKP	**PKPdf**	**00 44 25.6**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=35,slow=3.1,SNR=2.7						

MOS ***10*** *00:27:38.9±0.8,40˚.66N×124˚.42W,h10km,mb6.1/74, MS6.3/47,Error ellipse: s-maj=6.8km s-min=4.0km az=85.3*

GCMT ***10*** *00:27:39.3±0.1,40˚.53N×124˚.81W,h19km,MW6.5/137, Moment Tensor Solution. s128,c309; s137,c545; Duration: 48s4 Moment tensor: Scale 1019Nm; Mrr=0.03±.00; Mθθ=.69±.00; Mϕϕ=0.72±.00; Mrθ=0.04±.01; Mθϕ=0.21±.00; Mϕr=.06±.01; Best double couple: M=0.74400×1019 NP1:ϕ=143.00000°,δ90.00000°, λ175.00000°. NP2:ϕ=233.00000°,δ85.00000°,λ=0.00000°. Principal axes: T 0.7610, Plg4.0000°, Azm98.0000°; N -0.0340, Plg85.0000°, Azm322.0000°; P -0.7270, Plg4.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***10*** *00:27:39.3,40˚.65N×124˚.69W,h29km,mb6.5/23,ME7.4, MS6.3/178,MW6.5,MW6.4,MW6.5,MW6.5(BRK),Moment Tensor Solution. s62 Moment tensor: Scale 1018Nm; Mrr=0.24; Mθθ=4.63; Mϕϕ=4.39; Mrθ=-0.22; Mθϕ 1.06; Mϕr=1.26; Best double couple: M=0.84000×1018 NP1:ϕ=141.00000°, δ79.00000°,λ170.00000°. NP2:ϕ=233.00000°,δ80.00000°, λ12.00000°. Principal axes: T 4.8700, Plg15.0000°, Azm96.0000°; N -0.1100, Plg74.0000°, Azm273.0000°; P -4.7500, Plg0.0000°, Azm6.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism. After NCEDC.*

NEIC About 30 people injured and moderate damage to hundreds of homes and buildings in the Eureka-Ferndale area. Felt [VII] at Eureka, Ferndale and Samoa; [VI] at Bayside, Fortuna, Loleta and Rio Dell; [V] at Arcata, Blue Lake, Carlotta, Hydesville, Kneeland, Korbel, McKinleyville, Petrolia, Scotia, Somes Bar and Whitethorn. Felt widely in northern California and southwestern Oregon and as far as Hollister, California; Reno, Nevada; Portland, Oregon.

BJI ***10*** *00:27:39.2,40˚.60N×124˚.80W,h11km,mB6.4/51, mb5.9/41,Ms6.4/66,Ms7 6.0/57*

NEIC ***10*** *00:27:39.0±0.0,40˚.67N×124˚.66W,h16km Best double couple: NP1:ϕ=57.00000°,δ80.00000°,λ20.00000°. NP2:ϕ=323.00000°,δ69.00000°,λ169.00000°. Principal axes: T 8.1800, Plg21.0000°, Azm281.0000°; N -1.1000, Plg67.0000°, Azm81.0000°; P -7.0800, Plg7.0000°, Azm188.0000°;*

IDC ***10*** *00:27:39.0±0.3,40˚.70N×124˚.39W,h0km,mb5.6/46, mb1 5.7/48,mb1mx5.7/48,mbtmp5.6/48,ML5.0/2,MS6.1/39, Ms1 6.1/39,ms1mx6.0/48 Error ellipse: s-maj=7.7km s-min=6.5km az=166.0*

ISCJB ***10*** *00:27:41.7±0.1,40˚.69N±0.0˚.01×124˚.23W±0.0˚.01,h25km, mb6.0/285,MS6.3/292,Error ellipse: s-maj=1.8km s-min=1.3km az=137.9*

SZGRF ***10*** *00:27:45.3,41˚.35N×125˚.15W,h30km,mb6.0,MS6.6,Off coast of northern California, United States*

NEIC ***10*** *00:27:56.9±0.0,40˚.99N×124˚.26W,h11km,Moment Tensor Solution. s105 Moment tensor: Scale 1018Nm; Mrr=0.64; Mθθ=.5.30; Mϕϕ=5.95; Mrθ=3.71; Mθϕ 1.79; Mϕr=0.47; Best double couple: M=0.90000×1018 NP1:ϕ=328.00000°, δ70.00000°,λ-159.00000°. NP2:ϕ=230.00000°, δ71.00000°,λ-21.00000°. Principal axes: T 6.2300, Plg1.0000°, Azm279.0000°; N 1.3700, Plg61.0000°, Azm11.0000°; P -7.5900, Plg28.0000°, Azm188.0000°;*

ISC 10 00:27:41.9±0.2,40.67N±0.03×124.47W±0.03,h21km±2km, h20km:pP-P,n1735,σ1§**86**/1720,**mb6.1**/297,**MS6.3**/307, **307C-271D,Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.36**	**65**	*e*Pg	**Pb**	**00 27 49.1**	**-0.4**
KHMM	**Horse Mountain**	**0.60**	**69**	*e*Sb	**Sb**	**00 27 59.3**	**-2.6**
GASB	**Alder Springs**	**1.68**	**126**	*e*Pn	**Pn**	**00 28 08.0**	**-2.2**
YBH	**Yreka Blue Hor**	**1.70**	**51**	Pg	**Pn**	**00 28 09.8**	**-0.6**
	8μm,0.3s,baz=245,slow=12						
YBH				Lg	Lg	00 28 29.0	
	8μm,0.3s,baz=186,slow=22,SNR=11						
M04C	**Macdoel**	**2.27**	**60**	⇓P	**Pn**	**00 28 18.4**	**+0.1**
	baz=2.4						
NMTM	**Middletown**	**2.42**	**139**	*e*Pn	**Pn**	**00 28 19.9**	**-0.4**
ORV	**Oroville**	**2.53**	**115**	*e*P	**Pn**	**00 28 19.3**	**-2.4**
ORV	**Oroville**	**2.53**	**115**	*e*Pn	**Pn**	**00 28 19.3**	**-2.4**
NSHM	**Saint Helena R**	**2.58**	**146**	*e*Pn	Pn	00 28 19.3	-3.2
BBOR	**Butler Butte**	**2.59**	**30**	*e*Pn	**Pn**	**00 28 21.1**	**-1.6**
DBO	**Dodson Butte**	**2.62**	**20**	*e*Pn	**Pn**	**00 28 20.7**	**-2.3**
OHCM	**Honcut**	**2.65**	**119**	*e*Pn	**Pn**	**00 28 20.5**	**-2.8**
HSO	**Harness Mounta**	**3.04**	**19**	*e*P	**Pn**	**00 28 26.8**	**-2.0**
HSO	**Harness Mounta**	**3.04**	**19**	*e*Pn	**Pn**	**00 28 26.8**	**-2.0**
J04D	**Umpqua Nationa**	**3.12**	**34**	⇓P	**Pn**	**00 28 29.6**	**-0.4**
	baz=3.2						
BKS	**Berkeley--Byer**	**3.28**	**147**	*e*Pn	**Pn**	**00 28 30.2**	**-1.9**
K05A	**Summer Lake**	**3.38**	**51**	*e*Pn	**Pn**	**00 28 33.2**	**-0.3**
BDM	**Black Diamond**	**3.38**	**142**	*e*Pn	**Pn**	**00 28 31.4**	**-2.0**
I04A	**Tendick Farm,**	**3.48**	**25**	⇑P	**Pn**	**00 28 33.8**	**-1.0**
	baz=3.6						
I04A				⇓S	**Sn**	**00 29 14.6**	**-0.8**
	baz=3.6						
EUO	**Eugene**	**3.52**	**17**	*e*Pn	**Pn**	**00 28 33.7**	**-1.6**
JRSC	**Jasper Ridge**	**3.69**	**151**	*e*Pn	**Pn**	**00 28 35.1**	**-2.6**
WENL	**Wente Vineyard**	**3.70**	**144**	*e*Pn	Pn	**00 28 36.5**	**-1.2**
TCBU	**Trout Butte**	**3.81**	**20**	*e*Pn	Pb	00 28 44.1	-4.4
WIFE	**Three Sisters-**	**3.92**	**29**	*e*Pn	**Pn**	**00 28 40.0**	**-1.0**
MHC	**Mount Hamilton**	**3.98**	**146**	*e*P	**Pn**	**00 28 40.2**	**-1.6**
MHC	**Mount Hamilton**	**3.98**	**146**	*e*Pn	**Pn**	**00 28 40.2**	**-1.6**
I05D	**Terrebonne, OR**	**4.34**	**31**	⇑P	**Pn**	**00 28 46.2**	**-0.4**
	baz=4.4						
H04A	**Detroit Lake**	**4.35**	**22**	*e*Pn	**Pn**	**00 28 45.5**	**-1.3**
G04A	**Mulino**	**4.77**	**17**	*e*Pn	**Pn**	**00 28 51.5**	**-1.0**
I07A	**Izee**	**5.02**	**45**	*e*Pn	**Pn**	**00 28 56.5**	**+0.4**
LRV	**Little Rabbit**	**5.02**	**146**	*e*Pn	**Pn**	**00 28 54.7**	**-1.3**
HOOD	**Mount Hood Mea**	**5.09**	**23**	*e*Pn	**Pn**	**00 28 56.6**	**-0.5**
J08A	**Circle Bar Ran**	**5.21**	**57**	*e*Pn	**Pn**	**00 28 57.3**	**-1.4**
NV01	**Mina Array Sit**	**5.26**	**113**	*e*Pn	**Pn**	**00 28 57.9**	**-1.6**
NV01				*e*Sb	**Sb**	**00 30 21.3**	**+5.3**
NV01				*e*Sg	Sn	00 30 29.8	+30
NVAR	**Mina Array Bea**	**5.26**	**113**	Pn	**Pn**	**00 29 00.6**	**+1.1**
	1μm,0.3s,baz=293,slow=14,SNR=3625						
NVAR				Lg	Lg	00 30 21.3	
	baz=289,slow=25,SNR=1.6						
NVAR				LR	LR	00 30 29.8	
	comp=Z,29μm,21.7s,baz=60,slow=32						
F03A	**Seaside**	**5.30**	**7**	*e*Pn	**Pn**	**00 28 58.5**	**-1.4**
F03A				*e*Sn	**Sn**	**00 29 58.4**	**-1.9**
MLAC	**Mammoth Lakes**	**5.32**	**123**	*e*Pn	**Pn**	**00 29 01.7**	**+1.3**
MLAC	**Mammoth Lakes**	**5.32**	**123**	⇑P	**Pn**	**00 29 00.7**	**+0.4**
	baz=5.5,SNR=179						
G06A	**Carlson Farm,**	**5.36**	**30**	*e*Pn	**Pn**	**00 29 00.7**	**0.0**
F04A	**Amboy**	**5.47**	**15**	*e*Pn	**Pn**	**00 29 01.0**	**-1.1**
F04A				*e*Sn	**Sn**	**00 30 03.0**	**-1.4**
F04D	**Rainier, OR**	**5.52**	**11**	⇓P	**Pn**	**00 29 01.1**	**-1.7**
	baz=5.6						
VGB	**Gordon Butte**	**5.55**	**28**	*e*P	**Pn**	**00 29 03.5**	**+0.2**
VGB	**Gordon Butte**	**5.55**	**28**	*e*Pn	**Pn**	**00 29 03.5**	**+0.2**
MTUM	**Tungsten Hills**	**5.66**	**124**	*e*Pn	Pn	00 29 08.5	+3.5
E03A	**Lebam**	**5.92**	**6**	*e*Pn	**Pn**	**00 29 06.7**	**-1.4**
E03A				*e*Sn	**Sn**	**00 30 11.9**	**-3.4**
RCTC	**Rector, Farmer**	**5.98**	**135**	⇑P	**Pn**	**00 29 08.9**	**-0.2**
	baz=6.1,SNR=353						
PTRM	**Twissleman Ran**	**6.02**	**145**	*e*Pn	Pn	**00 29 08.0**	**-1.8**
TIN	**Tinemaha**	**6.06**	**125**	⇑P	**Pn**	**00 29 11.2**	**+0.9**
	baz=6.2,SNR=103						
G08A	**Pilot Rock**	**6.14**	**39**	*e*Pn	**Pn**	**00 29 11.8**	**+0.4**
PAT2	**Paterson 2**	**6.25**	**32**	*e*Pn	**Pn**	**00 29 13.7**	**+1.0**
SMMC	**Simmler**	**6.40**	**145**	⇓P	**Pn**	**00 29 14.3**	**-0.7**
	baz=6.5,SNR=18						
VES	**Vestal, Richgr**	**6.41**	**137**	⇓P	**Pn**	**00 29 14.4**	**-0.7**
	baz=6.5,SNR=897						
CARC	**Carrizo Plain**	**6.47**	**144**	*e*Pn	Pn	**00 29 15.0**	**-1.0**
CRGC	**Crocker Grade**	**6.58**	**144**	*e*Pn	**Pn**	**00 29 17.4**	**-0.1**
WLHM	**Little Horse**	**6.61**	**131**	*e*Pn	**Pn**	**00 29 20.1**	**+2.1**
WLHM				*e*ScS	ScS	00 43 20.6	+4.5
GRAC	**Grapevine Rang**	**6.64**	**121**	⇓P	**Pn**	**00 29 19.5**	**+1.2**
	baz=6.8,SNR=49						
RSW	**Rattlesnake Hi**	**6.73**	**30**	*e*Pn	**Pn**	**00 29 20.6**	**+1.0**
D05A	**Enumclaw**	**6.76**	**15**	*e*Pn	**Pn**	**00 29 19.1**	**-0.7**
D05A				*e*Sn	**Sn**	**00 30 33.8**	**-2.4**
WASM	**Alta Sierra Ca**	**6.77**	**135**	*e*Pn	**Pn**	**00 29 21.0**	**+0.8**
PKM	**Peak Mountain**	**6.83**	**146**	⇑P	**Pn**	**00 29 19.8**	**-1.3**
	baz=6.9,SNR=366						
WOFM	**Oak Flat**	**6.84**	**137**	*e*Pn	**Pn**	**00 29 21.7**	**+0.6**
ISA	**Isabella**	**6.87**	**135**	⇓P	**Pn**	**00 29 21.7**	**+0.2**
	baz=7.0,SNR=1000						
LNOR	**Lincton Mounta**	**6.88**	**39**	*e*Pn	**Pn**	**00 29 23.1**	**+1.5**
WHFM	**Hanning Flat**	**6.91**	**134**	*e*Pn	**Pn**	**00 29 24.0**	**+2.0**
WCHM	**Chimney Peak**	**6.93**	**131**	*e*Pn	**Pn**	**00 29 24.4**	**+1.9**
WORM	**Onyx Ranch**	**6.97**	**133**	*e*Pn	**Pn**	**00 29 24.9**	**+2.1**
ELK	**Elko**	**7.01**	**86**	*e*Pn	**Pn**	**00 29 23.4**	**-0.2**
ELK				*e*Pg	Pb	00 29 52.2	+9.2
ELK				*e*Sn	**Sn**	**00 30 38.5**	**-4.2**
ELK				*e*Lg	Lg	00 31 20.5	
ELK	**Elko**	**7.01**	**86**	Pn	Pn	00 29 18.9	-4.7
	22nm,0.3s,baz=5.5,slow=3.1,SNR=141						
ELK				Sn	Sn	00 30 34.8	-8.0
	baz=360,slow=18,SNR=2.8						
ELK				Lg	Lg	00 31 20.5	
	16nm,0.3s,baz=180,slow=14,SNR=3.0						
ARVC	**Arvin**	**7.10**	**139**	*e*Pn	**Pn**	**00 29 24.2**	**-0.4**
ARVC	**Arvin**	**7.10**	**139**	⇑P	**Pn**	**00 29 24.1**	**-0.4**
	baz=7.2,SNR=1000						
PLEC	**Pleito Hills**	**7.11**	**141**	*e*Pn	**Pn**	**00 29 25.9**	**+1.1**
LTY	**Liberty**	**7.14**	**21**	*e*Pn	**Pn**	**00 29 24.8**	**-0.2**
ABL	**Mount Abel**	**7.14**	**143**	*e*Pn	**Pn**	**00 29 25.1**	**-0.2**
WBSM	**Bird Springs**	**7.15**	**134**	*e*Pn	**Pn**	**00 29 27.0**	**+1.6**
R11A	**Troy Canyon, C**	**7.25**	**106**	⇓P	**Pn**	**00 29 27.2**	**+0.5**
	baz=7.4,SNR=1000						
SRTC	**Snort**	**7.25**	**131**	*e*Pn	Pn	00 29 31.9	+5.2
SBC	**Santa Barbara**	**7.27**	**147**	⇑P	**Pn**	**00 29 25.7**	**-1.1**
	baz=7.4,SNR=18						
FURC	**Furnace Creek,**	**7.28**	**123**	⇑P	**Pn**	**00 29 27.9**	**+0.9**
	baz=7.4,SNR=141						
C05A	**Tolt Reservoir**	**7.30**	**15**	*e*Pn	**Pn**	**00 29 26.6**	**-0.7**
TPNV	**Topopah Spring**	**7.41**	**117**	*e*P	**Pn**	**00 29 29.6**	**+0.6**
TPNV	**Topopah Spring**	**7.41**	**117**	*e*Pn	**Pn**	**00 29 29.6**	**+0.6**
TPNV	**Topopah Spring**	**7.41**	**117**	⇑P	**Pn**	**00 29 29.3**	**+0.3**
	baz=7.5,SNR=736						
E09A	**Wood Farm, Sta**	**7.43**	**36**	*e*Pn	**Pn**	**00 29 29.0**	**0.0**
LRMC	**Laurel Mountai**	**7.44**	**132**	⇓P	**Pn**	**00 29 29.2**	**-0.2**
	baz=7.6,SNR=254						
F10A	**Beach Ranch, E**	**7.48**	**42**	*e*Pn	**Pn**	**00 29 31.1**	**+1.3**
CCAC	**Calif City Air**	**7.50**	**135**	*e*Pn	**Pn**	**00 29 31.3**	**+1.2**
D08A	**Wollman Farm,**	**7.54**	**30**	*e*Pn	**Pn**	**00 29 29.8**	**-0.8**
STTC	**Scott Ranch**	**7.55**	**139**	*e*Pn	**Pn**	**00 29 31.4**	**+0.6**
OSI	**Osito Adit**	**7.56**	**141**	⇑P	**Pn**	**00 29 30.2**	**-0.7**
	baz=7.7,SNR=576						
BSC	**Santa Cruz Isl**	**7.69**	**148**	⇓P	**Pn**	**00 29 31.5**	**-1.1**
	baz=7.8,SNR=24						
BALC	**Balcom Canyon**	**7.70**	**144**	*e*Pn	**Pn**	**00 29 33.9**	**+1.1**
EDW2	**Edwards Air Fo**	**7.72**	**136**	*e*Pn	**Pn**	**00 29 33.2**	**+0.1**
EDW2	**Edwards Air Fo**	**7.72**	**136**	⇓P	**Pn**	**00 29 32.7**	**-0.5**
	baz=7.8,SNR=1000						
JCW	**Jim Creek**	**7.74**	**13**	*e*Pn	**Pn**	**00 29 32.3**	**-1.0**
LEOC	**Leona Valley**	**7.75**	**139**	*e*Pn	**Pn**	**00 29 33.6**	**-0.1**
BLG	**Laguna Peak**	**7.83**	**145**	⇑P	**Pn**	**00 29 33.3**	**-1.2**
	baz=7.9						
OD2	**Odessa Site #2**	**7.90**	**30**	*e*Pn	**Pn**	**00 29 34.6**	**-0.9**
LRRC	**Littlerock Res**	**7.98**	**138**	*e*Pn	**Pn**	**00 29 36.4**	**-0.1**
BLKC	**Black Mountain**	**7.99**	**132**	*e*Pn	**Pn**	**00 29 37.2**	**+0.4**
SHOC	**Shoshone**	**8.00**	**124**	⇓P	**Pn**	**00 29 37.2**	**+0.3**
	baz=8.1,SNR=108						
HLID	**Hailey**	**8.01**	**66**	⇓P	**Pn**	**00 29 36.9**	**-0.3**
	baz=8.2,SNR=926						
DECC	**Green Verdugo**	**8.05**	**141**	⇓P	**Pn**	**00 29 36.9**	**-0.7**
	baz=8.1,SNR=104						
RPW	**Rockport**	**8.06**	**14**	*e*Pn	**Pn**	**00 29 38.2**	**+0.5**
GSC	**Goldstone**	**8.08**	**129**	⇓P	**Pn**	**00 29 38.6**	**+0.6**
	baz=8.2,SNR=384						
B06A	**Marblemount**	**8.13**	**14**	*e*Pn	**Pn**	**00 29 37.6**	**-1.0**
FLSC	**Flash Two Peak**	**8.18**	**132**	*e*Pn	**Pn**	**00 29 40.0**	**+0.6**
EL2	**El Mirage 2**	**8.23**	**136**	*e*Pn	**Pn**	**00 29 39.1**	**-0.9**
RRX	**Edison Barstow**	**8.26**	**132**	⇓P	**Pn**	**00 29 41.1**	**+0.6**
	baz=8.4,SNR=104						
BFSC	**Mount Baldy Ra**	**8.39**	**138**	⇓P	**Pn**	**00 29 41.9**	**-0.4**
	baz=8.5,SNR=1000						
SSK	**Sunset Peak**	**8.40**	**138**	*e*Pn	**Pn**	**00 29 42.4**	**-0.1**
C09A	**Chrisman Ranch**	**8.40**	**30**	*e*Pn	**Pn**	**00 29 41.2**	**-1.2**
A05A	**Maple Falls**	**8.50**	**11**	*e*Pn	**Pn**	**00 29 43.4**	**-0.3**
FMP	**Fort Macarthur**	**8.51**	**143**	⇑P	**Pn**	**00 29 43.1**	**-0.7**
	baz=8.6,SNR=22						
B08A	**Colville Reser**	**8.52**	**24**	*e*Pn	**Pn**	**00 29 43.5**	**-0.5**
TUQ	**Turquoise Moun**	**8.52**	**125**	*e*Pn	**Pn**	**00 29 45.2**	**+1.1**
TUQ	**Turquoise Moun**	**8.52**	**125**	⇑P	**Pn**	**00 29 45.0**	**+0.8**
	baz=8.6,SNR=252						
FSU	**Fish Springs**	**8.53**	**93**	*e*Pn	**Pn**	**00 29 45.2**	**+0.9**
DSCC	**Desert Studies**	**8.61**	**127**	*e*Pn	**Pn**	**00 29 46.5**	**+1.3**
HEC	**Hector,Ludlow**	**8.68**	**130**	⇑P	**Pn**	**00 29 46.7**	**+0.3**
	baz=8.8,SNR=233						
CIS	**Catalina Islan**	**8.71**	**144**	⇑P	**Pn**	**00 29 45.2**	**-1.5**
	baz=8.8,SNR=70						
RVR	**Riverside**	**8.73**	**137**	*e*P	**Pn**	**00 29 47.7**	**+0.8**
RVR	**Riverside**	**8.73**	**137**	*e*Pn	**Pn**	**00 29 47.7**	**+0.8**
BBRC	**Big Bear Solar**	**8.76**	**134**	*e*Pn	**Pn**	**00 29 48.5**	**+1.0**
BBRC	**Big Bear Solar**	**8.76**	**134**	⇑P	**Pn**	**00 29 47.5**	**-0.1**
	baz=8.9,SNR=112						
DUG	**Dugway**	**8.90**	**89**	*e*P	**Pn**	**00 29 50.9**	**+1.5**
DUG	**Dugway**	**8.90**	**89**	*e*Pn	**Pn**	**00 29 50.9**	**+1.5**
DUG	**Dugway**	**8.90**	**89**	⇓P	**Pn**	**00 29 48.4**	**-1.0**
	baz=9.0,SNR=1000						
ICU	**Indian Springs**	**8.94**	**110**	*e*Pn	**Pn**	**00 29 50.0**	**+0.2**
IMU	**Iron Mountain**	**8.96**	**99**	*e*Pn	**Pn**	**00 29 50.9**	**+0.8**
SCI	**San Clemente I**	**9.02**	**146**	⇓P	**Pn**	**00 29 49.9**	**-0.9**
	baz=9.1,SNR=19						
SCI				⇑S	**Sn**	**00 31 31.6**	**-0.2**
	baz=9.1						
SNUT	**Stansbury Nort**	**9.08**	**85**	*e*Pn	**Pn**	**00 29 53.0**	**+1.3**
NPI	**North Pocatell**	**9.10**	**77**	*e*Pn	**Pn**	**00 29 53.1**	**+1.0**
GMRC	**Granite Mounta**	**9.12**	**127**	⇓P	**Pn**	**00 29 52.0**	**-0.3**
	baz=9.2,SNR=231						
MTUT	**Morton Thiokol**	**9.12**	**80**	*e*Pn	**Pn**	**00 29 52.2**	**-0.1**
MURC	**Murrieta**	**9.13**	**138**	⇑P	**Pn**	**00 29 52.3**	**-0.1**
	baz=9.2,SNR=164						
EPU	**East Promontor**	**9.14**	**82**	*e*Pn	**Pn**	**00 29 53.8**	**+1.1**
DGR	**Domenigoni Val**	**9.19**	**137**	*e*Pn	**Pn**	**00 29 53.4**	**+0.2**
DEVC	**Devers**	**9.20**	**134**	*e*Pn	**Pn**	**00 29 54.8**	**+1.6**
BACC	**Bachelor Mtn.**	**9.20**	**138**	*e*Pn	**Pn**	**00 29 52.7**	**-0.7**
PTU	**Portage**	**9.23**	**78**	*e*Pn	**Pn**	**00 29 54.9**	**+1.0**
I56US	**NEWPORT INFRAS**	**9.23**	**32**	*i*		01 16 10.0	
	baz=202,slow=355,SNR=0.9						
NEW	**Newport**	**9.23**	**32**	Pn	**Pn**	**00 29 53.2**	**-0.6**
	17nm,0.3s,baz=208,slow=13,SNR=122						
NEW				Sn	**Sn**	**00 31 34.0**	**-2.9**
	5.5nm,0.3s,baz=127,slow=12,SNR=3.5						
NEW				Lg	Lg	00 32 21.6	
	1.8nm,0.3s,baz=230,slow=5.5,SNR=3.2						
NEW				LR	LR	00 33 55.7	
	comp=Z,129μm,18.2s,baz=222,slow=41						
NEW	**Newport**	**9.23**	**32**	⇓P	**Pn**	**00 29 52.7**	**-1.0**
	baz=9.3,SNR=286						
DWU	**Dry Willow Pea**	**9.24**	**102**	*e*Pn	**Pn**	**00 29 54.8**	**+0.7**
LTU	**Little Mountai**	**9.27**	**80**	*e*Pn	**Pn**	**00 29 55.5**	**+1.1**
NAIU	**Northern Antel**	**9.29**	**84**	*e*Pn	**Pn**	**00 29 55.6**	**+1.0**
PNT	**Penticton**	**9.30**	**20**	*e*P	**Pn**	**00 29 54.3**	**-0.4**
PNT	**Penticton**	**9.30**	**20**	*e*Pn	**Pn**	**00 29 54.3**	**-0.4**
SAIU	**Southern Antel**	**9.33**	**85**	*e*Pn	**Pn**	**00 29 56.5**	**+1.3**
TPC	**Twentynine Pal**	**9.36**	**132**	*e*Pn	**Pn**	**00 29 55.2**	**-0.4**
CRY	**Cary Ranch**	**9.39**	**137**	*e*Pn	**Pn**	**00 29 56.8**	**+0.7**
CWU	**Camp Williams**	**9.42**	**87**	*e*Pn	**Pn**	**00 29 58.1**	**+1.6**
DNR	**Dunn Ranch,Anz**	**9.45**	**136**	*e*Pn	**Pn**	**00 29 57.6**	**+0.7**
BELC	**Belle Mtn. Jos**	**9.47**	**132**	*e*Pn	**Pn**	**00 29 57.9**	**+0.7**
BELC	**Belle Mtn. Jos**	**9.47**	**132**	⇑P	**Pn**	**00 29 57.0**	**-0.2**
	baz=9.6,SNR=276						
SNDA	**J Saunders Pla**	**9.47**	**136**	*e*Pn	**Pn**	**00 29 57.9**	**+0.7**
GZU	**Grizzly Peak**	**9.47**	**81**	*e*Pn	**Pn**	**00 29 58.4**	**+1.1**
WVUT	**Wellsville**	**9.49**	**80**	*e*Pn	**Pn**	**00 29 58.6**	**+1.2**
PLM	**Palomar**	**9.50**	**138**	*e*Pn	**Pn**	**00 29 57.8**	**+0.2**
PFO	**Pinyon Flat Ob**	**9.51**	**135**	Pn	**Pn**	**00 29 57.7**	**0.0**
	5μm,0.7s						
PFO	**Pinyon Flat Ob**	**9.51**	**135**	*e*Pn	**Pn**	**00 29 58.0**	**+0.4**
PFO	**Pinyon Flat Ob**	**9.51**	**135**	Pn	**Pn**	**00 29 58.1**	**+0.4**
	55nm,0.3s,baz=324,slow=9.1,SNR=242						
PFO				Lg	Lg	00 32 42.3	
	baz=229,slow=20,SNR=2.5						
PFO				LR	LR	00 34 10.7	
	comp=Z,228μm,20.0s,baz=313,slow=41						
PFO	**Pinyon Flat Ob**	**9.51**	**135**	⇑P	**Pn**	**00 29 57.2**	**-0.5**
	baz=9.6,SNR=571						
HONU	**Honeyville**	**9.52**	**80**	*e*Pn	**Pn**	**00 29 57.7**	**-0.1**
FRD	**Ford Ranch**	**9.52**	**136**	*e*Pn	**Pn**	**00 29 58.5**	**+0.7**
FLU	**Fool Pe

I19A **Meeteetse** 11.93 69 ⇓P Pn 00 30 32.6 +1.7
baz=12,SNR=288
PV09 **Paradox Valley** 12.03 95 ePn Pn 00 30 34.8 +2.4
X16A **Lo Mia Camp, P** 12.07 117 ⇓P Pn 00 30 35.7 +3.0
baz=12,SNR=884
H19A **Powell** 12.08 66 ⇓P Pn 00 30 35.8 +3.0
baz=12,SNR=873
PV10 **Paradox Valley** 12.13 96 ePn Pn 00 30 36.7 +2.9
PV05 **Paradox Valley** 12.17 97 ePn Pn 00 30 37.6 +3.4
N20A **Spence Gulch,** 12.29 84 ⇓P Pn 00 30 37.2 +1.3
baz=12,SNR=271
O20A **White River Ci** 12.38 87 ⇓P Pn 00 30 38.2 +1.1
baz=12,SNR=160
F19A **Roth Farm, Mol** 12.44 60 ⇑P Pn 00 30 38.0 +0.3
baz=13,SNR=209
J20A **Shoshoni** 12.48 72 ⇑P Pn 00 30 38.7 +0.4
baz=13,SNR=1000
I20A **Worland** 12.53 69 ⇓P Pn 00 30 40.1 +1.1
baz=13,SNR=138
H20A **Greybull** 12.72 67 ⇓P Pn 00 30 43.1 +1.5
baz=13,SNR=586
G20A **Bridger** 12.75 64 ⇓P Pn 00 30 43.4 +1.4
baz=13,SNR=475
E19A **Rath Farm, Rou** 12.76 58 ⇓P Pn 00 30 42.1 +0.1
baz=13,SNR=211
214A **Organ Pipe Nat** 12.79 129 ⇑P Pn 00 30 43.6 +1.1
baz=13,SNR=121
EGMT **Eagleton** 12.83 50 ⇓P Pn 00 30 42.8 -0.2
baz=13,SNR=414
W18A **Petrified Fore** 12.88 111 ⇑P Pn 00 30 45.7 +1.9
baz=13,SNR=123
MVCO **Mesa Verde** 12.90 100 ⇑P Pn 00 30 45.1 +0.9
baz=13,SNR=814
J21A **Lysite** 12.94 72 ⇓P Pn 00 30 44.8 +0.1
baz=13,SNR=1000
F20A **Billings** 12.95 61 ⇑P Pn 00 30 44.4 -0.3
baz=13,SNR=104
D19A **Cripps Ranch,** 12.97 55 ⇑P Pn 00 30 44.1 -0.8
baz=13,SNR=312
K21A **Alcova** 13.03 76 ⇑P Pn 00 30 44.9 -0.9
baz=13,SNR=400
X18A **Snowflake** 13.03 113 ⇑P Pn 00 30 48.7 +2.7
baz=13,SNR=624
I21A **Big Trails, Te** 13.11 70 ⇓P Pn 00 30 47.1 +0.2
baz=13,SNR=888
C19A **Slack Wire Ran** 13.11 52 ⇑P Pn 00 30 46.6 -0.3
baz=13,SNR=301
E20A **Meyer Farm, Mu** 13.19 58 ⇓P Pn 00 30 48.1 +0.1
baz=13,SNR=371
D20A **Manuel Ranch,** 13.41 56 ⇓P Pn 00 30 50.7 -0.1
baz=14,SNR=266
H21A **Big Horn, Sher** 13.42 67 ⇑P Pn 00 30 51.9 +0.8
baz=14,SNR=147
G21A **Lodge Grass** 13.44 64 ⇑P Pn 00 30 51.7 +0.4
baz=14
SMCO **Snowmass** 13.51 91 ePn Pn 00 30 53.4 +0.7
B19A **Brinkman Farms** 13.52 50 ⇑P Pn 00 30 51.5 -0.9
baz=14,SNR=453
M22A **Cedar Creek Ra** 13.52 81 ⇓P Pn 00 30 51.2 -1.3
baz=14,SNR=235
K22A **Casper** 13.56 76 ⇑P Pn 00 30 52.5 -0.7
baz=14,SNR=308
P22A **Eagle** 13.60 89 ⇑P Pn 00 30 53.6 0.0
baz=14,SNR=136
L22A **Ellis Ranch, M** 13.62 78 ⇓P Pn 00 30 53.2 -0.7
baz=14,SNR=195
F21A **Absaloka Mine,** 13.65 62 ⇓P Pn 00 30 53.9 -0.3
baz=14,SNR=55
J22A **Midwest** 13.65 72 ⇑P Pn 00 30 53.6 -0.7
baz=14,SNR=286
N22A **Wattenberg Ran** 13.66 84 ⇓P Pn 00 30 54.4 -0.2
baz=14,SNR=79
O22A **Kremmling** 13.67 86 ⇓P Pn 00 30 54.7 0.0
baz=14,SNR=428
H02S1 **DAWSON INLET T** 13.67 339 T T 00 43 55.3
SNR=9.3
I22A **9 Mile Ranch,** 13.70 70 ⇓P Pn 00 30 54.3 -0.7
baz=14,SNR=498
C20A **Veseth Ranch,** 13.74 54 ⇓P Pn 00 30 55.0 -0.4
baz=14,SNR=116
A19A **Klindworth Far** 13.87 48 ⇓P Pn 00 30 56.2 -0.9
baz=14,SNR=406
E21A **Keefer Ranch,** 13.89 59 ⇓P Pn 00 30 55.9 -1.6
baz=14,SNR=89
H22A **Clearmont** 13.90 68 ⇑P Pn 00 30 56.8 -0.8
baz=14,SNR=355
S22A **4UR Ranch, Cre** 13.98 96 ⇑P Pn 00 31 00.7 +1.7
baz=14,SNR=1000
N23A **Red Feather La** 14.04 83 ⇑P Pn 00 30 59.3 -0.5
baz=14,SNR=518
B20A **Solberg Farm,** 14.05 51 ⇑P Pn 00 30 58.5 -1.1
baz=14,SNR=243
G22A **Birney** 14.06 65 ⇓P Pn 00 30 58.7 -1.2
baz=14,SNR=352
D21A **La Casta Ranch** 14.12 57 ⇑P Pn 00 30 59.8 -0.8
baz=14,SNR=492
O23A **Lake Granby, G** 14.14 86 ⇑P Pn 00 31 00.8 -0.3
baz=14,SNR=402
L23A **Garrett** 14.16 78 ⇑P Pn 00 30 59.3 -2.1
baz=14,SNR=594
M23A **Laramie** 14.17 81 ⇑P Pn 00 30 59.8 -1.6
baz=14,SNR=298
F22A **Rosebud** 14.22 63 ⇓P Pn 00 31 00.9 -1.1
baz=14,SNR=134
K23A **Bowen Ranch, D** 14.23 75 ⇑P Pn 00 31 00.4 -1.8
baz=14,SNR=548
A20A **Cobblestone Ra** 14.31 49 ⇓P Pn 00 31 01.2 -2.0
baz=14,SNR=219
J23A **Dilts Ranch, B** 14.32 73 ⇑P Pn 00 31 02.1 -1.4
baz=14,SNR=52
P23A **Jefferson** 14.34 89 ⇑P Pn 00 31 04.4 +0.5
baz=14,SNR=325
PHWY **Pilot Hill** 14.38 81 ePn Pn 00 31 01.3 -3.0
ISCO **Idaho Springs** 14.43 87 ⇑P Pn 00 31 05.0 -0.2
baz=15,SNR=303
U22A **Llaves** 14.43 102 ⇑P Pn 00 31 06.4 +1.2
baz=15,SNR=389
Q23A **Hartsel** 14.44 91 ⇓P Pn 00 31 06.2 +0.9
baz=15,SNR=32
I23A **Meade Ranch, G** 14.44 71 ⇓P Pn 00 31 03.3 -1.8
baz=15,SNR=31
H23A **Clabaugh Cattl** 14.57 68 ⇓P Pn 00 31 05.0 -1.8
baz=15,SNR=87
V22A **San Miguel Ran** 14.58 103 ⇓P Pn 00 31 08.0 +0.9
baz=15,SNR=464
E22A **Miles City** 14.60 61 ⇓P Pn 00 31 04.7 -2.5
baz=15,SNR=266
R23A **Moffat** 14.62 94 ⇑P Pn 00 31 08.4 +0.7
baz=15,SNR=843
S23A **Nye Farm, Mont** 14.62 96 ⇑P Pn 00 31 09.8 +2.1
baz=15,SNR=494
B21A **Ellsworth Farm** 14.64 52 ⇑P Pn 00 31 05.7 -2.0
baz=15,SNR=142
D22A **Cohagen** 14.67 58 ⇓P Pn 00 31 06.9 -1.3
baz=15,SNR=633
G23A **Biddle** 14.68 66 ⇓P Pn 00 31 06.5 -1.9
baz=15,SNR=312
L24A **Wheatland** 14.74 78 ⇑P Pn 00 31 06.7 -2.5
baz=15,SNR=349
F23A **Volborg** 14.78 64 ⇓P Pn 00 31 07.7 -2.0
baz=15,SNR=388
O24A **Longmont** 14.79 86 ⇑P Pn 00 31 09.9 0.0
baz=15,SNR=175
T23A **Casias Ranch,** 14.81 98 ⇑P Pn 00 31 11.8 +1.5
baz=15,SNR=315
K24A **Anderson Ranch** 14.83 76 ⇑P Pn 00 31 08.1 -2.2
baz=15,SNR=140
M24A **Cheyenne** 14.84 80 ⇑P Pn 00 31 09.1 -1.5
baz=15,SNR=296
N24A **Carr** 14.85 83 ⇑P Pn 00 31 09.9 -0.8
baz=15,SNR=429
Q24A **Divide** 14.95 90 ⇓P Pn 00 31 12.1 0.0
baz=15,SNR=367
A21A **Bergtoll Ranch** 14.95 50 ⇑P Pn 00 31 09.9 -2.0
baz=15,SNR=357
U23A **El Rito** 14.95 101 ⇓P Pn 00 31 12.9 +0.9
baz=15,SNR=357
J24A **Dixon Ranch, L** 14.96 73 ⇑P Pn 00 31 10.0 -2.2
baz=15,SNR=280
P24A **Kohler Place,** 15.02 88 ⇓P Pn 00 31 13.8 +0.8
baz=15,SNR=114
I24A **Kuemmerle Ranc** 15.03 71 ⇑P Pn 00 31 11.2 -1.9
baz=15,SNR=345
C22A **Vida** 15.07 56 ⇑P Pn 00 31 11.2 -2.3
baz=15,SNR=95
R24A **Sanders Place,** 15.15 93 ⇓P Pn 00 31 15.5 +0.7
baz=15,SNR=458
V23A **Ortiz Mt. (NFS** 15.19 103 ⇓P Pn 00 31 16.1 +0.8
baz=15,SNR=156
H24A **Dirks Ranch, A** 15.19 68 ⇑P Pn 00 31 12.5 -2.7
baz=15,SNR=1000
B22A **Reddig Ranch S** 15.21 54 ⇑P Pn 00 31 13.5 -1.8
baz=15,SNR=72
S24A **Houchin Ranch,** 15.24 95 ⇑P Pn 00 31 17.5 +1.4
baz=15,SNR=1000
T24B **San Luis** 15.29 97 ⇓P Pn 00 31 18.1 +1.3
baz=15,SNR=398
D23A **Lindsay** 15.31 58 ⇑P Pn 00 31 14.9 -1.8
baz=15,SNR=422
ANMO **Albuquerque** 15.33 106 Pn Pn 00 31 18.9 +1.7
1.9nm,0.3s,baz=306,slow=12,SNR=393
ANMO Lg Lg 00 35 36.4
0.3nm,0.3s,baz=147,slow=13,SNR=3.7
ANMO LR LR 00 37 55.0
comp=Z,163µm,18.6s,baz=300,slow=40
319A **Douglas** 15.37 122 ⇑P Pn 00 31 17.7 +0.1
baz=16,SNR=522
G24A **Alzada** 15.38 66 ⇓P Pn 00 31 15.2 -2.4
baz=16,SNR=183
Y22D **IRIS PASSCAL I** 15.41 110 ⇑P Pn 00 31 20.1 +1.9
baz=16,SNR=68
M25A **Palm-Egli Farm** 15.42 80 ⇓P Pn 00 31 16.3 -2.0
baz=16,SNR=144
N25A **Greer** 15.45 83 ⇓P Pn 00 31 16.8 -1.9
baz=16,SNR=55
L25A **Engebretsen Ra** 15.46 78 ⇑P Pn 00 31 16.8 -1.9
baz=16,SNR=118
W23A **Werner Place,** 15.46 105 ⇓P Pn 00 31 19.5 +0.7
baz=16,SNR=256
F24A **Ekalaka** 15.47 64 ⇑P Pn 00 31 16.4 -2.3
baz=16,SNR=187
O25A **Wiggins** 15.52 85 ⇓P Pn 00 31 18.8 -0.7
baz=16,SNR=354
K25A **Mack Ranch, Ha** 15.52 76 ⇓P Pn 00 31 17.3 -2.2
baz=16,SNR=128
C23A **Lambert** 15.53 56 ⇓P Pn 00 31 17.4 -2.1
baz=16,SNR=707
A22A **Carney Farms,** 15.54 51 ⇑P Pn 00 31 17.8 -1.9
baz=16,SNR=315
P25A **Willow Gulch B** 15.58 88 ⇑P Pn 00 31 20.5 +0.1
baz=16,SNR=395
J25A **Sunshine Ranch** 15.59 73 ⇓P Pn 00 31 17.7 -2.8
baz=16,SNR=234
U24A **Moreno Valley** 15.60 100 ⇓P Pn 00 31 21.7 +0.9
baz=16,SNR=206
Q25A **Bedland, Calha** 15.64 90 ⇑P Pn 00 31 21.3 +0.1
baz=16,SNR=216
121A **Cookes Peak, D** 15.65 116 ⇑P P 00 31 23.2 -2.1
baz=16,SNR=516
I25A **Rochford** 15.69 71 ⇑P Pn 00 31 19.1 -2.6
baz=16
X23A **Hourglass Bar** 15.70 107 ⇓P Pn 00 31 23.0 +1.0
baz=16,SNR=200
E24A **Baker** 15.73 61 ⇑P Pn 00 31 20.2 -2.0
baz=16,SNR=77
R25A **Fountain Ranch** 15.80 93 ⇑P Pn 00 31 23.1 -0.1
baz=16,SNR=584
Z22A **Elephant Butte** 15.81 112 ⇑P Pn 00 31 24.8 +1.5
baz=16,SNR=644
S25A **Robets Cordova** 15.82 94 ⇑P Pn 00 31 24.0 +0.5
baz=16,SNR=756
H25A **Fruitdale** 15.85 69 ⇓P Pn 00 31 21.6 -2.1
baz=16,SNR=463
D24A **Glendive** 15.87 59 ⇑P Pn 00 31 22.4 -1.5
baz=16,SNR=363
V24A **Rampart Ranch,** 15.87 102 ⇓P Pn 00 31 24.8 +0.7
baz=16,SNR=944
320A **Kipp Ranch, An** 15.89 121 ⇓P P 00 31 26.3 -1.6
baz=16,SNR=518
B23A **Brkton** 15.89 54 ⇑P Pn 00 31 21.7 -2.5
baz=16,SNR=1000
C24A **Savage** 15.93 58 ⇓P Pn 00 31 23.5 -1.1
baz=16,SNR=330
221A **Mesquite Ranch** 15.96 117 ⇓P P 00 31 27.5 -1.3
baz=16,SNR=33
W24A **Lazy 6 Ranch,** 15.98 104 ⇑P Pn 00 31 26.3 +0.7
baz=16,SNR=476
T25A **Trinidad** 16.00 96 ⇓P Pn 00 31 27.2 +1.3
baz=16,SNR=1000
K26A **Motz Farm, Whi** 16.03 76 ⇑P Pn 00 31 24.2 -1.9
baz=16,SNR=194
G25A **Newell** 16.06 67 ⇓P Pn 00 31 23.6 -2.7
baz=16,SNR=308
N26A **Koester Ranch,** 16.10 82 ⇓P Pn 00 31 25.7 -1.3
baz=16,SNR=230
M26A **McRoberts Ranc** 16.10 80 ⇓P Pn 00 31 25.0 -2.0
baz=16,SNR=186
Y23A **Lovelace Mesa,** 16.11 109 ⇑P Pn 00 31 28.2 +1.1
baz=16,SNR=976
O26A **Horse Wrangler** 16.11 85 ⇓P Pn 00 31 26.4 -0.7
baz=16,SNR=210
L26A **Underwood Farm** 16.12 78 ⇑P Pn 00 31 25.2 -2.0
baz=16,SNR=47
J26A **Sides Ranch, S** 16.12 74 ⇑P Pn 00 31 24.8 -2.4
baz=16,SNR=1000
A23A **Redstone** 16.15 53 ⇓P Pn 00 31 25.0 -2.5
baz=16,SNR=78
F25A **Bowman** 16.16 64 ⇓P Pn 00 31 25.1 -2.6
baz=16,SNR=111
Q26A **Hugo** 16.19 89 ⇓P Pn 00 31 27.9 -0.3
baz=16,SNR=236
P26A **Davis Ranch, A** 16.20 87 ⇑P Pn 00 31 27.7 -0.5
baz=16,SNR=325
X24A **Lazy VL Ranch,** 16.25 106 ⇓P Pn 00 31 30.1 +1.0
baz=16,SNR=12
U25A **Circle Dot Ran** 16.26 99 ⇓P Pn 00 31 30.1 +1.0
baz=16,SNR=679
V25A **Rancho No Teng** 16.31 101 ⇓P Pn 00 31 30.6 +0.8
baz=16,SNR=770
I26A **New Underwood** 16.32 71 ⇓P Pn 00 31 27.7 -2.0
baz=16,SNR=174
E25A **Miller Ranch,** 16.32 62 ⇑P Pn 00 31 27.9 -1.8
baz=16,SNR=289
Z23A **Rita Site, Whi** 16.32 111 ⇑P P 00 31 32.0 -0.7
baz=16,SNR=381
222A **Wins Famil** 16.37 116 ⇑P P 00 31 31.9 -1.3
baz=16,SNR=42
DGMT **Dagmar** 16.39 55 ⇓P Pn 00 31 28.5 -2.0
baz=16,SNR=247
R26A **Arlington** 16.40 91 ⇑P Pn 00 31 30.5 -0.3
baz=16,SNR=276
H26A **Fairpoint** 16.43 69 ⇓P Pn 00 31 28.6 -2.5
baz=17,SNR=34
D25A **Fairfield** 16.54 60 ⇑P Pn 00 31 30.8 -1.7
baz=17,SNR=118
Y24A **Capitan** 16.56 108 ⇓P P 00 31 34.1 -1.3
baz=17
S26A **Kim** 16.57 94 ⇑P Pn 00 31 32.8 -0.1
baz=17
T26A **Comanche Natio** 16.61 95 ⇑P Pn 00 31 33.5 -0.1
baz=17,SNR=423
N27A **Anderson Farm,** 16.62 82 ⇑P Pn 00 31 32.1 -1.5
baz=17,SNR=244
123A **Bell Site, Whi** 16.64 113 ⇓P P 00 31 35.7 -0.5
baz=17,SNR=46
M27A **Reverse DX Ran** 16.66 80 ⇑P Pn 00 31 32.5 -1.7
baz=17,SNR=89
A24A **Westby** 16.67 53 ⇑P Pn 00 31 32.1 -2.0
baz=17,SNR=261
W25A **X Bar L Ranch,** 16.68 103 ⇑P Pn 00 31 34.3 -0.2
baz=17,SNR=132
F26A **Lodgepole** 16.68 65 ⇑P Pn 00 31 32.2 -2.1
baz=17,SNR=150
L27A **T5 Ranch, Ells** 16.68 78 ⇑P Pn 00 31 32.4 -2.1
baz=17,SNR=340
K27A **Flueckinger Fa** 16.73 76 ⇓P Pn 00 31 32.7 -2.2
baz=17,SNR=436
C25A **Freed Ranch, W** 16.73 58 ⇑P Pn 00 31 33.6 -1.3
baz=17,SNR=223
O27A **Beecher Island** 16.75 84 ⇑P Pn 00 31 33.9 -1.4
baz=17,SNR=205
U26A **Atchley Ranch,** 16.76 98 ⇓P Pn 00 31 35.6 +0.1
baz=17,SNR=583
P27A **Ficken Ranch,** 16.78 87 ⇓P Pn 00 31 34.3 -1.4
baz=17,SNR=302
X25A **Clemmons Ranch** 16.84 105 ⇑P Pn 00 31 36.6 +0.2
baz=17,SNR=128
KSCO **Kaye Shedlock'** 16.85 89 ⇓P Pn 00 31 36.1 -0.5
baz=17,SNR=609
223A **Chaparral, Ant** 16.89 115 ⇓P P 00 31 38.8 -0.2
baz=17,SNR=20
R27A **Eads** 16.89 91 ⇑P Pn 00 31 36.4 -0.7
baz=17,SNR=807
J27A **Elkhorn Farm,** 16.90 74 ⇑P Pn 00 31 35.0 -2.1
baz=17,SNR=285
I27A **Quinn** 16.90 71 ⇑P Pn 00 31 34.2 -2.9
baz=17,SNR=304
Z24A **Sheeppen Canyo** 16.91 110 ⇑P P 00 31 38.7 -0.6
baz=17,SNR=258
H27A **Howes** 16.93 69 ⇑P Pn 00 31 34.5 -2.9
baz=17,SNR=633
E26A **Carlson Angus** 16.95 63 ⇓P Pn 00 31 35.3 -2.3
baz=17,SNR=139
V26A **Tequesquite Ra** 16.95 100 ⇑P Pn 00 31 38.0 +0.1
baz=17,SNR=92
B25A **Knox Farm, Ray** 16.97 56 ⇑P Pn 00 31 35.7 -2.2
baz=17,SNR=153
S27A **Las Animas** 16.98 93 ⇑P Pn 00 31 37.7 -0.5
baz=17,SNR=14
OGNE **Ogallala** 16.98 82 ⇑P Pn 00 31 36.1 -2.1
baz=17,SNR=180
D26A **Manning** 17.09 61 ⇑P Pn 00 31 36.5 -2.9
baz=17,SNR=198
Y25A **Mesa, Roswell** 17.10 107 ⇓P Pn 00 31 39.3 -0.4
baz=17,SNR=393
G27A **Dupree** 17.12 67 ⇑P Pn 00 31 37.2 -2.6
baz=17,SNR=460
F27A **Lemmon** 17.14 65 ⇑P Pn 00 31 37.0 -3.0
baz=17,SNR=439
124A **Stringfield Ra** 17.18 112 ⇓P P 00 31 41.8 -0.5
baz=17,SNR=211
A25A **Svangstu Ranch** 17.22 54 ⇓P Pn 00 31 38.7 -2.4
baz=17,SNR=140
W26A **Owens Ranch, T** 17.25 102 ⇑P Pn 00 31 41.3 -0.3
baz=17,SNR=94
L28A **Connealy Angus** 17.28 78 ⇓P Pn 00 31 40.0 -1.9
baz=17,SNR=73
O28A **Krutsinger Ran** 17.29 84 ⇑P Pn 00 31 40.2 -1.9
baz=17,SNR=947
T27A **Campo** 17.31 95 ⇓P Pn 00 31 41.5 -0.7
baz=17,SNR=182
K28A **Ten Mile Ranch** 17.37 76 ⇓P Pn 00 31 40.5 -2.4
baz=18
N28A **Pribbeno Ranch** 17.39 82 ⇓P Pn 00 31 41.2 -2.0
baz=18,SNR=189
Z25A **Roswell** 17.40 109 ⇓P P 00 31 44.2 -0.5
baz=18,SNR=415
P28A **Saint Francis** 17.40 86 ⇓P Pn 00 31 41.7 -1.7
baz=18,SNR=1000
M28A **Bar X Bar Ranc** 17.44 80 ⇑P Pn 00 31 41.8 -2.1
baz=18,SNR=132
U27A **Thompson Grove** 17.44 97 ⇓P Pn 00 31 43.3 -0.7
baz=18,SNR=255
Q28A **Sharon Springs** 17.45 88 ⇑P Pn 00 31 42.8 -1.2
baz=18,SNR=374
X26A **CR and CF Fran** 17.45 104 ⇑P Pn 00 31 43.5 -0.6
baz=18,SNR=93
J28A **Allard Ranch,** 17.46 73 ⇑P Pn 00 31 41.5 -2.6
baz=18,SNR=424
224A **Cornudas Mount** 17.48 113 ⇑P P 00 31 46.0 +0.5
baz=18,SNR=321
C26A **Wahner Farm, P** 17.52 58 ⇓P Pn 00 31 42.4 -2.4
baz=18,SNR=442
I28A **Midland** 17.53 71 ⇓P Pn 00 31 41.9 -3.1
baz=18,SNR=325
E27A **Carson** 17.55 63 ⇓P Pn 00 31 42.2 -2.9
baz=18,SNR=177
B26A **Jensen Ranch,** 17.59 57 ⇓P Pn 00 31 42.9 -2.7
baz=18,SNR=48
R28A **Tribune** 17.63 90 ⇓P Pn 00 31 44.4 -1.8
baz=18,SNR=1000
V27A **Dan Oppiter Fa** 17.68 99 ⇑P Pn 00 31 46.4 -0.5
baz=18,SNR=172
H28A **Mission Ridge** 17.68 69 ⇓P Pn 00 31 44.0 -2.8
baz=18,SNR=241
D27A **Center** 17.71 61 ⇓P Pn 00 31 44.3 -2.9
baz=18,SNR=105
Y26A **Elida** 17.73 106 ⇓P Pn 00 31 47.3 -0.3
baz=18,SNR=157
T28A **Walsh** 17.75 94 ⇓P Pn 00 31 47.1 -0.7
baz=18,SNR=279
125A **Gardner Draw,** 17.77 110 P P 00 31 49.2 +0.5
baz=18
S28A **Manter** 17.77 93 ⇓P Pn 00 31 47.0 -1.0
baz=18,SNR=441
W27A **Bowe Ranch, En** 17.79 101 ⇓P Pn 00 31 46.8 -1.5
baz=18,SNR=95
G28A **Parade** 17.80 68 ⇑P Pn 00 31 45.7 -2.5
baz=18,SNR=229
324A **Moseley Ranch,** 17.87 115 ⇑P P 00 31 50.4 +0.5
baz=18,SNR=139
C27A **Sayler Ranch,** 17.87 59 ⇓P Pn 00 31 46.8 -2.3
baz=18,SNR=584
A26A **Wade Farm, Ken** 17.88 55 ⇑P Pn 00 31 46.2 -2.9
baz=18,SNR=106
U28A **Mallet** 17.91 97 ⇑P Pn 00 31 48.6 -1.2
baz=18,SNR=86
Z26A **Caprock** 17.93 108 ⇓P Pn 00 31 49.5 -0.6
baz=18,SNR=423
X27A **F and S Farms,** 17.94 103 ⇑P Pn 00 31 49.0 -1.1
baz=18,SNR=67
M29A **Burnside Ranch** 17.94 80 ⇑P Pn 00 31 47.7 -2.4
baz=18,SNR=13
225A **Deer Hill, Car** 17.95 112 ⇓P P 00 31 51.3 +0.5
baz=18,SNR=82
F28A **McLaughlin** 17.97 65 ⇓P Pn 00 31 48.0 -2.3
baz=18,SNR=106
P29A **Atwood** 18.02 86 ⇑P Pn 00 31 49.3 -1.7
baz=18,SNR=997
O29A **4D Ranch, Culb** 18.03 84 ⇑P Pn 00 31 49.3 -1.9
baz=18,SNR=499
L29A **Maesberg Ranch** 18.05 78 ⇓P Pn 00 31 49.5 -1.9
baz=18,SNR=319
N29A **Votaw Ranch, W** 18.06 82 ⇓P Pn 00 31 49.3 -2.2
baz=18,SNR=109
R29A **Marienthal** 18.12 90 ⇓P Pn 00 31 50.9 -1.4
baz=18,SNR=558
J29A **Okreek** 18.13 73 ⇑P Pn 00 31 49.7 -2.6
baz=18,SNR=521
Q29A **Oakley** 18.13 88 ⇑P Pn 00 31 50.2 -2.2
baz=18,SNR=1000
K29A **Lazy Trails An** 18.14 75 ⇑P Pn 00 31 50.0 -2.4
baz=18,SNR=329
DLBC **Dease Lake** 18.14 351 P P 00 31 55.3 +2.7
1.4nm,0.3s,baz=179,slow=9.4,SNR=150
DLBC S S 00 35 29.6 +10
0.0nm,0.3s,baz=128,slow=18,SNR=1.5
V28A **Channing** 18.14 99 ⇓P Pn 00 31 51.5 -1.1
baz=18,SNR=171
I29A **Vivian Onida** 18.16 71 ⇑P Pn 00 31 49.5 -3.1
baz=18,SNR=439
E28A **Huff** 18.16 63 ⇓P Pn 00 31 50.0 -2.7
baz=18,SNR=118
B27A **Peters Farms,** 18.22 57 ⇑P Pn 00 31 50.6 -2.7
baz=18,SNR=37
126A **Clayton Basin,** 18.23 110 ⇓P Pn 00 31 53.4 -0.2
baz=18,SNR=119
Y27A **Causey** 18.23 105 ⇑P Pn 00 31 52.6 -1.2
baz=18,SNR=232
H29A **Onida** 18.26 69 ⇑P Pn 00 31 50.7 -3.1
baz=18,SNR=139
325A **Bean Ranch, Si** 18.26 114 ⇑P P 00 31 54.5 +0.2
baz=18,SNR=400
W28A **Vega** 18.35 100 ⇑P P 00 31 53.2 -1.9
baz=18,SNR=14
S29A **Ulysses** 18.35 92 ⇑P P 00 31 53.0 -2.1
baz=18,SNR=334
T29A **Hugoton** 18.36 94 ⇑P P 00 31 53.9 -1.3
baz=18,SNR=399
D28A **Regan** 18.37 61 ⇑P P 00 31 53.0 -2.1
baz=18,SNR=29
226B **Tecolote Peak,** 18.43 111 ⇑P Pn 00 31 56.5 +0.4
baz=19,SNR=246
N30A **Hueftle Ranch,** 18.46 82 ⇑P P 00 31 53.8 -2.4
baz=19,SNR=94
Z27A **Tatum** 18.47 107 ⇑P P 00 31 55.5 -0.9
baz=19,SNR=277
MSTX **Muleshoe** 18.48 104 ⇑P P 00 31 54.2 -2.4
baz=19,SNR=89
G29A **Hoven** 18.51 68 ⇑P P 00 31 52.9 -3.8
baz=19,SNR=60
M30A **Dale-Ortello V** 18.55 79 ⇑P P 00 31 54.3 -2.9
baz=19,SNR=260
P30A **Selden** 18.55 86 ⇓P P 00 31 54.4 -2.8
baz=19,SNR=527
O30A **MW Ranch, Wils** 18.58 84 ⇑P P 00 31 54.7 -2.8
baz=19,SNR=308
425A **Indio Mountain** 18.60 116 ⇓P Pn 00 31 57.9 -0.3
baz=19,SNR=300
C28A **Hausauer Farms** 18.61 60 ⇑P P 00 31 55.5 -2.2
baz=19,SNR=65
U29A **Oasis Ranch, S** 18.61 96 ⇑P P 00 31 56.1 -1.8
baz=19,SNR=41
L30A **Spencer Herefo** 18.62 78 ⇓P P 00 31 55.6 -2.4
baz=19,SNR=286

V29A **Stinnett** 18.62 98 ⇓P P 00 31 55.8 -2.3
baz=19,SNR=101
F29A **Eureka** 18.65 66 ⇓P P 00 31 54.4 -3.8
baz=19,SNR=46
K30A **Basset** 18.66 76 ⇑P P 00 31 55.7 -2.7
baz=19,SNR=293
X28A **Dimmitt** 18.66 102 ⇓P P 00 31 57.0 -1.5
baz=19,SNR=40
127A **Arkansas Junct** 18.69 109 ⇑P P 00 31 57.7 -1.1
baz=19,SNR=102
Q30A **Quinter** 18.69 87 ⇓P P 00 31 56.7 -2.1
baz=19,SNR=1000
J30A **Dallas** 18.73 74 ⇑P P 00 31 55.9 -3.3
baz=19,SNR=259
B28A **Dugan Ranch, T** 18.80 58 ⇑P P 00 31 57.9 -2.0
baz=19,SNR=322
R30A **Dighton** 18.81 89 ⇓P P 00 31 58.3 -1.8
baz=19,SNR=981
W29A **Amarillo** 18.82 100 ⇑P P 00 31 58.5 -1.8
baz=19,SNR=27
S30A **Montezuma** 18.85 91 ⇓P P 00 31 58.7 -1.8
baz=19,SNR=798
E29A **Napoleon** 18.88 64 ⇑P P 00 31 57.4 -3.4
baz=19,SNR=25
AMTX **Amarillo** 18.89 100 ⇑P P 00 31 58.8 -2.3
baz=19
Y28A **McKinney Farm,** 18.90 104 ⇑P P 00 31 59.2 -1.9
baz=19,SNR=6.4
T30A **Plains** 18.97 93 ⇓P P 00 32 00.2 -1.7
baz=19,SNR=121
326A **Caldwell Ranch** 18.99 113 ⇑P P 00 32 01.8 -0.3
baz=19,SNR=186
A28A **Rude Farm, Bot** 18.99 56 ⇑P P 00 31 59.9 -2.1
baz=19,SNR=172
D29A **Pettibone, Tap** 19.00 62 ⇓P P 00 31 59.1 -2.9
baz=19,SNR=57
U30A **WK&E Inc. Balk** 19.05 95 ⇑P P 00 32 00.8 -1.9
baz=19,SNR=416
G30A **Faulkton** 19.05 68 ⇑P P 00 31 59.3 -3.4
baz=19,SNR=369
X29A **Tulia** 19.06 102 ⇑P P 00 32 00.9 -2.0
baz=19,SNR=178
227A **Bennet, Jal** 19.09 110 ⇓P Pn 00 32 03.4 -0.6
baz=19,SNR=105
Z28A **Tucker Farm, M** 19.09 106 ⇑P P 00 32 01.7 -1.5
baz=19,SNR=237
O31A **Woolen Ranch,** 19.14 83 ⇑P P 00 32 02.2 -1.5
baz=19,SNR=345
BRSD **Miller** 19.14 70 ⇓P P 00 32 00.8 -2.8
baz=19
MDND **Maddock** 19.15 60 ⇑P P 00 32 02.0 -1.7
baz=19,SNR=193
F30A **Leola** 19.20 66 ⇑P P 00 32 01.1 -3.2
baz=19,SNR=12
P31A **Stockton** 19.21 85 ⇑P P 00 32 01.8 -2.7
baz=19,SNR=655
M31A **Lambtecht Ranc** 19.23 80 ⇓P P 00 32 01.9 -2.8
baz=19,SNR=434
L31A **Butterfield Fa** 19.26 77 ⇑P P 00 32 02.2 -2.8
baz=19,SNR=95
V30A **Spur Ranch, Mi** 19.29 97 ⇑P P 00 32 03.6 -1.8
baz=19,SNR=321
327A **Balmorhea Ranc** 19.30 112 ⇓P P 00 32 05.8 +0.3
baz=19,SNR=11
Q31A **Ellis** 19.31 87 ⇑P P 00 32 03.2 -2.4
baz=19,SNR=424
N31A **Bailey Ranch,** 19.32 81 ⇓P P 00 32 03.1 -2.5
baz=19,SNR=48
426A **McDonald Obser** 19.33 115 ⇑P P 00 32 05.9 -0.1
baz=20,SNR=402
Y29A **Porterfield Fa** 19.34 103 ⇓P P 00 32 04.1 -1.9
baz=20,SNR=337
128A **Castleberry Fa** 19.35 108 ⇑P P 00 32 04.8 -1.2
baz=20,SNR=274
E30A **Jud** 19.37 64 ⇑P P 00 32 03.5 -2.6
baz=20,SNR=29
R31A **Burdett** 19.38 89 ⇑P P 00 32 04.8 -1.6
baz=20,SNR=1000
B29A **Wagenman Farm,** 19.46 58 ⇑P P 00 32 05.7 -1.3
baz=20,SNR=120
228A **UT Block 9, Go** 19.53 109 ⇑P P 00 32 06.9 -1.1
baz=20,SNR=268
D30A **Buchanan** 19.57 62 ⇓P P 00 32 06.6 -1.6
baz=20,SNR=886
S31A **Mullinville** 19.60 91 ⇓P P 00 32 06.2 -2.5
baz=20,SNR=474
Z29A **Hungry Hill Ra** 19.60 105 ⇓P P 00 32 06.5 -2.3
baz=20,SNR=314
W30A **Crocket Farms** 19.60 99 ⇑P P 00 32 07.0 -1.8
baz=20,SNR=19
T31A **Randall Ranch,** 19.61 92 ⇑P P 00 32 06.7 -2.1
baz=20,SNR=480
A29A **Manning Farm,** 19.65 57 ⇑P P 00 32 07.6 -1.6
baz=20,SNR=404
526A **Mary Lane Ranc** 19.66 116 ⇑P P 00 32 09.9 +0.4
baz=20,SNR=401
427A **Hayter Ranch,** 19.66 113 ⇓P P 00 32 09.4 -0.1
baz=20,SNR=189
X30A **Coker Ranch, T** 19.68 101 ⇑P P 00 32 07.4 -2.3
baz=20,SNR=93
U31A **Nine Bar Ranch** 19.71 95 ⇓P P 00 32 08.1 -1.8
baz=20,SNR=215
328A **Wristen Ranch,** 19.77 111 ⇓P P 00 32 09.6 -1.1
baz=20,SNR=99
P32A **Huiting Farm,** 19.78 85 ⇓P P 00 32 07.9 -2.8
baz=20,SNR=297
129A **Stewart Farms,** 19.79 107 ⇓P P 00 32 09.4 -1.5
baz=20,SNR=40
N32A **Stulken Farm,** 19.82 81 ⇓P P 00 32 08.3 -2.8
baz=20,SNR=71
BGNE **Belgrade** 19.84 79 ⇑P P 00 32 08.2 -3.2
baz=20,SNR=112
C30A **Mose, Pekin** 19.86 61 ⇑P P 00 32 10.1 -1.4
baz=20,SNR=118
Y30A **Stafford Cattl** 19.91 102 ⇓P P 00 32 10.4 -1.8
baz=20,SNR=67
O32A **Brockman Farm,** 19.91 83 ⇑P P 00 32 09.1 -3.0
baz=20,SNR=108
V31A **Spring Creek L** 19.93 96 ⇓P P 00 32 10.5 -1.8
baz=20,SNR=149
527A **Woodward Ranch** 19.93 115 ⇑P P 00 32 12.1 -0.4
baz=20,SNR=731
626A **Big Bend Ranch** 19.94 117 ⇑P P 00 32 12.6 0.0
baz=20,SNR=479
Q32A **Meitler Ranch,** 19.95 86 ⇓P P 00 32 10.3 -2.2
baz=20,SNR=326
R32A **Long Quarter,** 19.97 88 ⇓P P 00 32 10.7 -2.0
baz=20,SNR=1000
S32A **Newby Ranch, P** 19.99 90 ⇓P P 00 32 10.5 -2.5
baz=20,SNR=435
Z30A **Sanderson Ranc** 20.01 104 ⇓P P 00 32 11.4 -1.9
baz=20,SNR=86
W31A **Holland Ranch,** 20.08 98 ⇓P P 00 32 11.8 -2.2
baz=20,SNR=109
B30A **Myrvik Farm, E** 20.12 59 ⇑P P 00 32 12.3 -1.9
baz=20,SNR=446
T32A **Hudler Ranch,** 20.15 92 ⇓P P 00 32 12.0 -2.7
baz=20,SNR=344
229A **Bryant Ranch,** 20.17 108 ⇓P P 00 32 14.1 -1.0
baz=20,SNR=110
428A **Kincaid Ranch,** 20.23 112 ⇓P P 00 32 15.9 +0.1
baz=20,SNR=385
A30A **Hoffart Farm,** 20.25 57 ⇑P P 00 32 13.5 -2.2
baz=20,SNR=160
X31A **McDonald Ranch** 20.27 99 ⇓P P 00 32 14.0 -2.0
baz=20,SNR=70
329A **Wagon Wheel Ra** 20.31 110 ⇓P P 00 32 16.1 -0.4
baz=20,SNR=253
LPIG **La Paz** 20.34 140 eP Pn 00 32 19.5 +0.6
LPIG **La Paz** 20.34 140 P Pn 00 32 19.5 +0.5
305nm,1.1s,baz=69,slow=1.3,SNR=15
LPIG LR LR 00 39 57.2
comp=Z,77µm,20.5s,baz=336,slow=36
Y31A **Rekieta Farm,** 20.35 101 ⇑P P 00 32 14.9 -2.0
baz=20,SNR=165
U32A **Winter Ranch,** 20.35 94 ⇑P P 00 32 14.6 -2.3
baz=20,SNR=128
DHAK **Deception Hill** 20.39 339 eP P 00 32 18.2 +1.1
6µm,1.6s
DHAK LR LR
comp=Z,30µm,21.3s
TX31 **Lajitas Ar. Si** 20.39 117 eP P 00 32 16.7 -0.8
LTX **Lajitas** 20.40 117 eP Pn 00 32 19.0 -0.7
LTX **Lajitas** 20.40 117 eP Pn 00 32 19.0 -0.7
LTX eScP ScP 00 40 13.5 +8.7
TXAR **Lajitas Array** 20.40 117 P Pn 00 32 19.0 -0.7
comp=Z,304nm,0.8s,baz=299,slow=8.5,SNR=500
TXAR LR LR 00 40 13.5
comp=Z,72µm,20.6s,baz=0.0,slow=37
130A **Snyder** 20.47 106 ⇑P P 00 32 16.6 -1.6
baz=21,SNR=81
Q33A **Connelly Farm,** 20.50 86 ⇓P P 00 32 15.6 -2.9
baz=21,SNR=548
P33A **Williams Farm,** 20.51 85 ⇑P P 00 32 15.7 -2.9
baz=21,SNR=152
627A **Terlingua Ranc** 20.51 116 ⇓P P 00 32 19.5 +0.8
baz=21
FFC **Flin Flon** 20.54 39 P P 00 32 17.3 -1.4
comp=Z,6µm,1.2s
R33A **Olander Ranch,** 20.55 88 ⇓P P 00 32 16.7 -2.4
baz=21,SNR=839
V32A **Arapaho** 20.55 96 ⇓P P 00 32 16.1 -2.9
baz=21,SNR=92
W32A **Sentinel** 20.63 97 ⇓P P 00 32 18.1 -1.8
baz=21,SNR=35
T33A **Patterson Ranc** 20.70 91 ⇓P P 00 32 17.8 -2.8
baz=21,SNR=362
230A **Sterling City** 20.72 108 ⇓P P 00 32 19.3 -1.7
baz=21,SNR=381
Z31A **Sharp Cattle R** 20.73 103 ⇓P P 00 32 18.7 -2.2
baz=21,SNR=103
S33A **Kaszmaul Farm,** 20.73 90 ⇓P P 00 32 18.2 -2.8
baz=21,SNR=267
ECSD **EROS Data Cent** 20.82 72 ⇑P P 00 32 18.0 -4.0
baz=21,SNR=268
628A **Black Gap, Mar** 20.83 116 ⇓P P 00 32 22.7 +0.6
baz=21,SNR=784
429A **Davenport Ranc** 20.85 112 ⇓P P 00 32 20.9 -1.5
baz=21,SNR=322
131A **Roby** 20.85 105 ⇑P P 00 32 20.4 -2.0
baz=21,SNR=106
X32A **Elmer** 20.88 99 ⇑P P 00 32 20.8 -1.8
baz=21,SNR=57
529A **Stev Forest Ra** 20.91 113 ⇓P P 00 32 23.2 +0.2
baz=21,SNR=1000
330A **Mertzon** 20.93 109 ⇓P P 00 32 21.7 -1.5
baz=21,SNR=311
Y32A **R-V Farms, Ver** 20.94 101 ⇑P P 00 32 21.0 -2.3
baz=21,SNR=63
U33A **Lingo Farm, Me** 21.01 93 ⇓P P 00 32 21.3 -2.7
baz=21
V33A **Lossen Ranch,** 21.09 95 ⇑P P 00 32 22.7 -2.2
baz=21,SNR=182
WMOK **Wichita Mounta** 21.13 98 PFAKE 00 32 40.0 +15
WMOK LR LR
comp=Z,193µm,18.0s
W33A **Caddo, Fort Co** 21.20 97 ⇑P P 00 32 23.8 -2.3
baz=21,SNR=161
Z32A **Haskell** 21.23 102 ⇑P P 00 32 23.6 -2.7
baz=21,SNR=214
430A **Baggett Ranch,** 21.23 110 ⇑P P 00 32 25.6 -0.9
baz=21,SNR=781
231A **Bronte** 21.27 107 ⇓P P 00 32 25.1 -1.8
baz=21,SNR=414
KSU1 **Kansas State U** 21.40 85 PFAKE 00 32 40.0 +12
KSU1 LR LR
comp=Z,140µm,20.0s
KSU1 **Kansas State U** 21.40 85 ⇑P P 00 32 25.9 -2.3
baz=22,SNR=248
X33A **Lawton** 21.42 98 ⇓P P 00 32 26.0 -2.5
baz=22,SNR=40
ABTX **Abbe, Hawle** 21.43 104 ⇓P P 00 32 26.5 -2.0
baz=22,SNR=202
U34A **Anderson Ranch** 21.45 93 ⇑P P 00 32 26.0 -2.7
baz=22,SNR=460
530A **J-C Ranch, Com** 21.52 112 ⇑P P 00 32 29.2 -0.3
baz=22,SNR=370
331A **San Angelo** 21.52 108 ⇓P P 00 32 28.1 -1.5
baz=22,SNR=394
Y33A **Hilltop Ranch,** 21.55 100 ⇓P P 00 32 27.4 -2.4
baz=22,SNR=218
V34A **Guthrie** 21.67 94 ⇓P P 00 32 28.3 -2.8
baz=22,SNR=104
W34A **Bridge Creek,** 21.70 96 ⇑P P 00 32 29.0 -2.4
baz=22,SNR=103
AGMN **Agassiz Nation** 21.70 60 ⇑P P 00 32 29.0 -2.3
baz=22,SNR=563
431A **Sonora** 21.73 110 ⇓P P 00 32 30.5 -1.4
baz=22,SNR=1000
Z33A **Whitaker Ranch** 21.77 102 ⇓P P 00 32 29.0 -3.1
baz=22,SNR=78
232A **Coleman** 21.79 106 ⇑P P 00 32 30.4 -2.0
baz=22,SNR=418
X34A **Smith Ranch, M** 21.90 97 ⇓P P 00 32 30.4 -3.2
baz=22,SNR=196
133A **Hamilton Ranch** 21.97 103 ⇓P P 00 32 32.2 -2.1
baz=22,SNR=184
332A **Millersview** 21.98 107 ⇓P P 00 32 32.7 -1.7
baz=22
531A **Rocksprings** 22.07 111 ⇑P P 00 32 35.0 -0.5
baz=22,SNR=1000
ULM **Lac du Bonnet** 22.11 55 P P 00 32 32.9 -2.7
comp=Z,418nm,0.8s,baz=260,slow=10.0,SNR=239
ULM LR LR 00 41 41.4
comp=Z,44µm,20.7s,baz=258,slow=38
432A **Menard** 22.21 108 ⇓P P 00 32 35.5 -1.5
baz=22,SNR=302
Y34A **Reagan Ranch,** 22.22 99 ⇓P P 00 32 33.9 -3.2
baz=22,SNR=140
233A **Rising Star** 22.27 105 ⇑P P 00 32 35.2 -2.4
baz=22,SNR=179
Z34A **Collier Ranch,** 22.36 101 ⇑P P 00 32 35.5 -3.1
baz=22,SNR=50
JCT **Junction City** 22.42 109 ⇓P P 00 32 37.7 -1.5
baz=23
631A **Perdido Creek** 22.48 112 ⇑P P 00 32 38.9 -1.0
baz=23,SNR=974
532A **Rocksprings** 22.55 110 ⇑P P 00 32 39.3 -1.3
baz=23,SNR=1000
333A **Richland Sprin** 22.56 106 ⇓P P 00 32 38.4 -2.3
baz=23,SNR=297
134A **White-Moore Ra** 22.61 103 ⇑P P 00 32 38.6 -2.6
baz=23,SNR=164
YKA **Yellowknife Ar** 22.65 12 P P 00 32 41.2 -0.1
comp=Z,188nm,0.9s,baz=197,slow=11,SNR=601
YKB5 **Yellowknife Ar** 22.65 12 eP P 00 32 38.5 -2.8
433A **Art** 22.79 108 ⇑P P 00 32 41.1 -2.0
baz=23,SNR=1000
234A **Clairette** 22.84 104 ⇓P P 00 32 40.7 -2.9
baz=23,SNR=331
Z35A **Perchaven, San** 22.88 100 ⇓P P 00 32 40.5 -3.4
baz=23,SNR=127
TUL1 **Tulsa** 22.95 93 ⇑P P 00 32 41.4 -3.4
baz=23,SNR=74
632A **Uvalde** 22.98 111 ⇑P P 00 32 44.6 -0.6
baz=23,SNR=1000
334A **Lometa** 23.10 105 ⇑P P 00 32 43.6 -2.7
baz=23,SNR=178
135A **Vickery Place,** 23.11 102 ⇓P P 00 32 43.9 -2.5
baz=23,SNR=81
533A **Kerrville** 23.20 109 ⇑P P 00 32 45.9 -1.4
baz=23,SNR=684
732A **Laxson Ranch,** 23.32 113 ⇓P P 00 32 47.8 -0.7
baz=23,SNR=814
WHTX **Lake Whitney** 23.35 103 ⇓P P 00 32 46.4 -2.4
baz=24,SNR=186
434A **Burnet** 23.35 107 ⇑P P 00 32 46.5 -2.4
baz=24,SNR=1000
RAGM **Ragged Mountai** 23.37 334 eP P 00 32 51.0 +2.2
comp=Z,2µm,1.4s
RAGM LR LR
comp=Z,41µm,20.6s
633A **Saathoff Ranch** 23.45 111 ⇓P P 00 32 48.6 -1.2
baz=24,SNR=58
SPMN **St. Paul** 23.54 68 ⇑P P 00 32 47.2 -3.3
baz=24,SNR=144
832A **Faith Ranch, C** 23.58 114 ⇓P P 00 32 49.4 -1.7
baz=24,SNR=1000
534A **Blanco** 23.63 109 ⇑P P 00 32 50.1 -1.5
baz=24,SNR=1000
335A **Moody** 23.73 105 ⇑P P 00 32 50.5 -2.0
baz=24,SNR=431
733A **Divot King Ran** 23.80 112 ⇑P P 00 32 52.9 -0.2
baz=24,SNR=231
833A **Chaparral WMA,** 23.96 113 ⇓P P 00 32 54.6 -0.2
baz=24,SNR=258
634A **China Grove, S** 24.08 110 ⇑P P 00 32 55.0 -0.8
baz=24,SNR=72
734A **La Parita Cree** 24.24 111 ⇑P P 00 32 57.0 -0.3
baz=24,SNR=107
535A **Dale** 24.28 107 ⇑P P 00 32 56.3 -1.4
baz=24,SNR=143
933A **Laredo** 24.48 114 P P 00 33 00.6 +1.0
baz=25
635A **Leesville** 24.49 109 ⇓P P 00 32 59.2 -0.4
baz=25,SNR=98
EYMN **Ely** 24.55 62 PFAKE 00 33 10.0 +10
EYMN LR LR
comp=Z,192µm,19.0s
834A **Tilden** 24.67 112 ⇑P P 00 33 02.6 +1.3
baz=25,SNR=473
735A **Kenedy** 24.77 110 ⇓P P 00 33 03.4 +1.3
baz=25,SNR=151
KDAK **Kodiak Island** 24.83 323 P P 00 33 04.4 +2.0
comp=Z,734nm,1.3s,SNR=7.3
KDAK **Kodiak Island** 24.83 323 PFAKE 00 33 10.0 +7.6
KDAK LR LR
comp=Z,40µm,22.0s
934A **Benavides** 25.02 113 ⇑P P 00 33 06.6 +2.2
baz=25,SNR=51
835A **Beeville** 25.09 111 ⇓P P 00 33 07.1 +2.1
baz=25,SNR=329
MIAR **Mount Ida** 25.14 94 PFAKE 00 33 10.0 +4.5
MIAR LR LR
comp=Z,141µm,21.0s
034A **Hebbronville** 25.23 115 P P 00 33 08.5 +2.2
baz=25
JFWS **Jewell Farm** 25.51 74 PFAKE 00 33 20.0 +11
JFWS LR LR
comp=Z,83µm,22.0s
NATX **Nacogdoches** 25.54 101 PFAKE 00 33 20.0 +11
NATX LR LR
comp=Z,227µm,19.0s
HKT **Hockley** 25.59 106 ciP P 00 33 10.1 +0.6
HKT pmax pmax
comp=Z,3µm,1.7s
HKT MLR MLR
comp=Z,143µm,17.0s
HKT **Hockley** 25.59 106 PFAKE 00 33 20.0 +11
HKT LR LR
comp=Z,142µm,18.0s
EGAK **Eagle** 26.01 344 PFAKE 00 33 20.0 +7.0
EGAK LR LR
comp=Z,39µm,20.0s
035Z **Hargill** 26.04 115 P P 00 33 15.1 +1.5
baz=26
SPU **Mount Spurr** 26.55 330 eP P 00 33 16.6 -1.5
IL1 **Eielson Array** 27.39 339 eP P 00 33 25.8 +0.3
IL1 ePcP PcP 00 36 45.1 +1.2
ILAR **Eielson Array** 27.39 339 P P 00 33 26.4 +0.9
comp=Z,24nm,0.6s,baz=152,slow=8.6,SNR=117
ILB **Eielson Array** 27.39 339 eP P 00 33 26.4 +0.9
COLA **College** 27.74 339 deP P 00 33 28.8 +0.3
COLA pmax pmax
comp=Z,1µm,2.5s
COLA MLR MLR
comp=Z,106µm,18.0s
SDPT **Sand Point** 27.84 314 PFAKE 00 33 40.0 +10
SDPT LR LR
comp=Z,23µm,21.7s
SVW2 **Sparrevohn** 27.90 328 eP P 00 33 30.5 +0.4
comp=Z,142nm,1.1s
SVW2 LR LR
comp=Z,17µm,20.1s
CAST **Castle Rocks** 28.00 334 eP P 00 33 31.6 +0.6
comp=Z,736nm,1.9s
CAST LR LR
comp=Z,17µm,20.0s
INK **Inuvik** 28.13 353 P P 00 33 32.5 +0.5
comp=Z,100nm,1.1s,baz=166,slow=10.0,SNR=53
INK LR LR 00 45 46.1
comp=Z,104µm,20.1s,baz=166,slow=39
SFIN **Scholer Farm** 28.27 78 ⇓P P 00 33 32.5 -1.1
baz=28,SNR=111
WVT **Waverly** 28.93 87 PFAKE 00 33 50.0 +10
WVT LR LR
comp=Z,96µm,21.0s
FALS **False Pass** 29.35 312 PFAKE 00 33 50.0 +7.0
FALS LR LR
comp=Z,33µm,22.0s
WCI **Wyandotte Cave** 29.43 82 PFAKE 00 33 50.0 +6.1
WCI LR LR
comp=Z,65µm,22.0s
AAM **Ann Arbor** 30.41 73 PFAKE 00 34 00.0 +7.4
AAM LR LR
comp=Z,76µm,19.0s
AKUT **Akutan** 30.56 310 PFAKE 00 34 00.0 +6.3
AKUT LR LR
comp=Z,14µm,20.6s
ACSO **Alum Creek Sta** 31.36 77 PFAKE 00 34 10.0 +9.0
ACSO LR LR
comp=Z,107µm,18.0s
BRAL **Brewton** 31.62 96 PFAKE 00 34 10.0 +6.7
BRAL LR LR
comp=Z,96µm,19.0s
TZTN **Tazewell** 32.03 84 eP P 00 34 05.4 -1.6
comp=Z,2µm,1.4s
TZTN LR LR
comp=Z,68µm,21.0s
ERPA **Erie** 33.12 73 PFAKE 00 34 30.0 +14
ERPA LR LR
comp=Z,81µm,20.0s
HLK **Haleakala** 33.50 243 eP P 00 34 19.2 -1.0
HKL **Haleakala** 33.54 243 eP P 00 34 21.7 +1.0
HKL **Haleakala** 33.54 243 eP P 00 34 21.7 +1.0
SPIA **Saint Paul Isl** 33.56 315 eP P 00 34 20.4 +0.4
comp=Z,767nm,1.2s
SPIA LR LR
comp=Z,15µm,18.8s
POHA **Pohakuloa** 33.71 241 PFAKE 00 34 30.0 +8.0
POHA LR LR
comp=Z,24µm,18.0s
TIGA **Tifton** 34.05 93 ePP PP 00 35 36.4 -5.3
TIGA LR LR
comp=Z,97µm,21.5s
TIGA **Tifton** 34.05 93 ⇑P P 00 34 23.6 -1.0
baz=34,SNR=21
OPA **Opana** 34.09 246 eP P 00 34 25.8 +0.8
OPA **Opana** 34.09 246 eP P 00 34 25.8 +0.8
BLA **Blacksburg** 34.17 81 PFAKE 00 34 40.0 +14
BLA LR LR
comp=Z,124µm,19.0s
HPO **Honuapo** 34.20 240 eP P 00 34 26.7 +0.7
KMSC **Kings Mountain** 34.22 85 ⇓P P 00 34 25.0 -1.0
baz=34,SNR=277
KIP **Kipapa** 34.27 246 P P 00 34 27.2 +0.7
KIP **Kipapa** 34.27 246 ePP PP 00 35 39.6 -4.6
KIP LR LR
comp=Z,10µm,18.0s
MMNY **Mt. Morris Dam** 34.49 71 eP P 00 34 27.2 -1.0
comp=Z,9µm,1.5s
MMNY LR LR
comp=Z,226µm,19.7s
TNA **Tin City** 34.91 330 ePP PP 00 35 54.8 +4.0
GAMB **Gambell** 35.80 326 PFAKE 00 34 50.0 +11
GAMB LR LR
comp=Z,28µm,18.9s
NHSC **New Hope** 35.91 88 PFAKE 00 34 50.0 +9.4
NHSC LR LR
comp=Z,86µm,20.0s
BINY **Binghamton** 35.99 71 PFAKE 00 34 50.0 +8.7
BINY LR LR
comp=Z,109µm,18.0s
CBN **Corbin** 36.12 78 PFAKE 00 34 50.0 +7.7
CBN LR LR
comp=Z,78µm,19.0s
PTN **Potsdam (NY)** 36.18 67 eP P 00 34 42.0 -0.8
PTN pmax pmax
comp=Z,8µm,1.4s
PTN MLR MLR
comp=Z,105µm,19.6s
PTN **Potsdam (NY)** 36.18 67 eP P 00 34 42.0 -0.8
comp=Z,8µm,1.4s
PTN LR LR
comp=Z,105µm,19.6s
URVA **University of** 36.21 79 eP P 00 34 42.0 -1.1
MVL **Millersville** 36.32 75 eP P 00 34 43.9 -0.2
comp=Z,1µm,1.4s
MVL LR LR
comp=Z,60µm,19.1s
LONY **Lake Ozonia** 36.45 67 PFAKE 00 34 50.0 +4.9
LONY LR LR
comp=Z,42µm,18.0s
RES **Resolute Bay** 36.72 13 eP P 00 34 47.3 +0.3
comp=Z,2µm,1.9s
RES **Resolute Bay** 36.72 13 LR LR 00 50 28.8
comp=Z,66µm,18.4s,baz=224,slow=37
LUPA **Lehigh Univers** 36.86 74 eP P 00 34 48.0 -0.7
comp=Z,2µm,1.4s
LUPA LR LR
comp=Z,50µm,19.5s
TEIG **Tepich** 36.91 113 PFAKE 00 35 00.0 +11

TEIG LR LR
comp=Z,56µm,20.0s
ODNJ Ogdensburg 37.28 73 *e*P **P 00 34 51.7 -0.5**
comp=Z,3µm,1.5s
ODNJ LR LR
comp=Z,106µm,18.1s
TRY Troy 37.52 70 *e*P **P 00 34 53.4 -0.8**
CPNY Central Park 37.84 73 *e*PP PP 00 36 20.8 -2.5
HNH Hanover 38.26 68 *e*P **P 00 35 00.9 +0.4**
LBNH Lisbon 38.39 67 PFAKE 00 35 10.0 +8.5
LBNH LR LR
comp=Z,66µm,20.0s
YLE Yale 38.43 72 *e*P **P 00 35 01.1 -0.7**
QUA2 Belchertown 38.58 70 *e*P **P 00 35 03.4 +0.2**
FFD Franklin Falls 38.77 68 *e*P **P 00 35 05.3 +0.6**
HRV Adam Dziewonsk 39.08 69 PFAKE 00 35 20.0 +13
HRV LR LR
comp=Z,71µm,19.0s
BRYW Bryant College 39.26 70 *e*P **P 00 35 08.9 0.0**
WES Weston 39.28 69 *e*P **P 00 35 09.1 +0.1**
WES Weston 39.28 69 *e*P **P 00 35 09.1 +0.1**
WVL Waterville 39.89 66 *e*P **P 00 35 14.2 +0.1**
PKME Peaks-Kenny Pk 39.97 64 PFAKE 00 35 20.0 +5.3
PKME LR LR
comp=Z,134µm,19.0s
SCHQ Schefferville 40.09 49 P **P 00 35 15.2 -0.4**
comp=Z,170nm,0.8s,baz=289,slow=7.8,SNR=90
SCHQ LR LR 00 52 17.2
comp=Z,60µm,20.9s,baz=278,slow=37
PQI Presque Isle 40.52 62 *e*P **P 00 35 18.1 -1.2**
EMMW East Machias 41.37 65 *e*P **P 00 35 25.9 -0.4**
TGUH Tegucigalpa,Un 41.87 118 PFAKE 00 35 40.0 +9.4
TGUH LR LR
comp=Z,105µm,19.0s
FX1 Attu Island--F 43.10 308 *e*P **P 00 35 39.2 -1.1**
FX1 Attu Island--F 43.10 308 P **P 00 35 41.9 +1.6**
comp=Z,64nm,1.1s,baz=180,slow=4.0,SNR=7.5
CVJ Coleyville 45.93 105 *i* P **P 00 36 04.7 +1.2**
MTDJ Mount Denham 45.93 105 PFAKE 00 36 10.0 +6.6
MTDJ LR LR
comp=Z,35µm,22.0s
MCJ Malvern 46.01 105 *i* P **P 00 36 04.9 +0.9**
JTS JuntasAbangare 46.15 120 P **P 00 36 04.0 -1.1**
comp=Z,1µm,0.6s,SNR=23
JTS JuntasAbangare 46.15 120 PFAKE 00 36 10.0 +4.9
JTS LR LR
comp=Z,51µm,19.0s
ALE Alert 46.35 9 P **P 00 36 06.0 +0.2**
comp=Z,2µm,1.2s,SNR=63
STH Stony Hill 46.56 104 *i* PA 00 36 10.1
GWJ Greenwich 46.62 104 *i* P **P 00 36 10.2 +1.3**
HOJ Hope 46.65 104 *i* P **P 00 36 09.4 +0.4**
GTBY Guantanamo Bay 46.68 101 PFAKE 00 36 20.0 +11
GTBY LR LR
comp=Z,26µm,18.0s
DRLN Deer Lake 46.73 56 *e*P **P 00 36 09.7 +0.5**
comp=Z,2µm,1.5s
DRLN LR LR
comp=Z,56µm,18.1s
ILULI Ilulissat 46.84 28 *i* P **P 00 36 10.5 +0.8**
ILULI *i* S **S 00 43 02.7 +4.0**
ILULI pmax pmax
comp=Z,83nm,1.1s
ILULI MLR MLR
comp=Z,39µm,13.0s
ILULI Ilulissat 46.84 28 *i* P **P 00 36 10.5 +0.8**
comp=Z,83nm,1.1s
ILULI *i* S **S 00 43 02.7 +4.0**
ILULI
comp=Z,39µm,12.0s
YHJ Yallahs 46.91 104 *i* P **P 00 36 12.6 +1.5**
SFJD Kangerlussuaq 47.15 31⇓ *i*P **P 00 36 12.9 +0.7**
comp=Z,124nm,1.2s
SFJD
comp=Z,23µm,11.0s
SFJD Kangerlussuaq 47.15 31 PFAKE 00 36 20.0 +7.8
SFJD LR LR
comp=Z,31µm,19.0s
SFJD Kangerlussuaq 47.15 31 LR LR 00 55 52.6
comp=Z,29µm,19.2s,baz=277,slow=36
BBSR BB Station 47.94 80 PFAKE 00 36 30.0 +11
BBSR LR LR
comp=Z,24µm,19.0s
XMAS Kiritimati 48.65 226 PFAKE 00 36 30.0 +5.6
XMAS LR LR
comp=Z,27µm,18.0s
GRTK Grand Turk 48.73 96 PFAKE 00 36 30.0 +5.0
GRTK LR LR
comp=Z,35µm,20.0s
SDDR Presa de Saban 50.11 99 PFAKE 00 36 50.0 +14
SDDR LR LR
comp=Z,73µm,22.0s
NRS Narsarsuaq 50.37 38 *e*P **P 00 36 37.6 +0.6**
NRS pmax pmax
comp=Z,78nm,1.1s
NRS MLR MLR
comp=Z,24µm,16.0s
BCIP Isla Barro Col 50.41 116 PFAKE 00 36 50.0 +12
BCIP LR LR
comp=Z,44µm,22.0s
SUMG Summit 50.59 23⇓ *i*P **P 00 36 39.5 +0.5**
SUMG *i* S S 00 44 02.5 +10
SUMG pmax pmax
comp=Z,230nm,1.0s
SUMG MLR MLR
comp=Z,37µm,15.0s
SUMG Summit 50.59 23⇓ *i*P **P 00 36 39.5 +0.5**
comp=Z,230nm,1.0s
SUMG *i* S S 00 44 02.5 +10
SUMG
comp=Z,37µm,15.0s
SUMG Summit 50.59 23 PFAKE 00 36 50.0 +11
SUMG LR LR
comp=Z,44µm,19.0s
TAOE Nuku Hiva Isla 51.35 200 *e*P **P 00 36 46.9 +1.9**
comp=Z,749nm,1.2s
TAOE *e*S **S 00 44 05.0 +1.6**
comp=Z,23µm,27.0s
TAOE *e*LQ LQ 00 49 02.4
comp=Z,48µm,23.2s
TAOE *e*LR LR 00 51 20.2
comp=Z,77µm,29.6s,baz=25
TAOE Nuku Hiva Isla 51.35 200 *e*T T 01 31 26.6
comp=Z,3µm,0.2s
PAYG Puerto Ayora 51.56 134 PFAKE 00 37 00.0 +13
PAYG LR LR
comp=Z,20µm,19.0s
PET Petropavlovsk 51.57 311 *e*P **P 00 36 46.5 +0.4**
PET pmax pmax
comp=Z,3µm,6.9s
PET pmax pmax
comp=Z,424nm,1.1s
PET pmax pmax
comp=Z,3µm,13.6s
PET pmax pmax
comp=Z,1µm,7.2s
PET pmax pmax
comp=Z,2µm,14.6s
PET Petropavlovsk 51.57 311 *e*P **P 00 36 46.3 +0.2**
SEY Seymchan 51.78 325⇑ *e*P **P 00 36 47.6 0.0**
SEY Seymchan 51.78 325 *e*P **P 00 36 47.8 +0.2**
SEY Seymchan 51.78 325 P **P 00 36 47.8 +0.2**
comp=Z,106nm,0.9s,baz=85,slow=21,SNR=14
SEY LR LR 00 56 30.6
comp=Z,13µm,21.7s,baz=86,slow=33
PEA0 Petropavlovsk- 52.08 312 *e*P **P 00 36 50.0 0.0**
PETK Petropavlovsk- 52.08 312 P **P 00 36 50.8 +0.8**
PETK pmax pmax
comp=Z,125nm,0.9s
PETK Petropavlovsk- 52.08 312 P **P 00 36 50.8 +0.8**
comp=Z,125nm,0.9s,baz=87,slow=10,SNR=30
PETK LR LR 00 56 08.7
comp=Z,4µm,21.4s,baz=80,slow=33
AGP Aguadilla 53.58 97 *e*P **P 00 37 01.3 -0.2**
comp=Z,3µm,1.0s
AGP LR LR
comp=Z,27µm,19.2s
MPR Mayaguez 53.70 97 *e*P **P 00 37 02.3 -0.1**
comp=Z,639nm,1.2s
MPR LR LR
comp=Z,16µm,19.6s
CRPR Cabo Rojo, PR 53.85 97 PFAKE 00 37 10.0 +6.5
CRPR LR LR
comp=Z,39µm,19.6s
SKR Severo-Kuril's 53.86 309 *e*P P 00 36 58.5 -4.6
SKR *e* 00 38 09.0
SKR *e* 00 39 12.0
SKR *e*S **S 00 44 36.0 -0.9**
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=E,160nm,1.0s
SKR pmax pmax
comp=Z,340nm,1.0s
SKR pmax pmax
comp=N,3µm,8.0s
SKR pmax pmax
comp=E,5µm,14.0s
SKR smax smax
comp=E,14µm,20.0s
SKR smax smax
comp=N,9µm,16.0s
SKR MLR MLR
comp=N,6µm,16.0s
SKR MLR MLR
comp=Z,6µm,16.0s
SKR MLR MLR
comp=N,5µm,14.0s
AOPR Arecibo Observ 53.91 96 *e*P **P 00 37 03.8 -0.2**
comp=N,990nm,0.8s
AOPR LR LR
comp=Z,15µm,18.4s
OBIP Obispado Ponce 54.21 97 PFAKE 00 37 20.0 +14
OBIP LR LR
comp=Z,36µm,20.0s
DAG Danmarks Havn 54.27 16⇓ *i*P **P 00 37 05.5 -0.3**
DAG *i* S **S 00 44 42.7 +0.9**
DAG pmax pmax
comp=Z,68nm,0.8s
DAG MLR MLR
comp=Z,66µm,22.0s
DAG Danmarks Havn 54.27 16⇓ *i*P **P 00 37 05.5 -0.3**
comp=Z,91nm,0.8s
DAG *i* S **S 00 44 42.7 +0.9**
DAG
comp=Z,59µm,22.0s
CBYP Canovanas 54.64 96 PFAKE 00 37 20.0 +11
CBYP LR LR
comp=Z,28µm,20.7s
HUMP Col San Antoni 54.72 96 *e*P **P 00 37 09.7 -0.1**
comp=Z,1µm,1.0s
HUMP LR LR
comp=Z,32µm,18.6s
CPD Cerro la Pandu 54.73 96 *e*P **P 00 37 10.0 0.0**
CPD pmax pmax
comp=Z,2µm,1.6s
CPD Cerro la Pandu 54.73 96 *e*P **P 00 37 10.0 0.0**
comp=Z,2µm,1.6s
MTP Monte Pirata 54.97 96 PFAKE 00 37 20.0 +8.3
MTP LR LR
comp=Z,42µm,18.5s
CDVI St. Croix 55.77 96 PFAKE 00 37 30.0 +13
CDVI LR LR
comp=Z,25µm,21.8s
SCO Scoresbysund 56.22 23 *i* P **P 00 37 20.0 +0.1**
SCO *i* S S 00 45 16.0 +8.0
SCO pmax pmax
comp=Z,44nm,1.1s
SCO MLR MLR
comp=Z,30µm,19.0s
SCO Scoresbysund 56.22 23 *i* P **P 00 37 20.0 +0.1**
comp=Z,44nm,1.1s
SCO *i* S S 00 45 16.0 +8.0
SCO
comp=Z,30µm,18.0s
TIXI Tiksi 56.87 339 *ce*P **P 00 37 24.7 +0.2**
TIXI pmax pmax
comp=Z,373nm,1.7s
TIXI MLR MLR
comp=Z,13µm,23.0s
SABA Saba 57.01 95 *e*P **P 00 37 26.2 -0.1**
SABA Saba 57.01 95 *e*P **P 00 37 25.3 -1.0**
comp=Z,2µm,1.4s
SABA LR LR
comp=Z,29µm,20.8s
SDV Santo Domingo 57.10 108 *e*PP PP 00 39 25.2 -8.9
SDV LR LR
comp=Z,12µm,20.0s
ROSC El Rosal 57.29 115 P **P 00 37 30.8 +2.1**
comp=Z,90nm,0.7s,baz=41,slow=5.6,SNR=79
ROSC LR LR 01 05 10.6
comp=Z,12µm,19.9s,baz=348,slow=39
SKI Saint Kitts 57.56 95 *e*P **P 00 37 29.5 -0.7**
SKI Saint Kitts 57.56 95 *e* **P 00 37 29.7 -0.5**
SKI Saint Kitts 57.56 95 *e* **S 00 45 29.6 +2.5**
OTAV Otavalo 57.93 122 *e*PP PP 00 39 45.6 +3.7
OTAV LR LR
comp=Z,19µm,21.0s
KBS Kingsbay 57.97 9 *de*P **P 00 37 34.0 +1.8**
KBS pmax pmax
comp=Z,178nm,1.2s
KBS MLR MLR
comp=Z,31µm,19.0s
KBS Kingsbay 57.97 9 *e*P **P 00 37 33.9 +1.7**
KBS ⇓ 00 37 47.6
comp=Z,3µm,4.2s
KBS *e* 00 41 07.6
KBS *e*S **S 00 45 30.7 -0.2**
KBS IAMs_20 IAMs_20 00 59 53.9
comp=Z,46µm,23.0s
KBS Kingsbay 57.97 9 PFAKE 00 37 40.0 +7.8
KBS LR LR
comp=Z,32µm,20.0s
ANWB Willy Bob 58.09 94 *e*P **P 00 37 33.2 -0.6**
ANWB Willy Bob 58.09 94 PFAKE 00 37 40.0 +6.2
ANWB LR LR
comp=Z,24µm,21.0s
SEG Port Louis 59.06 95 *e*P **P 00 37 40.3 -0.3**
SPITS Spitsbergen Ar 59.10 9 LR LR 01 02 12.3
comp=Z,39µm,19.9s,baz=315,slow=35
MLG Mont-d'or 59.12 95 *e*P **P 00 37 41.0 -0.1**
SSG Sans Toucher 59.12 95 *e*P **P 00 37 41.1 -0.2**
SCG Saint Claude 59.16 95 *e*P **P 00 37 40.8 -0.6**
TAG Tarade 59.16 95 *e*P **P 00 37 41.4 -0.1**
LKG Breislack 59.17 95 *e*P **P 00 37 41.2 -0.3**
BCG Bois Riant Cap 59.17 95 *e*P **P 00 37 41.5 0.0**
ECG Echelle 59.17 95 *e*P **P 00 37 41.7 0.0**
HMG Houelmont 59.17 95 *e*P **P 00 37 41.6 +0.1**
BORG Borgarnes 59.19 29 PFAKE 00 37 50.0 +9.2
BORG LR LR
comp=Z,26µm,19.0s
BORG Borgarnes 59.19 29 P **P 00 37 41.8 +1.0**
comp=Z,64nm,0.9s,baz=298,slow=4.8,SNR=1.9
BORG LR LR 01 04 37.3
comp=Z,22µm,18.1s,baz=296,slow=38
PHG Guadaloupe-2 59.20 95 *e*P **P 00 37 42.2 +0.5**
DOG Dongo Capester 59.21 95 *e*P **P 00 37 42.0 +0.3**
TBG Guadaloupe-3 59.30 95 *e*P **P 00 37 42.1 -0.2**
DEG La Desirade 59.46 94 *e*P **P 00 37 42.9 -0.5**
PMOR Pomariorio Ree 59.50 206 *e*T T 01 41 50.4
comp=Z,771nm,0.3s
MGG Marie-Galante 59.50 95 *e*P **P 00 37 43.6 -0.1**
BBL Barber's Block 59.63 95 *e*P **P 00 37 44.4 -0.2**
VAH Vaihoa 59.63 206 *e*P **P 00 37 46.4 +2.0**
VAH Vaihoa 59.63 206 *e*T T 01 41 48.2
comp=Z,317nm,0.3s
JMIC Jan Mayen 59.73 20 *e*P **P 00 37 46.7 +2.2**
JMIC *e*S **S 00 45 53.0 -0.8**
JMIC IAMs_20 IAMs_20 01 03 48.7
comp=Z,32µm,16.0s
JMIC Jan Mayen 59.73 20 LR LR 01 03 57.8
comp=Z,33µm,19.5s,baz=320,slow=36
MDN Morne-Daniel 59.81 96 *e* **P 00 37 48.0 +2.1**
DPMT Pointe Michel 59.86 96 *e* **P 00 37 47.9 +1.7**
DBCT Belle View Cho 59.88 96 *e* **P 00 37 49.0 +2.6**
DSHT Scott's Head 59.89 96 *e* **P 00 37 48.2 +1.8**
FDF Fort de France 60.36 96 *eP* **P 00 37 49.2 -0.5**
SLB Belfond 61.01 97 *e* **P 00 37 55.0 +0.9**
KNTN Kanton 61.02 237 *eP* **P 00 37 54.1 +0.1**
comp=Z,295nm,1.3s
MCLT Moule a Chique 61.16 97 *e* **P 00 37 55.2 +0.2**
MCLT Moule a Chique 61.16 97 *e* **S 00 46 18.6 +5.0**
SVV Soufriere Volc 61.19 97 *e* **P 00 37 56.4 +1.1**
SVB Belmont 61.20 97 *e* **P 00 37 54.9 -0.4**
SVB Belmont 61.20 97 *e* **S 00 46 11.8 -2.2**
SSV Crater Summit 61.20 97 *e* **P 00 37 56.6 +1.1**
BHS Barnard House 61.27 97 *e* **P 00 37 53.2 -2.6**
H11N3 WAKE ISLAND Hy 61.38 272 T T 01 44 30.0
baz=56,slow=75,SNR=438
H11N2 WAKE ISLAND Hy 61.39 272 T T 01 44 31.8
baz=56,slow=75
H11N1 WAKE ISLAND Hy 61.40 272 T T 01 44 32.9
baz=56,slow=75
HOPEN Hopen 61.50 8 *e*P **P 00 37 56.5 0.0**
HOPEN *e* 00 41 49.1
HOPEN *e*S **S 00 46 16.5 +0.2**
HOPEN *e*SS **SS 00 50 13.7 -2.7**
HOPEN IAMs_20 IAMs_20 00 59 59.4
comp=Z,36µm,31.2s
GRSS Sisters 61.54 98 *e* **P 00 37 58.5 +0.9**
GRHS Sauteurs 61.56 98 *e* **P 00 37 57.5 -0.3**
GRW Mount Saint Ca 61.59 99 *e* **P 00 37 58.0 0.0**
GRGR Grenville 61.61 99 *e*P **P 00 37 57.3 -0.8**
GRGR Grenville 61.61 99 PFAKE 00 38 10.0 +12
GRGR LR LR
comp=Z,38µm,19.0s
YAK Yakutsk 61.67 329 *c* iP **P 00 37 59.5 +1.7**
YAK *e* 00 38 41.4
YAK *e* 00 40 15.0
YAK *e*PPP PPP 00 41 43.8
YAK *e*S **S 00 46 21.1 +2.2**
YAK *e*SS SS 00 50 29.9 +10
YAK pmax pmax
comp=Z,453nm,1.1s
YAK pmax pmax
comp=N,101nm,1.5s
YAK pmax pmax
comp=E,229nm,1.4s
YAK pmax pmax
comp=Z,333nm,2.8s
YAK pmax pmax
comp=N,63nm,2.0s
YAK pmax pmax
comp=E,338nm,1.9s
YAK smax smax
comp=N,993nm,5.3s
YAK smax smax
comp=E,1µm,4.1s
YAK MLR MLR
comp=Z,9µm,16.0s
YAK MLR MLR
comp=N,8µm,17.0s
YAK MLR MLR
comp=E,11µm,18.0s
WAKE Wake Island 61.84 272 *e*P **P 00 38 01.1 +1.5**
comp=E,765nm,1.5s
WAKE LR LR
comp=Z,15µm,22.0s
MEH Mehetia 62.24 206 *e*P **P 00 38 03.8 +1.7**
comp=Z,76nm,1.2s
MEH Mehetia 62.24 206 *e*T T 01 45 08.6
comp=Z,831nm,0.3s
H11S1 WAKE ISLAND Hy 62.26 271 T T 01 45 40.8
baz=54,slow=74,SNR=9412
H11S2 WAKE ISLAND Hy 62.27 271 T T 01 45 34.7
baz=54,slow=74
H11S3 WAKE ISLAND Hy 62.28 271 T T 01 45 35.7
baz=54,slow=74,SNR=7835
TIAR Tiarei 62.37 207 *e*P **P 00 38 04.8 +1.8**
comp=Z,53nm,1.1s
TIAR Tiarei 62.37 207 *e*T T 01 45 21.7
comp=Z,156nm,0.3s
PPT Papeete 62.46 207 *e*P **P 00 38 04.2 +0.6**
PPT Papeete 62.46 207 P **P 00 38 05.6 +2.0**
comp=Z,65nm,1.0s,baz=109,slow=9.2,SNR=2.8
PPT LR LR 00 57 34.5
comp=Z,13µm,21.4s,baz=17,slow=29
PPT2 Papeete2 62.48 207 *e*P **P 00 38 05.8 +2.0**
comp=Z,134nm,1.4s
PPT2 *e*S **S 00 46 31.6 +1.5**
comp=Z,35µm,26.8s
PPT2 *e*LQ LQ 00 53 46.2
comp=Z,64µm,29.2s
PPT2 *e*LR LR 00 56 26.0
comp=Z,70µm,28.8s,baz=17
PPT2 Papeete2 62.48 207 *e*T T 01 45 26.1
comp=Z,123nm,0.2s
TVO Taravao 62.55 207 *e*P **P 00 38 06.1 +1.9**
comp=Z,25nm,1.0s
TVO Taravao 62.55 207 *e*T T 01 45 34.0
comp=Z,54nm,0.3s
PAE Paea 62.55 207 *e*P **P 00 38 05.9 +1.7**
comp=Z,63nm,1.3s
PAE Paea 62.55 207 *e*T T 01 45 27.5
comp=Z,36nm,0.3s
BBGH Gun Hill 62.55 96 PFAKE 00 38 10.0 +5.6
BBGH LR LR
comp=Z,46µm,21.0s
BJO Bjornoya 62.58 10 *e*P P 00 38 07.9 +4.2
BJO *e*S **S 00 46 27.0 -3.0**
BJO IAMs_20 IAMs_20 01 02 07.2
comp=Z,38µm,25.3s
TRN Trinidad (W) 62.75 100 *e* **P 00 38 04.6 -1.1**
TPP Pointe-a-Pierr 62.92 100 *e* P 00 37 55.9 -11
BOT Bacolet 62.93 99 *e* P 00 38 00.6 -6.3
YUK Yuzh-Kuril'sk 63.08 306 *d* iP P 00 38 03.6 -3.9
YUK *i* 00 38 45.5
YUK *i* S **S 00 46 33.1 -4.0**
YUK pmax pmax
comp=Z,1µm,1.4s
YUK pmax pmax
comp=E,434nm,1.5s
YUK pmax pmax
comp=N,376nm,1.5s
YUK pmax pmax
comp=Z,2µm,1.5s
YUK MLR MLR
comp=N,3µm,20.0s
YUK MLR MLR
comp=Z,3µm,20.0s
YUK MLR MLR
comp=E,4µm,18.0s
TBH Brigand Hill 63.11 100 *e* P 00 37 59.5 -8.6
YSS Yuzh-Sakhalins 63.41 310 *be*P **P 00 38 08.1 -1.6**
YSS *i* 00 38 12.0
YSS *e* 00 38 45.0
YSS *e* 00 40 32.0
YSS *e*S S 00 46 34.0 -7.1
YSS *e*PPS PPS 00 47 00.0
YSS *e*SS **SS 00 50 50.0 +2.6**
RKT Rikitea 64.21 191 *e*S **S 00 46 55.2 +4.0**
comp=E,58µm,30.0s
RKT *e*SS **SS 00 51 02.0 +0.6**
comp=E,8µm,32.2s
RKT *e*LQ LQ 00 54 39.4
comp=E,46µm,29.8s
RKT *e*LR LR 00 57 30.9
comp=E,65µm,27.8s,baz=8.3
RKT Rikitea 64.21 191 *e*T T 01 47 37.9
comp=E,174nm,0.3s
ASAJ Asahikawa 65.02 307 P **P 00 38 23.4 +3.1**
comp=E,155nm,1.1s,baz=31,slow=4.2,SNR=20
PTCN Pitcairn Islan 65.61 186 PFAKE 00 38 30.0 +5.8
PTCN LR LR
comp=Z,18µm,21.0s
ERM Erimo 65.83 305 P **P 00 38 26.2 +0.6**
comp=Z,1µm,1.1s,SNR=6.9
ERM Erimo 65.83 305 *e*P **P 00 38 27.3 +1.7**
ERM pmax pmax
comp=Z,280nm,1.2s
SOFL Sornfelli, Far 65.97 27 AMS AMS 01 09 34.2
comp=Z,42µm,13.9s
CLNS Chul'man 66.74 326 *e*P **P 00 38 31.4 +0.2**
TRO Tromso 66.78 13 *e*P P 00 38 35.2 +4.0
TRO IAmb IAmb 00 38 45.0
comp=Z,192nm,0.8s
TRO *e*S **S 00 47 21.2 -0.6**
TRO IAMs_20 IAMs_20 01 05 55.3
comp=Z,35µm,25.2s
HABR Khabarovsk 66.89 315 *e*P **P 00 38 31.6 -0.7**
HABR *e**PP **pP 00 38 36.2 -2.8**
HABR *e**SP **sP 00 38 38.8 -2.7**
HABR *e* 00 38 58.2
HABR *e* 00 40 57.2
HABR *e*PPP PPP 00 42 33.2
HABR *e*S **S 00 47 22.3 -1.5**
HABR *e* 00 48 26.1
HABR *e*SS **SS 00 51 41.6 +0.2**
HABR pmax pmax
comp=Z,1µm,3.1s
HABR pmax pmax
comp=Z,472nm,2.0s
HABR MLR MLR
comp=E,6µm,15.0s
HABR MLR MLR
comp=Z,7µm,15.0s
HABR MLR MLR

comp=N,5µm,17.0s
STEI Steigen 67.56 15 *e*P **P 00 38 33.6 -2.6**
KWAJ Kwajalein Atol 67.59 262 *e*P **P 00 38 37.1 0.0**
KWAJ pmax pmax
comp=Z,807nm,1.4s
KWAJ Kwajalein Atol 67.59 262 *e*P **P 00 38 37.1 0.0**
comp=Z,807nm,1.4s
TBI Tubuai 67.80 205 *e*S **S 00 47 37.5 +2.5**
comp=Z,39µm,30.8s
TBI *e*LQ LQ 00 55 53.0
comp=Z,41µm,29.8s
TBI *e*LR LR 00 59 01.7
comp=Z,48µm,29.2s,baz=18
TBI Tubuai 67.80 205 *e*T T 01 52 12.0
comp=Z,92nm,0.3s
H07S1 FLORES T-PHASE 67.87 57 *e*P P 00 38 42.8 +4.1
ARCES ARCESS Array B 67.91 11 P **P 00 38 38.5 0.0**
comp=Z,72nm,1.1s,baz=326,slow=6.1,SNR=20
ARCES LR LR 01 11 13.8
comp=Z,19µm,18.1s,baz=338,slow=38
KEV Kevo 67.92 10 *e*P **P 00 38 37.6 -0.8**
KEV pmax pmax
comp=Z,90nm,0.9s
KEV Kevo 67.92 10 *e*p **P 00 38 37.6 -0.8**
comp=Z,90nm,0.9s
KEV Kevo 67.92 10 PFAKE 00 38 50.0 +12
KEV LR LR
comp=Z,28µm,22.0s
KTK1 Kautokeino 68.05 12 *e*P **P 00 38 39.7 +0.4**
KLR Kul'dur 68.20 317 *e*P **P 00 38 39.3 -1.2**
KLR *e* 00 38 40.0
KLR *e*S **S 00 47 34.5 -5.0**
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,250nm,1.8s
KLR pmax pmax
comp=Z,7µm,9.0s
KLR smax smax
comp=N,8µm,11.0s
KLR smax smax
comp=E,5µm,11.0s
KLR MLR MLR
comp=E,7µm,15.0s
KONS Konsvik 68.32 17 *e*P **P 00 38 42.5 +1.5**
NNA Nana 68.43 129 P **P 00 38 42.8 +0.4**
comp=E,1µm,1.1s,SNR=11
NNA Nana 68.43 129 PFAKE 00 38 50.0 +7.6
NNA LR LR
comp=Z,11µm,21.0s
FLOS Flostrand 68.51 17 *e*P **P 00 38 43.5 +1.3**
MOR8 Moi Rana 68.89 17 *e*P **P 00 38 44.1 -0.5**
MOR8 IAmb IAmb 00 38 46.5
comp=Z,182nm,1.3s
LRW Lerwick 69.33 27 *e*P **P 00 38 47.5 +0.2**
LRW AMB AMB 00 38 49.1
comp=Z,167nm,1.3s
LRW AMS AMS 01 12 18.2
comp=Z,21µm,14.6s
BIGH Upper Bighouse 69.55 29 *e*P **P 00 38 48.1 -0.7**
BIGH AMB AMB 00 38 49.3
comp=Z,254nm,2.8s
NSS Namsos 69.70 19 *e*P **P 00 38 49.2 -0.4**
NSS IAMs_20 IAMs_20 01 05 19.8
comp=Z,30µm,25.4s
KPL Plockton 69.72 30 *e*P **P 00 38 48.6 -1.2**
KPL AMB AMB 00 38 50.9
comp=Z,136nm,1.4s
KPL AMS AMS 01 11 04.1
comp=Z,20µm,14.5s
KAC Achnashellach 69.74 30 *e*P **P 00 38 49.4 -0.5**
AFI Afiamalu 69.77 230 PFAKE 00 39 00.0 +9.3
AFI LR LR
comp=Z,11µm,21.0s
AFI Afiamalu 69.77 230 P **P 00 38 50.0 -0.8**
comp=Z,86nm,1.0s,baz=180,slow=3.4,SNR=9.2
RAR Rarotonga 69.77 215 PFAKE 00 39 00.0 +10
RAR LR LR
comp=Z,11µm,18.0s
RAR Rarotonga 69.77 215 P **P 00 38 51.4 +0.9**
comp=Z,22nm,0.7s,baz=177,slow=17,SNR=3.0
PGRA Graciosa 70.11 55 *e*P P 00 38 56.0 +3.4
comp=Z,1µm,1.4s
PCAN Candelaria 70.13 56 *e*P P 00 39 04.5 +12
comp=Z,176nm,0.4s
ROSA Rosais 70.13 56 *e*P **P 00 38 55.7 +3.0**
comp=Z,853nm,1.6s
MDO Dochfour 70.14 30 *e*P **P 00 38 52.5 +0.1**
PICO Pico 70.15 56 *e*P **P 00 38 53.8 +0.9**
MOL Molde 70.15 21 *e*P **P 00 38 54.1 +1.8**
FOO Floro 70.20 23 *e*P **P 00 38 52.4 -0.3**
FOO IAmb IAmb 00 39 06.0
comp=Z,67nm,1.3s
FOO IAMs_20 IAMs_20 01 09 34.7
comp=Z,8µm,19.2s
TBLU Trondheim 70.33 20 *e*P **P 00 38 54.0 +0.6**
TBLU IAmb IAmb 00 39 03.2
comp=Z,267nm,1.0s
TBLU *e*S **S 00 48 03.1 -1.1**
TBLU IAMs_20 IAMs_20 01 09 58.9
comp=Z,51µm,20.3s
MCD Coleburn Disti 70.45 29 *e*P **P 00 38 54.0 -0.3**
SUE Sulen 70.54 24 *e*P **P 00 38 54.6 -0.1**
SUE IAmb IAmb 00 38 57.1
comp=Z,387nm,1.5s
SUE *e*S **S 00 48 06.5 -0.2**
SUE *e*SS **SS 00 52 36.1 -0.9**
SUE IAMs_20 IAMs_20 01 09 03.6
comp=Z,20µm,19.2s
LVZ Lovozero 70.62 8 P **P 00 38 55.6 +0.4**
comp=Z,2µm,1.1s,SNR=9.3
LVZ Lovozero 70.62 8↓*e*P **P 00 38 55.3 +0.1**
LVZ pmax pmax
comp=Z,256nm,1.2s
LVZ MLR MLR
comp=Z,14µm,18.0s
APA Apatity 70.79 9↓*i*P **P 00 38 57.2 +1.0**
APA *i* 00 41 44.0
APA *i*S **S 00 48 14.0 +4.5**
APA *i*SS **SS 00 52 44.0 +3.4**
ADH Angra Heroismo 70.80 55 *e*P **P 00 38 59.7 +2.9**
comp=Z,509nm,1.3s
HYA Hoyanger 70.88 23 *e*P **P 00 38 57.7 +0.8**
HYA IAmb IAmb 00 38 59.3
comp=Z,323nm,1.2s
EAB Aberfoyle 71.05 31 *e*P **P 00 38 57.5 -0.5**
ASK Askoy 71.12 24↑*i*P P 00 39 03.5 +5.2
USRK Ussuriysk Arra 71.17 312 P **P 00 38 59.3 +0.5**
comp=Z,88nm,0.9s,baz=43,slow=5.1,SNR=42
USRK LR LR 01 07 45.8
comp=Z,4µm,20.9s,baz=43,slow=34
DRUM Mains of Drumt 71.23 29 *e*P **P 00 38 58.3 -0.7**
DRUM AMB AMB 00 39 00.8
comp=Z,262nm,1.2s
RUND Rundenannen 71.23 24 *e*P **P 00 38 58.6 -0.4**
BER Bergen 71.25 24 *e*P **P 00 38 58.5 -0.5**
BER IAmb IAmb 00 39 01.3
comp=Z,170nm,1.0s
BER IAMs_20 IAMs_20 01 09 44.2
comp=Z,17µm,20.9s
PGBU Glenifferbraes 71.26 31 *e*P **P 00 38 58.7 -0.6**
PGBU AMS AMS 01 11 36.1
comp=Z,17µm,16.7s
VAL Valentia 71.54 37 *e*P **P 00 39 00.3 -0.7**
VAL Valentia 71.54 37↓*i*S S 00 48 26.0 +7.4
EDI Edinburgh 71.69 30 AMS AMS 01 11 36.1
comp=Z,14µm,16.6s
EDI Edinburgh 71.69 30 PFAKE 00 39 10.0 +8.2
EDI LR LR
comp=Z,7µm,19.2s
GMM Mts of Mourne 71.80 33 *e*P **P 00 39 01.1 -1.4**
EBL Broad Law 71.85 30 *e*P **P 00 39 02.9 0.0**
GAL1 Galloway 71.85 32 *e*P **P 00 39 02.4 -0.5**
GAL1 AMB AMB 00 39 04.6
comp=Z,90nm,1.5s
GAL1 AMS AMS 01 12 09.6
comp=Z,18µm,15.5s
VLA Vladivostok 71.90 312↓*e*P **P 00 39 03.2 -0.1**
VLA *e* 00 39 20.6
VLA *e* 00 41 42.0
VLA S **S 00 48 22.8 -0.2**
VLA pmax pmax
comp=Z,353nm,2.0s
ESY Stoneypath 71.91 30 *e*P **P 00 39 03.4 +0.2**
ODD1 Odda 72.02 24 *e*P **P 00 39 04.7 +0.9**
ODD1 IAmb IAmb 00 39 06.1
comp=Z,39nm,1.4s
ESK Eskdalemuir 72.12 31 P **P 00 39 05.9 +1.4**
comp=Z,559nm,1.0s,SNR=6.1
ESK Eskdalemuir 72.12 31 *e*P **P 00 39 04.3 -0.1**
ESK AMS AMS 01 12 20.4
comp=Z,17µm,15.2s
ESK Eskdalemuir 72.12 31 PFAKE 00 39 10.0 +5.5
ESK LR LR
comp=Z,18µm,18.0s
EKA Eskdalemuir Ar 72.13 31 *e*P **P 00 39 04.6 +0.1**
EKA Eskdalemuir Ar 72.13 31 P **P 00 39 04.6 +0.1**
comp=Z,40nm,1.0s,baz=319,slow=4.7,SNR=28
EKA PP **PP 00 41 41.1 -3.2**
comp=Z,15nm,1.1s,baz=331,slow=5.7,SNR=4.7
EKA LR LR 01 11 22.2
comp=Z,15µm,18.9s,baz=290,slow=36
MJAR Matsushiro Arr 72.14 303 P **P 00 39 05.3 +0.4**
comp=Z,70nm,1.1s,baz=38,slow=5.3,SNR=48
MJAR LR LR 01 04 56.7
comp=Z,5µm,21.7s,baz=45,slow=31
MAJO Matsushiro 72.14 303 P **P 00 39 05.9 +1.0**
MAJO pmax pmax
comp=Z,821nm,1.0s
MAT Matsushiro 72.14 303 P **P 00 39 04.0 -0.9**
MAT S **S 00 48 20.8 -5.3**
KMY Karmoy 72.14 25 *e*P **P 00 39 04.5 0.0**
KMY IAmb IAmb 00 39 06.6
comp=Z,172nm,1.2s
KMY IAMs_20 IAMs_20 01 12 04.5
comp=Z,23µm,18.1s
MDJ Mudanjiang 72.23 314 P **P 00 39 04.9 -0.4**
MDJ pP **pP 00 39 11.4 -0.7**
MDJ sP **sP 00 39 13.9 -0.6**
MDJ PcP **PcP 00 39 22.7 -0.7**
MDJ PP **PP 00 41 44.2 -1.2**
MDJ S **S 00 48 22.2 -4.7**
MDJ ScS **ScS 00 49 10.1 -0.4**
MDJ SS **SS 00 53 03.7 -0.1**
MDJ pmax pmax
comp=Z,3µm,7.2s
MDJ LR LR
comp=Z,15µm,36.3s
MDJ LR LR
comp=Z,8µm,37.3s
MDJ LR LR
comp=Z,10µm,35.3s
MDJ Mudanjiang 72.23 314 PFAKE 00 39 10.0 +4.7
MDJ LR LR
comp=Z,7µm,21.0s
PSET Sete Cidades 72.25 55 *e*P **P 00 39 07.8 +2.2**
comp=Z,896nm,1.2s
NBO02 NORSAR Array S 72.31 21 *e*P **P 00 39 05.4 -0.1**
PDA Ponta Delgada 72.34 55 *e*P P 00 39 09.3 +3.3
comp=Z,856nm,1.8s
BLS5 Blasjo 72.35 24↑*i*P **P 00 39 07.1 +1.3**
BLS5 IAmb IAmb 00 39 08.4
comp=Z,114nm,1.2s
NB2 NORSAR Subarra 72.41 21 P **P 00 39 06.3 +0.1**
comp=Z,9.6nm,0.8s,baz=329,slow=6.5
NB2 NORSAR Subarra 72.41 21 P **P 00 39 06.3 +0.1**
baz=329,slow=6.5
NB200 NORSAR Array S 72.41 21 *e*P **P 00 39 06.5 +0.3**
NOA NORSAR Array B 72.41 21 P **P 00 39 06.5 +0.3**
comp=Z,123nm,1.0s,baz=327,slow=5.8,SNR=113
NOA LR LR 01 10 53.6
comp=Z,10µm,20.7s,baz=325,slow=36
BART Pico Bartolome 72.63 55 *e*P P 00 39 12.2 +4.3
comp=Z,691nm,1.3s
KESW Keswick, Cumbr 72.70 31 *e*P **P 00 39 06.9 -1.0**
KESW AMB AMB 00 39 11.4
comp=Z,165nm,3.1s
KESW AMS AMS 01 13 03.2
comp=Z,15µm,15.3s
XAL Allendale 72.84 31 *e*P **P 00 39 08.9 +0.1**
YRC Rhoscolyn 73.08 33 *e*P **P 00 39 09.1 -1.1**
WME Myndd Eilian 73.08 33 *e*P **P 00 39 09.7 -0.5**
KONO Kongsberg 73.11 22*d*↓*i*P **P 00 39 11.0 +0.8**
KONO pmax pmax
comp=Z,1µm,1.0s
KONO MLR MLR
comp=Z,70µm,16.0s
KONO Kongsberg 73.11 22 *e*P **P 00 39 11.7 +1.4**
KONO IAmb IAmb 00 39 20.9
comp=Z,136nm,0.9s
KONO *e*S **S 00 48 36.0 -0.3**
KONO *e*SS **SS 00 53 17.1 +0.7**
KONO IAMs_20 IAMs_20 01 10 22.6
comp=Z,25µm,23.1s
KONO Kongsberg 73.11 22 *e*PP PP 00 41 57.4 +4.9
KONO LR LR
comp=Z,23µm,22.0s
WLF1 Llynfaes 73.12 33 *e*P **P 00 39 09.7 -0.7**
WLF1 AMB AMB 00 39 11.7
comp=Z,188nm,1.6s
WLF1 AMS AMS 01 11 16.5
comp=Z,23µm,16.4s
PSMA Santa Maria 73.14 56 *e*P **P 00 39 10.0 -0.8**
comp=Z,683nm,1.4s
PSMN Pico do Norte, 73.17 56 *e*P **P 00 39 09.6 -1.4**
comp=Z,580nm,1.7s
OSL Oslo 73.19 22 *e*P **P 00 39 11.8 +1.1**
YRE Yr Eifl 73.34 33 *e*P **P 00 39 11.8 +0.1**
WPM1 Penmaenmawr 73.35 33 *e*P **P 00 39 11.2 -0.6**
SNART Snartemo 73.46 24 *e*P **P 00 39 12.9 +0.6**
HPK Haverah Park 73.75 31 *e*P **P 00 39 14.5 +0.4**
HPK AMB AMB 00 39 16.6
comp=Z,372nm,1.6s
HPK AMS AMS 01 13 35.0
comp=Z,15µm,16.6s
FOEL Foel Wylfa 73.91 33 *e*P **P 00 39 15.2 +0.1**
FOEL AMB AMB 00 39 18.2
comp=Z,233nm,1.7s
FOEL AMS AMS 01 12 51.1
comp=Z,20µm,15.5s
HOMB Homborsund 73.92 24 *e*P **P 00 39 16.1 +1.1**
HOMB *e*PP **PP 00 41 55.4 -3.9**
HOMB *e*S **SKiKP 00 48 43.3 +1.1**
HOMB *e*SS **SS 00 53 25.3 -3.4**
HOMB IAMs_20 IAMs_20 01 13 03.1
comp=Z,26µm,20.0s
LHO Holmfirth 73.97 32 *e*P **P 00 39 15.7 +0.2**
HIA Hailar 74.12 322 PFAKE 00 39 20.0 +3.6
HIA LR LR
comp=Z,14µm,20.0s
LPW Lampeter 74.12 34 *e*P **P 00 39 17.1 +0.8**
LPW AMB AMB 00 39 18.5
comp=Z,148nm,1.8s
LPW AMS AMS 01 12 33.9
comp=Z,28µm,16.0s
STNC Stoke 74.16 32 AMS AMS 01 11 54.9
comp=Z,19µm,18.4s
KBI1 Birley Grange 74.31 32 *e*P **P 00 39 17.5 +0.1**
HLM1 Long Mynd 74.31 33 *e*P **P 00 39 17.2 -0.3**
HLM1 AMB AMB 00 39 19.6
comp=Z,164nm,1.5s
LMK Market Rasen 74.64 31 AMS AMS 01 14 20.7
comp=Z,20µm,15.1s
MCH1 Michaelchurch 74.65 33 *e*P **P 00 39 18.2 -1.2**
MCH1 AMB AMB 00 39 21.2
comp=Z,169nm,1.6s
MCH1 AMS AMS 01 07 16.2
comp=Z,25µm,23.7s
CIT Chita 74.85 327 *e*P **P 00 39 22.4 +1.8**
CIT *e* 00 48 56.0
CIT pmax pmax
comp=Z,707nm,1.5s
SAML Samuel 74.88 116 PFAKE 00 39 30.0 +8.8
SAML LR LR
comp=Z,9µm,22.0s
KAF Kangasniemi 74.89 14 *e*P **P 00 39 21.1 +0.5**
KAF pmax pmax
comp=Z,108nm,0.8s
KAF Kangasniemi 74.89 14 *e*p **P 00 39 21.1 +0.5**
comp=Z,108nm,0.8s
JOF Joensuu 74.95 11 *e*P **P 00 39 21.8 +0.9**
JOF pmax pmax
comp=Z,74nm,0.8s
JOF Joensuu 74.95 11 *e*p **P 00 39 21.8 +0.9**
comp=Z,74nm,0.8s
HEX Exmoor 75.00 34 *e*P **P 00 39 22.1 +0.7**
CN2 Changchun 75.02 315 *e*P **P 00 39 19.3 -2.4**
CN2 PP **PP 00 42 08.1 -1.0**
CN2 *e*S **S 00 48 53.2 -5.1**
CN2 SS **SS 00 53 42.3 -3.9**
CN2 LR LR
comp=Z,6µm,22.0s
CN2 LR LR
comp=Z,6µm,22.0s
CN2 LR LR
comp=Z,5µm,24.0s
OLDB Oldbury-Upon-S 75.09 33 *e*P **P 00 39 22.2 +0.3**
OLDB AMB AMB 00 39 24.2
comp=Z,198nm,1.4s
JCJ Chichijima 75.26 293 LR LR 01 05 30.3
comp=Z,16µm,22.0s,baz=54,slow=30
DYA Yadsworthy 75.41 35 *e*P **P 00 39 23.9 +0.1**
DYA AMB AMB 00 39 25.0
comp=Z,195nm,2.1s
DYA AMS AMS 01 12 22.9
comp=Z,23µm,16.5s
DYA Yadsworthy 75.41 35 *e*P **P 00 39 22.4 -1.4**
comp=Z,246nm,1.1s
DYA LR LR
comp=Z,27µm,19.1s
FIA0 FINESS Array S 75.46 14 *e*P **P 00 39 23.4 -0.5**
FIA0 FINESS Array S 75.46 14 *e*P **P 00 39 23.4 -0.5**
FINES FINESS Array B 75.46 14 P **P 00 39 23.4 -0.5**
comp=Z,153nm,1.0s,baz=353,slow=4.6,SNR=63
FINES LR LR 01 12 35.0
comp=Z,26µm,21.4s,baz=338,slow=36
SWN1 Swindon 75.51 33 *e*P **P 00 39 24.9 +0.6**
SWN1 AMB AMB 00 39 34.0
comp=Z,341nm,2.3s
SWN1 AMS AMS 01 14 04.7
comp=Z,24µm,14.8s
MUD Monsted U'grnd 75.61 25↓*i*P **P 00 39 26.1 +1.3**
MUD pmax pmax
comp=Z,51nm,1.1s
MUD MLR MLR
comp=Z,16µm,17.0s
MUD Monsted U'grnd 75.61 25↓*i*P **P 00 39 26.1 +1.3**
comp=Z,51nm,1.0s
MUD *i*S S 00 49 14.4 +10
MUD
comp=Z,16µm,16.0s
WOL Wolverton 75.90 33 *e*P **P 00 39 26.4 -0.2**
WOL AMS AMS 01 13 49.8
comp=Z,21µm,15.0s
HMNX Herstmonceux 76.88 32 *e*P **P 00 39 32.0 -0.1**
HMNX AMB AMB 00 39 34.9
comp=Z,288nm,1.1s
HMNX AMS AMS 01 15 07.0
comp=Z,20µm,16.2s
KSSKC Sokcho 76.97 309 P P 00 39 37.3 +4.4
SNR=15
ELSH Elham, Standar 76.98 32 AMS AMS 01 13 51.6
comp=Z,21µm,17.3s
LPAZ La Paz 77.06 125 PFAKE 00 39 40.0 +5.7
LPAZ LR LR
comp=Z,17µm,19.7s
LPAZ La Paz 77.06 125 P **P 00 39 33.7 -0.6**
comp=Z,79nm,1.1s,baz=339,slow=6.0,SNR=62
LPAZ LR LR 01 14 35.4
comp=Z,16µm,20.2s,baz=336,slow=37
SEHB SEOHWA 77.14 310 P P 00 39 38.7 +4.8
SNR=11
ROSF Rostrenen 77.25 36 *e*P **P 00 39 34.0 -0.3**
comp=Z,451nm,1.5s
ROSF Rostrenen 77.25 36 *e*P **P 00 39 34.0 -0.3**
COP Copenhagen 77.27 23 *i* P **P 00 39 35.3 +1.1**
COP pmax pmax
comp=Z,71nm,0.9s
COP MLR MLR
comp=Z,10µm,16.0s
COP Copenhagen 77.27 23 *i* P **P 00 39 35.3 +1.1**
comp=Z,71nm,0.8s
COP
comp=Z,10µm,15.0s
SNY Shenyang 77.37 315 ⇑P **P 00 39 35.4 +0.3**
SNY S **S 00 49 23.1 -1.1**
SNY pmax pmax
comp=Z,6µm,7.2s
SNY LR LR
comp=Z,3µm,18.6s
SNY LR LR
comp=Z,6µm,27.0s
SNY LR LR
comp=Z,11µm,27.6s
KSIJA INJE 77.42 309 P **P 00 39 37.9 +2.5**
SNR=18
KSULJ Uljin 77.50 308 P P 00 39 40.3 +4.4
SNR=5.3
QUIF Quistinic 77.62 36 *e*P **P 00 39 36.1 -0.2**
comp=Z,793nm,1.7s
QUIF Quistinic 77.62 36 *e*P **P 00 39 36.1 -0.2**
SGMF Saint Gilles 77.64 36 *e*P **P 00 39 36.1 -0.4**
comp=Z,634nm,1.4s
SGMF Saint Gilles 77.64 36 *e*P **P 00 39 36.1 -0.4**
KSCWO Cheorwon 77.70 310 P P 00 39 41.8 +4.8
SNR=12
KSCHC Chuncheon 77.73 309 P P 00 39 42.0 +4.8
SNR=12
PRGR Permogore 77.73 5↓*i*P **P 00 39 36.7 0.0**
PRGR *e**PP **pP 00 39 43.2 -0.3**
PRGR *e* 00 39 45.6
PRGR *e*S **S 00 49 32.6 +5.2**
PRGR *e**SS **SKSac 00 49 44.0 -4.8**
PRGR pmax pmax
comp=Z,165nm,0.9s
KSYOW Yeongwol 77.75 309 P P 00 39 42.0 +4.7
SNR=10
PUL Pulkovo 77.78 13*de*P **P 00 39 37.9 +0.9**
PUL pmax pmax
comp=Z,158nm,1.3s
PUL MLR MLR
comp=Z,11µm,17.0s
MENF Mencas 77.85 32⇑*e*P **P 00 39 39.4 +1.8**
KSRS Korea Array 77.88 309 P **P 00 39 38.5 +0.5**
comp=Z,89nm,1.2s,baz=54,slow=5.3,SNR=47
KSRS LR LR 01 10 59.5
comp=Z,3µm,20.4s,baz=56,slow=33
KS01 Wonju Array Si 77.88 309 *e*P **P 00 39 38.1 +0.1**
KS15 Wonju Array Si 77.91 309 *e*P **P 00 39 38.5 +0.4**
YNCB YEONCHEON 78.07 310 P P 00 39 43.1 +4.1
SNR=5.5
BSEG Bad Segeberg 78.07 25 *e*P **P 00 39 39.7 +0.9**
comp=Z,449nm,1.4s
BSEG *e*S **S 00 49 36.5 +5.1**
KSDDC Dongducheon 78.09 310 P P 00 39 44.0 +4.8
SNR=5.1
FLN La Foliniere 78.15 34 *e*P **P 00 39 39.1 -0.2**
comp=Z,363nm,1.2s,baz=330
FLN *e*R
comp=Z,18µm,18.2s
FLN La Foliniere 78.15 34 *e*P **P 00 39 39.1 -0.2**
FLN La Foliniere 78.15 34 *e*P **P 00 39 39.1 -0.2**
IRK Irkutsk 78.26 332 *e*P **P 00 39 40.8 +0.9**
IRK *e* 00 49 37.9
IRK pmax pmax
comp=Z,595nm,1.6s
KSMUS Musan 78.27 310 P P 00 39 44.4 +4.2
SNR=12
GRR Gorron 78.28 35 *e*P **P 00 39 40.2 +0.2**
comp=Z,895nm,1.4s
GRR Gorron 78.28 35 *e*P **P 00 39 40.2 +0.2**
GRR Gorron 78.28 35 *e*P **P 00 39 40.2 +0.2**
KSICN Icheon 78.29 309 P P 00 39 44.7 +4.4
SNR=19
VSU Vasula 78.36 15↓*e*P **P 00 39 40.1 -0.1**
VSU pmax pmax
comp=Z,695nm,1.5s
VSU MLR MLR
comp=Z,35µm,19.0s
LDF La Druitiere 78.43 34 *e*P **P 00 39 40.6 -0.3**
comp=Z,467nm,1.2s
LDF La Druitiere 78.43 34 *e*P **P 00 39 40.6 -0.3**
LDF La Druitiere 78.43 34 *e*P **P 00 39 40.6 -0.3**
KSSEO Seoul 78.45 310 P P 00 39 45.4 +4.2
SNR=10
WTSB Winterswijk 78.49 28 *e*P **P 00 39 41.5 +0.4**
comp=Z,234nm,1.3s
BSD Bornholm Skovb 78.49 22 *e*P **P 00 39 42.1 +1.1**
BSD MLR MLR
comp=Z,14µm,22.0s
BSD Bornholm Skovb 78.49 22 *i* P **P 00 39 42.1 +1.1**
BSD
comp=Z,14µm,21.0s
RGN Rugen 78.50 24 *e*S S 00 49 46.2 +10
RGN Rugen 78.50 24 PFAKE 00 39 50.0 +8.9
RGN LR LR

comp=Z,18µm,18.0s
UCC Uccle 78.52 30 P **P** 00 39 42.1 +0.8
IBBN Ibbenburen 78.55 28 *e*P **P** 00 39 42.3 +0.9
comp=Z,407nm,1.3s
IBBN *e*S **S** 00 49 40.8 +4.2
KSSWO Suwon 78.57 310 P P 00 39 46.0 +4.2
SNR=9.5
KSGAH Ganghwa 78.58 310 P P 00 39 50.6 +8.7
SNR=6.3
KSBON Boeun 78.59 308 P P 00 39 46.2 +4.2
SNR=16
KSCPR CHUPUNGNYEONG 78.68 308 P P 00 39 46.5 +4.0
SNR=9.1
KSCEA Cheonan 78.70 309 P P 00 39 47.0 +4.4
SNR=14
SNF Seneffe 78.72 31 P **P** 00 39 43.9 +1.4
TLY Talaya 78.95 332 P **P** 00 39 44.1 +0.4
comp=Z,611nm,1.7s,SNR=43
TLY Talaya 78.95 332 *e*P **P** 00 39 44.2 +0.5
TLY *e* 00 39 54.1
TLY *e* 00 42 40.2
TLY *e*S **S** 00 49 44.7 +3.8
TLY *e* 00 50 04.3
TLY *e*SS **SS** 00 54 50.3 +5.3
TLY pmax pmax
comp=Z,71nm,0.7s
TLY MLR MLR
comp=Z,8µm,18.0s
JNU Nakatsue 78.96 304 P **P** 00 39 45.9 +1.8
comp=Z,36nm,1.0s,baz=58,slow=3.9,SNR=7.4
JNU LR LR 01 08 45.9
comp=Z,4µm,21.0s,baz=61,slow=31
BEBN Eben Emael 79.02 30 P **P** 00 39 44.3 +0.2
comp=Z,39nm,1.3s
BAIF Baives 79.05 31 *e*P **P** 00 39 44.3 +0.1
comp=Z,420nm,1.3s
BAIF Baives 79.05 31 *e*P **P** 00 39 44.3 +0.1
BAIF Baives 79.05 31 *e*P **P** 00 39 44.3 +0.1
BUG Bochum--Univer 79.09 28 *e*P **P** 00 39 44.8 +0.4
comp=Z,132nm,1.4s
BUG *e*S **S** 00 49 45.5 +3.2
HGN Heimansgroeve 79.14 30 *e*P **P** 00 39 45.3 +0.6
comp=Z,242nm,1.1s
HGN *e*PP PP 00 42 57.7 +14
HGN *e*PPP PPP 00 44 49.6
HGN *e*S **S** 00 49 48.2 +5.3
HGN *e*SS SS 00 54 55.4 +7.5
DOU Dourbes 79.17 31 P **P** 00 39 45.3 +0.4
comp=Z,141nm,2.6s
BCLA Clavier 79.19 30 P **P** 00 39 44.6 -0.4
comp=Z,162nm,1.5s
NRDL Niedersach Rie 79.21 26 *e*P **P** 00 39 45.8 +0.8
comp=Z,306nm,1.4s
NRDL *e*S **S** 00 49 46.7 +3.3
GIVF Givet 79.26 30 *e*P **P** 00 39 45.4 0.0
comp=Z,568nm,1.3s
GIVF Givet 79.26 30 *e*P **P** 00 39 45.4 0.0
GIVF Givet 79.26 30 *e*P **P** 00 39 45.4 0.0
MEM Membach 79.30 30 P **P** 00 39 46.2 +0.6
comp=Z,104nm,1.7s
MEM Membach 79.30 30 *e*P **P** 00 39 45.7 +0.1
comp=Z,203nm,1.2s
MEM LR LR
comp=Z,31917µm,20.0s
KSBAR Backryungdo 79.39 311 P P 00 39 51.2 +4.9
SNR=9.7
PGAV Gavieira, Arco 79.51 43 *e*P **P** 00 39 47.2 +0.1
comp=Z,143nm,1.7s
PGAV Gavieira, Arco 79.51 43 *e*PP PP 00 42 50.3 +3.3
PGAV *e*S **S** 00 49 50.7 +3.2
PGAV Gavieira, Arco 79.51 43 *e*LQ LQ 01 00 45.6
PGAV *e*LR LR 01 05 11.0
comp=Z,18µm,20.0s
LCHF La Chataignera 79.64 36⇑ *e*P **P** 00 39 49.8 +2.3
PCAB Cabril 79.82 43 *e*P **P** 00 39 48.8 +0.1
comp=Z,293nm,1.5s
CLZ Clausthal 79.84 27 *e*P **P** 00 39 49.8 +1.2
comp=Z,522nm,1.5s
CLZ *e*S **S** 00 49 54.8 +4.3
MOY Mondy 79.89 333 *e*P **P** 00 39 51.2 +2.2
MOY pmax pmax
comp=Z,283nm,1.6s
PTO Porto 79.94 44 *e*P **P** 00 39 50.5 +1.3
comp=Z,249nm,1.4s
MFF Saint Martin d 79.95 35 *e*P **P** 00 39 49.1 -0.1
comp=Z,476nm,1.2s
MFF Saint Martin d 79.95 35 *e*P **P** 00 39 49.1 -0.1
MFF Saint Martin d 79.95 35 *e*P **P** 00 39 49.1 -0.1
KSKWJ Gwangju 79.98 308 P P 00 39 54.4 +4.8
SNR=6.2
WLF Walferdange 80.12 30 P **P** 00 39 49.9 -0.2
comp=Z,132nm,1.7s
WLF Walferdange 80.12 30 *e*P **P** 00 39 51.1 +1.0
comp=Z,252nm,1.4s
WLF *e*S **S** 00 49 59.2 +5.9
WLF Walferdange 80.12 30 PFAKE 00 40 00.0 +10
WLF LR LR
comp=Z,27µm,18.0s
ZAK Zakamensk 80.14 331 *e*P **P** 00 39 51.7 +1.4
ZAK *e* 00 42 52.1
ZAK pmax pmax
comp=Z,95nm,1.5s
POLO Lamas de Olo 80.19 43 *e*P **P** 00 39 51.3 +0.6
comp=Z,201nm,1.6s
POLO Lamas de Olo 80.19 43 *e*PP PP 00 42 58.5 +5.9
PVRL Vila Real 80.30 43 *e*P **P** 00 39 51.7 +0.4
comp=Z,424nm,1.6s
PBRG Braganca 80.42 42 *e*P **P** 00 39 52.4 +0.5
comp=Z,241nm,1.6s
PBRG Braganca 80.42 42 *e*PP PP 00 43 00.1 +5.7
RUE Ruedersdorf 80.42 24 *e*P **P** 00 39 52.2 +0.6
comp=Z,315nm,1.4s
RUE *e*S **S** 00 50 00.0 +3.7
RUE Ruedersdorf 80.42 24 PFAKE 00 40 00.0 +8.4
RUE LR LR
comp=Z,16µm,20.0s
DL2 Dalian 80.47 314 ⇑P P 00 39 55.9 +3.7
DL2 PP PP 00 43 00.9 +6.0
DL2 S **S** 00 50 01.5 +4.1
DL2 pmax pmax
comp=Z,210nm,1.3s
DL2 pmax pmax
comp=Z,3µm,6.4s
DL2 LR LR
comp=Z,4µm,19.6s
DL2 LR LR
comp=Z,4µm,17.7s
TNS Taunus Mts 80.52 28 *e*P **P** 00 39 53.0 +0.7
comp=Z,168nm,1.4s
TNS *e*S **S** 00 50 02.5 +4.9
UBBA Unterbreizbach 80.57 27 *e*P **P** 00 39 53.3 +0.9
comp=Z,296nm,1.8s
UBBA *e*S **S** 00 50 02.3 +4.5
PVIS Viseu 80.61 44 *e*P **P** 00 39 53.2 +0.2
comp=Z,293nm,1.6s
MEZF Maizieres J'vi 80.63 31 *e*P **P** 00 39 52.9 +0.1
comp=Z,869nm,1.7s,baz=347
MEZF Maizieres J'vi 80.63 31 *e*P **P** 00 39 52.9 +0.1
HYF Humbligny 80.63 33 *e*P **P** 00 39 52.8 -0.1
HYF Humbligny 80.63 33 *e*P **P** 00 39 52.8 -0.1
KSHAN Haenam 80.64 308 P P 00 40 03.0 +10
SNR=5.2
ULN Ulaanbaatar 80.72 328 PFAKE 00 40 00.0 +6.4
ULN LR LR
comp=Z,15µm,22.0s
MVO Moncorvo 80.73 43 *e*P **P** 00 39 54.4 +0.7
comp=Z,355nm,1.4s
MVO Moncorvo 80.73 43 *e*PP PP 00 43 01.1 +4.0
MVO *e*S **S** 00 50 03.9 +3.6
MVO Moncorvo 80.73 43 *e*LQ LQ 01 00 53.8
MVO *e*LR LR 01 05 10.2
comp=Z,21µm,20.0s
GKP Gorka Klasztor 80.77 22 *e*P **P** 00 39 54.4 +0.9
GKP *e**PP **pP** 00 40 02.7 +2.4
GKP *e*S **S** 00 50 02.5 +2.5
GKP Gorka Klasztor 80.77 22 *e*P **P** 00 39 54.4 +0.9
GKP *e*pP **pP** 00 40 02.6 +2.3
GKP *e*sP **sP** 00 40 07.6 +4.8
GKP *e*S **S** 00 50 02.4 +2.5
GKP LMZ LR 01 08 46.2
PCAS Casmilo, Conde 80.77 44 *e*P **P** 00 39 54.3 +0.5
comp=Z,409nm,1.4s
PCAS Casmilo, Conde 80.77 44 *e*PP PP 00 43 01.8 +4.5
NEUB Neuenburg 80.85 26 *e*P **P** 00 39 54.5 +0.5
comp=Z,274nm,1.1s
NEUB *e*S **S** 00 50 04.4 +3.5
PAGF Fort de Pagny 80.85 31 *e*P **P** 00 39 54.2 +0.2
comp=Z,199nm,1.4s
SFTF Sexfontaines 80.86 32 *e*P **P** 00 39 53.9 -0.2
comp=Z,854nm,1.5s
SFTF Sexfontaines 80.86 32 *e*P **P** 00 39 53.9 -0.2
ISAL Salakas 80.92 16 *e*P **P** 00 39 53.9 -0.3
ISAL AMB AMB 00 40 04.8
comp=Z,146nm,1.0s
SONA1 Songino Array 81.00 328 *e*P **P** 00 39 55.0 -0.1
SONA1 *e*PP **PP** 00 43 03.8 +4.7
SONA0 Songino Array 81.02 328 *e*P **P** 00 39 55.3 +0.2
SONA0 *e*PP **PP** 00 42 59.8 +0.6
SONA0 *e*P'P'df P'P'df 01 06 37.0 -5.3
SONM Songino Array 81.02 328 P **P** 00 39 55.3 +0.2
comp=Z,16nm,0.8s,baz=18,slow=3.1,SNR=30
SONM PP **PP** 00 42 59.8 +0.6
comp=Z,8.2nm,1.2s,baz=31,slow=8.6,SNR=3.2
SONM PKKPbc **PKKPbc** 00 58 31.6 +0.5
comp=Z,1.7nm,1.1s,baz=235,slow=2.5,SNR=6.2
SONM PKPPKP P'P'df 01 06 37.0 -5.3
comp=Z,0.8nm,1.0s,baz=221,slow=1.6,SNR=4.0
MTE Manteigas 81.02 44 *e*P **P** 00 39 55.5 +0.3
MTE LR LR 00 40 00.0 +4.8
comp=Z,20µm,20.0s
MTE Manteigas 81.02 44 *e*PP PP 00 43 03.7 +4.2
MTE *e*S **S** 00 50 08.7 +5.4
MTE Manteigas 81.02 44 *e*LQ LQ 01 01 12.3
MTE *e*LR LR 01 05 30.7
comp=Z,19µm,22.0s
MTE Manteigas 81.02 44 PFAKE
comp=Z,277nm,1.5s
PMAR Madeira 81.03 54 *e*P **P** 00 39 58.0 +2.5
comp=Z,2µm,1.4s
PTOM Tomar 81.13 45 *e*P **P** 00 39 56.2 +0.5
comp=Z,420nm,1.5s
LOR Lormes 81.14 33 *e*P **P** 00 39 55.5 -0.1
comp=Z,852nm,1.3s,baz=321
LOR *e*R
comp=Z,24µm,17.5s
LOR Lormes 81.14 33 *e*P **P** 00 39 55.5 -0.1
PMAFR Mafra 81.14 46 *e*P **P** 00 39 56.4 +0.6
comp=Z,502nm,1.5s
IIGN Ignalina 81.14 16 *e*P **P** 00 39 55.1 -0.3
IIGN AMB AMB 00 40 05.4
comp=Z,142nm,0.9s
PMPST Porto Santo, M 81.15 54 *e*P **P** 00 39 57.2 +1.3
comp=Z,705nm,1.3s
PMPST Porto Santo, M 81.15 54 *e*S S 00 50 11.1 +6.4
SSF Saint Saulge 81.16 33 *e*P **P** 00 39 55.4 -0.3
comp=Z,627nm,1.4s
SSF Saint Saulge 81.16 33 *e*P **P** 00 39 55.4 -0.3
SSF Saint Saulge 81.16 33 *e*P **P** 00 39 55.4 -0.3
PMPS Porto Santo 81.17 54 *e*P **P** 00 39 58.0 +2.0
comp=Z,743nm,1.5s
CLL Collm 81.17 25 *e*P **P** 00 39 56.2 +0.5
comp=Z,290nm,1.3s
CLL *e*pP **sP** 00 40 05.0 0.0
CLL *e*S **S** 00 50 07.8 +3.5
CLL Collm 81.17 25 *i* P **P** 00 39 56.2 +0.5
comp=Z,289nm,1.3s
CLL *e*sP **sP** 00 40 05.0 0.0
CLL *e*sPcP 00 40 10.0
CLL *e*Plp 00 40 13.0
comp=Z,2µm,17.2s
CLL *e*PP PP 00 42 55.0 -5.2
CLL *e*PPlp 00 43 19.0
CLL *e* 00 45 17.0
CLL *e* 00 46 34.0
CLL *e*S **SKSac** 00 50 09.0 -4.4
comp=N,4µm,28.6s
CLL *e*S **SKSac** 00 50 09.0 -4.4
comp=E,4µm,19.0s
CLL *e*PPS PPS 00 51 15.0
CLL *e* 00 52 12.0
CLL *e*SS **SS** 00 55 22.0 +3.9
CLL *e*SSS SSS 00 58 42.0
CLL *e* 00 59 41.0
CLL *e*SSSS 01 01 30.0
CLL Lm MLR 01 16 00.0
comp=N,8µm,21.8s
CLL Lm MLR 01 16 00.0
comp=E,17µm,19.5s
CLL Lm MLR 01 16 00.0
comp=Z,19µm,20.0s
CLL Lm(360 02 56 00.0
comp=Z,700nm,21.4s
THEF They Montfort 81.22 31⇑ *e*P **P** 00 39 57.8 +1.8
TCF Toulx Ste Croi 81.22 34 *e*P **P** 00 39 55.6 -0.5
comp=Z,517nm,1.2s
TCF Toulx Ste Croi 81.22 34 *e*P **P** 00 39 55.6 -0.5
TCF Toulx Ste Croi 81.22 34 *e*P **P** 00 39 55.6 -0.5
BGF Bois d'Agland 81.28 34 *e*P **P** 00 39 56.0 -0.4
comp=Z,538nm,1.2s
BGF Bois d'Agland 81.28 34 *e*P **P** 00 39 56.0 -0.4
BGF Bois d'Agland 81.28 34 *e*P **P** 00 39 56.0 -0.4
IDID Didziasalis 81.28 16 *e*P **P** 00 39 55.9 -0.3
IDID AMB AMB 00 40 06.5
comp=Z,109nm,1.1s
LANF Langenberg 81.30 30⇑ *e*P **P** 00 39 58.3 +1.8
AVF Avril sur Loir 81.31 33 *e*P **P** 00 39 56.0 -0.5
comp=Z,520nm,1.3s
AVF Avril sur Loir 81.31 33 *e*P **P** 00 39 56.0 -0.5
AVF Avril sur Loir 81.31 33 *e*P **P** 00 39 56.0 -0.5
LIS Lisbon 81.38 46 *e*P **P** 00 39 55.0 -2.0
LIS AMb AMB 00 40 02.3
comp=Z,453nm,2.1s
LIS *e*S **S** 00 50 06.1 -0.8
LIS Lisbon 81.38 46 *e*P **P** 00 39 55.0 -2.0
comp=Z,453nm,2.1s
LIS Lisbon 81.38 46 *e*P **P** 00 39 55.0 -2.0
LIS *e*S **S** 00 50 06.1 -0.8
LVC Limon Verde 81.41 130 PFAKE 00 40 10.0 +12
LVC LR LR
comp=Z,8µm,20.0s
PCBR Castelo Branco 81.47 44 *e*P **P** 00 39 57.8 +0.3
comp=Z,318nm,1.4s
HAU Haudompre 81.54 31 *e*P **P** 00 39 57.5 -0.3
comp=Z,468nm,1.5s
HAU *e*R
comp=Z,25µm,21.2s
HAU Haudompre 81.54 31 *e*P **P** 00 39 57.5 -0.3
HAU Haudompre 81.54 31 *e*P **P** 00 39 57.5 -0.3
CDF Champ du Feu 81.57 30 *e*P **P** 00 39 57.9 -0.1
comp=Z,570nm,1.4s
CDF Champ du Feu 81.57 30 *e*P **P** 00 39 57.9 -0.1
CDF Champ du Feu 81.57 30 *e*P **P** 00 39 57.9 -0.1
PLN Plauen 81.59 26 *e*P **P** 00 39 58.4 +0.4
comp=Z,157nm,1.4s
FBE Freiberg 81.62 25 *e*P **P** 00 39 59.0 +1.0
comp=Z,314nm,1.4s
PMTG Montargil 81.63 45 *e*P **P** 00 39 58.6 +0.3
comp=Z,237nm,1.6s
PMTG Montargil 81.63 45 *e*PP PP 00 43 07.3 +2.9
SMF Signal de Mont 81.63 33 *e*P **P** 00 39 57.6 -0.6
comp=Z,244nm,1.1s
SMF Signal de Mont 81.63 33 *e*P **P** 00 39 57.6 -0.6
SMF Signal de Mont 81.63 33 *e*P **P** 00 39 57.6 -0.6
LFF La Frestale 81.63 36 *e*P **P** 00 39 58.1 -0.1
comp=Z,630nm,1.2s
LFF La Frestale 81.63 36 *e*P **P** 00 39 58.1 -0.1
LFF La Frestale 81.63 36 *e*P **P** 00 39 58.1 -0.1
WERD Werda 81.68 26 *e*P **P** 00 39 58.7 +0.3
comp=Z,100nm,1.3s
SUW Suwalki 81.68 19 *e*P **P** 00 39 58.3 0.0
SUW *e**PP **pP** 00 40 06.9 +1.8
SUW *e*S **S** 00 50 11.7 +2.3
SUW Suwalki 81.68 19 *e*P **P** 00 39 58.2 0.0
SUW *e*pP **pP** 00 40 06.8 +1.7
SUW *e*sP **sP** 00 40 11.7 +4.1
SUW *e*S **S** 00 50 11.7 +2.3
SUW LMZ LR 01 12 15.1
SUW Suwalki 81.68 19 PFAKE 00 40 10.0 +12
SUW LR LR
comp=Z,30µm,20.0s
NACGM Naroch 81.68 16 *e*P **P** 00 39 56.0 -2.3
ECH Echery 81.68 30⇑ *e*P **P** 00 40 00.1 +1.6
RJF Les Rejaudoux 81.69 35 *e*P **P** 00 39 58.0 -0.6
comp=Z,566nm,1.2s
RJF *e*R
comp=Z,22µm,17.8s
RJF Les Rejaudoux 81.69 35 *e*P **P** 00 39 58.0 -0.6
RJF Les Rejaudoux 81.69 35 *e*P **P** 00 39 58.0 -0.6
GUNZ Gunzen 81.76 26 *e*P **P** 00 39 59.3 +0.4
comp=Z,149nm,1.4s
TANN Tannenbergstha 81.76 26 *e*P **P** 00 39 59.3 +0.4
comp=Z,119nm,1.4s
TANN *e*S **S** 00 50 15.5 +5.0
PMRV Marv??o 81.81 44 *e*P **P** 00 39 59.8 +0.5
comp=Z,412nm,1.4s
PMRV Marv??o 81.81 44 *e*S **S** 00 50 11.6 +0.2
PMRV Marv??o 81.81 44 *e*LQ LQ 01 01 39.9
PMRV *e*LR LR 01 05 08.2
comp=Z,14µm,18.0s
WERN Wernitzgruen 81.84 26 *e*P **P** 00 39 59.9 +0.6
comp=Z,196nm,1.4s
WERN *e*pP **pP** 00 40 08.6 +2.5
BRG Berggiesshubel 81.85 25 *i* P **P** 00 39 59.9 +0.6
comp=Z,310nm,1.2s
BRG *i* PCP **PcP** 00 40 04.7 -0.3
comp=Z,271nm,1.2s
BRG *e*PP PP 00 42 47.5 -18
comp=Z,62nm,1.6s
BRG S S 00 50 20.0 +8.6
BRG *e* 00 50 33.9
comp=Z,51nm,2.2s
BRG SS SS 00 55 36.0 +7.7
BRG Berggiesshubel 81.85 25 *i* P **P** 00 39 59.9 +0.6
BRG *i* 00 40 04.7
BRG S S 00 50 20.0 +8.6
BRG SS SS 00 55 36.0 +7.7
BRG pmax pmax
comp=Z,310nm,1.2s
BRG pmax pmax
comp=Z,271nm,1.2s
BRG pmax pmax
comp=Z,51nm,2.2s
BRG Berggiesshubel 81.85 25 *e*P **P** 00 39 59.9 +0.6
comp=Z,310nm,1.2s
BRG *e*S **S** 00 50 15.4 +4.0
HINF Hinteralfeld 81.89 31 *e*P **P** 00 39 59.3 -0.3
comp=Z,319nm,1.3s
HINF Hinteralfeld 81.89 31 *e*P **P** 00 39 59.3 -0.3
HINF Hinteralfeld 81.89 31 *e*P **P** 00 39 59.3 -0.3
NKC Novy Kostel 81.91 26 *e*P **P** 00 40 00.1 +0.5
NKC *e* 00 40 08.9
NKC *e* 00 43 06.3
NKC *e*S **S** 00 50 17.1 +5.1
NKC *e*SS **SS** 00 55 35.3 +6.1
NKC *e*x x 00 59 57.7
NKC AMS AMS 01 22 40.0
comp=Z,9µm,15.7s
NKC Novy Kostel 81.91 26 *e*P **P** 00 40 00.1 +0.5
NKC *e*pP **pP** 00 40 08.9 +2.4
NKC *e*PP **PP** 00 43 06.3 0.0
NKC *e*S **S** 00 50 17.1 +5.1
NKC *e*SS **SS** 00 55 35.3 +6.1
GRF Grafenberg Arr 81.94 27 *e*P **P** 00 40 00.9 +1.1
comp=Z,284nm,1.3s
GRF *e*S **S** 00 50 17.8 +5.4
GRF *e*L L 01 17 19.7
comp=Z,25µm,19.0s
MOF Molkenrain 81.97 31⇑ *e*P **P** 00 40 01.6 +1.5
PYM Petit Puy Mans 81.99 34⇑ *e*P **P** 00 40 02.3 +2.1
STU Stuttgart 81.99 29 *e*P **P** 00 40 00.9 +0.8
comp=Z,172nm,1.5s
STU *e*S **S** 00 50 18.1 +5.2
STU Stuttgart 81.99 29 PFAKE 00 40 10.0 +10
STU LR LR
comp=Z,19µm,19.0s
MANZ Manzenberg 82.00 27 *e*P **P** 00 40 00.6 +0.5
comp=Z,152nm,1.4s
MANZ *e*S **S** 00 50 17.9 +4.9
BFO Black Forest 82.03 30 P **P** 00 40 01.6 +1.2
comp=Z,544nm,1.3s,SNR=28
BFO Black Forest 82.03 30 *i* P **P** 00 40 01.9 +1.5
BFO Black Forest 82.03 30 *e*P **P** 00 40 01.0 +0.6
comp=Z,240nm,1.5s
BFO *e*S **S** 00 50 17.5 +4.1
FRNF Fournols 82.08 35⇑ *e*P **P** 00 40 01.9 +1.2
PESTR Estremoz 82.11 45 *e*P **P** 00 40 01.4 +0.5
EVO Evora 82.13 45 *e*P **P** 00 40 00.2 -0.8
comp=Z,613nm,1.2s
EVO *e*R
comp=Z,19µm,19.0s
EVO Evora 82.13 45 *e*P **P** 00 40 01.6 +0.6
comp=Z,222nm,1.6s
EVO Evora 82.13 45 *e*PP PP 00 43 09.8 +1.3
SJPF Ste Jean 82.14 38 *e*P **P** 00 40 00.5 -0.5
comp=Z,138nm,1.1s
SJPF Ste Jean 82.14 38 *e*P **P** 00 40 00.5 -0.5
SJPF Ste Jean 82.14 38 *e*P **P** 00 40 00.5 -0.5
PNCL Nicolau / Gran 82.15 46 *e*P **P** 00 40 01.8 +0.7
comp=Z,405nm,1.5s
PNCL Nicolau / Gran 82.15 46 *e*PP PP 00 43 08.2 -0.5
ROTZ Rotzenmuhle 82.22 27 *e*P **P** 00 40 02.0 +0.7
comp=Z,116nm,1.3s
ROTZ *e*S **S** 00 50 20.9 +5.7
CAF Calviac 82.23 35 *e*P **P** 00 40 01.0 -0.5
comp=Z,443nm,1.1s
CAF Calviac 82.23 35 *e*P **P** 00 40 01.0 -0.5
CAF Calviac 82.23 35 *e*P **P** 00 40 01.0 -0.5
LOMF Lomont 82.26 31⇑ *e*P **P** 00 40 03.1 +1.5
MNK Minsk 82.28 16⇑ *e*P **P** 00 40 01.0 -0.4
MNK *e* 00 43 08.0
MNK *e*S **S** 00 50 12.0 -3.6
MNK *e*PS **PnS** 00 51 06.0 +0.7
MNK *e*SSS SSS 00 59 05.0
MNK pmax pmax
comp=Z,830nm,1.0s
MNK pmax pmax
comp=N,610nm,1.0s
MNK MLR MLR
comp=N,16µm,22.0s
MNK MLR MLR
comp=Z,68µm,22.0s
MICGM Minsk 82.28 16⇑ *e*P **P** 00 40 01.0 -0.5
LARF Larrau 82.31 38⇑ *e*P **P** 00 40 03.4 +1.5
PVCC Panska Ves 82.35 25 *e*P **P** 00 40 02.9 +1.0
PVCC *e* 00 40 11.1
PVCC *e*S **S** 00 50 21.7 +5.2
PVCC *e*SS **SS** 00 55 37.4 +1.7
PVCC MLR MLR
comp=Z,15µm,17.2s
PVCC Panska Ves 82.35 25 *e*P **P** 00 40 02.9 +1.0
PVCC *e*pP **pP** 00 40 11.1 +2.4
PVCC *e*S **S** 00 50 21.7 +5.2
PVCC *e*SS **SS** 00 55 37.4 +1.7
PVCC *e*x x 01 00 01.9
PVCC AMS AMS 01 20 00.0
comp=Z,15µm,17.2s
ZAA0 Zalesovo Array 82.45 343 *e*P **P** 00 40 02.0 -0.4
ZALV Zalesovo Beam 82.45 343 *i* P **P** 00 40 02.4 0.0
ZALV pmax pmax
comp=Z,38nm,1.0s
ZALV Zalesovo Beam 82.45 343 P **P** 00 40 02.4 0.0
comp=Z,38nm,1.0s,baz=20,slow=4.9,SNR=40
ZALV PKPPKP P'P'df 01 06 33.6 -6.1
comp=Z,0.4nm,0.6s,baz=163,slow=1.5,SNR=3.9
ZALV LR LR 01 19 43.7
comp=Z,11µm,19.9s,baz=17,slow=38
PTEO Sao Teotonio 82.46 46 *e*P **P** 00 40 03.5 +0.8
comp=Z,512nm,1.5s
PTEO Sao Teotonio 82.46 46 *e*PP PP 00 43 15.8 +4.6
COLF Collangettes 82.46 34⇑ *e*P **P** 00 40 05.1 +2.4
LBL Lubilhac 82.50 34 *e*P **P** 00 40 04.8 +1.9
MESJ Messejana 82.52 46 *e*P **P** 00 40 00.9 -2.1
MESJ AMb AMB 00 40 18.9
comp=Z,221nm,1.4s
MESJ *e*S **S** 00 50 17.9 -0.8
MESJ Messejana 82.52 46 *e*P **P** 00 40 00.9 -2.1
comp=Z,221nm,1.4s
BJI Beijing 82.55 318 P **P** 00 40 04.1 +1.0
BJI S S 00 50 12.4 -6.5
BJI pmax pmax
comp=Z,3µm,6.9s
BJI LR LR
comp=Z,14µm,30.0s
BJI LR LR
comp=Z,11µm,28.2s
BJI LR LR
comp=Z,9µm,30.9s
BJT Baijiatuau 82.57 318 PFAKE 00 40 10.0 +6.7
BJT LR LR
comp=Z,8µm,20.0s
CABF La Chapelle 82.57 32 *e*P **P** 00 40 03.5 +0.2
comp=Z,737nm,1.1s

CABF	La Chapelle	82.57	32	*e*P		P	00 40 03.5	+0.2
CABF	La Chapelle	82.57	32	*e*P		P	00 40 03.5	+0.2
PBEJ	Beja	82.58	45	*e*P		P	00 40 02.8	-0.5
	comp=Z,134nm,1.7s							
PBEJ	Beja	82.58	45	*e*PP	PP		00 43 13.4	+1.2
KSP	Ksiaz	82.62	24⇓	*e*P		P	00 40 04.1	+0.8
KSP				*e**PP		pP	00 40 12.7	+2.6
KSP				*e*			00 50 22.0	
KSP				MLR	MLR			
	comp=Z,85µm,20.1s							
KSP	Ksiaz	82.62	24	*e*P		P	00 40 03.8	+0.5
KSP				*e*pP		pP	00 40 12.8	+2.6
KSP				*e*sP		sP	00 40 17.2	+4.6
KSP				*e*S		SKSac	00 50 23.1	-0.1
KSP				LMZ	LR		01 08 58.2	
ETSF	Etsaut	82.62	38	*e*P		P	00 40 03.7	+0.1
	comp=Z,190nm,0.9s							
ETSF	Etsaut	82.62	38	*e*P		P	00 40 03.7	+0.1
ETSF	Etsaut	82.62	38	*e*P		P	00 40 03.7	+0.1
MORF	Marmelete	82.67	46	*e*P		P	00 40 04.6	+0.7
	comp=Z,503nm,1.5s							
MORF	Marmelete	82.67	46	*e*P		P	00 40 01.8	-2.1
MORF				*e*S		S	00 50 19.6	-0.7
PFVI	Vila Bisbo	82.70	47	*e*P		P	00 40 04.8	+0.8
	comp=Z,596nm,1.5s							
PFVI	Vila Bisbo	82.70	47	*e*PP	PP		00 43 17.8	+4.6
PRA	Prague	82.70	25	⇓P		P	00 40 05.0	+1.3
PRA				PP		PP	00 43 14.0	+1.2
PRA				S	S		00 50 27.0	+6.9
MOS	Moscow	82.76	10ĸ	*i*P		P	00 40 03.8	-0.1
MOS				*e*			00 40 12.9	
MOS				*e*			00 43 20.0	
MOS				*e*S		S	00 50 24.6	+4.1
MOS				pmax	pmax			
	comp=Z,204nm,1.9s							
MOS				pmax	pmax			
	comp=Z,1µm,3.2s							
PCVE	Castro Verde	82.77	46	*e*P		P	00 40 05.0	+0.7
	comp=Z,265nm,1.4s							
PCVE	Castro Verde	82.77	46	*e*PP	PP		00 43 18.3	+4.5
SVE	Sverdlovsk	82.78	357	*e*P		P	00 40 04.1	+0.1
SVE				*e*			00 43 12.5	
SVE				*e*PPP	PPP		00 45 11.9	
SVE				*e*S		S	00 50 17.7	-2.9
SVE				pmax	pmax			
	comp=Z,195nm,1.4s							
SVE				pmax	pmax			
	comp=Z,806nm,9.1s							
SVE				MLR	MLR			
	comp=Z,14µm,20.0s							
SVE				MLR	MLR			
	comp=E,6µm,20.0s							
SVE				MLR	MLR			
	comp=N,8µm,21.0s							
PRU	Pruhonice	82.81	25	*e*P		P	00 40 05.0	+0.7
PRU				*e*			00 40 14.0	
PRU				*e*			00 43 13.1	
PRU				*e*S		S	00 50 26.0	+4.8
PRU				*e*SS		SS	00 55 46.2	+3.7
PRU				MLR	MLR			
	comp=Z,15µm,18.5s							
PRU	Pruhonice	82.81	25	*e*P		P	00 40 05.0	+0.7
PRU				*e*pP		pP	00 40 14.0	+2.9
PRU				*e*PP		PP	00 43 13.1	-0.6
PRU				*e*S		S	00 50 26.0	+4.8
PRU				*e*SS		SS	00 55 46.2	+3.7
PRU				*ex*	x		01 00 08.3	
PRU				AMS	AMS		01 17 50.0	
	comp=Z,15µm,18.5s							
UPC	Upice	82.83	24	*e*P		P	00 40 04.9	+0.5
UPC	Upice	82.83	24	*e*P		P	00 40 04.9	+0.5
UPC				*ex*	x		00 40 14.2	
EPF	Esparros	82.94	37	*e*P		P	00 40 04.6	-0.6
	comp=Z,360nm,1.6s							
EPF	Esparros	82.94	37	*e*P		P	00 40 04.6	-0.6
EPF	Esparros	82.94	37	*e*P		P	00 40 04.6	-0.6
SSB	Saint Sauveur	83.01	34⇑	*e*P		P	00 40 06.8	+1.3
BEL	Belsk	83.04	21	*e*P		P	00 40 06.0	+0.6
BEL				*e**PP		pP	00 40 15.1	+2.8
BEL				*e*S		SKSac	00 50 27.7	+1.8
BEL				MLR	MLR			
	comp=Z,19µm,22.5s							
BEL	Belsk	83.04	21	*e*P		P	00 40 06.0	+0.6
BEL				*e*pP		pP	00 40 15.1	+2.8
BEL				*e*sP		sP	00 40 19.2	+4.5
BEL				*e*S		SKSac	00 50 27.7	+1.8
BEL				LMZ	LR		01 16 43.6	
OG01	Vacheresse	83.04	32⇑	*e*P		P	00 40 07.8	+2.1
DPC	Dobruska-Polom	83.06	24	*e*P		P	00 40 06.4	+0.7
DPC				*e*			00 40 15.5	
DPC				*e*			00 43 15.4	
DPC				*e*S		S	00 50 28.8	+4.9
DPC				*e*SS		SS	00 55 45.5	-0.8
DPC	Dobruska-Polom	83.06	24	*e*P		P	00 40 06.4	+0.7
DPC				*ex*	x		00 40 15.5	
DPC				*e*PP		PP	00 43 15.4	-0.4
DPC				*e*S		S	00 50 28.8	+4.9
DPC				*e*SS		SS	00 55 45.5	-0.8
DPC				*ex*	x		01 00 07.4	
DPC				AMS	AMS		01 16 50.0	
DPC	Dobruska-Polom	83.06	24	*e*P		P	00 40 05.7	0.0
	comp=Z,1µm,1.3s							
DPC				LR	LR			
	comp=Z,111µm,20.0s							
RESF	Ens	83.11	37⇑	*e*P		P	00 40 08.5	+2.3
PBDV	Barranco-do-Ve	83.11	46	*e*P		P	00 40 07.2	+1.0
	comp=Z,238nm,1.5s							
PBDV	Barranco-do-Ve	83.11	46	*e*PP	PP		00 43 19.5	+2.8
PVAQ	Vaqueiros	83.11	46	*e*P		P	00 40 06.9	+0.8
	comp=Z,235nm,1.5s							
PVAQ	Vaqueiros	83.11	46	*e*S		S	00 50 23.8	-0.9
PVAQ	Vaqueiros	83.11	46	*e*LQ	LQ		01 01 58.4	
PVAQ				*e*LR	LR		01 05 17.7	
	comp=Z,16µm,20.0s							
OBN	Obninsk	83.22	11	P		P	00 40 07.7	+1.4
	comp=Z,1µm,0.8s,SNR=11							
OBN	Obninsk	83.22	11	*d*/P		P	00 40 05.8	-0.5
OBN				*i*			00 40 12.3	
OBN				*i*			00 43 20.9	
OBN				*i* S		S	00 50 23.3	-1.9
OBN				*i* SS		SS	00 55 47.7	-0.5
OBN				pmax	pmax			
	comp=Z,258nm,1.6s							
OBN				MLR	MLR			
	comp=Z,12µm,15.0s							
OBN	Obninsk	83.22	11	*e*P		P	00 40 07.1	+0.8
OBN	Obninsk	83.22	11	P		P	00 40 07.1	+0.8
	comp=Z,31nm,0.6s,baz=305,slow=1.1,SNR=21							
KHC	Kasperske Hory	83.23	26	*d*/P		P	00 40 07.3	+0.7
KHC				pmax	pmax			
	comp=Z,856nm,1.7s							
KHC				MLR	MLR			
	comp=Z,48µm,18.0s							
KHC	Kasperske Hory	83.23	26	*e*P		P	00 40 07.2	+0.7
KHC				*ex*	x		00 40 17.5	
KHC				*e*PP		PP	00 43 17.2	0.0
KHC				*e*S		S	00 50 31.5	+5.9
KHC				*e*SS		SS	00 55 51.3	+2.4
KHC				*ex*	x		01 00 14.2	
KHC				AMS	AMS		01 22 20.0	
	comp=Z,16µm,16.3s							
KHC	Kasperske Hory	83.23	26	PFAKE			00 40 10.0	+3.4
KHC				LR	LR			
	comp=Z,13µm,18.2s							
ARU	Arti	83.24	358	P		P	00 40 06.4	0.0
	comp=Z,882nm,1.0s,SNR=12							
ARU	Arti	83.24	358	*d*/P		P	00 40 05.4	-1.0
ARU							00 43 17.0	
ARU				PPP	PPP		00 45 09.0	
ARU				S	S		00 50 24.1	-1.2
ARU				pmax	pmax			
	comp=Z,150nm,2.5s							
ARU				MLR	MLR			
	comp=Z,12µm,19.0s							
MELF	Melles	83.25	37⇑	*e*P		P	00 40 09.2	+2.3
FUR	Furstenfeldbru	83.25	28	*e*P		P	00 40 07.8	+1.1
	comp=Z,477nm,1.6s							
FUR				*e*S	S		00 50 34.4	+8.5
SENIN	Lac Senin/Sane	83.26	31	*e*P		P	00 40 07.2	+0.2
	comp=Z,845nm,2.5s							
SENIN				LR	LR			
	comp=Z,37µm,18.0s							
PAB	San Pablo	83.31	42	PFAKE			00 40 20.0	+13
PAB				LR	LR			
	comp=Z,20µm,20.0s							
MLS	Moulis	83.34	37⇑	*e*P		P	00 40 08.6	+1.4
VIVF	Saint-Julien-l	83.41	34	*e*P		P	00 40 07.5	-0.1
	comp=Z,634nm,1.4s							
VIVF	Saint-Julien-l	83.41	34	*e*P		P	00 40 07.5	-0.1
VIVF	Saint-Julien-l	83.41	34	*e*P		P	00 40 07.5	-0.1
ESDC	Sonseca Array	83.41	42	*e*P		P	00 40 07.9	+0.2
ESDC				*e*P'P'df		P'P'df	01 06 34.6	-2.8
ESDC	Sonseca Array	83.41	42	P		P	00 40 07.9	+0.2
	comp=Z,92nm,1.0s,baz=312,slow=4.8,SNR=158							
ESDC				PKKPbc		PKKPbc	00 58 25.5	+0.1
	comp=Z,1.0nm,0.8s,baz=126,slow=2.3,SNR=2.8							
ESDC				PKPPKP		P'P'df	01 06 34.6	-2.8
	comp=Z,1.6nm,1.0s,baz=177,slow=2.7,SNR=4.3							
ESDC				LR	LR		01 14 38.8	
	comp=Z,10µm,19.1s,baz=315,slow=34							
ES19	SONSECA Array	83.42	42	*e*P		P	00 40 07.3	-0.4
KRLC	Kraliky	83.44	24	*e*P		P	00 40 08.3	+0.6
KRLC				*e*			00 43 18.2	
KRLC	Kraliky	83.44	24	*e*P		P	00 40 08.3	+0.6
KRLC				*ex*	x		00 40 17.8	
KRLC				*e*PP		PP	00 43 18.2	-0.7
DAVA	Damuels	83.48	29⇓	*i*PcP		P	00 40 09.2	+1.1
	comp=Z,2µm,3.2s,SNR=28							
GEC2	GERESS Array S	83.52	26	*e*P		P	00 40 08.7	+0.5
	comp=Z,221nm,1.6s							
GEC2				*e*S	S		00 50 36.6	+7.9
GERES	GERESS Array B	83.52	26	P		P	00 40 08.7	+0.5
	comp=Z,22nm,1.0s,baz=338,slow=3.2,SNR=62							
GERES				PKKPbc		PKKPbc	00 58 28.1	+2.7
	comp=Z,0.9nm,0.8s,baz=163,slow=3.8,SNR=5.4							
GERES				PKPPKP	P'P'df		01 06 32.5	-5.3
	comp=Z,1.4nm,0.9s,baz=172,slow=2.7,SNR=7.1							
GERES				LR	LR		01 18 44.1	
	comp=Z,7µm,18.3s,baz=314,slow=37							
RSL	Roselend	83.54	32⇑	*e*P		P	00 40 10.2	+1.8
GRN	Grenoble	83.54	33⇑	*e*P		P	00 40 10.1	+1.8
RETA	Reutte	83.64	29⇓	*i*PcP		P	00 40 09.7	+0.9
	comp=Z,2µm,3.8s,SNR=22							
LASF	Ste Croix	83.69	35	*e*P		P	00 40 09.0	0.0
	comp=Z,590nm,1.3s							
LASF	Ste Croix	83.69	35	*e*P		P	00 40 09.0	0.0
TREC	Trest	83.72	25	*e*P		P	00 40 09.6	+0.5
TREC				*e*			00 40 18.7	
TREC				*e*			00 43 19.6	
TREC				*e*S		S	00 50 33.6	+3.1
TREC				*e*SS		SS	00 55 59.2	+3.2
TREC				MLR	MLR			
	comp=Z,17µm,17.0s							
TREC	Trest	83.72	25	*e*P		P	00 40 09.6	+0.5
TREC				*ex*	x		00 40 18.7	
TREC				*e*PP		PP	00 43 19.6	-1.6
TREC				*e*S		S	00 50 33.6	+3.1
TREC				*e*SS		SS	00 55 59.2	+3.2
TREC				*ex*	x		01 00 18.7	
TREC				AMS	AMS		01 20 50.0	
	comp=Z,17µm,17.0s							
LPL	La Plagne	83.72	32	*e*P		P	00 40 10.0	+0.6
	comp=Z,645nm,1.5s							
LPL	La Plagne	83.72	32	*e*P		P	00 40 10.0	+0.6
LPL	La Plagne	83.72	32	*e*P		P	00 40 10.0	+0.6
GDM	Grand'Maison	83.73	33⇑	*e*P		P	00 40 11.3	+1.9
LPG	La Plagne	83.75	32	*e*P		P	00 40 10.3	+0.7
	comp=Z,843nm,1.5s							
LPG	La Plagne	83.75	32	*e*P		P	00 40 10.3	+0.7
LPG	La Plagne	83.75	32	*e*P		P	00 40 10.3	+0.7
ORIF	Oris-en-Rattie	83.86	33	*e*P		P	00 40 10.0	0.0
	comp=Z,535nm,1.3s							
ORIF				*e*R				
	comp=Z,22µm,21.8s							
ORIF	Oris-en-Rattie	83.86	33	*e*P		P	00 40 10.0	0.0
ORIF	Oris-en-Rattie	83.86	33	*e*P		P	00 40 10.0	0.0
RAC	Raciborz	83.86	23	*e*P		P	00 40 10.6	+0.9
RAC				MLR	MLR			
	comp=Z,21µm,18.2s							
RAC				MLR	MLR			
	comp=N,15µm,18.5s							
MOTA	Moosalm	83.89	29⇑	*i*PcP		P	00 40 10.6	+0.5
	comp=N,212nm,1.4s,SNR=39							
OG26	St.-Nazaire-De	83.90	34⇑	*e*P		P	00 40 12.3	+2.2
DAVOX	Davos/Dischmat	83.91	30	*e*P		P	00 40 11.3	+1.0
DAVOX	Davos/Dischmat	83.91	30	P		P	00 40 11.3	+1.0
	comp=N,57nm,1.0s,baz=327,slow=6.8,SNR=39							
MORC	Moravsky Berou	83.94	24	*e*PP	PP		00 43 16.4	-6.6
MORC				LR	LR			
	comp=Z,23µm,18.0s							
TUE	Stuetta	83.96	30	PFAKE			00 40 20.0	+9.4
TUE				LR	LR			
	comp=Z,30µm,19.0s							
CARF	Carcanieres	83.99	37⇑	*e*P		P	00 40 12.1	+1.4
LRDF	Laroque-de-Fa	84.01	36⇑	*e*P		P	00 40 12.3	+1.6
FETA	Feichten	84.02	29⇓	*i*PcP		P	00 40 12.3	+1.4
	comp=Z,1µm,2.1s,SNR=44							
VRAC	Vranov	84.06	24	*e*P		P	00 40 11.4	+0.6
VRAC	Vranov	84.06	24	P		P	00 40 11.4	+0.6
	comp=Z,160nm,1.1s,baz=331,slow=4.3,SNR=119							
WATA	Walderalm	84.06	28⇑	*i*PcP		P	00 40 11.7	+0.7
	comp=Z,296nm,1.3s,SNR=63							
OKC	Ostrava-Krasne	84.07	23	*e*P		P	00 40 10.6	-0.2
OKC				*e*S		S	00 50 35.6	+1.7
OKC				*e*SS		SS	00 56 05.9	+4.8
OKC				MLR	MLR			
	comp=Z,15µm,17.2s							
OKC	Ostrava-Krasne	84.07	23	*e*P		P	00 40 10.6	-0.2
OKC				*e*S		S	00 50 35.6	+1.7
OKC				*e*SS		SS	00 56 05.9	+4.8
OKC				*ex*	x		01 00 20.0	
OKC				AMS	AMS		01 19 00.0	
	comp=Z,15µm,17.2s							
BNI	Bardonecchia	84.08	32	PFAKE			00 40 20.0	+8.8
BNI				LR	LR			
	comp=Z,24µm,21.0s							
WTTA	Wattenberg	84.15	28⇓	*i*PcP		P	00 40 12.6	+1.1
	comp=Z,3µm,4.0s,SNR=43							
RJOB	Jochberg	84.16	27	*e*P		P	00 40 12.1	+0.7
	comp=Z,150nm,1.3s							
RJOB				*e*pP		pP	00 40 20.8	+2.6
RJOB				*e*S	S		00 50 44.3	+9.2
FUORN	Ofenpass-Fuorn	84.19	29	*e*P		P	00 40 12.5	+0.7
	comp=Z,729nm,1.1s							
FUORN				LR	LR			
	comp=Z,21µm,18.9s							
VALF	Valcebollere	84.20	37⇑	*e*P		P	00 40 13.5	+1.7
OJC	Ojcow	84.21	22	*e*P		P	00 40 12.0	+0.5
OJC				*e**PP		pP	00 40 20.7	+2.3
OJC				*e*			00 43 30.1	
OJC				*e*			00 50 34.4	
OJC				*e*SS	SS		00 56 10.4	+7.2
OJC				MLR	MLR			
	comp=Z,22µm,18.7s							
OJC	Ojcow	84.21	22	*e*P		P	00 40 12.0	+0.5
OJC				*e*pP		pP	00 40 20.7	+2.3
OJC				*e*PP		PP	00 43 30.1	+4.9
OJC				*e*SKSac		SKSac	00 50 34.4	+0.7
OJC				*e*SS	SS		00 56 10.4	+7.2
OJC				L	L		01 18 47.0	
	comp=Z,22µm,18.7s							
OJC	Ojcow	84.21	22	*e*P		P	00 40 11.3	-0.2
	comp=Z,332nm,1.2s							
OJC				LR	LR			
	comp=Z,17µm,19.0s							
HHC	Hu-ho-hao-te	84.23	321	*i* P		P	00 40 12.9	+0.9
HHC				sP		sP	00 40 21.2	-0.1
HHC				PP		PP	00 43 22.0	-3.8
HHC				S		SKSac	00 50 34.6	+0.2
HHC				sS		sS	00 50 44.0	-3.5
HHC				SS		SS	00 56 04.2	-0.1
HHC				pmax	pmax			
	comp=Z,230nm,1.4s							
HHC				pmax	pmax			
	comp=Z,7µm,6.5s							
HHC				LR	LR			
	comp=Z,12µm,22.6s							
HHC				LR	LR			
	comp=Z,15µm,25.5s							
HHC				LR	LR			
	comp=Z,14µm,22.6s							
MBDF	Montbardon	84.39	33	*e*P		P	00 40 13.2	+0.5
	comp=Z,614nm,1.1s							
MBDF	Montbardon	84.39	33	*e*P		P	00 40 13.2	+0.5
MBDF	Montbardon	84.39	33	*e*P		P	00 40 13.2	+0.5
SMRF	Simiane la Rot	84.50	34	*e*P		P	00 40 13.4	+0.2
	comp=Z,472nm,1.3s							
SMRF	Simiane la Rot	84.50	34	*e*P		P	00 40 13.4	+0.2
SJAF	Saint Jean de	84.52	36⇑	*e*P		P	00 40 14.7	+1.4
SURF	Saint Ours	84.61	33⇑	*e*P		P	00 40 16.5	+2.6
JOW	Kunigami	84.85	301	PFAKE			00 40 20.0	+4.8
JOW				LR	LR			
	comp=Z,5µm,19.5s							
JOW	Kunigami	84.85	301	P		P	00 40 18.2	+3.0
	comp=Z,3.8nm,0.8s							
JOW				LR	LR		01 12 19.5	
	comp=Z,303nm,21.8s,slow=32							
TIA	Tai'an	84.89	314	P		P	00 40 16.5	+1.3
TIA				PP		PP	00 43 28.2	-3.0
TIA				S		S	00 50 41.9	-0.7
TIA				SS		SS	00 56 15.5	+1.4
TIA				pmax	pmax			
	comp=Z,100nm,1.1s							
TIA				pmax	pmax			
	comp=Z,1µm,4.2s							
TIA				LR	LR			
	comp=Z,8µm,22.3s							
TIA				LR	LR			
	comp=Z,6µm,20.8s							
TIA				LR	LR			
	comp=Z,11µm,37.0s							
ABTA	Abfaltersbach	84.90	28⇑	*i*PcP		P	00 40 15.4	+0.2
	comp=Z,2µm,3.7s,SNR=38							
KBA	Koelnbreinsper	84.91	27⇓	*i*PcP		P	00 40 16.2	+0.8
	comp=Z,3µm,3.8s,SNR=41							
LEPF	PUYLOUBIER	84.92	34	*e*P		P	00 40 17.0	+1.8
CONA	Conrad Observa	85.03	26⇓	*i*PcP		P	00 40 16.9	+1.0
	comp=Z,1µm,2.1s,SNR=74							
NIE	Niedzica	85.08	22	*e*P		P	00 40 16.7	+0.7
NIE				*e**PP		pP	00 40 25.9	+3.1
NIE				*e*			00 50 40.4	
NIE				*e*SS	SS		00 56 24.3	+8.2
NIE				MLR	MLR			
	comp=Z,14µm,18.0s							
NIE	Niedzica	85.08	22	*e*P		P	00 40 16.7	+0.7
NIE				*e*pP		pP	00 40 25.9	+3.1
NIE				*e*SKSac		SKSac	00 50 40.4	+1.0
NIE				*e*SS	SS		00 56 24.3	+8.2
NIE				L	L		01 20 14.0	
	comp=Z,14µm,18.0s							
BTO	Baotou	85.16	322	*e*P		P	00 40 17.9	+1.3
BTO				S		S	00 50 44.4	-1.0
TOUF	Mont Tournerai	85.17	33⇑	*e*P		P	00 40 19.4	+2.7
MVIF	Mont Vial	85.22	33⇑	*e*P		P	00 40 19.4	+2.5
CALN	Calern	85.23	33⇑	*e*P		P	00 40 19.5	+2.5
AUTN	L'Aution	85.26	33⇑	*e*P		P	00 40 20.2	+3.0
HNR	Honiara	85.34	253	P		P	00 40 19.9	+2.2
	comp=Z,14nm,0.4s,baz=28,slow=22,SNR=5.0							
HNR	Honiara	85.34	253	P		P	00 40 25.0	+7.3
STHS	Stebnicka Huta	85.35	22	*e*P		P	00 40 18.5	+1.2
STHS				pmax	pmax			
	comp=Z,138nm,1.2s							
STHS	Stebnicka Huta	85.35	22	*e*PCP		P	00 40 18.5	+1.2
SBF	Sospel	85.37	33	*e*P		P	00 40 17.0	-0.6
	comp=Z,767nm,1.5s							
SBF	Sospel	85.37	33	*e*P		P	00 40 17.0	-0.6
SBF	Sospel	85.37	33	*e*P		P	00 40 17.0	-0.6
LCO	Las Campanas	85.38	135	PFAKE			00 40 30.0	+12
LCO				LR	LR			
	comp=Z,12µm,21.0s							
MYKA	Terra Mystica	85.40	27⇓	*i*PcP		P	00 40 17.9	+0.2
	comp=Z,1µm,4.0s,SNR=29							
LMR	La Mourre	85.42	34	*e*P		P	00 40 17.3	-0.4
	comp=Z,607nm,1.2s							
LMR	La Mourre	85.42	34	*e*P		P	00 40 17.3	-0.4
LMR	La Mourre	85.42	34	*e*P		P	00 40 17.3	-0.4
REVF	Revere	85.44	33⇑	*e*P		P	00 40 20.4	+2.5
SOP	Sopron	85.47	25⇓	*e*P		P	00 40 19.1	+1.2
ARSA	Arzberg	85.51	26	*i* PcP		P	00 40 19.2	+1.0
	comp=Z,2µm,3.6s,SNR=46							
KWP	Kalwaria Pacla	85.55	21	*e*P		P	00 40 18.3	0.0
KWP				*e*S	S		00 50 55.1	+6.3
KWP	Kalwaria Pacla	85.55	21	*e*P		P	00 40 18.2	0.0
KWP				*e*pP		pP	00 40 28.0	+2.8
KWP				*e*S	S		00 50 55.0	+6.3
KWP				LMZ	LR		01 10 39.8	
KWP	Kalwaria Pacla	85.55	21	PFAKE			00 40 30.0	+12
KWP				LR	LR			
	comp=Z,26µm,21.0s							
BRVK	Borovoye	85.78	351	P		P	00 40 20.2	+0.9
	comp=Z,2µm,1.0s,SNR=29							
BRVK	Borovoye	85.78	351	*d*/P		P	00 40 19.6	+0.3
BRVK				pmax	pmax			
	comp=Z,245nm,1.7s							
BRVK	Borovoye	85.78	351	PFAKE			00 40 30.0	+11
BRVK				LR	LR			
	comp=Z,13µm,21.0s							
CADS	Cadrg	85.78	28	*e*P		P	00 40 20.0	+0.5
BVA0	Borovoye Array	85.80	351	*i* P		P	00 40 19.5	0.0
BVA0				pmax	pmax			
	comp=Z,287nm,1.2s							
BVAR	Borovoye Array	85.80	351	P		P	00 40 19.7	+0.3
BVAR				pmax	pmax			
	comp=Z,59nm,1.0s							
BVAR	Borovoye Array	85.80	351	P		P	00 40 19.7	+0.3
	comp=Z,59nm,1.0s,baz=26,slow=3.8,SNR=48							
BVAR				PKKPbc		PKKPbc	00 58 20.2	+0.1
	comp=Z,2.7nm,0.8s,baz=246,slow=1.4,SNR=8.9							
BVAR				PKPPKP		P'P'df	01 06 29.1	-4.5
	comp=Z,1.6nm,0.9s,baz=108,slow=0.5,SNR=6.0							
BVAR				LR	LR		01 21 53.6	
	comp=Z,12µm,21.0s,baz=8.5,slow=38							
OBKA	Obir	85.82	27⇓	*i*PcP		P	00 40 19.9	+0.1
	comp=Z,2µm,3.9s,SNR=26							
SOKA	Soboth	85.84	27⇓	*i*PcP		P	00 40 20.2	+0.3
	comp=Z,700nm,1.8s,SNR=55							
CRVS	Cervenica-Dubn	85.87	22	*e*P		P	00 40 21.3	+1.4
CRVS				pmax	pmax			
	comp=Z,224nm,1.6s							
CRVS	Cervenica-Dubn	85.87	22	*e*PCP		P	00 40 21.3	+1.4
PERS	Pernice	85.91	27	*i* P		P	00 40 20.4	+0.2
PERS				*e*			00 40 35.1	
PERS				*e*SKSac		S	00 50 57.8	+5.3
PERS				*e*SS		SS	00 56 34.3	+5.8
KOLS	Kolonicke sedl	86.07	21	*e*P		P	00 40 21.6	+0.7
KOLS				pmax	pmax			
	comp=Z,133nm,1.5s							
KOLS	Kolonicke sedl	86.07	21	*e*PCP		P	00 40 21.6	+0.7
RTC	Rabat Centre	86.08	48	PFAKE			00 40 30.0	+8.8
RTC				LR	LR			
	comp=Z,14µm,

SSE pmax pmax
comp=Z,790nm,5.9s
SSE LR LR
comp=Z,3μm,19.7s
SSE LR LR
comp=Z,4μm,19.7s
SSE LR LR
comp=Z,4μm,18.4s
CSKK Cs^‡kako 86.30 24⇓ *e*P **P 00 40 24.9 +2.9**
VLC Villacollemand 86.30 31 PFAKE 00 40 30.0 +7.9
VLC LR LR
comp=Z,41μm,19.0s
PSZ Piszkesteto 86.30 23 PFAKE
PSZ LR LR
comp=Z,20μm,18.0s
PSZ Piszkesteto 86.30 23⇓ *e*P **P 00 40 23.5 +1.4**
PKSG 86.31 24⇑ *e*P **P 00 40 23.9 +1.8**
PKST T^'s 86.32 25⇑ *e*P **P 00 40 23.7 +1.6**
UZH Uzhgorod 86.35 21 *e*P **P 00 40 20.6 -1.6**
UZH *i* 00 40 22.4
UZH *i* 00 40 28.0
UZH *i* 00 43 40.6
UZH *e* 00 45 38.8
UZH *e*S **S 00 50 50.8 -5.7**
UZH *i* 00 52 01.6
UZH *e* 01 00 09.6
BUD Budapest 86.43 24⇓ *e*P **P 00 40 23.8 +1.2**
VISS Visnje 86.54 27 *i* P **P 00 40 23.1 -0.1**
VISS *e* 00 40 38.5
VISS *e*SKSac S 00 51 05.0 +6.5
BEHE Becsehely 86.61 26⇓ *e*P **P 00 40 24.4 +0.8**
KURK Kurchatov 86.78 346 P **P 00 40 24.3 0.0**
comp=Z,513nm,1.2s,SNR=21
KURK Kurchatov 86.78 346 *d i* P **P 00 40 24.2 0.0**
KURK pmax pmax
comp=Z,142nm,1.1s
KURK MLR MLR
comp=Z,8μm,24.0s
KURK Kurchatov 86.78 346 *e*P **P 00 40 24.5 +0.2**
KURK *e*PKKPdf **PKKPbc 00 58 17.6 0.0**
PKS7 Kunszentmiklos 86.86 24⇑ *e*P **P 00 40 26.6 +1.9**
TRPA Tarpa 86.88 21⇓ *e*P **P 00 40 25.5 +0.7**
KURBB Kurchatov Arra 86.88 346 P **P 00 40 24.5 -0.3**
comp=Z,58nm,0.9s,baz=18,slow=4.7,SNR=121
KURBB PKKPbc **PKKPbc 00 58 17.6 +0.2**
comp=Z,1.5nm,0.9s,baz=209,slow=2.2,SNR=5.0
KURBB PKPPKP **P'P'df 01 06 26.9 -4.6**
comp=Z,2.4nm,1.2s,baz=229,slow=1.9,SNR=5.9
BOJS Bojanci 86.94 27 *i* P **P 00 40 25.8 +0.6**
BOJS *e* 00 40 40.8
BOJS *e*SKSac **S 00 51 05.9 +3.5**
BOJS *e*SS **SS 00 56 49.9 +6.4**
NJ2 Nanjing 86.97 311 *e*P P 00 40 28.8 +3.2
NJ2 pP pP 00 40 34.6 +2.2
NJ2 sP sP 00 40 36.1 +1.2
NJ2 SKS SKSac 00 50 43.5 -8.2
NJ2 S **SKKSac 00 50 56.0 -4.3**
NJ2 pmax pmax
comp=Z,80nm,1.1s
NJ2 pmax pmax
comp=Z,3μm,6.8s
NJ2 LR LR
comp=Z,4μm,22.7s
NJ2 LR LR
comp=Z,3μm,26.8s
NJ2 LR LR
comp=Z,3μm,22.0s
PKS9 Tamasi 86.99 25⇑ *e* **P 00 40 26.7 +1.3**
PGF Pioggiola 87.10 32 *e*P **P 00 40 25.9 -0.3**
comp=Z,1μm,1.8s
PGF Pioggiola 87.10 32 *e*P **P 00 40 25.9 -0.3**
PGF Pioggiola 87.10 32 *e*P **P 00 40 25.9 -0.3**
PKSN Nyarlorinc 87.21 24⇑ *e*P **P 00 40 28.4 +2.0**
SISC Sisak 87.35 26 P **P 00 40 27.1 0.0**
VSR Storozhevoye 87.39 10 *e*P **P 00 40 26.5 -0.7**
VSR *e**SP **sP 00 40 34.8 -1.7**
VSR *e*S **SKKSac 00 51 02.1 -0.6**
VSR pmax pmax
comp=N,80nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,120nm,1.1s
VSR smax smax
comp=E,4μm,7.4s
VSR smax smax
comp=Z,840nm,4.8s
VSR smax smax
comp=N,2μm,6.2s
PKSM Moragy 87.44 25⇓ *e*P **P 00 40 27.8 -0.2**
NVLJ Novalja 87.62 28 P **P 00 40 30.0 +1.5**
VORD Divnogorie 87.65 10 *e*P **P 00 40 27.2 -1.3**
VORD *e**SP **sP 00 40 35.8 -2.0**
VORD *e*S **S 00 51 09.7 +0.8**
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=Z,70nm,0.9s
VORD pmax pmax
comp=E,50nm,0.7s
VORD smax smax
comp=E,4μm,7.1s
VORD smax smax
comp=Z,670nm,7.3s
VORD smax smax
comp=N,2μm,6.0s
VRHR Novokhopersk 87.81 9 *e*P **P 00 40 27.8 -1.4**
VRHR *e**SP **sP 00 40 36.7 -1.9**
VRHR *e*S **S 00 51 08.8 -1.7**
VRHR pmax pmax
comp=Z,80nm,1.2s
VRHR pmax pmax
comp=N,60nm,1.1s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR smax smax
comp=E,4μm,9.3s
VRHR smax smax
comp=Z,1μm,5.7s
VRHR smax smax
comp=N,1μm,4.5s
VRHR MLR MLR
comp=N,7μm,20.0s
VRHR MLR MLR
comp=Z,12μm,20.0s
VRHR MLR MLR
comp=E,8μm,19.0s
UDBI Udbina 87.97 27 P **P 00 40 30.3 +0.1**
BUR04 Bucovina Ar. S 88.06 20 *e*P **P 00 40 30.7 0.0**
DRGR 88.14 22 P **P 00 40 30.9 -0.1**
MDT Midelt 88.21 47 *e*P **P 00 40 32.4 +0.7**
MDT Midelt 88.21 47 P **P 00 40 32.4 +0.7**
comp=E,74nm,0.9s,baz=319,slow=5.5,SNR=81
AQU L'Aquila 88.99 30 PFAKE 00 40 40.0 +4.9
AQU LR LR
comp=Z,24μm,22.0s
AKTO Aktyubinsk 89.25 358 P **P 00 40 36.7 +0.6**
AKTO pmax pmax
comp=Z,84nm,1.3s
AKTO Aktyubinsk 89.25 358 P **P 00 40 36.7 +0.6**
comp=Z,84nm,1.3s,baz=349,slow=5.2,SNR=30
AKTO PKPPKP P'P'df 01 06 20.6 -6.4
comp=Z,0.6nm,0.7s,baz=217,slow=5.1,SNR=2.9
DZM Mont Dzumac 89.47 240 *e*P **P 00 40 37.1 -0.4**
comp=Z,502nm,1.3s
DZM Mont Dzumac 89.47 240 *e*PP PP 00 44 08.7 -0.5
comp=Z,728nm,24.8s
DZM *e*S **S 00 51 25.0 -2.0**
comp=Z,6μm,27.9s
DZM *e*SS **SS 00 57 18.4 -4.8**
comp=Z,12μm,28.6s
DZM *e*LQ LQ 01 04 02.1
comp=Z,27μm,40.2s
DZM *e*LR LR 01 07 59.1
comp=Z,13μm,29.5s
DZM Mont Dzumac 89.47 240 P **P 00 40 39.3 +1.8**
comp=Z,95nm,1.2s,baz=65,slow=8.9,SNR=9.7
DZM Mont Dzumac 89.47 240 *e*P **P 00 40 39.0 +1.5**
KIS Kishinev 89.53 18⇑ *i*P **P 00 40 38.0 +0.5**
KIS *i* 00 44 06.0
KIS *i* 00 51 06.0
KIS *i* S **S 00 51 24.0 -2.9**
KIS pmax pmax
comp=Z,300nm,2.0s
KIS MLR MLR
comp=N,10μm,18.0s
KIS MLR MLR
comp=Z,15μm,18.0s
KIS MLR MLR
comp=E,6μm,17.0s
KIS MLR MLR
comp=Z,14μm,20.0s
KIS Kishinev 89.53 18⇑ *i*P **P 00 40 38.0 +0.5**
comp=Z,300nm,2.0s
KIS *i* SKS **SKSac 00 51 06.0 -0.5**
KIS *i* S **S 00 51 24.0 -2.9**
KIS Kishinev 89.53 18 *i* PS PS 00 52 26.0 -7.8
KIS *i* SS SS 00 57 04.0 -17
KIS LRM MLR 01 21 24.0
comp=Z,14μm,20.0s
NOUC Port Laguerre 89.58 240 *e*P P 00 40 48.2 +10
MK31 Makanchi Array 89.72 342 *ce*P **P 00 40 38.0 -0.4**
MK31 pmax pmax
comp=Z,159nm,1.1s
MK32 Makanchi Array 89.72 342 *e*P **P 00 40 38.3 -0.1**
MK32 *e*PKKPdf **PKKPbc 00 58 10.8 +0.2**
MK32 *e*P'P'df **P'P'df 01 06 22.0 -4.1**
MKAR Makanchi Array 89.72 342 *ce*P **P 00 40 38.0 -0.4**
MKAR pmax pmax
comp=Z,14nm,1.0s
MKAR Makanchi Array 89.72 342 *e*P **P 00 40 38.7 +0.3**
MKAR Makanchi Array 89.72 342 P **P 00 40 38.3 -0.1**
comp=Z,14nm,1.0s,baz=20,slow=3.9,SNR=34
MKAR PKKPbc **PKKPbc 00 58 10.8 +0.2**
comp=Z,0.4nm,0.7s,baz=212,slow=5.1,SNR=3.7
MKAR PKPPKP **P'P'df 01 06 22.0 -4.1**
comp=Z,0.6nm,0.9s,baz=204,slow=2.7,SNR=3.7
MKAR LR LR 01 22 52.1
comp=Z,10μm,21.3s,baz=13,slow=37
MK01 Makanchi Array 89.73 342 *e*P **P 00 40 38.1 -0.4**
DIVS Divibare 89.76 25 P **P 00 40 38.2 -0.5**
VRI Vrincioaia 90.08 20 P **P 00 40 39.8 -0.3**
BDFB Brasilia 90.13 111 *e*P **P 00 40 40.7 -0.1**
BDFB Brasilia 90.13 111 P **P 00 40 41.4 +0.6**
comp=Z,89nm,1.2s,baz=320,slow=5.8,SNR=28
BDFB LR LR 01 24 32.7
comp=Z,24μm,20.9s,baz=304,slow=38
MLR Muntele Rosu 90.22 20 *e*P **P 00 40 39.9 -1.0**
MLR *e*PP **PP 00 44 12.9 -0.8**
MLR Muntele Rosu 90.22 20 P **P 00 40 39.9 -1.0**
comp=Z,1.5nm,0.9s,baz=13,slow=2.5,SNR=5.4
MLR PP **PP 00 44 12.9 -0.8**
comp=Z,3.3nm,1.2s,baz=0.0,slow=2.0,SNR=3.2
AB31 Akbulak array 90.38 357 P **P 00 40 40.9 -0.5**
AB31 pmax pmax
comp=Z,200nm,1.2s
TATO Taipei 90.50 304 PFAKE 00 40 50.0 +7.6
TATO LR LR
comp=Z,4μm,20.0s
GTA Gaotai 90.66 327 ⇑P **P 00 40 44.9 +1.8**
GTA pP **pP 00 40 51.0 +1.1**
GTA sP **sP 00 40 54.1 +1.7**
GTA S **ScS 00 51 43.1 +1.7**
GTA pmax pmax
comp=Z,790nm,3.6s
GTA LR LR
comp=Z,7μm,21.4s
GTA LR LR
comp=Z,6μm,21.6s
GTA LR LR
comp=Z,10μm,22.8s
WHN Wuhan 90.66 312 P **P 00 40 44.4 +1.4**
WHN LR LR
comp=Z,7μm,17.0s
WHN LR LR
comp=Z,13μm,19.1s
WHN LR LR
comp=Z,12μm,18.6s
YHNB Yeheng 90.79 304 PFAKE 00 40 50.0 +6.2
YHNB LR LR
comp=Z,4μm,21.0s
XAN Xi'an 90.86 318 P **P 00 40 43.6 -0.4**
XAN pP **pP 00 40 52.5 +1.6**
XAN PP **PP 00 44 22.5 +3.4**
XAN SKS **SKSac 00 51 09.5 -5.3**
XAN S **SKKSac 00 51 33.0 +3.5**
XAN SS **SS 00 57 47.3 +6.1**
XAN pmax pmax
comp=Z,470nm,7.6s
XAN LR LR
comp=Z,9μm,29.7s
XAN LR LR
comp=Z,4μm,26.6s
XAN LR LR
comp=Z,2μm,20.5s
NACB Ninganchiao 91.01 303 PFAKE 00 40 50.0 +5.3
NACB LR LR
comp=Z,5μm,21.6s
WMQ Urumqi 91.04 337 P **P 00 40 45.7 +1.0**
WMQ pP **pP 00 40 52.1 +0.5**
WMQ sP **sP 00 40 54.8 +0.8**
WMQ PP **PP 00 44 24.5 +4.3**
WMQ SKS **SKSac 00 51 14.7 -0.9**
WMQ S **SKKSac 00 51 30.3 -0.3**
WMQ SS **SS 00 57 46.7 +3.6**
WMQ pmax pmax
comp=Z,130nm,1.4s
WMQ pmax pmax
comp=Z,330nm,5.0s
WMQ LR LR
comp=Z,8μm,21.3s
WMQ LR LR
comp=Z,13μm,19.5s
WMQ LR LR
comp=Z,8μm,27.3s
CPUP Villa Florida 91.21 124 P **P 00 40 45.0 -0.4**
comp=Z,9.5nm,0.7s,baz=301,slow=4.9,SNR=14
CPUP PP **PP 00 44 26.0 +3.0**
comp=Z,3.5nm,0.8s,baz=307,slow=10,SNR=2.6
LZH Lanzhou 91.67 323 ⇓P **P 00 40 49.2 +1.3**
LZH pP **pP 00 40 54.3 -0.5**
LZH sP **sP 00 40 56.5 -0.7**
LZH PP **PP 00 44 29.6 +4.0**
LZH SKS **SKSac 00 51 19.0 -0.6**
LZH S **S 00 51 45.3 -2.0**
LZH SS **SS 00 57 54.0 +1.1**
LZH pmax pmax
comp=Z,380nm,1.4s
LZH pmax pmax
comp=Z,2μm,7.3s
LZH LR LR
comp=Z,8μm,17.1s
LZH LR LR
comp=Z,9μm,17.6s
LZH LR LR
comp=Z,16μm,20.0s
SSLB Suanglung 91.69 304 PFAKE 00 40 50.0 +2.0
SSLB LR LR
comp=Z,4μm,18.9s
TIRR Tirgusor 91.82 19 PFAKE 00 41 00.0 +12
TIRR LR LR
comp=Z,23μm,21.0s
CUC Castrocucco 91.95 29 PFAKE 00 41 00.0 +11
CUC LR LR
comp=Z,11μm,20.0s
PHP Peshkopia 92.07 26 P **P 00 40 46.8 -2.7**
VTS Vitosha 92.12 23 P P 00 40 59.6 +10
VTS Vitosha 92.12 23 P **P 00 40 50.5 +0.7**
SKO Skopje 92.14 25 *i* P **P 00 40 50.3 +0.6**
comp=Z,161nm,1.5s
TPUB Ta-pu 92.25 303 PFAKE 00 41 00.0 +9.5
TPUB LR LR
comp=Z,4μm,19.5s
TWG Pinlang 92.31 303 PFAKE 00 41 00.0 +9.2
TWG LR LR
comp=Z,13μm,19.0s
QZH Quanzhou 92.33 306 P **P 00 40 48.0 -2.8**
QZH SS SS 00 57 57.7 -5.1
QZH pmax pmax
comp=Z,3μm,8.8s
QZH LR LR
comp=Z,39μm,30.2s
QZH LR LR
comp=Z,8μm,22.6s
QZH LR LR
comp=Z,18μm,36.4s
SIM Simferopol' *e*P P 00 40 48.1 -3.8
SIM *e* 00 44 42.0
SIM *e*S S 00 51 49.0 -6.2
SIM *e*SS **SS 00 58 03.0 -2.6**
SIM pmax pmax
comp=Z,39nm,1.0s
SIM MLR MLR
comp=Z,10μm,19.3s
RCBR Riachuelo 92.67 95 *e*P **P 00 40 51.5 -1.1**
RCBR *e*PP PP 00 44 29.3 -5.2
RCBR *e*PP PP 00 44 35.8 +1.3
RCBR LR LR
comp=Z,10μm,19.0s
RCBR Riachuelo 92.67 95 P **P 00 40 51.5 -1.1**
comp=Z,38nm,1.1s,baz=310,slow=4.0,SNR=7.3
RCBR PP **PP 00 44 35.8 +1.3**
comp=Z,24nm,1.1s,baz=328,slow=11,SNR=3.5
PRD Provadia 92.74 20 P **P 00 40 52.7 +0.3**
KKB Krupnik 92.74 24 P **P 00 40 53.0 +0.5**
KEST Kesra 92.93 36 *e*PP PP 00 44 31.0 -4.4
KEST Kesra 92.93 36 P **P 00 40 55.0 +1.4**
comp=Z,14nm,1.1s,baz=170,slow=3.8,SNR=10
KEST PP **PP 00 44 36.0 +0.7**
comp=Z,6.8nm,1.1s,baz=273,slow=4.6,SNR=2.6
KEST LR LR 01 21 33.8
comp=Z,5μm,19.1s,baz=282,slow=35
BIA Bitola 92.96 25 *i* P **P 00 40 53.7 +0.1**
PLD Plovdiv 93.01 22 P **P 00 40 54.5 +0.8**
TIP Timpagrande 93.01 29 *e*P **P 00 40 51.2 -2.6**
comp=Z,67nm,1.3s
TIP LR LR
comp=Z,16μm,21.3s
VAY Valandovo 93.08 24 P **P 00 40 53.9 -0.1**
FNA Florina 93.19 25 P P 00 40 51.3 -3.3
MMB Musomiste 93.19 23 P **P 00 40 55.6 +1.0**
JMB Yambol 93.20 21 P P 00 41 03.7 +9.1
JMB Yambol 93.20 21 P **P 00 40 55.8 +1.2**
DIM Dimitrovgrad 93.30 22 P **P 00 40 56.5 +1.5**
KNT Kendrikon 93.33 24 P pP 00 41 07.5 +5.4
BB16B Bebedouro 93.34 115 *e*P P 00 40 50.7 -4.7
BB16B *i* 00 40 55.6
BB16B *i* 00 40 59.2
BB16B *i* 00 41 03.7
BB16B *i* 00 41 12.5
ANN Anapa 93.38 13 *e*P **P 00 40 54.1 -1.2**
ANN *e**PP **pP 00 41 01.1 -1.1**
ANN *e* 00 44 37.5
ANN *e*S **SKSac 00 51 27.4 -1.0**
ANN *e*PS **PS 00 53 16.6 +0.3**
ANN *e*SS **SS 00 58 18.5 +2.3**
ANN *e*SSS SSS 01 02 00.2
ANN pmax pmax
comp=Z,121nm,1.8s
ANN MLR MLR
comp=Z,10μm,17.0s
ANN MLR MLR
comp=N,4μm,17.0s
RZN Rozhen 93.39 23 P **P 00 40 55.7 0.0**
CEL Celeste 93.49 30 PFAKE 00 41 00.0 +3.9
CEL LR LR
comp=Z,9μm,18.0s
BBTS Babate 93.64 67 PP PP 00 44 47.3 +5.7
comp=Z,29nm,1.1s,baz=59,slow=5.9,SNR=2.3
KZN Kozani 93.75 25 P **P 00 40 55.1 -2.1**
GOF Gofitskoye 93.93 9⇑ *i*P **P 00 40 58.5 +0.6**
GOF pmax pmax
comp=Z,129nm,1.2s
JAN Janina 94.03 26 P P 00 41 05.6 +7.1
ALN Alexandroupoli 94.51 22 P pP 00 41 12.9 +5.4
OUZ Omahuta 94.57 226 PFAKE 00 41 10.0 +9.3
OUZ LR LR
comp=Z,6μm,21.0s
PLCA Paso Flores 94.67 142 PFAKE 00 41 10.0 +8.8
PLCA LR LR
comp=Z,10μm,19.8s
PLCA Paso Flores 94.67 142 P **P 00 41 02.9 +1.7**
comp=Z,7.6nm,0.9s,baz=353,slow=8.6,SNR=8.7
PLCA LR LR 01 19 26.9
comp=Z,9μm,18.1s,baz=348,slow=33
USP Ospenovka 94.71 346 *i* P **P 00 41 02.3 +0.8**
USP Ospenovka 94.71 346 P **P 00 41 02.4 +0.8**
SNR=17
PMG Port Moresby 94.82 262 *e*P P 00 41 07.6 +5.2
PMG LR LR
comp=Z,6μm,19.0s
PMG Port Moresby 94.82 262 P P 00 41 07.6 +5.2
comp=Z,19nm,0.9s,baz=55,slow=1.8,SNR=5.2
TKM2 Tokmak 2 94.84 345 *i* P **P 00 41 03.0 +0.6**
TKM2 Tokmak 2 94.84 345 P **P 00 41 03.0 +0.6**
SNR=15
TKM2 Tokmak 2 94.84 345 PFAKE 00 41 10.0 +7.6
TKM2 LR LR
comp=Z,15μm,19.0s
CHMS Chumysh 94.93 346 *i* P **P 00 41 02.5 0.0**
CHMS Chumysh 94.93 346 P **P 00 41 02.6 0.0**
SNR=15
SOC Sochi 94.93 11 *de*P **P 00 41 02.6 +0.1**
SOC *i**PP **pP 00 41 08.0 -1.4**
SOC *i**SP **sP 00 41 10.4 -1.4**
SOC *i* 00 44 50.8
SOC *e*PPP PPP 00 46 58.8
SOC *e*S **SKSac 00 51 37.0 +0.1**
SOC *e* 00 52 17.1
SOC *i* 00 53 33.0
SOC *i* SS **SS 00 58 43.9 +5.5**
SOC pmax pmax
comp=Z,277nm,2.2s
SOC pmax pmax
comp=Z,48nm,1.0s
FYTO Fytoko, Volos 94.94 25 P P 00 41 11.9 +9.3
KIV Kislovodsk 94.97 9 P **P 00 41 04.7 +1.9**
comp=Z,397nm,1.0s,SNR=6.6
KIV Kislovodsk 94.97 9 *e*P **P 00 41 03.5 +0.7**
KIV *e* 00 44 49.4
KIV *e* 00 51 37.8
KIV *e*SS SS 00 58 45.1 +5.9
KIV pmax pmax
comp=Z,80nm,1.1s
KIV pmax pmax
comp=Z,86nm,4.0s
KIV MLR MLR
comp=Z,12μm,20.0s
URZ Urewera 94.97 222 *e*P **P 00 41 03.5 +1.1**
URZ Urewera 94.97 222 P **P 00 41 03.5 +1.1**
comp=Z,13nm,0.8s,baz=328,slow=2.0,SNR=4.7
EVR Evrytania 95.02 26 P pP 00 41 15.8 +5.8
WDD Wield Dalam 95.03 32 PFAKE 00 41 10.0 +6.9
WDD LR LR
comp=Z,13μm,20.0s
FRU Bishkek 95.11 346 *e*P **P 00 41 05.0 +1.6**
FRU *i* 00 44 52.0
FRU pmax pmax
comp=Z,160nm,2.0s
NEO Neokhori 95.12 25 P **P 00 41 01.2 -2.3**
LIA Limnos Island 95.18 23 P P 00 41 08.5 +4.8
KBZ Khabaz 95.22 9 P **P 00 41 05.1 +1.3**
KBZ 00 44 54.5
KBZ pmax pmax
comp=Z,12nm,0.9s
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ MLR MLR
comp=Z,18nm,28.6s
KBZ Khabaz 95.22 9 *e*P **P 00 41 05.1 +1.3**
KBZ *e*PP **PP 00 44 54.5 +1.8**
KBZ Khabaz 95.22 9 P **P 00 41 05.1 +1.3**
comp=Z,12nm,0.9s,baz=239,slow=6.8,SNR=11
KBZ PP **PP 00 44 54.5 +1.8**
comp=Z,7.8nm,0.9s,baz=306,slow=7.5,SNR=3.7
KBZ LR LR 01 25 19.0
comp=Z,13μm,20.5s,baz=328,slow=36
KBK Karagaybulak 95.22 346 P P 00 41 08.9 +4.8
SNR=16
AAK Ala-Archa 95.33 346 P **P 00 41 05.2 +0.6**
comp=Z,218nm,1.1s,SNR=8.4
AAK Ala-Archa 95.33 346 *de*P **P 00 41 05.1 +0.5**
AAK pmax pmax
comp=Z,74nm,1.2s
AAK Ala-Archa 95.33 346 P **P 00 41 04.8 +0.2**
SNR=7.7
AAK Ala-Archa 95.33 346 *e*P **P 00 41 04.8 +0.2**
comp=Z,44nm,1.0s
AAK LR LR
comp=Z,13μm,18.0s
AAK Ala-Archa 95.33 346 P **P 00 41 05.7 +1.1**
comp=Z,41nm,1.2s,baz=38,slow=2.2,SNR=11
AAK PP **PP 00 44 56.0 +2.2**
comp=Z,18nm,1.2s,baz=90,slow=3.0,SNR=2.7
AAK PKKPbc **PKKPbc 00 57 57.2 +0.8**

comp=Z,1.8nm,0.8s,baz=127,slow=5.1,SNR=4.4
EKS2 Erkin-Say 95.43 347 *i* P **P** **00 41 06.0 +1.0**
EKS2 Erkin-Say 95.43 347 P **P** **00 41 06.0 +1.0**
SNR=10
EKS2 Erkin-Say 95.43 347 PFAKE 00 41 10.0 +5.0
EKS2 LR LR
comp=Z,11µm,22.0s
AOS Alonnisos 95.45 24 P pP 00 41 16.8 +4.9
EFP Efpalio 95.49 26 P **P** **00 41 05.0 -0.2**
KK31 Karatay Array 95.52 349 *ce*P **P** **00 41 05.5 +0.2**
KK31 pmax pmax
comp=Z,63nm,1.4s
DSF Desfina 95.71 25 P P 00 41 16.1 +10
DRO Drossia 95.86 26 P pP 00 41 21.5 +7.7
CD2 Chengdu 95.96 320 P **P** **00 41 04.8 -2.7**
CD2 PP **PP** **00 44 58.1 -0.9**
CD2 SKS **SKSac** **00 51 38.7 -4.2**
CD2 S S 00 52 17.8 -7.2
CD2 SS **SS** **00 58 53.1 -1.0**
CD2 pmax pmax
comp=Z,40nm,1.4s
CD2 pmax pmax
comp=Z,1µm,8.9s
CD2 LR LR
comp=Z,12µm,22.6s
CD2 LR LR
comp=Z,7µm,17.0s
CD2 LR LR
comp=Z,8µm,21.4s
AML Almayashu 95.96 347 P **P** **00 41 10.1 +2.3**
SNR=10
BKZ Black Stump Fm 95.98 222 *e*P **P** **00 41 06.1 -1.0**
comp=Z,264nm,2.1s
AMT Artemida-Makis 96.23 26 P P 00 41 03.7 -4.9
ONI Oni 96.41 9 P P 00 41 16.0 +6.6
MAK Makhachkala 96.44 6 *e*P **P** **00 41 06.6 -2.8**
MAK *e* 00 45 02.5
MAK *e*PPP PPP 00 47 09.2
MAK *e* 00 51 40.2
MAK *e*SS SS 00 59 07.9 +8.2
MAK *e*SSS SSS 01 02 48.4
MAK pmax pmax
comp=Z,2µm,3.1s
MAK pmax pmax
comp=Z,418nm,1.3s
MAK pmax pmax
comp=E,468nm,1.3s
ATHU Athens Univers 96.52 25 P **P** **00 41 09.1 -0.8**
ITM Ithomi 96.63 26 P **P** **00 41 10.4 0.0**
GUDG Gudauri 96.65 8 P P 00 41 18.3 +7.7
DID Didima 96.77 25 P pP 00 41 22.8 +4.9
GZH Guangzhou 96.90 308 P P 00 41 15.2 +3.4
GZH LR LR
comp=E,8µm,22.8s
GZH LR LR
comp=E,15µm,26.7s
TRQA Tornquist 96.95 135 PFAKE 00 41 20.0 +8.4
TRQA LR LR
comp=Z,16µm,22.0s
HKC Hong Kong Obse 96.99 307 ⇓P 00 41 26.0
ANTO Ankara 97.21 17 PFAKE 00 41 20.0 +6.9
ANTO LR LR
comp=Z,10µm,20.0s
BR231 Keskin MP Arra 97.23 17 *e*P Pdif 00 41 13.4 +0.1
BR231 *e*PP **PP** **00 45 05.9 -2.6**
TBLG Delisi 97.40 8 P **P** **00 41 10.9 -2.9**
BR101 Keskin Array S 97.53 17 *e*P Pdif 00 41 15.8 +1.1
BR101 *e*PP **PP** **00 45 11.4 +0.5**
BR101 *e*PKKPdf **PKKPbc** **00 57 50.0 -0.4**
BR101 *e*P'P'df P'P'df 01 06 03.9 -7.5
BRTR Keskin Array B 97.54 17 P Pdif 00 41 15.8 +1.1
comp=Z,6.1nm,1.0s,baz=349,slow=2.5,SNR=16
BRTR PP **PP** **00 45 11.4 +0.5**
comp=Z,4.7nm,1.0s,baz=317,slow=6.1,SNR=3.8
BRTR PKKPbc **PKKPbc** **00 57 50.0 -0.4**
comp=Z,1.0nm,0.9s,baz=144,slow=3.8,SNR=5.0
BRTR PKPPKP P'P'df 01 06 03.9 -7.5
comp=Z,0.7nm,0.9s,baz=156,slow=9.5,SNR=4.0
BRTR LR LR 01 28 28.5
comp=Z,8µm,19.8s,baz=346,slow=37
AKH Akhalkalaki 97.58 9 P Pdif 00 41 24.0 +9.2
DGRG David-gareji 97.75 8 P **P** **00 41 12.4 -3.0**
KSH Kashi 98.05 344 P Pdif 00 41 20.4 +3.5
KSH PP **PP** **00 45 19.2 +4.4**
KSH SKS **SKSac** **00 51 55.4 +1.8**
KSH S **ScS** **00 52 45.4 +2.5**
KSH LR LR
comp=Z,5µm,16.2s
KSH LR LR
comp=Z,9µm,18.5s
KSH LR LR
comp=Z,5µm,16.2s
GYA Guiyang 98.06 315⇑ *i*P P 00 41 13.0 -4.2
GYA PP **PP** **00 45 13.0 -2.5**
GYA SKS **SKSac** **00 51 48.4 -5.7**
GYA S SKKSac 00 52 33.0 +10
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,310nm,8.4s
GYA LR LR
comp=Z,8µm,22.3s
GYA LR LR
comp=Z,6µm,23.0s
GYA LR LR
comp=Z,8µm,22.6s
SANT Santorini 98.51 24 *e*P **P** **00 41 17.4 -1.5**
comp=Z,306nm,1.1s
SANT LR LR
comp=Z,11µm,21.0s
TGY Tagaytay City 98.63 297 LR LR 01 18 15.5
comp=Z,122nm,22.0s,baz=302,slow=31
GNI Garni 98.97 8 *e*P Pdif 00 41 23.5 +2.5
GNI LR LR
comp=Z,8µm,22.0s
GNI Garni 98.97 8 P Pdif 00 41 23.5 +2.5
comp=Z,3.5nm,0.8s,baz=70,slow=4.7,SNR=8.4
GNI PP PP 00 45 27.3 +5.6
comp=Z,9.7nm,1.0s,baz=205,slow=20,SNR=4.4
IDI Anoyia 99.33 25 *e*P **Pdif** **00 41 24.9 +2.3**
IDI *e*PP **PP** **00 45 25.5 +0.8**
IDI Anoyia 99.33 25 P **Pdif** **00 41 24.9 +2.3**
comp=Z,17nm,1.1s,baz=45,slow=4.3,SNR=2.4
IDI PP **PP** **00 45 25.5 +0.8**
comp=Z,20nm,1.1s,baz=243,slow=6.0,SNR=2.6
KHZ Kahutara 99.89 222 PFAKE 00 41 30.0 +5.5
KHZ LR LR
comp=Z,6µm,19.1s
DAV Davao City (W) 100.27 289 PFAKE 00 41 30.0 +2.9
DAV LR LR
comp=Z,7µm,21.0s
COEN Coen 100.72 261 PFAKE 00 41 40.0 +11
COEN LR LR
comp=Z,37µm,21.2s
KMI Kunming 101.21 317 P **Pdif** **00 41 28.3 -3.1**
KMI PP **PP** **00 45 39.5 0.0**
KMI SKS **SKSac** **00 52 07.0 -2.9**
KMI S **Sdif** **00 53 01.3 -8.7**
KMI SS **SS** **01 00 04.8 -3.5**
KMI pmax pmax
comp=Z,6.0nm,0.6s
KMI pmax pmax
comp=Z,78nm,5.1s
KMI LR LR
comp=Z,7µm,22.8s
KMI LR LR
comp=Z,7µm,17.1s
KMI LR LR
comp=Z,8µm,31.9s
CSS Prodhromos 102.02 19 *e*PP PP 00 45 42.9 -2.0
CSS LR LR
comp=Z,19µm,22.0s
QIZ Qiongzhong 102.09 308 P **Pdif** **00 41 29.4 -5.7**
QIZ PP **PP** **00 45 45.6 -0.6**
QIZ Qiongzhong 102.09 308 SS SS 01 00 40.3 +20
QIZ pmax pmax
comp=Z,19nm,1.5s
QIZ pmax pmax
comp=Z,510nm,14.6s
QIZ LR LR
comp=N,4µm,30.2s
QIZ LR LR
comp=E,1µm,28.2s
QIZ LR LR
comp=Z,6µm,44.0s

EIDS Eidsvold 102.12 247 PFAKE 00 41 40.0 +5.1
EIDS LR LR
comp=Z,5µm,20.3s
CTA Charters Tower 102.28 254 P **Pdif** **00 41 43.0 +7.3**
comp=Z,3.5nm,0.7s,baz=48,slow=19,SNR=2.1
LSA Lhasa 102.59 329 S **SKSac** **00 52 13.8 -3.1**
LSA LR LR
comp=N,6µm,40.1s
LSA LR LR
comp=E,13µm,32.5s
LSA LR LR
comp=Z,9µm,19.0s
LSA Lhasa 102.59 329 PFAKE 00 41 40.0 +2.2
LSA LR LR
comp=Z,9µm,21.0s
TNTI Ternate 103.21 283 PFAKE 00 41 50.0 +10
TNTI LR LR
comp=Z,16µm,22.0s
MMAI Mount Meron Ar 104.36 17 PP PP 00 46 00.7 -1.7
comp=Z,3.1nm,0.7s,baz=40,slow=2.5,SNR=2.9
DHRM DHARAMSHALA 104.95 342 *e*P **Pdif** **00 41 42.4 -5.5**
DCZ Deep Cove 105.31 223 PFAKE 00 46 10.0
DCZ LR LR
comp=Z,5µm,18.0s
ASF Jabal al Asfar 105.50 16 *e*Pdif **Pdif** **00 41 48.8 -1.4**
ASF Jabal al Asfar 105.50 16 Pdiff **Pdif** **00 41 48.8 -1.4**
comp=Z,3.0nm,1.0s,baz=322,slow=5.5,SNR=4.1
ASF PP **PP** **00 46 11.3 +0.3**
comp=Z,11nm,1.2s,baz=326,slow=3.6,SNR=4.1
ASF PKKPbc **PKKPbc** **00 57 27.1 -0.3**
comp=Z,1.1nm,0.8s,baz=135,slow=9.6,SNR=2.9
SMLA Simla 105.81 341 *e*P **Pdif** **00 41 47.3 -4.1**
SHL Shillong 105.95 326 *e*P **Pdif** **00 41 48.0 -4.4**
SHL Shillong 105.95 326 *ex* **PKKPbc** **00 57 27.0 +1.1**
DDI Dehra Dun 106.35 340 *e*P **Pdif** **00 41 48.5 -5.5**
DDI AMS AMS 01 36 22.0
comp=Z,7µm,14.3s
MYLDM Lahad Datu 106.63 292 *e*PP PP 00 46 18.6 -1.8
TOA0 Torodi Ar. Sit 106.89 55 *e*PKiKP **PKiKP** **00 46 04.5 -1.8**
TOA0 *e*PKKPbc **PKKPbc** **00 57 22.8 +0.2**
TOA0 *e*PKKPdf **PKKPdf** **00 57 33.8 -0.5**
TORD Torodi Ar. Bea 106.89 55 Pdiff **Pdif** **00 41 54.2 -2.3**
comp=Z,4.9nm,1.2s,baz=311,slow=3.9,SNR=12
TORD PKiKP **PKiKP** **00 46 06.0 -0.3**
comp=Z,12nm,1.1s,baz=318,slow=5.1,SNR=5.8
TORD PKKPbc **PKKPbc** **00 57 22.8 +0.2**
comp=Z,1.3nm,0.9s,baz=160,slow=1.6,SNR=4.0
TORD PKKP **PKKPdf** **00 57 33.8 -0.5**
comp=Z,4.2nm,1.0s,baz=133,slow=1.3,SNR=6.4
TIC Toumodi 107.27 65 *e*P **Pdif** **00 41 58.4 +0.2**
comp=Z,3.6nm,0.2s
DBIC Dimbokro 107.36 65 *e*P **PKiKP** **00 46 11.4 +4.1**
DBIC Dimbokro 107.36 65 Pdiff **Pdif** **00 41 58.3 -0.3**
comp=Z,5.0nm,0.9s,baz=286,slow=9.7,SNR=3.8
DBIC PKKP **PKKPdf** **00 57 34.0 +0.5**
comp=Z,10nm,1.2s,baz=190,slow=4.5,SNR=3.7
LIC Lamto 107.56 65 *e*P **Pdif** **00 41 58.9 -0.6**
comp=Z,36nm,1.2s
LIC *e*R
comp=Z,37µm,22.0s
LIC Lamto 107.56 65 *e*P **Pdif** **00 41 59.9 +0.4**
comp=Z,24nm,0.8s
LIC Lamto 107.56 65 *e*Pdif **Pdif** **00 41 58.9 -0.6**
KKM Kota Kinabalu 107.61 295 PFAKE 00 46 20.0
KKM LR LR
comp=Z,7µm,21.0s
KIC Kosan Boka 107.67 65 *e*P **Pdif** **00 42 00.4 +0.5**
comp=Z,78nm,1.6s
TOLI Toli-Toli 107.80 288 PFAKE 00 46 20.0
TOLI LR LR
comp=Z,3µm,21.0s
LUWI Luwuk 107.82 284 PFAKE 00 46 20.0
LUWI LR LR
comp=Z,2µm,21.0s
CHTO Chiang Mai 108.38 317 PFAKE 00 46 20.0
CHTO LR LR
comp=Z,5µm,20.0s
EFI East Falkland 108.56 143 PFAKE 00 46 20.0
EFI LR LR
comp=Z,10µm,18.0s
CM31 Chiang Mai Arr 108.68 316 *e*Pdif **Pdif** **00 42 08.8 +4.4**
CM31 *e*PKKPab **PKKPab** **00 57 34.4 +0.8**
CMAR Chiang Mai Arr 108.68 316 Pdiff **Pdif** **00 42 08.8 +4.4**
comp=Z,0.6nm,0.3s,baz=26,slow=4.4,SNR=3.9
CMAR PKiKP **PKiKP** **00 46 08.7 -1.0**
comp=Z,3.0nm,0.9s,baz=0.0,slow=1.8,SNR=5.4
CMAR PKKPab **PKKPab** **00 57 34.4 +0.8**
comp=Z,1.4nm,0.4s,baz=264,slow=8.1,SNR=4.5
CM01 Chiang Mai Arr 108.70 316 *e*Pdif **Pdif** **00 42 06.8 +2.2**
BOK Bokaro 109.93 331 *e*P **Pdif** **00 42 02.8 -7.1**
ASCN Ascension 110.37 83 PFAKE 00 46 20.0
ASCN LR LR
comp=Z,13µm,22.0s
WRA Warramunga Arr 111.04 261 Pdiff **Pdif** **00 42 23.5 +8.7**
comp=Z,1.4nm,1.1s,baz=45,slow=5.2,SNR=3.2
WRA PKiKP **PKiKP** **00 46 13.7 -0.3**
comp=Z,2.2nm,0.6s,baz=50,slow=1.9,SNR=13
WRA PP **PP** **00 46 53.2 +0.3**
comp=Z,2.3nm,1.0s,baz=32,slow=2.2,SNR=4.9
WRA PKKPbc **PKKPbc** **00 57 08.3 -1.3**
comp=Z,1.3nm,1.0s,baz=252,slow=2.4,SNR=3.3
STKA Stephens Creek 112.68 247 Pdiff Pdif 00 42 34.3 +13
comp=Z,2.2nm,0.9s,baz=262,slow=15,SNR=2.2
STKA PKiKP **PKiKP** **00 46 16.5 -0.2**
comp=Z,4.5nm,0.6s,baz=44,slow=3.1,SNR=11
STKA PKKPab **PKKPab** **00 57 12.1 +0.6**
comp=Z,8.0nm,0.9s,baz=194,slow=2.7,SNR=10
KAPI Kappang 112.70 283 PFAKE 00 46 20.0
KAPI LR LR
comp=Z,5µm,21.0s
SBUM Sibu 112.94 295 PFAKE 00 46 30.0
SBUM LR LR
comp=Z,6µm,22.0s
MMRI Maumere 113.22 279 PFAKE 00 46 30.0
MMRI LR LR
comp=Z,4µm,22.0s
BHPL Bhopal 113.24 338 *e*P **PKiKP** **00 46 14.5 -3.8**
BHPL AMB AMB 00 47 07.5
comp=Z,42nm,3.8s
AS01 Alice Springs 113.52 258 *e*PKiKP **PKiKP** **00 46 17.1 -1.5**
AS12 Alice Springs 113.56 258 *e*Pdif **Pdif** **00 42 27.5 +1.6**
AS12 *e*PKiKP **PKiKP** **00 46 19.2 +0.6**
AS12 *e*PP **PP** **00 47 11.8 +0.8**
AS12 *e*PKKPbc **PKKPbc** **00 57 03.0 +1.7**
ASAR Alice Springs 113.56 258 Pdiff **Pdif** **00 42 27.5 +1.6**
comp=Z,0.4nm,0.9s,baz=56,slow=6.9,SNR=2.6
ASAR PKiKP **PKiKP** **00 46 19.2 +0.6**
comp=Z,2.4nm,0.7s,baz=79,slow=2.3,SNR=14
ASAR PP **PP** **00 47 11.8 +0.8**
comp=Z,3.9nm,1.0s,baz=59,slow=4.7,SNR=5.8
ASAR PKKPbc **PKKPbc** **00 57 03.0 +1.7**
comp=Z,4.4nm,0.9s,baz=222,slow=2.4,SNR=18
KSM Kuching 114.96 296 PFAKE 00 46 30.0 +8.3
KSM LR LR
comp=Z,4µm,22.0s
BHJ Bhuj 115.06 346 *e*P PKPdf 00 46 14.2 -7.4
PMSA Palmer Station 115.19 156 PFAKE 00 46 30.0 +10
PMSA LR LR
comp=Z,9µm,18.0s
RAYN Ar Rayn 115.46 10 *e*PKPdf **PKPdf** **00 46 19.6 -3.0**
RAYN *e*PP **PP** **00 47 18.5 -4.3**
RAYN LR LR
comp=Z,7µm,22.0s
DGPR DIGLIPUR 116.20 319 *e*P **PKPdf** **00 46 20.2 -3.8**
VIS Vishakhapatnam 116.42 330 *e*P **PKPdf** **00 46 19.3 -5.1**
BBOO Buckleboo 117.10 249 PFAKE 00 46 30.0 +4.8
BBOO LR LR
comp=Z,34µm,21.8s
HYB Hyderabad 118.38 335 *i* PKP **PKPdf** **00 46 27.0 -1.2**
HYB *e*SKS SKSdf 00 53 28.0 -11
HYB Hyderabad 118.38 335 *ex* x 00 46 20.5
HYB AMS AMS 01 44 09.9
comp=Z,5µm,16.1s
POO Poona 118.69 340 *e*P **PKPdf** **00 46 25.0 -3.8**
BYJI Banyuwangi 118.81 285 P x 00 46 40.7
comp=Z,121nm,1.3s,comp=Z,11µm
MYKOM Kota Tinggi 119.04 301 PFAKE 00 46 40.0 +10
MYKOM LR LR
comp=Z,3µm,21.0s
JAGI Jajag, Banyuwa 119.13 285 PFAKE 00 46 40.0 +10
JAGI LR LR
comp=Z,2µm,21.0s
GMJI Gumukmas 119.52 286 P PKPdf 00 46 39.7 +9.3
comp=Z,37nm,1.0s
CMBY CAMPBELL BAY 120.87 314 *e*P PKPdf 00 46 27.6 -5.4

WOJI Wonogiri, Jawa 121.06 288 P PKPdf 00 46 43.2 +10
comp=Z,62nm,1.1s
PSI Prapat 121.37 307 P x 00 46 42.4
comp=Z,38nm,1.0s,comp=Z,534nm
PSI Prapat 121.37 307 *e*PKPdf **PKPdf** **00 46 33.9 -0.3**
PSI Prapat 121.37 307 PKP **PKPdf** **00 46 33.9 -0.3**
comp=Z,5.8nm,0.8s,baz=219,slow=7.0,SNR=5.6
UGM Wanagama 121.41 288 PFAKE 00 46 40.0 +5.9
UGM LR LR
comp=Z,3µm,21.0s
GOA Goa 121.60 339 *e*P **PKPdf** **00 46 29.6 -4.7**
FORT Forrest 121.81 255 PFAKE 00 46 40.0 +5.7
FORT LR LR
comp=Z,4µm,20.6s
MDRS Chennai 121.84 331 *e*P **PKPdf** **00 46 29.8 -5.0**
MDRS *ex* x 00 48 40.2
MDRS *ex* x 00 52 20.2
MDRS *ex* x 00 59 30.2
BKNI Bangkinang 121.97 303 *e*PP PP 00 48 11.5 +2.7
BKNI LR LR
comp=Z,3µm,20.0s
KPJI Karang Pucung 122.16 290 P PKPdf 00 46 43.7 +8.3
comp=Z,44nm,0.9s
MNSI Mandailing Nat 122.53 304 P PKPdf 00 46 43.2 +7.0
comp=Z,27nm,0.9s
CMJI Cimerak 122.81 290 P PKPdf 00 46 45.1 +8.4
comp=Z,81nm,1.1s
MBWA Marble Bar 122.82 269 PFAKE 00 46 40.0 +3.5
MBWA LR LR
comp=Z,4µm,22.0s
PPI Padang Panjang 122.98 303 P PKPdf 00 46 46.1 +9.0
comp=Z,23nm,1.1s
CISI Cisompet, Garu 123.11 291 P PKPdf 00 46 45.3 +7.9
comp=Z,139nm,1.2s,comp=Z,4µm
CISI Cisompet, Garu 123.11 291 PFAKE 00 46 40.0 +2.6
CISI LR LR
comp=Z,3µm,21.0s
KLSI 123.24 296 P PKPdf 00 46 44.9 +7.3
comp=Z,102nm,1.1s
PDSI Padang 123.28 302 P **PKPdf** **00 46 41.2 +3.5**
comp=Z,46nm,1.1s,comp=Z,2µm
GSI Gunungsitoli 123.37 307 *e*PP PP 00 48 13.5 -4.6
MDSI Maura Dua 123.47 296 P PKPdf 00 46 46.1 +8.1
comp=Z,17nm,1.7s
LWLI Liwa 123.94 296 P PKPdf 00 46 47.6 +8.5
comp=Z,133nm,0.9s
CGJI Cibinong 123.94 293 P PKPdf 00 46 46.3 +7.4
KASI Kota Agung 124.00 295 P PKPdf 00 46 47.0 +8.0
comp=Z,79nm,1.3s,comp=Z,1µm
MNAI Manna 124.21 297 PFAKE 00 46 50.0 +11
MNAI LR LR
comp=Z,3µm,21.0s
SBA Scott Base 125.17 194 PFAKE 00 46 50.0 +11
SBA LR LR
comp=Z,6µm,20.0s
MSKU Masuku 125.76 55 *e*PKPdf **PKPdf** **00 46 41.8 -0.7**
MSKU LR LR
comp=Z,12µm,21.0s
MSKU Masuku 125.76 55 PKP **PKPdf** **00 46 42.7 +0.3**
comp=Z,7.7nm,0.7s,baz=317,slow=0.5,SNR=6.7
VNDA Vanda 125.95 195 PKP **PKPdf** **00 46 40.9 0.0**
comp=Z,9.4nm,1.1s,baz=321,slow=3.7,SNR=9.8
PALK Pallekele 126.97 328 PFAKE 00 46 50.0 +5.2
PALK LR LR
comp=Z,8µm,21.0s
TRD Trivandrum 127.23 333 *e*P PKPdf 00 46 39.6 -5.7
TRIS Tristan da Cun 128.24 109 PFAKE 00 46 50.0 +3.6
TRIS LR LR
comp=Z,7µm,19.0s
QSPA South Pole Qui 130.48 180 *e*PKPdf **PKPdf** **00 46 50.0 +0.1**
QSPA *e*PP **PP** **00 49 05.5 +0.5**
QSPA *e*SKPbc **SKPbc** **00 50 13.2 +1.3**
QSPA LR LR
comp=Z,8µm,20.0s
QSPA South Pole Qui 130.48 180 PKP **PKPdf** **00 46 49.9 +0.1**
comp=Z,131nm,1.1s,baz=102,slow=0.5,SNR=45
KMBO Kilima Mbogo 137.29 28 PFAKE 00 47 10.0 +5.5
KMBO LR LR
comp=Z,9µm,22.0s
KMBO Kilima Mbogo 137.29 28 PKP **PKPdf** **00 47 03.6 -0.9**
comp=Z,3.0nm,0.5s,baz=356,slow=6.6,SNR=7.5
SNAA Sanae 137.90 156 *e*P **PKPdf** **00 47 00.9 -2.7**
SNAA Sanae 137.90 156 PFAKE 00 47 10.0 +6.4
SNAA LR LR
comp=Z,5µm,21.0s
SNAA Sanae 137.90 156 PKhKP PKPpre 00 46 59.0
comp=Z,4.3nm,1.0s,baz=189,slow=3.1,SNR=9.0
CASY Casey 140.37 211 PFAKE 00 47 20.0 +12
CASY LR LR
comp=Z,7µm,18.0s
TSUM Tsumeb 141.18 68 *e*PKPdf **PKPdf** **00 47 13.4 +2.1**
TSUM *e*PP **PP** **00 50 08.5 -4.7**
TSUM LR LR
comp=Z,11µm,22.0s
DODT Dodoma, Tanzan 141.37 33 *i* P **PKPdf** **00 47 14.8 +3.0**
DODT PKP 01 14 49.2
DODT PKP 01 32 57.6
RUDU RUNDU 141.79 64 *e*P **PKPdf** **00 47 08.2 -4.2**
RUDU AMS AMS 01 46 54.4
comp=Z,8µm,22.1s
NVL N'lazarevskaya 142.63 158 *e*PKIKP **PKPdf** **00 47 07.6 -4.5**
NVL *e*PPP PPP 00 50 20.8
NVL *e* 00 54 16.4
LSZ Lusaka 145.29 51 *e*PP PP 00 50 38.8 +1.2
LSZ LR LR
comp=Z,10µm,18.0s
LSZ Lusaka 145.29 51 PKPbc **PKPdf** **00 47 19.2 +0.6**
comp=Z,253nm,1.1s,baz=13,slow=9.9,SNR=181
MIR Mirnyy 146.77 206⇓ *i* PKP2 **PKPab** **00 47 24.0 +1.6**
MIR pmax pmax
comp=Z,455nm,2.0s
MIR pmax pmax
comp=Z,10µm,6.0s
KOMG Komaggas 147.31 83 *e*P **PKPbc** **00 47 22.9 -0.9**
UPI Upington 149.39 77 *e*P **PKPbc** **00 47 29.7 +0.3**
SYO Syowa Base 150.35 168⇑ *e*PKPdf **PKPdf** **00 47 23.2 -1.9**
SYO Syowa Base 150.35 168⇓ *e*PKPbc **PKPdf** **00 47 26.4 +1.3**
SYO Syowa Base 150.35 168 ⇓ *i* PKPab **PKPbc** **00 47 33.0 +2.7**
LBTB Lobatse 150.58 67 *e*P **PKPbc** **00 47 31.9 -0.5**
LBTB AMS AMS 01 47 58.5
comp=Z,7µm,24.0s
LBTB Lobatse 150.58 67 PFAKE 00 47 30.0 -2.4
LBTB LR LR
comp=Z,8µm,20.4s
LBTB Lobatse 150.58 67 PKPbc **PKPbc** **00 47 32.0 -0.5**
comp=Z,57nm,1.1s,baz=304,slow=3.8,SNR=31
SUR Sutherland 151.04 85 PFAKE 00 47 40.0 -1.1
SUR LR LR
comp=Z,7µm,19.0s
SUR Sutherland 151.04 85 PKPbc **PKPbc** **00 47 33.1 -0.3**
comp=Z,139nm,1.1s,baz=269,slow=0.7,SNR=11
ELIM Elim 151.16 89 *e*P **PKPdf** **00 47 30.3 +2.8**
ELIM AMS AMS 01 48 55.9
comp=Z,9µm,23.7s
SWZ Schweizer 151.72 71 *e*P **PKPbc** **00 47 34.0 -1.1**
SWZ AMS AMS 01 51 19.7
comp=Z,11µm,23.4s
MSNA Messina 151.76 57 *e*P **PKPbc** **00 47 32.4 -2.8**
MSNA AMS AMS 01 50 44.0
comp=Z,14µm,24.5s
TLEK Tau Lekoa 152.54 69 *e*P **PKPbc** **00 47 37.1 +0.1**
BFSD Buffelsfontein 152.56 69 *e*P **PKPbc** **00 47 37.9 +0.9**
MOAB Moab Khotsong 152.65 69 *e*P **PKPbc** **00 47 38.6 +1.4**
MAW Mawson 152.71 186 PKPbc **PKPbc** **00 47 36.4 +0.6**
comp=Z,42nm,0.9s,baz=183,slow=1.7,SNR=12
WDLM Western Deep L 152.74 67 *e*P **PKPbc** **00 47 38.1 +0.6**
WDLM AMS AMS 01 49 49.7
comp=Z,8µm,16.3s
KLOF Kloof 152.83 67 *e*P **PKPbc** **00 47 34.5 -3.2**
SLR Silverton 152.91 65 *e*P **PKPdf** **00 47 33.9 +3.3**
SLR AMS AMS 01 53 36.2
comp=Z,15µm,20.7s
OBSV Observatory 153.05 66 *e*P **PKPbc** **00 47 34.5 -3.7**
ERPM east rand prop 153.26 66 *e*P **PKPbc** **00 47 39.4 +0.8**
ERPM AMS AMS 01 51 56.8
comp=Z,15µm,22.8s
GRM Grahamstown 155.76 82 *e*P **PKPdf** **00 47 36.4 +2.3**
GRM AMS AMS 01 47 52.4
comp=Z,11µm,25.4s
KSD Kokstad 156.56 73 *e*P PKPab 00 47 50.5 -14
KSD AMS AMS 01 53 22.1
comp=Z,9µm,22.8s
OPO Ambohidratompo 156.84 20 *e*PKPdf **PKPdf** **00 47 37.6 +1.5**
OPO *e*PKPab **PKPab** **00 48 04.5 -1.2**
OPO *e*PP **PP** **00 51 44.2 +1.1**

OPO	**Ambohidratompo**	**156.84**	**20**	PKP		**PKPdf**	**00 47 37.6**	**+1.5**
	comp=Z,12nm,1.1s,baz=104,slow=9.0,SNR=1.8							
OPO				PKPab		**PKPab**	**00 48 04.5**	**-1.2**
	comp=Z,11nm,1.1s,baz=284,slow=2.8,SNR=4.0							
OPO				PP		**PP**	**00 51 44.2**	**+1.1**
	comp=Z,12nm,1.1s,baz=0.7,slow=7.7,SNR=3.7							
ABPO	**Ambohimpanom**	**157.28**	**21**	PFAKE			00 47 40.0	+3.3
ABPO				LR	LR			
	comp=Z,13μm,22.0s							

*CSEM **10** 00:36:16.0, 38.13N×42.75E, h14km, MD3.0, After ISK*
ISK 10 00:36:16.0, 38.13N×42.75E, h14km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**1.11**	**142**	*e*PN	Pg	00 36 37.7	+0.1
CUKT				*e*SN	Sn	00 36 53.6	+1.0
CUKT	**Cukurca**	**1.11**	**142**	*e*Pn	Pg	00 36 37.7	+0.1
CUKT				*e*Sn	Sn	00 36 53.6	+1.1
CLDR	**Caldiran**	**1.37**	**42**	*e*PN	Pn	00 36 41.3	+0.3
CLDR	**Caldiran**	**1.37**	**42**	*e*Pn	Pn	00 36 41.3	+0.3
BNGB	**Bing¶ll**	**1.84**	**299**	*e*PN	Pn	00 36 48.5	+1.1
BINT	**Bingol**	**1.93**	**294**	*e*Pn	Pn	00 36 48.5	-0.1
PTK	**Pertek**	**2.74**	**287**	*e*PN	Pn	00 37 00.4	+0.5
PTK	**Pertek**	**2.74**	**287**	*e*Pn	Pn	00 37 00.4	+0.5

*IDC **10** 00:37:32.4±0.8, 19.40N×121.46E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.9/29, mbtmp3.9/12, ML4.2/1, Error ellipse: s-maj=34.3km s-min=17.1km az=71.0*
*ISCJB **10** 00:37:36.0±0.4, 19.54N±0.04×121.34E±0.08, h32km, mb3.8/11, Error ellipse: s-maj=10.6km s-min=5.1km az=3.3*
*NEIC **10** 00:37:37.9±1.1, 19.42N×121.45E, h37km±11km, mb4.6/1, Error ellipse: s-maj=12.5km s-min=8.1km az=95.0*
*MAN **10** 00:37:38, 19.23N×121.13E, h0km, mb4.6, ML3.5, MS3.4*
ISC 10 00:37:37.3±0.6, 19.46N±0.05×121.28E±0.07, h32km, n43, σ1§20/40, mb4.0/11, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.28**	**209**	⇓*i*P	**Pn**	**00 37 57.6**	**-1.5**
PIP				*e*S	**Sn**	**00 38 14.9**	**-0.2**
SGCP	**Mt. Cagua**	**1.41**	**149**	*e*P	**Pn**	**00 38 02.1**	**+1.3**
APYP	**Conner**	**1.58**	**181**	*e*P	**Pn**	**00 38 03.6**	**+0.5**
SIPP	**Brgy, Tapao**	**1.71**	**207**	⇓*i*P	Pn	00 37 59.4	-5.5
SIPP				*e*S	Px	00 38 01.2	
CVP	**Callao Caves**	**1.82**	**163**	⇑*i*P	**Pn**	**00 38 07.5**	**+1.1**
CVP				*i* S	**Sb**	**00 38 31.4**	**-0.9**
ABRA	**Dolores**	**1.87**	**197**	*e*P	**Pn**	**00 38 08.9**	**+1.8**
SZP	**Santa**	**2.05**	**202**	*e*Pn	**Pn**	**00 38 10.5**	**+1.0**
SZP				*e*Sg	**Sb**	**00 38 39.5**	**+0.5**
CAUP	**Cauayan**	**2.55**	**168**	*e*P	**Pb**	**00 38 21.2**	**-1.3**
PALP	**Palanan**	**2.62**	**155**	⇓*e*P	**Pb**	**00 38 22.8**	**-0.8**
PALP				*i* S	**Sb**	**00 38 57.4**	**+2.1**
JOW	**Kunigami**	**9.76**	**40**	Pn	**Pn**	**00 39 54.7**	**-0.9**
JOW	**Kunigami**	**9.76**	**40**	Pn	**Pn**	**00 39 54.7**	**-0.9**
KSAR	**Wonju Array Be**	**18.83**	**16**	P	**P**	**00 41 54.1**	**-0.3**
KSRS	**Korea Array**	**18.85**	**17**	P	**P**	**00 41 54.1**	**-0.6**
	0.7nm,0.3s,baz=197,slow=11,SNR=11						
CHTO	**Chiang Mai**	**21.11**	**272**	*e*P	**P**	**00 42 20.2**	**+0.8**
	4.9nm,0.8s						
CHTO				*e*S	Sn	00 46 17.6	-2.6
WRAB	**Tennant Creek**	**41.19**	**161**	*e*P	**P**	**00 45 17.9**	**-1.2**
WRA	**Warramunga Arr**	**41.19**	**161**	P	**P**	**00 45 17.9**	**-1.2**
WRA	**Warramunga Arr**	**41.19**	**161**	P	**P**	**00 45 17.9**	**-1.2**
	1.1nm,0.4s,baz=343,slow=9.1,SNR=25						
MKAR	**Makanchi Array**	**41.88**	**320**	P	**P**	**00 45 26.7**	**+2.0**
MKAR	**Makanchi Array**	**41.88**	**320**	P	**P**	**00 45 26.7**	**+2.0**
	1.0nm,0.6s,baz=111,slow=9.6,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**42.86**	**84**	T	T	01 31 10.7	
	baz=277,slow=73,SNR=111						
H11S1	**WAKE ISLAND Hy**	**42.87**	**83**	T	T	01 31 16.9	
	baz=277,slow=73,SNR=63						
H11N1	**WAKE ISLAND Hy**	**42.88**	**82**	T	T	01 31 07.7	
	baz=280,slow=75,SNR=282						
H11S2	**WAKE ISLAND Hy**	**42.88**	**84**	T	T	01 31 11.2	
	baz=277,slow=73,SNR=52						
H11N2	**WAKE ISLAND Hy**	**42.88**	**82**	T	T	01 31 07.9	
	baz=280,slow=75,SNR=254						
H11N3	**WAKE ISLAND Hy**	**42.89**	**82**	T	T	01 31 09.0	
	baz=280,slow=75,SNR=225						
ZALV	**Zalesovo Beam**	**44.30**	**330**	P	**P**	**00 45 44.7**	**+0.7**
ZALV	**Zalesovo Beam**	**44.30**	**330**	P	**P**	**00 45 44.7**	**+0.7**
	1.0nm,0.6s,baz=122,slow=5.2,SNR=2.7						
ASAR	**Alice Springs**	**44.59**	**163**	P	**P**	**00 45 46.0**	**-0.7**
ASAR	**Alice Springs**	**44.59**	**163**	P	**P**	**00 45 46.0**	**-0.7**
	1.1nm,0.5s,baz=345,slow=6.8,SNR=17						
KURK	**Kurchatov**	**45.83**	**323**	P	**P**	**00 45 58.1**	**+1.9**
KURBB	**Kurchatov Arra**	**45.84**	**323**	P	**P**	**00 45 58.1**	**+1.8**
	2.2nm,0.8s,baz=121,slow=7.5,SNR=5.7						
FORT	**Forrest**	**50.37**	**172**	*e*P	**P**	**00 46 32.0**	**+0.6**
BVAR	**Borovoye Array**	**51.43**	**323**	P	**P**	**00 46 41.4**	**+2.1**
BVAR	**Borovoye Array**	**51.43**	**323**	P	**P**	**00 46 41.4**	**+2.1**
	0.8nm,0.8s,baz=103,slow=6.5,SNR=2.5						
ILAR	**Eielson Array**	**73.37**	**27**	P	**P**	**00 49 05.4**	**-0.4**
ILAR	**Eielson Array**	**73.37**	**27**	P	**P**	**00 49 05.4**	**-0.4**
	0.2nm,0.6s,baz=290,slow=5.3,SNR=2.9						
FINES	**FINESS Array B**	**75.56**	**330**	P	**P**	**00 49 17.9**	**-0.6**
FINES	**FINESS Array B**	**75.56**	**330**	P	**P**	**00 49 17.9**	**-0.6**
	1.6nm,0.8s,baz=73,slow=4.7,SNR=5.9						
NB2	**NORSAR Subarra**	**82.43**	**333**	P	**P**	**00 49 55.3**	**-1.0**
	comp=Z,6.6nm,1.4s,baz=66,slow=5.6						
NOA	**NORSAR Array B**	**82.43**	**333**	P	**P**	**00 49 55.7**	**-0.6**
NOA	**NORSAR Array B**	**82.43**	**333**	P	**P**	**00 49 55.7**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=65,slow=4.9,SNR=4.6						
YKA	**Yellowknife Ar**	**87.28**	**23**	P	**P**	**00 50 20.8**	**+0.2**
YKA	**Yellowknife Ar**	**87.28**	**23**	P	**P**	**00 50 20.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=309,slow=4.6,SNR=7.9						

*ISCJB **10** 00:42:34.5±0.9, 40.40N±0.03×124.95W±0.10, h13km, Error ellipse: s-maj=10.6km s-min=4.8km az=178.7*
*NEIC **10** 00:42:38.4, 40.42N×124.83W, h18km, ML3.5(NCEDC), After NCEDC.*
ISC 10 00:42:37.4±1.8, 40.43N±0.05×124.8W±0.1, h13km, n29, σ1§49/31, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.90**	**60**	*e*Pb	**Pb**	**00 42 54.9**	**-0.1**
KHMM				*e*Sb	**Sg**	**00 43 07.5**	**+0.8**
KIPM	**Iron Peak**	**1.17**	**122**	*e*Pn	**Pn**	**00 42 58.5**	**-1.0**
KCPM	**Cahto Peak**	**1.18**	**129**	*e*Pn	**Pn**	**00 42 58.4**	**-1.2**
KCPM				*e*Sb	**Sb**	**00 43 13.9**	**-0.9**
KRMB	**Red Mountain**	**1.27**	**31**	*e*Pn	**Pn**	**00 42 59.5**	**-1.4**
KRMB				*e*Sn	**Sb**	**00 43 13.4**	**-4.1**
WDC	**Whiskeytown Da**	**1.70**	**84**	*e*Pn	**Pn**	**00 43 06.2**	**-0.6**
KBO	**Bosley Butte**	**1.82**	**13**	*e*Pn	**Pn**	**00 43 06.4**	**-2.2**
HOPS	**Hopland**	**1.94**	**137**	*e*Pn	**Pn**	**00 43 08.8**	**-1.3**
YBH	**Yreka Blue Hor**	**2.03**	**49**	*e*Pn	**Pn**	**00 43 10.5**	**-0.8**
YBH				*e*Sn	**Sn**	**00 43 37.3**	**+0.7**
HUMO	**Hull Mountain**	**2.56**	**31**	*e*Pn	**Pn**	**00 43 18.6**	**0.0**
HUMO				*e*Sn	**Sn**	**00 43 48.1**	**-1.6**
M04C	**Macdoel**	**2.59**	**58**	P	**Pn**	**00 43 19.7**	**+0.6**
	baz=2.6						
MCCM	**Marconi Confer**	**2.71**	**147**	*e*Pn	Pn	00 43 17.9	-2.8
SAC	**San Andreas**	**3.38**	**146**	*e*Pn	**Pn**	**00 43 28.2**	**-1.7**
BEKR	**Beckworth**	**3.43**	**98**	*e*Pn	**Pn**	**00 43 30.8**	**+0.1**
J04D	**Umpqua Nationa**	**3.44**	**34**	P	**Pn**	**00 43 31.9**	**+1.0**
	baz=3.5						
MOD	**Modoc**	**3.68**	**65**	*e*Pn	**Pn**	**00 43 33.6**	**-0.4**
I04A	**Tendick Farm,**	**3.79**	**27**	P	**Pn**	**00 43 36.6**	**+1.1**
	baz=3.8						
CMB	**Columbia Colle**	**4.16**	**124**	*e*Pn	**Pn**	**00 43 39.5**	**-1.1**
PAHR	**Pah Rah Range**	**4.19**	**98**	*e*Pn	**Pn**	**00 43 40.5**	**-0.6**
COR	**Corvallis**	**4.29**	**14**	*e*Pn	**Pn**	**00 43 41.8**	**-0.5**
SAO	**San Andreas Ge**	**4.49**	**144**	*e*Pn	Pn	00 43 42.8	-2.4
WVOR	**Wild Horse Val**	**5.02**	**65**	*e*Pn	Pn	00 43 49.6	-2.9
WVOR				*e*Sn	Sn	00 44 45.5	-5.0
BMN	**Battle Mountai**	**5.76**	**88**	*e*Pn	**Pn**	**00 44 01.8**	**-0.9**
VES	**Vestal, Richgr**	**6.41**	**134**	P	**Pn**	**00 44 12.0**	**+0.6**
	baz=6.4						
ISA	**Isabella**	**6.88**	**132**	*e*Pn	**Pn**	**00 44 19.4**	**+1.4**
	1.7nm,0.4s						
ISA	**Isabella**	**6.88**	**132**	P	**Pn**	**00 44 20.1**	**+2.1**
	baz=6.9						
GSC	**Goldstone**	**8.11**	**127**	P	**Pn**	**00 44 37.2**	**+2.3**
	baz=8.1						
RRX	**Edison Barstow**	**8.28**	**130**	P	**Pn**	**00 44 39.2**	**+1.9**
	baz=8.3						
HEC	**Hector,Ludlow**	**8.72**	**127**	P	**Pn**	**00 44 45.1**	**+1.8**
	baz=8.7						
BELC	**Belle Mtn. Jos**	**9.49**	**130**	P	**Pn**	**00 44 55.0**	**+1.1**
	baz=9.5						

*ISCJB **10** 00:43:10.9±1.0, 40.62N±0.05×124.9W±0.1, h13km, Error ellipse: s-maj=11.1km s-min=6.9km az=10.1*
*NEIC **10** 00:43:15.7, 40.62N×124.75W, h29km, ML3.7(NCEDC), After NCEDC.*
ISC 10 00:43:12.8±2.5, 40.65N±0.08×124.9W±0.1, h13km, n34, σ1§16/33, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.90**	**75**	*e*Pn	**Pg**	**00 43 29.9**	**-0.3**
KHMM				*e*Sb	**Sg**	**00 43 40.7**	**-1.3**
KIPM	**Iron Peak**	**1.36**	**128**	*e*Pn	**Pn**	**00 43 36.6**	**-1.0**
KCPM	**Cahto Peak**	**1.39**	**134**	*e*Pn	**Pn**	**00 43 36.4**	**-1.6**
KBO	**Bosley Butte**	**1.63**	**17**	*e*Pn	**Pn**	**00 43 40.9**	**-0.4**
WDC	**Whiskeytown Da**	**1.78**	**92**	*e*Pn	**Pn**	**00 43 42.1**	**-1.1**
HOPS	**Hopland**	**2.16**	**139**	*e*Pn	**Pn**	**00 43 47.7**	**-0.8**
HUMO	**Hull Mountain**	**2.43**	**36**	*e*Pn	Pn	00 43 47.3	-4.8
MCCM	**Marconi Confer**	**2.94**	**148**	*e*Pn	Pn	00 43 51.3	-7.9
BEKR	**Beckworth**	**3.55**	**101**	*e*Pn	**Pn**	**00 44 06.9**	**-0.8**
BEKR				*e*Sn	**Sn**	**00 44 50.5**	**+1.0**
SAC	**San Andreas**	**3.62**	**147**	*e*Pn	**Pn**	**00 44 06.9**	**-1.6**
MOD	**Modoc**	**3.67**	**69**	*e*Pn	**Pn**	**00 44 08.6**	**-0.7**
COR	**Corvallis**	**4.10**	**16**	*e*Pn	**Pn**	**00 44 15.5**	**+0.5**
PAHR	**Pah Rah Range**	**4.31**	**101**	*e*Pn	**Pn**	**00 44 17.3**	**-0.9**
CMB	**Columbia Colle**	**4.36**	**125**	*e*Pn	**Pn**	**00 44 18.8**	**+0.1**
SAO	**San Andreas Ge**	**4.72**	**144**	*e*Pn	**Pn**	**00 44 23.2**	**-0.5**
NV11	**Mina Array Sit**	**5.65**	**111**	*e*Pn	**Pn**	**00 44 36.8**	**+0.2**
BMN	**Battle Mountai**	**5.84**	**90**	*e*Pn	**Pn**	**00 44 38.3**	**-0.9**
	8.4nm,0.8s						
RCTC	**Rector, Farmer**	**6.19**	**133**	P	**Pn**	**00 44 45.4**	**+1.5**
	baz=6.1						
VES	**Vestal, Richgr**	**6.62**	**135**	P	**Pn**	**00 44 50.3**	**+0.5**
	baz=6.5						
CWC	**Cottonwood Cre**	**6.79**	**126**	P	**Pn**	**00 44 54.2**	**+2.0**
	baz=6.7						
ISA	**Isabella**	**7.09**	**133**	*e*Pn	**Pn**	**00 44 57.2**	**+0.9**
	6.4nm,0.4s						
ISA	**Isabella**	**7.09**	**133**	P	**Pn**	**00 44 57.7**	**+1.4**
	baz=7.0						
ARVC	**Arvin**	**7.30**	**137**	P	**Pn**	**00 45 00.2**	**+1.1**
	baz=7.2						
R11A	**Troy Canyon, C**	**7.54**	**105**	P	**Pn**	**00 45 03.5**	**+0.9**
	baz=7.4						
LRMC	**Laurel Mountai**	**7.67**	**130**	P	**Pn**	**00 45 05.2**	**+0.9**
	baz=7.6						
OSI	**Osito Adit**	**7.76**	**139**	*e*Pn	Pn	00 45 02.2	-3.2
	22nm,0.5s						
OSI	**Osito Adit**	**7.76**	**139**	P	**Pn**	**00 45 07.5**	**+2.1**
	baz=7.7						
EDW2	**Edwards Air Fo**	**7.93**	**134**	P	**Pn**	**00 45 08.8**	**+0.9**
	baz=7.8						
PASC	**Pasadena Art C**	**8.38**	**138**	*e*Pn	**Pn**	**00 45 12.5**	**-1.4**
	9.4nm,0.6s						
BFSC	**Mount Baldy Ra**	**8.60**	**136**	P	**Pn**	**00 45 17.9**	**+0.9**
	baz=8.5						
HEC	**Hector,Ludlow**	**8.92**	**128**	P	**Pn**	**00 45 22.6**	**+1.2**
	baz=8.8						
DUG	**Dugway**	**9.21**	**89**	*e*Pn	**Pn**	**00 45 27.6**	**+2.1**
	31nm,1.6s						
BELC	**Belle Mtn. Jos**	**9.70**	**130**	P	**Pn**	**00 45 32.3**	**+0.2**
	baz=9.6						
PFO	**Pinyon Flat Ob**	**9.72**	**134**	P	**Pn**	**00 45 33.0**	**+0.5**
	baz=9.6						

*IDC **10** 01:45:13.1±2.6, 6.91N×126.82E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=199.4km s-min=26.2km az=66.0*
*ISCJB **10** 01:45:17.3±1.9, 6.9N±0.2×126.7E±0.1, h46km±14km, mb3.3/3, Error ellipse: s-maj=37.2km s-min=15.1km az=43.4*
*MAN **10** 01:45:24, 6.95N×126.24E, h15km, mb4.3, ML3.1, MS2.9*
ISC 10 01:45:16.8±2.8, 7.0N±0.2×126.7E±0.1, h27km±18km, n6, σ0§86/9, mb3.3/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.45**	**270**	*e*P	**Pn**	**01 45 27.7**	**+0.1**
MATI				*e*S	**Sn**	**01 45 34.8**	**-0.1**
DMPH	**Davao City--Mi**	**1.20**	**276**	⇑*e*P	**Pn**	**01 45 38.3**	**+0.3**
DMPH				*e*S	**Sb**	**01 45 54.7**	**+0.6**
BUKP	**Musuan**	**1.88**	**300**	*e*P	**Pb**	**01 45 50.2**	**-0.4**
BUKP				*e*S	**Sn**	**01 46 08.9**	**-1.3**
WRA	**Warramunga Arr**	**27.76**	**164**	P	**P**	**01 51 03.5**	**0.0**
	0.4nm,0.6s,baz=345,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**31.23**	**167**	P	**P**	**01 51 33.6**	**-0.7**
	0.3nm,0.7s,baz=354,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**54.94**	**324**	P	**P**	**01 54 46.5**	**+1.0**
	0.3nm,0.7s,baz=123,slow=8.0,SNR=3.5						

TRN 10 01:55:53.3, 12.89N×60.48W, h3km, MD3.6, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCV	**Fort Charlotte**	**0.79**	**289**	*e*P	Pn	01 56 13.1	+1.8
SSV	**Crater Summit**	**0.82**	**302**	*e*P	Pn	01 56 13.2	+1.3
SSV	**Crater Summit**	**0.82**	**302**	*e*	Pn	01 56 22.8	+11
SVV	**Soufriere Volc**	**0.83**	**301**	⇓*e*P	Pn	01 56 13.9	+1.9
SVB	**Belmont**	**0.84**	**297**	*e*P	Pn	01 56 12.5	+0.4
SVB				*e*S	Sn	01 56 27.1	+2.1
MCLT	**Moule a Chique**	**0.93**	**331**	*e*P	Pn	01 56 14.1	+0.8
MCLT				*e*S	Sn	01 56 31.4	+4.3
SLB	**Belfond**	**1.08**	**330**	⇑*i*P	Pn	01 56 16.6	+1.2
SLB				*e*S	Sn	01 56 33.9	+3.0

*IDC **10** 02:21:37.1±0.7, 40.64N×124.55W, h0km, mb4.2/14, mb1 4.3/18, mb1mx4.1/36, mbtmp4.2/18, ML4.1/6, MS4.1/3, Ms1 4.1/3, ms1mx3.7/43, Error ellipse: s-maj=12.2km s-min=9.6km az=38.0*
*ISCJB **10** 02:21:39.6±0.6, 40.63N±0.01×124.66W±0.03, h31km±3km, mb4.5/46, MS4.1/2, Error ellipse: s-maj=4.2km s-min=2.1km az=168.4*
*NEIC **10** 02:21:39.2, 40.61N×124.78W, h21km, mb4.7/43, MW4.4(BRK), After NCEDC.*
NEIC Felt [II] at Arcata, Eureka, Fortuna, McKinleyville and Redding. Also felt at Anderson, Bridgeville, Corning, Cottonwood, Crescent City, Fort Bragg, Garberville, Kelseyville, Lakehead, Lakeport, Loleta, Mendocino, Mount Shasta, Nice, Red Bluff, Rio Dell, Trinidad, Ukiah, Weaverville and Whitethorn. Felt at Brookings, Oregon.
ISC 10 02:21:40.1±0.9, 40.63N±0.03×124.62W±0.04, h19km±3km, n603, σ1§28/588, mb4.6/46, 149C-153D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.72**	**69**	*e*Pg	**Pg**	**02 21 53.9**	**-0.5**
KHMM				*e*Sg	**Sb**	**02 22 05.0**	**+1.4**
KMRM	**Mail Ridge**	**0.80**	**120**	*e*Pb	**Pb**	**02 21 55.4**	**-0.1**
KRMB	**Red Mountain**	**1.04**	**31**	*e*Pn	**Pb**	**02 21 57.9**	**-1.8**
KRMB				*e*Sn	**Sb**	**02 22 11.2**	**-1.8**
KCPM	**Cahto Peak**	**1.23**	**139**	*e*Pn	**Pn**	**02 22 00.3**	**-2.0**
WDC	**Whiskeytown Da**	**1.58**	**91**	*e*Pn	**Pn**	**02 22 06.0**	**-1.1**
WDC				*e*Sn	**Sn**	**02 22 27.6**	**+0.6**
KBO	**Bosley Butte**	**1.61**	**10**	*e*Pn	**Pn**	**02 22 04.9**	**-2.7**
KBO				*e*Pb	**Pb**	**02 22 09.2**	**-0.1**
YBH	**Yreka Blue Hor**	**1.81**	**52**	*e*Pn	**Pn**	**02 22 09.5**	**-1.0**
YBH				*e*Pb	**Pb**	**02 22 13.8**	**+1.1**
YBH				*e*Sn	**Sn**	**02 22 31.8**	**-1.2**
YBH	**Yreka Blue Hor**	**1.81**	**52**	Pn	**Pn**	**02 22 09.4**	**-1.0**
	32nm,0.3s,baz=249,slow=14,SNR=163						
YBH				Sn	**Sn**	**02 22 31.7**	**-1.2**
	355nm,0.3s,baz=166,slow=19,SNR=28						
HOPS	**Hopland**	**2.02**	**143**	*e*Pn	**Pn**	**02 22 10.9**	**-2.2**
HOPS				*e*Pb	**Pb**	**02 22 17.1**	**+0.9**
HOPS				*e*Sn	**Sn**	**02 22 37.2**	**-0.6**
KEBM	**Edson Butte**	**2.25**	**5**	*e*Pn	**Pn**	**02 22 13.7**	**-2.7**
KEBM				*e*Pb	**Pb**	**02 22 19.7**	**-0.6**
KEBM				*e*Sn	**Sn**	**02 22 42.6**	**-1.1**
HUMO	**Hull Mountain**	**2.34**	**32**	*e*Pn	**Pn**	**02 22 16.1**	**-1.4**
HUMO				*e*Pb	**Pg**	**02 22 23.3**	**-1.7**
HUMO				*e*Sn	**Sn**	**02 22 44.6**	**-1.1**
M04C	**Macdoel**	**2.39**	**60**	⇑P	**Pn**	**02 22 18.4**	**+0.1**
	baz=2.5						
M04C				⇓S	**Sn**	**02 22 48.9**	**+1.7**
	baz=2.5						
OHCM	**Honcut**	**2.73**	**117**	*e*Pn	**Pn**	**02 22 21.1**	**-1.8**
MCCM	**Marconi Confer**	**2.82**	**151**	*e*Pn	**Pn**	**02 22 21.6**	**-2.5**
MCCM				*e*Pb	**Pb**	**02 22 28.9**	**-0.9**
MCCM				*e*Sn	**Sn**	**02 22 57.0**	**-0.4**
BEKR	**Beckworth**	**3.35**	**102**	*e*Pn	**Pn**	**02 22 30.8**	**-0.7**
BEKR				*e*Sn	**Sn**	**02 23 10.0**	**-0.8**
SAC	**San Andreas**	**3.49**	**150**	*e*Pn	**Pn**	**02 22 31.0**	**-2.3**
SAC				*e*Sn	**Sn**	**02 23 11.0**	**-3.0**
K05A	**Summer Lake**	**3.49**	**52**	*e*Pn	**Pn**	**02 22 33.3**	**-0.2**
MOD	**Modoc**	**3.49**	**67**	*e*Pn	**Pn**	**02 22 32.5**	**-1.0**
MOD				*e*Pb	**Pb**	**02 22 40.7**	**-0.7**
MOD				*e*Pg	**Pg**	**02 22 45.6**	**-1.5**
MOD				*e*Sn	**Sn**	**02 23 15.7**	**+1.3**
I04A	**Tendick Farm,**	**3.56**	**27**	⇑P	**Pn**	**02 22 34.8**	**+0.4**
	baz=3.6						
I04A				⇑S	**Sn**	**02 23 16.2**	**+0.2**
	baz=3.6						
COR	**Corvallis**	**4.08**	**13**	*e*Pn	**Pn**	**02 22 42.4**	**+1.0**
COR				*e*Sn	**Sn**	**02 23 28.7**	**+0.3**
PAHR	**Pah Rah Range**	**4.11**	**101**	*e*Pn	**Pn**	**02 22 41.5**	**-0.5**
CMB	**Columbia Colle**	**4.18**	**127**	*e*Pn	**Pn**	**02 22 42.6**	**-0.2**
CMB				*e*Sn	**Sn**	**02 23 30.5**	**+0.6**
PINOR	**Pine Mountain**	**4.23**	**40**	*e*Pn	**Pn**	**02 22 44.8**	**+1.4**
I05D	**Terrebonne, OR**	**4.43**	**32**	⇓P	**Pn**	**02 22 46.9**	**+0.6**
	baz=4.5						
H04A	**Detroit Lake**	**4.43**	**23**	*e*Pn	**Pn**	**02 22 47.5**	**+1.2**
WAKR	**Walker**	**4.53**	**116**	*e*Pn	**Pn**	**02 22 48.2**	**+0.4**
SAO	**San Andreas Ge**	**4.58**	**146**	*e*Pn	**Pn**	**02 22 45.8**	**-2.6**
SAO				*e*Sn	**Sn**	**02 23 40.0**	**-1.1**
WVOR	**Wild Horse Val**	**4.84**	**66**	*e*Pn	**Pn**	**02 22 50.7**	**-1.3**
WVOR				*e*Pg	Pb	02 23 08.3	+4.0
I07A	**Izee**	**5.13**	**46**	*e*Pn	**Pn**	**02 22 57.6**	**+1.7**
J08A	**Circle Bar Ran**	**5.33**	**57**	*e*Pn	**Pn**	**02 22 58.1**	**-0.6**
NVAR	**Mina Array Bea**	**5.35**	**112**	Pn	**Pn**	**02 22 59.3**	**+0.2**
NVAR	**Mina Array Bea**	**5.35**	**112**	Pn	**Pn**	**02 22 59.3**	**+0.2**
	36nm,0.3s,baz=294,slow=14,SNR=743						
MLAC	**Mammoth Lakes**	**5.40**	**122**	⇓P	**Pn**	**02 23 01.1**	**+1.3**
	baz=5.5,SNR=32						
NV11	**Mina Array Sit**	**5.46**	**112**	*e*Pn	**Pn**	**02 23 00.1**	**-0.4**
G06A	**Carlson Farm,**	**5.46**	**31**	*e*Pn	**Pn**	**02 23 02.1**	**+1.7**
F04A	**Amboy**	**5.54**	**16**	*e*Pn	**Pn**	**02 23 01.9**	**+0.4**
F04D	**Rainier, OR**	**5.58**	**12**	⇑P	**Pn**	**02 23 02.5**	**+0.5**
	baz=5.6						
BMN	**Battle Mountai**	**5.64**	**90**	*e*Pn	**Pn**	**02 23 01.7**	**-1.3**
BMN				*e*Pg	Pb	02 23 22.2	+4.2
MTUM	**Tungsten Hills**	**5.74**	**123**	*e*Pn	**Pn**	**02 23 05.3**	**+0.9**
E03A	**Lebam**	**5.97**	**7**	*e*Pn	**Pn**	**02 23 08.2**	**+0.8**
RCTC	**Rector, Farmer**	**6.03**	**134**	P	**Pn**	**02 23 09.0**	**+0.8**
	baz=6.1						
PTRM	**Twissleman Ran**	**6.06**	**144**	*e*Pn	**Pn**	**02 23 07.2**	**-1.5**
TIN	**Tinemaha**	**6.13**	**124**	⇓P	**Pn**	**02 23 10.5**	**+0.8**
	baz=6.2,SNR=12						
G08A	**Pilot Rock**	**6.24**	**40**	*e*Pn	**Pn**	**02 23 13.8**	**+2.6**
TPH	**Tonopah**	**6.27**	**112**	*e*Pn	**Pn**	**02 23 11.6**	**-0.1**
LON	**Longmire**	**6.45**	**17**	*e*Pn	**Pn**	**02 23 13.4**	**-0.7**
VES	**Vestal, Richgr**	**6.46**	**136**	P	**Pn**	**02 23 14.6**	**+0.4**
	baz=6.5,SNR=116						
GRAC	**Grapevine Rang**	**6.72**	**120**	P	**Pn**	**02 23 19.4**	**+1.7**
	baz=6.8						
NLWA	**Neilton Lookou**	**6.79**	**4**	*e*Pn	**Pn**	**02 23 18.9**	**+0.3**
D05A	**Enumclaw**	**6.83**	**15**	*e*Pn	**Pn**	**02 23 21.2**	**+2.1**
HAWA	**Hanford**	**6.85**	**31**	*e*

baz=10,SNR=45
BAR Barrett 10.17 139 ePn Pn 02 24 05.1 0.0
DAU Daniels Canyon 10.18 87 ePn Pn 02 24 07.9 +2.4
SWMT Swartz Lake 10.28 44 ePn Pn 02 24 09.0 +2.5
JTMT Jette 10.28 43 ePn Pn 02 24 09.7 +3.1
LRM Limekiln Ridge 10.28 56 ePn Pn 02 24 08.5 +1.7
CHMT Chamberlain Mo 10.34 49 ePn Pn 02 24 09.3 +1.8
TMUT Trail Mountain 10.38 93 ePn Pn 02 24 12.2 +4.0
SLMT Seeley Lake 10.39 47 ePn Pn 02 24 11.4 +3.2
SWSC Sam W. Stewart 10.43 135 ⇑P Pn 02 24 08.4 -0.2
baz=10,SNR=6.4
PDMCI Parker Dam,Lak 10.45 124 P Pn 02 24 10.7 +1.9
baz=10
DVTC Desert V Tower 10.48 137 P Pn 02 24 10.1 +0.6
baz=11
YBMT Yellow Bay 10.49 43 ePn Pn 02 24 11.0 +1.5
U15A North Rim 10.53 110 ⇑P Pn 02 24 12.8 +2.6
baz=11,SNR=24
FXWY Fox Creek 10.53 69 ePn Pn 02 24 12.8 +2.6
TPAW Teton Pass 10.56 70 ePn Pn 02 24 15.2 +4.7
QLMT Earthquake Lak 10.57 62 ePn Pn 02 24 12.3 +1.6
1.1nm,0.8s
Y12C Blythe 10.57 127 ⇓P Pn 02 24 11.6 +1.1
baz=11,SNR=12
REDW Red Top Meadow 10.61 71 ePn Pn 02 24 16.0 +4.8
IMW Indian Meadow 10.65 68 ePn Pn 02 24 15.4 +3.5
BOZ Bozeman (W) 10.73 58 ePn Pn 02 24 14.0 +1.2
MOOW Moose Ponds 10.76 69 ePn Pn 02 24 16.2 +2.9
LOHW Long Hollow 10.83 69 ePn Pn 02 24 17.9 +3.7
YFT Old Faithful 10.86 65 ePn Pn 02 24 21.5 +6.8
FLWY Flagg Ranch 10.86 67 ePn Pn 02 24 18.5 +3.8
GLA Glamis 10.89 131 ePn Pn 02 24 14.8 -0.1
GLA Glamis 10.89 131 ⇓P Pn 02 24 15.5 +0.6
baz=11,SNR=11
I17A Pilgrim Ck. 10.91 68 ⇓P Pn 02 24 19.7 +4.3
baz=11,SNR=14
SRU San Rafael 10.94 93 ePn Pn 02 24 19.9 +4.2
H17A Grant Village 11.03 65 ePn Pn 02 24 22.0 +5.0
HRY Holter Researc 11.07 52 ePn Pn 02 24 19.0 +1.5
Y14A Wickenburg 11.40 122 ⇓P Pn 02 24 25.2 +3.2
baz=12
PDAR Pinedale Array 11.46 74 Pn Pn 02 24 25.8 +2.8
PDAR Pinedale Array 11.46 74 Pn Pn 02 24 25.8 +2.8
0.4nm,0.3s,baz=247,slow=11,SNR=29
PDAR LR LR 02 29 12.1
comp=Z,733nm,18.4s,baz=40,slow=40
WUAZ Wupatki 11.61 112 ePn Pn 02 24 28.1 +3.2
WUAZ Wupatki 11.61 112 ⇓P Pn 02 24 28.6 +3.6
baz=12,SNR=9.8
113A Mohawk Valley, 11.71 129 ⇓P Pn 02 24 28.1 +2.0
baz=12
H18A Shoshone NF, C 11.73 65 ⇑P Pn 02 24 28.5 +1.9
baz=12,SNR=8.0
Z14A Wintersburg 11.81 124 ⇓P Pn 02 24 29.9 +2.4
baz=12
J19A Crowheart 11.89 72 ⇓P Pn 02 24 31.5 +2.9
baz=12,SNR=14
I19A Meeteetse 12.05 68 ⇑P Pn 02 24 34.4 +3.4
baz=12,SNR=8.7
X16A Lo Mia Camp, P 12.15 116 ⇓P Pn 02 24 35.7 +3.3
baz=12,SNR=8.9
H19A Powell 12.20 66 ⇓P Pn 02 24 34.3 +1.5
baz=12,SNR=19
PV04 Paradox Valley 12.34 95 ePn Pn 02 24 38.7 +3.8
N20A Spence Gulch, 12.41 84 ⇓P Pn 02 24 38.9 +3.0
baz=12
O20A White River Ci 12.50 87 ePn Pn 02 24 40.2 +3.1
O20A White River Ci 12.50 87 ⇓P Pn 02 24 40.4 +3.3
baz=13,SNR=15
F19A Roth Farm, Mol 12.56 60 ⇑P Pn 02 24 39.8 +2.0
baz=13
J20A Shoshoni 12.60 72 P Pn 02 24 41.5 +3.1
baz=13,SNR=22
I20A Worland 12.65 69 ⇑P Pn 02 24 41.9 +2.9
baz=13
PV01 Paradox Valley 12.66 96 ePn Pn 02 24 42.4 +3.0
H20A Greybull 12.85 67 ⇓P Pn 02 24 44.1 +2.4
baz=13,SNR=5.8
214A Organ Pipe Nat 12.86 129 ⇑P Pn 02 24 42.8 +0.9
baz=13
G20A Bridger 12.87 64 ⇑P Pn 02 24 44.7 +2.7
baz=13,SNR=24
MVCO Mesa Verde 13.01 100 ePn Pn 02 24 45.9 +1.9
MVCO Mesa Verde 13.01 100 ⇑P Pn 02 24 46.1 +2.0
baz=13,SNR=8.8
J21A Lysite 13.06 72 ⇑P Pn 02 24 46.5 +1.8
baz=13,SNR=34
D19A Cripps Ranch, 13.09 55 ⇑P Pn 02 24 46.3 +1.4
baz=13,SNR=6.1
X18A Snowflake 13.12 113 ⇑P Pn 02 24 48.7 +3.1
baz=13,SNR=7.8
K21A Alcova 13.15 76 ⇑P Pn 02 24 47.9 +1.9
baz=13,SNR=13
C19A Slack Wire Ran 13.23 52 ⇓P Pn 02 24 48.3 +1.5
baz=13
I21A Big Trails, Te 13.23 70 ⇑P Pn 02 24 48.5 +1.5
baz=13,SNR=29
E20A Meyer Farm, Mu 13.31 58 ⇑P Pn 02 24 48.4 +0.4
baz=13,SNR=7.1
D20A Manuel Ranch, 13.52 56 ⇑P Pn 02 24 51.3 +0.4
baz=14
H21A Big Horn, Sher 13.54 67 ⇓P Pn 02 24 51.6 +0.4
baz=14
G21A Lodge Grass 13.56 64 ⇓P Pn 02 24 52.8 +1.4
baz=14
SMCO Snowmass 13.63 90 ePn Pn 02 24 54.6 +2.0
M22A Cedar Creek Ra 13.63 81 ⇑P Pn 02 24 54.4 +1.8
baz=14,SNR=10
K22A Casper 13.69 76 ePn Pn 02 24 54.7 +1.4
K22A Casper 13.69 76 ⇓P Pn 02 24 54.6 +1.4
baz=14,SNR=21
P22A Eagle 13.71 89 ⇓P Pn 02 24 56.0 +2.4
baz=14
L22A Ellis Ranch, M 13.74 78 ⇓P Pn 02 24 54.8 +0.8
baz=14,SNR=5.8
J22A Midwest 13.77 72 P Pn 02 24 55.5 +1.2
baz=14,SNR=11
N22A Wattenberg Ran 13.78 83 ⇑P Pn 02 24 56.0 +1.4
baz=14,SNR=12
O22A Kremmling 13.79 86 ⇓P Pn 02 24 56.4 +1.7
baz=14,SNR=8.8
I22A 9 Mile Ranch, 13.82 70 P Pn 02 24 56.5 +1.5
baz=14,SNR=18
TUC Tucson 13.87 122 ePn Pn 02 24 58.0 +2.3
E21A Keefer Ranch, 14.01 59 ⇑P Pn 02 24 58.1 +0.6
baz=14
H22A Clearmont 14.02 68 ⇓P Pn 02 24 58.2 +0.5
baz=14,SNR=6.4
S22A 4UR Ranch, Cre 14.10 96 ⇓P Pn 02 25 02.0 +3.1
baz=14,SNR=40
N23A Red Feather La 14.16 83 P Pn 02 25 01.5 +1.7
baz=14,SNR=14
G22A Birney 14.19 65 P Pn 02 25 00.6 +0.6
baz=14,SNR=8.1
D21A La Casta Ranch 14.24 57 ⇑P Pn 02 25 00.8 +0.2
baz=14,SNR=7.7
O23A Lake Granby, G 14.26 86 P Pn 02 25 02.8 +1.6
baz=14,SNR=17
L23A Garrett 14.29 78 P Pn 02 25 01.9 +0.4
baz=14,SNR=24
F22A Rosebud 14.34 63 ⇓P Pn 02 25 02.6 +0.6
baz=14
K23A Bowen Ranch, D 14.35 75 P Pn 02 25 02.5 +0.2
baz=14,SNR=13
P23A Jefferson 14.45 89 ⇓P Pn 02 25 06.5 +2.6
baz=14
PHWY Pilot Hill 14.50 81 ePn Pn 02 25 04.4 0.0
U22A Llaves 14.54 101 ⇑P Pn 02 25 07.2 +2.2
baz=15,SNR=9.2
ISCO Idaho Springs 14.55 87 ePn Pn 02 25 05.4 +0.2
ISCO Idaho Springs 14.55 87 ⇓P Pn 02 25 07.3 +2.1
baz=15,SNR=12
V22A San Miguel Ran 14.68 103 ⇑P Pn 02 25 09.8 +2.9
baz=15,SNR=10
E22A Miles City 14.72 61 P Pn 02 25 06.5 -0.7
baz=15,SNR=6.6
R23A Moffat 14.73 93 ⇑P P 02 25 11.3 -2.4
baz=15,SNR=30
S23A Nye Farm, Mont 14.73 95 ⇓P P 02 25 11.1 -2.6
baz=15,SNR=27
EDM Edmonton 14.74 28 ePn Pn 02 25 06.7 -0.7
D22A Cohagen 14.79 58 P Pn 02 25 08.6 +0.4
baz=15,SNR=7.6
G23A Biddle 14.80 66 P Pn 02 25 08.5 +0.1
baz=15,SNR=7.0
L24A Wheatland 14.86 78 P Pn 02 25 09.5 +0.3
baz=15,SNR=12
F23A Volborg 14.90 64 ⇓P Pn 02 25 09.7 -0.1
baz=15
O24A Longmont 14.91 86 ⇓P Pn 02 25 10.6 +0.7
baz=15
T23A Casias Ranch, 14.92 98 ⇓P Pn 02 25 11.1 +1.0
baz=15,SNR=8.1
K24A Anderson Ranch 14.95 75 ⇓P Pn 02 25 10.0 -0.4
baz=15,SNR=11
M24A Cheyenne 14.96 80 ⇑P Pn 02 25 11.2 +0.5
baz=15,SNR=15
N24A Carr 14.97 83 ⇓P Pn 02 25 11.7 +1.0
baz=15,SNR=9.4
U23A El Rito 15.05 101 ⇑P Pn 02 25 13.9 +2.0
baz=15
J24A Dixon Ranch, L 15.09 73 P Pn 02 25 11.5 -0.7
baz=15,SNR=10.0
SDCO Great Sand Dun 15.10 95 ePn Pn 02 25 14.4 +1.8
57nm,1.2s
I24A Kuemmerle Ranc 15.15 71 ⇑P Pn 02 25 12.4 -0.6
baz=15,SNR=8.2
C22A Vida 15.19 56 ⇓P Pn 02 25 13.7 +0.2
baz=15
LAZ Ladron 15.19 109 ePn Pn 02 25 16.1 +2.4
4.2nm,0.9s
R24A Sanders Place, 15.27 93 P Pn 02 25 16.6 +1.9
baz=15,SNR=15
V23A Ortiz Mt. (NFS 15.29 103 ⇓P Pn 02 25 17.5 +2.5
baz=15
H24A Dirks Ranch, A 15.31 68 ⇑P Pn 02 25 13.6 -1.5
baz=15,SNR=33
S24A Houchin Ranch, 15.35 95 P Pn 02 25 18.5 +2.6
baz=15,SNR=22
T24B San Luis 15.40 97 ⇓P Pn 02 25 19.0 +2.4
baz=16
LENM Lemitar 15.42 109 ePn Pn 02 25 19.2 +2.5
D23A Lindsay 15.43 58 ⇑P Pn 02 25 16.4 -0.3
baz=16,SNR=5.9
ANMO Albuquerque 15.43 106 ePn Pn 02 25 17.9 +1.1
11nm,1.1s
ANMO Albuquerque 15.43 106 Pn Pn 02 25 17.6 +0.8
0.3nm,0.3s,baz=306,slow=12,SNR=14
319A Douglas 15.45 122 ⇓P P 02 25 21.3 -0.2
baz=16,SNR=17
M25A Palm-Egli Farm 15.54 80 P Pn 02 25 18.8 +0.6
baz=16,SNR=9.1
W23A Werner Place, 15.56 105 ⇓P Pn 02 25 19.4 +0.8
baz=16
L25A Engebretsen Ra 15.58 78 ⇓P Pn 02 25 18.9 +0.3
baz=16,SNR=9.6
LPM Los Pinos Moun 15.60 108 ePn P 02 25 21.7 -1.5
RSSD Black Hills 15.60 70 ePn Pn 02 25 15.9 -3.2
9.0nm,1.7s
O25A Wiggins 15.63 85 ⇑P Pn 02 25 19.7 +0.2
baz=16
K25A Mack Ranch, Ha 15.64 76 ⇓P Pn 02 25 19.3 -0.2
baz=16
C23A Lambert 15.65 56 ⇓P Pn 02 25 19.1 -0.4
baz=16,SNR=10
BNM Barren Site 15.68 109 ePn Pn 02 25 22.0 +1.9
13nm,1.2s
P25A Willow Gulch B 15.70 87 ⇑P Pn 02 25 21.8 +1.5
baz=16,SNR=18
U24A Moreno Valley 15.71 99 ⇓P Pn 02 25 21.9 +1.3
baz=16
J25A Sunshine Ranch 15.71 73 ⇓P Pn 02 25 19.0 -1.4
baz=16,SNR=12
121A Cookes Peak, D 15.73 116 ePn Pn 02 25 22.9 +2.1
28nm,1.3s
121A Cookes Peak, D 15.73 116 ⇑P P 02 25 23.5 -1.2
baz=16,SNR=12
Q25A Bedland, Calha 15.76 90 ⇓P P 02 25 23.5 -1.5
baz=16,SNR=6.3
X23A Hourglass Bar 15.79 107 ⇑P P 02 25 24.6 -0.8
baz=16,SNR=8.0
I25A Rochford 15.81 71 ⇑P Pn 02 25 21.5 -0.3
baz=16
E24A Baker 15.85 61 ⇑P Pn 02 25 22.3 +0.2
baz=16
Z22A Elephant Butte 15.90 112 ⇑P P 02 25 25.9 -0.6
baz=16,SNR=9.0
R25A Fountain Ranch 15.91 92 ⇑P P 02 25 25.6 -1.1
baz=16,SNR=5.7
S25A Robets Cordova 15.94 94 ⇑P Pn 02 25 24.8 +1.4
baz=16,SNR=17
320A Kipp Ranch, An 15.96 120 ⇑P P 02 25 30.4 +3.1
baz=16,SNR=19
H25A Fruitdale 15.97 69 ⇓P Pn 02 25 23.1 -0.6
baz=16,SNR=15
V24A Rampart Ranch, 15.97 102 P P 02 25 26.5 -0.9
baz=16,SNR=18
D24A Glendive 15.98 59 ⇑P Pn 02 25 23.6 -0.2
baz=16,SNR=20
B23A Brockton 16.01 54 P Pn 02 25 22.5 -1.6
baz=16,SNR=5.6
C24A Savage 16.04 58 ⇓P Pn 02 25 23.7 -0.9
baz=16
W24A Lazy 6 Ranch, 16.09 103 ⇑P P 02 25 28.1 -0.5
baz=16,SNR=8.5
T25A Trinidad 16.11 96 P P 02 25 28.0 -0.9
baz=16,SNR=22
K26A Motz Farm, Whi 16.15 76 ⇓P Pn 02 25 25.8 -0.2
baz=16,SNR=11
G25A Newell 16.18 67 ⇑P Pn 02 25 26.0 -0.3
baz=16,SNR=5.8
Y23A Lovelace Mesa, 16.20 108 ⇓P P 02 25 28.8 -1.1
baz=16,SNR=16
N26A Koester Ranch, 16.22 82 P Pn 02 25 27.5 +0.6
baz=16,SNR=6.7
M26A McRoberts Ranc 16.22 80 P Pn 02 25 27.0 0.0
baz=16,SNR=5.1
O26A Horse Wrangler 16.23 84 P Pn 02 25 27.9 +0.8
baz=16,SNR=14
L26A Underwood Farm 16.24 78 ⇑P Pn 02 25 26.6 -0.6
baz=16
J26A Sides Ranch, S 16.24 73 P Pn 02 25 26.5 -0.6
baz=16,SNR=24
F25A Bowman 16.28 64 ⇓P Pn 02 25 27.0 -0.6
baz=16
Q26A Hugo 16.31 89 ⇑P P 02 25 30.0 -1.0
baz=16,SNR=12
P26A Davis Ranch, A 16.31 87 P P 02 25 30.5 -0.5
baz=16,SNR=18
X24A Lazy VL Ranch, 16.35 106 ⇑P P 02 25 30.5 -1.1
baz=16
U25A Circle Dot Ran 16.36 98 ⇑P Pn 02 25 30.4 +1.5
baz=16,SNR=22
Z23A Rita Site, Whi 16.42 111 ⇑P Pn 02 25 31.0 +1.5
baz=16
V25A Rancho No Teng 16.42 101 P P 02 25 32.5 +0.2
baz=16,SNR=18
I26A New Underwood 16.44 71 P Pn 02 25 28.5 -1.1
baz=16,SNR=7.6
E25A Miller Ranch, 16.44 62 ⇑P Pn 02 25 28.7 -1.0
baz=16,SNR=5.3
222A Williams Famil 16.45 116 ⇓P P 02 25 33.7 +1.1
baz=16
DGMT Dagmar 16.50 55 ⇑P Pn 02 25 29.2 -1.2
baz=17
R26A Arlington 16.51 91 P P 02 25 32.5 -0.7
baz=17,SNR=11
H26A Fairpoint 16.55 69 ⇓P Pn 02 25 30.2 -0.9
baz=17,SNR=5.2
Y24A Capitan 16.65 108 ⇑P P 02 25 34.5 -0.4
baz=17
D25A Fairfield 16.66 60 P Pn 02 25 31.5 -0.8
baz=17,SNR=5.8
S26A Kim 16.68 94 P Pn 02 25 33.6 +0.8
baz=17,SNR=19
T26A Comanche Natio 16.72 95 P Pn 02 25 34.5 +1.1
baz=17,SNR=13
N27A Anderson Farm, 16.74 82 ⇑P Pn 02 25 33.1 -0.4
baz=17,SNR=10
M27A Reverse DX Ran 16.79 80 P Pn 02 25 33.2 -0.9
baz=17,SNR=14
W25A X Bar L Ranch, 16.79 102 ⇓P Pn 02 25 34.2 0.0
baz=17
L27A T5 Ranch, Ells 16.80 78 ⇑P Pn 02 25 33.7 -0.6
baz=17
F26A Lodgepole 16.81 65 ⇑P Pn 02 25 33.2 -1.1
baz=17,SNR=8.3
K27A Flueckinger Fa 16.85 76 ⇓P Pn 02 25 33.2 -1.6
baz=17,SNR=16
C25A Freed Ranch, W 16.85 58 ⇓P Pn 02 25 34.2 -0.7
baz=17
O27A Beecher Island 16.87 84 P Pn 02 25 35.6 +0.5
baz=17,SNR=8.4
U26A Atchley Ranch, 16.87 98 ⇓P P 02 25 36.6 -0.7
baz=17,SNR=11
P27A Ficken Ranch, 16.90 86 ⇓P Pn 02 25 36.8 +1.2
baz=17,SNR=12
X25A Clemmons Ranch 16.94 105 ⇑P P 02 25 37.4 -0.6
baz=17
KSCO Kaye Shedlock' 16.97 88 ePn Pn 02 25 37.0 +0.5
KSCO Kaye Shedlock' 16.97 88 P P 02 25 37.7 -0.6
baz=17,SNR=37
223A Chaparral, Ant 16.97 115 ⇑P P 02 25 38.2 -0.2
baz=17
Z24A Sheeppen Canyo 17.00 109 ⇑P P 02 25 39.1 +0.4
baz=17
R27A Eads 17.01 91 P Pn 02 25 37.5 +0.6
baz=17,SNR=19
J27A Elkhorn Farm, 17.02 74 P Pn 02 25 35.8 -1.2
baz=17,SNR=21
I27A Quinn 17.02 71 ⇑P Pn 02 25 36.0 -1.0
baz=17,SNR=8.4
H27A Howes 17.05 69 P Pn 02 25 35.5 -1.8
baz=17,SNR=14
V26A Tequesquite Ra 17.06 100 ⇓P P 02 25 40.0 +0.7
baz=17,SNR=6.2
E26A Carlson Angus 17.07 63 ⇓P Pn 02 25 37.6 0.0
baz=17
OGNE Ogallala 17.11 82 ePn Pn 02 25 36.9 -1.2
36nm,0.4s
OGNE Ogallala 17.11 82 ⇓P Pn 02 25 37.9 -0.2
baz=17
Y25A Mesa, Roswell 17.20 107 ⇓P P 02 25 40.6 -0.2
baz=17
D26A Manning 17.21 61 ⇓P Pn 02 25 38.7 -0.6
baz=17
G27A Dupree 17.24 66 P Pn 02 25 38.5 -1.2
baz=17,SNR=13
F27A Lemmon 17.26 65 P Pn 02 25 38.5 -1.4
baz=17,SNR=13
124A Stringfield Ra 17.27 111 ⇓P P 02 25 41.5 -0.2
baz=17
W26A Owens Ranch, T 17.36 102 ⇑P P 02 25 42.7 +0.1
baz=17
L28A Connealy Angus 17.40 78 ⇓P Pn 02 25 40.7 -1.1
baz=18
O28A Krutsinger Ran 17.41 84 ⇑P Pn 02 25 42.0 +0.1
baz=18
T27A Campo 17.42 95 ⇑P P 02 25 43.2 -0.1
baz=18
K28A Ten Mile Ranch 17.49 76 ⇑P Pn 02 25 41.7 -1.2
baz=18,SNR=5.1
Z25A Roswell 17.49 108 P P 02 25 45.5 +1.4
baz=18,SNR=9.5
N28A Pribbeno Ranch 17.51 82 P Pn 02 25 42.0 -1.1
baz=18,SNR=9.1
P28A Saint Francis 17.52 86 P Pn 02 25 43.5 +0.2
baz=18,SNR=40
U27A Thompson Grove 17.55 97 ⇑P Pn 02 25 44.2 +0.5
baz=18,SNR=9.8
M28A Bar X Bar Ranc 17.56 80 ⇓P Pn 02 25 43.1 -0.6
baz=18
224A Cornudas Mount 17.56 113 ⇑P P 02 25 46.2 +1.2
baz=18
Q28A Sharon Springs 17.56 88 ⇑P Pn 02 25 44.2 +0.4
baz=18,SNR=17
J28A Allard Ranch, 17.59 73 P Pn 02 25 42.6 -1.4
baz=18,SNR=10
C26A Wahler Farm, P 17.64 58 ⇑P Pn 02 25 42.6 -2.0
baz=18,SNR=7.7
I28A Midland 17.65 71 ⇓P Pn 02 25 42.8 -2.0
baz=18,SNR=7.4
E27A Carson 17.67 63 ⇑P Pn 02 25 42.8 -2.2
baz=18
R28A Tribune 17.75 90 ⇓P Pn 02 25 46.8 +0.6
baz=18,SNR=31
V27A Dan Oppiter Fa 17.79 99 ⇓P P 02 25 47.9 +0.5
baz=18
H28A Mission Ridge 17.81 69 ⇓P Pn 02 25 43.0 -3.7
baz=18,SNR=7.4
Y26A Elida 17.83 105 ⇓P P 02 25 47.8 0.0
baz=18
125A Gardner Draw, 17.86 110 ⇓P Pn 02 25 45.7 -1.8
baz=18
T28A Walsh 17.86 94 P P 02 25 48.5 +0.4
baz=18,SNR=5.6
S28A Manter 17.88 92 ⇓P Pn 02 25 48.2 +0.4
baz=18,SNR=14
W27A Bowe Ranch, En 17.89 101 ⇓P Pn 02 25 48.2 +0.2
baz=18
G28A Parade 17.92 68 ⇑P Pn 02 25 46.7 -1.5
baz=18
324A Moseley Ranch, 17.96 115 ⇑P P 02 25 51.6 +2.3
baz=18,SNR=6.7
A26A Wade Farm, Ken 17.99 55 ⇑P Pn 02 25 47.8 -1.2
baz=18
C27A Sayler Ranch, 17.99 59 P Pn 02 25 47.6 -1.4
baz=18,SNR=5.3
U28A Mallet 18.02 96 ⇓P P 02 25 50.7 +0.7
baz=18
Z26A Caprock 18.03 107 P P 02 25 50.9 +0.8
baz=18,SNR=9.7
225A Deer Hill, Car 18.04 112 ⇓P P 02 25 51.7 +1.5
baz=18
X27A F and S Farms, 18.04 102 ⇑P P 02 25 50.9 +0.7
baz=18
F28A McLaughlin 18.09 65 ⇓P Pn 02 25 49.6 -0.6
baz=18
P29A Atwood 18.14 86 P Pn 02 25 50.5 -0.4
baz=18,SNR=20
O29A 4D Ranch, Culb 18.15 84 P Pn 02 25 49.9 -1.1
baz=18,SNR=13
DLBC Dease Lake 18.16 351 P P 02 25 51.8 +0.5
DLBC Dease Lake 18.16 351 P P 02 25 51.8 +0.5
0.1nm,0.3s,baz=162,slow=7.7,SNR=9.5
L29A Maesberg Ranch 18.17 78 P Pn 02 25 49.7 -1.6
baz=18,SNR=6.7
N29A Votaw Ranch, W 18.18 82 ⇓P Pn 02 25 51.2 -0.2
baz=18
R29A Marienthal 18.24 89 ⇓P P 02 25 52.6 +0.3
baz=18
J29A Okreek 18.25 73 P Pn 02 25 50.5 -1.7
baz=18,SNR=26
V28A Channing 18.25 98 ⇑P P 02 25 53.0 +0.6
baz=18,SNR=5.7
Q29A Oakley 18.25 88 P Pn 02 25 52.5 +0.3
baz=18,SNR=77
K29A Lazy Trails An 18.26 75 P Pn 02 25 50.8 -1.6
baz=18,SNR=8.0
I29A Vivian Onida 18.28 71 P Pn 02 25 51.6 -0.9
baz=18,SNR=6.8
E28A Huff 18.29 63 ⇑P Pn 02 25 51.9 -0.7
baz=18
126A Clayton Basin, 18.32 109 ⇑P P 02 25 55.0 +1.8
baz=18
Y27A Causey 18.33 105 ⇑P Pn 02 25 54.6 +1.2
baz=18
B27A Peters Farms, 18.34 57 ⇓P P 02 25 52.9 -0.2
baz=18
325A Bean Ranch, Si 18.35 114 ⇑P Pn 02 25 56.3 +2.6
baz=18,SNR=8.9
H29A Onida 18.38 69 ⇓P P 02 25 52.5 -1.2
baz=18
S29A Ulysses 18.47 92 ⇑P P 02 25 53.9 -0.9
baz=18,SNR=7.4
T29A Hugoton 18.47 93 P P 02 25 55.1 +0.2
baz=18,SNR=9.4
226B Tecolote Peak, 18.52 111 ⇓P Pn 02 25 56.6 +0.9
baz=19,SNR=5.3
Z27A Tatum 18.57 106 ⇑P P 02 25 56.1 +0.1
baz=19,SNR=6.7
N30A Hueftle Ranch, 18.58 81 ⇓P P 02 25 56.0 +0.1
baz=19
MSTX Muleshoe 18.58 104 ePn P 02 25 56.3 +0.2
MSTX Muleshoe 18.58 104 ⇓P Pn 02 25 57.1 +0.7
baz=19
M30A Dale-Ortello V 18.66 79 P P 02 25 55.7 -1.2
baz=19,SNR=5.1
P30A Selden 18.67 85 P P 02 25 56.5 -0.4
baz=19,SNR=10
425A Indio Mountain 18.69 116 ⇓P Pn 02 25 59.9 +2.2
baz=19,SNR=12
O30A MW Ranch, Wils 18.70 83 P P 02 25 56.5 -0.8
baz=19,SNR=11
C28A Hausauer Farms 18.72 60 ⇓P P 02 25 57.6 +0.2
baz=19
V29A Stinnett 18.73 97 ⇑P P 02 25 57.8 +0.1
baz=19
L30A Spencer Herefo 18.74 78 ⇑P P 02 25 56.6 -1.1
baz=19,SNR=6.1
X28A Dimmitt 18.77 102 ⇓P Pn 02 25 59.0 +0.4
baz=19
K30A Basset 18.78 76 ⇑P P 02 25 57.5 -0.6

	baz=19,SNR=6.1									
127A	**Arkansas Junct**	18.78	108	⇓P		Pn	02 25 59.4	+0.5		
	baz=19									
Q30A	**Quinter**	18.81	87	P		P	02 25 58.5	0.0		
	baz=19,SNR=22									
J30A	**Dallas**	18.86	73	⇓P		P	02 25 58.0	-1.0		
	baz=19,SNR=10.0									
B28A	**Dugan Ranch, T**	18.92	58	⇓P		P	02 25 58.4	-1.2		
	baz=19									
R30A	**Dighton**	18.93	89	⇓P		Pn	02 26 00.9	+0.4		
	baz=19,SNR=16									
S30A	**Montezuma**	18.96	91	⇓P		P	02 25 59.8	-0.4		
	baz=19,SNR=7.6									
AMTX	**Amarillo**	19.00	100	*e*Pn		Pn	02 26 03.9	+2.4		
	10nm,0.7s									
AMTX	**Amarillo**	19.00	100	⇑P		Pn	02 26 02.0	+0.6		
	baz=19									
Y28A	**McKinney Farm,**	19.00	104	⇑P		Pn	02 26 02.0	+0.6		
	baz=19									
326A	**Caldwell Ranch**	19.08	113	⇑P		Pn	02 26 02.6	+0.2		
	baz=19									
T30A	**Plains**	19.09	93	⇓P		Pn	02 26 02.8	+0.3		
	baz=19									
U30A	**WK&E Inc. Balk**	19.16	95	⇓P		P	02 26 01.6	-0.8		
	baz=19,SNR=9.4									
X29A	**Tulia**	19.17	101	⇓P		P	02 26 02.6	+0.1		
	baz=19									
G30A	**Faulkton**	19.17	68	⇓P		P	02 26 01.3	-1.1		
	baz=19									
227A	**Bennet, Jal**	19.18	110	⇓P		P	02 26 02.8	+0.2		
	baz=19									
Z28A	**Tucker Farm, M**	19.19	105	⇑P		Pn	02 26 04.1	+0.4		
	baz=19,SNR=5.9									
O31A	**Woolen Ranch,**	19.26	83	P		P	02 26 02.7	-0.7		
	baz=19,SNR=12									
BRSD	**Miller**	19.26	70	*e*P		P	02 26 00.7	-2.8		
BRSD	**Miller**	19.26	70	⇑P		P	02 26 03.0	-0.4		
	baz=19									
P31A	**Stockton**	19.33	85	P		P	02 26 03.5	-0.7		
	baz=19,SNR=21									
M31A	**Lambtecht Ranc**	19.36	79	P		P	02 26 03.6	-0.8		
	baz=19,SNR=9.6									
L31A	**Butterfield Fa**	19.38	77	⇑P		P	02 26 04.5	-0.2		
	baz=20,SNR=5.9									
V30A	**Spur Ranch, Mi**	19.40	97	⇑P		Pn	02 26 06.2	-0.1		
	baz=20									
426A	**McDonald Obser**	19.42	114	⇓P		Pn	02 26 07.5	+0.9		
	baz=20,SNR=11									
Q31A	**Ellis**	19.43	87	P		P	02 26 05.6	+0.3		
	baz=20,SNR=17									
128A	**Castleberry Fa**	19.44	107	⇓P		P	02 26 05.5	0.0		
	baz=20									
Y29A	**Porterfield Fa**	19.45	103	P		P	02 26 05.5	0.0		
	baz=20,SNR=12									
R31A	**Burdett**	19.50	89	P		Pn	02 26 07.5	+0.2		
	baz=20,SNR=34									
228A	**UT Block 9, Go**	19.63	109	⇑P		P	02 26 07.5	0.0		
	baz=20									
D30A	**Buchanan**	19.69	62	P		P	02 26 06.7	-1.3		
	baz=20,SNR=11									
Z29A	**Hungry Hill Ra**	19.70	105	⇓P		P	02 26 08.6	+0.2		
	baz=20									
S31A	**Mullinville**	19.71	91	⇓P		Pn	02 26 10.1	+0.2		
	baz=20,SNR=10									
T31A	**Randall Ranch,**	19.72	92	⇓P		P	02 26 09.4	+1.0		
	baz=20,SNR=8.1									
526A	**Mary Lane Ranc**	19.74	116	⇓P		Pn	02 26 11.1	+0.7		
	baz=20,SNR=13									
427A	**Hayter Ranch,**	19.75	113	⇓P		Pn	02 26 11.6	+1.2		
	baz=20,SNR=21									
A29A	**Manning Farm,**	19.77	57	⇓P		P	02 26 09.2	+0.3		
	baz=20,SNR=7.1									
X30A	**Coker Ranch, T**	19.79	101	⇓P		P	02 26 09.0	-0.2		
	baz=20									
U31A	**Nine Bar Ranch**	19.82	94	⇓P		P	02 26 09.5	-0.1		
	baz=20,SNR=11									
328A	**Wristen Ranch,**	19.87	111	⇓P		Pn	02 26 12.0	+0.2		
	baz=20									
129A	**Stewart Farms,**	19.89	106	⇓P		Pn	02 26 13.4	+1.3		
	baz=20,SNR=16									
P32A	**Huiting Farm,**	19.90	84	⇓P		P	02 26 10.1	-0.3		
	baz=20,SNR=14									
N32A	**Stulken Farm,**	19.94	81	⇑P		P	02 26 10.8	0.0		
	baz=20									
BGNE	**Belgrade**	19.97	79	*e*P		P	02 26 08.3	-2.8		
	31nm,0.7s									
BGNE	**Belgrade**	19.97	79	⇑P		P	02 26 09.5	-1.6		
	baz=20									
C30A	**Mose, Pekin**	19.98	61	⇓P		P	02 26 11.2	0.0		
	baz=20									
527A	**Woodward Ranch**	20.02	115	⇑P		Pn	02 26 13.3	-0.5		
	baz=20,SNR=31									
626A	**Big Bend Ranch**	20.03	117	P		Pn	02 26 14.5	+0.8		
	baz=20,SNR=31									
O32A	**Brockman Farm,**	20.03	82	P		P	02 26 11.5	-0.3		
	baz=20,SNR=10									
V31A	**Spring Creek L**	20.04	96	⇓P		P	02 26 11.7	-0.2		
	baz=20									
Q32A	**Meitler Ranch,**	20.07	86	⇑P		P	02 26 12.9	+0.7		
	baz=20									
R32A	**Long Quarter,**	20.09	88	P		P	02 26 13.6	+1.2		
	baz=20,SNR=45									
S32A	**Newby Ranch, P**	20.11	90	⇑P		P	02 26 13.9	+1.2		
	baz=20,SNR=10.0									
Z30A	**Sanderson Ranc**	20.11	104	⇑P		Pn	02 26 14.7	0.0		
	baz=20									
W31A	**Holland Ranch,**	20.18	98	⇑P		P	02 26 14.1	+0.6		
	baz=20									
B30A	**Myrvik Farm, E**	20.23	58	⇓P		P	02 26 13.8	-0.1		
	baz=20									
T32A	**Huddler Ranch,**	20.27	91	P		P	02 26 15.7	+1.3		
	baz=20,SNR=9.2									
229A	**Bryant Ranch,**	20.27	108	⇑P		P	02 26 15.7	+1.2		
	baz=20,SNR=8.9									
428A	**Kincaid Ranch,**	20.32	112	⇑P		P	02 26 16.0	+0.9		
	baz=20,SNR=20									
X31A	**McDonald Ranch**	20.38	99	⇓P		P	02 26 16.6	+0.9		
	baz=20									
329A	**Wagon Wheel Ra**	20.40	109	⇑P		P	02 26 17.0	+1.0		
	baz=20,SNR=9.4									
Y31A	**Rekieta Farm,**	20.45	101	⇓P		P	02 26 16.2	-0.3		
	baz=20,SNR=7.3									
U32A	**Winter Ranch,**	20.46	94	⇑P		P	02 26 15.3	-1.3		
	baz=20									
TXAR	**Lajitas Array**	20.48	117	P		Pn	02 26 18.4	-0.6		
TXAR	**Lajitas Array**	20.48	117	P		Pn	02 26 18.4	-0.6		
	18nm,0.9s,baz=300,slow=8.1,SNR=160									
130A	**Snyder**	20.57	105	⇑P		P	02 26 17.1	-0.6		
	baz=21,SNR=5.2									
627A	**Terlingua Ranc**	20.60	116	⇑P		P	02 26 19.2	+1.1		
	baz=21									
Q33A	**Connelly Farm,**	20.62	86	⇓P		P	02 26 17.9	-0.3		
	baz=21,SNR=13									
P33A	**Williams Farm,**	20.63	85	⇓P		P	02 26 18.9	+0.6		
	baz=21									
FFC	**Flin Flon**	20.64	39	*e*P		P	02 26 18.1	-0.2		
	21nm,1.8s									
V32A	**Arapaho**	20.66	95	⇓P		Pn	02 26 21.2	+0.1		
	baz=21									
R33A	**Olander Ranch,**	20.67	88	P		Pn	02 26 20.7	-0.4		
	baz=21,SNR=10									
W32A	**Sentinel**	20.73	97	P		P	02 26 18.5	-1.0		
	baz=21,SNR=10									
T33A	**Patterson Ranc**	20.81	91	P		P	02 26 18.6	-1.8		
	baz=21,SNR=13									
230A	**Sterling City**	20.82	107	⇑P		P	02 26 21.4	+1.0		
	baz=21									
S33A	**Kaszmaul Farm,**	20.85	90	⇓P		P	02 26 19.8	-0.9		
	baz=21,SNR=5.1									
628A	**Black Gap, Mar**	20.92	115	⇑P		Pn	02 26 23.4	-0.8		
	baz=21,SNR=22									
429A	**Davenport Ranc**	20.94	111	⇓P		Pn	02 26 23.4	-1.0		
	baz=21,SNR=16									
ECSD	**EROS Data Cent**	20.94	72	*e*P		P	02 26 20.9	-0.7		
	14nm,0.8s									
131A	**Roby**	20.95	105	⇑P		Pn	02 26 23.6	-0.9		
	baz=21									
529A	**Stev Forest Ra**	21.00	113	⇓P		P	02 26 23.0	+0.6		
	baz=21,SNR=25									
330A	**Mertzon**	21.03	109	P		P	02 26 22.9	+0.2		
	baz=21,SNR=34									
Y32A	**R-V Farms, Ver**	21.05	100	⇓P		P	02 26 21.8	-1.0		
	baz=21									
V33A	**Lossen Ranch,**	21.20	95	⇑P		P	02 26 23.2	-1.3		
	baz=21,SNR=5.5									
WMOK	**Wichita Mounta**	21.24	98	*e*P		P	02 26 23.3	-1.6		
	11nm,0.5s									
W33A	**Caddo, Fort Co**	21.31	96	⇓P		P	02 26 24.4	-1.3		
	baz=21									
430A	**Baggett Ranch,**	21.32	110	⇑P		P	02 26 26.0	+0.1		
	baz=21,SNR=18									
Z32A	**Haskell**	21.33	102	⇑P		P	02 26 25.6	-0.3		
	baz=21,SNR=6.6									
231A	**Bronte**	21.37	106	P		P	02 26 25.6	-0.8		
	baz=22,SNR=11									
KSU1	**Kansas State U**	21.52	85	*e*P		P	02 26 30.7	+2.8		
	64nm,0.6s									
KSU1	**Kansas State U**	21.52	85	⇓P		P	02 26 30.9	+3.0		
	baz=22,SNR=21									
ABTX	**Abilene, Hawle**	21.53	104	*e*P		P	02 26 29.2	+1.2		
	23nm,0.9s									
ABTX	**Abilene, Hawle**	21.53	104	⇓P		P	02 26 27.6	-0.4		
	baz=22,SNR=6.1									
X33A	**Lawton**	21.53	98	⇓P		P	02 26 27.2	-0.8		
	baz=22									
U34A	**Anderson Ranch**	21.56	92	⇑P		P	02 26 27.1	-1.2		
	baz=22,SNR=17									
530A	**J-C Ranch, Com**	21.61	112	⇓P		P	02 26 29.9	+1.0		
	baz=22,SNR=11									
331A	**San Angelo**	21.62	108	⇑P		P	02 26 29.1	+0.1		
	baz=22,SNR=6.5									
Y33A	**Hilltop Ranch,**	21.66	99	P		P	02 26 28.0	-1.4		
	baz=22,SNR=6.1									
V34A	**Guthrie**	21.78	94	⇑P		P	02 26 32.2	+1.5		
	baz=22,SNR=12									
W34A	**Bridge Creek,**	21.81	96	⇑P		P	02 26 29.9	-1.1		
	baz=22,SNR=6.4									
AGMN	**Agassiz Nation**	21.82	60	*e*P		P	02 26 29.3	-1.7		
	23nm,0.8s									
AGMN	**Agassiz Nation**	21.82	60	⇑P		P	02 26 31.4	+0.4		
	baz=22,SNR=8.5									
431A	**Sonora**	21.83	109	⇑P		P	02 26 32.0	+0.7		
	baz=22,SNR=41									
Z33A	**Whitaker Ranch**	21.87	101	⇑P		P	02 26 31.0	-0.7		
	baz=22									
232A	**Coleman**	21.89	106	P		P	02 26 31.5	-0.4		
	baz=22,SNR=18									
133A	**Hamilton Ranch**	22.07	103	⇑P		P	02 26 34.9	+1.1		
	baz=22,SNR=13									
332A	**Millersview**	22.08	107	⇑P		P	02 26 33.6	-0.3		
	baz=22									
531A	**Rocksprings**	22.16	111	P		P	02 26 35.5	+0.6		
	baz=22,SNR=24									
ULM	**Lac du Bonnet**	22.22	55	*e*P		P	02 26 33.3	-2.1		
	16nm,1.0s									
ULM	**Lac du Bonnet**	22.22	55	P		P	02 26 33.2	-2.1		
	8.8nm,0.8s,baz=258,slow=9.7,SNR=12									
432A	**Menard**	22.31	108	P		P	02 26 35.7	-0.8		
	baz=22,SNR=9.7									
Y34A	**Reagan Ranch,**	22.33	99	⇓P		P	02 26 35.1	-1.6		
	baz=22									
233A	**Rising Star**	22.37	104	⇓P		P	02 26 38.2	+1.0		
	baz=22,SNR=20									
Z34A	**Collier Ranch,**	22.47	100	⇑P		P	02 26 36.4	-1.7		
	baz=22									
JCT	**Junction City**	22.52	109	*e*P		P	02 26 38.1	-0.6		
	33nm,0.9s									
JCT	**Junction City**	22.52	109	⇓P		P	02 26 39.6	+0.8		
	baz=23,SNR=8.2									
631A	**Perdido Creek**	22.57	112	⇑P		P	02 26 40.6	+1.3		
	baz=23,SNR=27									
532A	**Rocksprings**	22.64	110	⇑P		P	02 26 40.6	+0.6		
	baz=23,SNR=18									
333A	**Richland Sprin**	22.66	106	⇓P		P	02 26 40.8	+0.6		
	baz=23,SNR=26									
134A	**White-Moore Ra**	22.71	102	⇓P		P	02 26 39.6	-1.1		
	baz=23									
YKA	**Yellowknife Ar**	22.71	12	P		P	02 26 40.0	-0.5		
YKA	**Yellowknife Ar**	22.71	12	P		P	02 26 39.9	-0.5		
	1.7nm,0.8s,baz=194,slow=10,SNR=19									
433A	**Art**	22.88	107	⇑P		P	02 26 43.4	+0.8		
	baz=23,SNR=44									
234A	**Clairette**	22.94	104	⇑P		P	02 26 42.6	-0.5		
	baz=23,SNR=12									
Z35A	**Perchaven, San**	22.98	100	⇑P		P	02 26 44.0	+0.5		
	baz=23									
TUL1	**Tulsa**	23.06	92	*e*P		P	02 26 41.9	-2.4		
	12nm,0.7s									
TUL1	**Tulsa**	23.06	92	⇑P		P	02 26 42.7	-1.7		
	baz=23									
632A	**Uvalde**	23.08	111	P		P	02 26 45.5	+1.0		
	baz=23,SNR=20									
334A	**Lometa**	23.20	105	⇑P		P	02 26 46.1	+0.3		
	baz=23,SNR=18									
533A	**Kerrville**	23.30	109	⇓P		P	02 26 48.5	+1.7		
	baz=23,SNR=7.0									
732A	**Laxson Ranch,**	23.41	113	⇓P		P	02 26 49.1	+1.3		
	baz=24,SNR=15									
434A	**Burnet**	23.45	106	P		P	02 26 48.5	+0.2		
	baz=24,SNR=88									
633A	**Saathoff Ranch**	23.54	110	⇓P		P	02 26 49.4	+0.3		
	baz=24,SNR=8.9									
SCIA	**State Center**	23.58	77	*e*P		P	02 26 47.9	-1.5		
	17nm,0.8s									
SPMN	**St. Paul**	23.66	68	*e*P		P	02 26 47.4	-2.8		
SPMN	**St. Paul**	23.66	68	⇑P		P	02 26 49.4	-0.8		
	baz=24									
832A	**Faith Ranch, C**	23.67	114	⇑P		P	02 26 50.6	+0.2		
	baz=24,SNR=24									
534A	**Blanco**	23.72	108	⇑P		P	02 26 51.3	+0.3		
	baz=24,SNR=29									
335A	**Moody**	23.83	104	⇓P		P	02 26 52.6	+0.7		
	baz=24,SNR=16									
733A	**Divot King Ran**	23.89	112	⇓P		P	02 26 53.1	+0.6		
	baz=24,SNR=13									
833A	**Chaparral WMA,**	24.05	113	⇓P		P	02 26 54.6	+0.6		
	baz=24,SNR=9.3									
634A	**China Grove, S**	24.17	109	⇑P		P	02 26 55.4	+0.2		
	baz=24									
734A	**La Parita Cree**	24.33	111	⇑P		P	02 26 57.5	+0.9		
	baz=24,SNR=5.4									
535A	**Dale**	24.38	107	⇓P		P	02 26 57.7	+0.7		
	baz=24									
933A	**Laredo**	24.57	114	⇓P		P	02 26 59.6	+0.8		
	baz=25									
635A	**Leesville**	24.59	109	⇑P		P	02 26 59.5	+0.6		
	baz=25									
735A	**Kenedy**	24.86	110	⇑P		P	02 27 01.9	+0.4		
	baz=25,SNR=6.1									
MENT	**Mentasta**	25.08	339	*e*P		P	02 27 02.2	-0.9		
934A	**Benavides**	25.11	113	⇑P		P	02 27 04.0	+0.4		
	baz=25,SNR=8.0									
835A	**Beeville**	25.18	111	⇑P		P	02 27 04.5	+0.2		
	baz=25,SNR=5.7									
MIAR	**Mount Ida**	25.26	94	*e*P		P	02 27 05.0	+0.1		
	67nm,2.5s									
034A	**Hebronville**	25.32	114	⇑P		P	02 27 05.9	+0.3		
	baz=25									
JFWS	**Jewell Farm**	25.63	73	*e*P		P	02 27 07.5	-0.9		
	26nm,0.7s									
HKT	**Hockley**	25.69	105	*e*P		P	02 27 08.8	0.0		
	68nm,1.5s									
035Z	**Hargill**	26.13	115	⇑P		P	02 27 13.2	+0.3		
	baz=26									
FCC	**Fort Churchill**	26.46	36	*e*P		P	02 27 18.2	+2.6		
	3.6nm,2.8s									
MCK	**McKinley**	27.19	336	*e*P		P	02 27 22.7	+0.5		
	5.3nm,0.9s									
ILAR	**Eielson Array**	27.39	339	P		P	02 27 24.8	+0.8		
ILAR	**Eielson Array**	27.39	339	P		P	02 27 24.8	+0.8		
	1.7nm,0.6s,baz=151,slow=8.3,SNR=38									
SIUC	**Southern Illin**	27.49	84	*e*P		P	02 27 25.3	+0.3		
	16nm,1.1s									
INK	**Inuvik**	28.16	353	P		P	02 27 31.4	+0.7		
INK	**Inuvik**	28.16	353	P		P	02 27 31.4	+0.7		
	2.2nm,1.0s,baz=160,slow=11,SNR=3.0									
INK					LR	LR	02 40 05.1			
	comp=Z,138nm,19.5s,baz=4.0,slow=39									
SFIN	**Scholer Farm**	28.39	78	*e*P		P	02 27 31.4	-1.7		
	41nm,1.1s									
SFIN	**Scholer Farm**	28.39	78	⇑P		P	02 27 32.8	-0.3		
	baz=28,SNR=6.1									
BLO	**Bloomington**	29.11	80	*e*P		P	02 27 40.0	+0.4		
	56nm,0.8s									
WCI	**Wyandotte Cave**	29.55	82	*e*P		P	02 27 43.1	-0.4		
	17nm,0.8s									
ACSO	**Alum Creek Sta**	31.48	77	*e*P		P	02 27 59.8	-0.7		
	30nm,0.8s									
TIGA	**Tifton**	34.16	92	⇓P		P	02 28 23.7	-0.3		
	baz=34									
BLA	**Blacksburg**	34.29	81	*e*P		P	02 28 25.3	+0.2		
	13nm,0.7s									
KMSC	**Kings Mountain**	34.34	85	*e*P		P	02 28 24.9	-0.6		
	48nm,1.0s									
KMSC	**Kings Mountain**	34.34	85	⇑P		P	02 28 25.3	-0.1		
	baz=34,SNR=13									
VWCC	**Virginia Weste**	34.61	81	*e*P		P	02 28 28.3	+0.5		
JSC	**Jenkinsville**	34.73	86	*e*P		P	02 28 29.6	+0.8		
JSRW	**J. Sargeant Re**	36.03	79	*e*P		P	02 28 40.1	+0.1		
CBN	**Corbin**	36.24	78	*e*P		P	02 28 42.3	+0.5		
	17nm,0.3s									
PTN	**Potsdam (NY)**	36.30	67	*e*P		P	02 28 42.7	+0.5		
	51nm,1.1s									
CNNC	**Cliffs of the**	36.91	83	*e*P		P	02 28 47.5	0.0		
	42nm,1.1s									
LBNH	**Lisbon**	38.51	67	*e*P		P	02 29 02.4	+1.4		
SCHQ	**Schefferville**	40.20	49	P		P	02 29 13.8	-1.2		
SCHQ	**Schefferville**	40.20	49	P		P	02 29 13.8	-1.2		
	4.2nm,0.7s,baz=297,slow=2.2,SNR=5.6									
JTS	**JuntasAbangare**	46.23	120	*e*P		P	02 30 05.9	+1.8		
	5.3nm,0.7s									
BCIP	**Isla Barro Col**	50.50	116	*e*P		P	02 30 38.0	+1.0		
	50nm,0.9s									
SEY	**Seymchan**	51.74	325	P		P	02 30 46.1	+0.4		
SEY	**Seymchan**	51.74	325	P		P	02 30 46.1	+0.4		
	2.3nm,0.6s,baz=115,slow=11,SNR=4.5									
PETK	**Petropavlovsk-**	52.02	312	P		P	02 30 48.5	+0.5		
PETK	**Petropavlovsk-**	52.02	312	P		P	02 30 48.5	+0.5		
	3.7nm,0.6s,baz=84,slow=12,SNR=9.1									
OTAV	**Otavalo**	58.01	122	*e*P		P	02 31 33.1	+0.8		
	4.7nm,0.8s									
SPITS	**Spitsbergen Ar**	59.16	9	P		P	02 31 39.6	+0.7		
SPITS	**Spitsbergen Ar**	59.16	9	P		P	02 31 39.6	+0.7		
	7.0nm,0.8s,baz=302,slow=17,SNR=2.4									
H11N3	**WAKE ISLAND Hy**	61.27	272	T		T	03 38 28.4			
	baz=56,slow=75,SNR=472									
H11N2	**WAKE ISLAND Hy**	61.27	272	T		T	03 38 30.6			
	baz=56,slow=75,SNR=476									
H11N1	**WAKE ISLAND Hy**	61.29	272	T		T	03 38 31.8			
	baz=56,slow=75,SNR=534									
H11S1	**WAKE ISLAND Hy**	62.15	271	T		T	03 39 32.0			
	baz=54,slow=74,SNR=84									
H11S2	**WAKE ISLAND Hy**	62.15	271	T		T	03 39 31.6			
	baz=54,slow=74,SNR=66									
H11S3	**WAKE ISLAND Hy**	62.16	271	T		T	03 39 33.3			
	baz=54,slow=74,SNR=66									
USRK	**Ussuriysk Arra**	71.11	312	P		P	02 32 56.5	-0.5		
	3.3nm,0.8s,baz=53,slow=7.8,SNR=7.7									
PTGA	**Pitinga**	71.48	108	P		P	02 32 58.5	-1.1		
PTGA	**Pitinga**	71.48	108	P		P	02 32 58.5	-1.1		
	3.4nm,0.7s,baz=352,slow=15,SNR=5.1									
SAML	**Samuel**	74.97	116	*e*P		P	02 33 17.8	-2.4		
	3.9nm,1.1s									
ULN	**Ulaanbaatar**	80.70	328	*e*P		P	02 33 51.8	-0.1		
	1.1nm,0.6s									
SONM	**Songino Array**	80.99	328	P		P	02 33 53.5	+0.1		
SONM	**Songino Array**	80.99	328	P		P	02 33 53.5	+0.1		
	0.8nm,0.7s,baz=58,slow=3.9,SNR=7.7									
SIV	**San Ignacio**	81.46	119	P		P	02 33 55.7	-0.4		
SIV	**San Ignacio**	81.46	119	P		P	02 33 55.7	-0.4		
	1.9nm,0.6s,baz=308,slow=6.3,SNR=6.0									
ZALV	**Zalesovo Beam**	82.45	343	P		P	02 34 00.7	-0.2		
ZALV	**Zalesovo Beam**	82.45	343	P		P	02 34 00.7	-0.2		
	0.9nm,0.8s,baz=338,slow=3.5,SNR=4.2									
MORC	**Moravsky Berou**	84.02	24	*e*P		P	02 34 09.6	+0.5		
	13nm,1.6s									
BRVK	**Borovoye**	85.81	351	*e*P		P	02 34 17.5	-0.4		
	2.4nm,1.0s									
BVAR	**Borovoye Array**	85.83	351	P		P	02 34 18.2	+0.2		
BVAR	**Borovoye Array**	85.83	351	P		P	02 34 18.2	+0.2		
	0.9nm,0.9s,baz=348,slow=5.0,SNR=3.5									
KURK	**Kurchatov**	86.79	345	*e*P		P	02 34 22.6	-0.2		
	2.1nm,1.0s									
BUR08	**Bucovina Ar. S**	88.11	20	*e*P		P	02 34 31.1	+1.7		
MK31	**Makanchi Array**	89.72	342	*e*P		P	02 34 36.9	0.0		
ABKAR	**Akbulak array**	90.41	357	*e*P		P	02 34 39.4	-0.6		
PLCA	**Paso Flores**	94.71	142	*e*P		P	02 35 01.1	+1.3		
	3.4nm,0.8s									
AAK	**Ala-Archa**	95.34	346	*e*P

PTGA	**Pitinga**	**19.67**	**32**	P		P	02 36 36.7	-1.0
	0.3nm,0.3s,baz=159,slow=19,SNR=4.0							
TORD	**Torodi Ar. Bea**	**77.28**	**72**	P		P	02 44 03.2	-0.6
	0.6nm,0.8s,baz=260,slow=4.3,SNR=4.9							
YKA	**Yellowknife Ar**	**87.27**	**341**	P		P	02 44 55.6	+0.6
	0.3nm,0.9s,baz=133,slow=5.0,SNR=5.9							

*IDC **10** 03:06:59.6±1.4, 40˚66N×124˚48W, h0km, mb3.6/3, mb1 4.0/7, mb1mx3.6/30, mbtmp3.7/7, ML3.5/3, Error ellipse: s-maj=17.2km s-min=10.8km az=110.0*
*ISCJB **10** 03:07:01.6±1.2, 40˚64N±0˚02×124˚61W±0˚07, h33km±8km, mb4.0/10, Error ellipse: s-maj=8.9km s-min=3.5km az=168.8*
*NEIC **10** 03:07:01.8, 40˚62N×124˚70W, h26km, mb4.1/12, MW4.0(BRK), After NCEDC.*
NEIC Felt [III] at Eureka. Also felt at Albion, Anderson, Arcata, Fort Bragg, McKinleyville, Redding, Trinidad, Whitethorn and Yreka. Felt at Brookings, Cave Junction, Grants Pass and Medford, Oregon.

ISC 10 03:07:02.6±1.9, 40˚63N±0˚04×124˚58W±0˚08, h23km±13km, n105, σ1§38/97, mb4.1/10, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**0.69**	**69**	*e*Pn	**Pb**	**03 07 15.6**	**-0.5**
KHMM				*e*Sg	**Sb**	**03 07 26.2**	**+0.9**
KMRM	**Mail Ridge**	**0.78**	**121**	*e*Pg	**Pb**	**03 07 17.2**	**-0.4**
KRMB	**Red Mountain**	**1.02**	**30**	*e*Pn	**Pn**	**03 07 19.1**	**-2.5**
KCPM	**Cahto Peak**	**1.22**	**141**	*e*Pn	**Pn**	**03 07 22.7**	**-1.6**
KCPM				*e*Sn	**Sn**	**03 07 38.3**	**-1.8**
WDC	**Whiskeytown Da**	**1.55**	**91**	*e*Pn	**Pn**	**03 07 27.7**	**-1.1**
KBO	**Bosley Butte**	**1.60**	**9**	*e*Pn	**Pn**	**03 07 26.6**	**-2.9**
YBH	**Yreka Blue Hor**	**1.79**	**52**	*e*Pn	**Pn**	**03 07 31.0**	**-1.1**
YBH				*e*Sn	**Sn**	**03 07 53.2**	**-0.9**
YBH				Lg	Lg	03 07 53.5	
YBH	**Yreka Blue Hor**	**1.79**	**52**	Pg	**Pn**	**03 07 31.4**	**-0.8**
	16nm,0.3s,baz=256,slow=11,SNR=188						
YBH				Lg	Lg	03 07 53.5	
	129nm,0.3s,baz=176,slow=19,SNR=27						
HOPS	**Hopland**	**2.01**	**144**	*e*Pn	**Pn**	**03 07 33.8**	**-1.3**
HOPS				*e*Sn	**Sn**	**03 07 57.1**	**-2.3**
KEBM	**Edson Butte**	**2.25**	**5**	*e*Pn	**Pn**	**03 07 35.7**	**-2.7**
HUMO	**Hull Mountain**	**2.32**	**31**	*e*Pn	**Pn**	**03 07 37.9**	**-1.4**
HUMO				*e*Sn	**Sn**	**03 08 04.5**	**-2.7**
OHCM	**Honcut**	**2.71**	**118**	*e*Pn	**Pn**	**03 07 42.9**	**-1.7**
MCCM	**Marconi Confer**	**2.81**	**152**	*e*Pn	**Pn**	**03 07 45.0**	**-1.0**
MCCM				*e*Sn	**Sn**	**03 08 18.3**	**-0.9**
BEKR	**Beckworth**	**3.32**	**102**	*e*Pn	**Pn**	**03 07 52.9**	**-0.4**
BEKR				*e*Sn	**Sn**	**03 08 31.4**	**-0.7**
K05A	**Summer Lake**	**3.46**	**52**	*e*Pn	**Pn**	**03 07 55.2**	**-0.1**
MOD	**Modoc**	**3.46**	**67**	*e*Pn	**Pn**	**03 07 54.6**	**-0.7**
SAC	**San Andreas**	**3.48**	**150**	*e*Pn	**Pn**	**03 07 54.5**	**-0.8**
SAC				*e*Sn	**Sn**	**03 08 34.2**	**-1.5**
COR	**Corvallis**	**4.06**	**13**	*e*Pn	**Pn**	**03 08 04.2**	**+0.9**
COR				*e*Sn	**Sn**	**03 08 48.9**	**-1.1**
PAHR	**Pah Rah Range**	**4.09**	**101**	*e*Pn	**Pn**	**03 08 03.4**	**-0.4**
CMB	**Columbia Colle**	**4.16**	**127**	*e*Pn	**Pn**	**03 08 04.8**	**+0.2**
PINOR	**Pine Mountain**	**4.20**	**40**	*e*Pn	**Pn**	**03 08 05.1**	**0.0**
H04A	**Detroit Lake**	**4.42**	**23**	*e*Pn	**Pn**	**03 08 09.7**	**+1.5**
WAKR	**Walker**	**4.51**	**116**	*e*Pn	**Pn**	**03 08 10.5**	**+0.9**
SAO	**San Andreas Ge**	**4.58**	**147**	*e*Pn	**Pn**	**03 08 10.4**	**0.0**
WVOR	**Wild Horse Val**	**4.81**	**66**	*e*Pn	**Pn**	**03 08 12.3**	**-1.4**
I07A	**Izee**	**5.10**	**46**	*e*Pn	Pn	03 08 20.2	+2.6
J08A	**Circle Bar Ran**	**5.30**	**57**	*e*Pn	**Pn**	**03 08 20.0**	**-0.4**
NVAR	**Mina Array Bea**	**5.33**	**112**	Pn	**Pn**	**03 08 21.3**	**+0.4**
NVAR	**Mina Array Bea**	**5.33**	**112**	Pn	**Pn**	**03 08 21.3**	**+0.4**
	7.1nm,0.3s,baz=292,slow=15,SNR=194						
NV11	**Mina Array Sit**	**5.43**	**112**	*e*Pn	**Pn**	**03 08 21.7**	**-0.5**
G06A	**Carlson Farm,**	**5.43**	**31**	*e*Pn	**Pn**	**03 08 23.4**	**+1.2**
F04A	**Amboy**	**5.53**	**16**	*e*Pn	Pn	03 08 29.0	+5.6
BMN	**Battle Mountai**	**5.61**	**90**	*e*Pn	**Pn**	**03 08 24.0**	**-0.7**
MTUM	**Tungsten Hills**	**5.72**	**123**	*e*Pn	Pn	03 08 30.2	+4.0
G08A	**Pilot Rock**	**6.22**	**40**	*e*Pn	**Pn**	**03 08 35.2**	**+2.2**
TPH	**Tonopah**	**6.25**	**112**	*e*Pn	**Pn**	**03 08 33.9**	**+0.4**
LON	**Longmire**	**6.43**	**17**	*e*Pn	**Pn**	**03 08 34.8**	**-1.1**
NLWA	**Neilton Lookou**	**6.78**	**4**	*e*Pn	**Pn**	**03 08 39.4**	**-1.2**
HAWA	**Hanford**	**6.83**	**31**	*e*Pn	**Pn**	**03 08 41.8**	**+0.5**
ISA	**Isabella**	**6.91**	**134**	*e*Pn	**Pn**	**03 08 44.1**	**+1.6**
MFID	**Camas Ranch**	**7.08**	**64**	*e*Pn	**Pn**	**03 08 44.6**	**-0.3**
ELK	**Elko**	**7.10**	**86**	Pn	**Pn**	**03 08 42.8**	**-2.4**
ELK	**Elko**	**7.10**	**86**	Pn	**Pn**	**03 08 42.8**	**-2.4**
LTY	**Liberty**	**7.20**	**22**	*e*Pn	**Pn**	**03 08 48.2**	**+1.8**
R11A	**Troy Canyon, C**	**7.32**	**105**	*e*Pn	**Pn**	**03 08 48.8**	**+0.5**
TPNV	**Topopah Spring**	**7.47**	**117**	*e*Pn	**Pn**	**03 08 52.4**	**+2.0**
E09A	**Wood Farm, Sta**	**7.51**	**36**	*e*Pn	Pn	03 08 58.0	+7.4
F10A	**Beach Ranch, E**	**7.56**	**43**	*e*Pn	**Pn**	**03 08 51.0**	**-0.4**
OSI	**Osito Adit**	**7.59**	**140**	*e*Pn	Pn	03 08 54.3	+2.4
	20nm,0.6s						
HLID	**Hailey**	**8.11**	**66**	*e*Pn	Pn	03 09 01.7	+2.7
GSC	**Goldstone**	**8.12**	**128**	*e*Pn	**Pn**	**03 08 59.8**	**+0.6**
PASC	**Pasadena Art C**	**8.21**	**140**	*e*Pn	**Pn**	**03 09 00.4**	**+0.1**
MWC	**Mount Wilson**	**8.23**	**139**	*e*Pn	**Pn**	**03 09 00.9**	**+0.1**
SHPR	**Sheep Range**	**8.45**	**116**	*e*Pn	**Pn**	**03 09 04.9**	**+1.2**
	2.2nm,0.5s						
B08A	**Colville Reser**	**8.58**	**24**	*e*Pn	**Pn**	**03 09 07.0**	**+1.7**
BGU	**Big Grassy Mou**	**8.77**	**84**	*e*Pn	**Pn**	**03 09 08.0**	**-0.1**
HVU	**Hansel Valley**	**8.97**	**79**	*e*Pn	**Pn**	**03 09 11.2**	**+0.4**
DUG	**Dugway**	**8.99**	**89**	*e*Pn	**Pn**	**03 09 13.3**	**+2.2**
ARUT	**Antelope Range**	**9.10**	**105**	*e*Pn	**Pn**	**03 09 14.2**	**+1.6**
	60nm,0.8s						
CCUT	**Cedar City**	**9.25**	**106**	*e*Pn	Pn	03 09 17.4	+2.7
PFO	**Pinyon Flat Ob**	**9.55**	**135**	*e*Pn	**Pn**	**03 09 19.3**	**+0.5**
PFO	**Pinyon Flat Ob**	**9.55**	**135**	Pn	**Pn**	**03 09 19.8**	**+1.0**
	0.3nm,0.3s,baz=303,slow=11,SNR=7.0						
MCMT	**McKenzie Canyo**	**9.60**	**60**	*e*Pn	**Pn**	**03 09 20.8**	**+1.4**
	1.8nm,0.9s						
MVU	**Marysvale**	**9.79**	**99**	*e*Pn	**Pn**	**03 09 24.3**	**+2.3**
MPU	**Maple Canyon**	**9.91**	**89**	*e*Pn	**Pn**	**03 09 24.2**	**+0.5**
BSMT	**Bassoo Peak**	**10.07**	**41**	*e*Pn	**Pn**	**03 09 25.4**	**-0.5**
	8.9nm,1.4s						
SWMT	**Swartz Lake**	**10.25**	**44**	*e*Pn	**Pn**	**03 09 28.6**	**+0.3**
TMUT	**Trail Mountain**	**10.35**	**93**	*e*Pn	Pn	03 09 35.2	+5.3
SRU	**San Rafael**	**10.91**	**93**	*e*Pn	**Pn**	**03 09 38.8**	**+1.4**
PDAR	**Pinedale Array**	**11.43**	**74**	Pn	**Pn**	**03 09 46.0**	**+1.3**
PDAR	**Pinedale Array**	**11.43**	**74**	Pn	**Pn**	**03 09 46.0**	**+1.3**
	baz=261,slow=18,SNR=2.7						
PV01	**Paradox Valley**	**12.64**	**96**	*e*Pn	**Pn**	**03 10 03.5**	**+2.4**
SDCO	**Great Sand Dun**	**15.07**	**95**	*e*Pn	**P**	**03 10 36.9**	**-2.5**
	2.7nm,0.8s						
LAZ	**Ladron**	**15.16**	**109**	*e*Pn	**Pn**	**03 10 34.9**	**-0.5**
	1.7nm,1.1s						
ANMO	**Albuquerque**	**15.40**	**106**	*e*Pn	**Pn**	**03 10 39.5**	**+0.9**
ANMO	**Albuquerque**	**15.40**	**106**	Pn	**P**	**03 10 42.5**	**-0.5**
	0.1nm,0.3s,baz=292,slow=5.4,SNR=8.5						
BNM	**Barren Site**	**15.66**	**109**	*e*Pn	**Pn**	**03 10 42.3**	**+0.4**
KSCO	**Kaye Shedlock'**	**16.94**	**88**	*e*Pn	**P**	**03 10 58.9**	**-1.1**
	23nm,0.9s						
OGNE	**Ogallala**	**17.08**	**82**	*e*Pn	**Pn**	**03 10 59.5**	**-0.3**
DLBC	**Dease Lake**	**18.16**	**351**	Pn	**P**	**03 11 13.2**	**0.0**
DLBC	**Dease Lake**	**18.16**	**351**	Pn	**P**	**03 11 13.2**	**0.0**
	0.0nm,0.3s,baz=168,slow=9.3,SNR=2.3						
TXAR	**Lajitas Array**	**20.46**	**117**	P	Pn	03 11 40.6	-0.2
TXAR	**Lajitas Array**	**20.46**	**117**	P	Pn	03 11 40.6	-0.2
	1.6nm,0.8s,baz=300,slow=8.5,SNR=20						
FFC	**Flin Flon**	**20.62**	**39**	*e*P	Pn	03 11 40.2	-2.2
	2.3nm,0.8s						
ECSD	**EROS Data Cent**	**20.91**	**72**	*e*P	**P**	**03 11 43.1**	**-0.3**
	2.0nm,0.6s						
WMOK	**Wichita Mounta**	**21.21**	**98**	*e*P	**P**	**03 11 45.5**	**-1.2**
	2.3nm,0.5s						
KSU1	**Kansas State U**	**21.49**	**85**	*e*P	**P**	**03 11 52.4**	**+2.8**
	9.5nm,0.6s						
AGMN	**Agassiz Nation**	**21.79**	**60**	*e*P	**P**	**03 11 52.4**	**-0.2**
	3.2nm,0.5s						
ULM	**Lac du Bonnet**	**22.20**	**55**	P	**P**	**03 11 54.9**	**-2.1**
ULM	**Lac du Bonnet**	**22.20**	**55**	P	**P**	**03 11 54.9**	**-2.1**
	2.0nm,0.7s,baz=263,slow=6.9,SNR=3.3						
JCT	**Junction City**	**22.49**	**109**	*e*P	**P**	**03 12 03.3**	**+2.9**
	10nm,1.0s						
YKA	**Yellowknife Ar**	**22.70**	**12**	P	**P**	**03 12 02.9**	**+0.7**
YKA	**Yellowknife Ar**	**22.70**	**12**	P	**P**	**03 12 02.9**	**+0.7**
	1.1nm,0.9s,baz=198,slow=11,SNR=7.9						
HKT	**Hockley**	**25.67**	**105**	*e*P	**P**	**03 12 32.5**	**+1.9**
	7.9nm,1.1s						
FCC	**Fort Churchill**	**26.44**	**36**	*e*P	**P**	**03 12 39.7**	**+2.3**
WCI	**Wyandotte Cave**	**29.52**	**82**	*e*P	**P**	**03 13 05.6**	**+0.5**
	3.7nm,0.6s						
ACSO	**Alum Creek Sta**	**31.46**	**77**	*e*P	**P**	**03 13 22.0**	**-0.2**
	4.9nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**61.30**	**272**	T	T	04 23 49.4	
	baz=56,slow=75,SNR=73						
H11N2	**WAKE ISLAND Hy**	**61.30**	**272**	T	T	04 23 49.5	
	baz=56,slow=75,SNR=102						
H11N1	**WAKE ISLAND Hy**	**61.32**	**272**	T	T	04 23 50.7	
	baz=56,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**62.17**	**271**	T	T	04 24 54.9	
	baz=50						
H11S2	**WAKE ISLAND Hy**	**62.18**	**271**	T	T	04 24 55.3	
	baz=50						
H11S3	**WAKE ISLAND Hy**	**62.19**	**271**	T	T	04 24 56.3	
	baz=50						
FINES	**FINESS Array B**	**75.52**	**14**	P	**P**	**03 18 45.0**	**+0.4**
FINES	**FINESS Array B**	**75.52**	**14**	P	**P**	**03 18 45.0**	**+0.4**
	1.3nm,0.9s,baz=212,slow=9.0,SNR=3.7						

*IDC **10** 03:13:44.1±1.5, 7˚67S×155˚19E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.7/7, Error ellipse: s-maj=52.3km s-min=25.2km az=127.0*
*ISCJB **10** 03:13:46.9±1.5, 7˚7S±0˚3×155˚2E±0˚3, h31km, mb3.7/7, Error ellipse: s-maj=53.0km s-min=20.4km az=38.6*

ISC 10 03:13:48.9±1.5, 7˚7S±0˚3×155˚2E±0˚3, h31km, n8, σ1§36/9, mb3.6/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.58**	**237**	P	**P**	**03 18 55.4**	**-1.7**
	0.6nm,0.8s,baz=60,slow=9.6,SNR=2.3						
WRA				PcP	**PcP**	**03 22 43.6**	**+1.7**
	0.5nm,1.0s,baz=65,slow=2.7,SNR=6.1						
ASAR	**Alice Springs**	**25.86**	**230**	P	**P**	**03 19 17.5**	**-0.5**
	0.3nm,0.3s,baz=65,slow=9.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**61.24**	**296**	P	**P**	**03 24 02.8**	**+1.2**
	1.0nm,0.4s,baz=92,slow=6.7,SNR=4.2						
SONM	**Songino Array**	**70.01**	**327**	P	**P**	**03 24 57.0**	**-0.8**
	0.2nm,0.4s,baz=115,slow=5.7,SNR=4.0						
ILAR	**Eielson Array**	**83.94**	**21**	P	**P**	**03 26 14.2**	**-1.4**
	0.3nm,0.5s,baz=232,slow=6.1,SNR=5.1						
MKAR	**Makanchi Array**	**84.04**	**319**	P	**P**	**03 26 16.5**	**-0.1**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.6						
YKA	**Yellowknife Ar**	**96.86**	**28**	P	**P**	**03 27 17.2**	**+0.5**
	2.1nm,1.3s,baz=264,slow=4.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**153.37**	**284**	PKPbc	**PKPbc**	**03 33 45.9**	**+0.8**
	0.4nm,0.8s,baz=73,slow=2.2,SNR=6.2						

*IDC **10** 03:24:19.0±0.9, 22˚47N×121˚82E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, Error ellipse: s-maj=66.8km s-min=18.7km az=67.0*
*ISCJB **10** 03:24:30.7±0.3, 22˚45N±0˚02×121˚32E±0˚02, h90km±2km, mb3.5/11, Error ellipse: s-maj=3.8km s-min=2.9km az=22.7*
*TAP **10** 03:24:31.1, 22˚46N×121˚31E, h85km, ML4.5, B*
*NEIC **10** 03:24:31.8±0.7, 22˚51N×121˚34E, h81km±6km, mb4.0/2, Error ellipse: s-maj=20.0km s-min=7.6km az=95.0*
NEIC Recorded [2 TAP] in T'ai-tung and [1 TAP] in Chia-i, Kao-hsiung, P'ing-tung and Yun-lin.
*JMA **10** 03:24:32.1±0.2, 22˚50N×121˚39E, h70km±4km, M3.3*

ISC 10 03:24:31.1±0.7, 22˚46N±0˚03×121˚33E±0˚03, h84km±5km, n97, σ1§11/150, mb3.6/11, 12C-16D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.34**	**330**	*e*P	**Pn**	**03 24 44.2**	**+0.1**
	baz=326						
TTN				*e*S	**Sn**	**03 24 55.6**	**+1.8**
	baz=326						
ECL	**Taimali**	**0.37**	**292**	⇓*i*P	**Pn**	**03 24 44.2**	**-0.1**
	baz=298						
ECL				*e*S	**Sn**	**03 24 53.6**	**-0.5**
	baz=298						
TAW	**Tawu**	**0.41**	**256**	⇓*e*P	**Pn**	**03 24 44.6**	**0.0**
	baz=255						
TAW				*e*S	**Sn**	**03 24 54.2**	**-0.3**
	baz=255						
TWG	**Pinlang**	**0.43**	**327**	*e*Pn	**Pn**	**03 24 44.3**	**-0.5**
TWG				*e*Sn	**Sn**	**03 24 54.2**	**-0.6**
TWG	**Pinlang**	**0.43**	**327**	⇓*i*P	**Pn**	**03 24 44.7**	**0.0**
	baz=326						
TWG				S	**Sn**	**03 24 54.2**	**-0.6**
	baz=326						
EAST	**Anshuo**	**0.45**	**260**	⇓P	**Pn**	**03 24 45.2**	**+0.3**
	baz=260						
EAST				*e*S	**Sn**	**03 24 56.3**	**+1.1**
	baz=260						
LAY	**Lan-yu**	**0.47**	**154**	⇑*i*P	**Pn**	**03 24 45.0**	**-0.1**
	baz=149						
LAY				*e*S	**Sn**	**03 24 54.9**	**-0.5**
	baz=149						
CHKT	**Chengkung**	**0.64**	**3**	⇓*e*P	**Pn**	**03 24 47.1**	**+0.6**
	baz=6.0						
CHKT				*i* S	**Sn**	**03 24 58.7**	**+0.7**
	baz=6.0						
SCZT	**Fangliau**	**0.66**	**263**	⇓*i*P	**Pn**	**03 24 47.0**	**+0.3**
	baz=262						
SCZT				*e*S	**Sn**	**03 24 57.7**	**-0.7**
	baz=262						
TSEB	**Hengchuen, Pin**	**0.68**	**216**	⇓P	**Pn**	**03 24 47.8**	**+0.8**
	baz=219						
TSEB				*i* S	**Sn**	**03 25 00.2**	**+1.5**
	baz=219						
SSD	**Sandimen**	**0.70**	**294**	⇓*i*P	**Pn**	**03 24 47.9**	**+0.7**
	baz=295						
SSD				*e*S	**Sn**	**03 24 58.6**	**-0.5**
	baz=295						
TWK1	**Hengchun**	**0.70**	**223**	⇓*i*P	**Pn**	**03 24 47.7**	**+0.5**
	baz=223						
TWK1				*e*S	**Sn**	**03 24 59.3**	**+0.2**
	baz=223						
HEN	**Hengchun**	**0.71**	**231**	⇓*i*P	**Pn**	**03 24 47.7**	**+0.5**
	baz=226						
HEN				*e*S	**Sn**	**03 25 01.2**	**+2.0**
	baz=226						
ELDTW	**Lidau**	**0.78**	**339**	⇓P	**Pn**	**03 24 48.6**	**+0.4**
	baz=343						
ELDTW				*e*S	**Sn**	**03 25 02.1**	**+1.3**
	baz=343						
SGLT	**Jiouru**	**0.82**	**289**	*e*P	**Pn**	**03 24 49.8**	**+1.4**
	baz=290						
SGLT				*e*S	**Sn**	**03 25 03.6**	**+2.3**
	baz=290						
STYT	**Tauyuan**	**0.88**	**323**	⇑P	**Pn**	**03 24 49.9**	**+0.8**
	baz=317						
STYT				*e*S	**Sn**	**03 25 03.1**	**+0.6**
	baz=317						
TWF1	**Yuli**	**0.89**	**358**	⇓P	**Pn**	**03 24 49.3**	**+0.1**
	baz=359						
TWP	**Hsiaoliuchiu**	**0.90**	**263**	⇓*i*P	**Pn**	**03 24 50.9**	**+1.6**
	baz=263						
TWP				*e*S	**Sn**	**03 25 05.8**	**+2.9**
	baz=263						
TWM1	**Shoushan**	**0.91**	**294**	⇓*e*P	**Pn**	**03 24 50.9**	**+1.4**
	baz=294						
SGST	**Jiashian**	**0.93**	**312**	⇑*e*P	**Pn**	**03 24 50.5**	**+0.9**
	baz=313						
SGST				*e*S	**Sn**	**03 25 03.4**	**0.0**
	baz=313						
YULB	**Yu-li**	**0.93**	**358**	*e*Pn	**Pn**	**03 24 49.1**	**-0.6**
YULB				*e*Sn	**Sn**	**03 25 01.3**	**-2.2**
KAU	**Kaohsiung**	**0.95**	**277**	⇓*e*P	**Pn**	**03 24 51.1**	**+1.3**
	baz=277						
KAU				S	**Sn**	**03 25 05.6**	**+1.8**
	baz=277						
WTP	**Ta-pu**	**1.02**	**320**	⇑*i*P	**Pn**	**03 24 51.5**	**+0.7**
	baz=321						
WTP				S	**Sn**	**03 25 05.9**	**+0.4**
	baz=321						
CHN1	**Nanshi**	**1.03**	**315**	⇑*i*P	**Pn**	**03 24 51.5**	**+0.6**
	baz=315						
CHN1				S	**Sn**	**03 25 05.9**	**+0.2**
	baz=315						
EHY	**Hungye**	**1.04**	**360**	⇑*e*P	**Pn**	**03 24 51.3**	**+0.3**
	baz=359						
EHY				*e*S	**Sn**	**03 25 05.5**	**-0.3**
	baz=359						
TPUB	**Ta-pu**	**1.06**	**323**	*e*Pn	**Pn**	**03 24 51.1**	**0.0**
TPUB				*e*Sn	**Sn**	**03 25 05.3**	**-0.9**
CHN3	**Shinhua**	**1.08**	**305**	*e*P	**Pn**	**03 24 52.9**	**+1.6**
	baz=305						
CHN3				*e*S	**Sn**	**03 25 08.5**	**+1.9**
	baz=305						
YUS	**Yu-Shan**	**1.08**	**341**	⇑P	**Pn**	**03 24 53.2**	**+1.3**
	baz=331						
YUS				*e*S	**Sn**	**03 25 09.3**	**+1.9**
	baz=331						
TWK	**Hsinying**	**1.12**	**316**	⇑*i*P	**Pn**	**03 24 52.4**	**+0.5**
	baz=317						
TWK				S	**Sn**	**03 25 07.2**	**-0.2**
	baz=317						
CHN4	**Tsaushan**	**1.12**	**323**	⇑*i*P	**Pn**	**03 24 52.4**	**+0.6**
	baz=323						
CHN4				*e*S	**Sn**	**03 25 07.8**	**+0.4**
	baz=323						
ALS	**Alishan**	**1.15**	**335**	⇑P	**Pn**	**03 24 53.5**	**+0.9**
	baz=326						
ALS				*e*S	**Sn**	**03 25 09.7**	**+1.0**
	baz=326						
TAI1	**Yung-k'ang**	**1.17**	**300**	*e*P	**Pn**	**03 24 53.1**	**+0.7**
	baz=300						
TAI1				*e*S	**Sn**	**03 25 08.6**	**+0.2**
	baz=300						
TEGC	**Jichi Village**	**1.26**	**9**	*e*P	**Pn**	**03 24 55.3**	**+1.7**
	baz=3.0						
SCLT	**Jiali**	**1.27**	**304**	*e*P	**Pn**	**03 24 54.1**	**+0.5**
	baz=305						
SCLT				*e*S	**Sn**	**03 25 11.2**	**+0.6**
	baz=305						
CHN5	**Tsauling**	**1.28**	**332**	⇑*i*P	**Pn**	**03 24 54.4**	**+0.4**
	baz=324						
CHN5				*e*S	**Sn**	**03 25 11.6**	**+0.5**
	baz=324						
CHY	**Chiayi**	**1.33**	**321**	*e*P	**Pn**	**03 24 54.6**	**+0.2**
	baz=322						
CHY				*i* S	**Sn**	**03 25 12.0**	**0.0**
	baz=322						
ESL	**Shilin**	**1.35**	**4**	*e*P	**Pn**	**03 24 54.4**	**-0.4**
	baz=3.0						
ESL				*e*S	**Sn**	**03 25 11.7**	**-0.9**
	baz=3.0						
CHN8	**Yiju**	**1.36**	**311**	*e*P	**Pn**	**03 24 54.4**	**-0.4**
	baz=311						
CHN8				*e*S	**Sn**	**03 25 12.6**	**0.0**
	baz=311						
SSLB	**Suanglung**	**1.37**	**345**	*e*Pn	**Pn**	**03 24 55.0**	**+0.1**
SSLB				*e*Sn	**Sn**	**03 25 12.0**	**-1.0**
WGK	**Gukeng**	**1.41**	**330**	*e*P	**Pn**	**03 24 55.6**	**+0.1**
	baz=330						
WGK				*e*S	**Sn**	**03 25 14.4**	**+0.6**
	baz=330						
ESF	**Shoufeng Towns**	**1.42**	**7**	*e*P	**Pn**	**03 24 57.5**	**+1.9**
	baz=1.0						
SMLT	**Sun Moon Lake**	**1.47**	**345**	*e*P	**Pn**	**03 24 57.2**	**+0.8**
	baz=344						
SMLT				*e*S	**Sn**	**03 25 16.6**	**+1.2**
	baz=344						
TYC	**Yuchr**	**1.50**	**343**	*e*P	**Pn**	**03 24 57.2**	**+0.5**
	baz=343						
TYC				*e*S	**Sn**	**03 25 16.7**	**+0.8**
	baz=343						
HWA	**Hwalien**	**1.53**	**10**	*e*P	**Pn**	**03 24 55.6**	**-1.5**
	baz=3.0						
WNT	**Mingjian**	**1.53**	**337**	⇑P	**Pn**	**03 24 57.8**	**+0.8**
	baz=337						
WNT				*e*S	**Sn**	**03 25 17.4**	**+0.8**
	baz=337						
WSF	**Szhu**	**1.55**	**319**	P	**Pn**	**03 24 57.1**	**-0.1**
	baz=319						
WSF				*e*S	**Sn**	**03 25 16.7**	**-0.4**
	baz=319						
TWD	**Chiawan**	**1.63**	**9**	*e*P	**Pn**	**03 24 58.9**	**+0.5**
	baz=356						
TWD				*e*S	**Sn**	**03 25 18.3**	**-0.7**
	baz=356						
WHF	**Hehuan Shan**	**1.68**	**358**	*e*P	**Pn**	**03 25 00.4**	**+1.0**
	baz=350						
WHF				*e*S	**Sn**	**03 25 22.3**	**+1.6**
	baz=350						
WTCT	**Ta-ch'eng**	**1.70**	**326**	*e*P	**Pn**	**03 24 59.1**	**0.0**
	baz=332						
WTCT				*e*S	**Sn**	**03 25 20.4**	**-0.1**
	baz=332						
NACB	**Ninganchiao**	**1.73**	**8**	*e*Pn	**Pn**	**03 24 59.2**	**-0.4**
NACB				*e*Sn	**Sn**	**03 25 18.8**	**-2.3**
WDGT	**Dungji**	**1.73**	**298**	P	**Pn**	**03 24 59.0**	**-0.6**
	baz=298						
WDGT				*e*S	**Sn**	**03 25 19.0**	**-2.3**
	baz=298						
TCU	**Taichung**	**1.78**	**341**	*e*P	**Pn**	**03 25 01.1**	**+0.8**
	baz=332						
TCU				*e*S	**Sn**	**03 25 23.1**	**+0.6**
	baz=332						
TWT	**Tachien**	**1.79**	**356**	*e*P	**Pn**	**03 25 02.4**	**+1.8**
	baz=346						
TWQ1	**Liyutan**	**1.95**	**345**	*e*P	**

H11S2	**WAKE ISLAND Hy**	**42.58**	**87**	T	T		04 17 44.3	
	baz=286,slow=73,SNR=17							
AAK	**Ala-Archa**	**43.67**	**309**	*e*P	**P**		03 32 29.5	**+1.7**
	comp=E,1.2nm,0.5s							
WRA	**Warramunga Arr**	**44.02**	**162**	P	P		03 32 27.4	-3.1
	comp=E,0.3nm,0.6s,baz=344,slow=9.0,SNR=7.7							
ASAR	**Alice Springs**	**47.45**	**164**	P	**P**		03 32 54.9	**-2.7**
	comp=E,0.2nm,0.4s,baz=345,slow=7.0,SNR=6.8							
ABKAR	**Akbulak array**	**54.74**	**315**	*e*P	**P**		03 33 52.3	**+0.4**
ARCES	**ARCESS Array B**	**71.18**	**338**	P	**P**		03 35 41.6	**+1.1**
	comp=E,3.9nm,0.9s,baz=73,slow=6.7,SNR=2.3							
FINES	**FINESS Array B**	**73.00**	**330**	P	**P**		03 35 51.3	**-0.1**
	comp=E,1.6nm,0.8s,baz=343,slow=6.0,SNR=5.7							
NOA	**NORSAR Array B**	**79.81**	**332**	P	**P**		03 36 28.8	**-1.2**
	comp=E,0.7nm,0.9s,baz=76,slow=5.4,SNR=2.5							
GERES	**GERESS Array B**	**84.25**	**321**	P	**P**		03 36 53.3	**-0.3**
	comp=E,0.2nm,0.5s,baz=68,slow=7.4,SNR=3.5							
YKA	**Yellowknife Ar**	**84.50**	**23**	P	**P**		03 36 52.6	**-1.8**
	comp=E,0.2nm,0.7s,baz=310,slow=5.0,SNR=5.6							
SWMT	**Swartz Lake**	**94.45**	**34**	*e*P	**P**		03 37 42.5	**+0.4**

IDC 10 03:26:55.5±2.2,5°37S×152°68E,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.4/18,mbtmp3.3/3,Error ellipse: s-maj=160.6km s-min=29.3km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.98**	**229**	P	P	03 32 01.5	-0.5
	1.1nm,1.1s,baz=54,slow=10.0,SNR=3.4						
ASAR	**Alice Springs**	**25.65**	**223**	P	P	03 32 27.4	+0.2
	0.3nm,0.7s,baz=58,slow=9.2,SNR=4.1						
ILAR	**Eielson Array**	**82.73**	**22**	P	P	03 39 21.0	+0.1
	0.4nm,0.8s,baz=238,slow=5.8,SNR=5.4						

TAP 10 03:33:15.1,21.74N×119.42E,h71km±2km,ML3.6,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWP	**Hsiaoliuchiu**	**1.06**	**55**	*e*P	Pn	03 33 35.0	+0.6
	baz=50						
TWP				*e*S	Sn	03 33 50.3	+1.5
	baz=50						
KAU	**Kaohsiung**	**1.16**	**45**	*e*P	Pn	03 33 36.9	+1.2
	baz=45						
KAU				*e*S	Sn	03 33 53.1	+2.0
	baz=45						
HEN	**Hengchun**	**1.25**	**78**	*e*P	Pn	03 33 37.9	+1.0
	baz=85						
HEN				*e*S	Sn	03 33 54.6	+1.5
	baz=85						
SCZT	**Fangliau**	**1.28**	**60**	P	Pn	03 33 37.4	+0.2
	baz=61						
SCZT				*e*S	Sn	03 33 54.5	+0.7
	baz=61						
TWK1	**Hengchun**	**1.30**	**81**	P	Pn	03 33 38.2	+0.7
	baz=90						
TWK1				S	Sn	03 33 55.3	+1.0
	baz=90						
TSEB	**Hengchuen, Pin**	**1.38**	**83**	*e*P	Pn	03 33 38.5	-0.1
	baz=83						
TSEB				*e*S	Sn	03 33 55.1	-1.0
	baz=83						
TWM1	**Shoushan**	**1.42**	**40**	*e*P	Pn	03 33 40.9	+1.8
	baz=41						
EAST	**Anshuo**	**1.47**	**64**	*e*P	Pn	03 33 40.2	+0.4
	baz=55						
TAI1	**Yung-k'ang**	**1.49**	**30**	*e*P	Pn	03 33 40.9	+0.9
	baz=30						
TAW	**Tawu**	**1.50**	**65**	*e*P	Pn	03 33 40.4	+0.3
	baz=57						
SSD	**Sandimen**	**1.50**	**48**	P	Pn	03 33 41.0	+0.8
	baz=60						
SSD				*e*S	Sn	03 34 00.0	+0.9
	baz=60						
SCLT	**Jiali**	**1.60**	**26**	*e*P	Pn	03 33 42.1	+0.7
	baz=37						
SCLT				*e*S	Sn	03 34 00.7	-0.5
	baz=37						
ECL	**Taimali**	**1.66**	**59**	P	Pn	03 33 43.1	+0.9
	baz=59						
ECL				*e*S	Sn	03 34 03.1	+0.4
	baz=59						
SGST	**Jiashian**	**1.71**	**39**	*e*P	Pn	03 33 44.0	+1.0
	baz=39						
CHN1	**Nanshi**	**1.77**	**35**	P	Pn	03 33 44.5	+0.8
	baz=26						
CHN1				*e*S	Sn	03 34 05.3	0.0
	baz=26						
TWK	**Hsinying**	**1.81**	**33**	P	Pn	03 33 45.2	+0.8
	baz=33						
TWK				*e*S	Sn	03 34 06.6	0.0
	baz=33						
WTP	**Ta-pu**	**1.86**	**36**	*e*P	Pn	03 33 45.9	+0.9
	baz=27						
WTP				*e*S	Sn	03 34 08.4	+0.6
	baz=27						
TWG	**Pinlang**	**1.87**	**54**	*e*P	Pn	03 33 46.6	+1.5
	baz=55						
TWG				*e*S	Sn	03 34 08.3	+0.5
	baz=55						
STYT	**Tauyuan**	**1.88**	**41**	*e*P	Pn	03 33 46.2	+0.9
	baz=51						
STYT				*e*S	Sn	03 34 08.9	+0.7
	baz=51						
CHN4	**Tsaushan**	**1.93**	**34**	*e*P	Pn	03 33 46.6	+0.6
	baz=34						
CHN4				*e*S	Sn	03 34 09.9	+0.5
	baz=34						
CHY	**Chiayi**	**1.98**	**28**	*e*P	Pn	03 33 47.3	+0.7
	baz=37						
CHY				*e*S	Sn	03 34 11.3	+0.9
	baz=37						
LAY	**Lan-yu**	**2.00**	**81**	*e*P	Pn	03 33 46.9	0.0
	baz=73						
LAY				*e*S	Sn	03 34 09.9	-1.0
	baz=73						
ELDTW	**Lidau**	**2.06**	**45**	P	Pn	03 33 48.9	+1.1
	baz=46						
ELDTW				S	Sn	03 34 13.9	+1.2
	baz=46						
ALS	**Alishan**	**2.18**	**36**	P	Pn	03 33 50.5	+0.9
	baz=29						
ALS				*e*S	Sn	03 34 16.1	+0.2
	baz=29						
CHN5	**Tsauling**	**2.18**	**32**	P	Pn	03 33 50.4	+1.0
	baz=32						
CHN5				*e*S	Sn	03 34 15.5	0.0
	baz=32						
YUS	**Yu-Shan**	**2.24**	**39**	P	Pn	03 33 51.6	+0.8
	baz=49						
YUS				*e*S	Sn	03 34 17.6	-0.3
	baz=49						
WTCT	**Ta-ch'eng**	**2.26**	**20**	*e*P	Pn	03 33 50.5	+0.2
	baz=21						
WTCT				*e*S	Sn	03 34 16.9	-0.2
	baz=21						
TWF1	**Yuli**	**2.36**	**47**	P	Pn	03 33 53.2	+1.5
	baz=41						
TWF1				S	Sn	03 34 20.3	+0.6
	baz=41						
EHY	**Hungye**	**2.48**	**45**	*e*P	Pn	03 33 54.8	+1.4
	baz=45						
EHY				S	Sn	03 34 23.6	+0.9
	baz=45						
TYC	**Yuchr**	**2.53**	**31**	*e*P	Pn	03 33 55.3	+1.4
	baz=32						
TYC				*e*S	Sn	03 34 25.1	+1.4
	baz=32						
SMLT	**Sun Moon Lake**	**2.53**	**32**	*e*P	Pn	03 33 55.6	+1.4
	baz=33						
SMLT				*e*S	Sn	03 34 24.3	+0.3
	baz=33						
TCU	**Taichung**	**2.66**	**25**	*e*P	Pn	03 33 57.5	+1.8
	baz=26						
TCU				*e*S	Sn	03 34 28.5	+1.6
	baz=26						
KNM	**Kinmen**	**2.82**	**341**	*e*P	Pn	03 33 57.1	-0.8
	baz=339						
KNM				*e*S	Sn	03 34 29.8	-0.9
	baz=339						
TWQ1	**Liyutan**	**2.88**	**25**	*e*P	Pn	03 33 59.7	+0.9
	baz=26						
TWQ1				*e*S	Sn	03 34 33.4	+1.1
	baz=26						
WHF	**Hehuan Shan**	**2.94**	**35**	*e*P	Pn	03 34 01.3	+1.2
	baz=35						
NSK	**Sanguang**	**3.42**	**31**	*e*P	Pn	03 34 08.1	+1.8
	baz=20						
NSK				*e*S	Sn	03 34 46.2	+0.5
	baz=20						
ENA	**Nanau**	**3.42**	**38**	*e*P	Pn	03 34 07.1	+1.0
	baz=48						
ENTT	**Nioudou**	**3.50**	**34**	*e*P	Pn	03 34 09.2	+2.0
	baz=24						
ENTT				*e*S	Sn	03 34 49.4	+2.1
	baz=24						

IDC 10 03:48:50.2±3.5,11.89S×165.71E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=127.2km s-min=32.5km az=135.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.17**	**251**	P	P	03 55 11.6	+0.3
	0.7nm,0.7s,baz=80,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**32.39**	**244**	P	P	03 55 21.2	-0.8
	0.3nm,0.6s,baz=74,slow=9.8,SNR=4.1						
SONM	**Songino Array**	**79.32**	**324**	P	P	04 00 58.5	+0.6
	0.1nm,0.5s,baz=110,slow=7.8,SNR=2.1						
ILAR	**Eielson Array**	**84.32**	**18**	P	P	04 01 23.4	-0.3
	0.6nm,0.8s,baz=228,slow=4.7,SNR=4.4						
MKAR	**Makanchi Array**	**94.11**	**317**	P	P	04 02 10.6	-0.2
	0.3nm,0.7s,baz=97,slow=5.8,SNR=4.1						

IDC 10 03:56:44.3±2.4,35.72N×69.77E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.1/27,mbtmp3.1/3,ML2.7/1,Error ellipse: s-maj=74.6km s-min=43.3km az=91.0
ISCJB 10 03:57:10.6±1.6,36.66N±0.10×70.78E±0.3,h204km, mb2.9/2,Error ellipse: s-maj=28.7km s-min=13.6km az=0.4
NNC 10 03:57:11.0±65.0,36.62N×70.32E,h185km±999km,mb2.6, mpv3.5,Error ellipse: s-maj=919.6km s-min=113.3km az=0.0
ISC 10 03:57:09.8±2.0,36.6N±0.1×70.6E±0.2,h204km,n6, σ1§90/8,4C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.50**	**360**	⇑P	Pn	03 58 45.1	**+1.8**
	0.5nm,0.3s,baz=183,slow=12,SNR=41						
KK31				⇑S	S	03 59 55.8	**-1.7**
	0.9nm,0.5s,baz=186,slow=22,SNR=5.5						
AAK	**Ala-Archa**	**6.74**	**25**	⇑P	Pn	03 58 47.1	**+0.4**
	1.4nm,0.5s						
AAK				S	S	04 00 01.7	**-1.8**
	2.1nm,0.6s						
TKM2	**Tokmak 2**	**7.40**	**30**	⇑P	Pn	03 58 55.2	**-0.1**
	5.2nm,0.6s						
TKM2				⇓S	S	04 00 21.8	**+2.6**
	2.8nm,0.9s						
MKAR	**Makanchi Array**	**13.41**	**37**	Pn	Pn	04 00 10.9	**-1.3**
	0.0nm,0.3s,baz=227,slow=17,SNR=2.9						
YKA	**Yellowknife Ar**	**81.16**	**2**	P	P	04 09 06.0	+3.9
	0.1nm,0.4s,baz=350,slow=5.4,SNR=5.4						
WRA	**Warramunga Arr**	**82.33**	**122**	P	**P**	04 09 08.7	**-0.2**
	0.3nm,0.9s,baz=325,slow=4.9,SNR=4.8						

IGQ 10 04:12:36±0.4,1.74S×78.17W,h2km±28km,Mb4.1,Error ellipse: s-maj=3.8km s-min=2.3km az=172.5
ISCJB 10 04:12:38.1±0.5,1.76S±0.04×77.90W±0.07,h150km, mb3.5/9,Error ellipse: s-maj=10.5km s-min=6.1km az=173.5
IDC 10 04:12:38.2±2.1,1.69S×78.01W,h153km±22km,mb3.3/9, mb1 3.5/11,mb1mx3.4/22,mbtmp3.8/11,Error ellipse: s-maj=23.1km s-min=15.1km az=54.0
ISC 10 04:12:38.1±0.7,1.71S±0.06×78.00W±0.09,h150km,n48, σ1§01/49,mb3.5/9,3C-10D,Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPAT	**Tungurahua Vol**	**0.48**	**295**	⇓S	Sn	04 13 17.4	**+0.8**
BPAT	**Tungurahua Vol**	**0.48**	**295**	⇓P	Pn	04 13 00.4	**+0.4**
PAT1	**Patacocha**	**0.49**	**295**	⇓P	Pn	04 13 00.5	**+0.4**
ULBA	**Ulba**	**0.49**	**302**	P	Pn	04 13 00.2	**+0.3**
BULB	**Ulba Tungurahu**	**0.50**	**303**	⇓P	Pn	04 13 00.2	**+0.2**
BULB	**Ulba Tungurahu**	**0.50**	**303**	⇓S	Sn	04 13 17.7	**+1.2**
ARRY	**Arrayan**	**0.50**	**294**	⇓P	Pn	04 13 00.2	**+0.2**
BRUN	**Tungurahua Vol**	**0.51**	**305**	⇓S	Sn	04 13 17.9	**+1.4**
BRUN	**Tungurahua Vol**	**0.51**	**305**	⇓P	Pn	04 13 00.3	**+0.3**
BMAS	**Trigal station**	**0.53**	**293**	⇓P	Pn	04 13 00.3	**+0.3**
BMAS	**Trigal station**	**0.53**	**293**	⇓S	Sn	04 13 17.2	**+0.5**
IGUA	**Igualata**	**0.68**	**289**	P	Pn	04 13 02.6	**+1.4**
PISA	**Pisayambo**	**0.76**	**329**	P	Pn	04 13 03.0	**+1.3**
TAMB	**Tambo**	**1.08**	**340**	P	Pn	04 13 04.1	**-0.1**
BMOR	**Cotopaxi Volca**	**1.08**	**334**	P	Pn	04 13 05.7	**+1.4**
MOV1	**Cotopaxi Vol s**	**1.09**	**336**	P	Pn	04 13 05.7	**+1.3**
BTAM	**Cotopaxi Volca**	**1.10**	**339**	⇑P	Pn	04 13 05.0	**+0.5**
BREF	**Cotopaxi Volca**	**1.13**	**337**	⇑P	Pn	04 13 06.5	**+1.8**
BVC2	**Cotopaxi Volca**	**1.13**	**338**	P	Pn	04 13 05.1	**+0.4**
VC1	**Cotopaxi 1**	**1.14**	**339**	P	Pn	04 13 05.3	**+0.5**
CAMI	**Rancho Maria**	**1.15**	**334**	P	Pn	04 13 06.6	**+1.9**
NAS2	**Nasa**	**1.16**	**336**	P	Pn	04 13 06.2	**+1.2**
PAST	**Pastocalle**	**1.20**	**327**	P	Pn	04 13 06.2	**+0.9**
ANTI	**Antisana**	**1.26**	**352**	S	Sn	04 13 29.2	**+2.0**
ANTI	**Antisana**	**1.26**	**352**	P	Pn	04 13 06.4	**+0.4**
JUA2	**San Juan 2**	**1.61**	**338**	P	Pn	04 13 09.1	**-0.3**
GGP	**Refugio Guagua**	**1.64**	**339**	P	Pn	04 13 10.7	**+0.8**
TERV	**Terraza Guagua**	**1.64**	**338**	P	Pn	04 13 10.9	**+1.0**
LAV4	**Lava4-Reventad**	**1.65**	**13**	P	Pn	04 13 10.4	**+0.7**
PINO	**Pino**	**1.66**	**338**	P	Pn	04 13 10.8	**+0.7**
CAYR	**Refugio Cayamb**	**1.71**	**360**	P	Pn	04 13 12.7	**+2.0**
CAYA	**Cayambe**	**1.77**	**0**	P	Pn	04 13 12.1	**+0.8**
OTAV	**Otavalo**	**1.99**	**347**	⇑P	Pn	04 13 13.3	**-0.3**
PECV	**Mancha de Ca P**	**2.25**	**294**	P	Pn	04 13 17.4	**+1.1**
MAG1	**Magdalena**	**2.41**	**312**	P	Pn	04 13 17.7	**-0.5**
ATAH	**Atahualpa**	**5.40**	**184**	P	Pn	04 13 59.0	**+1.7**
	5.1nm,0.3s,baz=14,slow=9.6,SNR=19						
ATAH				S	Sn	04 14 58.8	**-0.4**
	6.6nm,0.3s,baz=60,slow=14,SNR=11						
ROSC	**El Rosal**	**7.48**	**29**	P	Pn	04 14 24.8	**-0.2**
	0.8nm,0.3s,baz=258,slow=20,SNR=3.0						
BDFB	**Brasilia**	**32.64**	**117**	P	**P**	04 18 57.6	**+1.4**
	0.9nm,0.4s,baz=243,slow=14,SNR=3.4						
TXAR	**Lajitas Array**	**39.45**	**323**	P	**P**	04 19 54.3	**+0.3**
	0.4nm,0.7s,baz=144,slow=8.1,SNR=8.7						
PDAR	**Pinedale Array**	**52.62**	**331**	P	**P**	04 21 36.7	**-0.2**
	0.3nm,0.6s,baz=131,slow=11,SNR=3.2						
ULM	**Lac du Bonnet**	**53.99**	**346**	P	**P**	04 21 44.7	**-1.8**
	1.7nm,0.5s,baz=196,slow=8.0,SNR=3.4						
NVAR	**Mina Array Bea**	**54.53**	**321**	P	**P**	04 21 51.6	**+0.7**
	0.4nm,0.5s,baz=123,slow=6.5,SNR=5.6						
YKA	**Yellowknife Ar**	**69.74**	**343**	P	**P**	04 23 30.4	**-1.1**
	0.2nm,0.6s,baz=140,slow=6.2,SNR=6.6						
DBIC	**Dimbokro**	**73.47**	**83**	P	**P**	04 23 54.9	**+0.1**
	1.8nm,0.7s,baz=245,slow=7.5,SNR=7.8						
TORD	**Torodi Ar. Bea**	**80.35**	**76**	P	**P**	04 24 32.9	**-0.5**
	0.7nm,0.4s,baz=283,slow=5.9,SNR=30						
ILAR	**Eielson Array**	**82.67**	**336**	P	**P**	04 24 43.9	**-0.7**
	0.4nm,0.5s,baz=139,slow=3.7,SNR=10						
ASAR	**Alice Springs**	**140.02**	**229**	PKhKP	PKPpre	04 31 44.7	
	0.5nm,1.1s,baz=90,slow=2.8,SNR=3.0						
ASAR				PKP	**PKPdf**	04 31 49.6	**-0.1**
	0.7nm,1.2s,baz=93,slow=2.5,SNR=3.1						
WRA	**Warramunga Arr**	**141.67**	**234**	PKP	**PKPdf**	04 31 52.2	**-0.6**
	0.3nm,0.6s,baz=111,slow=2.1,SNR=4.8						

IDC 10 04:19:22.0±0.9,6.62N×127.40E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.5/23,mbtmp3.4/5,Error ellipse: s-maj=71.2km s-min=20.4km az=74.0
ISCJB 10 04:19:26.6±0.9,6.5N±0.2×127.2E±0.5,h47km,mb3.3/5, Error ellipse: s-maj=70.8km s-min=17.9km az=163.9
ISC 10 04:19:28.5±1.0,6.6N±0.2×127.3E±0.5,h47km,n6,σ0§85/7, mb3.4/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.25**	**165**	P	**P**	04 25 08.2	**-0.3**
	0.8nm,0.7s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**30.75**	**168**	P	**P**	04 25 39.6	**+0.1**
	0.4nm,0.9s,baz=344,slow=7.2,SNR=5.8						
ASAR				PcP	**PcP**	04 28 37.5	**+1.0**
	0.2nm,0.5s,baz=353,slow=2.5,SNR=6.2						
SONM	**Songino Array**	**44.82**	**340**	P	**P**	04 27 38.8	**+0.8**
	0.3nm,0.8s,baz=158,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**55.59**	**324**	P	**P**	04 28 59.0	**-0.4**
	0.2nm,0.4s,baz=114,slow=7.5,SNR=4.8						
ILAR	**Eielson Array**	**82.28**	**26**	P	**P**	04 31 44.5	**-0.4**
	0.2nm,0.5s,baz=276,slow=4.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.56**	**290**	PKP	**PKPdf**	04 38 19.1	**-0.9**
	0.3nm,0.8s,baz=28,slow=1.8,SNR=4.2						

ISCJB 10 04:24:54.3±0.8,24.94S±0.09×179.76E±0.1,h507km, mb3.9/8,Error ellipse: s-maj=15.0km s-min=11.3km az=10.2
IDC 10 04:24:54.1±1.8,24.91S×179.60E,h493km±19km,mb3.5/8, mb1 3.8/9,mb1mx3.5/18,mbtmp3.5/9,Error ellipse: s-maj=23.3km s-min=13.4km az=154.0
ISC 10 04:24:55.0±0.8,25.1S±0.1×179.7E±0.1,h507km,n14, σ1§18/19,mb3.9/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.52**	**281**	P	**P**	04 27 40.7	**+1.4**
	0.8nm,0.3s,baz=90,slow=19,SNR=7.3						
URZ	**Urewera**	**13.35**	**189**	P	**P**	04 27 47.0	**-0.6**
	1.2nm,0.3s,baz=23,slow=18,SNR=7.1						
URZ				S	**S**	04 30 10.0	**0.0**
	0.9nm,0.3s,baz=254,slow=22,SNR=8.3						
STKA	**Stephens Creek**	**34.06**	**250**	P	**P**	04 30 57.2	**+0.6**
	2.6nm,0.4s,baz=96,slow=10,SNR=11						
ASAR	**Alice Springs**	**41.60**	**262**	P	**P**	04 31 58.1	**-0.4**
	2.2nm,0.3s,baz=90,slow=6.6,SNR=83						
ASAR				ScP	**ScP**	04 36 47.6	**+2.1**
	0.5nm,0.8s,baz=129,slow=3.7,SNR=3.5						
ASAR				S	**S**	04 37 36.9	**-0.9**
	0.4nm,0.8s,baz=95,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**42.08**	**268**	P	**P**	04 32 01.4	**-0.9**
	7.2nm,0.4s,baz=99,slow=7.0,SNR=253						
WRA				ScP	**ScP**	04 36 50.3	**+2.8**
	1.1nm,0.7s,baz=101,slow=3.7,SNR=10						
WRA				S	**S**	04 37 43.4	**-1.3**
	1.8nm,0.9s,baz=99,slow=14,SNR=7.1						
MJAR	**Matsushiro Art**	**72.70**	**326**	P	**P**	04 35 29.6	**-1.5**
	2.9nm,0.7s,baz=156,slow=5.7,SNR=7.5						
KSRS	**Korea Array**	**78.96**	**320**	P	**P**	04 36 06.0	**+0.3**
	1.6nm,0.7s,baz=138,slow=5.3,SNR=7.3						
PETK	**Petropavlovsk-**	**80.16**	**347**	P	**P**	04 36 11.3	**-0.4**
	2.9nm,0.9s,baz=134,slow=6.2,SNR=3.1						
NVAR	**Mina Array Bea**	**85.76**	**44**	P	**P**	04 36 40.2	**-0.3**
	0.8nm,0.7s,baz=228,slow=8.6,SNR=4.7						
TXAR	**Lajitas Array**	**91.26**	**58**	P	**P**	04 37 06.8	**+0.5**
	1.0nm,0.8s,baz=212,slow=6.3,SNR=10						
FINES	**FINESS Array B**	**139.45**	**341**	PKhKP	PKPpre	04 43 13.9	
	1.5nm,0.8s,baz=41,slow=3.5,SNR=4.3						
FINES				SKPbc	**SKPbc**	04 46 11.6	**+0.3**
	3.2nm,1.0s,baz=117,slow=0.4,SNR=4.9						
AKASG	**Malin Array Be**	**145.78**	**326**	PKPbc	**PKPdf**	04 43 35.4	**+0.1**
	1.8nm,0.5s,baz=44,slow=4.5,SNR=17						
BRTR	**Keskin Array B**	**148.04**	**306**	PKPbc	**PKPbc**	04 43 42.7	**-0.8**
	0.6nm,0.6s,baz=131,slow=3.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**168.01**	**189**	PKPab	**PKPab**	04 45 14.7	**+0.2**
	0.5nm,0.8s,baz=206,slow=3.2,SNR=3.1						

ISCJB 10 04:31:34.7±0.7,40.49N±0.03×124.71W±0.08,h25km, mb2.4/1,Error ellipse: s-maj=8.6km s-min=4.2km az=171.3
IDC 10 04:31:34.6±2.5,40.62N×124.54W,h0km,mb2.7/2, mb1 3.4/3,mb1mx3.2/28,mbtmp3.0/3,ML3.3/1,Error ellipse: s-maj=28.2km s-min=13.7km az=112.0
NEIC 10 04:31:36.5,40.48N×124.69W,h24km,ML3.0(NCEDC), After NCEDC.
ISC 10 04:31:36.4±1.4,40.52N±0.05×124.69W±0.08,h25km,n52, σ1§06/48,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMRM	**Mail Ridge**	**0.81**	**111**	*e*Pg	**Pb**	04 31 51.1	**-0.7**
KHMM	**Horse Mountain**	**0.81**	**64**	*e*Pn	**Pb**	04 31 51.0	**-1.0**
KHMM				*e*Sn	**Sb**	04 32 02.0	**-0.5**
KRMB	**Red Mountain**	**1.16**	**30**	*e*Pn	**Pn**	04 31 55.8	**-1.4**
KCPM	**Cahto Peak**	**1.19**	**134**	*e*Pn	**Pn**	04 31 55.7	**-1.8**
KSXB	**Camp Six Broad**	**1.45**	**25**	P	**Pn**	04 31 59.7	**-1.3**
WDC	**Whiskeytown Da**	**1.64**	**87**	*e*Pn	**Pn**	04 32 02.4	**-1.3**
WDC				*e*Sn	**Sn**	04 32 23.1	**-0.8**
KTRM	**Thompson Ridge**	**1.71**	**35**	P	**Pn**	04 32 03.5	**-1.2**
KBO	**Bosley Butte**	**1.73**	**12**	P	**Pn**	04 32 03.3	**-1.6**
LAMM	**Antelope Mount**	**1.90**	**54**	P	**Pn**	04 32 06.6	**-0.8**
YBH	**Yreka Blue Hor**	**1.92**	**50**	*e*Pn	**Pn**	04 32 07.0	**-0.6**
YBH				Lg	Lg	04 32 31.0	
YBH	**Yreka Blue Hor**	**1.92**	**50**	Pg	**Pn**	04 32 06.9	**-0.7**
	15nm,0.3s,baz=258,slow=13,SNR=109						
YBH				Lg	Lg	04 32 31.0	
	14nm,0.3s,baz=31,slow=20,SNR=6.7						
HOPS	**Hopland**	**1.97**	**140**	*e*Pn	**Pn**	04 32 06.3	**-1.9**
KEBM	**Edson Butte**	**2.36**	**6**	*e*Pn	**Pn**	04 32 13.6	**-0.1**
HUMO	**Hull Mountain**	**2.46**	**31**	*e*Pn	**Pn**	04 32 14.4	**-0.5**
HUMO				*e*Sn	**Sn**	04 32 42.7	**-1.4**
M04C	**Macdoel**	**2.50**	**59**	P	**Pn**	04 32 16.2	**+0.7**
	baz=2.5						
BUOR	**Burton Butte**	**2.54**	**46**	P	**Pn**	04 32 17.3	**+1.0**
LAB	**Little Aspen B**	**2.64**	**48**	P	**Pn**	04 32 17.9	**+0.4**
MCCM	**Marconi Confer**	**2.76**	**149**	*e*Pn	**Pn**	04 32 17.3	**-1.6**
BEKR	**Beckworth**	**3.38**	**100**	*e*Pn	**Pn**	04 32 27.1	**-0.6**
BEKR				*e*Sn	**Sn**	04 33 06.6	**-0.5**
MOD	**Modoc**	**3.59**	**66**	*e*Pn	**Pn**	04 32 31.8	**+1.3**
K05A	**Summer Lake**	**3.60**	**51**	*e*Pn	**Pn**	04 32 31.2	**+0.4**
I04A	**Tendick Farm,**	**3.68**	**27**	P	**Pn**	04 32 32.8	**+1.1**
	baz=3.7						
PAHR	**Pah Rah Range**	**4.15**	**100**	*e*Pn	**Pn**	04 32 37.9	**-0.4**
CMB	**Columbia Colle**	**4.16**	**125**	*e*Pn	**Pn**	04 32 38.9	**+0.5**
PINOR	**Pine Mountain**	**4.34**	**40**	*e*Pn	**Pn**	04 32 40.8	**+0.1**
SAO	**San Andreas Ge**	**4.53**	**145**	*e*Pn	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.46**	**274**	*i* P	**Pn**	**05 27 03.4**	**-0.1**
	baz=271						
TWC				*i* S	**Sn**	**05 27 12.8**	**-0.2**
	baz=271						
EGS		**0.47**	**305**	P	**Pn**	**05 27 03.6**	**+0.1**
	baz=298						
EGS				S	**Sn**	**05 27 12.9**	**-0.2**
	baz=298						
TWB1	**Santiao Chiao**	**0.54**	**323**	P	**Pn**	**05 27 04.1**	**-0.2**
	baz=320						
TWB1				*i* S	**Sn**	**05 27 13.9**	**-0.3**
	baz=320						
ENA	**Nanau**	**0.57**	**255**	⇓*i* P	**Pn**	**05 27 04.9**	**+0.3**
	baz=254						
ENA				*e*S	**Sn**	**05 27 15.8**	**+1.0**
	baz=254						
ILA	**Ilan**	**0.58**	**289**	*e*P	**Pn**	**05 27 04.7**	**0.0**
	baz=288						
ILA				S	**Sn**	**05 27 15.3**	**+0.4**
	baz=288						
YOJ	**Yonaguni jima**	**0.61**	**100**	P	**Pn**	**05 27 05.0**	**+0.1**
YOJ				S	**Sn**	**05 27 16.4**	**+0.9**
NWF	**Wu-fen Shan**	**0.72**	**314**	*i* P	**Pn**	**05 27 06.1**	**-0.1**
	baz=307						
NWF				*i* S	**Sn**	**05 27 17.4**	**-0.1**
	baz=307						
ENTT	**Nioudou**	**0.72**	**275**	P	**Pn**	**05 27 06.5**	**+0.4**
	baz=273						
ENTT				*e*S	**Sn**	**05 27 18.1**	**+0.6**
	baz=273						
TWA	**Mucha**	**0.81**	**300**	*i* P	**Pn**	**05 27 06.7**	**-0.4**
	baz=295						
TWA				*i* S	**Sn**	**05 27 18.6**	**-0.7**
	baz=295						
TWD	**Chiawan**	**0.85**	**235**	P	**Pn**	**05 27 07.1**	**-0.5**
	baz=225						
TWD				*e*S	**Sn**	**05 27 20.2**	**+0.1**
	baz=225						
TAP1	**Taipei**	**0.88**	**302**	*e*P	**Pn**	**05 27 08.3**	**+0.4**
	baz=301						
TAP1				*e*S	**Sn**	**05 27 19.9**	**-0.9**
	baz=301						
TAP	**Taipei**	**0.90**	**301**	*e*P	**Pn**	**05 27 07.4**	**-0.7**
	baz=301						
TAP				*e*S	**Sn**	**05 27 20.2**	**-0.9**
	baz=301						
NNS	**Nan Shan**	**0.90**	**262**	P	**Pn**	**05 27 08.3**	**0.0**
	baz=253						
NNS				*e*S	**Sn**	**05 27 21.6**	**+0.2**
	baz=253						
HWA	**Hwalien**	**0.91**	**229**	*e*P	**Pn**	**05 27 08.1**	**-0.1**
	baz=225						
NSK	**Sanguang**	**0.91**	**277**	⇓*i* P	**Pn**	**05 27 08.6**	**+0.2**
	baz=275						
NSK				*i* S	**Sn**	**05 27 21.5**	**0.0**
	baz=275						
TWY	**Chenhua**	**0.98**	**316**	*e*P	**Pn**	**05 27 09.3**	**+0.2**
	baz=308						
TWY				*e*S	**Sn**	**05 27 22.2**	**-0.6**
	baz=308						
TWS1	**Kuangyinshan**	**1.00**	**302**	*i* P	**Pn**	**05 27 09.1**	**-0.3**
	baz=306						
TWS1				S	**Sn**	**05 27 22.6**	**-0.6**
	baz=306						
WHF	**Hehuan Shan**	**1.08**	**247**	⇓*i* P	**Pn**	**05 27 10.7**	**-0.1**
	baz=238						
WHF				*i* S	**Sn**	**05 27 25.6**	**-0.1**
	baz=238						
TWT	**Tachien**	**1.12**	**254**	P	**Pn**	**05 27 11.6**	**+0.5**
	baz=244						
TWT				S	**Sn**	**05 27 26.8**	**+0.5**
	baz=244						
NCU	**National Centr**	**1.13**	**291**	*e*P	**Pn**	**05 27 11.2**	**+0.1**
	baz=290						
NCU				*e*S	**Sn**	**05 27 26.4**	**+0.1**
	baz=290						
ESL	**Shilin**	**1.13**	**228**	⇓*i* P	**Pn**	**05 27 10.3**	**-0.7**
	baz=234						
ESL				*e*S	**Sn**	**05 27 25.7**	**-0.6**
	baz=234						
NSTT	**Nanjuang**	**1.23**	**273**	*e*P	**Pn**	**05 27 12.2**	**-0.1**
	baz=271						
NSTT				S	**Sn**	**05 27 28.6**	**+0.1**
	baz=271						
HSN	**Hsinchu**	**1.28**	**280**	*e*P	**Pn**	**05 27 11.8**	**-1.0**
	baz=281						
HSN				*e*S	**Sn**	**05 27 29.1**	**-0.5**
	baz=281						
IRIF	**Iriomote-Funau**	**1.28**	**100**	P	**Pn**	**05 27 12.5**	**-0.4**
IRIF				S	**Sn**	**05 27 29.6**	**0.0**
EHY	**Hungye**	**1.42**	**222**	*e*P	**Pn**	**05 27 13.6**	**-1.2**
	baz=227						
HATJ	**Hateruma jima**	**1.42**	**111**	P	**Pn**	**05 27 15.2**	**+0.4**
TWQ1	**Liyutan**	**1.46**	**261**	*e*P	**Pn**	**05 27 15.3**	**+0.1**
	baz=259						
TWQ1				*e*S	**Sn**	**05 27 33.9**	**+0.2**
	baz=259						
SMLT	**Sun Moon Lake**	**1.49**	**243**	*e*P	**Pn**	**05 27 16.7**	**+0.8**
	baz=233						
SMLT				*e*S	**Sn**	**05 27 36.4**	**+1.6**
	baz=233						
TYC	**Yuchr**	**1.52**	**244**	P	**Pn**	**05 27 16.6**	**+0.5**
	baz=246						
TYC				*e*S	**Sn**	**05 27 36.1**	**+0.9**
	baz=246						
JKRS	**Kuro-shima**	**1.55**	**102**	P	**Pn**	**05 27 16.6**	**+0.2**
JKRS				S	**Sn**	**05 27 36.5**	**+0.7**
TWF1	**Yuli**	**1.55**	**219**	P	**Pn**	**05 27 15.5**	**-1.0**
	baz=223						
TWF1				*e*S	**Sn**	**05 27 35.1**	**-0.9**
	baz=223						
TCU	**Taichung**	**1.59**	**255**	*e*P	**Pn**	**05 27 15.1**	**-1.8**
	baz=263						
TCU				*e*S	**Sn**	**05 27 37.7**	**+1.0**
	baz=263						
JIJ	**Ishigaki jima**	**1.65**	**97**	P	**Pn**	**05 27 17.3**	**-0.4**
JIJ				S	**Sn**	**05 27 37.6**	**-0.6**
YUS	**Yu-Shan**	**1.68**	**230**	*i* P	**Pn**	**05 27 18.7**	**+0.1**
	baz=220						
YUS				S	**Sn**	**05 27 39.0**	**-0.6**
	baz=220						
CHKT	**Chengkung**	**1.72**	**212**	*e*P	**Pn**	**05 27 17.4**	**-1.4**
	baz=201						
CHKT				*e*S	**Sn**	**05 27 37.9**	**-2.2**
	baz=201						
ALS	**Alishan**	**1.77**	**233**	P	**Pn**	**05 27 20.3**	**+0.7**
	baz=224						
ALS				*e*S	**Sn**	**05 27 42.1**	**+0.6**
	baz=224						
CHN5	**Tsauling**	**1.81**	**238**	P	**Pn**	**05 27 20.8**	**+0.8**
	baz=246						
CHN5				*e*S	**Sn**	**05 27 44.0**	**+1.8**
	baz=246						
ELDTW	**Lidau**	**1.84**	**222**	*e*P	**Pn**	**05 27 19.5**	**-0.9**
	baz=214						
ELDTW				*e*S	**Sn**	**05 27 41.9**	**-1.1**
	baz=214						
WGK	**Gukeng**	**1.86**	**242**	*e*P	**Pn**	**05 27 21.4**	**+0.8**
	baz=251						
CHN4	**Tsaushan**	**2.02**	**233**	P	**Pn**	**05 27 23.8**	**+1.1**
	baz=230						
CHN4				*e*S	**Sn**	**05 27 48.3**	**+1.2**
	baz=230						
WTCT	**Ta-ch'eng**	**2.02**	**250**	*e*P	**Pn**	**05 27 21.5**	**-1.2**
	baz=256						
WTCT				*e*S	**Sn**	**05 27 46.9**	**-0.1**
	baz=256						
STYT	**Tauyuan**	**2.03**	**226**	P	**Pn**	**05 27 23.4**	**+0.5**
	baz=223						
STYT				S	**Sn**	**05 27 48.4**	**+1.0**
	baz=223						
CHY	**Chiayi**	**2.06**	**239**	*e*P	**Pn**	**05 27 23.3**	**0.0**
	baz=248						
CHY				*e*S	**Sn**	**05 27 48.8**	**+0.7**
	baz=248						
TWG	**Pinlang**	**2.10**	**214**	*e*P	**Pn**	**05 27 22.1**	**-1.7**
	baz=211						
TWG				*e*S	**Sn**	**05 27 47.5**	**-1.6**
	baz=211						
JTJ	**Tarama**	**2.14**	**88**	P	**Pn**	**05 27 24.5**	**+0.2**
JTJ				S	**Sn**	**05 27 50.6**	**+0.6**
TWK	**Hsinying**	**2.15**	**233**	*e*P	**Pn**	**05 27 24.4**	**-0.1**
	baz=230						
TWK				*e*S	**Sn**	**05 27 52.1**	**+1.9**
	baz=230						
WSF	**Szhu**	**2.16**	**245**	*e*P	**Pn**	**05 27 24.5**	**-0.1**
	baz=242						
WSF				*e*S	**Sn**	**05 27 50.7**	**+0.3**
	baz=242						
CHN1	**Nanshi**	**2.17**	**231**	*e*P	**Pn**	**05 27 26.0**	**+1.3**
	baz=228						
CHN1				*e*S	**Sn**	**05 27 51.9**	**+1.2**
	baz=228						
SSD	**Sandimen**	**2.41**	**221**	*e*P	**Pn**	**05 27 28.8**	**+0.9**
	baz=218						
SSD				*e*S	**Sn**	**05 27 57.4**	**+0.9**
	baz=218						
LAY	**Lan-yu**	**2.63**	**196**	*e*P	**Pn**	**05 27 29.9**	**-1.1**
	baz=194						
SCZT	**Fangliau**	**2.71**	**216**	*e*P	**Pn**	**05 27 32.9**	**+0.9**
	baz=213						
SCZT				*e*S	**Sn**	**05 28 03.4**	**-0.4**
	baz=213						

*IDC **10** 05:30:42.0±0.9, 11°.72N×143°.16E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/25, mbtmp3.7/6, Error ellipse: s-maj=47.3km s-min=21.6km az=105.0*
*ISCJB **10** 05:30:45.2±0.9, 11°.7N±0°.2×143°.0E±0°.3, h32km, mb3.7/6, Error ellipse: s-maj=47.7km s-min=20.7km az=14.4*

ISC 10 05:30:46.9±1.0, 11°.7N±0°.2×143°.1E±0°.3, h32km, n6, σ1s27/6, mb3.8/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.61**	**195**	P	**P**	**05 37 15.3**	**-0.5**
	1.2nm,0.6s,baz=19,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**36.28**	**194**	P	**P**	**05 37 47.8**	**+0.1**
	0.2nm,0.3s,baz=20,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**61.67**	**317**	P	**P**	**05 41 02.3**	**+0.4**
	0.2nm,0.6s,baz=98,slow=6.0,SNR=4.2						
ILAR	**Eielson Array**	**71.00**	**25**	P	**P**	**05 41 59.7**	**-1.6**
	0.5nm,0.6s,baz=245,slow=6.0,SNR=8.6						
YKA	**Yellowknife Ar**	**85.31**	**27**	P	**P**	**05 43 20.6**	**0.0**
	0.3nm,0.4s,baz=286,slow=5.0,SNR=14						
NVAR	**Mina Array Bea**	**89.44**	**51**	P	**P**	**05 43 42.7**	**+1.4**
	0.7nm,0.7s,baz=273,slow=5.7,SNR=6.8						

*IDC **10** 05:44:20.2±4.0, 13°.77N×88°.32W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/22, mbtmp3.5/3, Error ellipse: s-maj=134.8km s-min=60.7km az=36.0*
*CASC **10** 05:44:24.3±3.5, 14°.46N×89°.07W, h4km±17km, MD3.7, ML3.6*

ISC 10 05:44:25.4±1.6, 13°.0N±0°.1×89°.58W±0°.07, h43km, n20, σ1s70/19, 3C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.80**	**25**	⇑*i* P	**Pn**	**05 44 38.8**	**-1.6**
SNET				*e*S	**Sn**	**05 44 50.7**	**-0.6**
SNET				AML	AML	05 44 55.3	
	comp=Z,2µm,0.2s						
BOQS	**Boqueron**	**0.83**	**21**	⇑*i* P	**Pn**	**05 44 39.4**	**-1.5**
LFRS	**El Faro**	**0.83**	**37**	⇓*i* P	**Pn**	**05 44 39.5**	**-1.4**
SBLS	**San Blas**	**0.88**	**357**	⇓*i* P	**Pn**	**05 44 39.8**	**-1.8**
SNJE	**San Jose**	**0.91**	**358**	*i* P	**Pn**	**05 44 40.3**	**-1.7**
LFU	**La Fuente**	**0.91**	**30**	*i* P	**Pn**	**05 44 40.8**	**-1.1**
LBRS	**Las Brisas**	**0.94**	**34**	⇓*i* P	**Pn**	**05 44 41.2**	**-1.0**
RTR	**El Retiro**	**0.94**	**356**	*i* P	**Pn**	**05 44 40.7**	**-1.6**
SNVI	**San Vicente**	**0.97**	**48**	*i* P	**Pn**	**05 44 41.5**	**-1.3**
SNVI				*e*S	**Sn**	**05 44 59.4**	**+3.9**
VSM	**San Miguel**	**1.35**	**70**	*i* P	**Pn**	**05 44 47.1**	**-1.0**
CAHU	**Cacacuatique**	**1.56**	**59**	⇓*i* P	**Pn**	**05 44 51.0**	**+0.2**
NBG	**Las Nubes**	**1.78**	**335**	⇑*e*P	**Pn**	**05 44 54.4**	**+0.4**
MRL	**Marmol**	**2.10**	**357**	*e*P	**Pn**	**05 44 59.2**	**+1.0**
TXAR	**Lajitas Array**	**20.90**	**323**	P	**P**	**05 49 05.8**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=142,slow=11,SNR=27						
NVAR	**Mina Array Bea**	**35.97**	**320**	P	**P**	**05 51 23.8**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=133,slow=9.2,SNR=4.6						
H03N2	**Juan Fernandez**	**47.24**	**168**	T	T	06 43 23.3	
	baz=346,slow=75,SNR=5.0						
H03N1	**Juan Fernandez**	**47.25**	**168**	T	T	06 43 23.5	
	baz=346,slow=75,SNR=6.4						
H03N3	**Juan Fernandez**	**47.26**	**168**	T	T	06 43 24.3	
	baz=346,slow=75,SNR=6.1						
YKA	**Yellowknife Ar**	**52.59**	**346**	P	**P**	**05 53 32.4**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=132,slow=7.6,SNR=13						
CMAR	**Chiang Mai Arr**	**147.67**	**345**	PKPbc	**PKPbc**	**06 04 05.6**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=336,slow=3.3,SNR=5.9						

DJA 10 05:46:54.3±0.4, 7°S±3°×107°E±°, h11km, M3.6/11, MLv3.6/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.17**	**55**	P	Pg	05 46 57.5	-0.5
SKJI				S	Sg	05 47 01.0	+0.4
DBJI	**Dramaga**	**0.63**	**31**	P	Pg	05 47 06.0	-0.7
DBJI				S	Sb	05 47 16.1	-0.2
CBJI	**Citeko**	**0.80**	**32**	P	Pg	05 47 06.3	-3.5
CGJI	**Cibinong**	**0.87**	**304**	P	Pg	05 47 09.4	-1.7
CGJI				S	Sg	05 47 21.7	-0.7
SBJI	**Serang**	**1.01**	**343**	P	Pg	05 47 13.5	-0.4
LEM	**Lembang**	**1.22**	**77**	P	Pn	05 47 17.1	-0.4
LEM				S	Sb	05 47 33.6	+0.1
CISI	**Cisompet, Garu**	**1.46**	**108**	P	Pn	05 47 18.7	-2.0
CISI				S	Sn	05 47 37.9	-1.9
JCJI	**Jatiwangi**	**1.94**	**72**	P	Pn	05 47 26.7	-0.4
CMJI	**Cimerak**	**2.12**	**109**	P	Pn	05 47 29.1	-0.6
CMJI				S	Sn	05 47 57.0	+0.9
KASI	**Kota Agung**	**2.47**	**309**	P	Pn	05 47 34.9	+0.4
KPJI	**Karang Pucung**	**2.50**	**95**	P	Pn	05 47 36.2	+1.2

CASC 10 06:32:12.2±2.7, 14°.84N×92°.51W, h26km±21km, MD3.9, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.99**	**121**	⇑*e*P	Pn	06 32 30.1	-0.3
MRL	**Marmol**	**2.73**	**85**	*i* P	Pn	06 32 54.4	-0.2
MRL				*e*P	Pb	06 32 55.3	-5.4
RTR	**El Retiro**	**2.93**	**108**	*e*P	Pn	06 33 00.1	+2.8
RTR				*e*S	Sn	06 33 32.8	+1.0
SBLS	**San Blas**	**2.97**	**109**	*i* P	Pn	06 32 57.8	-0.1
SBLS				*e*S	Sn	06 33 34.1	+1.2
BOQS	**Boqueron**	**3.32**	**109**	*e*P	Pn	06 33 03.0	+0.3
BOQS				*e*S	Sn	06 33 43.0	+1.5
LFU	**La Fuente**	**3.46**	**108**	*e*P	Pn	06 33 06.3	+1.7
LFU				*e*S	Sn	06 33 47.8	+3.0
SNVI	**San Vicente**	**3.76**	**108**	*e*P	Pn	06 33 09.6	+0.9
SNVI				*e*S	Sn	06 33 53.9	+1.6

*BJI **10** 06:32:14.0, 40°.30N×124°.60W, h18km, mB5.4/3, mb4.5/4, Ms4.9/2, Ms7 4.5/2*
*IDC **10** 06:32:14.7±1.9, 40°.39N×124°.48W, h0km, mb3.3/3, mb1 3.9/6, mb1mx3.6/30, mbtmp3.6/6, ML3.8/3, MS3.3/4, Ms1 3.2/4, ms1mx3.0/22, Error ellipse: s-maj=25.2km s-min=10.7km az=95.0*
*NEIC **10** 06:32:17.0, 40°.31N×124°.63W, h17km, mb3.7/1, MW4.1(BRK), After NCEDC.*
NEIC Felt [III] at Carlotta, Rio Dell and Whitethorn; [II] at Arcata, Eureka and Fortuna. Also felt at Anderson, Crescent City, Happy Camp, Hydesville, Myers Flat, Point Arena, Redding, Scotia and Weed.

ISC 10 06:32:17.4±0.7, 40°.33N±0°.04×124°.57W±0°.06, h17km±3km, n105, σ1s51/109, mb3.6/3, MS4.0/4, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRM	**Mail Ridge**	**0.67**	**99**	*e*Pn	**Pg**	**06 32 30.5**	**0.0**
KMRM				*e*Sb	**Sb**	**06 32 40.9**	**+1.2**
KHMM	**Horse Mountain**	**0.84**	**49**	*e*Pn	**Pb**	**06 32 32.9**	**-0.8**
KHMM				*e*S	**Sb**	**06 32 44.6**	**0.0**
KCPM	**Cahto Peak**	**1.00**	**130**	*e*P	**Pb**	**06 32 34.6**	**-1.7**
KCPM				*e*S	**Sb**	**06 32 49.5**	**+0.3**
KRMB	**Red Mountain**	**1.29**	**23**	*e*Pn	**Pn**	**06 32 39.0**	**-1.9**
KRMB				*e*Sn	**Sn**	**06 32 53.4**	**-4.4**
WDC	**Whiskeytown Da**	**1.57**	**80**	*e*Pn	**Pn**	**06 32 42.9**	**-1.6**
WDC				*e*Sn	**Sn**	**06 33 04.1**	**-0.4**
KSXB	**Camp Six Broad**	**1.58**	**19**	P	**Pn**	**06 32 43.0**	**-1.9**
HOPS	**Hopland**	**1.77**	**139**	*e*Pn	**Pn**	**06 32 45.0**	**-2.3**
KTRM	**Thompson Ridge**	**1.81**	**29**	P	**Pn**	**06 32 46.4**	**-1.7**
KBO	**Bosley Butte**	**1.90**	**8**	*e*Pn	**Pn**	**06 32 48.5**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMM	**Antelope Mount**	**1.95**	**48**	P	**Pn**	**06 32 48.6**	**-1.3**
YBH	**Yreka Blue Hor**	**1.98**	**45**	*e*Pn	**Pn**	**06 32 49.0**	**-1.3**
YBH				Lg	Lg	06 33 13.9	
YBH				*e*Sn	**Sn**	**06 33 14.1**	**-0.8**
YBH	**Yreka Blue Hor**	**1.98**	**45**	Pn	**Pn**	**06 32 49.0**	**-1.3**
	102nm,0.3s,baz=264,slow=10,SNR=1326						
YBH				Lg	Lg	06 33 13.9	
	24nm,0.3s,baz=295,slow=23,SNR=5.2						
M04C	**Macdoel**	**2.52**	**54**	P	**Pn**	**06 32 57.1**	**-0.7**
	baz=2.5						
KEBM	**Edson Butte**	**2.54**	**4**	*e*Pn	**Pn**	**06 32 57.9**	**-0.1**
MCCM	**Marconi Confer**	**2.55**	**148**	*e*Pn	**Pn**	**06 32 55.7**	**-2.2**
HUMO	**Hull Mountain**	**2.58**	**28**	*e*Pn	**Pn**	**06 32 57.4**	**-1.0**
HUMO				*e*Sn	**Sn**	**06 33 26.9**	**-2.5**
OHCM	**Honcut**	**2.58**	**112**	*e*Pn	**Pn**	**06 32 56.3**	**-2.1**
BUOR	**Burton Butte**	**2.62**	**41**	P	**Pn**	**06 32 59.4**	**+0.3**
BBOR	**Butler Butte**	**2.92**	**28**	P	**Pn**	**06 33 03.2**	**-0.1**
SAC	**San Andreas**	**3.22**	**148**	*e*Pn	**Pn**	**06 33 04.5**	**-2.7**
SAC				*e*Sn	**Sn**	**06 33 42.8**	**-2.3**
BEKR	**Beckworth**	**3.26**	**97**	*e*Pn	**Pn**	**06 33 07.3**	**-0.8**
BEKR				*e*Sn	**Sn**	**06 33 46.7**	**+0.1**
MOD	**Modoc**	**3.58**	**63**	*e*Pn	**Pn**	**06 33 10.9**	**-1.5**
K05A	**Summer Lake**	**3.65**	**48**	*e*Pn	**Pn**	**06 33 12.8**	**-0.5**
I04A	**Tendick Farm,**	**3.81**	**24**	P	**Pn**	**06 33 15.6**	**+0.2**
	baz=3.8						
I04A				S	**Sn**	**06 33 57.5**	**-2.5**
	baz=3.8						
CMB	**Columbia Colle**	**3.98**	**124**	*e*Pn	**Pn**	**06 33 17.2**	**-0.5**
PAHR	**Pah Rah Range**	**4.03**	**97**	*e*Pn	**Pn**	**06 33 17.7**	**-0.8**
SAO	**San Andreas Ge**	**4.32**	**145**	*e*Pn	**Pn**	**06 33 19.6**	**-2.8**
WAKR	**Walker**	**4.37**	**113**	*e*Pn	**Pn**	**06 33 24.1**	**+0.8**
PINOR	**Pine Mountain**	**4.43**	**37**	*e*Pn	**Pn**	**06 33 24.4**	**+0.5**
I05D	**Terrebonne, OR**	**4.66**	**30**	P	**Pn**	**06 33 27.5**	**+0.3**
	baz=4.7						
WVOR	**Wild Horse Val**	**4.93**	**63**	*e*Pn	**Pn**	**06 33 29.1**	**-1.8**
NVAR	**Mina Array Bea**	**5.21**	**109**	Pn	**Pn**	**06 33 35.0**	**+0.1**
NVAR	**Mina Array Bea**	**5.21**	**109**	Pn	**Pn**	**06 33 35.0**	**+0.1**
	1.7nm,0.3s,baz=292,slow=14,SNR=48						
NVAR				LR	LR	06 35 36.7	
	comp=Z,100nm,21.8s,baz=76,slow=38						
I07A	**Izee**	**5.31**	**43**	*e*Pn	**Pn**	**06 33 36.7**	**+0.6**
NV11	**Mina Array Sit**	**5.32**	**109**	*e*Pn	**Pn**	**06 33 36.3**	**+0.1**
J08A	**Circle Bar Ran**	**5.46**	**54**	*e*Pn	**Pn**	**06 33 37.4**	**-0.8**
MTUM	**Tungsten Hills**	**5.55**	**120**	*e*Pn	**Pn**	**06 33 37.9**	**-1.5**
G06A	**Carlson Farm,**	**5.69**	**29**	*e*Pn	**Pn**	**06 33 42.9**	**+1.6**
PTRM	**Twissleman Ran**	**5.80**	**142**	*e*Pn	**Pn**	**06 33 40.9**	**-1.9**
RCTC	**Rector, Farmer**	**5.80**	**132**	P	**Pn**	**06 33 42.8**	**0.0**
	baz=5.8						
TPH	**Tonopah**	**6.13**	**109**	*e*Pn	**Pn**	**06 33 48.0**	**+0.5**
VES	**Vestal, Richgr**	**6.23**	**134**	P	**Pn**	**06 33 48.6**	**0.0**
	baz=6.2						
G08A	**Pilot Rock**	**6.45**	**38**	*e*Pn	**Pn**	**06 33 53.8**	**+2.1**
PKM	**Peak Mountain**	**6.61**	**144**	P	**Pn**	**06 33 52.1**	**-1.9**
	baz=6.6						
ISA	**Isabella**	**6.70**	**132**	*e*Pn	**Pn**	**06 33 56.0**	**+0.9**
ISA	**Isabella**	**6.70**	**132**	P	**Pn**	**06 33 55.8**	**+0.7**
	baz=6.7						
LON	**Longmire**	**6.72**	**16**	*e*Pn	**Pn**	**06 33 53.1**	**-2.3**
ARVC	**Arvin**	**6.90**	**137**	P	**Pn**	**06 33 57.3**	**-0.6**
	baz=6.9						
HAWA	**Hanford**	**7.08**	**30**	*e*Pn	**Pn**	**06 34 01.9**	**+1.6**
MFID	**Camas Ranch**	**7.21**	**62**	*e*Pn	**Pn**	**06 34 01.3**	**-0.9**
R11A	**Troy Canyon, C**	**7.24**	**103**	P	**Pn**	**06 34 02.3**	**-0.3**
	baz=7.2						
OSI	**Osito Adit**	**7.36**	**139**	*e*Pn	**Pn**	**06 34 04.5**	**+0.3**
	26nm,0.6s						
LTY	**Liberty**	**7.47**	**21**	*e*Pn	**Pn**	**06 34 07.7**	**+1.9**
EDW2	**Edwards Air Fo**	**7.54**	**134**	P	**Pn**	**06 34 06.9**	**+0.2**
	baz=7.5						
F10A	**Beach Ranch, E**	**7.78**	**41**	*e*Pn	**Pn**	**06 34 12.6**	**+2.6**
D08A	**Wollman Farm,**	**7.87**	**29**	*e*Pn	**Pn**	**06 34 12.6**	**+1.6**
GSC	**Goldstone**	**7.93**	**127**	*e*Pn	**Pn**	**06 34 12.9**	**+0.8**
GSC	**Goldstone**	**7.93**	**127**	P	**Pn**	**06 34 12.8**	**+0.7**
	baz=7.9						
PASC	**Pasadena Art C**	**7.98**	**138**	*e*Pn	**Pn**	**06 34 13.2**	**+0.6**
	16nm,0.6s						
MWC	**Mount Wilson**	**8.01**	**138**	*e*Pn	**Pn**	**06 34 12.7**	**-0.5**
RRX	**Edison Barstow**	**8.10**	**130**	P	**Pn**	**06 34 15.5**	**+1.1**
	baz=8.1						
BFSC	**Mount Baldy Ra**	**8.20**	**136**	P	**Pn**	**06 34 16.0**	**+0.2**
	baz=8.2						
HLID	**Hailey**	**8.23**	**64**	*e*Pn	**Pn**	**06 34 18.4**	**+2.2**
HEC	**Hector,Ludlow**	**8.54**	**127**	P	**Pn**	**06 34 20.9**	**+0.5**
	baz=8.5						
BBRC	**Big Bear Solar**	**8.59**	**132**	P	**Pn**	**06 34 20.5**	**-0.8**
	baz=8.6						
MURC	**Murrieta**	**8.94**	**136**	P	**Pn**	**06 34 25.7**	**-0.1**
	baz=8.9						
DUG	**Dugway**	**8.99**	**87**	*e*Pn	**Pn**	**06 34 27.7**	**+1.0**
HVU	**Hansel Valley**	**9.03**	**77**	*e*Pn	**Pn**	**06 34 25.4**	**-1.7**
BELC	**Belle Mtn. Jos**	**9.31**	**130**	P	**Pn**	**06 34 31.3**	**+0.3**
	baz=9.3						
PFO	**Pinyon Flat Ob**	**9.33**	**133**	Pn	**Pn**	**06 34 31.2**	**-0.2**
PFO	**Pinyon Flat Ob**	**9.33**	**133**	Pn	**Pn**	**06 34 31.2**	**-0.2**
	2.3nm,0.3s,baz=324,slow=9.9,SNR=45						
PFO	**Pinyon Flat Ob**	**9.33**	**133**	P	**Pn**	**06 34 31.4**	**+0.1**
	baz=9.3						
NEW	**Newport**	**9.55**	**31**	Pn	**Pn**	**06 34 35.3**	**+1.1**
NEW	**Newport**	**9.55**	**31**	Pn	**Pn**	**06 34 35.3**	**+1.1**
	0.3nm,0.3s,baz=216,slow=12,SNR=5.8						
IRM	**Iron Mountain**	**9.71**	**126**	P	**Pn**	**06 34 36.5**	**+0.1**
	baz=9.7						
MVU	**Marysvale**	**9.74**	**97**	*e*Pn	**Pn**	**06

comp=Z,45nm,9.5s
LZH LR LR
comp=N,110nm,18.0s
LZH LR LR
comp=E,110nm,17.8s
LZH LR LR
comp=Z,150nm,19.7s
KSH Kashi 98.34 344 *e*P Pdif 06 45 57.3 +2.8
KSH *e*PP PP 06 50 00.1 +6.8
KSH *e*SKS SKS 06 56 32.2
KSH *e*S **S** **06 57 21.1 -0.9**
KSH *e*sS sS 06 57 31.5 +0.2
KSH *e*SS **SS** **07 04 09.2 +5.5**
KSH pmax pmax
comp=Z,1.0nm,0.8s
KSH pmax pmax
comp=Z,47nm,6.4s

IDC ***10*** *06:35:50.4±1.9,31˚.92N×115˚.47W,h0km,mb3.5/1, mb1 3.8/6,mb1mx3.5/28,mbtmp3.5/6,ML3.6/5,MS3.6/1, Ms1 3.6/1,ms1mx2.8/32,Error ellipse: s-maj=30.4km s-min=9.8km az=42.0*
ISCJB ***10*** *06:35:52.8±0.3,32˚.41N±0˚.02×115˚.17W±0˚.02,h22km±2km, mb3.4/1,MS4.0/2,Error ellipse: s-maj=3.4km s-min=2.9km az=174.0*
ECX ***10*** *06:35:54.2±0.7,32˚.41N×115˚.16W,h9km,MD4.1,ML4.2, Fault plane solution: NP1:φs26.60000°,δ75.50000°, λ-26.60000°.*
NEIC ***10*** *06:35:54.2,32˚.41N×115˚.16W,h9km,mb4.0/1, ML4.1(PAS),ML4.2(ECX),After ECX.*
NEIC Felt [II] at Mexicali. Also felt at Delta. Felt [III] at Imperial and [II] at Calexico and El Centro, California. Also felt at Holtville, La Quinta and San Diego. Felt [II] at Yuma, Arizona. Also felt at Somerton.
MEX ***10*** *06:35:55.1±0.6,32˚.44N×115˚.16W,h11km±24km,MD4.1*
ISC 10 06:35:53.3±0.7,32˚.41N±0˚.02×115˚.19W±0˚.02,h18km±3km, n97,σ1§38/94,15C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.00**	**269**	*e*P	**Pg**	**06 35 56.3**	**0.0**
MBIG				*i*S	**Sg**	**06 35 58.4**	**0.0**
CPBX	**Cerro Prieto**	**0.09**	**276**⇑	*e*P	**Pb**	**06 35 57.2**	**+0.3**
CPBX				*e*S	**Sg**	**06 35 59.0**	**-0.3**
SLX	**San Luis R˜›o**	**0.42**	**83**⇑	*e*P	**Pg**	**06 36 00.8**	**-1.0**
SLX				*e*S	**Sg**	**06 36 07.0**	**-0.5**
EMX	**El Mayor**	**0.42**	**186**⇓	*e*P	**Pb**	**06 36 02.0**	**-0.2**
EMX				*e*S	**Sb**	**06 36 08.3**	**+0.1**
SGL	**Mount Signal**	**0.51**	**298**⇑	*e*P	**Pg**	**06 36 03.6**	**+0.1**
YMD	**Yuma Desert**	**0.57**	**75**⇑	*e*P	**Pg**	**06 36 04.0**	**-0.6**
RUN	**Ruthven**	**0.59**	**18**⇑	*e*P	**Pg**	**06 36 04.3**	**-0.7**
COK	**Cook Ranch**	**0.63**	**315**⇑	*e*P	**Pg**	**06 36 05.5**	**-0.3**
YUH	**Yuha Desert**	**0.66**	**291**⇑	*e*P	**Pg**	**06 36 06.0**	**-0.3**
GLA	**Glamis**	**0.71**	**26**	*e*Pg	**Pg**	**06 36 06.3**	**-1.0**
GLA				*e*Sg	**Sg**	**06 36 15.4**	**-1.4**
GLA	**Glamis** baz=0.7	**0.71**	**26**	P	**Pg**	**06 36 06.0**	**-1.3**
GLA	baz=0.7			S	**Sg**	**06 36 15.1**	**-1.8**
SWSC	**Sam W. Stewart** baz=0.8	**0.73**	**317**	P	**Pg**	**06 36 06.5**	**-1.2**
SWSC	baz=0.8			S	**Sg**	**06 36 17.7**	**+0.2**
RMX	**La Rumorosa**	**0.77**	**285**⇑	*e*P	**Pg**	**06 36 08.0**	**-0.4**
RDX	**Rancho Dawling**	**0.79**	**233**⇑	*e*P	**Pg**	**06 36 09.0**	**+0.2**
RDX				*e*S	**Sb**	**06 36 19.9**	**+0.7**
DVTC	**Desert V Tower** baz=0.8	**0.81**	**288**	P	**Pg**	**06 36 08.5**	**-0.6**
ECBX	**El Chinero**	**0.94**	**173**⇓	*e*P	**Pb**	**06 36 09.7**	**-1.3**
ECBX				*e*S	**Sb**	**06 36 22.4**	**-0.8**
ECBX	comp=N,8µm,0.7s			⇑*e*		06 36 32.8	
MONP	**Monument Peak** baz=1.2	**1.14**	**295**	P	**Pn**	**06 36 13.3**	**-1.2**
CBX	**Cerro Bola**	**1.25**	**266**⇑	*e*P	**Pn**	**06 36 15.9**	**-0.1**
113A	**Mohawk Valley,** baz=1.2	**1.26**	**73**	P	**Pn**	**06 36 14.5**	**-1.5**
113A	baz=1.2			S	**Sb**	**06 36 30.7**	**-1.6**
BC3	**Big Chuckawall** baz=1.3	**1.26**	**350**	P	**Pn**	**06 36 14.5**	**-1.7**
BAR	**Barrett**	**1.28**	**283**	*e*Pg	**Pn**	**06 36 15.7**	**-0.6**
ZAX	**El Zacaton**	**1.28**	**226**⇑	*e*P	**Pn**	**06 36 16.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.38**	**190**	*e*P	**Pn**	**06 36 17.7**	**-0.2**
SPIG				*e*S	**Sn**	**06 36 33.8**	**-2.0**
SPIG	**San Pedro Mart**	**1.38**	**190**	*e*P	**Pn**	**06 36 17.7**	**-0.2**
SPIG				*e*S	**Sn**	**06 36 33.8**	**-2.0**
SPX	**San Pedro Mart**	**1.38**	**190**⇓	*e*P	**Pn**	**06 36 17.8**	**-0.2**
SPX	comp=E,1µm,0.5s			⇑*e*		06 36 49.1	
ECNX	**Esteban Cantu**	**1.41**	**238**⇑	*e*P	**Pn**	**06 36 18.8**	**+0.7**
Y12C	**Blythe** baz=1.4	**1.45**	**23**	P	**Pn**	**06 36 19.2**	**+0.6**
PBX	**Punta Banda**	**1.46**	**243**⇑	*e*P	**Pn**	**06 36 19.5**	**+0.7**
PFO	**Pinyon Flat Ob**	**1.60**	**319**	*e*Pn	**Pn**	**06 36 19.1**	**-1.7**
PFO				Lg	Lg	06 36 49.1	
PFO	**Pinyon Flat Ob** comp=E,16nm,0.3s,baz=139,slow=11,SNR=105	**1.60**	**319**	Pg	**Pb**	**06 36 23.6**	**+1.2**
PFO	comp=E,74nm,0.3s,baz=134,slow=13,SNR=113			Lg	Lg	06 36 49.1	
PFO	**Pinyon Flat Ob** baz=1.6	**1.60**	**319**	P	**Pn**	**06 36 19.1**	**-1.7**
109C	**Camp Elliot, M** baz=1.7	**1.68**	**287**	P	**Pn**	**06 36 21.3**	**-0.5**
109C	baz=1.7			Sb	**Sb**	**06 36 45.9**	**+1.3**
BELC	**Belle Mtn. Jos** baz=1.7	**1.73**	**337**	P	**Pn**	**06 36 21.0**	**-1.6**
IRM	**Iron Mountain** baz=1.8	**1.75**	**1**	P	**Pn**	**06 36 21.4**	**-1.4**
MURC	**Murrieta** baz=2.1	**2.06**	**306**	P	**Pn**	**06 36 25.9**	**-1.2**
214A	**Organ Pipe Nat**	**2.07**	**102**	*e*Pn	**Pn**	**06 36 24.9**	**-2.2**
214A				*e*Sn	**Sb**	**06 36 57.9**	**+2.2**
214A	**Organ Pipe Nat** baz=2.0	**2.07**	**102**	P	**Pn**	**06 36 25.4**	**-1.8**
GMRC	**Granite Mounta** baz=2.4	**2.40**	**351**	P	**Pn**	**06 36 30.6**	**-1.2**
LDFC	**Landfair**	**2.67**	**1**	*e*Pn	Pn	06 36 31.0	-4.5
BFSC	**Mount Baldy Ra** baz=2.8	**2.76**	**312**	Pb	**Pb**	**06 36 41.0**	**-1.1**
CIS	**Catalina Islan** baz=2.9	**2.88**	**291**	P	**Pn**	**06 36 37.8**	**-0.5**
CIS	baz=2.9			Sb	**Sb**	**06 37 21.8**	**+2.8**
MWC	**Mount Wilson**	**3.00**	**308**	*e*Pn	**Pn**	**06 36 39.6**	**-0.6**
PASC	**Pasadena Art C**	**3.06**	**306**	*e*Pn	**Pn**	**06 36 39.4**	**-1.4**
TUQ	**Turquoise Moun** baz=3.1	**3.08**	**349**	Pb	**Pb**	**06 36 45.5**	**-2.2**
GSC	**Goldstone**	**3.18**	**336**	*e*Pn	**Pn**	**06 36 41.7**	**-0.8**
OSI	**Osito Adit**	**3.68**	**308**	*e*Pn	**Pn**	**06 36 47.5**	**-1.9**
X16A	**Lo Mia Camp, P** baz=3.7	**3.72**	**56**	P	**Pn**	**06 36 50.5**	**+0.5**
X16A	baz=3.7			Sb	**Sb**	**06 37 44.3**	**+0.8**
TUC	**Tucson**	**3.73**	**90**	*e*Pn	Pn	06 36 47.4	-2.7
SHPR	**Sheep Range**	**4.09**	**0**	*e*Pn	Pn	06 36 51.3	-3.8
WUAZ	**Wupatki**	**4.44**	**45**	*e*Pn	**Pn**	**06 37 02.0**	**+2.1**
WUAZ	**Wupatki** baz=4.4	**4.44**	**45**	P	**Pn**	**06 37 01.0**	**+1.1**
TPNV	**Topopah Spring**	**4.61**	**349**	*e*Pn	**Pn**	**06 37 04.0**	**+1.7**
U15A	**North Rim** baz=4.7	**4.67**	**30**	P	**Pn**	**06 37 04.4**	**+1.2**
X18A	**Snowflake** baz=4.8	**4.87**	**63**	P	**Pn**	**06 37 06.4**	**+0.6**
HSIG		**4.98**	**132**	*e*P	**Pn**	**06 37 08.0**	**+0.8**
HSIG				*e*S	**Sn**	**06 38 03.7**	**-0.5**
HSIG		**4.98**	**132**	*e*P	**Pn**	**06 37 08.0**	**+0.8**
HSIG				*e*S	**Sn**	**06 38 03.7**	**-0.5**
W18A	**Petrified Fore**	**5.29**	**58**	*e*Pn	**Pn**	**06 37 13.3**	**+1.8**
W18A	**Petrified Fore** baz=5.3	**5.29**	**58**	P	**Pn**	**06 37 13.1**	**+1.5**
CCUT	**Cedar City**	**5.35**	**16**	*e*Pn	Pn	06 37 09.7	-2.8
ARUT	**Antelope Range** comp=E,1µm,0.6s	**5.56**	**15**	*e*Pn	**Pn**	**06 37 16.4**	**+1.1**
ARUT				*e*Sg	**Sg**	**06 38 52.2**	**+0.6**
R11A	**Troy Canyon, C** comp=E,50nm,0.6s	**5.94**	**357**	*e*Pn	Pn	06 37 17.6	-2.8
121A	**Cookes Peak, D** comp=E,46nm,0.6s	**6.26**	**87**	*e*Pn	**Pn**	**06 37 24.7**	**-0.3**
121A				*e*Sn	**Sn**	**06 38 38.8**	**+2.6**
121A	**Cookes Peak, D** baz=6.2	**6.26**	**87**	P	**Pn**	**06 37 24.9**	**-0.1**
NVAR	**Mina Array Bea**	**6.52**	**338**	Pn	Pn	06 37 34.1	+5.5
NVAR	**Mina Array Bea** comp=E,0.1nm,0.3s,baz=159,slow=15,SNR=3.4	**6.52**	**338**	Pn	Pn	06 37 34.1	+5.5
MVU	**Marysvale**	**6.55**	**21**	*e*Pn	Pn	06 37 34.4	+5.4
Z22A	**Elephant Butte** baz=6.9	**6.98**	**81**	P	**Pn**	**06 37 34.8**	**0.0**
LAZ	**Ladron** comp=E,7.1nm,0.6s	**7.02**	**71**	*e*Pn	Pn	06 37 39.8	+4.4
LENM	**Lemitar**	**7.10**	**73**	*e*Pn	Pn	06 37 40.1	+3.6
MVCO	**Mesa Verde**	**7.30**	**47**	*e*Pn	Pn	06 37 42.3	+3.1
BNM	**Barren Site** comp=E,6.5nm,0.4s	**7.38**	**74**	*e*Pn	**Pn**	**06 37 40.9**	**+0.5**
LPM	**Los Pinos Moun**	**7.41**	**73**	*e*Pn	**Pn**	**06 37 43.4**	**+2.7**
ANMO	**Albuquerque**	**7.71**	**68**	*e*Pn	Pn	06 37 49.7	+4.9
ANMO				Lg	Lg	06 40 00.7	
ANMO	**Albuquerque** comp=E,0.5nm,0.3s,baz=256,slow=11,SNR=16	**7.71**	**68**	Pn	Pn	06 37 50.5	+5.7
ANMO	comp=E,0.3nm,0.3s,baz=162,slow=21,SNR=4.4			Lg	Lg	06 40 00.7	
Y23A	**Lovelace Mesa,** baz=7.8	**7.81**	**76**	P	**Pn**	**06 37 46.6**	**+0.4**
PV04	**Paradox Valley**	**7.87**	**39**	*e*Pn	Pn	06 37 52.3	+5.2
MNTX	**Cornudas Mount** comp=E,6.8nm,0.8s	**8.36**	**92**	*e*Pn	**Pn**	**06 37 51.8**	**-1.8**
JLU	**Jordanelle**	**8.71**	**19**	*e*Pn	Pn	06 38 07.7	+9.0
SMCO	**Snowmass**	**9.49**	**42**	*e*Pn	Pn	06 38 13.2	+3.7
SDCO	**Great Sand Dun** comp=E,5.7nm,0.8s	**9.56**	**53**	*e*Pn	**Pn**	**06 38 08.2**	**-2.1**
TXAR	**Lajitas Array**	**10.37**	**104**	Pn	**Pn**	**06 38 23.0**	**+1.8**
TXAR				Lg	Lg	06 41 19.8	
TXAR	**Lajitas Array** comp=E,0.4nm,0.3s,baz=287,slow=14,SNR=22	**10.37**	**104**	Pn	**Pn**	**06 38 23.0**	**+1.8**
TXAR	comp=E,0.2nm,0.3s,baz=287,slow=31,SNR=6.2			Lg	Lg	06 41 19.8	
MSTX	**Muleshoe**	**10.53**	**78**	*e*Pn	Pn	06 38 30.0	+6.6
ISCO	**Idaho Springs**	**10.69**	**44**	*e*Pn	Pn	06 38 33.8	+7.9
PDAR	**Pinedale Array**	**11.26**	**22**	Pn	Pn	06 38 45.5	+12
PDAR				Pg		06 39 29.5	
PDAR				Lg	Lg	06 42 01.5	
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=189,slow=11,SNR=4.0	**11.26**	**22**	Pn	Pn	06 38 45.5	+12
PDAR	comp=E,0.1nm,0.3s,baz=185,slow=15,SNR=4.9			Pg		06 39 29.5	
PDAR	comp=E,0.1nm,0.3s,baz=188,slow=25,SNR=4.8			Lg	Lg	06 42 01.5	
AMTX	**Amarillo**	**11.53**	**74**	*e*Pn	**Pn**	**06 38 39.2**	**+2.1**
H04A	**Detroit Lake**	**13.41**	**338**	*e*Pn	**P**	**06 39 09.8**	**-2.4**
NEW	**Newport**	**15.91**	**355**	Pn	**P**	**06 39 42.9**	**+3.1**
NEW	**Newport** comp=E,0.1nm,0.3s,baz=148,slow=5,SNR=2.3	**15.91**	**355**	Pn	**P**	**06 39 42.9**	**+3.1**
KSU1	**Kansas State U** comp=E,13nm,0.9s	**16.49**	**61**	*e*P	P	06 39 53.4	+7.2
DLBC	**Dease Lake** comp=E,103nm,18.6s,baz=334,slow=38	**27.91**	**343**	LR	LR	06 54 00.1	
ILAR	**Eielson Array**	**37.78**	**338**	P	P	06 43 11.8	+3.7
ILAR	**Eielson Array** comp=E,0.6nm,0.8s,baz=150,slow=7.6,SNR=9.9	**37.78**	**338**	P	P	06 43 11.8	+3.7
HHC	**Hu-ho-hao-te**	**95.28**	**326**	*e*P	P	06 49 11.7	-4.7
HHC				pP	pP	06 49 23.8	+1.5
HHC				PP	**PP**	**06 53 04.1**	**-1.6**
HHC	**Hu-ho-hao-te**	**95.28**	**326**	S	S	07 00 22.0	-9.4
LZH	**Lanzhou**	**102.67**	**328**	*e*P	**Pdif**	**06 49 48.5**	**-1.2**
LZH				pP		06 49 59.2	
LZH				sP		06 50 03.1	
LZH				*e*PP	**PP**	**06 54 03.6**	**+1.4**
LZH	comp=Z,14nm,1.2s			pmax	pmax		
LZH	comp=Z,45nm,9.4s			pmax	pmax		
LZH	comp=N,130nm,18.0s			LR	LR		
LZH	comp=E,130nm,18.1s			LR	LR		
LZH	comp=Z,170nm,20.0s			LR	LR		

AZER ***10*** *06:52:16.6±0.1,35˚.71N×49˚.93E,h25km±21km,Error ellipse: s-maj=12.1km s-min=9.9km az=304.0*
IDC ***10*** *06:52:22.4±1.4,35˚.54N×48˚.97E,h0km,mb3.6/9, mb1 3.8/11,mb1mx3.6/31,mbtmp3.6/11,ML4.2/2,MS2.8/5, Ms1 2.8/5,ms1mx2.6/39,Error ellipse: s-maj=24.6km s-min=16.5km az=164.0*
THR ***10*** *06:52:23.7±1.1,35˚.70N×48˚.96E,h14km±8km,ML4.0*
TEH ***10*** *06:52:24.7,35˚.70N×48˚.97E,h4km,ML4.1*
NEIC ***10*** *06:52:24.0,35˚.70N×48˚.97E,h4km,ML4.0(THR), MN4.1(TEH),After TEH.*
CSEM ***10*** *06:52:24.1±0.1,35˚.72N×49˚.00E,h2km,ML4.1,Error ellipse: s-maj=4.7km s-min=3.3km az=11.0*
ISN ***10*** *06:52:28.9±2.1,35˚.03N×49˚.24E,h0km±7km,ML3.9*
NNC ***10*** *06:52:31.4±4.4,36˚.40N×49˚.07E,h0km,mb3.6,Error ellipse: s-maj=76.8km s-min=27.0km az=92.0*
ISC 10 06:52:23.9±1.1,35˚.68N±0˚.02×48˚.98E±0˚.02,h5km±8km, n156,σ1§41/177,mb3.6/9,MS2.8/4,21C-21D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.82**	**109**	*e*Pg	**Pg**	**06 52 39.2**	**-0.4**
IRAZ				*e*Sg	**Sg**	**06 52 51.2**	**+0.9**
IRAZ	comp=Z,39µm,0.2s			*e*		06 53 01.6	
IRAZ	**Razeghan**	**0.82**	**109**	Pg	**Pg**	**06 52 39.1**	**-0.4**
IRAZ				Sg	**Sg**	**06 52 51.1**	**+0.9**
IRAZ	**Razeghan**	**0.82**	**109**⇓	*e*Pg	**Pg**	**06 52 39.2**	**-0.4**
IRAZ				Sg	**Sg**	**06 52 51.1**	**+0.9**
ZNJK	**Zanjan**	**1.02**	**346**	*e*Pg	**Pg**	**06 52 42.0**	**-1.5**
ZNJK				*e*Sg	**Sg**	**06 52 56.0**	**-0.8**
ZNJK	**Zanjan**	**1.02**	**346**	*e*Pg	**Pg**	**06 52 42.5**	**-1.0**
ZNJK				*e*Sg	**Sg**	**06 52 56.4**	**-0.4**
ZNJK	**Zanjan**	**1.02**	**346**	*e*Pg	**Pg**	**06 52 42.5**	**-1.0**
ZNJK				*e*Sg	**Sg**	**06 52 56.4**	**-0.4**
IGZV	**Ghazvin**	**1.23**	**54**⇑	*e*Pg	**Pg**	**06 52 46.5**	**-1.0**
IGZV				*e*Sg	**Sg**	**06 53 03.0**	**-0.4**
IGZV	comp=Z,84µm,0.2s			*e*		06 53 05.9	
IGZV	**Ghazvin**	**1.23**	**54**	Pg	**Pg**	**06 52 46.4**	**-1.0**
IGZV				*e*		06 53 02.9	
IGZV	**Ghazvin**	**1.23**	**54**⇑	*e*Pg	**Pg**	**06 52 46.5**	**-1.0**
IGZV				*e*Sg	**Sg**	**06 53 03.0**	**-0.4**
IMHD	**Mahdasht**	**1.37**	**89**⇓	*e*Pg	**Pn**	**06 52 49.1**	**-0.7**
IMHD				*e*Sg	**Sg**	**06 53 08.0**	**-0.1**
IMHD				*e*		06 53 13.3	
IMHD	**Mahdasht** comp=Z,24µm,0.1s	**1.37**	**89**	Pg	**Pn**	**06 52 49.1**	**-0.7**
IMHD				Sg	**Sg**	**06 53 07.9**	**-0.1**
IMHD	**Mahdasht**	**1.37**	**89**⇑	*e*Pg	**Pn**	**06 52 49.2**	**-0.7**
IMHD				Sg	**Sg**	**06 53 07.9**	**-0.1**
SNGE	**Sanandaj**	**1.46**	**247**	*e*Pg	**Pn**	**06 52 50.0**	**-1.1**
SNGE	**Sanandaj** comp=Z,5µm,0.5s	**1.46**	**247**	*e*Pg	**Pn**	**06 52 50.0**	**-1.1**
SNGE	**Sanandaj**	**1.46**	**247**	*e*Pg	**Pn**	**06 52 50.0**	**-1.1**
SNGE	comp=N,5µm,0.5s			AML	AML	06 53 11.3	
IBZA	**Bozab**	**1.52**	**218**	*e*Pg	**Pn**	**06 52 51.4**	**-0.6**
IBZA				*e*Sg	**Sn**	**06 53 12.4**	**+0.1**
IBZA	comp=Z,58µm,0.2s			*e*		06 53 15.2	
IBZA	**Bozab**	**1.52**	**218**	Pg	**Pn**	**06 52 51.3**	**-0.6**
IBZA				Sg	**Sn**	**06 53 12.3**	**+0.1**
IBZA	**Bozab**	**1.52**	**218**	Pg	**Pn**	**06 52 51.3**	**-0.6**
IBZA				Sg	**Sn**	**06 53 12.3**	**+0.1**
IR3	**Iran Long-Peri**	**1.68**	**96**⇑	*e*Pn	**Pn**	**06 52 54.3**	**+0.3**
IR3				*e*Sg	**Sb**	**06 53 16.9**	**+0.1**
IR3	**Iran Long-Peri**	**1.68**	**96**⇑	*e*Pn	**Pn**	**06 52 54.3**	**+0.3**
IR3				*e*Sg	**Sb**	**06 53 16.8**	**+0.1**
CHTH	**Charan**	**1.76**	**82**	*e*Pn	**Pn**	**06 52 55.0**	**-0.3**
CHTH	**Charan**	**1.76**	**82**	*e*Pn	**Pn**	**06 52 55.0**	**-0.3**
CHTH	**Charan**	**1.76**	**82**	*e*Pg	**Pn**	**06 52 55.6**	**+0.3**
CHTH	**Charan**	**1.76**	**82**	*e*Pg	**Pn**	**06 52 55.6**	**+0.3**
ILIN	**Lien**	**1.82**	**246**	*e*Pn	**Pn**	**06 52 56.7**	**+0.6**
ILIN				*e*Sg	**Sn**	**06 53 20.6**	**+1.0**
ILIN	comp=Z,23µm,0.3s			*e*		06 53 27.2	
ILIN	**Lien**	**1.82**	**246**	*e*Pn	**Pn**	**06 52 56.7**	**+0.6**
IKOM	**Komasi**	**1.93**	**219**	*e*Pn	**Pn**	**06 52 58.5**	**+1.0**
IKOM				*e*		06 53 30.6	
IKOM	**Komasi** comp=Z,17µm,0.4s	**1.93**	**219**	*e*Pn	**Pn**	**06 52 58.5**	**+1.0**
IVIS	**Veis**	**2.09**	**237**⇑	*e*Pn	**Pb**	**06 53 01.6**	**-0.8**
IVIS	comp=Z,13µm,0.3s			*e*		06 53 36.7	
IVIS	**Veis**	**2.09**	**237**	Pn	**Pb**	**06 53 01.6**	**-0.8**
IVIS	**Veis**	**2.09**	**237**⇑	*e*Pn	**Pb**	**06 53 01.6**	**-0.8**
GHVR	**GHOM**	**2.24**	**122**	*e*Sg	**Sb**	**06 53 33.0**	**0.0**
GHVR	**GHOM**	**2.24**	**122**	*e*Pg	**Pb**	**06 53 04.2**	**-0.7**
GHVR				*e*Sg	**Sb**	**06 53 33.0**	**0.0**
GHVR	**GHOM**	**2.24**	**122**	*e*Pg	**Pb**	**06 53 04.2**	**-0.7**
GHVR				*e*Sg	**Sb**	**06 53 34.0**	**+1.0**
GHVR	comp=N,505nm,0.8s			AML	AML	06 53 45.2	
IVRN	**Varamin** comp=Z,5µm,0.2s	**2.34**	**106**	*e*	Pg	06 53 18.8	+10
IVRN				*e*Sg	**Sg**	**06 53 38.7**	**-0.5**
ISRB	**Sarab**	**2.39**	**334**	*e*Pn	**Pn**	**06 53 04.4**	**+0.4**
ISRB	comp=Z,12µm,0.2s			*e*		06 53 43.1	
ISRB	**Sarab**	**2.39**	**334**	*e*Pn	**Pn**	**06 53 04.4**	**+0.4**
IGHG	**Ghaleghazi** comp=Z,21µm,0.3s	**2.39**	**237**	*e*	Sg	06 53 50.2	+9.4
IGHG				*e*Pn	**Pb**	**06 53 06.7**	**-1.0**
DAMV	**Damavand**	**2.43**	**90**	*e*Pn	**Pn**	**06 53 05.0**	**+0.4**
DAMV	**Damavand** comp=Z,839nm,0.5s	**2.43**	**90**	*e*Pn	**Pn**	**06 53 05.4**	**+0.8**
DAMV	**Damavand**	**2.43**	**90**	*e*Pn	**Pn**	**06 53 05.4**	**+0.8**
DAMV	comp=N,739nm,0.5s			AML	AML	06 53 42.4	
DAMV	comp=E,839nm,0.5s			AML	AML	06 53 43.4	
IDMV	**Damavand** comp=Z,9µm,0.3s	**2.48**	**91**	*e*	**Pg**	**06 53 12.3**	**+0.7**
IDMV				*e*Pn	**Pn**	**06 53 06.3**	**+1.0**
IDMV				*e*Sg	**Sg**	**06 53 42.8**	**-1.0**
IBST	**Bostanabad** comp=Z,6µm,0.1s	**2.63**	**321**	*e*	**Pb**	**06 53 13.0**	**+1.3**
IBST				*e*Pn	**Pn**	**06 53 07.9**	**+0.6**
IPRN	**Peran**	**2.78**	**77**	*e*Pn	**Pn**	**06 53 10.5**	**+1.3**
IPRN	comp=Z,8µm,0.3s			*e*		06 54 11.7	
QAM	**Ghamsar**	**2.78**	**133**	*e*Pn	**Pb**	**06 53 12.9**	**-1.3**
LRK	**Lerik**	**3.01**	**350**	⇑Pg	**Pn**	**06 53 13.6**	**+1.2**
LRK				⇓Sg	**Sg**	**06 53 59.3**	**-1.2**
LKRN	**Lenkeran, Azer** SNR=15	**3.03**	**357**	⇓Pg	**Pn**	**06 53 12.2**	**-0.3**
LKRN				⇑Sg	**Sb**	**06 53 56.1**	**+0.4**
IHRS	**Heris**	**3.06**	**330**	*e*Pn	**Pn**	**06 53 13.7**	**+0.5**
IHRS	comp=Z,6µm,0.1s			*e*		06 53 20.3	
IHRS	**Heris**	**3.06**	**330**	*e*Pn	**Pn**	**06 53 13.7**	**+0.5**
IFIR	**Firoozkooh**	**3.07**	**90**	*e*Pn	**Pn**	**06 53 14.3**	**+0.9**
IFIR				*e*Sg	**Sg**	**06 54 01.0**	**-1.5**
IFIR	comp=Z,3µm,0.2s			*e*		06 54 03.8	
IFIR	**Firoozkooh**	**3.07**	**90**	*e*Pn	**Pn**	**06 53 14.3**	**+0.9**
IFIR				*e*Sg	**Sg**	**06 54 01.0**	**-1.5**
IALA	**Alasht**	**3.13**	**81**	*e*Pn	**Pn**	**06 53 15.2**	**+0.9**
IALA	comp=Z,4µm,0.3s			*e*		06 53 20.5	
IALA	**Alasht**	**3.13**	**81**	Pn	**Pn**	**06 53 15.1**	**+0.9**
IALA	**Alasht**	**3.13**	**81**	Pn	**Pn**	**06 53 15.1**	**+0.9**
IAZR	**Azarshahr**	**3.13**	**311**	*e*Pn	**Pn**	**06 53 15.3**	**+1.0**
IAZR	comp=Z,9µm,0.2s			*e*		06 53 23.1	
IAZR	**Azarshahr**	**3.13**	**311**	Pn	**Pn**	**06 53 15.2**	**+1.0**
IAZR	**Azarshahr**	**3.13**	**311**	Pn	**Pn**	**06 53 15.2**	**+1.0**
IKLH	**Kolahrood**	**3.18**	**137**	*e*Pn	**Pn**	**06 53 15.9**	**+1.0**
IKLH	comp=Z,3µm,0.3s			*e*		06 54 11.8	
IKLH	**Kolahrood**	**3.18**	**137**	*e*Pn	**Pn**	**06 53 15.9**	**+1.0**
ILAS	**Lasjerd**	**3.25**	**94**	*e*Pn	**Pn**	**06 53 16.7**	**+0.8**
ILAS	comp=Z,3µm,0.2s			*e*		06 54 12.2	
ILAS	**Lasjerd**	**3.25**	**94**	*e*Pn	**Pn**	**06 53 16.7**	**+0.8**
ISHM	**Shahmirzad**	**3.51**	**87**	*e*Pn	**Pn**	**06 53 20.1**	**+0.7**
ISHM	comp=Z,6µm,0.3s			*e*		06 53 36.8	
ISHM	**Shahmirzad**	**3.51**	**87**	*e*Pn	**Pn**	**06 53 20.1**	**+0.7**
SHGR	**Shooshtar-Gavs** comp=Z,180nm,0.7s	**3.56**	**182**	*e*Pn	**Pn**	**06 53 21.6**	**+1.7**
SHGR	**Shooshtar-Gavs** comp=N,180nm,0.7s	**3.56**	**182**	*e*Pn	**Pn**	**06 53 21.6**	**+1.7**
SHGR				AML	AML	06 54 27.1	
GLBA	**Clilabad** SNR=12	**3.59**	**353**	⇓Pg	Pn	06 53 23.6	+3.3
GLBA				⇑Sg	**Sg**	**06 54 16.5**	**-2.8**
IBDR	**Badra**	**3.59**	**225**	*e*PG	Pg	06 53 43.2	+10
IBDR				*e*SG	Sg	06 54 34.2	+15
IKRK	**Kirkuk**	**3.80**	**267**	*e*PN4	**Pb**	**06 53 31.6**	**+0.2**
IKRK				*e*Pn	Pg	06 53 32.9	-3.8
IKRK				*e*SN4	**Sb**	**06 54 18.1**	**+0.3**
IKIA	**Kiasar**	**3.85**	**81**	*e*Pn	**Pn**	**06 53 24.9**	**+0.9**
IKIA	comp=Z,1µm,0.2s			*e*		06 53 36.7	
IKIA	**Kiasar**	**3.85**	**81**	*e*Pn	**Pn**	**06 53 24.9**	**+0.9**
IZEF	**Zefreh**	**3.92**	**134**	*e*Pn	**Pn**	**06 53 26.0**	**+1.0**
IZEF	comp=Z,790nm,0.2s			*e*		06 53 39.9	
IZEF	**Zefreh**	**3.92**	**134**	*e*Pn	**Pn**	**06 53 26.0**	**+1.0**
IMRD	**Marand**	**4.01**	**320**	*e*Pn	**Pn**	**06 53 26.8**	**+0.7**
IMRD	comp=Z,4µm,0.3s			*e*		06 53 48.9	
IMRD	**Marand**	**4.01**	**320**	*e*Pn	**Pn**	**06 53 26.8**	**+0.7**
IGLO	**Ghaloghah**	**4.01**	**77**	*e*Pn	**Pn**	**06 53 27.0**	**+0.7**
IGLO	comp=Z,3µm,0.3s			*e*		06

comp=Z,0.0nm,0.3s,baz=98,slow=8.9,SNR=5.0
BRTR Keskin Array B 12.81 293 Pn Pn 06 55 29.5 +2.8
AB31 Akbulak array 15.77 27 ⇑Pn Pn 06 56 08.2 +1.5
comp=Z,1.3nm,0.7s,baz=212,slow=13,SNR=5.2
AB31 ⇓Sn Sn 06 58 53.6 -8.2
comp=Z,0.6nm,0.5s,baz=214,slow=24,SNR=5.1
AB31 Akbulak array 15.77 27 Pn Pn 06 56 08.2 +1.5
comp=Z,1.3nm,0.7s,SNR=5.2
AKTO Aktyubinsk 16.14 21 ⇑Pn Pn 06 56 09.4 -2.0
comp=Z,4.3nm,0.8s
AKTO ⇑Sn Sn 06 59 03.8 -6.9
comp=Z,6.3nm,1.1s
AKTO Aktyubinsk 16.14 21 Pn Pn 06 56 08.7 -2.7
AKTO Sn Sn 06 59 02.1 -8.6
AKTO Aktyubinsk 16.14 21 Pn Pn 06 56 08.7 -2.7
comp=Z,0.4nm,0.3s,baz=203,slow=15,SNR=5.5
AKTO Sn Sn 06 59 02.1 -8.6
comp=Z,0.1nm,0.3s,baz=15,slow=20,SNR=3.1
AKTO Aktyubinsk 16.14 21 Pn Pn 06 56 09.4 -2.0
comp=Z,4.3nm,0.8s
KK31 Karatay Array 18.19 59 ⇓P P 06 56 40.9 +3.4
comp=Z,1.8nm,0.9s,baz=272,slow=12,SNR=4.5
MLR Muntele Rosu 20.00 306 ⇓*i*P Pn 06 56 59.9 +0.8
MLR Muntele Rosu 20.00 306 P Pn 06 56 58.6 -0.5
MLR Muntele Rosu 20.00 306 P Pn 06 56 58.6 -0.5
comp=Z,1.0nm,0.7s,baz=107,slow=8.3,SNR=8.1
MLR Muntele Rosu 20.00 306 P Pn 06 56 58.6 -0.5
DOPR Dopca 20.53 307 ⇓*i*P P 06 57 04.1 +1.0
DOPR Dopca 20.53 307 ⇓*i*P P 06 57 04.1 +1.0
VOIR 20.57 306 ⇓*i*P Pn 06 57 05.3 -0.5
VOIR 20.57 306 ⇓*i*P Pn 06 57 05.3 -0.5
AKASG Malin Array Be 20.71 323 P P 06 57 03.9 -1.0
AKASG Malin Array Be 20.71 323 P P 06 57 03.9 -1.0
comp=Z,2.0nm,0.8s,baz=133,slow=9.5,SNR=10
AKASG Malin Array Be 20.71 323 P P 06 57 03.9 -1.0
ARR Arges 20.82 305 ⇓*i*P Pn 06 57 07.8 -0.9
ARR Arges 20.82 305 ⇓*i*P Pn 06 57 07.8 -0.9
AAK Ala-Archa 20.92 63 LR LR 07 07 55.5
comp=Z,24nm,19.6s,baz=142,slow=44
BURAR Bucovina Array 21.30 311 ⇑*i*P P 06 57 11.8 +0.3
BURAR Bucovina Array 21.30 311 ⇑*i*P P 06 57 11.8 +0.3
BVA0 Borovoye Array 22.99 34 ⇓P P 06 57 30.7 +1.4
comp=Z,0.2nm,0.8s,baz=231,slow=7.7,SNR=3.7
BVA0 Borovoye Array 22.99 34 P P 06 57 30.7 +1.4
comp=Z,0.2nm,0.8s,SNR=3.7
BVAR Borovoye Array 22.99 34 P P 06 57 30.8 +1.5
BVAR Borovoye Array 22.99 34 P P 06 57 30.7 +1.5
comp=Z,2.3nm,0.8s,baz=227,slow=9.7,SNR=6.7
BVAR LR LR 07 08 49.1
comp=Z,45nm,18.5s,baz=343,slow=43
BVAR Borovoye Array 22.99 34 P P 06 57 30.8 +1.5
KURBB Kurchatov Arra 26.01 46 P P 06 57 57.2 -0.4
comp=Z,0.4nm,0.8s,baz=252,slow=9.4,SNR=3.1
KURK Kurchatov 26.09 46 P P 06 57 57.2 -1.2
KURK Kurchatov 26.09 46 P P 06 57 57.2 -1.2
MK31 Makanchi Array 27.20 56 ⇑P P 06 58 12.1 +3.6
comp=Z,1.0nm,0.8s,baz=246,slow=6.0,SNR=4.4
MKAR Makanchi Array 27.20 56 P P 06 58 09.6 +1.0
MKAR Makanchi Array 27.20 56 P P 06 58 09.6 +1.0
comp=Z,0.5nm,0.8s,baz=251,slow=8.7,SNR=3.4
MKAR Makanchi Array 27.20 56 P P 06 58 09.6 +1.0
VRAC Vranov 27.26 310 LR LR 07 09 58.2
comp=Z,34nm,18.2s,baz=93,slow=39
FINES FINESS Array B 29.59 338 P P 06 58 29.7 +0.1
FINES FINESS Array B 29.59 338 P P 06 58 29.7 +0.1
comp=Z,1.4nm,0.8s,baz=138,slow=17,SNR=3.1
FINES FINESS Array B 29.59 338 P P 06 58 29.7 +0.1
DAVOX Davos/Dischmat 31.13 303 P P 06 58 43.0 -0.6
DAVOX Davos/Dischmat 31.13 303 P P 06 58 43.0 -0.6
comp=Z,1.3nm,0.6s,baz=92,slow=7.7
DAVOX Davos/Dischmat 31.13 303 P P 06 58 43.0 -0.6
NOA NORSAR Array B 34.87 329 LR LR 07 15 01.2
comp=Z,9.4nm,19.6s,baz=0.0,slow=39
ESDC Sonseca Array 41.60 292 P P 07 00 11.8 -1.1
ESDC Sonseca Array 41.60 292 P P 07 00 11.8 -1.1
comp=Z,0.9nm,0.7s,baz=72,slow=8.4,SNR=6.3
ESDC Sonseca Array 41.60 292 P P 07 00 11.8 -1.1
TORD Torodi Ar. Bea 47.99 254 P P 07 01 02.9 -1.2
TORD Torodi Ar. Bea 47.99 254 P P 07 01 02.9 -1.2
comp=Z,0.6nm,0.8s,baz=55,slow=7.3,SNR=4.2
TORD Torodi Ar. Bea 47.99 254 P P 07 01 02.9 -1.2

IDC 10 06:54:07.0±7.0, 5.°84N×95.°45E, h83^{km}±44^{km}, mb2.9/4, mb1 3.1/5, mb1mx2.9/27, mbtmpb3.3/5, ML3.2/1, Error ellipse: s-maj=226.2km s-min=21.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.60**	**131**	P	Pn	06 55 15.2	+0.9
	1.1nm,0.3s,baz=314,slow=14,SNR=2.9						
H08S2	**Diego Garcia H**	**26.53**	**240**	T	T	07 25 05.2	
	baz=60,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**26.54**	**240**	T	T	07 25 06.4	
	baz=60,slow=76,SNR=20						
H08S1	**Diego Garcia H**	**26.54**	**240**	T	T	07 25 06.4	
	baz=60,slow=76,SNR=4.4						
MKAR	**Makanchi Array**	**42.35**	**347**	P	P	07 01 53.0	+0.1
	0.3nm,0.4s,baz=166,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**46.04**	**125**	P	P	07 02 22.7	-0.1
	0.3nm,0.5s,baz=303,slow=9.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**46.83**	**345**	P	P	07 02 28.0	-0.4
	0.2nm,0.5s,baz=176,slow=6.8,SNR=5.7						
ASAR	**Alice Springs**	**47.63**	**129**	P	P	07 02 35.0	-0.1
	0.2nm,0.8s,baz=304,slow=7.9,SNR=2.8						

*ISCJB **10** 06:56:35.5±0.5, 18.°67N±0.°05×102.°46W±0.°03, h82^{km}±5^{km}, mb3.5/6, Error ellipse: s-maj=8.2km s-min=4.4km az=10.8*
*MEX **10** 06:56:37.9±1.0, 18.°67N×102.°45W, h72^{km}±14^{km}, MD4.0*
*IDC **10** 06:56:46.6±6.9, 19.°27N×102.°19W, h148^{km}±44^{km}, mb3.3/6, mb1 3.6/9, mb1mx3.4/27, mbtmpb3.8/9, Error ellipse: s-maj=72.0km s-min=25.8km az=20.0*

ISC 10 06:56:36.4±0.9, 18.°67N±0.°05×102.°46W±0.°03, h73^{km}±10^{km}, n26, σ1^{s}17/31, mb3.5/6, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URUA	**Uruapan**	**0.83**	**26**	*e*P	Pn	06 56 52.9	-0.4
URUA				*i* S	Sn	06 57 05.0	-0.8
MMIG	**Aquila**	**0.92**	**246**	*e*P	Pn	06 56 53.9	-0.3
MMIG				*e*S	Sn	06 57 07.2	-0.1
EZ5V		**1.35**	**307**	*i* P	Pn	06 57 00.2	+0.4
EZ5V				*e*S	Sn	06 57 17.9	+0.7
ZIIG	**Zihuatanejo**	**1.42**	**138**	*e*P	Pn	06 57 00.6	+0.1
ZIIG				*i* S	Sn	06 57 17.3	-1.2
R15V		**1.52**	**289**	*i* P	Pn	06 57 01.8	-0.1
R15V				*i* S	Sn	06 57 21.5	+0.4
MOIG	**Morelia**	**1.57**	**50**	*e*P	Pn	06 57 02.4	-0.2
MOIG				*i* S	Sn	06 57 21.1	-1.2
ARIG	**Puente Sto Nin**	**2.04**	**101**	*e*P	Pn	06 57 09.3	+0.5
ARIG				*i* S	Sn	06 57 31.9	-1.6
CJM	**Chamela**	**2.58**	**289**	*e*P	Pn	06 57 16.4	+0.5
CJM				*i* S	Sn	06 57 46.2	-0.1
PLIG	**Platanillo**	**2.82**	**95**	*i* P	Pn	06 57 20.4	+1.1
ANIG	**Ahuacatlan**	**3.06**	**321**	*e*P	Pn	06 57 22.0	-0.6
MZVM		**3.10**	**80**	*e*P	Pn	06 57 24.9	+1.8
UNM	**Universidad Na**	**3.18**	**78**	*e*P	Pn	06 57 26.0	+1.7
UNM				*e*S	Sn	06 57 59.5	-1.8
YAIG	**Yautepec**	**3.22**	**86**	*e*P	Pn	06 57 26.2	+1.3
YAIG				*e*S	Sn	06 57 56.3	-6.0
ZAIG	**Zacatecas**	**4.08**	**359**	*e*P	Pn	06 57 36.6	-0.1
TXAR	**Lajitas Array**	**10.67**	**354**	P	Pn	06 59 08.5	+1.9
	0.2nm,0.3s,baz=175,slow=15,SNR=18						
TEIG	**Tepich**	**13.47**	**81**	P	Pn	06 59 46.7	+2.2
	0.7nm,0.3s,baz=331,slow=10,SNR=8.3						
ANMO	**Albuquerque**	**16.60**	**348**	P	Pn	07 00 25.5	+0.8
	0.1nm,0.3s,baz=144,slow=8.7,SNR=5.4						
TKL	**Tuckaleechee C**	**23.65**	**41**	P	P	07 01 39.8	-1.5
	1.9nm,0.7s,baz=180,slow=9.1,SNR=3.8						
NVAR	**Mina Array Bea**	**24.04**	**328**	P	P	07 01 45.6	+0.6
	0.8nm,0.6s,baz=130,slow=10,SNR=8.5						
PDAR	**Pinedale Array**	**24.76**	**347**	P	P	07 01 50.0	-1.6
	0.4nm,0.4s,baz=146,slow=12,SNR=5.4						
YKA	**Yellowknife Ar**	**44.59**	**352**	P	P	07 04 38.4	-2.7
	0.4nm,0.6s,baz=161,slow=7.6,SNR=12						
YKA				PcP	PcP	07 06 22.7	-0.1
	0.1nm,0.6s,baz=159,slow=2.8,SNR=4.4						
SCHQ	**Schefferville**	**45.14**	**28**	P	P	07 04 43.0	-2.6
	5.4nm,1.0s,baz=239,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**54.71**	**338**	P	P	07 05 56.4	-1.5
	0.6nm,0.8s,baz=137,slow=4.8,SNR=8.3						
H03N2	**Juan Fernandez**	**56.48**	**156**	T	T	08 07 34.8	
	baz=332,slow=75,SNR=2.1						
H03N1	**Juan Fernandez**	**56.49**	**156**	T	T	08 07 23.7	
	baz=332,slow=75,SNR=6.6						
H03N3	**Juan Fernandez**	**56.49**	**156**	T	T	08 07 36.9	
	baz=332,slow=75,SNR=3.6						

IDC 10 07:27:36.9±7.2, 2.°02N×94.°88W, h0^{km}, mb3.4/5, mb1 3.8/5, mb1mx3.6/20, mbtmpb3.4/5, MS3.6/11, Ms1 3.6/11, ms1mx3.5/18, Error ellipse: s-maj=201.3km s-min=137.3km az=63.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**12.84**	**50**	LR	LR	07 34 08.4	
	comp=Z,159nm,20.1s,baz=179,slow=30						
ATAH	**Atahualpa**	**18.80**	**119**	LR	LR	07 36 25.3	
	comp=Z,36nm,18.1s,baz=89,slow=28						
TEIG	**Tepich**	**19.21**	**19**	LR	LR	07 38 29.1	
	comp=Z,151nm,19.0s,baz=75,slow=34						
TXAR	**Lajitas Array**	**28.42**	**344**	P	P	07 33 33.8	+0.3
	0.2nm,0.8s,baz=163,slow=9.5,SNR=3.4						
TXAR				LR	LR	07 42 53.9	
	comp=Z,97nm,21.7s,baz=180,slow=32						
LPAZ	**La Paz**	**32.08**	**126**	LR	LR	07 46 02.4	
	comp=Z,72nm,20.3s,baz=89,slow=34						
TKL	**Tuckaleechee C**	**35.02**	**16**	LR	LR	07 47 59.6	
	comp=Z,121nm,18.1s,baz=135,slow=35						
H03N2	**Juan Fernandez**	**38.35**	**158**	T	T	08 16 42.5	
	baz=334,slow=75,SNR=27						
H03N1	**Juan Fernandez**	**38.36**	**158**	T	T	08 16 43.5	
	baz=334,slow=75,SNR=36						
H03N3	**Juan Fernandez**	**38.37**	**158**	T	T	08 16 43.7	
	baz=334,slow=75,SNR=32						
NVAR	**Mina Array Bea**	**42.10**	**332**	P	P	07 35 30.8	-0.4
	0.5nm,0.7s,baz=154,slow=7.6,SNR=3.9						
NVAR				LR	LR	07 51 44.5	
	comp=Z,89nm,18.3s,baz=270,slow=34						
PDAR	**Pinedale Array**	**42.64**	**344**	P	P	07 35 35.5	0.0
	0.5nm,0.9s,baz=154,slow=9.3,SNR=3.3						
PDAR				LR	LR	07 52 24.5	
	comp=Z,137nm,19.4s,baz=354,slow=35						
CPUP	**Villa Florida**	**45.93**	**130**	LR	LR	07 55 04.2	
	comp=Z,43nm,20.4s,baz=18,slow=36						
PLCA	**Paso Flores**	**47.99**	**155**	LR	LR	07 51 58.5	
	comp=Z,124nm,20.0s,baz=313,slow=30						
SCHQ	**Schefferville**	**57.39**	**19**	LR	LR	08 00 30.0	
	comp=Z,102nm,18.3s,baz=37,slow=34						
YKA	**Yellowknife Ar**	**62.10**	**350**	P	P	07 37 58.9	-0.5
	0.5nm,1.1s,baz=152,slow=8.1,SNR=3.4						
ILAR	**Eielson Array**	**72.82**	**339**	P	P	07 39 07.5	+0.3
	0.4nm,0.8s,baz=157,slow=6.5,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**97.34**	**289**	T	T	09 28 31.8	
	baz=87,slow=73,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**97.34**	**289**	T	T	09 28 32.4	
	baz=87,slow=73,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**97.35**	**289**	T	T	09 28 33.2	
	baz=87,slow=73,SNR=4.4						

*NNC **10** 07:29:11.2±0.6, 50.°01N×78.°68E, h0^{km}, mb3.3, mpv2.9, Error ellipse: s-maj=10.3km s-min=3.1km az=81.0*
*IDC **10** 07:29:12.2±0.8, 50.°06N×78.°75E, h0^{km}, mb1 2.9/3, mb1mx2.8/29, mbtmpb2.9/3, ML3.0/3, Error ellipse: s-maj=10.1km s-min=5.6km az=56.0*

ISC 10 07:29:12.2±1.8, 50.°08N±0.°08×78.°7E±0.°1, h5^{km}±14^{km}, n17, σ0^{s}63/27, 14C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.52**	**345**	⇑P	**Pg**	**07 29 22.9**	**+0.7**
KUR07				⇓S	**Sb**	**07 29 31.6**	**0.0**
KUR06	**Kurchatov Arra**	**0.54**	**346**	⇑P	**Pg**	**07 29 23.2**	**+0.6**
KUR06				⇑S	**Sb**	**07 29 32.0**	**-0.2**
KUR14	**Kurchatov Arra**	**0.54**	**351**	⇓P	**Pg**	**07 29 23.0**	**+0.4**
KUR14				⇑S	**Sb**	**07 29 31.9**	**-0.4**
KUR15	**Kurchatov Arra**	**0.55**	**349**	⇓P	**Pg**	**07 29 23.2**	**+0.5**
KUR15				⇓S	**Sb**	**07 29 32.3**	**-0.2**
KURBB	**Kurchatov Arra**	**0.56**	**347**	⇑P	**Pg**	**07 29 23.4**	**+0.5**
	22nm,0.3s						
KURBB				⇑S	**Sb**	**07 29 32.1**	**-0.6**
	49nm,0.4s						
KURBB	**Kurchatov Arra**	**0.56**	**347**	Pg	**Pg**	**07 29 23.4**	**+0.5**
	13nm,0.3s,baz=170,slow=20,SNR=289						
KURBB				Lg	Lg	07 29 31.7	
	13nm,0.3s,baz=170,slow=35,SNR=41						
KUR16	**Kurchatov Arra**	**0.57**	**345**	⇑P	**Pg**	**07 29 23.6**	**+0.5**
KUR16				⇓S	**Sb**	**07 29 32.7**	**-0.2**
KUR05	**Kurchatov Arra**	**0.58**	**348**	⇓P	**Pb**	**07 29 23.9**	**-0.8**
KUR05				⇓S	**Sb**	**07 29 32.9**	**-0.3**
KUR17	**Kurchatov Arra**	**0.58**	**344**	⇓P	**Pb**	**07 29 23.9**	**-0.9**
KUR17				⇓S	**Sb**	**07 29 33.5**	**+0.3**
KUR04	**Kurchatov Arra**	**0.59**	**349**	⇑P	**Pg**	**07 29 24.2**	**+0.6**
KUR04				⇑S	**Sb**	**07 29 33.4**	**-0.3**
KURK	**Kurchatov**	**0.64**	**354**	⇓P	**Pg**	**07 29 24.7**	**+0.2**
	5.6nm,0.3s						
KURK				⇑S	**Sb**	**07 29 35.0**	**-0.1**
	7.2nm,0.5s						
MK31	**Makanchi Array**	**4.05**	**143**	⇑Pn	**Pn**	**07 30 15.5**	**+0.7**
	1.3nm,0.5s,baz=81,slow=3.8,SNR=43						
MK31				⇑Lg	Lg	07 31 16.8	
	6.1nm,0.6s,baz=332,slow=27,SNR=19						
MKAR	**Makanchi Array**	**4.05**	**143**	Pn	Pn	07 30 15.8	+0.9
	0.5nm,0.3s,baz=328,slow=11,SNR=54						
MKAR				Pg	**Pb**	**07 30 22.6**	**-1.5**
	0.9nm,0.3s,baz=329,slow=16,SNR=21						
MKAR				Sn	**Sn**	**07 31 03.9**	**+1.2**
	0.5nm,0.3s,baz=332,slow=24,SNR=2.9						
MKAR				Lg	Lg	07 31 16.9	
	1.1nm,0.3s,baz=332,slow=27,SNR=13						
I46RU	**ZALESOVO INFRA**	**5.40**	**42**	*i*		08 02 00.0	
	baz=223,slow=319,SNR=1.1						
ZALV	**Zalesovo Beam**	**5.40**	**42**	Pn	Pn	07 30 36.1	+2.9
	1.3nm,0.3s,baz=231,slow=14,SNR=15						
ZALV				Lg	Lg	07 32 00.7	
	0.2nm,0.3s,baz=232,slow=28,SNR=3.0						
BVA0	**Borovoye Array**	**5.98**	**303**	⇓Pn	Pn	07 30 44.2	+3.0
	0.5nm,0.5s,baz=110,slow=15,SNR=4.8						
BVA0				⇑Sn	**Sn**	**07 31 49.5**	**-0.5**
	2.2nm,0.6s,baz=115,slow=23,SNR=9.4						
BVA0				⇑Lg	Lg	07 32 16.8	
	1.6nm,0.6s						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**07 30 41.1**	**-0.1**
	0.2nm,0.3s,baz=110,slow=14,SNR=4.8						
BVAR				Sn	**Sn**	**07 31 50.3**	**+0.3**
	0.7nm,0.3s,baz=116,slow=19,SNR=7.4						
BVAR				Lg	Lg	07 32 22.0	
	0.5nm,0.3s,baz=116,slow=26,SNR=4.2						

*IDC **10** 07:41:16.8±2.0, 54.°30N×85.°93E, h0^{km}, ML3.4/3, Error ellipse: s-maj=16.6km s-min=2.7km az=62.0*

ISC 10 07:41:17.7±3.3, 54.°3N±0.°2×86.°0E±0.°2, h10^{km}, n8, σ1^{s}85/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**243**	*i*		07 45 50.0	
	baz=61,slow=354,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.76**	**243**	Pg	**Pg**	**07 41 29.4**	**-2.8**
	1.8nm,0.3s,baz=61,slow=20,SNR=30						
ZALV				Lg	Lg	07 41 41.8	
	7.8nm,0.3s,baz=65,slow=31,SNR=38						
KURBB	**Kurchatov Arra**	**5.84**	**234**	Pn	**Pn**	**07 42 45.3**	**+1.0**
	0.7nm,0.3s,baz=50,slow=13,SNR=21						
KURBB				Lg	Lg	07 44 23.0	
	0.1nm,0.3s,baz=53,slow=33,SNR=4.5						
KUR17	**Kurchatov Arra**	**5.87**	**234**	⇑Pn	**Pn**	**07 42 45.2**	**+0.6**
	0.3nm,0.2s,baz=53,slow=13						
KUR17				⇑Sn	**Sn**	**07 43 54.9**	**+3.1**
	0.3nm,0.6s,baz=203,slow=24						
KUR17				⇓Lg	Lg	07 44 22.7	
	0.3nm,0.6s,baz=140,slow=28						
MK31	**Makanchi Array**	**7.86**	**199**	⇑Pn	**Pn**	**07 43 12.6**	**+0.5**
	0.1nm,0.2s,baz=23,slow=14,SNR=35						
MK31				⇓Sn	**Sn**	**07 44 41.6**	**+0.5**
	0.2nm,0.5s,baz=20,slow=27						
MK31				⇓Lg	Lg	07 45 19.1	
	0.2nm,0.4s,baz=159,slow=3.7,SNR=3.6						
MKAR	**Makanchi Array**	**7.86**	**199**	Pn	**Pn**	**07 43 12.4**	**+0.4**
	0.6nm,0.3s,baz=26,slow=14,SNR=29						
MKAR				Sn	**Sn**	**07 44 41.4**	**+0.3**
	0.1nm,0.3s,baz=27,slow=26,SNR=3.6						
MKAR				Lg	Lg	07 45 27.0	
	0.0nm,0.3s,baz=17,slow=24,SNR=2.9						
BVA0	**Borovoye Array**	**9.34**	**269**	⇑Pn	Px	07 44 04.3	
	0.7nm,0.4s,baz=186,slow=16,SNR=5.4						
BVA0				⇓Lg	Lg	07 45 02.2	
	2.9nm,0.7s,baz=188,slow=28,SNR=4.3						
BVAR	**Borovoye Array**	**9.34**	**269**	Pn	**Pn**	**07 43 33.1**	**+0.9**
	0.2nm,0.3s,baz=49,slow=18,SNR=3.6						

*IDC **10** 07:48:50.8±0.8, 6.°88S×105.°45E, h0^{km}, mb4.4/19, mb1 4.5/19, mb1mx4.4/26, mbtmpb4.4/19, MS3.6/3, Ms1 3.6/3, ms1mx3.1/46, Error ellipse: s-maj=30.3km s-min=14.7km az=49.0*
*BJI **10** 07:48:50.9, 7.°20S×105.°00E, h24^{km}, mB5.1/8, mb4.7/14, Ms4.6/6, Ms7 4.6/4*
*NEIC **10** 07:48:55.3±0.9, 7.°19S×105.°15E, h39^{km}±8^{km}, mb4.6/3, Error ellipse: s-maj=13.9km s-min=6.6km az=217.0*
NEIC Felt [III] at Pandeglang.
*DJA **10** 07:48:56.2±0.6, 7.°3S±2.°×10.°5E±.°, h10^{km}±4^{km}, M4.7/25, mb4.8/5, mB4.8/1, MLv4.7/25, Mw(mB)4.1/1*

ISC 10 07:48:53.5±0.5, 7.°27S±0.°04×105.°06E±0.°04, h26^{km}±3^{km}, h26^{km}:pP-P, n118, σ1^{s}56/129, mb4.4/31, MS3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.91**	**44**	P	**Pb**	**07 49 09.7**	**-0.9**
CGJI				S	**Sb**	**07 49 18.2**	**-4.1**
SKJI	**Sukabumi**	**1.51**	**80**	P	**Pn**	**07 49 19.9**	**+1.0**
SKJI				S	**Sn**	**07 49 36.2**	**-1.6**
SBJI	**Serang**	**1.56**	**43**	P	**Pn**	**07 49 19.1**	**-0.5**
KASI	**Kota Agung**	**1.82**	**342**	P	**Pb**	**07 49 27.8**	**+1.6**
KASI				S	**Sb**	**07 49 49.8**	**+1.2**
DBJI	**Dramaga**	**1.82**	**67**	P	**Pn**	**07 49 23.4**	**+0.1**
DBJI				S	**Sn**	**07 49 45.8**	**+0.2**
BLSI	**Bandar Lampung**	**1.90**	**6**	P	**Pb**	**07 49 26.7**	**-0.8**
BLSI				S	**Sn**	**07 49 48.4**	**+1.0**
TNG	**Tangerang**	**1.92**	**55**	P	**Pn**	**07 49 25.5**	**+1.0**
TNG				S	**Sn**	**07 49 48.0**	**+0.1**
CBJI	**Citeko**	**1.97**	**65**	P	**Pn**	**07 49 25.3**	**0.0**
KLJ	**Kotabumi**	**2.40**	**355**	P	**Pb**	**07 49 35.0**	**-1.0**
LWLI	**Liwa**	**2.45**	**336**	P	**Pb**	**07 49 37.3**	**+0.4**
LEM	**Lembang**	**2.58**	**80**	P	**Pn**	**07 49 35.1**	**+1.3**
LEM	**Lembang**	**2.58**	**80**	P	**Pn**	**07 49 35.2**	**+1.5**
	baz=2.6,SNR=40						
KLSI		**2.58**	**353**	P	**Pb**	**07 49 37.9**	**-1.3**
CISI	**Cisompet, Garu**	**2.75**	**96**	P	**Pn**	**07 49 37.0**	**+0.9**
CISI	**Cisompet, Garu**	**2.75**	**96**	*e*Pn	**Pn**	**07 49 35.8**	**-0.3**
CISI	**Cisompet, Garu**	**2.75**	**96**	P	**Pn**	**07 49 37.3**	**+1.3**
	baz=2.7,SNR=32						
MDSI	**Maura Dua**	**2.90**	**342**	P	**Pb**	**07 49 42.5**	**-2.1**
XMI	**Christmas Isla**	**3.22**	**169**	P	**Pn**	**07 49 42.9**	**+0.4**
	baz=3.1,SNR=26						
XMI				S	**Sn**	**07 50 20.0**	**-0.1**
	baz=3.1,SNR=9.5						
XMIS	**Christmas Isla**	**3.25**	**170**	*e*Pn	**Pn**	**07 49 43.0**	**+0.1**
XMIS	**Christmas Isla**	**3.25**	**170**	P	**Pn**	**07 49 42.9**	**+0.1**
	baz=3.2,SNR=91						
XMIS				S	**Sn**	**07 50 18.7**	**-2.0**
	baz=3.2,SNR=23						
CMJI	**Cimerak**	**3.40**	**99**	P	**Pn**	**07 49 45.6**	**+0.6**
MNAI	**Manna**	**3.56**	**324**	P	**Pb**	**07 49 52.8**	**-3.1**
MNAI	**Manna**	**3.56**	**324**	*e*Pn	Pn	07 49 51.2	+4.0
MNAI	**Manna**	**3.56**	**324**	P	**Pb**	**07 49 53.8**	**-2.2**
	baz=3.7,SNR=9.0						
LHSI	**Lahat**	**3.74**	**336**	P	**Pb**	**07 49 56.5**	**-2.5**
KPJI	**Karang Pucung**	**3.84**	**91**	P	Pn	07 49 54.3	+3.3
TGJI	**Tegal**	**4.05**	**85**	P	x	07 49 56.9	
BJII	**Banjamegara**	**4.62**	**91**	P	x	07 50 13.7	
TPI	**Tanjungpandan**	**5.17**	**30**	P	**Pn**	**07 50 10.1**	**+0.7**
	97nm,0.8s,979nm0.4nm						
UGM	**Wanagama**	**5.46**	**97**	P	**Pn**	**07 50 14.8**	**+1.5**
	153nm,1.8s,0.9nm						
UGM	**Wanagama**	**5.46**	**97**	*e*Sn	**Sn**	**07 51 14.6**	**-0.7**
UGM	**Wanagama**	**5.46**	**97**	P	**Pn**	**07 50 14.8**	**+1.5**
	baz=5.4,SNR=5.1						
WOJI	**Wonogiri, Jawa**	**5.84**	**96**	P	**Pn**	**07 50 20.5**	**+1.9**
	51nm,1.8s,0.4nm						
PWJI	**Pagerwojo**	**6.73**	**97**	P	**Pn**	**07 50 32.4**	**+1.7**
	56nm,0.8s,0.5nm						
BKNI	**Bangkinang**	**8.54**	**332**	*e*Pn	**Pn**	**07 50 54.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**9.09**	**98**	*e*Pn	**Pn**	**07 51 03.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**9.09**	**98**	P	**Pn**	**07 51 03.9**	**+0.7**
	baz=9.1,SNR=11						
JAGI				S	**Sn**	**07 52 39.8**	**-5.0**
	baz=9.1,SNR=3.3						
ABJI	**Asem Bagus**	**9.12**	**94**	P	Pn	07 51 07.0	+3.5
WSI	**Waingapu**	**15.26**	**100**	S	S	07 55 40.1	+8.1
	baz=15,SNR=4.3

HHC				ScS	**ScS**	**08 07 20.1**	**-3.8**		
HHC				pmax	pmax				
	comp=Z,30nm,0.8s								
HHC				pmax	pmax				
	comp=Z,220nm,4.9s								
HHC				LR	LR				
	comp=N,220nm,13.3s								
HHC				LR	LR				
	comp=E,230nm,12.7s								
HHC				LR	LR				
	comp=Z,97nm,14.9s								
KSAR	**Wonju Array Be**	**49.33**	**24**	P	**P**	**07 57 39.2**	**-1.4**		
KSRS	**Korea Array**	**49.36**	**24**	P	**P**	**07 57 39.2**	**-1.5**		
	1.3nm,0.5s,baz=217,slow=7.2,SNR=8.6								
WMQ	**Urumqi**	**53.23**	**344**	P	**P**	**07 58 10.4**	**+0.6**		
WMQ				pP	**pP**	**07 58 18.0**	**+0.1**		
WMQ				sP	**sP**	**07 58 21.2**	**+0.2**		
WMQ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
WMQ				LR	LR				
	comp=N,33nm,16.4s								
MJAR	**Matsushiro Arr**	**53.53**	**33**	P	P	07 58 07.7	-4.5		
MJAR	**Matsushiro Arr**	**53.53**	**33**	P	P	07 58 07.7	-4.5		
	0.9nm,0.4s,baz=256,slow=6.8,SNR=11								
KSH	**Kashi**	**53.77**	**332**	P	**P**	**07 58 13.3**	**-0.7**		
KSH				*e*PP	**PP**	**08 00 15.2**	**-0.1**		
KSH				*e*PcS	**PcS**	**08 03 17.4**	**-1.6**		
KSH				*e*S	**S**	**08 05 42.2**	**-4.9**		
KSH				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KSH				pmax	pmax				
	comp=Z,44nm,4.0s								
KSH				LR	LR				
	comp=N,89nm,8.3s								
KSH				LR	LR				
	comp=E,91nm,5.9s								
KSH				LR	LR				
	comp=Z,160nm,4.5s								
SONM	**Songino Array**	**54.88**	**1**	P	**P**	**07 58 20.8**	**-1.1**		
SONM				PcP	**PcP**	**07 59 23.7**	**-0.1**		
SONM	**Songino Array**	**54.88**	**1**	P	**P**	**07 58 20.8**	**-1.1**		
	1.0nm,0.3s,baz=182,slow=9.6,SNR=24								
SONM				PcP	**PcP**	**07 59 23.7**	**-0.1**		
	1.5nm,0.4s,baz=177,slow=4.3,SNR=14								
USRK	**Ussuriysk Arra**	**56.71**	**23**	P	**P**	**07 58 32.7**	**-2.3**		
	2.7nm,0.4s,baz=205,slow=5.2,SNR=27								
AAK	**Ala-Archa**	**56.94**	**333**	*e*P	**P**	**07 58 36.7**	**-0.1**		
AAK				*e*pwP	**pP**	**07 58 47.3**	**+2.4**		
EKS2	**Erkin-Say**	**57.28**	**333**	*e*P	**P**	**07 58 39.4**	**+0.2**		
	5.2nm,0.7s								
MK01	**Makanchi Array**	**57.48**	**342**	*e*P	**P**	**07 58 39.3**	**-1.1**		
MKAR	**Makanchi Array**	**57.51**	**342**	*e*P	**P**	**07 58 39.5**	**-1.1**		
MKAR	**Makanchi Array**	**57.51**	**342**	P	**P**	**07 58 39.8**	**-0.8**		
	1.3nm,0.3s,baz=156,slow=8.3,SNR=35								
KKAR	**Karatay Array**	**59.14**	**331**	*e*P	**P**	**07 58 51.5**	**-0.5**		
KURBB	**Kurchatov Arra**	**62.06**	**341**	P	**P**	**07 59 11.4**	**-0.4**		
	2.4nm,0.4s,baz=153,slow=6.0,SNR=29								
KURK	**Kurchatov**	**62.11**	**341**	P	**P**	**07 59 11.4**	**-0.7**		
ZAA0	**Zalesovo Array**	**63.33**	**347**	*e*P	**P**	**07 59 18.8**	**-1.4**		
ZALV	**Zalesovo Beam**	**63.33**	**347**	P	**P**	**07 59 18.8**	**-1.3**		
ZALV	**Zalesovo Beam**	**63.33**	**347**	P	**P**	**07 59 18.8**	**-1.3**		
	7.6nm,0.3s,baz=157,slow=6.2,SNR=58								
BVAR	**Borovoye Array**	**66.88**	**338**	P	**P**	**07 59 43.2**	**0.0**		
BVAR	**Borovoye Array**	**66.88**	**338**	P	**P**	**07 59 43.2**	**0.0**		
	7.8nm,0.5s,baz=144,slow=9.2,SNR=56								
BRVK	**Borovoye**	**66.94**	**338**	*e*P	**P**	**07 59 43.3**	**-0.3**		
	7.4nm,0.5s								
ABKAR	**Akbulak array**	**68.67**	**330**	*e*P	**P**	**07 59 55.0**	**+0.4**		
AKTO	**Aktyubinsk**	**70.38**	**330**	P	**P**	**08 00 05.8**	**+0.6**		
AKTO	**Aktyubinsk**	**70.38**	**330**	P	**P**	**08 00 05.8**	**+0.6**		
	1.2nm,0.3s,baz=116,slow=7.3,SNR=9.9								
PETK	**Petropavlovsk-**	**74.77**	**30**	P	**P**	**08 00 29.0**	**-2.3**		
PETK	**Petropavlovsk-**	**74.77**	**30**	P	**P**	**08 00 29.0**	**-2.3**		
	2.5nm,0.6s,baz=177,slow=4.9,SNR=8.1								
BRTR	**Keskin Array B**	**80.57**	**312**	P	**P**	**08 01 05.5**	**+1.3**		
BRTR	**Keskin Array B**	**80.57**	**312**	P	**P**	**08 01 05.5**	**+1.3**		
	2.3nm,0.8s,baz=139,slow=7.3,SNR=15								
BR231	**Keskin MP Arra**	**81.24**	**312**	*e*P	**P**	**08 01 06.5**	**-1.2**		
TSUM	**Tsumeb**	**85.27**	**251**	LR	LR	08 34 26.9			
	comp=Z,48nm,20.0s,baz=104,slow=32								
IDI	**Anoyia**	**86.20**	**306**	LR	LR	08 43 11.7			
	comp=Z,52nm,19.4s,baz=61,slow=38								
AKASG	**Malin Array Be**	**86.71**	**322**	P	**P**	**08 01 35.5**	**+0.4**		
AKASG	**Malin Array Be**	**86.71**	**322**	P	**P**	**08 01 35.5**	**+0.4**		
	0.5nm,0.4s,baz=92,slow=4.9,SNR=6.4								
MLR	**Muntele Rosu**	**87.56**	**316**	P	**P**	**08 01 41.8**	**+2.2**		
MLR	**Muntele Rosu**	**87.56**	**316**	P	**P**	**08 01 41.8**	**+2.2**		
	0.7nm,0.7s,baz=52,slow=3.5,SNR=5.2								
JOF	**Joensuu**	**89.12**	**334**	*e*p	**P**	**08 01 47.0**	**+0.6**		
	1.0nm,0.3s								
FINES	**FINESS Array B**	**91.09**	**332**	P	**P**	**08 01 56.5**	**+0.9**		
FINES	**FINESS Array B**	**91.09**	**332**	P	**P**	**08 01 56.5**	**+0.9**		
	1.4nm,0.5s,baz=107,slow=5.7,SNR=15								
ARCES	**ARCESS Array B**	**93.12**	**340**	P	**P**	**08 02 04.9**	**0.0**		
ARCES	**ARCESS Array B**	**93.12**	**340**	P	**P**	**08 02 04.9**	**0.0**		
	5.5nm,0.9s,baz=93,slow=6.3,SNR=8.9								
YKA	**Yellowknife Ar**	**117.77**	**20**	PKP	**PKPdf**	**08 07 36.7**	**-0.5**		
YKA	**Yellowknife Ar**	**117.77**	**20**	PKP	**PKPdf**	**08 07 36.7**	**-0.5**		
	0.1nm,0.5s,baz=314,slow=2.9,SNR=8.0								
NVAR	**Mina Array Bea**	**130.11**	**45**	PKP	**PKPdf**	**08 08 02.6**	**+0.7**		
NVAR	**Mina Array Bea**	**130.11**	**45**	PKP	**PKPdf**	**08 08 02.6**	**+0.7**		
	0.2nm,0.6s,baz=317,slow=3.7,SNR=3.2								
PDAR	**Pinedale Array**	**133.34**	**35**	PKP	**PKPdf**	**08 08 08.5**	**+0.6**		
PDAR	**Pinedale Array**	**133.34**	**35**	PKP	**PKPdf**	**08 08 08.5**	**+0.6**		
	0.3nm,0.7s,baz=343,slow=0.9,SNR=3.4								
TXAR	**Lajitas Array**	**145.18**	**47**	PKP	**PKPab**	**08 08 29.4**	**+0.1**		
TXAR	**Lajitas Array**	**145.18**	**47**	PKP	**PKPab**	**08 08 29.4**	**+0.1**		
	1.8nm,0.5s,baz=309,slow=1.7,SNR=38								

*ISCJB **10** 07:51:22.5±0.6, 51.48N±0.03×16.15E±0.03, h0km, Error ellipse: s-maj=4.1km s-min=2.6km az=14.0*
*IPEC **10** 07:51:24.5±0.3, 51.50N×16.25E, h0km, ML2.2/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*
*CSEM **10** 07:51:24.9±0.4, 51.45N×16.09E, h2km, ML2.2, Error ellipse: s-maj=6.6km s-min=3.6km az=8.0*
*IDC **10** 07:51:25.9±0.8, 51.43N×16.13E, h0km, mb1 3.2/5, mb1mx3.1/26, mbtmp3.1/5, ML2.6/5, Error ellipse: s-maj=12.1km s-min=7.0km az=117.0*
*PRU **10** 07:51:26.0, 51.43N×16.11E, h0km*
ISC 10 07:51:23.6±0.8, 51.54N±0.04×16.10E±0.02, h0km, n39, σ1§10/71, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg			**Pg**	**07 51 37.6**	**+0.5**
KSP				*e*Sg			**Sg**	**07 51 46.2**	**-0.1**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg			**Pg**	**07 51 37.6**	**+0.5**
KSP				*i* Sg			**Sg**	**07 51 46.2**	**-0.1**
UPC	**Upice**	**1.04**	**183**	*e*PG			**Pg**	**07 51 43.5**	**+0.1**
UPC				*e*SG			**Sg**	**07 51 56.0**	**-0.8**
	comp=Z,66nm,0.3s								
UPC	**Upice**	**1.04**	**183**	Pg			**Pg**	**07 51 43.5**	**+0.1**
UPC				Sg			**Sg**	**07 51 56.0**	**-0.8**
	66nm,0.3s								
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG			**Pg**	**07 51 46.5**	**0.0**
DPC				*e*SG			**Sg**	**07 52 01.0**	**-1.1**
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg			**Pg**	**07 51 46.5**	**0.0**
DPC				Sg			**Sg**	**07 52 01.0**	**-1.1**
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG			**Pb**	**07 51 50.9**	**+0.3**
PVCC				*e*SG			**Sb**	**07 52 09.3**	**+0.3**
	comp=Z,170nm,0.2s								
PVCC	**Panska Ves**	**1.40**	**224**	Pg			**Pb**	**07 51 50.9**	**+0.3**
PVCC				Sg			**Sb**	**07 52 09.3**	**+0.3**
	170nm,0.2s								
BRG	**Berggiesshubel**	**1.52**	**245**	PN			**Pb**	**07 51 52.8**	**+0.3**
BRG				PG			**Pg**	**07 51 53.9**	**+1.3**
BRG				SG			**Sn**	**07 52 13.5**	**+1.2**
	71nm,0.3s								
KRLC	**Kraliky**	**1.53**	**163**	*e*PG			**Pn**	**07 51 51.9**	**-0.3**
KRLC				*e*SG			**Sg**	**07 52 11.3**	**-1.3**
KRLC	**Kraliky**	**1.53**	**163**	Pg			**Pn**	**07 51 51.9**	**-0.3**
KRLC				Sg			**Sg**	**07 52 11.3**	**-1.3**
PRA	**Prague**	**1.81**	**216**	PN			**Pn**	**07 51 56.0**	**0.0**
PRA				PG			**Pg**	**07 51 57.0**	**-0.6**
PRA				SG			**Sb**	**07 52 21.0**	**+0.1**
PRU	**Pruhonice**	**1.84**	**213**	*e*PN			**Pn**	**07 51 56.4**	**0.0**
PRU				*e*PG			**Pb**	**07 51 58.2**	**+0.1**
PRU				*e*SG			**Sb**	**07 52 22.2**	**+0.5**
	comp=Z,28nm,0.2s								
PRU	**Pruhonice**	**1.84**	**213**	Pn			**Pn**	**07 51 56.4**	**0.0**
CLL	**Collm**	**1.96**	**264**	*e*Pg			**Pg**	**07 52 01.0**	**0.0**
CLL				*i* Sg			**Sg**	**07 52 27.7**	**+1.4**
	comp=Z,27nm,0.6s								
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn			**Pn**	**07 51 58.4**	**-0.1**
MORC				*e*Sg			**Sn**	**07 52 24.5**	**+0.4**
	comp=Z,13nm,0.3s								
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG			**Pb**	**07 52 03.8**	**+0.6**
OKC				*e*SG			**Sb**	**07 52 30.5**	**+0.1**
	comp=Z,19nm,0.4s								
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pg			**Pb**	**07 52 03.8**	**+0.6**
OKC				Sg			**Sb**	**07 52 30.5**	**+0.1**
	comp=Z,19nm,0.4s								
VRAC	**Vranov**	**2.26**	**172**	Pn			**Pn**	**07 52 03.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=352,slow=14,SNR=9.5								
VRAC				Lg			Lg	07 52 33.4	
	comp=Z,2.8nm,0.3s,baz=78,slow=20,SNR=11								
VRAC	**Vranov**	**2.26**	**172**	*e*Pn			**Pn**	**07 52 02.4**	**+0.3**
VRAC				*e*Sg			**Sb**	**07 52 33.5**	**-0.1**
	comp=Z,20nm,0.4s								
TREC	**Trest**	**2.28**	**190**	*e*SG			**Sb**	**07 52 35.1**	**+0.7**
	comp=Z,17nm,0.2s								
TREC	**Trest**	**2.28**	**190**	Sg			**Sb**	**07 52 35.1**	**+0.7**
	comp=Z,17nm,0.2s								
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn			**Pn**	**07 52 05.8**	**+0.5**
KRUC				*e*Sg			**Sb**	**07 52 41.2**	**+0.9**
	comp=Z,12nm,0.4s								
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN			**Pn**	**07 52 09.0**	**+1.3**
NKC				*e*PG			**Pg**	**07 52 14.4**	**-0.1**
NKC				*e*SG			**Sg**	**07 52 49.1**	**+0.1**
	comp=Z,23nm,0.3s								
NKC	**Novy Kostel**	**2.66**	**242**	Pn			**Pn**	**07 52 09.0**	**+1.3**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg			**Pg**	**07 52 15.3**	**+0.2**
OJC				*e*Sg			**Sg**	**07 52 50.4**	**+0.5**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg			**Pg**	**07 52 15.3**	**+0.2**
OJC				*e*Sg			**Sg**	**07 52 50.4**	**+0.5**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN			**Pn**	**07 52 11.7**	**+0.6**
KHC				*e*PG			**Pb**	**07 52 17.2**	**+1.0**
KHC				*e*SN			**Sn**	**07 52 45.6**	**-1.1**
KHC				*e*SG			**Sg**	**07 52 55.3**	**-1.5**
	comp=Z,12nm,0.4s								
KHC	**Kasperske Hory**	**2.91**	**215**	Pn			**Pn**	**07 52 11.7**	**+0.6**
GERES	**GERESS Array B**	**3.11**	**211**	Pn			**Pn**	**07 52 15.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=31,slow=12,SNR=14								
GERES				Pg			**Pb**	**07 52 21.3**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=28,slow=17,SNR=35								
GERES				Sn			**Sn**	**07 52 51.7**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=47,slow=23,SNR=4.9								
GERES				Lg			Lg	07 52 59.9	
	comp=Z,4.4nm,0.3s,baz=33,slow=27,SNR=15								
SMOL	**Smolenice**	**3.15**	**164**	*e*SG			**Sg**	**07 53 03.9**	**-0.7**
SMOL	**Smolenice**	**3.15**	**164**	Sg			**Sg**	**07 53 03.9**	**-0.7**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*SG			**Sg**	**07 53 44.4**	**+1.6**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	Sg			**Sg**	**07 53 44.4**	**+1.6**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*SG			**Sg**	**07 53 58.7**	**+2.9**
KOLS	**Kolonicke sedl**	**4.74**	**121**	Sg			**Sg**	**07 53 58.7**	**+2.9**
AKASG	**Malin Array Be**	**8.30**	**91**	Pn			**Pn**	**07 53 24.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=277,slow=12,SNR=4.6								
AKASG				Sn			Sn	07 54 52.5	-7.0
	comp=Z,0.3nm,0.3s,baz=282,slow=18,SNR=2.7								
NOA	**NORSAR Array B**	**9.90**	**346**	Pn			**Pn**	**07 53 47.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=2.8								
FINES	**FINESS Array B**	**11.34**	**25**	Pn			**Pn**	**07 54 05.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=3.9								
FINES				Sn			**Sn**	**07 56 08.8**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=209,slow=20,SNR=3.9								

*IDC **10** 07:54:42.8±2.7, 31.06S×177.90W, h73km±17km, mb3.7/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/38, Error ellipse: s-maj=53.0km s-min=13.4km az=106.0*
ISC 10 07:54:42.8±1.8, 31.0S±0.1×178.2W±0.3, h46km, n6, σ2§32/8, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.78**	**8**	P			**Pn**	**07 55 12.1**	**+1.0**
	33nm,0.3s,baz=61,slow=19,SNR=2.2								
RAO				S			**Sn**	**07 55 34.3**	**+1.7**
	111nm,0.3s,baz=90,slow=20,SNR=5.0								
URZ	**Urewera**	**8.18**	**207**	P			**Pn**	**07 56 39.2**	**+0.2**
	0.2nm,0.3s,baz=70,slow=15,SNR=2.8								
URZ				S			**Sn**	**07 58 12.3**	**+2.3**
	1.7nm,0.3s,baz=104,slow=21,SNR=14								
STKA	**Stephens Creek**	**34.16**	**258**	P			**P**	**08 01 24.8**	**+1.1**
	2.8nm,0.7s,baz=89,slow=11,SNR=10								
ASAR	**Alice Springs**	**42.90**	**268**	P			**P**	**08 02 35.7**	**-1.4**
	0.3nm,0.3s,baz=108,slow=7.4,SNR=9.5								
WRA	**Warramunga Arr**	**43.94**	**273**	P			**P**	**08 02 43.7**	**-1.8**
	0.8nm,0.3s,baz=111,slow=8.0,SNR=4.0								
WRA				LR			LR	08 18 56.3	
	comp=Z,87nm,20.2s,baz=0.0,slow=33								
FINES	**FINESS Array B**	**145.66**	**339**	PKPbc			**PKPdf**	**08 14 11.9**	**-3.4**
	1.2nm,0.4s,baz=52,slow=4.6,SNR=16								

*MOS **10** 08:09:43.2±1.3, 0.09N×123.08E, h172km, mb5.1/37, Error ellipse: s-maj=10.3km s-min=5.4km az=113.9*
*BJI **10** 08:09:43.9, 0.00N×123.20E, h173km, mB4.9/33, mb5.0/50*
*IDC **10** 08:09:44.3±0.7, 0.03N×123.05E, h170km±5km, mb4.6/34, mb1 4.6/34, mb1mx4.6/35, mbtmp4.6/34, MS3.8/4, Ms1 3.8/4, ms1mx3.2/39, Error ellipse: s-maj=10.8km s-min=6.4km az=67.0*
*ISCJB **10** 08:09:45.0±0.3, 0.01S±0.02×123.24E±0.02, h193km±2km, mb4.9/114, Error ellipse: s-maj=3.6km s-min=3.0km az=158.5*
*NEIC **10** 08:09:45.0±0.4, 0.02S×123.17E, h176km±4km, mb5.2/49, Error ellipse: s-maj=5.0km s-min=3.8km az=61.0*
*GCMT **10** 08:09:45.0±0.2, 0.06N×123.40E, h166km±2km, MW5.0/80, Moment Tension Solution. s24,c27; s80,c110; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.76±.11; Mθθ-2.72±.15; Mφφ-1.04±.18; Mrθ1.16±.11; Mrφ1.90±.12; Mθφ-0.30±.15; Best double couple: Mo4.04200×10¹⁶ NP1:φs117.00000°, δ53.00000°, λ83.00000°. NP2: φs309.00000°, δ37.00000°, λ99.00000°. Principal axes: T 3.9620, Plg80.0000°, Azm358.0000°; N 0.1610, Plg6.0000°, Azm122.0000°; P -4.1230, Plg8.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KLM **10** 08:09:45.6, 0.01S×123.38E, h185km, mb5.2, ML5.8, MS6.0*
*DJA **10** 08:09:46.7±0.2, 0°S±2°×12°3E±°, h130km±3km, M5.0/45, mb5.3/45, mB5.5/24, MLv5.6/23, Mw(mB)4.9/24*
ISC 10 08:09:44.7±0.3, 0.06S±0.03×123.23E±0.03, h174km±1km, h174km:pP-P, n845, σ1§35/990, mb4.9/114, 31C-28D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.99**	**50**	P			**Pn**	**08 10 11.7**	**0.0**
LUWI	**Luwuk**	**1.07**	**205**	P			**Pn**	**08 10 11.2**	**-1.1**
LUWI				S			**Sn**	**08 10 30.9**	**-2.8**
LUWI	**Luwuk**	**1.07**	**205**	*e*Pn			**Pn**	**08 10 11.1**	**-1.3**
LUWI				*e*Sn			**Sn**	**08 10 29.8**	**-4.0**
LUWI	**Luwuk**	**1.07**	**205**	⇓P			**Pn**	**08 10 10.9**	**-1.4**
	baz=1.1,SNR=1000								
MRSI	**Marisa**	**1.39**	**293**	P			**Pn**	**08 10 13.3**	**-1.8**
MRSI				S			**Sn**	**08 10 34.0**	**-4.6**
APSI	**Ampana**	**1.79**	**242**	P			**Pn**	**08 10 18.5**	**-0.5**
TOLI	**Toli-Toli**	**2.70**	**296**	P			x	08 10 31.5	
TOLI				S			x	08 11 01.9	
TOLI	**Toli-Toli**	**2.70**	**296**	*e*Pn			**Pn**	**08 10 28.4**	**-1.0**
TOLI				*e*Sn			**Sn**	**08 11 01.4**	**-2.8**
SANI	**Sanana**	**3.39**	**126**	P			**Pn**	**08 10 35.8**	**-2.1**
SANI				S			**Sn**	**08 11 14.3**	**-5.2**
TNTI	**Ternate**	**4.22**	**79**	P			**Pn**	**08 10 47.1**	**-1.4**
TNTI				S			**Sn**	**08 11 33.9**	**-4.4**
TNTI	**Ternate**	**4.22**	**79**	*e*Pn			**Pn**	**08 10 47.4**	**-1.1**
LBMI	**Labuha**	**4.31**	**98**	P			**Pn**	**08 10 48.8**	**-0.8**
KKSI	**Kolaka, Sulawe**	**4.37**	**201**	P			x	08 10 49.9	
SGSI	**Sangihe**	**4.38**	**32**	P			**Pn**	**08 10 51.2**	**+0.7**
NLAI	**Namlea**	**4.99**	**129**	P			**Pn**	**08 10 58.8**	**+0.4**
MMSI	**Mamuju**	**5.04**	**239**	P			x	08 10 59.3	
	1µm,0.8s,9µm3.5nm								
SPSI	**Sidrap Palu**	**5.19**	**222**	P			**Pn**	**08 11 01.5**	**+0.5**
	581nm,0.8s,8µm3.1nm								
BNSI	**Bone**	**5.32**	**216**	P			**Pn**	**08 11 03.4**	**+0.7**
	635nm,0.7s,5µm2.4nm								
BBSI	**Bau Bau**	**5.43**	**187**	P			**Pn**	**08 11 05.2**	**+1.1**
	686nm,0.9s,2.5nm								
MJSI	**Majene**	**5.48**	**231**	P			x	08 11 06.4	
	1µm,1.0s,10µm3.0nm								
KAPI	**Kappang**	**6.02**	**215**	Pn			**Pn**	**08 11 12.0**	**+0.1**
	5µm,0.8s,SNR=60								
KAPI	**Kappang**	**6.02**	**215**	*e*Pn			**Pn**	**08 11 12.6**	**+0.7**
BKSI	**Bulukumba**	**6.07**	**211**	P			**Pn**	**08 11 13.6**	**+1.0**
	520nm,1.2s,6µm2.2nm								
BKB	**Balikpapan**	**6.44**	**259**	P			**Pn**	**08 11 18.9**	**+1.5**
	556nm,0.9s,5µm2.0nm								
MSAI	**Masohi**	**6.56**	**120**	P			**Pn**	**08 11 21.5**	**+2.4**
	95nm,0.8s,2µm1.6nm								
TSM	**Tawau**	**6.88**	**309**	⇓S			**Sn**	**08 12 39.1**	**-1.9**
TSM	**Tawau**	**6.88**	**309**	⇓P			**Pn**	**08 11 26.0**	**+2.7**
MYLDM	**Lahad Datu**	**7.03**	**318**	P			x	08 11 27.3	
	256nm,1.0s,4µm1.3nm								
MYLDM	**Lahad Datu**	**7.03**	**318**	*e*Pn			**Pn**	**08 11 27.3**	**+2.1**
MYLDM	**Lahad Datu**	**7.03**	**318**	⇑P			**Pn**	**08 11 27.5**	**+2.3**
MYLDM	**Lahad Datu**	**7.03**	**318**	⇑S			Sn	08 12 53.5	+9.0
CTBH	**Cotabato--PC H**	**7.31**	**8**	⇓*i*P			**Pn**	**08 11 30.8**	**+1.9**
DAV	**Davao City (W)**	**7.47**	**18**	*e*Pn			**Pn**	**08 11 33.0**	**+2.0**
MATI	**Mati**	**7.59**	**23**	*e*P			**Pn**	**08 11 33.6**	**+1.0**
MATI				*e*S				08 11 55.8	
KBKI	**Kotabaru**	**7.75**	**245**	P			**Pn**	**08 11 35.4**	**+0.6**
	422nm,1.1s,1.6nm								
IPIL	**Ipil**	**7.83**	**355**	*e*P			Pn	08 11 38.8	+3.1
PAGZ	**Pagadian**	**7.86**	**1**	*e*P			**Pn**	**08 11 37.7**	**+1.5**
SWI	**Sorong**	**8.07**	**96**	P			**Pn**	**08 11 39.5**	**+0.5**
	129nm,0.6s,1µm								
SWI	**Sorong**	**8.07**	**96**	⇑P			**Pn**	**08 11 39.4**	**+0.4**
	baz=8.1								
BUKP	**Musuan**	**8.10**	**13**	*e*P			**Pn**	**08 11 42.4**	**+3.0**
SDKM	**Sandakan**	**8.27**	**313**	⇓P			Pn	08 11 45.1	+3.4
CGP	**Cagayan de Oro**	**8.59**	**10**	*e*P			Pn	08 11 49.1	+3.3
LBFI	**Labuhan Bajo,**	**9.00**	**202**	P			x	08 11 52.8	
	603nm,1.1s,6µm								
BBKI	**Banjar Baru**	**9.03**	**248**	P			Pn	08 11 54.9	+3.2
	276nm,1.5s								
KKM	**Kota Kinabalu**	**9.26**	**311**	P			x	08 11 58.1	
	55nm,0.9s,704nm								
KKM	**Kota Kinabalu**	**9.26**	**311**	*e*Pn			Pn	08 11 57.9	+3.1
KKM				*e*Sn			**Sn**	**08 13 41.1**	**+3.0**
KKM	**Kota Kinabalu**	**9.26**	**311**	⇑P			**Pn**	**08 11 56.7**	**+1.9**
	baz=9.3,SNR=4.1								
KKM	**Kota Kinabalu**	**9.26**	**311**	⇓S			**Sn**	**08 13 41.7**	**+3.6**
KKM	**Kota Kinabalu**	**9.26**	**311**	⇓P			Pn	08 11 58.2	+3.4
BUTP	**Butuan**	**9.29**	**15**	*e*P			Pn	08 11 58.3	+3.3
KDM	**Kudat**	**9.42**	**318**	⇓P			**Pn**	**08 11 59.3**	**+2.5**
FAKI	**Fak Fak**	**9.45**	**108**	P			**Pn**	**08 11 58.6**	**+1.4**
	112nm,0.6s,1µm								
FAKI	**Fak Fak**	**9.45**	**108**	*e*Pn			**Pn**	**08 11 56.6**	**-0.6**
FAKI				*e*Sn			Sn	08 13 34.9	-7.7
FAKI	**Fak Fak**	**9.45**	**108**	⇓P			**Pn**	**08 11 56.8**	**-0.4**
	baz=9.5,SNR=31								
SOEI	**Soe**	**9.68**	**174**	P			Pn	08 12 03.8	+3.5
	323nm,0.9s,4µm								
SOEI	**Soe**	**9.68**	**174**	*e*Pn			**Pn**	**08 12 03.3**	**+2.9**
SOEI	**Soe**	**9.68**	**174**	⇑P			Pn	08 12 03.7	+3.4
	baz=9.7,SNR=9.2		

comp=Z,216nm,1.0s
PPI Padang Panjang 22.83 269 ⇑P P **08 14 34.6 +1.6**
baz=23,SNR=4.5
TWG Pinlang 22.84 355 eP P **08 14 32.8 -0.1**
comp=Z,75nm,0.5s
QIZ Qiongzhong 23.08 326 P P **08 14 36.0 +0.9**
QIZ pP **pP** **08 15 07.9 +0.5**
QIZ sP **sP** **08 15 29.9 +0.8**
QIZ S **S** **08 18 35.9 +2.8**
QIZ pmax pmax
comp=Z,85nm,0.9s
QIZ LR LR
comp=Z,220nm,10.6s
QIZ Qiongzhong 23.08 326 eP P **08 14 36.2 +1.1**
comp=Z,70nm,0.8s
KULM Kulim 23.16 284 eP P **08 14 36.5 +0.5**
comp=Z,139nm,1.0s
KULM Kulim 23.16 284 ⇓P P **08 14 37.6 +1.7**
TPUB Ta-pu 23.36 354 eP P **08 14 37.3 -0.3**
comp=Z,154nm,1.2s
YULB Yu-li 23.39 356 eP P **08 14 37.9 -0.1**
comp=Z,28nm,0.8s
SSLB Suanglung 23.81 355 eP P **08 14 41.9 +0.1**
comp=Z,56nm,1.0s
SSLB eS **S** **08 18 46.0 +1.2**
COEN Coen 24.09 126 eP P **08 14 45.0 +0.5**
comp=Z,399nm,1.2s
COEN Coen 24.09 126 P P **08 14 45.0 +0.5**
baz=24,SNR=51
PSI Prapat 24.46 277 P P **08 14 48.0 +0.1**
PSI PcP **PcP** **08 18 22.4 +0.2**
PSI Prapat 24.46 277 P P **08 14 48.0 +0.1**
comp=Z,19nm,0.8s,baz=105,slow=5.6,SNR=16
PSI PcP **PcP** **08 18 22.4 +0.2**
comp=Z,11nm,0.8s,baz=118,slow=3.1,SNR=4.9
PSI Prapat 24.46 277 ⇑P P **08 14 48.3 +0.4**
baz=24,SNR=8.8
YHNB Yeheng 24.65 356 eP P **08 14 48.2 -1.3**
comp=Z,30nm,0.8s
WRKA Warakurna 25.31 169 P P **08 14 56.2 +0.8**
baz=26,SNR=42
PMG Port Moresby 25.57 112 eP P **08 14 58.4 +0.6**
comp=Z,57nm,1.2s
PMG Port Moresby 25.57 112 P P **08 14 59.0 +1.2**
comp=Z,26nm,0.6s,baz=284,slow=7.2,SNR=10
AS31 Alice Springs 25.65 157 eP P **08 14 59.3 +0.8**
AS31 ePcP **PcP** **08 18 25.1 +0.5**
ASAR Alice Springs 25.65 157 P P **08 14 59.0 +0.6**
ASAR PcP **PcP** **08 18 25.3 +0.7**
ASAR ScP **ScP** **08 21 47.9 +0.1**
ASAR PKiKP **PKiKP** **08 26 04.0 -0.8**
ASAR Alice Springs 25.65 157 P P **08 14 59.0 +0.6**
comp=Z,14nm,0.7s,baz=348,slow=16,SNR=78
ASAR PcP **PcP** **08 18 25.3 +0.7**
comp=Z,14nm,0.6s,baz=348,slow=2.3,SNR=16
ASAR ScP **ScP** **08 21 47.9 +0.1**
comp=Z,1.3nm,0.6s,baz=335,slow=2.6,SNR=4.9
ASAR PKiKP **PKiKP** **08 26 04.0 -0.8**
comp=Z,0.7nm,0.8s,baz=359,slow=1.2,SNR=4.5
GSI Gunungsitoli 25.68 273 eP P **08 14 57.3 -1.6**
comp=Z,27nm,0.9s
QIS Mount Isa 25.91 143 P P **08 15 02.1 +1.2**
baz=26,SNR=99
LHMI Lhok Sumawe 26.76 282 eP P **08 15 09.8 +1.2**
MEEK Meekatharra 26.79 189 ⇑P P **08 15 08.8 +0.1**
baz=27,SNR=13
MTSU Mount Surprise 27.43 132 ⇑P P **08 15 15.9 +1.5**
baz=28
SLVN Son La 28.43 320 eP P **08 15 24.2 +0.8**
comp=Z,31nm,1.0s
MORW Morawa 29.65 193 ⇑P P **08 15 34.3 +0.3**
baz=30
CTA Charters Tower 30.07 133 P P **08 15 39.9 +2.0**
CTA PcP **PcP** **08 18 37.4 +1.9**
CTA Charters Tower 30.07 133 P P **08 15 39.9 +2.0**
comp=Z,11nm,0.8s,baz=312,slow=13,SNR=9.9
CTA PcP **PcP** **08 18 37.4 +1.9**
comp=Z,3.9nm,0.6s,baz=273,slow=11,SNR=4.0
CTAO Charters Tower 30.07 133 eP P **08 15 39.1 +1.2**
CTAO pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 30.07 133 eP P **08 15 39.1 +1.2**
comp=Z,9.2nm,0.8s
CM31 Chiang Mai Arr 30.13 309 eP P **08 15 38.3 -0.1**
comp=Z,21nm,0.6s
CM31 ePcP **PcP** **08 18 36.7 +1.1**
CMAR Chiang Mai Arr 30.13 309 P P **08 15 39.9 +1.5**
CMAR PcP **PcP** **08 18 36.3 +0.7**
CMAR Chiang Mai Arr 30.13 309 P P **08 15 39.9 +1.5**
comp=Z,22nm,0.6s,baz=133,slow=7.1,SNR=74
CMAR PcP **PcP** **08 18 36.3 +0.7**
comp=Z,13nm,0.7s,baz=155,slow=2.2,SNR=29
CHTO Chiang Mai 30.34 310 eP P **08 15 40.6 +0.4**
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 30.34 310 eP P **08 15 40.6 +0.4**
comp=Z,15nm,0.7s
GYA Guiyang 30.82 330 P P 08 15 47.8 +3.3
GYA sP sP 08 16 44.6 +3.8
GYA PP **PP** **08 16 57.2 -0.5**
GYA PcP **PcP** **08 18 39.0 +1.5**
GYA S **S** **08 20 38.2 +2.8**
GYA sS sS 08 21 42.4 +2.9
GYA ScP **ScP** **08 22 04.3 +0.4**
GYA PcS **PcS** **08 22 22.6 +0.8**
GYA ScS **ScS** **08 26 00.2 -1.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
FORT Forrest 30.89 172 eP P **08 15 45.3 +0.4**
comp=Z,82nm,0.6s
FORT ePcP **PcP** **08 18 38.2 +0.8**
FORT Forrest 30.89 172 ⇑P P **08 15 45.6 +0.7**
baz=31,SNR=44
BLDU Ballidu 31.01 191 ⇓P P **08 15 46.0 +0.1**
baz=31,SNR=19
KMBL Kambalda 31.16 182 ⇓P P **08 15 47.7 +0.5**
baz=31,SNR=6.7
WHN Wuhan 31.59 345 P P **08 15 53.2 +2.2**
KLBR Kellerberrin 31.78 189 ⇓P P **08 15 52.6 0.0**
baz=32,SNR=7.9
KMI Kunming 31.93 323 P P 08 15 57.6 +3.3
KMI pP pP 08 16 34.0 +3.3
KMI S **S** **08 20 56.0 +3.1**
KMI pmax pmax
comp=Z,19nm,0.6s
KMI LR LR
comp=Z,140nm,12.4s
KMI LR LR
comp=Z,100nm,15.9s
KMI LR LR
comp=Z,110nm,13.7s
NJ2 Nanjing 32.21 353 eP P **08 15 57.4 +1.0**
NJ2 pmax pmax
comp=Z,20nm,0.8s
CBIJ Chichi jima 32.58 33 P P **08 15 59.1 -0.6**
JCJ Chichijima 32.58 33 P P **08 15 59.1 -0.6**
comp=Z,124nm,0.6s,baz=1.7,slow=3.6,SNR=10
ENH Enshi 32.88 338 eP P **08 16 02.8 +0.5**
comp=Z,80nm,1.0s
ENH ePcP **PcP** **08 18 43.0 +0.1**
NWAO Narrogin (SRO) 33.17 189 P P **08 16 05.2 +0.4**
NWAO PcP **PcP** **08 18 44.3 +0.7**
NWAO Narrogin (SRO) 33.17 189 P P **08 16 05.2 +0.4**
comp=Z,7.4nm,0.5s,baz=10.0,slow=8.3,SNR=12
NWAO PcP **PcP** **08 18 44.3 +0.7**
comp=Z,9.7nm,0.7s,baz=34,slow=6.2,SNR=3.1
QLP Quilpie 33.23 144 ⇓P P **08 16 06.3 +0.9**
baz=33,SNR=12
JNU Nakatsue 33.79 12 LR LR 08 28 42.6
comp=Z,101nm,20.0s,baz=92,slow=34
BBOO Buckleboo 34.75 161 eP P **08 16 18.9 +0.5**
comp=Z,165nm,0.8s
BBOO ePcP **PcP** **08 18 48.5 +0.4**
BBOO eS **S** **08 21 39.9 +4.1**
BBOO Buckleboo 34.75 161 P P **08 16 19.0 +0.6**
baz=35,SNR=32
CD2 Chengdu 35.93 331 ⇑iP P **08 16 29.3 +0.8**
CD2 sP **sP** **08 17 26.1 +0.8**
CD2 PP **PnPn** **08 17 55.8 +0.3**
CD2 PcP **PcP** **08 18 49.9 -1.8**
CD2 S **S** **08 21 55.5 +1.6**
CD2 sS **sS** **08 23 02.4 +3.6**
CD2 SS **SS** **08 24 28.7 -9.0**
CD2 pmax pmax
comp=Z,140nm,1.1s
CD2 pmax pmax
comp=Z,220nm,7.2s
RMQ Roma 35.98 139 ⇓P P **08 16 29.5 +0.5**
baz=36,SNR=9.0
STKA Stephens Creek 36.10 153 eP P **08 16 31.1 +1.1**
comp=Z,7.8nm,0.6s
STKA ePcP **PcP** **08 18 52.7 +0.6**
STKA ScP **ScP** **08 22 23.2 +1.0**
STKA Stephens Creek 36.10 153 P P **08 16 31.2 +1.3**
comp=Z,54nm,0.5s,baz=325,slow=8.6,SNR=176
STKA PcP **PcP** **08 18 52.7 +0.6**
comp=Z,14nm,0.5s,baz=323,slow=3.4,SNR=6.7
STKA ScP **ScP** **08 22 23.2 +1.0**
comp=Z,2.0nm,0.8s,baz=329,slow=7.5,SNR=2.9
HTT Hallett 36.32 158 P P **08 16 33.2 +1.4**
baz=36,SNR=77
XAN Xi'an 36.48 340 P P **08 16 33.8 +0.6**
XAN S **S** **08 21 58.1 -4.2**
XAN PcS **PcS** **08 22 41.0 -0.4**
XAN pmax pmax
comp=Z,31nm,1.4s
XAN LR LR
comp=Z,140nm,14.3s
XAN LR LR
comp=Z,52nm,15.3s
XAN LR LR
comp=Z,55nm,15.3s
EIDS Eidsvold 36.84 135 P P **08 16 36.3 +0.1**
baz=37,SNR=4.7
KSAR Wonju Array Be 37.57 6 P P **08 16 42.4 +0.1**
KSAR PcP **PcP** **08 18 56.2 -0.2**
KSAR ScP **ScP** **08 22 27.3 -0.2**
KSRS Korea Array 37.58 6 P P **08 16 42.4 0.0**
comp=Z,7.0nm,0.7s,baz=186,slow=9.7,SNR=20
KSRS PcP **PcP** **08 18 56.2 -0.2**
comp=Z,3.7nm,0.7s,baz=196,slow=2.9,SNR=9.2
KSRS ScP **ScP** **08 22 27.3 -0.3**
comp=Z,2.1nm,0.9s,baz=183,slow=2.4,SNR=7.0
HNR Honiara 37.72 105 P P **08 16 44.6 +0.7**
HNR Honiara 37.72 105 P P **08 16 44.6 +0.7**
comp=Z,112nm,0.6s,baz=23,slow=0.7,SNR=4.1
CMSA Cobar Meteorol 37.85 148 P P **08 16 46.4 +1.8**
baz=38,SNR=130
MAJO Matsushiro 38.99 19 ⇑iP P **08 16 52.8 -1.3**
MAJO pmax pmax
comp=Z,155nm,0.8s
MAJO Matsushiro 38.99 19 eP P **08 16 52.8 -1.3**
comp=Z,4.4nm,0.9s
MAT Matsushiro 38.99 19 P P **08 16 52.5 -1.6**
MAT S **S** **08 22 41.0 +1.1**
MJAR Matsushiro Arr 38.99 19 P P **08 16 53.2 -1.0**
MJAR pP **pP** **08 17 30.1 -1.4**
MJAR ScP **ScP** **08 22 32.8 -0.2**
MJAR Matsushiro Arr 38.99 19 P P **08 16 53.2 -1.0**
comp=Z,20nm,0.7s,baz=186,slow=10,SNR=34
MJAR pP **pP** **08 17 30.1 -1.4**
comp=Z,11nm,0.8s,baz=200,slow=9.5,SNR=4.3
MJAR ScP **ScP** **08 22 32.8 -0.2**
comp=Z,1.5nm,0.6s,baz=176,slow=4.7,SNR=4.2
MJAR LR LR 08 31 51.6
comp=Z,94nm,18.5s,baz=175,slow=34
SHL Shillong 39.56 312 eP P **08 16 59.0 -0.3**
LZH Lanzhou 40.23 335 ⇓P P **08 17 06.6 +2.0**
LZH pP **pP** **08 17 44.5 +2.3**
LZH sP **sP** **08 18 04.7 +2.8**
LZH PP **PnPn** **08 18 46.5 +0.2**
LZH S **S** **08 23 01.0 +2.2**
LZH sS **sS** **08 24 08.0 +3.4**
LZH pmax pmax
comp=Z,75nm,1.5s
LZH pmax pmax
comp=Z,190nm,6.4s
LZH LR LR
comp=Z,260nm,14.1s
LZH LR LR
comp=Z,430nm,13.6s
LZH LR LR
comp=Z,510nm,17.2s
ARPS Mount Arapiles 40.39 157 ⇑P P **08 17 07.3 +1.6**
baz=41,SNR=65
BJT Baijiatuan 40.41 352 eP P **08 17 05.3 -0.5**
comp=Z,10nm,0.5s
BJI Beijing 40.43 352 P P **08 17 05.6 -0.3**
BJI S **S** **08 23 05.7 +4.5**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI pmax pmax
comp=Z,85nm,5.8s
BJI LR LR
comp=Z,170nm,16.2s
BJI LR LR
comp=Z,170nm,14.9s
BJI LR LR
comp=Z,57nm,18.8s
ARMA Armidale 40.50 141 eP P **08 17 09.3 +2.5**
comp=Z,40nm,0.6s
ARMA Armidale 40.50 141 P P **08 17 09.3 +2.5**
baz=41,SNR=50
YNG Young 41.42 148 P P **08 17 16.4 +2.2**
baz=42,SNR=24
HHC Hu-ho-hao-te 42.08 347 eP P **08 17 21.9 +2.4**
HHC S **S** **08 23 26.8 +1.0**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,300nm,8.5s
HHC LR LR
comp=Z,330nm,13.2s
HHC LR LR
comp=Z,600nm,13.7s
HHC LR LR
comp=Z,250nm,16.7s
MGCD Mangrove Creek 42.13 144 ⇑P P **08 17 22.6 +2.6**
baz=42,SNR=15
CAN Canberra 42.52 148 eP P **08 17 25.4 +2.3**
CAN e 08 19 14.1
CAN pmax pmax
comp=Z,51nm,0.6s
CAN Canberra 42.52 148 eP P **08 17 25.4 +2.3**
comp=Z,51nm,0.6s
CAN ePcP **PcP** **08 19 14.1 +1.5**
CAN Canberra 42.52 148 ⇓P P **08 17 25.4 +2.3**
baz=43
LSA Lhasa 42.55 317 P P **08 17 25.3 +1.3**
LSA pmax pmax
comp=Z,70nm,0.8s
LSA Lhasa 42.55 317 eP P **08 17 24.6 +0.6**
LSA pmax pmax
comp=Z,66nm,0.8s
LSA Lhasa 42.55 317 eP P **08 17 24.6 +0.6**
comp=Z,66nm,0.8s
TOO Toolangi 42.61 154 ⇑P P **08 17 26.2 +2.4**
baz=43,SNR=13
CNB Canberra Magne 42.71 148 ⇑P P **08 17 26.4 +1.8**
baz=43,SNR=19
PALK Pallekele 43.03 281 eP P **08 17 26.9 -0.6**
PALK ePcP **PcP** **08 19 15.3 +0.6**
ODAN Odare 43.64 311 eP P **08 17 32.7 +0.2**
comp=Z,184nm,0.7s
TAPN Taplejung 43.66 312 eP P **08 17 32.8 +0.1**
comp=Z,332nm,1.0s
MILA Mila 43.93 150 ⇓P P **08 17 36.2 +1.8**
baz=44,SNR=5.7
RAMN Ramite 44.28 310 eP P **08 17 38.2 +0.6**
comp=Z,464nm,0.9s
GTA Gaotai 44.75 334 eP P **08 17 41.1 +0.2**
GTA sP **sP** **08 18 39.0 +0.3**
GTA PcP **PcP** **08 19 20.3 +0.2**
GTA ScP **ScP** **08 22 56.1 0.0**
GTA PcS **PcS** **08 23 13.1 -0.9**
GTA S **S** **08 24 05.6 +0.9**
GTA sS **sS** **08 25 13.3 +1.7**
GTA SS **ScS** **08 27 24.2 +4.0**
GTA pmax pmax
comp=Z,13nm,0.6s
GTA pmax pmax
comp=Z,120nm,4.5s
USRK Ussuriysk Arra 44.76 9 P P **08 17 40.5 -0.2**
comp=Z,8.3nm,0.6s,baz=193,slow=6.5,SNR=23
MDJ Mudanjiang 44.85 6 P P **08 17 41.5 0.0**
MDJ pP **pP** **08 18 18.8 -0.9**
MDJ sP **sP** **08 18 38.1 -1.2**
MDJ PcP **PcP** **08 19 20.4 +0.2**
MDJ PP **PP** **08 19 30.4 +0.4**
MDJ ScP **ScP** **08 22 56.5 +0.3**
MDJ PcS **PcS** **08 23 14.2 +0.3**
MDJ S **S** **08 24 10.8 +5.1**
MDJ ScS **ScS** **08 27 19.1 -1.2**
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,160nm,5.6s
MDJ Mudanjiang 44.85 6 eP P **08 17 41.2 -0.2**
comp=Z,12nm,0.7s
JIRN Jiri 44.97 311 eP P **08 17 43.5 +0.3**
comp=Z,360nm,0.9s
GUN Gumba 45.33 311 eP P **08 17 46.1 +0.1**
comp=Z,525nm,0.8s
PKI Pulchoki 45.51 310 eP P **08 17 47.2 -0.2**
comp=Z,152nm,0.8s
PKIN Phulchoki 45.52 310 eP P **08 17 48.0 +0.6**
comp=Z,48nm,0.7s
KKN Kakani 45.72 310 eP P **08 17 49.1 +0.2**
comp=Z,182nm,0.8s
DMN Daman 45.76 310 eP P **08 17 49.4 +0.1**
comp=Z,247nm,0.9s
GKN Gorkha 46.32 310 eP P **08 17 53.4 -0.1**
comp=Z,263nm,0.7s
KOLN Koldanda 47.00 309 eP P **08 17 59.0 +0.1**
comp=Z,451nm,0.8s
DANN Dangsing 47.16 310 eP P **08 18 00.1 -0.1**
comp=Z,609nm,0.7s
ASAJ Asahikawa 47.26 19 eP P **08 18 00.4 +0.1**
comp=Z,18nm,1.1s
HYB Hyderabad 47.27 294 iP P **08 17 59.0 -1.9**
HYB epP **pP** **08 18 41.0 +1.5**
HYB esP **sP** **08 18 59.0 +0.1**
PYUN Piuthan 47.63 309 eP P **08 18 04.0 +0.2**
comp=Z,853nm,0.8s
HIA Hailar 49.23 357 eP P **08 18 14.4 -1.0**
comp=Z,20nm,0.8s
HIA ePcP **PcP** **08 19 35.9 +0.1**
HABR Khabarovsk 49.42 10 eP P **08 18 13.6 -3.1**
HABR *PP **pP** **08 18 51.5 -4.2**
HABR e*SP **sP** **08 19 10.7 -4.3**
HABR e 08 19 33.4
HABR e 08 20 09.1
HABR ePPP PPP 08 21 07.7
HABR S **S** **08 25 06.4 -3.9**
HABR e*SS **sS** **08 26 13.8 -4.4**
HABR SS **SS** **08 28 42.7 -1.9**
HABR MLR MLR
comp=Z,80nm,19.0s
ULN Ulaanbaatar 49.77 346 eP P **08 18 19.0 -0.6**
comp=Z,32nm,0.7s
ULN ePcP **PcP** **08 19 37.4 -0.5**
YSS Yuzh-Sakhalins 49.85 17 eP P **08 18 17.3 -2.7**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 49.85 17 eP P **08 18 19.7 -0.3**
comp=Z,21nm,0.8s
SONM Songino Array 49.91 345 P P **08 18 20.0 -0.6**
SONM PcP **PcP** **08 19 37.8 -0.6**
SONM ScP **ScP** **08 23 16.9 -0.7**
SONM Songino Array 49.91 345 P P **08 18 20.0 -0.6**
comp=Z,32nm,0.7s,baz=160,slow=8.0,SNR=216
SONM PcP **PcP** **08 19 37.8 -0.6**
comp=Z,11nm,0.8s,baz=172,slow=3.6,SNR=9.0
SONM ScP **ScP** **08 23 16.9 -0.7**
comp=Z,0.7nm,0.7s,baz=172,slow=4.0,SNR=5.0
SONM LR LR 08 39 44.7
comp=Z,57nm,19.3s,baz=82,slow=36
ZAK Zakamensk 53.06 344 eP P **08 18 43.1 -0.9**
ZAK e 08 19 49.2
ZAK pmax pmax
comp=Z,9.0nm,1.0s
SDNR Sundarnagar 53.84 310 eP P **08 18 50.8 +0.9**
WMQ Urumqi 53.97 329 P P **08 18 53.0 +2.4**
WMQ pP **pP** **08 19 32.9 +2.7**
WMQ sP **sP** **08 19 52.4 +3.0**
WMQ PcP **PcP** **08 19 55.8 +2.2**
WMQ PP **PP** **08 20 54.4 +0.5**
WMQ S **S** **08 26 17.8 +5.0**
WMQ LR LR
comp=Z,58nm,21.0s
WMQ LR LR
comp=Z,49nm,28.0s
WMQ LR LR
comp=Z,62nm,22.8s
TLY Talaya 54.15 345 P P **08 18 51.9 +0.2**
comp=Z,130nm,0.9s,SNR=15
TLY Talaya 54.15 345 eP P **08 18 51.5 -0.2**
TLY pmax pmax
comp=Z,18nm,0.9s
TLY Talaya 54.15 345 eP P **08 18 51.5 -0.2**
comp=Z,16nm,0.8s
TLY ePcP **PcP** **08 19 53.7 -0.4**
IRK Irkutsk 54.50 346 eP P **08 18 53.0 -1.3**
IRK pmax pmax
comp=Z,29nm,1.9s
MOY Mondy 54.86 343 eP P **08 18 56.9 -0.1**
MOY pmax pmax
comp=Z,24nm,2.8s
CLNS Chul'man 56.74 1 eP P **08 19 09.8 -0.4**
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.8s
KSH Kashi 58.38 318 iP P **08 19 22.7 +0.6**
KSH ePP **PP** **08 21 35.5 +2.2**
KSH ePcS **PcS** **08 24 13.3 +0.4**
KSH eS **S** **08 27 06.0 -5.3**
KSH pmax pmax
comp=E,17nm,0.8s
KSH pmax pmax
comp=E,140nm,4.8s
KSH LR LR
comp=E,140nm,6.4s
KSH LR LR
comp=E,160nm,5.3s
KSH LR LR
comp=E,150nm,6.0s
MK31 Makanchi Array 58.79 328 eP P **08 19 24.2 -0.4**
MK31 e 08 20 11.4
MK31 Makanchi Array 58.79 328 eP P **08 19 24.2 -0.4**
MK31 ePcP **PcP** **08 20 11.4 -0.9**
MK31 eScP **ScP** **08 23 55.6 -0.9**
MKAR Makanchi Array 58.79 328 ceP P **08 19 24.1 -0.5**
MKAR pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 58.79 328 P P **08 19 24.1 -0.5**
MKAR pP **pP** **08 20 03.0 -1.9**
MKAR PcP **PcP** **08 20 10.3 -2.0**
MKAR ScP **ScP** **08 23 54.8 -1.7**
MKAR Makanchi Array 58.79 328 P P **08 19 24.1 -0.5**
comp=Z,15nm,0.6s,baz=120,slow=8.6,SNR=262
MKAR pP **pP** **08 20 03.0 -1.9**
comp=Z,9.9nm,0.9s,baz=123,slow=8.8,SNR=4.2
MKAR PcP **PcP** **08 20 10.3 -2.0**
comp=Z,8.5nm,0.5s,baz=153,slow=3.1,SNR=17
MKAR ScP **ScP** **08 23 54.8 -1.7**
comp=Z,1.5nm,0.6s,baz=133,slow=5.1,SNR=4.1
MKAR Makanchi Array 58.79 328 ⇓P P **08 19 24.3 -0.3**
baz=59
KZA Kyzart 60.16 320 P P **08 19 35.0 +0.4**
SNR=5.8
PETK Petropavlovsk- 60.26 23 P P **08 19 35.6 +1.1**
PETK *PP **pP** **08 20 13.8 -1.2**
PETK 08 20 18.3
PETK Petropavlovsk- 60.26 23 P P **08 19 35.6 +1.1**
PETK pP **pP** **08 20 13.8 -1.2**
PETK PcP **PcP** **08 20 18.3 +0.2**
PETK Petropavlovsk- 60.26 23 P P **08 19 35.6 +1.1**
comp=Z,23nm,0.7s,baz=207,slow=5.0,SNR=34
PETK pP **pP** **08 20 13.8 -1.2**
comp=Z,7.3nm,0.9s,baz=232,slow=1.7,SNR=2.9
PETK PcP **PcP** **08 20 18.3 +0.2**
comp=Z,3.1nm,0.5s,baz=218,slow=6.5,SNR=4.5
TKM2 Tokmak 2 60.38 321 eP P **08 19 35.5 -0.3**
TKM2 pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 60.38 321 P P **08 19 35.6 -0.3**
SNR=12
TKM2 Tokmak 2 60.38 321 eP P **08 19 35.5 -0.3**
comp=Z,14nm,0.7s
PET Petropavlovsk 60.57 24 eP P **08 19 37.1 +0.5**
PET pmax pmax
comp=Z,44nm,1.0s

PET **Petropavlovsk** 60.57 24 *e*P P 08 19 37.1 +0.5
comp=Z,44nm,1.0s
KBK **Karagaybulak** 60.65 321 P P 08 19 34.8 -2.8
SNR=6.5
UCH **Uchtor** 60.70 320 P P 08 19 38.3 0.0
SNR=17
RPZ **Rata Peaks** 60.82 142 *e*P P 08 19 39.8 +1.3
comp=Z,110nm,1.2s
RPZ **Rata Peaks** 60.82 142 P P 08 19 40.4 +1.9
comp=Z,94nm,0.8s,baz=272,slow=2.5,SNR=13
AAK **Ala-Archa** 60.92 321 P P 08 19 39.2 -0.3
comp=Z,120nm,0.9s,SNR=11
AAK **Ala-Archa** 60.92 321 *e*P P 08 19 38.9 -0.6
AAK 08 20 21.3
AAK pmax pmax
comp=Z,16nm,0.8s
AAK **Ala-Archa** 60.92 321 P P 08 19 39.6 +0.1
SNR=16
AAK **Ala-Archa** 60.92 321 *e*P P 08 19 38.9 -0.6
comp=Z,16nm,0.8s
AAK PcP PcP 08 20 21.3 +0.1
AAK ⇑*e* 08 49 04.4
AAK **Ala-Archa** 60.92 321 P P 08 19 39.5 +0.1
comp=Z,13nm,0.8s,baz=123,slow=5.1,SNR=41
AAK PcP PcP 08 20 21.3 +0.1
comp=Z,8.0nm,0.9s,baz=94,slow=6.8,SNR=4.1
AAK PKP2bc 08 49 04.4
comp=Z,3.8nm,1.0s,baz=133,slow=23,SNR=5.4
CHMS **Chumysh** 60.95 321 P P 08 19 38.9 -0.5
SNR=5.1
KBL **Kabul** 61.16 310 *e*P P 08 19 40.1 -1.1
KBL pmax pmax
comp=Z,68nm,0.6s
KBL **Kabul** 61.16 310 *e*P P 08 19 40.1 -1.1
comp=Z,68nm,0.6s
KBL **Kabul** 61.16 310 ⇑P P 08 19 40.5 -0.7
baz=61,SNR=14
AML **Almayashu** 61.18 320 P P 08 19 41.6 +0.1
SNR=15
USP **Ospenovka** 61.24 321 P P 08 19 41.2 -0.2
SNR=11
EKS2 **Erkin-Say** 61.39 320 *e*P P 08 19 42.5 -0.1
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 **Erkin-Say** 61.39 320 P P 08 19 42.8 +0.2
SNR=21
EKS2 **Erkin-Say** 61.39 320 *e*P P 08 19 42.5 -0.1
comp=Z,15nm,0.8s
YAK **Yakutsk** 62.13 3 *e*P P 08 19 46.0 -0.9
YAK *e* 08 20 24.1
YAK *e*PPP PPP 08 23 35.0
YAK *e*S S 08 27 55.2 -2.7
YAK *e* 08 29 18.8
YAK pmax pmax
comp=Z,81nm,0.8s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,108nm,4.8s
YAK pmax pmax
comp=N,123nm,4.8s
YAK pmax pmax
comp=E,24nm,2.6s
YAK smax smax
comp=E,64nm,3.3s
YAK smax smax
comp=N,117nm,3.7s
YAK **Yakutsk** 62.13 3 *e*P P 08 19 46.0 -0.9
comp=N,107nm,0.8s
YAK *e*PcP PcP 08 20 25.0 -0.4
URZ **Urewera** 62.31 134 *e*P P 08 19 49.5 +0.9
comp=N,19nm,0.5s
URZ **Urewera** 62.31 134 P P 08 19 49.4 +0.9
comp=N,18nm,0.5s,baz=257,slow=6.7,SNR=21
ZAA0 **Zalesovo Array** 62.47 336 *e*P P 08 19 47.3 -2.0
ZAA0 *e*PcP PcP 08 20 25.0 -2.0
ZALV **Zalesovo Beam** 62.47 336 *i*P P 08 19 47.5 -1.8
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV **Zalesovo Beam** 62.47 336 P P 08 19 47.5 -1.8
ZALV PcP PcP 08 20 24.9 -2.0
ZALV S S 08 28 01.0 -1.5
ZALV ⇑*e* 08 49 00.1
ZALV **Zalesovo Beam** 62.47 336 P P 08 19 47.5 -1.8
comp=Z,6.7nm,0.6s,baz=127,slow=5.4,SNR=30
ZALV PcP PcP 08 20 24.9 -2.0
comp=Z,3.0nm,0.7s,baz=113,slow=3.9,SNR=3.6
ZALV S S 08 28 01.0 -1.5
comp=Z,2.1nm,0.9s,baz=126,slow=15,SNR=7.1
ZALV PKP2bc 08 49 00.1
comp=Z,0.4nm,0.3s,baz=316,slow=4.1,SNR=3.6
KURBB **Kurchatov Arra** 63.13 330 P P 08 19 52.6 -1.2
comp=Z,13nm,0.6s,baz=140,slow=6.4,SNR=24
KURBB PcP PcP 08 20 28.4 -1.3
comp=Z,7.1nm,0.7s,baz=127,slow=3.9,SNR=8.4
KURBB pP pP 08 20 32.6 -1.9
comp=Z,14nm,1.0s,baz=128,slow=6.2,SNR=6.6
KURK **Kurchatov** 63.15 330 P P 08 19 52.2 -1.6
comp=Z,223nm,0.6s,SNR=51
KURK **Kurchatov** 63.15 330 *e*P P 08 19 52.9 -1.0
KURK 08 20 28.5
KURK *PP pP 08 20 32.7 -2.0
KURK **Kurchatov** 63.15 330 *e*P P 08 19 52.9 -1.0
KURK PcP PcP 08 20 28.4 -1.4
KURK pP pP 08 20 32.6 -2.0
KKAR **Karatay Array** 63.71 319 *e*P P 08 19 56.5 -1.3
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR **Karatay Array** 63.71 319 *e*P P 08 19 56.5 -1.3
comp=Z,7.3nm,0.8s
SEY **Seymchan** 66.52 14 ⇑*i*P P 08 20 14.7 -0.7
CASY **Casey** 66.69 186 *e*P P 08 20 16.9 +0.5
comp=Z,12nm,0.7s
FX1 **Attu Island--F** 67.10 30 *e*P P 08 20 20.0 +0.7
IMYA **Miami** 68.63 309 *e*P P 08 20 28.6 -0.9
BVA0 **Borovoye Array** 68.65 329 *i*P P 08 20 27.2 -1.8
BVA0 pmax pmax
comp=Z,63nm,1.7s
BVAR **Borovoye Array** 68.65 329 P P 08 20 28.0 -1.0
BVAR **Borovoye Array** 68.65 329 P P 08 20 28.0 -1.0
BVAR **Borovoye Array** 68.65 329 P P 08 20 28.0 -1.0
comp=Z,6.2nm,0.6s,baz=135,slow=8.1,SNR=16
BRVK **Borovoye** 68.73 329 P P 08 20 28.3 -1.2
comp=Z,105nm,1.3s,SNR=9.6
BRVK **Borovoye** 68.73 329 *e*P P 08 20 28.3 -1.2
BRVK pmax pmax
comp=Z,24nm,1.1s
BRVK **Borovoye** 68.73 329 *e*P P 08 20 28.2 -1.2
comp=Z,24nm,1.1s
HATD **Hatta, Dubai** 69.32 297 *i*P P 08 20 33.3 -0.4
SNR=10
IPAY **Payeh** 69.52 309 *e*P P 08 20 33.2 -1.8
IAKL **Akhelmad** 69.75 309 *e*P P 08 20 34.8 -1.7
ASUD **Al Ashush, Dub** 70.00 296 ⇓*i*P P 08 20 37.9 +0.1
SNR=9.2
IEMG **Emamgholi** 70.05 310 *e*P P 08 20 37.2 -1.1
AB31 **Akbulak array** 72.92 322 *i*P P 08 20 53.1 -1.7
AB31 pmax pmax
comp=Z,9.0nm,0.8s
ABKAR **Akbulak array** 72.92 322 *e*P P 08 20 53.2 -1.7
comp=Z,21nm,1.1s
ABKAR *e*PcP PcP 08 21 08.9 -2.0
ABKAR **Akbulak array** 72.92 322 ⇓P P 08 20 53.5 -1.3
baz=73
AKTO **Aktyubinsk** 74.50 323 P P 08 21 02.8 -1.2
AKTO **Aktyubinsk** 74.50 323 P P 08 21 02.8 -1.2
AKTO **Aktyubinsk** 74.50 323 P P 08 21 02.8 -1.2
comp=Z,14nm,0.7s,baz=107,slow=6.7,SNR=54
SVE **Sverdlovsk** 75.39 330 ⇓*i*P P 08 21 07.5 -1.5
SVE pmax pmax
comp=Z,42nm,0.8s
ARU **Arti** 76.30 329 P P 08 21 12.3 -1.9
comp=Z,227nm,0.8s,SNR=10
ARU **Arti** 76.30 329 *c i*P P 08 21 12.1 -2.1
ARU 08 24 02.6
ARU S S 08 30 43.0 -1.4
ARU pmax pmax
comp=Z,35nm,1.0s
ARU **Arti** 76.30 329 *e*P P 08 21 12.2 -1.9
comp=Z,23nm,0.8s
OPO **Ambohidratompo** 76.75 251 P P 08 21 17.0 -0.6
OPO **Ambohidratompo** 76.75 251 P P 08 21 17.0 -0.6
comp=Z,10nm,0.8s,baz=65,slow=3.1,SNR=7.1
UNV **Unalaska Valle** 78.52 35 *e*P P 08 21 27.0 +0.5
comp=Z,24nm,0.7s
RAYN **Ar Rayn** 78.77 294 P P 08 21 26.8 -1.8
comp=Z,214nm,0.8s,SNR=5.3
MAW **Mawson** 79.01 200 P P 08 21 28.3 -0.6
MAW **Mawson** 79.01 200 P P 08 21 28.3 -0.6
comp=Z,18nm,1.0s,baz=4.8,slow=2.9,SNR=3.6
GAMB **Gambell** 79.27 24 *e*P P 08 21 31.4 +1.1
comp=Z,5.3nm,0.7s
VNDA **Vanda** 80.15 172 P P 08 21 35.3 +0.3
VNDA **Vanda** 80.15 172 P P 08 21 35.3 +0.3
comp=Z,20nm,0.7s,baz=318,slow=5.9,SNR=78
VNDA LR LR 08 57 01.4
comp=Z,138nm,19.5s,baz=343,slow=35
SBA **Scott Base** 81.10 172 *e*P P 08 21 40.4 +0.5
SBA pmax pmax
comp=Z,7.0nm,0.8s
SBA **Scott Base** 81.10 172 *e*P P 08 21 40.4 +0.5
comp=Z,6.8nm,0.8s
TNA **Tin City** 81.42 23 *e*P P 08 21 42.5 +0.7
comp=Z,4.5nm,0.8s
ZEI **Tsey** 82.21 313 *e*P P 08 21 44.8 -1.9
ZEI pmax pmax
comp=Z,15nm,0.9s
KBZ **Khabaz** 83.05 314 P P 08 21 49.3 -1.4
KBZ **Khabaz** 83.05 314 P P 08 21 49.3 -1.4
KBZ **Khabaz** 83.05 314 P P 08 21 49.3 -1.4
comp=Z,6.8nm,0.8s,baz=97,slow=2.3,SNR=10
PRGR **Permogore** 84.17 332 ⇑*i*P P 08 21 54.7 -1.4
PRGR pmax pmax
comp=Z,68nm,0.7s
VRHR **Novokhopersk** 84.77 321 *e*P P 08 21 56.7 -2.6
VRHR pmax pmax
comp=Z,40nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.3s
KMBO **Kilima Mbogo** 85.97 269 P P 08 22 06.4 0.0
KMBO **Kilima Mbogo** 85.97 269 P P 08 22 06.4 0.0
comp=E,7.7nm,0.8s,baz=40,slow=8.8,SNR=7.4
VORD **Divnogorie** 86.22 321 *e*P P 08 22 03.5 -3.0
VORD pmax pmax
comp=Z,50nm,0.8s
VORD pmax pmax
comp=N,30nm,1.3s
VORD pmax pmax
comp=E,80nm,0.9s
VSR **Storozhevoye** 86.32 321 *e*P P 08 22 04.3 -2.7
VSR pmax pmax
comp=Z,60nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,60nm,1.0s
RSO **Redoubt South** 87.10 30 *e*P P 08 22 11.0 +0.1
comp=E,32nm,0.9s
IM04 **Indian Mountai** 87.19 24 *e*P P 08 22 11.0 0.0
SYO **Syowa Base** 87.65 201 ⇓*e*P P 08 22 12.2 -0.8
SYO **Syowa Base** 87.65 201 ⇓*e*PcP PcP 08 22 15.9 +1.2
OBN **Obninsk** 88.13 325 *e*P P 08 22 13.9 -1.6
OBN *i**PP pP 08 23 00.3 +1.3
OBN pmax pmax
comp=Z,39nm,1.2s
OBN **Obninsk** 88.13 325 P P 08 22 13.9 -1.6
comp=Z,2.8nm,0.5s
OBN **Obninsk** 88.13 325 P P 08 22 13.9 -1.6
comp=Z,12nm,0.5s,baz=200,slow=22,SNR=4.3
COLD **Coldfoot** 88.72 23 *e*P P 08 22 18.8 +0.6
comp=Z,18nm,1.1s
MCK **McKinley** 89.10 26 *e*P P 08 22 19.4 -0.6
MCK pmax pmax
comp=Z,21nm,1.0s
MCK **McKinley** 89.10 26 *e*P P 08 22 19.4 -0.6
comp=Z,21nm,1.0s
BR131 **Keskin Array S** 89.72 310 *e*P P 08 22 21.6 -2.1
comp=Z,4.4nm,0.9s
BRTR **Keskin Array B** 89.72 310 P P 08 22 21.4 -2.1
BRTR PP PP 08 25 56.4 -1.9
BRTR **Keskin Array B** 89.72 310 P P 08 22 21.4 -2.1
comp=Z,5.7nm,1.0s,baz=117,slow=4.6,SNR=18
BRTR PP PP 08 25 56.4 -1.9
comp=Z,1.2nm,0.8s,baz=111,slow=6.8,SNR=4.9
QSPA **South Pole Qui** 89.87 180 P P 08 22 24.6 +1.0
QSPA **South Pole Qui** 89.87 180 P P 08 22 24.6 +1.0
comp=Z,9.0nm,0.7s,baz=315,slow=2.2,SNR=20
ILAR **Eielson Array** 90.01 25 P P 08 22 22.6 -1.6
ILAR PKKPbc PKKPbc 08 39 55.4 -2.1
ILAR **Eielson Array** 90.01 25 P P 08 22 22.6 -1.6
comp=Z,1.7nm,0.5s,baz=244,slow=5.1,SNR=38
ILAR PKKPbc PKKPbc 08 39 55.4 -2.1
comp=Z,1.3nm,0.8s,baz=86,slow=1.7,SNR=8.9
PAX **Paxson** 90.65 27 *e*P P 08 22 27.4 0.0
PAX pmax pmax
comp=Z,7.0nm,1.1s
PAX **Paxson** 90.65 27 *e*P P 08 22 27.4 0.0
comp=Z,6.8nm,1.1s
JOF **Joensuu** 90.93 333 *e*P P 08 22 26.5 -2.0
JOF pmax pmax
comp=Z,12nm,0.4s
JOF **Joensuu** 90.93 333 *e*p P 08 22 26.5 -2.0
comp=Z,12nm,0.4s
KEV **Kevo** 92.22 340 *e*P P 08 22 32.0 -2.3
KEV pmax pmax
comp=Z,1.0nm,0.5s
KEV **Kevo** 92.22 340 *e*p P 08 22 32.0 -2.3
comp=Z,1.3nm,0.5s
EGAK **Eagle** 92.46 25 *e*P P 08 22 35.5 -0.1
comp=Z,3.8nm,0.3s
AKASG **Malin Array Be** 92.59 321 P P 08 22 33.7 -2.7
AKASG 08 26 23.2
AKASG **Malin Array Be** 92.59 321 P P 08 22 33.7 -2.7
AKASG PP PP 08 26 23.2 +2.9
AKASG **Malin Array Be** 92.59 321 P P 08 22 33.7 -2.7
comp=Z,4.1nm,0.7s,baz=74,slow=4.2,SNR=16
AKASG PP PP 08 26 23.2 +2.9
comp=Z,0.3nm,0.4s,baz=75,slow=6.7,SNR=4.3
KIEV **Kiev** 92.60 321 *e*P P 08 22 34.8 -1.7
ARCES **ARCESS Array B** 92.77 340 P P 08 22 34.9 -2.0
ARCES PKKPbc PKKPdf 08 39 48.1 +0.4
ARCES **ARCESS Array B** 92.77 340 P P 08 22 34.9 -2.0
comp=Z,7.8nm,0.7s,baz=82,slow=5.5,SNR=16
ARCES PKKPbc PKKPdf 08 39 48.1 +0.4
comp=Z,5.0nm,1.0s,baz=259,slow=2.5,SNR=5.4
FIA1 **FINESS Array S** 93.48 331 P P 08 22 38.1 -2.2
FINES **FINESS Array B** 93.48 331 P P 08 22 38.0 -2.3
FINES PKiKP PKiKP 08 27 25.3 +0.1
FINES **FINESS Array B** 93.48 331 P P 08 22 38.0 -2.3
comp=Z,2.2nm,0.5s,baz=61,slow=4.7,SNR=24
FINES PKiKP PKiKP 08 27 25.3 +0.1
comp=Z,0.9nm,0.6s,baz=94,slow=3.3,SNR=5.7
IDID **Didziasalis** 93.76 325 *e*P P 08 22 40.3 -1.3
IDID AMB AMB 08 22 42.0
comp=Z,22nm,1.0s
NACGM **Naroch** 93.77 325 *e* P 08 22 38.0 -3.8
IIGN **Ignalina** 94.05 325 *e*P P 08 22 41.2 -1.8
IIGN AMB AMB 08 22 42.8
comp=Z,12nm,1.0s
ISAL **Salakas** 94.08 326 *e*P P 08 22 41.7 -1.4
ISAL AMB AMB 08 22 43.4
comp=Z,13nm,1.2s
LSZ **Lusaka** 94.84 255 *e*P P 08 22 47.0 -0.7
comp=Z,49nm,1.0s
BUR08 **Bucovina Ar. S** 95.47 318 *e*P P 08 22 48.6 -1.2
UZH **Uzhgorod** 97.28 319 *e*P P 08 22 56.1 -1.8
UZH *e* 08 23 36.1
NB2 **NORSAR Subarra** 100.57 333 P Pdif 08 23 09.1 -3.2
comp=Z,4.1nm,0.8s,baz=73,slow=4.6
NOA **NORSAR Array B** 100.57 333 P Pdif 08 23 09.8 -2.5
NOA **NORSAR Array B** 100.57 333 P Pdif 08 23 09.8 -2.5
comp=Z,3.2nm,0.9s,baz=72,slow=4.7,SNR=5.2
RES **Resolute Bay** 102.13 10 P Pdif 08 23 18.2 -0.7
RES **Resolute Bay** 102.13 10 P Pdif 08 23 18.2 -0.7
comp=Z,2.2nm,0.8s,baz=298,slow=4.3,SNR=5.9
GERES **GERESS Array B** 102.80 320 P Pdif 08 23 22.1 -0.6
GERES PP PKiKP 08 27 41.2 -1.1
GERES **GERESS Array B** 102.80 320 P Pdif 08 23 22.1 -0.6
comp=Z,1.0nm,0.8s,baz=37,slow=3.3,SNR=5.2
GERES PP PKiKP 08 27 41.2 -1.1
comp=Z,0.8nm,0.7s,baz=59,slow=5.1,SNR=5.3
YKA **Yellowknife Ar** 104.37 24 Pdif Pdif 08 23 30.3 +1.2
YKA PKiKP PKiKP 08 27 44.2 -0.4
YKA PKKPbc PKKPbc 08 39 14.7 -3.3
YKA **Yellowknife Ar** 104.37 24 Pdiff Pdif 08 23 30.3 +1.2
comp=Z,0.6nm,0.9s,baz=294,slow=4.7,SNR=8.5
YKA PKiKP PKiKP 08 27 44.2 -0.4
comp=Z,0.4nm,0.6s,baz=296,slow=1.9,SNR=14
YKA PKKPbc PKKPbc 08 39 14.7 -3.3
comp=Z,1.4nm,0.7s,baz=113,slow=2.4,SNR=23
M04C **Macdoel** 108.42 46 P PKiKP 08 27 53.3 +0.4
baz=108
NEW **Newport** 109.35 38 PKiKP PKiKP 08 27 56.2 +1.8
NEW **Newport** 109.35 38 PKiKP PKiKP 08 27 56.2 +1.8
comp=Z,0.9nm,0.6s,baz=337,slow=8.8,SNR=3.7
CMB **Columbia Colle** 110.59 49 *e*PKiKP PKiKP 08 27 55.6 -1.4
CMB **Columbia Colle** 110.59 49 *e*PKPdf PKiKP 08 27 55.6 -1.4
MSO **Missoula** 111.91 38 P PKiKP 08 27 59.6 +0.2
baz=112
PKM **Peak Mountain** 111.92 52 P PKiKP 08 28 01.3 +1.5
baz=112
NVAR **Mina Array Bea** 112.03 48 PKiKP PKiKP 08 28 01.5 +1.5
NVAR PKKPbc PKKPbc 08 38 53.2 -0.1
NVAR PKKPab PKKPab 08 39 02.0 0.0
NVAR **Mina Array Bea** 112.03 48 PKiKP PKiKP 08 28 01.5 +1.5
comp=Z,3.1nm,0.6s,baz=280,slow=2.0,SNR=35
NVAR PKKPbc PKKPbc 08 38 53.2 -0.1
comp=Z,0.4nm,0.7s,baz=138,slow=4.2,SNR=4.5
NVAR PKKPab PKKPab 08 39 02.0 0.0
comp=Z,0.4nm,0.6s,baz=128,slow=3.7,SNR=4.1
HLID **Hailey** 112.94 42 P PKiKP 08 28 02.9 +1.4
baz=113
GRAC **Grapevine Rang** 113.19 49 P PKiKP 08 28 03.4 +1.4
baz=113
EDW2 **Edwards Air Fo** 113.36 52 P PKiKP 08 28 03.7 +1.3
baz=113
LRMC **Laurel Mountai** 113.42 51 P PKiKP 08 28 04.0 +1.4
baz=113
MCMT **McKenzie Canyo** 113.45 40 *e*PKPdf PKiKP 08 28 03.0 +0.5
FURC **Furnace Creek,** 113.74 50 P PKiKP 08 28 04.8 +1.8
baz=114
BFSC **Mount Baldy Ra** 113.81 52 P PKiKP 08 28 04.4 +1.0
baz=114
EGMT **Eagleton** 113.89 36 P PKiKP 08 28 03.6 +0.5
baz=114
A19A **Klindworth Far** 114.03 35 P PKiKP 08 28 03.8 +0.5
baz=114
TPNV **Topopah Spring** 114.05 49 P PKPdf 08 28 05.0 +1.1
baz=114
R11A **Troy Canyon, C** 114.07 47 P PKPdf 08 28 05.1 +1.2
baz=114
B19A **Brinkman Farms** 114.15 35 P PKPdf 08 28 04.1 +0.6
baz=114
GSC **Goldstone** 114.16 51 *e*PKiKP PKPdf 08 28 05.4 +1.4
GSC **Goldstone** 114.16 51 *e*PKPdf PKPdf 08 28 05.4 +1.5
GSC **Goldstone** 114.16 51 P PKPdf 08 28 05.1 +1.1
baz=114
SHOC **Shoshone** 114.37 50 P PKPdf 08 28 05.7 +1.4
baz=114
C19A **Slack Wire Ran** 114.45 36 P PKPdf 08 28 05.0 +0.9
baz=114
B20A **Solberg Farm,** 114.69 35 P PKPdf 08 28 04.9 +0.3
baz=115
HVU **Hansel Valley** 114.77 43 *e*PKiKP PKPdf 08 28 05.9 +0.8
HVU **Hansel Valley** 114.77 43 *e*PKPdf PKPdf 08 28 05.9 +0.9
D19A **Cripps Ranch,** 114.83 36 P PKPdf 08 28 05.2 +0.3
baz=115
PFO **Pinyon Flat Ob** 114.95 53 PKP PKPdf 08 28 06.2 +0.6
PFO **Pinyon Flat Ob** 114.95 53 PKP PKPdf 08 28 06.2 +0.6
comp=Z,3.7nm,0.7s,baz=268,slow=0.7,SNR=11
PFO **Pinyon Flat Ob** 114.95 53 P PKPdf 08 28 06.8 +1.2
baz=115
A21A **Bergtoll Ranch** 115.02 34 P PKPdf 08 28 05.5 +0.3
baz=115
SHPR **Sheep Range** 115.02 49 *e*PKPdf PKPdf 08 28 07.4 +1.6
C20A **Veseth Ranch,** 115.07 36 P PKPdf 08 28 05.9 +0.6
baz=115
BELC **Belle Mtn. Jos** 115.19 52 P PKPdf 08 28 07.6 +1.5
baz=115
MONP **Monument Peak** 115.20 53 P PKPdf 08 28 07.5 +1.3
baz=115
GMRC **Granite Mounta** 115.21 51 P PKPdf 08 28 07.8 +1.7
baz=115
E19A **Rath Farm, Rou** 115.23 37 P PKPdf 08 28 06.2 +0.5
baz=115
D20A **Manuel Ranch,** 115.31 36 P PKPdf 08 28 06.2 +0.4
baz=115
DUG **Dugway** 115.38 45 *e*PKiKP PKPdf 08 28 07.4 +1.1
DUG **Dugway** 115.38 45 *e*PKPdf PKPdf 08 28 07.4 +1.1
DUG **Dugway** 115.38 45 P PKPdf 08 28 07.4 +1.1
baz=115
F19A **Roth Farm, Mol** 115.43 38 P PKPdf 08 28 06.4 +0.2
baz=115
DVTC **Desert V Tower** 115.53 54 P PKPdf 08 28 08.3 +1.6
baz=116
A22A **Carney Farms,** 115.58 34 P PKPdf 08 28 06.9 +0.7
baz=116
E20A **Meyer Farm, Mu** 115.60 37 P PKPdf 08 28 06.8 +0.4
baz=116
SWSC **Sam W. Stewart** 115.69 53 P PKPdf 08 28 08.7 +1.8
baz=116
BC3 **Big Chuckawall** 115.73 52 P PKPdf 08 28 08.6 +1.5
baz=116
IRM **Iron Mountain** 115.81 52 P PKPdf 08 28 08.7 +1.6
baz=116
FRB **Frobisher Bay** 115.87 6 PKP PKPdf 08 28 05.4 -0.8
FRB **Frobisher Bay** 115.87 6 PKP PKPdf 08 28 05.4 -0.8
comp=Z,2.0nm,0.7s,baz=202,slow=14,SNR=3.8
F20A **Billings** 115.94 37 P PKPdf 08 28 07.4 +0.3
baz=116
H19A **Powell** 115.97 39 P PKPdf 08 28 08.4 +1.1
baz=116
D21A **La Casta Ranch** 115.99 36 P PKPdf 08 28 07.7 +0.6
baz=116
G20A **Bridger** 116.19 38 P PKPdf 08 28 08.2 +0.5
baz=116
E21A **Keefer Ranch,** 116.21 36 P PKPdf 08 28 08.3 +0.7
baz=116
C22A **Vida** 116.27 35 P PKPdf 08 28 08.3 +0.7
baz=116
I19A **Meeteetse** 116.27 39 P PKPdf 08 28 08.5 +0.5
baz=116
MPU **Maple Canyon** 116.28 44 *e*PKPdf PKPdf 08 28 08.9 +0.8
DAU **Daniels Canyon** 116.38 44 *e*PKiKP PKPdf 08 28 08.4 0.0
DAU **Daniels Canyon** 116.38 44 *e*PKPdf PKPdf 08 28 08.4 0.0
B23A **Brockton** 116.38 34 P PKPdf 08 28 08.2 +0.4
baz=116
D22A **Cohagen** 116.42 35 P PKPdf 08 28 08.9 +1.0
baz=116
GLA **Glamis** 116.42 53 P PKPdf 08 28 09.8 +1.5
baz=116
Y12C **Blythe** 116.44 52 P PKPdf 08 28 09.7 +1.4
baz=116
W13A **Hualapai Mount** 116.48 50 P PKPdf 08 28 10.1 +1.5
baz=116
PDAR **Pinedale Array** 116.50 41 PKP PKPdf 08 28 08.7 +0.2
PDAR PKKPbc PKKPbc 08 38 35.5 -2.8
PDAR PKKPab PKKPab 08 38 41.2 -1.0
PDAR **Pinedale Array** 116.50 41 PKP PKPdf 08 28 08.7 +0.2
comp=Z,2.0nm,0.6s,baz=139,slow=1.3,SNR=16
PDAR PKKPbc PKKPbc 08 38 35.5 -2.8
comp=Z,1.6nm,0.8s,baz=126,slow=5.1,SNR=6.5
PDAR PKKPab PKKPab 08 38 41.2 -1.0
comp=Z,2.7nm,0.7s,baz=120,slow=6.4,SNR=19
PDMCI **Parker Dam,Lak** 116.56 51 P PKPdf 08 28 09.6 +1.1
baz=116
J19A **Crowheart** 116.59 40 P PKPdf 08 28 09.3 +0.8
baz=116
C23A **Lambert** 116.64 34 P PKPdf 08 28 09.2 +0.9
baz=116
A24A **Westby** 116.66 33 P PKPdf 08 28 08.9 +0.6
baz=116
H20A **Greybull** 116.68 39 P PKPdf 08 28 09.0 +0.4
baz=117
I20A **Worland** 116.86 39 P PKPdf 08 28 09.6 +0.7
baz=117
TMUT **Trail Mountain** 116.87 45 *e*PKPdf PKPdf 08 28 10.7 +1.3
E22A **Miles City** 116.93 36 P PKPdf 08 28 09.6 +0.7
baz=117
D23A **Lindsay** 116.97 35 P PKPdf 08 28 10.1 +1.1
baz=117
F22A **Rosebud** 117.09 37 P PKPdf 08 28 09.9 +0.6
baz=117
A25A **Svangstu Ranch** 117.13 32 P PKPdf 08 28 09.9 +0.7
baz=117
J20A **Shoshoni** 117.18 40 P PKPdf 08 28 10.3 +0.7
baz=117
U15A **North Rim** 117.21 48 P PKPdf 08 28 12.0 +1.9
baz=117
C24A **Savage** 117.22 34 P PKPdf 08 28 10.6 +1.1
baz=117
G22A **Birney** 117.36 37 P PKPdf 08 28 09.7 -0.2
baz=117
SRU **San Rafael** 117.44 45 *e*PKiKP PKPdf 08 28 10.9 +0.6
SRU **San Rafael** 117.44 45 *e*PKPdf PKPdf 08 28 10.9 +0.6

SRU eSKPdf **SKPdf** 08 31 29.5 0.0
I21A Big Trails, Te 117.46 39 P **PKPdf** 08 28 10.2 0.0
baz=117
D24A Glendive 117.50 35 P **PKPdf** 08 28 10.4 +0.4
baz=117
Y14A Wickenburg 117.56 51 P **PKPdf** 08 28 11.6 +1.1
baz=118
J21A Lysite 117.59 40 P **PKPdf** 08 28 10.6 +0.1
baz=118
F23A Volborg 117.63 36 P **PKPdf** 08 28 10.8 +0.5
baz=118
H22A Clearmont 117.65 38 P **PKPdf** 08 28 10.7 +0.2
baz=118
A26A Wade Farm, Ken 117.73 32 P **PKPdf** 08 28 11.1 +0.7
baz=118
C25A Freed Ranch, W 117.77 34 P **PKPdf** 08 28 11.3 +0.8
baz=118
E24A Baker 117.82 35 P **PKPdf** 08 28 11.4 +0.8
baz=118
ESDC Sonseca Array 117.85 316 PKP **PKPdf** 08 28 10.3 -0.6
ESDC Sonseca Array 117.85 316 PKP **PKPdf** 08 28 10.4 -0.6
comp=Z,0.9nm,0.6s,baz=18,slow=2.5,SNR=6.9
G23A Biddle 117.92 37 P **PKPdf** 08 28 11.2 +0.3
baz=118
I22A 9 Mile Ranch, 117.92 39 P **PKPdf** 08 28 11.0 -0.1
baz=118
B26A Jensen Ranch, 117.94 33 P **PKPdf** 08 28 11.1 +0.3
baz=118
D25A Fairfield 118.05 34 P **PKPdf** 08 28 12.0 +1.0
baz=118
K21A Alcova 118.06 40 P **PKPdf** 08 28 11.7 +0.2
baz=118
J22A Midwest 118.17 39 P **PKPdf** 08 28 11.3 -0.2
baz=118
N20A Spence Gulch, 118.24 42 P **PKPdf** 08 28 12.9 +1.0
baz=118
WUAZ Wupatki 118.24 49 ePKPdf **PKPdf** 08 28 13.3 +1.4
WUAZ Wupatki 118.24 49 P **PKPdf** 08 28 13.3 +1.4
baz=118
C26A Wahner Farm, P 118.33 33 P **PKPdf** 08 28 12.2 +0.7
baz=118
E25A Miller Ranch, 118.37 35 P **PKPdf** 08 28 12.4 +0.7
baz=118
214A Organ Pipe Nat 118.39 53 P **PKPdf** 08 28 13.3 +1.1
baz=118
G24A Alzada 118.43 36 P **PKPdf** 08 28 12.0 +0.1
baz=118
K22A Casper 118.52 40 ePKPdf **PKPdf** 08 28 12.2 -0.1
K22A Casper 118.52 40 P **PKPdf** 08 28 12.1 -0.1
baz=118
O20A White River Ci 118.58 43 ePKPdf **PKPdf** 08 28 09.2 -3.3
O20A White River Ci 118.58 43 P **PKPdf** 08 28 13.5 +1.0
baz=118
X16A Lo Mia Camp, P 118.60 50 P **PKPdf** 08 28 14.4 +1.7
baz=119
D26A Manning 118.61 34 P **PKPdf** 08 28 12.7 +0.5
baz=118
A28A Rude Farm, Bot 118.65 31 P **PKPdf** 08 28 12.4 +0.2
baz=118
H24A Dirks Ranch, A 118.66 37 P **PKPdf** 08 28 12.3 -0.1
baz=119
C27A Sayler Ranch, 118.72 33 P **PKPdf** 08 28 13.0 +0.7
baz=119
PV04 Paradox Valley 118.89 45 ePKPdf **PKPdf** 08 28 14.4 +1.2
B28A Dugan Ranch, T 118.89 32 P **PKPdf** 08 28 12.8 +0.2
baz=119
E26A Carlson Angus 118.92 34 P **PKPdf** 08 28 13.4 +0.7
baz=119
K23A Bowen Ranch, D 119.04 39 P **PKPdf** 08 28 13.1 -0.1
baz=119
M22A Cedar Creek Ra 119.08 41 P **PKPdf** 08 28 13.9 +0.4
baz=119
I24A Kuemmerle Ranc 119.09 38 P **PKPdf** 08 28 13.0 -0.3
baz=119
G25A Newell 119.09 36 P **PKPdf** 08 28 13.0 -0.1
baz=119
F26A Lodgepole 119.16 35 P **PKPdf** 08 28 13.7 +0.5
baz=119
A29A Manning Farm, 119.17 31 P **PKPdf** 08 28 13.0 -0.1
baz=119
PV01 Paradox Valley 119.23 45 ePKPdf **PKPdf** 08 28 15.1 +1.2
H25A Fruitdale 119.30 37 P **PKPdf** 08 28 13.7 +0.1
baz=119
RSSD Black Hills 119.31 37 ePKIKP **PKPdf** 08 28 13.6 -0.2
RSSD Black Hills 119.31 37 ePKPdf **PKPdf** 08 28 13.6 -0.2
L23A Garrett 119.31 40 P **PKPdf** 08 28 13.7 -0.2
baz=119
J24A Dixon Ranch, L 119.35 38 P **PKPdf** 08 28 13.6 -0.1
baz=119
B29A Wagenman Farm, 119.40 31 P **PKPdf** 08 28 13.5 -0.1
baz=119
E27A Carson 119.45 34 P **PKPdf** 08 28 14.4 +0.6
baz=119
N22A Wattenberg Ran 119.47 42 P **PKPdf** 08 28 15.0 +0.7
baz=119
F27A Lemmon 119.52 35 P **PKPdf** 08 28 14.3 +0.4
baz=119
I25A Rochford 119.55 37 P **PKPdf** 08 28 14.1 -0.1
baz=119
K24A Anderson Ranch 119.57 39 P **PKPdf** 08 28 14.0 -0.3
baz=120
M23A Laramie 119.62 41 P **PKPdf** 08 28 14.7 +0.2
baz=120
A30A Hoffart Farm, 119.63 30 P **PKPdf** 08 28 13.8 -0.2
baz=120
MDND Maddock 119.66 32 ePKPdf **PKPdf** 08 28 13.8 -0.2
MDND Maddock 119.66 32 P **PKPdf** 08 28 14.0 -0.1
baz=120
MVCO Mesa Verde 119.68 46 ePKPdf **PKPdf** 08 28 15.9 +1.1
MVCO Mesa Verde 119.68 46 P **PKPdf** 08 28 16.1 +1.3
baz=120
X18A Snowflake 119.70 50 P **PKPdf** 08 28 16.1 +1.3
baz=120
O22A Kremmling 119.71 42 P **PKPdf** 08 28 15.2 +0.3
baz=120
N23A Red Feather La 119.76 41 P **PKPdf** 08 28 15.4 +0.6
baz=120
P22A Eagle 119.84 43 P **PKPdf** 08 28 16.3 +1.3
baz=120
J25A Sunshine Ranch 119.85 38 P **PKPdf** 08 28 14.6 -0.1
baz=120
E28A Huff 119.85 33 P **PKPdf** 08 28 14.6 +0.1
baz=120
G27A Dupree 119.85 35 P **PKPdf** 08 28 14.6 0.0
baz=120
B30A Myrvik Farm, E 119.94 31 P **PKPdf** 08 28 14.4 -0.2
baz=120
ULM Lac du Bonnet 119.94 28 PKP **PKPdf** 08 28 13.6 -0.9
ULM Lac du Bonnet 119.94 28 PKP **PKPdf** 08 28 13.6 -0.9
comp=Z,8.6nm,0.6s,baz=311,slow=2.5,SNR=16
I26A New Underwood 120.07 37 P **PKPdf** 08 28 15.5 +0.4
baz=120
O23A Lake Granby, G 120.11 42 P **PKPdf** 08 28 16.7 +1.1
baz=120
H27A Howes 120.20 36 P **PKPdf** 08 28 15.2 -0.1
baz=120
M24A Cheyenne 120.21 40 P **PKPdf** 08 28 16.5 +0.9
baz=120
K25A Mack Ranch, Ha 120.22 39 P **PKPdf** 08 28 15.7 +0.1
baz=120
F28A McLaughlin 120.22 34 P **PKPdf** 08 28 15.6 +0.4
baz=120
J26A Sides Ranch, S 120.33 38 P **PKPdf** 08 28 16.1 +0.5
baz=120
C30A Mose, Pekin 120.34 31 P **PKPdf** 08 28 15.4 0.0
baz=120
ISCO Idaho Springs 120.52 42 ePKIKP **PKPdf** 08 28 16.9 +0.5
ISCO Idaho Springs 120.52 42 ePKPdf **PKPdf** 08 28 16.9 +0.5
ISCO Idaho Springs 120.52 42 P **PKPdf** 08 28 17.1 +0.7
baz=120
I27A Quinn 120.53 36 P **PKPdf** 08 28 15.9 0.0
baz=120
D30A Buchanan 120.57 32 P **PKPdf** 08 28 15.9 0.0
baz=120
P23A Jefferson 120.57 43 P **PKPdf** 08 28 17.7 +1.2
baz=120
K26A Motz Farm, Whi 120.60 38 P **PKPdf** 08 28 16.0 -0.1
baz=120
G28A Parade 120.61 35 P **PKPdf** 08 28 16.0 0.0
baz=120
S22A 4UR Ranch, Cre 120.64 45 P **PKPdf** 08 28 18.1 +1.4
baz=121
TOA0 Torodi Ar. Sit 120.64 285 ePKPdf **PKPdf** 08 28 15.9 -0.9
TORD Torodi Ar. Bea 120.64 285 PKP **PKPdf** 08 28 16.1 -0.7
TORD PP **PP** 08 29 43.1 -3.7
TORD PKKPbc **PKKPab** 08 38 24.0 0.0
TORD Torodi Ar. Bea 120.64 285 PKP **PKPdf** 08 28 16.1 -0.7
comp=Z,7.5nm,0.7s,baz=60,slow=1.7,SNR=48
TORD PP **PP** 08 29 43.1 -3.7
comp=Z,1.5nm,0.7s,baz=58,slow=5.8,SNR=4.8
TORD PKKPbc **PKKPab** 08 38 24.0 0.0
comp=Z,2.6nm,0.7s,baz=275,slow=4.0,SNR=13
O24A Longmont 120.72 42 P **PKPdf** 08 28 17.4 +0.9
baz=121
M25A Palm-Egli Farm 120.72 40 P **PKPdf** 08 28 18.2 +1.7
baz=121
F29A Eureka 120.78 34 P **PKPdf** 08 28 16.1 -0.2
baz=121
H28A Mission Ridge 120.79 35 P **PKPdf** 08 28 16.5 +0.1
baz=121
J27A Elkhorn Farm, 121.02 37 P **PKPdf** 08 28 17.2 +0.2
baz=121
L26A Underwood Farm 121.02 39 P **PKPdf** 08 28 17.3 +0.3
baz=121
I28A Midland 121.09 36 P **PKPdf** 08 28 17.1 +0.1
baz=121
G29A Hoven 121.11 34 P **PKPdf** 08 28 16.8 -0.2
baz=121
P24A Kohler Place, 121.13 42 P **PKPdf** 08 28 18.2 +0.8
baz=121
R23A Moffat 121.14 44 P **PKPdf** 08 28 18.9 +1.3
baz=121
K27A Flueckinger Fa 121.18 38 P **PKPdf** 08 28 17.1 -0.2
baz=121
U22A Llaves 121.23 46 P **PKPdf** 08 28 19.5 +1.8
baz=121
Q24A Divide 121.23 43 P **PKPdf** 08 28 18.8 +1.0
baz=121
H29A Onida 121.28 35 P **PKPdf** 08 28 17.1 -0.2
baz=121
J28A Allard Ranch, 121.38 37 P **PKPdf** 08 28 17.7 +0.1
baz=121
V22A San Miguel Ran 121.40 47 P **PKPdf** 08 28 19.8 +1.7
baz=121
319A Douglas 121.41 53 P **PKPdf** 08 28 19.8 +1.7
baz=121
T23A Casias Ranch, 121.53 45 P **PKPdf** 08 28 20.0 +1.7
baz=121
SDCO Great Sand Dun 121.57 44 ePKPdf **PKPdf** 08 28 19.4 +0.9
G30A Faulkton 121.59 34 P **PKPdf** 08 28 17.6 -0.2
baz=122
I29A Vivian Onida 121.59 36 P **PKPdf** 08 28 17.8 -0.2
baz=122
R24A Sanders Place, 121.62 44 P **PKPdf** 08 28 19.4 +1.0
baz=122
P25A Willow Gulch B 121.63 42 P **PKPdf** 08 28 19.2 +0.9
baz=122
K28A Ten Mile Ranch 121.71 37 P **PKPdf** 08 28 18.4 +0.1
baz=122
M27A Reverse DX Ran 121.73 39 P **PKPdf** 08 28 18.5 +0.1
baz=122
U23A El Rito 121.73 46 P **PKPdf** 08 28 20.3 +1.6
baz=122
S24A Houchin Ranch, 121.83 44 P **PKPdf** 08 28 20.1 +1.2
baz=122
Q25A Bedland, Calha 121.87 43 P **PKPdf** 08 28 19.5 +0.6
baz=122
J29A Okreek 121.94 36 P **PKPdf** 08 28 18.5 -0.1
baz=122
T24B San Luis 121.98 45 P **PKPdf** 08 28 21.2 +2.0
baz=122
V23A Ortiz Mt. (NFS 122.00 47 P **PKPdf** 08 28 21.5 +2.3
baz=122
L28A Connealy Angus 122.01 38 P **PKPdf** 08 28 19.4 +0.5
baz=122
320A Kipp Ranch, An 122.02 52 P **PKPdf** 08 28 21.0 +1.7
baz=122
121A Cookes Peak, D 122.14 51 ePKPdf **PKPdf** 08 28 20.9 +1.3
121A Cookes Peak, D 122.14 51 P **PKPdf** 08 28 21.2 +1.7
baz=122
P26A Davis Ranch, A 122.15 42 P **PKPdf** 08 28 20.0 +0.7
baz=122
ANMO Albuquerque 122.15 48 ePKPdf **PKPdf** 08 28 20.4 +0.9
ANMO PKP **PKPdf** 08 28 20.6 +1.0
ANMO Albuquerque 122.15 48 PKP **PKPdf** 08 28 20.6 +1.0
comp=Z,12nm,0.9s,baz=216,slow=3.4,SNR=35
Y22D IRIS PASSCAL I 122.18 49 P **PKPdf** 08 28 21.2 +1.7
baz=122
R25A Fountain Ranch 122.22 43 P **PKPdf** 08 28 20.3 +0.8
baz=122
W23A Werner Place, 122.28 47 P **PKPdf** 08 28 21.1 +1.3
baz=122
LPM Los Pinos Moun 122.29 48 ePKPdf **PKPdf** 08 28 20.8 +1.0
K29A Lazy Trails An 122.31 37 P **PKPdf** 08 28 19.2 -0.2
baz=122
U24A Moreno Valley 122.35 46 P **PKPdf** 08 28 21.6 +1.6
baz=122
S25A Robets Cordova 122.36 44 P **PKPdf** 08 28 20.6 +0.7
baz=122
Q26A Hugo 122.36 42 P **PKPdf** 08 28 20.4 +0.6
baz=122
BNM Barren Site 122.36 49 ePKPdf **PKPdf** 08 28 20.7 +0.7
M28A Bar X Bar Ranc 122.44 39 P **PKPdf** 08 28 19.5 -0.2
baz=122
J30A Dallas 122.47 36 P **PKPdf** 08 28 19.4 -0.3
baz=122
Z22A Elephant Butte 122.48 50 P **PKPdf** 08 28 21.7 +1.5
baz=122
X23A Hourglass Bar 122.51 48 P **PKPdf** 08 28 21.6 +1.3
baz=122
T25A Trinidad 122.62 45 P **PKPdf** 08 28 21.7 +1.3
baz=122
P27A Ficken Ranch, 122.66 41 P **PKPdf** 08 28 20.7 +0.5
baz=123
V24A Rampart Ranch, 122.67 46 P **PKPdf** 08 28 22.4 +1.9
baz=123
R26A Arlington 122.72 43 P **PKPdf** 08 28 21.3 +0.8
baz=123
N28A Pribbeno Ranch 122.73 40 P **PKPdf** 08 28 20.5 +0.2
baz=123
K30A Basset 122.79 37 P **PKPdf** 08 28 20.5 +0.2
baz=123
W24A Lazy 6 Ranch, 122.81 47 P **PKPdf** 08 28 22.2 +1.4
baz=123
222A Williams Famil 122.85 51 P **PKPdf** 08 28 22.4 +1.5
baz=123
Y23A Lovelace Mesa, 122.89 49 P **PKPdf** 08 28 22.0 +1.1
baz=123
KSCO Kaye Shedlock' 122.91 42 ePKPdf **PKPdf** 08 28 21.4 +0.6
KSCO Kaye Shedlock' 122.91 42 P **PKPdf** 08 28 21.3 +0.6
baz=123
U25A Circle Dot Ran 122.98 45 P **PKPdf** 08 28 22.2 +1.1
baz=123
Z23A Rita Site, Whi 123.04 49 P **PKPdf** 08 28 22.8 +1.6
baz=123
S26A Kim 123.04 44 P **PKPdf** 08 28 22.1 +1.0
baz=123
V25A Rancho No Teng 123.09 46 P **PKPdf** 08 28 22.7 +1.4
baz=123
L30A Spencer Herefo 123.15 37 P **PKPdf** 08 28 20.6 -0.4
baz=123
R27A Eads 123.17 43 P **PKPdf** 08 28 22.0 +0.8
baz=123
T26A Comanche Natio 123.18 44 P **PKPdf** 08 28 22.5 +1.0
baz=123
P28A Saint Francis 123.19 41 P **PKPdf** 08 28 21.5 +0.2
baz=123
123A Bell Site, Whi 123.28 50 P **PKPdf** 08 28 23.1 +1.5
baz=123
Y24A Capitan 123.35 48 P **PKPdf** 08 28 23.1 +1.2
baz=123
Q28A Sharon Springs 123.41 41 P **PKPdf** 08 28 22.5 +0.8
baz=123
U26A Atchley Ranch, 123.45 45 P **PKPdf** 08 28 22.9 +1.0
baz=123
W25A X Bar L Ranch, 123.49 47 P **PKPdf** 08 28 23.1 +1.1
baz=123
O29A 4D Ranch, Culb 123.51 40 P **PKPdf** 08 28 22.0 +0.2
baz=123
L31A Butterfield Fa 123.54 37 P **PKPdf** 08 28 21.6 -0.1
baz=123
Z24A Sheeppen Canyo 123.67 49 P **PKPdf** 08 28 23.7 +1.2
baz=124
V26A Tequesquite Ra 123.71 46 P **PKPdf** 08 28 22.9 +0.5
baz=124
P29A Atwood 123.71 40 P **PKPdf** 08 28 22.5 +0.3
baz=124
R28A Tribune 123.80 42 P **PKPdf** 08 28 23.3 +0.8
baz=124
T27A Campo 123.84 44 P **PKPdf** 08 28 23.8 +1.2
baz=124
124A Stringfield Ra 123.87 50 P **PKPdf** 08 28 24.6 +1.6
baz=124
ECSD EROS Data Cent 123.87 34 ePKPdf **PKPdf** 08 28 22.4 0.0
ECSD EROS Data Cent 123.87 34 P **PKPdf** 08 28 22.3 0.0
baz=124
Y25A Mesa, Roswell 123.91 48 P **PKPdf** 08 28 23.8 +1.0
baz=124
O30A MW Ranch, Wils 123.95 39 P **PKPdf** 08 28 22.5 -0.2
baz=124
M31A Lambtecht Ranc 123.95 38 P **PKPdf** 08 28 22.0 -0.6
baz=124
W26A Owens Ranch, T 124.06 46 P **PKPdf** 08 28 24.0 +0.9
baz=124
Q29A Oakley 124.06 41 P **PKPdf** 08 28 23.3 +0.4
baz=124
224A Cornudas Mount 124.08 50 P **PKPdf** 08 28 24.6 +1.3
baz=124
U27A Thompson Grove 124.09 45 P **PKPdf** 08 28 23.9 +0.8
baz=124
S28A Manter 124.14 43 P **PKPdf** 08 28 23.7 +0.6
baz=124
Z25A Roswell 124.18 49 P **PKPdf** 08 28 24.4 +1.1
baz=124
P30A Selden 124.18 40 P **PKPdf** 08 28 23.6 +0.5
baz=124
T28A Walsh 124.23 43 P **PKPdf** 08 28 24.1 +0.8
baz=124
X26A CR and CF Fran 124.28 47 P **PKPdf** 08 28 24.2 +0.7
baz=124
MNTX Cornudas Mount 124.35 51 ePKPdf **PKPdf** 08 28 24.4 +0.8
324A Moseley Ranch, 124.37 51 P **PKPdf** 08 28 24.8 +1.0
baz=124
V27A Dan Oppiter Fa 124.40 45 P **PKPdf** 08 28 24.5 +0.8
baz=124
BGNE Belgrade 124.42 37 ePKPdf **PKPdf** 08 28 23.4 0.0
BGNE Belgrade 124.42 37 P **PKPdf** 08 28 23.2 -0.3
baz=124
O31A Woolen Ranch, 124.43 39 P **PKPdf** 08 28 23.3 -0.2
baz=124
125A Gardner Draw, 124.49 49 P **PKPdf** 08 28 25.0 +1.0
baz=124
Q30A Quinter 124.51 41 P **PKPdf** 08 28 24.2 +0.4
baz=124
U28A Mallet 124.53 44 P **PKPdf** 08 28 24.4 +0.4
baz=124
W27A Bowe Ranch, En 124.58 46 P **PKPdf** 08 28 24.9 +0.9
baz=124
225A Deer Hill, Car 124.60 50 P **PKPdf** 08 28 25.7 +1.4
baz=124
S29A Ulysses 124.65 42 P **PKPdf** 08 28 25.3 +1.2
baz=125
Z26A Caprock 124.73 48 P **PKPdf** 08 28 24.8 +0.4
baz=125
X27A F and S Farms, 124.75 47 P **PKPdf** 08 28 25.3 +0.9
baz=125
P31A Stockton 124.75 40 P **PKPdf** 08 28 24.2 +0.1
baz=125
T29A Hugoton 124.77 43 P **PKPdf** 08 28 25.0 +0.7
baz=125
SCHQ Schefferville 124.79 7 PKP **PKPdf** 08 28 24.4 +0.6
SCHQ Schefferville 124.79 7 PKP **PKPdf** 08 28 24.4 +0.6
comp=Z,7.2nm,0.8s,baz=115,slow=3.1,SNR=14
325A Bean Ranch, Si 124.80 51 P **PKPdf** 08 28 25.4 +0.8
baz=125
V28A Channing 124.84 45 P **PKPdf** 08 28 25.5 +0.9
baz=125
R30A Dighton 124.86 41 P **PKPdf** 08 28 24.9 +0.5
baz=125
SPMN St. Paul 124.91 30 P **PKPdf** 08 28 24.2 0.0
baz=125
126A Clayton Basin, 124.98 49 P **PKPdf** 08 28 25.7 +0.8
baz=125
O32A Brockman Farm, 125.02 38 P **PKPdf** 08 28 24.4 -0.2
baz=125
425A Indio Mountain 125.03 52 P **PKPdf** 08 28 26.1 +1.0
baz=125
Y27A Causey 125.06 47 P **PKPdf** 08 28 25.6 +0.5
baz=125
S30A Montezuma 125.08 42 P **PKPdf** 08 28 25.9 +1.0
baz=125
226B Tecolote Peak, 125.12 50 P **PKPdf** 08 28 26.1 +0.9
baz=125
P32A Huiting Farm, 125.19 39 P **PKPdf** 08 28 24.9 -0.1
baz=125
V29A Stinnett 125.27 44 P **PKPdf** 08 28 26.4 +1.1
baz=125
Z27A Tatum 125.28 48 P **PKPdf** 08 28 26.0 +0.5
baz=125
MSTX Muleshoe 125.31 47 ePKPdf **PKPdf** 08 28 26.2 +0.7
MSTX Muleshoe 125.31 47 P **PKPdf** 08 28 26.1 +0.7
baz=125
R31A Burdett 125.35 41 P **PKPdf** 08 28 25.8 +0.5
baz=125
T30A Plains 125.35 43 P **PKPdf** 08 28 26.2 +0.8
baz=125
X28A Dimmitt 125.46 46 P **PKPdf** 08 28 26.4 +0.6
baz=125
127A Arkansas Junct 125.47 49 P **PKPdf** 08 28 26.5 +0.6
baz=125
U30A WK&E Inc. Balk 125.54 43 P **PKPdf** 08 28 26.8 +1.0
baz=125
W29A Amraillo 125.56 45 P **PKPdf** 08 28 26.6 +0.6
baz=126
Q32A Meitler Ranch, 125.58 40 P **PKPdf** 08 28 25.7 -0.1
baz=126
AMTX Amarillo 125.66 46 P **PKPdf** 08 28 27.3 +1.1
baz=126
Y28A McKinney Farm, 125.72 47 P **PKPdf** 08 28 26.6 +0.3
baz=126
S31A Mullinville 125.74 42 P **PKPdf** 08 28 27.0 +0.8
baz=126
R32A Long Quarter, 125.80 40 P **PKPdf** 08 28 26.9 +0.7
baz=126
426A McDonald Obser 125.83 51 P **PKPdf** 08 28 27.4 +0.7
baz=126
X29A Tulia 125.86 46 P **PKPdf** 08 28 27.5 +1.0
baz=126
P33A Williams Farm, 125.86 39 P **PKPdf** 08 28 26.4 +0.1
baz=126
T31A Randall Ranch, 125.90 42 P **PKPdf** 08 28 27.4 +1.0
baz=126
V30A Spur Ranch, Mi 125.91 44 P **PKPdf** 08 28 27.8 +1.3
baz=126
Q33A Connelly Farm, 126.03 39 P **PKPdf** 08 28 26.7 +0.1
baz=126
526A Mary Lane Ranc 126.04 52 P **PKPdf** 08 28 27.9 +0.8
baz=126
S32A Newby Ranch, P 126.06 41 P **PKPdf** 08 28 27.4 +0.6
baz=126
128A Castleberry Fa 126.15 48 P **PKPdf** 08 28 27.7 +0.6
baz=126
Y29A Porterfield Fa 126.16 47 P **PKPdf** 08 28 28.3 +1.2
baz=126
U31A Nine Bar Ranch 126.17 43 P **PKPdf** 08 28 29.0 +2.0
baz=126
626A Big Bend Ranch 126.21 53 P **PKPdf** 08 28 28.2 +0.9
baz=126
427A Hayter Ranch, 126.24 51 P **PKPdf** 08 28 28.8 +1.5
baz=126
228A UT Block 9, Go 126.30 49 P **PKPdf** 08 28 28.2 +0.8
baz=126
R33A Olander Ranch, 126.34 40 P **PKPdf** 08 28 27.8 +0.6
baz=126
T32A Huddler Ranch, 126.36 42 P **PKPdf** 08 28 28.3 +1.0
baz=126
527A Woodward Ranch 126.38 52 P **PKPdf** 08 28 28.4 +0.8
baz=126
Z29A Hungry Hill Ra 126.43 47 P **PKPdf** 08 28 28.0 +0.4
baz=126
X30A Coker Ranch, T 126.45 46 P **PKPdf** 08 28 28.5 +0.9
baz=126
328A Wristen Ranch, 126.46 50 P **PKPdf** 08 28 28.5 +0.8
baz=126
V31A Spring Creek L 126.49 44 P **PKPdf** 08 28 29.1 +1.5
baz=126
129A Stewart Farms, 126.61 48 P **PKPdf** 08 28 28.4 +0.5
baz=126
TXAR Lajitas Array 126.67 53 PKP **PKPdf** 08 28 29.1 +0.9
TXAR Lajitas Array 126.67 53 PKP **PKPdf** 08 28 29.1 +0.9
comp=Z,3.8nm,0.9s,baz=215,slow=1.0,SNR=31
Y30A Stafford Cattl 126.72 46 P **PKPdf** 08 28 29.3 +1.1
baz=127
W31A Holland Ranch, 126.73 44 P **PKPdf** 08 28 29.2 +1.1
baz=127
KSU1 Kansas State U 126.74 38 ePKPdf **PKPdf** 08 28 28.2 +0.2
KSU1 Kansas State U 126.74 38 P **PKPdf** 08 28 28.2 +0.2
baz=127
U32A Winter Ranch, 126.74 43 P **PKPdf** 08 28 28.9 +0.8
baz=127
Z30A Sanderson Ranc 126.84 47 P **PKPdf** 08 28 29.0 +0.7
baz=127
627A Terlingua Ranc 126.84 52 P **PKPdf** 08 28 29.5 +0.9

baz=127
428A Kincaid Ranch, 126.85 51 P PKPdf 08 28 30.2 +1.7
baz=127
X31A McDonald Ranch 126.99 45 P PKPdf 08 28 29.6 +1.0
baz=127
329A Wagon Wheel Ra 127.05 49 P PKPdf 08 28 29.6 +0.8
baz=127
V32A Arapaho 127.07 43 P PKPdf 08 28 29.6 +0.9
baz=127
Y31A Rekieta Farm, 127.13 46 P PKPdf 08 28 29.8 +1.0
baz=127
SHEL Horse Pasture 127.21 250 *i* PKIKP **PKPdf 08 28 28.7 -0.7**
628A Black Gap, Mar 127.22 52 P PKPdf 08 28 30.2 +1.0
baz=127
W32A Sentinel 127.25 44 P PKPdf 08 28 29.6 +0.5
baz=127
130A Snyder 127.29 48 P PKPdf 08 28 29.7 +0.4
baz=127
U33A Lingo Farm, Me 127.31 42 P PKPdf 08 28 30.0 +0.8
baz=127
529A Stev Forest Ra 127.47 51 P PKPdf 08 28 30.4 +0.7
baz=127
429A Davenport Ranc 127.50 50 P PKPdf 08 28 30.5 +0.8
baz=127
230A Sterling City 127.52 49 P PKPdf 08 28 30.5 +0.8
baz=127
V33A Loseen Ranch, 127.53 43 P PKPdf 08 28 30.6 +1.1
baz=127
Z31A Sharp Cattle R 127.54 46 P PKPdf 08 28 30.7 +1.0
baz=128
X32A Elmer 127.59 45 P PKPdf 08 28 30.6 +0.9
baz=128
131A Roby 127.68 47 P PKPdf 08 28 30.9 +1.0
baz=128
Y32A R-V Farms, Ver 127.69 45 P PKPdf 08 28 30.9 +1.0
baz=128
330A Mertzon 127.70 49 P PKPdf 08 28 30.6 +0.6
baz=128
U34A Anderson Ranch 127.70 42 P PKPdf 08 28 30.5 +0.7
baz=128
WMOK Wichita Mounta 127.78 44 *e*PKIKP **PKPdf 08 28 30.9 +0.8**
WMOK Wichita Mounta 127.78 44 *e*PKPdf **PKPdf 08 28 30.9 +0.8**
DBIC Dimbokro 127.79 278 PKP **PKPdf 08 28 29.2 -1.4**
DBIC *e*PKPdf **PKiKP 08 28 30.4 -0.7**
DBIC Dimbokro 127.79 278 PKP **PKPdf 08 28 29.2 -1.4**
comp=Z,7.0nm,0.8s,baz=5,9,slow=2.1,SNR=9.1
JFWS Jewell Farm 127.85 31 *e*PKIKP **PKPdf 08 28 29.9 0.0**
JFWS Jewell Farm 127.85 31 *e*PKPdf **PKPdf 08 28 29.9 0.0**
430A Baggett Ranch, 127.94 50 P PKPdf 08 28 31.4 +0.9
baz=128
Z32A Haskell 128.03 46 P PKPdf 08 28 31.9 +1.3
baz=128
V34A Guthrie 128.04 42 P PKPdf 08 28 31.5 +1.0
baz=128
X33A Lawton 128.08 44 P PKPdf 08 28 31.1 +0.5
baz=128
231A Bronte 128.09 48 P PKPdf 08 28 31.4 +0.7
baz=128
530A J-C Ranch, Com 128.15 51 P PKPdf 08 28 32.0 +1.1
baz=128
W34A Bridge Creek, 128.20 43 P PKPdf 08 28 32.1 +1.3
baz=128
ABTX Abilene, Hawle 128.25 47 P PKPdf 08 28 31.8 +0.7
baz=128
Y33A Hilltop Ranch, 128.27 45 P PKPdf 08 28 32.0 +1.0
baz=128
331A San Angelo 128.31 49 P PKPdf 08 28 31.6 +0.4
baz=128
431A Sonora 128.46 50 P PKPdf 08 28 32.0 +0.5
baz=128
X34A Smith Ranch, M 128.51 44 P PKPdf 08 28 33.0 +1.5
baz=128
Z33A Whitaker Ranch 128.55 46 P PKPdf 08 28 31.8 +0.3
baz=128
232A Coleman 128.61 48 P PKPdf 08 28 32.9 +1.2
baz=128
531A Rocksprings 128.75 50 P PKPdf 08 28 33.3 +1.2
baz=129
332A Millersview 128.78 48 P PKPdf 08 28 32.9 +0.8
baz=129
133A Hamilton Ranch 128.79 47 P PKPdf 08 28 33.1 +1.0
baz=129
Y34A Reagan Ranch, 128.91 44 P PKPdf 08 28 33.2 +1.0
baz=129
432A Menard 128.99 49 P PKPdf 08 28 33.0 +0.5
baz=129
631A Perdido Creek 129.07 51 P PKPdf 08 28 33.4 +0.7
baz=129
233A Rising Star 129.10 47 P PKPdf 08 28 33.7 +1.0
baz=129
Z34A Collier Ranch, 129.11 45 P PKPdf 08 28 33.8 +1.2
baz=129
TUL1 Tulsa 129.15 41 P PKPdf 08 28 33.3 +0.7
baz=129
JCT Junction City 129.17 49 *e*PKIKP **PKPdf 08 28 33.1 +0.2**
JCT Junction City 129.17 49 *e*PKPdf **PKPdf 08 28 33.1 +0.2**
JCT Junction City 129.17 49 P **PKPdf 08 28 33.4 +0.6**
baz=129
532A Rocksprings 129.26 50 P PKPdf 08 28 33.7 +0.6
baz=129
333A Richland Sprin 129.38 48 P PKPdf 08 28 33.6 +0.4
baz=129
433A Art 129.58 49 P PKPdf 08 28 34.4 +0.8
baz=130
Z35A Perchaven, San 129.60 45 P PKPdf 08 28 34.7 +1.2
baz=130
632A Uvalde 129.64 51 P PKPdf 08 28 34.5 +0.7
baz=130
234A Clairette 129.66 47 P PKPdf 08 28 34.7 +0.9
baz=130
732A Laxson Ranch, 129.85 52 P PKPdf 08 28 34.7 +0.6
baz=130
135A Vickery Place, 129.90 46 P PKPdf 08 28 35.2 +1.1
baz=130
334A Lometa 129.93 48 P PKPdf 08 28 35.0 +0.7
baz=130
533A Kerrville 129.95 50 P PKPdf 08 28 35.7 +1.4
baz=130
832A Faith Ranch, C 130.05 52 P PKPdf 08 28 36.2 +1.7
baz=130
633A Saathoff Ranch 130.13 50 P PKPdf 08 28 36.3 +1.6
baz=130
WHTX Lake Whitney 130.16 46 P PKPdf 08 28 36.1 +1.4
baz=130
434A Burnet 130.16 48 P PKPdf 08 28 35.3 +0.6
baz=130
534A Blanco 130.39 49 P PKPdf 08 28 35.4 +0.3
baz=130
833A Chaparral WMA, 130.49 52 P PKPdf 08 28 36.7 +1.3
baz=130
335A Moody 130.55 47 P PKPdf 08 28 36.3 +0.9
baz=130
535A Dale 131.08 49 P PKPdf 08 28 37.5 +1.1
baz=131
834A Tilden 131.24 51 P PKPdf 08 28 38.6 +1.9
baz=131
635A Leesville 131.24 50 P PKPdf 08 28 38.0 +1.3
baz=131
MIAR Mount Ida 131.42 41 *e*PKIKP **PKPdf 08 28 38.0 +1.0**
MIAR Mount Ida 131.42 41 *e*PKPdf **PKPdf 08 28 38.0 +1.0**
735A Kenedy 131.47 50 P **PKPdf 08 28 38.9 +1.7**
baz=131
034A Hebbronville 131.62 53 P **PKPdf 08 28 39.6 +2.1**
baz=132
835A Beeville 131.72 51 P **PKPdf 08 28 39.2 +1.5**
baz=132
WCI Wyandotte Cave 133.31 32 *e*PKIKP **PKPdf 08 28 41.2 +0.7**
WCI Wyandotte Cave 133.31 32 *e*PKPdf **PKPdf 08 28 41.2 +0.7**
ACSO Alum Creek Sta 133.44 28 *e*PKPdf **PKPdf 08 28 39.9 -0.7**
ACSO *e*SKPbc **SKPbc 08 31 52.7 -0.1**
TKL Tuckaleechee C 136.57 33 PKP **PKPdf 08 28 46.3 -0.3**
TKL Tuckaleechee C 136.57 33 PKP **PKPdf 08 28 46.3 -0.3**
comp=Z,12nm,0.7s,baz=158,slow=5.5,SNR=12
PLCA Paso Flores 137.50 164 PKP **PKPdf 08 28 49.4 +1.1**
PLCA Paso Flores 137.50 164 PKP **PKPdf 08 28 49.4 +1.1**
comp=Z,5.0nm,0.8s,baz=349,slow=1.1,SNR=10
JSRW J. Sargeant Re 137.79 25 *e*PKPdf **PKPdf 08 28 49.4 +0.6**
TEIG Tepich 143.23 55 PKP PKPbc 08 28 56.3 -0.2
TEIG Tepich 143.23 55 PKP PKPbc 08 28 56.3 -0.2
comp=Z,26nm,0.7s,baz=312,slow=8.2,SNR=28
CFAA Coronel Fontan 146.68 162 PKPbc **PKPbc 08 29 06.0 -0.7**
CFAA Coronel Fontan 146.68 162 PKPbc **PKPbc 08 29 06.0 -0.7**
comp=Z,4.1nm,0.5s,baz=221,slow=2.9,SNR=78
TGUH Tegucigalpa,Un 146.76 64 *e*PKPbc **PKPab 08 29 08.5 -0.3**
LCO Las Campanas 148.17 156 *e*PKPdf **PKPdf 08 29 07.9 +0.3**
LCO *e*PKPbc **PKiKP 08 29 12.2 -0.5**
LCO *e*PKPab **PKPab 08 29 15.8 +1.4**

JTS JuntasAbangare 150.19 69 PKPbc **PKPbc 08 29 16.0 -0.1**
JTS PKPab **PKPab 08 29 24.4 +1.6**
JTS JuntasAbangare 150.19 69 PKPbc **PKPbc 08 29 16.0 -0.1**
comp=Z,22nm,0.4s,baz=347,slow=4.6,SNR=24
JTS PKPab **PKPab 08 29 24.4 +1.6**
comp=Z,14nm,0.7s,baz=124,slow=11,SNR=4.4
CPUP Villa Florida 153.75 179 PKP **PKPdf 08 29 16.2 +0.4**
CPUP PKPbc **PKiKP 08 29 24.8 +0.9**
CPUP PKPab **PKPab 08 29 36.8 -0.3**
CPUP Villa Florida 153.75 179 PKP **PKPdf 08 29 16.2 +0.4**
comp=Z,5.1nm,0.9s,baz=75,slow=2.7,SNR=4.8
CPUP PKPbc **PKiKP 08 29 24.8 +0.9**
comp=Z,6.9nm,0.6s,baz=185,slow=0.7,SNR=14
CPUP PKPab **PKPab 08 29 36.8 -0.3**
comp=Z,8.0nm,0.8s,baz=155,slow=5.3,SNR=5.9
ATAH Atahualpa 157.28 109 PKP **PKPdf 08 29 23.4 +1.9**
ATAH Atahualpa 157.28 109 PKP **PKPdf 08 29 23.4 +1.9**
comp=Z,8.3nm,0.7s,baz=23,slow=3.2,SNR=4.9
RCBR Riachuelo 158.36 254 PKPab **PKPab 08 29 55.4 -2.2**
RCBR Riachuelo 158.36 254 PKPab **PKPab 08 29 55.4 -2.2**
comp=Z,26nm,1.1s,baz=68,slow=7.9,SNR=5.6
LPAZ La Paz 160.26 146 *e*PKPdf **PKPdf 08 29 24.9 -0.2**
LPAZ PKP **PKPdf 08 29 26.7 +1.5**
LPAZ PKPab **PKPab 08 30 07.8 +1.6**
LPAZ *e*PKPab PKPab 08 30 08.5 +2.2
LPAZ La Paz 160.26 146 PKP **PKPdf 08 29 26.7 +1.5**
comp=Z,4.0nm,0.8s,baz=352,slow=0.8,SNR=15
LPAZ PKPab **PKPab 08 30 07.8 +1.6**
comp=Z,7.8nm,0.9s,baz=201,slow=5.2,SNR=9.3
ROSC El Rosal 161.83 75 PKP **PKPdf 08 29 27.4 +0.7**
ROSC PKPab **PKPab 08 30 14.4 +1.2**
ROSC El Rosal 161.83 75 PKP **PKPdf 08 29 27.4 +0.7**
comp=Z,5.6nm,0.7s,baz=89,slow=19,SNR=5.5
ROSC PKPab **PKPab 08 30 14.4 +1.2**
comp=Z,11nm,0.8s,baz=104,slow=20,SNR=6.1
BDFB Brasilia 162.16 209 PKP **PKPdf 08 29 26.5 0.0**
BDFB PKPab **PKPab 08 30 14.1 +0.2**
BDFB Brasilia 162.16 209 PKP **PKPdf 08 29 26.5 0.0**
comp=Z,3.0nm,0.8s,baz=64,slow=7.4,SNR=4.4
BDFB PKPab **PKPab 08 30 14.1 +0.2**
comp=Z,5.6nm,0.8s,baz=175,slow=4.8,SNR=8.7
SIV San Ignacio 163.49 165 PKP **PKPdf 08 29 28.0 +0.3**
SIV PKPab **PKPab 08 30 19.9 +0.3**
SIV San Ignacio 163.49 165 PKP **PKPdf 08 29 28.0 +0.3**
comp=Z,8.5nm,1.0s,baz=183,slow=1.4,SNR=11
SIV PKPab **PKPab 08 30 19.9 +0.3**
comp=Z,6.3nm,0.7s,baz=212,slow=5.3,SNR=13
SDV Santo Domingo 163.65 57 *e*PKPdf **PKPdf 08 29 28.0 -0.1**
SAML Samuel 169.00 145 *e*PKPdf **PKPdf 08 29 32.4 +0.4**
PTGA Pitinga 176.71 104 PKP **PKPdf 08 29 34.1 -1.1**
PTGA Pitinga 176.71 104 PKP **PKPdf 08 29 34.1 -1.1**
comp=Z,4.8nm,1.0s,baz=123,slow=23,SNR=4.3

IDC 10 08:18:53.3±4.7, 16°29S×175°69W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, MS4.4/1, Ms1 4.4/1, ms1mx2.9/41, Error ellipse: s-maj=162.3km s-min=93.5km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.06**	**189**	LR	LR	08 26 23.3	
comp=Z,2μm,21.0s,baz=353,slow=34							
STKA	**Stephens Creek**	**41.69**	**240**	P	P	08 26 44.4	+0.4
0.7nm,0.5s,baz=90,slow=8.1,SNR=2.7							
WRA	**Warramunga Arr**	**47.50**	**258**	P	P	08 27 30.0	-0.6
0.8nm,0.5s,baz=96,slow=7.2,SNR=12							
ASAR	**Alice Springs**	**47.74**	**253**	P	P	08 27 32.4	-0.1
4.3nm,0.6s,baz=87,slow=8.6,SNR=73							
ASAR				PcP	PcP	08 29 01.5	-0.3
0.4nm,0.9s,baz=104,slow=3.0,SNR=3.1							

IDC 10 08:28:37.5±2.1, 17°77S×173°33W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML2.2/1, Error ellipse: s-maj=100.0km s-min=22.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.12**	**21**	Pn	Pn	08 29 43.4	+1.6
7.7nm,0.3s,baz=120,slow=3.5,SNR=27							
AFI				Sn	Sn	08 30 21.2	-10
24nm,0.3s,baz=70,slow=22,SNR=18							
STKA	**Stephens Creek**	**42.96**	**242**	P	P	08 36 37.8	-0.7
0.7nm,0.6s,baz=239,slow=20,SNR=4.5							
WRA	**Warramunga Arr**	**49.41**	**259**	P	P	08 37 29.7	+0.2
0.1nm,0.4s,baz=98,slow=7.1,SNR=2.9							
ASAR	**Alice Springs**	**49.48**	**254**	P	P	08 37 30.5	+0.4
1.1nm,0.5s,baz=87,slow=8.8,SNR=38							
PDAR	**Pinedale Array**	**83.98**	**42**	P	P	08 41 10.8	+0.8
0.2nm,0.5s,baz=193,slow=3.7,SNR=3.7							
ILAR	**Eielson Array**	**84.74**	**11**	P	P	08 41 11.2	-1.8
0.3nm,0.5s,baz=226,slow=6.1,SNR=6.2							

*IDC **10** 08:33:32.6±1.0, 43°10N×13°57E, h0km, mb3.6/7, mb1 3.7/14, mb1mx3.6/33, mbtmp3.6/14, ML3.5/7, MS2.9/5, Ms1 2.9/5, ms1mx2.6/53, Error ellipse: s-maj=19.8km s-min=14.4km az=103.0*
*LDG **10** 08:33:34.8±0.1, 43°18N×13°53E, h10km, Ml3.8/13, Error ellipse: s-maj=3.8km s-min=3.2km az=64.0*
*SZGRF **10** 08:33:34.4, 43°00N×13°62E, h10km, mb3.9, Central Italy*
*PRU **10** 08:33:35.1, 43°15N×13°68E, h9km*
*ISCJB **10** 08:33:35.3±0.2, 43°14N±0°01×13°43E±0°02, h31km±2km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=2.7km s-min=2.4km az=151.9*
*ROM **10** 08:33:35.6±0.1, 43°12N×13°45E, h17km±3km, Ml4.0/30, Error ellipse: s-maj=1.9km s-min=1.2km az=65.0*
*CSEM **10** 08:33:35.7±0.1, 43°11N×13°40E, h20km, ML4.3/9, Error ellipse: s-maj=2.1km s-min=1.8km az=51.0*
*STR **10** 08:33:57.2±0.4, 43°81N×11°73E, h10km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 10 08:33:35.6±0.6, 43°12N±0°02×13°40E±0°02, h22km±3km, n256, σ1§31/291, mb3.7/7, 25C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.25**	**249**	Pg	Pb	08 33 41.4	-0.4
FDMO				Sg	Sb	08 33 46.5	+0.6
34μm,0.4s							
FDMO	**Fiordimonte**	**0.25**	**249**	Pg	Pb	08 33 41.4	-0.4
FDMO				Sg	Sb	08 33 46.5	+0.6
34μm,0.4s							
OFFI	**Offida**	**0.28**	**132**	Pg	Pb	08 33 42.2	0.0
64μm,0.6s							
OFFI	**Offida**	**0.28**	**132**	Pg	Pb	08 33 42.2	0.0
64μm,0.6s							
CING	**Cingoli**	**0.29**	**329**	Pg	Pb	08 33 41.9	-0.5
CING	**Cingoli**	**0.29**	**329**	Pg	Pb	08 33 41.9	-0.5
NRCA	**Norcia**	**0.36**	**216**	Pg	Pb	08 33 43.1	-0.3
NRCA				Sg	Sb	08 33 49.6	+0.9
188μm,0.4s							
NRCA	**Norcia**	**0.36**	**216**	Pg	Pb	08 33 43.1	-0.3
NRCA				Sg	Sb	08 33 49.6	+0.9
188μm,0.4s							
CESI	**CESI - Serrava**	**0.38**	**252**	Pg	Pb	08 33 44.0	+0.2
CESI				Sg	Sb	08 33 50.9	+1.6
15μm,0.4s							
CESI	**CESI - Serrava**	**0.38**	**252**	Pg	Pb	08 33 44.0	+0.2
CESI				Sg	Sb	08 33 50.9	+1.6
15μm,0.4s							
AOI	**Ancona**	**0.45**	**19**	Pg	Pb	08 33 44.1	-0.8
AOI				Sg	Sb	08 33 52.1	+0.9
5μm,0.4s							
AOI	**Ancona**	**0.45**	**19**	Pg	Pb	08 33 44.1	-0.8
AOI				Sg	Sb	08 33 52.1	+0.9
5μm,0.4s							
TRTR	**Tortoreto Alta**	**0.49**	**130**	Pg	Pb	08 33 45.6	0.0
15μm,0.6s							
TRTR	**Tortoreto Alta**	**0.49**	**130**	Pg	Pb	08 33 45.6	0.0
15μm,0.6s							
SMA1	**SAN MARTINO**	**0.49**	**186**	Pg	Pb	08 33 45.1	-0.6
SMA1				Sg	Sb	08 33 53.1	+0.5
29μm,0.2s							
ARVD	**Arcevia**	**0.50**	**318**	Pg	Pb	08 33 45.8	0.0
ARVD				Sg	Sb	08 33 54.5	+1.7
2μm,0.8s							
ARVD	**Arcevia**	**0.50**	**318**	Pg	Pb	08 33 45.8	0.0
ARVD				Sg	Sb	08 33 54.5	+1.7
2μm,0.8s							
TERO	**Teramo**	**0.52**	**163**	Pg	Pb	08 33 45.2	-1.0
TERO				Sg	Sb	08 33 54.0	+0.7
11μm,0.3s							
CAMP	**Campotosto**	**0.59**	**180**	Pg	Pb	08 33 46.6	-0.8
CAMP				Sg	Sb	08 33 56.2	+0.9
11μm,0.3s							
CAMP	**Campotosto**	**0.59**	**180**	Pg	Pb	08 33 46.6	-0.8
CAMP				Sg	Sb	08 33 56.2	+0.9
11μm,0.3s							
SENI	**Senigallia**	**0.59**	**348**	Pg	Pb	08 33 48.1	+0.7
1μm,0.7s							
SENI	**Senigallia**	**0.59**	**348**	Pg	Pb	08 33 48.1	+0.7
1μm,0.7s							
MURB	**Monte Urbino**	**0.66**	**283**	Pg	Pb	08 33 48.6	+0.1
MURB	**Monte Urbino**	**0.66**	**283**	Pg	Pb	08 33 48.6	+0.1
FSSB	**Fossombrone**	**0.73**	**322**	Pg	Pb	08 33 49.8	+0.1
5μm,0.5s							
FSSB	**Fossombrone**	**0.73**	**322**	Pg	Pb	08 33 49.8	+0.1
5μm,0.5s							
T0104	**Madonna delle**	**0.77**	**184**	Pg	Pb	08 33 49.6	-0.7
T0104				Sg	Sn	08 34 01.7	-0.3
AQU	**L'Aquila**	**0.77**	**180**	Pg	Pb	08 33 49.5	-0.9
AQU				Sg	Sn	08 34 02.0	-0.1
13μm,0.4s							
AQU	**L'Aquila**	**0.77**	**180**	Pg	Pb	08 33 49.5	-0.9
AQU				Sg	Sn	08 34 02.0	-0.1
13μm,0.4s							
CESX	**Cesi**	**0.79**	**230**	Pg	Pb	08 33 50.5	-0.2
CESX				Sg	Sn	08 34 03.1	+0.4
21μm,0.5s							
CESX	**Cesi**	**0.79**	**230**	Pg	Pb	08 33 50.5	-0.2
VCEL	**Villa Celiera**	**0.80**	**156**	Pg	Pb	08 33 50.3	-0.6
6μm,0.6s							
VCEL	**Villa Celiera**	**0.80**	**156**	Pg	Pb	08 33 50.3	-0.6
6μm,0.6s							
FAGN	**Fagnano**	**0.87**	**171**	Pg	Pb	08 33 51.5	-0.5
10μm,0.4s							
FAGN	**Fagnano**	**0.87**	**171**	Pg	Pb	08 33 51.5	-0.5
10μm,0.4s							
PESA	**Pesaro**	**0.91**	**334**	Pg	Pn	08 33 53.8	+0.6
2μm,0.4s							
PESA	**Pesaro**	**0.91**	**334**	Pg	Pn	08 33 53.8	+0.6
2μm,0.4s							
CDCA	**Citt' di Caste**	**0.92**	**292**	Pg	Pb	08 33 53.2	+0.4
5μm,1.1s							
CDCA	**Citt' di Caste**	**0.92**	**292**	Pg	Pb	08 33 53.2	+0.4
5μm,1.1s							
BADI	**Badiali**	**0.93**	**295**	Pg	Pb	08 33 53.2	+0.1
6μm,1.0s							
BADI	**Badiali**	**0.93**	**295**	Pg	Pb	08 33 53.2	+0.1
6μm,1.0s							
RSM	**Repubblica di**	**1.06**	**320**	Pg	Pb	08 33 56.4	+1.0
3μm,1.1s							
RSM	**Repubblica di**	**1.06**	**320**	Pg	Pb	08 33 56.4	+1.0
3μm,1.1s							
PTQR	**Pietraquaria**	**1.10**	**180**	Pg	Pn	08 33 55.4	-0.4
PTQR	**Pietraquaria**	**1.10**	**180**	Pg	Pn	08 33 55.4	-0.4
CAFR	**Castel Frentan**	**1.14**	**142**	Pg	Pn	08 33 56.0	-0.2
19μm,1.5s							
CAFR	**Castel Frentan**	**1.14**	**142**	Pg	Pn	08 33 56.0	-0.2
19μm,1.5s							
CRE	**Caprese Michel**	**1.17**	**296**	Pg	Pb	08 33 57.9	+0.7
761nm,0.8s							
CRE	**Caprese Michel**	**1.17**	**296**	Pg	Pb	08 33 57.9	+0.7
761nm,0.8s							
INTR	**Introdacqua**	**1.17**	**161**	Pg	Pn	08 33 57.3	+0.5
4μm,0.6s							
INTR	**Introdacqua**	**1.17**	**161**	Pg	Pn	08 33 57.3	+0.5
4μm,0.6s							
MTCE	**Montecelio**	**1.20**	**204**	Pg	Pn	08 33 57.1	0.0
2μm,0.6s							
MTCE	**Montecelio**	**1.20**	**204**	Pg	Pn	08 33 57.1	0.0
2μm,0.6s							
LPEL	**Lama dei Pelig**	**1.22**	**152**	Pg	Pn	08 33 57.0	-0.4
2μm,0.5s							
LPEL	**Lama dei Pelig**	**1.22**	**152**	Pg	Pn	08 33 57.0	-0.4
2μm,0.5s							
VVLD	**Villa Vallelon**	**1.26**	**173**	Pg	Pn	08 33 58.2	+0.2
2μm,0.5s							
VVLD	**Villa Vallelon**	**1.26**	**173**	Pg	Pn	08 33 58.2	+0.2
2μm,0.5s							
GUAR	**Guarcino**	**1.33**	**183**	Pg	Pb	08 34 00.3	+0.4
2μm,0.4s							
GUAR	**Guarcino**	**1.33**	**183**	Pg	Pb	08 34 00.3	+0.4
2μm,0.4s							
ASQU	**Asqua**	**1.35**	**300**	Pg	Pb	08 34 01.4	+1.1
ASQU	**Asqua**	**1.35**	**300**	Pg	Pb	08 34 01.4	+1.1
RMP	**Rome, Mte Porz**	**1.41**	**202**	Pg	Pb	08 34 01.5	+0.2
3μm,0.6s							
RMP	**Rome, Mte Porz**	**1.41**	**202**	Pg	Pb	08 34 01.5	+0.2
3μm,0.6s							
GIUL	**Giuliano Di Ro**	**1.57**	**184**	Pg	Pb	08 34 03.6	-0.4
1μm,0.5s							
GIUL	**Giuliano Di Ro**	**1.57**	**184**	Pg	Pb	08 34 03.6	-0.4
1μm,0.5s							
CSNT	**Castellina Chi**	**1.58**	**283**	Pg	Pb	08 34 04.3	+0.1
1μm,1.1s							
CSNT	**Castellina Chi**	**1.58**	**283**	Pg	Pb	08 34 04.3	+0.1
1μm,1.1s							
NVLJ	**Novalja**	**1.79**	**36**	*e*Pn	Pn	08 34 05.2	0.0
NVLJ				Sn	Sn	08 34 27.2	0.0
NVLJ	**Novalja**	**1.79**	**36**	*e*Pn	Pn	08 34 05.2	0.0
NVLJ				Sn	Sn	08 34 27.2	0.0
UDBI	**Udbina**	**2.21**	**50**	*e*Pn	Pn	08 34 12.1	+1.0
UDBI				Sn	Sn	08 34 39.6	+1.8
UDBI	**Udbina**	**2.21**	**50**	*e*Pn	Pn	08 34 12.0	+1.0
UDBI				Sn	Sn	08 34 39.5	+1.8
SKDS	**Skadanscina**	**2.46**	**10**	*i* Pn	Pn	08 34 14.3	-0.2
SKDS	**Skadanscina**	**2.46**	**10**	*i* Pn	Pn	08 34 14.3	-0.2
CEY	**Cerknica**	**2.72**	**15**	*i* Pn	Pn	08 34 18.5	+0.5
CEY	**Cerknica**	**2.72**	**15**	*i* Pn	Pn	08 34 18.5	+0.5
BOJS	**Bojanci**	**2.73**	**29**	*i* Pn	Pn	08 34 18.8	+0.7
BOJS	**Bojanci**	**2.73**	**29**	*i* Pn	Pn	08 34 18.8	+0.7
JAVS	**Javornik**	**2.81**	**9**	*i* Pn	Pn	08 34 19.1	-0.2
JAVS	**Javornik**	**2.81**	**9**	*i* Pn	Pn	08 34 19.1	-0.2
VISS	**Visnje**	**2.87**	**21**	*i* Pn	Pn	08 34 20.3	+0.2
VISS	**Visnje**	**2.87**	**21**	*i* Pn	Pn	08 34 20.3	+0.2
CDT	**Castel del Mon**	**2.95**	**133**	*e*Pn	Pn	08 34 20.5	-0.7
LJU	**Ljubljana**	**3.03**	**15**	*e*Pn	Pn	08 34 23.5	+1.3
STON	**Ston**	**3.16**	**93**	*e*Pn	Pn	08 34 24.6	+0.6
STON				Sn	Sn	08 35 01.8	+0.7
STON	**Ston**	**3.16**	**93**	*e*Pn	Pn	08 34 24.6	+0.6
STON				Sn	Sn	08 35 01.7	+0.7
BAI	**Bari**	**3.28**	**127**	*e*Pn	Pb	08 34 30.7	-2.4
PGF	**Pioggiola**	**3.29**	**261**	*e*Pn	Pn	08 34 27.3	+1.4
SNR=1.0							
PGF				*e*Sn	Sn	08 35 04.2	-0.2
27nm,0.5s							
PGF	**Pioggiola**	**3.29**	**261**	*e*Pn	Pn	08 34 27.3	+1.4
SNR=1.0							
PGF				*e*Sn	Sn	08 35 04.2	-0.2
14nm,0.5s							
OBKA	**Obir**	**3.48**	**13**	*e*Pn	Pn	08 34 29.3	+0.7
OBKA	**Obir**	**3.48**	**13**	*i*Pn	Pn	08 34 28.9	+0.3
OBKA	**Obir**	**3.48**	**13**	*e*Pn	Pn	08 34 29.3	+0.7
MYKA	**Terra Mystica**	**3.51**	**3**	*i*Pn	Pn	08 34 28.9	0.0
MYKA	**Terra Mystica**	**3.51**	**3**	Pn	Pn	08 34 28.9	0.0
ABTA	**Abfaltersbach**	**3.68**	**350**	*i*Pn	Pn	08 34 32.1	+0.9
ABTA	**Abfaltersbach**	**3.68**	**350**	Pn	Pn	08 34 32.1	+0.9
PERS	**Pernice**	**3.72**	**19**	*i* Pn	Pn	08 34 32.5	+0.7
PERS	**Pernice**	**3.72**	**19**	*i* Pn	Pn	08 34 32.5	+0.7
SOKA	**Soboth**	**3.74**	**17**	⇑*i*Pn	Pn	08 34 32.1	+0.1
SNR=9.0							
SOKA	**Soboth**	**3.74**	**17**	Pn	Pn	08 34 32.1	+0.1
SNR=9.0							
PE1	**Pezze di Greco**	**3.79**	**126**	*e*Pn	Pn	08 34 32.7	0.0
TAR1	**Taranto**	**3.89**	**131**	*e*Pn	Pn	08 34 34.5	+0.4
KBA	**Koelnbreinsper**	**3.96**	**359**	*e*Pn	Pn	08 34 35.9	+0.8
KBA				*e*Sn	Sn	08 35 20.8	-0.1
KBA	**Koelnbreinsper**	**3.96**	**359**	⇓*i*Pn	Pn	08 34 36.0	+0.8
SNR=16							
KBA	**Koelnbreinsper**	**3.96**	**359**	*e*Pn	Pn	08 34 35.9	+0.8
KBA				*e*Sn	Sn	08 35 20.8	-0.1
BEHE	**Bec

ARSA	**Arzberg**		**4.39**	**19**	*e*Pn		**Pn**	**08 34 41.0**	**0.0**
SBF	**Sospel**		**4.40**	**282**	*e*Pn		**Pn**	**08 34 41.9**	**+0.7**
	SNR=1.0								
SBF					*e*Sn		**Sn**	**08 35 30.4**	**-1.4**
	24nm,0.4s								
SBF	**Sospel**		**4.40**	**282**	*e*Pn		**Pn**	**08 34 41.9**	**+0.7**
	SNR=1.0								
SBF					*e*Sn		**Sn**	**08 35 30.4**	**-1.4**
	12nm,0.4s								
WATA	**Walderalm**		**4.41**	**344**	⇑*i*Pn		**Pn**	**08 34 42.9**	**+1.6**
	SNR=18								
WATA	**Walderalm**		**4.41**	**344**	Pn		**Pn**	**08 34 42.9**	**+1.6**
	SNR=18								
AUTN	**L'Aution**		**4.43**	**283**	Pn		Pn	08 34 45.0	+3.3
AUTN					Sg		**Sn**	**08 35 38.3**	**+5.6**
AUTN	**L'Aution**		**4.43**	**283**	Pn		Pn	08 34 45.0	+3.3
AUTN					Sg		**Sn**	**08 35 38.3**	**+5.6**
DAVOX	**Davos/Dischmat**		**4.43**	**327**	Pn		**Pn**	**08 34 44.1**	**+2.5**
	3.5nm,0.3s,baz=158,slow=19,SNR=27								
DAVOX					Sn		**Sn**	**08 35 33.5**	**+0.9**
	4.1nm,0.3s,baz=140,slow=21,SNR=3.6								
REVF	**Revere**		**4.44**	**280**	Pn		Pn	08 34 45.0	+3.4
REVF					Sg		**Sb**	**08 35 41.1**	**-4.8**
REVF	**Revere**		**4.44**	**280**	Pn		Pn	08 34 45.0	+3.4
REVF					Sg		**Sb**	**08 35 41.1**	**-4.8**
LUCF	**Luceram**		**4.47**	**282**	Pn		**Pn**	**08 34 45.2**	**+3.0**
LUCF					Sg		Sn	08 35 40.8	+7.3
LUCF	**Luceram**		**4.47**	**282**	Pn		**Pn**	**08 34 45.2**	**+3.0**
LUCF					Sg		Sn	08 35 40.8	+7.3
MOTA	**Moosalm**		**4.52**	**340**	⇑*i*Pn		**Pn**	**08 34 44.9**	**+2.0**
	SNR=13								
MOTA	**Moosalm**		**4.52**	**340**	Pn		**Pn**	**08 34 44.9**	**+2.0**
	SNR=13								
TOUF	**Mont Tournerai**		**4.56**	**283**	Pn		Pn	08 34 47.1	+3.6
TOUF					Sg		Sb	08 35 43.4	-6.2
TOUF	**Mont Tournerai**		**4.56**	**283**	Pn		Pn	08 34 47.1	+3.6
TOUF					Sg		Sb	08 35 43.4	-6.2
RJOB	**Jochberg**		**4.63**	**355**	*e*Pn		**Pn**	**08 34 45.7**	**+1.4**
RJOB					*e*Sn		**Sn**	**08 35 38.8**	**+1.3**
RJOB	**Jochberg**		**4.63**	**355**	*e*Pn		**Pn**	**08 34 45.7**	**+1.4**
RJOB					*e*Sn		**Sn**	**08 35 38.8**	**+1.3**
TRAV	**Traversella**		**4.71**	**302**	P		**Pn**	**08 34 44.8**	**-0.6**
RETA	**Reutte**		**4.74**	**338**	⇑*i*Pn		**Pn**	**08 34 47.8**	**+1.9**
	SNR=14								
RETA	**Reutte**		**4.74**	**338**	Pn		**Pn**	**08 34 47.8**	**+1.9**
	SNR=14								
CALN	**Calern**		**4.78**	**280**	Pn		Pn	08 34 49.9	+3.4
CALN	**Calern**		**4.78**	**280**	Pn		Pn	08 34 49.9	+3.4
OBER	**Oberstdorf**		**4.81**	**334**	*e*Pn		**Pn**	**08 34 48.9**	**+2.1**
OBER					*e*Sn		**Sn**	**08 35 43.7**	**+1.8**
OBER	**Oberstdorf**		**4.81**	**334**	*e*Pn		**Pn**	**08 34 48.9**	**+2.1**
OBER					*e*Sn		**Sn**	**08 35 43.7**	**+1.8**
PKSM	**Moragy**		**4.85**	**49**	⇑*i*P		**Pn**	**08 34 48.1**	**+0.9**
PKSM	**Moragy**		**4.85**	**49**	⇑*i*P		**Pn**	**08 34 48.1**	**+0.9**
RSP	**Reno Superiore**		**4.86**	**297**	P		**Pn**	**08 34 47.5**	**0.0**
IVAS	**Ivanjica**		**4.94**	**82**	⇑*i*Pn		**Pn**	**08 34 49.5**	**+0.9**
FGSL	**Fruska Gora**		**5.04**	**64**	*e*Pn		**Pn**	**08 34 51.9**	**+2.0**
LMR	**La Mourre**		**5.04**	**275**	*e*Pn		**Pn**	**08 34 51.5**	**+1.6**
	SNR=1.0								
LMR	**La Mourre**		**5.04**	**275**	*e*Pn		**Pn**	**08 34 51.5**	**+1.6**
	SNR=1.0								
MBDF	**Montbardon**		**5.05**	**291**	*e*Pn		**Pn**	**08 34 50.9**	**+0.7**
	SNR=1.0								
MBDF					*e*Sn		**Sn**	**08 35 45.7**	**-2.2**
	14nm,0.4s								
MBDF	**Montbardon**		**5.05**	**291**	*e*Pn		**Pn**	**08 34 50.9**	**+0.7**
	SNR=1.0								
MBDF					*e*Sn		**Sn**	**08 35 45.7**	**-2.2**
	7.1nm,0.4s								
SOP	**Sopron**		**5.07**	**25**	*e*		**Pn**	**08 34 50.5**	**+0.2**
SOP	**Sopron**		**5.07**	**25**	*e*P		**Pn**	**08 34 50.5**	**+0.2**
CONA	**Conrad Observa**		**5.11**	**19**	⇓*i*Pn		**Pn**	**08 34 51.1**	**+0.3**
	SNR=16								
CONA	**Conrad Observa**		**5.11**	**19**	Pn		**Pn**	**08 34 51.1**	**+0.3**
	SNR=16								
TRUS	**Trudelj**		**5.20**	**75**	*e*Pn		**Pn**	**08 34 52.2**	**+0.2**
LPG	**La Plagne**		**5.33**	**299**	*e*Pn		**Pn**	**08 34 54.1**	**0.0**
	SNR=1.0								
LPG					*e*Sn		**Sn**	**08 35 52.1**	**-2.9**
	26nm,0.5s								
LPG	**La Plagne**		**5.33**	**299**	*e*Pn		**Pn**	**08 34 54.1**	**0.0**
	SNR=1.0								
LPG					*e*Sn		**Sn**	**08 35 52.1**	**-2.9**
	13nm,0.5s								
LPL	**La Plagne**		**5.35**	**299**	*e*Pn		**Pn**	**08 34 54.4**	**+0.1**
	SNR=1.0								
LPL					*e*Sn		**Sn**	**08 35 52.6**	**-2.7**
	26nm,0.4s								
LPL	**La Plagne**		**5.35**	**299**	*e*Pn		**Pn**	**08 34 54.4**	**+0.1**
	SNR=1.0								
LPL					*e*Sn		**Sn**	**08 35 52.6**	**-2.7**
	13nm,0.4s								
GRUS	**Gruza**		**5.37**	**79**	*e*Pn		**Pn**	**08 34 54.5**	**+0.1**
RSL	**Roselend**		**5.49**	**300**	Pn		**Pn**	**08 34 58.1**	**+1.9**
RSL	**Roselend**		**5.49**	**300**	Pn		**Pn**	**08 34 58.1**	**+1.9**
SELS	**Selova**		**5.64**	**86**	⇓*i*Pn		**Pn**	**08 34 58.5**	**+0.3**
ORIF	**Oris-en-Rattie**		**5.71**	**291**	*e*Pn		**Pn**	**08 35 00.4**	**+1.2**
	SNR=1.0								
ORIF					*e*Sn		**Sn**	**08 36 01.1**	**-3.0**
	12nm,0.4s								
ORIF	**Oris-en-Rattie**		**5.71**	**291**	*e*Pn		**Pn**	**08 35 00.4**	**+1.2**
	SNR=1.0								
GEC2	**GERESS Array S**		**5.73**	**2**	*e*Pn		**Pn**	**08 34 59.2**	**-0.2**
GEC2					*e*Sn		**Sn**	**08 36 01.5**	**-2.9**
GEC2	**GERESS Array S**		**5.73**	**2**	*e*Pn		**Pn**	**08 34 59.2**	**-0.2**
GERES	**GERESS Array B**		**5.73**	**2**	Pn		**Pn**	**08 34 58.9**	**-0.5**
	0.8nm,0.3s,baz=171,slow=12,SNR=29								
GERES					Sn		**Sn**	**08 36 02.0**	**-2.5**
	2.0nm,0.3s,baz=186,slow=24,SNR=5.8								
GERES					Lg		Lg	08 36 36.4	
	0.7nm,0.3s,baz=168,slow=24,SNR=3.0								
GERES					LR		LR	08 37 47.8	
	comp=Z,95nm,19.1s,baz=310,slow=44								
SMRF	**Simiane la Rot**		**5.75**	**281**	*e*P		Pn	08 35 03.7	+4.0
BUD	**Budapest**		**5.89**	**40**	*e*		Pb	08 35 24.3	+6.7
KHC	**Kasperske Hory**		**6.01**	**1**	*e*PN		**Pn**	**08 35 02.9**	**-0.3**
KHC					*ex*		x	08 35 11.0	
KHC					*ex*		x	08 35 14.0	
KHC					*e*SN		**Sn**	**08 36 08.5**	**-2.8**
KHC					*ex*		x	08 36 29.0	
KHC	**Kasperske Hory**		**6.01**	**1**	Pn		**Pn**	**08 35 02.9**	**-0.3**
WET	**Wettzell**		**6.03**	**357**	*e*Pn		**Pn**	**08 35 04.8**	**+1.3**
WET					*e*Sn		**Sn**	**08 36 09.3**	**-2.6**
WET	**Wettzell**		**6.03**	**357**	*e*Pn		**Pn**	**08 35 04.8**	**+1.3**
CABF	**La Chapelle**		**6.26**	**306**	*e*Pn		**Pn**	**08 35 07.2**	**+0.5**
	SNR=1.0								
CABF	**La Chapelle**		**6.26**	**306**	*e*Pn		**Pn**	**08 35 07.2**	**+0.5**
	SNR=1.0								
BFO	**Black Forest**		**6.30**	**327**	*e*Pn		**Pn**	**08 35 07.5**	**+0.3**
BFO	**Black Forest**		**6.30**	**327**	*e*Pn		**Pn**	**08 35 07.5**	**+0.3**
BZS	**Buzias**		**6.39**	**64**	⇑*i*P		**Pn**	**08 35 09.0**	**+0.6**
BZS	**Buzias**		**6.39**	**64**	⇑*i*P		**Pn**	**08 35 09.0**	**+0.6**
VIVF	**Saint-Julien-l**		**6.53**	**288**	*e*Pn		**Pn**	**08 35 11.7**	**+1.3**
	SNR=1.0								
VIVF	**Saint-Julien-l**		**6.53**	**288**	*e*Pn		**Pn**	**08 35 11.7**	**+1.3**
	SNR=1.0								
VRAC	**Vranov**		**6.57**	**19**	⇓*i*P		**Pn**	**08 35 11.3**	**+0.4**
VRAC	**Vranov**		**6.57**	**19**	Pn		**Pn**	**08 35 10.7**	**-0.1**
	0.5nm,0.3s,baz=203,slow=17,SNR=3.6								
VRAC					Lg		Lg	08 37 04.1	
	0.2nm,0.3s,baz=196,slow=19,SNR=1.9								
VRAC	**Vranov**		**6.57**	**19**	*e*Pn		**Pn**	**08 35 10.7**	**-0.1**
VRAC	**Vranov**		**6.57**	**19**	⇓*i*P		**Pn**	**08 35 11.3**	**+0.4**
HINF	**Hinteralfeld**		**6.57**	**318**	*e*Pn		**Pn**	**08 35 10.7**	**-0.3**
	SNR=1.0								
HINF					*e*Sn		Sn	08 36 18.7	-6.5
	22nm,0.4s,SNR=1.0								
HINF	**Hinteralfeld**		**6.57**	**318**	*e*Pn		**Pn**	**08 35 10.7**	**-0.3**
	SNR=1.0								
PSZ	**Piszkesteto**		**6.62**	**41**	⇑*i*P		**Pn**	**08 35 12.0**	**+0.4**
PSZ	**Piszkesteto**		**6.62**	**41**	*e*		Pb	08 35 39.6	+10
PSZ	**Piszkesteto**		**6.62**	**41**	⇑*i*P		**Pn**	**08 35 12.0**	**+0.4**
CDF	**Champ du Feu**		**6.80**	**323**	*e*Pn		**Pn**	**08 35 14.2**	**0.0**
	SNR=1.0								
CDF					*e*Sn		**Sn**	**08 36 26.7**	**-4.3**
	14nm,0.5s								
CDF	**Champ du Feu**		**6.80**	**323**	*e*Pn		**Pn**	**08 35 14.2**	**0.0**
	SNR=1.0								
PRU	**Pruhonice**		**6.91**	**6**	*e*PN		**Pn**	**08 35 14.9**	**-0.6**
PRU					*e*SN		**Sn**	**08 36 30.6**	**-2.8**
PRU	**Pruhonice**		**6.91**	**6**	Pn		**Pn**	**08 35 14.9**	**-0.6**
HAU	**Haudompre**		**6.95**	**317**	*e*Pn		**Pn**	**08 35 15.7**	**-0.4**
	SNR=1.0								
HAU					*e*Sn		Sn	08 36 29.3	-5.2
	28nm,0.3s								
HAU	**Haudompre**		**6.95**	**317**	*e*Pn		**Pn**	**08 35 15.7**	**-0.4**
	SNR=1.0								
LASF	**Ste Croix**		**7.00**	**281**	*e*Pn		**Pn**	**08 35 18.6**	**+1.9**
	SNR=1.0								
LASF	**Ste Croix**		**7.00**	**281**	*e*Pn		**Pn**	**08 35 18.6**	**+1.9**
	SNR=1.0								
GZR	**Gura Zlata**		**7.10**	**68**	⇑*i*P		**Pn**	**08 35 19.9**	**+1.7**
GZR	**Gura Zlata**		**7.10**	**68**	⇑*i*P		**Pn**	**08 35 19.9**	**+1.7**
NKC	**Novy Kostel**		**7.14**	**355**	*e*SN		**Sn**	**08 36 36.8**	**-2.4**
VTS	**Vitosha**		**7.23**	**91**	⇑*i*P		**Pn**	**08 35 21.0**	**+1.0**
VTS	**Vitosha**		**7.23**	**91**	⇑*i*P		**Pn**	**08 35 21.0**	**+1.0**
MORC	**Moravsky Berou**		**7.24**	**22**	⇑*i*P		**Pn**	**08 35 20.8**	**+0.7**
MORC	**Moravsky Berou**		**7.24**	**22**	⇑*i*P		**Pn**	**08 35 20.8**	**+0.7**
DPC	**Dobruska-Polom**		**7.50**	**14**	*e*PN		**Pn**	**08 35 22.7**	**-1.0**
DPC	**Dobruska-Polom**		**7.50**	**14**	Pn		**Pn**	**08 35 22.7**	**-1.0**
PAGF	**Fort de Pagny**		**7.63**	**318**	*e*Pn		Pn	08 35 22.7	-2.7
SMF	**Signal de Mont**		**7.65**	**301**	*e*Pn		**Pn**	**08 35 25.8**	**+0.1**
	SNR=1.0								
SMF					*e*Sn		Sn	08 36 44.8	-6.8
	8.8nm,0.2s,SNR=1.0								
SMF	**Signal de Mont**		**7.65**	**301**	*e*Pn		**Pn**	**08 35 25.8**	**+0.1**
	SNR=1.0								
SFTF	**Sexfontaines**		**7.75**	**314**	*e*Pn		**Pn**	**08 35 27.2**	**+0.1**
	baz=134								
SFTF	**Sexfontaines**		**7.75**	**314**	*e*Pn		**Pn**	**08 35 27.2**	**+0.1**
BRG	**Berggiesshubel**		**7.76**	**3**	*e*(SN)		**Sb**	**08 37 18.6**	**-2.7**
BRG					SG		Sn	08 37 44.1	+50
	27nm,1.4s								
MMB	**Musomiste**		**7.80**	**98**	⇑*i*P		**Pn**	**08 35 28.5**	**+0.7**
MMB	**Musomiste**		**7.80**	**98**	⇑*i*P		**Pn**	**08 35 28.5**	**+0.7**
TNS	**Taunus Mts**		**7.87**	**336**	*e*Sn		**Sn**	**08 36 53.3**	**-3.9**
LOR	**Lormes**		**7.91**	**305**	*e*Pn		**Pn**	**08 35 29.5**	**+0.2**
	baz=131,SNR=1.0								
LOR					*e*Sn		Sn	08 36 51.8	-6.3
	17nm,0.4s,SNR=1.0								
LOR	**Lormes**		**7.91**	**305**	*e*Pn		**Pn**	**08 35 29.5**	**+0.2**
	SNR=1.0								
AVF	**Avril sur Loir**		**8.01**	**301**	*e*Pn		**Pn**	**08 35 30.9**	**+0.2**
	SNR=1.0								
AVF	**Avril sur Loir**		**8.01**	**301**	*e*Pn		**Pn**	**08 35 30.9**	**+0.2**
	SNR=1.0								
KEST	**Kesra**		**8.02**	**204**	Pn		Pn	08 35 38.0	+7.1
	0.5nm,0.3s,baz=284,slow=5.4,SNR=5.1								
KEST					LR		LR	08 38 39.0	
	comp=Z,64nm,19.7s,baz=352,slow=38								
SSF	**Saint Saulge**		**8.03**	**303**	*e*Pn		**Pn**	**08 35 30.5**	**-0.4**
	SNR=1.0								
SSF					*e*Sn		Sn	08 36 54.3	-6.7
	8.8nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**		**8.03**	**303**	*e*Pn		**Pn**	**08 35 30.5**	**-0.4**
	SNR=1.0								
CLL	**Collm**		**8.19**	**358**	*e*Pn		**Pn**	**08 35 32.8**	**-0.3**
CLL	**Collm**		**8.19**	**358**	*e*Pn		**Pn**	**08 35 31.0**	**-2.1**
CLL					*e*Sn		**Sn**	**08 37 01.0**	**-3.9**
CLL					*e*Sg		Sb	08 38 06.0	+32
	comp=Z,22nm,1.3s								
CLL	**Collm**		**8.19**	**358**	*e*Pn		**Pn**	**08 35 32.8**	**-0.3**
BGF	**Bois d'Agland**		**8.25**	**298**	*e*Pn		**Pn**	**08 35 34.1**	**+0.2**
	SNR=1.0								
BGF					*e*Sn		Sn	08 36 59.3	-7.1
	comp=Z,16nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**		**8.25**	**298**	*e*Pn		**Pn**	**08 35 34.1**	**+0.2**
	SNR=1.0								
CAF	**Calviac**		**8.37**	**286**	*e*P		Pn	08 35 39.9	+4.3
ARR	**Arges**		**8.37**	**71**	⇑*i*P		**Pn**	**08 35 37.1**	**+1.5**
ARR	**Arges**		**8.37**	**71**	⇑*i*P		**Pn**	**08 35 37.1**	**+1.5**
VOIR			**8.67**	**71**	⇓*i*P		**Pn**	**08 35 40.8**	**+1.0**
VOIR			**8.67**	**71**	⇓*i*P		**Pn**	**08 35 40.8**	**+1.0**
DOPR	**Dopca**		**9.02**	**68**	⇓*i*P		**Pn**	**08 35 46.0**	**+1.5**
DOPR	**Dopca**		**9.02**	**68**	⇓*i*P		**Pn**	**08 35 46.0**	**+1.5**
MLR	**Muntele Rosu**		**9.30**	**71**	⇓*i*P		**Pn**	**08 35 49.5**	**+1.1**
MLR	**Muntele Rosu**		**9.30**	**71**	Pn		Pn	08 35 52.4	+4.0
	comp=Z,0.0nm,0.3s,baz=124,slow=21,SNR=4.7								
MLR	**Muntele Rosu**		**9.30**	**71**	⇓*i*P		**Pn**	**08 35 49.5**	**+1.1**
BAIF	**Baives**		**9.38**	**321**	*e*Pn		**Pn**	**08 35 48.1**	**-1.3**
	SNR=1.0								
BAIF	**Baives**		**9.38**	**321**	*e*Pn		**Pn**	**08 35 48.1**	**-1.3**
	SNR=1.0								
BURAR	**Bucovina Array**		**9.45**	**58**	⇓*i*P		**Pn**	**08 35 51.7**	**+1.3**
BURAR	**Bucovina Array**		**9.45**	**58**	⇓*i*P		**Pn**	**08 35 51.7**	**+1.3**
GRR	**Gorron**		**11.26**	**303**	*e*Pn		**Pn**	**08 36 15.3**	**+0.2**
	SNR=1.0								
GRR	**Gorron**		**11.26**	**303**	*e*Pn		**Pn**	**08 36 15.3**	**+0.2**
	SNR=1.0								
AKASG	**Malin Array Be**		**13.19**	**49**	Pn		**Pn**	**08 36 40.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=254,slow=11,SNR=2.3								
ESDC	**Sonseca Array**		**13.48**	**261**	Pn		**Pn**	**08 36 48.1**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=81,slow=13,SNR=3.1								
EKA	**Eskdalemuir Ar**		**16.26**	**324**	Pn		**Pn**	**08 37 22.7**	**+0.2**
	baz=126,slow=14,SNR=3.9								
MDT	**Midelt**		**17.51**	**240**	LR		LR	08 43 02.5	
	comp=Z,30nm,21.8s,baz=48,slow=32								
NOA	**NORSAR Array B**		**17.99**	**357**	LR		LR	08 45 18.4	
	comp=Z,36nm,20.9s,baz=80,slow=39								
FINES	**FINESS Array B**		**19.85**	**18**	P		**P**	**08 38 05.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=195,slow=8.5,SNR=5.1								
JMIC	**Jan Mayen**		**29.99**	**346**	LR		LR	08 50 56.6	
	comp=Z,49nm,19.1s,baz=176,slow=35								
TORD	**Torodi Ar. Bea**		**31.53**	**202**	P		**P**	**08 39 56.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=18,slow=8.1,SNR=3.8								
BVAR	**Borovoye Array**		**38.39**	**55**	P		**P**	**08 40 53.1**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=267,slow=8.9,SNR=5.6								
KURBB	**Kurchatov Arra**		**43.84**	**57**	P		**P**	**08 41 39.7**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=302,slow=7.9,SNR=4.5								
ZALV	**Zalesovo Beam**		**46.58**	**50**	P		**P**	**08 42 01.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=320,slow=6.6,SNR=2.8								
MKAR	**Makanchi Array**		**47.46**	**60**	P		**P**	**08 42 08.8**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=291,slow=5.7,SNR=12								
SONM	**Songino Array**		**61.47**	**50**	P		**P**	**08 43 50.9**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=294,slow=8.0,SNR=7.2								
YKA	**Yellowknife Ar**		**66.80**	**337**	P		**P**	**08 44 26.1**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=39,slow=5.5,SNR=5.3								

IDC ***10*** *08:45:06.9±1.7, 10°.53S×120°.35E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=69.2km s-min=26.4km az=50.0*

ISC 10 08:45:10.6±1.9, 10°.8S±0°.3×120°.7E±0°.4, h35km, n9, σ1§07/10, mb4.0/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.00**	**126**	Pn	**P**	**08 48 57.0**	**+0.6**
	0.3nm,0.3s,baz=293,slow=13,SNR=15						
WRA				Sn	**Sn**	**08 51 48.0**	**-1.6**
	0.1nm,0.3s,baz=290,slow=26,SNR=4.6						
ASAR	**Alice Springs**	**17.97**	**137**	P	P	08 49 24.1	+6.0
	0.6nm,0.3s,baz=315,slow=12,SNR=56						
ASAR				S	**Sn**	**08 52 37.9**	**+0.5**
	0.2nm,0.3s,baz=310,slow=24,SNR=6.8						
USRK	**Ussuriysk Arra**	**55.69**	**10**	P	**P**	**08 54 43.0**	**-0.4**
	1.0nm,0.6s,baz=203,slow=8.6,SNR=3.8						
SONM	**Songino Array**	**59.73**	**349**	P	**P**	**08 55 11.7**	**-0.2**
	0.3nm,0.4s,baz=154,slow=7.9,SNR=5.0						
MKAR	**Makanchi Array**	**66.80**	**332**	P	**P**	**08 55 58.4**	**-0.2**
	0.9nm,0.5s,baz=148,slow=6.7,SNR=12						
ZALV	**Zalesovo Beam**	**71.30**	**339**	P	**P**	**08 56 25.2**	**-1.1**
	1.3nm,0.5s,baz=149,slow=4.3,SNR=7.4						
KURBB	**Kurchatov Arra**	**71.30**	**333**	P	**P**	**08 56 25.7**	**-0.7**
	0.6nm,0.8s,baz=142,slow=5.8,SNR=8.8						
BVAR	**Borovoye Array**	**76.64**	**331**	P	**P**	**08 56 57.5**	**-0.2**
	1.0nm,0.8s,baz=116,slow=6.8,SNR=4.9						
SEY	**Seymchan**	**77.47**	**14**	P	**P**	**08 57 03.7**	**+1.6**
	0.5nm,0.3s,baz=197,slow=20,SNR=4.0						

MOS ***10*** *08:50:03.9±1.5, 55°.22N×160°.37E, h5km, mb4.3/5, Error ellipse: s-maj=13.5km s-min=6.8km az=88.9*

IDC ***10*** *08:50:04.2±0.6, 55°.08N×160°.40E, h0km, mb3.6/12, mb1 3.8/14, mb1mx3.7/29, mbtmp3.6/14, ML3.4/2, MS3.3/8, Ms1 3.4/8, ms1mx3.2/45, Error ellipse: s-maj=15.9km s-min=10.0km az=171.0*

KRSC ***10*** *08:50:04.7±0.6, 55°.17N×160°.39E, h6km±2km, ML4.2*

ISCJB ***10*** *08:50:05.3±0.6, 55°.18N±0°.01×160°.35E±0°.05, h7km±4km, mb3.6/16, MS3.2/7, Error ellipse: s-maj=4.6km s-min=2.1km az=13.9*

ISC 10 08:50:05.1±0.9, 55°.15N±0°.02×160°.34E±0°.03, h7km±6km, n82, σ1§17/107, mb3.8/16, MS3.2/7, 1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.05**	**211**	*i* P	**Pg**	**08 50 06.6**	**-0.3**
TUMR	**Tumrok**	**0.17**	**320**	*i* P	**Pg**	**08 50 08.5**	**-0.2**

KMNR	**Kamenistaya**		**0.61**	**355**	*i* P		**Pg**	**08 50 16.8**	**0.0**
KMNR					*e*S		**Sb**	**08 50 25.9**	**-1.0**
BZMR	**Bezymyannaya**		**0.79**	**6**	*e*P		**Pg**	**08 50 20.3**	**0.0**
BZMR					*e*S		**Sb**	**08 50 31.8**	**-0.4**
KIRR	**Kirishev**		**0.80**	**0**	*e*P		**Pg**	**08 50 20.3**	**-0.2**
KIRR					*e*S		**Sg**	**08 50 31.5**	**+0.5**
BZGR	**Bezymyannyi-Gr**		**0.81**	**14**	*e*P		**Pg**	**08 50 20.1**	**-0.7**
BZGR					*e*S		**Sg**	**08 50 31.4**	**0.0**
KPT	**Kopyto**		**0.82**	**355**	*e*P		**Pg**	**08 50 20.0**	**-0.8**
KPT					*e*S		**Sg**	**08 50 31.2**	**-0.2**
BZWR	**Bezymyannyi-We**		**0.82**	**6**	*e*P		**Pg**	**08 50 20.7**	**-0.1**
BZWR					*e*S		**Sg**	**08 50 31.9**	**+0.4**
ZLN	**Zelenaya**		**0.90**	**17**	*e*P		**Pg**	**08 50 22.6**	**+0.1**
KOZ	**Kozyrevsk**		**0.94**	**344**	*e*P		**Pg**	**08 50 23.1**	**-0.1**
KOZ					*e*S		**Sb**	**08 50 36.1**	**-0.4**
KOZR	**Kozyr**		**0.95**	**345**	PN		**Pg**	**08 50 23.1**	**-0.2**
KOZR					S		**Sb**	**08 50 36.1**	**-0.5**
LGNR	**Loginova**		**0.95**	**12**	P		**Pg**	**08 50 23.7**	**+0.3**
LGNR					S		**Sb**	**08 50 37.5**	**+0.5**
MKZ	**Mys Kozlova**		**1.00**	**126**	PN		**Pg**	**08 50 23.9**	**-0.5**
MKZ					S		**Sb**	**08 50 37.9**	**-0.3**
MKZ	**Mys Kozlova**		**1.00**	**126**	*i* P		**Pg**	**08 50 23.9**	**-0.5**
MKZ					*e*S		**Sb**	**08 50 37.9**	**-0.3**
KRSR	**Krestovskiy**		**1.07**	**7**	*e*P		**Pg**	**08 50 24.8**	**-0.9**
KRSR					*e*S		**Sg**	**08 50 39.3**	**-0.4**
KLY	**Klyuchi**		**1.18**	**9**	PN		**Pg**	**08 50 27.3**	**-0.4**
KLY					S		**Sn**	**08 50 43.7**	**-0.5**
KLY	**Klyuchi**		**1.18**	**9**	*e*P		**Pg**	**08 50 27.3**	**-0.4**
KLY					*e*S		**Sn**	**08 50 43.7**	**-0.5**
ESO	**Esso**		**1.21**	**310**	PN		**Pg**	**08 50 26.8**	**-1.5**
ESO					S		**Sg**	**08 50 42.8**	**-1.2**
ESO	**Esso**		**1.21**	**310**	*e*P		**Pg**	**08 50 26.8**	**-1.5**
ESO					*e*S		**Sg**	**08 50 42.8**	**-1.

WRA	**Warramunga Arr**	**78.01**	**205**	P	**P**	**09 02 03.4**	**-0.7**
	comp=Z,0.8nm,1.1s,baz=23,slow=6.3,SNR=3.7						
ASAR	**Alice Springs**	**81.70**	**204**	P	**P**	**09 02 24.1**	**+0.1**
	comp=Z,0.4nm,1.0s,baz=27,slow=6.4,SNR=2.3						

*ISCJB **10** 08:56:25.0±0.5, 15°.67N±0°.10×93°.90W±0°.04, h94km±7km, mb3.6/5, Error ellipse: s-maj=16.4km s-min=5.0km az=13.6*
*IDC **10** 08:56:27.8±1.3, 15°.91N×93°.64W, h88km±9km, mb3.5/5, mb1 3.9/9, mb1mx3.6/27, mbtmp3.6/9, Error ellipse: s-maj=26.8km s-min=10.5km az=25.0*
*MEX **10** 08:56:28.6±0.5, 15°.45N×94°.03W, h65km±14km, MD4.1*

ISC 10 08:56:26.7±0.8, 15°.77N±0°.08×93°.87W±0°.04, h91km±8km, n16,σ1ᵎ93/27, mb3.6/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.63**	**96**	*eP*	**Pn**	**08 56 42.8**	**+0.3**
PCIG				*i* S	**Sn**	**08 56 55.0**	**+0.6**
THIG		**1.77**	**119**	*i* P	**Pn**	**08 56 56.5**	**+0.6**
THIG				*i* S	**Sn**	**08 57 17.8**	**-0.3**
HUIG	**Huatulco**	**2.16**	**270**	*i* P	**Pn**	**08 56 59.3**	**-1.7**
HUIG				*i* S	**Sn**	**08 57 23.0**	**-4.2**
VHO	**Vista Hermosa**	**3.04**	**296**	*eP*	**Pn**	**08 57 13.8**	**+0.9**
VHO				*i* S	**Sn**	**08 57 48.2**	**-0.4**
APG	**El Apazote**	**3.37**	**103**	P	**Pn**	**08 57 15.1**	**-2.4**
	12nm,0.3s,baz=290,slow=12,SNR=24						
APG				S	**Sn**	**08 57 54.5**	**-2.1**
	15nm,0.3s,baz=317,slow=21,SNR=6.0						
SCIG	**Sabancuy**	**4.08**	**38**	*eP*	**Pn**	**08 57 26.5**	**-0.3**
PNIG	**Pinotepa**	**4.14**	**279**	*eP*	**Pn**	**08 57 26.8**	**-0.9**
PNIG				*i* S	**Sn**	**08 58 12.3**	**-2.7**
TLIG	**Tlapa**	**4.84**	**292**	*eP*	**Pn**	**08 57 38.3**	**+1.0**
TLIG				*i* S	**Sn**	**08 58 32.0**	**-0.3**
TEIG	**Tepich**	**6.92**	**49**	P	**Pn**	**08 58 04.0**	**-1.5**
	8.3nm,0.3s,baz=260,slow=2.1,SNR=72						
TEIG				S	**Sn**	**08 59 18.5**	**-4.2**
	16nm,0.3s,baz=65,slow=23,SNR=13						
JTS	**JuntasAbangare**	**10.25**	**121**	P	**Pn**	**08 58 50.0**	**-1.0**
	1.0nm,0.3s,baz=331,slow=19,SNR=3.7						
TXAR	**Lajitas Array**	**16.24**	**328**	P	**P**	**09 00 11.2**	**+0.3**
	0.1nm,0.3s,baz=151,slow=14,SNR=12						
ANMO	**Albuquerque**	**22.18**	**332**	P	**P**	**09 01 17.2**	**+1.5**
	2.3nm,0.8s,baz=150,slow=12,SNR=13						
PDAR	**Pinedale Array**	**30.07**	**337**	P	**P**	**09 02 28.8**	**+1.1**
	0.6nm,0.7s,baz=147,slow=10,SNR=4.5						
NVAR	**Mina Array Bea**	**31.16**	**321**	P	**P**	**09 02 40.3**	**+3.0**
	1.0nm,0.7s,baz=132,slow=8.7,SNR=9.0						
NVAR				pP	**pP**	**09 03 00.8**	**+2.8**
	0.6nm,0.7s,baz=136,slow=9.0,SNR=2.7						
YKA	**Yellowknife Ar**	**48.90**	**347**	P	**P**	**09 05 03.0**	**-0.1**
	2.0nm,0.5s,baz=152,slow=7.4,SNR=93						
YKA				pP	**pP**	**09 05 23.5**	**-1.5**
	0.3nm,0.5s,baz=152,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**60.51**	**337**	P	**P**	**09 06 27.4**	**+0.4**
	0.4nm,0.9s,baz=156,slow=4.8,SNR=5.5						
ILAR				pP	**pP**	**09 06 49.7**	**0.0**
	0.4nm,0.8s,baz=150,slow=4.2,SNR=2.1						

MAN 10 09:08:39, 17°.87N×121°.46E, h10km, mb3.5, ML2.2, MS1.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.20**	**268**	*eP*	Pg	09 08 44.5	+1.2
APYP				*eS*	Sg	09 08 56.1	+1.0
CVP	**Callao Caves**	**0.39**	**116**	*eP*	Pg	09 08 46.9	+0.3
CVP				*i* S	Sb	09 09 00.3	+6.4
ABRA	**Dolores**	**0.74**	**253**	*eP*	Pg	09 08 53.0	-0.4
ABRA				*eS*	Sb	09 09 04.6	+0.3
CAUP	**Cauayan**	**0.98**	**159**	*eP*	Pn	09 09 01.1	+2.2
PALP	**Palanan**	**1.22**	**131**	*eP*	Pn	09 09 01.3	-0.9

IGQ 10 09:11:41±0.9, 1°.21N×79°.45W, h4km±112km, Mb4.0, 3C-2D, Error ellipse: s-maj=5.8km s-min=3.5km az=12.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**1.39**	**134**	P	Pn	09 12 07.0	-0.7
OTAV	**Otavalo**	**1.39**	**134**	S	Sn	09 12 28.5	+1.6
PINO	**Pino**	**1.60**	**148**	P	Pn	09 12 11.0	+0.2
GGP	**Refugio Guagua**	**1.62**	**148**	P	Pn	09 12 11.5	+0.4
JUA2	**San Juan 2**	**1.65**	**149**	P	Pb	09 12 12.8	+0.2
CAYA	**Cayambe**	**1.84**	**128**	P	Pb	09 12 16.6	+0.6
CAYR	**Refugio Cayamb**	**1.87**	**130**	P	Pb	09 12 16.3	-0.2
PAST	**Pastocalle**	**2.06**	**157**	P	Pb	09 12 18.5	-1.0
CAMI	**Rancho Maria**	**2.10**	**153**	P	Pb	09 12 19.3	-1.0
VC1	**Cotopaxi 1**	**2.12**	**151**	P	Pb	09 12 21.0	+0.3
BREF	**Cotopaxi Volca**	**2.12**	**152**	P	Pb	09 12 20.8	0.0
BVC2	**Cotopaxi Volca**	**2.13**	**151**	P	Pb	09 12 20.0	-0.8
BTAM	**Cotopaxi Volca**	**2.15**	**151**	P	Pb	09 12 20.3	-0.9
BMOR	**Cotopaxi Volca**	**2.17**	**153**	P	Pb	09 12 20.3	-1.3
TAMB	**Tambo**	**2.18**	**150**	P	Pb	09 12 21.8	+0.1

IDC 10 09:26:43.3±27.0, 22°.30S×174°.46W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/21, mbtmp4.1/4, Error ellipse: s-maj=492.1km s-min=142.6km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.62**	**266**	P	P	09 33 52.1	+0.5
	3.5nm,0.4s,baz=84,slow=9.9,SNR=14						
STKA	**Stephens Creek**	**40.04**	**247**	P	P	09 34 20.6	+0.3
	0.7nm,0.5s,baz=79,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**47.34**	**258**	P	P	09 35 18.7	-0.6
	0.9nm,0.6s,baz=92,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**47.63**	**263**	P	P	09 35 21.0	-0.6
	0.6nm,0.3s,baz=103,slow=8.6,SNR=59						

IDC 10 10:08:26.4±2.6, 9°.78S×121°.29E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=240.9km s-min=28.1km az=53.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.15**	**130**	Pn	Pn	10 12 14.7	-0.2
	0.1nm,0.3s,baz=307,slow=14,SNR=6.7						
WRA				Sn	Sn	10 15 04.2	-11
	0.1nm,0.3s,baz=295,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**18.32**	**140**	P	Pn	10 12 42.3	0.0
	0.2nm,0.3s,baz=315,slow=12,SNR=24						
ASAR				S	Sn	10 15 54.0	-14
	0.1nm,0.3s,baz=305,slow=22,SNR=4.0						
MKAR	**Makanchi Array**	**66.19**	**332**	P	P	10 19 15.9	-0.1
	0.4nm,0.6s,baz=144,slow=8.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**70.59**	**338**	P	P	10 19 43.4	+0.1
	0.4nm,0.4s,baz=145,slow=4.2,SNR=3.1						

IDC 10 10:22:17.7±3.0, 5°.76S×150°.14E, h262km±25km, mb2.9/4, mb1 3.3/5, mb1mx2.9/18, mbtmp3.0/5, Error ellipse: s-maj=127.3km s-min=26.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.67**	**219**	P	Pn	10 23 29.3	-0.6
	3.2nm,0.3s,baz=24,slow=10.0,SNR=9.4						
PMG				S	S	10 24 28.6	+0.9
	0.4nm,0.3s,baz=11,slow=16,SNR=1.8						
WRA	**Warramunga Arr**	**20.85**	**226**	P	P	10 26 40.1	0.0
	0.5nm,0.3s,baz=50,slow=9.9,SNR=8.7						
ASAR	**Alice Springs**	**23.69**	**220**	P	P	10 27 06.3	0.0
	0.2nm,0.4s,baz=52,slow=9.2,SNR=14						
ILAR	**Eielson Array**	**84.05**	**23**	P	P	10 34 18.9	+0.2
	0.3nm,0.6s,baz=235,slow=6.2,SNR=4.4						
YKA	**Yellowknife Ar**	**97.51**	**28**	P	P	10 35 20.9	-0.8
	0.2nm,0.6s,baz=265,slow=4.5,SNR=6.9						

DJA 10 10:30:55.9±0.8, 2°.5±4°×10°.0E±°, h30km, M3.8/5, MLv3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.63**	**11**	P	Pb	10 31 08.3	-0.2
PDSI				S	Sb	10 31 16.0	-1.0
PPI	**Padang Panjang**	**1.07**	**3**	P	Pn	10 31 13.0	-1.8
PPI				S	Sn	10 31 23.6	-5.1
BKNI	**Bangkinang**	**1.97**	**21**	P	Pn	10 31 28.7	+1.4
BKNI				S	Sb	10 31 54.5	-0.9
MNSI	**Mandailing Nat**	**2.43**	**342**	P	Pn	10 31 35.8	+2.2

IDC 10 10:35:00.1±2.4, 27°.38N×94°.17E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/27, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=195.2km s-min=26.1km az=61.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.90**	**153**	Pn	Pn	10 37 24.5	+0.7
	0.2nm,0.3s,baz=330,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**21.53**	**337**	P	P	10 39 50.7	0.0
	0.3nm,0.3s,baz=154,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**61.04**	**136**	P	P	10 45 14.9	-0.9
	0.5nm,0.5s,baz=322,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**63.61**	**139**	P	P	10 45 33.7	+0.6
	0.5nm,0.4s,baz=322,slow=6.8,SNR=12						

WEL 10 10:56:43.9±0.4, 39°.50S×174°.37E, h217km±3km, ML3.7/15, 10C-1D, Error ellipse: s-maj=2.4km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NMEZ	**Namu Road**	**0.39**	**282**	*e*PN	Pn	10 57 12.7	+0.1
VRZ	**Vera Road**	**0.48**	**40**	↑PN	Pn	10 57 12.2	-0.7
WAZ	**Wanganui**	**0.54**	**119**	↑PN	Pn	10 57 13.6	+0.5
WAZ				*e*SN	S	10 57 35.4	-0.5
FWVZ	**Far West T-bar**	**0.95**	**76**	PN	Pn	10 57 15.1	-0.3
COVZ	**Chateau Observ**	**0.96**	**72**	PN	Pn	10 57 15.0	-0.3
COVZ				SN	S	10 57 37.9	-1.6
WPVZ	**Whakapapa**	**0.96**	**73**	PN	Pn	10 57 15.1	-0.2
WHVZ	**Whangaehu Hut**	**0.97**	**78**	PN	Pn	10 57 15.2	-0.3
WTVZ	**West Tongariro**	**1.02**	**69**	↑PN	Pn	10 57 15.5	-0.2
WTVZ				SN	S	10 57 38.9	-1.4
HIZ	**Hauiti**	**1.05**	**21**	↑PN	Pn	10 57 14.9	-0.9
KRVZ	**Karewarewa**	**1.06**	**68**	PN	Pn	10 57 15.8	-0.2
MOVZ	**Moawhango**	**1.08**	**86**	PN	Pn	10 57 15.5	-0.4
KATZ	**Kakaramea**	**1.15**	**64**	PN	Pn	10 57 16.4	-0.2
DUWZ	**D'Urville Isla**	**1.35**	**195**	PN	Pn	10 57 17.8	0.0
TSZ	**Takapari Road**	**1.35**	**115**	↑PN	Pn	10 57 17.9	0.0
TSZ				AML	AML	10 57 18.4	
POWZ	**Post Office Ro**	**1.40**	**130**	PN	Pn	10 57 18.2	0.0
KIW	**Kapiti Island**	**1.43**	**163**	PN	Pn	10 57 18.3	-0.1
KIW				AML	AML	10 57 43.7	
KIW				AML	AML	10 57 46.6	
OGWZ	**Otaki Gorge**	**1.46**	**155**	↑PN	Pn	10 57 18.7	0.0
PNHZ	**Pukenui**	**1.47**	**107**	↑PN	Pn	10 57 18.9	0.0
MRZ	**Mangatainoka R**	**1.49**	**142**	↑PN	Pn	10 57 18.8	-0.2
MRZ				AML	AML	10 57 47.0	
MRZ				AML	AML	10 57 47.6	
DVHZ	**Dannevirke**	**1.60**	**121**	PN	Pn	10 57 19.9	-0.1
PRWZ	**Pori Road**	**1.62**	**131**	PN	Pn	10 57 20.2	+0.1
HOWZ	**Holdsworth Sta**	**1.66**	**148**	PN	Pn	10 57 20.1	-0.3
BKZ	**Black Stump Fm**	**1.68**	**79**	PN	Pn	10 57 20.2	-0.5
BKZ				AML	AML	10 57 46.9	
BKZ				AML	AML	10 57 47.8	
WPHZ	**Waipukurau**	**1.70**	**110**	PN	Pn	10 57 21.0	+0.2
CAW	**Cannon Point**	**1.70**	**162**	PN	Pn	10 57 20.5	-0.3
CAW				AML	AML	10 57 49.3	
CAW				AML	AML	10 57 50.6	
TCW	**Tory Channel**	**1.72**	**182**	PN	Pn	10 57 21.0	+0.1
TCW				AML	AML	10 57 48.5	
TCW				AML	AML	10 57 50.7	
TIWZ	**Tintock**	**1.73**	**138**	PN	Pn	10 57 20.9	-0.2
TIWZ				AML	AML	10 57 50.8	
TIWZ				AML	AML	10 57 50.9	
MCHZ	**McNeill Hill**	**1.80**	**89**	PN	Pn	10 57 22.4	+0.6
BFZ	**Birch Farm**	**1.87**	**130**	PN	Pn	10 57 22.1	-0.2
MTW	**Mount Morrison**	**1.88**	**153**	PN	Pn	10 57 22.0	-0.4
MTW				AML	AML	10 57 54.2	
NNZ	**Nelson**	**1.88**	**203**	PN	Pn	10 57 22.1	-0.3
ANWZ	**Angora Road**	**1.89**	**121**	PN	Pn	10 57 22.7	+0.2
PRHZ	**Porangahau**	**1.91**	**115**	↑PN	Pn	10 57 22.9	+0.2
QRZ	**Quartz Range**	**1.94**	**226**	PN	Pn	10 57 21.9	-1.1
BHW	**Baring Head**	**1.95**	**169**	AML	AML	10 57 53.7	
BHW				AML	AML	10 57 58.0	
KAHZ	**Kahuranaki**	**1.96**	**100**	PN	Pn	10 57 23.7	+0.4
TUWZ	**Tuamarina**	**1.96**	**189**	PN	Pn	10 57 22.8	-0.4
TUWZ				AML	AML	10 57 53.4	
TUWZ				AML	AML	10 57 53.6	
PXZ	**Pawanui**	**2.00**	**106**	↑PN	Pn	10 57 23.7	+0.2
PXZ				AML	AML	10 57 55.7	
PXZ				AML	AML	10 57 55.7	
PXZ				AML	AML	10 57 56.5	
PXZ				AML	AML	10 57 56.5	
MSWZ	**Moikau Station**	**2.03**	**161**	PN	Pn	10 57 23.4	-0.6
MSWZ				AML	AML	10 57 54.0	
PAWZ	**Paruwai Farm**	**2.05**	**157**	PN	Pn	10 57 23.7	-0.5
PAWZ				AML	AML	10 57 54.4	
TRWZ	**Traveller**	**2.15**	**153**	PN	Pn	10 57 24.7	-0.4
PLWZ	**Palliser**	**2.18**	**162**	PN	Pn	10 57 24.7	-0.8
BSWZ	**Blackbirch Sta**	**2.25**	**189**	*e*PN	Pn	10 57 26.7	+0.6
BSWZ				AML	AML	10 57 36.6	
BSWZ				AML	AML	10 58 44.0	
SNGZ	**Shannon Statio**	**2.42**	**74**	PN	Pn	10 57 27.6	-0.4
URZ	**Urewera**	**2.47**	**61**	PN	Pn	10 57 27.0	-1.5
URZ				AML	AML	10 57 58.7	
URZ				AML	AML	10 57 59.3	
THZ	**Tophouse**	**2.53**	**206**	↓PN	Pn	10 57 28.3	-0.8
MWZ	**Matawai**	**2.72**	**66**	PN	Pn	10 57 30.6	-0.7
RIGZ	**Rimuhau**	**2.76**	**74**	PN	Pn	10 57 31.2	-0.5
MHGZ	**Mahia Peninsul**	**2.77**	**84**	*e*PN	Pn	10 57 31.8	0.0
PRGZ	**Paritu Road**	**2.79**	**79**	PN	Pn	10 57 31.8	-0.2
DSZ	**Denniston Nort**	**2.98**	**220**	PN	Pn	10 57 32.9	-1.3
CNGZ	**Carnagh Statio**	**3.16**	**73**	PN	Pn	10 57 35.9	-0.3
PUZ	**Puketiti**	**3.35**	**66**	PN	Pn	10 57 37.1	-1.5
LTZ	**Lake Taylor**	**3.65**	**205**	PN	Pn	10 57 40.7	-1.3
OXZ	**Oxford**	**4.21**	**204**	PN	Pn	10 57 46.7	-2.0
CRLZ	**Canterbury Las**	**4.28**	**197**	*e*PN	Pn	10 57 47.3	-2.4
MOZ	**McQueen's Vall**	**4.40**	**196**	PN	Pn	10 57 48.4	-2.7
WVZ	**Waitaha Valley**	**4.50**	**216**	PN	Pn	10 57 50.3	-2.1
FOZ	**Fox Glacier**	**5.37**	**219**	*e*PN	Pn	10 57 58.6	-4.6
LBZ	**Lake Benmore**	**5.80**	**211**	PN	Pn	10 58 06.1	-2.6
ODZ	**Otahua Downs**	**6.20**	**205**	PN	Pn	10 58 12.1	-1.7

IDC 10 11:04:29.7±7.0, 16°.45S×172°.76W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML1.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=223.0km s-min=24.5km az=125.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.70**	**21**	Pn	Pn	11 05 14.8	+0.2
	3.0nm,0.3s,baz=77,slow=20,SNR=6.7						
AFI				Sn	Sn	11 05 48.0	0.0
	9.4nm,0.3s,baz=9.4,slow=18,SNR=7.4						
AFI				LR	LR	11 05 48.6	
	comp=Z,388nm,18.8s,baz=263,slow=29						
STKA	**Stephens Creek**	**44.06**	**241**	P	P	11 12 39.6	0.0
	0.4nm,0.4s,baz=104,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**50.21**	**258**	P	P	11 13 27.7	-0.2
	0.5nm,1.0s,baz=96,slow=7.5,SNR=6.0						
ASAR	**Alice Springs**	**50.38**	**253**	P	P	11 13 29.0	-0.2
	1.2nm,0.6s,baz=88,slow=8.2,SNR=22						

*BJI **10** 11:48:27.1, 40°.70N×124°.70W, h8km, mB4.7/1, Ms4.8/2, Ms7 4.4/1*
*IDC **10** 11:48:29.6±2.1, 40°.73N×124°.49W, h0km, mb3.1/2, mb1 3.8/4, mb1mx3.4/29, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=20.1km s-min=11.4km az=105.0*
*ISCJB **10** 11:48:30.1±1.1, 40°.65N±0°.03×124°.67W±0°.07, h24km±7km, mb3.8/5, MS4.6/2, Error ellipse: s-maj=9.1km s-min=4.2km az=166.8*
*NEIC **10** 11:48:31.7, 40°.64N×124°.66W, h24km, mb3.9/7, MW3.9(BRK), After NCEDC.*
NEIC Felt [III] at Eureka and [II] at McKinleyville. Also felt at Ferndale, Fortuna, Hydesville, Kneeland and Rio Dell.

ISC 10 11:48:33.0±1.6, 40°.68N±0°.04×124°.56W±0°.07, h30km±9km, n90,σ1ᵎ69/96, mb3.9/5, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**0.66**	**73**	*e*Pg	**Pb**	**11 48 45.2**	**-1.0**
KMRM	**Mail Ridge**	**0.80**	**125**	*e*Pg	**Pb**	**11 48 46.9**	**-1.6**
KRMB	**Red Mountain**	**0.98**	**30**	*e*Pg	**Pn**	**11 48 49.1**	**-1.7**
KRMB				*e*Sg	**Sb**	**11 49 01.4**	**-2.7**
KCPM	**Cahto Peak**	**1.25**	**143**	*e*Pn	**Pn**	**11 48 52.4**	**-2.2**
KSXB	**Camp Six Broad**	**1.26**	**24**	P	**Pn**	**11 48 52.8**	**-2.0**
KTRM	**Thompson Ridge**	**1.52**	**36**	P	**Pn**	**11 48 56.8**	**-1.5**
WDC	**Whiskeytown Da**	**1.54**	**93**	*e*Pn	**Pn**	**11 48 57.2**	**-1.3**
KBO	**Bosley Butte**	**1.55**	**9**	*e*Pn	**Pn**	**11 48 56.1**	**-2.6**
LAMM	**Antelope Mount**	**1.73**	**57**	P	**Pn**	**11 49 00.4**	**-0.9**
YBH	**Yreka Blue Hor**	**1.75**	**52**	*e*Pn	**Pn**	**11 49 00.4**	**-1.0**
YBH				Pg	**Pn**	**11 49 00.6**	**-0.8**
YBH				Lg	Lg	11 49 22.2	
YBH				*e*Sn	**Sb**	**11 49 24.6**	**-1.5**
YBH	**Yreka Blue Hor**	**1.75**	**52**	Pg	**Pn**	**11 49 00.6**	**-0.8**
	55nm,0.3s,baz=251,slow=10,SNR=1832						
YBH				Lg	Lg	11 49 22.3	
	152nm,0.3s,baz=322,slow=22,SNR=23						
HOPS	**Hopland**	**2.04**	**145**	*e*Pn	**Pn**	**11 49 03.2**	**-2.2**
KEBM	**Edson Butte**	**2.20**	**4**	*e*Pn	**Pn**	**11 49 05.2**	**-2.3**
KEBM				*e*Pg	**Pb**	**11 49 13.8**	**+1.7**
HUMO	**Hull Mountain**	**2.27**	**32**	*e*Pn	**Pn**	**11 49 07.3**	**-1.3**
HUMO				*e*Pg	**Pb**	**11 49 14.5**	**+1.1**
HUMO				*e*Sn	**Sn**	**11 49 34.8**	**-0.7**
M04C	**Macdoel**	**2.33**	**61**	P	**Pn**	**11 49 09.5**	**0.0**
	baz=2.4						
BUOR	**Burton Butte**	**2.36**	**47**	P	**Pn**	**11 49 11.1**	**+1.1**
LAB	**Little Aspen B**	**2.46**	**49**	P	**Pn**	**11 49 11.7**	**+0.5**
OHCM	**Honcut**	**2.72**	**119**	*e*Pn	**Pn**	**11 49 12.6**	**-2.0**
OHCM				*e*Sn	**Sn**	**11 49 45.6**	**-0.9**
BEKR	**Beckworth**	**3.32**	**103**	*e*Pn	**Pn**	**11 49 22.4**	**-0.7**
BEKR				*e*Sn	**Sn**	**11 50 06.0**	**+4.4**
K05A	**Summer Lake**	**3.42**	**52**	*e*Pn	**Pn**	**11 49 24.6**	**0.0**
MOD	**Modoc**	**3.44**	**68**	*e*Pn	**Pn**	**11 49 23.7**	**-0.9**
I04A	**Tendick Farm,**	**3.50**	**26**	P	**Pn**	**11 49 25.9**	**+0.5**
	baz=3.6						
I04A				S	**Sn**	**11 50 04.6**	**-1.2**
	baz=3.6						
COR	**Corvallis**	**4.01**	**13**	*e*Pn	**Pn**	**11 49 32.8**	**+0.4**
PAHR	**Pah Rah Range**	**4.08**	**102**	*e*Pn	**Pn**	**11 49 32.9**	**-0.6**
PINOR	**Pine Mountain**	**4.16**	**40**	*e*Pn	**Pn**	**11 49 35.4**	**+1.0**
CMB	**Columbia Colle**	**4.18**	**128**	*e*Pn	**Pn**	**11 49 35.0**	**+0.2**
CMB				*e*Sn	**Sn**	**11 50 23.4**	**+0.7**
WAKR	**Walker**	**4.52**	**117**	*e*Pn	**Pn**	**11 49 40.2**	**+0.7**
WVOR	**Wild Horse Val**	**4.78**	**67**	*e*Pn	**Pn**	**11 49 41.9**	**-1.2**
I07A	**Izee**	**5.06**	**46**	*e*Pn	**Pn**	**11 49 48.6**	**+1.7**
J08A	**Circle Bar Ran**	**5.27**	**57**	*e*Pn	**Pn**	**11 49 49.2**	**-0.5**
NVAR	**Mina Array Bea**	**5.33**	**113**	Pn	**Pn**	**11 49 50.9**	**+0.1**
NVAR				Pg	Pb	11 49 59.1	-6.5
NVAR				Lg	Lg	11 51 17.1	
NVAR	**Mina Array Bea**	**5.33**	**113**	Pn	**Pn**	**11 49 50.9**	**+0.1**
	4.3nm,0.3s,baz=292,slow=15,SNR=94						
NVAR				Pg	Pb	11 49 59.1	-6.5
	2.9nm,0.3s,baz=291,slow=15,SNR=15						
NVAR				Lg	Lg	11 51 17.1	
	baz=293,slow=25,SNR=1.5						
NV11	**Mina Array Sit**	**5.44**	**112**	*e*Pn	**Pn**	**11 49 51.7**	**-0.5**
BMN	**Battle Mountai**	**5.60**	**90**	*e*Pn	**Pn**	**11 49 53.6**	**-0.8**
G08A	**Pilot Rock**	**6.17**	**40**	*e*Pn	Pn	11 50 05.6	+3.3
TPH	**Tonopah**	**6.25**	**112**	*e*Pn	**Pn**	**11 50 03.9**	**+0.5**
LON	**Longmire**	**6.39**	**17**	*e*Pn	**Pn**	**11 50 05.4**	**+0.3**
VES	**Vestal, Richgr**	**6.47**	**137**	P	**Pn**	**11 50 07.0**	**+0.7**
	baz=6.5						
HAWA	**Hanford**	**6.78**	**31**	*e*Pn	**Pn**	**11 50 12.5**	**+2.1**
ISA	**Isabella**	**6.94**	**134**	*e*Pn	**Pn**	**11 50 14.2**	**+1.5**
ISA	**Isabella**	**6.94**	**134**	P	**Pn**	**11 50 13.9**	**+1.2**
	baz=7.0						
MFID	**Camas Ranch**	**7.05**	**64**	*e*Pn	**Pn**	**11 50 13.6**	**-0.7**
ARVC	**Arvin**	**7.16**	**139**	P	**Pn**	**11 50 16.2**	**+0.5**
	baz=7.2						
R11A	**Troy Canyon, C**	**7.32**	**106**	P	**Pn**	**11 50 18.1**	**0.0**
	baz=7.4						
PGC	**Sidney**	**8.01**	**5**	*e*Pn	**Pn**	**11 50 28.8**	**+1.6**
HLID	**Hailey**	**8.07**	**66**	*e*Pn	**Pn**	**11 50 30.6**	**+2.2**
HLID	**Hailey**	**8.07**	**66**	P	**Pn**	**11 50 30.4**	**+2.0**
	baz=8.1						
BFSC	**Mount Baldy Ra**	**8.45**	**137**	P	**Pn**	**11 50 34.5**	**+0.9**
	baz=8.5						
BGU	**Big Grassy Mou**	**8.75**	**85**	*e*Pn	**Pn**	**11 50 39.8**	**+2.1**
HVU	**Hansel Valley**	**8.95**	**79**	*e*Pn	**Pn**	**11 50 42.5**	**+2.1**

Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.20**	**315**	*e*P	Pn	11 57 53.8	+0.5
SCZP				*e*S	Sb	11 57 59.1	+3.2
BOLP	**Bolinao**	**0.76**	**349**	*e*P	Pn	11 58 01.8	+0.8
BALP	**Baler**	**1.47**	**86**	*e*P	Pn	11 58 10.8	+0.1
CAUP	**Cauayan**	**2.14**	**52**	*e*P	Pn	11 58 21.9	+1.9
APYP	**Conner**	**2.49**	**27**	*e*P	Pb	11 58 29.2	-0.9

IDC 10 12:02:37.7±3.1, 32.00N×177.87W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/19, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=73.6km s-min=36.5km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.48**	**212**	Pn	Pn	12 04 27.9	-0.1
	0.3nm,0.3s,baz=300,slow=16,SNR=6.7						
URZ				Sn	Sn	12 05 53.6	+0.1
	1.9nm,0.3s,baz=1.8,slow=23,SNR=12						
ASAR	**Alice Springs**	**43.16**	**269**	P	P	12 10 40.8	+0.4
	0.2nm,0.4s,baz=105,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	**44.29**	**274**	P	P	12 10 48.9	-0.5
	0.5nm,0.4s,baz=112,slow=8.0,SNR=8.5						
FINES	**FINESS Array B**	**146.68**	**339**	PKPbc	PKPdf	12 22 19.8	+0.8
	1.5nm,0.8s,baz=21,slow=4.1,SNR=5.9						

*CSEM **10** 12:03:21.4, 43.14N×13.50E, h20km, ML1.5/3, After ROM*
ROM 10 12:03:21.4±0.3, 43.14N×13.50E, h20km, Ml1.5/3, Error ellipse: s-maj=2.9km s-min=1.8km az=62.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.32**	**251**	Pg	Pb	12 03 28.4	-0.1
FDMO				Sg	Sb	12 03 33.5	+0.1
	52nm,0.2s						
FDMO	**Fiordimonte**	**0.32**	**251**	Pg	Pb	12 03 28.4	-0.1
FDMO				Sg	Sb	12 03 33.5	+0.1
	52nm,0.2s						
NRCA	**Norcia**	**0.42**	**223**	Pg	Pb	12 03 30.1	-0.2
NRCA				Sg	Sb	12 03 36.6	+0.3
NRCA	**Norcia**	**0.42**	**223**	Pg	Pb	12 03 30.1	-0.2
NRCA				Sg	Sb	12 03 36.6	+0.3
SNTG	**Esanatoglia**	**0.43**	**285**	Pg	Pb	12 03 30.2	-0.1
SNTG				Sg	Sb	12 03 37.1	+0.7
SNTG	**Esanatoglia**	**0.43**	**285**	Pg	Pb	12 03 30.2	-0.1
SNTG				Sg	Sb	12 03 37.1	+0.7
CESI	**CESI - Serrava**	**0.46**	**253**	Pg	Pb	12 03 30.8	-0.1
CESI				Sg	Sb	12 03 38.0	+0.6
	21nm,0.4s						
CESI	**CESI - Serrava**	**0.46**	**253**	Pg	Pb	12 03 30.8	-0.1
CESI				Sg	Sb	12 03 38.0	+0.6
	21nm,0.4s						
SMA1	**SAN MARTINO**	**0.53**	**194**	Pg	Pb	12 03 32.0	-0.2
SMA1				Sg	Sb	12 03 40.4	+0.9
	118nm,1.5s						

*IDC **10** 12:03:52.9±2.5, 34.67N×23.17E, h0km, mb3.8/7, mb1 3.7/11, mb1mx3.6/30, mbtmp3.6/11, ML3.6/4, Error ellipse: s-maj=49.7km s-min=22.8km az=25.0*
*CSEM **10** 12:04:02.7, 34.98N×23.55E, h71km, After ATH*
*ATH **10** 12:04:02.7, 34.98N×23.55E, h71km±3km*
*ISCJB **10** 12:04:04.1±1.2, 35.1N±0.1×23.61E±0.08, h79km±5km, mb3.6/7, Error ellipse: s-maj=19.2km s-min=5.2km az=28.7*
ISC 10 12:04:05.0±1.5, 35.1N±0.1×23.64E±0.07, h67km±7km, n66, σ1°96/78, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.41**	**34**	*e*P	**Pn**	**12 04 15.0**	**-1.7**
KARN				*e*S	**Sn**	**12 04 26.6**	**+1.3**
KARN	**Karanos**	**0.41**	**34**	*e*P	**Pn**	**12 04 15.0**	**-1.7**
KARN				*e*S	**Sn**	**12 04 26.6**	**+1.3**
VAM	**Vamos**	**0.58**	**53**	*e*P	**Pn**	**12 04 17.0**	**-1.3**
VAM				*e*S	**Sn**	**12 04 30.1**	**+2.1**
VAM	**Vamos**	**0.58**	**53**	*e*P	**Pn**	**12 04 17.0**	**-1.3**
VAM				*e*S	**Sn**	**12 04 30.1**	**+2.1**
ANKY	**Antikythira Is**	**0.85**	**341**	*e*P	**Pn**	**12 04 20.6**	**-0.8**
ANKY				*e*S	**Sn**	**12 04 35.5**	**+1.9**
ANKY	**Antikythira Is**	**0.85**	**341**	*e*P	**Pn**	**12 04 20.6**	**-0.8**
ANKY				*e*S	**Sn**	**12 04 35.5**	**+1.9**
IDI	**Anoyia**	**1.05**	**77**	Pn	**Pn**	**12 04 23.7**	**-0.3**
	25nm,0.3s,baz=253,slow=12,SNR=150						
IDI				Sn	**Sn**	**12 04 41.0**	**+2.9**
	34nm,0.3s,baz=321,slow=23,SNR=7.3						
KYTH	**Kithira**	**1.31**	**338**	*e*P	**Pn**	**12 04 26.8**	**-0.6**
KYTH	**Kithira**	**1.31**	**338**	*e*P	**Pn**	**12 04 26.8**	**-0.6**
LAST	**Lasithi**	**1.51**	**86**	*e*P	**Pn**	**12 04 30.6**	**+0.6**
LAST	**Lasithi**	**1.51**	**86**	*e*P	**Pn**	**12 04 30.6**	**+0.6**
NPS	**Neapolis**	**1.63**	**82**	*e*P	**Pn**	**12 04 32.4**	**+0.8**
NPS				*e*S	**Sn**	**12 04 52.4**	**+0.7**
NPS	**Neapolis**	**1.63**	**82**	*e*P	**Pn**	**12 04 32.4**	**+0.8**
NPS				*e*S	**Sn**	**12 04 52.4**	**+0.7**
VLI	**Veliai**	**1.75**	**341**	*e*P	**Pn**	**12 04 34.1**	**+0.9**
VLI	**Veliai**	**1.75**	**341**	*e*P	**Pn**	**12 04 34.1**	**+0.9**
SANT	**Santorini**	**1.98**	**48**	*e*P	**Pn**	**12 04 36.2**	**-0.1**
SANT	**Santorini**	**1.98**	**48**	*e*P	**Pn**	**12 04 36.2**	**-0.1**
ZKR	**Zakros**	**2.12**	**88**	*e*P	**Pn**	**12 04 38.9**	**+0.8**
ZKR	**Zakros**	**2.12**	**88**	*e*P	**Pn**	**12 04 38.9**	**+0.8**
DID	**Didima**	**2.46**	**353**	*e*P	**Pn**	**12 04 42.8**	**-0.1**
DID	**Didima**	**2.46**	**353**	*e*P	**Pn**	**12 04 42.8**	**-0.1**
APE	**Apeiranthos**	**2.52**	**37**	*e*P	**Pn**	**12 04 44.2**	**+0.5**
APE	**Apeiranthos**	**2.52**	**37**	*e*P	**Pn**	**12 04 44.2**	**+0.5**
KARP	**Karpathos**	**2.92**	**79**	*e*P	**Pn**	**12 04 49.8**	**+0.7**
KARP				*e*S	**Sn**	**12 05 24.4**	**+1.3**
KARP	**Karpathos**	**2.92**	**79**	*e*P	**Pn**	**12 04 49.8**	**+0.7**
KARP				*e*S	**Sn**	**12 05 24.4**	**+1.3**
PTL	**Penteli**	**2.99**	**3**	*e*P	**Pn**	**12 04 49.4**	**-0.6**
PTL	**Penteli**	**2.99**	**3**	*e*P	**Pn**	**12 04 49.4**	**-0.6**
LTK	**Loutraki**	**3.01**	**350**	*e*P	**Pn**	**12 04 50.3**	**+0.1**
LTK	**Loutraki**	**3.01**	**350**	*e*P	**Pn**	**12 04 50.3**	**+0.1**
GUR	**Goura**	**3.06**	**340**	*e*P	**Pn**	**12 04 51.8**	**+0.8**
GUR	**Goura**	**3.06**	**340**	*e*P	**Pn**	**12 04 51.8**	**+0.8**
KLV	**Kalavryta, Ach**	**3.21**	**339**	*e*P	**Pn**	**12 04 53.4**	**+0.3**
KLV	**Kalavryta, Ach**	**3.21**	**339**	*e*P	**Pn**	**12 04 53.4**	**+0.3**
DRO	**Drossia**	**3.28**	**332**	*e*P	**Pn**	**12 04 54.9**	**+1.0**
DRO	**Drossia**	**3.28**	**332**	*e*P	**Pn**	**12 04 54.9**	**+1.0**
LAKA	**Lakka**	**3.44**	**338**	*e*P	**Pn**	**12 04 57.0**	**+0.8**
LAKA	**Lakka**	**3.44**	**338**	*e*P	**Pn**	**12 04 57.0**	**+0.8**
DSF	**Desfina**	**3.46**	**345**	*e*P	**Pn**	**12 04 56.6**	**+0.1**
DSF	**Desfina**	**3.46**	**345**	*e*P	**Pn**	**12 04 56.6**	**+0.1**
KALE	**Kalithea**	**3.54**	**341**	*e*P	**Pn**	**12 04 57.4**	**-0.1**
KALE	**Kalithea**	**3.54**	**341**	*e*P	**Pn**	**12 04 57.4**	**-0.1**
LKR	**Lokris**	**3.62**	**352**	*e*P	**Pn**	**12 04 58.2**	**-0.4**
LKR	**Lokris**	**3.62**	**352**	*e*P	**Pn**	**12 04 58.2**	**-0.4**
EFP	**Efpalio**	**3.64**	**338**	*e*P	**Pn**	**12 05 00.3**	**+1.5**
EFP	**Efpalio**	**3.64**	**338**	*e*P	**Pn**	**12 05 00.3**	**+1.5**
MRKA	**Markates**	**3.64**	**359**	*e*P	**Pn**	**12 04 58.6**	**-0.3**
MRKA	**Markates**	**3.64**	**359**	*e*P	**Pn**	**12 04 58.6**	**-0.3**
AGG	**Agios Georgios**	**4.09**	**346**	*e*P	**Pn**	**12 05 05.4**	**+0.3**
AGG	**Agios Georgios**	**4.09**	**346**	*e*P	**Pn**	**12 05 05.4**	**+0.3**
EVR	**Evrytania**	**4.12**	**340**	*e*P	**Pn**	**12 05 06.0**	**+0.5**
EVR	**Evrytania**	**4.12**	**340**	*e*P	**Pn**	**12 05 06.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**4.13**	**343**	*e*P	**Pn**	**12 05 06.8**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.13**	**343**	*e*P	**Pn**	**12 05 06.8**	**+1.3**
THL	**Klokotos Trika**	**4.68**	**344**	*e*P	**Pn**	**12 05 13.7**	**+0.7**
THL				*e*S	**Sn**	**12 06 06.5**	**+0.5**
THL	**Klokotos Trika**	**4.68**	**344**	*e*P	**Pn**	**12 05 13.7**	**+0.7**
THL				*e*S	**Sn**	**12 06 06.5**	**+0.5**
BRTR	**Keskin Array B**	**9.22**	**57**	Pn	**Pn**	**12 06 13.8**	**-1.5**
	0.1nm,0.3s,baz=239,slow=13,SNR=2.6						
MMAI	**Mount Meron Ar**	**9.97**	**98**	Pn	**Pn**	**12 06 22.5**	**-3.0**
	1.1nm,0.3s,baz=301,slow=12,SNR=2.5						
EIL	**Elat**	**10.97**	**116**	Pn	Pn	12 06 33.0	-6.1
	0.5nm,0.3s,baz=295,slow=19,SNR=4.9						
EIL				Sn	Sn	12 08 28.6	-12
	0.5nm,0.3s,baz=132,slow=20,SNR=3.0						
AKASG	**Malin Array Be**	**16.15**	**13**	Pn	**Pn**	**12 07 47.0**	**-0.6**
	0.6nm,0.3s,baz=206,slow=9.3,SNR=7.1						
FINES	**FINESS Array B**	**26.45**	**3**	P	**P**	**12 09 33.9**	**-1.4**
	2.2nm,1.0s,baz=203,slow=3.9,SNR=3.5						
NOA	**NORSAR Array B**	**27.20**	**347**	P	**P**	**12 09 40.5**	**-1.6**
	1.2nm,1.0s,baz=158,slow=8.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**42.15**	**51**	P	**P**	**12 11 50.7**	**0.0**
	0.9nm,0.4s,baz=272,slow=8.7,SNR=22						
MKAR	**Makanchi Array**	**44.87**	**56**	P	**P**	**12 12 12.9**	**+0.2**
	0.9nm,0.3s,baz=265,slow=7.8,SNR=22						
ZALV	**Zalesovo Beam**	**45.97**	**46**	P	**P**	**12 12 20.6**	**-0.6**
	0.9nm,0.5s,baz=270,slow=8.4,SNR=4.9						
SONM	**Songino Array**	**60.51**	**50**	P	**P**	**12 14 08.7**	**+0.5**
	0.5nm,0.6s,baz=281,slow=7.4,SNR=6.3						
YKA	**Yellowknife Ar**	**77.16**	**342**	P	**P**	**12 15 50.6**	**-0.4**
	0.1nm,0.5s,baz=31,slow=5.0,SNR=5.0						

*CSEM **10** 12:06:53.4±1.0, 50.30N×18.94E, h1km, Error ellipse: s-maj=21.2km s-min=9.7km az=18.0*
PRU 10 12:06:54.7, 50.24N×18.95E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**92**	*e*Pg	Pg	12 07 04.0	-1.2
OJC				*e*Sg	Sg	12 07 10.1	-2.2
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	12 07 07.0	-0.3
OKC				*e*SG	Sg	12 07 15.2	-0.6
	comp=Z,4.8nm,0.4s						
OKC	**Ostrava-Krasne**	**0.66**	**232**	Pg	Pg	12 07 07.0	-0.3
OKC				Sg	Sg	12 07 15.2	-0.6
	4.8nm,0.4s						
MORC	**Moravsky Berou**	**1.02**	**243**	*e*Pg	Pg	12 07 14.4	+0.1
KRLC	**Kraliky**	**1.40**	**264**	*e*PG	Pn	12 07 20.6	-1.0
KRLC				*e*SG	Sg	12 07 39.8	-0.2
KRLC	**Kraliky**	**1.40**	**264**	Pg	Pn	12 07 20.6	-1.0
KRLC				Sg	Sg	12 07 39.8	-0.2
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pn	12 07 25.2	-0.3
DPC				*e*SG	Sg	12 07 49.0	-0.1
DPC	**Dobruska-Polom**	**1.69**	**275**	Pg	Pn	12 07 25.2	-0.3
DPC				Sg	Sg	12 07 49.0	-0.1
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*PG	Pn	12 07 25.0	-0.6
STHS				*e*SG	Sg	12 07 50.0	+0.6
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*Sg	Sg	12 07 50.1	+0.7
KSP	**Ksiaz**	**1.80**	**291**	*e*Pg	Pg	12 07 29.5	+0.3
KSP				*e*Sg	Sg	12 07 54.1	+1.5
UPC	**Upice**	**1.90**	**279**	*e*SG	Sg	12 07 56.3	+0.5
UPC	**Upice**	**1.90**	**279**	Sg	Sg	12 07 56.3	+0.5
PRU	**Pruhonice**	**2.85**	**267**	*e*SG	Sg	12 08 25.5	-0.8
PRU	**Pruhonice**	**2.85**	**267**	Sg	Sg	12 08 25.5	-0.8
KHC	**Kasperske Hory**	**3.66**	**254**	*e*PG	Pb	12 08 02.0	+1.7
KHC				*e*SG	Sg	12 08 50.4	-2.0
	comp=Z,1.9nm,0.5s						
KHC	**Kasperske Hory**	**3.66**	**254**	Pg	Pb	12 08 02.0	+1.7
KHC				Sg	Sg	12 08 50.4	-2.0
	1.9nm,0.5s						

*IDC **10** 12:12:54.9±1.7, 5.47S×152.62E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.8/9, ML2.3/1, Error ellipse: s-maj=63.4km s-min=17.5km az=123.0*
*ISCJB **10** 12:12:59.1±1.5, 5.5S±0.2×152.6E±0.3, h40km, mb3.6/8, Error ellipse: s-maj=49.7km s-min=10.0km az=39.8*
ISC 10 12:13:00.4±1.8, 5.5S±0.3×152.7E±0.3, h40km, n10, σ0°50/12, mb3.6/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.68**	**235**	Pn	**Pn**	**12 14 35.8**	**-0.3**
	0.4nm,0.3s,baz=153,slow=18,SNR=2.8						
PMG				Sn	**Sn**	**12 15 51.6**	**+0.7**
	5.2nm,0.3s,baz=107,slow=15,SNR=8.9						
WRA	**Warramunga Arr**	**22.86**	**230**	P	**P**	**12 18 00.1**	**-0.5**
	0.6nm,0.4s,baz=53,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**25.52**	**223**	P	**P**	**12 18 25.8**	**+0.3**
	0.8nm,0.8s,baz=56,slow=9.6,SNR=11						
FITZ	**Fitzroy Crossi**	**29.20**	**242**	P	**P**	**12 18 57.8**	**-0.7**
	1.6nm,0.6s,baz=86,slow=2.9,SNR=6.1						
PETK	**Petropavlovsk-**	**58.59**	**4**	P	**P**	**12 22 53.5**	**+0.4**
	2.5nm,0.9s,baz=170,slow=8.4,SNR=3.2						
SONM	**Songino Array**	**66.88**	**328**	P	**P**	**12 23 48.1**	**-0.6**
	0.2nm,0.5s,baz=141,slow=5.9,SNR=2.7						
MKAR	**Makanchi Array**	**80.80**	**319**	P	**P**	**12 25 10.5**	**+0.4**
	0.2nm,0.5s,baz=93,slow=7.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**81.70**	**326**	P	**P**	**12 25 14.8**	**+0.2**
	0.5nm,0.5s,baz=93,slow=5.8,SNR=3.2						
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**12 25 20.6**	**-0.1**
	0.9nm,0.8s,baz=249,slow=5.9,SNR=13						
TORD	**Torodi Ar. Bea**	**150.41**	**287**	PKPbc	**PKPbc**	**12 32 49.1**	**+0.4**
	0.4nm,0.6s,baz=92,slow=1.7,SNR=4.2						
TORD				PKPab	**PKPab**	**12 32 55.2**	**0.0**
	0.8nm,0.6s,baz=71,slow=3.3,SNR=7.0						

*NEIC **10** 12:15:40.2±0.5, 16.21S×173.34W, h10km, mb4.3/6, Error ellipse: s-maj=25.6km s-min=10.0km az=139.0*
*IDC **10** 12:15:44.1±0.8, 16.31S×173.40W, h37km±5km, mb3.9/11, mb1 4.2/11, mb1mx4.0/21, mbtmp3.9/11, MS3.6/8, Ms1 3.6/8, ms1mx3.4/31, Error ellipse: s-maj=34.0km s-min=14.4km az=141.0*
*ISCJB **10** 12:15:45.8±0.6, 16.3S±0.2×173.5W±0.1, h66km, mb4.1/16, Error ellipse: s-maj=26.6km s-min=11.2km az=141.9*
ISC 10 12:15:47.0±0.7, 16.3S±0.2×173.4W±0.2, h66km, n56, σ0°76/45, mb4.1/16, 2C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.88**	**33**	*e*Pn	Pn	12 15 51.1	-9.5
AFI				*e*Sn	Sn	12 16 50.5	-14
AFI	**Afiamalu**	**2.88**	**33**	Pn	Pn	12 16 21.4	-9.2
	10nm,0.3s,baz=342,slow=5.9,SNR=27						
AFI				Sn	Sn	12 16 50.5	-14
	64nm,0.3s,baz=38,slow=23,SNR=12						
AFI				LR	LR	12 16 57.4	
	comp=Z,316nm,20.8s,baz=216,slow=26						
DZM	**Mont Dzumac**	**19.87**	**250**	*e*P	Pn	12 20 21.3	+6.1
	37nm,0.9s						
DZM				*e*LR	LR	12 25 22.8	
	414nm,24.8s						
DZM	**Mont Dzumac**	**19.87**	**250**	LR	LR	12 26 21.6	
	comp=Z,174nm,18.5s,baz=210,slow=32						
PAE	**Paea**	**22.81**	**97**	*e*T	T	12 43 46.9	
	1.9nm,0.3s						
PPT	**Papeete**	**22.81**	**97**	LR	LR	12 27 49.1	
	comp=Z,100nm,21.4s,baz=276,slow=32						
PPT2	**Papeete2**	**22.81**	**97**	*e*LR	LR	12 26 02.1	
	156nm,23.2s						
PPT2	**Papeete2**	**22.81**	**97**	*e*T	T	12 43 47.7	
	4.7nm,0.4s						
URZ	**Urewera**	**23.38**	**199**	*e*P	**P**	**12 20 49.5**	**-0.4**
	23nm,1.0s						
URZ	**Urewera**	**23.38**	**199**	P	**P**	**12 20 50.0**	**0.0**
	3.8nm,0.4s,baz=143,slow=14,SNR=6.8						
URZ				LR	LR	12 28 39.4	
	comp=Z,128nm,18.4s,baz=33,slow=33						
TBI	**Tubuai**	**23.55**	**111**	*e*LR	LR	12 26 28.8	
	159nm,24.0s						
TBI	**Tubuai**	**23.55**	**111**	*e*T	T	12 44 46.3	
	10nm,0.3s						
VAH	**Vaihoa**	**24.81**	**91**	*e*T	T	12 46 15.2	
	7.4nm,0.4s						
HNR	**Honiara**	**26.86**	**282**	LR	LR	12 30 26.3	
	comp=Z,294nm,21.5s,baz=104,slow=33						
RKT	**Rikitea**	**36.71**	**107**	*e*T	T	13 01 11.3	
	3.2nm,0.4s						
STKA	**Stephens Creek**	**43.58**	**241**	*e*P	**P**	**12 23 45.0**	**+0.2**
	0.8nm,0.9s						
STKA	**Stephens Creek**	**43.58**	**241**	P	**P**	**12 23 44.7**	**-0.1**
	2.6nm,0.7s,baz=62,slow=5.2,SNR=5.4						
STKA				LR	LR	12 40 15.8	
	comp=Z,66nm,21.8s,baz=24,slow=34						
WRAB	**Tennant Creek**	**49.63**	**258**	*e*P	**P**	**12 24 35.3**	**+3.0**
	8.7nm,1.3s						
WRA	**Warramunga Arr**	**49.64**	**258**	P	**P**	**12 24 31.4**	**-1.1**
WRA				pPcP		12 26 06.6	
WRA	**Warramunga Arr**	**49.64**	**258**	P	**P**	**12 24 31.4**	**-1.1**
	0.7nm,0.5s,baz=97,slow=6.6,SNR=23						
WRA				pPcP		12 26 06.6	
	0.9nm,0.7s,baz=89,slow=3.7,SNR=5.3						
AS31	**Alice Springs**	**49.83**	**253**	*e*P	**P**	**12 24 33.8**	**0.0**
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**12 24 33.5**	**-0.3**
ASAR				pP	pP	12 24 45.0	-5.7
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**12 24 33.5**	**-0.3**
	7.0nm,0.7s,baz=89,slow=7.8,SNR=76						
ASAR				pP	pP	12 24 45.0	-5.7
	8.3nm,0.7s,baz=88,slow=8.4,SNR=15						
ASAR				LR	LR	12 45 00.6	
	comp=Z,75nm,19.9s,baz=86,slow=35						
MJAR	**Matsushiro Arr**	**69.66**	**320**	P	**P**	**12 26 50.3**	**+0.6**
MJAR	**Matsushiro Arr**	**69.66**	**320**	P	**P**	**12 26 50.3**	**+0.6**
	1.7nm,0.8s,baz=139,slow=11,SNR=4.6						
ISA	**Isabella**	**73.32**	**44**	*e*P	**P**	**12 27 12.2**	**+0.3**
	0.6nm,0.9s						
CMB	**Columbia Colle**	**73.46**	**41**	*e*P	**P**	**12 27 13.5**	**+0.9**
	2.3nm,0.8s						
PETK	**Petropavlovsk-**	**73.52**	**342**	P	**P**	**12 27 11.9**	**-0.6**
PETK	**Petropavlovsk-**	**73.52**	**342**	P	**P**	**12 27 11.9**	**-0.6**
	1.1nm,0.7s,baz=125,slow=7.2,SNR=3.3						
NVAR	**Mina Array Bea**	**75.02**	**42**	P	**P**	**12 27 21.8**	**0.0**
NVAR				pP	**PcP**	**12 27 34.8**	**-0.5**
NVAR	**Mina Array Bea**	**75.02**	**42**	P	**P**	**12 27 21.8**	**0.0**
	2.5nm,0.8s,baz=232,slow=10,SNR=18						
NVAR				pP	**PcP**	**12 27 34.8**	**-0.5**
	0.7nm,0.7s,baz=231,slow=9.1,SNR=3.5						
NVAR				LR	LR	12 53 53.6	
	comp=Z,115nm,21.5s,baz=115,slow=30						
TPH	**Tonopah**	**75.51**	**43**	*e*P	**P**	**12 27 25.0**	**+0.3**
	2.1nm,0.5s						
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**12 27 56.0**	**+0.2**
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**12 27 56.0**	**+0.2**
	0.7nm,1.0s,baz=212,slow=6.9,SNR=5.0						
PV10	**Paradox Valley**	**81.16**	**46**	*e*P	**P**	**12 27 55.8**	**-0.1**
	40nm,0.7s						
PV04	**Paradox Valley**	**81.26**	**46**	*e*P	**P**	**12 27 56.8**	**+0.5**
PDAR	**Pinedale Array**	**82.96**	**42**	P	**P**	**12 28 05.1**	**-0.1**
PDAR				pP	pP	12 28 16.4	-7.0
PDAR	**Pinedale Array**	**82.96**	**42**	P	**P**	**12 28 05.1**	**-0.1**
	3.0nm,0.7s,baz=214,slow=3.3,SNR=25						
PDAR				pP	pP	12 28 16.4	-7.0
	1.4nm,0.8s,baz=224,slow=4.0,SNR=5.7						
ILAR	**Eielson Array**	**83.36**	**11**	P	**P**	**12 28 06.5**	**+0.1**
ILAR				pP	pP	12 28 18.0	-6.7
ILAR	**Eielson Array**	**83.36**	**11**	P	**P**	**12 28 06.5**	**+0.1**
	1.2nm,0.9s,baz=234,slow=5.3,SNR=11						
ILAR				pP	pP	12 28 18.0	-6.7
	1.0nm,0.6s,baz=229,slow=6.1,SNR=6.6						
YKA	**Yellowknife Ar**	**90.95**	**23**	P	**P**	**12 28 43.2**	**-0.1**
YKA				pP	pP	12 28 55.0	-6.8
YKA	**Yellowknife Ar**	**90.95**	**23**	P	**P**	**12 28 43.2**	**-0.1**
	0.6nm,0.9s,baz=236,slow=4.1,SNR=11						
YKA				pP	pP	12 28 54.9	-6.8
	0.4nm,1.0s,baz=234,slow=3.7,SNR=3.4						
BURAR	**Bucovina Array**	**145.24**	**338**	⇓*i*P	**PKPdf**	**12 35 18.9**	**+1.5**
MORC	**Moravsky Berou**	**145.49**	**347**	⇑*i*P	**PKPab**	**12 35 19.5**	**+1.5**
TESR	**Tescani**	**145.60**	**335**	⇓*i*P	**PKPab**	**12 35 18.6**	**+0.1**
CFR	**Carcaliu**	**146.03**	**332**	⇑*i*P	**PKPab**	**12 35 18.9**	**-0.6**
VRI	**Vrincioaia**	**146.09**	**334**	⇓*i*P	**PKPab**	**12 35 20.0**	**-0.4**
MLR	**Muntele Rosu**	**146.72**	**335**	⇓*i*P	**PKPab**	**12 35 23.6**	**+0.6**
MLR	**Muntele Rosu**	**146.72**	**335**	PKPbc	**PKPab**	**12 35 23.1**	**+0.2**
MLR	**Muntele Rosu**	**146.72**	**335**	PKPbc	**PKPab**	**12 35 23.1**	**+0.2**
	0.6nm,0.7s,baz=194,slow=7.1,SNR=4.4						
BR131	**Keskin Array S**	**146.88**	**320**	*e*PKPbc	**PKPab**	**12 35 23.6**	**-0.2**
BRTR	**Keskin Array B**	**146.88**	**320**	PKPbc	**PKPab**	**12 35 24.0**	**+0.1**
BRTR	**Keskin Array B**	**146.88**	**320**	PKPbc	**PKPab**	**12 35 24.0**	**+0.1**
	2.5nm,0.8s,baz=109,slow=2.6,SNR=15						
GERES	**GERESS Array B**	**147.07**	**351**	PKPbc	**PKPab**	**12 35 23.6**	**-0.6**
GERES	**GERESS Array B**	**147.07**	**351**	PKPbc	**PKPab**	**12 35 23.6**	**-0.6**
	1.1nm,0.8s,baz=28,slow=3.2,SNR=6.9						
BZS	**Buzias**	**148.22**	**340**	⇓*i*P	**PKPab**	**12 35 27.0**	**-1.7**

SIGU 10 12:21:29.0±0.5, 44.66N×37.46E, h35km±5km, mb1.9/5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.14**	**352**	*i* Pg	Pn	12 21 36.4	+1.1
	baz=336						
ANN				Pm		12 21 36.6	
	comp=Z,166nm,baz=336						
ANN				*i* Sg	Sn	12 21 41.3	+1.7
	baz=336						
ANN				Sm		12 21 41.7	
	comp=E,3μmcomp=N,3μm,baz=336						
SUDU	**Sudak**	**1.77**	**278**	*e*Sn	Sn	12 22 17.6	-0.

T0104	**Madonna delle**	**0.76**	**183**	Pg		**Pb**	**12 37 52.4**	**-0.4**
AQU	**L'Aquila**	**0.77**	**179**	Pg		**Pb**	**12 37 52.5**	**-0.4**
	492nm,0.3s							
AQU	**L'Aquila**	**0.77**	**179**	Pg		**Pb**	**12 37 52.5**	**-0.4**
	492nm,0.3s							
CESX	**Cesi**	**0.78**	**230**	Pg		**Pb**	**12 37 53.4**	**+0.2**
	2um,0.4s							
CESX	**Cesi**	**0.78**	**230**	Pg		**Pb**	**12 37 53.4**	**+0.2**
	2um,0.4s							
VCEL	**Villa Celiera**	**0.80**	**155**	Pg		**Pb**	**12 37 53.5**	**0.0**
	418nm,0.6s							
VCEL	**Villa Celiera**	**0.80**	**155**	Pg		**Pb**	**12 37 53.5**	**0.0**
	418nm,0.6s							
FAGN	**Fagnano**	**0.86**	**170**	Pg		**Pb**	**12 37 54.7**	**0.0**
	581nm,0.4s							
FAGN	**Fagnano**	**0.86**	**170**	Pg		**Pn**	**12 37 54.7**	**0.0**
	581nm,0.4s							
FIAM	**Fiamignano**	**0.87**	**193**	Pg		**Pn**	**12 37 54.3**	**-0.6**
FIAM	**Fiamignano**	**0.87**	**193**	Pg		**Pn**	**12 37 54.3**	**-0.6**
CDCA	**Citt' di Caste**	**0.91**	**292**	Pg		**Pb**	**12 37 56.3**	**+1.0**
	376nm,0.6s							
CDCA	**Citt' di Caste**	**0.91**	**292**	Pg		**Pb**	**12 37 56.3**	**+1.0**
	376nm,0.6s							
PESA	**Pesaro**	**0.91**	**334**	Pg		**Pb**	**12 37 56.8**	**+1.4**
	427nm,0.3s							
PESA	**Pesaro**	**0.91**	**334**	Pg		**Pb**	**12 37 56.8**	**+1.4**
	427nm,0.3s							
BADI	**Badiali**	**0.92**	**295**	Pg		**Pb**	**12 37 56.1**	**+0.6**
	491nm,0.5s							
BADI	**Badiali**	**0.92**	**295**	Pg		**Pb**	**12 37 56.1**	**+0.6**
	491nm,0.5s							
MGAB	**Montegabbione**	**0.96**	**258**	Pg		**Pb**	**12 37 56.8**	**+0.6**
	784nm,0.6s							
MGAB	**Montegabbione**	**0.96**	**258**	Pg		**Pb**	**12 37 56.8**	**+0.6**
	784nm,0.6s							
CAFI	**Castiglion Fio**	**1.06**	**282**	Pg		**Pb**	**12 37 58.8**	**+0.9**
	491nm,0.8s							
CAFI	**Castiglion Fio**	**1.06**	**282**	Pg		**Pb**	**12 37 58.8**	**+0.9**
	491nm,0.8s							
SACS	**San Casciano d**	**1.12**	**257**	Pg		**Pb**	**12 38 00.0**	**+1.1**
	324nm,0.5s							
CRE	**Caprese Michel**	**1.16**	**296**	Pg		**Pb**	**12 38 00.4**	**+0.7**
	118nm,0.4s							
CRE	**Caprese Michel**	**1.16**	**296**	Pg		**Pb**	**12 38 00.4**	**+0.7**
	118nm,0.4s							
INTR	**Introdacqua**	**1.17**	**161**	Pg		**Pb**	**12 37 59.5**	**-0.3**
	311nm,0.7s							
INTR	**Introdacqua**	**1.17**	**161**	Pg		**Pb**	**12 37 59.5**	**-0.3**
	311nm,0.7s							
NVLJ	**Novalja**	**1.80**	**36**	*i* Pn		**Pn**	**12 38 07.6**	**0.0**
NVLJ				Sn		**Sn**	**12 38 29.2**	**-0.3**
NVLJ	**Novalja**	**1.80**	**36**	*i* Pn		**Pn**	**12 38 07.5**	**0.0**
NVLJ				Sn		**Sn**	**12 38 29.1**	**-0.3**
UDBI	**Udbina**	**2.22**	**50**	*i* Pn		**Pn**	**12 38 14.4**	**+0.9**
UDBI				Sn		**Sn**	**12 38 41.6**	**+1.6**
UDBI	**Udbina**	**2.22**	**50**	*i* Pn		**Pn**	**12 38 14.3**	**+0.9**
UDBI				Sn		**Sn**	**12 38 41.6**	**+1.6**
SKDS	**Skadanscina**	**2.47**	**10**	*i* Pn		**Pn**	**12 38 16.9**	**+0.2**
SKDS				*i* Sn		**Sn**	**12 38 46.2**	**+0.1**
SKDS	**Skadanscina**	**2.47**	**10**	*i* Pn		**Pn**	**12 38 17.0**	**+0.2**
SKDS				*i* Sn		**Sn**	**12 38 46.2**	**+0.1**
BOJS	**Bojanci**	**2.73**	**29**	*i* Pn		**Pn**	**12 38 20.8**	**+0.4**
BOJS	**Bojanci**	**2.73**	**29**	*i* Pn		**Pn**	**12 38 20.8**	**+0.4**
JAVS	**Javornik**	**2.81**	**10**	*i* Pn		**Pn**	**12 38 22.0**	**+0.4**
JAVS	**Javornik**	**2.81**	**10**	*i* Pn		**Pn**	**12 38 22.0**	**+0.4**
VISS	**Visnje**	**2.88**	**21**	*i* Pn		**Pn**	**12 38 22.9**	**+0.5**
VISS	**Visnje**	**2.88**	**21**	*i* Pn		**Pn**	**12 38 22.9**	**+0.5**
PGF	**Pioggiola**	**3.28**	**261**	*e*Pn		**Pn**	**12 38 29.3**	**+1.3**
PGF	**Pioggiola**	**3.28**	**261**	*e*P		Pn	12 38 31.6	+3.6
PGF				*e*Sn		**Sn**	**12 39 05.8**	**-0.4**
PGF	**Pioggiola**	**3.28**	**261**	*e*Pn		**Pn**	**12 38 29.3**	**+1.3**
PGF	**Pioggiola**	**3.28**	**261**	*e*P		Pn	12 38 31.6	+3.6
PGF				*e*Sn		**Sn**	**12 39 05.8**	**-0.4**
ABTA	**Abfaltersbach**	**3.68**	**351**	⇑ *i* Pn		**Pn**	**12 38 34.3**	**+0.8**
ABTA	**Abfaltersbach**	**3.68**	**351**	Pn		**Pn**	**12 38 34.3**	**+0.8**
PERS	**Pernice**	**3.72**	**19**	*i* Pn		**Pn**	**12 38 35.2**	**+1.1**
PERS	**Pernice**	**3.72**	**19**	*i* Pn		**Pn**	**12 38 35.2**	**+1.1**
SBF	**Sospel**	**4.40**	**282**	*e*Pn		**Pn**	**12 39 43.6**	**+0.3**
SBF	**Sospel**	**4.40**	**282**	*e*Pn		**Pn**	**12 38 43.6**	**+0.3**
LMR	**La Mourre**	**5.03**	**275**	*e*Pn		**Pn**	**12 38 53.2**	**+1.2**
LMR	**La Mourre**	**5.03**	**275**	*e*Pn		**Pn**	**12 38 53.2**	**+1.2**
LPG	**La Plagne**	**5.32**	**299**	*e*Pn		**Pn**	**12 38 56.4**	**+0.2**
LPG				*e*Sn		**Sn**	**12 39 54.4**	**-2.4**
	6.7nm,0.5s							
LPG	**La Plagne**	**5.32**	**299**	*e*Pn		**Pn**	**12 38 56.4**	**+0.2**
LPG				*e*Sn		**Sn**	**12 39 54.4**	**-2.4**
	3.3nm,0.5s							
SMRF	**Simiane la Rot**	**5.74**	**281**	*e*P		Pn	12 39 06.4	+4.6
KHC	**Kasperske Hory**	**6.01**	**1**	*e*PN		**Pn**	**12 39 05.6**	**+0.1**
KHC				*ex*		x	12 39 10.5	
KHC				*ex*		x	12 39 19.0	
KHC				*e*SN		**Sn**	**12 40 10.1**	**-3.4**
KHC	**Kasperske Hory**	**6.01**	**1**	Pn		**Pn**	**12 39 05.6**	**+0.1**
CABF	**La Chapelle**	**6.25**	**306**	*e*Pn		**Pn**	**12 39 09.7**	**+0.9**
CABF	**La Chapelle**	**6.25**	**306**	*e*Pn		**Pn**	**12 39 09.7**	**+0.9**
VIVF	**Saint-Julien-l**	**6.52**	**288**	*e*Pn		**Pn**	**12 39 12.8**	**+0.3**
VIVF	**Saint-Julien-l**	**6.52**	**288**	*e*Pn		**Pn**	**12 39 12.8**	**+0.3**
HINF	**Hinteralfeld**	**6.57**	**318**	*e*Pn		**Pn**	**12 39 12.7**	**-0.4**
HINF				*e*Sn		**Sn**	**12 40 24.0**	**-3.2**
	7.4nm,0.5s							
HINF	**Hinteralfeld**	**6.57**	**318**	*e*Pn		**Pn**	**12 39 12.7**	**-0.4**
CDF	**Champ du Feu**	**6.80**	**323**	*e*Pn		**Pn**	**12 39 16.3**	**0.0**
CDF				*e*Sn		**Sn**	**12 40 29.3**	**-3.6**
	3.9nm,0.5s							
CDF	**Champ du Feu**	**6.80**	**323**	*e*Pn		**Pn**	**12 39 16.3**	**0.0**
HAU	**Haudompre**	**6.95**	**317**	*e*Pn		**Pn**	**12 39 18.2**	**-0.1**
HAU				*e*Sn		**Sn**	**12 40 33.0**	**-3.4**
	9.2nm,0.5s							
HAU	**Haudompre**	**6.95**	**317**	*e*Pn		**Pn**	**12 39 18.2**	**-0.1**
LOR	**Lormes**	**7.91**	**305**	*e*Pn		**Pn**	**12 39 31.2**	**-0.2**
LOR	**Lormes**	**7.91**	**305**	*e*Pn		**Pn**	**12 39 31.2**	**-0.2**

WEL 10 13:07:33.5±0.1, 38°67S×178°08E, h29km, ML3.6/6, 3C-4D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.21**	**29**	⇓ *P**	Pb	13 07 40.0	+0.3
RIGZ	**Rimuhau**	**0.25**	**261**	⇓ *P**	Pb	13 07 39.8	-0.5
RIGZ				*S**	Sb	13 07 45.2	+0.3
PRGZ	**Paritu Road**	**0.30**	**210**	⇑ *P**	Pb	13 07 40.8	-0.2
KNZ	**Kokohu**	**0.47**	**222**	⇓ *P**	Pb	13 07 43.1	-0.3
KNZ				*S**	Sn	13 07 51.0	-0.6
MHGZ	**Mahia Peninsul**	**0.50**	**195**	⇓ *P**	Pb	13 07 44.0	0.0
MWZ	**Matawai**	**0.54**	**307**	⇑ *P**	Pb	13 07 44.3	-0.4
MWZ				*eS**	Sb	13 07 52.4	+0.1
MWZ				AML	AML	13 07 53.1	
MWZ				AML	AML	13 07 53.1	
MWZ				AML	AML	13 07 53.9	
SNGZ	**Shannon Statio**	**0.59**	**259**	*P**	Pb	13 07 45.3	-0.1
PUZ	**Puketiti**	**0.61**	**14**	*P**	Pb	13 07 45.3	-0.5
PUZ				AML	AML	13 07 56.0	
PUZ				AML	AML	13 07 58.4	
WHHZ	**Waihua**	**0.77**	**238**	PN	Pn	13 07 48.2	-0.3
RAHZ	**Arahi**	**0.81**	**252**	PN	Pn	13 07 48.8	-0.3
URZ	**Urewera**	**0.86**	**298**	⇑ PN	Pn	13 07 49.0	-0.6
URZ				AML	AML	13 08 02.1	
URZ				AML	AML	13 08 04.3	
MXZ	**Matakaoa Point**	**1.12**	**9**	PN	Pn	13 07 52.9	-0.3
MXZ				AML	AML	13 08 13.3	
CKHZ	**Cape Kidnapper**	**1.26**	**218**	PN	Pn	13 07 53.9	-1.2
MCHZ	**McNeill Hill**	**1.32**	**234**	*e*PN	Pn	13 07 55.2	-0.8
BKZ	**Black Stump Fm**	**1.33**	**248**	*e*PN	Pn	13 07 56.2	0.0
ALRZ	**Allen Road**	**1.36**	**274**	*e*PN	Pn	13 07 56.3	-0.2
OPRZ	**Ohinepanea**	**1.45**	**304**	PN	Pn	13 07 57.1	-0.6
KAHZ	**Kahuranaki**	**1.46**	**219**	PN	Pn	13 07 56.6	-1.4
PXZ	**Pawanui**	**1.66**	**214**	PN	Pn	13 07 59.2	-1.3
BHHZ	**Black Hill Sta**	**1.77**	**242**	PN	Pn	13 08 01.9	-0.3
PNHZ	**Pukenui**	**1.92**	**229**	PN	Pn	13 08 02.9	-1.3
PRHZ	**Porangahau**	**1.95**	**214**	PN	Pn	13 08 02.9	-1.7
TSZ	**Takapari Road**	**2.15**	**229**	PN	Pn	13 08 05.6	-1.8
ANWZ	**Angora Road**	**2.18**	**214**	PN	Pn	13 08 05.6	-2.1
MRZ	**Mangatainoka R**	**2.77**	**223**	*e*PN	Pn	13 08 13.9	-2.0
MRZ				AML	AML	13 08 45.4	
MRZ				AML	AML	13 09 04.7	
TMWZ	**Te Maipa**	**2.96**	**214**	*e*PN	Pn	13 08 15.1	-3.5
HOWZ	**Holdsworth Sta**	**2.98**	**221**	PN	Pn	13 08 16.4	-2.3
TUWZ	**Tuamarina**	**4.20**	**228**	PN	Pn	13 08 31.8	-3.7
NNZ	**Nelson**	**4.42**	**233**	PN	Pn	13 08 36.4	-2.1
NNZ				AML	AML	13 15 27.6	
NNZ				AML	AML	13 16 05.0	

QRZ	**Quartz Range**	**4.79**	**241**	PN		Pn	13 08 40.6	-3.0

*BJI **10** 13:08:03.5, 84°.80N×101°.10E, h10km, mB4.8/7, mb4.4/12, Ms4.6/3, Ms7 4.4/3*
*MOS **10** 13:08:06.6±1.0, 84°.78N×101°.28E, h10km, mb4.7/32, Error ellipse: s-maj=62.6km s-min=8.0km az=88.6*
*ISCJB **10** 13:08:06.3±0.2, 84°.88N±0°.03×101°.6E±0°.4, h10km, mb4.4/63, MS3.6/12, Error ellipse: s-maj=6.2km s-min=3.1km az=137.3*
*IDC **10** 13:08:06.7±0.5, 84°.89N×101°.29E, h0km, mb4.1/21, mb1 4.3/23, mb1mx4.2/32, mbtmp4.2/23, ML3.9/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/48, Error ellipse: s-maj=14.7km s-min=11.3km az=148.0*
*NEIC **10** 13:08:08.5±0.2, 84°.85N×101°.01E, h10km, mb4.6/28, Error ellipse: s-maj=5.5km s-min=4.3km az=151.0*
*SZGRF **10** 13:08:13.7, 85°.84N×97°.12E, h10km, mb4.3, North of Severnaya Zemlya*

ISC 10 13:08:08.3±0.4, 84°.96N±0°.06×101°.09E±0°.06, h10km, n277, σ0°.96/277, mb4.5/63, MS3.8/12, 54C-66D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**12.48**	**288**	Pn	**Pn**	**13 11 03.8**	**-1.8**
SPITS				Sn	Sn	13 13 13.0	-12
SPITS	**Spitsbergen Ar**	**12.48**	**288**	Pn	**Pn**	**13 11 03.8**	**-1.8**
	baz=45,slow=18,SNR=11						
SPITS				Sn	Sn	13 13 13.0	-12
	baz=61,slow=30,SNR=2.5						
SPITS				LR	LR	13 15 52.0	
	comp=Z,38nm,19.3s,baz=325,slow=37						
TIXI	**Tiksi**	**14.17**	**143**	*eP*	**Pn**	**13 11 27.2**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	**Tiksi**	**14.17**	**143**	P	**Pn**	**13 11 29.4**	**+0.7**
KEV	**Kevo**	**19.57**	**268**	*eP*	**Pn**	**13 12 38.2**	**+1.1**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**19.57**	**268**	*ep*	**Pn**	**13 12 38.2**	**+1.1**
	comp=Z,1.1nm,0.4s						
KEV	**Kevo**	**19.57**	**268**	P	**P**	**13 12 34.0**	**-1.8**
ARCES	**ARCESS Array B**	**19.92**	**269**	P	**P**	**13 12 39.6**	**0.0**
ARCES	**ARCESS Array B**	**19.92**	**269**	P	**P**	**13 12 39.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=24,slow=11,SNR=12						
ARCES				LR	LR	13 22 45.9	
	comp=Z,36nm,18.8s,baz=4.1,slow=44						
RES	**Resolute Bay**	**20.34**	**12**	*eP*	Pn	13 12 46.5	+0.4
RES	**Resolute Bay**	**20.34**	**12**	P	**P**	**13 12 45.2**	**+1.2**
	comp=Z,2.5nm,1.0s,baz=14,slow=14,SNR=3.7						
LVZ	**Lovozero**	**20.71**	**259**	*eP*	**P**	**13 12 47.6**	**-0.7**
LVZ				pmax	pmax		
	comp=Z,17nm,0.9s						
LVZ	**Lovozero**	**20.71**	**259**	*eP*	**P**	**13 12 47.6**	**-0.7**
	comp=Z,17nm,0.9s						
YAK	**Yakutsk**	**23.79**	**146**	*eP*	**P**	**13 13 18.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY	**Seymchan**	**24.35**	**120**	P	**P**	**13 13 25.8**	**0.0**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SEY	**Seymchan**	**24.35**	**120**	P	**P**	**13 13 25.8**	**0.0**
SEY	**Seymchan**	**24.35**	**120**	P	**P**	**13 13 25.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=350,slow=23,SNR=3.7						
COLD	**Coldfoot**	**24.98**	**61**	*eP*	**P**	**13 13 32.2**	**+0.7**
	comp=Z,5.9nm,1.0s						
INK	**Inuvik**	**25.09**	**46**	*eP*	**P**	**13 13 31.9**	**-0.5**
	comp=Z,28nm,1.2s						
INK	**Inuvik**	**25.09**	**46**	P	**P**	**13 13 32.4**	**0.0**
	comp=Z,15nm,1.1s,baz=352,slow=13,SNR=16						
INK				LR	LR	13 23 37.0	
	comp=Z,99nm,18.2s,baz=356,slow=37						
JOF	**Joensuu**	**25.89**	**260**	*eP*	**P**	**13 13 39.2**	**-0.5**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JOF	**Joensuu**	**25.89**	**260**	*ep*	**P**	**13 13 39.2**	**-0.5**
	comp=Z,7.9nm,0.5s						
IM04	**Indian Mountai**	**25.93**	**65**	*eP*	**P**	**13 13 40.4**	**+0.2**
PRGR	**Permogore**	**25.96**	**244**	*eP*	**P**	**13 13 40.1**	**-0.2**
PRGR				pmax	pmax		
	comp=Z,29nm,1.2s						
SOKR	**Solikamsk**	**27.15**	**231**	⇑ *iP*	**P**	**13 13 52.8**	**+1.7**
SOKR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
COLA	**College**	**27.48**	**60**	*eP*	**P**	**13 13 56.1**	**+2.1**
COLA				pmax	pmax		
	comp=Z,18nm,1.0s						
ILAR	**Eielson Array**	**27.66**	**59**	P	**P**	**13 13 56.5**	**+0.8**
ILAR	**Eielson Array**	**27.66**	**59**	P	**P**	**13 13 56.5**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=350,slow=7.9,SNR=20						
ILAR				LR	LR	13 25 50.3	
	comp=Z,81nm,18.3s,baz=92,slow=38						
FIA1	**FINESS Array S**	**27.80**	**264**	*eP*	**P**	**13 13 55.7**	**-1.2**
FINES	**FINESS Array B**	**27.80**	**264**	P	**P**	**13 13 56.8**	**-0.1**
FINES	**FINESS Array B**	**27.80**	**264**	P	**P**	**13 13 56.8**	**-0.1**
	comp=Z,9.2nm,0.9s,baz=15,slow=9.1,SNR=18						
FINES				LR	LR	13 27 14.1	
	comp=Z,51nm,19.7s,baz=339,slow=41						
NB2	**NORSAR Subarra**	**29.51**	**279**	P	**P**	**13 14 12.4**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=9.5,slow=8.6						
NOA	**NORSAR Array B**	**29.51**	**279**	P	**P**	**13 14 12.9**	**+0.6**
NOA	**NORSAR Array B**	**29.51**	**279**	P	**P**	**13 14 12.9**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=11,slow=8.2,SNR=3.9						
NOA				LR	LR	13 28 44.8	
	comp=Z,17nm,18.8s,baz=0.0,slow=42						
SVE	**Sverdlovsk**	**29.65**	**226**	*eP*	**P**	**13 14 11.0**	**-2.4**
SVE				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAA0	**Zalesovo Array**	**31.39**	**199**	*eP*	**P**	**13 14 27.1**	**-1.7**
ZALV	**Zalesovo Beam**	**31.39**	**199**	*eP*	**P**	**13 14 27.5**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**31.39**	**199**	P	**P**	**13 14 27.2**	**-1.6**
ZALV	**Zalesovo Beam**	**31.39**	**199**	P	**P**	**13 14 27.2**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=352,slow=9.0,SNR=12						
YKA	**Yellowknife Ar**	**31.91**	**31**	P	**P**	**13 14 33.0**	**-0.3**
YKA				PcP	**PcP**	**13 17 23.4**	**+0.3**
YKA	**Yellowknife Ar**	**31.91**	**31**	P	**P**	**13 14 33.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=348,slow=8.2,SNR=21						
YKA				PcP	**PcP**	**13 17 23.4**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=335,slow=2.4,SNR=3.0						
BRVK	**Borovoye**	**32.86**	**215**	*eP*	**P**	**13 14 41.3**	**-0.4**
BRVK				*e*		13 14 49.4	
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**32.86**	**215**	*eP*	**P**	**13 14 41.2**	**-0.4**
	comp=Z,6.7nm,0.8s						
BRVK				*e*		13 14 49.4	
BVA0	**Borovoye Array**	**32.88**	**215**	*i* P	P	13 14 37.9	-4.0
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TLY	**Talaya**	**33.44**	**177**	*eP*	**P**	**13 14 44.5**	**-2.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TLY	**Talaya**	**33.44**	**177**	*eP*	**P**	**13 14 45.0**	**-1.7**
KURK	**Kurchatov**	**34.83**	**205**	*eP*	**P**	**13 14 57.4**	**-1.4**
KURK				*e*		13 15 05.6	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**34.83**	**205**	*eP*	**P**	**13 14 57.4**	**-1.4**
	comp=Z,2.1nm,0.6s						
KURK				*e*		13 15 05.6	
DLBC	**Dease Lake**	**35.12**	**45**	LR	LR	13 27 59.3	
	comp=Z,172nm,18.6s,baz=277,slow=34						
VSR	**Storozhevoye**	**36.81**	**248**	*eP*	**P**	**13 15 14.2**	**-1.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,7.0nm,1.7s						
VORD	**Divnogorie**	**37.05**	**248**	*eP*	**P**	**13 15 16.2**	**-1.6**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,7.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,5.0nm,0.6s						
AB31	**Akbulak array**	**37.24**	**225**	*i* P	**P**	**13 15 18.0**	**-1.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ABKAR	**Akbulak array**	**37.24**	**225**	*eP*	**P**	**13 15 18.1**	**-1.3**
ABKAR				*e*		13 15 26.0	

ULN	**Ulaanbaatar**	**37.28**	**173**	*eP*		**P**	**13 15 19.0**	**-1.1**
	comp=Z,1.7nm,0.6s							
SONM	**Songino Array**	**37.31**	**174**	P		**P**	**13 15 19.7**	**-0.5**
SONM				PcP		**PcP**	**13 17 38.7**	**-0.4**
SONM	**Songino Array**	**37.31**	**174**	P		**P**	**13 15 19.7**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=346,slow=8.0,SNR=44							
SONM				PcP		**PcP**	**13 17 38.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=315,slow=3.3,SNR=4.2							
AKASG	**Malin Array Be**	**38.16**	**258**	*eP*		**P**	**13 15 26.6**	**-0.6**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**38.16**	**258**	P		**P**	**13 15 26.6**	**-0.6**
AKASG	**Malin Array Be**	**38.16**	**258**	P		**P**	**13 15 26.6**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=9.5,slow=8.9,SNR=16							
KIEV	**Kiev**	**38.17**	**258**	⇑ *iP*		**P**	**13 15 26.0**	**-1.3**
KIEV	**Kiev**	**38.17**	**258**	*eP*		**P**	**13 15 26.2**	**-1.1**
	comp=Z,2.0nm,0.6s							
AK01	**Malin Array Si**	**38.17**	**258**	*eP*		**P**	**13 15 26.8**	**-0.5**
AK02	**Malin Array Si**	**38.21**	**258**	*eP*		**P**	**13 15 27.3**	**-0.3**
MK31	**Makanchi Array**	**38.62**	**201**	*i* P		**P**	**13 15 29.2**	**-2.0**
MK31				pmax		pmax		
	comp=Z,4.0nm,0.5s							
MK31	**Makanchi Array**	**38.62**	**201**	*eP*		**P**	**13 15 29.2**	**-2.0**
MKAR	**Makanchi Array**	**38.62**	**201**	*eP*		**P**	**13 15 29.4**	**-1.8**
MKAR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MKAR	**Makanchi Array**	**38.62**	**201**	P		**P**	**13 15 29.4**	**-1.8**
MKAR	**Makanchi Array**	**38.62**	**201**	P		**P**	**13 15 29.4**	**-1.8**
	comp=Z,5.8nm,0.7s,baz=6.4,slow=6.9,SNR=72							
CLL	**Collm**	**38.99**	**274**	*eP*		**P**	**13 15 35.0**	**+0.8**
CLL				pmax		pmax		
	comp=Z,25nm,1.9s							
CLL	**Collm**	**38.99**	**274**	*eP*		**P**	**13 15 35.0**	**+0.8**
	comp=Z,25nm,1.9s							
CLL				*eS*		S	13 21 48.0	+16
DPC	**Dobruska-Polom**	**39.65**	**271**	*eP*		**P**	**13 15 40.4**	**+0.7**
DPC	**Dobruska-Polom**	**39.65**	**271**	*eP*		**P**	**13 15 40.4**	**+0.7**
DPC				*ex*		x	13 15 50.0	
KWP	**Kalwaria Pacla**	**39.80**	**264**	*eP*		**P**	**13 15 41.6**	**+0.7**
KWP				pmax		pmax		
	comp=Z,13nm,1.0s							
KWP	**Kalwaria Pacla**	**39.80**	**264**	*eP*		**P**	**13 15 41.5**	**+0.7**
	comp=Z,12nm,1.0s							
KRLC	**Kraliky**	**39.88**	**270**	*eP*		**P**	**13 15 41.9**	**+0.2**
KRLC	**Kraliky**	**39.88**	**270**	*eP*		**P**	**13 15 41.9**	**+0.2**
KRLC				*ex*		x	13 15 51.2	
NKC	**Novy Kostel**	**40.10**	**275**	*eP*		**P**	**13 15 44.8**	**+1.3**
NKC	**Novy Kostel**	**40.10**	**275**	*eP*		**P**	**13 15 44.8**	**+1.3**
GRF	**Grafenberg Arr**	**40.75**	**276**	*eP*		**P**	**13 15 50.3**	**+1.5**
	comp=Z,8.0nm,0.9s							
BAIF	**Baives**	**41.00**	**283**	*eP*		**P**	**13 15 52.0**	**+1.2**
	comp=Z,45nm,1.4s							
BAIF	**Baives**	**41.00**	**283**	*eP*		**P**	**13 15 52.0**	**+1.2**
BAIF				pmax		pmax		
	comp=Z,45nm,1.4s							
BAIF	**Baives**	**41.00**	**283**	*eP*		**P**	**13 15 52.0**	**+1.2**
	comp=Z,45nm,1.4s							
KHC	**Kasperske Hory**	**41.10**	**273**	*eP*		**P**	**13 15 53.4**	**+1.7**
KHC				*e*			13 16 01.4	
KHC	**Kasperske Hory**	**41.10**	**273**	*eP*		**P**	**13 15 53.4**	**+1.7**
KHC				*ex*		x	13 16 01.4	
GERES	**GERESS Array B**	**41.37**	**273**	P		**P**	**13 15 55.0**	**+1.0**
GERES	**GERESS Array B**	**41.37**	**273**	P		**P**	**13 15 55.0**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=19,slow=8.7,SNR=13							
GERES				LR		LR	13 33 34.5	
	comp=Z,44nm,21.1s,baz=297,slow=37							
BBB	**Bella Bella**	**41.47**	**45**	LR		LR	13 31 01.6	
	comp=Z,185nm,21.3s,baz=324,slow=33							

KSH					pmax		pmax		
KSH	comp=Z,5.0nm,1.2s				pmax		pmax		
	comp=Z,190nm,4.3s								
B19A	**Brinkman Farms**	46.19	28	⇑P		P		13 16 33.1	+0.4
	baz=46								
B23A	**Brockton**	46.33	24	⇑P		P		13 16 33.9	+0.1
	baz=46								
JTMT	**Jette**	46.66	32	*e*P		P		13 16 37.3	+0.7
	comp=Z,14nm,1.4s								
AGMN	**Agassiz Nation**	46.77	15	⇑P		P		13 16 36.6	-0.6
	baz=47								
C19A	**Slack Wire Ran**	46.90	28	⇓P		P		13 16 37.5	-0.8
	baz=47,SNR=5.3								
C20A	**Veseth Ranch,**	46.97	27	⇑P		P		13 16 38.0	-0.8
	baz=47								
C23A	**Lambert**	46.98	24	⇑P		P		13 16 38.4	-0.6
	baz=47,SNR=6.1								
C22A	**Vida**	47.01	25	⇓P		P		13 16 38.3	-0.9
	baz=47								
D19A	**Cripps Ranch,**	47.48	28	⇓P		P		13 16 42.6	-0.2
	baz=47								
CHMT	**Chamberlain Mo**	47.54	32	*e*P		P		13 16 44.4	+1.0
	comp=Z,1.2nm,0.6s								
CHMT				*e*				13 16 52.7	
D20A	**Manuel Ranch,**	47.58	27	⇓P		P		13 16 42.8	-0.9
	baz=48								
MSO	**Missoula**	47.59	32	⇓P		P		13 16 43.8	+0.1
	baz=48,SNR=5.8								
D22A	**Cohagen**	47.60	25	⇓P		P		13 16 44.4	+0.6
	baz=48								
D21A	**La Casta Ranch**	47.65	26	⇓P		P		13 16 44.3	+0.2
	baz=48,SNR=7.6								
D24A	**Glendive**	47.70	23	⇑P		P		13 16 45.0	+0.5
	baz=48								
HRY	**Holter Researc**	47.80	30	*e*P		P		13 16 45.8	+0.3
	comp=Z,2.9nm,0.7s								
D26A	**Manning**	47.85	22	⇑P		P		13 16 45.6	-0.1
	baz=48								
LAO	**LASA Array**	48.06	25	*e*P		P		13 16 48.4	+1.1
	comp=Z,11nm,0.9s								
E20A	**Meyer Farm, Mu**	48.17	27	⇑P		P		13 16 48.7	+0.5
	baz=48								
E19A	**Rath Farm, Rou**	48.18	28	⇓P		P		13 16 48.5	+0.1
	baz=48								
LRM	**Limekiln Ridge**	48.66	31	*e*P		P		13 16 52.5	+0.3
	comp=Z,43nm,1.0s								
BR131	**Keskin Array S**	48.68	252	*e*P		P		13 16 52.6	+0.3
	comp=Z,1.4nm,0.6s								
BRTR	**Keskin Array B**	48.68	252	P		P		13 16 53.0	+0.6
BRTR	**Keskin Array B**	48.68	252	P		P		13 16 53.0	+0.6
	comp=Z,3.3nm,0.7s,baz=7.2,slow=5.3,SNR=19								
F19A	**Roth Farm, Mol**	48.78	28	⇑P		P		13 16 53.0	0.0
	baz=49								
F20A	**Billings**	48.87	27	⇓P		P		13 16 54.5	+0.8
	baz=49								
F22A	**Rosebud**	48.96	25	⇓P		P		13 16 54.8	+0.5
	baz=49								
F26A	**Lodgepole**	49.02	22	⇓P		P		13 16 55.4	+0.6
	baz=49								
F23A	**Volborg**	49.05	24	⇓P		P		13 16 55.8	+0.8
	baz=49								
G20A	**Bridger**	49.45	27	⇑P		P		13 16 58.5	+0.4
	baz=49								
G22A	**Birney**	49.52	25	⇓P		P		13 16 58.5	-0.2
	baz=49								
G23A	**Biddle**	49.57	24	⇑P		P		13 16 59.5	+0.5
	baz=50								
MCMT	**McKenzie Canyo**	49.64	31	*e*P		P		13 17 01.0	+1.3
	comp=Z,1.1nm,0.2s								
G25A	**Newell**	49.65	23	⇑P		P		13 17 00.4	+0.8
	baz=50								
MJAR	**Matsushiro Arr**	49.66	140	P		P		13 17 00.7	+1.0
MJAR	**Matsushiro Arr**	49.66	140	P		P		13 17 00.6	+1.0
	comp=Z,1.3nm,0.9s,baz=343,slow=8.9,SNR=3.1								
H18A	**Shoshone NF, C**	49.93	28	⇑P		P		13 17 02.5	+0.6
	baz=50,SNR=7.3								
H19A	**Powell**	49.96	28	⇓P		P		13 17 02.7	+0.7
	baz=50								
H24A	**Dirks Ranch, A**	50.06	24	⇑P		P		13 17 03.3	+0.6
	baz=50								
H21A	**Big Horn, Sher**	50.08	26	⇓P		P		13 17 03.8	+0.9
	baz=50,SNR=7.2								
H17A	**Grant Village**	50.17	29	*e*P		P		13 17 06.4	+2.6
H17A				*e*				13 17 15.1	
H17A	**Grant Village**	50.17	29	⇓P		P		13 17 04.2	+0.4
	baz=50,SNR=11								
H20A	**Greybull**	50.19	27	⇓P		P		13 17 04.5	+0.7
	baz=50								
H25A	**Fruitdale**	50.22	23	⇑P		P		13 17 04.4	+0.5
	baz=50								
H27A	**Howes**	50.26	21	⇓P		P		13 17 04.6	+0.5
	baz=50								
SADO	**Sadowa**	50.50	0	LR		LR		13 38 25.4	
	comp=Z,120nm,18.5s,baz=321,slow=36								
I19A	**Meeteetse**	50.60	28	⇑P		P		13 17 07.5	+0.6
	baz=50								
I17A	**Pilgrim Ck.**	50.65	29	⇑P		P		13 17 07.7	+0.4
	baz=50,SNR=7.5								
I20A	**Worland**	50.72	27	⇑P		P		13 17 08.7	+0.9
	baz=51								
I22A	**9 Mile Ranch,**	50.84	26	⇓P		P		13 17 08.8	+0.1
	baz=51								
I21A	**Big Trails, Te**	50.89	26	⇑P		P		13 17 09.3	+0.3
	baz=51,SNR=12								
J20A	**Shoshoni**	51.31	27	⇑P		P		13 17 13.4	+1.2
	baz=51,SNR=11								
J21A	**Lysite**	51.35	27	⇑P		P		13 17 13.1	+0.6
	baz=51								
J19A	**Crowheart**	51.36	28	⇓P		P		13 17 13.3	+0.7
	baz=51,SNR=6.5								
J25A	**Sunshine Ranch**	51.44	23	⇓P		P		13 17 13.4	+0.2
	baz=51								
PDAR	**Pinedale Array**	51.84	29	P		P		13 17 16.2	-0.1
PDAR	**Pinedale Array**	51.84	29	P		P		13 17 16.2	-0.1
	comp=Z,1.6nm,0.9s,baz=40,slow=2.5,SNR=10.0								
ESDC	**Sonseca Array**	52.00	289	P		P		13 17 17.4	+0.1
ESDC	**Sonseca Array**	52.00	289	P		P		13 17 17.4	+0.1
	comp=Z,0.7nm,0.7s,baz=9.5,slow=6.3,SNR=3.5								
K21A	**Alcova**	52.07	26	⇓P		P		13 17 18.0	0.0
	baz=52								
K22A	**Casper**	52.08	26	⇓P		P		13 17 17.7	-0.3
	baz=52								
M04C	**Macdoel**	52.21	40	⇑P		P		13 17 19.1	+0.2
	baz=52								
L23A	**Garrett**	52.64	25	⇓P		P		13 17 22.2	-0.1
	baz=52								
L22A	**Ellis Ranch, M**	52.70	26	⇑P		P		13 17 23.1	+0.5
	baz=53								
N20A	**Spence Gulch,**	53.82	27	⇑P		P		13 17 31.6	+0.7
	baz=54								
N23A	**Red Feather La**	53.85	25	⇓P		P		13 17 31.7	+0.5
	baz=54								
N24A	**Carr**	53.96	24	⇓P		P		13 17 32.5	+0.6
	baz=54								
DUG	**Dugway**	54.26	32	⇓P		P		13 17 34.5	+0.5
	baz=54								
O20A	**White River Ci**	54.52	27	⇓P		P		13 17 36.1	0.0
	baz=54								
O23A	**Lake Granby, G**	54.53	25	⇓P		P		13 17 36.8	+0.6
	baz=54								
O22A	**Kremmling**	54.56	26	⇑P		P		13 17 36.7	+0.3
	baz=54,SNR=8.9								
O26A	**Horse Wrangler**	54.60	23	⇑P		P		13 17 36.9	+0.4
	baz=54								
KEST	**Kesra**	54.77	275	*e*P		P		13 17 38.9	+1.3
KEST	**Kesra**	54.77	275	P		P		13 17 38.8	+1.1
	comp=Z,4.5nm,0.8s,baz=266,slow=3.6,SNR=7.0								
ISCO	**Idaho Springs**	54.96	25	⇓P		P		13 17 39.9	+0.6
	baz=55								
P28A	**Saint Francis**	55.32	21	⇓P		P		13 17 41.5	-0.2
	baz=55								
P23A	**Jefferson**	55.37	25	⇓P		P		13 17 43.0	+0.6
	baz=55								
KSCO	**Kaye Shedlock'**	55.85	22	⇑P		P		13 17 46.0	+0.4
	baz=56								
KSU1	**Kansas State U**	55.94	17	⇑P		P		13 17 45.7	-0.3
	baz=56								
R11A	**Troy Canyon, C**	55.97	35	⇓P		P		13 17 46.7	+0.2
	baz=56								
PV01	**Paradox Valley**	56.50	28	*e*P		P		13 17 51.4	+1.1
	comp=Z,1μm,1.1s								
PV01				*e*				13 17 59.2	
R26A	**Arlington**	56.53	23	⇓P		P		13 17 49.8	-0.6
	baz=56								
R28A	**Tribune**	56.54	22	⇓P		P		13 17 49.9	-0.6
	baz=56								
R23A	**Moffat**	56.55	25	⇑P		P		13 17 51.0	+0.3
	baz=56								
S22A	**4UR Ranch, Cre**	56.96	26	⇓P		P		13 17 55.1	+1.4
	baz=57,SNR=5.9								
MVCO	**Mesa Verde**	57.42	28	*e*P		P		13 17 57.9	+1.0
	comp=Z,17nm,1.3s								
MVCO	**Mesa Verde**	57.42	28	⇓P		P		13 17 57.9	+1.0
	baz=57,SNR=6.5								
T26A	**Comanche Natio**	57.65	23	⇑P		P		13 17 57.6	-0.8
	baz=58								
U15A	**North Rim**	58.04	32	⇑P		P		13 18 01.3	+0.1
	baz=58								
U22A	**Llaves**	58.32	26	⇓P		P		13 18 03.5	+0.3
	baz=58								
U24A	**Moreno Valley**	58.35	25	⇓P		P		13 18 03.6	+0.1
	baz=58								
U25A	**Circle Dot Ran**	58.39	24	⇓P		P		13 18 03.7	0.0
	baz=58								
U23A	**El Rito**	58.40	26	⇑P		P		13 18 04.5	+0.8
	baz=58,SNR=6.2								
U34A	**Anderson Ranch**	58.57	18	⇑P		P		13 18 05.5	+0.9
	baz=58								
LRMC	**Laurel Mountai**	58.72	37	⇓P		P		13 18 06.8	+1.0
	baz=59								
V22A	**San Miguel Ran**	58.78	26	⇓P		P		13 18 06.6	+0.2
	baz=59								
V25A	**Rancho No Teng**	58.94	24	⇑P		P		13 18 07.6	+0.1
	baz=59								
V23A	**Ortiz Mt. (NFS**	58.98	26	⇑P		P		13 18 07.9	+0.2
	baz=59								
V26A	**Tequesquite Ra**	59.02	24	⇓P		P		13 18 07.1	-0.8
	baz=59								
V24A	**Rampart Ranch,**	59.03	25	⇑P		P		13 18 08.4	+0.3
	baz=59								
W24A	**Lazy 6 Ranch,**	59.54	25	⇓P		P		13 18 11.1	-0.5
	baz=59								
TKL	**Tuckaleechee C**	59.58	5	LR		LR		13 44 14.5	
	comp=Z,112nm,21.4s,baz=354,slow=36								
X18A	**Snowflake**	60.03	29	⇓P		P		13 18 15.4	+0.4
	baz=60								
X16A	**Lo Mia Camp, P**	60.08	31	⇑P		P		13 18 15.5	+0.2
	baz=60								
X23A	**Hourglass Bar**	60.14	26	⇑P		P		13 18 15.4	-0.3
	baz=60								
SWSC	**Sam W. Stewart**	61.34	35	⇑P		P		13 18 23.9	+0.3
	baz=61								
MONP	**Monument Peak**	61.36	36	⇑P		P		13 18 24.4	+0.3
	baz=61								
Z22A	**Elephant Butte**	61.43	27	⇓P		P		13 18 24.2	-0.3
	baz=61								
Z25A	**Roswell**	61.49	25	⇓P		P		13 18 24.9	0.0
	baz=61								
Z26A	**Caprock**	61.52	24	⇓P		P		13 18 24.9	-0.1
	baz=61								
Z31A	**Shanara Cattle R**	61.60	20	⇓P		P		13 18 25.0	-0.5
	baz=62								
Z30A	**Sanderson Ranc**	61.61	21	⇑P		P		13 18 24.8	-0.7
	baz=62								
Z32A	**Haskell**	61.64	20	⇓P		P		13 18 25.3	-0.4
	baz=62								
124A	**Stringfield Ra**	62.04	25	⇑P		P		13 18 28.6	-0.1
	baz=62								
125A	**Gardner Draw,**	62.11	24	⇑P		P		13 18 28.4	-0.6
	baz=62								
121A	**Cookes Peak, D**	62.12	27	⇓P		P		13 18 29.5	+0.3
	baz=62								
129A	**Stewart Farms,**	62.24	22	⇑P		P		13 18 29.5	-0.3
	baz=62								
224A	**Cornudas Mount**	62.66	25	⇓P		P		13 18 32.0	-0.7
	baz=63								
232A	**Coleman**	63.05	20	⇓P		P		13 18 35.4	+0.2
	baz=63								
320A	**Kipp Ranch, An**	63.27	28	⇓P		P		13 18 37.1	+0.3
	baz=63								
324A	**Moseley Ranch,**	63.29	25	⇓P		P		13 18 36.7	-0.2
	baz=63								
328A	**Wristen Ranch,**	63.45	23	⇑P		P		13 18 37.4	-0.5
	baz=63								
326A	**Caldwell Ranch**	63.47	24	⇓P		P		13 18 37.5	-0.6
	baz=63								
333A	**Richland Sprin**	63.63	19	⇓P		P		13 18 38.8	-0.2
	baz=64								
334A	**Lometa**	63.64	18	⇓P		P		13 18 38.9	-0.2
	baz=64								
425A	**Indio Mountain**	63.96	25	⇓P		P		13 18 41.7	+0.4
	baz=64								
432A	**Menard**	64.05	20	⇑P		P		13 18 41.8	-0.1
	baz=64								
428A	**Kincaid Ranch,**	64.11	23	⇑P		P		13 18 42.1	-0.1
	baz=64								
433A	**Art**	64.19	19	⇓P		P		13 18 42.1	-0.6
	baz=64								
527A	**Woodward Ranch**	64.65	24	⇑P		P		13 18 45.2	-0.7
	baz=65								
526A	**Mary Lane Ranc**	64.72	24	⇑P		P		13 18 46.0	-0.4
	baz=65								
529A	**Stev Forest Ra**	64.72	22	⇓P		P		13 18 46.0	-0.3
	baz=65								
628A	**Black Gap, Mar**	65.33	23	⇑P		P		13 18 50.0	-0.2
	baz=65								
627A	**Terlingua Ranc**	65.35	23	⇓P		P		13 18 50.3	-0.1
	baz=65								
TXAR	**Lajitas Array**	65.46	24	P		P		13 18 50.8	-0.3
TXAR	**Lajitas Array**	65.46	24	P		P		13 18 50.8	-0.3
	comp=Z,1.2nm,0.8s,baz=345,slow=4.3,SNR=12								
633A	**Saathoff Ranch**	65.48	19	⇓P		P		13 18 50.9	-0.3
	baz=65								
CMAR	**Chiang Mai Arr**	66.59	182	P		P		13 18 56.9	-1.4
CMAR	**Chiang Mai Arr**	66.59	182	P		P		13 18 56.9	-1.4
	comp=Z,0.4nm,0.3s,baz=353,slow=7.9,SNR=4.1								
TORD	**Torodi Ar. Bea**	77.81	281	P		P		13 20 05.3	-0.2
TORD	**Torodi Ar. Bea**	77.81	281	P		P		13 20 05.3	-0.2
	comp=Z,5.1nm,0.8s,baz=358,slow=6.2,SNR=28								
TORD				LR		LR		13 59 22.1	
	comp=Z,67nm,19.0s,baz=190,slow=40								
LIC	**Lamto**	85.25	287	*e*P		P		13 20 44.7	-0.1
	comp=Z,17nm,0.9s								
LIC	**Lamto**	85.25	287	*e*P		P		13 20 44.7	-0.1
	comp=Z,17nm,0.9s								
MRIV	**Mauritius Mete**	106.46	222	*e*PKiKP		PKiKP		13 26 32.4	-0.2

FUNV 10 13:22:27.7,8.92N×71.27W,h4km,MW3.7,1C-7D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	0.75	147	⇓*i*P	Pg	13 22 41.1	-1.0
CAPV	**Capacho**	1.47	225	*e*P	Pn	13 22 55.2	-0.2
CAPV				*e*S	Sn	13 23 15.2	-0.1
QARV	**Quebrada Arrib**	1.47	30	⇓*e*P	Pn	13 22 54.6	-0.5
QARV				*e*S	Sb	13 23 14.4	-0.5
CURV	**Curarigua**	1.68	50	*e*P	Pn	13 22 57.7	-0.4
CURV				*e*S	Sn	13 23 19.5	-0.7
SANV	**Sanarito**	1.80	71	⇓*e*P	Pn	13 22 59.7	0.0
SANV				*e*S	Sn	13 23 22.7	-0.6
VIRV	**Villa del Rosa**	1.94	325	⇓*i*P	Pn	13 23 00.2	-1.2
VIRV				*e*S	Sn	13 23 25.2	-1.0
DABV	**Dabajuro**	2.08	17	⇓*i*P	Pn	13 23 03.1	-0.4
DABV				*e*S	Sn	13 23 28.9	-1.0
TEPV	**Terepaima**	2.29	63	*e*P	Pn	13 23 06.0	-0.5
TEPV				*e*S	Sn	13 23 34.4	-0.8
ELOV	**Elorza**	2.60	137	*e*P	Pn	13 23 09.2	-1.3
MAPV	**Macapo**	2.92	72	*e*P	Pn	13 23 14.7	-0.2
MAPV				*e*S	Sn	13 23 47.9	-2.6
BAUV	**El Baul**	3.19	89	⇓*i*P	Pn	13 23 17.1	-1.5
MONV	**Montecano**	3.27	23	⇓*e*P	Pn	13 23 18.1	-1.8
MONV				*e*S	Sn	13 23 56.4	-2.9
TURV	**Turiamo**	3.70	65	*e*P	Pn	13 23 25.2	-0.6
TURV				*e*S	Sn	13 24 05.7	-4.2
CUPV	**Cœpira**	5.52	78	⇓*e*P	Pn	13 23 49.4	-1.5

*MOS **10** 13:27:25.4±1.1,5.91S×147.43E,h33km,mb5.0/19, Error ellipse: s-maj=11.9km s-min=6.8km az=93.0*

*ISCJB **10** 13:27:28.1±0.8,6.03S×147.53E±0.04,h61km±6km, mb4.9/74, Error ellipse: s-maj=6.5km s-min=4.3km az=172.2*

*BJI **10** 13:27:28.7,5.94S×147.89E,h76km,mB5.2/39,mb4.8/45, Ms4.9/38,Ms7 4.6/39*

*GCMT **10** 13:27:31.4±0.1,6.30S×147.52E,h83km±1km,MW5.4/95, Moment Tensor Solution. s90,c143; s95,c178; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr0.99±.02; Mθθ-1.21±.02; Mϕϕ0.22±.02; Mrθ0.66±.01; Mθϕ-0.28±.02; Mϕr-0.20±.02; Best double couple: Mo1.33100×10¹⁷ NP1:ϕs96.00000°,δ61.00000°, λ109.00000°. NP2:ϕ240.00000°,δ34.00000°,λ59.00000°. Principal axes: T 1.2410, Plg68.0000°, Azm43.0000°; N 0.1800, Plg17.0000°, Azm266.0000°; P -1.4210, Plg14.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **10** 13:27:31.1±0.5,6.08S×147.55E,h73km±4km,mb4.4/20, mb1 4.5/24,mb1mx4.5/26,mbtmp4.5/24,MS4.2/27, Ms1 4.3/27,ms1mx4.2/29 Error ellipse: s-maj=15.2km s-min=7.4km az=85.0*

*NEIC **10** 13:27:31.4±0.2,6.08S×147.50E,mb5.1/17,MW5.4, Error ellipse: s-maj=6.9km s-min=4.8km az=91.0,Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁷Nm; Mrr0.89; Mθθ-0.82; Mϕϕ-0.07; Mrθ1.06; Mθϕ-0.67; Mϕr-0.32; Best double couple: Mo1.60000×10¹⁷ NP1:ϕs90.00000°, δ70.00000°,λ118.00000°. NP2:ϕs212.00000°,δ34.00000°, λ37.00000°. Principal axes: T 1.6100, Plg55.0000°, Azm36.0000°; N -0.1100, Plg26.0000°, Azm259.0000°; P -1.4900, Plg20.0000°, Azm159.0000°;*

*DJA **10** 13:27:38.3±1.2,7.2S±9.4×147.7E±1.2,h73km±7km,M5.3/21, mB5.7/14,mb5.4/21,MLv5.6/1,Mw(mB)5.2/14*

ISC 10 13:27:31.3±0.3,6.10S±0.03×147.51E±0.04,h75km±2km, h75km:pP-P,n251,σ1s50/324,mb4.9/72,11C-27D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.30	186	P	x	13 28 20.4	
PMG	**Port Moresby**	3.30	186	*e*Pn	Pn	13 28 20.1	-0.6
PMG				*e*		13 28 25.7	
PMG				S	Sn	13 28 59.1	+0.2
PMG	**Port Moresby**	3.30	186	P	Pn	13 28 20.2	-0.6
	baz=339,slow=8.1						
PMG				S	Sn	13 28 59.1	+0.2
	358nm,0.3s,baz=39,slow=23,SNR=7.3						
MANU	**Manus Island**	4.04	358	⇑P	Pn	13 28 33.2	+2.5
	baz=4.2,SNR=10						
RABL	**Rabaul**	5.01	68	⇑P	Pn	13 28 46.7	+2.6
	baz=5.1,SNR=5.6						
JAY	**Jayapura**	7.67	297	⇓P	Pn	13 29 22.5	+2.1
	baz=7.7,SNR=4.4						
GENI	**Genyem**	8.11	295	P	Pn	13 29 32.2	+5.8
	225nm,1.1s,5μm						
COEN	**Coen**	8.90	208	*e*Pn	Pn	13 29 36.1	-1.0
COEN	**Coen**	8.90	208	⇓P	Pn	13 29 36.6	-0.6
	baz=8.8,SNR=131						
SRPI	**Serui, Papua**	12.00	290	P	Pn	13 30 24.5	+4.9
	222nm,0.7s						
MTSU	**Mount Surprise**	12.36	194	⇑P	Pn	13 30 24.5	0.0
	baz=12						
HNR	**Honiara**	12.76	106	P	Pn	13 30 28.4	-1.5
HNR	**Honiara**	12.76	106	P	Pn	13 30 28.3	-1.5
	4.3nm,0.3s,baz=24,slow=18,SNR=2.9						
HNR	**Honiara**	12.76	106	P	Pn	13 30 32.0	+2.1
CTA	**Charters Tower**	13.96	185	P	Pn	13 30 46.9	+1.2
CTA				S	Sn	13 33 21.6	+2.3
CTA	**Charters Tower**	13.96	185	P	Pn	13 30 46.9	+1.2
	1.7nm,0.3s,baz=4.0,slow=15,SNR=22						
CTA				S	Sn	13 33 21.6	+2.3
	1.1nm,0.3s,baz=114,slow=20,SNR=3.4						
CTA				LR	LR	13 35 54.5	
	comp=Z,1μm,18.4s,baz=358,slow=36						
CTAO	**Charters Tower**	13.96	185	*e*P	Pn	13 30 47.0	+1.2
CTAO	**Charters Tower**	13.96	185	*e*Pn	Pn	13 30 47.0	+1.2
FAKI	**Fak Fak**	15.54	281	*e*P	Pn	13 31 03.5	-2.7
KDU	**Kakadu**	16.21	245	⇓P	Pn	13 31 14.0	-0.6
	baz=16,SNR=23						
QIS	**Mount Isa**	16.29	207	⇓P	Pn	13 31 15.0	-0.6
	baz=16,SNR=53						
SWI	**Sorong**	17.03	287	P	P	13 31 32.9	+7.4
	246nm,1.2s,2μm						
SWI	**Sorong**	17.03	287	⇓P	P	13 31 27.0	+1.5
	baz=17						
MTN	**Manton Dam**	17.48	246	P	P	13 31 30.8	+0.3
	baz=17,SNR=24						
WRAB	**Tennant Creek**	18.78	222	P	P	13 31 44.0	-0.8
	807nm,0.9s						
WRAB	**Tennant Creek**	18.78	222	*e*P	P	13 31 44.3	-0.5
WRAB				pmax	pmax		
	comp=Z,292nm,0.8s						
WRAB	**Tennant Creek**	18.78	222	*e*P	P	13 31 44.0	-0.8
	comp=Z,123nm,0.9s						
WRA	**Warramunga Arr**	18.79	222	P	P	13 31 44.2	-0.7
WRA				S	S	13 35 09.0	-5.7
WRA				ScP	ScP	13 39 40.2	+1.4
WRA	**Warramunga Arr**	18.79	222	P	P	13 31 44.2	-0.7
	comp=Z,8.4nm,0.3s,baz=45,slow=12,SNR=211						
WRA				S	S	13 35 09.0	-5.7
	comp=Z,0.4nm,0.3s,baz=50,slow=23,SNR=5.7						
WRA				LR	LR	13 39 34.4	
	comp=Z,762nm,21.1s,baz=50,slow=38						
WRA				ScP	ScP	13 39 40.2	+1.4
	comp=Z,0.1nm,0.3s,baz=38,slow=2.2,SNR=4.3						
EIDS	**Eidsvold**	19.46	170	*e*P	P	13 31 52.7	+0.6
	comp=Z,131nm,0.9s						
EIDS	**Eidsvold**	19.46	170	⇓P	Pn	13 31 53.5	-0.5
	baz=19,SNR=38						
RMQ	**Roma**	20.31	177	⇓P	Pn	13 32 03.0	-1.0
	baz=20,SNR=118						
NLAI	**Namlea**	20.54	277	P	Pn	13 32 08.6	+1.8
	comp=Z,80nm,1.8s,comp=Z,2μm						
QLP	**Quilpie**	20.61	188	⇑P	P	13 32 05.4	+0.9
	baz=21,SNR=200						
KNRA	**Kununurra**	20.70	241	⇓P	P	13 32 05.5	-0.2
	baz=21,SNR=64						
AS06	**Alice Springs**	21.77	215	⇓P	P	13 32 17.2	0.0
	baz=22						
AS16	**Alice Springs**	21.79	215	⇓P

STKA Stephens Creek 26.23 191 P **P** **13 32 59.3 -0.1**
comp=Z,43nm,0.7s,baz=356,slow=7.7,SNR=90
STKA LR LR 13 44 06.4
comp=Z,683nm,18.9s,baz=9.4,slow=38
APSI Ampana 26.32 280 P sP 13 33 22.4 -4.3
WRKA Warakurna 26.33 222 ⇓P **P** **13 33 00.5 0.0**
baz=26,SNR=67
MRSI Marisa 26.35 283 P sP 13 33 22.2 -4.8
MGCD Mangrove Creek 27.18 173 ⇑P **P** **13 33 09.1 +1.2**
baz=27,SNR=14
BNSI Bone 27.34 272 P P 13 33 17.2 +7.6
comp=Z,38nm,1.2s
KAPI Kappang 27.65 271 *e*P **P** **13 33 12.3 0.0**
comp=Z,314nm,1.3s
YNG Young 28.07 178 P **P** **13 33 16.9 +1.0**
baz=28,SNR=15
HTT Hallett 28.34 195 ⇓P **P** **13 33 18.9 +0.6**
baz=28,SNR=30
BBOO Buckleboo 28.64 200 *e*P **P** **13 33 20.6 -0.3**
comp=Z,784nm,0.9s
BBOO Buckleboo 28.64 200 ⇓P **P** **13 33 20.3 -0.6**
baz=29,SNR=30
CAN Canberra 29.11 177 *e*P **P** **13 33 25.7 +0.6**
CAN pmax pmax
comp=Z,40nm,1.4s
CAN Canberra 29.11 177 *e*P **P** **13 33 25.7 +0.6**
comp=Z,40nm,1.4s
CAN Canberra 29.11 177 ⇑P **P** **13 33 26.3 +1.2**
baz=29
CNB Canberra Magne 29.12 177 ⇓P **P** **13 33 26.0 +0.7**
baz=29,SNR=6.7
FORT Forrest 30.60 214 *e*P **P** **13 33 37.2 -1.1**
comp=Z,64nm,0.8s
FORT Forrest 30.60 214 ⇓P **P** **13 33 38.8 +0.5**
baz=30,SNR=15
MBWA Marble Bar 30.79 238 *e*P **P** **13 33 40.4 +0.3**
comp=Z,39nm,0.7s
MILA Mila 30.84 177 ⇓P **P** **13 33 41.2 +0.8**
baz=31,SNR=4.7
ARPS Mount Arapiles 30.96 189 ⇓P **P** **13 33 41.9 +0.5**
baz=31,SNR=16
TOO Toolangi 31.38 183 ⇑P **P** **13 33 46.1 +0.9**
baz=31
BBKI Banjar Baru 32.66 273 P P 13 34 01.8 +5.2
comp=Z,48nm,1.6s
JAGI Jajag, Banyuwa 33.17 264 P pP 13 34 19.4 +0.5
JAGI Jajag, Banyuwa 33.17 264 *e*P **P** **13 33 59.8 -1.2**
CBIJ Chichi jima 33.40 351 P **P** **13 34 00.7 -2.2**
JCJ Chichijima 33.40 351 P **P** **13 34 00.7 -2.2**
comp=Z,35nm,0.5s,baz=131,slow=20,SNR=3.1
MEEK Meekatharra 34.28 230 ⇓P **P** **13 34 11.3 +0.7**
baz=34,SNR=69
KMBL Kambalda 34.75 220 ⇓P **P** **13 34 14.9 +0.3**
baz=35,SNR=9.7
PBKI Pangkalan Bun 35.89 274 P **P** **13 34 27.3 +2.7**
MOO Moorlands 36.19 180 P **P** **13 34 28.1 +1.4**
baz=36,SNR=5.0
MORW Morawa 37.48 229 P **P** **13 34 38.8 +0.8**
baz=37,SNR=8.7
KLBR Kellerberrin 37.65 224 P **P** **13 34 39.5 +0.1**
baz=38,SNR=24
BLDU Ballidu 37.83 226 P **P** **13 34 41.2 +0.3**
baz=38,SNR=20
CISI Cisompet, Garu 39.43 266 *e*P **P** **13 34 53.4 -1.1**
YHNB Yeheng 39.79 321 *e*P **P** **13 34 58.9 +1.5**
comp=Z,19nm,0.8s
RAO Raoul Island 39.92 129 LR LR 13 49 13.8
comp=Z,249nm,20.7s,baz=296,slow=33
TATO Taipei 39.95 322 P **P** **13 34 59.0 +0.4**
comp=Z,104nm,1.1s
RKGY Rocky Gully 39.99 221 ⇓P **P** **13 34 59.7 +0.9**
baz=40,SNR=7.3
AFI Afiamalu 40.78 104 P **P** **13 35 04.4 -1.4**
AFI Afiamalu 40.78 104 P **P** **13 35 04.4 -1.4**
comp=Z,23nm,0.8s,baz=299,slow=19,SNR=3.4
AFI LR LR 13 50 20.3
comp=Z,269nm,18.3s,baz=90,slow=34
URZ Urewera 41.77 144 P **P** **13 35 12.9 -0.5**
URZ Urewera 41.77 144 P **P** **13 35 12.9 -0.5**
comp=Z,9.9nm,1.0s,baz=333,slow=9.0,SNR=2.7
URZ LR LR 13 50 17.9
comp=Z,751nm,21.7s,baz=324,slow=33
JNU Nakatsue 42.09 339 *e*P **P** **13 35 15.0 -1.1**
JNU Nakatsue 42.09 339 P **P** **13 35 14.7 -1.4**
comp=Z,9.8nm,0.9s,baz=151,slow=3.5,SNR=6.4
JNU LR LR 13 52 07.9
comp=Z,174nm,19.5s,baz=322,slow=35
RPZ Rata Peaks 42.80 155 LR LR 13 52 17.7
comp=Z,667nm,18.1s,baz=253,slow=35
MJAR Matsushiro Arr 43.31 349 P **P** **13 35 25.5 -0.4**
MJAR pP **pP** **13 35 42.7 -1.5**
MJAR Matsushiro Arr 43.31 349 P **P** **13 35 25.5 -0.4**
comp=Z,5.2nm,0.9s,baz=160,slow=6.7,SNR=11
MJAR pP **pP** **13 35 42.7 -1.5**
comp=Z,15nm,1.1s,baz=165,slow=7.4,SNR=5.8
MJAR LR LR 13 51 48.7
comp=Z,169nm,21.7s,baz=165,slow=34
MAJO Matsushiro 43.31 349 *e*P **P** **13 35 25.6 -0.3**
MAJO pmax pmax
comp=Z,68nm,1.4s
MAJO Matsushiro 43.31 349 *e*P **P** **13 35 25.6 -0.3**
comp=Z,68nm,1.4s
MAT Matsushiro 43.31 349 P **P** **13 35 24.8 -1.1**
MAT S **S** **13 41 44.6 -3.4**
QIZ Qiongzhong 44.73 305 P **P** **13 35 37.3 -0.2**
QIZ sP **sP** **13 36 02.5 -2.1**
QIZ S **S** **13 42 07.9 -1.3**
QIZ sS **sS** **13 42 40.2 -0.4**
QIZ pmax pmax
comp=Z,37nm,1.9s
QIZ LR LR
comp=Z,560nm,33.1s
NJ2 Nanjing 46.75 326 *e*P **P** **13 35 53.7 +0.5**
NJ2 pP **pP** **13 36 12.4 +0.6**
NJ2 sP **sP** **13 36 20.0 -0.3**
NJ2 PP **PP** **13 37 45.4 +1.2**
NJ2 S **S** **13 42 41.5 +3.7**
NJ2 sS **sS** **13 43 08.0 -1.4**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,380nm,6.6s
NJ2 LR LR
comp=Z,710nm,21.6s
NJ2 LR LR
comp=Z,520nm,22.4s
NJ2 LR LR
comp=Z,1μm,23.1s
KSRS Korea Array 47.03 339 P **P** **13 35 55.2 -0.1**
comp=Z,4.7nm,1.0s,baz=156,slow=8.9,SNR=15
KSRS pP **pP** **13 36 14.1 +0.2**
comp=Z,9.3nm,1.1s,baz=157,slow=9.3,SNR=7.0
KSRS LR LR 13 52 35.3
comp=Z,272nm,20.2s,baz=159,slow=32
KSAR Wonju Array Be 47.03 339 P **P** **13 35 55.2 -0.2**
KSAR pP **pP** **13 36 14.1 +0.2**
PPI Padang Panjang 47.35 275 ⇓P **P** **13 35 58.2 0.0**
baz=47,SNR=8.8
INCN Inchon 47.54 337 *e*P **P** **13 35 58.8 -0.5**
IPM Ipoh 47.59 282 *e*P **P** **13 36 00.6 +0.5**
comp=Z,31nm,1.1s
YUK Yuzh-Kuril'sk 49.93 358 *c i*P P 13 36 12.5 -4.9
YUK *i* S **S** **13 43 17.9 -4.3**
ASAJ Asahikawa 50.18 355 P **P** **13 36 19.7 +0.3**
ASAJ Asahikawa 50.18 355 P **P** **13 36 19.7 +0.3**
comp=Z,16nm,1.1s,baz=163,slow=14,SNR=3.4
ASAJ LR LR 13 54 31.8
comp=Z,349nm,21.7s,baz=124,slow=32
GSI Gunungsitoli 50.39 277 *e*P **P** **13 36 21.0 -0.6**
DL2 Dalian 50.80 334 *e*P **P** **13 36 23.5 -0.7**
DL2 *e*S **S** **13 43 33.3 -1.2**
DL2 pmax pmax
comp=Z,100nm,5.3s
DL2 LR LR
comp=Z,280nm,22.6s
DL2 LR LR
comp=Z,240nm,23.3s
GYA Guiyang 51.13 311 P **P** **13 36 28.8 +1.7**
GYA pP **pP** **13 36 47.2 +1.3**
GYA sP **sP** **13 36 55.0 +0.7**
GYA PcP **PcP** **13 37 43.0 +1.2**
GYA PP **PP** **13 38 27.4 +2.9**
GYA ScP **ScP** **13 41 31.9 +0.1**
GYA S **S** **13 43 40.6 +0.8**
GYA sS **sS** **13 44 12.0 +0.2**
GYA SS **SS** **13 47 14.3 -1.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,820nm,17.3s
GYA LR LR
comp=Z,650nm,18.0s
GYA LR LR
comp=Z,720nm,18.6s
USRK Ussuriysk Arra 51.99 346 P **P** **13 36 33.4 +0.5**
comp=Z,3.8nm,0.8s,baz=168,slow=9.1,SNR=10
USRK LR LR 13 56 46.0
comp=Z,180nm,19.4s,baz=318,slow=34
SNY Shenyang 52.47 338 ⇓P **P** **13 36 36.6 0.0**
SNY pmax pmax
comp=Z,13nm,2.5s
SNY pmax pmax
comp=Z,250nm,6.2s
SNY LR LR
comp=Z,370nm,24.0s
SNY LR LR
comp=Z,210nm,19.2s
SNY LR LR
comp=Z,710nm,33.6s
MDJ Mudanjiang 53.00 344 P **P** **13 36 40.1 -0.3**
MDJ pP **pP** **13 36 57.9 -1.4**
MDJ sP **sP** **13 37 06.0 -1.8**
MDJ PcP **PcP** **13 37 49.0 +0.8**
MDJ PP **PP** **13 38 39.9 -1.1**
MDJ ScP **ScP** **13 41 38.6 -0.7**
MDJ PcS **PcS** **13 41 46.5 -0.4**
MDJ S **S** **13 44 05.8 +1.3**
MDJ ScS **ScS** **13 46 23.1 +0.1**
MDJ pmax pmax
comp=Z,8.0nm,1.6s
MDJ pmax pmax
comp=Z,100nm,5.6s
MDJ LR LR
comp=Z,340nm,26.3s
MDJ LR LR
comp=Z,230nm,32.8s
MDJ LR LR
comp=Z,580nm,34.7s
RAR Rarotonga 53.13 112 LR LR 13 53 17.2
comp=Z,180nm,21.5s,baz=275,slow=29
KMI Kunming 53.46 307 P **P** **13 36 46.4 +1.9**
KMI pP **pP** **13 37 02.2 -1.2**
KMI PcP **PcP** **13 37 52.5 +1.8**
KMI PP **PP** **13 38 48.9 +3.2**
KMI S **S** **13 44 12.4 +0.5**
KMI sS **sS** **13 44 43.9 -0.2**
KMI SS **SS** **13 47 52.4 -0.8**
KMI pmax pmax
comp=Z,8.0nm,0.7s
KMI pmax pmax
comp=Z,210nm,3.6s
KMI LR LR
comp=Z,210nm,22.8s
KMI LR LR
comp=Z,230nm,16.6s
KMI LR LR
comp=Z,380nm,29.1s
CN2 Changchun 53.53 340 *e*P **P** **13 36 46.7 +2.4**
CN2 *ep*P **pP** **13 37 05.7 +2.4**
CN2 *e*S **S** **13 44 12.6 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,400nm,24.0s
CMAR Chiang Mai Arr 53.75 298 P **P** **13 36 47.6 +1.2**
CMAR Chiang Mai Arr 53.75 298 P **P** **13 36 47.6 +1.2**
comp=Z,2.6nm,0.3s,baz=122,slow=6.2,SNR=7.3
CMAR LR LR 13 57 44.1
comp=Z,134nm,21.9s,baz=283,slow=34
XAN Xi'an 54.08 320 P **P** **13 36 47.3 -1.3**
XAN pP **pP** **13 37 12.5 +4.9**
XAN S **S** **13 44 15.0 -4.7**
XAN ScS **ScS** **13 46 30.9 -0.4**
XAN SS **SKiKP** **13 47 54.7 +0.8**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,20nm,5.5s
XAN LR LR
comp=Z,120nm,27.6s
XAN LR LR
comp=Z,120nm,35.8s
XAN LR LR
comp=Z,140nm,32.7s
BJI Beijing 54.24 331 P **P** **13 36 50.4 +0.8**
BJI S **S** **13 44 23.8 +2.4**
BJI pmax pmax
comp=Z,11nm,0.4s
BJI pmax pmax
comp=Z,140nm,5.2s
BJI LR LR
comp=Z,350nm,23.6s
BJI LR LR
comp=Z,330nm,24.2s
BJI LR LR
comp=Z,490nm,35.6s
HABR Khabarovsk 55.44 350 *e*P **P** **13 36 56.0 -2.0**
HABR *e**SP sP 13 37 09.3 -16
HABR 13 37 55.7
HABR 13 38 57.9
HABR *e*PPP PPP 13 40 11.2
HABR *e*S **S** **13 44 37.8 +0.7**
HABR *e**SS sS 13 44 54.5 -15
HABR 13 46 41.6
HABR SS **SS** **13 48 23.6 +0.5**
HABR pmax pmax
comp=E,30nm,1.9s
HABR pmax pmax
comp=N,30nm,1.9s
HABR pmax pmax
comp=Z,69nm,1.9s
HABR MLR MLR
comp=Z,82nm,17.0s
CD2 Chengdu 55.71 314 *e*P **P** **13 37 01.6 +1.2**
CD2 sP **sP** **13 37 26.1 -1.8**
CD2 PP **PP** **13 39 08.3 +2.7**
CD2 S **S** **13 44 41.9 +0.3**
CD2 sS **sS** **13 45 10.9 -3.1**
CD2 SS **SS** **13 48 27.0 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,170nm,11.9s
CD2 LR LR
comp=Z,240nm,13.1s
CD2 LR LR
comp=Z,280nm,16.6s
CD2 LR LR
comp=Z,270nm,17.8s
KLR Kul'dur 56.80 348 *e*P P 13 37 03.2 -4.5
KLR pmax pmax
comp=Z,64nm,1.8s
HHC Hu-ho-hao-te 57.19 328 *e*P **P** **13 37 12.6 +1.8**
HHC pP **pP** **13 37 31.1 +1.1**
HHC PP **PP** **13 39 21.6 +2.9**
HHC S **S** **13 45 01.9 +1.0**
HHC ScS **ScS** **13 46 54.3 +0.8**
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,200nm,8.6s
HHC LR LR
comp=Z,410nm,19.6s
HHC LR LR
comp=Z,460nm,17.3s
HHC LR LR
comp=Z,880nm,25.5s
LZH Lanzhou 58.62 319 *e*P **P** **13 37 20.9 -0.1**
LZH pP **pP** **13 37 40.0 -0.2**
LZH sP **sP** **13 37 48.8 +0.2**
LZH *e*PP **PP** **13 39 33.0 +1.4**
LZH *e*S **S** **13 45 18.1 -1.8**
LZH sS **sS** **13 45 51.2 -1.4**
LZH *e*SS **SS** **13 49 13.6 -0.4**
LZH pmax pmax
comp=Z,41nm,1.4s
LZH pmax pmax
comp=Z,170nm,7.2s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,360nm,15.0s
LZH LR LR
comp=Z,490nm,19.0s
PETK Petropavlovsk- 59.62 7 P **P** **13 37 28.4 +1.0**
PETK Petropavlovsk- 59.62 7 P **P** **13 37 28.4 +1.0**
PETK Petropavlovsk- 59.62 7 P **P** **13 37 28.4 +1.0**
comp=Z,16nm,0.8s,baz=176,slow=5.8,SNR=17
PETK LR LR 13 59 36.5
comp=Z,353nm,19.4s,baz=194,slow=32
PET Petropavlovsk 59.66 8 *e*P P 13 37 34.3 +6.7
PET *e*S S 13 45 39.4 +7.2
PET pmax pmax
comp=Z,100nm,12.3s
HIA Hailar 60.23 339 *e*P **P** **13 37 31.6 0.0**
comp=Z,18nm,0.9s
PPT Papeete 62.38 107 LR LR 14 01 36.6
comp=Z,133nm,20.3s,baz=259,slow=33
PPT2 Papeete2 62.38 107 *e*S **S** **13 46 08.2 -0.2**
comp=Z,136nm,24.8s
PPT2 Papeete2 62.38 107 *e*LR LR 13 56 25.8
comp=Z,268nm,28.8s
FX1 Attu Island--F 62.66 17 *e*P **P** **13 37 48.7 +0.8**
TBI Tubuai 62.86 113 *e*S **S** **13 46 12.7 -1.4**
comp=Z,375nm,27.5s
TBI Tubuai 62.86 113 *e*LR LR 13 56 45.9
comp=Z,470nm,37.8s
GTA Gaotai 63.15 320 *e*P **P** **13 37 53.0 +1.4**
GTA pP **pP** **13 38 12.4 +1.3**
GTA sP **sP** **13 38 21.5 +2.1**
GTA S **S** **13 46 18.8 +1.4**
GTA sS **sS** **13 46 52.3 +1.9**
GTA SS **SS** **13 50 25.9 +1.1**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,99nm,5.2s
ULN Ulaanbaatar 64.44 331 *e*P **P** **13 37 60.0 0.0**
comp=Z,6.3nm,0.9s
ULN *e* 13 38 10.2
SONM Songino Array 64.74 331 P **P** **13 38 01.6 -0.3**
SONM Songino Array 64.74 331 P **P** **13 38 01.6 -0.3**
comp=Z,5.1nm,1.0s,baz=144,slow=6.2,SNR=27
SONM LR LR 14 07 10.4
comp=Z,304nm,19.5s,baz=140,slow=37
CLNS Chul'man 65.40 347 *e*P **P** **13 38 06.5 +0.6**
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.2s
TAPN Taplejung 66.63 303 *e*P **P** **13 38 15.0 +0.3**
ODAN Odare 66.73 303 *e*P **P** **13 38 15.4 +0.1**
RAMN Ramite 67.42 302 *e*P **P** **13 38 20.0 +0.3**
ZAK Zakamensk 67.97 331 *e*P **P** **13 38 21.5 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
JIRN Jiri 68.00 303 *e*P **P** **13 38 22.6 -0.9**
GUN Gumba 68.35 303 *e*P **P** **13 38 24.8 -0.8**
PKIN Phulchoki 68.64 303 *e*P **P** **13 38 26.2 -1.1**
comp=Z,2.7nm,0.5s
TLY Talaya 68.67 332 *e*P **P** **13 38 26.5 -0.2**
TLY *e*S S 13 47 15.6 -8.3
TLY *e* 13 48 13.8
TLY pmax pmax
comp=Z,16nm,2.5s
IRK Irkutsk 68.77 333 *e*P **P** **13 38 25.7 -1.6**
IRK pmax pmax
comp=Z,25nm,1.3s
DMN Daman 68.89 303 *e*P **P** **13 38 28.0 -0.9**
comp=Z,34nm,0.8s
SEY Seymchan 68.94 2 P **P** **13 38 27.4 -0.7**
SEY Seymchan 68.94 2 P **P** **13 38 27.4 -0.7**
SEY Seymchan 68.94 2 P **P** **13 38 27.4 -0.7**
comp=Z,3.5nm,0.7s,baz=35,slow=23,SNR=7.3
YAK Yakutsk 69.32 351 *e*P **P** **13 38 29.7 -0.7**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK Yakutsk 69.32 351 *e*P **P** **13 38 30.0 -0.4**
comp=N,16nm,0.9s
MOY Mondy 69.91 331 *e*P **P** **13 38 34.3 -0.2**
KOLN Koldanda 70.21 302 *e*P **P** **13 38 35.3 -1.7**
comp=N,11nm,0.8s
DANN Dangsing 70.26 303 *e*P **P** **13 38 35.5 -1.9**
comp=N,31nm,1.1s
PYUN Piuthan 70.83 302 *e*P **P** **13 38 38.2 -2.5**
MIR Mirnyy 70.86 200 *e*P **pP** **13 39 00.0 +0.4**
MIR *e* 13 39 14.0
MIR pmax pmax
comp=Z,63nm,1.0s
VNDA Vanda 71.78 177 *e*P **P** **13 38 46.8 +1.5**
VNDA Vanda 71.78 177 P **P** **13 38 45.8 +0.5**
comp=Z,3.6nm,0.8s,baz=325,slow=7.3,SNR=11
VNDA LR LR 14 09 00.5
comp=Z,183nm,20.5s,baz=332,slow=35
HYB Hyderabad 71.97 290 *i* P **P** **13 38 46.0 -1.6**
WMQ Urumqi 73.20 319 P **P** **13 38 55.1 +0.7**
WMQ PcP **PcP** **13 39 11.9 +1.3**
WMQ pP **pP** **13 39 15.1 +0.8**
WMQ sP **sP** **13 39 23.7 +1.2**
WMQ S **S** **13 48 17.1 +0.3**
WMQ pmax pmax
comp=Z,3.0nm,0.5s
WMQ pmax pmax
comp=Z,32nm,8.8s
WMQ LR LR
comp=Z,75nm,20.8s
WMQ LR LR
comp=Z,100nm,25.6s
WMQ LR LR
comp=Z,94nm,24.4s
RKT Rikitea 76.17 112 *e*LR LR 14 02 55.4
comp=Z,454nm,36.2s
MK31 Makanchi Array 77.90 320 *e*P **P** **13 39 19.9 -1.3**
MK31 Makanchi Array 77.90 320 *e*P **P** **13 39 19.9 -1.3**
MKAR Makanchi Array 77.90 320 P **P** **13 39 20.1 -1.1**
MKAR Makanchi Array 77.90 320 P **P** **13 39 20.1 -1.1**
MKAR pP **pP** **13 39 42.2 +0.9**
MKAR PKKPbc **PKKPbc** **13 58 23.9 -0.2**
MKAR Makanchi Array 77.90 320 P **P** **13 39 20.1 -1.1**
comp=Z,1.6nm,0.6s,baz=98,slow=8.3,SNR=13
MKAR pP **pP** **13 39 42.2 +0.9**
comp=Z,4.9nm,0.9s,baz=98,slow=7.5,SNR=4.9
MKAR PKKPbc **PKKPbc** **13 58 23.9 -0.2**
comp=Z,0.5nm,0.8s,baz=318,slow=1.6,SNR=4.1
MKAR LR LR 14 14 19.5
comp=Z,69nm,18.5s,baz=268,slow=36
TNA Tin City 78.54 17 *e*P **P** **13 39 25.5 +1.3**
comp=Z,8.5nm,1.3s
TIXI Tiksi 78.56 354 *e*P **P** **13 39 23.6 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
ZAA0 Zalesovo Array 79.37 328 P **P** **13 39 26.6 -2.4**
ZALV Zalesovo Beam 79.37 328 P **P** **13 39 26.4 -2.6**
ZALV Zalesovo Beam 79.37 328 P **P** **13 39 26.4 -2.6**
ZALV pP **pP** **13 39 48.9 -0.3**
ZALV Zalesovo Beam 79.37 328 P **P** **13 39 26.4 -2.6**
comp=Z,3.5nm,0.7s,baz=108,slow=4.8,SNR=12
ZALV pP **pP** **13 39 48.9 -0.3**
comp=Z,5.0nm,0.7s,baz=110,slow=5.7,SNR=6.3
ZALV LR LR 14 13 01.3
comp=Z,211nm,21.9s,baz=73,slow=34
KSH Kashi 79.82 312 *e*P **P** **13 39 34.1 +2.1**
KSH *e*PP **PP** **13 42 35.5 +1.1**
KSH *e*S **S** **13 49 30.1 +0.6**
KSH *e*SS **SS** **13 54 39.6 -0.7**
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH pmax pmax
comp=Z,90nm,6.1s
KSH LR LR
comp=Z,82nm,5.3s
KSH LR LR
comp=Z,91nm,5.3s
KSH LR LR
comp=Z,110nm,7.6s
KURK Kurchatov 81.60 323 ⇓ *i*P **P** **13 39 40.1 -0.9**

KURK pmax pmax
comp=Z,2.0nm,1.2s
AAK Ala-Archa 81.77 315 *e*P **P 13 39 42.3 -0.1**
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 81.77 315 LR LR 14 14 36.5
comp=Z,99nm,19.4s,baz=95,slow=34
EKS2 Erkin-Say 82.29 314 *e*P **P 13 39 44.6 -0.4**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 82.29 314 *e*P **P 13 39 44.6 -0.4**
comp=Z,3.1nm,0.8s
MAW Mawson 82.35 203 LR LR 14 14 51.1
comp=Z,202nm,19.2s,baz=88,slow=34
MCK McKinley 84.12 24 *e*P **P 13 39 52.1 -1.8**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 84.12 24 *e*P **P 13 39 52.1 -1.8**
comp=Z,5.8nm,0.8s
KKAR Karatay Array 84.72 314 *e*P **P 13 39 56.7 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 84.72 314 *e*P **P 13 39 56.7 -0.7**
comp=Z,3.7nm,1.0s
COLA College 85.05 23 *e*P **P 13 39 57.2 -1.2**
COLA pmax pmax
comp=Z,10.0nm,0.7s
COLD Coldfoot 85.25 20 P **P 13 39 59.9 +0.4**
comp=Z,5.6nm,1.0s
ILAR Eielson Array 85.38 23 P **P 13 39 58.3 -1.8**
ILAR pP **pP 13 40 19.8 -0.7**
ILAR PKKPbc **PKKPbc 13 58 05.0 -2.7**
ILAR Eielson Array 85.38 23 P **P 13 39 58.3 -1.8**
comp=Z,4.0nm,0.7s,baz=256,slow=4.8,SNR=27
ILAR pP **pP 13 40 19.8 -0.7**
comp=Z,4.5nm,0.9s,baz=259,slow=4.3,SNR=6.6
ILAR PKKPbc **PKKPbc 13 58 05.0 -2.7**
comp=Z,0.3nm,0.8s,baz=24,slow=2.6,SNR=4.3
ILAR LR LR 14 12 26.7
comp=Z,181nm,20.3s,baz=59,slow=32
BVAR Borovoye Array 87.15 324 LR LR 14 16 37.1
comp=Z,123nm,20.4s,baz=80,slow=34
BRVK Borovoye 87.22 324 *e*P **P 13 40 08.4 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
DAWY Dawson 88.15 25 *e*P **P 13 40 13.7 0.0**
SYO Syowa Base 90.67 200↑ *e*PcP **PcP 13 40 28.0 +1.6**
ABKAR Akbulak array 92.99 319 *e*P **P 13 40 34.2 -2.3**
comp=Z,1.5nm,0.8s
AKTO Aktyubinsk 94.33 320 LR LR 14 25 06.9
comp=Z,138nm,18.9s,baz=100,slow=37
NVAR Mina Array Bea 97.03 52 P **P 13 40 53.8 -1.8**
NVAR Mina Array Bea 97.03 52 P **P 13 40 53.8 -1.8**
comp=Z,0.4nm,0.7s,baz=256,slow=5.7,SNR=3.7
NVAR LR LR 14 15 46.9
comp=Z,140nm,20.2s,baz=99,slow=30
YKA Yellowknife Ar 99.03 28 P **Pdif 13 41 04.0 +0.4**
YKA pP **pP 13 41 23.3 -0.9**
YKA PKKPbc **PKKPbc 13 57 28.9 -3.2**
YKA Yellowknife Ar 99.03 28 P **Pdif 13 41 03.9 +0.4**
comp=Z,0.3nm,0.8s,baz=272,slow=5.0,SNR=4.8
YKA pP **pP 13 41 23.3 -0.9**
comp=Z,0.3nm,0.7s,baz=271,slow=5.0,SNR=3.8
YKA PKKPbc **PKKPbc 13 57 28.9 -3.2**
comp=Z,0.4nm,0.8s,baz=92,slow=3.0,SNR=7.4
APA Apatity 104.68 339↓ *i*P **Pdif 13 41 37.0 +8.4**
APA MLR MLR
comp=Z,1μm,13.0s
ARCES ARCESS Array B 106.51 342 PKKPbc PKKPbc 13 57 10.6 +0.4
ARCES ARCESS Array B 106.51 342 PKKPbc PKKPbc 13 57 10.6 +0.4
comp=Z,1.2nm,0.6s,baz=264,slow=2.4,SNR=5.4
TXAR Lajitas Array 109.37 61 PKKPab PKKPab 13 57 12.2 +0.6
TXAR Lajitas Array 109.37 61 PKKPab PKKPab 13 57 12.2 +0.6
comp=Z,0.3nm,0.8s,baz=108,slow=6.8,SNR=4.4
CLL Collm 121.32 328 *e*PKPdf **PKPdf 13 46 16.0 +0.1**
PLCA Paso Flores 121.76 147 PKP **PKPdf 13 46 18.5 +1.2**
PLCA Paso Flores 121.76 147 PKP **PKPdf 13 46 18.5 +1.2**
comp=Z,2.8nm,0.7s,baz=242,slow=8.2,SNR=10
GERES GERESS Array B 122.28 326 PKP **PKPdf 13 46 16.7 -1.3**
GERES GERESS Array B 122.28 326 PKP **PKPdf 13 46 16.7 -1.3**
comp=Z,0.7nm,0.6s,baz=57,slow=1.4,SNR=8.7
TKL Tuckaleechee C 124.59 51 PKP **PKPdf 13 46 22.6 -0.1**
TKL Tuckaleechee C 124.59 51 PKP **PKPdf 13 46 22.6 -0.1**
comp=Z,4.4nm,0.8s,baz=200,slow=3.7,SNR=3.9
TSUM Tsumeb 124.65 242 *e*PKPdf **PKPdf 13 46 24.2 +0.8**
LCO Las Campanas 129.30 136 *e*PKPdf **PKPdf 13 46 33.3 +1.0**
LPAZ La Paz 138.30 123 PKPpre PKPpre 13 46 36.3
LPAZ PKP **PKiKP 13 46 51.0 -0.9**
LPAZ La Paz 138.30 123 PKhKP PKPpre 13 46 36.3
comp=Z,1.4nm,0.4s,baz=280,slow=6.5,SNR=8.7
LPAZ PKP **PKiKP 13 46 51.0 -0.9**
comp=Z,8.0nm,1.0s,baz=290,slow=6.7,SNR=12
ROSC El Rosal 138.34 90 PKP **PKPdf 13 46 51.1 +1.3**
ROSC El Rosal 138.34 90 PKP **PKPdf 13 46 51.1 +1.3**
comp=Z,7.2nm,0.4s,baz=90,slow=19,SNR=3.5
CPUP Villa Florida 139.75 144 PKP **PKPdf 13 46 52.6 +1.1**
CPUP Villa Florida 139.75 144 PKP **PKPdf 13 46 52.6 +1.1**
comp=Z,0.6nm,0.4s,baz=121,slow=3.6,SNR=3.1
SDV Santo Domingo 142.09 83 *e*PKPpre PKPpre 13 46 51.4
CELP Cerrillos 144.68 67 *e*PKPdf **PKPab 13 46 59.2 -0.1**
TOA0 Torodi Ar. Sit 145.61 284 *e*PKP **PKPdf 13 47 01.8 -0.3**
TORD Torodi Ar. Bea 145.61 284 PKPbc **PKPdf 13 47 01.6 -0.5**
TORD Torodi Ar. Bea 145.61 284 PKPbc **PKPdf 13 47 01.6 -0.5**
comp=Z,13nm,0.9s,baz=71,slow=3.0,SNR=35
MTP Monte Pirata 145.62 67 *e*PKPbc **PKPab 13 47 02.8 0.0**
SAML Samuel 145.95 116 *e*PKPdf **PKPdf 13 47 03.0 +0.2**
CDVI St. Croix 146.43 67 *e*PKPbc **PKPbc 13 47 05.0 +0.2**
BB16B Bebedouro 148.74 150 *e*P **PKPdf 13 47 06.5 -0.8**
BB16B *i* 13 47 08.8
BB16B *i* 13 47 11.4
BB16B *i* 13 47 14.8
BB16B *i* 13 47 31.1
BB16B *i* 13 47 33.3
BB16B *i* 13 47 40.0
BB16B *i* 13 47 53.3
PTGA Pitinga 151.74 103 *e*PKPdf **PKPdf 13 47 12.5 +0.3**
PTGA *e*PKPbc **PKPbc 13 47 18.6 +0.1**
KIC Kosan Boka 152.42 272 *e*P **PKPbc 13 47 18.6 -1.5**
comp=Z,130nm,1.5s
DBIC Dimbokro 152.53 273 *e*PKPbc **PKPbc 13 47 21.2 +1.0**
DBIC Dimbokro 152.53 273 PKPbc **PKPbc 13 47 20.8 +0.5**
comp=Z,4.9nm,0.8s,baz=104,slow=1.6,SNR=5.7
TIC Toumodi 152.70 273 *e*P **PKPbc 13 47 22.4 +1.7**
comp=Z,60nm,1.1s
LIC Lamto 152.70 272 *e*P **PKPbc 13 47 21.5 +0.8**
comp=Z,104nm,1.5s
BDFB Brasilia 153.48 145 PKP **PKPdf 13 47 16.0 +1.2**
BDFB PKPbc **PKiKP 13 47 23.0 +0.4**
BDFB Brasilia 153.48 145 PKP **PKPdf 13 47 16.0 +1.2**
comp=Z,7.6nm,0.8s,baz=200,slow=4.1,SNR=13
BDFB PKPbc **PKiKP 13 47 23.0 +0.4**
comp=Z,12nm,0.7s,baz=166,slow=2.3,SNR=16

MAN 10 13:31:39,5.56N×125.83E,h140km,mb4.4,ML3.2,MS3.1, 1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.02**	**301**↓	*e*P			Pn	13 32 06.5	+3.3
GSPH				*i* S			Sn	13 32 26.1	+4.5
MATI	**Mati**	**1.44**	**17**	*e*P			Pn	13 32 09.3	+2.1
MATI				*e*S			Sn	13 32 30.6	+1.8
DMPH	**Davao City--Mi**	**1.55**	**348**↑	*e*P			Pn	13 32 10.9	+2.5
DMPH				*e*S			Sn	13 32 31.5	+0.6
CTBH	**Cotabato--PC H**	**2.28**	**316**↓	*i*P			Pn	13 32 18.5	+1.5
BUKP	**Musuan**	**2.43**	**342**	*e*P			Pn	13 32 19.7	+0.8
CGP	**Cagayan de Oro**	**3.09**	**339**↓	*e*P			Pn	13 32 27.5	+0.3
CGP				*e*S			Sn	13 33 07.0	+2.6
PAGZ	**Pagadian**	**3.33**	**313**	*e*P			Pn	13 32 31.7	+1.4
BUTP	**Butuan**	**3.40**	**356**	*e*P			Pn	13 32 31.6	+0.5

IDC 10 13:42:14.7±3.0,15.79S×174.10W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/20,mbtmp3.8/4,ML2.3/1,Error ellipse: s-maj=209.7km s-min=28.4km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.92**	**50**	Pn			Pn	13 43 02.6	0.0
	25nm,0.3s,baz=4.4,slow=3.1,SNR=49								
AFI				Sn			Sn	13 43 29.0	-9.5
	102nm,0.3s,baz=84,slow=19,SNR=24								
STKA	**Stephens Creek**	**43.26**	**240**	P			P	13 50 17.9	-0.3
	1.3nm,0.9s,baz=78,slow=14,SNR=3.3								
WRA	**Warramunga Arr**	**49.10**	**257**	P			P	13 51 04.4	0.0
	0.3nm,0.7s,baz=92,slow=6.9,SNR=2.6								
ASAR	**Alice Springs**	**49.35**	**252**	P			P	13 51 06.2	-0.1
	1.9nm,0.7s,baz=86,slow=7.9,SNR=47								

*IDC **10** 13:56:57.2±0.7,20.24N×121.39E,h0km,mb3.6/11, mb1 3.8/12,mb1mx3.7/28,mbtmp3.6/12,ML3.5/1,Error ellipse: s-maj=34.3km s-min=14.5km az=65.0*
*MAN **10** 13:57:25,18.51N×121.60E,h16km,mb4.5,ML3.3,MS3.2*
ISC 10 13:56:58.4±0.7,20.19N±0.07×121.5E±0.1,h10km,n18, σ1§21/22,mb3.6/11,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.01**	**164**	*e*P			**Pg**	**13 57 36.4**	**-0.6**
SGCP				*e*S			Sn	13 57 50.3	-7.4
APYP	**Conner**	**2.33**	**185**	*e*P			**Pb**	**13 57 39.2**	**-1.2**
APYP				*e*S			Sn	13 57 56.4	-9.0
ABRA	**Dolores**	**2.63**	**196**	*e*P			**Pn**	**13 57 41.5**	**+0.7**
PALP	**Palanan**	**3.24**	**164**↓	*e*P			**Pb**	**13 57 53.5**	**-2.5**
PALP				*i* S			**Sb**	**13 58 37.3**	**+1.7**
CAUP	**Cauayan**	**3.25**	**174**	*e*P			**Pb**	**13 57 54.5**	**-1.6**
BALP	**Baler**	**4.43**	**179**	*e*P			Pn	13 58 09.7	+4.1
KSRS	**Korea Array**	**18.10**	**17**	P			**P**	**14 01 10.6**	**+0.3**
	0.1nm,0.3s,baz=198,slow=11,SNR=8.0								
CMAR	**Chiang Mai Arr**	**21.32**	**269**	P			**P**	**14 01 45.2**	**-0.5**
	0.3nm,0.5s,baz=84,slow=9.2,SNR=3.7								
SONM	**Songino Array**	**30.16**	**340**	P			**P**	**14 03 09.2**	**+0.4**
	0.1nm,0.3s,baz=159,slow=10,SNR=3.2								
MKAR	**Makanchi Array**	**41.45**	**319**	P			**P**	**14 04 45.8**	**+0.5**
	0.4nm,0.7s,baz=123,slow=6.4,SNR=4.5								
MKAR				PcP			**PcP**	**14 06 41.8**	**-1.3**
	0.3nm,0.7s,baz=92,slow=4.4,SNR=3.0								
WRA	**Warramunga Arr**	**41.83**	**162**	P			**P**	**14 04 49.0**	**+0.4**
	3.0nm,0.6s,baz=343,slow=9.1,SNR=38								
WRA				PcP			**PcP**	**14 06 45.1**	**+0.5**
	0.4nm,0.7s,baz=338,slow=3.4,SNR=3.8								
ZALV	**Zalesovo Beam**	**43.76**	**329**	P			**P**	**14 05 02.8**	**-1.2**
	0.8nm,0.6s,baz=90,slow=6.2,SNR=4.1								
ASAR	**Alice Springs**	**45.25**	**164**	P			**P**	**14 05 17.5**	**+1.3**
	0.9nm,0.4s,baz=344,slow=6.6,SNR=49								
KURBB	**Kurchatov Arra**	**45.37**	**322**	P			**P**	**14 05 16.1**	**-0.7**
	0.5nm,0.6s,baz=120,slow=7.3,SNR=6.6								
KURBB				PcP			**PcP**	**14 06 54.7**	**-1.5**
	0.2nm,0.5s,baz=114,slow=3.3,SNR=3.8								
BVAR	**Borovoye Array**	**50.96**	**323**	P			**P**	**14 05 59.8**	**-0.2**
	0.3nm,0.5s,baz=123,slow=10,SNR=2.3								
BVAR				PcP			**PcP**	**14 07 15.0**	**-1.3**
	0.6nm,0.6s,baz=64,slow=3.4,SNR=5.0								
STKA	**Stephens Creek**	**55.25**	**159**	P			**P**	**14 06 33.4**	**+1.5**
	0.8nm,0.7s,baz=356,slow=9.0,SNR=4.3								
AKTO	**Aktyubinsk**	**57.84**	**317**	P			**P**	**14 06 51.0**	**+0.8**
	0.6nm,0.5s,baz=45,slow=13,SNR=3.3								
YKA	**Yellowknife Ar**	**86.53**	**23**	P			**P**	**14 09 41.6**	**+0.2**
	0.2nm,0.6s,baz=313,slow=4.6,SNR=8.2								

IDC 10 14:26:35.0±2.5,3.88S×129.66E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.2/21,mbtmp3.2/3,ML2.6/1,Error ellipse: s-maj=167.1km s-min=29.3km az=69.0,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.61**	**164**	Pn			Pn	14 30 27.4	-2.0
	0.0nm,0.3s,baz=347,slow=12,SNR=2.6								
ASAR	**Alice Springs**	**20.10**	**169**	P			P	14 31 11.3	+0.8
	0.3nm,0.6s,baz=348,slow=12,SNR=11								
MKAR	**Makanchi Array**	**65.45**	**326**	P			P	14 37 19.8	0.0
	0.3nm,0.4s,baz=118,slow=6.9,SNR=5.2								

*ISCJB **10** 14:28:59.7±0.3,7.11S±0.03×129.43E±0.04,h139km, mb3.8/8,Error ellipse: s-maj=5.3km s-min=3.9km az=9.2*
*IDC **10** 14:29:00.8±2.7,7.12S×129.36E,h140km±26km,mb3.6/7, mb1 3.8/10,mb1mx3.6/20,mbtmp3.7/10,Error ellipse: s-maj=31.1km s-min=15.2km az=78.0*
*DJA **10** 14:29:02.6±0.3,7.5S±3.3×12.9E±1.1,h154km±8km,M4.7/8, mb4.5/8,mB5.2/3,MLv4.8/8,Mw(mB)4.6/3*
ISC 10 14:29:00.8±0.5,7.11S±0.05×129.45E±0.05,h139km,n38, σ1§81/40,mb3.8/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.03**	**115**	P			Pn	14 29 40.6	+5.0
SAUI				S			Sn	14 30 10.4	+8.1
NLAI	**Namlea**	**4.50**	**329**	P			Pn	14 30 10.7	+3.2
FAKI	**Fak Fak**	**5.01**	**34**	P			**Pn**	**14 30 15.6**	**+1.4**
FAKI				S			**Sn**	**14 31 10.0**	**-1.4**
FAKI	**Fak Fak**	**5.01**	**34**	P			**Pn**	**14 30 15.1**	**+0.8**
	baz=4.9,SNR=158								
FAKI				S			**Sn**	**14 31 10.1**	**-1.3**
	baz=4.9,SNR=14								
SOEI	**Soe**	**5.76**	**243**	P			**Pn**	**14 30 24.3**	**0.0**
	279nm,0.9s,3μm1.0nm								
SOEI				S			**Sn**	**14 31 30.9**	**+1.4**
	279nm,0.9s,3μm1.0nm								
SOEI	**Soe**	**5.76**	**243**	P			**Pn**	**14 30 24.5**	**+0.1**
	baz=5.9,SNR=42								
MTN	**Manton Dam**	**5.93**	**164**	P			**Pn**	**14 30 28.4**	**+1.9**
	baz=6.1,SNR=160								
MTN				S			**Sn**	**14 31 32.6**	**-0.9**
	baz=6.1,SNR=9.1								
KDU	**Kakadu**	**6.29**	**152**	P			**Pn**	**14 30 33.0**	**+1.7**
	baz=6.4,SNR=194								
KDU				S			**Sn**	**14 31 40.3**	**-1.8**
	baz=6.4,SNR=8.5								
SWI	**Sorong**	**6.46**	**16**	P			**Pn**	**14 30 35.6**	**+1.9**
	25nm,0.8s,2μm0.4nm								
SWI				S			**Sn**	**14 31 46.1**	**-0.2**
	25nm,0.8s,2μm0.4nm								
LBMI	**Labuha**	**6.72**	**343**	P			Pn	14 30 40.1	+3.0
	34nm,1.2s,0.2nm								
MWPI	**Manokwari, Pap**	**7.66**	**37**	P			x	14 30 52.5	
	95nm,0.7s,0.6nm								
KNRA	**Kununurra**	**8.54**	**184**	P			**Pn**	**14 31 01.1**	**-0.3**
	baz=8.7,SNR=26								
KNRA				S			Sn	14 32 29.2	-7.2
	baz=8.7,SNR=25								
BAKI	**Biak**	**8.87**	**49**	S			**Sn**	**14 32 44.2**	**-0.1**
LBFI	**Labuhan Bajo,**	**9.57**	**261**	P			x	14 31 14.3	
	53nm,2.0s								
FITZ	**Fitzroy Crossi**	**11.54**	**198**	P			**Pn**	**14 31 38.9**	**-2.5**
	1.3nm,0.3s,baz=24,slow=12,SNR=58								
FITZ				S			Sn	14 33 37.8	-11
	4.3nm,0.3s,baz=78,slow=20,SNR=10								
WRA	**Warramunga Arr**	**13.61**	**160**	P			**Pn**	**14 32 06.6**	**-1.7**
	2.1nm,0.3s,baz=336,slow=13,SNR=118								
WRA				S			Sn	14 34 29.6	-9.1
	2.6nm,0.3s,baz=331,slow=22,SNR=12								
COEN	**Coen**	**15.11**	**118**	P			**P**	**14 32 30.7**	**+1.7**
	baz=15,SNR=23								
COEN				S			**Sn**	**14 35 09.8**	**-5.0**
	baz=15,SNR=5.2								
JAGI	**Jajag, Banyuwa**	**15.22**	**264**	P			**Pn**	**14 32 27.1**	**-1.5**
	baz=15,SNR=3.6								
GMJI	**Gumukmas**	**15.90**	**265**	P			**Pn**	**14 32 35.9**	**-1.1**
QIS	**Mount Isa**	**16.60**	**145**	P			**P**	**14 32 47.9**	**+2.3**
	baz=17,SNR=21								
ASAR	**Alice Springs**	**17.01**	**166**	P			**Pn**	**14 32 50.8**	**+0.3**
	1.8nm,0.3s,baz=342,slow=8.4,SNR=120								
ASAR				S			S	14 35 49.7	-11
	0.2nm,0.3s,baz=322,slow=16,SNR=4.3								
ASAR				ScP			**ScP**	**14 40 47.2**	**-3.1**
	0.1nm,0.3s,baz=341,slow=2.3,SNR=5.2								
WRKA	**Warakurna**	**17.86**	**183**	P			**Pn**	**14 33 00.9**	**+0.3**
	baz=18,SNR=30								
WRKA				S			S	14 36 10.0	-7.7
	baz=18,SNR=4.3								
CTA	**Charters Tower**	**20.78**	**130**	P			Pn	14 33 35.2	+0.1
	8.6nm,0.9s,baz=304,slow=11,SNR=5.3								
MEEK	**Meekatharra**	**21.99**	**207**	P			**P**	**14 33 45.0**	**+1.2**
	baz=22,SNR=5.1								
QLP	**Quilpie**	**23.93**	**146**	P			**P**	**14 34 04.6**	**+2.5**
	baz=24,SNR=22								
PMBI	**Palembang**	**24.93**	**278**	S			**S**	**14 38 21.1**	**-3.6**
	baz=25,SNR=6.5								
BBOO	**Buckleboo**	**26.30**	**167**	P			**P**	**14 34 24.6**	**+1.1**
	baz=26,SNR=12								
STKA	**Stephens Creek**	**27.12**	**157**	P			**P**	**14 34 31.9**	**+1.1**
	4.0nm,0.5s,baz=326,slow=9.2,SNR=11								
HTT	**Hallett**	**27.62**	**163**	P			**P**	**14 34 37.5**	**+2.1**
	baz=28,SNR=10								
CMSA	**Cobar Meteorol**	**28.65**	**150**	P			**P**	**14 34 46.7**	**+2.3**
	baz=29,SNR=7.2								
ARPS	**Mount Arapiles**	**31.61**	**161**	P			**P**	**14 35 12.9**	**+2.4**
	baz=32,SNR=15								
CMAR	**Chiang Mai Arr**	**39.39**	**311**	P			**P**	**14 36 16.6**	**-0.6**
	0.5nm,0.4s,baz=137,slow=7.7,SNR=4.3								
MJAR	**Matsushiro Arr**	**44.19**	**10**	P			**P**	**14 36 53.9**	**-2.0**
	0.7nm,0.7s,baz=184,slow=9.9,SNR=3.5								
ASAJ	**Asahikawa**	**52.36**	**12**	P			**P**	**14 37 58.5**	**+0.1**
	0.3nm,0.3s,baz=163,slow=17,SNR=4.6								
SONM	**Songino Array**	**58.38**	**342**	P			**P**	**14 38 41.4**	**-0.2**
	0.2nm,0.4s,baz=176,slow=8.2,SNR=4.7								
PETK	**Petropavlovsk-**	**64.60**	**18**	P			**P**	**14 39 23.7**	**+0.5**
	4.0nm,1.0s,baz=191,slow=7.8,SNR=4.0								
MKAR	**Makanchi Array**	**68.02**	**327**	P			**P**	**14 39 45.1**	**0.0**
	0.9nm,0.4s,baz=120,slow=7.7,SNR=15								
SEY	**Seymchan**	**72.02**	**11**	P			**P**	**14 40 09.7**	**+0.6**
	2.9nm,0.8s,baz=11,slow=23,SNR=7.8								

*ISCJB **10** 14:36:41.4±2.6,12.01S±0.06×166.33E±0.09,h3km±15km, mb4.6/34,MS4.1/11,Error ellipse: s-maj=15.5km s-min=9.7km az=158.0*
*IDC **10** 14:36:42.3±0.7,11.95S×166.30E,h0km,mb4.4/16, mb1 4.5/19,mb1mx4.4/25,mbtmp4.4/19,ML4.2/3,MS3.9/9, Ms1 3.9/9,ms1mx3.6/30,Error ellipse: s-maj=21.5km s-min=14.8km az=93.0*
*BJI **10** 14:36:42.8,11.70S×166.75E,h16km,mB5.3/16,mb4.7/37, Ms4.9/12,Ms7 4.6/10*
*NEIC **10** 14:36:47.8±0.4,11.95S×166.24E,h35km,mb4.7/8,Error ellipse: s-maj=10.5km s-min=7.4km az=94.0*
ISC 10 14:36:45.7±0.6,12.04S±0.06×166.26E±0.07,h20km±2km, n100,σ1§59/127,mb4.7/34,MS4.0/11,2C,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.72**	**292**	Pn			**Pn**	**14 38 23.5**	**+0.1**
HNR				Sn			Sn	14 39 35.3	-4.2
HNR	**Honiara**	**6.72**	**292**	Pn			**Pn**	**14 38 23.5**	**+0.1**
	44nm,0.3s,baz=113,slow=5.8,SNR=18								
HNR				Sn			**Sn**	**14 39 35.3**	**-4.2**
	25nm,0.3s,baz=185,slow=23,SNR=6.6								
HNR	**Honiara**	**6.72**	**292**	*e*P			**Pn**	**14 38 22.0**	**-1.4**
HNR				*e*S			**Sn**	**14 39 34.0**	**-5.5**
DZM	**Mont Dzumac**	**9.98**	**179**	*e*Pn			**Pn**	**14 39 10.0**	**+1.8**
	74nm,0.8s								
DZM				*e*LR			LR	14 41 22.2	
	461nm,23.3s								
DZM	**Mont Dzumac**	**9.98**	**179**	Pn			**Pn**	**14 39 10.3**	**+2.1**
DZM				Sn			**Sn**	**14 40 58.3**	**-1.5**
DZM	**Mont Dzumac**	**9.98**	**179**	Pn			**Pn**	**14 39 10.3**	**+2.1**
	2.2nm,0.3s,baz=46,slow=23,SNR=25								
DZM				Sn			**Sn**	**14 40 58.3**	**-1.5**
	1.2nm,0.3s,baz=343,slow=19,SNR=2.8								
DZM				LR			LR	14 42 22.6	
	comp=Z,240nm,20.9s,baz=29,slow=34								
DZM	**Mont Dzumac**	**9.98**	**179**	*e*P			**Pn**	**14 39 08.7**	**+0.5**
DZM	**Mont Dzumac**	**9.98**	**179**	*e*P			**Pn**	**14 39 08.7**	**+0.5**
PMG	**Port Moresby**	**18.95**	**276**	P			**P**	**14 41 05.8**	**-0.1**
PMG	**Port Moresby**	**18.95**	**276**	P			**P**	**14 41 05.8**	**-0.1**
	0.4nm,0.3s,baz=60,slow=8.1,SNR=4.5								
PMG				LR			LR	14 47 23.4	
	comp=Z,422nm,21.6s,baz=117,slow=34								
CTA	**Charters Tower**	**20.81**	**245**	P			**P**	**14 41 26.9**	**+0.7**
CTA	**Charters Tower**	**20.81**	**245**	P			**P**	**14 41 26.9**	**+0.7**
	17nm,1.0s,baz=74,slow=14,SNR=5.8								
CTAO	**Charters Tower**	**20.81**	**245**	*e*P			**P**	**14 41 27.1**	**+0.9**
	33nm,1.2s								
AFI	**Afiamalu**	**21.48**	**97**	LR			LR	14 48 41.0	
	comp=Z,408nm,19.0s,baz=147,slow=34								
ARMA	**Armidale**	**22.77**	**214**	*e*P			**P**	**14 41 48.4**	**+1.2**
	22nm,0.9s								
STKA	**Stephens Creek**	**30.09**	**225**	*e*P			**P**	**14 42 54.5**	**+0.4**
	1.3nm,0.8s								
STKA	**Stephens Creek**	**30.09**	**225**	P			**P**	**14 42 54.5**	**+0.4**
	1.7nm,0.6s,baz=62,slow=12,SNR=5.6								
STKA				LR			LR	14 54 10.5	
	comp=Z,298nm,20.4s,baz=27,slow=35								
WRA	**Warramunga Arr**	**31.64**	**252**	P			**P**	**14 43 06.6**	**-1.3**
WRA				PcP			**PcP**	**14 45 59.3**	**-0.6**
WRA				ScP			**ScP**	**14 49 43.6**	**+1.3**
WRA	**Warramunga Arr**	**31.64**	**252**	P			**P**	**14 43 06.6**	**-1.3**
	1.6nm,0.7s,baz=82,slow=9.2,SNR=12								
WRA				PcP			**PcP**	**14 45 59.3**	**-0.6**
	2.5nm,0.9s,baz=82,slow=3.7,SNR=8.8								
WRA				ScP			**ScP**	**14 49 43.6**	**+1.3**
	1.4nm,1.2s,baz=79,slow=4.3,SNR=4.7								
WRA				LR			LR	14 55 17.0	
	comp=Z,147nm,18.5s,baz=85,slow=35								
RPZ	**Rata Peaks**	**31.84**	**173**	P			**P**	**14 43 10.5**	**+1.2**
RPZ	**Rata Peaks**	**31.84**	**173**	P			**P**	**14 43 10.5**	**+1.2**
	22nm,0.7s,baz=340,slow=1.6,SNR=6.7								
RPZ				LR			LR	14 53 12.8	
	comp=Z,152nm,19.7s,baz=151,slow=31								
AS31	**Alice Springs**	**32.82**	**245**	*e*P			**P**	**14 43 16.5**	**-1.7**
ASAR	**Alice Springs**	**32.82**	**245**	P			**P**	**14 43 16.6**	**-1.6**
ASAR				PcP			**PcP**	**14 46 03.0**	**-0.2**
ASAR				ScP			**ScP**	**14 49 47.0**	**+0.6**
ASAR	**Alice Springs**	**32.82**	**245**	P			**P**	**14 43 16.6**	**-1.6**
	2.6nm,0.6s,baz=69,slow=9.6,SNR=49								
ASAR				PcP			**PcP**	**14 46 03.0**	**-0.2**
	3.1nm,0.9s,baz=72,slow=2.4,SNR=14								
ASAR				ScP			**

KMI pmax pmax
comp=Z,9.0nm,1.2s
HHC Hu-ho-hao-te 72.91 320 *e*P **P** **14 48 14.1 +0.3**
HHC pP **pP** **14 48 19.3 -0.9**
HHC PP **PP** **14 50 55.5 -0.9**
HHC sS SKiKP 14 57 53.8 +7.4
HHC SS **SS** **15 02 25.3 +4.9**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,200nm,8.2s
HHC LR LR
comp=N,250nm,22.2s
HHC LR LR
comp=E,330nm,20.8s
HHC LR LR
comp=Z,270nm,25.5s
CM31 Chiang Mai Arr 72.97 294 *e*P **P** **14 48 15.7 +1.2**
1.3nm,0.4s
CMAR Chiang Mai Arr 72.97 294 P **P** **14 48 15.4 +0.9**
CMAR Chiang Mai Arr 72.97 294 P **P** **14 48 15.4 +0.9**
1.0nm,0.6s,baz=124,slow=4.9,SNR=13
CD2 Chengdu 73.60 307 *e*P **P** **14 48 19.5 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 75.79 312 *e*P **P** **14 48 33.2 +2.4**
LZH pP **pP** **14 48 36.5 -0.7**
LZH sP **sP** **14 48 38.0 -1.6**
LZH PP **PP** **14 51 24.5 +3.4**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,70nm,8.6s
LZH LR LR
comp=N,380nm,15.0s
LZH LR LR
comp=E,370nm,14.8s
LZH LR LR
comp=Z,420nm,18.5s
QSPA South Pole Qui 77.98 180 *e*P **P** **14 48 42.8 +0.2**
14nm,1.1s
ULN Ulaanbaatar 79.39 324 *e*P **P** **14 48 50.6 -0.1**
21nm,0.9s
SONM Songino Array 79.76 324 P **P** **14 48 53.0 +0.4**
SONM Songino Array 79.76 324 P **P** **14 48 53.0 +0.4**
4.9nm,0.7s,baz=137,slow=4.6,SNR=37
GTA Gaotai 80.11 314 *e*P **P** **14 48 56.2 +1.5**
GTA pP **pP** **14 49 00.6 -0.5**
GTA sP **sP** **14 49 03.8 +0.3**
GTA pmax pmax
comp=Z,13nm,1.2s
TLY Talaya 83.22 326 *e*P **P** **14 49 11.1 +0.4**
7.1nm,0.8s
ILAR Eielson Array 84.29 18 P **P** **14 49 14.8 -1.0**
ILAR Eielson Array 84.29 18 P **P** **14 49 14.8 -1.0**
0.8nm,0.7s,baz=232,slow=5.3,SNR=9.4
TAPN Taplejung 85.53 299 *e*P **P** **14 49 24.4 +1.1**
13nm,1.1s
ODAN Odare 85.67 298 *e*P **P** **14 49 24.4 +0.5**
20nm,1.0s
RAMN Ramite 86.37 298 *e*P **P** **14 49 28.2 +0.8**
JIRN Jiri 86.91 299 *e*P **P** **14 49 30.8 +0.6**
GUN Gumba 87.24 299 *e*P **P** **14 49 32.8 +1.0**
12nm,0.9s
PKI Pulchoki 87.56 299 *e*P **P** **14 49 33.2 -0.1**
PKIN Phulchoki 87.57 299 *e*P **P** **14 49 33.2 -0.1**
KKN Kakani 87.72 299 *e*P **P** **14 49 34.1 +0.2**
DMN Daman 87.83 299 *e*P **P** **14 49 34.7 +0.2**
14nm,0.6s
GKN Gorkha 88.33 299 *e*P **P** **14 49 36.5 -0.2**
12nm,0.9s
KOLN Koldanda 89.16 298 *e*P **P** **14 49 40.0 -0.7**
DANN Dangsing 89.16 299 *e*P **P** **14 49 40.2 -0.6**
10nm,0.7s
WMQ Urumqi 90.15 315 P **P** **14 49 44.7 -0.1**
WMQ pP **pP** **14 49 49.5 -1.9**
WMQ sP **sP** **14 49 51.7 -2.0**
WMQ pmax pmax
comp=Z,2.0nm,0.8s
WMQ LR LR
comp=N,210nm,30.1s
WMQ LR LR
comp=E,56nm,20.4s
WMQ LR LR
comp=Z,96nm,29.0s
SYO Syowa Base 90.99 197⇑ *e*P P 14 49 42.0 -6.2
SYO Syowa Base 90.99 197⇑ *e*P **P** **14 49 46.5 -1.7**
MK31 Makanchi Array 94.58 317 *e*P **P** **14 50 05.2 0.0**
MKAR Makanchi Array 94.58 317 P **P** **14 50 05.3 +0.1**
MKAR Makanchi Array 94.58 317 P **P** **14 50 05.3 +0.1**
13nm,0.6s,baz=93,slow=6.5,SNR=161
ZAA0 Zalesovo Array 94.65 324 *e*P **P** **14 50 04.4 -0.9**
ZALV Zalesovo Beam 94.65 324 P **P** **14 50 04.4 -0.9**
ZALV Zalesovo Beam 94.65 324 P **P** **14 50 04.4 -0.9**
4.1nm,0.8s,baz=106,slow=4.8,SNR=19
YKA Yellowknife Ar 95.61 27 P **P** **14 50 06.9 -2.6**
YKA Yellowknife Ar 95.61 27 P **P** **14 50 06.9 -2.6**
0.1nm,0.7s,baz=257,slow=4.6,SNR=3.2
KURK Kurchatov 97.72 320 P **P** **14 50 18.4 -0.9**
KURBB Kurchatov Arra 97.76 320 P **P** **14 50 18.4 -1.1**
0.8nm,0.6s,baz=100,slow=4.3,SNR=17
KSH Kashi 97.77 309 *e*P **P** **14 50 18.0 -2.0**
KSH *e*SKS **SKSac** **15 00 55.1 -1.8**
KSH *e*S **ScS** **15 01 51.3 +6.0**
KSH *e*sS **sS** **15 02 00.3 +4.3**
KSH pmax pmax
comp=Z,4.0nm,1.1s
BVAR Borovoye Array 103.04 322 P **Pdif** **14 50 41.5 -1.5**
BVAR Borovoye Array 103.04 322 P **Pdif** **14 50 41.5 -1.5**
1.3nm,0.8s,baz=98,slow=6.1,SNR=5.6
ARCES ARCESS Array B 117.41 345 PKP **PKPdf** **14 55 28.6 -0.9**
ARCES ARCESS Array B 117.41 345 PKP **PKPdf** **14 55 28.6 -0.9**
6.6nm,1.0s,baz=40,slow=2.1,SNR=6.1
FINES FINESS Array B 122.87 339 PKP **PKPdf** **14 55 39.4 -0.8**
FINES FINESS Array B 122.87 339 PKP **PKPdf** **14 55 39.4 -0.8**
2.6nm,1.0s,baz=112,slow=2.1,SNR=6.8
LSZ Lusaka 130.41 238 *e*PKPdf **PKPdf** **14 55 56.6 +0.5**
KEST Kesra 148.50 322 PKPbc **PKPbc** **14 56 31.3 -0.4**
KEST Kesra 148.50 322 PKPbc **PKPbc** **14 56 31.3 -0.4**
1.9nm,0.8s,baz=109,slow=4.2,SNR=3.6
ESDC Sonseca Array 151.14 344 PKPbc **PKPbc** **14 56 37.9 -0.2**
ESDC Sonseca Array 151.14 344 PKPbc **PKPbc** **14 56 37.9 -0.2**
0.2nm,0.3s,baz=18,slow=4.0,SNR=3.8
TORD Torodi Ar. Bea 164.90 276 PKP **PKPdf** **14 56 49.3 -0.2**
TORD PKPab **PKPab** **14 57 45.3 -0.4**
TORD Torodi Ar. Bea 164.90 276 PKP **PKPdf** **14 56 49.3 -0.2**
1.6nm,0.9s,baz=1.4,slow=2.1,SNR=7.2
TORD PKPab **PKPab** **14 57 45.3 -0.4**
3.1nm,1.2s,baz=88,slow=3.5,SNR=3.8

OMAN ***10*** *15:20:28.0±99.0, 27°.79N×55°.13E, h20km±999km, Error ellipse: s-maj=261.9km s-min=35.2km az=342.0*
IDC ***10*** *15:20:31.8±0.8, 27°.06N×55°.52E, h0km, mb4.1/26, mb1 4.2/30, mb1mx4.2/39, mbtmp4.1/30, ML4.0/4, MS3.6/8, Ms1 3.6/8, ms1mx3.2/43, Error ellipse: s-maj=19.4km s-min=9.3km az=1.0*
TEH ***10*** *15:20:32.5, 27°.08N×55°.53E, h15km, ML4.2*
THR ***10*** *15:20:33.3±0.4, 27°.05N×55°.50E, h18km±12km, ML3.8*
ISCJB ***10*** *15:20:33.8±0.2, 27°.14N±0°.02×55°.47E±0°.03, h12km, mb4.2/50, MS3.5/9, Error ellipse: s-maj=3.4km s-min=3.2km az=6.0*
NEIC ***10*** *15:20:33.2±0.4, 26°.99N×55°.57E, h10km, mb4.7/12, ML4.2(THR), MN4.2(TEH), Error ellipse: s-maj=6.8km s-min=4.7km az=171.0*
MOS ***10*** *15:20:34.6±1.5, 26°.86N×55°.61E, h33km, mb4.8/19, Error ellipse: s-maj=9.7km s-min=4.4km az=123.4*
CSEM ***10*** *15:20:35.6±0.2, 27°.14N×55°.51E, h15km, mb4.4/17, Ms3.7, Error ellipse: s-maj=5.7km s-min=4.7km az=79.0*
ISN ***10*** *15:20:36.7±1.3, 26°.22N×53°.96E, h18km±257km, ML4.1*
DSN ***10*** *15:20:38.5±0.3, 27°.08N×55°.72E, h15km, mb3.9/7, ML4.7/4, Ms4.0/2, Error ellipse: s-maj=8.8km s-min=3.1km az=84.0*
BJI ***10*** *15:20:38.7, 27°.46N×55°.85E, h15km, mB4.8/5, mb4.2/10, Ms4.4/3, Ms7 4.2/3*
ISC 10 15:20:34.3±0.3, 27°.10N±0°.03×55°.59E±0°.03, h12km, n412, σ1§44/392, mb4.3/49, MS3.5/9, 16C-15D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.33**	**152**	P	**Pg**	**15 21 00.5**	**+0.5**
	SNR=1615						
BANOM	**Banah**	**1.33**	**152**	P	**Pg**	**15 21 00.5**	**+0.5**
	SNR=1000						
NAZ	**Nazwa, Dubai**	**2.11**	**178**⇓	*e*P	**Pb**	**15 21 13.3**	**+0.8**
	SNR=20						
NAZ	**Nazwa, Dubai**	**2.11**	**178**	P	**Pb**	**15 21 13.3**	**+0.8**
	SNR=20						
HATD	**Hatta, Dubai**	**2.32**	**168**	*e*P	**Pb**	**15 21 15.3**	**-0.8**
	SNR=12						
HATD	**Hatta, Dubai**	**2.32**	**168**	P	**Pb**	**15 21 15.3**	**-0.8**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.35**	**180**⇑	*e*P	**Pb**	**15 21 16.1**	**-0.5**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**2.35**	**180**	P	**Pb**	**15 21 16.1**	**-0.5**
	SNR=14						
ASHO	**Ashiyiah**	**2.44**	**170**	P	**Pb**	**15 21 17.0**	**-1.3**
	SNR=31						
ASHO	**Ashiyiah**	**2.44**	**170**	P	**Pb**	**15 21 16.8**	**-1.5**
	SNR=80						
ASHO	**Ashiyiah**	**2.44**	**170**	P	**Pb**	**15 21 16.8**	**-1.5**
	SNR=80						
ASUD	**Al Ashush, Dub**	**2.48**	**186**⇓	*e*P	**Pb**	**15 21 18.8**	**0.0**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.48**	**186**	P	**Pb**	**15 21 18.8**	**0.0**
	SNR=29						
KRBR	**Kerman**	**3.05**	**19**	*e*Pn	**Pn**	**15 21 24.0**	**+1.4**
KRBR				*e*S	**Sn**	**15 22 01.0**	**+1.8**
KRBR	**Kerman**	**3.05**	**19**	*e*Pn	**Pn**	**15 21 24.0**	**+1.4**
KRBR				*e*S	**Sn**	**15 22 01.3**	**+1.8**
KRBR	**Kerman**	**3.05**	**19**	*e*Pn	**Pn**	**15 21 24.3**	**+1.7**
KRBR				AML	AML	15 22 13.5	
	comp=N,436nm,0.6s						
KRBR				AML	AML	15 22 19.6	
	comp=E,303nm,0.5s						
ISRV	**Sarvestan**	**3.15**	**317**	*e*Pn	**Pn**	**15 21 25.0**	**+0.9**
ISRV				*e*Sg	**Sg**	**15 22 16.7**	**+1.0**
ISRV				*e*		15 22 38.1	
	comp=Z,24μm,0.5s						
ISRV	**Sarvestan**	**3.15**	**317**	Pn	**Pn**	**15 21 25.0**	**+0.9**
ISRV				Sg	**Sg**	**15 22 16.6**	**+1.0**
ISRV	**Sarvestan**	**3.15**	**317**	*e*Pn	**Pn**	**15 21 25.0**	**+0.9**
ISRV				*e*Sg	**Sg**	**15 22 16.7**	**+1.0**
IPAR	**Pars**	**3.53**	**321**	*e*Pn	**Pn**	**15 21 30.4**	**+1.1**
IPAR	**Pars**	**3.53**	**321**	Pn	**Pn**	**15 21 30.4**	**+1.1**
IPAR	**Pars**	**3.53**	**321**	*e*Pn	**Pn**	**15 21 30.4**	**+1.1**
ARQ	**Araqi**	**3.84**	**167**	P	Pn	15 21 37.1	+3.8
	SNR=7.3						
ARQ	**Araqi**	**3.84**	**167**	P	Pn	15 21 37.1	+3.8
	SNR=6.5						
ARQ	**Araqi**	**3.84**	**167**	P	Pn	15 21 37.1	+3.8
	SNR=7.3						
IKAZ	**Kazeroun**	**4.25**	**310**	*e*Pn	**Pn**	**15 21 40.2**	**+1.0**
IKAZ				*e*		15 23 11.6	
	comp=Z,10μm,0.5s						
IKAZ	**Kazeroun**	**4.25**	**310**	Pn	**Pn**	**15 21 40.1**	**+1.0**
IKAZ	**Kazeroun**	**4.25**	**310**	Pn	**Pn**	**15 21 40.1**	**+1.0**
IMEH	**Mehriz**	**4.36**	**349**	*e*Pn	**Pn**	**15 21 41.8**	**+1.2**
IMEH				*e*		15 23 01.1	
	comp=Z,2μm,0.5s						
IMEH	**Mehriz**	**4.36**	**349**	Pn	**Pn**	**15 21 41.8**	**+1.2**
IMEH	**Mehriz**	**4.36**	**349**	*e*Pn	**Pn**	**15 21 41.8**	**+1.2**
IBAF	**Bafgh**	**4.47**	**360**	*e*Pn	**Pn**	**15 21 43.1**	**+1.0**
IBAF				*e*		15 23 16.6	
	comp=Z,3μm,0.7s						
IBAF	**Bafgh**	**4.47**	**360**	Pn	**Pn**	**15 21 43.0**	**+1.0**
IBAF	**Bafgh**	**4.47**	**360**	*e*Pn	**Pn**	**15 21 43.1**	**+1.0**
SMDO	**Samad**	**4.60**	**151**	P	Pn	15 21 47.6	+3.8
	SNR=11						
SMDO	**Samad**	**4.60**	**151**	P	Pn	15 21 47.6	+3.8
	SNR=11						
CHBR	**Chabahar**	**4.64**	**108**	*e*Pn	**Pn**	**15 21 45.6**	**+1.4**
	comp=Z,27nm,0.5s						
CHBR	**Chabahar**	**4.64**	**108**	*e*Pn	**Pn**	**15 21 45.6**	**+1.4**
CHBR				AML	AML	15 23 12.3	
	comp=E,27nm,0.5s						
SLWS		**5.01**	**244**	S	**Sn**	**15 22 48.1**	**+0.9**
	baz=242						
SLWS		**5.01**	**244**	P	**Pn**	**15 21 50.7**	**+1.3**
	baz=242						
SLWS		**5.01**	**244**	P	**Pn**	**15 21 51.0**	**+1.6**
SLWS				S	**Sn**	**15 22 48.0**	**+0.7**
ISAD	**Sadrabad**	**5.07**	**341**	*e*Pn	**Pn**	**15 21 52.2**	**+1.7**
ISAD				*e*		15 22 53.3	
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**5.07**	**341**	*e*Pn	**Pn**	**15 21 52.2**	**+1.7**
ZHSF	**Zahedan**	**5.21**	**60**	*e*Pn	**Pn**	**15 21 53.0**	**+0.8**
ZHSF				*e*Sg	**Sg**	**15 23 17.0**	**-4.5**
ZHSF	**Zahedan**	**5.21**	**60**	*e*Pn	**Pn**	**15 21 53.0**	**+0.8**
ZHSF	**Zahedan**	**5.21**	**60**	*e*Pn	**Pn**	**15 21 54.0**	**+1.8**
ZHSF				*e*Sg	**Sg**	**15 23 17.5**	**-4.0**
ICHK	**Chekchek**	**5.23**	**349**	*e*Pn	**Pn**	**15 21 53.5**	**+0.9**
ICHK				*e*		15 23 27.4	
	comp=Z,936nm,0.3s						
ICHK	**Chekchek**	**5.23**	**349**	Pn	**Pn**	**15 21 53.4**	**+0.9**
ICHK	**Chekchek**	**5.23**	**349**	*e*Pn	**Pn**	**15 21 53.4**	**+0.9**
BTHS		**5.26**	**236**	S	**Sn**	**15 22 52.8**	**-0.5**
	baz=235						
BTHS		**5.26**	**236**	P	**Pn**	**15 21 53.3**	**+0.5**
	baz=235						
BTHS		**5.26**	**236**	P	**Pn**	**15 21 53.0**	**+0.2**
BTHS				S	**Sn**	**15 22 53.0**	**-0.3**
BOQSS		**5.71**	**259**	S	**Sn**	**15 23 03.6**	**-0.7**
	baz=257						
BOQSS		**5.71**	**259**	P	**Pn**	**15 21 59.2**	**+0.3**
	baz=257						
BOQSS		**5.71**	**259**	P	**Pn**	**15 21 59.0**	**+0.1**
BOQSS				S	**Sn**	**15 23 04.0**	**-0.4**
IKOO	**Kooshah**	**6.08**	**28**	*e*		15 22 31.9	
	comp=Z,649nm,0.4s						
IKOO				*e*Pn	**Pn**	**15 22 05.4**	**+1.2**
ITEG	**Tejag**	**6.39**	**25**	*e*Pn	**Pn**	**15 22 09.8**	**+1.3**
ITEG				*e*		15 24 16.2	
	comp=Z,481nm,0.6s						
ITEG	**Tejag**	**6.39**	**25**	*e*Pn	**Pn**	**15 22 09.8**	**+1.3**
IZEF	**Zefreh**	**6.43**	**335**	*e*Pn	**Pn**	**15 22 08.9**	**-0.2**
IZEF				*e*		15 23 23.1	
	comp=Z,328nm,0.3s						
IZEF	**Zefreh**	**6.43**	**335**	*e*Pn	**Pn**	**15 22 08.9**	**-0.2**
TABS	**Tabas**	**6.66**	**11**	*e*Pn	**Pn**	**15 22 13.6**	**+1.5**
TABS	**Tabas**	**6.66**	**11**	*e*Pn	**Pn**	**15 22 13.6**	**+1.5**
IDAH	**Dahanechah**	**6.73**	**32**	*e*Pn	**Pn**	**15 22 15.0**	**+1.8**
IDAH				*e*		15 24 29.8	
	comp=Z,2μm,1.1s						
IDAH	**Dahanechah**	**6.73**	**32**	*e*Pn	**Pn**	**15 22 15.0**	**+1.8**
KFJS		**6.87**	**281**	S	**Sn**	**15 23 27.9**	**-5.1**
	baz=279						
KFJS		**6.87**	**281**	P	**Pn**	**15 22 14.9**	**0.0**
	baz=279						
KFJS		**6.87**	**281**	P	**Pn**	**15 22 15.0**	**0.0**
KFJS				S	**Sn**	**15 23 28.0**	**-5.1**
IPIR	**Pirpir**	**6.90**	**325**	*e*Pn	**Pn**	**15 22 15.5**	**-0.1**
IPIR				*e*		15 23 36.8	
	comp=N,1μm,0.2s						
IPIR	**Pirpir**	**6.90**	**325**	*e*Pn	**Pn**	**15 22 15.5**	**-0.1**
IKLH	**Kolahrood**	**7.10**	**332**	*e*Pn	**Pn**	**15 22 19.2**	**+0.8**
IKLH				*e*		15 23 51.9	
	comp=Z,585nm,0.3s						
IKLH	**Kolahrood**	**7.10**	**332**	*e*Pn	**Pn**	**15 22 19.2**	**+0.8**
QAM	**Ghamsar**	**7.54**	**333**	*e*Pn	**Pn**	**15 22 25.3**	**+1.0**
QAM				*e*Sg	**Sn**	**15 23 47.2**	**-2.7**
SHGR	**Shooshtar-Gavs**	**7.73**	**312**	*e*Pn	**Pn**	**15 22 27.0**	**+0.3**
SHGR	**Shooshtar-Gavs**	**7.73**	**312**	*e*Pn	**Pn**	**15 22 27.1**	**+0.3**
SHGR	**Shooshtar-Gavs**	**7.73**	**312**	*e*Pn	**Pn**	**15 22 27.1**	**+0.3**
IANJ	**Anjilo**	**8.46**	**351**	*e*Pn	**Pn**	**15 22 38.0**	**+1.0**
IANJ				*e*		15 22 52.5	
	comp=Z,291nm,0.3s						
IANJ	**Anjilo**	**8.46**	**351**	*e*Pn	**Pn**	**15 22 38.0**	**+1.0**
IVRN	**Varamin**	**8.54**	**338**	*e*Pn	**Pn**	**15 22 38.5**	**+0.7**
IVRN				*e*		15 23 02.1	
	comp=Z,309nm,0.2s						
IVRN	**Varamin**	**8.54**	**338**	*e*Pn	**Pn**	**15 22 38.5**	**+0.7**
ISHM	**Shahmirzad**	**8.90**	**348**	*e*Pn	**Pn**	**15 22 43.8**	**+0.8**
ISHM				*e*		15 23 29.9	
	comp=Z,218nm,0.3s						
ISHM	**Shahmirzad**	**8.90**	**348**	*e*Pn	**Pn**	**15 22 43.8**	**+0.8**
IDMV	**Damavand**	**8.98**	**341**	*e*Pn	**Pn**	**15 22 44.8**	**+0.7**
IDMV	**Damavand**	**8.98**	**341**	*e*Pn	**Pn**	**15 22 44.8**	**+0.7**
NSR	**Nassriya**	**9.14**	**297**	*e*Pn	Pn	15 22 36.0	-10
NSR				*e*Sn	Sn	15 24 09.8	-19
NSR	**Nassriya**	**9.14**	**297**	*e*Pn	Pn	15 22 36.0	-10
	SNR=46						
NSR				*e*Sn	Sn	15 24 09.8	-19
	SNR=48						
IALA	**Alasht**	**9.26**	**346**	*e*Pn	**Pn**	**15 22 49.2**	**+1.2**
IALA	**Alasht**	**9.26**	**346**	*e*Pn	**Pn**	**15 22 49.2**	**+1.2**
IGLO	**Ghaloghah**	**9.49**	**351**	*e*Pn	**Pn**	**15 22 52.1**	**+1.1**
IGLO				*e*		15 23 25.4	
	comp=Z,292nm,0.3s						
RBK	**Rabkut**	**9.64**	**188**	P	**Pn**	**15 22 55.0**	**+2.0**
	SNR=11						
RBK	**Rabkut**	**9.64**	**188**	P	**Pn**	**15 22 55.0**	**+2.0**
	SNR=11						
ABTO	**Aybut**	**9.93**	**193**	P	**Pn**	**15 22 58.3**	**+1.3**
	SNR=28						
ABTO	**Aybut**	**9.93**	**193**	P	**Pn**	**15 22 58.3**	**+1.3**
	SNR=28						
ASYS		**10.02**	**275**	S	Sn	15 24 40.7	-10
	baz=274						
ASYS		**10.02**	**275**	P	**Pn**	**15 22 56.2**	**-2.0**
	baz=274						
ASYS		**10.02**	**275**	P	**Pn**	**15 22 56.0**	**-2.1**
ASYS				S	Sn	15 24 41.0	-10
IBDR	**Badra**	**10.29**	**308**	*e*Pn	Pn	15 22 55.9	-5.8
IBDR				*e*Sn	Sn	15 24 46.8	-10
IGHG	**Ghaleghazi**	**10.59**	**315**	*e*Pn	**Pn**	**15 22 06.7**	**+0.6**
IGHG				*e*		15 25 19.6	
	comp=Z,879nm,0.3s						
IGHG	**Ghaleghazi**	**10.59**	**315**	*e*Pn	**Pn**	**15 23 06.7**	**+0.6**
ILIN	**Lien**	**10.74**	**319**	*e*Pn	**Pn**	**15 23 08.2**	**-0.1**
ILIN				*e*		15 25 21.5	
	comp=Z,517nm,0.3s						
ILIN	**Lien**	**10.74**	**319**	*e*Pn	**Pn**	**15 23 08.2**	**-0.1**
IDHR	**Dehrash**	**10.94**	**316**	*e*Pn	**Pn**	**15 23 09.8**	**-1.1**
IDHR				*e*		15 24 05.4	
	comp=Z,393nm,0.2s						
IDHR	**Dehrash**	**10.94**	**316**	*e*Pn	**Pn**	**15 23 09.8**	**-1.1**
BHD	**Baghdad**	**11.48**	**305**	*e*Pn	Pn	15 23 11.2	-6.9
BHD				*e*Sn	Sn	15 25 14.5	-12
BHD	**Baghdad**	**11.48**	**305**	*e*Pn	Pn	15 23 11.2	-6.9
BHD				*e*Sn	Sn	15 25 14.5	-12
	SNR=48						
IKRK	**Kirkuk**	**12.68**	**313**	*e*Pn	Pn	15 23 28.3	-6.3
IKRK				*e*Sn	**Sn**	**15 25 49.8**	**-6.0**
IKRK	**Kirkuk**	**12.68**	**313**	*e*Pn	Pn	15 23 28.3	-6.3
IKRK				*e*Sn	**Sn**	**15 25 49.8**	**-6.0**
	SNR=48						
MSL	**Mosul**	**14.08**	**314**	*e*Pn	Pn	15 23 50.1	-3.6
RTB	**Rutbah**	**14.49**	**298**	*e*Pn	Pn	15 23 50.5	-8.8
RTB				*e*Sn	Sn	15 26 22.3	-18
RTB	**Rutbah**	**14.49**	**298**	*e*Pn	Pn	15 23 50.5	-8.8
	SNR=45						
RTB				*e*Sn	Sn	15 26 22.3	-18
	SNR=47						
GNI	**Garni**	**15.82**	**328**	P	**P**	**15 24 20.6**	**-0.3**
	comp=Z,28nm,0.6s						
GNI	**Garni**	**15.82**	**328**	Pn	**P**	**15 24 22.3**	**+1.4**
	comp=Z,2.9nm,0.3s,baz=50,slow=1.2,SNR=22						
GNI	**Garni**	**15.82**	**328**⇑	*i*P	**P**	**15 24 21.9**	**+1.0**
	SNR=11						
GNI	**Garni**	**15.82**	**328**	P	**P**	**15 24 20.6**	**-0.3**
	comp=Z,28nm,0.6s						
DAMY	**Dhamar**	**16.27**	**222**	Pn	**Pn**	**15 24 21.6**	**-1.4**
	comp=Z,35nm,1.0s						
DAMY	**Dhamar**	**16.27**	**222**	Pn	**Pn**	**15 24 21.6**	**-1.4**
	comp=Z,35nm,1.0s						
ASF	**Jabal al Asfar**	**17.02**	**292**	Pn	**Pn**	**15 24 32.0**	**-0.3**
ASF				Sn	Sn	15 27 29.7	-12
ASF	**Jabal al Asfar**	**17.02**	**292**	Pn	**Pn**	**15 24 32.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=48,slow=14,SNR=4.0						
ASF				Sn	Sn	15 27 29.7	-12
	comp=Z,0.2nm,0.3s,baz=284,slow=17,SNR=4.9						
ZEI	**Tsey**	**18.32**	**332**	*e*P	**P**	**15 24 49.3**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,35nm,1.0s						
EIL	**Elat**	**18.34**	**283**	P	**P**	**15 24 48.5**	**-0.2**
EIL				S	**Sn**	**15 28 12.0**	**-1.4**
EIL	**Elat**	**18.34**	**283**	P	**P**	**15 24 48.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=112,slow=11,SNR=8.5						
EIL				S	**Sn**	**15 28 12.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=294,slow=20,SNR=2.7						
EIL	**Elat**	**18.34**	**283**	P	**P**	**15 24 48.5**	**-0.2**
MMAI	**Mount Meron Ar**	**18.43**	**293**	P	**Pn**	**15 24 49.6**	**-0.2**
MMAI	**Mount Meron Ar**	**18.43**	**293**	P	**Pn**	**15 24 49.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=99,slow=15,SNR=7.5						
MMAI	**Mount Meron Ar**	**18.43**	**293**	P	**Pn**	**15 24 49.6**	**-0.2**
KORR	**Kora**	**18.50**	**333**	*e*P	Pn	15 24 57.0	+6.5
DIGR	**Digorskoe uzhe**	**18.55**	**331**	*e*P	**Pn**	**15 24 53.7**	**+2.4**
DIGR	**Digorskoe uzhe**	**18.55**	**331**	*e*P	**Pn**	**15 24 53.7**	**+2.4**
NCK	**Nalchik**	**19.03**	**332**	*e*P	**Pn**	**15 24 58.3**	**+1.4**
NCK	**Nalchik**	**19.03**	**332**	*e*P	**Pn**	**15 24 58.3**	**+1.4**
NEY	**Neytrino**	**19.20**	**330**	*e*P	**Pn**	**15 25 01.1**	**+1.9**
NEY	**Neytrino**	**19.20**	**330**	*e*P	**Pn**	**15 25 01.1**	**+1.9**
KBZ	**Khabaz**	**19.51**	**332**	P	**Pn**	**15 25 02.4**	**-0.2**
KBZ	**Khabaz**	**19.51**	**332**	P	**Pn**	**15 25 02.4**	**-0.2**
KBZ	**Khabaz**	**19.51**	**332**	P	**Pn**	**15 25 02.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=3.1						
KBZ	**Khabaz**	**19.51**	**332**	P	**Pn**	**15 25 02.4**	**-0.2**
KIV	**Kislovodsk**	**19.78**	**332**⇑	*e*P	**Pn**	**15 25 06.5**	**+0.5**
KIV				*e*		15 25 21.6	
KIV				pmax	pmax		
	comp=Z,89nm,1.6s						
KIV	**Kislovodsk**	**19.78**	**332**	*e*P	**P**	**15 25 04.6**	**+0.1**
	comp=Z,37nm,0.8s						
KIV	**Kislovodsk**	**19.78**	**332**⇑	*i*P	**Pn**	**15 25 09.6**	**+3.5**
	SNR=5.7						
KIV	**Kislovodsk**	**19.78**	**332**	*e*P	**P**	**15 25 04.6**	**+0.1**
	comp=Z,37nm,0.8s						
KKAR	**Karatay Array**	**20.04**	**33**	P	Pn	15 25 08.7	-0.4
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**20.04**	**33**	P	Pn	15 25 08.7	-0.4
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**20.04**	**33**	P	Pn	15 25 08.7	-0.4
	comp=Z,3.9nm,0.8s						
GOF	**Gofitskoye**	**20.55**	**334**	*e*P	Pn	15 25 17.5	+2.6
GOF				pmax	pmax		
	comp=Z,63nm,1.2s						
SOC	**Sochi**	**20.87**	**326**	*e*P	**P**	**15 25 17.2**	**+1.0**
SOC				*e*		15 25 36.1	
SOC				*e*S	**S**	**15 29 06.4**	**-2.3**
SOC				*e*SSS	SSS	15 29 45.4	
SOC				pmax	pmax		
	comp=Z,11nm,0.6s						
SOC				MLR	MLR		
	comp=N,240nm,14.0s						
SOC				MLR	MLR		
	comp=E,121nm,12.0s						
**S

ISP	**Isparta**	**23.63**	**303**	*eP*		**P**		**15 25 48.7**	**+3.2**
ISP					pmax	pmax			
	comp=Z,3.0nm,0.7s								
PYUN	**Piuthan**	**24.28**	**81**	*eP*		**P**		**15 25 52.6**	**+0.7**
	comp=Z,27nm,0.7s								
KOLN	**Koldanda**	**24.85**	**82**	*eP*		**P**		**15 25 58.6**	**+1.6**
	comp=Z,12nm,0.8s								
DANN	**Dangsing**	**24.94**	**81**	*eP*		**P**		**15 26 00.0**	**+2.0**
	comp=Z,78nm,1.1s								
GKN	**Gorkha**	**25.74**	**81**	*eP*		**P**		**15 26 09.0**	**+3.9**
	comp=Z,8.3nm,0.7s								
DMN	**Daman**	**26.19**	**82**	*eP*		P		15 26 14.4	+5.1
PKIN	**Phulchoki**	**26.45**	**82**	*eP*		P		15 26 17.1	+5.5
	comp=Z,6.2nm,0.6s								
PKI	**Pulchoki**	**26.46**	**82**	*eP*		P		15 26 17.1	+5.3
	comp=Z,19nm,1.0s								
GUN	**Gumba**	**26.84**	**81**	*eP*		P		15 26 20.8	+5.5
	comp=Z,23nm,0.9s								
JIRN	**Jiri**	**27.14**	**82**	*eP*		P		15 26 24.8	+6.8
	comp=Z,16nm,0.9s								
IDI	**Anoyia**	**27.42**	**295**	P		**P**		**15 26 19.6**	**-0.4**
IDI	**Anoyia**	**27.42**	**295**	P		**P**		**15 26 19.6**	**-0.4**
	comp=Z,6.2nm,0.7s,baz=80,slow=11,SNR=4.1								
IDI	**Anoyia**	**27.42**	**295**	P		**P**		**15 26 19.6**	**-0.4**
BRVK	**Borovoye**	**28.14**	**19**	*eP*		P		15 26 29.7	+3.5
BRVK					pmax	pmax			
	comp=Z,5.0nm,1.2s								
BVAR	**Borovoye Array**	**28.14**	**19**	P		**P**		**15 26 26.0**	**-0.2**
BVAR	**Borovoye Array**	**28.14**	**19**	P		**P**		**15 26 26.0**	**-0.2**
BVAR	**Borovoye Array**	**28.14**	**19**	P		**P**		**15 26 26.0**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=190,slow=7.3,SNR=16								
BVAR					LR	LR		15 39 24.7	
	comp=Z,194nm,18.6s,baz=246,slow=40								
BVAR	**Borovoye Array**	**28.14**	**19**	P		**P**		**15 26 26.0**	**-0.2**
ODAN	**Odare**	**28.30**	**83**	*eP*		P		15 26 34.8	+6.6
TAPN	**Taplejung**	**28.52**	**82**	*eP*		P		15 26 38.3	+8.1
MKAR	**Makanchi Array**	**28.78**	**40**	P		**P**		**15 26 32.0**	**0.0**
MKAR	**Makanchi Array**	**28.78**	**40**	P		**P**		**15 26 32.0**	**0.0**
MKAR	**Makanchi Array**	**28.78**	**40**	P		**P**		**15 26 32.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=227,slow=8.2,SNR=6.9								
MKAR					LR	LR		15 39 35.9	
	comp=Z,73nm,18.5s,baz=108,slow=40								
MKAR	**Makanchi Array**	**28.78**	**40**	P		**P**		**15 26 32.0**	**0.0**
KURBB	**Kurchatov Arra**	**29.28**	**31**	P		**P**		**15 26 36.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=230,slow=8.5,SNR=19								
KURK	**Kurchatov**	**29.38**	**30**	P		**P**		**15 26 36.0**	**-1.2**
KURK	**Kurchatov**	**29.38**	**30**	P		**P**		**15 26 36.0**	**-1.2**
KURK	**Kurchatov**	**29.38**	**30**	P		**P**		**15 26 36.0**	**-1.2**
PLOR	**Plostina**	**29.62**	**317**	⇓P		**P**		**15 26 40.4**	**+0.9**
PLOR	**Plostina**	**29.62**	**317**	⇓*i*P		**P**		**15 26 40.4**	**+0.9**
PLOR	**Plostina**	**29.62**	**317**	P		**P**		**15 26 40.4**	**+0.9**
MLR	**Muntele Rosu**	**29.88**	**316**	⇑*i*P		**P**		**15 26 44.9**	**+3.0**
MLR	**Muntele Rosu**	**29.88**	**316**	P		**P**		**15 26 41.3**	**-0.6**
MLR	**Muntele Rosu**	**29.88**	**316**	P		**P**		**15 26 41.3**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=311,slow=9.3,SNR=1.7								
MLR	**Muntele Rosu**	**29.88**	**316**	P		**P**		**15 26 41.3**	**-0.6**
TESR	**Tescani**	**29.95**	**318**	⇓*i*P		**P**		**15 26 45.4**	**+3.1**
VOIR		**30.42**	**315**	⇑P		**P**		**15 26 47.0**	**+0.4**
VOIR		**30.42**	**315**	⇑*i*P		**P**		**15 26 47.0**	**+0.4**
VOIR		**30.42**	**315**	P		**P**		**15 26 47.0**	**+0.4**
DOPR	**Dopca**	**30.45**	**316**	⇓*i*P		**P**		**15 26 47.3**	**+0.5**
DOPR	**Dopca**	**30.45**	**316**	⇓*i*P		**P**		**15 26 47.3**	**+0.5**
ARR	**Arges**	**30.65**	**315**	⇓*i*P		**P**		**15 26 49.1**	**+0.5**
ARR	**Arges**	**30.65**	**315**	⇓*i*P		**P**		**15 26 49.1**	**+0.5**
AKASG	**Malin Array Be**	**30.95**	**327**	*ce*P		**P**		**15 26 53.5**	**+2.4**
AKASG					pmax	pmax			
	comp=Z,5.0nm,0.7s								
AKASG	**Malin Array Be**	**30.95**	**327**	P		**P**		**15 26 50.1**	**-0.9**
AKASG	**Malin Array Be**	**30.95**	**327**	P		**P**		**15 26 50.1**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=135,slow=8.5,SNR=31								
AKASG	**Malin Array Be**	**30.95**	**327**	P		**P**		**15 26 50.2**	**-0.9**
KIEV	**Kiev**	**30.95**	**327**	*eP*		**P**		**15 26 53.0**	**+1.9**
KIEV	**Kiev**	**30.95**	**327**	*eP*		**P**		**15 26 53.0**	**+1.9**
OBN	**Obninsk**	**31.23**	**339**	*eP*		**P**		**15 26 56.3**	**+2.8**
OBN				*e*				15 28 11.6	
OBN					pmax	pmax			
	comp=Z,9.0nm,1.0s								
OBN	**Obninsk**	**31.23**	**339**	*eP*		**P**		**15 26 56.3**	**+2.8**
	comp=Z,9.0nm,1.0s								
BURAR	**Bucovina Array**	**31.35**	**319**	⇑P		**P**		**15 26 55.6**	**+0.7**
BURAR	**Bucovina Array**	**31.35**	**319**	⇑*i*P		**P**		**15 26 55.6**	**+0.7**
BURAR	**Bucovina Array**	**31.35**	**319**	⇑*i*P		**P**		**15 26 55.6**	**+0.7**
DRGR		**32.48**	**316**	⇑P		**P**		**15 27 07.2**	**+2.5**
DRGR		**32.48**	**316**	⇑*i*P		**P**		**15 27 07.2**	**+2.5**
DRGR		**32.48**	**316**	P		**P**		**15 27 07.2**	**+2.5**
BZS	**Buzias**	**32.69**	**313**	⇑P		**P**		**15 27 08.6**	**+2.1**
BZS	**Buzias**	**32.69**	**313**	⇑*i*P		**P**		**15 27 08.6**	**+2.1**
BZS	**Buzias**	**32.69**	**313**	P		**P**		**15 27 08.6**	**+2.1**
KOLS	**Kolonicke sedl**	**33.71**	**319**	*eP*		**P**		**15 27 16.7**	**+1.4**
KOLS					pmax	pmax			
	comp=Z,7.0nm,1.3s								
KOLS	**Kolonicke sedl**	**33.71**	**319**	*eP*		**P**		**15 27 16.7**	**+1.4**
KOLS	**Kolonicke sedl**	**33.71**	**319**	*eP*		**P**		**15 27 16.7**	**+1.4**
	comp=Z,7.0nm,1.3s								
CRVS	**Cervenica-Dubn**	**34.17**	**319**	*eP*		**P**		**15 27 22.1**	**+2.8**
CRVS					pmax	pmax			
	comp=Z,16nm,1.7s								
CRVS	**Cervenica-Dubn**	**34.17**	**319**	*e*		**P**		**15 27 22.1**	**+2.8**
ZALV	**Zalesovo Beam**	**34.37**	**31**	P		**P**		**15 27 20.2**	**-0.8**
ZALV	**Zalesovo Beam**	**34.37**	**31**	P		**P**		**15 27 20.2**	**-0.8**
ZALV	**Zalesovo Beam**	**34.37**	**31**	P		**P**		**15 27 20.2**	**-0.8**
	comp=Z,6.5nm,0.7s,baz=228,slow=9.9,SNR=25								
ZALV					LR	LR		15 41 58.4	
	comp=Z,41nm,19.9s,baz=265,slow=37								
ZALV	**Zalesovo Beam**	**34.37**	**31**	P		**P**		**15 27 20.2**	**-0.8**
STHS	**Stebnicka Huta**	**34.53**	**319**	*eP*		**P**		**15 27 24.1**	**+1.6**
STHS	**Stebnicka Huta**	**34.53**	**319**	*eP*		**P**		**15 27 24.1**	**+1.6**
STHS	**Stebnicka Huta**	**34.53**	**319**	*eP*		**P**		**15 27 24.1**	**+1.6**
PKSM	**Moragy**	**34.84**	**313**	⇓P		P		15 27 28.8	+3.7
PKSM	**Moragy**	**34.84**	**313**	⇓*i*P		P		15 27 28.8	+3.7
OKC	**Ostrava-Krasne**	**36.53**	**319**	*eP*		**P**		**15 27 42.3**	**+2.7**
OKC	**Ostrava-Krasne**	**36.53**	**319**	*eP*		**P**		**15 27 42.3**	**+2.7**
VRAC	**Vranov**	**37.25**	**317**	⇑*i*P		**P**		**15 27 47.6**	**+1.8**
VRAC	**Vranov**	**37.25**	**317**	P		**P**		**15 27 45.5**	**-0.3**
VRAC	**Vranov**	**37.25**	**317**	P		**P**		**15 27 45.5**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=96,slow=10,SNR=7.4								
VRAC					LR	LR		15 44 51.2	
	comp=Z,64nm,18.1s,baz=290,slow=39								
VRAC	**Vranov**	**37.25**	**317**	P		**P**		**15 27 45.5**	**-0.3**
KRLC	**Kraliky**	**37.43**	**318**	*eP*		**P**		**15 27 46.8**	**-0.5**
KRLC	**Kraliky**	**37.43**	**318**	*eP*		**P**		**15 27 46.8**	**-0.5**
KRLC	**Kraliky**	**37.43**	**318**	*eP*		**P**		**15 27 46.8**	**-0.5**
DPC	**Dobruska-Polom**	**37.81**	**319**	*eP*		**P**		**15 27 53.3**	**+2.7**
DPC	**Dobruska-Polom**	**37.81**	**319**	*eP*		**P**		**15 27 53.3**	**+2.7**
TREC	**Trest**	**37.91**	**317**	*eP*		P		15 27 54.6	+3.2
TREC	**Trest**	**37.91**	**317**	*eP*		P		15 27 54.6	+3.2
GTA	**Gaotai**	**38.60**	**60**	*eP*		P		15 28 03.5	+6.0
GTA				pP		pP		15 28 10.7	+9.5
GTA				sP		sP		15 28 13.8	+11
GTA					pmax	pmax			
	comp=Z,5.0nm,1.3s								
PRU	**Pruhonice**	**38.74**	**317**	*eP*		P		15 28 02.3	+4.0
PRU	**Pruhonice**	**38.74**	**317**	*eP*		P		15 28 02.3	+4.0
GERES	**GERESS Array B**	**38.87**	**315**	P		**P**		**15 27 58.6**	**-1.0**
GERES	**GERESS Array B**	**38.87**	**315**	P		**P**		**15 27 58.6**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=110,slow=8.4,SNR=4.5								
GERES	**GERESS Array B**	**38.87**	**315**	P		**P**		**15 27 58.6**	**-1.0**
KHC	**Kasperske Hory**	**39.04**	**316**	*eP*		**P**		**15 28 00.6**	**-0.3**
KHC	**Kasperske Hory**	**39.04**	**316**	*eP*		**P**		**15 28 00.6**	**-0.3**
KHC				*ep*P		**pP**		**15 28 04.0**	**-0.6**
KHC	**Kasperske Hory**	**39.04**	**316**	*eP*		**P**		**15 28 00.6**	**-0.3**
JOF	**Joensuu**	**39.21**	**343**	*eP*		**P**		**15 28 05.1**	**+3.0**
JOF					pmax	pmax			
	comp=Z,5.0nm,0.5s								
JOF	**Joensuu**	**39.21**	**343**	*ep*		**P**		**15 28 05.1**	**+3.0**
	comp=Z,4.8nm,0.5s								
JOF	**Joensuu**	**39.21**	**343**	*eP*		**P**		**15 28 05.1**	**+3.0**
	comp=Z,5.0nm,0.5s								
BRG	**Berggiesshubel**	**39.41**	**318**	*eP*		P		15 28 07.4	+3.5
	comp=Z,5.5nm,1.0s								
BRG	**Berggiesshubel**	**39.41**	**318**	*eP*		P		15 28 07.4	+3.5
	comp=Z,5.5nm,1.0s								
BRG	**Berggiesshubel**	**39.41**	**318**	*eP*		P		15 28 07.4	+3.5
BRG					pmax	pmax			
	comp=Z,6.0nm,1.0s								
FINES	**FINESS Array B**	**39.63**	**338**	P		**P**		**15 28 04.5**	**-1.1**
FINES	**FINESS Array B**	**39.63**	**338**	P		**P**		**15 28 04.5**	**-1.1**
	comp=Z,6.8nm,0.6s,baz=138,slow=8.5,SNR=19								
FINES					LR	LR		15 48 38.1	
	comp=Z,137nm,18.3s,baz=28,slow=42								
FINES	**FINESS Array B**	**39.63**	**338**	P		**P**		**15 28 04.5**	**-1.1**
KEST	**Kesra**	**40.09**	**294**	P		**P**		**15 28 10.4**	**+0.5**
KEST	**Kesra**	**40.09**	**294**	P		**P**		**15 28 10.4**	**+0.5**
	comp=Z,2.0nm,1.0s,baz=350,slow=11,SNR=4.4								
KEST	**Kesra**	**40.09**	**294**	P		**P**		**15 28 10.4**	**+0.5**
CLL	**Collm**	**40.12**	**319**	*eP*		P		15 28 13.0	+3.2
CLL					pmax	pmax			
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	**40.12**	**319**	*e*(P)		P		15 28 13.0	+3.2
	comp=Z,5.0nm,0.8s								
CLL				*eP*P		**PP**		**15 29 43.0**	**+1.0**
FETA	**Feichten**	**40.29**	**312**	⇓*i*P		**P**		**15 28 10.2**	**-1.3**
	comp=Z,8.2nm,0.7s								
FETA	**Feichten**	**40.29**	**312**	P		**P**		**15 28 10.2**	**-1.3**
	comp=Z,8.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**40.72**	**93**	P		**P**		**15 28 16.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**40.72**	**93**	P		**P**		**15 28 16.9**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=283,slow=9.0,SNR=3.7								
CMAR	**Chiang Mai Arr**	**40.72**	**93**	P		**P**		**15 28 16.9**	**+1.7**
DAVOX	**Davos/Dischmat**	**40.80**	**311**	P		**P**		**15 28 14.8**	**-1.0**
DAVOX	**Davos/Dischmat**	**40.80**	**311**	P		**P**		**15 28 14.8**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=110,slow=12,SNR=6.5								
DAVOX	**Davos/Dischmat**	**40.80**	**311**	P		**P**		**15 28 14.8**	**-1.0**
DAVA	**Damuels**	**40.91**	**312**	⇓*i*P		**P**		**15 28 15.1**	**-1.6**
	comp=Z,18nm,0.6s								
DAVA	**Damuels**	**40.91**	**312**	P		**P**		**15 28 15.1**	**-1.6**
	comp=Z,18nm,0.6s								
MBDF	**Montbardon**	**42.59**	**308**	*eP*		**P**		**15 28 29.1**	**-1.3**
	comp=Z,21nm,1.0s								
MBDF	**Montbardon**	**42.59**	**308**	*eP*		**P**		**15 28 29.1**	**-1.3**
MBDF					pmax	pmax			
	comp=Z,21nm,1.0s								
MBDF	**Montbardon**	**42.59**	**308**	*eP*		**P**		**15 28 29.1**	**-1.3**
MBDF	**Montbardon**	**42.59**	**308**	*eP*		**P**		**15 28 29.1**	**-1.3**
	comp=Z,10nm,1.0s								
LPG	**La Plagne**	**42.71**	**309**	*eP*		**P**		**15 28 31.8**	**+0.2**
	comp=Z,11nm,0.8s								
LPG	**La Plagne**	**42.71**	**309**	*eP*		**P**		**15 28 31.8**	**+0.2**
LPG					pmax	pmax			
	comp=Z,11nm,0.8s								
LPG	**La Plagne**	**42.71**	**309**	*eP*		**P**		**15 28 31.8**	**+0.2**
	comp=Z,11nm,0.8s								
LPG	**La Plagne**	**42.71**	**309**	*eP*		**P**		**15 28 31.8**	**+0.2**
	comp=Z,5.4nm,0.8s								
CDF	**Champ du Feu**	**42.87**	**313**	*eP*		**P**		**15 28 32.5**	**-0.1**
CDF	**Champ du Feu**	**42.87**	**313**	*eP*		**P**		**15 28 32.5**	**-0.1**
CDF	**Champ du Feu**	**42.87**	**313**	*eP*		**P**		**15 28 32.5**	**-0.1**
CDF	**Champ du Feu**	**42.87**	**313**	*eP*		**P**		**15 28 32.5**	**-0.1**
ZAK	**Zakamensk**	**42.92**	**44**	*eP*		**P**		**15 28 31.7**	**-1.3**
ZAK					pmax	pmax			
	comp=Z,2.0nm,2.0s								
ZAK	**Zakamensk**	**42.92**	**44**	*eP*		**P**		**15 28 31.7**	**-1.3**
	comp=Z,2.0nm,2.0s								
HINF	**Hinteralfeld**	**43.03**	**312**	*eP*		**P**		**15 28 33.5**	**-0.3**
HINF	**Hinteralfeld**	**43.03**	**312**	*eP*		**P**		**15 28 33.5**	**-0.3**
HINF	**Hinteralfeld**	**43.03**	**312**	*eP*		**P**		**15 28 33.5**	**-0.3**
HINF	**Hinteralfeld**	**43.03**	**312**	*eP*		**P**		**15 28 33.5**	**-0.3**
ORIF	**Oris-en-Rattie**	**43.24**	**308**	*eP*		**P**		**15 28 35.9**	**+0.2**
ORIF					*eR*				
	comp=Z,91nm,20.5s								
ORIF	**Oris-en-Rattie**	**43.24**	**308**	*eP*		**P**		**15 28 35.9**	**+0.2**
ORIF	**Oris-en-Rattie**	**43.24**	**308**	*eP*		**P**		**15 28 35.9**	**+0.2**
ORIF	**Oris-en-Rattie**	**43.24**	**308**	*eP*		**P**		**15 28 35.9**	**+0.2**
CABF	**La Chapelle**	**43.34**	**310**	*eP*		**P**		**15 28 35.8**	**-0.6**
	comp=Z,18nm,0.9s								
CABF	**La Chapelle**	**43.34**	**310**	*eP*		**P**		**15 28 35.8**	**-0.6**
CABF					pmax	pmax			
	comp=Z,18nm,0.9s								
CABF	**La Chapelle**	**43.34**	**310**	*eP*		**P**		**15 28 35.8**	**-0.6**
	comp=Z,18nm,0.9s								
CABF	**La Chapelle**	**43.34**	**310**	*eP*		**P**		**15 28 35.8**	**-0.6**
	comp=Z,8.9nm,0.9s								
PAGF	**Fort de Pagny**	**43.91**	**313**	*eP*		**P**		**15 28 41.4**	**+0.6**
	comp=Z,3.3nm,0.8s								
PAGF	**Fort de Pagny**	**43.91**	**313**	*eP*		**P**		**15 28 41.4**	**+0.6**
	comp=Z,3.3nm,0.8s								
PAGF	**Fort de Pagny**	**43.91**	**313**	*eP*		**P**		**15 28 41.4**	**+0.6**
	comp=Z,1.6nm,0.8s								
SFTF	**Sexfontaines**	**44.30**	**312**	*eP*		**P**		**15 28 43.5**	**-0.5**
SFTF	**Sexfontaines**	**44.30**	**312**	*eP*		**P**		**15 28 43.5**	**-0.5**
SFTF	**Sexfontaines**	**44.30**	**312**	*eP*		**P**		**15 28 43.5**	**-0.5**
SONM	**Songino Array**	**44.40**	**48**	P		**P**		**15 28 44.8**	**-0.2**
SONM	**Songino Array**	**44.40**	**48**	P		**P**		**15 28 44.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=261,slow=6.1,SNR=5.3								
SONM					LR	LR		15 48 56.9	
	comp=Z,76nm,20.5s,baz=42,slow=38								
SONM	**Songino Array**	**44.40**	**48**	P		**P**		**15 28 44.8**	**-0.2**
GIVF	**Givet**	**44.79**	**315**	*eP*		**P**		**15 28 48.5**	**+0.7**
GIVF	**Givet**	**44.79**	**315**	*eP*		**P**		**15 28 48.5**	**+0.7**
GIVF	**Givet**	**44.79**	**315**	*eP*		**P**		**15 28 48.5**	**+0.7**
GIVF	**Givet**	**44.79**	**315**	*eP*		**P**		**15 28 48.5**	**+0.7**
SMF	**Signal de Mont**	**44.87**	**310**	*eP*		**P**		**15 28 49.9**	**+1.3**
SMF	**Signal de Mont**	**44.87**	**310**	*eP*		**P**		**15 28 49.9**	**+1.3**
SMF	**Signal de Mont**	**44.87**	**310**	*eP*		**P**		**15 28 49.9**	**+1.3**
SMF	**Signal de Mont**	**44.87**	**310**	*eP*		**P**		**15 28 49.9**	**+1.3**
LOR	**Lormes**	**44.94**	**311**	*eP*		**P**		**15 28 49.7**	**+0.5**
LOR					*eR*				
	comp=Z,94nm,22.5s								
LOR	**Lormes**	**44.94**	**311**	*eP*		**P**		**15 28 49.7**	**+0.5**
LOR	**Lormes**	**44.94**	**311**	*eP*		**P**		**15 28 49.7**	**+0.5**
NB2	**NORSAR Subarra**	**45.09**	**331**	P		**P**		**15 28 48.3**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=118,slow=7.9								
NB2	**NORSAR Subarra**	**45.09**	**331**	P		**P**		**15 28 48.3**	**-1.9**
	comp=Z,6.7nm,0.8s,SNR=5.6								
NOA	**NORSAR Array B**	**45.09**	**331**	P		**P**		**15 28 48.2**	**-1.9**
NOA	**NORSAR Array B**	**45.09**	**331**	P		**P**		**15 28 48.2**	**-1.9**
	comp=Z,4.3nm,0.7s,baz=118,slow=7.9,SNR=15								
NOA	**NORSAR Array B**	**45.09**	**331**	P		**P**		**15 28 48.2**	**-1.9**
SSF	**Saint Saulge**	**45.16**	**310**	*eP*		**P**		**15 28 51.1**	**+0.3**
	comp=Z,12nm,0.8s								
SSF	**Saint Saulge**	**45.16**	**310**	*eP*		**P**		**15 28 51.1**	**+0.3**
SSF					pmax	pmax			
	comp=Z,12nm,0.8s								
SSF	**Saint Saulge**	**45.16**	**310**	*eP*		**P**		**15 28 51.1**	**+0.3**
	comp=Z,12nm,0.8s								
SSF	**Saint Saulge**	**45.16**	**310**	*eP*		**P**		**15 28 51.1**	**+0.3**
	comp=Z,6.0nm,0.8s								
BAIF	**Baives**	**45.17**	**315**	*eP*		**P**		**15 28 50.9**	**+0.1**
	comp=Z,47nm,1.4s								
BAIF	**Baives**	**45.17**	**315**	*eP*		**P**		**15 28 50.9**	**+0.1**
BAIF					pmax	pmax			
	comp=Z,47nm,1.4s								
BAIF	**Baives**	**45.17**	**315**	*eP*		**P**		**15 28 50.9**	**+0.1**
	comp=Z,47nm,1.4s								
BAIF	**Baives**	**45.17**	**315**	*eP*		**P**		**15 28 50.9**	**+0.1**
	comp=Z,23nm,1.4s								
AVF	**Avril sur Loir**	**45.23**	**310**	*eP*		**P**		**15 28 51.2**	**-0.2**
AVF	**Avril sur Loir**	**45.23**	**310**	*eP*		**P**		**15 28 51.2**	**-0.2**
AVF	**Avril sur Loir**	**45.23**	**310**	*eP*		**P**		**15 28 51.2**	**-0.2**
AVF	**Avril sur Loir**	**45.23**	**310**	*eP*		**P**		**15 28 51.2**	**-0.2**
BGF	**Bois d'Agland**	**45.55**	**310**	*eP*		**P**		**15 28 53.3**	**-0.6**
	comp=Z,7.8nm,0.7s								
BGF	**Bois d'Agland**	**45.55**	**310**	*eP*		**P**		**15 28 53.3**	**-0.6**
BGF					pmax	pmax			
	comp=Z,8.0nm,0.7s								
BGF	**Bois d'Agland**	**45.55**	**310**	*eP*		**P**		**15 28 53.3**	**-0.6**
	comp=Z,7.8nm,0.7s								
BGF	**Bois d'Agland**	**45.55**	**310**	*eP*		**P**		**15 28 53.3**	**-0.6**
	comp=Z,3.9nm,0.7s								
KEV	**Kevo**	**45.79**	**347**	*eP*		**P**		**15 28 56.2**	**+0.7**
KEV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KEV	**Kevo**	**45.79**	**347**	*ep*		**P**		**15 28 56.2**	**+0.7**
	comp=Z,0.5nm,0.4s								
KEV	**Kevo**	**45.79**	**347**	*eP*		**P**		**15 28 56.2**	**+0.7**
	comp=Z,1.0nm,0.4s								
CAF	**Calviac**	**45.94**	**307**	*eP*		**P**		**15 28 56.5**	**-0.6**
	comp=Z,10nm,0.9s								
CAF	**Calviac**	**45.94**	**307**	*eP*		**P**		**15 28 56.5**	**-0.6**
CAF					pmax	pmax			
	comp=Z,11nm,0.9s								
CAF	**Calviac**	**45.94**	**307**	*eP*		**P**		**15 28 56.5**	**-0.6**
	comp=Z,10nm,0.9s								
CAF	**Calviac**	**45.94**	**307**	*eP*		**P**		**15 28 56.5**	**-0.6**
	comp=Z,5.2nm,0.9s								
TCF	**Toulx Ste Croi**	**45.96**	**309**	*eP*		**P**		**15 28 56.3**	**-0.9**
	comp=Z,10.0nm,0.8s								
TCF	**Toulx Ste Croi**	**45.96**	**309**	*eP*		**P**		**15 28 56.3**	**-0.9**
TCF					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TCF	**Toulx Ste Croi**	**45.96**	**309**	*eP*		**P**		**15 28 56.3**	**-0.9**
	comp=Z,10.0nm,0.8s								
TCF	**Toulx Ste Croi**	**45.96**	**309**	*eP*		**P**		**15 28 56.3**	**-0.9**
	comp=Z,5.0nm,0.8s								
RJF	**Les Rejaudoux**	**46.36**	**308**	*eP*		**P**		**15 29 00.0**	**-0.4**
RJF					*eR*				
	comp=Z,115nm,18.0s								
RJF	**Les Rejaudoux**	**46.36**	**308**	*eP*		**P**		**15 29 00.0**	**-0.4**
RJF	**Les Rejaudoux**	**46.36**	**308**	*eP*		**P**		**15 29 00.0**	**-0.4**
RJF	**Les Rejaudoux**	**46.36**	**308**	*eP*		**P**		**15 29 00.0**	**-0.4**
LFF	**La Frestale**	**46.88**	**307**	*eP*		**P**		**15 29 02.5**	**-2.0**
LFF	**La Frestale**	**46.88**	**307**	*eP*		**P**		**15 29 02.5**	**-2.0**
LFF	**La Frestale**	**46.88**	**307**	*eP*		**P**		**15 29 02.5**	**-2.0**
LFF	**La Frestale**	**46.88**	**307**	*eP*		**P**		**15 29 02.5**	**-2.0**
LDF	**La Druitiere**	**47.76**	**312**	*eP*		**P**		**15 29 09.6**	**-1.6**
LDF	**La Druitiere**	**47.76**	**312**	*eP*		**P**		**15 29 09.6**	**-1.6**
LDF	**La Druitiere**	**47.76**	**312**	*eP*		**P**		**15 29 09.6**	**-1.6**
LDF	**La Druitiere**	**47.76**	**312**	*eP*		**P**		**15 29 09.6**	**-1.6**
FLN	**La Foliniere**	**48.01**	**312**	*eP*		**P**		**15 29 11.4**	**-1.8**
FLN					*eR*				
	comp=Z,94nm,22.0s								
FLN	**La Foliniere**	**48.01**	**312**	*eP*		**P**		**15 29 11.4**	**-1.8**
FLN	**La Foliniere**	**48.01**	**312**	*eP*		**P**		**15 29 11.4**	**-1.8**
FLN	**La Foliniere**	**48.01**	**312**	*eP*		**P**		**15 29 11.4**	**-1.8**
GRR	**Gorron**	**48.23**	**312**	*eP*		**P**		**15 29 13.6**	**-1.2**
GRR	**Gorron**	**48.23**	**312**	*eP*		**P**		**15 29 13.6**	**-1.2**
GRR	**Gorron**	**48.23**	**312**	*eP*		**P**		**15 29 13.6**	**-1.2**
GRR	**Gorron**	**48.23**	**312**	*eP*		**P**		**15 29 13.6**	**-1.2**
SJPF	**Ste Jean**	**48.25**	**305**	*eP*		**P**		**15 29 14.2**	**-1.0**
SJPF	**Ste Jean**	**48.25**	**305**	*eP*		**P**		**15 29 14.2**	**-1.0**
SJPF	**Ste Jean**	**48.25**	**305**	*eP*		**P**		**15 29 14.2**	**-1.0**
SJPF	**Ste Jean

*IDC **10** 16:18:06.3±7.1,30°.37N×179°.71E,h433^{km}±70^{km},mb3.4/4, mb1 3.6/5,mb1mx3.3/19,mbtmp3.5/5,Error ellipse: s-maj=85.8km s-min=29.3km az=21.0*

ISC 10 16:18:08.0±1.5,30°.65N±0°.1×179°.6E±0°.2,h450^{km},n17, σ1^{s}41/19,mb3.8/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**7.51**	**188**	PN	**P**	**16 20 00.5**	**+2.4**
PUZ				SN	**S**	**16 21 26.1**	**-2.3**
MWZ	**Matawai**	**7.88**	**192**	PN	**P**	**16 20 04.3**	**+2.3**
URZ	**Urewera**	**7.89**	**194**	P	**P**	**16 20 03.0**	**+1.0**
	16nm,0.3s,baz=295,slow=3.0,SNR=112						
URZ				S	S	16 21 31.5	-4.2
	1.1nm,0.3s,baz=90,slow=20,SNR=3.0						
URZ	**Urewera**	**7.89**	**194**	PN	**P**	**16 20 01.6**	**-0.5**
URZ				SN	S	16 21 32.7	-2.9
RIGZ	**Rimuhau**	**8.20**	**190**	PN	**P**	**16 20 07.4**	**+1.9**
SNGZ	**Shannon Statio**	**8.35**	**192**	PN	**P**	**16 20 09.3**	**+2.2**
KNZ	**Kokohu**	**8.53**	**190**	PN	**P**	**16 20 09.7**	**+0.8**
TSZ	**Takapari Road**	**9.87**	**196**	*e*PN	**P**	**16 20 23.9**	**+0.3**
MRZ	**Mangatainoka R**	**10.53**	**197**	PN	**P**	**16 20 30.0**	**-0.7**
CTA	**Charters Tower**	**31.78**	**281**	P	**P**	**16 23 53.7**	**-0.3**
	5.0nm,0.9s,baz=108,slow=9.6,SNR=4.9						
STKA	**Stephens Creek**	**32.39**	**258**	P	**P**	**16 24 00.6**	**+1.5**
	1.8nm,0.5s,baz=102,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**41.01**	**268**	P	**P**	**16 25 10.6**	**-0.1**
	0.9nm,0.4s,baz=106,slow=7.2,SNR=48						
ASAR				PcP	**PcP**	**16 26 59.8**	**-0.7**
	0.2nm,0.4s,baz=112,slow=3.8,SNR=5.5						
WRA	**Warramunga Arr**	**42.02**	**274**	P	**P**	**16 25 18.7**	**0.0**
	1.9nm,0.4s,baz=112,slow=7.9,SNR=58						
MKAR	**Makanchi Array**	**116.32**	**311**	PKP	**PKPdf**	**16 35 58.3**	**-0.9**
	0.2nm,0.5s,baz=90,slow=2.9,SNR=3.9						
FINES	**FINESS Array B**	**144.60**	**338**	PKP	**PKPdf**	**16 36 51.0**	**-0.6**
	6.1nm,0.8s,baz=47,slow=3.7,SNR=39						
AKASG	**Malin Array Be**	**150.18**	**321**	PKPbc	**PKPbc**	**16 37 06.5**	**-0.2**
	0.6nm,0.4s,baz=51,slow=3.0,SNR=9.7						
BRTR	**Keskin Array B**	**150.86**	**298**	PKPbc	**PKPbc**	**16 37 08.7**	**-0.2**
	0.8nm,0.6s,baz=113,slow=3.3,SNR=6.4						

IDC 10 16:24:30.7±8.8,5°.74S×151°.03E,h56^{km}±64^{km},mb3.3/3, mb1 3.6/4,mb1mx3.2/18,mbtmp3.6/4,ML2.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/17,Error ellipse: s-maj=96.0km s-min=39.5km az=108.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.29**	**226**	P	Pn	16 25 47.5	+0.4
	1.7nm,0.3s,baz=53,slow=15,SNR=8.9						
PMG				S	Sn	16 26 48.0	+1.2
	5.8nm,0.3s,baz=30,slow=20,SNR=9.7						
PMG				LR	LR	16 27 52.7	
	comp=Z,84nm,18.5s,baz=110,slow=38						
WRA	**Warramunga Arr**	**21.50**	**227**	P	P	16 29 14.3	-0.8
	0.9nm,0.4s,baz=53,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.27**	**221**	P	P	16 29 42.8	-0.2
	0.9nm,0.7s,baz=52,slow=9.1,SNR=19						
ZALV	**Zalesovo Beam**	**80.96**	**327**	P	P	16 36 39.3	+0.2
	0.4nm,0.4s,baz=145,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.89**	**286**	PKPbc	PKPbc	16 44 12.8	-0.5
	1.6nm,0.7s,baz=87,slow=2.3,SNR=8.6						

*IDC **10** 16:49:00.5±0.8,8°.42S×157°.29E,h0^{km},mb3.7/7, mb1 3.8/8,mb1mx3.7/20,mbtmp3.7/8,ML3.8/1,Error ellipse: s-maj=25.7km s-min=14.4km az=19.0*

ISC 10 16:49:02.3±0.8,8°.5S±0°.2×157°.44E±0°.09,h16^{km},n9, σ1^{s}37/13,mb3.8/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.66**	**111**	Pn	**Pb**	**16 49 48.3**	**-1.2**
	14nm,0.3s,baz=188,slow=7.1,SNR=8.0						
HNR				Pg	**Pg**	**16 49 51.6**	**-1.6**
	29nm,0.3s,baz=236,slow=6.0,SNR=18						
HNR				Lg	Lg	16 50 28.2	
	39nm,0.3s,baz=229,slow=19,SNR=5.2						
HNR	**Honiara**	**2.66**	**111**	*e*P	**Pb**	**16 49 50.0**	**+0.5**
HNR				*e*S	**Sg**	**16 50 30.0**	**+2.2**
WRA	**Warramunga Arr**	**25.10**	**240**	P	**P**	**16 54 25.9**	**-0.7**
	2.9nm,0.8s,baz=66,slow=9.8,SNR=22						
WRA				PcP	**PcP**	**16 58 01.8**	**+0.8**
	0.4nm,0.7s,baz=64,slow=3.1,SNR=6.7						
ASAR	**Alice Springs**	**27.14**	**233**	P	**P**	**16 54 42.9**	**-2.0**
	0.5nm,0.9s,baz=70,slow=9.0,SNR=4.0						
ASAR				PcP	**PcP**	**16 58 05.6**	**0.0**
	0.9nm,1.1s,baz=88,slow=3.2,SNR=2.9						
STKA	**Stephens Creek**	**27.57**	**210**	P	**P**	**16 54 50.6**	**+1.9**
	1.4nm,0.5s,baz=41,slow=15,SNR=11						
CMAR	**Chiang Mai Arr**	**63.50**	**295**	P	**P**	**16 59 33.2**	**+0.3**
	0.4nm,0.7s,baz=120,slow=5.3,SNR=4.2						
SONM	**Songino Array**	**71.88**	**327**	P	**P**	**17 00 25.4**	**+0.6**
	0.7nm,0.8s,baz=136,slow=6.6,SNR=6.1						
MKAR	**Makanchi Array**	**86.10**	**318**	P	**P**	**17 01 42.2**	**-0.4**
	0.5nm,0.6s,baz=99,slow=5.3,SNR=4.6						
KURBB	**Kurchatov Arra**	**89.51**	**321**	P	**P**	**17 01 58.6**	**-0.1**
	0.1nm,0.3s,baz=101,slow=4.8,SNR=2.6						

*CSEM **10** 16:52:10.2±0.6,51°.55N×16°.07E,h2^{km},ML2.7/5,Error ellipse: s-maj=8.8km s-min=4.2km az=9.0*

PRU 10 16:52:11.5,51°.52N×16°.09E,h0^{km},Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	Pg	16 52 25.2	+0.4
KSP				*e*Sg	Sg	16 52 34.3	+0.6
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	Pn	16 52 27.6	-0.9
KSP				*e*Sg	Sn	16 52 38.4	-1.6
UPC	**Upice**	**1.01**	**183**	*e*PG	Pg	16 52 31.2	+0.2
UPC				*e*SG	Sg	16 52 44.0	-0.2
	comp=Z,9.0nm,0.2s						
UPC	**Upice**	**1.01**	**183**	Pg	Pg	16 52 31.2	+0.2
UPC				Sg	Sg	16 52 44.0	-0.2
	9.0nm,0.2s						
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	Pg	16 52 33.9	-0.3
DPC				*e*SG	Sg	16 52 49.3	-0.3
DPC	**Dobruska-Polom**	**1.18**	**173**	Pg	Pg	16 52 33.9	-0.3
DPC				Sg	Sg	16 52 49.3	-0.3
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	Pg	16 52 37.6	-0.4
PVCC				*e*SG	Sb	16 52 56.3	-0.1
	comp=Z,12nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**225**	Pg	Pg	16 52 37.6	-0.4
PVCC				Sg	Sb	16 52 56.3	-0.1
	12nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**245**	PG	Pn	16 52 39.7	+0.1
BRG				SG	Sb	16 52 59.8	0.0
	6.8nm,0.3s						
KRLC	**Kraliky**	**1.51**	**163**	*e*PG	Pn	16 52 40.0	+0.1
KRLC				*e*SG	Sg	16 52 59.4	-0.8
KRLC	**Kraliky**	**1.51**	**163**	Pg	Pn	16 52 40.0	+0.1
KRLC				Sg	Sg	16 52 59.4	-0.8
PRU	**Pruhonice**	**1.82**	**213**	*e*PG	Pb	16 52 45.2	-0.5
PRU				*e*SG	Sb	16 53 09.4	+0.3
	comp=Z,2.2nm,0.2s						
PRU	**Pruhonice**	**1.82**	**213**	Pg	Pb	16 52 45.2	-0.5
PRU				Sg	Sb	16 53 09.4	+0.3
	2.2nm,0.2s						
CLL	**Collm**	**1.94**	**265**	*i* Pn	Pn	16 52 44.1	-1.7
CLL				*e*Pg	Pb	16 52 47.0	-0.8
CLL				*e*Sg	Sb	16 53 13.0	+0.4
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	Pn	16 52 45.6	-0.7
MORC				*e*Sg	Sb	16 53 14.0	+0.4
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PG	Pb	16 52 51.4	+0.4
OKC				*e*SG	Sg	16 53 19.6	-0.5
	comp=Z,4.8nm,0.4s						
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pg	Pb	16 52 51.4	+0.4
OKC				Sg	Sg	16 53 19.6	-0.5
	4.8nm,0.4s						
NKC	**Novy Kostel**	**2.64**	**242**	*e*PG	Pb	16 53 00.6	+0.9
NKC				*e*SG	Sg	16 53 35.8	-0.7
	comp=Z,2.9nm,0.4s						
NKC	**Novy Kostel**	**2.64**	**242**	Pg	Pb	16 53 00.6	+0.9
NKC				Sg	Sg	16 53 35.8	-0.7
	2.9nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PG	Pb	16 53 04.5	+0.6
KHC				*e*SN	Sn	16 53 33.2	-1.0
KHC				*e*SG	Sg	16 53 42.2	-2.1
KHC	**Kasperske Hory**	**2.88**	**215**	Pg	Pb	16 53 04.5	+0.6
KHC				Sn	Sn	16 53 33.2	-1.0
KHC				Sg	Sg	16 53 42.2	-2.1

*IDC **10** 16:59:45.6±1.4,30°.76N×69°.67E,h0^{km},mb3.5/9, mb1 3.7/10,mb1mx3.5/30,mbtmp3.5/10,ML3.5/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/29,Error ellipse: s-maj=36.0km s-min=20.5km az=65.0*

ISC 10 16:59:46.4±1.0,30.7N±0°.1×69°.61E±0°.07,h10^{km},n31, σ1^{s}60/16,mb3.5/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.72**	**70**	*e*P	**Sn**	**17 02 16.0**	**-1.5**
BHK	**Bhakra**	**5.88**	**81**	*e*S	**Sg**	**17 02 58.5**	**+3.2**
KHET	**Khetri**	**6.00**	**114**	*e*P	**Pn**	**17 01 15.3**	**0.0**
KHET				*e*S	Pb	17 01 38.9	+7.7
KHET				AML	AML	17 03 00.2	
	comp=N,106nm,0.2s						
KHET				AML	AML	17 03 01.4	
	comp=E,131nm,0.3s						
SDNR	**Sundarnagar**	**6.36**	**81**	*ex*	x	17 02 21.6	
SDNR				*e*S	**Sg**	**17 03 10.0**	**-0.6**
KUDL	**Kundal**	**6.51**	**111**	*e*P	Pn	17 01 17.3	-5.0
KUDL				*e*S	Pg	17 01 43.7	-7.5
KUDL				AML	AML	17 03 20.9	
	comp=E,31nm,0.6s						
KUDL				AML	AML	17 03 21.4	
	comp=N,40nm,0.6s						
NDI	**New Delhi**	**6.91**	**105**	*ex*	**Sg**	**17 03 30.0**	**+1.7**
AGRA	**Agra**	**8.07**	**113**	*e*S	**Pn**	**17 01 40.7**	**-3.1**
AGRA				AML	AML	17 04 10.3	
	comp=N,65nm,0.6s						
AGRA				AML	AML	17 04 12.3	
	comp=E,61nm,0.2s						
JOSI	**Joshimath**	**8.57**	**88**	*e*P	Pg	17 02 17.7	-13
JOSI				*e*S	Sn	17 03 19.4	-8.3
AAK	**Ala-Archa**	**12.54**	**17**	Pn	Pn	17 02 36.8	-8.2
	comp=E,4.8nm,0.3s,baz=356,slow=22,SNR=108						
AAK				LR	LR	17 08 28.3	
	comp=E,69nm,20.5s,baz=203,slow=42						
DANN	**Dangsing**	**12.54**	**97**	*e*P	Pn	17 02 40.6	-4.6
	comp=E,44nm,0.8s						
KOLN	**Koldanda**	**12.56**	**100**	*e*P	Pn	17 02 40.9	-4.5
	comp=E,11nm,0.5s						
GKN	**Gorkha**	**13.38**	**98**	*e*P	Pn	17 02 50.4	-6.1
	comp=E,17nm,0.5s						
DMN	**Daman**	**13.88**	**99**	*e*P	Pn	17 02 56.7	-6.8
KKN	**Kakani**	**13.98**	**98**	*e*P	Pn	17 02 58.1	-6.7
	comp=E,14nm,0.6s						
PKIN	**Phulchoki**	**14.14**	**99**	*e*P	Pn	17 03 00.7	-6.4
	comp=E,5.9nm,0.4s						
PKI	**Pulchoki**	**14.15**	**99**	*e*P	Pn	17 03 01.3	-6.0
	comp=E,6.7nm,0.5s						
GUN	**Gumba**	**14.46**	**97**	*e*P	Pn	17 03 04.4	-7.1
	comp=E,31nm,0.4s						
JIRN	**Jiri**	**14.79**	**98**	*e*P	Pn	17 03 09.3	-6.8
	comp=E,26nm,0.5s						
RAMN	**Ramite**	**15.35**	**100**	*e*P	Pn	17 03 15.7	-7.7
	comp=E,6.1nm,0.4s						
TAPN	**Taplejung**	**16.18**	**97**	*e*P	Pn	17 03 27.0	-7.2
	comp=E,8.9nm,0.7s						
MKAR	**Makanchi Array**	**18.83**	**28**	P	**P**	**17 04 05.2**	**-1.2**
	comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=6.2						
KURBB	**Kurchatov Arra**	**20.99**	**16**	P	**P**	**17 04 29.6**	**-0.2**
	comp=E,0.8nm,0.5s,baz=207,slow=10,SNR=16						
AKTO	**Aktyubinsk**	**21.55**	**340**	LR	LR	17 14 17.6	
	comp=E,31nm,19.8s,baz=209,slow=40						
BVAR	**Borovoye Array**	**22.32**	**1**	P	**P**	**17 04 44.3**	**+0.2**
	comp=E,0.9nm,0.6s,baz=178,slow=10,SNR=6.4						
ZALV	**Zalesovo Beam**	**25.70**	**21**	P	**P**	**17 05 17.1**	**+0.6**
	comp=E,2.6nm,0.4s,baz=210,slow=9.8,SNR=14						
CMAR	**Chiang Mai Arr**	**29.23**	**108**	P	**P**	**17 05 47.5**	**-1.1**
	comp=E,0.5nm,0.9s,baz=295,slow=10,SNR=4.3						
SONM	**Songino Array**	**32.84**	**48**	P	**P**	**17 06 20.8**	**+0.5**
	comp=E,0.4nm,0.9s,baz=248,slow=7.6,SNR=3.2						
AKASG	**Malin Array Be**	**35.98**	**315**	P	**P**	**17 06 47.5**	**+0.3**
	comp=E,0.4nm,0.5s,baz=94,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**79.99**	**120**	P	**P**	**17 11 58.2**	**+1.9**
	comp=E,0.4nm,0.8s,baz=320,slow=5.4,SNR=3.5						
ASAR	**Alice Springs**	**81.96**	**123**	P	**P**	**17 12 07.6**	**+0.8**
	comp=E,0.7nm,1.1s,baz=308,slow=5.5,SNR=3.7						
YKA	**Yellowknife Ar**	**87.08**	**2**	P	**P**	**17 12 32.1**	**+0.1**
	comp=E,0.3nm,0.5s,baz=350,slow=5.2,SNR=10						

*CSEM **10** 17:03:04.6±0.5,34°.26N×15°.75W,h10^{km},ML2.7,Error ellipse: s-maj=26.1km s-min=5.5km az=128.0*
*MDD **10** 17:03:05.5±1.9,34°.17N×15°.56W,h0^{km},mb3.8/3,Error ellipse: s-maj=59.5km s-min=6.7km az=136.0,PRXIMO*
*INMG **10** 17:03:08.8±2.1,34°.56N×16°.17W,h10^{km},ML2.7,Error ellipse: s-maj=27.0km s-min=3.3km az=122.0*

ISC 10 17:02:59.0±1.6,34°.53N±0°.10×15°.8W±0°.1,h10^{km},n41, σ1^{s}68/49,1D,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**1.51**	**197**	*e*P	**Pg**	**17 03 29.4**	**+1.4**
PMPST				*e*S	**Sn**	**17 03 45.5**	**-0.4**
PMPST				A	A	17 03 47.6	
	98nm,0.2s						
PMPS	**Porto Santo**	**1.53**	**197**	*e*P	**Pg**	**17 03 29.6**	**+1.2**
PMPS				*e*S	**Sn**	**17 03 45.9**	**-0.5**
PMPS				A	A	17 03 48.6	
	60nm,0.1s						
PMPS	**Porto Santo**	**1.53**	**197**	⇓P	**Pg**	**17 03 29.4**	**+1.0**
PMPS				S	**Sn**	**17 03 45.9**	**-0.5**
	30nm,0.1s						
PMPS	**Porto Santo**	**1.53**	**197**	P	**Pg**	**17 03 29.4**	**+1.0**
PMPS				*e*S	**Sn**	**17 03 45.9**	**-0.5**
	60nm,0.1s						
PMAR	**Madeira**	**2.02**	**207**	*e*Pn	**Pb**	**17 03 36.5**	**+0.5**
PMAR				*e*Sn	**Sn**	**17 03 56.7**	**-2.1**
PMAR				A	A	17 03 59.0	
	51nm,0.3s						
PMAR	**Madeira**	**2.02**	**207**	P	**Pb**	**17 03 36.5**	**+0.5**
PMAR				S	**Sn**	**17 03 56.7**	**-2.1**
	26nm,0.3s						
PMAR	**Madeira**	**2.02**	**207**	*e*Pn	**Pb**	**17 03 36.5**	**+0.5**
PMAR				*e*Sn	**Sn**	**17 03 56.7**	**-2.1**
	51nm,0.3s						
FUL	**Funchal**	**2.08**	**206**	*e*Sn	**Sn**	**17 03 58.2**	**-1.8**
FUL				A	A	17 03 59.8	
	166nm,0.1s						
FUL	**Funchal**	**2.08**	**206**	S	**Sn**	**17 03 58.2**	**-1.8**
	83nm,0.1s						
CFUE	**Fuerteventura**	**6.08**	**164**	S	**Sn**	**17 05 36.8**	**-1.8**
	2.3nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**6.08**	**164**	S	Sn	**17 05 36.8**	**-1.8**
	2.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.24**	**63**	*e*Sn	**Sn**	**17 05 44.2**	**+1.7**
PFVI				A	A	17 05 46.0	
	8.7nm,0.5s						
PFVI	**Vila Bisbo**	**6.24**	**63**	P	Pn	17 04 37.5	+6.3
	1.5nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**17 05 41.4**	**-1.1**
	1.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.24**	**63**	P	Pn	17 04 37.5	+6.3
	1.5nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**17 05 41.4**	**-1.1**
	1.8nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**17 05 44.2**	**+1.7**
	8.7nm,0.5s						
MORF	**Marmelete**	**6.44**	**62**	*e*Sn	**Sn**	**17 05 50.3**	**+2.8**
MORF				A	A	17 05 56.6	
	4.7nm,0.8s						
MORF	**Marmelete**	**6.44**	**62**	S	**Sn**	**17 05 50.3**	**+2.8**
	4.7nm,0.8s						
MORF	**Marmelete**	**6.44**	**62**	*e*Sn	**Sn**	**17 05 50.3**	**+2.8**
	4.7nm,0.8s						
PTEO	**Sao Teotonio**	**6.48**	**60**	*e*Sn	**Sn**	**17 05 50.5**	**+2.0**
PTEO				A	A	17 05 52.2	
	8.7nm,0.7s						
PTEO	**Sao Teotonio**	**6.48**	**60**	S	**Sn**	**17 05 50.5**	**+2.0**
	4.3nm,0.7s						
PTEO	**Sao Teotonio**	**6.48**	**60**	*e*Sn	**Sn**	**17 05 50.5**	**+2.0**
	8.7nm,0.7s						
PMAFR	**Mafra**	**6.85**	**48**	*e*Sn	**Sn**	**17 05 57.0**	**-0.7**
PMAFR				A	A	17 05 57.4	
	12nm,0.7s						
PMAFR	**Mafra**	**6.85**	**48**	S	**Sn**	**17 05 55.1**	**-2.6**
	SNR=7.9						
PMAFR	**Mafra**	**6.85**	**48**	S	Sn	**17 05 55.1**	**-2.6**
	SNR=7.9						
PMAFR				*e*Sn	**Sn**	**17 05 57.0**	**-0.7**
	12nm,0.7s						
PNCL	**Nicolau / Gran**	**6.88**	**57**	*e*Pn	Pn	17 04 46.7	+6.8
PNCL				*e*Sn	**Sn**	**17 06 00.0**	**+1.7**
PNCL				A	A	17 06 00.9	
	1.5nm,0.3s						
PNCL	**Nicolau / Gran**	**6.88**	**57**	*e*Pn	Pn	17 04 46.7	+6.8
PNCL				*e*Sn	**Sn**	**17 06 00.0**	**+1.7**
	1.5nm,0.3s						
PBDV	**Barranco-do-Ve**	**6.95**	**65**	*e*Sn	**Sn**	**17 06 02.3**	**+2.3**
PBDV	**Barranco-do-Ve**	**6.95**	**65**	S	**Sn**	**17 06 02.3**	**+2.3**
PBDV	**Barranco-do-Ve**	**6.95**	**65**	*e*Sn	**Sn**	**17 06 02.3**	**+2.3**
PVAQ	**Vaqueiros**	**7.16**	**64**	*e*Pn	Pn	17 04 51.0	+7.2
PVAQ				*e*Sn	**Sn**	**17 06 06.0**	**+0.8**
PVAQ				A	A	17 06 13.1	
	4.4nm,0.5s						
PVAQ	**Vaqueiros**	**7.16**	**64**	P	Pn	17 04 51.0	+7.2
PVAQ				S	**Sn**	**17 06 06.0**	**+0.8**
	4.4nm,0.5s						
PVAQ	**Vaqueiros**	**7.16**	**64**	*e*Pn	Pn	17 04 51.0	+7.2
PVAQ				*e*Sn	**Sn**	**17 06 06.0**	**+0.8**
	4.4nm,0.5s						
EGRO	**El Granado**	**7.38**	**64**	S	**Sn**	**17 06 10.6**	**-0.1**
	SNR=7.9						
EGRO	**El Granado**	**7.38**	**64**	S	**Sn**	**17 06 10.6**	**-0.1**
	SNR=7.9						
PMTG	**Montargil**	**7.58**	**51**	*e*Sn	**Sn**	**17 06 16.2**	**+0.5**
PMTG	**Montargil**	**7.58**	**51**	*e*Sn	**Sn**	**17 06 16.2**	**+0.5**
EMIN	**Mina Concepcio**	**8.07**	**64**	P	Pn	17 05 02.9	+6.6
	0.4nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**17 06 25.3**	**-2.2**
	SNR=7.9						
EMIN	**Mina Concepcio**	**8.07**	**64**	P	Pn	17 05 02.9	+6.6
	0.4nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**8.23**	**57**	P	Pn	17 05 05.1	+6.6
	0.3nm,0.2s,SNR=4.0						
EBAD				S	**Sn**	**17 06 29.1**	**-2.4**
	SNR=7.9						
ESPR	**Espera**	**8.43**	**71**	S	**Sn**	**17 06 36.0**	**-0.3**
	SNR=7.9						
ECAB	**El Cabril**	**9.10**	**64**	S	**Sn**	**17 06 52.0**	**-1.1**
	SNR=7.9						
EADA	**Adamuz**	**9.76**	**65**	S	**Sn**	**17 07 07.6**	**-1.6**
	SNR=7.9						

*BJI **10** 17:17:43.1,27°.22N×54°.90E,h10^{km},mB5.0/18,mb4.5/30, Ms4.5/11,Ms7 4.4/10*
*TEH **10** 17:17:47.5,27°.12N×55°.46E,h6^{km},ML4.2*
*IDC **10** 17:17:47.9±0.7,27°.16N×55°.59E,h0^{km},mb4.1/26, mb1 4.3/30,mb1mx4.2/36,mbtmp4.2/30,ML4.0/4,MS3.0/9, Ms1 3.1/9,ms1mx2.9/39,Error ellipse: s-maj=18.9km s-min=11.6km az=3.0*
*THR **10** 17:17:48.4±0.4,27°.02N×55°.46E,h15^{km},ML4.0*
*NEIC **10** 17:17:48.7±0.4,27°.06N×55°.61E,h10^{km},mb4.7/28, ML4.2(THR),MN4.2(TEH),Error ellipse: s-maj=8.5km s-min=5.2km az=174.0*
*MOS **10** 17:17:50.9±1.2,27°.18N×55°.64E,h33^{km},mb4.9/33,Error ellipse: s-maj=7.7km s-min=4.5km az=123.0*
*CSEM **10** 17:17:50.2±0.1,27°.17N×55°.53E,h10^{km},mb4.4/22,Ms3.8, Error ellipse: s-maj=4.9km s-min=4.4km az=54.0*
*DSN **10** 17:17:53.5±0.0,27°.06N×55°.67E,h10^{km},mb3.8/7,ML4.4/4, Ms4.3/2,Error ellipse: s-maj=2.3km s-min=0.9km az=257.0*
*ISN **10** 17:18:01.1±1.3,26°.84N×54°.15E,h0^{km}±275^{km},ML4.1*
*OMAN **10** 17:18:12.3,25°.73N×56°.23E,h2^{km}*

ISC 10 17:17:49.9±0.5,27°.14N±0°.03×55°.56E±0°.03,h14^{km}±2^{km}, h13^{km}:pP-P,n460,σ1^{s}38/474,mb4.5/73,MS3.3/10, 13C-10D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.93**	**70**	*e*Sg	**Sn**	**17 18 21.8**	**+0.1**
IBND				*e*Pg	**Pb**	**17 18 07.7**	**-0.1**
IBND				*e*		17 18 50.3	
	comp=Z,60µm,0.5s						
BANOM	**Banah**	**1.38**	**151**	P	**Pg**	**17 18 16.2**	**-0.2**
	SNR=1995						
BANOM	**Banah**	**1.38**	**151**	P	**Pg**	**17 18 16.2**	**-0.2**
	SNR=1000						
NAZ	**Nazwa, Dubai**	**2.14**	**177**	⇓*e*P	**Pb**	**17 18 28.2**	**-0.3**
	SNR=18						
NAZ				⇓S	**Sb**	**17 18 56.7**	**+1.8**
NAZ	**Nazwa, Dubai**	**2.14**	**177**	P	**Pb**	**17 18 28.2**	**-0.3**
	SNR=18						
NAZ				S	**Sb**	**17 18 56.7**	**+1.8**
HATD	**Hatta, Dubai**	**2.36**	**167**	*e*P	**Pb**	**17 18 31.0**	**-1.3**
	SNR=33						
HATD	**Hatta, Dubai**	**2.36**	**167**	P	**Pb**	**17 18 31.0**	**-1.3**
	SNR=33						
FAQ	**Al Faqa, Dubai**	**2.38**	**179**	*e*P	**Pb**	**17 18 31.7**	**-0.9**
	SNR=22						
FAQ	**Al Faqa, Dubai**	**2.38**	**179**	P	**Pb**	**17 18 31.7**	**-0.9**
	SNR=22						
ASHO	**Ashiyiah**	**2.48**	**169**	P	**Pb**	**17 18 32.6**	**-1.8**
	SNR=133						
ASHO	**Ashiyiah**	**2.48**	**169**	P	**Pb**	**17 18 32.6**	**-1.8**
	SNR=133						
ASUD	**

JMDO Jabal Madar 5.28 153 P **Pn** 17 19 11.3 +2.8
SNR=5.0
IKOO Kooshah 6.06 29 *e*Pn **Pn** 17 19 21.0 +1.5
IKOO Kooshah 6.06 29 Pn **Pn** 17 19 20.9 +1.5
IKOO Kooshah 6.06 29 Pn **Pn** 17 19 20.9 +1.5
IGAR Gharneh 6.07 331 *e*Pn **Pn** 17 19 20.8 +1.3
NASN Na'in 6.13 338 *e*P **Pn** 17 19 22.0 +1.6
NASN *e*Sg Sg 17 21 00.0 -6.6
NASN Na'in 6.13 338 *e*Pn **Pn** 17 19 22.0 +1.6
NASN Na'in 6.13 338 *e*Pn **Pn** 17 19 22.0 +1.6
ITEG Tejag 6.37 25 *e*Pn **Pn** 17 19 25.2 +1.6
ITEG *e* 17 21 21.5
comp=Z,566nm,0.4s
ITEG Tejag 6.37 25 *e*Pn **Pn** 17 19 25.2 +1.6
IZEF Zefreh 6.38 335 *e*Pn **Pn** 17 19 24.8 +0.9
IZEF *e* 17 19 58.4
comp=Z,560nm,0.3s
IZEF Zefreh 6.38 335 *e*Pn **Pn** 17 19 24.7 +0.9
TABS Tabas 6.63 11 *e*Pn **Pn** 17 19 29.5 +2.4
TABS Tabas 6.63 11 *e*Pn **Pn** 17 19 29.5 +2.4
IDAH Dahanechah 6.72 33 *e*Pn **Pn** 17 19 30.8 +2.4
IDAH *e* 17 21 57.0
comp=Z,663nm,0.5s
IDAH Dahanechah 6.72 33 *e*Pn **Pn** 17 19 30.8 +2.4
KFJS 6.83 281 S **Sn** 17 20 44.0 -3.4
baz=278
KFJS 6.83 281 P **Pn** 17 19 30.9 +1.1
baz=278
KFJS 6.83 281 P **Pn** 17 19 31.0 +1.2
KFJS S **Sn** 17 20 44.0 -3.4
IPIR Pirpir 6.85 325 *e*Pn **Pn** 17 19 30.9 +0.5
IPIR *e* 17 20 52.5
comp=N,721nm,0.2s
IPIR Pirpir 6.85 325 *e*Pn **Pn** 17 19 30.8 +0.5
IKLH Kolahrood 7.06 332 *e*Pn **Pn** 17 19 34.0 +0.9
IKLH *e* 17 21 07.4
comp=Z,478nm,0.3s
IKLH Kolahrood 7.06 332 *e*Pn **Pn** 17 19 33.9 +0.9
QAM Ghamsar 7.50 333 *e*Pn **Pn** 17 19 42.1 +3.0
SHRT Shahrakht 7.67 31 *e*Pn **Pn** 17 19 43.9 +2.6
SHRT Shahrakht 7.67 31 *e*Pn **Pn** 17 19 43.9 +2.6
SHGR Shooshtar-Gavs 7.69 312 *e*P **Pn** 17 19 42.0 +0.5
SHGR Shooshtar-Gavs 7.69 312 *e*P **Pn** 17 19 42.0 +0.5
SHGR Shooshtar-Gavs 7.69 312 *e*Pn **Pn** 17 19 42.8 +1.3
SHGR Shooshtar-Gavs 7.69 312 *e*Pn **Pn** 17 19 42.8 +1.3
IANJ Anjilo 8.42 351 *e*Pn **Pn** 17 19 53.2 +1.4
IANJ *e* 17 20 38.3
comp=Z,152nm,0.3s
IANJ Anjilo 8.42 351 *e*Pn **Pn** 17 19 53.2 +1.4
IVRN Varamin 8.49 338 *e*Pn **Pn** 17 19 53.9 +1.3
IVRN *e* 17 20 18.4
comp=Z,300nm,0.2s
IVRN Varamin 8.49 338 *e*Pn **Pn** 17 19 53.9 +1.3
ASAO Ashtian 8.78 329 *e*Pn **Pn** 17 19 57.6 +0.9
ASAO Ashtian 8.78 329 *e*Pn **Pn** 17 19 57.6 +0.9
IFIR Firoozkooh 8.81 345 *e*Pn **Pn** 17 19 57.7 +0.6
IFIR Firoozkooh 8.81 345 *e*Pn **Pn** 17 19 57.7 +0.6
ISHM Shahmirzad 8.86 348 *e*Pn **Pn** 17 19 58.9 +1.1
ISHM Shahmirzad 8.86 348 *e*Pn **Pn** 17 19 58.9 +1.1
IDMV Damavand 8.94 341 *e*Pn **Pn** 17 20 00.2 +1.3
IDMV *e* 17 20 20.1
comp=Z,167nm,0.2s
IDMV Damavand 8.94 341 *e*Pn **Pn** 17 20 00.2 +1.3
NSR Nassriya 9.10 297 *e*PN4 **Pn** 17 19 59.6 -1.2
NSR *e*Sn Sn 17 21 33.0 -10
NSR Nassriya 9.10 297 *e*Pn **Pn** 17 19 59.6 -1.2
SNR=46
IKIA Kiasar 9.18 350 *e* 17 20 20.8
comp=Z,153nm,0.3s
IKIA *e*Pn **Pn** 17 20 04.0 +1.8
IKIA Kiasar 9.18 350 *e*Pn **Pn** 17 20 04.0 +1.8
IALA Alasht 9.22 346 *e*Pn **Pn** 17 20 04.5 +1.7
IALA Alasht 9.22 346 *e*Pn **Pn** 17 20 04.5 +1.7
IGLO Ghaloghah 9.45 352 *e* 17 20 36.3
comp=Z,297nm,0.3s
IGLO *e*Pn **Pn** 17 20 08.8 +2.9
IRAZ Razeghan 9.54 331 *e* 17 20 11.4
comp=Z,372nm,0.2s
IRAZ *e*Pn **Pn** 17 20 07.7 +0.6
IAKL Akhelmad 9.82 15 *e*Pn **Pn** 17 20 13.4 +2.4
IBZA Bozab 9.86 320 *e*Pn **Pn** 17 20 11.8 +0.3
IBZA *e* 17 22 03.4
comp=Z,554nm,0.2s
IBZA Bozab 9.86 320 *e*Pn **Pn** 17 20 11.8 +0.3
IKOM Komasi 9.86 317 *e*Pn **Pn** 17 20 11.9 +0.5
IKOM Komasi 9.86 317 *e*Pn **Pn** 17 20 11.9 +0.5
ABTO Aybut 9.96 193 P **Pn** 17 20 12.9 +0.2
SNR=11
ABTO Aybut 9.96 193 P **Pn** 17 20 12.9 +0.2
SNR=11
ASYS 9.98 275 S Sn 17 21 55.9 -8.9
baz=273
ASYS 9.98 275 P **Pn** 17 20 11.7 -1.3
baz=273
ASYS 9.98 275 P **Pn** 17 20 12.0 -1.0
ASYS S Sn 17 21 56.0 -8.9
ISFR Sfrayin 10.10 11 *e*Pn **Pn** 17 20 16.7 +1.9
ISFR Sfrayin 10.10 11 *e*Pn **Pn** 17 20 16.7 +1.9
IBDR Badra 10.24 308 *e*Pn **Pn** 17 20 19.3 +2.8
IBDR *e*Sn **Sn** 17 22 07.5 -3.6
IVIS Veis 10.50 317 *e*Pn **Pn** 17 20 20.9 +0.8
IVIS Veis 10.50 317 *e*Pn **Pn** 17 20 20.9 +0.8
IGHG Ghaleghazi 10.54 315 *e*Pn **Pn** 17 20 20.6 -0.3
IGHG *e* 17 20 48.1
comp=Z,542nm,0.2s
IGHG Ghaleghazi 10.54 315 *e*Pn **Pn** 17 20 20.6 -0.3
ILIN Lien 10.70 319 *e*Pn **Pn** 17 20 22.7 -0.3
ILIN *e* 17 22 26.6
comp=Z,355nm,0.2s
ILIN Lien 10.70 319 *e*Pn **Pn** 17 20 22.7 -0.3
IDHR Dehrash 10.90 316 *e*Pn **Pn** 17 20 24.6 -1.0
IDHR *e* 17 22 26.2
comp=Z,773nm,0.2s
IDHR Dehrash 10.90 316 *e*Pn **Pn** 17 20 24.6 -1.0
BHD Baghdad 11.43 305 *e*PN4 **Pn** 17 20 33.6 +0.8
BHD *e*SN4 **Sn** 17 22 35.4 -4.9
BHD Baghdad 11.43 305 *e*Pn **Pn** 17 20 33.6 +0.8
SNR=46
IKRK Kirkuk 12.64 313 *e*PN4 Pn 17 20 52.8 +3.5
IKRK *e*SN4 **Sn** 17 23 07.8 -2.1
IKRK Kirkuk 12.64 313 *e*Pn Pn 17 20 52.8 +3.5
SNR=46
IKRK *e*Sn **Sn** 17 23 07.8 -2.1
SNR=48
IHRS Heris 13.25 329 *e*Pn **Pn** 17 20 58.4 +0.6
IHRS Heris 13.25 329 *e*Pn **Pn** 17 20 58.4 +0.6
KBL Kabul 13.73 54 *e*P **Pn** 17 21 03.9 -0.5
KBL Kabul 13.73 54 *e*Pn **Pn** 17 21 03.9 -0.5
KBL Kabul 13.73 54 *e*Pn **Pn** 17 21 03.9 -0.5
MSL Mosul 14.04 314 *e*Pn **P** 17 21 13.1 -3.2
RTB Rutbah 14.44 298 *e*Pn **Pn** 17 21 13.9 -0.1
RTB *e*Sn Sn 17 23 44.9 -9.2
RTB Rutbah 14.44 298 *e*Pn **Pn** 17 21 13.9 -0.1
SNR=45
THW Thamme Wali 15.12 64 P **Pn** 17 21 23.6 +0.5
CEP Cherat 15.59 61 P **P** 17 21 33.0 -0.6
GNI Garni 15.78 328 *e*Pn **Pn** 17 21 32.9 +1.0
comp=Z,31nm,0.6s
GNI Garni 15.78 328 Pn **P** 17 21 37.6 +1.9
comp=Z,3.0nm,0.3s,baz=37,slow=0.5,SNR=14
GNI LR LR 17 27 10.0
comp=Z,18nm,20.1s,baz=93,slow=36
GNI Garni 15.78 328 ⇓*i*P **P** 17 21 37.4 +1.7
SNR=8.8
GNI Garni 15.78 328 *e*Pn **Pn** 17 21 32.9 +1.0
comp=Z,31nm,0.6s
GNI Garni 15.78 328 P **P** 17 21 37.4 +1.7
SNR=8.8
DAMY Dhamar 16.27 222 *e*Pn **Pn** 17 21 37.1 -1.3
DAMY Dhamar 16.27 222 *e*Pn **Pn** 17 21 37.1 -1.3
ASF Jabal al Asfar 16.97 292 Pn **P** 17 21 48.1 -0.8
ASF Sn Sn 17 24 45.9 -10
ASF Jabal al Asfar 16.97 292 Pn **P** 17 21 48.1 -0.8
comp=Z,0.6nm,0.3s,baz=59,slow=5.8,SNR=8.8
ASF Sn Sn 17 24 45.9 -10
comp=Z,0.2nm,0.3s,baz=246,slow=18,SNR=3.3
ZEI Tsey 18.27 332 *e*P **P** 17 22 05.2 +1.8
ZEI pmax pmax
comp=Z,42nm,0.9s
EIL Elat 18.30 283 P **P** 17 22 05.3 +1.7
EIL Elat 18.30 283 P **P** 17 22 05.3 +1.7
comp=Z,0.2nm,0.3s,baz=18,slow=3.7,SNR=9.4
EIL LR LR 17 30 10.9
comp=Z,39nm,19.6s,baz=88,slow=40
EIL Elat 18.30 283 P **P** 17 22 05.3 +1.7
MMAI Mount Meron Ar 18.39 293 P **Pn** 17 22 05.8 +1.2
MMAI Mount Meron Ar 18.39 293 P **Pn** 17 22 05.8 +1.2
comp=Z,0.4nm,0.3s,baz=101,slow=15,SNR=9.4
MMAI Mount Meron Ar 18.39 293 P **Pn** 17 22 05.8 +1.2
NCK Nalchik 18.98 332 *e*P **Pn** 17 22 14.0 +2.3
NEY Neytrino 19.16 330 *e*P **Pn** 17 22 16.1 +2.2
KBZ Khabaz 19.47 332 P **Pn** 17 22 18.1 +0.7
KBZ Khabaz 19.47 332 P **Pn** 17 22 18.1 +0.7
KBZ Khabaz 19.47 332 P **Pn** 17 22 18.1 +0.7
comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=14
KBZ Khabaz 19.47 332 P **Pn** 17 22 18.1 +0.7
KIV Kislovodsk 19.74 332 *e*P **Pn** 17 22 22.8 +2.0
KIV pmax pmax
comp=Z,93nm,1.6s
KIV Kislovodsk 19.74 332 *e*P **P** 17 22 18.6 -0.7
comp=Z,36nm,0.8s
KIV Kislovodsk 19.74 332 ⇑*i*P **Pn** 17 22 24.9 +4.1
SNR=5.1
KIV Kislovodsk 19.74 332 P **Pn** 17 22 24.9 +4.1
SNR=5.1
KKAR Karatay Array 20.04 33 *e*P **P** 17 22 20.9 -1.6
KKAR Karatay Array 20.04 33 *e*P **P** 17 22 20.9 -1.6
KKAR Karatay Array 20.04 33 *e*P **P** 17 22 20.9 -1.6
GOF Gofitskoye 20.50 334 ⇑*i*P Pn 17 22 29.5 -0.2
GOF pmax pmax
comp=Z,46nm,1.0s
GOF Gofitskoye 20.50 334 *i* P Pn 17 22 29.5 -0.2
comp=Z,46nm,1.0s
KSH Kashi 21.00 49 *e*P P 17 22 26.9 -6.2
KSH *e*PP **PnPn** 17 22 46.2 -5.8
KSH pmax pmax
comp=Z,4.0nm,0.3s
KSH pmax pmax
comp=Z,80nm,4.2s
KSH LR LR
comp=Z,130nm,6.1s
KSH LR LR
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,200nm,5.7s
EKS2 Erkin-Say 21.45 39 *e*P **P** 17 22 36.0 -2.0
EKS2 pmax pmax
comp=Z,23nm,1.1s
EKS2 Erkin-Say 21.45 39 *e*P **P** 17 22 36.0 -2.0
comp=Z,23nm,1.1s
EKS2 Erkin-Say 21.45 39 *e*P **P** 17 22 36.0 -2.0
comp=Z,23nm,1.1s
AAK Ala-Archa 21.84 40 *e*P **P** 17 22 40.6 -1.6
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 21.84 40 *e*P **P** 17 22 40.6 -1.6
comp=Z,6.4nm,0.9s
AAK Ala-Archa 21.84 40 P **P** 17 22 42.8 +0.6
comp=Z,4.6nm,0.7s,baz=180,slow=7.1,SNR=12
AAK LR LR 17 31 27.9
comp=Z,61nm,20.9s,baz=32,slow=38
AAK Ala-Archa 21.84 40 *e*P **P** 17 22 40.6 -1.6
comp=Z,6.4nm,0.9s
BR131 Keskin Array S 22.12 310 *e*P **P** 17 22 45.6 +0.5
comp=Z,6.2nm,0.6s
BR131 Keskin Array S 22.12 310 *e*P **P** 17 22 45.6 +0.5
comp=Z,6.2nm,0.6s
BRTR Keskin Array B 22.12 310 P **P** 17 22 45.9 +0.7
BRTR Keskin Array B 22.12 310 P **P** 17 22 45.9 +0.7
comp=Z,9.0nm,0.8s,baz=129,slow=11,SNR=35
BRTR Keskin Array B 22.12 310 P **P** 17 22 45.8 +0.7
ABKAR Akbulak array 22.34 8 *e*P **P** 17 22 45.9 -1.4
ABKAR Akbulak array 22.34 8 *e*P **P** 17 22 45.9 -1.4
ANTO Ankara 22.76 310 *e*P **P** 17 22 50.8 -1.1
ANTO pmax pmax
comp=Z,20nm,0.6s
ANTO Ankara 22.76 310 ⇑*i*P P 17 22 59.7 +7.8
ANTO Ankara 22.76 310 *e*P **P** 17 22 50.8 -1.1
comp=Z,20nm,0.6s
ANTO Ankara 22.76 310 *e*P **P** 17 22 50.8 -1.1
comp=Z,20nm,0.6s
ANN Anapa 22.84 325 *e*P **P** 17 22 57.0 +4.4
ANN *e*SS Sn 17 27 38.2 +21
ANN pmax pmax
comp=Z,53nm,1.6s
AKTK Aktyubinsk 23.34 4 P **P** 17 22 58.5 +0.8
AKTO Aktyubinsk 23.34 4 P **P** 17 22 58.5 +0.8
AKTO Aktyubinsk 23.34 4 P **P** 17 22 58.5 +0.8
AKTO Aktyubinsk 23.34 4 P **P** 17 22 58.5 +0.8
comp=Z,7.5nm,0.7s,baz=194,slow=12,SNR=14
AKTO LR LR 17 33 56.6
comp=Z,92nm,19.1s,baz=28,slow=42
AKTO Aktyubinsk 23.34 4 P **P** 17 22 58.5 +0.8
KOLN Koldanda 24.88 82 *e*P **P** 17 23 14.3 +1.7
comp=Z,27nm,1.1s
DANN Dangsing 24.97 81 *e*P **P** 17 23 15.7 +2.2
comp=Z,95nm,0.8s
GKN Gorkha 25.77 81 *e*P **P** 17 23 21.9 +1.3
comp=Z,13nm,0.7s
VRHR Novokhopersk 26.16 340 *e*P **P** 17 23 27.0 +3.3
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
KKN Kakani 26.36 82 *e*P **P** 17 23 27.4 +1.4
comp=E,14nm,0.7s
PKIN Phulchoki 26.48 82 *e*P **P** 17 23 28.3 +1.1
comp=E,10nm,0.8s
PKI Pulchoki 26.49 82 *e*P **P** 17 23 28.5 +1.1
comp=E,20nm,1.0s
VORD Divnogorie 26.82 337 *e*P P 17 23 34.7 +5.1
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.8s
GUN Gumba 26.87 81 *e*P **P** 17 23 32.2 +1.4
comp=E,25nm,0.8s
VSR Storozhevoye 27.07 337 *e*P P 17 23 37.3 +5.4
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.8s
JIRN Jiri 27.17 82 *e*P **P** 17 23 34.7 +1.2
comp=E,36nm,0.6s
IDI Anoyia 27.38 295 P **P** 17 23 36.7 +1.8
IDI Anoyia 27.38 295 P **P** 17 23 36.7 +1.8
comp=E,9.4nm,0.7s,baz=90,slow=10,SNR=4.9
IDI Anoyia 27.38 295 P **P** 17 23 36.7 +1.8
RAMN Ramite 27.62 83 *e*P **P** 17 23 38.1 +0.7
comp=E,13nm,0.8s
BRVK Borovoye 28.12 19 *e*P **P** 17 23 39.0 -2.3
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK Borovoye 28.12 19 *e*P **P** 17 23 39.0 -2.3
comp=Z,7.9nm,1.1s
BVAR Borovoye Array 28.12 19 P **P** 17 23 41.3 -0.1
BVAR Borovoye Array 28.12 19 P **P** 17 23 41.3 -0.1
BVAR Borovoye Array 28.12 19 P **P** 17 23 41.3 -0.1
comp=Z,1.5nm,0.6s,baz=197,slow=7.7,SNR=11
BVAR LR LR 17 36 48.1
comp=Z,76nm,19.9s,baz=223,slow=41
BVAR Borovoye Array 28.12 19 P **P** 17 23 41.3 -0.1
LPSR Galich'ya Gora 28.32 338 *e*P **P** 17 23 44.5 +1.5
comp=Z,6.0nm,0.7s
ODAN Odare 28.33 83 *e*P **P** 17 23 44.3 +0.6
TAPN Taplejung 28.55 82 *e*P **P** 17 23 46.4 +0.6
comp=Z,24nm,1.5s
MK31 Makanchi Array 28.78 40 *e*P **P** 17 23 45.1 -2.2
MK31 Makanchi Array 28.78 40 *e*P **P** 17 23 45.1 -2.2
MK31 Makanchi Array 28.78 40 *e*P **P** 17 23 45.1 -2.2
MKAR Makanchi Array 28.78 40 *e*P **P** 17 23 46.9 -0.4
MKAR Makanchi Array 28.78 40 *e*P **P** 17 23 46.9 -0.4
MKAR Makanchi Array 28.78 40 P **P** 17 23 47.3 0.0
comp=Z,0.8nm,0.4s,baz=224,slow=8.2,SNR=12
MKAR LR LR 17 36 14.2
comp=Z,31nm,21.9s,baz=357,slow=38
MKAR Makanchi Array 28.78 40 *e*P **P** 17 23 46.9 -0.4
KURBB Kurchatov Arra 29.27 31 P **P** 17 23 51.4 -0.1
comp=Z,0.9nm,0.8s,baz=230,slow=8.7,SNR=15
KURK Kurchatov 29.37 31 P **P** 17 23 51.4 -1.0
KURK Kurchatov 29.37 31 P **P** 17 23 51.4 -1.0
KURK Kurchatov 29.37 31 P **P** 17 23 51.4 -1.0
PLOR Plostina 29.57 317 ⇑P **P** 17 23 55.6 +1.2
PLOR Plostina 29.57 317 P **P** 17 23 55.6 +1.2
MLR Muntele Rosu 29.84 316 ⇑*i*P **P** 17 23 59.1 +2.3
MLR Muntele Rosu 29.84 316 P **P** 17 23 58.0 +1.2
MLR Muntele Rosu 29.84 316 P **P** 17 23 58.0 +1.2
comp=Z,0.7nm,0.6s,baz=314,slow=12,SNR=7.6
MLR LR LR 17 37 55.8
comp=Z,17nm,19.7s,baz=332,slow=40
MLR Muntele Rosu 29.84 316 P **P** 17 23 58.0 +1.2
TESR Tescani 29.90 318 ⇓*i*P **P** 17 23 57.6 +0.4
VOIR 30.37 315 ⇑P **P** 17 24 03.8 +2.3
VOIR 30.37 315 ⇑*i*P **P** 17 24 03.8 +2.3
DOPR Dopca 30.40 316 ⇑*i*P **P** 17 24 02.4 +0.7
ARR Arges 30.60 315 ⇑*i*P **P** 17 24 05.6 +2.1
WMQ Urumqi 30.77 49 P **P** 17 24 05.6 +0.6
WMQ pP **pP** 17 24 10.0 +0.7
WMQ sP **sP** 17 24 12.6 +1.6
WMQ PP **PnPn** 17 25 05.7 +0.7
WMQ PcP **PcP** 17 27 02.5 +0.2
WMQ ScP **ScP** 17 30 44.9 +0.2
WMQ ScS **ScS** 17 34 39.7 -1.5
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,180nm,5.7s
WMQ LR LR
comp=Z,97nm,27.4s
WMQ LR LR
comp=Z,48nm,24.0s
AK02 Malin Array Si 30.88 327 *e*P P 17 24 02.5 -3.3
AK01 Malin Array Si 30.90 327 *e*P **P** 17 24 03.9 -2.1
AK01 Malin Array Si 30.90 327 *e*P **P** 17 24 03.9 -2.1
AKASG Malin Array Be 30.90 327 P **P** 17 24 04.8 -1.2
AKASG Malin Array Be 30.90 327 P **P** 17 24 04.8 -1.2
AKASG Malin Array Be 30.90 327 P **P** 17 24 04.8 -1.2
comp=Z,2.6nm,0.6s,baz=135,slow=8.6,SNR=4.6
AKASG Malin Array Be 30.90 327 P **P** 17 24 04.8 -1.2
AKBB Malin Array Si 30.90 327 *e*P **P** 17 24 04.9 -1.1
AKBB Malin Array Si 30.90 327 *e*P **P** 17 24 04.9 -1.1
AKBB Malin Array Si 30.90 327 *e*P **P** 17 24 04.9 -1.1
KIEV Kiev 30.91 327 *e*P **P** 17 24 05.0 -1.0
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 30.91 327 *e*P **P** 17 24 05.0 -1.0
comp=Z,6.6nm,0.7s
KIEV Kiev 30.91 327 *e*P **P** 17 24 05.0 -1.0
comp=Z,7.0nm,0.7s
OBN Obninsk 31.19 339 *e*P **P** 17 24 08.0 -0.4
OBN *e* 17 25 15.1
OBN pmax pmax
comp=Z,23nm,1.6s
OBN Obninsk 31.19 339 *e*P **P** 17 24 08.0 -0.4
comp=Z,23nm,1.6s
BURAR Bucovina Array 31.30 319 ⇓P **P** 17 24 10.0 +0.3
BURAR Bucovina Array 31.30 319 ⇓*i*P **P** 17 24 10.0 +0.3
LSA Lhasa 31.34 77 P **P** 17 24 12.6 +2.0
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 31.34 77 *e*P **P** 17 24 09.5 -1.1
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 31.34 77 *e*P **P** 17 24 09.5 -1.1
comp=Z,6.5nm,0.6s
LSA Lhasa 31.34 77 P **P** 17 24 13.0 +2.4
SNR=10
BZS Buzias 32.64 313 ⇓P **P** 17 24 22.3 +1.0
BZS Buzias 32.64 313 ⇓*i*P **P** 17 24 22.3 +1.0
BZS Buzias 32.64 313 P **P** 17 24 22.3 +1.0
KOLS Kolonicke sedl 33.66 319 *e*P **P** 17 24 31.1 +0.9
KOLS pmax pmax
comp=Z,11nm,1.5s
KOLS Kolonicke sedl 33.66 319 *e*P **P** 17 24 31.1 +0.9
KOLS Kolonicke sedl 33.66 319 *e*P **P** 17 24 31.1 +0.9
comp=Z,11nm,1.5s
CRVS Cervenica-Dubn 34.12 319 *e*P **P** 17 24 37.4 +3.2
CRVS pmax pmax
comp=Z,4.0nm,0.9s
CRVS Cervenica-Dubn 34.12 319 *e* **P** 17 24 37.4 +3.2
ZAA0 Zalesovo Array 34.36 31 *e*P **P** 17 24 34.0 -2.2
ZAA0 Zalesovo Array 34.36 31 *e*P **P** 17 24 34.0 -2.2
ZALV Zalesovo Beam 34.36 31 P **P** 17 24 35.7 -0.5
ZALV Zalesovo Beam 34.36 31 P **P** 17 24 35.7 -0.5
ZALV Zalesovo Beam 34.36 31 P **P** 17 24 35.7 -0.5
comp=Z,4.4nm,0.5s,baz=240,slow=9.5,SNR=23
ZALV LR LR 17 39 45.5
comp=Z,23nm,21.8s,baz=227,slow=38
ZALV Zalesovo Beam 34.36 31 P **P** 17 24 35.7 -0.5
STHS Stebnicka Huta 34.48 319 *e*P P 17 24 41.8 +4.4
STHS pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 34.48 319 *e* P 17 24 41.8 +4.4
PKSM Moragy 34.79 313 ⇓P **P** 17 24 40.2 +0.2
PKSM Moragy 34.79 313 ⇓*i*P **P** 17 24 40.2 +0.2
PKSM Moragy 34.79 313 P **P** 17 24 40.2 +0.2
MORC Moravsky Berou 36.81 318 ⇑P **P** 17 24 57.1 -0.3
MORC Moravsky Berou 36.81 318 ⇑*i*P **P** 17 24 57.1 -0.3
MORC Moravsky Berou 36.81 318 P **P** 17 24 57.1 -0.3
VRAC Vranov 37.20 317 ⇑*i*P **P** 17 24 59.3 -1.4
VRAC Vranov 37.20 317 P **P** 17 24 59.3 -1.4
KRLC Kraliky 37.38 318 *e*P **P** 17 25 02.7 +0.5
KRLC Kraliky 37.38 318 *e*P **P** 17 25 02.7 +0.5
KRLC *e*pP **pP** 17 25 05.5 -1.0
KRLC Kraliky 37.38 318 *e*P **P** 17 25 02.7 +0.5
DPC Dobruska-Polom 37.76 319 *e*P **P** 17 25 05.6 +0.1
DPC Dobruska-Polom 37.76 319 *e*P **P** 17 25 05.6 +0.1
DPC *e*pP **pP** 17 25 08.5 -1.2
DPC Dobruska-Polom 37.76 319 *e*P **P** 17 25 05.6 +0.1
GTA Gaotai 38.62 60 *e*P **P** 17 25 13.5 +0.6
GTA pP **pP** 17 25 17.9 +0.7
GTA sP **sP** 17 25 20.9 +2.0
GTA pmax pmax
comp=Z,4.0nm,1.1s
GEC2 GERESS Array S 38.82 315 *e*P **P** 17 25 16.0 +1.5
GEC2 GERESS Array S 38.82 315 *e*P **P** 17 25 16.0 +1.5
GEC2 GERESS Array S 38.82 315 *e*P **P** 17 25 16.0 +1.5
GERES GERESS Array B 38.82 315 P **P** 17 25 13.2 -1.3
GERES GERESS Array B 38.82 315 P **P** 17 25 13.2 -1.3
comp=Z,1.0nm,0.7s,baz=104,slow=8.2,SNR=7.7
GERES GERESS Array B 38.82 315 P **P** 17 25 13.2 -1.3
KHC Kasperske Hory 38.99 316 *e*P **P** 17 25 15.6 -0.2
KHC *e* 17 25 24.7
KHC Kasperske Hory 38.99 316 *e*P **P** 17 25 15.6 -0.2
KHC *e*pP **pP** 17 25 18.6 -1.5
KHC *ex* x 17 25 24.7
KHC Kasperske Hory 38.99 316 *e*P **P** 17 25 14.9 -0.9
comp=Z,5.2nm,0.9s
KHC Kasperske Hory 38.99 316 *e*P **P** 17 25 15.6 -0.2
JOF Joensuu 39.17 343 *e*P **P** 17 25 16.9 -0.1
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 39.17 343 *e*p **P** 17 25 16.9 -0.1
comp=Z,3.6nm,0.5s
JOF Joensuu 39.17 343 *e*P **P** 17 25 16.9 -0.1
comp=Z,4.0nm,0.5s
BRG Berggiesshubel 39.36 318 *e*P **P** 17 25 17.8 -1.0
comp=Z,20nm,1.7s
BRG Berggiesshubel 39.36 318 *e*P **P** 17 25 17.8 -1.0
BRG pmax pmax
comp=Z,20nm,1.7s
BRG Berggiesshubel 39.36 318 *e*P **P** 17 25 17.8 -1.0
comp=Z,20nm,1.7s
FIA1 FINESS Array S 39.59 338 *e*P **P** 17 25 18.1 -2.5
FINES FINESS Array B 39.59 338 P **P** 17 25 20.2 -0.4
FINES FINESS Array B 39.59 338 P **P** 17 25 20.2 -0.4
comp=Z,5.6nm,0.6s,baz=134,slow=9.9,SNR=19
FINES FINESS Array B 39.59 338 P **P** 17 25 20.2 -0.4
KEST Kesra 40.05 294 *e*P **P** 17 25 27.3 +2.5
CLL Collm 40.07 319 *e*P P 17 25 28.0 +3.3
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 40.07 319 *e*(P) P 17 25 28.0 +3.3
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 40.63 92 *e*P **P** 17 25 28.2 -1.6
CHTO pmax pmax
comp=Z,13nm,2.8s
CHTO Chiang Mai 40.63 92 *e*P **P** 17 25 28.1 -1.6
comp=Z,13nm,2.8s
CHTO Chiang Mai 40.63 92 *e*P **P** 17 25 28.2 -1.6
comp=Z,13nm,2.8s
CMAR Chiang Mai Arr 40.76 93 P **P** 17 25 32.1 +1.3
CMAR PcP **PcP** 17 27 32.2 +0.1
CMAR Chiang Mai Arr 40.76 93 P **P** 17 25 32.1 +1.3
comp=Z,0.6nm,0.7s,baz=280,slow=9.4,SNR=8.9

CMAR PcP **PcP** 17 27 32.2 +0.1
comp=Z,0.9nm,0.7s,baz=283,slow=4.6,SNR=5.5
CMAR Chiang Mai Arr 40.76 93 P **P** 17 25 32.1 +1.3
CMAR Chiang Mai Arr 40.76 93 PcP **PcP** 17 27 32.2 +0.1
LZH Lanzhou 41.72 65 *eP* **P** 17 25 38.0 -0.8
LZH pP **pP** 17 25 41.2 -1.9
LZH sP **sP** 17 25 42.7 -2.1
LZH PP **PP** 17 27 17.3 +2.1
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,74nm,5.2s
LZH LR LR
comp=Z,410nm,13.2s
LZH LR LR
comp=Z,400nm,13.7s
LZH LR LR
comp=Z,480nm,17.8s
CD2 Chengdu 42.06 73 *eP* **P** 17 25 41.0 -0.5
CD2 pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 42.22 82 P **P** 17 25 42.8 -0.2
KMI pmax pmax
comp=Z,7.0nm,2.0s
MBDF Montbardon 42.55 308 *eP* **P** 17 25 44.1 -1.2
comp=Z,16nm,0.9s
MBDF Montbardon 42.55 308 *eP* **P** 17 25 44.1 -1.2
MBDF pmax pmax
comp=Z,16nm,0.9s
MBDF Montbardon 42.55 308 *eP* **P** 17 25 44.1 -1.2
comp=Z,16nm,0.9s
MBDF Montbardon 42.55 308 *eP* **P** 17 25 44.1 -1.2
comp=Z,8.1nm,0.9s
LPG La Plagne 42.66 309 *eP* **P** 17 25 47.0 +0.5
comp=Z,9.3nm,0.8s
LPG La Plagne 42.66 309 *eP* **P** 17 25 47.0 +0.5
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 42.66 309 *eP* **P** 17 25 47.0 +0.5
comp=Z,9.3nm,0.8s
LPG La Plagne 42.66 309 *eP* **P** 17 25 47.0 +0.5
comp=Z,4.7nm,0.8s
LPL La Plagne 42.68 309 *eP* **P** 17 25 47.0 +0.5
LPL La Plagne 42.68 309 *eP* **P** 17 25 47.0 +0.5
LPL La Plagne 42.68 309 *eP* **P** 17 25 47.0 +0.5
LPL La Plagne 42.68 309 *eP* **P** 17 25 47.0 +0.5
CDF Champ du Feu 42.82 313 *eP* **P** 17 25 47.6 +0.1
comp=Z,17nm,1.2s
CDF Champ du Feu 42.82 313 *eP* **P** 17 25 47.6 +0.1
CDF pmax pmax
comp=Z,17nm,1.2s
CDF Champ du Feu 42.82 313 *eP* **P** 17 25 47.6 +0.1
comp=Z,17nm,1.2s
CDF Champ du Feu 42.82 313 *eP* **P** 17 25 47.6 +0.1
comp=Z,8.4nm,1.2s
HINF Hinteralfeld 42.98 312 *eP* **P** 17 25 48.5 -0.2
HINF Hinteralfeld 42.98 312 *eP* **P** 17 25 48.5 -0.2
HINF Hinteralfeld 42.98 312 *eP* **P** 17 25 48.5 -0.2
HINF Hinteralfeld 42.98 312 *eP* **P** 17 25 48.5 -0.2
CABF La Chapelle 43.29 310 *eP* **P** 17 25 50.5 -0.8
comp=Z,13nm,0.8s
CABF La Chapelle 43.29 310 *eP* **P** 17 25 50.5 -0.8
CABF pmax pmax
comp=Z,13nm,0.8s
CABF La Chapelle 43.29 310 *eP* **P** 17 25 50.5 -0.8
comp=Z,13nm,0.8s
CABF La Chapelle 43.29 310 *eP* **P** 17 25 50.5 -0.8
comp=Z,6.6nm,0.8s
HAU Haudompre 43.35 312 *eP* **P** 17 25 52.1 +0.4
comp=Z,10nm,0.8s
HAU *eR*
comp=Z,48nm,20.0s
HAU Haudompre 43.35 312 *eP* **P** 17 25 52.1 +0.4
HAU pmax pmax
comp=Z,10.0nm,0.8s
HAU Haudompre 43.35 312 *eP* **P** 17 25 52.1 +0.4
comp=Z,10nm,0.8s
HAU Haudompre 43.35 312 *eP* **P** 17 25 52.1 +0.4
comp=Z,5.1nm,0.8s
TLY Talaya 43.48 42 *eP* **P** 17 25 51.7 -0.9
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 43.48 42 *eP* **P** 17 25 51.7 -0.9
comp=Z,5.3nm,0.6s
TLY Talaya 43.48 42 *eP* **P** 17 25 51.7 -0.9
comp=Z,5.3nm,0.6s
PAGF Fort de Pagny 43.86 313 *eP* **P** 17 25 56.0 +0.2
PAGF Fort de Pagny 43.86 313 *eP* **P** 17 25 56.0 +0.2
PAGF Fort de Pagny 43.86 313 *eP* **P** 17 25 56.0 +0.2
SFTF Sexfontaines 44.25 312 *eP* **P** 17 25 58.4 -0.5
SFTF Sexfontaines 44.25 312 *eP* **P** 17 25 58.4 -0.5
SFTF Sexfontaines 44.25 312 *eP* **P** 17 25 58.4 -0.5
SONM Songino Array 44.40 48 P **P** 17 26 00.4 +0.1
SONM Songino Array 44.40 48 P **P** 17 26 00.4 +0.1
comp=Z,1.2nm,0.8s,baz=254,slow=7.2,SNR=12
SONM Songino Array 44.40 48 P **P** 17 26 00.4 +0.1
GIVF Givet 44.74 315 *eP* **P** 17 26 03.8 +1.1
GIVF Givet 44.74 315 *eP* **P** 17 26 03.8 +1.1
GIVF Givet 44.74 315 *eP* **P** 17 26 03.8 +1.1
GIVF Givet 44.74 315 *eP* **P** 17 26 03.8 +1.1
SMF Signal de Mont 44.83 310 *eP* **P** 17 26 03.4 -0.1
comp=Z,14nm,0.8s
SMF Signal de Mont 44.83 310 *eP* **P** 17 26 03.4 -0.1
SMF pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 44.83 310 *eP* **P** 17 26 03.4 -0.1
comp=Z,14nm,0.8s
SMF Signal de Mont 44.83 310 *eP* **P** 17 26 03.4 -0.1
comp=Z,7.2nm,0.8s
ULN Ulaanbaatar 44.85 48 *eP* P 17 26 00.1 -3.8
comp=Z,43nm,2.8s
ULN Ulaanbaatar 44.85 48 *eP* **P** 17 26 04.8 +1.0
comp=Z,2.0nm,0.6s
LOR Lormes 44.90 311 *eP* **P** 17 26 04.6 +0.5
LOR *eR*
comp=Z,56nm,21.2s
LOR Lormes 44.90 311 *eP* **P** 17 26 04.6 +0.5
LOR Lormes 44.90 311 *eP* **P** 17 26 04.6 +0.5
NOA NORSAR Array B 45.05 331 P **P** 17 26 03.9 -1.2
NOA NORSAR Array B 45.05 331 P **P** 17 26 03.9 -1.2
comp=Z,2.7nm,0.7s,baz=117,slow=7.9,SNR=12
NOA LR LR 17 47 12.4
comp=Z,31nm,18.3s,baz=0.0,slow=39
NOA NORSAR Array B 45.05 331 P **P** 17 26 03.9 -1.2
SSF Saint Saulge 45.11 310 *eP* **P** 17 26 05.9 +0.2
comp=Z,37nm,1.2s
SSF Saint Saulge 45.11 310 *eP* **P** 17 26 05.9 +0.2
SSF pmax pmax
comp=Z,37nm,1.2s
SSF Saint Saulge 45.11 310 *eP* **P** 17 26 05.9 +0.2
comp=Z,37nm,1.2s
SSF Saint Saulge 45.11 310 *eP* **P** 17 26 05.9 +0.2
comp=Z,18nm,1.2s
BAIF Baives 45.12 315 *eP* **P** 17 26 07.0 +1.2
comp=Z,17nm,1.0s
BAIF Baives 45.12 315 *eP* **P** 17 26 07.0 +1.2
BAIF pmax pmax
comp=Z,17nm,1.0s
BAIF Baives 45.12 315 *eP* **P** 17 26 07.0 +1.2
comp=Z,17nm,1.0s
AVF Avril sur Loir 45.18 310 *eP* **P** 17 26 06.2 -0.1
comp=Z,9.8nm,0.9s
AVF Avril sur Loir 45.18 310 *eP* **P** 17 26 06.2 -0.1
AVF pmax pmax
comp=Z,10.0nm,0.9s
AVF Avril sur Loir 45.18 310 *eP* **P** 17 26 06.2 -0.1
comp=Z,9.8nm,0.9s
AVF Avril sur Loir 45.18 310 *eP* **P** 17 26 06.2 -0.1
comp=Z,4.9nm,0.9s
TAM Tamanrasset 45.33 276 *eP* **P** 17 26 07.7 -0.3
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 45.33 276 *eP* **P** 17 26 07.7 -0.3
comp=Z,7.2nm,1.0s
GYA Guiyang 45.36 79 *eP* **P** 17 26 08.4 +0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
BGF Bois d'Agland 45.50 310 *eP* **P** 17 26 08.9 +0.1
comp=Z,22nm,0.9s
BGF Bois d'Agland 45.50 310 *eP* **P** 17 26 08.9 +0.1
BGF pmax pmax
comp=Z,22nm,0.9s
BGF Bois d'Agland 45.50 310 *eP* **P** 17 26 08.9 +0.1
comp=Z,22nm,0.9s
ARCES ARCESS Array B 45.89 346 P **P** 17 26 11.2 -0.4
ARCES ARCESS Array B 45.89 346 P **P** 17 26 11.2 -0.4
comp=Z,3.6nm,0.9s,baz=138,slow=8.4,SNR=6.1
ARCES ARCESS Array B 45.89 346 P **P** 17 26 11.2 -0.4
CAF Calviac 45.90 307 *eP* **P** 17 26 11.6 -0.5
comp=Z,13nm,0.9s
CAF Calviac 45.90 307 *eP* **P** 17 26 11.6 -0.5
CAF pmax pmax
comp=Z,13nm,0.9s
CAF Calviac 45.90 307 *eP* **P** 17 26 11.6 -0.5
comp=Z,13nm,0.9s
TCF Toulx Ste Croi 45.91 309 *eP* **P** 17 26 11.1 -1.0
TCF Toulx Ste Croi 45.91 309 *eP* **P** 17 26 11.1 -1.0
TCF Toulx Ste Croi 45.91 309 *eP* **P** 17 26 11.1 -1.0
RJF Les Rejaudoux 46.31 308 *eP* **P** 17 26 16.1 +0.8
RJF *eR*
comp=Z,65nm,17.0s
RJF Les Rejaudoux 46.31 308 *eP* **P** 17 26 16.1 +0.8
RJF Les Rejaudoux 46.31 308 *eP* **P** 17 26 16.1 +0.8
LFF La Frestale 46.84 307 *eP* **P** 17 26 18.7 -0.7
LFF La Frestale 46.84 307 *eP* **P** 17 26 18.7 -0.7
LFF La Frestale 46.84 307 *eP* **P** 17 26 18.7 -0.7
HHC Hu-ho-hao-te 47.66 58 *eP* **P** 17 26 24.4 -1.6
HHC pP **pP** 17 26 29.5 -0.9
HHC PP **PP** 17 28 14.9 -2.6
HHC ScS ScS 17 36 14.8 -4.8
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=Z,180nm,15.1s
HHC LR LR
comp=Z,230nm,15.7s
HHC LR LR
comp=Z,160nm,14.8s
LDF La Druitiere 47.71 312 *eP* **P** 17 26 24.5 -1.7
comp=Z,6.0nm,0.5s
LDF La Druitiere 47.71 312 *eP* **P** 17 26 24.5 -1.7
LDF pmax pmax
comp=Z,6.0nm,0.5s
LDF La Druitiere 47.71 312 *eP* **P** 17 26 24.5 -1.7
comp=Z,6.0nm,0.5s
FLN La Foliniere 47.97 312 *eP* **P** 17 26 28.0 -0.1
comp=Z,12nm,0.7s
FLN *eR*
comp=Z,61nm,17.0s
FLN La Foliniere 47.97 312 *eP* **P** 17 26 28.0 -0.1
FLN pmax pmax
comp=Z,12nm,0.7s
FLN La Foliniere 47.97 312 *eP* **P** 17 26 28.0 -0.1
comp=Z,12nm,0.7s
GRR Gorron 48.18 312 *eP* **P** 17 26 29.8 0.0
GRR Gorron 48.18 312 *eP* **P** 17 26 29.8 0.0
GRR Gorron 48.18 312 *eP* **P** 17 26 29.8 0.0
SJPF Ste Jean 48.20 305 *eP* **P** 17 26 30.3 +0.2
comp=Z,17nm,0.8s
SJPF Ste Jean 48.20 305 *eP* **P** 17 26 30.3 +0.2
SJPF pmax pmax
comp=Z,17nm,0.8s
SJPF Ste Jean 48.20 305 *eP* **P** 17 26 30.3 +0.2
comp=Z,17nm,0.8s
SGMF Saint Gilles 49.30 312 *eP* **P** 17 26 38.1 -0.3
SGMF Saint Gilles 49.30 312 *eP* **P** 17 26 38.1 -0.3
SGMF Saint Gilles 49.30 312 *eP* **P** 17 26 38.1 -0.3
QIZ Qiongzhong 50.27 87 P **P** 17 26 44.9 -1.3
QIZ S **S** 17 33 57.3 -1.3
ESDC Sonseca Array 50.40 300 P **P** 17 26 46.5 -0.5
ESDC Sonseca Array 50.40 300 P **P** 17 26 46.5 -0.5
comp=Z,0.7nm,0.5s,baz=82,slow=8.7,SNR=8.6
ESDC Sonseca Array 50.40 300 P **P** 17 26 46.5 -0.5
TOA0 Torodi Ar. Sit 52.09 266 *eP* P 17 26 55.3 -4.5
TORD Torodi Ar. Bea 52.09 266 P **P** 17 26 59.2 -0.6
TORD Torodi Ar. Bea 52.09 266 P **P** 17 26 59.2 -0.6
comp=Z,7.6nm,0.8s,baz=58,slow=7.7,SNR=19
TORD Torodi Ar. Bea 52.09 266 P **P** 17 26 59.2 -0.6
HIA Hailar 53.34 47 *eP* **P** 17 27 08.2 -0.6
comp=Z,1.0nm,1.2s
NJ2 Nanjing 54.57 69 *eP* **P** 17 27 15.9 -2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 Changchun 57.67 54 *eP* **P** 17 27 40.0 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSAR Wonju Array Be 60.66 60 P **P** 17 28 00.3 -0.4
KSAR Wonju Array Be 60.66 60 P **P** 17 28 00.3 -0.4
KSRS Korea Array 60.69 60 P **P** 17 28 00.3 -0.6
comp=Z,2.1nm,0.8s,baz=278,slow=6.9,SNR=10
DBIC Dimbokro 60.70 262 P **P** 17 28 02.7 +1.4
DBIC Dimbokro 60.70 262 P **P** 17 28 02.7 +1.4
comp=Z,4.5nm,0.8s,baz=52,slow=7.0,SNR=4.1
DBIC Dimbokro 60.70 262 P **P** 17 28 02.7 +1.4
USRK Ussuriysk Arra 62.25 52 P **P** 17 28 10.3 -1.0
comp=Z,1.4nm,0.8s,baz=257,slow=15,SNR=4.2
YSS Yuzh-Sakhalins 68.88 47 *eP* **P** 17 28 55.7 +1.5
PETK Petropavlovsk- 75.58 37 P **P** 17 29 35.5 +1.3
PETK Petropavlovsk- 75.58 37 P **P** 17 29 35.5 +1.3
PETK Petropavlovsk- 75.58 37 P **P** 17 29 35.5 +1.3
comp=Z,5.6nm,1.0s,baz=260,slow=6.1,SNR=3.6
PETK Petropavlovsk- 75.58 37 P **P** 17 29 35.5 +1.3
ILAR Eielson Array 86.74 9 P **P** 17 30 32.3 -1.0
ILAR Eielson Array 86.74 9 P **P** 17 30 32.3 -1.0
comp=Z,0.6nm,0.6s,baz=321,slow=4.1,SNR=8.3
ILAR Eielson Array 86.74 9 P **P** 17 30 32.3 -1.0
WRA Warramunga Arr 89.47 113 P **P** 17 30 46.5 -0.5
WRA Warramunga Arr 89.47 113 P **P** 17 30 46.5 -0.5
comp=Z,1.0nm,0.9s,baz=312,slow=4.1,SNR=7.4
WRA Warramunga Arr 89.47 113 P **P** 17 30 46.5 -0.5
YKA Yellowknife Ar 90.34 355 P **P** 17 30 50.4 +0.1
YKA Yellowknife Ar 90.34 355 P **P** 17 30 50.4 +0.1
comp=Z,0.4nm,0.7s,baz=3.5,slow=5.3,SNR=10
YKA Yellowknife Ar 90.34 355 P **P** 17 30 50.4 +0.1
ASAR Alice Springs 90.92 116 P **P** 17 30 53.8 0.0
ASAR Alice Springs 90.92 116 P **P** 17 30 53.8 0.0
comp=Z,0.5nm,0.7s,baz=303,slow=4.7,SNR=12
ASAR Alice Springs 90.92 116 P **P** 17 30 53.8 0.0

*BJI **10** 17:36:31.7, 7˚.54S×128˚.45E, h126km, mB4.8/2, mb4.5/10*
*IDC **10** 17:36:31.6±4.7, 7˚.55S×128˚.28E, h99km±46km, mb4.0/10, mb1 4.1/12, mb1mx4.0/19, mbtmp4.0/12, Error ellipse: s-maj=25.3km s-min=18.8km az=65.0*
*ISCJB **10** 17:36:34.3±0.3, 7˚.66S±0˚.03×128˚.34E±0˚.04, h151km, mb4.1/13, Error ellipse: s-maj=5.2km s-min=3.7km az=157.4*
*DJA **10** 17:36:35.6±0.3, 8˚S±3˚×12˚8E±˚, h148km±10km, M4.6/6, mb4.3/1, MLv4.7/6*

ISC 10 17:36:35.9±0.5, 7˚.69S±0˚.05×128˚.28E±0˚.06, h151km, n55, σ2§13/59, mb4.1/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.01**	**96**	P	**Pn**	**17 37 24.3**	**+0.9**
SAUI				S	**Sn**	**17 38 01.4**	**+1.3**
BNDI	**Bandanaira**	**3.53**	**27**	P	**Pn**	**17 37 27.3**	**-2.9**
MTN	**Manton Dam**	**5.84**	**152**	P	**Pn**	**17 38 00.2**	**-0.4**
	baz=5.7,SNR=51						
MTN				S	**Sn**	**17 39 05.0**	**-1.8**
	baz=5.7,SNR=8.0						
SANI	**Sanana**	**6.05**	**338**	P	**Pn**	**17 38 04.5**	**+1.2**
	36nm,0.8s,0.1nm						
MMRI	**Maumere**	**6.06**	**261**	P	**Pn**	**17 38 03.8**	**+0.4**
FAKI	**Fak Fak**	**6.17**	**40**	P	**Pn**	**17 38 02.4**	**-2.5**
FAKI				S	**Sn**	**17 39 10.3**	**-4.3**
FAKI	**Fak Fak**	**6.17**	**40**	P	**Pn**	**17 38 02.9**	**-2.0**
	baz=6.6,SNR=11						
FAKI				S	**Sn**	**17 39 10.7**	**-3.9**
	baz=6.6,SNR=5.1						
KDU	**Kakadu**	**6.46**	**141**	P	**Pn**	**17 38 08.5**	**-0.3**
	baz=6.4,SNR=238						
KDU				S	**Sn**	**17 39 18.4**	**-3.1**
	baz=6.4,SNR=6.4						
SWI	**Sorong**	**7.40**	**24**	P	**Pn**	**17 38 20.9**	**-0.5**
SWI				S	**Sn**	**17 39 42.0**	**-2.2**
KNRA	**Kununurra**	**7.96**	**177**	P	**Pn**	**17 38 27.9**	**-0.8**
	baz=7.7,SNR=170						
KNRA				S	**Sn**	**17 39 51.7**	**-5.8**
	baz=7.7,SNR=30						
WSI	**Waingapu**	**8.13**	**255**	P	**Pn**	**17 38 28.8**	**-2.4**
WSI				S	Sn	17 39 54.5	-7.3
WSI	**Waingapu**	**8.13**	**255**	P	**Pn**	**17 38 29.1**	**-2.1**
	baz=7.8,SNR=9.9						
WSI				S	Sn	17 39 55.0	-6.8
	baz=7.8,SNR=6.1						
LBFI	**Labuhan Bajo,**	**8.35**	**264**	P	x	17 38 34.1	
LBFI				S	x	17 40 02.6	
MWPI	**Manokwari, Pap**	**8.83**	**41**	P	x	17 38 40.2	
WRA	**Warramunga Arr**	**13.53**	**155**	P	**Pn**	**17 39 39.9**	**-2.0**
	1.8nm,0.3s,baz=343,slow=13,SNR=70						
WRA				S	Sn	17 41 58.1	-14
	4.1nm,0.3s,baz=334,slow=23,SNR=9.7						
COEN	**Coen**	**15.90**	**114**	P	**P**	**17 40 13.4**	**+1.3**
	baz=16,SNR=13						
COEN				S	Sn	17 42 58.8	-10
	baz=16,SNR=5.0						
ASAR	**Alice Springs**	**16.78**	**162**	P	**Pn**	**17 40 22.5**	**+0.3**
	1.2nm,0.3s,baz=337,slow=8.7,SNR=96						
ASAR				S	S	17 43 13.8	-15
	0.7nm,0.3s,baz=355,slow=18,SNR=4.5						
QIS	**Mount Isa**	**16.85**	**141**	P	**Pn**	**17 40 26.7**	**+3.7**
	baz=17,SNR=9.7						
QIS				S	S	17 43 22.0	-8.4
	baz=17,SNR=4.8						
WRKA	**Warakurna**	**17.25**	**180**	P	**Pn**	**17 40 28.7**	**+0.8**
	baz=17,SNR=32						
WRKA				S	**S**	**17 43 32.2**	**-7.1**
	baz=17,SNR=5.6						
KSM	**Kuching**	**20.10**	**296**	P	Pn	17 41 00.2	-1.4
	baz=20,SNR=7.3						
MEEK	**Meekatharra**	**20.97**	**205**	P	**P**	**17 41 09.5**	**+2.3**
	baz=21,SNR=14						
MEEK				S	Sn	17 45 01.5	-8.3
	baz=21,SNR=5.7						
QLP	**Quilpie**	**24.15**	**143**	P	**P**	**17 41 42.6**	**+4.5**
	baz=24,SNR=5.0						
MORW	**Morawa**	**24.20**	**207**	P	**P**	**17 41 41.5**	**+3.0**
	baz=24,SNR=7.5						
MORW				S	S	17 46 16.6	+31
	baz=24,SNR=3.6						
KMBL	**Kambalda**	**24.31**	**193**	P	**P**	**17 41 42.6**	**+3.1**
	baz=24,SNR=4.5						
BBOO	**Buckleboo**	**26.02**	**165**	P	P	17 42 01.3	+6.3
	baz=26,SNR=5.2						
STKA	**Stephens Creek**	**27.08**	**155**	P	**P**	**17 42 07.4**	**+2.9**
	1.9nm,0.5s,baz=326,slow=11,SNR=3.2						
HTT	**Hallett**	**27.45**	**160**	P	P	17 42 14.6	+6.8
	baz=27,SNR=7.9						
PSI	**Prapat**	**31.09**	**288**	P	**P**	**17 42 39.6**	**-0.7**
	11nm,0.6s,baz=83,slow=8.0,SNR=14						
PSI	**Prapat**	**31.09**	**288**	P	**P**	**17 42 40.4**	**+0.1**
	baz=31,SNR=5.8						
CMAR	**Chiang Mai Arr**	**38.89**	**312**	P	**P**	**17 43 47.7**	**+0.7**
	1.7nm,0.9s,baz=142,slow=7.3,SNR=13						
CMAR				PcP	**PcP**	**17 45 56.4**	**+1.5**
	0.4nm,0.7s,baz=147,slow=1.8,SNR=4.1						
KSRS	**Korea Array**	**44.91**	**360**	P	**P**	**17 44 36.0**	**+0.5**
	1.8nm,0.6s,baz=175,slow=9.1,SNR=15						
MJAR	**Matsushiro Arr**	**44.97**	**11**	P	**P**	**17 44 34.7**	**-1.4**
	2.6nm,0.8s,baz=182,slow=9.0,SNR=8.6						
XAN	**Xi'an**	**45.38**	**337**	P	**P**	**17 44 38.7**	**-0.6**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**51.54**	**318**	P	**P**	**17 45 27.6**	**+0.5**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USRK	**Ussuriysk Arra**	**51.75**	**3**	P	**P**	**17 45 27.6**	**-0.3**
	1.8nm,0.5s,baz=191,slow=7.2,SNR=8.4						
ODAN	**Odare**	**52.44**	**312**	*eP*	**P**	**17 45 34.0**	**+0.5**
	18nm,0.6s						
TAPN	**Taplejung**	**52.49**	**313**	*eP*	**P**	**17 45 34.1**	**+0.1**
	19nm,0.7s						
RAMN	**Ramite**	**53.07**	**312**	*eP*	**P**	**17 45 38.6**	**+0.4**
	41nm,0.7s						
JIRN	**Jiri**	**53.77**	**313**	*eP*	**P**	**17 45 43.5**	**+0.1**
GTA	**Gaotai**	**53.77**	**333**	*eP*	**P**	**17 45 44.0**	**+1.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GUN	**Gumba**	**54.14**	**313**	*eP*	**P**	**17 45 46.2**	**+0.1**
	27nm,0.7s						
PKI	**Pulchoki**	**54.29**	**312**	*eP*	**P**	**17 45 46.9**	**-0.3**
	10nm,0.6s						
PKIN	**Phulchoki**	**54.31**	**312**	*eP*	**P**	**17 45 47.1**	**-0.1**
	4.3nm,0.6s						
KKN	**Kakani**	**54.51**	**312**	*eP*	**P**	**17 45 48.6**	**0.0**
	10nm,0.6s						
DMN	**Daman**	**54.54**	**312**	*eP*	**P**	**17 45 48.7**	**-0.2**
	18nm,0.9s						
GKN	**Gorkha**	**55.10**	**312**	*eP*	**P**	**17 45 52.8**	**0.0**
	20nm,0.6s						
KOLN	**Koldanda**	**55.74**	**311**	*eP*	**P**	**17 45 57.5**	**0.0**
	32nm,1.0s						
DANN	**Dangsing**	**55.94**	**312**	*eP*	**P**	**17 45 58.8**	**-0.1**
	12nm,0.8s						
PYUN	**Piuthan**	**56.38**	**311**	*eP*	**P**	**17 46 01.8**	**-0.2**
	53nm,1.0s						
SONM	**Songino Array**	**58.57**	**343**	P	**P**	**17 46 18.3**	**+1.4**
	4.0nm,0.7s,baz=170,slow=7.4,SNR=39						
PETK	**Petropavlovsk-**	**65.51**	**19**	P	**P**	**17 47 03.4**	**+0.5**
	2.5nm,0.9s,baz=224,slow=4.0,SNR=3.8						
MKAR	**Makanchi Array**	**67.88**	**328**	P	**P**	**17 47 18.5**	**+0.5**
	1.9nm,0.6s,baz=125,slow=7.9,SNR=26						
ZALV	**Zalesovo Beam**	**71.45**	**335**	P	**P**	**17 47 39.8**	**+0.1**
	2.1nm,0.5s,baz=136,slow=5.7,SNR=12						
PDAR	**Pinedale Array**	**118.58**	**45**	PKP	**PKPdf**	**17 55 07.5**	**+1.1**
	0.5nm,0.8s,baz=256,slow=0.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**127.26**	**281**	PKP	**PKPdf**	**17 55 24.8**	**+1.2**
	0.7nm,0.8s,baz=74,slow=2.1,SNR=4.0						

*CSEM **10** 17:59:50.7, 35˚.39N×0˚.20E, h0km, ML3.7, After ALG*

CRAAG 10 17:59:50.7, 35˚.39N×0˚.20E, MI3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.29**	**259**	P	Pb	17 59 58.0	-0.9
ODJA	**Bouhanifia**	**0.29**	**259**	P	Pb	17 59 58.0	-0.9
OJGS	**Djebel Guires**	**0.47**	**75**	P	Pb	18 00 01.0	-0.9
OJGS	**Djebel Guires**	**0.47**	**75**	P	Pb	18 00 01.0	-0.9
USTO	**Oran**	**0.70**	**300**	P	Pn	18 00 10.0	+2.1
USTO	**Oran**	**0.70**	**300**	P	Pn	18 00 10.0	+2.1
ODZI	**Dziouia**	**1.17**	**266**	P	Pg	18 00 01.0	-12
ODZI	**Dziouia**	**1.17**	**266**	P	Pg	18 00 01.0	-12
OLHC	**Oulhaca**	**1.33**	**265**	P	Pg	18 00 00.0	-16
OLHC	**Oulhaca**	**1.33**	**265**	P	Pg	18 00 00.0	-16

*GCMT **10** 18:06:16.0±0.3, 56˚.29S×143˚.38W, h27km±1km, MW5.0/61, Moment Tensor Solution. s25,c30; s61,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.03±.23; $M_{\theta\theta}$3.40±.25; $M_{\phi\phi}$-3.37±.22; $M_{r\theta}$1.04±.34; $M_{r\phi}$2.70±.13; $M_{\theta\phi}$0.58±.34; Best double couple: M_{ϕ}4.48200×10^{16} NP1:φ±25.00000°, δ82.00000°, λ168.00000°. NP2: φ±117.00000°, δ78.00000°, λ8.00000°. Principal axes: T 4.6390, Plg14.0000°, Azm340.0000°; N -0.3120, Plg76.0000°, Azm172.0000°; P -4.3250, Plg3.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **10** 18:06:17.3±3.8, 56˚.62S×144˚.09W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/13, mbtmp4.0/2, MS4.0/10, Ms1 4.0/10, ms1mx3.9/21 Error ellipse: s-maj=292.7km s-min=55.2km az=159.0*
*NEIC **10** 18:06:19.1±1.2, 56˚.88S×144˚.47W, h10km, mb4.4/4, Error ellipse: s-maj=35.1km s-min=24.0km az=63.0*

ISC 10 18:06:19.1±1.5, 56˚.9S±0˚.2×144˚.6W±0˚.3, h10km, n45, σ1§28/15, mb4.3/6, MS4.1/10, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**27.56**	**202**	*eP*	**P**	**18 12 05.0**	**-0.6**
	3.5nm,1.4s						
VNDA	**Vanda**	**27.56**	**202**	LR	LR	18 21 16.4	
	comp=Z,58nm,19.9s,baz=76,slow=32						
RPZ	**Rata Peaks**	**30.67**	**276**	LR	LR	18 21 57.8	
	comp=Z,501nm,20.9s,baz=325,slow=30						
URZ	**Urewera**	**31.29**	**290**	LR	LR	18 22 22.0	
	comp=Z,402nm,19.4s,baz=141,slow=31						
TBI	**Tubuai**	**33.66**	**352**	*eLR*	LR	18 21 23.2	
	706nm,28.0s,baz=177						
TBI	**Tubuai**	**33.66**	**352**	*eT*	T	18 47 15.4	
	50nm,0.3s						
RKT	**Rikitea**	**34.42**	**16**	*eLR*	LR	18 21 46.1	
	446nm,28.2s						
RKT	**Rikitea**	**34.42**	**16**	*eT*	T	18 48 03.2	
	12nm,0.3s						
RAO	**Raoul Island**	**36.18**	**306**	LR	LR	18 24 32.5	
	comp=Z,152nm,18.4s,baz=59,slow=30						
RAR	**Rarotonga**	**37.33**	**336**	LR	LR	18 24 32.3	
	comp=Z,177nm,18.4s,baz=239,slow=29						
TVO	**Taravao**	**39.17**	**353**	*eT*	T	18 54 17.2	
	3.3nm,0.3s						
PAE	**Paea**	**39.31**	**352**	*eT*	T	18 54 18.8	

3.4nm,0.2s
PPT2 Papeete2 39.38 352 *e*S S 18 19 21.7 -28
124nm,26.0s
PPT2 *e*LR LR 18 23 56.5
809nm,28.2s,baz=182
PPT Papeete 39.41 352 LR LR 18 25 53.5
comp=Z,254nm,20.6s,baz=167,slow=30
VAH Vaihoa 41.61 356 *e*T T 18 57 15.2
66nm,0.2s
CASY Casey 45.00 214 P **P** **18 14 33.8 -0.2**
5.7nm,0.8s
CAN Canberra 48.66 267 P **P** **18 15 01.8 -1.3**
SNAA Sanae 48.98 165 *e*P **P** **18 15 05.5 +0.4**
6.8nm,0.8s
H03N3 Juan Fernandez 49.61 91 T T 19 08 01.9
baz=222,slow=75,SNR=127
H03N2 Juan Fernandez 49.62 91 T T 19 08 02.6
baz=222,slow=75,SNR=141
H03N1 Juan Fernandez 49.63 91 T T 19 08 03.4
baz=222,slow=75,SNR=128
MAW Mawson 54.20 193 LR LR 18 36 13.6
comp=Z,178nm,21.6s,baz=341,slow=33
ASAR Alice Springs 65.94 263 P **P** **18 17 07.2 +1.9**
ASAR Alice Springs 65.94 263 P **P** **18 17 07.2 +1.9**
2.1nm,1.0s,baz=140,slow=6.3,SNR=14
CPUP Villa Florida 66.89 103 LR LR 18 41 49.4
comp=Z,112nm,19.6s,baz=31,slow=32
H01W1 Cape Leeuwin H 67.20 241 T T 19 32 13.8
baz=143,slow=75,SNR=62
H01W2 Cape Leeuwin H 67.20 241 T T 19 32 18.0
baz=143,slow=75,SNR=62
H01W3 Cape Leeuwin H 67.22 241 T T 19 32 03.2
baz=143,slow=75,SNR=61
WRA Warramunga Arr 68.70 266 P **P** **18 17 24.7 +1.9**
WRA Warramunga Arr 68.70 266 P **P** **18 17 24.7 +1.9**
1.3nm,0.9s,baz=147,slow=5.4,SNR=6.6
WRAB Tennant Creek 68.70 266 P **P** **18 17 23.6 +0.8**
2.1nm,1.0s
LPAZ La Paz 69.10 88 LR LR 18 40 51.4
comp=Z,52nm,19.9s,baz=38,slow=30
BDFB Brasilia 80.59 104 LR LR 18 50 06.1
comp=Z,175nm,18.9s,baz=35,slow=33
H10S3 ASCENSION HYDR 102.64 129 T T 20 15 52.6
baz=207,slow=75,SNR=14
H10S2 ASCENSION HYDR 102.65 129 T T 20 15 39.8
baz=207,slow=75,SNR=13
H10S1 ASCENSION HYDR 102.66 129 T T 20 15 41.0
baz=207,slow=75,SNR=10
H10N3 ASCENSION HYDR 103.71 129 T T 20 17 26.6
baz=206,slow=75,SNR=6.6
H10N1 ASCENSION HYDR 103.72 129 T T 20 17 00.8
baz=206,slow=75,SNR=7.1
H10N2 ASCENSION HYDR 103.73 129 T T 20 17 08.6
baz=206,slow=75,SNR=5.6
ILAR Eielson Array 121.32 359 PKP **PKPdf** **18 25 10.7 0.0**
ILAR Eielson Array 121.32 359 PKP **PKPdf** **18 25 10.7 0.0**
0.3nm,0.9s,baz=193,slow=3.7,SNR=3.0
MKAR Makanchi Array 149.91 271 PKPbc **PKPbc** **18 26 08.1 -0.5**
MKAR Makanchi Array 149.91 271 PKPbc **PKPbc** **18 26 08.1 -0.5**
1.1nm,0.8s,baz=107,slow=1.5,SNR=9.7
ZALV Zalesovo Beam 152.30 285 PKPab **PKPab** **18 26 23.1 -0.8**
ZALV Zalesovo Beam 152.30 285 PKPab **PKPab** **18 26 23.1 -0.8**
1.5nm,0.8s,baz=127,slow=3.8,SNR=6.1

MEX 10 18:24:34.8±0.6, 17.37N×100.96W, h15km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.53**	**296**	*e*P	Pg	18 24 43.4	-1.9
ZIIG				*i* S	Sg	18 24 51.2	-1.3
ACX	**Acapulco**	**1.17**	**115**	*i* P	Pn	18 24 51.9	-4.7
ACX				*i* S	Sb	18 25 07.5	-4.3
PLIG	**Platanillo**	**1.72**	**54**	*e*P	Pn	18 25 00.9	-3.5
PLIG				*i* S	Sn	18 25 21.0	-5.2
TLIG	**Tlapa**	**2.29**	**85**	*i* P	Pn	18 25 09.5	-2.9
TLIG				*i* S	Sn	18 25 37.1	-3.3
MMIG	**Aquila**	**2.45**	**292**	*e*P	Pn	18 25 08.1	-6.1
MMIG				*e*S	Sn	18 25 33.4	-11

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*IDC **10** 18:24:52.5±0.5, 14.39S×167.84E, h0km, mb4.7/26, mb1 4.8/28, mb1mx4.8/30, mbtmp4.7/28, ML5.0/2, MS4.0/11, Ms1 4.0/11, ms1mx3.7/27, Error ellipse: s-maj=16.4km s-min=13.0km az=124.0*

*ISCJB **10** 18:24:55.4±3.0, 14.40S±0.04×167.63E±0.03, h24km±20km, mb5.0/109, MS4.2/15, Error ellipse: s-maj=6.7km s-min=5.5km az=3.9*

*BJI **10** 18:24:55.9, 14.34S×168.14E, h40km, mB5.2/30, mb4.9/45, Ms5.1/18, Ms7 4.8/16*

*MOS **10** 18:24:57.9±1.0, 14.09S×167.57E, h33km, mb5.1/36, Error ellipse: s-maj=9.7km s-min=9.1km az=41.1*

*NEIC **10** 18:24:59.3±1.1, 14.42S×167.67E, h45km±10km, mb5.0/50, Error ellipse: s-maj=7.0km s-min=5.6km az=170.0*

*GCMT **10** 18:24:59.3±0.3, 14.17S×167.81E, h21km, MW5.0/62, Moment Tensor Solution. s28,c30; s62,c82; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.25±.25; Mθθ-0.58±.15; Mϕϕ-3.67±.17; Mrθ-1.96±.32; Mϕθ0.04±.11; Mϕr0.37±.28; Best double couple: Mo4.32600×10^16 NP1:ϕs196.00000°, δ45.00000°, λ118.00000°. Principal axes: T 4.9590, Plg70.0000°, Azm187.0000°; N -1.2630, Plg19.0000°, Azm356.0000°; P -3.6940, Plg3.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 18:24:57.9±0.4, 14°41S±0.04×167°82E±0.05, h34km±1km, h34km:pP-P,n359,σ1s30/406, mb5.1/106, MS4.2/16, 48C-41D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.73**	**190**	*e*Pn	**Pn**	**18 26 48.4**	**+0.2**
	42nm,0.3s						
DZM				*e*Sn	**Sn**	**18 28 14.2**	**-0.4**
	7.5nm,0.3s						
DZM				*e*LR	LR	18 28 32.6	
	707nm,23.3s						
DZM	**Mont Dzumac**	**7.73**	**190**	*e*Pn	**Pn**	**18 26 47.3**	**-0.8**
	96nm,0.6s						
DZM				*e*Sn	**Sn**	**18 28 14.5**	**-0.1**
DZM	**Mont Dzumac**	**7.73**	**190**	Pn	**Pn**	**18 26 48.4**	**+0.2**
	15nm,0.3s,baz=41,slow=19,SNR=120						
DZM				Sn	**Sn**	**18 28 12.3**	**-2.3**
	2.6nm,0.3s,baz=128,slow=20,SNR=3.3						
DZM				LR	LR	18 28 57.7	
	comp=Z,257nm,21.7s,baz=30,slow=32						
DZM	**Mont Dzumac**	**7.73**	**190**	*e*P	**Pn**	**18 26 47.0**	**-1.1**
DZM				*e*S	**Sn**	**18 28 14.8**	**+0.2**
NOUC	**Port Laguerre**	**7.79**	**190**	*e*P	**Pn**	**18 26 48.3**	**-0.5**
NOUC				*e*S	**Sn**	**18 28 15.4**	**-0.4**
HNR	**Honiara**	**9.15**	**302**	Pn	**Pn**	**18 27 07.8**	**+0.1**
HNR				Sn	**Sn**	**18 28 46.8**	**-2.8**
HNR	**Honiara**	**9.15**	**302**	Pn	**Pn**	**18 27 07.7**	**+0.1**
	18nm,0.3s,baz=129,slow=4.9,SNR=8.2						
HNR				Sn	**Sn**	**18 28 46.7**	**-2.8**
	11nm,0.3s,baz=220,slow=17,SNR=2.8						
HNR	**Honiara**	**9.15**	**302**	*e*P	**Pn**	**18 27 09.0**	**+1.4**
HNR				*e*S	**Sn**	**18 28 53.0**	**+3.5**
EIDS	**Eidsvold**	**19.13**	**233**	*e*P	**P**	**18 29 16.4**	**-1.7**
	50nm,1.4s						
EIDS	**Eidsvold**	**19.13**	**233**	⇓P	**Pn**	**18 29 20.5**	**+1.3**
	baz=19,SNR=10.0						
AFI	**Afiamalu**	**19.79**	**91**	P	**P**	**18 29 26.3**	**+0.8**
AFI	**Afiamalu**	**19.79**	**91**	LR	LR	18 35 53.8	
	comp=Z,241nm,18.9s,baz=256,slow=33						
PMG	**Port Moresby**	**20.81**	**282**	P	x	18 29 40.7	
	75nm,1.1s						
PMG	**Port Moresby**	**20.81**	**282**	*e*P	**P**	**18 29 36.9**	**+0.3**
	94nm,1.1s						
PMG	**Port Moresby**	**20.81**	**282**	P	**P**	**18 29 37.3**	**+0.7**
	71nm,1.1s,baz=91,slow=4.6,SNR=6.1						
PMG				LR	LR	18 36 40.0	
	comp=Z,687nm,19.9s,baz=80,slow=34						
CTA	**Charters Tower**	**21.35**	**252**	P	**P**	**18 29 43.7**	**+1.4**
CTA	**Charters Tower**	**21.35**	**252**	P	**P**	**18 29 43.7**	**+1.4**
	15nm,0.8s,baz=74,slow=13,SNR=10						
CTA				LR	LR	18 36 50.5	
	comp=Z,1μm,21.5s,baz=163,slow=34						
CTAO	**Charters Tower**	**21.35**	**252**	*e*P	**P**	**18 29 42.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,25nm,0.9s						
CTAO	**Charters Tower**	**21.35**	**252**	*e*P	**P**	**18 29 42.6**	**+0.3**
	comp=Z,25nm,0.9s						
OUZ	**Omahuta**	**21.37**	**167**	*e*P	**P**	**18 29 42.9**	**+0.6**
	comp=Z,809nm,2.8s						
RMQ	**Roma**	**21.49**	**233**	⇑P	**P**	**18 29 45.7**	**+1.8**
	baz=21,SNR=44						
ARMA	**Armidale**	**21.82**	**220**	*e*P	**P**	**18 29 47.4**	**0.0**
	comp=Z,148nm,1.5s						
ARMA	**Armidale**	**21.82**	**220**	⇑P	**P**	**18 29 48.7**	**+1.4**
	baz=22,SNR=19						
MTSU	**Mount Surprise**	**22.86**	**257**	⇓P	**P**	**18 29 59.3**	**+0.8**
	baz=23						
MANU	**Manus Island**	**23.65**	**299**	⇑P	**P**	**18 30 08.5**	**+2.2**
	baz=24						
COEN	**Coen**	**23.90**	**268**	*e*P	**P**	**18 30 08.2**	**-0.6**
	comp=Z,2μm,2.5s						
COEN	**Coen**	**23.90**	**268**	⇓P	**P**	**18 30 09.6**	**+0.9**
	baz=24,SNR=4.5						
MGCD	**Mangrove Creek**	**24.10**	**216**	⇓P	**P**	**18 30 11.8**	**+1.4**
	baz=24,SNR=6.8						
RIV	**Riverview**	**24.53**	**215**	⇓P	**P**	**18 30 15.6**	**+1.3**
	baz=24						
URZ	**Urewera**	**25.14**	**163**	*e*P	**P**	**18 30 20.4**	**+0.7**
URZ	**Urewera**	**25.14**	**163**	P	**P**	**18 30 20.2**	**+0.4**
	comp=Z,35nm,1.0s,baz=344,slow=8.4,SNR=5.3						
QLP	**Quilpie**	**25.14**	**237**	⇑P	**P**	**18 30 20.8**	**+0.8**
	baz=25,SNR=19						
BKZ	**Black Stump Fm**	**25.82**	**164**	*e*P	**P**	**18 30 27.7**	**+1.7**
	comp=Z,353nm,2.3s						
YNG	**Young**	**26.46**	**218**	⇓P	**P**	**18 30 32.6**	**+0.7**
	baz=26						
CMSA	**Cobar Meteorol**	**26.48**	**226**	⇓P	**P**	**18 30 32.5**	**+0.5**
	baz=26,SNR=14						
CNB	**Canberra Magne**	**26.63**	**215**	⇑P	**P**	**18 30 33.5**	**+0.1**
	baz=27,SNR=7.0						
QIS	**Mount Isa**	**27.57**	**253**	⇑P	**P**	**18 30 42.0**	**0.0**
	baz=28,SNR=4.0						
MILA	**Mila**	**28.02**	**213**	⇓P	**P**	**18 30 46.5**	**+0.6**
	baz=28						
STKA	**Stephens Creek**	**29.61**	**230**	*e*P	**P**	**18 31 01.0**	**+1.1**
	comp=Z,15nm,1.1s						
STKA				PcP	**PcP**	**18 34 04.2**	**-0.1**
STKA	**Stephens Creek**	**29.61**	**230**	P	**P**	**18 31 01.0**	**+1.1**
	comp=Z,35nm,0.5s,baz=43,slow=7.6,SNR=169						
STKA				PcP	**PcP**	**18 34 04.2**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=60,slow=3.4,SNR=4.8						
STKA				LR	LR	18 42 47.1	
	comp=Z,431nm,18.3s,baz=48,slow=36						
STKA	**Stephens Creek**	**29.61**	**230**	⇓P	**P**	**18 31 01.1**	**+1.1**
	baz=30						
RAR	**Rarotonga**	**31.54**	**107**	LR	LR	18 41 39.8	
	comp=Z,207nm,20.5s,baz=300,slow=32						
ARPS	**Mount Arapiles**	**32.14**	**221**	⇑P	**P**	**18 31 23.0**	**+0.8**
	baz=32,SNR=6.5						
HTT	**Hallett**	**32.33**	**229**	⇓P	**P**	**18 31 25.0**	**+1.0**
	baz=32						
WRAB	**Tennant Creek**	**32.41**	**255**	P	**P**	**18 31 23.0**	**-1.9**
	comp=Z,57nm,1.0s,SNR=8.1						
WRAB	**Tennant Creek**	**32.41**	**255**	*e*P	**P**	**18 31 22.1**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,137nm,2.7s						
WRAB	**Tennant Creek**	**32.41**	**255**	*e*P	**P**	**18 31 22.1**	**-2.7**
	comp=Z,137nm,2.7s						
WRA	**Warramunga Arr**	**32.42**	**255**	P	**P**	**18 31 23.5**	**-1.4**
WRA				PcP	**PcP**	**18 34 10.3**	**-1.7**
WRA	**Warramunga Arr**	**32.42**	**255**	P	**P**	**18 31 23.5**	**-1.4**
	comp=Z,3.5nm,0.6s,baz=86,slow=9.2,SNR=64						
WRA				PcP	**PcP**	**18 34 10.3**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=80,slow=3.3,SNR=4.8						
MOO	**Moorlands**	**33.12**	**209**	⇓P	**P**	**18 31 31.7**	**+0.9**
	baz=33						
AS17	**Alice Springs**	**33.21**	**249**	⇓P	**P**	**18 31 30.8**	**-1.0**
	baz=33						
AS09	**Alice Springs**	**33.26**	**249**	⇓P	**P**	**18 31 31.4**	**-0.8**
	baz=33						
AS03	**Alice Springs**	**33.27**	**249**	⇓P	**P**	**18 31 31.5**	**-0.9**
	baz=33						
AS14	**Alice Springs**	**33.28**	**249**	⇑P	**P**	**18 31 31.6**	**-0.9**
	baz=33						
AS10	**Alice Springs**	**33.28**	**249**	⇓P	**P**	**18 31 31.7**	**-0.8**
	baz=33						
AS31	**Alice Springs**	**33.28**	**249**	*e*P	**P**	**18 31 30.3**	**-2.2**
ASAR	**Alice Springs**	**33.29**	**249**	P	**P**	**18 31 31.4**	**-1.2**
ASAR				PcP	**PcP**	**18 34 13.2**	**-1.1**
ASAR	**Alice Springs**	**33.29**	**249**	P	**P**	**18 31 31.4**	**-1.2**
	comp=Z,7.0nm,0.6s,baz=79,slow=9.0,SNR=138						
ASAR				PcP	**PcP**	**18 34 13.2**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=72,slow=3.3,SNR=5.4						
ASAR				LR	LR	18 43 32.1	
	comp=Z,679nm,21.3s,baz=86,slow=34						
BBOO	**Buckleboo**	**34.20**	**232**	*e*P	**P**	**18 31 40.2**	**-0.1**
BBOO	**Buckleboo**	**34.20**	**232**	P	**P**	**18 31 40.8**	**+0.6**
	baz=34,SNR=47						
KNRA	**Kununurra**	**37.71**	**263**	⇑P	**P**	**18 32 10.0**	**-0.5**
	baz=38,SNR=10						
WRKA	**Wakuuna**	**38.55**	**248**	⇑P	**P**	**18 32 16.8**	**-0.8**
	baz=38,SNR=34						
SWI	**Sorong**	**38.57**	**287**	P	**P**	**18 32 17.4**	**-0.4**
	comp=Z,64nm,1.3s						
FORT	**Forrest**	**39.92**	**239**	*e*P	**P**	**18 32 28.7**	**-0.2**
	comp=Z,41nm,0.7s						
FORT	**Forrest**	**39.92**	**239**	⇓P	**P**	**18 32 29.1**	**+0.2**
	baz=40,SNR=19						
PPT2	**Papeete2**	**41.01**	**100**	*e*S	S	18 38 57.4	+8.8
	comp=Z,135nm,26.2s						
PPT2				*e*LR	LR	18 44 07.6	
	comp=Z,765nm,28.5s						
PPT	**Papeete**	**41.02**	**100**	LR	LR	18 46 28.6	
	comp=Z,43nm,18.8s,baz=206,slow=32						
TBI	**Tubuai**	**41.26**	**109**	*e*S	S	18 39 04.1	+12
	comp=Z,132nm,26.0s						
TBI				*e*LR	LR	18 44 13.3	
	comp=Z,542nm,26.2s,baz=290						
LBFI	**Labuhan Bajo,**	**47.28**	**272**	P	x	18 33 29.8	
	comp=Z,90nm,1.2s						
MEEK	**Meekatharra**	**47.40**	**247**	⇑P	**P**	**18 33 29.0**	**-0.2**
	baz=47,SNR=28						
BNSI	**Bone**	**48.02**	**277**	P	**P**	**18 33 33.9**	**-0.2**
KAPI	**Kappang**	**48.20**	**276**	*e*P	**P**	**18 33 33.5**	**-2.0**
	comp=Z,149nm,1.1s						
KLBR	**Kellerberrin**	**48.73**	**241**	⇑P	**P**	**18 33 38.5**	**-0.8**
	baz=49						
MORW	**Morawa**	**49.89**	**244**	P	**P**	**18 33 48.1**	**-0.2**
	baz=50,SNR=9.5						
RKT	**Rikitea**	**54.57**	**108**	*e*LR	LR	18 50 23.2	
	comp=Z,362nm,30.8s						
KKM	**Kota Kinabalu**	**55.07**	**288**	*e*P	**P**	**18 34 25.6**	**-1.4**
	comp=Z,65nm,1.4s						
KKM	**Kota Kinabalu**	**55.07**	**288**	⇓P	**P**	**18 34 27.3**	**+0.3**
	baz=55,SNR=4.1						
PCJI	**Pacitan**	**55.78**	**270**	P	**P**	**18 34 32.1**	**+0.1**
	comp=Z,95nm,0.9s						
WOJI	**Wonogiri, Jawa**	**56.10**	**270**	P	P	18 34 38.2	+3.9
	comp=Z,90nm,1.3s						
BJII	**Banjamegara**	**57.38**	**270**	P	x	18 34 49.7	
SBUM	**Sibu**	**57.56**	**282**	*e*P	**P**	**18 34 45.5**	**+0.8**
	comp=Z,8.9nm,1.1s						
MJAR	**Matsushiro Arr**	**57.87**	**332**	P	**P**	**18 34 45.2**	**-1.2**
MJAR	**Matsushiro Arr**	**57.87**	**332**	P	**P**	**18 34 45.2**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=172,slow=8.5,SNR=15						
MAJO	**Matsushiro**	**57.87**	**332**	*e*P	**P**	**18 34 46.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,60nm,1.2s						
MAT	**Matsushiro**	**57.87**	**332**	P	**P**	**18 34 45.2**	**-1.2**
TGJI	**Tegal**	**58.05**	**271**	P	x	18 34 45.7	
	comp=Z,57nm,1.1s						
KPJI	**Karang Pucung**	**58.13**	**270**	P	**P**	**18 34 50.8**	**+2.1**
	comp=Z,71nm,0.8s						
KSM	**Kuching**	**59.07**	**281**	*e*P	**P**	**18 34 55.2**	**-0.1**
	comp=Z,15nm,1.0s						
KSM	**Kuching**	**59.07**	**281**	⇑P	**P**	**18 34 56.4**	**+1.2**
	baz=59,SNR=4.3						
CISI	**Cisompet, Garu**	**59.17**	**270**	P	**P**	**18 34 54.1**	**-1.9**
	comp=Z,83nm,1.6s						
CISI	**Cisompet, Garu**	**59.17**	**270**	*e*P	P	18 34 52.2	-3.8
LEM	**Lembang**	**59.52**	**271**	P	**P**	**18 34 59.8**	**+1.3**
	comp=Z,73nm,0.7s						
LEM	**Lembang**	**59.52**	**271**	P	**P**	**18 34 59.4**	**+0.8**
	baz=59,SNR=5.9						
CBJI	**Citeko**	**60.35**	**271**	P	**P**	**18 35 03.1**	**-0.9**
	comp=Z,103nm,1.2s						
DBJI	**Dramaga**	**60.41**	**271**	P	**P**	**18 35 05.3**	**+0.8**
	comp=Z,83nm,1.6s						
XMI	**Christmas Isla**	**60.66**	**266**	⇓P	**P**	**18 35 07.0**	**+0.9**
	baz=61						
XMIS	**Christmas Isla**	**60.69**	**266**	⇑P	**P**	**18 35 07.3**	**+1.0**
	baz=61						
CGJI	**Cibinong**	**61.43**	**270**	P	**P**	**18 35 10.7**	**-0.7**
	comp=Z,107nm,1.0s,comp=Z,1μm						
ASAJ	**Asahikawa**	**62.63**	**340**	P	**P**	**18 35 18.9**	**+0.2**
ASAJ	**Asahikawa**	**62.63**	**340**	P	**P**	**18 35 18.9**	**+0.2**
	comp=Z,11nm,0.7s,baz=205,slow=7.6,SNR=8.7						
KASI	**Kota Agung**	**62.83**	**271**	P	**P**	**18 35 19.9**	**-0.9**
	comp=Z,80nm,0.9s,comp=Z,683nm						
VNDA	**Vanda**	**63.19**	**181**	P	**P**	**18 35 21.6**	**-0.5**
VNDA	**Vanda**	**63.19**	**181**	P	**P**	**18 35 21.6**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=339,slow=4.8,SNR=6.3						
LWLI	**Liwa**	**63.37**	**272**	P	**P**	**18 35 24.9**	**+0.4**
	comp=Z,48nm,0.9s,comp=Z,2μm						
MDSI	**Maura Dua**	**63.38**	**272**	P	**P**	**18 35 23.1**	**-1.3**
KSRS	**Korea Array**	**63.78**	**325**	P	**P**	**18 35 26.6**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=149,slow=7.6,SNR=10.0						
KSAR	**Wonju Array Be**	**63.79**	**325**	P	**P**	**18 35 26.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**65.10**	**341**	*e*P	**P**	**18 35 34.9**	**0.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**65.10**	**341**	*e*P	**P**	**18 35 35.5**	**+0.5**
	comp=Z,37nm,1.1s						
NJ2	**Nanjing**	**65.82**	**315**	*e*P	**P**	**18 35 42.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
QIZ	**Qiongzhong**	**66.05**	**299**	P	**P**	**18 35 42.5**	**+0.8**
QIZ				S	**S**	**18 44 27.7**	**-0.2**
USRK	**Ussuriysk Arra**	**66.85**	**333**	P	**P**	**18 35 45.6**	**-0.6**
	comp=Z,17nm,1.1s,baz=144,slow=5.0,SNR=15						
FX1	**Attu Island--F**	**67.17**	**4**	*e*P	**P**	**18 35 46.8**	**-1.3**
FX1	**Attu Island--F**	**67.17**	**4**	P	**P**	**18 35 48.9**	**+0.7**
	comp=Z,12nm,0.6s,baz=145,slow=4.1,SNR=9.2						
PETK	**Petropavlovsk-**	**67.80**	**353**	P	**P**	**18 35 52.7**	**+0.5**
PETK	**Petropavlovsk-**	**67.80**	**353**	P	**P**	**18 35 52.7**	**+0.5**
PETK	**Petropavlovsk-**	**67.80**	**353**	P	**P**	**18 35 52.7**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=142,slow=7.5,SNR=6.2						
MDJ	**Mudanjiang**	**68.25**	**332**	P	**P**	**18 35 55.8**	**+0.6**
MDJ				pP	**pP**	**18 36 04.9**	**-0.9**
MDJ				sP	**sP**	**18 36 08.9**	**-0.9**
MDJ				PcP	**PcP**	**18 36 21.3**	**+0.6**
MDJ				PP	**PP**	**18 38 23.5**	**-2.8**
MDJ				S	**S**	**18 44 56.1**	**+2.7**
MDJ				ScS	**ScS**	**18 45 52.1**	**+0.1**
MDJ				SS	**SS**	**18 49 16.9**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,60nm,3.7s						
MDJ	**Mudanjiang**	**68.25**	**332**	*e*P	**P**	**18 35 54.9**	**-0.2**
	comp=Z,11nm,0.8s						
IPM	**Ipoh**	**68.81**	**281**	*e*P	**P**	**18 35 58.5**	**-0.8**
	comp=Z,12nm,1.0s						
HABR	**Khabarovsk**	**69.05**	**337**	*e*P	**P**	**18 35 58.9**	**-1.1**
HABR				*e**PP	**pP**	**18 36 08.8**	**-1.8**
HABR				*e**SP	**sP**	**18 36 13.0**	**-1.6**
HABR				*e*		18 36 22.8	
HABR				*e*		18 38 30.2	
HABR				PPP	PPP	18 40 10.9	
HABR				*e*S	**S**	**18 45 00.5**	**-2.1**
HABR				*e**SS	**sS**	**18 45 17.5**	**-2.7**
HABR				*e*		18 45 55.2	
HABR				*e*SS	**SS**	**18 49 25.8**	**-3.6**
HABR				pmax	pmax		
	comp=N,21nm,1.6s						
HABR				pmax	pmax		
	comp=E,20nm,1.6s						
HABR				pmax	pmax		
	comp=Z,17nm,1.6s						
HABR				MLR	MLR		
	comp=Z,58nm,20.0s						
CN2	**Changchun**	**69.65**	**329**	*e*P	P	18 36 08.0	+4.1
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**70.93**	**336**	*e*P	P	18 36 08.2	-3.4
KLR				pmax	pmax		
	comp=Z,33nm,1.4s						
ENH	**Enshi**	**71.58**	**309**	*e*P	**P**	**18 36 15.0**	**-1.0**
	comp=Z,28nm,1.3s						
GYA	**Guiyang**	**71.97**	**304**	*e*P	**P**	**18 36 20.0**	**+1.4**
GYA				pP	**pP**	**18 36 31.2**	**+2.0**
GYA				PP	**PP**	**18 39 02.8**	**+3.9**
GYA				S	**S**	**18 45 38.4**	**+0.4**
GYA				SKS	**SKSac**	**18 46 17.4**	**-3.1**
GYA				SS	**SS**	**18 50 17.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=Z,560nm,21.8s						
GYA				LR	LR		
	comp=Z,490nm,22.1s						
GYA				LR	LR		
	comp=Z,520nm,21.6s						
BJI	**Beijing**	**72.35**	**321**	P	**P**	**18 36 22.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN	**Xi'an**	**73.87**	**312**	P	**P**	**18 36 29.5**	**0.0**
XAN				pP	**pP**	**18 36 40.9**	**+0.7**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,40nm,5.6s						
KMI	**Kunming**	**74.59**	**301**	P	**P**	**18 36 35.6**	**+1.4**
KMI				pP	**pP**	**18 36 46.3**	**+1.4**
KMI				sP	**sP**	**18 36 50.2**	**+1.4**
KMI				PP	**PP**	**18 39 25.3**	**+3.9**
KMI				S	**S**	**18 46 07.8**	**-0.2**
KMI				SS	**SS**	**18 50 57.4**	**+1.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.4s						
KMI				LR	LR		
	comp=Z,140nm,19.3s						
KMI				LR	LR		
	comp=Z,120nm,19.3s						
KMI				LR	LR		
	comp=Z,71nm,17.0s						
CM31	**Chiang Mai Arr**	**75.31**	**294**	*e*P	**P**	**18 36 36.8**	**-1.3**
	comp=Z,8.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**75.31**	**294**	P	**P**	**18 36 39.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**75.31**	**294**	P	**P**	**18 36 39.1**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=132,slow=4.5,SNR=33						
CHTO	**Chiang Mai**	**75.44**	**294**	*e*P	**P**	**18 36 38.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.9s						
CHTO	**Chiang Mai**	**75.44**	**294**	*e*P	**P**	**18 36 38.1**	**-0.8**
	comp=Z,8.7nm,1.9s						
QSPA	**South Pole Qui**

LZH				PP	PP	18 39 56.2	+2.1
LZH				*e*S	S	18 46 51.0	+0.8
LZH				sS	sS	18 47 07.0	-1.0
LZH				*e*SS	SS	18 51 55.3	+0.8
LZH				pmax	pmax		
	comp=Z,36nm,1.2s						
LZH				pmax	pmax		
	comp=Z,230nm,7.8s						
LZH				LR	LR		
	comp=Z,330nm,15.2s						
LZH				LR	LR		
	comp=Z,350nm,15.1s						
LZH				LR	LR		
	comp=Z,430nm,19.1s						
TNA	Tin City	81.80	10	*e*P	P	18 37 14.1	+1.3
	comp=Z,8.2nm,1.1s						
YAK	Yakutsk	81.88	343	*e*P	P	18 37 13.0	-0.4
YAK				pmax	pmax		
	comp=Z,45nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK	Yakutsk	81.88	343	*e*P	P	18 37 13.2	-0.2
	comp=N,52nm,0.9s						
ULN	Ulaanbaatar	82.20	324	*e*P	P	18 37 16.0	+0.4
MAW	Mawson	82.38	202	LR	LR	19 07 45.1	
	comp=N,106nm,20.2s,baz=139,slow=31						
SONM	Songino Array	82.56	323	P	P	18 37 17.5	+0.1
SONM	Songino Array	82.56	323	P	P	18 37 17.5	+0.1
	comp=N,4.5nm,0.9s,baz=123,slow=5.3,SNR=30						
GTA	Gaotai	82.83	314	*e*P	P	18 37 19.8	+0.7
GTA				pP	pP	18 37 30.0	+0.1
GTA				sP	sP	18 37 34.6	+0.8
GTA				pmax	pmax		
	comp=N,13nm,1.0s						
PMR	Palmer	83.02	19	*e*P	P	18 37 18.7	-0.6
PMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PMR	Palmer	83.02	19	*e*P	P	18 37 18.7	-0.6
	comp=Z,9.5nm,1.3s						
DIV	Divide	83.80	21	*e*P	P	18 37 28.7	+5.2
SHL	Shillong	83.89	298	*e*P	P	18 37 26.0	+1.1
KTH	Kantishna Hill	83.97	17	*e*P	P	18 37 23.6	-0.7
	comp=Z,63nm,1.0s						
PKM	Peak Mountain	84.23	52	⇑P	P	18 37 27.9	+1.5
	baz=84						
MCK	McKinley	84.69	18	*e*P	P	18 37 27.5	-0.4
MCK				pmax	pmax		
	comp=Z,18nm,1.1s						
MCK	McKinley	84.69	18	*e*P	P	18 37 27.5	-0.4
	comp=Z,18nm,1.1s						
YBH	Yreka Blue Hor	84.81	45	P	P	18 37 29.8	+0.7
YBH	Yreka Blue Hor	84.81	45	P	P	18 37 29.8	+0.7
	comp=Z,7.8nm,0.9s,baz=337,slow=0.9,SNR=12						
CMB	Columbia Colle	84.99	49	*e*P	P	18 37 30.9	+0.9
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMB	Columbia Colle	84.99	49	*e*P	P	18 37 30.9	+0.9
	comp=Z,5.9nm,0.9s						
HUMO	Hull Mountain	85.01	44	*e*P	P	18 37 31.5	+1.5
	comp=Z,12nm,0.8s						
ARVC	Arvin	85.07	52	⇓P	P	18 37 32.2	+1.8
	baz=85						
IM04	Indian Mountai	85.11	15	*e*P	P	18 37 28.5	-1.4
VES	Vestal, Richgr	85.14	51	⇓P	P	18 37 32.8	+2.1
	baz=85						
MWC	Mount Wilson	85.34	53	*e*P	P	18 37 33.5	+1.4
MWC				pmax	pmax		
	comp=Z,22nm,1.2s						
MWC	Mount Wilson	85.34	53	*e*P	P	18 37 33.5	+1.4
	comp=Z,22nm,1.2s						
M04C	Macdoel	85.43	45	⇓P	P	18 37 33.8	+1.5
	baz=86						
ISA	Isabella	85.53	52	*e*P	P	18 37 34.0	+1.2
ISA				pmax	pmax		
	comp=Z,11nm,1.1s						
ISA	Isabella	85.53	52	*e*P	P	18 37 34.0	+1.2
	comp=Z,11nm,1.1s						
ISA	Isabella	85.53	52	⇓P	P	18 37 34.1	+1.2
	baz=86,SNR=7.3						
ZAK	Zakamensk	85.60	325	⇑*i*P	P	18 37 32.7	-0.1
ZAK				pmax	pmax		
	comp=Z,60nm,1.4s						
EDW2	Edwards Air Fo	85.62	52	⇓P	P	18 37 34.8	+1.5
	baz=86,SNR=9.8						
BFSC	Mount Baldy Ra	85.66	53	⇓P	P	18 37 35.0	+1.5
	baz=86						
BEKR	Beckworth	85.71	47	*e*P	P	18 37 33.2	-0.5
	comp=Z,2.9nm,0.9s						
MURC	Murrieta	85.79	54	⇓P	P	18 37 35.8	+1.7
	baz=86						
K04D	Chiloquin, OR	85.83	44	⇑P	P	18 37 35.7	+1.5
	baz=86						
J04D	Umpqua Nationa	85.84	44	⇑P	P	18 37 35.9	+1.6
	baz=86						
LSA	Lhasa	85.84	302	*e*P	P	18 37 33.5	-1.5
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	Lhasa	85.84	302	*e*P	P	18 37 33.5	-1.5
	comp=Z,3.5nm,0.7s						
COLA	College	85.85	17	*e*P	P	18 37 34.0	+0.4
COLA				pmax	pmax		
	comp=Z,19nm,1.2s						
WAKR	Walker	85.86	49	*e*P	P	18 37 34.4	-0.1
WAKR				*e*P	PcP	18 37 35.9	-1.3
I04A	Tendick Farm,	85.86	43	⇑P	P	18 37 36.1	+1.9
	baz=86						
IRK	Irkutsk	85.97	327	*e*P	P	18 37 33.3	-1.2
IRK				pmax	pmax		
	comp=Z,21nm,1.3s						
TLY	Talaya	86.03	326	*e*P	P	18 37 34.8	0.0
TLY				pmax	pmax		
	comp=Z,11nm,0.9s						
ILAR	Eielson Array	86.06	18	P	P	18 37 33.6	-1.1
ILAR	Eielson Array	86.06	18	P	P	18 37 33.6	-1.1
	comp=Z,3.3nm,0.7s,baz=239,slow=5.0,SNR=49						
LRMC	Laurel Mountai	86.07	52	⇓P	P	18 37 37.0	+1.5
	baz=86,SNR=5.2						
MTUM	Tungsten Hills	86.08	50	*e*P	P	18 37 37.1	+1.5
MONP	Monument Peak	86.16	55	⇓P	P	18 37 37.7	+1.6
	baz=86,SNR=8.2						
DVTC	Desert V Tower	86.34	55	⇓P	P	18 37 38.3	+1.4
	baz=87						
PAHR	Pah Rah Range	86.34	48	*e*P	P	18 37 38.0	+1.2
	comp=Z,9.7nm,1.1s						
PFO	Pinyon Flat Ob	86.38	54	*e*P	P	18 37 38.9	+1.8
PFO	Pinyon Flat Ob	86.38	54	P	P	18 37 37.8	+0.7
	comp=Z,5.1nm,0.9s,baz=295,slow=3.8,SNR=8.6						
PFO	Pinyon Flat Ob	86.38	54	⇑P	P	18 37 38.4	+1.3
	baz=87						
K05A	Summer Lake	86.45	44	*e*P	P	18 37 38.6	+1.3
	comp=Z,12nm,0.8s						
MOD	Modoc	86.53	45	*e*P	P	18 37 38.8	+1.0
	comp=Z,24nm,2.5s						
NVAR	Mina Array Bea	86.66	49	P	P	18 37 39.2	+0.7
NVAR	Mina Array Bea	86.66	49	P	P	18 37 39.2	+0.7
	comp=Z,1.9nm,0.8s,baz=250,slow=4.7,SNR=14						
SWSC	Sam W. Stewart	86.67	55	⇓P	P	18 37 40.1	+1.7
	baz=87,SNR=5.8						
GSC	Goldstone	86.68	52	*e*P	P	18 37 40.4	+1.9
GSC				pmax	pmax		
	comp=Z,24nm,1.6s						
GSC	Goldstone	86.68	52	*e*P	P	18 37 40.4	+1.9
	comp=Z,24nm,1.6s						
GSC	Goldstone	86.68	52	⇓P	P	18 37 40.2	+1.7
	baz=87						
GRAC	Grapevine Rang	86.84	51	⇑P	P	18 37 41.1	+1.9
	baz=87						
BELC	Belle Mtn. Jos	86.87	54	⇑P	P	18 37 41.1	+1.6
	baz=87,SNR=12						
HEC	Hector,Ludlow	86.89	53	⇓P	P	18 37 40.8	+1.2
	baz=87						
FURC	Furnace Creek,	87.04	51	⇓P	P	18 37 41.7	+1.6
	baz=87						
BC3	Big Chuckawall	87.18	54	⇓P	P	18 37 42.4	+1.4
	baz=87,SNR=7.5						
SHOC	Shoshone	87.29	52	⇓P	P	18 37 43.0	+1.6
	baz=88						
GMRC	Granite Mounta	87.39	53	⇑P	P	18 37 43.3	+1.2
	baz=88						
TUQ	Turquoise Moun	87.41	53	⇑P	P	18 37 43.2	+1.1
	baz=88,SNR=7.8						
GLA	Glamis	87.48	55	*e*P	P	18 37 44.9	+2.5
GLA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GLA	Glamis	87.48	55	*e*P	P	18 37 44.9	+2.5
	comp=Z,4.4nm,1.1s						
GLA	Glamis	87.48	55	⇑P	P	18 37 44.0	+1.6
	baz=88						
IRM	Iron Mountain	87.58	54	⇓P	P	18 37 44.3	+1.4
	baz=88,SNR=8.3						
TPNV	Topopah Spring	87.67	51	*e*P	P	18 37 44.2	+0.8
TPNV				pmax	pmax		
	comp=Z,69nm,2.6s						
TPNV	Topopah Spring	87.67	51	*e*P	P	18 37 44.2	+0.8
	comp=Z,69nm,2.6s						
TPNV	Topopah Spring	87.67	51	⇑P	P	18 37 44.4	+1.0
	baz=88,SNR=6.1						
EGAK	Eagle	87.84	19	*e*P	P	18 37 48.2	+4.9
WVOR	Wild Horse Val	87.88	45	*e*P	P	18 37 45.4	+1.2
WVOR				pmax	pmax		
	comp=Z,72nm,2.5s						
WVOR	Wild Horse Val	87.88	45	*e*P	P	18 37 45.4	+1.2
	comp=Z,72nm,2.5s						
I07A	Izee	87.91	44	*e*P	P	18 37 45.5	+1.2
Y12C	Blythe	87.94	55	⇓P	P	18 37 46.6	+2.1
	baz=88						
TAPN	Taplejung	87.99	299	*e*P	P	18 37 45.2	-0.1
	comp=Z,18nm,1.0s						
ODAN	Odare	88.12	298	*e*P	P	18 37 45.6	-0.2
	comp=Z,13nm,0.7s						
113A	Mohawk Valley,	88.24	56	⇓P	P	18 37 47.4	+1.5
	baz=88						
SHPR	Sheep Range	88.34	52	*e*P	P	18 37 48.1	+1.5
PDMCI	Parker Dam,Lak	88.42	54	⇑P	P	18 37 48.3	+1.6
	baz=89,SNR=7.6						
E07A	Sunnyside	88.62	41	*e*P	P	18 37 48.6	+1.1
	comp=Z,9.9nm,0.8s						
R11A	Troy Canyon, C	88.63	50	*e*P	P	18 37 48.9	+0.9
	comp=Z,41nm,2.9s						
R11A	Troy Canyon, C	88.63	50	P	P	18 37 48.6	+0.7
	baz=89						
G08A	Pilot Rock	88.72	43	*e*P	P	18 37 49.0	+0.9
	comp=Z,7.7nm,0.9s						
214A	Organ Pipe Nat	88.75	57	⇑P	P	18 37 50.0	+1.5
	baz=89						
HAWA	Hanford	88.77	41	*e*P	P	18 37 49.3	+1.2
	comp=Z,121nm,2.5s						
RAMN	Ramite	88.82	298	*e*P	P	18 37 48.6	-0.6
	comp=Z,11nm,0.9s						
W13A	Hualapai Mount	88.87	53	⇑P	P	18 37 50.3	+1.1
	baz=89						
Z14A	Wintersburg	89.08	55	⇑P	P	18 37 51.4	+1.5
	baz=89						
JIRN	Jiri	89.38	299	*e*P	P	18 37 51.6	-0.3
D08A	Wollman Farm,	89.41	41	*e*P	P	18 37 52.6	+1.5
	comp=Z,128nm,2.6s						
B08A	Colville Reser	89.64	40	*e*P	P	18 37 52.8	+0.6
	comp=Z,7.0nm,1.0s						
ELK	Elko	89.68	48	*e*P	P	18 37 53.7	+0.9
	comp=Z,4.7nm,1.0s						
E09A	Wood Farm, Sta	89.70	42	*e*P	P	18 37 53.5	+1.0
	comp=Z,10nm,1.0s						
GUN	Gumba	89.71	299	*e*P	P	18 37 53.1	-0.3
	comp=Z,35nm,1.3s						
TIXI	Tiksi	89.76	349	*e*P	P	18 37 52.2	0.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PKI	Pulchoki	90.02	298	*e*P	P	18 37 54.3	-0.6
	comp=Z,25nm,1.2s						
PKIN	Phulchoki	90.03	298	*e*P	P	18 37 54.2	-0.6
	comp=Z,18nm,1.2s						
CCUT	Cedar City	90.04	51	*e*P	P	18 37 56.3	+1.7
	comp=Z,38nm,2.1s						
F10A	Beach Ranch, E	90.10	42	*e*P	P	18 37 55.2	+0.7
	comp=Z,16nm,1.0s						
MFID	Camas Ranch	90.16	45	*e*P	P	18 37 56.0	+1.1
	comp=Z,4.9nm,0.9s						
KKN	Kakani	90.19	299	*e*P	P	18 37 55.1	-0.4
DMN	Daman	90.28	298	*e*P	P	18 37 55.7	-0.3
	comp=Z,36nm,1.2s						
TUC	Tucson	90.50	57	*e*P	P	18 37 58.5	+1.8
TUC				pmax	pmax		
	comp=Z,12nm,1.3s						
TUC	Tucson	90.50	57	*e*P	P	18 37 58.5	+1.8
	comp=Z,12nm,1.3s						
U15A	North Rim	90.52	53	⇑P	P	18 37 58.5	+1.5
	baz=91						
X16A	Lo Mia Camp, P	90.58	55	⇑P	P	18 37 58.8	+1.6
	baz=91						
GKN	Gorkha	90.79	299	*e*P	P	18 37 57.0	-1.2
	comp=Z,18nm,1.2s						
WUAZ	Wupatki	90.96	54	*e*P	P	18 37 59.9	+1.1
	comp=Z,9.8nm,1.0s						
WUAZ	Wupatki	90.96	54	⇓P	P	18 38 00.1	+1.3
	baz=91						
NEW	Newport	90.97	40	P	P	18 37 58.5	+0.1
NEW	Newport	90.97	40	P	P	18 37 58.5	+0.1
	comp=Z,5.2nm,0.9s,baz=230,slow=4.8,SNR=13						
NEW	Newport	90.97	40	P	P	18 37 59.3	+0.8
	baz=91						
HLID	Hailey	91.18	45	*e*P	P	18 38 01.0	+1.3
	comp=Z,77nm,2.9s						
HLID	Hailey	91.18	45	⇓P	P	18 38 01.5	+1.8
	baz=91						
MVU	Marysvale	91.19	51	*e*P	P	18 38 01.9	+1.9
	comp=Z,65nm,2.6s						
KOLN	Koldanda	91.61	298	*e*P	P	18 38 01.0	-1.1
DANN	Dangsing	91.63	299	*e*P	P	18 38 00.9	-1.4
HVU	Hansel Valley	91.77	47	*e*P	P	18 38 03.6	+1.1
HVU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HVU	Hansel Valley	91.77	47	*e*P	P	18 38 03.6	+1.1
	comp=Z,8.4nm,1.2s						
320A	Kipp Ranch, An	92.08	58	P	P	18 38 05.5	+1.4
	baz=92						
WMQ	Urumqi	92.89	314	P	P	18 38 07.8	+0.3
WMQ				pP	pP	18 38 18.4	0.0
WMQ				sP	sP	18 38 22.3	0.0
WMQ				S	SKKSac	18 49 00.0	+2.6
WMQ				SS	SS	18 55 22.4	-3.0
WMQ				pmax	pmax		
	comp=Z,11nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,75nm,5.6s						
WMQ				LR	LR		
	comp=Z,56nm,36.2s						
WMQ				LR	LR		
	comp=Z,43nm,30.5s						
121A	Cookes Peak, D	93.00	57	⇓P	P	18 38 09.5	+1.1
	baz=93						
PDAR	Pinedale Array	94.34	47	P	P	18 38 14.0	-0.4
PDAR	Pinedale Array	94.34	47	P	P	18 38 14.0	-0.4
	comp=Z,0.3nm,0.5s,baz=252,slow=2.7,SNR=3.9						
PDAR				LR	LR	19 10 08.3	
	comp=Z,113nm,21.5s,baz=267,slow=29						
TXAR	Lajitas Array	95.66	61	P	P	18 38 20.9	+0.4
TXAR	Lajitas Array	95.66	61	P	P	18 38 21.0	+0.4
	comp=Z,0.3nm,0.7s,baz=232,slow=4.4,SNR=4.3						
TXAR				LR	LR	19 11 05.2	
	comp=Z,130nm,20.1s,baz=0.0,slow=29						
GDL2	Guadalupe Moun	95.73	58	*e*P	P	18 38 18.2	-2.7
O22A	Kremmling	95.87	50	⇓P	P	18 38 22.7	+1.2
	baz=96						
YKA	Yellowknife Ar	97.02	27	P	P	18 38 24.4	-1.4
YKA	Yellowknife Ar	97.02	27	P	P	18 38 24.4	-1.4
	comp=Z,0.5nm,0.8s,baz=255,slow=4.4,SNR=8.1						
MK31	Makanchi Array	97.34	316	*e*P	P	18 38 26.2	-1.5
MK31	Makanchi Array	97.34	316	*e*P	P	18 38 26.2	-1.5
MKAR	Makanchi Array	97.34	316	*ce*P	Pdif	18 38 28.0	+0.2
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	Makanchi Array	97.34	316	P	Pdif	18 38 27.8	0.0
MKAR	Makanchi Array	97.34	316	P	Pdif	18 38 27.8	0.0
	comp=Z,6.7nm,0.8s,baz=97,slow=6.0,SNR=57						
ZAA0	Zalesovo Array	97.45	324	*e*P	P	18 38 23.7	-4.2
ZALV	Zalesovo Beam	97.45	324	P	P	18 38 27.1	-0.8
ZALV	Zalesovo Beam	97.45	324	P	P	18 38 27.1	-0.8
ZALV	Zalesovo Beam	97.45	324	P	P	18 38 27.1	-0.8
	comp=Z,6.3nm,0.9s,baz=119,slow=5.2,SNR=21						
KSH	Kashi	100.42	308	*e*P	Pdif	18 38 43.0	+1.2
KSH				*e*PP	PP	18 42 51.2	+2.4
KSH				*e*SKS	SKSac	18 49 17.8	-0.7
KSH				*e*S	Sdif	18 50 11.3	-4.7
KSH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,87nm,4.6s						
KSH				LR	LR		
	comp=Z,74nm,4.2s						
KSH				LR	LR		
	comp=Z,62nm,6.3s						
KSH				LR	LR		
	comp=Z,78nm,9.2s						
ARCES	ARCESS Array B	120.08	346	PKP	PKPdf	18 43 43.6	-0.9
ARCES	ARCESS Array B	120.08	346	PKP	PKPdf	18 43 43.6	-0.9
	comp=Z,4.8nm,0.9s,baz=29,slow=2.1,SNR=7.3						
GNI	Garni	124.35	309	*e*PKPdf	PKPdf	18 43 54.1	+0.4
ZEI	Tsey	124.43	312	*i* PKIKP	PKPdf	18 43 53.4	-0.5
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NCK	Nalchik	124.49	313	*e*PKIKP	PKPdf	18 43 52.9	-0.8
OBN	Obninsk	124.71	328	*e*PKIKP	PKPdf	18 43 53.3	-0.4
OBN				*e*		18 45 41.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KIV	Kislovodsk	125.01	314	*i* PKIKP	PKPdf	18 43 54.1	-0.7
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NEY	Neytrino	125.16	313	*e*PKIKP	PKPdf	18 43 56.9	+1.6
FINES	FINESS Array B	125.62	339	PKP	PKPdf	18 43 53.4	-1.9
FINES	FINESS Array B	125.62	339	PKP	PKPdf	18 43 53.4	-1.9
	comp=Z,2.2nm,0.8s,baz=346,slow=1.7,SNR=3.4						
AKASG	Malin Array Be	130.77	326	PKIKP	PKPdf	18 44 06.1	+0.7
AKASG	Malin Array Be	130.77	326	PKP	PKPdf	18 44 06.1	+0.7
AKASG				SKPbc	SKPab	18 47 30.1	+3.1
AKASG	Malin Array Be	130.77	326	PKP	PKPdf	18 44 06.1	+0.7
	comp=Z,1.7nm,0.8s,baz=53,slow=2.5,SNR=9.8						
AKASG				SKPbc	SKPab	18 47 30.1	+3.1
	comp=Z,0.8nm,0.7s,baz=54,slow=5.4,SNR=7.1						
BR131	Keskin Array S	132.70	311	*e*PKPdf	PKPdf	18 44 09.4	-0.2
BRTR	Keskin Array B	132.71	311	PKP	PKPdf	18 44 09.5	-0.2
BRTR	Keskin Array B	132.71	311	PKP	PKPdf	18 44 09.5	-0.2
	comp=Z,2.8nm,0.9s,baz=96,slow=0.9,SNR=13						
ANTO	Ankara	133.27	312	⇑PKIKP	PKPdf	18 44 11.1	+0.5
ANTO	Ankara	133.27	312	⇑*i*P	PKPdf	18 44 11.1	+0.5
ANTO	Ankara	133.27	312	*e*PKPdf	PKPdf	18 44 11.2	+0.5
BUR08	Bucovina Ar. S	134.65	325	*e*PKPdf	PKPdf	18 44 13.3	+0.2
BURAR	Bucovina Array	134.66	325	⇑PKIKP	PKPdf	18 44 14.9	+1.9
BURAR	Bucovina Array	134.66	325	⇑*i*P	PKPdf	18 44 14.9	+1.9
MLR	Muntele Rosu	135.39	322	⇑*i*P	PKPdf	18 44 14.1	-0.4
KOLS	Kolonicke sedl	135.46	328	*e*PKIKP	PKPdf	18 44 15.7	+1.3
KOLS	Kolonicke sedl	135.46	328	*e*PKP	PKPdf	18 44 15.7	+1.3
STHS	Stebnicka Huta	135.68	329	*e*PKIKP	PKPdf	18 44 16.1	+1.3
STHS	Stebnicka Huta	135.68	329	*e*PKP	PKPdf	18 44 16.1	+1.3
VOIR		135.96	322	⇑PKIKP	PKPdf	18 44 15.8	+0.3
VOIR		135.96	322	⇑*i*P	PKPdf	18 44 15.8	+0.3
ARR	Arges	136.24	322	⇑*i*P	PKPdf	18 44 16.3	+0.3
MORC	Moravsky Berou	137.21	332	⇑PKIKP	PKPdf	18 44 17.9	+0.3
MORC	Moravsky Berou	137.21	332	⇑*i*P	PKPdf	18 44 17.9	+0.3
KRLC	Kraliky	137.34	333	*e*PKIKP	PKPdf	18 44 18.7	+0.8
KRLC	Kraliky	137.34	333	*e*PKPdf	PKPdf	18 44 18.7	+0.8
DPC	Dobruska-Polom	137.34	333	*e*PKIKP	PKPdf	18 44 17.6	-0.3
DPC				*e*		18 44 23.5	
DPC	Dobruska-Polom	137.34	333	*e*PKPdf	PKPdf	18 44 17.6	-0.3
DPC				*e*x	x	18 44 23.5	
BZS	Buzias	137.84	324	⇑PKIKP	PKPdf	18 44 18.6	-0.3
BZS	Buzias	137.84	324	⇑*i*P	PKPdf	18 44 18.6	-0.3
BRG	Berggiesshubel	137.95	335	*e*PKP	PKPdf	18 44 21.8	+2.9
	comp=Z,55nm,2.0s						
BRG	Berggiesshubel	137.95	335	*e*PKIKP	PKPdf	18 44 21.8	+2.9
CLL	Collm	137.98	336	*e*PKIKP	PKPdf	18 44 20.0	+1.1
CLL	Collm	137.98	336	*e*PKPdf	PKPdf	18 44 20.0	+1.1
CLL				*e*PP	PP	18 47 15.0	+8.6
CLL				*e*SKPdf	SKPbc	18 47 50.0	-0.5
TREC	Trest	138.48	333	*e*PKIKP	PKPdf	18 44 20.0	0.0
TREC				*e*		18 44 25.2	
TREC	Trest	138.48	333	*e*PKPdf	PKPdf	18 44 20.0	0.0
TREC				*e*x	x	18 44 25.2	
PKSM	Moragy	139.09	327	⇑PKIKP	PKPdf	18 44 21.5	+0.4
PKSM	Moragy	139.09	327	⇑*i*P	PKPdf	18 44 21.5	+0.4
KHC	Kasperske Hory	139.44	334	*e*PKIKP	PKPdf	18 44 18.7	-3.0
KHC	Kasperske Hory	139.44	334	*e*PKPpre	PKPpre	18 44 18.7	
KHC				*e*PKPdf	PKPdf	18 44 22.2	+0.5
GERES	GERESS Array B	139.60	334	PKhKP	PKPpre	18 44 14.2	
	comp=Z,0.3nm,0.6s,baz=46,slow=2.8,SNR=3.2						
FETA	Feichten	142.28	334	⇑*i*PKPdf	PKPdf	18 44 24.8	-2.3
	comp=Z,7.4nm,0.9s						
TUE	Stuetta	143.29	335	*e*PKPdf	PKPbc	18 44 26.4	+0.4
SENIN	Lac Senin/Sane	144.19	337	*e*PKPdf	PKPdf	18 44 29.9	-0.7
AQU	L'Aquila	144.47	327	*e*PKPdf	PKPbc	18 44 30.1	+0.6
TIP	Timpagrande	144.56	320	*e*PKPdf	PKPdf	18 44 30.8	-0.4
BNI	Bardonecchia	145.53	336	*e*PKIKP	PKPab	18 44 33.6	+0.4
BNI	Bardonecchia	145.53	336	*e*PKPdf	PKPab	18 44 33.6	+0.4
OG22	Abries	145.61	336	PKP	PKPab	18 44 35.9	+2.3
OG22	Abries	145.61	336	PKP	PKPab	18 44 37.1	+3.5
SSB	Saint Sauveur	146.13	339	*e*PKP2	PKPdf	18 44 33.7	0.0
SSB	Saint Sauveur	146.13	339	PKP	PKPab	18 44 35.2	-0.1
SSB	Saint Sauveur	146.13	339	*e*PKPdf	PKPdf	18 44 33.7	0.0
PYM	Petit Puy Mans	146.23	341	PKP	PKPab	18 44 36.9	+1.2
LBL	Lubilhac	146.61	340	PKP	PKPab	18 44 38.0	+0.8
RCBR	Riachuelo	149.05	129	*e*PKPdf	PKPbc	18 44 43.4	-0.2
KEST	Kesra	151.30	322	*e*PKPbc	PKPbc	18 44 49.1	+0.7
KEST	Kesra	151.30	322	PKPbc	PKPbc	18 44 49.0	+0.6
	comp=Z,10nm,0.8s,baz=272,slow=1.1,SNR=19						
ESDC	Sonseca Array	153.82	346	PKPbc	PKPbc	18 44 54.8	+0.9
ESDC				PKPab	PKPab	18 45 07.0	+0.2
ESDC	Sonseca Array	153.82	346	PKPbc	PKPbc	18 44 54.8	+0.9
	comp=Z,0.7nm,0.7s,baz=14,slow=3.8,SNR=3.5						
ESDC				PKPab	PKPab	18 45 07.0	+0.2
	comp=Z,2.6nm,0.8s,baz=9.9,slow=3.5,SNR=9.3						
TORD	Torodi Ar. Bea	166.47	266	PKP	PKPdf	18 44 59.3	-1.4
TORD				PKPab	PKPab	18 46 01.7	-0.9
TORD	Torodi Ar. Bea	166.47	266	PKP	PKPdf	18 44 59.3	-1.4
	comp=Z,2.7nm,1.1s,baz=85,slow=3.0,SNR=8.9						
TORD				PKPab	PKPab	18 46 01.7	-0.9
	comp=Z,3.2nm,1.0s,baz=94,slow=3.2,SNR=9.4						

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*ISK **10** 18:31:52.1, 37.°91N×29.°31E, h5km, MD3.4*
*ISCJB **10** 18:31:54.4±0.6, 37.°98N±0.°02×29.°31E±0.°03, h6km±5km, Error ellipse: s-maj=4.4km s-min=3.9km az=16.9*
*DDA **10** 18:31:54.6, 38.°01N×29.°32E, h7km, ML3.5*
*CSEM **10** 18:31:54.5±0.2, 37.°96N×29.°31E, h8km, ML3.5, Error ellipse: s-maj=5.3km s-min=4.6km az=85.0*
ISC 10 18:31:54.5±0.8**, 37.°99N**±0.°02×**29.°32E**±0.°02**, h1**km±9km**, n63, σ1.°16**/80**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHL	Karahalli	0.37	26	PG	Pg	18 32 01.4	-0.2
KHL	Karahalli	0.37	26	*i* Pg	Pg	18 32 01.4	-0.2
DNZL	Cakiroluk	0.37	215	*i* P	Pg	18 32 02.2	+0.6
DNZL				*i* S	Sg	18 32 08.1	+1.6
DNZL	Cakiroluk	0.37	215	*i* P	Pg	18 32 02.2	+0.6
DNZL				*i* S	Sg	18 32 08.1	+1.6
KHAL	Karahalli	0.40	20	*i* P	Pg	18 32 02.3	+0.1
KHAL				*i* S	Sg	18 32 07.9	+0.5
KHAL	Karahalli	0.40	20	*i* P	Pg	18 32 02.3	+0.1
KHAL				*i* S	Sg	18 32 07.9	+0.5
KULA	Kula-Manisa	0.73	315	*e*PG	Pg	18 32 08.6	0.0
KULA	Kula-Manisa	0.73	315	*e*Pg	Pg	18 32 08.6	0.0
MANT	Manisa	0.78	310	*i* P	Pg	18 32 09.8	+0.4
MANT				*i* S	Sg	18 32 21.1	+1.6
MANT	Manisa	0.78	310	*i* P	Pg	18 32 09.8	+0.4
MANT				*i* S	Sg	18 32 21.1	+1.6
GOLH	Golhisar	0.78	166	*i* P	Pg	18 32 09.3	-0.2
GOLH				*i* S	Sn	18 32 25.0	-0.1
GOLH	Golhisar	0.78	166	*i* P	Pg	18 32 09.3	-0.2
GDZ	Gediz	1.10	7	*i* P	Pg	18 32 15.3	-0.3
GDZ				*i* S	Sg	18 32 30.3	+0.4
GDZ	Gediz	1.10	7	*i* P	Pg	18 32 15.3	-0.3
GDZ				*i* S	Sg	18 32 30.3	+0.4
SHUT	Suhut-Afyon	1.12	60	*e*PN	Pg	18 32 15.8	-0.2
SHUT				*e*SN	Sn	18 32 33.0	-0.5
SHUT	Suhut-Afyon	1.12	60	*e*Pn	Pg	18 32 15.8	-0.2
SHUT				*e*Sn	Sn	18 32 33.0	-0.5
AYDB	Zeytinkoy-Aydi	1.13	268	*e*PN	Pg	18 32 14.8	-1.4
AYDB				*e*SN	Sg	18 32 31.3	+0.5
AYDB	Zeytinkoy-Aydi	1.13	268	*e*Pn	Pg	18 32 14.8	-1.4
AYDB				*e*Sn	Sg	18 32 31.3	+0.5
DEMI	Demirci	1.15	336	*i* P	Pg	18 32 16.8	+0.2
DEMI				*i* S	Sg	18 32 31.6	+0.1
DEMI	Demirci	1.15	336	*i* P	Pg	18 32 16.8	+0.2
DEMI				*i* S	Sg	18 32 31.6	+0.1
AYDN	Tasoluk	1.19	254	*i* P	Pn	18 32 25.5	+7.2
AYDN				*i* S	Sn	18 32 42.4	+7.3
KORT	Korkueli	1.29	140	*i* P	Pg	18 32 19.6	+0.4
KORT				*i* S	Sn	18 32 40.6	+3.0
KORT	Korkueli	1.29	140	*i* P	Pg	18 32 19.6	+0.4
DALY	Dalyan (Mu˜la	1.29	204	*e*PN	Pn	18 32 16.2	-3.4
DALY	Dalyan (Mu˜la	1.29	204	*e*Pn	Pn	18 32 16.2	-3.4
ELL	Elmali	1.33	159	*e*PN	Pn	18 32 17.1	-3.1
ELL	Elmali	1.33	159	*e*Pn	Pn	18 32 17.2	-3.1
SUTC	Sutluce-Ispart	1.43	111	*e*PN	Pn	18 32 20.1	-1.6
SUTC	Sutluce-Ispart	1.43	111	*e*Pn	Pn	18 32 20.1	-1.6

TVSB	**Tavsanli**	**1.46**	**4**	*e*PN	**Pn**	**18 32 21.3**	**-0.8**
TVSB	**Tavsanli**	**1.46**	**4**	*e*Pn	**Pn**	**18 32 21.3**	**-0.8**
BOLV	**Bolvadin**	**1.47**	**60**	*i* P	**Pb**	**18 32 23.0**	**+0.2**
BOLV				*i* S	**Sg**	**18 32 44.0**	**+2.2**
BOLV	**Bolvadin**	**1.47**	**60**	*i* P	**Pb**	**18 32 23.0**	**+0.2**
AKHS	**Akhisar**	**1.48**	**307**	*i* P	**Pb**	**18 32 22.8**	**0.0**
AKHS				*i* S	**Sg**	**18 32 44.2**	**+2.2**
AKHS	**Akhisar**	**1.48**	**307**	*i* P	**Pb**	**18 32 22.8**	**0.0**
AKS	**Akhisar**	**1.48**	**307**	*e*PN	**Pn**	**18 32 21.6**	**-0.6**
AKS	**Akhisar**	**1.48**	**307**	*e*Pn	**Pn**	**18 32 21.6**	**-0.6**
IZM	**Izmir**	**1.67**	**285**	*e*PN	**Pn**	**18 32 23.9**	**-1.0**
IZM	**Izmir**	**1.67**	**285**	*e*Pn	**Pn**	**18 32 23.9**	**-1.0**
BDRM	**Kayabasi**	**1.75**	**239**	*i* P	**Pn**	**18 32 26.1**	**0.0**
BDRM				*i* S	**Sg**	**18 32 53.3**	**+2.4**
BDRM	**Kayabasi**	**1.75**	**239**	*i* P	**Pb**	**18 32 26.1**	**0.0**
AKAS	**Kas**	**1.77**	**172**	*i* P	**Pb**	**18 32 27.8**	**-0.1**
AKAS				*i* S	**Sg**	**18 32 55.2**	**+3.7**
AKAS	**Kas**	**1.77**	**172**	*i* P	**Pb**	**18 32 27.8**	**-0.1**
BODT	**Bodrum**	**1.85**	**240**	*e*PN	**Pn**	**18 32 25.2**	**-2.1**
BODT	**Bodrum**	**1.85**	**240**	*e*Pn	**Pn**	**18 32 25.2**	**-2.1**
BALB	**Balikesir**	**1.99**	**326**	*e*PN	**Pn**	**18 32 29.3**	**0.0**
BALB	**Balikesir**	**1.99**	**326**	*e*Pn	**Pn**	**18 32 29.3**	**0.0**
CAVI	**Cavuskoy**	**2.24**	**10**	*e*PN	**Pn**	**18 32 33.7**	**+0.9**
CAVI	**Cavuskoy**	**2.24**	**10**	*e*Pn	**Pn**	**18 32 33.7**	**+0.9**
SVRH	**Sivrihisar-ESK**	**2.25**	**49**	*e*PN	**Pn**	**18 32 33.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.25**	**49**	*e*Pn	**Pn**	**18 32 33.3**	**+0.3**
KCTX	**Karacabey (Bur**	**2.39**	**342**	*e*PN	**Pn**	**18 32 35.5**	**+0.7**
KCTX	**Karacabey (Bur**	**2.39**	**342**	*e*Pn	**Pn**	**18 32 35.5**	**+0.7**
KONT	**Konya--Tatoy**	**2.40**	**90**	*e*PN	**Pn**	**18 32 34.2**	**-0.8**
KONT	**Konya--Tatoy**	**2.40**	**90**	*e*Pn	**Pn**	**18 32 34.2**	**-0.8**
GONE	**Gonen-Balikesi**	**2.41**	**329**	*e*PN	**Pn**	**18 32 34.7**	**-0.4**
GONE	**Gonen-Balikesi**	**2.41**	**329**	*e*Pn	**Pn**	**18 32 34.7**	**-0.4**
LADK	**Ladik-KONYA**	**2.41**	**84**	*e*PN	**Pn**	**18 32 34.6**	**-0.6**
LADK	**Ladik-KONYA**	**2.41**	**84**	*e*Pn	**Pn**	**18 32 34.6**	**-0.6**
GEMT	**Gemlik**	**2.44**	**358**	*e*PN	**Pn**	**18 32 36.6**	**+1.1**
GEMT	**Gemlik**	**2.44**	**358**	*e*Pn	**Pn**	**18 32 36.6**	**+1.1**
ADVT	**Abdulvahap**	**2.46**	**7**	*e*PN	**Pn**	**18 32 36.6**	**+0.9**
ADVT	**Abdulvahap**	**2.46**	**7**	*e*Pn	**Pn**	**18 32 36.6**	**+0.9**

CSEM ***10*** *18:59:57.1, 35°.33N × 0°.15W, h0 km, ML2.1, After MDD*

MDD 10 18:59:57.1 ± 2.9, 35°.33N ± 0°.15W, h0 km, mb3.8/4, mbLg2.1/1, Error ellipse: s-maj=27.4km s-min=16.2km az=157.0, PRXIMO SOLUCIN POBRE, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBER	**Berja**	**2.72**	**306**	P	Pn	19 00 40.7	-1.6
	1.8nm,0.2s,SNR=16						
EBER				S	Sn	19 01 12.9	-3.1
	2.3nm,0.3s,SNR=5.2						
EBER	**Berja**	**2.72**	**306**	P	Pn	19 00 40.7	-1.6
	1.8nm,0.2s,SNR=16						
EBER				S	Sn	19 01 12.9	-3.1
	2.3nm,0.3s,SNR=5.2						
EQES	**Quesada**	**3.41**	**317**	P	Pn	19 00 51.9	+0.2
	3.3nm,0.2s,SNR=48						
EQES				S	Sn	19 01 31.3	-1.7
	10nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.41**	**317**	P	Pn	19 00 51.9	+0.2
	3.3nm,0.2s,SNR=48						
EQES				S	Sn	19 01 31.3	-1.7
	10nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.49**	**342**	P	Pn	19 00 52.1	-0.7
	0.6nm,0.2s,SNR=9.2						
ETOB				S	Sn	19 01 31.2	-3.8
	0.8nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.49**	**342**	P	Pn	19 00 52.1	-0.7
	0.6nm,0.2s,SNR=9.2						
ETOB				S	Sn	19 01 31.2	-3.7
	0.8nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.80**	**331**	P	Pn	19 00 57.0	-0.1
	3.1nm,0.2s,SNR=7.9						
EVIA				S	Sn	19 01 37.4	-5.2
	0.6nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.80**	**331**	P	Pn	19 00 57.0	-0.1
	3.1nm,0.2s,SNR=7.9						
EVIA				S	Sn	19 01 37.4	-5.2
	0.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.88**	**17**	P	Pn	19 00 56.2	-1.8
	3.4nm,0.3s,SNR=7.9						
EIBI				S	Sn	19 01 39.4	-4.8
	2.0nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.88**	**17**	P	Pn	19 00 56.2	-1.8
	3.4nm,0.3s,SNR=7.9						
EIBI				S	Sn	19 01 39.4	-4.8
	2.0nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**3.95**	**290**	P	Pn	19 00 56.2	-2.8
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	Sn	19 01 41.6	-4.5
	0.1nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**3.95**	**290**	P	Pn	19 00 56.2	-2.8
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	Sn	19 01 41.6	-4.5
	0.1nm,0.2s,SNR=4.0						

IDC ***10*** *19:06:32.6 ± 1.3, 6°.59N × 77°.02W, h0 km, mb3.2/1, mb1 3.6/2, mb1mx3.3/22, mbtmp3.4/2, ML2.4/1, MS3.2/1, Ms1 3.3/1, ms1mx2.6/17, Error ellipse: s-maj=64.1km s-min=34.0km az=48.0*

ISCJB ***10*** *19:06:42.7 ± 0.7, 6°.9N ± 0°.1 × 73°.1W ± 0°.1, h166 km, mb3.0/1, Error ellipse: s-maj=19.4km s-min=8.3km az=40.4*

FUNV ***10*** *19:06:52.8, 7°.36N × 72°.73W, h135 km, MW3.0*

ISC 10 19:06:43.3 ± 1.1, 6°.9N ± 0°.1 × 73°.0W ± 0°.1, h166 km, n17, σ 1 s 78/18, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**36**	⇓*i* P	**Pn**	**19 07 12.7**	**+1.0**
CAPV				*e*S	**Sn**	**19 07 28.4**	**-5.1**
ROSC	**El Rosal**	**2.38**	**213**	Pn	**Pn**	**19 07 24.4**	**+0.2**
	9.4nm,0.3s,baz=300,slow=8.1,SNR=19						
ROSC				Sn	**Sn**	**19 07 52.5**	**-3.4**
	22nm,0.3s,baz=89,slow=21,SNR=15						
SOCV	**Socops**	**2.58**	**57**	*e*P	**Pn**	**19 07 26.9**	**+0.8**
SOCV				*e*S	Sn	19 07 52.3	-7.1
VIRV	**Villa del Rosa**	**3.66**	**10**	*e*P	**Pn**	**19 07 39.9**	**+0.3**
VIRV				*e*S	Sn	19 08 15.1	-8.4
QARV	**Quebrada Arrib**	**4.14**	**37**	*e*P	**Pn**	**19 07 46.5**	**+0.7**
SANV	**Sanarito**	**4.34**	**53**	*e*P	**Pn**	**19 07 48.8**	**+0.3**
CURV	**Curarigua**	**4.36**	**44**	⇓*e*P	**Pn**	**19 07 49.2**	**+0.5**
DABV	**Dabajuro**	**4.67**	**30**	*e*P	**Pn**	**19 07 53.1**	**+0.5**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**19 08 03.2**	**+1.5**
MAPV	**Macapo**	**5.40**	**57**	⇓*e*P	**Pn**	**19 08 02.5**	**+0.2**
MONV	**Montecano**	**5.88**	**31**	*e*P	**Pn**	**19 08 08.5**	**-0.1**
TURV	**Turiamo**	**6.25**	**55**	*e*P	**Pn**	**19 08 13.2**	**-0.2**
CUPV	**Cœpira**	**7.84**	**66**	*e*P	**Pn**	**19 08 35.2**	**+0.6**
LPAZ	**La Paz**	**23.52**	**168**	LR	LR	19 21 52.7	
	comp=Z,50nm,18.3s,baz=128,slow=38						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**19 16 55.6**	**+1.9**
	0.1nm,0.4s,baz=132,slow=6.7,SNR=5.7						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**19 26 13.7**	**+0.6**
	0.3nm,0.9s,baz=119,slow=3.3,SNR=3.4						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**19 26 17.0**	**+0.9**
	0.2nm,0.5s,baz=104,slow=3.7,SNR=5.4						

KRSC 10 19:26:20.7 ± 2.0, 49°.78N × 157°.02E, h51 km ± 26 km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.08**	**328**	*e*P	Pn	19 26 40.1	+0.7
SKR				*e*S	Sn	19 26 53.4	+0.1
PAU	**Pauzhetka**	**1.70**	**356**	*e*P	Pn	19 26 50.1	+2.2
PAU				*e*S	Sn	19 27 11.2	+2.8
MIPR	**Malaya Ipel'ka**	**2.51**	**356**	P	Pn	19 27 00.5	+1.5
ASAK	**Asacha**	**2.67**	**12**	*e*P	Pn	19 27 05.0	+3.7
MTVR	**Mutnovka**	**2.81**	**15**	*e*P	Pn	19 27 06.8	+3.6
MTVR				*e*S	Sn	19 27 40.2	+4.2
RUS	**Russkaya**	**2.82**	**19**	*e*P	Pn	19 27 06.4	+3.2
RUS				*e*S	Sn	19 27 39.5	+3.6
UGLR	**Uglovaya**	**3.62**	**17**	*e*P	Pn	19 27 18.4	+4.1
AVH	**Avacha**	**3.65**	**16**	*e*P	Pn	19 27 19.1	+4.3
KOK	**Koryaka**	**3.66**	**15**	*e*P	Pn	19 27 18.9	+4.0
SMAR	**Somma**	**3.66**	**17**	P	Pn	19 27 18.6	+3.5
KRER	**Koryakskii**	**3.69**	**16**	*e*P	Pn	19 27 19.6	+4.1
SDLR	**Sedlovina**	**3.69**	**18**	*e*P	Pn	19 27 18.7	+3.3
KRX	**Arik**	**3.73**	**15**	*e*P	Pn	19 27 20.1	+4.2
GNL	**Ganaly**	**3.96**	**8**	*e*P	Pn	19 27 21.8	+2.7
MKZ	**Mys Kozlova**	**5.59**	**29**	P	Pn	19 27 43.6	+2.4

IDC ***10*** *19:45:50.7 ± 2.4, 18°.32S × 176°.53W, h0 km, mb4.2/3, mb1 4.5/3, mb1mx3.8/19, mbtmp4.2/3, Error ellipse: s-maj=85.2km s-min=39.9km az=135.0*

NEIC ***10*** *19:45:58.3 ± 2.5, 17°.98S × 177°.06W, h35 km, mb4.8/3, Error ellipse: s-maj=82.0km s-min=30.1km az=137.0*

ISC 10 19:45:51.9 ± 2.4, 18°.3S ± 0°.4 × 176°.7W ± 0°.4, h10 km, n15, σ 1 s 21/17, mb4.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**38.69**	**270**	P	**P**	**19 53 14.6**	**-1.8**
	34nm,1.0s						
WRAB	**Tennant Creek**	**46.12**	**260**	*e*P	**P**	**19 54 18.5**	**+1.7**
	9.0nm,1.5s						
WRA	**Warramunga Arr**	**46.13**	**260**	P	**P**	**19 54 18.1**	**+1.2**
WRA				PcP	**PcP**	**19 55 52.5**	**-0.6**
WRA	**Warramunga Arr**	**46.13**	**260**	P	**P**	**19 54 18.1**	**+1.2**
	0.7nm,0.5s,baz=95,slow=7.5,SNR=26						
WRA				PcP	**PcP**	**19 55 52.5**	**-0.6**
	0.3nm,0.7s,baz=96,slow=3.5,SNR=2.8						
AS31	**Alice Springs**	**46.22**	**254**	*e*P	**P**	**19 54 18.7**	**+1.1**
ASAR	**Alice Springs**	**46.22**	**254**	P	P	19 54 20.8	+3.1
ASAR				PcP	**PcP**	**19 55 52.9**	**-0.4**
ASAR	**Alice Springs**	**46.22**	**254**	P	P	19 54 20.8	+3.1
	10nm,0.5s,baz=89,slow=8.1,SNR=280						
ASAR				PcP	**PcP**	**19 55 52.9**	**-0.4**
	0.3nm,0.4s,baz=110,slow=4.6,SNR=4.2						
FORT	**Forrest**	**51.29**	**245**	*e*P	**P**	**19 54 56.8**	**+0.4**
	8.4nm,0.8s						
MJAR	**Matsushiro Arr**	**69.15**	**322**	P	**P**	**19 56 59.5**	**+0.8**
MJAR	**Matsushiro Arr**	**69.15**	**322**	P	**P**	**19 56 59.5**	**+0.8**
	0.5nm,0.5s,baz=151,slow=5.8,SNR=5.1						
CLL	**Collm**	**146.14**	**349**	*e*PKPbc	**PKPab**	**20 05 35.0**	**+2.1**
BRTR	**Keskin Array B**	**146.16**	**316**	PKPbc	**PKPab**	**20 05 32.9**	**-0.7**
BRTR	**Keskin Array B**	**146.16**	**316**	PKPbc	**PKPab**	**20 05 32.9**	**-0.7**
	0.4nm,0.4s,baz=65,slow=1.3,SNR=4.2						
GERES	**GERESS Array B**	**148.35**	**347**	PKPbc	**PKPab**	**20 05 40.6**	**-1.1**
GERES	**GERESS Array B**	**148.35**	**347**	PKPbc	**PKPab**	**20 05 40.7**	**-1.1**
	0.7nm,0.6s,baz=18,slow=3.4,SNR=5.3						

WEL 10 20:10:50.4 ± 0.1, 38°.22S × 177°.50E, h40 km ± 2 km, ML3.6/4, 8C-2D, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**0.12**	**169**	⇑PN	Pn	20 10 56.7	-1.2
MWZ				SN	Sn	20 11 02.1	-1.4
MWZ				AML	AML	20 11 02.5	
MWZ				AML	AML	20 11 02.5	
MWZ				AML	AML	20 11 02.5	
RIGZ	**Rimuhau**	**0.52**	**157**	⇑PN	Pn	20 11 01.5	-0.1
SNGZ	**Shannon Statio**	**0.57**	**193**	PN	Pn	20 11 02.1	-0.1
EDRZ	**Edgecumbe**	**0.61**	**281**	PN	Pn	20 11 02.6	-0.2
EDRZ				SN	Sn	20 12 12.6	+0.4
CNGZ	**Carnagh Statio**	**0.61**	**116**	PN	Pn	20 11 03.0	+0.3
PUZ	**Puketiti**	**0.61**	**76**	⇓PN	Pn	20 11 03.0	+0.2
PUZ				AML	AML	20 11 15.8	
PUZ				AML	AML	20 11 18.3	
MARZ	**Manawahe**	**0.69**	**290**	PN	Pn	20 11 03.4	-0.4
MARZ				*e*SN	Sn	20 11 13.9	+0.4
WIZ	**White Island**	**0.74**	**340**	PN	Pn	20 11 03.8	-0.6
PRGZ	**Paritu Road**	**0.76**	**157**	PN	Pn	20 11 04.2	-0.6
RAHZ	**Arahi**	**0.77**	**205**	PN	Pn	20 11 04.9	+0.1
TARZ	**Mount Tarawera**	**0.78**	**269**	⇑PN	Pn	20 11 05.0	-0.1
RRRZ	**Republican Roa**	**0.79**	**261**	PN	Pn	20 11 04.7	-0.4
KNZ	**Kokohu**	**0.81**	**170**	PN	Pn	20 11 04.7	-0.7
OPRZ	**Ohinepanea**	**0.84**	**296**	⇑PN	Pn	20 11 05.1	-0.6
WHHZ	**Waihua**	**0.88**	**194**	PN	Pn	20 11 06.3	-0.1
HLRZ	**Highlands Stat**	**0.91**	**268**	PN	Pn	20 11 05.6	-1.2
PRRZ	**Plateau Road**	**0.91**	**252**	⇓PN	Pn	20 11 06.3	-0.6
MXZ	**Matakaoa Point**	**0.92**	**44**	PN	Pn	20 11 07.9	+1.1
MXZ				AML	AML	20 11 10.7	
MXZ				AML	AML	20 11 26.4	
MXZ				AML	AML	20 11 28.0	
ALRZ	**Allen Road**	**0.97**	**249**	PN	Pn	20 11 07.1	-0.6
HRRZ	**Handcock Road**	**0.97**	**260**	PN	Pn	20 11 07.4	-0.3
MHGZ	**Mahia Peninsul**	**0.98**	**161**	PN	Pn	20 11 07.2	-0.6
KARZ	**Kaharoa**	**1.01**	**281**	⇑PN	Pn	20 11 07.6	-0.6
NMHZ	**Naumai**	**1.03**	**212**	PN	Pn	20 11 08.6	+0.1
BKZ	**Black Stump Fm**	**1.23**	**220**	PN	Pn	20 11 10.6	-0.6
BKZ				AML	AML	20 11 32.0	
BKZ				AML	AML	20 11 33.4	
MCHZ	**McNeill Hill**	**1.37**	**207**	PN	Pn	20 11 13.3	+0.2
CKHZ	**Cape Kidnapper**	**1.47**	**193**	PN	Pn	20 11 13.6	-0.9
KAHZ	**Kahuranaki**	**1.65**	**197**	PN	Pn	20 11 15.6	-1.3
BHHZ	**Black Hill Sta**	**1.69**	**221**	PN	Pn	20 11 17.2	-0.4
NGZ	**Ngauruhoe**	**1.77**	**237**	PN	Pn	20 11 18.3	-0.4
TUVZ	**Tukino**	**1.78**	**234**	PN	Pn	20 11 18.4	-0.6
MOVZ	**Moawhango**	**1.81**	**229**	PN	Pn	20 11 18.5	-0.7
WPVZ	**Whakapapa**	**1.82**	**237**	PN	Pn	20 11 19.0	-0.4
WHVZ	**Whangaehu Hut**	**1.83**	**234**	⇑PN	Pn	20 11 19.1	-0.6
FWVZ	**Far West T-bar**	**1.84**	**235**	⇑PN	Pn	20 11 19.2	-0.6
WNVZ	**Wahianoa**	**1.85**	**233**	*e*PN	Pn	20 11 19.5	-0.4
TRVZ	**Turoa**	**1.87**	**234**	⇑PN	Pn	20 11 19.6	-0.6
PXZ	**Pawanui**	**1.87**	**195**	PN	Pn	20 11 17.9	-2.0
HIZ	**Hauiti**	**2.10**	**261**	PN	Pn	20 11 23.6	+0.5
PRHZ	**Porangahau**	**2.15**	**198**	PN	Pn	20 11 21.9	-1.9
MKAZ	**Moumakai**	**2.16**	**300**	PN	Pn	20 11 23.3	-0.6
TSZ	**Takapari Road**	**2.19**	**213**	PN	Pn	20 11 22.3	-2.1
WAZ	**Wanganui**	**2.49**	**231**	PN	Pn	20 11 28.8	+0.3
BFZ	**Birch Farm**	**2.64**	**201**	PN	Pn	20 11 27.5	-3.0
KIW	**Kapiti Island**	**3.31**	**216**	PN	Pn	20 11 36.6	-3.1
MTW	**Mount Morrison**	**3.31**	**207**	PN	Pn	20 11 35.8	-4.0
TUWZ	**Tuamarina**	**4.21**	**219**	PN	Pn	20 11 49.5	-2.7
THZ	**Tophouse**	**5.00**	**224**	PN	Pn	20 12 00.3	-2.7
LTZ	**Lake Taylor**	**6.05**	**220**	PN	Pn	20 12 12.9	-4.5
OXZ	**Oxford**	**6.57**	**217**	*e*PN	Pn	20 12 19.4	-4.9
MQZ	**McQueen's Vall**	**6.59**	**212**	PN	Pn	20 12 19.4	-5.3
ODZ	**Otahua Downs**	**8.53**	**215**	PN	Pn	20 12 46.3	-5.1

GUC 10 20:18:53.4 ± 0.5, 32°.65S × 71°.05W, h5 km ± 4 km, MD3.5, ML2.3, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.33**	**174**	⇑*i* P	Pg	20 19 00.6	+0.5
ROCH				*i* S	Sg	20 19 05.8	+1.2
ROCH				AML	AML	20 19 19.3	
	comp=N,123nm,0.5s						
PEL	**Peldehue**	**0.58**	**148**	⇓*i* P	Pb	20 19 05.6	-0.7
PEL				*i* S	Sb	20 19 14.2	-0.7
PEL				AML	AML	20 19 24.7	
	comp=E,177nm,0.4s						
LNV	**Longovilo**	**1.34**	**193**	⇓*i* P	Pn	20 19 17.4	-1.4
CMCH	**Combarbala**	**1.47**	**2**	⇑*i* P	Pn	20 19 19.8	-1.0
CMCH				*i* S	Sn	20 19 39.8	-0.6
CMCH				AML	AML	20 19 45.1	
	comp=E,89nm,0.6s						
CACH	**El Canelo**	**1.51**	**166**	⇑*i* P	Pn	20 19 21.5	+0.1

ISCJB ***10*** *20:44:11.2 ± 0.9, 4°.67S × 0°.09 × 145°.2E ± 0°.2, h38 km, mb3.7/5, MS3.1/1, Error ellipse: s-maj=25.1km s-min=10.6km az=160.0*

IDC ***10*** *20:44:14.0 ± 5.0, 4°.67S × 145°.26E, h50 km ± 48 km, mb3.4/5, mb1 3.7/7, mb1mx3.5/18, mbtmp3.5/7, ML3.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/18, Error ellipse: s-maj=36.3km s-min=28.4km az=88.0*

ISC 10 20:44:13.0 ± 1.1, 4°.6S ± 0°.1 × 145°.2E ± 0°.2, h38 km, n8, σ 0 s 90/8, mb3.7/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.15**	**158**	P	**Pn**	**20 45 28.8**	**+1.2**
	3.4nm,0.3s,baz=327,slow=5.3,SNR=9.9						
PMG				S	**Sn**	**20 46 24.7**	**-1.1**
	7.9nm,0.3s,baz=140,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**18.55**	**214**	P	**P**	**20 48 26.6**	**0.0**
	0.2nm,0.3s,baz=44,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**21.85**	**209**	P	**P**	**20 49 02.2**	**-0.3**
	1.2nm,0.5s,baz=36,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	**41.46**	**351**	LR	LR	21 07 54.6	
	comp=Z,26nm,19.3s,baz=95,slow=34						
VNDA	**Vanda**	**73.40**	**176**	P	**P**	**20 55 40.4**	**-0.3**
	0.4nm,0.4s,baz=6.3,slow=5.2,SNR=6.4						
MKAR	**Makanchi Array**	**75.29**	**321**	P	**P**	**20 55 53.1**	**+0.8**
	0.3nm,0.7s,baz=109,slow=5.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**76.89**	**328**	P	**P**	**20 56 00.4**	**-0.7**
	1.2nm,0.8s,baz=124,slow=7.5,SNR=4.9						
ILAR	**Eielson Array**	**84.93**	**23**	P	**P**	**20 56 43.6**	**-0.2**
	0.9nm,0.7s,baz=255,slow=5.2,SNR=12						

NIED ***10*** *21:03:00, 33°.80N × 137°.00E, h380 km, Mw4.3 Best double couple: M0 2.95000 × 10^15 NP1: φ 18.00000°, δ 20.00000°, λ 99.00000°. NP2: φ 189.00000°, δ 70.00000°, λ 87.00000°.*

MOS ***10*** *21:03:25.7 ± 1.1, 33°.76N × 136°.76E, h356 km, mb4.2/10, Error ellipse: s-maj=14.2km s-min=8.0km az=102.3*

ISCJB ***10*** *21:03:26.8 ± 0.3, 33°.82N ± 0°.05 × 136°.94E ± 0°.06, h366 km ± 2 km, mb3.7/23, Error ellipse: s-maj=9.0km s-min=6.4km az=139.4*

JMA ***10*** *21:03:26.9 ± 0.2, 33°.84N × 136°.96E, h368 km ± 2 km, M4.1*

IDC ***10*** *21:03:27.1 ± 0.8, 33°.78N × 136°.98E, h354 km ± 7 km, mb3.5/18, mb1 3.7/23, mb1mx3.7/31, mbtmp3.5/23, Error ellipse: s-maj=11.5km s-min=10.0km az=102.0*

ISC 10 21:03:27.8 ± 0.6, 33°.84N ± 0°.06 × 136°.95E ± 0°.06, h361 km ± 5 km, n75, σ 0 s 80/91, mb3.9/23, 14C-2D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.12**	**147**	⇑P	**Pn**	**21 04 13.1**	**+0.6**
TTO1	**TONANKAI O.B.S**	**0.26**	**212**	⇑P	**Pn**	**21 04 13.1**	**+0.5**
TTO3	**TONANKAI O.B.S**	**0.38**	**86**	⇑P	**Pn**	**21 04 13.5**	**+0.7**
TTO3				S	S	**21 04 51.3**	**+2.3**
JIE	**Ise**	**0.59**	**340**	⇑P	**Pn**	**21 04 13.6**	**+0.3**
JIE				S	**S**	**21 04 49.6**	**-0.4**
TK02	**Tokai 2**	**0.68**	**81**	P	**Pn**	**21 04 13.9**	**+0.6**
TK02				S	**S**	**21 04 52.0**	**+2.0**
JKN2	**Miekihoku**	**0.69**	**306**	⇑P	**Pn**	**21 04 13.6**	**0.0**
JKN2				S	**S**	**21 04 49.8**	**-0.6**
JWZ	**Kozaga**	**1.07**	**254**	⇑P	**Pn**	**21 04 14.6**	**-0.4**
JWZ				S	**S**	**21 04 51.8**	**-1.1**
JWY	**Kouya**	**1.19**	**289**	⇑P	**Pn**	**21 04 15.9**	**+0.4**
JWY				S	**S**	**21 04 53.3**	**-0.6**
JGM	**Miyama**	**1.86**	**354**	⇑P	**Pn**	**21 04 19.6**	**+0.5**
JGM				S	**S**	**21 05 00.6**	**+0.1**
JWT	**Wachi**	**1.92**	**319**	P	**Pn**	**21 04 19.8**	**+0.3**
JWT				*e*S	**S**	**21 04 59.7**	**-1.4**
JAI	**Aioi**	**2.08**	**269**	⇑P	**Pn**	**21 04 20.7**	**+0.1**
JYN	**Shimob**	**2.11**	**38**	P	**Pn**	**21 04 20.8**	**-0.1**
JOD2	**Odawara 2**	**2.27**	**51**	P	**Pn**	**21 04 21.6**	**-0.3**
JOD2				S	S	**21 05 05.0**	**-0.5**
JKG	**Kaga**	**2.48**	**348**	P	**Pn**	**21 04 23.7**	**+0.2**
JHJ2	**Mitsune**	**2.51**	**106**	P	**Pn**	**21 04 23.3**	**-0.5**
JMN	**Monobe**	**2.56**	**268**	⇑P	**Pn**	**21 04 24.6**	**+0.3**
JRY	**Ryogami san**	**2.70**	**36**	P	**Pn**	**21 04 25.8**	**+0.4**
JRY				S	**S**	**21 05 11.4**	**-0.3**
MAJO	**Matsushiro**	**2.89**	**21**	*c i* P	**Pn**	**21 04 26.8**	**-0.1**
MAT	**Matsushiro**	**2.89**	**21**	P	**Pn**	**21 04 26.9**	**0.0**
MAT				S	**S**	**21 05 13.1**	**-1.5**
MAT	**Matsushiro**	**2.89**	**21**	P	**Pn**	**21 04 26.5**	**-0.4**
MAT				S	**S**	**21 05 13.0**	**-1.5**
MJAR	**Matsushiro Arr**	**2.89**	**21**	P	**Pn**	**21 04 27.0**	**+0.1**
	6.0nm,0.3s,baz=188,slow=9.2,SNR=132						
MJAR				S	**S**	**21 05 13.4**	**-1.2**
	2.5nm,0.3s,baz

TXAR	**Lajitas Array**	**94.96**	**50**	P		**P**	**21 16 11.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=302,slow=4.3,SNR=9.5							
LPAZ	**La Paz**	**151.46**	**58**	PKPbc		**PKPbc**	**21 22 41.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=9.5,slow=6.1,SNR=7.7							

IDC 10 21:42:34.3±13.0, 40.66S×91.23W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/14, mbtmp3.9/4, MS3.8/10, Ms1 3.8/10, ms1mx3.6/31, Error ellipse: s-maj=351.6km s-min=52.1km az=174.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N3	**Juan Fernandez**	**12.17**	**58**	T	T	21 58 27.5	
	baz=228,slow=74,SNR=1408						
H03N2	**Juan Fernandez**	**12.17**	**58**	T	T	21 58 28.0	
	baz=228,slow=74,SNR=1117						
H03N1	**Juan Fernandez**	**12.18**	**58**	T	T	21 58 34.4	
	baz=228,slow=74,SNR=864						
PLCA	**Paso Flores**	**15.68**	**97**	LR	LR	21 51 03.3	
	comp=Z,119nm,19.0s,baz=242,slow=32						
CPUP	**Villa Florida**	**31.46**	**74**	LR	LR	22 00 07.5	
	comp=Z,100nm,19.7s,baz=227,slow=34						
LPAZ	**La Paz**	**31.46**	**46**	P	P	21 48 58.4	+0.1
	1.5nm,0.6s,baz=224,slow=5.1,SNR=6.7						
LPAZ				LR	LR	21 59 04.4	
	comp=Z,96nm,20.6s,baz=31,slow=32						
BDFB	**Brasilia**	**44.92**	**69**	LR	LR	22 09 02.9	
	comp=Z,120nm,19.0s,baz=127,slow=35						
ROSC	**El Rosal**	**47.87**	**23**	LR	LR	22 08 04.7	
	comp=Z,38nm,21.8s,baz=75,slow=32						
VNDA	**Vanda**	**54.18**	**195**	LR	LR	22 12 42.2	
	comp=Z,80nm,18.7s,baz=264,slow=33						
URZ	**Urewera**	**67.49**	**238**	LR	LR	22 15 37.5	
	comp=Z,78nm,18.3s,baz=50,slow=29						
TXAR	**Lajitas Array**	**70.59**	**348**	P	P	21 53 51.2	0.0
	0.6nm,0.8s,baz=166,slow=7.9,SNR=6.9						
NVAR	**Mina Array Bea**	**82.51**	**339**	P	P	21 54 59.7	+0.9
	0.4nm,0.7s,baz=163,slow=3.5,SNR=2.2						
PDAR	**Pinedale Array**	**84.68**	**347**	P	P	21 55 08.9	-0.9
	1.4nm,0.8s,baz=167,slow=8.3,SNR=8.2						
SADO	**Sadowa**	**85.73**	**9**	LR	LR	22 27 48.5	
	comp=Z,126nm,19.2s,baz=181,slow=32						
TSUM	**Tsumeb**	**91.12**	**117**	LR	LR	22 28 52.1	
	comp=Z,50nm,19.3s,baz=218,slow=30						
NEW	**Newport**	**91.47**	**343**	LR	LR	22 33 51.3	
	comp=Z,117nm,19.5s,baz=224,slow=34						

*ISCJB **10** 21:50:37.8±5.4, 31.8S×0.3×176.4W±0.8, h33km, mb3.9/3, Error ellipse: s-maj=106.2km s-min=16.5km az=18.1*
*IDC **10** 21:50:43.7±2.1, 31.45S×177.73W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/19, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=59.5km s-min=31.8km az=127.0*

ISC 10 21:50:41.1±2.9, 31.6S±0.2×176.6W±0.5, h35km, n6, σ2.9 38/7, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.40**	**216**	Pn	**Pn**	**21 52 39.6**	**-0.7**
	0.4nm,0.3s,baz=151,slow=19,SNR=3.9						
URZ				Sn	**Sn**	**21 54 14.4**	**+0.5**
	3.3nm,0.3s,baz=119,slow=22,SNR=9.5						
STKA	**Stephens Creek**	**35.40**	**258**	P	**P**	**21 57 34.8**	**+1.1**
	0.7nm,0.4s,baz=98,slow=7.1,SNR=3.4						
ASAR	**Alice Springs**	**44.26**	**268**	P	**P**	**21 58 47.3**	**-0.2**
	0.6nm,0.5s,baz=105,slow=7.2,SNR=15						
WRA	**Warramunga Arr**	**45.36**	**273**	P	**P**	**21 58 55.4**	**-0.8**
	0.9nm,0.3s,baz=111,slow=8.1,SNR=43						
FINES	**FINESS Array B**	**146.71**	**340**	PKPbc	**PKPab**	**22 10 22.8**	**+3.1**
	1.5nm,0.8s,baz=66,slow=3.9,SNR=9.9						
AKASG	**Malin Array Be**	**153.01**	**322**	PKPbc	**PKPab**	**22 10 42.6**	**-3.2**
	0.6nm,0.7s,baz=46,slow=4.0,SNR=3.5						

*ISCJB **10** 22:06:14.3±1.1, 44.53N±0.09×148.5E±0.1, h81km±7km, mb3.4/7, Error ellipse: s-maj=21.3km s-min=6.8km az=42.2*
*JMA **10** 22:06:14.9±0.4, 44.18N×148.27E, h0km, M3.8*
*SKHL **10** 22:06:17.3±0.6, 44.50N×148.40E, h30km±1km, mb4.6/2*
*IDC **10** 22:06:20.6±3.8, 45.27N×148.11E, h87km±28km, mb3.2/7, mb1 3.3/9, mb1mx3.2/26, mbtmp3.2/9, Error ellipse: s-maj=96.7km s-min=19.7km az=159.0*

ISC 10 22:06:14.1±1.5, 44.43N±0.10×148.6E±0.1, h70km±12km, n27, σ2.9 09/28, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.96**	**328**	*eP*	**Pn**	**22 06 32.0**	**0.0**
KUR				AMB	AMB	22 06 32.5	
	650nm,0.5s						
KUR				*eS*	**Sn**	**22 06 43.5**	**-1.9**
KUR				A	A	22 06 45.0	
	990nm,0.5s						
KUR				A	A	22 06 45.0	
	1µm,0.5s						
SHO	**Shikotan**	**1.39**	**247**	*eP*	**Pn**	**22 06 38.5**	**+1.0**
SHO				*eS*	**Sn**	**22 06 54.1**	**-1.0**
SHO				A	A	22 06 54.8	
	300nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**260**	*eP*	**Pn**	**22 06 48.0**	**+2.3**
YUK				AMB	AMB	22 06 51.8	
	103nm,0.2s						
YUK				*eS*	**Sn**	**22 07 10.8**	**+1.0**
YUK				A	A	22 07 14.5	
	191nm,0.4s						
YUK				A	A	22 07 14.5	
	210nm,0.4s						
NEM2	**Nemuro 2**	**2.32**	**244**	P	**Pn**	**22 06 50.6**	**+0.6**
NEM2				*eS*	**Sn**	**22 07 16.4**	**-1.0**
JNK	**Nakash**	**2.92**	**255**	*eS*	**Sn**	**22 07 32.6**	**+0.5**
JAK	**Akkeshi**	**3.17**	**245**	P	**Pn**	**22 07 02.8**	**+1.3**
JAK				*eS*	**Sn**	**22 07 37.5**	**-0.6**
JAR	**Ashorobuto**	**3.67**	**254**	P	**Pn**	**22 07 11.1**	**+2.8**
JCH	**Churui**	**4.21**	**246**	P	**Pn**	**22 07 17.8**	**+2.0**
JCH				*eS*	**Sn**	**22 08 04.2**	**+0.5**
ASAJ	**Asahikawa**	**4.32**	**268**	P	**Pn**	**22 07 19.9**	**+2.6**
	0.4nm,0.3s,baz=345,slow=20,SNR=2.7						
JNBK	**Urakawa-nobuka**	**4.77**	**245**	P	**Pn**	**22 07 24.9**	**+1.5**
JKB	**Kayabe**	**6.08**	**248**	P	**Pn**	**22 07 42.8**	**+1.5**
JKB				*eS*	**Sn**	**22 08 46.6**	**-2.9**
JOT	**Ohata**	**6.32**	**244**	*eS*	**Sn**	**22 08 50.9**	**-4.4**
JANG	**Nango**	**6.62**	**235**	*eS*	**Sn**	**22 08 57.4**	**-5.3**
PETK	**Petropavlovsk-**	**10.56**	**31**	P	**Pn**	**22 08 42.5**	**+0.1**
	0.1nm,0.3s,baz=206,slow=14,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.96**	**142**	T	T	22 43 00.4	
	baz=335,slow=76,SNR=75						
H11N1	**WAKE ISLAND Hy**	**28.98**	**142**	T	T	22 43 01.5	
	baz=335,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**28.98**	**142**	T	T	22 43 01.8	
	baz=335,slow=76,SNR=85						
SONM	**Songino Array**	**29.18**	**292**	P	**P**	**22 12 08.9**	**+0.2**
	0.3nm,0.9s,baz=79,slow=7.5,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**29.96**	**144**	T	T	22 44 17.5	
	baz=337,slow=77,SNR=117						
H11S3	**WAKE ISLAND Hy**	**29.97**	**144**	T	T	22 44 17.8	
	baz=337,slow=77,SNR=86						
H11S2	**WAKE ISLAND Hy**	**29.98**	**144**	T	T	22 44 18.6	
	baz=337,slow=77,SNR=95						
ILAR	**Eielson Array**	**40.33**	**37**	P	**P**	**22 13 45.3**	**+1.1**
	0.4nm,0.8s,baz=276,slow=9.7,SNR=3.3						
MKAR	**Makanchi Array**	**45.19**	**298**	P	**P**	**22 14 23.8**	**-0.1**
	0.1nm,0.4s,baz=74,slow=7.7,SNR=3.4						
YKA	**Yellowknife Ar**	**54.66**	**34**	P	**P**	**22 15 36.5**	**+1.2**
	0.2nm,0.6s,baz=298,slow=7.0,SNR=4.2						
FINES	**FINESS Array B**	**64.74**	**333**	P	**P**	**22 16 42.6**	**-1.9**
	1.5nm,0.8s,baz=28,slow=8.6,SNR=8.4						
NOA	**NORSAR Array B**	**69.34**	**399**	P	**P**	**22 17 11.8**	**-1.9**
	0.8nm,0.7s,baz=44,slow=6.7,SNR=6.0						
GERES	**GERESS Array B**	**79.07**	**332**	P	**P**	**22 18 10.6**	**0.0**
	0.3nm,0.4s,baz=46,slow=7.0,SNR=5.1						

*IDC **10** 22:27:22.8±25.0, 36.53N×70.99E, h172km±152km, mb3.1/2, mb1 3.2/4, mb1mx2.9/27, mbtmp3.0/4, ML2.8/1, Error ellipse: s-maj=244.4km s-min=54.1km az=180.0*
*NNC **10** 22:27:26.1±12.0, 36.93N×70.63E, h193km±179km, mb2.5, mpv3.7, Error ellipse: s-maj=123.4km s-min=60.7km az=6.0*

ISC 10 22:27:27.2±2.3, 37.0N±0.2×70.8E±0.2, h200km, n15, σ0.9 76/16, 5C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.64**	**23**	P	**Pn**	**22 28 49.5**	**-0.7**
	SNR=34						
UCH	**Uchtor**	**6.00**	**28**	P	**Pn**	**22 28 53.8**	**-1.1**
	SNR=8.2						
KK31	**Karatay Array**	**6.13**	**358**	P	**Pn**	**22 28 56.5**	**+0.4**
	2.6nm,0.4s,baz=178,slow=12,SNR=111						
KK31				⇑S	**Sn**	**22 30 06.9**	**+0.3**
	3.1nm,0.3s,baz=185,slow=23,SNR=4.6						
EKS2	**Erkin-Say**	**6.15**	**21**	P	**Pn**	**22 28 56.5**	**+0.1**
	SNR=29						
AAK	**Ala-Archa**	**6.35**	**26**	⇑P	**Pn**	**22 28 58.5**	**-0.6**
	3.2nm,0.5s						
AAK				⇑S	**Sn**	**22 30 12.3**	**+0.4**
	4.0nm,0.6s						
AAK	**Ala-Archa**	**6.35**	**26**	P	**Pn**	**22 28 58.7**	**-0.4**
	SNR=7.7						
KBK	**Karagaybulak**	**6.54**	**28**	P	**Pn**	**22 29 01.5**	**0.0**
	SNR=5.4						
CHMS	**Chumysh**	**6.76**	**26**	P	**Pn**	**22 29 03.9**	**-0.4**
	SNR=6.5						
USP	**Ospenovka**	**6.92**	**23**	P	**Pn**	**22 29 05.4**	**-1.0**
	SNR=17						
MK31	**Makanchi Array**	**13.04**	**38**	⇑P	**Pn**	**22 30 24.0**	**-1.1**
	baz=211,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**13.04**	**38**	P	**Pn**	**22 30 24.7**	**-0.4**
	0.0nm,0.3s,baz=216,slow=12,SNR=3.2						
AB31	**Akbulak array**	**14.58**	**331**	⇑P	**P**	**22 30 44.3**	**-0.9**
	0.2nm,0.5s,baz=151,slow=12,SNR=15						
ZALV	**Zalesovo Beam**	**19.58**	**25**	P	**P**	**22 31 40.6**	**+0.8**
	0.4nm,0.3s,baz=223,slow=12,SNR=7.2						
FINES	**FINESS Array B**	**36.98**	**326**	P	P	22 34 18.9	+1.9
	1.5nm,0.9s,baz=128,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**80.79**	**3**	P	**P**	**22 39 19.0**	**+1.0**
	0.1nm,0.3s,baz=350,slow=5.5,SNR=4.9						

MEX 10 22:27:28.4±0.6, 18.18N×103.50W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.18**	**54**	*i* P	Pg	22 27 31.4	-0.6
MMIG				*i* S	Sg	22 27 34.3	-0.1
R15V		**1.08**	**335**	*eP*	Pg	22 27 46.3	-3.0
R15V				*eS*	Sg	22 28 00.7	-2.8
EZ5V		**1.29**	**356**	*eP*	Pn	22 27 49.2	-4.3
EZ5V				*i* S	Sg	22 28 06.7	-4.0
ZIIG	**Zihuatanejo**	**2.02**	**106**	*eP*	Pn	22 27 59.5	-3.7
ZIIG				*eS*	Sn	22 28 24.5	-4.3
SFJM	**Santa Fe**	**2.33**	**11**	*i* P	Pn	22 28 02.1	-5.6
SFJM				*i* S	Sn	22 28 29.7	-7.2
ARIG	**Puente Sto Nin**	**3.00**	**88**	*i* P	Pn	22 28 14.3	-2.4
ARIG				*i* S	Sn	22 28 49.5	-3.5

*IDC **10** 22:32:08.7±1.4, 5.18S×152.38E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML2.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/32, Error ellipse: s-maj=48.6km s-min=20.3km az=122.0*
*ISCJB **10** 22:32:12.9±0.7, 5.28S±0.09×152.3E±0.1, h40km, mb4.0/12, Error ellipse: s-maj=18.4km s-min=9.1km az=36.9*
*NEIC **10** 22:32:14.1±0.6, 5.25S×152.36E, h35km, mb4.1/4, Error ellipse: s-maj=17.0km s-min=10.9km az=114.0*

ISC 10 22:32:14.5±0.8, 5.3S±0.1×152.3E±0.1, h40km, n26, σ0.8 81/25, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.55**	**231**	Pn	**Pn**	**22 33 47.9**	**-0.5**
PMG				Sn	**Sn**	**22 35 01.7**	**-0.1**
PMG	**Port Moresby**	**6.55**	**231**	Pn	**Pn**	**22 33 47.9**	**-0.5**
	1.4nm,0.3s,baz=43,slow=4.7,SNR=3.1						
PMG				Sn	**Sn**	**22 35 01.7**	**-0.1**
	6.3nm,0.3s,baz=144,slow=23,SNR=8.6						
HNR	**Honiara**	**8.58**	**119**	LR	LR	22 37 15.5	
	comp=Z,212nm,18.2s,baz=260,slow=36						
DZM	**Mont Dzumac**	**21.54**	**142**	*eP*	**P**	**22 37 00.3**	**-0.2**
	13nm,1.0s						
WRAB	**Tennant Creek**	**22.75**	**229**	*eP*	**P**	**22 37 13.8**	**+0.3**
	6.0nm,0.8s						
WRA	**Warramunga Arr**	**22.76**	**229**	P	**P**	**22 37 14.4**	**+0.8**
WRA	**Warramunga Arr**	**22.76**	**229**	P	**P**	**22 37 14.4**	**+0.8**
	3.2nm,0.7s,baz=53,slow=10,SNR=13						
AS31	**Alice Springs**	**25.46**	**222**	*eP*	**P**	**22 37 39.3**	**+0.3**
ASAR	**Alice Springs**	**25.46**	**222**	P	**P**	**22 37 39.9**	**+0.9**
ASAR	**Alice Springs**	**25.46**	**222**	P	**P**	**22 37 39.9**	**+0.9**
	1.4nm,0.7s,baz=58,slow=8.4,SNR=18						
CMAR	**Chiang Mai Arr**	**57.68**	**296**	P	**P**	**22 42 02.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**57.68**	**296**	P	**P**	**22 42 02.0**	**+0.6**
	0.8nm,0.3s,baz=90,slow=6.3,SNR=4.2						
ULN	**Ulanbaatar**	**66.19**	**328**	*eP*	**P**	**22 42 57.3**	**-1.0**
	0.6nm,0.5s						
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**22 43 00.8**	**+0.4**
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**22 43 00.8**	**+0.4**
	0.8nm,0.6s,baz=144,slow=5.7,SNR=8.4						
MKAR	**Makanchi Array**	**80.41**	**319**	P	**P**	**22 44 22.1**	**+0.1**
MKAR	**Makanchi Array**	**80.41**	**319**	P	**P**	**22 44 22.1**	**+0.1**
	0.6nm,0.6s,baz=97,slow=6.6,SNR=9.6						
ZALV	**Zalesovo Beam**	**81.32**	**326**	P	P	22 44 24.7	-2.0
ZALV	**Zalesovo Beam**	**81.32**	**326**	P	P	22 44 24.7	-2.0
	1.0nm,0.5s,baz=126,slow=7.2,SNR=5.4						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**22 44 33.2**	**-1.0**
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**22 44 33.2**	**-1.0**
	2.1nm,0.8s,baz=246,slow=5.4,SNR=27						
KURK	**Kurchatov**	**83.89**	**322**	*eP*	**P**	**22 44 38.8**	**-1.2**
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**22 45 39.0**	**+1.4**
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**22 45 39.0**	**+1.4**
	0.5nm,0.6s,baz=268,slow=4.9,SNR=15						
TORD	**Torodi Ar. Bea**	**150.02**	**287**	PKPbc	**PKPbc**	**22 52 01.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.02**	**287**	PKPbc	**PKPbc**	**22 52 01.1**	**-0.7**
	1.7nm,0.7s,baz=86,slow=2.8,SNR=8.9						

*MOS **10** 22:44:23.8±0.9, 16.54S×174.36W, h33km, mb5.5/54, Error ellipse: s-maj=9.2km s-min=7.2km az=55.7*
*BJI **10** 22:44:29.1, 16.31S×173.79W, h84km, mB5.4/29, mb5.2/42, Ms5.2/19, Ms7 4.7/21*
*ISCJB **10** 22:44:29.9±1.0, 16.79S±0.04×174.24W±0.02, h92km±9km, mb5.2/193, Error ellipse: s-maj=6.9km s-min=3.0km az=157.4*
*IDC **10** 22:44:31.9±2.0, 16.71S×174.21W, h95km±17km, mb4.9/32, mb1 5.0/35, mb1mx4.9/37, mbtmp4.9/35, MS4.0/19, Ms1 4.0/19, ms1mx3.9/31, Error ellipse: s-maj=13.6km s-min=8.9km az=138.0*
*NEIC **10** 22:44:34.0±1.3, 16.86S×174.23W, h118km±12km, mb5.2/146, Error ellipse: s-maj=6.0km s-min=3.1km az=153.0*
*GCMT **10** 22:44:34.0±0.1, 16.67S×173.90W, h142km±1km, MW5.3/105, Moment Tensor Solution. s89,c136; s105,c169; Duration: 1¤1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.58±.02; $M_{\theta\theta}$0.69±.02; $M_{\phi\phi}$-0.10±.02; $M_{r\theta}$-0.52±.01; $M_{\theta\phi}$-0.30±.02; $M_{\phi r}$-0.68±.01; Best double couple: M_{o}1.06500×10^{17} NP1:ϕ_D69.00000°, δ70.00000°, λ-125.00000°. NP2:ϕ_D314.00000°, δ40.00000°, λ-32.00000°. Principal axes: T 0.8780, Plg17.0000°, Azm185.0000°; N 0.3740, Plg33.0000°, Azm83.0000°; P -1.2520, Plg52.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **10** 22:44:38.6, 16.54S×174.75W, h142km, Tonga Islands*

ISC 10 22:44:30.4±0.4, 16.85S±0.04×174.12W±0.04, h88km±3km, n1102, σ1.9 10/1158, mb5.3/193, 199C-282D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.70**	**38**	*eP*	**Pn**	**22 45 25.9**	**+0.5**
AFI				*eS*	**Sn**	**22 46 02.8**	**-5.2**
AFI	**Afiamalu**	**3.70**	**38**	P	**Pn**	**22 45 26.1**	**+0.7**
	701nm,0.3s,baz=51,slow=1.2,SNR=572						
AFI				S	**Sn**	**22 46 03.3**	**-4.7**
	2µm,0.3s,baz=38,slow=21,SNR=26						
AFI				LR	LR	22 46 42.5	
	comp=Z,1µm,20.1s,baz=90,slow=36						
NIUE	**Niue**	**4.57**	**120**	⇓P	Pn	22 45 41.5	+4.4
	baz=4.7,SNR=1000						
NIUE				⇓S	**Sn**	**22 46 29.5**	**+0.5**
	baz=4.7						
RAO	**Raoul Island**	**12.83**	**195**	LR	LR	22 52 05.1	
	comp=Z,186nm,18.1s,baz=0.4,slow=35						

KNTN	**Kanton**	**14.19**	**10**	*eP*		**P**	**22 47 53.6**	**+1.6**
KNTN				*eSn*		Sn	22 50 13.8	-10
RAR	**Rarotonga**	**14.24**	**110**	*ePn*		**Pn**	**22 47 50.0**	**+2.0**
RAR				S		**Sn**	**22 50 21.5**	**-3.3**
RAR	**Rarotonga**	**14.24**	**110**	P		**Pn**	**22 47 50.2**	**+2.2**
	baz=263,slow=11,SNR=6.7							
RAR				S		**Sn**	**22 50 21.5**	**-3.3**
	6.5nm,0.3s,baz=143,slow=17,SNR=3.9							
DZM	**Mont Dzumac**	**19.04**	**251**	*eP*		**Pn**	**22 48 48.0**	**+0.6**
	570nm,1.1s							
DZM				*eLR*		LR	22 53 02.1	
	762nm,34.7s							
DZM	**Mont Dzumac**	**19.04**	**251**	*eP*		**Pn**	**22 48 46.7**	**-0.7**
	428nm,1.3s							
DZM				S		**S**	**22 52 11.4**	**-5.9**
DZM	**Mont Dzumac**	**19.04**	**251**	P		**Pn**	**22 48 47.5**	**0.0**
	1.5nm,0.3s,baz=92,slow=18,SNR=13							
DZM				S		**S**	**22 52 11.4**	**-5.9**
	1.7nm,0.3s,baz=41,slow=13,SNR=11							
NOUC	**Port Laguerre**	**19.17**	**251**	*eP*		**Pn**	**22 48 50.1**	**+1.2**
OUZ	**Omahuta**	**21.33**	**209**	*eP*		**P**	**22 49 11.8**	**+1.6**
	314nm,2.0s							
URZ	**Urewera**	**22.68**	**198**	*eP*		**P**	**22 49 24.5**	**0.0**
	53nm,0.8s							
URZ				S		**S**	**22 53 21.3**	**-4.8**
URZ	**Urewera**	**22.68**	**198**	P		**P**	**22 49 26.8**	**+2.3**
	40nm,0.5s,baz=5.9,slow=2.3,SNR=23							
URZ				S		**S**	**22 53 21.3**	**-4.8**
	15nm,0.9s,baz=101,slow=16,SNR=2.5							
PPT2	**Papeete2**	**23.46**	**95**	*eP*		**P**	**22 49 34.5**	**+2.2**
	93nm,1.0s							
PPT2				*eLR*		LR	22 54 49.7	
	1µm,30.8s,baz=256							
PPT	**Papeete**	**23.46**	**95**	LR		LR	22 57 03.6	
	comp=Z,348nm,19.7s,baz=79,slow=32							
BKZ	**Black Stump Fm**	**23.70**	**198**	*eP*		**P**	**22 49 34.7**	**+0.5**
	222nm,2.2s							
TVO	**Taravao**	**23.76**	**96**	*eP*		**P**	**22 49 37.4**	**+2.4**
	20nm,0.8s							
TBI	**Tubuai**	**24.03**	**110**	*eLQ*		LQ	22 54 38.9	
	657nm,24.5s							
TBI				*eLR*		LR	22 55 28.9	
	1µm,34.5s,baz=286							
BFZ	**Birch Farm**	**25.17**	**197**	*eP*		**P**	**22 49 48.3**	**+0.8**
	2µm,2.9s							
SNZO	**South Karori**	**26.21**	**199**	*eP*		**P**	**22 49 54.8**	**-2.0**
	245nm,1.6s							
HNR	**Honiara**	**26.28**	**283**	P		**P**	**22 49 58.7**	**+0.8**
HNR	**Honiara**	**26.28**	**283**	P		**P**	**22 49 58.7**	**+0.8**
	201nm,0.8s,baz=246,slow=3.7,SNR=6.6							
HNR				LR		LR	22 57 55.0	
	comp=Z,530nm,21.1s,baz=330,slow=31							
HNR	**Honiara**	**26.28**	**283**	P		**P**	**22 50 00.0**	**+2.2**
KHZ	**Kahutara**	**27.58**	**200**	*eP*		**P**	**22 50 09.2**	**+0.1**
	584nm,2.7s							
RPZ	**Rata Peaks**	**29.58**	**202**	*eP*		**P**	**22 50 26.0**	**-1.0**
	600nm,2.8s							
RPZ	**Rata Peaks**	**29.58**	**202**	P		**P**	**22 50 27.8**	**+0.8**
	7.5nm,0.4s,baz=158,slow=3.4,SNR=7.2							
ODZ	**Otahua Downs**	**30.88**	**201**	*eP*		**P**	**22 50 36.6**	**-1.8**
	364nm,2.4s							
DCZ	**Deep Cove**	**32.56**	**205**	*eP*		**P**	**22 50 53.4**	**+0.3**
	165nm,1.6s							
EIDS	**Eidsvold**	**33.47**	**249**	*eP*		**P**	**22 51 01.2**	**-0.2**
	49nm,1.4s							
ARMA	**Armidale**	**34.01**	**240**	*eP*		**P**	**22 51 07.0**	**+0.9**
	22nm,0.7s							
ARMA	**Armidale**	**34.01**	**240**	P		**P**	**22 51 07.0**	**+0.9**
	baz=34,SNR=19							
MGCD	**Mangrove Creek**	**35.26**	**236**	⇓P		**P**	**22 51 17.5**	**+0.8**
	baz=35,SNR=4.4							
RMQ	**Roma**	**35.69**	**248**	⇓P		**P**	**22 51 21.1**	**+0.6**
	baz=36,SNR=12							
RKT	**Rikitea**	**37.23**	**106**	*eLR*		LR	23 01 16.3	
	527nm,33.0s							
CNB	**Canberra Magne**	**37.32**	**233**	⇓P		**P**	**22 51 35.0**	**+0.7**
	baz=37,SNR=19							
CAN	**Canberra**	**37.61**	**234**	*eP*		**P**	**22 51 36.8**	**+0.1**
CAN					pmax	pmax		
	comp=Z,7.0nm,0.6s							
CAN	**Canberra**	**37.61**	**234**	*eP*		**P**	**22 51 36.8**	**+0.1**
	comp=Z,7.4nm,0.6s							
CAN	**Canberra**	**37.61**	**234**	⇓P		**P**	**22 51 37.2**	**+0.5**
	baz=38							
CTA	**Charters Tower**	**37.66**	**259**	P		**P**	**22 51 37.0**	**-0.4**
CTA	**Charters Tower**	**37.66**	**259**	P		**P**	**22 51 37.0**	**-0.4**
	comp=Z,33nm,1.0s,baz=86,slow=12,SNR=13							
CTAO	**Charters Tower**	**37.66**	**259**	*eP*		**P**	**22 51 37.1**	**-0.2**
CTAO					pmax	pmax		
	comp=Z,29nm,0.9s							
CTAO	**Charters Tower**	**37.66**	**259**	*eP*		**P**	**22 51 37.1**	**-0.2**
	comp=Z,29nm,0.9s							
YNG	**Young**	**37.75**	**235**	⇑P		**P**	**22 51 38.3**	**+0.4**
	baz=38							
PMG	**Port Moresby**	**38.37**	**276**	P		x	22 51 43.8	
	comp=Z,98nm,1.1s							
PMG	**Port Moresby**	**38.37**	**276**	*eP*		**P**	**22 51 44.9**	**+1.6**
	comp=Z,126nm,1.1s							
PMG	**Port Moresby**	**38.37**	**276**	LR		LR	23 04 40.8	
	comp=Z,208nm,22.0s,baz=8.8,slow=32	

ASAR ScP **ScP** **22 58 17.8 -0.9**
ASAR S S 23 00 00.8 -6.1
ASAR **Alice Springs** **49.01 253** P **P** **22 53 08.2 -0.5**
comp=Z,131nm,0.6s,baz=88,slow=8.5,SNR=1335
ASAR PcP **PcP** **22 54 31.6 +0.2**
comp=Z,9.8nm,0.6s,baz=96,slow=4.8,SNR=6.3
ASAR ScP **ScP** **22 58 17.8 -0.9**
comp=Z,3.3nm,1.1s,baz=87,slow=3.7,SNR=6.1
ASAR S S 23 00 00.8 -6.1
comp=Z,0.8nm,0.7s,baz=89,slow=15,SNR=6.5
AS13 **Alice Springs** **49.02 253** ⇑P **P** **22 53 08.4 -0.3**
baz=49
KDU **Kakadu** **51.68 267** ⇓P **P** **22 53 28.8 0.0**
baz=52,SNR=3.9
MTN **Manton Dam** **52.93 266** ⇓P **P** **22 53 38.3 +0.2**
baz=53,SNR=3.7
SAUI **Saumlaki** **53.88 272** P **P** **22 53 46.1 +1.1**
comp=Z,350nm,1.3s
WRKA **Warakurna** **54.06 251** ⇓P **P** **22 53 46.0 -0.3**
baz=54,SNR=483
FORT **Forrest** **54.15 244** *e*P **P** **22 53 45.9 -0.9**
comp=Z,62nm,1.0s
FORT **Forrest** **54.15 244** P **P** **22 53 46.0 -0.7**
baz=54,SNR=28
FAKI **Fak Fak** **54.43 279** P **P** **22 53 48.7 -0.3**
KNRA **Kununurra** **54.67 263** ⇑P **P** **22 53 50.3 -0.5**
baz=55,SNR=24
SWI **Sorong** **56.03 281** P **P** **22 54 01.0 +0.5**
comp=Z,164nm,1.2s,comp=Z,2μm
SWI **Sorong** **56.03 281** ⇓P **P** **22 54 01.3 +0.7**
baz=56
FITZ **Fitzroy Crossi** **57.24 259** P **P** **22 54 09.3 +0.3**
FITZ **Fitzroy Crossi** **57.24 259** P **P** **22 54 09.3 +0.3**
comp=Z,3.9nm,0.4s,baz=45,slow=4.3
LBMI **Labuha** **59.65 279** P **P** **22 54 26.6 +0.7**
comp=Z,103nm,1.2s,comp=Z,1μm
TNTI **Ternate** **60.24 281** P **P** **22 54 31.1 +1.1**
comp=Z,156nm,1.3s,comp=Z,3μm
SANI **Sanana** **60.64 277** P **P** **22 54 32.3 -0.3**
comp=Z,70nm,1.7s,comp=Z,1μm
JCJ **Chichijima** **60.87 315** LR LR 23 15 55.3
comp=Z,123nm,18.9s,baz=122,slow=31
VNDA **Vanda** **61.87 186** *e*P **P** **22 54 42.6 +2.6**
comp=Z,82nm,2.5s
VNDA *e*PcP **PcP** **22 55 18.1 -2.0**
VNDA **Vanda** **61.87 186** P **P** **22 54 42.6 +2.6**
comp=Z,3.3nm,0.8s,baz=1.9,slow=3.3,SNR=12
MMRI **Maumere** **62.39 269** P **P** **22 54 41.8 -2.7**
MMRI **Maumere** **62.39 269** *e*P **P** **22 54 44.6 +0.1**
MEEK **Meekatharra** **62.63 248** P **P** **22 54 45.3 -0.6**
baz=63,SNR=20
KLBR **Kellerberrin** **62.95 243** P **P** **22 54 47.7 -0.3**
baz=63,SNR=16
NWAO **Narrogin (SRO)** **63.31 241** LR LR 23 20 41.1
comp=Z,155nm,18.9s,baz=330,slow=34
RKGY **Rocky Gully** **63.43 239** ⇑P **P** **22 54 51.6 +0.5**
baz=63,SNR=7.3
BLDU **Ballidu** **63.92 244** ⇑P **P** **22 54 53.8 -0.6**
baz=64,SNR=23
LUWI **Luwuk** **64.00 277** *e*P **P** **22 54 56.2 +1.1**
MORW **Morawa** **64.64 245** ⇑P **P** **22 54 58.6 -0.5**
baz=65,SNR=11
KAPI **Kappang** **65.72 272** *e*P **P** **22 55 07.0 +0.7**
comp=Z,129nm,1.3s
GIRL **Giralia** **67.11 252** P **P** **22 55 16.0 +0.9**
baz=67,SNR=3.9
MJAR **Matsushiro Arr** **69.60 321** P **P** **22 55 29.4 -0.8**
MJAR **Matsushiro Arr** **69.60 321** P **P** **22 55 29.4 -0.8**
comp=Z,12nm,0.5s,baz=156,slow=6.3,SNR=57
MJAR LR LR 23 24 52.0
comp=Z,49nm,19.6s,baz=140,slow=35
MAJO **Matsushiro** **69.60 321** *d i*P **P** **22 55 29.6 -0.6**
MAJO pmax pmax
comp=Z,189nm,1.2s
MAJO **Matsushiro** **69.60 321** *e*P **P** **22 55 29.7 -0.5**
comp=Z,16nm,0.6s
MAT **Matsushiro** **69.60 321** P **P** **22 55 29.4 -0.8**
MAT S **S** **23 04 30.6 -1.1**
MYLDM **Lahad Datu** **70.06 282** *e*P **P** **22 55 35.3 +1.8**
comp=Z,175nm,1.4s
JAGI **Jajag, Banyuwa** **70.17 267** *e*P **P** **22 55 32.7 -1.5**
JAGI **Jajag, Banyuwa** **70.17 267** ⇓P **P** **22 55 33.0 -1.2**
baz=70,SNR=8.2
FX1 **Attu Island--F** **70.31 352** *e*P **P** **22 55 33.4 -0.7**
FX1 **Attu Island--F** **70.31 352** P **P** **22 55 33.5 -0.7**
comp=Z,33nm,0.8s,baz=117,slow=1.5,SNR=9.3
FX1 LR LR 23 20 52.5
comp=Z,72nm,19.1s,baz=338,slow=31
YUK **Yuzh-Kuril'sk** **70.77 331** *c i*P **P** **22 55 35.1 -2.0**
YUK *i* 22 58 15.3
YUK *i*S S 23 04 54.8 +10
SDKM **Sandakan** **71.44 282** ⇓P **P** **22 55 42.9 +1.0**
JNU **Nakatsue** **72.29 314** *e*P **P** **22 55 46.4 -0.2**
JNU **Nakatsue** **72.29 314** P **P** **22 55 46.4 -0.2**
comp=Z,30nm,0.5s,baz=96,slow=2.5,SNR=45
ASAJ **Asahikawa** **72.41 329** *e*P **P** **22 55 48.0 +1.0**
comp=Z,56nm,0.8s
ASAJ **Asahikawa** **72.41 329** P **P** **22 55 47.7 +0.7**
comp=Z,48nm,0.8s,baz=218,slow=8.0,SNR=20
ASAJ LR LR 23 22 57.3
comp=Z,66nm,21.2s,baz=336,slow=32
KKM **Kota Kinabalu** **72.49 282** *e*P **P** **22 55 48.7 +0.4**
comp=Z,46nm,0.7s
KKM **Kota Kinabalu** **72.49 282** ⇓P **P** **22 55 47.8 -0.5**
baz=72,SNR=9.8
KKM **Kota Kinabalu** **72.49 282** ⇓P **P** **22 55 49.1 +0.8**
PKM **Peak Mountain** **72.83 44** ⇓P **P** **22 55 50.8 +0.8**
baz=73
SDPT **Sand Point** **72.84 8** *e*P **P** **22 55 48.9 -0.4**
comp=Z,222nm,1.0s
SAO **San Andreas Ge** **72.87 42** *e*P **P** **22 55 51.4 +1.5**
SAO pmax pmax
comp=Z,37nm,1.2s
SAO **San Andreas Ge** **72.87 42** *e*P **P** **22 55 51.4 +1.5**
comp=Z,37nm,1.2s
SZP **Santa** **72.92 295** *e*P **P** **22 55 49.5 -1.1**
comp=Z,96nm,1.3s
SMMC **Simmler** **72.95 44** ⇑P **P** **22 55 51.7 +1.2**
baz=73
QSPA **South Pole Qui** **73.20 180** *e*P **P** **22 55 52.2 +0.6**
comp=Z,47nm,1.0s
HOPS **Hopland** **73.23 39** *e*P **P** **22 55 53.4 +1.4**
comp=Z,63nm,1.3s
KCPM **Cahto Peak** **73.36 38** *e*P **P** **22 55 54.6 +1.7**
comp=Z,35nm,1.4s
OSI **Osito Adit** **73.41 45** ⇓P **P** **22 55 54.1 +0.9**
baz=74
PET **Petropavlovsk** **73.45 343** *e*P **P** **22 55 55.9 +3.0**
PET *e*S SKiKP 23 05 22.7 +7.4
PET *e*PS **PnS** **23 06 02.5 +2.9**
PET pmax pmax
comp=Z,100nm,18.6s
DECC **Green Verdugo** **73.47 46** ⇑P **P** **22 55 54.5 +1.0**
baz=74
109C **Camp Elliot, M** **73.57 47** ⇑P **P** **22 55 55.1 +1.0**
baz=74
ARVC **Arvin** **73.63 45** ⇓P **P** **22 55 55.5 +1.1**
baz=74
KMRM **Mail Ridge** **73.63 38** *e*P **P** **22 55 56.3 +1.9**
comp=Z,338nm,2.0s
MWC **Mount Wilson** **73.64 46** *e*P **P** **22 55 52.8 -2.0**
MWC pmax pmax
comp=Z,33nm,1.4s
MWC **Mount Wilson** **73.64 46** *e*P **P** **22 55 52.8 -2.0**
comp=Z,33nm,1.4s
UGM **Wanagama** **73.78 266** *e*P **P** **22 55 56.2 +0.3**
comp=Z,523nm,1.6s
PEA0 **Petropavlovsk-** **73.80 343** *e*P **P** **22 55 54.5 -0.5**
PEA0B **Petropavlovsk-** **73.80 343** *e*P **P** **22 55 54.5 -0.5**
PETK **Petropavlovsk-** **73.80 343** P **P** **22 55 54.7 -0.3**
PETK **Petropavlovsk-** **73.80 343** P **P** **22 55 54.7 -0.3**
PETK **Petropavlovsk-** **73.80 343** P **P** **22 55 54.7 -0.3**
comp=Z,51nm,0.8s,baz=136,slow=9.1,SNR=50
PETK LR LR 23 28 36.0
comp=Z,56nm,19.1s,baz=243,slow=36
VES **Vestal, Richgr** **73.86 44** ⇑P **P** **22 55 56.1 +0.3**
baz=74,SNR=11
MURC **Murrieta** **73.89 47** P **P** **22 55 56.6 +0.5**
baz=74
BFSC **Mount Baldy Ra** **73.92 46** ⇑P **P** **22 55 57.1 +0.7**
baz=74
RCTC **Rector, Farmer** **74.03 43** ⇑P **P** **22 55 57.8 +1.1**
baz=74
MONP **Monument Peak** **74.05 48** ⇑P **P** **22 55 58.0 +0.8**
baz=74,SNR=6.2
EDW2 **Edwards Air Fo** **74.06 45** ⇑P **P** **22 55 57.8 +0.8**
baz=74,SNR=21

DVTC **Desert V Tower** **74.15 48** ⇓P **P** **22 55 58.5 +0.8**
baz=74
ISA **Isabella** **74.17 44** *e*P **P** **22 55 58.5 +0.8**
ISA pmax pmax
comp=Z,7.0nm,1.2s
ISA **Isabella** **74.17 44** *e*P **P** **22 55 58.5 +0.8**
comp=Z,7.3nm,1.2s
ISA **Isabella** **74.17 44** ⇑P **P** **22 55 58.5 +0.8**
baz=74,SNR=17
CMB **Columbia Colle** **74.31 41** *e*P **P** **22 55 59.4 +1.0**
CMB pmax pmax
comp=Z,30nm,1.1s
CMB **Columbia Colle** **74.31 41** *e*P **P** **22 55 59.4 +1.0**
comp=Z,30nm,1.1s
LPIG **La Paz** **74.39 58** LR LR 23 22 13.4
comp=Z,112nm,18.9s,baz=220,slow=30
YSS **Yuzh-Sakhalins** **74.40 331** ⇓*e*P **P** **22 55 56.8 -1.8**
YSS pmax pmax
comp=Z,100nm,1.0s
YSS **Yuzh-Sakhalins** **74.40 331** *e*P **P** **22 55 58.5 -0.1**
comp=Z,92nm,0.9s
PFO **Pinyon Flat Ob** **74.41 47** *e*P **P** **22 56 00.2 +1.0**
comp=Z,20nm,1.4s
PFO **Pinyon Flat Ob** **74.41 47** P **P** **22 55 58.5 -0.7**
comp=Z,8.4nm,1.1s,baz=299,slow=1.5,SNR=5.8
PFO **Pinyon Flat Ob** **74.41 47** ⇓P **P** **22 55 59.9 +0.7**
baz=75,SNR=5.9
SWSC **Sam W. Stewart** **74.52 48** ⇑P **P** **22 56 00.3 +0.7**
baz=75,SNR=5.3
BTM **Bintulu** **74.52 278** ⇓P **P** **22 56 00.8 +0.7**
WDC **Whiskeytown Da** **74.54 38** *e*P **P** **22 56 00.9 +1.3**
WDC pmax pmax
comp=Z,34nm,1.1s
WDC **Whiskeytown Da** **74.54 38** *e*P **P** **22 56 00.9 +1.3**
comp=Z,34nm,1.1s
LRMC **Laurel Mountai** **74.59 45** ⇓P **P** **22 56 00.9 +0.7**
baz=75,SNR=18
N02D **Trinity Center** **74.69 38** ⇓P **P** **22 56 01.7 +1.1**
baz=75
YULB **Yu-li** **74.70 301** *e*P **P** **22 56 00.4 -0.5**
comp=Z,67nm,1.5s
NACB **Ninganchiao** **74.80 301** *e*P **P** **22 56 00.9 -0.6**
BELC **Belle Mtn. Jos** **74.95 47** ⇑P **P** **22 56 02.8 +0.5**
baz=75,SNR=9.2
MLAC **Mammoth Lakes** **75.06 42** ⇑P **P** **22 56 03.6 +0.6**
baz=75
GSC **Goldstone** **75.10 45** *e*P **P** **22 56 03.7 +0.6**
GSC pmax pmax
comp=Z,31nm,1.3s
GSC **Goldstone** **75.10 45** *e*P **P** **22 56 03.7 +0.6**
comp=Z,31nm,1.3s
GSC **Goldstone** **75.10 45** ⇓P **P** **22 56 03.7 +0.6**
baz=75,SNR=15
SBUM **Sibu** **75.11 277** *e*P **P** **22 56 03.3 -0.2**
comp=Z,18nm,0.8s
SBUM **Sibu** **75.11 277** ⇓P **P** **22 56 04.7 +1.2**
TIN **Tinemaha** **75.13 43** P **P** **22 56 04.6 +1.3**
baz=75
BC3 **Big Chuckawall** **75.14 47** ⇓P **P** **22 56 04.2 +0.8**
baz=75,SNR=9.0
SSLB **Suanglung** **75.15 301** *e*P **P** **22 56 02.0 -1.6**
comp=Z,24nm,0.7s
HEC **Hector,Ludlow** **75.16 46** ⇑P **P** **22 56 04.1 +0.6**
baz=75,SNR=15
YBH **Yreka Blue Hor** **75.17 37** *e*P **P** **22 56 04.6 +1.2**
comp=Z,30nm,0.8s
YBH **Yreka Blue Hor** **75.17 37** P **P** **22 56 04.4 +1.1**
comp=Z,26nm,0.7s,baz=182,slow=2.7,SNR=56
WAKR **Walker** **75.19 41** *e*P **P** **22 56 04.5 +0.9**
YHNB **Yeheng** **75.20 302** *e*P **P** **22 56 03.9 +0.1**
comp=Z,96nm,1.2s
TPUB **Ta-pu** **75.21 300** *e*P **P** **22 56 02.9 -1.0**
comp=Z,57nm,0.7s
GLA **Glamis** **75.27 48** *e*P **P** **22 56 05.6 +1.5**
GLA pmax pmax
comp=Z,5.0nm,1.1s
GLA **Glamis** **75.27 48** *e*P **P** **22 56 05.6 +1.5**
comp=Z,4.7nm,1.1s
GLA **Glamis** **75.27 48** ⇓P **P** **22 56 05.1 +1.1**
baz=76
BEKR **Beckworth** **75.42 40** *e*P **P** **22 56 05.7 +0.7**
comp=Z,18nm,1.0s
HUMO **Hull Mountain** **75.58 36** *e*P **P** **22 56 06.9 +1.3**
comp=Z,55nm,1.4s
GMRC **Granite Mounta** **75.60 46** ⇓P **P** **22 56 06.6 +0.6**
baz=76,SNR=8.1
IRM **Iron Mountain** **75.62 47** ⇓P **P** **22 56 06.9 +0.8**
baz=76,SNR=18
GRAC **Grapevine Rang** **75.66 44** P **P** **22 56 07.5 +1.3**
baz=76
FURC **Furnace Creek,** **75.70 44** ⇓P **P** **22 56 07.3 +1.0**
baz=76
M04C **Macdoel** **75.71 38** ⇑P **P** **22 56 07.3 +0.8**
baz=76
TUQ **Turquoise Moun** **75.77 46** ⇓P **P** **22 56 07.6 +0.6**
baz=76,SNR=13
SHOC **Shoshone** **75.78 45** ⇑P **P** **22 56 07.5 +0.6**
baz=76
Y12C **Blythe** **75.85 48** ⇓P **P** **22 56 08.1 +0.8**
baz=76,SNR=5.9
NV01 **Mina Array Sit** **75.87 42** *e*P **P** **22 56 08.1 +0.6**
NVAR **Mina Array Bea** **75.87 42** P **P** **22 56 08.3 +0.7**
NVAR **Mina Array Bea** **75.87 42** P **P** **22 56 08.3 +0.7**
comp=Z,22nm,0.9s,baz=231,slow=9.4,SNR=88
NVAR LR LR 23 25 25.1
comp=Z,125nm,18.9s,baz=134,slow=32
113A **Mohawk Valley,** **75.89 49** ⇑P **P** **22 56 08.2 +0.7**
baz=76,SNR=8.7
PAHR **Pah Rah Range** **75.93 40** *e*P **P** **22 56 09.0 +1.2**
comp=Z,33nm,1.0s
NV11 **Mina Array Sit** **75.96 42** *e*P **P** **22 56 08.2 +0.1**
LDFC **Landfair** **76.14 46** *e*P **P** **22 56 10.7 +1.6**
comp=Z,73nm,1.4s
214A **Organ Pipe Nat** **76.17 50** ⇓P **P** **22 56 10.0 +0.8**
baz=76,SNR=5.5
K04D **Chiloquin, OR** **76.28 37** ⇓P **P** **22 56 10.6 +0.9**
baz=77
TPH **Tonopah** **76.36 43** *e*P **P** **22 56 11.2 +0.8**
TPH pmax pmax
comp=Z,49nm,1.1s
TPH **Tonopah** **76.36 43** *e*P **P** **22 56 11.2 +0.8**
comp=Z,49nm,1.1s
TPNV **Topopah Spring** **76.38 44** *e*P **P** **22 56 11.7 +1.3**
TPNV **Topopah Spring** **76.38 44** *e*P **P** **22 56 11.7 +1.3**
TPNV **Topopah Spring** **76.38 44** ⇓P **P** **22 56 11.2 +0.7**
baz=77,SNR=15
PDMCI **Parker Dam,Lak** **76.41 48** ⇓P **P** **22 56 11.2 +0.7**
baz=77,SNR=9.0
J04D **Umpqua Nationa** **76.47 36** ⇓P **P** **22 56 11.7 +0.8**
baz=77
CISI **Cisompet, Garu** **76.47 266** *e*P **P** **22 56 10.5 -0.8**
KDAK **Kodiak Island** **76.47 12** P **P** **22 56 10.0 -0.2**
comp=Z,725nm,0.9s,SNR=8.3
KDAK **Kodiak Island** **76.47 12** *e*P **P** **22 56 10.9 +0.7**
comp=Z,120nm,0.9s
KSM **Kuching** **76.63 276** *e*P **P** **22 56 12.9 +0.7**
comp=Z,121nm,1.1s
KSM **Kuching** **76.63 276** ⇓P **P** **22 56 13.2 +1.0**
baz=77,SNR=27
I04A **Tendick Farm,** **76.64 36** ⇓P **P** **22 56 12.8 +1.1**
baz=77
MOD **Modoc** **76.69 38** *e*P **P** **22 56 12.7 +0.6**
comp=Z,13nm,1.1s
KSRS **Korea Array** **76.71 316** P **P** **22 56 13.1 +1.0**
comp=Z,16nm,0.8s,baz=131,slow=6.1,SNR=44
KSAR **Wonju Array Be** **76.73 316** P **P** **22 56 13.1 +0.9**
KS01 **Wonju Array Si** **76.74 316** *e*P **P** **22 56 12.5 +0.3**
Z14A **Wintersburg** **76.78 49** ⇓P **P** **22 56 13.5 +0.9**
baz=77,SNR=7.9
K05A **Summer Lake** **76.84 37** *e*P **P** **22 56 13.9 +0.9**
comp=Z,62nm,1.0s
LEM **Lembang** **76.85 267** ⇓P **P** **22 56 14.4 +0.8**
baz=77,SNR=4.0
SHPR **Sheep Range** **76.87 45** *e*P **P** **22 56 14.2 +0.9**
W13A **Hualapai Mount** **77.00 47** ⇑P **P** **22 56 14.9 +0.9**
baz=77,SNR=10
Y14A **Wickenburg** **77.03 48** ⇑P **P** **22 56 15.1 +1.0**
baz=77,SNR=6.6
G03D **McMinnville, O** **77.09 34** ⇑P **P** **22 56 15.5 +1.5**
baz=77
H04A **Detroit Lake** **77.33 35** *e*P **P** **22 56 16.2 +0.7**
comp=Z,76nm,1.4s
PINOR **Pine Mountain** **77.52 36** *e*P **P** **22 56 17.8 +1.3**
VLA **Vladivostok** **77.53 323** ⇓*e*P **P** **22 56 15.4 -1.1**
VLA 22 56 25.2
VLA *e* 22 59 09.1
VLA *e*S S **23 06 02.5 +1.9**

VLA pmax pmax
comp=Z,33nm,0.6s
INCN **Inchon** **77.58 316** *e*P **P** **22 56 18.5 +1.5**
comp=Z,422nm,1.9s
R11A **Troy Canyon, C** **77.59 43** *e*P **P** **22 56 17.6 +0.4**
comp=Z,22nm,1.2s
R11A **Troy Canyon, C** **77.59 43** ⇓P **P** **22 56 17.9 +0.7**
baz=78,SNR=16
BMN **Battle Mountai** **77.70 41** *e*P **P** **22 56 18.6 +0.8**
BMN pmax pmax
comp=Z,37nm,1.0s
BMN **Battle Mountai** **77.70 41** *e*P **P** **22 56 18.6 +0.8**
comp=Z,37nm,1.0s
XMIS **Christmas Isla** **77.76 263** ⇓P **P** **22 56 19.1 +0.6**
baz=78
F04D **Rainier, OR** **77.78 34** ⇑P **P** **22 56 19.5 +1.7**
baz=78
E03A **Lebam** **77.80 33** *e*P **P** **22 56 19.0 +1.1**
comp=Z,76nm,1.1s
TUC **Tucson** **77.84 51** *e*P **P** **22 56 20.2 +1.6**
TUC pmax pmax
comp=Z,22nm,1.3s
TUC **Tucson** **77.84 51** *e*P **P** **22 56 20.2 +1.6**
comp=Z,22nm,1.3s
WVOR **Wild Horse Val** **78.00 39** *e*P **P** **22 56 20.0 +0.7**
WVOR pmax pmax
comp=Z,47nm,1.1s
WVOR **Wild Horse Val** **78.00 39** *e*P **P** **22 56 20.0 +0.7**
comp=Z,47nm,1.1s
LVP **Lakeview Peak** **78.10 34** P **P** **22 56 20.5 +0.8**
USRK **Ussuriysk Arra** **78.12 324** P **P** **22 56 20.2 +0.5**
comp=Z,6.2nm,0.6s,baz=147,slow=4.1,SNR=21
USRK LR LR 23 25 48.8
comp=Z,98nm,19.2s,baz=19,slow=32
NLWA **Neilton Lookou** **78.19 32** *e*P **P** **22 56 21.3 +1.1**
comp=Z,77nm,1.5s
X16A **Lo Mia Camp, P** **78.39 49** ⇓P **P** **22 56 22.6 +0.8**
baz=79
I07A **Izee** **78.47 37** *e*P **P** **22 56 22.6 +0.7**
comp=Z,31nm,1.0s
319A **Douglas** **78.53 52** ⇑P **P** **22 56 23.3 +0.8**
baz=79
G06A **Carlson Farm,** **78.54 35** *e*P **P** **22 56 22.9 +0.7**
comp=Z,77nm,1.7s
OSD **Olympics--Snow** **78.56 32** P **P** **22 56 23.5 +1.1**
J08A **Circle Bar Ran** **78.64 38** *e*P **P** **22 56 22.8 0.0**
comp=Z,53nm,1.2s
CCUT **Cedar City** **78.64 45** *e*P **P** **22 56 24.4 +1.3**
comp=Z,32nm,1.3s
ARUT **Antelope Range** **78.72 45** *e*P **P** **22 56 24.8 +1.4**
ARUT **Antelope Range** **78.72 45** *e*P **P** **22 56 24.8 +1.4**
KNB **Kanab** **78.73 46** *e*P **P** **22 56 25.0 +1.4**
KNB pmax pmax
comp=Z,116nm,2.0s
KNB **Kanab** **78.73 46** *e*P **P** **22 56 25.0 +1.4**
comp=Z,116nm,2.0s
U15A **North Rim** **78.80 46** ⇓P **P** **22 56 24.6 +0.5**
baz=79
LON **Longmire** **78.85 34** *e*P **P** **22 56 24.3 +0.5**
LON **Longmire** **78.85 34** *e*P **P** **22 56 24.3 +0.5**
RSO **Redoubt South** **78.95 11** *e*P **P** **22 56 24.0 -0.3**
WPW **White Pass** **78.96 34** P **P** **22 56 24.8 +0.3**
WUAZ **Wupatki** **78.98 48** *e*P **P** **22 56 26.1 +1.1**
comp=Z,28nm,1.4s
WUAZ **Wupatki** **78.98 48** ⇓P **P** **22 56 26.0 +1.0**
baz=79
320A **Kipp Ranch, An** **79.08 53** ⇓P **P** **22 56 26.2 +0.7**
baz=79
ELK **Elko** **79.12 41** *e*P **P** **22 56 26.2 +0.5**
comp=Z,20nm,1.0s
HABR **Khabarovsk** **79.19 328** *e*P **P** **22 56 23.7 -1.8**
HABR *e* 22 56 31.7
HABR *e**PP **PcP** **22 56 33.9 +0.3**
HABR *e**SP sP 22 56 37.9 -20
HABR *e*S **S** **23 06 20.6 +2.4**
HABR *e**SS **ScS** **23 06 38.4 -1.9**
HABR *e*SS **SS** **23 11 26.9 0.0**
HABR *e*SSS SSS 23 14 52.9
HABR pmax pmax
comp=Z,254nm,2.4s
PGC **Sidney** **79.23 31** *e*P **P** **22 56 25.6 -0.1**
TRW **Toppenish Ridg** **79.24 35** P **P** **22 56 26.8 +0.8**
SEW **Seward** **79.25 12** *e*P **P** **22 56 25.7 +0.1**
comp=Z,85nm,1.0s
BBB **Bella Bella** **79.49 27** P **P** **22 56 27.9 +0.8**
BBB **Bella Bella** **79.49 27** P **P** **22 56 27.9 +0.8**
comp=Z,32nm,0.9s,baz=249,slow=9.5,SNR=3.7
G08A **Pilot Rock** **79.51 36** *e*P **P** **22 56 27.9 +0.3**
comp=Z,45nm,1.1s
X18A **Snowflake** **79.52 49** ⇑P **P** **22 56 28.6 +0.6**
baz=80
SPU **Mount Spurr** **79.75 11** *e*P **P** **22 56 27.9 -0.5**
MDJ **Mudanjiang** **79.75 323** P **P** **22 56 29.2 +0.5**
MDJ PP **PP** **22 59 26.5 -4.7**
MDJ pmax pmax
comp=Z,30nm,1.6s
MDJ pmax pmax
comp=Z,150nm,4.4s
MDJ LR LR
comp=Z,95nm,47.4s
MDJ LR LR
comp=Z,120nm,43.0s
MDJ LR LR
comp=Z,210nm,34.4s
MDJ **Mudanjiang** **79.75 323** *e*P **P** **22 56 28.2 -0.5**
comp=Z,31nm,1.1s
E07A **Sunnyside** **79.78 35** *e*P **P** **22 56 29.5 +0.6**
comp=Z,35nm,0.9s
HAWA **Hanford** **79.86 35** *e*P **P** **22 56 29.7 +0.5**
comp=Z,99nm,1.6s
MVU **Marysvale** **79.91 45** *e*P **P** **22 56 31.4 +1.4**
comp=Z,24nm,1.1s
W18A **Petrified Fore** **79.96 49** P **P** **22 56 31.1 +0.8**
baz=80
RC01 **Rabbit Creek A** **80.09 12** *e*P **P** **22 56 30.0 -0.2**
comp=Z,127nm,1.1s
B06A **Marblemount** **80.14 32** *e*P **P** **22 56 31.0 +0.3**
comp=Z,26nm,1.2s
A05A **Maple Falls** **80.14 32** *e*P **P** **22 56 31.6 +1.0**
comp=Z,22nm,0.9s
121A **Cookes Peak, D** **80.19 52** ⇑P **P** **22 56 32.1 +0.5**
baz=80
MFID **Camas Ranch** **80.25 39** *e*P **P** **22 56 31.9 +0.3**
comp=Z,32nm,1.0s
GAMB **Gambell** **80.39 1** *e*P **P** **22 56 32.2 +0.6**
comp=Z,47nm,1.2s
DUG **Dugway** **80.39 43** *e*P **P** **22 56 33.3 +0.8**
DUG pmax pmax
comp=Z,21nm,1.2s
DUG **Dugway** **80.39 43** *e*P **P** **22 56 33.3 +0.8**
comp=Z,21nm,1.2s
DUG **Dugway** **80.39 43** ⇓P **P** **22 56 33.2 +0.8**
baz=81
NJ2 **Nanjing** **80.49 308** *e*P **P** **22 56 34.7 +1.8**
NJ2 pmax pmax
comp=Z,30nm,1.2s
D08A **Wollman Farm,** **80.60 35** *e*P **P** **22 56 33.7 +0.5**
comp=Z,49nm,1.0s
BGU **Big Grassy Mou** **80.63 42** *e*P **P** **22 56 34.5 +0.7**
comp=Z,36nm,2.3s
PMR **Palmer** **80.67 12** *e*P **P** **22 56 32.8 -0.4**
PMR pmax pmax
comp=Z,72nm,1.0s
PMR **Palmer** **80.67 12** *e*P **P** **22 56 32.8 -0.4**
comp=Z,72nm,1.0s
E09A **Wood Farm, Sta** **80.70 35** *e*P **P** **22 56 33.5 -0.2**
comp=Z,27nm,1.0s
DIV **Divide** **80.96 13** *e*P **P** **22 56 34.8 -0.1**
comp=Z,137nm,1.0s
TMUT **Trail Mountain** **80.99 44** *e*P **P** **22 56 37.6 +1.7**
comp=Z,32nm,1.1s
MPU **Maple Canyon** **81.07 44** *e*P **P** **22 56 37.4 +1.2**
comp=Z,22nm,1.4s
BMRM **Bremner River** **81.08 14** *e*P **P** **22 56 35.9 +0.3**
comp=Z,136nm,1.1s
Z22A **Elephant Butte** **81.13 51** ⇑P **P** **22 56 37.2 +0.6**
baz=81
B08A **Colville Reser** **81.17 33** *e*P **P** **22 56 35.8 -0.4**
comp=Z,30nm,1.0s
HLID **Hailey** **81.18 39** *e*P **P** **22 56 37.3 +0.6**
comp=Z,35nm,1.0s
HLID **Hailey** **81.18 39** ⇓P **P** **22 56 37.7 +1.0**
baz=81
SPUT **South Promonto** **81.21 42** *e*P **P** **22 56 37.7 +0.9**
comp=Z,31nm,1.2s
HVU **Hansel Valley** **81.25 42** *e*P **P** **22 56 37.9 +0.9**
HVU pmax pmax

	comp=Z,25nm,1.1s									
HVU	**Hansel Valley**	81.25	42	*e*P		P		22 56 37.9	+0.9	
	comp=Z,25nm,1.1s									
PPLA	**Purkeypile**	81.33	10	*e*P		P		22 56 35.8	-1.1	
CTU	**Camp Tracy**	81.34	43	*e*P		P		22 56 38.5	+0.9	
	comp=Z,22nm,1.4s									
SRU	**San Rafael**	81.36	45	*e*P		P		22 56 38.8	+1.1	
SRU					pmax	pmax				
	comp=Z,75nm,1.8s									
SRU	**San Rafael**	81.36	45	*e*P		P		22 56 38.8	+1.1	
	comp=Z,75nm,1.8s									
C09A	**Chrisman Ranch**	81.39	34	*e*P		P		22 56 37.6	+0.2	
	comp=Z,144nm,1.8s									
324A	**Moseley Ranch,**	81.46	54	⇓P		P		22 56 38.9	+0.6	
	baz=82,SNR=12									
JLU	**Jordanelle**	81.49	43	*e*P		P		22 56 39.3	+0.8	
	comp=Z,43nm,1.5s									
LAZ	**Ladron**	81.52	50	*e*P		P		22 56 40.4	+1.7	
DAU	**Daniels Canyon**	81.52	43	*e*P		P		22 56 39.8	+1.1	
DAU	**Daniels Canyon**	81.52	43	*e*P		P		22 56 39.8	+1.1	
425A	**Indio Mountain**	81.56	54	⇑P		P		22 56 39.5	+0.6	
	baz=82,SNR=12									
MNTX	**Cornudas Mount**	81.64	53	*e*P		P		22 56 40.5	+1.3	
	comp=Z,14nm,1.3s									
Z23A	**Rita Site, Whi**	81.68	52	⇓P		P		22 56 40.2	+0.7	
	baz=82									
224A	**Cornudas Mount**	81.70	53	⇑P		P		22 56 40.3	+0.7	
	baz=82,SNR=9.2									
626A	**Big Bend Ranch**	81.71	56	⇑P		P		22 56 40.4	+0.8	
	baz=82,SNR=8.1									
CN2	**Changchun**	81.75	320	*e*P		P		22 56 39.5	+0.1	
CN2				*e*S		S		23 06 49.8	+4.6	
CN2					pmax	pmax				
	comp=Z,40nm,0.9s									
BNM	**Barren Site**	81.78	51	*e*P		P		22 56 41.6	+1.5	
325A	**Bean Ranch, Si**	81.82	54	⇑P		P		22 56 41.0	+0.7	
	baz=82,SNR=15									
PV05	**Paradox Valley**	81.83	46	*e*P		P		22 56 42.0	+1.7	
MVCO	**Mesa Verde**	81.83	47	*e*P		P		22 56 41.4	+1.1	
	comp=Z,20nm,1.4s									
MVCO	**Mesa Verde**	81.83	47	⇑P		P		22 56 41.0	+0.7	
	baz=82									
LPM	**Los Pinos Moun**	81.85	51	*e*P		P		22 56 42.0	+1.6	
SNY	**Shenyang**	81.88	318	⇓P		P		22 56 40.6	+0.5	
SNY					pmax	pmax				
	comp=Z,43nm,1.8s									
526A	**Mary Lane Ranc**	81.96	55	⇑P		P		22 56 41.3	+0.3	
	baz=82,SNR=9.5									
MNAI	**Manna**	81.98	268	⇓P		P		22 56 41.4	0.0	
	baz=82,SNR=3.0									
TX31	**Lajitas Ar. Si**	81.99	56	*e*P		P		22 56 42.2	+1.0	
TXAR	**Lajitas Array**	81.99	56	P		P		22 56 42.5	+1.4	
TXAR	**Lajitas Array**	81.99	56	P		P		22 56 42.5	+1.4	
	comp=Z,9.7nm,1.2s,baz=212,slow=4.4,SNR=30									
TXAR					LR	LR		23 26 48.1		
	comp=Z,127nm,19.0s,baz=5.0,slow=31									
PV09	**Paradox Valley**	82.01	46	*e*P		P		22 56 42.5	+1.3	
PV10	**Paradox Valley**	82.01	46	*e*P		P		22 56 42.0	+0.8	
124A	**Stringfield Ra**	82.02	52	⇑P		P		22 56 41.7	+0.4	
	baz=82,SNR=5.5									
Y23A	**Lovelace Mesa,**	82.11	51	⇑P		P		22 56 42.1	+0.3	
	baz=82,SNR=6.1									
PV04	**Paradox Valley**	82.11	46	*e*P		P		22 56 42.5	+0.8	
KTH	**Kantishna Hill**	82.15	10	*e*P		P		22 56 40.4	-0.8	
TRF	**Thorofare Moun**	82.17	11	*e*P		P		22 56 40.0	-1.4	
	comp=Z,73nm,0.9s									
PV01	**Paradox Valley**	82.22	46	*e*P		P		22 56 42.9	+0.6	
225A	**Deer Hill, Car**	82.25	53	⇓P		P		22 56 43.0	+0.5	
	baz=82,SNR=10									
426A	**McDonald Obser**	82.26	55	⇑P		P		22 56 43.1	+0.4	
	baz=82,SNR=18									
ANMO	**Albuquerque**	82.26	50	*e*P		P		22 56 43.5	+1.0	
	comp=Z,51nm,1.5s									
ANMO	**Albuquerque**	82.26	50	P		P		22 56 43.8	+1.2	
	comp=Z,12nm,1.1s,baz=218,slow=5.2,SNR=18									
627A	**Terlingua Ranc**	82.26	56	⇑P		P		22 56 43.0	+0.5	
	baz=82,SNR=12									
NEW	**Newport**	82.29	34	*e*P		P		22 56 41.9	-0.3	
	comp=Z,10nm,0.8s									
NEW	**Newport**	82.29	34	P		P		22 56 41.8	-0.3	
	comp=Z,7.8nm,0.8s,baz=235,slow=4.5,SNR=17									
NEW	**Newport**	82.29	34	⇑P		P		22 56 42.0	-0.2	
	baz=83,SNR=9.0									
TNA	**Tin City**	82.29	3	*e*P		P		22 56 42.1	+0.4	
	comp=Z,122nm,1.4s									
SKAG	**Skagway**	82.33	19	*e*P		P		22 56 43.0	+1.0	
	comp=Z,109nm,1.7s									
Z24A	**Sheeppen Canyo**	82.36	52	⇓P		P		22 56 43.4	+0.3	
	baz=83									
V22A	**San Miguel Ran**	82.37	49	⇓P		P		22 56 43.6	+0.5	
	baz=83,SNR=5.4									
527A	**Woodward Ranch**	82.37	55	⇑P		P		22 56 43.6	+0.4	
	baz=83,SNR=13									
326A	**Caldwell Ranch**	82.57	54	⇓P		P		22 56 44.6	+0.5	
	baz=83									
Y24A	**Capitan**	82.57	51	⇓P		P		22 56 44.8	+0.6	
	baz=83,SNR=19									
W23A	**Werner Place,**	82.58	50	⇑P		P		22 56 44.7	+0.5	
	baz=83,SNR=9.9									
125A	**Gardner Draw,**	82.61	53	⇑P		P		22 56 44.9	+0.6	
	baz=83,SNR=5.6									
U22A	**Llaves**	82.62	49	⇑P		P		22 56 45.0	+0.6	
	baz=83,SNR=6.6									
MCK	**McKinley**	82.67	11	*e*P		P		22 56 43.3	-0.5	
MCK					pmax	pmax				
	comp=Z,131nm,1.0s									
MCK	**McKinley**	82.67	11	*e*P		P		22 56 43.3	-0.5	
	comp=Z,131nm,1.0s									
628A	**Black Gap, Mar**	82.67	56	⇓P		P		22 56 45.2	+0.5	
	baz=83,SNR=5.8									
226B	**Tecolote Peak,**	82.74	54	⇓P		P		22 56 45.6	+0.6	
	baz=83,SNR=11									
QIZ	**Qiongzhong**	82.80	292	P		P		22 56 47.1	+1.7	
QIZ				S		S		23 07 05.6	+8.6	
MCMT	**McKenzie Canyo**	82.81	39	*e*P		P		22 56 45.8	+0.6	
V23A	**Ortiz Mt. (NFS**	82.82	49	⇓P		P		22 56 46.7	+1.3	
	baz=83,SNR=17									
427A	**Hayter Ranch,**	82.83	55	⇓P		P		22 56 46.1	+0.7	
	baz=83,SNR=9.3									
Z25A	**Roswell**	82.83	52	⇓P		P		22 56 46.1	+0.6	
	baz=83,SNR=11									
BTDF	**Bukit Timah Da**	82.83	274	⇑P		P		22 56 46.6	+0.8	
	baz=83									
MYKOM	**Kota Tinggi**	82.89	274	*e*P		P		22 56 45.8	-0.2	
U23A	**El Rito**	83.07	49	⇑P		P		22 56 47.3	+0.5	
	baz=83,SNR=24									
126A	**Clayton Basin,**	83.09	53	⇓P		P		22 56 47.3	+0.5	
	baz=83,SNR=7.6									
Y25A	**Mesa, Roswell**	83.12	52	⇑P		P		22 56 47.6	+0.6	
	baz=83,SNR=14									
W24A	**Lazy 6 Ranch,**	83.15	50	⇑P		P		22 56 47.6	+0.4	
	baz=83,SNR=13									
DLMT	**Dillon**	83.25	39	*e*P		P		22 56 48.1	+0.8	
	comp=Z,43nm,1.0s									
MSO	**Missoula**	83.25	37	*e*P		P		22 56 46.8	-0.5	
	comp=Z,50nm,1.4s									
MSO	**Missoula**	83.25	37	⇑P		P		22 56 47.0	-0.3	
	baz=84,SNR=15									
S22A	**4UR Ranch, Cre**	83.26	47	⇓P		P		22 56 48.3	+0.5	
	baz=84,SNR=28									
REDW	**Red Top Meadow**	83.28	41	*e*P		P		22 56 48.1	+0.5	
	comp=Z,84nm,1.3s									
TPAW	**Teton Pass**	83.28	41	*e*P		P		22 56 48.4	+0.7	
	comp=Z,57nm,1.1s									
DLBC	**Dease Lake**	83.30	22	*e*P		P		22 56 48.0	+0.8	
DLBC	**Dease Lake**	83.30	22	P		P		22 56 47.3	+0.1	
	comp=Z,15nm,1.0s,baz=208,slow=6.4,SNR=8.6									
FXWY	**Fox Creek**	83.31	41	*e*P		P		22 56 48.5	+0.6	
	comp=Z,49nm,1.3s									
428A	**Kincaid Ranch,**	83.34	55	⇓P		P		22 56 48.4	+0.4	
	baz=84									
BSMT	**Bassoo Peak**	83.34	36	*e*P		P		22 56 47.6	-0.2	
Z26A	**Caprock**	83.39	52	⇓P		P		22 56 48.8	+0.5	
	baz=84,SNR=24									
SNOW	**Snow King Moun**	83.39	41	*e*P		P		22 56 49.1	+0.9	
	comp=Z,60nm,1.0s									
O20A	**White River Ci**	83.39	45	*e*P		P		22 56 49.1	+0.8	
O20A	**White River Ci**	83.39	45	⇑P		P		22 56 49.0	+0.7	
	baz=84,SNR=9.8									
X25A	**Clemmons Ranch**	83.41	51	⇑P		P		22 56 48.8	+0.4	
	baz=84,SNR=17									
529A	**Stev Forest Ra**	83.46	56	⇓P		P		22 56 49.1	+0.4	
	baz=84,SNR=5.7									
V24A	**Rampart Ranch,**	83.47	50	⇑P		P		22 56 49.5	+0.6	
	baz=84,SNR=8.8									
IMW	**Indian Meadow**	83.50	40	*e*P		P		22 56 49.5	+0.6	
	comp=Z,50nm,1.0s									
T23A	**Casias Ranch,**	83.50	48	⇓P		P		22 56 49.5	+0.5	
	baz=84,SNR=5.3									
328A	**Wristen Ranch,**	83.50	55	⇑P		P		22 56 49.5	+0.6	
	baz=84,SNR=5.9									
MOOW	**Moose Ponds**	83.54	41	*e*P		P		22 56 49.3	+0.3	
	comp=Z,40nm,1.4s									
LOHW	**Long Hollow**	83.56	41	*e*P		P		22 56 49.5	+0.4	
	comp=Z,41nm,1.2s									
JTMT	**Jette**	83.56	36	*e*P		P		22 56 48.6	-0.3	
DOT	**Dot Lake**	83.57	13	*e*P		P		22 56 48.3	-0.1	
	comp=Z,181nm,1.6s									
LRM	**Limekiln Ridge**	83.58	38	*e*P		P		22 56 49.4	+0.3	
SWMT	**Swartz Lake**	83.59	36	*e*P		P		22 56 48.6	-0.4	
127A	**Arkansas Junct**	83.61	53	⇑P		P		22 56 49.9	+0.4	
	baz=84,SNR=6.9									
BLMT	**Blacktail Moun**	83.67	36	*e*P		P		22 56 49.2	-0.3	
QLMT	**Earthquake Lak**	83.67	40	*e*P		P		22 56 50.7	+1.1	
CHMT	**Chamberlain Mo**	83.70	37	*e*P		P		22 56 49.4	-0.3	
N20A	**Spence Gulch,**	83.71	44	⇓P		P		22 56 50.4	+0.5	
	baz=84,SNR=31									
SEY	**Seymchan**	83.73	345	*e*P		P		22 56 46.6	-2.6	
SLMT	**Seeley Lake**	83.73	37	*e*P		P		22 56 49.4	-0.4	
I17A	**Pilgrim Ck.**	83.74	41	⇓P		P		22 56 50.5	+0.5	
	baz=84,SNR=24									
FLWY	**Flagg Ranch**	83.74	40	*e*P		P		22 56 50.9	+0.9	
	comp=Z,73nm,1.1s									
U24A	**Moreno Valley**	83.77	49	⇓P		P		22 56 50.8	+0.4	
	baz=84									
Y26A	**Elida**	83.78	52	⇓P		P		22 56 50.3	0.0	
	baz=84,SNR=6.9									
YBMT	**Yellow Bay**	83.78	36	*e*P		P		22 56 49.5	-0.5	
BW06	**Boulder Array**	83.80	42	*e*P		P		22 56 50.1	-0.3	
PDAR	**Pinedale Array**	83.80	42	P		P		22 56 50.2	-0.1	
PDAR	**Pinedale Array**	83.80	42	P		P		22 56 50.2	-0.1	
	comp=Z,24nm,1.0s,baz=213,slow=3.5,SNR=96									
SMCO	**Snowmass**	83.81	46	*e*P		P		22 56 50.9	+0.2	
	comp=Z,54nm,1.4s									
S23A	**Nye Farm, Mont**	83.83	48	P		P		22 56 51.1	+0.4	
	baz=84									
YFT	**Old Faithful**	83.84	40	*e*P		P		22 56 52.9	+2.3	
	comp=Z,40nm,1.1s									
W25A	**X Bar L Ranch,**	83.85	51	⇓P		P		22 56 50.7	+0.1	
	baz=84,SNR=14									
YMR	**Madison River**	83.88	40	*e*P		P		22 56 52.0	+1.4	
	comp=Z,109nm,1.4s									
COLA	**College**	83.91	11	*d i*P		P		22 56 49.5	-0.5	
COLA	**College**	83.91	11	*e*P		P		22 56 49.7	-0.3	
	comp=Z,47nm,0.9s									
429A	**Davenport Ranc**	83.92	56	⇓P		P		22 56 51.4	+0.4	
	baz=84,SNR=9.6									
228A	**UT Block 9, Go**	83.97	54	⇓P		P		22 56 51.7	+0.4	
	baz=84,SNR=5.9									
H17A	**Grant Village**	83.98	40	*e*P		P		22 56 53.4	+2.1	
H17A	**Grant Village**	83.98	40	⇓P		P		22 56 52.9	+1.6	
	baz=84,SNR=22									
BOZ	**Bozeman (W)**	83.98	39	*e*P		P		22 56 51.4	+0.3	
BOZ					pmax	pmax				
	comp=Z,61nm,1.1s									
BOZ	**Bozeman (W)**	83.98	39	*e*P		P		22 56 51.4	+0.3	
	comp=Z,61nm,1.1s									
T24B	**San Luis**	83.98	49	⇑P		P		22 56 51.8	+0.3	
	baz=84,SNR=7.6									
IM04	**Indian Mountai**	83.99	8	*e*P		P		22 56 50.4	-0.1	
Z27A	**Tatum**	83.99	53	⇓P		P		22 56 51.8	+0.4	
	baz=84,SNR=12									
IL1	**Eielson Array**	84.00	11	*e*P		P		22 56 48.8	-1.7	
ILAR	**Eielson Array**	84.00	11	P		P		22 56 49.9	-0.7	
ILAR	**Eielson Array**	84.00	11	P		P		22 56 49.9	-0.7	
	comp=Z,24nm,0.6s,baz=228,slow=5.9,SNR=237									
V25A	**Rancho No Teng**	84.00	50	⇓P		P		22 56 51.9	+0.4	
	baz=84,SNR=12									
X26A	**CRI CF Fran**	84.05	51	⇓P		P		22 56 52.2	+0.5	
	baz=84,SNR=7.7									
P22A	**Eagle**	84.15	46	⇑P		P		22 56 52.5	+0.3	
	baz=84,SNR=7.6									
R23A	**Moffat**	84.17	47	⇑P		P		22 56 52.7	+0.3	
	baz=84,SNR=9.5									
LKWY	**Lake**	84.17	40	*e*P		P		22 56 54.2	+2.0	
LKWY					pmax	pmax				
	comp=Z,51nm,1.1s									
LKWY	**Lake**	84.17	40	*e*P		P		22 56 54.2	+2.0	
	comp=Z,51nm,1.1s									
530A	**J-C Ranch, Com**	84.17	56	⇓P		P		22 56 52.9	+0.6	
	baz=84									
329A	**Wagon Wheel Ra**	84.20	55	⇓P		P		22 56 52.8	+0.4	
	baz=84,SNR=8.9									
SDCO	**Great Sand Dun**	84.20	48	*e*P		P		22 56 53.4	+0.8	
	comp=Z,13nm,1.2s									
Y27A	**Causey**	84.26	52	⇓P		P		22 56 53.1	+0.3	
	baz=84,SNR=17									
128A	**Castleberry Fa**	84.26	54	⇑P		P		22 56 53.3	+0.5	
	baz=84,SNR=12									
W26A	**Owens Ranch, T**	84.31	51	⇓P		P		22 56 53.2	+0.2	
	baz=84									
S24A	**Houchin Ranch,**	84.36	48	⇑P		P		22 56 53.8	+0.4	
	baz=85,SNR=11									
J19A	**Crowheart**	84.37	42	⇑P		P		22 56 53.5	+0.3	
	baz=85,SNR=29									
U25A	**Circle Dot Ran**	84.40	49	⇑P		P		22 56 53.9	+0.4	
	baz=85,SNR=8.4									
HRY	**Holter Researc**	84.41	38	*e*P		P		22 56 53.4	+0.2	
WALA	**Waterton Lakes**	84.49	35	*e*P		P		22 56 54.0	+0.4	
631A	**Perdido Creek**	84.50	57	⇓P		P		22 56 54.4	+0.5	
	baz=85									
430A	**Baggett Ranch,**	84.50	56	⇑P		P		22 56 54.2	+0.3	
	baz=85									
229A	**Bryant Ranch,**	84.52	54	⇓P		P		22 56 54.6	+0.6	
	baz=85									
832A	**Faith Ranch, C**	84.56	58	⇑P		P		22 56 54.8	+0.6	
	baz=85									
O22A	**Kremmling**	84.56	45	⇓P		P		22 56 54.7	+0.3	
	baz=85,SNR=12									
MSTX	**Muleshoe**	84.59	52	*e*P		P		22 56 55.4	+1.0	
MSTX	**Muleshoe**	84.59	52	⇓P		P		22 56 54.9	+0.5	
	baz=85,SNR=8.9									
V26A	**Tequesquite Ra**	84.60	50	⇓P		P		22 56 54.9	+0.5	
	baz=85									
Z28A	**Tucker Farm, M**	84.61	53	⇓P		P		22 56 54.9	+0.4	
	baz=85,SNR=8.3									
X27A	**J and S Farms,**	84.63	52	⇓P		P		22 56 55.2	+0.6	
	baz=85									
H18A	**Shoshone NF, C**	84.68	40	⇓P		P		22 56 55.3	+0.6	
	baz=85,SNR=7.0									
P23A	**Jefferson**	84.69	46	⇑P		P		22 56 55.6	+0.5	
	baz=85									
R24A	**Sanders Place,**	84.69	48	⇑P		P		22 56 55.5	+0.5	
	baz=85									
T25A	**Trinidad**	84.71	49	⇑P		P		22 56 55.6	+0.6	
	baz=85									
732A	**Laxson Ranch,**	84.73	58	⇑P		P		22 56 55.6	+0.5	
	baz=85									
129A	**Stewart Farms,**	84.74	54	⇓P		P		22 56 55.7	+0.6	
	baz=85									
I19A	**Meeteetse**	84.78	41	⇑P		P		22 56 55.9	+0.7	
	baz=85,SNR=13									
330A	**Mertzon**	84.80	55	⇓P		P		22 56 56.1	+0.7	
	baz=85									
531A	**Rocksprings**	84.81	57	⇓P		P		22 56 55.9	+0.4	
	baz=85,SNR=9.9									
W27A	**Bowe Ranch, En**	84.83	51	⇓P		P		22 56 56.2	+0.6	
	baz=85,SNR=7.0									
933A	**Laredo**	84.88	59	⇓P		P		22 56 56.2	+0.4	
	baz=85									
U26A	**Atchley Ranch,**	84.88	50	⇓P		P		22 56 56.5	+0.6	
	baz=85,SNR=9.2									
N22A	**Wattenberg Ran**	84.91	45	⇓P		P		22 56 56.6	+0.5	
	baz=85,SNR=9.2									
S25A	**Robets Cordova**	84.92	48	⇓P		P		22 56 56.7	+0.6	
	baz=85,SNR=5.7									
431A	**Sonora**	84.96	56	⇑P		P		22 56 56.7	+0.5	
	baz=85									
Y28A	**McKinney Farm,**	84.97	53	⇑P		P		22 56 56.9	+0.6	
	baz=85									
Q24A	**Divide**	84.98	47	⇓P		P		22 56 57.1	+0.6	
	baz=85									
O23A	**Lake Granby, G**	85.01	46	⇓P		P		22 56 57.1	+0.5	
	baz=85,SNR=6.3									
J20A	**Shoshoni**	85.03	42	⇑P		P		22 56 56.9	+0.5	
	baz=85,SNR=20									
ISCO	**Idaho Springs**	85.03	46	*e*P		P		22 56 57.4	+0.7	
ISCO					pmax	pmax				
	comp=Z,58nm,2.3s									
ISCO	**Idaho Springs**	85.03	46	*e*P		P		22 56 57.4	+0.7	
	comp=Z,58nm,2.3s									
ISCO	**Idaho Springs**	85.03	46	⇓P		P		22 56 56.8	+0.1	
	baz=85									
230A	**Sterling City**	85.03	55	⇓P		P		22 56 57.0	+0.4	
	baz=85									
833A	**Chaparral WMA,**	85.05	59	⇓P		P		22 56 57.2	+0.6	
	baz=85									
M22A	**Cedar Creek Ra**	85.09	44	⇓P		P		22 56 57.0	0.0	
	baz=85,SNR=7.2									
H19A	**Powell**	85.10	41	⇑P		P		22 56 57.4	+0.7	
	baz=85,SNR=17									
Z29A	**Hungry Hill Ra**	85.12	53	⇓P		P		22 56 57.3	+0.2	
	baz=85,SNR=7.9									
RLMT	**Red Lodge**	85.15	40	*e*P		P		22 56 58.1	+1.0	
	comp=Z,34nm,1.1s									
BKNI	**Bangkinang**	85.15	272	*e*P		P		22 56 57.7	+0.1	
	comp=Z,85nm,0.8s									
BKNI	**Bangkinang**	85.15	272	⇑P		P		22 56 58.3	+0.8	
	baz=85									
034A	**Hebbronville**	85.17	60	⇑P		P		22 56 57.6	+0.3	
	baz=85									
632A	**Uvalde**	85.17	57	⇓P		P		22 56 57.6	+0.3	
	baz=85									
EGAK	**Eagle**	85.19	14	*e*P		P		22 56 56.6	+0.1	
	comp=Z,65nm,0.9s									
K21A	**Alcova**	85.23	43	⇓P		P		22 56 57.7	+0.2	
	baz=86,SNR=16									
GCMT	**Greycliff**	85.23	39	*e*P		P		22 56 58.4	+1.0	
R25A	**Fountain Ranch**	85.24	48	⇓P		P		22 56 58.3	+0.7	
	baz=86									
X28A	**Dimmitt**	85.25	52	⇑P		P		22 56 57.8	+0.1	
	baz=86									
733A	**Divot King Ran**	85.27	58	⇓P		P		22 56 58.0	+0.2	
	baz=86									
V27A	**Dan Oppiter Fa**	85.28	51	⇑P		P		22 56 58.2	+0.4	
	baz=86									
I20A	**Worland**	85.29	41	⇑P		P		22 56 57.9	+0.2	
	baz=86,SNR=13									
N23A	**Red Feather La**	85.30	45	⇑P		P		22 56 58.7	+0.7	
	baz=86,SNR=6.0									
532A	**Rocksprings**	85.31	57	⇑P		P		22 56 58.4	+0.4	
	baz=86,SNR=9.2									
T26A	**Comanche Natio**	85.32	49	⇑P		P		22 56 57.9	-0.2	
	baz=86									
331A	**San Angelo**	85.35	56	⇓P		P		22 56 58.8	+0.6	
	baz=86,SNR=7.2									
Y29A	**Porterfield Fa**	85.38	53	⇓P		P		22 56 58.9	+0.5	
	baz=86,SNR=8.6									
130A	**Snyder**	85.43	54	⇑P		P		22 56 59.2	+0.7	
	baz=86,SNR=7.1									
J21A	**Lysite**	85.44	42	⇑P		P		22 56 59.3	+0.8	
	baz=86,SNR=23									
035Z	**Hargill**	85.46	61	⇓P		P		22 56 59.2	+0.4	
	baz=86									
L22A	**Ellis Ranch, M**	85.49	44	⇑P		P		22 56 59.7	+0.8	
	baz=86,SNR=6.5									
934A	**Benavides**	85.50	60	⇑P		P		22 56 59.2	+0.3	
	baz=86									
JCT	**Junction City**	85.53	56	⇑P		P		22 56 59.6	+0.5	
	baz=86									
W28A	**Vega**	85.54	51	⇓P		P		22 56 59.5	+0.4	
	baz=86									
O24A	**Longmont**	85.55	46	⇓P		P		22 56 59.7	+0.6	
	baz=86									
U27A	**Thompson Grove**	85.56	50	⇓P		P		22 56 59.4	+0.2	
	baz=86									
Z30A	**Sanderson Ranc**	85.57	53	⇓P		P		22 56 59.5	+0.3	
	baz=86,SNR=12									
Q25A	**Bedland, Calha**	85.60	47	⇑P		P		22 57 00.0	+0.6	
	baz=86									
S26A	**Kim**	85.60	49	⇓P		P		22 56 59.9	+0.5	
	baz=86									

R27A **Eads** 86.36 48 ⇓P P 22 57 03.5 +0.5
baz=87
IPM **Ipoh** 86.37 276 *e*P P 22 57 04.3 +0.7
T28A **Walsh** 86.37 50 ⇓P P 22 57 03.4 +0.2
baz=87
D19A **Cripps Ranch,** 86.39 38 ⇑P P 22 57 03.7 +0.7
baz=87,SNR=15
534A **Blanco** 86.42 57 ⇑P P 22 57 04.0 +0.5
baz=87,SNR=14
ABTX **Abilene, Hawle** 86.47 55 *e*P P 22 57 04.1 +0.5
ABTX **Abilene, Hawle** 86.47 55 ⇑P P 22 57 04.2 +0.5
baz=87,SNR=21
333A **Richland Sprin** 86.50 56 ⇓P P 22 57 04.4 +0.6
baz=87,SNR=11
Y31A **Rekieta Farm,** 86.50 53 ⇓P P 22 57 04.6 +0.8
baz=87
E20A **Meyer Farm, Mu** 86.52 39 ⇓P P 22 57 04.2 +0.6
baz=87
C19A **Slack Wire Ran** 86.57 38 ⇑P P 22 57 04.6 +0.8
baz=87,SNR=25
S28A **Manter** 86.72 49 ⇓P P 22 57 05.2 +0.4
baz=87
635A **Leesville** 86.76 58 ⇓P P 22 57 05.4 +0.3
baz=87
D20A **Manuel Ranch,** 86.80 39 ⇓P P 22 57 05.6 +0.7
baz=87,SNR=14
F21A **Absaloka Mine,** 86.81 40 ⇓P P 22 57 05.6 +0.5
baz=87
M25A **Palm-Egli Farm** 86.82 45 ⇓P P 22 57 06.0 +0.6
baz=87
233A **Rising Star** 86.82 55 ⇑P P 22 57 05.6 +0.2
baz=87,SNR=8.1
Z32A **Haskell** 86.85 54 ⇓P P 22 57 05.8 +0.3
baz=87,SNR=22
434A **Burnet** 86.88 57 ⇑P P 22 57 05.8 +0.1
baz=87,SNR=24
KULM **Kulim** 86.96 276 ⇓P P 22 57 07.0 +0.6
B19A **Brinkman Farms** 86.98 37 ⇑P P 22 57 06.5 +0.7
baz=87,SNR=6.9
I23A **Meade Ranch, G** 87.00 42 ⇓P P 22 57 06.7 +0.6
baz=87
133A **Hamilton Ranch** 87.03 55 ⇓P P 22 57 06.5 +0.2
baz=87,SNR=8.3
EDM **Edmonton** 87.08 32 *e*P P 22 57 05.8 -0.4
EDM **Edmonton** 87.08 32 *e*P P 22 57 05.8 -0.4
R28A **Tribune** 87.09 49 ⇓P P 22 57 06.7 +0.1
baz=87,SNR=7.6
334A **Lometa** 87.09 56 ⇑P P 22 57 07.1 +0.4
baz=87,SNR=21
ENH **Enshi** 87.11 303 *e*P P 22 57 07.0 +0.1
comp=Z,30nm,1.1s
Y32A **R-V Farms, Ver** 87.15 53 ⇑P P 22 57 07.8 +0.9
baz=87
C20A **Veseth Ranch,** 87.17 38 ⇓P P 22 57 07.4 +0.7
baz=87,SNR=8.2
E21A **Keefer Ranch,** 87.17 40 ⇑P P 22 57 07.4 +0.7
baz=87
L25A **Engebretsen Ra** 87.19 44 Pb PP 23 00 33.0 +0.8
baz=1.8
F22A **Rosebud** 87.32 40 ⇑P PP 23 00 35.6 +2.4
baz=2.2
A19A **Klindworth Far** 87.33 37 ⇑P P 22 57 07.8 +0.3
baz=88,SNR=16
O27A **Beecher Island** 87.37 47 ⇓P P 22 57 08.2 +0.3
baz=88
Z33A **Whitaker Ranch** 87.40 54 ⇑P P 22 57 08.4 +0.3
baz=88,SNR=6.5
234A **Clairette** 87.42 56 ⇓P P 22 57 08.2 0.0
baz=88,SNR=7.8
X32A **Elmer** 87.42 53 ⇓P P 22 57 08.7 +0.4
baz=88
D21A **La Casta Ranch** 87.47 39 ⇑P P 22 57 09.0 +0.8
baz=88,SNR=7.6
B20A **Solberg Farm,** 87.51 38 ⇑P P 22 57 08.8 +0.4
baz=88,SNR=10
G23A **Biddle** 87.60 41 ⇓P P 22 57 09.3 +0.4
baz=88
P28A **Saint Francis** 87.63 47 ⇑P P 22 57 09.6 +0.4
baz=88
134A **White-Moore Ra** 87.67 55 ⇓P P 22 57 09.6 +0.1
baz=88,SNR=5.6
335A **Moody** 87.72 56 ⇑P P 22 57 09.8 +0.1
baz=88
W32A **Sentinel** 87.72 52 ⇓P P 22 57 10.3 +0.7
baz=88
LAO **LASA Array** 87.76 40 *e*P P 22 57 10.8 +1.2
comp=Z,32nm,1.0s
A20A **Cobblestone Ra** 87.78 37 ⇓P P 22 57 10.0 +0.4
baz=88,SNR=25
E22A **Miles City** 87.82 40 P P 22 57 10.1 +0.3
baz=88
F23A **Volborg** 87.83 41 ⇓P P 22 57 09.9 -0.1
baz=88
F23A **Volborg** 87.83 41 P PP 23 00 33.6 -3.6
baz=2.0,SNR=9.1
J25A **Sunshine Ranch** 87.83 43 ⇑P P 22 57 09.9 -0.2
baz=88
PSI **Prapat** 87.89 274 ⇓P P 22 57 11.0 -0.1
baz=88,SNR=17
Q29A **Oakley** 87.91 48 ⇓P P 22 57 10.6 +0.1
baz=88
HIA **Hailar** 87.93 323 *e*P P 22 57 09.5 -0.8
comp=Z,19nm,0.7s
H24A **Dirks Ranch, A** 87.93 42 ⇓P P 22 57 10.1 -0.4
baz=88,SNR=8.6
K26A **Motz Farm, Whi** 87.95 44 P P 22 57 10.4 -0.2
baz=88
WHTX **Lake Whitney** 87.95 56 ⇑P P 22 57 11.1 +0.4
baz=88
RSSD **Black Hills** 87.99 43 *e*P P 22 57 10.4 -0.6
RSSD pmax pmax
comp=Z,9.0nm,0.6s
RSSD **Black Hills** 87.99 43 *e*P P 22 57 10.4 -0.6
comp=Z,9.2nm,0.6s
D22A **Cohagen** 88.00 39 ⇑P P 22 57 10.8 +0.1
baz=88,SNR=6.5
B21A **Ellsworth Farm** 88.10 38 ⇓P P 22 57 11.8 +0.7
baz=88
GYA **Guiyang** 88.11 298 P P 22 57 12.0 +0.2
GYA pP **pP** 22 57 36.4 +1.0
GYA sP **sP** 22 57 46.4 +1.6
GYA PP **PP** 23 00 42.3 +2.3
GYA SKS **SKSac** 23 07 31.2 -1.7
GYA S **S** 23 07 46.8 -2.3
GYA sS **sS** 23 08 28.0 -1.5
GYA SS **SS** 23 13 41.4 +1.5
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,580nm,22.6s
GYA LR LR
comp=Z,520nm,23.0s
GYA LR LR
comp=Z,540nm,22.9s
I25A **Rochford** 88.15 43 ⇑P P 22 57 11.4 -0.3
baz=88,SNR=7.9
T31A **Randall Ranch,** 88.15 50 ⇑P P 22 57 11.7 +0.1
baz=88
R30A **Dighton** 88.17 49 ⇓P P 22 57 11.8 +0.1
baz=88
J26A **Sides Ranch, S** 88.28 44 ⇑P P 22 57 12.6 +0.5
baz=88
A21A **Bergtoll Ranch** 88.41 37 ⇓P P 22 57 12.9 +0.3
baz=89,SNR=11
Y34A **Reagan Ranch,** 88.43 54 ⇓P P 22 57 13.4 +0.4
baz=89
C22A **Vida** 88.45 39 ⇓P P 22 57 13.0 +0.1
baz=89
Q30A **Quinter** 88.48 49 ⇓P P 22 57 13.3 +0.1
baz=89
F24A **Ekalaka** 88.48 41 ⇑P P 22 57 14.0 +0.9
baz=89
H25A **Fruitdale** 88.49 42 ⇑P P 22 57 13.3 +0.1
baz=89
S31A **Mullinville** 88.49 50 ⇑P P 22 57 13.7 +0.5
baz=89
O29A **4D Ranch, Culb** 88.53 47 ⇑P P 22 57 13.6 +0.3
baz=89
HKT **Hockley** 88.53 58 *e*P P 22 57 16.0 +2.5
HKT pmax pmax
comp=Z,53nm,2.1s
HKT **Hockley** 88.53 58 *e*P P 22 57 16.0 +2.5
comp=Z,52nm,2.1s
D23A **Lindsay** 88.60 40 ⇓P P 22 57 14.2 +0.6
baz=89,SNR=6.1

X34A **Smith Ranch, M** 88.60 53 ⇑P P 22 57 14.4 +0.5
baz=89
B22A **Reddig Ranch S** 88.64 38 ⇓P P 22 57 14.3 +0.6
baz=89
P30A **Selden** 88.69 48 ⇑P P 22 57 14.4 +0.2
baz=89
V33A **Lossen Ranch,** 88.71 52 ⇑P P 22 57 15.2 +0.9
baz=89
T32A **Huddler Ranch,** 88.74 51 ⇑P P 22 57 15.2 +0.8
baz=89
GSI **Gunungsitoli** 88.75 272 *e*P P 22 57 16.3 +1.3
SLVN **Son La** 88.83 293 *e*P P 22 57 15.1 -0.1
comp=Z,72nm,1.6s
E24A **Baker** 88.89 40 ⇓P P 22 57 15.4 +0.4
baz=89
C23A **Lambert** 88.90 39 ⇓P P 22 57 15.7 +0.8
baz=89,SNR=11
XAN **Xi'an** 88.91 306 P P 22 57 15.6 +0.3
XAN pmax pmax
comp=Z,10.0nm,1.7s
XAN pmax pmax
comp=Z,52nm,4.9s
J27A **Elkhorn Farm,** 88.96 44 ⇑P P 22 57 15.6 +0.2
baz=89
A22A **Carney Farms,** 89.00 38 ⇓P P 22 57 15.7 +0.2
baz=89,SNR=5.7
PLCA **Paso Flores** 89.06 132 LR LR 23 29 50.0
comp=Z,163nm,20.1s,baz=282,slow=30
D24A **Glendive** 89.12 40 ⇓P P 22 57 16.6 +0.6
baz=89,SNR=7.7
F25A **Bowman** 89.14 41 ⇑P P 22 57 16.6 +0.4
baz=89
CLNS **Chul'man** 89.16 331 *e*P P 22 57 15.7 -0.2
CLNS pmax pmax
comp=Z,29nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.2s
K28A **Ten Mile Ranch** 89.17 45 ⇓P P 22 57 16.7 +0.4
baz=89
C24A **Savage** 89.24 39 ⇑P P 22 57 17.1 +0.6
baz=90,SNR=8.2
I27A **Quinn** 89.27 43 ⇓P P 22 57 17.3 +0.6
baz=90
B23A **Brockton** 89.31 38 ⇑P P 22 57 17.6 +0.8
baz=90,SNR=16
R32A **Long Quarter,** 89.36 49 ⇓P P 22 57 17.8 +0.5
baz=90,SNR=5.7
H27A **Howes** 89.48 43 ⇓P P 22 57 18.5 +0.8
baz=90
U34A **Anderson Ranch** 89.50 52 ⇑P P 22 57 18.5 +0.6
baz=90
HHC **Hu-ho-hao-te** 89.50 313 *i*P P 22 57 17.8 -0.2
HHC PP **PP** 23 00 49.8 -1.0
HHC S **S** 23 08 04.7 +3.1
HHC pmax pmax
comp=N,72nm,0.9s
HHC LR LR
comp=N,250nm,16.2s
HHC LR LR
comp=N,240nm,16.2s
HHC LR LR
comp=N,210nm,24.5s
L29A **Maesberg Ranch** 89.51 46 ⇓P P 22 57 18.5 +0.5
baz=90
J28A **Allard Ranch,** 89.54 44 ⇓P P 22 57 18.5 +0.5
baz=90
O31A **Woolen Ranch,** 89.57 48 ⇓P P 22 57 18.8 +0.5
baz=90
A23A **Redstone** 89.60 38 ⇓P P 22 57 19.0 +0.9
baz=90
F26A **Lodgepole** 89.61 42 ⇑P P 22 57 18.6 +0.3
baz=90
Q32A **Meitler Ranch,** 89.68 49 ⇓P P 22 57 19.2 +0.4
baz=90
D25A **Fairfield** 89.75 40 ⇓P P 22 57 19.7 +0.8
baz=90,SNR=6.2
DGMT **Dagmar** 89.79 39 *e*P P 22 57 20.0 +0.9
comp=N,79nm,1.0s
DGMT **Dagmar** 89.79 39 ⇓P P 22 57 19.9 +0.9
baz=90,SNR=15
I28A **Midland** 89.82 44 ⇓P P 22 57 20.1 +0.8
baz=90
INK **Inuvik** 89.84 14 *e*P P 22 57 18.2 -0.5
INK **Inuvik** 89.84 14 P P 22 57 18.2 -0.5
comp=N,28nm,1.0s,baz=218,slow=5.9,SNR=31
R33A **Olander Ranch,** 89.85 50 ⇑P P 22 57 20.0 +0.4
baz=90
G27A **Dupree** 89.88 42 ⇓P P 22 57 19.9 +0.3
baz=90
K29A **Lazy Trails An** 89.90 45 ⇑P P 22 57 20.4 +0.6
baz=90
L30A **Spencer Herefo** 89.99 46 ⇓P P 22 57 20.5 +0.3
baz=90
E26A **Carlson Angus** 90.00 41 ⇑P P 22 57 20.7 +0.5
baz=90
A24A **Westby** 90.10 38 ⇑P P 22 57 20.8 +0.3
baz=90,SNR=8.8
J29A **Okreek** 90.14 44 ⇓P P 22 57 21.2 +0.4
baz=90
YAK **Yakutsk** 90.17 337 *e*P P 22 57 16.7 -3.7
YAK pmax pmax
comp=Z,24nm,1.0s
H28A **Mission Ridge** 90.19 43 ⇑P P 22 57 21.5 +0.5
baz=90
Q33A **Connelly Farm,** 90.21 49 ⇑P P 22 57 21.1 -0.1
baz=90
D26A **Manning** 90.25 40 ⇑P P 22 57 21.6 +0.3
baz=90,SNR=8.0
B25A **Knox Farm, Ray** 90.33 39 ⇑P P 22 57 21.8 +0.2
baz=91
K30A **Basset** 90.34 45 ⇑P P 22 57 22.4 +0.6
baz=91
I29A **Vivian Onida** 90.40 44 ⇓P P 22 57 22.3 +0.2
baz=91
J30A **Dallas** 90.67 45 ⇓P P 22 57 22.9 -0.4
baz=91
H29A **Onida** 90.70 43 ⇓P P 22 57 23.1 -0.2
baz=91
C26A **Wahner Farm, P** 90.79 40 ⇓P P 22 57 23.8 +0.1
baz=91
KMI **Kunming** 91.03 296 ⇓P P 22 57 27.1 +1.5
KMI S **S** 23 08 22.1 +5.6
KMI pmax pmax
comp=Z,29nm,1.4s
KMI pmax pmax
comp=Z,170nm,3.8s
KMI LR LR
comp=Z,110nm,29.1s
SYO **Syowa Base** 91.05 192 ⇓*e*P P 22 57 23.6 -1.0
C27A **Sayler Ranch,** 91.11 40 ⇑P P 22 57 25.9 +0.7
baz=91
KSU1 **Kansas State U** 91.14 49 ⇓P P 22 57 25.5 0.0
baz=91
A26A **Wade Farm, Ken** 91.27 39 ⇓P P 22 57 26.3 +0.4
baz=92
SNAA **Sanae** 91.50 177 *e*P P 22 57 26.7 -0.1
comp=Z,9.1nm,1.0s
YKA **Yellowknife Ar** 91.70 24 P P 22 57 27.3 -0.2
YKA PKKP **PKKPdf** 23 14 45.2 -1.1
YKA **Yellowknife Ar** 91.70 24 P P 22 57 27.3 -0.2
comp=Z,3.9nm,0.7s,baz=239,slow=4.2,SNR=63
YKA PKKP **PKKPdf** 23 14 45.2 -1.1
comp=Z,0.2nm,0.4s,baz=43,slow=2.2,SNR=10
YKB5 **Yellowknife Ar** 91.70 24 *e*P P 22 57 25.8 -1.7
CD2 **Chengdu** 91.97 302 ⇑*i*P P 22 57 30.7 +1.1
CD2 PP **PP** 23 01 12.8 +2.3
CD2 S **S** 23 08 30.1 +5.7
CD2 pmax pmax
comp=Z,10.0nm,1.3s
CD2 pmax pmax
comp=Z,130nm,6.0s
CD2 LR LR
comp=Z,120nm,16.6s
CD2 LR LR
comp=Z,250nm,15.5s
MDND **Maddock** 92.34 41 *e*P P 22 57 31.4 +0.5
MDND **Maddock** 92.34 41 ⇑P P 22 57 30.8 -0.1
baz=93
A28A **Rude Farm, Bot** 92.34 39 ⇑P P 22 57 30.9 0.0
baz=93
CM01 **Chiang Mai Arr** 92.38 288 *e*P P 22 57 33.1 +1.4
CMAR **Chiang Mai Arr** 92.41 288 P P 22 57 33.2 +1.3
CMAR PP **PP** 23 01 16.4 +2.3
CMAR **Chiang Mai Arr** 92.41 288 P P 22 57 33.2 +1.3
comp=Z,11nm,0.8s,baz=106,slow=2.5,SNR=58

CMAR PP **PP** 23 01 16.4 +2.3
comp=Z,0.7nm,0.3s,baz=100,slow=10,SNR=4.0
CMAR LR LR 23 34 52.9
comp=Z,49nm,19.4s,baz=351,slow=33
CHTO **Chiang Mai** 92.51 289 *e*P P 22 57 33.4 +1.0
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO **Chiang Mai** 92.51 289 *e*P P 22 57 33.4 +1.0
comp=Z,4.2nm,0.7s
D30A **Buchanan** 92.59 41 ⇓P P 22 57 31.7 -0.4
baz=93
B29A **Wagenman Farm,** 92.73 40 ⇑P P 22 57 32.6 -0.1
baz=93
ECSD **EROS Data Cent** 92.77 45 *e*P P 22 57 32.6 -0.4
comp=Z,24nm,1.5s
ECSD **EROS Data Cent** 92.77 45 ⇓P P 22 57 33.2 +0.2
baz=93
A29A **Manning Farm,** 92.98 40 ⇓P P 22 57 33.1 -0.7
baz=93
C30A **Mose, Pekin** 92.98 41 ⇑P P 22 57 33.0 -0.8
baz=93
B30A **Myrvik Farm, E** 93.36 40 ⇓P P 22 57 35.0 -0.6
baz=94
LZH **Lanzhou** 93.52 307 ⇑P P 22 57 37.8 +1.0
LZH pP **pP** 22 58 01.7 +1.2
LZH sP **sP** 22 58 11.2 +1.3
LZH PP **PP** 23 01 25.0 +2.3
LZH SKS **SKSac** 23 08 02.0 -1.6
LZH S **S** 23 08 34.1 -4.1
LZH sS **sS** 23 09 15.9 -3.1
LZH SS **SS** 23 14 55.7 -2.0
LZH pmax pmax
comp=Z,35nm,1.5s
LZH pmax pmax
comp=Z,120nm,7.2s
LZH LR LR
comp=Z,240nm,14.7s
LZH LR LR
comp=Z,190nm,15.0s
LZH LR LR
comp=Z,340nm,19.6s
A30A **Hoffart Farm,** 93.55 40 ⇓P P 22 57 35.7 -0.8
baz=94
AGMN **Agassiz Nation** 94.84 41 *e*P P 22 57 41.6 -0.8
comp=Z,26nm,1.2s
AGMN **Agassiz Nation** 94.84 41 ⇑P P 22 57 41.3 -1.0
baz=95
ULN **Ulaanbaatar** 95.05 318 *e*P P 22 57 42.4 -1.1
comp=Z,8.9nm,0.8s
SONA1 **Songino Array** 95.46 318 *e*P P 22 57 44.5 -0.9
SONM **Songino Array** 95.46 318 P P 22 57 44.9 -0.4
SONM PP PP 23 01 31.7 -5.8
SONM PKiKP **PKiKP** 23 02 24.8 -0.5
SONM **Songino Array** 95.46 318 P P 22 57 44.9 -0.4
comp=Z,3.0nm,0.7s,baz=124,slow=3.1,SNR=25
SONM PP PP 23 01 31.7 -5.8
comp=Z,3.1nm,1.2s,baz=121,slow=5.7,SNR=8.4
SONM PKiKP **PKiKP** 23 02 24.8 -0.5
comp=Z,0.5nm,0.9s,baz=121,slow=2.0,SNR=2.4
ULM **Lac du Bonnet** 95.49 39 P P 22 57 44.5 -0.8
ULM **Lac du Bonnet** 95.49 39 P P 22 57 44.5 -0.8
comp=Z,7.5nm,1.0s,baz=210,slow=4.6,SNR=7.1
ULM LR LR 23 38 05.7
comp=Z,181nm,18.1s,baz=300,slow=34
SPMN **St. Paul** 95.84 45 *e*P P 22 57 47.2 +0.2
comp=Z,30nm,1.1s
SPMN **St. Paul** 95.84 45 P P 22 57 46.4 -0.6
baz=96
TIXI **Tiksi** 96.21 344 ⇑*i*P P 22 57 47.3 -0.7
TIXI pmax pmax
comp=Z,15nm,1.3s
TIXI MLR MLR
comp=Z,741nm,18.0s
TIXI **Tiksi** 96.21 344 *e*P P 22 57 46.2 -1.8
comp=Z,16nm,1.1s
GTA **Gaotai** 97.54 309 *e*P Pdif 22 57 55.4 +0.3
GTA pmax pmax
comp=Z,6.0nm,1.2s
ZAK **Zakamensk** 98.18 320 *e*P P 22 57 56.6 -1.0
ZAK pmax pmax
comp=Z,2.0nm,1.8s
FCC **Fort Churchill** 99.18 31 *e*P Pdif 22 58 01.2 -0.5
FCC **Fort Churchill** 99.18 31 *e*P Pdif 22 58 01.2 -0.5
WMQ **Urumqi** 107.30 311 Pdif Pdif 22 58 40.0 +1.7
WMQ PP PP 23 03 17.4 +11
WMQ **Urumqi** 107.30 311 SS SS 23 18 15.4 +6.5
WMQ AMB AMB
comp=Z,7.0nm,9.4s
WMQ **Urumqi** 107.30 311 Pdif Pdif 22 58 37.3 -1.0
WMQ PP PP 23 03 08.4 +1.7
WMQ LR LR
comp=Z,72nm,37.4s
ZALV **Zalesovo Beam** 109.94 322 PKiKP **PKiKP** 23 02 50.1 -1.1
ZALV PP PP 23 03 22.7 -2.6
ZALV **Zalesovo Beam** 109.94 322 PKiKP **PKiKP** 23 02 50.1 -1.1
comp=Z,2.8nm,0.6s,baz=75,slow=1.7,SNR=13
ZALV PP PP 23 03 22.7 -2.6
comp=Z,0.8nm,0.6s,baz=79,slow=7.5,SNR=3.8
MK31 **Makanchi Array** 111.34 314 *e*PKiKP **PKiKP** 23 02 53.0 -1.2
MKAR **Makanchi Array** 111.34 314 Pdif **Pdif** 22 58 57.4 +1.3
MKAR PKiKP **PKiKP** 23 02 53.4 -0.8
MKAR PP **PP** 23 03 31.0 -4.8
MKAR **Makanchi Array** 111.34 314 Pdiff **Pdif** 22 58 57.4 +1.3
comp=Z,0.4nm,0.8s,baz=62,slow=5.1,SNR=4.2
MKAR PKiKP **PKiKP** 23 02 53.4 -0.8
comp=Z,5.6nm,0.6s,baz=149,slow=0.8,SNR=51
MKAR PP **PP** 23 03 31.0 -4.8
comp=Z,2.1nm,0.7s,baz=93,slow=0.7,SNR=6.6
KURK **Kurchatov** 113.77 318 *e*PKiKP **PKiKP** 23 02 57.2 -1.4
KURK PP **PP** 23 03 49.2 -3.6
KURBB **Kurchatov Arra** 113.83 318 PP PP 23 03 49.2 -4.1
comp=Z,2.4nm,1.0s,baz=93,slow=7.4,SNR=6.1
KSH **Kashi** 115.77 306 *e*PKP **PKPdf** 23 03 04.2 +1.2
KSH *e*PP PP 23 04 14.1 +6.6
KSH *e*SS SS 23 20 09.6 +7.6
KSH LR LR
comp=Z,170nm,4.9s
KSH LR LR
comp=Z,170nm,5.9s
KSH LR LR
comp=Z,160nm,6.1s
SPITS **Spitsbergen Ar** 118.43 358 PKP **PKPdf** 23 03 05.8 -1.2
SPITS **Spitsbergen Ar** 118.43 358 PKP **PKPdf** 23 03 05.8 -1.2
comp=Z,14nm,0.9s,baz=35,slow=7.8,SNR=4.5
BRVK **Borovoye** 118.64 322 *d*iPKiKP **PKPdf** 23 03 07.2 -0.8
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK **Borovoye** 118.64 322 *e*PKPdf **PKPdf** 23 03 07.1 -0.8
SUMG **Summit** 118.76 14 *i*PKiKP **PKPdf** 23 03 07.8 -0.4
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG **Summit** 118.76 14 *i*P **PKPdf** 23 03 07.8 -0.4
comp=Z,4.7nm,1.0s
KKAR **Karatay Array** 119.78 310 *e*PKiKP **PKPdf** 23 03 09.4 -1.1
KKAR **Karatay Array** 119.78 310 *e*PKPdf **PKPdf** 23 03 09.4 -1.1
SVE **Sverdlovsk** 122.98 328 *e*PKiKP **PKPdf** 23 03 15.9 -0.3
SVE pmax pmax
comp=Z,20nm,1.1s
SOKR **Solikamsk** 123.72 332 *c i*PKiKP **PKPdf** 23 03 17.2 -0.2
SOKR pmax pmax
comp=Z,30nm,1.3s
SCO **Scoresbysund** 123.78 11 *i*PKiKP **PKPdf** 23 03 17.1 -0.2
SCO pmax pmax
comp=Z,7.0nm,0.9s
SCO **Scoresbysund** 123.78 11 *i*P **PKPdf** 23 03 17.1 -0.2
comp=Z,7.4nm,0.9s
ARU **Arti** 124.20 328 *i*PKiKP **PKPdf** 23 03 18.0 -0.5
ARU 23 05 04.2
ARU 23 10 17.5
ABKAR **Akbulak array** 125.86 319 *e*PKPdf **PKPdf** 23 03 21.0 -1.0
ARCES **ARCESS Array B** 125.94 352 PKP **PKPdf** 23 03 21.1 -0.4
ARCES **ARCESS Array B** 125.94 352 PKP **PKPdf** 23 03 21.1 -0.4
comp=Z,15nm,0.8s,baz=358,slow=1.1,SNR=20
PRGR **Permogore** 127.21 337 *e*PKiKP **PKPdf** 23 03 22.3 -1.8
PRGR pmax pmax
comp=Z,21nm,1.0s
FINES **FINESS Array B** 133.19 347 PKPpre PKPpre 23 03 26.8
FINES PKP **PKPdf** 23 03 35.7 +0.2
FINES **FINESS Array B** 133.19 347 PKhKP PKPpre 23 03 26.8
comp=Z,0.7nm,0.4s,baz=17,slow=3.3,SNR=8.3
FINES PKP **PKPdf** 23 03 35.7 +0.2
comp=Z,4.8nm,0.7s,baz=48,slow=2.5,SNR=17
OBN **Obninsk** 135.15 335 *i*PKiKP **PKPdf** 23 03 37.6 -1.7
OBN *e* 23 06 19.0
OBN pmax pmax

	comp=Z,33nm,1.2s						
OBN	**Obninsk**	**135.15 335**	*e*PKPdf	**PKPdf**	**23 03 37.6**	**-1.7**
VRHR	**Novokhopersk**	**135.53 328**	*e*PKIKP	**PKPdf**	**23 03 39.0**	**-1.2**
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VRHR			pmax	pmax		
	comp=N,10.0nm,1.6s					
VRHR			pmax	pmax		
	comp=E,7.0nm,0.7s					
NB2	**NORSAR Subarra**	**135.70 356**	PKP	PKPpre	23 03 26.6	
	comp=Z,6.2nm,1.1s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**135.70 356**	PKP	**PKPdf**	**23 03 40.2**	**-0.1**
NOA	**NORSAR Array B**	**135.70 356**	PKP	**PKPdf**	**23 03 40.2**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=14,slow=3.8,SNR=5.4					
VSR	**Storozhevoye**	**136.67 330**	*e*PKIKP	**PKPdf**	**23 03 41.9**	**-0.4**
VSR			pmax	pmax		
	comp=Z,10.0nm,1.1s					
VSR			pmax	pmax		
	comp=N,4.0nm,0.7s					
VSR			pmax	pmax		
	comp=E,9.0nm,0.9s					
ZEI	**Tsey**	**138.62 317**	*i* PKIKP	**PKPdf**	**23 03 47.7**	**+1.2**
ZEI			pmax	pmax		
	comp=Z,8.0nm,1.3s					
KBZ	**Khabaz**	**138.82 318**	PKHKP	PKPpre	23 03 37.6	
KBZ					23 03 48.3	
KBZ	**Khabaz**	**138.82 318**	PKPpre	PKPpre	23 03 37.6	
KBZ			PKP	**PKiKP**	**23 03 48.2**	**-0.4**
KBZ	**Khabaz**	**138.82 318**	PKhKP	PKPpre	23 03 37.6	
	comp=Z,2.7nm,1.1s,baz=180,slow=4.0,SNR=2.9					
KBZ			PKP	**PKiKP**	**23 03 48.2**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=129,slow=6.5,SNR=4.8					
KIV	**Kislovodsk**	**138.85 319**	*i* PKIKP	**PKPdf**	**23 03 45.9**	**-0.8**
KIV			*e*		23 06 40.8	
KIV			pmax	pmax		
	comp=Z,9.0nm,1.4s					
AGRB	**Hanur-Agry**	**140.62 313**	*e*P	**PKPdf**	**23 03 45.4**	**-4.8**
SOC	**Sochi**	**140.89 320**	*i* PKIKP	**PKPdf**	**23 03 50.7**	**+0.4**
SOC			*e*		23 06 45.7	
SOC			pmax	pmax		
	comp=Z,12nm,0.7s					
CUKT	**Cukurca**	**141.08 309**	*e*P	PKPdf	23 03 44.6	-6.4
LSZ	**Lusaka**	**141.22 216**	*e*PKPpre	PKPpre	23 03 44.6	
AKASG	**Malin Array Be**	**141.39 336**	PKHKP	PKPpre	23 03 43.0	
AKASG	**Malin Array Be**	**141.39 336**	PKPpre	PKPpre	23 03 43.0	
AKASG	**Malin Array Be**	**141.39 336**	PKhKP	PKPpre	23 03 43.0	
	comp=Z,2.0nm,0.5s,baz=39,slow=4.2,SNR=22					
KIEV	**Kiev**	**141.40 336**	*e*PKIKP	**PKPdf**	**23 03 48.6**	**-2.3**
BAYT	**Ayd¨–ntepe-Bay**	**142.22 315**	*e*P	**PKPdf**	**23 03 48.0**	**-5.0**
BNGB	**Bing¨¶l**	**142.50 313**	*e*P	**PKPdf**	**23 03 49.2**	**-4.3**
ILIC	**ilic-Erzincan**	**143.74 315**	*e*P	PKPbc	23 03 54.0	+0.6
MZRK	**Al-Mazaregh**	**143.81 308**	*e*P	PKPbc	23 03 53.6	0.0
SFNV	**Sufian**	**143.99 309**	*e*P	PKPab	23 03 53.6	0.0
LVV	**L'vov**	**143.99 340**	*e*PKIKP	PKPab	23 03 52.8	-0.3
KMBO	**Kilima Mbogo**	**144.27 243**	*e*PKPdf	**PKPdf**	**23 03 56.8**	**-0.7**
KMBO	**Kilima Mbogo**	**144.27 243**	PKP	**PKPdf**	**23 03 57.0**	**-0.6**
	comp=Z,45nm,0.9s,baz=64,slow=5.4,SNR=42					
NRDL	**Niedersach Rie**	**144.28 356**	*e*PKPbc	**PKPab**	**23 03 54.1**	**+0.1**
SVSK	**Karacayir**	**144.55 317**	*e*P	**PKPab**	**23 03 54.6**	**-0.9**
KWP	**Kalwaria Pacla**	**144.57 341**	⇓PKIKP	**PKPab**	**23 03 54.7**	**-0.6**
KWP	**Kalwaria Pacla**	**144.57 341**	*e*PKP	**PKPab**	**23 03 54.6**	**-0.7**
KWP	**Kalwaria Pacla**	**144.57 341**	⇓*i*P	**PKPab**	**23 03 54.7**	**-0.6**
KWP	**Kalwaria Pacla**	**144.57 341**	*e*PKPdf	**PKPab**	**23 03 54.9**	**-0.4**
IBBN	**Ibbenburen**	**144.59 358**	*e*PKPbc	PKPbc	23 03 55.7	+0.3
IAS	**Iasi**	**144.84 334**	⇑PKIKP	**PKPab**	**23 03 55.5**	**-0.8**
IAS	**Iasi**	**144.84 334**	⇑*i*P	**PKPab**	**23 03 55.5**	**-0.8**
OJC	**Ojcow**	**144.87 344**	*e*PKIKP	**PKPab**	**23 03 56.1**	**-0.3**
OJC	**Ojcow**	**144.87 344**	*e*PKP	**PKPab**	**23 03 56.1**	**-0.3**
DARE	**Darende-Malaty**	**144.90 314**	*e*P	**PKPab**	**23 03 55.8**	**-1.2**
CLZ	**Clausthal**	**144.91 355**	*e*PKPbc	**PKPab**	**23 03 56.4**	**-0.1**
CLZ			*e*pPKPbc	pPKiKP	23 04 34.4	+8.8
WTSB	**Winterswijk**	**144.96 359**	*e*PKP	PKPbc	23 03 56.0	-0.6
KSRV	**Kasrt alli**	**145.03 309**	*e*P	**PKPab**	**23 03 57.5**	**+0.1**
KSP	**Ksiaz**	**145.08 348**	⇓PKIKP	**PKPab**	**23 03 57.1**	**0.0**
KSP	**Ksiaz**	**145.08 348**	*e*PKP	**PKPab**	**23 03 57.1**	**0.0**
LEOM	**Leova**	**145.11 333**	⇓PKIKP	**PKPbc**	**23 03 56.9**	**-0.3**
LEOM	**Leova**	**145.11 333**	⇓*i*P	**PKPbc**	**23 03 56.9**	**-0.3**
CLL	**Collm**	**145.16 352**	⇓*i*PKIKP	**PKPbc**	**23 03 56.8**	**-0.5**
CLL			pmax	pmax		
	comp=Z,90nm,0.9s					
CLL	**Collm**	**145.16 352**	*e*PKPbc	**PKPbc**	**23 03 56.7**	**-0.5**
CLL	**Collm**	**145.16 352**	⇓*i*PKPdf	**PKPbc**	**23 03 56.8**	**-0.5**
	comp=Z,90nm,0.9s					
CLL			*e*pPKiKP	pPKiKP	23 04 34.0	+8.0
CLL			*e*		23 07 03.0	
STHS	**Stebnicka Huta**	**145.21 342**	*e*PKIKP	**PKPdf**	**23 03 57.9**	**+0.1**
STHS	**Stebnicka Huta**	**145.21 342**	*e*PKP	**PKPdf**	**23 03 57.9**	**+0.1**
PRAR	**RASCA**	**145.25 335**	⇓*i*P	**PKPbc**	**23 03 57.1**	**-0.6**
KOLS	**Kolonicke sedl**	**145.32 341**	*e*PKIKP	**PKPbc**	**23 03 57.8**	**-0.1**
KOLS	**Kolonicke sedl**	**145.32 341**	*e*PKP	**PKPbc**	**23 03 57.8**	**-0.1**
RAC	**Raciborz**	**145.39 346**	*e*PKIKP	**PKPab**	**23 03 58.7**	**+0.4**
BUR08	**Bucovina Ar. S**	**145.42 337**	*e*PKPbc	**PKPab**	**23 03 58.6**	**-0.1**
BURAR	**Bucovina Array**	**145.44 337**	⇓PKIKP	**PKPdf**	**23 03 58.3**	**0.0**
BURAR	**Bucovina Array**	**145.44 337**	⇓*i*P	**PKPdf**	**23 03 58.3**	**0.0**
BRG	**Berggiesshubel**	**145.45 351**	⇓*i*PKP	**PKPdf**	**23 03 57.9**	**-0.2**
	comp=Z,155nm,1.5s					
BRG	**Berggiesshubel**	**145.45 351**	⇓*i*PKIKP	**PKPdf**	**23 03 57.9**	**-0.2**
BRG			pmax	pmax		
	comp=Z,155nm,1.5s					
BRG	**Berggiesshubel**	**145.45 351**	*e*PKPbc	**PKPdf**	**23 03 57.8**	**-0.3**
UPC	**Upice**	**145.45 349**	*e*PKIKP	**PKPab**	**23 03 58.4**	**-0.1**
UPC	**Upice**	**145.45 349**	*e*PKP	**PKPab**	**23 03 58.4**	**-0.1**
UPC			*ex*	x	23 04 36.3	
NIE	**Niedzica**	**145.47 343**	*e*PKIKP	**PKPab**	**23 03 58.6**	**-0.1**
NIE	**Niedzica**	**145.47 343**	*e*PKP	**PKPab**	**23 03 58.6**	**-0.1**
BUG	**Bochum--Univer**	**145.47 358**	*e*PKPbc	**PKPbc**	**23 03 58.2**	**0.0**
JHLN	**Al Jahlan**	**145.53 309**	*e*P	PKPab	23 04 07.3	+8.0
DPC	**Dobruska-Polom**	**145.54 348**	*i* PKIKP	**PKPab**	**23 03 59.0**	**+0.1**
DPC	**Dobruska-Polom**	**145.54 348**	*i* PKP	**PKPab**	**23 03 59.0**	**+0.1**
DPC			*ex*	x	23 04 36.4	
UZH	**Uzhgorod**	**145.58 341**	⇓*i*PKIKP	**PKPab**	**23 03 58.9**	**-0.1**
UZH			*i*		23 04 06.7	
CRVS	**Cervenica-Dubn**	**145.60 342**	*e*PKIKP	**PKPab**	**23 03 59.1**	**0.0**
CRVS	**Cervenica-Dubn**	**145.60 342**	*e*PKP	**PKPab**	**23 03 59.1**	**0.0**
OKC	**Ostrava-Krasne**	**145.63 346**	*e*PKIKP	**PKPab**	**23 03 59.0**	**-0.2**
OKC	**Ostrava-Krasne**	**145.63 346**	*e*PKP	**PKPab**	**23 03 59.0**	**-0.2**
OKC			*ex*	x	23 04 36.7	
PVCC	**Panska Ves**	**145.69 350**	*e*PKIKP	**PKPab**	**23 03 59.3**	**-0.1**
PVCC	**Panska Ves**	**145.69 350**	*e*PKP	**PKPab**	**23 03 59.3**	**-0.1**
PVCC			*ex*	x	23 04 36.6	
KRLC	**Kraliky**	**145.71 348**	*e*PKIKP	**PKPdf**	**23 03 58.4**	**-0.2**
KRLC	**Kraliky**	**145.71 348**	*e*PKP	**PKPdf**	**23 03 58.4**	**-0.2**
KRLC			*ex*	x	23 04 37.2	
TESR	**Tescani**	**145.76 334**	⇓*i*P	**PKPdf**	**23 03 59.0**	**+0.2**
MORC	**Moravsky Berou**	**145.83 347**	⇑PKIKP	**PKPbc**	**23 03 59.7**	**+0.2**
MORC	**Moravsky Berou**	**145.83 347**	⇑*i*P	**PKPbc**	**23 03 59.7**	**+0.2**
MORC	**Moravsky Berou**	**145.83 347**	*e*PKPdf	**PKPdf**	**23 03 58.9**	**0.0**
TLCR		**145.83 331**	⇓PKIKP	**PKPbc**	**23 03 59.3**	**-0.2**
TLCR		**145.83 331**	⇓*i*P	**PKPbc**	**23 03 59.3**	**-0.2**
BNN	**Bunyan**	**145.87 316**	*e*P	**PKPdf**	**23 03 56.6**	**-2.8**
CORM	**Corum**	**145.93 319**	*e*P	**PKPdf**	**23 03 59.7**	**+0.3**
TRPA	**Tarpa**	**145.94 340**	⇓*i*P	**PKPdf**	**23 03 59.0**	**0.0**
TRPA	**Tarpa**	**145.94 340**	⇓*e*		**PKPbc**	**23 03 59.6**	**-0.2**
UBBA	**Unterbreizbach**	**145.95 355**	*e*PKPbc	**PKPbc**	**23 03 59.5**	**-0.1**
BMR	**Baia Mare**	**146.01 339**	⇑PKP2	**PKPbc**	**23 03 59.8**	**-0.3**
BMR	**Baia Mare**	**146.01 339**	⇑*i*P	**PKPbc**	**23 03 59.8**	**-0.3**
TANN	**Tannenbergstha**	**146.10 352**	*e*PKPbc	**PKPbc**	**23 04 00.3**	**0.0**
UCC	**Uccle**	**146.11 2**	PKP	**PKPbc**	**23 04 00.3**	**+0.1**
BEBN	**Eben Emael**	**146.14 0**	PKP	**PKPbc**	**23 04 00.4**	**+0.1**
BEBN			E		23 04 37.0	
PETR	**Petresti**	**146.14 333**	⇓*i*P	**PKPab**	**23 04 01.1**	**-0.1**
CFR	**Carcaliu**	**146.15 331**	⇓*i*P	**PKPdf**	**23 03 58.8**	**-0.6**
PRA	**Prague**	**146.15 350**	PKP	**PKPbc**	**23 04 00.0**	**-0.4**
HGN	**Heimansgroeve**	**146.17 360**	*e*PKP	**PKPbc**	**23 03 59.9**	**-0.5**
	comp=Z,354nm,1.9s					
PRU	**Pruhonice**	**146.21 350**	*e*PKP2	**PKPdf**	**23 03 59.6**	**+0.2**
PRU	**Pruhonice**	**146.21 350**	*e*PKP	**PKPdf**	**23 03 59.6**	**+0.2**
PRU			*ex*	x	23 04 38.1	
MENF	**Mencas**	**146.24 4**	PKP	**PKPbc**	**23 04 00.5**	**-0.1**
VRI	**Vrincioaia**	**146.24 333**	⇓PKP2	**PKPbc**	**23 04 00.7**	**-0.1**
VRI	**Vrincioaia**	**146.24 333**	⇓*i*P	**PKPbc**	**23 04 00.6**	**-0.2**
NKC	**Novy Kostel**	**146.28 352**	*e*PKIKP	**PKPdf**	**23 03 59.7**	**+0.1**
NKC	**Novy Kostel**	**146.28 352**	*e*PKP	**PKPdf**	**23 03 59.7**	**+0.1**
NKC			*ex*	x	23 04 38.5	
PLOR	**Plostina**	**146.29 333**	⇓PKP2	**PKPbc**	**23 04 00.7**	**-0.3**
PLOR	**Plostina**	**146.29 333**	⇓*i*P	**PKPbc**	**23 04 00.7**	**-0.3**
CANT	**Cankiri**	**146.31 320**	*e*P	**PKPdf**	**23 03 57.2**	**-2.8**
MEM	**Membach**	**146.32 360**	PKP	**PKPbc**	**23 04 00.8**	**-0.1**
SNF	**Seneffe**	**146.40 2**	PKP	**PKPbc**	**23 04 01.3**	**+0.2**
VRAC	**Vranov**	**146.47 347**	⇓*i*P	**PKPbc**	**23 04 01.4**	**0.0**
SAFT	**Safranbolu**	**146.48 322**	*e*P	**PKPdf**	**23 04 00.7**	**+0.5**
BCLA	**Clavier**	**146.51 1**	PKP	**PKPbc**	**23 04 01.2**	**-0.2**
BCLA			E		23 04 38.7	
GRER		**146.52 333**	⇑*i*P	**PKPab**	**23 04 02.7**	**0.0**
TIRR	**Tirgusor**	**146.56 330**	⇑PKP2	**PKPbc**	**23 04 01.8**	**0.0**
TIRR	**Tirgusor**	**146.56 330**	⇑*i*P	**PKPbc**	**23 04 01.8**	**0.0**
TIRR	**Tirgusor**	**146.56 330**	*e*PKPdf	**PKPdf**	**23 04 00.1**	**-0.1**
KOZT	**Kozan**	**146.58 314**	*e*P	**PKPdf**	**23 03 58.0**	**-2.5**
HARR	**Harsova**	**146.61 331**	⇓PKIKP	**PKPdf**	**23 04 00.6**	**+0.4**
HARR	**Harsova**	**146.61 331**	⇓*i*P	**PKPdf**	**23 04 00.6**	**+0.4**
TNS	**Taunus Mts**	**146.65 357**	*e*PKPbc	**PKPbc**	**23 04 01.6**	**-0.3**
TNS			*e*pPKPbc	pPKPbc	23 04 39.1	+13
TREC	**Trest**	**146.71 349**	*e*PKIKP	**PKPdf**	**23 04 00.6**	**+0.3**
TREC			*e*		23 04 02.2	
TREC	**Trest**	**146.71 349**	*e*PKP	**PKPdf**	**23 04 00.6**	**+0.3**
TREC			*ex*	x	23 04 02.2	
TREC			*ex*	x	23 04 39.3	
DOPR	**Dopca**	**146.72 335**	⇓*i*P	**PKPbc**	**23 04 02.7**	**+0.5**
ROTZ	**Rotzenmuhle**	**146.77 353**	*e*PKPbc	**PKPbc**	**23 04 02.6**	**+0.4**
ROTZ			*e*pPKPbc	pPKPbc	23 04 39.5	+13
CJR	**Cluj-Napoca**	**146.79 338**	⇓*i*P	**PKPbc**	**23 04 02.5**	**0.0**
BR131	**Keskin Array S**	**146.81 319**	*e*PKPdf	**PKPdf**	**23 03 59.8**	**-1.2**
BRTR	**Keskin Array B**	**146.81 319**	PKP	**PKPdf**	**23 04 00.1**	**-0.9**
BRTR			PKPbc	**PKPbc**	**23 04 02.5**	**-0.3**
BRTR	**Keskin Array B**	**146.81 319**	PKP	**PKPdf**	**23 04 00.1**	**-0.9**
	comp=Z,45nm,0.9s,baz=108,slow=1.1,SNR=72					
BRTR			PKPbc	**PKPbc**	**23 04 02.5**	**-0.3**
	comp=Z,45nm,0.9s,baz=123,slow=1.8,SNR=120					
BTCH	**Batrach**	**146.82 311**	*e*P	**PKPbc**	**23 04 03.0**	**+0.1**
DOU	**Dourbes**	**146.82 2**	PKP	**PKPbc**	**23 04 02.3**	**0.0**
DOU			E		23 04 39.7	
TAHT	**Tahtakopru-Hat**	**146.86 312**	*e*P	**PKPbc**	**23 04 02.1**	**-0.8**
CEYT	**Ceyhan**	**146.86 313**	*e*P	**PKPbc**	**23 04 02.0**	**-0.9**
MLR	**Muntele Rosu**	**146.87 334**	⇑*i*P	**PKPdf**	**23 04 01.4**	**+0.5**
PGOR	**Pogoanele**	**146.88 332**	⇓*i*P	**PKPab**	**23 04 03.6**	**-0.5**
ISR	**Istrita**	**146.91 333**	⇓PKP2	**PKPbc**	**23 04 03.0**	**+0.2**
ISR	**Istrita**	**146.91 333**	⇓*i*P	**PKPbc**	**23 04 03.0**	**+0.2**
PSZ	**Piszkesteto**	**146.94 343**	⇑PKP2	**PKPbc**	**23 04 01.9**	**-1.0**
PSZ	**Piszkesteto**	**146.94 343**	⇑*i*P	**PKPbc**	**23 04 01.9**	**-1.0**
PSZ	**Piszkesteto**	**146.94 343**	*e*PKPdf	**PKPdf**	**23 03 58.8**	**-2.0**
AMRR	**Amara**	**146.95 331**	⇓PKP2	**PKPbc**	**23 04 03.4**	**+0.5**
AMRR	**Amara**	**146.95 331**	⇓*i*P	**PKPbc**	**23 04 03.4**	**+0.5**
MANR	**Mangalia**	**146.95 329**	⇓*i*P	**PKPbc**	**23 04 03.5**	**+0.6**
RABH	**Abou Rabah**	**146.96 308**	*e*P	**PKPbc**	**23 04 03.8**	**+0.5**
GRF	**Grafenberg Arr**	**146.96 354**	*e*PKPbc	**PKPbc**	**23 04 03.2**	**+0.4**
GRF			*e*pPKPbc	pPKPbc	23 04 39.4	+12
ROSS	**tl_alroos**	**147.00 307**	*e*P	**PKPbc**	**23 04 04.2**	**+0.7**
SMOL	**Smolenice**	**147.04 346**	*e*PKP2	**PKPbc**	**23 04 03.7**	**+0.7**
SMOL	**Smolenice**	**147.04 346**	*e*PKP	**PKPbc**	**23 04 03.7**	**+0.7**
DRGR		**147.04 339**	⇓PKP2	**PKPbc**	**23 04 02.9**	**-0.3**
DRGR		**147.04 339**	⇓*i*P	**PKPbc**	**23 04 02.9**	**-0.3**
MSAB	**Monastry St. A**	**147.12 330**	⇑*i*P	**PKPbc**	**23 04 03.6**	**+0.3**
SECR		**147.18 333**	⇑*i*P	**PKPbc**	**23 04 03.7**	**+0.1**
SLNF	**Slenfeh**	**147.19 311**	*e*P	**PKPab**	**23 04 08.7**	**+2.7**
KHC	**Kasperske Hory**	**147.20 351**	*e*PKIKP	**PKPdf**	**23 04 01.5**	**+0.3**
KHC			*e*		23 04 03.8	
KHC			*e*		23 04 15.5	
KHC	**Kasperske Hory**	**147.20 351**	*e*PKP	**PKPdf**	**23 04 01.5**	**+0.3**
KHC			*ex*	x	23 04 03.8	
KHC			*ex*	x	23 04 15.5	
KHC			*ex*	x	23 04 40.6	
KHC	**Kasperske Hory**	**147.20 351**	*e*PKPdf	**PKPdf**	**23 04 01.1**	**0.0**
KARA	**Karaisali**	**147.22 314**	*e*P	**PKPdf**	**23 03 58.0**	**-3.6**
PSN	**Preselentsi**	**147.25 329**	⇓*i*P	**PKPdf**	**23 03 57.5**	**-3.8**
ARNB	**Al Arnab**	**147.25 311**	*e*P	**PKPbc**	**23 04 04.3**	**+0.2**
ANTO	**Ankara**	**147.26 320**	*e*PKIKP	**PKPdf**	**23 04 01.4**	**+0.2**
ANTO	**Ankara**	**147.26 320**	⇑*i*P	**PKPdf**	**23 04 04.2**	**+0.2**
ANTO	**Ankara**	**147.26 320**	*e*PKPdf	**PKPdf**	**23 04 01.4**	**-0.2**
WLF	**Walferdange**	**147.27 360**	PKP	**PKPbc**	**23 04 04.3**	**+0.7**
WLF			E		23 04 40.4	
WLF	**Walferdange**	**147.27 360**	*e*PKP2	**PKPbc**	**23 04 03.7**	**+0.1**
WLF	**Walferdange**	**147.27 360**	*e*PKPbc	**PKPab**	**23 04 04.6**	**-0.9**
WLF			*e*pPKPbc	pPKPbc	23 04 41.5	+14
WLF	**Walferdange**	**147.27 360**	*e*PKP	**PKPbc**	**23 04 03.7**	**+0.1**
VOIR		**147.29 335**	⇑PKP2	**PKPbc**	**23 04 03.8**	**-0.1**
VOIR		**147.29 335**	⇑*i*P	**PKPbc**	**23 04 03.8**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**147.33 319**	*e*P	**PKPdf**	**23 03 59.6**	**-2.1**
BIDA	**Albida**	**147.37 310**	*e*P	**PKPab**	**23 04 06.7**	**+0.1**
SULR		**147.38 333**	⇑*i*P	**PKPbc**	**23 04 03.7**	**-0.4**
ZALF	**Zalf**	**147.44 305**	*e*P	**PKPbc**	**23 04 04.8**	**+0.1**
MTUR	**Matau**	**147.46 334**	⇓PKP2	**PKPbc**	**23 04 04.8**	**+0.4**
MTUR	**Matau**	**147.46 334**	⇓*i*P	**PKPbc**	**23 04 04.8**	**+0.4**
GEC2	**GERESS Array S**	**147.46 350**	*e*PKPbc	**PKPbc**	**23 04 04.3**	**0.0**
GEC2			*e*pPKPbc	pPKPbc	23 04 41.4	+13
GERES	**GERESS Array B**	**147.46 350**	PKPbc	**PKPbc**	**23 04 04.2**	**0.0**
GERES			PKKP	**PKKPdf**	**23 12 56.9**	**-3.1**
GERES	**GERESS Array B**	**147.46 350**	PKPbc	**PKPbc**	**23 04 04.2**	**0.0**
	comp=Z,20nm,0.8s,baz=20,slow=3.1,SNR=75					
GERES			PKKP	**PKKPdf**	**23 12 56.9**	**-3.1**
	comp=Z,0.4nm,0.8s,baz=90,slow=8.0,SNR=3.5					
ARR	**Arges**	**147.52 335**	⇓*i*P	**PKPdf**	**23 04 02.3**	**+0.4**
HAWK	**Haweek**	**147.52 309**	*e*P	**PKPbc**	**23 04 04.2**	**-0.7**
MARH	**Ras Al Marh**	**147.67 308**	*e*P	**PKPbc**	**23 04 06.3**	**+0.7**
DEV	**Deva**	**147.75 337**	⇑PKP2	**PKPbc**	**23 04 05.2**	**+0.2**
DEV	**Deva**	**147.75 337**	⇑*i*P	**PKPbc**	**23 04 05.2**	**+0.2**
SULT	**Sultanhani-AKS**	**147.76 317**	*e*P	**PKPdf**	**23 04 02.8**	**+0.3**
MERS	**Mersin**	**147.79 314**	*e*P	**PKPdf**	**23 04 03.5**	**+0.9**
LOT	**Lotru**	**147.79 336**	⇓*i*P	**PKPbc**	**23 04 04.7**	**-0.6**
MDUB	**Mudurnu**	**147.85 322**	*e*P	**PKPdf**	**23 04 03.5**	**+0.9**
SIRR	**Siria**	**147.86 339**	⇑*i*P	**PKPbc**	**23 04 05.5**	**+0.1**
CSKK	**Cs˙ákato**	**147.90 344**	⇓*e*		**PKPbc**	**23 04 05.1**	**-0.3**
LANF	**Langenberg**	**147.92 358**	PKP	**PKPbc**	**23 04 05.9**	**+0.5**
CONA	**Conrad Observa**	**147.94 347**	*i* PKPdf	**PKPdf**	**23 04 02.8**	**+0.3**
	comp=Z,12nm,1.4s,SNR=45					
CONA			⇑*i*PKiKP	**PKPbc**	**23 04 06.4**	**+0.8**
	comp=Z,106nm,1.4s					
TOTH	**TOTAH**	**147.98 307**	*e*P	**PKPbc**	**23 04 06.5**	**+0.3**
PRD	**Provadia**	**147.99 330**	⇓PKP2	**PKPbc**	**23 04 06.3**	**+0.6**
SALA	**Sala**	**147.99 305**	*e*P	**PKPbc**	**23 04 06.8**	**+0.4**
SOP	**Sopron**	**148.02 346**	⇓*e*		**PKPbc**	**23 04 05.9**	**+0.2**
STU	**Stuttgart**	**148.05 356**	*e*PKIKP	**PKPdf**	**23 04 02.5**	**0.0**
STU			*e*		23 04 05.9	
STU	**Stuttgart**	**148.05 356**	*e*PKPbc	**PKPbc**	**23 04 06.0**	**+0.2**
STU			*e*pPKPbc	pPKPbc	23 04 43.2	+13
STU	**Stuttgart**	**148.05 356**	*e*PKPdf	**PKPdf**	**23 04 02.5**	**0.0**
STU			*e*PKPbc	**PKPbc**	**23 04 05.8**	**+0.1**
HUMR	**Humele**	**148.05 334**	⇓*i*P	**PKPbc**	**23 04 05.2**	**-0.7**
GZR	**Gura Zlata**	**148.22 337**	⇓PKIKP	**PKPbc**	**23 04 06.0**	**-0.4**
GZR	**Gura Zlata**	**148.22 337**	⇓*i*P	**PKPbc**	**23 04 06.0**	**-0.4**
BZS	**Buzias**	**148.44 339**	⇑PKIKP	**PKPdf**	**23 04 03.3**	**0.0**
BZS	**Buzias**	**148.44 339**	⇑*i*P	**PKPdf**	**23 04 03.3**	**0.0**
FUR	**Furstenfeldbru**	**148.46 353**	*e*PKPbc	**PKPbc**	**23 04 06.9**	**0.0**
FUR			*e*pPKPbc	pPKPbc	23 04 44.3	+13
LADK	**Ladik-KONYA**	**148.50 318**	*e*P	**PKPdf**	**23 04 04.9**	**+1.1**
BFO	**Black Forest**	**148.54 357**	*e*PKIKP	**PKPdf**	**23 04 03.4**	**0.0**
BFO			*e*		23 04 06.7	
BFO	**Black Forest**	**148.54 357**	*e*PKPbc	**PKPbc**	**23 04 07.0**	**+0.4**
BFO			*e*pPKPbc	pPKPbc	23 04 44.5	+13
BFO	**Black Forest**	**148.54 357**	*e*PKPdf	**PKPdf**	**23 04 03.4**	**0.0**
BFO			*e*PKPbc	**PKPbc**	**23 04 06.7**	**-0.4**
ZIMR		**148.58 332**	⇑PKP2	**PKPbc**	**23 04 07.6**	**+0.3**
ZIMR		**148.58 332**	⇑*i*P	**PKPbc**	**23 04 07.6**	**+0.3**
TCHB	**Talchebab**	**148.60 306**	*e*P	**PKPbc**	**23 04 08.8**	**+1.0**
PKS9	**Tamasi**	**148.61 343**	⇓*e*		**PKPbc**	**23 04 06.9**	**-0.4**
ARSA	**Arzberg**	**148.65 347**	⇑*i*PKPdf	**PKPdf**	**23 04 03.5**	**-0.1**
	comp=Z,6.2nm,1.6s					
ARSA			*i* PKPbc	**PKPbc**	**23 04 07.2**	**-0.2**
	comp=Z,41nm,1.2s,SNR=12					
SRE	**Strehaia**	**148.67 336**	⇓PKP2	**PKPbc**	**23 04 08.0**	**+0.5**
SRE	**Strehaia**	**148.67 336**	⇓*i*P	**PKPbc**	**23 04 08.0**	**+0.5**
RJOB	**Jochberg**	**148.68 351**	*e*PKPbc	**PKPbc**	**23 04 07.4**	**-0.1**
RJOB			*e*pPKPbc	pPKPbc	23 04 44.4	+12
IKL	**Isikli**	**148.69 313**	*e*P	**PKPbc**	**23 04 06.3**	**-1.5**
ECH	**Echery**	**148.70 358**	*e*PKIKP	**PKPdf**	**23 04 04.2**	**+0.5**
ECH			*e*		23 04 10.7	
ECH	**Echery**	**148.70 358**	PKP	**PKPbc**	**23 04 07.5**	**0.0**
ECH	**Echery**	**148.70 358**	*e*PKPdf	**PKPdf**	**23 04 04.2**	**+0.5**
ECH			*e*PKPab	**PKPab**	**23 04 10.7**	**-0.6**
THEF	**They Montfort**	**148.71 360**	PKP	**PKPbc**	**23 04 07.8**	**+0.3**
ADVT	**Abdulvahap**	**148.71 324**	*e*P	**PKPdf**	**23 04 04.9**	**+1.0**
BGKT	**Bogazkoy**	**148.74 326**	*e*P	**PKPdf**	**23 04 04.1**	**+0.3**
CTKS	**Kestanelik-??a**	**148.85 326**	*e*P	**PKPbc**	**23 04 06.1**	**-2.0**
PKSM	**Moragy**	**148.85 343**	⇑PKIKP	**PKPdf**	**23 04 03.4**	**-0.5**
PKSM	**Moragy**	**148.85 343**	⇑*i*P	**PKPdf**	**23 04 03.4**	**-0.5**
JMB	**Yambol**	**148.94 330**	⇓PKP2	**PKPbc**	**23 04 07.3**	**-0.9**
JMB	**Yambol**	**148.94 330**	⇓*i*P	**PKPbc**	**23 04 07.3**	**-0.9**
MOF	**Molkenrain**	**149.07 358**	PKP	**PKPbc**	**23 04 08.4**	**-0.1**
BEHE	**Becsehely**	**149.11 345**	⇓*e*		**PKPbc**	**23 04 08.4**	**-0.1**
RETA	**Reutte**	**149.18 354**	*i* PKiKP	**PKPbc**	**23 04 08.8**	**0.0**
	comp=Z,57nm,1.1s,SNR=20					
KBA	**Koelnbreinsper**	**149.23 350**	⇓*i*PKPbc	**PKPbc**	**23 04 08.0**	**-1.0**
	comp=Z,16nm,0.5s,SNR=8.1	

IDC 10 23:03:33.4±1.8, 3°51'N×123°79'E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, MS4.0/2, Ms1 4.0/2, ms1mx3.0/31, Error ellipse: s-maj=311.5km s-min=19.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.55**	**175**	LR	LR	23 19 13.5	
	comp=Z,239nm,18.6s,baz=143,slow=44						
WRA	**Warramunga Arr**	**25.51**	**156**	P	P	23 09 04.2	+0.5
	0.8nm,0.3s,baz=336,slow=9.6,SNR=23						
ASAR	**Alice Springs**	**28.76**	**160**	P	P	23 09 32.8	-0.2
	0.2nm,0.3s,baz=334,slow=8.4,SNR=5.4						
STKA	**Stephens Creek**	**39.05**	**156**	P	P	23 11 01.7	-0.5
	1.7nm,0.7s,baz=348,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**56.09**	**327**	P	P	23 13 15.2	+0.6
	0.5nm,0.5s,baz=126,slow=7.9,SNR=7.4						
KURBB	**Kurchatov Arra**	**60.37**	**329**	P	P	23 13 43.5	-0.8
	0.3nm,0.2s,baz=129,slow=6.1,SNR=5.6						
FINES	**FINESS Array B**	**90.63**	**332**	LR	LR	00 00 57.4	
	comp=Z,87nm,18.2s,baz=37,slow=38						

*IDC **11** 00:13:34.1±2.5, 15°.07S×172°.35W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, Error ellipse: s-maj=145.8km s-min=24.7km az=143.0*
*ISCJB **11** 00:13:37.7±2.4, 15°.1S±0°.8×172°.4W±0°.6, h35km, mb3.8/5, Error ellipse: s-maj=139.6km s-min=23.1km az=142.5*

ISC 11 00:13:39.3±2.5, 15°.1S±0°.8×172°.4W±0°.6, h35km, n6, σ0s28/6, mb3.8/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.05**	**240**	P	**P**	**00 21 52.2**	**+0.2**
	1.4nm,0.7s,baz=75,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**50.89**	**256**	P	**P**	**00 22 37.5**	**+0.1**
	0.2nm,0.5s,baz=96,slow=7.0,SNR=7.3						
ASAR	**Alice Springs**	**51.16**	**252**	P	**P**	**00 22 39.0**	**-0.3**
	4.3nm,0.5s,baz=93,slow=6.9,SNR=7.0						
NVAR	**Mina Array Bea**	**73.44**	**42**	P	**P**	**00 25 08.5**	**0.0**
	0.7nm,0.7s,baz=227,slow=9.0,SNR=6.2						
ILAR	**Eielson Array**	**81.96**	**11**	P	**P**	**00 25 55.2**	**+0.1**
	0.5nm,0.8s,baz=221,slow=5.4,SNR=4.6						
BRTR	**Keskin Array B**	**146.54**	**322**	PKPbc	**PKPbc**	**00 33 17.3**	**-0.3**
	0.6nm,0.8s,baz=46,slow=1.1,SNR=3.5						

IGQ 11 00:22:03±0.6, 2°.75S×78°.17W, h9km±25km, Mb4.0, 1C-6D, Error ellipse: s-maj=13.9km s-min=9.6km az=314.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**1.70**	**353**	P	Pg	00 22 50.0	+14
BMOR	**Cotopaxi Volca**	**2.03**	**352**	⇓P	Pg	00 22 53.1	+10
MOV1	**Cotopaxi Vol s**	**2.04**	**352**	P	Pg	00 22 53.2	+10
TAMB	**Tambo**	**2.06**	**354**	⇓P	Pg	00 22 53.1	+10
BTAM	**Cotopaxi Volca**	**2.08**	**354**	⇓P	Pg	00 22 53.4	+10
COV1	**Cotopaxi Volc**	**2.08**	**355**	P	Pg	00 22 54.0	+10
COV1	**Cotopaxi Volc**	**2.08**	**355**	S	Sg	00 23 30.3	+19
BREF	**Cotopaxi Volca**	**2.09**	**352**	⇓S	Sg	00 23 30.3	+19
BREF	**Cotopaxi Volca**	**2.09**	**352**	⇓P	Pg	00 22 54.8	+11
CAMI	**Rancho Maria**	**2.09**	**351**	P	Pg	00 22 54.0	+10
BVC2	**Cotopaxi Volca**	**2.10**	**353**	⇓P	Pg	00 22 54.6	+11
PAST	**Pastocalle**	**2.10**	**347**	P	Pg	00 22 54.3	+10
VC1	**Cotopaxi 1**	**2.11**	**354**	P	Pg	00 22 54.6	+10
NAS2	**Nasa**	**2.12**	**352**	P	Pg	00 22 54.4	+10
ANTI	**Antisana**	**2.29**	**0**	P	Pg	00 22 55.8	+8.1
GGP	**Refugio Guagua**	**2.60**	**350**	P	Pg	00 22 58.3	+4.7
PINO	**Pino**	**2.62**	**350**	P	Pg	00 22 59.6	+5.6
CONE	**Cono NE Rev Vo**	**2.72**	**11**	⇑P	Pg	00 22 59.3	+3.7
CAYA	**Cayambe**	**2.81**	**4**	P	Pg	00 23 01.6	+3.9
OTAV	**Otavalo**	**2.98**	**355**	P	Pg	00 23 01.2	+0.3

MEX 11 00:33:15.6±0.9, 16°.72N×94°.96W, h121km±26km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.45**	**230**	*e*P	Pn	00 33 40.6	-2.0
HUIG				*e*S	Sn	00 34 02.0	-1.0
VHO	**Vista Hermosa**	**1.74**	**282**	*i* P	Pn	00 33 45.2	-1.0
VHO				*i* S	Sn	00 34 07.0	-2.4
PCIG		**1.95**	**121**	*i* P	Pn	00 33 47.3	-1.2
PCIG				*i* S	Sn	00 34 12.5	-1.1
TLIG	**Tlapa**	**3.55**	**284**	*e*P	Pn	00 34 08.2	-1.2
TLIG				*e*S	Sn	00 34 49.2	-1.7

*IDC **11** 00:33:39.8±1.3, 37°.92N×71°.65E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.6/31, mbtmp3.7/10, ML3.4/5, MS2.5/2, Ms1 2.5/2, ms1mx2.3/42, Error ellipse: s-maj=25.8km s-min=16.3km az=131.0*
*ISCJB **11** 00:33:43.8±1.1, 38°.24N±0°.08×71°.17E±0°.09, h25km, mb3.6/5, Error ellipse: s-maj=12.7km s-min=9.4km az=144.1*
*NNC **11** 00:33:46.6±2.4, 38°.49N×71°.23E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=18.8km s-min=12.9km az=10.0*

ISC 11 00:33:44.3±1.1, 38°.14N±0°.09×71°.10E±0°.08, h25km, n17, σ1s61/27, mb3.7/5, 8C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.98**	**355**	Pn	**Pn**	**00 34 58.8**	**+1.3**
	1.3nm,0.3s,baz=179,slow=13,SNR=97						
KK31				⇑Pg	**Pb**	**00 35 11.1**	**+0.3**
	12nm,0.9s,baz=173,slow=16,SNR=7.2						
KK31				⇑Sn	**Sn**	**00 35 54.7**	**+0.4**
	6.0nm,0.5s						
KK31				⇑Lg	Lg	00 36 15.1	
	14nm,0.6s,baz=172,slow=30,SNR=3.5						
AAK	**Ala-Archa**	**5.18**	**29**	⇓Pn	**Pn**	**00 35 01.1**	**+0.7**
	3.1nm,0.5s						
AAK				⇑Pg	**Pb**	**00 35 13.2**	**-1.1**
	16nm,0.8s						
AAK				⇓Lg	Lg	00 36 18.8	
	15nm,0.7s						
AAK	**Ala-Archa**	**5.18**	**29**	Pn	**Pn**	**00 35 01.9**	**+1.5**
	1.1nm,0.3s,baz=167,slow=4.7,SNR=12						
AAK				Pg	**Pb**	**00 35 14.7**	**+0.4**
	1.6nm,0.3s,baz=171,slow=12,SNR=7.2						
AAK				Sn	**Sn**	**00 36 02.5**	**+3.0**
	1.3nm,0.3s,baz=62,slow=20,SNR=1.3						
AAK				Lg	Lg	00 36 19.0	
	0.4nm,0.3s,baz=13,slow=18,SNR=1.5						
AAK				LR	LR	00 36 29.1	
	comp=Z,25nm,18.4s,baz=186,slow=33						
TKM2	**Tokmak 2**	**5.88**	**34**	⇑Pn	**Pn**	**00 35 11.3**	**+1.3**
	3.4nm,0.5s						
TKM2				⇑Pg	**Pb**	**00 35 26.7**	**+0.5**
	5.4nm,0.7s						
TKM2				⇓Sn	**Sn**	**00 36 15.4**	**-1.2**
	4.4nm,0.7s						
TKM2				⇑Lg	Lg	00 36 40.9	
	8.3nm,0.8s						
MK31	**Makanchi Array**	**11.95**	**40**	P	**Pn**	**00 36 33.1**	**+0.1**
	1.3nm,0.6s,baz=229,slow=8.2,SNR=29						
MKAR	**Makanchi Array**	**11.95**	**40**	Pn	**Pn**	**00 36 33.0**	**-0.1**
	0.2nm,0.3s,baz=229,slow=11,SNR=30						
AB31	**Akbulak array**	**13.72**	**328**	⇑P	**Pn**	**00 36 55.7**	**-1.4**
	0.6nm,0.6s						
AB31				⇓S	**Sn**	**00 39 26.5**	**-2.0**
	1.4nm,0.5s						
BVAR	**Borovoye Array**	**14.90**	**358**	Pn	**Pn**	**00 37 12.7**	**-0.4**
	0.1nm,0.3s,baz=146,slow=12,SNR=2.8						
BVAR				LR	LR	00 43 15.8	
	comp=Z,34nm,20.5s,baz=72,slow=38						
AKTO	**Aktyubinsk**	**15.43**	**327**	⇓P	**P**	**00 37 24.5**	**+0.1**
	9.5nm,1.4s						
AKTO				⇓S	**Sn**	**00 40 08.8**	**-1.4**
	4.2nm,1.3s						
AKTO	**Aktyubinsk**	**15.43**	**327**	Pn	**P**	**00 37 22.8**	**-1.7**
	0.3nm,0.3s,baz=125,slow=15,SNR=8.3						
AKTO				Sn	**Sn**	**00 40 07.6**	**-2.5**
	0.1nm,0.3s,baz=233,slow=20,SNR=2.0						
ZALV	**Zalesovo Beam**	**18.40**	**26**	P	**P**	**00 37 55.6**	**-1.7**
	0.2nm,0.3s,baz=222,slow=11,SNR=5.9						
JOF	**Joensuu**	**34.50**	**329**	*ep*	**P**	**00 40 32.3**	**+2.3**
FINES	**FINESS Array B**	**36.18**	**325**	P	**P**	**00 40 46.2**	**+1.7**
	0.6nm,0.4s,baz=114,slow=8.7,SNR=11						
ARCES	**ARCESS Array B**	**39.67**	**337**	P	**P**	**00 41 14.9**	**+1.1**
	3.4nm,1.0s,baz=106,slow=9.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**65.85**	**268**	P	**P**	**00 44 30.3**	**+2.3**
	0.3nm,0.5s,baz=52,slow=5.6,SNR=8.9						
YKA	**Yellowknife Ar**	**79.61**	**3**	P	**P**	**00 45 49.3**	**+0.4**
	0.2nm,0.6s,baz=351,slow=5.5,SNR=8.2						
WRA	**Warramunga Ar**	**82.79**	**122**	P	**P**	**00 46 03.6**	**-2.8**
	0.3nm,0.8s,baz=321,slow=4.2,SNR=3.3						

IDC 11 01:00:35.8±16.0, 12°.72N×143°.37E, h200km±160km, mb3.2/8, mb1 3.4/8, mb1mx3.2/25, mbtmp3.7/8, Error ellipse: s-maj=46.5km s-min=24.3km az=66.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**23.17**	**73**	T	T	01 28 50.3	
	baz=260						
H11S1	**WAKE ISLAND Hy**	**23.18**	**73**	T	T	01 28 52.0	
	baz=260						
H11S2	**WAKE ISLAND Hy**	**23.18**	**73**	T	T	01 28 50.4	
	baz=260						
H11N1	**WAKE ISLAND Hy**	**23.61**	**70**	T	T	01 29 26.6	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**23.62**	**70**	T	T	01 29 26.8	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**23.63**	**70**	T	T	01 29 26.9	
	baz=258						
WRA	**Warramunga Arr**	**33.65**	**195**	P	P	01 06 57.5	-0.3
	0.2nm,0.4s,baz=23,slow=9.6,SNR=5.4						
SONM	**Songino Array**	**46.62**	**326**	P	P	01 08 44.4	+0.3
	0.7nm,0.5s,baz=143,slow=8.9,SNR=8.1						
MKAR	**Makanchi Array**	**61.11**	**317**	P	P	01 10 29.0	+0.1
	0.3nm,0.5s,baz=96,slow=8.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**61.49**	**325**	P	P	01 10 30.8	-0.3
	0.4nm,0.4s,baz=94,slow=5.8,SNR=2.7						
ILAR	**Eielson Array**	**69.98**	**25**	P	P	01 11 24.1	-1.1
	0.4nm,0.5s,baz=245,slow=6.1,SNR=5.8						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	P	01 12 45.4	+0.5
	0.1nm,0.3s,baz=284,slow=5.3,SNR=4.1						
NVAR	**Mina Array Bea**	**88.60**	**51**	P	P	01 13 08.2	+1.5
	0.6nm,0.6s,baz=263,slow=6.1,SNR=4.4						
FINES	**FINESS Array B**	**91.33**	**335**	P	P	01 13 17.7	-0.8
	1.2nm,0.7s,baz=61,slow=4.7,SNR=8.2						

PGC 11 01:25:18.3±29.0, 50°.71N×130°.40W, h10km, ML2.9/3, Mw3.5, 3D, 210km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHC	**Port Hardy**	**1.89**	**89**	⇓Pn	Pn	01 25 48.5	-2.1
PHC				⇑Sn	Sn	01 26 10.4	-4.0
BBB	**Bella Bella**	**2.06**	**43**	⇑Pn	Pn	01 25 51.4	-1.5
BBB				⇓Sn	Sn	01 26 14.2	-4.3
WOSB	**Woss**	**2.51**	**101**	⇓Pn	Pn	01 25 57.5	-1.7
WOSB				⇑Sn	Sn	01 26 26.3	-3.7

*MDD **11** 01:25:44.2±1.1, 38°.72N×10°.95W, h0km, mbLg3.0/33, Error ellipse: s-maj=10.1km s-min=6.3km az=87.0, PRXIMO*
*IGIL **11** 01:25:46.6, 38°.72N×11°.01W, h24km, ML3.1*
*INMG **11** 01:25:46.5±1.6, 38°.62N×11°.31W, h10km, ML2.8, Error ellipse: s-maj=5.0km s-min=2.5km az=81.0*
*CSEM **11** 01:25:46.3±0.4, 38°.74N×10°.71W, h10km, ML3.7/9, Error ellipse: s-maj=7.2km s-min=3.8km az=80.0*
*LDG **11** 01:25:47.0±0.4, 38°.84N×10°.65W, h30km, Ml3.1/4, Error ellipse: s-maj=8.8km s-min=5.0km az=78.0*

ISC 11 01:25:43.1±0.7, 38°.77N±0°.01×10°.88W±0°.03, h10km, n137, σ1s79/207, 2C-2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.26**	**81**	*e*P	**Pg**	**01 26 09.6**	**+2.3**
PMAFR				*e*S	**Sb**	**01 26 26.9**	**+3.7**
PMAFR				A	A	01 26 31.9	
	108nm,0.3s						
PMAFR	**Mafra**	**1.26**	**81**	⇓P	**Pg**	**01 26 09.6**	**+2.3**
	52nm,0.1s,SNR=18						
PMAFR				S	**Sb**	**01 26 26.9**	**+3.7**
	28nm,0.1s,SNR=9.8						
PMAFR	**Mafra**	**1.26**	**81**	P	**Pg**	**01 26 09.6**	**+2.3**
	52nm,0.1s,SNR=18						
PMAFR				*e*S	**Sb**	**01 26 26.9**	**+3.7**
	108nm,0.3s						
LIS	**Lisbon**	**1.35**	**92**	*e*P	**Pg**	**01 26 10.3**	**+1.2**
LIS				*e*S	**Sn**	**01 26 28.1**	**+2.0**
LIS				AML	AML	01 26 30.9	
	comp=N,163nm,0.6s						
LIS	**Lisbon**	**1.35**	**92**	*e*P	**Pg**	**01 26 10.3**	**+1.2**
LIS				*e*S	**Sn**	**01 26 28.1**	**+2.0**
LIS	**Lisbon**	**1.35**	**92**	P	**Pg**	**01 26 10.3**	**+1.2**
LIS				S	**Sn**	**01 26 28.1**	**+2.0**
	comp=N,163nm,0.6s						
LIS	**Lisbon**	**1.35**	**92**	*e*P	**Pg**	**01 26 10.3**	**+1.2**
LIS				*e*S	**Sn**	**01 26 28.1**	**+2.0**
PNCL	**Nicolau / Gran**	**1.96**	**109**	*e*Pn	**Pb**	**01 26 17.7**	**-1.2**
PNCL				*e*Sn	**Sn**	**01 26 40.5**	**-0.6**
PNCL				A	A	01 26 44.3	
	comp=N,27nm,0.1s						
PMTG	**Montargil**	**2.09**	**81**	*e*Pn	**Pb**	**01 26 20.5**	**-0.6**
PMTG				*e*Sn	**Sn**	**01 26 46.5**	**+2.2**
PMTG				A	A	01 26 52.1	
	comp=N,12nm,0.1s						
PMTG	**Montargil**	**2.09**	**81**	*e*Pn	**Pb**	**01 26 20.5**	**-0.6**
PMTG				*e*Sn	**Sn**	**01 26 46.5**	**+2.2**
	comp=N,12nm,0.1s						
PTEO	**Sao Teotonio**	**2.10**	**125**	*e*Pn	**Pn**	**01 26 19.0**	**+0.7**
PTEO				*e*Sn	**Sn**	**01 26 42.6**	**-1.8**
PTEO				A	A	01 26 43.6	
	comp=N,115nm,0.3s						
PTEO	**Sao Teotonio**	**2.10**	**125**	P	**Pn**	**01 26 19.0**	**+0.7**
PTEO				S	**Sn**	**01 26 42.6**	**-1.8**
	comp=N,57nm,0.3s						
PTEO	**Sao Teotonio**	**2.10**	**125**	P	**Pn**	**01 26 19.0**	**+0.7**
PTEO				S	**Sn**	**01 26 42.6**	**-1.8**
	comp=N,57nm,0.3s						
PTOM	**Tomar**	**2.10**	**65**	*e*Pn	**Pb**	**01 26 20.9**	**-0.3**
PTOM				*e*Sn	**Sn**	**01 26 47.2**	**+2.8**
PTOM				A	A	01 26 50.7	
	comp=N,29nm,0.1s						
PTOM	**Tomar**	**2.10**	**65**	P	**Pb**	**01 26 20.9**	**-0.3**
PTOM				S	**Sn**	**01 26 47.2**	**+2.8**
	comp=N,15nm,0.1s						
PTOM	**Tomar**	**2.10**	**65**	P	**Pb**	**01 26 20.9**	**-0.3**
PTOM				S	**Sn**	**01 26 47.2**	**+2.8**
	comp=N,15nm,0.1s						
EVOP	**Sao Brissos**	**2.17**	**96**	*e*P	**Pn**	**01 26 19.4**	**+0.1**
PCAS	**Casmilo, Conde**	**2.24**	**55**	*e*Pn	**Pb**	**01 26 22.7**	**-1.1**
PCAS				*e*Sn	**Sn**	**01 26 50.3**	**+2.2**
PCAS				A	A	01 27 03.6	
	comp=N,15nm,0.4s						
PCAS	**Casmilo, Conde**	**2.24**	**55**	*e*Pn	**Pb**	**01 26 22.7**	**-1.1**
PCAS				*e*Sn	**Sn**	**01 26 50.3**	**+2.2**
	comp=N,15nm,0.4s						
EVO	**Evora**	**2.26**	**95**	*e*P	**Pn**	**01 26 19.4**	**-1.1**
EVO				*e*Sn	Sn	01 26 40.1	-8.3
	comp=N,21nm,0.2s						
EVO	**Evora**	**2.26**	**95**	*e*Pn	**Pn**	**01 26 22.4**	**+1.9**
EVO				*e*Sn	**Sn**	**01 26 49.5**	**+1.1**
EVO				A	A	01 26 59.5	
	comp=N,22nm,0.1s						
EVO	**Evora**	**2.26**	**95**	P	**Pn**	**01 26 22.4**	**+1.9**
EVO				S	**Sn**	**01 26 49.5**	**+1.1**
	comp=N,22nm,0.1s						
EVO	**Evora**	**2.26**	**95**	P	**Pn**	**01 26 22.4**	**+1.9**
EVO				S	**Sn**	**01 26 49.5**	**+1.1**
	comp=N,22nm,0.1s						
MORF	**Marmelete**	**2.29**	**129**	*e*Pn	**Pn**	**01 26 21.5**	**+0.5**
MORF				*e*Sn	**Sn**	**01 26 46.8**	**-2.5**
MORF				A	A	01 26 51.2	
	comp=N,76nm,0.1s						
MORF	**Marmelete**	**2.29**	**129**	P	**Pn**	**01 26 21.5**	**+0.5**
MORF				S	**Sn**	**01 26 46.8**	**-2.5**
	comp=N,76nm,0.1s						
MORF	**Marmelete**	**2.29**	**129**	P	**Pn**	**01 26 21.5**	**+0.5**
MORF				*e*Sn	**Sn**	**01 26 46.8**	**-2.5**
	comp=N,76nm,0.1s						
MESJ	**Messejana**	**2.29**	**113**	*e*P	**Pn**	**01 26 22.3**	**+1.4**
MESJ				*e*S	**Sn**	**01 26 48.3**	**-0.9**
MESJ				AML	AML	01 26 51.9	
	comp=N,75nm,0.2s						
MESJ	**Messejana**	**2.29**	**113**	*e*P	**Pn**	**01 26 22.3**	**+1.4**
MESJ				*e*S	**Sn**	**01 26 48.3**	**-0.9**
	comp=N,75nm,0.2s						
MESJ	**Messejana**	**2.29**	**113**	P	**Pn**	**01 26 22.3**	**+1.4**
MESJ				S	**Sn**	**01 26 48.3**	**-0.9**
	comp=N,75nm,0.2s						
PFVI	**Vila Bisbo**	**2.31**	**135**	*e*Pn	**Pn**	**01 26 21.2**	**0.0**
PFVI				*e*Sn	**Sn**	**01 26 46.2**	**-3.4**
PFVI				A	A	01 26 51.5	
	comp=N,36nm,0.1s						
PFVI	**Vila Bisbo**	**2.31**	**135**	P	**Pn**	**01 26 21.1**	**0.0**
	comp=N,3.6nm,0.0s,SNR=18						
PFVI				S	**Sn**	**01 26 45.9**	**-3.7**
	comp=N,31nm,0.1s,SNR=6.7						
PFVI	**Vila Bisbo**	**2.31**	**135**	P	**Pn**	**01 26 21.1**	**-0.1**
	comp=N,3.6nm,0.0s,SNR=18						
PFVI				*e*Sn	**Sn**	**01 26 46.2**	**-3.4**
	comp=N,36nm,0.1s						
PBEJ	**Beja**	**2.48**	**107**	*e*Pn	**Pn**	**01 26 25.1**	**+1.5**
PBEJ				*e*Sn	**Sn**	**01 26 53.6**	**-0.4**
PBEJ				A	A	01 26 56.1	
	comp=N,25nm,0.3s						
PBEJ	**Beja**	**2.48**	**107**	⇓P	**Pn**	**01 26 25.1**	**+1.5**
PBEJ				S	**Sn**	**01 26 53.6**	**-0.4**
	comp=N,12nm,0.3s						
PBEJ	**Beja**	**2.48**	**107**	P	**Pn**	**01 26 25.1**	**+1.5**
PBEJ				S	**Sn**	**01 26 53.6**	**-0.4**
	comp=N,12nm,0.3s						
PESTR	**Estremoz**	**2.57**	**87**	*e*Pn	**Pn**	**01 26 26.7**	**+1.9**
PESTR				*e*Sn	**Sn**	**01 26 57.6**	**+1.4**
PESTR	**Estremoz**	**2.57**	**87**	*e*Pn	**Pn**	**01 26 26.7**	**+1.9**
PESTR				*e*Sn	**Sn**	**01 26 57.6**	**+1.4**
PBDV	**Barranco-do-Ve**	**2.79**	**122**	*e*Pn	Pn	01 26 29.1	+1.3
PBDV				*e*Sn	**Sn**	**01 26 59.8**	**-1.7**
PBDV				A	A	01 27 05.0	
	comp=N,32nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.79**	**122**	P	Pn	01 26 29.1	+1.3
PBDV				S	**Sn**	**01 26 59.8**	**-1.7**
	comp=N,32nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.79**	**122**	P	Pn	01 26 29.1	+1.3
PBDV				*e*Sn	**Sn**	**01 26 59.8**	**-1.7**
	comp=N,32nm,0.7s						
PMRV	**Marv??o**	**2.79**	**75**	*e*Pn	**Pn**	**01 26 30.0**	**+2.1**
PMRV				*e*Sn	**Sn**	**01 27 03.6**	**+2.0**
PMRV				A	A	01 27 07.6	
	comp=N,14nm,0.2s						
PMRV	**Marv??o**	**2.79**	**75**	P	**Pn**	**01 26 30.0**	**+2.1**
PMRV				S	**Sn**	**01 27 03.6**	**+2.0**
	comp=N,14nm,0.2s						
PMRV	**Marv??o**	**2.79**	**75**	P	**Pn**	**01 26 30.0**	**+2.1**
PMRV				S	**Sn**	**01 27 03.6**	**+2.0**
	comp=N,14nm,0.2s						
PVAQ	**Vaqueiros**	**2.84**	**118**	*e*Pn	Pn	01 26 30.1	+1.5
PVAQ				*e*Sn	**Sn**	**01 27 01.4**	**-1.5**
PVAQ				A	A	01 27 03.6	
	comp=N,37nm,0.3s						
PVAQ	**Vaqueiros**	**2.84**	**118**	P	Pn	01 26 30.1	+1.5
PVAQ				S	**Sn**	**01 27 01.4**	**-1.5**
	comp=N,37nm,0.3s						
PVAQ	**Vaqueiros**	**2.84**	**118**	P	Pn	01 26 30.1	+1.5
PVAQ				*e*Sn	**Sn**	**01 27 01.4**	**-1.5**
	comp=N,37nm,0.3s						
PCBR	**Castelo Branco**	**2.85**	**67**	*e*Pn	**Pn**	**01 26 30.9**	**+2.3**
PCBR				*e*Sn	**Sn**	**01 27 04.8**	**+1.9**
PCBR				A	A	01 27 07.0	
	comp=N,13nm,0.2s						
PCBR	**Castelo Branco**	**2.85**	**67**	P	**Pn**	**01 26 30.9**	**+2.3**
PCBR				S	**Sn**	**01 27 04.8**	**+1.9**
	comp=N,6.6nm,0.2s						
PCBR	**Castelo Branco**	**2.85**	**67**	P	**Pn**	**01 26 30.9**	**+2.3**
PCBR				S	**Sn**	**01 27 04.8**	**+1.9**
	comp=N,6.6nm,0.2s						
EGRO	**El Granado**	**2.95**	**114**	P	Pn	01 26 31.7	+1.7
	comp=N,5.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**01 27 04.8**	**-0.6**
	comp=N,11nm,0.1s,SNR=12						
EGRO	**El Granado**	**2.95**	**114**	P	Pn	01 26 31.7	+1.7
	comp=N,5.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**01 27 04.8**	**-0.6**
	comp=N,11nm,0.1s,SNR=12						
PVIS	**Viseu**	**3.01**	**49**	*e*Pn	**Pn**	**01 26 33.0**	**+2.1**
PVIS				*e*Sn	**Sn**	**01 27 07.6**	**+0.5**
PVIS				A	A	01 27 10.4	
	comp=N,39nm,0.1s						
PVIS	**Viseu**	**3.01**	**49**	P	**Pn**	**01 26 33.0**	**+2.1**
PVIS				S	**Sn**	**01 27 07.6**	**+0.5**
	comp=N,19nm,0.1s						
PVIS	**Viseu**	**3.01**	**49**	P	**Pn**	**01 26 33.0**	**+2.1**
PVIS				S	**Sn**	**01 27 07.6**	**+0.5**
	comp=N,19nm,0.1s						
EBAD	**Badajoz**	**3.02**	**89**	P	**Pn**	**01 26 32.6**	**+1.6**
	comp=N,1.3nm,0.1s,SNR=102						
EBAD				S	**Sn**	**01 27 08.3**	**+1.0**
	comp=N,10.0nm,0.1s,SNR=7.7						
EBAD	**Badajoz**	**3.02**	**89**	P	**Pn**	**01 26 32.6**	**+1.6**
	comp=N,1.3nm,0.1s,SNR=102						
EBAD				S	**Sn**	**01 27 08.3**	**+1.0**
	comp=N,10.0nm,0.1s,SNR=7.7						
MTE	**Manteigas**	**3.05**	**57**	*e*Pn	**Pn**	**01 26 33.4**	**+2.0**
MTE				*e*Sn	**Sn**	**01 27 09.8**	**+1.8**
MTE				A	A	01 27 12.2	
	comp=N,29nm,0.5s						
MTE	**Manteigas**	**3.05**	**57**	P	**Pn**	**01 26 33.4**	**+2.0**
MTE				S	**Sn**	**01 27 09.8**	**+1.8**
	comp=N,15nm,0.5s						
MTE	**Manteigas**	**3.05**	**57**	P	**Pn**	**01 26 33.4**	**+2.0**
MTE				S	**Sn**	**01 27 09.8**	**+1.8**
	comp=N,15nm,0.5s						
EMIN	**Mina Concepcio**	**3.46**

EPLA	**Plasencia**	**3.94**	**69**	S		**Sn**	**01 27 31.2**	**+1.4**
	comp=N,3.7nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.34**	**98**	⇑P		**Pn**	**01 26 51.2**	**+2.0**
	comp=N,6.1nm,0.1s,SNR=18							
ECAB				S		**Sn**	**01 27 39.6**	**-0.3**
	comp=N,4.3nm,0.2s,SNR=6.6							
ECAB	**El Cabril**	**4.34**	**98**	P		**Pn**	**01 26 51.2**	**+2.0**
	comp=N,6.1nm,0.1s,SNR=18							
ECAB				S		**Sn**	**01 27 39.6**	**-0.3**
	comp=N,4.3nm,0.2s,SNR=6.6							
PBRG	**Braganca**	**4.38**	**45**	*e*Pn		Pn	01 26 51.8	+2.1
PBRG				*e*Sn		**Sn**	**01 27 40.7**	**-0.1**
PBRG				A		A	01 27 42.0	
	comp=N,8.1nm,0.2s							
PBRG	**Braganca**	**4.38**	**45**	P		Pn	01 26 51.8	+2.1
PBRG				S		**Sn**	**01 27 40.7**	**-0.1**
	comp=N,4.1nm,0.2s							
PBRG	**Braganca**	**4.38**	**45**	P		Pn	01 26 51.8	+2.1
PBRG				S		**Sn**	**01 27 40.7**	**-0.1**
	comp=N,4.1nm,0.2s							
ESPR	**Espera**	**4.41**	**114**	P		Pn	01 26 52.1	+2.0
	comp=N,0.7nm,0.1s,SNR=6.0							
ESPR				S		**Sn**	**01 27 40.2**	**-1.3**
	comp=N,4.5nm,0.2s,SNR=6.0							
ESPR	**Espera**	**4.41**	**114**	P		Pn	01 26 52.1	+2.0
	comp=N,0.7nm,0.1s,SNR=6.0							
ESPR				S		**Sn**	**01 27 40.2**	**-1.3**
	comp=N,4.5nm,0.2s,SNR=6.0							
EMAZ	**Mazaricos**	**4.41**	**18**	P		**Pn**	**01 26 50.0**	**-0.2**
	comp=N,0.6nm,0.2s,SNR=11							
EMAZ				S		**Sn**	**01 27 36.9**	**-4.7**
	comp=N,5.7nm,0.1s,SNR=17							
STS	**Santiago**	**4.47**	**23**	S		**Sn**	**01 27 39.2**	**-3.8**
	comp=N,6.0nm,0.1s,SNR=8.2							
ECAL	**Calabor**	**4.47**	**44**	P		**Pn**	**01 26 52.9**	**+1.8**
	comp=N,6.0nm,0.2s,SNR=25							
ECAL				S		**Sn**	**01 27 43.8**	**+0.6**
	comp=N,4.8nm,0.1s,SNR=8.0							
ECAL	**Calabor**	**4.47**	**44**	P		**Pn**	**01 26 52.9**	**+1.8**
	comp=N,6.0nm,0.2s,SNR=25							
ECAL				S		**Sn**	**01 27 43.8**	**+0.6**
	comp=N,4.8nm,0.1s,SNR=8.0							
EMIJ	**Mijas**	**5.32**	**113**	P		Pn	01 27 04.5	+1.8
	comp=N,0.2nm,0.2s,SNR=7.9							
EMIJ				S		**Sn**	**01 28 02.7**	**-1.4**
	comp=N,5.3nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**5.32**	**113**	P		Pn	01 27 04.4	+1.8
	comp=N,0.2nm,0.2s,SNR=7.9							
EMIJ				S		**Sn**	**01 28 02.7**	**-1.4**
	comp=N,5.3nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**5.35**	**31**	P		**Pn**	**01 27 03.9**	**+0.8**
	comp=N,2.5nm,0.2s,SNR=7.9							
EPON				S		**Sn**	**01 28 00.9**	**-3.9**
	comp=N,1.1nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**5.35**	**31**	P		**Pn**	**01 27 03.9**	**+0.8**
	comp=N,2.5nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**5.45**	**78**	⇑P		**Pn**	**01 27 06.4**	**+2.0**
	comp=N,2.3nm,0.2s,baz=262,slow=13,SNR=18							
ESDC				S		**Sn**	**01 28 07.2**	**+0.1**
	comp=N,1.3nm,0.5s,baz=265,slow=24,SNR=4.1							
ESDC	**Sonseca Array**	**5.45**	**78**	P		**Pn**	**01 27 06.4**	**+2.0**
	comp=N,2.3nm,0.2s,SNR=18							
ESDC				S		**Sn**	**01 28 07.2**	**+0.1**
	comp=N,1.3nm,0.5s,SNR=4.1							
GUD	**Guadarrama**	**5.51**	**68**	P		**Pn**	**01 27 07.5**	**+2.1**
	comp=N,3.1nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**01 28 08.6**	**-0.3**
	comp=N,1.4nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.51**	**68**	P		**Pn**	**01 27 07.5**	**+2.1**
	comp=N,3.1nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**01 28 08.6**	**-0.3**
	comp=N,1.4nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.96**	**102**	P		**Pn**	**01 27 13.1**	**+1.6**
	comp=N,1.0nm,0.2s,SNR=7.9							
ECOG				S		**Sn**	**01 28 19.0**	**-1.0**
	comp=N,0.9nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.96**	**102**	P		**Pn**	**01 27 13.1**	**+1.6**
	comp=N,1.0nm,0.2s,SNR=7.9							
ECOG				S		**Sn**	**01 28 19.0**	**-1.0**
	comp=N,0.9nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.22**	**97**	P		**Pn**	**01 27 16.4**	**+1.4**
	comp=N,0.3nm,0.2s,SNR=15							
EQES				S		**Sn**	**01 28 24.3**	**-2.0**
	comp=N,0.3nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.22**	**97**	P		**Pn**	**01 27 16.4**	**+1.4**
	comp=N,0.3nm,0.2s,SNR=15							
EQES				S		**Sn**	**01 28 24.3**	**-2.0**
	comp=N,0.3nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**6.23**	**42**	P		Pn	01 27 17.4	+2.2
	comp=N,0.3nm,0.2s,SNR=7.2							
EARI				S		**Sn**	**01 28 25.1**	**-1.3**
	comp=N,0.3nm,0.3s							
EARI	**Arriondas**	**6.23**	**42**	P		Pn	01 27 17.4	+2.2
	comp=N,0.3nm,0.2s,SNR=7.2							
EARI				S		**Sn**	**01 28 25.1**	**-1.3**
	comp=N,0.3nm,0.3s							
EHUE	**Huescar**	**6.59**	**96**	P		**Pn**	**01 27 22.0**	**+1.9**
	comp=N,0.7nm,0.2s,SNR=7.9							
EHUE				S		**Sn**	**01 28 33.3**	**-2.0**
	comp=N,0.2nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**6.59**	**96**	P		**Pn**	**01 27 22.0**	**+1.9**
	comp=N,0.7nm,0.2s,SNR=7.9							
EHUE				S		**Sn**	**01 28 33.3**	**-2.0**
	comp=N,0.2nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**7.18**	**49**	P		Pn	01 27 30.7	+2.6
	comp=N,0.3nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**01 28 48.3**	**-1.3**
	comp=N,0.3nm,0.2s,SNR=6.2							
ELAN	**Lanestosa**	**7.18**	**49**	P		Pn	01 27 30.7	+2.6
	comp=N,0.3nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**01 28 48.3**	**-1.3**
	comp=N,0.3nm,0.2s,SNR=6.2							
IUNC	**Unciti**	**8.15**	**58**	P		Pn	01 27 44.2	+2.7
	comp=N,1.7nm,0.1s,SNR=7.9							
IUNC				S		**Sn**	**01 29 12.5**	**-1.3**
	comp=N,0.4nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**8.15**	**58**	P		Pn	01 27 44.2	+2.7
	comp=N,1.7nm,0.1s,SNR=7.9							
IUNC				S		**Sn**	**01 29 12.5**	**-1.3**
	comp=N,0.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.20**	**76**	P		Pn	01 27 44.8	+2.6
	comp=N,0.7nm,0.3s,SNR=7.5							
EMOS				S		**Sn**	**01 29 12.6**	**-2.4**
	comp=N,0.1nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.20**	**76**	P		Pn	01 27 44.8	+2.6
	comp=N,0.7nm,0.3s,SNR=7.5							
EMOS				S		**Sn**	**01 29 12.6**	**-2.4**
	comp=N,0.1nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**8.21**	**57**	P		Pn	01 27 45.2	+2.9
	comp=N,0.3nm,0.1s,SNR=7.9							
IUSE				S		**Sn**	**01 29 11.9**	**-3.2**
	comp=N,0.1nm,0.0s,SNR=7.9							
IUSE	**Utxeti**	**8.21**	**57**	P		Pn	01 27 45.2	+2.9
	comp=N,0.3nm,0.1s,SNR=7.9							
IEPA	**Eparoz**	**8.32**	**58**	P		Pn	01 27 47.1	+3.3
	comp=N,0.9nm,0.1s,SNR=7.9							
IEPA				S		**Sn**	**01 29 16.0**	**-1.8**
	comp=N,0.2nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**8.32**	**58**	P		Pn	01 27 47.1	+3.3
	comp=N,0.9nm,0.1s,SNR=7.9							
IEPA				S		**Sn**	**01 29 16.0**	**-1.8**
	comp=N,0.2nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**8.32**	**55**	P		Pn	01 27 46.5	+2.7
	comp=N,1.0nm,0.2s,SNR=7.9							
ELIZ				S		**Sn**	**01 29 15.2**	**-2.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**8.32**	**55**	P		Pn	01 27 46.5	+2.7
	comp=N,1.0nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**8.37**	**58**	P		Pn	01 27 47.1	+2.6
	comp=N,1.4nm,0.2s,SNR=7.9							
IELO				S		**Sn**	**01 29 16.9**	**-2.1**
	comp=N,0.2nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**8.37**	**58**	P		Pn	01 27 47.1	+2.6
	comp=N,1.4nm,0.2s,SNR=7.9							
IELO				S		**Sn**	**01 29 16.9**	**-2.1**
	comp=N,0.2nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**8.49**	**56**	*e*P		Pn	01 27 48.6	+2.4
SJPF				*e*Sn		Sn	01 29 10.5	-12
	comp=N,2.3nm,0.4s							
SJPF	**Ste Jean**	**8.49**	**56**	P		Pn	01 27 48.6	+2.4
SJPF				S		Sn	01 29 10.5	-12
	comp=N,1.2nm,0.4s							
SJPF	**Ste Jean**	**8.49**	**56**	P		Pn	01 27 48.6	+2.4
ATE	**Arette**	**8.83**	**58**	P		Pn	01 27 53.1	+2.4
	comp=N,0.5nm,0.1s,SNR=7.9							
ATE				S		**Sn**	**01 29 27.7**	**-2.5**
	comp=N,0.2nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**8.84**	**59**	*e*P		**Pn**	**01 27 53.3**	**+2.3**
ETSF				*e*Sn		Sn	01 29 19.1	-12
	comp=N,0.5nm,0.3s							
ETSF	**Etsaut**	**8.84**	**59**	P		**Pn**	**01 27 53.3**	**+2.3**
ETSF				S		Sn	01 29 19.1	-12
	comp=N,0.2nm,0.3s							
ETSF	**Etsaut**	**8.84**	**59**	P		**Pn**	**01 27 53.3**	**+2.3**
EPF	**Esparros**	**9.50**	**60**	*e*P		Pn	01 28 02.6	+2.6
EPF				*e*Sn		Sn	01 29 34.4	-12
	comp=N,0.9nm,0.3s							
EPF	**Esparros**	**9.50**	**60**	P		Pn	01 28 02.6	+2.6
EPF				S		Sn	01 29 34.4	-12
	comp=N,0.4nm,0.3s							
EPF	**Esparros**	**9.50**	**60**	P		Pn	01 28 02.6	+2.6
CSOR	**Sort**	**9.82**	**65**	P		Pn	01 28 07.0	+2.5
	comp=N,0.2nm,0.3s,SNR=7.9							
CSOR	**Sort**	**9.82**	**65**	P		Pn	01 28 07.0	+2.5
	comp=N,0.4nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**10.45**	**65**	P		**Pn**	**01 28 15.4**	**+2.3**
	comp=N,0.4nm,0.4s,SNR=7.9							
CLLI				S		**Sn**	**01 30 07.1**	**-3.1**
	comp=N,0.1nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**10.45**	**65**	P		**Pn**	**01 28 15.4**	**+2.3**
	comp=N,0.4nm,0.4s,SNR=7.9							
CLLI				S		**Sn**	**01 30 07.1**	**-3.1**
	comp=N,0.1nm,0.2s,SNR=7.9							
ROSF	**Rostrenen**	**11.03**	**27**	*e*Pn		**Pn**	**01 28 18.1**	**-2.8**
ROSF	**Rostrenen**	**11.03**	**27**	P		**Pn**	**01 28 18.1**	**-2.8**
RJF	**Les Rejaudoux**	**11.29**	**51**	*e*P		**Pn**	**01 28 26.5**	**+2.1**
RJF	**Les Rejaudoux**	**11.29**	**51**	P		**Pn**	**01 28 26.5**	**+2.1**
RJF	**Les Rejaudoux**	**11.29**	**51**	P		**Pn**	**01 28 26.5**	**+2.1**

MDD ***11*** *01:29:29.5±5.8, 34.˚79N×0.˚41E, h0km, mb3.8/6, Error ellipse: s-maj=57.6km s-min=11.4km az=165.0, PRXIMO*
CSEM ***11*** *01:29:32.6±3.2, 35.˚01N×0.˚33E, h2km, mb3.8, Error ellipse: s-maj=80.8km s-min=15.4km az=169.0*
CRAAG ***11*** *01:29:33.4, 35.˚34N×0.˚27E, Ml3.3*
ISCJB ***11*** *01:29:36.1±1.1, 35.˚46N±0.˚07×0.˚22E±0.˚07, h10km, Error ellipse: s-maj=9.8km s-min=7.8km az=4.4*

ISC 11 01:29:35.3±1.5, 35.˚4N±0.˚1×0.˚25E±0.˚04, h10km, n24, σ2§09/31, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.34**	**253**	P	**Pg**	**01 29 42.0**	**-0.1**
ODJA	**Bouhanifia**	**0.34**	**253**	P	**Pg**	**01 29 42.0**	**-0.1**
ODJA	**Bouhanifia**	**0.34**	**253**	P	**Pg**	**01 29 42.0**	**-0.1**
OJGS	**Djebel Guires**	**0.42**	**80**	P	**Pg**	**01 29 43.0**	**-0.5**
OJGS	**Djebel Guires**	**0.42**	**80**	P	**Pg**	**01 29 43.0**	**-0.5**
OJGS	**Djebel Guires**	**0.42**	**80**	P	**Pg**	**01 29 43.0**	**-0.5**
USTO	**Oran**	**0.72**	**295**	P	**Pn**	**01 29 52.0**	**+0.6**
USTO	**Oran**	**0.72**	**295**	P	**Pn**	**01 29 52.0**	**+0.6**
USTO	**Oran**	**0.72**	**295**	P	**Pn**	**01 29 52.0**	**+0.6**
OLHC	**Oulhaca**	**1.38**	**263**	P	Pn	01 29 43.0	-18
OLHC	**Oulhaca**	**1.38**	**263**	P	Pn	01 29 43.0	-18
OLHC	**Oulhaca**	**1.38**	**263**	P	Pn	01 29 43.0	-18
EHUE	**Huescar**	**3.30**	**317**	P	**Pn**	**01 30 29.3**	**+2.2**
	1.5nm,0.4s,SNR=7.9						
EHUE				S	**Sn**	**01 31 05.4**	**-1.0**
	SNR=7.9						
EHUE	**Huescar**	**3.30**	**317**	P	**Pn**	**01 30 29.3**	**+2.2**
	1.5nm,0.4s,SNR=7.9						
EHUE				S	**Sn**	**01 31 05.4**	**-1.0**
	SNR=7.9						
EQES	**Quesada**	**3.57**	**313**	P	**Pn**	**01 30 33.8**	**+3.0**
	3.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 31 12.8**	**-0.2**
	SNR=7.9						
EQES	**Quesada**	**3.57**	**313**	P	**Pn**	**01 30 33.8**	**+3.0**
	3.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 31 12.8**	**-0.2**
	SNR=7.9						
ECOG	**Cogollos-Vega**	**3.59**	**302**	P	**Pn**	**01 30 33.3**	**+2.3**
	1.8nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**01 31 14.7**	**+1.2**
	SNR=7.9						
ECOG	**Cogollos-Vega**	**3.59**	**302**	P	**Pn**	**01 30 33.3**	**+2.3**
	1.8nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**01 31 14.7**	**+1.2**
	SNR=7.9						
EIBI	**Ibiza**	**3.69**	**13**	P	**Pb**	**01 30 38.0**	**-2.6**
	2.3nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**01 31 18.9**	**+2.9**
	SNR=7.9						
EIBI	**Ibiza**	**3.69**	**13**	P	**Pb**	**01 30 38.0**	**-2.6**
	2.3nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**01 31 18.9**	**+2.9**
	SNR=7.9						
EVIA	**Vianos**	**3.88**	**326**	P	Pb	01 30 39.9	-4.0
	2.6nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**01 31 21.4**	**+0.6**
	SNR=7.9						
EVIA	**Vianos**	**3.88**	**326**	P	Pb	01 30 39.9	-4.0
	2.6nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**01 31 21.4**	**+0.6**
	SNR=7.9						
ESDC	**Sonseca Array**	**5.40**	**323**	P	**Pn**	**01 30 58.9**	**+3.1**
	0.5nm,0.6s,baz=140,slow=13,SNR=7.9						
ESDC				S	**Sn**	**01 31 54.3**	**-3.8**
	baz=140,slow=22,SNR=7.9						
ESDC	**Sonseca Array**	**5.40**	**323**	P	**Pn**	**01 30 58.9**	**+3.1**
	0.5nm,0.6s,SNR=7.9						
ESDC				S	**Sn**	**01 31 54.3**	**-3.8**
	SNR=7.9						

IDC ***11*** *02:09:41.8±0.8, 4.˚91S×133.˚47E, h0km, mb4.1/5, mb1 4.3/8, mb1mx4.1/18, mbtmp4.2/8, ML3.8/3, MS3.6/7, Ms1 3.6/7, ms1mx3.2/32, Error ellipse: s-maj=65.3km s-min=17.6km az=71.0*
ISCJB ***11*** *02:09:42.7±0.5, 4.˚95S±0.˚05×133.˚60E±0.˚05, h25km, mb4.1/5, MS3.7/5, Error ellipse: s-maj=8.3km s-min=5.7km az=145.4*
DJA ***11*** *02:09:48.5±0.5, 5˚S±4.˚×13.˚4E±˚, h69km±21km, M4.7/7, mb5.0/4, mB5.3/3, MLv4.5/7, Mw(mB)4.7/3*

ISC 11 02:09:45.1±0.8, 4.˚79S±0.˚07×133.˚69E±0.˚08, h25km, n23, σ1§71/22, mb4.2/5, MS3.5/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.35**	**322**	P	**Pn**	**02 10 21.3**	**-0.9**
FAKI				S	**Sn**	**02 10 47.4**	**-2.9**
BNDI	**Bandanaira**	**3.79**	**274**	P	**Pn**	**02 10 43.1**	**+1.2**
BNDI				S	**Sn**	**02 11 27.1**	**+1.4**
MWPI	**Manokwari, Pap**	**3.85**	**5**	P	x	02 10 44.1	
BAKI	**Biak**	**4.31**	**34**	P	**Pn**	**02 10 51.6**	**+2.5**
SWI	**Sorong**	**4.59**	**328**	P	**Pn**	**02 10 53.6**	**+0.6**
SWI				S	**Sn**	**02 11 43.7**	**-1.9**
MSAI	**Masohi**	**4.96**	**287**	P	**Pn**	**02 10 58.6**	**+0.5**
MSAI				S	**Sn**	**02 11 52.9**	**-1.9**
NLAI	**Namlea**	**6.76**	**283**	P	**Pn**	**02 11 24.8**	**+2.0**
	96nm,0.7s,2µm						
NLAI				S	**Sn**	**02 12 39.3**	**+0.3**
	96nm,0.7s,2µm						
SANI	**Sanana**	**8.16**	**289**	P	**Pn**	**02 11 40.6**	**-1.4**
	35nm,0.8s						
SANI				S	Sn	02 13 06.2	-7.3
	35nm,0.8s						
PMG	**Port Moresby**	**14.12**	**110**	LR	LR	02 18 38.4	
	comp=Z,79nm,20.4s,baz=267,slow=38						
WRA	**Warramunga Arr**	**15.08**	**178**	P	**Pn**	**02 13 13.1**	**-3.6**
	0.7nm,0.3s,baz=348,slow=14,SNR=29						
WRA				Sn	Sn	02 15 51.9	-11
	0.3nm,0.3s,baz=358,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**18.77**	**179**	P	**P**	**02 14 01.8**	**-0.8**
	0.4nm,0.3s,baz=1.0,slow=11,SNR=29						
ASAR				S	Sn	02 17 22.8	-10
	0.1nm,0.3s,baz=2.7,slow=26,SNR=8.4						
ASAR				LR	LR	02 21 48.9	
	comp=Z,158nm,19.5s,baz=283,slow=39						
CTA	**Charters Tower**	**19.51**	**142**	P	**P**	**02 14 10.9**	**+0.2**
	0.1nm,0.3s,baz=345,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**27.95**	**166**	P	**P**	**02 15 32.3**	**-1.4**
	1.8nm,0.7s,baz=324,slow=8.7,SNR=2.9						
STKA				LR	LR	02 27 41.8	
	comp=Z,65nm,20.8s,baz=27,slow=39						
JCJ	**Chichijima**	**32.74**	**14**	LR	LR	02 27 32.9	
	comp=Z,89nm,19.0s,baz=130,slow=32						
DZM	**Mont Dzumac**	**36.06**	**122**	LR	LR	02 28 02.9	
	comp=Z,839nm,20.9s,baz=54,slow=30						
USRK	**Ussuriysk Arra**	**48.79**	**358**	P	**P**	**02 18 28.8**	**+0.7**
	3.8nm,0.8s,baz=168,slow=7.7,SNR=9.6						
SONM	**Songino Array**	**57.63**	**339**	P	**P**	**02 19 34.2**	**+0.9**
	0.9nm,0.9s,baz=158,slow=8.9,SNR=6.9						
FX1	**Attu Island--F**	**66.41**	**25**	LR	LR	02 46 55.8	
	comp=Z,33nm,22.0s,baz=264,slow=34						
MKAR	**Makanchi Array**	**68.48**	**325**	P	**P**	**02 20 45.8**	**+0.5**
	1.8nm,0.8s,baz=117,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**71.30**	**332**	P	**P**	**02 21 02.5**	**0.0**
	2.2nm,0.8s,baz=102,slow=4.9,SNR=9.6						
VNDA	**Vanda**	**74.21**	**174**	LR	LR	02 54 42.9	
	comp=Z,65nm,19.0s,baz=60,slow=36						
TORD	**Torodi Ar. Bea**	**131.94**	**283**	PKP	**PKPdf**	**02 28 58.6**	**+1.2**
	0.9nm,0.8s,baz=51,slow=2.2,SNR=4.9						
LPAZ	**La Paz**	**149.92**	**135**	PKPbc	**PKPbc**	**02 29 37.2**	**+2.1**
	0.9nm,0.6s,baz=221,slow=4.4,SNR=6.1						

ISCJB ***11*** *02:31:23.0±0.7, 8.˚6S±0.˚1×159.˚0E±0.˚1, h111km, mb3.5/7, Error ellipse: s-maj=17.9km s-min=11.6km az=35.6*
IDC ***11*** *02:31:24.1±2.8, 8.˚52S×158.˚97E, h106km±34km, mb3.6/7, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, Error ellipse: s-maj=47.4km s-min=19.2km az=135.0*

ISC 11 02:31:24.3±0.8, 8.˚5S±0.˚1×159.˚1E±0.˚1, h111km, n15, σ1§14/12, mb3.5/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.25**	**135**	P	**Pn**	**02 31 47.6**	**-0.6**
	83nm,0.3s,baz=238,slow=2.8,SNR=21						
HNR				S	**Sn**	**02 32 07.2**	**+0.9**
	344nm,0.3s,baz=11,slow=22,SNR=34						
HNR	**Honiara**	**1.25**	**135**	*e*P	**Pn**	**02 31 46.0**	**-2.2**
HNR				*i* S	**Sn**	**02 32 08.0**	**+1.7**
WRA	**Warramunga Arr**	**26.46**	**242**	P	**P**	**02 36 50.5**	**-0.7**
	0.5nm,0.4s,baz=64,slow=8.6,SNR=16						
H11S3	**WAKE ISLAND Hy**	**27.90**	**16**	T	T	03 05 46.0	
	baz=196,slow=78,SNR=19						
H11S2	**WAKE ISLAND Hy**	**27.90**	**16**	T	T	03 05 53.1	
	baz=196,slow=78,SNR=22						
H11S1	**WAKE ISLAND Hy**	**27.91**	**16**	T	T	03 05 53.4	
	baz=196,slow=78,SNR=19						
STKA	**Stephens Creek**	**28.33**	**213**	P	**P**	**02 37 08.6**	**+0.9**
	0.9nm,0.5s,baz=44,slow=15,SNR=5.2						
ASAR	**Alice Springs**	**28.39**	**235**	P	**P**	**02 37 07.8**	**-0.7**
	0.8nm,0.4s,baz=63,slow=9.7,SNR=13						
H11N1	**WAKE ISLAND Hy**	**29.12**	**15**	T	T	03 07 23.0	
	baz=196,slow=72,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**29.12**	**15**	T	T	03 07 25.6	
	baz=196,slow=72,SNR=12						
H11N2	**WAKE ISLAND Hy**	**29.13**	**15**	T	T	03 07 25.8	
	baz=196,slow=72,SNR=12						
SONM	**Songino Array**	**72.83**	**326**	P	**P**	**02 42 42.1**	**+1.0**
	1.1nm,0.6s,baz=139,slow=5.8,SNR=12						
ILAR	**Eielson Array**	**83.36**	**20**	P	**P**	**02 43 38.7**	**0.0**
	0.3nm,0.5s,baz=260,slow=5.1,SNR=5.8						
MKAR	**Makanchi Array**	**87.23**	**318**	P	**P**	**02 43 58.3**	**0.0**
	0.3nm,0.6s,baz=90,slow=5.8,SNR=2.8						
MKAR				pP	**pP**	**02 44 26.8**	**-0.3**
	0.6nm,0.6s,baz=115,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**95.81**	**28**	P	**P**	**02 44 37.6**	**-0.2**
	0.1nm,0.7s,baz=271,slow=4.9,SNR=3.0						

KRSC 11 02:34:02.7±2.5, 53.˚53N×162.˚60E, h100km±20km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.15**	**334**	*e*P	Pn	02 34 24.2	-0.5
MKZ				*e*S	Sn	02 34 43.1	+1.7
NLC	**Nalytchevo**	**1.98**	**261**	*e*P	Pn	02 34 34.7	-0.3
NLC				*e*S	Sn	02 35 01.6	+1.9
KZV	**Kizimen**	**2.08**	**321**	*e*P	Pn	02 34 38.4	+1.9
KZV				*e*S	Sn	02 35 07.3	+4.9
SDLR	**Sedlovina**	**2.24**	**265**	*e*P	Pn	02 34 39.3	+0.8
SDLR				*e*S	Sn	02 35 08.6	+2.7
TUMR	**Tumrok**	**2.27**	**322**	*e*P	Pn	02 34 40.6	+1.7
TUMR				*e*S	Sn	02 35 11.2	+4.6
UGLR	**Uglovaya**	**2.29**	**263**	*i* P	Pn	02 34 40.0	+0.9
UGLR				*e*S	Sn	02 35 10.1	+3.1
SMAR	**Somma**	**2.29**	**265**	*e*P	Pn	02 34 40.1	+0.8
SMAR				*e*S	Sn	02 35 09.9	+2.6
KRER	**Koryakskii**	**2.32**	**266**	*e*P	Pn	02 34 41.

	SNR=14								
AAK	**Ala-Archa**	**3.04**	**10**	⇑Pn		**Pb**	**02 38 22.4**	**-0.1**
	17nm,0.5s								
AAK				⇓Lg		Lg	02 39 05.5		
	68nm,0.6s								
AAK	**Ala-Archa**	**3.04**	**10**	PN		**Pb**	**02 38 22.1**	**-0.4**
AAK							02 39 02.7		
AAK				pmax	pmax				
	comp=Z,10.0nm,0.3s								
AAK				smax	smax				
	comp=N,7.0nm,0.3s								
AAK				MLR	MLR				
	comp=Z,81nm,19.1s								
AAK	**Ala-Archa**	**3.04**	**10**	P		**Pb**	**02 38 22.4**	**-0.1**
	SNR=35								
AAK	**Ala-Archa**	**3.04**	**10**	Pn		**Pb**	**02 38 22.1**	**-0.4**
	comp=Z,10nm,0.3s,baz=154,slow=7.0,SNR=133								
AAK				Sn		**Sg**	**02 39 02.7**	**-2.6**	
	comp=Z,6.6nm,0.3s,baz=153,slow=6.8,SNR=7.9								
AAK				LR		LR	02 39 46.3		
	comp=Z,81nm,19.1s,baz=107,slow=43								
KBK	**Karagaybulak**	**3.14**	**16**	*i* PN		**Pb**	**02 38 24.2**	**-0.1**
KBK	**Karagaybulak**	**3.14**	**16**	P		**Pb**	**02 38 24.2**	**-0.1**
	SNR=19								
ULHL	**Ulahol**	**3.20**	**35**	P		**Pb**	**02 38 26.7**	**+1.3**
	SNR=22								
CHMS	**Chumysh**	**3.43**	**12**	*i* PN		**Pb**	**02 38 28.3**	**-0.9**
CHMS	**Chumysh**	**3.43**	**12**	P		**Pb**	**02 38 28.4**	**-0.9**
	SNR=13								
TKM2	**Tokmak 2**	**3.55**	**22**	⇑Pn		**Pb**	**02 38 29.8**	**-1.6**
	comp=Z,8.5nm,0.6s								
TKM2				⇓Lg		Lg	02 39 23.7		
	comp=Z,18nm,0.5s								
TKM2	**Tokmak 2**	**3.55**	**22**	PN		**Pb**	**02 38 29.7**	**-1.6**
TKM2							02 39 23.6		
TKM2				pmax	pmax				
	comp=Z,6.0nm,0.4s								
TKM2				pmax	pmax				
	comp=N,19nm,0.6s								
USP	**Ospenovka**	**3.66**	**8**	*i* PN		**Pb**	**02 38 30.8**	**-2.3**
USP	**Ospenovka**	**3.66**	**8**	P		**Pb**	**02 38 30.9**	**-2.3**
	SNR=9.4								
KK31	**Karatay Array**	**4.24**	**326**	⇓Pn		Pn	02 38 37.3	+4.0	
	comp=N,1.0nm,0.2s,baz=126,slow=12,SNR=90								
KK31				Pg		**Pg**	**02 38 49.9**	**+0.9**	
	comp=N,3.1nm,0.3s,baz=145,slow=14,SNR=7.4								
KK31				⇓Sn		**Sn**	**02 39 27.2**	**+3.9**	
	comp=N,4.8nm,0.3s								
KK31				⇑Lg		Lg	02 39 42.3		
	comp=N,16nm,0.5s,baz=141,slow=28,SNR=4.8								
KK31	**Karatay Array**	**4.24**	**326**	*e*PN		Pn	02 38 36.8	+3.5	
KK31				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KK31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
KK31				pmax	pmax				
	comp=N,13nm,0.5s								
MKAR	**Makanchi Array**	**9.46**	**38**	P		**Pn**	**02 39 46.4**	**+1.4**	
MKAR	**Makanchi Array**	**9.46**	**38**	Pn		**Pn**	**02 39 46.4**	**+1.4**	
	comp=N,0.0nm,0.3s,baz=216,slow=12,SNR=3.0								
MKAR				Lg		Lg	02 42 28.6		
	comp=N,0.1nm,0.3s,baz=226,slow=30,SNR=3.6								
MK31	**Makanchi Array**	**9.46**	**38**	⇑Pn		Pn	02 39 51.5	+6.5	
MK31				⇑Lg		Lg	02 42 29.1		
	comp=N,2.5nm,0.9s								
MK31	**Makanchi Array**	**9.46**	**38**	P		Pn	02 39 51.5	+6.5	
KURBB	**Kurchatov Arra**	**11.48**	**15**	Pn		**Pn**	**02 40 14.6**	**+2.1**	
	comp=N,0.0nm,0.3s,baz=205,slow=12,SNR=2.4								
KURK	**Kurchatov**	**11.58**	**15**	P		**Pn**	**02 40 14.6**	**+0.7**	
BVA0	**Borovoye Array**	**13.59**	**351**	⇑Pn		**Pn**	**02 40 43.7**	**+2.4**	
	comp=N,2.6nm,1.0s,baz=169,slow=13,SNR=8.6								
BVA0				⇑Lg		Lg	02 44 40.0		
	comp=N,6.1nm,1.2s								
BVA0	**Borovoye Array**	**13.59**	**351**	*i* P		**Pn**	**02 40 42.8**	**+1.5**	
BVA0				pmax	pmax				
	comp=Z,3.0nm,1.3s								
BVAR	**Borovoye Array**	**13.59**	**351**	P		**Pn**	**02 40 41.7**	**+0.5**	
BVAR	**Borovoye Array**	**13.59**	**351**	Pn		**Pn**	**02 40 41.7**	**+0.5**	
	comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=9.9								
BVAR				Lg		Lg	02 44 43.5		
	comp=Z,0.2nm,0.3s,baz=154,slow=27,SNR=2.9								
BRVK	**Borovoye**	**13.63**	**351**	⇓Pn		**Pn**	**02 40 44.0**	**+2.1**	
	comp=Z,3.9nm,0.8s								
BRVK				⇑Lg		Lg	02 44 42.2		
	comp=Z,12nm,1.5s								
BRVK	**Borovoye**	**13.63**	**351**	*i* P		**Pn**	**02 40 40.9**	**-1.0**	
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
AB31	**Akbulak array**	**13.76**	**319**	⇓Pn		**Pn**	**02 40 44.1**	**+0.4**	
	comp=Z,1.2nm,0.8s								
AB31				⇑Sn		**Sn**	**02 43 13.1**	**-3.9**	
	comp=Z,0.7nm,0.6s								
AB31	**Akbulak array**	**13.76**	**319**	P		**Pn**	**02 40 43.6**	**-0.1**	
AB31							02 43 11.5		
AKTO	**Aktyubinsk**	**15.47**	**319**	⇓Pn		**Pn**	**02 41 07.6**	**+0.8**	
	comp=Z,4.2nm,0.9s								
AKTO	**Aktyubinsk**	**15.47**	**319**	P		**Pn**	**02 41 06.8**	**-0.1**	
AKTO				pmax	pmax				
	comp=Z,4.0nm,1.2s								
AKTO	**Aktyubinsk**	**15.47**	**319**	Pn		**Pn**	**02 41 07.4**	**+0.5**	
	comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=8.5								
ZALV	**Zalesovo Beam**	**16.15**	**24**	P		**P**	**02 41 18.3**	**-0.7**	
ZALV	**Zalesovo Beam**	**16.15**	**24**	Pn		**P**	**02 41 18.2**	**-0.7**	
	comp=Z,0.2nm,0.3s,baz=224,slow=6.2,SNR=5.5								
KIV	**Kislovodsk**	**23.50**	**291**	*e*P		**P**	**02 42 34.6**	**-4.2**	
KIV				*e*S		S	02 46 45.3	-8.0	
KIV				pmax	pmax				
	comp=Z,4.0nm,0.9s								
BRTR	**Keskin Array B**	**30.71**	**283**	P		**P**	**02 43 45.3**	**+1.3**	
	comp=Z,0.4nm,0.7s,baz=72,slow=9.5,SNR=2.2								
AKASG	**Malin Array Be**	**32.83**	**305**	P		**P**	**02 44 03.0**	**+0.7**	
AKASG	**Malin Array Be**	**32.83**	**305**	P		**P**	**02 44 03.0**	**+0.7**	
	comp=Z,0.1nm,0.3s,baz=79,slow=7.9,SNR=4.0								
FINES	**FINESS Array B**	**36.20**	**323**	P		**P**	**02 44 32.3**	**+1.0**	
	comp=Z,0.6nm,0.4s,baz=112,slow=9.2,SNR=15								
ARCES	**ARCESS Array B**	**39.14**	**335**	P		**P**	**02 44 57.1**	**+0.9**	
	comp=Z,6.8nm,1.0s,baz=104,slow=8.9,SNR=8.8								
GERES	**GERESS Array B**	**42.99**	**303**	P		**P**	**02 45 29.7**	**+1.4**	
	comp=Z,0.2nm,0.6s,baz=54,slow=10.0,SNR=2.8								
NB2	**NORSAR Subarra**	**43.26**	**321**	P		**P**	**02 45 30.7**	**+0.5**	
	comp=Z,0.1nm,0.6s,baz=93,slow=8.6								
NOA	**NORSAR Array B**	**43.26**	**321**	P		**P**	**02 45 30.6**	**+0.5**	
	comp=Z,0.6nm,0.7s,baz=90,slow=8.1,SNR=3.8								
BFO	**Black Forest**	**46.58**	**303**	*i* P		**P**	**02 45 54.6**	**-2.2**	
TORD	**Torodi Ar. Bea**	**67.98**	**269**	P		**P**	**02 48 27.4**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=46,slow=5.3,SNR=7.2								
ILAR	**Eielson Array**	**71.15**	**17**	P		**P**	**02 48 47.4**	**+0.1**	
	comp=Z,0.2nm,0.8s,baz=325,slow=6.0,SNR=3.2								
YKA	**Yellowknife Ar**	**77.99**	**4**	P		**P**	**02 49 27.3**	**+0.4**	
	comp=Z,0.3nm,0.6s,baz=350,slow=5.8,SNR=8.4								
WRA	**Warramunga Arr**	**81.86**	**124**	P		**P**	**02 49 47.9**	**-0.6**	
	comp=Z,0.4nm,0.7s,baz=327,slow=4.8,SNR=3.8								
ASAR	**Alice Springs**	**84.32**	**127**	P		**P**	**02 49 59.9**	**-1.3**	
	comp=Z,4.4nm,0.3s,baz=304,slow=4.1,SNR=2.8								

*NEIC **11** 02:38:09.0, 39.70N× 111.26W, h1km, ML2.8(SLC), After SLC.*
*IDC **11** 02:38:13.3± 1.9, 39.82N× 111.24W, h26km± 17km, mb3.3/1, mb1 3.5/6, mb1mx3.2/32, mbtmp3.1/6, ML2.8/5, Error ellipse: s-maj=14.3km s-min=9.0km az=160.0*

ISC 11 02:38:13.2±1.1, 39.83N±0.03×111.33W±0.02, h11km±10km, n46, σ1.953/62, Utah

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MPU	**Maple Canyon**	**0.30**	**309**	*e*Pg		**Pg**	**02 38 18.3**	**-1.1**
TMUT	**Trail Mountain**	**0.54**	**170**	*e*Pg		Pg	02 38 18.0	-5.8
DAU	**Daniels Canyon**	**0.59**	**5**	*e*Pg		**Pg**	**02 38 23.6**	**-1.2**
NLU	**North Lily Min**	**0.59**	**283**	*e*Pg		**Pg**	**02 38 23.2**	**-1.5**
JLU	**Jordanelle**	**0.78**	**353**	*e*Pg		**Pg**	**02 38 27.5**	**-0.9**
CTU	**Camp Tracy**	**0.92**	**340**	*e*Pg		**Pg**	**02 38 30.2**	**-0.9**
SRU	**San Rafael**	**0.95**	**139**	*e*Pg		Pg	02 38 25.0	-6.6
SRU				*e*S		**Sn**	**02 38 46.0**	**-0.4**
DUG	**Dugway**	**1.20**	**288**	*e*Pn		**Pn**	**02 38 34.2**	**-2.0**
MVU	**Marysvale**	**1.49**	**208**	*e*Pn		Pn	02 38 36.6	-3.6
BGU	**Big Grassy Mou**	**1.70**	**311**	*e*Pn		**Pn**	**02 38 41.2**	**-1.8**
BGU				*e*S		**Sg**	**02 39 09.0**	**+1.0**
SPUT	**South Promonto**	**1.71**	**330**	*e*Pn		**Pn**	**02 38 42.3**	**-0.9**
SPUT				*e*S		**Sg**	**02 39 10.0**	**+1.8**
HVU	**Hansel Valley**	**2.24**	**331**	*e*Pn		**Pn**	**02 38 49.7**	**-0.7**
PV04	**Paradox Valley**	**2.37**	**126**	*e*Pn		**Pn**	**02 38 49.9**	**-2.4**
PV04				*e*S		**Sn**	**02 39 21.1**	**-0.3**
O20A	**White River Ci**	**2.39**	**82**	*e*Pn		**Pn**	**02 38 52.1**	**-0.5**
O20A				*e*S		**Sb**	**02 39 25.5**	**-0.6**
ARUT	**Antelope Range**	**2.62**	**220**	*e*Pn		**Pn**	**02 38 54.7**	**-1.0**
PV01	**Paradox Valley**	**2.73**	**127**	*e*Pn		**Pn**	**02 38 54.9**	**-2.5**
PV01				*e*S		**Sn**	**02 39 31.1**	**+0.6**
CCUT	**Cedar City**	**2.77**	**216**	*e*Pn		Pn	02 38 54.1	-3.8
CCUT				*e*Pg		**Pb**	**02 39 01.4**	**-1.6**
CCUT				*e*S		**Sn**	**02 39 30.2**	**-1.3**
ELK	**Elko**	**3.13**	**288**	Pn		**Pn**	**02 39 02.5**	**-0.2**
ELK				Lg		Lg	02 39 51.5		
ELK	**Elko**	**3.13**	**288**	Pn		**Pn**	**02 39 02.5**	**-0.2**
	0.2nm,0.3s,baz=90,slow=20,SNR=6.1								
ELK				Lg		Lg	02 39 51.5		
	0.2nm,0.3s,baz=90,slow=20,SNR=4.1								
BW06	**Boulder Array**	**3.23**	**24**	*e*Pn		**Pn**	**02 39 02.4**	**-1.7**
BW06				*e*Pg		**Pg**	**02 39 12.8**	**-2.3**
BW06				*e*S		**Sg**	**02 39 58.6**	**+1.7**
PDAR	**Pinedale Array**	**3.23**	**24**	Pn		**Pn**	**02 39 02.8**	**-1.4**
PDAR				Pg		**Pb**	**02 39 12.5**	**+1.8**
PDAR				Lg		Lg	02 39 56.4		
PDAR	**Pinedale Array**	**3.23**	**24**	Pn		**Pn**	**02 39 02.8**	**-1.4**
	0.3nm,0.3s,baz=187,slow=12,SNR=25								
PDAR				Pg		**Pb**	**02 39 12.5**	**+1.8**	
	1.0nm,0.3s,baz=198,slow=14,SNR=32								
PDAR				Lg		Lg	02 39 56.4		
	0.4nm,0.3s,baz=194,slow=29,SNR=3.0								
MVCO	**Mesa Verde**	**3.43**	**139**	*e*Pn		Pn	02 39 03.2	-3.6	
MVCO				*e*Pg		**Pb**	**02 39 14.5**	**+0.4**	
MVCO				*e*S		**Sb**	**02 39 56.4**	**+0.4**	
R11A	**Troy Canyon, C**	**3.63**	**247**	*e*Pn		**Pn**	**02 39 08.2**	**-1.4**
R11A				*e*Pg		**Pb**	**02 39 17.5**	**0.0**
R11A				*e*S		**Sb**	**02 40 05.5**	**+3.9**
WUAZ	**Wupatki**	**4.30**	**180**	*e*Pn		Pn	02 39 15.0	-3.8
WUAZ				*e*Pg		**Pb**	**02 39 27.2**	**-1.8**
WUAZ				*e*S		**Sb**	**02 40 20.5**	**-0.5**
HLID	**Hailey**	**4.39**	**329**	*e*Pn		**Pn**	**02 39 21.0**	**+1.0**
HLID				*e*S		**Sg**	**02 40 32.8**	**-1.3**
ISCO	**Idaho Springs**	**4.40**	**89**	Pn		Pn	02 39 15.1	-5.2
ISCO				*e*Pg		**Pb**	**02 39 31.1**	**+0.3**
ISCO				*e*S		**Sb**	**02 40 24.2**	**+0.1**
SHPR	**Sheep Range**	**4.48**	**224**	*e*Pn		Pn	02 39 17.4	-4.0
SHPR				*e*Pg		**Pb**	**02 39 33.2**	**+1.1**
SHPR				*e*S		**Sb**	**02 40 26.6**	**+0.3**
K22A	**Casper**	**4.59**	**51**	Pn		**Pn**	**02 39 21.3**	**-1.5**
K22A				*e*S		**Sn**	**02 40 15.7**	**-0.6**
SDCO	**Great Sand Dun**	**5.00**	**113**	*e*Pn		**Pn**	**02 39 26.6**	**-2.0**
SDCO				*e*S		**Sb**	**02 40 43.9**	**+2.6**
MCMT	**McKenzie Canyo**	**5.12**	**348**	Pn		**Pn**	**02 39 32.0**	**+1.8**
	2.6nm,0.9s								
NV11	**Mina Array Sit**	**5.49**	**257**	Pn		**Pn**	**02 39 32.8**	**-2.3**
NV11				*e*Pg		Pb	02 39 54.7	+5.5	
NV11				*e*S		Sb	02 41 04.0	+8.9	
NVAR	**Mina Array Bea**	**5.60**	**258**	Pn		**Pn**	**02 39 38.4**	**+1.6**	
NVAR				Pg		Pb	02 39 55.3	+4.1	
NVAR	**Mina Array Bea**	**5.60**	**258**	Pn		**Pn**	**02 39 38.4**	**+1.6**	
	0.2nm,0.3s,baz=77,slow=14,SNR=5.8								
NVAR				Pg		Pb	02 39 55.3	+4.1	
	0.4nm,0.3s,baz=80,slow=16,SNR=12								
PAHR	**Pah Rah Range**	**6.21**	**271**	*e*Pn		**Pn**	**02 39 44.3**	**-0.7**	
	5.1nm,0.8s								
ANMO	**Albuquerque**	**6.23**	**140**	Pn		Pn	02 39 40.9	-4.4	
ANMO				Lg		Lg	02 41 18.1		
ANMO	**Albuquerque**	**6.23**	**140**	Pn		Pn	02 39 40.9	-4.4	
	0.2nm,0.3s,baz=347,slow=12,SNR=10.0								
ANMO				Lg		Lg	02 41 18.1		
	0.2nm,0.3s,baz=270,slow=20,SNR=2.9								
LAZ	**Ladron**	**6.37**	**147**	Pn		**Pn**	**02 39 44.5**	**-2.7**	
LAZ				*e*Pg		Pg	02 40 09.3	-5.8	
LAZ				*e*S		Sb	02 41 25.2	+4.8	
LPM	**Los Pinos Moun**	**6.66**	**144**	*e*Pg		**Pb**	**02 40 11.4**	**+2.2**	
	5.8nm,0.8s								
BNM	**Barren Site**	**6.80**	**145**	Pn		Pn	02 39 47.1	-6.1	
BNM				*e*Pg		Pb	02 40 13.8	+2.2	
BNM				*e*S		Sb	02 41 38.3	+5.4	
TUC	**Tucson**	**7.51**	**176**	*e*Pn		Pn	02 39 57.6	-5.3	
TUC				*e*Pg		**Pb**	**02 40 26.3**	**+2.6**	
TUC				*e*S		**Sb**	**02 41 54.1**	**+0.8**	
121A	**Cookes Peak, D**	**7.82**	**157**	Pn		**Pn**	**02 40 08.3**	**+1.1**	
121A				Pg		Pb	02 40 32.5	+3.5	
121A				*e*S		**Sg**	**02 42 25.1**	**+0.8**	
TXAR	**Lajitas Array**	**12.22**	**147**	Pn		**Pn**	**02 41 07.2**	**-0.1**	
TXAR	**Lajitas Array**	**12.22**	**147**	Pn		**Pn**	**02 41 07.2**	**-0.1**	
	0.0nm,0.3s,baz=334,slow=13,SNR=4.3								
YKA	**Yellowknife Ar**	**22.78**	**356**	P		**P**	**02 43 14.4**	**-1.1**	
YKA	**Yellowknife Ar**	**22.78**	**356**	P		**P**	**02 43 14.4**	**-1.1**	
	1.4nm,1.0s,baz=169,slow=9.3,SNR=3.6								

*MOS **11** 02:57:52.6± 1.5, 50.04N× 155.16E, h116km, mb4.1/2, Error ellipse: s-maj=40.7km s-min=10.8km az=62.2*
*SKHL **11** 02:57:54.4± 3.0, 50.03N× 155.35E, h120km± 3km, mb4.2/1, msh5.6/1*
*KRSC **11** 02:57:55.6± 2.5, 49.76N× 156.73E, h100km± 16km, ML4.0*
*IDC **11** 02:57:58.0± 3.9, 50.21N× 155.31E, h143km± 29km, mb3.2/7, mb1 3.7/8, mb1mx3.3/26, mbtmp3.8/8, Error ellipse: s-maj=48.5km s-min=19.9km az=164.0*

ISC 11 02:57:51.3±2.1, 49.5N±0.2×156.1E±0.1, h84km±16km, n52, σ2.502/56, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.14**	**2**	*e*PN		**Pn**	**02 58 11.3**	**-1.0**
SKR				*e*S		**Sn**	**02 58 26.6**	**-1.4**
SKR				pmax	pmax			
	comp=N,40nm,0.4s							
SKR				pmax	pmax			
	comp=Z,130nm,0.4s							
SKR				smax	smax			
	comp=N,1μm,0.2s							
SKR				smax	smax			
	comp=E,830nm,0.2s							
SKR	**Severo-Kuril's**	**1.14**	**2**	*i* P		Pn	02 58 16.5	+4.2
SKR				*e*S		**Sn**	**02 58 31.8**	**+3.8**
SKR	**Severo-Kuril's**	**1.14**	**2**	*e*P		**Pn**	**02 58 11.3**	**-1.0**
SKR				AMB	AMB		02 58 11.6	
	comp=E,40nm,0.4s							
SKR				AMB	AMB		02 58 11.6	
	comp=E,130nm,0.4s							
SKR				*e*rx		rx	02 58 13.0	
SKR				*e*S		**Sn**	**02 58 26.6**	**-1.4**
SKR				A	A		02 58 27.5	
	comp=E,1μm,0.3s							
SKR				A	A		02 58 27.5	
	comp=E,830nm,0.3s							
SKR				A	A		02 58 27.5	
	comp=E,180nm,0.3s							
PAU	**Pauzhetka**	**1.99**	**14**	PN		**Pn**	**02 58 25.5**	**+2.5**
PAU				S		**Sn**	**02 58 47.8**	**+0.5**
PAU	**Pauzhetka**	**1.99**	**14**	*i* P		Pn	02 58 25.5	+2.5
PAU				*e*S		**Sn**	**02 58 47.8**	**+0.5**
PAU	**Pauzhetka**	**1.99**	**14**	*e*P		**Pn**	**02 58 25.6**	**+2.5**
PAU				*e*S		**Sn**	**02 58 47.8**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.77**	**9**	*e*P		**Pn**	**02 58 34.9**	**+1.3**
ASAK	**Asacha**	**3.08**	**22**	*e*P		**Pn**	**02 58 40.5**	**+2.8**
ASAK				*e*S		**Sn**	**02 59 13.7**	**+0.2**
MTVR	**Mutnovka**	**3.24**	**24**	*e*P		**Pn**	**02 58 42.8**	**+2.8**
MTVR				*e*S		**Sn**	**02 59 17.1**	**-0.5**
GRL	**Gorelyy**	**3.27**	**22**	*e*P		**Pn**	**02 58 43.4**	**+3.0**
RUS	**Russkaya**	**3.29**	**27**	PN		**Pn**	**02 58 42.2**	**+1.7**
RUS				S		**Sn**	**02 59 16.6**	**-1.9**
RUS	**Russkaya**	**3.29**	**27**	*e*P		**Pn**	**02 58 42.2**	**+1.7**
RUS				*e*S		**Sn**	**02 59 16.6**	**-1.9**
RUS	**Russkaya**	**3.29**	**27**	*e*P		**Pn**	**02 58 42.2**	**+1.7**
RUS				*e*S		**Sn**	**02 59 16.6**	**-1.9**
APC	**Apacha**	**3.46**	**11**	*e*P		**Pn**	**02 58 45.3**	**+2.5**
APC				*e*S		**Sn**	**02 59 21.8**	**-0.9**
PETK	**Petropavlovsk-**	**3.72**	**16**	Pn		**Pn**	**02 58 47.3**	**+0.9**
PETK				S		**Sn**	**02 59 28.7**	**-0.3**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK				smax	smax			
	comp=N,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**3.72**	**16**	P		**Pn**	**02 58 47.2**	**+0.9**
	comp=N,1.4nm,0.3s,baz=186,slow=13,SNR=6.6							
PETK				S		**Sn**	**02 59 28.6**	**-0.3**
	comp=N,0.7nm,0.3s,baz=181,slow=17,SNR=1.8							
PET	**Petropavlovsk**	**3.85**	**24**	PN		**Pn**	**02 58 49.9**	**+1.8**
PET	**Petropavlovsk**	**3.85**	**24**	P		**Pn**	**02 58 49.9**	**+1.8**
PET	**Petropavlovsk**	**3.85**	**24**	*e*P		**Pn**	**02 58 49.9**	**+1.8**
UGLR	**Uglovaya**	**4.06**	**24**	*e*P		**Pn**	**02 58 54.3**	**+3.2**
KOK	**Koryaka**	**4.09**	**22**	*e*P		**Pn**	**02 58 54.4**	**+2.9**
AVH	**Avacha**	**4.09**	**23**	*e*P		Pn	02 58 55.1	+3.6
AVH				*e*S		**Sn**	**02 59 36.7**	**-1.4**
SMAR	**Somma**	**4.11**	**24**	*e*P		**Pn**	**02 58 54.6**	**+2.8**
KRER	**Koryakskii**	**4.13**	**23**	*e*P		**Pn**	**02 58 54.7**	**+2.6**
SDLR	**Sedlovina**	**4.14**	**24**	*e*P		**Pn**	**02 58 54.5**	**+2.3**
SDLR				*e*S		**Sn**	**02 59 38.4**	**-1.0**
KRX	**Arik**	**4.15**	**22**	*e*P		**Pn**	**02 58 54.9**	**+2.5**
GNL	**Ganaly**	**4.32**	**15**	*e*P		**Pn**	**02 58 56.0**	**+1.3**
MKZ	**Mys Kozlova**	**6.12**	**33**	PN		**Pn**	**02 59 20.6**	**+1.6**
MKZ				S		**Sn**	**03 00 23.1**	**-4.4**
MKZ	**Mys Kozlova**	**6.12**	**33**	*e*P		**Pn**	**02 59 20.6**	**+1.6**
MKZ				*e*S		**Sn**	**03 00 23.1**	**-4.4**
KZV	**Kizimen**	**6.16**	**23**	*e*P		**Pn**	**02 59 21.7**	**+2.1**
TUMR	**Tumrok**	**6.27**	**22**	*e*P		**Pn**	**02 59 23.1**	**+1.9**
KBTR	**Krutoberegovo**	**7.83**	**29**	PN		**Pn**	**02 59 42.2**	**-0.1**
KBTR	**Krutoberegovo**	**7.83**	**29**	*e*P		**Pn**	**02 59 42.2**	**-0.1**
BKI	**Bering**	**8.30**	**43**	*e*S		Sn	03 01 11.7	-9.0
FX1	**Attu Island--F**	**11.24**	**66**	P		Pn	03 00 36.2	+7.5
	comp=N,1.1nm,0.3s,baz=258,slow=10,SNR=6.0							
FX1				S		**Sn**	**03 02 32.4**	**0.0**
	comp=N,4.9nm,0.3s,baz=157,slow=15,SNR=10							
H11N2	**WAKE ISLAND Hy**	**30.98**	**160**	T		T	03 37 26.7	
	baz=350,slow=78,SNR=3.9							
H11N1	**WAKE ISLAND Hy**	**31.00**	**160**	T		T	03 37 24.5	
	baz=350,slow=78,SNR=3.1							
H11N3	**WAKE ISLAND Hy**	**31.00**	**160**	T		T	03 37 31.9	
	baz=350,slow=78,SNR=6.8							
H11S1	**WAKE ISLAND Hy**	**32.12**	**161**	T		T	03 38 47.1	
	baz=350,slow=77,SNR=21							
H11S3	**WAKE ISLAND Hy**	**32.13**	**161**	T		T	03 38 50.9	
	baz=350,slow=77,SNR=32							
H11S2	**WAKE ISLAND Hy**	**32.14**	**161**	T		T	03 38 53.8	
	baz=350,slow=77,SNR=27							
ILAR	**Eielson Array**	**33.14**	**41**	P		**P**	**03 04 17.9**	**-1.1**
	comp=N,0.5nm,0.5s,baz=273,slow=9.0,SNR=7.3							
MKAR	**Makanchi Array**	**47.43**	**296**	P		P	03 06 11.1	-6.0
MKAR	**Makanchi Array**	**47.43**	**296**	P		P	03 06 11.1	-6.0
	comp=N,0.2nm,0.6s,baz=71,slow=9.4,SNR=2.9							
YKA	**Yellowknife Ar**	**47.51**	**39**	P		**P**	**03 06 16.5**	**-0.8**
	comp=N,0.5nm,0.7s,baz=299,slow=7.1,SNR=6.8							
CMAR	**Chiang Mai Arr**	**54.93**	**257**	P		**P**	**03 07 12.6**	**-0.8**
	comp=N,1.1nm,0.3s,baz=24,slow=6.9,SNR=2.4							
NVAR	**Mina Array Bea**	**59.44**	**65**	P		**P**	**03 07 46.8**	**+1.6**
	comp=N,0.3nm,0.7s,baz=291,slow=7.8,SNR=3.7							
PDAR	**Pinedale Array**	**61.54**	**57**	P		**P**	**03 08 00.4**	**+0.9**
	comp=N,0.9nm,0.7s,baz=325,slow=0.6,SNR=8.5							
TXAR	**Lajitas Array**	**74.44**	**63**	P		**P**	**03 09 20.9**	**+0.6**
	comp=N,0.5nm,0.5s,baz=302,slow=4.9,SNR=5.0							
H03N2	**Juan Fernandez**	**136.78**	**89**	T		T	05 49 38.2	
	baz=310							
H03N1	**Juan Fernandez**	**136.79**	**89**	T		T	05 49 37.7	
	baz=310							
H03N3	**Juan Fernandez**	**136.79**	**89**	T		T	05 49 37.8	
	baz=310							

**WEL 11 03:05:25.8±0.2, 36.95S×177.14E, h151km±2km, ML3.6/6, 2C-2D, Error ell

*IDC **11** 03:24:35.6±3.3,46°.79N×152°.90E,h68km±28km,mb3.4/7, mb1 3.6/10,mb1mx3.4/28,mbtmp3.7/10,ML3.1/3,Error ellipse: s-maj=44.1km s-min=21.8km az=169.0*

ISC 11 03:24:34.9±1.3,46°.9N±0°.2×152°.9E±0°.1,h56km,n19, σ0s74/10,mb3.6/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.98**	**24**	P	**Pn**	**03 26 15.0**	**+0.6**
	0.2nm,0.3s,baz=202,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**7.75**	**253**	P	**Pn**	**03 26 26.1**	**+1.2**
	0.6nm,0.3s,baz=85,slow=15,SNR=5.5						
USRK	**Ussuriysk Arra**	**14.90**	**267**	P	**Pn**	**03 28 01.3**	**-0.7**
	0.2nm,0.3s,baz=71,slow=12,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**29.37**	**152**	T	T	04 01 52.0	
	baz=343,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**29.38**	**152**	T	T	04 01 54.8	
	baz=343,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**29.39**	**152**	T	T	04 01 56.5	
	baz=343,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**30.46**	**154**	T	T	04 03 17.0	
	baz=344,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**30.46**	**154**	T	T	04 03 18.0	
	baz=344,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**30.48**	**154**	T	T	04 03 19.1	
	baz=344,slow=76,SNR=32						
ILAR	**Eielson Array**	**36.56**	**39**	P	**P**	**03 31 35.6**	**+0.8**
	0.2nm,0.7s,baz=283,slow=6.2,SNR=3.0						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**03 33 30.2**	**+0.2**
	0.4nm,0.8s,baz=298,slow=7.2,SNR=5.1						
NVAR	**Mina Array Bea**	**62.51**	**62**	P	**P**	**03 34 52.1**	**-0.6**
	0.2nm,0.4s,baz=336,slow=3.4,SNR=3.5						
FINES	**FINESS Array B**	**63.89**	**335**	P	**P**	**03 35 00.9**	**-0.2**
	0.9nm,0.4s,baz=43,slow=7.6,SNR=12						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**03 35 28.2**	**-0.1**
	1.1nm,0.6s,baz=30,slow=6.4,SNR=5.5						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**03 35 48.1**	**-0.5**
	0.9nm,0.4s,baz=34,slow=6.5,SNR=6.8						
TXAR	**Lajitas Array**	**77.56**	**60**	P	**P**	**03 36 24.4**	**-0.6**
	0.2nm,0.4s,baz=297,slow=5.5,SNR=6.2						
H03N2	**Juan Fernandez**	**138.89**	**90**	T	T	06 18 55.9	
	baz=307						
H03N1	**Juan Fernandez**	**138.91**	**90**	T	T	06 18 56.4	
	baz=307						
H03N3	**Juan Fernandez**	**138.91**	**90**	T	T	06 18 54.5	
	baz=307						

*NEIC **11** 03:29:24.8,52°.07N×173°.36W,h19km,ML3.6(AEIC),After AEIC.*
*IDC **11** 03:29:28.0±6.5,52°.48N×173°.77W,h108km±68km,mb3.3/5, mb1 3.6/7,mb1mx3.3/29,mbtmp3.7/7,ML3.8/2,Error ellipse: s-maj=72.6km s-min=21.6km az=154.0*

ISC 11 03:29:23.8±0.8,52°.1N±0°.2×173°.42W±0°.05,h64km±8km, n44,σ1s93/53,mb3.5/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.63**	**270**	P	**Pn**	**03 29 51.3**	**+1.0**
GSMY				S	**Sn**	**03 30 12.2**	**+1.9**
GSTR	**Great Sitkin T**	**1.63**	**272**	*e*Pn	**Pn**	**03 29 51.8**	**+1.5**
GSTR				*e*S	**Sn**	**03 30 14.8**	**+4.4**
GSTD	**Great Sitkin T**	**1.68**	**271**	P	**Pn**	**03 29 52.0**	**+0.9**
GSTD				S	**Sn**	**03 30 13.2**	**+1.5**
GSCK	**Great Sitkin C**	**1.69**	**269**	P	**Pn**	**03 29 52.3**	**+1.1**
GSCK				S	**Sn**	**03 30 13.8**	**+1.8**
ETKA	**Kagalaska Isla**	**1.86**	**265**	P	**Pn**	**03 29 54.8**	**+1.4**
ETKA				S	**Sn**	**03 30 18.1**	**+2.3**
ADAG	**Mount Adagdak**	**1.97**	**269**	P	**Pn**	**03 29 56.9**	**+2.0**
ADK	**Adak**	**2.03**	**266**	*e*Pn	**Pn**	**03 29 56.9**	**+1.3**
ADK				*e*S	**Sn**	**03 30 22.0**	**+2.1**
KIRH	**Kanaga Island**	**2.28**	**267**	P	**Pn**	**03 30 00.8**	**+1.8**
KIKV	**Kanaga Island**	**2.33**	**267**	P	**Pn**	**03 30 01.1**	**+1.3**
KIKV				S	**Sn**	**03 30 30.3**	**+3.1**
KICM	**Kanaga Island**	**2.34**	**268**	P	**Pn**	**03 30 02.0**	**+2.1**
KICM				S	**Sn**	**03 30 31.1**	**+3.6**
TAPA	**Tanaga Point A**	**2.73**	**267**	P	**Pn**	**03 30 07.3**	**+2.5**
TAFL	**Tanaga Flats**	**2.79**	**265**	P	**Pn**	**03 30 08.0**	**+1.9**
TAFP	**Tanaga Falls P**	**2.83**	**269**	P	**Pn**	**03 30 07.6**	**+1.1**
TAFP				S	**Sn**	**03 30 41.5**	**+2.1**
NIKH	**Nikolski High**	**2.94**	**70**	P	**Pn**	**03 30 09.5**	**+1.5**
NIKH				S	**Sn**	**03 30 41.7**	**-0.4**
GANE	**Gareloi Northe**	**3.32**	**268**	P	**Pn**	**03 30 14.1**	**+0.8**
GANE				S	**Sn**	**03 30 53.9**	**+2.3**
OKSP	**Okmok Steeple**	**3.34**	**67**	P	**Pn**	**03 30 15.7**	**+2.0**
MSOM	**Makushin Julie**	**4.29**	**63**	P	**Pn**	**03 30 28.7**	**+2.2**
MREP	**Makushin Rep't**	**4.40**	**64**	P	**Pn**	**03 30 30.1**	**+2.0**
UNV	**Unalaska Valle**	**4.55**	**64**	*e*Pn	**Pn**	**03 30 32.1**	**+2.1**
UNV				*e*S	**Sn**	**03 31 26.2**	**+4.6**
AKGG	**Akutan Green G**	**4.96**	**62**	P	**Pn**	**03 30 37.4**	**+1.8**
AKUT	**Akutan**	**5.05**	**63**	*e*Pn	**Pn**	**03 30 37.3**	**+0.3**
FX1	**Attu Island--F**	**8.23**	**281**	P	**Pn**	**03 31 20.5**	**+0.1**
FX1				S	**Sn**	**03 32 49.6**	**-2.2**
FX1	**Attu Island--F**	**8.23**	**281**	P	**Pn**	**03 31 20.5**	**+0.1**
	1.3nm,0.3s,baz=114,slow=20,SNR=4.5						
FX1				S	**Sn**	**03 32 49.6**	**-2.2**
	0.2nm,0.3s,baz=123,slow=21,SNR=1.5						
ILAR	**Eielson Array**	**18.65**	**37**	P	**P**	**03 33 34.5**	**-1.6**
ILAR	**Eielson Array**	**18.65**	**37**	P	**P**	**03 33 34.5**	**-1.6**
	1.0nm,0.3s,baz=237,slow=10,SNR=51						
YKA	**Yellowknife Ar**	**32.31**	**48**	P	**P**	**03 35 45.1**	**-1.1**
YKA	**Yellowknife Ar**	**32.31**	**48**	P	**P**	**03 35 45.1**	**-1.1**
	0.2nm,0.5s,baz=271,slow=7.6,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**35.75**	**213**	T	T	04 14 11.4	
	baz=23,slow=75,SNR=154						
H11N3	**WAKE ISLAND Hy**	**35.76**	**213**	T	T	04 14 12.0	
	baz=23,slow=75,SNR=130						
H11N1	**WAKE ISLAND Hy**	**35.77**	**213**	T	T	04 14 12.8	
	baz=23,slow=75,SNR=137						
H11S1	**WAKE ISLAND Hy**	**36.95**	**212**	T	T	04 15 41.3	
	baz=21,slow=77,SNR=74						
H11S2	**WAKE ISLAND Hy**	**36.97**	**212**	T	T	04 15 45.8	
	baz=21,slow=77,SNR=71						
H11S3	**WAKE ISLAND Hy**	**36.97**	**212**	T	T	04 15 40.3	
	baz=21,slow=77,SNR=51						
PDAR	**Pinedale Array**	**42.90**	**76**	P	**P**	**03 37 16.9**	**+0.8**
PDAR				pP	**pP**	**03 37 30.8**	**-1.5**
PDAR	**Pinedale Array**	**42.90**	**76**	P	**P**	**03 37 16.9**	**+0.8**
	1.3nm,0.5s,baz=306,slow=3.3,SNR=19						
PDAR				pP	**pP**	**03 37 30.8**	**-1.5**
	1.8nm,0.5s,baz=300,slow=3.1,SNR=11						
ULM	**Lac du Bonnet**	**46.48**	**60**	P	**P**	**03 37 43.6**	**-0.5**
ULM	**Lac du Bonnet**	**46.48**	**60**	P	**P**	**03 37 43.6**	**-0.5**
	0.9nm,0.4s,baz=324,slow=6.8,SNR=2.9						
TXAR	**Lajitas Array**	**55.25**	**86**	P	**P**	**03 38 50.8**	**+0.4**
TXAR				pP	**pP**	**03 39 05.0**	**-2.1**
TXAR	**Lajitas Array**	**55.25**	**86**	P	**P**	**03 38 50.8**	**+0.4**
	0.2nm,0.5s,baz=285,slow=7.2,SNR=3.6						
TXAR				pP	**pP**	**03 39 05.0**	**-2.1**
	0.4nm,0.6s,baz=316,slow=8.8,SNR=3.0						
WRA	**Warramunga Arr**	**84.90**	**228**	P	**P**	**03 41 51.1**	**-0.4**
WRA	**Warramunga Arr**	**84.90**	**228**	P	**P**	**03 41 51.1**	**-0.4**
	0.5nm,1.0s,baz=35,slow=5.9,SNR=3.2						
H03N2	**Juan Fernandez**	**118.16**	**109**	T	T	05 57 37.4	
	baz=316						
H03N1	**Juan Fernandez**	**118.17**	**109**	T	T	05 57 39.1	
	baz=316						
H03N3	**Juan Fernandez**	**118.17**	**109**	T	T	05 57 37.7	
	baz=316						

WEL 11 03:36:23.9±0.4,39°.20S×174°.95E,h209km±2km,ML3.5/11, 6C-1D,Error ellipse: s-maj=3.8km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.32**	**107**	PN	Pn	03 36 51.1	-0.5
PKVZ				SN	S	03 37 12.5	-0.7
TRVZ	**Turoa**	**0.47**	**103**	↑PN	Pn	03 36 51.8	-0.5
TRVZ				SN	S	03 37 12.4	-1.9
WNVZ	**Wahianoa**	**0.52**	**105**	PN	Pn	03 36 52.0	-0.3
WNVZ				SN	S	03 37 13.7	-0.7
TUVZ	**Tukino**	**0.55**	**98**	PN	Pn	03 36 52.1	-0.3
TUVZ				SN	S	03 37 13.2	-1.3
WAZ	**Wanganui**	**0.56**	**177**	↑PN	Pn	03 36 52.5	+0.2
WAZ				SN	S	03 37 14.5	0.0
MOVZ	**Moawhango**	**0.66**	**109**	PN	Pn	03 36 52.1	-0.6
MOVZ				SN	S	03 37 13.2	-2.0
BHHZ	**Black Hill Sta**	**0.91**	**109**	PN	Pn	03 36 53.5	-0.6
TSZ	**Takapari Road**	**1.16**	**138**	↑PN	Pn	03 36 55.9	+0.2
TSZ				AML	AML	03 37 20.8	
TSZ				AML	AML	03 37 21.9	
PNHZ	**Pukenui**	**1.20**	**127**	PN	Pn	03 36 56.3	+0.3
MCHZ	**McNeill Hill**	**1.38**	**101**	PN	Pn	03 36 57.6	+0.2
DVHZ	**Dannevirke**	**1.45**	**140**	PN	Pn	03 36 57.9	0.0
DVHZ				SN	S	03 37 23.5	-0.8
MRZ	**Mangatainoka R**	**1.54**	**162**	PN	Pn	03 36 58.5	-0.2
MRZ				AML	AML	03 37 27.3	
KAHZ	**Kahuranaki**	**1.60**	**112**	PN	Pn	03 36 59.6	+0.2
OGWZ	**Otaki Gorge**	**1.63**	**174**	↑PN	Pn	03 36 59.5	+0.1
KIW	**Kapiti Island**	**1.66**	**181**	↑PN	Pn	03 36 59.5	-0.3
PXZ	**Pawanui**	**1.69**	**120**	AML	AML	03 36 56.2	
ANWZ	**Angora Road**	**1.72**	**138**	PN	Pn	03 37 00.5	+0.2
TIWZ	**Tintock**	**1.73**	**156**	PN	Pn	03 37 00.2	-0.3
TIWZ				AML	AML	03 37 31.5	
HOWZ	**Holdsworth Sta**	**1.75**	**166**	PN	Pn	03 37 00.3	-0.4
WHHZ	**Waihua**	**1.78**	**87**	PN	Pn	03 37 00.1	-0.8
BFZ	**Birch Farm**	**1.78**	**147**	PN	Pn	03 37 00.7	-0.3
DUWZ	**D'Urville Isla**	**1.79**	**206**	PN	Pn	03 37 00.4	-0.5
URZ	**Urewera**	**1.93**	**62**	↓PN	Pn	03 36 59.6	-2.7
TMWZ	**Te Maipa**	**2.04**	**160**	PN	Pn	03 37 03.0	-0.4
TCW	**Tory Channel**	**2.08**	**194**	PN	Pn	03 37 03.5	-0.3
SNZO	**South Karori**	**2.12**	**185**	PN	Pn	03 37 03.5	-0.6
KNZ	**Kokohu**	**2.12**	**86**	PN	Pn	03 37 03.1	-1.2
MWZ	**Matawai**	**2.19**	**68**	PN	Pn	03 37 02.7	-2.4
PAWZ	**Paruwai Farm**	**2.21**	**171**	PN	Pn	03 37 04.6	-0.6
MSWZ	**Moikau Station**	**2.23**	**174**	PN	Pn	03 37 04.7	-0.7
RIGZ	**Rimuhau**	**2.25**	**78**	PN	Pn	03 37 04.1	-1.5
PRGZ	**Paritu Road**	**2.30**	**84**	PN	Pn	03 37 05.0	-1.2
NNZ	**Nelson**	**2.35**	**210**	↑PN	Pn	03 37 05.6	-1.0
TUWZ	**Tuamarina**	**2.36**	**199**	PN	Pn	03 37 06.2	-0.5
PLWZ	**Palliser**	**2.38**	**175**	PN	Pn	03 37 06.2	-0.9
QRZ	**Quartz Range**	**2.47**	**228**	PN	Pn	03 37 05.9	-2.1
BSWZ	**Blackbirch Sta**	**2.64**	**198**	PN	Pn	03 37 09.4	-0.5
THZ	**Tophouse**	**3.00**	**211**	PN	Pn	03 37 12.5	-1.6
LTZ	**Lake Taylor**	**4.12**	**209**	PN	Pn	03 37 25.5	-1.9

*IDC **11** 03:38:34.2±0.8,14°.12N×93°.22E,h0km,mb3.9/12, mb1 4.1/13,mb1mx3.9/29,mbtmp3.9/13,ML4.1/1,MS3.4/2, Ms1 3.4/2,ms1mx2.9/31,Error ellipse: s-maj=37.5km s-min=13.9km az=58.0*
*ISCJB **11** 03:38:37.2±0.4,14°.35N±0°.03×93°.28E±0°.04,h30km, mb4.0/17,MS3.3/1,Error ellipse: s-maj=5.8km s-min=4.8km az=14.0*
*NEIC **11** 03:38:43.3±2.7,14°.24N×93°.51E,h66km±22km,mb4.0/2, Error ellipse: s-maj=26.7km s-min=9.1km az=53.0*

ISC 11 03:38:39.0±0.5,14°.24N±0°.05×93°.30E±0°.06,h30km,n64, σ1s29/54,mb4.0/17,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.11**	**199**	*e*P	**Pb**	**03 39 01.4**	**+1.7**
DGPR				*e*S	**Sn**	**03 39 11.5**	**-1.3**
DGPR				AML	AML	03 39 24.0	
	comp=N,5μm,0.1s						
DGPR				AML	AML	03 39 27.6	
	comp=E,4μm,0.6s						
PBA	**Port Blair**	**2.62**	**192**	*e*P	Pn	03 39 22.9	+3.5
PBA				*e*S	Sn	03 39 53.4	+3.2
PBA				AML	AML	03 39 57.1	
	comp=N,994nm,0.6s						
PBA				AML	AML	03 39 57.4	
	comp=E,1μm,0.0s						
CM31	**Chiang Mai Arr**	**6.85**	**52**	*e*Pn	**Pn**	**03 40 18.5**	**+1.0**
	comp=E,14nm,0.4s						
CM31				*e*S	**Sn**	**03 41 32.2**	**-2.3**
CMAR	**Chiang Mai Arr**	**6.85**	**52**	Pn	**Pn**	**03 40 18.4**	**+0.9**
CMAR				Sn	**Sn**	**03 41 33.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**6.85**	**52**	Pn	**Pn**	**03 40 18.4**	**+0.9**
	comp=E,0.9nm,0.3s,baz=239,slow=14,SNR=30						
CMAR				Sn	**Sn**	**03 41 33.3**	**-1.2**
	baz=238,slow=29,SNR=3.6						
CHTO	**Chiang Mai**	**7.07**	**49**	*e*Pn	**Pn**	**03 40 21.9**	**+1.4**
	comp=E,16nm,0.5s						
CHTO				*e*S	**Sn**	**03 41 37.0**	**-3.0**
CMBY	**CAMPBELL BAY**	**7.21**	**175**	*e*S	**Sn**	**03 41 41.4**	**-2.0**
CMBY				AML	AML	03 41 48.3	
	comp=E,98nm,0.4s						
CMBY				AML	AML	03 41 49.2	
	comp=N,115nm,0.5s						
VIS	**Vishakhapatnam**	**10.19**	**291**	*e*P	**Pn**	**03 41 02.0**	**-1.2**
VIS				*e*S	Sn	03 42 45.0	-12
VIS				AML	AML	03 43 04.6	
	comp=E,47nm,0.8s						
VIS				AML	AML	03 43 05.1	
	comp=N,93nm,0.4s						
SHL	**Shillong**	**11.35**	**354**	*e*P	**Pn**	**03 41 20.8**	**+1.6**
SHL				*e*S	Sn	03 43 16.3	-8.9
PSI	**Prapat**	**12.65**	**153**	LR	LR	03 46 56.7	
	comp=N,167nm,19.0s,baz=209,slow=40						
ODAN	**Odare**	**13.72**	**337**	*e*P	Pn	03 41 49.3	-2.4
	comp=N,67nm,0.7s						
TAPN	**Taplejung**	**14.05**	**339**	*e*P	Pn	03 41 52.7	-3.6
	comp=N,53nm,0.7s						
RAMN	**Ramite**	**14.11**	**335**	*e*P	**Pn**	**03 41 55.6**	**-1.5**
	comp=N,30nm,0.4s						
HYB	**Hyderabad**	**14.53**	**284**	*i* P	**P**	**03 42 10.0**	**+1.0**
HYB				*e*		03 44 40.0	
HYB				*e*S	Sn	03 44 51.0	+8.1
HYB	**Hyderabad**	**14.53**	**284**	*e*S	**Sn**	**03 44 41.3**	**-1.7**
JIRN	**Jiri**	**14.90**	**335**	*e*P	Pn	03 42 05.2	-2.8
	comp=N,32nm,0.5s						
PKI	**Pulchoki**	**15.16**	**332**	*e*P	**Pn**	**03 42 10.1**	**-1.3**
	comp=N,48nm,0.5s						
PKIN	**Phulchoki**	**15.18**	**332**	*e*P	**Pn**	**03 42 09.9**	**-1.6**
	comp=N,40nm,0.4s						
NGP	**Nagpur**	**15.21**	**299**	*e*P	**Pn**	**03 42 09.6**	**-2.1**
NGP				*ex*	x	03 44 43.6	
GUN	**Gumba**	**15.25**	**334**	*e*P	**Pn**	**03 42 09.7**	**-2.9**
	comp=N,42nm,0.6s						
DMN	**Daman**	**15.34**	**331**	*e*P	**Pn**	**03 42 11.7**	**-1.9**
	comp=N,36nm,0.6s						
LSA	**Lhasa**	**15.51**	**353**	*e*Pn	**P**	**03 42 20.9**	**+0.7**
GKN	**Gorkha**	**15.89**	**331**	*e*P	**Pn**	**03 42 18.7**	**-2.0**
	comp=N,30nm,0.4s						
KOLN	**Koldanda**	**16.21**	**328**	*e*P	**Pn**	**03 42 23.6**	**-1.2**
	comp=N,49nm,0.6s						
DANN	**Dangsing**	**16.60**	**329**	*e*P	**Pn**	**03 42 28.1**	**-1.8**
	comp=N,24nm,0.4s						
ENH	**Enshi**	**21.84**	**40**	*e*P	**P**	**03 43 29.4**	**+0.3**
	comp=N,4.0nm,0.4s						
H08S3	**Diego Garcia H**	**29.98**	**225**	T	T	04 15 57.3	
	baz=45,slow=75,SNR=4.6						
H08S2	**Diego Garcia H**	**29.98**	**225**	T	T	04 15 56.8	
	baz=45,slow=75,SNR=5.0						
H08S1	**Diego Carcia H**	**29.99**	**225**	T	T	04 15 56.7	
	baz=45						
MK31	**Makanchi Array**	**33.74**	**346**	*e*P	**P**	**03 45 18.5**	**+0.7**
MKAR	**Makanchi Array**	**33.74**	**346**	P	**P**	**03 45 18.5**	**+0.7**
MKAR	**Makanchi Array**	**33.74**	**346**	P	**P**	**03 45 18.5**	**+0.7**
	comp=N,0.4nm,0.6s,baz=157,slow=9.6,SNR=4.9						
SONM	**Songino Array**	**35.22**	**15**	P	**P**	**03 45 31.3**	**+0.6**
SONM	**Songino Array**	**35.22**	**15**	P	**P**	**03 45 31.3**	**+0.6**
	comp=N,1.2nm,0.9s,baz=198,slow=8.9,SNR=8.0						
KURBB	**Kurchatov Arra**	**38.22**	**345**	P	**P**	**03 45 56.5**	**+0.5**
	comp=N,0.4nm,0.5s,baz=162,slow=8.2,SNR=5.1						
KURK	**Kurchatov**	**38.28**	**345**	*e*P	P	03 46 04.5	+8.0
KSRS	**Korea Array**	**38.46**	**47**	LR	LR	04 04 57.2	
	comp=N,42nm,19.0s,baz=45,slow=41						
ZALV	**Zalesovo Beam**	**40.18**	**352**	P	**P**	**03 46 12.6**	**+0.3**
ZALV	**Zalesovo Beam**	**40.18**	**352**	P	**P**	**03 46 12.6**	**+0.3**
	comp=N,0.5nm,0.4s,baz=153,slow=11,SNR=3.5						
ABKAR	**Akbulak array**	**44.33**	**329**	*e*P	**P**	**03 46 47.8**	**+1.6**
	comp=N,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**45.27**	**134**	P	**P**	**03 46 53.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**45.27**	**134**	P	**P**	**03 46 53.6**	**-0.5**
	comp=N,2.4nm,0.5s,baz=270,slow=9.0						
AKTO	**Aktyubinsk**	**46.04**	**329**	P	**P**	**03 47 01.0**	**+1.1**
AKTO	**Aktyubinsk**	**46.04**	**329**	P	**P**	**03 47 01.0**	**+1.1**
	comp=N,0.4nm,0.5s,baz=82,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**52.76**	**129**	P	**P**	**03 47 51.4**	**-0.2**
WRA				PcP	**PcP**	**03 49 01.2**	**+0.2**
WRA	**Warramunga Arr**	**52.76**	**129**	P	**P**	**03 47 51.4**	**-0.2**
	comp=N,2.3nm,0.8s,baz=309,slow=7.9,SNR=11						
WRA				PcP	**PcP**	**03 49 01.2**	**+0.2**
	comp=N,3.9nm,1.2s,baz=323,slow=3.7,SNR=8.0						
ASAR	**Alice Springs**	**54.73**	**133**	P	**P**	**03 48 05.9**	**-0.1**
ASAR	**Alice Springs**	**54.73**	**133**	P	**P**	**03 48 05.9**	**-0.1**
	comp=N,5.5nm,0.4s,baz=310,slow=7.0,SNR=20						
STKA	**Stephens Creek**	**65.14**	**136**	P	**P**	**03 49 16.2**	**-1.2**
STKA	**Stephens Creek**	**65.14**	**136**	P	**P**	**03 49 16.2**	**-1.2**
	comp=N,2.0nm,0.5s,baz=310,slow=6.1,SNR=6.6						
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**03 49 26.3**	**-0.8**
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**03 49 26.3**	**-0.8**
	comp=N,1.9nm,1.0s,baz=109,slow=12,SNR=2.5						
GERES	**GERESS Array B**	**72.59**	**317**	P	**P**	**03 50 04.1**	**+0.5**
GERES	**GERESS Array B**	**72.59**	**317**	P	**P**	**03 50 04.1**	**+0.5**
	comp=N,0.1nm,0.4s,baz=78,slow=9.3,SNR=2.5						
CLL	**Collm**	**72.97**	**320**	*e*P	**P**	**03 50 07.0**	**+1.4**
NB2	**NORSAR Subarra**	**73.83**	**330**	P	P	03 50 19.9	+9.3
	comp=Z,0.9nm,0.6s,baz=92,slow=6.2						
LPG	**La Plagne**	**77.59**	**314**	*e*P	P	03 50 43.9	+11
	comp=Z,7.3nm,0.7s						
LPG	**La Plagne**	**77.59**	**314**	*e*P	P	03 50 43.9	+11
LPL	**La Plagne**	**77.60**	**314**	*e*P	P	03 50 43.9	+11
	comp=Z,11nm,0.8s						
LPL	**La Plagne**	**77.60**	**314**	*e*P	P	03 50 43.9	+11
SMF	**Signal de Mont**	**79.42**	**316**	*e*P	P	03 50 51.9	+9.4
SMF	**Signal de Mont**	**79.42**	**316**	*e*P	P	03 50 51.9	+9.4
ILAR	**Eielson Array**	**89.19**	**22**	P	**P**	**03 51 31.6**	**0.0**
ILAR	**Eielson Array**	**89.19**	**22**	P	**P**	**03 51 31.6**	**0.0**
	comp=Z,0.2nm,0.6s,baz=317,slow=5.2,SNR=2.5						

*IDC **11** 03:39:37.1±0.8,3°.93S×34°.73E,h0km,mb4.1/15, mb1 4.2/17,mb1mx4.1/31,mbtmp4.1/17,ML4.5/2,MS3.5/9, Ms1 3.5/9,ms1mx3.3/33,Error ellipse: s-maj=24.0km s-min=15.1km az=138.0*
*BUL **11** 03:39:37.1±22.0,4°.01S×35°.16E,h0km±178km,MD3.8*
*ISCJB **11** 03:39:38.1±0.4,3°.97S±0°.05×34°.80E±0°.05,h22km, mb4.2/20,MS3.5/6,Error ellipse: s-maj=9.5km s-min=5.4km az=136.5*
*NEIC **11** 03:39:38.3±0.4,4°.02S×34°.87E,h10km,mb4.5/6,Error ellipse: s-maj=12.8km s-min=7.5km az=118.0*

ISC 11 03:39:39.7±0.4,4°.11S±0°.04×34°.89E±0°.05,h22km,n58, σ1s76/64,mb4.3/20,MS3.5/6,1C,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**2.23**	**158**	*i* P	**Pb**	**03 40 19.3**	**-0.2**
DODT				*i* S	**Sb**	**03 40 50.0**	**+3.3**
MAUS	**Longido**	**2.26**	**53**	*i* P	**Pn**	**03 40 14.7**	**-1.2**
MAUS				*i* S	**Sn**	**03 40 42.2**	**-1.0**
KMBO	**Kilima Mbogo**	**3.79**	**39**	*e*Pn	**Pn**	**03 40 34.9**	**-2.2**
KMBO				*e*Pg	**Pb**	**03 40 47.4**	**+1.4**
KMBO				*e*S	**Sn**	**03 41 18.3**	**-2.7**
KMBO				Lg	Lg	03 41 29.5	
KMBO	**Kilima Mbogo**	**3.79**	**39**	Pn	**Pn**	**03 40 34.8**	**-2.2**
	20nm,0.3s,baz=237,slow=24,SNR=79						
KMBO				Pg	**Pb**	**03 40 46.9**	**+0.9**
	38nm,0.3s,baz=214,slow=18,SNR=49						
KMBO				Sn	**Sn**	**03 41 18.5**	**-2.6**
	70nm,0.3s,baz=255,slow=24,SNR=6.2						
KMBO				Lg	Lg	03 41 29.5	
	154nm,0.3s,baz=300,slow=18,SNR=11						
KMBO				LR	LR	03 41 48.5	
	comp=Z,283nm,22.0s,baz=218,slow=35						
KMBO	**Kilima Mbogo**	**3.79**	**39**	*i* P	**Pn**	**03 40 35.7**	**-1.3**
KMBO				*i* S	**Sn**	**03 41 22.4**	**+1.3**
MBAR	**Mbarara**	**5.42**	**310**	*i* P	**Pn**	**03 40 56.8**	**-2.6**
MBAR				*i* S	**Sn**	**03 42 05.4**	**+4.2**
LWI	**Lwiro**	**6.36**	**287**	↑*e*P	**Pn**	**03 41 12.8**	**+0.4**
MZM	**Mzuzu**	**7.33**	**187**	*i* S	**Sn**	**03 42 46.1**	**-1.5**
LSZ	**Lusaka**	**12.91**	**210**	*e*Pn	**Pn**	**03 42 42.0**	**-0.1**
LSZ				*e*S	**Sn**	**03 45 03.3**	**-1.9**
LSZ				Lg	Lg	03 46 20.2	
LSZ	**Lusaka**	**12.91**	**210**	Pn	**Pn**	**03 42 41.8**	**-0.3**
	0.8nm,0.3s,baz=19,slow=11,SNR=11						
LSZ				Sn	Sn	03 44 57.6	-7.6
	1.3nm,0.3s,baz=9.0,slow=19,SNR=3.6						
LSZ				Lg	Lg	03 46 20.2	
	8.1nm,0.3s,baz=316,slow=21,SNR=23						
LSZ

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.2nm,0.4s,baz=48,slow=1.3,SNR=4.1						

DJA 11 04:29:11.1±1.1, 0°S±5°×12°4E±°, h118km±13km, M3.7/6, MLv3.7/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	0.72	357	P	Pn	04 29 33.0	+2.6
LUWI	Luwuk	1.53	235	P	Pn	04 29 40.1	+1.3
LUWI				S	Sn	04 30 00.0	+0.2
MRSI	Marisa	2.17	287	P	Pn	04 29 40.2	-6.4
APSI	Ampana	2.49	252	P	Pn	04 29 50.3	-0.4
SANI	Sanana	2.73	134	P	Pn	04 29 53.7	-0.1
SANI				S	Sn	04 30 28.1	+1.5
LBMI	Labuha	3.51	98	P	Pn	04 30 03.3	-0.9
LBMI				S	Sn	04 30 45.1	-0.1
NLAI	Namlea	4.35	135	P	Pn	04 30 14.7	-0.6
NLAI				S	Sn	04 31 08.7	+3.6

MEX 11 04:54:07.9±0.7, 15.°76N×94.°19W, h87km±10km, MD4.0
IDC 11 04:54:12.6±8.4, 16.°65N×93.°69W, h125km±47km, mb3.7/3, mb1 3.8/5, mb1mx3.4/24, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/45, Error ellipse: s-maj=98.4km s-min=32.0km az=2.0
ISC 11 04:54:05.9±0.9, 16.°16N±0.°09×94.°02W±0.°04, h91km±10km, n12, σ2.s18/19, mb3.9/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.90	120	eP	Pn	04 54 25.1	+0.6
PCIG				eS	Sn	04 54 39.2	+0.8
HUIG	Huatulco	2.04	259	i P	Pn	04 54 36.7	-2.0
HUIG				i S	Sn	04 54 59.6	-4.1
THIG		2.10	126	eP	Pn	04 54 39.7	+0.2
THIG				eS	Sn	04 55 04.5	-0.6
VHO	Vista Hermosa	2.75	290	eP	Pn	04 54 49.9	+1.6
VHO				i S	Sn	04 55 21.4	+0.5
PNIG	Pinotepa	3.95	274	i P	Pn	04 55 03.7	-0.6
PNIG				i S	Sn	04 55 48.3	-1.3
TLIG	Tlapa	4.57	288	i P	Pn	04 55 15.0	+2.2
TLIG				i S	Sn	04 56 06.2	+1.4
TEIG	Tepich	6.80	53	P	Pn	04 55 42.3	-0.8
	6.6nm,0.3s,baz=262,slow=4.0,SNR=42						
TEIG				S	Sn	04 56 53.5	-5.4
	3.1nm,0.3s,baz=194,slow=19,SNR=5.9						
TXAR	Lajitas Array	15.83	328	P	P	04 57 45.0	-0.7
	0.1nm,0.3s,baz=125,slow=11,SNR=3.3						
ANMO	Albuquerque	21.78	332	LR	LR	05 08 14.0	
	comp=Z,79nm,19.6s,baz=112,slow=39						
NVAR	Mina Array Bea	30.77	321	P	P	05 00 15.6	+2.5
	0.5nm,0.7s,baz=131,slow=11,SNR=3.7						
YKA	Yellowknife Ar	48.50	347	P	P	05 02 39.0	-0.2
	1.0nm,0.6s,baz=152,slow=7.4,SNR=33						
YKA				pP	pP	05 03 01.9	+0.8
	0.3nm,0.7s,baz=150,slow=7.0,SNR=5.3						
ARCES	ARCESS Array B	84.70	18	P	P	05 06 29.3	-0.1
	9.3nm,1.1s,baz=305,slow=6.3,SNR=5.4						

ISCJB 11 05:15:09.7±1.4, 29.°74N±0.°04×80.°52E±0.°04, h2km±9km, mb4.0/20, MS3.3/2, Error ellipse: s-maj=7.4km s-min=5.6km az=28.5
IDC 11 05:15:11.1±0.7, 29.°68N×80.°45E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.1/30, mbtmp4.1/18, ML3.9/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/42, Error ellipse: s-maj=22.3km s-min=14.8km az=42.0
NEIC 11 05:15:16.2±0.4, 29.°74N×80.°56E, h35km, mb4.7/4, Error ellipse: s-maj=10.7km s-min=8.4km az=56.0
NDI 11 05:15:18.0±4.2, 29.°82N×80.°36E, h10km, ML4.1
ISC 11 05:15:13.5±1.4, 29.°77N±0.°05×80.°50E±0.°05, h14km±9km, n66, σ1.s29/69, mb4.0/19, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTH	Pithoragarh	0.33	229	eP	Pg	05 15 12.9	-7.4
PTH				eS	Sg	05 15 22.0	-2.9
LGTI	Lohaghat	0.39	215	ex	Pg	05 15 23.9	+2.7
LGTI				eS	Sn	05 15 32.1	+0.3
DDI	Dehra Dun	2.19	285	eP	Pb	05 15 53.5	+0.5
DDI				eS	Sn	05 16 18.4	+1.8
DDI				AML	AML	05 16 23.4	
	comp=N,5μm,0.3s						
DDI				AML	AML	05 16 24.1	
	comp=E,3μm,0.3s						
SMLA	Simla	3.18	296	eP	Pb	05 16 07.5	-2.4
SMLA				eS	Sn	05 16 42.5	+1.6
SMLA				AML	AML	05 16 53.5	
	comp=E,856nm,0.3s						
SMLA				AML	AML	05 16 56.3	
	comp=N,935nm,0.3s						
SDNR	Sundarnagar	3.50	300	eP	Pn	05 16 11.0	+3.4
SDNR				ex	Sg	05 17 02.0	-4.0
BHK	Bhakra	3.89	296	ex	Pb	05 16 23.2	+1.3
BHK				ex	Sb	05 17 11.2	+2.4
DHRM	DHARAMSHALA	4.37	306	eP	Pn	05 16 24.1	+4.3
DHRM				eS	Sn	05 17 07.7	-3.0
DHRM				AML	AML	05 17 34.3	
	comp=E,369nm,1.1s						
DHRM				AML	AML	05 17 41.3	
	comp=N,290nm,1.0s						
JHNI	Jhansi	4.62	203	ex	Pn	05 16 26.0	+3.0
JHNI				ex	Sg	05 17 38.0	-4.0
BHPL	Bhopal	7.06	204	ex	Pn	05 16 57.9	+1.4
BHPL				eS	Sn	05 18 14.9	-1.7
CHCP	Chirah Chowk	7.28	304	P	Pn	05 17 00.7	+1.1
BOK	Bokaro	7.65	140	eS	Sn	05 18 32.8	+1.6
CEP	Cherat	8.36	301	P	Pn	05 17 14.5	+0.1
CEP				S	Sn	05 18 47.0	-1.6
LSA	Lhasa	9.26	88	ePn	Pn	05 17 26.1	-1.0
LSA				eSn	Sn	05 19 13.8	+2.4
HYB	Hyderabad	12.42	189	i P	Pn	05 18 08.5	-1.5
HYB				e		05 20 20.0	
HYB				eS	Sn	05 20 35.0	+6.7
HYB	Hyderabad	12.42	189	P	Pn	05 18 08.5	-1.5
HYB				S	Sn	05 20 35.0	+6.7
AAK	Ala-Archa	13.72	341	LR	LR	05 24 26.6	
	comp=N,65nm,18.4s,baz=54,slow=40						
KKAR	Karatay Array	15.53	332	ePn	Pn	05 18 49.0	-3.2
KKAR				eSn	Sn	05 21 35.5	-8.5
MK31	Makanchi Array	17.06	4	eP	Pn	05 19 10.2	-1.4
MKAR	Makanchi Array	17.06	4	Pn	Pn	05 19 10.1	-1.5
MKAR	Makanchi Array	17.06	4	Pn	Pn	05 19 10.1	-1.5
	comp=N,0.4nm,0.3s,baz=190,slow=12,SNR=59						
MKAR				LR	LR	05 25 55.3	
	comp=N,29nm,18.4s,baz=169,slow=38						
CMAR	Chiang Mai Arr	20.22	120	P	P	05 19 46.8	-1.5
CMAR	Chiang Mai Arr	20.22	120	P	P	05 19 46.8	-1.5
	comp=N,0.6nm,0.4s,baz=316,slow=11,SNR=3.1						
KURBB	Kurchatov Arra	20.89	356	P	P	05 19 54.6	-0.5
	comp=N,3.9nm,0.9s,baz=183,slow=10,SNR=38						
KURK	Kurchatov	20.97	357	eP	P	05 19 55.2	-1.0
	comp=N,5.6nm,0.9s						
ZAA0	Zalesovo Array	24.37	6	eP	P	05 20 31.2	+0.1
ZALV	Zalesovo Beam	24.37	6	P	P	05 20 31.2	+0.2
ZALV	Zalesovo Beam	24.37	6	P	P	05 20 31.2	+0.2
	comp=N,4.5nm,0.6s,baz=191,slow=9.6,SNR=26						
BVAR	Borovoye Array	24.40	345	P	P	05 20 30.7	-0.6
BVAR	Borovoye Array	24.40	345	P	P	05 20 30.7	-0.6
	comp=N,0.5nm,0.5s,baz=157,slow=8.0,SNR=3.7						
ABKAR	Akbulak array	24.96	327	eP	P	05 20 36.9	+0.5
	comp=N,0.5nm,0.4s						
AKTO	Aktyubinsk	26.68	327	P	P	05 20 52.5	+0.4
AKTO	Aktyubinsk	26.68	327	P	P	05 20 52.5	+0.4
	comp=N,1.3nm,0.6s,baz=118,slow=12,SNR=5.0						
AKTO				LR	LR	05 32 28.9	
	comp=N,76nm,18.5s,baz=50,slow=39						
SONM	Songino Array	26.87	41	P	P	05 20 55.4	+1.4
SONM	Songino Array	26.87	41	P	P	05 20 55.4	+1.4
	comp=N,0.7nm,0.4s,baz=231,slow=9.0,SNR=9.6						
KSAR	Wonju Array Be	39.86	66	P	P	05 22 47.5	+0.7
KSRS	Korea Array	39.89	66	P	P	05 22 47.5	+0.5
	comp=N,0.6nm,0.4s,baz=266,slow=8.5,SNR=3.2						
AKASG	Malin Array Be	43.36	314	P	P	05 23 15.0	-0.2
AKASG	Malin Array Be	43.36	314	P	P	05 23 15.0	-0.2
	comp=N,0.3nm,0.4s,baz=78,slow=7.2,SNR=9.5						
JOF	Joensuu	45.63	331	ep	P	05 23 33.6	+0.4
FINES	FINESS Array B	47.45	328	P	P	05 23 47.8	+0.3
FINES	FINESS Array B	47.45	328	P	P	05 23 47.8	+0.3
	comp=N,2.7nm,0.4s,baz=114,slow=8.9,SNR=33						
ARCES	ARCESS Array B	50.37	338	P	P	05 24 10.6	+0.8
ARCES	ARCESS Array B	50.37	338	P	P	05 24 10.6	+0.8
	comp=N,3.9nm,0.6s,baz=106,slow=7.8,SNR=16						
NOA	NORSAR Array B	54.47	326	LR	LR	05 53 10.6	
	comp=N,30nm,18.5s,baz=5.0,slow=42						
LPG	La Plagne	58.52	308	eP	P	05 25 10.0	+0.2
	comp=N,5.7nm,0.7s						
LPG	La Plagne	58.52	308	eP	P	05 25 10.0	+0.2
	comp=N,5.7nm,0.7s						
LPL	La Plagne	58.52	308	eP	P	05 25 10.1	+0.3
	comp=N,12nm,0.8s						
LPL	La Plagne	58.52	308	eP	P	05 25 10.1	+0.3
	comp=N,12nm,0.8s						
SSF	Saint Saulge	60.38	310	eP	P	05 25 21.8	-0.5
SSF	Saint Saulge	60.38	310	eP	P	05 25 21.8	-0.5
TCF	Toulx Ste Croi	61.43	309	eP	P	05 25 29.4	0.0
	comp=N,3.0nm,0.5s						
TCF	Toulx Ste Croi	61.43	309	eP	P	05 25 29.4	0.0
	comp=N,3.0nm,0.5s						
ESDC	Sonseca Array	67.74	304	P	P	05 26 10.7	-0.1
ESDC	Sonseca Array	67.74	304	P	P	05 26 10.7	-0.1
	comp=N,0.8nm,0.8s,baz=69,slow=5.4,SNR=3.6						
WRA	Warramunga Arr	71.63	127	P	P	05 26 33.9	-1.0
WRA	Warramunga Arr	71.63	127	P	P	05 26 33.9	-1.0
	comp=N,0.6nm,0.3s,baz=321,slow=6.3,SNR=14						
ASAR	Alice Springs	73.85	130	P	P	05 26 48.8	+0.7
ASAR	Alice Springs	73.85	130	P	P	05 26 48.8	+0.7
	comp=N,5.5nm,0.4s,baz=308,slow=6.1,SNR=4.0						
TORD	Torodi Ar. Bea	73.97	276	P	P	05 26 47.9	-1.1
TORD	Torodi Ar. Bea	73.97	276	P	P	05 26 47.9	-1.1
	comp=N,0.4nm,0.6s,baz=57,slow=4.4,SNR=5.6						
ILAR	Eielson Array	78.81	19	P	P	05 27 16.1	+0.4
ILAR	Eielson Array	78.81	19	P	P	05 27 16.1	+0.4
	comp=N,0.9nm,0.8s,baz=315,slow=4.9,SNR=9.6						
DBIC	Dimbokro	82.71	274	P	P	05 27 38.9	+1.5
DBIC	Dimbokro	82.71	274	P	P	05 27 38.9	+1.5
	comp=N,4.1nm,1.0s,baz=221,slow=4.5,SNR=3.1						
YKA	Yellowknife Ar	87.27	7	P	P	05 27 59.1	-0.3
YKA	Yellowknife Ar	87.27	7	P	P	05 27 59.1	-0.3
	comp=N,0.3nm,0.5s,baz=339,slow=5.2,SNR=10						

SJA 11 05:20:46.6±1.2, 31.°14S×70.°03W, h110km±12km, MD3.2, ML3.6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	Leoncito	0.91	137	i P		05 21 08.2	
RTLS				i S		05 21 24.9	
AUSP	Uspallata	1.21	153	i P		05 21 11.2	
AUSP				i S		05 21 29.8	
AMOG	MOGNA	1.33	82	eP		05 21 12.4	
AMOG				eP		05 21 12.4	
RTLL	Cerro Villicun	1.34	99	eP		05 21 12.1	
RTLL				i S		05 21 31.0	
RTLL				AML		05 21 32.8	
	comp=Z,69μm,0.4s						
CFAA	Coronel Fontan	1.60	107	eP		05 21 15.4	
CFAA				i S		05 21 37.1	
ASAL	Salagasta	1.77	145	eP		05 21 17.7	
ASAL				eS		05 21 41.4	
ARCO	CERRO ARCO	1.94	152	i P		05 21 19.9	
ARCO				i S		05 21 45.8	
ARCO				AML		05 21 48.9	
	comp=Z,29nm,0.2s						
AGUA	GUANDACOL	2.11	39	eP		05 21 22.8	
AGUA				i S		05 21 49.1	
AVFE	Valle Fertil	2.26	79	eP		05 21 23.6	
AVFE				i S		05 21 52.1	
AVFE				AML		05 21 53.2	
	comp=Z,43nm,0.3s						

DJA 11 05:25:15.1±0.6, 1°N±5°×12°2E±°, h13km, M4.0/6, MLv4.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.76	175	P	Pg	05 25 29.0	-0.9
MRSI				S	Sg	05 25 38.9	-1.0
TOLI	Toli-Toli	1.09	264	P	x	05 25 33.1	
TOLI				S	x	05 25 50.0	
GTOI	Gorontalo	1.28	118	P	Pn	05 25 34.0	-4.7
APSI	Ampana	2.15	186	P	Pn	05 25 52.0	+1.3
KMSI	Cibinong	2.20	107	P	Pn	05 25 51.7	+0.3
KMSI				S	Sb	05 26 22.4	+0.4
LUWI	Luwuk	2.44	159	P	Pn	05 25 54.1	-0.5
LUWI				S	Sb	05 26 26.7	-2.1

IDC 11 05:26:44.1±1.4, 8.°21S×157.°20E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=39.5km s-min=18.5km az=18.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.97	114	Pn	Pn	05 27 33.4	+0.8
	34nm,0.3s,baz=33,slow=2.1,SNR=5.6						
HNR				Lg	Lg	05 28 17.6	
	58nm,0.3s,baz=33,slow=22,SNR=6.7						
WRA	Warramunga Arr	25.02	240	P	P	05 32 09.5	-0.5
	0.7nm,0.7s,baz=65,slow=9.7,SNR=6.5						
WRA				PcP	PcP	05 35 45.4	0.0
	0.6nm,0.8s,baz=64,slow=2.1,SNR=6.3						
STKA	Stephens Creek	27.66	210	P	P	05 32 33.8	-0.1
	1.0nm,0.5s,baz=36,slow=14,SNR=3.9						
MKAR	Makanchi Array	85.76	318	P	P	05 39 25.4	+0.1
	0.3nm,0.7s,baz=101,slow=4.7,SNR=3.8						

ISCJB 11 05:36:45.5±0.5, 31.°40S±0.°04×179.°09E±0.°09, h550km, mb4.3/16, Error ellipse: s-maj=10.2km s-min=4.8km az=165.8
NEIC 11 05:36:45.3±0.8, 31.°06S×179.°03E, h525km±9km, mb4.9/9, Error ellipse: s-maj=11.6km s-min=9.8km az=222.0
IDC 11 05:36:49.3±1.7, 30.°97S×178.°88E, h562km±18km, mb3.8/11, mb1 3.9/13, mb1mx3.8/18, mbtmp4.7/13, Error ellipse: s-maj=12.2km s-min=10.9km az=6.0
ISC 11 05:36:46.7±0.4, 31.°35S±0.°07×179.°06E±0.°08, h550km, n139, σ1.s25/164, mb4.4/16, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.34	52	S	S	05 38 54.4	-12
	156nm,0.3s,baz=88,slow=22,SNR=3.8						
OUZ	Omahuta	5.99	228	eP	P	05 38 25.8	+0.8
	252nm,0.7s						
OUZ	Omahuta	5.99	228	PN	P	05 38 25.9	+0.8
KUZ	Kuaotunu	6.06	206	PN	P	05 38 26.9	+1.2
MXZ	Matakaoa Point	6.23	186	PN	P	05 38 27.4	+0.2
MXZ				SN	S	05 39 47.0	-2.6
PUZ	Puketiti	6.74	185	PN	P	05 38 30.2	-1.8
PUZ				SN	S	05 39 53.5	-5.0
URZ	Urewera	7.08	193	P	P	05 38 33.6	-1.6
URZ				S	S	05 40 00.5	-3.8
URZ	Urewera	7.08	193	P	P	05 38 33.6	-1.6
	9.6nm,0.3s,baz=14,slow=2.2,SNR=58						
URZ				S	S	05 40 00.5	-3.8
	12nm,0.3s,baz=201,slow=20,SNR=12						
URZ	Urewera	7.08	193	PN	P	05 38 33.6	-1.6
URZ				SN	S	05 40 00.1	-4.1
MWZ	Matawai	7.08	190	PN	P	05 38 34.6	-0.7
RAHZ	Arahi	7.72	192	PN	P	05 38 40.0	-1.6
KNZ	Kokohu	7.74	188	PN	P	05 38 40.4	-1.2
KNZ				SN	S	05 40 12.6	-3.4
MHGZ	Mahia Peninsul	7.84	187	PN	P	05 38 42.8	+0.1
WHHZ	Waihua	7.85	190	PN	P	05 38 42.1	-0.6
HIZ	Hauiti	7.94	205	PN	P	05 38 44.3	+0.7
NMHZ	Naumai	7.95	193	PN	P	05 38 42.9	-0.9
BKZ	Black Stump Fm	8.08	194	PN	P	05 38 44.1	-1.0
MCHZ	McNeill Hill	8.30	193	PN	P	05 38 46.1	-1.2
TUVZ	Tukino	8.38	198	PN	P	05 38 47.8	-0.4
TRVZ	Turoa	8.44	199	PN	P	05 38 48.7	-0.2
CKHZ	Cape Kidnapper	8.45	190	PN	P	05 38 48.7	0.0
WNVZ	Wahianoa	8.45	199	PN	P	05 38 47.8	-1.1
BHHZ	Black Hill Sta	8.48	196	PN	P	05 38 47.2	-1.9
MOVZ	Moawhango	8.48	198	PN	P	05 38 48.2	-0.9
KAHZ	Kahuranaki	8.61	191	PN	P	05 38 49.8	-0.6
TSZ	Takapari Road	9.05	195	PN	P	05 38 53.4	-1.4
MRZ	Mangatainoka R	9.71	196	PN	P	05 39 00.1	-1.4
NFK	Norfolk Island	9.90	281	P	P	05 39 02.1	-1.5
	baz=11,SNR=3.5						
KHZ	Kahutara	11.89	200	eP	P	05 39 24.6	+0.7
	25nm,0.4s						
RPZ	Rata Peaks	13.87	205	eP	P	05 39 44.1	-0.3
	9.1nm,0.4s						
RPZ	Rata Peaks	13.87	205	P	P	05 39 44.6	+0.2
	2.7nm,0.3s,baz=40,slow=23,SNR=7.9						
DZM	Mont Dzumac	14.57	306	P	P	05 39 49.8	-2.2
	0.9nm,0.3s,baz=299,slow=16,SNR=9.2						
AFI	Afiamalu	19.29	28	eP	P	05 40 35.0	-1.6
	19nm,0.4s						
AFI	Afiamalu	19.29	28	P	P	05 40 36.4	-0.1
	6.1nm,0.3s,baz=22,slow=16,SNR=5.7						
MGCD	Mangrove Creek	23.68	258	P	P	05 41 18.9	+3.2
	baz=26,SNR=5.7						
CMSA	Cobar Meteorol	28.41	261	P	P	05 41 59.2	+1.8
	baz=30,SNR=23						
QLP	Quilpie	30.76	270	P	P	05 42 18.2	+0.4
	baz=32,SNR=4.5						
CTA	Charters Tower	31.50	283	P	P	05 42 24.3	+0.1
CTA	Charters Tower	31.50	283	P	P	05 42 24.3	+0.1
	8.6nm,0.3s,baz=109,slow=10,SNR=25						
CTAO	Charters Tower	31.50	283	eP	P	05 42 24.3	+0.1
	15nm,0.6s						
STKA	Stephens Creek	31.81	259	P	P	05 42 28.6	+1.9
STKA	Stephens Creek	31.81	259	P	P	05 42 28.6	+1.9
	7.6nm,0.4s,baz=99,slow=9.7,SNR=41						
HTT	Hallett	33.82	256	P	P	05 42 45.4	+1.7
	baz=36,SNR=27						
BBOO	Buckleboo	36.28	256	P	P	05 43 05.2	+1.1
	baz=38,SNR=13						
QIS	Mount Isa	36.90	277	P	P	05 43 08.9	-0.5
	baz=38,SNR=4.5						
COEN	Coen	37.16	290	P	P	05 43 11.1	-0.3
	baz=38,SNR=8.4						
AS31	Alice Springs	40.55	269	eP	P	05 43 38.8	-0.1
ASAR	Alice Springs	40.55	269	P	P	05 43 38.7	-0.2
ASAR				PcP	PcP	05 45 28.8	+1.0
ASAR				S	S	05 49 08.8	-0.2
ASAR	Alice Springs	40.55	269	P	P	05 43 38.7	-0.2
	12nm,0.4s,baz=106,slow=7.4,SNR=143						
ASAR				PcP	PcP	05 45 28.8	+1.0
	1.8nm,0.5s,baz=116,slow=4.3,SNR=6.5						
ASAR				S	S	05 49 08.8	-0.2
	0.6nm,0.6s,baz=108,slow=16,SNR=5.1						
WRAB	Tennant Creek	41.63	275	eP	P	05 43 47.0	-0.4
	35nm,0.6s						
WRA	Warramunga Arr	41.63	275	P	P	05 43 46.9	-0.6
WRA				PcP	PcP	05 45 31.7	+0.4
WRA				S	S	05 49 22.9	-1.7
WRA				PKiKP	PKiKP	05 52 36.3	0.0
WRA	Warramunga Arr	41.63	275	P	P	05 43 46.9	-0.6
	31nm,0.3s,baz=111,slow=8.1,SNR=910						
WRA				PcP	PcP	05 45 31.7	+0.4
	2.7nm,0.7s,baz=112,slow=3.2,SNR=7.5						
WRA				S	S	05 49 22.9	-1.7
	0.3nm,0.3s,baz=113,slow=14,SNR=5.2						
WRA				PKiKP	PKiKP	05 52 36.3	0.0
	0.3nm,0.4s,baz=85,slow=0.2,SNR=6.7						
FORT	Forrest	43.37	257	P	P	05 44 01.5	+0.6
	baz=45,SNR=8.3						
WRKA	Warakurna	44.87	265	P	P	05 44 12.2	-0.4
	baz=47,SNR=49						
WRKA				S	S	05 50 10.5	-0.1
	baz=47,SNR=4.1						
KDU	Kakadu	46.63	283	P	P	05 44 24.7	-1.3
	baz=48,SNR=8.8						
VNDA	Vanda	46.91	185	P	P	05 44 31.3	+4.1
VNDA				PcP	PcP	05 45 51.2	+2.6
VNDA	Vanda	46.91	185	P	P	05 44 31.3	+4.1
	0.8nm,0.7s,baz=4.5,slow=8.0,SNR=5.4						
VNDA				PcP	PcP	05 45 51.2	+2.6
	1.4nm,0.7s,baz=7.0,slow=5.4,SNR=7.1						
KNRA	Kununurra	48.28	277	P	P	05 44 38.6	+0.2
	baz=50,SNR=6.9						
FITZ	Fitzroy Crossi	49.85	272	P	P	05 44 50.2	+0.3
FITZ	Fitzroy Crossi	49.85	272	P	P	05 44 50.2	+0.3
	11nm,0.7s,baz=144,slow=7.7,SNR=40						
MEEK	Meekatharra	52.52	259	P	P	05 45 09.8	+0.6
	baz=54,SNR=5.2						
MBWA	Marble Bar	53.62	266	eP	P	05 45 17.0	-0.1
	2.5nm,0.2s						
MORW	Morawa	53.84	255	P	P	05 45 19.3	+0.8
	baz=56,SNR=3.8						
QSPA	South Pole Qui	58.76	180	eP	P	05 45 56.1	+4.1
	6.8nm,0.7s						
QSPA	South Pole Qui	58.76	180	P	P	05 45 56.2	+4.2
	8.7nm,0.7s,baz=36,slow=1.4,SNR=43						
UGM	Wanagama	67.61	274	P	P	05 46 50.1	+0.6
	baz=69,SNR=3.4						
MJAR	Matsushiro Arr	77.63	327	P	P	05 47 44.8	-1.7
MJAR	Matsushiro Arr	77.63	327	P	P	05 47 44.8	-1.7
	2.9nm,0.8s,baz=160,slow=4.9,SNR=4.5						
KSRS	Korea Array	83.47	321	P	P	05 48 16.9	+0.2
	5.7nm,0.7s,baz=142,slow=5.6,SNR=19						
KSAR	Wonju Array Be	83.48	321	P	P	05 48 16.9	+0.1
PLCA	Paso Flores	83.68	134	P	P	05 48 21.6	+3.6
PLCA	Paso Flores	83.68	134	P	P	05 48 21.6	+3.6
	0.8nm,0.5s,baz=314,slow=22,SNR=4.0						
PETK	Petropavlovsk-	86.14	347	P	P	05 48 29.1	-0.2
PETK	Petropavlovsk-	86.14	347	P	P	05 48 29.1	-0.2
	9.8nm,0.8s,baz=139,slow=8.6,SNR=12						
USRK	Ussuriysk Arra	86.59	328	P	P	05 48 31.9	+0.2
	3.9nm,0.7s,baz=91,slow=4.5,SNR=9.9						
NVAR	Mina Array Bea	90.66	44	P	P	05 48 51.9	+0.8
NVAR	Mina Array Bea	90.66	44	P	P	05 48 51.9	+0.8
	1.0nm,0.7s,baz=225,slow=7.5,SNR=9.1						
CMAR	Chiang Mai Arr	91.35	291	PP	PP	05 52 41.1	-0.9
CMAR	Chiang Mai Arr	91.35	291	PP	PP	05 52 41.1	-0.9
	0.8nm,0.3s,baz=99,slow=7.4,SNR=6.5						
HIA	Hailar	96.04	325	eP	P	05 49 14.5	-0.6
	12nm,0.6s						
SONM	Songino Array	102.17	319	P	Pdif	05 49 41.8	-0.8
SONM	Songino Array	102.17	319	P	Pdif	05 49 41.8	-0.8
	0.3nm,0.5s,baz=135,slow=3.4,SNR=4.0						
YKA	Yellowknife Ar	107.40	26	PKiKP	PKiKP	05 54 10.2	0.0
YKA				PKKPbc	PKKPbc	06 05 28.7	+0.4
YKA	Yellowknife Ar	107.40	26	PKiKP	PKiKP	05 54 10.1	0.0
	0.2nm,0.4s,baz=246,slow=1.6,SNR=14						
YKA				PKKPbc	PKKPbc	06 05 28.7	+0.4
	0.2nm,0.7s,baz=42,slow=3.0,SNR=8.6						
MKAR	Makanchi Array	116.46	310	PKP	PKPdf	05 54 28.1	+0.1
MKAR				PKKPbc	PKKPab	06 05 01.2	-1.2
MKAR	Makanchi Array	116.46	310	PKP	PKPdf	05 54 28.1	+0.1
	0.8nm,0.4s,baz=218,slow=0.9,SNR=17						
MKAR				PKKPbc	PKKPab	06 05 01.2	-1.2
	0.7nm,0.5s,baz=276,slow=3.6,SNR=11						
ZAA0	Zalesovo Array	117.07	319	ePdif	Pdif	05 50 48.1	-0.3
ZALV	Zalesovo Beam	117.07	319	PKP	PKPdf	05 54 28.6	-0.3
ZALV	Zalesovo Beam	117.07	319	PKP	PKPdf	05 54 28.6	-0.3
	1.6nm,0.4s,baz=134,slow=2.3,SNR=6.5						
KURK	Kurchatov	119.88	314	PKP	PKPdf	05 54 33.7	-0.7
KURK				ePKPdf	PKiKP	05 54 34.4	-0.1
KURBB	Kurchatov Arra	119.92	314	PKP	PKPdf	05 54 33.7	-0.7
	3.3nm,0.5s,baz=115,slow=2.0,SNR=16						
AAK	Ala-Archa	120.54	304	PKP	PKPdf	05 54 36.9	+0.7
AAK	Ala-Archa	120.54	304	PKP	PKPdf	05 54 36.9	+0.7
	2.4nm,0.6s,baz=131,slow=4.7,SNR=6.9						
KKAR	Karatay Array	123.50	304	ePKPdf	PKPdf	05 54 42.2	+0.6
BVAR	Borovoye Array	125.32	315	PKP	PKPdf	05 54 45.3	+0.6
BVAR	Borovoye Array	125.32	315	PKP	PKPdf	05 54 45.3	+0.6
	5.1nm,0.4s,baz=87,slow=1.5,SNR=24						
ABKAR	Akbulak array	131.60	310	ePKPdf	PKPdf	05 54 57.3	+0.5
AKTO	Aktyubinsk	132.86	312	PKP	PKPdf	05 55 01.0	+1.9
AKTO	Aktyubinsk	132.86	312	PKP	PKPdf	05 55 01.0	+1.9
	2.8nm,0.5s,baz=92,slow=4.0,SNR=14						
ARCES	ARCESS Array B	138.94	346	PKPpre	PKPpre	05 55 01.8	
ARCES				PKP	PKPdf	05 55 08.7	-1.2
ARCES	ARCESS Array B	138.94	346	PKhKP	PKPpre	05 55 01.8	
	4.7nm,0.8s,baz=35,slow=4.4,SNR=11						
ARCES				PKP	PKPdf	05 55 08.7	-1.2
	4.5nm,0.8s,baz=48,slow=1.8,SNR=6.2						
JOF	Joensuu	142.32	336	ep	PKPdf	05 55 12.7	-3.4
KBZ	Khabaz	143.51	302	PKP	PKPdf	05 55 17.9	-0.8
KBZ	Khabaz	143.51	302	PKP	PKPdf	05 55 17.9	-0.8
	8.2nm,0.7s,baz=131,slow=2.1,SNR=21						
OBN	Obninsk	144.46	323	ePKPbc	PKPab	05 55 20.4	-0.1
OBN				PKP	PKPab	05 55 20.5	-0.1
OBN	Obninsk	144.46	323	PKP	PKPab	05 55 20.5	-0.1
	39nm,0.4s,baz=12,slow=1.8,SNR=11						
KAF	Kangasniemi	144.55	338	ep	PKPab	05 55 18.8	-2.0
FIA1	FINESS Array S	145.11	338	ePKPbc	PKPab	05 55 21.7	-1.2
FINES	FINESS Array B	145.11	338	PKP	PKPab	05 55 21.7	-1.3
FINES	FINESS Array B	145.11	338	PKP	PKPab	05 55 21.7	-1.3
	31nm,0.5s,baz=48,slow=3.6,SNR=277						
NB2	NORSAR Subarra	149.24	348	PKP	PKPbc	05 55 32.7	-0.2
	comp=Z,6.4nm,0.4s,baz=15,slow=2.6						
NOA	NORSAR Array B	149.24	348	PKPbc	PKPbc	05 55 32.9	+0.1
NOA	NORSAR Array B	149.24	348	PKPbc	PKPbc	05 55 32.9	+0.1

	comp=Z,14nm,0.8s,baz=17,slow=4.2,SNR=33						
NACGM	**Naroch**	**149.33 328**	*e*		**PKPbc**	**05 55 32.0**	**-1.2**
AKASG	**Malin Array Be**	**150.45 320**	PKPbc		**PKPbc**	**05 55 36.4**	**+0.4**
AKASG	**Malin Array Be**	**150.45 320**	PKPbc		**PKPbc**	**05 55 36.4**	**+0.4**
	comp=Z,7.9nm,0.4s,baz=47,slow=3.2,SNR=108						
AKBB	**Malin Array Si**	**150.45 320**	*e*PKPdf		**PKPdf**	**05 55 31.1**	**+1.1**
AKBB			*e*PKPbc		**PKiKP**	**05 55 36.3**	**-0.1**
AKBB			*e*PKPab		**PKPab**	**05 55 44.5**	**-0.5**
AK01	**Malin Array Si**	**150.47 320**	*e*PKPbc		**PKPbc**	**05 55 36.4**	**+0.4**
AK01			*e*PKPab		**PKPab**	**05 55 44.6**	**-0.6**
KIEV	**Kiev**	**150.47 320**	*e*PKPbc		**PKPbc**	**05 55 36.5**	**+0.5**
KIEV			*e*PKPab		**PKPab**	**05 55 44.7**	**-0.4**
AK02	**Malin Array Si**	**150.49 320**	*e*PKPbc		**PKPbc**	**05 55 36.3**	**+0.3**
BR131	**Keskin Array S**	**150.79 296**	*e*PKPdf		**PKPdf**	**05 55 31.0**	**-0.1**
BR131			*e*PKPbc		**PKPbc**	**05 55 37.7**	**+0.5**
BR131			*e*PKPab		**PKPab**	**05 55 47.3**	**+0.2**
BRTR	**Keskin Array B**	**150.79 296**	PKPbc		**PKPbc**	**05 55 37.8**	**+0.5**
BRTR			PKPab		**PKPab**	**05 55 46.5**	**-0.6**
BRTR	**Keskin Array B**	**150.79 296**	PKPbc		**PKPbc**	**05 55 37.8**	**+0.5**
	comp=Z,8.1nm,0.6s,baz=147,slow=3.5,SNR=64						
BRTR			PKPab		**PKPab**	**05 55 46.5**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=103,slow=4.3,SNR=5.4						
ANTO	**Ankara**	**151.42 297**	*e*PKPbc		**PKPbc**	**05 55 39.9**	**+1.2**
BUR08	**Bucovina Ar. S**	**154.26 317**	*e*PKPab		**PKPab**	**05 56 02.3**	**+0.8**
MLR	**Muntele Rosu**	**154.79 312**	PKPbc		**PKPab**	**05 56 03.7**	**-0.3**
MLR	**Muntele Rosu**	**154.79 312**	PKPab		**PKPab**	**05 56 03.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=61,slow=3.0,SNR=4.6						
DBIC	**Dimbokro**	**155.17 171**	PKP		**PKPdf**	**05 55 39.1**	**+1.2**
DBIC			*e*PKPdf		**PKPdf**	**05 55 39.8**	**+1.8**
DBIC			PKPab		**PKPab**	**05 56 08.9**	**+3.0**
DBIC	**Dimbokro**	**155.17 171**	PKP		**PKPdf**	**05 55 39.1**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=231,slow=1.3,SNR=4.6						
DBIC			PKPab		**PKPab**	**05 56 08.9**	**+3.0**
	comp=Z,6.2nm,1.0s,baz=179,slow=8.2,SNR=3.1						
EKA	**Eskdalemuir Ar**	**155.97 3**	PKPab		**PKPab**	**05 56 06.9**	**-1.5**
EKA	**Eskdalemuir Ar**	**155.97 3**	PKPab		**PKPab**	**05 56 06.9**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=335,slow=2.5,SNR=6.9						
CLL	**Collm**	**157.55 337**	*e*PKPab		**PKPab**	**05 56 15.0**	**-0.4**
GERES	**GERESS Array B**	**159.31 332**	PKPab		**PKPab**	**05 56 22.6**	**-0.7**
GERES	**GERESS Array B**	**159.31 332**	PKPab		**PKPab**	**05 56 22.6**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=45,slow=5.8,SNR=7.4						
TOA0	**Torodi Ar. Sit**	**161.72 188**	*e*PKPdf		**PKPdf**	**05 55 47.2**	**+1.7**
TORD	**Torodi Ar. Bea**	**161.72 188**	PKP		**PKPdf**	**05 55 47.3**	**+1.7**
TORD			PKPab		**PKPab**	**05 56 36.6**	**+2.2**
TORD	**Torodi Ar. Bea**	**161.72 188**	PKP		**PKPdf**	**05 55 47.3**	**+1.7**
	comp=Z,2.1nm,0.9s,baz=310,slow=1.3,SNR=9.5						
TORD			PKPab		**PKPab**	**05 56 36.6**	**+2.2**
	comp=Z,3.6nm,1.0s,baz=166,slow=4.5,SNR=12						
DAVOX	**Davos/Dischmat**	**162.48 335**	PKPab		**PKPab**	**05 56 37.2**	**-0.1**
DAVOX	**Davos/Dischmat**	**162.48 335**	PKPab		**PKPab**	**05 56 37.2**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=13,slow=2.9,SNR=5.3						

IDC ***11*** *05:36:52.8±3.8, 35.2°N×141.7°E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, Error ellipse: s-maj=128.6km s-min=26.9km az=61.0*
JMA ***11*** *05:36:56.6±0.2, 35.2°N×141.2°E, h41km±3km, M3.2*
ISCJB ***11*** *05:36:57.5±0.9, 35.2°N±0.0°×141.1°E±0.0°, h48km, mb3.6/4, Error ellipse: s-maj=10.3km s-min=6.2km az=9.3*
ISC 11 05:36:59.5±1.2, 35.2°N±0.05°×141.1°E±0.0°, h48km, n17, σ1§77/20, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO2	**Boso 2**	**0.55 216**		S	**Sn**	**05 37 19.9**	**+0.7**
CHOJ	**Chosi**	**0.56 335**		P	Pn	05 37 08.1	-3.3
CHOJ				S	**Sn**	**05 37 16.6**	**-3.2**
BSO1	**Boso 1**	**0.56 194**		P	**Pn**	**05 37 08.8**	**-2.1**
BSO3	**Boso 3**	**0.66 233**		P	**Pn**	**05 37 10.7**	**-1.7**
BSO3				S	**Sn**	**05 37 22.3**	**+0.6**
KTR	**Katsuura**	**0.68 266**		S	**Sn**	**05 37 21.2**	**-1.5**
BSO4	**Boso 4**	**0.70 253**		P	**Pn**	**05 37 11.6**	**-1.4**
JCN	**Nagara**	**0.80 286**		P	**Pn**	**05 37 12.3**	**-2.3**
JYT	**Yasato**	**1.29 323**		P	**Pn**	**05 37 19.2**	**-1.9**
JHO	**Hitachi**	**1.48 342**		P	**Pn**	**05 37 22.2**	**-1.6**
JIM2	**Oshima 3**	**1.49 252**		P	**Pn**	**05 37 21.5**	**-2.4**
JIM2				S	**Sn**	**05 37 40.7**	**-1.5**
JOD2	**Odawara 2**	**1.69 273**		P	**Pn**	**05 37 24.7**	**-1.9**
MJAR	**Matsushiro Arr**	**2.74 300**		Pn	**Pn**	**05 37 40.8**	**-0.2**
	2.9nm,0.3s,baz=103,slow=14,SNR=19						
MAT	**Matsushiro**	**2.74 300**		P	**Pn**	**05 37 42.2**	**+1.2**
MAT				*e*S	**Sn**	**05 38 13.9**	**+1.0**
SONM	**Songino Array**	**28.67 307**		P	**P**	**05 42 53.9**	**+2.0**
	0.2nm,0.5s,baz=97,slow=9.9,SNR=2.4						
MKAR	**Makanchi Array**	**44.93 304**		P	**P**	**05 45 10.3**	**+0.7**
	0.5nm,0.8s,baz=92,slow=8.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**46.98 309**		P	**P**	**05 45 25.7**	**+0.1**
	0.5nm,0.3s,baz=86,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**55.22 188**		P	**P**	**05 46 28.3**	**+0.7**
	0.6nm,0.5s,baz=1.6,slow=7.1,SNR=4.0						

ISCJB ***11*** *06:01:15.0±0.9, 25.1°N±0.1°×145.5°E±0.1°, h10km, mb3.6/7, Error ellipse: s-maj=23.1km s-min=11.3km az=138.0*
IDC ***11*** *06:01:15.4±1.0, 25.08°N×145.61°E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/28, mbtmp3.5/9, ML3.6/2, Error ellipse: s-maj=36.1km s-min=20.8km az=74.0*
ISC 11 06:01:17.0±1.0, 25.2°N±0.1°×145.5°E±0.2°, h10km, n10, σ1§04/11, mb3.6/7, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.57 304**		Pn	**Pn**	**06 02 12.7**	**+0.2**
	3.5nm,0.3s,baz=90,slow=20,SNR=4.1						
JCJ				Sn	**Sn**	**06 02 54.0**	**-0.7**
	11nm,0.3s,baz=290,slow=23,SNR=10.0						
MJAR	**Matsushiro Arr**	**12.97 333**		Pn	**Pn**	**06 04 20.4**	**-1.1**
	0.4nm,0.3s,baz=189,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**46.12 195**		P	**P**	**06 09 41.3**	**-0.3**
	0.2nm,0.3s,baz=19,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**49.81 194**		P	**P**	**06 10 09.1**	**-1.1**
	0.2nm,0.3s,baz=16,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**54.02 311**		P	**P**	**06 10 43.1**	**+1.7**
	0.1nm,0.3s,baz=85,slow=6.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**56.53 315**		P	**P**	**06 11 00.6**	**+1.2**
	0.6nm,0.3s,baz=88,slow=7.4,SNR=3.6						
BVAR	**Borovoye Array**	**61.49 318**		P	**P**	**06 11 34.7**	**+0.8**
	0.3nm,0.4s,baz=105,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**72.42 29**		P	**P**	**06 12 42.6**	**-0.6**
	0.2nm,0.7s,baz=287,slow=5.5,SNR=4.2						
FINES	**FINESS Array B**	**80.99 335**		P	**P**	**06 13 31.5**	**-0.1**
	1.3nm,0.9s,baz=5.2,slow=1.5,SNR=3.5						
LPAZ	**La Paz**	**147.39 81**		PKPbc	**PKPbc**	**06 21 03.1**	**+0.5**
	0.9nm,0.6s,baz=352,slow=4.0,SNR=4.6						

IDC 11 06:02:50.6±1.9, 13.5°S×166.98°E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/20, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=53.2km s-min=35.2km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.53 183**		Pn	Pn	06 04 55.8	+0.2
	0.2nm,0.3s,baz=31,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**31.86 254**		P	P	06 09 17.8	0.0
	0.3nm,0.4s,baz=84,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**32.86 247**		P	P	06 09 26.3	-0.2
	1.4nm,0.6s,baz=78,slow=9.1,SNR=15						
YKA	**Yellowknife Ar**	**96.60 27**		P	P	06 16 22.0	-0.1
	0.2nm,0.8s,baz=246,slow=4.6,SNR=5.3						

NDI ***11*** *06:11:08.1±2.4, 33.5°N×75.4°E, h19km±22km, ML3.7*
IDC ***11*** *06:11:11.8±0.9, 32.98°N×76.05°E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.8/31, mbtmp3.9/16, ML3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/51, Error ellipse: s-maj=24.9km s-min=16.4km az=48.0*
ISCJB ***11*** *06:11:14.2±1.6, 33.07°N±0.04°×76.0E±0.1°, h24km±13km, mb3.8/12, MS3.1/1, Error ellipse: s-maj=16.3km s-min=7.0km az=170.7*
ISC 11 06:11:13.9±1.8, 33.11°N±0.05°×76.06°E±0.09°, h10km±12km, n26, σ1§67/33, mb3.8/12, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**0.58 188**		*e*P	**Pg**	**06 11 24.0**	**-1.1**
DLH				*e*S	**Sn**	**06 11 42.0**	**+3.9**
BHK	**Bhakra**	**1.72 170**		*e*P	**Pn**	**06 11 45.4**	**+1.4**
BHK				*ex*	**Sn**	**06 12 06.6**	**+0.5**
SMLA	**Simla**	**2.19 154**		*e*P	**Pn**	**06 11 52.7**	**+2.2**
SMLA				*e*S	**Sb**	**06 12 22.9**	**+2.0**
JOSI	**Joshimath**	**3.92 130**		*e*P	Pg	06 12 40.3	+11
JOSI				*e*S	Sg	06 13 30.4	+10
JOSI				AML	AML	06 13 56.1	
	comp=N,406nm,0.6s						
JOSI				AML	AML	06 13 56.6	
	comp=E,251nm,0.9s						
NDI	**New Delhi**	**4.53 167**		*e*P	**Pb**	**06 12 33.0**	**-0.5**
NDI				*e*S	**Sb**	**06 13 29.5**	**+1.3**
KUDL	**Kundal**	**4.97 176**		*e*P	**Pn**	**06 12 28.4**	**-0.2**
KUDL				*e*S	**Sn**	**06 13 25.1**	**-1.1**
KUDL				AML	AML	06 14 03.1	
	comp=N,44nm,0.7s						
KUDL				AML	AML	06 14 07.9	
	comp=E,53nm,0.5s						
KHET	**Khetri**	**5.03 183**		*e*P	**Pn**	**06 12 28.2**	**-1.3**
KHET				*e*S	**Sn**	**06 13 25.1**	**-2.6**
KHET				AML	AML	06 13 55.8	
	comp=N,214nm,0.5s						
KHET				AML	AML	06 13 59.9	
	comp=E,224nm,0.4s						
LGTI	**Lohaghat**	**5.12 134**		*e*P	**Pn**	**06 12 31.2**	**+0.5**
LGTI				*ex*	**Sn**	**06 13 27.8**	**-2.1**
AAK	**Ala-Archa**	**9.58 353**		Pn	**Pn**	**06 13 35.1**	**+3.0**
	comp=E,0.6nm,0.3s,baz=147,slow=8.2,SNR=11						
AAK				Sn	**Sn**	**06 15 17.4**	**-2.6**
	comp=E,0.2nm,0.3s,baz=146,slow=18,SNR=2.3						
MKAR	**Makanchi Array**	**14.47 17**		Pn	**Pn**	**06 14 40.5**	**+1.7**
	comp=E,0.3nm,0.3s,baz=189,slow=14,SNR=10						
MKAR				Sn	Sn	06 17 12.4	-6.8
	comp=E,0.2nm,0.3s,baz=200,slow=25,SNR=4.8						
KURBB	**Kurchatov Arra**	**17.59 5**		Pn	**Pn**	**06 15 16.6**	**-2.5**
	comp=E,0.3nm,0.3s,baz=191,slow=11,SNR=5.5						
BVAR	**Borovoye Array**	**20.31 350**		P	**P**	**06 15 50.0**	**0.0**
	comp=E,2.0nm,0.3s,baz=162,slow=10,SNR=24						
ZALV	**Zalesovo Beam**	**21.74 14**		P	**P**	**06 16 04.1**	**-1.3**
	comp=E,1.5nm,0.3s,baz=201,slow=11,SNR=5.2						
AKTO	**Aktyubinsk**	**21.82 328**		P	**P**	**06 16 07.8**	**+1.5**
	comp=E,8.0nm,0.7s,baz=121,slow=10,SNR=27						
CMAR	**Chiang Mai Arr**	**25.18 120**		P	**P**	**06 16 38.3**	**-1.4**
	comp=E,1.2nm,0.3s,baz=308,slow=10,SNR=4.2						
SONM	**Songino Array**	**27.15 48**		P	**P**	**06 16 58.5**	**+1.0**
	comp=E,0.8nm,0.7s,baz=244,slow=9.7,SNR=6.9						
SONM				LR	LR	06 29 42.0	
	comp=E,48nm,19.6s,baz=67,slow=41						
AKASG	**Malin Array Be**	**38.30 312**		P	**P**	**06 18 34.6**	**+0.1**
	comp=E,0.9nm,0.6s,baz=81,slow=7.7,SNR=9.5						
JOF	**Joensuu**	**40.86 330**		*ep*	**P**	**06 18 56.3**	**+0.6**
FINES	**FINESS Array B**	**42.59 327**		P	**P**	**06 19 11.1**	**+1.2**
	comp=E,2.5nm,0.9s,baz=116,slow=11,SNR=12						
ARCES	**ARCESS Array B**	**45.85 338**		P	**P**	**06 19 35.8**	**-0.1**
	comp=E,5.3nm,1.0s,baz=110,slow=7.0,SNR=6.7						
NB2	**NORSAR Subarra**	**49.56 325**		P	**P**	**06 20 05.3**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**49.56 325**		P	**P**	**06 20 05.3**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=96,slow=7.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**69.92 273**		P	**P**	**06 22 24.4**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=37,slow=5.5,SNR=5.8						
WRA	**Warramunga Arr**	**76.66 125**		P	**P**	**06 23 04.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=326,slow=5.7,SNR=12						
ILAR	**Eielson Array**	**76.82 17**		P	**P**	**06 23 06.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=316,slow=5.6,SNR=6.2						
YKA	**Yellowknife Ar**	**84.34 5**		P	**P**	**06 23 45.4**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=344,slow=5.2,SNR=7.9						

IDC ***11*** *06:19:21.2±3.1, 40.6°N×122.7°E, h0km, mb1 3.1/3, mb1mx3.0/28, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=32.3km s-min=24.6km az=47.0*
BJI ***11*** *06:19:23.9, 40.66°N×122.83°E, h7km, ML3.5/7*
KMA ***11*** *06:19:32.5±1.8, 39.84°N×121.74°E, h0km, Error ellipse: s-maj=26.6km s-min=12.8km az=24.0*
ISC 11 06:19:22.4±1.6, 40.62°N±0.04°×122.87°E±0.05°, h8km±17km, n11, σ1§04/18, 7C-5D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNY	**Shenyang**	**1.32 24**		⇑P*g*	**Pg**	**06 19 48.0**	**+0.3**
SNY				Sg	**Sb**	**06 20 04.4**	**-0.2**
SNY				*s*max	*s*max		
	comp=N,720nm,0.3s						
SNY				*s*max	*s*max		
	comp=E,720nm,0.4s						
DL2	**Dalian**	**1.96 210**		P*g*	**Pb**	**06 19 59.6**	**+1.3**
DL2				Sg	**Sg**	**06 20 25.9**	**+0.5**
DL2				*s*max	*s*max		
	comp=N,540nm,0.5s						
DL2				*s*max	*s*max		
	comp=E,1μm,0.7s						
KSBAR	**Backryungdo**	**3.00 151**		⇓P	**Pg**	**06 20 19.8**	**-0.2**
KSBAR				⇓S	**Sg**	**06 20 58.9**	**+0.1**
KSGAH	**Ganghwa**	**4.03 135**		⇓P	**Pg**	**06 20 38.2**	**-1.3**
KSGAH				⇑S	**Sg**	**06 21 30.7**	**-0.9**
YNCB	**YEONCHEON**	**4.07 128**		⇑P	**Pg**	**06 20 39.9**	**-0.4**
YNCB				⇓S	**Sg**	**06 21 32.3**	**-0.7**
KSMUS	**Musan**	**4.07 131**		⇓S	**Sg**	**06 21 32.9**	**-0.2**
KSCWO	**Cheorwon**	**4.41 124**		⇑P	**Pg**	**06 20 45.8**	**-0.9**
KSCWO				⇑S	**Sg**	**06 21 43.7**	**-0.2**
SEHB	**SEOHWA**	**4.79 118**		⇑P	**Pg**	**06 20 55.2**	**+1.1**
SEHB				⇑S	**Sg**	**06 21 55.7**	**-0.3**
KSRS	**Korea Array**	**5.05 127**		Pn	**Pn**	**06 20 39.5**	**+1.1**
	0.4nm,0.3s,baz=310,slow=14,SNR=2.9						
KSRS				Pg	Pb	06 20 56.2	+5.2
	1.8nm,0.3s,baz=310,slow=16,SNR=6.4						
KSRS				Lg	Lg	06 22 01.7	
	7.3nm,0.3s,baz=306,slow=29,SNR=13						
USRK	**Ussuriysk Arra**	**7.64 59**		Pn	**Pn**	**06 21 15.2**	**+1.3**
	0.2nm,0.3s,baz=249,slow=14,SNR=4.0						
USRK				Pg	Pg	06 21 42.9	-5.7
	0.4nm,0.3s,baz=246,slow=15,SNR=5.4						
USRK				Lg	Lg	06 23 24.6	
	0.8nm,0.3s,baz=248,slow=27,SNR=6.3						
SONM	**Songino Array**	**13.82 307**		Pn	**Pn**	**06 22 36.5**	**-2.2**
	0.0nm,0.3s,baz=116,slow=14,SNR=2.3						

IDC 11 06:35:20.6±47.0, 17.09°S×175.21°W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=894.2km s-min=175.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.69 241**		P	P	06 43 11.8	+0.6
	1.3nm,0.5s,baz=75,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**47.78 258**		P	P	06 43 59.7	-0.3
	0.5nm,0.8s,baz=97,slow=7.1,SNR=7.9						
ASAR	**Alice Springs**	**47.95 253**		P	P	06 44 00.9	-0.4
	2.9nm,0.6s,baz=88,slow=8.5,SNR=52						

IDC ***11*** *06:41:09.4±1.1, 8.53°S×157.24°E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, ML4.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=28.9km s-min=17.2km az=13.0*
ISCJB ***11*** *06:41:10.6±1.0, 8.6°S±0.2°×157.2°E±0.1°, h19km, mb3.4/5, Error ellipse: s-maj=24.9km s-min=16.5km az=1.2*
ISC 11 06:41:12.3±1.0, 8.5°S±0.2°×157.2°E±0.1°, h19km, n8, σ0§95/7, mb3.5/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.82 109**		Pn	**Pn**	**06 41 55.5**	**-0.9**
	63nm,0.3s,baz=238,slow=1.5,SNR=6.9						
HNR				Lg	Lg	06 42 39.1	
	79nm,0.3s,baz=4.1,slow=10,SNR=7.1						
HNR	**Honiara**	**2.82 109**		*e*P	**Sn**	**06 42 31.0**	**+1.0**
PMG	**Port Moresby**	**9.99 264**		LR	LR	06 47 05.5	
	comp=Z,127nm,18.0s,baz=124,slow=36						
WRA	**Warramunga Arr**	**24.88 240**		P	**P**	**06 46 33.6**	**-0.5**
	1.2nm,0.8s,baz=66,slow=9.4,SNR=4.4						
ASAR	**Alice Springs**	**26.93 233**		P	**P**	**06 46 52.8**	**+0.1**
	0.4nm,0.8s,baz=59,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**27.40 210**		P	**P**	**06 46 57.3**	**+0.5**
	2.2nm,0.8s,baz=48,slow=4.0,SNR=3.4						
SONM	**Songino Array**	**71.83 327**		P	**P**	**06 52 34.8**	**+0.9**
	0.3nm,0.9s,baz=118,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**86.02 318**		P	**P**	**06 53 51.1**	**-0.6**
	0.2nm,0.6s,baz=93,slow=5.8,SNR=3.7						

NEIC ***11*** *06:44:37.9, 40.46°N×124.85°W, h24km, MW4.1(BRK), After NCEDC.*
NEIC Felt at Arcata, Eureka and Samoa.
IDC ***11*** *06:44:37.5±2.2, 40.52°N×124.49°W, h0km, mb3.0/2, mb1 3.7/4, mb1mx3.4/29, mbtmp3.3/4, ML3.5/2, MS3.6/2, Ms1 3.5/2, ms1mx3.1/14, Error ellipse: s-maj=26.6km s-min=11.4km az=106.0*
ISC 11 06:44:36.2±2.1, 40.47°N±0.03°×124.87°W±0.08, h10km±11km, n48, σ1§82/62, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**0.95**	**65**	*e*P*g*	**Pg**	**06 44 54.2**	**-0.4**
KHMM				*e*S*g*	**Sg**	**06 45 07.2**	**+0.2**
KCPM	**Cahto Peak**	**1.26**	**128**	*e*P*n*	**Pn**	**06 44 58.4**	**-1.7**
KCPM				*e*S*n*	**Sb**	**06 45 14.1**	**-2.5**
KRMB	**Red Mountain**	**1.28**	**34**	*e*P*n*	**Pn**	**06 44 58.3**	**-2.0**
KRMB				*e*S*n*	**Sb**	**06 45 14.0**	**-3.0**
KSXB	**Camp Six Broad**	**1.55**	**29**	P	**Pn**	**06 45 02.0**	**-2.1**
N02D	**Trinity Center**	**1.72**	**72**	P	**Pn**	**06 45 04.8**	**-1.5**
	baz=1.8						
N02D				S	**Sn**	**06 45 26.0**	**-2.4**
	baz=1.8						
WDC	**Whiskeytown Da**	**1.78**	**86**	*e*P*n*	**Pn**	**06 45 05.5**	**-1.5**
WDC				*e*S*n*	**Sn**	**06 45 28.2**	**-1.6**
KBO	**Bosley Butte**	**1.80**	**15**	*e*P*n*	**Pn**	**06 45 05.5**	**-2.1**
KBO				*e*S*n*	**Sn**	**06 45 29.2**	**-1.4**
HOPS	**Hopland**	**2.03**	**136**	*e*P*n*	**Pn**	**06 45 09.1**	**-1.4**
HOPS				*e*S*n*	**Sn**	**06 45 32.9**	**-3.0**
LAMM	**Antelope Mount**	**2.04**	**55**	P	**Pn**	**06 45 09.5**	**-1.4**
YBH	**Yreka Blue Hor**	**2.06**	**52**	*e*P*n*	**Pn**	**06 45 09.7**	**-1.4**
YBH				Lg	Lg	06 45 34.4	
YBH				*e*S*n*	**Sn**	**06 45 35.5**	**-1.3**
YBH	**Yreka Blue Hor**	**2.06**	**52**	P*n*	**Pn**	**06 45 09.7**	**-1.4**
	10nm,0.3s,baz=262,slow=10,SNR=266						
YBH				Lg	Lg	06 45 34.4	
	72nm,0.3s,baz=85,slow=12,SNR=33						
HUMO	**Hull Mountain**	**2.57**	**33**	*e*P*n*	**Pn**	**06 45 17.8**	**-0.2**
HUMO				*e*S*n*	**Sn**	**06 45 46.6**	**-2.7**
M04C	**Macdoel**	**2.64**	**59**	P	**Pn**	**06 45 18.5**	**-0.5**
	baz=2.7						
K04D	**Chiloquin, OR**	**3.18**	**46**	P	**Pn**	**06 45 26.8**	**+0.4**
	baz=3.2						
K04D				S	**Sn**	**06 46 03.4**	**-1.0**
	baz=3.2						
SAC	**San Andreas**	**3.46**	**146**	*e*P*n*	**Pn**	**06 45 28.5**	**-1.7**
SAC				*e*S*n*	**Sn**	**06 46 08.0**	**-3.3**
BEKR	**Beckworth**	**3.51**	**98**	*e*P*n*	**Pn**	**06 45 30.2**	**-0.9**
BEKR				*e*S*n*	**Sn**	**06 46 12.2**	**-0.5**
MOD	**Modoc**	**3.73**	**66**	*e*P*n*	**Pn**	**06 45 34.4**	**+0.3**
MOD				*e*S*n*	**Sn**	**06 46 19.1**	**+0.9**
I04A	**Tendick Farm,**	**3.79**	**28**	P	**Pn**	**06 45 35.6**	**+0.8**
	baz=3.8						
CMB	**Columbia Colle**	**4.25**	**124**	*e*P*n*	**Pn**	**06 45 41.6**	**+0.5**
CMB				*e*S*n*	**Sn**	**06 46 30.8**	**+0.1**
COR	**Corvallis**	**4.27**	**15**	*e*P*n*	**Pn**	**06 45 41.9**	**+0.6**
COR				*e*S*n*	**Sn**	**06 46 28.6**	**-2.6**
PAHR	**Pah Rah Range**	**4.28**	**99**	*e*P*n*	**Pn**	**06 45 40.5**	**-1.0**
PAHR				*e*S*n*	**Sn**	**06 46 34.1**	**+2.5**
WAKR	**Walker**	**4.64**	**113**	*e*P*n*	**Pn**	**06 45 47.8**	**+1.2**
WAKR				*e*S*n*	**Sn**	**06 46 42.7**	**+2.0**
WVOR	**Wild Horse Val**	**5.08**	**65**	*e*P*n*	**Pn**	**06 45 51.5**	**-1.1**
	4.2nm,0.5s						
WVOR				*e*S*n*	**Sn**	**06 46 52.1**	**+0.9**
NVAR	**Mina Array Bea**	**5.48**	**110**	Pn	**Pn**	**06 45 58.1**	**0.0**
NVAR	**Mina Array Bea**	**5.48**	**110**	Pn	**Pn**	**06 45 58.1**	**0.0**
	2.0nm,0.3s,baz=295,slow=15,SNR=43						
NV11	**Mina Array Sit**	**5.58**	**109**	*e*P*n*	**Pn**	**06 45 59.8**	**+0.3**
NV11				*e*S*n*	**Sn**	**06 47 07.0**	**+3.2**
VES	**Vestal, Richgr**	**6.49**	**134**	P	**Pn**	**06 46 12.1**	**+0.3**
	baz=6.5						
ISA	**Isabella**	**6.96**	**132**	*e*P*n*	**Pn**	**06 46 20.4**	**+1.9**
	1.9nm,0.3s						
ISA				*e*S*n*	**Sn**	**06 47 35.7**	**-2.1**
ISA	**Isabella**	**6.96**	**132**	P	**Pn**	**06 46 20.0**	**+1.6**
	baz=7.0						
R11A	**Troy Canyon, C**	**7.49**	**103**	P	**Pn**	**06 46

comp=Z,49nm,0.1s
MOR8 Moi Rana 2.25 115 P **Pn** **06 52 56.8 +2.1**
MOR8 S **Sn** **06 53 24.0 +2.7**
STEI Steigen 2.36 69 *e*P **Pn** **06 52 56.5 +0.4**
STEI *e*S **Sn** **06 53 23.5 -0.4**
STEI IAML 06 53 24.9
comp=Z,12nm,0.1s
STEI Steigen 2.36 69 *e*P **Pn** **06 52 56.5 +0.4**
STEI *e*S **Sn** **06 53 23.5 -0.4**
STEI IAML 06 53 24.9
comp=Z,12nm,0.1s
STEI Steigen 2.36 69 *e*P **Pn** **06 52 56.5 +0.4**
SNR=55
STEI *e*S **Sn** **06 53 23.5 -0.4**
SNR=55
SALU Saltoluokta 3.54 83⇑ *e*P **Pn** **06 53 14.0 +1.7**
SALU *e*S **Sn** **06 53 54.0 +1.0**
SALU Saltoluokta 3.54 83 P **Pn** **06 53 13.9 +1.7**
SALU S **Sn** **06 53 54.0 +1.0**
SALU Saltoluokta 3.54 83 P **Pn** **06 53 14.0 +1.7**
SALU S **Sn** **06 53 54.0 +1.0**
KUA Kurravaara 4.26 75 *e*P **Pn** **06 53 24.0 +1.8**
KUA *e*S **Sn** **06 54 11.9 +1.2**
KUA Kurravaara 4.26 75 P **Pn** **06 53 24.0 +1.8**
KUA S **Sn** **06 54 11.9 +1.2**
KUA Kurravaara 4.26 75 P **Pn** **06 53 24.0 +1.8**
KUA S **Sn** **06 54 11.9 +1.2**
KIF Kilpisjarvi 4.64 62 *e*P **Pn** **06 53 29.0 +1.7**
KIF *e*S **Sn** **06 54 19.2 -0.8**
KIF MSN 06 54 23.0
comp=Z,2.2nm,0.1s
KIF Kilpisjarvi 4.64 62 P **Pn** **06 53 29.0 +1.7**
KIF S **Sn** **06 54 19.2 -0.8**
LILU Lilltraesk 4.64 110⇑ *e*P **Pn** **06 53 28.8 +1.4**
LILU *e*S **Sn** **06 54 19.3 -0.8**
LILU Lilltraesk 4.64 110 P **Pn** **06 53 28.8 +1.4**
LILU S **Sn** **06 54 19.3 -0.8**
LILU Lilltraesk 4.64 110 P **Pn** **06 53 28.8 +1.4**
LILU S **Sn** **06 54 19.2 -0.8**
HARU Harads 4.72 97 *e*P **Pn** **06 53 29.7 +1.3**
HARU *e*S **Sn** **06 54 21.5 -0.5**
HARU Harads 4.72 97 P **Pn** **06 53 29.7 +1.3**
HARU S **Sn** **06 54 21.5 -0.5**
HARU Harads 4.72 97 P **Pn** **06 53 29.7 +1.3**
HARU S **Sn** **06 54 21.5 -0.5**
MASU Masugnsbyn 4.88 81 *e*P **Pn** **06 53 31.9 +1.1**
MASU Masugnsbyn 4.88 81 P **Pn** **06 53 31.8 +1.1**
MASU Masugnsbyn 4.88 81 P **Pn** **06 53 31.9 +1.1**
LANU Lannavaara 4.89 74 *e*P **Pn** **06 53 32.4 +1.6**
LANU *e*S **Sn** **06 54 26.9 +0.7**
LANU Lannavaara 4.89 74 P **Pn** **06 53 32.4 +1.6**
LANU S **Sn** **06 54 26.9 +0.7**
LANU Lannavaara 4.89 74 P **Pn** **06 53 32.4 +1.6**
LANU S **Sn** **06 54 26.9 +0.7**
SVAU Svanoeiden 4.98 118 *e*P **Pn** **06 53 33.6 +1.6**
SVAU Svanoeiden 4.98 118 P **Pn** **06 53 33.6 +1.6**
SVAU Svanoeiden 4.98 118 P **Pn** **06 53 33.6 +1.6**
BREU Bredtraesk 5.05 127 *e*P **Pn** **06 53 34.8 +1.8**
BREU Bredtraesk 5.05 127 P **Pn** **06 53 34.8 +1.8**
BREU Bredtraesk 5.05 127 P **Pn** **06 53 34.8 +1.8**
SJUU Sjulsmark 5.20 103 *e*P **Pn** **06 53 36.1 +1.1**
SJUU *e*S **Sn** **06 54 33.2 -0.6**
SJUU Sjulsmark 5.20 103 P **Pn** **06 53 36.1 +1.1**
SJUU S **Sn** **06 54 33.2 -0.6**
SJUU Sjulsmark 5.20 103 P **Pn** **06 53 36.1 +1.1**
SJUU S **Sn** **06 54 33.2 -0.6**
HEF Hetta 5.54 71 *e*P **Pn** **06 53 41.2 +1.5**
HEF *e*S **Sn** **06 54 40.7 -1.6**
HEF MSN 06 54 45.0
comp=Z,2.7nm,0.1s
HEF Hetta 5.54 71 P **Pn** **06 53 41.2 +1.5**
BURU Burvik 5.56 113 *e*P **Pn** **06 53 41.6 +1.6**
BURU Burvik 5.56 113 P **Pn** **06 53 41.6 +1.6**
BURU Burvik 5.56 113 P **Pn** **06 53 41.6 +1.6**
HUSU Husum 5.65 129 *e*P **Pn** **06 53 43.0 +1.8**
HUSU Husum 5.65 129 P **Pn** **06 53 43.0 +1.8**
HUSU Husum 5.65 129 P **Pn** **06 53 43.0 +1.8**
HEMU Hemsoen 5.83 137 *e*P **Pn** **06 53 45.5 +1.7**
HEMU Hemsoen 5.83 137 P **Pn** **06 53 45.5 +1.7**
HEMU Hemsoen 5.83 137 P **Pn** **06 53 45.5 +1.7**
HASU Hassela 5.93 145 *e*P **Pn** **06 53 45.6 +0.4**
HASU Hassela 5.93 145 P **Pn** **06 53 45.5 +0.4**
HASU Hassela 5.93 145 P **Pn** **06 53 45.6 +0.4**
HYA Hoyanger 6.22 195 *e*P **Pn** **06 53 49.3 +0.3**
HYA *e*S Sn 06 54 55.3 -3.6
HYA Hoyanger 6.22 195 *e*P **Pn** **06 53 49.3 +0.3**
HYA *e*S Sn 06 54 55.3 -3.6
HYA Hoyanger 6.22 195 P **Pn** **06 53 49.3 +0.3**
NB2 NORSAR Subarra 6.23 172 Pn **Pn** **06 53 49.8 +0.5**
baz=351,slow=14
NB2 Sn **Sn** **06 54 58.9 -0.5**
baz=346,slow=28
NB2 NORSAR Subarra 6.23 172 Pn **Pn** **06 53 49.8 +0.5**
baz=351,slow=14
NB2 Sn **Sn** **06 54 58.9 -0.5**
baz=346,slow=28
NB2 NORSAR Subarra 6.23 172 *e*P **Pn** **06 53 49.8 +0.5**
NB2 *e*S **Sn** **06 54 58.9 -0.5**
NB2 NORSAR Subarra 6.23 172 P **Pn** **06 53 49.8 +0.5**
NB2 S **Sn** **06 54 58.9 -0.5**
NOA NORSAR Array B 6.23 172 Pn **Pn** **06 53 48.9 -0.4**
comp=Z,0.3nm,0.3s,baz=356,slow=13,SNR=5.1
NOA Sn Sn 06 54 54.8 -4.6
comp=Z,0.4nm,0.3s,baz=72,slow=20,SNR=2.7
ARCES ARCESS Array B 6.39 61 Pn **Pn** **06 53 52.2 +0.8**
comp=Z,0.3nm,0.3s,baz=250,slow=14,SNR=13
ARCES Sn **Sn** **06 55 00.6 -2.6**
comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=3.7
ARA0 ARCESS Array S 6.39 61 Pn **Pn** **06 53 52.4 +0.9**
baz=240,slow=14
ARA0 Sn Sn 06 55 00.4 -2.8
baz=250,slow=22
ARA0 ARCESS Array S 6.39 61 Pn **Pn** **06 53 52.4 +0.9**
baz=240,slow=14
ARA0 Sn Sn 06 55 00.4 -2.8
baz=250,slow=22
ARA0 ARCESS Array S 6.39 61 *e*P **Pn** **06 53 52.4 +0.9**
ARA0 *e*S Sn 06 55 00.4 -2.8
ARA0 ARCESS Array S 6.39 61 P **Pn** **06 53 52.3 +0.9**
ROTU Roteberg 6.43 151 *e*P **Pn** **06 53 52.6 +0.6**
ROTU Roteberg 6.43 151 P **Pn** **06 53 52.5 +0.6**
ROTU Roteberg 6.43 151 P **Pn** **06 53 52.6 +0.6**
SUE Sulen 6.49 200 *e*P **Pn** **06 53 53.2 +0.5**
SUE IAML 06 55 03.2
comp=Z,2.6nm,0.4s
SUE Sulen 6.49 200 *e*P **Pn** **06 53 53.2 +0.5**
SUE IAML 06 55 03.2
comp=Z,2.6nm,0.4s
SUE Sulen 6.49 200 P **Pn** **06 53 53.2 +0.5**
ARNU Arnoeviken 6.51 144 *e*P **Pn** **06 53 53.6 +0.6**
ARNU Arnoeviken 6.51 144 P **Pn** **06 53 53.6 +0.6**
ARNU Arnoeviken 6.51 144 P **Pn** **06 53 53.6 +0.6**
RNF Rovaniemi 6.56 87 *e*P **Pn** **06 53 54.2 +0.5**
RNF *e*S **Sn** **06 55 05.3 -2.0**
RNF Rovaniemi 6.56 87 P **Pn** **06 53 54.2 +0.5**
SGF Sodankyl 6.62 80 *e*S **Sn** **06 55 06.3 -2.6**
KEV Kevo 6.96 60 *e*P **Pn** **06 53 60.0 +0.8**
KEV *e*S Sn 06 55 14.2 -2.8
KEV MSN 06 55 18.3
comp=Z,0.6nm,0.1s
KEV Kevo 6.96 60 P **Pn** **06 53 59.9 +0.8**
VAF Ylistaro 6.97 120 *e*P **Pn** **06 54 00.7 +1.3**
VAF *e*S **Sn** **06 55 14.4 -3.0**
VAF MSN 06 55 18.0
comp=Z,4.0nm,0.2s
VAF Ylistaro 6.97 120 P **Pn** **06 54 00.7 +1.3**
OUL Oulu 7.01 100 *e*P **Pn** **06 54 00.4 +0.5**
OUL *e*S **Sn** **06 55 10.3 -3.1**
OUL Oulu 7.01 100 P **Pn** **06 54 00.4 +0.5**
IGGU Iggoen 7.23 148 *e*P **Pn** **06 54 03.2 +0.3**
IGGU Iggoen 7.23 148 P **Pn** **06 54 03.2 +0.3**
IGGU Iggoen 7.23 148 P **Pn** **06 54 03.2 +0.3**
FALU Falun 7.30 154 *e*P **Pn** **06 54 03.7 -0.2**
FALU Falun 7.30 154 P **Pn** **06 54 03.7 -0.2**
FALU Falun 7.30 154 P **Pn** **06 54 03.7 -0.2**
HFS Hagfors 7.34 163 Pn **Pn** **06 54 04.4 -0.1**
baz=349,slow=14
HFS Sn Sn 06 55 21.6 -5.0
slow=28
HFS Hagfors 7.34 163 Pn **Pn** **06 54 04.4 -0.1**
baz=349,slow=14
HFS Sn Sn 06 55 21.6 -5.0
slow=28
HFS Hagfors 7.34 163 *e*P **Pn** **06 54 04.4 -0.1**
HFS *e*S Sn 06 55 21.6 -5.0
HFS Hagfors 7.34 163 P **Pn** **06 54 04.4 -0.1**
VRF Varrio 7.77 77 *e*P **Pn** **06 54 10.3 -0.1**
VRF *e*S Sn 06 55 33.7 -3.4
VRF MSN 06 55 38.9
comp=Z,0.7nm,0.1s
VRF Varrio 7.77 77 P **Pn** **06 54 10.2 -0.1**
MSF Maaselka 7.93 90 *e*P **Pn** **06 54 11.9 -0.6**
MSF Maaselka 7.93 90 P **Pn** **06 54 11.9 -0.6**
KJN Kajaani 8.18 104 *e*P **Pn** **06 54 16.3 +0.5**
KJN *e*S Sn 06 55 42.7 -4.3
KJN Kajaani 8.18 104 P **Pn** **06 54 16.3 +0.5**
KU6 Riekki 8.22 89 *e*P **Pn** **06 54 16.0 -0.5**
KU6 *e*S Sn 06 55 43.2 -5.0
KU6 MSN 06 55 46.5
comp=Z,0.8nm,0.1s
KU6 Riekki 8.22 89 P **Pn** **06 54 16.0 -0.5**
APA0 Apatity Array 9.07 77 Pn **Pn** **06 54 27.2 -0.9**
baz=275,slow=11
APA0 Apatity Array 9.07 77 Pn **Pn** **06 54 27.2 -0.9**
baz=275,slow=11
APA0 Apatity Array 9.07 77 *e*P **Pn** **06 54 27.2 -0.9**
APA0 Apatity Array 9.07 77 P **Pn** **06 54 27.2 -0.9**
FIA0 FINESS Array S 9.23 121 Pn **Pn** **06 54 31.5 +1.1**
baz=323,slow=14
FIA0 Sn Sn 06 56 08.2 -4.8
baz=322,slow=28
FIA0 FINESS Array S 9.23 121 Pn **Pn** **06 54 31.5 +1.1**
baz=323,slow=14
FIA0 Sn Sn 06 56 08.2 -4.8
baz=322,slow=28
FIA0 FINESS Array S 9.23 121 *e*P **Pn** **06 54 31.5 +1.1**
FIA0 *e*S Sn 06 56 08.2 -4.8
FIA0 FINESS Array S 9.23 121 P **Pn** **06 54 31.5 +1.1**
FINES FINESS Array B 9.23 121 Pn **Pn** **06 54 30.2 -0.1**
comp=Z,0.2nm,0.3s,baz=310,slow=12,SNR=6.3
FINES Sn Sn 06 56 08.8 -4.1
comp=Z,0.5nm,0.3s,baz=319,slow=23,SNR=10
SPA0 Spitsbergen Ar 11.22 7 Pn **Pn** **06 54 58.0 +0.6**
baz=184,slow=16
SPA0 Spitsbergen Ar 11.22 7 Pn **Pn** **06 54 58.0 +0.6**
baz=184,slow=16
SPA0 Spitsbergen Ar 11.22 7 *e*P **Pn** **06 54 58.0 +0.6**
SPA0 Spitsbergen Ar 11.22 7 P **Pn** **06 54 58.0 +0.6**
SNR=1.3

MDD ***11*** *06:57:43.7±0.8, 36.75N×8.76W, h30km±6km, mbLg3.0/35, Error ellipse: s-maj=9.9km s-min=4.8km az=53.0, PRXIMO*
IGIL ***11*** *06:57:43.7, 36.72N×8.76W, h28km, ML2.8*
LDG ***11*** *06:57:44.5±0.2, 36.84N×8.62W, h15km, Ml3.1/4, Error ellipse: s-maj=5.1km s-min=2.6km az=38.0*
INMG ***11*** *06:57:44.1±1.2, 36.75N×8.75W, h26km±3km, MD2.2, ML2.7, Error ellipse: s-maj=4.7km s-min=2.1km az=60.0*
CSEM ***11*** *06:57:44.3±0.3, 36.90N×8.57W, h20km, ML3.5/7, Error ellipse: s-maj=5.9km s-min=3.0km az=43.0*
ISC 11 06:57:43.7±1.5, 36.84N±0.05×8.67W±0.04, h33km±3km, n128, σ1§00/235, 1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.32**	**337**	*i* Pg	**Pb**	**06 57 52.0**	**+0.3**
PFVI				*e*Sg	**Sn**	**06 57 58.4**	**+1.2**
PFVI				A	A	06 57 58.9	
	497nm,0.1s						
PFVI	**Vila Bisbo**	**0.32**	**337**	⇓P	**Pb**	**06 57 52.0**	**+0.3**
	156nm,0.1s,SNR=18						
PFVI				S	**Sn**	**06 57 58.0**	**+0.8**
	828nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.32**	**337**	P	**Pb**	**06 57 52.0**	**+0.3**
	156nm,0.1s,SNR=18						
PFVI				S	**Sn**	**06 57 58.0**	**+0.8**
	828nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**0.47**	**2**	*e*Pg	**Pn**	**06 57 54.6**	**+0.5**
MORF				*e*Sg	**Sn**	**06 58 02.9**	**+1.6**
MORF				A	A	06 58 04.1	
	467nm,0.1s						
MORF	**Marmelete**	**0.47**	**2**	P	**Pn**	**06 57 54.6**	**+0.5**
MORF				S	**Sn**	**06 58 02.9**	**+1.6**
	467nm,0.1s						
MORF	**Marmelete**	**0.47**	**2**	P	**Pn**	**06 57 54.6**	**+0.5**
MORF				S	**Sn**	**06 58 02.9**	**+1.6**
	467nm,0.1s						
PTEO	**Sao Teotonio**	**0.71**	**356**	*e*P	**Pb**	**06 57 57.8**	**+0.1**
PTEO				*e*S	**Sn**	**06 58 08.7**	**+1.6**
PTEO				A	A	06 58 09.4	
	187nm,0.1s						
PTEO	**Sao Teotonio**	**0.71**	**356**	P	**Pb**	**06 57 57.8**	**+0.1**
PTEO				S	**Sn**	**06 58 08.7**	**+1.6**
	94nm,0.1s						
PTEO	**Sao Teotonio**	**0.71**	**356**	*e*P	**Pb**	**06 57 57.8**	**+0.1**
PTEO				S	**Sn**	**06 58 08.7**	**+1.6**
	94nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.71**	**55**	*e*P	**Pn**	**06 57 58.5**	**+1.0**
PBDV				*e*S	**Sn**	**06 58 09.3**	**+2.0**
PBDV				A	A	06 58 15.6	
	54nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.71**	**55**	P	**Pn**	**06 57 58.5**	**+1.0**
PBDV				S	**Sn**	**06 58 09.3**	**+2.0**
	54nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.71**	**55**	*e*P	**Pn**	**06 57 58.5**	**+1.0**
PBDV				S	**Sn**	**06 58 09.3**	**+2.0**
	54nm,0.1s						
PVAQ	**Vaqueiros**	**0.95**	**53**	*e*P	**Pn**	**06 58 01.6**	**+1.0**
PVAQ				*e*S	**Sn**	**06 58 14.9**	**+1.9**
PVAQ				A	A	06 58 15.9	
	76nm,0.1s						
PVAQ	**Vaqueiros**	**0.95**	**53**	P	**Pn**	**06 58 01.6**	**+1.0**
PVAQ				S	**Sn**	**06 58 14.9**	**+1.9**
	76nm,0.1s						
PVAQ	**Vaqueiros**	**0.95**	**53**	*e*P	**Pn**	**06 58 01.6**	**+1.0**
PVAQ				S	**Sn**	**06 58 14.9**	**+1.9**
	76nm,0.1s						
MESJ	**Messejana**	**1.06**	**19**	*e*P	**Pn**	**06 58 03.2**	**+1.0**
MESJ				*e*S	**Sn**	**06 58 17.5**	**+1.6**
MESJ				AML	AML	06 58 19.1	
	comp=N,92nm,0.2s						
MESJ	**Messejana**	**1.06**	**19**	*e*P	**Pn**	**06 58 03.2**	**+1.0**
MESJ				*e*S	**Sn**	**06 58 17.5**	**+1.6**
MESJ	**Messejana**	**1.06**	**19**	P	**Pn**	**06 58 03.2**	**+1.0**
MESJ				S	**Sn**	**06 58 17.5**	**+1.6**
	comp=N,92nm,0.2s						
MESJ	**Messejana**	**1.06**	**19**	*e*P	**Pn**	**06 58 03.2**	**+1.0**
MESJ				S	**Sn**	**06 58 17.5**	**+1.6**
	comp=N,92nm,0.2s						
EGRO	**El Granado**	**1.17**	**53**	P	**Pn**	**06 58 04.6**	**+0.8**
	comp=N,24nm,0.1s,SNR=94						
EGRO				S	**Sb**	**06 58 20.2**	**-0.1**
	comp=N,8.8nm,0.1s,SNR=6.0						
EGRO	**El Granado**	**1.17**	**53**	P	**Pn**	**06 58 04.6**	**+0.8**
	comp=N,24nm,0.1s,SNR=94						
EGRO				S	**Sb**	**06 58 20.2**	**-0.1**
	comp=N,8.8nm,0.1s,SNR=6.0						
PNCL	**Nicolau / Gran**	**1.28**	**5**	*e*P	**Pn**	**06 58 05.7**	**+0.5**
PNCL				*e*S	**Sn**	**06 58 22.3**	**+1.1**
PNCL				A	A	06 58 33.8	
	comp=N,46nm,0.2s						
PNCL	**Nicolau / Gran**	**1.28**	**5**	*e*P	**Pn**	**06 58 05.7**	**+0.5**
PNCL				*e*S	**Sn**	**06 58 22.3**	**+1.1**
	comp=N,46nm,0.2s						
PBEJ	**Beja**	**1.35**	**28**	*e*P	**Pn**	**06 58 06.8**	**+0.6**
PBEJ				*e*S	**Sn**	**06 58 24.1**	**+1.2**
PBEJ				A	A	06 58 24.9	
	comp=N,56nm,0.2s						
PBEJ	**Beja**	**1.35**	**28**	P	**Pn**	**06 58 06.8**	**+0.6**
PBEJ				S	**Sn**	**06 58 24.1**	**+1.2**
	comp=N,28nm,0.2s						
PBEJ	**Beja**	**1.35**	**28**	*e*P	**Pn**	**06 58 06.8**	**+0.6**
PBEJ				S	**Sn**	**06 58 24.1**	**+1.2**
	comp=N,28nm,0.2s						
EVOP	**Sao Brissos**	**1.74**	**14**	*e*Pn	**Pn**	**06 58 12.1**	**+0.5**
EVOP				*e*Sn	**Sn**	**06 58 33.0**	**+0.4**
	comp=N,55nm,0.2s						
EVO	**Evora**	**1.77**	**17**	*e*Pn	**Pn**	**06 58 12.1**	**+0.1**
EVO				*e*Sn	**Sn**	**06 58 33.0**	**-0.3**
	comp=N,110nm,0.2s						
EVO	**Evora**	**1.77**	**17**	*e*Pn	**Pn**	**06 58 12.7**	**+0.7**
EVO				*e*Sn	**Sn**	**06 58 34.2**	**+0.9**
EVO				A	A	06 58 35.8	
	comp=N,50nm,0.1s						
EVO	**Evora**	**1.77**	**17**	P	**Pn**	**06 58 12.7**	**+0.7**
EVO				S	**Sn**	**06 58 34.2**	**+0.9**
	comp=N,50nm,0.1s						
EVO	**Evora**	**1.77**	**17**	P	**Pn**	**06 58 12.7**	**+0.7**
EVO				S	**Sn**	**06 58 34.2**	**+0.9**
	comp=N,50nm,0.1s						
EMIN	**Mina Concepcio**	**1.84**	**59**	P	**Pn**	**06 58 13.5**	**+0.6**
	comp=N,1.2nm,0.0s,SNR=37						
EMIN				S	**Sn**	**06 58 36.4**	**+1.3**
	comp=N,6.9nm,0.1s,SNR=8.7						
EMIN	**Mina Concepcio**	**1.84**	**59**	P	**Pn**	**06 58 13.5**	**+0.6**
	comp=N,1.2nm,0.0s,SNR=37						
EMIN				S	**Sn**	**06 58 36.4**	**+1.3**
	comp=N,6.9nm,0.1s,SNR=8.7						
LIS	**Lisbon**	**1.92**	**349**	*e*S	**Sn**	**06 58 36.9**	**0.0**
LIS				AML	AML	06 58 37.5	
	comp=N,103nm,0.1s						
LIS	**Lisbon**	**1.92**	**349**	*e*S	**Sn**	**06 58 36.9**	**0.0**
LIS	**Lisbon**	**1.92**	**349**	S	**Sn**	**06 58 36.9**	**0.0**
LIS	**Lisbon**	**1.92**	**349**	*e*S	**Sn**	**06 58 36.9**	**0.0**
PMAFR	**Mafra**	**2.17**	**347**	*e*Pn	**Pn**	**06 58 18.1**	**+0.6**
PMAFR				*e*Sn	**Sn**	**06 58 44.2**	**+1.0**
PMAFR				A	A	06 58 46.4	
	comp=N,70nm,0.2s						
PMAFR	**Mafra**	**2.17**	**347**	P	**Pn**	**06 58 18.1**	**+0.6**
	comp=N,25nm,0.1s,SNR=40						
PMAFR				S	**Sn**	**06 58 44.6**	**+1.5**
	comp=N,72nm,0.9s,SNR=13						
PMAFR	**Mafra**	**2.17**	**347**	P	**Pn**	**06 58 18.1**	**+0.6**
	comp=N,25nm,0.1s,SNR=40						
PMAFR				*e*Sn	**Sn**	**06 58 44.2**	**+1.0**
	comp=N,70nm,0.2s						
PMAFR				S	**Sn**	**06 58 44.7**	**+1.5**
	comp=N,72nm,0.9s,SNR=13						
PESTR	**Estremoz**	**2.20**	**22**	*e*Pn	**Pn**	**06 58 18.6**	**+0.7**
PESTR				*e*Sn	**Sn**	**06 58 44.6**	**+0.7**
PESTR	**Estremoz**	**2.20**	**22**	*e*Pn	**Pn**	**06 58 18.6**	**+0.7**
PESTR				*e*Sn	**Sn**	**06 58 44.6**	**+0.7**
ESPR	**Espera**	**2.25**	**88**	P	**Pn**	**06 58 19.3**	**+0.7**
	comp=N,16nm,0.1s,SNR=30						
ESPR				S	**Sn**	**06 58 45.8**	**+0.5**
	comp=N,58nm,0.2s,SNR=7.0						
ESPR	**Espera**	**2.25**	**88**	P	**Pn**	**06 58 19.3**	**+0.7**
	comp=N,16nm,0.1s,SNR=30						
ESPR				S	**Sn**	**06 58 45.8**	**+0.5**
	comp=N,58nm,0.2s,SNR=7.0						
PMTG	**Montargil**	**2.25**	**9**	*e*Pn	**Pn**	**06 58 19.1**	**+0.5**
PMTG				*e*Sn	**Sn**	**06 58 45.3**	**0.0**
PMTG				A	A	06 58 47.8	
	comp=N,27nm,0.2s						
PMTG	**Montargil**	**2.25**	**9**	*e*Pn	**Pn**	**06 58 19.1**	**+0.5**
PMTG				*e*Sn	**Sn**	**06 58 45.3**	**0.0**
	comp=N,27nm,0.2s						
EBAD	**Badajoz**	**2.32**	**34**	P	**Pn**	**06 58 19.9**	**+0.4**
	comp=N,24nm,0.1s,SNR=63						
EBAD				S	**Sn**	**06 58 48.1**	**+1.2**
	comp=N,11nm,0.1s,SNR=9.4						
EBAD	**Badajoz**	**2.32**	**34**	P	**Pn**	**06 58 19.9**	**+0.4**
	comp=N,24nm,0.1s,SNR=63						
EBAD				S	**Sn**	**06 58 48.1**	**+1.2**
	comp=N,11nm,0.1s,SNR=9.4						
PMRV	**Marv??o**	**2.78**	**21**	*e*Pn	**Pn**	**06 58 26.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**06 58 58.4**	**+0.2**
PMRV				A	A	06 59 01.9	
	comp=N,21nm,0.7s						
PMRV	**Marv??o**	**2.78**	**21**	P	**Pn**	**06 58 26.3**	**+0.5**
PMRV				S	**Sn**	**06 58 58.4**	**+0.2**
	comp=N,21nm,0.7s						
PTOM	**Tomar**	**2.78**	**4**	*e*Pn	**Pn**	**06 58 26.6**	**+0.7**
PTOM				*e*Sn	**Sn**	**06 58 58.7**	**+0.4**
PTOM				A	A	06 59 01.3	
	comp=N,47nm,0.3s						
PTOM	**Tomar**	**2.78**	**4**	P	**Pn**	**06 58 26.6**	**+0.7**
PTOM				S	**Sn**	**06 58 58.7**	**+0.4**
	comp=N,23nm,0.3s						
PTOM	**Tomar**	**2.78**	**4**	P	**Pn**	**06 58 26.6**	**+0.7**
PTOM				S	**Sn**	**06 58 58.7**	**+0.4**
	comp=N,23nm,0.3s						
ECEU	**Ceuta**	**2.82**	**108**	P	**Pn**	**06 58 26.2**	**-0.2**
	comp=N,68nm,0.1s,SNR=19						
ECEU				S	**Sn**	**06 58 59.9**	**+0.8**
	comp=N,8.9nm,0.1s,SNR=5.0						
ECEU	**Ceuta**	**2.82**	**108**	P	**Pn**	**06 58 26.2**	**-0.2**
	comp=N,68nm,0.1s,SNR=19						
ECEU				S	**Sn**	**06 58 59.9**	**+0.8**
	comp=N,8.9nm,0.1s,SNR=5.0						
ECAB	**El Cabril**	**2.87**	**63**	P	**Pn**	**06 58 27.7**	**+0.7**
	comp=N,7.6nm,0.1s,SNR=133						
ECAB				S	**Sn**	**06 59 00.2**	**-0.2**
	comp=N,2.3nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**3.14**	**94**	P	**Pn**	**06 58 31.1**	**+0.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**06 59 06.7**	**-0.5**
	comp=N,1.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.14**	**94**	P	**Pn**	**06 58 31.1**	**+0.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**06 59 06.7**	**-0.5**
	comp=N,1.7nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.14**	**17**	*e*Pn	**Pn**	**06 58 31.6**	**+0.8**
PCBR				*e*Sn	**Sn**	**06 59 07.0**	**-0.1**
PCBR				A	A	06 59 09.1	
	comp=N,30nm,0.2s						
PCBR	**Castelo Branco**	**3.14**	**17**	P	**Pn**	**06 58 31.6**	**+0.8**
PCBR				S	**Sn**	**06 59 07.0**	**-0.1**
	comp=N,15nm,0.2s						
PCBR	**Castelo Branco**	**3.14**	**17**	P	**Pn**	**06 58 31.6**	**+0.8**
PCBR				S	**Sn**	**06 59 07.0**	**-0.1**
	comp=N,15nm,0.2s						
PCAS	**Casmilo, Conde**	**3.21**	**2**	*e*Pn	**Pn**	**06 58 32.7**	**+0.9**
PCAS				*e*Sn	**Sn**	**06 59 09.3**	**+0.3**
PCAS				A	A	06 59 11.3	
	comp=N,16nm,0.7s						
PCAS	**Casmilo, Conde**	**3.21**	**2**	*e*Pn	**Pn**	**06 58 32.7**	**+0.9**
PCAS				*e*Sn	**Sn**	**06 59 09.3**	**+0.3**
	comp=N,16nm,0.7s						
EADA	**Adamuz**	**3.51**	**67**	P	**Pn**	**06 58 36.7**	**+0.7**
	comp=N,5.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**06 59 15.7**	**-0.7**
	comp=N,5.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.51**	**67**	P	**Pn**	**06 58 36.7**	**+0.7**
	comp=N,5.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**06 59 15.7**	**-0.7**
	comp=N,5.1nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.66**	**14**	*e*Pn	**Pn**	**06 58 38.7**	**+0.6**
MTE				*e*Sn	**Sn**	**06 59 20.0**	**-0.2**
MTE				A	A	06 59 21.7	
	comp=N,22nm,0.2s						
MTE	**Manteigas**	**3.66**	**14**	P	**Pn**	**06 58 38.7**	**+0.6**
MTE				S	**Sn**	**06 59 20.0**	**-0.2**
	comp=N,11nm,0.2s						
MTE	**Manteigas**	**3.66**	**14**	P	**Pn**	**06 58 38.7**	**+0.6**
MTE				S	**Sn**	**06 59 20.0**	**-0.2**
	comp=N,11nm,0.2s						
EPLA	**Plasencia**	**3.81**	**31**	P	**Pn**	**06 58 40.6**	**+0.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**06 59 21.8**	**-1.8**
	comp=N,8.5nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**3.81**	**31**	P	**Pn**	**06 58 40.6**	**+0.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**06 59 21.8**	**-1.8**
	comp=N,8.5nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**3.92**	**9**	*e*Pn	**Pn**	**06 58 42.1**	**+0.5**
PVIS				*e*Sn	**Sn**	**06 59 25.7**	**-0.7**
PVIS				A	A

	comp=N,13nm,0.1s							
PVRL	**Vila Real**	**4.49**	**9**	P	**Pn**	**06 58 50.1**	**+0.7**	
PVRL				S	**Sn**	**06 59 38.9**	**-1.7**	
	comp=N,13nm,0.1s							
MVO	**Moncorvo**	**4.51**	**16**	*e*Pn	**Pn**	**06 58 50.7**	**+1.1**	
MVO				*e*Sn	**Sn**	**06 59 39.4**	**-1.5**	
MVO				A	A	06 59 43.4		
	comp=N,8.3nm,0.7s							
MVO	**Moncorvo**	**4.51**	**16**	P	**Pn**	**06 58 50.7**	**+1.1**	
	comp=N,1.9nm,0.1s,SNR=6.8							
MVO				S	**Sn**	**06 59 40.5**	**-0.4**	
	comp=N,5.9nm,0.1s,SNR=7.1							
MVO	**Moncorvo**	**4.51**	**16**	P	**Pn**	**06 58 50.7**	**+1.1**	
	comp=N,1.9nm,0.1s,SNR=6.8							
MVO				*e*Sn	**Sn**	**06 59 39.4**	**-1.5**	
	comp=N,8.3nm,0.7s							
MVO				S	**Sn**	**06 59 40.5**	**-0.4**	
	comp=N,5.9nm,0.1s,SNR=7.1							
EQES	**Quesada**	**4.56**	**76**	P	**Pn**	**06 58 50.7**	**+0.2**	
	comp=N,1.1nm,0.1s,SNR=31							
EQES				S	**Sn**	**06 59 42.1**	**-0.3**	
	comp=N,2.5nm,0.1s,SNR=15							
EQES	**Quesada**	**4.56**	**76**	P	**Pn**	**06 58 50.7**	**+0.2**	
	comp=N,1.1nm,0.1s,SNR=31							
EQES				S	**Sn**	**06 59 42.1**	**-0.3**	
	comp=N,2.5nm,0.1s,SNR=15							
POLO	**Lamas de Olo**	**4.58**	**8**	*e*Pn	**Pn**	**06 58 51.3**	**+0.6**	
POLO				*e*Sn	**Sn**	**06 59 41.2**	**-1.6**	
POLO				A	A	06 59 44.0		
	comp=N,6.6nm,0.2s							
POLO	**Lamas de Olo**	**4.58**	**8**	*e*Pn	**Pn**	**06 58 51.3**	**+0.6**	
POLO				*e*Sn	**Sn**	**06 59 41.2**	**-1.6**	
	comp=N,6.6nm,0.2s							
EBER	**Berja**	**4.63**	**88**	P	**Pn**	**06 58 52.8**	**+1.3**	
	comp=N,0.2nm,0.2s,SNR=7.9							
EBER				S	**Sn**	**06 59 45.1**	**+0.9**	
	comp=N,0.3nm,0.1s,SNR=7.9							
EBER	**Berja**	**4.63**	**88**	P	**Pn**	**06 58 52.8**	**+1.3**	
	comp=N,0.2nm,0.2s,SNR=7.9							
EBER				S	**Sn**	**06 59 45.1**	**+0.9**	
	comp=N,0.3nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.66**	**51**	P	**Pn**	**06 58 52.3**	**+0.6**	
	comp=N,12nm,0.1s,baz=234,slow=13,SNR=60							
ESDC				S	**Sn**	**06 59 44.2**	**-0.5**	
	baz=239,slow=24,SNR=7.9							
ESDC	**Sonseca Array**	**4.66**	**51**	P	**Pn**	**06 58 52.3**	**+0.6**	
	comp=N,12nm,0.1s,SNR=60							
ESDC				S	**Sn**	**06 59 44.2**	**-0.5**	
	SNR=7.9							
PCAB	**Cabril**	**4.89**	**6**	*e*Pn	**Pn**	**06 58 55.4**	**+0.5**	
PCAB				*e*Sn	**Sn**	**06 59 49.1**	**-1.3**	
PCAB				A	A	06 59 53.6		
	comp=N,5.2nm,0.1s							
PCAB	**Cabril**	**4.89**	**6**	P	**Pn**	**06 58 55.4**	**+0.5**	
PCAB				S	**Sn**	**06 59 49.1**	**-1.3**	
	comp=N,2.6nm,0.1s							
PCAB	**Cabril**	**4.89**	**6**	P	**Pn**	**06 58 55.4**	**+0.5**	
PCAB				S	**Sn**	**06 59 49.1**	**-1.3**	
	comp=N,2.6nm,0.1s							
EHUE	**Huescar**	**4.94**	**77**	P	**Pn**	**06 58 55.6**	**0.0**	
	comp=N,0.7nm,0.1s,SNR=7.9							
EHUE				S	**Sn**	**06 59 51.1**	**-0.5**	
	comp=N,2.5nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**4.94**	**77**	P	**Pn**	**06 58 55.6**	**0.0**	
	comp=N,0.7nm,0.1s,SNR=7.9							
EHUE				S	**Sn**	**06 59 51.1**	**-0.5**	
	comp=N,2.5nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.05**	**5**	P	**Pn**	**06 58 57.5**	**+0.4**	
	comp=N,1.6nm,0.1s,SNR=12							
ELOB				S	**Sn**	**06 59 52.1**	**-2.1**	
	comp=N,7.3nm,0.1s,SNR=12							
ELOB	**Lobios**	**5.05**	**5**	P	**Pn**	**06 58 57.5**	**+0.4**	
	comp=N,1.6nm,0.1s,SNR=12							
ELOB				S	**Sn**	**06 59 52.1**	**-2.1**	
	comp=N,7.3nm,0.1s,SNR=12							
PGAV	**Gavieira, Arco**	**5.13**	**3**	*e*Pn	**Pn**	**06 58 58.9**	**+0.7**	
PGAV				*e*Sn	**Sn**	**06 59 54.5**	**-1.8**	
PGAV				A	A	06 59 58.0		
	comp=N,4.1nm,0.2s							
PGAV	**Gavieira, Arco**	**5.13**	**3**	*e*Pn	**Pn**	**06 58 58.9**	**+0.7**	
PGAV				*e*Sn	**Sn**	**06 59 54.5**	**-1.8**	
	comp=N,4.1nm,0.2s							
PBRG	**Braganca**	**5.18**	**16**	*e*Pn	**Pn**	**06 58 59.5**	**+0.6**	
PBRG				*e*Sn	**Sn**	**06 59 55.7**	**-1.8**	
PBRG				A	A	06 59 58.5		
	comp=N,6.3nm,0.5s							
PBRG	**Braganca**	**5.18**	**16**	P	**Pn**	**06 58 59.5**	**+0.6**	
PBRG				S	**Sn**	**06 59 55.7**	**-1.8**	
	comp=N,3.2nm,0.5s							
PBRG	**Braganca**	**5.18**	**16**	P	**Pn**	**06 58 59.5**	**+0.6**	
PBRG				S	**Sn**	**06 59 55.7**	**-1.8**	
	comp=N,3.2nm,0.5s							
GUD	**Guadarrama**	**5.18**	**41**	P	**Pn**	**06 58 59.6**	**+0.6**	
	comp=N,3.0nm,0.2s,SNR=7.9							
GUD				S	**Sn**	**06 59 57.0**	**-0.8**	
	comp=N,1.0nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.18**	**41**	P	**Pn**	**06 58 59.6**	**+0.6**	
	comp=N,3.0nm,0.2s,SNR=7.9							
GUD				S	**Sn**	**06 59 57.0**	**-0.8**	
	comp=N,1.0nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**5.21**	**68**	P	**Pn**	**06 58 59.3**	**0.0**	
	comp=N,8.6nm,0.1s,SNR=15							
EVIA				S	Sn	06 59 54.4	-3.8	
	comp=N,2.7nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**5.21**	**68**	P	**Pn**	**06 58 59.3**	**0.0**	
	comp=N,8.6nm,0.1s,SNR=15							
EVIA				S	Sn	06 59 54.4	-3.8	
	comp=N,2.7nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**5.30**	**360**	P	**Pn**	**06 59 01.0**	**+0.4**	
	comp=N,1.8nm,0.1s,SNR=7.9							
EZAM				S	**Sn**	**07 00 01.0**	**+0.5**	
	comp=N,4.1nm,0.2s,SNR=7.9							
EZAM	**Zamans**	**5.30**	**360**	P	**Pn**	**06 59 01.0**	**+0.4**	
	comp=N,1.8nm,0.1s,SNR=7.9							
EZAM				S	**Sn**	**07 00 01.0**	**+0.5**	
	comp=N,4.1nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.31**	**16**	P	**Pn**	**06 59 02.1**	**+1.4**	
	comp=N,0.9nm,0.1s,SNR=6.5							
ECAL				S	**Sn**	**06 59 58.9**	**-1.9**	
	comp=N,20nm,0.4s,SNR=11							
ECAL	**Calabor**	**5.31**	**16**	P	**Pn**	**06 59 02.1**	**+1.4**	
	comp=N,0.9nm,0.1s,SNR=6.5							
ECAL				S	**Sn**	**06 59 58.9**	**-1.9**	
	comp=N,20nm,0.4s,SNR=11							
ETOB	**Tobarra**	**5.92**	**70**	P	**Pn**	**06 59 09.3**	**+0.2**	
	comp=N,1.8nm,0.1s,SNR=9.3							
ETOB				S	**Sn**	**07 00 13.6**	**-2.2**	
	comp=N,0.6nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**5.92**	**70**	P	**Pn**	**06 59 09.3**	**+0.2**	
	comp=N,1.8nm,0.1s,SNR=9.3							
ETOB				S	**Sn**	**07 00 13.6**	**-2.2**	
	comp=N,0.6nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.11**	**358**	P	**Pn**	**06 59 12.1**	**+0.5**	
	comp=N,4.2nm,0.1s,SNR=14							
EMAZ				S	Sn	07 00 17.1	-3.2	
	comp=N,3.4nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.11**	**358**	P	**Pn**	**06 59 12.1**	**+0.5**	
	comp=N,4.2nm,0.1s,SNR=14							
EBEN	**Beniarda**	**6.94**	**72**	P	**Pn**	**06 59 22.5**	**-0.6**	
	comp=N,0.2nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**6.94**	**72**	P	**Pn**	**06 59 22.5**	**-0.6**	
	comp=N,0.2nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**6.98**	**21**	S	Sn	07 00 38.9	-2.9	
	comp=N,0.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**7.32**	**59**	P	**Pn**	**06 59 30.0**	**+1.6**	
	comp=N,0.5nm,0.1s,SNR=11							
EMOS				S	Sn	07 00 46.3	-4.1	
	comp=N,0.8nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**7.32**	**59**	P	**Pn**	**06 59 30.0**	**+1.6**	
	comp=N,0.5nm,0.1s,SNR=11							
SJPF	**Ste Jean**	**8.48**	**40**	*e*Pn	**Pn**	**06 59 45.1**	**+1.0**	
SJPF				*e*Sn	Sn	07 01 13.1	-5.5	
	comp=N,0.8nm,0.3s							
SJPF	**Ste Jean**	**8.48**	**40**	P	**Pn**	**06 59 45.1**	**+1.0**	
SJPF				S	Sn	07 01 13.1	-5.5	
	comp=N,0.4nm,0.3s							
SJPF	**Ste Jean**	**8.48**	**40**	P	**Pn**	**06 59 45.1**	**+1.0**	
ETSF	**Etsaut**	**8.69**	**43**	*e*Pn	**Pn**	**06 59 48.3**	**+1.3**	
ETSF				*e*Sn	Sn	07 01 17.9	-5.9	
	comp=N,0.5nm,0.3s							
ETSF	**Etsaut**	**8.69**	**43**	P	**Pn**	**06 59 48.3**	**+1.3**	
ETSF				S	Sn	07 01 17.9	-5.9	
	comp=N,0.2nm,0.3s							
ETSF	**Etsaut**	**8.69**	**43**	P	**Pn**	**06 59 48.3**	**+1.3**	
EPF	**Esparros**	**9.28**	**45**	*e*Pn	**Pn**	**06 59 54.7**	**-0.4**	
EPF				*e*Sn	Sn	07 01 32.1	-6.2	
	comp=N,0.6nm,0.2s							
EPF	**Esparros**	**9.28**	**45**	P	**Pn**	**06 59 54.7**	**-0.4**	
EPF				S	Sn	07 01 32.1	-6.2	
	comp=N,0.3nm,0.2s							
EPF	**Esparros**	**9.28**	**45**	P	**Pn**	**06 59 54.7**	**-0.4**	

WEL 11 07:25:38.2±0.3, 39°03'S×174°89'E, h202km±2km, ML3.7/15, 12C, Error ellipse: s-maj=2.8km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.14**	**225**	PN	Pn	07 26 04.2	-0.5
TWVZ	**Taurewa**	**0.43**	**96**	PN	Pn	07 26 05.0	-0.5
TWVZ				SN	S	07 26 25.3	-1.3
PKVZ	**Pokaka**	**0.44**	**127**	PN	Pn	07 26 04.7	-0.7
PKVZ				SN	S	07 26 25.1	-1.7
HIZ	**Hauiti**	**0.51**	**357**	⇑PN	Pn	07 26 04.9	-0.7
HIZ				SN	S	07 26 25.4	-1.5
WPVZ	**Whakapapa**	**0.54**	**109**	⇑PN	Pn	07 26 05.7	-0.2
WPVZ				SN	S	07 26 26.5	-0.9
WTVZ	**West Tongariro**	**0.55**	**100**	⇑PN	Pn	07 26 05.7	-0.2
WTVZ				SN	S	07 26 26.7	-0.7
FWVZ	**Far West T-bar**	**0.56**	**114**	PN	Pn	07 26 05.9	-0.2
FWVZ				SN	S	07 26 26.7	-1.0
NGZ	**Ngauruhoe**	**0.57**	**105**	PN	Pn	07 26 05.8	-0.2
NGZ				SN	S	07 26 26.7	-0.9
DRZ	**Dome Shelter**	**0.58**	**116**	PN	Pn	07 26 06.3	0.0
TRVZ	**Turoa**	**0.58**	**118**	PN	Pn	07 26 06.0	-0.2
TRVZ				SN	S	07 26 27.0	-0.9
WHVZ	**Whangaehu Hut**	**0.60**	**115**	PN	Pn	07 26 06.3	0.0
WNVZ	**Wahianoa**	**0.63**	**119**	PN	Pn	07 26 06.3	0.0
TUVZ	**Tukino**	**0.64**	**112**	PN	Pn	07 26 06.3	0.0
KHEZ	**Kahui Hut**	**0.73**	**248**	PN	Pn	07 26 06.8	+0.2
WAZ	**Wanganui**	**0.73**	**174**	⇑PN	Pn	07 26 07.0	+0.5
MOVZ	**Moawhango**	**0.77**	**120**	PN	Pn	07 26 06.4	-0.4
BHHZ	**Black Hill Sta**	**1.02**	**117**	PN	Pn	07 26 07.9	-0.5
BKZ	**Black Stump Fm**	**1.26**	**97**	PN	Pn	07 26 09.4	-0.7
BKZ				AML	AML	07 26 32.4	
BKZ				AML	AML	07 26 33.7	
TSZ	**Takapari Road**	**1.32**	**142**	⇑PN	Pn	07 26 10.6	0.0
TSZ				AML	AML	07 26 36.9	
TSZ				AML	AML	07 26 36.9	
PNHZ	**Pukenui**	**1.35**	**132**	PN	Pn	07 26 10.7	-0.1
MCHZ	**McNeill Hill**	**1.47**	**107**	PN	Pn	07 26 12.0	+0.3
NMHZ	**Naumai**	**1.50**	**93**	PN	Pn	07 26 12.2	+0.1
POWZ	**Post Office Ro**	**1.52**	**154**	PN	Pn	07 26 12.1	-0.2
WPHZ	**Waipukurau**	**1.59**	**131**	⇑PN	Pn	07 26 12.8	0.0
DVHZ	**Dannevirke**	**1.61**	**143**	PN	Pn	07 26 12.8	-0.2
DVHZ				SN	S	07 26 38.9	-1.0
RAHZ	**Arahi**	**1.72**	**87**	PN	Pn	07 26 13.6	-0.5
MRZ	**Mangatainoka R**	**1.72**	**162**	⇑PN	Pn	07 26 13.7	-0.4
MRZ				AML	AML	07 26 41.2	
MRZ				AML	AML	07 26 42.7	
KAHZ	**Kahuranaki**	**1.72**	**117**	PN	Pn	07 26 14.2	+0.1
PRWZ	**Pori Road**	**1.74**	**152**	PN	Pn	07 26 14.3	0.0
OGWZ	**Otaki Gorge**	**1.80**	**173**	⇑PN	Pn	07 26 14.8	0.0
CKHZ	**Cape Kidnapper**	**1.81**	**111**	PN	Pn	07 26 15.0	0.0
PXZ	**Pawanui**	**1.83**	**124**	⇑PN	Pn	07 26 14.8	-0.2
PXZ				AML	AML	07 26 44.2	
PXZ				AML	AML	07 26 44.4	
PRHZ	**Porangahau**	**1.83**	**133**	PN	Pn	07 26 15.1	-0.1
KIW	**Kapiti Island**	**1.83**	**179**	PN	Pn	07 26 14.7	-0.4
KIW				AML	AML	07 26 44.2	
KIW				AML	AML	07 26 44.9	
ANWZ	**Angora Road**	**1.88**	**140**	⇑PN	Pn	07 26 15.6	0.0
URZ	**Urewera**	**1.90**	**67**	PN	Pn	07 26 13.7	-2.1
URZ				AML	AML	07 26 41.7	
TIWZ	**Tintock**	**1.91**	**157**	PN	Pn	07 26 15.5	-0.4
TIWZ				AML	AML	07 26 45.6	
TIWZ				AML	AML	07 26 46.3	
DUWZ	**D'Urville Isla**	**1.92**	**202**	PN	Pn	07 26 15.7	-0.4
HOWZ	**Holdsworth Sta**	**1.93**	**166**	PN	Pn	07 26 15.6	-0.5
BFZ	**Birch Farm**	**1.96**	**148**	PN	Pn	07 26 15.8	-0.5
CAW	**Cannon Point**	**2.08**	**176**	PN	Pn	07 26 17.2	-0.4
CAW				AML	AML	07 26 49.0	
CAW				AML	AML	07 26 49.1	
MWZ	**Matawai**	**2.18**	**72**	PN	Pn	07 26 17.0	-1.8
MWZ				AML	AML	07 26 46.4	
MWZ				AML	AML	07 26 46.9	
MTW	**Mount Morrison**	**2.18**	**168**	PN	Pn	07 26 17.9	-0.8
TMWZ	**Te Maipa**	**2.22**	**160**	PN	Pn	07 26 18.3	-0.8
TCW	**Tory Channel**	**2.23**	**192**	PN	Pn	07 26 19.1	-0.1
TCW				AML	AML	07 26 49.7	
TCW				AML	AML	07 26 51.7	
RIGZ	**Rimuhau**	**2.27**	**83**	PN	Pn	07 26 18.3	-1.4
SNZO	**South Karori**	**2.29**	**183**	PN	Pn	07 26 19.0	-0.7
SNZO				AML	AML	07 26 51.4	
SNZO				AML	AML	07 26 52.5	
MHGZ	**Mahia Peninsul**	**2.35**	**94**	PN	Pn	07 26 19.8	-0.7
BHW	**Baring Head**	**2.38**	**180**	PN	Pn	07 26 20.1	-0.7
BHW				AML	AML	07 26 51.5	
BHW				AML	AML	07 26 52.6	
PAWZ	**Paruwai Farm**	**2.39**	**170**	PN	Pn	07 26 20.0	-0.9
MSWZ	**Moikau Station**	**2.40**	**173**	AML	AML	07 26 52.8	
MSWZ				AML	AML	07 26 54.2	
NNZ	**Nelson**	**2.48**	**207**	PN	Pn	07 26 21.0	-0.8
TUWZ	**Tuamarina**	**2.51**	**196**	AML	AML	07 26 56.2	
TUWZ				AML	AML	07 26 56.5	
QRZ	**Quartz Range**	**2.55**	**224**	PN	Pn	07 26 21.2	-1.5
PLWZ	**Palliser**	**2.56**	**174**	PN	Pn	07 26 21.8	-1.0
CNGZ	**Carnagh Statio**	**2.65**	**79**	PN	Pn	07 26 22.6	-1.3
BSWZ	**Blackbirch Sta**	**2.79**	**196**	PN	Pn	07 26 25.3	-0.1
PUZ	**Puketiti**	**2.81**	**71**	⇑PN	Pn	07 26 23.3	-2.5
PUZ				AML	AML	07 26 57.7	
MXZ	**Matakaoa Point**	**3.06**	**63**	PN	Pn	07 26 26.4	-2.2
THZ	**Tophouse**	**3.12**	**208**	PN	Pn	07 26 28.0	-1.4
DSZ	**Denniston Nort**	**3.60**	**220**	PN	Pn	07 26 33.0	-2.1
LTZ	**Lake Taylor**	**4.24**	**207**	PN	Pn	07 26 41.1	-2.0
OXZ	**Oxford**	**4.80**	**206**	⇑PN	Pn	07 26 47.2	-2.8
MOZ	**McQueen's Vall**	**4.97**	**199**	PN	Pn	07 26 48.9	-3.2
WVZ	**Waitaha Valley**	**5.12**	**216**	PN	Pn	07 26 51.9	-2.1
FOZ	**Fox Glacier**	**5.99**	**219**	PN	Pn	07 27 01.6	-3.5
ODZ	**Otahua Downs**	**6.79**	**206**	PN	Pn	07 27 13.2	-2.3

*IDC **11** 07:36:35.8±0.8, 55°47'S×26°79'W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/18, mbtmp3.9/6, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=32.0km s-min=20.4km az=72.0*

*ISCJB **11** 07:36:37.7±1.0, 55°5S±0'1×26°7'W±0'4, h25km, mb3.9/5, MS3.7/1, Error ellipse: s-maj=34.8km s-min=16.3km az=153.8*

ISC 11 07:36:39.5±0.9, 55°5S±0'2×26°8'W±0'2, h25km, n9, σ0s86/9, mb4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.18**	**157**	P	**P**	**07 41 00.4**	**-0.6**
	0.1nm,0.3s,baz=304,slow=11,SNR=3.4						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**07 43 27.9**	**+0.4**
	1.2nm,0.5s,baz=270,slow=1.5,SNR=8.9						
QSPA				LR	LR	07 55 07.4	
	comp=Z,150nm,20.7s,baz=64,slow=32						
CFAA	**Coronel Fontan**	**37.53**	**292**	P	**P**	**07 43 50.4**	**-1.0**
	0.2nm,0.7s,baz=138,slow=7.6,SNR=8.9						
VNDA	**Vanda**	**47.15**	**183**	P	**P**	**07 45 09.4**	**+0.4**
	1.0nm,0.5s,baz=187,slow=7.4,SNR=15						
LPAZ	**La Paz**	**50.23**	**304**	P	**P**	**07 45 35.0**	**+1.0**
	2.0nm,0.7s,baz=139,slow=4.6,SNR=8.7						
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**07 48 04.0**	**+0.3**
	2.3nm,0.6s,baz=200,slow=6.2,SNR=20						
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	**PKPdf**	**07 55 55.4**	**-1.1**
	0.2nm,0.6s,baz=114,slow=1.6,SNR=5.5						
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	**PKPbc**	**07 56 26.4**	**+0.5**
	0.6nm,0.7s,baz=131,slow=3.8,SNR=8.5						
SONM	**Songino Array**	**150.48**	**85**	PKPbc	**PKPbc**	**07 56 27.4**	**-0.6**
	0.4nm,0.5s,baz=240,slow=3.5,SNR=5.2						

*IDC **11** 07:42:00.5±0.5, 2°47'S×138°88'E, h0km, mb4.5/17, mb1 4.6/20, mb1mx4.5/26, mbtmp4.5/20, ML4.5/2, MS4.1/7, Ms1 4.1/7, ms1mx3.6/31, Error ellipse: s-maj=22.0km s-min=11.7km az=72.0*

*ISCJB **11** 07:42:04.8±0.2, 2°56S±0'03×138°94E±0'03, h37km, mb4.8/43, MS4.1/12, Error ellipse: s-maj=4.7km s-min=3.4km az=135.8*

*DJA **11** 07:42:05.9±0.3, 2°S±4'×13°9E±°, h15km, M4.9/19, mb5.1/19, mB5.4/6, MLv4.9/6, Mw(mB)4.8/6*

*BJI **11** 07:42:06.4, 2°50S×138°80E, h44km, mB5.1/20, mb4.8/33, Ms4.8/12, Ms7 4.4/13*

*NEIC **11** 07:42:06.8±1.1, 2°51S×138°85E, h42km±10km, mb4.8/16, Error ellipse: s-maj=9.2km s-min=5.7km az=51.0*

ISC 11 07:42:06.9±0.3, 2°61S±0'04×138°87E±0'04, h37km, n150, σ1s78/170, mb4.8/41, MS4.0/12, 4C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	**Wamena**	**1.28**	**187**	P	Pn	07 42 35.6	+7.5
WAMI				S	Sn	07 42 59.7	+16
GENI	**Genyem**	**1.30**	**89**	P	Pn	07 42 24.7	-3.7
GENI				S	**Sn**	**07 42 44.2**	**-0.3**
JAY	**Jayapura**	**1.84**	**87**	P	Pn	07 42 31.5	-4.4
	baz=1.8,SNR=68						
SRPI	**Serui, Papua**	**2.73**	**286**	P	**Pn**	**07 42 48.6**	**+0.5**
SRPI				S	**Sn**	**07 43 21.7**	**+1.8**
MWPI	**Manokwari, Pap**	**5.11**	**289**	P	x	07 43 22.4	
	266nm,0.8s,1.0nm						
FAKI	**Fak Fak**	**6.62**	**267**	P	**Pn**	**07 43 41.4**	**-0.3**
	77nm,1.2s,0.4nm						
FAKI				S	**Sn**	**07 44 55.5**	**-0.4**
	77nm,1.2s,0.4nm						
FAKI	**Fak Fak**	**6.62**	**267**	*e*Pn	**Pn**	**07 43 42.7**	**+1.0**
FAKI	**Fak Fak**	**6.62**	**267**	P	**Pn**	**07 43 42.5**	**+0.9**
	baz=6.6,SNR=26						
FAKI				S	**Sn**	**07 44 59.3**	**+3.4**
	baz=6.6,SNR=5.0						
SWI	**Sorong**	**7.80**	**283**	P	**Pn**	**07 44 00.1**	**+2.2**
	80nm,0.6s,2μm0.3nm						
PMG	**Port Moresby**	**10.65**	**130**	P	x	07 44 41.0	
	48nm,0.8s						
PMG	**Port Moresby**	**10.65**	**130**	*e*Pn	**Pn**	**07 44 38.0**	**+1.0**
PMG	**Port Moresby**	**10.65**	**130**	Pn	**Pn**	**07 44 37.0**	**0.0**
	0.6nm,0.3s,baz=189,slow=23,SNR=2.1						
PALU	**Palau**	**10.82**	**336**	S	Sn	07 46 29.3	-10
	baz=11,SNR=5.8						
NLAI	**Namlea**	**11.77**	**267**	P	**Pn**	**07 44 54.2**	**+1.9**
	87nm,1.0s,1μm						
COEN	**Coen**	**12.05**	**160**	*e*Pn	**Pn**	**07 44 56.0**	**-0.1**
COEN				*e*Sn	**Sn**	**07 47 12.7**	**+3.4**
COEN	**Coen**	**12.05**	**160**	P	**Pn**	**07 44 55.6**	**-0.5**
	baz=12,SNR=32						
MTN	**Manton Dam**	**12.73**	**217**	P	**Pn**	**07 45 05.2**	**-0.1**
	baz=13,SNR=11						
MTN				S	**Sn**	**07 47 23.6**	**-2.2**
	baz=13,SNR=4.9						
SANI	**Sanana**	**12.88**	**272**	P	**Pn**	**07 45 08.4**	**+0.9**
	50nm,1.0s						
SOEI	**Soe**	**16.15**	**243**	*e*P	**P**	**07 45 55.0**	**+0.8**
	161nm,0.9s						
SOEI				*e*S	**S**	**07 48 58.2**	**-3.6**
LUWI	**Luwuk**	**16.16**	**275**	P	**P**	**07 45 52.8**	**-1.4**
	108nm,0.9s,6μm						
LUWI	**Luwuk**	**16.16**	**275**	*e*Pn	**Pn**	**07 45 51.4**	**0.0**
LUWI				*e*Sn	**Sn**	**07 48 48.3**	**-1.4**
KNRA	**Kununurra**	**16.36**	**217**	P	**Pn**	**07 45 53.9**	**0.0**
	baz=16,SNR=9.6						
KNRA				S	**Sn**	**07 48 49.4**	**-5.0**
	baz=16,SNR=4.9						
APSI	**Ampana**	**17.29**	**275**	P	**P**	**07 46 07.6**	**+0.9**
	83nm,1.1s,1μm						
WRAB	**Tennant Creek**	**17.77**	**194**	*e*P	**Pn**	**07 46 11.0**	**-0.5**
	22nm,0.7s						
WRAB				*e*S	Sn	07 49 19.8	-8.9
WRA	**Warramunga Arr**	**17.79**	**194**	P	**Pn**	**07 46 10.6**	**-1.1**
WRA				S	Sn	07 49 18.5	-10
WRA	**Warramunga Arr**	**17.79**	**194**	P	**Pn**	**07 46 10.6**	**-1.1**
	3.7nm,0.3s,baz=18,slow=12,SNR=75						
WRA				S	Sn	07 49 18.5	-10
	1.0nm,0.3s,baz=11,slow=22,SNR=6.4						
QIS	**Mount Isa**	**17.85**	**178**	P	**Pn**	**07 46 11.5**	**-0.9**
	baz=18,SNR=12						
QIS				S	**Sn**	**07 49 25.9**	**-4.7**
	baz=18,SNR=3.3						
CTA	**Charters Tower**	**18.81**	**158**	P	**Pn**	**07 46 24.0**	**-0.2**
CTA	**Charters Tower**	**18.81**	**158**	P	**Pn**	**07 46 24.0**	**-0.2**
	0.4nm,0.3s,baz=319,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**18.81**	**158**	*e*P	**Pn**	**07 46 26.4**	**+2.3**
	9.5nm,0.8s				

NWAO				LR	LR	08 05 09.6		
	comp=Z,848nm,20.0s,baz=152,slow=38							
KTGM	**Kuala Trenggan**	**36.56**	**282**	⇑P	**P**	**07 49 11.1**	**+1.6**	
FRIM	**Kepong**	**37.68**	**279**	⇑P	**P**	**07 49 18.9**	**-0.1**	
IPM	**Ipoh**	**38.46**	**280**	⇑P	**P**	**07 49 25.8**	**+0.1**	
KULM	**Kulim**	**38.98**	**282**	⇑P	**P**	**07 49 30.3**	**+0.4**	
NJ2	**Nanjing**	**39.36**	**333**	*e*P	**P**	**07 49 32.6**	**-0.2**	
NJ2				pmax	pmax			
	comp=Z,60nm,1.0s							
PSI	**Prapat**	**40.29**	**277**	P	**P**	**07 49 38.9**	**-2.2**	
PSI	**Prapat**	**40.29**	**277**	P	**P**	**07 49 38.9**	**-2.2**	
	1.8nm,0.3s,baz=127,slow=7.8,SNR=7.6							
PSI	**Prapat**	**40.29**	**277**	P	**P**	**07 49 40.3**	**-0.7**	
	baz=40,SNR=5.7							
KSRS	**Korea Array**	**41.14**	**347**	LR	LR	08 03 57.8		
	comp=Z,72nm,19.0s,baz=66,slow=32							
SLVN	**Son La**	**41.68**	**307**	*e*P	**P**	**07 49 51.9**	**-0.4**	
GYA	**Guiyang**	**42.46**	**315**	*e*P	**P**	**07 50 00.4**	**+1.7**	
GYA				pP	**pP**	**07 50 12.8**	**+3.3**	
GYA				sP	**sP**	**07 50 18.0**	**+4.1**	
GYA				PP	**PP**	**07 51 41.6**	**+4.0**	
GYA				ScP	**ScP**	**07 55 38.2**	**-1.2**	
GYA				S	**S**	**07 56 19.4**	**+1.0**	
GYA				sS	**sS**	**07 56 40.0**	**+3.8**	
GYA				SS	**SS**	**07 59 22.8**	**-6.0**	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,110nm,5.0s							
GYA				LR	LR			
	comp=N,620nm,18.2s							
GYA				LR	LR			
	comp=E,510nm,19.7s							
GYA				LR	LR			
	comp=Z,640nm,18.5s							
CMAR	**Chiang Mai Arr**	**44.53**	**300**	P	**P**	**07 50 14.7**	**-0.6**	
CMAR	**Chiang Mai Arr**	**44.53**	**300**	P	**P**	**07 50 14.7**	**-0.6**	
	1.4nm,0.4s,baz=122,slow=6.8,SNR=16							
KMI	**Kunming**	**44.58**	**310**	P	**P**	**07 50 16.4**	**+0.5**	
KMI				pP	**pP**	**07 50 29.7**	**+3.0**	
KMI				sP	**sP**	**07 50 34.7**	**+3.6**	
KMI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KMI				LR	LR			
	comp=Z,180nm,22.5s							
USRK	**Ussuriysk Arra**	**47.01**	**353**	P	**P**	**07 50 33.1**	**-1.3**	
	2.2nm,0.8s,baz=158,slow=8.3,SNR=4.7							
CD2	**Chengdu**	**47.21**	**318**	*e*P	**P**	**07 50 36.1**	**-0.3**	
CD2				pmax	pmax			
	comp=Z,30nm,0.7s							
CD2				pmax	pmax			
	comp=Z,180nm,6.5s							
BJI	**Beijing**	**47.27**	**336**	P	**P**	**07 50 37.4**	**+0.9**	
BJI				S	**S**	**07 57 29.2**	**+1.9**	
BJI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
BJI				pmax	pmax			
	comp=Z,120nm,5.9s							
BJI				LR	LR			
	comp=N,210nm,25.1s							
BJI				LR	LR			
	comp=E,200nm,25.6s							
BJI				LR	LR			
	comp=Z,77nm,27.0s							
MDJ	**Mudanjiang**	**47.74**	**351**	P	**P**	**07 50 41.6**	**+1.4**	
MDJ				pmax	pmax			
	comp=Z,3.0nm,0.4s							
MDJ				pmax	pmax			
	comp=Z,130nm,5.0s							
CN2	**Changchun**	**47.75**	**347**	*e*P	**P**	**07 50 42.9**	**+2.7**	
RPZ	**Rata Peaks**	**49.90**	**150**	P	**P**	**07 50 56.9**	**+0.1**	
RPZ	**Rata Peaks**	**49.90**	**150**	P	**P**	**07 50 56.9**	**+0.1**	
	17nm,0.8s,baz=43,slow=8.7,SNR=5.2							
GTA	**Gaotai**	**55.08**	**323**	P	**P**	**07 51 34.6**	**-0.8**	
GTA				pP	**pP**	**07 51 44.5**	**-2.0**	
GTA				S	**S**	**07 59 13.9**	**-1.8**	
GTA				sS	**sS**	**07 59 30.8**	**-3.2**	
GTA				SS	**SS**	**08 02 58.4**	**-1.8**	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,140nm,5.5s							
GTA				LR	LR			
	comp=N,230nm,17.3s							
GTA				LR	LR			
	comp=E,410nm,18.3s							
GTA				LR	LR			
	comp=Z,100nm,19.0s							
SONM	**Songino Array**	**57.70**	**335**	P	**P**	**07 51 53.1**	**-0.8**	
SONM	**Songino Array**	**57.70**	**335**	P	**P**	**07 51 53.1**	**-0.8**	
	1.5nm,0.8s,baz=157,slow=7.4,SNR=9.2							
SONM				LR	LR	08 17 27.6		
	comp=Z,101nm,18.6s,baz=98,slow=37							
TLY	**Talaya**	**61.79**	**336**	*e*P	**P**	**07 52 21.2**	**-0.6**	
	4.7nm,0.9s							
WMQ	**Urumqi**	**65.03**	**322**	P	**P**	**07 52 43.9**	**+0.4**	
WMQ				pP	**pP**	**07 52 56.9**	**+2.1**	
WMQ				sP	**sP**	**07 53 02.1**	**+3.0**	
WMQ				pmax	pmax			
	comp=Z,6.0nm,1.2s							
WMQ				LR	LR			
	comp=N,59nm,20.4s							
WMQ				LR	LR			
	comp=Z,64nm,22.0s							
CASY	**Casey**	**66.60**	**192**	*e*P	**P**	**07 52 53.2**	**+0.1**	
	15nm,1.0s							
MK31	**Makanchi Array**	**69.81**	**322**	*e*P	**P**	**07 53 12.8**	**-0.8**	
MKAR	**Makanchi Array**	**69.81**	**322**	*e*P	**P**	**07 53 13.0**	**-0.6**	
MKAR	**Makanchi Array**	**69.81**	**322**	P	**P**	**07 53 12.8**	**-0.8**	
	11nm,0.8s,baz=114,slow=8.1,SNR=76							
KSH	**Kashi**	**71.13**	**313**	P	**P**	**07 53 22.7**	**+0.7**	
KSH				*e*PP	**PP**	**07 56 02.0**	**+1.9**	
KSH				*e*S	**S**	**08 02 32.2**	**-4.2**	
KSH				*e*sS	**sS**	**08 02 54.4**	**-0.8**	
KSH				*e*ScS	**SKSac**	**08 03 19.3**	**-3.0**	
KSH				*e*SS	**SS**	**08 07 07.4**	**-3.2**	
KSH				pmax	pmax			
	comp=Z,11nm,1.0s							
KSH				pmax	pmax			
	comp=Z,230nm,5.8s							
KSH				LR	LR			
	comp=N,78nm,4.4s							
KSH				LR	LR			
	comp=E,64nm,3.1s							
KSH				LR	LR			
	comp=Z,92nm,4.2s							
ZAA0	**Zalesovo Array**	**71.93**	**330**	*e*P	**P**	**07 53 24.2**	**-2.0**	
ZALV	**Zalesovo Beam**	**71.93**	**330**	P	**P**	**07 53 24.2**	**-2.1**	
ZALV	**Zalesovo Beam**	**71.93**	**330**	P	**P**	**07 53 24.2**	**-2.1**	
	3.8nm,0.7s,baz=113,slow=5.9,SNR=16							
TBI	**Tubuai**	**72.15**	**114**	*e*LR	LR	07 53 23.6		
	261nm,27.8s,baz=172							
KZA	**Kyzart**	**72.53**	**316**	P	**P**	**07 53 30.7**	**+0.1**	
	SNR=15							
TKM2	**Tokmak 2**	**72.58**	**317**	P	**P**	**07 53 30.5**	**-0.2**	
	SNR=6.2							
TKM2	**Tokmak 2**	**72.58**	**317**	*e*P	**P**	**07 53 30.1**	**-0.7**	
UCH	**Uchtor**	**73.09**	**316**	P	**P**	**07 53 34.0**	**-0.1**	
	SNR=12							
AAK	**Ala-Archa**	**73.24**	**316**	*e*P	**P**	**07 53 34.5**	**-0.1**	
USP	**Ospenovka**	**73.46**	**317**	P	**P**	**07 53 35.0**	**-0.6**	
	SNR=9.8							
AML	**Almayashu**	**73.64**	**315**	P	**P**	**07 53 37.1**	**-0.1**	
	SNR=8.8							
KURK	**Kurchatov**	**73.73**	**325**	*e*P	**P**	**07 53 35.1**	**-1.9**	
	4.8nm,1.0s							
EKS2	**Erkin-Say**	**73.75**	**316**	P	**P**	**07 53 37.7**	**+0.1**	
	SNR=6.0							
EKS2	**Erkin-Say**	**73.75**	**316**	*e*P	**P**	**07 53 37.6**	**0.0**	
	110nm,2.6s							
VNDA	**Vanda**	**75.86**	**175**	*e*P	**P**	**07 53 49.5**	**+0.6**	
VNDA	**Vanda**	**75.86**	**175**	P	**P**	**07 53 49.2**	**+0.2**	
	4.2nm,0.7s,baz=325,slow=6.5,SNR=28							
TNA	**Tin City**	**78.01**	**20**	*e*P	**P**	**07 54 00.6**	**-0.5**	
BVAR	**Borovoye Array**	**79.32**	**325**	P	**P**	**07 54 07.6**	**-1.1**	
BVAR	**Borovoye Array**	**79.32**	**325**	P	**P**	**07 54 07.6**	**-1.1**	
	9.1nm,0.8s,baz=116,slow=7.4,SNR=46							
BRVK	**Borovoye**	**79.39**	**325**	*e*P	**P**	**07 54 08.0**	**-1.0**	
	10.0nm,0.8s							
MAW	**Mawson**	**82.28**	**202**	LR	LR	08 29 04.5		
	comp=Z,177nm,19.0s,baz=307,slow=34							
MCK	**McKinley**	**84.53**	**25**	*e*P	**P**	**07 54 34.0**	**-1.9**	
ABKAR	**Akbulak array**	**84.75**	**320**	*e*P	**P**	**07 54 35.5**	**-1.7**	
COLD	**Coldfoot**	**85.10**	**22**	*e*P	**P**	**07 54 38.3**	**-0.4**	
	4.8nm,0.9s							
COLA	**College**	**85.31**	**24**	*e*P	**P**	**07 54 37.5**	**-2.2**	
	78nm,2.4s							
RKT	**Rikitea**	**85.45**	**113**	*e*LR	LR	07 53 37.5		
	224nm,31.5s							
ILAR	**Eielson Array**	**85.68**	**24**	P	**P**	**07 54 38.9**	**-2.6**	
ILAR	**Eielson Array**	**85.68**	**24**	P	**P**	**07 54 38.9**	**-2.6**	
	5.8nm,0.8s,baz=259,slow=4.9,SNR=48							
AKTO	**Aktyubinsk**	**86.17**	**321**	P	**P**	**07 54 42.0**	**-2.3**	
AKTO	**Aktyubinsk**	**86.17**	**321**	P	**P**	**07 54 42.0**	**-2.3**	
	0.9nm,0.5s,baz=193,slow=1.9,SNR=3.5							
ARU	**Arti**	**86.80**	**327**	*e*P	**P**	**07 54 44.6**	**-2.6**	
	6.5nm,1.1s							
QSPA	**South Pole Qui**	**87.33**	**180**	*e*P	**P**	**07 54 49.7**	**-0.1**	
QSPA	**South Pole Qui**	**87.33**	**180**	P	**P**	**07 54 49.4**	**-0.4**	
	6.2nm,0.8s,baz=299,slow=1.7,SNR=22							
EGAK	**Eagle**	**88.07**	**25**	*e*P	**P**	**07 54 52.4**	**-0.8**	
	8.1nm,1.0s							
YKA	**Yellowknife Ar**	**99.90**	**27**	P	**Pdif**	**07 55 45.5**	**-2.0**	
YKA	**Yellowknife Ar**	**99.90**	**27**	P	**Pdif**	**07 55 45.4**	**-2.0**	
	0.2nm,0.8s,baz=286,slow=4.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**136.38**	**286**	PKP	**PKPdf**	**08 01 23.9**	**-1.8**	
TORD	**Torodi Ar. Bea**	**136.38**	**286**	PKP	**PKPdf**	**08 01 23.9**	**-1.8**	
	1.4nm,0.7s,baz=63,slow=2.0,SNR=9.5							
DBIC	**Dimbokro**	**143.63**	**278**	PKP	**PKPdf**	**08 01 38.6**	**-0.4**	
DBIC	**Dimbokro**	**143.63**	**278**	PKP	**PKPdf**	**08 01 38.6**	**-0.4**	
	2.5nm,0.6s,baz=186,slow=3.1,SNR=3.9							
ROSC	**El Rosal**	**146.80**	**85**	PKPbc	**PKPdf**	**08 01 45.8**	**+0.9**	
ROSC	**El Rosal**	**146.80**	**85**	PKPbc	**PKPdf**	**08 01 45.8**	**+0.9**	
	3.3nm,0.3s,baz=275,slow=22,SNR=4.2							
CPUP	**Villa Florida**	**147.24**	**152**	PKPbc	**PKPbc**	**08 01 46.9**	**-0.1**	
CPUP	**Villa Florida**	**147.24**	**152**	PKPbc	**PKPbc**	**08 01 46.9**	**-0.1**	
	2.4nm,0.6s,baz=189,slow=4.3,SNR=4.6							
LPAZ	**La Paz**	**147.38**	**126**	PKPbc	**PKPbc**	**08 01 48.2**	**-0.3**	
LPAZ	**La Paz**	**147.38**	**126**	PKPbc	**PKPbc**	**08 01 48.2**	**-0.3**	
	2.6nm,0.9s,baz=89,slow=4.5,SNR=7.1							
MTP	**Monte Pirata**	**151.54**	**56**	*e*PKPbc	**PKPbc**	**08 01 57.0**	**-1.1**	

BJI ***11*** *07:49:01.4, 19.°57S×178.°18W, h533km, mB4.8/6, mb4.4/14*
ISCJB ***11*** *07:49:02.8±0.2, 19.°53S±0.°06×177.°76W±0.°05, h550km, mb4.4/92, Error ellipse: s-maj=9.0km s-min=4.2km az=151.4*
NEIC ***11*** *07:49:02.0±0.8, 19.°41S×178.°01W, h536km±10km, mb4.5/67, Error ellipse: s-maj=14.3km s-min=7.0km az=135.0*
IDC ***11*** *07:49:06.6±1.7, 19.°57S×177.°69W, h585km±19km, mb3.7/21, mb1 3.9/21, mb1mx3.8/25, mbtmp3.7/21, Error ellipse: s-maj=13.2km s-min=9.6km az=148.0*
SZGRF ***11*** *07:49:13.1, 18.°15S×178.°98W, h600km, Fiji Islands region*

ISC 11 07:49:03.1±0.3, 19.°48S±0.°07×177.°71W±0.°06, h550km, n503, σ1§00/529, mb4.4/92, 171C-143D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.36**	**88**	P	**P**	**07 50 57.4**	**+2.8**
	baz=53,SNR=3.5						
NIUE	**Niue**	**7.36**	**88**	S	S	07 52 37.4	+11
	baz=8.0,SNR=6.0						
AFI	**Afiamalu**	**7.94**	**47**	*e*P	**P**	**07 50 59.6**	**-0.8**
AFI	**Afiamalu**	**7.94**	**47**	*e*P	**P**	**07 50 59.6**	**-0.8**
AFI	**Afiamalu**	**7.94**	**47**	S	**S**	**07 52 32.8**	**-3.7**
	17nm,0.3s,baz=221,slow=23,SNR=11						
AFI	**Afiamalu**	**7.94**	**47**	P	**P**	**07 50 57.8**	**-2.7**
	19nm,0.3s,baz=351,slow=2.4,SNR=28						
DZM	**Mont Dzumac**	**15.04**	**257**	P	**P**	**07 52 10.1**	**-3.0**
URZ	**Urewera**	**19.25**	**192**	*e*P	**P**	**07 52 49.6**	**-2.6**
	38nm,0.8s						
URZ	**Urewera**	**19.25**	**192**	P	**P**	**07 52 49.4**	**-2.8**
	6.6nm,0.3s,baz=348,slow=2.0,SNR=17						
SNZO	**South Karori**	**22.70**	**195**	*e*P	**P**	**07 53 22.0**	**-1.2**
	19nm,0.6s						
RPZ	**Rata Peaks**	**25.94**	**199**	*e*P	**P**	**07 53 53.4**	**+1.5**
	12nm,0.6s						
RPZ	**Rata Peaks**	**25.94**	**199**	P	**P**	**07 53 52.4**	**+0.4**
	12nm,0.6s,baz=322,slow=5.3,SNR=6.7						
WHZ	**Wether Hill Ro**	**28.88**	**201**	*e*P	**P**	**07 54 18.8**	**+1.1**
	81nm,0.6s						
CNB	**Canberra Magne**	**33.03**	**235**	P	**P**	**07 54 54.9**	**+1.5**
	baz=32,SNR=9.2						
CTA	**Charters Tower**	**33.87**	**263**	P	**P**	**07 55 02.4**	**+1.7**
	4.4nm,0.3s,baz=85,slow=17,SNR=7.5						
CMSA	**Cobar Meteorol**	**34.98**	**243**	P	**P**	**07 55 11.1**	**+1.3**
	baz=34,SNR=7.3						
QLP	**Quilpie**	**35.63**	**251**	P	**P**	**07 55 16.7**	**+1.4**
	baz=35,SNR=4.3						
TOO	**Toolangi**	**36.72**	**233**	P	**P**	**07 55 25.2**	**+1.1**
	baz=36,SNR=13						
MANU	**Manus Island**	**38.30**	**293**	S	**S**	**08 00 57.0**	**+4.3**
	baz=38,SNR=5.4						
STKA	**Stephens Creek**	**38.48**	**243**	*e*P	P	07 55 34.3	-4.3
	3.6nm,1.6s						
STKA	**Stephens Creek**	**38.48**	**243**	P	**P**	**07 55 40.0**	**+1.5**
	2.1nm,0.5s,baz=90,slow=6.1,SNR=6.0						
HTT	**Hallett**	**40.94**	**241**	P	**P**	**07 55 59.6**	**+1.2**
	baz=40,SNR=4.0						
BBOO	**Buckleboo**	**43.25**	**243**	P	**P**	**07 56 17.3**	**+0.9**
	baz=43,SNR=13						
WRAB	**Tennant Creek**	**45.01**	**261**	*e*P	**P**	**07 56 30.9**	**+0.7**
	46nm,2.0s						
WRA	**Warramunga Arr**	**45.02**	**261**	P	**P**	**07 56 30.6**	**+0.3**
	2.5nm,0.3s,baz=97,slow=7.6,SNR=84						
WRA				PcP	**PcP**	**07 57 59.8**	**+0.2**
	1.1nm,0.5s,baz=90,slow=3.8,SNR=5.5						
WRA				S	**S**	**08 02 27.5**	**-1.9**
	0.7nm,0.8s,baz=92,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**45.02**	**256**	P	**P**	**07 56 31.4**	**+1.1**
	2.6nm,0.4s,baz=84,slow=8.6,SNR=38						
ASAR				PcP	**PcP**	**07 57 59.6**	**0.0**
	3.1nm,0.7s,baz=105,slow=4.1,SNR=8.4						
ASAR				ScP	**ScP**	**08 00 58.8**	**-1.1**
	0.5nm,0.7s,baz=99,slow=4.2,SNR=5.1						
ASAR				S	**S**	**08 02 28.8**	**-0.6**
	2.4nm,0.9s,baz=90,slow=17,SNR=12						
MTN	**Manton Dam**	**49.43**	**270**	P	**P**	**07 57 04.3**	**+0.9**
	baz=49,SNR=3.3						
MTN				S	S	08 03 44.7	+14
	baz=49,SNR=6.3						
WRKA	**Warakurna**	**50.01**	**253**	P	**P**	**07 57 08.4**	**+0.8**
	baz=49,SNR=6.4						
FITZ	**Fitzroy Crossi**	**53.44**	**262**	P	**P**	**07 57 33.3**	**+1.0**
	2.7nm,0.4s,baz=113,slow=20,SNR=18						
PALU	**Palau**	**54.10**	**295**	S	S	08 04 39.2	+6.4
	baz=54,SNR=3.4						
VNDA	**Vanda**	**58.94**	**185**	P	**P**	**07 58 10.0**	**+0.7**
	1.1nm,0.7s,baz=348,slow=7.6,SNR=7.7						
LUWI	**Luwuk**	**61.02**	**280**	P	**P**	**07 58 22.1**	**-2.0**
	baz=60,SNR=4.4						
MJAR	**Matsushiro Arr**	**69.56**	**323**	P	**P**	**07 59 17.8**	**+0.6**
	2.9nm,0.6s,baz=157,slow=6.0,SNR=9.8						
QSPA	**South Pole Qui**	**70.58**	**180**	P	**P**	**07 59 23.1**	**+0.1**
	2.5nm,0.8s,baz=15,slow=0.9,SNR=6.6						
ADK	**Adak**	**71.06**	**1**	*e*P	**P**	**07 59 25.7**	**0.0**
	19nm,0.5s						
ASAJ	**Asahikawa**	**72.97**	**331**	P	**P**	**07 59 39.2**	**+2.3**
	7.6nm,0.5s,baz=229,slow=7.2,SNR=8.3						
PETK	**Petropavlovsk-**	**75.36**	**345**	P	**P**	**07 59 51.3**	**+1.1**
	8.4nm,0.8s,baz=120,slow=8.8,SNR=7.2						
PKM	**Peak Mountain**	**77.09**	**46**	⇓P	**P**	**08 00 01.9**	**+1.4**
	baz=77						
ARVC	**Arvin**	**77.89**	**46**	⇑P	**P**	**08 00 05.4**	**+0.9**
	baz=78						
MWC	**Mount Wilson**	**77.92**	**47**	*e*P	**P**	**08 00 05.5**	**+0.6**
	13nm,0.8s						
VES	**Vestal, Richgr**	**78.12**	**45**	⇑P	**P**	**08 00 06.3**	**+0.6**
	baz=78,SNR=6.2						
MURC	**Murrieta**	**78.17**	**48**	⇑P	**P**	**08 00 06.8**	**+0.7**
	baz=78						
BFSC	**Mount Baldy Ra**	**78.20**	**47**	⇓P	**P**	**08 00 06.8**	**+0.5**
	baz=78						
USRK	**Ussuriysk Arra**	**78.28**	**326**	P	**P**	**08 00 08.5**	**+2.2**
	4.2nm,0.8s,baz=110,slow=3.5,SNR=9.4						
RCTC	**Rector, Farmer**	**78.29**	**45**	⇑P	**P**	**08 00 07.8**	**+1.2**
	baz=79						
EDW2	**Edwards Air Fo**	**78.33**	**46**	⇓P	**P**	**08 00 07.9**	**+0.9**
	baz=79,SNR=11						
MONP	**Monument Peak**	**78.34**	**49**	⇓P	**P**	**08 00 08.2**	**+1.0**
	baz=79,SNR=7.8						
ISA	**Isabella**	**78.43**	**46**	*e*P	**P**	**08 00 08.4**	**+0.9**
	8.1nm,0.9s						
ISA	**Isabella**	**78.43**	**46**	⇓P	**P**	**08 00 08.4**	**+0.9**
	baz=79,SNR=7.5						
DVTC	**Desert V Tower**	**78.44**	**49**	⇑P	**P**	**08 00 08.8**	**+1.1**
	baz=79						
CMB	**Columbia Colle**	**78.53**	**43**	*e*P	**P**	**08 00 08.5**	**+0.6**
	8.7nm,0.8s						
PFO	**Pinyon Flat Ob**	**78.70**	**48**	*e*P	**P**	**08 00 10.1**	**+1.1**
PFO	**Pinyon Flat Ob**	**78.70**	**48**	⇓P	**P**	**08 00 10.1**	**+1.1**
	baz=79						
SWSC	**Sam W. Stewart**	**78.81**	**49**	⇓P	**P**	**08 00 10.3**	**+0.9**
	baz=79						
LRMC	**Laurel Mountai**	**78.86**	**46**	⇑P	**P**	**08 00 11.0**	**+1.1**
	baz=79						
N02D	**Trinity Center**	**78.86**	**39**	⇓P	**P**	**08 00 11.1**	**+1.4**
	baz=79						
BELC	**Belle Mtn. Jos**	**79.23**	**48**	⇑P	**P**	**08 00 12.9**	**+1.0**
	baz=80,SNR=5.2						
MTUM	**Tungsten Hills**	**79.32**	**44**	*e*P	**P**	**08 00 13.7**	**+1.3**
YBH	**Yreka Blue Hor**	**79.33**	**39**	*e*P	**P**	**08 00 13.7**	**+1.6**
	76nm,2.0s						
GSC	**Goldstone**	**79.37**	**47**	⇑P	**P**	**08 00 13.3**	**+0.8**
	baz=80						
TIN	**Tinemaha**	**79.38**	**45**	⇓P	**P**	**08 00 13.9**	**+1.4**
	baz=80						
WAKR	**Walker**	**79.42**	**43**	*e*P	**P**	**08 00 13.7**	**+0.9**
NJ2	**Nanjing**	**79.44**	**309**	*e*P	**P**	**08 00 10.7**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GLA	**Glamis**	**79.56**	**49**	*e*P	**P**	**08 00 15.3**	**+1.8**
	13nm,0.9s						
GLA	**Glamis**	**79.56**	**49**	⇑P	**P**	**08 00 15.3**	**+1.8**
	baz=80						
M04C	**Macdoel**	**79.88**	**39**	⇑P	**P**	**08 00 16.4**	**+1.3**
	baz=80						
GMRC	**Granite Mounta**	**79.88**	**48**	⇓P	**P**	**08 00 16.3**	**+1.1**
	baz=80						
IRM	**Iron Mountain**	**79.91**	**48**	⇑P	**P**	**08 00 16.4**	**+1.1**
	baz=80,SNR=7.9						
GRAC	**Grapevine Rang**	**79.92**	**45**	⇑P	**P**	**08 00 16.6**	**+1.3**
	baz=80						
FURC	**Furnace Creek,**	**79.97**	**46**	⇑P	**P**	**08 00 16.6**	**+1.2**
	baz=80						
TUQ	**Turquoise Moun**	**80.05**	**47**	⇓P	**P**	**08 00 16.9**	**+0.8**
	baz=80						
SHOC	**Shoshone**	**80.05**	**46**	⇓P	**P**	**08 00 17.0**	**+1.0**
	baz=80						
NVAR	**Mina Array Bea**	**80.10**	**43**	P	**P**	**08 00 17.2**	**+0.8**
	4.7nm,0.8s,baz=229,slow=8.2,SNR=33						
Y12C	**Blythe**	**80.14**	**49**	⇑P	**P**	**08 00 17.7**	**+1.2**
	baz=80,SNR=6.4						
PAHR	**Pah Rah Range**	**80.14**	**42**	*e*P	**P**	**08 00 17.4**	**+0.8**
	10nm,1.0s						
113A	**Mohawk Valley,**	**80.18**	**50**	⇑P	**P**	**08 00 17.9**	**+1.2**
	baz=80,SNR=5.3						
214A	**Organ Pipe Nat**	**80.47**	**51**	⇓P	**P**	**08 00 19.4**	**+1.1**
	baz=81						
NEE2	**Needles Airpor**	**80.60**	**48**	⇓P	**P**	**08 00 20.3**	**+1.5**
	baz=81						
TPH	**Tonopah**	**80.61**	**44**	*e*P	**P**	**08 00 20.1**	**+1.0**
	8.5nm,0.9s						
TPNV	**Topopah Spring**	**80.64**	**46**	*e*P	**P**	**08 00 20.3**	**+1.0**
	7.6nm,1.0s						
TPNV	**Topopah Spring**	**80.64**	**46**	⇓P	**P**	**08 00 20.3**	**+1.0**
	baz=81						
PDMCI	**Parker Dam,Lak**	**80.70**	**49**	⇑P	**P**	**08 00 20.7**	**+1.4**
	baz=81,SNR=6.4						
K05A	**Summer Lake**	**81.00**	**39**	*e*P	**P**	**08 00 22.2**	**+1.2**
	18nm,0.9s						
Z14A	**Wintersburg**	**81.08**	**50**	⇓P	**P**	**08 00 22.8**	**+1.4**
	baz=81,SNR=5.1						
SHPR	**Sheep Range**	**81.14**	**46**	*e*P	**P**	**08 00 23.0**	**+1.2**
G03D	**McMinnville, O**	**81.18**	**36**	⇑P	**P**	**08 00 22.8**	**+1.2**
	baz=82						
W13A	**Hualapai Mount**	**81.29**	**48**	⇑P	**P**	**08 00 23.9**	**+1.2**
	baz=82						
Y14A	**Wickenburg**	**81.32**	**49**	⇓P	**P**	**08 00 23.7**	**+1.0**
	baz=82,SNR=7.0						
CN2	**Changchun**	**81.66**	**322**	*e*P	**P**	**08 00 24.3**	**+0.2**
CN2				*e*pP	**pP**	**08 02 21.3**	**-0.7**
CN2				*e*S	**S**	**08 09 51.6**	**+0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
R11A	**Troy Canyon, C**	**81.84**	**45**	*e*P	**P**	**08 00 25.7**	**+0.3**
	1.8nm,0.7s						
R11A	**Troy Canyon, C**	**81.84**	**45**	⇓P	**P**	**08 00 26.2**	**+0.9**
	baz=82						
BMN	**Battle Mountai**	**81.92**	**42**	*e*P	**P**	**08 00 26.8**	**+1.1**
	15nm,0.9s						
TUC	**Tucson**	**82.14**	**52**	*e*P	**P**	**08 00 28.4**	**+1.5**
	14nm,0.9s						
WVOR	**Wild Horse Val**	**82.18**	**40**	*e*P	**P**	**08 00 27.7**	**+0.7**
	10nm,0.9s						
I07A	**Izee**	**82.62**	**38**	*e*P	**P**	**08 00 30.0**	**+0.9**
	12nm,0.8s						
X16A	**Lo Mia Camp, P**	**82.68**	**50**	⇓P	**P**	**08 00 31.0**	**+1.3**
	baz=83,SNR=22						
J08A	**Circle Bar Ran**	**82.81**	**39**	*e*P	**P**	**08 00 31.1**	**+1.1**
	23nm,1.3s						
319A	**Douglas**

2.8nm,0.6s
325A Bean Ranch, Si 86.12 55 ⇑P P 08 00 47.1 +0.5
baz=86,SNR=8.6
MVCO Mesa Verde 86.12 48 ⇓P P 08 00 47.8 +1.3
baz=86
LPM Los Pinos Moun 86.15 52 eP P 08 00 47.5 +0.8
3.2nm,0.7s
526A Mary Lane Ranc 86.25 56 ⇑P P 08 00 48.1 +0.9
baz=87,SNR=7.8
TXAR Lajitas Array 86.28 57 P P 08 00 47.7 +0.4
4.5nm,0.6s,baz=205,slow=4.0,SNR=79
124A Stringfield Ra 86.32 54 ⇓P P 08 00 48.6 +1.0
baz=87
GYA Guiyang 86.38 300 eP P 08 00 45.8 -2.1
GYA pP pP 08 02 44.0 -3.5
GYA sP sP 08 03 37.5 -5.6
GYA PP PP 08 04 20.8 +1.1
GYA SKS SKSac 08 10 21.2 -1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
PV04 Paradox Valley 86.39 47 eP P 08 00 48.3 +0.6
NEW Newport 86.39 36 ⇓P P 08 00 47.4 +0.1
baz=87
Y23A Lovelace Mesa, 86.41 52 ⇓P P 08 00 48.5 +0.5
baz=87
225A Deer Hill, Car 86.55 54 ⇓P P 08 00 49.4 +0.8
baz=87,SNR=6.7
627A Terlingua Ranc 86.55 57 ⇑P P 08 00 49.6 +0.9
baz=87,SNR=12
426A McDonald Obser 86.55 56 ⇓P P 08 00 49.4 +0.7
baz=87,SNR=15
ANMO Albuquerque 86.56 51 eP P 08 00 49.2 +0.5
4.1nm,0.7s
527A Woodward Ranch 86.66 57 ⇑P P 08 00 49.6 +0.4
baz=87,SNR=7.4
V22A San Miguel Ran 86.66 50 ⇑P P 08 00 50.2 +1.0
baz=87
Z24A Sheeppen Canyo 86.66 53 ⇑P P 08 00 49.8 +0.6
baz=87
Y24A Capitan 86.87 52 ⇑P P 08 00 50.8 +0.7
baz=87,SNR=10.0
W23A Werner Place, 86.88 51 ⇑P P 08 00 51.4 +1.3
baz=87
125A Gardner Draw, 86.91 54 ⇑P P 08 00 51.5 +1.2
baz=87
U22A Llaves 86.91 50 ⇓P P 08 00 51.6 +1.3
baz=87
628A Black Gap, Mar 86.96 57 ⇑P P 08 00 51.4 +0.9
baz=87,SNR=5.2
MCMT McKenzie Canyo 87.00 40 eP P 08 00 51.3 +0.8
8.2nm,1.1s
226B Tecolote Peak, 87.04 55 ⇑P P 08 00 51.5 +0.6
baz=87,SNR=9.4
V23A Ortiz Mt. (NFS 87.11 51 ⇑P P 08 00 52.4 +1.1
baz=87
427A Hayter Ranch, 87.12 56 ⇑P P 08 00 52.5 +1.2
baz=87,SNR=24
Z25A Roswell 87.13 53 ⇓P P 08 00 52.4 +1.1
baz=88
COLA College 87.16 12 eP P 08 00 49.9 -0.5
4.7nm,0.7s
ILAR Eielson Array 87.27 13 P P 08 00 50.4 -0.6
4.1nm,0.7s,baz=227,slow=5.5,SNR=50
U23A El Rito 87.37 50 ⇑P P 08 00 53.6 +1.1
baz=88
126A Clayton Basin, 87.39 54 ⇓P P 08 00 53.0 +0.5
baz=88
MSO Missoula 87.41 38 ⇑P P 08 00 53.3 +1.1
baz=88
Y25A Mesa, Roswell 87.42 53 ⇓P P 08 00 52.9 +0.2
baz=88,SNR=5.4
DLMT Dillon 87.43 40 eP P 08 00 53.6 +1.1
8.3nm,0.8s
W24A Lazy 6 Ranch, 87.45 51 ⇓P P 08 00 53.5 +0.7
baz=88
BSMT Bassoo Peak 87.47 37 eP P 08 00 52.9 +0.3
16nm,1.7s
REDW Red Top Meadow 87.50 42 eP P 08 00 53.8 +0.9
12nm,1.1s
TPAW Teton Pass 87.50 42 eP P 08 00 53.7 +0.7
5.2nm,0.9s
FXWY Fox Creek 87.53 42 eP P 08 00 53.9 +0.9
15nm,1.8s
S22A 4UR Ranch, Cre 87.55 49 ⇑P P 08 00 54.0 +0.7
baz=88,SNR=7.9
428A Kincaid Ranch, 87.63 56 ⇑P P 08 00 54.9 +1.2
baz=88
Z26A Caprock 87.69 54 ⇑P P 08 00 54.1 +0.2
baz=88,SNR=7.1
X25A Clemmons Ranch 87.70 52 ⇑P P 08 00 54.9 +1.0
baz=88
IMW Indian Meadow 87.71 42 eP P 08 00 54.8 +0.8
8.9nm,0.9s
XAN Xi'an 87.73 307 P P 08 00 55.5 +1.5
XAN pP pP 08 02 51.3 -2.8
XAN sP sP 08 03 47.3 -2.2
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,38nm,5.4s
529A Stev Forest Ra 87.75 57 ⇑P P 08 00 54.4 +0.3
baz=88,SNR=5.7
LRM Limekiln Ridge 87.76 39 eP P 08 00 54.7 +0.6
MOOW Moose Ponds 87.76 42 eP P 08 00 54.9 +0.8
55nm,2.5s
V24A Rampart Ranch, 87.77 51 ⇑P P 08 00 55.4 +1.0
baz=88
SYO Syowa Base 87.77 193 ⇓eX P 08 00 50.6 -2.8
LOHW Long Hollow 87.78 42 eP P 08 00 54.8 +0.6
17nm,1.6s
T23A Casias Ranch, 87.79 49 ⇑P P 08 00 54.9 +0.5
baz=88
328A Wristen Ranch, 87.80 56 ⇓P P 08 00 55.0 +0.6
baz=88,SNR=5.5
CHMT Chamberlain Mo 87.85 38 eP P 08 00 54.4 -0.1
4.3nm,1.0s
QLMT Earthquake Lak 87.87 41 eP P 08 00 56.2 +1.6
SLMT Seeley Lake 87.88 38 eP P 08 00 52.5 -2.0
127A Arkansas Junct 87.91 54 ⇑P P 08 00 55.2 +0.2
baz=88,SNR=7.4
I17A Pilgrim Ck. 87.95 42 ⇓P P 08 00 56.0 +1.0
baz=88,SNR=5.4
FLWY Flagg Ranch 87.95 42 eP P 08 00 56.1 +1.1
13nm,0.9s
N20A Spence Gulch, 87.97 45 ⇑P P 08 00 55.7 +0.6
baz=88
PDAR Pinedale Array 88.04 43 P P 08 00 55.6 +0.2
3.8nm,0.6s,baz=203,slow=3.0,SNR=33
YFT Old Faithful 88.05 41 eP P 08 00 58.3 +2.8
7.8nm,0.8s
Y26A Elida 88.08 53 ⇑P P 08 00 56.4 +0.7
baz=88
YMR Madison River 88.08 41 eP P 08 00 57.3 +1.7
13nm,0.8s
W25A X Bar L Ranch, 88.15 52 ⇓P P 08 00 56.2 +0.2
baz=88,SNR=6.2
BOZ Bozeman (W) 88.16 40 eP P 08 00 56.8 +0.9
8.2nm,0.8s
H17A Grant Village 88.19 41 eP P 08 00 58.3 +2.2
7.9nm,0.9s
H17A Grant Village 88.19 41 ⇓P P 08 00 57.8 +1.7
baz=88,SNR=6.3
429A Davenport Ranc 88.21 57 ⇑P P 08 00 57.2 +0.9
baz=88,SNR=18
228A UT Block 9, Go 88.27 55 ⇑P P 08 00 57.3 +0.7
baz=89
T24B San Luis 88.27 50 ⇓P P 08 00 57.4 +0.7
baz=89
Z27A Tatum 88.29 54 ⇓P P 08 00 57.1 +0.5
baz=89
V25A Rancho No Teng 88.30 51 ⇓P P 08 00 57.6 +0.8
baz=89
X26A CR and CF Fran 88.35 53 ⇓P P 08 00 57.9 +1.0
baz=89
P22A Eagle 88.43 47 ⇓P P 08 00 58.2 +0.9
baz=89
R23A Moffat 88.45 49 ⇑P P 08 00 58.2 +0.7
baz=89
530A J-C Ranch, Com 88.46 57 ⇑P P 08 00 58.5 +1.0
baz=89
329A Wagon Wheel Ra 88.49 56 ⇑P P 08 00 58.1 +0.5
baz=89,SNR=5.4
EGAK Eagle 88.56 15 eP P 08 00 57.6 +0.6
8.5nm,0.8s
128A Castleberry Fa 88.56 55 ⇑P P 08 00 58.4 +0.5
baz=89,SNR=6.0
Y27A Causey 88.56 53 ⇓P P 08 00 58.2 +0.2
baz=89,SNR=5.9

HRY Holter Researc 88.58 39 eP P 08 00 58.6 +0.8
J19A Crowheart 88.60 43 ⇓P P 08 00 58.5 +0.5
baz=89,SNR=6.7
W26A Owens Ranch, T 88.61 52 ⇑P P 08 00 59.1 +1.0
baz=89
S24A Houchin Ranch, 88.65 49 ⇓P P 08 00 59.9 +1.4
baz=89
631A Perdido Creek 88.78 58 ⇓P P 08 00 59.5 +0.5
baz=89,SNR=8.1
430A Baggett Ranch, 88.80 57 ⇓P P 08 00 59.3 +0.2
baz=89
O22A Kremmling 88.83 47 ⇑P P 08 00 59.8 +0.6
baz=89
832A Faith Ranch, C 88.83 60 ⇑P P 08 00 59.7 +0.5
baz=89,SNR=6.7
COLD Coldfoot 88.83 10 eP P 08 00 59.1 +0.9
6.9nm,0.8s
MSTX Muleshoe 88.89 53 eP P 08 00 59.6 +0.2
12nm,0.8s
MSTX Muleshoe 88.89 53 ⇑P P 08 00 59.7 +0.2
baz=89
H18A Shoshone NF, C 88.89 41 ⇑P P 08 01 00.5 +1.1
baz=89
V26A Tequesquite Ra 88.89 51 ⇓P P 08 00 59.9 +0.5
baz=89
Z28A Tucker Farm, M 88.91 54 ⇓P P 08 01 00.0 +0.5
baz=89
X27A F and S Farms, 88.93 53 ⇑P P 08 01 00.1 +0.5
baz=89
R24A Sanders Place, 88.98 49 ⇓P P 08 01 01.2 +1.3
baz=89
732A Laxson Ranch, 89.00 59 ⇑P P 08 01 01.0 +1.1
baz=89
I19A Meeteetse 89.01 42 ⇓P P 08 01 00.9 +1.0
baz=89
129A Stewart Farms, 89.04 55 ⇑P P 08 01 00.8 +0.6
baz=89
330A Mertzon 89.09 56 ⇓P P 08 01 00.5 +0.1
baz=89
531A Rocksprings 89.10 58 ⇑P P 08 01 01.2 +0.7
baz=89
W27A Bowe Ranch, En 89.12 52 ⇑P P 08 01 00.8 +0.2
baz=89
U26A Atchley Ranch, 89.18 51 ⇓P P 08 01 01.2 +0.4
baz=90
N22A Wattenberg Ran 89.18 46 ⇑P P 08 01 02.0 +1.1
baz=90,SNR=5.7
S25A Robets Cordova 89.21 49 ⇓P P 08 01 01.4 +0.4
baz=90
Y28A McKinney Farm, 89.26 54 ⇓P P 08 01 01.4 +0.2
baz=90
J20A Shoshoni 89.27 43 ⇑P P 08 01 01.8 +0.8
baz=90,SNR=11
Q24A Divide 89.27 48 ⇑P P 08 01 01.8 +0.4
baz=90
O23A Lake Granby, G 89.28 47 ⇑P P 08 01 02.1 +0.7
baz=90
H19A Powell 89.31 42 ⇑P P 08 01 02.0 +0.8
baz=90,SNR=6.7
833A Chaparral WMA, 89.32 60 ⇑P P 08 01 02.3 +0.9
baz=90
M22A Cedar Creek Ra 89.35 45 ⇓P P 08 01 02.6 +1.0
baz=90
Z29A Hugry Hill Ra 89.42 54 ⇑P P 08 01 02.3 +0.4
baz=90
632A Uvalde 89.45 58 ⇑P P 08 01 03.1 +1.0
baz=90
K21A Alcova 89.48 44 ⇓P P 08 01 02.4 +0.3
baz=90,SNR=6.1
I20A Worland 89.52 43 ⇑P P 08 01 02.5 +0.3
baz=90,SNR=5.4
R25A Fountain Ranch 89.53 49 ⇓P P 08 01 02.7 +0.4
baz=90
733A Divot King Ran 89.55 59 ⇑P P 08 01 03.3 +0.8
baz=90
X28A Dimmitt 89.55 53 ⇓P P 08 01 02.6 +0.1
baz=90
N23A Red Feather La 89.57 46 ⇓P P 08 01 03.4 +0.7
baz=90
532A Rocksprings 89.59 58 ⇑P P 08 01 03.7 +1.0
baz=90
J21A Lysite 89.68 43 ⇓P P 08 01 03.7 +0.7
baz=90,SNR=12
Y29A Porterfield Fa 89.68 54 ⇓P P 08 01 03.2 +0.1
baz=90
130A Snyder 89.72 55 ⇑P P 08 01 03.7 +0.4
baz=90
L22A Ellis Ranch, M 89.74 45 ⇓P P 08 01 04.2 +0.8
baz=90
934A Benavides 89.76 61 ⇓P P 08 01 04.6 +1.1
baz=90
PLCA Paso Flores 89.77 133 P P 08 01 03.7 +0.2
2.9nm,0.9s,baz=267,slow=9.0,SNR=2.9
JCT Junction City 89.81 58 eP P 08 01 03.5 -0.2
5.3nm,0.8s
JCT Junction City 89.81 58 ⇓P P 08 01 04.0 +0.3
baz=90
H20A Greybull 89.85 42 ⇑P P 08 01 04.0 +0.4
baz=90
U27A Thompson Grove 89.86 51 ⇓P P 08 01 03.8 -0.1
baz=90
Z30A Sanderson Ranc 89.87 55 ⇑P P 08 01 04.8 +0.9
baz=90
S26A Kim 89.89 50 ⇑P P 08 01 04.6 +0.6
baz=90
X29A Tulia 89.90 53 ⇓P P 08 01 04.0 -0.1
baz=90
F19A Roth Farm, Mol 89.90 41 ⇑P P 08 01 04.9 +1.0
baz=90
633A Saathoff Ranch 89.92 59 ⇑P P 08 01 04.6 +0.4
baz=90,SNR=5.9
834A Tilden 89.93 60 ⇑P P 08 01 05.5 +1.3
baz=90
K22A Casper 89.96 44 ⇓P P 08 01 05.1 +0.8
baz=90
231A Bronte 89.97 56 ⇓P P 08 01 04.6 +0.2
baz=90,SNR=6.9
M23A Laramie 89.97 46 ⇑P P 08 01 05.0 +0.5
baz=90
432A Menard 89.97 57 ⇓P P 08 01 04.5 0.0
baz=90
I21A Big Trails, Te 89.99 43 ⇓P P 08 01 04.7 +0.3
baz=90,SNR=7.8
CMAR Chiang Mai Arr 90.03 289 P P 08 01 06.8 +1.9
3.1nm,0.8s,baz=122,slow=2.6,SNR=14
AMTX Amarillo 90.09 53 ⇑P P 08 01 05.3 +0.4
baz=90
R26A Arlington 90.19 49 ⇑P P 08 01 05.9 +0.5
baz=90,SNR=6.8
P25A Willow Gulch B 90.19 48 ⇓P P 08 01 06.3 +0.8
baz=90
734A La Parita Cree 90.19 59 ⇓P P 08 01 06.4 +0.9
baz=90
T27A Campo 90.20 51 ⇓P P 08 01 05.3 -0.1
baz=90
131A Roby 90.20 55 ⇓P P 08 01 05.9 +0.4
baz=90
332A Millersview 90.21 57 ⇑P P 08 01 05.7 +0.1
baz=90
W29A Amraillo 90.21 53 ⇓P P 08 01 06.1 +0.6
baz=90
N24A Carr 90.26 46 ⇑P P 08 01 07.1 +1.3
baz=91
533A Kerrville 90.27 58 ⇓P P 08 01 06.2 +0.4
baz=91,SNR=6.4
L23A Garrett 90.27 45 ⇑P P 08 01 06.1 +0.3
baz=91,SNR=6.9
Y30A Stafford Cattl 90.28 54 ⇑P P 08 01 06.0 +0.1
baz=91
E19A Rath Farm, Rou 90.29 40 ⇓P P 08 01 06.5 +0.9
baz=91
J22A Midwest 90.33 44 ⇓P P 08 01 06.0 0.0
baz=91,SNR=5.6
CD2 Chengdu 90.47 303 eP P 08 01 06.0 -0.8
232A Coleman 90.48 56 ⇑P P 08 01 06.8 0.0
baz=91
433A Art 90.48 58 ⇑P P 08 01 06.8 0.0
baz=91,SNR=10
I22A 9 Mile Ranch, 90.55 43 ⇓P P 08 01 08.2 +1.3
baz=91
D19A Cripps Ranch, 90.57 40 ⇓P P 08 01 07.4 +0.5
baz=91,SNR=5.4
M24A Cheyenne 90.58 46 ⇑P P 08 01 08.1 +1.0
baz=91
K23A Bowen Ranch, D 90.60 44 ⇑P P 08 01 08.0 +0.8
baz=91
Z31A Sharp Cattle R 90.64 55 ⇓P P 08 01 07.8 +0.3
baz=91

R27A Eads 90.65 49 ⇓P P 08 01 08.1 +0.6
baz=91
T28A Walsh 90.67 51 ⇑P P 08 01 07.6 0.0
baz=91
534A Blanco 90.70 58 ⇓P P 08 01 08.2 +0.4
baz=91,SNR=24
E20A Meyer Farm, Mu 90.71 40 ⇑P P 08 01 08.8 +1.3
baz=91
C19A Slack Wire Ran 90.74 39 ⇑P P 08 01 08.7 +1.1
baz=91,SNR=6.0
ABTX Abilene, Hawle 90.76 56 eP P 08 01 08.4 +0.4
19nm,1.3s
ABTX Abilene, Hawle 90.76 56 ⇓P P 08 01 08.3 +0.3
baz=91
333A Richland Sprin 90.78 57 ⇑P P 08 01 08.2 0.0
baz=91
P26A Davis Ranch, A 90.79 48 ⇑P P 08 01 09.1 +1.0
baz=91
735A Kenedy 90.81 60 ⇑P P 08 01 09.4 +1.2
baz=91
H22A Clearmont 90.95 43 ⇓P P 08 01 09.7 +1.0
baz=91
D20A Manuel Ranch, 90.98 40 ⇓P P 08 01 09.7 +0.9
baz=91,SNR=5.8
S28A Manter 91.02 50 ⇓P P 08 01 09.7 +0.5
baz=91
635A Leesville 91.03 59 ⇓P P 08 01 10.5 +1.2
baz=91
KSCO Kaye Shedlock' 91.07 49 eP P 08 01 10.8 +1.3
21nm,1.4s
KSCO Kaye Shedlock' 91.07 49 ⇓P P 08 01 10.7 +1.2
baz=91
M25A Palm-Egli Farm 91.09 46 ⇓P P 08 01 10.7 +1.2
baz=91
233A Rising Star 91.11 56 ⇑P P 08 01 10.1 +0.4
baz=91
K24A Anderson Ranch 91.12 45 ⇓P P 08 01 10.4 +0.7
baz=91
B19A Brinkman Farms 91.14 38 ⇑P P 08 01 10.2 +0.7
baz=91,SNR=5.0
Z32A Haskell 91.15 55 ⇑P P 08 01 10.0 +0.2
baz=92,SNR=7.6
434A Burnet 91.16 58 ⇑P P 08 01 09.7 -0.2
baz=92,SNR=5.5
V30A Spur Ranch, Mi 91.18 52 ⇓P P 08 01 10.3 +0.4
baz=92
X31A McDonald Ranch 91.28 54 ⇑P P 08 01 10.5 +0.2
baz=92
133A Hamilton Ranch 91.32 56 ⇑P P 08 01 10.9 +0.3
baz=92
C20A Veseth Ranch, 91.35 39 ⇓P P 08 01 11.2 +0.8
baz=92,SNR=5.1
334A Lometa 91.38 57 ⇑P P 08 01 10.9 0.0
baz=92,SNR=7.0
R28A Tribune 91.38 50 ⇓P P 08 01 11.0 +0.1
baz=92,SNR=6.6
535A Dale 91.43 59 ⇓P P 08 01 11.9 +0.8
baz=92
Y32A R-V Farms, Ver 91.44 54 ⇓P P 08 01 11.7 +0.6
baz=92
L25A Engebretsen Ra 91.45 46 ⇑P P 08 01 12.5 +1.4
baz=92
A19A Klindworth Far 91.48 38 ⇓P P 08 01 11.7 +0.7
baz=92
W31A Holland Ranch, 91.52 53 ⇑P P 08 01 11.6 +0.2
baz=92
Q28A Sharon Springs 91.66 49 ⇓P P 08 01 13.0 +0.9
baz=92
D21A La Casta Ranch 91.66 40 ⇓P P 08 01 13.2 +1.3
baz=92
B20A Solberg Farm, 91.68 39 ⇓P P 08 01 12.7 +0.8
baz=92
Z33A Whitaker Ranch 91.70 55 ⇓P P 08 01 12.5 +0.2
baz=92
234A Clairette 91.71 57 ⇑P P 08 01 12.6 +0.1
baz=92
X32A Elmer 91.72 54 ⇑P P 08 01 12.5 +0.1
baz=92
G23A Biddle 91.83 42 ⇓P P 08 01 13.2 +0.5
baz=92
N27A Anderson Farm, 91.87 47 ⇑P P 08 01 13.7 +0.6
baz=92
R29A Marienthal 91.90 50 ⇑P P 08 01 13.7 +0.5
baz=92
P28A Saint Francis 91.92 49 ⇓P P 08 01 14.4 +1.1
baz=92
A20A Cobblestone Ra 91.94 38 ⇑P P 08 01 13.8 +0.7
baz=92,SNR=9.8
LAO LASA Array 91.96 41 eP P 08 01 14.7 +1.4
151nm,2.8s
335A Moody 92.00 58 ⇑P P 08 01 13.9 +0.1
baz=92
W32A Sentinel 92.02 53 ⇓P P 08 01 14.1 +0.3
baz=92
F23A Volborg 92.05 42 ⇓P P 08 01 14.4 +0.7
baz=92
Y33A Hilltop Ranch, 92.07 55 ⇓P P 08 01 14.8 +0.8
baz=92
H24A Dirks Ranch, A 92.17 43 ⇑P P 08 01 14.9 +0.6
baz=92
D22A Cohagen 92.20 40 ⇑P P 08 01 15.5 +1.1
baz=92
Q29A Oakley 92.20 49 ⇓P P 08 01 15.3 +0.8
baz=92
K26A Motz Farm, Whi 92.21 45 ⇑P P 08 01 15.1 +0.5
baz=92,SNR=6.0
RSSD Black Hills 92.24 44 eP P 08 01 15.0 +0.1
11nm,1.2s
B21A Ellsworth Farm 92.27 39 ⇑P P 08 01 15.3 +0.7
baz=93,SNR=5.7
LZH Lanzhou 92.37 307 ⇑P P 08 01 15.3 -0.2
LZH pP pP 08 03 12.5 -4.0
LZH sP sP 08 04 06.0 -5.6
LZH PP PP 08 05 08.6 +2.2
LZH pmax pmax
comp=Z,17nm,1.5s
LZH pmax pmax
comp=Z,65nm,9.3s
I25A Rochford 92.39 44 ⇑P P 08 01 15.9 +0.4
baz=93
R30A Dighton 92.47 50 ⇑P P 08 01 16.3 +0.5
baz=93
P29A Atwood 92.51 49 ⇑P P 08 01 17.0 +1.0
baz=93
J26A Sides Ranch, S 92.53 45 ⇓P P 08 01 16.9 +0.9
baz=93
A21A Bergtoll Ranch 92.58 39 ⇓P P 08 01 16.6 +0.5
baz=93,SNR=6.5
C22A Vida 92.64 40 ⇓P P 08 01 17.2 +0.9
baz=93
F24A Ekalaka 92.71 42 ⇓P P 08 01 17.5 +0.7
baz=93
H25A Fruitdale 92.73 43 ⇑P P 08 01 17.6 +0.7
baz=93
Q30A Quinter 92.78 50 ⇑P P 08 01 17.5 +0.3
baz=93,SNR=9.6
D23A Lindsay 92.80 41 ⇑P P 08 01 18.5 +1.4
baz=93
B22A Reddig Ranch S 92.82 39 ⇑P P 08 01 18.4 +1.3
baz=93
P30A Selden 92.97 49 ⇓P P 08 01 18.8 +0.6
baz=93,SNR=6.7
R31A Burdett 93.01 50 ⇓P P 08 01 18.9 +0.6
baz=93
C23A Lambert 93.09 40 ⇑P P 08 01 19.4 +1.0
baz=93
A22A Carney Farms, 93.17 39 ⇓P P 08 01 19.5 +0.8
baz=94
J27A Elkhorn Farm, 93.22 45 ⇑P P 08 01 20.3 +1.1
baz=94
B23A Brockton 93.49 40 ⇑P P 08 01 21.7 +1.5
baz=94
N30A Hueftle Ranch, 93.56 48 ⇓P P 08 01 21.4 +0.6
baz=94
P31A Stockton 93.59 49 ⇓P P 08 01 21.4 +0.5
baz=94
R32A Long Quarter, 93.66 51 ⇑P P 08 01 21.7 +0.5
baz=94,SNR=5.2
H27A Howes 93.73 44 ⇓P P 08 01 22.0 +0.6
baz=94
U34A Anderson Ranch 93.80 53 ⇑P P 08 01 22.3 +0.4
baz=94
J28A Allard Ranch, 93.80 45 ⇓P P 08 01 23.0 +1.2
baz=94
O31A Woolen Ranch, 93.86 49 ⇓P P 08 01 22.8 +0.6
baz=94
DGMT Dagmar 93.97 40 eP P 08 01 23.4 +1.0
11nm,0.7s

DGMT	Dagmar	93.97	40	⇓P		P	08 01 23.4	+1.0
	baz=94							
Q32A	Meitler Ranch,	93.98	50	⇑P		P	08 01 23.7	+1.0
	baz=94							
I28A	Midland	94.07	45	⇑P		P	08 01 24.3	+1.3
	baz=94							
G27A	Dupree	94.12	43	⇓P		P	08 01 23.9	+0.7
	baz=94							
R33A	Olander Ranch,	94.15	51	⇑P		P	08 01 24.4	+1.0
	baz=94							
K29A	Lazy Trails An	94.17	46	⇑P		P	08 01 24.6	+1.1
	baz=94							
P32A	Huiting Farm,	94.18	50	⇑P		P	08 01 24.2	+0.6
	baz=94							
F27A	Lemmon	94.26	43	⇓P		P	08 01 24.1	+0.3
	baz=95							
A24A	Westby	94.28	39	⇑P		P	08 01 25.0	+1.2
	baz=95							
H28A	Mission Ridge	94.44	44	⇓P		P	08 01 26.0	+1.4
	baz=95							
D26A	Manning	94.46	42	⇓P		P	08 01 25.6	+0.9
	baz=95							
Q33A	Connelly Farm,	94.51	50	⇑P		P	08 01 26.4	+1.4
	baz=95							
M31A	Lambtecht Ranc	94.55	48	⇑P		P	08 01 26.6	+1.4
	baz=95							
K30A	Basset	94.61	46	⇑P		P	08 01 26.4	+0.9
	baz=95							
O32A	Brockman Farm,	94.65	49	⇑P		P	08 01 26.1	+0.4
	baz=95							
E27A	Carson	94.77	42	⇓P		P	08 01 26.8	+0.7
	baz=95							
C26A	Wahner Farm, P	94.99	41	⇑P		P	08 01 28.0	+0.9
	baz=95							
BGNE	Belgrade	95.16	48	⇑P		P	08 01 28.9	+1.0
	baz=96							
SONM	Songino Array	95.17	319	P		P	08 01 28.2	+0.2
	0.1nm,0.3s,baz=144,slow=4.5,SNR=3.1							
KSU1	Kansas State U	95.43	51	⇑P		P	08 01 30.0	+0.7
	baz=96							
YKA	Yellowknife Ar	95.48	25	P		P	08 01 28.3	-0.5
	0.5nm,0.6s,baz=240,slow=4.6,SNR=13							
YKA				PKiKP		PKiKP	08 06 04.5	-0.7
	0.1nm,0.7s,baz=200,slow=1.9,SNR=3.1							
ZALV	Zalesovo Beam	109.87	321	PKiKP		PKiKP	08 06 29.6	-2.1
	1.1nm,0.5s,baz=166,slow=1.1,SNR=5.9							
MK31	Makanchi Array	110.70	314	*e*PKPdf		PKiKP	08 06 32.8	-0.9
MKAR	Makanchi Array	110.70	314	PKiKP		PKiKP	08 06 32.6	-1.1
	1.1nm,0.5s,baz=221,slow=1.1,SNR=18							
KSH	Kashi	114.53	305	*e*PKP		PKPdf	08 06 40.9	-0.4
KSH				*es*PKP			08 09 39.3	
KSH				*e*SKS		SKSdf	08 13 00.9	-0.7
HUMP	Col San Antoni	115.89	79	*e*PP		PP	08 07 53.6	-4.9
BRVK	Borovoye	118.53	320	*e*PKPdf		PKPdf	08 06 47.5	-0.9
TRIS	Tristan da Cun	122.09	166	*e*PKPdf		PKPdf	08 06 57.5	+1.7
ARU	Arti	124.52	326	*e*PKPdf		PKPdf	08 06 59.4	-0.4
ABKAR	Akbulak array	125.53	317	*e*PKPdf		PKPdf	08 07 01.4	-0.6
ABKAR				*e*PKPdf		PKiKP	08 07 01.6	-0.8
KEV	Kevo	127.52	349	*e*p		PKPdf	08 07 03.4	-1.7
ARCES	ARCESS Array B	127.97	350	PKP		PKPdf	08 07 05.9	-0.2
	3.0nm,0.4s,baz=17,slow=1.6,SNR=29							
JOF	Joensuu	132.25	343	*e*p		PKPdf	08 07 12.9	-1.4
KAF	Kangasniemi	134.25	345	*e*p		PKPdf	08 07 16.9	-1.2
FINES	FINESS Array B	134.87	344	PKhKP		PKPpre	08 07 12.1	
	0.8nm,0.5s,baz=8.5,slow=3.9,SNR=5.6							
FINES				PKP		PKPdf	08 07 19.1	-0.1
	1.9nm,0.5s,baz=33,slow=3.3,SNR=9.0							
NB2	NORSAR Subarra	138.01	354	PKP		PKPpre	08 07 15.2	
	comp=Z,1.1nm,0.5s,baz=12,slow=4.0							
NOA	NORSAR Array B	138.01	354	PKP		PKPdf	08 07 26.6	+1.5
	comp=Z,1.0nm,0.6s,baz=18,slow=4.2,SNR=6.0							
AKASG	Malin Array Be	142.25	332	PKhKP		PKPpre	08 07 28.9	
	comp=Z,3.1nm,0.4s,baz=41,slow=3.9,SNR=34							
AKBB	Malin Array Si	142.25	332	*e*PKPdf		PKPpre	08 07 29.0	
KIEV	Kiev	142.26	332	*e*PKPdf		PKPpre	08 07 29.1	
AK01	Malin Array Si	142.26	332	*e*PKPdf		PKPpre	08 07 29.0	
AK02	Malin Array Si	142.29	332	*e*PKPdf		PKPpre	08 07 29.0	
EKA	Eskdalemuir Ar	143.97	5	PKP		PKPbc	08 07 35.0	-0.3
	comp=Z,9.2nm,0.6s,baz=329,slow=2.7,SNR=16							
BSEG	Bad Segeberg	145.06	352	*e*PKPbc		PKPab	08 07 38.9	-0.7
KWP	Kalwaria Pacla	145.77	336	*e*PKP		PKPbc	08 07 41.0	+0.2
KWP	Kalwaria Pacla	145.77	336	*i*/P		PKPbc	08 07 41.1	+0.2
BUR08	Bucovina Ar. S	146.29	332	*e*PKPbc		PKPbc	08 07 43.2	+0.7
BURAR	Bucovina Array	146.31	332	⇑*i*P		PKPbc	08 07 43.3	+0.7
BRTR	Keskin Array B	146.35	314	PKP		PKPdf	08 07 40.0	-0.7
	comp=Z,7.0nm,0.7s,baz=132,slow=1.2,SNR=30							
BRTR				PKPbc		PKPbc	08 07 42.7	-0.3
	comp=Z,6.3nm,0.6s,baz=138,slow=4.4,SNR=30							
TESR	Tescani	146.44	329	⇑*i*P		PKPbc	08 07 42.5	-0.3
CFR	Carcaliu	146.60	326	⇑*i*P		PKPbc	08 07 43.5	+0.2
KSP	Ksiaz	146.80	344	*e*PKP		PKPbc	08 07 44.2	+0.5
ANTO	Ankara	146.85	314	⇑*i*P		PKPbc	08 07 44.6	+0.3
ANTO	Ankara	146.85	314	*e*PKPab		PKPbc	08 07 44.9	+0.6
VRI	Vrincioaia	146.86	328	⇓*i*P		PKPbc	08 07 44.1	+0.1
CLZ	Clausthal	147.09	351	*e*PKPbc		PKPbc	08 07 44.7	+0.3
CLL	Collm	147.13	348	*e*PKPbc		PKPbc	08 07 44.6	+0.1
CLL	Collm	147.13	348	⇓*i*PKPbc		PKPbc	08 07 44.6	+0.1
	comp=Z,23nm,0.8s							
CLL				⇑*i*PKPab		PKPab	08 07 48.0	+0.1
	comp=Z,10.0nm,1.0s							
OKC	Ostrava-Krasne	147.17	341	⇑*e*PKP		PKPbc	08 07 45.2	+0.5
UPC	Upice	147.18	344	⇑*e*PKP		PKPbc	08 07 45.2	+0.5
UPC				*e*PKPAB		PKPab	08 07 48.9	+0.7
DPC	Dobruska-Polom	147.24	343	⇑*e*PKP		PKPbc	08 07 45.4	+0.5
DPC				*e*PKPAB		PKPab	08 07 49.5	+1.0
DPC	Dobruska-Polom	147.24	343	*e*PKPab		PKPbc	08 07 45.5	+0.5
BRG	Berggiesshubel	147.34	346	*i* PKP		PKPbc	08 07 45.2	+0.1
	comp=Z,13nm,0.7s							
BRG				*e*			08 07 48.7	
	comp=Z,9.8nm,1.1s							
BRG	Berggiesshubel	147.34	346	*e*PKPbc		PKPbc	08 07 45.4	+0.3
KRLC	Kraliky	147.36	343	⇑*e*PKP		PKPbc	08 07 45.5	+0.3
KRLC				*e*PKPAB		PKPab	08 07 49.8	+0.8
MORC	Moravsky Berou	147.41	342	⇓*i*P		PKPbc	08 07 45.6	+0.2
FBE	Freiberg	147.43	347	*e*PKPbc		PKPbc	08 07 45.4	+0.1
FBE				*e*PKPab		PKPab	08 07 49.7	+0.6
DOPR	Dopca	147.44	329	⇑*i*P		PKPbc	08 07 46.5	+1.0
NEUB	Neuenburg	147.47	349	*e*PKPbc		PKPbc	08 07 45.4	0.0
MLR	Muntele Rosu	147.51	328	PKPbc		PKPbc	08 07 45.8	-0.1
	comp=Z,0.8nm,0.3s,baz=332,slow=7.9,SNR=4.4							
PVCC	Panska Ves	147.52	345	⇑*e*PKP		PKPbc	08 07 46.1	+0.6
PVCC				*e*PKPAB		PKPab	08 07 50.4	+0.9
PRA	Prague	147.98	345	⇑PKP		PKPbc	08 07 48.0	+1.3
VOIR		147.99	329	⇑*i*P		PKPbc	08 07 47.1	+0.1
PRU	Pruhonice	148.03	345	⇑*e*PKP		PKPbc	08 07 47.2	+0.3
PRU				*e*PKPAB		PKPab	08 07 52.3	+0.7
TANN	Tannenbergstha	148.09	348	*e*PKPbc		PKPbc	08 07 47.4	+0.3
WERD	Werda	148.09	348	*e*PKPbc		PKPbc	08 07 47.2	+0.1
VRAC	Vranov	148.10	342	PKPbc		PKPbc	08 07 47.5	+0.4
	comp=Z,2.0nm,0.4s,baz=133,slow=16,SNR=4.3							
GUNZ	Gunzen	148.17	348	*e*PKPbc		PKPbc	08 07 47.5	+0.2
WERN	Wernitzgruen	148.23	348	*e*PKPbc		PKPbc	08 07 47.6	+0.2
WERN				*e*PKPab		PKPab	08 07 52.9	+0.4
PSZ	Piszkesteto	148.23	337	*e*PKPdf		PKPbc	08 07 47.4	-0.2
ARR	Arges	148.24	329	⇓*i*P		PKPbc	08 07 48.5	+0.9
NKC	Novy Kostel	148.27	348	*e*PKPbc		PKPbc	08 07 47.8	+0.3
NKC				*e*PKPab		PKPab	08 07 53.0	+0.4
NKC	Novy Kostel	148.27	348	⇑*e*PKP		PKPbc	08 07 47.9	+0.4
NKC				*e*PKPAB		PKPab	08 07 53.0	+0.4
TREC	Trest	148.42	343	⇑*e*PKP		PKPbc	08 07 48.1	+0.2
ROTZ	Rotzenmuhle	148.76	348	*e*PKPbc		PKPbc	08 07 49.2	+0.5
MEM	Membach	148.80	355	PKPbc		PKPbc	08 07 49.0	+0.2
MEM	Membach	148.80	355	*e*PKPdf		PKPbc	08 07 47.8	-0.9
TNS	Taunus Mts	148.94	352	*e*PKPbc		PKPbc	08 07 49.3	+0.1
TNS				*e*PKPab		PKPab	08 07 55.7	+0.3
SNF	Seneffe	149.00	358	PKPbc		PKPbc	08 07 49.5	+0.3
GRF	Grafenberg Arr	149.02	349	*e*PKPbc		PKPbc	08 07 49.8	+0.4
GRF				*e*PKPab		PKPab	08 07 56.6	+0.9
BCLA	Clavier	149.04	356	PKPab		PKPab	08 07 55.6	-0.1
KHC	Kasperske Hory	149.06	346	⇑*e*PKP		PKPbc	08 07 49.9	+0.4
KHC				*e*PKPAB		PKPab	08 07 56.7	+0.8
KHC	Kasperske Hory	149.06	346	*e*PKPdf		PKPdf	08 07 44.0	-0.6
KHC				*e*PKP		PKiKP	08 07 49.8	-0.6
KHC				*e*PKPab		PKPab	08 07 57.2	+1.2
GZR	Gura Zlata	149.09	331	⇓*i*P		PKPbc	08 07 49.2	-0.5
GEC2	GERESS Array S	149.29	345	*e*PKPbc		PKPbc	08 07 50.3	+0.2
GEC2	GERESS Array S	149.29	345	*e*PKPdf		PKPbc	08 07 50.1	0.0
GERES	GERESS Array B	149.29	345	PKPbc		PKPbc	08 07 50.1	0.0
	comp=Z,8.0nm,0.7s,baz=28,slow=2.4,SNR=62							
DOU	Dourbes	149.40	357	PKPbc		PKPbc	08 07 50.3	+0.1
BZS	Buzias	149.43	333	⇑*i*P		PKPbc	08 07 50.0	-0.4
CONA	Conrad Observa	149.56	342	⇑*i*PKiKP		PKPbc	08 07 50.9	+0.1
	comp=Z,15nm,0.6s							
WLF	Walferdange	149.73	355	*e*PKPdf		PKPdf	08 07 45.2	-0.5
WLF				*e*PKPbc		PKiKP	08 07 51.8	+0.1
WLF				*e*PKPab		PKPab	08 07 59.4	+0.7
PKSM	Moragy	150.13	337	⇓*i*P		PKPbc	08 07 52.2	+0.1
STU	Stuttgart	150.25	351	*e*PKPbc		PKPbc	08 07 52.6	+0.3
FUR	Furstenfeldbru	150.47	348	*e*PKPbc		PKPbc	08 07 52.9	+0.1
RJOB	Jochberg	150.55	346	*e*PKPbc		PKPbc	08 07 52.7	-0.4
BFO	Black Forest	150.81	352	*e*PKPdf		PKPdf	08 07 46.6	-0.8
BFO				*e*PKPbc		PKiKP	08 07 53.7	-0.3
BFO				*e*PKPab		PKPab	08 08 03.0	-0.3
PERS	Pernice	150.94	342	*e*PKPbc		PKPbc	08 07 53.2	-0.8
VTS	Vitosha	150.96	327	⇓*i*P		PKPbc	08 07 54.4	+0.1
KBA	Koelnbreinsper	151.03	344	⇓*i*PKiKP		PKPbc	08 07 54.2	-0.1
	comp=Z,8.3nm,0.6s							
WATA	Walderalm	151.20	347	⇑*i*PKPbc		PKPbc	08 07 54.2	-0.5
	comp=Z,6.3nm,0.5s							
MOTA	Moosalm	151.29	347	⇓*i*PKPbc		PKPbc	08 07 54.4	-0.5
	comp=Z,5.5nm,0.6s							
MYKA	Terra Mystica	151.36	344	⇓*i*PKPbc		PKPbc	08 07 54.0	-1.0
	comp=Z,5.7nm,0.5s							
MMB	Musomiste	151.40	325	⇑*i*P		PKPbc	08 07 54.9	-0.3
GCIS	Gornji Cirnik	151.47	340	*i* PKPbc		PKPbc	08 07 55.0	-0.2
ABTA	Abfaltersbach	151.54	345	⇑*i*PKPbc		PKPbc	08 07 54.8	-0.6
	comp=Z,14nm,0.6s							
LJU	Ljubljana	151.65	342	*i* PKPbc		PKPbc	08 07 55.3	-0.3
FETA	Feichten	151.68	348	⇑*i*PKiKP		PKPbc	08 07 55.7	-0.1
	comp=Z,5.3nm,0.6s							
CRNS	Crni Vrh	151.69	342	*i* PKPbc		PKPbc	08 07 55.1	-0.6
TUE	Stuetta	152.46	349	*e*PKPdf		PKPbc	08 07 57.9	+0.3
DBIC	Dimbokro	165.49	150	PKP		PKPdf	08 08 04.1	-1.6
	comp=Z,3.0nm,0.8s,baz=128,slow=3.5,SNR=3.6							
TORD	Torodi Ar. Bea	173.68	175	PKP		PKPdf	08 08 09.2	-1.2
	comp=Z,1.9nm,1.0s,baz=310,slow=2.7,SNR=6.7							
TORD				PKPab		PKPab	08 09 44.1	+0.2
	comp=Z,0.3nm,0.6s,baz=155,slow=3.4,SNR=2.4							

CSEM ***11*** *07:59:38.7,35°.89N×28°.66E,h2km,MD2.6,After ISK*

ISK 11 07:59:38.7,35°.89N×28°.66E,h2km,MD2.6,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
FETY	Fethiye	0.82	25	*e*PG	Pb	07 59 55.3		-0.6
FETY	Fethiye	0.82	25	*e*Pg	Pb	07 59 55.3		-0.5
DALY	Dalyan (Mu˘la	0.93	360	*e*PG	Pb	07 59 57.5		-0.1
DALY	Dalyan (Mu˘la	0.93	360	*e*Pg	Pb	07 59 57.5		-0.1
ELL	Elmali	1.33	49	*e*PN	Pb	08 00 05.1		+0.6
ELL	Elmali	1.33	49	*e*Pn	Pb	08 00 05.1		+0.6
GLHS	Glhisar (BURDU	1.44	28	*e*PN	Pg	08 00 06.6		+0.1
GLHS	Glhisar (BURDU	1.44	28	*e*Pn	Pg	08 00 06.6		+0.1

BJI ***11*** *08:14:17.7, 17°.77S×178°.75W,h536km,mB4.7/5,mb4.3/6*
ISCJB ***11*** *08:14:18.4±0.3, 17°.59S±0°.09×178°.83W±0°.06,h539km, mb4.2/45,Error ellipse: s-maj=13.2km s-min=4.4km az=150.2*
IDC ***11*** *08:14:19.4±1.2, 17°.78S×178°.75W,h552km±15km, mb3.8/20,mb1 4.0/22,mb1mx3.8/29,mbtmp3.8/22,Error ellipse: s-maj=16.5km s-min=9.0km az=144.0*
NEIC ***11*** *08:14:19.1±0.8, 17°.71S×178°.78W,h545km±9km,mb4.3/24, Error ellipse: s-maj=14.4km s-min=6.5km az=150.0*

ISC 11 08:14:18.6±0.4, 17°.66S±0°.09×178°.79W±0°.06, h539km, n133, σ1$31/151, mb4.2/45, 3C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	Afiamalu	7.71	62	*e*P	P	08 16 13.4		+0.2
AFI				S	S	08 17 44.4		-2.7
AFI				*e*S	S	08 17 47.1		-0.1
AFI	Afiamalu	7.71	62	P	P	08 16 13.5		+0.2
	7.9nm,0.3s,baz=294,slow=2.8,SNR=14							
AFI				S	S	08 17 44.4		-2.7
	2.9nm,0.3s,baz=338,slow=19,SNR=3.3							
NIUE	Niue	8.53	101	P	P	08 16 23.8		+2.5
	baz=8.7,SNR=18							
DZM	Mont Dzumac	14.57	250	*e*P	P	08 17 25.8		+1.9
DZM				*e*S	S	08 19 54.8		-1.9
DZM	Mont Dzumac	14.57	250	P	P	08 17 25.0		+1.1
	2.2nm,0.3s,baz=90,slow=18,SNR=16							
KNTN	Kanton	16.34	26	*e*P	P	08 17 41.3		-0.5
	63nm,0.6s							
URZ	Urewera	20.84	189	*e*P	P	08 18 20.8		-1.7
URZ	Urewera	20.84	189	P	P	08 18 20.3		-2.3
	9.7nm,0.5s,baz=270,slow=4.5,SNR=15							
RPZ	Rata Peaks	27.36	196	P	P	08 19 19.4		-1.1
RPZ	Rata Peaks	27.36	196	P	P	08 19 19.4		-1.1
	8.5nm,0.7s,baz=108,slow=19,SNR=2.6							
ARMA	Armidale	29.75	239	P	P	08 19 43.3		+1.6
	baz=30,SNR=7.4							
MGCD	Mangrove Creek	31.14	234	P	P	08 19 55.3		+1.9
	baz=31,SNR=6.0							
RMQ	Roma	31.26	248	P	P	08 19 56.1		+1.6
	baz=31,SNR=7.1							
CNB	Canberra Magne	33.29	232	P	P	08 20 13.4		+1.6
	baz=34,SNR=11							
PMG	Port Moresby	34.06	279	*e*P	P	08 20 20.7		+2.3
PMG	Port Moresby	34.06	279	P	P	08 20 19.7		+1.2
	47nm,0.9s,baz=80,slow=6.5,SNR=12							
CMSA	Cobar Meteorol	34.96	240	P	P	08 20 26.7		+1.0
	baz=35,SNR=11							
QLP	Quilpie	35.29	249	P	P	08 20 29.1		+0.6
	baz=35,SNR=11							
COEN	Coen	36.74	270	P	P	08 20 42.0		+1.3
	baz=37,SNR=13							
TOO	Toolangi	37.05	230	P	P	08 20 44.5		+1.6
	baz=37,SNR=6.2							
STKA	Stephens Creek	38.43	241	*e*P	P	08 20 55.6		+1.3
	4.9nm,1.0s							
STKA	Stephens Creek	38.43	241	P	P	08 20 55.6		+1.3
	18nm,0.8s,baz=78,slow=8.5,SNR=28							
QIS	Mount Isa	39.35	259	P	P	08 21 02.2		+0.3
	baz=39,SNR=5.5							
ARPS	Mount Arapiles	39.51	233	P	P	08 21 03.9		+1.0
	baz=40,SNR=5.4							
HTT	Hallett	40.96	239	P	P	08 21 15.6		+0.9
	baz=41,SNR=15							
RKT	Rikitea	41.31	105	*e*T	T	08 20 16.4		
	2.6nm,0.2s							
BBOO	Buckleboo	43.21	241	P	P	08 21 32.9		+0.6
	baz=43,SNR=33							
WRA	Warramunga Arr	44.32	259	P	P	08 21 40.3		-0.8
WRA				PcP	PcP	08 23 13.2		-0.5
WRA				ScP	ScP	08 26 12.9		-1.5
WRA				S	S	08 27 31.0		-5.3
WRA	Warramunga Arr	44.32	259	P	P	08 21 40.3		-0.8
	3.2nm,0.3s,baz=92,slow=6.9,SNR=78							
WRA				PcP	PcP	08 23 13.2		-0.5
	2.0nm,0.7s,baz=90,slow=3.4,SNR=5.7							
WRA				ScP	ScP	08 26 12.9		-1.5
	0.4nm,0.5s,baz=86,slow=3.8,SNR=5.0							
WRA				S	S	08 27 31.0		-5.3
	0.6nm,0.7s,baz=93,slow=13,SNR=2.8							
ASAR	Alice Springs	44.51	254	P	P	08 21 42.9		+0.3
ASAR				PcP	PcP	08 23 14.1		-0.2
ASAR				ScP	ScP	08 26 14.7		-0.5
ASAR				S	S	08 27 35.2		-3.7
ASAR	Alice Springs	44.51	254	P	P	08 21 42.9		+0.3
	60nm,0.6s,baz=90,slow=7.6,SNR=806							
ASAR				PcP	PcP	08 23 14.1		-0.2
	2.0nm,0.4s,baz=101,slow=3.9,SNR=5.5							
ASAR				ScP	ScP	08 26 14.7		-0.5
	0.5nm,0.7s,baz=89,slow=4.6,SNR=4.4							
ASAR				S	S	08 27 35.2		-3.7
	1.0nm,0.9s,baz=90,slow=18,SNR=5.2							
MTN	Manton Dam	48.45	268	P	P	08 22 11.9		-0.4
	baz=48,SNR=6.8							
WRKA	Warakurna	49.58	252	P	P	08 22 20.9		+0.2
	baz=50,SNR=32							
KNRA	Kunurra	50.16	264	P	P	08 22 25.1		+0.1
	baz=50,SNR=20							
MBWA	Marble Bar	57.78	256	*e*P	P	08 23 18.4		-0.3
	6.1nm,0.3s							
MEEK	Meekatharra	58.18	249	P	P	08 23 20.8		-0.6
	baz=58,SNR=6.1							
KLBR	Kellerberrin	58.62	243	P	P	08 23 24.0		-0.2
	baz=59,SNR=8.8							
WSI	Waingapu	59.52	269	P	P	08 23 26.4		-4.1
	baz=60,SNR=3.1							
MORW	Morawa	60.25	246	P	P	08 23 35.2		0.0
	baz=60,SNR=3.5							
MJAR	Matsushiro Arr	67.49	324	P	P	08 24 20.6		-0.4
MJAR	Matsushiro Arr	67.49	324	P	P	08 24 20.6		-0.4
	2.8nm,0.6s,baz=158,slow=6.6,SNR=9.6							
UGM	Wanagama	69.30	268	P	P	08 24 32.9		+0.4
	baz=69,SNR=4.9							
KSM	Kuching	72.30	277	*e*P	P	08 24 51.1		+1.0
	20nm,1.0s							
PETK	Petropavlovsk-	73.35	345	P	P	08 24 55.3		0.0
PETK	Petropavlovsk-	73.35	345	P	P	08 24 55.3		0.0
	2.9nm,0.6s,baz=135,slow=8.0,SNR=7.0							
PMBI	Palembang	76.20	271	P	P	08 25 06.6		-5.6
	baz=76,SNR=3.5							
MWC	Mount Wilson	77.44	48	*e*P	P	08 25 18.9		+0.2
ISA	Isabella	77.91	46	*e*P	P	08 25 21.9		+0.8
	7.2nm,0.9s							
CMB	Columbia Colle	77.91	43	*e*P	P	08 25 21.1		+0.1
PFO	Pinyon Flat Ob	78.27	49	P	P	08 25 23.2		+0.1
PFO	Pinyon Flat Ob	78.27	49	P	P	08 25 23.2		+0.1
	2.3nm,1.0s,baz=172,slow=1.7,SNR=3.9							
YBH	Yreka Blue Hor	78.56	39	P	P	08 25 25.4		+0.9
YBH	Yreka Blue Hor	78.56	39	P	P	08 25 25.4		+0.9
	4.5nm,0.8s,baz=102,slow=1.4,SNR=10							
MTUM	Tungsten Hills	78.75	45	*e*P	P	08 25 27.1		+1.3
WAKR	Walker	78.79	43	*e*P	P	08 25 25.8		-0.1
PAHR	Pah Rah Range	79.48	42	*e*P	P	08 25 30.0		+0.4
	5.9nm,0.8s							
NVAR	Mina Array Bea	79.50	44	P	P	08 25 30.1		+0.3
NVAR	Mina Array Bea	79.50	44	P	P	08 25 30.1		+0.3
	4.2nm,0.7s,baz=229,slow=8.4,SNR=34							
CN2	Changchun	79.61	323	*e*P	P	08 25 33.0		+3.2
TPH	Tonopah	80.03	45	*e*P	P	08 25 32.9		+0.4
MOD	Modoc	80.13	40	*e*P	P	08 25 33.1		+0.2
	5.7nm,0.7s							
WVOR	Wild Horse Val	81.45	40	*e*P	P	08 25 40.4		+0.7
	10nm,1.1s							
TUC	Tucson	81.83	52	*e*P	P	08 25 43.2		+1.4
I07A	Izee	81.84	39	*e*P	P	08 25 42.0		+0.5
	7.8nm,0.8s							
IPM	Ipoh	82.03	277	*e*P	P	08 25 43.7		+0.5
	9.0nm,0.6s							
J08A	Circle Bar Ran	82.06	40	*e*P	P	08 25 43.4		+0.7
	5.2nm,0.7s							
CCUT	Cedar City	82.41	47	*e*P	P	08 25 45.8		+1.0
	85nm,2.9s							
ELK	Elko	82.72	43	*e*P	P	08 25 46.5		+0.2
WUAZ	Wupatki	82.86	49	*e*P	P	08 25 48.0		+1.1
	6.8nm,1.0s							
HAWA	Hanford	83.12	37	*e*P	P	08 25 48.4		+0.6
	6.2nm,0.8s							
TNA	Tin City	83.38	5	*e*P	P	08 25 48.1		-0.5
	3.6nm,0.9s							
SEY	Seymchan	83.46	347	P	P	08 25 48.7		-0.3
SEY	Seymchan	83.46	347	P	P	08 25 48.7		-0.3
	6.8nm,0.6s,baz=141,slow=5.7,SNR=30							
MVU	Marysvale	83.66	46	*e*P	P	08 25 52.1		+1.0
MFID	Camas Ranch	83.72	41	*e*P	P	08 25 51.5		+0.5
TRF	Thorofare Moun	83.85	12	*e*P	P	08 25 50.2		-1.1
	15nm,0.8s							
F10A	Beach Ranch, E	84.23	38	*e*P	P	08 25 53.4		-0.1
	7.8nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.02**	**200**	Pn	**Pn**	**08 22 21.0**	**-1.8**
	6.3nm,0.3s,baz=282,slow=21,SNR=8.6						
JCJ				Sn	**Sn**	**08 22 47.1**	**+0.2**
	30nm,0.3s,baz=84,slow=24,SNR=14						
MJAR	**Matsushiro Arr**	**8.51**	**333**	Pn	**Pn**	**08 23 49.2**	**-2.7**
	0.4nm,0.3s,baz=163,slow=11,SNR=4.3						
KSRS	**Korea Array**	**15.13**	**308**	Pn	**Pn**	**08 25 23.2**	**+1.2**
	0.1nm,0.3s,baz=117,slow=11,SNR=3.1						
SONM	**Songino Array**	**33.85**	**314**	P	**P**	**08 28 30.9**	**+1.1**
	0.3nm,0.7s,baz=109,slow=7.8,SNR=3.3						
WRA	**Warramunga Arr**	**49.37**	**191**	P	**P**	**08 30 37.6**	**+0.9**
	1.2nm,0.8s,baz=10,slow=8.2,SNR=8.7						
MKAR	**Makanchi Array**	**49.81**	**308**	P	**P**	**08 30 40.7**	**+0.8**
	0.5nm,0.7s,baz=95,slow=9.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**52.21**	**313**	P	**P**	**08 30 58.1**	**+0.2**
	0.6nm,0.7s,baz=92,slow=7.1,SNR=4.4						
YKA	**Yellowknife Ar**	**70.14**	**29**	P	**P**	**08 32 59.8**	**+0.7**
	0.1nm,0.5s,baz=292,slow=6.3,SNR=3.9						

IDC ***11*** *08:40:56.9±1.0,8.68S×112.24E,h0km,mb4.1/13, mb1 4.3/14,mb1mx4.2/22,mbtmp4.1/14,ML3.9/1,MS3.3/5, Ms1 3.3/5,ms1mx3.0/35,Error ellipse: s-maj=38.4km s-min=12.0km az=49.0*

NEIC ***11*** *08:41:01.6±1.0,8.77S×112.19E,h35km±9km,mb4.2/4, Error ellipse: s-maj=15.2km s-min=7.3km az=214.0*

NEIC Felt [II] at Karangkates.

ISCJB ***11*** *08:41:05.9±0.4,8.80S±0.04×112.47E±0.02,h89km±4km, mb4.0/16,Error ellipse: s-maj=7.6km s-min=3.5km az=11.1*

DJA ***11*** *08:41:07.9±0.3,9.3S±3×11.3E±°,h48km±7km,M4.8/24, mb5.3/3,mB5.7/2,MLv4.6/24,Mw(mB)5.2/2*

ISC 11 08:41:05.9±0.8,8.87S±0.05×112.46E±0.03,h77km±8km, n75,σ1°69/79,mb4.1/16,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.71**	**360**	P	x	08 41 21.1	
KRKI				S	x	08 41 32.4	
PWJI	**Pagerwojo**	**1.06**	**323**	P	**Pn**	**08 41 26.0**	**+0.4**
PWJI				S	**Sn**	**08 41 37.9**	**-2.4**
GMJI	**Gumukmas**	**1.14**	**59**	P	**Pn**	**08 41 26.8**	**+0.3**
GMJI				S	**Sn**	**08 41 41.5**	**-0.5**
PCJI	**Pacitan**	**1.44**	**298**	P	**Pn**	**08 41 31.9**	**+1.6**
PCJI				S	**Sn**	**08 41 49.3**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.72**	**77**	P	**Pn**	**08 41 34.6**	**+0.5**
JAGI				S	**Sn**	**08 41 54.6**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.72**	**77**	*e*Pn	**Pn**	**08 41 34.5**	**+0.4**
JAGI				*e*Sn	**Sn**	**08 41 54.9**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.72**	**77**	P	**Pn**	**08 41 34.3**	**+0.3**
	baz=1.8,SNR=166						
JAGI				S	**Sn**	**08 41 54.3**	**-1.1**
	baz=1.8,SNR=12						
NGJI	**Ngawi**	**1.79**	**327**	P	**Pn**	**08 41 37.5**	**+2.5**
NGJI				S	**Sn**	**08 41 57.8**	**+0.8**
GRJI	**Gresik**	**1.95**	**1**	P	**Pn**	**08 41 38.1**	**+1.0**
GRJI				S	**Sn**	**08 42 01.9**	**+1.2**
BYJI	**Banyuwangi**	**1.99**	**71**	P	x	08 41 38.5	
BYJI				S	x	08 42 02.3	
ABJI	**Asem Bagus**	**2.06**	**59**	P	**Pn**	**08 41 40.2**	**+1.7**
UGM	**Wanagama**	**2.14**	**296**	P	**Pn**	**08 41 42.4**	**+2.7**
UGM				S	**Sn**	**08 42 08.6**	**+3.2**
UGM	**Wanagama**	**2.14**	**296**	P	**Pn**	**08 41 41.2**	**+1.6**
	baz=2.1,SNR=18						
UGM				S	**Sn**	**08 42 00.3**	**-5.1**
	baz=2.1,SNR=6.5						
KMMI	**Kalianget**	**2.35**	**40**	P	**Pn**	**08 41 42.7**	**+0.3**
SMRI	**Semarang**	**2.70**	**312**	P	**Pn**	**08 41 48.5**	**+1.3**
SMRI				S	**Sn**	**08 42 21.6**	**+2.7**
SMRI	**Semarang**	**2.70**	**312**	*e*Pn	Pn	08 41 37.0	-10
SMRI				*e*Sg	**Sn**	**08 42 14.1**	**-4.7**
SMRI	**Semarang**	**2.70**	**312**	P	**Pn**	**08 41 47.6**	**+0.4**
	baz=2.7,SNR=5.3						
DNP	**Denpasar**	**2.73**	**86**	P	**Pn**	**08 41 48.9**	**+1.4**
DNP				S	**Sn**	**08 42 20.5**	**+1.0**
SRBI	**Singaraja**	**2.83**	**74**	P	**Pn**	**08 41 50.8**	**+1.8**
SRBI				S	**Sn**	**08 42 22.2**	**0.0**
BWJI	**Bawean**	**3.01**	**4**	P	**Pn**	**08 41 52.5**	**+1.1**
BJII	**Banjamegara**	**3.12**	**299**	P	x	08 41 55.3	
KHKI	**Kahang-Kahang**	**3.15**	**81**	P	x	08 41 52.8	
KHKI				S	x	08 42 30.1	
MTNI	**Mataram**	**3.68**	**87**	P	x	08 42 00.6	
CMJI	**Cimerak**	**4.11**	**285**	P	Pn	08 42 09.7	+3.3
CMJI				S	**Sn**	**08 42 52.8**	**-0.5**
CISI	**Cisompet, Garu**	**4.78**	**286**	P	**Pn**	**08 42 16.6**	**+1.0**
CISI	**Cisompet, Garu**	**4.78**	**286**	*e*Pn	Pn	08 42 08.1	-7.5
CISI				*e*Sn	Sn	08 42 59.4	-10
CISI	**Cisompet, Garu**	**4.78**	**286**	P	**Pn**	**08 42 17.3**	**+1.8**
	baz=4.7,SNR=7.8						
CISI				S	**Sn**	**08 43 09.6**	**-0.2**
	baz=4.7,SNR=4.4						
XMI	**Christmas Isla**	**6.86**	**256**	P	**Pn**	**08 42 44.3**	**+0.4**
	baz=6.8,SNR=12						
XMI				S	Sn	08 43 54.1	-6.4
	baz=6.8,SNR=7.1						
XMIS	**Christmas Isla**	**6.90**	**256**	P	**Pn**	**08 42 44.7**	**+0.2**
	baz=6.8,SNR=21						
CGJI	**Cibinong**	**7.07**	**288**	P	**Pn**	**08 42 49.2**	**+2.4**
	74nm,0.5s,2µm0.4nm						
LBFI	**Labuhan Bajo,**	**7.36**	**88**	P	x	08 42 52.7	
KAPI	**Kappang**	**8.19**	**63**	*e*Pn	**Pn**	**08 43 00.0**	**-2.1**
KAPI				*e*Sn	Sn	08 44 25.1	-8.1
SOEI	**Soe**	**11.69**	**95**	P	**Pn**	**08 43 51.2**	**+1.2**
	baz=12,SNR=3.9						
GIRL	**Giralia**	**13.80**	**173**	P	**Pn**	**08 44 17.4**	**-0.7**
	baz=14,SNR=6.3						
GIRL				S	**Sn**	**08 46 45.5**	**-4.4**
	baz=14,SNR=5.8						
FITZ	**Fitzroy Crossi**	**15.75**	**127**	Pn	**Pn**	**08 44 43.7**	**+0.4**
FITZ				Sn	Sn	08 47 26.3	-11
FITZ	**Fitzroy Crossi**	**15.75**	**127**	Pn	**Pn**	**08 44 43.7**	**+0.4**
	0.3nm,0.3s,baz=228,slow=2.5,SNR=14						
FITZ				Sn	Sn	08 47 26.3	-11
	0.6nm,0.3s,baz=318,slow=15,SNR=6.0						
FITZ				LR	LR	08 49 56.9	
	comp=Z,62nm,19.9s,baz=290,slow=34						
KNRA	**Kununurra**	**17.30**	**115**	P	**P**	**08 45 04.8**	**+1.8**
	baz=17,SNR=7.3						
PSI	**Prapat**	**17.79**	**310**	LR	LR	08 51 09.6	
	comp=Z,65nm,21.7s,baz=13,slow=35						
MEEK	**Meekatharra**	**18.61**	**162**	P	**Pn**	**08 45 21.5**	**+3.1**
	baz=19,SNR=17						
MEEK				S	S	08 48 32.0	-13
	baz=19,SNR=12						
MTN	**Manton Dam**	**18.76**	**104**	P	**P**	**08 45 17.3**	**-1.7**
	baz=19,SNR=6.3						
KDU	**Kakadu**	**20.02**	**103**	P	Pn	08 45 39.9	+4.7
	baz=20,SNR=4.5						
FAKI	**Fak Fak**	**20.55**	**74**	P	**P**	**08 45 39.0**	**+0.5**
	baz=21,SNR=4.5						
WRA	**Warramunga Arr**	**23.84**	**120**	P	**P**	**08 46 13.8**	**+1.4**
WRA				S	S	08 50 36.6	+14
WRA	**Warramunga Arr**	**23.84**	**120**	P	**P**	**08 46 13.8**	**+1.4**
	2.3nm,0.7s,baz=297,slow=11,SNR=82						
WRA				S	S	08 50 36.6	+14
	0.8nm,0.9s,baz=285,slow=24,SNR=3.1						
WRAB	**Tennant Creek**	**23.85**	**120**	*e*P	**P**	**08 46 14.0**	**+1.5**
	6.8nm,0.7s						
NWAO	**Narrogin (SRO)**	**24.34**	**170**	LR	LR	08 54 44.3	
	comp=Z,126nm,19.6s,baz=12,slow=34						
AS31	**Alice Springs**	**25.25**	**128**	*e*P	**P**	**08 46 27.4**	**+2.3**
ASAR	**Alice Springs**	**25.25**	**128**	P	**P**	**08 46 27.0**	**+1.9**
ASAR	**Alice Springs**	**25.25**	**128**	P	**P**	**08 46 27.0**	**+1.9**
	1.5nm,0.4s,baz=303,slow=9.6,SNR=22						
CMAR	**Chiang Mai Arr**	**30.26**	**334**	P	**P**	**08 47 09.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**30.26**	**334**	P	**P**	**08 47 09.1**	**-0.7**
	0.8nm,0.3s,baz=150,slow=7.3,SNR=4.3						
CMAR				LR	LR	08 59 26.6	
	comp=Z,33nm,18.6s,baz=145,slow=37						
QLP	**Quilpie**	**34.87**	**124**	P	P	08 47 53.5	+3.4
	baz=35,SNR=4.2						
STKA	**Stephens Creek**	**35.42**	**134**	*e*P	**P**	**08 47 57.6**	**+2.8**
	1.2nm,0.5s						
STKA	**Stephens Creek**	**35.42**	**134**	P	**P**	**08 47 57.7**	**+2.8**
	7.0nm,0.5s,baz=311,slow=8.9,SNR=45						
STKA				LR	LR	09 02 55.6	
	comp=Z,66nm,19.5s,baz=206,slow=37						
KSAR	**Wonju Array Be**	**48.28**	**16**	P	**P**	**08 49 40.1**	**+0.6**
KSRS	**Korea Array**	**48.31**	**17**	P	**P**	**08 49 40.1**	**+0.5**
	1.1nm,0.9s,baz=215,slow=8.4,SNR=4.2						
MJAR	**Matsushiro Arr**	**51.25**	**27**	P	**P**	**08 50 00.7**	**-1.3**
	2.5nm,0.9s,baz=201,slow=8.7,SNR=6.3						
USRK	**Ussuriysk Arra**	**55.71**	**17**	P	**P**	**08 50 34.4**	**-0.1**
	5.3nm,0.8s,baz=193,slow=7.2,SNR=11						
SONM	**Songino Array**	**56.71**	**355**	P	**P**	**08 50 41.2**	**-0.6**
SONM	**Songino Array**	**56.71**	**355**	P	**P**	**08 50 41.2**	**-0.6**
	0.4nm,0.5s,baz=171,slow=8.7,SNR=5.7						
MKAR	**Makanchi Array**	**61.60**	**337**	P	**P**	**08 51 14.5**	**-0.9**
MKAR	**Makanchi Array**	**61.60**	**337**	P	**P**	**08 51 14.5**	**-0.9**
	0.9nm,0.5s,baz=148,slow=7.3,SNR=16						
AAK	**Ala-Archa**	**61.87**	**329**	P	**P**	**08 51 17.4**	**0.0**
AAK	**Ala-Archa**	**61.87**	**329**	P	**P**	**08 51 17.4**	**0.0**
	0.5nm,0.3s,baz=243,slow=9.3,SNR=5.0						
KURK	**Kurchatov**	**66.20**	**337**	*e*P	**P**	**08 51 44.5**	**-1.0**
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**66.81**	**343**	P	**P**	**08 51 47.2**	**-2.0**
ZALV	**Zalesovo Beam**	**66.81**	**343**	P	**P**	**08 51 47.2**	**-2.0**
	1.0nm,0.4s,baz=134,slow=6.4,SNR=5.0						
PETK	**Petropavlovsk-**	**72.71**	**27**	P	**P**	**08 52 25.1**	**-0.4**
PETK	**Petropavlovsk-**	**72.71**	**27**	P	**P**	**08 52 25.1**	**-0.4**
	3.0nm,0.9s,baz=227,slow=4.7,SNR=4.1						
ABKAR	**Akbulak array**	**73.84**	**327**	*e*P	**P**	**08 52 31.5**	**-0.8**
	3.6nm,0.8s						
BRTR	**Keskin Array B**	**87.12**	**311**	P	**P**	**08 53 43.8**	**-0.1**
BRTR	**Keskin Array B**	**87.12**	**311**	P	**P**	**08 53 43.8**	**-0.1**
	1.4nm,0.9s,baz=116,slow=5.6,SNR=6.5						
YKA	**Yellowknife Ar**	**116.63**	**22**	PKP	**PKPdf**	**08 59 40.9**	**0.0**
YKA	**Yellowknife Ar**	**116.63**	**22**	PKP	**PKPdf**	**08 59 40.9**	**0.0**
	0.1nm,0.5s,baz=294,slow=1.7,SNR=4.5						

IDC 11 09:05:43.8±19.0,22.06S×176.42W,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.8/20,mbtmp4.0/5,Error ellipse: s-maj=347.5km s-min=147.3km az=82.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.83**	**266**	P	P	09 12 38.1	+1.4
	1.6nm,0.3s,baz=93,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**38.47**	**246**	P	P	09 13 06.1	-1.6
	0.8nm,0.5s,baz=73,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**45.61**	**258**	P	P	09 14 05.4	-0.8
	1.2nm,0.8s,baz=91,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**45.86**	**263**	P	P	09 14 08.0	-0.2
	1.4nm,0.5s,baz=94,slow=8.5,SNR=8.6						
FITZ	**Fitzroy Crossi**	**54.29**	**263**	P	P	09 15 12.7	+0.5
	2.8nm,0.9s,baz=129,slow=13,SNR=1.7						

IDC 11 09:07:14.9±2.9,5.27S×132.31E,h0km,mb3.7/1, mb1 4.1/4,mb1mx3.7/18,mbtmp3.9/4,ML3.6/3,Error ellipse: s-maj=122.7km s-min=30.2km az=80.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.32**	**207**	Pn	Pn	09 10 37.6	-1.5
	0.1nm,0.3s,baz=31,slow=10.0,SNR=2.4						
WRA	**Warramunga Arr**	**14.72**	**172**	Pn	Pn	09 10 43.4	-1.2
	0.4nm,0.3s,baz=357,slow=14,SNR=21						
WRA				Sn	Sn	09 13 23.1	-5.4
	0.2nm,0.3s,baz=6.4,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**18.36**	**175**	P	P	09 11 32.0	+0.8
	0.3nm,0.3s,baz=1.4,slow=10,SNR=27						
ASAR				S	Sn	09 14 51.1	-5.8
	0.1nm,0.3s,baz=1.3,slow=27,SNR=4.6						
MKAR	**Makanchi Array**	**68.08**	**325**	P	P	09 18 16.5	0.0
	0.3nm,0.7s,baz=121,slow=5.9,SNR=3.9						

IDC ***11*** *09:10:15.0±0.8,8.56S×157.18E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/19,mbtmp4.0/7,ML3.7/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/30,Error ellipse: s-maj=28.3km s-min=16.7km az=17.0*

ISCJB ***11*** *09:10:16.5±0.8,8.6S±0.2×157.2E±0.1,h19km,mb3.9/6, Error ellipse: s-maj=22.5km s-min=16.2km az=8.7*

ISC 11 09:10:17.8±0.8,8.6S±0.2×157.2E±0.1,h19km,n9,σ1°37/9, mb3.9/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.82**	**107**	Pn	**Pn**	**09 11 01.9**	**0.0**
	11nm,0.3s,baz=232,slow=12,SNR=2.8						
HNR				Lg	Lg	09 11 46.2	
	28nm,0.3s,baz=243,slow=21,SNR=5.5						
PMG	**Port Moresby**	**9.97**	**265**	LR	LR	09 16 20.9	
	comp=Z,97nm,19.3s,baz=58,slow=37						
WRA	**Warramunga Arr**	**24.84**	**241**	P	**P**	**09 15 38.4**	**-0.9**
	1.4nm,0.8s,baz=66,slow=9.4,SNR=4.5						
WRA				PcP	**PcP**	**09 19 14.3**	**-1.1**
	0.7nm,0.8s,baz=46,slow=1.4,SNR=4.5						
STKA	**Stephens Creek**	**27.35**	**210**	P	**P**	**09 16 03.7**	**+1.9**
	2.6nm,1.0s,baz=39,slow=17,SNR=3.5						
CMAR	**Chiang Mai Arr**	**63.45**	**296**	P	**P**	**09 20 47.5**	**+0.5**
	1.0nm,0.3s,baz=130,slow=3.6,SNR=5.0						
SONM	**Songino Array**	**71.86**	**327**	P	**P**	**09 21 40.2**	**+0.5**
	0.9nm,0.9s,baz=124,slow=4.8,SNR=6.6						
ILAR	**Eielson Array**	**84.05**	**21**	P	**P**	**09 22 48.1**	**+1.2**
	0.9nm,1.1s,baz=240,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**86.05**	**318**	P	**P**	**09 22 56.0**	**-1.3**
	0.5nm,0.6s,baz=96,slow=5.9,SNR=7.3						
BDFB	**Brasilia**	**145.30**	**134**	PKPbc	**PKPbc**	**09 29 53.9**	**-1.4**
	2.0nm,0.6s,baz=138,slow=7.2,SNR=3.7						

WEL 11 09:10:36.1±0.2,45.77S×166.59E,h5km,ML3.6/8,2C-1D, Error ellipse: s-maj=2.8km s-min=0.9km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.40**	**171**	⇑PG	Pg	09 10 44.2	+0.3
PYZ				SG	Sg	09 10 50.2	+0.9
DCZ	**Deep Cove**	**0.49**	**54**	⇓PG	Pg	09 10 45.9	+0.4
DCZ				SG	Sg	09 10 52.7	+0.8
DCZ				AML	AML	09 10 58.7	
DCZ				AML	AML	09 10 58.7	
DCZ				AML	AML	09 11 00.7	
WHZ	**Wether Hill Ro**	**0.95**	**98**	P*	Pg	09 10 54.5	0.0
WHZ				AML	AML	09 11 14.8	
WHZ				AML	AML	09 11 15.4	
APZ	**The Paps**	**1.44**	**138**	PN	Pn	09 11 01.3	-1.6
APZ				SN	Sb	09 11 20.9	-1.2
APZ				AML	AML	09 11 23.7	
MSZ	**Milford Sound**	**1.45**	**41**	⇑PN	Pn	09 11 02.4	-0.5
MSZ				AML	AML	09 11 30.9	
MSZ				AML	AML	09 11 31.0	
MSZ				AML	AML	09 11 33.9	
MSZ				AML	AML	09 11 33.9	
SYZ	**Scrubby Hill**	**1.93**	**114**	PN	Pn	09 11 08.9	-0.7
WKZ	**Wanaka**	**1.95**	**62**	PN	Pn	09 11 10.1	+0.1
WKZ				AML	AML	09 11 44.5	
WKZ				AML	AML	09 11 47.0	
EAZ	**Earnscleugh**	**1.98**	**75**	PN	Pn	09 11 10.0	-0.3
EAZ				AML	AML	09 11 15.9	
EAZ				AML	AML	09 11 41.5	
EAZ				AML	AML	09 11 41.6	
JCZ	**Jackson Bay**	**2.29**	**43**	PN	Pn	09 11 14.8	+0.1
JCZ				AML	AML	09 11 55.0	
JCZ				AML	AML	09 11 55.5	
LBZ	**Lake Benmore**	**2.90**	**63**	PN	Pn	09 11 22.0	-0.9
LBZ				AML	AML	09 11 30.3	
ODZ	**Otahua Downs**	**2.94**	**77**	PN	Pn	09 11 21.8	-1.7

IDC ***11*** *09:35:10.3±1.6,8.88S×157.96E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/19,mbtmp4.0/5,ML4.1/1,MS2.7/1, Ms1 2.7/1,ms1mx2.5/34,Error ellipse: s-maj=40.1km s-min=14.6km az=6.0*

ISC 11 09:35:14.2±1.4,8.9S±0.3×157.87E±0.09,h23km,n7, σ2°10/6,mb3.9/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.12**	**105**	Pn	Pn	09 35 44.6	-3.6
	65nm,0.3s,baz=212,slow=4.0,SNR=17						
HNR				Lg	Lg	09 36 15.3	
	197nm,0.3s,baz=255,slow=21,SNR=9.7						
HNR	**Honiara**	**2.12**	**105**	*e*P	**Pn**	**09 35 46.0**	**-2.2**
HNR				*i* S	**Sb**	**09 36 20.0**	**+2.2**
PMG	**Port Moresby**	**10.59**	**266**	LR	LR	09 40 49.8	
	comp=Z,40nm,20.5s,baz=335,slow=32						
WRA	**Warramunga Arr**	**25.27**	**242**	P	**P**	**09 40 38.8**	**-0.2**
	2.5nm,0.7s,baz=68,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**27.24**	**234**	P	**P**	**09 40 55.8**	**-1.1**
	0.9nm,0.8s,baz=67,slow=9.2,SNR=7.7						
STKA	**Stephens Creek**	**27.43**	**211**	P	**P**	**09 40 59.5**	**+1.2**
	2.9nm,0.8s,baz=23,slow=15,SNR=2.3						
MKAR	**Makanchi Array**	**86.70**	**318**	P	**P**	**09 47 57.3**	**+0.9**
	0.4nm,0.7s,baz=96,slow=4.0,SNR=4.2						

ISCJB ***11*** *09:45:44.7±0.3,39.60N±0.03×67.50E±0.04,h10km, mb4.0/14,MS3.1/1,Error ellipse: s-maj=4.9km s-min=3.7km az=143.9*

NEIC ***11*** *09:45:45.4±0.7,39.48N×67.49E,h10km,mb4.7/1,Error ellipse: s-maj=11.6km s-min=10.0km az=198.0*

TEH ***11*** *09:45:46.0,39.65N×67.28E,h1km,ML4.4*

BJI ***11*** *09:45:46.2,39.70N×67.40E,h30km,mb3.9/2,ML3.8/2*

IDC ***11*** *09:45:46.6±0.8,39.26N×67.52E,h18km±4km,mb3.7/8, mb1 3.9/13,mb1mx3.7/28,mbtmp3.7/13,ML3.9/4,MS3.0/3, Ms1 3.0/3,ms1mx2.7/37,Error ellipse: s-maj=14.4km s-min=12.3km az=172.0*

MOS ***11*** *09:45:47.5±1.0,39.49N×67.54E,h39km,mb4.3/6,Error ellipse: s-maj=10.6km s-min=5.7km az=59.3*

NNC ***11*** *09:45:51.4±1.9,39.96N×67.29E,h31km,mb4.3,mpv4.0, Error ellipse: s-maj=17.1km s-min=8.4km az=9.0*

ISC 11 09:45:45.7±0.5,39.53N±0.05×67.48E±0.05,h10km,n116, σ1°48/119,mb4.0/15,7C-20D,Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.24**	**32**	⇓Pn	**Pn**	**09 46 51.3**	**+0.9**
	2.7nm,0.5s,baz=216,slow=10,SNR=48						
KK31				⇓Pg	**Pg**	**09 47 04.7**	**-2.1**
	35nm,0.7s,baz=222,slow=18,SNR=31						
KK31				Lg	Lg	09 47 58.8	
	266nm,0.6s,baz=218,slow=28,SNR=9.4						
KK31	**Karatay Array**	**4.24**	**32**	PN	**Pn**	**09 46 51.2**	**+0.9**
KK31				pmax	pmax		
	comp=Z,12nm,0.3s						
KK31				pmax	pmax		
	comp=N,360nm,0.6s						
KKAR	**Karatay Array**	**4.24**	**32**	*e*PN	**Pn**	**09 46 50.8**	**+0.5**
KKAR				*e*		09 47 41.9	
KKAR	**Karatay Array**	**4.24**	**32**	*e*Pn	**Pn**	**09 46 50.8**	**+0.5**
KKAR				*e*Sn	**Sn**	**09 47 41.9**	**+2.1**
KBL	**Kabul**	**5.13**	**165**	PN	**Pn**	**09 47 01.5**	**-1.3**
KBL	**Kabul**	**5.13**	**165**	Pn	**Pn**	**09 47 01.5**	**-1.3**
AML	**Almayashu**	**5.38**	**59**	*i* PN	**Pn**	**09 47 07.7**	**+1.3**
AML	**Almayashu**	**5.38**	**59**	P	**Pn**	**09 47 07.7**	**+1.3**
	SNR=112						
EKS2	**Erkin-Say**	**5.69**	**55**	*e*PN	**Pn**	**09 47 11.7**	**+1.3**
EKS2				pmax	pmax		
	comp=Z,20nm,0.6s						
EKS2	**Erkin-Say**	**5.69**	**55**	P	**Pn**	**09 47 11.9**	**+1.5**
	SNR=16						
EKS2	**Erkin-Say**	**5.69**	**55**	*e*Pn	**Pn**	**09 47 11.7**	**+1.3**
	comp=Z,20nm,0.6s						
EKS2				*e*Sn	**Sn**	**09 48 15.9**	**0.0**
UCH	**Uchtor**	**5.97**	**61**	*i* PN	**Pn**	**09 47 15.8**	**+1.3**
UCH	**Uchtor**	**5.97**	**61**	P	**Pn**	**09 47 15.9**	**+1.3**
	SNR=46						
AAK	**Ala-Archa**	**6.14**	**57**	⇑Pn	**Pn**	**09 47 18.3**	**+1.7**
	comp=Z,21nm,0.6s						
AAK				⇓Sn	**Sn**	**09 48 27.6**	**+0.7**
	comp=Z,19nm,0.7s						
AAK				⇓Lg	Lg	09 48 58.6	
	comp=Z,57nm,1.3s						
AAK	**Ala-Archa**	**6.14**	**57**	*e*PN	**Pn**	**09 47 18.3**	**+1.7**
AAK						09 48 29.1	
AAK				pmax	pmax		
	comp=Z,26nm,0.6s						
AAK	**Ala-Archa**	**6.14**	**57**	P	**Pn**	**09 47 18.6**	**+2.0**
	SNR=31						
AAK	**Ala-Archa**	**6.14**	**57**	*e*Pn	**Pn**	**09 47 18.3**	**+1.7**
	comp=Z,26nm,0.6s						
AAK				Sn	**Sn**	**09 48 29.1**	**+2.2**
AAK	**Ala-Archa**	**6.14**	**57**	Pn	**Pn**	**09 47 18.7**	**+2.2**
	comp=Z,3.8nm,0.3s,baz=219,slow=5.2,SNR=94						
AAK				Sn	**Sn**	**09 48 29.1**	**+2.2**
	comp=Z,2.2nm,0.3s,baz=145,slow=23,SNR=4.4						
FRU	**Bishkek**	**6.31**	**56**	*i* PN	**Pn**	**09 47 21.0**	**+2.2**
FRU				*i* S	**Sn**	**09 48 33.0**	**+2.0**
FRU				pmax	pmax		
	comp=Z,60nm,1.0s						
FRU				pmax	pmax		
	comp=N,320nm,1.8s						
KZA	**Kyzart**	**6.42**	**64**	*i* PN	**Pn**	**09 47 22.2**	**+1.6**
KZA	**Kyzart**	**6.42**	**64**	P	**Pn**	**09 47 22.3**	**+1.6**
	SNR=37						
KBK	**Karagaybulak**	**6.45**	**59**	*i* PN	**Pn**	**09 47 22.9**	**+2.1**
KBK	**Karagaybulak**	**6.45**	**59**	P	**Pn**	**09 47 22.9**	**+2.1**
	SNR=41						
USP	**Ospenovka**	**6.46**	**52**	*i* PN	**Pn**	**09 47 22.5**	**+1.6**
USP	**Ospenovka**	**6.46**	**52**	P	**Pn**	**09 47 22.6**	**+1.6**
	SNR=11						
CHMS	**Chumysh**	**6.48**	**55**	*i* PN	**Pn**	**09 47 22.3**	**+1.2**
CHMS	**Chumysh**	**6.48**	**55**	P	**Pn**	**09 47 22.3**	**+1.2**

MKAR Makanchi Array 13.01 51 Pn Pn 09 48 50.5 -0.1
MKAR Lg Lg 09 52 33.3
MKAR Makanchi Array 13.01 51 Pn Pn 09 48 50.5 -0.1
comp=Z,0.3nm,0.3s,baz=242,slow=14,SNR=30
MKAR Lg Lg 09 52 33.3
comp=Z,0.2nm,0.3s,baz=249,slow=26,SNR=3.6
KURBB Kurchatov Arra 13.55 31 ⇓Pn Pn 09 48 58.1 +0.4
comp=Z,3.4nm,0.8s
KURBB ⇓Sn Sn 09 51 26.9 -1.3
comp=Z,8.1nm,0.9s
KURBB ⇓Lg Lg 09 52 53.4
comp=Z,76nm,1.1s
KURBB Kurchatov Arra 13.55 31 Pn Pn 09 48 57.3 -0.5
baz=220,slow=13,SNR=2.8
KURBB Lg Lg 09 52 55.1
comp=Z,0.3nm,0.3s,baz=220,slow=31,SNR=5.6
BVA0 Borovoye Array 13.65 7 ⇓Pn Pn 09 48 57.9 -1.2
comp=Z,4.5nm,0.6s,baz=186,slow=12,SNR=4.4
BVA0 ⇓Sn Sn 09 51 20.8 -10
comp=Z,8.5nm,0.8s,baz=326,slow=40,SNR=4.0
BVA0 ⇓Lg Lg 09 52 56.1
comp=Z,20nm,0.9s
BVA0 Borovoye Array 13.65 7 *i* P Pn 09 48 59.7 +0.5
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 13.65 7 P Pn 09 48 59.0 -0.2
BVAR 09 51 22.6
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BVAR Borovoye Array 13.65 7 Pn Pn 09 48 59.0 -0.2
BVAR Sn Sn 09 51 22.6 -8.2
BVAR Borovoye Array 13.65 7 Pn Pn 09 48 59.0 -0.2
comp=N,0.7nm,0.3s,baz=180,slow=13,SNR=11
BVAR Sn Sn 09 51 22.6 -8.2
comp=N,0.9nm,0.3s,baz=181,slow=31,SNR=6.8
KURK Kurchatov 13.65 31 ⇓Pn Pn 09 48 58.2 -1.0
comp=N,2.1nm,0.8s
KURK ⇑Sn Sn 09 51 28.4 -2.5
comp=N,1.8nm,1.0s
KURK ⇑Lg Lg 09 52 55.6
comp=N,19nm,1.0s
KURK Kurchatov 13.65 31 P P 09 49 07.1 -1.1
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 13.65 31 Pn Pn 09 48 57.3 -2.0
KURK Lg Lg 09 52 55.1
BRVK Borovoye 13.67 7 *c* eP Pn 09 49 01.9 +2.4
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 13.67 7 *e* Pn Pn 09 48 59.3 -0.1
comp=Z,6.3nm,0.6s
DANN Dangsing 17.48 125 *e* P P 09 49 51.0 -0.1
comp=Z,18nm,0.6s
KOLN Koldanda 17.79 126 *e* P P 09 49 56.0 +1.6
comp=Z,11nm,0.5s
ARU Arti 17.91 344 *d i* P P 09 49 56.3 +1.0
ARU S Sn 09 53 14.8 +0.6
ARU pmax pmax
comp=Z,16nm,2.5s
ARU Arti 17.91 344 *e* Pn P 09 49 55.4 +0.1
GKN Gorkha 18.28 124 *e* P P 09 50 01.3 +1.5
comp=Z,19nm,0.5s
ZAA0 Zalesovo Array 18.61 33 *e* P P 09 50 02.5 -0.5
ZALV Zalesovo Beam 18.61 33 *i* P Pn 09 50 03.0 -0.3
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 18.61 33 P P 09 50 02.5 -0.6
ZALV Zalesovo Beam 18.61 33 P P 09 50 02.5 -0.6
comp=Z,0.4nm,0.3s,baz=232,slow=9.3,SNR=13
ZALV LR LR 09 57 40.3
comp=Z,59nm,18.1s,baz=65,slow=38
NVS Novosibirsk 18.62 29 *e* P P 09 49 59.8 -3.3
DMN Daman 18.85 124 *e* P Pn 09 50 06.8 +0.1
comp=Z,11nm,0.5s
KIV Kislovodsk 19.00 292 *e* P Pn 09 50 09.3 +1.1
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,57nm,14.0s
PKIN Phulchoki 19.06 123 *e* P Pn 09 50 10.1 +0.9
comp=Z,12nm,0.6s
PKI Pulchoki 19.08 123 *e* P Pn 09 50 10.3 +0.9
comp=Z,16nm,0.7s
GUN Gumba 19.15 122 *e* P Pn 09 50 10.5 +0.1
comp=Z,31nm,0.9s
JIRN Jiri 19.52 122 *e* P Pn 09 50 14.6 -0.3
comp=Z,24nm,0.8s
RAMN Ramite 20.27 122 *e* P Pn 09 50 23.0 -0.7
comp=Z,34nm,0.7s
TAPN Taplejung 20.74 120 *e* P Pn 09 50 28.3 -0.9
comp=Z,20nm,0.8s
ODAN Odare 20.85 121 *e* P Pn 09 50 29.5 -1.0
comp=Z,24nm,0.8s
VRHR Novokhopersk 21.43 311 *e* P P 09 50 42.5 +8.8
VRHR pmax pmax
comp=Z,9.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 22.76 309 *e* P P 09 50 55.3 +7.4
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=Z,4.0nm,0.7s
VORD pmax pmax
comp=E,9.0nm,0.8s
ANN Anapa 22.81 293 *e* P P 09 50 46.3 -2.3
ANN pmax pmax
comp=Z,48nm,0.8s
VSR Storozhevoye 22.92 310 *e* P P 09 50 54.9 +5.3
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.8s
BRTR Keskin Array B 25.98 281 pP pP 09 51 25.8 +4.1
BRTR Keskin Array B 25.98 281 pP pP 09 51 25.8 +4.1
comp=E,0.7nm,0.9s,baz=72,slow=6.5,SNR=2.4
AKASG Malin Array Be 28.91 305 P P 09 51 50.1 +5.5
AKASG Malin Array Be 28.91 305 pP P 09 51 50.1 +5.5
AKASG Malin Array Be 28.91 305 pP P 09 51 50.1 +5.5
comp=E,0.9nm,0.6s,baz=83,slow=6.9,SNR=4.3
SONM Songino Array 29.09 61 P P 09 51 47.0 +0.6
SONM Songino Array 29.09 61 P P 09 51 47.0 +0.6
comp=E,0.2nm,0.5s,baz=280,slow=8.3,SNR=2.6
SONM LR LR 10 04 59.2
comp=E,48nm,18.2s,baz=236,slow=40
FINES FINESS Array B 33.42 325 P P 09 52 27.1 +2.9
FINES FINESS Array B 33.42 325 P P 09 52 27.1 +2.9
comp=E,2.4nm,0.8s,baz=112,slow=15,SNR=3.3
CMAR Chiang Mai Arr 34.34 119 P P 09 52 31.4 -1.2
CMAR Chiang Mai Arr 34.34 119 P P 09 52 31.4 -1.2
comp=E,0.4nm,0.3s,baz=292,slow=9.6,SNR=2.9
NB2 NORSAR Subarra 40.29 321 P P 09 53 22.4 -0.3
comp=Z,2.2nm,0.8s,baz=100,slow=8.6
NOA NORSAR Array B 40.29 321 P P 09 53 22.4 -0.3
NOA NORSAR Array B 40.29 321 P P 09 53 22.4 -0.3
comp=Z,0.5nm,0.7s,baz=98,slow=8.1,SNR=2.6
QIZ Qiongzhong 41.75 107 P P 09 53 35.1 0.0
QIZ S S 09 59 52.0 -0.4
QIZ LR LR
comp=Z,170nm,3.8s
CN2 Changchun 42.75 65 *e* P P 09 53 44.8 +1.7
TIXI Tiksi 44.06 24 *i* P P 09 53 52.8 -0.4
TIXI pmax pmax
comp=Z,7.0nm,2.2s
TORD Torodi Ar. Bea 63.11 265 P P 09 56 12.7 -1.0
TORD Torodi Ar. Bea 63.11 265 P P 09 56 12.7 -1.0
comp=Z,0.5nm,0.6s,baz=43,slow=6.2,SNR=3.9
YKA Yellowknife Ar 78.31 1 P P 09 57 45.5 0.0
YKA pP PcP 09 57 51.8 -3.1
YKA Yellowknife Ar 78.31 1 P P 09 57 45.5 0.0
comp=Z,0.4nm,0.7s,baz=353,slow=5.8,SNR=9.0
YKA pP PcP 09 57 51.8 -3.1
comp=Z,0.3nm,0.7s,baz=352,slow=6.2,SNR=6.2
WRA Warramunga Arr 85.93 120 P P 09 58 25.8 -0.3
WRA pP pP 09 58 31.1 +1.7
WRA Warramunga Arr 85.93 120 P P 09 58 25.8 -0.3
comp=Z,0.9nm,0.7s,baz=323,slow=4.7,SNR=10.0
WRA pP pP 09 58 31.1 +1.7
comp=Z,1.2nm,0.5s,baz=323,slow=4.8,SNR=7.0
WRAB Tennant Creek 85.93 120 *e* P P 09 58 25.0 -1.1
WRAB pmax pmax
comp=Z,7.0nm,1.2s
WRAB Tennant Creek 85.93 120 *e* P P 09 58 25.0 -1.1
comp=Z,7.0nm,1.2s
ASAR Alice Springs 88.24 123 P P 09 58 36.8 -0.5
ASAR pP pP 09 58 42.5 +1.9
ASAR Alice Springs 88.24 123 P P 09 58 36.8 -0.5
comp=Z,0.6nm,0.8s,baz=307,slow=4.2,SNR=5.9
ASAR pP pP 09 58 42.5 +1.9
comp=Z,0.6nm,0.7s,baz=310,slow=4.9,SNR=4.8

IDC 11 09:47:20.5±1.8, 2°15.N×125°44.E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, Error ellipse: s-maj=116.6km s-min=23.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.12**	**179**	P	P	09 51 57.0	+0.8
	2.1nm,1.1s,baz=357,slow=6.6,SNR=6.6						
WRA	**Warramunga Arr**	**23.62**	**159**	P	P	09 52 33.6	+0.1
	2.3nm,0.4s,baz=336,slow=10.0,SNR=48						
ASAR	**Alice Springs**	**26.95**	**163**	P	P	09 53 03.2	-0.7
	0.6nm,0.6s,baz=339,slow=7.1,SNR=12						
MKAR	**Makanchi Array**	**58.14**	**326**	P	P	09 57 16.2	+0.1
	0.2nm,0.4s,baz=126,slow=7.4,SNR=6.4						

*ISCJB **11** 10:03:43.7±1.0, 12°.99N±0°.07×89°.66W±0°.05, h59km±7km, mb4.0/6, Error ellipse: s-maj=13.1km s-min=6.2km az=32.4*
*SSS **11** 10:03:43.7, 13°.02N×89°.68W, h42km, MD3.6, ML3.9*
*CASC **11** 10:03:44.5±1.9, 13°.04N×89°.63W, h30km±5km, MD3.9, ML3.9*
*GCG **11** 10:03:44.9, 13°.03N×89°.79W, h9km, MD4.0*
*IDC **11** 10:03:50.6±2.4, 13°.64N×89°.51W, h67km±18km, mb3.6/7, mb1 3.9/8, mb1mx3.6/24, mbtmp3.7/8, Error ellipse: s-maj=40.0km s-min=22.5km az=46.0*

ISC 11 10:03:46.1±1.6, 13°.11N±0°.10×89°.57W±0°.06, h53km±12km, n27, σ1§62/38, mb4.1/6, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.66**	**30**	*e* P	**Pn**	**10 03 58.4**	**-1.2**
SNET				*e* S	**Sn**	**10 04 09.9**	**+0.6**
SNET				AML	AML	10 04 14.7	
	comp=Z,4μm,0.4s						
BOQS	**Boqueron**	**0.68**	**24**	*e* P	**Pn**	**10 03 58.8**	**-1.2**
BOQS				*e* S	**Sn**	**10 04 11.8**	**+1.9**
LFRS	**El Faro**	**0.70**	**44**	*e* P	**Pn**	**10 03 59.3**	**-0.9**
SBLS	**San Blas**	**0.72**	**356**	⇓*e* P	**Pn**	**10 03 59.5**	**-1.1**
SBLS				*e* S	**Sn**	**10 04 11.5**	**+0.5**
SNJE	**San Jose**	**0.75**	**357**	*e* P	**Pn**	**10 03 59.6**	**-1.3**
SNJE				*e* S	**Sn**	**10 04 13.0**	**+1.5**
RTR	**El Retiro**	**0.78**	**354**	⇓*e* P	**Pn**	**10 04 00.6**	**-0.7**
RTR				*e* S	**Sn**	**10 04 13.2**	**+0.9**
LBRS	**Las Brisas**	**0.80**	**39**	*e* P	**Pn**	**10 04 01.2**	**-0.2**
SNVI	**San Vicente**	**0.86**	**55**	*e* P	**Pn**	**10 04 01.2**	**-1.0**
VSM	**San Miguel**	**1.29**	**76**	*e* P	**Pn**	**10 04 07.4**	**-0.8**
VSM				*e* S	**Sn**	**10 04 27.1**	**+2.5**
CAHU	**Cacacuatique**	**1.47**	**63**	*e* P	**Pn**	**10 04 10.8**	**+0.4**
CAHU				*e* S	**Sn**	**10 04 31.2**	**+2.4**
NBG	**Las Nubes**	**1.65**	**333**	*e* P	**Pn**	**10 04 14.3**	**+1.3**
NBG				*e* S	**Sn**	**10 04 37.5**	**+4.3**
CNCH	**Conchagua**	**1.69**	**84**	*e* P	**Pn**	**10 04 13.0**	**-0.4**
CNCH				*e* S	**Sn**	**10 04 35.5**	**+1.4**
MRL	**Marmol**	**1.94**	**356**	*e* P	**Pn**	**10 04 16.6**	**-0.3**
MRL				*e* S	**Sn**	**10 04 41.0**	**+0.6**
APG	**El Apazote**	**2.07**	**335**	P	**Pn**	**10 04 15.9**	**-2.8**
	comp=Z,28nm,0.3s,baz=147,slow=9.4,SNR=39						
APG				S	**Sn**	**10 04 44.6**	**+1.1**
	comp=Z,41nm,0.3s,baz=99,slow=19,SNR=6.6						
JAT	**Jato**	**2.34**	**301**	*e* P	**Pn**	**10 04 21.8**	**-0.4**
COPN	**Copaltepe**	**3.05**	**107**	*e* P	**Pn**	**10 04 30.9**	**-1.0**
JTS	**JuntasAbangare**	**5.32**	**121**	P	Pn	10 05 12.0	+8.9
	comp=Z,4.5nm,0.3s,baz=315,slow=17,SNR=6.8						
JTS				S	Sn	10 06 24.9	+22
	comp=Z,0.7nm,0.3s,baz=132,slow=22,SNR=6.2						
TEIG	**Tepich**	**7.18**	**10**	P	**Pn**	**10 05 29.9**	**+1.4**
	comp=Z,6.4nm,0.3s,baz=201,slow=0.6,SNR=14						
TXAR	**Lajitas Array**	**20.78**	**323**	P	**P**	**10 08 23.9**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=143,slow=11,SNR=50						
TKL	**Tuckaleechee C**	**23.05**	**12**	P	**P**	**10 08 46.3**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=175,slow=15,SNR=4.1						
NVAR	**Mina Array Bea**	**35.86**	**320**	P	**P**	**10 10 42.4**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=130,slow=8.0,SNR=12						
NVAR				PcP	**PcP**	**10 13 08.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=90,slow=2.7,SNR=3.1						
ULM	**Lau Du Bonnet**	**37.39**	**353**	P	**P**	**10 10 52.4**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=186,slow=10,SNR=5.9						
SCHQ	**Schefferville**	**45.27**	**18**	P	**P**	**10 11 56.6**	**-1.8**
	comp=Z,2.8nm,0.6s,baz=210,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**52.45**	**346**	P	**P**	**10 12 52.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=134,slow=7.5,SNR=44						
ILAR	**Eielson Array**	**64.59**	**336**	P	**P**	**10 14 16.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=166,slow=4.6,SNR=8.2						
WRA	**Warramunga Arr**	**137.46**	**255**	PKP	**PKPdf**	**10 23 08.8**	**+3.8**
	comp=Z,0.4nm,0.6s,baz=81,slow=1.9,SNR=7.4						
CMAR	**Chiang Mai Arr**	**147.53**	**345**	PKPbc	**PKPbc**	**10 23 24.6**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=339,slow=3.4,SNR=6.6						

IDC 11 10:07:51.8±6.9, 20°.87S×67°.10W, h194km±51km, mb3.4/1, mb1 3.3/3, mb1mx3.0/18, mbtmp3.3/3, Error ellipse: s-maj=74.5km s-min=26.6km az=12.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.66**	**348**	P	Pn	10 09 02.2	-0.4
	2.6nm,0.3s,baz=156,slow=7.3,SNR=44						
LPAZ				S	Sn	10 09 58.4	+0.2
	baz=330,slow=16,SNR=1.5						
SIV	**San Ignacio**	**7.50**	**51**	P	Pn	10 09 38.8	+0.1
	1.1nm,0.3s,baz=256,slow=11,SNR=8.8						
SIV				S	Sn	10 11 03.7	+0.2
	0.1nm,0.3s,baz=137,slow=23,SNR=5.5						
TORD	**Torodi Ar. Bea**	**75.55**	**70**	P	P	10 19 15.7	+0.2
	0.6nm,0.5s,baz=257,slow=5.4,SNR=10						
MKAR	**Makanchi Array**	**144.13**	**37**	PKP	PKPbc	10 27 03.2	+0.2
	0.2nm,0.4s,baz=327,slow=2.4,SNR=3.3						

*NIED **11** 11:08:00, 25°.00N×123°.40E, h5km, Mw4.1 Best double couple: M0 1.48000×10^15 NP1:φs=254.00000°, δ23.00000°, λ-106.00000°. NP2:φs=91.00000°, δ68.00000°, λ-83.00000°.*
*JMA **11** 11:08:43.8±0.3, 25°.02N×123°.43E, h23km±5km, M3.6*
*ISCJB **11** 11:08:44.6±0.5, 24°.97N±0°.04×123°.43E±0°.06, h32km, mb3.8/13, MS3.4/1, Error ellipse: s-maj=8.3km s-min=5.2km az=145.6*
*IDC **11** 11:08:55.9±5.2, 25°.00N×123°.28E, h116km±49km, mb3.5/13, mb1 3.6/14, mb1mx3.5/27, mbtmp3.5/14, MS3.4/2, Ms1 3.4/2, ms1mx2.7/31, Error ellipse: s-maj=28.1km s-min=12.4km az=67.0*

ISC 11 11:08:45.8±0.6, 24°.93N±0°.06×123°.44E±0°.06, h32km, n20, σ1§17/24, mb3.8/13, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.61**	**220**	P	**Pb**	**11 08 56.5**	**-1.6**
YOJ				S	**Sb**	**11 09 05.5**	**-1.0**
IRIF	**Iriomote-Funau**	**0.65**	**156**	P	**Pb**	**11 08 57.5**	**-1.3**
JIJ	**Ishigaki jima**	**0.85**	**131**	P	**Pn**	**11 09 00.3**	**-1.3**
JIJ				S	**Sn**	**11 09 11.8**	**-1.2**
JKRS	**Kuro-shima**	**0.86**	**143**	P	**Pn**	**11 09 01.1**	**-0.6**
JKRS				S	**Sb**	**11 09 13.6**	**0.0**
HATJ	**Hateruma jima**	**0.93**	**159**	P	**Pn**	**11 09 02.2**	**-0.5**
HATJ				S	**Sb**	**11 09 15.6**	**+0.1**
JTJ	**Tarama**	**1.18**	**104**	P	**Pn**	**11 09 06.0**	**-0.1**
KSRS	**Korea Array**	**13.06**	**16**	P	**P**	**11 11 56.7**	**-2.2**
	baz=192,slow=12,SNR=4.7						
KSRS				LR	LR	11 17 32.2	
	comp=Z,90nm,19.0s,baz=266,slow=40						
CMAR	**Chiang Mai Arr**	**23.64**	**259**	P	**P**	**11 13 55.4**	**+1.0**
	0.8nm,0.4s,baz=56,slow=8.7,SNR=6.6						
SONM	**Songino Array**	**26.54**	**334**	P	**P**	**11 14 21.6**	**+0.8**
	2.1nm,0.8s,baz=150,slow=9.5,SNR=19						
SONM				LR	LR	11 26 02.6	
	comp=Z,109nm,18.9s,baz=26,slow=39						
MKAR	**Makanchi Array**	**39.26**	**314**	P	**P**	**11 16 12.0**	**+0.5**
	3.0nm,0.8s,baz=108,slow=9.3,SNR=24						
ZALV	**Zalesovo Beam**	**40.76**	**326**	P	**P**	**11 16 23.9**	**+0.2**
	5.4nm,0.8s,baz=108,slow=8.0,SNR=19						
WRA	**Warramunga Arr**	**45.85**	**166**	P	**P**	**11 17 06.7**	**+1.6**
	1.5nm,0.7s,baz=347,slow=8.7,SNR=16						
BVAR	**Borovoye Array**	**48.42**	**320**	P	**P**	**11 17 25.0**	**+0.1**
	0.4nm,0.5s,baz=110,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**49.36**	**167**	P	**P**	**11 17 34.9**	**+2.5**
	0.4nm,0.6s,baz=347,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**59.09**	**162**	P	**P**	**11 18 44.9**	**+1.8**
	0.8nm,0.5s,baz=339,slow=8.6,SNR=3.1						
FINES	**FINESS Array B**	**71.84**	**330**	P	**P**	**11 20 04.7**	**-0.5**
	1.3nm,0.8s,baz=91,slow=6.1,SNR=4.0						
AKASG	**Malin Array Be**	**73.68**	**319**	P	**P**	**11 20 15.8**	**-0.5**
	0.6nm,0.7s,baz=67,slow=5.1,SNR=4.2						
BRTR	**Keskin Array B**	**74.38**	**307**	P	**P**	**11 20 21.1**	**+0.3**
	1.0nm,0.8s,baz=57,slow=5.5,SNR=4.8						
NOA	**NORSAR Array B**	**78.52**	**333**	P	**P**	**11 20 43.3**	**-0.5**
	0.9nm,0.8s,baz=56,slow=5.5,SNR=3.2						
YKA	**Yellowknife Ar**	**81.48**	**23**	P	**P**	**11 20 60.0**	**+0.4**
	0.4nm,0.6s,baz=308,slow=5.3,SNR=10						

*ISCJB **11** 11:35:20.2±0.5, 6°.81N±0°.06×73°.10W±0°.05, h166km, mb3.7/9, Error ellipse: s-maj=8.1km s-min=6.9km az=149.3*
*IDC **11** 11:35:21.8±2.0, 6°.80N×73°.02W, h168km±19km, mb3.5/9, mb1 3.7/11, mb1mx3.5/24, mbtmp4.0/11, Error ellipse: s-maj=27.5km s-min=14.8km az=44.0*
*FUNV **11** 11:35:32.7, 7°.19N×72°.45W, h115km, MW3.8*

ISC 11 11:35:21.2±0.6, 6°.74N±0°.08×73°.02W±0°.07, h166km, n26, σ1§09/29, mb3.7/9, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.32**	**32**	⇓*i* P	**Pn**	**11 35 50.9**	**+0.3**
CAPV				*e* S	Sn	11 36 05.1	-8.1
ROSC	**El Rosal**	**2.28**	**215**	P	**Pn**	**11 36 01.9**	**+0.9**
	27nm,0.3s,baz=281,slow=19,SNR=39						
ROSC				S	**Sn**	**11 36 28.9**	**-2.8**
	152nm,0.3s,baz=102,slow=18,SNR=17						
SOCV	**Socops**	**2.64**	**54**	*e* P	**Pn**	**11 36 05.1**	**+0.3**
SOCV				*e* S	Sn	11 36 27.1	-12
ELOV	**Elorza**	**3.52**	**86**	*e* P	**Pn**	**11 36 17.1**	**+1.3**
ELOV				*e* S	Sn	11 36 50.5	-7.8
QARV	**Quebrada Arrib**	**4.24**	**35**	*e* P	**Pn**	**11 36 25.4**	**+0.3**
SANV	**Sanarito**	**4.41**	**51**	*e* P	**Pn**	**11 36 27.4**	**0.0**
CURV	**Curarigua**	**4.44**	**43**	*e* P	**Pn**	**11 36 28.1**	**+0.3**
DABV	**Dabajuro**	**4.78**	**29**	*e* P	**Pn**	**11 36 31.9**	**-0.2**
TEPV	**Terepaima**	**4.96**	**49**	*e* P	**Pn**	**11 36 34.5**	**0.0**
BAUV	**El Baul**	**5.39**	**66**	*e* P	**Pn**	**11 36 39.2**	**-1.0**
TURV	**Turiamo**	**6.31**	**54**	*e* P	**Pn**	**11 36 50.8**	**-1.4**
CUPV	**Cœpira**	**7.88**	**65**	*e* P	**Pn**	**11 37 11.6**	**-1.5**
PCRV	**Puerto La Cruz**	**8.97**	**67**	*e* P	**Pn**	**11 37 27.4**	**-0.1**
PTGA	**Pitinga**	**14.99**	**119**	P	**P**	**11 38 47.8**	**+1.5**
PTGA				S	**Sn**	**11 41 29.7**	**-2.3**
	0.3nm,0.3s,baz=18,slow=21,SNR=3.0						
BDFB	**Brasilia**	**33.28**	**132**	P	**P**	**11 41 44.8**	**+1.4**
	2.1nm,0.4s,baz=305,slow=7.3,SNR=4.1						
TXAR	**Lajitas Array**	**36.59**	**312**	P	**P**	**11 42 12.0**	**+0.3**
	1.1nm,0.7s,baz=127,slow=9.4,SNR=22						
TXAR				PcP	**PcP**	**11 44 33.1**	**+1.7**
	0.3nm,0.6s,baz=128,slow=5.8,SNR=6.1						
ULM	**Lac du Bonnet**	**47.40**	**340**	P	**P**	**11 43 37.6**	**-1.1**
	2.8nm,0.5s,baz=145,slow=9.5,SNR=8.0						
PDAR	**Pinedale Array**	**48.21**	**324**	P	**P**	**11 43 45.4**	**0.0**
	0.9nm,0.6s,baz=125,slow=8.9,SNR=5.0						
NVAR	**Mina Array Bea**	**51.62**	**315**	P	**P**	**11 44 11.6**	**+0.4**
	0.6nm,0.7s,baz=113,slow=6.9,SNR=5.1						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**11 45 32.8**	**+0.2**
	2.1nm,0.5s,baz=134,slow=6.7,SNR=82						
DBIC	**Dimbokro**	**67.64**	**86**	P	**P**	**11 46 01.3**	**+0.4**
	2.5nm,0.7s,baz=234,slow=8.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**73.65**	**78**	P	**P**	**11 46 36.7**	**-0.6**
	0.2nm,0.4s,baz=288,slow=5.6,SNR=1.6						
ILAR	**Eielson Array**	**77.08**	**335**	P	**P**	**11 46 55.7**	**-0.2**
	0.2nm,0.7s,baz=111,slow=4.9,SNR=3.2						
MKAR	**Makanchi Array**	**122.36**	**20**	PKP	**PKPdf**	**11 53 56.8**	**-0.1**
	0.1nm,0.4s,baz=299,slow=2.4,SNR=2.7						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**11 54 50.4**	**-0.5**
	1.8nm,0.6s,baz=113,slow=3.8,SNR=48						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**11 54 53.6**	**-0.3**
	1.8nm,0.4s,baz=107,slow=2.6,SNR=72						

*IDC **11** 11:42:04.6±1.6, 5°.04S×152°.19E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, ML2.4/1, Error ellipse: s-maj=67.9km s-min=21.4km az=123.0*
*ISCJB **11** 11:42:13.0±1.4, 5°.25S±0°.3×151°.9E±0°.3, h70km, mb3.5/7, Error ellipse: s-maj=57.0km s-min=10.4km az=38.1*

ISC 11 11:42:14.2±1.6, 5°.05S±0°.4×151°.8E±0°.5, h70km, n9, σ0§92/9, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.32**	**226**	Pn	**Pn**	**11 43 44.4**	**-0.4**
	0.5nm,0.3s,baz=90,slow=5.1,SNR=3.0						
PMG				Sn	**Sn**	**11 44 55.1**	**-0.4**
	1.6nm,0.3s,baz=142,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**22.54**	**227**	P	**P**	**11 47 09.0**	**+0.4**
	1.0nm,0.8s,baz=50,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**25.30**	**221**	P	**P**	**11 47 35.6**	**+1.1**
	1.1nm,0.7s,baz=56,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**79.80**	**319**	P	P	11 54 18.3	+3.2
	0.2nm,0.5s,baz=97,slow=5.8,SNR=4.5						
ILAR	**Eielson Array**	**82.74**	**22**	P	**P**	**11 54 29.1**	**-1.0**
	0.8nm,0.7s,baz=244,slow=6.1,SNR=12						
KURBB	**Kurchatov Arra**	**83.32**	**322**	P	**P**	**11 54 33.0**	**-0.5**
	0.3nm,0.2s,baz=109,slow=4.2,SNR=3.5						
BVAR	**Borovoye Array**	**88.78**	**323**	P	**P**	**11 55 01.7**	**+1.3**
	0.4nm,0.6s,baz=114,slow=6.5,SNR=3.5						
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**11 55 33.9**	**+0.1**
	0.2nm,0.8s,baz=273,slow=5.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.38**	**287**	PKPbc	**PKPbc**	**12 01 56.8**	**+0.4**
	0.4nm,0.6s,baz=67,slow=2.3,SNR=3.7						

*JMA **11** 12:18:55.5±0.3, 25°.08N×123°.44E, h18km, M3.2*
*ISCJB **11** 12:18:57.7±0.6, 24°.95N±0°.05×123°.45E±0°.06, h32km, mb3.7/8, MS3.2/4, Error ellipse: s-maj=8.5km s-min=6.1km az=135.5*
*IDC **11** 12:19:14.7±5.6, 24°.96N×123°.25E, h176km±57km, mb3.2/8, mb1 3.3/9, mb1mx3.2/27, mbtmp3.2/9, MS3.2/7, Ms1 3.2/7, ms1mx3.0/16, Error ellipse: s-maj=28.7km s-min=14.4km az=68.0*

ISC 11 12:18:59.2±0.7, 24°.87N±0°.07×123°.45E±0°.06, h32km, n19, σ1§22/18, mb3.7/8, MS3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**224**	P	**Pb**	**12 19 09.2**	**-1.7**
YOJ				S	**Sb**	**12 19 18.6**	**-

BVAR	**Borovoye Array**	**48.46**	**320**	P	**P**	**12 27 38.9**	**+0.3**
	0.3nm,0.5s,baz=98,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**49.31**	**167**	P	**P**	**12 27 46.6**	**+1.2**
	0.5nm,0.6s,baz=353,slow=6.8,SNR=4.4						
YKA	**Yellowknife Ar**	**81.53**	**23**	P	**P**	**12 31 12.6**	**-0.7**
	0.2nm,0.6s,baz=315,slow=5.6,SNR=4.3						

IDC 11 12:39:17.9±1.9, 14°.15N×93°.06E, h0km, mb3.2/4, mb1 3.5/5, mb1mx3.3/27, mbtmp3.2/5, ML3.9/1, Error ellipse: s-maj=59.1km s-min=23.2km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.09**	**52**	Pn	Pn	12 41 02.2	-0.8
	0.5nm,0.3s,baz=240,slow=14,SNR=7.8						
CMAR				Sn	Sn	12 42 16.9	-7.5
	0.2nm,0.3s,baz=241,slow=26,SNR=3.1						
MKAR	**Makanchi Array**	**33.78**	**347**	P	P	12 46 01.4	-0.1
	0.1nm,0.5s,baz=157,slow=8.0,SNR=2.4						
SONM	**Songino Array**	**35.37**	**16**	P	P	12 46 15.4	0.0
	0.3nm,0.9s,baz=187,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**52.88**	**129**	P	P	12 48 35.7	-0.2
	0.3nm,0.8s,baz=304,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**54.83**	**133**	P	P	12 48 50.4	+0.1
	0.4nm,0.6s,baz=310,slow=7.0,SNR=12						

KRSC 11 12:49:46.3±0.6, 55°.19N×160°.34E, h-2km±5km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.08**	**200**	*i* P	Pg	12 49 48.9	+0.8
TUMR	**Tumrok**	**0.15**	**311**	*i* P	Pg	12 49 50.4	+1.1
TUMR				*i* S	Sg	12 49 53.4	+2.0
KMNR	**Kamenistaya**	**0.57**	**354**	*eP*	Pb	12 49 58.5	-0.9
KMNR				*eS*	Sb	12 50 08.0	-0.2
BZMR	**Bezymyannaya**	**0.76**	**6**	P	Pb	12 50 02.3	-0.3
BZMR				S	Sb	12 50 14.9	+1.3
KIRR	**Kirishev**	**0.77**	**0**	*eP*	Pg	12 50 01.9	+0.6
KIRR				*eS*	Sb	12 50 14.1	+0.2
BZGR	**Bezymyannyi-Gr**	**0.78**	**15**	P	Pb	12 50 03.4	+0.4
BZGR				S	Sn	12 50 16.1	-1.2
BZWR	**Bezymyannyi-We**	**0.78**	**6**	P	Pb	12 50 02.8	-0.3
BZWR				S	Sb	12 50 15.1	+0.7
KPT	**Kopyto**	**0.78**	**355**	*eP*	Pb	12 50 02.5	-0.5
KPT				*eS*	Sb	12 50 15.1	+0.8
ZLN	**Zelenaya**	**0.87**	**17**	P	Pb	12 50 04.4	-0.1
ZLN				S	Sn	12 50 18.8	-0.7
KOZ	**Kozyrevsk**	**0.91**	**343**	*eP*	Pb	12 50 04.8	-0.3
KOZ				*eS*	Sb	12 50 18.8	+1.0
LGNR	**Loginova**	**0.92**	**12**	P	Pb	12 50 06.2	+0.6
LGNR				S	Sn	12 50 21.8	+0.7
MKZ	**Mys Kozlova**	**1.02**	**128**	P	Pg	12 50 05.7	-0.2
MKZ				S	Sb	12 50 20.3	-0.5
KRSR	**Krestovskiy**	**1.04**	**7**	*eP*	Pg	12 50 06.8	+0.4
KRSR				*eS*	Sn	12 50 23.0	-0.7
KLY	**Klyuchi**	**1.14**	**9**	*eP*	Pb	12 50 09.2	+0.3
KLY				*eS*	Sn	12 50 26.9	+1.0
SRDR	**Sredinnyy**	**1.19**	**343**	*eP*	Pg	12 50 08.1	-1.1
SRDR				*eS*	Sg	12 50 24.8	+0.2
ESO	**Esso**	**1.19**	**309**	*eP*	Pg	12 50 08.4	-0.8
KII	**Karymskiy**	**1.26**	**205**	P	Pn	12 50 11.5	+0.2
BDR	**Baidarnaya**	**1.47**	**19**	*eP*	Pb	12 50 14.8	+0.2
SMKR	**Semkarok**	**1.54**	**24**	*eP*	Pb	12 50 15.8	0.0
SMKR				*eS*	Sg	12 50 38.7	+2.8
SRKR	**Sorokina**	**1.54**	**17**	*eP*	Pn	12 50 15.4	+0.2
SRKR				*eS*	Sg	12 50 37.9	+1.8
KBTR	**Krutoberegovo**	**1.74**	**53**	*eP*	Pn	12 50 17.1	-0.6
KBTR				*eS*	Sn	12 50 40.5	-0.1
GNL	**Ganaly**	**2.05**	**224**	*eP*	Pn	12 50 22.8	+0.6
GNL				*eS*	Sb	12 50 51.4	+0.7
KRX	**Arik**	**2.08**	**209**	*eP*	Pb	12 50 24.3	-0.9
SDLR	**Sedlovina**	**2.10**	**205**	P	Pb	12 50 24.3	-1.0
NLC	**Nalytchevo**	**2.10**	**197**	P	Pb	12 50 24.3	-1.0
NLC				S	Sg	12 50 53.3	-0.5
SMAR	**Somma**	**2.13**	**206**	P	Pb	12 50 24.9	-1.1
AVH	**Avacha**	**2.14**	**207**	P	Pb	12 50 25.0	-1.1
KOK	**Koryaka**	**2.15**	**208**	*eP*	Pb	12 50 25.6	-0.6
UGLR	**Uglovaya**	**2.17**	**205**	P	Pb	12 50 25.4	-1.3
PET	**Petropavlovsk**	**2.38**	**205**	P	Pb	12 50 29.5	-0.6
RUS	**Russkaya**	**2.96**	**202**	P	Pn	12 50 36.1	+1.5
RUS				S	Sb	12 51 14.6	-2.1

*IDC **11** 12:57:42.8±1.0, 8°.92S×158°.11E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.8/7, Error ellipse: s-maj=32.1km s-min=21.6km az=166.0*
*ISCJB **11** 12:57:45.4±0.8, 9°.0S±0°.2×158°.1E±0°.1, h29km, mb3.7/7, Error ellipse: s-maj=25.8km s-min=15.2km az=179.0*

ISC 11 12:57:45.9±0.9, 9°.0S±0°.2×158°.3E±0°.1, h29km, n8, σ0s63/7, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.65**	**104**	Pn	**Pb**	**12 58 15.6**	**0.0**
	68nm,0.3s,baz=259,slow=6.0,SNR=25						
HNR				Lg	Lg	12 58 51.0	
	145nm,0.3s,baz=333,slow=16,SNR=5.6						
HNR				LR	LR	12 59 06.2	
	comp=Z,323nm,18.1s,baz=201,slow=44						
WRA	**Warramunga Arr**	**25.59**	**242**	P	**P**	**13 03 12.2**	**-0.7**
	2.3nm,0.6s,baz=68,slow=9.2,SNR=29						
ASAR	**Alice Springs**	**27.51**	**235**	P	**P**	**13 03 30.9**	**+0.7**
	0.6nm,0.8s,baz=62,slow=11,SNR=6.8						
CMAR	**Chiang Mai Arr**	**64.64**	**295**	P	**P**	**13 08 21.7**	**+0.2**
	0.7nm,0.9s,baz=113,slow=6.0,SNR=4.8						
SONM	**Songino Array**	**72.84**	**326**	P	**P**	**13 09 12.5**	**+0.3**
	0.4nm,0.7s,baz=135,slow=5.2,SNR=3.0						
ILAR	**Eielson Array**	**84.09**	**21**	P	**P**	**13 10 13.8**	**+0.1**
	0.5nm,0.8s,baz=242,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	**87.11**	**318**	P	**P**	**13 10 28.5**	**-0.7**
	0.6nm,0.8s,baz=96,slow=4.8,SNR=5.8						
NVAR	**Mina Array Bea**	**90.41**	**51**	P	P	13 10 48.9	+3.7
	1.8nm,0.9s,baz=263,slow=5.3,SNR=6.3						

IDC 11 13:22:42.9±2.8, 32°.09S×177°.78W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/19, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=65.3km s-min=34.2km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.44**	**213**	Pn	Pn	13 24 31.8	-0.9
	0.6nm,0.3s,baz=45,slow=17,SNR=10						
URZ				Sn	Sn	13 25 57.1	-0.7
	5.2nm,0.3s,baz=180,slow=19,SNR=15						
STKA	**Stephens Creek**	**34.31**	**259**	P	P	13 29 32.4	+1.2
	2.2nm,0.8s,baz=95,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**43.23**	**269**	P	P	13 30 45.7	-0.5
	0.8nm,0.5s,baz=108,slow=7.1,SNR=18						
WRA	**Warramunga Arr**	**44.37**	**274**	P	P	13 30 54.9	-0.5
	1.5nm,0.4s,baz=114,slow=8.0,SNR=55						
FINES	**FINESS Array B**	**146.79**	**339**	PKPbc	PKPbc	13 42 25.5	-0.7
	2.8nm,0.6s,baz=43,slow=4.1,SNR=18						

*ISCJB **11** 13:48:16.6±0.5, 20°.44S±0°.05×66°.87W±0°.06, h235km±5km, mb3.6/7, Error ellipse: s-maj=9.5km s-min=7.1km az=44.4*
*GUC **11** 13:48:17.9±0.5, 20°.48S×67°.35W, h260km±14km, ML4.6*
*IDC **11** 13:48:19.0±1.1, 20°.25S×66°.75W, h240km±11km, mb3.5/8, mb1 3.5/13, mb1mx3.4/23, mbtmp3.3/13, Error ellipse: s-maj=14.0km s-min=11.4km az=60.0*

ISC 11 13:48:17.3±0.7, 20°.40S±0°.06×66°.85W±0°.06, h226km±8km, n25, σ0s94/33, mb3.6/7, 8C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**2.55**	**255**	⇑ *iP*	**Pn**	**13 49 03.8**	**+0.4**
PB01				*i* S	**S**	**13 49 38.7**	**-0.8**
PB01				AML	AML	13 49 40.1	
	comp=N,887nm,0.2s						
PB09	**Plate Boundary**	**2.63**	**238**	*eP*	**Pn**	**13 49 05.5**	**+1.1**
PB09				*eS*	**S**	**13 49 41.3**	**+0.1**
PB09				AML	AML	13 49 43.0	
	comp=N,3µm,0.5s						
PB11	**Plate Boundary**	**2.71**	**283**	⇑ *iP*	**Pn**	**13 49 05.8**	**+0.4**
PB11				*eS*	**S**	**13 49 42.1**	**-0.7**
PB11				AML	AML	13 49 45.7	
	comp=E,2µm,0.3s						
MNMC	**Minimini**	**2.88**	**296**	⇑ *iP*	**Pn**	**13 49 08.3**	**+1.0**
MNMC				*i* S	**S**	**13 49 46.8**	**+0.5**
MNMC				AML	AML	13 49 50.5	
	comp=E,572nm,0.5s						
PB04	**Plate Boundary**	**3.08**	**233**	⇑ *iP*	Pn	13 49 16.2	+7.0
PATCX	**Punta Patache**	**3.12**	**262**	⇑ *iP*	**Pn**	**13 49 09.8**	**0.0**
PATCX				*i* S	**S**	**13 49 49.0**	**-1.9**
PATCX				AML	AML	13 49 52.1	
	comp=N,592nm,0.5s						
PB07	**Plate Boundary**	**3.13**	**245**	⇑ *iP*	**Pn**	**13 49 10.2**	**+0.2**
PB07				*i* S	**S**	**13 49 49.4**	**-1.8**
PB07				AML	AML	13 49 52.4	
	comp=E,1µm,0.8s						
PSGC	**Pisagua**	**3.18**	**284**	⇑ *iP*	**Pn**	**13 49 10.4**	**-0.1**
PSGC				AML	AML	13 49 52.4	
	comp=N,270nm,0.4s						
PB06	**Plate Boundary**	**3.42**	**227**	⇑ *eP*	**Pn**	**13 49 13.8**	**+0.5**
PB06				*eS*	**S**	**13 49 56.3**	**-0.9**
LPAZ	**La Paz**	**4.27**	**343**	P	**Pn**	**13 49 25.3**	**+1.3**
	comp=N,0.9nm,0.3s,baz=153,slow=7.8,SNR=20						
LPAZ				S	**S**	**13 50 17.1**	**+0.6**
	comp=N,0.4nm,0.3s,baz=262,slow=19,SNR=12						
SIV	**San Ignacio**	**7.03**	**52**	P	**Pn**	**13 49 57.8**	**-0.4**
	comp=N,1.5nm,0.3s,baz=252,slow=13,SNR=28						
SIV				S	**S**	**13 51 17.3**	**-1.4**
	baz=307,slow=20,SNR=3.0						
CPUP	**Villa Florida**	**10.55**	**126**	P	**Pn**	**13 50 43.8**	**+0.7**
	comp=N,0.4nm,0.3s,baz=295,slow=10,SNR=2.9						
CFAA	**Coronel Fontan**	**11.23**	**186**	P	**P**	**13 50 57.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=342,slow=12,SNR=9.7						
BDFB	**Brasilia**	**16.52**	**78**	P	**P**	**13 52 18.1**	**+0.7**
	comp=N,0.6nm,0.3s,baz=255,slow=12,SNR=7.1						
PLCA	**Paso Flores**	**20.51**	**188**	P	**P**	**13 52 40.4**	**+2.0**
	comp=N,4.5nm,0.7s,baz=20,slow=9.6,SNR=9.1						
RCBR	**Riachuelo**	**33.35**	**69**	P	**P**	**13 54 33.6**	**-1.0**
	comp=N,4.8nm,0.6s,baz=246,slow=12,SNR=5.7						
TXAR	**Lajitas Array**	**60.87**	**323**	P	**P**	**13 58 06.3**	**0.0**
	comp=N,0.3nm,0.7s,baz=148,slow=8.6,SNR=3.9						
PDAR	**Pinedale Array**	**74.15**	**329**	P	**P**	**13 59 29.9**	**+0.6**
	comp=N,0.5nm,0.5s,baz=119,slow=7.3,SNR=4.5						
ULM	**Lac du Bonnet**	**74.88**	**341**	P	**P**	**13 59 33.1**	**+0.1**
	comp=N,2.5nm,0.7s,baz=160,slow=5.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**75.17**	**70**	P	**P**	**13 59 34.5**	**-1.0**
	comp=N,1.7nm,0.4s,baz=255,slow=5.9,SNR=30						
NVAR	**Mina Array Bea**	**75.84**	**321**	P	**P**	**13 59 37.5**	**-1.5**
	comp=N,0.5nm,0.6s,baz=165,slow=3.7,SNR=4.3						
YKA	**Yellowknife Ar**	**90.81**	**340**	P	**P**	**14 00 54.8**	**+0.4**
	comp=N,0.5nm,0.7s,baz=131,slow=5.0,SNR=7.4						
ASAR	**Alice Springs**	**131.75**	**206**	PKP	**PKPdf**	**14 07 04.2**	**-0.1**
	comp=N,0.3nm,0.5s,baz=132,slow=1.7,SNR=13						
WRA	**Warramunga Arr**	**134.85**	**209**	PKP	**PKPdf**	**14 07 09.8**	**-0.3**
	comp=N,0.5nm,0.6s,baz=151,slow=1.6,SNR=9.5						
ZALV	**Zalesovo Beam**	**140.14**	**26**	PKP	**PKPdf**	**14 07 18.8**	**+0.1**
	comp=N,0.8nm,0.5s,baz=288,slow=0.9,SNR=4.8						

MAN 11 14:06:42.16°.43N×120°.61E, h24km, mb3.8, ML2.5, MS2.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.98**	**151**	⇓ *eP*	Pb	14 07 01.6	+1.3
PCPH				*i* S	Sn	14 07 15.0	+1.5

IDC 11 14:17:36.9±3.5, 41°.64S×89°.11E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/20, mbtmp3.9/5, MS3.7/9, Ms1 3.7/9, ms1mx3.4/30, Error ellipse: s-maj=105.0km s-min=37.5km az=26.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**20.73**	**79**	T	T	14 44 08.9	
	baz=242,slow=75,SNR=120						
H01W3	**Cape Leeuwin H**	**20.74**	**79**	T	T	14 44 09.5	
	baz=242,slow=75,SNR=121						
H01W1	**Cape Leeuwin H**	**20.75**	**79**	T	T	14 44 10.2	
	baz=242,slow=75,SNR=119						
NWAO	**Narrogin (SRO)**	**23.93**	**78**	LR	LR	14 30 20.6	
	comp=Z,149nm,20.0s,baz=216,slow=32						
MAW	**Mawson**	**29.65**	**200**	LR	LR	14 32 58.2	
	comp=Z,184nm,18.5s,baz=22,slow=31						
H08S2	**Diego Garcia H**	**36.92**	**332**	T	T	15 03 43.5	
	baz=160,slow=75,SNR=102						
H08S1	**Diego Garcia H**	**36.93**	**332**	T	T	15 03 44.0	
	baz=160,slow=75,SNR=85						
H08S3	**Diego Garcia H**	**36.94**	**332**	T	T	15 03 46.2	
	baz=160,slow=75,SNR=126						
ASAR	**Alice Springs**	**41.25**	**78**	P	P	14 25 23.7	-0.1
	2.2nm,0.7s,baz=229,slow=8.1,SNR=21						
ASAR				PcP	PcP	14 27 21.1	-1.7
	0.8nm,0.8s,baz=219,slow=2.0,SNR=6.8						
ASAR				LR	LR	14 40 36.9	
	comp=Z,190nm,20.5s,baz=246,slow=34						
STKA	**Stephens Creek**	**42.59**	**94**	LR	LR	14 39 55.3	
	comp=Z,102nm,19.1s,baz=207,slow=31						
WRA	**Warramunga Arr**	**74.86**	**75**	P	P	14 25 45.5	+0.4
	3.7nm,0.8s,baz=231,slow=8.1,SNR=18						
VNDA	**Vanda**	**46.02**	**163**	LR	LR	14 42 49.7	
	comp=Z,80nm,18.7s,baz=281,slow=33						
BOSA	**Boshof**	**52.71**	**263**	LR	LR	14 44 18.4	
	comp=Z,88nm,20.7s,baz=172,slow=30						
CMAR	**Chiang Mai Arr**	**60.48**	**11**	P	P	14 27 46.8	-1.8
	0.2nm,0.4s,baz=206,slow=8.0,SNR=3.4						
CMAR				LR	LR	14 49 28.4	
	comp=Z,31nm,20.5s,baz=176,slow=32						
MKAR	**Makanchi Array**	**88.26**	**355**	P	P	14 30 30.5	+0.9
	0.7nm,0.9s,baz=160,slow=4.6,SNR=5.7						
SONM	**Songino Array**	**90.40**	**12**	P	P	14 30 41.4	+1.6
	0.3nm,0.6s,baz=191,slow=4.4,SNR=2.2						
BRTR	**Keskin Array B**	**95.37**	**320**	LR	LR	15 10 27.0	
	comp=Z,24nm,18.9s,baz=230,slow=33						
DBIC	**Dimbokro**	**97.34**	**272**	LR	LR	15 12 23.6	
	comp=Z,43nm,18.4s,baz=52,slow=34						

WEL 11 14:20:17.0±0.9, 46°.23S×166°.20E, h30km±2km, ML3.6/9, Error ellipse: s-maj=9.4km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.34**	**79**	P*	Pb	14 20 25.0	-0.1
PYZ				S*	Sb	14 20 30.5	-0.1
DCZ	**Deep Cove**	**1.01**	**42**	PN	Pn	14 20 34.5	-0.6
DCZ				SN	Sn	14 20 47.2	-1.0
DCZ				AML	AML	14 20 47.9	
DCZ				AML	AML	14 20 47.9	
DCZ				AML	AML	14 20 48.3	
WHZ	**Wether Hill Ro**	**1.26**	**75**	PN	Pn	14 20 39.0	+0.4
WHZ				SN	Sn	14 20 55.2	+0.6
WHZ				AML	AML	14 20 58.0	
APZ	**The Paps**	**1.38**	**117**	PN	Pn	14 20 39.4	-0.8
APZ				SN	Sn	14 20 55.0	-2.4
APZ				AML	AML	14 20 56.1	
MSZ	**Milford Sound**	**1.98**	**39**	AML	AML	14 21 33.4	
MSZ				AML	AML	14 21 35.7	
SYZ	**Scrubby Hill**	**2.06**	**100**	PN	Pn	14 20 49.7	+0.2
SYZ				AML	AML	14 21 15.4	
SYZ				AML	AML	14 21 16.4	
SYZ				AML	AML	14 21 16.4	
SYZ				AML	AML	14 23 20.6	
EAZ	**Earnscleugh**	**2.40**	**66**	PN	Pn	14 20 53.0	-1.1
EAZ				AML	AML	14 21 27.0	
EAZ				AML	AML	14 21 27.3	
EAZ				AML	AML	14 21 27.4	
WKZ	**Wanaka**	**2.43**	**56**	AML	AML	14 21 31.4	
WKZ				AML	AML	14 21 38.7	
JCZ	**Jackson Bay**	**2.82**	**41**	AML	AML	14 21 50.9	
ODZ	**Otahua Downs**	**3.34**	**71**	PN	Pn	14 21 07.0	-0.1
LBZ	**Lake Benmore**	**3.36**	**58**	AML	AML	14 21 47.6	

*ISCJB **11** 14:31:15.2±1.2, 54°.06N±0°.09×164°.08W±0°.07, h26km±9km, mb3.6/4, MS4.0/2, Error ellipse: s-maj=15.6km s-min=3.8km az=156.4*
*NEIC **11** 14:31:16.1, 54°.12N×164°.12W, h33km, ML3.8(AEIC), After AEIC.*
*IDC **11** 14:31:20.3±1.7, 54°.16N×162°.67W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/29, mbtmp3.5/5, ML2.8/1, MS3.8/3, Ms1 3.9/3, ms1mx3.0/42, Error ellipse: s-maj=36.5km s-min=26.2km az=17.0*

ISC 11 14:31:16.3±2.0, 54°.19N±0°.07×164°.19W±0°.04, h24km±17km, n47, σ0s75/41, mb3.6/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.36**	**320**	P	**Pn**	**14 31 26.0**	**-0.2**
WESN	**West Dahl Nort**	**0.44**	**328**	P	**Pn**	**14 31 27.4**	**+0.2**
SSLW	**Shishaldin Wes**	**0.58**	**4**	P	**Pn**	**14 31 28.9**	**-0.3**
SSBA	**Shishaldin**	**0.58**	**3**	P	**Pn**	**14 31 28.8**	**-0.4**
SSBA				S	**Sn**	**14 31 38.6**	**+0.6**
SSLN	**Shishaldin Nor**	**0.63**	**10**	P	**Pn**	**14 31 29.8**	**0.0**
FALS	**False Pass**	**0.80**	**34**	P	**Pn**	**14 31 31.6**	**-0.5**
FALS				S	**Sn**	**14 31 43.1**	**-0.2**
AKUT	**Akutan**	**0.94**	**267**	P	**Pn**	**14 31 33.3**	**-0.6**
AKUT				S	**Sn**	**14 31 46.7**	**+0.1**
AHB	**Akutan Harbor**	**0.96**	**266**	P	**Pn**	**14 31 33.9**	**-0.5**
AHB				S	**Sb**	**14 31 47.6**	**+1.0**
ZRO	**Akutan Zero**	**1.06**	**265**	P	**Pn**	**14 31 35.1**	**-0.6**
AKGG	**Akutan Green G**	**1.06**	**271**	P	**Pn**	**14 31 35.4**	**-0.3**
AKGG				S	**Sb**	**14 31 50.5**	**+1.1**
AKRB	**Akutan Reef Bi**	**1.11**	**267**	P	**Pn**	**14 31 36.0**	**-0.4**
DRIA	**Deer Island**	**1.36**	**55**	P	**Pn**	**14 31 39.0**	**-0.8**
UNV	**Unalaska Valle**	**1.41**	**257**	P	**Pn**	**14 31 39.0**	**-1.5**
DTNA	**Dutton South F**	**1.48**	**49**	P	**Pn**	**14 31 41.3**	**-0.1**
DTNA				S	**Sb**	**14 32 00.9**	**-0.5**
MSW	**Makushin Switc**	**1.56**	**261**	P	**Pn**	**14 31 42.0**	**-0.6**
MREP	**Makushin Rep't**	**1.56**	**257**	P	**Pn**	**14 31 42.7**	**+0.1**
MCIR	**Makushin Cirqu**	**1.61**	**262**	P	**Pn**	**14 31 43.3**	**-0.1**
DOL	**Dolgoi Island**	**1.65**	**54**	P	**Pn**	**14 31 43.6**	**-0.3**
MSOM	**Makushin Julie**	**1.68**	**258**	P	**Pn**	**14 31 43.5**	**-0.6**
PS4A	**Pavlof South-4**	**1.77**	**49**	P	**Pn**	**14 31 46.8**	**+1.3**
PVV	**Pavlof Volcano**	**1.82**	**49**	P	**Pn**	**14 31 46.9**	**+0.7**
OKFG	**Magazine Ridge**	**2.35**	**252**	P	**Pn**	**14 31 53.5**	**+0.1**
SDPT	**Sand Point**	**2.44**	**60**	*ePn*	**Pn**	**14 31 54.5**	**-0.1**
OKSP	**Okmok Steeple**	**2.62**	**251**	P	**Pn**	**14 31 57.5**	**+0.3**
VNHG	**Veniaminof 1**	**3.52**	**53**	P	**Pn**	**14 32 11.1**	**+1.5**
ANPB	**Aniakchak Plen**	**4.25**	**50**	P	**Pn**	**14 32 20.3**	**+0.7**
CHIR	**Chirikof Islan**	**5.19**	**68**	P	**Pn**	**14 32 31.9**	**-0.5**
ILAR	**Eielson Array**	**13.71**	**33**	Pn	**Pn**	**14 34 27.3**	**-1.7**
ILAR	**Eielson Array**	**13.71**	**33**	Pn	**Pn**	**14 34 27.3**	**-1.7**
	0.0nm,0.3s,baz=228,slow=13,SNR=3.3						
ILAR				LR	LR	14 40 20.5	
	comp=Z,180nm,18.4s,baz=209,slow=41						
INK	**Inuvik**	**20.11**	**33**	LR	LR	14 43 23.8	
	comp=Z,147nm,18.5s,baz=360,slow=37						
YKA	**Yellowknife Ar**	**26.68**	**52**	P	**P**	**14 36 53.1**	**+0.1**
YKA	**Yellowknife Ar**	**26.68**	**52**	P	**P**	**14 36 53.1**	**+0.1**
	0.3nm,0.6s,baz=271,slow=9.4,SNR=6.3						
NVAR	**Mina Array Bea**	**34.70**	**98**	P	**P**	**14 38 05.2**	**+0.9**
NVAR	**Mina Array Bea**	**34.70**	**98**	P	**P**	**14 38 05.2**	**+0.9**
	2.0nm,0.7s,baz=302,slow=9.0,SNR=13						
H11N2	**WAKE ISLAND Hy**	**40.88**	**224**	T	T	15 22 36.6	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**40.89**	**224**	T	T	15 22 28.1	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**40.90**	**224**	T	T	15 22 28.8	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**42.06**	**224**	T	T	15 23 53.2	
	baz=28						
H11S2	**WAKE ISLAND Hy**	**42.07**	**224**	T	T	15 23 50.1	
	baz=28						
H11S3	**WAKE ISLAND Hy**	**42.08**	**224**	T	T	15 23 55.7	
	baz=28						
TXAR	**Lajitas Array**	**49.69**	**95**	P	**P**	**14 40 06.5**	**+0.1**
TXAR	**Lajitas Array**	**49.69**	**95**	P	**P**	**14 40 06.5**	**+0.1**
	0.5nm,0.7s,baz=308,slow=6.2,SNR=6.2						
SONM	**Songino Array**	**52.99**	**302**	P	P	14 40 44.2	+13
	0.7nm,1.1s,baz=63,slow=10,SNR=3.2						
PMG	**Port Moresby**	**75.43**	**230**	LR	LR	15 10 38.8	
	comp=Z,311nm,20.7s,baz=336,slow=31						
H03N2	**Juan Fernandez**	**113.77**	**114**	T	T	16 53 21.0	
	baz=320						
H03N1	**Juan Fernandez**	**113.79**	**114**	T	T	16 53 21.7	
	baz=320						
H03N3	**Juan Fernandez**	**113.79**	**114**	T	T	16 53 23.3	
	baz=320						

*JMA **11** 14:31:26.5±0.3, 25°.03N×123°.38E, h14km, M3.1*
*ISCJB **11** 14:31:28.4±0.6, 24°.94N±0°.06×123°.39E±0°.07, h32km, mb3.4/7, MS3.1/1, Error ellipse: s-maj=10.8km s-min=6.2km az=42.8*
*IDC **11** 14:31:45.0±5.7, 24°.97N×123°.18E, h172km±58km, mb3.1/7, mb1 3.2/8, mb1mx3.1/26, mbtmp3.6/8, MS3.0/2, Ms1 3.0/2, ms1mx2.6/13, Error ellipse: s-maj=27.8km s-min=16.2km az=71.0*

ISC 11 14:31:29.8±0.7, 24°.86N±0°.07×123°.39E±0°.07, h32km, n13, σ1s19/16, mb3.5/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**221**	P	**Pb**	**14 31 39.0**	**-1.7**
IRIF	**Iriomote-Funau**	**0.61**	**149**	P	**Pb**	**14 31 41.0**	**-1.1**
IRIF				*eS*	**Sn**	**14 31 51.0**	**+0.1

NRCA	**Norcia**	**0.53**	**66**	Pg	Pg	14 40 37.9		+0.4
NRCA	1.0nm,0.2s			Sg	Sg	14 40 45.1		+0.6
SMA1	**SAN MARTINO**	**0.65**	**89**	Pg	Pb	14 40 40.4		-0.4

*IDC **11** 14:55:25.8±4.3,3.85S×100.92E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/24,mbtmp3.5/5,MS3.1/2,Ms1 3.1/2, ms1mx2.9/27,Error ellipse: s-maj=186.8km s-min=21.7km az=54.0*

ISC 11 14:55:30.4±4.2,3°38S±0.7°×101°06E±1.0°,h29km,n11, σ0963/6,mb3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.88**	**342**	LR	LR	15 00 13.4	
	comp=Z,54nm,20.0s,baz=142,slow=42						
H08S2	**Diego Garcia H**	**28.62**	**261**	T	T	15 30 59.0	
	baz=84,slow=75,SNR=70						
H08S3	**Diego Garcia H**	**28.63**	**261**	T	T	15 31 00.2	
	baz=84,slow=75,SNR=96						
H08S1	**Diego Carcia H**	**28.64**	**261**	T	T	15 31 01.0	
	baz=84,slow=75,SNR=102						
WRA	**Warramunga Arr**	**36.23**	**119**	P	**P**	**15 02 30.6**	**-0.7**
	0.3nm,0.4s,baz=298,slow=11,SNR=13						
ASAR	**Alice Springs**	**37.40**	**125**	P	**P**	**15 02 41.7**	**+0.5**
	0.2nm,0.4s,baz=298,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**51.63**	**5**	P	**P**	**15 04 34.9**	**+0.4**
	0.4nm,0.4s,baz=190,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**53.02**	**344**	P	**P**	**15 04 44.2**	**-0.6**
	0.2nm,0.3s,baz=159,slow=9.3,SNR=11						
MJAR	**Matsushiro Arr**	**53.05**	**38**	LR	LR	15 27 25.8	
	comp=Z,50nm,18.8s,baz=185,slow=36						
ZALV	**Zalesovo Beam**	**59.11**	**349**	P	**P**	**15 05 28.2**	**+0.1**
	0.7nm,0.5s,baz=151,slow=6.3,SNR=4.3						
TXAR	**Lajitas Array**	**145.46**	**40**	PKPbc	**PKPab**	**15 15 06.9**	**+0.1**
	0.3nm,0.6s,baz=258,slow=0.1,SNR=5.8						

*IDC **11** 15:02:32.4±0.8,2.00S×139.03E,h0km,mb4.0/9, mb1 4.2/10,mb1mx4.1/19,mbtmp4.1/10,ML4.4/1,MS3.8/8, Ms1 3.8/8,ms1mx3.5/31,Error ellipse: s-maj=30.8km s-min=16.9km az=72.0*

*ISCJB **11** 15:02:35.5±0.5,1.98S±0.05×138.99E±0.04,h29km, mb4.0/9,MS4.0/9,Error ellipse: s-maj=8.1km s-min=5.0km az=20.5*

*DJA **11** 15:02:36.6±0.6,2°S±15°×13°9E±°,h14km±7km,M4.5/5, mb4.6/2,MLv4.5/5*

ISC 11 15:02:37.2±0.7,1°99S±0°08×138°99E±0°05,h29km,n42, σ1983/29,mb4.0/9,MS3.8/9,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.28**	**269**	P	**Pb**	**15 02 42.7**	**-1.6**
GENI	**Genyem**	**1.32**	**117**	P	**Pn**	**15 02 58.1**	**-1.6**
GENI				S	**Sb**	**15 03 17.9**	**-0.1**
JAY	**Jayapura**	**1.79**	**107**	P	Pn	15 03 02.8	-3.5
	baz=1.9,SNR=24						
SRPI	**Serui, Papua**	**2.75**	**272**	P	**Pn**	**15 03 20.0**	**+0.6**
MWPI	**Manokwari, Pap**	**5.06**	**282**	P	x	15 03 51.8	
	182nm,1.2s,0.8nm						
MWPI				S	x	15 04 50.8	
	182nm,1.2s,0.8nm						
FAKI	**Fak Fak**	**6.80**	**262**	P	**Pn**	**15 04 14.6**	**-0.5**
FAKI				S	**Sn**	**15 05 33.0**	**+1.4**
FAKI	**Fak Fak**	**6.80**	**262**	P	**Pn**	**15 04 16.1**	**+1.0**
	baz=6.9,SNR=10						
PMG	**Port Moresby**	**10.97**	**133**	Pn	**Pn**	**15 05 14.8**	**+2.5**
	0.4nm,0.3s,baz=341,slow=8.1,SNR=3.2						
KDU	**Kakadu**	**12.44**	**211**	P	**Pn**	**15 05 32.1**	**-0.3**
	baz=13,SNR=15						
MTN	**Manton Dam**	**13.30**	**215**	P	**Pn**	**15 05 44.1**	**-0.1**
	baz=14,SNR=4.9						
LUWI	**Luwuk**	**16.24**	**273**	S	**S**	**15 09 31.7**	**-3.5**
	baz=16,SNR=3.9						
KNRA	**Kununurra**	**16.93**	**216**	P	**Pn**	**15 06 32.7**	**+0.5**
	baz=17,SNR=6.5						
WRA	**Warramunga Arr**	**18.42**	**194**	P	**P**	**15 06 49.4**	**-1.0**
	1.4nm,0.3s,baz=15,slow=11,SNR=44						
WRA				S	**Sn**	**15 10 11.3**	**-4.2**
	0.2nm,0.3s,baz=16,slow=22,SNR=4.8						
QIS	**Mount Isa**	**18.47**	**178**	P	**Pn**	**15 06 53.8**	**+2.6**
	baz=13,SNR=4.7						
CTA	**Charters Tower**	**19.34**	**159**	P	**Pn**	**15 07 01.9**	**+0.2**
	0.2nm,0.3s,baz=332,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**22.11**	**192**	P	**P**	**15 07 28.6**	**-1.9**
	4.7nm,0.6s,baz=19,slow=11,SNR=50						
HNR	**Honiara**	**22.11**	**110**	P	**P**	**15 07 30.4**	**-0.1**
	12nm,0.4s,baz=254,slow=7.4,SNR=3.5						
QLP	**Quilpie**	**24.97**	**169**	P	**P**	**15 08 00.5**	**+2.2**
	baz=26,SNR=6.7						
WRKA	**Warakurna**	**25.13**	**203**	P	**P**	**15 08 01.0**	**+1.0**
	baz=26,SNR=11						
RMQ	**Roma**	**26.10**	**160**	P	**P**	**15 08 12.7**	**+4.0**
	baz=27,SNR=4.6						
STKA	**Stephens Creek**	**29.83**	**176**	P	**P**	**15 08 42.7**	**+0.7**
	1.8nm,0.7s,baz=345,slow=8.4,SNR=4.9						
HTT	**Hallett**	**31.28**	**180**	P	**P**	**15 08 56.3**	**+1.5**
	baz=32,SNR=4.5						
DZM	**Mont Dzumac**	**33.33**	**129**	LR	LR	15 21 37.8	
	comp=Z,82nm,18.2s,baz=204,slow=34						
H11S3	**WAKE ISLAND Hy**	**34.03**	**52**	T	T	15 44 59.8	
	baz=236,slow=75,SNR=151						
H11S2	**WAKE ISLAND Hy**	**34.03**	**52**	T	T	15 44 58.0	
	baz=236,slow=75,SNR=168						
H11S1	**WAKE ISLAND Hy**	**34.03**	**52**	T	T	15 44 58.4	
	baz=236,slow=75,SNR=142						
PMBI	**Palembang**	**34.20**	**268**	P	P	15 09 12.8	-7.8
	baz=34,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**34.86**	**50**	T	T	15 46 02.2	
	baz=234,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**34.88**	**50**	T	T	15 46 01.2	
	baz=234,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**34.88**	**50**	T	T	15 46 05.6	
	baz=234,slow=75,SNR=29						
KSRS	**Korea Array**	**40.56**	**346**	LR	LR	15 24 49.0	
	comp=Z,44nm,20.6s,baz=316,slow=33						
CMAR	**Chiang Mai Arr**	**44.33**	**299**	P	**P**	**15 10 44.9**	**-0.2**
	0.6nm,0.8s,baz=122,slow=6.7,SNR=6.0						
CMAR				LR	LR	15 27 33.4	
	comp=Z,62nm,19.5s,baz=79,slow=34						
RPZ	**Rata Peaks**	**50.37**	**150**	LR	LR	15 27 39.8	
	comp=Z,96nm,21.7s,baz=259,slow=30						
SONM	**Songino Array**	**57.19**	**334**	P	**P**	**15 12 22.3**	**+0.6**
	0.7nm,0.7s,baz=137,slow=5.9,SNR=3.0						
SONM				LR	LR	15 36 40.8	
	comp=Z,112nm,18.9s,baz=55,slow=36						
FX1	**Attu Island--F**	**61.73**	**23**	LR	LR	15 37 34.4	
	comp=Z,65nm,18.4s,baz=52,slow=34						
MKAR	**Makanchi Array**	**69.39**	**322**	P	**P**	**15 13 42.2**	**-0.3**
	3.6nm,1.0s,baz=101,slow=6.4,SNR=17						
ZALV	**Zalesovo Beam**	**71.46**	**330**	P	**P**	**15 13 56.0**	**+1.1**
	1.0nm,0.8s,baz=120,slow=2.4,SNR=4.9						
VNDA	**Vanda**	**76.47**	**175**	P	**P**	**15 14 23.0**	**-0.9**
	1.4nm,0.8s,baz=328,slow=8.3,SNR=4.6						
ILAR	**Eielson Array**	**85.06**	**24**	P	**P**	**15 15 08.1**	**-1.9**
	1.1nm,0.9s,baz=258,slow=5.0,SNR=8.3						
QSPA	**South Pole Qui**	**87.95**	**180**	LR	LR	15 55 27.1	
	comp=Z,142nm,19.4s,baz=186,slow=36						
GNI	**Garni**	**94.52**	**310**	LR	LR	16 00 23.3	
	comp=Z,1μm,19.7s,baz=88,slow=37						
OBN	**Obninsk**	**98.73**	**325**	LR	LR	16 03 43.0	
	comp=Z,76nm,19.0s,baz=90,slow=37						

*IDC **11** 15:04:10.7±1.0,55.61S×26.57W,h0km,mb4.1/3, mb1 4.2/3,mb1mx3.9/16,mbtmp4.1/3,Error ellipse: s-maj=45.1km s-min=31.9km az=93.0*

*NEIC **11** 15:04:12.1±0.6,55.63S×26.61W,h10km,mb4.6/1,Error ellipse: s-maj=24.6km s-min=16.3km az=117.0*

*ISCJB **11** 15:04:14.4±1.2,55.7S±0.2×26.8W±0.4,h38km,mb4.0/3, Error ellipse: s-maj=35.6km s-min=22.7km az=19.8*

ISC 11 15:04:16.3±0.9,55.7S±0.2×26.7W±0.2,h38km,n13, σ0925/13,mb3.9/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**20.38**	**228**	*e*P	**P**	**15 08 48.8**	**-0.4**
	16nm,0.6s						
VNDA	**Vanda**	**46.98**	**183**	P	**P**	**15 12 43.0**	**+0.3**
VNDA	**Vanda**	**46.98**	**183**	P	**P**	**15 12 43.0**	**+0.3**
	1.0nm,0.6s,baz=175,slow=6.2,SNR=6.5						
LPAZ	**La Paz**	**50.38**	**304**	P	**P**	**15 13 10.4**	**+0.1**
LPAZ	**La Paz**	**50.38**	**304**	P	**P**	**15 13 10.4**	**+0.1**
	0.6nm,0.6s,baz=90,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**72.57**	**29**	P	**P**	**15 15 39.2**	**0.0**
TORD	**Torodi Ar. Bea**	**72.57**	**29**	P	**P**	**15 15 39.2**	**0.0**
	2.6nm,0.7s,baz=197,slow=6.4,SNR=16						
YKA	**Yellowknife Ar**	**136.06**	**318**	PKP	**PKPdf**	**15 23 31.8**	**+0.2**
YKA	**Yellowknife Ar**	**136.06**	**318**	PKP	**PKPdf**	**15 23 31.8**	**+0.2**
	0.1nm,0.5s,baz=130,slow=2.5,SNR=2.7						
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc	**PKPbc**	**15 24 01.1**	**0.0**
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc	**PKPbc**	**15 24 01.1**	**0.0**
	1.1nm,0.8s,baz=142,slow=1.2,SNR=10						
SONM	**Songino Array**	**150.42**	**85**	PKPbc	**PKPbc**	**15 24 02.4**	**-0.3**
SONM	**Songino Array**	**150.42**	**85**	PKPbc	**PKPbc**	**15 24 02.4**	**-0.3**
	0.7nm,0.8s,baz=207,slow=2.3,SNR=5.5						

*IDC **11** 15:06:15.3±0.8,4.88S×103.15E,h0km,mb4.2/16, mb1 4.4/16,mb1mx4.3/23,mbtmp4.2/16,MS2.8/1, Ms1 2.8/1,ms1mx2.7/41,Error ellipse: s-maj=30.9km s-min=15.5km az=51.0*

*ISCJB **11** 15:06:21.3±0.5,5.00S±0.07×103.00E±0.05,h59km, mb4.3/16,Error ellipse: s-maj=11.2km s-min=5.9km az=25.7*

*DJA **11** 15:06:23.9±0.8,5°S±6°×10°3E±°,h29km±11km,M4.6/10, mb4.7/6,mB5.7/2,MLv4.5/10,Mw(mB)5.2/2*

ISC 11 15:06:22.9±0.7,4°99S±0°09×103°06E±0°08,h59km,n38, σ0993/33,mb4.2/16,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.64**	**350**	P	**Pn**	15 06 40.7	+4.3
LWLI	**Liwa**	**0.99**	**92**	P	**Pn**	**15 06 42.0**	**+1.1**
LWLI				S	**Sn**	**15 06 53.5**	**-0.8**
MDSI	**Maura Dua**	**1.22**	**66**	P	**Pn**	**15 06 45.2**	**+1.4**
MDSI				S	**Sn**	**15 06 59.8**	**+0.4**
LHSI	**Lahat**	**1.25**	**22**	P	Pn	15 06 47.7	+3.5
KASI	**Kota Agung**	**1.52**	**110**	P	**Pn**	**15 06 48.6**	**+0.7**
KLI	**Kotabumi**	**1.79**	**86**	P	**Pn**	**15 06 52.5**	**+1.0**
BLSI	**Bandar Lampung**	**2.21**	**100**	P	**Pn**	**15 06 57.5**	**+0.3**
CGJI	**Cibinong**	**3.07**	**122**	P	**Pn**	**15 07 09.2**	**+0.2**
DBJI	**Dramaga**	**3.98**	**113**	P	**Pn**	**15 07 23.5**	**+2.0**
CBJI	**Citeko**	**4.03**	**111**	P	Pn	15 07 25.9	+3.8
CISI	**Cisompet, Garu**	**5.37**	**119**	P	**Pn**	**15 07 40.5**	**0.0**
	101nm,1.0s,3μm						
CMJI	**Cimerak**	**6.03**	**118**	P	**Pn**	**15 07 49.7**	**+0.2**
	78nm,1.1s						
KPJI	**Karang Pucung**	**6.28**	**112**	P	**Pn**	**15 07 54.3**	**+1.3**
	45nm,1.4s						
UGM	**Wanagama**	**7.96**	**112**	P	**Pn**	**15 08 16.7**	**+0.6**
	166nm,1.4s						
UGM	**Wanagama**	**7.96**	**112**	P	**Pn**	**15 08 16.7**	**+0.7**
	baz=29,SNR=17						
PCJI	**Pacitan**	**8.67**	**112**	P	**Pn**	**15 08 26.0**	**+0.3**
PSI	**Prapat**	**8.78**	**332**	LR	LR	15 11 37.3	
	comp=Z,68nm,20.4s,baz=338,slow=37						
CMAR	**Chiang Mai Arr**	**23.65**	**350**	P	**P**	**15 11 27.9**	**-1.2**
	2.7nm,0.8s,baz=181,slow=9.0,SNR=25						
H08S2	**Diego Garcia H**	**30.49**	**263**	T	T	15 44 41.4	
	baz=86,slow=76,SNR=1.8						
H08S3	**Diego Garcia H**	**30.50**	**263**	T	T	15 45 01.0	
	baz=86,slow=76,SNR=5.8						
H08S1	**Diego Carcia H**	**30.51**	**263**	T	T	15 44 41.2	
	baz=86,slow=76,SNR=1.5						
WRA	**Warramunga Arr**	**33.87**	**119**	P	**P**	**15 12 59.0**	**-1.2**
	3.7nm,1.1s,baz=301,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**35.04**	**125**	P	**P**	**15 13 10.3**	**0.0**
	1.3nm,0.5s,baz=299,slow=7.6,SNR=13						
STKA	**Stephens Creek**	**44.89**	**131**	P	**P**	**15 14 32.8**	**+0.9**
	2.5nm,0.5s,baz=325,slow=5.9,SNR=12						
KSRS	**Korea Array**	**48.16**	**27**	P	**P**	**15 14 56.6**	**-0.6**
	1.4nm,0.7s,baz=225,slow=7.4,SNR=5.1						
SONM	**Songino Array**	**52.68**	**3**	P	**P**	**15 15 31.8**	**+0.3**
	3.4nm,0.6s,baz=182,slow=9.2,SNR=29						
SONM				PcP	**PcP**	**15 16 40.4**	**-0.2**
	1.1nm,0.4s,baz=187,slow=5.0,SNR=13						
MJAR	**Matsushiro Arr**	**52.79**	**36**	P	**P**	**15 15 29.8**	**-2.5**
	1.9nm,0.8s,baz=213,slow=6.7,SNR=4.2						
MKAR	**Makanchi Array**	**54.75**	**343**	P	**P**	**15 15 46.3**	**-0.1**
	1.9nm,0.4s,baz=151,slow=9.1,SNR=52						
USRK	**Ussuriysk Arra**	**55.45**	**25**	P	**P**	**15 15 50.6**	**-0.9**
	4.0nm,0.7s,baz=215,slow=5.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**60.69**	**348**	P	**P**	**15 16 27.5**	**-0.5**
	3.2nm,0.4s,baz=161,slow=5.5,SNR=19						
KBZ	**Khabaz**	**72.56**	**319**	P	**P**	**15 17 44.8**	**+1.0**
	2.9nm,0.8s,baz=180,slow=12,SNR=5.8						
BRTR	**Keskin Array B**	**77.58**	**312**	P	**P**	**15 18 13.7**	**+0.6**
	1.3nm,0.7s,baz=138,slow=7.0,SNR=8.1						
AKASG	**Malin Array Be**	**83.71**	**322**	P	**P**	**15 18 45.5**	**+0.1**
	1.9nm,0.8s,baz=87,slow=4.4,SNR=11						
FINES	**FINESS Array B**	**88.17**	**332**	P	**P**	**15 19 07.9**	**+0.7**
	1.5nm,0.8s,baz=115,slow=2.7,SNR=5.4						
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**15 19 16.6**	**-0.5**
	4.1nm,1.0s,baz=35,slow=4.4,SNR=3.7						
GERES	**GERESS Array B**	**93.30**	**319**	P	**P**	**15 19 31.8**	**+0.3**
	0.2nm,0.4s,baz=93,slow=5.3,SNR=3.4						
BDFB	**Brasilia**	**144.78**	**234**	PKP	**PKPdf**	**15 25 54.8**	**+0.4**
	1.8nm,0.4s,baz=164,slow=7.4,SNR=3.1						
TXAR	**Lajitas Array**	**144.99**	**43**	PKP	PKPbc	15 25 52.8	-0.9
	0.5nm,0.6s,baz=306,slow=1.9,SNR=7.3						

*DJA **11** 15:39:20.0±1.9,0°N±15°×13°3E±°,h10km,M3.8/3, MLv3.8/3*

*ISCJB **11** 15:39:32.7±1.3,1°.5S±0°.1×130°.5E±0°.1,h10km,mb3.2/2, Error ellipse: s-maj=21.9km s-min=14.3km az=12.2*

*IDC **11** 15:39:33.3±3.4,1°.51S×130°.26E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/21,mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=242.7km s-min=27.8km az=71.0*

ISC 11 15:39:34.3±1.4,1°.5S±0°.1×130°.4E±0°.2,h10km,n6,σ2286/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.08**	**55**	P	**Pb**	**15 39 52.8**	**-2.4**
SWI				S	**Sn**	**15 40 13.8**	**+3.2**
FAKI	**Fak Fak**	**2.34**	**127**	P	Pn	15 40 09.5	-3.4
MWPI	**Manokwari, Pap**	**3.71**	**81**	P	x	15 39 50.7	
MWPI				S	x	15 40 17.9	
WRA	**Warramunga Arr**	**18.74**	**168**	P	**Pn**	**15 43 53.5**	**-0.3**
	0.1nm,0.3s,baz=352,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**22.30**	**171**	P	**P**	**15 44 32.9**	**+0.8**
	0.5nm,0.4s,baz=353,slow=9.9,SNR=27						
MKAR	**Makanchi Array**	**63.90**	**325**	P	**P**	**15 50 07.8**	**+0.4**
	0.1nm,0.4s,baz=114,slow=6.5,SNR=3.7						

*ISCJB **11** 15:39:44.3±1.4,45°.9S±0°.2×95°.9E±0°.3,h12km,mb3.9/6, MS4.0/14,Error ellipse: s-maj=37.0km s-min=22.0km az=24.4*

*IDC **11** 15:39:44.0±1.4,45°.91S×95°.93E,h0km,mb4.0/6, mb1 4.2/6,mb1mx4.0/18,mbtmp4.0/6,MS4.0/14, Ms1 3.9/14,ms1mx3.8/29,Error ellipse: s-maj=39.2km s-min=26.5km az=112.0*

ISC 11 15:39:45.9±1.5,45°.9S±0°.2×96°.0E±0°.3,h12km,n29, σ0887/7,mb4.1/6,MS4.0/14,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.62**	**58**	T	T	16 01 53.1	
	baz=226,slow=74,SNR=92						
H01W3	**Cape Leeuwin H**	**17.63**	**58**	T	T	16 01 54.0	
	baz=226,slow=74,SNR=101						
H01W1	**Cape Leeuwin H**	**17.63**	**58**	T	T	16 01 54.4	
	baz=226,slow=74,SNR=122						
NWAO	**Narrogin (SRO)**	**20.84**	**59**	LR	LR	15 50 37.9	
	comp=Z,311nm,20.3s,baz=122,slow=31						
MAW	**Mawson**	**27.70**	**207**	LR	LR	15 53 58.3	
	comp=Z,193nm,18.6s,baz=279,slow=31						
FITZ	**Fitzroy Crossi**	**37.04**	**51**	P	**P**	**15 46 56.2**	**+0.5**
	3.7nm,0.9s,baz=211,slow=10						
STKA	**Stephens Creek**	**37.64**	**84**	P	**P**	**15 47 00.2**	**-0.5**
	2.4nm,0.8s,baz=226,slow=17,SNR=3.9						
STKA				LR	LR	15 59 14.9	
	comp=Z,329nm,19.2s,baz=209,slow=31						
ASAR	**Alice Springs**	**37.74**	**67**	P	**P**	**15 47 02.1**	**+0.5**
	1.7nm,0.9s,baz=226,slow=8.1,SNR=9.2						
ASAR				PcP	**PcP**	**15 49 17.1**	**-1.4**
	0.4nm,0.7s,baz=244,slow=1.3,SNR=5.2						
VNDA	**Vanda**	**40.45**	**162**	LR	LR	16 03 01.6	
	comp=Z,311nm,18.8s,baz=287,slow=34						
WRA	**Warramunga Arr**	**40.72**	**63**	P	**P**	**15 47 26.9**	**+0.3**
	3.6nm,0.9s,baz=221,slow=7.8,SNR=16						
H08S2	**Diego Garcia H**	**43.18**	**325**	T	T	16 33 31.9	
	baz=156,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**43.19**	**325**	T	T	16 33 32.5	
	baz=156,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**43.20**	**325**	T	T	16 33 33.4	
	baz=156,slow=75,SNR=12						
QSPA	**South Pole Qui**	**44.23**	**180**	P	**P**	**15 47 55.1**	**+0.4**
	0.8nm,0.7s,baz=266,slow=3.5,SNR=3.6						
H08N1	**Diego Carcia H**	**44.97**	**324**	T	T	16 35 56.4	
	baz=47,SNR=4.0						
H08N3	**Diego Garcia H**	**44.97**	**324**	T	T	16 35 53.1	
	baz=47,SNR=4.5						
H08N2	**Diego Garcia H**	**44.99**	**324**	T	T	16 36 07.9	
	baz=47,SNR=4.2						
PSI	**Prapat**	**48.58**	**4**	LR	LR	16 05 18.9	
	comp=Z,124nm,18.6s,baz=353,slow=32						
SNAA	**Sanae**	**49.81**	**204**	LR	LR	16 08 57.3	
	comp=Z,59nm,18.2s,baz=200,slow=35						
BOSA	**Boshof**	**57.07**	**261**	LR	LR	16 08 07.8	
	comp=Z,108nm,19.8s,baz=178,slow=30						
DZM	**Mont Dzumac**	**61.04**	**93**	LR	LR	16 10 41.0	
	comp=Z,98nm,20.4s,baz=211,slow=30						
CMAR	**Chiang Mai Arr**	**64.12**	**3**	P	**P**	**15 50 20.0**	**+0.1**
	2.0nm,1.0s,baz=205,slow=6.4,SNR=14						
HNR	**Honiara**	**65.22**	**77**	LR	LR	16 17 12.1	
	comp=Z,201nm,18.1s,baz=27,slow=34						
TSUM	**Tsumeb**	**68.49**	**264**	LR	LR	16 14 44.7	
	comp=Z,56nm,18.4s,baz=333,slow=31						
JNU	**Nakatsue**	**84.77**	**29**	LR	LR	16 27 36.6	
	comp=Z,42nm,19.6s,baz=260,slow=34						
PLCA	**Paso Flores**	**92.90**	**190**	LR	LR	16 32 39.4	
	comp=Z,131nm,18.9s,baz=96,slow=34						
MKAR	**Makanchi Array**	**93.11**	**351**	LR	LR	16 29 44.2	
	comp=Z,72nm,19.9s,baz=177,slow=32						
ZALV	**Zalesovo Beam**	**99.94**	**353**	LR	LR	16 35 01.0	
	comp=Z,44nm,18.7s,baz=31,slow=33						
H06E1	**SOCORRO T-PHAS**	**144.97**	**132**	T	T	18 41 27.5	
	SNR=17						

*IDC **11** 15:45:04.8±1.0,2°.77S×139°.21E,h0km,mb3.8/9, mb1 4.1/10,mb1mx4.0/18,mbtmp3.9/10,ML4.3/1,MS3.6/8, Ms1 3.6/8,ms1mx3.4/28,Error ellipse: s-maj=40.4km s-min=17.6km az=84.0*

*ISCJB **11** 15:45:10.0±0.4,2°.90S±0°.04×139°.01E±0°.05,h46km, mb3.9/9,MS3.5/6,Error ellipse: s-maj=6.8km s-min=6.0km az=3.0*

*DJA **11** 15:45:10.1±2.1,3°S±9°×13°9E±°,h12km±24km,M4.6/6, mb4.5/6,mB5.0/1,MLv4.6/5,Mw(mB)4.4/1*

ISC 11 15:45:11.9±0.7,2°88S±0°07×139°04E±0°07,h46km,n34, σ1971/30,mb3.9/9,MS3.4/7,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.94**	**340**	P	**Pn**	**15 45 26.6**	**-2.2**
GENI	**Genyem**	**1.16**	**76**	P	**Pn**	**15 45 29.5**	**-2.2**
JAY	**Jayapura**	**1.70**	**78**	P	**Pn**	**15 45 39.3**	**+0.1**
	baz=1.7,SNR=7.2						
SRPI	**Serui, Papua**	**2.97**	**290**	P	**Pn**	**15 45 57.2**	**+0.6**
MWPI	**Manokwari, Pap**	**5.36**	**291**	P	x	15 46 30.3	
	131nm,1.2s,0.7nm						
FAKI	**Fak Fak**	**6.78**	**270**	P	**Pn**	**15 46 48.8**	**-0.1**
	45nm,1.9s,0.3nm						
FAKI	**Fak Fak**	**6.78**	**270**	P	**Pn**	**15 46 50.1**	**+1.2**
	baz=6.8,SNR=7.6						
SWI	**Sorong**	**8.03**	**284**	P	**Pn**	**15 47 07.5**	**+1.5**
	26nm,1.1s,951nm						
PMG	**Port Moresby**	**10.35**	**129**	Pn	**Pn**	**15 47 39.2**	**+1.4**
	0.4nm,0.3s,baz=127,slow=20,SNR=2.4						
KDU	**Kakadu**	**11.71**	**213**	P	**Pn**	**15 47 56.0**	**-0.5**
	baz=12,SNR=33						
COEN	**Coen**	**11.74**	**160**	P	**Pn**	**15 47 58.1**	**+1.3**
	baz=12,SNR=14						
LBMI	**Labuha**	**11.75**	**281**	P	**Pn**	**15 47 55.1**	**-1.9**
	30nm,0.8s						
MTN	**Manton Dam**	**12.62**	**218**	P	**Pn**	**15 48 08.0**	**-0.8**
	baz=13,SNR=5.8						
SOEI	**Soe**	**16.19**	**244**	P	**P**	**15 49 02.7**	**+3.8**
	baz=16,SNR=4.5						
KNRA	**Kununurra**	**16.25**	**218**	P	**Pn**	**15 48 56.3**	**-0.8**
	baz=16,SNR=22						
KNRA				S	**Sn**	**15 51 54.1**	**-2.4**
	baz=16,SNR=3.3						
WRA	**Warramunga Arr**	**17.57**	**195**	P	**Pn**	**15 49 11.7**	**-1.8**
	1.0nm,0.3s,baz=14,slow=13,SNR=58						
WRA				S	**Sn**	**15 52 24.0**	**-4.4**
	0.2nm,0.3s,baz=8.2,slow=22,SNR=4.7						
WRA				LR	LR	15 56 48.8	
	comp=Z,374nm,20.2s,baz=355,slow=40						
QIS	**Mount Isa**	**17.58**	**178**	P	**Pn**	**15 49 12.9**	**-0.7**
	baz=18,SNR=6.0						
FITZ	**Fitzroy Crossi**	**20.04**	**220**	P	**P**	**15 49 41.2**	**+0.1**
	2.4nm,0.8s,baz=46,slow=18						
FITZ				LR	LR	15 57 45.8	
	comp=Z,

baz=278,slow=75,SNR=1150
H10S2 ASCENSION HYDR 21.20 100 T T 16 19 52.0
baz=278,slow=75,SNR=1190
PTGA Pitinga 24.65 280 P **P** **15 59 19.5 +1.7**
9.8nm,1.2s
SIV San Ignacio 26.91 245 P **P** **15 59 39.5 +1.2**
SIV Lg Lg 16 07 57.3
SIV San Ignacio 26.91 245 P **P** **15 59 39.5 +1.2**
1.7nm,0.7s
SIV Lg Lg 16 07 57.3
7.0nm,1.0s,baz=164,slow=22,SNR=4.2
SAML Samuel 27.42 261 P **P** **15 59 44.9 +2.1**
1.0nm,0.8s
CPUP Villa Florida 29.18 223 Lg Lg 16 09 21.5
19nm,1.0s,baz=100,slow=12,SNR=5.1
CPUP LR LR 16 12 04.3
comp=Z,94nm,19.8s,baz=207,slow=37
DBIC Dimbokro 33.14 69 P **P** **16 00 32.3 -1.2**
1.3nm,0.8s
LPAZ La Paz 33.48 249 *e*P **P** **16 00 37.6 +0.5**
2.5nm,1.1s
H09W1 TRISTAN DA CUN 37.98 149 T T 16 41 14.3
SNR=8.2
CFAA Coronel Fontan 39.95 226 P **P** **16 01 31.4 -0.1**
CFAA Coronel Fontan 39.95 226 P **P** **16 01 31.4 -0.1**
0.2nm,0.6s,baz=51,slow=13,SNR=4.0
LCO Las Campanas 40.44 231 P **P** **16 01 34.1 -1.7**
5.3nm,0.9s
TOA0 Torodi Ar. Sit 41.58 63 *e*P **P** **16 01 43.9 -1.1**
TORD Torodi Ar. Bea 41.58 63 P **P** **16 01 44.6 -0.4**
TORD Torodi Ar. Bea 41.58 63 P **P** **16 01 44.6 -0.4**
7.7nm,1.1s,baz=252,slow=8.5,SNR=25
TSUM Tsumeb 53.61 110 P **P** **16 03 19.4 +0.7**
TSUM Tsumeb 53.61 110 P **P** **16 03 19.4 +0.7**
2.2nm,0.9s,baz=236,slow=3.6,SNR=3.3
ESDC Sonseca Array 53.72 30 P **P** **16 03 19.9 +0.9**
ESDC Sonseca Array 53.72 30 P **P** **16 03 19.9 +0.9**
1.2nm,0.7s,baz=225,slow=8.0,SNR=5.8
BOSA Boshof 61.95 119 P **P** **16 04 17.1 -0.1**
BOSA Boshof 61.95 119 P **P** **16 04 17.1 -0.1**
2.6nm,0.8s,baz=302,slow=8.8,SNR=5.0
LSZ Lusaka 63.43 104 *e*P **P** **16 04 27.2 -0.1**
1.9nm,0.7s
SCHQ Schefferville 65.51 341 *e*P **P** **16 04 39.8 -0.3**
SCHQ Schefferville 65.51 341 P **P** **16 04 39.0 -1.0**
4.8nm,0.7s,baz=198,slow=9.6,SNR=3.6
GERES GERESS Array B 69.20 32 P **P** **16 05 03.6 -0.1**
GERES GERESS Array B 69.20 32 P **P** **16 05 03.6 -0.1**
0.5nm,0.7s,baz=228,slow=3.4,SNR=4.0
TXAR Lajitas Array 73.76 303 P **P** **16 05 31.1 -0.6**
TXAR Lajitas Array 73.76 303 P **P** **16 05 31.1 -0.6**
0.8nm,1.0s,baz=123,slow=6.6,SNR=4.5
BRTR Keskin Array B 77.94 48 P **P** **16 05 55.3 -0.1**
BRTR Keskin Array B 77.94 48 P **P** **16 05 55.3 -0.1**
0.8nm,0.7s,baz=259,slow=4.7,SNR=4.4
AKASG Malin Array Be 78.85 36 P **P** **16 06 01.5 +1.6**
AKASG Malin Array Be 78.85 36 P **P** **16 06 01.5 +1.6**
0.4nm,0.5s,baz=260,slow=5.1,SNR=3.8
PDAR Pinedale Array 82.00 314 P **P** **16 06 17.9 +0.5**
PDAR Pinedale Array 82.00 314 P **P** **16 06 17.9 +0.5**
1.8nm,0.9s,baz=115,slow=7.4,SNR=12
QSPA South Pole Qui 84.54 180 *e*P **P** **16 06 30.3 +0.4**
5.7nm,0.9s
NVAR Mina Array Bea 87.62 309 P **P** **16 06 46.7 +0.9**
NVAR Mina Array Bea 87.62 309 P **P** **16 06 46.7 +0.9**
0.7nm,0.6s,baz=101,slow=3.9,SNR=6.4
YKA Yellowknife Ar 89.78 333 P **P** **16 06 54.6 -0.5**
YKA Yellowknife Ar 89.78 333 P **P** **16 06 54.6 -0.5**
0.1nm,0.4s,baz=100,slow=5.5,SNR=3.7
ASAR Alice Springs 149.24 161 PKPbc **PKPbc** **16 13 46.2 -0.3**
ASAR Alice Springs 149.24 161 PKPbc **PKPbc** **16 13 46.2 -0.3**
1.8nm,0.8s,baz=183,slow=1.8,SNR=16
FITZ Fitzroy Crossi 150.16 142 PKPbc **PKPbc** **16 13 49.2 +0.4**
FITZ Fitzroy Crossi 150.16 142 PKPbc **PKPbc** **16 13 49.2 +0.4**
2.3nm,0.6s,baz=220,slow=6.6,SNR=6.5
WRA Warramunga Arr 152.84 159 PKPbc **PKPbc** **16 13 53.5 -1.5**
WRA PKPab **PKPab** **16 14 05.4 -0.3**
WRA Warramunga Arr 152.84 159 PKPbc **PKPbc** **16 13 53.5 -1.5**
1.4nm,0.8s,baz=231,slow=2.1,SNR=7.3
WRA PKPab **PKPab** **16 14 05.4 -0.3**
1.9nm,1.0s,baz=211,slow=4.0,SNR=5.8

JMA 11 16:03:06.1±0.1, 38°31N×144°77E, h38km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.54**	**289**	P	Pn	16 03 46.5	+1.7
MIYJ	**Miyakonagasawa**	**2.62**	**300**	P	Pn	16 03 47.3	+1.4
MIYJ				S	Sn	16 04 17.9	+1.4
JIO	**Ouri**	**2.69**	**274**	P	Pn	16 03 48.4	+1.6
JIO				*e*S	Sn	16 04 19.9	+1.8
JMK	**Ichinoseki**	**2.85**	**284**	P	Pn	16 03 51.0	+2.0
JMK				*e*S	Sn	16 04 24.8	+2.7
JOM	**Ohasama**	**2.95**	**294**	P	Pn	16 03 52.4	+2.0
JOM				*e*S	Sn	16 04 26.9	+2.3
JOU	**Okura**	**3.23**	**272**	P	Pn	16 03 56.4	+2.1
JOU				*e*S	Sn	16 04 34.1	+2.6
JANG	**Nango**	**3.26**	**310**	P	Pn	16 03 55.8	+1.2
JRG	**Rokugo**	**3.41**	**290**	P	Pn	16 03 59.3	+2.6
JRG				*e*S	Sn	16 04 38.8	+3.0
JYK	**Kaneyama**	**3.51**	**281**	P	Pn	16 04 00.5	+2.4
JYK				*e*S	Sn	16 04 41.6	+3.3
JFT	**Otama**	**3.59**	**259**	P	Pn	16 04 01.6	+2.3
JFT				S	Sn	16 04 43.0	+2.5
JTM	**Tenmabayashi**	**3.78**	**312**	S	Sn	16 04 46.2	+1.2
JOT	**Ohata**	**4.20**	**318**	*e*S	Sn	16 04 54.9	-0.3
JCH	**Churui**	**4.43**	**346**	P	Pn	16 04 10.2	-0.5
JCH				*e*S	Sn	16 04 59.1	-1.9
JKB	**Kayabe**	**4.58**	**322**	*e*S	Sn	16 05 03.8	-0.9
NEM2	**Nemuro 2**	**5.10**	**8**	P	Pn	16 04 16.8	-3.1
NEM2				*e*S	Sn	16 05 11.3	-6.2
JRY	**Ryogami san**	**5.22**	**246**	P	Pn	16 04 22.9	+1.3
JRY				*e*S	Sn	16 05 20.4	-0.1
MAT	**Matsushiro**	**5.51**	**253**	P	Pn	16 04 29.0	+3.4

KRNET 11 16:07:00.3±0.1, 39°49N×73°99E, h3km, mb3.2, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.64**	**324**	*e*P	Pg	16 07 11.9	-0.9
baz=325							
SFK				*e*S	Sg	16 07 21.9	+0.6
baz=325							
OHH	**Osh**	**1.39**	**319**	*e*P	Pg	16 07 28.0	+1.0
baz=319							
OHH				*e*S	Sn	16 07 48.0	+2.5
baz=319							
ARSB	**Arslanbob**	**1.99**	**338**	*e*P	Pn	16 07 25.5	-9.5
baz=338							
ARSB				*e*S	Sn	16 07 51.8	-8.6
baz=338							

*ISCJB **11** 16:07:11.4±0.5, 36°01N±0°03×71°01E±0°05, h93km±5km, mb4.0/30, Error ellipse: s-maj=6.3km s-min=3.9km az=164.3*
*MOS **11** 16:07:11.8±1.0, 36°02N×70°90E, h99km, mb4.2/20, Error ellipse: s-maj=10.1km s-min=4.9km az=82.0*
*NEIC **11** 16:07:13.8±0.4, 36°04N×70°89E, mb4.6/6, Error ellipse: s-maj=7.1km s-min=7.0km az=151.0*
*IDC **11** 16:07:14.1±1.0, 36°00N×70°87E, h106km±8km, mb3.8/22, mb1 3.9/26, mb1mx3.9/34, mbtmp4.2/26, Error ellipse: s-maj=14.6km s-min=9.7km az=17.0*
*NNC **11** 16:07:16.7±2.4, 36°35N×70°67E, h119km±27km, mb4.0, mpv4.8, Error ellipse: s-maj=18.7km s-min=16.6km az=166.0*

ISC 11 16:07:13.7±0.5, 35°99N±0°04×70°92E±0°05, h106km±5km, n139,σ1°67/154, mb4.0/29, 10C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.11**	**227**	*e*PN	**Pn**	**16 07 46.6**	**-1.5**
KBL	**Kabul**	**2.11**	**227**	*e*Pn	**Pn**	**16 07 46.6**	**-1.5**
CEP	**Cherat**	**2.31**	**159**	⇓P	**Pn**	**16 07 50.3**	**-0.4**
CEP				S	**Sn**	**16 08 19.0**	**0.0**
CHCP	**Chirah Chowk**	**3.03**	**140**	⇓P	**Pn**	**16 07 59.7**	**-0.2**
THW	**Thamme Wali**	**3.26**	**168**	P	**Pn**	**16 08 02.4**	**-0.7**
THW				S	**Sn**	**16 08 39.0**	**-2.3**
KSH	**Kashi**	**5.33**	**47**	Pn	Pn	16 08 27.2	-3.8
KSH				Sn	Sn	16 09 21.9	-9.3
KSH				smax	smax		
comp=N,410nm,0.5s							
KSH				smax	smax		
comp=E,250nm,0.2s							
DLH	**Dalhousie**	**5.42**	**128**	*e*P	**Pn**	**16 08 31.0**	**-1.3**
DLH				*e*S	**Sn**	**16 09 30.0**	**-3.5**
DHRM	**DHARAMSHALA**	**5.82**	**128**	*e*P	**Pn**	**16 08 36.4**	**-1.4**
DHRM				*e*S	**Sn**	**16 09 40.1**	**-3.2**
DHRM				AML	AML	16 09 42.5	
comp=N,756nm,0.1s							
DHRM				AML	AML	16 09 43.2	
comp=E,881nm,0.4s							
AML	**Almayashu**	**6.50**	**19**	*i* PN	**Pn**	**16 08 46.5**	**-0.6**
AML	**Almayashu**	**6.50**	**19**	P	**Pn**	**16 08 46.5**	**-0.6**
SNR=38							
SDNR	**Sundarnagar**	**6.75**	**130**	*ex*	**Pn**	**16 08 49.0**	**-1.1**
SDNR				*e*S	**Sn**	**16 10 02.0**	**-3.5**
UCH	**Uchtor**	**6.83**	**23**	*i* PN	**Pn**	**16 08 51.1**	**-0.4**
UCH	**Uchtor**	**6.83**	**23**	P	**Pn**	**16 08 51.2**	**-0.4**
SNR=28							
KZA	**Kyzart**	**6.95**	**28**	*i* PN	**Pn**	**16 08 52.7**	**-0.5**
KZA	**Kyzart**	**6.95**	**28**	P	**Pn**	**16 08 52.7**	**-0.5**
SNR=13							
EKS2	**Erkin-Say**	**7.02**	**18**	*i* PN	**Pn**	**16 08 53.5**	**-0.3**
EKS2	**Erkin-Say**	**7.02**	**18**	P	**Pn**	**16 08 53.6**	**-0.3**
SNR=16							
EKS2	**Erkin-Say**	**7.02**	**18**	*e*P	**Pn**	**16 08 53.3**	**-0.6**
comp=E,29nm,0.6s							
KK31	**Karatay Array**	**7.11**	**358**	⇓P	**Pn**	**16 08 53.4**	**-1.6**
comp=E,74nm,0.6s,baz=180,slow=12,SNR=493							
KK31				⇑S	**Sn**	**16 10 08.7**	**-5.5**
comp=E,37nm,0.5s,baz=193,slow=24,SNR=10							
KK31	**Karatay Array**	**7.11**	**358**	*e*PN	**Pn**	**16 08 53.4**	**-1.6**
KK31				pmax	pmax		
comp=Z,97nm,0.3s							
KKAR	**Karatay Array**	**7.11**	**358**	*e*PN	**Pn**	**16 08 53.5**	**-1.5**
KKAR				pmax	pmax		
comp=Z,79nm,0.3s							
KKAR	**Karatay Array**	**7.11**	**358**	*e*Pn	**Pn**	**16 08 53.5**	**-1.5**
comp=Z,79nm,0.3s							
SMLA	**Simla**	**7.12**	**131**	*e*P	**Pn**	**16 08 52.8**	**-2.4**
SMLA				*e*P	**Pn**	**16 08 52.9**	**-2.3**
SMLA				*e*S	**Sn**	**16 10 09.0**	**-5.6**
SMLA				*e*S	**Sn**	**16 10 09.6**	**-5.0**
AAK	**Ala-Archa**	**7.19**	**22**	⇑P	**Pn**	**16 08 56.1**	**-0.1**
comp=Z,29nm,0.5s							
AAK				⇑S	**Sn**	**16 10 14.7**	**-1.6**
comp=Z,25nm,0.8s							
AAK	**Ala-Archa**	**7.19**	**22**	PN	**Pn**	**16 08 56.1**	**-0.1**
AAK				pmax	pmax		
comp=Z,14nm,0.3s							
AAK	**Ala-Archa**	**7.19**	**22**	P	**Pn**	**16 08 56.2**	**0.0**
SNR=36							
AAK	**Ala-Archa**	**7.19**	**22**	P	**Pn**	**16 08 56.1**	**-0.1**
AAK				S	**Sn**	**16 10 12.9**	**-3.4**
AAK	**Ala-Archa**	**7.19**	**22**	P	**Pn**	**16 08 56.1**	**-0.1**
comp=Z,14nm,0.3s,baz=181,slow=6.4,SNR=112							
AAK				S	**Sn**	**16 10 12.9**	**-3.4**
comp=Z,4.6nm,0.3s,baz=333,slow=23,SNR=7.6							
KBK	**Karagaybulak**	**7.35**	**24**	*i* PN	**Pn**	**16 08 58.6**	**+0.2**
KBK	**Karagaybulak**	**7.35**	**24**	P	**Pn**	**16 08 58.6**	**+0.2**
SNR=14							
CHMS	**Chumysh**	**7.60**	**22**	*i* PN	**Pn**	**16 09 01.3**	**-0.3**
CHMS	**Chumysh**	**7.60**	**22**	P	**Pn**	**16 09 01.4**	**-0.3**
SNR=36							
USP	**Ospenovka**	**7.77**	**20**	*i* PN	**Pn**	**16 09 03.4**	**-0.6**
USP	**Ospenovka**	**7.77**	**20**	P	**Pn**	**16 09 03.5**	**-0.6**
SNR=30							
TKM2	**Tokmak 2**	**7.81**	**26**	⇓P	**Pn**	**16 09 04.1**	**-0.5**
comp=Z,26nm,0.6s							
TKM2				⇑S	**Sn**	**16 10 29.5**	**-2.0**
comp=Z,18nm,0.8s							
TKM2	**Tokmak 2**	**7.81**	**26**	*e*PN	**Pn**	**16 09 04.1**	**-0.5**
TKM2				pmax	pmax		
comp=Z,31nm,0.6s							
TKM2	**Tokmak 2**	**7.81**	**26**	P	**Pn**	**16 09 04.6**	**0.0**
SNR=12							
TKM2	**Tokmak 2**	**7.81**	**26**	*e*P	**Pn**	**16 09 04.1**	**-0.5**
comp=Z,31nm,0.6s							
DDI	**Dehra Dun**	**8.23**	**131**	*e*S	Sn	16 10 34.1	-7.6
DDI				AML	AML	16 11 02.4	
comp=N,202nm,0.2s							
DDI				AML	AML	16 11 03.0	
comp=E,282nm,0.5s							
NDI	**New Delhi**	**9.03**	**142**	*e*P	Pn	16 09 17.0	-4.1
NDI				*e*S	Sn	16 10 53.0	-8.0
LGTI	**Lohaghat**	**10.21**	**127**	*e*P	Pn	16 09 31.8	-5.3
LGTI				*e*S	Sn	16 11 22.2	-7.5
MK31	**Makanchi Array**	**13.74**	**35**	⇓P	**Pn**	**16 10 24.9**	**+1.0**
comp=E,2.8nm,0.7s,baz=205,slow=9.6,SNR=8.6							
MK31	**Makanchi Array**	**13.74**	**35**	P	**Pn**	**16 10 25.2**	**+1.3**
MK31				pmax	pmax		
comp=Z,1.0nm,0.5s							
MK31	**Makanchi Array**	**13.74**	**35**	*e*P	**Pn**	**16 10 24.6**	**+0.7**
MKAR	**Makanchi Array**	**13.74**	**35**	*i* P	**Pn**	**16 10 25.5**	**+1.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**13.74**	**35**	P	**Pn**	**16 10 23.0**	**-0.9**
MKAR	**Makanchi Array**	**13.74**	**35**	P	Pn	**16 10 23.0**	**-0.9**
comp=Z,0.1nm,0.3s,baz=220,slow=14,SNR=9.6							
BHPL	**Bhopal**	**13.90**	**154**	*e*P	Pn	16 10 21.2	-5.0
BHPL				*ex*	x	16 12 47.1	
AB31	**Akbulak array**	**15.50**	**332**	P	**Pn**	**16 10 43.2**	**-3.0**
comp=Z,39nm,0.5s,baz=142,slow=13,SNR=1450							
AB31				⇑S	Sn	16 13 23.2	-14
comp=Z,3.6nm,0.3s,baz=148,slow=24,SNR=9.0							
AB31	**Akbulak array**	**15.50**	**332**	P	**Pn**	**16 10 43.2**	**-3.0**
AB31				pmax	pmax		
comp=Z,40nm,0.3s							
ABKAR	**Akbulak array**	**15.50**	**332**	*e*P	**Pn**	**16 10 43.0**	**-3.2**
comp=Z,41nm,0.3s							
KURBB	**Kurchatov Arra**	**15.62**	**18**	⇓P	**Pn**	**16 10 44.9**	**-2.9**
comp=Z,5.8nm,0.7s							
KURBB	**Kurchatov Arra**	**15.62**	**18**	P	**Pn**	**16 10 43.6**	**-4.2**
comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=7.6							
KURK	**Kurchatov**	**15.73**	**18**	⇑P	**Pn**	**16 10 47.4**	**-1.7**
comp=Z,1.7nm,0.8s							
KURK	**Kurchatov**	**15.73**	**18**	P	**P**	**16 10 50.6**	**-0.3**
KURK				pmax	pmax		
comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**15.73**	**18**	*e*P	**Pn**	**16 10 47.6**	**-1.5**
BVA0	**Borovoye Array**	**17.03**	**359**	P	**Pn**	**16 11 03.7**	**-1.5**
comp=Z,3.5nm,0.6s,baz=163,slow=10,SNR=31							
BVA0	**Borovoye Array**	**17.03**	**359**	*i* P	**Pn**	**16 11 03.6**	**-1.5**
BVA0				pmax	pmax		
comp=Z,4.0nm,0.6s							
BVAR	**Borovoye Array**	**17.03**	**359**	P	**Pn**	**16 11 03.5**	**-1.6**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**17.03**	**359**	P	**Pn**	**16 11 03.5**	**-1.6**
BVAR	**Borovoye Array**	**17.03**	**359**	P	**Pn**	**16 11 03.5**	**-1.6**
comp=Z,1.4nm,0.3s,baz=164,slow=13,SNR=33							
BRVK	**Borovoye**	**17.07**	**359**	⇓P	**Pn**	**16 11 03.1**	**-2.4**
comp=Z,14nm,1.1s							
BRVK	**Borovoye**	**17.07**	**359**	*i* P	**Pn**	**16 11 03.6**	**-1.9**
BRVK				pmax	pmax		
comp=Z,7.0nm,1.3s							
BRVK	**Borovoye**	**17.07**	**359**	*e*P	**Pn**	**16 11 03.3**	**-2.2**
AKTO	**Aktyubinsk**	**17.19**	**331**	⇑P	**Pn**	**16 11 05.4**	**-1.6**
comp=Z,46nm,0.7s							
AKTO	**Aktyubinsk**	**17.19**	**331**	P	**Pn**	**16 11 06.2**	**-0.8**
AKTO				pmax	pmax		
comp=Z,4.0nm,0.3s							
AKTO	**Aktyubinsk**	**17.19**	**331**	P	**Pn**	**16 11 06.2**	**-0.8**
AKTO	**Aktyubinsk**	**17.19**	**331**	P	**Pn**	**16 11 06.2**	**-0.8**
comp=Z,4.1nm,0.3s,baz=142,slow=13,SNR=118							
LSA	**Lhasa**	**18.11**	**105**	P	**P**	**16 11 16.2**	**-1.6**
LSA				pmax	pmax		
comp=Z,4.0nm,0.6s							
LSA	**Lhasa**	**18.11**	**105**	P	**P**	**16 11 16.2**	**-1.6**
comp=Z,3.5nm,0.6s							
ZAA0	**Zalesovo Array**	**20.41**	**24**	*e*P	**P**	**16 11 42.2**	**+0.2**
ZALV	**Zalesovo Beam**	**20.41**	**24**	P	**P**	**16 11 42.3**	**+0.3**
ZALV				pmax	pmax		
comp=Z,10.0nm,0.4s							
ZALV	**Zalesovo Beam**	**20.41**	**24**	P	**P**	**16 11 42.3**	**+0.3**
ZALV	**Zalesovo Beam**	**20.41**	**24**	P	**P**	**16 11 42.3**	**+0.3**
comp=Z,10nm,0.4s,baz=224,slow=10,SNR=55							
NVS	**Novosibirsk**	**20.68**	**20**	⇓*i* P	**P**	**16 11 44.2**	**-0.7**
NVS				pmax	pmax		
comp=Z,8.0nm,0.6s							
NVS				pmax	pmax		
comp=N,7.0nm,0.7s							
NVS				pmax	pmax		
comp=E,5.0nm,0.5s							
SHL	**Shillong**	**20.76**	**114**	*e*P	**P**	**16 11 48.0**	**+1.7**
GNI	**Garni**	**20.99**	**289**	*e*P	Pn	16 11 50.6	-1.7
GNI	**Garni**	**20.99**	**289**	P	Pn	16 11 50.5	-1.8
comp=E,6.0nm,0.5s,baz=168,slow=4.8,SNR=5.2							
ZEI	**Tsey**	**21.90**	**296**	*e*P	**P**	**16 12 00.7**	**+2.4**
ZEI				pmax	pmax		
comp=Z,8.0nm,1.4s							
SVE	**Sverdlovsk**	**21.96**	**345**	⇓*e*P	**P**	**16 11 59.9**	**+1.3**
SVE				pmax	pmax		
comp=Z,9.0nm,0.6s							
ARU	**Arti**	**22.09**	**342**	*c i*P	**P**	**16 12 03.2**	**+3.3**
ARU						16 12 32.8	
ARU				S	**S**	**16 15 54.2**	**-2.3**
ARU				SS	**SnSn**	**16 16 38.1**	**+4.6**
ARU				pmax	pmax		
comp=Z,14nm,1.0s							
ARU	**Arti**	**22.09**	**342**	*e*P	**P**	**16 12 01.9**	**+2.0**
comp=Z,10nm,0.7s							
KBZ	**Khabaz**	**22.78**	**298**	P	**P**	**16 12 07.9**	**+0.8**
KBZ				pmax	pmax		
comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**22.78**	**298**	P	**P**	**16 12 07.9**	**+0.8**
KBZ	**Khabaz**	**22.78**	**298**	P	**P**	**16 12 07.9**	**+0.8**
comp=Z,3.0nm,0.9s,baz=150,slow=6.7,SNR=3.6							
KIV	**Kislovodsk**	**22.97**	**299**	*e*P	**P**	**16 12 11.4**	**+2.3**
KIV				*e*S	**S**	**16 16 09.0**	**-2.2**
KIV				pmax	pmax		
comp=Z,6.0nm,1.1s							
GTA	**Gaotai**	**23.07**	**73**	*e*P	**P**	**16 12 13.4**	**+3.2**
GTA				pP	pP	16 12 36.0	+4.8
GTA				sP	**sP**	**16 12 47.4**	**+3.1**
GTA				pmax	pmax		
comp=Z,4.0nm,1.4s							
SONM	**Songino Array**	**28.68**	**55**	P	**P**	**16 13 02.0**	**+1.4**
SONM				pP	**pP**	**16 13 25.0**	**+0.9**
SONM	**Songino Array**	**28.68**	**55**	P	**P**	**16 13 02.0**	**+1.4**
comp=Z,0.3nm,0.5s,baz=263,slow=9.8,SNR=4.3							
SONM				pP	**pP**	**16 13 25.0**	**+0.9**
comp=Z,0.9nm,0.7s,baz=264,slow=9.8,SNR=4.9							
ULN	**Ulaanbaatar**	**29.12**	**55**	*e*P	**P**	**16 13 05.3**	**+0.8**
comp=Z,0.6nm,0.5s							
BRTR	**Keskin Array B**	**29.53**	**289**	P	**P**	**16 13 08.8**	**+0.5**
BRTR	**Keskin Array B**	**29.53**	**289**	P	**P**	**16 13 08.8**	**+0.5**
comp=Z,2.5nm,0.7s,baz=96,slow=8.8,SNR=15							
CMAR	**Chiang Mai Arr**	**30.28**	**118**	P	**P**	**16 13 16.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**30.28**	**118**	P	**P**	**16 13 16.1**	**+1.3**
comp=Z,0.4nm,0.6s,baz=309,slow=8.0,SNR=4.8							
OBN	**Obninsk**	**30.28**	**320**	*e*P	**P**	**16 13 13.9**	**-0.5**
OBN				pmax	pmax		
comp=Z,7.0nm,1.2s							
OBN	**Obninsk**	**30.28**	**320**	P	**P**	**16 13 14.8**	**+0.4**
OBN	**Obninsk**	**30.28**	**320**	P	**P**	**16 13 14.8**	**+0.4**
comp=Z,13nm,0.4s,baz=201,slow=24,SNR=3.6							
AKASG	**Malin Array Be**	**33.21**	**309**	P	**P**	**16 13 40.1**	**-0.1**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.21**	**309**	P	**P**	**16 13 40.1**	**-0.1**
AKASG	**Malin Array Be**	**33.21**	**309**	P	**P**	**16 13 40.1**	**-0.1**
comp=Z,0.9nm,0.5s,baz=82,slow=7.0,SNR=15							
TIRR	**Tirgusor**	**33.22**	**298**	⇑*i*P	**P**	**16 13 37.6**	**-2.8**
CFR	**Carcaliu**	**33.42**	**299**	⇑*i*P	**P**	**16 13 43.5**	**+1.4**
JOF	**Joensuu**	**36.27**	**330**	*e*P	**P**	**16 14 06.2**	**-0.2**
JOF				pmax	pmax		
comp=Z,6.0nm,0.4s							
JOF	**Joensuu**	**36.27**	**330**	*e*p	**P**	**16 14 06.2**	**-0.2**
comp=Z,5.7nm,0.4s							
FINES	**FINESS Array B**	**37.87**	**326**	P	**P**	**16 14 20.2**	**+0.4**
FINES	**FINESS Array B**	**37.87**	**326**	P	**P**	**16 14 20.2**	**+0.4**
comp=Z,3.7nm,0.6s,baz=110,slow=10,SNR=16							
ARCES	**ARCESS Array B**	**41.59**	**338**	P	**P**	**16 14 51.5**	**+0.9**
ARCES	**ARCESS Array B**	**41.59**	**338**	P	**P**	**16 14 51.5**	**+0.9**
comp=Z,4.3nm,0.8s,baz=110,slow=7.0,SNR=12							
CN2	**Changchun**	**41.90**	**62**	*e*P	P	16 15 02.4	+8.9
NB2	**NORSAR Subarra**	**44.74**	**323**	P	**P**	**16 15 15.9**	**-0.3**
comp=Z,2.9nm,0.6s,baz=96,slow=8.6							
NOA	**NORSAR Array B**	**44.74**	**323**	P	**P**	**16 15 16.3**	**+0.2**
NOA				pP	**pP**	**16 15 41.4**	**+0.6**
NOA	**NORSAR Array B**	**44.74**	**323**	P	**P**	**16 15 16.3**	**+0.2**
comp=Z,2.8nm,0.6s,baz=97,slow=8.0,SNR=12							
NOA				pP	**pP**	**16 15 41.4**	**+0.6**
comp=Z,2.1nm,0.7s,baz=97,slow=7.9,SNR=3.5							
KSAR	**Wonju Array Be**	**45.09**	**70**	P	**P**	**16 15 19.6**	**+0.5**
KSRS	**Korea Array**	**45.11**	**70**	P	**P**	**16 15 19.6**	**+0.3**
comp=Z,1.1nm,0.5s,baz=271,slow=7.4,SNR=7.6							
JNU	**Nakatsue**	**48.79**	**75**	P	**P**	**16 15 49.8**	**+1.8**
JNU	**Nakatsue**	**48.79**	**75**	P	**P**	**16 15 49.8**	**+1.8**
comp=Z,3.5nm,0.6s,baz=340,slow=6.8,SNR=3.8							
KEST	**Kesra**	**49.13**	**289**	P	**P**	**16 15 51.1**	**+0.4**
KEST	**Kesra**	**49.13**	**289**	P	**P**	**16 15 51.1**	**+0.4**
comp=Z,1.3nm,0.5s,baz=53,slow=5.1,SNR=4.6							
MJAR	**Matsushiro Arr**	**53.20**	**68**	P	**P**	**16 16 21.9**	**+0.9**
MJAR	**Matsushiro Arr**	**53.20**	**68**	P	**P**	**16 16 21.9**	**+0.9**
comp=Z,1.2nm,0.8s,baz=294,slow=12,SNR=4.0							
ESDC	**Sonseca Array**	**57.63**	**298**	P	**P**	**16 16 53.0**	**+0.1**
ESDC	**Sonseca Array**	**57.63**	**298**	P	**P**	**16 16 53.0**	**+0.1**
comp=Z,0.6nm,0.4s,baz=56,slow=8.1,SNR=7.8							
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**16 17 45.0**	**-1.8**
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**16 17 45.0**	**-1.8**
comp=Z,

PGB				Sg	Sg	16 12 47.0	-0.2
PGB	Panagyurishte	0.34	60	*i* Pg	Sg	16 12 42.4	-0.1
PGB				Sg	Sg	16 12 47.0	-0.2
SOF	Sofiya	0.44	314	*i* Sg	Sg	16 12 49.8	-0.3
VTS	Vitosha	0.46	297	P	Pg	16 12 44.2	-0.5
VTS				S	Sg	16 12 50.2	-0.6
VTS	Vitosha	0.46	297	*i* Pg	Pg	16 12 44.2	-0.5
VTS				*e*Sg	Sg	16 12 50.3	-0.6
VTS	Vitosha	0.46	297	*i* Pg	Pg	16 12 44.2	-0.5
VTS				Sg	Sg	16 12 50.2	-0.6
VTS	Vitosha	0.46	297⇑	*i*P	Pg	16 12 44.3	-0.5
VTS	Vitosha	0.46	297	P	Pg	16 12 44.2	-0.5
VTS				*e*Sg	Sg	16 12 50.3	-0.6
KKB	Krupnik	0.72	225	*i* Pg	Pg	16 12 49.0	-0.5
KKB				Sg	Sg	16 12 58.1	-0.9
KKB	Krupnik	0.72	225	*i* Pg	Pg	16 12 49.0	-0.5
PLD	Plovdiv	0.75	111	P	Pb	16 12 49.5	-1.2
PLD				S	Sg	16 13 01.0	+1.1
PLD	Plovdiv	0.75	111	*i* Pg	Pb	16 12 49.9	-0.8
PLD				Sg	Sb	16 13 02.4	+1.5
PLD	Plovdiv	0.75	111	P	Pb	16 12 49.5	-1.2
PLD	Plovdiv	0.75	111	*i* Pg	Pb	16 12 49.9	-0.8
PLD				S	Sg	16 13 01.0	+1.1
MMB	Musomiste	0.79	182	*i* Pg	Pb	16 12 51.2	-0.2
MMB				Sg	Sn	16 13 04.2	-0.3
MMB	Musomiste	0.79	182⇑	*i*P	Pb	16 12 51.0	-0.4
MMB	Musomiste	0.79	182	*i* Pg	Pb	16 12 51.2	-0.2
MMB				Sg	Sn	16 13 04.2	-0.3
MPEP	Malo Peshtene	0.98	359	*i* P	Pb	16 12 54.4	-0.1
MPEP				Sg	Sn	16 13 09.6	+0.5
MPEP	Malo Peshtene	0.98	359	*i* P	Pb	16 12 54.4	-0.1
RZN	Rozhen	0.99	134	*i* Pg	Pb	16 12 54.0	-0.9
RZN				Sg	Sb	16 13 09.7	+2.1
RZN	Rozhen	0.99	134	*i* Pg	Pb	16 12 54.0	-0.9
NVR	Nevrokopi	1.03	176	P	Pb	16 12 55.1	-0.4
NVR				S	Sg	16 13 10.3	+1.4
NVR	Nevrokopi	1.03	176	*e*PB	Pb	16 12 54.7	-0.8
NVR	Nevrokopi	1.03	176	*e*Pb	Pb	16 12 54.7	-0.8
NVR	Nevrokopi	1.03	176	P	Pb	16 12 55.1	-0.4
NVR				S	Sg	16 13 10.3	+1.4
ZAPS	Zavoj	1.22	317	*e*Pg	Pn	16 12 57.9	-0.7
ZAPS				*e*Sg	Sb	16 13 14.5	0.0
SRS	Serrai	1.27	186	P	Pn	16 12 59.2	-0.1
SRS				S	Sg	16 13 17.7	+1.3
SRS	Serrai	1.27	186	*e*PN	Pn	16 12 59.2	-0.1
SRS	Serrai	1.27	186	P	Pn	16 12 59.2	-0.1
SRS				S	Sg	16 13 17.7	+1.3
DIM	Dimitrovgrad	1.36	103	*i* P	Pn	16 13 01.6	+1.2
DIM				S	Sg	16 13 20.4	+1.2
DIM	Dimitrovgrad	1.36	103	*i* P	Pn	16 13 01.6	+1.2
KNT	Kendrikon	1.38	208	P	Pn	16 13 00.9	+0.1
KNT				S	Sn	16 13 17.8	-1.2
KNT	Kendrikon	1.38	208	*e*PN	Pn	16 13 01.2	+0.4
KNT	Kendrikon	1.38	208	P	Pn	16 13 00.9	+0.1
KNT	Kendrikon	1.38	208	*e*Pn	Pn	16 13 01.2	+0.4
KNT				S	Sn	16 13 17.8	-1.2
VAY	Valandovo	1.38	220	P	Pn	16 13 00.7	-0.1
VAY				S	Sb	16 13 20.1	+1.0
VAY	Valandovo	1.38	220	*e*Pg	Pn	16 13 00.8	-0.1
VAY				*e*Sg	Sn	16 13 18.8	-0.3
VAY	Valandovo	1.38	220	*i* P	Pn	16 13 00.9	+0.1
VAY				S	Sn	16 13 18.5	-0.6
VAY				S	Sb	16 13 20.0	+1.0
VAY	Valandovo	1.38	220	*i* Pg	Pn	16 13 00.9	+0.1
VAY				*e*Sg	Sn	16 13 18.8	-0.3
VAY	Valandovo	1.38	220	*i* P	Pn	16 13 00.9	+0.1
VAY				*e*Sg	Sn	16 13 18.8	-0.3
VAY				S	Sb	16 13 20.1	+1.0
PVL	Pavlikeni	1.43	54	*i* P	Pn	16 13 00.0	-1.4
PVL				S	Sn	16 13 16.7	-3.5
PVL	Pavlikeni	1.43	54	*i* P	Pn	16 13 00.0	-1.4
PVL				S	Sn	16 13 16.7	-3.5
KDZ	Kurdzhali	1.43	120	*i* P	Pn	16 13 01.0	-0.5
KDZ				S	Sn	16 13 19.4	-0.9
KDZ	Kurdzhali	1.43	120⇓	*i*P	Pn	16 13 00.7	-0.8
KDZ	Kurdzhali	1.43	120	S	Sn	16 13 20.9	+0.6
KDZ	Kurdzhali	1.43	120	*i* P	Pn	16 13 01.0	-0.5
KDZ				S	Sn	16 13 19.4	-0.9
KAVA	Kavala	1.49	158	P	Pn	16 13 02.7	+0.4
KAVA				S	Sg	16 13 24.1	+0.5
KAVA	Kavala	1.49	158	*e*PN	Pn	16 13 02.8	+0.4
KAVA	Kavala	1.49	158	P	Pn	16 13 02.7	+0.4
KAVA				S	Sg	16 13 24.1	+0.5
SOH	Sokhos	1.59	191	P	Pn	16 13 04.0	+0.3
SOH				S	Sn	16 13 24.9	+0.7
SOH	Sokhos	1.59	191	*e*PN	Pn	16 13 04.0	+0.3
SOH	Sokhos	1.59	191	P	Pn	16 13 04.0	+0.3
SOH				S	Sn	16 13 24.9	+0.7
GRG	Griva	1.75	216	P	Pn	16 13 06.4	+0.5
GRG				S	Sb	16 13 29.8	+0.1
GRG	Griva	1.75	216	*e*PN	Pn	16 13 07.8	+0.1
GRG	Griva	1.75	216	P	Pn	16 13 06.4	+0.5
GRG	Griva	1.75	216	*e*Pn	Pb	16 13 07.8	+0.1
GRG				S	Sb	16 13 29.8	+0.1
SKO	Skopje	1.77	257	*e*Sn	Sn	16 13 27.0	-1.8
SKO	Skopje	1.77	257	*e*Sn	Sn	16 13 27.0	-1.8
SZH	Strazhica	1.83	60	*i* P	Pb	16 13 10.4	+1.4
SZH				S	Sg	16 13 35.3	+1.0
THE	Thessaloniki	1.85	199	P	Pn	16 13 07.6	+0.4
THE				S	Sb	16 13 31.9	-0.5
THE	Thessaloniki	1.85	199	*e*PN	Pn	16 13 08.3	+1.1
THE	Thessaloniki	1.85	199	P	Pn	16 13 07.6	+0.4
THE	Thessaloniki	1.85	199	*e*Pn	Pn	16 13 08.3	+1.1
THE				S	Sb	16 13 31.9	-0.5
HORT	Hortiatis	1.85	196	P	Pn	16 13 07.7	+0.4
HORT				S	Sb	16 13 32.5	-0.1
HORT	Hortiatis	1.85	196	*e*PN	Pn	16 13 07.5	+0.2
HORT	Hortiatis	1.85	196	P	Pn	16 13 07.7	+0.4
HORT				S	Sb	16 13 32.5	-0.1
BOLS	Boljevac	1.96	318	*e*Pn	Pn	16 13 10.0	+1.2
BOLS				*e*Sn	Sn	16 13 33.6	+0.2
BOLS	Boljevac	1.96	318	*e*Pn	Pn	16 13 10.0	+1.2
BOLS				*e*Sn	Sn	16 13 33.6	+0.2
PLG	Polygyros	2.02	187	P	Pn	16 13 10.2	+0.6
PLG				S	Sb	16 13 36.7	-0.7
PLG	Polygyros	2.02	187	*e*PB	Pb	16 13 09.8	+0.2
PLG	Polygyros	2.02	187	*e*Pb	Pb	16 13 09.8	+0.2
PLG	Polygyros	2.02	187	P	Pn	16 13 10.2	+0.6
PLG				S	Sb	16 13 36.7	-0.7
JMB	Yambol	2.09	87⇑	*i*P	Pn	16 13 08.1	-2.4
JMB	Yambol	2.09	87	S	Sn	16 13 33.4	-3.1
SELS	Selova	2.12	294	*e*Pn	Pn	16 13 11.1	+0.1
SELS				*e*Sn	Sn	16 13 36.8	-0.5
ALN	Alexandroupoli	2.26	130	P	Pn	16 13 13.4	+0.5
ALN				S	Sb	16 13 43.4	-1.0
ALN	Alexandroupoli	2.26	130	*e*PN	Pn	16 13 16.8	+0.4
ALN	Alexandroupoli	2.26	130	P	Pn	16 13 13.4	+0.5
ALN	Alexandroupoli	2.26	130	*e*Pn	Pb	16 13 16.8	+0.4
ALN				S	Sb	16 13 43.4	-1.0
HUMR	Humele	2.32	22⇑	*i*P	Pb	16 13 18.9	+1.4
SMTH	Samothraki Isl	2.33	145	*e*PB	Pb	16 13 16.8	-0.7
SMTH	Samothraki Isl	2.33	145	*e*Pb	Pb	16 13 16.8	-0.7
FNA	Florina	2.40	229	*e*PN	Pb	16 13 18.5	-0.3
FNA	Florina	2.40	229	*e*Pn	Pb	16 13 18.5	-0.3
PAIG	Paliouri	2.45	181	P	Pn	16 13 15.4	0.0
PAIG	Paliouri	2.45	181	*e*PN	Pn	16 13 15.5	0.0
PAIG	Paliouri	2.45	181	*e*Pn	Pn	16 13 15.5	0.0
LIT	Litokhoron	2.47	203	*e*PN	Pn	16 13 16.6	+0.8
LIT	Litokhoron	2.47	203	*e*Pn	Pn	16 13 16.6	+0.8
SVIS	Svilajnac	2.65	316	*e*Pn	Pn	16 13 19.3	+1.1
SVIS				*e*Sn	Sn	16 13 50.1	-0.2
GRUS	Gruza	2.69	305	*e*Pn	Pn	16 13 19.0	+0.2
GRUS				*e*Sn	Sn	16 13 52.2	+0.8
GRUS	Gruza	2.69	305	*e*Pn	Pn	16 13 19.0	+0.2
GRUS				*e*Sn	Sn	16 13 52.2	+0.8
LIA	Limnos Island	2.70	156	*e*PN	Pn	16 13 20.2	+1.3
LIA	Limnos Island	2.70	156	*e*Pn	Pn	16 13 20.2	+1.3
IVAS	Ivanjica	2.91	296	*e*Pn	Pn	16 13 22.3	+0.5
IVAS				*e*Sn	Sn	16 13 56.7	-0.1
IVAS	Ivanjica	2.91	296	*e*Pn	Pn	16 13 22.3	+0.5
IVAS				*e*Sn	Sn	16 13 56.7	-0.1
SJES	Sjenica	2.92	289	*e*Pn	Pn	16 13 23.0	+0.9
SJES				*e*Sn	Sn	16 13 56.2	-1.1
SULR		2.93	37⇑	*i*P	Pb	16 13 30.0	+2.2
XOR	Xorichti	3.04	188	*e*PN	Pn	16 13 23.6	-0.1
XOR	Xorichti	3.04	188	*e*Pn	Pn	16 13 23.6	-0.1
ARR	Arges	3.05	12⇑	*i*P	Pn	16 13 24.5	+0.7
LOT	Lotru	3.07	0⇓	*i*P	Pn	16 13 23.9	-0.2
GZR	Gura Zlata	3.10	347⇑	*i*P	Pn	16 13 24.0	-0.4
NEO	Neokhori	3.10	188	*e*PN	Pn	16 13 24.5	+0.1
NEO	Neokhori	3.10	188	*e*Pn	Pn	16 13 24.5	+0.1
THL	Klokotos Trika	3.11	206	*e*PN	Pn	16 13 25.6	+1.1
THL	Klokotos Trika	3.11	206	*e*Pn	Pn	16 13 25.6	+1.1
VOIR		3.19	16⇓	*i*P	Pn	16 13 25.9	+0.1
DIVS	Divibare	3.25	303	*e*Pn	Pn	16 13 26.4	-0.1
DIVS				*e*Sn	Sn	16 14 04.4	-0.8
DIVS	Divibare	3.25	303	*e*Pn	Pn	16 13 26.4	-0.1
DIVS				*e*Sn	Sn	16 14 04.4	-0.8
ISR	Istrita	3.40	35⇓	*i*P	Pb	16 13 37.7	+1.8
BZS	Buzias	3.59	335	*e*Pn	Pn	16 13 30.8	-0.4
BZS				*e*Sn	Sn	16 14 14.1	+0.6
BZS	Buzias	3.59	335⇑	*i*P	Pn	16 13 30.7	-0.4
BZS	Buzias	3.59	335	*e*Pn	Pn	16 13 30.8	-0.4
BZS				*e*Sn	Sn	16 14 14.1	+0.6

MAN 11 16:37:47,8°.81N×123°.14E,h18km,mb4.3,ML3.1,MS2.9, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.98	166	*e*P	Pb	16 38 05.4	-0.1
PAGZ				*e*S	Sn	16 38 19.8	+0.4
TBP	Tagbilaran	1.13	39	*e*P	Pn	16 38 07.2	-0.7
TBP				*e*S	Sb	16 38 19.9	-2.6
IPIL	Ipil	1.16	209⇓	*i*P	Pb	16 38 08.6	+0.1
GUIM	Jordan	1.89	343	*e*P	Pn	16 38 19.0	+0.6
CTBH	Cotabato--PC H	1.92	145⇑	*i*P	Pb	16 38 20.3	-1.2
MSLP	Maasin	2.15	52	*e*P	Pn	16 38 23.2	+1.3

IDC 11 17:01:36.6±0.9,36°.22N×76°.56E,h0km,mb3.7/7, mb1 3.8/10,mb1mx3.6/27,mbtmp3.7/10,ML3.4/3,MS4.5/1, Ms1 4.5/1,ms1mx2.7/37,Error ellipse: s-maj=28.4km s-min=18.4km az=50.0

ISCJB 11 17:01:46.9±0.5,36°.65N±0°.04×76°.65E±0°.09,h86km, mb3.5/8,Error ellipse: s-maj=10.4km s-min=5.2km az=173.8

NNC 11 17:01:52.3±6.3,36°.96N×76°.81E,h99km±56km,mb3.0, mpv3.3,Error ellipse: s-maj=54.9km s-min=29.6km az=1.0

ISC 11 17:01:48.2±0.7,36°.62N±0°.05×76°.75E±0°.10,h86km,n18, σ1°.60/22,mb3.4/8,3D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	4.11	189	*e*P	Pn	17 02 51.0	+2.0
DLH				*e*S	Sn	17 03 35.0	-1.0
SMLA	Simla	5.48	176	*e*P	Pn	17 03 08.8	+1.4
SMLA				*e*S	Sn	17 04 05.2	-3.9
AAK	Ala-Archa	6.26	345	Pn	Pn	17 03 21.6	+3.5
	0.2nm,0.3s,baz=142,slow=12,SNR=3.2						
AAK				Sn	Sn	17 04 27.0	-1.2
	0.3nm,0.3s,baz=326,slow=20,SNR=3.6						
KK31	Karatay Array	8.06	325	P	Pn	17 03 43.0	+0.6
	0.5nm,0.3s,baz=134,slow=13,SNR=14						
KK31				⇓S	Sn	17 05 10.3	-1.6
	5.0nm,0.6s,baz=154,slow=24,SNR=14						
MK31	Makanchi Array	10.98	20	⇓P	Pn	17 04 21.8	-0.4
	0.1nm,0.3s,baz=202,slow=14,SNR=10						
MK31				S	Sn	17 06 19.6	-3.4
	0.7nm,0.3s,baz=187,slow=25,SNR=6.2						
MKAR	Makanchi Array	10.98	20	Pn	Pn	17 04 22.5	+0.3
	0.2nm,0.3s,baz=204,slow=14,SNR=9.7						
MKAR				Sn	Sn	17 06 23.9	+0.9
	0.3nm,0.3s,baz=182,slow=25,SNR=6.7						
AB31	Akbulak array	17.59	321	P	Pn	17 05 48.8	+1.3
	1.0nm,0.5s,baz=128,slow=12,SNR=33						
AKTO	Aktyubinsk	19.30	322	⇓P	P	17 06 06.2	+0.1
	2.8nm,0.8s						
AKTO	Aktyubinsk	19.30	322	P	P	17 06 06.7	+0.6
	0.5nm,0.3s,baz=134,slow=9.9,SNR=8.9						
SONM	Songino Array	24.50	53	P	P	17 07 00.9	+1.5
	1.0nm,0.8s,baz=264,slow=9.2,SNR=4.9						
CMAR	Chiang Mai Arr	26.62	127	P	P	17 07 20.1	+1.4
	0.1nm,0.3s,baz=304,slow=9.7,SNR=4.2						
FINES	FINESS Array B	40.02	325	P	P	17 09 14.6	+0.3
	0.9nm,0.3s,baz=115,slow=9.4,SNR=16						
ARCES	ARCESS Array B	42.86	336	P	P	17 09 37.9	+0.4
	8.5nm,1.0s,baz=110,slow=9.7,SNR=3.5						
NOA	NORSAR Array B	47.08	323	P	P	17 10 10.5	-0.6
	0.6nm,0.8s,baz=95,slow=8.3,SNR=2.9						
JCJ	Chichijima	55.44	80	LR	LR	17 35 45.6	
	comp=Z,434nm,21.3s,baz=120,slow=37						
TORD	Torodi Ar. Bea	70.35	272	P	P	17 12 52.0	-1.0
	0.2nm,0.5s,baz=44,slow=6.1,SNR=3.6						
WRA	Warramunga Arr	78.21	126	P	P	17 13 37.8	-0.7
	0.7nm,1.1s,baz=322,slow=6.0,SNR=4.1						
ASAR	Alice Springs	80.61	129	P	P	17 13 50.6	-1.0
	0.3nm,0.9s,baz=317,slow=6.4,SNR=3.3						

CSEM 11 17:02:43.8±0.5,35°.17N×0°.83W,h5km,ML3.6,Error ellipse: s-maj=12.0km s-min=7.3km az=163.0

CRAAG 11 17:02:45.2,35°.38N×0°.73W,Ml3.6

MDD 11 17:02:47.9±0.9,35°.13N×1°.11W,h0km,mbLg2.3/7,Error ellipse: s-maj=11.6km s-min=6.6km az=178.0,PRXIMO

ISC 11 17:02:41.8±1.4,35°.21N±0°.05×0°.86W±0°.04,h1km±13km, n40,σ1°.98/52,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	Oulhaca	0.46	275	P	Pn	17 02 58.0	+2.5
OLHC	Oulhaca	0.46	275	P	Pn	17 02 58.0	+2.5
OLHC	Oulhaca	0.46	275	P	Pn	17 02 58.0	+2.5
USTO	Oran	0.58	26	P	Pg	17 02 54.0	+1.1
USTO	Oran	0.58	26	P	Pg	17 02 54.0	+1.1
ODJA	Bouhanifia	0.59	78	P	Pb	17 02 55.0	0.0
ODJA	Bouhanifia	0.59	78	P	Pb	17 02 55.0	0.0
ODJA	Bouhanifia	0.59	78	P	Pb	17 02 55.0	0.0
ZAI	Zaio	1.56	262	P	Pb	17 03 13.0	+1.5
ZAI				S	Sn	17 03 32.0	+0.3
ZAI	Zaio	1.56	262	P	Pb	17 03 13.0	+1.5
ZAI				S	Sn	17 03 32.0	+0.3
EBER	Berja	2.35	316	P	Pn	17 03 24.3	+2.6
	1.3nm,0.1s,SNR=19						
EBER				S	Sn	17 03 50.3	-1.0
	5.7nm,0.3s						
EBER	Berja	2.35	316	P	Pn	17 03 24.3	+2.6
	1.3nm,0.1s,SNR=19						
EBER				S	Sn	17 03 50.3	-1.0
	5.7nm,0.3s						
EQUE	Quentar	2.88	314	P	Pn	17 03 32.7	+3.8
	1.3nm,0.1s,SNR=4.0						
EQUE	Quentar	2.88	314	P	Pn	17 03 32.7	+3.8
	1.3nm,0.1s,SNR=4.0						
EHUE	Huescar	2.95	332	P	Pb	17 03 36.0	+0.8
	0.3nm,0.1s,SNR=7.9						
EHUE				S	Sn	17 04 07.5	+1.6
	5.0nm,0.3s,SNR=7.9						
EHUE	Huescar	2.95	332	P	Pb	17 03 36.0	+0.8
	0.3nm,0.1s,SNR=7.9						
EHUE				S	Sn	17 04 07.5	+1.6
	5.0nm,0.3s,SNR=7.9						
EQES	Quesada	3.14	326	P	Pb	17 03 38.4	-0.1
	1.9nm,0.1s,SNR=15						
EQES				S	Sn	17 04 11.7	+1.1
	1.2nm,0.3s,SNR=5.1						
EQES	Quesada	3.14	326	P	Pb	17 03 38.4	-0.1
	1.9nm,0.1s,SNR=15						
EQES				S	Sn	17 04 11.7	+1.1
	1.2nm,0.3s,SNR=5.1						
EMIJ	Mijas	3.45	294	P	Pn	17 03 37.3	+0.6
	0.6nm,0.2s,SNR=6.9						
EMIJ				S	Sn	17 04 11.7	-6.5
	2.3nm,0.2s						
EMIJ	Mijas	3.45	294	P	Pn	17 03 37.3	+0.6
	0.6nm,0.2s,SNR=6.9						
EMIJ				S	Sn	17 04 11.7	-6.5
	2.3nm,0.2s						
ETOB	Tobarra	3.47	351	P	Pb	17 03 43.9	-0.2
	1.8nm,0.1s,SNR=53						
ETOB				S	Sn	17 04 22.5	+3.7
	3.8nm,0.2s						
ETOB	Tobarra	3.47	351	P	Pb	17 03 43.9	-0.2
	1.8nm,0.1s,SNR=53						
ETOB				S	Sn	17 04 22.5	+3.7
	3.8nm,0.2s						
EBEN	Beniarda	3.52	8	P	Pb	17 03 45.8	+0.8
	0.1nm,0.1s,SNR=7.9						
EBEN				S	Sn	17 04 22.7	+2.7
	0.3nm,0.3s,SNR=7.9						
EBEN	Beniarda	3.52	8	P	Pb	17 03 45.8	+0.8
	0.1nm,0.1s,SNR=7.9						
EBEN				S	Sn	17 04 22.7	+2.7
	0.3nm,0.3s,SNR=7.9						
EVIA	Vianos	3.67	339	P	Pb	17 03 46.3	-1.1
	1.9nm,0.1s,SNR=13						
EVIA				S	Sn	17 04 25.0	+1.4
	24nm,0.3s,SNR=5.6						
EVIA	Vianos	3.67	339	P	Pb	17 03 46.3	-1.1
	1.9nm,0.1s,SNR=13						
EVIA				S	Sn	17 04 25.0	+1.4
	24nm,0.3s,SNR=5.6						
EIBI	Ibiza	4.20	24	P	Pb	17 03 56.3	-0.1
	0.7nm,0.1s,SNR=6.6						
EIBI				S	Sb	17 04 44.5	-3.0
	3.1nm,0.2s						
EIBI	Ibiza	4.20	24	P	Pb	17 03 56.3	-0.1
	0.7nm,0.1s,SNR=6.6						
EIBI				S	Sb	17 04 44.5	-3.0
	3.1nm,0.2s						
EADA	Adamuz	4.20	316	P	Pn	17 03 50.6	+3.7
	0.1nm,0.1s,SNR=7.9						
EADA	Adamuz	4.20	316	P	Pn	17 03 50.6	+3.7
	0.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.65	309	P	Pn	17 03 54.9	+1.8
	0.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.65	309	P	Pn	17 03 54.9	+1.8
	0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.15	3	P	Pb	17 04 08.4	-4.4
	0.4nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.15	3	P	Pb	17 04 08.4	-4.4
	0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	5.33	300	P	Pn	17 04 04.0	+1.5
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	17 05 00.2	-4.3
	0.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.33	300	P	Pn	17 04 04.0	+1.5
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	17 05 00.2	-4.3
	0.2nm,0.2s,SNR=7.9						
EGRO	El Granado	5.82	295	P	Pn	17 04 11.3	+2.1
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	17 05 11.6	-5.0
	0.5nm,0.1s,SNR=7.9						
EGRO	El Granado	5.82	295	P	Pn	17 04 11.3	+2.1
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	17 05 11.6	-5.0
	0.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	6.06	308	P	Pn	17 04 14.9	+2.4
	0.6nm,0.1s,SNR=12						
EBAD	Badajoz	6.06	308	P	Pn	17 04 14.9	+2.4
	0.6nm,0.1s,SNR=12						

ISCJB 11 17:15:37.6±0.4,26°.17S±0°.08×70°.78E±0°.08,h10km, mb4.3/24,MS4.1/13,Error ellipse: s-maj=12.2km s-min=10.7km az=177.1

IDC 11 17:15:37.9±0.5,26°.15S×70°.72E,h0km,mb4.3/19, mb1 4.4/19,mb1mx4.2/31,mbtmp4.3/19,MS4.0/13, Ms1 4.0/13,ms1mx3.8/36,Error ellipse: s-maj=15.6km s-min=14.3km az=7.0

NEIC 11 17:15:39.4±0.3,26°.15S×70°.73E,h10km,mb4.6/7,Error ellipse: s-maj=8.7km s-min=7.6km az=176.0

ISC 11 17:15:39.7±0.5,26°.2S±0°.1×70°.72E±0°.09,h10km,n72, σ0°.98/52,mb4.5/24,MS4.1/13,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.50	5	T	T	17 38 50.4	
	baz=186,slow=76,SNR=70						
H08S2	Diego Garcia H	18.50	6	T	T	17 38 50.4	
	baz=186,slow=76,SNR=99						
H08S3	Diego Garcia H	18.52	6	T	T	17 38 51.7	
	baz=186,slow=76,SNR=95						
H08N3	Diego Garcia H	19.72	1	T	T	17 41 08.6	
	baz=274,SNR=4.2						
H08N1	Diego Garcia H	19.72	1	T	T	17 40 27.0	
	baz=274,slow=75,SNR=3.7						
H08N2	Diego Garcia H	19.74	1	T	T	17 40 31.8	
	baz=274,slow=75,SNR=4.4						
H01W2	Cape Leeuwin H	38.15	114	T	T	18 03 26.6	
	baz=271,slow=75,SNR=30						
H01W3	Cape Leeuwin H	38.15	114	T	T	18 03 33.3	
	baz=271,slow=75,SNR=25						
H01W1	Cape Leeuwin H	38.16	114	T	T	18 03 25.2	
	baz=271,slow=75,SNR=30						
PSI	Prapat	39.67	48	P	P	17 23 13.2	+0.9
PSI	Prapat	39.67	48	P	P	17 23 13.2	+0.9
	3.7nm,0.3s,baz=207,slow=11,SNR=5.1						
PSI				LR	LR	17 35 22.0	
	comp=Z,218nm,21.8s,baz=201,slow=30						
LBTB	Lobatse	40.56	261	P	P	17 23 20.2	+0.6
LBTB	Lobatse	40.56	261	P	P	17 23 20.2	+0.6
	1.7nm,0.6s,baz=121,slow=5.9,SNR=3.2						
KMBO	Kilima Mbogo	40.71	302	*e*P	P	17 23 22.2	+1.2
	5.0nm,1.0s						
KMBO	Kilima Mbogo	40.71	302	P	P	17 23 21.7	+0.7
	1.2nm,0.5s,baz=85,slow=6.4,SNR=5.7						
LSZ	Lusaka	41.07	277	P	P	17 23 23.8	-0.1
LSZ	Lusaka	41.07	277	P	P	17 23 23.8	-0.1
	1.6nm,0.4s,baz=82,slow=8.5,SNR=7.3						
MAW	Mawson	41.73	185	LR	LR	17 36 45.4	
	comp=Z,509nm,19.6s,baz=38,slow=30						
SUR	Sutherland	43.66	250	LR	LR	17 38 20.1	
	comp=Z,254nm,18.3s,baz=341,slow=31						
TSUM	Tsumeb	49.24	267	P	P	17 24 28.1	-0.7
TSUM	Tsumeb	49.24	267	P	P	17 24 28.1	-0.7
	1.7nm,0.8s,baz=149,slow=5.9,SNR=3.5						
FITZ	Fitzroy Crossi	51.19	93	P	P	17 24 44.0	+0.5
FITZ	Fitzroy Crossi	51.19	93	P	P	17 24 44.0	+0.5
	5.8nm,0.9s,baz=246,slow=12,SNR=6.1						
CM31	Chiang Mai Arr	52.15	35	*e*P	P	17 24 50.6	0.0
	7.9nm,0.9s						
CMAR	Chiang Mai Arr	52.15	35	P	P	17 24 50.8	+0.2
CMAR	Chiang Mai Arr	52.15	35	P	P	17 24 50.8	+0.2
	5.5nm,0.9s,baz=224,slow=7.2,SNR=41						
CMAR				LR	LR	17 42 44.4	
	comp=Z,102nm,20.3s,baz=41,slow=31						
CHTO	Chiang Mai	52.45	34	*e*P	P	17 24 52.5	-0.2
	9.4nm,1.2s						
SHL	Shillong	55.34	23	*e*x	P	17 25 15.0	+1.0
ASAR	Alice Springs	56.85	102	P	P	17 25 24.3	-0.6
ASAR	Alice Springs	56.85	102	P	P	17 25 24.3	-0.6
	5.2nm,0.7s,baz=249,slow=6.6,SNR=81						
AS31	Alice Springs	56.85	102	*e*P	P	17 25 24.4	-0.5
WRA	Warramunga Arr	58.37	98	P	P	17 25 35.2	-0.4
WRA	Warramunga Arr	58.37	98	P	P	17 25 35.2	-0.4
	5.3nm,0.7s,baz=253,slow=7.2,SNR=28						
WRAB	Tennant Creek	58.38	98	*e*P	P	17 25 35.5	-0.2
LSA	Lhasa	58.91	21	*e*P	P	17 25 38.9	-0.7
	8.8nm,0.9s						
SNAA	Sanae	60.22	200	P	P	17 25 47.5	-0.2
SNAA	Sanae	60.22	200	P	P	17 25 47.5	-0.2
	0.9nm,0.8s,baz=108,slow=12,SNR=4.6						
STKA	Stephens Creek	61.25	114	P	P	17 25 54.7	-0.5
STKA	Stephens Creek	61.25	114	P	P	17 25 54.7	-0.5
	1.0nm,0.3s,baz=319,slow=11,SNR=4.4						
QSPA	South Pole Qui	63.96	180	P	P	17 26 12.8	-0.2
QSPA	South Pole Qui	63.96	180	P	P	17 26 12.8	-0.2
	3.6nm,0.8s,baz=265,slow=3.2,SNR=13						
VNDA	Vanda	64.89	166	*e*P	P	17 26 18.8	+0.1
	5.6nm,0.9s						
VNDA	Vanda	64.89	166	P	P	17 26 18.9	+0.2
	3.7nm,0.8s,baz=276,slow=7.2,SNR=18						
AAK	Ala-Archa	68.55	3	LR	LR	17 54 39.2	
	comp=Z,111nm,19.1s,baz=242,slow=34						
MK31	Makanchi Array	73.37	8	*e*P	P	17 27 10.4	-1.2
MKAR	Makanchi Array	73.37	8	P	P	17 27 10.5	-1.1
MKAR	Makanchi Array	73.37	8	P	P	17 27 10.5	-1.1
	3.9nm,0.8s,baz=194,slow=6.6,SNR=31						
KBZ	Khabaz	74.10	339	LR	LR	17 57 13.6	
	comp=Z,112nm,18.5s,baz=142,slow=34						
BRTR	Keskin Array B	74.12	331	P	P	17 27 15.4	-0.9
BRTR	Keskin Array B	74.12	331	P	P	17 27 15.4	-0.9
	0.8nm,0.9s,baz=155,slow=11,SNR=3.5						
BRTR				LR	LR	17 59 07.2	
	comp=Z,53nm,18.7s,baz=307,slow=35						
KURK	Kurchatov	76.87	5	*e*P	P	17 27 30.7	-0.8
	2.4nm,1.0s						
TORD	Torodi Ar. Bea	77.63	291	P	P	17 27 36.5	-0.2
TORD	Torodi Ar. Bea	77.63	291	P	P	17 27 36.5	-0.2
	0.9nm,0.9s,baz=98,slow=3.5,SNR=4.4						
BVAR	Borovoye Array	78.86	360	P	P	17 27 42.9	+0.3
BVAR	Borovoye Array	78.86	360	P	P	17 27 42.9	+0.3
	0.6nm,0.8s,baz=164,slow=7.1,SNR=5.3						
SONM	Songino Array	80.35	23	P	P	17 27 50.7	-0.3
SONM	Songino Array	80.35	23	P	P	17 27 50.7	-0.3

	6.2nm,1.0s,baz=205,slow=3.1,SNR=24							
SONM				LR	LR	18 05 48.4		
	comp=Z,84nm,18.1s,baz=236,slow=38							
ULN	**Ulaanbaatar**	**80.61**	**24**	*eP*	**P**	**17 27 51.5**	**-0.9**	
	8.8nm,1.0s							
ZAA0	**Zalesovo Array**	**80.72**	**8**	*eP*	**P**	**17 27 51.5**	**-1.2**	
ZALV	**Zalesovo Beam**	**80.72**	**8**	P	**P**	**17 27 51.1**	**-1.5**	
ZALV	**Zalesovo Beam**	**80.72**	**8**	P	**P**	**17 27 51.1**	**-1.5**	
	1.8nm,0.7s,baz=199,slow=4.1,SNR=8.7							
JNU	**Nakatsue**	**82.14**	**47**	LR	LR	18 00 49.0		
	comp=Z,65nm,19.4s,baz=73,slow=33							
KSRS	**Korea Array**	**83.01**	**42**	LR	LR	18 03 00.1		
	comp=Z,80nm,18.2s,baz=332,slow=34							
GERES	**GERESS Array B**	**90.36**	**326**	LR	LR	18 11 22.9		
	comp=Z,111nm,18.1s,baz=14,slow=37							
ASAJ	**Asahikawa**	**95.91**	**43**	LR	LR	18 08 28.8		
	comp=Z,54nm,21.2s,baz=206,slow=33							
NOA	**NORSAR Array B**	**99.28**	**335**	LR	LR	18 11 26.7		
	comp=Z,56nm,19.0s,baz=280,slow=34							
YKA	**Yellowknife Ar**	**143.51**	**4**	PKPpre	PKPpre	17 35 08.7		
YKA	**Yellowknife Ar**	**143.51**	**4**	PKhKP	PKPpre	17 35 08.7		
	0.3nm,0.6s,baz=337,slow=3.6,SNR=5.7							
NVAR	**Mina Array Bea**	**165.60**	**30**	PKP	**PKPdf**	**17 35 48.5**	**+3.5**	
NVAR	**Mina Array Bea**	**165.60**	**30**	PKP	**PKPdf**	**17 35 48.5**	**+3.5**	
	0.4nm,0.7s,baz=318,slow=1.2,SNR=4.0							
TXAR	**Lajitas Array**	**174.12**	**304**	PKP	**PKPdf**	**17 35 49.8**	**-0.3**	
TXAR	**Lajitas Array**	**174.12**	**304**	PKP	**PKPdf**	**17 35 49.8**	**-0.3**	
	0.4nm,0.8s,baz=116,slow=2.1,SNR=4.5							

IDC 11 17:21:12.7±1.2, 45.98S×96.25E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, MS4.0/13, Ms1 4.0/13, ms1mx3.8/27, Error ellipse: s-maj=45.2km s-min=22.2km az=118.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.50**	**57**	T	T	17 43 23.9	
	baz=226,slow=74,SNR=63						
H01W3	**Cape Leeuwin H**	**17.51**	**57**	T	T	17 43 35.5	
	baz=226,slow=74,SNR=83						
H01W1	**Cape Leeuwin H**	**17.52**	**57**	T	T	17 43 27.9	
	baz=226,slow=74,SNR=89						
NWAO	**Narrogin (SRO)**	**20.71**	**58**	LR	LR	17 31 56.2	
	comp=Z,406nm,21.1s,baz=242,slow=31						
FITZ	**Fitzroy Crossi**	**36.94**	**51**	LR	LR	17 41 30.3	
	comp=Z,100nm,18.1s,baz=132,slow=33						
STKA	**Stephens Creek**	**37.47**	**84**	LR	LR	17 40 41.6	
	comp=Z,264nm,21.1s,baz=204,slow=31						
ASAR	**Alice Springs**	**37.60**	**67**	P	P	17 28 28.6	-0.6
	0.8nm,1.0s,baz=214,slow=9.9,SNR=4.7						
ASAR				LR	LR	17 41 31.8	
	comp=Z,195nm,21.4s,baz=270,slow=32						
VNDA	**Vanda**	**40.34**	**162**	LR	LR	17 44 12.5	
	comp=Z,181nm,19.9s,baz=312,slow=34						
WRA	**Warramunga Arr**	**40.59**	**63**	P	P	17 28 54.6	+0.4
	2.3nm,1.0s,baz=223,slow=7.7,SNR=6.9						
WRA				LR	LR	17 43 42.0	
	comp=Z,304nm,21.6s,baz=225,slow=33						
QSPA	**South Pole Qui**	**44.17**	**180**	P	P	17 29 22.9	-0.1
	0.8nm,0.6s,baz=70,slow=4.7,SNR=5.8						
PSI	**Prapat**	**48.63**	**4**	LR	LR	17 47 34.9	
	comp=Z,138nm,18.3s,baz=22,slow=33						
OPO	**Ambohidratompo**	**48.68**	**287**	LR	LR	17 46 10.4	
	comp=Z,164nm,19.8s,baz=201,slow=31						
SNAA	**Sanae**	**49.83**	**204**	P	P	17 30 06.9	-0.1
	0.7nm,0.7s,baz=160,slow=12,SNR=4.6						
RPZ	**Rata Peaks**	**51.23**	**116**	LR	LR	17 47 46.0	
	comp=Z,134nm,19.6s,baz=216,slow=31						
DZM	**Mont Dzumac**	**60.86**	**92**	LR	LR	17 51 58.5	
	comp=Z,113nm,19.0s,baz=215,slow=30						
CMAR	**Chiang Mai Arr**	**64.17**	**3**	P	P	17 31 49.0	0.0
	1.2nm,0.9s,baz=201,slow=5.1,SNR=10						
CMAR				LR	LR	17 54 42.1	
	comp=Z,102nm,20.4s,baz=159,slow=31						
HNR	**Honiara**	**65.06**	**77**	LR	LR	17 59 25.1	
	comp=Z,164nm,18.5s,baz=185,slow=35						
H09W1	**TRISTAN DA CUN**	**75.36**	**232**	T	T	18 45 02.3	
	SNR=23						
H09N1	**TRISTAN DA CUN**	**75.37**	**232**	T	T	18 56 02.3	
	SNR=12						
PLCA	**Paso Flores**	**92.87**	**190**	LR	LR	18 17 25.2	
	comp=Z,106nm,19.1s,baz=108,slow=36						

MAN 11 17:38:54, 10.41N×125.89E, h50km, mb4.5, ML3.3, MS3.2, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.74**	**213**⇓	*eP*	Pn	17 39 08.5	+0.3
SCPH				*eS*	Sn	17 39 20.2	+1.6
MSLP	**Maasin**	**1.05**	**255**	*eP*	Pn	17 39 13.5	+1.0
MSLP				*eS*	Sn	17 39 28.0	+1.9
PLP	**Palo**	**1.17**	**310**⇑	eP	Pn	17 39 14.1	0.0
PLP				*i*	S	17 39 30.8	+1.8
BESP	**Borongan**	**1.27**	**339**	*eP*	Pn	17 39 17.0	+1.6
OCLP	**Ormoc**	**1.42**	**297**	*eP*	Pn	17 39 19.6	+2.2
CNP	**Catarman**	**2.42**	**330**	*eP*	Pn	17 39 31.6	+0.6
GUIM	**Jordan**	**3.26**	**274**	*eP*	Pn	17 39 44.7	+2.1
PVCP	**Virac**	**3.60**	**332**	*eP*	Pn	17 39 49.7	+2.4

IDC 11 17:47:38.0±576.0, 56.98N×2.34E, h0km, Error ellipse: s-maj=249.3km s-min=68.7km az=131.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.64**	**135**	*i*		18 50 40.0	
	baz=324,slow=340,SNR=0.6						
I43RU	**DUBNA INFRASON**	**18.96**	**76**	*i*		19 38 20.0	
	baz=282,slow=320,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**32.81**	**77**	*i*		20 56 50.2	
	baz=304,slow=342,SNR=0.2						

*NEIC **11** 17:52:02.9±0.4, 22.11N×143.36E, mb4.5/7, Error ellipse: s-maj=14.3km s-min=8.9km az=82.0*
*ISCJB **11** 17:52:03.8±0.5, 22.24N±0.04×143.4E±0.1, h200km, mb4.0/27, Error ellipse: s-maj=15.4km s-min=5.8km az=174.4*
*IDC **11** 17:52:03.3±0.7, 22.20N×143.28E, h179km±6km, mb3.8/19, mb1 4.0/21, mb1mx3.9/29, mbtmp3.8/21, Error ellipse: s-maj=15.9km s-min=8.5km az=86.0*
*JMA **11** 17:52:05.9±0.2, 22.47N×143.75E, h206km, M4.6*
ISC 11 17:52:04.9±0.5, 22.25N±0.06×143.4E±0.1, h200km, n79, σ1°28/97, mb4.1/27, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.50**	**346**	P	**Pn**	**17 53 13.1**	**+0.2**
JHHJ				S	**Sn**	**17 54 05.8**	**-0.8**
CBIJ	**Chichi jima**	**4.95**	**347**	P	**Pn**	**17 53 18.6**	**0.0**
CBIJ				S	**Sn**	**17 54 14.3**	**-2.6**
CBIJ	**Chichi jima**	**4.95**	**347**	P	**Pn**	**17 53 18.6**	**0.0**
CBIJ				S	**Sn**	**17 54 14.3**	**-2.6**
JCJ	**Chichijima**	**4.95**	**347**	P	**Pn**	**17 53 18.6**	**0.0**
	30nm,0.3s,baz=287,slow=20,SNR=26						
JCJ				S	**Sn**	**17 54 14.3**	**-2.5**
	44nm,0.3s,baz=109,slow=23,SNR=10						
BSO1	**Boso 1**	**12.54**	**351**	P	**Pn**	**17 54 56.4**	**+0.4**
JIE	**Ise**	**13.46**	**335**	P	**P**	**17 55 08.8**	**-1.8**
JKN2	**Miekihoku**	**13.50**	**334**	P	**P**	**17 55 09.5**	**-1.5**
JOD2	**Odawara 2**	**13.51**	**345**	P	**Pn**	**17 55 08.6**	**0.0**
JNY	**Yasuok**	**13.94**	**341**	P	**P**	**17 55 14.4**	**-1.6**
JHU	**Hanno**	**14.02**	**346**	P	**Pn**	**17 55 14.3**	**-0.7**
JYT	**Yasato**	**14.21**	**349**	P	**Pn**	**17 55 17.2**	**0.0**
JRY	**Ryogami san**	**14.27**	**345**	P	**Pn**	**17 55 17.9**	**-0.2**
JHO	**Hitachi**	**14.52**	**351**	P	**P**	**17 55 21.3**	**-1.1**
JAG	**Ashikaga**	**14.54**	**347**	P	**Pn**	**17 55 20.2**	**-1.2**
MJAR	**Matsushiro Arr**	**14.94**	**343**	P	**P**	**17 55 27.0**	**0.0**
MJAR				S	**Sn**	**17 58 13.6**	**0.0**
MJAR	**Matsushiro Arr**	**14.94**	**343**	P	**P**	**17 55 27.0**	**0.0**
	0.7nm,0.3s,baz=162,slow=10,SNR=12						
MJAR				S	**Sn**	**17 58 13.6**	**0.0**
	0.3nm,0.3s,baz=92,slow=39,SNR=5.1						
JNU	**Nakatsue**	**15.50**	**317**	S	**Sn**	**17 58 29.1**	**+2.0**
	0.1nm,0.3s,baz=198,slow=15,SNR=2.2						
JMK	**Ichinoseki**	**16.75**	**354**	P	**Pn**	**17 55 47.7**	**-0.4**
KSRS	**Korea Array**	**20.21**	**322**	P	Pn	17 56 27.7	-1.5
	4.9nm,0.6s,baz=147,slow=9.4,SNR=23						
KSAR	**Wonju Array Be**	**20.23**	**322**	P	Pn	17 56 27.7	-1.7
ASAJ	**Asahikawa**	**21.82**	**358**	P	**P**	**17 56 44.0**	**+2.9**
ASAJ	**Asahikawa**	**21.82**	**358**	P	**P**	**17 56 44.0**	**+2.9**
	1.3nm,0.4s,baz=302,slow=9.5,SNR=4.6						

SONM	**Songino Array**	**39.06**	**320**	P	**P**	**17 59 13.3**	**+0.9**	
SONM				PcP	**PcP**	**18 01 19.2**	**+0.9**	
SONM	**Songino Array**	**39.06**	**320**	P	**P**	**17 59 13.3**	**+0.9**	
	1.0nm,0.4s,baz=123,slow=7.5,SNR=22							
SONM				PcP	**PcP**	**18 01 19.2**	**+0.9**	
	0.5nm,0.6s,baz=128,slow=4.1,SNR=3.5							
SEY	**Seymchan**	**41.11**	**6**	P	P	17 59 31.5	+2.6	
SEY	**Seymchan**	**41.11**	**6**	P	P	17 59 31.5	+2.6	
	0.7nm,0.6s,baz=56,slow=18,SNR=4.3							
WRA	**Warramunga Arr**	**42.87**	**193**	P	**P**	**17 59 43.4**	**-0.2**	
WRA				PcP	**PcP**	**18 01 31.4**	**+0.5**	
WRA	**Warramunga Arr**	**42.87**	**193**	P	**P**	**17 59 43.4**	**-0.2**	
	2.9nm,0.3s,baz=17,slow=9.1,SNR=68							
WRA				PcP	**PcP**	**18 01 31.4**	**+0.5**	
	2.2nm,0.7s,baz=4.6,slow=3.5,SNR=11							
FITZ	**Fitzroy Crossi**	**43.72**	**205**	P	**P**	**17 59 50.2**	**-0.2**	
FITZ				PcP	**PP**	**18 01 34.6**	**-2.1**	
FITZ	**Fitzroy Crossi**	**43.72**	**205**	P	**P**	**17 59 50.2**	**-0.2**	
	1.9nm,0.3s,baz=30,slow=16,SNR=9.6							
FITZ				PcP	**PP**	**18 01 34.6**	**-2.1**	
	2.0nm,0.8s,baz=45,slow=1.4,SNR=3.4							
ASAR	**Alice Springs**	**46.58**	**192**	P	**P**	**18 00 12.1**	**-0.8**	
ASAR				PcP	**PcP**	**18 01 44.0**	**+0.3**	
ASAR	**Alice Springs**	**46.58**	**192**	P	**P**	**18 00 12.1**	**-0.8**	
	0.9nm,0.3s,baz=13,slow=6.5,SNR=14							
ASAR				PcP	**PcP**	**18 01 44.0**	**+0.3**	
	1.0nm,0.8s,baz=6.8,slow=4.0,SNR=5.6							
LSA	**Lhasa**	**47.25**	**290**	*eP*	**P**	**18 00 19.9**	**+1.2**	
	5.1nm,0.6s							
STKA	**Stephens Creek**	**53.85**	**182**	*eP*	**P**	**18 01 07.3**	**+0.1**	
STKA	**Stephens Creek**	**53.85**	**182**	P	**P**	**18 01 07.2**	**-0.1**	
	1.3nm,0.5s,baz=356,slow=9.1,SNR=6.5							
ZAA0	**Zalesovo Array**	**53.92**	**321**	*eP*	**P**	**18 01 07.6**	**+0.1**	
ZALV	**Zalesovo Beam**	**53.92**	**321**	P	**P**	**18 01 08.0**	**+0.5**	
ZALV				PcP	**PcP**	**18 02 10.4**	**+0.1**	
ZALV	**Zalesovo Beam**	**53.92**	**321**	P	**P**	**18 01 08.0**	**+0.5**	
	2.1nm,0.5s,baz=104,slow=6.3,SNR=13							
ZALV				PcP	**PcP**	**18 02 10.4**	**+0.1**	
	3.9nm,1.0s,baz=98,slow=3.7,SNR=6.6							
MK31	**Makanchi Array**	**54.49**	**312**	*eP*	**P**	**18 01 12.8**	**+0.9**	
MKAR	**Makanchi Array**	**54.49**	**312**	P	**P**	**18 01 12.8**	**+0.9**	
MKAR				PcP	**PcP**	**18 02 13.2**	**+0.5**	
MKAR	**Makanchi Array**	**54.49**	**312**	P	**P**	**18 01 12.8**	**+0.9**	
	2.2nm,0.7s,baz=90,slow=9.4,SNR=30							
MKAR				PcP	**PcP**	**18 02 13.2**	**+0.5**	
	0.9nm,0.5s,baz=87,slow=5.0,SNR=6.7							
KURK	**Kurchatov**	**57.23**	**317**	*eP*	**P**	**18 01 31.6**	**+0.4**	
	5.4nm,0.8s							
TKM2	**Tokmak 2**	**59.19**	**308**	*eP*	**P**	**18 01 46.4**	**+1.2**	
	2.5nm,0.7s							
ILAR	**Eielson Array**	**61.44**	**27**	P	**P**	**18 02 00.5**	**+0.7**	
ILAR				pP	**PcP**	**18 02 41.7**	**+1.9**	
ILAR	**Eielson Array**	**61.44**	**27**	P	**P**	**18 02 00.5**	**+0.7**	
	1.5nm,0.7s,baz=257,slow=5.5,SNR=15							
ILAR				pP	**PcP**	**18 02 41.7**	**+1.9**	
	0.4nm,0.8s,baz=240,slow=5.1,SNR=1.9							
BRVK	**Borovoye**	**62.46**	**319**	*eP*	**P**	**18 02 07.2**	**+0.4**	
	11nm,0.8s							
KKAR	**Karatay Array**	**62.89**	**308**	*eP*	**P**	**18 02 10.7**	**+0.8**	
	5.7nm,0.8s							
KBL	**Kabul**	**65.27**	**299**	*eP*	**P**	**18 02 26.0**	**+0.3**	
	4.6nm,0.6s							
INK	**Inuvik**	**66.97**	**24**	P	**P**	**18 02 36.9**	**+1.3**	
INK	**Inuvik**	**66.97**	**24**	P	**P**	**18 02 36.9**	**+1.3**	
	2.2nm,0.6s,baz=250,slow=2.5,SNR=5.8							
ABKAR	**Akbulak array**	**69.31**	**316**	*eP*	**P**	**18 02 50.7**	**+0.2**	
	8.5nm,0.5s							
YKA	**Yellowknife Ar**	**75.86**	**28**	P	**P**	**18 03 30.5**	**+1.7**	
YKA				pP	**pP**	**18 04 13.7**	**-3.0**	
YKA	**Yellowknife Ar**	**75.86**	**28**	P	**P**	**18 03 30.5**	**+1.7**	
	5.5nm,0.5s,baz=292,slow=5.8,SNR=84							
YKA				pP	**pP**	**18 04 13.6**	**-3.0**	
	0.5nm,0.5s,baz=292,slow=5.8,SNR=2.3							
KEV	**Kevo**	**77.91**	**341**	*ep*	**P**	**18 03 39.2**	**-0.9**	
ARCES	**ARCESS Array B**	**78.47**	**342**	P	**P**	**18 03 44.0**	**+0.8**	
ARCES	**ARCESS Array B**	**78.47**	**342**	P	**P**	**18 03 44.0**	**+0.8**	
	5.6nm,0.5s,baz=72,slow=8.3,SNR=35							
JOF	**Joensuu**	**79.91**	**334**	*ep*	**P**	**18 03 49.9**	**-1.3**	
KBZ	**Khabaz**	**82.15**	**314**	P	**P**	**18 04 04.2**	**+0.9**	
KBZ	**Khabaz**	**82.15**	**314**	P	**P**	**18 04 04.2**	**+0.9**	
	4.8nm,0.7s,baz=89,slow=7.0,SNR=11							
KAF	**Kangasniemi**	**82.31**	**335**	*ep*	**P**	**18 04 00.9**	**-2.9**	
NVAR	**Mina Array Bea**	**82.62**	**52**	P	P	18 04 08.7	+2.5	
NVAR	**Mina Array Bea**	**82.62**	**52**	P	P	18 04 08.7	+2.5	
	3.5nm,0.7s,baz=280,slow=5.9,SNR=26							
FINES	**FINESS Array B**	**82.78**	**335**	P	**P**	**18 04 05.9**	**-0.4**	
FINES	**FINESS Array B**	**82.78**	**335**	P	**P**	**18 04 05.9**	**-0.4**	
	3.5nm,0.3s,baz=63,slow=4.6,SNR=81							
PDAR	**Pinedale Array**	**86.84**	**45**	P	**P**	**18 04 28.1**	**+0.9**	
PDAR	**Pinedale Array**	**86.84**	**45**	P	**P**	**18 04 28.1**	**+0.9**	
	0.4nm,0.6s,baz=204,slow=3.3,SNR=4.5							
AKASG	**Malin Array Be**	**87.19**	**324**	P	**P**	**18 04 27.7**	**-0.7**	
AKASG	**Malin Array Be**	**87.19**	**324**	P	**P**	**18 04 27.7**	**-0.7**	
	1.6nm,0.5s,baz=51,slow=5.2,SNR=17							
NB2	**NORSAR Subarra**	**88.51**	**339**	P	**P**	**18 04 33.7**	**-0.8**	
	comp=Z,57nm,0.5s,baz=55,slow=4.8							
NOA	**NORSAR Array B**	**88.51**	**339**	P	**P**	**18 04 33.5**	**-1.1**	
NOA	**NORSAR Array B**	**88.51**	**339**	P	**P**	**18 04 33.5**	**-1.1**	
	comp=Z,1.2nm,0.6s,baz=46,slow=4.5,SNR=4.6							
BRTR	**Keskin Array B**	**90.13**	**313**	P	**P**	**18 04 41.3**	**-1.4**	
BRTR	**Keskin Array B**	**90.13**	**313**	P	**P**	**18 04 41.3**	**-1.4**	
	comp=Z,0.4nm,0.6s,baz=93,slow=7.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**128.57**	**310**	PKP	**PKPdf**	**18 10 49.2**	**+0.3**	
TORD	**Torodi Ar. Bea**	**128.57**	**310**	PKP	**PKPdf**	**18 10 49.2**	**+0.3**	
	comp=Z,0.7nm,0.6s,baz=21,slow=1.7,SNR=7.6							
PLCA	**Paso Flores**	**145.95**	**131**	PKPbc	**PKPab**	**18 11 22.0**	**-0.1**	
PLCA				pPKPbc	pPKPbc	18 12 07.5	-4.7	
PLCA	**Paso Flores**	**145.95**	**131**	PKPbc	**PKPab**	**18 11 22.0**	**-0.1**	
	comp=Z,5.0nm,0.9s,baz=322,slow=4.0,SNR=5.0							
PLCA				pPKPbc	pPKPbc	18 12 07.5	-4.7	
	comp=Z,2.4nm,0.9s,baz=258,slow=9.3,SNR=1.9							
LPAZ	**La Paz**	**149.66**	**84**	PKP	**PKPbc**	**18 11 29.3**	**-3.1**	
LPAZ				PKPbc	**PKiKP**	**18 11 33.9**	**+0.6**	
LPAZ	**La Paz**	**149.66**	**84**	PKP	**PKPbc**	**18 11 29.3**	**-3.1**	
	comp=Z,4.9nm,0.6s,baz=252,slow=5.2,SNR=3.5							
LPAZ				PKPbc	**PKiKP**	**18 11 33.9**	**+0.6**	
	comp=Z,4.9nm,0.6s,baz=315,slow=4.1,SNR=20							

*ISCJB **11** 17:52:41.1±0.6, 5.09S±0.07×145.1E±0.1, h54km, mb4.1/11, MS3.4/5, Error ellipse: s-maj=15.4km s-min=8.6km az=162.7*
*IDC **11** 17:52:43.5±3.3, 5.11S×145.15E, h61km±32km, mb3.8/10, mb1 4.1/12, mb1mx3.9/19, mbtmp3.9/12, ML3.9/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/27, Error ellipse: s-maj=24.3km s-min=18.1km az=83.0*
*NEIC **11** 17:52:44.8±1.9, 5.14S×145.08E, h73km±18km, mb4.6/3, Error ellipse: s-maj=17.6km s-min=12.2km az=113.0*
ISC 11 17:52:42.9±0.6, 5.08S±0.08×145.1E±0.1, h54km, n33, σ0°93/33, mb4.1/11, MS3.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.76**	**155**	P	**Pn**	**17 53 53.7**	**+1.6**
PMG				S	**Sn**	**17 54 45.3**	**-0.8**
PMG	**Port Moresby**	**4.76**	**155**	P	**Pn**	**17 53 53.7**	**+1.6**
	6.1nm,0.3s,baz=349,slow=3.7,SNR=29						
PMG				S	**Sn**	**17 54 45.3**	**-0.8**
	8.6nm,0.3s,baz=309,slow=23,SNR=20						
PMG				LR	LR	17 55 22.9	
	comp=Z,75nm,18.4s,baz=349,slow=34						
WRAB	**Tennant Creek**	**18.09**	**214**	*eP*	**P**	**17 56 49.8**	**-0.4**
	25nm,0.7s						
WRA	**Warramunga Arr**	**18.10**	**214**	P	**P**	**17 56 50.2**	**-0.2**
WRA	**Warramunga Arr**	**18.10**	**214**	P	**P**	**17 56 50.2**	**-0.2**
	1.2nm,0.3s,baz=40,slow=12,SNR=150						
AS31	**Alice Springs**	**21.39**	**209**	*eP*	**P**	**17 57 26.0**	**-0.2**
ASAR	**Alice Springs**	**21.39**	**209**	P	**P**	**17 57 26.3**	**+0.1**
ASAR	**Alice Springs**	**21.39**	**209**	P	**P**	**17 57 26.3**	**+0.1**
	4.1nm,0.7s,baz=34,slow=12,SNR=59						
FITZ	**Fitzroy Crossi**	**22.99**	**234**	*eP*	**P**	**17 57 42.9**	**-0.4**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.99**	**234**	P	**P**	**17 57 43.1**	**-0.1**
	11nm,0.6s,baz=65,slow=6.9,SNR=29						
FITZ				LR	LR	18 06 24.5	
	comp=Z,63nm,19.0s,baz=126,slow=36						
STKA	**Stephens Creek**	**26.86**	**187**	*eP*	**P**	**17 58 18.1**	**-0.4**
STKA	**Stephens Creek**	**26.86**	**187**	P	**P**	**17 58 18.9**	**+0.3**
	3.2nm,0.7s,baz=9.2,slow=12,SNR=9.1						
STKA				LR	LR	18 11 08.9	
	comp=Z,90nm,18.4s,baz=22,slow=41						
JNU	**Nakatsue**	**40.31**	**341**	LR	LR	18 17 18.0	
	comp=Z,37nm,18.5s,baz=73,slow=36						
KSRS	**Korea Array**	**45.24**	**341**	LR	LR	18 17 15.2	
	comp=Z,44nm,19.1s,baz=128,slow=32						

CMAR	**Chiang Mai Arr**	**51.14**	**298**	P	**P**	**18 01 41.5**	**+0.8**	
CMAR	**Chiang Mai Arr**	**51.14**	**298**	P	**P**	**18 01 41.5**	**+0.8**	
	1.3nm,0.7s,baz=122,slow=6.3,SNR=8.8							
PETK	**Petropavlovsk-**	**58.94**	**9**	P	**P**	**18 02 37.3**	**+0.8**	
PETK	**Petropavlovsk-**	**58.94**	**9**	P	**P**	**18 02 37.3**	**+0.8**	
	1.2nm,0.5s,baz=146,slow=7.1,SNR=4.1							
PETK				LR	LR	18 25 42.0		
	comp=Z,58nm,19.0s,baz=245,slow=34							
VNDA	**Vanda**	**72.94**	**176**	P	**P**	**18 04 06.9**	**+0.9**	
VNDA	**Vanda**	**72.94**	**176**	P	**P**	**18 04 06.9**	**+0.9**	
	1.6nm,0.6s,baz=313,slow=7.7,SNR=14							
MKAR	**Makanchi Array**	**75.58**	**321**	P	**P**	**18 04 22.1**	**+0.1**	
MKAR	**Makanchi Array**	**75.58**	**321**	P	**P**	**18 04 22.1**	**+0.1**	
	0.2nm,0.6s,baz=106,slow=7.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**77.23**	**328**	P	**P**	**18 04 31.4**	**+0.4**	
ZALV	**Zalesovo Beam**	**77.23**	**328**	P	**P**	**18 04 31.5**	**+0.4**	
	0.3nm,0.4s,baz=102,slow=6.1,SNR=2.5							
MAW	**Mawson**	**82.36**	**203**	P	**P**	**18 04 56.8**	**-1.8**	
MAW	**Mawson**	**82.36**	**203**	P	**P**	**18 04 56.8**	**-1.8**	
	5.3nm,0.5s,baz=356,slow=7.1,SNR=5.3							
QSPA	**South Pole Qui**	**84.88**	**180**	*eP*	**P**	**18 05 11.6**	**-0.2**	
	7.1nm,0.8s							
ILAR	**Eielson Array**	**85.40**	**23**	P	**P**	**18 05 12.2**	**-2.0**	
ILAR				pP	**pP**	**18 05 29.9**	**+0.2**	
ILAR	**Eielson Array**	**85.40**	**23**	P	**P**	**18 05 12.2**	**-2.0**	
	0.8nm,0.7s,baz=252,slow=5.0,SNR=6.7							
ILAR				pP	**pP**	**18 05 29.9**	**+0.2**	
	0.4nm,0.8s,baz=257,slow=5.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	**143.02**	**285**	PKPpre	PKPpre	18 12 07.4		
TORD	**Torodi Ar. Bea**	**143.02**	**285**	PKhKP	PKPpre	18 12 07.4		
	0.9nm,1.1s,baz=62,slow=3.8,SNR=2.9							
DBIC	**Dimbokro**	**150.06**	**275**	PKPbc	**PKPbc**	**18 12 29.0**	**+0.4**	
DBIC	**Dimbokro**	**150.06**	**275**	PKPbc	**PKPbc**	**18 12 29.0**	**+0.4**	
	0.9nm,0.4s,baz=86,slow=3.6,SNR=5.1							

*NIED **11** 18:01:00, 35.50N×136.80E, h320km, Mw4.2 Best double couple: M0 2.00000×10^15 NP1:φ62.00000°, δ41.00000°, λ7.00000°. NP2:φ326.00000°, δ85.00000°, λ131.00000°.*
*ISCJB **11** 18:01:04.8±0.3, 35.42N±0.05×136.82E±0.06, h312km±2km, mb3.7/17, Error ellipse: s-maj=8.7km s-min=6.9km az=135.2*
*JMA **11** 18:01:05.6±0.2, 35.48N×136.80E, h308km±2km, M3.7*
*IDC **11** 18:01:05.6±0.6, 35.36N×136.81E, h308km±5km, mb3.5/17, mb1 3.6/20, mb1mx3.5/32, mbtmp3.4/20, Error ellipse: s-maj=12.5km s-min=8.9km az=102.0*
ISC 11 18:01:05.7±0.6, 35.43N±0.06×136.80E±0.06, h307km±5km, n43, σ0°83/55, mb3.7/17, 4C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGM	**Miyama**	**0.28**	**346**	P	**Pn**	**18 01 44.9**	**+0.3**
JGM				S	**S**	**18 02 15.2**	**-0.4**
JKG	**Kaga**	**0.93**	**336**	P	**Pn**	**18 01 46.5**	**+0.1**
JKG				S	**S**	**18 02 18.2**	**-0.6**
JIE	**Ise**	**1.04**	**184**⇓	P	**Pn**	**18 01 47

0.6nm,0.7s,baz=205,slow=5.8,SNR=3.9

IDC 11 18:16:59.5±7.4, 18°43S×176°59W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.6/2, Error ellipse: s-maj=294.0km s-min=119.3km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.24**	**260**	P	P	18 25 27.4	+0.3
	0.3nm,0.3s,baz=96,slow=7.7,SNR=9.3						
ASAR	**Alice Springs**	**46.32**	**255**	P	P	18 25 27.1	-0.6
	0.7nm,0.7s,baz=88,slow=7.3,SNR=12						
AKASG	**Malin Array Be**	**141.81**	**333**	PKP	PKPdf	18 36 32.3	-0.8
	0.2nm,0.5s,baz=43,slow=4.4,SNR=5.4						

IGQ 11 18:19:28±0.9, 0°20N×80°36W, h4km±35km, Mb4.0, 2C-2D, Error ellipse: s-maj=7.5km s-min=2.5km az=37.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.65**	**115**	⇑P	Pg	18 19 40.0	-0.4
PECV	**Mancha de Ca P**	**1.02**	**162**	S	Sg	18 20 00.7	-0.3
PECV	**Mancha de Ca P**	**1.02**	**162**	P	Pg	18 19 45.5	-2.2
PINO	**Pino**	**1.79**	**102**	P	Pn	18 19 58.6	-1.9
JUA2	**San Juan 2**	**1.80**	**103**	P	Pn	18 19 58.3	-2.2
GGP	**Refugio Guagua**	**1.80**	**102**	P	Pn	18 19 58.8	-1.9
PAST	**Pastocalle**	**1.93**	**117**	P	Pn	18 19 59.4	-3.0
CAMI	**Rancho Maria**	**2.05**	**115**	P	Pn	18 20 02.2	-1.8
NAS2	**Nasa**	**2.07**	**114**	P	Pn	18 20 04.0	-0.3
LITE	**Lita**	**2.08**	**73**	⇓S	Sn	18 20 28.9	-1.6
LITE	**Lita**	**2.08**	**73**	⇓P	Pn	18 20 03.6	-0.4
BMOR	**Cotopaxi Volca**	**2.11**	**116**	⇑P	Pn	18 20 03.0	-1.9
BVC2	**Cotopaxi Volca**	**2.13**	**114**	P	Pn	18 20 03.3	-1.8
BVC2	**Cotopaxi Volca**	**2.13**	**114**	S	Sn	18 20 33.4	+0.8
VC1	**Cotopaxi 1**	**2.13**	**113**	P	Pn	18 20 03.3	-1.8
BTAM	**Cotopaxi Volca**	**2.15**	**114**	P	Pn	18 20 04.7	-0.7
TAMB	**Tambo**	**2.18**	**114**	P	Pn	18 20 04.4	-1.4
COV1	**Cotopaxi Volc**	**2.19**	**113**	P	Pn	18 20 03.3	-2.9
ANTI	**Antisana**	**2.29**	**106**	P	Pn	18 20 06.2	-1.3
PISA	**Pisayambo**	**2.34**	**122**	P	Pn	18 20 07.0	-0.9
CAYR	**Refugio Cayamb**	**2.36**	**94**	S	Sn	18 20 37.9	-0.6
CAYR	**Refugio Cayamb**	**2.36**	**94**	P	Pn	18 20 08.2	-0.3
CAYA	**Cayambe**	**2.37**	**93**	P	Pn	18 20 08.6	+0.1
MACE	**Macas**	**3.26**	**138**	P	Pn	18 20 21.8	+1.5

*ISCJB **11** 18:39:17.8±1.4, 22°60N±0°10×11°7W±0°2, h10km, mb3.6/4, Error ellipse: s-maj=28.1km s-min=10.1km az=157.4*
*IDC **11** 18:39:18.0±2.1, 22°75N×11°85W, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/26, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=70.1km s-min=31.0km az=87.0*

ISC 11 18:39:19.4±1.6, 22°6N±0°1×11°6W±0°3, h10km, n9, σ1§53/10, mb3.6/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.76**	**124**	Pn	**P**	**18 43 04.9**	**-0.7**
	0.1nm,0.3s,baz=312,slow=12,SNR=8.0						
TORD				Sn	**Sn**	**18 45 58.0**	**+1.5**
	0.1nm,0.3s,baz=304,slow=22,SNR=4.0						
DBIC	**Dimbokro**	**17.11**	**157**	P	**Pn**	**18 43 20.3**	**+1.4**
	0.3nm,0.3s,baz=332,slow=15,SNR=3.8						
DBIC				S	**Sn**	**18 46 26.6**	**-2.8**
	0.2nm,0.3s,baz=355,slow=12,SNR=3.0						
I17CI	**DIMBOKRO INFRA**	**17.11**	**157**	*i*		20 32 30.0	
	baz=337,slow=322,SNR=1.3						
GERES	**GERESS Array B**	**33.01**	**31**	P	**P**	**18 45 53.9**	**-0.9**
	0.4nm,0.7s,baz=213,slow=7.0,SNR=4.3						
FINES	**FINESS Array B**	**46.66**	**24**	P	**P**	**18 47 46.9**	**-1.0**
	1.2nm,0.8s,baz=225,slow=1.9,SNR=4.9						
MKAR	**Makanchi Array**	**76.46**	**45**	P	**P**	**18 51 09.8**	**+0.3**
	0.3nm,0.4s,baz=283,slow=4.9,SNR=7.9						
SONM	**Songino Array**	**90.59**	**36**	P	**P**	**18 52 23.4**	**+1.2**
	0.1nm,0.4s,baz=299,slow=5.9,SNR=2.7						
WRA	**Warramunga Arr**	**148.21**	**92**	PKPbc	**PKPbc**	**18 59 07.0**	**+0.5**
	0.3nm,0.7s,baz=289,slow=2.9,SNR=4.6						
ASAR	**Alice Springs**	**148.32**	**99**	PKPbc	**PKPbc**	**18 59 07.4**	**+0.7**
	0.6nm,0.7s,baz=296,slow=2.1,SNR=8.9						

IDC 11 18:45:28.2±1.2, 3°13N×126°38E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/22, mbtmp3.7/5, Error ellipse: s-maj=129.9km s-min=19.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.23**	**161**	P	P	18 50 46.3	-0.6
	2.6nm,0.6s,baz=339,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.62**	**165**	P	P	18 51 18.0	+0.3
	0.4nm,0.5s,baz=347,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**37.70**	**159**	P	P	18 52 46.1	+0.5
	2.3nm,0.7s,baz=327,slow=10,SNR=5.0						
SONM	**Songino Array**	**47.75**	**342**	P	P	18 54 06.4	-0.8
	0.4nm,0.7s,baz=153,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**57.85**	**326**	P	P	18 55 21.9	+0.1
	0.5nm,0.5s,baz=124,slow=8.0,SNR=9.1						

*ISCJB **11** 18:48:35.6±0.3, 4°25N±0°03×75°71W±0°05, h186km±2km, mb4.5/94, Error ellipse: s-maj=7.7km s-min=5.3km az=13.9*
*NEIC **11** 18:48:36.0±0.2, 4°23N×75°76W, mb4.8/56, ML4.6(RSNC), Error ellipse: s-maj=5.9km s-min=4.2km az=96.0*
NEIC Felt [IV] at Manizales and [III] at Cali. Also felt at Armenia, Cajibio, Calarca, Cordoba, Dos Quebradas, Ibague, Jamundi, La Tebaida, Montenegro, Pereira and Sevilla.
*IDC **11** 18:48:37.4±0.7, 4°26N×75°67W, h192km±5km, mb4.1/21, mb1 4.3/24, mb1mx4.3/25, mbtmp4.6/24, Error ellipse: s-maj=12.4km s-min=8.3km az=73.0*

ISC 11 18:48:36.1±0.5, 4°26N±0°04×75°77W±0°05, h182km±3km, h182km:pP-P, n251, σ0§95/285, mb4.6/95, 59C-3D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	**Tolima**	**0.54**	**53**	*i* P	**Pn**	**18 49 01.8**	**0.0**
TOLC				*e*S	**Sn**	**18 49 19.1**	**-2.3**
PRAC	**Prado**	**1.03**	**123**	*i* P	**Pn**	**18 49 04.2**	**-0.2**
PRAC				*e*S	**Sn**	**18 49 25.5**	**-0.6**
ROSC	**El Rosal**	**1.55**	**68**	P	**Pn**	**18 49 10.1**	**+0.9**
ROSC				S	**Sn**	**18 49 36.5**	**+1.8**
ROSC	**El Rosal**	**1.55**	**68**	P	**Pn**	**18 49 10.1**	**+0.9**
	162nm,0.3s,baz=34,slow=2.0,SNR=333						
ROSC				S	**Sn**	**18 49 36.5**	**+1.8**
	141nm,0.3s,baz=97,slow=23,SNR=43						
MALC	**Bahia Malaga**	**1.58**	**261**	*i* P	**Pn**	**18 49 10.5**	**+1.4**
BETC	**Betania**	**1.60**	**168**	*i* P	**Pn**	**18 49 10.0**	**+0.7**
BETC				*e*S	**Sn**	**18 49 35.0**	**-0.2**
HELC	**Santa Helena**	**1.97**	**6**	*i* P	**Pn**	**18 49 12.3**	**-1.2**
HELC				*e*S	**Sn**	**18 49 39.4**	**-3.1**
CHIC	**Chingaza**	**2.06**	**80**	*e*P	**Pn**	**18 49 14.9**	**+0.4**
OTAV	**Otavalo**	**4.81**	**214**	*e*P	**Pn**	**18 49 47.7**	**-0.5**
BCIP	**Isla Barro Col**	**6.33**	**321**	*e*P	**Pn**	**18 50 06.9**	**-0.6**
SDV	**Santo Domingo**	**6.86**	**48**	*e*P	**Pn**	**18 50 13.5**	**-1.2**
ATAH	**Atahualpa**	**11.62**	**193**	P	**Pn**	**18 51 19.4**	**+2.3**
ATAH	**Atahualpa**	**11.62**	**193**	P	**Pn**	**18 51 19.4**	**+2.3**
	4.9nm,0.3s,baz=22,slow=8.7,SNR=18						
YHJ	**Yallahs**	**13.57**	**357**	*i* P	P	18 51 49.0	+4.6
YHJ	**Yallahs**	**13.57**	**357**	*i* P	P	18 51 49.0	+4.6
HOJ	**Hope**	**13.69**	**356**	*i* P	P	18 51 50.8	+5.0
HOJ	**Hope**	**13.69**	**356**	*i* P	P	18 51 50.8	+5.0
MCJ	**Malvern**	**13.71**	**352**	*i* P	**P**	**18 51 48.9**	**+2.8**
MCJ	**Malvern**	**13.71**	**352**	*i* P	**P**	**18 51 48.9**	**+2.8**
GWJ	**Greenwich**	**13.76**	**356**	*i* P	P	18 51 50.7	+4.0
GWJ	**Greenwich**	**13.76**	**356**	*i* P	P	18 51 50.7	+4.0
STH	**Stony Hill**	**13.77**	**356**	*i* P	P	18 51 50.4	+3.8
STH	**Stony Hill**	**13.77**	**356**	*i* P	P	18 51 50.4	+3.8
CVJ	**Coleyville**	**13.99**	**353**	*i* P	P	18 51 52.9	+3.7
CVJ	**Coleyville**	**13.99**	**353**	*i* P	P	18 51 52.9	+3.7
MTDJ	**Mount Denham**	**13.99**	**353**	*e*P	P	18 51 52.5	+3.4
SDDR	**Presa de Saban**	**15.27**	**16**	*e*P	**P**	**18 52 06.2**	**+2.9**
	72nm,0.6s						
TPP	**Pointe-a-Pierr**	**15.42**	**66**	*e*	**P**	**18 52 07.9**	**+3.0**
GTBY	**Guantanamo Bay**	**15.58**	**2**	*e*P	P	18 52 15.1	+8.4
	193nm,0.6s						
TRN	**Trinidad (W)**	**15.59**	**65**	*e*	**P**	**18 52 07.3**	**+0.6**
TBH	**Brigand Hill**	**15.83**	**66**	*e*	**P**	**18 52 11.5**	**+2.0**
GRGR	**Grenville**	**16.00**	**60**	*e*P	**P**	**18 52 10.5**	**-0.9**
	146nm,0.8s						
CRPR	**Cabo Rojo, PR**	**16.07**	**31**	*e*P	**Pn**	**18 52 12.6**	**+0.3**
	29nm,0.6s						
NNA	**Nana**	**16.18**	**184**	*e*P	**P**	**18 52 13.4**	**+0.1**
	28nm,0.8s						
NNA	**Nana**	**16.18**	**184**	P	**Pn**	**18 52 13.8**	**+0.2**
	2.7nm,0.3s,baz=350,slow=8.5,SNR=9.4						
LSP	**Las Mesas**	**16.23**	**31**	*e*P	**Pn**	**18 52 15.2**	**+1.0**
OBIP	**Obispado Ponce**	**16.37**	**33**	*e*P	**P**	**18 52 15.5**	**+0.1**
	38nm,0.8s						
BOT	**Bacolet**	**16.41**	**64**	*e*	**Pn**	**18 52 16.1**	**-0.2**
CELP	**Cerrillos**	**16.41**	**33**	*e*P	**Pn**	**18 52 16.6**	**+0.3**
PTGA	**Pitinga**	**16.55**	**107**	P	**P**	**18 52 17.3**	**-0.1**
PTGA	**Pitinga**	**16.55**	**107**	P	**P**	**18 52 17.3**	**-0.1**
	7.6nm,0.3s,baz=301,slow=16,SNR=45						
CBYP	**Canovanas**	**16.97**	**34**	*e*P	**Pn**	**18 52 22.9**	**-0.2**
	98nm,0.4s						
MTP	**Monte Pirata**	**17.00**	**35**	*e*P	**Pn**	**18 52 23.1**	**-0.3**
	55nm,0.6s						
CDVI	**St. Croix**	**17.20**	**38**	*e*P	**Pn**	**18 52 27.2**	**+1.4**
	244nm,0.5s						
TRMF	**Trois Ilets**	**17.73**	**54**	⇓*e*P	**P**	**18 52 30.7**	**+0.4**
TRMF				*e*S	**Pn**	**18 52 35.7**	**+3.6**
FDF	**Fort de France**	**17.76**	**53**	*e*P	**P**	**18 52 31.6**	**+0.8**
FDF				*e*S	**Pn**	**18 52 35.7**	**+3.2**
FDF	**Fort de France**	**17.76**	**53**	*e*P	**P**	**18 52 31.1**	**+0.3**
	139nm,0.4s						
ZAM	**Aeronautique**	**17.77**	**54**	⇓*e*P	**P**	**18 52 31.2**	**+0.4**
LPMF	**Morne Lapointe**	**17.82**	**54**	*e*P	**P**	**18 52 31.8**	**+0.4**
BVM	**Bellevue**	**17.83**	**53**	*e*P	**P**	**18 52 31.1**	**-0.5**
MVM	**Montagne Vaucl**	**17.87**	**54**	*e*P	**P**	**18 52 32.3**	**+0.4**
SAML	**Samuel**	**18.16**	**136**	*e*P	**P**	**18 52 34.2**	**-0.8**
	3.7nm,0.4s						
ARE	**Arequipa**	**21.02**	**168**	*e*P	**P**	**18 53 08.0**	**+1.9**
LPAZ	**La Paz**	**21.77**	**160**	*e*P	**P**	**18 53 11.9**	**-2.4**
	12nm,0.6s						
LPAZ				ScP	**ScP**	**19 00 26.9**	**-0.8**
LPAZ	**La Paz**	**21.77**	**160**	P	**P**	**18 53 12.6**	**-1.7**
	12nm,0.6s,baz=330,slow=11,SNR=29						
LPAZ				ScP	**ScP**	**19 00 26.9**	**-0.8**
	2.8nm,0.8s,baz=333,slow=6.8,SNR=5.4						
SIV	**San Ignacio**	**24.83**	**144**	P	**P**	**18 53 41.5**	**-0.4**
SIV				ScP	**ScP**	**19 00 34.5**	**-0.7**
SIV	**San Ignacio**	**24.83**	**144**	P	**P**	**18 53 41.5**	**-0.4**
	22nm,0.6s,baz=330,slow=10,SNR=40						
SIV				ScP	**ScP**	**19 00 34.5**	**-0.7**
	3.8nm,0.7s,baz=272,slow=6.5,SNR=6.3						
LVC	**Limon Verde**	**27.54**	**166**	*e*P	**P**	**18 54 06.5**	**+0.2**
	18nm,0.8s						
GOGA	**Godfrey**	**29.88**	**347**	*e*P	**P**	**18 54 28.4**	**+1.7**
	57nm,0.9s						
LCO	**Las Campanas**	**33.44**	**172**	*e*P	**P**	**18 54 59.3**	**+1.2**
	11nm,0.6s						
BDFB	**Brasilia**	**33.85**	**126**	P	**P**	**18 55 00.6**	**-1.1**
BDFB	**Brasilia**	**33.85**	**126**	P	**P**	**18 55 00.6**	**-1.1**
	3.2nm,0.4s,baz=272,slow=6.0,SNR=6.4						
CPUP	**Villa Florida**	**35.27**	**151**	P	**P**	**18 55 11.0**	**-2.6**
CPUP	**Villa Florida**	**35.27**	**151**	P	**P**	**18 55 11.0**	**-2.6**
	2.6nm,0.3s,baz=328,slow=8.4,SNR=11						
TXAR	**Lajitas Array**	**36.34**	**316**	P	**P**	**18 55 24.6**	**+1.7**
TXAR				PcP	**PcP**	**18 57 45.2**	**+1.7**
TXAR				ScP	**ScP**	**19 01 14.1**	**+1.1**
TXAR	**Lajitas Array**	**36.34**	**316**	P	**P**	**18 55 24.6**	**+1.7**
	0.3nm,0.6s,baz=133,slow=11,SNR=4.1						
TXAR				PcP	**PcP**	**18 57 45.2**	**+1.7**
	1.3nm,0.6s,baz=142,slow=5.5,SNR=10						
TXAR				ScP	**ScP**	**19 01 14.1**	**+1.1**
	0.5nm,0.7s,baz=125,slow=7.8,SNR=4.5						
CFAA	**Coronel Fontan**	**36.38**	**169**	P	**P**	**18 55 23.9**	**+0.8**
CFAA	**Coronel Fontan**	**36.38**	**169**	P	**P**	**18 55 23.9**	**+0.8**
	1.2nm,0.6s,baz=349,slow=7.3,SNR=30						
TRQA	**Tornquist**	**44.01**	**164**	*e*P	**P**	**18 56 25.3**	**-0.4**
	15nm,0.9s						
PLCA	**Paso Flores**	**45.03**	**174**	*e*P	**P**	**18 56 34.0**	**+0.3**
	16nm,0.9s						
PLCA	**Paso Flores**	**45.03**	**174**	P	**P**	**18 56 34.5**	**+0.8**
	13nm,0.8s,baz=350,slow=9.4,SNR=13						
PDAR	**Pinedale Array**	**48.68**	**327**	P	**P**	**18 57 02.8**	**+0.5**
PDAR				pP	**pP**	**18 57 42.4**	**-0.3**
PDAR				ScP	**ScP**	**19 02 02.6**	**+0.1**
PDAR	**Pinedale Array**	**48.68**	**327**	P	**P**	**18 57 02.8**	**+0.5**
	1.3nm,0.6s,baz=129,slow=8.7,SNR=12						
PDAR				pP	**pP**	**18 57 42.4**	**-0.3**
	0.9nm,0.8s,baz=134,slow=8.1,SNR=3.6						
PDAR				ScP	**ScP**	**19 02 02.6**	**+0.1**
	2.0nm,0.9s,baz=131,slow=6.7,SNR=9.6						
ULM	**Lac du Bonnet**	**48.87**	**343**	P	**P**	**18 57 01.8**	**-1.4**
ULM				PcP	**PcP**	**18 58 23.8**	**-1.1**
ULM	**Lac du Bonnet**	**48.87**	**343**	P	**P**	**18 57 01.8**	**-1.4**
	3.0nm,0.5s,baz=165,slow=7.3,SNR=6.7						
ULM				PcP	**PcP**	**18 58 23.8**	**-1.1**
	3.1nm,0.6s,baz=162,slow=6.4,SNR=4.3						
SCHQ	**Schefferville**	**50.94**	**7**	P	**P**	**18 57 19.4**	**+0.7**
SCHQ	**Schefferville**	**50.94**	**7**	P	**P**	**18 57 19.4**	**+0.7**
	16nm,0.6s,baz=201,slow=5.3,SNR=20						
NVAR	**Mina Array Bea**	**51.48**	**317**	P	**P**	**18 57 25.0**	**+1.6**
NVAR				PcP	**PcP**	**18 58 36.2**	**+1.1**
NVAR				ScP	**ScP**	**19 02 15.2**	**+0.7**
NVAR	**Mina Array Bea**	**51.48**	**317**	P	**P**	**18 57 25.0**	**+1.6**
	2.4nm,0.7s,baz=130,slow=6.9,SNR=13						
NVAR				PcP	**PcP**	**18 58 36.2**	**+1.1**
	1.8nm,0.6s,baz=128,slow=4.1,SNR=6.7						
NVAR				ScP	**ScP**	**19 02 15.2**	**+0.7**
	0.7nm,0.6s,baz=141,slow=4.1,SNR=4.6						
YKA	**Yellowknife Ar**	**64.78**	**341**	P	**P**	**18 58 54.1**	**-0.9**
YKA				PcP	**PcP**	**18 59 26.2**	**-0.6**
YKA				pP	**pP**	**18 59 36.3**	**-1.4**
YKA	**Yellowknife Ar**	**64.78**	**341**	P	**P**	**18 58 54.1**	**-0.9**
	3.3nm,0.4s,baz=135,slow=6.3,SNR=100						
YKA				PcP	**PcP**	**18 59 26.2**	**-0.6**
	0.9nm,0.6s,baz=130,slow=5.4,SNR=5.9						
YKA				pP	**pP**	**18 59 36.3**	**-1.4**
	1.0nm,0.5s,baz=134,slow=6.4,SNR=3.1						
MORF	**Marmelete**	**69.28**	**52**	*e*P	**P**	**18 59 25.0**	**+1.1**
	91nm,1.8s						
PNCL	**Nicolu / Gran**	**69.53**	**51**	*e*P	**P**	**18 59 26.1**	**+0.8**
	69nm,1.7s						
EVOP	**Sao Brissos**	**69.92**	**51**	*e*P	**P**	**18 59 26.9**	**-0.8**
	10nm,0.6s						
PCAS	**Casmilo, Conde**	**69.93**	**49**	*e*P	**P**	**18 59 28.5**	**+0.7**
	72nm,1.6s						
PMTG	**Montargil**	**69.95**	**50**	*e*P	**P**	**18 59 28.2**	**+0.3**
	54nm,1.7s						
EVO	**Evora**	**70.01**	**51**	*e*P	**P**	**18 59 26.9**	**-1.4**
	10nm,0.6s						
EVO	**Evora**	**70.01**	**51**	*e*P	**P**	**18 59 28.7**	**+0.4**
	36nm,1.9s						
PBEJ	**Beja**	**70.03**	**51**	*e*P	**P**	**18 59 28.9**	**+0.5**
	58nm,1.7s						
PESTR	**Estremoz**	**70.39**	**50**	*e*P	**P**	**18 59 31.2**	**+0.6**
TIC	**Toumodi**	**70.42**	**84**	*e*Pg	**P**	**18 59 30.1**	**-1.1**
	26nm,0.7s						
LIC	**Lamto**	**70.43**	**85**	⇑*i*P	**P**	**18 59 30.3**	**-1.0**
	25nm,0.5s,baz=266						
LIC	**Lamto**	**70.43**	**85**	*e*Pg	**P**	**18 59 30.2**	**-1.1**
	60nm,0.7s						
LIC	**Lamto**	**70.43**	**85**	⇑*i*P	**P**	**18 59 30.3**	**-1.0**
	25nm,0.5s						
PGAV	**Gavieira, Arco**	**70.50**	**47**	*e*P	**P**	**18 59 31.5**	**+0.2**
	67nm,1.8s						
PVIS	**Viseu**	**70.52**	**48**	*e*P	**P**	**18 59 31.6**	**+0.2**
	36nm,1.6s						
DBIC	**Dimbokro**	**70.58**	**84**	P	**P**	**18 59 31.2**	**-0.9**
DBIC	**Dimbokro**	**70.58**	**84**	P	**P**	**18 59 31.2**	**-0.9**
	20nm,0.7s,baz=252,slow=6.8,SNR=47						
PCAB	**Cabril**	**70.62**	**47**	*e*P	**P**	**18 59 32.2**	**+0.2**
	40nm,1.9s						
PMRV	**Marv??o**	**70.65**	**50**	*e*P	**P**	**18 59 32.1**	**-0.1**
	29nm,1.7s						
PCBR	**Castelo Branco**	**70.66**	**49**	*e*P	**P**	**18 59 32.4**	**+0.2**
	39nm,1.9s						
KIC	**Kosan Boka**	**70.71**	**85**	*e*Pg	**P**	**18 59 32.1**	**-0.9**
	70nm,0.9s						
POLO	**Lamas de Olo**	**70.72**	**48**	*e*P	**P**	**18 59 33.0**	**+0.3**
	23nm,2.7s						
PVRL	**Vila Real**	**70.76**	**48**	*e*P	**P**	**18 59 33.2**	**+0.3**
	56nm,1.4s						
MVO	**Moncorvo**	**71.25**	**48**	*e*P	**P**	**18 59 36.2**	**+0.4**
PBRG	**Braganca**	**71.58**	**47**	*e*P	**P**	**18 59 38.0**	**+0.2**
	27nm,1.7s						
SUMG	**Summit**	**71.98**	**11**	*i* P	**P**	**18 59 39.8**	**-0.2**
	7.9nm,0.8s						
ESDC	**Sonseca Array**	**73.30**	**50**	P	**P**	**18 59 48.5**	**+0.5**
ESDC	**Sonseca Array**	**73.30**	**50**	P	**P**	**18 59 48.5**	**+0.5**
	2.3nm,0.4s,baz=272,slow=5.6,SNR=46						
SCO	**Scoresbysund**	**74.49**	**16**	*i* P	**P**	**18 59 54.4**	**+0.2**
	2.4nm,0.8s						
QUIF	**Quistinic**	**75.21**	**42**	*e*P	**P**	**18 59 59.0**	**+0.2**
QUIF	**Quistinic**	**75.21**	**42**	*e*P	**P**	**18 59 59.0**	**+0.2**
ROSF	**Rostrenen**	**75.22**	**41**	⇑*i*P	**P**	**18 59 59.0**	**+0.2**
	19nm,0.7s						
ROSF	**Rostrenen**	**75.22**	**41**	⇑*i*P	**P**	**18 59 59.0**	**+0.2**
	19nm,0.7s						
SGMF	**Saint Gilles**	**75.67**	**41**	*e*P	**P**	**19 00 01.6**	**+0.2**
	54nm,1.2s						
SGMF	**Saint Gilles**	**75.67**	**41**	*e*P	**P**	**19 00 01.6**	**+0.2**
	54nm,1.2s						
SJPF	**Ste Jean**	**75.82**	**47**	⇑*i*P	**P**	**19 00 03.2**	**+0.8**
	26nm,0.7s						
SJPF				*e*pP	**pP**	**19 00 46.8**	**+0.4**
SJPF	**Ste Jean**	**75.82**	**47**	⇑*i*P	**P**	**19 00 03.2**	**+0.8**
	26nm,0.7s						
SJPF				*e*pP	**pP**	**19 00 46.8**	**+0.4**
EGAK	**Eagle**	**75.84**	**336**	*e*P	**P**	**19 00 02.9**	**+0.9**
	6.6nm,0.7s						
ETSF	**Etsaut**	**76.28**	**47**	⇑*i*P	**P**	**19 00 05.8**	**+0.7**
	7.2nm,0.8s						
ETSF	**Etsaut**	**76.28**	**47**	⇑*i*P	**P**	**19 00 05.8**	**+0.7**
	7.2nm,0.8s						
DOT	**Dot Lake**	**76.67**	**335**	*e*P	**P**	**19 00 07.4**	**+0.7**
	17nm,0.8s						
GRR	**Gorron**	**76.81**	**41**	⇑*i*P	**P**	**19 00 08.0**	**+0.2**
	20nm,0.6s						
GRR	**Gorron**	**76.81**	**41**	⇑*i*P	**P**	**19 00 08.0**	**+0.2**
	20nm,0.6s						
TOA0	**Torodi Ar. Sit**	**76.84**	**78**	*e*P	**P**	**19 00 07.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**76.84**	**78**	P	**P**	**19 00 07.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**76.84**	**78**	P	**P**	**19 00 07.6**	**-1.0**
	3.8nm,0.5s,baz=281,slow=6.3,SNR=89						
EPF	**Esparros**	**76.95**	**47**	⇑*i*P	**P**	**19 00 09.5**	**+0.7**
	13nm,0.6s						
EPF	**Esparros**	**76.95**	**47**	⇑*i*P	**P**	**19 00 09.5**	**+0.7**
	13nm,0.6s						
MFF	**Saint Martin d**	**77.04**	**43**	⇑*i*P	**P**	**19 00 09.4**	**+0.3**
	16nm,0.5s						
MFF	**Saint Martin d**	**77.04**	**43**	⇑*i*P	**P**	**19 00 09.4**	**+0.3**
	16nm,0.5s						
FLN	**La Foliniere**	**77.12**	**41**	⇑*i*P	**P**	**19 00 09.8**	**+0.3**
	18nm,0.6s						
FLN				*e*pP	**pP**	**19 00 54.7**	**+1.1**
FLN	**La Foliniere**	**77.12**	**41**	⇑*i*P	**P**	**19 00 09.8**	**+0.3**
	18nm,0.6s						
FLN				*e*pP	**pP**	**19 00 54.7**	**+1.1**
LDF	**La Druitiere**	**77.33**	**41**	⇑*i*P	**P**	**19 00 10.9**	**+0.2**
	19nm,1.0s						
LDF	**La Druitiere**	**77.33**	**41**	⇑*i*P	**P**	**19 00 10.9**	**+0.2**
	19nm,1.0s						
LFF	**La Frestale**	**77.45**	**45**	⇑*i*P	**P**	**19 00 11.7**	**+0.2**
	12nm,0.6s						
LFF	**La Frestale**	**77.45**	**45**	⇑*i*P	**P**	**19 00 11.7**	**+0.2**
	12nm,0.6s						
RJF	**Les Rejaudoux**	**78.04**	**45**	⇑*i*P	**P**	**19 00 14.9**	**+0.2**
	17nm,0.9s						
RJF	**Les Rejaudoux**	**78.04**	**45**	⇑*i*P	**P**	**19 00 14.9**	**+0.2**
	17nm,0.9s						
ILAR	**Eielson Array**	**78.17**	**336**	P	**P**	**19 00 14.8**	**-0.3**
ILAR	**Eielson Array**	**78.17**	**336**	P	**P**	**19 00 14.8**	**-0.3**
	4.6nm,0.7s,baz=116,slow=4.3,SNR=68						
CAF	**Calviac**	**78.39**	**45**	⇑*i*P	**P**	**19 00 16.9**	**+0.2**
	16nm,1.0s						
CAF	**Calviac**	**78.39**	**45**	⇑*i*P	**P**	**19 00 16.9**	**+0.2**
	16nm,1.0s						
COLA	**College**	**78.60**	**336**	*e*P	**P**	**19 00 15.1**	**-2.2**
	5.5nm,0.9s						
TCF	**Toulx Ste Croi**	**78.62**	**44**	⇑*i*P	**P**	**19 00 17.8**	**-0.1**
	10nm,0.8s						
TCF	**Toulx Ste Croi**	**

SBF	**Sospel**	**82.16**	**46**	*eP*		**P**	**19 00 37.0**	**+0.1**
	comp=Z,31nm,0.9s							
CDF	**Champ du Feu**	**82.21**	**42**	*eP*		**P**	**19 00 36.9**	**-0.2**
CDF	**Champ du Feu**	**82.21**	**42**	*eP*		**P**	**19 00 36.9**	**-0.2**
PGF	**Pioggiola**	**83.28**	**48**	*eP*		**P**	**19 00 42.8**	**0.0**
	comp=Z,16nm,0.9s							
PGF	**Pioggiola**	**83.28**	**48**	*eP*		**P**	**19 00 42.8**	**0.0**
	comp=Z,16nm,0.9s							
TUE	**Stuetta**	**83.57**	**44**	*eP*		**P**	**19 00 44.7**	**+0.4**
	comp=Z,4.5nm,0.6s							
KEST	**Kesra**	**83.57**	**55**	P		**P**	**19 00 44.9**	**+0.6**
KEST	**Kesra**	**83.57**	**55**	P		**P**	**19 00 44.9**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=357,slow=1.9,SNR=4.8							
DAVOX	**Davos/Dischmat**	**83.94**	**44**	P		**P**	**19 00 46.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**83.94**	**44**	P		**P**	**19 00 46.0**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=258,slow=5.5,SNR=11							
DAVA	**Damuels**	**83.94**	**43**⇑	*iP*		**P**	**19 00 46.2**	**+0.2**
	comp=Z,6.8nm,0.8s							
FETA	**Feichten**	**84.52**	**43**⇑	*iP*		**P**	**19 00 49.5**	**+0.5**
	comp=Z,5.7nm,1.3s							
NB2	**NORSAR Subarra**	**84.83**	**29**	P		**P**	**19 00 50.6**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=270,slow=5.1							
NOA	**NORSAR Array B**	**84.83**	**29**	P		**P**	**19 00 50.8**	**+0.7**
NOA	**NORSAR Array B**	**84.83**	**29**	P		**P**	**19 00 50.8**	**+0.7**
	comp=Z,6.3nm,0.8s,baz=269,slow=4.9,SNR=12							
NKC	**Novy Kostel**	**85.61**	**40**	*eP*		**P**	**19 00 54.8**	**+0.6**
ABTA	**Abfaltersbach**	**85.75**	**44**⇑	*iP*		**P**	**19 00 55.4**	**+0.4**
	comp=Z,6.7nm,0.9s							
CLL	**Collm**	**85.93**	**39**⇓	*iP*		**P**	**19 00 56.5**	**+0.8**
	comp=Z,8.0nm,1.1s							
KHC	**Kasperske Hory**	**86.38**	**41**	*eP*		**P**	**19 00 58.8**	**+0.8**
ROBS	**Robic**	**86.45**	**44**	*iP*		**P**	**19 00 58.7**	**+0.4**
GERES	**GERESS Array B**	**86.47**	**41**	P		**P**	**19 00 59.0**	**+0.5**
GERES	**GERESS Array B**	**86.47**	**41**	P		**P**	**19 00 59.0**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=258,slow=4.0,SNR=28							
MYKA	**Terra Mystica**	**86.53**	**44**⇑	*iP*		**P**	**19 00 59.2**	**+0.4**
	comp=Z,5.7nm,0.5s							
BRG	**Berggiesshubel**	**86.54**	**39**	*eP*		**P**	**19 01 00.2**	**+1.5**
	comp=Z,12nm,1.2s							
VOJS	**Vojsko**	**86.72**	**44**	*iP*		**P**	**19 01 00.3**	**+0.6**
GORS	**Gorjuse**	**86.78**	**44**	*iP*		**P**	**19 01 00.3**	**+0.2**
MOA	**Molln**	**86.89**	**42**⇑	*iPcP*		**P**	**19 01 00.7**	**+0.2**
	comp=Z,6.3nm,1.0s							
PRU	**Pruhonice**	**86.97**	**40**	*eP*		**P**	**19 01 01.3**	**+0.5**
VNDS	**Vrh nad Dolski**	**87.29**	**44**	*iP*		**P**	**19 01 03.1**	**+0.7**
TREC	**Trest**	**87.62**	**41**	*eP*		**P**	**19 01 05.0**	**+1.1**
ARSA	**Arzberg**	**87.78**	**43**⇑	*iP*		**P**	**19 01 05.0**	**+0.2**
	comp=Z,3.9nm,0.6s							
UPC	**Upice**	**87.88**	**40**	*eP*		**P**	**19 01 06.2**	**+1.1**
CONA	**Conrad Observa**	**87.96**	**42**⇑	*iPcP*		**P**	**19 01 06.3**	**+0.7**
	comp=Z,8.6nm,1.4s							
DPC	**Dobruska-Polom**	**88.09**	**40**	*eP*		**P**	**19 01 07.5**	**+1.4**
KRLC	**Kraliky**	**88.40**	**40**	*eP*		**P**	**19 01 07.9**	**+0.3**
ARCES	**ARCESS Array B**	**89.97**	**20**	P		**P**	**19 01 14.0**	**-0.5**
ARCES	**ARCESS Array B**	**89.97**	**20**	P		**P**	**19 01 14.0**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=287,slow=3.7,SNR=4.4							
FINES	**FINESS Array B**	**91.93**	**28**	P		**P**	**19 01 23.7**	**0.0**
FINES	**FINESS Array B**	**91.93**	**28**	P		**P**	**19 01 23.7**	**0.0**
	comp=Z,4.2nm,0.8s,baz=204,slow=4.2,SNR=8.5							
AKASG	**Malin Array Be**	**96.15**	**38**	P		**P**	**19 01 42.8**	**-0.4**
AKASG	**Malin Array Be**	**96.15**	**38**	P		**P**	**19 01 42.8**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=270,slow=1.9,SNR=3.1							
MKAR	**Makanchi Array**	**125.59**	**18**	PKP		**PKPdf**	**19 07 14.9**	**-1.2**
MKAR	**Makanchi Array**	**125.59**	**18**	PKP		**PKPdf**	**19 07 14.9**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=318,slow=1.7,SNR=6.5							
USRK	**Ussuriysk Arra**	**125.70**	**336**	PKP		**PKPdf**	**19 07 15.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=45,slow=0.8,SNR=4.2							
SONM	**Songino Array**	**128.09**	**358**	PKP		**PKPdf**	**19 07 20.0**	**-0.9**
SONM	**Songino Array**	**128.09**	**358**	PKP		**PKPdf**	**19 07 20.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=258,slow=1.5,SNR=4.1							
KSRS	**Korea Array**	**133.00**	**334**	PKP		**PKPdf**	**19 07 29.6**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=46,slow=2.1,SNR=4.9							
KSAR	**Wonju Array Be**	**133.03**	**334**	PKP		**PKPdf**	**19 07 29.6**	**-0.8**
ENH	**Enshi**	**145.30**	**352**	*eP*		**PKPdf**	**19 07 52.5**	**-0.5**
ASAR	**Alice Springs**	**145.48**	**233**	PKPbc		**PKPdf**	**19 07 53.0**	**-0.4**
ASAR				pPKPbc	pPKPbc	19 08 35.2		-5.5
ASAR				SKPbc	**SKPbc**	**19 11 15.5**		**-0.7**
ASAR	**Alice Springs**	**145.48**	**233**	PKPbc	**PKPdf**	**19 07 53.0**		**-0.4**
	comp=Z,2.9nm,0.6s,baz=118,slow=3.9,SNR=66							
ASAR				pPKPbc	pPKPbc	19 08 35.2		-5.5
	comp=Z,1.1nm,0.7s,baz=119,slow=4.0,SNR=2.6							
ASAR				SKPbc	**SKPbc**	**19 11 15.5**		**-0.7**
	comp=Z,1.1nm,0.7s,baz=113,slow=2.3,SNR=7.0							
WRA	**Warramunga Arr**	**146.79**	**239**	PKPbc		**PKPbc**	**19 07 56.9**	**-0.8**
WRA				pPKPbc	pPKPbc	19 08 41.3		-3.4
WRA				SKPbc	**SKPbc**	**19 11 18.6**		**-0.6**
WRA	**Warramunga Arr**	**146.79**	**239**	PKPbc		**PKPbc**	**19 07 56.9**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=107,slow=3.2,SNR=18							
WRA				pPKPbc	pPKPbc	19 08 41.3		-3.4
	comp=Z,0.5nm,0.4s,baz=109,slow=2.7,SNR=2.1							
WRA				SKPbc	**SKPbc**	**19 11 18.6**		**-0.6**
	comp=Z,0.9nm,0.7s,baz=114,slow=2.5,SNR=6.6							
CMAR	**Chiang Mai Arr**	**156.83**	**13**	PKP		**PKPdf**	**19 08 09.4**	**-1.3**
CMAR				PKPab		**PKPab**	**19 08 40.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**156.83**	**13**	PKP		**PKPdf**	**19 08 09.4**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=328,slow=1.8,SNR=5.0							
CMAR				PKPab		**PKPab**	**19 08 40.0**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=332,slow=5.5,SNR=15							

WEL 11 18:52:15.3±0.7, 35.77S×178.63E, h213km±19km, ML3.8/9, 1D, Error ellipse: s-maj=20.2km s-min=12.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.81**	**188**	PN	Pn	18 52 51.9	-1.1
MXZ				SN	S	18 53 20.3	-1.9
PUZ	**Puketiti**	**2.32**	**187**	PN	Pn	18 52 57.6	-0.6
PUZ				SN	S	18 53 30.8	-0.6
PUZ				AML	AML	18 53 48.0	
MWZ	**Matawai**	**2.71**	**199**	PN	Pn	18 53 02.8	+0.4
MWZ				SN	S	18 53 40.0	+0.9
CNGZ	**Carnagh Statio**	**2.74**	**187**	PN	Pn	18 53 03.0	+0.4
URZ	**Urewera**	**2.77**	**206**	⇓PN	Pn	18 53 03.2	+0.2
URZ				SN	S	18 53 40.1	0.0
URZ				AML	AML	18 53 49.9	
RIGZ	**Rimuhau**	**3.02**	**193**	PN	Pn	18 53 05.7	-0.1
SNGZ	**Shannon Statio**	**3.18**	**198**	PN	Pn	18 53 08.2	+0.4
KNZ	**Kokohu**	**3.34**	**193**	PN	Pn	18 53 09.1	-0.4
MHGZ	**Mahia Peninsul**	**3.43**	**189**	PN	Pn	18 53 10.8	+0.1
MCHZ	**McNeill Hill**	**3.98**	**202**	PN	Pn	18 53 18.3	+1.0
BHHZ	**Black Hill Sta**	**4.24**	**208**	PN	Pn	18 53 20.3	-0.2
KAHZ	**Kahuranaki**	**4.26**	**199**	PN	Pn	18 53 20.5	-0.3
PXZ	**Pawanui**	**4.48**	**198**	AML	AML	18 53 26.6	
TSZ	**Takapari Road**	**4.78**	**205**	PN	Pn	18 53 26.5	-0.7
OGWZ	**Otaki Gorge**	**5.73**	**207**	PN	Pn	18 53 38.2	-1.1
KIW	**Kapiti Island**	**5.87**	**209**	PN	Pn	18 53 40.6	-0.4
MTW	**Mount Morrison**	**5.92**	**204**	PN	Pn	18 53 40.1	-1.5
TCW	**Tory Channel**	**6.42**	**211**	PN	Pn	18 53 46.7	-1.4
TUWZ	**Tuamarina**	**6.74**	**212**	PN	Pn	18 53 51.2	-1.0

IDC 11 18:58:28.8±1.2, 2.94N×126.13E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, Error ellipse: s-maj=141.4km s-min=19.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13**	**161**	P	P	19 03 47.0	+0.4
	1.2nm,0.7s,baz=337,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**27.51**	**164**	P	P	19 04 18.6	+1.3
	0.2nm,0.6s,baz=348,slow=7.4,SNR=5.5						
STKA	**Stephens Creek**	**37.62**	**158**	P	P	19 05 44.3	-1.2
	1.3nm,0.7s,baz=319,slow=11,SNR=2.2						
SONM	**Songino Array**	**47.86**	**342**	P	P	19 07 07.9	-0.8
	0.2nm,0.5s,baz=160,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**57.86**	**326**	P	P	19 08 22.8	+0.3
	0.2nm,0.5s,baz=121,slow=8.3,SNR=6.5						

*IDC **11** 19:06:51.0±0.7, 13.63N×120.90E, h130km±8km, mb2.9/5, mb1 3.1/5, mb1mx2.9/25, mbtmp2.9/5, Error ellipse: s-maj=47.7km s-min=16.1km az=62.0*
*ISCJB **11** 19:06:51.3±0.6, 13.72N±0.06×120.7E±0.1, h131km±6km, mb3.1/5, Error ellipse: s-maj=16.7km s-min=9.6km az=9.5*
*MAN **11** 19:06:53, 13.69N×120.56E, h94km, mb4.4, ML3.3, MS3.2*
ISC 11 19:06:51.2±0.8, 13.65N±0.05×120.63E±0.08, h125km±6km, n16, σ2°01/22, mb3.3/5, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.35**	**115**⇑	*eP*	**Pn**	**19 07 08.8**	**-0.2**
PGP				*eS*	**Sn**	**19 07 21.8**	**-0.5**
LUBP	**Lubang**	**0.38**	**283**	*eP*	**Pn**	**19 07 10.2**	**+1.2**
LUBP				*eS*	**Sn**	**19 07 18.6**	**-3.9**
TGY	**Tagaytay City**	**0.54**	**33**	P	**Pn**	**19 07 11.2**	**+1.2**
	153nm,0.3s,baz=176,slow=0.4,SNR=16						
TGY				S	**Sn**	**19 07 25.7**	**+1.5**
	303nm,0.3s,baz=17,slow=20,SNR=36						
TGY	**Tagaytay City**	**0.54**	**33**	⇓*iP*	**Pn**	**19 07 11.2**	**+1.2**
TGY				*eS*	**Sn**	**19 07 26.0**	**+1.7**
LQP	**Lukban**	**0.99**	**62**	⇓*eP*	**Pn**	**19 07 15.1**	**+1.3**
BOAC	**Boac**	**1.20**	**99**	*eP*	**Pn**	**19 07 17.3**	**+1.8**
SJMP	**San Jose**	**1.27**	**158**	*eP*	**Pn**	**19 07 18.4**	**+1.9**
SJMP				*eS*	**Sn**	**19 07 31.9**	**-3.7**
BUSP	**Coron**	**1.69**	**194**	*eP*	**Pn**	**19 07 23.0**	**+1.8**
GQP	**Guinayangan**	**1.78**	**82**	⇓*iP*	**Pn**	**19 07 23.9**	**+1.6**
PCPH	**Palayan**	**1.96**	**13**	⇑*eP*	**Pn**	**19 07 23.6**	**-0.8**
PCPH				*eS*	**Sn**	**19 07 49.0**	**-0.7**
ENPP	**El Nido**	**2.70**	**206**	*eP*	**Pn**	**19 07 36.2**	**+2.5**
CMAR	**Chiang Mai Arr**	**21.38**	**286**	P	**P**	**19 11 30.8**	**+1.9**
	0.4nm,0.8s,baz=101,slow=9.3,SNR=4.7						
WRA	**Warramunga Arr**	**36.00**	**158**	P	**P**	**19 13 38.2**	**-2.2**
	0.4nm,0.8s,baz=338,slow=9.5,SNR=4.2						
SONM	**Songino Array**	**36.09**	**344**	P	**P**	**19 13 40.6**	**-0.3**
	0.3nm,0.6s,baz=169,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**39.29**	**161**	P	**P**	**19 14 06.4**	**-1.7**
	0.3nm,0.4s,baz=334,slow=7.6,SNR=13						
MKAR	**Makanchi Array**	**46.03**	**324**	P	**P**	**19 15 03.0**	**+0.7**
	0.5nm,0.8s,baz=127,slow=9.3,SNR=4.8						

*IDC **11** 19:32:57.4±1.1, 16.37N×122.08E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/27, mbtmp3.8/6, ML4.6/1, Error ellipse: s-maj=47.5km s-min=17.9km az=79.0*
*ISCJB **11** 19:33:01.4±1.1, 16.19N±0.03×121.46E±0.04, h8km±9km, mb3.6/5, Error ellipse: s-maj=6.7km s-min=5.0km az=174.0*
*MAN **11** 19:33:01, 16.19N×121.40E, h3km, mb4.7, ML3.6, MS3.6*
ISC 11 19:32:59.8±1.2, 16.24N±0.03×121.53E±0.05, h10km±9km, n30, σ1°16/30, mb3.8/5, 5C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.50**	**175**	*eP*	**Pb**	**19 33 10.6**	**0.0**
BALP				*eS*	**Sg**	**19 33 14.4**	**-1.7**
CAUP	**Cauayan**	**0.76**	**22**	*eP*	**Pn**	**19 33 18.0**	**+1.5**
CAUP				*eS*	**Sn**	**19 33 27.0**	**-1.0**
PCPH	**Palayan**	**0.79**	**212**	⇑*iP*	**Pg**	**19 33 14.8**	**-0.3**
PCPH				*iS*	**Sg**	**19 33 24.5**	**-0.9**
BCPH	**Baguio City Da**	**0.92**	**279**	⇑*iP*	**Pg**	**19 33 18.4**	**+0.8**
BCPH				*iS*	**Sg**	**19 33 30.1**	**+0.5**
BOLP	**Bolinao**	**1.56**	**275**	*eP*	**Pb**	**19 33 29.0**	**+0.3**
BOLP				*eS*	**Sn**	**19 33 46.6**	**-1.3**
ABRA	**Dolores**	**1.61**	**331**	*eP*	**Pg**	**19 33 31.2**	**+0.5**
SCZP	**Santa Cruz**	**1.62**	**254**	*eP*	**Pn**	**19 33 28.3**	**-0.1**
APYP	**Conner**	**1.64**	**350**	*eP*	**Pg**	**19 33 30.6**	**-0.7**
SIPP	**Brgy, Tapao**	**1.96**	**329**	⇑*eP*	**Pg**	**19 33 37.8**	**+0.3**
LQP	**Lukban**	**2.12**	**180**	⇑*eP*	**Pb**	**19 33 38.4**	**0.0**
TGY	**Tagaytay City**	**2.20**	**195**	Pn	**Pb**	**19 33 40.4**	**+0.6**
	133nm,0.3s,baz=49,slow=8.9,SNR=4.7						
TGY				Sn	**Sg**	**19 34 10.7**	**+0.1**
	87nm,0.3s,baz=350,slow=19,SNR=5.7						
TGY	**Tagaytay City**	**2.20**	**195**	*iP*	**Pb**	**19 33 40.6**	**+0.8**
PIP	**Pasuquin**	**2.25**	**337**	⇓*eP*	**Pb**	**19 33 40.2**	**-0.3**
PIP				*eS*	**Sg**	**19 34 12.5**	**+0.3**
GQP	**Guinayangan**	**2.48**	**159**	⇑*eP*	Pn	19 33 36.4	-3.9
GQP				*eS*	**Sn**	**19 34 12.1**	**+1.4**
BOAC	**Boac**	**2.78**	**174**	*eP*	**Pb**	**19 33 49.0**	**-0.6**
LUBP	**Lubang**	**2.78**	**207**	*eP*	**Pb**	**19 33 47.6**	**-2.0**
PVCP	**Virac**	**3.65**	**136**	*eP*	Pb	19 33 59.6	-4.9
SJMP	**San Jose**	**3.78**	**186**	*eP*	**Pb**	**19 34 07.1**	**+0.5**
BUSP	**Coron**	**4.40**	**197**	*eP*	**Pn**	**19 34 09.9**	**+3.2**
SONM	**Songino Array**	**33.89**	**345**	P	**P**	**19 39 43.0**	**+0.2**
	0.3nm,0.6s,baz=159,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**38.10**	**160**	P	**P**	**19 40 17.9**	**-1.1**
	1.7nm,0.8s,baz=342,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**41.46**	**163**	P	**P**	**19 40 45.8**	**-1.3**
	0.3nm,0.6s,baz=342,slow=7.7,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**43.08**	**80**	T	T	20 26 48.9	
	baz=279,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**43.09**	**80**	T	T	20 26 48.6	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**43.09**	**80**	T	T	20 27 01.2	
	baz=279,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**43.19**	**78**	T	T	20 26 36.2	
	baz=276,slow=75,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**43.20**	**78**	T	T	20 26 37.4	
	baz=276,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**43.21**	**78**	T	T	20 26 37.6	
	baz=276,slow=75,SNR=6.6						
BVAR	**Borovoye Array**	**54.16**	**325**	P	**P**	**19 42 26.4**	**+1.3**
	0.3nm,0.3s,baz=128,slow=9.0,SNR=4.2						
FINES	**FINESS Array B**	**78.47**	**331**	P	**P**	**19 44 59.4**	**-1.4**
	1.5nm,1.0s,baz=64,slow=4.4,SNR=4.3						

IDC 11 19:40:45.0±5.0, 2.06S×139.99E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=198.1km s-min=27.9km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.61**	**197**	P	P	19 45 04.0	-0.2
	0.1nm,0.3s,baz=19,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.27**	**195**	P	P	19 45 44.0	+0.1
	0.4nm,0.4s,baz=18,slow=11,SNR=16						
H11S3	**WAKE ISLAND Hy**	**33.28**	**51**	T	T	20 23 10.1	
	baz=236,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**33.29**	**51**	T	T	20 23 10.5	
	baz=236,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**33.30**	**51**	T	T	20 23 11.4	
	baz=236,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**34.15**	**49**	T	T	20 24 20.8	
	baz=235						
H11N2	**WAKE ISLAND Hy**	**34.16**	**49**	T	T	20 24 17.5	
	baz=235,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**34.16**	**49**	T	T	20 24 19.7	
	baz=235						
MKAR	**Makanchi Array**	**70.06**	**322**	P	P	19 51 58.9	0.0
	0.2nm,0.7s,baz=114,slow=7.0,SNR=2.3						

*IDC **11** 19:46:20.2±5.7, 25.25N×123.72E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/26, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/26, Error ellipse: s-maj=353.4km s-min=26.6km az=60.0*
*ISCJB **11** 19:46:23.7±1.0, 24.95N±0.08×123.41E±0.07, h32km, mb3.5/3, MS3.6/1, Error ellipse: s-maj=12.3km s-min=7.9km az=34.4*
*JMA **11** 19:46:23.1±0.3, 25.01N×123.43E, h24km, M3.1*
ISC 11 19:46:25.0±1.3, 24.9N±0.1×123.43E±0.08, h32km, n10, σ1°11/13, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**221**	P	**Pb**	**19 46 35.7**	**-1.1**
IRIF	**Iriomote-Funau**	**0.63**	**154**	P	**Pb**	**19 46 36.8**	**-0.8**
IRIF				*eS*	**Sb**	**19 46 46.1**	**-0.1**
JIJ	**Ishigaki jima**	**0.84**	**129**	P	**Pn**	**19 46 39.4**	**-1.2**
JIJ				*eS*	**Sn**	**19 46 51.4**	**-0.5**
JKRS	**Kuro-shima**	**0.85**	**141**	P	**Pn**	**19 46 40.3**	**-0.4**
JKRS				*eS*	**Sb**	**19 46 52.3**	**0.0**
HATJ	**Hateruma jima**	**0.91**	**158**	P	**Pn**	**19 46 41.4**	**-0.1**
HATJ				*eS*	**Sb**	**19 46 54.0**	**0.0**
JTJ	**Tarama**	**1.19**	**102**	*eS*	**Sn**	**19 47 00.5**	**+0.1**
MKAR	**Makanchi Array**	**39.27**	**314**	P	**P**	**19 53 50.1**	**-0.5**
	0.2nm,0.6s,baz=96,slow=9.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**40.78**	**326**	LR	LR	20 10 23.5	
	comp=Z,71nm,18.6s,baz=282,slow=36						
WRA	**Warramunga Arr**	**45.82**	**166**	P	**P**	**19 54 46.0**	**+1.9**
	1.0nm,0.7s,baz=348,slow=8.4,SNR=8.3						
ASAR	**Alice Springs**	**49.34**	**167**	P	**P**	**19 55 13.5**	**+2.1**
	0.2nm,0.4s,baz=354,slow=7.7,SNR=3.7						

*IDC **11** 20:33:35.9±1.1, 51.24N×159.62E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.6/27, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=27.1km s-min=16.1km az=2.0*
*NEIC **11** 20:33:37.8±0.9, 51.37N×159.85E, h10km, mb4.7/1, Error ellipse: s-maj=19.2km s-min=14.8km az=214.0*
*MOS **11** 20:33:38.0±1.9, 51.18N×159.77E, h33km, mb4.4/5, Error ellipse: s-maj=25.0km s-min=14.7km az=104.3*

ISC 11 20:33:39.6±0.9, 51.27N±0.09×159.78E±0.10, h26km, n25, σ1°35/26, mb4.1/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**1.89**	**339**	*ePN*	**Pn**	**20 34 09.7**	**-0.4**
PET				*eS*	**Sb**	**20 34 37.3**	**+0.9**
PET				pmax	pmax		
	comp=Z,94nm,0.5s						
PET				smax	smax		
	comp=E,240nm,0.6s						
PET				smax	smax		
	comp=N,244nm,0.6s						
PET	**Petropavlovsk**	**1.89**	**339**	*eP*	**Pn**	**20 34 07.5**	**-2.6**
PEA0B	**Petropavlovsk-**	**2.24**	**326**	*eP*	**Pn**	**20 34 15.1**	**+0.1**
PETK	**Petropavlovsk-**	**2.24**	**326**	PN	**Pn**	**20 34 15.6**	**+0.6**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.24**	**326**	Pn	**Pn**	**20 34 15.6**	**+0.6**
PETK	**Petropavlovsk-**	**2.24**	**326**	Pn	**Pn**	**20 34 15.6**	**+0.6**
	comp=Z,5.1nm,0.3s,baz=140,slow=18,SNR=30						
SKR	**Severo-Kuril's**	**2.39**	**257**	*ePN*	Pn	20 34 12.5	-4.5
SKR				*eS*	**Sn**	**20 34 42.5**	**-2.8**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax	smax		
	comp=N,190nm,0.7s						
SKR				smax	smax		
	comp=E,110nm,0.7s						
FX1	**Attu Island--F**	**8.41**	**74**	*eP*	**Pn**	**20 35 39.1**	**-0.5**
FX1				Sn	Sn	20 37 05.2	-8.3
FX1	**Attu Island--F**	**8.41**	**74**	Pn	**Pn**	**20 35 38.6**	**-1.0**
	comp=E,4.4nm,0.3s,baz=47,slow=6.3,SNR=36						
FX1				Sn	Sn	20 37 05.2	-8.3
	comp=E,7.1nm,0.3s,baz=56,slow=15,SNR=7.1						
TIXI	**Tiksi**	**24.67**	**337**	*eP*	**P**	**20 38 57.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,16nm,0.8s						
TIXI	**Tiksi**	**24.67**	**337**	*eP*	**P**	**20 38 57.3**	**-0.5**
	comp=Z,16nm,0.8s						
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**20 42 21.1**	**-1.0**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**20 42 21.1**	**-1.0**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**20 42 21.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=54,slow=6.9,SNR=11						
ARCES	**ARCESS Array B**	**54.96**	**342**	P	**P**	**20 43 08.8**	**+1.0**
ARCES	**ARCESS Array B**	**54.96**	**342**	P	**P**	**20 43 08.8**	**+1.0**
	comp=Z,7.1nm,0.9s,baz=32,slow=8.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**57.63**	**259**	P	**P**	**20 43 30.3**	**+2.9**
CMAR	**Chiang Mai Arr**	**57.63**	**259**	P	**P**	**20 43 30.3**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=25,slow=6.3,SNR=6.8						
FINES	**FINESS Array B**	**61.72**	**337**	P	**P**	**20 43 54.9**	**-0.1**
FINES	**FINESS Array B**	**61.72**	**337**	P	**P**	**20 43 54.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=42,slow=8.9,SNR=6.1						
AKASG	**Malin Array Be**	**70.08**	**329**	P	**P**	**20 44 48.4**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**70.08**	**329**	P	**P**	**20 44 48.4**	**-0.5**
AKASG	**Malin Array Be**	**70.08**	**329**	P	**P**	**20 44 48.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=31,slow=6.1,SNR=6.3						
WRA	**Warramunga Arr**	**74.34**	**205**	P	**P**	**20 45 15.3**	**+0.6**
WRA	**Warram

couple: M≥2.89000×10^15 NP1:φ≈271.00000°, δ42.00000°, λ-79.00000°. NP2:φ≈76.00000°, δ49.00000°, λ-99.00000°.
*ISCJB **11** 21:12:49.6±1.2, 24°.96N±0°.08×123°.46E±0°.05, h26km±10km, mb3.6/12, Error ellipse: s-maj=13.4km s-min=7.9km az=13.4*
*JMA **11** 21:12:49.4±0.2, 25°.00N×123°.44E, h31km, M3.6*
*IDC **11** 21:12:60.0±4.7, 24°.98N×123°.27E, h100km±45km, mb4.3/13, mb1 3.5/14, mb1mx3.4/28, mbtmp3.4/14, Error ellipse: s-maj=25.9km s-min=13.7km az=68.0*

ISC 11 21:12:48.9±1.8, 24°.92N±0°.06×123°.44E±0°.06, h14km±11km, n20, σ1§06/25, mb3.6/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.60**	**221**	P	**Pn**	**21 13 01.9**	**-1.2**
YOJ				*eS*	**Sn**	**21 13 11.1**	**-1.5**
IRIF	**Iriomote-Funau**	**0.64**	**156**	P	**Pn**	**21 13 02.8**	**-0.7**
IRIF				S	**Sn**	**21 13 12.6**	**-0.9**
JIJ	**Ishigaki jima**	**0.84**	**131**	P	**Pg**	**21 13 05.5**	**+0.3**
JIJ				S	**Sn**	**21 13 17.3**	**-1.3**
JKRS	**Kuro-shima**	**0.85**	**143**	P	**Pn**	**21 13 06.0**	**-0.5**
JKRS				*eS*	**Sn**	**21 13 17.1**	**-1.7**
HATJ	**Hateruma jima**	**0.92**	**159**	P	**Pn**	**21 13 07.5**	**+0.1**
HATJ				*eS*	**Sg**	**21 13 18.4**	**-0.3**
JTJ	**Tarama**	**1.18**	**103**	P	**Pn**	**21 13 10.4**	**-0.6**
KSRS	**Korea Array**	**13.07**	**16**	P	**P**	**21 16 02.7**	**-1.7**
	0.1nm,0.3s,baz=194,slow=12,SNR=3.0						
USRK	**Ussuriysk Arra**	**20.46**	**18**	P	Pn	21 17 28.9	+0.7
	1.6nm,0.9s,baz=212,slow=9.6,SNR=2.2						
CMAR	**Chiang Mai Arr**	**23.64**	**259**	P	**P**	**21 18 00.9**	**+0.9**
	0.4nm,0.7s,baz=68,slow=6.0,SNR=4.7						
SONM	**Songino Array**	**26.56**	**334**	P	**P**	**21 18 27.2**	**+0.7**
	0.6nm,0.6s,baz=146,slow=9.7,SNR=6.4						
MKAR	**Makanchi Array**	**39.27**	**314**	P	**P**	**21 20 17.7**	**+0.5**
	1.1nm,0.8s,baz=102,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**40.78**	**326**	P	**P**	**21 20 29.6**	**+0.1**
	1.5nm,0.7s,baz=110,slow=8.2,SNR=6.5						
KURBB	**Kurchatov Arra**	**42.90**	**319**	P	**P**	**21 20 47.3**	**+0.4**
	0.7nm,0.5s,baz=113,slow=8.6,SNR=9.4						
WRA	**Warramunga Arr**	**45.83**	**166**	P	**P**	**21 21 12.0**	**+1.3**
	3.6nm,0.9s,baz=348,slow=8.9,SNR=21						
BVAR	**Borovoye Array**	**48.43**	**320**	P	**P**	**21 21 30.3**	**-0.3**
	0.6nm,0.5s,baz=134,slow=8.3,SNR=3.7						
ASAR	**Alice Springs**	**49.35**	**167**	P	**P**	**21 21 40.1**	**+2.1**
	1.0nm,0.8s,baz=348,slow=7.5,SNR=14						
ASAR				PcP	**PcP**	**21 23 01.7**	**+1.1**
	0.8nm,1.0s,baz=342,slow=3.4,SNR=2.9						
FINES	**FINESS Array B**	**71.85**	**330**	P	**P**	**21 24 11.0**	**-0.1**
	1.5nm,0.9s,baz=95,slow=7.0,SNR=3.7						
BRTR	**Keskin Array B**	**74.39**	**307**	P	**P**	**21 24 26.8**	**0.0**
	0.5nm,0.8s,baz=74,slow=5.1,SNR=2.7						
NOA	**NORSAR Array B**	**78.53**	**333**	P	**P**	**21 24 48.6**	**-1.1**
	0.3nm,0.5s,baz=54,slow=5.9,SNR=2.9						
YKA	**Yellowknife Ar**	**81.49**	**23**	P	**P**	**21 25 05.9**	**+0.4**
	0.1nm,0.4s,baz=301,slow=4.9,SNR=2.9						

*NIED **11** 21:14:00, 25°.10N×123°.50E, h5km, Mw4.3 Best double couple: M≥2.88000×10^15 NP1:φ≈65.00000°, δ46.00000°, λ-109.00000°. NP2:φ≈271.00000°, δ47.00000°, λ-72.00000°.*
*JMA **11** 21:14:23.1±0.4, 25°.05N×123°.45E, h3km, M3.8*
*ISCJB **11** 21:14:25.9±0.5, 24°.94N±0°.05×123°.42E±0°.06, h32km, mb3.8/11, Error ellipse: s-maj=8.5km s-min=5.3km az=146.0*
*IDC **11** 21:14:32.6±5.0, 25°.01N×123°.36E, h74km±47km, mb3.6/11, mb1 3.7/12, mb1mx3.5/28, mbtmp3.6/12, ML3.1/1, Error ellipse: s-maj=23.6km s-min=14.5km az=69.0*

ISC 11 21:14:27.4±0.7, 24°.89N±0°.07×123°.45E±0°.08, h32km, n17, σ1§12/21, mb3.9/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.59**	**223**	P	Pn	21 14 37.0	-2.5
YOJ				*eS*	**Sb**	**21 14 46.1**	**-1.4**
IRIF	**Iriomote-Funau**	**0.61**	**155**	P	**Pb**	**21 14 37.7**	**-1.9**
IRIF				S	**Sb**	**21 14 48.5**	**+0.5**
JIJ	**Ishigaki jima**	**0.82**	**130**	P	**Pn**	**21 14 40.8**	**-1.9**
JIJ				S	**Sn**	**21 14 53.1**	**-0.6**
JKRS	**Kuro-shima**	**0.82**	**142**	P	**Pn**	**21 14 41.9**	**-0.8**
JKRS				S	**Sb**	**21 14 54.8**	**+0.8**
HATJ	**Hateruma jima**	**0.89**	**159**	P	**Pn**	**21 14 43.4**	**-0.3**
KSRS	**Korea Array**	**13.09**	**16**	P	P	21 17 36.0	-4.9
	0.1nm,0.3s,baz=202,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**23.64**	**259**	P	**P**	**21 19 36.3**	**+0.3**
	1.6nm,0.9s,baz=56,slow=7.9,SNR=7.9						
SONM	**Songino Array**	**26.59**	**334**	P	**P**	**21 20 02.6**	**-0.1**
	1.1nm,0.8s,baz=148,slow=8.2,SNR=5.0						
PETK	**Petropavlovsk-**	**38.14**	**33**	P	**P**	**21 21 42.8**	**-0.7**
	3.0nm,0.8s,baz=260,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**39.30**	**314**	P	**P**	**21 21 52.2**	**-1.1**
	2.2nm,0.8s,baz=106,slow=9.1,SNR=13						
ZALV	**Zalesovo Beam**	**40.80**	**326**	P	**P**	**21 22 05.1**	**-0.5**
	2.5nm,0.7s,baz=113,slow=8.0,SNR=9.0						
KURBB	**Kurchatov Arra**	**42.92**	**319**	P	**P**	**21 22 22.9**	**-0.1**
	1.0nm,0.5s,baz=115,slow=10,SNR=11						
WRA	**Warramunga Arr**	**45.80**	**166**	P	**P**	**21 22 47.6**	**+1.3**
	4.9nm,0.8s,baz=347,slow=8.6,SNR=14						
WRA				PcP	**PcP**	**21 24 24.1**	**+0.5**
	0.5nm,0.7s,baz=332,slow=3.6,SNR=3.2						
BVAR	**Borovoye Array**	**48.45**	**320**	P	**P**	**21 23 07.0**	**+0.3**
	0.4nm,0.6s,baz=79,slow=7.5,SNR=2.7						
ASAR	**Alice Springs**	**49.32**	**167**	P	**P**	**21 23 15.4**	**+1.8**
	0.7nm,0.6s,baz=351,slow=13,SNR=6.7						
ASAR				PcP	**PcP**	**21 24 37.1**	**+1.0**
	0.6nm,0.9s,baz=324,slow=4.6,SNR=3.0						
STKA	**Stephens Creek**	**59.05**	**162**	P	**P**	**21 24 26.1**	**+1.8**
	1.6nm,0.7s,baz=356,slow=6.2,SNR=2.8						
YKA	**Yellowknife Ar**	**81.51**	**23**	P	**P**	**21 26 41.6**	**+0.2**
	0.3nm,0.7s,baz=308,slow=5.3,SNR=2.7						

*ISCJB **11** 21:17:01.7±0.3, 1°.47N±0°.04×67°.83E±0°.05, h10km, mb4.3/37, MS3.9/13, Error ellipse: s-maj=7.1km s-min=5.1km az=168.0*
*IDC **11** 21:17:02.1±0.5, 1°.49N×67°.77E, h0km, mb4.1/26, mb1 4.2/26, mb1mx4.1/36, mbtmp4.1/26, MS3.9/13, Ms1 3.9/13, ms1mx3.7/35, Error ellipse: s-maj=15.4km s-min=13.3km az=37.0*
*GCMT **11** 21:17:03.7±0.4, 1°.40N×67°.71E, h17km±2km, MW4.9/60, Moment Tensor Solution. s18,c18; s60,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.31±.12; Mθθ2.22±.13; Mφφ-1.91±.11; Mrθ0.03±.26; Mrφ0.88±.11; Mθφ-0.75±.28; Best double couple: M≥2.38200×10^16 NP1:φ≈35.00000°, δ78.00000°, λ-164.00000°. NP2: φ≈302.00000°, δ74.00000°, λ-12.00000°. Principal axes: T 2.4060, Plg3.0000°, Azm168.0000°; N -0.0460, Plg70.0000°, Azm70.0000°; P -2.3570, Plg20.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 21:17:03.7±0.3, 1°.51N×67°.80E, h10km, mb4.6/8 Error ellipse: s-maj=7.4km s-min=6.8km az=172.0*

ISC 11 21:17:03.8±0.4, 1°.51N±0°.07×67°.80E±0°.07, h10km, n93, σ0§97/87, mb4.3/37, MS3.8/13, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.41**	**158**	Pn	**Pn**	**21 19 05.7**	**+0.1**
H08N2				T	T	21 27 49.4	
	baz=336,slow=76,SNR=870						
H08N3	**Diego Garcia H**	**8.43**	**158**	Pn	**Pn**	**21 19 05.9**	**+0.1**
H08N3				T	T	21 27 50.5	
	baz=336,slow=76,SNR=966						
H08N1	**Diego Garcia H**	**8.43**	**158**	Pn	**Pn**	**21 19 06.0**	**+0.1**
H08N1				T	T	21 27 44.7	
	baz=336,slow=76,SNR=695						
DGAR	**Diego Garcia**	**10.00**	**152**	*e*Pn	**Pn**	**21 19 27.2**	**-0.5**
	480nm,1.4s						
DGAR				*e*Sn	Sn	21 21 12.1	-8.0
H08S3	**Diego Garcia H**	**10.21**	**153**	Pn	**Pn**	**21 19 30.4**	**+0.1**
H08S1	**Diego Garcia H**	**10.22**	**153**	Pn	**Pn**	**21 19 30.5**	**+0.1**
H08S2	**Diego Garcia H**	**10.23**	**153**	Pn	**Pn**	**21 19 30.7**	**+0.1**
TRD	**Trivandrum**	**11.47**	**52**	*e*P	**Pn**	**21 19 49.2**	**+1.4**
TRD				AMB	AMB	21 19 56.3	
	comp=Z,23nm,1.8s						
TRD				↑*e*x	x	21 19 58.6	
MSEY	**Mahe Island**	**13.76**	**243**	*e*P	**Pn**	**21 20 21.1**	**+2.0**
	comp=Z,24nm,0.6s						
PALK	**Pallekele**	**14.08**	**66**	*e*Pn	Pn	21 20 23.2	-0.4
	comp=Z,403nm,0.5s						
GOA	**Goa**	**15.11**	**23**	*ex*	**Pn**	**21 20 41.2**	**+3.6**
GOA				AMB	AMB	21 21 02.8	
	comp=Z,18nm,2.7s						
POO	**Poona**	**17.93**	**19**	*e*P	**Pn**	**21 21 13.0**	**-0.5**
POO				*e*P	**P**	**21 21 14.8**	**+0.7**
HYB	**Hyderabad**	**19.02**	**33**	*i* P	Pn	21 21 34.5	+7.7
HYB	**Hyderabad**	**19.02**	**33**	*e*P	**Pn**	**21 21 27.6**	**+0.8**
AKL	**Akola**	**21.09**	**25**	*e*P	**P**	**21 21 50.2**	**+1.5**
AKL				AMB	AMB	21 22 03.0	
	comp=Z,8.2nm,0.2s						
BHJ	**Bhuj**	**21.69**	**5**	*e*P	**P**	**21 21 54.3**	**-0.7**
BHJ				AMB	AMB	21 22 03.9	
	comp=Z,70nm,1.9s						
VIS	**Vishakhapatnam**	**22.19**	**43**	*e*P	**P**	**21 22 01.0**	**+0.6**
VIS				AMB	AMB	21 22 13.6	
	comp=Z,17nm,1.4s						
BHPL	**Bhopal**	**23.54**	**23**	*e*P	**P**	**21 22 14.4**	**-0.1**
BHPL				AMB	AMB	21 22 24.2	
	comp=Z,22nm,1.6s						
BOK	**Bokaro**	**28.25**	**37**	*e*P	**P**	**21 22 54.9**	**-2.4**
KMBO	**Kilima Mbogo**	**30.66**	**265**	LR	LR	21 34 23.8	
	comp=Z,166nm,18.8s,baz=100,slow=34						
PSI	**Prapat**	**31.13**	**87**	P	**P**	**21 23 24.4**	**+1.2**
PSI	**Prapat**	**31.13**	**87**	P	**P**	**21 23 24.4**	**+1.2**
	comp=Z,3.3nm,0.6s,baz=283,slow=8.4,SNR=4.7						
PSI				LR	LR	21 34 04.0	
	comp=Z,430nm,19.2s,baz=339,slow=33						
DHRM	**DHARAMSHALA**	**31.61**	**14**	*e*P	**P**	**21 23 24.6**	**-2.7**
CMAR	**Chiang Mai Arr**	**34.88**	**59**	P	**P**	**21 23 57.4**	**+1.6**
CMAR				PcP	**PcP**	**21 26 28.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**34.88**	**59**	P	**P**	**21 23 57.4**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=251,slow=8.5,SNR=8.3						
CMAR				PcP	**PcP**	**21 26 28.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=242,slow=3.8,SNR=2.9						
CMAR				LR	LR	21 36 14.9	
	comp=Z,117nm,19.9s,baz=60,slow=33						
CHTO	**Chiang Mai**	**35.03**	**59**	*e*P	**P**	**21 23 58.0**	**+0.9**
	comp=Z,4.2nm,0.8s						
LSA	**Lhasa**	**35.77**	**36**	*e*P	**P**	**21 24 03.9**	**+0.1**
	comp=Z,4.1nm,0.8s						
AAK	**Ala-Archa**	**41.38**	**7**	*e*P	**P**	**21 24 51.1**	**+0.7**
	comp=Z,4.0nm,1.4s						
AAK	**Ala-Archa**	**41.38**	**7**	P	**P**	**21 24 50.7**	**+0.3**
	comp=Z,3.0nm,1.1s,baz=180,slow=9.3,SNR=5.2						
AAK				LR	LR	21 42 36.9	
	comp=Z,161nm,19.4s,baz=136,slow=37						
EIL	**Elat**	**41.95**	**315**	P	**P**	**21 24 55.8**	**+0.7**
EIL	**Elat**	**41.95**	**315**	P	**P**	**21 24 55.8**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=45,slow=13,SNR=3.4						
ASF	**Jabal al Asfar**	**42.16**	**320**	P	**P**	**21 24 57.3**	**+0.4**
ASF	**Jabal al Asfar**	**42.16**	**320**	P	**P**	**21 24 57.3**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=149,slow=5.9,SNR=2.8						
LSZ	**Lusaka**	**42.57**	**245**	*e*P	**P**	**21 25 00.2**	**-0.3**
LSZ	**Lusaka**	**42.57**	**245**	P	**P**	**21 24 59.6**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=72,slow=8.7,SNR=11						
MMAI	**Mount Meron Ar**	**43.67**	**319**	P	**P**	**21 25 08.9**	**-0.2**
MMAI	**Mount Meron Ar**	**43.67**	**319**	P	**P**	**21 25 08.9**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=116,slow=9.9,SNR=3.2						
MK31	**Makanchi Array**	**46.85**	**14**	*e*P	**P**	**21 25 33.1**	**-1.0**
MKAR	**Makanchi Array**	**46.85**	**14**	P	**P**	**21 25 33.4**	**-0.7**
MKAR	**Makanchi Array**	**46.85**	**14**	P	**P**	**21 25 33.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=190,slow=6.1,SNR=11						
KBZ	**Khabaz**	**47.52**	**336**	P	**P**	**21 25 40.1**	**+0.8**
KBZ	**Khabaz**	**47.52**	**336**	P	**P**	**21 25 40.1**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=182,slow=6.8,SNR=5.2						
KBZ				LR	LR	21 44 08.0	
	comp=Z,90nm,19.2s,baz=346,slow=34						
ABKAR	**Akbulak array**	**48.04**	**353**	*e*P	**P**	**21 25 43.3**	**+0.1**
	comp=Z,8.0nm,1.0s						
ABKAR				*e*PP	**PP**	**21 27 37.9**	**+2.4**
LBTB	**Lobatse**	**48.63**	**234**	*e*P	**P**	**21 25 47.7**	**-0.7**
	comp=Z,3.1nm,0.7s						
LBTB	**Lobatse**	**48.63**	**234**	P	**P**	**21 25 48.4**	**0.0**
	comp=Z,3.8nm,0.9s,baz=76,slow=8.3,SNR=3.3						
BRTR	**Keskin Array B**	**49.11**	**325**	P	**P**	**21 25 51.5**	**-0.4**
BRTR	**Keskin Array B**	**49.11**	**325**	P	**P**	**21 25 51.5**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=137,slow=12,SNR=8.8						
BRTR				LR	LR	21 47 15.4	
	comp=Z,102nm,19.7s,baz=128,slow=37						
AKTO	**Aktyubinsk**	**49.45**	**352**	P	**P**	**21 25 53.6**	**-0.5**
AKTO	**Aktyubinsk**	**49.45**	**352**	P	**P**	**21 25 53.6**	**-0.5**
	comp=Z,5.6nm,1.0s,baz=173,slow=8.2,SNR=13						
KURBB	**Kurchatov Arra**	**49.78**	**9**	P	**P**	**21 25 56.4**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=205,slow=7.8,SNR=18						
KURK	**Kurchatov**	**49.88**	**9**	*e*P	**P**	**21 25 56.3**	**-1.0**
	comp=Z,2.3nm,0.7s						
BVAR	**Borovoye Array**	**51.39**	**2**	P	**P**	**21 26 08.6**	**-0.1**
BVAR	**Borovoye Array**	**51.39**	**2**	P	**P**	**21 26 08.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=168,slow=7.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**54.12**	**12**	P	**P**	**21 26 28.1**	**-0.7**
ZALV	**Zalesovo Beam**	**54.12**	**12**	P	**P**	**21 26 28.1**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=218,slow=6.8,SNR=11						
H01W3	**Cape Leeuwin H**	**56.46**	**134**	T	T	22 27 44.1	
	baz=299,slow=75,SNR=73						
H01W2	**Cape Leeuwin H**	**56.46**	**134**	T	T	22 27 44.5	
	baz=299,slow=75,SNR=53						
H01W1	**Cape Leeuwin H**	**56.48**	**134**	T	T	22 27 45.4	
	baz=299,slow=75,SNR=72						
SONM	**Songino Array**	**56.93**	**30**	P	**P**	**21 26 49.3**	**-0.1**
SONM	**Songino Array**	**56.93**	**30**	P	**P**	**21 26 49.3**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=219,slow=8.3,SNR=6.7						
NWAO	**Narrogin (SRO)**	**57.82**	**131**	P	**P**	**21 26 55.7**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=301,slow=5.9,SNR=3.8						
AKASG	**Malin Array Be**	**58.86**	**332**	P	**P**	**21 27 01.6**	**-1.1**
AKASG	**Malin Array Be**	**58.86**	**332**	P	**P**	**21 27 01.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=130,slow=5.7,SNR=6.6						
KEST	**Kesra**	**63.85**	**309**	LR	LR	21 55 36.5	
	comp=Z,42nm,21.9s,baz=179,slow=36						
KSRS	**Korea Array**	**65.66**	**49**	LR	LR	21 57 35.7	
	comp=Z,54nm,18.3s,baz=9.2,slow=37						
TORD	**Torodi Ar. Bea**	**66.40**	**284**	P	**P**	**21 27 53.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**66.40**	**284**	P	**P**	**21 27 53.4**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=90,slow=7.3,SNR=3.1						
TORD				LR	LR	21 56 25.5	
	comp=Z,73nm,18.3s,baz=175,slow=36						
JNU	**Nakatsue**	**66.79**	**54**	LR	LR	21 56 37.2	
	comp=Z,80nm,19.1s,baz=64,slow=36						
CLL	**Collm**	**67.54**	**326**	*e*P	**P**	**21 28 01.0**	**+0.7**
FINES	**FINESS Array B**	**67.58**	**340**	P	**P**	**21 27 59.3**	**-1.0**
FINES	**FINESS Array B**	**67.58**	**340**	P	**P**	**21 27 59.3**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=142,slow=6.5,SNR=4.3						
WRA	**Warramunga Arr**	**68.56**	**112**	P	**P**	**21 28 06.8**	**-0.6**
WRA	**Warramunga Arr**	**68.56**	**112**	P	**P**	**21 28 06.8**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=290,slow=5.9,SNR=3.9						
WRAB	**Tennant Creek**	**68.57**	**116**	*e*P	**P**	**21 28 06.9**	**-0.5**
ASAR	**Alice Springs**	**68.85**	**116**	P	**P**	**21 28 09.0**	**-0.2**
ASAR	**Alice Springs**	**68.85**	**116**	P	**P**	**21 28 09.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=284,slow=6.6,SNR=5.3						
MAW	**Mawson**	**69.05**	**182**	LR	LR	21 51 08.7	
	comp=Z,145nm,20.8s,baz=196,slow=30						
KIC	**Kosan Boka**	**72.48**	**276**	*e*P	**P**	**21 28 31.9**	**+0.4**
	comp=Z,96nm,1.9s						
DBIC	**Dimbokro**	**72.60**	**276**	*e*P	**P**	**21 28 31.7**	**-0.5**
	comp=Z,5.9nm,0.8s						
DBIC	**Dimbokro**	**72.60**	**276**	P	**P**	**21 28 32.7**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=51,slow=6.3,SNR=3.7						
DBIC				LR	LR	21 58 49.1	
	comp=Z,93nm,18.1s,baz=42,slow=34						
TIC	**Toumodi**	**72.76**	**276**	*e*P	**P**	**21 28 33.5**	**+0.3**
	comp=Z,8.1nm,0.5s						
LIC	**Lamto**	**72.77**	**276**	*e*P	**P**	**21 28 35.9**	**+2.7**
	comp=Z,26nm,1.0s						
MJAR	**Matsushiro Arr**	**73.42**	**52**	LR	LR	22 03 44.6	
	comp=Z,46nm,19.8s,baz=75,slow=38						
ARCES	**ARCESS Array B**	**73.47**	**346**	P	**P**	**21 28 35.5**	**-0.8**
ARCES	**ARCESS Array B**	**73.47**	**346**	P	**P**	**21 28 35.5**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=126,slow=6.2,SNR=7.4						
ESDC	**Sonseca Array**	**75.05**	**311**	P	**P**	**21 28 45.5**	**-0.7**
ESDC	**Sonseca Array**	**75.05**	**311**	P	**P**	**21 28 45.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=84,slow=4.9,SNR=4.7						
VNDA	**Vanda**	**92.34**	**167**	*e*P	**P**	**21 30 13.4**	**-0.7**
	comp=Z,2.8nm,1.0s						
VNDA	**Vanda**	**92.34**	**167**	P	**P**	**21 30 13.0**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=303,slow=2.4,SNR=2.7						
BNM	**Barren Site**	**144.15**	**352**	*e*PKPdf	**PKPab**	**21 36 38.6**	**+0.1**
JCT	**Junction City**	**146.07**	**341**	*e*PKPdf	**PKPdf**	**21 36 43.6**	**-0.4**
TXAR	**Lajitas Array**	**148.26**	**346**	PKPbc	**PKPbc**	**21 36 51.5**	**+0.3**
TXAR	**Lajitas Array**	**148.26**	**346**	PKPbc	**PKPbc**	**21 36 51.5**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=63,slow=3.2,SNR=23						

*NIED **11** 21:18:00, 24°.90N×123°.50E, h5km, Mw4.6 Best double couple: M≥9.77000×10^15 NP1:φ≈263.00000°, δ40.00000°, λ-96.00000°. NP2:φ≈91.00000°, δ50.00000°, λ-85.00000°.*
*JMA **11** 21:18:12.5±0.3, 24°.95N×123°.48E, h25km, M3.8*
*NEIC **11** 21:18:14.0±1.5, 24°.93N×123°.33E, h25km±10km, mb4.4/7, Error ellipse: s-maj=8.4km s-min=6.0km az=66.0*
*IDC **11** 21:18:24.5±4.5, 24°.91N×123°.20E, h117km±42km, mb3.6/16, mb1 3.7/17, mb1mx3.7/27, mbtmp3.9/17, MS3.9/16, Ms1 3.9/16, ms1mx3.7/43, Error ellipse: s-maj=22.4km s-min=12.1km az=67.0*

ISC 11 21:18:11.1±1.8, 24°.94N±0°.06×123°.43E±0°.05, h9km±12km, n73, σ0§98/69, mb4.0/24, MS4.0/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.61**	**218**	P	**Pn**	**21 18 24.9**	**-1.0**
YOJ				*eS*	**Sb**	**21 18 33.5**	**+0.9**
YOJ	**Yonaguni jima**	**0.61**	**218**	*e*P	**Pb**	**21 18 24.7**	**+0.8**
IRIF	**Iriomote-Funau**	**0.67**	**155**	P	**Pb**	**21 18 24.8**	**-0.1**
IRIF				*eS*	**Sb**	**21 18 33.7**	**-0.5**
JIJ	**Ishigaki jima**	**0.87**	**131**	P	**Pg**	**21 18 27.5**	**-0.4**
JIJ				*eS*	**Sg**	**21 18 39.3**	**+0.1**
JKRS	**Kuro-shima**	**0.88**	**143**	P	**Pb**	**21 18 28.7**	**+0.2**
HATJ	**Hateruma jima**	**0.95**	**159**	*e*S	**Sg**	**21 18 41.6**	**-0.1**
JTJ	**Tarama**	**1.20**	**104**	P	**Pb**	**21 18 33.9**	**0.0**
TATO	**Taipei**	**1.76**	**271**	*e*Pn	**Pn**	**21 18 41.8**	**0.0**
TATO				*e*Sn	**Sn**	**21 19 01.6**	**-2.6**
NACB	**Ninganchiao**	**1.84**	**246**	*e*Pn	**Pn**	**21 18 42.8**	**0.0**
NACB				*e*Sn	Sn	21 18 58.4	-7.8
YHNB	**Yeheng**	**1.88**	**262**	*e*Pn	**Pn**	**21 18 43.8**	**+0.2**
YHNB				*e*Sn	**Sn**	**21 19 05.7**	**-1.7**
YULB	**Yu-li**	**2.48**	**232**	*e*Pn	**Pn**	**21 18 51.8**	**+0.1**
SSLB	**Suanglung**	**2.53**	**243**	*e*Pn	**Pn**	**21 18 52.4**	**0.0**
SSLB				*e*Sn	**Sn**	**21 19 21.5**	**-1.8**
TWG	**Pinlang**	**3.02**	**226**	*e*Pn	**Pn**	**21 18 58.6**	**-0.4**
TPUB	**Ta-pu**	**3.03**	**238**	*e*Pn	**Pn**	**21 18 59.4**	**+0.1**
JNU	**Nakatsue**	**10.43**	**37**	LR	LR	21 25 31.0	
	comp=Z,366nm,19.0s,baz=217,slow=40						
KSAR	**Wonju Array Be**	**13.03**	**16**	P	**P**	**21 21 25.3**	**-1.5**
KSRS	**Korea Array**	**13.05**	**16**	P	**P**	**21 21 25.3**	**-1.8**
	0.2nm,0.3s,baz=213,slow=13,SNR=7.2						
KSRS				LR	LR	21 27 00.5	
	comp=Z,505nm,18.0s,baz=194,slow=39						
JCJ	**Chichijima**	**17.00**	**79**	LR	LR	21 28 38.1	
	comp=Z,93nm,20.8s,baz=25,slow=36						
MJAR	**Matsushiro Arr**	**17.15**	**44**	LR	LR	21 29 02.3	
	comp=Z,228nm,18.5s,baz=265,slow=37						
USRK	**Ussuriysk Arra**	**20.44**	**18**	P	Pn	21 22 54.7	+3.9
	2.2nm,0.8s,baz=198,slow=14,SNR=4.0						
USRK				LR	LR	21 31 14.1	
	comp=Z,325nm,18.4s,baz=16,slow=38						
CHTO	**Chiang Mai**	**23.51**	**260**	*e*P	**P**	**21 23 21.9**	**+0.4**
	2.9nm,0.8s						
CM31	**Chiang Mai Arr**	**23.63**	**259**	*e*P	**P**	**21 23 22.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**23.63**	**259**	P	**P**	**21 23 24.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**23.63**	**259**	P	**P**	**21 23 24.1**	**+1.4**
	1.0nm,0.4s,baz=68,slow=8.6,SNR=10						
ASAJ	**Asahikawa**	**24.70**	**34**	LR	LR	21 34 02.6	
	comp=Z,210nm,18.6s,baz=50,slow=38						
ULN	**Ulaanbaatar**	**26.29**	**335**	*e*P

IRIF	**Iriomote-Funau**	**0.59**	**156**	P	**Pb**	**21 26 48.1**	**-0.9**
JIJ	**Ishigaki jima**	**0.80**	**129**	P	**Pn**	**21 26 51.0**	**-1.1**
JIJ				*e*S	**Sn**	**21 27 02.4**	**-0.5**
JKRS	**Kuro-shima**	**0.80**	**142**	P	**Pn**	**21 26 51.8**	**-0.4**
HATJ	**Hateruma jima**	**0.87**	**159**	P	**Pn**	**21 26 53.0**	**-0.1**
JTJ	**Tarama**	**1.15**	**101**	P	**Pn**	**21 26 56.4**	**-0.5**
KSRS	**Korea Array**	**13.10**	**16**	P	**P**	**21 29 50.3**	**-0.5**
	baz=188,slow=12,SNR=3.0						
KSRS				LR	LR	21 35 39.1	
	comp=Z,126nm,18.0s,baz=205,slow=41						
SONM	**Songino Array**	**26.60**	**334**	P	**P**	**21 32 13.4**	**+0.8**
	0.5nm,0.8s,baz=147,slow=8.7,SNR=3.8						
MKAR	**Makanchi Array**	**39.31**	**314**	P	**P**	**21 34 03.5**	**+0.3**
	0.5nm,0.6s,baz=100,slow=11,SNR=8.4						
ZALV	**Zalesovo Beam**	**40.82**	**326**	P	**P**	**21 34 14.7**	**-0.8**
	0.8nm,0.5s,baz=111,slow=6.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**42.94**	**319**	P	**P**	**21 34 32.6**	**-0.3**
	0.4nm,0.4s,baz=110,slow=8.5,SNR=6.5						
WRA	**Warramunga Arr**	**45.79**	**166**	P	**P**	**21 34 57.8**	**+1.9**
	2.0nm,0.8s,baz=348,slow=8.8,SNR=15						
BVAR	**Borovoye Array**	**48.47**	**320**	P	**P**	**21 35 16.5**	**-0.1**
	0.4nm,0.6s,baz=82,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**49.30**	**167**	P	**P**	**21 35 25.6**	**+2.5**
	0.6nm,0.7s,baz=350,slow=7.2,SNR=6.7						
BRTR	**Keskin Array B**	**74.43**	**307**	P	**P**	**21 38 12.4**	**0.0**
	0.3nm,0.5s,baz=57,slow=5.3,SNR=2.4						
YKA	**Yellowknife Ar**	**81.52**	**23**	P	P	21 38 47.6	-3.5
	0.1nm,0.4s,baz=310,slow=5.2,SNR=4.0						

*IDC **11** 21:32:13.8±3.2, 24.°84N×123.°20E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/26, mbtmp3.4/5, Error ellipse: s-maj=234.0km s-min=20.0km az=62.0*
*ISCJB **11** 21:32:15.9±0.8, 25.°00N±0.°09×123.°5E±0.°2, h32km, mb3.5/5, Error ellipse: s-maj=24.8km s-min=6.4km az=150.9*
*JMA **11** 21:32:15.2±0.2, 25.°04N×123.°51E, h22km, M3.0*

ISC 11 21:32:17.4±1.2, 24.°9N±0.°1×123.°6E±0.°2, h32km, n9, σ0s68/13, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.62**	**166**	P	**Pb**	**21 32 28.8**	**-1.0**
IRIF				S	**Sn**	**21 32 38.9**	**+0.2**
JIJ	**Ishigaki jima**	**0.78**	**137**	P	**Pn**	**21 32 31.5**	**-0.6**
JIJ				S	**Sb**	**21 32 43.0**	**+0.3**
JKRS	**Kuro-shima**	**0.81**	**149**	P	**Pn**	**21 32 32.2**	**-0.3**
JKRS				S	**Sb**	**21 32 44.0**	**+0.5**
HATJ	**Hateruma jima**	**0.90**	**166**	P	**Pn**	**21 32 33.6**	**-0.2**
HATJ				*e*S	**Sb**	**21 32 46.3**	**+0.1**
MKAR	**Makanchi Array**	**39.34**	**314**	P	**P**	**21 39 42.9**	**-0.7**
	0.2nm,0.6s,baz=101,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**40.82**	**326**	P	**P**	**21 39 55.6**	**-0.2**
	0.2nm,0.3s,baz=120,slow=8.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**42.95**	**319**	P	**P**	**21 40 13.7**	**+0.5**
	0.4nm,0.4s,baz=101,slow=7.2,SNR=6.9						
WRA	**Warramunga Arr**	**45.82**	**166**	P	**P**	**21 40 37.4**	**+0.9**
	1.4nm,0.8s,baz=347,slow=8.8,SNR=9.6						
ASAR	**Alice Springs**	**49.34**	**167**	P	**P**	**21 41 04.9**	**+1.1**
	0.3nm,0.6s,baz=351,slow=6.5,SNR=3.9						

*IDC **11** 22:00:58.5±16.0, 20.°62S×179.°00W, h622km±153km, mb3.0/5, mb1 3.3/5, mb1mx2.9/20, mbtmp3.0/5, Error ellipse: s-maj=225.9km s-min=39.9km az=135.0*

ISC 11 22:00:59.8±3.5, 21.°S±1.°×178.°9W±0.°7, h645km, n7, σ0s81/8, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.62**	**257**	P	**P**	**22 08 09.7**	**-0.3**
	1.5nm,0.6s,baz=94,slow=7.7,SNR=21						
ASAR				PcP	**PcP**	**22 09 42.6**	**+0.3**
	0.3nm,0.6s,baz=104,slow=3.9,SNR=3.5						
WRA	**Warramunga Arr**	**43.72**	**263**	P	**P**	**22 08 10.2**	**-0.5**
	0.5nm,0.3s,baz=97,slow=7.7,SNR=58						
FITZ	**Fitzroy Crossi**	**52.14**	**263**	P	**P**	**22 09 13.4**	**+0.4**
	1.6nm,0.8s						
ILAR	**Eielson Array**	**88.77**	**13**	P	**P**	**22 12 46.6**	**+0.4**
	0.2nm,0.5s,baz=227,slow=4.8,SNR=4.4						
INK	**Inuvik**	**94.75**	**15**	P	**P**	**22 13 13.1**	**-0.5**
	0.9nm,0.4s,baz=236,slow=3.6,SNR=4.9						
AKASG	**Malin Array Be**	**142.83**	**330**	PKP	**PKPdf**	**22 19 20.1**	**-1.1**
	1.9nm,0.5s,baz=50,slow=4.8,SNR=6.2						
GERES	**GERESS Array B**	**150.22**	**343**	PKPbc	**PKPbc**	**22 19 40.7**	**+1.0**
	0.3nm,0.5s,baz=5.2,slow=1.1,SNR=3.3						

*IDC **11** 22:17:02.1±1.0, 51.°27N×159.°60E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/29, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=25.4km s-min=15.2km az=5.0*

ISC 11 22:17:05.6±1.0, 51.°5N±0.°1×159.°97E±0.°08, h26km, n8, σ1s63/10, mb3.7/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**2.12**	**320**	Pn	**Pb**	**22 17 41.8**	**-1.5**
	11nm,0.3s,baz=144,slow=17,SNR=18						
PETK				Sn	**Sb**	**22 18 10.3**	**+1.0**
	2.1nm,0.3s,baz=127,slow=20,SNR=3.2						
FX1	**Attu Island--F**	**8.22**	**75**	Pn	**Pn**	**22 19 05.0**	**+1.9**
	3.1nm,0.3s,baz=99,slow=11,SNR=20						
FX1				Sn	**Sn**	**22 20 32.5**	**-2.6**
	5.3nm,0.3s,baz=98,slow=5.7,SNR=7.6						
USRK	**Ussuriysk Arra**	**20.06**	**260**	P	**P**	**22 21 36.9**	**+0.2**
	0.1nm,0.3s,baz=51,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**48.62**	**303**	P	**P**	**22 25 46.3**	**-0.5**
	0.4nm,0.5s,baz=61,slow=7.6,SNR=6.4						
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**22 25 47.3**	**-0.9**
	0.1nm,0.4s,baz=57,slow=6.7,SNR=6.0						
FINES	**FINESS Array B**	**51.54**	**337**	P	**P**	**22 27 21.7**	**+1.9**
	1.4nm,0.9s,baz=43,slow=6.3,SNR=4.0						
AKASG	**Malin Array Be**	**69.93**	**329**	P	**P**	**22 28 13.8**	**-0.2**
	0.2nm,0.3s,baz=30,slow=7.0,SNR=3.9						
WRA	**Warramunga Arr**	**74.61**	**205**	P	**P**	**22 28 41.8**	**-0.5**
	0.6nm,0.9s,baz=23,slow=6.3,SNR=3.3						

IDC 11 22:17:49.1±7.0, 18.°39S×174.°75W, h0km, mb4.3/3, mb1 4.6/3, mb1mx3.8/20, mbtmp4.3/3, Error ellipse: s-maj=302.0km s-min=38.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.96**	**259**	P	P	22 26 29.8	-0.2
	2.3nm,0.4s,baz=97,slow=7.6,SNR=124						
ASAR	**Alice Springs**	**48.01**	**254**	P	P	22 26 30.4	0.0
	11nm,0.6s,baz=90,slow=8.2,SNR=154						
ILAR	**Eielson Array**	**85.62**	**12**	P	P	22 30 29.1	-0.1
	0.2nm,0.7s,baz=223,slow=6.1,SNR=4.6						

*ISCJB **11** 22:19:53.8±1.2, 24.°97N±0.°07×123.°46E±0.°06, h22km±11km, mb3.7/10, Error ellipse: s-maj=11.8km s-min=9.6km az=4.0*
*JMA **11** 22:19:54.2±0.2, 24.°96N×123.°44E, h39km, M3.3*
*IDC **11** 22:20:01.1±4.8, 25.°05N×123.°39E, h69km±46km, mb3.5/10, mb1 3.7/11, mb1mx3.5/28, mbtmp3.5/11, ML3.6/1, Error ellipse: s-maj=30.5km s-min=16.1km az=69.0*

ISC 11 22:19:55.4±1.6, 24.°86N±0.°07×123.°48E±0.°06, h25km±13km, n17, σ0s88/21, mb3.8/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.57**	**156**	P	**Pb**	**22 20 07.1**	**+0.3**
IRIF				S	**Sn**	**22 20 16.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.58**	**227**	P	**Pb**	**22 20 06.5**	**-0.5**
JIJ	**Ishigaki jima**	**0.78**	**129**	P	**Pb**	**22 20 09.8**	**-0.5**
JIJ				S	**Sn**	**22 20 21.1**	**-0.6**
JKRS	**Kuro-shima**	**0.79**	**142**	P	**Pn**	**22 20 10.6**	**-0.3**
JKRS				S	**Sn**	**22 20 21.6**	**-0.2**
HATJ	**Hateruma jima**	**0.86**	**160**	P	**Pb**	**22 20 11.1**	**-0.5**
HATJ				*e*S	**Sn**	**22 20 23.3**	**-0.2**
JTJ	**Tarama**	**1.13**	**101**	P	**Pn**	**22 20 14.9**	**-0.7**
JTJ				*e*S	**Sn**	**22 20 30.2**	**-0.2**
KSRS	**Korea Array**	**13.11**	**16**	P	**Pn**	**22 23 01.9**	**+1.9**
	0.3nm,0.3s,baz=196,slow=13,SNR=2.8						
CMAR	**Chiang Mai Arr**	**23.66**	**259**	P	**P**	**22 25 06.3**	**+1.3**
	0.4nm,0.3s,baz=64,slow=7.7,SNR=4.0						
SONM	**Songino Array**	**26.62**	**334**	P	**P**	**22 25 31.6**	**-0.4**
	1.1nm,0.8s,baz=147,slow=9.9,SNR=9.3						
MKAR	**Makanchi Array**	**39.33**	**314**	P	**P**	**22 27 22.2**	**-0.3**
	1.5nm,0.8s,baz=101,slow=10,SNR=16						
ZALV	**Zalesovo Beam**	**40.84**	**326**	P	**P**	**22 27 33.8**	**-1.1**
	2.0nm,0.6s,baz=101,slow=7.9,SNR=11						
KURBB	**Kurchatov Arra**	**42.96**	**319**	P	**P**	**22 27 51.1**	**-1.1**
	1.5nm,0.8s,baz=110,slow=8.6,SNR=8.7						
WRA	**Warramunga Arr**	**45.77**	**166**	P	**P**	**22 28 16.4**	**+1.4**
	1.7nm,0.8s,baz=346,slow=8.5,SNR=8.9						
ASAR	**Alice Springs**	**49.29**	**167**	P	P	22 28 45.6	+3.2
	0.5nm,0.7s,baz=355,slow=8.4,SNR=3.4						
KBZ	**Khabaz**	**66.69**	**309**	P	**P**	**22 30 43.6**	**-0.5**
	3.0nm,0.9s,baz=98,slow=23,SNR=3.5						
FINES	**FINESS Array B**	**71.91**	**330**	P	**P**	**22 31 15.5**	**-0.7**
	0.9nm,0.8s,baz=64,slow=6.5,SNR=3.2						
YKA	**Yellowknife Ar**	**81.53**	**23**	P	**P**	**22 32 10.3**	**-0.1**
	0.3nm,0.7s,baz=309,slow=4.8,SNR=7.0						

MEX 11 22:21:37.0±1.0, 16.°93N×95.°39W, h165km±29km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.29**	**276**	*i* P	Pn	22 22 05.2	-0.8
VHO				*e*S	Sn	22 22 26.0	-2.3
HUIG	**Huatulco**	**1.35**	**211**	*i* P	Pn	22 22 04.4	-1.9
HUIG				*i* S	Sn	22 22 27.1	-1.7
PCIG		**2.42**	**120**	*i* P	Pn	22 22 13.5	-4.4
PCIG				*i* S	Sn	22 22 44.2	-5.3

*SZGRF **11** 22:23:09.4, 18.°81S×179.°79E, h33km, Fiji Islands*
*ISCJB **11** 22:24:08.3±0.6, 17.°3S±0.°1×179.°0W±0.°1, h533km, mb4.2/11, Error ellipse: s-maj=22.9km s-min=10.0km az=144.2*
*IDC **11** 22:24:14.8±1.3, 17.°47S×178.°97W, h606km±17km, mb3.6/11, mb1 3.9/13, mb1mx3.6/24, mbtmp3.7/13, Error ellipse: s-maj=26.4km s-min=9.6km az=152.0*

ISC 11 22:24:08.4±0.7, 17.°2S±0.°2×179.°1W±0.°1, h533km, n54, σ1s79/47, mb4.1/11, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.78**	**66**	P	P	22 26 11.2	+7.6
	12nm,0.3s,baz=255,slow=1.6,SNR=14						
DZM	**Mont Dzumac**	**14.45**	**248**	P	P	22 27 18.0	+5.5
	1.7nm,0.3s,baz=72,slow=17,SNR=16						
URZ	**Urewera**	**21.26**	**188**	P	**P**	**22 28 17.8**	**+1.2**
	18nm,0.8s,baz=294,slow=4.9,SNR=9.5						
EIDS	**Eidsvold**	**28.89**	**249**	P	**P**	**22 29 26.8**	**+2.5**
	baz=29,SNR=6.0						
ARMA	**Armidale**	**29.73**	**238**	P	**P**	**22 29 33.4**	**+1.8**
	baz=30,SNR=6.7						
RMQ	**Roma**	**31.15**	**247**	P	**P**	**22 29 46.9**	**+3.1**
	baz=31,SNR=7.3						
MGCD	**Mangrove Creek**	**31.17**	**234**	P	**P**	**22 29 45.4**	**+1.5**
	baz=31,SNR=5.5						
CTA	**Charters Tower**	**32.91**	**259**	P	P	22 30 02.8	+3.9
	7.4nm,0.4s,baz=95,slow=12,SNR=17						
CNB	**Canberra Magne**	**33.35**	**231**	P	**P**	**22 30 03.0**	**+0.6**
	baz=33,SNR=21						
CMSA	**Cobar Meteorol**	**34.93**	**239**	P	**P**	**22 30 16.9**	**+1.2**
	baz=35,SNR=27						
QLP	**Quilpie**	**35.17**	**248**	P	**P**	**22 30 19.9**	**+2.1**
	baz=35,SNR=20						
COEN	**Coen**	**36.43**	**270**	P	P	22 30 34.0	+5.6
	baz=37,SNR=23						
TOO	**Toolangi**	**37.11**	**230**	P	**P**	**22 30 33.7**	**0.0**
	baz=37,SNR=8.8						
STKA	**Stephens Creek**	**38.40**	**240**	P	**P**	**22 30 45.7**	**+1.5**
	12nm,0.5s,baz=91,slow=8.8,SNR=33						
ARPS	**Mount Arapiles**	**39.55**	**233**	P	**P**	**22 30 53.3**	**-0.2**
	baz=39,SNR=4.9						
HTT	**Hallett**	**40.94**	**239**	P	**P**	**22 31 05.4**	**+0.7**
	baz=41,SNR=22						
BBOO	**Buckleboo**	**43.17**	**240**	P	**P**	**22 31 22.8**	**+0.5**
	baz=43,SNR=8.8						
WRA	**Warramunga Arr**	**44.11**	**259**	P	**P**	**22 31 31.6**	**+1.9**
	8.2nm,0.5s,baz=96,slow=7.3,SNR=247						
WRA				S	**S**	**22 37 24.9**	**+1.0**
	0.7nm,0.9s,baz=98,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**44.34**	**254**	P	**P**	**22 31 33.5**	**+2.0**
	47nm,0.6s,baz=87,slow=8.7,SNR=610						
ASAR				ScP	**ScP**	**22 35 59.7**	**-5.7**
	0.6nm,0.6s,baz=105,slow=4.7,SNR=5.3						
ASAR				S	**S**	**22 37 24.2**	**-3.0**
	1.4nm,0.9s,baz=89,slow=16,SNR=8.2						
KDU	**Kakadu**	**46.90**	**269**	P	P	22 31 54.5	+3.4
	baz=47,SNR=6.5						
WRKA	**Warakurna**	**49.43**	**252**	P	**P**	**22 32 11.2**	**+1.3**
	baz=49,SNR=41						
WRKA				S	**S**	**22 38 35.4**	**-2.4**
	baz=49,SNR=3.4						
FORT	**Forrest**	**49.71**	**244**	P	**P**	**22 32 11.7**	**-0.1**
	baz=50,SNR=21						
KLBR	**Kellerberrin**	**58.55**	**243**	P	**P**	**22 33 13.4**	**-0.7**
	baz=58,SNR=12						
NWAO	**Narrogin (SRO)**	**58.96**	**242**	P	**P**	**22 33 16.2**	**-0.6**
	5.9nm,0.7s,baz=87,slow=3.7,SNR=6.5						
LUWI	**Luwuk**	**59.33**	**279**	P	**P**	**22 33 18.1**	**-1.4**
	baz=60,SNR=5.7						
UGM	**Wanagama**	**69.00**	**268**	P	**P**	**22 34 22.8**	**+1.7**
	baz=SNR=4.2						
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**22 35 20.8**	**+1.4**
	1.3nm,0.6s,baz=230,slow=8.1,SNR=1.9						
ILAR	**Eielson Array**	**85.34**	**13**	P	**P**	**22 35 49.6**	**+0.9**
	0.9nm,0.7s,baz=218,slow=5.0,SNR=14						
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**22 35 54.2**	**+0.5**
	2.7nm,0.7s,baz=222,slow=6.1,SNR=33						
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**22 35 59.2**	**+0.4**
	1.3nm,0.6s,baz=218,slow=3.5,SNR=12						
YKA	**Yellowknife Ar**	**93.96**	**25**	P	**P**	**22 36 29.5**	**+0.8**
	0.2nm,0.6s,baz=239,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**108.15**	**314**	PKiKP	**PKiKP**	**22 41 34.0**	**-1.8**
	0.2nm,0.4s,baz=72,slow=1.9,SNR=4.5						
BVAR	**Borovoye Array**	**115.86**	**321**	PKP	**PKPdf**	**22 41 47.9**	**-2.4**
	0.4nm,0.3s,baz=130,slow=2.2,SNR=3.2						
ARCES	**ARCESS Array B**	**125.48**	**350**	PKP	**PKPdf**	**22 42 07.4**	**-0.9**
	4.3nm,0.9s,baz=35,slow=4.4,SNR=5.4						
FINES	**FINESS Array B**	**132.31**	**344**	PKP	**PKPdf**	**22 42 18.4**	**-3.1**
	2.2nm,1.0s,baz=72,slow=4.5,SNR=4.7						
AKASG	**Malin Array Be**	**139.61**	**332**	PKhKP	PKPpre	22 42 28.3	
	0.5nm,0.4s,baz=38,slow=4.3,SNR=5.8						
BRTR	**Keskin Array B**	**143.80**	**315**	PKP	PKPbc	22 42 42.9	+0.5
	0.5nm,0.6s,baz=45,slow=6.3,SNR=3.7						
CLL	**Collm**	**144.61**	**347**	*e*PKPbc	**PKPdf**	**22 42 45.1**	**+0.9**
CLL	**Collm**	**144.61**	**347**	⇑*i*PKP	**PKPdf**	**22 42 45.1**	**+0.9**
	comp=Z,11nm,0.8s						
BRG	**Berggiesshubel**	**144.80**	**346**	*e*P	PKPbc	22 42 46.0	+1.0
	comp=Z,3.4nm,0.6s						
BRG				*e*		22 43 16.7	
	comp=Z,33nm,2.1s						
BRG				*e*		22 43 50.0	
	comp=Z,45nm,2.2s						
BRG	**Berggiesshubel**	**144.80**	**346**	*e*PKPbc	PKPbc	22 42 45.8	+0.9
FBE	**Freiberg**	**144.89**	**346**	*e*PKPbc	PKPbc	22 42 46.4	+1.2
NEUB	**Neuenburg**	**144.96**	**348**	*e*PKPbc	PKPbc	22 42 46.4	+1.0
TANN	**Tannenbergstha**	**145.57**	**347**	*e*PKPbc	**PKPbc**	**22 42 48.0**	**+0.7**
WERD	**Werda**	**145.57**	**347**	*e*PKPbc	**PKPbc**	**22 42 48.0**	**+0.7**
GUNZ	**Gunzen**	**145.64**	**347**	*e*PKPbc	**PKPbc**	**22 42 48.4**	**+0.9**
WERN	**Wernitzgruen**	**145.71**	**347**	*e*PKPbc	**PKPbc**	**22 42 48.6**	**+0.9**
NKC	**Novy Kostel**	**145.74**	**347**	*e*PKPbc	**PKPbc**	**22 42 48.7**	**+0.9**
ROTZ	**Rotzenmuhle**	**146.23**	**347**	*e*PKPbc	**PKPbc**	**22 42 50.0**	**+0.9**
GEC2	**GERESS Array S**	**146.74**	**345**	*e*PKPbc	**PKPbc**	**22 42 51.0**	**+0.3**
GERES	**GERESS Array B**	**146.74**	**345**	PKPbc	**PKPbc**	**22 42 51.2**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=23,slow=3.1,SNR=18						
CRNS	**Crni Vrh**	**149.11**	**342**	*i* PKPbc	**PKPbc**	**22 42 56.2**	**-0.5**
BOJS	**Bojanci**	**149.31**	**340**	*i* PKPbc	**PKPbc**	**22 42 57.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**175.91**	**191**	PKP	**PKPdf**	**22 43 14.4**	**-3.8**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=2.9						

*JMA **11** 22:44:48.8±0.2, 25.°02N×123.°48E, h20km, M3.4*
*ISCJB **11** 22:44:49.9±0.6, 24.°94N±0.°05×123.°46E±0.°06, h32km, mb3.8/7, MS3.1/1, Error ellipse: s-maj=8.6km s-min=5.4km az=145.0*
*IDC **11** 22:45:05.2±8.0, 24.°90N×123.°21E, h157km±86km, mb3.4/7, mb1 3.5/8, mb1mx3.2/27, mbtmp3.4/8, MS3.0/3, Ms1 3.0/3, ms1mx2.6/26, Error ellipse: s-maj=75.2km s-min=14.8km az=64.0*

ISC 11 22:44:51.3±0.8, 24.°87N±0.°06×123.°46E±0.°06, h32km, n15, σ0s96/19, mb3.9/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.58**	**226**	P	**Pb**	**22 45 01.9**	**-1.2**
YOJ				*e*S	**Sb**	**22 45 11.0**	**-0.2**
IRIF	**Iriomote-Funau**	**0.58**	**155**	P	**Pb**	**22 45 02.4**	**-0.8**
IRIF				*e*S	**Sn**	**22 45 12.3**	**+0.4**
JIJ	**Ishigaki jima**	**0.80**	**129**	P	**Pn**	**22 45 04.8**	**-1.6**
JIJ				*e*S	**Sn**	**22 45 16.1**	**-1.0**
JKRS	**Kuro-shima**	**0.80**	**142**	P	**Pn**	**22 45 05.8**	**-0.6**
JKRS				*e*S	**Sb**	**22 45 17.9**	**+0.5**
HATJ	**Hateruma jima**	**0.87**	**159**	P	**Pn**	**22 45 07.4**	**+0.1**
HATJ				*e*S	**Sb**	**22 45 19.6**	**+0.4**
JTJ	**Tarama**	**1.15**	**101**	P	**Pn**	**22 45 10.3**	**-0.9**
KSRS	**Korea Array**	**13.11**	**16**	P	**P**	**22 48 05.9**	**+0.9**
	0.1nm,0.3s,baz=193,slow=13,SNR=6.8						
KSRS				LR	LR	22 52 54.5	
	comp=Z,57nm,19.0s,baz=195,slow=36						
MJAR	**Matsushiro Arr**	**17.18**	**44**	LR	LR	22 55 56.4	
	comp=Z,36nm,18.6s,baz=15,slow=38						
SONM	**Songino Array**	**26.61**	**334**	P	**P**	**22 50 27.6**	**+0.7**
	0.7nm,0.8s,baz=150,slow=9.4,SNR=6.0						
SONM				LR	LR	23 00 35.3	
	comp=Z,54nm,21.2s,baz=145,slow=35						
MKAR	**Makanchi Array**	**39.32**	**314**	P	**P**	**22 52 17.4**	**0.0**
	1.9nm,0.8s,baz=103,slow=10,SNR=22						
ZALV	**Zalesovo Beam**	**40.83**	**326**	P	**P**	**22 52 29.5**	**-0.3**
	1.8nm,0.6s,baz=110,slow=8.1,SNR=9.8						
KURBB	**Kurchatov Arra**	**42.95**	**319**	P	**P**	**22 52 47.0**	**-0.2**
	0.6nm,0.4s,baz=112,slow=8.8,SNR=13						
WRA	**Warramunga Arr**	**45.78**	**166**	P	**P**	**22 53 11.8**	**+1.6**
	1.5nm,0.8s,baz=348,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**49.30**	**167**	P	**P**	**22 53 39.0**	**+1.6**
	0.4nm,0.5s,baz=348,slow=7.4,SNR=4.2						
FINES	**FINESS Array B**	**71.90**	**330**	P	**P**	**22 56 10.3**	**-0.8**
	1.8nm,0.8s,baz=37,slow=5.8,SNR=3.2						

WEL 11 22:57:08.9±0.2, 45.°10S×167.°34E, h117km±1km, ML3.7/10, 6C-3D, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.40**	**199**	PN	Pn	22 57 25.4	-0.4
DCZ				SN	Sn	22 57 38.1	-0.6
DCZ				AML	AML	22 57 38.3	
DCZ				AML	AML	22 57 38.3	
DCZ				AML	AML	22 57 38.5	
MSZ	**Milford Sound**	**0.60**	**44**	PN	Pn	22 57 27.1	0.0
MSZ				SN	Sn	22 57 40.7	-0.1
MSZ				AML	AML	22 57 41.5	
MSZ				AML	AML	22 57 41.5	
MSZ				AML	AML	22 57 42.6	
MLZ	**Mavora Lakes**	**0.64**	**113**	⇑PN	Pn	22 57 27.1	-0.3
MLZ				SN	Sn	22 57 40.7	-0.8
MLZ				AML	AML	22 57 41.8	
WHZ	**Wether Hill Ro**	**0.90**	**152**	⇑PN	Pn	22 57 29.6	-0.1
WHZ				AML	AML	22 57 45.8	
WHZ				AML	AML	22 57 46.4	
PYZ	**Puysegur Point**	**1.16**	**203**	PN	Pn	22 57 32.3	0.0
WKZ	**Wanaka**	**1.22**	**78**	⇑PN	Pn	22 57 32.9	-0.1
WKZ				AML	AML	22 57 52.9	
WKZ				AML	AML	22 57 52.9	
WKZ				AML	AML	22 57 54.0	
WKZ				AML	AML	22 57 54.1	
EAZ	**Earnscleugh**	**1.40**	**96**	⇓PN	Pn	22 57 34.6	-0.3
EAZ				AML	AML	22 57 53.2	
EAZ				AML	AML	22 57 53.3	
EAZ				AML	AML	22 57 53.5	
EAZ				AML	AML	22 57 54.8	
JCZ	**Jackson Bay**	**1.44**	**45**	⇑PN	Pn	22 57 34.7	-0.8
JCZ				AML	AML	22 57 54.6	
JCZ				AML	AML	22 57 56.8	
APZ	**The Paps**	**1.79**	**166**	PN	Pn	22 57 39.4	-0.2
TUZ	**Tuapeka**	**1.82**	**119**	⇓PN	Pn	22 57 39.9	0.0
TUZ				AML	AML	22 58 03.2	
TUZ				AML	AML	22 58 05.0	
SYZ	**Scrubby Hill**	**1.91**	**139**	PN	Pn	22 57 40.8	-0.2
SYZ				AML	AML	22 58 04.7	
SYZ				AML	AML	22 58 04.7	
SYZ				AML	AML	22 58 05.7	
SYZ				AML	AML	22 58 06.2	
LBZ	**Lake Benmore**	**2.15**	**72**	⇓PN	Pn	22 57 42.2	-1.8
LB

0.5nm,0.3s,baz=147,slow=15,SNR=11

PDAR			Lg	Lg	23 08 10.1	
	0.5nm,0.3s,baz=149,slow=25,SNR=12					
NVAR	**Mina Array Bea**	**8.26 262**	Pn	Pn	23 08 32.5	-5.8
NVAR	**Mina Array Bea**	**8.26 262**	Pn	Pn	23 08 32.5	-5.8
	0.1nm,0.3s,baz=88,slow=24,SNR=2.3					
YKA	**Yellowknife Ar**	**22.87 352**	P	P	23 11 35.6	-6.3
YKA	**Yellowknife Ar**	**22.87 352**	P	P	23 11 35.6	-6.3
	0.4nm,0.6s,baz=180,slow=13,SNR=5.5					

JMA ***11*** *23:07:48.6±0.3, 25°.01N×123°.49E, h20km, M3.4*
ISCJB ***11*** *23:07:49.5±0.7, 24°.95N±0°.05×123°.47E±0°.05, h32km, mb3.3/6, Error ellipse: s-maj=8.2km s-min=6.0km az=41.4*
IDC ***11*** *23:07:58.3±7.4, 24°.58N×122°.44E, h79km±72km, mb3.1/6, mb1 3.3/7, mb1mx3.1/26, mbtmp3.4/7, ML3.1/1, Error ellipse: s-maj=52.6km s-min=20.7km az=67.0*

ISC 11 23:07:50.8±1.0, 24°.88N±0°.08×123°.47E±0°.06, h32km, n13, σ1§09/15, mb3.4/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.59**	**225**	P	**Pb**	**23 08 01.8**	**-1.0**
YOJ				*eS*	**Sb**	**23 08 10.4**	**-0.6**
IRIF	**Iriomote-Funau**	**0.60**	**156**	P	**Pb**	**23 08 02.0**	**-0.9**
IRIF				*eS*	**Sn**	**23 08 11.8**	**+0.2**
JIJ	**Ishigaki jima**	**0.80**	**130**	P	**Pn**	**23 08 04.7**	**-1.2**
JIJ				*eS*	**Sn**	**23 08 15.6**	**-1.1**
JKRS	**Kuro-shima**	**0.81**	**142**	*eS*	**Sb**	**23 08 17.2**	**+0.1**
HATJ	**Hateruma jima**	**0.88**	**160**	P	**Pb**	**23 08 07.1**	**-0.5**
HATJ				*eS*	**Sb**	**23 08 19.8**	**+0.8**
JTJ	**Tarama**	**1.15**	**102**	*eS*	**Sn**	**23 08 24.5**	**-0.7**
KSRS	**Korea Array**	**13.10**	**16**	P	P	23 11 09.2	+4.9
	0.1nm,0.3s,baz=213,slow=14,SNR=3.0						
SONM	**Songino Array**	**26.60**	**334**	P	**P**	**23 13 26.5**	**+0.3**
	0.3nm,0.9s,baz=142,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**39.31**	**314**	P	**P**	**23 15 16.9**	**+0.1**
	0.7nm,0.8s,baz=100,slow=10,SNR=6.0						
ZALV	**Zalesovo Beam**	**40.83**	**326**	P	**P**	**23 15 28.8**	**-0.4**
	0.5nm,0.6s,baz=124,slow=9.6,SNR=3.4						
WRA	**Warramunga Arr**	**45.80**	**166**	P	**P**	**23 16 11.3**	**+1.7**
	0.6nm,0.7s,baz=349,slow=8.9,SNR=3.7						
ASAR	**Alice Springs**	**49.31**	**167**	P	**P**	**23 16 39.2**	**+2.2**
	0.4nm,1.0s,baz=354,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**81.51**	**23**	P	P	23 20 10.5	+5.8
	0.1nm,0.5s,baz=308,slow=4.6,SNR=3.5						

IDC ***11*** *23:15:13.8±1.2, 31°.74N×72°.86E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.3/29, mbtmp3.3/7, ML2.9/1, Error ellipse: s-maj=32.4km s-min=27.2km az=125.0*
NDI ***11*** *23:15:13.3±1.1, 31°.31N×73°.25E, h10km, ML3.6*
ISCJB ***11*** *23:15:15.1±0.7, 31°.25N±0°.05×73°.30E±0°.08, h35km, mb3.4/7, Error ellipse: s-maj=10.1km s-min=6.6km az=148.6*
NNC ***11*** *23:15:24.9±8.9, 32°.46N×73°.18E, h0km, mb3.3, Error ellipse: s-maj=156.5km s-min=78.3km az=98.0*

ISC 11 23:15:15.7±0.9, 31°.34N±0°.06×73°.36E±0°.08, h35km, n17, σ2§17/17, mb3.4/7, 1C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**2.52**	**61**	*eP*	Pn	23 15 52.0	-2.4
DLH				*eS*	**Sn**	**23 16 27.0**	**+3.0**
BHK	**Bhakra**	**2.62**	**88**	*eP*	**Pn**	**23 15 57.0**	**+1.5**
SDNR	**Sundarnagar**	**3.09**	**86**	*eP*	**Pn**	**23 16 03.0**	**+0.9**
SDNR				*ex*	x	23 16 47.0	
SMLA	**Simla**	**3.27**	**93**	*eP*	**Pn**	**23 16 06.7**	**+2.2**
SMLA				*ex*	**Sn**	**23 16 40.0**	**-2.2**
KHET	**Khetri**	**3.89**	**146**	*eP*	**Pn**	**23 16 13.8**	**+0.8**
KHET				*eS*	**Sn**	**23 16 57.9**	**+0.4**
KHET				AML	AML	23 17 26.2	
	comp=E,347nm,0.2s						
KHET				AML	AML	23 17 28.2	
	comp=N,323nm,0.2s						
KUDL	**Kundal**	**4.19**	**139**	*eP*	**Pn**	**23 16 17.8**	**+0.7**
KUDL				*eS*	**Sn**	**23 17 05.0**	**+0.1**
NDI	**New Delhi**	**4.27**	**127**	*eS*	**Sn**	**23 17 04.0**	**-2.8**
KK31	**Karatay Array**	**11.96**	**350**	P	**Pn**	**23 18 01.4**	**-2.3**
	comp=N,0.3nm,0.2s,baz=160,slow=11,SNR=13						
KK31				⇓S	Sn	23 20 04.4	-11
	comp=N,0.9nm,0.4s,baz=170,slow=23,SNR=9.9						
MKAR	**Makanchi Array**	**16.90**	**22**	Pn	**Pn**	**23 19 05.5**	**-3.9**
	comp=N,0.0nm,0.3s,baz=197,slow=11,SNR=3.3						
AB31	**Akbulak array**	**20.55**	**334**	⇑P	Pn	23 19 54.0	+0.5
	comp=N,0.2nm,0.3s,baz=153,slow=10,SNR=4.7						
BVAR	**Borovoye Array**	**21.78**	**355**	P	**P**	**23 20 02.5**	**-1.7**
	comp=N,0.7nm,0.6s,baz=153,slow=9.7,SNR=5.8						
AKTO	**Aktyubinsk**	**22.24**	**333**	⇓P	**P**	**23 20 11.4**	**+2.1**
	comp=N,3.6nm,1.2s						
ZALV	**Zalesovo Beam**	**24.05**	**17**	P	**P**	**23 20 27.1**	**-0.3**
	comp=N,0.4nm,0.3s,baz=193,slow=12,SNR=3.6						
SONM	**Songino Array**	**30.03**	**47**	P	P	23 21 26.2	+4.8
	comp=N,0.2nm,0.4s,baz=231,slow=9.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**67.71**	**272**	P	**P**	**23 26 10.8**	**+0.9**
	comp=N,0.4nm,0.7s,baz=50,slow=6.0,SNR=2.7						
WRA	**Warramunga Arr**	**77.59**	**123**	P	P	23 27 14.9	+6.4
	comp=N,0.3nm,0.6s,baz=322,slow=5.4,SNR=7.5						
ILAR	**Eielson Array**	**79.18**	**16**	P	**P**	**23 27 19.2**	**+2.6**
	comp=N,0.3nm,0.8s,baz=324,slow=6.4,SNR=3.0						

IDC 11 23:29:25.6±1.4, 8°.84S×157°.60E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=41.8km s-min=15.9km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.39**	**104**	Pn	Pn	23 30 07.1	+1.0
	44nm,0.3s,baz=215,slow=5.9,SNR=9.9						
HNR				Lg	Lg	23 30 40.6	
	121nm,0.3s,baz=282,slow=21,SNR=8.7						
HNR	**Honiara**	**2.39**	**104**	*eP*	Pb	23 30 08.0	-1.5
WRA	**Warramunga Arr**	**25.05**	**241**	P	P	23 34 52.0	+0.1
	1.1nm,0.7s,baz=67,slow=9.6,SNR=9.2						
ASAR	**Alice Springs**	**27.04**	**234**	P	P	23 35 09.5	-0.4
	0.4nm,0.8s,baz=57,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**86.49**	**318**	P	P	23 42 10.6	+0.1
	0.1nm,0.5s,baz=113,slow=3.3,SNR=2.6						

CASC ***11*** *23:30:40.7±3.1, 15°.65N×88°.60W, h0km±21km, MD4.6, ML4.8*
BJI ***11*** *23:30:43.5, 15°.40N×88°.70W, h10km, mB5.3/1, Ms5.2/3, Ms7 5.0/4*
ISCJB ***11*** *23:30:43.3±0.2, 15°.53N±0°.02×88°.69W±0°.02, h10km, mb4.7/80, MS4.5/25, Error ellipse: s-maj=3.4km s-min=2.6km az=147.2*
IDC ***11*** *23:30:43.1±0.7, 15°.70N×88°.50W, h0km, mb4.1/19, mb1 4.4/23, mb1mx4.3/29, mbtmp4.2/23, ML2.9/2, MS4.4/23, Ms1 4.4/23, ms1mx4.3/35, Error ellipse: s-maj=22.3km s-min=10.3km az=72.0*
NEIC ***11*** *23:30:44.5±0.3, 15°.44N×88°.76W, h10km, mb4.9/66, MD5.2(SNET), Error ellipse: s-maj=8.7km s-min=5.1km az=47.0*
NEIC Felt [III] at Coban and Guatemala. Also felt at Chiquimula, Fraijanes, Jocotan, Livingston, Mixco, Morales, Puerto Barrios, San Cristobal Verapaz and Villa Nueva. Felt [II] at Belize, Dangriga and San Ignacio, Belize. Also felt at Benque Viejo and Punta Gorda. Felt [II] at San Salvador, El Salvador. Felt [IV] at San Pedro Sula, [III] at La Lima and [II] at El Progreso, Honduras. Also felt at Choloma, Cofradia, Comayagua, Pinalejo, Puerto Cortes, Roatan, Santa Rosa de Copan, Siguatepeque, Tegucigalpa, Tela, Travesia, Trinidad, Utila and Yamaranguila.
GCMT ***11*** *23:30:44.5±0.2, 15°.68N×88°.67W, h16km±1km, MW5.2/94, Moment Tensor Solution. s60,c74; s94,c155; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.41±.17; Mθθ-4.48±.15; Mϕϕ4.89±.18; Mrθ1.06±.43; Mrϕ4.33±.15; Mθϕ-0.57±.40; Best double couple: M◎6.50000×10^16 NP1:ϕs246.00000°, δ81.00000°, λ-7.00000°. Principal axes: T 6.5880, Plg1.0000°, Azm111.0000°; N -0.1730, Plg79.0000°, Azm15.0000°; P -6.4120, Plg11.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 23:30:43.8±0.3, 15°.48N±0°.03×88°.69W±0°.03, h10km, n411, σ1§45/399, mb4.9/82, MS4.5/25, 94C-80D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**1.05**	**247**	*eP*	**Pg**	**23 31 02.7**	**-1.3**
MRL				*eP*	**Pn**	**23 31 03.7**	**-1.0**
LBRS	**Las Brisas**	**1.76**	**191**	*eP*	**Pn**	**23 31 14.8**	**+0.3**
LFU	**La Fuente**	**1.77**	**193**	*eP*	**Pn**	**23 31 14.7**	**+0.1**
APG	**El Apazote**	**1.77**	**255**	Pn	Pn	23 31 11.1	-3.7
APG				Lg	Lg	23 31 36.6	
APG	**El Apazote**	**1.77**	**255**	Pn	Pn	23 31 11.1	-3.7
	562nm,0.3s,baz=88,slow=12,SNR=469						
APG				Pg	**Pb**	**23 31 14.4**	**-2.2**
	816nm,0.3s,baz=77,slow=12,SNR=133						
APG				Lg	Lg	23 31 36.6	
	678nm,0.3s,baz=105,slow=17,SNR=6.9						
RTR	**El Retiro**	**1.82**	**211**	*eP*	**Pn**	**23 31 15.0**	**-0.5**
BOQS	**Boqueron**	**1.82**	**198**	*eP*	**Pn**	**23 31 14.9**	**-0.6**
NBG	**Las Nubes**	**1.83**	**241**	*eP*	**Pb**	**23 31 16.6**	**-1.0**
NBG				*eS*	**Sg**	**23 31 44.0**	**+1.3**
SNJE	**San Jose**	**1.83**	**209**	*eP*	**Pn**	**23 31 15.0**	**-0.6**
SNET	**Serv Nac Est T**	**1.85**	**196**	*eP*	**Pb**	**23 31 16.4**	**-1.5**
SNET				*eS*	**Sg**	**23 31 46.2**	**+2.6**
SNET				AML	AML	23 31 57.5	
	comp=Z,13μm,1.0s						
SNVI	**San Vicente**	**1.86**	**184**	*eP*	**Pb**	**23 31 16.9**	**-1.2**
LFRS	**El Faro**	**1.88**	**191**	*eP*	**Pn**	**23 31 16.0**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.97**	**136**	*eP*	**Pn**	**23 31 17.2**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.97**	**136**	*ePn*	**Pn**	**23 31 15.4**	**-1.9**
TGUH				*eSn*	**Sn**	**23 31 43.8**	**+1.7**
GCG	**Guatemala City**	**1.99**	**244**	*eP*	**Pg**	**23 31 21.7**	**-0.3**
GCG				*eS*	**Sg**	**23 31 50.8**	**+3.0**
IXG	**Ixpaco**	**2.14**	**233**	*eP*	**Pn**	**23 31 20.1**	**+0.3**
PCG	**Pacaya**	**2.14**	**240**	*eP*	**Pg**	**23 31 24.5**	**-0.5**
PCG				*eS*	**Sg**	**23 31 55.5**	**+2.7**
JAT	**Jato**	**3.07**	**248**	*eP*	Pb	23 31 34.6	-4.0
THIG		**3.50**	**261**	*eP*	**Pn**	**23 31 40.5**	**+2.2**
THIG				*i S*	**Sn**	**23 32 20.5**	**+0.8**
TEIG	**Tepich**	**4.74**	**5**	*ePn*	**Pn**	**23 31 53.1**	**-2.3**
TEIG				*ePg*	Pg	23 32 12.0	-2.7
TEIG				Lg	Lg	23 33 06.7	
TEIG	**Tepich**	**4.74**	**5**	Pn	**Pn**	**23 31 53.2**	**-2.2**
	comp=Z,27nm,0.3s,baz=179,slow=11,SNR=94						
TEIG				Lg	Lg	23 33 06.7	
	comp=Z,242nm,0.3s,baz=79,slow=22,SNR=6.0						
JTS	**JuntasAbangare**	**6.32**	**144**	*ePn*	**Pn**	**23 32 19.9**	**+2.8**
JTS				Lg	Lg	23 34 05.2	
JTS	**JuntasAbangare**	**6.32**	**144**	Pn	**Pn**	**23 32 19.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=303,slow=13,SNR=6.0						
JTS				Lg	Lg	23 34 05.2	
	comp=Z,11nm,0.3s,baz=232,slow=18,SNR=2.7						
SOR	**Soroa**	**9.04**	**36**	*eP*	**Pn**	**23 32 54.7**	**+0.2**
	baz=220						
SOR				*eS*	Sn	23 34 28.7	-7.8
	comp=N,280nm,0.6s						
SOR				*e*			
	comp=E,264nm,0.5s						
PNIG	**Pinotepa**	**9.12**	**277**	*eP*	**Pn**	**23 32 57.8**	**+2.2**
PNIG				*i* S	**Sn**	**23 34 38.8**	**+0.3**
MGV	**Manicaragua**	**10.56**	**50**	*e*	Pn	23 33 11.3	-4.0
BCIP	**Isla Barro Col**	**10.68**	**125**	*ePn*	**Pn**	**23 33 17.1**	**0.0**
MTDJ	**Mount Denham**	**11.03**	**74**	*ePn*	**Pn**	**23 33 20.6**	**-1.3**
STH	**Stony Hill**	**11.67**	**76**	*i P*	**Pn**	**23 33 29.5**	**-1.1**
STH	**Stony Hill**	**11.67**	**76**	*i P*	**Pn**	**23 33 29.5**	**-1.1**
HOJ	**Hope**	**11.71**	**76**	*i P*	**Pn**	**23 33 29.5**	**-1.6**
HOJ	**Hope**	**11.71**	**76**	*i P*	**Pn**	**23 33 29.5**	**-1.6**
GWJ	**Greenwich**	**11.75**	**76**	*i P*	**Pn**	**23 33 30.7**	**-1.0**
GWJ	**Greenwich**	**11.75**	**76**	*i P*	**Pn**	**23 33 30.7**	**-1.0**
LMGC	**Las Mercedes**	**12.03**	**66**	*e*	**Pn**	**23 33 35.8**	**+0.3**
GTBY	**Guantanamo Bay**	**13.68**	**69**	*ePn*	**Pn**	**23 33 58.2**	**+0.3**
034A	**Hebbronville**	**14.81**	**323**	⇑P	**Pn**	**23 34 15.7**	**+2.3**
	baz=15,SNR=6.4						
934A	**Benavides**	**15.12**	**325**	⇑P	**Pn**	**23 34 19.1**	**+1.5**
	baz=15						
834A	**Tilden**	**15.55**	**326**	⇓P	**P**	**23 34 25.6**	**-2.0**
	baz=16						
834A				⇓S	Sn	23 37 08.4	-7.4
	baz=16						
933A	**Laredo**	**15.57**	**323**	⇑P	**P**	**23 34 25.8**	**-2.0**
	baz=16						
HKT	**Hockley**	**15.83**	**337**	*ePn*	**Pn**	**23 34 28.3**	**+1.5**
	comp=E,28nm,1.1s						
734A	**La Parita Cree**	**16.13**	**327**	⇑P	**P**	**23 34 32.7**	**-1.3**
	baz=16						
833A	**Chaparral WMA,**	**16.17**	**324**	⇑P	**Pn**	**23 34 32.6**	**+1.3**
	baz=16,SNR=17						
634A	**China Grove, S**	**16.45**	**329**	⇑P	**P**	**23 34 36.8**	**-0.9**
	baz=16						
832A	**Faith Ranch, C**	**16.48**	**323**	⇓P	**P**	**23 34 37.0**	**-0.9**
	baz=16,SNR=18						
TIGA	**Tifton**	**16.56**	**15**	*ePn*	**P**	**23 34 39.5**	**+0.7**
TIGA	**Tifton**	**16.56**	**15**	⇓P	**Pn**	**23 34 38.1**	**+1.9**
	baz=17,SNR=7.0						
732A	**Laxson Ranch,**	**16.81**	**324**	⇑P	**P**	**23 34 40.7**	**-0.8**
	baz=17,SNR=15						
633A	**Saathoff Ranch**	**16.94**	**327**	⇓P	**Pn**	**23 34 42.0**	**+1.0**
	baz=17						
SDDR	**Presa de Saban**	**16.99**	**76**	*ePn*	**P**	**23 34 44.2**	**+0.5**
	comp=E,342nm,2.4s						
534A	**Blanco**	**17.05**	**330**	⇓P	**Pn**	**23 34 43.4**	**+1.0**
	baz=17,SNR=26						
NATX	**Nacogdoches**	**17.10**	**342**	*ePn*	**Pn**	**23 34 43.6**	**+0.5**
	comp=E,116nm,1.4s						
632A	**Uvalde**	**17.30**	**326**	⇑P	**Pn**	**23 34 46.3**	**+0.7**
	baz=17,SNR=17						
533A	**Kerrville**	**17.36**	**329**	⇓P	**P**	**23 34 48.0**	**+0.3**
	baz=17,SNR=5.5						
434A	**Burnet**	**17.61**	**332**	⇑P	**P**	**23 34 51.0**	**+0.6**
	baz=18,SNR=14						
ROSC	**El Rosal**	**17.63**	**125**	*ePn*	**P**	**23 34 51.8**	**+0.7**
ROSC	**El Rosal**	**17.63**	**125**	P	**Pn**	**23 34 50.9**	**+0.8**
	comp=E,0.7nm,0.3s,baz=108,slow=13,SNR=15						
ROSC				LR	LR	23 41 54.4	
	comp=E,1μm,19.2s,baz=344,slow=38						
335A	**Moody**	**17.64**	**335**	⇑P	**P**	**23 34 51.6**	**+0.8**
	baz=18,SNR=7.4						
631A	**Perdido Creek**	**17.67**	**324**	⇑P	**P**	**23 34 51.8**	**+0.6**
	baz=18						
532A	**Rocksprings**	**17.85**	**327**	⇑P	**P**	**23 34 53.7**	**+0.5**
	baz=18,SNR=10.0						
433A	**Art**	**17.94**	**330**	⇑P	**P**	**23 34 55.3**	**+1.1**
	baz=18,SNR=16						
334A	**Lometa**	**18.03**	**333**	⇓P	**P**	**23 34 57.7**	**+2.5**
	baz=18,SNR=10						
JCT	**Junction City**	**18.08**	**328**	*ePn*	**P**	**23 34 57.3**	**+1.6**
	comp=E,31nm,0.8s						
JCT	**Junction City**	**18.08**	**328**	⇑P	**P**	**23 34 57.7**	**+2.0**
	baz=18						
OTAV	**Otavalo**	**18.21**	**145**	*ePn*	**P**	**23 34 58.1**	**+0.5**
	comp=E,31nm,1.3s						
531A	**Rocksprings**	**18.23**	**325**	⇑P	**P**	**23 34 59.9**	**+2.6**
	baz=18,SNR=19						
WHTX	**Lake Whitney**	**18.28**	**336**	*ePn*	**P**	**23 34 58.2**	**+0.4**
WHTX	**Lake Whitney**	**18.28**	**336**	⇓P	**P**	**23 35 00.5**	**+2.8**
	baz=18,SNR=21						
333A	**Richland Sprin**	**18.37**	**331**	⇑P	**P**	**23 34 59.5**	**+0.7**
	baz=18,SNR=7.2						
432A	**Menard**	**18.39**	**328**	⇓P	**P**	**23 34 59.9**	**+0.8**
	baz=18						
GOGA	**Godfrey**	**18.47**	**14**	*ePn*	**P**	**23 35 00.5**	**+0.6**
	comp=E,33nm,0.9s						
234A	**Clairette**	**18.57**	**334**	⇓P	**Pn**	**23 35 02.0**	**+0.8**
	baz=19						
530A	**J-C Ranch, Com**	**18.66**	**324**	⇓P	**Pn**	**23 35 03.3**	**+0.9**
	baz=19,SNR=18						
431A	**Sonora**	**18.66**	**326**	⇑P	**Pn**	**23 35 02.7**	**+0.3**
	baz=19						
135A	**Vickery Place,**	**18.76**	**337**	⇑P	**Pn**	**23 35 04.5**	**+0.9**
	baz=19						
332A	**Millersview**	**18.78**	**329**	⇓P	**Pn**	**23 35 04.3**	**+0.5**
	baz=19,SNR=14						
SDV	**Santo Domingo**	**18.82**	**108**	*eP*	**P**	**23 35 03.4**	**-0.7**
	comp=E,1nm,0.8s						
233A	**Rising Star**	**18.91**	**332**	⇑P	**Pn**	**23 35 05.6**	**+0.2**
	baz=19,SNR=8.7						
OXF	**Oxford**	**18.96**	**358**	*eP*	**P**	**23 35 05.2**	**-0.1**
	comp=E,124nm,1.1s						
OXF				*eS*	Sn	23 38 32.1	-6.3
134A	**White-Moore Ra**	**19.04**	**335**	⇑P	**Pn**	**23 35 07.8**	**+0.9**
	baz=19						
331A	**San Angelo**	**19.06**	**328**	⇑P	**Pn**	**23 35 07.9**	**+0.6**
	baz=19						
430A	**Baggett Ranch,**	**19.09**	**325**	⇓P	**Pn**	**23 35 08.0**	**+0.4**
	baz=19						
628A	**Black Gap, Mar**	**19.11**	**319**	P	**Pn**	**23 35 08.7**	**+0.7**
	baz=19,SNR=8.4						
232A	**Coleman**	**19.15**	**330**	⇓P	**Pn**	**23 35 09.1**	**+0.8**
	baz=19,SNR=7.2						
529A	**Stev Forest Ra**	**19.16**	**322**	⇑P	**Pn**	**23 35 08.9**	**+0.5**
	baz=19,SNR=11						
429A	**Davenport Ranc**	**19.33**	**324**	⇑P	**Pn**	**23 35 10.7**	**+0.2**
	baz=19,SNR=14						
Z35A	**Perchaven, San**	**19.39**	**338**	⇓P	**P**	**23 35 10.7**	**+0.7**
	baz=20						
627A	**Terlingua Ranc**	**19.41**	**318**	⇓P	**Pn**	**23 35 11.9**	**+0.4**
	baz=19,SNR=16						
133A	**Hamilton Ranch**	**19.42**	**333**	⇑P	**Pn**	**23 35 11.7**	**+0.2**
	baz=20,SNR=29						
MIAR	**Mount Ida**	**19.49**	**348**	*ePn*	**Pn**	**23 35 13.1**	**+0.8**
	comp=E,40nm,1.0s						
UALR	**University of**	**19.49**	**351**	*ePn*	**Pn**	**23 35 13.0**	**+0.6**
	comp=E,27nm,0.8s						
231A	**Bronte**	**19.51**	**329**	⇑P	**Pn**	**23 35 12.7**	**+0.1**
	baz=20,SNR=14						
TXAR	**Lajitas Array**	**19.51**	**318**	P	**Pn**	**23 35 12.7**	**0.0**
TXAR	**Lajitas Array**	**19.51**	**318**	P	**Pn**	**23 35 12.7**	**0.0**
	comp=E,0.9nm,0.3s,baz=137,slow=9.4,SNR=100						
330A	**Mertzon**	**19.53**	**326**	⇑P	**P**	**23 35 12.4**	**+0.8**
	baz=20						
Z34A	**Collier Ranch,**	**19.68**	**337**	⇑P	**Pn**	**23 35 14.4**	**-0.2**
	baz=20						
ABTX	**Abilene, Hawle**	**19.76**	**332**	*eP*	**Pn**	**23 35 15.2**	**-0.4**
ABTX	**Abilene, Hawle**	**19.76**	**332**	⇓P	**P**	**23 35 15.0**	**+1.0**
	baz=20,SNR=6.9						
SWET	**Sewanee**	**19.81**	**7**	*eP*	**P**	**23 35 15.2**	**+0.6**
	comp=E,36nm,0.9s						
428A	**Kincaid Ranch,**	**19.87**	**322**	⇑P	**P**	**23 35 15.9**	**+0.6**
	baz=20						
230A	**Sterling City**	**19.88**	**327**	⇓P	**P**	**23 35 15.3**	**-0.1**
	baz=20,SNR=18						
JSC	**Jenkinsville**	**19.89**	**18**	*eP*	**P**	**23 35 15.9**	**+0.5**
Z33A	**Whitaker Ranch**	**19.94**	**335**	⇑P	**P**	**23 35 16.7**	**+0.6**
	baz=20						
626A	**Big Bend Ranch**	**19.96**	**317**	⇓P	**Pn**	**23 35 17.5**	**-0.5**
	baz=20,SNR=39						
527A	**Woodward Ranch**	**20.02**	**319**	⇓P	**P**	**23 35 18.0**	**+0.8**
	baz=20,SNR=24						
329A	**Wagon Wheel Ra**	**20.03**	**325**	⇑P	**P**	**23 35 16.7**	**-0.4**
	baz=20,SNR=11						
Y34A	**Reagan Ranch,**	**20.14**	**338**	⇑P	**P**	**23 35 19.0**	**+0.8**
	baz=20						
131A	**Roby**	**20.15**	**330**	⇓P	**P**	**23 35 18.8**	**+0.4**
	baz=20,SNR=7.5						
CPCT	**Cooper Cave**	**20.24**	**10**	*eP*	**P**	**23 35 20.5**	**+1.3**
Z32A	**Haskell**	**20.26**	**333**	⇑P	Pn	23 35 20.9	-0.6
	baz=20,SNR=16						
526A	**Mary Lane Ranc**	**20.27**	**318**	⇓P	**P**	**23 35 20.5**	**+0.7**
	baz=20,SNR=16						
229A	**Bryant Ranch,**	**20.31**	**326**	⇑P	**P**	**23 35 20.4**	**+0.3**
	baz=20						
130A	**Snyder**	**20.37**	**329**	⇑P	**P**	**23 35 21.1**	**+0.4**
	baz=20						
427A	**Hayter Ranch,**	**20.39**	**321**	⇑P	**P**	**23 35 21.7**	**+0.7**
	baz=20,SNR=8.8						
328A	**Wristen Ranch,**	**20.42**	**323**	⇑P	**P**	**23 35 21.6**	**+0.2**
	baz=20,SNR=31						
Y33A	**Hilltop Ranch,**	**20.51**	**336**	⇓P	**P**	**23 35 22.5**	**+0.3**
	baz=21						
Z31A	**Sharp Cattle R**	**20.57**	**332**	P	**P**	**23 35 23.7**	**+0.8**
	baz=21,SNR=22						
TKL	**Tuckaleechee C**	**20.57**	**11**	P	**P**	**23 35 22.8**	**-0.1**
TKL				*ePn*	Pn	23 35 26.0	+0.9
TKL				S	**S**	**23 39 10.9**	**-2.1**
TKL	**Tuckaleechee C**	**20.57**	**11**	P	**P**	**23 35 22.8**	**-0.1**
	comp=E,13nm,0.8s,baz=194,slow=11,SNR=9.2						
TKL				S	**S**	**23 39 10.9**	**-2.1**
	comp=E,12nm,0.8s,baz=312,slow=16,SNR=3.8						
TKL				LR	LR	23 43 29.2	
	comp=E,1μm,19.9s,baz=192,slow=38						
426A	**McDonald Obser**	**20.64**	**320**	⇑P	**P**	**23 35 23.9**	**-0.1**
	baz=21						
KMSC	**Kings Mountain**	**20.67**	**17**	*eP*	**P**	**23 35 24.7**	**+0.8**
KMSC	**Kings Mountain**	**20.67**	**17**	⇓P	**P**	**23 35 24.1**	**+0.2**
	baz=21,SNR=9.7						
X34A	**Smith Ranch, M**	**20.74**	**338**	⇓P	**P**	**23 35 25.2**	**+0.4**
	baz=21						
Y32A	**R-V Farms, Ver**	**20.84**	**334**	⇓P	**P**	**23 35 27.1**	**+1.2**
	baz=21,SNR=8.6						
228A	**UT Block 9, Go**	**20.85**	**325**	⇓P	**P**	**23 35 25.8**	**-0.1**
	baz=21,SNR=8.3						
129A	**Stewart Farms,**	**20.85**	**327**	P	**P**	**23 35 26.5**	**+0.5**
	baz=21,SNR=11						
Z30A	**Sanderson Ranc**	**21.00**	**330**	⇑P

Z26A Caprock 22.48 325 ⇑P P 23 35 43.4 -0.2
baz=22,SNR=12
Y27A Causey 22.51 327 ⇓P P 23 35 44.2 +0.3
baz=23,SNR=8.4
X28A Dimmitt 22.52 330 ⇑P P 23 35 44.6 +0.6
baz=23
224A Cornudas Mount 22.54 320 ⇑P P 23 35 44.2 -0.1
baz=23,SNR=13
V31A Spring Creek L 22.54 336 ⇑P P 23 35 44.6 +0.5
baz=23
AMTX Amarillo 22.57 331 *e*P P 23 35 44.0 -0.6
comp=E,52nm,0.8s
AMTX Amarillo 22.57 331 ⇑P P 23 35 44.2 -0.4
baz=23
W29A Amraillo 22.75 332 ⇑P P 23 35 46.3 -0.1
baz=23,SNR=8.5
U32A Winter Ranch, 22.76 338 ⇑P P 23 35 46.0 -0.4
baz=23
WCI Wyandotte Cave 22.76 5 *e*P P 23 35 46.1 -0.3
comp=E,40nm,0.7s
BLA Blacksburg 22.86 17 *e*P P 23 35 48.2 +0.7
comp=E,29nm,0.9s
BLA *e*S S 23 39 56.3 -0.8
V30A Spur Ranch, Mi 22.87 334 ⇓P P 23 35 47.6 -0.1
baz=23
Y26A Elida 22.89 326 ⇓P P 23 35 47.6 -0.3
baz=23,SNR=8.1
Z25A Roswell 22.91 324 ⇑P P 23 35 47.6 -0.5
baz=23,SNR=9.6
124A Stringfield Ra 22.93 321 ⇓P P 23 35 48.6 +0.1
baz=23,SNR=12
VWCC Virginia Weste 23.02 18 *e*P P 23 35 50.5 +1.4
W28A Vega 23.13 331 ⇓P P 23 35 50.3 -0.1
baz=23
Z24A Sheeppen Canyo 23.32 323 P P 23 35 52.5 +0.1
baz=23,SNR=23
X26A CR and CF Fran 23.36 327 ⇑P P 23 35 53.0 +0.2
baz=23,SNR=12
Y25A Mesa, Roswell 23.36 325 P P 23 35 53.6 +0.8
baz=23,SNR=10
W27A Bowe Ranch, En 23.38 329 ⇓P P 23 35 52.2 -0.7
baz=23,SNR=13
T32A Huddler Ranch, 23.45 339 ⇑P P 23 35 53.1 -0.4
baz=24
V28A Channing 23.54 332 ⇓P P 23 35 54.2 -0.3
baz=24,SNR=9.6
222A Williams Famil 23.55 318 ⇓P P 23 35 53.9 -0.8
baz=24
T31A Randall Ranch, 23.64 338 ⇑P P 23 35 55.1 -0.2
baz=24,SNR=14
BLO Bloomington 23.68 4 *e*P P 23 35 55.1 -0.6
comp=E,34nm,0.6s
U29A Oasis Ranch, S 23.71 334 ⇓P P 23 35 57.1 +1.0
baz=24
W26A Owens Ranch, T 23.76 328 ⇑P P 23 35 56.5 -0.1
baz=24
Z23A Rita Site, Whi 23.78 321 ⇑P P 23 35 56.9 -0.1
baz=24,SNR=8.8
X25A Clemmons Ranch 23.80 326 ⇑P P 23 35 56.8 -0.3
baz=24
V27A Dan Oppiter Fa 23.83 331 ⇓P P 23 35 57.5 +0.1
baz=24,SNR=5.4
S32A Newby Ranch, P 23.92 340 ⇑P P 23 35 59.0 +0.9
baz=24
T30A Plains 23.92 336 ⇑P P 23 35 59.1 +1.0
baz=24
221A Mesquite Ranch 23.93 317 ⇓P P 23 35 58.8 +0.4
baz=24
320A Kipp Ranch, An 24.03 315 ⇑P P 23 36 00.3 +1.0
baz=24,SNR=5.7
S31A Mullinville 24.04 339 ⇑P P 23 35 59.9 +0.7
baz=24
JSRW J. Sargeant Re 24.11 21 *e*P P 23 35 59.8 0.0
Y23A Lovelace Mesa, 24.15 323 ⇑P P 23 36 00.6 +0.1
baz=24,SNR=18
R33A Olander Ranch, 24.17 342 ⇑P P 23 36 01.0 +0.6
baz=24
W25A X Bar L Ranch, 24.21 327 ⇓P P 23 36 01.0 0.0
baz=24,SNR=12
Z22A Elephant Butte 24.23 320 ⇑P P 23 36 01.6 +0.5
baz=24,SNR=9.8
121A Cookes Peak, D 24.27 318 ⇑P P 23 36 02.0 +0.5
baz=24,SNR=5.5
T29A Hugoton 24.32 335 ⇓P P 23 36 02.4 +0.6
baz=24
V26A Tequesquite Ra 24.32 329 ⇑P P 23 36 02.8 +0.9
baz=24,SNR=21
U27A Thompson Grove 24.37 331 ⇓P P 23 36 02.9 +0.5
baz=24,SNR=13
S30A Montezuma 24.41 337 ⇓P P 23 36 03.1 +0.4
baz=24
R32A Long Quarter, 24.50 341 ⇓P P 23 36 04.5 +1.1
baz=25
KSU1 Kansas State U 24.54 345 *e*P P 23 36 03.6 -0.1
comp=E,56nm,1.1s
KSU1 Kansas State U 24.54 345 ⇑P P 23 36 04.0 +0.3
baz=25
319A Douglas 24.57 314 ⇓P P 23 36 04.3 0.0
baz=25
T28A Walsh 24.63 334 ⇑P P 23 36 05.3 +0.6
baz=25
S29A Ulysses 24.65 336 ⇑P P 23 36 05.4 +0.6
baz=25
R31A Burdett 24.65 339 ⇑P P 23 36 05.4 +0.6
baz=25
ATAH Atahualpa 24.68 155 P P 23 36 07.4 +1.8
ATAH Atahualpa 24.68 155 P P 23 36 07.4 +1.8
comp=E,7.7nm,0.7s,baz=23,slow=3.2,SNR=3.9
ATAH LR LR 23 44 46.2
comp=E,2μm,20.1s,baz=328,slow=34
X23A Hourglass Bar 24.69 324 ⇓P P 23 36 05.7 +0.4
baz=25
W24A Lazy 6 Ranch, 24.71 326 ⇑P P 23 36 05.8 +0.2
baz=25,SNR=16
CBN Corbin 24.75 22 *e*P P 23 36 06.7 +1.2
comp=E,75nm,0.8s
LPM Los Pinos Moun 24.75 322 *e*P P 23 36 07.0 +1.1
Y22D IRIS PASSCAL I 24.76 322 ⇑P P 23 36 06.6 +0.7
baz=25
Q33A Connelly Farm, 24.77 343 ⇓P P 23 36 07.1 +1.3
baz=25
V25A Rancho No Teng 24.77 328 ⇑P P 23 36 06.4 +0.3
baz=25,SNR=14
U26A Atchley Ranch, 24.78 330 ⇓P P 23 36 06.7 +0.6
baz=25,SNR=10
T27A Campo 24.85 333 ⇓P P 23 36 07.4 +0.7
baz=25
SFIN Scholer Farm 24.85 3 *e*P P 23 36 11.9 +5.5
comp=E,22nm,0.8s
SFIN Scholer Farm 24.85 3 ⇑P P 23 36 07.8 +1.3
baz=25
LENM Lemitar 24.86 322 *e*P P 23 36 07.9 +1.0
R30A Dighton 24.91 338 ⇑P P 23 36 08.2 +1.1
baz=25
S28A Manter 24.94 335 ⇓P P 23 36 08.1 +0.6
baz=25
Q32A Meitler Ranch, 24.98 342 ⇓P P 23 36 08.5 +0.8
baz=25
V24A Rampart Ranch, 25.03 327 ⇓P P 23 36 09.0 +0.5
baz=25
W23A Werner Place, 25.09 325 P P 23 36 09.5 +0.6
baz=25,SNR=12
ANMO Albuquerque 25.10 324 *e*P P 23 36 12.6 +3.5
ANMO Albuquerque 25.10 324 P P 23 36 09.6 +0.5
comp=E,1.8nm,0.8s,baz=123,slow=12,SNR=4.5
U25A Circle Dot Ran 25.11 329 ⇑P P 23 36 10.3 +1.2
baz=25,SNR=11
ACSO Alum Creek Sta 25.16 10 *e*P P 23 36 11.6 +2.3
comp=E,21nm,0.8s
T26A Comanche Natio 25.34 331 ⇑P P 23 36 11.9 +0.8
baz=25
R29A Marienthal 25.36 337 ⇓P P 23 36 12.1 +0.9
baz=25
S27A Las Animas 25.44 333 ⇓P P 23 36 12.7 +0.6
baz=26
V23A Ortiz Mt. (NFS 25.53 325 ⇑P P 23 36 13.8 +0.8
baz=26
R28A Tribune 25.55 336 ⇑P P 23 36 13.9 +0.9
baz=26
P32A Huiting Farm, 25.57 342 ⇓P P 23 36 14.2 +1.2
baz=26
S26A Kim 25.65 332 ⇑P P 23 36 15.5 +1.6
baz=26,SNR=9.5
T25A Trinidad 25.69 330 ⇑P P 23 36 16.7 +2.2
baz=26,SNR=26
Q29A Oakley 25.70 337 ⇓P P 23 36 15.6 +1.2
baz=26
R27A Eads 25.90 334 ⇓P P 23 36 18.1 +1.9
baz=26
U23A El Rito 25.97 326 ⇓P P 23 36 18.8 +1.8
baz=26
SDMD Soldier's Deli 26.01 21 *e*P P 23 36 20.6 +3.6
comp=E,110nm,1.7s
T24B San Luis 26.11 329 ⇑P P 23 36 19.8 +1.5
baz=26
S25A Rebets Cordova 26.12 331 ⇓P P 23 36 20.1 +1.7
baz=26,SNR=6.5
TUC Tucson 26.16 314 *e*P P 23 36 18.2 -0.3
comp=E,11nm,0.9s
Q28A Sharon Springs 26.18 336 ⇓P P 23 36 19.5 +0.8
baz=26
R25A Fountain Ranch 26.45 332 ⇓P P 23 36 23.7 +2.6
baz=26,SNR=7.0
KSCO Kaye Shedlock' 26.45 335 *e*P P 23 36 21.5 +0.3
MVL Millersville 26.70 21 *e*P P 23 36 28.0 +4.7
comp=E,50nm,1.5s
BGNE Belgrade 27.11 344 *e*P P 23 36 27.8 +0.8
comp=E,53nm,1.1s
W18A Petrified Fore 27.18 320 *e*P P 23 36 26.8 -1.1
comp=E,13nm,0.9s
W18A Petrified Fore 27.18 320 ⇓P P 23 36 28.1 +0.3
baz=27
S22A 4UR Ranch, Cre 27.37 328 ⇓P P 23 36 30.9 +1.2
baz=27
SMCO Snowmass 28.54 329 *e*P P 23 36 40.9 +0.6
comp=E,11nm,1.0s
SPMN St. Paul 29.86 354 *e*P P 23 36 54.5 +3.2
comp=E,13nm,0.8s
SADO Sadowa 30.30 14 P P 23 36 54.7 -0.6
SADO Sadowa 30.30 14 P P 23 36 54.7 -0.6
comp=E,5.9nm,0.9s,baz=263,slow=12,SNR=1.9
SADO LR LR 23 49 40.5
comp=E,1μm,18.1s,baz=190,slow=38
ARUT Antelope Range 31.18 320 *e*P P 23 37 02.9 -0.4
comp=E,200nm,1.2s
PTN Potsdam (NY) 31.24 19 *e*P P 23 37 08.0 +4.4
comp=E,560nm,2.8s
LONY Lake Ozonia 31.41 20 *e*P P 23 37 08.4 +3.3
comp=E,496nm,3.0s
DAU Daniels Canyon 31.67 326 *e*P P 23 37 07.7 -0.1
comp=E,15nm,1.2s
DUG Dugway 32.38 324 *e*P P 23 37 20.7 +6.8
comp=E,16nm,1.4s
PDAR Pinedale Array 32.55 331 P P 23 37 14.7 -0.8
PDAR Pinedale Array 32.55 331 P P 23 37 14.7 -0.8
comp=E,0.7nm,0.7s,baz=134,slow=10,SNR=3.1
PTGA Pitinga 32.64 117 *e*P P 23 37 15.1 -1.2
comp=E,4.0nm,0.9s
BGU Big Grassy Mou 32.99 325 *e*P P 23 37 20.0 +0.7
comp=E,13nm,1.8s
AGMN Agassiz Nation 33.26 351 *e*P P 23 37 24.7 +3.5
comp=E,48nm,1.8s
D26A Manning 33.47 343 ⇑P P 23 37 24.4 +1.1
baz=34
MDND Maddock 33.52 347 *e*P P 23 37 23.8 +0.2
REDW Red Top Meadow 33.62 330 *e*P P 23 37 25.2 +0.4
comp=E,19nm,0.8s
LOHW Long Hollow 33.69 331 *e*P P 23 37 25.7 +0.3
comp=E,7.8nm,0.9s
TPAW Teton Pass 33.77 330 *e*P P 23 37 27.3 +1.2
comp=E,15nm,0.9s
MOOW Moose Ponds 33.86 331 *e*P P 23 37 27.3 +0.4
comp=E,88nm,2.6s
FXWY Fox Creek 33.91 330 *e*P P 23 37 29.7 +2.4
comp=E,10nm,1.3s
I17A Pilgrim Ck. 33.91 331 ⇓P P 23 37 28.2 +0.9
baz=34
IMW Indian Meadow 34.07 331 *e*P P 23 37 29.9 +1.2
comp=E,4.8nm,0.8s
H18A Shoshone NF, C 34.09 333 ⇓P P 23 37 29.4 +0.5
baz=34
C26A Wahner Farm, P 34.11 344 ⇑P P 23 37 30.0 +1.2
baz=34
A29A Manning Farm, 34.45 348 ⇓P P 23 37 31.6 -0.1
baz=35
NVAR Mina Array Bea 34.66 317 P P 23 37 34.3 +0.4
NVAR Mina Array Bea 34.66 317 P P 23 37 34.3 +0.4
comp=E,6.3nm,1.1s,baz=114,slow=11,SNR=6.5
NVAR LR LR 23 55 03.0
comp=E,740nm,19.5s,baz=234,slow=42
SAML Samuel 35.04 132 *e*P P 23 37 39.7 +2.6
comp=E,1.0nm,0.9s
ULM Lac du Bonnet 35.17 352 P P 23 37 38.1 +0.3
ULM Lac du Bonnet 35.17 352 P P 23 37 38.1 +0.3
comp=E,5.2nm,0.9s,baz=158,slow=9.3,SNR=5.7
ULM LR LR 23 53 04.6
comp=E,711nm,21.2s,baz=170,slow=38
DGMT Dagmar 35.29 342 *e*P P 23 37 39.1 +0.2
comp=E,13nm,0.7s
HLID Hailey 35.55 327 ⇓P P 23 37 42.3 +0.9
baz=36
MCMT McKenzie Canyo 35.67 330 *e*P P 23 37 43.5 +1.0
comp=E,6.9nm,1.0s
LRM Limekiln Ridge 36.23 332 *e*P P 23 37 48.1 +0.8
A21A Bergtoll Ranch 36.61 340 ⇓P P 23 37 51.5 +1.3
baz=37
LPAZ La Paz 37.53 146 P P 23 38 01.1 +2.1
LPAZ La Paz 37.53 146 P P 23 38 01.1 +2.1
comp=E,1.0nm,0.6s,baz=315,slow=8.4,SNR=2.7
LPAZ LR LR 23 54 07.7
comp=E,819nm,20.0s,baz=324,slow=37
J08A Circle Bar Ran 37.65 324 *e*P P 23 38 00.3 +1.1
comp=E,72nm,1.8s
SIV San Ignacio 41.49 138 P P 23 38 33.7 +2.2
SIV San Ignacio 41.49 138 P P 23 38 33.7 +2.2
comp=E,1.3nm,0.7s,baz=291,slow=9.5,SNR=2.9
EDM Edmonton 42.37 338 *e*P P 23 38 41.8 +3.6
SCHQ Schefferville 42.77 18 *e*P P 23 38 41.0 -0.5
SCHQ Schefferville 42.77 18 P P 23 38 40.0 -1.4
comp=E,31nm,0.8s,baz=210,slow=7.0,SNR=13
SCHQ LR LR 23 57 14.7
comp=E,554nm,18.5s,baz=234,slow=37
LCO Las Campanas 47.52 158 *e*P P 23 39 24.9 +5.1
comp=E,115nm,2.1s
YKA Yellowknife Ar 50.39 345 P P 23 39 40.1 -0.9
YKA Yellowknife Ar 50.39 345 P P 23 39 40.1 -0.9
comp=E,1.3nm,0.9s,baz=140,slow=7.3,SNR=12
BDFB Brasilia 50.70 126 LR LR 00 02 34.7
comp=E,533nm,18.6s,baz=296,slow=38
CPUP Villa Florida 51.55 143 LR LR 00 04 59.7
comp=E,248nm,18.7s,baz=308,slow=40
SFJD Kangerlussuaq 57.17 17 *i*P P 23 40 32.5 +1.9
comp=E,8.1nm,0.9s
PLCA Paso Flores 58.41 164 P P 23 40 42.9 +3.2
PLCA Paso Flores 58.41 164 P P 23 40 42.9 +3.2
comp=E,2.7nm,0.9s,baz=17,slow=14,SNR=2.7
PLCA LR LR 00 01 51.4
comp=E,140nm,19.7s,baz=310,slow=32
RES Resolute Bay 59.31 358 LR LR 00 06 49.0
comp=E,501nm,20.5s,baz=171,slow=37
RKT Rikitea 59.34 231 *e*LR LR 23 58 14.3
comp=E,172nm,24.2s
INK Inuvik 59.97 342 *e*P P 23 40 57.8 +7.7
comp=E,14nm,1.3s
DOT Dot Lake 61.19 335 *e*P P 23 41 04.2 +5.5
comp=E,12nm,1.1s
ILAR Eielson Array 62.78 336 P P 23 41 08.3 -0.9
ILAR Eielson Array 62.78 336 P P 23 41 08.3 -0.9
comp=E,0.6nm,0.7s,baz=148,slow=4.7,SNR=7.1
ILAR LR LR 00 14 23.6
comp=E,229nm,18.3s,baz=129,slow=42
SUMG Summit 63.98 15 *i*P P 23 41 20.4 +2.9
comp=E,9.6nm,1.0s
SUMG Summit 63.98 15 *e*P P 23 41 20.4 +2.9
comp=E,202nm,2.7s
SCO Scoresbysund 67.81 19 *i*P P 23 41 46.4 +4.7
comp=E,2.5nm,0.8s
PPT Papeete 68.41 244 LR LR 00 05 27.2
comp=E,322nm,18.2s,baz=56,slow=30
PPT2 Papeete2 68.42 244 *e*LR LR 00 02 21.5
comp=E,164nm,21.0s
TBI Tubuai 70.84 238 *e*LR LR 00 03 32.4
comp=E,147nm,23.2s
QUIF Quistinic 75.71 44 *e*P P 23 42 31.7 +2.1
comp=E,103nm,1.6s
QUIF Quistinic 75.71 44 *e*P P 23 42 31.7 +2.1
comp=E,103nm,1.6s
SGMF Saint Gilles 76.07 43 *e*P P 23 42 34.5 +2.8
SGMF Saint Gilles 76.07 43 *e*P P 23 42 34.5 +2.8
ESDC Sonseca Array 76.29 52 P P 23 42 31.8 -1.4
ESDC Sonseca Array 76.29 52 P P 23 42 31.8 -1.4
comp=E,1.8nm,0.8s,baz=287,slow=5.9,SNR=9.1
ESDC LR LR 00 12 43.4
comp=E,166nm,19.1s,baz=280,slow=33
GRR Gorron 77.17 43 *e*P P 23 42 39.8 +1.9
comp=E,24nm,1.0s
GRR Gorron 77.17 43 *e*P P 23 42 39.8 +1.9
comp=E,24nm,1.0s
FLN La Foliniere 77.36 43 *e*P P 23 42 39.8 +0.8
comp=E,20nm,0.9s
FLN *e*R
comp=E,468nm,20.2s
FLN La Foliniere 77.36 43 *e*P P 23 42 39.8 +0.8
comp=E,20nm,0.9s
LDF La Druitiere 77.63 43 *e*P P 23 42 42.5 +2.0
comp=E,96nm,1.8s
LDF La Druitiere 77.63 43 *e*P P 23 42 42.5 +2.0
comp=E,96nm,1.8s
SJPF Ste Jean 77.77 48 *e*P P 23 42 43.7 +2.3
SJPF Ste Jean 77.77 48 *e*P P 23 42 43.7 +2.3
MFF Saint Martin d 77.94 45 *e*P P 23 42 44.7 +2.4
MFF Saint Martin d 77.94 45 *e*P P 23 42 44.7 +2.4
ETSF Etsaut 78.29 49 *e*P P 23 42 47.0 +2.6
comp=E,18nm,1.2s
ETSF Etsaut 78.29 49 *e*P P 23 42 47.0 +2.6
comp=E,18nm,1.2s
LFF La Frestale 78.84 46 *e*P P 23 42 49.3 +2.0
comp=E,30nm,1.2s
LFF La Frestale 78.84 46 *e*P P 23 42 49.3 +2.0
comp=E,30nm,1.2s
TCF Toulx Ste Croi 79.60 45 *e*P P 23 42 53.3 +1.8
comp=E,23nm,1.3s
TCF Toulx Ste Croi 79.60 45 *e*P P 23 42 53.3 +1.8
comp=E,23nm,1.3s
BGF Bois d'Agland 79.98 44 *e*P P 23 42 55.5 +2.0
comp=E,19nm,1.0s
BGF Bois d'Agland 79.98 44 *e*P P 23 42 55.5 +2.0
comp=E,19nm,1.0s
AVF Avril sur Loir 80.27 44 *e*P P 23 42 57.3 +2.3
AVF Avril sur Loir 80.27 44 *e*P P 23 42 57.3 +2.3
SSF Saint Saulge 80.31 44 *e*P P 23 42 57.4 +2.1
SSF Saint Saulge 80.31 44 *e*P P 23 42 57.4 +2.1
LOR Lormes 80.50 44 *e*P P 23 42 58.3 +2.0
comp=E,22nm,1.2s
LOR *e*R
comp=E,293nm,21.8s
LOR Lormes 80.50 44 *e*P P 23 42 58.3 +2.0
comp=E,22nm,1.2s
NB2 NORSAR Subarra 81.32 29 P P 23 43 03.5 +3.1
comp=Z,2.5nm,0.7s,baz=288,slow=5.6
NOA NORSAR Array B 81.32 29 P P 23 42 58.9 -1.5
NOA NORSAR Array B 81.32 29 P P 23 42 58.9 -1.5
comp=Z,1.0nm,1.0s,baz=288,slow=5.3,SNR=2.8
NOA LR LR 00 16 42.7
comp=Z,84nm,21.9s,baz=295,slow=34
PAGF Fort de Pagny 81.44 42 *e*P P 23 43 02.7 +1.4
PAGF Fort de Pagny 81.44 42 *e*P P 23 43 02.7 +1.4
HAU Haudompre 81.97 42 *e*P P 23 43 06.4 +2.3
comp=Z,17nm,1.1s
HAU *e*R
comp=Z,360nm,21.2s
HAU Haudompre 81.97 42 *e*P P 23 43 06.4 +2.3
comp=Z,17nm,1.1s
CABF La Chapelle 82.14 44 *e*P P 23 43 06.9 +1.8
comp=Z,25nm,1.2s
CABF La Chapelle 82.14 44 *e*P P 23 43 06.9 +1.8
comp=Z,25nm,1.2s
TIC Toumodi 82.18 85 *e*P P 23 43 06.8 +1.0
comp=Z,19nm,1.0s
LIC Lamto 82.28 86 *e*P P 23 43 08.6 +2.3
comp=Z,18nm,0.9s
LIC *e*R
comp=Z,215nm,22.8s
LIC Lamto 82.28 86 *e*P P 23 43 08.3 +2.0
comp=Z,40nm,1.3s
LIC Lamto 82.28 86 *e*P P 23 43 08.6 +2.3
comp=Z,18nm,0.9s
DBIC Dimbokro 82.33 85 P P 23 43 05.0 -1.6
DBIC Dimbokro 82.33 85 P P 23 43 05.0 -1.6
comp=Z,7.3nm,1.1s,baz=227,slow=5.2,SNR=4.7
DBIC LR LR 00 13 42.2
comp=Z,165nm,22.0s,baz=266,slow=31
CDF Champ du Feu 82.47 42 *e*P P 23 43 08.7 +1.9
CDF Champ du Feu 82.47 42 *e*P P 23 43 08.7 +1.9
KIC Kosan Boka 82.52 85 *e*P P 23 43 04.6 -3.0
comp=Z,174nm,2.3s
ARCES ARCESS Array B 83.73 19 P P 23 43 13.4 +0.6
ARCES ARCESS Array B 83.73 19 P P 23 43 13.4 +0.6
comp=Z,2.5nm,0.8s,baz=316,slow=6.3,SNR=2.9
ARCES LR LR 00 22 18.6
comp=Z,58nm,18.5s,baz=302,slow=37
CLL Collm 85.19 38 *e*(P) P 23 43 25.0 +4.5
MOTA Moosalm 85.25 42 ⇓*i*pP pP 23 43 24.2 -0.2
comp=Z,5.0nm,1.0s
GERES GERESS Array B 86.42 40 P P 23 43 25.5 -1.4
GERES GERESS Array B 86.42 40 P P 23 43 25.5 -1.4
comp=Z,0.6nm,0.8s,baz=30,slow=6.8,SNR=3.9
GERES LR LR 00 18 02.9
comp=Z,241nm,18.8s,baz=282,slow=33
TORD Torodi Ar. Bea 86.93 77 P P 23 43 27.3 -2.5
TORD Torodi Ar. Bea 86.93 77 P P 23 43 27.3 -2.5
comp=Z,0.9nm,0.6s,baz=294,slow=5.5,SNR=7.3
TORD LR LR 00 18 56.3
comp=Z,247nm,21.6s,baz=260,slow=33
FINES FINESS Array B 87.80 26 P P 23 43 33.5 +0.4
FINES FINESS Array B 87.80 26 P P 23 43 33.5 +0.4
comp=Z,0.7nm,0.6s,baz=215,slow=4.6,SNR=2.7
FINES LR LR 00 19 21.9
comp=Z,85nm,21.5s,baz=298,slow=33
SOKA Soboth 88.00 42 ⇑*i*sP P 23 43 39.0 +4.4
comp=Z,5.2nm,1.2s
SEY Seymchan 88.71 336 P P 23 43 37.1 -0.3
SEY Seymchan 88.71 336 P P 23 43 37.1 -0.3
comp=Z,1.1nm,0.2s,baz=17,slow=20,SNR=2.9
AKASG Malin Array Be 94.73 34 LR LR 00 29 16.2
comp=Z,169nm,18.1s,baz=300,slow=37
DZM Mont Dzumac 109.18 252 *e*LR LR 00 21 16.0
comp=Z,162nm,22.6s
SONM Songino Array 115.55 349 PKP PKPdf 23 49 26.6 +0.1
SONM Songino Array 115.55 349 PKP PKPdf 23 49 26.6 +0.1
comp=Z,0.3nm,0.8s,baz=20,slow=4.6,SNR=2.7
HHC Hu-ho-hao-te 120.89 342 *e*PKP PKPdf 23 49 36.9 -0.1
HHC PP PP 23 51 08.8 +4.4
HHC PKS PKSdf 23 53 10.1 -3.7
HHC SKS SKSdf 23 56 43.1 -6.4
HHC SKKS SKKSac 23 58 02.9 -2.8
HHC SS SS 00 07 34.8 -0.4
WMQ Urumqi 120.90 3 PKP PKPdf 23 49 37.7 +0.8
WMQ SS SS 00 07 36.2 +1.3
WMQ LR LR
comp=Z,510nm,22.8s
WMQ LR LR
comp=Z,490nm,24.7s
WMQ LR LR
comp=Z,460nm,21.0s
KSH Kashi 123.45 14 *e*PKP PKPdf 23 49 43.9 +1.9
KSH *e*PP PP 23 51 28.6 +6.9
KSH *e*SKS SKSdf 23 56 50.2 -4.2
KSH LR LR
comp=Z,140nm,4.6s
GTA Gaotai 124.82 352 *e*PKP PKPdf 23 49 41.4 -3.2
GTA PP PP 23 51 33.0 +2.2
GTA SKS SKSdf 23 56 52.2 -4.8
GTA SKKS SKKSac 23 58 24.9 -6.3
GTA SS SS 00 08 25.1 +0.2
GTA LR LR
comp=Z,190nm,19.0s
GTA LR LR
comp=Z,150nm,18.5s
GTA LR LR
comp=Z,290nm,19.0s
LZH Lanzhou 127.36 347 *e*PKP PKPdf 23 49 46.1 -3.5
LZH sPKP 23 49 51.6
LZH LR LR
comp=Z,160nm,18.2s
LZH LR LR
comp=Z,160nm,18.1s
LZH LR LR
comp=Z,190nm,20.0s
CD2 Chengdu 132.35 345 *e*PKP PKPdf 23 49 59.5 +0.4
GYA Guiyang 135.72 340 *e*Pdif Pdif 23 47 05.8 -3.1
GYA PKP PKPdf 23 50 05.2 -0.4
GYA PP PP 23 52 45.4 +3.5
GYA AMB AMB
comp=Z,110nm,7.8s
KMI Kunming 138.13 344 PKP PKPdf 23 50 10.3 +0.1
WRA Warramunga Arr 138.85 257 PKPpre PKPpre 23 50 06.5
WRA Warramunga Arr 138.85 257 PKhKP PKPpre 23 50 06.5
comp=Z,0.9nm,0.7s,baz=90,slow=2.3,SNR=5.4
ASAR Alice Springs 139.17 252 PKPpre PKPpre 23 50 09.9
ASAR Alice Springs 139.17 252 PKhKP PKPpre 23 50 09.9
comp=Z,0.7nm,0.7s,baz=90,slow=2.8,SNR=5.1

CMAR	**Chiang Mai Arr**	**145.45**	**347**	PKPbc	**PKPbc**	**23**	**50**	**21.9 -1.2**
CMAR	**Chiang Mai Arr**	**145.45**	**347**	PKPbc	**PKPbc**	**23**	**50**	**21.8 -1.2**

comp=Z,1.0nm,0.3s,baz=337,slow=4.0,SNR=4.8

IDC 11 23:45:38.3±1.6, 9°21S×158°22E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=47.2km s-min=26.8km az=168.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.71**	**97**	Pn	Pn	23 46 09.1	-0.4
	20nm,0.3s,baz=213,slow=5.1,SNR=2.7						
WRA	**Warramunga Arr**	**25.42**	**243**	P	P	23 51 08.1	+0.1
	1.7nm,0.6s,baz=68,slow=9.7,SNR=8.9						
STKA	**Stephens Creek**	**27.33**	**212**	P	P	23 51 23.9	-1.1
	1.3nm,0.5s,baz=40,slow=13,SNR=1.4						
ASAR	**Alice Springs**	**27.33**	**235**	P	P	23 51 25.4	+0.1
	1.0nm,0.9s,baz=63,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**87.17**	**318**	P	P	23 58 27.3	+0.8
	0.3nm,0.6s,baz=114,slow=5.1,SNR=2.6						

*IDC **11** 23:46:04.1±0.9, 9°60S×158°28E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, Error ellipse: s-maj=30.0km s-min=17.1km az=158.0*

*ISCJB **11** 23:46:07.1±0.5, 9°7S×158°19E±0°.06, h30km, mb3.9/12, Error ellipse: s-maj=18.2km s-min=8.3km az=166.0*

*NEIC **11** 23:46:09.0±0.6, 9°67S×158°32E, h35km, mb4.1/3, Error ellipse: s-maj=20.8km s-min=12.9km az=151.0*

ISC 11 23:46:08.5±0.7, 9°6S±0°.2×158°32E±0°.07, h30km, n26, σ1s26/25, mb4.0/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.62**	**83**	Pn	**Pn**	**23 46 34.2**	**-0.8**
HNR				Sn	**Sb**	**23 46 58.0**	**+0.2**
HNR	**Honiara**	**1.62**	**83**	Pn	**Pn**	**23 46 34.2**	**-0.8**
	53nm,0.3s,baz=105,slow=6.8,SNR=4.8						
HNR				Sn	**Sb**	**23 46 58.0**	**+0.2**
	98nm,0.3s,baz=230,slow=9.8,SNR=10						
HNR	**Honiara**	**1.62**	**83**	*eP*	Pn	23 46 26.0	-9.0
WRAB	**Tennant Creek**	**25.30**	**243**	*eP*	**P**	**23 51 32.1**	**-0.7**
	8.0nm,0.9s						
WRA	**Warramunga Arr**	**25.32**	**243**	P	**P**	**23 51 31.0**	**-1.9**
WRA	**Warramunga Arr**	**25.32**	**243**	P	**P**	**23 51 31.0**	**-1.9**
	3.9nm,1.0s,baz=67,slow=10.0,SNR=6.0						
STKA	**Stephens Creek**	**27.03**	**213**	*eP*	**P**	**23 51 48.2**	**0.0**
	1.8nm,0.8s						
STKA	**Stephens Creek**	**27.03**	**213**	P	**P**	**23 51 49.0**	**+0.9**
	4.3nm,0.8s,baz=29,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**27.18**	**236**	P	**P**	**23 51 49.1**	**-0.6**
ASAR	**Alice Springs**	**27.18**	**236**	P	**P**	**23 51 49.1**	**-0.6**
	3.3nm,0.9s,baz=70,slow=8.1,SNR=11						
CMAR	**Chiang Mai Arr**	**64.88**	**296**	P	**P**	**23 56 47.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**64.88**	**296**	P	**P**	**23 56 47.2**	**+1.8**
	1.0nm,0.4s,baz=112,slow=5.0,SNR=8.8						
VNDA	**Vanda**	**67.90**	**179**	*eP*	**P**	**23 57 04.0**	**+0.2**
	1.7nm,0.9s						
SONM	**Songino Array**	**73.32**	**326**	P	**P**	**23 57 36.1**	**-1.3**
SONM	**Songino Array**	**73.32**	**326**	P	**P**	**23 57 36.1**	**-1.3**
	0.4nm,0.8s,baz=112,slow=5.2,SNR=2.7						
ILAR	**Eielson Array**	**84.63**	**21**	P	**P**	**23 58 37.4**	**-1.5**
ILAR	**Eielson Array**	**84.63**	**21**	P	**P**	**23 58 37.4**	**-1.5**
	0.4nm,0.8s,baz=243,slow=5.2,SNR=5.8						
MK31	**Makanchi Array**	**87.54**	**318**	*eP*	**P**	**23 58 53.0**	**-0.7**
MKAR	**Makanchi Array**	**87.54**	**318**	P	**P**	**23 58 54.0**	**+0.3**
MKAR	**Makanchi Array**	**87.54**	**318**	P	**P**	**23 58 54.0**	**+0.3**
	1.4nm,0.7s,baz=101,slow=6.3,SNR=13						
ZALV	**Zalesovo Beam**	**88.19**	**325**	P	**P**	**23 58 57.4**	**+0.8**
ZALV	**Zalesovo Beam**	**88.19**	**325**	P	**P**	**23 58 57.4**	**+0.8**
	0.4nm,0.4s,baz=117,slow=5.4,SNR=3.3						
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**23 59 11.4**	**+2.0**
NVAR	**Mina Array Bea**	**90.77**	**51**	P	**P**	**23 59 11.4**	**+2.0**
	0.2nm,0.3s,baz=256,slow=6.4,SNR=1.9						
YKA	**Yellowknife Ar**	**97.11**	**28**	P	Pdif	23 59 37.5	-0.2
YKA	**Yellowknife Ar**	**97.11**	**28**	P	Pdif	23 59 37.4	-0.2
	0.4nm,1.0s,baz=263,slow=4.8,SNR=3.2						

*NIED **11** 23:46:00, 43°.00N×145°.30E, h68km, Mw3.9 Best double couple: M₀6.96000×10¹⁴ NP1:φs158.00000°, δ42.00000°, λ-6.00000°. NP2:φs253.00000°, δ86.00000°, λ-131.00000°.*

*MOS **11** 23:46:27.5±0.9, 42°.98N×145°.18E, h104km, mb4.2/17, Error ellipse: s-maj=10.5km s-min=7.4km az=95.5*

*ISCJB **11** 23:46:27.1±0.4, 42°.97N±0°.04×145°.26E±0°.05, h101km±2km, mb4.1/26, Error ellipse: s-maj=7.1km s-min=4.6km az=138.4*

*JMA **11** 23:46:28.5±0.1, 42°.96N×145°.26E, h89km±1km, M4.0 JMA Felt II J1.*

*NEIC **11** 23:46:28.7±1.0, 43°.01N×145°.27E, h101km±6km, mb4.5/6, MW3.8(NIED), Error ellipse: s-maj=15.6km s-min=9.3km az=148.0*

NEIC Recorded [2 JMA] in southeastern Hokkaido.

*IDC **11** 23:46:28.8±2.0, 42°.97N×145°.21E, h97km±15km, mb3.7/16, mb1 3.9/18, mb1mx3.8/27, mbtmp4.1/18, MS3.2/2, Ms1 3.3/2, ms1mx2.6/39, Error ellipse: s-maj=17.6km s-min=14.5km az=90.0*

*SKHL **11** 23:46:28.6±0.6, 43°.03N×145°.20E, h107km±3km, mb5.2/2, msh5.9/2*

ISC 11 23:46:27.7±0.7, 42°.98N±0°.05×145°.24E±0°.05, h89km±5km, n95, σ1s09/104, mb4.2/26, 2C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.40**	**273**	||P	**Pn**	**23 46 42.5**	**+0.9**
JAK				*e*S	**Sn**	**23 46 53.0**	**+1.0**
NEM2	**Nemuro 2**	**0.53**	**43**	||P	**Pn**	**23 46 43.3**	**+0.7**
NEM2				*e*S	**Sn**	**23 46 53.6**	**-0.1**
JNK	**Nakash**	**0.72**	**328**	||P	**Pn**	**23 46 44.9**	**+0.6**
JNK				*e*S	**Sn**	**23 46 57.5**	**+0.8**
JRA	**Rausu**	**0.96**	**355**	||P	**Pn**	**23 46 48.0**	**+1.1**
JRA				*e*S	**Sn**	**23 47 02.7**	**+1.4**
JOB	**Onbets**	**1.04**	**266**	||P	**Pn**	**23 46 48.9**	**+1.1**
JOB				*e*S	**Sn**	**23 47 03.9**	**+1.1**
JAR	**Ashorobuto**	**1.13**	**287**	||P	**Pn**	**23 46 49.9**	**+1.1**
JAR				*e*S	**Sn**	**23 47 06.0**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**1.15**	**23**	*d i*PN	**Pn**	**23 46 50.1**	**+1.0**
YUK				*i* S	**Sn**	**23 47 05.9**	**+0.8**
YUK				pmax	pmax		
	comp=Z,653nm,0.5s						
YUK				pmax	pmax		
	comp=E,142nm,0.1s						
YUK				pmax	pmax		
	comp=N,202nm,0.2s						
YUK				smax	smax		
	comp=E,6μm,0.3s						
YUK				smax	smax		
	comp=N,9μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**23**	*eP*	**Pn**	**23 46 50.2**	**+1.1**
YUK				AMB	AMB	23 46 51.7	
	comp=N,203nm,0.3s						
YUK				AMB	AMB	23 46 51.7	
	comp=N,143nm,0.3s						
YUK				AMB	AMB	23 46 51.7	
	comp=N,653nm,0.3s						
YUK				*e*S	**Sn**	**23 47 05.9**	**+0.8**
YUK				A	A	23 47 06.8	
	comp=N,9μm,0.5s						
YUK				A	A	23 47 06.8	
	comp=N,6μm,0.5s						
JTKR	**Abashiri--Toko**	**1.39**	**316**	||P	**Pn**	**23 46 53.4**	**+1.4**
JTKR				*e*S	**Sn**	**23 47 11.4**	**+1.1**
JCH	**Churui**	**1.43**	**256**	||P	**Pn**	**23 46 53.6**	**+1.1**
JCH				*e*S	**Sn**	**23 47 11.4**	**+0.1**
HRK	**Horoka**	**1.62**	**288**	*eP*	**Pn**	**23 46 56.2**	**+1.2**
HRK				*e*S	**Sn**	**23 47 16.9**	**+1.2**
JMP	**Maruseppu**	**1.71**	**308**	||P	**Pn**	**23 46 57.5**	**+1.3**
JMP				*e*S	**Sn**	**23 47 18.9**	**+1.1**
ERM	**Erimo**	**1.82**	**239**	↑*e*PN	**Pn**	**23 46 59.2**	**+1.7**
ERM	**Erimo**	**1.82**	**239**	*e*Pn	**Pn**	**23 46 59.2**	**+1.7**
ERM				*e*Sn	**Sn**	**23 47 20.8**	**+0.7**
ERM	**Erimo**	**1.82**	**239**	*eP*	**Pn**	**23 46 59.2**	**+1.7**
JEM	**Erimo**	**1.82**	**239**	P	**Pn**	**23 46 58.6**	**+1.1**
JKA	**Kamikawa-asahi**	**2.23**	**302**	*eP*	**Pn**	**23 47 05.1**	**+2.2**
ASAJ	**Asahikawa**	**2.24**	**301**	*e*Pn	**Pn**	**23 47 04.8**	**+1.9**
ASAJ	**Asahikawa**	**2.24**	**301**	P	**Pn**	**23 47 05.1**	**+2.2**
	comp=N,228nm,0.3s,baz=134,slow=8.5,SNR=432						
ASAJ				S	**Sn**	**23 47 31.6**	**+1.6**
	comp=N,20nm,0.3s,baz=247,slow=32,SNR=10						
KUR	**Kuril'sk**	**2.94**	**39**	*i* PN	**Pn**	**23 47 14.6**	**+2.2**
KUR				*e*S	**Sn**	**23 47 48.9**	**+2.1**
KUR				pmax	pmax		
	comp=Z,340nm,0.6s						
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,70nm,0.5s						
KUR				smax	smax		
	comp=E,390nm,0.7s						
KUR				smax	smax		
	comp=N,300nm,0.5s						
KUR	**Kuril'sk**	**2.94**	**39**	*eP*	**Pn**	**23 47 14.6**	**+2.2**
KUR				AMB	AMB	23 47 15.0	
	comp=N,80nm,0.6s						
KUR				AMB	AMB	23 47 15.0	
	comp=N,70nm,0.6s						
KUR				AMB	AMB	23 47 15.0	
	comp=N,340nm,0.6s						
KUR				*e*S	**Sn**	**23 47 48.9**	**+2.1**
KUR				A	A	23 47 49.8	
	comp=N,300nm,0.6s						
KUR				A	A	23 47 49.8	
	comp=N,390nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.35**	**337**	*e*PN	**Pn**	**23 47 32.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.35**	**337**	*e*Pn	**Pn**	**23 47 31.9**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.35**	**337**	*eP*	**Pn**	**23 47 32.5**	**+1.1**
YSS				*e*S	**Sn**	**23 48 21.0**	**+0.1**
MJA0	**Matsu Arr-Jizo**	**8.38**	**222**	*e*PN	**Pn**	**23 48 26.6**	**+0.1**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**8.40**	**222**	*i* PN	**Pn**	**23 48 26.8**	**+0.1**
MJAR	**Matsushiro Arr**	**8.40**	**222**	P	**Pn**	**23 48 26.6**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=27,slow=14,SNR=5.9						
MJAR				LR	LR	23 51 19.7	
	comp=Z,25nm,20.0s,baz=115,slow=35						
HABR	**Khabarovsk**	**9.00**	**311**	*e*PN	**Pn**	**23 48 32.9**	**-1.8**
HABR				*e*S	**Sn**	**23 50 12.4**	**-1.7**
HABR				pmax	pmax		
	comp=Z,23nm,1.5s						
HABR	**Khabarovsk**	**9.00**	**311**	*eP*	**Pn**	**23 48 32.9**	**-1.8**
EKMR	**Ekimchan**	**13.01**	**325**	*eP*	**Pn**	**23 49 28.0**	**-0.8**
BMKR	**Bomnak**	**15.90**	**323**	*er*x	rx	23 49 53.5	
SEY	**Seymchan**	**20.42**	**9**	P	**P**	**23 50 55.1**	**-2.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY	**Seymchan**	**20.42**	**9**	P	**P**	**23 50 55.1**	**-2.3**
	comp=Z,1.6nm,0.3s,baz=4.0,slow=23,SNR=5.4						
ULN	**Ulaanbaatar**	**27.05**	**294**	P	**P**	**23 52 01.1**	**-0.6**
SONM	**Songino Array**	**27.50**	**294**	P	**P**	**23 52 06.5**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=91,slow=7.8,SNR=27						
ZAK	**Zakamensk**	**29.41**	**299**	*eP*	**P**	**23 52 23.1**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**29.48**	**135**	T	T	00 23 29.9	
	baz=329,slow=76,SNR=47						
H11N1	**WAKE ISLAND Hy**	**29.49**	**135**	T	T	00 23 41.1	
	baz=329,slow=76,SNR=198						
H11N3	**WAKE ISLAND Hy**	**29.50**	**135**	T	T	00 23 41.7	
	baz=329,slow=76,SNR=226						
H11S1	**WAKE ISLAND Hy**	**30.41**	**137**	T	T	00 24 50.2	
	baz=331,slow=77,SNR=246						
H11S3	**WAKE ISLAND Hy**	**30.41**	**137**	T	T	00 24 44.6	
	baz=331,slow=77,SNR=176						
H11S2	**WAKE ISLAND Hy**	**30.42**	**137**	T	T	00 24 50.0	
	baz=331,slow=77,SNR=171						
IM04	**Indian Mountai**	**40.05**	**34**	*eP*	**P**	**23 53 53.9**	**+0.3**
ZALV	**Zalesovo Beam**	**40.36**	**307**	P	**P**	**23 53 57.2**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.36**	**307**	P	**P**	**23 53 57.2**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=87,slow=7.4,SNR=12						
COLA	**College**	**42.51**	**36**	*eP*	**P**	**23 54 13.3**	**-0.4**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
COLA	**College**	**42.51**	**36**	*eP*	**P**	**23 54 13.3**	**-0.4**
	comp=Z,3.1nm,0.4s						
ILAR	**Eielson Array**	**42.93**	**36**	P	**P**	**23 54 17.9**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=254,slow=4.9,SNR=30						
MK31	**Makanchi Array**	**43.71**	**298**	*eP*	**P**	**23 54 23.9**	**+0.1**
MK31	**Makanchi Array**	**43.71**	**298**	*eP*	**P**	**23 54 23.9**	**+0.1**
MKAR	**Makanchi Array**	**43.71**	**298**	P	**P**	**23 54 24.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.71**	**298**	P	**P**	**23 54 24.2**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=84,slow=9.3,SNR=18						
KURK	**Kurchatov**	**44.81**	**304**	*eP*	**P**	**23 54 32.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**44.81**	**304**	*eP*	**P**	**23 54 32.1**	**-0.3**
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**47.77**	**30**	*eP*	**P**	**23 54 54.1**	**-1.2**
BVAR	**Borovoye Array**	**48.92**	**309**	P	**P**	**23 55 04.8**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**48.92**	**309**	P	**P**	**23 55 04.8**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=77,slow=8.0,SNR=10						
BRVK	**Borovoye**	**48.97**	**309**	*eP*	**P**	**23 55 03.9**	**-0.9**
BRVK	**Borovoye**	**48.97**	**309**	*eP*	**P**	**23 55 03.9**	**-0.9**
TKM2	**Tokmak 2**	**49.58**	**295**	*eP*	**P**	**23 55 09.8**	**0.0**
TKM2	**Tokmak 2**	**49.58**	**295**	*eP*	**P**	**23 55 09.8**	**0.0**
AAK	**Ala-Archa**	**50.44**	**295**	*eP*	**P**	**23 55 16.1**	**-0.2**
AAK	**Ala-Archa**	**50.44**	**295**	*eP*	**P**	**23 55 16.1**	**-0.2**
EKS2	**Erkin-Say**	**50.90**	**296**	*eP*	**P**	**23 55 20.1**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKS2	**Erkin-Say**	**50.90**	**296**	*eP*	**P**	**23 55 20.1**	**+0.4**
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**53.96**	**317**	*d i*P	**P**	**23 55 42.0**	**+0.1**
ARU				*PP	**pP**	**23 56 03.6**	**-0.2**
ARU						23 57 42.2	
ARU				S	**S**	**00 03 11.8**	**+1.4**
ARU				SS	**SKiKP**	**00 06 47.2**	**+2.1**
ARU				pmax	pmax		
	comp=Z,17nm,2.5s						
ARU	**Arti**	**53.96**	**317**	*eP*	**P**	**23 55 41.4**	**-0.5**
	comp=Z,3.5nm,0.4s						
RES	**Resolute Bay**	**56.10**	**16**	*eP*	**P**	**23 55 56.3**	**-0.7**
	comp=Z,3.9nm,0.6s						
RES	**Resolute Bay**	**56.10**	**16**	P	**P**	**23 55 56.9**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=308,slow=7.5,SNR=11						
ABKAR	**Akbulak array**	**56.46**	**308**	*eP*	**P**	**23 55 59.7**	**-0.2**
	comp=Z,4.4nm,0.4s						
YKA	**Yellowknife Ar**	**57.21**	**33**	P	**P**	**23 56 05.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=304,slow=6.9,SNR=14						
KEV	**Kevo**	**58.94**	**339**	*eP*	**P**	**23 56 15.9**	**-1.1**
KEV	**Kevo**	**58.94**	**339**	*ep*	**P**	**23 56 15.9**	**-1.1**
ARCES	**ARCESS Array B**	**59.48**	**339**	P	**P**	**23 56 20.9**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=36,slow=6.4,SNR=5.5						
JOF	**Joensuu**	**62.12**	**332**	*eP*	**P**	**23 56 37.6**	**-1.1**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JOF	**Joensuu**	**62.12**	**332**	*ep*	**P**	**23 56 37.6**	**-1.1**
	comp=Z,5.5nm,0.6s						
WRA	**Warramunga Arr**	**63.41**	**191**	P	**P**	**23 56 47.0**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=9.8,slow=6.8,SNR=8.6						
KAF	**Kangasniemi**	**64.37**	**333**	*eP*	**P**	**23 56 54.1**	**+0.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	**Kangasniemi**	**64.37**	**333**	*ep*	**P**	**23 56 54.1**	**+0.5**
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**64.92**	**332**	P	**P**	**23 56 57.2**	**+0.1**
	comp=Z,6.8nm,0.6s,baz=44,slow=6.0,SNR=48						
ASAR	**Alice Springs**	**67.13**	**191**	P	**P**	**23 57 12.8**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=2.8,slow=5.1,SNR=7.8						
KIV	**Kislovodsk**	**69.23**	**311**	*eP*	**P**	**23 57 23.4**	**-1.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,85nm,18.0s						
KBZ	**Khabaz**	**69.26**	**311**	P	P	23 57 28.9	+4.0
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ				MLR	MLR		
	comp=Z,123nm,18.8s						
KBZ	**Khabaz**	**69.26**	**311**	P	P	23 57 28.9	+4.0
	comp=Z,0.7nm,0.5s,baz=59,slow=2.6,SNR=6.9						
KBZ				LR	LR	00 33 10.2	
	comp=Z,123nm,18.8s,baz=307,slow=40						
NB2	**NORSAR Subarra**	**69.81**	**338**	P	**P**	**23 57 28.1**	**0.0**
	comp=Z,2.8nm,0.5s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**69.81**	**338**	P	**P**	**23 57 28.2**	**0.0**
	comp=Z,2.8nm,0.6s,baz=36,slow=6.1,SNR=14						
AKASG	**Malin Array Be**	**71.37**	**323**	P	**P**	**23 57 37.6**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.37**	**323**	P	**P**	**23 57 37.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=43,slow=6.4,SNR=20						
BRTR	**Keskin Array B**	**77.06**	**313**	P	**P**	**23 58 10.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=54,slow=5.6,SNR=2.6						
CLL	**Collm**	**77.34**	**332**	*eP*	**P**	**23 58 13.0**	**+0.7**
GERES	**GERESS Array B**	**79.14**	**330**	P	**P**	**23 58 21.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=69,slow=5.4,SNR=3.4						
TXAR	**Lajitas Array**	**84.23**	**55**	P	**P**	**23 58 50.6**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=274,slow=2.6,SNR=2.6						
H03N2	**Juan Fernandez**	**144.36**	**90**	T	T	02 47 30.5	
	baz=296						
H03N3	**Juan Fernandez**	**144.37**	**90**	T	T	02 47 40.4	
	baz=296						
H03N1	**Juan Fernandez**	**144.37**	**90**	T	T	02 47 42.0	
	baz=296						

*ISCJB **11** 23:59:52.9±1.8, 31°.3N±0°.3×50°.9E±0°.2, h15km, mb3.5/7, Error ellipse: s-maj=40.8km s-min=21.9km az=162.8*

*IDC **11** 23:59:52.5±2.0, 31°.28N×50°.90E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.4/25, mbtmp3.5/7, Error ellipse: s-maj=47.4km s-min=25.0km az=158.0*

ISC 11 23:59:54.5±2.0, 31°.2N±0°.3×51°.0E±0°.2, h15km, n8, σ0s61/8, mb3.6/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**16.44**	**306**	Pn	**P**	**00 03 48.6**	**+1.0**
	0.1nm,0.3s,baz=130,slow=14,SNR=2.9						
AKASG	**Malin Array Be**	**25.29**	**327**	P	**P**	**00 05 19.7**	**-0.5**
	0.6nm,0.4s,baz=137,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**28.65**	**48**	P	**P**	**00 05 50.9**	**+0.3**
	0.1nm,0.3s,baz=240,slow=8.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**33.22**	**37**	P	**P**	**00 06 30.8**	**+0.1**
	0.3nm,0.4s,baz=241,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**34.33**	**339**	P	**P**	**00 06 40.2**	**-0.1**
	0.8nm,0.8s,baz=130,slow=13,SNR=3.4						
NOA	**NORSAR Array B**	**39.54**	**331**	P	**P**	**00 07 23.9**	**-0.7**
	0.6nm,0.8s,baz=122,slow=8.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**48.61**	**260**	P	**P**	**00 08 37.9**	**-0.1**
	0.3nm,0.4s,baz=58,slow=8.5,SNR=16						
YKA	**Yellowknife Ar**	**85.89**	**353**	P	**P**	**00 12 33.3**	**-0.1**
	0.1nm,0.5s,baz=14,slow=5.2,SNR=3.2						

*ISCJB **12** 00:13:12.4±1.5, 25°.06N±0°.09×123°.46E±0°.05, h24km±13km, mb3.5/5, Error ellipse: s-maj=15.8km s-min=8.2km az=0.7*

*JMA **12** 00:13:12.9±0.2, 25°.05N×123°.47E, h23km, M2.8*

*IDC **12** 00:14:07.2±9.9, 25°.74N×124°.45E, h694km±207km, mb2.4/5, mb1 2.5/5, mb1mx2.3/26, mbtmp2.4/5, Error ellipse: s-maj=176.8km s-min=22.2km az=61.0*

ISC 12 00:13:12.4±2.8, 25°.04N±0°.09×123°.48E±0°.05, h16km±17km, n11, σ0s81/15, mb3.4/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.72**	**217**	P	**Pb**	**00 13 26.3**	**-0.3**
YOJ				*e*S	**Sb**	**00 13 35.7**	**-0.5**
IRIF	**Iriomote-Funau**	**0.74**	**162**	P	**Pb**	**00 13 26.9**	**0.0**
IRIF				*e*S	**Sg**	**00 13 37.0**	**+0.4**
JIJ	**Ishigaki jima**	**0.90**	**138**	P	**Pb**	**00 13 29.4**	**-0.3**
JIJ				*e*S	**Sb**	**00 13 40.9**	**-0.6**
JKRS	**Kuro-shima**	**0.93**	**149**	P	**Pb**	**00 13 30.3**	**+0.1**
JKRS				*e*S	**Sg**	**00 13 42.6**	**-0.2**
HATJ	**Hateruma jima**	**1.02**	**163**	P	**Pb**	**00 13 31.6**	**-0.1**
JTJ	**Tarama**	**1.18**	**110**	P	**Pb**	**00 13 34.3**	**0.0**
JTJ				*e*S	**Sn**	**00 13 49.5**	**-0.3**
SONM	**Songino Array**	**26.46**	**334**	P	P	00 18 52.4	+3.6
	0.6nm,0.9s,baz=140,slow=9.5,SNR=4.3						
MKAR	**Makanchi Array**	**39.21**	**314**	P	**P**	**00 20 41.4**	**+1.7**
	0.8nm,0.9s,baz=101,slow=9.8,SNR=8.7						
ZALV	**Zalesovo Beam**	**40.69**	**326**	P	**P**	**00 20 51.1**	**-0.8**
	0.9nm,0.8s,baz=99,slow=8.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**42.83**	**319**	P	**P**	**00 21 08.1**	**-1.4**
	0.6nm,0.8s,baz=112,slow=8.5,SNR=2.9						
WRA	**Warramunga Arr**	**45.95**	**166**	P	**P**	**00 21 35.6**	**+0.9**
	1.0nm,0.8s,baz=348,slow=8.5,SNR=4.8						

*NIED **12** 00:16:00, 25°.00N×123°.50E, h5km, Mw4.9 Best double couple: M₀2.33000×10¹⁶ NP1:φs277.00000°, δ46.00000°, λ-67.00000°. NP2:φs65.00000°, δ49.00000°, λ-112.00000°.*

*BJI **12** 00:16:38.1, 24°.72N×123°.57E, h8km, mB5.0/37, mb4.6/41, ML4.7/3, Ms5.0/58, Ms7 4.8/55*

*IDC **12** 00:16:40.2±0.6, 24°.94N×123°.38E, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.2/30, mbtmp4.1/23, ML3.4/1, MS4.2/37, Ms1 4.2/37, ms1mx4.1/51, Error ellipse: s-maj=19.4km s-min=12.9km az=74.0*

*ISCJ

comp=E,4μm,12.3s
SSE LR LR
comp=Z,6μm,13.0s
NJ2 Nanjing 8.20 332 *e*P Pn 00 18 47.0 +5.5
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 smax smax
comp=N,700nm,1.2s
NJ2 smax smax
comp=E,1μm,1.6s
NJ2 LR LR
comp=N,6μm,10.7s
NJ2 LR LR
comp=E,5μm,11.3s
NJ2 LR LR
comp=Z,6μm,9.7s
WHN Wuhan 9.83 307 P Pn 00 19 06.6 +2.8
WHN S **Sn** **00 20 55.8 +2.6**
WHN LR LR
comp=N,5μm,4.1s
WHN LR LR
comp=E,14μm,12.8s
WHN LR LR
comp=Z,12μm,12.9s
JNU Nakatsue 10.47 37 LR LR 00 23 58.9
comp=Z,857nm,19.0s,baz=219,slow=42
KSAR Wonju Array Be 13.07 16 Pn **Pn** **00 19 48.6 +0.4**
KSRS Korea Array 13.10 16 Pn **Pn** **00 19 48.6 +0.1**
0.2nm,0.3s,baz=195,slow=12,SNR=2.9
KSRS LR LR 00 25 20.5
comp=Z,1μm,18.4s,baz=198,slow=40
QIZ Qiongzhong 13.90 248 P **Pn** **00 19 57.7 -1.8**
QIZ S **Sn** **00 22 34.8 +1.9**
QIZ LR LR
comp=N,1μm,16.5s
QIZ LR LR
comp=E,420nm,19.2s
QIZ LR LR
comp=Z,970nm,10.7s
GYA Guiyang 15.21 279 P **Pn** **00 20 16.2 -1.2**
GYA PP **PnPn** **00 20 27.5 +1.9**
GYA S **Sn** **00 23 04.8 -0.3**
GYA SS **S** **00 23 22.0 +0.7**
GYA PcP **PcP** **00 25 25.6 +2.8**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,2μm,10.6s
GYA LR LR
comp=E,2μm,11.5s
GYA LR LR
comp=Z,2μm,10.5s
XAN Xi'an 15.58 309 P P 00 20 31.2 +5.2
XAN PP pP 00 20 45.3 +11
XAN S **S** **00 23 32.2 +3.6**
XAN SS SnSn 00 23 49.9 +23
XAN pmax pmax
comp=Z,5.0nm,1.5s
XAN pmax pmax
comp=Z,62nm,9.4s
XAN LR LR
comp=N,2μm,13.6s
XAN LR LR
comp=E,600nm,13.2s
XAN LR LR
comp=Z,820nm,14.7s
BJI Beijing 16.30 340 P **Pn** **00 20 30.0 -1.1**
BJI S **Sn** **00 23 36.0 +5.0**
BJI pmax pmax
comp=Z,380nm,5.9s
BJI LR LR
comp=Z,2μm,12.7s
BJI LR LR
comp=Z,2μm,13.6s
BJI LR LR
comp=Z,1μm,16.8s
SNY Shenyang 16.89 0 ⇑P **P** **00 20 44.3 +3.8**
SNY S S 00 24 06.2 +11
SNY pmax pmax
comp=Z,28nm,2.2s
SNY pmax pmax
comp=Z,540nm,9.4s
SNY LR LR
comp=N,3μm,11.5s
SNY LR LR
comp=E,2μm,11.0s
SNY LR LR
comp=Z,3μm,13.2s
MJAR Matsushiro Arr 17.18 44 LR LR 00 27 21.8
comp=Z,491nm,20.9s,baz=230,slow=37
SLVN Son La 18.32 263 *e*Pn **P** **00 20 55.0 -1.5**
CD2 Chengdu 18.39 293 *e*P **Pn** **00 20 57.2 -0.2**
CD2 sP **sP** **00 21 04.6 -4.3**
CD2 PP **PnPn** **00 21 12.4 +3.2**
CD2 S **Sn** **00 24 19.0 -3.1**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,480nm,4.2s
CD2 LR LR
comp=Z,5μm,10.7s
CD2 LR LR
comp=Z,4μm,13.1s
CD2 LR LR
comp=Z,4μm,11.3s
HHC Hu-ho-hao-te 18.75 331 *e*P **Pn** **00 21 01.0 -0.8**
HHC sP sP 00 21 08.0 -4.9
HHC PP **PnPn** **00 21 14.0 -0.2**
HHC S **Sn** **00 24 25.7 -5.1**
HHC pmax pmax
comp=Z,35nm,1.2s
HHC pmax pmax
comp=Z,1μm,4.7s
HHC LR LR
comp=Z,4μm,12.6s
HHC LR LR
comp=Z,2μm,12.2s
HHC LR LR
comp=Z,4μm,12.7s
KMI Kunming 18.77 275 ⇑P **Pn** **00 21 03.8 +1.6**
KMI pP **pP** **00 21 10.8 +1.3**
KMI sP **sP** **00 21 14.5 +1.2**
KMI PP **PnPn** **00 21 18.9 +4.4**
KMI S **S** **00 24 32.3 -1.4**
KMI SS SnSn 00 24 58.9 +13
KMI pmax pmax
comp=Z,13nm,1.5s
KMI pmax pmax
comp=Z,270nm,4.4s
KMI LR LR
comp=Z,1μm,9.1s
KMI LR LR
comp=Z,2μm,9.8s
KMI LR LR
comp=Z,2μm,9.4s
CN2 Changchun 18.94 4 *e*P **Pn** **00 21 04.0 +0.2**
CN2 *e*S **Sn** **00 24 30.3 -4.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,690nm,5.0s
CN2 LR LR
comp=Z,4μm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,4μm,16.0s
DLV T Lat 19.14 230 *e*P **P** **00 21 05.4 -0.3**
comp=Z,42nm,1.4s
VLA Vladivostok 19.46 19 ⇓*i*P **P** **00 21 06.4 -2.4**
VLA *i*S **S** **00 24 46.5 -0.6**
VLA pmax pmax
comp=Z,18nm,0.8s
KKM Kota Kinabalu 19.98 201 *e*P **Pn** **00 21 16.6 0.0**
comp=Z,32nm,1.0s
KKM LR LR
comp=Z,501nm,21.3s
MYLDM Lahad Datu 20.16 194 PFAKE 00 21 30.0 +11
MYLDM LR LR
comp=Z,2μm,20.1s
LZH Lanzhou 20.20 308 ⇑P Pn 00 21 19.9 +0.7
LZH pP pP 00 21 21.8 -3.3
LZH sP sP 00 21 23.5 -5.4
LZH PP **PnPn** **00 21 39.2 +5.1**
LZH S **S** **00 24 59.0 -3.5**
LZH pmax pmax
comp=Z,170nm,1.3s
LZH pmax pmax
comp=Z,580nm,6.4s
LZH LR LR
comp=Z,2μm,12.0s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,3μm,14.0s
MDJ Mudanjiang 20.31 13 P Pn 00 21 19.4 -0.7
MDJ pP pP 00 21 22.4 -3.5
MDJ sP sP 00 21 26.4 -3.3
MDJ S Sn 00 25 10.9 +2.9
MDJ ScP **ScP** **00 29 09.1 +4.1**
MDJ pmax pmax
comp=Z,11nm,1.4s
MDJ pmax pmax
comp=Z,49nm,2.7s
MDJ LR LR
comp=Z,3μm,12.5s
MDJ LR LR
comp=Z,2μm,12.5s
MDJ LR LR
comp=Z,4μm,12.3s
MDJ Mudanjiang 20.31 13 *e*P **P** **00 21 18.0 0.0**
comp=Z,212nm,2.0s
USRK Ussuriysk Arra 20.49 18 P **P** **00 21 20.5 +0.5**
comp=Z,3.7nm,0.9s,baz=172,slow=11,SNR=5.6
USRK LR LR 00 29 24.5
comp=Z,667nm,19.9s,baz=189,slow=37
CHTO Chiang Mai 23.51 260 *e*P **P** **00 21 52.4 +0.2**
CHTO pmax pmax
comp=Z,17nm,1.8s
CHTO Chiang Mai 23.51 260 *e*P **P** **00 21 52.4 +0.2**
comp=Z,17nm,1.8s
CMAR Chiang Mai Arr 23.63 259 P **P** **00 21 54.0 +0.7**
CMAR Chiang Mai Arr 23.63 259 P **P** **00 21 54.0 +0.7**
comp=Z,1.8nm,0.3s,baz=53,slow=8.1,SNR=22
CMAR LR LR 00 32 13.2
comp=Z,261nm,20.4s,baz=74,slow=40
TOLI Toli-Toli 23.77 187 P x 00 22 21.0
HIA Hailar 24.51 354 *e*P **P** **00 22 00.6 -0.6**
comp=Z,52nm,1.3s
GTA Gaotai 24.60 312 ⇑P **P** **00 22 01.9 -0.4**
GTA pP **pP** **00 22 06.5 -4.4**
GTA sP sP 00 22 09.0 -5.5
GTA S **S** **00 26 24.1 +2.4**
GTA sS sS 00 26 31.0 -4.7
GTA pmax pmax
comp=Z,12nm,2.0s
GTA pmax pmax
comp=Z,170nm,5.1s
GTA LR LR
comp=Z,1μm,15.2s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,2μm,15.7s
ASAJ Asahikawa 24.73 34 LR LR 00 32 29.9
comp=Z,446nm,18.3s,baz=236,slow=38
SBUM Sibu 24.80 208 P x 00 22 04.3
comp=Z,36nm,1.7s,comp=Z,664nm
SBUM Sibu 24.80 208 *e*P **P** **00 22 04.6 +0.5**
comp=Z,74nm,1.4s
KLR Kul'dur 25.15 13 *e*P **P** **00 22 02.2 -4.8**
KLR *e*S **S** **00 26 33.0 +2.9**
KLR pmax pmax
comp=N,120nm,2.4s
KLR pmax pmax
comp=E,130nm,2.4s
KLR pmax pmax
comp=Z,220nm,2.4s
KLR MLR MLR
comp=N,4μm,10.5s
KLR MLR MLR
comp=E,2μm,10.5s
KLR MLR MLR
comp=Z,22μm,10.5s
HABR Khabarovsk 25.25 18 *e*P **P** **00 22 06.2 -1.7**
HABR *e**PP **pP** **00 22 15.7 -0.7**
HABR *e**SP **sP** **00 22 19.9 -0.2**
HABR 00 25 38.5
HABR *e*S **S** **00 26 30.6 -1.0**
HABR *e**SS **sS** **00 26 47.2 +1.4**
HABR *e*SSS SSS 00 27 38.9
HABR *e* 00 33 03.8
HABR pmax pmax
comp=Z,29nm,1.6s
HABR pmax pmax
comp=E,23nm,1.3s
HABR MLR MLR
comp=Z,734nm,14.0s
LUWI Luwuk 25.79 182 P P 00 22 21.4 +8.4
LUWI Luwuk 25.79 182 *e*P **P** **00 22 12.3 -0.7**
ULN Ulaanbaatar 26.35 335 *e*P **P** **00 22 18.4 +0.3**
comp=Z,36nm,1.4s
YUK Yuzh-Kuril'sk 26.43 38 *c i*P **P** **00 22 22.6 +4.0**
YUK *i*S **S** **00 26 45.9 -4.5**
YUK MLR MLR
comp=N,1μm,20.0s
YUK MLR MLR
comp=Z,697nm,20.0s
KSM Kuching 26.51 211 P x 00 22 19.7
KSM Kuching 26.51 211 *e*P **P** **00 22 20.8 +1.2**
comp=Z,26nm,1.1s
SONM Songino Array 26.58 334 P **P** **00 22 20.6 +0.5**
SONM Songino Array 26.58 334 P **P** **00 22 20.6 +0.5**
comp=Z,3.5nm,1.0s,baz=147,slow=9.0,SNR=15
SONM LR LR 00 33 40.9
comp=Z,1μm,18.7s,baz=140,slow=38
YSS Yuzh-Sakhalins 26.87 30 *e*P **pP** **00 22 36.0 +4.9**
YSS MLR MLR
comp=Z,500nm,14.0s
MMSI Mamuju 27.77 190 P x 00 22 36.1
comp=Z,66nm,1.6s,comp=Z,2μm
SHL Shillong 28.53 278 *e*P **P** **00 22 39.0 +1.1**
FAKI Fak Fak 28.93 162 P P 00 22 47.9 +6.6
comp=Z,47nm,1.3s
LSA Lhasa 29.04 287 P **P** **00 22 40.5 -2.2**
LSA sP **sP** **00 22 55.8 +0.9**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA LR LR
comp=Z,250nm,8.0s
LSA LR LR
comp=Z,40nm,9.0s
LSA LR LR
comp=Z,210nm,10.0s
LSA Lhasa 29.04 287 *e*P **P** **00 22 42.3 -0.4**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 29.04 287 *e*P **P** **00 22 42.3 -0.4**
comp=Z,8.6nm,0.8s
IPM Ipoh 29.60 230 P x 00 22 00.2
comp=Z,7.6nm,1.1s
MYKOM Kota Tinggi 29.75 222 P x 00 22 17.8
comp=Z,14nm,1.2s
ZAK Zakamensk 29.85 334 *e*P **P** **00 22 47.9 -1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.7s
TLY Talaya 30.73 336 *e*P **P** **00 22 57.9 +1.0**
TLY pmax pmax
comp=Z,28nm,1.8s
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 30.73 336 *e*P **P** **00 22 56.6 -0.3**
comp=Z,41nm,1.7s
IRK Irkutsk 30.96 337 *e*P P 00 23 06.4 +7.5
IRK pmax pmax
comp=Z,35nm,2.0s
MOY Mondy 31.77 333 *e*P **P** **00 23 06.7 +0.6**
MOY pmax pmax
comp=Z,60nm,2.3s
PSI Prapat 32.26 231 P x 00 22 17.4
comp=Z,5.9nm,0.8s
PSI Prapat 32.26 231 P **P** **00 23 11.2 +0.4**
PSI Prapat 32.26 231 P **P** **00 23 11.2 +0.4**
comp=Z,3.6nm,0.5s,baz=56,slow=8.8,SNR=8.9
WMQ Urumqi 34.68 312 P **P** **00 23 33.3 +1.7**
WMQ pP pP 00 23 35.5 -4.8
WMQ sP sP 00 23 36.8 -7.1
WMQ PP **PnPn** **00 24 48.6 +0.8**
WMQ PcP **PcP** **00 26 09.2 +4.0**
WMQ ScS **ScS** **00 33 55.6 +3.9**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,350nm,6.2s
WMQ LR LR
comp=Z,1μm,13.6s
WMQ LR LR
comp=Z,1μm,11.4s
WMQ LR LR
comp=Z,580nm,14.9s
BJII Banjamegara 34.71 204 P x 00 23 14.1
HVS Khovu-Aksy 34.73 327 *d i*P **P** **00 23 32.0 0.0**
HVS pmax pmax
comp=Z,134nm,1.7s
YAK Yakutsk 37.37 5 *e*P **P** **00 23 53.8 -0.4**
YAK *e**PP **pP** **00 24 04.1 +1.1**
YAK *e* 00 25 17.7
YAK *e*PPP PPP 00 25 42.1
YAK *e* 00 26 07.0
YAK *e*S **S** **00 29 44.9 +4.8**
YAK *e* 00 29 59.2
YAK *e*SS **SnSn** **00 32 18.3 +0.5**
YAK *e* 00 34 01.7
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,56nm,2.8s
YAK pmax pmax
comp=N,91nm,4.0s
YAK smax smax
comp=N,120nm,3.7s
YAK smax smax
comp=E,76nm,3.9s
YAK MLR MLR
comp=Z,2μm,12.0s
YAK MLR MLR
comp=N,1μm,12.0s
YAK MLR MLR
comp=E,580nm,11.0s
PETK Petropavlovsk- 38.14 33 LR LR 00 40 00.8
comp=E,317nm,19.2s,baz=228,slow=37
MK31 Makanchi Array 39.29 314 *ce*P **P** **00 24 09.8 -0.9**
MK31 pmax pmax
comp=Z,29nm,1.1s
MK31 Makanchi Array 39.29 314 *e*P **P** **00 24 09.5 -1.2**
MKAR Makanchi Array 39.29 314 *ce*P **P** **00 24 10.6 -0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 39.29 314 *e*P **P** **00 24 09.9 -0.8**
MKAR Makanchi Array 39.29 314 P **P** **00 24 09.9 -0.8**
comp=Z,7.1nm,0.9s,baz=101,slow=12,SNR=32
MKAR LR LR 00 39 29.3
comp=Z,311nm,20.6s,baz=39,slow=35
ZAA0 Zalesovo Array 40.80 326 *e*P **P** **00 24 21.1 -1.9**
ZALV Zalesovo Beam 40.80 326 P **P** **00 24 21.9 -1.1**
ZALV Zalesovo Beam 40.80 326 P **P** **00 24 21.9 -1.1**
ZALV Zalesovo Beam 40.80 326 P **P** **00 24 21.9 -1.1**
comp=Z,9.8nm,1.1s,baz=107,slow=7.9,SNR=20
ZALV LR LR 00 42 25.7
comp=Z,1μm,18.0s,baz=80,slow=38
PMG Port Moresby 41.19 143 LR LR 00 38 57.0
comp=Z,252nm,20.6s,baz=320,slow=32
KSH Kashi 42.26 302 P P 00 24 38.3 +2.9
KSH *e*PP PP 00 26 19.2 +5.7
KSH *e*PcP **PcP** **00 26 31.3 +2.3**
KSH *e*S **S** **00 30 58.9 +4.6**
KSH *e*SS **SS** **00 34 02.0 -1.0**
KSH pmax pmax
comp=Z,12nm,1.1s
KSH pmax pmax
comp=Z,95nm,5.3s
KSH LR LR
comp=Z,400nm,8.2s
KSH LR LR
comp=Z,500nm,7.6s
KSH LR LR
comp=Z,610nm,14.0s
FITZ Fitzroy Crossi 42.78 177 P **P** **00 24 40.0 +0.4**
FITZ Fitzroy Crossi 42.78 177 P **P** **00 24 40.0 +0.4**
comp=Z,4.5nm,1.0s,baz=354,slow=10,SNR=3.5
FITZ LR LR 00 45 20.9
comp=Z,68nm,19.0s,baz=28,slow=40
KURK Kurchatov 42.90 319 P **P** **00 24 39.1 -1.1**
comp=Z,88nm,1.1s,SNR=12
KURK Kurchatov 42.90 319 *c i*P **P** **00 24 39.1 -1.1**
KURK pmax pmax
comp=Z,19nm,1.5s
KURK Kurchatov 42.90 319 *e*P **P** **00 24 38.8 -1.4**
comp=Z,63nm,1.7s
KURBB Kurchatov Arra 42.92 319 P **P** **00 24 39.5 -0.9**
comp=Z,3.8nm,1.0s,baz=110,slow=7.7,SNR=34
TKM2 Tokmak 2 42.97 307 *e*P **P** **00 24 41.2 0.0**
TKM2 Tokmak 2 42.97 307 *e*P **P** **00 24 41.2 0.0**
FRU Bishkek 43.67 307 *i*P **P** **00 24 47.0 +0.3**
FRU pmax pmax
comp=Z,40nm,2.0s
FRU MLR MLR
comp=Z,500nm,18.0s
AAK Ala-Archa 43.73 306 *ce*P **P** **00 24 47.2 -0.1**
AAK pmax pmax
comp=Z,28nm,2.0s
AAK Ala-Archa 43.73 306 *e*P **P** **00 24 47.4 +0.1**
AAK Ala-Archa 43.73 306 P **P** **00 24 46.7 -0.7**
comp=Z,1.7nm,0.9s,baz=127,slow=8.3,SNR=5.5
WRAB Tennant Creek 45.80 166 *d i*P **P** **00 25 03.7 0.0**
WRAB pmax pmax
comp=Z,83nm,2.0s
WRAB Tennant Creek 45.80 166 *e*P **P** **00 25 04.2 +0.5**
comp=Z,18nm,0.9s
WRA Warramunga Arr 45.81 166 P **P** **00 25 04.0 +0.2**
WRA Warramunga Arr 45.81 166 P **P** **00 25 04.0 +0.2**
comp=Z,5.0nm,0.7s,baz=347,slow=8.5,SNR=23
WRA LR LR 00 44 15.1
comp=Z,127nm,21.5s,baz=60,slow=36
POO Poona 46.31 272 *e*P P 00 25 13.0 +5.0
FX1 Attu Island--F 46.47 40 LR LR 00 43 18.0
comp=Z,120nm,21.5s,baz=276,slow=34
KK31 Karatay Array 46.69 307 *ce*P **P** **00 25 10.3 -0.4**
KK31 pmax pmax
comp=Z,1.0nm,0.2s
KKAR Karatay Array 46.69 307 *e*P **P** **00 25 09.3 -1.4**
KKAR Karatay Array 46.69 307 *e*P **P** **00 25 09.3 -1.4**
TIXI Tiksi 46.89 2 *ce*P **P** **00 25 10.5 -1.2**
TIXI pmax pmax
comp=Z,20nm,1.8s
TIXI Tiksi 46.89 2 *e*P **P** **00 25 10.6 -1.2**
comp=Z,60nm,1.7s
KBL Kabul 47.73 295 *e*P **P** **00 25 17.5 -1.6**
KBL *e* 00 27 09.5
KBL pmax pmax
comp=Z,37nm,1.4s
KBL Kabul 47.73 295 *e*P **P** **00 25 17.5 -1.6**
comp=Z,37nm,1.4s
KBL *e*PP **PP** **00 27 09.5 -1.4**
BVA0 Borovoye Array 48.45 320 *i*P **P** **00 25 22.5 -1.6**
BVA0 pmax pmax
comp=Z,15nm,1.4s
BRVK Borovoye 48.52 320 P **P** **00 25 24.9 +0.3**
comp=Z,87nm,1.5s,SNR=5.2
BRVK Borovoye 48.52 320 ⇓*i*P **P** **00 25 23.9 -0.7**
BRVK pmax pmax
comp=Z,30nm,2.2s
BRVK Borovoye 48.52 320 *e*P **P** **00 25 24.1 -0.6**
comp=Z,24nm,1.2s
AS31 Alice Springs 49.32 167 *e*P **P** **00 25 31.0 -0.1**
ASAR Alice Springs 49.32 167 P **P** **00 25 32.2 +1.1**
ASAR Alice Springs 49.32 167 P **P** **00 25 32.2 +1.1**
comp=Z,1.8nm,0.8s,baz=348,slow=11,SNR=14
AB31 Akbulak array 54.43 314 *i*P **P** **00 26 07.9 -1.0**
AB31 pmax pmax
comp=Z,23nm,1.1s
ABKAR Akbulak array 54.43 314 *e*P **P** **00 26 08.4 -0.5**
SVE Sverdlovsk 54.70 323 *e*P **P** **00 26 10.4 -0.4**
SVE *e* 00 28 08.3
SVE *e*S **S** **00 33 46.7 -2.3**
SVE pmax pmax
comp=Z,29nm,1.5s
SVE MLR MLR
comp=Z,871nm,20.0s
AKTO Aktyubinsk 55.72 315 P P 00 26 14.7 -3.5
AKTO pmax pmax
comp=Z,13nm,1.5s

ARU	**Arti**	**55.79**	**323**	*c*	*i*P	**P**	**00 26 20.3**	**+1.6**
ARU							00 28 20.7	
ARU					S	S	00 34 09.2	+5.6
ARU					SS	**SS**	**00 37 43.2**	**-5.8**
ARU					pmax	pmax		
	comp=Z,35nm,1.7s							
ARU	**Arti**	**55.79**	**323**		*e*P	**P**	**00 26 19.5**	**+0.8**
	comp=Z,29nm,1.3s							
STKA	**Stephens Creek**	**59.05**	**162**		P	**P**	**00 26 42.6**	**+0.7**
STKA	**Stephens Creek**	**59.05**	**162**		P	**P**	**00 26 42.6**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=347,slow=10.0,SNR=4.8							
STKA					LR	LR	00 53 48.8	
	comp=Z,244nm,19.3s,baz=9.7,slow=38							
PRGR	**Permogore**	**62.66**	**328**		P	P	00 27 09.9	+3.9
PRGR					pmax	pmax		
	comp=Z,23nm,1.4s							
MAK	**Makhachkala**	**63.50**	**307**		*e*P	P	00 27 18.1	+6.1
MAK					MLR	MLR		
	comp=Z,277nm,3.0s							
PPLA	**Purkeypile**	**65.61**	**30**		P	**P**	**00 27 25.1**	**-0.5**
KLMR	**Klimovskoe**	**65.67**	**328**		*e*P	P	00 27 29.3	+3.5
KLMR					pmax	pmax		
	comp=Z,54nm,1.6s							
VRHR	**Novokhopersk**	**66.03**	**317**		*e*P	**P**	**00 27 26.1**	**-2.2**
VRHR					pmax	pmax		
	comp=Z,30nm,1.2s							
VRHR					pmax	pmax		
	comp=N,10.0nm,0.9s							
VRHR					pmax	pmax		
	comp=E,30nm,1.2s							
GNI	**Garni**	**66.10**	**305**		LR	LR	00 59 23.3	
	comp=E,161nm,18.8s,baz=74,slow=39							
ZEI	**Tsey**	**66.13**	**308**		*e*P	**P**	**00 27 27.8**	**-1.6**
ZEI					pmax	pmax		
	comp=Z,13nm,1.1s							
GOF	**Gofitskoye**	**66.26**	**310**		*e*P	P	00 27 34.8	+4.9
KBZ	**Khabaz**	**66.64**	**309**		P	**P**	**00 27 32.4**	**0.0**
KBZ	**Khabaz**	**66.64**	**309**		P	**P**	**00 27 32.4**	**0.0**
KBZ	**Khabaz**	**66.64**	**309**		P	**P**	**00 27 32.4**	**0.0**
	comp=Z,4.0nm,1.0s,baz=90,slow=4.0,SNR=4.5							
KBZ					LR	LR	01 00 03.5	
	comp=Z,241nm,18.8s,baz=60,slow=39							
KIV	**Kislovodsk**	**66.74**	**309**		*e*P	**P**	**00 27 32.1**	**-1.1**
KIV					pmax	pmax		
	comp=Z,30nm,1.1s							
KIV					MLR	MLR		
	comp=Z,253nm,18.0s							
KIV	**Kislovodsk**	**66.74**	**309**		*e*P	**P**	**00 27 33.0**	**-0.2**
	comp=Z,23nm,1.0s							
NEY	**Neytrino**	**66.88**	**308**		*i* P	**P**	**00 27 34.4**	**+0.3**
APA	**Apatity**	**67.28**	**335**	⇓	*i*P	**P**	**00 27 38.2**	**+2.2**
APA					MLR	MLR		
	comp=Z,3µm,19.0s							
VORD	**Divnogorie**	**67.50**	**317**		*e*P	P	00 27 40.4	+2.8
VORD					pmax	pmax		
	comp=N,6.0nm,0.9s							
VORD					pmax	pmax		
	comp=Z,9.0nm,0.9s							
VORD					pmax	pmax		
	comp=E,5.0nm,1.0s							
VSR	**Storozhevoye**	**67.52**	**317**		*e*P	**P**	**00 27 36.0**	**-1.8**
VSR					pmax	pmax		
	comp=N,8.0nm,1.0s							
VSR					pmax	pmax		
	comp=E,10.0nm,1.0s							
VSR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
ILAR	**Eielson Array**	**67.64**	**28**		P	**P**	**00 27 39.2**	**+0.9**
ILAR	**Eielson Array**	**67.64**	**28**		P	**P**	**00 27 39.2**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=290,slow=8.2,SNR=3.5							
ILAR					LR	LR	00 58 42.0	
	comp=Z,66nm,20.4s,baz=308,slow=37							
OBN	**Obninsk**	**68.22**	**322**	‖	*e*P	**P**	**00 27 41.1**	**-1.0**
OBN					*e*		00 28 07.2	
OBN					*e*		00 30 09.3	
OBN					pmax	pmax		
	comp=Z,21nm,1.6s							
OBN					MLR	MLR		
	comp=Z,300nm,17.0s							
OBN	**Obninsk**	**68.22**	**322**		LR	LR	01 00 31.3	
	comp=Z,305nm,19.1s,baz=88,slow=39							
SPITS	**Spitsbergen Ar**	**69.23**	**348**		LR	LR	01 01 16.7	
	comp=Z,369nm,21.5s,baz=75,slow=39							
ARCES	**ARCESS Array B**	**69.65**	**338**		LR	LR	01 05 13.6	
	comp=Z,261nm,18.8s,baz=102,slow=42							
ANN	**Anapa**	**70.19**	**311**		*e*P	**P**	**00 27 51.6**	**-2.9**
ANN					pmax	pmax		
	comp=Z,197nm,1.4s							
FINES	**FINESS Array B**	**71.87**	**330**		P	**P**	**00 28 03.9**	**-0.5**
FINES	**FINESS Array B**	**71.87**	**330**		P	**P**	**00 28 03.9**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=69,slow=7.6,SNR=3.9							
FINES					LR	LR	01 03 04.0	
	comp=Z,710nm,19.8s,baz=69,slow=39							
AKASG	**Malin Array Be**	**73.71**	**319**		*i* P	**P**	**00 28 13.8**	**-1.7**
AKASG	**Malin Array Be**	**73.71**	**319**		P	**P**	**00 28 14.3**	**-1.3**
AKASG	**Malin Array Be**	**73.71**	**319**		P	**P**	**00 28 14.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=56,slow=5.2,SNR=9.9							
AKASG					LR	LR	01 04 14.1	
	comp=Z,120nm,18.9s,baz=30,slow=39							
BR131	**Keskin Array S**	**74.41**	**307**		*e*P	**P**	**00 28 19.1**	**-0.9**
	comp=Z,4.7nm,1.0s							
BRTR	**Keskin Array B**	**74.41**	**307**		P	**P**	**00 28 19.5**	**-0.5**
BRTR	**Keskin Array B**	**74.41**	**307**		P	**P**	**00 28 19.5**	**-0.5**
	comp=Z,19nm,0.3s,baz=65,slow=6.8,SNR=2.1							
BRTR					LR	LR	01 06 18.7	
	comp=Z,84nm,18.2s,baz=27,slow=40							
MMAI	**Mount Meron Ar**	**75.34**	**300**		LR	LR	01 07 02.1	
	comp=Z,121nm,18.2s,baz=65,slow=40							
SUW	**Suwalki**	**75.97**	**323**		*e*P	**P**	**00 28 28.8**	**+0.3**
SUW					pmax	pmax		
	comp=Z,32nm,1.0s							
SUW	**Suwalki**	**75.97**	**323**		*e*P	**P**	**00 28 28.8**	**+0.3**
	comp=Z,32nm,1.0s							
EIL	**Elat**	**76.88**	**297**		LR	LR	01 07 07.3	
	comp=Z,159nm,20.4s,baz=72,slow=39							
MLR	**Muntele Rosu**	**77.64**	**314**		LR	LR	01 08 18.3	
	comp=Z,70nm,18.4s,baz=73,slow=40							
KWP	**Kalwaria Pacla**	**78.00**	**319**		*e*P	**P**	**00 28 39.3**	**-0.8**
KWP					pmax	pmax		
	comp=Z,76nm,1.8s							
KWP	**Kalwaria Pacla**	**78.00**	**319**		*e*P	**P**	**00 28 39.3**	**-0.8**
	comp=Z,76nm,1.8s							
KOLS	**Kolonicke sedl**	**78.54**	**319**		*e*P	**P**	**00 28 42.4**	**-0.7**
KOLS					pmax	pmax		
	comp=Z,7.0nm,1.7s							
KOLS	**Kolonicke sedl**	**78.54**	**319**		*e*P	**P**	**00 28 42.4**	**-0.7**
NB2	**NORSAR Subarra**	**78.56**	**333**		P	**P**	**00 28 42.0**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=52,slow=6.2							
NOA	**NORSAR Array B**	**78.56**	**333**		P	**P**	**00 28 44.6**	**+1.6**
NOA	**NORSAR Array B**	**78.56**	**333**		P	**P**	**00 28 44.6**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=58,slow=5.6,SNR=4.9							
NOA					LR	LR	01 07 04.6	
	comp=Z,575nm,18.3s,baz=65,slow=38							
JMIC	**Jan Mayen**	**78.67**	**346**		LR	LR	01 08 17.3	
	comp=Z,252nm,18.9s,baz=76,slow=39							
STHS	**Stebnicka Huta**	**78.95**	**319**		*e*P	**P**	**00 28 44.8**	**-0.6**
STHS					pmax	pmax		
	comp=Z,5.0nm,1.8s							
STHS	**Stebnicka Huta**	**78.95**	**319**		*e*P	**P**	**00 28 44.8**	**-0.6**
CRVS	**Cervenica-Dubn**	**79.04**	**319**		*e*P	**P**	**00 28 48.3**	**+2.4**
CRVS					pmax	pmax		
	comp=Z,49nm,2.7s							
CRVS	**Cervenica-Dubn**	**79.04**	**319**		*e*	**P**	**00 28 48.3**	**+2.4**
YKA	**Yellowknife Ar**	**81.52**	**23**		P	**P**	**00 28 58.4**	**-0.5**
YKA	**Yellowknife Ar**	**81.52**	**23**		P	**P**	**00 28 58.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=310,slow=5.0,SNR=8.5							
VRAC	**Vranov**	**81.71**	**321**		LR	LR	01 08 23.1	
	comp=Z,237nm,19.8s,baz=61,slow=38							
IDI	**Anoyia**	**82.52**	**305**		LR	LR	01 09 10.3	
	comp=Z,73nm,19.7s,baz=58,slow=38							
CLL	**Collm**	**82.72**	**324**		*e*P	**P**	**00 29 05.0**	**-0.4**
CLL					MLR	MLR		
	comp=Z,300nm,18.0s							
CLL	**Collm**	**82.72**	**324**		*e*P	**P**	**00 29 05.0**	**-0.4**
CLL					*e*pP	**PcP**	**00 29 09.0**	**-1.3**
	comp=Z,10.0nm,1.4s							
CLL					L	L	00 57 00.0	
	comp=Z,300nm,18.0s							
CONA	**Conrad Observa**	**82.81**	**320**	⇑	*i*P	P	00 29 02.6	-3.4
	comp=Z,6.5nm,1.4s							
KHC	**Kasperske Hory**	**83.52**	**322**	⇓	*e*P	**P**	**00 29 09.5**	**-0.2**
KHC					pmax	pmax		
	comp=Z,77nm,2.3s							
GERES	**GERESS Array B**	**83.59**	**321**		P	**P**	**00 29 09.8**	**-0.3**
GERES	**GERESS Array B**	**83.59**	**321**		P	**P**	**00 29 09.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=52,slow=3.8,SNR=2.5							
GERES					LR	LR	01 08 38.7	
	comp=Z,148nm,21.0s,baz=68,slow=37							
BOJS	**Bojanci**	**84.37**	**318**		*e*P	pP	00 29 28.4	+5.0
VISS	**Visnje**	**84.47**	**318**		*i* P	pP	00 29 27.9	+3.9
JAVS	**Javornik**	**84.89**	**319**		*e*P	pP	00 29 29.7	+3.5
DAVOX	**Davos/Dischmat**	**86.87**	**321**		LR	LR	01 13 31.8	
	comp=Z,233nm,18.7s,baz=43,slow=39							
KMBO	**Kilima Mbogo**	**87.01**	**267**		P	**P**	**00 29 27.4**	**-0.6**
KMBO	**Kilima Mbogo**	**87.01**	**267**		P	**P**	**00 29 27.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=78,slow=16,SNR=3.3							
NEW	**Newport**	**89.25**	**36**		P	**P**	**00 29 36.8**	**-0.9**
NEW	**Newport**	**89.25**	**36**		P	**P**	**00 29 36.8**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=299,slow=4.9,SNR=4.0							
YBMT	**Yellow Bay**	**91.12**	**35**		*e*P	**P**	**00 29 46.0**	**-0.6**
	comp=Z,9.6nm,1.5s							
SLMT	**Seeley Lake**	**91.79**	**35**		*e*P	**P**	**00 29 49.9**	**+0.1**
	comp=Z,9.2nm,1.1s							
KEST	**Kesra**	**93.34**	**312**		LR	LR	01 18 04.4	
	comp=Z,43nm,18.1s,baz=253,slow=40							
NVAR	**Mina Array Bea**	**94.51**	**44**		P	**P**	**00 30 02.3**	**-0.3**
NVAR	**Mina Array Bea**	**94.51**	**44**		P	**P**	**00 30 02.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=308,slow=4.4,SNR=2.3							
PPT	**Papeete**	**94.58**	**107**		LR	LR	01 04 21.6	
	comp=Z,38nm,20.2s,baz=238,slow=30							
ULM	**Lac du Bonnet**	**97.48**	**24**		LR	LR	01 17 57.9	
	comp=Z,144nm,18.3s,baz=22,slow=38							
ESDC	**Sonseca Array**	**99.19**	**322**		LR	LR	01 20 00.7	
	comp=Z,161nm,19.1s,baz=355,slow=38							
ROSC	**El Rosal**	**145.75**	**33**		*e*PKPdf	**PKPdf**	**00 36 21.1**	**-0.5**
ROSC					PKPbc	**PKPab**	**00 36 21.9**	**-0.4**
ROSC	**El Rosal**	**145.75**	**33**		PKPbc	**PKPab**	**00 36 21.9**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=83,slow=8.1,SNR=4.6							
LPAZ	**La Paz**	**166.20**	**54**		PKP	**PKPdf**	**00 36 49.9**	**+1.6**
LPAZ	**La Paz**	**166.20**	**54**		PKP	**PKPdf**	**00 36 49.9**	**+1.6**
	comp=Z,2.1nm,1.1s,baz=209,slow=4.5,SNR=5.1							

TRN ***12*** *00:23:12.3, 19.˚78N×62.˚60W, h35km, M4.5, M4.5(FDF)*
IDC ***12*** *00:23:12.1±1.2, 19.˚56N×62.˚79W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/25, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/38, Error ellipse: s-maj=57.6km s-min=21.9km az=54.0*
ISCJB ***12*** *00:23:15.2±0.7, 19.˚60N±0.˚07×62.˚6W±0.˚2, h33km, mb3.6/4, MS3.5/1, Error ellipse: s-maj=23.5km s-min=7.1km az=161.1*

ISC 12 00:23:17.1±0.9, 19.˚53N±0.˚09×62.˚6W±0.˚1, h35km, n24, σ0.˚83/26, mb3.7/4, 5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SABA	**Saba**	**1.98**	**197**	⇑	*i*P	**Pn**	**00 23 48.3**	**+0.1**
ANWB	**Willy Bob**	**2.02**	**156**		*e*P	**Pn**	**00 23 48.0**	**-0.6**
SEG	**Port Louis**	**3.29**	**161**		*e*P	**Pn**	**00 24 06.3**	**+0.2**
LZG	**Guadaloupe-1**	**3.47**	**166**		*e*P	**Pn**	**00 24 09.1**	**+0.5**
H05N1	**Guadeloupe/Mar**	**3.53**	**155**		Pn	**Pn**	**00 24 09.0**	**-0.5**
H05N1					Sn	**Sn**	**00 24 48.5**	**-1.5**
SSG	**Sans Toucher**	**3.54**	**165**	⇑	*i*P	**Pn**	**00 24 10.2**	**+0.5**
BCG	**Bois Riant Cap**	**3.56**	**164**		*e*P	**Pn**	**00 24 10.3**	**+0.5**
MLG	**Mont-d'or**	**3.56**	**166**		*e*P	**Pn**	**00 24 10.3**	**+0.4**
FNG	**Fond-Bernard**	**3.56**	**165**		*e*P	**Pn**	**00 24 10.4**	**+0.4**
LKG	**Breislack**	**3.59**	**165**	⇑	*i*P	**Pn**	**00 24 10.8**	**+0.5**
TAG	**Tarade**	**3.59**	**165**		*e*P	**Pn**	**00 24 10.9**	**+0.5**
ECG	**Echelle**	**3.59**	**165**	⇑	*i*P	**Pn**	**00 24 10.9**	**+0.5**
SCG	**Saint Claude**	**3.60**	**165**		*e*P	**Pn**	**00 24 11.0**	**+0.5**
SCG					*e*S	**Sn**	**00 24 53.4**	**+1.6**
DOG	**Dongo Capester**	**3.61**	**164**		*e*P	**Pn**	**00 24 11.1**	**+0.5**
PHG	**Guadaloupe-2**	**3.62**	**165**	⇑	*i*P	**Pn**	**00 24 11.4**	**+0.6**
HMG	**Houelmont**	**3.64**	**166**		*e*P	**Pn**	**00 24 11.4**	**+0.4**
TBG	**Guadaloupe-3**	**3.77**	**165**		*e*P	**Pn**	**00 24 13.3**	**+0.5**
MGG	**Marie-Galante**	**3.80**	**161**		*e*P	**Pn**	**00 24 13.3**	**+0.1**
H05S1	**Guadeloupe/Mar**	**5.36**	**161**		Pn	**Pn**	**00 24 34.8**	**+0.2**
H05S1					Sn	**Sn**	**00 25 33.1**	**-1.9**
JTS	**JuntasAbangare**	**23.42**	**250**		LR	LR	00 36 34.4	
	comp=Z,205nm,22.0s,baz=59,slow=34							
PDAR	**Pinedale Array**	**45.64**	**311**		P	**P**	**00 31 34.4**	**-0.2**
	0.8nm,0.6s,baz=108,slow=9.5,SNR=4.6							
YKA	**Yellowknife Ar**	**55.66**	**334**		P	**P**	**00 32 48.7**	**-0.7**
	0.4nm,0.6s,baz=110,slow=7.7,SNR=7.7							
TORD	**Torodi Ar. Bea**	**61.76**	**85**		P	**P**	**00 33 34.3**	**+1.7**
	0.3nm,0.7s,baz=271,slow=6.6,SNR=2.5							
ILAR	**Eielson Array**	**70.08**	**333**		P	**P**	**00 34 24.9**	**-0.4**
	0.6nm,0.8s,baz=85,slow=4.8,SNR=7.6							

IDC 12 00:28:01.2±1.4, 25.˚40N×124.˚02E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/40, Error ellipse: s-maj=64.6km s-min=26.1km az=61.0, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JNU	**Nakatsue**	**9.75**	**36**		LR	LR	00 34 31.2	
	comp=Z,153nm,20.8s,baz=30,slow=40							
SONM	**Songino Array**	**26.37**	**333**		P	P	00 33 39.1	-0.1
	0.5nm,0.8s,baz=139,slow=6.8,SNR=2.1							
MKAR	**Makanchi Array**	**39.31**	**314**		P	P	00 35 32.1	0.0
	0.9nm,0.8s,baz=104,slow=9.8,SNR=9.7							
ZALV	**Zalesovo Beam**	**40.68**	**325**		P	P	00 35 42.0	-1.2
	1.3nm,0.7s,baz=117,slow=8.5,SNR=7.5							
KURBB	**Kurchatov Arra**	**42.89**	**318**		P	P	00 36 02.1	+0.8
	0.5nm,0.6s,baz=112,slow=9.0,SNR=7.0							
WRA	**Warramunga Arr**	**46.17**	**166**		P	P	00 36 27.6	-0.2
	0.6nm,0.8s,baz=347,slow=8.3,SNR=4.1							
YKA	**Yellowknife Ar**	**80.84**	**24**		P	P	00 40 16.9	+0.2
	0.1nm,0.7s,baz=304,slow=5.5,SNR=2.7							

NEIC ***12*** *00:30:20.0, 29.˚92S×71.˚62W, h31km, ML4.3(GUC), After GUC.*
NEIC Felt [III] at Coquimbo.

GUC 12 00:30:20.0±0.5, 29.˚92S×71.˚62W, h31km±3km, ML4.3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.21**	**42**	⇑	*i*P	Pn	00 30 41.8	+0.7
LCO					*i* S	Sb	00 30 58.0	-0.2
LCO					AML	AML	00 31 00.6	
	comp=E,5µm,0.4s							
LCO	**Las Campanas**	**1.21**	**42**	⇑	*i*P	Pn	00 30 41.8	+0.7
LCO					*i* S	Sb	00 30 58.0	-0.2
CMCH	**Combarbala**	**1.35**	**157**	⇓	*i*P	Pn	00 30 43.5	+0.6
CMCH					*i* S	Sb	00 31 01.7	-0.4
CMCH					AML	AML	00 31 06.0	
	comp=E,7µm,1.0s							
CMCH	**Combarbala**	**1.35**	**157**	⇓	*i*P	Pn	00 30 43.5	+0.6
CMCH					*i* S	Sb	00 31 01.7	-0.4
VACH	**Vallenar**	**1.54**	**29**	⇑	*i*P	Pn	00 30 46.4	+1.0
VACH					*i* S	Sb	00 31 06.5	-0.6
VACH					AML	AML	00 31 10.5	
	comp=N,6µm,0.2s							
VACH	**Vallenar**	**1.54**	**29**	⇑	*i*P	Pn	00 30 46.4	+1.0
VACH					*i* S	Sb	00 31 06.5	-0.6
CPCH	**Copiapo**	**2.79**	**24**		P	Pn	00 31 00.0	-2.5
CPCH					*i* S	Sn	00 31 37.1	+2.1
PEL	**Peldehue**	**3.31**	**166**		*e*P	Pn	00 31 10.7	+1.0
PEL					AML	AML	00 32 10.8	
	comp=N,682nm,0.3s							
CLCH	**Cerro Calan**	**3.58**	**165**		*e*P	Pn	00 31 14.8	+1.3
CLCH					*e*S	Sn	00 31 56.9	+2.0
CLCH					AML	AML	00 32 14.5	
	comp=N,674nm,0.5s							
LVC	**Limon Verde**	**7.67**	**19**		*e*Pn	Pn	00 32 09.0	-1.0
	comp=N,5.5nm,0.5s							
LVC					*e*Sn	Sn	00 33 36.1	0.0
TRQA	**Tornquist**	**11.39**	**138**		*e*Pn	Pn	00 33 02.6	+2.1
TRQA					*e*Sn	Sn	00 35 02.7	-4.0

JMA ***12*** *00:51:02.4±0.2, 25.˚00N×123.˚46E, h29km±5km, M3.3*
ISCJB ***12*** *00:51:03.3±0.6, 24.˚94N±0.˚06×123.˚46E±0.˚10, h32km, mb3.5/7, Error ellipse: s-maj=14.5km s-min=5.6km az=147.7*
IDC ***12*** *00:51:22.4±3.0, 24.˚97N×123.˚25E, h196km±29km, mb3.0/7, mb1 3.2/8, mb1mx3.0/27, mbtmp3.0/8, Error ellipse: s-maj=38.6km s-min=14.8km az=66.0*

ISC 12 00:51:05.0±0.8, 24.˚85N±0.˚07×123.˚44E±0.˚08, h32km, n13, σ1.˚26/17, mb3.5/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.55**	**226**		P	**Pb**	**00 51 15.1**	**-1.2**
IRIF	**Iriomote-Funau**	**0.57**	**153**		P	**Pb**	**00 51 15.8**	**-0.9**
IRIF					*e*S	**Sb**	**00 51 25.2**	**+0.5**
JKRS	**Kuro-shima**	**0.80**	**139**		P	**Pn**	**00 51 19.1**	**-0.9**
JKRS					*e*S	**Sn**	**00 51 31.2**	**+0.5**
JIJ	**Ishigaki jima**	**0.80**	**127**		P	**Pn**	**00 51 18.5**	**-1.5**
JIJ					*e*S	**Sn**	**00 51 29.8**	**-1.0**
HATJ	**Hateruma jima**	**0.85**	**157**		P	**Pn**	**00 51 20.2**	**-0.5**
HATJ					*e*S	**Sn**	**00 51 32.9**	**+0.8**
KSRS	**Korea Array**	**13.14**	**16**		P	**P**	**00 54 20.9**	**+1.9**
	0.2nm,0.3s,baz=214,slow=32,SNR=4.7							
SONM	**Songino Array**	**26.62**	**334**		P	**P**	**00 56 41.1**	**+0.5**
	0.5nm,0.7s,baz=147,slow=8.8,SNR=5.1							
MKAR	**Makanchi Array**	**39.32**	**314**		P	**P**	**00 58 30.6**	**-0.4**
	0.7nm,0.8s,baz=99,slow=9.9,SNR=9.4							
ZALV	**Zalesovo Beam**	**40.83**	**326**		P	**P**	**00 58 42.4**	**-1.1**
	0.9nm,0.7s,baz=108,slow=6.7,SNR=5.4							
KURBB	**Kurchatov Arra**	**42.95**	**319**		P	**P**	**00 59 00.4**	**-0.4**
	0.6nm,0.7s,baz=108,slow=8.2,SNR=6.8							
WRA	**Warramunga Arr**	**45.77**	**166**		P	**P**	**00 59 25.4**	**+1.8**
	1.4nm,0.8s,baz=347,slow=8.2,SNR=8.5							
ASAR	**Alice Springs**	**49.28**	**167**		P	**P**	**00 59 52.9**	**+2.0**
	0.4nm,0.6s,baz=350,slow=8.5,SNR=4.1							
ASAR					ScP	ScP	01 04 48.1	-18
	0.4nm,0.4s,baz=342,slow=1.8,SNR=5.2							
YKA	**Yellowknife Ar**	**81.56**	**23**		P	**P**	**01 03 17.7**	**-1.5**
	0.2nm,0.7s,baz=320,slow=5.3,SNR=4.3							

IDC 12 00:55:48.1±1.0, 0.˚50N×124.˚85E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=133.1km s-min=16.5km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.35**	**156**		P	P	01 00 48.5	+0.7
	7.2nm,0.5s,baz=335,slow=10,SNR=97							
ASAR	**Alice Springs**	**25.59**	**160**		P	P	01 01 18.9	-0.3
	1.0nm,0.7s,baz=349,slow=14,SNR=13							
STKA	**Stephens Creek**	**35.90**	**155**		P	P	01 02 49.7	-0.5
	1.2nm,0.5s,baz=330,slow=5.5,SNR=4.8							
SONM	**Songino Array**	**49.80**	**344**		P	P	01 04 43.3	+0.5
	0.2nm,0.4s,baz=155,slow=8.0,SNR=6.1							
MKAR	**Makanchi Array**	**59.18**	**327**		P	P	01 05 51.3	+0.3
	0.7nm,0.6s,baz=122,slow=8.7,SNR=12							
KURBB	**Kurchatov Arra**	**63.47**	**329**		P	P	01 06 19.9	-0.1
	0.7nm,0.8s,baz=127,slow=6.6,SNR=5.6							
BVAR	**Borovoye Array**	**69.02**	**328**		P	P	01 06 54.9	-0.7
	0.2nm,0.5s,baz=96,slow=7.5,SNR=2.4							

NNC 12 01:09:16.4±1.2, 41.˚85N×81.˚87E, h0km, mb3.7, mpv3.2, 13C-4D, Error ellipse: s-maj=11.7km s-min=5.2km az=136.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.77**	**285**	⇑	Pn	Pn	01 10 28.8	-0.9
	2.1nm,0.4s							
TKM2				⇑	Pg	Pg	01 10 44.8	-3.2
	5.2nm,0.6s							
TKM2				⇑	Lg	Lg	01 11 46.5	
	23nm,0.6s							
MK31	**Makanchi Array**	**4.95**	**3**	⇓	Pn	Pn	01 10 31.6	-0.5
	0.4nm,0.3s,baz=183,slow=13,SNR=55							
MK31				⇑	Pg	Pb	01 10 46.8	+2.8
	2.7nm,0.6s,baz=182,slow=17,SNR=5.0							
MK31				⇓	Lg	Lg	01 11 52.4	
	11nm,0.7s,baz=184,slow=30,SNR=5.1							
AAK	**Ala-Archa**	**5.53**	**281**	⇑	Pn	Pn	01 10 40.9	+0.7
	3.0nm,1.1s							
AAK				⇓	Pg	Pb	01 10 57.0	+3.0
	6.1nm,1.1s							
AAK				⇑	Lg	Lg	01 12 11.4	
	23nm,1.1s							
KK31	**Karatay Array**	**8.49**	**282**	⇑	Pg	Pb	01 11 49.6	+5.5
	0.4nm,0.5s,baz=88,slow=16,SNR=4.7							
KK31				⇓	Lg	Lg	01 13 45.5	
	1.2nm,0.5s,baz=94,slow=29,SNR=4.9							
KURBB	**Kurchatov Arra**	**9.07**	**346**	⇑	Pn	P

	9.0nm,0.2s							
CDF	**Champ du Feu**	**0.95**	**347**	*e*Pn	Pg	01 26 46.9	-0.3
CDF	**Champ du Feu**	**0.95**	**347**	*e*Pg	Pg	01 26 47.3	+0.1
CDF				*e*Sg	Sg	01 26 59.6	0.0
	4.5nm,0.2s						
BRANT	**Les Verrieres**	**0.95**	**235**	*e*P1	Pg	01 26 47.9	+0.7
	56nm,0.5s						
BRANT	**Les Verrieres**	**0.95**	**235**	*e*P	Pb	01 26 47.9	+0.4
	56nm,0.5s						
HAU	**Haudompre**	**0.99**	**302**	*e*Pn	Pg	01 26 47.8	-0.1
HAU	**Haudompre**	**0.99**	**302**	*e*Pg	Pb	01 26 48.2	+0.1
HAU				*e*Sg	Sb	01 27 01.2	-0.1
	13nm,0.3s						
HAU	**Haudompre**	**0.99**	**302**	*e*Pn	Pg	01 26 47.8	-0.1
HAU	**Haudompre**	**0.99**	**302**	*e*Pg	Pb	01 26 48.2	+0.1
HAU				*e*Sg	Sb	01 27 01.2	-0.1
	6.5nm,0.3s						
THEF	**They Montfort**	**1.31**	**305**	Pg	Pb	01 26 53.6	0.0
THEF				Sg	Sg	01 27 11.1	-0.1
THEF	**They Montfort**	**1.31**	**305**	Pg	Pb	01 26 53.6	0.0
THEF				Sg	Sg	01 27 11.1	-0.1
CABF	**La Chapelle**	**1.36**	**230**	*e*Pg	Pg	01 26 55.3	+0.2
CABF				*e*Sn	Sb	01 27 10.2	-1.8
CABF				*e*Sg	Sg	01 27 13.3	+0.5
	2.3nm,0.2s						
CABF	**La Chapelle**	**1.36**	**230**	*e*Pg	Pg	01 26 55.3	+0.2
CABF				*e*Sn	Sb	01 27 10.2	-1.8
CABF				*e*Sg	Sg	01 27 13.3	+0.5
	1.1nm,0.2s						
PAGF	**Fort de Pagny**	**1.65**	**311**	*e*Pn	Pn	01 26 56.8	-1.0
	baz=125						
PAGF	**Fort de Pagny**	**1.65**	**311**	*e*Pg	Pg	01 27 00.3	-0.2
PAGF				*e*Sg	Sg	01 27 21.6	-0.3
	0.5nm,0.2s,baz=132						
PAGF	**Fort de Pagny**	**1.65**	**311**	*e*Pn	Pn	01 26 56.8	-1.0
	baz=125						
PAGF	**Fort de Pagny**	**1.65**	**311**	*e*Pg	Pg	01 27 00.3	-0.2
PAGF				*e*Sg	Sg	01 27 21.6	-0.3
	0.2nm,0.2s,baz=132						
SFTF	**Sexfontaines**	**1.87**	**293**	*e*Pn	Pn	01 27 00.0	-0.9
SFTF	**Sexfontaines**	**1.87**	**293**	*e*Pg	Pg	01 27 04.4	-0.3
	baz=114						
SFTF				*e*Sn	Sn	01 27 22.0	-2.5
SFTF				*e*Sg	Sg	01 27 28.5	-0.4
	2.2nm,0.2s						
SFTF	**Sexfontaines**	**1.87**	**293**	*e*Pn	Pn	01 27 00.0	-0.9
SFTF	**Sexfontaines**	**1.87**	**293**	*e*Pg	Pg	01 27 04.4	-0.3
	baz=114						
SFTF				*e*Sn	Sn	01 27 22.0	-2.5
SFTF				*e*Sg	Sg	01 27 28.5	-0.4
	1.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.99**	**301**	*e*Pn	Pn	01 27 01.7	-0.8
	baz=126						
MEZF	**Maizieres J'vi**	**1.99**	**301**	*e*Pg	Pg	01 27 06.8	-0.1
	baz=121						
MEZF				*e*Sg	Sg	01 27 32.2	-0.5
	1.7nm,0.3s,baz=115						
MEZF	**Maizieres J'vi**	**1.99**	**301**	*e*Pn	Pn	01 27 01.7	-0.8
	baz=126						
MEZF	**Maizieres J'vi**	**1.99**	**301**	*e*Pg	Pg	01 27 06.8	-0.1
	baz=121						
MEZF				*e*Sg	Sg	01 27 32.2	-0.5
	0.9nm,0.3s,baz=115						
LOR	**Lormes**	**2.55**	**266**	*e*Pn	Pn	01 27 09.5	-0.8
	baz=81						
LOR	**Lormes**	**2.55**	**266**	*e*Pg	Pg	01 27 17.5	-0.3
	baz=94						
LOR				*e*Sg	Sg	01 27 49.3	-1.6
	2.0nm,0.1s,baz=96						
LOR	**Lormes**	**2.55**	**266**	*e*Pn	Pn	01 27 09.5	-0.8
	baz=81						
LOR	**Lormes**	**2.55**	**266**	*e*Pg	Pg	01 27 17.5	-0.3
	baz=94						
LOR				*e*Sg	Sg	01 27 49.3	-1.6
	1.0nm,0.1s,baz=96						
SMF	**Signal de Mont**	**2.71**	**253**	*e*Pg	Pg	01 27 20.0	-0.7
SMF				*e*Sg	Sg	01 27 54.9	-0.9
	1.6nm,0.2s						
SMF	**Signal de Mont**	**2.71**	**253**	*e*Pg	Pg	01 27 20.0	-0.7
SMF				*e*Sg	Sg	01 27 54.9	-0.9
	0.8nm,0.2s						
SSF	**Saint Saulge**	**2.82**	**263**	*e*Sg	Sg	01 27 58.5	-1.0
	1.4nm,0.2s						
SSF	**Saint Saulge**	**2.82**	**263**	*e*Sg	Sg	01 27 58.5	-1.0
	0.7nm,0.2s						
AVF	**Avril sur Loir**	**2.98**	**258**	*e*Sg	Sg	01 28 03.8	-0.9
	0.3nm,0.1s						
AVF	**Avril sur Loir**	**2.98**	**258**	*e*Sg	Sg	01 28 03.8	-0.9
	0.2nm,0.1s						

*SKHL **12** 01:26:45.2±0.4, 45°56.N×151°08.E, h125km±3km, mb5.0/3, msh6.0/2*
*JMA **12** 01:26:46.6±0.6, 45°19.N×150°98.E, h112km, M4.0*
*MOS **12** 01:26:46.9±1.8, 45°97.N×150°85.E, h146km, mb4.3/3, Error ellipse: s-maj=20.8km s-min=15.8km az=148.3*
*IDC **12** 01:26:47.7±4.0, 46°05.N×150°86.E, h136km±37km, mb3.2/8, mb1 3.4/10, mb1mx3.2/25, mbtmp3.6/10, Error ellipse: s-maj=24.7km s-min=21.0km az=132.0*

ISC 12 01:26:41.1±1.2, 45°5.5N±0.1×151°4.E±0.1, h100km, n40, σ2.908/39, mb3.5/10, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.50**	**266**	PN	Pn	01 27 27.0	+6.9
KUR				*e*S	**Sn**	**01 27 51.0**	**+0.9**
KUR				pmax	pmax		
	comp=Z,120nm,0.5s						
KUR				smax	smax		
	comp=N,930nm,0.4s						
KUR				smax	smax		
	comp=E,380nm,0.5s						
KUR	**Kuril'sk**	**2.50**	**266**	*e*P	**Pn**	**01 27 23.0**	**+2.9**
KUR				AMB	AMB	01 27 29.2	
	comp=E,120nm,0.5s						
KUR				*e*S	**Sn**	**01 27 51.0**	**+0.9**
KUR				A	A	01 27 55.0	
	comp=E,930nm,0.4s						
KUR				A	A	01 27 55.0	
	comp=E,380nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.20**	**252**	*d i*PN	**Pn**	**01 27 45.6**	**+2.7**
YUK				*i*S	**Sn**	**01 28 31.1**	**+0.2**
YUK				pmax	pmax		
	comp=Z,243nm,0.2s						
YUK				pmax	pmax		
	comp=N,46nm,0.1s						
YUK				pmax	pmax		
	comp=E,53nm,0.1s						
YUK				smax	smax		
	comp=N,199nm,0.2s						
YUK				smax	smax		
	comp=E,359nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.20**	**252**	*e*P	**Pn**	**01 27 45.6**	**+2.7**
YUK				AMB	AMB	01 27 45.9	
	comp=E,46nm,0.2s						
YUK				AMB	AMB	01 27 45.9	
	comp=E,54nm,0.2s						
YUK				AMB	AMB	01 27 45.9	
	comp=E,243nm,0.2s						
YUK				*e*S	**Sn**	**01 28 31.2**	**+0.3**
YUK				A	A	01 28 33.4	
	comp=E,200nm,0.3s						
YUK				A	A	01 28 33.4	
	comp=E,360nm,0.3s						
NEM2	**Nemuro 2**	**4.57**	**244**	P	**Pn**	**01 27 49.6**	**+1.7**
NEM2				*e*S	**Sn**	**01 28 37.9**	**-1.9**
JAK	**Akkeshi**	**5.42**	**245**	P	**Pn**	**01 28 00.5**	**+1.1**
JAK				*e*S	**Sn**	**01 28 58.0**	**-2.4**
JTKR	**Abashiri--Toko**	**5.54**	**257**	P	**Pn**	**01 28 03.4**	**+2.3**
JMP	**Maruseppu**	**5.91**	**258**	P	**Pn**	**01 28 08.0**	**+1.9**
JOB	**Onbets**	**6.02**	**247**	P	**Pn**	**01 28 10.1**	**+2.6**
JOB				*e*S	**Sn**	**01 29 13.4**	**-1.6**
YSS	**Yuzh-Sakhalins**	**6.17**	**287**	*i*PN	**Pn**	**01 28 10.9**	**+1.3**
YSS				*e*		01 29 18.9	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.17**	**287**	*e*P	**Pn**	**01 28 10.9**	**+1.3**
YSS				AMB	AMB	01 28 11.6	
	comp=Z,20nm,0.8s						
YSS				*e*S	**Sn**	**01 29 16.5**	**-2.3**
HRK	**Horoka**	**6.25**	**254**	*e*P	**Pn**	**01 28 13.5**	**+2.7**
JKK2	**Kamakawa 2**	**6.37**	**258**	P	**Pn**	**01 28 15.0**	**+2.6**
JKA	**Kamikawa-asahi**	**6.41**	**261**	*e*P	**Pn**	**01 28 15.5**	**+2.7**
ASAJ	**Asahikawa**	**6.41**	**261**	P	**Pn**	**01 28 15.5**	**+2.6**
	comp=Z,1.9nm,0.3s,baz=91,slow=15,SNR=7.1						
JCH	**Churui**	**6.46**	**246**	P	**Pn**	**01 28 15.1**	**+1.5**
JCH				*e*S	**Sn**	**01 29 22.5**	**-3.3**
MYR	**Moyori**	**6.67**	**244**	*e*P	**Pn**	**01 28 18.1**	**+1.7**
MYR				*e*S	**Sn**	**01 29 28.8**	**-2.1**
JEM	**Erimo**	**6.90**	**243**	*e*S	**Sn**	**01 29 34.1**	**-2.3**
JNBK	**Urakawa-nobuka**	**7.02**	**246**	P	**Pn**	**01 28 21.9**	**+0.8**
JBT2	**Biratori 2**	**7.04**	**251**	P	**Pn**	**01 28 23.2**	**+1.8**
KSRS	**Korea Array**	**19.29**	**254**	P	**Pn**	**01 31 01.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=61,slow=13,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.70**	**148**	T	T	02 04 03.8	
	baz=339,slow=77,SNR=65						
H11N1	**WAKE ISLAND Hy**	**28.72**	**148**	T	T	02 04 04.3	
	baz=339,slow=77,SNR=45						
H11N3	**WAKE ISLAND Hy**	**28.72**	**148**	T	T	02 03 36.7	
	baz=339,slow=77,SNR=43						
H11S1	**WAKE ISLAND Hy**	**29.76**	**150**	T	T	02 04 59.0	
	baz=339,slow=77,SNR=78						
H11S3	**WAKE ISLAND Hy**	**29.76**	**150**	T	T	02 04 58.9	
	baz=339,slow=77,SNR=45						
H11S2	**WAKE ISLAND Hy**	**29.77**	**150**	T	T	02 04 59.6	
	baz=339,slow=77,SNR=42						
MKAR	**Makanchi Array**	**46.47**	**298**	P	**P**	**01 34 56.3**	**-1.5**
MKAR	**Makanchi Array**	**46.47**	**298**	P	**P**	**01 34 56.3**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=70,slow=7.2,SNR=7.0						
YKA	**Yellowknife Ar**	**52.65**	**36**	P	**P**	**01 35 46.3**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=295,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**64.67**	**334**	P	**P**	**01 37 05.7**	**-2.0**
	comp=Z,1.2nm,0.8s,baz=29,slow=4.4,SNR=3.5						
OBN	**Obninsk**	**65.67**	**325**	*e*P	**P**	**01 37 16.8**	**+2.5**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PDAR	**Pinedale Array**	**66.46**	**52**	P	P	01 37 22.6	+2.7
	comp=Z,0.5nm,0.7s,baz=288,slow=0.5,SNR=4.9						
WRA	**Warramunga Arr**	**66.94**	**197**	P	P	01 37 27.5	+4.7
	comp=Z,0.2nm,0.3s,baz=15,slow=6.7,SNR=3.2						
NB2	**NORSAR Subarra**	**69.03**	**341**	P	**P**	**01 37 34.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=27,slow=6.9						
NOA	**NORSAR Array B**	**69.03**	**341**	P	**P**	**01 37 34.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=27,slow=6.6,SNR=3.4						
ASAR	**Alice Springs**	**70.64**	**197**	P	P	01 37 51.4	+5.7
	comp=Z,0.4nm,0.7s,baz=12,slow=5.0,SNR=3.1						
AKASG	**Malin Array Be**	**71.92**	**326**	P	**P**	**01 37 51.1**	**-2.1**
AKASG	**Malin Array Be**	**71.92**	**326**	P	**P**	**01 37 51.1**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=37,slow=6.4,SNR=5.4						
TXAR	**Lajitas Array**	**79.16**	**59**	P	P	01 38 37.5	+2.5
	comp=Z,5.5nm,0.3s,baz=291,slow=5.0,SNR=13						

*IDC **12** 01:29:00.6±1.6, 13°19N×124°57E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, ML4.5/1, Error ellipse: s-maj=63.8km s-min=23.2km az=62.0*
*MAN **12** 01:29:02, 13°12N×124°08E, h1km, mb4.9, ML3.9, MS3.9*
MAN INTENSITY III - LEGASPI CITY ALBAY.
*ISCJB **12** 01:29:03.3±1.3, 13°18N±0°05×124°08E±0°05, h8km±11km, mb3.3/4, Error ellipse: s-maj=10.3km s-min=6.1km az=139.3*

ISC 12 01:29:01.6±1.8, 13°12N±0°04×124°09E±0°05, h4km±13km, n17, σ0.997/23, mb3.4/4, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.48**	**7**	*i*P	**Pb**	**01 29 11.9**	**-0.7**
CNP	**Catarman**	**0.82**	**137**	*e*P	**Pn**	**01 29 20.1**	**+0.1**
CNP				*e*S	**Sn**	**01 29 33.4**	**+0.9**
MMPH	**Masbate**	**0.88**	**211**	*e*P	**Pb**	**01 29 19.6**	**+0.1**
MMPH				*i*S	**Sb**	**01 29 32.1**	**+0.5**
AUQP	**San Andres**	**1.39**	**279**	*e*P	**Pb**	**01 29 28.8**	**+0.6**
GQP	**Guinayangan**	**1.78**	**296**	*i*P	**Pn**	**01 29 32.5**	**-0.7**
GQP				*i*S	**Sb**	**01 29 57.5**	**-0.1**
RCP	**Roxas**	**2.03**	**221**	*e*P	**Pg**	**01 29 40.6**	**+0.1**
RCP				*e*S	**Sb**	**01 30 05.6**	**+0.9**
PLP	**Palo**	**2.13**	**156**	*e*P	**Pb**	**01 29 39.4**	**-1.3**
PLP				*i*S	**Sb**	**01 30 07.8**	**+0.4**
BOAC	**Boac**	**2.21**	**279**	*e*P	**Pb**	**01 29 42.1**	**-0.1**
LQP	**Lukban**	**2.67**	**292**	*e*P	**Pb**	**01 29 49.8**	**-0.4**
LLP	**Lapu-Lapu**	**2.79**	**183**	*e*P	**Pg**	**01 29 56.0**	**+1.0**
LLP				*e*S	**Sg**	**01 30 30.7**	**-0.5**
GUIM	**Jordan**	**2.88**	**211**	*e*P	**Pb**	**01 29 51.2**	**-2.4**
MSLP	**Maasin**	**3.06**	**166**	*e*P	**Pb**	**01 29 57.5**	**+0.9**
TGY	**Tagaytay City**	**3.22**	**288**	Pn	**Pb**	**01 29 59.8**	**+0.4**
	37nm,0.3s,baz=143,slow=5.1,SNR=4.0						
WRA	**Warramunga Arr**	**34.37**	**163**	P	**P**	**01 35 48.3**	**-1.6**
	0.4nm,0.9s,baz=339,slow=9.9,SNR=2.8						
SONM	**Songino Array**	**37.63**	**340**	P	**P**	**01 36 19.2**	**+1.5**
	0.3nm,0.6s,baz=147,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**37.80**	**165**	P	**P**	**01 36 18.9**	**-0.3**
	0.2nm,0.3s,baz=345,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**48.48**	**322**	P	**P**	**01 37 44.8**	**-0.6**
	0.2nm,0.6s,baz=115,slow=9.3,SNR=3.0						

MEX 12 01:30:18.0±0.9, 16°17N×97°60W, h16km±14km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.55**	**293**	*e*P	Pg	01 30 26.6	-2.4
PNIG				*e*S	Sg	01 30 34.8	-1.7
VHO	**Vista Hermosa**	**1.22**	**43**	*e*P	Pn	01 30 36.3	-4.3
VHO				*i*S	Sb	01 30 51.0	-5.7
HUIG	**Huatulco**	**1.49**	**106**	*e*P	Pn	01 30 40.7	-3.4
HUIG				*i*P	Pb	01 30 40.9	-4.4
HUIG				*i*S	Sn	01 30 58.6	-4.7
TLIG	**Tlapa**	**1.66**	**326**	*e*P	Pn	01 30 44.0	-2.7
TLIG				*e*S	Sn	01 31 03.3	-4.5

*IDC **12** 01:35:37.8±0.7, 55°.85N×162°.88E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/31, mbtmp3.8/15, ML3.4/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/36, Error ellipse: s-maj=23.5km s-min=13.1km az=15.0*
*MOS **12** 01:35:38.4±1.4, 55°.90N×163°.21E, h16km, mb4.2/8, Error ellipse: s-maj=12.3km s-min=8.8km az=92.1*
*KRSC **12** 01:35:39.1±1.0, 55°.76N×163°.19E, h24km±19km, ML4.4*
*ISCJB **12** 01:35:40.4±0.6, 55°.84N±0°.02×163°.23E±0°.04, h30km±4km, mb3.8/15, MS3.3/3, Error ellipse: s-maj=3.9km s-min=3.7km az=44.8*

ISC 12 01:35:40.4±1.0, 55°.86N±0°.03×163°.16E±0°.03, h18km±3km, n76, σ1.914/108, mb3.9/15, MS3.1/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.40**	**332**	PN	**Pb**	**01 35 48.9**	**-0.1**
KBTR				S	**Sb**	**01 35 56.1**	**+1.3**
KBTR	**Krutoberegovo**	**0.40**	**332**	*i*P	**Pb**	**01 35 48.9**	**-0.1**
KBTR				*i*S	**Sb**	**01 35 56.1**	**+1.3**
KBG	**Krutoberegovo**	**0.47**	**328**	PN	**Pg**	**01 35 49.9**	**-0.1**
KBG				S	**Sn**	**01 35 59.0**	**-1.0**
KBG	**Krutoberegovo**	**0.47**	**328**	*i*P	**Pg**	**01 35 49.9**	**-0.1**
KBG				*i*S	**Sn**	**01 35 59.0**	**-1.0**
SMKR	**Semkarok**	**1.19**	**308**	*e*P	**Pn**	**01 36 01.6**	**-0.6**
SMKR				*e*S	**Sg**	**01 36 19.7**	**+0.6**
BDR	**Baidarnaya**	**1.30**	**304**	*e*P	**Pn**	**01 36 03.5**	**-0.2**
BDR				*e*S	**Sb**	**01 36 20.9**	**+0.2**
ZLN	**Zelenaya**	**1.33**	**278**	*e*P	**Pn**	**01 36 04.1**	**-0.1**
ZLN				*e*S	**Sg**	**01 36 23.3**	**-0.3**
SRKR	**Sorokina**	**1.37**	**307**	*e*P	**Pn**	**01 36 05.0**	**-0.4**
SRKR				*e*S	**Sg**	**01 36 24.1**	**-0.6**
CIRR	**Tsirk**	**1.38**	**282**	*e*S	**Sb**	**01 36 23.2**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**1.39**	**274**	*e*P	**Pn**	**01 36 04.5**	**-0.4**
BZGR				*e*S	**Sn**	**01 36 21.9**	**-0.9**
KLY	**Klyuchi**	**1.48**	**289**	PN	**Pn**	**01 36 04.3**	**-1.7**
KLY				S	**Sn**	**01 36 23.9**	**-0.9**
KLY	**Klyuchi**	**1.48**	**289**	*e*P	**Pn**	**01 36 04.3**	**-1.7**
KLY				*e*S	**Sn**	**01 36 23.9**	**-0.9**
KRSR	**Krestovskiy**	**1.50**	**285**	*e*P	**Pn**	**01 36 05.6**	**-0.8**
KRSR				*e*S	**Sn**	**01 36 25.2**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.50**	**275**	*e*P	**Pn**	**01 36 06.3**	**-0.2**
BZMR	**Bezymyannaya**	**1.51**	**274**	*e*P	**Pn**	**01 36 05.9**	**-0.6**
BZMR				*e*S	**Sn**	**01 36 25.7**	**0.0**
MKZ	**Mys Kozlova**	**1.54**	**213**	PN	**Pn**	**01 36 06.3**	**-0.5**
MKZ				S	**Sn**	**01 36 25.7**	**-0.6**
MKZ	**Mys Kozlova**	**1.54**	**213**	*e*P	**Pn**	**01 36 06.3**	**-0.5**
MKZ				*e*S	**Sn**	**01 36 25.7**	**-0.6**
KIRR	**Kirishev**	**1.59**	**275**	*e*P	**Pn**	**01 36 07.8**	**+0.1**
KIRR				*e*S	**Sb**	**01 36 28.8**	**-0.2**
KMNR	**Kamenistaya**	**1.65**	**268**	*e*P	**Pn**	**01 36 08.8**	**+0.3**
KMNR				*e*S	**Sn**	**01 36 28.7**	**-0.6**
KPT	**Kopyto**	**1.66**	**275**	*i*P	**Pn**	**01 36 08.6**	**0.0**
KPT				*i*S	**Sb**	**01 36 30.4**	**-0.5**
BKI	**Bering**	**1.73**	**111**	PN	**Pn**	**01 36 09.0**	**-0.4**
BKI				S	**Sn**	**01 36 31.1**	**+0.2**
BKI	**Bering**	**1.73**	**111**	*e*P	**Pn**	**01 36 09.0**	**-0.4**
BKI				*e*S	**Sn**	**01 36 31.1**	**+0.2**
KZV	**Kizimen**	**1.79**	**247**	*e*P	**Pn**	**01 36 10.0**	**-0.5**
KZV				*e*S	**Sn**	**01 36 33.5**	**+0.7**
TUMR	**Tumrok**	**1.81**	**253**	*i*P	**Pn**	**01 36 11.2**	**+0.6**
TUMR				*e*S	**Sb**	**01 36 34.9**	**-0.3**
KOZR	**Kozyr**	**1.85**	**278**	PN	**Pn**	**01 36 11.3**	**+0.2**
KOZR				S	**Sn**	**01 36 34.8**	**+0.8**
KOZ	**Kozyrevsk**	**1.86**	**278**	*i*P	**Pn**	**01 36 11.3**	**0.0**
KOZ				*i*S	**Sn**	**01 36 34.8**	**+0.5**
SRDR	**Sredinnyy**	**1.98**	**285**	*i*P	**Pn**	**01 36 13.7**	**+0.7**
SRDR				*i*S	**Sb**	**01 36 40.1**	**-0.2**
ESO	**Esso**	**2.51**	**273**	PN	**Pn**	**01 36 21.5**	**+1.2**
ESO				S	**Sn**	**01 36 49.4**	**-1.0**
ESO	**Esso**	**2.51**	**273**	*e*P	**Pn**	**01 36 21.5**	**+1.2**
ESO				*e*S	**Sn**	**01 36 49.4**	**-1.0**
SPN	**Mys Shipunski**	**3.31**	**215**	*e*S	**Sn**	**01 37 11.0**	**+0.9**
NLC	**Nalytchevo**	**3.49**	**221**	PN	**Pn**	**01 36 33.1**	**-0.6**
NLC	**Nalytchevo**	**3.49**	**221**	*e*P	**Pn**	**01 36 33.0**	**-0.6**
NLC				*e*S	**Sn**	**01 37 14.6**	**+0.2**
SDLR	**Sedlovina**	**3.59**	**226**	*e*P	**Pn**	**01 36 35.4**	**+0.3**
SDLR				*e*S	**Sn**	**01 37 18.4**	**+1.4**
KRER	**Koryakskii**	**3.62**	**227**	*e*P	**Pn**	**01 36 36.8**	**+1.1**
KRX	**Arik**	**3.62**	**228**	*e*P	**Pn**	**01 36 37.5**	**+1.8**
KRX				*e*S	**Sn**	**01 37 17.9**	**-0.1**
SMAR	**Somma**	**3.63**	**226**	*e*P	**Pn**	**01 36 37.1**	**+1.3**
SMAR				*e*S	**Sn**	**01 37 18.9**	**+0.7**
AVH	**Avacha**	**3.66**	**227**	*e*P	**Pn**	**01 36 37.6**	**+1.6**
AVH				*e*S	**Sn**	**01 37 19.4**	**+0.7**
UGLR	**Uglovaya**	**3.66**	**225**	*e*P	**Pn**	**01 36 37.8**	**+1.5**
UGLR				*i*S	**Sn**	**01 37 18.4**	**-0.5**
KOK	**Koryaka**	**3.68**	**228**	*e*P	**Pn**	**01 36 37.7**	**+1.4**
GNL	**Ganaly**	**3.72**	**237**	*e*P	**Pn**	**01 36 37.7**	**+0.8**
PET	**Petropavlovsk**	**3.87**	**225**	*e*PN	**Pn**	**01 36 40.5**	**+1.6**
PET				*e*S	**Sn**	**01 37 24.9**	**+1.1**
PET				smax	smax		
	comp=E,367nm,0.7s						
PET				smax	smax		
	comp=N,337nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PET	**Petropavlovsk**	**3.87**	**225**	*e*P	**Pn**	**01 36 39.7**	**+0.8**
PET				*e*S	**Sn**	**01 37 23.2**	**-0.6**
PETK	**Petropavlovsk-**	**4.21**	**231**	PN	**Pn**	**01 36 46.1**	**+2.5**
PETK						01 37 39.7	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.21**	**231**	Pn	**Pn**	**01 36 46.1**	**+2.5**
	comp=N,2.5nm,0.3s,baz=74,slow=17,SNR=7.5						
PETK				Sn	**Sb**	**01 37 39.7**	**-4.6**
	comp=N,2.5nm,0.3s,baz=178,slow=6.5,SNR=5.2						
RUS	**Russkaya**	**4.38**	**220**	PN	**Pn**	**01 36 46.6**	**+0.7**
RUS	**Russkaya**	**4.38**	**220**	*e*P	**Pn**	**01 36 46.6**	**+0.7**
RUS				*e*S	**Sn**	**01 37 36.5**	**0.0**
MTVR	**Mutnovka**	**4.47**	**223**	*e*P	**Pn**	**01 36 48.6**	**+1.4**
MTVR				*e*S	**Sn**	**01 37 39.5**	**+0.7**
APC	**Apacha**	**4.58**	**233**	*e*P	**Pn**	**01 36 50.0**	**+1.5**
APC				*e*S	**Sn**	**01 37 41.8**	**+0.7**
ASAK	**Asacha**	**4.66**	**224**	*e*P	**Pn**	**01 36 51.8**	**+2.0**
FX1	**Attu Island--F**	**6.56**	**113**	Pn	**Pn**	**01 37 15.9**	**+0.1**
	comp=N,2.4nm,0.3s,baz=327,slow=7.8,SNR=5.5						
FX1				Sn	**Sn**	**01 38 25.4**	**-4.6**
	comp=N,1.8nm,0.3s,baz=79,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**17.61**	**237**	LR	LR	01 46 50.8	
	comp=N,88nm,19.4s,baz=1.5,slow=38						
ILAR	**Eielson Array**	**25.62**	**49**	P	**P**	**01 41 07.7**	**-0.6**
	comp=N,1.1nm,1.1s,baz=253,slow=6.4,SNR=4.4						
MJAR	**Matsushiro Arr**	**25.67**	**232**	LR	LR	01 53 23.9	
	comp=N,47nm,18.7s,baz=60,slow=42						
KSRS	**Korea Array**	**29.93**	**247**	LR	LR	01 53 07.3	
	comp=N,42nm,18.9s,baz=165,slow=35						
SONM	**Songino Array**	**35.06**	**281**	P	**P**	**01 42 31.9**	**-0.1**
	comp=N,0.4nm,0.7s,baz=64,slow=6.6,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**36.18**	**174**	T	T	02 21 09.0	
	baz=358,slow=76,SNR=206						
H11N3	**WAKE ISLAND Hy**	**36.19**	**174**	T	T	02 21 12.2	
	baz=358,slow=76,SNR=169						
H11N1	**WAKE ISLAND Hy**	**36.20**	**174**	T	T	02 21 10.4	
	baz=358,slow=76,SNR=234						
**YK

CLCH				*e*S	Sn	02 07 10.1	+2.5
CLCH				AML	AML	02 07 12.0	
	comp=E,484nm,0.2s						
CHCH	**Chadas Angostu**	**1.32**	**117**	*i* P	Pn	02 06 52.8	+0.9
JACH	**Jahuel**	**1.41**	**62**	*e*P	Pn	02 06 54.4	+1.2
CACH	**El Canelo**	**1.45**	**122**	*i* P	Pn	02 06 55.4	+1.7
CACH				*i* S	Sn	02 07 15.2	+3.5
LMEL	**Las Melosas**	**1.64**	**108**	*e*P	Pn	02 06 57.8	+1.4
LMEL				*e*S	Sn	02 07 18.7	+2.2
LMEL				AML	AML	02 07 19.6	
	comp=N,475nm,0.2s						

IDC ***12*** *02:19:34.4±1.1,51˚.19N×159˚.63E,h0km,mb3.7/9, mb1 3.8/11,mb1mx3.6/29,mbtmp3.7/11,ML3.6/2,Error ellipse: s-maj=27.7km s-min=14.6km az=5.0*

MOS ***12*** *02:19:35.7±1.7,51˚.12N×159˚.80E,h29km,mb4.0/6,Error ellipse: s-maj=24.5km s-min=17.2km az=115.3*

KRSC ***12*** *02:19:35.6±1.4,51˚.24N×160˚.01E,h82km±16km,ML3.9*

ISCJB ***12*** *02:19:36.7±0.9,51˚.21N±0˚.05×160˚.06E±0˚.08,h34km±8km, mb3.7/9,Error ellipse: s-maj=9.1km s-min=7.4km az=135.8*

ISC 12 02:19:36.4±3.8,51˚.18N±0˚.07×160˚.03E±0˚.05,h22km±27km, n41,σ1ş34/49,mb3.9/9,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.57**	**324**	*i* P	**Pn**	**02 20 02.1**	**-0.7**
RUS				*e*S	**Sn**	**02 20 20.7**	**-1.8**
MTVR	**Mutnovka**	**1.74**	**319**	*i* P	**Pn**	**02 20 04.8**	**-0.5**
MTVR				*e*S	**Sn**	**02 20 26.0**	**-0.8**
ASAK	**Asacha**	**1.79**	**313**	*e*P	**Pn**	**02 20 05.7**	**-0.3**
GRL	**Gorelyy**	**1.83**	**319**	*e*P	**Pn**	**02 20 06.5**	**-0.1**
PET	**Petropavlovsk**	**2.03**	**336**	*e*P	**Pn**	**02 20 09.5**	**+0.3**
PET				*e*S	**Sn**	**02 20 34.5**	**+0.6**
NLC	**Nalytchevo**	**2.04**	**348**	*e*P	**Pn**	**02 20 09.9**	**+0.6**
NLC				*e*S	**Sn**	**02 20 34.7**	**+0.7**
PAU	**Pauzhetka**	**2.04**	**279**	*e*P	**Pn**	**02 20 09.8**	**+0.5**
UGLR	**Uglovaya**	**2.16**	**340**	*e*P	**Pn**	**02 20 10.8**	**-0.3**
SDLR	**Sedlovina**	**2.22**	**342**	*e*P	**Pn**	**02 20 11.6**	**-0.3**
SMAR	**Somma**	**2.22**	**341**	*e*P	**Pn**	**02 20 11.6**	**-0.4**
AVH	**Avacha**	**2.23**	**340**	*e*P	**Pn**	**02 20 10.8**	**-1.3**
KRER	**Koryakskii**	**2.27**	**340**	*e*P	Pn	02 20 10.8	-1.9
KOK	**Koryaka**	**2.28**	**339**	*e*P	**Pn**	**02 20 11.1**	**-1.7**
MIPR	**Malaya Ipel'ka**	**2.31**	**300**	*e*P	**Pn**	**02 20 13.6**	**+0.5**
KRX	**Arik**	**2.34**	**339**	*e*P	**Pn**	**02 20 13.6**	**0.0**
PETK	**Petropavlovsk-**	**2.41**	**324**	PN	**Pn**	**02 20 14.9**	**+0.5**
PETK						02 20 43.2	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,7.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.41**	**324**	Pn	**Pn**	**02 20 14.8**	**+0.5**
	comp=N,4.8nm,0.3s,baz=141,slow=18,SNR=28						
PETK				Sn	**Sn**	**02 20 43.1**	**0.0**
	comp=N,7.2nm,0.3s,baz=121,slow=17,SNR=5.2						
APC	**Apacha**	**2.49**	**316**	*e*P	**Pn**	**02 20 16.0**	**+0.5**
SKR	**Severo-Kuril's**	**2.52**	**260**	*e*PN	Pn	02 20 12.5	-3.5
SKR				*e*S	Sn	02 20 40.3	-5.7
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				smax	smax		
	comp=N,170nm,0.7s						
SKR				smax	smax		
	comp=E,70nm,0.7s						
SKR	**Severo-Kuril's**	**2.52**	**260**	*e*P	**Pn**	**02 20 16.4**	**+0.4**
SKR				*e*S	**Sn**	**02 20 45.9**	**-0.1**
GNL	**Ganaly**	**2.83**	**334**	*e*P	**Pn**	**02 20 20.9**	**+0.7**
KII	**Karymskiy**	**2.88**	**353**	*e*P	**Pn**	**02 20 21.5**	**+0.5**
KII				*e*S	**Sn**	**02 20 54.1**	**-0.9**
MKZ	**Mys Kozlova**	**3.54**	**16**	*e*P	**Pn**	**02 20 29.6**	**-0.3**
MKZ				*e*S	**Sn**	**02 21 08.8**	**-2.1**
KZV	**Kizimen**	**3.94**	**2**	*e*P	**Pn**	**02 20 36.6**	**+1.0**
KZV				*e*S	**Sn**	**02 21 21.5**	**+0.3**
TUMR	**Tumrok**	**4.11**	**1**	*e*P	**Pn**	**02 20 39.2**	**+1.3**
SRDR	**Sredinnyy**	**5.15**	**358**	*e*P	**Pn**	**02 20 53.1**	**+1.0**
KBTR	**Krutoberegovo**	**5.30**	**17**	*e*P	**Pn**	**02 20 55.0**	**+0.9**
BKI	**Bering**	**5.38**	**39**	*e*S	**Sn**	**02 21 52.4**	**-4.1**
FX1	**Attu Island--F**	**8.28**	**73**	Pn	**Pn**	**02 21 37.0**	**+2.0**
	comp=E,3.9nm,0.3s,baz=227,slow=23,SNR=19						
FX1				Sn	**Sn**	**02 23 04.0**	**-3.7**
	comp=E,5.4nm,0.3s,baz=67,slow=20,SNR=8.1						
SONM	**Songino Array**	**34.34**	**286**	P	**P**	**02 26 19.5**	**-1.8**
	comp=E,0.2nm,0.5s,baz=71,slow=7.6,SNR=2.4						
MKAR	**Makanchi Array**	**48.97**	**297**	P	**P**	**02 28 19.7**	**-1.1**
MKAR	**Makanchi Array**	**48.97**	**297**	P	**P**	**02 28 19.6**	**-1.1**
	comp=E,0.2nm,0.4s,baz=59,slow=7.4,SNR=11						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**02 28 38.9**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**02 28 38.9**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=51,slow=7.8,SNR=7.1						
FINES	**FINESS Array B**	**61.87**	**337**	P	**P**	**02 29 53.6**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=38,slow=9.6,SNR=4.8						
NOA	**NORSAR Array B**	**65.37**	**344**	P	**P**	**02 30 18.8**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=22,slow=6.6,SNR=3.5						
AKASG	**Malin Array Be**	**70.24**	**329**	P	**P**	**02 30 47.5**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**70.24**	**329**	P	**P**	**02 30 47.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=32,slow=5.9,SNR=5.5						
WRA	**Warramunga Arr**	**74.33**	**205**	P	**P**	**02 31 14.0**	**+2.1**
	comp=Z,0.7nm,1.1s,baz=24,slow=6.4,SNR=3.6						
GERES	**GERESS Array B**	**76.27**	**338**	P	**P**	**02 31 24.1**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=18,slow=4.1,SNR=2.3						
BRTR	**Keskin Array B**	**78.07**	**321**	P	**P**	**02 31 35.0**	**+1.6**
	comp=Z,1.8nm,1.2s,baz=20,slow=9.2,SNR=2.7						

BJI ***12*** *02:36:05.0,34˚.00N×116˚.90W,h7km,mb4.5/2,Ms4.9/2, Ms7 4.4/2*

IDC ***12*** *02:36:06.7±1.9,33˚.86N×116˚.99W,h0km,mb3.6/3, mb1 3.8/8,mb1mx3.6/29,mbtmp3.5/8,ML3.7/5,MS3.1/2, Ms1 3.1/2,ms1mx2.7/42,Error ellipse: s-maj=32.3km s-min=6.3km az=49.0*

NEIC ***12*** *02:36:08.4,33˚.97N×116˚.88W,h10km,ML4.3(PAS),After PAS.*

NEIC Felt [IV] at Banning and Corona del Mar; [III] at Angelus Oaks, Anza, Beaumont, Cabazon, Calimesa, Cathedral City, Desert Hot Springs, Fontana, Forest Falls, Hemet, Idyllwild, Moreno Valley, Mountain Center, Nuevo, Palm Springs, Perris, Rialto, Riverside, San Jacinto, Temecula, White Water and Yucaipa; [II] as far as Burbank, Indio, San Diego, Santa Monica, Yucca Valley and Victorville.

ISC 12 02:36:07.8±0.7,33˚.96N±0˚.02×116˚.89W±0˚.02,h14km±4km, n110,σ1ş87/182,mb3.8/4,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.30**	**355**	P	**Pg**	**02 36 13.8**	**-0.5**
	baz=0.3						
BBRC				S	**Sg**	**02 36 18.5**	**-0.2**
	baz=0.3						
MURC	**Murrieta**	**0.44**	**216**	P	**Pg**	**02 36 16.6**	**-0.1**
	baz=0.5						
MURC				S	**Sg**	**02 36 22.8**	**+0.3**
	baz=0.5						
PFO	**Pinyon Flat Ob**	**0.50**	**134**	*e*Pg	**Pg**	**02 36 17.3**	**-0.5**
PFO				Lg	Lg	02 36 23.6	
PFO				*e*Sg	**Sg**	**02 36 24.1**	**-0.4**
PFO	**Pinyon Flat Ob**	**0.50**	**134**	Pg	**Pg**	**02 36 17.2**	**-0.5**
	421nm,0.3s,baz=313,slow=13,SNR=3222						
PFO				Lg	Lg	02 36 23.6	
	1μm,0.3s,baz=225,slow=16,SNR=66						
PFO				LR	LR	02 36 29.0	
	comp=Z,313nm,21.3s,baz=336,slow=44						
PFO	**Pinyon Flat Ob**	**0.50**	**134**	P	**Pg**	**02 36 17.4**	**-0.5**
	baz=0.5						
PFO				S	**Sg**	**02 36 24.0**	**-0.6**
	baz=0.5						
BFSC	**Mount Baldy Ra**	**0.69**	**294**	P	**Pg**	**02 36 21.2**	**-0.3**
	baz=0.7						
BFSC				S	**Sg**	**02 36 30.4**	**-0.2**
	baz=0.7						
BELC	**Belle Mtn. Jos**	**0.74**	**86**	P	**Pg**	**02 36 21.9**	**-0.4**
	baz=0.7						
BELC				S	**Sg**	**02 36 31.5**	**-0.7**
	baz=0.7						
RRX	**Edison Barstow**	**0.92**	**354**	P	**Pb**	**02 36 25.4**	**-0.3**
	baz=0.9						
RRX				S	**Sb**	**02 36 37.7**	**-0.2**
	baz=0.9						
HEC	**Hector,Ludlow**	**0.99**	**28**	P	**Pg**	**02 36 26.2**	**-0.7**
	baz=1.0						
HEC				S	**Sg**	**02 36 39.2**	**-0.6**
	baz=1.0						
MWC	**Mount Wilson**	**1.00**	**286**	*e*Pg	**Pg**	**02 36 26.6**	**-0.7**
MWC				*e*Sg	**Sg**	**02 36 40.2**	**-0.2**
109C	**Camp Elliot, M**	**1.08**	**190**	P	**Pg**	**02 36 27.5**	**-1.2**
	baz=1.1						
109C				S	**Sg**	**02 36 41.6**	**-1.2**
	baz=1.1						
PASC	**Pasadena Art C**	**1.09**	**282**	*e*Pg	**Pg**	**02 36 28.0**	**-0.9**
PASC				*e*S	**Sg**	**02 36 42.3**	**-0.9**
MONP	**Monument Peak**	**1.14**	**160**	Pg	**Pg**	**02 36 29.2**	**-0.6**
	baz=1.1						
MONP				S	**Sg**	**02 36 43.7**	**-0.9**
	baz=1.1						
FMP	**Fort Macarthur**	**1.19**	**259**	Pg	**Pb**	**02 36 30.0**	**-0.2**
	baz=1.2						
FMP				S	**Sb**	**02 36 45.6**	**+0.1**
	baz=1.2						
DECC	**Green Verdugo**	**1.23**	**284**	Pb	**Pn**	**02 36 30.6**	**-0.1**
	baz=1.2						
DECC				S	**Sg**	**02 36 47.0**	**-0.5**
	baz=1.2						
BC3	**Big Chuckawall**	**1.23**	**104**	Pb	**Pn**	**02 36 30.1**	**-0.7**
	baz=1.2						
BC3				S	**Sb**	**02 36 47.0**	**+0.1**
	baz=1.2						
BAR	**Barrett**	**1.29**	**172**	*e*Pn	**Pn**	**02 36 31.2**	**-0.2**
BAR				*e*Sg	**Sb**	**02 36 48.0**	**-0.3**
EDW2	**Edwards Air Fo**	**1.29**	**316**	Pg	**Pb**	**02 36 31.9**	**0.0**
	baz=1.3						
EDW2				S	**Sb**	**02 36 48.4**	**-0.1**
	baz=1.3						
GMRC	**Granite Mounta**	**1.31**	**51**	Pb	**Pn**	**02 36 31.5**	**-0.4**
	baz=1.3						
GMRC				S	**Sb**	**02 36 48.6**	**-0.3**
	baz=1.3						
GSC	**Goldstone**	**1.34**	**3**	*e*Pn	**Pn**	**02 36 32.6**	**+0.3**
GSC				*e*Sg	**Sn**	**02 36 50.6**	**+0.6**
GSC	**Goldstone**	**1.34**	**3**	Pb	**Pn**	**02 36 32.6**	**+0.3**
	baz=1.3						
SWSC	**Sam W. Stewart**	**1.37**	**138**	P	**Pn**	**02 36 31.6**	**-0.9**
	baz=1.4						
SWSC				S	**Sb**	**02 36 49.0**	**-1.6**
	baz=1.4						
CIS	**Catalina Islan**	**1.38**	**247**	P	**Pn**	**02 36 32.3**	**-0.3**
	baz=1.4						
CIS				S	**Sb**	**02 36 50.5**	**-0.3**
	baz=1.4						
DVTC	**Desert V Tower**	**1.46**	**153**	Pb	**Pn**	**02 36 33.6**	**-0.2**
	baz=1.5						
DVTC				Sb	**Sb**	**02 36 53.7**	**+0.5**
	baz=1.5						
IRM	**Iron Mountain**	**1.46**	**82**	P	**Pn**	**02 36 33.2**	**-0.7**
	baz=1.4						
IRM				Sb	**Sb**	**02 36 53.7**	**+0.4**
	baz=1.4						
LRMC	**Laurel Mountai**	**1.65**	**337**	Pb	**Pn**	**02 36 36.9**	**+0.3**
	baz=1.7						
LRMC				S	**Sb**	**02 36 59.6**	**+0.7**
	baz=1.7						
OSI	**Osito Adit**	**1.65**	**294**	*e*Pn	**Pn**	**02 36 37.1**	**+0.6**
OSI				*e*S	**Sg**	**02 37 00.9**	**-0.2**
OSI	**Osito Adit**	**1.65**	**294**	Pb	**Pn**	**02 36 37.1**	**+0.6**
	baz=1.7						
OSI				Sb	**Sb**	**02 36 58.8**	**0.0**
	baz=1.7						
TUQ	**Turquoise Moun**	**1.68**	**28**	P	**Pn**	**02 36 36.9**	**0.0**
	baz=1.7						
SCI	**San Clemente I**	**1.69**	**235**	P	**Pn**	**02 36 37.1**	**+0.1**
	baz=1.7						
SCI				S	**Sn**	**02 36 58.2**	**-0.2**
	baz=1.7						
BLG	**Laguna Peak**	**1.81**	**275**	P	**Pn**	**02 36 38.4**	**-0.2**
	baz=1.8						
BLG				S	**Sn**	**02 37 01.6**	**+0.2**
	baz=1.8						
LDFC	**Landfair**	**1.85**	**52**	*e*Pn	**Pn**	**02 36 39.0**	**-0.2**
LDFC				*e*S	**Sg**	**02 37 07.3**	**0.0**
GLA	**Glamis**	**1.95**	**117**	*e*Pn	**Pn**	**02 36 39.9**	**-0.6**
GLA				*e*S	**Sb**	**02 37 08.8**	**+1.5**
GLA	**Glamis**	**1.95**	**117**	P	**Pn**	**02 36 39.7**	**-0.8**
	baz=1.9						
GLA				Sb	**Sb**	**02 37 08.4**	**+1.1**
	baz=1.9						
ARVC	**Arvin**	**1.98**	**307**	P	**Pn**	**02 36 41.5**	**+0.6**
	baz=2.0						
Y12C	**Blythe**	**1.98**	**95**	P	**Pn**	**02 36 40.4**	**-0.5**
	baz=2.0						
Y12C				Sb	**Sb**	**02 37 09.4**	**+1.2**
	baz=2.0						
SHOC	**Shoshone**	**2.00**	**14**	P	**Pn**	**02 36 41.7**	**+0.5**
	baz=2.0						
SHOC				Sb	**Sg**	**02 37 10.8**	**-1.4**
	baz=2.0						
NEE2	**Needles Airpor**	**2.05**	**66**	Sb	**Sb**	**02 37 11.2**	**+1.1**
	baz=2.0						
ISA	**Isabella**	**2.14**	**323**	*e*Pn	**Pn**	**02 36 43.5**	**+0.3**
ISA				*e*Pg	**Pg**	**02 36 47.5**	**-1.4**
ISA				*e*S	**Sg**	**02 37 15.3**	**-1.4**
ISA	**Isabella**	**2.14**	**323**	P	**Pn**	**02 36 43.6**	**+0.3**
	baz=2.1						
BSC	**Santa Cruz Isl**	**2.28**	**272**	P	**Pn**	**02 36 44.8**	**-0.3**
	baz=2.3						
SBC	**Santa Barbara**	**2.39**	**282**	P	**Pn**	**02 36 47.3**	**+0.8**
	baz=2.4						
PKM	**Peak Mountain**	**2.59**	**292**	P	**Pn**	**02 36 50.3**	**+0.7**
	baz=2.6						
VES	**Vestal, Richgr**	**2.60**	**317**	P	**Pn**	**02 36 50.1**	**+0.6**
	baz=2.6						
W13A	**Hualapai Mount**	**2.73**	**65**	P	**Pn**	**02 36 51.3**	**-0.2**
	baz=2.7						
SHPR	**Sheep Range**	**2.91**	**29**	*e*Pn	**Pn**	**02 36 54.8**	**+0.9**
SHPR				*e*S	**Sg**	**02 37 39.5**	**-1.9**
TPNV	**Topopah Spring**	**3.03**	**10**	P	**Pn**	**02 36 56.7**	**+1.2**
	baz=3.0						
GRAC	**Grapevine Rang**	**3.06**	**353**	P	**Pn**	**02 36 57.3**	**+1.4**
	baz=3.1						
Y14A	**Wickenburg**	**3.23**	**89**	P	**Pn**	**02 36 58.1**	**-0.1**
	baz=3.2						
214A	**Organ Pipe Nat**	**3.97**	**119**	*e*Pn	**Pn**	**02 37 08.2**	**-0.1**
214A				*e*Pg	**Pg**	**02 37 22.8**	**-1.1**
214A				*e*S	**Sg**	**02 38 13.8**	**-1.5**
TPH	**Tonopah**	**4.12**	**356**	*e*Pn	**Pn**	**02 37 12.2**	**+1.7**
TPH				*e*Pg	**Pg**	**02 37 29.3**	**+2.6**
TPH				*e*S	**Sg**	**02 38 20.8**	**+0.7**
U15A	**North Rim**	**4.50**	**56**	P	**Pn**	**02 37 17.0**	**+1.1**
	baz=4.5						
R11A	**Troy Canyon, C**	**4.51**	**13**	*e*Pn	**Pn**	**02 37 17.0**	**+1.2**
R11A				*e*Pg	Pg	02 37 30.5	-3.7
R11A				*e*S	**Sg**	**02 38 30.2**	**-2.4**
R11A	**Troy Canyon, C**	**4.51**	**13**	P	**Pn**	**02 37 17.3**	**+1.4**
	baz=4.5						
X16A	**Lo Mia Camp, P**	**4.54**	**83**	P	**Pn**	**02 37 16.9**	**+0.6**
	baz=4.5						
NV11	**Mina Array Sit**	**4.58**	**347**	*e*Pn	**Pn**	**02 37 18.6**	**+1.7**
NV11				*e*Pg	**Pg**	**02 37 34.2**	**-1.3**
NV11				*e*S	**Sg**	**02 38 35.0**	**+0.1**
CCUT	**Cedar City**	**4.59**	**38**	*e*Pn	**Pn**	**02 37 18.8**	**+1.7**
CCUT				*e*Pg	**Pg**	**02 37 33.1**	**-2.7**
CCUT				*e*S	**Sb**	**02 38 26.1**	**+2.5**
NVAR	**Mina Array Bea**	**4.61**	**346**	Pn	**Pn**	**02 37 19.3**	**+2.1**
NVAR				Pg	**Pg**	**02 37 33.0**	**-3.1**
NVAR				Lg	Lg	02 38 37.1	
NVAR	**Mina Array Bea**	**4.61**	**346**	Pn	**Pn**	**02 37 19.3**	**+2.1**
	3.7nm,0.3s,baz=167,slow=15,SNR=42						
NVAR				Pg	**Pg**	**02 37 33.0**	**-3.1**
	8.8nm,0.3s,baz=166,slow=16,SNR=29						
NVAR				Lg	Lg	02 38 37.1	
	5.7nm,0.3s,baz=270,slow=23,SNR=4.2						
NVAR				LR	LR	02 38 53.8	
	comp=Z,157nm,20.6s,baz=210,slow=36						
SAO	**San Andreas Ge**	**4.66**	**308**	*e*Pn	**Pn**	**02 37 18.2**	**+0.4**
ARUT	**Antelope Range**	**4.74**	**35**	*e*Pn	**Pn**	**02 37 20.6**	**+1.6**
ARUT				*e*Pg	**Pg**	**02 37 35.7**	**-2.9**
ARUT				*e*S	**Sn**	**02 38 17.8**	**+3.9**
WUAZ	**Wupatki**	**4.80**	**70**	*e*Pn	**Pn**	**02 37 21.2**	**+1.3**
WUAZ				*e*S	**Sg**	**02 38 39.1**	**-2.9**
WUAZ	**Wupatki**	**4.80**	**70**	P	**Pn**	**02 37 21.6**	**+1.7**
	baz=4.8						
CMB	**Columbia Colle**	**4.96**	**326**	*e*Pn	**Pn**	**02 37 23.3**	**+1.4**
CMB				*e*S	**Sg**	**02 38 42.4**	**-4.6**
WAKR	**Walker**	**4.98**	**336**	*e*Pn	**Pn**	**02 37 25.1**	**+2.7**
WAKR				*e*Pg	**Pg**	**02 37 42.1**	**-1.2**
WAKR				*e*S	**Sg**	**02 38 43.4**	**-4.3**
TUC	**Tucson**	**5.38**	**106**	*e*Pn	**Pn**	**02 37 27.2**	**-0.5**
	7.2nm,0.4s						
TUC				*e*Sg	**Sg**	**02 38 59.4**	**-1.2**
X18A	**Snowflake**	**5.78**	**82**	P	**Pn**	**02 37 34.8**	**+1.5**
	baz=5.8						
MVU	**Marysvale**	**5.91**	**38**	Pn	**Pn**	**02 37 37.1**	**+2.0**
	35nm,0.5s						
MVU				*e*Pg	Pg	02 37 56.9	-4.0
MVU				*e*S	**Sg**	**02 39 22.1**	**+4.7**
W18A	**Petrified Fore**	**6.02**	**77**	*e*Pn	**Pn**	**02 37 38.8**	**+2.1**
	44nm,0.7s						
W18A				*e*S	Pg	02 37 59.5	-3.6
W18A				*e*S	**Sg**	**02 39 15.7**	**-5.3**
PAHR	**Pah Rah Range**	**6.08**	**342**	*e*Pn	**Pn**	**02 37 40.1**	**+2.7**
	30nm,0.9s						
PAHR				*e*Pg	**Pg**	**02 38 02.1**	**-2.1**
PAHR				*e*S	Sg	02 39 16.7	-6.2
MCCM	**Marconi Confer**	**6.40**	**312**	*e*Pn	**Pn**	**02 37 42.4**	**+0.7**
BMN	**Battle Mountai**	**6.47**	**358**	*e*Pn	**Pn**	**02 37 44.0**	**+1.2**
BMN				*e*S	**Sg**	**02 39 31.4**	**-4.0**
BEKR	**Beckworth**	**6.52**	**336**	*e*Pn	**Pn**	**02 37 46.4**	**+2.9**
	9.6nm,0.8s						
BEKR				*e*Pg	Pg	02 38 08.2	-4.4
BEKR				*e*S	**Sg**	**02 39 34.1**	**-2.9**
TMUT	**Trail Mountain**	**7.02**	**39**	Pn	**Pn**	**02 37 52.6**	**+2.2**
	11nm,0.5s						
TMUT				*e*Pg	**Pg**	**02 38 19.9**	**-2.3**
TMUT				*e*S	Sb	02 39 42.8	+9.4
DUG	**Dugway**	**7.03**	**26**	Pn	**Pn**	**02 37 51.4**	**+0.9**
	29nm,1.0s						
DUG				Pg	**Pg**	**02 38 19.5**	**-2.8**
DUG				*e*S	**Sg**	**02 39 50.8**	**-2.5**
NLU	**North Lily Min**	**7.12**	**31**	Pn	**Pn**	**02 37 52.9**	**+1.2**
NLU				*e*Pg	**Pg**	**02 38 21.9**	**-2.2**
NLU				*e*S	**Sg**	**02 39 50.6**	**-5.7**
SRU	**San Rafael**	**7.26**	**43**	*e*Pn	**Pn**	**02 37 54.2**	**+0.5**
	15nm,0.6s						
SRU				*e*Pg	Pg	02 38 22.5	-4.3
SRU				*e*S	**Sg**	**02 39 55.6**	**-5.2**
MVCO	**Mesa Verde**	**7.57**	**62**	*e*Pn	**Pn**	**02 37 57.2**	**-0.7**
	20nm,0.6s						
MVCO				*e*Pg	**Pg**	**02 38 32.3**	**-0.4**
MVCO				*e*S	**Sg**	**02 40 15.9**	**+5.2**
BGU	**Big Grassy Mou**	**7.60**	**23**	*e*Pn	**Pn**	**02 38 01.0**	**+2.7**
	3.8nm,0.7s						
BGU				*e*Pg	**Pg**	**02 38 33.7**	**+0.3**
BGU				*e*S	**Sg**	**02 40 07.4**	**-4.3**
121A	**Cookes Peak, D**	**7.76**	**98**	*e*Pn	**Pn**	**02 38 01.9**	**+1.4**
	10nm,0.4s						
121A	**Cookes Peak, D**	**7.76**	**98**	P	**Pn**	**02 38 02.7**	**+2.2**
	baz=7.7						
PV04	**Paradox Valley**	**7.83**	**53**	Pn	**Pn**	**02 38 02.9**	**+1.4**
PV01	**Paradox Valley**	**7.92**	**56**	*e*Pn	**Pn**	**02 38 05.4**	**+2.6**
	60μm,0.2s						
PV01				*e*S	Sg	02 40 13.0	-9.0
LAZ	**Ladron**	**8.09**	**84**	*e*Pn	**Pn**	**02 38 06.3**	**+1.2**
	3.4nm,0.8s						
LAZ				*e*S	Sg	02 40 18.0	-10
Z22A	**Elephant Butte**	**8.31**	**92**	P	**Pn**	**02 38 10.5**	**+2.4**
	baz=8.3						
222A	**Williams Famil**	**8.43**	**100**	P	**Pn**	**02 38 11.0**	**+1.4**
	baz=8.4						
V22A	**San Miguel Ran**	**8.43**	**74**	P	**Pn**	**02 38 12.8**	**+3.1**
	baz=8.4						
BNM	**Barren Site**	**8.52**	**86**	*e*Pn	**Pn**	**02 38 13.8**	**+2.8**
	4.2nm,0.6s						
ANMO	**Albuquerque**	**8.68**	**81**	Pn	**Pn**	**02 38 15.8**	**+2.7**
	4.2nm,0.8s						
ANMO				Lg	Lg	02 40 36.7	
ANMO	**Albuquerque**	**8.68**	**81**	Pn	**Pn**	**02 38 16.2**	**+3.1**
	0.2nm,0.3s,baz=270,slow=10,SNR=4.1						
ANMO				Lg	Lg	02 40 36.7	
	0.1nm,0.3s,baz=91,slow=17,SNR=3.1						
Z24A	**Sheeppen Canyo**	**9.63**	**91**	P	**Pn**	**02 38 28.9**	**+2.6**
	baz=9.6						
124A	**Stringfield Ra**	**9.65**	**94**	P	**Pn**	**02 38 29.1**	**+2.6**
	baz=9.6						
HLID	**Hailey**	**9.78**	**11**	Pn	Pn	02 38 32.7	+4.4
	2.8nm,1.0s						
MNTX	**Cornudas Mount**	**9.94**	**100**	*e*Pn	**Pn**	**02 38 31.8**	**+1.4**
	1.5nm,0.3s						
PDAR	**Pinedale Array**	**10.51**	**31**	Pn	Pn	02 38 42.1	+3.9
PDAR	**Pinedale Array**	**10.51**	**31**	Pn	Pn	02 38 42.1	+3.9
	0.1nm,0.3s,baz=214,slow=12,SNR=6.5						
TXAR	**Lajitas Array**	**12.17**	**109**	Pn	**Pn**	**02 39 04.0**	**+3.1**
TXAR				Lg	Lg	02 42 34.1	
TXAR	**Lajitas Array**	**12.17**	**109**	Pn	**Pn**	**02 39 04.0**	**+3.1**
	0.3nm,0.3s,baz=293,slow=12,SNR=12						
TXAR				Lg	Lg	02 42 34.1	
	0.0nm,0.3s,baz=301,slow=34,SNR=3.3						
TXAR				LR	LR	02 44 26.9	
	comp=Z,120nm,19.5s,baz=0.0,slow=41						
NEW	**Newport**	**14.29**	**359**	Pn	**P**	**02 39 34.1**	**-2.9**
NEW	**Newport**	**14.29**	**359**	Pn	**P**	**02 39 34.1**	**-2.9**
	0.1nm,0.3s,baz=127,slow=15,SNR=2.5						
ULM	**Lac du Bonnet**	**

STKA	**Stephens Creek**	**40.92**	**247**	P	P	02 46 45.7	-1.2	
	5.6nm,1.1s,baz=90,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**48.26**	**258**	P	P	02 47 45.5	-0.2	
	0.9nm,0.4s,baz=97,slow=6.9,SNR=17							
WRA	**Warramunga Arr**	**48.56**	**263**	P	P	02 47 48.1	+0.1	
	2.2nm,0.5s,baz=97,slow=8.4,SNR=56							

IDC 12 02:46:42.5±2.7, 22°.58N×143°.00E, h170km±25km, mb3.4/10, mb1 3.5/11, mb1mx3.4/26, mbtmp3.9/11, Error ellipse: s-maj=28.1km s-min=13.0km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.55**	**351**	P	Pn	02 47 50.4	-0.1
	29nm,0.3s,baz=285,slow=22,SNR=14						
SONM	**Songino Array**	**38.55**	**320**	P	P	02 53 49.0	+0.2
	0.5nm,0.5s,baz=130,slow=7.4,SNR=5.8						
WRA	**Warramunga Arr**	**43.10**	**192**	P	P	02 54 26.3	+0.2
	0.9nm,0.5s,baz=6.3,slow=9.5,SNR=21						
ASAR	**Alice Springs**	**46.81**	**191**	P	P	02 54 54.3	-1.0
	0.6nm,0.7s,baz=14,slow=8.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**53.42**	**321**	P	P	02 55 44.2	-0.4
	1.5nm,0.5s,baz=99,slow=7.7,SNR=6.5						
MKAR	**Makanchi Array**	**53.98**	**312**	P	P	02 55 49.0	+0.2
	0.6nm,0.5s,baz=88,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**54.17**	**181**	P	P	02 55 50.5	+0.3
	1.0nm,0.4s,baz=324,slow=14,SNR=4.5						
KURBB	**Kurchatov Array**	**56.77**	**317**	P	P	02 56 08.7	0.0
	2.8nm,0.5s,baz=94,slow=7.7,SNR=33						
ILAR	**Eielson Array**	**61.33**	**27**	P	P	02 56 39.0	-0.8
	0.2nm,0.6s,baz=246,slow=6.6,SNR=2.3						
YKA	**Yellowknife Ar**	**75.75**	**28**	P	P	02 58 09.9	+0.7
	0.3nm,0.5s,baz=292,slow=6.0,SNR=7.8						
FINES	**FINESS Array B**	**82.31**	**334**	P	P	02 58 43.9	-0.9
	1.6nm,0.9s,baz=35,slow=4.7,SNR=4.1						

*ISCJB **12** 02:47:29.2±0.9, 22°.52N±0°.07×142°.8E±0°.3, h150km, mb3.8/9, Error ellipse: s-maj=37.8km s-min=9.6km az=175.8*

*IDC **12** 02:47:31.1±2.2, 22°.58N×142°.91E, h153km±20km, mb3.5/9, mb1 3.7/10, mb1mx3.5/26, mbtmp4.1/10, Error ellipse: s-maj=34.2km s-min=13.1km az=81.0*

ISC 12 02:47:30.8±1.0, 22°.54N±0°.09×142°.9E±0°.3, h150km, n11, σ0°.93/12, mb3.9/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.59**	**352**	P	**Pn**	**02 48 40.2**	**+1.5**
	68nm,0.3s,baz=270,slow=23,SNR=12						
JCJ				S	**Sn**	**02 49 30.4**	**-1.4**
	38nm,0.3s,baz=323,slow=20,SNR=3.2						
KSRS	**Korea Array**	**19.71**	**322**	P	**Pn**	**02 51 52.6**	**+1.1**
	0.6nm,0.3s,baz=146,slow=8.7,SNR=8.8						
SONM	**Songino Array**	**38.55**	**320**	P	**P**	**02 54 38.6**	**-0.2**
	0.7nm,0.7s,baz=129,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**43.05**	**192**	P	**P**	**02 55 16.1**	**+0.3**
	1.6nm,0.5s,baz=16,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**46.76**	**191**	P	**P**	**02 55 45.0**	**-0.1**
	0.5nm,0.4s,baz=15,slow=9.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**53.41**	**321**	P	**P**	**02 56 34.5**	**-0.4**
	1.6nm,0.5s,baz=101,slow=7.7,SNR=6.9						
MKAR	**Makanchi Array**	**53.96**	**312**	P	**P**	**02 56 39.2**	**+0.1**
	0.9nm,0.5s,baz=91,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**54.12**	**181**	P	**P**	**02 56 40.1**	**-0.1**
	2.0nm,0.5s,baz=342,slow=9.6,SNR=4.8						
KURBB	**Kurchatov Array**	**56.76**	**317**	P	**P**	**02 56 58.5**	**-0.4**
	4.0nm,0.6s,baz=94,slow=7.5,SNR=27						
YKA	**Yellowknife Ar**	**75.83**	**28**	P	**P**	**02 59 00.3**	**+0.2**
	0.2nm,0.3s,baz=292,slow=5.9,SNR=4.2						
FINES	**FINESS Array B**	**82.33**	**334**	P	**P**	**02 59 34.1**	**-1.3**
	0.4nm,0.3s,baz=69,slow=5.8,SNR=5.0						

*CSEM **12** 03:19:24.2±0.3, 43°.54N×17°.47E, h2km, ML2.2, Error ellipse: s-maj=7.7km s-min=6.0km az=46.0*

BEO 12 03:19:23.3±0.5, 43°.54N×17°.37E, h0km, ML2.2/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.71**	**160**	*i* Pg	Pg	03 19 35.2	-1.7
STON				Sg	Sg	03 19 46.0	-0.1
STON	**Ston**	**0.71**	**160**	*e*Pg	Pg	03 19 35.6	-1.3
STON	**Ston**	**0.71**	**160**	*e*Pg	Pg	03 19 35.6	-1.3
STON				Sg	Sg	03 19 45.9	-0.2
BLY	**Banja Luka**	**1.22**	**354**	*e*Pg	Pg	03 19 45.9	-0.8
BLY				*i* Sg	Sg	03 20 02.9	+0.5
BLY	**Banja Luka**	**1.22**	**354**	*e*Pg	Pg	03 19 45.9	-0.8
BLY				*i* Sg	Sg	03 20 02.9	+0.5
BBLS	**Lazići**	**1.51**	**77**	*e*Pg	Pn	03 19 50.7	-1.0
BBLS				*e*Sg	Sg	03 20 10.7	-1.4
BBLS	**Lazići**	**1.51**	**77**	*e*Pg	Pn	03 19 50.7	-1.0
BBLS				*e*Sg	Sg	03 20 10.7	-1.4
UDBI	**Udbina**	**1.52**	**311**	*i* Pn	Pg	03 19 54.5	+1.9
UDBI				Sn	Sn	03 20 19.3	+6.8
UDBI	**Udbina**	**1.52**	**311**	*i* Pn	Pg	03 19 54.5	+1.9
UDBI				Sn	Sn	03 20 19.3	+6.8
PDG	**Podgorica**	**1.77**	**128**	*e*Pn	Pn	03 19 55.4	+0.2
PDG				*e*Sn	Sn	03 20 18.8	+0.4
PDG	**Podgorica**	**1.77**	**128**	*e*Pn	Pn	03 19 55.4	+0.2
PDG				*e*Sn	Sn	03 20 18.8	+0.4
SJES	**Sjenica**	**1.92**	**97**	*e*Pn	Pn	03 19 56.9	-0.5
SJES				*e*Sn	Sn	03 20 21.6	-0.7
DIVS	**Divibare**	**1.98**	**73**	*e*Pn	Pn	03 19 58.7	+0.5
DIVS				*e*Sn	Sn	03 20 23.5	-0.3
DIVS	**Divibare**	**1.98**	**73**	*e*Pn	Pn	03 19 58.7	+0.5
DIVS				*e*Sn	Sn	03 20 23.5	-0.3
IVAS	**Ivanjica**	**2.02**	**88**	*e*Pn	Pn	03 19 58.8	0.0
IVAS				*e*Sn	Sn	03 20 25.2	+0.4
IVAS	**Ivanjica**	**2.02**	**88**	*e*Pn	Pn	03 19 58.8	0.0
IVAS				*e*Sn	Sn	03 20 25.2	+0.4
NVLJ	**Novalja**	**2.07**	**300**	*e*Pn	Pb	03 20 02.1	+0.4
NVLJ				Sg	Sg	03 20 31.7	+1.8
NVLJ	**Novalja**	**2.07**	**300**	*e*Pn	Pb	03 20 02.1	+0.3
NVLJ				Sn	Sg	03 20 31.7	+1.8
TRUS	**Trudelj**	**2.30**	**72**	*e*Pn	Pn	03 20 01.6	-0.9
TRUS				*e*Sn	Sn	03 20 30.7	-0.8
TRUS	**Trudelj**	**2.30**	**72**	*e*Pn	Pn	03 20 01.6	-0.9
TRUS				*e*Sn	Sn	03 20 30.7	-0.8
FGSL	**Fruska Gora**	**2.38**	**46**	*e*Pn	Pn	03 20 03.5	-0.2
FGSL				*e*Sn	Sn	03 20 33.1	-0.5
FRGS	**Fruska Gora**	**2.38**	**46**	*e*Pn	Pn	03 20 03.5	-0.2
FRGS				*e*Sn	Sn	03 20 33.1	-0.5

SKO 12 03:20:43.1, 41°.51N×23°.05E, h1km, M0.9, ML1.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.41**	**243**	*i* Pg	Pg	03 20 51.2	+0.3
VAY				*i* Sg	Sg	03 20 57.0	+0.7
VAY				*e*Lg	Lg	03 20 57.1	
	comp=N,12nm,0.2s						
VAY				*e*Lg	Lg	03 20 57.1	
	comp=E,9.6nm,0.2s						
VAY	**Valandovo**	**0.41**	**243**	*i* Pg	Pg	03 20 51.2	+0.3
VAY				*e*Lg	Lg	03 20 57.1	
	comp=E,9.6nm,0.2s						

MEX 12 03:37:27.9±1.0, 16°.12N×98°.48W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**51**	*i* P	Pg	03 37 35.0	-1.3
PNIG				*i* S	Sg	03 37 42.4	+0.5
TLIG	**Tlapa**	**1.44**	**357**	*e*P	Pn	03 37 52.1	-2.7
TLIG				*e*S	Sb	03 38 09.1	-5.0
VHO	**Vista Hermosa**	**1.92**	**60**	*i* P	Pn	03 37 58.9	-2.7
VHO				*i* S	Sn	03 38 22.5	-3.8
HUIG	**Huatulco**	**2.30**	**98**	*i* P	Pn	03 38 04.3	-2.3
HUIG				*i* S	Sn	03 38 32.1	-3.2

WEL 12 03:50:38.2±0.2, 44°.17S×168°.45E, h5km, ML3.7/13, 3C, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.24**	**68**	⇑P*G	Pg	03 50 43.4	+0.3
JCZ				SG	Sg	03 50 46.9	+0.4
JCZ				AML	AML	03 50 48.4	
MSZ	**Milford Sound**	**0.63**	**216**	P*	Pg	03 50 49.9	-0.4
MSZ				AML	AML	03 50 59.2	
MSZ				AML	AML	03 51 00.3	
MSZ				AML	AML	03 51 04.3	
MSZ				AML	AML	03 51 04.6	
WKZ	**Wanaka**	**0.78**	**148**	P*	Pg	03 50 52.8	-0.4
WKZ				S*	Sg	03 51 03.9	+0.5
WKZ				AML	AML	03 51 04.4	
WKZ				AML	AML	03 51 04.5	
WKZ				AML	AML	03 51 04.7	
FOZ	**Fox Glacier**	**1.08**	**57**	P*	Pn	03 51 00.1	+0.1
FOZ				S*	Sn	03 51 16.6	+1.3
FOZ				AML	AML	03 51 17.0	
FOZ				AML	AML	03 51 17.1	
FOZ				AML	AML	03 51 17.7	
MLZ	**Mavora Lakes**	**1.20**	**189**	P*	Pg	03 51 00.3	-0.9
MLZ				AML	AML	03 51 22.3	
MLZ				AML	AML	03 51 24.8	
EAZ	**Earnscleugh**	**1.23**	**150**	P*	Pg	03 51 01.4	-0.5
EAZ				S*	Sg	03 51 17.9	+0.1
EAZ				AML	AML	03 51 18.0	
EAZ				AML	AML	03 51 21.2	
EAZ				AML	AML	03 51 22.0	
LBZ	**Lake Benmore**	**1.27**	**101**	⇑P*	Pg	03 51 02.1	-0.5
LBZ				S*	Sg	03 51 18.8	-0.3
LBZ				AML	AML	03 51 19.1	
LBZ				AML	AML	03 51 19.1	
LBZ				AML	AML	03 51 19.6	
DCZ	**Deep Cove**	**1.60**	**215**	PN	Pn	03 51 06.2	-0.9
DCZ				AML	AML	03 51 31.9	
DCZ				AML	AML	03 51 32.0	
DCZ				AML	AML	03 51 32.1	
WHZ	**Wether Hill Ro**	**1.76**	**191**	PN	Pn	03 51 09.7	+0.3
WHZ				AML	AML	03 51 37.0	
WHZ				AML	AML	03 51 37.4	
ODZ	**Otahua Downs**	**1.80**	**120**	⇑PN	Pn	03 51 09.8	-0.1
RPZ	**Rata Peaks**	**1.94**	**77**	PN	Pn	03 51 12.3	+0.5
RPZ				AML	AML	03 51 44.2	
RPZ				AML	AML	03 51 44.4	
TUZ	**Tuapeka**	**1.98**	**155**	PN	Pb	03 51 14.0	-0.6
TUZ				AML	AML	03 51 41.1	
TUZ				AML	AML	03 51 41.4	
WVZ	**Waitaha Valley**	**1.99**	**58**	PN	Pn	03 51 11.3	-1.1
WVZ				AML	AML	03 51 44.0	
HHSZ	**Highcliff Hill**	**2.30**	**139**	PN	Pn	03 51 18.5	+1.7
PYZ	**Puysegur Point**	**2.36**	**211**	PN	Pb	03 51 19.4	-1.8
SYZ	**Scrubby Hill**	**2.42**	**169**	PN	Pn	03 51 18.5	+0.1
SYZ				AML	AML	03 52 02.2	
APZ	**The Paps**	**2.69**	**187**	PN	Pn	03 51 22.8	+0.7
OXZ	**Oxford**	**2.74**	**73**	PN	Pn	03 51 21.8	-1.0
DSZ	**Denniston Nort**	**3.45**	**47**	PN	Pn	03 51 31.7	-1.0
THZ	**Tophouse**	**4.06**	**55**	PN	Pn	03 51 41.0	0.0
QRZ	**Quartz Range**	**4.50**	**44**	PN	Pn	03 51 46.1	-0.9

*IDC **12** 03:52:59.4±0.9, 8°.76S×157°.45E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML3.9/1, MS3.4/10, Ms1 3.4/10, ms1mx3.2/33, Error ellipse: s-maj=26.7km s-min=14.0km az=10.0*

ISC 12 03:53:01.7±0.8, 8°.8S±0°.2×157°.55E±0°.09, h17km, n17, σ0°.95/10, mb4.0/7, MS3.5/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.44**	**105**	Pn	**Pn**	**03 53 40.0**	**-0.9**
	25nm,0.3s,baz=204,slow=10,SNR=3.4						
HNR				Pg	**Pb**	**03 53 46.2**	**+0.9**
	31nm,0.3s,baz=261,slow=4.2,SNR=12						
HNR				Lg	Lg	03 54 21.6	
	46nm,0.3s,baz=234,slow=10,SNR=3.6						
HNR	**Honiara**	**2.44**	**105**	*e*P	**Pb**	**03 53 45.0**	**-0.2**
PMG	**Port Moresby**	**10.28**	**266**	LR	LR	03 59 10.4	
	comp=Z,125nm,20.0s,baz=163,slow=36						
DZM	**Mont Dzumac**	**15.71**	**148**	LR	LR	04 01 00.6	
	comp=Z,90nm,20.1s,baz=7.5,slow=30						
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**03 58 24.5**	**-0.6**
	7.4nm,1.1s,baz=66,slow=9.7,SNR=11						
WRA				LR	LR	04 08 07.3	
	comp=Z,145nm,18.5s,baz=40,slow=36						
ASAR	**Alice Springs**	**27.02**	**234**	P	**P**	**03 58 42.5**	**-0.7**
	1.5nm,1.0s,baz=57,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**03 58 46.8**	**+1.1**
	1.2nm,0.3s,baz=25,slow=14,SNR=2.8						
STKA				LR	LR	04 09 04.8	
	comp=Z,104nm,18.4s,baz=27,slow=35						
URZ	**Urewera**	**34.20**	**152**	LR	LR	04 11 53.6	
	comp=Z,84nm,18.0s,baz=328,slow=33						
JNU	**Nakatsue**	**48.83**	**330**	LR	LR	04 22 00.8	
	comp=Z,24nm,18.1s,baz=224,slow=36						
KSRS	**Korea Array**	**53.74**	**331**	LR	LR	04 23 41.9	
	comp=Z,22nm,19.1s,baz=62,slow=34						
ASAJ	**Asahikawa**	**54.40**	**347**	LR	LR	04 25 16.8	
	comp=Z,57nm,19.1s,baz=86,slow=36						
PETK	**Petropavlovsk-**	**61.68**	**0**	LR	LR	04 27 33.3	
	comp=Z,22nm,20.9s,baz=97,slow=34						
FX1	**Attu Island--F**	**62.89**	**11**	LR	LR	04 27 08.4	
	comp=Z,48nm,20.8s,baz=181,slow=33						
CMAR	**Chiang Mai Arr**	**63.85**	**295**	P	**P**	**04 03 34.5**	**+0.6**
	1.0nm,0.3s,baz=109,slow=5.1,SNR=6.9						
SONM	**Songino Array**	**72.23**	**327**	P	**P**	**04 04 26.0**	**-0.1**
	1.0nm,0.9s,baz=128,slow=4.8,SNR=5.0						
MKAR	**Makanchi Array**	**86.44**	**318**	P	**P**	**04 05 42.5**	**-1.1**
	0.9nm,0.7s,baz=98,slow=5.9,SNR=9.7						
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**04 06 32.1**	**+1.0**
	0.3nm,0.9s,baz=274,slow=5.3,SNR=3.3						

*ISCJB **12** 04:03:47.5±0.7, 18°.0S±0°.1×178°.3W±0°.1, h579km, mb3.8/13, Error ellipse: s-maj=23.2km s-min=12.6km az=137.3*

*IDC **12** 04:03:51.3±2.3, 18°.02S×178°.37W, h614km±28km, mb3.4/14, mb1 3.6/15, mb1mx3.5/22, mbtmp4.3/15, Error ellipse: s-maj=20.5km s-min=12.7km az=146.0*

ISC 12 04:03:48.1±0.7, 18°.0S±0°.2×178°.3W±0°.1, h579km, n53, σ0°.93/54, mb3.9/13, 9C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.90**	**252**	P	**P**	**04 06 57.2**	**+1.1**
	0.5nm,0.3s,baz=90,slow=20,SNR=4.8						
URZ	**Urewera**	**20.62**	**190**	P	**P**	**04 07 47.6**	**-0.6**
	11nm,0.9s,baz=353,slow=8.3,SNR=6.9						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**04 10 24.9**	**+1.5**
	3.2nm,0.9s,baz=151,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**44.71**	**260**	P	**P**	**04 11 11.4**	**+0.4**
	1.6nm,0.4s,baz=93,slow=7.5,SNR=69						
WRA				PcP	**PcP**	**04 12 40.0**	**-0.7**
	0.6nm,0.5s,baz=90,slow=3.9,SNR=6.3						
ASAR	**Alice Springs**	**44.87**	**254**	P	**P**	**04 11 13.1**	**+0.9**
	5.5nm,0.5s,baz=87,slow=8.5,SNR=66						
ASAR				PcP	**PcP**	**04 12 41.1**	**-0.2**
	1.6nm,0.5s,baz=101,slow=3.8,SNR=12						
ASAR				S	**S**	**04 17 05.8**	**-2.9**
	1.8nm,0.9s,baz=88,slow=15,SNR=10.0						
MJAR	**Matsushiro Ar**	**68.00**	**323**	P	**P**	**04 13 50.6**	**+0.1**
	2.8nm,0.6s,baz=162,slow=6.0,SNR=6.5						
PETK	**Petropavlovsk-**	**73.75**	**345**	P	**P**	**04 14 24.0**	**+0.3**
	2.3nm,0.6s,baz=116,slow=6.6,SNR=3.2						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**04 14 56.1**	**+0.9**
	0.7nm,0.8s,baz=235,slow=8.7,SNR=3.6						
SEY	**Seymchan**	**83.84**	**347**	P	**P**	**04 15 16.1**	**-0.9**
	2.5nm,0.6s,baz=65,slow=23,SNR=6.5						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**04 15 26.3**	**-0.7**
	0.8nm,0.5s,baz=218,slow=5.1,SNR=25						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**04 15 30.1**	**+2.0**
	1.1nm,0.7s,baz=238,slow=4.3,SNR=8.3						
PDAR	**Pinedale Array**	**87.32**	**43**	P	**P**	**04 15 34.8**	**+0.2**
	0.8nm,0.7s,baz=208,slow=2.9,SNR=7.0						
CMAR	**Chiang Mai Arr**	**88.99**	**290**	P	**P**	**04 15 43.5**	**+1.1**
	1.1nm,0.3s,baz=112,slow=3.5,SNR=5.0						
SONM	**Songino Array**	**93.65**	**319**	P	**P**	**04 16 04.4**	**+1.0**
	0.2nm,0.5s,baz=132,slow=4.1,SNR=2.4						
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**04 16 05.5**	**-0.5**
	0.2nm,0.5s,baz=242,slow=4.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**108.33**	**322**	PKiKP	**PKiKP**	**04 21 09.0**	**-1.9**
	0.6nm,0.5s,baz=48,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**109.23**	**314**	PKiKP	**PKiKP**	**04 21 11.6**	**-1.4**
	0.5nm,0.5s,baz=159,slow=0.7,SNR=13						
FINES	**FINESS Array B**	**133.26**	**344**	PKP	**PKPdf**	**04 21 55.7**	**-2.7**
	1.0nm,0.7s,baz=75,slow=1.6,SNR=3.6						
AKASG	**Malin Array Be**	**140.64**	**332**	PKhKP	PKPpre	04 22 04.5	
	0.3nm,0.4s,baz=37,slow=4.4,SNR=5.3						
AKASG				PKP	**PKPdf**	**04 22 13.4**	**+1.1**
	0.3nm,0.4s,baz=36,slow=3.9,SNR=4.1						
KWP	**Kalwaria Pacla**	**144.15**	**337**	⇑*i*P	PKPbc	04 22 18.3	0.0
TLCR		**144.66**	**326**	⇑*i*P	**PKPdf**	**04 22 19.7**	**+0.2**
OJC	**Ojcow**	**144.69**	**340**	*e*PX	**PKPdf**	**04 22 19.6**	**+0.1**
BURAR	**Bucovina Array**	**144.70**	**332**	⇓*i*P	PKPbc	04 22 20.1	0.0
TESR	**Tescani**	**144.85**	**330**	⇓*i*P	PKPbc	04 22 20.3	-0.2
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	**PKPdf**	**04 22 20.6**	**+0.3**
	2.6nm,0.7s,baz=96,slow=2.3,SNR=16						
NIE	**Niedzica**	**145.20**	**339**	*e*PX	**PKPbc**	**04 22 21.8**	**+0.3**
TRPA	**Tarpa**	**145.43**	**335**	⇓*i*P	**PKPbc**	**04 22 22.0**	**-0.1**
CLL	**Collm**	**145.53**	**347**	⇓*i*PKP	**PKPbc**	**04 22 22.0**	**-0.3**
	comp=Z,8.0nm,0.8s						
UPC	**Upice**	**145.56**	**344**	*e*P	**PKPbc**	**04 22 22.8**	**+0.3**
DPC	**Dobruska-Polom**	**145.62**	**343**	*e*P	**PKPbc**	**04 22 23.0**	**+0.3**
DPC				*ex*	x	04 22 25.1	
BRG	**Berggiesshubel**	**145.73**	**346**	*e*P	**PKPbc**	**04 22 22.8**	**-0.1**
	comp=Z,4.0nm,0.7s						
KRLC	**Kraliky**	**145.74**	**343**	*e*P	**PKPbc**	**04 22 23.1**	**+0.1**
DOPR	**Dopca**	**145.84**	**330**	⇓*i*P	**PKPbc**	**04 22 24.0**	**+0.6**
PVCC	**Panska Ves**	**145.91**	**345**	*e*P	**PKPbc**	**04 22 23.8**	**+0.4**
MLR	**Muntele Rosu**	**145.92**	**329**	⇑*i*P	**PKPbc**	**04 22 23.9**	**+0.1**
VOIR		**146.39**	**330**	⇑*i*P	**PKPbc**	**04 22 25.1**	**+0.1**
PRU	**Pruhonice**	**146.41**	**345**	*e*P	**PKPbc**	**04 22 24.7**	**-0.1**
PRU				*ex*	x	04 22 27.6	
DRGR		**146.42**	**334**	⇑*i*P	**PKPbc**	**04 22 24.8**	**-0.3**
ARR	**Arges**	**146.64**	**330**	⇓*i*P	**PKPbc**	**04 22 26.2**	**+0.5**
NKC	**Novy Kostel**	**146.66**	**347**	*e*P	**PKPbc**	**04 22 25.1**	**-0.4**
NKC				*ex*	x	04 22 28.2	
TREC	**Trest**	**146.81**	**343**	*e*P	**PKPbc**	**04 22 25.3**	**-0.7**
KHC	**Kasperske Hory**	**147.44**	**345**	*e*P	**PKPbc**	**04 22 27.7**	**0.0**
KHC				*ex*	x	04 22 31.1	
GZR	**Gura Zlata**	**147.48**	**332**	⇓*i*P	**PKPbc**	**04 22 27.3**	**-0.6**
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	**PKPbc**	**04 22 28.1**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=24,slow=3.1,SNR=25						
BZS	**Buzias**	**147.82**	**333**	⇑*i*P	**PKPbc**	**04 22 28.0**	**-0.6**
CONA	**Conrad Observa**	**147.94**	**342**	⇑*i*PKPbc	**PKPbc**	**04 22 29.2**	**+0.2**
	comp=Z,4.7nm,1.0s						
PKSM	**Moragy**	**148.51**	**337**	⇓*i*P	**PKPbc**	**04 22 29.9**	**-0.4**
KDZ	**Kurdzhali**	**148.86**	**324**	⇓*i*P	**PKPbc**	**04 22 31.3**	**-0.1**
VTS	**Vitosha**	**149.38**	**328**	⇓*i*P	**PKPbc**	**04 22 32.6**	**-0.2**
KBA	**Koelnbreinsper**	**149.41**	**344**	⇑*i*PKPbc	**PKPbc**	**04 22 32.0**	**-0.8**
	comp=Z,4.8nm,1.0s						
MMB	**Musomiste**	**149.82**	**326**	⇑*i*P	**PKPbc**	**04 22 33.2**	**-0.5**
ABTA	**Abfaltersbach**	**149.93**	**345**	⇓*i*PKPbc	**PKPbc**	**04 22 32.8**	**-1.1**
	comp=Z,6.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**175.22**	**180**	PKP	**PKPdf**	**04 22 51.4**	**-1.7**
	comp=Z,0.7nm,1.0s,baz=235,slow=0.2,SNR=3.4						
TORD				PKPab	**PKPab**	**04 24 33.1**	**0.0**
	comp=Z,0.3nm,0.8s,baz=178,slow=5.2,SNR=2.9						

IDC 12 04:10:29.1±2.2, 7°.19S×129°.80E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=137.5km s-min=31.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.42**	**161**	Pn	Pn	04 13 40.5	-0.6
	0.4nm,0.3s,baz=343,slow=13,SNR=12						
WRA				Sn	Sn	04 16 05.9	-5.2
	0.3nm,0.3s,baz=333,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**16.85**	**167**	Pn	Pn	04 14 27.2	+0.5
	0.2nm,0.3s,baz=352,slow=12,SNR=6.9						
MKAR	**Makanchi Array**	**68.27**	**327**	P	P	04 21 32.0	0.0
	0.5nm,0.5s,baz=116,slow=7.8,SNR=8.0						

*IDC **12** 04:15:18.2±0.7, 55°.73N×162°.89E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/28, mbtmp3.7/13, ML3.4/1, Error ellipse: s-maj=21.5km s-min=13.2km az=24.0*

*MOS **12** 04:15:19.9±1.3, 55°.86N×163°.24E, h18km, mb4.1/5, Error ellipse: s-maj=13.5km s-min=9.6km az=94.4*

*KRSC **12** 04:15:19.8±1.0, 55°.74N×163°.23E, h19km±21km, ML4.4*

*ISCJB **12** 04:15:20.5±0.7, 55°.81N±0°.02×163°.32E±0°.04,

PET				smax	smax		
	comp=N,331nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET	**Petropavlovsk**	**3.90**	**225**	*eP*	**Pn**	**04 16 21.5**	**+0.8**
PET				*eS*	**Sn**	**04 17 05.3**	**-0.4**
PETK	**Petropavlovsk-**	**4.24**	**231**	PN	**Pn**	**04 16 26.6**	**+1.2**
PETK						04 17 19.8	
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK				smax	smax		
	comp=N,8.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.24**	**231**	Pn	**Pn**	**04 16 26.6**	**+1.2**
	comp=N,3.9nm,0.3s,baz=85,slow=21,SNR=15						
PETK				Sn	**Sn**	**04 17 19.8**	**+5.7**
	comp=N,7.5nm,0.3s,baz=258,slow=20,SNR=9.4						
RUS	**Russkaya**	**4.42**	**220**	PN	**Pn**	**04 16 27.0**	**-0.8**
RUS	**Russkaya**	**4.42**	**220**	*eP*	**Pn**	**04 16 27.0**	**-0.8**
RUS				*eS*	**Sn**	**04 17 17.0**	**-1.4**
GRL	**Gorelyy**	**4.49**	**224**	*eP*	**Pn**	**04 16 30.2**	**+1.3**
MTVR	**Mutnovka**	**4.50**	**223**	*eP*	**Pn**	**04 16 30.5**	**+1.4**
MTVR				*eS*	**Sn**	**04 17 20.4**	**-0.3**
APC	**Apacha**	**4.60**	**232**	*eP*	**Pn**	**04 16 31.8**	**+1.4**
APC				*eS*	**Sn**	**04 17 22.6**	**-0.4**
ASAK	**Asacha**	**4.69**	**224**	*eP*	**Pn**	**04 16 32.4**	**+0.8**
ASAK				*eS*	**Sn**	**04 17 26.5**	**+1.3**
FX1	**Attu Island--F**	**6.56**	**113**	Pn	**Pn**	**04 16 56.2**	**-1.0**
	comp=N,2.5nm,0.3s,baz=270,slow=19,SNR=19						
FX1				Sn	**Sn**	**04 18 07.9**	**-3.2**
	comp=N,2.4nm,0.3s,baz=115,slow=19,SNR=4.2						
SKR	**Severo-Kuril's**	**6.71**	**222**	*eP*	**Pn**	**04 17 01.1**	**+1.7**
ILAR	**Eielson Array**	**25.59**	**49**	P	**P**	**04 20 49.7**	**+0.5**
	comp=N,0.2nm,0.5s,baz=245,slow=7.4,SNR=4.1						
SONM	**Songino Array**	**35.07**	**281**	P	**P**	**04 22 12.1**	**-1.2**
	comp=N,0.3nm,0.4s,baz=63,slow=7.4,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**36.20**	**174**	T	T	05 00 52.0	
	baz=359,slow=77,SNR=209						
H11N3	**WAKE ISLAND Hy**	**36.22**	**174**	T	T	05 00 53.0	
	baz=359,slow=77,SNR=189						
H11N1	**WAKE ISLAND Hy**	**36.22**	**174**	T	T	05 00 53.2	
	baz=359,slow=77,SNR=223						
H11S1	**WAKE ISLAND Hy**	**37.41**	**175**	T	T	05 02 40.4	
	baz=342,SNR=14						
H11S3	**WAKE ISLAND Hy**	**37.42**	**175**	T	T	05 02 42.1	
	baz=342,SNR=11						
H11S2	**WAKE ISLAND Hy**	**37.43**	**174**	T	T	05 02 32.1	
	baz=342,SNR=8.0						
YKA	**Yellowknife Ar**	**39.90**	**46**	P	**P**	**04 22 55.2**	**+1.4**
	comp=N,0.3nm,0.6s,baz=300,slow=8.0,SNR=5.5						
MKAR	**Makanchi Array**	**48.58**	**295**	P	**P**	**04 24 01.1**	**-2.4**
MKAR	**Makanchi Array**	**48.58**	**295**	P	**P**	**04 24 01.1**	**-2.4**
	comp=N,0.4nm,0.4s,baz=56,slow=6.5,SNR=12						
ARCES	**ARCESS Array B**	**51.18**	**342**	P	**P**	**04 24 24.5**	**+1.6**
	comp=N,3.8nm,0.8s,baz=9.5,slow=8.2,SNR=2.8						
FINES	**FINESS Array B**	**58.25**	**337**	P	**P**	**04 25 13.5**	**-0.7**
	comp=N,1.2nm,0.8s,baz=28,slow=6.3,SNR=2.9						
NOA	**NORSAR Array B**	**61.34**	**345**	P	**P**	**04 25 35.2**	**-0.2**
	comp=N,0.6nm,0.5s,baz=20,slow=6.9,SNR=6.2						
AKASG	**Malin Array Be**	**67.11**	**330**	P	**P**	**04 26 12.6**	**-0.8**
AKASG	**Malin Array Be**	**67.11**	**330**	P	**P**	**04 26 12.6**	**-0.8**
	comp=N,0.4nm,0.4s,baz=28,slow=6.9,SNR=4.5						
TXAR	**Lajitas Array**	**67.94**	**77**	P	**P**	**04 26 21.1**	**+2.1**
	comp=N,1.0nm,0.7s,baz=302,slow=4.4,SNR=9.9						
BRTR	**Keskin Array B**	**75.57**	**322**	P	**P**	**04 27 05.7**	**+0.8**
	comp=N,0.5nm,0.8s,baz=37,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**79.39**	**208**	P	**P**	**04 27 24.5**	**-1.6**
	comp=N,0.1nm,0.3s,baz=359,slow=6.0,SNR=9.7						
ASAR	**Alice Springs**	**83.06**	**207**	P	**P**	**04 27 44.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=9.7,slow=5.4,SNR=4.7						

IDC ***12*** *04:25:18.6±1.6, 39.°11N×21.°19E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/26, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=93.0km s-min=26.5km az=140.0*

SOF ***12*** *04:25:26.4, 38.°20N×22.°21E, h36km, MD3.0*

ATH ***12*** *04:25:27.5, 38.°29N×22.°16E, h67km±1km, ML3.5*

ISCJB ***12*** *04:25:27.8±0.2, 38.°30N±0.°01×22.°19E±0.°02, h72km±2km, mb3.6/4, Error ellipse: s-maj=2.5km s-min=2.0km az=180.0*

THE ***12*** *04:25:28.6, 38.°29N×22.°21E, h66km±1km, ML3.2/31, Error ellipse: s-maj=1.6km s-min=0.6km az=254.0*

CSEM ***12*** *04:25:28.9±0.1, 38.°30N×22.°15E, h60km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.7km az=87.0*

ISC 12 04:25:28.3±0.7, 38.°29N±0.°02×22.°18E±0.°02, h62km±3km, n245, σ1°00/382, mb3.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KALE	**Kalithea**	**0.10**	**342**	P		**Pn**	**04 25 37.8**	**+0.1**
KALE				S		**Sn**	**04 25 44.8**	**+0.3**
KALE	**Kalithea**	**0.10**	**342**	*eP*		**Pn**	**04 25 37.7**	**+0.1**
KALE				*eS*		**Sn**	**04 25 44.7**	**+0.3**
KALE	**Kalithea**	**0.10**	**342**	P		**Pn**	**04 25 37.8**	**+0.1**
KALE				S		**Sn**	**04 25 44.8**	**+0.3**
LAKA	**Lakka**	**0.17**	**252**	P		**Pn**	**04 25 37.6**	**-0.3**
LAKA	**Lakka**	**0.17**	**252**	*eP*		**Pn**	**04 25 37.4**	**-0.5**
LAKA	**Lakka**	**0.17**	**252**	P		**Pn**	**04 25 37.6**	**-0.3**
KLV	**Kalavryta, Ach**	**0.25**	**186**	P		**Pn**	**04 25 38.1**	**-0.3**
KLV				S		**Sn**	**04 25 45.7**	**+0.1**
KLV	**Kalavryta, Ach**	**0.25**	**186**	*eP*		**Pn**	**04 25 38.1**	**-0.3**
KLV				*eS*		**Sn**	**04 25 45.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.25**	**186**	*eP*		**Pn**	**04 25 38.1**	**-0.3**
KLV				*eS*		**Sn**	**04 25 45.8**	**+0.1**
EFP	**Efpalio**	**0.26**	**302**	P		**Pn**	**04 25 38.4**	**+0.2**
EFP				S		**Sn**	**04 25 46.5**	**+0.9**
EFP	**Efpalio**	**0.26**	**302**	*eP*		**Pn**	**04 25 38.5**	**+0.2**
EFP				*eS*		**Sn**	**04 25 46.5**	**+0.9**
EFP	**Efpalio**	**0.26**	**302**	*eP*		**Pn**	**04 25 38.5**	**+0.2**
EFP				*eS*		**Sn**	**04 25 46.5**	**+0.9**
DSF	**Desfina**	**0.30**	**66**	P		**Pn**	**04 25 39.1**	**+0.4**
DSF				S		**Sn**	**04 25 47.0**	**+0.8**
DSF	**Desfina**	**0.30**	**66**	*eP*		**Pn**	**04 25 39.0**	**+0.4**
DSF				*eS*		**Sn**	**04 25 46.6**	**+0.4**
DSF	**Desfina**	**0.30**	**66**	P		**Pn**	**04 25 39.1**	**+0.4**
DSF				S		**Sn**	**04 25 47.0**	**+0.8**
UPR	**University Cam**	**0.31**	**269**	P		**Pn**	**04 25 39.0**	**+0.3**
UPR				S		**Sn**	**04 25 47.9**	**+1.7**
UPR	**University Cam**	**0.31**	**269**	P		**Pn**	**04 25 38.8**	**+0.1**
UPR				S		**Sn**	**04 25 47.3**	**+1.1**
GUR	**Goura**	**0.38**	**160**	P		**Pn**	**04 25 39.5**	**+0.1**
GUR				S		**Sn**	**04 25 47.5**	**+0.1**
GUR	**Goura**	**0.38**	**160**	*eP*		**Pn**	**04 25 39.5**	**+0.1**
GUR				*eS*		**Sn**	**04 25 47.4**	**+0.1**
GUR	**Goura**	**0.38**	**160**	*eP*		**Pn**	**04 25 39.5**	**+0.1**
GUR				S		**Sn**	**04 25 47.5**	**+0.1**
DRO	**Drossia**	**0.50**	**228**	P		**Pn**	**04 25 40.4**	**-0.1**
DRO				S		**Sn**	**04 25 50.0**	**+0.7**
DRO	**Drossia**	**0.50**	**228**	*eP*		**Pn**	**04 25 40.4**	**-0.1**
DRO				*eS*		**Sn**	**04 25 50.5**	**+1.2**
DRO	**Drossia**	**0.50**	**228**	*eP*		**Pn**	**04 25 40.4**	**-0.1**
DRO				S		**Sn**	**04 25 50.0**	**+0.7**
AXAR	**Agios Charalam**	**0.60**	**38**	P		**Pn**	**04 25 42.5**	**+0.9**
AXAR				S		**Sn**	**04 25 52.9**	**+1.6**
AXAR	**Agios Charalam**	**0.60**	**38**	P		**Pn**	**04 25 42.4**	**+0.9**
AXAR				S		**Sn**	**04 25 52.2**	**+0.9**
PVO	**Paravola**	**0.61**	**302**	P		**Pn**	**04 25 42.8**	**+1.2**
PVO				S		**Sn**	**04 25 54.1**	**+2.8**
PVO	**Paravola**	**0.61**	**302**	P		**Pn**	**04 25 42.8**	**+1.2**
PVO				S		**Sn**	**04 25 53.3**	**+2.0**
RLS	**Riolos of Patr**	**0.61**	**248**	P		**Pn**	**04 25 41.9**	**+0.3**
RLS				S		**Sn**	**04 25 52.3**	**+1.0**
RLS	**Riolos of Patr**	**0.61**	**248**	*eP*		**Pn**	**04 25 41.8**	**+0.2**
RLS				*eS*		**Sn**	**04 25 52.1**	**+0.8**
RLS	**Riolos of Patr**	**0.61**	**248**	*eP*		**Pn**	**04 25 41.8**	**+0.2**
RLS				S		**Sn**	**04 25 51.0**	**-0.3**
LTK	**Loutraki**	**0.67**	**113**	P		**Pn**	**04 25 42.8**	**+0.4**
LTK				S		**Sn**	**04 25 53.5**	**+0.8**
LTK	**Loutraki**	**0.67**	**113**	*eP*		**Pn**	**04 25 42.7**	**+0.4**
LTK	**Loutraki**	**0.67**	**113**	P		**Pn**	**04 25 42.8**	**+0.4**
LTK				S		**Sn**	**04 25 53.5**	**+0.8**
EVR	**Evrytania**	**0.69**	**335**	P		**Pn**	**04 25 43.8**	**+1.1**
EVR				S		**Sn**	**04 25 55.4**	**+2.2**
EVR	**Evrytania**	**0.69**	**335**	*eP*		**Pn**	**04 25 43.3**	**+0.6**
EVR				*eS*		**Sn**	**04 25 54.2**	**+1.0**
EVR	**Evrytania**	**0.69**	**335**	*eP*		**Pn**	**04 25 43.3**	**+0.6**
EVR				*eS*		**Sn**	**04 25 54.2**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.72**	**357**	P		**Pn**	**04 25 44.0**	**+1.0**
MAKR				S		**Sn**	**04 25 55.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**0.72**	**357**	*eP*		**Pn**	**04 25 43.8**	**+0.8**
MAKR				*eS*		**Sn**	**04 25 55.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**0.72**	**357**	*eP*		**Pn**	**04 25 43.8**	**+0.8**
MAKR				S		**Sn**	**04 25 53.7**	**0.0**
LKR	**Lokris**	**0.73**	**61**	P		**Pn**	**04 25 43.9**	**+0.8**
LKR				S		**Sn**	**04 25 55.6**	**+1.7**
LKR	**Lokris**	**0.73**	**61**	*eP*		**Pn**	**04 25 43.8**	**+0.7**
LKR	**Lokris**	**0.73**	**61**	*eP*		**Pn**	**04 25 43.8**	**+0.7**
LKR				S		**Sn**	**04 25 55.6**	**+1.7**
AGG	**Agios Georgios**	**0.74**	**9**	P		**Pn**	**04 25 43.8**	**+0.6**
AGG				S		**Sn**	**04 25 55.0**	**+0.9**
AGG	**Agios Georgios**	**0.74**	**9**	*eP*		**Pn**	**04 25 43.8**	**+0.6**
AGG				*eS*		**Sn**	**04 25 55.2**	**+1.1**
AGG	**Agios Georgios**	**0.74**	**9**	*eP*		**Pn**	**04 25 43.8**	**+0.6**
AGG				S		**Sn**	**04 25 55.0**	**+0.9**
PDO	**Prodromos**	**0.84**	**292**	P		**Pn**	**04 25 45.2**	**+0.8**
PDO				S		**Sn**	**04 25 58.3**	**+2.0**
PDO	**Prodromos**	**0.84**	**292**	*eP*		**Pn**	**04 25 45.1**	**+0.7**
PDO	**Prodromos**	**0.84**	**292**	*eP*		**Pn**	**04 25 45.1**	**+0.7**
PDO				S		**Sn**	**04 25 57.8**	**+1.5**
AMT	**Artemida-Makis**	**0.84**	**206**	P		**Pn**	**04 25 45.2**	**+0.7**
AMT				S		**Sn**	**04 25 57.9**	**+1.5**
AMT	**Artemida-Makis**	**0.84**	**206**	*eP*		**Pn**	**04 25 45.2**	**+0.7**
AMT	**Artemida-Makis**	**0.84**	**206**	P		**Pn**	**04 25 45.0**	**+0.5**
AMT				S		**Sn**	**04 25 57.9**	**+1.5**
VLX	**Vlachokerasia**	**0.93**	**170**	P		**Pn**	**04 25 46.3**	**+0.6**
VLX				S		**Sn**	**04 25 58.6**	**+0.1**
VLX	**Vlachokerasia**	**0.93**	**170**	*eP*		**Pn**	**04 25 46.2**	**+0.6**
VLX	**Vlachokerasia**	**0.93**	**170**	*eP*		**Pn**	**04 25 46.2**	**+0.6**
VLX				S		**Sn**	**04 25 58.6**	**+0.1**
SMIA	**Simia**	**1.00**	**54**	P		**Pn**	**04 25 47.3**	**+0.8**
SMIA				S		**Sn**	**04 26 01.5**	**+1.7**
SMIA	**Simia**	**1.00**	**54**	*eP*		**Pn**	**04 25 47.2**	**+0.8**
SMIA				*eS*		**Sn**	**04 26 00.9**	**+1.1**
SMIA	**Simia**	**1.00**	**54**	*eP*		**Pn**	**04 25 47.2**	**+0.8**
SMIA				*eS*		**Sn**	**04 26 00.9**	**+1.1**
KFL	**Anninata**	**1.11**	**261**	P		**Pn**	**04 25 47.4**	**-0.5**
KFL				S		**Sn**	**04 26 04.8**	**+2.3**
KFL	**Anninata**	**1.11**	**261**	P		**Pn**	**04 25 47.4**	**-0.5**
KFL				S		**Sn**	**04 26 04.8**	**+2.3**
ITM	**Ithomi**	**1.13**	**190**	P		**Pn**	**04 25 49.4**	**+1.3**
ITM				S		**Sn**	**04 26 06.3**	**+3.5**
ITM	**Ithomi**	**1.13**	**190**	*eP*		**Pn**	**04 25 49.3**	**+1.2**
ITM				*eS*		**Sn**	**04 26 04.1**	**+1.3**
ITM	**Ithomi**	**1.13**	**190**	*eP*		**Pn**	**04 25 49.3**	**+1.2**
ITM				*eS*		**Sn**	**04 26 04.1**	**+1.3**
DID	**Didima**	**1.15**	**133**	P		**Pn**	**04 25 48.5**	**+0.1**
DID				S		**Sn**	**04 26 03.7**	**+0.4**
DID	**Didima**	**1.15**	**133**	*eP*		**Pn**	**04 25 48.5**	**+0.1**
DID	**Didima**	**1.15**	**133**	*eP*		**Pn**	**04 25 48.5**	**+0.1**
DID				S		**Sn**	**04 26 03.7**	**+0.4**
NAIG	**Nisos Aigina**	**1.16**	**117**	*eP*		**Pn**	**04 25 49.4**	**+0.9**
NAIG	**Nisos Aigina**	**1.16**	**117**	*eP*		**Pn**	**04 25 49.4**	**+0.9**
MRKA	**Markates**	**1.18**	**69**	P		**Pn**	**04 25 49.6**	**+0.8**
MRKA				S		**Sn**	**04 26 05.4**	**+1.4**
MRKA	**Markates**	**1.18**	**69**	*eP*		**Pn**	**04 25 49.5**	**+0.8**
MRKA				*eS*		**Sn**	**04 26 05.6**	**+1.6**
MRKA	**Markates**	**1.18**	**69**	*eP*		**Pn**	**04 25 49.5**	**+0.8**
MRKA				S		**Sn**	**04 26 05.4**	**+1.4**
ATH	**Athens Observa**	**1.25**	**104**	P		**Pn**	**04 25 50.6**	**+0.8**
ATH				S		**Sn**	**04 26 05.4**	**-0.3**
ATH	**Athens Observa**	**1.25**	**104**	*eP*		**Pn**	**04 25 50.5**	**+0.8**
ATH				*eS*		**Sn**	**04 26 06.2**	**+0.5**
ATH	**Athens Observa**	**1.25**	**104**	*eP*		**Pn**	**04 25 50.5**	**+0.8**
ATH				*eS*		**Sn**	**04 26 06.2**	**+0.5**
VLS	**Valsamata**	**1.26**	**265**	P		**Pn**	**04 25 48.8**	**-1.0**
VLS				S		**Sn**	**04 26 07.7**	**+1.8**
VLS	**Valsamata**	**1.26**	**265**	*eP*		**Pn**	**04 25 48.9**	**-0.9**
VLS	**Valsamata**	**1.26**	**265**	*eP*		**Pn**	**04 25 48.9**	**-0.9**
VLS				S		**Sn**	**04 26 07.7**	**+1.8**
FYTO	**Fytoko, Volos**	**1.26**	**28**	P		**Pn**	**04 25 50.5**	**+0.6**
FYTO				S		**Sn**	**04 26 07.5**	**+1.5**
FYTO	**Fytoko, Volos**	**1.26**	**28**	P		**Pn**	**04 25 50.5**	**+0.6**
FYTO				S		**Sn**	**04 26 07.5**	**+1.5**
THL	**Klokotos Trika**	**1.28**	**354**	P		**Pn**	**04 25 50.6**	**+0.5**
THL				S		**Sn**	**04 26 07.3**	**+1.0**
THL	**Klokotos Trika**	**1.28**	**354**	*eP*		**Pn**	**04 25 50.5**	**+0.5**
THL	**Klokotos Trika**	**1.28**	**354**	*eP*		**Pn**	**04 25 50.5**	**+0.5**
THL				S		**Sn**	**04 26 07.3**	**+1.0**
ERET	**Eretria**	**1.29**	**83**	P		**Pn**	**04 25 51.3**	**+1.1**
ERET				S		**Sn**	**04 26 08.2**	**+1.6**
ERET	**Eretria**	**1.29**	**83**	P		**Pn**	**04 25 51.3**	**+1.1**
ERET				S		**Sn**	**04 26 08.2**	**+1.6**
NEO	**Neokhori**	**1.30**	**38**	P		**Pn**	**04 25 51.2**	**+0.8**
NEO				S		**Sn**	**04 26 07.8**	**+0.9**
NEO	**Neokhori**	**1.30**	**38**	*eP*		**Pn**	**04 25 51.1**	**+0.7**
NEO	**Neokhori**	**1.30**	**38**	*eP*		**Pn**	**04 25 51.1**	**+0.7**
NEO				S		**Sn**	**04 25 51.3**	**+0.9**
ATHU	**Athens Univers**	**1.30**	**104**	P		**Pn**	**04 25 51.3**	**+0.9**
ATHU				S		**Sn**	**04 26 06.7**	**-0.3**
ATHU	**Athens Univers**	**1.30**	**104**	P		**Pn**	**04 25 51.3**	**+0.9**
ATHU				S		**Sn**	**04 26 06.7**	**-0.3**
SKIA	**Skiathos**	**1.33**	**49**	P		**Pn**	**04 25 51.7**	**+0.9**
SKIA				S		**Sn**	**04 26 09.1**	**+1.5**
SKIA	**Skiathos**	**1.33**	**49**	*eP*		**Pn**	**04 25 51.5**	**+0.7**
SKIA				*eS*		**Sn**	**04 26 09.2**	**+1.6**
SKIA	**Skiathos**	**1.33**	**49**	*eP*		**Pn**	**04 25 51.5**	**+0.7**
SKIA				S		**Sn**	**04 26 09.1**	**+1.5**
XOR	**Xorichti**	**1.33**	**36**	P		**Pn**	**04 25 51.5**	**+0.6**
XOR				S		**Sn**	**04 26 08.3**	**+0.6**
XOR	**Xorichti**	**1.33**	**36**	*eP*		**Pn**	**04 25 51.4**	**+0.6**
XOR				*eS*		**Sn**	**04 26 09.1**	**+1.4**
XOR	**Xorichti**	**1.33**	**36**	*eP*		**Pn**	**04 25 51.4**	**+0.6**
XOR				S		**Sn**	**04 26 08.3**	**+0.6**
PTL	**Penteli**	**1.35**	**100**	P		**Pn**	**04 25 52.0**	**+1.0**
PTL				S		**Sn**	**04 26 08.7**	**+0.6**
PTL	**Penteli**	**1.35**	**100**	*eP*		**Pn**	**04 25 52.0**	**+1.0**
PTL				*eS*		**Sn**	**04 26 09.0**	**+0.9**
PTL	**Penteli**	**1.35**	**100**	*eP*		**Pn**	**04 25 52.0**	**+1.0**
PTL				*eS*		**Sn**	**04 26 09.0**	**+0.9**
SFD	**Strofades**	**1.39**	**222**	P		**Pn**	**04 25 51.5**	**0.0**
SFD				S		**Sn**	**04 26 11.9**	**+2.9**
SFD	**Strofades**	**1.39**	**222**	*eP*		**Pn**	**04 25 51.3**	**-0.2**
SFD	**Strofades**	**1.39**	**222**	*eP*		**Pn**	**04 25 51.3**	**-0.2**
SFD				S		**Sn**	**04 26 11.9**	**+2.9**
PYL	**PYLOS**	**1.44**	**194**	P		**Pn**	**04 25 52.4**	**+0.2**
PYL				S		**Sn**	**04 26 12.9**	**+2.8**
PYL	**PYLOS**	**1.44**	**194**	*eP*		**Pn**	**04 25 52.5**	**+0.2**
PYL	**PYLOS**	**1.44**	**194**	P		**Pn**	**04 25 52.4**	**+0.2**
PYL				S		**Sn**	**04 26 12.9**	**+2.8**
AOS	**Alonnisos**	**1.59**	**56**	P		**Pn**	**04 25 54.9**	**+0.6**
AOS				S		**Sn**	**04 26 13.7**	**-0.2**
AOS	**Alonnisos**	**1.59**	**56**	*eP*		**Pn**	**04 25 54.7**	**+0.4**
AOS				*eS*		**Sn**	**04 26 14.2**	**+0.3**
AOS	**Alonnisos**	**1.59**	**56**	P		**Pn**	**04 25 54.9**	**+0.6**
AOS				*eS*		**Sn**	**04 26 14.2**	**+0.3**
MEV	**Metsovon**	**1.67**	**334**	P		**Pn**	**04 25 56.8**	**+1.4**
MEV	**Metsovon**	**1.67**	**334**	P		**Pn**	**04 25 56.8**	**+1.4**
VLI	**Veliai**	**1.68**	**159**	P		**Pn**	**04 25 55.5**	**+0.1**
VLI				S		**Sn**	**04 26 15.4**	**-0.6**
VLI	**Veliai**	**1.68**	**159**	*eP*		**Pn**	**04 25 55.6**	**+0.1**
VLI				*eS*		**Sn**	**04 26 16.2**	**+0.2**
VLI	**Veliai**	**1.68**	**159**	*eP*		**Pn**	**04 25 55.6**	**+0.1**
VLI				*eS*		**Sn**	**04 26 16.2**	**+0.2**
JAN	**Janina**	**1.71**	**323**	P		**Pn**	**04 25 56.2**	**+0.3**
JAN	**Janina**	**1.71**	**323**	*eP*		**Pn**	**04 25 56.0**	**+0.1**
JAN	**Janina**	**1.71**	**323**	*eP*		**Pn**	**04 25 56.0**	**+0.1**
LIT	**Litokhoron**	**1.82**	**7**	P		**Pn**	**04 25 57.4**	**0.0**
LIT				S		**Sn**	**04 26 19.9**	**+0.4**
LIT	**Litokhoron**	**1.82**	**7**	*eP*		**Pn**	**04 25 57.4**	**0.0**
LIT	**Litokhoron**	**1.82**	**7**	*eP*		**Pn**	**04 25 57.4**	**0.0**
LIT				S		**Sn**	**04 26 19.9**	**+0.4**
IGT	**Igoumenitsa**	**1.90**	**311**	P		**Pn**	**04 25 58.3**	**-0.2**
IGT	**Igoumenitsa**	**1.90**	**311**	*eP*		**Pn**	**04 25 58.3**	**-0.2**
IGT	**Igoumenitsa**	**1.90**	**311**	*eP*		**Pn**	**04 25 58.3**	**-0.2**
PAIG	**Paliouri**	**2.01**	**35**	P		**Pn**	**04 26 00.2**	**+0.3**
PAIG				S		**Sn**	**04 26 24.1**	**+0.2**
PAIG	**Paliouri**	**2.01**	**35**	*eP*		**Pn**	**04 26 00.0**	**+0.1**
PAIG				*eS*		**Sn**	**04 26 24.0**	**+0.2**
PAIG	**Paliouri**	**2.01**	**35**	P		**Pn**	**04 26 00.2**	**+0.3**
PAIG				S		**Sn**	**04 26 24.1**	**+0.2**
KZN	**Kozani**	**2.04**	**351**	P		**Pn**	**04 26 00.9**	**+0.5**
KZN				S		**Sn**	**04 26 25.9**	**+1.1**
KZN	**Kozani**	**2.04**	**351**	*eP*		**Pn**	**04 26 00.9**	**+0.5**
KZN	**Kozani**	**2.04**	**351**	*eP*		**Pn**	**04 26 00.9**	**+0.5**
KZN				S		**Sn**	**04 26 25.9**	**+1.1**
KYTH	**Kithira**	**2.12**	**161**	P		**Pn**	**04 26 02.7**	**+1.2**
KYTH	**Kithira**	**2.12**	**161**	*eP*		**Pn**	**04 26 02.6**	**+1.1**
KYTH	**Kithira**	**2.12**	**161**	*eP*		**Pn**	**04 26 02.6**	**+1.1**
NEST	**Nestorio**	**2.29**	**338**	P		**Pn**	**04 26 05.4**	**+1.5**
NEST	**Nestorio**	**2.29**	**338**	P		**Pn**	**04 26 05.4**	**+1.5**
PLG	**Polygyros**	**2.30**	**25**	*eP*		**Pn**	**04 26 04.2**	**+0.3**
PLG				*eS*		**Sn**	**04 26 31.5**	**+0.4**
PLG	**Polygyros**	**2.30**	**25**	*eP*		**Pn**	**04 26 04.2**	**+0.3**
PLG				*eS*		**Sn**	**04 26 31.5**	**+0.4**
SRN	**Sarande**	**2.32**	**314**	P		**Pn**	**04 26 03.8**	**-0.4**
SRN	**Sarande**	**2.32**	**314**	P		**Pn**	**04 26 03.8**	**-0.4**
KEK	**Kerkira**	**2.34**	**308**	P		**Pn**	**04 26 03.7**	**-0.7**
KEK				S		**Sn**	**04 26 29.5**	**-2.5**
KEK	**Kerkira**	**2.34**	**308**	*eP*		**Pn**	**04 26 04.2**	**-0.2**
KEK				*eS*		**Sn**	**04 26 31.8**	**-0.2**
KEK	**Kerkira**	**2.34**	**308**	*eP*		**Pn**	**04 26 04.2**	**-0.2**
KEK				*eS*		**Sn**	**04 26 31.8**	**-0.2**
HORT	**Hortiatis**	**2.41**	**17**	P		**Pn**	**04 26 05.3**	**-0.2**
HORT				S		**Sn**	**04 26 33.5**	**-0.4**
HORT	**Hortiatis**	**2.41**	**17**	*eP*		**Pn**	**04 26 05.2**	**-0.2**
HORT				*eS*		**Sn**	**04 26 33.9**	**0.0**
HORT	**Hortiatis**	**2.41**	**17**	P		**Pn**	**04 26 05.3**	**-0.2**
HORT				*eS*		**Sn**	**04 26 33.9**	**0.0**
FNA	**Florina**	**2.57**	**346**	P		**Pn**	**04 26 08.2**	**+0.7**
FNA				S		**Sn**	**04 26 39.8**	**+2.2**
FNA	**Florina**	**2.57**	**346**	*eP*		**Pn**	**04 26 08.1**	**+0.6**
FNA	**Florina**	**2.57**	**346**	*eP*		**Pn**	**04 26 08.1**	**+0.6**
FNA				S		**Sn**	**04 26 39.8**	**+2.2**
KBN	**Korca**	**2.57**	**336**	P		**Pn**	04 26 10.2	+2.6
KBN	**Korca**	**2.57**	**336**	P		**Pn**	04 26 10.2	+2.6
ANKY	**Antikythira Is**	**2.58**	**159**	P		**Pn**	04 26 09.9	+2.2
ANKY				S		**Sn**	**04 26 41.0**	**+3.1**
ANKY	**Antikythira Is**	**2.58**	**159**	P		**Pn**	04 26 09.9	+2.2
ANKY				S		**Sn**	**04 26 41.0**	**+3.1**
GRG	**Griva**	**2.67**	**4**	P		**Pn**	**04 26 09.4**	**+0.5**
GRG	**Griva**	**2.67**	**4**	*eP*		**Pn**	**04 26 09.3**	**+0.4**
GRG	**Griva**	**2.67**	**4**	P		**Pn**	**04 26 09.4**	**+0.5**
SOH	**Sokhos**	**2.69**	**19**	P		**Pn**	**04 26 10.0**	**+0.8**
SOH				S		**Sn**	**04 26 41.0**	**+0.5**
SOH	**Sokhos**	**2.69**	**19**	*eP*		**Pn**	**04 26 10.2**	**+1.0**
SOH	**Sokhos**	**2.69**	**19**	P		**Pn**	**04 26 10.0**	**+0.8**
SOH				S

ULDT	**Uludag**	**5.71**	**69**	*i* P		Pn		04 26 53.1	+2.5
ULDT	**Uludag**	**5.71**	**69**	*i* P		Pn		04 26 53.1	+2.5
KHAL	**Karahalli**	**5.75**	**87**	*i* P		Pn		04 26 54.0	+2.9
KHAL	**Karahalli**	**5.75**	**87**	*i* P		Pn		04 26 54.0	+2.9
BORA	**Eskisehir**	**6.63**	**74**	*i* P		Pn		04 27 06.3	+3.2
BORA	**Eskisehir**	**6.63**	**74**	*i* P		Pn		04 27 06.3	+3.2
UDBI	**Udbina**	**7.88**	**324**		Sn	Sn		04 28 39.7	-8.1
NVLJ	**Novalja**	**8.33**	**321**	*e*Pn		Pn		04 27 22.0	-4.3
NVLJ					Sn	Sn		04 28 50.7	-8.1
BRTR	**Keskin Array B**	**9.03**	**77**	Pn		Pn		04 27 39.8	+3.6
	0.2nm,0.3s,baz=261,slow=12,SNR=16								
TORD	**Torodi Ar. Bea**	**30.96**	**222**	P		**P**		**04 31 38.6**	**-1.0**
	0.3nm,0.7s,baz=37,slow=8.9,SNR=3.5								
MKAR	**Makanchi Array**	**44.13**	**59**	P		**P**		**04 33 29.7**	**-0.8**
	0.8nm,0.5s,baz=275,slow=7.7,SNR=19								
ZALV	**Zalesovo Beam**	**44.64**	**48**	P		**P**		**04 33 33.4**	**-1.0**
	3.0nm,0.4s,baz=272,slow=9.1,SNR=12								
SONM	**Songino Array**	**59.37**	**51**	P		**P**		**04 35 23.4**	**-0.7**
	0.1nm,0.5s,baz=293,slow=7.2,SNR=2.9								

IDC 12 04:26:09.5±2.5, 6°31S×129°46E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=151.5km s-min=33.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.36**	**161**	Pn	Pn	04 29 33.9	-0.4
	0.0nm,0.3s,baz=340,slow=14,SNR=2.4						
WRA					Sn	04 32 00.8	-14
	0.1nm,0.3s,baz=341,slow=25,SNR=6.0						
ASAR	**Alice Springs**	**17.78**	**167**	P	Pn	04 30 18.9	+0.2
	0.1nm,0.3s,baz=345,slow=9.8,SNR=6.1						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	04 37 06.6	0.0
	0.1nm,0.4s,baz=126,slow=6.7,SNR=3.1						

ARO 12 04:41:55.9, 12°N±2°×4°3E±°, h5km±5km, ML3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.14**	**359**	*i* P	Pg	04 41 59.0	+0.3
TDD	**Tadjoura Ara**	**0.38**	**264**	*e*P	Pg	04 42 03.2	0.0
ATA	**Atar**	**0.40**	**193**	*e*P	Pg	04 42 03.4	-0.1
ATD	**Arta Tunnel**	**0.54**	**235**	*i* P	Pg	04 42 05.8	-0.5
ATD				*e*S	Sg	04 42 13.8	+0.4
SGH	**Sud-Ghoubbet**	**0.77**	**238**	*e*P	Pg	04 42 09.5	-1.2
LDLD	**Lac de Lave**	**0.82**	**252**	*e*P	Pg	04 42 10.3	-1.3
GBR	**Grand-Bara**	**1.07**	**230**	*e*P	Pg	04 42 14.4	-2.1

DHMR ***12*** *04:43:59.2±1.2, 11°.75N×43°.32E, h10km±12km, ML5.3*
BJI ***12*** *04:44:01.8, 11°.90N×43°.20E, h5km, mB5.1/5, mb4.6/14, Ms5.1/2, Ms7 4.7/2*
MOS ***12*** *04:44:02.9±1.0, 11°.73N×43°.34E, h10km, mb4.8/20, MS4.2/8, Error ellipse: s-maj=11.8km s-min=6.5km az=81.6*
ISCJB ***12*** *04:44:02.1±0.8, 11°.81N±0°.03×43°.40E±0°.04, h2km±5km, mb4.5/52, MS4.1/33, Error ellipse: s-maj=7.5km s-min=4.7km az=30.5*
IDC ***12*** *04:44:02.5±0.8, 11°.60N×43°.42E, h0km, mb4.2/22, mb1 4.4/22, mb1mx4.3/31, mbtmp4.2/22, MS4.1/29, Ms1 4.1/29, ms1mx4.0/37, Error ellipse: s-maj=19.9km s-min=16.6km az=175.0*
ARO ***12*** *04:44:04.4, 12°N±1°×43°.3E±0°.6, h5km±1km, ML4.8*
NEIC ***12*** *04:44:04.7±0.4, 11°.70N×43°.37E, h10km, mb4.6/8, Error ellipse: s-maj=8.9km s-min=8.5km az=100.0*
CSEM ***12*** *04:44:04.5±0.3, 11°.90N×43°.34E, h2km, mb4.7/17, Error ellipse: s-maj=9.2km s-min=8.3km az=104.0*
ISC 12 04:44:05.4±0.8, 11°.82N±0°.04×43°.30E±0°.04, h12km±4km, n203, σ1°31/191, mb4.5/52, MS4.1/33, 9C-7D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCAD	**Moucha**	**0.12**	**225**	*e*P	**Pg**	**04 44 07.7**	**-0.8**
OBO	**Obock**	**0.17**	**358**	*e*P	**Pg**	**04 44 07.7**	**-1.5**
ATA	**Atar**	**0.37**	**194**	*e*P	**Pg**	**04 44 11.9**	**-1.0**
TDD	**Tadjoura Ara**	**0.38**	**268**	*e*P	**Pg**	**04 44 11.9**	**-1.2**
ATD	**Arta Tunnel**	**0.53**	**237**	*e*P	**Pg**	**04 44 14.3**	**-1.4**
ATD				*e*S	**Sg**	**04 44 22.0**	**-0.8**
SGH	**Sud-Ghoubbet**	**0.76**	**240**	*e*P	**Pg**	**04 44 18.1**	**-2.0**
GBR	**Grand-Bara**	**1.05**	**231**	*e*P	**Pg**	**04 44 22.9**	**-2.9**
TRBA	**At Turbah**	**1.61**	**29**	⇓*i*P	Pn	04 44 29.6	-4.4
TRBA				*i* S	**Sn**	**04 44 52.1**	**-2.9**
TRBA				AML	AML	04 44 52.9	
	comp=E,39μm,0.5s						
UDYN	**Al 'Udayn**	**2.23**	**17**	*i* P	**Pn**	**04 44 39.5**	**-3.0**
UDYN				AML	AML	04 45 20.9	
	comp=Z,26μm,0.6s						
LBOS		**2.79**	**43**	⇓*i*P	Pn	04 44 46.6	-3.7
LBOS				*i* S	**Sn**	**04 45 25.2**	**+1.1**
DHBB	**Dhamar BB**	**2.94**	**21**	⇑*i*P	**Pn**	**04 44 49.9**	**-2.4**
DHBB				*i* S	**Sn**	**04 45 29.1**	**+1.5**
RADA	**Ahram - Rada'a**	**3.01**	**30**	*i* P	Pn	04 44 49.0	-4.4
BDHA	**Al Bayda'**	**3.08**	**46**	⇑*i*P	Pn	04 44 50.9	-3.3
BDHA				*i* S	**Sn**	**04 45 32.5**	**+1.3**
BDHA				AML	AML	04 45 50.7	
	comp=N,15μm,0.7s						
BDHA	**Al Bayda'**	**3.08**	**46**	⇑*i*P	Pn	04 44 50.9	-3.3
BDHA				*i* S	**Sn**	**04 45 32.5**	**+1.3**
	comp=N,7μm,0.7s						
SANA	**San'a**	**3.66**	**14**	*i* P	**Pn**	**04 44 59.5**	**-2.7**
SANA				*i* S	**Sn**	**04 45 46.5**	**+1.1**
SANA				AML	AML	04 46 12.4	
	comp=E,27μm,0.9s						
HAJJ	**Hajjah**	**3.87**	**4**	⇑*i*P	**Pn**	**04 45 02.5**	**-2.5**
HAJJ				*i* S	**Sn**	**04 45 51.1**	**+0.6**
HAJJ				AML	AML	04 46 10.1	
	comp=Z,18μm,0.6s						
HAJJ	**Hajjah**	**3.87**	**4**	⇑*i*P	**Pn**	**04 45 02.5**	**-2.5**
HAJJ				*i* S	**Sn**	**04 45 51.2**	**+0.6**
	comp=Z,9μm,0.6s						
FRSS	**Farasan al Kab**	**5.03**	**347**	S	**Sn**	**04 46 13.6**	**-5.2**
	baz=336						
FRSS	**Farasan al Kab**	**5.03**	**347**	P	Pn	04 45 17.6	-3.1
	baz=336						
FRSS	**Farasan al Kab**	**5.03**	**347**	P	**Pn**	**04 45 18.0**	**-2.7**
JAZS	**Jizan**	**5.23**	**356**	P	**Pn**	**04 45 21.2**	**-2.4**
	baz=345						
JAZS	**Jizan**	**5.23**	**356**	P	**Pn**	**04 45 21.0**	**-2.6**
FURI	**Furi**	**5.39**	**238**	P	Pb	04 45 33.5	-6.4
FURI				S	**Sb**	**04 46 47.7**	**+2.9**
DJNS	**Zahran al Janu**	**5.86**	**2**	P	**Pn**	**04 45 32.4**	**0.0**
	baz=352						
DJNS	**Zahran al Janu**	**5.86**	**2**	P	**Pn**	**04 45 32.0**	**-0.4**
NAMS	**An Nimas**	**7.39**	**352**	S	**Sn**	**04 47 16.2**	**-1.2**
	baz=345						
NAMS	**An Nimas**	**7.39**	**352**	P	**Pn**	**04 45 53.8**	**+0.3**
	baz=345						
NAMS	**An Nimas**	**7.39**	**352**	P	**Pn**	**04 45 54.0**	**+0.5**
NAMS				S	**Sn**	**04 47 16.0**	**-1.4**
TATS	**Tathlith**	**7.68**	**1**	P	Pn	04 45 53.9	-3.5
	baz=354						
TATS	**Tathlith**	**7.68**	**1**	P	Pn	04 45 54.0	-3.4
KMBO	**Kilima Mbogo**	**14.19**	**205**	*e*Pn	**Pn**	**04 47 25.1**	**-1.6**
	comp=Z,28nm,1.3s						
KMBO				*e*S	S	04 50 16.3	-9.0
KMBO				Lg	Lg	04 51 28.6	
KMBO	**Kilima Mbogo**	**14.19**	**205**	Pn	**Pn**	**04 47 27.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=16						
KMBO				Lg	Lg	04 51 28.6	
	comp=Z,0.8nm,0.3s,baz=107,slow=20,SNR=5.0						
KMBO				LR	LR	04 52 51.4	
	comp=Z,1μm,21.0s,baz=68,slow=38						
EIL	**Elat**	**19.39**	**338**	Lg	Lg	04 54 35.7	
EIL	**Elat**	**19.39**	**338**	Lg	Lg	04 54 35.7	
	comp=Z,0.3nm,0.3s,baz=262,slow=23,SNR=4.7						
EIL				LR	LR	04 54 36.6	
	comp=Z,509nm,20.6s,baz=156,slow=32						
MSEY	**Mahe Island**	**20.38**	**143**	P	**P**	**04 48 42.4**	**+0.1**
	comp=Z,39nm,0.9s						
MSEY	**Mahe Island**	**20.38**	**143**	P	**P**	**04 48 42.4**	**+0.1**
	comp=Z,39nm,0.9s						
ASF	**Jabal al Asfar**	**21.10**	**345**	P	**P**	**04 48 52.3**	**+2.2**
ASF				Lg	Lg	04 55 23.8	
ASF	**Jabal al Asfar**	**21.10**	**345**	P	**P**	**04 48 52.3**	**+2.2**
	comp=Z,16nm,1.0s,baz=6.8,slow=1.2,SNR=10						
ASF				Lg	Lg	04 55 23.8	
	comp=Z,6.0nm,0.9s,baz=24,slow=20,SNR=4.3						
ASF				LR	LR	04 56 11.6	
	comp=Z,734nm,18.8s,baz=112,slow=34						

MMAI	**Mount Meron Ar**	**22.31**	**342**	P		**P**		**04 49 06.1**	**+3.0**
MMAI	**Mount Meron Ar**	**22.31**	**342**	P		**P**		**04 49 06.1**	**+3.0**
	comp=Z,14nm,1.0s,baz=163,slow=12,SNR=7.8								
MMAI				LR		LR		04 56 24.6	
	comp=Z,603nm,21.7s,baz=175,slow=33								
GNI	**Garni**	**28.25**	**2**	LR		LR		05 02 00.1	
	comp=Z,208nm,18.1s,baz=160,slow=38								
IDI	**Anoyia**	**28.72**	**327**	LR		LR		05 01 50.9	
	comp=Z,73nm,19.4s,baz=122,slow=37								
BR131	**Keskin Array S**	**29.08**	**345**	*e*P		P		04 50 02.4	-3.7
	comp=Z,3.5nm,0.9s								
BRTR	**Keskin Array B**	**29.08**	**345**	P		**P**		**04 50 07.5**	**+1.4**
BRTR				PcP		**PcP**		**04 53 14.8**	**+0.6**
BRTR	**Keskin Array B**	**29.08**	**345**	P		**P**		**04 50 07.5**	**+1.4**
	comp=Z,2.6nm,0.9s,baz=149,slow=7.2,SNR=12								
BRTR				PcP		**PcP**		**04 53 14.8**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=151,slow=4.4,SNR=5.5								
BRTR				LR		LR		05 01 00.2	
	comp=Z,451nm,21.3s,baz=142,slow=35								
BRTR	**Keskin Array B**	**29.08**	**345**	P		**P**		**04 50 07.6**	**+1.4**
KBZ	**Khabaz**	**31.80**	**359**	P		**P**		**04 50 31.5**	**+1.7**
KBZ	**Khabaz**	**31.80**	**359**	P		**P**		**04 50 31.5**	**+1.7**
KBZ	**Khabaz**	**31.80**	**359**	P		**P**		**04 50 31.5**	**+1.7**
	comp=Z,4.7nm,1.0s,baz=190,slow=8.2,SNR=3.7								
KBZ				LR		LR		05 04 20.8	
	comp=Z,322nm,18.8s,baz=180,slow=38								
KBZ	**Khabaz**	**31.80**	**359**	P		**P**		**04 50 31.5**	**+1.7**
KIV	**Kislovodsk**	**32.03**	**359**	*e*P		**P**		**04 50 33.2**	**+1.2**
	comp=Z,19nm,1.1s								
KIV				*e*S		**S**		**04 55 43.7**	**0.0**
	comp=Z,186nm,15.0s								
KIV	**Kislovodsk**	**32.03**	**359**	*e*P		**P**		**04 50 33.2**	**+1.2**
	comp=Z,19nm,1.1s								
KIV				*e*S		**S**		**04 55 43.7**	**0.0**
	comp=Z,186nm,15.0s								
GOF	**Gofitskoye**	**33.13**	**360**	*e*P		P		04 50 46.8	+5.3
ANN	**Anapa**	**33.25**	**352**	*e*P		P		04 50 45.4	+2.8
ANN				pmax		pmax			
	comp=Z,137nm,1.3s								
ANN				MLR		MLR			
	comp=Z,388nm,13.0s								
MLR	**Muntele Rosu**	**36.68**	**339**	P		P		04 51 16.1	+3.8
MLR	**Muntele Rosu**	**36.68**	**339**	P		P		04 51 16.1	+3.8
	comp=Z,0.5nm,0.7s,baz=240,slow=1.9,SNR=4.6								
PALK	**Pallekele**	**37.14**	**94**	*e*P		**P**		**04 51 16.7**	**+0.1**
	comp=Z,11nm,0.9s								
PALK	**Pallekele**	**37.14**	**94**	*e*P		**P**		**04 51 16.7**	**+0.1**
	comp=Z,11nm,0.9s								
TAM	**Tamanrasset**	**37.58**	**292**	*e*P		**P**		**04 51 21.7**	**+1.4**
TAM				pmax		pmax			
	comp=Z,4.0nm,1.0s								
TAM	**Tamanrasset**	**37.58**	**292**	*e*P		**P**		**04 51 21.7**	**+1.4**
	comp=Z,3.8nm,1.0s								
TAM	**Tamanrasset**	**37.58**	**292**	*e*P		**P**		**04 51 21.7**	**+1.4**
	comp=Z,4.0nm,1.0s								
KEST	**Kesra**	**38.82**	**314**	LR		LR		05 06 57.7	
	comp=Z,145nm,21.5s,baz=24,slow=35								
KK31	**Karatay Array**	**39.08**	**32**	*ce*P		**P**		**04 51 30.9**	**-1.7**
KK31	**Karatay Array**	**39.08**	**32**	*e*P		**P**		**04 51 30.9**	**-1.7**
KKAR	**Karatay Array**	**39.08**	**32**	*e*P		**P**		**04 51 32.9**	**+0.3**
KKAR	**Karatay Array**	**39.08**	**32**	*e*P		**P**		**04 51 32.9**	**+0.3**
	comp=Z,0.4nm,0.6s								
KKAR	**Karatay Array**	**39.08**	**32**	*e*P		**P**		**04 51 32.9**	**+0.3**
VORD	**Divnogorie**	**39.17**	**356**	*e*P		**P**		**04 51 33.1**	**0.0**
VORD				pmax		pmax			
	comp=N,9.0nm,1.0s								
VORD				pmax		pmax			
	comp=E,8.0nm,1.0s								
VORD				pmax		pmax			
	comp=Z,8.0nm,1.0s								
VORD				MLR		MLR			
	comp=N,260nm,16.0s								
VORD				MLR		MLR			
	comp=E,160nm,16.0s								
VORD				MLR		MLR			
	comp=Z,210nm,16.0s								
VORD	**Divnogorie**	**39.17**	**356**	*e*P		**P**		**04 51 33.1**	**0.0**
VRHR	**Novokhopersk**	**39.19**	**358**	*e*P		P		04 51 36.6	+3.3
VRHR				pmax		pmax			
	comp=N,10.0nm,0.9s								
VRHR				pmax		pmax			
	comp=E,20nm,0.9s								
VRHR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
VRHR				MLR		MLR			
	comp=N,320nm,16.0s								
VRHR				MLR		MLR			
	comp=E,490nm,16.0s								
VRHR				MLR		MLR			
	comp=Z,320nm,16.0s								
VRHR	**Novokhopersk**	**39.19**	**358**	*e*P		P		04 51 36.6	+3.3
VSR	**Storozhevoye**	**39.43**	**356**	*e*P		**P**		**04 51 34.6**	**-0.7**
VSR				pmax		pmax			
	comp=N,7.0nm,0.8s								
VSR				pmax		pmax			
	comp=E,2.0nm,0.8s								
VSR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
VSR				MLR		MLR			
	comp=N,560nm,18.0s								
VSR				MLR		MLR			
	comp=E,300nm,18.0s								
VSR				MLR		MLR			
	comp=Z,360nm,18.0s								
VSR	**Storozhevoye**	**39.43**	**356**	*e*P		**P**		**04 51 34.6**	**-0.7**
AB31	**Akbulak array**	**39.80**	**17**	*ce*P		**P**		**04 51 38.5**	**+0.1**
AB31				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AB31	**Akbulak array**	**39.80**	**17**	*e*P		**P**		**04 51 38.5**	**+0.1**
	comp=Z,8.0nm,1.0s								
ABKAR	**Akbulak array**	**39.80**	**17**	*e*P		**P**		**04 51 39.0**	**+0.6**
	comp=Z,6.3nm,1.0s								
ABKAR	**Akbulak array**	**39.80**	**17**	*e*P		**P**		**04 51 39.0**	**+0.6**
	comp=Z,6.3nm,1.0s								
AKTK	**Aktyubinsk**	**40.36**	**15**	P		**P**		**04 51 43.2**	**+0.1**
AKTO	**Aktyubinsk**	**40.36**	**15**	P		**P**		**04 51 43.2**	**+0.1**
AKTO	**Aktyubinsk**	**40.36**	**15**	P		**P**		**04 51 43.2**	**+0.1**
AKTO	**Aktyubinsk**	**40.36**	**15**	P		**P**		**04 51 43.2**	**+0.1**
	comp=Z,4.3nm,1.0s,baz=217,slow=8.0,SNR=6.6								
AKTO				LR		LR		05 11 16.4	
	comp=Z,261nm,18.9s,baz=202,slow=40								
AKTO	**Aktyubinsk**	**40.36**	**15**	P		**P**		**04 51 43.2**	**+0.1**
AKASG	**Malin Array Be**	**40.45**	**346**	P		**P**		**04 51 43.2**	**-0.6**
AKASG								04 53 45.8	
AKASG	**Malin Array Be**	**40.45**	**346**	P		**P**		**04 51 43.2**	**-0.6**
AKASG				PcP		**PcP**		**04 53 45.8**	**-0.7**
AKASG	**Malin Array Be**	**40.45**	**346**	P		**P**		**04 51 43.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=164,slow=7.0,SNR=7.2								
AKASG				PcP		**PcP**		**04 53 45.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=176,slow=3.8,SNR=4.8								
AKASG				LR		LR		05 10 18.2	
	comp=Z,184nm,18.0s,baz=200,slow=39								
AKASG	**Malin Array Be**	**40.45**	**346**	P		**P**		**04 51 43.2**	**-0.6**
TOA0	**Torodi Ar. Sit**	**40.61**	**276**	*e*P		**P**		**04 51 46.1**	**+0.5**
TOA0	**Torodi Ar. Sit**	**40.61**	**276**	*e*P		**P**		**04 51 46.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**40.61**	**276**	P		**P**		**04 51 45.6**	**0.0**
TORD				PcP		**PcP**		**04 53 47.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**40.61**	**276**	P		**P**		**04 51 45.6**	**0.0**
	comp=Z,2.1nm,0.9s,baz=90,slow=6.5,SNR=8.1								
TORD				PcP		**PcP**		**04 53 47.6**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=90,slow=4.4,SNR=2.4								
TORD				LR		LR		05 08 50.9	
	comp=Z,150nm,19.1s,baz=300,slow=36								
TORD	**Torodi Ar. Bea**	**40.61**	**276**	P		**P**		**04 51 45.6**	**0.0**
TORD	**Torodi Ar. Bea**	**40.61**	**276**	PcP		**PcP**		**04 53 47.6**	**-0.2**
LPSR	**Galich'ya Gora**	**40.83**	**356**	*e*P		**P**		**04 51 45.9**	**-1.0**
AAK	**Ala-Archa**	**40.94**	**36**	P		**P**		**04 51 49.2**	**+1.0**
AAK	**Ala-Archa**	**40.94**	**36**	P		**P**		**04 51 49.2**	**+1.0**
AAK	**Ala-Archa**	**40.94**	**36**	P		**P**		**04 51 49.2**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=193,slow=17,SNR=4.1								
AAK	**Ala-Archa**	**40.94**	**36**	P		**P**		**04 51 49.2**	**+1.0**
STHS	**Stebnicka Huta**	**41.69**	**338**	*e*P		P		04 51 50.0	-4.1
STHS				pmax		pmax			
	comp=Z,2.0nm,1.2s								
STHS	**Stebnicka Huta**	**41.69**	**338**	*e*		P		04 51 50.0	-4.1
OBN	**Obninsk**	**43.52**	**354**	⇓*i*P		P		04 52 13.2	+4.5
OBN				*e*				04 53 55.9	
OBN				*e*S		**S**		**04 58 37.8**	**+0.5**
OBN				pmax		pmax			
	comp=Z,25nm,1.7s								
OBN				MLR		MLR			
	comp=Z,300nm,18.0s								
OBN	**Obninsk**	**43.52**	**354**	LR		LR		05 12 13.4	
	comp=Z,286nm,18.1s,baz=93,slow=39								

OBN	**Obninsk**	**43.52**	**354**	*i* P		P		04 52 13.2	+4.5
	comp=Z,25nm,1.7s								
OBN	**Obninsk**	**43.52**	**354**	*e*PcP		**PcP**		**04 53 55.9**	**-0.6**
	comp=Z,300nm,18.0s								
OBN				*e*S		**S**		**04 58 37.8**	**+0.5**
GERES	**GERESS Array B**	**44.34**	**332**	P		**P**		**04 52 15.2**	**-0.4**
GERES	**GERESS Array B**	**44.34**	**332**	P		**P**		**04 52 15.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=134,slow=5.8,SNR=7.7								
GERES				LR		LR		05 10 35.5	
	comp=Z,78nm,20.2s,baz=135,slow=36								
GERES	**GERESS Array B**	**44.34**	**332**	P		**P**		**04 52 15.3**	**-0.4**
DAVOX	**Davos/Dischmat**	**44.81**	**328**	P		**P**		**04 52 21.2**	**+1.6**
DAVOX	**Davos/Dischmat**	**44.81**	**328**	P		**P**		**04 52 21.2**	**+1.6**
	comp=Z,2.3nm,0.8s,baz=140,slow=13,SNR=3.2								
DAVOX	**Davos/Dischmat**	**44.81**	**328**	P		**P**		**04 52 21.2**	**+1.6**
SUW	**Suwalki**	**45.02**	**343**	*e*P		**P**		**04 52 21.1**	**+0.3**
SUW				pmax		pmax			
	comp=Z,29nm,1.0s								
SUW	**Suwalki**	**45.02**	**343**	*e*P		**P**		**04 52 21.1**	**+0.3**
	comp=Z,29nm,1.0s								
SUW	**Suwalki**	**45.02**	**343**	*e*P		**P**		**04 52 21.1**	**+0.3**
	comp=Z,29nm,1.0s								
ARU	**Arti**	**46.06**	**12**	*d i*P		**P**		**04 52 29.4**	**+0.4**
ARU								04 54 12.5	
ARU				S		**S**		**04 59 13.6**	**-0.6**
ARU				SS		**SS**		**05 02 32.6**	**-6.6**
ARU				pmax		pmax			
	comp=Z,14nm,1.7s								
ARU	**Arti**	**46.06**	**12**	*e*P		**P**		**04 52 29.2**	**+0.2**
	comp=Z,29nm,1.6s								
ARU	**Arti**	**46.06**	**12**	*e*P		**P**		**04 52 29.2**	**+0.2**
	comp=Z,29nm,1.6s								
ARU				S		**S**		**04 59 13.6**	**-0.6**
CLL	**Collm**	**46.45**	**334**	*e*P		P		04 52 37.0	+4.8
CLL	**Collm**	**46.45**	**334**	*e*(P)		P		04 52 37.0	+4.8
CLL				*e*				04 52 50.0	
BRVK	**Borovoye**	**46.46**	**22**	⇓*i*P		**P**		**04 52 32.4**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
BRVK	**Borovoye**	**46.46**	**22**	*i* P		**P**		**04 52 32.4**	**+0.1**
	comp=Z,6.0nm,1.2s								
BVAR	**Borovoye Array**	**46.47**	**22**	P		**P**		**04 52 32.8**	**+0.4**
BVAR								04 54 06.4	
BVAR	**Borovoye Array**	**46.47**	**22**	P		**P**		**04 52 32.8**	**+0.4**
BVAR				PcP		**PcP**		**04 54 06.4**	**-0.5**
BVAR	**Borovoye Array**	**46.47**	**22**	P		**P**		**04 52 32.8**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=220,slow=5.8,SNR=8.8								
BVAR				PcP		**PcP**		**04 54 06.4**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=198,slow=4.1,SNR=3.3								
BVAR				LR		LR		05 16 22.8	
	comp=Z,232nm,18.1s,baz=220,slow=42								
BVAR	**Borovoye Array**	**46.47**	**22**	P		**P**		**04 52 32.8**	**+0.4**
KIC	**Kosan Boka**	**47.70**	**268**	*e*P		**P**		**04 52 44.7**	**+2.2**
	comp=Z,19nm,0.9s								
DBIC	**Dimbokro**	**47.76**	**268**	P		**P**		**04 52 42.9**	**-0.1**
DBIC	**Dimbokro**	**47.76**	**268**	P		**P**		**04 52 42.9**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=104,slow=4.7,SNR=10								
DBIC				LR		LR		05 14 49.1	
	comp=Z,84nm,18.2s,baz=43,slow=39								
DBIC	**Dimbokro**	**47.76**	**268**	P		**P**		**04 52 42.9**	**-0.1**
LSA	**Lhasa**	**47.78**	**61**	*e*P		**P**		**04 52 43.8**	**+0.3**
LSA				pmax		pmax			
	comp=Z,15nm,1.4s								
LSA	**Lhasa**	**47.78**	**61**	*e*P		**P**		**04 52 43.8**	**+0.3**
	comp=Z,15nm,1.4s								
LSA	**Lhasa**	**47.78**	**61**	*e*P		**P**		**04 52 43.8**	**+0.3**
	comp=Z,15nm,1.4s								
MK31	**Makanchi Array**	**47.88**	**36**	*ce*P		**P**		**04 52 42.9**	**-0.6**
MK31	**Makanchi Array**	**47.88**	**36**	*e*P		**P**		**04 52 43.3**	**-0.2**
MK31	**Makanchi Array**	**47.88**	**36**	*e*P		**P**		**04 52 43.3**	**-0.2**
MKAR	**Makanchi Array**	**47.88**	**36**	*ce*P		**P**		**04 52 43.5**	**0.0**
MKAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MKAR	**Makanchi Array**	**47.88**	**36**	P		**P**		**04 52 43.2**	**-0.3**
MKAR	**Makanchi Array**	**47.88**	**36**	P		**P**		**04 52 43.2**

comp=Z,34nm,0.9s
TLY Talaya 62.56 38 *e*P **P** 04 54 29.8 **+0.4**
comp=Z,387nm,16.0s
SONM Songino Array 63.33 42 P **P** 04 54 34.6 **-0.1**
SONM Songino Array 63.33 42 P **P** 04 54 34.6 **-0.1**
comp=Z,4.7nm,0.9s,baz=253,slow=6.7,SNR=26
SONM LR LR 05 26 37.0
comp=Z,176nm,18.4s,baz=258,slow=40
SONM Songino Array 63.33 42 P **P** 04 54 34.6 **-0.1**
ULN Ulaanbaatar 63.77 42 *i* P **P** 04 54 37.1 **-0.5**
comp=Z,8.0nm,1.7s
SUMG Summit 76.33 342 *e*P P 04 55 48.7 -5.9
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 76.33 342 *i* P P 04 55 48.7 -5.9
comp=Z,4.1nm,0.9s
MAW Mawson 80.47 173 LR LR 05 29 59.9
comp=Z,167nm,18.1s,baz=325,slow=34
USRK Ussuriysk Arr 80.94 47 LR LR 05 35 12.1
comp=Z,104nm,20.6s,baz=290,slow=38
MJAR Matsushiro Arr 86.95 53 LR LR 05 39 18.4
comp=Z,49nm,20.0s,baz=20,slow=38
ASAJ Asahikawa 88.44 45 LR LR 05 41 12.7
comp=Z,104nm,18.5s,baz=195,slow=39
PETK Petropavlovsk- 94.67 33 LR LR 05 45 01.3
comp=Z,177nm,18.6s,baz=299,slow=39
WRA Warramunga Arr 94.92 109 P **P** **04 57 28.0 -0.4**
WRA Warramunga Arr 94.92 109 P **P** **04 57 28.0 -0.4**
comp=Z,1.6nm,0.9s,baz=298,slow=3.8,SNR=3.8
WRA Warramunga Arr 94.92 109 P **P** **04 57 28.0 -0.4**
ASAR Alice Springs 95.20 113 P P 04 57 26.3 -3.4
ASAR Alice Springs 95.20 113 P P 04 57 26.3 -3.4
comp=Z,0.4nm,0.3s,baz=288,slow=3.8,SNR=5.2
PDAR Pinedale Array 120.26 337 PKP **PKPdf** **05 02 56.6 -0.6**
PDAR Pinedale Array 120.26 337 PKP **PKPdf** **05 02 56.6 -0.6**
comp=Z,0.4nm,0.8s,baz=93,slow=1.9,SNR=2.5
PDAR Pinedale Array 120.26 337 PKIKP **PKPdf** **05 02 56.7 -0.6**
NVAR Mina Array Bea 127.14 342 PKP **PKPdf** **05 03 10.2 -0.3**
NVAR Mina Array Bea 127.14 342 PKP **PKPdf** **05 03 10.2 -0.3**
comp=Z,1.2nm,1.0s,baz=316,slow=4.1,SNR=4.7
NVAR Mina Array Bea 127.14 342 PKIKP **PKPdf** **05 03 10.2 -0.3**
TXAR Lajitas Array 128.14 323 PKP **PKPdf** **05 03 10.7 -1.9**
TXAR Lajitas Array 128.14 323 PKP **PKPdf** **05 03 10.7 -1.9**
comp=Z,0.6nm,0.8s,baz=211,slow=1.5,SNR=4.8

IDC 12 04:50:32.4±2.1, 6.70S×128.62E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=113.8km s-min=32.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.29**	**158**	Pn	Pn	04 53 54.4	-1.8
	0.6nm,0.3s,baz=336,slow=13,SNR=27						
WRA				Sn	Sn	04 56 24.2	-11
	0.4nm,0.3s,baz=339,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.61**	**164**	P	P	04 54 40.7	+0.1
	0.3nm,0.3s,baz=344,slow=10.0,SNR=12						
ASAR				S	Sn	04 57 47.2	-9.3
	0.1nm,0.3s,baz=354,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**67.23**	**327**	P	P	05 01 28.7	0.0
	0.2nm,0.7s,baz=131,slow=5.7,SNR=3.8						

IDC 12 04:54:25.6±2.1, 24.79N×123.09E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.4/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=159.3km s-min=20.3km az=65.0
JMA 12 04:54:26.3±0.4, 25.03N×123.43E, h41km, M3.1
ISCJB 12 04:54:27.6±0.8, 24.94N±0.06×123.46E±0.06, h32km, mb3.4/5, Error ellipse: s-maj=8.4km s-min=6.5km az=136.3

ISC 12 04:54:28.9±1.0, 24.86N±0.09×123.44E±0.07, h32km, n10, σ1s01/13, mb3.2/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.56**	**225**	P	**Pb**	**04 54 39.3**	**-1.1**
YOJ				*e*S	**Sn**	**04 54 48.9**	**+0.2**
IRIF	**Iriomote-Funau**	**0.59**	**153**	P	**Pb**	**04 54 40.5**	**-0.4**
IRIF				*e*S	**Sn**	**04 54 49.9**	**+0.4**
JKRS	**Kuro-shima**	**0.81**	**140**	P	**Pn**	**04 54 43.4**	**-0.7**
JKRS				S	**Sb**	**04 54 55.7**	**+0.5**
JIJ	**Ishigaki jima**	**0.81**	**127**	P	**Pn**	**04 54 42.6**	**-1.5**
JIJ				*e*S	**Sn**	**04 54 54.3**	**-0.7**
KSRS	**Korea Array**	**13.13**	**16**	LR	LR	05 02 19.5	
	comp=Z,44nm,18.3s,baz=36,slow=36						
SONM	**Songino Array**	**26.61**	**334**	P	**P**	**05 00 05.3**	**+0.8**
	0.5nm,0.8s,baz=142,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**39.31**	**314**	P	**P**	**05 01 55.0**	**0.0**
	0.3nm,0.6s,baz=113,slow=7.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**42.94**	**319**	P	**P**	**05 02 24.1**	**-0.6**
	0.3nm,0.9s,baz=104,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr**	**45.78**	**166**	P	**P**	**05 02 49.4**	**+1.7**
	1.3nm,0.7s,baz=348,slow=8.6,SNR=8.2						
ASAR	**Alice Springs**	**49.29**	**167**	P	**P**	**05 03 16.1**	**+1.1**
	0.2nm,0.3s,baz=344,slow=10.0,SNR=4.0						

IDC 12 04:59:52.4±1.1, 37.26N×72.45E, h0km, mb3.5/8, mb1 3.7/12, mb1mx3.6/30, mbtmp3.6/12, ML3.6/4, Error ellipse: s-maj=23.2km s-min=18.5km az=142.0
BJI 12 04:59:55.3, 37.20N×72.00E, h90km, Ms3.9/1
MOS 12 04:59:55.7±1.2, 37.23N×72.28E, h33km, mb4.1/3, Error ellipse: s-maj=17.2km s-min=6.5km az=84.2
ISCJB 12 04:59:56.4±0.6, 37.50N±0.05×72.09E±0.09, h10km, mb3.5/9, Error ellipse: s-maj=10.6km s-min=6.9km az=1.4
NNC 12 04:59:56.7±1.6, 37.46N×72.23E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=12.5km s-min=11.8km az=42.0

ISC 12 04:59:55.9±0.7, 37.43N±0.06×72.25E±0.07, h10km, n51, σ2s33/48, mb3.5/9, 8C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.59**	**53**	P	Pn	05 00 48.3	-3.5
KSH				S	**Sn**	**05 01 28.9**	**-5.5**
KSH				smax	smax		
	comp=N,320nm,0.7s						
KSH				smax	smax		
	comp=E,440nm,0.8s						
CEP	**Cherat**	**3.60**	**184**	P	Pn	05 00 56.4	+4.4
CEP				S	**Sb**	**05 01 48.0**	**+4.3**
CHCP	**Chirah Chowk**	**3.85**	**167**	P	Pn	05 00 59.4	+4.2
AML	**Almayashu**	**4.83**	**13**	*i* PN	**Pn**	**05 01 11.5**	**+2.5**
AML	**Almayashu**	**4.83**	**13**	P	**Pn**	**05 01 11.6**	**+2.5**
	SNR=10						
UCH	**Uchtor**	**5.10**	**19**	*i* PN	Pn	05 01 16.1	+3.3
UCH	**Uchtor**	**5.10**	**19**	P	Pn	05 01 16.2	+3.3
	SNR=19						
KZA	**Kyzart**	**5.19**	**26**	*i* PN	**Pn**	**05 01 16.7**	**+2.7**
KZA	**Kyzart**	**5.19**	**26**	P	**Pn**	**05 01 16.7**	**+2.7**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.36**	**12**	*i* PN	Pn	05 01 19.8	+3.8
EKS2	**Erkin-Say**	**5.36**	**12**	P	Pn	05 01 19.9	+3.8
	SNR=9.3						
AAK	**Ala-Archa**	**5.48**	**18**	Pn	**Pn**	**05 01 19.9**	**+2.1**
AAK	5.5nm,0.4s			Pg	**Pb**	**05 01 34.5**	**+2.7**
	12nm,0.6s						
AAK				⇑Sn	**Sn**	**05 02 24.4**	**+3.5**
	22nm,0.8s						
AAK	**Ala-Archa**	**5.48**	**18**	PN	**Pn**	**05 01 20.1**	**+2.3**
AAK						05 02 27.5	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK				smax	smax		
	comp=N,1.0nm,0.3s						
AAK	**Ala-Archa**	**5.48**	**18**	P	Pn	05 01 21.6	+3.9
	SNR=14						
AAK	**Ala-Archa**	**5.48**	**18**	Pn	**Pn**	**05 01 20.1**	**+2.3**
	comp=N,2.9nm,0.3s,baz=168,slow=6.0,SNR=38						
AAK				Sn	Sn	05 02 27.5	+6.5
	comp=N,1.1nm,0.3s,baz=336,slow=20,SNR=3.6						
ULHL	**Ulahol**	**5.71**	**31**	*i* PN	**Pn**	**05 01 23.6**	**+2.7**
ULHL	**Ulahol**	**5.71**	**31**	P	**Pn**	**05 01 23.7**	**+2.7**
	SNR=8.1						
KK31	**Karatay Array**	**5.82**	**347**	⇑Pn	**Pn**	**05 01 24.3**	**+1.9**
	comp=N,2.8nm,0.3s,baz=159,slow=12,SNR=131						
KK31				⇓Lg	**Sn**	**05 02 32.1**	**+2.9**
	comp=N,4.7nm,0.5s						
KK31				⇑Lg	Lg	05 03 00.8	
	comp=N,23nm,0.9s						
KK31	**Karatay Array**	**5.82**	**347**	*i* PN	**Pn**	**05 01 24.6**	**+2.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
TKM2	**Tokmak 2**	**6.06**	**24**	⇓Pn	**Pn**	**05 01 28.1**	**+2.3**
	comp=Z,4.1nm,0.7s						
TKM2				⇑Pg	Pg	05 01 47.0	-4.9
	comp=Z,12nm,1.1s						
TKM2				⇓Lg	Lg	05 03 07.4	
	comp=Z,15nm,1.2s						
TKM2	**Tokmak 2**	**6.06**	**24**	*i* PN	**Pn**	**05 01 28.0**	**+2.3**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TKM2	**Tokmak 2**	**6.06**	**24**	P	**Pn**	**05 01 28.2**	**+2.5**
	SNR=9.6						
MK31	**Makanchi Array**	**11.96**	**35**	⇑P	**Pn**	**05 02 47.5**	**+1.0**
	comp=Z,4.5nm,1.1s,baz=211,slow=8.1,SNR=12						
MK31	**Makanchi Array**	**11.96**	**35**	*i* P	**Pn**	**05 02 47.4**	**+1.0**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**11.96**	**35**	P	**Pn**	**05 02 46.4**	**0.0**
MKAR	**Makanchi Array**	**11.96**	**35**	Pn	**Pn**	**05 02 46.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=8.2						
KURBB	**Kurchatov Arra**	**13.94**	**17**	⇓P	**Pn**	**05 03 14.1**	**+0.7**
	comp=Z,2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**13.94**	**17**	Pn	**Pn**	**05 03 11.0**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=5.4						
KURK	**Kurchatov**	**14.05**	**17**	⇑P	**Pn**	**05 03 16.4**	**+1.5**
	comp=Z,2.5nm,1.2s						
KURK	**Kurchatov**	**14.05**	**17**	P	Pn	05 03 11.0	-3.8
AB31	**Akbulak array**	**14.80**	**327**	⇑P	**Pn**	**05 03 24.9**	**-0.3**
	comp=Z,0.6nm,0.4s						
AB31	**Akbulak array**	**14.80**	**327**	*i* P	**Pn**	**05 03 24.1**	**-1.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0	**Borovoye Array**	**15.65**	**356**	⇓P	**Pn**	**05 03 38.2**	**+1.7**
	comp=Z,4.2nm,1.1s,baz=0.0,slow=0.1,SNR=6.6						
BVAR	**Borovoye Array**	**15.65**	**356**	P	**Pn**	**05 03 36.1**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**15.65**	**356**	Pn	**Pn**	**05 03 36.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=5.8						
BRVK	**Borovoye**	**15.69**	**356**	*i* P	**Pn**	**05 03 37.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKTO	**Aktyubinsk**	**16.52**	**326**	⇑P	**P**	**05 03 50.0**	**-0.2**
	comp=Z,6.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.52**	**326**	P	**P**	**05 03 49.4**	**-0.8**
AKTO						05 06 45.7	
AKTO	**Aktyubinsk**	**16.52**	**326**	Pn	**P**	**05 03 49.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=121,slow=12,SNR=3.7						
AKTO				Sn	**Sn**	**05 06 45.7**	**-5.2**
	comp=Z,0.0nm,0.3s,baz=139,slow=20,SNR=2.9						
ZALV	**Zalesovo Beam**	**18.66**	**24**	P	**P**	**05 04 11.9**	**-1.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.66**	**24**	P	**P**	**05 04 11.9**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=215,slow=11,SNR=11						
GTA	**Gaotai**	**21.66**	**76**	*e*P	**P**	**05 04 50.3**	**+3.6**
GTA				pP	pP	05 04 56.1	+6.5
GTA				sP	sP	05 04 58.4	+7.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
SONM	**Songino Array**	**26.99**	**56**	P	**P**	**05 05 35.2**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=258,slow=7.2,SNR=3.8						
AKASG	**Malin Array Be**	**33.16**	**308**	P	**P**	**05 06 33.1**	**+0.8**
AKASG	**Malin Array Be**	**33.16**	**308**	P	**P**	**05 06 33.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=111,slow=8.4,SNR=3.5						
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**05 07 08.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=112,slow=11,SNR=4.0						
HFS	**Hagfors**	**42.96**	**321**	P	**P**	**05 07 55.3**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=99,slow=9.2,SNR=7.5						
NOA	**NORSAR Array B**	**44.25**	**322**	P	**P**	**05 08 05.0**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=93,slow=7.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**66.73**	**269**	P	**P**	**05 10 45.0**	**-2.6**
	comp=Z,0.2nm,0.4s,baz=48,slow=6.1,SNR=6.5						
YKA	**Yellowknife Ar**	**80.27**	**3**	P	**P**	**05 12 05.3**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=349,slow=5.6,SNR=9.4						
WRA	**Warramunga Arr**	**81.64**	**123**	P	**P**	**05 12 12.2**	**-2.2**
	comp=Z,0.4nm,1.0s,baz=303,slow=7.9,SNR=4.1						

RSPR 12 05:02:49.8, 18.05N×66.65W, h13km±4km, MD2.1/3, 5C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBIP	**Obispado Ponce**	**0.04**	**104**	⇑*e*P	Pg	05 02 52.0	-0.2
OBIP	**Obispado Ponce**	**0.04**	**104**	*e*S	Sg	05 02 54.5	+0.5
OBIP	**Obispado Ponce**	**0.04**	**104**	⇓*e*P	Pg	05 02 51.9	-0.3
OBIP	**Obispado Ponce**	**0.04**	**104**	*e*S	Sg	05 02 54.4	+0.4
AOPR	**Arecibo Observ**	**0.31**	**342**	⇑*e*P	Pg	05 02 55.7	-0.5
AOPR	**Arecibo Observ**	**0.31**	**342**	*e*S	Sg	05 03 00.7	+0.2
AOPR	**Arecibo Observ**	**0.31**	**342**	*e*S	Sg	05 03 01.0	+0.5
CRPR	**Cabo Rojo, PR**	**0.44**	**264**	⇑*e*P	Pg	05 02 58.4	-0.1
CRPR	**Cabo Rojo, PR**	**0.44**	**264**	*e*S	Sg	05 03 05.0	+0.6
CRPR	**Cabo Rojo, PR**	**0.44**	**264**	⇓*e*P	Pg	05 02 58.5	0.0
CRPR	**Cabo Rojo, PR**	**0.44**	**264**	*e*S	Sg	05 03 04.6	+0.2
MTP	**Monte Pirata**	**1.05**	**87**	*e*S	Sb	05 03 20.2	-3.3
MTP	**Monte Pirata**	**1.05**	**87**	⇑*e*P	Pb	05 03 07.7	-2.2

ISCJB 12 05:09:38.8±1.0, 11.86N±0.08×43.27E±0.08, h14km±6km, Error ellipse: s-maj=17.3km s-min=5.1km az=135.1
DHMR 12 05:09:38.9±0.7, 11.85N×43.64E, h6km, h18km, ML3.7
ARO 12 05:09:39.5, 11.8N±0.6×43.3E±0.4, h7km±1km, MB4.1

ISC 12 05:09:38.7±1.3, 11.83N±0.06×43.24E±0.06, h14km±9km, n11, σ0s86/15, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.16**	**17**	*i* P	**Pg**	**05 09 42.7**	**+0.1**
TDD	**Tadjoura Ara**	**0.33**	**265**	*e*P	**Pb**	**05 09 46.9**	**+0.5**
ATA	**Atar**	**0.38**	**186**	*i* P	**Pb**	**05 09 47.0**	**-0.2**
ATD	**Arta Tunnel**	**0.49**	**232**	*i* P	**Pb**	**05 09 49.4**	**+0.3**
ATD				S	**Sb**	**05 09 57.6**	**+1.4**
SGH	**Sud-Ghoubbet**	**0.72**	**237**	*e*P	**Pb**	**05 09 53.1**	**+0.1**
LDLD	**Lac de Lave**	**0.77**	**251**	*e*P	**Pg**	**05 09 53.5**	**-0.1**
GBR	**Grand-Bara**	**1.02**	**229**	*i* P	**Pg**	**05 09 57.8**	**-0.6**
MAOD	**Malaho**	**1.03**	**285**	*e*P	**Pg**	**05 09 57.8**	**-0.8**
TRBA	**At Turbah**	**1.63**	**31**	⇑*i*P	**Pn**	**05 10 06.0**	**-1.2**
TRBA				*i* S	**Sn**	**05 10 26.8**	**-1.3**
TRBA				AML	AML	05 10 27.9	
	comp=Z,2μm,0.5s						
LBOS		**2.81**	**44**	*i* P	**Pn**	**05 10 23.1**	**-0.4**
LBOS				*i* S	**Sn**	**05 10 58.4**	**+1.0**
BDHA	**Al Bayda'**	**3.11**	**47**	*i* P	**Pn**	**05 10 27.9**	**+0.3**
BDHA				*i* S	**Sn**	**05 11 05.4**	**+0.8**
BDHA				AML	AML	05 11 18.0	
	comp=E,374nm,0.4s						

JMA 12 05:19:15.0±0.5, 25.05N×123.42E, h22km, M2.8
IDC 12 05:19:48.9±6.5, 20.30N×122.91E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=492.6km s-min=30.2km az=61.0

ISC 12 05:19:17.6±2.3, 24.9N±0.2×123.43E±0.06, h32km, n7, σ1s33/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**222**	P	**Pb**	**05 19 28.0**	**-1.3**
YOJ				*e*S	**Sb**	**05 19 37.4**	**+0.1**
IRIF	**Iriomote-Funau**	**0.62**	**154**	P	**Pb**	**05 19 29.3**	**-0.7**
JIJ	**Ishigaki jima**	**0.83**	**129**	P	**Pn**	**05 19 32.1**	**-1.0**
JIJ				*e*S	**Sn**	**05 19 43.6**	**-0.7**
JKRS	**Kuro-shima**	**0.84**	**141**	P	**Pn**	**05 19 33.1**	**-0.1**
JKRS				*e*S	**Sb**	**05 19 45.4**	**+0.8**
JTJ	**Tarama**	**1.18**	**102**	S	**Sn**	**05 19 51.7**	**-1.2**
WRA	**Warramunga Arr**	**45.81**	**166**	P	**P**	**05 27 38.3**	**+1.7**
	1.0nm,0.8s,baz=345,slow=8.2,SNR=8.2						
ASAR	**Alice Springs**	**49.33**	**167**	P	**P**	**05 28 05.8**	**+1.9**
	0.4nm,0.6s,baz=347,slow=7.6,SNR=3.5						

DHMR 12 05:24:34.3±0.3, 11.87N×43.48E, h20km±5km, ML3.5, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.49**	**25**	⇑*i*P	Pn	05 25 00.8	+0.5
TRBA				*i* S	Sb	05 25 21.4	+1.0
TRBA				AML	AML	05 25 22.5	
	comp=Z,895nm,0.5s						
DHBB	**Dhamar BB**	**2.83**	**18**	*i* S	Sb	05 25 58.5	-0.6
BDHA	**Al Bayda'**	**2.92**	**44**	*i* S	Sb	05 26 00.6	-1.1
BDHA				AML	AML	05 26 12.9	
	comp=E,207nm,0.4s						

ATH 12 05:31:35.6, 40.69N×28.34E, h5km±4km, MD3.7/7
CSEM 12 05:31:39.7±0.1, 40.49N×28.15E, h8km, MD3.0, Error ellipse: s-maj=2.2km s-min=2.0km az=170.0
ISK 12 05:31:39.2, 40.48N×28.15E, h7km, MD3.0
DDA 12 05:31:39.6, 40.47N×28.15E, h20km, ML3.2
ISCJB 12 05:31:39.3±0.3, 40.51N±0.02×28.13E±0.02, h7km±2km, Error ellipse: s-maj=2.6km s-min=2.5km az=0.7
THE 12 05:31:41.5, 40.46N×28.15E, h22km±5km, ML2.9/6, Error ellipse: s-maj=6.2km s-min=1.2km az=90.0
SOF 12 05:31:41.6, 40.72N×27.97E, h2km, MD3.1

ISC 12 05:31:39.8±0.8, 40.49N±0.01×28.14E±0.01, h14km±6km, n141, σ0s83/195, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNT	**Bandirma**	**0.21**	**232**	*e*Pg	**Pg**	**05 31 44.4**	**-0.2**
BNT				*e*Sg	**Sg**	**05 31 48.1**	**+0.3**
BNT	**Bandirma**	**0.21**	**232**	*e*Pg	**Pg**	**05 31 44.4**	**-0.2**
BNT				*e*Sg	**Sg**	**05 31 48.1**	**+0.3**
EDC	**Edincik**	**0.25**	**237**	*e*PG	**Pg**	**05 31 44.9**	**-0.3**
EDC				*e*SG	**Sg**	**05 31 48.9**	**-0.1**
EDC	**Edincik**	**0.25**	**237**	*e*Pg	**Pg**	**05 31 44.9**	**-0.3**
EDC				*e*Sg	**Sg**	**05 31 48.9**	**-0.1**
KCTX	**Karacabey (Bur**	**0.28**	**143**	*e*PG	**Pg**	**05 31 44.9**	**-0.7**
KCTX	**Karacabey (Bur**	**0.28**	**143**	*e*Pg	**Pg**	**05 31 44.9**	**-0.7**
MRMT	**Marmara Adasi**	**0.43**	**286**	*e*PG	**Pg**	**05 31 48.5**	**+0.1**
MRMT	**Marmara Adasi**	**0.43**	**286**	*e*Pg	**Pg**	**05 31 48.5**	**+0.1**
ARMT	**Armutlu**	**0.55**	**82**	*e*PG	**Pg**	**05 31 50.6**	**-0.1**
ARMT	**Armutlu**	**0.55**	**82**	*e*Pg	**Pg**	**05 31 50.6**	**-0.1**
GONE	**Gonen-Balikesi**	**0.56**	**219**	*e*PG	**Pg**	**05 31 50.4**	**-0.4**
GONE	**Gonen-Balikesi**	**0.56**	**219**	*e*Pg	**Pg**	**05 31 50.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.58**	**102**	*e*PG	**Pg**	**05 31 50.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.58**	**102**	*e*Pg	**Pg**	**05 31 50.9**	**-0.2**
KRBG	**Karabiga-Canak**	**0.65**	**262**	*e*PG	**Pg**	**05 31 52.0**	**-0.5**
KRBG	**Karabiga-Canak**	**0.65**	**262**	*e*Pg	**Pg**	**05 31 52.0**	**-0.5**
ELBA	**Catalca**	**0.69**	**18**	*i* P	**Pb**	**05 31 53.7**	**+0.1**
ELBA				*i* S	**Sb**	**05 32 03.6**	**+0.5**
ELBA	**Catalca**	**0.69**	**18**	*i* P	**Pb**	**05 31 53.7**	**+0.1**
ELBA				*i* S	**Sb**	**05 32 03.6**	**+0.5**
CRLT	**Corlu**	**0.71**	**334**	*e*PG	**Pg**	**05 31 53.6**	**0.0**
CRLT	**Corlu**	**0.71**	**334**	*e*Pg	**Pg**	**05 31 53.6**	**0.0**
ORLT	**Orhaneli**	**0.73**	**127**	*e*PG	**Pg**	**05 31 53.8**	**-0.1**
ORLT	**Orhaneli**	**0.73**	**127**	*e*Pg	**Pg**	**05 31 53.8**	**-0.1**
SLVT	**Silivri**	**0.74**	**4**	*e*PG	**Pb**	**05 31 54.6**	**+0.1**
SLVT	**Silivri**	**0.74**	**4**	*i* P	**Pg**	**05 31 52.3**	**-2.0**
SLVT	**Silivri**	**0.74**	**4**	*e*Pg	**Pb**	**05 31 54.6**	**+0.1**
SLVT				*i* S	**Sg**	**05 32 01.5**	**-2.6**
SART	**Tekirdag**	**0.76**	**286**	*i* P	**Pg**	**05 31 54.5**	**-0.1**
SART				*i* S	**Sb**	**05 32 05.4**	**+0.4**
SART	**Tekirdag**	**0.76**	**286**	*i* P	**Pg**	**05 31 54.5**	**-0.1**
SART				*i* S	**Sb**	**05 32 05.4**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.76**	**286**	*e*PG	**Pg**	**05 31 54.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.76**	**286**	*e*Pg	**Pg**	**05 31 54.5**	**-0.1**
CTKS	**Kestanelik-??a**	**0.80**	**20**	*e*PG	**Pg**	**05 31 55.2**	**-0.1**
CTKS	**Kestanelik-??a**	**0.80**	**20**	*e*Pg	**Pg**	**05 31 55.2**	**-0.1**
GEMT	**Gemlik**	**0.80**	**93**	*e*PG	**Pg**	**05 31 55.1**	**-0.2**
GEMT	**Gemlik**	**0.80**	**93**	*e*Pg	**Pg**	**05 31 55.1**	**-0.2**
BUY	**Buyukada**	**0.83**	**64**	*i* P	**Pg**	**05 31 55.6**	**-0.2**
BUY				*i* S	**Sb**	**05 32 07.7**	**+0.8**
BUY	**Buyukada**	**0.83**	**64**	*i* P	**Pg**	**05 31 55.6**	**-0.2**
BUY				*i* S	**Sb**	**05 32 07.7**	**+0.8**
ULDT	**Uludag**	**0.83**	**114**	*i* P	**Pg**	**05 31 55.2**	**-0.8**
ULDT				*i* S	**Sg**	**05 32 06.9**	**-0.1**
ULDT	**Uludag**	**0.83**	**114**	*i* P	**Pg**	**05 31 55.2**	**-0.8**
ULDT				*i* S	**Sg**	**05 32 06.9**	**-0.1**
BGKT	**Bogazkoy**	**0.84**	**34**	*e*PG	**Pg**	**05 31 55.9**	**-0.2**
BGKT	**Bogazkoy**	**0.84**	**34**	*e*Pg	**Pg**	**05 31 55.9**	**-0.2**
BALY	**Balya**	**0.85**	**208**	*i* P	**Pg**	**05 31 55.5**	**-0.7**
BALY				*i* S	**Sn**	**05 32 09.5**	**+0.1**
BALY	**Balya**	**0.85**	**208**	*i* P	**Pg**	**05 31 55.5**	**-0.7**
BALB	**Balikesir**	**0.87**	**193**	*e*PG	**Pg**	**05 31 56.1**	**-0.5**
BALB	**Balikesir**	**0.87**	**193**	*e*Pg	**Pg**	**05 31 56.1**	**-0.5**
ISK	**Istanbul-Kandi**	**0.91**	**50**	*e*PG	**Pg**	**05 31 56.7**	**-0.6**
ISK	**Istanbul-Kandi**	**0.91**	**50**	*e*Pg	**Pg**	**05 31 56.7**	**-0.6**
DURS	**Dursunbey**	**0.92**	**164**	*i* P	**Pg**	**05 31 57.1**	**-0.5**
DURS				*i* S	**Sg**	**05 32 09.1**	**-0.6**
DURS	**Dursunbey

RDO			*e*SN	**Sb**	**05 32 44.2**	**+1.2**
RDO	**Rodhopi**	**2.08 289**	*e*Pn	**Pn**	**05 32 14.4**	**+0.2**
RDO			S	**Sn**	**05 32 40.0**	**+0.1**
RDO			*e*Sn	**Sb**	**05 32 44.2**	**+1.2**
ALT	**Altintas**	**2.08 133**	*e*PN	**Pn**	**05 32 15.5**	**+1.2**
ALT	**Altintas**	**2.08 133**	*e*Pn	**Pn**	**05 32 15.5**	**+1.2**
SIGR	**SIGRI**	**2.17 235**	P	**Pn**	**05 32 16.0**	**+0.6**
SIGR			S	**Sn**	**05 32 41.7**	**-0.4**
SIGR	**SIGRI**	**2.17 235**	P	**Pn**	**05 32 16.0**	**+0.6**
SIGR			S	**Sn**	**05 32 41.7**	**-0.4**
IZM	**Izmir**	**2.19 198**	*e*PN	**Pn**	**05 32 17.1**	**+1.3**
IZM	**Izmir**	**2.19 198**	*e*Pn	**Pn**	**05 32 17.1**	**+1.3**
BLCB	**Balcova**	**2.27 202**	*e*PN	**Pn**	**05 32 18.2**	**+1.5**
BLCB	**Balcova**	**2.27 202**	*e*Pn	**Pn**	**05 32 18.2**	**+1.5**
JMB	**Yambol**	**2.30 330**	P	**Pn**	**05 32 17.5**	**+0.3**
JMB			S	**Sn**	**05 32 45.9**	**+0.7**
JMB	**Yambol**	**2.30 330**	*i* P	**Pn**	**05 32 18.4**	**+1.2**
JMB			*i* Sg	**Sg**	**05 32 53.8**	**+0.2**
JMB	**Yambol**	**2.30 330**	*i* P	**Pn**	**05 32 18.4**	**+1.2**
JMB			S	**Sn**	**05 32 45.9**	**+0.7**
JMB			*i* Sg	**Sg**	**05 32 53.8**	**+0.2**
LIA	**Limnos Island**	**2.34 256**	P	**Pn**	**05 32 17.8**	**+0.1**
LIA			S	**Sn**	**05 32 46.0**	**-0.3**
LIA	**Limnos Island**	**2.34 256**	*e*PN	**Pb**	**05 32 20.9**	**-0.8**
LIA			*e*SN	**Sg**	**05 32 53.0**	**-2.0**
LIA	**Limnos Island**	**2.34 256**	P	**Pn**	**05 32 17.8**	**+0.1**
LIA	**Limnos Island**	**2.34 256**	*e*Pn	**Pb**	**05 32 20.9**	**-0.8**
LIA			S	**Sn**	**05 32 46.0**	**-0.3**
KHAL	**Karahalli**	**2.36 153**	*i* P	**Pn**	**05 32 19.2**	**+1.1**
KHAL			*i* S	**Sg**	**05 32 54.9**	**-0.6**
KHAL	**Karahalli**	**2.36 153**	*i* P	**Pn**	**05 32 19.2**	**+1.1**
KDZ	**Kurdzhali**	**2.37 300**	*i* P	**Pn**	**05 32 19.8**	**+1.7**
KDZ			*i* S	**Sg**	**05 32 54.1**	**-1.7**
KDZ	**Kurdzhali**	**2.37 300**	*i* P	**Pn**	**05 32 19.8**	**+1.7**
CHOS	**Chios island**	**2.65 218**	P	**Pn**	**05 32 22.6**	**+0.5**
CHOS			S	**Sn**	**05 32 53.5**	**-0.5**
CHOS	**Chios island**	**2.65 218**	*e*PN	**Pb**	**05 32 25.5**	**-1.5**
CHOS	**Chios island**	**2.65 218**	P	**Pn**	**05 32 22.6**	**+0.5**
CHOS	**Chios island**	**2.65 218**	*e*Pn	**Pb**	**05 32 25.5**	**-1.5**
CHOS			S	**Sn**	**05 32 53.5**	**-0.5**
PRD	**Provadia**	**2.77 349**	*i* Sg	**Sg**	**05 33 06.4**	**-2.2**
PRD			*i* P	**Pg**	**05 32 31.0**	**-1.8**
PRD	**Provadia**	**2.77 349**	*i* Sg	**Sg**	**05 33 06.4**	**-2.2**
SVRH	**Sivrihisar-ESK**	**2.80 111**	*e*PN	**Pn**	**05 32 26.1**	**+2.0**
SVRH	**Sivrihisar-ESK**	**2.80 111**	*e*Pn	**Pn**	**05 32 26.1**	**+2.0**
RZN	**Rozhen**	**2.85 296**	*i* P	**Pn**	**05 32 25.1**	**+0.1**
RZN			*i* S	**Sb**	**05 33 07.9**	**+2.5**
RZN	**Rozhen**	**2.85 296**	*i* P	**Pn**	**05 32 25.1**	**+0.1**
NVR	**Nevrokopi**	**3.35 286**	P	**Pn**	**05 32 31.8**	**+0.1**
NVR	**Nevrokopi**	**3.35 286**	*e*PB	**Pn**	**05 32 33.9**	**+2.1**
NVR	**Nevrokopi**	**3.35 286**	P	**Pn**	**05 32 31.8**	**+0.1**
KNT	**Kendrikon**	**4.04 281**	*e*PN	**Pn**	**05 32 42.9**	**+1.8**
KNT	**Kendrikon**	**4.04 281**	*e*Pn	**Pn**	**05 32 42.9**	**+1.8**
KKB	**Krupnik**	**4.06 291**	*i* S	**Sg**	**05 33 46.4**	**-3.7**

RSPR ***12*** *05:46:31.0, 19°.59N×70°.71W, h98km±1km*
ISCJB ***12*** *05:46:32.0±0.8, 19°.63N±0°.06×70°.74W±0°.05, h50km, Error ellipse: s-maj=9.4km s-min=6.4km az=27.2*
SSNC ***12*** *05:46:31.4±5.4, 17°.34N×71°.74W, h0km±999km, mb4.7*
ISC 12 05:46:32.7±1.4, 19°.62N±0°.08×70°.69W±0°.06, h50km, n7, σ1°16/8, 3C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.85**	**222**	⇑*e*P	Pn	05 46 48.8	+0.2
SDDR	**Presa de Saban**	**0.85**	**222**	*e*S	Sn	05 47 02.8	+2.7
DR12	**Loma Pena Alta**	**1.49**	**124**	⇑*e*P	**Pn**	**05 46 56.6**	**-0.6**
DR12				*e*S	**Sn**	**05 47 16.5**	**+0.9**
GRTK	**Grand Turk**	**1.92**	**348**	⇑*e*P	**Pn**	**05 47 02.4**	**-0.7**
GRTK	**Grand Turk**	**1.92**	**348**	*e*S	**Sn**	**05 47 27.0**	**+0.9**
RCC	**Rio Carpintero** baz=117	**4.72**	**275**	*e*P	**Pn**	**05 47 40.6**	**-0.9**
RCC	comp=N,15nm,0.4s			*e*S	**Sn**	**05 48 36.7**	**+1.7**
RCC	comp=E,22nm,0.4s			*e*			
LMGC	**Las Mercedes** baz=136	**5.96**	**275**	*e*P	**Pn**	**05 47 58.6**	**+0.2**
LMGC	comp=N,7.0nm,0.2s			*e*S	**Sn**	**05 49 04.5**	**-0.9**
LMGC	comp=E,13nm,0.3s			*e*			

NNC 12 05:51:04.3±1.9, 54°.51N×86°.25E, h14km±11km, mb3.6, mpv3.2, 6C-4D, Error ellipse: s-maj=13.1km s-min=11.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov** 1.8nm,0.9s	**6.00**	**234**	⇓*e*Pn	Pn	05 52 32.3	-0.3
KURK	1.5nm,1.0s			⇑Sn	Sn	05 53 42.8	+1.6
KURK	7.3nm,1.0s			⇑Lg	Lg	05 54 14.1	
KURBB	**Kurchatov Arra** 2.3nm,0.4s	**6.11**	**234**	⇓*e*Pn	Pn	05 52 34.1	0.0
KURBB	8.8nm,0.8s			⇑Sn	Sn	05 53 44.5	+0.8
KURBB	12nm,0.6s			⇑Lg	Lg	05 54 18.8	
MK31	**Makanchi Array** 0.4nm,0.5s,baz=29,slow=12,SNR=28	**8.12**	**200**	*e*Pn	Pn	05 53 01.5	-0.3
MK31	1.9nm,1.1s,baz=28,slow=26,SNR=6.7			⇑Sn	Sn	05 54 34.4	+0.9
MK31	3.0nm,0.8s,baz=23,slow=33,SNR=4.2			⇓Lg	Lg	05 55 22.7	
VOSK	**Vostochnaya** 1.4nm,0.5s	**9.25**	**265**	⇑*e*Pn	Pn	05 53 18.2	+0.9
VOSK	7.0nm,0.8s			⇓Sn	Sn	05 55 01.0	-0.1

IDC ***12*** *05:54:16.4±1.7, 29°.99S×177°.69W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/17, mbtmp4.1/3, Error ellipse: s-maj=69.8km s-min=39.6km az=3.0*
ISC 12 05:54:21.5±1.7, 30°.5S±0°.1×177°.7W±0°.3, h33km, n7, σ1°33/8, mb4.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.4nm,0.3s,baz=240,slow=16,SNR=5.2	**8.85**	**208**	Pn	**Pn**	**05 56 25.8**	**-1.2**
URZ	2.1nm,0.3s,baz=211,slow=19,SNR=16			Sn	**Sn**	**05 58 05.9**	**+0.4**
STKA	**Stephens Creek** 4.0nm,0.7s,baz=105,slow=9.3,SNR=5.9	**34.70**	**257**	P	**P**	**06 01 09.8**	**+1.4**
ASAR	**Alice Springs** 1.0nm,0.7s,baz=101,slow=7.1,SNR=6.8	**43.36**	**267**	P	**P**	**06 02 20.4**	**-0.5**
WRA	**Warramunga Arr** 1.7nm,0.4s,baz=110,slow=7.1,SNR=3.3	**44.36**	**272**	P	**P**	**06 02 28.5**	**-0.4**
FINES	**FINESS Array B** 1.6nm,0.5s,baz=60,slow=3.4,SNR=10	**145.32**	**340**	PKP	**PKPbc**	**06 13 54.2**	**-0.8**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=50,slow=2.5,SNR=4.2	**151.53**	**323**	PKPbc	**PKPbc**	**06 14 11.0**	**-0.8**
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=179,slow=2.7,SNR=3.3	**162.72**	**178**	PKPab	**PKPab**	**06 15 11.1**	**+1.9**

IDC 12 05:55:01.0±2.2, 5°.43S×130°.56E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=96.1km s-min=27.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=28,slow=14,SNR=17	**13.48**	**200**	Pn	Pn	05 58 14.2	+0.5
FITZ	2.6nm,0.3s,baz=165,slow=20,SNR=12			Sn	Sn	06 00 31.3	-13
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=348,slow=13,SNR=33	**14.89**	**166**	Pn	Pn	05 58 32.3	-0.7
WRA	1.2nm,0.3s,baz=345,slow=20,SNR=8.1			Sn	Sn	06 01 05.8	-13
ASAR	**Alice Springs** 0.5nm,0.3s,baz=352,slow=10,SNR=26	**18.41**	**170**	P	Pn	05 59 17.6	-0.3
ASAR	0.4nm,0.3s,baz=355,slow=28,SNR=7.8			S	Sn	06 02 31.0	-13
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=123,slow=7.7,SNR=8.8	**67.23**	**326**	P	P	06 05 57.3	0.0

TRN 12 05:55:56.7, 17°.16N×61°.42W, h34km, MD3.2, M3.5(FDF), **4C-1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.43**	**255**	*e*P	Pn	05 56 08.8	+2.2
BPA				*e*S	Sn	05 56 15.3	+2.1
ANWB	**Willy Bob**	**0.62**	**326**	*e*P	Pb	05 56 10.3	+1.0
ANWB				*e*S	Sb	05 56 20.0	+2.2
SEG	**Port Louis**	**0.75**	**186**	⇑*i*P	Pb	05 56 12.7	+1.1
DEG	**La Desirade**	**0.91**	**157**	*e*P	Pn	05 56 13.6	+0.5
DEG				*e*S	Sn	05 56 25.3	+0.2
LZG	**Guadaloupe-1**	**1.07**	**199**	⇓*i*P	Pb	05 56 16.4	-0.3
BCG	**Bois Riant Cap**	**1.08**	**190**	*e*P	Pb	05 56 16.7	-0.3
SSG	**Sans Toucher**	**1.09**	**193**	⇑*e*P	Pb	05 56 16.8	-0.6
FNG	**Fond-Bernard**	**1.12**	**193**	*e*P	Pn	05 56 16.9	+0.8
MLG	**Mont-d'or**	**1.12**	**194**	⇑*e*P	Pb	05 56 17.4	-0.4
LKG	**Breislack**	**1.13**	**192**	*e*P	Pb	05 56 17.3	-0.7
ECG	**Echelle**	**1.13**	**191**	*e*P	Pb	05 56 17.4	-0.6
TAG	**Tarade**	**1.13**	**192**	*e*P	Pb	05 56 17.9	-0.1
DOG	**Dongo Capester**	**1.13**	**190**	*e*P	Pb	05 56 17.4	-0.5
SCG	**Saint Claude**	**1.15**	**193**	⇑*i*P	Pb	05 56 18.0	-0.2
PHG	**Guadaloupe-2**	**1.16**	**191**	*e*P	Pb	05 56 17.7	-0.6
HMG	**Houelmont**	**1.20**	**193**	*e*P	Pb	05 56 19.0	0.0
MGG	**Marie-Galante**	**1.24**	**175**	*e*P	Pb	05 56 19.6	+0.1
SABA	**Saba**	**1.80**	**285**	*e*P	Pb	05 56 27.6	-1.4
FDF	**Fort de France**	**2.42**	**174**	*e*P	Pn	05 56 36.0	+2.0
FDF				*e*S	Sn	05 57 05.4	+2.9
BVM	**Bellevue**	**2.43**	**172**	*e*P	Pn	05 56 35.8	+1.7
ZAM	**Aeronautique**	**2.60**	**172**	*e*P	Pn	05 56 38.4	+2.1
LPMF	**Morne Lapointe**	**2.60**	**170**	*e*P	Pn	05 56 37.9	+1.5
TRMF	**Trois Ilets**	**2.63**	**172**	*e*P	Pn	05 56 39.2	+2.5

ISCJB ***12*** *06:04:44.5±1.2, 21°.8N±0°.1×143°.9E±0°.3, h105km, mb3.6/7, Error ellipse: s-maj=41.8km s-min=12.8km az=168.7*
IDC ***12*** *06:04:53.0±3.6, 21°.89N×143°.93E, h166km±30km, mb3.2/8, mb1 3.3/9, mb1mx3.2/28, mbtmp3.7/9, Error ellipse: s-maj=42.2km s-min=22.8km az=79.0*
ISC 12 06:04:46.1±1.3, 21°.8N±0°.1×144°.0E±0°.3, h105km, n9, σ1°29/9, mb3.5/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 2.6nm,0.3s,baz=234,slow=19,SNR=3.8	**5.52**	**343**	P	Pn	06 06 11.2	+5.3
JCJ	9.3nm,0.3s,baz=270,slow=20,SNR=6.2			S	**Sn**	**06 07 10.0**	**+1.8**
KSRS	**Korea Array** 1.4nm,0.5s,baz=147,slow=9.0,SNR=8.0	**20.89**	**322**	P	Pn	06 09 23.2	-0.2
SONM	**Songino Array** 0.2nm,0.4s,baz=119,slow=8.4,SNR=3.8	**39.74**	**320**	P	**P**	**06 12 08.2**	**-0.3**
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=4.4,slow=9.0,SNR=4.5	**42.54**	**193**	P	**P**	**06 12 33.0**	**+1.4**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=94,slow=8.7,SNR=4.9	**54.59**	**321**	P	**P**	**06 14 02.2**	**-1.3**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=83,slow=8.5,SNR=5.5	**55.18**	**313**	P	**P**	**06 14 07.8**	**-0.1**
MKAR	0.2nm,0.4s,baz=115,slow=3.4,SNR=3.1			PcP	**PcP**	**06 15 07.1**	**-0.7**
BVAR	**Borovoye Array** 1.5nm,0.4s,baz=90,slow=7.0,SNR=14	**63.08**	**319**	P	**P**	**06 15 02.1**	**-0.2**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=290,slow=5.6,SNR=3.6	**76.02**	**28**	P	**P**	**06 16 22.1**	**+0.5**
FINES	**FINESS Array B** 1.4nm,0.9s,baz=31,slow=3.6,SNR=5.6	**83.41**	**335**	P	**P**	**06 17 00.0**	**-1.5**

MEX 12 06:06:40.3±1.0, 18°.39N×100°.03W, h52km±12km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.32**	**251**	*i* P	Pn	06 06 48.2	-1.6
ARIG				*e*S	Sn	06 06 55.3	-1.4
PLIG	**Platanillo**	**0.50**	**89**	*e*P	Pn	06 06 49.4	-2.4
PLIG				*e*S	Sn	06 06 58.5	-1.6
YAIG	**Yautepec**	**1.03**	**62**	*i* P	Pn	06 06 56.8	-1.9
YAIG				*i* S	Sn	06 07 10.1	-2.2
PPM	**Popocatepetl**	**1.49**	**63**	*e*P	Pn	06 07 04.3	-1.1
PPM				*e*S	Sn	06 07 22.6	-1.7
TLIG	**Tlapa**	**1.61**	**120**	*i* P	Pn	06 07 05.8	-0.8
TLIG				*e*S	Sn	06 07 25.5	-0.9

IDC ***12*** *06:17:58.4±0.9, 28°.96N×107°.00E, h0km, mb3.7/9, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML3.1/1, Error ellipse: s-maj=36.6km s-min=16.6km az=57.0*
ISCJB ***12*** *06:18:01.2±0.8, 28°.9N±0°.1×107°.0E±0°.2, h33km, mb3.6/9, Error ellipse: s-maj=26.6km s-min=14.8km az=148.2*
ISC 12 06:18:03.5±1.1, 29°.0N±0°.2×107°.0E±0°.2, h35km, n10, σ0°40/10, mb3.8/9, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.1nm,0.3s,baz=170,slow=11,SNR=3.4	**18.83**	**359**	P	**P**	**06 22 20.3**	**-0.1**
USRK	**Ussuriysk Arra** 0.5nm,0.3s,baz=231,slow=9.1,SNR=4.2	**25.04**	**46**	P	**P**	**06 23 24.3**	**0.0**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=119,slow=10,SNR=10	**26.22**	**319**	P	**P**	**06 23 35.6**	**+0.5**
ZALV	**Zalesovo Beam** 1.1nm,0.6s,baz=140,slow=10.0,SNR=5.5	**29.73**	**333**	P	**P**	**06 24 06.4**	**+0.1**
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=130,slow=8.6,SNR=10	**30.44**	**323**	P	**P**	**06 24 13.0**	**+0.5**
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=112,slow=9.8,SNR=5.6	**36.00**	**322**	P	**P**	**06 25 01.0**	**0.0**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=337,slow=8.4,SNR=16	**55.34**	**148**	P	**P**	**06 27 33.7**	**-0.3**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=333,slow=6.6,SNR=9.4	**58.40**	**151**	P	**P**	**06 27 56.0**	**+0.4**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=65,slow=7.3,SNR=2.5	**60.66**	**315**	P	**P**	**06 28 10.4**	**-0.6**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=325,slow=4.9,SNR=5.7	**82.95**	**18**	P	**P**	**06 30 24.6**	**+0.1**

IDC 12 06:31:43.1±1.8, 3°.84N×124°.15E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, Error ellipse: s-maj=140.8km s-min=23.6km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.7nm,0.7s,baz=14,slow=11,SNR=4.2	**21.85**	**176**	P	P	06 36 37.5	0.0
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=336,slow=9.5,SNR=11	**25.67**	**157**	P	P	06 37 15.1	+0.2
ASAR	**Alice Springs** 0.3nm,0.4s,baz=341,slow=6.5,SNR=7.6	**28.95**	**161**	P	P	06 37 44.0	-0.3
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=133,slow=6.1,SNR=2.6	**56.02**	**326**	P	P	06 41 23.6	-0.1

ISCJB ***12*** *06:41:18.5±0.9, 52°.0N±0°.1×169°.4W±0°.1, h30km, mb3.4/6, Error ellipse: s-maj=16.8km s-min=5.0km az=149.0*
NEIC ***12*** *06:41:18.9, 52°.02N×169°.31W, h29km, ML3.2(AEIC), After AEIC.*
IDC ***12*** *06:41:18.8±1.8, 52°.74N×169°.47W, h0km, mb3.4/6, mb1 3.7/9, mb1mx3.5/31, mbtmp3.5/9, ML3.4/3, Error ellipse: s-maj=47.8km s-min=15.3km az=169.0*
ISC 12 06:41:21.2±1.2, 52°.2N±0°.2×169°.49W±0°.09, h30km, n25, σ1°10/25, mb3.3/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.86**	**26**	P	**Pn**	**06 41 36.1**	**-1.3**
NIKH				S	**Sn**	**06 41 51.3**	**+2.4**
OKWR	**Okmok West Rim**	**1.46**	**32**	P	**Pn**	**06 41 45.8**	**+0.2**
OKFG	**Magazine Ridge**	**1.54**	**38**	P	**Pn**	**06 41 45.8**	**-0.8**
OKFG				S	**Sn**	**06 42 06.9**	**+1.3**
MREP	**Makushin Rep't**	**2.31**	**45**	P	**Pn**	**06 41 57.2**	**-0.1**
MCIR	**Makushin Cirqu**	**2.35**	**41**	P	**Pn**	**06 41 57.8**	**0.0**
MSW	**Makushin Switc**	**2.37**	**42**	P	**Pn**	**06 41 57.5**	**-0.5**
MSW				S	**Sn**	**06 42 27.6**	**+1.5**
UNV	**Unalaska Valle**	**2.44**	**46**	P	**Pn**	**06 41 58.3**	**-0.7**
UNV				S	**Sn**	**06 42 28.4**	**+0.6**
MTBL	**Makushin Table**	**2.45**	**43**	P	**Pn**	**06 41 59.0**	**-0.2**
ZRO	**Akutan Zero**	**2.84**	**47**	P	**Pn**	**06 42 04.5**	**0.0**
AKGG	**Akutan Green G**	**2.90**	**45**	P	**Pn**	**06 42 05.2**	**-0.1**
GSMY	**Great Sitkin M**	**4.05**	**270**	P	**Pn**	**06 42 21.7**	**+0.6**
GSTD	**Great Sitkin T**	**4.11**	**271**	P	**Pn**	**06 42 22.2**	**+0.3**
TAFP	**Tanaga Falls P**	**5.25**	**270**	P	**Pn**	**06 42 39.8**	**+2.1**
FX1	**Attu Island--F** 0.7nm,0.3s,baz=137,slow=1.7,SNR=6.7	**10.59**	**281**	Pn	**Pn**	**06 43 51.5**	**+0.7**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=243,slow=8.0,SNR=2.4	**17.13**	**34**	Pn	Pn	06 45 10.0	-8.1
ILAR	0.1nm,0.3s,baz=240,slow=24,SNR=6.9			Sn	Sn	06 48 03.6	-24
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=88,slow=14,SNR=7.4	**19.84**	**286**	P	**P**	**06 45 48.5**	**-0.8**
INK	**Inuvik** 0.8nm,0.6s,baz=249,slow=8.6,SNR=2.4	**23.53**	**33**	P	**P**	**06 46 26.7**	**-1.6**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=270,slow=8.1,SNR=8.6	**30.41**	**49**	P	**P**	**06 47 29.8**	**-0.5**
H11S1	**WAKE ISLAND Hy** baz=24,slow=77,SNR=10	**38.46**	**218**	T	T	07 30 31.5	
H11S2	**WAKE ISLAND Hy** baz=24,slow=77,SNR=6.3	**38.48**	**218**	T	T	07 30 11.6	
H11S3	**WAKE ISLAND Hy** baz=24,slow=77,SNR=4.0	**38.48**	**218**	T	T	07 30 00.1	
SONM	**Songino Array** 0.1nm,0.3s,baz=54,slow=9.1,SNR=3.3	**52.32**	**301**	P	**P**	**06 50 22.7**	**+0.2**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=312,slow=7.2,SNR=4.1	**52.82**	**89**	P	**P**	**06 50 35.4**	**+1.6**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=50,slow=7.0,SNR=9.0	**63.87**	**313**	P	**P**	**06 51 49.8**	**-0.9**
FINES	**FINESS Array B** 0.7nm,0.5s,baz=12,slow=7.1,SNR=4.9	**66.03**	**352**	P	**P**	**06 52 03.1**	**-1.2**

IDC 12 06:42:26.2±3.4, 1°.82S×137°.89E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=126.1km s-min=30.5km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=12,slow=11,SNR=14	**18.34**	**191**	P	Pn	06 46 41.2	-1.0
ASAR	**Alice Springs** 0.1nm,0.8s,baz=23,slow=11,SNR=11	**22.05**	**190**	P	P	06 47 22.4	-0.5
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=107,slow=7.5,SNR=2.2	**68.59**	**322**	P	P	06 53 31.9	+0.7

NIED ***12*** *07:02:00, 25°.00N×123°.40E, h5km, Mw4.4 Best double couple: M₀4.77000×10¹⁵ NP1:φ₁261.00000°, δ29.00000°, λ-99.00000°. NP2:φ₂91.00000°, δ61.00000°, λ-85.00000°.*
ISCJB ***12*** *07:02:40.2±1.3, 25°.01N±0°.08×123°.43E±0°.05, h21km±1km, mb3.9/11, MS3.7/12, Error ellipse: s-maj=13.0km s-min=7.6km az=1.6*
JMA ***12*** *07:02:40.9±0.2, 24°.98N×123°.43E, h24km, MS3.5*
IDC ***12*** *07:02:56.4±5.4, 24°.97N×123°.19E, h150km±52km, mb3.5/11, mb1 3.6/12, mb1mx3.4/28, mbtmp3.9/12, MS3.7/14, Ms1 3.7/14, ms1mx3.5/31, Error ellipse: s-maj=35.5km s-min=12.8km az=64.0*
ISC 12 07:02:41.8±0.6, 24°.92N±0°.09×123°.43E±0°.06, h21km±5km, n27, σ1°05/23, mb3.9/11, MS3.7/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.59**	**220**	P	**Pb**	**07 02 53.2**	**-0.4**
YOJ				*e*S	**Sb**	**07 03 01.6**	**0.0**
IRIF	**Iriomote-Funau**	**0.64**	**155**	P	**Pb**	**07 02 54.2**	**-0.1**
IRIF				*e*S	**Sb**	**07 03 03.6**	**+0.7**
JIJ	**Ishigaki jima**	**0.85**	**130**	P	**Pn**	**07 02 56.9**	**-1.6**
JIJ				*e*S	**Sn**	**07 03 08.7**	**-1.6**
JKRS	**Kuro-shima**	**0.86**	**142**	P	**Pn**	**07 02 57.5**	**-1.1**
JKRS				*e*S	**Sb**	**07 03 09.6**	**+0.6**
HATJ	**Hateruma jima**	**0.92**	**158**	P	**Pn**	**07 02 59.0**	**-0.5**
JTJ	**Tarama**	**1.19**	**103**	P	**Pn**	**07 03 02.7**	**-0.4**
JTJ				*e*S	**Sn**	**07 03 17.6**	**-1.0**
KSRS	**Korea Array** 0.2nm,0.3s,baz=199,slow=12,SNR=5.4	**13.07**	**16**	P	**P**	**07 05 57.8**	**+1.4**
KSRS	comp=Z,230nm,19.4s,baz=198,slow=37			LR	LR	07 10 58.3	
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=235,slow=36	**17.17**	**44**	LR	LR	07 13 20.9	
USRK	**Ussuriysk Arra** comp=Z,203nm,18.2s,baz=190,slow=37	**20.46**	**18**	LR	LR	07 15 33.1	
CMAR	**Chiang Mai Arr** comp=Z,44nm,18.6s,baz=180,slow=37	**23.63**	**259**	LR	LR	07 17 28.8	
ASAJ	**Asahikawa** comp=Z,89nm,19.2s,baz=213,slow=38	**24.71**	**34**	LR	LR	07 18 30.7	
SONM	**Songino Array** 2.0nm,0.8s,baz=145,slow=8.9,SNR=17	**26.55**	**334**	P	**P**	**07 08 18.8**	**+0.6**
SONM	comp=Z,262nm,18.4s,baz=160,slow=38			LR	LR	07 19 40.3	
PETK	**Petropavlovsk-** comp=Z,68nm,19.4s,baz=223,slow=37	**38.12**	**33**	LR	LR	07 26 22.2	
MKAR	**Makanchi Array** 2.9nm,0.9s,baz=106,slow=9.8,SNR=27	**39.26**	**314**	P	**P**	**07 10 08.4**	**-0.5**
MKAR	comp=Z,85nm,18.6s,baz=104,slow=36			LR	LR	07 26 18.0	
ZALV	**Zalesovo Beam** 4.0nm,0.7s,baz=109,slow=8.0,SNR=14	**40.77**	**326**	P	**P**	**07 10 20.6**	**-0.6**
ZALV	comp=Z,144nm,19.9s,baz=76,slow=37			LR	LR	07 28 15.3	
PMG	**Port Moresby** comp=Z,46nm,20.6s,baz=10,slow=34	**41.22**	**143**	LR	LR	07 26 11.0	
KURBB	**Kurchatov Arra** 2.5nm,0.8s,baz=110,slow=8.4,SNR=24	**42.89**	**319**	P	**P**	**07 10 38.2**	**-0.4**
WRA	**Warramunga Arr** 4.2nm,0.8s,baz=346,slow=8.4,SNR=11	**45.84**	**166**	P	**P**	**07 11 03.9**	**+1.5**
BVAR	**Borovoye Array** 0.6nm,0.6s,baz=108,slow=8.2,SNR=3.5	**48.42**	**320**	P	**P**	**07 11 21.6**	**-0.8**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=349,slow=7.2,SNR=7.6	**49.35**	**167**	P	**P**	**07 11 31.5**	**+1.7**
STKA	**Stephens Creek** 1.2nm,0.5s,baz=11,slow=5.2

HUIG	**Huatulco**	**2.34**	**100**	*i* P	Pn	07 07 53.4	-2.7
HUIG				*i* S	Sn	07 08 20.9	-4.3
PLIG	**Platanillo**	**2.39**	**337**	*i* P	Pn	07 07 53.7	-3.1
PLIG				*i* S	Sn	07 08 23.1	-3.5
ARIG	**Puente Sto Nin**	**2.73**	**320**	*i* P	Pn	07 07 58.9	-2.5
ARIG				*i* S	Sn	07 08 30.5	-4.2

ISCJB **12** *07:08:24.7±0.6,24.2°92N±0.0°05×123.4°43E±0.0°05, h32km, mb3.7/7, Error ellipse: s-maj=8.0km s-min=5.8km az=40.8*
JMA **12** *07:08:24.5±0.2,24.2°92N×123.4°48E, h4km, M3.3*
IDC **12** *07:08:40.6±6.2,24.2°99N×123.2°16E, h162km±63km, mb3.3/7, mb1 3.4/8, mb1mx3.2/27, mbtmp3.3/8, Error ellipse: s-maj=41.7km s-min=15.2km az=64.0*

ISC 12 07:08:25.6±0.8, 24.4°84N±0.0°07×123.7°42E±0.0°06, h32km, n13, σ0.47/15, mb3.8/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.53**	**225**	P	**Pn**	**07 08 36.6**	**-0.3**
YOJ				*e*S	**Sn**	**07 08 45.2**	**+0.4**
JKRS	**Kuro-shima**	**0.80**	**138**	P	**Pn**	**07 08 40.6**	**-0.1**
JKRS				*e*S	**Sn**	**07 08 51.4**	**-0.1**
JIJ	**Ishigaki jima**	**0.81**	**126**	P	**Pn**	**07 08 40.2**	**-0.6**
JIJ				*e*S	**Sn**	**07 08 51.1**	**-0.6**
HATJ	**Hateruma jima**	**0.85**	**156**	P	**Pb**	**07 08 42.1**	**+0.1**
HATJ				*e*S	**Sb**	**07 08 53.5**	**+0.4**
JTJ	**Tarama**	**1.18**	**99**	*e*S	**Sn**	**07 09 01.8**	**+0.9**
KSRS	**Korea Array**	**13.15**	**16**	P	**P**	**07 11 40.1**	**+0.3**
	0.2nm,0.3s,baz=197,slow=12,SNR=5.6						
SONM	**Songino Array**	**26.62**	**334**	P	**P**	**07 14 01.7**	**+0.4**
	1.1nm,0.8s,baz=151,slow=8.9,SNR=8.2						
MKAR	**Makanchi Array**	**39.31**	**314**	P	**P**	**07 15 51.5**	**-0.2**
	2.1nm,0.9s,baz=116,slow=6.6,SNR=9.4						
ZALV	**Zalesovo Beam**	**40.83**	**326**	P	**P**	**07 16 03.6**	**-0.5**
	2.5nm,0.7s,baz=106,slow=7.9,SNR=10						
KURBB	**Kurchatov Arra**	**42.94**	**319**	P	**P**	**07 16 21.2**	**-0.2**
	1.8nm,0.8s,baz=114,slow=8.5,SNR=11						
WRA	**Warramunga Arr**	**45.76**	**166**	P	P	07 16 47.5	+3.2
	1.3nm,1.0s,baz=346,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**49.27**	**167**	P	P	07 17 14.5	+3.0
	0.2nm,0.7s,baz=345,slow=7.9,SNR=3.9						
YKA	**Yellowknife Ar**	**81.57**	**23**	P	**P**	**07 20 39.8**	**-0.1**
	0.3nm,0.7s,baz=306,slow=5.2,SNR=4.1						

IDC **12** *07:12:39.6±0.8,38.7°71N×70.7°66E, h0km, mb3.8/11, mb1 4.0/17,mb1mx3.9/33,mbtmp3.9/17,ML3.9/6,MS3.1/1, Ms1 3.1/1,ms1mx2.5/39,Error ellipse: s-maj=15.8km s-min=10.9km az=143.0*
BJI **12** *07:12:39.3,39.7°00N×70.7°10E,h15km,mb3.8/3,ML3.6/3*
MOS **12** *07:12:43.8±1.4,38.7°91N×70.7°35E,h33km,mb4.3/12,Error ellipse: s-maj=11.2km s-min=5.4km az=75.6*
ISCJB **12** *07:12:43.1±0.5,39.0°08N±0.0°04×70.7°15E±0.0°05,h17km, mb3.9/19,Error ellipse: s-maj=5.5km s-min=5.2km az=140.3*
NNC **12** *07:12:44.5±1.7,39.7°04N×70.7°18E,h13km±8km, mb4.2, mpv3.9,Error ellipse: s-maj=12.1km s-min=8.7km az=9.0*
NEIC **12** *07:12:47.9±0.8,38.7°90N×70.7°72E,h63km±8km, mb4.5/2, Error ellipse: s-maj=9.6km s-min=8.0km az=120.0*

ISC 12 07:12:43.5±0.5, 38.7°94N±0.0°04×70.7°36E±0.0°05, h17km, n99, σ2.918/112, mb4.0/19, 15C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.08**	**37**	*i* PN	**Pn**	**07 13 47.1**	**+1.6**
AML	**Almayashu**	**4.08**	**37**	P	**Pn**	**07 13 47.1**	**+1.6**
	SNR=80						
KK31	**Karatay Array**	**4.17**	**2**	Pn	**Pn**	**07 13 48.3**	**+2.0**
	4.2nm,0.3s,baz=172,slow=10,SNR=379						
KK31				⇓Pg	**Pb**	**07 13 59.1**	**+2.7**
	7.1nm,0.3s,baz=194,slow=16,SNR=4.8						
KK31				⇑Sn	**Sn**	**07 14 34.5**	**-0.1**
	15nm,0.3s,baz=200,slow=25,SNR=5.8						
KK31				⇑Lg	Lg	07 14 52.2	
	54nm,0.5s,baz=182,slow=28,SNR=7.4						
KK31	**Karatay Array**	**4.17**	**2**	PN	**Pn**	**07 13 49.3**	**+2.9**
KK31						07 14 51.6	
KK31				pmax	pmax		
	comp=Z,13nm,0.3s						
KK31				pmax	pmax		
	comp=N,46nm,0.3s						
KKAR	**Karatay Array**	**4.17**	**2**	*e*PN	**Pn**	**07 13 49.2**	**+2.8**
KKAR	**Karatay Array**	**4.17**	**2**	*e*Pn	**Pn**	**07 13 49.2**	**+2.8**
KSH	**Kashi**	**4.40**	**81**	Pn	Pn	07 13 45.4	-4.3
KSH				Sn	**Sn**	**07 14 37.5**	**-3.1**
KSH				smax	smax		
	comp=N,230nm,0.8s						
KSH				smax	smax		
	comp=N,130nm,0.8s						
KBL	**Kabul**	**4.51**	**194**	*e*PN	**Pn**	**07 13 53.6**	**+2.3**
KBL	**Kabul**	**4.51**	**194**	*e*Pn	**Pn**	**07 13 53.5**	**+2.3**
EKS2	**Erkin-Say**	**4.54**	**34**	*i* PN	**Pn**	**07 13 53.7**	**+2.2**
EKS2	**Erkin-Say**	**4.54**	**34**	P	**Pn**	**07 13 53.8**	**+2.2**
	SNR=38						
EKS2	**Erkin-Say**	**4.54**	**34**	*e*Pn	**Pn**	**07 13 53.8**	**+2.2**
EKS2				*e*Sn	**Sb**	**07 14 52.4**	**-4.8**
UCH	**Uchtor**	**4.56**	**43**	*i* PN	**Pn**	**07 13 53.9**	**+1.7**
UCH	**Uchtor**	**4.56**	**43**	P	**Pn**	**07 13 53.9**	**+1.7**
	SNR=112						
AAK	**Ala-Archa**	**4.85**	**39**	⇓Pn	**Pn**	**07 13 57.4**	**+1.5**
	comp=N,26nm,0.5s						
AAK				⇑Sn	**Sn**	**07 14 55.6**	**+3.9**
	comp=N,108nm,1.2s						
AAK				⇓Lg	Lg	07 15 19.7	
	comp=N,80nm,0.8s						
AAK	**Ala-Archa**	**4.85**	**39**	PN	**Pn**	**07 13 57.1**	**+1.2**
AAK						07 14 54.8	
AAK				pmax	pmax		
	comp=Z,26nm,0.5s						
AAK				pmax	pmax		
	comp=N,80nm,0.8s						
AAK	**Ala-Archa**	**4.85**	**39**	P	**Pn**	**07 13 57.7**	**+1.8**
	SNR=69						
AAK	**Ala-Archa**	**4.85**	**39**	*e*Pn	**Pn**	**07 13 57.6**	**+1.8**
AAK				*e*Sn	**Sn**	**07 14 57.7**	**+6.0**
AAK	**Ala-Archa**	**4.85**	**39**	Pn	**Pn**	**07 13 57.6**	**+1.8**
	comp=N,14nm,0.3s,baz=202,slow=7.6,SNR=106						
AAK				Sn	**Sn**	**07 14 57.5**	**+5.8**
	comp=N,2.9nm,0.3s,baz=295,slow=19,SNR=6.1						
KZA	**Kyzart**	**4.88**	**48**	*i* PN	**Pn**	**07 13 58.1**	**+1.7**
KZA	**Kyzart**	**4.88**	**48**	P	**Pn**	**07 13 58.2**	**+1.7**
	SNR=53						
KBK	**Karagaybulak**	**5.09**	**42**	*i* PN	**Pn**	**07 14 01.5**	**+2.2**
KBK	**Karagaybulak**	**5.09**	**42**	P	**Pn**	**07 14 01.5**	**+2.2**
	SNR=57						
CHMS	**Chumysh**	**5.25**	**38**	*i* PN	**Pn**	**07 14 02.8**	**+1.6**
CHMS	**Chumysh**	**5.25**	**38**	P	**Pn**	**07 14 02.9**	**+1.6**
	SNR=12						
CEP	**Cherat**	**5.25**	**166**	P	Pb	07 14 11.0	-4.0
CEP				S	**Sg**	**07 15 32.0**	**-0.2**
USP	**Ospenovka**	**5.34**	**35**	*i* PN	**Pn**	**07 14 03.7**	**+1.2**
USP	**Ospenovka**	**5.34**	**35**	P	**Pn**	**07 14 03.7**	**+1.2**
	SNR=41						
ULHL	**Ulahol**	**5.57**	**52**	P	**Pn**	**07 14 06.5**	**+0.7**
	SNR=7.5						
TKM2	**Tokmak 2**	**5.62**	**43**	⇑Pn	**Pn**	**07 14 07.8**	**+1.3**
	comp=N,20nm,0.9s						
TKM2				⇑Sn	**Sn**	**07 15 14.3**	**+3.5**
	comp=N,24nm,0.7s						
TKM2				⇓Lg	Lg	07 15 44.2	
	comp=N,30nm,0.8s						
TKM2	**Tokmak 2**	**5.62**	**43**	*e*PN	**Pn**	**07 14 07.5**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,29nm,0.5s						
TKM2	**Tokmak 2**	**5.62**	**43**	P	**Pn**	**07 14 07.8**	**+1.3**
	SNR=70						
TKM2	**Tokmak 2**	**5.62**	**43**	*e*Pn	**Pn**	**07 14 07.5**	**+1.0**
	comp=Z,29nm,0.5s						
CHCP	**Chirah Chowk**	**5.76**	**155**	P	Pn	07 14 15.0	+6.6
IMYA	**Miami**	**8.54**	**256**	*e*P	**Pn**	**07 14 44.8**	**-1.7**
IEMG	**Emamgholi**	**9.34**	**264**	*e*P	**Pn**	**07 14 54.7**	**-3.0**
MK31	**Makanchi Array**	**11.75**	**44**	Pn	**Pn**	**07 15 30.7**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=229,slow=13,SNR=20						
MK31				⇓Lg	Lg	07 18 57.5	
	comp=Z,3.3nm,0.8s,baz=118,slow=6.4,SNR=6.5						
MK31	**Makanchi Array**	**11.75**	**44**	*e*P	**Pn**	**07 15 30.4**	**0.0**
MK31	**Makanchi Array**	**11.75**	**44**	*e*Pn	**Pn**	**07 15 30.4**	**0.0**
MKAR	**Makanchi Array**	**11.75**	**44**	P	**Pn**	**07 15 30.1**	**-0.3**
MKAR	**Makanchi Array**	**11.75**	**44**	Pn	**Pn**	**07 15 30.1**	**-0.3**
MKAR				Lg	Lg	07 18 51.8	
	comp=Z,0.2nm,0.3s,baz=229,slow=13,SNR=30						
MKAR				Lg	Lg	07 18 51.8	
	comp=Z,0.1nm,0.3s,baz=234,slow=27,SNR=2.8						
AB31	**Akbulak array**	**12.73**	**327**	⇑Pn	**Pn**	**07 15 42.8**	**-0.8**
	comp=Z,6.0nm,0.4s,baz=154,slow=10.0,SNR=307						
AB31				⇓Sn	**Sn**	**07 18 02.8**	**-2.1**
	comp=Z,30nm,0.9s						
AB31	**Akbulak array**	**12.73**	**327**	*i* P	**Pn**	**07 15 42.9**	**-0.8**
AB31				pmax	pmax		
	comp=Z,11nm,0.3s						
ABKAR	**Akbulak array**	**12.73**	**327**	*e*Pn	**Pn**	**07 15 42.6**	**-1.1**
	comp=Z,12nm,0.4s						
ABKAR				*e*Sn	**Sn**	**07 18 01.6**	**-3.3**
KURBB	**Kurchatov Arra**	**13.04**	**24**	⇓Pn	**Pn**	**07 15 45.4**	**-2.5**
	comp=Z,2.3nm,0.7s						
KURBB				⇑Lg	Lg	07 19 35.8	
	comp=Z,14nm,0.7s						
KURBB	**Kurchatov Arra**	**13.04**	**24**	Pn	Pn	07 15 44.6	-3.2
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=7.1						
KURBB				Lg	Lg	07 19 25.2	
	comp=Z,0.2nm,0.3s,baz=205,slow=28,SNR=4.8						
KURK	**Kurchatov**	**13.15**	**24**	⇑Pn	**Pn**	**07 15 48.5**	**-0.8**
	comp=Z,2.1nm,0.8s						
KURK				⇑Lg	Lg	07 19 37.9	
	comp=Z,10nm,1.1s						
KURK	**Kurchatov**	**13.15**	**24**	*e*P	**Pn**	**07 15 50.0**	**+0.7**
KURK	**Kurchatov**	**13.15**	**24**	*e*Pn	**Pn**	**07 15 50.0**	**+0.7**
KURK				Lg	Lg	07 19 25.2	
VOSK	**Vostochnaya**	**13.80**	**2**	⇑Pn	**Pn**	**07 15 57.8**	**-0.5**
	comp=Z,4.3nm,1.3s						
BVA0	**Borovoye Array**	**14.09**	**0**	Pn	**Pn**	**07 16 02.6**	**+0.4**
	comp=Z,5.2nm,1.2s,baz=264,slow=40,SNR=9.6						
BVA0				⇑Sn	**Sn**	**07 18 38.2**	**0.0**
	comp=Z,5.2nm,1.1s,baz=174,slow=26,SNR=4.5						
BVAR	**Borovoye Array**	**14.09**	**0**	P	**Pn**	**07 16 01.3**	**-1.0**
BVAR						07 18 34.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**14.09**	**0**	Pn	**Pn**	**07 16 01.2**	**-1.0**
BVAR				Sn	**Sn**	**07 18 34.7**	**-3.5**
BVAR				Lg	Lg	07 20 01.6	
BVAR	**Borovoye Array**	**14.09**	**0**	Pn	**Pn**	**07 16 01.3**	**-1.0**
	comp=N,0.5nm,0.3s,baz=171,slow=12,SNR=8.1						
BVAR				Sn	**Sn**	**07 18 34.7**	**-3.5**
	comp=N,0.5nm,0.3s,baz=181,slow=21,SNR=6.1						
BVAR				Lg	Lg	07 20 01.6	
	comp=N,0.2nm,0.3s,baz=180,slow=27,SNR=3.9						
BRVK	**Borovoye**	**14.13**	**360**	⇓Pn	**Pn**	**07 16 02.2**	**-0.6**
	comp=N,6.0nm,1.2s						
BRVK				⇑Sn	**Sn**	**07 18 39.6**	**+0.6**
	comp=N,8.0nm,1.2s						
BRVK	**Borovoye**	**14.13**	**360**	*i* P	Pn	07 15 58.7	-4.0
AKTO	**Aktyubinsk**	**14.44**	**327**	⇑Pn	**Pn**	**07 16 06.0**	**-1.1**
	comp=N,9.9nm,0.8s						
AKTO				⇑Sn	**Sn**	**07 18 45.0**	**-1.6**
	comp=N,16nm,0.9s						
AKTO	**Aktyubinsk**	**14.44**	**327**	P	**Pn**	**07 16 06.2**	**-0.9**
AKTO						07 18 41.6	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,74nm,18.3s						
AKTO	**Aktyubinsk**	**14.44**	**327**	Pn	**Pn**	**07 16 06.2**	**-0.9**
AKTO				Sn	**Sn**	**07 18 41.6**	**-5.0**
AKTO	**Aktyubinsk**	**14.44**	**327**	Pn	**Pn**	**07 16 06.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=143,slow=12,SNR=14						
AKTO				Sn	**Sn**	**07 18 41.6**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=120,slow=20,SNR=3.7						
AKTO				LR	LR	07 22 21.4	
	comp=Z,74nm,18.3s,baz=356,slow=39						
ZALV	**Zalesovo Beam**	**17.97**	**29**	P	**Pn**	**07 16 50.2**	**-2.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**17.97**	**29**	P	**Pn**	**07 16 50.2**	**-2.1**
ZALV	**Zalesovo Beam**	**17.97**	**29**	P	**Pn**	**07 16 50.2**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=223,slow=13,SNR=14						
ARU	**Arti**	**19.17**	**340**	*e* P	**P**	**07 17 05.8**	**-0.2**
ARU				S	Sn	07 20 29.5	-12
ARU				pmax	pmax		
	comp=Z,13nm,1.7s						
ARU	**Arti**	**19.17**	**340**	*e*P	**Pn**	**07 17 07.3**	**+0.4**
	comp=Z,5.3nm,0.6s						
KIV	**Kislovodsk**	**21.29**	**293**	*e*P	P	07 17 38.2	+8.9
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**22.80**	**79**	*e*P	**P**	**07 17 45.4**	**-0.1**
GTA				pP	**pP**	**07 17 51.6**	**+1.2**
GTA				sP	**sP**	**07 17 54.4**	**+1.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VRHR	**Novokhopersk**	**23.51**	**311**	*e*P	**P**	**07 17 53.8**	**+1.4**
VRHR				pmax	pmax		
	comp=N,6.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD	**Divnogorie**	**24.86**	**309**	*e*P	P	07 18 11.3	+6.3
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VSR	**Storozhevoye**	**25.01**	**310**	*e*P	**P**	**07 18 10.5**	**+4.1**
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**27.45**	**59**	P	**P**	**07 18 24.9**	**-3.7**
SONM	**Songino Array**	**27.45**	**59**	P	**P**	**07 18 24.9**	**-3.7**
	comp=Z,0.3nm,0.5s,baz=263,slow=8.7,SNR=3.7						
OBN	**Obninsk**	**27.79**	**317**	*e*P	**P**	**07 18 31.0**	**-0.3**
OBN				*e*SS	SS	07 24 35.5	-35
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**28.29**	**283**	P	**P**	**07 18 38.6**	**+2.4**
BRTR	**Keskin Array B**	**28.29**	**283**	P	**P**	**07 18 38.6**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=74,slow=6.9,SNR=4.7						
AKASG	**Malin Array Be**	**31.07**	**306**	P	**P**	**07 19 02.2**	**+1.7**
AKASG	**Malin Array Be**	**31.07**	**306**	P	**P**	**07 19 02.2**	**+1.7**
AKASG	**Malin Array Be**	**31.07**	**306**	P	**P**	**07 19 02.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=79,slow=7.3,SNR=6.0						
FINES	**FINESS Array B**	**35.20**	**324**	P	**P**	**07 19 36.2**	**-0.1**
FINES	**FINESS Array B**	**35.20**	**324**	P	**P**	**07 19 36.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=119,slow=9.7,SNR=9.2						
ARCES	**ARCESS Array B**	**38.71**	**337**	P	**P**	**07 20 06.4**	**+0.2**
ARCES	**ARCESS Array B**	**38.71**	**337**	P	**P**	**07 20 06.4**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=107,slow=8.6,SNR=6.2						
NB2	**NORSAR Subarra**	**42.15**	**321**	P	**P**	**07 20 37.0**	**+2.2**
	comp=Z,1.3nm,0.5s,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**42.15**	**321**	P	**P**	**07 20 34.6**	**-0.1**
NOA	**NORSAR Array B**	**42.15**	**321**	P	**P**	**07 20 34.6**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=109,slow=7.9,SNR=5.6						
TIXI	**Tiksi**	**43.72**	**23**	*i* P	**P**	**07 20 45.7**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	**Sonseca Array**	**55.90**	**296**	P	**P**	**07 22 22.7**	**+2.2**
ESDC	**Sonseca Array**	**55.90**	**296**	P	**P**	**07 22 22.7**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=64,slow=7.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**65.30**	**267**	P	**P**	**07 23 26.2**	**+1.4**
TORD	**Torodi Ar. Bea**	**65.30**	**267**	P	**P**	**07 23 26.2**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=47,slow=5.8,SNR=7.4						
YKA	**Yellowknife Ar**	**78.84**	**2**	P	**P**	**07 24 44.4**	**-0.8**
YKA	**Yellowknife Ar**	**78.84**	**2**	P	**P**	**07 24 44.3**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=350,slow=5.6,SNR=15						
WRA	**Warramunga Arr**	**83.71**	**122**	P	**P**	**07 25 09.2**	**-2.4**
WRA	**Warramunga Arr**	**83.71**	**122**	P	**P**	**07 25 09.2**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=326,slow=4.9,SNR=11						
WRAB	**Tennant Creek**	**83.71**	**122**	*e*P	**P**	**07 25 08.6**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,32nm,2.0s						
WRAB	**Tennant Creek**	**83.71**	**122**	*e*P	**P**	**07 25 08.6**	**-3.0**
	comp=Z,32nm,2.0s						
ASAR	**Alice Springs**	**86.06**	**125**	P	**P**	**07 25 20.9**	**-2.5**
ASAR	**Alice Springs**	**86.06**	**125**	P	**P**	**07 25 20.9**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=322,slow=5.9,SNR=4.9						

MEX **12** *07:15:22.5±0.7,14.7°11N×91.7°35W,h20km±200km,MD4.3*

CASC **12** *07:15:23.6±2.6,14.7°49N×91.7°35W,h0km±7km,MD3.7*

ISC 12 07:15:23.3±1.8, 14.7°51N±0.0°06×91.7°38W±0.0°03, h15km±14km, n19, σ1.8°20/34, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.31**	**232**	⇓*i* P	**Pb**	**07 15 31.3**	**+0.7**
PCG	**Pacaya**	**0.76**	**99**	*e*P	**Pb**	**07 15 38.4**	**0.0**
PCG				*e*S	**Sb**	**07 15 48.7**	**+0.1**
GCG	**Guatemala City**	**0.82**	**85**	*e*P	**Pn**	**07 15 40.5**	**0.0**
GCG				*e*S	**Sn**	**07 15 52.3**	**-0.2**
THIG		**0.94**	**295**	*e*P	**Pb**	**07 15 40.2**	**-1.1**
THIG				*i* S	**Sn**	**07 15 55.1**	**-0.1**
NBG	**Las Nubes**	**1.00**	**86**	*e*P	**Pn**	**07 15 43.4**	**+0.3**
NBG				*e*S	**Sn**	**07 15 58.7**	**+1.6**
MRL	**Marmol**	**1.72**	**71**	*e*P	**Pb**	**07 15 54.3**	**-0.5**
MRL				*e*S	**Sg**	**07 16 20.3**	**+1.3**
RTR	**El Retiro**	**1.79**	**110**	*e*P	**Pb**	**07 15 55.1**	**-0.9**
RTR				*e*S	**Sg**	**07 16 21.9**	**+0.9**
SBLS	**San Blas**	**1.83**	**111**	*e*P	**Pb**	**07 15 55.6**	**-1.1**
SBLS				*e*S	**Sg**	**07 16 22.5**	**+0.1**
SNJE	**San Jose**	**1.84**	**110**	*e*P	**Pb**	**07 15 55.8**	**-1.0**
PCIG		**2.13**	**304**	*i* P	**Pn**	**07 15 59.0**	**+0.5**
PCIG				*i* S	**Sn**	**07 16 26.1**	**+1.4**
BOQS	**Boqueron**	**2.18**	**111**	*e*P	**Pb**	**07 16 01.2**	**-1.4**
BOQS				*e*S	**Sb**	**07 16 30.8**	**+1.3**
SNET	**Serv Nac Est T**	**2.24**	**111**	*e*P	**Pn**	**07 16 00.3**	**+0.3**
SNET				*e*S	**Sb**	**07 16 31.2**	**+0.1**
LFU	**La Fuente**	**2.33**	**109**	*e*P	**Pb**	**07 16 02.5**	**-2.5**
LFU				*e*S	**Sb**	**07 16 35.0**	**+1.4**
LFRS	**El Faro**	**2.42**	**111**	*e*P	**Pb**	**07 16 04.5**	**-2.1**
LFRS				*e*S	**Sb**	**07 16 36.8**	**+0.6**
SNVI	**San Vicente**	**2.62**	**110**	*e*P	**Pb**	**07 16 07.5**	**-2.6**
HUIG	**Huatulco**	**4.73**	**286**	*e*P	**Pn**	**07 16 33.3**	**-0.9**
HUIG				*i* S	**Sn**	**07 17 27.7**	**-1.1**
VHO	**Vista Hermosa**	**5.75**	**297**	*i* P	**Pn**	**07 16 48.4**	**+0.1**
VHO				*i* S	**Sn**	**07 17 55.9**	**+1.7**
TEIG	**Tepich**	**6.41**	**27**	*i* P	**Pn**	**07 16 57.0**	**-0.2**
PNIG	**Pinotepa**	**6.77**	**287**	*i* P	**Pn**	**07 17 01.1**	**-1.1**
PNIG				*i* S	**Sn**	**07 18 18.1**	**-1.0**

IDC 12 07:34:39.3±2.0, 7.7°01S×128.7°42E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=130.3km s-min=31.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.08**	**156**	Pn	Pn	07 37 59.8	-0.4
	0.2nm,0.3s,baz=335,slow=12,SNR=11						
WRA				Sn	Sn	07 40 21.6	-16
	0.2nm,0.3s,baz=330,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**17.38**	**163**	P	Pn	07 38 43.6	+0.2
	0.1nm,0.3s,baz=339,slow=11,SNR=12						
ASAR				S	Sn	07 41 40.3	-17
	0.0nm,0.3s,baz=316,slow=17,SNR=3.0						
MKAR	**Makanchi Array**	**67.39**	**328**	P	P	07 45 36.6	0.0
	0.2nm,0.4s,baz=114,slow=7.0,SNR=5.8						

WEL 12 07:35:08.4±0.3, 35.7°52S×178.7°12E, h33km, ML3.7/5, Error ellipse: s-maj=5.1km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.05**	**176**	S*	Sn	07 36 04.4	-0.5
MXZ					AML	07 36 07.0	
PUZ	**Puketiti**	**2.55**	**178**	PN	Pn	07 36 46.9	-0.7
PUZ				SN	Sn	07 36 15.8	-1.7
MWZ	**Matawai**	**2.85**	**189**	P*	Pn	07 35 51.5	-0.2
URZ	**Urewera**	**2.85**	**196**	P*	Pn	07 35 51.9	+0.3
RIGZ	**Rimuhau**	**3.19**	**185**	PN	Pn	07 35 55.3	-1.0
TSZ	**Takapari Road**	**4.84**	**200**	PN	Pn	07 36 15.5	-3.5

IDC 12 07:42:29.5±2.8, 5.7°93S×110.7°46E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.6/5, Error ellipse: s-maj=151.0km s-min=21.0km az=57.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.07**	**123**	P	P	07 48 13.9	-0.1
	0.6nm,1.0s,baz=308,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	**28.63**	**130**	P	P	07 48 28.9	+0.9
	0.5nm,0.5s,baz=305,slow=8.2,SNR=9.1						
STKA	**Stephens Creek**	**38.90**	**136**	P	P	07 49 56.2	-

*GUC **12** 08:02:23.1±0.4, 19.°08S×69.°22W, h2km±6km, ML4.7*
*NEIC **12** 08:02:23.1, 19.°08S×69.°22W, h2km, mb4.5/4, ML4.7(GUC), After GUC.*
*IDC **12** 08:02:33.0±2.6, 19.°17S×68.°79W, h69km±24km, mb3.5/6, mb1 3.7/9, mb1mx3.5/22, mbtmp3.7/9, MS3.2/7, Ms1 3.2/7, ms1mx3.1/22, Error ellipse: s-maj=37.7km s-min=20.0km az=96.0*

ISC 12 08:02:24.0±1.6, **19°15S**±0°03×**69°27W**±0°06, **h1**km±11km, **n44**, σ1s51/49, **mb4.1/9, MS3.4/3, 2C-7D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.31**	**273**	*ei*P	**Pg**	**08 02 30.1**	**+0.2**
MNMC				*e*S	**Sg**	**08 02 35.6**	**+1.5**
MNMC				AML	AML	08 02 38.2	
	comp=N,89μm,0.6s						
MNMC	**Minimini**	**0.31**	**273**	*ei*P	**Pg**	**08 02 30.1**	**+0.2**
MNMC				*e*S	**Sg**	**08 02 35.6**	**+1.5**
PSGC	**Pisagua**	**0.92**	**241**	*ei*P	**Pg**	**08 02 40.8**	**-0.9**
PSGC				*e*S	**Sg**	**08 02 54.2**	**+0.5**
PSGC				AML	AML	08 02 55.2	
	comp=N,28μm,0.4s						
PSGC	**Pisagua**	**0.92**	**241**	*ei*P	**Pg**	**08 02 40.8**	**-0.9**
PSGC				*e*S	**Sg**	**08 02 54.2**	**+0.5**
PATCX	**Punta Patache**	**1.86**	**206**	*ei*P	**Pn**	**08 02 56.4**	**-0.6**
PATCX				*e*S	**Sn**	**08 03 22.0**	**+0.7**
PATCX				AML	AML	08 03 24.4	
	comp=N,11μm,0.7s						
PB01	**Plate Boundary**	**1.90**	**186**	*ei*P	**Pn**	**08 02 57.0**	**-0.5**
PB01				*e*S	**Sn**	**08 03 23.1**	**+0.9**
PB01				AML	AML	08 03 24.0	
	comp=N,9μm,0.4s						
PB01	**Plate Boundary**	**1.90**	**186**	*ei*P	**Pn**	**08 02 57.0**	**-0.5**
PB01				*e*S	**Sn**	**08 03 23.1**	**+0.9**
PB07	**Plate Boundary**	**2.63**	**193**	*ei*P	**Pn**	**08 03 08.5**	**+0.7**
PB07				*e*S	**Sb**	**08 03 44.0**	**-0.9**
PB07				AML	AML	08 03 51.2	
	comp=E,5μm,0.5s						
PB07	**Plate Boundary**	**2.63**	**193**	*ei*P	**Pn**	**08 03 08.5**	**+0.7**
PB07				*e*S	**Sb**	**08 03 44.0**	**-0.9**
PB09	**Plate Boundary**	**2.63**	**180**	*ei*P	**Pn**	**08 03 09.6**	**+1.7**
PB09				*e*S	**Sb**	**08 03 45.9**	**+0.9**
PB09	**Plate Boundary**	**2.63**	**180**	*ei*P	**Pn**	**08 03 09.6**	**+1.7**
PB09				S	**Sb**	**08 03 45.9**	**+0.9**
LPAZ	**La Paz**	**3.04**	**21**	*e*Pn	**Pb**	**08 03 18.4**	**-0.9**
LPAZ	**La Paz**	**3.04**	**21**	P	**Pb**	**08 03 18.1**	**-1.2**
	comp=E,1.7nm,0.3s,baz=189,slow=12,SNR=33						
LPAZ				LR	LR	08 04 25.1	
	comp=E,140nm,19.7s,baz=198,slow=38						
PB04	**Plate Boundary**	**3.11**	**184**	*e*P	**Pb**	**08 03 17.8**	**-2.2**
PB04				*e*S	**Sb**	**08 04 00.7**	**+2.2**
PB04	**Plate Boundary**	**3.11**	**184**	P	**Pb**	**08 03 17.8**	**-2.2**
PB04				*e*S	**Sb**	**08 04 00.7**	**+2.2**
ARE	**Arequipa**	**3.41**	**321**	*e*P	**Pn**	**08 03 20.0**	**+1.4**
ARE				*e*S	**Sb**	**08 04 05.0**	**-2.5**
LVC	**Limon Verde**	**3.46**	**175**	*e*Pn	Pn	08 03 22.7	+3.4
LVC				*e*S	**Sb**	**08 04 11.3**	**+2.3**
PB06	**Plate Boundary**	**3.55**	**185**	*e*P	**Pn**	**08 03 22.1**	**+1.7**
PB06				*e*S	**Sb**	**08 04 08.5**	**-3.0**
PB06	**Plate Boundary**	**3.55**	**185**	*e*P	**Pn**	**08 03 22.1**	**+1.7**
PB06				S	**Sb**	**08 04 08.5**	**-3.0**
PB10	**Plate Boundary**	**4.51**	**195**	*e*P	**Pn**	**08 03 35.3**	**+1.9**
PB10				*e*S	**Sb**	**08 04 38.8**	**+0.1**
SIV	**San Ignacio**	**8.42**	**69**	P	**Pn**	**08 04 28.1**	**+0.9**
	comp=E,0.3nm,0.3s,baz=269,slow=11,SNR=5.2						
CFAA	**Coronel Fontan**	**12.44**	**176**	P	Pn	08 05 27.4	+5.2
	comp=E,0.0nm,0.3s,baz=348,slow=17,SNR=2.7						
CFAA				LR	LR	08 10 39.6	
	comp=E,16nm,20.6s,baz=11,slow=39						
CPUP	**Villa Florida**	**13.12**	**125**	LR	LR	08 12 01.7	
	comp=E,134nm,18.5s,baz=294,slow=45						
ATAH	**Atahualpa**	**14.88**	**322**	LR	LR	08 12 43.3	
	comp=E,118nm,20.4s,baz=157,slow=40						
PTGA	**Pitinga**	**20.45**	**28**	P	**P**	**08 07 01.8**	**-1.2**
	comp=E,1.6nm,0.5s,baz=180,slow=15,SNR=4.5						
PTGA				LR	LR	08 15 40.4	
	comp=E,79nm,19.1s,baz=272,slow=39						
OTAV	**Otavalo**	**21.27**	**334**	*e*P	**P**	**08 07 14.5**	**+2.1**
	comp=E,5.0nm,0.7s						
PLCA	**Paso Flores**	**21.54**	**183**	P	**P**	**08 07 15.3**	**+0.5**
	comp=E,6.2nm,1.0s,baz=7.9,slow=13,SNR=5.0						
RCBR	**Riachuelo**	**35.08**	**72**	LR	LR	08 24 29.0	
	comp=E,76nm,21.1s,baz=242,slow=38						
SWET	**Sewanee**	**56.33**	**344**	*e*P	**P**	**08 12 06.6**	**0.0**
	comp=E,6.2nm,0.8s						
TXAR	**Lajitas Array**	**58.52**	**325**	LR	LR	08 37 40.7	
	comp=E,86nm,18.5s,baz=0.0,slow=36						
SIUC	**Southern Illin**	**59.60**	**342**	*e*P	**P**	**08 12 30.0**	**+0.6**
	comp=E,13nm,0.9s						
SDCO	**Great Sand Dun**	**66.06**	**329**	*e*P	**P**	**08 13 13.6**	**+0.7**
	comp=E,1.2nm,0.6s						
PDAR	**Pinedale Array**	**71.92**	**330**	P	P	08 13 52.2	+3.1
	comp=E,0.3nm,0.7s,baz=142,slow=7.5,SNR=3.6						
ULM	**Lac du Bonnet**	**72.98**	**342**	P	**P**	**08 13 54.9**	**-0.1**
	comp=E,1.8nm,0.7s,baz=157,slow=7.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**08 14 15.4**	**-3.1**
	comp=E,0.5nm,0.8s,baz=252,slow=5.5,SNR=3.6						
YKA	**Yellowknife Ar**	**88.87**	**341**	P	**P**	**08 15 18.2**	**-1.2**
	comp=E,1.0nm,0.8s,baz=133,slow=5.0,SNR=15						
H11S2	**WAKE ISLAND Hyd**	**27.22**	**279**	T	T	10 40 45.2	
	baz=104,slow=73,SNR=52						
H11S1	**WAKE ISLAND Hyd**	**27.22**	**279**	T	T	10 40 46.2	
	baz=104,slow=73,SNR=28						
H11S3	**WAKE ISLAND Hyd**	**27.23**	**279**	T	T	10 40 50.1	
	baz=104,slow=73,SNR=38						
H11N3	**WAKE ISLAND Hyd**	**27.24**	**281**	T	T	10 40 47.1	
	baz=103,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hyd**	**27.25**	**281**	T	T	10 40 48.2	
	baz=103,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hyd**	**27.25**	**281**	T	T	10 40 48.4	
	baz=103,slow=75,SNR=8.9						
WRA	**Warramunga Arr**	**134.78**	**212**	PKP	**PKPdf**	**08 21 46.6**	**+1.1**
	comp=E,0.5nm,0.8s,baz=141,slow=1.8,SNR=3.3						
SONM	**Songino Array**	**151.17**	**6**	PKPbc	**PKPbc**	**08 22 20.1**	**+0.9**
	comp=E,1.1nm,0.7s,baz=322,slow=1.0,SNR=9.0						

IDC 12 08:05:10.0±16.0, **18.°12S×68.°53W, h159**km±88km, **mb3.7/2, mb1 4.0/2, mb1mx3.3/17, mbtmp3.7/2, Error ellipse: s-maj=276.8km s-min=43.9km az=19.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.86**	**12**	P	Pn	08 05 44.8	-0.2
	11nm,0.3s,baz=202,slow=11,SNR=10.0						
TORD	**Torodi Ar. Bea**	**75.90**	**71**	P	P	08 16 39.3	-0.2
	1.7nm,0.7s,baz=252,slow=5.5,SNR=7.1						
YKA	**Yellowknife Ar**	**88.14**	**340**	P	P	08 17 42.2	0.0
	1.2nm,0.8s,baz=133,slow=4.7,SNR=13						
H11N3	**WAKE ISLAND Hyd**	**27.73**	**281**	T	T	10 43 08.3	
	baz=103						
H11S2	**WAKE ISLAND Hyd**	**27.75**	**280**	T	T	10 43 06.1	
	baz=103,slow=73,SNR=7.7						
H11N2	**WAKE ISLAND Hyd**	**27.75**	**281**	T	T	10 43 11.0	
	baz=103						
H11N1	**WAKE ISLAND Hyd**	**27.75**	**281**	T	T	10 43 11.0	
	baz=103						
H11S1	**WAKE ISLAND Hyd**	**27.75**	**280**	T	T	10 43 09.3	
	baz=103,slow=73,SNR=5.3						
H11S3	**WAKE ISLAND Hyd**	**27.76**	**280**	T	T	10 43 06.2	
	baz=103,slow=73,SNR=6.4						
SONM	**Songino Array**	**150.07**	**7**	PKPbc	PKPbc	08 24 41.8	-0.1
	0.7nm,0.7s,baz=0.3,slow=1.1,SNR=4.4						

*SJA **12** 08:07:05.1±1.5, 30.°31S×66.°45W, h4km±6km, MD3.8, ML3.5, MW2.9*
*IDC **12** 08:07:07.5±1.6, 30.°60S×66.°28W, h0km, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, ML3.9/3, Error ellipse: s-maj=51.9km s-min=19.1km az=144.0*
*NEIC **12** 08:07:07.0±0.8, 30.°43S×66.°40W, h10km, MD3.7(SJA), Error ellipse: s-maj=13.0km s-min=11.1km az=106.0*
NEIC Felt [III] in the Chamical area.

ISC 12 08:07:04.4±1.4, **30.°32S**±0.°04×**66.°44W**±0.°04, **h0**km±12km, **n23**, σ1s63/36, **1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMOG	**MOGNA**	**1.87**	**250**	*e*P	**Pb**	**08 07 39.8**	**+0.3**
AMOG				*e*S	**Sg**	**08 08 04.6**	**-0.1**
AMOG				*i* S	**Sb**	**08 08 05.5**	**+1.9**
TCA	**Tanti**	**1.89**	**123**	*i* P	**Pb**	**08 07 39.9**	**+0.1**
TCA				*i* S	**Sg**	**08 08 06.5**	**+1.5**
CYA	**Choya**	**1.95**	**17**	*i* P	**Pb**	**08 07 41.5**	**+0.7**
CYA				*i* S	**Sg**	**08 08 08.1**	**+1.0**
CYA				IAML		08 08 17.4	
	comp=Z,422nm,0.2s						
CFAA	**Coronel Fontan**	**2.01**	**230**	Pn	**Pb**	**08 07 41.6**	**-0.2**
CFAA				Sn	**Sb**	**08 08 08.5**	**+1.1**
CFAA	**Coronel Fontan**	**2.01**	**230**	Pn	**Pb**	**08 07 41.6**	**-0.2**
	comp=Z,7.5nm,0.3s,baz=49,slow=11,SNR=686						
CFAA				Sn	**Sb**	**08 08 08.5**	**+1.1**
	comp=Z,43nm,0.3s,baz=74,slow=22,SNR=62						
CFAA	**Coronel Fontan**	**2.01**	**230**	*i* P	**Pb**	**08 07 42.0**	**+0.1**
CFAA				*e*P	**Pg**	**08 07 42.4**	**-0.5**
CFAA				*i* S	**Sg**	**08 08 08.7**	**-0.3**
CFAA				*e*S	**Sb**	**08 08 09.0**	**+1.7**
CFAA				⇓*i* S	**Sn**	**08 08 10.0**	**+4.6**
RTLL	**Cerro Villicun**	**2.02**	**240**	*i* P	**Pb**	**08 07 41.8**	**-0.2**
RTLL				*i* S	**Sg**	**08 08 10.0**	**+0.7**
ACAN	**Cantantal**	**2.05**	**198**	*e*P	**Pb**	**08 07 43.1**	**+0.5**
SJA	**San Juan**	**2.18**	**236**	*i* P	**Pb**	**08 07 44.6**	**-0.2**
SJA				*i* S	**Sg**	**08 08 13.9**	**-0.7**
SJA				IAML		08 08 18.3	
	comp=Z,338nm,0.2s						
RTCV	**Cerro Valdivia**	**2.37**	**229**	*e*P	**Pb**	**08 07 47.6**	**-0.4**
RTCV				*e*S	**Sb**	**08 08 19.4**	**+1.6**
RTLS	**Leoncito**	**2.86**	**238**	*i* P	**Pb**	**08 07 55.4**	**-1.1**
ASAL	**Salagasta**	**3.05**	**221**	*e*P	**Pb**	**08 07 57.5**	**-2.1**
ASAL				*i* S	**Sb**	**08 08 35.9**	**-1.6**
ASAL				*e*S	Sn	08 08 37.2	+5.9
AUSP	**Uspallata**	**3.16**	**232**	*e*P	**Pn**	**08 07 58.7**	**+3.0**
LCO	**Las Campanas**	**3.93**	**288**	*e*Pn	**Pn**	**08 08 07.4**	**+1.2**
TRQA	**Tornquist**	**8.56**	**156**	*e*Pn	**Pn**	**08 09 09.5**	**-0.1**
CPUP	**Villa Florida**	**8.96**	**66**	Pn	**Pn**	**08 09 16.3**	**+1.2**
CPUP				Lg	Lg	08 11 52.9	
CPUP	**Villa Florida**	**8.96**	**66**	Pn	**Pn**	**08 09 16.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=234,slow=17,SNR=3.5						
CPUP				Lg	Lg	08 11 52.9	
	comp=Z,1.4nm,0.3s,baz=148,slow=18,SNR=3.5						
PLCA	**Paso Flores**	**10.92**	**197**	Pn	**Pn**	**08 09 41.6**	**-0.3**
PLCA				Lg	Lg	08 12 53.9	
PLCA	**Paso Flores**	**10.92**	**197**	Pn	**Pn**	**08 09 41.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=15,slow=14,SNR=3.1						
PLCA				Lg	Lg	08 12 53.9	
	comp=Z,0.1nm,0.3s,baz=152,slow=17,SNR=2.4						
LPAZ	**La Paz**	**14.05**	**353**	Pn	Pn	08 10 29.3	+3.9
LPAZ	**La Paz**	**14.05**	**353**	Pn	**P**	**08 10 31.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=195,slow=4.0,SNR=5.8						
MKAR	**Makanchi Array**	**150.78**	**47**	PKPbc	**PKPab**	**08 27 02.4**	**-3.2**
MKAR	**Makanchi Array**	**150.78**	**47**	PKPbc	**PKPab**	**08 27 02.4**	**-3.2**
	comp=Z,0.3nm,0.4s,baz=287,slow=1.2,SNR=4.6						

*LDG **12** 08:07:14.7±0.1, 43.°11N×13.°41E, h20km, Ml3.2/8, Error ellipse: s-maj=3.8km s-min=2.7km az=52.0*
*CSEM **12** 08:07:15.9±0.2, 43.°13N×13.°41E, h19km, ML3.7/9, Error ellipse: s-maj=3.6km s-min=3.1km az=77.0*
*ROM **12** 08:07:16.3±0.1, 43.°13N×13.°43E, h16km±3km, MI3.0/21, Error ellipse: s-maj=2.4km s-min=1.3km az=75.0*
*ISCJB **12** 08:07:16.0±0.3, 43.°14N±0.°02×13.°43E±0.°03, h29km±3km, Error ellipse: s-maj=3.9km s-min=3.1km az=178.5*
*PRU **12** 08:07:18.2, 43.°30N×13.°33E, h1km*
*VIE **12** 08:07:18.4±0.3, 43.°40N×13.°44E, h10km, mb2.8/7, ML3.3/7, Error ellipse: s-maj=2.9km s-min=2.2km az=7.0 97 km SE of San Marino*

ISC 12 08:07:15.9±0.9, **43.°13N**±0.°02×**13.°36E**±0.°02, **h26**km±6km, **n98**, σ1s55/139, **10C-5D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.22**	**245**	⇑*i*Pg	**Pb**	**08 07 21.9**	**0.0**
FDMO				Sg	**Sb**	**08 07 27.0**	**+1.0**
	3μm,0.3s						
FDMO	**Fiordimonte**	**0.22**	**245**	⇑*i*Pg	**Pb**	**08 07 21.9**	**0.0**
FDMO				Sg	**Sb**	**08 07 27.0**	**+1.0**
	3μm,0.3s						
CING	**Cingoli**	**0.27**	**335**	Pg	**Pb**	**08 07 22.5**	**-0.2**
CING				Sg	**Sb**	**08 07 27.9**	**+0.6**
CING	**Cingoli**	**0.27**	**335**	Pg	**Pb**	**08 07 22.5**	**-0.2**
CING				Sg	**Sb**	**08 07 27.9**	**+0.6**
OFFI	**Offida**	**0.31**	**128**	Pg	**Pb**	**08 07 22.9**	**-0.3**
	5μm,0.6s						
OFFI	**Offida**	**0.31**	**128**	Pg	**Pb**	**08 07 22.9**	**-0.3**
	5μm,0.6s						
NRCA	**Norcia**	**0.34**	**211**	⇑*e*Pg	**Pb**	**08 07 23.6**	**-0.2**
NRCA				Sg	**Sb**	**08 07 30.0**	**+0.9**
	5μm,0.1s						
NRCA	**Norcia**	**0.34**	**211**	⇑*e*Pg	**Pb**	**08 07 23.6**	**-0.2**
NRCA				Sg	**Sb**	**08 07 30.0**	**+0.9**
	5μm,0.1s						
CESI	**CESI - Serrava**	**0.35**	**250**	⇑*e*Pg	**Pb**	**08 07 24.3**	**+0.4**
CESI				Sg	**Sn**	**08 07 31.4**	**-0.3**
	1μm,0.4s						
CESI	**CESI - Serrava**	**0.35**	**250**	⇑*e*Pg	**Pb**	**08 07 24.3**	**+0.4**
CESI				Sg	**Sn**	**08 07 31.4**	**-0.3**
	1μm,0.4s						
GUMA	**Gualdo di Mace**	**0.43**	**99**	⇑*i*Pg	Pb	08 07 19.7	-5.4
GUMA				Sg	Sb	08 07 22.9	-8.4
	9μm,0.3s						
AOI	**Ancona**	**0.46**	**23**	Pg	**Pb**	**08 07 24.7**	**-0.9**
AOI				Sg	**Sb**	**08 07 32.5**	**+0.4**
	2μm,0.2s						
AOI	**Ancona**	**0.46**	**23**	Pg	**Pb**	**08 07 24.7**	**-0.9**
AOI				Sg	**Sb**	**08 07 32.5**	**+0.4**
	2μm,0.2s						
ARVD	**Arcevia**	**0.48**	**321**	Pg	**Pb**	**08 07 26.1**	**+0.2**
ARVD				Sg	**Sn**	**08 07 34.8**	**+0.1**
	390nm,0.3s						
ARVD	**Arcevia**	**0.48**	**321**	Pg	**Pb**	**08 07 26.1**	**+0.2**
ARVD				Sg	**Sn**	**08 07 34.8**	**+0.1**
	390nm,0.3s						
SMA1	**SAN MARTINO**	**0.50**	**182**	⇓*e*Pg	**Pb**	**08 07 25.5**	**-0.7**
SMA1				Sg	**Sb**	**08 07 33.8**	**+0.6**
	1μm,0.5s						
TRTR	**Tortoreto Alta**	**0.52**	**128**	Pg	**Pb**	**08 07 26.5**	**0.0**
TRTR	**Tortoreto Alta**	**0.52**	**128**	Pg	**Pb**	**08 07 26.5**	**0.0**
TERO	**Teramo**	**0.54**	**160**	Pg	**Pb**	**08 07 25.8**	**-1.1**
TERO				Sg	**Sb**	**08 07 34.8**	**+0.6**
	514nm,0.5s						
TERO	**Teramo**	**0.54**	**160**	Pg	**Pb**	**08 07 25.8**	**-1.1**
TERO				Sg	**Sb**	**08 07 34.8**	**+0.6**
	514nm,0.5s						
SENI	**Senigallia**	**0.58**	**351**	Pg	**Pn**	**08 07 28.8**	**+0.2**
	254nm,0.4s						
SENI	**Senigallia**	**0.58**	**351**	Pg	**Pn**	**08 07 28.8**	**+0.2**
	254nm,0.4s						
MURB	**Monte Urbino**	**0.62**	**283**	Pg	**Pn**	**08 07 29.3**	**+0.1**
MURB	**Monte Urbino**	**0.62**	**283**	Pg	**Pn**	**08 07 29.3**	**+0.1**
PIEI	**Pieia**	**0.72**	**305**	⇓*e*Pg	**Pn**	**08 07 30.5**	**-0.1**
PIEI				Sg	**Sn**	**08 07 42.4**	**+1.6**
	450nm,0.3s						
PIEI	**Pieia**	**0.72**	**305**	⇓*e*Pg	**Pn**	**08 07 30.5**	**-0.1**
PIEI				Sg	**Sn**	**08 07 42.4**	**+1.6**
	450nm,0.3s						
T0104	**Madonna delle**	**0.77**	**181**	Pg	**Pb**	**08 07 30.1**	**-0.6**
T0104				Sg	**Sn**	**08 07 42.6**	**+0.7**
CESX	**Cesi**	**0.77**	**228**	Pg	**Pn**	**08 07 30.9**	**-0.3**
CESX				Sg	**Sn**	**08 07 43.8**	**+1.9**
	971nm,0.5s						
CESX	**Cesi**	**0.77**	**228**	Pg	**Pn**	**08 07 30.9**	**-0.3**
CESX				Sg	**Sn**	**08 07 43.8**	**+1.9**
	971nm,0.5s						
VCEL	**Villa Celiera**	**0.82**	**154**	Pg	**Pb**	**08 07 31.2**	**-0.4**
	395nm,0.6s						
VCEL	**Villa Celiera**	**0.82**	**154**	Pg	**Pb**	**08 07 31.2**	**-0.4**
	395nm,0.6s						
FIAM	**Fiamignano**	**0.88**	**192**	Pg	**Pb**	**08 07 32.1**	**-0.5**
FIAM				Sg	**Sn**	**08 07 45.8**	**+1.1**
	483nm,0.8s						
FIAM	**Fiamignano**	**0.88**	**192**	Pg	**Pb**	**08 07 32.1**	**-0.5**
FIAM				Sg	**Sn**	**08 07 45.8**	**+1.1**
	483nm,0.8s						
PESA	**Pesaro**	**0.90**	**335**	Pg	**Pb**	**08 07 34.0**	**+1.2**
	663nm,0.2s						
PESA	**Pesaro**	**0.90**	**335**	Pg	**Pb**	**08 07 34.0**	**+1.2**
	663nm,0.2s						
PARC	**Parchiule**	**0.97**	**303**	Pg	**Pb**	**08 07 35.0**	**+0.9**
	288nm,0.5s						
PARC	**Parchiule**	**0.97**	**303**	Pg	**Pb**	**08 07 35.0**	**+0.9**
	288nm,0.5s						
INTR	**Introdacqua**	**1.19**	**160**	Pg	**Pb**	**08 07 37.5**	**-0.3**
	314nm,0.7s						
INTR	**Introdacqua**	**1.19**	**160**	Pg	**Pb**	**08 07 37.5**	**-0.3**
	314nm,0.7s						
VVLD	**Villa Vallelon**	**1.27**	**171**	Pg	**Pb**	**08 07 40.4**	**+1.1**
	124nm,0.7s						
VVLD	**Villa Vallelon**	**1.27**	**171**	Pg	**Pb**	**08 07 40.4**	**+1.1**
	124nm,0.7s						
ASQU	**Asqua**	**1.32**	**301**	Pg	**Pb**	**08 07 41.3**	**+1.2**
	239nm,1.0s						
ASQU	**Asqua**	**1.32**	**301**	Pg	**Pb**	**08 07 41.3**	**+1.2**
	239nm,1.0s						
SFI	**Santa Sofia**	**1.34**	**306**	Pg	**Pb**	**08 07 41.7**	**+1.2**
	114nm,0.6s						
SFI	**Santa Sofia**	**1.34**	**306**	Pg	**Pb**	**08 07 41.7**	**+1.2**
	114nm,0.6s						
CSNT	**Castellina Chi**	**1.55**	**284**	Pg	**Pb**	**08 07 45.4**	**+1.5**
	111nm,0.8s						
CSNT	**Castellina Chi**	**1.55**	**284**	Pg	**Pb**	**08 07 45.4**	**+1.5**
	111nm,0.8s						
NVLJ	**Novalja**	**1.81**	**37**	*i* Pn	**Pn**	**08 07 45.5**	**+0.1**
NVLJ				Sn	**Sn**	**08 08 07.4**	**-0.1**
NVLJ	**Novalja**	**1.81**	**37**	*i* Pn	**Pn**	**08 07 45.4**	**+0.1**
NVLJ				Sn	**Sn**	**08 08 07.3**	**-0.1**
MAIM	**Mastiano**	**2.23**	**292**	P	**Pn**	**08 07 51.9**	**+0.7**
UDBI	**Udbina**	**2.23**	**50**	*i* Pn	**Pn**	**08 07 52.5**	**+1.1**
UDBI				Sn	**Sn**	**08 08 17.7**	**-0.5**
UDBI	**Udbina**	**2.23**	**50**	*i* Pn	**Pn**	**08 07 52.4**	**+1.1**
UDBI				Sn	**Sn**	**08 08 17.6**	**-0.5**
SKDS	**Skadanscina**	**2.46**	**11**	*i* Pn	**Pn**	**08 07 54.9**	**+0.5**
SKDS				*i* Sn	**Sn**	**08 08 24.3**	**+0.6**
SKDS	**Skadanscina**	**2.46**	**11**	*i* Pn	**Pn**	**08 07 54.9**	**+0.5**
SKDS				*i* Sn	**Sn**	**08 08 24.3**	**+0.6**
KNDS	**Knezji Dol**	**2.51**	**17**	*i* Pn	**Pn**	**08 07 55.9**	**+0.7**
KNDS	**Knezji Dol**	**2.51**	**17**	*i* Pn	**Pn**	**08 07 55.9**	**+0.7**
BOJS	**Bojanci**	**2.74**	**29**	*i* Pn	**Pn**	**08 07 59.1**	**+0.9**
BOJS				*e*Sn	**Sn**	**08 08 31.4**	**+1.0**
BOJS	**Bojanci**	**2.74**	**29**	*i* Pn	**Pn**	**08 07 59.1**	**+0.9**
BOJS				*e*Sn	**Sn**	**08 08 31.4**	**+1.0**
STON	**Ston**	**3.20**	**93**	*i* Pn	**Pn**	**08 08 04.9**	**+0.4**
STON				Sn	**Sn**	**08 08 41.7**	**-0.1**
STON	**Ston**	**3.20**	**93**	*i* Pn	**Pn**	**08 08 04.8**	**+0.4**
STON				Sn	**Sn**	**08 08 41.6**	**-0.1**
PGF	**Pioggiola**	**3.26**	**261**	*e*P	**Pn**	**08 08 06.8**	**+1.4**
PGF				*e*Sn	**Sn**	**08 08 38.3**	**-5.1**
	14nm,0.8s						
PGF	**Pioggiola**	**3.26**	**261**	*e*P	**Pn**	**08 08 06.8**	**+1.4**
ABTA	**Abfaltersbach**	**3.67**	**351**	⇑*i*Pn	**Pn**	**08 08 11.8**	**+0.7**
ABTA	**Abfaltersbach**	**3.67**	**351**	Pn	**Pn**	**08 08 11.8**	**+0.7**
PCP	**Piancastagn**	**3.76**	**294**	P	**Pn**	**08 08 13.4**	**+1.2**
KBA	**Koelnbreinsper**	**3.95**	**360**	⇓*i*Pn	**Pn**	**08 08 15.6**	**+0.6**
KBA				⇓*i*Sn	**Sn**	**08 09 00.4**	**-0.2**
KBA	**Koelnbreinsper**	**3.95**	**360**	Pn	**Pn**	**08 08 15.6**	**+0.6**
KBA				Sn	**Sn**	**08 09 00.4**	**-0.2**
SBF	**Sospel**	**4.37**	**282**	*e*Pn	**Pn**	**08 08 18.3**	**-2.4**
SBF				*e*Sn	**Sn**	**08 09 06.3**	**-4.5**
	5.6nm,0.4s						
SBF	**Sospel**	**4.37**	**282**	*e*Pn	**Pn**	**08 08 18.3**	**-2.4**
TRAV	**Traversella**	**4.68**	**303**	P	**Pn**	**08 08 23.6**	**-1.3**
RSP	**Reno Superiore**	**4.83**	**297**	P	**Pn**	**08 08 24.8**	**-2.2**
LMR	**La Mourre**	**5.01**	**275**	*e*P	**Pn**	**08 08 31.5**	**+2.1**
LMR	**La Mourre**	**5.01**	**275**	*e*P	**Pn**	**08 08 31.5**	**+2.1**
MBDF	**Montbardon**	**5.02**	**291**	*e*P	**Pn**	**08 08 31.5**	**+1.8**
MBDF				*e*Sn	**Sn**	**08 09 21.6**	**-5.3**
	4.0nm,0.4s						
MBDF	**Montbardon**	**5.02**	**291**	*e*P	**Pn**	**08 08 31.5**	**+1.8**
CONA	**Conrad Observa**	**5.11**	**19**	⇑*i*Pn	**Pn**	**08 08 31.6**	**+0.7**
CONA				⇑*i*Sn	**Sn**	**08 09 28.2**	**-0.9**
CONA	**Conrad Observa**	**5.11**	**19**	Pn	**Pn**	**08 08 31.6**	**+0.7**
CONA				Sn	**Sn**	**08 09 28.2**	**-0.9**
LPG	**La Plagne**	**5.30**	**299**	*e*P	**Pn**	**08 08 34.6**	**+1.0**
LPG				*e*Sn	**Sn**	**08 09 28.6**	**-5.4**
	5.2nm,0.4s						
LPG	**La Plagne**	**5.30**	**299**	*e*P	**Pn**	**08 08 34.

PRU **12** *08:25:07.4, 43˚.26N×12˚.69E, h0km, M4.4*
IDC **12** *08:25:08.9±1.0, 43˚.27N×13˚.31E, h0km, mb4.0/8, mb1 4.0/17, mb1mx3.9/36, mbtmp3.8/17, ML3.7/7, MS3.4/20, Ms1 3.5/20, ms1mx3.3/51, Error ellipse: s-maj=16.1km s-min=12.6km az=94.0*
NEIC **12** *08:25:10.0, 43˚.12N×13˚.41E, h26km, mb4.4/7, MW4.1(ROM), After ROM.*
NEIC Felt [V] at Corridonia, Falerone, Magliano di Tenna and Pollenza; [IV] at Ascoli Piceno, Castelfidardo, Civitanova Marche, Fermo, Loreto, Macerata, Montegiorgio, Montegranaro, Monte Urano, Porto San Giorgio, Porto Sant'Elpidio, Potenza Picena, Recanati, San Severino Marche, Sant'Elpidio a Mare, Tolentino and Treia; [III] at Ancona, Camerino, Fabriano, Foligno, Jesi, Osimo and Teramo. Felt throughout Marche and in parts of Abruzzo, Lazio and Umbria.
CSEM **12** *08:25:10.4±0.1, 43˚.15N×13˚.48E, h10km, mb4.3/19, ML4.8/9, Mw4.1, Error ellipse: s-maj=2.0km s-min=1.4km az=32.0*
PDG **12** *08:25:10.8±0.5, 43˚.13N×13˚.44E, h27km, ML4.0/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
MOS **12** *08:25:10.1±0.9, 43˚.32N×13˚.44E, h18km, mb4.5/23, Error ellipse: s-maj=5.1km s-min=3.9km az=85.2*
SZGRF **12** *08:25:11.5, 43˚.12N×13˚.66E, h10km, mb4.4, Central Italy*
ROM **12** *08:25:11.3±0.1, 43˚.12N×13˚.45E, h17km±2km, Ml4.1/35, Error ellipse: s-maj=1.7km s-min=1.1km az=69.0*
LDG **12** *08:25:12.0±0.1, 43˚.13N×13˚.58E, h30km, Ml4.1/20, Error ellipse: s-maj=3.1km s-min=1.9km az=20.0*
VIE **12** *08:25:12.8±0.5, 43˚.30N×13˚.52E, h13km±2km, mb3.6/16, ML4.0/17, Ms3.9/1, Error ellipse: s-maj=3.0km s-min=2.5km az=143.0 109 km SE of San Marino*
GEN **12** *08:25:14.7, 43˚.12N×13˚.41E, h26km, ML4.0*
STR **12** *08:25:21.0±0.3, 43˚.69N×12˚.78E, h10km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 12 08:25:10.3±0.6, **43˚.15N**±0˚.01×**13˚.46E**±0˚.01, **h17**km±4km, **n722**, σ1§**54**/852, **mb4.3**/25, **MS3.6**/10, **55C-42D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.27**	**142**	⇓*e*Pg	**Pn**	**08 25 18.0**	**-1.5**
	64µm,0.7s						
OFFI	**Offida**	**0.27**	**142**	P	**Pn**	**08 25 18.0**	**-1.5**
OFFI				S	**Sn**	**08 25 24.3**	**-0.9**
OFFI	**Offida**	**0.27**	**142**	⇓*e*Pg	**Pn**	**08 25 18.0**	**-1.5**
	64µm,0.7s						
OFFI				S	**Sn**	**08 25 24.3**	**-0.9**
FDMO	**Fiordimonte**	**0.30**	**248**	⇑*e*Pg	**Pb**	**08 25 17.1**	**-0.1**
FDMO				Sg	**Sb**	**08 25 22.3**	**+0.5**
	29µm,0.5s						
FDMO	**Fiordimonte**	**0.30**	**248**	P	**Pb**	**08 25 17.1**	**-0.1**
FDMO				S	**Sb**	**08 25 22.3**	**+0.5**
FDMO	**Fiordimonte**	**0.30**	**248**	⇑*e*Pg	**Pb**	**08 25 17.1**	**-0.1**
FDMO				Sg	**Sb**	**08 25 22.3**	**+0.5**
	29µm,0.5s						
CING	**Cingoli**	**0.30**	**320**	⇓*e*Pg	**Pb**	**08 25 17.8**	**+0.5**
CING				Sg	**Sb**	**08 25 23.1**	**+1.1**
CING	**Cingoli**	**0.30**	**320**	P	**Pb**	**08 25 17.9**	**+0.5**
CING				S	**Sb**	**08 25 23.2**	**+1.2**
CING	**Cingoli**	**0.30**	**320**	P	**Pb**	**08 25 17.9**	**+0.6**
CING				S	**Sb**	**08 25 23.2**	**+1.2**
GUMA	**Gualdo di Mace**	**0.36**	**103**	⇑*e*Pg	**Pg**	**08 25 14.9**	**-2.8**
GUMA				Sg	**Sg**	**08 25 18.0**	**-4.8**
	120µm,0.5s						
NRCA	**Norcia**	**0.40**	**219**	*e*Pg	**Pb**	**08 25 18.9**	**-0.2**
NRCA				Sg	**Sb**	**08 25 25.3**	**+0.3**
	106µm,0.1s						
NRCA	**Norcia**	**0.40**	**219**	P	**Pb**	**08 25 18.9**	**-0.2**
NRCA				S	**Sb**	**08 25 25.3**	**+0.3**
NRCA	**Norcia**	**0.40**	**219**	*e*Pg	**Pb**	**08 25 18.9**	**-0.2**
NRCA				Sg	**Sb**	**08 25 25.3**	**+0.3**
	106µm,0.1s						
AOI	**Ancona**	**0.42**	**14**	⇓*e*Pg	**Pb**	**08 25 19.9**	**+0.6**
AOI				Sg	**Sn**	**08 25 27.5**	**-1.5**
	29µm,0.3s						
AOI	**Ancona**	**0.42**	**14**	P	**Pb**	**08 25 19.9**	**+0.6**
AOI				S	**Sn**	**08 25 27.7**	**-1.3**
AOI	**Ancona**	**0.42**	**14**	⇓*e*Pg	**Pb**	**08 25 19.9**	**+0.6**
AOI				S	**Sn**	**08 25 27.7**	**-1.3**
CESI	**CESI - Serrava**	**0.43**	**251**	⇑*e*Pg	**Pb**	**08 25 19.6**	**0.0**
CESI				Sg	**Sb**	**08 25 26.6**	**+0.8**
	10µm,0.4s						
CESI	**CESI - Serrava**	**0.43**	**251**	⇑*e*Pg	**Pb**	**08 25 19.6**	**0.0**
CESI				Sg	**Sb**	**08 25 26.6**	**+0.8**
	10µm,0.4s						
TRTR	**Tortoreto Alta**	**0.47**	**135**	Pg	**Pn**	**08 25 21.5**	**-0.8**
TRTR	**Tortoreto Alta**	**0.47**	**135**	P	**Pn**	**08 25 21.3**	**-1.0**
TRTR	**Tortoreto Alta**	**0.47**	**135**	P	**Pn**	**08 25 21.3**	**-1.0**
ARVD	**Arcevia**	**0.52**	**313**	⇑*e*Pg	**Pn**	**08 25 21.4**	**-1.6**
ARVD				Sg	**Sn**	**08 25 30.0**	**-1.5**
	7µm,0.8s						
ARVD	**Arcevia**	**0.52**	**313**	⇑*e*Pg	**Pn**	**08 25 21.4**	**-1.6**
SMA1	**SAN MARTINO**	**0.52**	**190**	⇓*e*Pg	**Pb**	**08 25 20.7**	**-0.4**
SMA1				Sg	**Sb**	**08 25 28.8**	**+0.3**
	24µm,0.5s						
TERO	**Teramo**	**0.53**	**169**	⇓*e*Pg	**Pg**	**08 25 20.8**	**-0.1**
TERO				Sg	**Sb**	**08 25 29.5**	**+0.8**
	9µm,0.6s						
TERO	**Teramo**	**0.53**	**169**	P	**Pb**	**08 25 21.0**	**-0.3**
TERO				S	**Sb**	**08 25 29.8**	**+1.1**
TERO	**Teramo**	**0.53**	**169**	P	**Pb**	**08 25 21.0**	**-0.3**
TERO				Sg	**Sb**	**08 25 29.5**	**+0.8**
	9µm,0.6s						
TERO				S	**Sb**	**08 25 29.8**	**+1.1**
SENI	**Senigallia**	**0.58**	**343**	Pg	**Pn**	**08 25 23.6**	**-0.3**
	6µm,0.7s						
SENI	**Senigallia**	**0.58**	**343**	Pg	**Pn**	**08 25 23.6**	**-0.3**
	6µm,0.7s						
MURB	**Monte Urbino**	**0.69**	**280**	Pg	**Pn**	**08 25 24.5**	**-1.0**
MURB	**Monte Urbino**	**0.69**	**280**	Pg	**Pn**	**08 25 24.5**	**-1.0**
PIEI	**Pieia**	**0.78**	**300**	⇓*e*Pg	**Pn**	**08 25 25.7**	**-0.9**
PIEI				Sg	**Sn**	**08 25 38.2**	**+0.2**
	4µm,0.5s						
PIEI	**Pieia**	**0.78**	**300**	⇓*e*Pg	**Pn**	**08 25 25.7**	**-0.9**
T0104	**Madonna delle**	**0.79**	**187**	⇓*e*Pg	**Pb**	**08 25 25.0**	**-0.7**
T0104				Sg	**Sn**	**08 25 37.6**	**-0.6**
VCEL	**Villa Celiera**	**0.80**	**160**	Pg	**Pg**	**08 25 25.8**	**-0.2**
	7µm,0.6s						
VCEL	**Villa Celiera**	**0.80**	**160**	P	**Pg**	**08 25 26.1**	**+0.1**
VCEL	**Villa Celiera**	**0.80**	**160**	Pg	**Pg**	**08 25 25.8**	**-0.2**
	7µm,0.6s						
VCEL	**Villa Celiera**	**0.80**	**160**	P	**Pg**	**08 25 26.1**	**+0.1**
CESX	**Cesi**	**0.84**	**231**	⇓*e*Pg	**Pg**	**08 25 26.1**	**-0.6**
CESX				Sg	**Sn**	**08 25 38.6**	**-0.8**
	14µm,0.5s						
CESX	**Cesi**	**0.84**	**231**	⇓*e*Pg	**Pg**	**08 25 26.1**	**-0.6**
CESX				Sg	**Sn**	**08 25 38.6**	**-0.8**
	14µm,0.5s						
FAGN	**Fagnano**	**0.88**	**174**	Pg	**Pn**	**08 25 27.5**	**-0.6**
	10µm,0.4s						
FAGN	**Fagnano**	**0.88**	**174**	P	**Pb**	**08 25 26.9**	**-0.4**
FAGN	**Fagnano**	**0.88**	**174**	P	**Pb**	**08 25 26.9**	**-0.4**
FAGN	**Fagnano**	**0.88**	**174**	Pg	**Pn**	**08 25 27.5**	**-0.6**
	10µm,0.4s						
FIAM	**Fiamignano**	**0.91**	**196**	Pg	**Pb**	**08 25 27.1**	**-0.7**
FIAM				Sg	**Sn**	**08 25 40.9**	**-0.4**
	7µm,0.6s						
FIAM	**Fiamignano**	**0.91**	**196**	P	**Pb**	**08 25 27.1**	**-0.7**
FIAM				S	**Sn**	**08 25 41.1**	**-0.2**
FIAM	**Fiamignano**	**0.91**	**196**	Pg	**Pb**	**08 25 27.1**	**-0.7**
FIAM				Sg	**Sn**	**08 25 40.9**	**-0.4**
	7µm,0.6s						
PESA	**Pesaro**	**0.92**	**331**	Pg	**Pn**	**08 25 29.2**	**+0.8**
	9µm,0.6s						
PESA	**Pesaro**	**0.92**	**331**	Pg	**Pn**	**08 25 29.2**	**+0.8**
	9µm,0.6s						
CDCA	**Citt' di Caste**	**0.95**	**290**	Pg	**Pn**	**08 25 29.0**	**+0.1**
	9µm,0.8s						
CDCA	**Citt' di Caste**	**0.95**	**290**	Pg	**Pn**	**08 25 29.0**	**+0.1**
	9µm,0.8s						
BADI	**Badiali**	**0.96**	**293**	Pg	**Pn**	**08 25 29.0**	**-0.1**
	15µm,1.1s						
BADI	**Badiali**	**0.96**	**293**	Pg	**Pn**	**08 25 29.0**	**-0.1**
	15µm,1.1s						
MGAB	**Montegabbione**	**1.02**	**257**	Pg	**Pg**	**08 25 29.7**	**-0.3**
	3µm,0.5s						
MGAB	**Montegabbione**	**1.02**	**257**	Pg	**Pg**	**08 25 29.7**	**-0.3**
	3µm,0.5s						
PARC	**Parchiule**	**1.02**	**300**	⇓*e*Pg	**Pg**	**08 25 30.1**	**-0.1**
PARC	**Parchiule**	**1.02**	**300**	⇓*e*Pg	**Pg**	**08 25 30.1**	**-0.1**
RSM	**Repubblica di**	**1.08**	**317**	Pg	**Pg**	**08 25 32.1**	**+1.0**
	8µm,0.9s						
RSM	**Repubblica di**	**1.08**	**317**	Pg	**Pg**	**08 25 32.1**	**+1.0**
	8µm,0.9s						
PTQR	**Pietraquaria**	**1.12**	**182**	Pg	**Pn**	**08 25 30.6**	**-0.8**
PTQR	**Pietraquaria**	**1.12**	**182**	Pg	**Pn**	**08 25 30.6**	**-0.8**
CAFR	**Castel Frentan**	**1.13**	**144**	Pg	**Pg**	**08 25 32.9**	**+0.8**
CAFR	**Castel Frentan**	**1.13**	**144**	Pg	**Pg**	**08 25 32.9**	**+0.8**
SACS	**San Casciano d**	**1.18**	**256**	Pg	**Pg**	**08 25 32.8**	**-0.3**
	4µm,0.9s						
INTR	**Introdacqua**	**1.18**	**164**	Pg	**Pb**	**08 25 32.4**	**+0.1**
	5µm,0.7s						
INTR	**Introdacqua**	**1.18**	**164**	Pg	**Pb**	**08 25 32.4**	**+0.1**
	5µm,0.7s						
CRE	**Caprese Michel**	**1.20**	**294**	Pg	**Pg**	**08 25 34.0**	**+0.5**
	3µm,1.2s						
CRE	**Caprese Michel**	**1.20**	**294**	Pg	**Pg**	**08 25 34.0**	**+0.5**
	3µm,1.2s						
LPEL	**Lama dei Pelig**	**1.22**	**154**	Pg	**Pb**	**08 25 32.8**	**-0.2**
	3µm,0.7s						
LPEL	**Lama dei Pelig**	**1.22**	**154**	Pg	**Pb**	**08 25 32.8**	**-0.2**
	3µm,0.7s						
MTCE	**Montecelio**	**1.24**	**206**	Pg	**Pb**	**08 25 32.7**	**-0.6**
	2µm,0.6s						
MTCE	**Montecelio**	**1.24**	**206**	Pg	**Pb**	**08 25 32.7**	**-0.6**
	2µm,0.6s						
VVLD	**Villa Vallelon**	**1.28**	**175**	Pg	**Pb**	**08 25 33.9**	**-0.1**
	2µm,0.4s						
VVLD	**Villa Vallelon**	**1.28**	**175**	Pg	**Pb**	**08 25 33.9**	**-0.1**
	2µm,0.4s						
GUAR	**Guarcino**	**1.35**	**185**	Pg	**Pg**	**08 25 36.1**	**-0.3**
	2µm,0.4s						
GUAR	**Guarcino**	**1.35**	**185**	Pg	**Pg**	**08 25 36.1**	**-0.3**
	2µm,0.4s						
ASQU	**Asqua**	**1.38**	**299**	Pg	**Pg**	**08 25 36.9**	**0.0**
	4µm,1.0s						
ASQU	**Asqua**	**1.38**	**299**	Pg	**Pg**	**08 25 36.9**	**0.0**
	4µm,1.0s						
SFI	**Santa Sofia**	**1.40**	**303**	Pg	**Pg**	**08 25 37.1**	**-0.2**
	3µm,1.0s						
SFI	**Santa Sofia**	**1.40**	**303**	Pg	**Pg**	**08 25 37.1**	**-0.2**
	3µm,1.0s						
POFI	**Posta Fibreno**	**1.44**	**173**	Pg	**Pg**	**08 25 37.8**	**-0.2**
	1µm,0.8s						
POFI	**Posta Fibreno**	**1.44**	**173**	Pg	**Pg**	**08 25 37.8**	**-0.2**
	1µm,0.8s						
RMP	**Rome, Mte Porz**	**1.45**	**203**	Pg	**Pg**	**08 25 37.2**	**-1.0**
	3µm,0.7s						
RMP	**Rome, Mte Porz**	**1.45**	**203**	Pg	**Pg**	**08 25 37.2**	**-1.0**
	3µm,0.7s						
SDI	**San Donato**	**1.46**	**170**	Pg	**Pb**	**08 25 36.9**	**-0.1**
	154nm,0.3s						
SDI	**San Donato**	**1.46**	**170**	Pg	**Pb**	**08 25 36.9**	**-0.1**
	154nm,0.3s						
RDP	**Rocca di Papa**	**1.49**	**202**	Pg	**Pb**	**08 25 37.8**	**+0.2**
	4µm,0.6s						
RDP	**Rocca di Papa**	**1.49**	**202**	Pg	**Pb**	**08 25 37.8**	**+0.2**
	4µm,0.6s						
GIUL	**Giuliano Di Ro**	**1.59**	**186**	Pg	**Pb**	**08 25 39.1**	**-0.2**
	1µm,0.7s						
GIUL	**Giuliano Di Ro**	**1.59**	**186**	Pg	**Pb**	**08 25 39.1**	**-0.2**
	1µm,0.7s						
CSNT	**Castellina Chi**	**1.62**	**282**	Pg	**Pb**	**08 25 39.8**	**0.0**
	5µm,1.6s						
CSNT	**Castellina Chi**	**1.62**	**282**	Pg	**Pb**	**08 25 39.8**	**0.0**
	5µm,1.6s						
NVLJ	**Novalja**	**1.75**	**35**	*i* Pn	**Pb**	**08 25 40.6**	**-1.3**
NVLJ				Sn	**Sb**	**08 26 02.8**	**-0.7**
NVLJ	**Novalja**	**1.75**	**35**	*i* Pn	**Pb**	**08 25 40.6**	**-1.3**
NVLJ				Sn	**Sb**	**08 26 02.8**	**-0.7**
MAON	**Monte Argentar**	**1.86**	**248**	Pg	**Pb**	**08 25 42.2**	**-1.6**
	395nm,0.8s						
UDBI	**Udbina**	**2.16**	**50**	*i* Pn	**Pb**	**08 25 47.8**	**-1.3**
UDBI				Sn	**Sb**	**08 26 15.1**	**-0.6**
UDBI	**Udbina**	**2.16**	**50**	*i* Pn	**Pb**	**08 25 47.7**	**-1.3**
UDBI				Sn	**Sb**	**08 26 15.1**	**-0.6**
MAIM	**Mastiano**	**2.29**	**291**	P	**Pb**	**08 25 48.6**	**-2.6**
MS1	**Monte Sant'Ang**	**2.33**	**127**	*e*Pn	**Pn**	**08 25 48.6**	**+0.6**
SKDS	**Skadanscina**	**2.43**	**9**	*e*Pn	**Pn**	**08 25 49.9**	**+0.6**
SKDS				*e*Sn	**Sn**	**08 26 19.7**	**+1.0**
SKDS	**Skadanscina**	**2.43**	**9**	*e*Pn	**Pn**	**08 25 49.9**	**+0.6**
SKDS				*e*Sn	**Sn**	**08 26 19.7**	**+1.0**
VLC	**Villacollemand**	**2.45**	**295**	*e*Pn	**Pb**	**08 25 52.3**	**-1.7**
VLC	**Villacollemand**	**2.45**	**295**	*e*Pn	**Pb**	**08 25 52.3**	**-1.7**
KNDS	**Knezji Dol**	**2.47**	**15**	*e*Pn	**Pn**	**08 25 51.1**	**+1.2**
KNDS	**Knezji Dol**	**2.47**	**15**	*e*Pn	**Pn**	**08 25 51.1**	**+1.2**
TRI	**Trieste**	**2.57**	**5**	*e*P	**Pn**	**08 25 51.1**	**-0.1**
TRI	**Trieste**	**2.57**	**5**	*e*Pn	**Pn**	**08 25 51.1**	**-0.1**
TRI				*e*Sg	**Sg**	**08 26 31.9**	**-1.1**
TRI	**Trieste**	**2.57**	**5**	*e*P	**Pn**	**08 25 51.1**	**-0.1**
TRI				*e*Sg	**Sg**	**08 26 31.9**	**-1.1**
VALM	**Valbona**	**2.62**	**298**	P	**Pb**	**08 25 54.2**	**-2.7**
BOJS	**Bojanci**	**2.69**	**28**	*i* Pn	**Pn**	**08 25 54.7**	**+2.0**
BOJS	**Bojanci**	**2.69**	**28**	*i* Pn	**Pn**	**08 25 54.7**	**+2.0**
CDT	**Castel del Mon**	**2.94**	**134**	*e*Pn	**Pn**	**08 25 56.6**	**+0.3**
LJU	**Ljubljana**	**3.00**	**14**	⇑*e*Pn	**Pn**	**08 25 58.6**	**+1.6**
LJU				*e*		08 26 07.0	
LJU				*e*Sn	**Sn**	**08 26 35.0**	**+2.4**
SC2M	**Scurtabo**	**3.11**	**295**	P	**Pn**	**08 26 00.6**	**+1.9**
STON	**Ston**	**3.12**	**94**	*i* Pn	**Pn**	**08 25 59.4**	**+0.7**
STON				Sn	**Sn**	**08 26 37.0**	**+1.4**
STON	**Ston**	**3.12**	**94**	*i* Pn	**Pn**	**08 25 59.4**	**+0.7**
STON				Sn	**Sn**	**08 26 36.9**	**+1.4**
SISC	**Sisak**	**3.12**	**41**	*e*Pn	**Pn**	**08 26 00.1**	**+1.2**
SISC				Sn	**Sn**	**08 26 36.2**	**+0.5**
SISC	**Sisak**	**3.12**	**41**	*e*Pn	**Pn**	**08 26 00.0**	**+1.2**
SISC				Sn	**Sn**	**08 26 36.2**	**+0.5**
BAI	**Bari**	**3.26**	**128**	*e*Pn	**Pn**	**08 26 01.3**	**+0.7**
PGF	**Pioggiola**	**3.34**	**261**	*e*Pn	**Pn**	**08 26 03.0**	**+1.2**
PGF	**Pioggiola**	**3.34**	**261**	*e*P	Pn	08 26 04.6	+2.8
PGF				*e*Sn	**Sn**	**08 26 39.0**	**-2.1**
	87nm,0.8s						
PGF	**Pioggiola**	**3.34**	**261**	*e*P	**Pn**	**08 26 03.0**	**+1.2**
PGF				*e*		08 26 39.0	
PGF	**Pioggiola**	**3.34**	**261**	*e*Pn	**Pn**	**08 26 03.0**	**+1.2**
PGF				*e*Sn	**Sn**	**08 26 39.0**	**-2.1**
PGF	**Pioggiola**	**3.34**	**261**	*e*Pn	**Pn**	**08 26 03.0**	**+1.2**
PGF	**Pioggiola**	**3.34**	**261**	*e*P	Pn	08 26 04.6	+2.8
PGF				*e*Sn	**Sn**	**08 26 39.0**	**-2.1**
	44nm,0.8s						
OBKA	**Obir**	**3.45**	**13**	*e*Pn	**Pn**	**08 26 04.4**	**+1.0**
OBKA	**Obir**	**3.45**	**13**	⇓*i*Pn	**Pn**	**08 26 04.0**	**+0.6**
	SNR=12						
OBKA				⇓*i*Sn	**Sn**	**08 26 43.2**	**-0.7**
OBKA				⇑*i*Sg	**Sg**	**08 27 01.8**	**+0.7**
	722nm,0.7s						
OBKA	**Obir**	**3.45**	**13**	Pn	**Pn**	**08 26 04.0**	**+0.6**
	SNR=12						
OBKA				Sn	**Sn**	**08 26 43.2**	**-0.7**
OBKA				Sg	**Sg**	**08 27 01.8**	**+0.7**
	722nm,0.7s						
MYKA	**Terra Mystica**	**3.49**	**2**	⇑*i*Pn	**Pn**	**08 26 05.0**	**+1.2**
	SNR=16						
MYKA				⇑*i*Sg	**Sg**	**08 27 03.2**	**+0.9**
	247nm,0.5s						
MYKA	**Terra Mystica**	**3.49**	**2**	Pn	**Pn**	**08 26 05.0**	**+1.2**
	SNR=16						
MYKA				Sg	**Sg**	**08 27 03.2**	**+0.9**
	247nm,0.5s						
CUC	**Castrocucco**	**3.61**	**150**	*e*Pn	**Pn**	**08 26 07.7**	**+2.2**
CUC	**Castrocucco**	**3.61**	**150**	*e*Pn	**Pn**	**08 26 07.7**	**+2.2**
ABTA	**Abfaltersbach**	**3.66**	**350**	⇑*i*Pn	**Pn**	**08 26 07.8**	**+1.5**
	SNR=68						
ABTA				⇓*i*Sn	**Sn**	**08 26 50.4**	**+1.2**
ABTA				⇓*i*Sg	**Sg**	**08 27 09.4**	**+1.4**
	229nm,0.7s						
ABTA	**Abfaltersbach**	**3.66**	**350**	Pn	**Pn**	**08 26 07.8**	**+1.5**
	SNR=68						
ABTA				Sn	**Sn**	**08 26 50.4**	**+1.2**
ABTA				Sg	**Sg**	**08 27 09.4**	**+1.4**
	229nm,0.7s						
SOKA	**Soboth**	**3.70**	**17**	⇓*i*Pn	**Pn**	**08 26 07.8**	**+0.9**
	SNR=11						
SOKA				⇓*i*Sn	**Sn**	**08 26 50.6**	**+0.5**
SOKA	**Soboth**	**3.70**	**17**	Pn	**Pn**	**08 26 07.8**	**+0.9**
	SNR=11						
SOKA				Sn	**Sn**	**08 26 50.6**	**+0.5**
BRY	**Bratogost**	**3.73**	**92**	⇑*i*Pn	**Pn**	**08 26 08.8**	**+1.5**
BRY				*e*Sn	**Sn**	**08 26 51.3**	**+0.4**
BRY	**Bratogost**	**3.73**	**92**	⇑*i*Pn	**Pn**	**08 26 08.8**	**+1.5**
BRY				*e*Sn	**Sn**	**08 26 51.3**	**+0.4**
PE1	**Pezze di Greco**	**3.77**	**127**	*e*Pn	**Pn**	**08 26 08.3**	**+0.7**
HCY	**Herceg Novi**	**3.77**	**99**	⇑*i*Pn	**Pn**	**08 26 08.6**	**+0.9**
HCY				*e*Sn	**Sn**	**08 26 51.6**	**0.0**
HCY	**Herceg Novi**	**3.77**	**99**	⇑*i*Pn	**Pn**	**08 26 08.6**	**+0.9**
HCY				*e*Sn	**Sn**	**08 26 51.6**	**0.0**
PCP	**Piancastagn**	**3.82**	**293**	P	**Pn**	**08 26 10.2**	**+1.8**
TAR1	**Taranto**	**3.87**	**131**	*e*Pn	**Pn**	**08 26 10.0**	**+0.9**
KBA	**Koelnbreinsper**	**3.93**	**359**	*e*Pn	**Pn**	**08 26 11.4**	**+1.3**
KBA				*e*Sn	**Sn**	**08 26 55.7**	**-0.2**
KBA	**Koelnbreinsper**	**3.93**	**359**	⇑*i*Pn	**Pn**	**08 26 11.6**	**+1.5**
	SNR=22						
KBA				⇑*i*Sn	**Sn**	**08 26 55.8**	**-0.1**
KBA	**Koelnbreinsper**	**3.93**	**359**	*e*Pn	**Pn**	**08 26 11.4**	**+1.3**
KBA				Sn	**Sn**	**08 26 55.8**	**-0.1**
UPM	**Unac-Piva**	**3.98**	**87**	*e*Pn	**Pn**	**08 26 12.3**	**+1.5**
UPM				*e*Sn	**Sn**	**08 26 57.8**	**+0.7**
UPM	**Unac-Piva**	**3.98**	**87**	*e*Pn	**Pn**	**08 26 12.3**	**+1.5**
UPM				*e*Sn	**Sn**	**08 26 57.8**	**+0.7**
RORO	**Rocca Rossa**	**4.04**	**286**	P	**Pn**	**08 26 12.1**	**+0.8**
NKME	**Niksic**	**4.05**	**93**	⇑*i*Pn	**Pn**	**08 26 12.2**	**+0.7**
NKME				*e*Sn	**Sn**	**08 26 58.8**	**+0.2**
NKME	**Niksic**	**4.05**	**93**	⇑*i*Pn	**Pn**	**08 26 12.2**	**+0.7**
NKME				*e*Sn	**Sn**	**08 26 58.8**	**+0.2**
NKY	**Niksic**	**4.07**	**93**	⇑*i*Pn	**Pn**	**08 26 13.3**	**+1.4**
NKY				*e*Sn	**Sn**	**08 26 59.5**	**+0.2**
NKY	**Niksic**	**4.07**	**93**	⇑*i*Pn	**Pn**	**08 26 13.3**	**+1.4**
NKY				*e*Sn	**Sn**	**08 26 59.5**	**+0.2**
BEHE	**Becsehely**	**4.08**	**34**	⇓*e*sPb	**Pg**	**08 26 27.7**	**-0.6**
BEHE				*e*	Sg	08 27 29.5	+8.4
BUM	**Brajici-Budva**	**4.09**	**100**	⇑*i*Pn	**Pn**	**08 26 13.4**	**+1.3**
BUM				*e*Sn	**Sn**	**08 26 59.7**	**+0.1**
BUM	**Brajici-Budva**	**4.09**	**100**	⇑*i*Pn	**Pn**	**08 26 13.4**	**+1.3**
BUM				*e*Sn	**Sn**	**08 26 59.7**	**+0.1**
PDG	**Podgorica**	**4.32**	**98**	P	**Pn**	**08 26 16.8**	**+1.5**
PDG				S	**Sn**	**08 27 05.2**	**-0.1**
PDG	**Podgorica**	**4.32**	**98**	⇑*i*Pn	**Pn**	**08 26 16.6**	**+1.3**
PDG				S	**Sn**	**08 27 05.2**	**-0.1**
TTG	**Podgorica**	**4.32**	**98**	⇑*i*Pn	**Pn**	**08 26 16.6**	**+1.3**
TTG				*e*Sn	**Sn**	**08 27 05.8**	**+0.5**
DRME	**Dracevica, Mon**	**4.33**	**101**	⇑*i*Pn	**Pn**	**08 26 16.9**	**+1.6**
DRME				*e*Sn	**Sn**	**08 27 06.2**	**+0.8**
DRME	**Dracevica, Mon**	**4.33**	**101**	⇑*i*Pn	**Pn**	**08 26 16.9**	**+1.6**
DRME				*e*Sn	**Sn**	**08 27 06.2**	**+0.8**
FETA	**Feichten**	**4.33**	**334**	⇑*i*Pn	**Pn**	**08 26 16.9**	**+1.3**
	SNR=14						
FETA				⇑*i*Sn	**Sn**	**08 27 05.6**	**-0.1**
FETA	**Feichten**	**4.33**	**334**	Pn	**Pn**	**08 26 16.9**	**+1.3**
	SNR=14						
FETA				Sn	**Sn**	**08 27 05.6**	**-0.1**
PLE	**Pljevlja**	**4.33**	**86**	⇑*i*Pn	**Pn**	**08 26 17.4**	**+1.9**
PLE				*e*Sn	**Sn**	**08 27 06.2**	**+0.5**
PLE	**Pljevlja**	**4.33**	**86**	⇑*i*Pn	**Pn**	**08 26 17.4**	**+1.9**
PLE				*e*Sn	**Sn**	**08 27 06.2**	**+0.5**
ARSA	**Arzberg**	**4.36**	**19**	*e*Pn	**Pn**	**08 26 16.4**	**+0.7**
ARSA	**Arzberg**	**4.36**	**19**	⇑*i*Pn	**Pn**	**08 26 16.6**	**+0.8**
	SNR=16						
ARSA	**Arzberg**	**4.36**	**19**	*e*Pn	**Pn**	**08 26 16.4**	**+0.7**
SAOF	**Saorge**	**4.37**	**283**	P	Pn	08 26 18.7	+2.7
SAOF				S	**Sn**	**08 27 08.2**	**+1.6**
SAOF	**Saorge**	**4.37**	**283**	P	Pn	08 26 18.7	+2.7
SAOF				S	**Sn**	**08 27 08.2**	**+1.6**
BBLS	**Lazići**	**4.38**	**79**	*e*Pn	**Pn**	**08 26 18.6**	**+2.4**
WATA	**Walderalm**	**4.40**	**343**	⇓*i*Pn	**Pn**	**08 26 18.5**	**+2.1**
	SNR=12						
WATA				⇑*i*

SURF	**Saint Ours**	**4.99**	**288**	P		**Pn**	**08 26 26.9**	**+2.2**
SOP	**Sopron**	**5.03**	**25**	⇓*e*Pn		**Pn**	**08 26 26.1**	**+1.1**
CONA	**Conrad Observa**	**5.07**	**19**	⇑*i*Pn		**Pn**	**08 26 26.6**	**+1.0**
	SNR=23							
CONA				⇑*i*Sn		**Sn**	**08 27 23.7**	**-0.1**
CONA	**Conrad Observa**	**5.07**	**19**	Pn		**Pn**	**08 26 26.6**	**+1.0**
	SNR=23							
CONA				Sn		**Sn**	**08 27 23.7**	**-0.1**
LMR	**La Mourre**	**5.08**	**274**	*e*Pn		**Pn**	**08 26 26.1**	**+0.4**
LMR	**La Mourre**	**5.08**	**274**	*e*P		Pn	08 26 29.4	+3.7
LMR				*e*Sn		**Sn**	**08 27 20.8**	**-3.2**
	9.2nm,0.3s,SNR=1.0							
LMR	**La Mourre**	**5.08**	**274**	*e*P		**Pn**	**08 26 26.1**	**+0.4**
LMR				*e*			08 27 20.8	
LMR	**La Mourre**	**5.08**	**274**	*e*Pn		**Pn**	**08 26 26.1**	**+0.4**
LMR				*e*Sn		**Sn**	**08 27 20.8**	**-3.2**
LMR	**La Mourre**	**5.08**	**274**	*e*P		Pn	08 26 29.4	+3.7
LMR				*e*Sn		**Sn**	**08 27 20.8**	**-3.2**
	4.6nm,0.3s,SNR=1.0							
MBDF	**Montbardon**	**5.08**	**290**	*e*Pn		**Pn**	**08 26 26.9**	**+1.0**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**08 27 21.0**	**-3.3**
	38nm,0.5s							
MBDF	**Montbardon**	**5.08**	**290**	*e*P		**Pn**	**08 26 26.9**	**+1.0**
MBDF				*e*			08 27 21.0	
MBDF	**Montbardon**	**5.08**	**290**	*e*Pn		**Pn**	**08 26 26.9**	**+1.0**
MBDF				*e*Sn		**Sn**	**08 27 21.0**	**-3.3**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**08 27 21.0**	**-3.3**
	19nm,0.5s							
TRUS	**Trudelj**	**5.15**	**76**	⇑*i*Pn		**Pn**	**08 26 26.9**	**+0.3**
PKST	**T˜s**	**5.23**	**37**	⇓*e*Pn		**Pn**	**08 26 28.2**	**+0.5**
PKST	**T˜s**	**5.23**	**37**	⇓*e*Pn		**Pn**	**08 26 28.2**	**+0.5**
BNI	**Bardonecchia**	**5.24**	**294**	*e*P		**Pn**	**08 26 29.0**	**+0.9**
BNI				pmax	pmax			
	comp=Z,37nm,0.8s							
BNI	**Bardonecchia**	**5.24**	**294**	*e*Pn		**Pn**	**08 26 29.0**	**+0.9**
	comp=Z,37nm,0.8s							
BNI	**Bardonecchia**	**5.24**	**294**	*e*P		**Pn**	**08 26 29.0**	**+0.9**
	comp=Z,37nm,0.8s							
GRUS	**Gruza**	**5.33**	**80**	⇑*i*Pn		**Pn**	**08 26 31.0**	**+1.9**
LPG	**La Plagne**	**5.36**	**298**	*e*Pn		**Pn**	**08 26 29.9**	**+0.1**
	SNR=1.0							
LPG				*e*Sn		**Sn**	**08 27 27.7**	**-3.5**
	comp=Z,111nm,0.6s							
LPG	**La Plagne**	**5.36**	**298**	*e*P		**Pn**	**08 26 29.9**	**+0.1**
LPG				*e*			08 27 27.7	
LPG	**La Plagne**	**5.36**	**298**	*e*Pn		**Pn**	**08 26 29.9**	**+0.1**
LPG				*e*Sn		**Sn**	**08 27 27.7**	**-3.5**
LPG	**La Plagne**	**5.36**	**298**	*e*Pn		**Pn**	**08 26 29.9**	**+0.1**
	SNR=1.0							
LPG				*e*Sn		**Sn**	**08 27 27.7**	**-3.5**
	comp=Z,55nm,0.6s							
PHP	**Peshkopia**	**5.37**	**103**	P		**Pn**	**08 26 30.6**	**+0.9**
PHP	**Peshkopia**	**5.37**	**103**	P		**Pn**	**08 26 30.6**	**+0.9**
PHP	**Peshkopia**	**5.37**	**103**	*i* Pn		**Pn**	**08 26 31.4**	**+1.7**
LPL	**La Plagne**	**5.38**	**298**	*e*Pn		**Pn**	**08 26 30.2**	**+0.2**
	SNR=1.0							
LPL				*e*Sn		**Sn**	**08 27 28.0**	**-3.6**
	comp=Z,121nm,0.6s,SNR=1.0							
LPL	**La Plagne**	**5.38**	**298**	*e*P		**Pn**	**08 26 30.2**	**+0.2**
LPL				*e*			08 27 28.0	
LPL	**La Plagne**	**5.38**	**298**	*e*Pn		**Pn**	**08 26 30.2**	**+0.2**
LPL				*e*Sn		**Sn**	**08 27 28.0**	**-3.6**
LPL	**La Plagne**	**5.38**	**298**	*e*Pn		**Pn**	**08 26 30.2**	**+0.2**
	SNR=1.0							
LPL				*e*Sn		**Sn**	**08 27 28.0**	**-3.6**
	comp=Z,60nm,0.6s,SNR=1.0							
PKSG		**5.49**	**38**	*e*Pn		**Pn**	**08 26 33.2**	**+1.9**
PKSG		**5.49**	**38**	*e*Pn		**Pn**	**08 26 33.2**	**+1.9**
OG25	**Le Caire**	**5.49**	**285**	P		Pn	08 26 34.6	+3.2
OG25	**Le Caire**	**5.49**	**285**	P		Pn	08 26 34.6	+3.2
RSL	**Roselend**	**5.52**	**300**	P		**Pn**	**08 26 33.4**	**+1.6**
RSL				S		**Sn**	**08 27 33.8**	**-1.1**
RSL	**Roselend**	**5.52**	**300**	P		**Pn**	**08 26 33.4**	**+1.6**
RSL				S		**Sn**	**08 27 33.8**	**-1.1**
SELS	**Selova**	**5.60**	**87**	⇑*i*Pn		**Pn**	**08 26 34.1**	**+1.3**
GDM	**Grand'Maison**	**5.67**	**294**	P		Pn	08 26 37.0	+3.1
GDM	**Grand'Maison**	**5.67**	**294**	P		Pn	08 26 37.0	+3.1
GEC2	**GERESS Array S**	**5.70**	**2**	*e*Pn		**Pn**	**08 26 34.6**	**+0.3**
GEC2				*e*Sn		**Sn**	**08 27 37.4**	**-2.0**
GEC2	**GERESS Array S**	**5.70**	**2**	*e*Pn		**Pn**	**08 26 34.6**	**+0.3**
GERES	**GERESS Array B**	**5.70**	**2**	Pn		**Pn**	**08 26 34.6**	**+0.3**
GERES				Sn		**Sn**	**08 27 36.3**	**-3.1**
GERES	**GERESS Array B**	**5.70**	**2**	Pn		**Pn**	**08 26 34.6**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=178,slow=12,SNR=74							
GERES				Sn		**Sn**	**08 27 36.3**	**-3.1**
	comp=Z,12nm,0.3s,baz=177,slow=24,SNR=9.9							
GERES				LR		LR	08 29 16.2	
	comp=Z,276nm,19.0s,baz=191,slow=44							
GERES	**GERESS Array B**	**5.70**	**2**	P		**Pn**	**08 26 34.7**	**+0.4**
	comp=Z,1.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.75**	**291**	*e*P		**Pn**	**08 26 37.3**	**+2.4**
	SNR=1.0							
ORIF	**Oris-en-Rattie**	**5.75**	**291**	*e*P		**Pn**	**08 26 37.3**	**+2.4**
ORIF	**Oris-en-Rattie**	**5.75**	**291**	*e*P		**Pn**	**08 26 37.3**	**+2.4**
ORIF	**Oris-en-Rattie**	**5.75**	**291**	*e*P		**Pn**	**08 26 37.3**	**+2.4**
	SNR=1.0							
SMRF	**Simiane la Rot**	**5.79**	**281**	*e*P		Pn	08 26 39.4	+3.9
	SNR=1.0							
SMRF	**Simiane la Rot**	**5.79**	**281**	*e*P		Pn	08 26 39.4	+3.9
BUD	**Budapest**	**5.85**	**40**	*e*		**Pg**	**08 27 02.0**	**-0.2**
KEK	**Kerkira**	**5.87**	**124**	P		**Pn**	**08 26 37.6**	**+1.1**
KEK	**Kerkira**	**5.87**	**124**	*e*P		**Pn**	**08 26 37.6**	**+1.1**
KEK	**Kerkira**	**5.87**	**124**	P		**Pn**	**08 26 37.6**	**+1.1**
SRN	**Sarande**	**5.89**	**121**	*i* PN		**Pn**	**08 26 37.5**	**+0.7**
SRN	**Sarande**	**5.89**	**121**	P		**Pn**	**08 26 36.8**	**0.0**
SRN	**Sarande**	**5.89**	**121**	P		**Pn**	**08 26 36.8**	**0.0**
SRN	**Sarande**	**5.89**	**121**	*i* Pn		**Pn**	**08 26 37.5**	**+0.7**
GRN	**Grenoble**	**5.93**	**293**	P		Pn	08 26 40.1	+2.7
GRN	**Grenoble**	**5.93**	**293**	P		Pn	08 26 40.1	+2.7
KHC	**Kasperske Hory**	**5.99**	**1**	*e*P		**Pn**	**08 26 38.2**	**0.0**
KHC				*e*			08 27 43.4	
KHC	**Kasperske Hory**	**5.99**	**1**	*e*PN		**Pn**	**08 26 38.2**	**0.0**
KHC				*ex*		x	08 26 46.3	
KHC				*ex*		x	08 26 52.1	
KHC				*e*SN		**Sn**	**08 27 43.4**	**-2.9**
KHC	**Kasperske Hory**	**5.99**	**1**	*e*Pn		**Pn**	**08 26 38.0**	**-0.2**
	comp=Z,23nm,0.4s							
KHC				*e*Sn		**Sn**	**08 27 45.1**	**-1.2**
KHC	**Kasperske Hory**	**5.99**	**1**	Pn		**Pn**	**08 26 38.2**	**0.0**
KHC				*e*Sn		**Sn**	**08 27 45.1**	**-1.2**
SKO	**Skopje**	**6.01**	**99**	P		**Pn**	**08 26 39.0**	**+0.6**
SKO	**Skopje**	**6.01**	**99**	*e*Pn		**Pn**	**08 26 38.3**	**-0.2**
SKO	**Skopje**	**6.01**	**99**	*e*Pn		**Pn**	**08 26 38.2**	**-0.2**
SKO	**Skopje**	**6.01**	**99**	P		**Pn**	**08 26 39.0**	**+0.6**
WET	**Wettzell**	**6.01**	**356**	*e*Sn		**Sn**	**08 27 45.6**	**-1.4**
WET	**Wettzell**	**6.01**	**356**	*e*Sn		**Sn**	**08 27 45.6**	**-1.4**
KBN	**Korca**	**6.02**	**112**	*i* PN		**Pn**	**08 26 40.3**	**+1.7**
KBN	**Korca**	**6.02**	**112**	P		**Pn**	**08 26 39.9**	**+1.2**
KBN	**Korca**	**6.02**	**112**	P		**Pn**	**08 26 39.9**	**+1.2**
KBN	**Korca**	**6.02**	**112**	*i* Pn		**Pn**	**08 26 40.3**	**+1.7**
BBS	**Basel-Blauen**	**6.02**	**318**	P		**Pn**	**08 26 40.6**	**+2.0**
SMOL	**Smolenice**	**6.04**	**26**	*e*P		**Pn**	**08 26 37.8**	**-1.1**
SMOL	**Smolenice**	**6.04**	**26**	*e*		**Pn**	**08 26 37.8**	**-1.1**
SMOL	**Smolenice**	**6.04**	**26**	*e*P		**Pn**	**08 26 37.8**	**-1.1**
FELD	**Feldberg im Sc**	**6.09**	**323**	P		**Pn**	**08 26 40.4**	**+0.7**
FELD				S		**Sn**	**08 27 47.5**	**-1.5**
BOLS	**Boljevac**	**6.21**	**81**	*e*Pn		**Pn**	**08 26 40.8**	**-0.5**
BIA	**Bitola**	**6.22**	**107**	P		**Pn**	**08 26 40.5**	**-0.9**
BIA				S		**Sn**	**08 27 50.0**	**-2.2**
BIA	**Bitola**	**6.22**	**107**	*e*Pn		**Pn**	**08 26 42.3**	**+0.9**
BIA				*e*Sg		**Sn**	**08 27 50.0**	**-2.2**
BIA	**Bitola**	**6.22**	**107**	P		**Pn**	**08 26 40.5**	**-0.9**
BIA	**Bitola**	**6.22**	**107**	*e*Pn		**Pn**	**08 26 42.3**	**+0.9**
CABF	**La Chapelle**	**6.28**	**306**	*e*Pn		**Pn**	**08 26 42.8**	**+0.6**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**08 27 49.2**	**-4.4**
	comp=Z,53nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**6.28**	**306**	*e*P		**Pn**	**08 26 42.8**	**+0.6**
CABF				*e*			08 27 49.2	
CABF	**La Chapelle**	**6.28**	**306**	*e*Pn		**Pn**	**08 26 42.8**	**+0.6**
CABF				*e*Sn		**Sn**	**08 27 49.2**	**-4.4**
CABF	**La Chapelle**	**6.28**	**306**	*e*Pn		**Pn**	**08 26 42.8**	**+0.6**
	SNR=1.0							
LOMF	**Lomont**	**6.29**	**314**	P		**Pn**	**08 26 43.2**	**+0.8**
LOMF				S		**Sn**	**08 27 52.0**	**-1.9**
LOMF	**Lomont**	**6.29**	**314**	P		**Pn**	**08 26 43.2**	**+0.8**
NEST	**Nestorio**	**6.29**	**113**	P		**Pn**	**08 26 44.3**	**+1.9**
NEST				S		**Sn**	**08 27 51.3**	**-2.7**
NEST	**Nestorio**	**6.29**	**113**	P		**Pn**	**08 26 44.3**	**+1.9**
IGT	**Igoumenitsa**	**6.30**	**123**	P		**Pn**	**08 26 43.7**	**+1.2**
IGT				S		**Sn**	**08 27 50.9**	**-3.3**
IGT	**Igoumenitsa**	**6.30**	**123**	*e*P		**Pn**	**08 26 43.6**	**+1.1**
IGT	**Igoumenitsa**	**6.30**	**123**	P		**Pn**	**08 26 43.7**	**+1.2**
BFO	**Black Forest**	**6.31**	**327**	*e*P		**Pn**	**08 26 43.9**	**+1.4**
BFO				pmax	pmax			
	comp=Z,22nm,0.6s							
BFO	**Black Forest**	**6.31**	**327**	*e*Pn		**Pn**	**08 26 44.5**	**+2.0**
BFO				*e*Sn		**Sn**	**08 27 51.6**	**-2.6**
BFO	**Black Forest**	**6.31**	**327**	*e*Pn		**Pn**	**08 26 43.9**	**+1.4**
	comp=Z,22nm,0.6s							
BFO	**Black Forest**	**6.31**	**327**	*e*P		**Pn**	**08 26 43.9**	**+1.4**
	comp=Z,22nm,0.6s							
TREC	**Trest**	**6.31**	**12**	*e*P		**Pn**	**08 26 42.9**	**+0.3**
TREC				*e*			08 27 51.3	
TREC	**Trest**	**6.31**	**12**	*e*PN		**Pn**	**08 26 42.9**	**+0.3**
TREC				*e*SN		**Sn**	**08 27 51.3**	**-2.9**
TREC	**Trest**	**6.31**	**12**	Pn		**Pn**	**08 26 42.9**	**+0.3**
BZS	**Buzias**	**6.34**	**64**	⇑*i*P		**Pn**	**08 26 45.8**	**+2.8**
FNA	**Florina**	**6.35**	**109**	P		**Pn**	**08 26 44.4**	**+1.2**
FNA				S		Sn	08 27 48.7	-6.7
FNA	**Florina**	**6.35**	**109**	*e*P		**Pn**	**08 26 44.2**	**+1.0**
FNA	**Florina**	**6.35**	**109**	P		**Pn**	**08 26 44.4**	**+1.2**
LIBD	**Limburg**	**6.47**	**323**	P		**Pn**	**08 26 46.8**	**+2.0**
MOF	**Molkenrain**	**6.47**	**319**	P		**Pn**	**08 26 45.4**	**+0.5**
MOF				S		**Sn**	**08 27 56.3**	**-2.1**
MOF	**Molkenrain**	**6.47**	**319**	P		**Pn**	**08 26 45.4**	**+0.5**
VRAC	**Vranov**	**6.54**	**18**	⇓*i*P		**Pn**	**08 26 46.5**	**+0.9**
VRAC	**Vranov**	**6.54**	**18**	Pn		**Pn**	**08 26 45.8**	**+0.2**
VRAC				Sn		**Sn**	**08 27 57.2**	**-2.5**
VRAC				Lg	Lg		08 28 39.8	
VRAC	**Vranov**	**6.54**	**18**	Pn		**Pn**	**08 26 45.8**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=208,slow=14,SNR=11							
VRAC				Sn		**Sn**	**08 27 57.2**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=231,slow=8.9,SNR=3.4							
VRAC				Lg	Lg		08 28 39.8	
	baz=127,slow=20,SNR=2.4							
VRAC				LR	LR		08 30 00.8	
	comp=Z,461nm,18.0s,baz=204,slow=45							
VRAC	**Vranov**	**6.54**	**18**	P		**Pn**	**08 26 45.8**	**+0.2**
	comp=Z,2.0nm,0.3s							
JAN	**Janina**	**6.56**	**120**	P		**Pn**	**08 26 46.8**	**+0.8**
JAN	**Janina**	**6.56**	**120**	*e*P		**Pn**	**08 26 46.8**	**+0.8**
JAN	**Janina**	**6.56**	**120**	P		**Pn**	**08 26 46.8**	**+0.8**
VIVF	**Saint-Julien-l**	**6.57**	**288**	*e*Pn		**Pn**	**08 26 47.5**	**+1.4**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**08 27 56.6**	**-4.0**
	comp=Z,12nm,0.6s							
VIVF	**Saint-Julien-l**	**6.57**	**288**	*e*P		**Pn**	**08 26 47.5**	**+1.4**
VIVF				*e*			08 27 56.6	
VIVF	**Saint-Julien-l**	**6.57**	**288**	*e*Pn		**Pn**	**08 26 47.5**	**+1.4**
VIVF				*e*Sn		**Sn**	**08 27 56.6**	**-4.0**
VIVF	**Saint-Julien-l**	**6.57**	**288**	*e*Pn		**Pn**	**08 26 47.5**	**+1.4**
	SNR=1.0							
PSZ	**Piszkesteto**	**6.57**	**41**	*e*P		**Pn**	**08 26 46.7**	**+0.5**
PSZ	**Piszkesteto**	**6.57**	**41**	⇑*i*P		Pn	08 26 49.4	+3.2
PSZ	**Piszkesteto**	**6.57**	**41**	*e*Pn		**Pn**	**08 26 46.7**	**+0.5**
PSZ	**Piszkesteto**	**6.57**	**41**	⇓*e*Pn		**Pn**	**08 26 46.3**	**+0.1**
PSZ	**Piszkesteto**	**6.57**	**41**	*e*P		**Pn**	**08 26 46.7**	**+0.5**
HINF	**Hinteralfeld**	**6.59**	**317**	*e*Pn		**Pn**	**08 26 46.6**	**+0.2**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**08 27 56.2**	**-4.9**
	comp=Z,136nm,0.5s							
HINF	**Hinteralfeld**	**6.59**	**317**	*e*P		**Pn**	**08 26 46.6**	**+0.2**
HINF				*e*			08 27 56.2	
HINF	**Hinteralfeld**	**6.59**	**317**	*e*Pn		**Pn**	**08 26 46.6**	**+0.2**
HINF				*e*Sn		**Sn**	**08 27 56.2**	**-4.9**
HINF	**Hinteralfeld**	**6.59**	**317**	*e*Pn		**Pn**	**08 26 46.6**	**+0.2**
	SNR=1.0							
SIRR	**Siria**	**6.62**	**59**	⇑*i*P		**Pg**	**08 27 18.8**	**+1.8**
ZAPS	**Zavoj**	**6.70**	**86**	⇓*i*Pn		**Pn**	**08 26 50.2**	**+2.2**
ECH	**Echery**	**6.72**	**321**	*e*P		**Pn**	**08 26 48.5**	**+0.3**
ECH				*e*			08 28 03.1	
ECH				pmax	pmax			
	comp=Z,48nm,1.0s							
ECH	**Echery**	**6.72**	**321**	P		**Pn**	**08 26 49.3**	**+1.1**
ECH				S		**Sn**	**08 28 03.5**	**-0.9**
ECH	**Echery**	**6.72**	**321**	*e*Pn		**Pn**	**08 26 48.5**	**+0.3**
	comp=Z,48nm,1.0s							
ECH				*e*Sn		**Sn**	**08 28 03.1**	**-1.3**
ECH	**Echery**	**6.72**	**321**	*e*Pn		**Pn**	**08 26 48.5**	**+0.3**
	comp=Z,48nm,1.0s							
ECH	**Echery**	**6.72**	**321**	P		**Pn**	**08 26 49.3**	**+1.1**
ECH				*e*Sn		**Sn**	**08 28 03.1**	**-1.3**
MEV	**Metsovon**	**6.73**	**117**	P		**Pn**	**08 26 50.5**	**+2.0**
MEV	**Metsovon**	**6.73**	**117**	P		**Pn**	**08 26 50.5**	**+2.0**
SSB	**Saint Sauveur**	**6.76**	**291**	*e*P		**Pn**	**08 26 49.2**	**+0.5**
SSB				pmax	pmax			
	comp=Z,7.0nm,0.4s							
SSB	**Saint Sauveur**	**6.76**	**291**	*e*Pn		**Pn**	**08 26 49.2**	**+0.5**
	comp=Z,6.9nm,0.4s							
SSB	**Saint Sauveur**	**6.76**	**291**	*e*P		**Pn**	**08 26 49.2**	**+0.5**
	comp=Z,7.0nm,0.4s							
CDF	**Champ du Feu**	**6.81**	**323**	*e*Pn		**Pn**	**08 26 50.1**	**+0.6**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**08 28 01.5**	**-5.2**
	comp=Z,158nm,0.8s							
CDF	**Champ du Feu**	**6.81**	**323**	*e*P		**Pn**	**08 26 50.1**	**+0.6**
CDF				*e*			08 28 01.5	
CDF	**Champ du Feu**	**6.81**	**323**	*e*Pn		**Pn**	**08 26 50.1**	**+0.6**
CDF				*e*Sn		**Sn**	**08 28 01.5**	**-5.2**
CDF	**Champ du Feu**	**6.81**	**323**	*e*Pn		**Pn**	**08 26 50.1**	**+0.6**
	SNR=1.0							
KZN	**Kozani**	**6.83**	**112**	P		**Pn**	**08 26 50.9**	**+1.1**
KZN	**Kozani**	**6.83**	**112**	P		**Pn**	**08 26 50.9**	**+1.1**
PRU	**Pruhonice**	**6.88**	**6**	*e*P		**Pn**	**08 26 50.4**	**0.0**
PRU				*e*			08 28 04.9	
PRU				MLR	MLR			
	comp=Z,1μm,5.8s							
PRU	**Pruhonice**	**6.88**	**6**	*e*PN		**Pn**	**08 26 50.4**	**0.0**
PRU				*ex*		x	08 26 59.2	
PRU				*e*SN		**Sn**	**08 28 04.9**	**-3.4**
PRU				AMS	AMS		08 29 20.0	
	comp=Z,1μm,5.8s							
PRU	**Pruhonice**	**6.88**	**6**	Pn		**Pn**	**08 26 50.4**	**0.0**
HAU	**Haudompre**	**6.96**	**317**	*e*Pn		**Pn**	**08 26 51.8**	**+0.2**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**08 28 05.3**	**-5.1**
	comp=Z,111nm,0.4s							
HAU	**Haudompre**	**6.96**	**317**	*e*P		**Pn**	**08 26 51.8**	**+0.2**
HAU				*e*			08 28 05.3	
HAU	**Haudompre**	**6.96**	**317**	*e*Pn		**Pn**	**08 26 51.8**	**+0.2**
HAU				*e*Sn		**Sn**	**08 28 05.3**	**-5.1**
HAU	**Haudompre**	**6.96**	**317**	*e*Pn		**Pn**	**08 26 51.8**	**+0.2**
	SNR=1.0							
LKD2	**Lefkada island**	**6.97**	**126**	P		**Pn**	**08 26 52.9**	**+1.2**
LKD2				S		**Sn**	**08 28 09.2**	**-1.3**
LKD2	**Lefkada island**	**6.97**	**126**	P		**Pn**	**08 26 52.9**	**+1.2**
VAY	**Valandovo**	**7.00**	**102**	P		**Pn**	**08 26 51.8**	**-0.3**
VAY	**Valandovo**	**7.00**	**102**	*e*P		**Pn**	**08 26 52.3**	**+0.2**
VAY	**Valandovo**	**7.00**	**102**	*i* Pn		**Pn**	**08 26 52.5**	**+0.5**
VAY	**Valandovo**	**7.00**	**102**	P		**Pn**	**08 26 51.8**	**-0.3**
VAY	**Valandovo**	**7.00**	**102**	*i* Pn		**Pn**	**08 26 52.5**	**+0.5**
GRG	**Griva**	**7.00**	**105**	P		**Pn**	**08 26 53.1**	**+1.0**
GRG				S		Sn	08 28 02.9	-8.5
GRG	**Griva**	**7.00**	**105**	*e*P		**Pn**	**08 26 52.5**	**+0.4**
GRG	**Griva**	**7.00**	**105**	P		**Pn**	**08 26 53.1**	**+1.0**
LASF	**Ste Croix**	**7.03**	**281**	*e*Pn		**Pn**	**08 26 54.5**	**+2.0**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**08 28 07.7**	**-4.4**
	comp=Z,3.5nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**7.03**	**281**	*e*Pn		**Pn**	**08 26 54.5**	**+2.0**
LASF				*e*Sn		**Sn**	**08 28 07.7**	**-4.4**
LASF	**Ste Croix**	**7.03**	**281**	*e*Pn		**Pn**	**08 26 54.5**	**+2.0**
	SNR=1.0							
GZR	**Gura Zlata**	**7.05**	**68**	⇓*i*P		**Pn**	**08 26 54.8**	**+2.0**
NKC	**Novy Kostel**	**7.12**	**355**	*e*P		**Pn**	**08 26 53.6**	**-0.1**
NKC				*e*			08 28 10.7	
NKC	**Novy Kostel**	**7.12**	**355**	*e*PN		**Pn**	**08 26 53.6**	**-0.1**
NKC				*ex*		x	08 27 01.8	
NKC				*e*SN		**Sn**	**08 28 10.7**	**-3.6**
NKC	**Novy Kostel**	**7.12**	**355**	Pn		**Pn**	**08 26 53.6**	**-0.1**
VTS	**Vitosha**	**7.18**	**91**	P		**Pn**	**08 26 56.5**	**+1.8**
VTS	**Vitosha**	**7.18**	**91**	*e*P		**Pn**	**08 26 57.5**	**+2.8**
VTS	**Vitosha**	**7.18**	**91**	⇑*i*P		**Pn**	**08 26 56.9**	**+2.2**
VTS	**Vitosha**	**7.18**	**91**	P		**Pn**	**08 26 56.5**	**+1.8**
MORC	**Moravsky Berou**	**7.21**	**22**	*e*P		**Pn**	**08 26 55.7**	**+0.8**
MORC				pmax	pmax			
	comp=Z,11nm,0.7s							
MORC	**Moravsky Berou**	**7.21**	**22**	⇑*i*P		**Pn**	**08 26 56.4**	**+1.5**
MORC	**Moravsky Berou**	**7.21**	**22**	*e*Pn		**Pn**	**08 26 55.7**	**+0.8**
	comp=Z,11nm,0.7s							
MORC	**Moravsky Berou**	**7.21**	**22**	*e*P		**Pn**	**08 26 55.7**	**+0.8**
	comp=Z,11nm,0.7s							
TOD	**Tromm**	**7.22**	**335**	P		**Pn**	**08 26 57.6**	**+2.6**
KKB	**Krupnik**	**7.22**	**97**	*e*P		**Pn**	**08 26 56.8**	**+1.7**
KKB	**Krupnik**	**7.22**	**97**	*e*P		**Pn**	**08 26 56.8**	**+1.7**
KNT	**Kendrikon**	**7.29**	**103**	P		**Pn**	**08 26 57.2**	**+1.2**
KNT	**Kendrikon**	**7.29**	**103**	*e*P		**Pn**	**08 26 56.8**	**+0.8**
KNT	**Kendrikon**	**7.29**	**103**	P		**Pn**	**08 26 57.2**	**+1.2**
THEF	**They Montfort**	**7.29**	**317**	P		**Pn**	**08 26 56.8**	**+0.7**
THEF				S		**Sn**	**08 28 16.5**	**-1.9**
THEF	**They Montfort**	**7.29**	**317**	P		**Pn**	**08 26 56.8**	**+0.7**
TANN	**Tannenbergstha**	**7.30**	**355**	*e*Pn		**Pn**	**08 26 55.6**	**-0.6**
TANN	**Tannenbergstha**	**7.30**	**355**	*e*Pn		**Pn**	**08 26 55.6**	**-0.6**
VLS	**Valsamata**	**7.35**	**130**	P		**Pn**	**08 26 57.8**	**+1.0**
VLS				S		**Sn**	**08 28 17.0**	**-2.8**
VLS	**Valsamata**	**7.35**	**130**	*e*P		**Pn**	**08 26 56.4**	**-0.4**
VLS	**Valsamata**	**7.35**	**130**	P		**Pn**	**08 26 57.8**	**+1.0**
THL	**Klokotos Trika**	**7.36**	**116**	P		**Pn**	**08 26 58.4**	**+1.4**
THL				S		**Sn**	**08 28 18.1**	**-2.0**
THL	**Klokotos Trika**	**7.36**	**116**	*e*P		**Pn**	**08 26 57.9**	**+0.9**
THL	**Klokotos Trika**	**7.36**	**116**	P		**Pn**	**08 26 58.4**	**+1.4**
PDO	**Prodromos**	**7.41**	**125**	P		**Pn**	**08 26 59.0**	**+1.4**
PDO	**Prodromos**	**7.41**	**125**	*e*P		**Pn**	**08 26 59.0**	**+1.4**
PDO	**Prodromos**	**7.41**	**125**	P		**Pn**	**08 26 59.0**	**+1.4**
LIT	**Litokhoron**	**7.42**	**111**	P		**Pn**	**08 26 57.4**	**-0.4**
LIT	**Litokhoron**	**7.42**	**111**	*e*P		**Pn**	**08 26 57.4**	**-0.4**
LIT	**Litokhoron**	**7.42**	**111**	P		**Pn**	**08 26 57.4**	**-0.4**
OKC	**Ostrava-Krasne**	**7.43**	**24**	*e*P		**Pn**	**08 26 58.0**	**+0.1**
OKC				*e*			08 28 18.4	
OKC	**Ostrava-Krasne**	**7.43**	**24**	*e*PN		**Pn**	**08 26 58.0**	**+0.1**
OKC				*e*SN		**Sn**	**08 28 18.4**	**-3.4**
OKC	**Ostrava-Krasne**	**7.43**	**24**	Pn		**Pn**	**08 26 58.0**	**+0.1**
DPC	**Dobruska-Polom**	**

comp=N,211nm,19.9s,baz=358,slow=39
KEST Kesra 8.06 205 *e*Pn **Pn** **08 27 08.8 +2.1**
LAKA Lakka 8.11 124 P **Pn** **08 27 09.2 +1.8**
LAKA Lakka 8.11 124 *e*P **Pn** **08 27 08.0 +0.6**
LAKA Lakka 8.11 124 P **Pn** **08 27 09.2 +1.8**
KALE Kalithea 8.12 123 P **Pn** **08 27 10.1 +2.7**
KALE S **Sn** **08 28 34.3 -4.5**
KALE Kalithea 8.12 123 *e*P **Pn** **08 27 09.3 +1.9**
KALE Kalithea 8.12 123 P **Pn** **08 27 10.1 +2.7**
CLL Collm 8.17 358 *e*P **Pn** **08 27 07.0 -1.1**
CLL *e* 08 28 35.0
CLL Collm 8.17 358 *e*Pn **Pn** **08 27 07.5 -0.6**
CLL *e*Sn **Sn** **08 28 34.6 -5.4**
CLL Collm 8.17 358 *e*Pn **Pn** **08 27 07.0 -1.1**
CLL *i* 08 27 13.4
CLL *e*Sn **Sn** **08 28 35.0 -5.0**
CLL *e*Sg Sb 08 29 34.0 +26
comp=Z,63nm,1.0s
CLL *e*Lmax 08 30 05.0
CLL Lm MLR 08 30 12.0
comp=Z,200nm,20.0s
CLL Collm 8.17 358 *e*P **Pn** **08 27 07.0 -1.1**
CLL Collm 8.17 358 *e*Pn **Pn** **08 27 07.5 -0.6**
XOR Xorichti 8.24 114 P **Pn** **08 27 08.8 -0.3**
XOR Xorichti 8.24 114 *e*P **Pn** **08 27 08.8 -0.3**
XOR Xorichti 8.24 114 P **Pn** **08 27 08.8 -0.3**
UZH Uzhgorod 8.24 45 P **Pn** **08 27 10.4 +1.3**
UZH *e*S **Sn** **08 28 43.8 +2.0**
UZH Uzhgorod 8.24 45 *e*P **Pn** **08 27 10.4 +1.3**
UZH *e*S **Sn** **08 28 43.8 +2.0**
STHS Stebnicka Huta 8.27 38 *e*P **Pn** **08 27 11.7 +2.3**
STHS Stebnicka Huta 8.27 38 *e*PN **Pn** **08 27 11.7 +2.3**
STHS *e* 08 29 42.5
STHS Stebnicka Huta 8.27 38 *e*P **Pn** **08 27 11.7 +2.3**
BGF Bois d'Agland 8.28 298 *e*Pn **Pn** **08 27 09.3 -0.3**
SNR=1.0
BGF *e*Sn **Sn** **08 28 37.2 -5.4**
comp=Z,25nm,0.4s,SNR=1.0
BGF Bois d'Agland 8.28 298 *e*P **Pn** **08 27 09.3 -0.3**
BGF *e* 08 28 37.2
BGF Bois d'Agland 8.28 298 *e*Pn **Pn** **08 27 09.3 -0.3**
BGF *e*Sn **Sn** **08 28 37.2 -5.4**
BGF Bois d'Agland 8.28 298 *e*Pn **Pn** **08 27 09.3 -0.3**
SNR=1.0
PAIG Paliouri 8.31 109 *e*P **Pn** **08 27 09.0 -1.0**
ARR Arges 8.32 71 ||*i*P Pn 08 27 13.8 +3.6
KLV Kalavryta, Ach 8.34 125 P **Pn** **08 27 12.8 +2.2**
KLV S **Sn** **08 28 40.3 -4.1**
KLV Kalavryta, Ach 8.34 125 *e*P **Pn** **08 27 12.6 +2.0**
KLV Kalavryta, Ach 8.34 125 P **Pn** **08 27 12.8 +2.2**
DSF Desfina 8.35 121 P **Pn** **08 27 09.8 -0.8**
DSF S **Sn** **08 28 39.9 -4.5**
DSF Desfina 8.35 121 *e*P **Pn** **08 27 11.3 +0.7**
DSF Desfina 8.35 121 P **Pn** **08 27 09.8 -0.8**
OUR Ouranopolis 8.35 106 P **Pn** **08 27 10.3 -0.3**
OUR S Sn 08 28 36.9 -7.6
OUR Ouranopolis 8.35 106 P **Pn** **08 27 10.3 -0.3**
PLD Plovdiv 8.36 93 P **Pn** **08 27 10.5 -0.1**
PLD Plovdiv 8.36 93 P **Pn** **08 27 10.5 -0.1**
CAF Calviac 8.40 286 *e*Pn **Pn** **08 27 11.9 +0.6**
SNR=1.0
CAF Calviac 8.40 286 *e*P **Pn** **08 27 11.9 +0.6**
CAF Calviac 8.40 286 *e*Pn **Pn** **08 27 11.9 +0.6**
SNR=1.0
KOLS Kolonicke sedl 8.43 44 *e*P Pn 08 27 16.2 +4.6
KOLS Kolonicke sedl 8.43 44 *e*PN Pn 08 27 16.2 +4.6
KOLS *e* 08 29 43.4
RZN Rozhen 8.45 96 *e*P **Pn** **08 27 13.3 +1.1**
RZN Rozhen 8.45 96 *e*P **Pn** **08 27 13.3 +1.1**
KAVA Kavala 8.50 101 P **Pn** **08 27 12.7 +0.1**
KAVA Kavala 8.50 101 *e*P **Pn** **08 27 14.0 +1.4**
KAVA Kavala 8.50 101 P **Pn** **08 27 12.7 +0.1**
LKR Lokris 8.50 119 P **Pn** **08 27 11.8 -0.9**
LKR Lokris 8.50 119 P **Pn** **08 27 11.8 -0.9**
GUR Goura 8.53 125 P **Pn** **08 27 15.1 +2.0**
GUR S **Sn** **08 28 45.5 -3.5**
GUR Goura 8.53 125 *e*P **Pn** **08 27 13.9 +0.8**
GUR Goura 8.53 125 P **Pn** **08 27 15.1 +2.0**
TCF Toulx Ste Croi 8.61 295 *e*Pn **Pn** **08 27 14.8 +0.7**
SNR=1.0
TCF *e*Sn Sn 08 28 44.9 -5.8
comp=Z,12nm,0.4s
TCF Toulx Ste Croi 8.61 295 *e*P **Pn** **08 27 14.8 +0.7**
TCF *e* 08 28 44.9
TCF Toulx Ste Croi 8.61 295 *e*Pn **Pn** **08 27 14.8 +0.7**
TCF *e*Sn Sn 08 28 44.9 -5.8
TCF Toulx Ste Croi 8.61 295 *e*Pn **Pn** **08 27 14.8 +0.7**
SNR=1.0
VOIR 8.62 71 ⇑*i*P Pn 08 27 18.3 +3.9
PVL Pavlikeni 8.68 85 *e*P **Pn** **08 27 14.7 -0.3**
PVL Pavlikeni 8.68 85 *e*P **Pn** **08 27 14.7 -0.3**
HYF Humbligny 8.68 302 *e*Pn **Pn** **08 27 14.7 -0.4**
HYF Humbligny 8.68 302 *e*Pn **Pn** **08 27 14.7 -0.4**
HYF Humbligny 8.68 302 *e*Pn **Pn** **08 27 14.7 -0.4**
ITM Ithomi 8.80 130 P **Pn** **08 27 18.5 +1.7**
ITM Ithomi 8.80 130 P **Pn** **08 27 18.5 +1.7**
MRKA Markates 8.85 117 P **Pn** **08 27 16.6 -0.9**
MRKA S **Sn** **08 28 52.7 -4.2**
MRKA Markates 8.85 117 *e*P **Pn** **08 27 15.6 -1.9**
MRKA Markates 8.85 117 P **Pn** **08 27 16.6 -0.9**
PYL PYLOS 8.90 132 P **Pn** **08 27 17.7 -0.4**
PYL PYLOS 8.90 132 P **Pn** **08 27 17.7 -0.4**
KDZ Kurdzhali 8.97 96 *e*P **Pn** **08 27 19.5 +0.4**
KDZ Kurdzhali 8.97 96 ||*i*P **Pn** **08 27 20.5 +1.4**
KDZ Kurdzhali 8.97 96 *e*P **Pn** **08 27 19.5 +0.4**
ERET Eretria 9.14 117 P **Pn** **08 27 21.3 -0.2**
ERET Eretria 9.14 117 P **Pn** **08 27 21.3 -0.2**
RDO Rodhopi 9.19 98 P **Pn** **08 27 23.1 +1.0**
RDO Rodhopi 9.19 98 P **Pn** **08 27 23.1 +1.0**
MLR Muntele Rosu 9.25 71 ||*i*P Pn 08 27 27.0 +4.0
MLR Muntele Rosu 9.25 71 Pn Pn 08 27 26.8 +3.7
MLR Muntele Rosu 9.25 71 Pn Pn 08 27 26.8 +3.7
comp=Z,0.1nm,0.3s,baz=276,slow=9.2,SNR=15
MLR LR LR 08 31 57.0
comp=Z,114nm,21.1s,baz=254,slow=44
DID Didima 9.35 124 P **Pn** **08 27 24.8 +0.5**
DID S **Sn** **08 29 04.8 -4.2**
DID Didima 9.35 124 *e*P **Pn** **08 27 25.5 +1.2**
DID Didima 9.35 124 P **Pn** **08 27 24.8 +0.5**
BURAR Bucovina Array 9.40 58 ||*i*P Pn 08 27 29.4 +4.4
BUR08 Bucovina Ar. S 9.40 57 *e*Pn Pn 08 27 28.5 +3.5
ALN Alexandroupoli 9.63 99 P **Pn** **08 27 28.8 +0.7**
ALN Alexandroupoli 9.63 99 *e*P **Pn** **08 27 28.1 0.0**
ALN Alexandroupoli 9.63 99 P **Pn** **08 27 28.8 +0.7**
JMB Yambol 9.67 90 P **Pn** **08 27 28.3 -0.3**
JMB Yambol 9.67 90 ⇑*i*P **Pn** **08 27 29.5 +0.9**
JMB Yambol 9.67 90 P **Pn** **08 27 28.3 -0.3**
ETSF Etsaut 10.27 273 *e*P Pn 08 27 41.5 +4.5
SNR=1.0
ETSF Etsaut 10.27 273 *e*P Pn 08 27 41.5 +4.5
ETSF Etsaut 10.27 273 *e*P Pn 08 27 41.5 +4.5
IDI Anoyia 11.83 128 LR LR 08 34 39.2
comp=Z,147nm,18.4s,baz=321,slow=48
KIEV Kiev 13.13 49 *e*P **Pn** **08 28 16.5 +0.6**
KIEV Kiev 13.13 49 *e*P **Pn** **08 28 16.5 +0.6**
AKASG Malin Array Be 13.14 49 P **Pn** **08 28 16.8 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 13.14 49 Pn **Pn** **08 28 16.8 +0.8**
AKASG Malin Array Be 13.14 49 Pn **Pn** **08 28 16.8 +0.8**
comp=Z,0.5nm,0.3s,baz=236,slow=11,SNR=3.8
AKASG Malin Array Be 13.14 49 P **Pn** **08 28 16.8 +0.8**
comp=Z,1.0nm,0.3s
ESDC Sonseca Array 13.53 261 LR LR 08 33 45.5
comp=Z,165nm,19.3s,baz=10.0,slow=38
BRTR Keskin Array B 15.51 96 Pn **P** **08 28 51.0 -1.7**
BRTR Keskin Array B 15.51 96 Pn **P** **08 28 51.0 -1.7**
comp=Z,0.1nm,0.3s,baz=299,slow=11,SNR=4.8
BRTR LR LR 08 35 57.9
comp=Z,161nm,18.5s,baz=290,slow=42
BRTR Keskin Array B 15.51 96 Pn **P** **08 28 51.0 -1.7**
EKA Eskdalemuir Ar 16.27 324 Pn **Pn** **08 28 58.1 +0.2**
EKA Eskdalemuir Ar 16.27 324 Pn **Pn** **08 28 58.1 +0.2**
baz=137,slow=14,SNR=2.4
EKA Eskdalemuir Ar 16.27 324 Pn **Pn** **08 28 58.1 +0.2**
ANN Anapa 17.32 76 *e*P P 08 29 23.8 +11
ANN pmax pmax
comp=Z,149nm,1.0s
VSU Vasula 17.42 24 *e*P **Pn** **08 29 11.5 -0.8**
VSU pmax pmax
comp=Z,28nm,1.0s

NB2 NORSAR Subarra 17.97 356 P **P** **08 29 21.0 +1.3**
comp=Z,1.7nm,0.8s,baz=177,slow=14
NB2 NORSAR Subarra 17.97 356 P **P** **08 29 21.0 +1.3**
comp=Z,1.7nm,0.8s,SNR=3.7
NOA NORSAR Array B 17.97 356 P **Pn** **08 29 17.6 -1.6**
NOA NORSAR Array B 17.97 356 P **Pn** **08 29 17.6 -1.6**
baz=173,slow=12,SNR=2.6
NOA LR LR 08 37 12.4
comp=Z,62nm,18.4s,baz=300,slow=40
VSR Storozhevoye 19.17 56 *e*P **P** **08 29 32.7 -0.1**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR MLR MLR
comp=N,210nm,14.0s
VSR MLR MLR
comp=E,270nm,14.0s
VSR MLR MLR
comp=Z,270nm,14.0s
VSR Storozhevoye 19.17 56 *e*P **P** **08 29 32.7 -0.1**
OBN Obninsk 19.18 43 *e*P **P** **08 29 31.7 -1.2**
OBN pmax pmax
comp=Z,21nm,1.2s
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 19.18 43 LR LR 08 38 07.3
comp=Z,121nm,19.2s,baz=270,slow=41
OBN Obninsk 19.18 43 *e*P **P** **08 29 31.7 -1.2**
comp=Z,100nm,18.0s
VORD Divnogorie 19.19 57 *e*P **P** **08 29 32.2 -0.8**
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.8s
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD MLR MLR
comp=N,90nm,16.0s
VORD MLR MLR
comp=E,120nm,16.0s
VORD MLR MLR
comp=Z,200nm,16.0s
VORD Divnogorie 19.19 57 *e*P **P** **08 29 32.2 -0.8**
LPSR Galich'ya Gora 19.43 52 *e*P **P** **08 29 34.8 -0.9**
FINES FINESS Array B 19.82 18 P **P** **08 29 39.6 -0.2**
FINES FINESS Array B 19.82 18 P **P** **08 29 39.6 -0.2**
comp=Z,0.3nm,0.3s,baz=203,slow=9.0,SNR=16
FINES LR LR 08 38 29.4
comp=Z,217nm,19.1s,baz=230,slow=41
FINES FINESS Array B 19.82 18 P **P** **08 29 39.6 -0.2**
comp=Z,15nm,28.6s
MMAI Mount Meron Ar 19.96 113 P **Pn** **08 29 43.7 +0.3**
MMAI Mount Meron Ar 19.96 113 P **Pn** **08 29 43.7 +0.3**
comp=Z,0.7nm,0.3s,baz=292,slow=7.6,SNR=3.1
MMAI LR LR 08 39 23.0
comp=Z,109nm,18.9s,baz=105,slow=42
MMAI Mount Meron Ar 19.96 113 P **Pn** **08 29 43.7 +0.3**
MOS Moscow 20.01 43 *e*P Pn 08 29 55.6 +12
MOS pmax pmax
comp=Z,53nm,0.8s
KAF Kangasniemi 20.46 17 *e*P **P** **08 29 45.0 -1.8**
KAF pmax pmax
comp=Z,7.0nm,1.0s
KAF Kangasniemi 20.46 17 *e*p **P** **08 29 45.0 -1.8**
comp=Z,6.9nm,1.0s
VRHR Novokhopersk 20.65 58 *e*P **P** **08 29 48.9 -0.1**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=N,640nm,17.0s
VRHR MLR MLR
comp=E,1μm,17.0s
VRHR MLR MLR
comp=Z,200nm,17.0s
VRHR Novokhopersk 20.65 58 *e*P **P** **08 29 48.9 -0.1**
comp=Z,5.0nm,0.7s
KIV Kislovodsk 21.15 78 *e*P **P** **08 29 56.2 +1.7**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,72nm,15.0s
KIV Kislovodsk 21.15 78 *e*P **P** **08 29 56.3 +1.7**
comp=Z,48nm,1.2s
KIV Kislovodsk 21.15 78 *e*P **P** **08 29 56.2 +1.7**
comp=Z,72nm,15.0s
KBZ Khabaz 21.34 78 P **P** **08 29 58.3 +1.9**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ MLR MLR
comp=Z,15nm,28.6s
KBZ Khabaz 21.34 78 P **P** **08 29 58.3 +1.9**
KBZ Khabaz 21.34 78 P **P** **08 29 58.3 +1.9**
comp=Z,9.8nm,1.0s,baz=284,slow=10,SNR=11
KBZ LR LR 08 40 12.1
comp=Z,76nm,18.3s,baz=334,slow=42
KBZ Khabaz 21.34 78 P **P** **08 29 58.3 +1.9**
comp=Z,15nm,28.6s
NCK Nalchik 21.88 79 *e*P **P** **08 30 05.0 +2.8**
NCK Nalchik 21.88 79 *e*P **P** **08 30 05.0 +2.8**
ZEI Tsey 22.22 80 *e*P **P** **08 30 08.0 +1.8**
ZEI pmax pmax
comp=Z,14nm,1.8s
ZEI Tsey 22.22 80 *e*P **P** **08 30 08.0 +1.8**
comp=Z,14nm,1.8s
JOF Joensuu 22.38 22 *e*P P 08 30 01.3 -6.1
JOF pmax pmax
comp=Z,11nm,0.9s
JOF Joensuu 22.38 22 *e*p P 08 30 01.3 -6.1
comp=Z,11nm,0.9s
GNI Garni 23.50 87 LR LR 08 41 49.8
comp=Z,50nm,18.1s,baz=271,slow=42
KLMR Klimovskoe 23.64 32 *e*P **P** **08 30 19.4 -1.0**
KLMR pmax pmax
comp=Z,38nm,1.5s
KLMR Klimovskoe 23.64 32 *e*P **P** **08 30 19.4 -1.0**
comp=Z,38nm,1.5s
PRGR Permogore 26.55 35 P **P** **08 30 45.8 -1.1**
PRGR pmax pmax
comp=Z,4.0nm,0.4s
PRGR Permogore 26.55 35 P **P** **08 30 45.8 -1.1**
comp=Z,4.0nm,0.4s
ARU Arti 31.39 49*c i*P **P** **08 31 30.4 +0.3**
ARU 08 32 28.6
ARU S **S** **08 36 38.3 +1.7**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 31.39 49 *e*P **P** **08 31 30.1 0.0**
comp=Z,18nm,0.9s
ARU Arti 31.39 49 *i* P **P** **08 31 30.4 +0.3**
comp=Z,14nm,1.2s
ARU S **S** **08 36 38.3 +1.7**
TORD Torodi Ar. Bea 31.57 202 P **P** **08 31 32.4 +0.4**
TORD Torodi Ar. Bea 31.57 202 P **P** **08 31 32.4 +0.4**
comp=Z,0.6nm,0.4s,baz=15,slow=9.2,SNR=8.6
TORD Torodi Ar. Bea 31.57 202 P **P** **08 31 32.4 +0.4**
AB31 Akbulak array 32.33 63 *i* P **P** **08 31 38.9 +0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
AB31 Akbulak array 32.33 63 *i* P **P** **08 31 38.9 +0.5**
comp=Z,1.0nm,0.5s
BRVK Borovoye 38.27 55*d i*P **P** **08 32 31.3 +1.8**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 38.27 55 *e*P **P** **08 32 31.1 +1.6**
comp=Z,6.3nm,0.6s
BRVK Borovoye 38.27 55 *e*P **P** **08 32 31.1 +1.6**
comp=Z,6.3nm,0.6s
BVA0 Borovoye Array 38.34 55 *i* P **P** **08 32 31.1 +1.0**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVA0 Borovoye Array 38.34 55 *i* P **P** **08 32 31.1 +1.0**
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 38.34 55 P **P** **08 32 31.7 +1.6**
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BVAR MLR MLR
comp=Z,15nm,28.6s
BVAR Borovoye Array 38.34 55 P **P** **08 32 31.7 +1.6**
BVAR Borovoye Array 38.34 55 P **P** **08 32 31.7 +1.6**
comp=Z,5.0nm,0.9s,baz=270,slow=7.4,SNR=20
BVAR LR LR 08 49 32.2
comp=Z,96nm,18.8s,baz=284,slow=38
BVAR Borovoye Array 38.34 55 P **P** **08 32 31.7 +1.6**
comp=Z,15nm,28.6s
DBIC Dimbokro 39.75 209 LR LR 08 51 09.2
comp=Z,96nm,18.3s,baz=9.0,slow=39
KK31 Karatay Array 40.93 70 *i* P **P** **08 32 52.8 +1.0**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KK31 Karatay Array 40.93 70 *i* P **P** **08 32 52.8 +1.0**
comp=Z,1.0nm,0.4s
KKAR Karatay Array 40.93 70 *e*P **P** **08 32 53.6 +1.8**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 40.93 70 *e*P **P** **08 32 53.6 +1.8**
comp=Z,3.4nm,0.6s
KKAR Karatay Array 40.93 70 *e*P **P** **08 32 53.6 +1.8**
comp=Z,3.3nm,0.6s
EKS2 Erkin-Say 43.33 69 *e*P **P** **08 33 13.4 +1.9**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 43.33 69 *e*P **P** **08 33 13.4 +1.9**
comp=Z,6.1nm,0.8s
EKS2 Erkin-Say 43.33 69 *e*P **P** **08 33 13.4 +1.9**
comp=Z,6.1nm,0.8s
KURK Kurchatov 43.82 56 *e*P **P** **08 33 16.1 +0.9**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 43.82 56 *e*P **P** **08 33 15.7 +0.6**
comp=Z,2.0nm,0.8s
KURK Kurchatov 43.82 56 *e*P **P** **08 33 16.1 +0.9**
comp=Z,3.0nm,1.2s
AAK Ala-Archa 43.83 69 *i* P **P** **08 33 16.4 +0.9**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 43.83 69 *e*P **P** **08 33 16.0 +0.5**
comp=Z,3.2nm,0.9s
AAK Ala-Archa 43.83 69 *i* P **P** **08 33 16.4 +0.9**
comp=Z,10.0nm,1.0s
NVS Novosibirsk 45.40 50 *e*P P 08 33 20.9 -6.7
KSH Kashi 46.12 72 *i* P **P** **08 33 35.7 +2.0**
KSH *e*PP **PcP** **08 35 13.9 +4.2**
KSH *e*PcS **PcS** **08 39 04.1 -0.1**
KSH *e*S **S** **08 40 20.1 +1.2**
KSH *e*sS **sS** **08 40 27.3 -0.2**
KSH Kashi 46.12 72 *e*SS SS 08 43 37.8 -6.0
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,100nm,5.2s
KSH LR LR
comp=N,57nm,5.4s
KSH LR LR
comp=E,59nm,5.1s
KSH LR LR
comp=Z,97nm,4.4s
ZALV Zalesovo Beam 46.53 51 *i* P **P** **08 33 37.7 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 46.53 51 P **P** **08 33 37.2 +0.6**
ZALV Zalesovo Beam 46.53 51 P **P** **08 33 37.2 +0.6**
comp=Z,2.1nm,0.7s,baz=297,slow=6.3,SNR=7.6
ZALV LR LR 08 55 42.1
comp=Z,90nm,19.9s,baz=244,slow=39
ZALV Zalesovo Beam 46.53 51 *i* P **P** **08 33 37.7 +1.1**
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 47.41 60 *i* P **P** **08 33 44.7 +1.0**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 47.41 60 *e*P **P** **08 33 44.5 +0.9**
MK31 Makanchi Array 47.41 60 *i* P **P** **08 33 44.7 +1.0**
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 47.41 60 P **P** **08 33 44.7 +1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 47.41 60 P **P** **08 33 44.7 +1.0**
MKAR Makanchi Array 47.41 60 P **P** **08 33 44.7 +1.0**
comp=Z,3.3nm,0.7s,baz=285,slow=6.7,SNR=38
MKAR Makanchi Array 47.41 60 P **P** **08 33 44.7 +1.0**
comp=Z,3.0nm,0.7s
HVS Khovu-Aksy 52.60 51 *e*P **P** **08 34 23.4 +0.3**
HVS pmax pmax
comp=Z,17nm,1.3s
HVS Khovu-Aksy 52.60 51 *e*P **P** **08 34 23.4 +0.3**
comp=Z,17nm,1.3s
SONM Songino Array 61.42 50 P **P** **08 35 27.1 +1.4**
SONM Songino Array 61.42 50 P **P** **08 35 27.1 +1.4**
comp=Z,2.2nm,0.9s,baz=299,slow=8.1,SNR=11
SONM Songino Array 61.42 50 P **P** **08 35 27.1 +1.4**
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 61.78 50 *i* P **P** **08 35 28.9 +0.8**
comp=Z,6.0nm,2.5s
YKA Yellowknife Ar 66.80 337 P **P** **08 36 01.4 +0.9**
YKA Yellowknife Ar 66.80 337 P **P** **08 36 01.4 +0.9**
comp=Z,0.4nm,0.7s,baz=40,slow=6.1,SNR=9.9
YKA Yellowknife Ar 66.80 337 P **P** **08 36 01.4 +0.9**
CMAR Chiang Mai Arr 74.39 79 LR LR 09 18 24.2
comp=Z,22nm,18.3s,baz=10.0,slow=43
ROSC El Rosal 85.10 272 LR LR 09 12 41.3
comp=Z,26nm,19.6s,baz=344,slow=34
MJAR Matsushiro Arr 86.10 42 LR LR 09 19 17.3
comp=Z,84nm,18.1s,baz=210,slow=38

CSEM ***12*** *08:35:58.9±0.2, 43.14N±13.48E, h15km, ML3.6/8, Error ellipse: s-maj=5.0km s-min=3.9km az=71.0*
ROM ***12*** *08:35:59.4±0.2, 43.14N±13.45E, h20km±3km, Ml2.9/17, Error ellipse: s-maj=2.7km s-min=1.2km az=74.0*
ISC 12 08:35:57.1±1.4, 43.14N±0.02×13.48E±0.03, h1km±13km, n40, σ0.971/66, 7C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
OFFI	**Offida**	**0.25**	**143**	Pg	**Sg**	**08 36 06.6**	**+1.5**
	2μm,0.3s						
OFFI	**Offida**	**0.25**	**143**	Pg	**Sg**	**08 36 06.6**	**+1.5**
	2μm,0.3s						
FDMO	**Fiordimonte**	**0.31**	**251**	⇑*i*Pg	**Pb**	**08 36 05.4**	**0.0**
FDMO				Sg	**Sb**	**08 36 10.5**	**-0.4**
	2μm,0.2s						
FDMO	**Fiordimonte**	**0.31**	**251**	⇑*i*Pg	**Pb**	**08 36 05.4**	**0.0**
FDMO				Sg	**Sb**	**08 36 10.5**	**-0.4**
	2μm,0.2s						
CING	**Cingoli**	**0.32**	**319**	Pg	**Pb**	**08 36 05.8**	**+0.2**
CING				Sg	**Sb**	**08 36 11.1**	**-0.2**
CING	**Cingoli**	**0.32**	**319**	Pg	**Pb**	**08 36 05.8**	**+0.2**
CING				Sg	**Sb**	**08 36 11.1**	**-0.2**
GUMA	**Gualdo di Mace**	**0.34**	**102**	⇑*i*Pg	**Pg**	**08 36 03.2**	**-0.4**
GUMA				Sg	**Sg**	**08 36 06.5**	**-1.5**
	4μm,0.2s						
GUMA	**Gualdo di Mace**	**0.34**	**102**	⇑*i*Pg	**Pg**	**08 36 03.2**	**-0.4**
GUMA				Sg	**Sg**	**08 36 06.5**	**-1.5**
	4μm,0.2s						
NRCA	**Norcia**	**0.41**	**222**	⇑*i*Pg	**Pb**	**08 36 07.2**	**+0.1**
NRCA				Sg	**Sb**	**08 36 13.8**	**0.0**
	4μm,0.1s						
NRCA	**Norcia**	**0.41**	**222**	⇑*i*Pg	**Pb**	**08 36 07.2**	**+0.1**
NRCA				Sg	**Sb**	**08 36 13.8**	**0.0**
	4μm,0.1s						
AOI	**Ancona**	**0.42**	**12**	Pg	**Pb**	**08 36 07.9**	**+0.5**
AOI				Sg	**Sb**	**08 36 15.2**	**+0.9**
AOI	**Ancona**	**0.42**	**12**	Pg	**Pb**	**08 36 07.9**	**+0.5**
AOI				Sg	**Sb**	**08 36 15.2**	**+0.9**
CESI	**CESI - Serrava**	**0.44**	**253**	Pg	**Pb**	**08 36 07.8**	**0.0**
CESI				Sg	**Sb**	**08 36 14.9**	**0.0**
	450nm,0.3s						
CESI	**CESI - Serrava**	**0.44**	**253**	Pg	**Pb**	**08 36 07.8**	**0.0**
CESI				Sg	**Sb**	**08 36 14.9**	**0.0**
	450nm,0.3s						
SMA1	**SAN MARTINO**	**0.52**	**192**	⇑*i*Pg	**Pb**	**08 36 09.2**	**+0.2**
SMA1				Sg	**Sb**	**08 36 17.7**	**+0.6**
	878nm,0.3s						
TERO	**Teramo**	**0.52**	**170**	Pg	**Pb**	**08 36 09.4**	**+0.3**
TERO				Sg	**Sb**	**08 36 18.4**	**+1.3**
	352nm,0.3s						
TERO	**Teramo**	**0.52**	**170**	Pg	**Pb**	**08 36 09.4**	**+0.3**
TERO				Sg	**Sb**	**08 36 18.4**	**+1.3**
	352nm,0.3s						
ARVD	**Arcevia**	**0.54**	**313**	Pg	**Pb**	**08 36 09.6**	**+0.3**
ARVD				Sg	**Sb**	**08 36 18.3**	**+0.8**
	155nm,0.2s						
ARVD	**Arcevia**	**0.54**	**313**	Pg	**Pb**	**08 36 09.6**	**+0.3**
ARVD				Sg	**Sb**	**08 36 18.3**	**+0.8**
	155nm,0.2s						
T0104	**Madonna delle**	**0.78**	**188**	Pg	**Pb**	**08 36 13.8**	**+0.3**

T0104				Sg		**Sb**	**08 36 26.2**	**+1.5**
VCEL	**Villa Celiera**	**0.79**	**160**	Pg		**Pn**	**08 36 14.8**	**-0.6**
	172nm,0.3s							
VCEL	**Villa Celiera**	**0.79**	**160**	Pg		**Pn**	**08 36 14.8**	**-0.6**
	172nm,0.3s							
PIEI	**Pieia**	**0.80**	**300**	Pg		**Pb**	**08 36 13.8**	**0.0**
PIEI				Sg		**Sb**	**08 36 26.3**	**+1.2**
	175nm,0.2s							
PIEI	**Pieia**	**0.80**	**300**	Pg		**Pb**	**08 36 13.8**	**0.0**
PIEI				Sg		**Sb**	**08 36 26.3**	**+1.2**
	175nm,0.2s							
CESX	**Cesi**	**0.85**	**232**	Pg		**Pb**	**08 36 14.5**	**-0.1**
CESX				Sg		**Sb**	**08 36 27.3**	**+0.8**
	716nm,0.5s							
CESX	**Cesi**	**0.85**	**232**	Pg		**Pb**	**08 36 14.5**	**-0.1**
CESX				Sg		**Sb**	**08 36 27.3**	**+0.8**
	716nm,0.5s							
FAGN	**Fagnano**	**0.87**	**175**	Pg		**Pn**	**08 36 16.6**	**0.0**
	254nm,0.4s							
FAGN	**Fagnano**	**0.87**	**175**	Pg		**Pn**	**08 36 16.6**	**0.0**
	254nm,0.4s							
FIAM	**Fiamignano**	**0.91**	**197**	Pg		**Pb**	**08 36 15.6**	**-0.1**
FIAM				Sg		**Sb**	**08 36 29.5**	**+1.2**
	198nm,0.5s							
FIAM	**Fiamignano**	**0.91**	**197**	Pg		**Pb**	**08 36 15.6**	**-0.1**
FIAM				Sg		**Sb**	**08 36 29.5**	**+1.2**
	198nm,0.5s							
PESA	**Pesaro**	**0.93**	**330**	Pg		**Pn**	**08 36 17.9**	**+0.6**
	243nm,0.5s							
PESA	**Pesaro**	**0.93**	**330**	Pg		**Pn**	**08 36 17.9**	**+0.6**
	243nm,0.5s							
BADI	**Badiali**	**0.98**	**293**	Pg		**Pb**	**08 36 17.1**	**+0.3**
	154nm,0.4s							
BADI	**Badiali**	**0.98**	**293**	Pg		**Pb**	**08 36 17.1**	**+0.3**
	154nm,0.4s							
MGAB	**Montegabbione**	**1.03**	**258**	Pg		**Pb**	**08 36 17.9**	**+0.2**
	214nm,0.4s							
MGAB	**Montegabbione**	**1.03**	**258**	Pg		**Pb**	**08 36 17.9**	**+0.2**
	214nm,0.4s							
PARC	**Parchiule**	**1.04**	**300**	Pg		**Pb**	**08 36 18.3**	**+0.4**
	126nm,0.4s							
PARC	**Parchiule**	**1.04**	**300**	Pg		**Pb**	**08 36 18.3**	**+0.4**
	126nm,0.4s							
NVLJ	**Novalja**	**1.74**	**35**	*i* Pn		**Pn**	**08 36 28.7**	**+0.2**
NVLJ				Sn		**Sn**	**08 36 50.2**	**-1.2**
NVLJ	**Novalja**	**1.74**	**35**	*i* Pn		**Pn**	**08 36 28.6**	**+0.2**
NVLJ				Sn		**Sn**	**08 36 50.1**	**-1.2**

CSEM **12** *08:48:19.8, 43°.14N×13°.42E, h22km, ML2.0/4, After ROM*
ROM 12 08:48:19.8±0.2, 43°.14N×13°.42E, h22km±3km, MlI2.0/4,
Error ellipse: s-maj=2.6km s-min=2.4km az=147.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.27**	**247**	Pg	Pb	08 48 26.1	-0.1
FDMO				Sg	Sb	08 48 31.1	+0.6
FDMO	**Fiordimonte**	**0.27**	**247**	Pg	Pb	08 48 26.1	-0.1
FDMO				Sg	Sb	08 48 31.1	+0.6
OFFI	**Offida**	**0.28**	**136**	Pg	Pb	08 48 27.5	+1.2
	360nm,0.4s						
OFFI	**Offida**	**0.28**	**136**	Pg	Pb	08 48 27.5	+1.2
	360nm,0.4s						
NRCA	**Norcia**	**0.38**	**216**	Pg	Pb	08 48 27.8	-0.1
NRCA				Sg	Sb	08 48 34.2	+0.7
NRCA	**Norcia**	**0.38**	**216**	Pg	Pb	08 48 27.8	-0.1
NRCA				Sg	Sb	08 48 34.2	+0.7
GUMA	**Gualdo di Mace**	**0.38**	**101**	Pg	Pb	08 48 23.8	-4.2
GUMA				Sg	Sb	08 48 27.1	-6.4
GUMA	**Gualdo di Mace**	**0.38**	**101**	Pg	Pb	08 48 23.8	-4.2
GUMA				Sg	Sb	08 48 27.1	-6.4
CESI	**CESI - Serrava**	**0.40**	**251**	Pg	Pb	08 48 28.3	0.0
CESI				Sg	Sb	08 48 35.4	+1.3
	18nm,0.3s						
CESI	**CESI - Serrava**	**0.40**	**251**	Pg	Pb	08 48 28.3	0.0
CESI				Sg	Sb	08 48 35.4	+1.3
	18nm,0.3s						
AOI	**Ancona**	**0.43**	**18**	Pg	Pb	08 48 28.3	-0.5
AOI				Sg	Sb	08 48 36.0	+1.2
	106nm,0.2s						
AOI	**Ancona**	**0.43**	**18**	Pg	Pb	08 48 28.3	-0.5
AOI				Sg	Sb	08 48 36.0	+1.2
	106nm,0.2s						
SMA1	**SAN MARTINO**	**0.51**	**187**	Pg	Pb	08 48 29.6	-0.7
SMA1				Sg	Sb	08 48 37.9	+0.5
TERO	**Teramo**	**0.53**	**165**	Pg	Pb	08 48 30.3	-0.3
TERO				Sg	Sb	08 48 38.9	+0.9
	59nm,0.3s						
TERO	**Teramo**	**0.53**	**165**	Pg	Pb	08 48 30.3	-0.3
TERO				Sg	Sb	08 48 38.9	+0.9
	59nm,0.3s						

ISCJB **12** *08:48:49.3±0.5, 43°.13N±0°.03×13°.58E±0°.04, h5km±6km, Error ellipse: s-maj=5.8km s-min=4.4km az=13.6*
ROM **12** *08:48:49.9±0.3, 43°.13N×13°.55E, h15km±4km, MlI2.5/1, Error ellipse: s-maj=3.6km s-min=1.5km az=83.0*
CSEM **12** *08:48:49.8±0.2, 43°.12N×13°.55E, h10km, ML2.5, Error ellipse: s-maj=4.7km s-min=3.9km az=155.0*
VIE **12** *08:48:53.6±0.6, 43°.41N×13°.37E, h10km, mb2.4/2, ML2.4/2, Error ellipse: s-maj=6.1km s-min=4.8km az=138.0*
ISC 12 08:48:49.4±1.0, 43°.14N±0°.03×13°.55E±0°.02, h8km±10km,
n35, σ0°77/52, 4C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMA	**Gualdo di Mace**	**0.29**	**105**	⇑*i* Pg	**Pg**	**08 48 54.8**	**-0.3**
GUMA				Sg	**Sg**	**08 48 58.1**	**-0.9**
GUMA	**Gualdo di Mace**	**0.29**	**105**	⇑*i* Pg	**Pg**	**08 48 54.8**	**-0.3**
GUMA				Sg	**Sg**	**08 48 58.1**	**-0.9**
CING	**Cingoli**	**0.35**	**312**	Pg	**Pb**	**08 48 57.5**	**-0.5**
CING				Sg	**Sb**	**08 49 02.7**	**-1.0**
CING	**Cingoli**	**0.35**	**312**	Pg	**Pb**	**08 48 57.5**	**-0.5**
CING				Sg	**Sb**	**08 49 02.7**	**-1.0**
FDMO	**Fiordimonte**	**0.36**	**254**	Pg	**Pg**	**08 48 57.1**	**+0.7**
FDMO				Sg	**Sg**	**08 49 02.1**	**+1.0**
	435nm,0.2s						
FDMO	**Fiordimonte**	**0.36**	**254**	Pg	**Pg**	**08 48 57.1**	**+0.7**
FDMO				Sg	**Sg**	**08 49 02.1**	**+1.0**
	435nm,0.2s						
NRCA	**Norcia**	**0.44**	**227**	Pg	**Pb**	**08 48 58.9**	**-0.6**
NRCA				Sg	**Sb**	**08 49 05.4**	**-0.8**
NRCA	**Norcia**	**0.44**	**227**	Pg	**Pb**	**08 48 58.9**	**-0.6**
NRCA				Sg	**Sb**	**08 49 05.4**	**-0.8**
TERO	**Teramo**	**0.52**	**176**	Pg	**Pg**	**08 49 00.0**	**+0.7**
TERO	**Teramo**	**0.52**	**176**	Pg	**Pg**	**08 49 00.0**	**+0.7**
ARVD	**Arcevia**	**0.57**	**309**	Pg	**Pb**	**08 49 01.2**	**-0.5**
ARVD				Sg	**Sb**	**08 49 09.4**	**-0.6**
ARVD	**Arcevia**	**0.57**	**309**	Pg	**Pb**	**08 49 01.2**	**-0.5**
ARVD				Sg	**Sb**	**08 49 09.4**	**-0.6**
FSSB	**Fossombrone**	**0.79**	**315**	Pg	**Pb**	**08 49 05.4**	**0.0**
FSSB	**Fossombrone**	**0.79**	**315**	Pg	**Pb**	**08 49 05.4**	**0.0**
PIEI	**Pieia**	**0.84**	**299**	Pg	**Pg**	**08 49 05.6**	**0.0**
PIEI				Sg	**Sb**	**08 49 18.1**	**+0.3**
PIEI	**Pieia**	**0.84**	**299**	Pg	**Pg**	**08 49 05.6**	**0.0**
PIEI				Sg	**Sb**	**08 49 18.1**	**+0.3**
CESX	**Cesi**	**0.89**	**234**	Pg	**Pg**	**08 49 06.2**	**-0.2**
CESX				Sg	**Sb**	**08 49 19.0**	**0.0**
CESX	**Cesi**	**0.89**	**234**	Pg	**Pg**	**08 49 06.2**	**-0.2**
CESX				Sg	**Sb**	**08 49 19.0**	**0.0**
MGAB	**Montegabbione**	**1.08**	**259**	Pg	**Pb**	**08 49 10.2**	**-0.1**
MGAB	**Montegabbione**	**1.08**	**259**	Pg	**Pb**	**08 49 10.2**	**-0.1**
NVLJ	**Novalja**	**1.71**	**33**	*i* Pn	**Pn**	**08 49 19.5**	**0.0**
NVLJ				Sn	**Sn**	**08 49 42.0**	**+0.5**
NVLJ	**Novalja**	**1.71**	**33**	*i* Pn	**Pn**	**08 49 19.5**	**0.0**
NVLJ				Sn	**Sn**	**08 49 42.0**	**+0.5**
UDBI	**Udbina**	**2.12**	**48**	*e*Pn	**Pn**	**08 49 26.5**	**+1.4**
UDBI				Sn	**Sb**	**08 49 54.4**	**-0.1**
UDBI	**Udbina**	**2.12**	**48**	*e*Pn	**Pn**	**08 49 26.5**	**+1.4**
UDBI				Sn	**Sb**	**08 49 54.4**	**-0.1**
MAIM	**Mastiano**	**2.36**	**290**	P	**Pn**	**08 49 28.7**	**+0.3**
SKDS	**Skadanscina**	**2.43**	**8**	*e*Pn	**Pn**	**08 49 29.5**	**+0.1**
SKDS	**Skadanscina**	**2.43**	**8**	Pn	**Pn**	**08 49 29.5**	**+0.1**
BOJS	**Bojanci**	**2.66**	**27**	*i* Pn	**Pn**	**08 49 34.2**	**+1.7**
BOJS	**Bojanci**	**2.66**	**27**	*i* Pn	**Pn**	**08 49 34.2**	**+1.7**
MYKA	**Terra Mystica**	**3.49**	**1**	⇑*i* Pn	**Pn**	**08 49 44.7**	**+0.7**
MYKA	**Terra Mystica**	**3.49**	**1**	Pn	**Pn**	**08 49 44.7**	**+0.7**
ABTA	**Abfaltersbach**	**3.69**	**349**	⇑*i* Pn	**Pn**	**08 49 46.9**	**+0.2**
ABTA	**Abfaltersbach**	**3.69**	**349**	Pn	**Pn**	**08 49 46.9**	**+0.2**
PCP	**Piancastagn**	**3.89**	**293**	P	Pn	08 49 52.9	+3.5
TRAV	**Traversella**	**4.80**	**302**	P	**Pn**	**08 49 59.6**	**-2.3**

MAN **12** *09:00:39, 11°.18N×126°.32E, h18km, mb4.9, ML3.9, MS4.0*
IDC **12** *09:00:44.9±3.9, 10°.83N×126°.09E, h69km±36km, mb4.0/15, mb1 4.0/15, mb1mx3.9/27, mbtmp4.2/15, ML5.1/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/35, Error ellipse: s-maj=30.9km s-min=11.6km az=72.0*
NEIC **12** *09:00:44.7±1.8, 10°.89N×126°.08E, h63km±16km, mb4.5/7, Error ellipse: s-maj=26.7km s-min=7.5km az=68.0*
ISC 12 09:00:38.7±3.6, 11°.08N±0°.04×126°.37E±0°.09, h15km±21km,
n56, σ1°17/53, mb4.4/22, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.36**	**274**	⇓*e*P	**Pn**	**09 01 02.8**	**-0.4**
PLP				*i* S	**Sb**	**09 01 20.7**	**-0.5**
SCPH	**Surigao**	**1.55**	**214**	⇓*e*P	**Pn**	**09 01 05.8**	**0.0**
SCPH				*e*S	**Sb**	**09 01 28.8**	**+2.2**
OCLP	**Ormoc**	**1.73**	**269**	*e*P	**Pb**	**09 01 10.3**	**+0.2**
MSLP	**Maasin**	**1.75**	**238**	*e*P	**Pn**	**09 01 09.5**	**+0.9**
MSLP				*e*S	**Sb**	**09 01 33.2**	**+0.7**
CNP	**Catarman**	**2.19**	**311**	*e*P	**Pn**	**09 01 14.5**	**-0.1**
LLP	**Lapu-Lapu**	**2.48**	**252**	⇓*e*P	**Pn**	**09 01 19.0**	**+0.4**
LLP				*e*S	**Sg**	**09 01 57.1**	**-1.4**
CGP	**Cagayan de Oro**	**3.09**	**212**	⇓*e*P	**Pn**	**09 01 28.6**	**+1.6**
CGP				*e*S	**Sb**	**09 02 09.9**	**-0.9**
PVCP	**Virac**	**3.31**	**319**	*e*P	**Pn**	**09 01 29.7**	**-0.2**
RCP	**Roxas**	**3.58**	**278**	⇓*e*P	**Pn**	**09 01 36.1**	**+2.3**
GUIM	**Jordan**	**3.74**	**263**	*e*P	**Pn**	**09 01 37.7**	**+1.8**
DAV	**Davao City (W)**	**4.06**	**191**	*e*Pn	**Pn**	**09 01 40.3**	**0.0**
DAV				*e*Sn	**Sn**	**09 02 25.5**	**-2.2**
PAGZ	**Pagadian**	**4.36**	**223**	*e*P	**Pn**	**09 01 46.7**	**+2.3**
CTBH	**Cotabato--PC H**	**4.37**	**209**	⇓*i* P	Pn	09 01 49.6	+5.0
TGY	**Tagaytay City**	**6.09**	**300**	P	Pn	09 02 11.1	+2.7
TGY	**Tagaytay City**	**6.09**	**300**	P	Pn	09 02 11.1	+2.7
	44nm,0.3s,baz=132,slow=8.9,SNR=3.2						
TGY				LR	LR	09 04 47.5	
	comp=Z,231nm,21.5s,baz=246,slow=40						
KSAR	**Wonju Array Be**	**26.28**	**3**	P	**P**	**09 06 15.2**	**+1.5**
KSRS	**Korea Array**	**26.30**	**3**	P	**P**	**09 06 15.2**	**+1.4**
	2.7nm,1.0s,baz=182,slow=8.8,SNR=5.0						
CMAR	**Chiang Mai Arr**	**27.49**	**289**	P	**P**	**09 06 22.8**	**-2.0**
CMAR	**Chiang Mai Arr**	**27.49**	**289**	P	**P**	**09 06 22.8**	**-2.0**
	1.3nm,0.3s,baz=98,slow=7.1,SNR=6.3						
WRAB	**Tennant Creek**	**31.81**	**166**	*e*P	**P**	**09 07 02.6**	**-0.4**
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**31.81**	**166**	P	**P**	**09 07 01.9**	**-1.0**
WRA	**Warramunga Arr**	**31.81**	**166**	P	**P**	**09 07 01.9**	**-1.0**
	1.8nm,0.6s,baz=345,slow=9.3,SNR=22						
USRK	**Ussuriysk Arra**	**33.35**	**7**	P	P	09 07 19.1	+2.9
	5.3nm,1.1s,baz=156,slow=11,SNR=3.7						
AS31	**Alice Springs**	**35.31**	**168**	*e*P	**P**	**09 07 35.9**	**+2.4**
ASAR	**Alice Springs**	**35.31**	**168**	P	**P**	**09 07 33.0**	**-0.5**
ASAR	**Alice Springs**	**35.31**	**168**	P	**P**	**09 07 33.0**	**-0.5**
	0.9nm,0.5s,baz=350,slow=7.0,SNR=24						
H11N1	**WAKE ISLAND Hy**	**39.92**	**73**	T	T	09 51 30.2	
	baz=268,slow=75,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**39.92**	**73**	T	T	09 51 32.3	
	baz=268,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**39.94**	**73**	T	T	09 51 29.8	
	baz=268,slow=75,SNR=8.9						
ULN	**Ulaanbaatar**	**40.10**	**340**	*e*P	**P**	**09 08 15.6**	**+1.7**
	3.9nm,1.1s						
SONM	**Songino Array**	**40.30**	**339**	P	**P**	**09 08 16.8**	**+1.3**
SONM	**Songino Array**	**40.30**	**339**	P	**P**	**09 08 16.8**	**+1.3**
	2.6nm,1.0s,baz=154,slow=9.4,SNR=14						
SONM				LR	LR	09 24 51.4	
	comp=Z,82nm,18.6s,baz=340,slow=36						
NWAO	**Narrogin (SRO)**	**44.62**	**191**	P	P	09 08 46.8	-3.8
NWAO	**Narrogin (SRO)**	**44.62**	**191**	P	P	09 08 46.8	-3.8
	3.5nm,0.5s,baz=312,slow=16,SNR=2.1						
STKA	**Stephens Creek**	**45.14**	**162**	*e*P	**P**	**09 08 55.5**	**+0.7**
STKA	**Stephens Creek**	**45.14**	**162**	P	**P**	**09 08 53.5**	**-1.3**
	4.5nm,0.8s,baz=332,slow=10,SNR=6.5						
MK31	**Makanchi Array**	**51.45**	**322**	*e*P	**P**	**09 09 44.3**	**+0.9**
MKAR	**Makanchi Array**	**51.45**	**322**	P	**P**	**09 09 44.0**	**+0.6**
MKAR	**Makanchi Array**	**51.45**	**322**	P	**P**	**09 09 44.0**	**+0.6**
	3.4nm,0.7s,baz=115,slow=8.1,SNR=40						
ZAA0	**Zalesovo Array**	**53.97**	**331**	*e*P	**P**	**09 10 02.3**	**+0.4**
ZALV	**Zalesovo Beam**	**53.97**	**331**	P	**P**	**09 10 01.8**	**-0.1**
ZALV	**Zalesovo Beam**	**53.97**	**331**	P	**P**	**09 10 01.8**	**-0.1**
	2.0nm,0.4s,baz=114,slow=6.6,SNR=20						
KURK	**Kurchatov**	**55.46**	**325**	*e*P	**P**	**09 10 13.0**	**+0.3**
	14nm,1.1s						
KURBB	**Kurchatov Arra**	**55.47**	**325**	P	**P**	**09 10 13.3**	**+0.5**
	5.5nm,0.9s,baz=126,slow=6.9,SNR=40						
KKAR	**Karatay Array**	**57.75**	**314**	*e*P	**P**	**09 10 29.1**	**-0.1**
	2.2nm,0.6s						
BVAR	**Borovoye Array**	**61.06**	**325**	P	**P**	**09 10 52.1**	**+0.2**
BVAR	**Borovoye Array**	**61.06**	**325**	P	**P**	**09 10 52.1**	**+0.2**
	5.0nm,0.9s,baz=116,slow=8.4,SNR=24						
BRVK	**Borovoye**	**61.13**	**325**	*e*P	**P**	**09 10 53.1**	**+0.8**
	16nm,1.1s						
ABKAR	**Akbulak array**	**66.33**	**319**	*e*P	**P**	**09 11 26.2**	**-0.5**
	4.1nm,0.8s						
ARU	**Arti**	**68.61**	**326**	*e*P	**P**	**09 11 41.1**	**+0.1**
	12nm,1.3s						
FINES	**FINESS Array B**	**85.23**	**332**	P	**P**	**09 13 14.9**	**+0.4**
FINES	**FINESS Array B**	**85.23**	**332**	P	**P**	**09 13 14.9**	**+0.4**
	2.7nm,0.9s,baz=93,slow=3.8,SNR=5.9						
AKASG	**Malin Array Be**	**86.00**	**321**	P	**P**	**09 13 17.3**	**-1.3**
AKASG	**Malin Array Be**	**86.00**	**321**	P	**P**	**09 13 17.3**	**-1.3**
	4.8nm,1.0s,baz=62,slow=4.8,SNR=7.0						
YKA	**Yellowknife Ar**	**92.98**	**24**	P	**P**	**09 13 50.8**	**-0.5**
YKA	**Yellowknife Ar**	**92.98**	**24**	P	**P**	**09 13 50.8**	**-0.5**
	0.2nm,0.9s,baz=304,slow=4.8,SNR=4.3						

GUC 12 09:07:39.1±0.6, 32°.51S×71°.46W, h30km±3km, MD3.5,
ML2.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.53**	**196**	*e*P	Pb	09 07 50.0	-0.1
IHA				*i* S	Sb	09 07 57.4	-0.2
PEL	**Peldehue**	**0.91**	**134**	*e*P	Pn	09 07 55.9	0.0
PEL				*e*S	Sb	09 08 08.3	0.0
PEL				AML	AML	09 08 09.1	
	comp=N,270nm,0.3s						
CLCH	**Cerro Calan**	**1.17**	**139**	*e*P	Pn	09 07 59.8	+0.2
CLCH				*e*S	Sb	09 08 15.6	-0.3
CMCH	**Combarbala**	**1.39**	**16**	*e*P	Pn	09 08 03.6	+1.0
CMCH				*e*S	Sb	09 08 21.4	-0.7
CMCH				AML	AML	09 08 27.7	
	comp=E,246nm,0.9s						
LNV	**Longovilo**	**1.44**	**178**	*e*P	Pn	09 08 04.2	+1.0
CHCH	**Chadas Angostu**	**1.57**	**155**	⇑*e*P	Pn	09 08 05.9	+0.9
LMEL	**Las Melosas**	**1.70**	**142**	*e*P	Pn	09 08 08.1	+1.2
LMEL				*e*S	Sn	09 08 28.9	+1.1
LMEL				AML	AML	09 08 37.0	
	comp=N,79nm,0.2s						
CACH	**El Canelo**	**1.75**	**156**	*e*P	Pb	09 08 09.6	-1.3
CACH				*i* S	Sb	09 08 33.1	+0.4

IDC 12 09:24:05.8±7.9, 18°.95S×68°.88W, h96km±47km, mb3.3/3,
mb1 3.3/5, mb1mx3.2/21, mbtmp3.2/5, Error ellipse:
s-maj=92.5km s-min=38.7km az=29.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.74**	**15**	P	Pn	09 24 48.4	-0.4
	3.0nm,0.3s,baz=190,slow=10,SNR=53						
SIV	**San Ignacio**	**8.01**	**70**	P	Pn	09 25 59.7	+0.1
	0.2nm,0.3s,baz=262,slow=14,SNR=3.4						
PTGA	**Pitinga**	**20.11**	**27**	P	P	09 28 32.2	+0.2
	1.0nm,0.5s,baz=241,slow=19,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.49**	**71**	P	P	09 35 45.8	0.0
	0.7nm,0.8s,baz=263,slow=5.3,SNR=3.2						
YKA	**Yellowknife Ar**	**88.80**	**341**	P	P	09 36 48.3	-0.1
	0.5nm,0.8s,baz=135,slow=4.7,SNR=11						

IDC **12** *09:25:28.3±1.0, 17°.12N×73°.71E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/28, mbtmp3.8/10, Error ellipse: s-maj=27.3km s-min=19.8km az=61.0*
NDI **12** *09:25:29.3±2.7, 17°.18N×73°.64E, h10km, ML4.1*
ISCJB **12** *09:25:30.1±0.5, 17°.20N±0°.04×73°.9E±0°.1, h17km, mb3.8/15, Error ellipse: s-maj=14.0km s-min=5.1km az=0.2*
NEIC **12** *09:25:30.6±0.8, 17°.20N×73°.73E, h10km, mb4.2/5, Error ellipse: s-maj=18.8km s-min=11.0km az=72.0*

ISC 12 09:25:31.6±0.7, 17°.24N±0°.04×73°.84E±0°.10, h17km, n33,
σ1°48/38, mb3.8/15, 1C-1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POO	**Poona**	**1.28**	**0**	*e*P	**Pb**	**09 25 54.6**	**-0.8**
POO				*e*S	**Sg**	**09 26 12.6**	**-0.5**
POO				AML	AML	09 26 13.2	
	comp=E,3μm,0.4s						
POO				AML	AML	09 26 14.4	
	comp=N,2μm,0.2s						
POO	**Poona**	**1.28**	**0**	⇓*i* Pg	**Pn**	**09 25 54.0**	**-0.8**
POO				*i* Sb	**Sn**	**09 26 10.5**	**-1.1**
POO				*i* Sg	**Sb**	**09 26 11.0**	**-0.5**
POO				*i* Sn	**Sg**	**09 26 12.0**	**-1.1**
GOA	**Goa**	**1.74**	**180**	*e*P	**Pn**	**09 25 59.9**	**-1.3**
GOA				*e*S	**Sn**	**09 26 21.2**	**-1.8**
GOA				AML	AML	09 26 28.4	
	comp=E,5μm,0.6s						
GOA				AML	AML	09 26 29.1	
	comp=N,3μm,1.1s						
NGP	**Nagpur**	**6.27**	**51**	*e*P	**Pn**	**09 27 04.3**	**+0.8**
NGP				*e*S	**Sn**	**09 28 10.6**	**-4.2**
NGP				AML	AML	09 28 49.4	
	comp=N,305nm,0.7s						
NGP				AML	AML	09 28 50.2	
	comp=E,308nm,0.6s						
BHPL	**Bhopal**	**6.85**	**29**	*e*S	**Sn**	**09 28 27.3**	**-1.8**
SMLA	**Simla**	**14.15**	**12**	*e*P	**Pn**	**09 28 50.9**	**-0.5**
SMLA				*e*S	Sn	09 31 17.3	-11
SMLA				AML	AML	09 31 37.0	
	comp=E,34nm,0.3s						
SMLA				AML	AML	09 31 37.1	
	comp=N,19nm,1.1s						
LSA	**Lhasa**	**20.11**	**49**	*e*P	Pn	09 30 07.3	+0.1
	comp=N,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.92**	**83**	P	**P**	**09 30 46.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**23.92**	**83**	P	**P**	**09 30 46.8**	**+1.8**
	comp=N,0.9nm,0.4s,baz=277,slow=9.7,SNR=8.6						
AAK	**Ala-Archa**	**25.31**	**1**	P	**P**	**09 31 01.2**	**+3.6**
AAK	**Ala-Archa**	**25.31**	**1**	P	**P**	**09 31 01.2**	**+3.6**
	comp=N,1.6nm,0.8s,baz=202,slow=10,SNR=3.7						
EKS2	**Erkin-Say**	**25.34**	**360**	*e*P	**P**	**09 30 58.8**	**+1.1**
	comp=N,7.2nm,1.0s						
MK31	**Makanchi Array**	**30.29**	**12**	*e*P	**P**	**09 31 43.4**	**+1.5**
MKAR	**Makanchi Array**	**30.29**	**12**	P	**P**	**09 31 41.9**	**-0.1**
MKAR	**Makanchi Array**	**30.29**	**12**	P	**P**	**09 31 41.9**	**-0.1**
	comp=N,0.4nm,0.6s,baz=202,slow=11,SNR=5.0						
KURBB	**Kurchatov Arra**	**33.51**	**5**	P	**P**	**09 32 10.3**	**+0.1**
	comp=N,0.6nm,0.5s,baz=205,slow=8.6,SNR=6.9						
KURK	**Kurchatov**	**33.61**	**5**	*e*P	**P**	**09 32 11.9**	**+0.9**
	comp=N,1.1nm,0.5s						
KURK	**Kurchatov**	**33.61**	**5**	⇑Sn	**P**	**09 32 11.8**	**+0.8**
	comp=N,1.2nm,0.7s						
ABKAR	**Akbulak array**	**33.86**	**344**	*e*P	**P**	**09 32 14.6**	**+1.4**
	comp=N,0.4nm,0.5s						
BVAR	**Borovoye Array**	**35.81**	**356**	P	**P**	**09 32 30.0**	**0.0**
BVAR	**Borovoye Array**	**35.81**	**356**	P	**P**	**09 32 30.0**	**0.0**
	comp=N,0.6nm,0.5s,baz=170,slow=7.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**37.61**	**11**	P	**P**	**09 32 45.5**	**+0.2**
ZALV	**Zalesovo Beam**	**37.61**	**11**	P	**P**	**09 32 45.5**	**+0.2**
	comp=N,1.1nm,0.5s,baz=193,slow=6.1,SNR=4.6						
SONM	**Songino Array**	**40.50**	**34**	P	**P**	**09 33 11.2**	**+1.4**
SONM	**Songino Array**	**40.50**	**34**	P	**P**	**09 33 11.2**	**+1.4**
	comp=N,1.1nm,0.7s,baz=227,slow=8.7,SNR=9.2						
USRK	**Ussuriysk Arra**	**55.43**	**48**	P	**P**	**09 35 05.6**	**+0.3**
	comp=N,2.0nm,0.7s,baz=252,slow=8.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**69.39**	**278**	P	**P**	**09 36 38.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**69.39**	**278**	P	**P**	**09 36 38.6**	**-0.6**
	comp=N,0.3nm,0.7s,baz=87,slow=4.4,SNR=2.2						
WRA	**Warramunga Arr**	**69.95**	**119**	P	**P**	**09 36 42.0**	**-0.6**
WRA	**Warramunga Arr**	**69.95**	**119**	P	**P

baz=15,SNR=9.0
MTN S **Sn** 09 59 14.2 **-1.8**
baz=15,SNR=4.1
KDU Kakadu 16.03 101 P **P** 09 56 54.4 **+2.7**
baz=16,SNR=3.1
MEEK Meekatharra 16.54 173 P P 09 57 09.5 +12
baz=17,SNR=4.2
MEEK S S 10 00 18.4 +12
baz=17,SNR=7.2
WRKA Warakurna 18.67 144 P Pn 09 57 29.8 +7.7
baz=19,SNR=9.1

DHMR 12 10:07:49.3±1.0, 11°.78N×43°.50E, h13km±9km, ML3.8, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.57**	**23**	*i*P	Pb	10 08 18.1	-0.4
TRBA				*i*S	Sg	10 08 39.8	-0.6
TRBA				AML	AML	10 08 40.7	
	comp=Z,2μm,0.5s						
UDYN	**Al 'Udayn**	**2.23**	**12**	*i*P	Pn	10 08 27.6	+1.4
UDYN				*i*S	Sb	10 08 57.7	+0.4
UDYN				AML	AML	10 09 04.8	
	comp=E,499nm,0.5s						
LBOS		**2.69**	**39**	*i*P	Pb	10 08 35.5	-2.3
LBOS				*i*S	Sb	10 09 11.7	+0.6
BDHA	**Al Bayda'**	**2.98**	**43**	*i*P	Pn	10 08 39.0	+2.4
BDHA				*i*S	Sb	10 09 18.1	-1.0
BDHA				AML	AML	10 09 31.0	
	comp=E,501nm,0.4s						
HAJJ	**Hajjah**	**3.90**	**1**	*i*S	Sb	10 09 40.4	-5.2
HAJJ				AML	AML	10 09 57.0	
	comp=Z,439nm,0.7s						

IDC 12 10:09:18.7±9.3, 36°.95N×70°.95E, h212km±60km, mb2.5/1, mb1 2.7/4, mb1mx2.5/29, mbtmp2.6/4, Error ellipse: s-maj=155.7km s-min=80.3km az=119.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.30**	**25**	P	Pn	10 10 50.4	+0.2
	0.6nm,0.3s,baz=152,slow=8.4,SNR=6.7						
AAK				S	S	10 12 03.1	+0.4
	0.2nm,0.3s,baz=140,slow=22,SNR=6.1						
MKAR	**Makanchi Array**	**12.96**	**37**	P	Pn	10 12 14.5	-0.7
	0.0nm,0.3s,baz=236,slow=14,SNR=3.3						
ZALV	**Zalesovo Beam**	**19.53**	**25**	P	P	10 13 30.4	+0.4
	0.1nm,0.3s,baz=224,slow=10,SNR=4.0						
YKA	**Yellowknife Ar**	**80.80**	**3**	P	P	10 21 08.1	-0.1
	0.1nm,0.4s,baz=350,slow=5.3,SNR=4.8						

DHMR 12 10:17:21.5±1.1, 11°.87N×43°.54E, h12km±13km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.47**	**23**	*i*P	Pb	10 17 48.6	-0.5
TRBA				*i*S	Sg	10 18 09.2	-0.1
TRBA				AML	AML	10 18 11.1	
	comp=E,2μm,0.4s						
UDYN	**Al 'Udayn**	**2.13**	**11**	*i*P	Pn	10 17 58.0	+0.9
UDYN				*i*S	Sb	10 18 27.3	+0.6
UDYN				AML	AML	10 18 35.1	
	comp=E,457nm,0.3s						
LBOS		**2.60**	**40**	*i*P	Pb	10 18 06.4	-2.0
LBOS				*i*S	Sb	10 18 41.1	+0.5
DHBB	**Dhamar BB**	**2.81**	**17**	*i*S	Sb	10 18 47.1	+0.3
BDHA	**Al Bayda'**	**2.88**	**43**	*i*P	Pn	10 18 10.3	+2.7
BDHA				*i*S	Sb	10 18 47.9	-0.8
BDHA				AML	AML	10 19 04.4	
	comp=N,336nm,0.5s						

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*JMA **12** 10:19:02.2±0.3, 37°.08N×135°.46E, h378km, M2.9*
*ISCJB **12** 10:19:04.4±0.7, 37°.08N±0°.10×135°.53E±0°.09, h350km, mb3.3/2, Error ellipse: s-maj=13.2km s-min=9.9km az=2.0*
*IDC **12** 10:19:04.1±1.2, 36°.98N×135°.56E, h367km±15km, mb2.9/2, mb1 2.9/6, mb1mx2.6/30, mbtmp2.8/6, Error ellipse: s-maj=30.4km s-min=20.4km az=71.0*
ISC 12 10:19:03.6±1.0, 37°.0N±0°.1×135°.56E±0°.09, h350km, n14, σ1s75/15, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGM	**Miyama**	**1.56**	**143**	P	**Pn**	**10 19 54.3**	**+2.1**
JWT	**Wachi**	**1.68**	**184**	P	**Pn**	**10 19 54.7**	**+1.8**
MAT	**Matsushiro**	**2.16**	**100**	P	**Pn**	**10 19 58.1**	**+2.0**
MAT	**Matsushiro**	**2.16**	**100**	P	**Pn**	**10 19 58.1**	**+2.0**
MJAR	**Matsushiro Arr**	**2.17**	**100**	P	**Pn**	**10 19 58.5**	**+2.4**
	2.3nm,0.3s,baz=279,slow=8.5,SNR=26						
JRY	**Ryogami san**	**2.85**	**108**	P	Pn	10 20 04.3	+2.6
JOD2	**Odawara 2**	**3.32**	**120**	P	**Pn**	**10 20 07.8**	**+1.8**
JHO	**Hitachi**	**4.03**	**93**	P	**Pn**	**10 20 13.4**	**+0.5**
JHO				*e*S	S	**10 21 06.6**	**-2.3**
JMK	**Ichinoseki**	**4.89**	**64**	P	**Pn**	**10 20 23.1**	**+1.1**
JMK				*e*S	**S**	**10 21 26.1**	**+0.7**
KSRS	**Korea Array**	**6.12**	**277**	P	**Pn**	**10 20 37.0**	**+1.3**
	0.2nm,0.3s,baz=94,slow=12,SNR=5.1						
USRK	**Ussuriysk Arra**	**7.73**	**341**	P	**Pn**	**10 20 55.1**	**+0.7**
	0.4nm,0.3s,baz=153,slow=11,SNR=9.0						
ASAJ	**Asahikawa**	**8.93**	**35**	P	**Pn**	**10 21 09.0**	**+0.3**
	1.1nm,0.3s,baz=311,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**56.60**	**181**	P	**P**	**10 28 10.2**	**-0.9**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=7.0						
FINES	**FINESS Array B**	**66.63**	**330**	P	**P**	**10 29 15.6**	**-1.4**
	0.5nm,0.4s,baz=66,slow=4.8,SNR=4.6						

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*IDC **12** 10:35:30.1±1.2, 27°.08S×176°.28W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, MS3.5/3, Ms1 3.5/3, ms1mx3.2/39, Error ellipse: s-maj=47.1km s-min=29.9km az=164.0*
ISC 12 10:35:34.6±1.1, 27°.4S±0°.1×176°.2W±0°.2, h33km, n19, σ1s25/13, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.22**	**206**	Pn	Pn	10 38 21.9	-4.5
	0.1nm,0.3s,baz=7.1,slow=8.1,SNR=2.9						
URZ				Sn	**Sn**	**10 40 40.6**	**-0.8**
	0.7nm,0.3s,baz=192,slow=22,SNR=12						
AFI	**Afiamalu**	**14.02**	**18**	Pn	Pn	10 38 40.7	-10
	1.2nm,0.3s,baz=155,slow=17,SNR=2.8						
RAR	**Rarotonga**	**16.20**	**71**	LR	LR	10 43 46.7	
	comp=Z,103nm,20.4s,baz=282,slow=31						
DZM	**Mont Dzumac**	**16.59**	**285**	*e*LR	LR	10 43 01.1	
	211nm,25.8s						
DZM	**Mont Dzumac**	**16.59**	**285**	LR	LR	10 44 34.6	
	comp=Z,168nm,18.3s,baz=15,slow=33						
TBI	**Tubuai**	**24.51**	**87**	*e*LR	LR	10 46 47.4	
	60nm,27.8s						
PPT2	**Papeete2**	**26.44**	**74**	*e*LR	LR	10 47 44.0	
	63nm,22.8s						
HNR	**Honiara**	**28.69**	**304**	LR	LR	10 50 56.6	
	comp=Z,164nm,18.0s,baz=178,slow=32						
CTA	**Charters Tower**	**34.99**	**274**	P	**P**	**10 42 25.6**	**+1.4**
	4.7nm,0.4s,baz=105,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**44.91**	**263**	P	**P**	**10 43 45.8**	**-0.8**
	0.6nm,0.5s,baz=98,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**45.63**	**268**	P	**P**	**10 43 51.0**	**-1.3**
	1.7nm,0.6s,baz=106,slow=7.9,SNR=9.6						
KSRS	**Korea Array**	**83.07**	**318**	P	**P**	**10 47 57.6**	**+0.8**
	1.0nm,0.7s,baz=134,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**94.63**	**12**	P	**P**	**10 48 50.7**	**-0.9**
	0.7nm,0.9s,baz=226,slow=6.0,SNR=4.5						
BVAR	**Borovoye Array**	**125.2**	**317**	PKP	**PKPdf**	**10 54 31.9**	**+0.4**
	0.6nm,0.5s,baz=92,slow=4.3,SNR=3.3						
NB2	**NORSAR Subarra**	**145.95**	**354**	PKP	**PKPbc**	**10 55 10.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=9.7,slow=4.1						
NOA	**NORSAR Array B**	**145.95**	**354**	PKPbc	**PKPdf**	**10 55 07.9**	**-1.6**
	comp=Z,1.8nm,0.9s,baz=4.9,slow=2.4,SNR=5.5						
AKASG	**Malin Array Be**	**149.71**	**327**	PKPbc	**PKPbc**	**10 55 20.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=40,slow=3.9,SNR=8.4						
BRTR	**Keskin Array B**	**152.35**	**304**	PKPbc	**PKPbc**	**10 55 27.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=83,slow=3.5,SNR=2.7						
BRTR				PKPab	**PKPab**	**10 55 37.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=50,slow=2.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**165.73**	**172**	PKPab	**PKPab**	**10 56 38.1**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=196,slow=2.7,SNR=3.0						

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*MOS **12** 10:47:08.8±1.6, 53°.27N×108°.50E, h10km, mb4.3/1, Error ellipse: s-maj=17.9km s-min=10.8km az=61.3*
*BYKL **12** 10:47:08.9±0.2, 53°.31N×108°.49E, h6km±3km*
ISC 12 10:47:08.8±0.8, 53°.27N±0°.02×108°.58E±0°.02, h11km±6km, n41, σ1s71/86, 6C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.10**	**91**	⇑*i*Pg	**Pg**	**10 47 12.2**	**+0.6**
MXMB				*e*Sg	**Sg**	**10 47 14.1**	**+0.6**
OGRR	**Ongureny**	**0.70**	**303**	⇑*i*PG	**Pg**	**10 47 21.4**	**-1.0**
OGRR				*e*		10 47 30.0	
OGRR				pmax	pmax		
	comp=Z,975nm,0.3s						
OGRR				smax	smax		
	comp=E,1μm,0.8s						
OGRR	**Ongureny**	**0.70**	**303**	⇑*i*Pg	**Pg**	**10 47 21.4**	**-1.0**
	comp=E,1μm,0.3s						
OGRR				⇓*i*Pg	**Pg**	**10 47 21.4**	**-1.0**
	comp=E,588nm,0.3s						
OGRR				⇑*i*Pg	**Pg**	**10 47 21.4**	**-1.0**
	comp=E,1μm,0.3s						
OGRR				*e*Sg	**Sg**	**10 47 30.0**	**-1.5**
OGRR				Pmax			
	comp=E,978nm,0.2s						
OGRR				Smax			
	comp=E,963nm,0.1s						
SYVR	**Suvo**	**0.94**	**65**	*e*PG	**Pg**	**10 47 26.4**	**-0.4**
SYVR				*e*		10 47 39.4	
SYVR				pmax	pmax		
	comp=Z,75nm,0.1s						
SYVR				smax	smax		
	comp=E,588nm,0.2s						
SYVR	**Suvo**	**0.94**	**65**	⇑*i*Pg	**Pg**	**10 47 26.5**	**-0.4**
SYVR				*e*Sg	**Sb**	**10 47 39.7**	**+0.2**
SYVR				Pmax			
	comp=E,73nm,0.1s						
SYVR				Smax			
	comp=E,571nm,0.3s						
ZRHB	**Zarechye**	**1.12**	**231**	⇓*i*Pg	**Pb**	**10 47 29.3**	**-0.9**
ZRHB				*e*Sg	**Sb**	**10 47 44.5**	**-0.3**
ZRHB				Pmax			
	comp=E,137nm,0.2s						
ZRHB				Smax			
	comp=E,2μm,0.6s						
TRG	**Tyrgan**	**1.44**	**250**	*e*PG	**Pn**	**10 47 34.1**	**-0.9**
TRG				*e*		10 47 53.9	
TRG				pmax	pmax		
	comp=Z,168nm,0.2s						
TRG				smax	smax		
	comp=N,2μm,0.2s						
TRG	**Tyrgan**	**1.44**	**250**	⇑*i*Pg	**Pn**	**10 47 34.0**	**-0.9**
TRG				*e*Pb	**Pb**	**10 47 35.3**	**-0.4**
TRG				*e*Sg	**Sb**	**10 47 53.7**	**-0.3**
TRG				max			
	comp=N,169nm,0.2s						
TRG				Smax			
	comp=N,2μm,0.2s						
KAB	**Kabansk**	**1.69**	**225**	*e*Pg	**Pb**	**10 47 40.3**	**+0.4**
KAB				*e*Sg	**Sg**	**10 48 02.5**	**-0.6**
KAB				Pmax			
	comp=N,117nm,0.2s						
KAB				Smax			
	comp=N,1μm,0.3s						
HRMR	**Khuramsha**	**1.92**	**212**	⇓*i*Pg	**Pb**	**10 47 43.6**	**-0.2**
HRMR				*e*Sg	**Sg**	**10 48 09.4**	**-1.0**
HRMR				Pmax			
	comp=N,339nm,0.4s						
HRMR				Smax			
	comp=N,3μm,0.2s						
YLYR	**Ulyunkhan**	**2.22**	**42**	*e*PN	**Pn**	**10 47 46.5**	**+0.9**
YLYR				*e*		10 47 48.5	
YLYR				*e*S	**Sb**	**10 48 14.9**	**-1.5**
YLYR				*e*		10 48 18.4	
YLYR				pmax	pmax		
	comp=Z,76nm,0.4s						
YLYR				smax	smax		
	comp=N,218nm,0.4s						
YLYR	**Ulyunkhan**	**2.22**	**42**	⇓*i*Pn	**Pn**	**10 47 46.5**	**+0.9**
	comp=N,238nm,0.3s						
YLYR				⇓*i*Pn	**Pn**	**10 47 46.5**	**+0.9**
	comp=N,237nm,0.3s						
YLYR				⇓*i*Pn	**Pn**	**10 47 46.5**	**+0.9**
	comp=N,547nm,0.3s						
YLYR				⇓*i*Pg	**Pb**	**10 47 48.5**	**-0.5**
YLYR				*e*Sn	**Sn**	**10 48 13.9**	**+0.9**
YLYR				*e*Sg	**Sg**	**10 48 18.6**	**-1.5**
YLYR				Pmax			
	comp=N,76nm,0.4s						
YLYR				Smax			
	comp=N,218nm,0.4s						
NIZ	**Nizh Angarsk**	**2.58**	**12**	*e*PN	**Pn**	**10 47 51.8**	**+1.3**
NIZ				*e*		10 47 55.1	
NIZ				*e*S	**Sn**	**10 48 21.0**	**-0.8**
NIZ				*e*		10 48 28.6	
NIZ				pmax	pmax		
	comp=Z,34nm,0.4s						
NIZ				smax	smax		
	comp=N,307nm,0.5s						
NIZ	**Nizh Angarsk**	**2.58**	**12**	*e*Pn	**Pn**	**10 47 51.5**	**+1.0**
NIZ				*e*Pg	**Pb**	**10 47 54.6**	**-0.5**
NIZ				*e*Sn	**Sn**	**10 48 21.8**	**0.0**
NIZ				*e*Sg	**Sb**	**10 48 27.9**	**+1.2**
NIZ				Pmax			
	comp=N,34nm,0.4s						
NIZ				Smax			
	comp=N,300nm,0.5s						
LSTR	**Listvyanka**	**2.68**	**240**	*e*Pn	**Pn**	**10 47 51.8**	**-0.1**
LSTR				*e*Pg	**Pb**	**10 47 56.3**	**-0.5**
LSTR				*e*Sn	**Sn**	**10 48 24.1**	**-0.3**
LSTR				*e*Sg	**Sb**	**10 48 30.4**	**+0.7**
LSTR				Pmax			
	comp=N,19nm,0.3s						
LSTR				Smax			
	comp=N,161nm,0.4s						
IRK	**Irkutsk**	**2.81**	**250**	*e*Sg	**Sb**	**10 48 34.7**	**+1.3**
IRK				Smax			
	comp=N,650nm,0.5s						
KMO	**Kumora**	**3.04**	**29**	*e*PN	**Pn**	**10 47 56.2**	**-0.6**
KMO				*e*		10 48 02.1	
KMO				*e*		10 48 41.0	
KMO				pmax	pmax		
	comp=Z,66nm,0.6s						
KMO				smax	smax		
	comp=N,239nm,0.8s						
KMO	**Kumora**	**3.04**	**29**	⇓*i*Pn	**Pn**	**10 47 57.8**	**+1.0**
KMO				*e*Pg	**Pb**	**10 48 02.9**	**0.0**
KMO				*e*Sn	**Sn**	**10 48 33.5**	**+0.3**
KMO				*e*Sg	**Sb**	**10 48 42.8**	**+2.8**
KMO				Pmax			
	comp=N,67nm,0.6s						
KMO				Smax			
	comp=N,238nm,0.8s						
CIT	**Chita**	**3.28**	**110**	*e*PN	**Pg**	**10 48 09.5**	**-2.1**
CIT				*e*		10 48 51.4	
CIT				pmax	pmax		
	comp=Z,90nm,0.3s						
CIT				smax	smax		
	comp=E,243nm,0.5s						
CIT	**Chita**	**3.28**	**110**	*e*Sg	**Sg**	**10 48 51.5**	**-2.5**
CIT				Smax			
	comp=E,295nm,0.2s						
YOA	**Uoyan**	**3.40**	**31**	*e*PN	**Pg**	**10 48 11.4**	**-2.6**
YOA				*e*		10 48 55.7	
YOA				pmax	pmax		
	comp=Z,74nm,0.4s						
YOA				smax	smax		
	comp=E,601nm,1.2s						
TLY	**Talaya**	**3.41**	**244**	*e*PN	**Pn**	**10 48 02.0**	**0.0**
TLY				*e*		10 48 09.1	
TLY				*e*		10 48 52.2	
TLY				pmax	pmax		
	comp=Z,13nm,0.3s						
TLY				smax	smax		
	comp=E,143nm,0.4s						
TLY	**Talaya**	**3.41**	**244**	*e*Pn	**Pn**	**10 48 02.5**	**+0.5**
TLY				*e*Pg	**Pb**	**10 48 09.1**	**-0.1**
TLY				*e*Sg	**Sb**	**10 48 53.1**	**+2.4**
TLY				Pmax			
	comp=E,12nm,0.3s						
TLY				Smax			
	comp=E,144nm,0.4s						
UKT	**Uakit**	**3.70**	**51**	*e*PN	**Pb**	**10 48 15.7**	**+1.5**
UKT				*e*		10 49 04.4	
UKT				pmax	pmax		
	comp=Z,27nm,0.9s						
UKT				smax	smax		
	comp=N,67nm,0.7s						
UKT	**Uakit**	**3.70**	**51**	*e*Pn	**Pn**	**10 48 07.1**	**+1.1**
UKT				*e*Pg	**Pb**	**10 48 15.6**	**+1.4**
UKT				*e*Sn	**Sn**	**10 48 50.6**	**+1.0**
UKT				*e*Sg	**Sg**	**10 49 04.6**	**-2.9**
UKT				Pmax			
	comp=N,28nm,0.7s						
UKT				Smax			
	comp=N,48nm,0.6s						
ARS	**Arshan**	**3.99**	**253**	*e*Pn	**Pn**	**10 48 11.8**	**+1.9**
ARS				*e*Pg	**Pb**	**10 48 19.7**	**+0.6**
ARS				*e*		10 48 25.2	
ARS				*e*		10 49 07.4	
ARS				*e*Sg	**Sb**	**10 49 10.6**	**+3.2**
ARS				Pmax			
	comp=N,24nm,0.2s						
ARS				Smax			
	comp=N,408nm,0.7s						
SVKR	**Severomuysk**	**4.06**	**43**	*e*Pg	**Pb**	**10 48 21.6**	**+1.2**
SVKR				*e*Sn	**Sn**	**10 48 57.8**	**-0.7**
SVKR				*e*Sg	**Sg**	**10 49 15.2**	**-4.0**
SVKR				Pmax			
	comp=N,32nm,0.1s						
SVKR				Smax			
	comp=N,239nm,0.7s						
KPC	**Khapcheranga**	**4.29**	**145**	*e*PN	**Pn**	**10 48 14.4**	**+0.4**
KPC				*e*		10 48 26.5	
KPC				*e*S	**Sn**	**10 49 04.4**	**+0.4**
KPC				*e*		10 49 22.8	
KPC				pmax	pmax		
	comp=Z,32nm,0.5s						
KPC				smax	smax		
	comp=E,80nm,0.5s						
KPC	**Khapcheranga**	**4.29**	**145**	*e*Pn	**Pn**	**10 48 14.2**	**+0.2**
KPC				*e*Pg	Pb	10 48 27.6	+3.4
KPC				*e*		10 48 31.8	
KPC				*e*Sn	**Sn**	**10 49 04.0**	**0.0**
KPC				*e*Sg	**Sg**	**10 49 22.8**	**-3.5**
KPC				max			
	comp=E,29nm,0.5s						
KPC				Smax			
	comp=E,80nm,0.8s						
ZAK	**Zakamensk**	**4.37**	**231**	*e*Pn	**Pn**	**10 48 16.6**	**+1.3**
ZAK				*e*Pg	**Pb**	**10 48 26.8**	**+1.1**
ZAK				*e*Sg	**Sg**	**10 49 24.2**	**-5.0**
ZAK				Pmax			
	comp=E,5.0nm,0.3s						
ZAK				Smax			
	comp=E,34nm,0.4s						
MOY	**Mondy**	**4.91**	**254**	*e*PN	**Pb**	**10 48 34.4**	**-0.4**
MOY				*e*		10 49 37.4	
MOY				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MOY				smax	smax		
	comp=N,80nm,0.9s						
MOY	**Mondy**	**4.91**	**254**	*e*Pn	**Pn**	**10 48 24.9**	**+2.3**
MOY				*e*Pg	**Pb**	**10 48 34.8**	**0.0**
MOY				*e*		10 49 24.0	
MOY				*e*Sg	**Sb**	**10 49 37.8**	**+4.0**
MOY				Pmax			
	comp=N,15nm,0.5s						
MOY				Smax			
	comp=N,80nm,1.0s						
NLYR	**Nelyaty**	**5.23**	**49**	*e*Pn	**Pn**	**10 48 27.8**	**+0.8**
NLYR				*e*Pg	**Pb**	**10 48 43.1**	**+2.9**
NLYR				*e*Sg	**Sg**	**10 49 51.7**	**-4.9**
NLYR				Pmax			
	comp=N,13nm,0.6s						
NLYR				Smax			
	comp=N,176nm,1.2s						
ORL	**Orlik**	**5.36**	**266**	*e*Pn	**Pn**	**10 48 30.8**	**+2.0**
ORL				*e*		10 48 38.8	
ORL				*e*Pg	**Pb**	**10 48 44.8**	**+2.3**
ORL				*e*Sn	**Sn**	**10 49 29.3**	**-1.2**
ORL				*e*		10 49 47.7	
ORL				*e*Sg	Sb	10 49 52.7	+5.9
ORL				max			
	comp=N,20nm,0.9s						
ORL				Smax			
	comp=N,97nm,0.8s						
ULN	**Ulaanbaatar**	**5.49**	**191**	*e*Pn	**Pn**	**10 48 33.4**	**+2.7**
ULN				*e*Pg	Pb	10 48 48.8	+4.0
ULN				*e*Sg	**Sg**	**10 50 00.9**	**-4.2**
BOD	**Bodaibo**	**5.50**	**32**	*e*Pn	**Pn**	**10 48 30.8**	**+0.1**
BOD				*e*Pg	Pb	10 48 47.8	+2.9
BOD				*e*Sn	**Sn**	**10 49 32.9**	**-1.0**
BOD				*e*Sg	Sg	10 49 58.7	-6.7
BOD				Pmax			
	comp=N,5.0nm,0.2s						
BOD				Smax			
	comp=N,43nm,1.3s						
CRS	**Chara**	**6.65**	**53**	*e*PG	Pb	10 49 09.2	+4.8
CRS				*e*		10 50 36.4	
CRS				pmax	pmax		
	comp=Z,18nm,1.0s						
CRS				smax	smax		
	comp=E,40nm,0.7s						
CRS	**Chara**	**6.65**	**53**	*e*Sg	Sg	10 50 35.4	-6.6
CRS				Smax			
	comp=E,80nm,1.4s						
TUP	**Tupik**	**6.83**	**76**	*e*PN	**Pn**	**10 48 49.5**	**+0.6**
TUP				*e*		10 49 12.7	
TUP				*e*		10 50 41.0	
TUP				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TUP				smax	smax		
	comp=N,195nm,1.2s						
TUP	**Tupik**	**6.83**	**76**	*e*Pn	**Pn**	**10 48 49.6**	**+0.6**
TUP				*e*		10 49 03.2	
TUP				*e*Pg	Pb	10 49 12.8	+5.3
TUP				*e*Sg	Sg	10 50 41.1	-6.8
TUP				Pmax			
	comp=N,5.0nm,0.2s						
TUP				Smax			
	comp=N,194nm,1.7s						
ARDR	**Aradan**	**9.18**	**272**	*e*Sg	Sn	10 51 50.3	+46

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*ISCJB **12** 10:47:08.7±0.6, 35°.30N±0°.04×77°.40E±0°.10, h10km, mb3.4/4, Error ellipse: s-maj=11.8km s-min=4.8km az=10.3*
*IDC **12** 10:47:09.2±1.1, 35°.28N×77°.12E, h0km, mb3.6/4, mb1 3.6/8, mb1mx3.5/30, mbtmp3.5/8, ML3.4/4, Error ellipse: s-maj=31.9km s-min=20.1km az=80.0*
*NNC **12** 10:47:20.2±8.0, 35°.91N×78°.02E, h10km±32km, mb3.8, mpv3.6, Error ellipse: s-maj=59.3km s-min=45.9km az=2.0*
ISC 12 10:47:09.8±0.6, 35°.19N±0°.04×77°.50E±0°.08, h10km, n22, σ2s72/25, mb3.6/4, 6C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**2.94**	**206**	*e*P	**Pn**	**10 47 56.0**	**-0.7**
DLH				*e*S	**Sn**	**10 48 34.0**	**+1.9**
PONG	**Pong**	**3.48**	**202**	*e*S	**Sb**	**10 48 50.5**	**-3.3**
CHCP	**Chirah Chowk**	**3.82**	**248**	P	**Pn**	**10 48 07.1**	**-1.6**
BHK	**Bhakra**	**3.87**	**194**	*ex*	**Sn**	**10 49 08.8**	**+3.6**
SMLA	**Simla**	**4.06**	**184**	*e*P	**Pn**	**10 48 09.8**	**-2.2**
SMLA				*e*S	**Sn**	**10 49 03.2**	**+3.6**
CEP	**Cherat**	**4.81**	**255**	P	**Pn**	**10 48 22.6**	**+0.1**
JOSI	**Joshimath**	**4.94**	**159**	*e*P	**Pg**	**10 48 46.4**	**+2.1**
JOSI				*e*S	**Sg**	**10 49 47.1**	**-1.2**
JOSI				AML	AML	10 49 50.4	
	comp=E,82nm,0.5s						
JOSI				AML	AML	10 49 51.1	
	comp=N,79nm,0.5s						
KUDL	**Kundal**	**7.08**	**187**	*e*P	**Pn**	**10 48 50.7**	**-2.8**
KUDL				*ex*	**Sn**	**10 50 08.4**	**-5.6**
KHET	**Khetri**	**7.24**	**192**	*e*P	**Pn**	**10 48 53.2**	**-2.5**
KHET				*ex*	x	10 49 56.2	
KHET				AML	AML	10 50 08.0	
	comp=N,12nm,0.2s						
KHET				AML	AML	10 50 08.1	
	comp=E,12nm,0.2s						
AAK	**Ala-Archa**	**7.79**	**343**	⇓Pn	Pn	10 49 06.6	+3.3
	comp=E,1.4nm,0.6s						
AAK				⇓Pg	Pg	10 49 32.0	-6.9
	comp=E,3.7nm,0.6s						
AAK				⇓Lg	Lg	10 51 11.7	
	comp=E,15nm,1.1s						
AAK	**Ala-Archa**	**7.79**	**343**	Pn	Pn	10 49 06.7	+3.3

comp=E,0.2nm,0.3s,baz=170,slow=17,SNR=2.4
AAK Lg Lg 10 51 13.2
comp=E,0.1nm,0.3s,baz=202,slow=20,SNR=3.9
TKM2 Tokmak 2 7.86 350 ⇑Pn **Pn 10 49 06.0 +1.7**
comp=E,4.7nm,1.2s
TKM2 ⇑Pg Pb 10 49 31.7 +5.5
comp=E,3.2nm,0.9s
TKM2 ⇑Lg Lg 10 51 13.2
comp=E,5.5nm,0.6s
AGRA Agra 7.95 177 *e*P Pn 10 49 01.2 -4.1
AGRA *e*x x 10 49 48.0
KK31 Karatay Array 9.58 328 ⇑Pn Pn 10 49 31.7 +3.9
comp=E,0.3nm,0.3s,baz=135,slow=12,SNR=7.9
KK31 ⇑Sn **Sn 10 51 16.9 +1.4**
comp=E,0.3nm,0.3s,baz=133,slow=25
MK31 Makanchi Array 12.14 16 ⇑Pn **Pn 10 50 04.4 +1.6**
comp=E,1.5nm,0.7s,baz=194,slow=13,SNR=10
MK31 Sn **Sn 10 52 12.8 -5.4**
comp=E,3.2nm,0.9s,baz=194,slow=22,SNR=9.4
MKAR Makanchi Array 12.14 16 Pn **Pn 10 50 04.9 +2.2**
comp=E,0.3nm,0.3s,baz=200,slow=12,SNR=10
MKAR Sn **Sn 10 52 16.4 -1.7**
comp=E,0.1nm,0.3s,baz=188,slow=23,SNR=7.7
BVAR Borovoye Array 18.53 346 P **P 10 51 24.2 -2.1**
comp=E,0.1nm,0.3s,baz=155,slow=12,SNR=3.7
ZALV Zalesovo Beam 19.44 13 P **P 10 51 36.1 -0.2**
comp=E,0.4nm,0.3s,baz=209,slow=12,SNR=3.0
FINES FINESS Array B 41.53 325 P **P 10 54 55.3 -1.7**
comp=E,2.0nm,0.9s,baz=111,slow=7.6,SNR=2.9
TORD Torodi Ar. Bea 71.02 273 P **P 10 58 27.0 -1.1**
comp=E,0.2nm,0.5s,baz=50,slow=6.0,SNR=3.1
WRA Warramunga Arr 76.88 126 P **P 10 59 05.0 +2.6**
comp=E,0.6nm,0.9s,baz=325,slow=4.7,SNR=3.4
YKA Yellowknife Ar 82.16 6 P **P 10 59 32.6 +2.1**
comp=E,0.1nm,0.5s,baz=346,slow=5.3,SNR=6.4

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*MAN **12** 10:54:05,14˙.66N×120˙.09E,h84km,mb5.5,ML4.5,MS4.9*
MAN INTENSITY IV - MANILA MAKATI; INTENSITY III - TAGAYATY CITY PASIG QUEZO CITY; INTENSITY II - INDANG CAVITE; PLARIDEL BULACAN; TALISAY BATANGAS; Baguio City.
*ISCJB **12** 10:54:06.7±0.2,14˙.60N±0˙.02×120˙.38E±0˙.03, h109km±2km,mb4.9/73,Error ellipse: s-maj=5.2km s-min=3.0km az=176.0*
*BJI **12** 10:54:06.1,14˙.60N×120˙.54E,h116km,mB4.8/36, mb4.9/50*
*IDC **12** 10:54:07.5±0.8,14˙.55N×120˙.34E,h103km±7km,mb4.4/36, mb1 4.5/36,mb1mx4.4/40,mbtmp4.4/36,Error ellipse: s-maj=12.6km s-min=8.0km az=66.0*
*NEIC **12** 10:54:08.6±0.5,14˙.59N×120˙.44E,h115km±4km,mb4.8/23, Error ellipse: s-maj=5.7km s-min=4.0km az=77.0*
NEIC Felt [IV PIVS] at Makati, Manila and Pasay; [III PIVS] at Pasig, Quezon City and Tagaytay; [II PIVS] at Baguio, Indang, Plaridel and Talisay. Also felt at Angeles, Antipolo, Bacoor, Bulacan, Marilao, Obando, Olongapo, San Fernando, San Mateo, Santa Rosa and Subic.
*KLM **12** 10:54:10.1,14˙.64N×120˙.27E,h100km,mb4.8,MS5.9*
*DJA **12** 10:54:51.6±2.3,12˚N±19˚×12˚0E±˚,h244km±14km, M4.9/14,mb4.7/14,mB5.6/5,Mw(mB)5.1/5,Mwp6.6/1*

ISC 12 10:54:07.0±0.6,14˚59N±0˙.03×120˚18E±0˙.04,h98km±5km, n270,σ1§50/277,mb4.9/72,24C-23D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.85**	**176**	*e*P	**Pn**	**10 54 24.9**	**-0.8**
LUBP				*e*S	**Sn**	**10 54 40.1**	**+0.3**
TGY	**Tagaytay City**	**0.88**	**123**	P	**Pn**	**10 54 26.2**	**+0.1**
TGY				S	**Sn**	**10 54 40.8**	**+0.4**
TGY	**Tagaytay City**	**0.88**	**123**	P	**Pn**	**10 54 26.2**	**+0.1**
TGY	7μm,0.3s,baz=314,slow=1.4,SNR=385			S	**Sn**	**10 54 40.8**	**+0.4**
TGY	**Tagaytay City**	**0.88**	**123**	⇑*i*P	**Pn**	**10 54 26.1**	**+0.1**
PGP	**Puerto Galera**	**1.31**	**145**	⇓*e*P	**Pn**	**10 54 29.6**	**-1.3**
PGP				*i* S	**Sn**	**10 54 47.0**	**-2.0**
PCPH	**Palayan**	**1.31**	**42**	⇓*i*P	**Pn**	**10 54 28.5**	**-2.4**
PCPH				*i* S	**Sn**	**10 54 45.8**	**-3.2**
LQP	**Lukban**	**1.40**	**109**	⇓*e*P	**Pn**	**10 54 31.5**	**-0.6**
LQP				*e*S	**Sn**	**10 54 52.1**	**+1.0**
BALP	**Baler**	**1.77**	**49**	*e*P	**Pn**	**10 54 35.7**	**-0.9**
BOLP	**Bolinao**	**1.81**	**352**	*e*P	**Pn**	**10 54 35.7**	**-1.3**
BOLP				*e*S	**Sn**	**10 54 55.9**	**-4.0**
BCPH	**Baguio City Da**	**1.83**	**12**	⇑*i*P	**Pn**	**10 54 35.8**	**-1.8**
BCPH				*i* S	**Sn**	**10 54 58.0**	**-2.7**
BOAC	**Boac**	**1.96**	**125**	*e*P	**Pn**	**10 54 39.7**	**+0.7**
GQP	**Guinayangan**	**2.30**	**107**	⇓*i*P	**Pn**	**10 54 43.6**	**+0.2**
GQP				*i* S	**Sn**	**10 55 15.3**	**+4.0**
SJMP	**San Jose**	**2.30**	**157**	*e*P	**Pn**	**10 54 44.0**	**+0.6**
BUSP	**Coron**	**2.57**	**180**	*e*P	**Pn**	**10 54 46.9**	**-0.1**
AUQP	**San Andres**	**2.73**	**117**	*e*P	Pn	10 54 51.9	+2.8
CAUP	**Cauayan**	**2.83**	**34**	*e*P	**Pn**	**10 54 50.2**	**-0.3**
SZP	**Santa**	**2.96**	**5**	*e*Pn	Pn	10 54 53.1	+0.8
SZP				*e*Sn	Sn	10 55 29.8	+2.7
ABRA	**Dolores**	**3.09**	**9**	*e*P	**Pn**	**10 54 52.3**	**-1.6**
PALP	**Palanan**	**3.28**	**41**	*e*P	**Pn**	**10 54 55.8**	**-0.7**
SIPP	**Brgy, Tapao**	**3.33**	**5**	⇑*e*P	Pn	10 54 58.0	+0.8
SIPP				*e*S	**Sn**	**10 55 36.7**	**+0.8**
APYP	**Conner**	**3.41**	**17**	*e*P	**Pn**	**10 54 57.8**	**-0.5**
CVP	**Callao Caves**	**3.48**	**27**	⇑*e*P	**Pn**	**10 54 58.2**	**-0.9**
PIP	**Pasuquin**	**3.74**	**6**	⇓*i*P	**Pn**	**10 55 02.4**	**-0.4**
PIP				*e*S	**Sn**	**10 55 47.7**	**+1.8**
RCP	**Roxas**	**3.91**	**140**	⇓*e*P	**Pn**	**10 55 06.3**	**+1.3**
PVCP	**Virac**	**3.98**	**104**	⇓*i*P	**Pn**	**10 55 06.5**	**+0.6**
SGCP	**Mt. Cagua**	**4.05**	**26**	*e*P	**Pn**	**10 55 06.9**	**0.0**
CNP	**Catarman**	**4.82**	**115**	*e*P	Pn	10 55 20.5	+3.2
PPR	**Puerto Princes**	**4.99**	**197**	⇓*i*P	**Pn**	**10 55 19.9**	**+0.4**
PPR				*i* S	**Sn**	**10 56 14.0**	**-2.0**
KDM	**Kudat**	**8.30**	**204**	⇓P	Pn	10 56 10.6	+5.9
SSLB	**Suanglung**	**9.18**	**4**	*e*Pn	Pn	10 56 17.8	+1.1
SSLB				*e*Sn	**Sn**	**10 58 00.3**	**+2.1**
KKM	**Kota Kinabalu**	**9.34**	**205**	*e*Pn	Pn	10 56 21.6	+2.7
KKM	**Kota Kinabalu**	**9.34**	**205**	⇓P	Pn	10 56 25.3	+6.3
SDKM	**Sandakan**	**9.36**	**199**	⇓P	**Pn**	**10 56 20.8**	**+1.6**
MYLDM	**Lahad Datu** 284nm,0.9s,3μm	**9.49**	**190**	P	x	10 56 25.0	
MYLDM	**Lahad Datu**	**9.49**	**190**	*e*Pn	Pn	10 56 25.1	+4.2
MYLDM	**Lahad Datu**	**9.49**	**190**	⇑P	Pn	10 56 25.4	+4.5
QZH	**Quanzhou**	**10.41**	**352**	⇑*i*P	Pn	10 56 29.2	-4.2
QZH				pmax	pmax		
	comp=Z,180nm,0.8s						
TSM	**Tawau**	**10.48**	**193**	⇑P	Pn	10 56 37.4	+3.1
QIZ	**Qiongzhong**	**10.84**	**295**	P	Pn	10 56 42.7	+3.5
QIZ				S	Sn	10 58 46.8	+8.2
QIZ	comp=N,710nm,17.4s			LR	LR		
	comp=Z,1μm,34.5s						
QIZ	**Qiongzhong** 34nm,0.4s	**10.84**	**295**	*e*Pn	Pn	10 56 39.7	+0.4
DLV	**T Lat** 63nm,0.3s	**11.68**	**258**	*e*Pn	Pn	10 56 54.0	+3.2
MRSI	**Marisa** 32nm,0.8s	**14.12**	**173**	P	**P**	**10 57 26.4**	**-0.8**
SBUM	**Sibu** 19nm,1.2s	**14.39**	**214**	P	x	10 57 30.4	
SBUM	**Sibu**	**14.39**	**214**	*e*Pn	**P**	**10 57 30.1**	**-0.2**
SBUM	**Sibu**	**14.39**	**214**	⇑P	**P**	**10 57 27.5**	**-2.8**
APSI	**Ampana** 53nm,0.8s	**15.46**	**174**	P	**P**	**10 57 44.5**	**+2.4**
LUWI	**Luwuk** 92nm,1.1s,5μm	**15.74**	**170**	P	**P**	**10 57 47.9**	**+2.8**
LUWI	**Luwuk**	**15.74**	**170**	*e*Pn	**Pn**	**10 57 43.4**	**+0.2**
KSM	**Kuching** 27nm,0.9s	**16.27**	**218**	P	x	10 57 57.1	
KSM	**Kuching** 30nm,1.1s	**16.27**	**218**	*e*Pn	**P**	**10 57 52.9**	**+1.8**
KSM				*e*Sn	**Sn**	**11 00 43.8**	**-6.6**
KSM	**Kuching**	**16.27**	**218**	⇓P	P	10 57 56.4	+5.3
WHN	**Wuhan**	**16.77**	**342**	*e*P	**P**	**10 57 58.2**	**+1.8**
SLVN	**Son La** 14nm,0.8s	**16.87**	**296**	*e*P	P	10 58 02.0	+4.3
MMSI	**Mamuju** 81nm,0.9s,1μm	**17.21**	**184**	P	x	10 58 06.1	
GYA	**Guiyang**	**17.30**	**315**	P	P	10 58 06.4	+3.9
GYA				pP	pP	10 58 24.2	+3.3
GYA				sP	sP	10 58 40.0	+6.6
GYA				S	**S**	**11 01 15.8**	**-1.7**
GYA				sS	sS	11 01 42.4	-5.4
GYA				PcP	**PcP**	**11 02 41.7**	**+1.8**
GYA				pmax	pmax		
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,4.8s			LR	LR		
GYA	comp=N,680nm,13.6s			LR	LR		
GYA	comp=E,490nm,14.4s			LR	LR		
GYA	comp=Z,620nm,12.8s			LR	LR		
GYA	**Guiyang**	**17.30**	**315**	⇓*i*P	**P**	**10 58 04.7**	**+2.2**
GYA				sP	sP	10 58 40.2	+6.8
GYA				S	**S**	**11 01 15.0**	**-2.5**
GYA				PcP	**PcP**	**11 02 41.4**	**+1.5**
GYA				pmax	pmax		
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,4.8s			LR	LR		
GYA	comp=Z,780nm,14.0s			LR	LR		
GYA	comp=Z,590nm,13.8s			LR	LR		
GYA	comp=Z,720nm,14.2s			LR	LR		
NJ2	**Nanjing**	**17.43**	**356**	*e*P	**P**	**10 58 05.9**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,40nm,0.6s						
SANI	**Sanana**	**17.50**	**160**	P	**P**	**10 58 04.1**	**-0.5**
ENH	**Enshi**	**18.46**	**330**	*e*P	**Pn**	**10 58 16.9**	**+0.5**
	comp=Z,21nm,0.7s						
BNSI	**Bone**	**18.86**	**180**	P	**Pn**	**10 58 22.7**	**+1.5**
	comp=Z,54nm,1.0s						
KTGM	**Kuala Trenggan**	**19.13**	**243**	⇓P	**Pn**	**10 58 26.7**	**+2.3**
KMI	**Kunming**	**19.45**	**305**	P	**Pn**	**10 58 30.6**	**+2.3**
KMI				pP	pP	10 58 51.8	+7.0
KMI				sP	sP	10 59 08.8	+12
KMI				S	**S**	**11 01 59.9**	**-1.1**
KMI				sS	sS	11 02 32.9	+1.1
KMI				pmax	pmax		
	comp=Z,23nm,1.4s						
KMI				pmax	pmax		
	comp=Z,130nm,7.5s						
KMI				LR	LR		
	comp=Z,340nm,14.9s						
KMI				LR	LR		
	comp=Z,300nm,15.4s						
KMI				LR	LR		
	comp=Z,200nm,13.3s						
CM31	**Chiang Mai Arr**	**20.72**	**284**	*e*P	Pn	10 58 43.4	+0.4
	comp=Z,24nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.72**	**284**	P	Pn	10 58 43.1	+0.1
CMAR				PcP	**PcP**	**11 02 47.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**20.72**	**284**	P	Pn	10 58 43.1	+0.1
	comp=Z,31nm,0.9s,baz=93,slow=8.6,SNR=154						
CMAR				PcP	**PcP**	**11 02 47.4**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=75,slow=1.2,SNR=5.4						
CHTO	**Chiang Mai** SNR=5.1	**20.77**	**285**	P	Pn	10 58 43.7	+0.1
CHTO	**Chiang Mai**	**20.77**	**285**	*e*P	Pn	10 58 43.4	-0.2
	comp=Z,3.9nm,0.8s						
JNU	**Nakatsue**	**20.86**	**26**	P	**P**	**10 58 40.9**	**-0.2**
JNU	**Nakatsue**	**20.86**	**26**	P	**P**	**10 58 40.9**	**-0.2**
	comp=Z,14nm,0.9s,baz=151,slow=19,SNR=3.1						
IPM	**Ipoh**	**21.37**	**244**	*e*P	**P**	**10 58 50.0**	**+3.2**
	comp=Z,6.6nm,0.6s						
XAN	**Xi'an**	**21.89**	**334**	P	**P**	**10 58 52.4**	**+0.3**
XAN				pP	pP	10 59 14.3	+3.1
XAN				sP	sP	10 59 29.4	+5.8
XAN				pmax	pmax		
	comp=Z,23nm,0.8s						
XAN				pmax	pmax		
	comp=Z,48nm,5.8s						
CD2	**Chengdu**	**22.17**	**320**	P	**P**	**10 58 56.5**	**+1.4**
CD2				PP	PnPn	10 59 29.1	+6.5
CD2				sP	sP	10 59 35.6	+9.0
CD2				S	**S**	**11 02 49.6**	**-3.5**
CD2				sS	sS	11 03 28.7	+2.8
CD2				SS	SnSn	11 03 39.2	+10
CD2				pmax	pmax		
	comp=Z,360nm,0.8s						
CD2				pmax	pmax		
	comp=Z,220nm,4.2s						
CD2				LR	LR		
	comp=Z,480nm,15.5s						
CD2				LR	LR		
	comp=Z,510nm,15.5s						
CD2				LR	LR		
	comp=Z,380nm,13.1s						
LBFI	**Labuhan Bajo,** comp=Z,105nm,1.0s	**22.92**	**181**	P	x	10 59 03.9	
PMBI	**Palembang**	**23.15**	**222**	P	**P**	**10 59 03.7**	**-1.4**
NGJI	**Ngawi** comp=Z,94nm,1.1s	**23.46**	**202**	P	P	10 59 15.6	+7.7
KSAR	**Wonju Array Be**	**23.77**	**15**	P	**P**	**10 59 09.6**	**-1.0**
KSRS	**Korea Array**	**23.80**	**15**	P	**P**	**10 59 09.6**	**-1.1**
	comp=Z,7.4nm,0.6s,baz=199,slow=9.9,SNR=30						
PWJI	**Pagerwojo** comp=Z,48nm,0.7s	**23.95**	**201**	P	**P**	**10 59 14.9**	**+2.6**
PSI	**Prapat**	**24.02**	**243**	P	**P**	**10 59 16.0**	**+2.8**
PSI	**Prapat**	**24.02**	**243**	P	**P**	**10 59 16.0**	**+2.8**
	comp=Z,5.5nm,0.7s,baz=108,slow=6.4,SNR=3.4						
SOEI	**Soe** comp=Z,14nm,0.8s	**24.52**	**170**	*e*P	**P**	**10 59 17.6**	**0.0**
MDSI	**Maura Dua** comp=Z,12nm,1.0s	**24.71**	**221**	P	P	10 59 25.3	+6.0
BJI	**Beijing**	**25.60**	**353**	P	**P**	**10 59 27.7**	**+0.6**
BJI				S	**S**	**11 03 50.2**	**+2.4**
BJI				pmax	pmax		
	comp=Z,14nm,0.4s						
BJI				LR	LR		
	comp=Z,430nm,4.9s						
BJI				LR	LR		
	comp=Z,250nm,4.0s						
BJI				LR	LR		
	comp=Z,170nm,22.0s						
LZH	**Lanzhou**	**25.93**	**329**	⇓P	**P**	**10 59 31.7**	**+1.4**
LZH				pP	pP	10 59 55.8	+3.6
LZH				sP	sP	11 00 09.5	+5.8
LZH				PP	PnPn	11 00 17.8	+3.8
LZH				S	**S**	**11 03 54.2**	**+0.6**
LZH				sS	sS	11 04 34.5	+2.7
LZH				SS	SnSn	11 05 07.5	+6.0
LZH				pmax	pmax		
	comp=Z,64nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=Z,500nm,12.0s						
LZH				LR	LR		
	comp=Z,430nm,12.5s						
LZH				LR	LR		
	comp=Z,590nm,15.4s						
MJAR	**Matsushiro Arr**	**27.16**	**33**	P	**P**	**10 59 42.4**	**+1.2**
MJAR	**Matsushiro Arr**	**27.16**	**33**	P	**P**	**10 59 42.4**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=212,slow=7.2,SNR=6.7						
HHC	**Hu-ho-hao-te**	**27.23**	**346**	*e*P	**P**	**10 59 43.3**	**+1.5**
HHC				pP	pP	11 00 09.9	+6.1
HHC				sP	sP	11 00 23.8	+8.5
HHC				PP	**PP**	**11 00 38.0**	**-7.2**
HHC				S	**S**	**11 04 13.4**	**-0.3**
HHC				sS	sS	11 04 51.6	-0.4
HHC				SS	**SnSn**	**11 05 36.8**	**+4.1**
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC				pmax	pmax		
	comp=Z,320nm,5.6s						
SHL	**Shillong**	**28.67**	**297**	*e*P	**P**	**10 59 55.5**	**+0.5**
GTA	**Gaotai**	**30.53**	**328**	P	**P**	**11 00 11.8**	**+0.6**
GTA				pP	pP	11 00 36.2	+2.9
GTA				sP	sP	11 00 49.6	+4.8
GTA				PcP	**PcP**	**11 03 09.4**	**+1.5**
GTA				S	**S**	**11 05 05.9**	**+0.2**
GTA				sS	sS	11 05 48.4	+4.3
GTA				ScP	**ScP**	**11 06 42.0**	**+0.3**
GTA				SS	**SnSn**	**11 06 56.4**	**+3.6**
GTA				pmax	pmax		
	comp=Z,12nm,1.1s						
GTA				pmax	pmax		
	comp=Z,230nm,5.2s						
GTA				LR	LR		
	comp=Z,230nm,14.7s						
GTA				LR	LR		
	comp=Z,160nm,15.4s						
GTA				LR	LR		
	comp=Z,190nm,16.9s						
LSA	**Lhasa**	**30.70**	**304**	*e*P	P	11 00 15.0	+1.8
	comp=Z,12nm,0.6s						
MDJ	**Mudanjiang**	**30.98**	**13**	P	**P**	**11 00 14.4**	**-0.6**
MDJ				pP	pP	11 00 39.3	+2.2
MDJ				sP	sP	11 00 51.4	+2.8
MDJ				S	**S**	**11 05 10.0**	**-2.4**
MDJ				ScP	**ScP**	**11 06 42.4**	**-0.5**
MDJ				PcS	**PcS**	**11 06 52.7**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,28nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.0s						
MDJ				LR	LR		
	comp=Z,170nm,20.6s						
MDJ				LR	LR		
	comp=Z,270nm,21.7s						
MDJ				LR	LR		
	comp=Z,110nm,22.0s						
USRK	**Ussuriysk Arra**	**31.19**	**17**	P	**P**	**11 00 17.0**	**+0.2**
	comp=Z,18nm,0.8s,baz=207,slow=7.7,SNR=40						
TAPN	**Taplejung** comp=Z,21nm,0.6s	**32.77**	**298**	*e*P	**P**	**11 00 32.2**	**+1.0**
ODAN	**Odare** comp=Z,86nm,1.1s	**32.91**	**297**	*e*P	**P**	**11 00 33.3**	**+0.9**
RAMN	**Ramite** comp=Z,44nm,0.7s	**33.61**	**297**	*e*P	**P**	**11 00 39.8**	**+1.3**
JIRN	**Jiri** comp=Z,77nm,0.5s	**34.15**	**298**	*e*P	**P**	**11 00 44.5**	**+1.2**
GUN	**Gumba** comp=Z,78nm,0.5s	**34.48**	**298**	*e*P	**P**	**11 00 47.4**	**+1.3**
PKI	**Pulchoki** comp=Z,48nm,0.6s	**34.80**	**297**	*e*P	**P**	**11 00 49.5**	**+0.7**
PKIN	**Phulchoki** comp=Z,25nm,0.7s	**34.81**	**297**	*e*P	**P**	**11 00 49.8**	**+0.9**
ULN	**Ulaanbaatar** comp=Z,6.2nm,0.5s	**34.93**	**345**	*e*P	**P**	**11 00 49.3**	**-0.2**
KKN	**Kakani** comp=Z,60nm,0.8s	**34.96**	**298**	*e*P	**P**	**11 00 50.9**	**+0.8**
DMN	**Daman** comp=Z,94nm,0.9s	**35.07**	**297**	*e*P	**P**	**11 00 51.9**	**+0.8**
SONM	**Songino Array**	**35.07**	**344**	P	**P**	**11 00 50.6**	**-0.1**
SONM				ScP	**ScP**	**11 06 56.6**	**-0.6**
SONM	**Songino Array**	**35.07**	**344**	P	**P**	**11 00 50.6**	**-0.1**
	comp=Z,11nm,0.6s,baz=164,slow=9.7,SNR=85						
SONM				ScP	**ScP**	**11 06 56.6**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=164,slow=5.7,SNR=6.1						
ASAJ	**Asahikawa**	**35.09**	**29**	P	**P**	**11 00 51.5**	**+0.7**
ASAJ	**Asahikawa**	**35.09**	**29**	P	**P**	**11 00 51.5**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=126,slow=24,SNR=5.6						
GKN	**Gorkha** comp=Z,80nm,0.8s	**35.57**	**298**	*e*P	**P**	**11 00 55.9**	**+0.7**
PMG	**Port Moresby**	**35.83**	**130**	*e*P	**P**	**11 00 56.4**	**-1.0**
PMG	**Port Moresby**	**35.83**	**130**	P	**P**	**11 00 55.8**	**-1.6**
	comp=Z,16nm,0.9s,baz=286,slow=6.2,SNR=5.4						
COEN	**Coen** comp=Z,506nm,1.0s	**36.36**	**140**	*e*P	**P**	**11 01 00.2**	**-1.7**
KOLN	**Koldanda** comp=Z,25nm,0.6s	**36.40**	**297**	*e*P	**P**	**11 01 03.2**	**+0.8**
DANN	**Dangsing** comp=Z,158nm,0.8s	**36.40**	**298**	*e*P	**P**	**11 01 03.3**	**+0.8**
WRAB	**Tennant Creek** comp=Z,349nm,0.5s,SNR=78	**37.02**	**158**	P	**P**	**11 01 05.6**	**-1.9**
WRAB	**Tennant Creek** comp=Z,250nm,0.8s	**37.02**	**158**	*e*P	**P**	**11 01 05.8**	**-1.7**
WRA	**Warramunga Arr**	**37.03**	**158**	P	**P**	**11 01 05.7**	**-1.8**
WRA	**Warramunga Arr**	**37.03**	**158**	P	**P**	**11 01 05.7**	**-1.8**
	comp=Z,30nm,0.6s,baz=332,slow=9.9,SNR=440						
TLY	**Talaya** comp=Z,227nm,0.5s,SNR=11	**39.31**	**344**	P	**P**	**11 01 27.2**	**+0.9**
TLY	**Talaya** SNR=8.2	**39.31**	**344**	P	**P**	**11 01 27.3**	**+0.9**
TLY	**Talaya** comp=Z,22nm,0.6s	**39.31**	**344**	*e*P	**P**	**11 01 26.9**	**+0.5**
WMQ	**Urumqi**	**40.20**	**323**	P	P	11 01 35.8	+1.9
WMQ				pP	pP	11 02 00.9	+4.2
WMQ				sP	sP	11 02 14.2	+6.2
WMQ				PP	**PnPn**	**11 03 16.1**	**+3.4**
WMQ				PcP	**PcP**	**11 03 39.5**	**+3.3**
WMQ				SS	**SS**	**11 10 31.0**	**-4.4**
WMQ				pmax	pmax		
	comp=Z,15nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,11nm,5.6s						
WMQ				LR	LR		
	comp=Z,610nm,18.9s						
WMQ				LR	LR		
	comp=Z,360nm,18.9s						
WMQ				LR	LR		
	comp=Z,450nm,28.7s						
AS31	**Alice Springs**	**40.31**	**160**	*e*P	**P**	**11 01 33.5**	**-1.4**
ASAR	**Alice Springs**	**40.31**	**160**	P	**P**	**11 01 34.1**	**-0.8**
ASAR	**Alice Springs**	**40.31**	**160**	P	**P**	**11 01 34.1**	**-0.8**
	comp=Z,20nm,0.4s,baz=337,slow=7.2,SNR=465						
NDI	**New Delhi**	**42.10**	**297**	*e*P	**P**	**11 01 47.4**	**-2.2**
CTA	**Charters Tower**	**42.95**	**143**	P	**P**	**11 01 55.9**	**-0.6**
CTA	**Charters Tower**	**42.95**	**143**	P	**P**	**11 01 55.9**	**-0.6**
	comp=Z,11nm,0.8s,baz=330,slow=9.4,SNR=7.4						
CTAO	**Charters Tower**	**42.95**	**143**	*e*P	**P**	**11 01 56.1**	**-0.4**
MK31	**Makanchi Array**	**45.03**	**323**	*e*P	**P**	**11 02 13.9**	**+1.1**
MKAR	**Makanchi Array**	**45.03**	**323**	*e*P	**P**	**11 02 14.1**	**+1.2**
MKAR				PcP	**PcP**	**11 03 52.8**	**+0.6**
MKAR				ScP	**ScP**	**11 07 35.7**	**-0.2**
MKAR	**Makanchi Array**	**45.03**	**323**	P	P	**11 02 14.1**	**+1.2**
	comp=Z,24nm,0.7s,baz=130,slow=9.3,SNR=242						
MKAR				PcP	**PcP**	**11 03 52.8**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=93,slow=2.4,SNR=3.6						
MKAR				ScP	**ScP**	**11 07 35.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=104,slow=4.0,SNR=3.0						
KSH	**Kashi**	**45.94**	**311**	*i* P	P	11 02 23.3	+3.0
KSH				*e*PP	**PP**	**11 04 12.2**	**+2.4**
KSH				*e*PcS	**PcS**	**11 07 53.0**	**+2.8**
KSH				*e*S	**S**	**11 08 56.3**	**-1.5**
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH				pmax	pmax		
	comp=Z,210nm,5.2s						
KSH				LR	LR		
	comp=Z,230nm,6.5s						
KSH				LR	LR		
	comp=Z,370nm,6.6s						
KSH				LR	LR		
	comp=Z,170nm,6.3s						
ULHL	**Ulahol** SNR=5.5	**46.74**	**315**	P	P	11 02 28.8	+2.1
NWAO	**Narrogin (SRO)**	**47.33**	**183**	P	**P**	**11 02 28.9**	**-2.0**
NWAO	**Narrogin (SRO)**	**47.33**	**183**	P	**P**	**11 02 28.9**	**-2.0**
	comp=Z,5.3nm,0.7s,baz=11,slow=10,SNR=4.2						
KZA	**Kyzart** SNR=18	**47.36**	**314**	P	P	11 02 34.0	+2.3
TKM2	**Tokmak 2** SNR=20	**47.44**	**316**	P	**P**	**11 02 33.8**	**+1.7**
TKM2	**Tokmak 2** comp=Z,12nm,0.6s	**47.44**	**316**	*e*P	**P**	**11 02 33.6**	**+1.5**
KBK	**Karagaybulak** SNR=22	**47.79**	**315**	P	P	11 02 36.6	+1.9
YAK	**Yakutsk** comp=Z,27nm,0.5s	**47.87**	**6**	*e*P	**P**	**11 02 34.2**	**-0.5**
UCH	**Uchtor** SNR=45	**47.93**	**314**	P	P	11 02 38.5	+2.3
ZAA0	**Zalesovo Array**	**48.05**	**333**	*e*P	**P**	**11 02 36.4**	**+0.1**
ZALV	**Zalesovo Beam**	**48.05**	**333**	P	**P**	**11 02 36.4**	**+0.1**
ZALV	**Zalesovo Beam**	**48.05**	**333**	P	**P**	**11 02 36.4**	**+

	comp=Z,5.7nm,0.5s								
KURBB	**Kurchatov Arra**	**49.18**	**326**	P		**P**		**11 02 45.2**	**+0.2**
	comp=Z,38nm,0.8s,baz=120,slow=8.4,SNR=202								
KURBB				PP		PP		11 04 43.7	+4.1
	comp=Z,1.3nm,0.3s,baz=126,slow=9.6,SNR=4.6								
KURK	**Kurchatov**	**49.18**	**326**	P		**P**		**11 02 46.0**	**+1.0**
	comp=Z,476nm,0.7s,SNR=87								
KURK	**Kurchatov**	**49.18**	**326**	P		**P**		**11 02 46.3**	**+1.3**
	SNR=28								
KURK	**Kurchatov**	**49.18**	**326**	*eP*		**P**		**11 02 46.0**	**+1.0**
KURK				PP		PP		11 04 43.7	+4.1
KBL	**Kabul**	**50.01**	**303**	*eP*		**P**		**11 02 53.2**	**+1.4**
	comp=Z,19nm,0.8s								
STKA	**Stephens Creek**	**50.55**	**156**	*eP*		**P**		**11 02 54.7**	**-0.9**
STKA	**Stephens Creek**	**50.55**	**156**	P		**P**		**11 02 54.6**	**-0.9**
	comp=Z,5.9nm,0.5s,baz=325,slow=7.0,SNR=8.4								
KKAR	**Karatay Array**	**51.00**	**314**	*eP*		**P**		**11 03 00.3**	**+1.4**
	comp=Z,6.5nm,0.4s								
SEY	**Seymchan**	**53.32**	**18**	P		**P**		**11 03 16.2**	**+0.5**
SEY	**Seymchan**	**53.32**	**18**	P		**P**		**11 03 16.2**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=198,slow=23,SNR=11								
BVAR	**Borovoye Array**	**54.76**	**326**	P		**P**		**11 03 27.2**	**+0.8**
BVAR				PcP		**PcP**		**11 04 27.6**	**-0.2**
BVAR	**Borovoye Array**	**54.76**	**326**	P		**P**		**11 03 27.2**	**+0.8**
	comp=Z,13nm,0.6s,baz=116,slow=8.9,SNR=82								
BVAR				PcP		**PcP**		**11 04 27.6**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=123,slow=6.5,SNR=4.5								
BRVK	**Borovoye**	**54.84**	**326**	P		**P**		**11 03 27.5**	**+0.6**
	comp=Z,39nm,0.6s,SNR=14								
BRVK	**Borovoye**	**54.84**	**326**	P		**P**		**11 03 28.3**	**+1.3**
	SNR=7.7								
BRVK	**Borovoye**	**54.84**	**326**	*eP*		**P**		**11 03 27.8**	**+0.8**
	comp=Z,24nm,0.7s								
TIXI	**Tiksi**	**57.28**	**3**	*eP*		**P**		**11 03 42.8**	**-1.2**
	comp=Z,11nm,0.7s								
IMYA	**Miami**	**57.48**	**304**	*eP*		**P**		**11 03 47.2**	**+0.9**
DZM	**Mont Dzumac**	**58.17**	**128**	P		**P**		**11 03 50.3**	**-0.8**
DZM	**Mont Dzumac**	**58.17**	**128**	P		**P**		**11 03 50.3**	**-0.8**
	comp=Z,6.8nm,0.6s,baz=307,slow=19,SNR=13								
ARU	**Arti**	**62.37**	**327**	P		**P**		**11 04 19.3**	**+0.2**
	comp=Z,142nm,0.5s,SNR=5.7								
ARU	**Arti**	**62.37**	**327**	*eP*		**P**		**11 04 19.1**	**-0.1**
	comp=Z,9.4nm,0.6s								
IANJ	**Anjilo**	**62.44**	**303**	*eP*		**P**		**11 04 21.0**	**+0.7**
IGLO	**Ghaloghah**	**62.54**	**304**	*eP*		**P**		**11 04 20.9**	**0.0**
ISRV	**Sarvestan**	**63.17**	**296**	*eP*		**P**		**11 04 25.6**	**+0.3**
IPAR	**Pars**	**63.21**	**296**	*eP*		**P**		**11 04 26.9**	**+1.3**
IKAZ	**Kazeroun**	**64.26**	**296**	*eP*		**P**		**11 04 32.3**	**-0.2**
MSEY	**Mahe Island**	**66.91**	**258**	P		P		11 04 59.6	+10
	comp=Z,698nm,0.3s,SNR=14								
RAYN	**Ar Rayn**	**70.48**	**290**	P		**P**		**11 05 12.4**	**+0.9**
	comp=Z,146nm,0.7s,SNR=9.1								
KBZ	**Khabaz**	**70.92**	**312**	P		**P**		**11 05 14.5**	**+0.8**
KBZ	**Khabaz**	**70.92**	**312**	P		**P**		**11 05 14.5**	**+0.8**
	comp=Z,11nm,0.9s,baz=109,slow=7.4,SNR=15								
KIV	**Kislovodsk**	**71.07**	**312**	*eP*		**P**		**11 05 16.1**	**+1.3**
	comp=Z,24nm,0.7s								
URZ	**Urewera**	**74.83**	**137**	P		**P**		**11 05 36.7**	**-0.1**
URZ	**Urewera**	**74.83**	**137**	P		**P**		**11 05 36.7**	**-0.1**
	comp=Z,7.4nm,0.8s,baz=257,slow=2.6,SNR=4.7								
JOF	**Joensuu**	**76.63**	**332**	*ep*		**P**		**11 05 46.4**	**-0.3**
	comp=Z,32nm,0.5s								
KEV	**Kevo**	**77.53**	**339**	*ep*		**P**		**11 05 51.2**	**-0.4**
	comp=Z,22nm,0.4s								
ARCES	**ARCESS Array B**	**78.08**	**339**	P		**P**		**11 05 55.0**	**+0.3**
ARCES	**ARCESS Array B**	**78.08**	**339**	P		**P**		**11 05 55.0**	**+0.3**
	comp=Z,22nm,0.5s,baz=77,slow=7.2,SNR=208								
ILAR	**Eielson Array**	**78.18**	**26**	P		**P**		**11 05 54.5**	**-0.9**
ILAR	**Eielson Array**	**78.18**	**26**	P		**P**		**11 05 54.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=268,slow=4.9,SNR=7.7								
BR131	**Keskin Array S**	**78.21**	**308**	*eP*		**P**		**11 05 56.8**	**+0.6**
	comp=Z,1.5nm,0.6s								
BRTR	**Keskin Array B**	**78.21**	**308**	P		**P**		**11 05 56.5**	**+0.3**
BRTR	**Keskin Array B**	**78.21**	**308**	P		**P**		**11 05 56.5**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=126,slow=4.6,SNR=11								
SPITS	**Spitsbergen Ar**	**78.63**	**348**	P		**P**		**11 05 58.1**	**+0.5**
SPITS	**Spitsbergen Ar**	**78.63**	**348**	P		**P**		**11 05 58.1**	**+0.5**
	comp=Z,21nm,0.6s,baz=116,slow=3.4,SNR=81								
KAF	**Kangasniemi**	**79.04**	**331**	*ep*		**P**		**11 05 59.4**	**-0.7**
	comp=Z,25nm,0.5s								
FIA1	**FINESS Array S**	**79.27**	**331**	*eP*		**P**		**11 06 01.5**	**+0.1**
FINES	**FINESS Array B**	**79.27**	**331**	P		**P**		**11 06 01.4**	**0.0**
FINES	**FINESS Array B**	**79.27**	**331**	P		**P**		**11 06 01.4**	**0.0**
	comp=Z,17nm,0.5s,baz=54,slow=5.6,SNR=167								
AKASG	**Malin Array Be**	**79.47**	**320**	P		**P**		**11 06 02.2**	**-0.5**
AKASG	**Malin Array Be**	**79.47**	**320**	P		**P**		**11 06 02.2**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=67,slow=4.9,SNR=19								
AK01	**Malin Array Si**	**79.47**	**320**	*eP*		**P**		**11 06 02.3**	**-0.4**
KIEV	**Kiev**	**79.48**	**320**	*eP*		**P**		**11 06 02.3**	**-0.4**
	comp=Z,4.6nm,0.8s								
AK02	**Malin Array Si**	**79.48**	**320**	*eP*		**P**		**11 06 02.4**	**-0.4**
TLCR		**80.76**	**314**	⇑*iP*		**P**		**11 06 10.4**	**+0.7**
TIRR	**Tirgusor**	**81.18**	**314**	⇑*iP*		**P**		**11 06 13.0**	**+0.3**
CFR	**Carcaliu**	**81.23**	**314**	⇓*iP*		**P**		**11 06 12.5**	**+0.3**
TESR	**Tescani**	**81.97**	**316**	⇓*iP*		**P**		**11 06 16.6**	**+0.5**
VRI	**Vrincioaia**	**82.05**	**315**	⇑*iP*		**P**		**11 06 18.2**	**+1.6**
PLOR	**Plostina**	**82.11**	**315**	⇑*iP*		**P**		**11 06 18.3**	**+1.4**
INK	**Inuvik**	**82.46**	**21**	P		**P**		**11 06 17.6**	**-0.5**
INK	**Inuvik**	**82.46**	**21**	P		**P**		**11 06 17.6**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=285,slow=5.2,SNR=3.5								
BURAR	**Bucovina Array**	**82.67**	**317**	⇓*iP*		**P**		**11 06 20.5**	**+0.6**
MLR	**Muntele Rosu**	**82.67**	**315**	⇑*iP*		**P**		**11 06 21.2**	**+1.2**
BUR08	**Bucovina Ar. S**	**82.67**	**317**	*eP*		**P**		**11 06 20.6**	**+0.6**
DOPR	**Dopca**	**82.94**	**316**	⇑*iP*		**P**		**11 06 21.6**	**+0.4**
VOIR		**83.30**	**315**	⇑*iP*		**P**		**11 06 23.4**	**+0.3**
KMBO	**Kilima Mbogo**	**83.44**	**267**	P		P		11 06 27.2	+2.5
KMBO	**Kilima Mbogo**	**83.44**	**267**	P		P		11 06 27.2	+2.5
	comp=Z,0.9nm,0.3s,baz=49,slow=20,SNR=3.4								
ARR	**Arges**	**83.60**	**315**	⇑*iP*		**P**		**11 06 25.0**	**+0.3**
KWP	**Kalwaria Pacla**	**83.79**	**320**	*eP*		**P**		**11 06 26.0**	**+0.5**
KWP	**Kalwaria Pacla**	**83.79**	**320**	⇑*iP*		**P**		**11 06 26.0**	**+0.5**
KWP	**Kalwaria Pacla**	**83.79**	**320**	*eP*		**P**		**11 06 25.9**	**+0.5**
	comp=Z,13nm,0.6s								
LOT	**Lotru**	**84.17**	**315**	⇑*iP*		**P**		**11 06 28.0**	**+0.4**
KOLS	**Kolonicke sedl**	**84.25**	**319**	*eP*		**P**		**11 06 28.3**	**+0.5**
TRPA	**Tarpa**	**84.29**	**318**	⇓*iP*		**P**		**11 06 28.3**	**+0.3**
DRGR		**84.53**	**317**	⇑*iP*		**P**		**11 06 30.0**	**+0.6**
STHS	**Stebnicka Huta**	**84.76**	**320**	*e*		**P**		**11 06 27.8**	**-2.6**
CRVS	**Cervenica-Dubn**	**84.77**	**319**	*eP*		**P**		**11 06 31.6**	**+1.1**
GZR	**Gura Zlata**	**84.86**	**315**	⇓*iP*		P		11 06 27.3	-3.7
MMB	**Musomiste**	**85.19**	**312**	⇑*iP*		**P**		**11 06 32.7**	**0.0**
VTS	**Vitosha**	**85.30**	**313**	⇓*iP*		**P**		**11 06 33.8**	**+0.4**
SIRR	**Siria**	**85.37**	**317**	⇑*iP*		**P**		**11 06 34.0**	**+0.5**
OJC	**Ojcow**	**85.43**	**321**	*eP*		**P**		**11 06 33.4**	**-0.3**
PSZ	**Piszkesteto**	**86.05**	**318**	⇑*iP*		**P**		**11 06 37.1**	**+0.2**
NB2	**NORSAR Subarra**	**86.25**	**333**	P		**P**		**11 06 36.3**	**-1.3**
	comp=Z,33nm,1.4s,baz=67,slow=4.8								
NB2	**NORSAR Subarra**	**86.25**	**333**	P		**P**		**11 06 36.3**	**-1.3**
	baz=67,slow=4.8								
NOA	**NORSAR Array B**	**86.25**	**333**	P		**P**		**11 06 37.0**	**-0.6**
NOA				PP		**PP**		**11 09 57.6**	**-1.6**
NOA	**NORSAR Array B**	**86.25**	**333**	P		**P**		**11 06 37.0**	**-0.6**
	comp=Z,5.4nm,0.6s,baz=68,slow=4.8,SNR=22								
NOA				PP		**PP**		**11 09 57.6**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=71,slow=8.2,SNR=3.4								
MORC	**Moravsky Berou**	**86.95**	**321**	⇑*iP*		**P**		**11 06 41.5**	**+0.2**
KRLC	**Kraliky**	**87.32**	**321**	*eP*		**P**		**11 06 43.5**	**+0.5**
KSP	**Ksiaz**	**87.35**	**322**	*eP*		**P**		**11 06 43.9**	**+0.8**
PKSM	**Moragy**	**87.39**	**317**	⇓*iP*		**P**		**11 06 44.2**	**+0.9**
DPC	**Dobruska-Polom**	**87.50**	**321**	*eP*		**P**		**11 06 44.8**	**+0.9**
RES	**Resolute Bay**	**88.24**	**9**	P		**P**		**11 06 46.1**	**-0.7**
RES	**Resolute Bay**	**88.24**	**9**	P		**P**		**11 06 46.1**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=336,slow=6.0,SNR=4.0								
CSNA	**Conrad Observa**	**88.62**	**319**	⇑*iP*		**P**		**11 06 48.3**	**-1.0**
	comp=Z,2.0nm,1.0s								
BRG	**Berggiesshubel**	**88.74**	**323**	*eP*		**P**		**11 06 49.9**	**+0.3**
	comp=Z,4.4nm,0.6s								
CLL	**Collm**	**89.12**	**323**	*eP*		**P**		**11 06 51.0**	**-0.4**
KHC	**Kasperske Hory**	**89.60**	**321**	*eP*		**P**		**11 06 53.0**	**-0.8**
GERES	**GERESS Array B**	**89.63**	**321**	P		**P**		**11 06 54.1**	**+0.1**
GERES	**GERESS Array B**	**89.63**	**321**	P		**P**		**11 06 54.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=75,slow=5.7,SNR=12								
YKA	**Yellowknife Ar**	**92.15**	**22**	P		**P**		**11 07 04.9**	**-0.4**
YKA				PKKPbc		**PKKPdf**		**11 24 19.1**	**+0.2**
YKA	**Yellowknife Ar**	**92.15**	**22**	P		**P**		**11 07 04.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=308,slow=4.4,SNR=43								
YKA				PKKPbc		**PKKPdf**		**11 24 19.1**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=129,slow=2.5,SNR=4.5								
FETA	**Feichten**	**92.18**	**320**	⇓*i*PcP		**PcP**		**11 07 05.9**	**-0.8**
	comp=Z,8.4nm,1.0s								
PDAR	**Pinedale Array**	**106.95**	**36**	PKKPab		PKKPab		11 23 54.8	-2.4
PDAR	**Pinedale Array**	**106.95**	**36**	PKKPab		PKKPab		11 23 54.8	-2.4
	comp=Z,0.7nm,0.8s,baz=130,slow=4.6,SNR=4.5								
JLU	**Jordanelle**	**107.18**	**39**	*e*PKPdf		**PKiKP**		**11 12 18.9**	**-3.5**
TORD	**Torodi Ar. Bea**	**113.16**	**291**	PKiKP		**PKiKP**		**11 12 33.5**	**-0.4**
TORD				PP		**PP**		**11 13 20.0**	**-4.8**
TORD	**Torodi Ar. Bea**	**113.16**	**291**	PKiKP		**PKiKP**		**11 12 33.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=46,slow=2.0,SNR=4.4								
TORD				PP		**PP**		**11 13 20.0**	**-4.8**
	comp=Z,0.9nm,0.9s,baz=62,slow=5.2,SNR=3.9								
TXAR	**Lajitas Array**	**119.19**	**44**	PKP		**PKPdf**		**11 12 45.0**	**-0.4**
TXAR				SKP				11 16 11.2	
TXAR	**Lajitas Array**	**119.19**	**44**	PKP		**PKPdf**		**11 12 45.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=199,slow=0.7,SNR=4.7								
TXAR				SKP				11 16 11.2	
	comp=Z,0.4nm,0.8s,baz=349,slow=1.9,SNR=2.7								
DBIC	**Dimbokro**	**121.55**	**287**	PKP		**PKPdf**		**11 12 50.7**	**+0.6**
DBIC	**Dimbokro**	**121.55**	**287**	PKP		**PKPdf**		**11 12 50.7**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=226,slow=5.0,SNR=3.6								
TKL	**Tuckaleechee C**	**125.12**	**24**	PKP		**PKPdf**		**11 12 56.9**	**+0.4**
TKL	**Tuckaleechee C**	**125.12**	**24**	PKP		**PKPdf**		**11 12 56.9**	**+0.4**
	comp=Z,4.9nm,1.0s,baz=126,slow=2.8,SNR=4.1								

BJI ***12*** *10:58:04.6,5.°90S×134.°01E,h10km,mB5.4/43,mb4.9/52, Ms5.0/48,Ms7 4.8/47*

ISCJB ***12*** *10:58:08.1±0.8,5.°41S±0.°02×133.°78E±0.°02,h4km±5km, mb5.1/104,MS4.9/119,Error ellipse: s-maj=3.8km s-min=3.3km az=148.1*

IDC ***12*** *10:58:08.9±0.4,5.°46S×133.°71E,h0km,mb4.9/25, mb1 4.9/27,mb1mx4.8/30,mbtmp4.9/27,ML4.6/3,MS4.7/21, Ms1 4.7/21,ms1mx4.6/32,Error ellipse: s-maj=15.3km s-min=8.0km az=77.0*

MOS ***12*** *10:58:12.6±1.2,5.°28S×133.°84E,h33km,mb5.3/36, MS4.9/8,Error ellipse: s-maj=11.8km s-min=6.1km az=122.0*

DJA ***12*** *10:58:13.6±0.8,5.°5S±2.°3×13.°4E±.°,h27km±8km,M5.4/50, mb5.4/50,mB5.8/35,MLv5.8/7,Mw(mB)5.4/35*

GCMT ***12*** *10:58:14.4±0.1,5.°365S×133.°73E,h12km,MW5.3/106, Moment Tensor Solution. s87,c129; s106,c189; Duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr-1.02±.02; Mθθ0.09±.01; Mϕϕ0.93±.02; Mrθ0.13±.04; Mrϕ0.52±.01; Mθϕ0.33±.04; Best double couple: M◎1.15300×10^17^ NP1:φs204.00000°,δ54.00000°, λ-92.00000°. NP2:φs27.00000°,δ36.00000°,λ-88.00000°. Principal axes: T 1.2300, Plg9.0000°, Azm295.0000°; N -0.1570, Plg1.0000°, Azm205.0000°; P -1.0750, Plg81.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *10:58:14.4±0.2,5.°42S×133.°73E,h35km,mb5.2/38, MS5.0/83,MW5.5 Error ellipse: s-maj=5.7km s-min=4.2km az=225.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^17^Nm; Mrr-0.78; Mθθ-0.63; Mϕϕ1.41; Mrθ0.88; Mθϕ-1.05; Mϕr0.77; Best double couple: M◎2.00000×10^17^ NP1:φs301.00000°,δ54.00000°,λ-154.00000°. NP2: φs195.00000°,δ69.00000°,λ-39.00000°. Principal axes: T 1.9100, Plg9.0000°, Azm250.0000°; N 0.1500, Plg46.0000°, Azm350.0000°; P -2.0700, Plg41.0000°, Azm152.0000°;*

ISC 12 10:58:11.6±0.3,5.°40S±0.°03×133.°81E±0.°04,h16km±1km, h15km:pP-P,n478,σ1§38/473,mb5.1/102,MS4.9/119, 35C-22D,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.92**	**328**	P		**Pn**	**10 58 56.2**	**-1.2**
FAKI				S		**Sn**	**10 59 29.1**	**-3.1**
FAKI	**Fak Fak**	**2.92**	**328**	P		**Pn**	**10 58 56.1**	**-1.3**
	1µm,0.8s,36µm234µm							
FAKI	**Fak Fak**	**2.92**	**328**	*e*Pn		**Pn**	**10 58 55.6**	**-1.9**
FAKI				*e*Sn		**Sn**	**10 59 32.7**	**+0.5**
FAKI	**Fak Fak**	**2.92**	**328**	⇑P		**Pn**	**10 58 55.5**	**-1.9**
	baz=2.9,SNR=431							
SAUI	**Saumlaki**	**3.58**	**224**	P		**Pn**	**10 59 08.0**	**+1.5**
SAUI				S		**Sn**	**10 59 50.7**	**+2.2**
SAUI	**Saumlaki**	**3.58**	**224**	*e*Pn		**Pn**	**10 59 08.0**	**+1.5**
BNDI	**Bandanaira**	**3.99**	**282**	P		**Pn**	**10 59 12.9**	**+0.7**
BNDI				S		**Sn**	**10 59 57.9**	**-0.8**
BNDI	**Bandanaira**	**3.99**	**282**	P		**Pn**	**10 59 12.6**	**+0.4**
MWPI	**Manokwari, Pap**	**4.45**	**3**	P		x	10 59 20.3	
MWPI				S		x	11 00 12.3	
SMPI	**Sarmi**	**5.95**	**55**	P		**Pn**	**10 59 39.8**	**+0.7**
	212nm,1.2s							
SMPI				S		**Sn**	**11 00 45.7**	**-1.2**
	212nm,1.2s							
GENI	**Genyem**	**6.92**	**66**	P		**Pn**	**10 59 54.6**	**+2.1**
	345nm,0.6s,8µm3.3nm							
GENI	**Genyem**	**6.92**	**66**	P		**Pn**	**10 59 55.3**	**+2.8**
NLAI	**Namlea**	**7.03**	**288**	P		**Pn**	**10 59 55.2**	**+1.2**
	380nm,0.5s,6µm2.8nm							
KDU	**Kakadu**	**7.36**	**190**	⇓P		**Pn**	**10 59 57.9**	**-0.6**
	baz=7.3,SNR=391							
JAY	**Jayapura**	**7.45**	**68**	⇑P		**Pn**	**11 00 01.4**	**+1.7**
	baz=7.5,SNR=4.2							
MTN	**Manton Dam**	**7.85**	**200**	⇑P		**Pn**	**11 00 04.5**	**-0.8**
	baz=7.8,SNR=290							
SANI	**Sanana**	**8.49**	**293**	P		**Pn**	**11 00 11.4**	**-2.6**
SANI				S		Sn	11 01 40.8	-8.8
TNTI	**Ternate**	**8.89**	**313**	P		**Pn**	**11 00 21.2**	**+1.7**
	375nm,1.4s,5µm							
TNTI	**Ternate**	**8.89**	**313**	*e*Pn		**Pn**	**11 00 20.8**	**+1.3**
TNTI				*e*Sn		**Sn**	**11 01 59.5**	**0.0**
SOEI	**Soe**	**10.40**	**245**	P		**Pn**	**11 00 39.4**	**-1.0**
	1µm,1.1s,7µm							
SOEI	**Soe**	**10.40**	**245**	*e*Pn		**Pn**	**11 00 39.5**	**-0.8**
SOEI				*e*Sn		**Sn**	**11 02 38.9**	**+2.1**
SOEI	**Soe**	**10.40**	**245**	⇑P		**Pn**	**11 00 39.1**	**-1.3**
	baz=10,SNR=30							
KNRA	**Kununurra**	**11.35**	**206**	P		**Pn**	**11 00 50.9**	**-2.3**
	baz=11,SNR=240							
KMSI	**Cibinong**	**11.48**	**301**	P		**Pn**	**11 00 55.9**	**+0.9**
	1µm,1.0s,12µm							
LUWI	**Luwuk**	**11.84**	**291**	P		**Pn**	**11 00 58.9**	**-1.1**
	484nm,1.5s,7µm							
LUWI	**Luwuk**	**11.84**	**291**	*e*Pn		**Pn**	**11 00 58.8**	**-1.2**
LUWI				*e*Sn		**Sn**	**11 03 11.2**	**-0.7**
LUWI	**Luwuk**	**11.84**	**291**	⇓P		**Pn**	**11 00 58.7**	**-1.2**
	baz=12,SNR=5.7							
MMRI	**Maumere**	**11.93**	**254**	P		**Pn**	**11 01 02.1**	**+0.9**
	321nm,1.6s,7µm							
MMRI	**Maumere**	**11.93**	**254**	*e*Pn		**Pn**	**11 01 01.1**	**-0.1**
MMRI				*e*Sn		**Sn**	**11 03 15.7**	**+1.6**
COEN	**Coen**	**12.54**	**133**	*e*Pn		**Pn**	**11 01 07.4**	**-2.2**
COEN				*e*Sn		**Sn**	**11 03 23.5**	**-5.6**
APSI	**Ampana**	**12.94**	**290**	P		**Pn**	**11 01 16.1**	**+1.1**
	388nm,1.1s,4µm							
MRSI	**Marisa**	**13.22**	**296**	P		**Pn**	**11 01 16.8**	**-2.0**
	148nm,1.4s,2µm							
BKSI	**Bulukumba**	**13.63**	**270**	P		**Pn**	**11 01 26.1**	**+1.6**
	222nm,1.2s,2µm							
BNSI	**Bone**	**13.69**	**274**	P		**Pn**	**11 01 28.2**	**+2.9**
	125nm,1.3s,2µm							
PMG	**Port Moresby**	**13.82**	**108**	P		x	11 01 28.0	
	139nm,1.1s,2µm							
PMG	**Port Moresby**	**13.82**	**108**	*e*Pn		**Pn**	**11 01 27.4**	**+0.4**
PMG				Lg		Lg	11 05 31.0	
PMG	**Port Moresby**	**13.82**	**108**	Pn		**Pn**	**11 01 25.7**	**-1.3**
	1.7nm,0.3s,baz=324,slow=10,SNR=6.4							
PMG				Lg		Lg	11 05 31.0	
	1.1nm,0.3s,baz=246,slow=19,SNR=2.4							
KAPI	**Kappang**	**14.01**	**271**	⇑P		**Pn**	**11 01 31.3**	**+1.6**
	SNR=6.3							
KAPI	**Kappang**	**14.01**	**271**	*e*Pn		**Pn**	**11 01 29.1**	**-0.5**
KAPI				*e*Sn		Sn	11 03 57.3	-7.6
SPSI	**Sidrap Palu**	**14.07**	**275**	P		**Pn**	**11 01 31.6**	**+1.1**
	114nm,1.2s,1µm							
LBFI	**Labuhan Bajo,**	**14.16**	**257**	P		x	11 01 31.7	
	148nm,1.0s							
WRAB	**Tennant Creek**	**14.45**	**178**	*e*P		Pn	11 01 31.9	-3.8
WRAB	**Tennant Creek**	**14.45**	**178**	*e*Pn		Pn	11 01 31.9	-3.8
WRAB				*e*Sn		Sn	11 04 07.7	-8.1
WRA	**Warramunga Arr**	**14.46**	**178**	Pn		Pn	11 01 31.8	-4.0
WRA				Sn		**Sn**	**11 04 17.1**	**+1.1**
WRA				Lg		Lg	11 05 45.7	
WRA	**Warramunga Arr**	**14.46**	**178**	Pn		Pn	11 01 31.8	-4.0
	3.4nm,0.3s,baz=359,slow=13,SNR=14							
WRA				Sn		**Sn**	**11 04 17.1**	**+1.1**
	6.3nm,0.3s,baz=357,slow=23,SNR=4.0							
WRA				Lg		Lg	11 05 45.7	
	4.5nm,0.3s,baz=8.4,slow=27,SNR=6.2							
TOLI	**Toli-Toli**	**14.53**	**296**	*e*Pn		**Pn**	**11 01 36.3**	**-0.5**
TOLI				*e*Sn		**Sn**	**11 04 18.4**	**+0.8**
MMSI	**Mamuju**	**15.11**	**280**	P		x	11 01 46.2	
	109nm,2.0s,2µm							
CTBH	**Cotabato--PC H**	**15.76**	**323**	⇓*iP*		**Pn**	**11 01 51.8**	**-1.3**
QIS	**Mount Isa**	**16.08**	**160**	⇓P		**Pn**	**11 01 56.5**	**-0.7**
	baz=16,SNR=8.0							
MTSU	**Mount Surprise**	**16.29**	**142**	⇑P		**Pn**	**11 01 58.9**	**-1.1**
	baz=16							
MTNI	**Mataram**	**17.80**	**259**	P		x	11 02 34.1	
ASAR	**Alice Springs**	**18.16**	**180**	P		**Pn**	**11 02 21.4**	**-1.9**
ASAR				S		**Sn**	**11 05 45.8**	**0.0**
ASAR				Lg		Lg	11 07 43.3	
ASAR	**Alice Springs**	**18.16**	**180**	P		**Pn**	**11 02 21.4**	**-1.9**
	9.2nm,0.3s,baz=1.8,slow=7.6,SNR=38							
ASAR				S		**Sn**	**11 05 45.8**	**0.0**
	2.0nm,0.3s,baz=358,slow=22,SNR=3.6							
ASAR				Lg		Lg	11 07 43.3	
	baz=350,slow=30,SNR=3.1							
KHKI	**Kahang-Kahang**	**18.31**	**260**	P		x	11 02 22.3	
	88nm,1.1s							
MYLDM	**Lahad Datu**	**18.56**	**304**	P		x	11 02 29.5	
	311nm,1.5s,5µm							
MYLDM	**Lahad Datu**	**18.56**	**304**	*e*Pn		**Pn**	**11 02 29.7**	**+1.5**
	459nm,1.3s							
SRBI	**Singaraja**	**18.66**	**261**	P		**P**	**11 02 26.3**	**-2.8**
	114nm,1.2s							
CTA	**Charters Tower**	**18.96**	**141**	P		**P**	**11 02 32.9**	**+0.5**
CTA				Lg		Lg	11 08 10.2	
CTA	**Charters Tower**	**18.96**	**141**	P		**P**	**11 02 32.9**	**+0.5**
	2.7nm,0.3s,baz=319,slow=13,SNR=18							
CTA				Lg		Lg	11 08 10.2	
	0.2nm,0.3s,baz=221,slow=20,SNR=3.6							
CTA				LR		LR	11 10 01.8	
	comp=Z,4µm,21.0s,baz=321,slow=38							
CTA	**Charters Tower**	**18.96**	**141**	⇑P		**Pn**	**11 02 33.4**	**+0.3**
	baz=19							
CTAO	**Charters Tower**	**18.96**	**141**	*e*P		**Pn**	**11 02 33.5**	**+0.5**
CTAO				*e*S		**S**	**11 06 08.7**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,127nm,1.3s							
CTAO	**Charters Tower**	**18.96**	**141**	*e*P		**Pn**	**11

comp=Z,1μm,18.7s,baz=40,slow=34
PPI Padang Panjang 33.72 277 P **P** **11 04 51.6 -1.0**
comp=Z,108nm,1.1s,comp=Z,2μm
PPI Padang Panjang 33.72 277 ⇑P **P** **11 04 52.8 +0.2**
baz=34,SNR=3.6
TOO Toolangi 33.75 163 ⇑P **P** **11 04 53.6 +1.0**
baz=34,SNR=5.0
QIZ Qiongzhong 33.87 316 P **P** **11 04 54.8 +1.0**
QIZ S **S** **11 10 18.5 +0.8**
QIZ LR LR
comp=Z,880nm,20.4s
QIZ LR LR
comp=Z,960nm,19.4s
QIZ Qiongzhong 33.87 316 PFAKE 11 05 10.0 +16
QIZ LR LR
comp=Z,1μm,21.0s
IPM Ipoh 34.19 286 P x 11 04 56.6
comp=Z,39nm,1.1s,comp=Z,763nm
IPM Ipoh 34.19 286 *e*P **P** **11 04 56.6 -0.1**
comp=Z,70nm,1.4s
MNSI Mandailing Nat 34.74 279 P **P** **11 05 00.5 -0.9**
comp=Z,88nm,1.2s
KULM Kulim 34.78 287 P x 11 05 01.8
comp=Z,34nm,1.1s,comp=Z,798nm
KULM Kulim 34.78 287 *e*P **P** **11 05 02.2 +0.4**
comp=Z,81nm,1.5s
KULM LR LR
comp=Z,1μm,21.0s
DZM Mont Dzumac 35.64 121 *e*P **P** **11 05 09.2 0.0**
comp=Z,67nm,1.2s
DZM *e*S **S** **11 10 40.3 -4.9**
comp=Z,1μm,32.1s
DZM *e*LR LR 11 14 47.4
comp=Z,4μm,33.0s
DZM Mont Dzumac 35.64 121 *e*P **P** **11 05 09.9 +0.7**
comp=Z,21nm,1.0s
DZM Mont Dzumac 35.64 121 P **P** **11 05 09.2 0.0**
comp=Z,9.5nm,0.9s,baz=313,slow=18,SNR=3.3
PSI Prapat 35.79 282 P x 11 05 09.4
PSI Prapat 35.79 282 P **P** **11 05 08.4 -2.2**
PSI Prapat 35.79 282 P **P** **11 05 08.4 -2.2**
comp=Z,16nm,0.8s,baz=140,slow=7.7,SNR=14
PSI Prapat 35.79 282 ⇑P **P** **11 05 09.8 -0.8**
baz=36,SNR=8.5
CHBT CHBT 36.11 300 P **P** **11 05 13.2 0.0**
comp=Z,37nm,1.6s
GSI Gunungsitoli 36.80 279 P **P** **11 05 18.2 -1.0**
GSI Gunungsitoli 36.80 279 *e*P **P** **11 05 17.9 -1.3**
comp=Z,37nm,0.7s
COCO West Island 37.13 257 *i*P **P** **11 05 24.4 +2.5**
COCO West Island 37.13 257 PFAKE 11 05 30.0 +8.1
COCO LR LR
comp=Z,815nm,19.0s
SURT Suratani 37.71 292 P **P** **11 05 27.4 +0.5**
comp=Z,12nm,1.6s,comp=Z,496nm
CHAI Chaiyaphum 37.96 304 P **P** **11 05 29.1 +0.2**
comp=Z,9.3nm,0.9s
SSE Sheshan 38.25 342 P **P** **11 05 32.5 +1.4**
SSE S **S** **11 11 29.5 +5.1**
SSE pmax pmax
comp=Z,39nm,0.7s
SSE pmax pmax
comp=Z,240nm,4.5s
SSE LR LR
comp=Z,710nm,19.5s
SSE LR LR
comp=Z,330nm,19.9s
SSE LR LR
comp=Z,760nm,21.2s
JNU Nakatsue 38.41 356 *e*P **P** **11 05 32.9 +0.4**
comp=Z,86nm,1.6s
JNU Nakatsue 38.41 356 P **P** **11 05 32.2 -0.3**
comp=Z,28nm,0.9s,baz=143,slow=5.3,SNR=5.1
JNU LR LR 11 19 43.7
comp=Z,1μm,21.9s,baz=173,slow=34
MOO Moorlands 38.75 164 ⇓P **P** **11 05 36.8 +1.6**
baz=39
PBKT Sadao Pong 39.14 305 P **P** **11 05 35.9 -2.9**
comp=Z,33nm,1.3s
TAU Tasmania Unive 39.22 164 PFAKE 11 05 50.0 +11
TAU LR LR
comp=Z,7μm,20.0s
LOEI Loei 39.39 306 P **P** **11 05 38.2 -2.7**
comp=Z,24nm,0.9s,comp=Z,632nm
SRDT SRDT 39.61 300 P **P** **11 05 43.6 +0.8**
comp=Z,74nm,1.8s
NJ2 Nanjing 39.88 340 *e*P **P** **11 05 46.7 +1.9**
NJ2 pP **pP** **11 05 50.1 +0.4**
NJ2 sP **sP** **11 05 51.3 -0.4**
NJ2 S **S** **11 11 53.5 +4.5**
NJ2 sS **sS** **11 11 58.5 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,190nm,5.1s
NJ2 LR LR
comp=Z,2μm,20.0s
NJ2 LR LR
comp=Z,1μm,24.4s
NJ2 LR LR
comp=Z,920nm,25.0s
UTHA Uthaitani 39.90 302 P **P** **11 05 45.4 +0.2**
comp=Z,8.4nm,0.9s,comp=Z,81nm
KHLT Khaolaem Dam 40.27 300 P **P** **11 05 49.4 +1.1**
comp=Z,11nm,1.8s
WHN Wuhan 40.31 334 ⇓P **P** **11 05 49.6 +1.3**
WHN *e*S **S** **11 11 59.6 +4.1**
WHN LR LR
comp=Z,3μm,19.6s
GYA Guiyang 41.17 322 ⇑*i*P **P** **11 05 55.0 -0.7**
GYA PP **PnPn** **11 07 36.8 +1.4**
GYA ScP **ScP** **11 11 45.0 +0.6**
GYA S **S** **11 12 11.6 +2.8**
GYA SS **SS** **11 15 09.4 -2.6**
GYA ScS **ScS** **11 16 00.2 0.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,980nm,18.4s
GYA LR LR
comp=Z,860nm,19.8s
GYA LR LR
comp=Z,940nm,18.2s
CMAR Chiang Mai Arr 41.76 305 P **P** **11 06 00.0 -0.6**
CMAR PcP **PcP** **11 07 57.6 +0.8**
CMAR Chiang Mai Arr 41.76 305 P **P** **11 06 00.0 -0.6**
comp=Z,4.0nm,0.9s,baz=134,slow=6.9,SNR=23
CMAR PcP **PcP** **11 07 57.6 +0.8**
comp=Z,3.6nm,0.9s,baz=150,slow=2.3,SNR=4.9
MJAR Matsushiro Arr 41.93 5 P **P** **11 06 00.0 -1.6**
MJAR Matsushiro Arr 41.93 5 P **P** **11 06 00.0 -1.6**
comp=Z,3.7nm,0.9s,baz=186,slow=10,SNR=8.3
MJAR LR LR 11 21 31.4
comp=Z,3μm,21.9s,baz=170,slow=33
MAJO Matsushiro 41.93 5 *e*P **P** **11 06 00.1 -1.5**
MAJO pmax pmax
comp=Z,50nm,1.0s
MAJO Matsushiro 41.93 5 *e*P **P** **11 06 01.3 -0.3**
comp=Z,19nm,0.9s
MAJO LR LR
comp=Z,3μm,22.0s
CHTO Chiang Mai 41.95 306 *e*P **P** **11 06 02.5 +0.4**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
CHTO MLR MLR
comp=Z,556nm,19.0s
CHTO Chiang Mai 41.95 306 ⇑P **P** **11 06 01.6 -0.5**
SNR=11
CHTO Chiang Mai 41.95 306 P **P** **11 06 02.2 +0.1**
comp=Z,110nm,1.6s,comp=Z,2μm
CHTO Chiang Mai 41.95 306 *e*P **P** **11 06 02.5 +0.4**
comp=Z,6.8nm,1.2s
CHTO LR LR
comp=Z,556nm,19.0s
ENH Enshi 42.45 328 *e*P **P** **11 06 07.0 +1.0**
comp=Z,19nm,0.8s
MHMT Maesarieng 42.45 304 P P 11 06 17.3 +11
KMI Kunming 42.82 316 P **P** **11 06 09.6 +0.3**
KMI pP **pP** **11 06 14.3 0.0**
KMI sP **sP** **11 06 15.8 -0.5**
KMI PP **PP** **11 07 53.7 +4.8**
KMI S **S** **11 12 35.8 +2.4**
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,240nm,5.8s
KMI LR LR
comp=Z,450nm,20.5s
KMI LR LR
comp=Z,650nm,22.5s
KMI LR LR
comp=Z,760nm,22.1s
KSAR Wonju Array Be 42.98 353 P **P** **11 06 11.0 +0.9**
KSRS Korea Array 42.99 353 P **P** **11 06 11.0 +0.8**
comp=Z,9.5nm,1.1s,baz=170,slow=9.0,SNR=8.7
KSRS LR LR 11 26 01.9
comp=Z,1μm,18.4s,baz=174,slow=39
INCN Inchon 43.19 352 PFAKE 11 06 20.0 +8.1
INCN LR LR
comp=Z,2μm,19.0s
MSVF Nonsavu 44.91 110 *e*P **P** **11 06 27.4 +1.3**
MSVF pmax pmax
comp=Z,19nm,1.0s
MSVF MLR MLR
comp=Z,1μm,19.0s
MSVF Nonsavu 44.91 110 *e*P **P** **11 06 27.4 +1.3**
comp=Z,19nm,1.0s
MSVF LR LR
comp=Z,1μm,19.0s
XAN Xi'an 45.75 331 P **P** **11 06 31.8 -0.6**
XAN sP **sP** **11 06 37.1 -2.3**
XAN PP **PP** **11 08 18.3 -1.5**
XAN S **S** **11 13 11.9 -3.5**
XAN pmax pmax
comp=Z,5.0nm,1.5s
XAN pmax pmax
comp=Z,68nm,5.7s
XAN LR LR
comp=Z,540nm,24.6s
XAN LR LR
comp=Z,84nm,30.0s
XAN LR LR
comp=Z,230nm,26.3s
CD2 Chengdu 46.14 323 ⇑*i*P **P** **11 06 35.3 -0.3**
CD2 sP **sP** **11 06 44.1 +1.5**
CD2 PcP **PcP** **11 08 12.1 +0.5**
CD2 PP **PP** **11 08 25.3 +1.2**
CD2 S **S** **11 13 22.3 +1.1**
CD2 ScS **ScS** **11 16 30.5 -0.6**
CD2 SS **SS** **11 16 43.5 -3.3**
CD2 pmax pmax
comp=Z,30nm,1.5s
CD2 pmax pmax
comp=Z,160nm,8.3s
CD2 LR LR
comp=Z,1μm,19.0s
CD2 LR LR
comp=Z,810nm,23.8s
CD2 LR LR
comp=Z,1μm,22.6s
ERM Erimo 47.95 9 PFAKE 11 07 00.0 +11
ERM LR LR
comp=Z,1μm,22.0s
BJT Baijiatuan 48.03 342 PFAKE 11 07 00.0 +10
BJT LR LR
comp=Z,796nm,21.0s
BJI Beijing 48.05 342 P **P** **11 06 50.0 -0.2**
BJI S **S** **11 13 46.7 -1.3**
BJI SS **SS** **11 17 15.4 -1.9**
BJI pmax pmax
comp=Z,34nm,1.2s
BJI pmax pmax
comp=Z,520nm,3.8s
BJI LR LR
comp=Z,810nm,19.0s
BJI LR LR
comp=Z,510nm,24.6s
BJI LR LR
comp=Z,610nm,22.6s
USRK Ussuriysk Arra 49.40 358 P **P** **11 07 01.0 +0.4**
comp=Z,6.2nm,0.7s,baz=178,slow=7.4,SNR=16
USRK LR LR 11 29 08.3
comp=Z,595nm,18.2s,baz=165,slow=38
CN2 Changchun 49.56 352 *e*P P 11 07 05.4 +3.6
CN2 *e*S **S** **11 14 13.2 +4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,910nm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
ASAJ Asahikawa 49.92 8 P **P** **11 07 05.0 +0.4**
ASAJ Asahikawa 49.92 8 P **P** **11 07 05.0 +0.4**
comp=Z,7.6nm,0.8s,baz=231,slow=14,SNR=6.2
ASAJ LR LR 11 25 09.0
comp=Z,583nm,21.8s,baz=339,slow=32
LZH Lanzhou 49.93 328 ⇑P **P** **11 07 06.0 +1.0**
LZH pP **pP** **11 07 09.3 -0.7**
LZH sP **sP** **11 07 10.7 -1.3**
LZH PP **PP** **11 09 00.2 +0.2**
LZH S **S** **11 14 15.1 +0.2**
LZH SS **SS** **11 17 45.0 -3.1**
LZH pmax pmax
comp=Z,83nm,1.5s
LZH pmax pmax
comp=Z,410nm,6.4s
LZH LR LR
comp=Z,590nm,14.0s
LZH LR LR
comp=Z,470nm,13.5s
LZH LR LR
comp=Z,800nm,17.2s
MDJ Mudanjiang 49.94 356 P **P** **11 07 05.1 +0.4**
MDJ pP **pP** **11 07 08.1 -1.6**
MDJ sP **sP** **11 07 09.5 -2.1**
MDJ ScP **ScP** **11 12 20.7 +0.6**
MDJ S **S** **11 14 16.3 +1.9**
MDJ pmax pmax
comp=Z,25nm,1.9s
MDJ pmax pmax
comp=Z,280nm,4.1s
MDJ LR LR
comp=Z,330nm,21.3s
MDJ LR LR
comp=Z,690nm,29.7s
MDJ LR LR
comp=Z,560nm,28.7s
MDJ Mudanjiang 49.94 356 *e*P **P** **11 07 05.1 +0.4**
comp=Z,15nm,0.9s
MDJ LR LR
comp=Z,963nm,20.0s
RPZ Rata Peaks 50.27 145 P **P** **11 07 07.2 -0.1**
RPZ Rata Peaks 50.27 145 P **P** **11 07 07.2 -0.1**
comp=Z,18nm,0.9s,baz=297,slow=4.5,SNR=2.8
HHC Hu-ho-hao-te 50.35 338 *e*P **P** **11 07 09.0 +1.0**
HHC sP **sP** **11 07 15.8 +0.8**
HHC PP PP 11 09 09.8 +6.1
HHC S **S** **11 14 22.1 +1.5**
HHC sS sS 11 14 35.0 +6.1
HHC SS **SS** **11 17 52.4 -2.2**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,350nm,5.2s
HHC LR LR
comp=Z,990nm,15.9s
HHC LR LR
comp=Z,910nm,15.7s
HHC LR LR
comp=Z,1μm,14.3s
SHL Shillong 51.03 309 *e*P **P** **11 07 14.0 +0.4**
SNZO South Karori 51.06 141 PFAKE 11 07 30.0 +17
SNZO LR LR
comp=Z,3μm,20.0s
YSS Yuzh-Sakhalins 52.73 8⇑*e*P **P** **11 07 25.5 0.0**
YSS *e**SP **sP** **11 07 37.0 +4.5**
YSS *e*S **S** **11 14 52.0 -0.8**
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS Yuzh-Sakhalins 52.73 8 *e*P **P** **11 07 25.8 +0.3**
comp=N,69nm,1.3s
YSS LR LR
comp=Z,669nm,22.0s
MCQ Macquarie Isla 53.01 162 *e*P **P** **11 07 29.3 +1.8**
MCQ Macquarie Isla 53.01 162 *e*P **P** **11 07 29.3 +1.8**
comp=Z,15μm,1.0s
MCQ Macquarie Isla 53.01 162 ⇑P **P** **11 07 28.1 +0.6**
baz=53,SNR=5.0
HABR Khabarovsk 53.66 1 *e*P **P** **11 07 30.2 -2.2**
HABR 11 08 36.7
HABR *e* 11 09 31.2
HABR *e*PPP PPP 11 10 38.1
HABR *e*S **S** **11 15 05.1 -0.4**
HABR *e**SS **sS** **11 15 10.5 -3.3**
HABR *e* 11 17 19.2
HABR *e*SS **SKiKP** **11 18 47.3 +0.2**
HABR pmax pmax
comp=Z,33nm,1.2s
LSA Lhasa 53.78 313 *e*P **P** **11 07 34.7 +0.5**
LSA pmax pmax
comp=Z,61nm,1.4s
LSA MLR MLR
comp=Z,617nm,20.0s
LSA Lhasa 53.78 313 *e*P **P** **11 07 34.7 +0.5**
comp=Z,61nm,1.4s
LSA LR LR
comp=Z,617nm,20.0s
AFI Afiamalu 54.20 103 LR LR 11 29 07.3
comp=Z,518nm,19.6s,baz=113,slow=34
KLR Kul'dur 54.44 358 *e*P P 11 07 32.8 -5.2
KLR *e*S **S** **11 15 14.5 -1.5**
KLR *e*SS **SKiKP** **11 18 52.0 +4.0**
KLR pmax pmax
comp=Z,94nm,2.2s
PALK Pallekele 54.47 283 ⇑P **P** **11 07 38.6 -0.4**
SNR=8.9
PALK Pallekele 54.47 283 *e*P **P** **11 07 37.9 -1.1**
comp=Z,282nm,1.5s
GTA Gaotai 54.53 328 ⇑P **P** **11 07 39.8 +0.7**
GTA pP **pP** **11 07 44.4 +0.2**
GTA sP **sP** **11 07 46.8 +0.7**
GTA PcP **PcP** **11 08 42.6 +0.3**
GTA S **S** **11 15 18.4 +0.5**
GTA sS **sS** **11 15 26.5 +0.2**
GTA ScS **ScS** **11 17 28.1 -0.1**
GTA SS **SS** **11 19 01.2 +0.4**
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,220nm,5.7s
GTA LR LR
comp=Z,390nm,18.1s
GTA LR LR
comp=Z,490nm,18.5s
GTA LR LR
comp=Z,560nm,18.0s
TAPN Taplejung 55.16 309 *e*P **P** **11 07 43.2 -0.9**
comp=Z,38nm,0.9s
ODAN Odare 55.18 308 *e*P **P** **11 07 43.5 -0.7**
comp=Z,114nm,1.3s
HIA Hailar 55.81 349 PFAKE 11 08 00.0 +12
HIA LR LR
comp=Z,1μm,22.0s
RAMN Ramite 55.84 308 *e*P **P** **11 07 48.1 -0.8**
comp=Z,226nm,1.5s
JIRN Jiri 56.49 308 *e*P **P** **11 07 52.8 -1.0**
comp=Z,14nm,0.7s
PKI Pulchoki 57.07 308 *e*P **P** **11 07 57.0 -0.8**
comp=Z,72nm,1.3s
KKN Kakani 57.27 308 *e*P **P** **11 07 58.7 -0.4**
comp=Z,16nm,0.7s
DMN Daman 57.32 308 *e*P **P** **11 07 58.7 -0.8**
comp=Z,38nm,1.0s
GKN Gorkha 57.87 308 *e*P **P** **11 08 02.6 -0.6**
comp=Z,66nm,1.1s
ULN Ulaanbaatar 58.03 339 P **P** **11 08 05.1 +1.2**
SNR=7.1
ULN Ulaanbaatar 58.03 339 *e*P **P** **11 08 04.1 +0.2**
comp=Z,25nm,1.3s
ULN LR LR
comp=Z,834nm,22.0s
SONM Songino Array 58.24 339 P **P** **11 08 05.5 +0.1**
SONM P'P' 11 37 51.2
SONM Songino Array 58.24 339 P **P** **11 08 05.5 +0.1**
comp=Z,2.5nm,1.0s,baz=153,slow=7.5,SNR=11
SONM LR LR 11 33 51.7
comp=Z,898nm,21.1s,baz=280,slow=37
SONM PKPPKP P'P'df 11 37 51.2 +6.9
comp=Z,0.9nm,1.1s,baz=335,slow=2.1,SNR=4.4
KOLN Koldanda 58.59 307 *e*P **P** **11 08 07.7 -0.6**
comp=Z,38nm,1.0s
DANN Dangsing 58.72 308 *e*P **P** **11 08 08.9 -0.4**
comp=Z,85nm,1.3s
HYB Hyderabad 59.08 294 *i*P **P** **11 08 10.0 -1.7**
HYB *e*S S 11 16 12.0 -6.6
ZAK Zakamensk 61.50 338 *e*P **P** **11 08 26.9 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.7s
PETK Petropavlovsk- 61.69 16 P **P** **11 08 29.3 +0.5**
PETK Petropavlovsk- 61.69 16 P **P** **11 08 29.3 +0.5**
PETK Petropavlovsk- 61.69 16 P **P** **11 08 29.3 +0.5**
comp=Z,4.0nm,0.7s,baz=172,slow=6.1,SNR=6.4
PETK LR LR 11 31 39.8
comp=Z,560nm,21.4s,baz=208,slow=33
PET Petropavlovsk 61.88 17 *e*S **S** **11 16 58.0 +4.8**
PET Petropavlovsk 61.88 17 PFAKE 11 08 40.0 +10
PET LR LR
comp=Z,1μm,20.0s
TLY Talaya 62.44 339 *e*P **P** **11 08 34.6 +0.7**
TLY pmax pmax
comp=Z,12nm,1.8s
TLY MLR MLR
comp=Z,526nm,18.0s
TLY Talaya 62.44 339 *e*P **P** **11 08 34.2 +0.3**
comp=Z,18nm,1.5s
TLY LR LR
comp=Z,726nm,22.0s
IRK Irkutsk 62.69 340 *e*P **P** **11 08 34.7 -0.9**
IRK pmax pmax
comp=Z,34nm,1.6s
CASY Casey 62.90 190 PFAKE 11 08 50.0 +13
CASY LR LR
comp=Z,2μm,20.0s
MOY Mondy 63.39 338 *e*P **P** **11 08 41.6 +1.2**
MOY pmax pmax
comp=Z,56nm,3.7s
WMQ Urumqi 64.22 325 P **P** **11 08 47.2 +1.3**
WMQ pP **pP** **11 08 49.5 -1.6**
WMQ sP **sP** **11 08 51.4 -1.6**
WMQ PcP **PcP** **11 09 22.0 +1.3**
WMQ ScP 11 13 24.5
WMQ S **S** **11 17 24.1 +1.2**
WMQ SKS **SKSac** **11 18 38.6 -0.9**
WMQ SS **SS** **11 21 34.9 +2.2**
WMQ pmax pmax
comp=Z,46nm,1.1s
WMQ LR LR
comp=Z,790nm,25.9s
WMQ LR LR
comp=Z,280nm,23.3s
WMQ LR LR
comp=Z,400nm,23.3s
HVS Khovu-Aksy 65.98 334 *d i*P **P** **11 08 57.3 +0.1**
HVS pmax pmax
comp=Z,122nm,1.3s
FX1 Attu Island--F 66.91 25 *e*P **P** **11 09 04.0 +0.9**
FX1 Attu Island--F 66.91 25 P **P** **11 09 03.8 +0.7**
comp=Z,32nm,0.8s,baz=22,slow=4.4,SNR=7.4
FX1 LR LR 11 34 52.0
comp=Z,1μm,21.4s,baz=228,slow=33
YAK Yakutsk 67.31 358 *de*P **P** **11 09 05.3 -0.1**
YAK *e**PP **pP** **11 09 13.9 +3.3**
YAK *e* 11 09 37.9
YAK *e* 11 11 42.1
YAK *e*PPP PPP 11 13 06.8
YAK *e*S S 11 17 49.6 -10
YAK *e* 11 18 54.1
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=Z,146nm,3.8s
YAK pmax pmax
comp=N,52nm,2.8s
YAK pmax pmax
comp=E,106nm,3.7s
YAK smax smax
comp=E,233nm,4.8s
YAK smax smax
comp=N,111nm,4.9s

YAK MLR MLR
comp=Z,834nm,19.0s
YAK MLR MLR
comp=E,133nm,16.0s
YAK MLR MLR
comp=N,651nm,18.0s
YAK Yakutsk 67.31 358 PFAKE 11 09 20.0 +15
YAK LR LR
comp=Z,877nm,19.0s
MK31 Makanchi Array 69.04 325 *e*P **P 11 09 17.1 +0.4**
MK31 Makanchi Array 69.04 325 *e*P **P 11 09 17.1 +0.4**
MKAR Makanchi Array 69.04 325 P **P 11 09 16.9 +0.2**
MKAR Makanchi Array 69.04 325 P **P 11 09 16.9 +0.2**
MKAR Makanchi Array 69.04 325 P **P 11 09 16.9 +0.2**
comp=Z,15nm,0.8s,baz=116,slow=8.2,SNR=78
MKAR LR LR 11 39 51.5
comp=Z,523nm,22.0s,baz=127,slow=36
KSH Kashi 69.47 316 *i* P **P 11 09 20.6 +1.0**
KSH *e*PP **PP 11 11 56.4 +3.0**
KSH *e*S **S 11 18 25.2 -1.6**
KSH pmax pmax
comp=Z,20nm,1.3s
KSH pmax pmax
comp=Z,75nm,5.5s
KSH LR LR
comp=Z,160nm,4.7s
KSH LR LR
comp=Z,320nm,5.5s
KSH LR LR
comp=Z,220nm,6.9s
SEY Seymchan 69.60 9 *e*P **P 11 09 20.1 +0.5**
SEY Seymchan 69.60 9 P **P 11 09 20.2 +0.5**
SEY Seymchan 69.60 9 P **P 11 09 20.2 +0.5**
comp=Z,11nm,1.0s,baz=177,slow=5.2,SNR=11
KZA Kyzart 71.09 318 *i* P **P 11 09 30.8 +1.0**
KZA Kyzart 71.09 318 P **P 11 09 30.8 +1.0**
SNR=19
TKM2 Tokmak 2 71.23 319 P **P 11 09 31.0 +0.6**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 71.23 319 P **P 11 09 30.3 -0.1**
SNR=17
TKM2 Tokmak 2 71.23 319 PFAKE 11 09 40.0 +10
TKM2 LR LR
comp=Z,736nm,22.0s
UCH Uchtor 71.65 318 *i* P **P 11 09 34.4 +1.2**
UCH Uchtor 71.65 318 P **P 11 09 34.5 +1.2**
SNR=19
AAK Ala-Archa 71.83 318 *d i* P **P 11 09 34.1 +0.1**
AAK pmax pmax
comp=Z,29nm,1.1s
AAK Ala-Archa 71.83 318 P **P 11 09 34.5 +0.5**
SNR=11
AAK Ala-Archa 71.83 318 P **P 11 09 35.3 +1.3**
SNR=11
AAK Ala-Archa 71.83 318 *e*P **P 11 09 34.5 +0.5**
comp=Z,26nm,1.3s
AAK LR LR
comp=Z,475nm,19.0s
AAK Ala-Archa 71.83 318 P **P 11 09 34.4 +0.5**
comp=Z,16nm,1.2s,baz=109,slow=4.8,SNR=18
FRU Bishkek 71.84 318 *e*P **P 11 09 34.0 +0.1**
FRU pmax pmax
comp=Z,38nm,1.8s
ZAA0 Zalesovo Array 71.90 332 *e*P **P 11 09 33.1 -0.7**
ZALV Zalesovo Beam 71.90 332 *i* P **P 11 09 33.2 -0.7**
ZALV pmax pmax
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 71.90 332 P **P 11 09 33.1 -0.7**
ZALV Zalesovo Beam 71.90 332 P **P 11 09 33.1 -0.7**
comp=Z,14nm,1.0s,baz=108,slow=4.8,SNR=30
ZALV LR LR 11 46 47.5
comp=Z,323nm,19.4s,baz=245,slow=41
USP Ospenovka 72.11 319 *i* P **P 11 09 35.4 -0.1**
USP Ospenovka 72.11 319 P **P 11 09 35.4 -0.1**
SNR=28
AML Almayashu 72.16 317 *i* P **P 11 09 37.0 +0.8**
AML Almayashu 72.16 317 P **P 11 09 37.0 +0.8**
SNR=26
EKS2 Erkin-Say 72.32 318 *i* P **P 11 09 37.5 +0.7**
EKS2 Erkin-Say 72.32 318 P **P 11 09 37.6 +0.7**
SNR=13
EKS2 Erkin-Say 72.32 318 *e*P **P 11 09 37.5 +0.7**
EKS2 LR LR
comp=Z,573nm,20.0s
KBL Kabul 72.69 309 *e*P **P 11 09 39.2 -0.2**
KBL pmax pmax
comp=Z,18nm,1.0s
KBL Kabul 72.69 309 *e*P **P 11 09 39.2 -0.2**
comp=Z,18nm,1.0s
NVS Novosibirsk 73.18 332 *e*P **P 11 09 38.3 -3.2**
NVS pmax pmax
comp=Z,59nm,1.6s
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=E,26nm,1.4s
KURK Kurchatov 73.20 327 *d i* P **P 11 09 41.2 -0.5**
KURK pmax pmax
comp=Z,48nm,1.7s
KURK Kurchatov 73.20 327 P **P 11 09 42.0 +0.3**
SNR=20
KURK Kurchatov 73.20 327 P **P 11 09 41.5 -0.2**
KURK LR LR
comp=Z,223nm,21.0s
KURBB Kurchatov Arra 73.20 327 P **P 11 09 41.5 -0.2**
comp=Z,20nm,1.0s,baz=125,slow=5.4,SNR=78
VNDA Vanda 73.59 174 *e*P **P 11 09 44.0 +0.4**
comp=Z,14nm,0.9s
VNDA Vanda 73.59 174 P **P 11 09 43.6 0.0**
comp=Z,13nm,0.9s,baz=328,slow=6.8,SNR=31
VNDA LR LR 11 42 10.4
comp=Z,2µm,18.3s,baz=348,slow=36
SBA Scott Base 74.43 173 *e*P **P 11 09 50.0 +1.5**
SBA pmax pmax
comp=Z,13nm,1.0s
SBA MLR MLR
comp=Z,749nm,19.0s
SBA Scott Base 74.43 173 *e*P **P 11 09 50.0 +1.5**
comp=Z,13nm,1.0s
SBA LR LR
comp=Z,749nm,19.0s
KK31 Karatay Array 74.70 317 *i* P **P 11 09 50.7 0.0**
KK31 pmax pmax
comp=Z,28nm,1.1s
PPT Papeete 75.64 107 LR LR 11 37 47.2
comp=Z,285nm,19.1s,baz=342,slow=31
PPT2 Papeete2 75.64 107 *e*S S 11 19 30.8 -7.1
comp=Z,184nm,26.0s
PPT2 Papeete2 75.64 107 *e*LR LR 11 33 17.6
comp=Z,2µm,35.2s
TBI Tubuai 75.70 113 *e*S **S 11 19 35.7 -2.6**
comp=Z,514nm,25.2s
TBI Tubuai 75.70 113 *e*LR LR 11 33 19.1
comp=Z,771nm,27.2s
TIXI Tiksi 76.97 358⇑ *i*P **P 11 10 02.2 -0.8**
TIXI pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 76.97 358 *e*P **P 11 10 02.5 -0.5**
comp=Z,12nm,0.8s
TIXI LR LR
comp=Z,1µm,21.0s
MAW Mawson 77.82 202 *e*P **P 11 10 09.3 +1.4**
comp=Z,11nm,1.2s
MAW Mawson 77.82 202 P **P 11 10 07.7 -0.3**
comp=Z,29nm,1.0s,baz=60,slow=7.3,SNR=9.0
MAW LR LR 11 43 08.8
comp=Z,2µm,19.4s,baz=72,slow=35
MAW Mawson 77.82 202⇑P **P 11 10 08.6 +0.7**
baz=78,SNR=4.8
MSEY Mahe Island 77.98 266 PFAKE 11 10 20.0 +10
MSEY LR LR
comp=Z,730nm,20.0s
BVA0 Borovoye Array 78.78 327 *i* P **P 11 10 13.2 -0.4**
BVA0 pmax pmax
comp=Z,48nm,1.2s
BVAR Borovoye Array 78.78 327 P **P 11 10 13.3 -0.3**
BVAR Borovoye Array 78.78 327 P **P 11 10 13.3 -0.3**
BVAR Borovoye Array 78.78 327 P **P 11 10 13.3 -0.3**
comp=Z,19nm,0.8s,baz=122,slow=7.2,SNR=72
BVAR LR LR 11 46 43.1
comp=Z,365nm,21.6s,baz=118,slow=37
BRVK Borovoye 78.86 327 *d i* P **P 11 10 13.6 -0.3**
BRVK pmax pmax
comp=Z,34nm,1.1s
BRVK Borovoye 78.86 327 *e*P **P 11 10 13.8 -0.1**
comp=Z,178nm,1.9s
BRVK LR LR
comp=Z,663nm,21.0s
HOQ Hoqain 79.86 295 P **P 11 10 20.8 +0.7**
SNR=11
GAMB Gambell 80.03 22 *e*P **P 11 10 21.7 +1.7**
comp=Z,125nm,2.6s
IKOO Kooshah 80.17 304 *e*P **P 11 10 21.5 -0.4**
IMYA Miami 80.20 308 *e*P **P 11 10 21.1 -0.7**
ISFR Sfrayin 82.00 308 *e*P **P 11 10 29.4 -2.2**
TNA Tin City 82.37 21 *e*P **P 11 10 33.4 +1.0**
AB31 Akbulak array 83.65 321 *i* P **P 11 10 38.3 -1.2**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 83.65 321 *e*P **P 11 10 38.4 -1.1**
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 83.65 321⇑P **P 11 10 38.7 -0.8**
baz=84
ISAD Sadrabad 84.49 303 *e*P **P 11 10 42.4 -2.2**
QSPA South Pole Qui 84.56 180 PFAKE 11 11 00.0 +16
QSPA LR LR
comp=Z,1µm,19.0s
ISRV Sarvestan 84.56 300 *e*P **P 11 10 44.5 -0.5**
IPAR Pars 84.69 301 *e*P **P 11 10 45.3 -0.3**
IANJ Anjilo 84.92 306 *e*P **P 11 10 45.9 -0.7**
ABPO Ambohimpanom 85.05 251 PFAKE 11 11 00.0 +13
ABPO LR LR
comp=Z,546nm,19.0s
AKTO Aktyubinsk 85.16 322 *i* P **P 11 10 46.1 -1.1**
AKTO pmax pmax
comp=Z,45nm,1.3s
AKTO Aktyubinsk 85.16 322 P **P 11 10 46.3 -0.8**
AKTO Aktyubinsk 85.16 322 P **P 11 10 46.3 -0.8**
comp=Z,8.5nm,0.9s,baz=100,slow=6.3,SNR=22
AKTO LR LR 11 52 36.2
comp=Z,325nm,20.5s,baz=287,slow=38
IKIA Kiasar 85.24 307 *e*P P 11 10 43.7 -4.5
SVE Sverdlovsk 85.40 328 *e*P **P 11 10 47.6 -0.5**
SVE pmax pmax
comp=Z,43nm,1.5s
IKAZ Kazeroun 85.72 300 *e*P **P 11 10 49.8 -1.0**
ARU Arti 86.39 327 *d i* P **P 11 10 51.4 -1.7**
ARU S **SKSac 11 21 17.3 -1.5**
ARU SS **SS 11 27 06.4 -1.8**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 86.39 327 *e*P **P 11 10 51.7 -1.4**
comp=Z,8.3nm,0.8s
ARU LR LR
comp=Z,669nm,20.0s
IKLH Kolahrood 86.47 304 *e*P **P 11 10 54.3 -0.1**
SYO Syowa Base 86.51 201⇑ *e*P P 11 10 46.3 -7.2
IVRN Varamin 86.61 305 *e*P **P 11 10 53.7 -1.1**
IR3 Iran Long-Peri 87.25 306 *e*P **P 11 10 55.5 -2.4**
IRAZ Razeghan 88.13 306 *e*P **P 11 11 02.5 +0.2**
RKT Rikitea 89.02 113 *e*S **S 11 21 51.9 -2.9**
comp=Z,290nm,27.8s
RKT Rikitea 89.02 113 *e*LR LR 11 39 21.7
comp=Z,559nm,26.0s
COLA College 89.92 25 PFAKE 11 11 20.0 +10
COLA LR LR
comp=Z,701nm,19.0s
ILAR Eielson Array 90.30 25 P **P 11 11 10.9 -0.6**
ILAR PKKPbc **PKKPbc 11 28 42.2 -1.3**
ILAR Eielson Array 90.30 25 P **P 11 11 10.9 -0.6**
comp=Z,2.3nm,1.0s,baz=265,slow=4.1,SNR=11
ILAR PKKPbc **PKKPbc 11 28 42.2 -1.3**
comp=Z,0.3nm,0.6s,baz=45,slow=0.2,SNR=4.6
ILAR LR LR 11 48 37.7
comp=Z,476nm,21.0s,baz=77,slow=34
EGAK Eagle 92.72 25 PFAKE 11 11 30.0 +7.2
EGAK LR LR
comp=Z,596nm,19.0s
GNI Garni 92.73 310 LR LR 11 53 22.0
comp=Z,52nm,21.8s,baz=96,slow=36
ZEI Tsey 93.56 312 *e*P **P 11 11 25.9 -1.5**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
PRGR Permogore 93.85 331 *e*P **P 11 11 25.0 -3.0**
PRGR pmax pmax
comp=Z,4.0nm,0.5s
KIV Kislovodsk 94.52 314 *e*P **P 11 11 31.8 +0.1**
KIV *e* 11 22 07.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 94.52 314 PFAKE 11 11 40.0 +8.3
KIV LR LR
comp=Z,287nm,19.0s
NVL N'lazarevskaya 94.96 196 *e*P **P 11 11 33.4 +0.4**
NVL *e*S **SKSac 11 22 03.7 -4.1**
NVL pmax pmax
comp=Z,10.0nm,0.7s
NVL MLR MLR
comp=Z,3µm,20.0s
VRHR Novokhopersk 95.54 321 *e*P P 11 11 31.6 -4.4
VRHR pmax pmax
comp=Z,6.0nm,0.8s
VRHR pmax pmax
comp=N,3.0nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.8s
KMBO Kilima Mbogo 96.43 268 PFAKE 11 11 50.0 +8.8
KMBO LR LR
comp=Z,386nm,22.0s
KLMR Klimovskoe 96.78 331 *e*P **P 11 11 38.6 -2.8**
KLMR pmax pmax
comp=Z,32nm,1.4s
VORD Divnogorie 97.01 321 *e*P P 11 11 39.4 -3.3
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=Z,6.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 97.09 321 *e*P P 11 11 39.6 -3.4
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.9s
SNAA Sanae 98.07 193 *e*P Pdif 11 11 47.4 +0.2
comp=E,7.3nm,1.0s
OBN Obninsk 98.55 325 PFAKE 11 12 00.0 +11
OBN LR LR
comp=Z,587nm,20.0s
APA Apatity 98.94 338⇑ *i*P **P 11 11 48.0 -3.0**
MMAI Mount Meron Ar 99.97 302 LR LR 12 01 58.4
comp=Z,179nm,21.5s,baz=105,slow=38
CSS Prodhromos 101.66 304 PFAKE 11 12 10.0 +6.1
CSS LR LR
comp=Z,76nm,20.0s
ANTO Ankara 101.90 309 PFAKE 11 12 20.0 +15
ANTO LR LR
comp=Z,242nm,20.0s
FINES FINESS Array B 103.17 332 Pdif **Pdif 11 12 08.3 -1.6**
FINES FINESS Array B 103.17 332 Pdiff **Pdif 11 12 08.3 -1.6**
comp=Z,2.5nm,0.9s,baz=177,slow=3.8,SNR=5.5
KIEV Kiev 103.41 321 PFAKE 11 12 20.0 +8.8
KIEV LR LR
comp=Z,357nm,21.0s
LSZ Lusaka 103.55 253 PFAKE 11 12 20.0 +7.2
LSZ LR LR
comp=Z,514nm,20.0s
ISP Isparta 103.79 307 PFAKE 11 12 20.0 +6.6
ISP LR LR
comp=Z,215nm,20.0s
YKA Yellowknife Ar 104.65 27 Pdif **Pdif 11 12 16.0 -0.5**
YKA PKiKP **PKiKP 11 16 32.6 +0.5**
YKA PKKPbc **PKKPbc 11 28 02.9 -0.8**
YKA Yellowknife Ar 104.65 27 Pdiff **Pdif 11 12 16.0 -0.5**
comp=Z,0.2nm,0.7s,baz=291,slow=4.6,SNR=5.1
YKA PKiKP **PKiKP 11 16 32.6 +0.5**
comp=Z,0.3nm,0.9s,baz=309,slow=2.2,SNR=4.1
YKA PKKPbc **PKKPbc 11 28 02.8 -0.8**
comp=Z,0.5nm,1.0s,baz=100,slow=3.0,SNR=5.4
HAWA Hanford 105.37 43 PFAKE 11 16 50.0
HAWA LR LR
comp=Z,855nm,20.0s
NVAR Mina Array Bea 107.34 52 Pdif **Pdif 11 12 29.9 +0.6**
NVAR Mina Array Bea 107.34 52 Pdiff **Pdif 11 12 29.9 +0.6**
comp=Z,0.5nm,0.4s,baz=290,slow=2.6,SNR=2.4
SANT Santorini 107.95 306 PFAKE 11 16 50.0
SANT LR LR
comp=Z,158nm,20.0s
PMSA Palmer Station 108.76 172 PFAKE 11 16 50.0
PMSA LR LR
comp=Z,637nm,19.0s
PFO Pinyon Flat Ob 109.39 56 PFAKE 11 16 50.0
PFO LR LR
comp=Z,598nm,21.0s
PSZ Piszkesteto 109.92 319 PFAKE 11 16 50.0
PSZ LR LR
comp=Z,558nm,22.0s
BOZ Bozeman (W) 110.91 43 PFAKE 11 17 00.0
BOZ LR LR
comp=Z,415nm,19.0s
DUG Dugway 111.26 49 PFAKE 11 17 00.0
DUG LR LR
comp=Z,731nm,19.0s
TSUM Tsumeb 112.66 247 PFAKE 11 17 00.0
TSUM LR LR
comp=Z,494nm,19.0s
PDAR Pinedale Array 113.07 46 PKiKP **PKiKP 11 16 47.3 -1.5**
PDAR PKKPbc **PKKPbc 11 27 36.6 +0.2**
PDAR Pinedale Array 113.07 46 PKiKP **PKiKP 11 16 47.3 -1.5**
comp=Z,0.5nm,0.9s,baz=348,slow=4.0,SNR=2.8
PDAR PKKPbc **PKKPbc 11 27 36.6 +0.2**
comp=Z,0.8nm,0.9s,baz=119,slow=3.5,SNR=4.4
CLL Collm 113.14 324 *e*SS SS 11 33 42.0 +20
CLL LmH 12 11 00.0
comp=N,300nm,19.8s
CLL LmH 12 11 00.0
comp=E,400nm,21.9s
CLL LmV 12 16 00.0
comp=Z,300nm,19.8s
GERES GERESS Array B 113.59 321 PKiKP **PKiKP 11 16 49.1 -0.3**
GERES GERESS Array B 113.59 321 PKiKP **PKiKP 11 16 49.1 -0.3**
comp=Z,0.5nm,0.5s,baz=82,slow=2.8,SNR=6.2
TIP Timpagrande 114.26 311 PFAKE 11 17 00.0 +9.0
TIP LR LR
comp=Z,185nm,19.0s
TUC Tucson 114.29 57 PFAKE 11 17 00.0 +8.7
TUC LR LR
comp=Z,487nm,19.0s
CUC Castrocucco 114.77 312 PFAKE 11 17 00.0 +8.1
CUC LR LR
comp=Z,227nm,19.0s
CEL Celeste 115.13 310 PFAKE 11 17 00.0 +7.3
CEL LR LR
comp=Z,189nm,20.0s
FETA Feichten 116.11 320⇑ *i*PKiKP **PKPdf 11 16 55.5 +1.0**
comp=Z,8.6nm,1.5s
DAVA Damuels 116.54 321⇑ *i*PKPdf **PKPdf 11 16 54.2 -1.1**
comp=Z,7.3nm,1.0s
ISCO Idaho Springs 116.73 48 PFAKE 11 17 10.0 +14
ISCO LR LR
comp=Z,649nm,19.0s
ANMO Albuquerque 117.32 53 PKP **PKPdf 11 16 58.0 +0.8**
ANMO LR LR
comp=Z,558nm,20.0s
ANMO Albuquerque 117.32 53 PKP **PKPdf 11 16 58.0 +0.8**
comp=Z,0.6nm,0.7s,baz=243,slow=9.0,SNR=2.6
VLC Villacollemand 117.37 317 PFAKE 11 17 10.0 +13
VLC LR LR
comp=Z,675nm,21.0s
SDCO Great Sand Dun 117.37 50 PFAKE 11 17 10.0 +13
SDCO LR LR
comp=Z,386nm,19.0s
G27A Dupree 117.47 41 P **PKPdf 11 16 55.6 -1.4**
baz=118
HINF Hinteralfeld 118.20 322 *e*PKIKP **PKPdf 11 16 56.5 -1.8**
comp=Z,76nm,1.6s
HINF Hinteralfeld 118.20 322 *e*PKIKP **PKPdf 11 16 56.5 -1.8**
HINF Hinteralfeld 118.20 322 *e*PKPdf **PKPdf 11 16 56.5 -1.8**
Y24A Capitan 118.37 54 P **PKPdf 11 16 59.9 +0.6**
baz=118
V25A Rancho No Teng 118.56 52 P **PKPdf 11 17 00.2 +0.6**
baz=119
Z24A Sheeppen Canyo 118.57 55 P **PKPdf 11 16 59.6 0.0**
baz=119
MNTX Cornudas Mount 118.91 57 PFAKE 11 17 10.0 +10
MNTX LR LR
comp=Z,281nm,19.0s
LPG La Plagne 119.24 320 *e*PKIKP **PKPdf 11 16 59.3 -1.4**
LPG La Plagne 119.24 320 *e*PKIKP **PKPdf 11 16 59.3 -1.4**
LPG La Plagne 119.24 320 *e*PKPdf **PKPdf 11 16 59.3 -1.4**
MSKU Masuku 119.87 265 PFAKE 11 17 10.0 +7.6
MSKU LR LR
comp=Z,2.0nm,20.0s
J30A Dallas 119.87 42 P **PKPdf 11 17 01.9 +0.2**
baz=120
HOPE Hope Point 119.98 187 PFAKE 11 17 10.0 +8.6
HOPE LR LR
comp=Z,1.0nm,21.0s
R28A Tribune 119.99 49 P **PKPdf 11 17 02.8 +0.7**
baz=120
AGMN Agassiz Nation 119.99 36 PFAKE 11 17 10.0 +8.3
AGMN LR LR
comp=Z,820nm,20.0s
K30A Basset 120.04 43 P **PKPdf 11 17 02.3 +0.3**
baz=120
ORIF Oris-en-Rattie 120.05 320 *e*PKIKP **PKPdf 11 16 59.9 -2.1**
ORIF Oris-en-Rattie 120.05 320 *e*PKIKP **PKPdf 11 16 59.9 -2.1**
ORIF Oris-en-Rattie 120.05 320 *e*PKPdf **PKPdf 11 16 59.9 -2.1**
LOR Lormes 120.26 323 *e*PKIKP **PKPdf 11 17 01.9 -0.3**
comp=Z,69nm,1.6s
LOR Lormes 120.26 323 *e*PKPdf **PKPdf 11 17 01.9 -0.3**
MSTX Muleshoe 120.51 54 P **PKPdf 11 17 02.6 -0.7**
baz=121
SMF Signal de Mont 120.56 322 *e*PKIKP **PKPdf 11 17 01.0 -1.8**
SMF Signal de Mont 120.56 322 *e*PKIKP **PKPdf 11 17 01.0 -1.8**
SMF Signal de Mont 120.56 322 *e*PKPdf **PKPdf 11 17 01.0 -1.8**
527A Woodward Ranch 120.73 58 P **PKPdf 11 17 03.4 -0.4**
baz=121
AVF Avril sur Loir 120.79 323 *e*PKIKP **PKPdf 11 17 01.1 -2.1**
comp=Z,106nm,1.8s
AVF Avril sur Loir 120.79 323 *e*PKIKP **PKPdf 11 17 01.1 -2.1**
AVF Avril sur Loir 120.79 323 *e*PKPdf **PKPdf 11 17 01.1 -2.1**
KEST Kesra 120.85 309 PKP **PKPdf 11 17 03.5 -0.3**
KEST Kesra 120.85 309 PKP **PKPdf 11 17 03.5 -0.3**
comp=Z,4.1nm,1.1s,baz=72,slow=8.3,SNR=4.2
TXAR Lajitas Array 120.86 59 PKP **PKPdf 11 17 03.7 -0.3**
TXAR PKKPbc **PKKPab 11 27 09.9 +1.1**
TXAR Lajitas Array 120.86 59 PKP **PKPdf 11 17 03.7 -0.3**
comp=Z,0.8nm,0.9s,baz=318,slow=1.7,SNR=5.0
TXAR PKKPbc **PKKPab 11 27 09.9 +1.1**
comp=Z,0.8nm,0.8s,baz=115,slow=5.9,SNR=9.8
R30A Dighton 121.15 48 P **PKPdf 11 17 04.3 0.0**
baz=121
BGF Bois d'Agland 121.21 322 *e*PKIKP **PKPdf 11 17 02.8 -1.3**
BGF Bois d'Agland 121.21 322 *e*PKIKP **PKPdf 11 17 02.8 -1.3**
BGF Bois d'Agland 121.21 322 *e*PKPdf **PKPdf 11 17 02.8 -1.3**
Q31A Ellis 121.55 47 P **PKPdf 11 17 04.9 -0.1**
baz=122
ECSD EROS Data Cent 121.61 41 P **PKPdf 11 17 04.7 -0.3**
baz=122
X30A Coker Ranch, T 121.89 53 P **PKPdf 11 17 05.5 -0.3**
baz=122
429A Davenport Ranc 122.07 57 P **PKPdf 11 17 06.6 +0.3**
baz=122
Q32A Meitler Ranch, 122.16 47 P **PKPdf 11 17 06.4 +0.3**
baz=122
530A J-C Ranch, Com 122.65 58 P **PKPdf 11 17 07.4 0.0**
baz=123
EYMN Ely 122.68 35 PFAKE 11 17 20.0 +13
EYMN LR LR
comp=Z,1µm,19.0s
V32A Arapaho 122.92 51 P **PKPdf 11 17 07.6 -0.2**
baz=123
431A Sonora 123.13 57 P **PKPdf 11 17 08.7 +0.3**
baz=123
232A Coleman 123.60 55 P **PKPdf 11 17 09.4 +0.2**
baz=124
JCT Junction City 123.85 57 *e*PKPdf **PKPdf 11 17 10.0 +0.3**
JCT LR LR
comp=Z,514nm,19.0s
JCT Junction City 123.85 57 P **PKPdf 11 17 09.5 -0.1**
baz=124
532A Rocksprings 123.86 57 P **PKPdf 11 17 09.5 -0.3**
baz=124
632A Uvalde 124.11 58 P **PKPdf 11 17 10.6 +0.4**
baz=124
333A Richland Sprin 124.30 56 P **PKPdf 11 17 10.6 +0.1**
baz=124
433A Art 124.37 56 P **PKPdf 11 17 10.7 0.0**
baz=124
234A Clairette 124.80 55 P **PKPdf 11 17 11.7 +0.3**
baz=125
334A Lometa 124.91 55 P **PKPdf 11 17 11.4 -0.3**
baz=125

434A	**Burnet**	**125.03**	**56**	P		**PKPdf**	**11 17 11.9**	**0.0**
	baz=125								
TAM	**Tamanrasset**	**127.25**	**294**	PFAKE			11 17 30.0	+13
TAM				LR	LR				
	comp=Z,281nm,20.0s								
NATX	**Nacogdoches**	**127.68**	**54**	PFAKE			11 17 30.0	+13
NATX				LR	LR				
	comp=Z,2μm,22.0s								
PLCA	**Paso Flores**	**128.93**	**156**	PKP		**PKPdf**	**11 17 20.1**	**+0.9**
PLCA				*e*PKPdf		**PKPdf**	**11 17 20.1**	**+0.9**
PLCA	**Paso Flores**	**128.93**	**156**	PKP		**PKPdf**	**11 17 20.1**	**+0.9**
	comp=Z,6.0nm,1.0s,baz=194,slow=7.2,SNR=4.2								
PAB	**San Pablo**	**129.26**	**318**	PFAKE			11 17 30.0	+10
PAB				LR	LR				
	comp=Z,580nm,19.0s								
TORD	**Torodi Ar. Bea**	**132.19**	**283**	PKP		**PKPdf**	**11 17 27.5**	**+1.6**
TORD	**Torodi Ar. Bea**	**132.19**	**283**	PKP		**PKPdf**	**11 17 27.5**	**+1.6**
	comp=Z,4.2nm,0.8s,baz=49,slow=0.8,SNR=16								
TKL	**Tuckaleechee C**	**134.17**	**44**	PKP		**PKPdf**	**11 17 30.0**	**+0.9**
TKL	**Tuckaleechee C**	**134.17**	**44**	PKP		**PKPdf**	**11 17 30.0**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=225,slow=4.3,SNR=2.1								
TRQA	**Tornquist**	**134.34**	**163**	PFAKE			11 17 40.0	+11
TRQA				LR	LR				
	comp=Z,1μm,20.0s								
TEIG	**Tepich**	**136.55**	**66**	PFAKE			11 17 50.0	+16
TEIG				LR	LR				
	comp=Z,308nm,20.0s								
CBN	**Corbin**	**136.77**	**37**	PFAKE			11 17 50.0	+16
CBN				LR	LR				
	comp=Z,1μm,21.0s								
LCO	**Las Campanas**	**138.44**	**147**	PFAKE			11 17 50.0	+12
LCO				LR	LR				
	comp=Z,681nm,19.0s								
TGUH	**Tegucigalpa,Un**	**138.66**	**75**	PFAKE			11 17 50.0	+12
TGUH				LR	LR				
	comp=Z,311nm,19.0s								
KIC	**Kosan Boka**	**138.77**	**273**	*e*P		**PKPdf**	**11 17 37.2**	**-1.0**
	comp=Z,82nm,1.6s								
DBIC	**Dimbokro**	**138.89**	**274**	PKP		**PKPdf**	**11 17 38.5**	**+0.1**
DBIC				*e*PKPdf		**PKiKP**	**11 17 39.3**	**-1.4**
DBIC	**Dimbokro**	**138.89**	**274**	PKP		**PKPdf**	**11 17 38.5**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=63,slow=9.0,SNR=2.8								
TIC	**Toumodi**	**139.05**	**274**	*e*P		**PKPdf**	**11 17 37.1**	**-1.7**
	comp=Z,4.5nm,0.3s								
LIC	**Lamto**	**139.05**	**273**	*e*P		**PKPdf**	**11 17 40.8**	**+2.1**
	comp=Z,41nm,1.4s								
LVC	**Limon Verde**	**144.37**	**142**	*e*PKPdf		**PKPdf**	**11 17 48.6**	**+0.2**
NNA	**Nana**	**144.96**	**120**	*e*PKPab		**PKPdf**	**11 17 50.1**	**+0.8**
NNA				LR	LR				
	comp=Z,744nm,21.0s								
ASCN	**Ascension**	**145.60**	**248**	*e*PKPdf		**PKPdf**	**11 17 49.6**	**-0.8**
ASCN				LR	LR				
	comp=Z,986nm,20.0s								
BCIP	**Isla Barro Col**	**146.42**	**82**	PFAKE			11 18 00.0	+6.1
BCIP				LR	LR				
	comp=Z,527nm,19.0s								
CPUP	**Villa Florida**	**146.66**	**162**	*e*PKPbc		**PKPbc**	**11 17 54.0**	**+0.6**
CPUP	**Villa Florida**	**146.66**	**162**	PKPbc		**PKPbc**	**11 17 53.8**	**+0.4**
	comp=Z,46nm,0.9s,baz=197,slow=2.8,SNR=36								
OTAV	**Otavalo**	**147.38**	**98**	*e*PKPbc		**PKPab**	**11 17 58.0**	**-0.3**
OTAV				*e*PKPab		**PKiKP**	**11 18 00.2**	**+1.5**
OTAV				LR	LR				
	comp=Z,336nm,20.0s								
LPAZ	**La Paz**	**149.41**	**135**	PKPbc		**PKPbc**	**11 18 03.0**	**+1.2**
LPAZ	**La Paz**	**149.41**	**135**	PKPbc		**PKPbc**	**11 18 03.0**	**+1.2**
	comp=Z,33nm,0.9s,baz=214,slow=1.2,SNR=46								
GRTK	**Grand Turk**	**151.01**	**54**	PFAKE			11 18 10.0	-2.2
GRTK				LR	LR				
	comp=Z,830nm,20.0s								
ROSC	**El Rosal**	**151.96**	**90**	PKPbc		**PKPbc**	**11 18 07.9**	**+0.3**
ROSC	**El Rosal**	**151.96**	**90**	PKPbc		**PKPbc**	**11 18 07.9**	**+0.3**
	comp=Z,19nm,1.0s,baz=261,slow=22,SNR=4.1								
SDDR	**Presa de Saban**	**152.06**	**59**	PFAKE			11 18 10.0	+2.7
SDDR				LR	LR				
	comp=Z,433nm,20.0s								
SAML	**Samuel**	**157.85**	**130**	*e*PKPdf		**PKPdf**	**11 18 10.1**	**+1.4**
SAML				LR	LR				
	comp=Z,465nm,19.0s								
FDF	**Fort de France**	**162.60**	**57**	PFAKE			11 18 20.0	+6.0
FDF				LR	LR				
	comp=Z,485nm,20.0s								
GRGR	**Grenville**	**163.32**	**65**	PFAKE			11 18 30.0	+15
GRGR				LR	LR				
	comp=Z,460nm,20.0s								
RCBR	**Riachuelo**	**164.84**	**223**	PFAKE			11 18 30.0	+14
RCBR				LR	LR				
	comp=Z,444nm,19.0s								
PTGA	**Pitinga**	**164.95**	**113**	PFAKE			11 18 30.0	+14
PTGA				LR	LR				
	comp=Z,480nm,20.0s								

*IDC **12** 11:11:47.0±6.7,35°.81N×140°.32E,h64km±49km,mb3.3/6, mb1 3.4/6,mb1mx3.2/26,mbtmp3.6/6,Error ellipse: s-maj=71.4km s-min=20.0km az=65.0*
*ISCJB **12** 11:11:47.1±0.5,35°.74N±0°.04×140°.10E±0°.06,h77km±3km, mb3.6/6,Error ellipse: s-maj=8.4km s-min=5.3km az=149.4*
*JMA **12** 11:11:47.9±0.2,35°.80N×140°.12E,h65km±2km,M3.2*
ISC 12 11:11:48.1±0.9,35°.75N±0°.04×140°.10E±0°.06,h72km±7km, n19,σ0°98/32,mb3.7/6,2C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.29**	**257**	⇓P	**Pn**	**11 11 59.6**	**+0.2**
TOK				S	**Sn**	**11 12 08.4**	**+0.8**
JCN	**Nagara**	**0.34**	**166**	⇑P	**Pn**	**11 11 59.8**	**0.0**
JCN				S	**Sn**	**11 12 09.5**	**+1.1**
I30JP	**ISUMI INFRASON**	**0.48**	**159**	P	**Pn**	**11 12 00.5**	**-0.4**
I30JP				S	**Sn**	**11 12 12.1**	**+1.8**
JYT	**Yasato**	**0.48**	**9**	⇑P	**Pn**	**11 11 59.7**	**-1.2**
JYT				S	**Sn**	**11 12 08.4**	**-1.9**
JAG	**Ashikaga**	**0.85**	**322**	⇓P	**Pn**	**11 12 04.2**	**-0.7**
JAG				S	**Sn**	**11 12 16.3**	**-1.1**
JOD2	**Odawara 2**	**0.96**	**240**	⇓P	**Pn**	**11 12 05.5**	**-0.8**
JOD2				S	**Sn**	**11 12 18.3**	**-1.5**
BSO3	**Boso 3**	**1.01**	**161**	P	**Pn**	**11 12 05.8**	**-0.8**
BSO3				S	**Sn**	**11 12 20.6**	**+0.3**
JRY	**Ryogami san**	**1.01**	**285**	⇓P	**Pn**	**11 12 06.9**	**0.0**
JRY				*e*S	**Sn**	**11 12 21.5**	**+0.7**
JIM2	**Oshima 3**	**1.17**	**208**	P	**Pn**	**11 12 07.4**	**-1.5**
JIM2				S	**Sn**	**11 12 22.4**	**-2.0**
JKT	**Katashina**	**1.22**	**326**	P	**Pn**	**11 12 09.1**	**-0.6**
JKT				S	**Sn**	**11 12 25.5**	**-0.2**
JYN	**Shimodo**	**1.29**	**259**	⇓P	**Pn**	**11 12 10.2**	**-0.3**
JYN				S	**Sn**	**11 12 26.6**	**-0.8**
MJAR	**Matsushiro Arr**	**1.72**	**298**	P	**Pn**	**11 12 16.1**	**0.0**
	16nm,0.3s,baz=102,slow=14,SNR=153						
MJAR				S	**Sn**	**11 12 38.6**	**+1.3**
	10.0nm,0.3s,baz=92,slow=26,SNR=9.5						
MAT	**Matsushiro**	**1.72**	**298**	P	**Pn**	**11 12 16.5**	**+0.4**
MAT				S	**Sn**	**11 12 37.4**	**0.0**
ZALV	**Zalesovo Beam**	**42.01**	**313**	P	**P**	**11 19 32.8**	**+0.6**
	0.4nm,0.4s,baz=96,slow=5.8,SNR=3.4						
MKAR	**Makanchi Array**	**43.91**	**303**	P	**P**	**11 19 48.1**	**+0.4**
	0.3nm,0.6s,baz=80,slow=8.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**45.97**	**309**	P	**P**	**11 20 04.2**	**+0.4**
	0.6nm,0.3s,baz=86,slow=8.1,SNR=4.8						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**11 21 16.6**	**-0.3**
	0.5nm,0.3s,baz=0.7,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**59.39**	**187**	P	**P**	**11 21 43.8**	**+0.7**
	0.2nm,0.5s,baz=20,slow=11,SNR=6.5						
AKASG	**Malin Array Be**	**74.66**	**322**	P	**P**	**11 23 19.6**	**0.0**
	0.5nm,0.3s,baz=45,slow=5.9,SNR=4.1						

JMA 12 11:51:44.1±0.2,25°.34N×123°.50E,h172km±4km,M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.98**	**207**	P	Pn	11 52 11.2	+0.3
YOJ				*e*S	Sn	11 52 31.2	-0.3
IRIF	**Iriomote-Funau**	**1.02**	**168**	P	Pn	11 52 11.1	-0.1
IRIF				*e*S	Sn	11 52 32.5	+0.4
JIJ	**Ishigaki jima**	**1.13**	**149**	P	Pn	11 52 12.1	0.0
JIJ				*e*S	Sn	11 52 33.6	-0.1
JKRS	**Kuro-shima**	**1.19**	**157**	P	Pn	11 52 12.9	+0.3
JKRS				*e*S	Sn	11 52 34.9	+0.4
JTJ	**Tarama**	**1.29**	**122**	P	Pn	11 52 13.8	+0.4
JTJ				*e*S	Sn	11 52 36.7	+0.7
HATJ	**Hateruma jima**	**1.31**	**168**	P	Pn	11 52 13.9	+0.3
HATJ				S	Sn	11 52 36.0	-0.4
JMJ	**Miyako jima 2**	**1.71**	**107**	P	Pn	11 52 17.5	0.0
JOGS	**Gusukube**	**1.82**	**108**	P	Pn	11 52 18.9	+0.2
JOGS				S	Sn	11 52 45.5	+0.1
JKE	**Kume jima 2**	**3.12**	**71**	P	Pn	11 52 31.8	-2.0

MEX 12 11:58:09.4±0.4,17°.47N×101°.21W,h37km±16km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.28**	**299**	*i* P	Pn	11 58 15.8	-1.8
ZIIG				*e*S	Sn	11 58 20.6	-4.4
ARIG	**Puente Sto Nin**	**1.15**	**45**	*e*P	Pn	11 58 27.2	-1.7
ARIG				*i* S	Sn	11 58 41.1	-2.4
ACX	**Acapulco**	**1.42**	**115**	*i* P	Pn	11 58 36.9	+4.1
PLIG	**Platanillo**	**1.86**	**60**	*i* P	Pn	11 58 38.1	-0.8
PLIG				*i* S	Sn	11 58 59.7	-1.6
TLIG	**Tlapa**	**2.52**	**88**	*i* P	Pn	11 58 47.2	-0.8
TLIG				*i* S	Sn	11 59 15.6	-2.1

DJA 12 12:27:13.4±0.5,1°.N±5°×12°.3E±°,h10km,M3.5/5,MLv3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.13**	**130**	P	Pg	12 27 14.4	-2.1
MRSI	**Marisa**	**1.00**	**256**	P	Pg	12 27 32.2	-0.4
MRSI				S	Sn	12 27 47.9	+0.3
KMSI	**Cibinong**	**1.08**	**98**	P	Pg	12 27 34.4	+0.2
KMSI				S	Sg	12 27 45.2	-3.1
LUWI	**Luwuk**	**1.75**	**185**	P	Pn	12 27 42.7	-1.2
LUWI				S	Sg	12 28 13.5	+3.6
APSI	**Ampana**	**2.05**	**218**	P	Pn	12 27 47.0	-1.0
TTSI	**Tana Toraja**	**4.85**	**220**	P	Pn	12 28 24.5	-2.0

DJA 12 12:31:10.2±1.2,1°.N±8°×12°.3E±°,h10km,M4.0/3,MLv4.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.71**	**197**	P	Pg	12 31 22.5	-1.5
KMSI	**Cibinong**	**1.06**	**134**	P	Pg	12 31 27.8	-2.8
KMSI				S	Sg	12 31 44.3	-0.2
MRSI	**Marisa**	**1.53**	**237**	P	Pn	12 31 35.6	-2.0
LUWI	**Luwuk**	**2.39**	**191**	P	Pn	12 31 50.8	+1.4
LUWI				S	Sn	12 32 19.1	+0.3
APSI	**Ampana**	**2.72**	**215**	P	Pn	12 31 54.6	+0.7

*IDC **12** 12:33:36.3±1.1,1°.41N×123°.62E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/23,mbtmp3.6/6,Error ellipse: s-maj=127.8km s-min=20.6km az=67.0*
*ISCJB **12** 12:33:39.7±0.7,1°.44N±0°.06×123°.44E±0°.06,h32km, mb3.7/6,Error ellipse: s-maj=8.4km s-min=7.6km az=139.3*
*DJA **12** 12:33:42.2±0.9,1°.N±8°×12°.3E±°,h11km±7km,M4.5/12, mb4.8/4,mB5.0/2,MLv4.4/12,Mw(mB)4.3/2*
ISC 12 12:33:41.4±0.9,1°.37N±0°.07×123°.42E±0°.06,h32km,n18, σ1°68/19,mb3.7/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.84**	**209**	P	**Pn**	**12 33 54.5**	**-2.5**
KMSI	**Cibinong**	**0.97**	**145**	P	**Pb**	**12 34 00.2**	**+0.5**
MRSI	**Marisa**	**1.73**	**239**	P	**Pn**	**12 34 08.7**	**-0.6**
MRSI				S	**Sn**	**12 34 29.0**	**-1.2**
LUWI	**Luwuk**	**2.48**	**195**	P	**Pb**	**12 34 23.1**	**-2.3**
LUWI				S	**Sb**	**12 34 55.7**	**+0.1**
TOLI	**Toli-Toli**	**2.64**	**265**	P	x	12 34 22.5	
APSI	**Ampana**	**2.88**	**218**	P	**Pn**	**12 34 27.4**	**+2.3**
SANI	**Sanana**	**4.26**	**143**	P	**Pn**	**12 34 44.6**	**+0.5**
SANI				S	**Sn**	**12 35 31.9**	**-0.8**
LBMI	**Labuha**	**4.54**	**116**	P	Pn	12 34 52.9	+4.9
TTSI	**Tana Toraja**	**5.68**	**219**	P	**Pn**	**12 35 05.2**	**+1.6**
	110nm,0.7s,1μm0.4nm						
TTSI				S	**Sn**	**12 36 11.4**	**+3.7**
	110nm,0.7s,1μm0.4nm						
MMSI	**Mamuju**	**6.05**	**228**	P	x	12 35 09.7	
	49nm,0.6s,1μm0.2nm						
SPSI	**Sidrap Palu**	**6.44**	**215**	P	**Pn**	**12 35 15.6**	**+1.5**
	36nm,0.7s,0.1nm						
BNSI	**Bone**	**6.62**	**210**	P	**Pn**	**12 35 18.7**	**+2.1**
WRA	**Warramunga Arr**	**23.73**	**154**	P	**P**	**12 38 50.6**	**-0.4**
	1.3nm,0.6s,baz=334,slow=11,SNR=11						
SONM	**Songino Array**	**48.58**	**345**	P	**P**	**12 42 22.3**	**+0.3**
	0.8nm,0.9s,baz=156,slow=6.1,SNR=6.5						
MKAR	**Makanchi Array**	**57.68**	**328**	P	**P**	**12 43 29.6**	**+0.6**
	0.3nm,0.6s,baz=124,slow=8.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**61.25**	**335**	P	**P**	**12 43 52.4**	**-1.0**
	0.5nm,0.5s,baz=140,slow=7.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**62.00**	**329**	P	**P**	**12 43 59.0**	**+0.5**
	0.5nm,0.9s,baz=120,slow=6.7,SNR=5.4						
VNDA	**Vanda**	**81.54**	**172**	P	**P**	**12 45 54.7**	**-0.7**
	0.8nm,0.7s,baz=343,slow=3.7,SNR=4.2						

*DJA **12** 12:40:01.7±1.1,4°.N±4°×9°.6E±°,h19km±12km,M3.9/6, MLv3.9/6*
*IDC **12** 12:40:13.4±7.1,4°.06N×96°.88E,h80km±44km,mb3.3/2, mb1 3.6/4,mb1mx3.1/26,mbtmp3.3/4,ML3.3/2,Error ellipse: s-maj=156.5km s-min=23.4km az=59.0*
ISC 12 12:40:04.8±1.6,4°.46N±0°.05×96°.4E±0°.1,h33km,n15, σ1°78/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.94**	**35**	P	**Pn**	**12 40 20.1**	**-1.5**
LHMI				S	**Sn**	**12 40 32.4**	**-1.5**
TPTI		**1.42**	**147**	P	**Pn**	**12 40 26.7**	**-1.6**
TPTI				S	**Sn**	**12 40 45.6**	**-0.2**
LASI	**Langsa, Aceh**	**1.56**	**90**	P	x	12 40 31.1	
KCSI	**Kotacane, Aceh**	**1.65**	**124**	P	**Pn**	**12 40 30.8**	**-0.7**
KCSI				S	**Sb**	**12 40 55.2**	**+0.1**
SNSI	**Sinabang, Aceh**	**2.04**	**182**	P	Pb	12 40 55.2	+14
TSI	**Tuntungan**	**2.35**	**114**	P	**Pn**	**12 40 41.3**	**+0.2**
PSI	**Prapat**	**3.00**	**123**	P	x	12 40 51.6	
PSI	**Prapat**	**3.00**	**123**	P	**Pn**	**12 40 51.8**	**+1.6**
	6.1nm,0.3s,baz=322,slow=15,SNR=22						
PSI				S	**Sb**	**12 41 32.5**	**-1.5**
	5.4nm,0.3s,baz=136,slow=2.6,SNR=5.8						
GSI	**Gunungsitoli**	**3.34**	**160**	P	**Pn**	**12 40 53.1**	**-1.7**
KULM	**Kulim**	**4.31**	**79**	P	x	12 41 07.0	
IPM	**Ipoh**	**4.61**	**90**	P	x	12 41 11.7	
MNSI	**Mandailing Nat**	**4.83**	**139**	P	**Pn**	**12 41 17.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**14.13**	**10**	P	**P**	**12 43 32.9**	**+2.9**
	0.1nm,0.3s,baz=201,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**43.91**	**346**	P	P	12 48 16.3	+8.0
	0.2nm,0.4s,baz=159,slow=8.8,SNR=9.2						
WRA	**Warramunga Arr**	**44.47**	**124**	P	**P**	**12 48 11.9**	**-1.4**
	0.8nm,0.5s,baz=301,slow=9.2,SNR=13						

*CSEM **12** 12:54:40.7,39°.91N×32°.45E,h7km,MD2.6,Mining explosion. After DDA*
DDA 12 12:54:40.7,39°.91N×32°.45E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGKT	**Sivrigoynuk**	**0.73**	**336**	*i* P	Pg	12 54 53.5	-1.6
SGKT				*i* S	Sg	12 55 04.2	-0.6
SGKT	**Sivrigoynuk**	**0.73**	**336**	*i* P	Pg	12 54 53.5	-1.6
SGKT				*i* S	Sg	12 55 04.2	-0.6
ELDT	**Eldivan**	**0.95**	**52**	*i* P	Pg	12 54 59.0	-0.3
ELDT				*i* S	Sn	12 55 14.7	0.0
ELDT	**Eldivan**	**0.95**	**52**	*i* P	Pg	12 54 59.0	-0.3
ELDT				*i* S	Sn	12 55 14.7	-0.1
BCAM	**Yenicaga**	**0.95**	**342**	*i* P	Pg	12 54 59.2	-0.1
BCAM				*i* S	Sn	12 55 15.0	+0.3
BCAM	**Yenicaga**	**0.95**	**342**	*i* P	Pg	12 54 59.2	-0.1
BCAM				*i* S	Sn	12 55 15.0	+0.3
CDAG	**Cicekdag**	**1.51**	**100**	*i* P	Pb	12 55 09.3	0.0
CDAG				*i* S	Sg	12 55 32.8	+3.1
CDAG	**Cicekdag**	**1.51**	**100**	*i* P	Pb	12 55 09.3	0.0
CDAG				*i* S	Sg	12 55 32.8	+3.2

*ISK **12** 12:54:55.0,41°.61N×35°.46E,h4km,MD2.9*
*DDA **12** 12:54:55.2,41°.60N×35°.47E,h5km,MD2.9*
*CSEM **12** 12:54:56.5±0.4,41°.57N×35°.39E,h2km,MD2.9,Error ellipse: s-maj=9.6km s-min=4.5km az=25.0*
ISC 12 12:54:55.1±1.2,41°.66N±0°.05×35°.50E±0°.03,h7km±9km, n35,σ1°15/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIKM	**Dikmen**	**0.18**	**268**	*e*PG	**Pg**	**12 54 58.9**	**+0.1**
DIKM				*e*SG	**Sg**	**12 55 01.6**	**+0.4**
DIKM	**Dikmen**	**0.18**	**268**	*e*Pg	**Pg**	**12 54 58.9**	**+0.1**
DIKM				*e*Sg	**Sg**	**12 55 01.6**	**+0.4**
BOYT	**Boyabat**	**0.51**	**243**	*i* P	**Pg**	**12 55 04.4**	**-0.4**
BOYT				*i* S	**Sb**	**12 55 15.7**	**+1.8**
BOYT	**Boyabat**	**0.51**	**243**	*i* P	**Pg**	**12 55 04.4**	**-0.4**
BYBT	**Boyabat**	**0.58**	**252**	*e*PG	**Pg**	**12 55 05.9**	**-0.4**
BYBT				*e*SG	**Sb**	**12 55 14.1**	**-1.9**
BYBT	**Boyabat**	**0.58**	**252**	*e*Pg	**Pg**	**12 55 05.9**	**-0.4**
BYBT				*e*Sg	**Sb**	**12 55 14.1**	**-1.9**
HAVZ	**Havza**	**0.60**	**164**	*i* P	**Pg**	**12 55 06.5**	**-0.2**
HAVZ				*i* S	**Sg**	**12 55 14.6**	**+0.1**
HAVZ	**Havza**	**0.60**	**164**	*i* P	**Pg**	**12 55 06.5**	**-0.2**
HAVZ				*i* S	**Sg**	**12 55 14.6**	**+0.1**
KVT	**Kavak**	**0.71**	**144**	*e*PG	**Pg**	**12 55 09.0**	**+0.3**
KVT				*e*SG	**Sb**	**12 55 19.2**	**-0.4**
KVT	**Kavak**	**0.71**	**144**	*e*Pg	**Pg**	**12 55 09.0**	**+0.3**
KVT				*e*Sg	**Sb**	**12 55 19.2**	**-0.4**
BZK	**Bozkurt**	**1.16**	**286**	*e*PN	**Pb**	**12 55 17.4**	**0.0**
BZK	**Bozkurt**	**1.16**	**286**	*e*Pn	**Pb**	**12 55 17.4**	**0.0**
CTKT	**Corum**	**1.16**	**208**	*i* P	**Pg**	**12 55 16.1**	**-1.3**
CTKT	**Corum**	**1.16**	**208**	*i* P	**Pg**	**12 55 16.1**	**-1.3**
TOS	**Tosya**	**1.27**	**241**	*e*PN	**Pb**	**12 55 18.9**	**-0.5**
TOS	**Tosya**	**1.27**	**241**	*e*Pn	**Pb**	**12 55 18.9**	**-0.5**
ILGA	**Ilgaz**	**1.47**	**246**	*i* P	**Pn**	**12 55 21.7**	**-0.5**
ILGA				*i* S	**Sn**	**12 55 42.7**	**+0.8**
ILGA	**Ilgaz**	**1.47**	**246**	*i* P	**Pn**	**12 55 21.7**	**-0.5**
ILGA				*i* S	**Sn**	**12 55 42.7**	**+0.8**
ILGA	**Ilgaz**	**1.47**	**246**	*i* P	**Pn**	**12 55 21.7**	**-0.5**
ILGA				*i* S	**Sn**	**12 55 42.7**	**+0.8**
TOKA	**Tokat**	**1.52**	**151**	*i* P	**Pg**	**12 55 25.0**	**+0.7**
TOKA				*i* S	**Sg**	**12 55 47.2**	**+3.2**
TOKA	**Tokat**	**1.52**	**151**	*i* P	**Pg**	**12 55 25.0**	**+0.7**
TOKA				*i* S	**Sg**	**12 55 47.2**	**+3.2**
CORM	**Corum**	**1.62**	**204**	*e*PN	**Pb**	**12 55 24.3**	**-1.0**
CORM	**Corum**	**1.62**	**204**	*e*Pn	**Pb**	**12 55 24.3**	**-1.0**
ELDT	**Eldivan**	**1.95**	**234**	*i* P	**Pb**	**12 55 31.1**	**0.0**
ELDT				*i* S	**Sg**	**12 55 57.9**	**+0.1**
ELDT	**Eldivan**	**1.95**	**234**	*i* P	**Pb**	**12 55 31.1**	**0.0**
YOZ	**Yozgat**	**2.02**	**184**	*e*PN	**Pn**	**12 55 30.1**	**+0.5**
YOZ	**Yozgat**	**2.02**	**184**	*e*Pn	**Pn**	**12 55 30.2**	**+0.5**
SVSK	**Karacayir**	**2.08**	**146**	*e*PN	**Pb**	**12 55 31.7**	**-1.3**
SVSK	**Karacayir**	**2.08**	**146**	*e*Pn	**Pb**	**12 55 31.7**	**-1.3**
SAFT	**Safranbolu**	**2.15**	**260**	*e*PN	**Pn**	**12 55 32.5**	**+1.1**
SAFT	**Safranbolu**	**2.15**	**260**	*e*Pn	**Pn**	**12 55 32.5**	**+1.1**
SUSE	**Susehri**	**2.51**	**124**	*i* P	**Pb**	**12 55 39.4**	**-1.1**
SUSE				*i* S	**Sg**	**12 56 15.6**	**+0.1**
SUSE	**Susehri**	**2.51**	**124**	*i* P	**Pb**	**12 55 39.4**	**-1.1**
KELT	**Kelkit**	**3.22**	**117**	*i* P	**Pb**	**12 55 50.2**	**-2.5**
KELT				*i* S	**Sb**	**12 56 32.1**	**-0.1**
KELT	**Kelkit**	**3.22**	**117**	*i* P	**Pb**	**12 55 50.2**	**-2.5**

*ISCJB **12** 13:02:10.8±0.7,53°.09N±0°.06×166°.80W±0°.07,h37km, mb3.3/5,MS2.8/1,Error ellipse: s-maj=9.3km s-min=5.3km az=157.3*
*NEIC **12** 13:02:11.7,53°.11N×166°.79W,h23km,ML3.7(AEIC),After AEIC.*
*IDC **12** 13:02:17.7±4.7,52°.76N×167°.05W,h106km±47km,mb3.0/5, mb1 3.3/7,mb1mx3.1/30,mbtmp3.1/7,MS3.0/1,Ms1 3.0/1, ms1mx2.6/14,Error ellipse: s-maj=50.0km s-min=19.1km az=5.0*
ISC 12 13:02:13.0±0.9,53°.14N±0°.09×166°.84W±0°.05,h37km,n37, σ1°43/32,mb3.2/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGOD	**Makushin Gods**	**0.65**	**358**	P	**Pn**	**13 02 24.1**	**-1.8**
MREP	**Makushin Rep't**	**0.67**	**5**	P	**Pn**	**13 02 24.8**	**-1.3**
OKFG	**Magazine Ridge**	**0.70**	**293**	P	**Pn**	**13 02 24.9**	**-1.4**
OKFG				S	**Sn**	**13 02 35.2**	**-0.7**
UNV	**Unalaska Valle**	**0.73**	**16**	P	**Pn**	**13 02 24.3**	**-2.4**
MSW	**Makushin Switc**	**0.77**	**2**	P	**Pn**	**13 02 25.7**	**-1.6**
MCIR	**Makushin Cirqu**	**0.81**	**358**	P	**Pn**	**13 02 26.9**	**-1.0**
MTBL	**Makushin Table**	**0.83**	**6**	P	**Pn**	**13 02 26.9**	**

	14nm,0.9s						
AAK				Lg	Lg	13 06 20.6	
	17nm,0.8s						
AAK	**Ala-Archa**	**7.07**	**343**	Pn	**Pn**	**13 04 24.4**	**+1.0**
	0.3nm,0.3s,baz=112,slow=4.8,SNR=3.4						
AAK				Sn	**Sn**	**13 05 46.2**	**+2.3**
	baz=342,slow=20,SNR=2.3						
AAK				Lg	Lg	13 06 17.8	
	0.6nm,0.3s,baz=270,slow=20,SNR=3.5						
TKM2	**Tokmak 2**	**7.13**	**350**	⇓Pn	**Pn**	**13 04 24.4**	**0.0**
	1.9nm,0.6s						
TKM2				⇑Pg	Pb	13 04 45.9	+2.1
	2.7nm,0.6s						
TKM2				⇑Lg	Lg	13 06 19.1	
	12nm,0.7s						
KK31	**Karatay Array**	**8.91**	**326**	⇑Pn	Pn	13 04 49.2	+0.6
	0.8nm,0.5s,baz=120,slow=12,SNR=5.7						
KK31				⇑Sn	**Sn**	**13 06 29.2**	**+0.2**
	1.5nm,0.5s,baz=149,slow=18,SNR=3.6						
DANN	**Dangsing**	**9.30**	**142**	*e*P	**Pn**	**13 04 52.4**	**-1.8**
	13nm,0.4s						
KOLN	**Koldanda**	**9.71**	**145**	*e*P	**Pn**	**13 04 59.8**	**+0.1**
	8.5nm,0.4s						
GKN	**Gorkha**	**10.03**	**140**	*e*P	**Pn**	**13 05 02.8**	**-1.3**
	11nm,0.4s						
KKN	**Kakani**	**10.54**	**138**	*e*P	**Pn**	**13 05 09.0**	**-2.2**
DMN	**Daman**	**10.59**	**139**	*e*P	**Pn**	**13 05 09.9**	**-2.0**
	5.1nm,0.4s						
GUN	**Gumba**	**10.78**	**135**	*e*P	**Pn**	**13 05 13.2**	**-1.4**
	8.3nm,0.5s						
PKI	**Pulchoki**	**10.78**	**138**	*e*P	**Pn**	**13 05 12.7**	**-1.9**
	7.4nm,0.6s						
JIRN	**Jiri**	**11.15**	**135**	*e*P	**Pn**	**13 05 18.7**	**-1.0**
	12nm,0.4s						
MK31	**Makanchi Array**	**11.49**	**17**	⇑Pn	**Pn**	**13 05 24.0**	**+0.1**
	1.8nm,0.9s,baz=202,slow=14,SNR=20						
MK31				⇑Sn	**Sn**	**13 07 33.0**	**+0.6**
	1.7nm,0.7s,baz=192,slow=23,SNR=5.1						
MKAR	**Makanchi Array**	**11.49**	**17**	Pn	**Pn**	**13 05 23.5**	**-0.5**
	0.3nm,0.3s,baz=200,slow=12,SNR=14						
MKAR				Sn	**Sn**	**13 07 31.6**	**-0.8**
	0.2nm,0.3s,baz=195,slow=22,SNR=5.2						
RAMN	**Ramite**	**11.93**	**136**	*e*P	**Pn**	**13 05 28.4**	**-1.8**
	6.6nm,0.4s						
TAPN	**Taplejung**	**12.28**	**131**	*e*P	**Pn**	**13 05 33.2**	**-1.9**
	8.0nm,0.5s						
KURBB	**Kurchatov Arra**	**14.73**	**3**	Pn	**Pn**	**13 06 07.5**	**-0.7**
	0.0nm,0.3s,baz=187,slow=12,SNR=4.8						
KURBB				Lg	Lg	13 10 31.0	
	0.0nm,0.3s,baz=185,slow=30,SNR=3.3						
BVAR	**Borovoye Array**	**17.80**	**346**	P	**P**	**13 06 47.1**	**-1.2**
	0.2nm,0.3s,baz=170,slow=8.8,SNR=3.0						
AB31	**Akbulak array**	**18.43**	**322**	⇓P	**P**	**13 06 56.0**	**+0.8**
	0.5nm,0.5s,baz=127,slow=12,SNR=18						
ZALV	**Zalesovo Beam**	**18.78**	**14**	P	**P**	**13 06 58.5**	**-0.5**
	0.0nm,0.3s,baz=212,slow=13,SNR=1.9						
SONM	**Songino Array**	**24.56**	**52**	P	**P**	**13 08 02.4**	**+2.6**
	0.8nm,0.6s,baz=255,slow=9.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**25.82**	**127**	P	**P**	**13 08 15.8**	**+4.4**
	0.6nm,0.5s,baz=301,slow=9.3,SNR=4.8						
FINES	**FINESS Array B**	**40.87**	**325**	P	P	13 10 17.8	-3.8
	1.9nm,0.9s,baz=126,slow=9.7,SNR=6.3						
ARCES	**ARCES Array B**	**43.69**	**336**	P	**P**	**13 10 43.6**	**-0.9**
	3.4nm,0.9s,baz=101,slow=8.7,SNR=2.5						
NOA	**NORSAR Array B**	**47.93**	**323**	P	**P**	**13 11 17.2**	**-0.9**
	0.3nm,0.5s,baz=91,slow=7.7,SNR=2.7						
ILAR	**Eielson Array**	**73.85**	**18**	P	**P**	**13 14 15.1**	**+0.8**
	0.2nm,0.7s,baz=302,slow=5.2,SNR=3.0						
WRA	**Warramunga Arr**	**77.42**	**126**	P	**P**	**13 14 35.3**	**-0.1**
	1.1nm,1.2s,baz=316,slow=3.9,SNR=3.1						
YKA	**Yellowknife Ar**	**81.47**	**6**	P	**P**	**13 14 56.0**	**-0.8**
	0.1nm,0.4s,baz=344,slow=5.6,SNR=3.2						

SKHL 12 13:11:39.5±0.5, 44°51N×149°09E, h35km, mb4.2/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.13**	**310**	*e*P	Pn	13 11 58.2	-0.6
KUR				AMB	AMB	13 11 58.7	
	160nm,0.4s						
KUR				*e*S	Sn	13 12 11.9	-1.2
KUR				A	A	13 12 12.7	
	370nm,0.4s						
KUR				A	A	13 12 12.7	
	240nm,0.4s						
SHO	**Shikotan**	**1.75**	**249**	*e*P	Pn	13 12 06.9	-0.4
SHO				AMB	AMB	13 12 08.6	
	102nm,0.8s						
SHO				*e*S	Sn	13 12 27.8	-0.5
SHO				A	A	13 12 34.0	
	124nm,1.1s						
SHO				A	A	13 12 34.0	
	133nm,1.1s						

MEX 12 13:24:44.9±0.9, 17°50N×101°23W, h31km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.25**	**294**	*e*P	Pb	13 24 50.4	-1.4
ZIIG				*i* S	Sb	13 24 55.5	-1.0
ARIG	**Puente Sto Nin**	**1.14**	**47**	*e*P	Pn	13 25 01.9	-2.9
ARIG				*i* S	Sn	13 25 16.6	-2.8
ACX	**Acapulco**	**1.45**	**116**	*e*P	Pb	13 25 11.5	+0.1
ACX				*i* S	Sb	13 25 29.2	-0.3
PLIG	**Platanillo**	**1.86**	**61**	*i* P	Pn	13 25 13.6	-1.2
PLIG				*i* S	Sn	13 25 35.4	-2.0
MOIG	**Morelia**	**2.16**	**1**	*e*P	Pn	13 25 17.5	-1.6
MOIG				*e*S	Sn	13 25 41.4	-3.7
MMIG	**Aquila**	**2.17**	**291**	*i* P	Pn	13 25 17.4	-1.5
MMIG				*i* S	Sn	13 25 41.6	-3.1
YAIG	**Yautepec**	**2.46**	**56**	*e*P	Pn	13 25 21.4	-1.6
YAIG				*e*S	Sn	13 25 48.0	-4.2
TLIG	**Tlapa**	**2.54**	**88**	*e*P	Pn	13 25 22.1	-2.0
TLIG				*i* S	Sn	13 25 51.3	-2.9

IDC ***12*** *13:35:45.0±1.7, 0°98N×96°67E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=28.5km s-min=24.6km az=154.0*
ISCJB ***12*** *13:34:47.5±1.1, 1°18N±0°07×96°88E±0°07, h25km, mb3.5/4, Error ellipse: s-maj=12.6km s-min=7.1km az=140.6*
DJA ***12*** *13:34:47.2±1.4, 1°N±8°×9°7E±1°2, h22km±32km, M3.4/5, MLv3.4/5*

ISC 12 13:34:49.0±1.3, 1°18N±0°10×96°83E±0°10, h25km, n17, σ1ⁱ971/14, mb3.6/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.32**	**338**	P	**Pn**	**13 35 09.8**	**-2.0**
SNSI				S	**Sn**	**13 35 25.8**	**-2.8**
TPTI		**2.10**	**10**	P	**Pn**	**13 35 21.2**	**-1.3**
TPTI				S	**Sn**	**13 35 47.5**	**-0.3**
KCSI	**Kotacane, Aceh**	**2.51**	**22**	P	**Pn**	**13 35 27.1**	**-1.1**
KCSI				S	**Sn**	**13 35 57.8**	**-0.2**
PSI	**Prapat**	**2.64**	**52**	P	x	13 35 28.9	
PSI	**Prapat**	**2.64**	**52**	Pn	**Pn**	**13 35 29.6**	**-0.5**
	1.8nm,0.3s,baz=263,slow=4.9,SNR=7.7						
PSI				Lg	Lg	13 36 16.2	
	1.2nm,0.3s,baz=198,slow=11,SNR=3.8						
MNSI	**Mandailing Nat**	**2.78**	**98**	P	**Pn**	**13 35 31.0**	**-0.9**
MNSI				S	**Sn**	**13 36 01.4**	**-3.2**
CMAR	**Chiang Mai Arr**	**17.29**	**7**	P	**P**	**13 38 51.5**	**+1.3**
	baz=192,slow=11,SNR=5.5						
H08S2	**Diego Garcia H**	**25.81**	**250**	T	T	14 07 13.8	
	baz=71,slow=75,SNR=247						
H08S3	**Diego Garcia H**	**25.81**	**250**	T	T	14 07 16.7	
	baz=71,slow=75,SNR=275						
H08S1	**Diego Carcia H**	**25.82**	**250**	T	T	14 07 17.8	
	baz=71,slow=75,SNR=180						
H01W3	**Cape Leeuwin H**	**39.37**	**157**	T	T	14 24 02.7	
	baz=334,slow=75,SNR=7.6						
H01W2	**Cape Leeuwin H**	**39.38**	**157**	T	T	14 24 04.9	
	baz=334,slow=75,SNR=7.4						
H01W1	**Cape Leeuwin H**	**39.39**	**157**	T	T	14 24 02.2	
	baz=334,slow=75,SNR=4.7						
WRA	**Warramunga Arr**	**42.34**	**122**	P	**P**	**13 42 41.6**	**+0.2**
	0.4nm,0.6s,baz=300,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**13 43 20.6**	**+1.2**
	0.2nm,0.4s,baz=171,slow=8.6,SNR=4.1						
SONM	**Songino Array**	**47.21**	**9**	P	**P**	**13 43 20.7**	**+0.9**
	0.4nm,0.5s,baz=192,slow=8.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.52**	**351**	P	**P**	**13 44 08.7**	**+1.4**
	0.9nm,0.5s,baz=164,slow=7.4,SNR=4.6						

IDC ***12*** *13:35:42.4±0.9, 43°17N×13°52E, h0km, mb3.7/8, mb1 3.9/17, mb1mx3.8/34, mbtmp3.6/17, ML3.5/9, MS3.4/10, Ms1 3.4/10, ms1mx3.2/49, Error ellipse: s-maj=14.3km s-min=11.8km az=92.0*
MOS ***12*** *13:35:42.5±1.1, 43°23N×13°47E, h13km, mb4.2/10, Error ellipse: s-maj=5.1km s-min=3.9km az=90.5*
LDG ***12*** *13:35:44.9±0.1, 43°20N×13°60E, h20km, Ml4.0/17, Error ellipse: s-maj=3.7km s-min=2.7km az=2.0*
PDG ***12*** *13:35:44.7±0.9, 43°19N×13°50E, h21km±1km, ML3.9/12, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
TIR ***12*** *13:35:44.4, 43°07N×13°86E, h4km, ML4.4*
PRU ***12*** *13:35:44.2, 43°33N×13°18E, h0km, M4.3*
CSEM ***12*** *13:35:44.6±0.1, 43°14N×13°45E, h15km, mb4.1/9, Mw4.1, Error ellipse: s-maj=2.2km s-min=1.8km az=23.0*
NEIC ***12*** *13:35:44.0, 43°13N×13°44E, h24km, mb4.3/3, ML4.0(LDG), MW4.1(ROM), After ROM.*
NEIC Felt [V] at Montappone, Monte Vidon Corrado and Pollenza; [IV] at Ascoli Piceno, Camerino, Corridonia, Fermo, Folignano, Macerata, Montegiorgio, Montegranaro, Monte Urano, San Severino Marche, Sant'Elpidio a Mare and Tolentino; [III] at Ancona, L'Aquila, Montorio al Vomano, Osimo, Recanati, San Benedetto del Tronto, Teramo and Treia. Felt throughout Marche and in parts of Abruzzo, Lazio and Umbria.
SZGRF ***12*** *13:35:45.1, 43°11N×13°69E, h10km, mb4.1, Central Italy*
ROM ***12*** *13:35:45.2±0.1, 43°14N×13°43E, h18km±1km, Ml4.2/37, Error ellipse: s-maj=2.0km s-min=1.1km az=60.0*
GEN ***12*** *13:35:47.8, 43°13N×13°44E, h24km, ML4.1*
STR ***12*** *13:35:51.8±0.4, 43°67N×13°03E, h10km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 12 13:35:43.9±0.7, 43°15N±0°01×13°46E±0°01, h11km±4km, n541, σ1ⁱ955/653, mb4.1/15, MS3.6/6, 58C-42D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.27**	**142**	Pg	**Pb**	**13 35 52.0**	**+1.2**
	137μm,0.6s						
OFFI	**Offida**	**0.27**	**142**	P	**Pb**	**13 35 52.0**	**+1.2**
OFFI				S	**Sb**	**13 35 58.6**	**+3.2**
OFFI	**Offida**	**0.27**	**142**	Pg	**Pb**	**13 35 52.0**	**+1.2**
	137μm,0.6s						
OFFI				S	**Sb**	**13 35 58.6**	**+3.2**
FDMO	**Fiordimonte**	**0.30**	**248**	⇑*e*Pg	**Pb**	**13 35 50.9**	**-0.3**
FDMO				Sg	**Sb**	**13 35 55.9**	**-0.3**
	33μm,0.6s						
FDMO	**Fiordimonte**	**0.30**	**248**	P	**Pb**	**13 35 50.9**	**-0.3**
FDMO	**Fiordimonte**	**0.30**	**248**	⇑*e*Pg	**Pb**	**13 35 50.9**	**-0.3**
FDMO				Sg	**Sb**	**13 35 55.9**	**-0.3**
	33μm,0.6s						
CING	**Cingoli**	**0.30**	**319**	Pg	**Pb**	**13 35 51.5**	**+0.2**
CING				Sg	**Sb**	**13 35 56.8**	**+0.6**
CING	**Cingoli**	**0.30**	**319**	Pg	**Pb**	**13 35 51.5**	**+0.2**
CING				Sg	**Sb**	**13 35 56.8**	**+0.6**
GUMA	**Gualdo di Mace**	**0.36**	**104**	⇑*e*Pg	**Pg**	**13 35 48.7**	**-2.4**
GUMA				Sg	**Sg**	**13 35 52.2**	**-3.7**
	88μm,0.7s						
NRCA	**Norcia**	**0.41**	**219**	⇑*i*Pg	**Pg**	**13 35 52.7**	**+0.8**
	37nm,0.2s						
NRCA	**Norcia**	**0.41**	**219**	P	**Pg**	**13 35 52.8**	**+0.8**
NRCA				S	**Sb**	**13 35 59.4**	**0.0**
NRCA	**Norcia**	**0.41**	**219**	P	**Pg**	**13 35 52.8**	**+0.8**
NRCA				S	**Sb**	**13 35 59.4**	**0.0**
AOI	**Ancona**	**0.41**	**14**	*e*Pg	**Pb**	**13 35 53.4**	**+0.2**
AOI				Sg	**Sb**	**13 36 00.9**	**+1.4**
	10μm,0.4s						
AOI	**Ancona**	**0.41**	**14**	P	**Pb**	**13 35 53.4**	**+0.2**
AOI				S	**Sb**	**13 36 01.2**	**+1.7**
AOI	**Ancona**	**0.41**	**14**	*e*Pg	**Pb**	**13 35 53.4**	**+0.2**
AOI				S	**Sb**	**13 36 01.2**	**+1.7**
CESI	**CESI - Serrava**	**0.43**	**251**	⇑*e*Pg	**Pb**	**13 35 53.4**	**-0.2**
CESI				Sg	**Sb**	**13 36 00.5**	**+0.3**
	13μm,0.4s						
CESI	**CESI - Serrava**	**0.43**	**251**	P	**Pb**	**13 35 53.3**	**-0.2**
CESI				S	**Sb**	**13 36 00.4**	**+0.3**
CESI	**CESI - Serrava**	**0.43**	**251**	P	**Pb**	**13 35 53.3**	**-0.3**
CESI				S	**Sb**	**13 36 00.4**	**+0.3**
TRTR	**Tortoreto Alta**	**0.48**	**136**	Pg	**Pn**	**13 35 55.9**	**-0.8**
TRTR	**Tortoreto Alta**	**0.48**	**136**	P	**Pn**	**13 35 55.9**	**-0.8**
TRTR	**Tortoreto Alta**	**0.48**	**136**	Pg	**Pn**	**13 35 55.9**	**-0.8**
ARVD	**Arcevia**	**0.51**	**313**	⇑*e*Pg	**Pb**	**13 35 55.0**	**0.0**
ARVD				Sg	**Sb**	**13 36 03.6**	**+1.1**
	3μm,0.8s						
ARVD	**Arcevia**	**0.51**	**313**	⇑*e*Pg	**Pb**	**13 35 55.0**	**0.0**
ARVD				Sg	**Sb**	**13 36 03.6**	**+1.1**
	3μm,0.8s						
SMA1	**SAN MARTINO**	**0.53**	**190**	⇓*e*Pg	**Pg**	**13 35 54.7**	**+0.5**
SMA1				Sg	**Sb**	**13 36 02.9**	**0.0**
	72μm,0.6s						
TERO	**Teramo**	**0.54**	**169**	⇑*e*Pg	**Pb**	**13 35 55.0**	**-0.4**
TERO				Sg	**Sb**	**13 36 03.7**	**+0.5**
	22μm,0.3s						
TERO	**Teramo**	**0.54**	**169**	P	**Pb**	**13 35 55.0**	**-0.4**
TERO				S	**Sb**	**13 36 03.6**	**+0.5**
TERO	**Teramo**	**0.54**	**169**	⇑*e*Pg	**Pb**	**13 35 55.0**	**-0.4**
TERO				S	**Sb**	**13 36 03.6**	**+0.5**
SENI	**Senigallia**	**0.58**	**343**	Pg	**Pn**	**13 35 57.3**	**-0.8**
	3μm,0.8s						
SENI	**Senigallia**	**0.58**	**343**	Pg	**Pn**	**13 35 57.3**	**-0.8**
	3μm,0.8s						
CAMP	**Campotosto**	**0.62**	**184**	P	**Pg**	**13 35 56.1**	**+0.2**
CAMP				S	**Sb**	**13 36 06.0**	**+0.6**
CAMP	**Campotosto**	**0.62**	**184**	P	**Pg**	**13 35 56.1**	**+0.2**
CAMP				S	**Sb**	**13 36 06.0**	**+0.6**
RM29	**Verrico (Monte**	**0.62**	**198**	⇓*e*Pg	**Pg**	**13 35 56.3**	**+0.3**
RM29				Sg	**Sb**	**13 36 06.2**	**+0.7**
	159μm,1.3s						
MURB	**Monte Urbino**	**0.69**	**280**	Pg	**Pb**	**13 35 58.1**	**+0.1**
MURB	**Monte Urbino**	**0.69**	**280**	P	**Pb**	**13 35 58.1**	**+0.1**
MURB	**Monte Urbino**	**0.69**	**280**	Pg	**Pb**	**13 35 58.1**	**+0.1**
FSSB	**Fossombrone**	**0.74**	**318**	Pg	**Pb**	**13 35 59.0**	**+0.3**
	10μm,0.5s						
FSSB	**Fossombrone**	**0.74**	**318**	P	**Pb**	**13 35 59.1**	**+0.3**
FSSB	**Fossombrone**	**0.74**	**318**	Pg	**Pb**	**13 35 59.0**	**+0.3**
	10μm,0.5s						
PIEI	**Pieia**	**0.78**	**300**	⇓*e*Pg	**Pb**	**13 35 59.4**	**-0.1**
	3μm,0.5s						
PIEI	**Pieia**	**0.78**	**300**	P	**Pb**	**13 35 59.4**	**-0.1**
PIEI				S	**Sb**	**13 36 11.7**	**+1.6**
PIEI	**Pieia**	**0.78**	**300**	⇓*e*Pg	**Pb**	**13 35 59.4**	**-0.1**
	3μm,0.5s						
PIEI				S	**Sb**	**13 36 11.7**	**+1.6**
T0104	**Madonna delle**	**0.80**	**187**	Pg	**Pg**	**13 35 59.3**	**0.0**
T0104				Sg	**Sb**	**13 36 11.4**	**+0.9**
VCEL	**Villa Celiera**	**0.81**	**160**	Pg	**Pb**	**13 36 00.0**	**0.0**
	13μm,0.6s						
VCEL	**Villa Celiera**	**0.81**	**160**	P	**Pb**	**13 36 00.2**	**+0.2**
VCEL	**Villa Celiera**	**0.81**	**160**	P	**Pb**	**13 36 00.2**	**+0.2**
CESX	**Cesi**	**0.84**	**230**	Pg	**Pg**	**13 36 00.1**	**-0.1**
CESX				Sg	**Sb**	**13 36 12.7**	**+0.8**
	40μm,0.5s						
CESX	**Cesi**	**0.84**	**230**	P	**Pg**	**13 36 00.0**	**-0.1**
CESX				S	**Sb**	**13 36 12.9**	**+1.0**
CESX	**Cesi**	**0.84**	**230**	Pg	**Pg**	**13 36 00.1**	**-0.1**
CESX				Sg	**Sb**	**13 36 12.7**	**+0.8**
	40μm,0.5s						
FAGN	**Fagnano**	**0.89**	**174**	Pg	**Pn**	**13 36 02.0**	**-0.4**
FAGN				Sg	**Sb**	**13 36 14.4**	**+1.2**
FAGN	**Fagnano**	**0.89**	**174**	Pg	**Pn**	**13 36 02.0**	**-0.4**
FAGN				Sg	**Sb**	**13 36 14.4**	**+1.2**
PESA	**Pesaro**	**0.91**	**330**	Pg	**Pn**	**13 36 02.9**	**+0.3**
	5μm,0.4s						
PESA	**Pesaro**	**0.91**	**330**	Pg	**Pn**	**13 36 02.9**	**+0.3**
	5μm,0.4s						
FIAM	**Fiamignano**	**0.92**	**196**	⇓*e*Pg	**Pg**	**13 36 01.0**	**-0.5**
FIAM				Sg	**Sb**	**13 36 14.9**	**+0.8**
	14μm,0.6s						
FIAM	**Fiamignano**	**0.92**	**196**	P	**Pg**	**13 36 01.1**	**-0.5**
FIAM	**Fiamignano**	**0.92**	**196**	P	**Pg**	**13 36 01.1**	**-0.5**
FIAM				Sg	**Sb**	**13 36 14.9**	**+0.8**
	14μm,0.6s						
CDCA	**Citt' di Caste**	**0.95**	**289**	Pg	**Pn**	**13 36 03.3**	**+0.2**
	9μm,1.2s						
CDCA	**Citt' di Caste**	**0.95**	**289**	Pg	**Pn**	**13 36 03.3**	**+0.2**
	9μm,1.2s						
BADI	**Badiali**	**0.96**	**292**	⇓*e*Pg	**Pb**	**13 36 02.7**	**+0.2**
	12μm,1.3s						
BADI	**Badiali**	**0.96**	**292**	⇓*e*Pg	**Pb**	**13 36 02.7**	**+0.2**
	12μm,1.3s						
MGAB	**Montegabbione**	**1.02**	**257**	Pg	**Pg**	**13 36 03.6**	**+0.1**
	5μm,0.6s						
MGAB	**Montegabbione**	**1.02**	**257**	Pg	**Pg**	**13 36 03.6**	**+0.1**
	5μm,0.6s						
PARC	**Parchiule**	**1.02**	**300**	⇓*e*Pg	**Pb**	**13 36 03.8**	**+0.2**
	4μm,0.7s						
PARC	**Parchiule**	**1.02**	**300**	⇓*e*Pg	**Pb**	**13 36 03.8**	**+0.2**
	4μm,0.7s						
RSM	**Repubblica di**	**1.07**	**317**	Pg	**Pg**	**13 36 06.2**	**+1.3**
	3μm,0.8s						
RSM	**Repubblica di**	**1.07**	**317**	Pg	**Pg**	**13 36 06.2**	**+1.3**
	3μm,0.8s						
CAFI	**Castiglion Fio**	**1.11**	**280**	⇓*e*Pg	**Pb**	**13 36 05.4**	**+0.3**
	3μm,0.6s						
CAFI	**Castiglion Fio**	**1.11**	**280**	⇓*e*Pg	**Pb**	**13 36 05.4**	**+0.3**
	3μm,0.6s						
PTQR	**Pietraquaria**	**1.13**	**182**	Pg	**Pg**	**13 36 04.6**	**-1.0**
PTQR	**Pietraquaria**	**1.13**	**182**	Pg	**Pg**	**13 36 04.6**	**-1.0**
CAFR	**Castel Frentan**	**1.13**	**144**	Pg	**Pn**	**13 36 06.9**	**+1.2**
	27μm,1.0s						
CAFR	**Castel Frentan**	**1.13**	**144**	Pg	**Pn**	**13 36 06.9**	**+1.2**
	27μm,1.0s						
SACS	**San Casciano d**	**1.18**	**256**	Pg	**Pb**	**13 36 06.6**	**+0.3**
	6μm,0.9s						
SACS	**San Casciano d**	**1.18**	**256**	Pg	**Pb**	**13 36 06.6**	**+0.3**
	6μm,0.9s						
INTR	**Introdacqua**	**1.19**	**164**	Pg	**Pn**	**13 36 06.8**	**+0.3**
	13μm,0.9s						
INTR	**Introdacqua**	**1.19**	**164**	Pg	**Pn**	**13 36 06.8**	**+0.3**
	13μm,0.9s						
CRE	**Caprese Michel**	**1.20**	**294**	Pg	**Pg**	**13 36 07.6**	**+0.7**
	987nm,0.6s						
CRE	**Caprese Michel**	**1.20**	**294**	Pg	**Pg**	**13 36 07.6**	**+0.7**
	987nm,0.6s						
LPEL	**Lama dei Pelig**	**1.23**	**154**	Pg	**Pg**	**13 36 07.8**	**+0.3**
	6μm,0.9s						
LPEL	**Lama dei Pelig**	**1.23**	**154**	Pg	**Pg**	**13 36 07.8**	**+0.3**
	6μm,0.9s						
MTCE	**Montecelio**	**1.25**	**205**	Pg	**Pg**	**13 36 08.2**	**+0.4**
	4μm,0.5s						
MTCE	**Montecelio**	**1.25**	**205**	Pg	**Pg**	**13 36 08.2**	**+0.4**
	4μm,0.5s						
VVLD	**Villa Vallelon**	**1.28**	**175**	Pg	**Pg**	**13 36 09.6**	**+1.0**
	7μm,1.1s						
VVLD	**Villa Vallelon**	**1.28**	**175**	Pg	**Pg**	**13 36 09.6**	**+1.0**
	7μm,1.1s						
GUAR	**Guarcino**	**1.36**	**185**	Pg	**Pg**	**13 36 10.4**	**+0.4**
	4μm,0.5s						
GUAR	**Guarcino**	**1.36**	**185**	Pg	**Pg**	**13 36 10.4**	**+0.4**
	4μm,0.5s						
ASQU	**Asqua**	**1.38**	**299**	Pg	**Pg**	**13 36 10.3**	**-0.1**
	3μm,1.3s						
ASQU	**Asqua**	**1.38**	**299**	Pg	**Pg**	**13 36 10.3**	**-0.1**
	3μm,1.3s						
SFI	**Santa Sofia**	**1.40**	**303**	Pg	**Pg**	**13 36 10.6**	**-0.1**
	2μm,1.0s						
SFI	**Santa Sofia**	**1.40**	**303**	Pg	**Pg**	**13 36 10.6**	**-0.1**
	2μm,1.0s						
POFI	**Posta Fibreno**	**1.44**	**173**	Pg	**Pg**	**13 36 11.7**	**+0.1**
	2μm,0.6s						
POFI	**Posta Fibreno**	**1.44**	**173**	Pg	**Pg**	**13 36 11.7**	**+0.1**
	2μm,0.6s						
RMP	**Rome, Mte Porz**	**1.45**	**203**	Pg	**Pb**	**13 36 11.4**	**+0.5**
	5μm,0.7s						
RMP	**Rome, Mte Porz**	**1.45**	**203**	Pg	**Pb**	**13 36 11.4**	**+0.5**
	5μm,0.7s						
SDI	**San Donato**	**1.46**	**170**	Pg	**Pn**	**13 36 10.6**	**+0.3**
SDI	**San Donato**	**1.46**	**170**	Pg	**Pn**	**13 36 10.6**	**+0.3**
ARCI	**Arcidosso**	**1.49**	**259**	Pg	**Pn**	**13 36 11.4**	**+0.7**
ARCI	**Arcidosso**	**1.49**	**259**	Pg	**Pn**	**13 36 11.4**	**+0.7**
LAV9	**Lanuvio**	**1.58**	**201**	Pg	**Pb**	**13 36 13.2**	**+0.1**
	8μm,0.4s						
LAV9	**Lanuvio**	**1.58**	**201**	Pg	**Pb**	**13 36 13.2**	**+0.1**
	8μm,0.4s						
GIUL	**Giuliano Di Ro**	**1.60**	**186**	Pg	**Pn**	**13 36 12.8**	**+0.7**
	2μm,0.6s						
GIUL	**Giuliano Di Ro**	**1.60**	**186**	Pg	**Pn**	**13 36 12.8**	**+0.7**
	2μm,0.6s						
CSNT	**Castellina Chi**	**1.62**	**282**	Pg	**Pb**	**13 36 13.5**	**-0.3**
	1μm,1.0s						
CSNT	**Castellina Chi**	**1.62**	**282**	Pg	**Pb**	**13 36 13.5**	**-0.3**
	1μm,1.0s						
MIDA	**Miranda**	**1.62**	**158**	Pg	**Pn**	**13 36 13.0**	**+0.6**
NVLJ	**Novalja**	**1.74**	**35**	*i* Pn	**Pn**	**13 36 14.2**	**+0.2**
NVLJ				Sn	**Sn**	**13 36 36.6**	**+0.3**
NVLJ	**Novalja**	**1.74**	**35**	*i* Pn	**Pn**	**13 36 14.2**	**+0.2**
NVLJ				Sn	**Sn**	**13 36 36.5**	**+0.3**
UDBI	**Udbina**	**2.16**	**50**	*i* Pn	**Pn**	**13 36 21.4**	**+1

KBA ⇑*i*Sn **Sn** 13 37 29.2 -1.2
KBA Koelnbreinsper 3.93 359 *e*Pn **Pn** 13 36 45.0 +0.7
KBA *e*Sn **Sn** 13 37 29.0 -1.5
UPM Unac-Piva 3.98 87⇑*i*Pn **Pn** 13 36 45.9 +0.9
UPM *e*Sn **Sn** 13 37 31.6 -0.2
UPM Unac-Piva 3.98 87⇑*i*Pn **Pn** 13 36 45.9 +0.9
UPM *e*Sn **Sn** 13 37 31.6 -0.2
NKME Niksic 4.05 94⇑*i*Pn **Pn** 13 36 46.4 +0.6
NKME *e*Sn **Sn** 13 37 33.1 -0.2
NKME Niksic 4.05 94⇑*i*Pn **Pn** 13 36 46.4 +0.6
NKME *e*Sn **Sn** 13 37 33.1 -0.2
BEHE Becsehely 4.07 34⇓*e* **Pb** 13 36 54.5 -1.1
NKY Niksic 4.07 93⇑*i*Pn **Pn** 13 36 46.9 +0.7
NKY *e*Sn **Sn** 13 37 33.9 0.0
NKY Niksic 4.07 93⇑*i*Pn **Pn** 13 36 46.9 +0.7
NKY *e*Sn **Sn** 13 37 33.9 0.0
BUM Brajici-Budva 4.09 100⇓*i*Pn **Pn** 13 36 46.9 +0.5
BUM *e*Sn **Sn** 13 37 34.4 +0.1
BUM Brajici-Budva 4.09 100⇓*i*Pn **Pn** 13 36 46.9 +0.5
BUM *e*Sn **Sn** 13 37 34.4 +0.1
PDG Podgorica 4.33 98⇑*i*Pn **Pn** 13 36 49.9 +0.3
PDG *e*Sn **Sn** 13 37 40.3 +0.4
TTG Podgorica 4.33 98⇑*i*Pn **Pn** 13 36 49.9 +0.3
TTG *e*Sn **Sn** 13 37 40.3 +0.4
FETA Feichten 4.33 334⇓*i*Pn **Pn** 13 36 50.9 +1.2
SNR=6.5
FETA ⇓*i*Sn **Sn** 13 37 38.0 -2.2
FETA Feichten 4.33 334 Pn **Pn** 13 36 50.9 +1.2
SNR=6.5
FETA Sn **Sn** 13 37 38.0 -2.2
DRME Dracevica, Mon 4.33 101⇓*i*Pn **Pn** 13 36 50.6 +1.0
DRME *e*Sn **Sn** 13 37 40.5 +0.4
DRME Dracevica, Mon 4.33 101⇓*i*Pn **Pn** 13 36 50.6 +1.0
DRME *e*Sn **Sn** 13 37 40.5 +0.4
PLE Pljevlja 4.33 86⇓*i*Pn **Pn** 13 36 50.2 +0.4
PLE *e*Sn **Sn** 13 37 40.5 +0.1
PLE Pljevlja 4.33 86⇓*i*Pn **Pn** 13 36 50.2 +0.2
PLE *e*Sn **Sn** 13 37 40.5 +0.1
ARSA Arzberg 4.35 19 *e*Pn **Pn** 13 36 50.2 +0.2
ARSA Arzberg 4.35 19⇑*i*Pn **Pn** 13 36 50.1 +0.2
SNR=8.4
ARSA ⇓*i*Sn **Sn** 13 37 36.5 -4.1
ARSA Arzberg 4.35 19 *e*Pn **Pn** 13 36 50.2 +0.2
ARSA Sn **Sn** 13 37 36.5 -4.1
SAOF Saorge 4.37 283 P **Pn** 13 36 52.4 +2.1
SAOF S **Sn** 13 37 42.8 +1.6
SAOF Saorge 4.37 283 P **Pn** 13 36 52.4 +2.1
SAOF S **Sn** 13 37 42.8 +1.6
BBLS Lazići 4.38 79⇑*i*Pn Pn 13 36 53.9 +3.5
WATA Walderalm 4.39 343⇑*i*Pn **Pn** 13 36 51.7 +1.1
SNR=9.4
WATA Walderalm 4.39 343 Pn **Pn** 13 36 51.7 +1.1
SNR=9.4
TUE Stuetta 4.43 320 *e*Pn **Pn** 13 36 52.2 +1.0
TUE Stuetta 4.43 320 *e*Pn **Pn** 13 36 52.2 +1.0
DAVOX Davos/Dischmat 4.43 326 Pn **Pn** 13 36 53.2 +2.0
6.1nm,0.3s,baz=158,slow=17,SNR=24
DAVOX Sn **Sn** 13 37 43.7 +0.9
14nm,0.3s,baz=190,slow=21,SNR=6.5
DAVOX Davos/Dischmat 4.43 326 P **Pn** 13 36 53.2 +2.0
6.0nm,0.3s
DAVOX S **Sn** 13 37 43.7 +0.9
14nm,0.3s
ULC Ulcinj 4.43 104⇑*i*Pn **Pn** 13 36 52.3 +1.2
ULC *e*Sn **Sn** 13 37 42.1 -0.6
ULC Ulcinj 4.43 104⇑*i*Pn **Pn** 13 36 52.3 +1.2
ULC *e*Sn **Sn** 13 37 42.1 -0.6
SBF Sospel 4.44 281 *e*P **Pn** 13 36 53.7 +2.5
SBF *e*Sn **Sn** 13 37 39.7 -3.2
55nm,0.4s
SBF Sospel 4.44 281 *e*P **Pn** 13 36 53.7 +2.5
SBF *e* 13 37 39.7
SBF Sospel 4.44 281 *e*P **Pn** 13 36 53.7 +2.5
SBF *e*Sn **Sn** 13 37 39.7 -3.2
SBF Sospel 4.44 281 *e*P **Pn** 13 36 53.7 +2.5
SBF *e*Sn **Sn** 13 37 39.7 -3.2
27nm,0.4s
AUTN L'Aution 4.46 283 P **Pn** 13 36 54.1 +2.4
AUTN S **Sn** 13 37 45.6 +1.9
AUTN L'Aution 4.46 283 P **Pn** 13 36 54.1 +2.4
AUTN S **Sn** 13 37 45.6 +1.9
REVF Revere 4.48 280 P **Pn** 13 36 54.3 +2.6
REVF Revere 4.48 280 P **Pn** 13 36 54.3 +2.6
MOTA Moosalm 4.51 339⇑*i*Pn **Pn** 13 36 53.3 +1.0
SNR=13
MOTA ⇓*i*Sn **Sn** 13 37 42.3 -2.5
MOTA Moosalm 4.51 339 Pn **Pn** 13 36 53.3 +1.0
SNR=13
MOTA Sn **Sn** 13 37 42.3 -2.5
STV Sant Anna di V 4.58 286 P **Pn** 13 36 55.4 +2.2
TOUF Mont Tournerai 4.59 283 P **Pn** 13 36 56.1 +2.6
TOUF S **Sn** 13 37 48.9 +2.0
TOUF Mont Tournerai 4.59 283 P **Pn** 13 36 56.1 +2.6
TOUF S **Sn** 13 37 48.9 +2.0
MVIF Mont Vial 4.65 281 P **Pn** 13 36 56.5 +2.4
MVIF Mont Vial 4.65 281 P **Pn** 13 36 56.5 +2.4
BEY Berane 4.72 91 *e*Pn **Pn** 13 36 56.2 +1.0
BEY *e*Sn **Sn** 13 37 49.5 -0.5
IVA Berane 4.72 91 *e*Pn **Pn** 13 36 56.2 +1.0
IVA *e*Sn **Sn** 13 37 49.5 -0.5
TRAV Traversella 4.73 302 P **Pn** 13 36 54.5 -0.7
MOA Molln 4.73 7 *e*Pn **Pn** 13 36 55.9 +0.7
MOA Molln 4.73 7⇑*i*Pn **Pn** 13 36 55.9 +0.7
MOA Molln 4.73 7 *e*Pn **Pn** 13 36 55.9 +0.7
VSL Villasalto 4.77 221 *e*Pn **Pn** 13 36 57.8 +2.0
VSL Villasalto 4.77 221 *e*Pn **Pn** 13 36 57.8 +2.0
PKSM Moragy 4.80 49 ⇓P **Pb** 13 37 10.5 +2.6
PKSM Moragy 4.80 49⇓*i*P **Pb** 13 37 10.5 +2.6
PKSM Moragy 4.80 49 *e* Pb 13 37 04.1 -3.8
OBER Oberstdorf 4.81 333 *e*Pn **Pn** 13 36 58.8 +2.5
OBER *e*Sn **Sn** 13 37 51.2 -0.8
OBER Oberstdorf 4.81 333 *e*Pn **Pn** 13 36 58.8 +2.5
OBER *e*Sn **Sn** 13 37 51.2 -0.8
PVY Plav 4.81 94⇑*i*Pn **Pn** 13 36 58.1 +1.8
PVY *e*Sn **Sn** 13 37 52.0 -0.1
CALN Calern 4.82 279 P **Pn** 13 36 58.7 +2.2
CALN Calern 4.82 279 P **Pn** 13 36 58.7 +2.2
DIVS Divibare 4.83 76 *e*Pn **Pn** 13 36 57.9 +1.2
DAVA Damuels 4.85 330 *e*Pn Pn 13 37 00.2 +3.3
DAVA Damuels 4.85 330⇑*i*Pn **Pn** 13 36 58.3 +1.4
DAVA ⇑*i*Sn **Sn** 13 37 51.5 -1.6
DAVA Damuels 4.85 330 Pn **Pn** 13 36 58.3 +1.4
DAVA Sn **Sn** 13 37 51.5 -1.6
PUK Puka 4.88 101 *i* SN 13 36 53.7
PUK *i* PN **Pn** 13 36 57.7 +0.5
IVAS Ivanjica 4.90 83⇑*i*Pn **Pn** 13 36 58.9 +1.4
FGSL Fruska Gora 4.99 64 *e*Pn **Pn** 13 36 58.8 +0.1
SOP Sopron 5.03 25⇓*e* **Pn** 13 36 59.6 +0.4
SOP Sopron 5.03 25⇓*e*Pn **Pn** 13 36 59.6 +0.4
CONA Conrad Observa 5.07 19⇑*i*Pn **Pn** 13 37 00.2 +0.4
SNR=11
CONA ⇓*i*Sn **Sn** 13 37 54.1 -4.2
CONA Conrad Observa 5.07 19 Pn **Pn** 13 37 00.2 +0.4
SNR=11
CONA Sn **Sn** 13 37 54.2 -4.2
MBDF Montbardon 5.08 290 *e*Pn **Pn** 13 37 00.4 +0.3
SNR=1.0
MBDF *e*Sn **Sn** 13 37 54.6 -4.2
36nm,0.5s
MBDF Montbardon 5.08 290 *e*P **Pn** 13 37 00.4 +0.3
MBDF *e* 13 37 54.6
MBDF Montbardon 5.08 290 *e*Pn **Pn** 13 37 00.4 +0.3
MBDF *e*Sn **Sn** 13 37 54.6 -4.2
MBDF Montbardon 5.08 290 *e*Pn **Pn** 13 37 00.4 +0.3
SNR=1.0
MBDF *e*Sn **Sn** 13 37 54.6 -4.2
18nm,0.5s
LMR La Mourre 5.08 274 *e*Pn **Pn** 13 37 00.8 +0.8
LMR *e*Sn **Sn** 13 37 54.9 -3.7
9.8nm,0.4s
LMR La Mourre 5.08 274 *e*P **Pn** 13 37 00.8 +0.8
LMR *e* 13 37 54.9
LMR La Mourre 5.08 274 *e*Pn **Pn** 13 37 00.8 +0.8
LMR *e*Sn **Sn** 13 37 54.9 -3.7
LMR La Mourre 5.08 274 *e*Pn **Pn** 13 37 00.8 +0.8
LMR *e*Sn **Sn** 13 37 54.9 -3.7
4.9nm,0.4s
TRUS Trudelj 5.15 76⇑*i*Pn **Pn** 13 37 01.0 +0.1
CEL Celeste 5.22 158 *e*Pn **Pn** 13 37 03.7 +1.7
36nm,0.9s
CEL Celeste 5.22 158 *e*Pn **Pn** 13 37 03.7 +1.7
36nm,0.9s

BNI Bardonecchia 5.24 294 *e*P **Pn** 13 37 02.7 +0.4
BNI pmax pmax
comp=Z,10.0nm,0.4s
BNI Bardonecchia 5.24 294 *e*Pn **Pn** 13 37 02.7 +0.4
comp=Z,9.6nm,0.4s
BNI Bardonecchia 5.24 294 *e*P **Pn** 13 37 02.7 +0.4
comp=Z,10.0nm,0.4s
GRUS Gruza 5.33 80⇓*i*Pn **Pn** 13 37 04.3 +1.0
LPG La Plagne 5.35 298 *e*Pn **Pn** 13 37 03.4 -0.6
SNR=1.0
LPG *e*Sn **Sn** 13 38 01.3 -4.5
comp=Z,57nm,0.5s
LPG La Plagne 5.35 298 *e*P **Pn** 13 37 03.4 -0.6
LPG *e* 13 38 01.3
LPG La Plagne 5.35 298 *e*Pn **Pn** 13 37 03.4 -0.6
LPG *e*Sn **Sn** 13 38 01.3 -4.5
LPG La Plagne 5.35 298 *e*Pn **Pn** 13 37 03.4 -0.6
SNR=1.0
LPG *e*Sn **Sn** 13 38 01.3 -4.5
comp=Z,28nm,0.5s
LPL La Plagne 5.37 298 *e*Pn **Pn** 13 37 04.2 0.0
SNR=1.0
LPL *e*Sn **Sn** 13 38 01.8 -4.3
comp=Z,66nm,0.5s
LPL La Plagne 5.37 298 *e*P **Pn** 13 37 04.2 0.0
LPL *e* 13 38 01.8
LPL La Plagne 5.37 298 *e*Pn **Pn** 13 37 04.2 0.0
LPL *e*Sn **Sn** 13 38 01.8 -4.3
LPL La Plagne 5.37 298 *e*Pn **Pn** 13 37 04.2 0.0
SNR=1.0
LPL *e*Sn **Sn** 13 38 01.8 -4.3
comp=Z,33nm,0.5s
RSL Roselend 5.51 300 P **Pn** 13 37 07.3 +1.3
RSL S **Sn** 13 38 08.4 -1.1
RSL Roselend 5.51 300 P **Pn** 13 37 07.3 +1.3
RSL S **Sn** 13 38 08.4 -1.1
SELS Selova 5.60 87⇑*i*Pn **Pn** 13 37 07.9 +0.8
GEC2 GERESS Array S 5.70 2 *e*Pn **Pn** 13 37 08.2 -0.3
GEC2 *e*Sn **Sn** 13 38 10.9 -3.0
GEC2 GERESS Array S 5.70 2 *e*Pn **Pn** 13 37 08.2 -0.3
GERES GERESS Array B 5.70 2 Pn **Pn** 13 37 08.2 -0.3
comp=Z,1.4nm,0.3s,baz=176,slow=12,SNR=47
GERES Sn **Sn** 13 38 11.4 -2.5
comp=Z,4.6nm,0.3s,baz=188,slow=28,SNR=8.0
GERES Lg Lg 13 38 45.7
comp=Z,1.9nm,0.3s,baz=166,slow=25,SNR=2.7
GERES GERESS Array B 5.70 2 P **Pn** 13 37 08.2 -0.3
comp=Z,1.0nm,0.3s
ORIF Oris-en-Rattie 5.74 291 *e*P **Pn** 13 37 11.1 +2.0
SNR=1.0
ORIF *e*Sn **Sn** 13 38 10.1 -5.0
comp=Z,33nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 5.74 291 *e*P **Pn** 13 37 11.1 +2.0
ORIF *e* 13 38 10.1
ORIF Oris-en-Rattie 5.74 291 *e*P **Pn** 13 37 11.1 +2.0
ORIF *e*Sn **Sn** 13 38 10.1 -5.0
ORIF Oris-en-Rattie 5.74 291 *e*P **Pn** 13 37 11.1 +2.0
SNR=1.0
SMRF Simiane la Rot 5.79 281 *e*P Pn 13 37 13.1 +3.4
SNR=1.0
SMRF Simiane la Rot 5.79 281 *e*P Pn 13 37 13.1 +3.4
KEK Kerkira 5.87 124 *e*PN **Pn** 13 37 11.6 +0.8
KHC Kasperske Hory 5.98 1 *e*P **Pn** 13 37 11.9 -0.5
KHC *e* 13 38 16.1
KHC Kasperske Hory 5.98 1 *e*PN **Pn** 13 37 11.9 -0.5
KHC *ex* x 13 37 20.9
KHC *e*SN **Sn** 13 38 16.1 -4.8
KHC *ex* x 13 38 29.5
KHC Kasperske Hory 5.98 1 *e*Pn **Pn** 13 37 11.7 -0.7
comp=Z,14nm,0.5s
KHC Kasperske Hory 5.98 1 Pn **Pn** 13 37 11.9 -0.5
SKO Skopje 6.01 99 *e*Pn **Pn** 13 37 13.5 +0.8
SKO Skopje 6.01 99 *e*Pn **Pn** 13 37 13.5 +0.8
WET Wettzell 6.01 356 *e*Pn **Pn** 13 37 13.9 +1.2
WET *e*Sn **Sn** 13 38 19.3 -2.2
WET Wettzell 6.01 356 *e*Pn **Pn** 13 37 13.9 +1.2
WET *e*Sn **Sn** 13 38 19.3 -2.2
SMOL Smolenice 6.04 26 *e*P **Pn** 13 37 13.4 +0.3
SMOL Smolenice 6.04 26 *e*PN **Pn** 13 37 13.4 +0.3
SMOL *e* 13 38 11.4
SMOL Smolenice 6.04 26 *e*P **Pn** 13 37 13.4 +0.3
BIA Bitola 6.23 107 *e*Pn **Pn** 13 37 15.3 -0.4
BIA *e*Sg **Sn** 13 38 21.7 -5.2
BIA Bitola 6.23 107 *e*Pn **Pn** 13 37 15.3 -0.4
CABF La Chapelle 6.28 306 *e*Pn **Pn** 13 37 16.0 -0.5
SNR=1.0
CABF *e*Sn **Sn** 13 38 23.4 -4.8
comp=Z,38nm,0.6s
CABF La Chapelle 6.28 306 *e*P **Pn** 13 37 16.0 -0.5
CABF *e* 13 38 23.4
CABF La Chapelle 6.28 306 *e*Pn **Pn** 13 37 16.0 -0.5
CABF *e*Sn **Sn** 13 38 23.4 -4.8
CABF La Chapelle 6.28 306 *e*Pn **Pn** 13 37 16.0 -0.5
SNR=1.0
BFO Black Forest 6.30 327 *e*P **Pn** 13 37 18.5 +1.8
BFO pmax pmax
comp=Z,15nm,0.6s
BFO Black Forest 6.30 327 *e*Pn **Pn** 13 37 18.1 +1.4
BFO Black Forest 6.30 327 *e*Pn **Pn** 13 37 18.5 +1.8
comp=Z,15nm,0.6s
BFO Black Forest 6.30 327 *e*Pn **Pn** 13 37 18.1 +1.4
BFO Black Forest 6.30 327 *e*P **Pn** 13 37 18.5 +1.8
comp=Z,15nm,0.6s
TREC Trest 6.30 12 *e*P **Pn** 13 37 16.2 -0.6
TREC Trest 6.30 12 *e*PN **Pn** 13 37 16.2 -0.6
TREC Trest 6.30 12 Pn **Pn** 13 37 16.2 -0.6
IGT Igoumenitsa 6.31 123 *e*PN **Pn** 13 37 17.8 +1.0
BZS Buzias 6.34 64 ⇓P **Pn** 13 37 19.1 +1.8
BZS Buzias 6.34 64⇓*i*P **Pn** 13 37 19.1 +1.8
BZS Buzias 6.34 64 P **Pn** 13 37 19.1 +1.8
FNA Florina 6.36 109 *e*PN **Pn** 13 37 18.1 +0.6
VRAC Vranov 6.53 18⇑*i*P **Pn** 13 37 20.1 +0.2
VRAC Vranov 6.53 18 Pn **Pn** 13 37 20.1 +0.2
comp=Z,1.2nm,0.3s,baz=216,slow=13,SNR=6.0
VRAC Sn **Sn** 13 38 30.4 -3.9
comp=Z,1.2nm,0.3s,baz=163,slow=17,SNR=2.4
VRAC Lg Lg 13 39 10.5
comp=Z,0.5nm,0.3s,baz=316,slow=18,SNR=2.0
VRAC LR LR 13 39 21.5
comp=Z,117nm,20.5s,baz=248,slow=34
VRAC Vranov 6.53 18 P **Pn** 13 37 20.1 +0.2
JAN Janina 6.56 120 *e*PN **Pn** 13 37 21.3 +1.0
VIVF Saint-Julien-l 6.56 288 *e*Pn **Pn** 13 37 20.7 +0.4
SNR=1.0
VIVF Saint-Julien-l 6.56 288 *e*P **Pn** 13 37 20.7 +0.4
VIVF Saint-Julien-l 6.56 288 *e*Pn **Pn** 13 37 20.7 +0.4
VIVF Saint-Julien-l 6.56 288 *e*Pn **Pn** 13 37 20.7 +0.4
SNR=1.0
PSZ Piszkesteto 6.57 41⇑P **Pn** 13 37 23.1 +2.7
PSZ Piszkesteto 6.57 41⇑*i*P **Pn** 13 37 23.1 +2.7
PSZ Piszkesteto 6.57 41⇑*i*Pn **Pn** 13 37 20.7 +0.3
PSZ Piszkesteto 6.57 41⇑*e*Pn **Pn** 13 37 20.7 +0.3
PSZ Piszkesteto 6.57 41 P **Pn** 13 37 23.1 +2.7
HINF Hinteralfeld 6.58 317 *e*Pn **Pn** 13 37 19.5 -1.1
HINF *e*Sn Sn 13 38 27.2 -8.4
comp=Z,89nm,0.5s,SNR=1.0
HINF Hinteralfeld 6.58 317 *e*P **Pn** 13 37 19.5 -1.1
HINF *e* 13 38 27.2
HINF Hinteralfeld 6.58 317 *e*Pn **Pn** 13 37 19.5 -1.1
HINF *e*Sn Sn 13 38 27.2 -8.4
HINF Hinteralfeld 6.58 317 *e*Pn **Pn** 13 37 19.5 -1.1
ECH Echery 6.72 321 *e*P **Pn** 13 37 22.6 +0.1
ECH pmax pmax
comp=Z,14nm,0.6s
ECH Echery 6.72 321 *e*Pn **Pn** 13 37 22.6 +0.1
comp=Z,14nm,0.6s
ECH Echery 6.72 321 *e*P **Pn** 13 37 22.6 +0.1
comp=Z,14nm,0.6s
CDF Champ du Feu 6.81 323 *e*Pn **Pn** 13 37 23.4 -0.4
CDF *e*Sn Sn 13 38 34.9 -6.4
comp=Z,47nm,0.5s
CDF Champ du Feu 6.81 323 *e*P **Pn** 13 37 23.4 -0.4
CDF *e* 13 38 34.9
CDF Champ du Feu 6.81 323 *e*Pn **Pn** 13 37 23.4 -0.4
CDF *e*Sn Sn 13 38 34.9 -6.4
CDF Champ du Feu 6.81 323 *e*Pn **Pn** 13 37 23.4 -0.4
KZN Kozani 6.83 112 *e*PB Pn 13 37 30.9 +6.8
PRU Pruhonice 6.88 6 *e*P **Pn** 13 37 23.9 -0.7
PRU *e* 13 38 38.5
PRU Pruhonice 6.88 6 *e*PN **Pn** 13 37 23.9 -0.7
PRU *ex* x 13 37 32.7
PRU *ex* x 13 37 38.4
PRU *e*SN **Sn** 13 38 38.5 -4.4

PRU Pruhonice 6.88 6 Pn **Pn** 13 37 23.9 -0.7
HAU Haudompre 6.96 317 *e*Pn **Pn** 13 37 25.4 -0.4
SNR=1.0
HAU *e*Sn Sn 13 38 37.2 -7.7
comp=Z,103nm,0.4s,SNR=1.0
HAU Haudompre 6.96 317 *e*P **Pn** 13 37 25.4 -0.4
HAU *e* 13 38 37.2
HAU Haudompre 6.96 317 *e*Pn **Pn** 13 37 25.4 -0.4
HAU *e*Sn Sn 13 38 37.2 -7.7
HAU Haudompre 6.96 317 *e*Pn **Pn** 13 37 25.4 -0.4
SNR=1.0
VAY Valandovo 7.00 102 *e*P **Pn** 13 37 26.1 -0.2
VAY Valandovo 7.00 102 *i* Pn **Pn** 13 37 26.1 -0.2
VAY *e*Sg **Sn** 13 38 41.2 -4.8
VAY Valandovo 7.00 102 *e*P **Pn** 13 37 26.1 -0.2
GRG Griva 7.01 105 *e*PB **Pn** 13 37 26.4 0.0
LASF Ste Croix 7.03 281 *e*Pn **Pn** 13 37 26.1 -0.7
LASF Ste Croix 7.03 281 *e*Pn **Pn** 13 37 26.1 -0.7
LASF *e*P Pn 13 37 30.3 +3.5
LASF Ste Croix 7.03 281 *e*Pn **Pn** 13 37 26.1 -0.7
GZR Gura Zlata 7.05 68⇑*i*P **Pn** 13 37 28.8 +1.7
NKC Novy Kostel 7.12 355 *e*P **Pn** 13 37 27.3 -0.7
NKC *e* 13 38 44.5
NKC Novy Kostel 7.12 355 *e*PN **Pn** 13 37 27.3 -0.7
NKC *e*SN **Sn** 13 38 44.5 -4.3
NKC Novy Kostel 7.12 355 Pn **Pn** 13 37 27.3 -0.7
VTS Vitosha 7.18 91⇑P **Pn** 13 37 28.5 -0.5
VTS Vitosha 7.18 91 *e*P **Pn** 13 37 31.0 +2.0
VTS Vitosha 7.18 91⇑*i*P **Pn** 13 37 28.5 -0.5
VTS Vitosha 7.18 91 P **Pn** 13 37 28.5 -0.5
MORC Moravsky Berou 7.20 22⇑P **Pn** 13 37 29.4 +0.3
MORC Moravsky Berou 7.20 22⇑*i*P **Pn** 13 37 29.4 +0.3
MORC Moravsky Berou 7.20 22 *e*Pn **Pn** 13 37 29.1 0.0
comp=Z,5.8nm,0.8s
MORC Moravsky Berou 7.20 22 *e*Pn **Pn** 13 37 29.1 0.0
comp=Z,5.8nm,0.8s
MORC Moravsky Berou 7.20 22 P **Pn** 13 37 29.4 +0.3
KKB Krupnik 7.23 97 *e*P **Pn** 13 37 30.7 +1.3
KKB Krupnik 7.23 97 *e*P **Pn** 13 37 30.7 +1.3
KNT Kendrikon 7.29 103 *e*PB **Pn** 13 37 30.9 +0.6
KRLC Kraliky 7.29 17 *e*P **Pn** 13 37 29.5 -0.9
KRLC Kraliky 7.29 17 *e*PN **Pn** 13 37 29.5 -0.9
KRLC *ex* x 13 37 38.6
KRLC Kraliky 7.29 17 Pn **Pn** 13 37 29.5 -0.9
TANN Tannenbergstha 7.30 355 *e*Pn **Pn** 13 37 29.5 -1.0
TANN Tannenbergstha 7.30 355 *e*Pn **Pn** 13 37 29.5 -1.0
VLS Valsamata 7.35 130 *e*PB **Pn** 13 37 31.3 +0.2
THL Klokotos Trika 7.36 116 *e*PB **Pn** 13 37 32.5 +1.2
PDO Prodromos 7.41 125 *e*PB **Pn** 13 37 33.0 +1.1
LIT Litokhoron 7.42 111 *e*PB **Pn** 13 37 31.9 -0.2
PVCC Panska Ves 7.42 5 *e*P **Pn** 13 37 31.5 -0.5
PVCC Panska Ves 7.42 5 *e*PN **Pn** 13 37 31.5 -0.5
PVCC Panska Ves 7.42 5 Pn **Pn** 13 37 31.5 -0.5
DPC Dobruska-Polom 7.46 14 *e*P **Pn** 13 37 32.0 -0.7
DPC Dobruska-Polom 7.46 14 *e*PN **Pn** 13 37 32.0 -0.7
DPC Dobruska-Polom 7.46 14 Pn **Pn** 13 37 32.0 -0.7
MPEP Malo Peshtene 7.51 85 *e*P **Pn** 13 37 35.0 +1.7
UPC Upice 7.56 12 *e*P **Pn** 13 37 33.3 -0.7
UPC Upice 7.56 12 *e*PN **Pn** 13 37 33.3 -0.7
UPC Upice 7.56 12 Pn **Pn** 13 37 33.3 -0.7
EVR Evrytania 7.59 121 *e*PN **Pn** 13 37 35.4 +0.8
HORT Hortiatis 7.63 106 *e*PB **Pn** 13 37 34.2 -0.9
PAGF Fort de Pagny 7.64 318 *e*P Pn 13 37 38.5 +3.5
baz=138
PAGF Fort de Pagny 7.64 318 *e*P **Pn** 13 37 38.5 +3.5
SMF Signal de Mont 7.67 300 *e*Pn **Pn** 13 37 34.0 -1.5
SNR=1.0
SMF *e*Sn Sn 13 38 53.8 -8.6
comp=Z,47nm,0.5s,SNR=1.0
SMF Signal de Mont 7.67 300 *e*P **Pn** 13 37 34.0 -1.5
SMF *e* 13 38 53.8
SMF Signal de Mont 7.67 300 *e*Pn **Pn** 13 37 34.0 -1.5
SMF *e*Sn Sn 13 38 53.8 -8.6
SMF Signal de Mont 7.67 300 *e*Pn **Pn** 13 37 34.0 -1.5
SNR=1.0
BRG Berggiesshubel 7.73 2 PN **Pn** 13 37 37.7 +1.4
BRG SN Sn 13 38 58.0 -5.8
BRG SG **Sg** 13 39 46.8 -5.1
comp=Z,21nm,1.0s
BRG Berggiesshubel 7.73 2 P **Pn** 13 37 37.7 +1.4
BRG 13 38 58.0
BRG smax smax
comp=N,21nm,1.0s
BRG Berggiesshubel 7.73 2 P **Pn** 13 37 37.7 +1.4
MAKR Makrakomi, Fth 7.74 119 *e*PB **Pn** 13 37 37.5 +0.9
LOT Lotru 7.74 69⇓*i*P **Pn** 13 37 39.2 +2.6
MMB Musomiste 7.76 98⇑P **Pn** 13 37 36.9 +0.1
MMB Musomiste 7.76 98 *e*P **Pn** 13 37 37.5 +0.7
MMB Musomiste 7.76 98⇑*i*P **Pn** 13 37 36.9 +0.1
MMB Musomiste 7.76 98 P **Pn** 13 37 36.9 +0.1
SFTF Sexfontaines 7.76 314 *e*P Pn 13 37 40.4 +3.6
baz=132
SFTF Sexfontaines 7.76 314 *e*P Pn 13 37 40.4 +3.6
SRS Serrai 7.80 102 *e*PB **Pn** 13 37 38.0 +0.7
AGG Agios Georgios 7.87 119 *e*PB **Pn** 13 37 39.8 +1.6
TNS Taunus Mts 7.87 336 *e*Sn **Sn** 13 39 02.9 -4.3
PGB Panagyurishte 7.89 91 *e*P **Pn** 13 37 39.0 +0.4
PGB Panagyurishte 7.89 91 *e*P **Pn** 13 37 39.0 +0.4
NVR Nevrokopi 7.92 100 *e*PB **Pn** 13 37 39.8 +0.8
LOR Lormes 7.93 305 *e*Pn **Pn** 13 37 38.7 -0.4
baz=129,SNR=1.0
LOR *e*Sn Sn 13 39 00.8 -8.0
comp=N,25nm,0.4s,SNR=1.0
LOR Lormes 7.93 305 *e*Pn **Pn** 13 37 38.7 -0.4
LOR *e*Sn Sn 13 39 00.8 -8.0
LOR Lormes 7.93 305 *e*Pn **Pn** 13 37 38.7 -0.4
SNR=1.0
EFP Efpalio 7.96 124 *e*PB **Pn** 13 37 41.2 +1.8
PLG Polygyros 7.96 107 *e*PB **Pn** 13 37 39.2 -0.4
CRVS Cervenica-Dubn 8.00 41 *e*P **Pn** 13 37 42.1 +2.0
CRVS Cervenica-Dubn 8.00 41 *e* **Pn** 13 37 42.1 +2.0
CRVS Cervenica-Dubn 8.00 41 *e*P **Pn** 13 37 42.1 +2.0
AVF Avril sur Loir 8.04 300 *e*Pn **Pn** 13 37 40.1 -0.4
SNR=1.0
AVF *e*Sn Sn 13 39 04.6 -6.7
comp=N,17nm,0.5s
AVF Avril sur Loir 8.04 300 *e*P **Pn** 13 37 40.1 -0.4
AVF *e* 13 39 04.6
AVF Avril sur Loir 8.04 300 *e*Pn **Pn** 13 37 40.1 -0.4
AVF *e*Sn Sn 13 39 04.6 -6.7
AVF Avril sur Loir 8.04 300 *e*Pn **Pn** 13 37 40.1 -0.4
SNR=1.0
SSF Saint Saulge 8.05 302 *e*Pn **Pn** 13 37 40.1 -0.6
SNR=1.0
SSF *e*Sn Sn 13 39 04.8 -7.0
comp=N,15nm,0.4s,SNR=1.0
SSF Saint Saulge 8.05 302 *e*P **Pn** 13 37 40.1 -0.6
SSF *e* 13 39 04.8
SSF Saint Saulge 8.05 302 *e*Pn **Pn** 13 37 40.1 -0.6
SSF *e*Sn Sn 13 39 04.8 -7.0
SSF Saint Saulge 8.05 302 *e*Pn **Pn** 13 37 40.1 -0.6
SNR=1.0
KEST Kesra 8.06 205 *e*Pn Pn 13 37 46.4 +5.4
KEST Kesra 8.06 205 Pn Pn 13 37 46.9 +5.9
comp=N,0.1nm,0.3s,baz=306,slow=1.9,SNR=8.2
KEST LR LR 13 40 59.2
comp=N,175nm,20.4s,baz=170,slow=39
TRPA Tarpa 8.08 49⇑*i*P **Pn** 13 37 43.5 +2.5
TRPA Tarpa 8.08 49⇑*e*Pn Pn 13 37 34.5 -6.5
LAKA Lakka 8.12 124 *e*PB **Pn** 13 37 42.8 +1.1
KALE Kalithea 8.12 123 *e*PB **Pn** 13 37 42.5 +0.7
DRO Drossia 8.15 127 *e*PB **Pn** 13 37 42.7 +0.6
CLL Collm 8.17 358 *e*P **Pn** 13 37 41.0 -1.3
CLL *e* 13 39 12.0
CLL Collm 8.17 358 *e*Pn **Pn** 13 37 41.0 -1.3
CLL *e*Sn **Sn** 13 39 12.0 -2.5
CLL *e*Sg **Sg** 13 40 11.0 +5.2
comp=Z,32nm,1.2s
CLL Collm 8.17 358 *e*P **Pn** 13 37 41.0 -1.3
UZH Uzhgorod 8.24 45 *e*P **Pn** 13 37 44.2 +0.9
UZH Uzhgorod 8.24 45 *e*P **Pn** 13 37 44.2 +0.9
STHS Stebnicka Huta 8.26 38 *e*P **Pn** 13 37 45.9 +2.3
STHS Stebnicka Huta 8.26 38 *e*PN **Pn** 13 37 45.9 +2.3
STHS Stebnicka Huta 8.26 38 *e*P **Pn** 13 37 45.9 +2.3
BGF Bois d'Agland 8.27 298 *e*Pn **Pn** 13 37 43.0 -0.8
SNR=1.0
BGF *e*Sn Sn 13 39 10.2 -7.0
comp=Z,23nm,0.4s,SNR=1.0
BGF Bois d'Agland 8.27 298 *e*P **Pn** 13 37 43.0 -0.8
BGF *e* 13 39 10.2
BGF Bois d'Agland 8.27 298 *e*Pn **Pn** 13 37 43.0 -0.8
BGF *e*Sn Sn 13 39 10.2 -7.0

BGF	**Bois d'Agland**	**8.27**	**298**	*e*Pn		**Pn**	**13 37 43.0**	**-0.8**
	SNR=1.0							
ARR	**Arges**	**8.32**	**71**	⇓*i*P		**Pn**	**13 37 46.7**	**+2.2**
KLV	**Kalavryta, Ach**	**8.35**	**125**	*e*PB		**Pn**	**13 37 46.8**	**+1.9**
PLD	**Plovdiv**	**8.36**	**93**	*e*P		**Pn**	**13 37 46.5**	**+1.6**
PLD	**Plovdiv**	**8.36**	**93**	*e*P		**Pn**	**13 37 46.5**	**+1.6**
CAF	**Calviac**	**8.40**	**286**	*e*Pn		**Pn**	**13 37 44.8**	**-0.8**
CAF	**Calviac**	**8.40**	**286**	*e*P		**Pn**	**13 37 44.8**	**-0.8**
CAF	**Calviac**	**8.40**	**286**	*e*Pn		**Pn**	**13 37 44.8**	**-0.8**
CAF	**Calviac**	**8.40**	**286**	*e*Pn		**Pn**	**13 37 44.8**	**-0.8**
KOLS	**Kolonicke sedl**	**8.42**	**44**	*e*P		Pn	13 37 50.9	+5.1
KOLS	**Kolonicke sedl**	**8.42**	**44**	*e*		Pn	13 37 50.9	+5.1
RZN	**Rozhen**	**8.46**	**96**	*e*P		**Pn**	**13 37 46.8**	**+0.4**
RZN	**Rozhen**	**8.46**	**96**	*e*P		**Pn**	**13 37 46.8**	**+0.4**
GUR	**Goura**	**8.53**	**125**	*e*PB		**Pn**	**13 37 49.5**	**+2.1**
TCF	**Toulx Ste Croi**	**8.60**	**295**	*e*Pn		**Pn**	**13 37 47.7**	**-0.6**
TCF				*e*Sn		**Sn**	**13 39 19.9**	**-5.4**
	comp=Z,7.7nm,0.4s,SNR=1.0							
TCF	**Toulx Ste Croi**	**8.60**	**295**	*e*P		**Pn**	**13 37 47.7**	**-0.6**
TCF				*e*			13 39 19.9	
TCF	**Toulx Ste Croi**	**8.60**	**295**	*e*Pn		**Pn**	**13 37 47.7**	**-0.6**
TCF				*e*Sn		**Sn**	**13 39 19.9**	**-5.4**
TCF	**Toulx Ste Croi**	**8.60**	**295**	*e*Pn		**Pn**	**13 37 47.7**	**-0.6**
VOIR		**8.62**	**71**	⇓*i*P		**Pn**	**13 37 51.3**	**+2.7**
VOIR		**8.62**	**71**	⇓*i*P		**Pn**	**13 37 51.3**	**+2.7**
VOIR		**8.62**	**71**	P		**Pn**	**13 37 51.3**	**+2.7**
HYF	**Humbligny**	**8.68**	**302**	*e*Pn		**Pn**	**13 37 47.6**	**-1.7**
HYF	**Humbligny**	**8.68**	**302**	*e*Pn		**Pn**	**13 37 47.6**	**-1.7**
HYF	**Humbligny**	**8.68**	**302**	*e*Pn		**Pn**	**13 37 47.6**	**-1.7**
DOPR	**Dopca**	**8.97**	**68**	⇓*i*P		**Pn**	**13 37 54.6**	**+1.3**
KDZ	**Kurdzhali**	**8.97**	**96**	⇓P		**Pn**	**13 37 52.3**	**-1.1**
KDZ	**Kurdzhali**	**8.97**	**96**	⇓*i*P		**Pn**	**13 37 52.3**	**-1.1**
KDZ	**Kurdzhali**	**8.97**	**96**	P		**Pn**	**13 37 52.3**	**-1.1**
KWP	**Kalwaria Pacla**	**9.10**	**41**	⇑P		**Pn**	**13 37 56.8**	**+1.7**
KWP	**Kalwaria Pacla**	**9.10**	**41**	⇑*i*P		**Pn**	**13 37 56.8**	**+1.7**
KWP	**Kalwaria Pacla**	**9.10**	**41**	*e*Pn		**Pn**	**13 37 53.0**	**-2.1**
	comp=Z,6.8nm,0.8s							
KWP	**Kalwaria Pacla**	**9.10**	**41**	*e*Pn		**Pn**	**13 37 53.0**	**-2.1**
	comp=Z,6.8nm,0.8s							
KWP	**Kalwaria Pacla**	**9.10**	**41**	P		**Pn**	**13 37 56.8**	**+1.7**
SZH	**Strazhica**	**9.11**	**85**	*e*P		**Pn**	**13 37 56.0**	**+0.7**
SZH	**Strazhica**	**9.11**	**85**	*e*P		**Pn**	**13 37 56.0**	**+0.7**
GIVF	**Givet**	**9.14**	**323**	*e*Pn		**Pn**	**13 37 54.1**	**-1.5**
GIVF	**Givet**	**9.14**	**323**	*e*P		**Pn**	**13 37 54.1**	**-1.5**
GIVF	**Givet**	**9.14**	**323**	*e*Pn		**Pn**	**13 37 54.1**	**-1.5**
GIVF	**Givet**	**9.14**	**323**	*e*Pn		**Pn**	**13 37 54.1**	**-1.5**
RDO	**Rodhopi**	**9.19**	**98**	*e*PB		**Pn**	**13 37 55.0**	**-1.4**
MLR	**Muntele Rosu**	**9.25**	**71**	⇑*i*P		**Pn**	**13 37 59.2**	**+1.9**
MLR	**Muntele Rosu**	**9.25**	**71**	Pn		**Pn**	**13 37 56.7**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=158,slow=8.1,SNR=2.4							
MLR	**Muntele Rosu**	**9.25**	**71**	P		**Pn**	**13 37 59.2**	**+1.9**
BURAR	**Bucovina Array**	**9.40**	**58**	⇓P		Pn	13 38 03.4	+4.1
BURAR	**Bucovina Array**	**9.40**	**58**	⇓*i*P		Pn	13 38 03.4	+4.1
BUR08	**Bucovina Ar. S**	**9.40**	**57**	*e*P		**Pn**	**13 38 02.0**	**+2.7**
BUR08	**Bucovina Ar. S**	**9.40**	**57**	*e*P		**Pn**	**13 38 02.0**	**+2.7**
ALN	**Alexandroupoli**	**9.63**	**99**	*e*PB		**Pn**	**13 38 02.0**	**-0.4**
JMB	**Yambol**	**9.67**	**90**	⇑P		**Pn**	**13 38 03.0**	**+0.1**
JMB	**Yambol**	**9.67**	**90**	*e*P		**Pn**	**13 38 01.7**	**-1.2**
JMB	**Yambol**	**9.67**	**90**	⇑*i*P		**Pn**	**13 38 03.0**	**+0.1**
JMB	**Yambol**	**9.67**	**90**	P		**Pn**	**13 38 03.0**	**+0.1**
ETSF	**Etsaut**	**10.27**	**273**	*e*P		Pn	13 38 15.9	+4.7
	SNR=1.0							
ETSF	**Etsaut**	**10.27**	**273**	*e*P		Pn	13 38 15.9	+4.7
ETSF	**Etsaut**	**10.27**	**273**	*e*P		Pn	13 38 15.9	+4.7
KIEV	**Kiev**	**13.13**	**49**	*e*P		**Pn**	**13 38 48.0**	**-2.1**
KIEV	**Kiev**	**13.13**	**49**	*e*P		**Pn**	**13 38 48.0**	**-2.1**
AKASG	**Malin Array Be**	**13.14**	**49**	P		**Pn**	**13 38 50.2**	**-0.1**
AKASG	**Malin Array Be**	**13.14**	**49**	Pn		**Pn**	**13 38 50.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=237,slow=12,SNR=3.7							
AKASG	**Malin Array Be**	**13.14**	**49**	P		**Pn**	**13 38 50.2**	**-0.1**
ESDC	**Sonseca Array**	**13.53**	**261**	Pn		**Pn**	**13 38 54.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=73,slow=13,SNR=3.1							
EKA	**Eskdalemuir Ar**	**16.27**	**324**	Pn		**Pn**	**13 39 33.7**	**+1.6**
	baz=127,slow=13,SNR=2.7							
EKA	**Eskdalemuir Ar**	**16.27**	**324**	P		**Pn**	**13 39 33.7**	**+1.6**
VSU	**Vasula**	**17.42**	**24**	*e*P		**Pn**	**13 39 46.4**	**-0.2**
VSU				pmax	pmax			
	comp=Z,22nm,1.2s							
VSU	**Vasula**	**17.42**	**24**	*e*P		**Pn**	**13 39 46.4**	**-0.2**
	comp=Z,22nm,1.2s							
MDT	**Midelt**	**17.56**	**240**	LR		LR	13 45 24.1	
	comp=Z,80nm,19.2s,baz=150,slow=33							
NOA	**NORSAR Array B**	**17.97**	**356**	P		**Pn**	**13 39 53.4**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=172,slow=12,SNR=2.3							
NOA				LR		LR	13 47 15.9	
	comp=Z,63nm,18.5s,baz=180,slow=39							
NOA	**NORSAR Array B**	**17.97**	**356**	P		**Pn**	**13 39 53.4**	**-0.1**
	comp=Z,63nm,18.5s							
VSR	**Storozhevoye**	**19.17**	**56**	*e*P		**P**	**13 40 04.8**	**-2.4**
VSR				pmax	pmax			
	comp=N,6.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,5.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
OBN	**Obninsk**	**19.18**	**43**	*e*P		**P**	**13 40 05.8**	**-1.4**
OBN				pmax	pmax			
	comp=Z,8.0nm,1.8s							
OBN				MLR	MLR			
	comp=Z,200nm,15.0s							
OBN	**Obninsk**	**19.18**	**43**	LR		LR	13 47 27.7	
	comp=Z,90nm,18.6s,baz=91,slow=37							
OBN	**Obninsk**	**19.18**	**43**	*e*P		**P**	**13 40 05.8**	**-1.4**
	comp=Z,200nm,15.0s							
VORD	**Divnogorie**	**19.19**	**57**	*e*P		**P**	**13 40 05.4**	**-2.0**
VORD				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VORD				pmax	pmax			
	comp=N,7.0nm,0.9s							
VORD				pmax	pmax			
	comp=E,8.0nm,1.0s							
VORD	**Divnogorie**	**19.19**	**57**	*e*P		**P**	**13 40 05.4**	**-2.0**
	comp=E,7.0nm,0.9s							
LPSR	**Galich'ya Gora**	**19.43**	**52**	*e*P		**P**	**13 40 08.5**	**-1.6**
	comp=E,2.0nm,0.9s							
FINES	**FINESS Array B**	**19.81**	**18**	P		**P**	**13 40 13.8**	**-0.3**
	comp=E,0.2nm,0.3s,baz=195,slow=12,SNR=7.5							
FINES				LR		LR	13 48 46.8	
	comp=E,131nm,20.5s,baz=215,slow=40							
FINES	**FINESS Array B**	**19.81**	**18**	P		**P**	**13 40 13.8**	**-0.3**
	comp=E,131nm,20.5s							
VRHR	**Novokhopersk**	**20.65**	**58**	*e*P		**P**	**13 40 23.2**	**-0.1**
VRHR				pmax	pmax			
	comp=N,10.0nm,0.9s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.9s							
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
VRHR	**Novokhopersk**	**20.65**	**58**	*e*P		**P**	**13 40 23.2**	**-0.1**
KIV	**Kislovodsk**	**21.15**	**78**	*e*P		**P**	**13 40 28.9**	**-0.1**
KIV				pmax	pmax			
	comp=Z,21nm,1.1s							
KIV				MLR	MLR			
	comp=Z,64nm,14.0s							
KIV	**Kislovodsk**	**21.15**	**78**	*e*P		**P**	**13 40 28.9**	**-0.1**
	comp=Z,64nm,14.0s							
KBZ	**Khabaz**	**21.34**	**78**	P		**P**	**13 40 32.5**	**+1.7**
KBZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz**	**21.34**	**78**	P		**P**	**13 40 32.5**	**+1.7**
	comp=Z,4.7nm,1.0s,baz=294,slow=8.1,SNR=5.5							
KBZ	**Khabaz**	**21.34**	**78**	P		**P**	**13 40 32.5**	**+1.7**
	comp=Z,5.0nm,1.0s							
ZEI	**Tsey**	**22.22**	**80**	*e*P		P	13 40 45.6	+5.0
ZEI				pmax	pmax			
	comp=Z,11nm,1.6s							
MAK	**Makhachkala**	**24.78**	**79**	*e*P		**P**	**13 41 10.0**	**+4.4**
MAK				MLR	MLR			
	comp=Z,393nm,13.0s							
AKTO	**Aktyubinsk**	**30.97**	**61**	LR		LR	13 56 19.5	
	comp=Z,80nm,19.8s,baz=93,slow=40							
ARU	**Arti**	**31.39**	**49**	*c i*P		**P**	**13 42 04.1**	**-0.5**
ARU							13 43 03.1	
ARU				S		**S**	**13 47 11.3**	**-0.3**
ARU				SS		**SnSn**	**13 48 51.3**	**-3.9**
ARU				pmax	pmax			
	comp=Z,15nm,1.2s							
ARU	**Arti**	**31.39**	**49**	*e*P		**P**	**13 42 04.0**	**-0.5**
	comp=Z,5.7nm,0.6s							
ARU	**Arti**	**31.39**	**49**	*i*P		**P**	**13 42 04.1**	**-0.5**
	comp=Z,15nm,1.2s							
ARU				S		**S**	**13 47 11.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**31.57**	**202**	P		**P**	**13 42 05.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=16,slow=8.8,SNR=12							
TORD				LR		LR	13 55 02.6	
	comp=Z,106nm,19.4s,baz=5.0,slow=37							
BRVK	**Borovoye**	**38.27**	**55**	*e*P		**P**	**13 43 04.8**	**+0.8**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.4s							
BRVK	**Borovoye**	**38.27**	**55**	*e*P		**P**	**13 43 04.8**	**+0.8**
	comp=Z,2.8nm,0.4s							
BRVK	**Borovoye**	**38.27**	**55**	*e*P		**P**	**13 43 04.8**	**+0.8**
	comp=Z,2.8nm,0.4s							
KURK	**Kurchatov**	**43.82**	**56**	*e*P		**P**	**13 43 48.8**	**-0.8**
KURK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
KURK	**Kurchatov**	**43.82**	**56**	*e*P		**P**	**13 43 48.8**	**-0.8**
	comp=Z,0.6nm,0.8s							
KURK	**Kurchatov**	**43.82**	**56**	*e*P		**P**	**13 43 48.8**	**-0.8**
	comp=Z,0.6nm,0.8s							
AAK	**Ala-Archa**	**43.83**	**69**	*e*P		**P**	**13 43 49.3**	**-0.7**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
AAK	**Ala-Archa**	**43.83**	**69**	LR		LR	14 06 15.1	
	comp=Z,79nm,18.4s,baz=288,slow=42							
AAK	**Ala-Archa**	**43.83**	**69**	*e*P		**P**	**13 43 49.3**	**-0.7**
	comp=Z,6.0nm,1.1s							
KSH	**Kashi**	**46.12**	**72**	*e*P		**P**	**13 44 09.4**	**+1.2**
KSH				*e*PP		**PP**	**13 45 57.4**	**+1.2**
KSH				*e*PcS		**PcS**	**13 49 41.2**	**+2.4**
KSH				*e*S		**S**	**13 50 52.9**	**-1.0**
KSH				*e*sS		**sS**	**13 51 00.8**	**+1.1**
KSH				*e*SS		**ScS**	**13 54 09.2**	**+5.4**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,96nm,6.8s							
KSH				LR	LR			
	comp=N,59nm,3.5s							
KSH				LR	LR			
	comp=E,35nm,4.5s							
KSH				LR	LR			
	comp=Z,70nm,8.2s							
MK31	**Makanchi Array**	**47.41**	**60**	*e*P		**P**	**13 44 17.9**	**-0.2**
MK31	**Makanchi Array**	**47.41**	**60**	*e*P		**P**	**13 44 17.9**	**-0.2**
MK31	**Makanchi Array**	**47.41**	**60**	*e*P		**P**	**13 44 17.9**	**-0.2**
MKAR	**Makanchi Array**	**47.41**	**60**	P		**P**	**13 44 18.4**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**47.41**	**60**	P		**P**	**13 44 18.4**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=282,slow=6.9,SNR=12							
MKAR	**Makanchi Array**	**47.41**	**60**	P		**P**	**13 44 18.4**	**+0.3**
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**61.42**	**50**	P		**P**	**13 46 00.8**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=290,slow=6.5,SNR=8.3							
SONM	**Songino Array**	**61.42**	**50**	P		**P**	**13 46 00.8**	**+0.7**
	comp=Z,1.0nm,1.0s							
ILAR	**Eielson Array**	**71.32**	**351**	P		**P**	**13 47 04.0**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=7.8,slow=7.3,SNR=4.2							
ILAR	**Eielson Array**	**71.32**	**351**	P		**P**	**13 47 04.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**74.39**	**79**	P		**P**	**13 47 21.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=302,slow=8.6,SNR=4.5							
CMAR	**Chiang Mai Arr**	**74.39**	**79**	*i* P		**P**	**13 47 22.5**	**+0.5**
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**80.36**	**321**	P		**P**	**13 47 56.0**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=57,slow=5.5,SNR=3.7							
ROSC	**El Rosal**	**85.10**	**272**	LR		LR	14 21 40.3	
	comp=Z,54nm,21.4s,baz=355,slow=32							
TXAR	**Lajitas Array**	**87.66**	**309**	P		**P**	**13 48 33.6**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=52,slow=5.8,SNR=2.6							
TXAR	**Lajitas Array**	**87.66**	**309**	P		**P**	**13 48 33.6**	**+0.9**

DDA 12 13:41:06.6, 40.69N×29.36E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.57**	**198**	*i* P	Pg	13 41 17.7	-0.2
ULDT				*i* S	Sg	13 41 26.3	+0.8
BORA	**Eskisehir**	**1.16**	**134**	*i* P	Pg	13 41 28.2	-0.8
BORA				*i* S	Sn	13 41 45.8	+0.2
DURS	**Dursunbey**	**1.28**	**212**	*i* P	Pn	13 41 30.2	-0.9
DURS				*i* S	Sn	13 41 50.0	+1.5

ISC 12 13:52:14.0±1.2, 44.82N±0.04×15.04E±0.07, h6km±15km, n6, σ0.52/12, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.28**	**205**	*i* Pg	**Pg**	**13 52 19.2**	**-0.3**
NVLJ				*i* Sg	**Sg**	**13 52 23.4**	**+0.2**
UDBI	**Udbina**	**0.59**	**119**	*i* Pg	**Pb**	**13 52 27.5**	**+0.6**
UDBI				*i* Sg	**Sn**	**13 52 38.1**	**-0.9**
BOJS	**Bojanci**	**0.70**	**12**	*i* Pg	**Pg**	**13 52 27.6**	**0.0**
BOJS				*i* Sg	**Sb**	**13 52 39.0**	**+0.4**
BOJS							
	comp=Z,11nm,0.2s						
KNDS	**Knezji Dol**	**0.85**	**327**	*i* Pg	**Pg**	**13 52 30.2**	**-0.1**
KNDS				*i* Sg	**Sg**	**13 52 41.5**	**+0.1**
SKDS	**Skadanscina**	**1.03**	**316**	*i* Pg	**Pg**	**13 52 33.4**	**-0.4**
SKDS				*i* Sg	**Sg**	**13 52 46.9**	**-0.2**
CRES	**Cresnjev**	**1.05**	**16**	*i* Pg	**Pg**	**13 52 33.5**	**-0.7**
CRES				*e*Sg	**Sn**	**13 52 50.3**	**0.0**

*JMA **12** 14:09:11.1±0.2, 43.92N×148.08E, h15km, M2.7*
*SKHL **12** 14:09:13.0±0.5, 44.33N×148.06E, h30km, mb3.9/1*

ISC 12 14:09:09.6±3.0, 44.3N±0.1×148.1E±0.2, h8km±15km, n9, σ1.924/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**351**	*e*P	**Pg**	**14 09 28.5**	**+0.1**
KUR				*e*S	**Sg**	**14 09 40.0**	**-1.1**
KUR				A	A	14 09 42.5	
	250nm,0.5s						
SHO	**Shikotan**	**0.99**	**247**	*e*P	**Pb**	**14 09 29.3**	**+0.3**
SHO				*e*S	**Sg**	**14 09 41.2**	**-0.2**
SHO				A	A	14 09 42.8	
	833nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**1.62**	**262**	*e*P	**Pb**	**14 09 39.4**	**-0.3**
YUK				AMB	AMB	14 09 41.3	
	23nm,0.2s						
YUK				*e*S	**Sn**	**14 09 59.6**	**+0.1**
YUK				A	A	14 10 03.7	
	31nm,0.1s						
YUK				A	A	14 10 03.7	
	32nm,0.1s						
NEM2	**Nemuro 2**	**1.92**	**243**	*e*S	**Sn**	**14 10 04.8**	**-2.2**
JRA	**Rausu**	**2.16**	**262**	P	**Pn**	**14 09 47.2**	**+1.3**
JRA				*e*S	**Sn**	**14 10 13.9**	**+1.0**
JNK	**Nakash**	**2.53**	**255**	P	**Pn**	**14 09 51.5**	**+0.5**
JNK				*e*S	**Sn**	**14 10 21.1**	**-0.8**
JAK	**Akkeshi**	**2.77**	**244**	P	**Pn**	**14 09 54.3**	**0.0**
JAK				*e*S	**Sn**	**14 10 25.9**	**-2.0**
JAR	**Ashorobuto**	**3.27**	**254**	P	**Pn**	**14 10 02.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**4.37**	**245**	P	**Pn**	**14 10 17.5**	**+1.2**

*ISCJB **12** 14:13:56.3±0.8, 25.75N±0.09×105.78E±0.07, h10km, mb3.7/8, MS2.6/1, Error ellipse: s-maj=14.5km s-min=5.1km az=147.1*
*IDC **12** 14:13:56.3±1.1, 25.65N×106.04E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/33, Error ellipse: s-maj=34.3km s-min=20.3km az=74.0*
*BJI **12** 14:13:59.2, 25.54N×105.72E, h7km, mb4.0/2, ML3.9/14*

ISC 12 14:13:58.5±1.0, 25.75N±0.09×105.85E±0.09, h10km, n14, σ2.915/15, mb3.7/8, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**1.02**	**46**	⇑*i*Pg	Pn	14 14 19.9	+1.0
GYA				Sg	Sn	14 14 37.1	+3.7
GYA				smax	smax		
	comp=N,2μm,0.7s						
GYA				smax	smax		
	comp=E,1μm,0.7s						
KMI	**Kunming**	**2.88**	**258**	Pn	**Pn**	**14 14 43.8**	**-0.8**
KMI				Pg	**Pb**	**14 14 51.3**	**+1.3**
KMI				Sn	**Sn**	**14 15 16.6**	**-2.8**
KMI				Sg	**Sb**	**14 15 26.4**	**+1.0**
KMI				smax	smax		
	comp=N,160nm,1.0s						
KMI				smax	smax		
	comp=E,140nm,0.9s						
XAN	**Xi'an**	**8.68**	**17**	P	Pn	14 16 06.9	+2.7
XAN				smax	smax		
	comp=N,30nm,1.0s						
XAN				smax	smax		
	comp=E,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.67**	**223**	Pn	**Pn**	**14 16 17.9**	**+0.2**
	0.2nm,0.3s,baz=34,slow=12,SNR=5.6						
CMAR				Pg		14 16 54.9	
	0.2nm,0.3s,baz=41,slow=17,SNR=10						
CMAR				Lg	Lg	14 19 00.5	
	0.1nm,0.3s,baz=56,slow=26,SNR=6.8						
GTA	**Gaotai**	**14.53**	**341**	*e*P	**P**	**14 17 33.3**	**+2.3**
GTA				pP	pP	14 17 36.9	
GTA				sP	sP	14 17 40.1	
GTA				S	**S**	**14 20 19.9**	**-5.3**
GTA				sS	sS	14 20 25.4	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**22.05**	**1**	P	**P**	**14 18 55.0**	**+1.7**
	0.9nm,0.6s,baz=180,slow=11,SNR=12						
KSRS	**Korea Array**	**22.07**	**53**	LR	LR	14 27 50.6	
	comp=Z,26nm,20.5s,baz=240,slow=38						
MKAR	**Makanchi Array**	**28.12**	**324**	P	**P**	**14 19 52.0**	**+1.5**
	0.3nm,0.7s,baz=131,slow=7.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**32.21**	**337**	P	**P**	**14 20 27.7**	**+1.1**
	3.0nm,0.6s,baz=139,slow=8.5,SNR=17						
KURBB	**Kurchatov Arra**	**32.49**	**327**	P	**P**	**14 20 30.0**	**+0.9**
	2.4nm,0.6s,baz=130,slow=10,SNR=35						
WRA	**Warramunga Arr**	**53.19**	**146**	P	**P**	**14 23 15.3**	**-1.8**
	0.6nm,0.6s,baz=334,slow=8.4,SNR=11						
AKASG	**Malin Array Be**	**62.21**	**316**	P	**P**	**14 24 20.7**	**+0.5**
	0.2nm,0.3s,baz=68,slow=6.4,SNR=4.1						
FINES	**FINESS Array B**	**62.88**	**328**	P	**P**	**14 24 24.1**	**-0.3**
	1.3nm,0.8s,baz=74,slow=8.1,SNR=4.8						
YKA	**Yellowknife Ar**	**86.33**	**18**	P	**P**	**14 26 39.6**	**-0.8**
	0.2nm,0.7s,baz=326,slow=5.1,SNR=4.2						

*BJI **12** 14:18:32.1, 6.40S×103.10E, h10km, mB5.1/23, mb4.7/39, Ms4.6/15, Ms7 4.2/13*
*IDC **12** 14:18:33.4±0.8, 6.14S×103.38E, h0km, mb4.5/19, mb1 4.5/19, mb1mx4.4/26, mbtmp4.5/19, MS3.9/8, Ms1 3.9/8, ms1mx3.5/30, Error ellipse: s-maj=24.2km s-min=15.5km az=49.0*
*ISCJB **12** 14:18:34.7±1.2, 6.44S±0.04×103.18E±0.04, h29km±9km, mb4.6/37, MS4.1/15, Error ellipse: s-maj=7.1km s-min=4.6km az=43.1*
*NEIC **12** 14:18:34.3±0.5, 6.38S×103.20E, h10km, mb4.7/9, Error ellipse: s-maj=13.6km s-min=7.0km az=46.0*
*DJA **12** 14:18:37.5±0.5, 6˚S±3˚×10˚3E±˚, h20km, M5.0/12, mB5.0/1, mb4.9/11, MLv5.0/12, Mw(mB)4.3/1*

ISC 12 14:18:34.9±0.5, 6.45S±0.04×103.20E±0.05, h15km±2km, n145, σ1.993/165, mb4.6/37, MS4.0/15, 2C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.58**	**55**	P	**Pn**	**14 19 00.1**	**-2.3**
KASI				S	**Sn**	**14 19 18.7**	**-4.0**
MNAI	**Manna**	**2.09**	**353**	P	**Pn**	**14 19 09.0**	**-0.3**
MNAI				S	**Sg**	**14 19 39.9**	**-2.2**
MNAI	**Manna**	**2.09**	**353**	*e*Pn	**Pn**	**14 19 09.1**	**-0.3**
MNAI	**Manna**	**2.09**	**353**	P	**Pn**	**14 19 09.1**	**-0.3**
	baz=2.1,SNR=28						
MDSI	**Maura Dua**	**2.18**	**27**	P	**Pn**	**14 19 09.7**	**-0.9**
MDSI				S	**Sn**	**14 19 36.3**	**-1.0**
BLSI	**Bandar Lampung**	**2.30**	**62**	S	**Sn**	**14 19 40.9**	**+0.5**
CGJI	**Cibinong**	**2.48**	**94**	P	**Pn**	**14 19 16.5**	**+1.7**
CGJI				S	**Sg**	**14 19 51.9**	**-2.9**
LHSI	**Lahat**	**2.62**	**7**	P	**Pn**	**14 19 17.1**	**+0.4**
SKJI	**Sukabumi**	**3.38**	**100**	P	**Pb**	**14 19 32.5**	**-2.1**
SKJI				S	**Sn**	**14 20 08.6**	**+1.5**
DBJI	**Dramaga**	**3.53**	**92**	P	**Pn**	**14 19 31.9**	**+2.7**
CBJI	**Citeko**	**3.63**	**90**	P	Pn	14 19 33.7	+3.1
LEM	**Lembang**	**4.41**	**95**	P	Pn	14 19 45.1	+3.7
LEM	**Lembang**	**4.41**	**95**	P	Pn	14 19 45.0	+3.7
	baz=4.4,SNR=5.9						
XMI	**Christmas Isla**	**4.68**	**148**	P	**Pn**	**14 19 43.6**	**-1.5**
	baz=4.7,SNR=5.1						
XMI				S	**Sn**	**14 20 39.0**	**-0.1**
	baz=4.7,SNR=3.6						
XMIS	**Christmas Isla**	**4.69**	**149**	*e*Pn	**Pn**	**14 19 43.2**	**-1.9**
XMIS	**Christmas Isla**	**4.69**	**149**	P

baz=89,slow=75,SNR=39
H08S3 Diego Garcia H 30.50 266 T T 14 56 52.0
baz=89,slow=75,SNR=29
H08S1 Diego Garcia H 30.51 266 T T 14 56 52.5
baz=89,slow=75,SNR=23
KMI Kunming 31.38 359 P **P** **14 24 58.0 +2.4**
KMI pP **pP** **14 25 01.9 +1.7**
KMI sP **sP** **14 25 03.9 +1.8**
KMI S **S** **14 30 06.7 +3.9**
KMI sS **sS** **14 30 12.3 +1.9**
KMI pmax pmax
comp=Z,5.0nm,0.7s
KMI pmax pmax
comp=Z,140nm,5.4s
KMI LR LR
comp=N,260nm,20.7s
KMI LR LR
comp=E,270nm,18.2s
GYA Guiyang 32.88 6 *e*P P 14 25 11.8 +3.2
GYA PP **PP** **14 26 21.6 -1.6**
GYA PcP **PcP** **14 27 55.0 +1.7**
GYA S **S** **14 30 28.9 +2.9**
GYA ScP **ScP** **14 31 33.4 -3.7**
GYA SS **SnSn** **14 32 27.8 +4.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,480nm,17.8s
GYA LR LR
comp=E,360nm,18.2s
GYA LR LR
comp=Z,440nm,17.6s
WRA Warramunga Arr 33.07 117 P **P** **14 25 11.1 +0.8**
WRA Warramunga Arr 33.07 117 P **P** **14 25 11.1 +0.8**
0.9nm,0.7s,baz=286,slow=12,SNR=9.8
ODAN Odare 36.48 336 *e*P **P** **14 25 39.5 -0.4**
22nm,0.7s
TAPN Taplejung 36.79 337 *e*P **P** **14 25 42.9 +0.3**
36nm,0.9s
RAMN Ramite 36.89 335 *e*P **P** **14 25 43.2 -0.2**
9.4nm,0.5s
ENH Enshi 37.00 9 *e*P **P** **14 25 41.7 -2.4**
7.4nm,0.8s
CD2 Chengdu 37.15 1 *e*P **P** **14 25 48.2 +2.9**
CD2 sP **sP** **14 25 55.1 +3.3**
CD2 PP **PnPn** **14 27 15.7 +5.1**
CD2 S **S** **14 31 35.2 +3.8**
CD2 sS **sS** **14 31 41.9 +2.8**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,170nm,11.8s
CD2 LR LR
comp=N,300nm,13.1s
CD2 LR LR
comp=E,390nm,16.6s
CD2 LR LR
comp=Z,340nm,17.8s
JIRN Jiri 37.68 335 *e*P **P** **14 25 50.4 +0.1**
28nm,0.7s
LSA Lhasa 37.76 343 *e*P **P** **14 25 50.6 -0.3**
7.4nm,0.8s
PKI Pulchoki 37.94 334 *e*P **P** **14 25 52.1 -0.3**
7.2nm,0.6s
PKIN Phulchoki 37.95 334 *e*P **P** **14 25 52.1 -0.3**
5.1nm,0.5s
QIS Mount Isa 37.96 115 P P 14 25 57.8 +5.5
baz=38,SNR=3.1
GUN Gumba 38.03 335 *e*P **P** **14 25 53.3 +0.1**
31nm,0.7s
DMN Daman 38.11 333 *e*P **P** **14 25 53.7 0.0**
KKN Kakani 38.19 334 *e*P **P** **14 25 54.5 +0.1**
11nm,0.5s
GKN Gorkha 38.66 333 *e*P **P** **14 25 58.3 +0.1**
7.8nm,0.4s
KOLN Koldanda 38.93 332 *e*P **P** **14 26 00.8 +0.2**
19nm,0.7s
DANN Dangsing 39.35 332 *e*P **P** **14 26 04.4 +0.2**
18nm,0.5s
NJ2 Nanjing 41.09 20 *e*P **P** **14 26 19.0 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
LZH Lanzhou 42.31 1 *e*P **P** **14 26 27.0 -1.4**
LZH pP **pP** **14 26 30.2 -2.9**
LZH *e*PP **PP** **14 28 08.1 +1.5**
LZH *e*S **S** **14 32 48.2 -0.8**
LZH sS **sS** **14 32 55.0 -1.7**
LZH *e*SS **SS** **14 35 51.3 -6.6**
LZH pmax pmax
comp=Z,30nm,1.4s
LZH pmax pmax
comp=Z,130nm,5.2s
LZH LR LR
comp=N,300nm,12.8s
LZH LR LR
comp=E,230nm,12.6s
LZH LR LR
comp=Z,460nm,17.1s
PMG Port Moresby 43.62 97 *e*P **P** **14 26 38.6 -0.5**
240nm,2.5s
PMG Port Moresby 43.62 97 P **P** **14 26 38.5 -0.6**
16nm,0.9s,baz=250,slow=6.2,SNR=5.7
STKA Stephens Creek 43.84 130 *e*P **P** **14 26 42.8 +2.0**
1.9nm,0.8s
STKA Stephens Creek 43.84 130 P **P** **14 26 42.6 +1.9**
4.6nm,0.7s,baz=304,slow=9.0,SNR=9.8
STKA Stephens Creek 43.84 130 P **P** **14 26 42.6 +1.9**
baz=44,SNR=6.0
GTA Gaotai 45.73 356 ⇑P **P** **14 26 54.5 -1.3**
GTA pP **pP** **14 26 59.1 -1.4**
GTA sP **sP** **14 27 01.6 -0.7**
GTA S **S** **14 33 38.5 -0.2**
GTA sS **sS** **14 33 46.0 -0.5**
GTA SS **ScS** **14 36 55.5 +3.7**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,170nm,4.0s
GTA LR LR
comp=N,200nm,15.7s
GTA LR LR
comp=E,190nm,16.6s
GTA LR LR
comp=Z,180nm,16.2s
JNU Nakatsue 47.32 32 P **P** **14 27 06.7 -1.6**
JNU Nakatsue 47.32 32 P **P** **14 27 06.7 -1.6**
16nm,1.0s,baz=153,slow=8.2,SNR=3.6
HHC Hu-ho-hao-te 47.69 9 *e*P **P** **14 27 12.3 +1.3**
HHC sP **sP** **14 27 21.2 +3.6**
HHC PP **PP** **14 29 04.4 +1.5**
HHC S **S** **14 34 11.1 +4.5**
HHC sS sS 14 34 19.2 +4.8
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,290nm,6.0s
HHC LR LR
comp=N,470nm,17.8s
HHC LR LR
comp=E,280nm,16.5s
HHC LR LR
comp=Z,400nm,15.2s
BJI Beijing 47.78 13 P **P** **14 27 09.6 -2.0**
BJI S **S** **14 34 04.6 -3.1**
BJI pmax pmax
comp=Z,23nm,0.7s
KSAR Wonju Array Be 49.37 26 P **P** **14 27 22.9 -1.0**
KSRS Korea Array 49.40 26 P **P** **14 27 22.9 -1.2**
6.4nm,0.6s,baz=223,slow=7.4,SNR=30
KS01 Wonju Array Si 49.40 26 *e*P **P** **14 27 24.2 0.0**
WMQ Urumqi 51.96 346 P **P** **14 27 44.2 +0.7**
WMQ pP **pP** **14 27 46.5 -1.7**
WMQ PcP **PcP** **14 28 55.5 -0.4**
WMQ PP **PP** **14 29 45.4 +3.7**
WMQ S **S** **14 35 06.0 -0.2**
WMQ ScS **ScS** **14 37 32.6 -0.7**
WMQ pmax pmax
comp=Z,18nm,0.7s
KSH Kashi 52.20 333 P **P** **14 27 44.3 -1.1**
KSH *e*PP **PP** **14 29 41.8 -2.2**
KSH *e*S **S** **14 35 04.6 -5.2**
KSH *e*sS **sS** **14 35 13.3 -4.4**
KSH *e*SS SS 14 38 40.3 -7.3
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,42nm,4.1s
KSH LR LR
comp=N,55nm,3.7s
KSH LR LR
comp=E,56nm,3.4s
KSH LR LR
comp=Z,41nm,4.0s
MJAR Matsushiro Arr 53.89 35 P P 14 27 54.2 -3.5
MJAR Matsushiro Arr 53.89 35 P P 14 27 54.2 -3.5
4.0nm,0.8s,baz=221,slow=7.5,SNR=5.9
CN2 Changchun 53.91 20 *e*P **P** **14 27 56.0 -1.7**
SONM Songino Array 54.12 3 P **P** **14 27 58.8 -0.5**
SONM ScP **ScP** **14 33 04.6 +2.7**
SONM Songino Array 54.12 3 P **P** **14 27 58.8 -0.5**
13nm,0.7s,baz=180,slow=9.0,SNR=129
SONM ScP **ScP** **14 33 04.6 +2.7**
0.8nm,0.8s,baz=161,slow=3.9,SNR=4.6
SONM LR LR 14 54 48.1
comp=Z,116nm,18.4s,baz=91,slow=40
SONA1 Songino Array 54.13 3 *e*P **P** **14 27 59.0 -0.5**
ULN Ulaanbaatar 54.19 3 *e*P **P** **14 27 59.0 -0.8**
5.8nm,0.7s
AAK Ala-Archa 55.39 334 P **P** **14 28 08.3 -0.5**
AAK Ala-Archa 55.39 334 P **P** **14 28 08.3 -0.5**
1.1nm,0.7s,baz=175,slow=7.7,SNR=4.9
EKS2 Erkin-Say 55.72 334 *e*P **P** **14 28 11.7 +0.6**
7.1nm,0.8s
MDJ Mudanjiang 56.10 22 P **P** **14 28 13.2 -0.4**
MDJ pmax pmax
comp=Z,19nm,2.3s
MK01 Makanchi Array 56.14 343 *e*P **P** **14 28 13.2 -0.7**
MKAR Makanchi Array 56.17 343 *e*P **P** **14 28 13.5 -0.5**
MKAR Makanchi Array 56.17 343 P **P** **14 28 13.5 -0.5**
2.8nm,0.5s,baz=151,slow=9.0,SNR=48
USRK Ussuriysk Arra 56.71 24 P **P** **14 28 16.0 -1.9**
15nm,0.7s,baz=217,slow=6.3,SNR=37
KURBB Kurchatov Arra 60.71 342 P **P** **14 28 44.7 -0.9**
2.4nm,0.7s,baz=153,slow=6.8,SNR=23
KURK Kurchatov 60.76 342 P **P** **14 28 44.7 -1.3**
ASAJ Asahikawa 61.59 31 P **P** **14 28 49.5 -2.2**
ASAJ Asahikawa 61.59 31 P **P** **14 28 49.5 -2.2**
6.5nm,0.6s,baz=50,slow=27,SNR=9.4
ZAA0 Zalesovo Array 62.13 348 *e*P **P** **14 28 54.1 -1.0**
ZALV Zalesovo Beam 62.13 348 P **P** **14 28 53.9 -1.2**
ZALV Zalesovo Beam 62.13 348 P **P** **14 28 53.9 -1.2**
6.3nm,0.4s,baz=134,slow=4.3,SNR=41
ZALV LR LR 14 58 52.1
comp=Z,105nm,18.8s,baz=59,slow=39
BVAR Borovoye Array 65.44 339 LR LR 15 02 00.7
comp=Z,64nm,20.1s,baz=237,slow=40
BRVK Borovoye 65.51 339 *e*P **P** **14 29 17.2 -0.3**
6.3nm,0.9s
MAW Mawson 66.84 196 LR LR 14 54 45.7
comp=Z,162nm,18.8s,baz=202,slow=32
ABKAR Akbulak array 67.05 331 *e*P **P** **14 29 27.4 0.0**
KBZ Khabaz 73.73 319 P **P** **14 30 09.8 +1.4**
KBZ Khabaz 73.73 319 P **P** **14 30 09.8 +1.4**
2.9nm,0.8s,baz=116,slow=6.5,SNR=6.5
PETK Petropavlovsk- 74.99 31 P **P** **14 30 14.4 -1.2**
PETK Petropavlovsk- 74.99 31 P **P** **14 30 14.4 -1.2**
5.7nm,1.0s,baz=206,slow=5.9,SNR=4.1
CSS Prodhromos 77.45 308 *e*P **P** **14 30 31.8 +1.8**
11nm,0.7s
BRTR Keskin Array B 78.66 313 P **P** **14 30 37.7 +0.9**
BRTR Keskin Array B 78.66 313 P **P** **14 30 37.7 +0.9**
1.0nm,0.6s,baz=140,slow=7.7,SNR=7.6
BRTR LR LR 15 05 45.5
comp=Z,38nm,20.4s,baz=301,slow=36
AKASG Malin Array Be 84.93 322 P **P** **14 31 09.6 +0.2**
AKASG Malin Array Be 84.93 322 P **P** **14 31 09.6 +0.2**
0.4nm,0.4s,baz=91,slow=4.6,SNR=6.6
MLR Muntele Rosu 85.70 317 ⇓*i*P P 14 31 20.5 +7.0
BURAR Bucovina Array 86.68 318 ⇑*i*P **P** **14 31 21.3 +3.0**
BUR04 Bucovina Ar. S 86.69 318 *e*P **P** **14 31 20.9 +2.6**
FINES FINESS Array B 89.51 332 P **P** **14 31 31.6 +0.4**
FINES FINESS Array B 89.51 332 P **P** **14 31 31.6 +0.4**
1.8nm,0.7s,baz=57,slow=7.0,SNR=4.7
NOA NORSAR Array B 96.56 331 LR LR 15 18 08.1
comp=Z,42nm,20.4s,baz=285,slow=37
YKA Yellowknife Ar 117.60 19 PKP **PKPdf** **14 37 19.9 -0.2**
YKA Yellowknife Ar 117.60 19 PKP **PKPdf** **14 37 19.9 -0.2**
0.1nm,0.6s,baz=352,slow=2.4,SNR=4.8
NVAR Mina Array Bea 130.81 43 PKP **PKPdf** **14 37 48.2 +1.8**
NVAR Mina Array Bea 130.81 43 PKP **PKPdf** **14 37 48.2 +1.8**
0.5nm,0.6s,baz=274,slow=1.4,SNR=2.8
TX31 Lajitas Ar. Si 145.94 45 *e*PKPdf **PKPab** **14 38 15.1 -0.1**
TXAR Lajitas Array 145.94 45 PKPbc **PKPab** **14 38 15.2 -0.1**
TXAR Lajitas Array 145.94 45 PKPbc **PKPab** **14 38 15.2 -0.1**
6.8nm,0.6s,baz=293,slow=1.0,SNR=98
JCT Junction City 147.78 39 *e*PKPbc **PKPbc** **14 38 19.9 0.0**
LPAZ La Paz 155.84 201 PKPab **PKPab** **14 38 56.7 0.0**
LPAZ La Paz 155.84 201 PKPab **PKPab** **14 38 56.7 0.0**
0.5nm,0.4s,baz=243,slow=4.5,SNR=3.7

DJA 12 14:54:20.6±0.9, **3°S**±6°×**13°9E**±°, **h10**km, **M3.6**/3, **MLv3.6**/3,
Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**1.05**	**7**	P	Pn	14 54 41.7	+0.3
SMPI				S	Sg	14 54 53.1	-1.4
GENI	**Genyem**	**1.65**	**74**	P	Pn	14 54 49.0	-0.6
GENI				S	Sn	14 55 10.0	-0.9
SRPI	**Serui, Papua**	**2.61**	**296**	P	Pn	14 55 01.8	-1.1

*CSEM **12** 15:05:52.3, 43°.12N×13°.46E, h21km, MD2.1/13, After ROM*
ROM 12 15:05:52.3±0.2, **43°.12N×13°.46E, h21**km±3km, **Md2.1**/13,
Ml2.1/9, **2C, Error ellipse: s-maj=3.0km s-min=1.7km az=99.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.25**	**138**	Pg	Pb	15 05 59.4	+1.0
OFFI	**Offida**	**0.25**	**138**	Pg	Pb	15 05 59.4	+1.0
FDMO	**Fiordimonte**	**0.29**	**253**	Pg	Pb	15 05 58.5	-0.4
FDMO				Sg	Sb	15 06 03.6	+0.2
366nm,0.2s							
FDMO	**Fiordimonte**	**0.29**	**253**	Pg	Pb	15 05 58.5	-0.4
FDMO				Sg	Sb	15 06 03.6	+0.2
366nm,0.2s							
CING	**Cingoli**	**0.32**	**323**	Pg	Pb	15 05 58.9	-0.4
CING				Sg	Sb	15 06 04.3	+0.1
CING	**Cingoli**	**0.32**	**323**	Pg	Pb	15 05 58.9	-0.4
CING				Sg	Sb	15 06 04.3	+0.1
GUMA	**Gualdo di Mace**	**0.35**	**100**	⇑*i*Pg	Pb	15 05 56.2	-3.6
GUMA				Sg	Sb	15 05 59.5	-5.5
2μm,0.2s							
GUMA	**Gualdo di Mace**	**0.35**	**100**	⇑*i*Pg	Pb	15 05 56.2	-3.6
GUMA				Sg	Sb	15 05 59.5	-5.5
2μm,0.2s							
NRCA	**Norcia**	**0.38**	**221**	Pg	Pb	15 06 00.1	-0.3
NRCA				Sg	Sb	15 06 06.7	+0.8
916nm,0.1s							
NRCA	**Norcia**	**0.38**	**221**	Pg	Pb	15 06 00.1	-0.3
NRCA				Sg	Sb	15 06 06.7	+0.8
916nm,0.1s							
CESI	**CESI - Serrava**	**0.42**	**254**	Pg	Pb	15 06 00.9	-0.2
CESI				Sg	Sb	15 06 07.9	+0.8
67nm,0.3s							
CESI	**CESI - Serrava**	**0.42**	**254**	Pg	Pb	15 06 00.9	-0.2
CESI				Sg	Sb	15 06 07.9	+0.8
67nm,0.3s							
AOI	**Ancona**	**0.44**	**14**	Pg	Pb	15 06 01.0	-0.4
AOI				Sg	Sb	15 06 08.8	+1.3
47nm,0.3s							
AOI	**Ancona**	**0.44**	**14**	Pg	Pb	15 06 01.0	-0.4
AOI				Sg	Sb	15 06 08.8	+1.3
47nm,0.3s							
SMA1	**SAN MARTINO**	**0.50**	**191**	Pg	Pb	15 06 02.0	-0.5
SMA1				Sg	Sb	15 06 10.1	+0.6
82nm,0.5s							
TERO	**Teramo**	**0.51**	**168**	Pg	Pb	15 06 02.1	-0.6
TERO				Sg	Sb	15 06 10.7	+1.0
67nm,0.2s							
TERO	**Teramo**	**0.51**	**168**	Pg	Pb	15 06 02.1	-0.6
TERO				Sg	Sb	15 06 10.7	+1.0
67nm,0.2s							
ARVD	**Arcevia**	**0.53**	**315**	Pg	Pb	15 06 03.0	-0.1
ARVD				Sg	Sb	15 06 11.0	+0.6
27nm,0.2s							
ARVD	**Arcevia**	**0.53**	**315**	Pg	Pb	15 06 03.0	-0.1
ARVD				Sg	Sb	15 06 11.0	+0.6
27nm,0.2s							
RM29	**Verrico (Monte**	**0.59**	**199**	Pg	Pb	15 06 03.7	-0.5
RM29				Sg	Sb	15 06 13.6	+1.2
FSSB	**Fossombrone**	**0.76**	**319**	Pg	Pb	15 06 07.1	+0.3
FSSB				Sg	Sn	15 06 18.7	0.0
FSSB	**Fossombrone**	**0.76**	**319**	Pg	Pb	15 06 07.1	+0.3
FSSB				Sg	Sn	15 06 18.7	0.0
PIEI	**Pieia**	**0.79**	**302**	Pg	Pb	15 06 07.0	-0.5
PIEI				Sg	Sn	15 06 19.6	0.0
24nm,0.3s							
PIEI	**Pieia**	**0.79**	**302**	Pg	Pb	15 06 07.0	-0.5
PIEI				Sg	Sn	15 06 19.6	0.0
24nm,0.3s							

*ATH **12** 15:09:03.5, 38°.45N×22°.14E, h23km±1km, MD2.7/10*
*CSEM **12** 15:09:03.4±0.3, 38°.48N×22°.23E, h15km, MD2.7, Error ellipse: s-maj=8.4km s-min=5.0km az=95.0*
*THE **12** 15:09:03.8, 38°.52N×22°.30E, h11km±2km, ML1.5/4, Error ellipse: s-maj=2.2km s-min=0.4km az=173.0*
ISC 12 15:09:03.4±1.0, **38°.49N**±0°.02×**22°.22E**±0°.03, **h15**km±8km, **n32**, σ**0°77**/45, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.12**	**214**	P	**Pb**	**15 09 07.4**	**+0.1**
KALE				S	**Sb**	**15 09 10.8**	**+0.9**
KALE	**Kalithea**	**0.12**	**214**	*e*PB	**Pb**	**15 09 07.4**	**+0.1**
KALE				*e*SB	**Sb**	**15 09 10.9**	**+1.0**
KALE	**Kalithea**	**0.12**	**214**	P	**Pb**	**15 09 07.4**	**+0.1**
KALE				*e*Sb	**Sb**	**15 09 10.9**	**+1.0**
DSF	**Desfina**	**0.25**	**107**	P	**Pg**	**15 09 08.2**	**-0.7**
DSF				S	**Sg**	**15 09 11.5**	**-1.2**
DSF	**Desfina**	**0.25**	**107**	P	**Pg**	**15 09 08.2**	**-0.7**
DSF				S	**Sg**	**15 09 11.5**	**-1.2**
EFP	**Efpalio**	**0.26**	**257**	P	**Pb**	**15 09 10.2**	**+0.5**
EFP				S	**Sb**	**15 09 15.4**	**+1.5**
EFP	**Efpalio**	**0.26**	**257**	P	**Pb**	**15 09 10.2**	**+0.5**
EFP				S	**Sb**	**15 09 15.4**	**+1.5**
LAKA	**Lakka**	**0.31**	**218**	P	**Pb**	**15 09 11.2**	**+0.6**
LAKA	**Lakka**	**0.31**	**218**	*e*PB	**Pg**	**15 09 09.9**	**0.0**
LAKA	**Lakka**	**0.31**	**218**	*e*Pb	**Pg**	**15 09 09.9**	**0.0**
LAKA	**Lakka**	**0.31**	**218**	P	**Pb**	**15 09 11.2**	**+0.6**
KLV	**Kalavryta, Ach**	**0.45**	**187**	P	**Pb**	**15 09 13.3**	**+0.4**
KLV	**Kalavryta, Ach**	**0.45**	**187**	*e*PB	**Pg**	**15 09 12.4**	**+0.1**
KLV	**Kalavryta, Ach**	**0.45**	**187**	*e*Pb	**Pg**	**15 09 12.4**	**+0.1**
KLV	**Kalavryta, Ach**	**0.45**	**187**	P	**Pb**	**15 09 13.3**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.53**	**352**	*e*PN	**Pg**	**15 09 14.3**	**+0.4**
MAKR				*e*SN	**Sb**	**15 09 22.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.53**	**352**	*e*Pn	**Pg**	**15 09 14.3**	**+0.4**
MAKR				*e*Sn	**Sb**	**15 09 22.5**	**+0.6**
EVR	**Evrytania**	**0.54**	**323**	P	**Pg**	**15 09 14.1**	**0.0**
EVR				S	**Sb**	**15 09 22.7**	**+0.6**
EVR	**Evrytania**	**0.54**	**323**	*e*PN	**Pg**	**15 09 14.3**	**+0.2**
EVR	**Evrytania**	**0.54**	**323**	*e*Pn	**Pg**	**15 09 14.3**	**+0.2**
EVR				*e*Sn	**Sb**	**15 09 22.7**	**+0.6**
AGG	**Agios Georgios**	**0.54**	**9**	P	**Pg**	**15 09 13.4**	**-0.7**
AGG	**Agios Georgios**	**0.54**	**9**	*e*PN	**Pg**	**15 09 13.9**	**-0.2**
AGG				*e*SN	**Sn**	**15 09 24.5**	**-0.9**
AGG	**Agios Georgios**	**0.54**	**9**	P	**Pg**	**15 09 13.4**	**-0.7**
AGG	**Agios Georgios**	**0.54**	**9**	*e*Pn	**Pg**	**15 09 13.9**	**-0.2**
AGG				*e*Sn	**Sn**	**15 09 24.5**	**-0.9**
GUR	**Goura**	**0.56**	**170**	*e*PN	**Pg**	**15 09 14.3**	**-0.1**
GUR	**Goura**	**0.56**	**170**	*e*Pn	**Pg**	**15 09 14.3**	**-0.1**
DRO	**Drossia**	**0.67**	**217**	*e*PB	**Pg**	**15 09 15.3**	**-1.2**
DRO	**Drossia**	**0.67**	**217**	*e*Pb	**Pg**	**15 09 15.3**	**-1.2**
PDO	**Prodromos**	**0.82**	**278**	*e*PN	**Pb**	**15 09 18.7**	**-0.6**
PDO	**Prodromos**	**0.82**	**278**	*e*Pn	**Pb**	**15 09 18.7**	**-0.6**
MRKA	**Markates**	**1.09**	**78**	*e*PN	**Pg**	**15 09 25.8**	**+1.3**
MRKA	**Markates**	**1.09**	**78**	*e*Pn	**Pg**	**15 09 25.8**	**+1.3**

MEX 12 15:30:41.1±0.4, **16°.35N×96°.11W, h62**km±6km, **MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.58**	**180**	*e*P	Pn	15 30 52.5	-1.6
HUIG				*e*S	Sn	15 31 02.0	-1.5
VHO	**Vista Hermosa**	**0.94**	**320**	*i*P	Pn	15 30 57.4	-1.3
VHO				*i*S	Sn	15 31 09.6	-2.1
PNIG	**Pinotepa**	**1.94**	**272**	*e*P	Pn	15 31 10.7	-1.1
PNIG				*i*S	Sn	15 31 33.1	-2.1
TLIG	**Tlapa**	**2.64**	**298**	*i*P	Pn	15 31 19.8	-1.7
TLIG				*i*S	Sn	15 31 51.4	-1.3
PCIG		**2.85**	**103**	*i*P	Pn	15 31 22.7	-1.5
PCIG				*i*S	Sn	15 31 55.5	-1.9

*ISCJB **12** 15:37:29.1±0.4, 44°.79N±0°.02×14°.77E±0°.03, h12km±3km, Error ellipse: s-maj=4.2km s-min=2.9km az=161.6*
*CSEM **12** 15:37:29.9±0.2, 44°.80N×14°.78E, h5km, ML3.3/6, Error ellipse: s-maj=3.9km s-min=3.0km az=69.0*
*PRU **12** 15:37:30.7, 44°.84N×15°.09E, h0km*
*LDG **12** 15:37:30.8±0.2, 44°.83N×14°.94E, h10km, Ml3.1/7, Error ellipse: s-maj=5.4km s-min=3.1km az=128.0*
*VIE **12** 15:37:31.1±0.6, 44°.87N×14°.91E, h9km±2km, mb2.5/5, ML2.9/6, Error ellipse: s-maj=3.5km s-min=2.7km az=163.0 65 km SE of Rijeka*
*BEO **12** 15:37:31.3±0.4, 44°.83N×14°.93E, h0km, ML2.8/7*
ISC 12 15:37:30.2±0.9, **44°.80N**±0°.02×**14°.80E**±0°.02, **h11**km±6km, **n68**, σ**1°30**/111, **13C-7D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.24**	**167**	*i*Pg	**Pg**	**15 37 35.0**	**-0.2**
NVLJ				*i*Sg	**Sg**	**15 37 39.3**	**+0.8**
NVLJ	**Novalja**	**0.24**	**167**	*i*Pg	**Pg**	**15 37 34.9**	**-0.2**
NVLJ				*i*Sg	**Sg**	**15 37 39.3**	**+0.8**
RIY	**Rijeka**	**0.57**	**337**	⇑*i*Pg	**Pg**	**15 37 40.8**	**-0.5**
RIY				*i*Sg	**Sb**	**15 37 50.4**	**+0.1**
GBRS	**Gornja Briga**	**0.73**	**1**	Pg	**Pg**	**15 37 43.0**	**-1.3**
GBRS				*i*Sg	**Sb**	**15 37 54.6**	**-0.4**
37nm,0.1s							
UDBI	**Udbina**	**0.74**	**111**	*e*Pg	**Pg**	**15 37 43.2**	**-1.4**
UDBI				Sg	**Sg**	**15 37 53.8**	**-0.5**
UDBI	**Udbina**	**0.74**	**111**	*e*Pg	**Pg**	**15 37 43.1**	**-1.4**
UDBI				Sg	**Sg**	**15 37 53.8**	**-0.5**
BOJS	**Bojanci**	**0.77**	**24**	*i*Pg	**Pg**	**15 37 43.3**	**-1.8**
BOJS				*i*Sg	**Sg**	**15 37 54.4**	**-0.8**
BOJS							
comp=Z,144nm,0.2s							
BOJS	**Bojanci**	**0.77**	**24**	⇑*i*Pg	**Pg**	**15 37 43.2**	**-1.9**
BOJS				*i*Sg	**Sg**	**15 37 54.1**	**-1.1**
BOJS	**Bojanci**	**0.77**	**24**	*i*Pg	**Pg**	**15 37 43.3**	**-1.8**
BOJS				*i*Sg	**Sg**	**15 37 54.1**	**-1.1**
KNDS	**Knezji Dol**	**0.78**	**338**	*i*Pg	**Pg**	**15 37 44.8**	**-0.6**
KNDS				*i*Sg	**Sb**	**15 37 57.0**	**+0.4**
KNDS							
comp=Z,64nm,0.2s							
KNDS	**Knezji Dol**	**0.78**	**338**	*i*Pg	**Pg**	**15 37 44.8**	**-0.6**
KNDS				*i*Sg	**Sb**	**15 37 57.0**	**+0.4**
comp=Z,64nm,0.2s							
SKDS	**Skadanscina**	**0.93**	**324**	*i*Sg	**Sb**	**15 38 02.3**	**+1.6**
SKDS	**Skadanscina**	**0.93**	**324**	*i*Sg	**Sb**	**15 38 02.3**	**+1.6**
CEY	**Cerknica**	**0.97**	**345**	*e*Pg	**Pg**	**15 37 47.6**	**-1.3**
CEY				*i*Sg	**Sb**	**15 38 02.2**	**+0.2**
CEY	**Cerknica**	**0.97**	**345**	*e*Pg	**Pg**	**15 37 47.6**	**-1.3**
CEY				*i*Sg	**Sb**	**15 38 02.2**	**+0.2**
LJU	**Ljubljana**	**1.26**	**351**	*e*Pg	**Pg**	**15 37 55.4**	**+1.1**
LJU				*i*Sg	**Sn**	**15 38 12.0**	**+1.3**
LJU	**Ljubljana**	**1.26**	**351**	⇑*i*Pg	**Pg**	**15 37 54.3**	**0.0**
LJU				*i*Sg	**Sn**	**15 38 11.9**	**+1.3**
LJU	**Ljubljana**	**1.26**	**351**	⇑*i*Pg	**Pg**	**15 37 54.3**	**0.0**
LJU				*i*Sg	**Sn**	**15 38 11.9**	**+1.3**
SISC	**Sisak**	**1.30**	**58**	Sg	**Sn**	**15 38 11.2**	**-0.5**
SISC	**Sisak**	**1.30**	**58**	Sg	**Sn**	**15 38 11.1**	**-0.5**
BLY	**Banja Luka**	**1.70**	**91**	⇑*i*Pg	**Pn**	**15 37 59.9**	**+0.1**
BLY				*i*Sg	**Sg**	**15 38 22.5**	**-2.4**
OBKA	**Obir**	**1.72**	**354**	⇑*i*Pn	**Pb**	**15 38 01.7**	**-0.1**
OBKA				⇑*i*Sn	**Sn**	**15 38 22.6**	**+0.5**
OBKA				⇓*i*Sg	**Sg**	**15 38 26.4**	**+1.0**
comp=Z,102nm,0.4s							
OBKA	**Obir**	**1.72**	**354**	Pn	**Pb**	**15 38 01.7**	**-0.1**
OBKA				Sn	**Sn**	**15 38 22.6**	**+0.5**
OBKA				Sg	**Sg**	**15 38 26.4**	**+1.0**
comp=Z,102nm,0.4s							

SOKA	**Soboth**	**1.88**	**5**	⇑*i*Pn		**Pn**	**15 38 03.1**	**+0.7**
SOKA				⇓*i*Sn		**Sn**	**15 38 26.3**	**+0.1**
SOKA				⇓*i*Sg		**Sg**	**15 38 31.0**	**+0.3**
	comp=Z,21nm,0.4s							
SOKA	**Soboth**	**1.88**	**5**	Pn		**Pn**	**15 38 03.1**	**+0.7**
SOKA				Sn		**Sn**	**15 38 26.3**	**+0.1**
SOKA				Sg		**Sg**	**15 38 31.0**	**+0.3**
	comp=Z,21nm,0.4s							
MYKA	**Terra Mystica**	**2.00 337**		⇑*i*Pn		**Pn**	**15 38 04.9**	**+0.9**
MYKA				⇑*i*Sn		**Sn**	**15 38 30.2**	**+1.1**
MYKA				⇓*i*Sg		**Sg**	**15 38 36.3**	**+1.8**
	comp=Z,25nm,0.3s							
MYKA	**Terra Mystica**	**2.00 337**		Pn		**Pn**	**15 38 04.9**	**+0.9**
MYKA				Sn		**Sn**	**15 38 30.2**	**+1.1**
MYKA				Sg		**Sg**	**15 38 36.3**	**+1.8**
	comp=Z,25nm,0.3s							
ARSA	**Arzberg**	**2.50**	**11**	⇑*i*Pn		**Pn**	**15 38 11.0**	**+0.1**
ARSA				⇑*i*Sn		**Sn**	**15 38 41.1**	**-0.3**
ARSA	**Arzberg**	**2.50**	**11**	Pn		**Pn**	**15 38 11.0**	**+0.1**
ARSA				Sn		**Sn**	**15 38 41.1**	**-0.3**
STON	**Ston**	**2.85 132**		*i* Pn		Pn	15 38 18.0	+2.4
STON	**Ston**	**2.85 132**		*e*Pn		Pn	15 38 18.0	+2.4
STON				*i* Sn		**Sn**	**15 38 52.2**	**+2.3**
STON	**Ston**	**2.85 132**		*e*Pn		Pn	15 38 18.0	+2.4
STON				*i* Sn		**Sn**	**15 38 52.2**	**+2.3**
MOA	**Molln**	**3.07 353**		⇓*i*Pn		**Pn**	**15 38 19.7**	**+1.0**
MOA				⇓*i*Sn		**Sn**	**15 38 56.2**	**+0.8**
MOA	**Molln**	**3.07 353**		Pn		**Pn**	**15 38 19.7**	**+1.0**
MOA				Sn		**Sn**	**15 38 56.2**	**+0.8**
CONA	**Conrad Observa**	**3.21**	**13**	⇑*i*Pn		**Pn**	**15 38 21.0**	**+0.3**
CONA				⇓*i*Sn		**Sn**	**15 38 58.8**	**-0.2**
CONA	**Conrad Observa**	**3.21**	**13**	Pn		**Pn**	**15 38 21.0**	**+0.3**
CONA				Sn		**Sn**	**15 38 58.8**	**-0.2**
TEKS	**Tekeris**	**3.38**	**93**	*e*Pn		**Pn**	**15 38 23.5**	**+0.5**
TEKS	**Tekeris**	**3.38**	**93**	*e*Pn		**Pn**	**15 38 23.5**	**+0.5**
DIVS	**Divibare**	**3.79**	**99**	*e*Pn		**Pn**	**15 38 29.7**	**+1.1**
DIVS	**Divibare**	**3.79**	**99**	*e*Pn		**Pn**	**15 38 29.7**	**+1.1**
GRUS	**Gruza**	**4.34 100**		*e*Pn		**Pn**	**15 38 37.0**	**+0.9**
GRUS	**Gruza**	**4.34 100**		*e*Pn		**Pn**	**15 38 37.0**	**+0.9**
KHC	**Kasperske Hory**	**4.41 350**		*e*PN		**Pn**	**15 38 38.4**	**+1.3**
KHC				*ex*		x	15 38 48.5	
KHC				*e*SN		**Sn**	**15 39 29.1**	**+0.6**
KHC	**Kasperske Hory**	**4.41 350**		Pn		**Pn**	**15 38 38.4**	**+1.3**
KHC				Sn		**Sn**	**15 39 29.1**	**+0.6**
PGF	**Pioggiola**	**4.77 244**		*e*Pn		**Pn**	**15 38 43.0**	**+0.9**
PGF	**Pioggiola**	**4.77 244**		*e*Pn		**Pn**	**15 38 43.0**	**+0.9**
PRU	**Pruhonice**	**5.19 358**		*e*PN		**Pn**	**15 38 48.5**	**+0.7**
PRU				*e*SN		**Sn**	**15 39 46.9**	**-0.8**
PRU	**Pruhonice**	**5.19 358**		Pn		**Pn**	**15 38 48.5**	**+0.7**
PRU				Sn		**Sn**	**15 39 46.9**	**-0.8**
SBF	**Sospel**	**5.36 263**		*e*Pn		**Pn**	**15 38 50.8**	**+0.6**
SBF				*e*Sn		**Sn**	**15 39 49.7**	**-2.3**
	comp=Z,3.8nm,0.3s							
SBF	**Sospel**	**5.36 263**		*e*Pn		**Pn**	**15 38 50.8**	**+0.6**
SBF				*e*Sn		**Sn**	**15 39 49.7**	**-2.3**
	comp=Z,1.9nm,0.3s							
MBDF	**Montbardon**	**5.71 272**		*e*Pn		**Pn**	**15 38 54.5**	**-0.6**
MBDF				*e*Sn		**Sn**	**15 39 57.6**	**-3.2**
	comp=Z,3.9nm,0.3s							
LPG	**La Plagne**	**5.73 280**		*e*Pn		**Pn**	**15 38 55.0**	**-0.5**
LPG	**La Plagne**	**5.73 280**		*e*P		Pn	15 38 59.8	+4.3
LPG				*e*Sn		**Sn**	**15 39 58.4**	**-3.0**
	comp=Z,4.2nm,0.4s							
LPG	**La Plagne**	**5.73 280**		*e*Pn		**Pn**	**15 38 55.0**	**-0.5**
LPL	**La Plagne**	**5.75 280**		*e*Pn		**Pn**	**15 38 55.0**	**-0.6**
LPL	**La Plagne**	**5.75 280**		*e*P		Pn	15 38 59.6	+4.0
LPL				*e*Sn		**Sn**	**15 39 58.4**	**-3.3**
	comp=Z,3.4nm,0.3s							
LPL	**La Plagne**	**5.75 280**		*e*Pn		**Pn**	**15 38 55.0**	**-0.6**
LMR	**La Mourre**	**6.15 259**		*e*Pn		**Pn**	**15 39 01.3**	**+0.4**
LMR	**La Mourre**	**6.15 259**		*e*Pn		**Pn**	**15 39 01.3**	**+0.4**
HINF	**Hinteralfeld**	**6.27 302**		*e*Sn		**Sn**	**15 40 10.2**	**-4.2**
	comp=Z,3.0nm,0.4s							
ORIF	**Oris-en-Rattie**	**6.34 274**		*e*Pn		**Pn**	**15 39 04.1**	**+0.5**
ORIF				*e*Sn		**Sn**	**15 40 12.6**	**-3.5**
	comp=Z,3.4nm,0.4s							
SMRF	**Simiane la Rot**	**6.66 266**		*e*Pn		**Pn**	**15 39 09.1**	**+1.1**
SMRF	**Simiane la Rot**	**6.66 266**		*e*Pn		**Pn**	**15 39 09.1**	**+1.1**
HAU	**Haudompre**	**6.66 302**		*e*Pn		**Pn**	**15 39 07.5**	**-0.5**
HAU				*e*Sn		**Sn**	**15 40 19.7**	**-4.2**
	comp=Z,3.0nm,0.3s							
HAU	**Haudompre**	**6.66 302**		*e*Pn		**Pn**	**15 39 07.5**	**-0.5**
VIVF	**Saint-Julien-l**	**7.20 274**		*e*Pn		**Pn**	**15 39 14.8**	**-0.6**
LASF	**Ste Croix**	**7.86 269**		*e*Pn		**Pn**	**15 39 23.4**	**-1.1**
LASF	**Ste Croix**	**7.86 269**		*e*Pn		**Pn**	**15 39 23.4**	**-1.1**

IDC **12** *16:08:31.5±1.2,25″.05N×123″.41E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.6/27, mbtmp3.5/8, MS2.7/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=38.3km s-min=23.2km az=66.0*

JMA **12** *16:08:33.2±0.4,25″.01N×123″.41E, h21km, M3.1*

ISCJB **12** *16:08:34.0±0.6,24″.95N±0″.05×123″.42E±0″.06, h32km, mb3.4/8, Error ellipse: s-maj=9.0km s-min=5.6km az=143.5*

ISC 12 16:08:35.3±0.8,**24″.87N**±0″.08×**123″.42E**±0″.06,**h32**km,**n14,** σ0**89**/17,**mb3.5/8,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
YOJ	**Yonaguni jima**	**0.55**	**222**	P		**Pb**	**16 08 45.5**			**-1.2**
YOJ				S		**Sb**	**16 08 54.5**			**+0.1**
IRIF	**Iriomote-Funau**	**0.60**	**152**	P		**Pb**	**16 08 46.9**			**-0.7**
JKRS	**Kuro-shima**	**0.83**	**139**	P		**Pb**	**16 08 50.9**			**-0.4**
JKRS				*e*S		**Sb**	**16 09 01.9**			**-0.3**
JIJ	**Ishigaki jima**	**0.83**	**127**	P		**Pn**	**16 08 49.8**			**-1.0**
JIJ				S		**Sn**	**16 09 01.3**			**-0.7**
HATJ	**Hateruma jima**	**0.88**	**156**	P		**Pb**	**16 08 51.9**			**-0.3**
HATJ				*e*S		**Sb**	**16 09 04.1**			**+0.4**
KSRS	**Korea Array**	**13.12**	**16**	LR		LR	16 17 19.2			
	comp=Z,36nm,20.2s,baz=348,slow=41									
CMAR	**Chiang Mai Arr**	**23.60**	**259**	P		**P**	**16 13 44.7**			**+1.1**
	0.4nm,0.3s,baz=60,slow=7.8,SNR=5.6									
SONM	**Songino Array**	**26.59**	**334**	P		**P**	**16 14 10.0**			**-0.8**
	0.5nm,0.7s,baz=143,slow=6.3,SNR=5.1									
MKAR	**Makanchi Array**	**39.29**	**314**	P		**P**	**16 16 00.7**			**-0.5**
	0.8nm,0.9s,baz=106,slow=8.9,SNR=6.5									
ZALV	**Zalesovo Beam**	**40.80**	**326**	P		**P**	**16 16 13.1**			**-0.5**
	0.5nm,0.5s,baz=100,slow=7.5,SNR=6.3									
KURBB	**Kurchatov Arra**	**42.92**	**319**	P		**P**	**16 16 30.5**			**-0.5**
	0.7nm,0.8s,baz=110,slow=8.3,SNR=6.2									
WRA	**Warramunga Arr**	**45.79**	**166**	P		**P**	**16 16 56.3**			**+2.1**
	1.0nm,0.7s,baz=347,slow=8.5,SNR=7.7									
BVAR	**Borovoye Array**	**48.45**	**320**	P		**P**	**16 17 14.8**			**+0.2**
	0.3nm,0.6s,baz=98,slow=9.1,SNR=3.2									
YKA	**Yellowknife Ar**	**81.54**	**23**	P		**P**	**16 20 50.1**			**+0.6**
	0.1nm,0.3s,baz=321,slow=5.6,SNR=4.8									

ISCJB **12** *16:33:19.0±0.8,9″.16S±0″.09×123″.30E±0″.05, h86km, Error ellipse: s-maj=14.3km s-min=4.9km az=22.5*

DJA **12** *16:33:22.9±0.4,9″.5±6″×12″.3E±″, h11km, M3.7/4, MLv3.7/4*

ISC 12 16:33:19.3±1.1,**9″.1S**±0″.1×**123″.30E**±0″.06,**h86**km,**n12,** σ2**56**/16,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
MMRI	**Maumere**	**1.12**	**291**	P		**Pn**	**16 33 39.3**			**-0.9**
MMRI				S		**Sn**	**16 33 52.4**			**-3.5**
SOEI	**Soe**	**1.19**	**126**	P		Pn	16 33 46.6			+5.5
SOEI				S		Sn	16 34 06.3			+8.8
SOEI	**Soe**	**1.19**	**126**	S		Pn	16 33 46.0			+4.8
	baz=0.8,SNR=188									
WSI	**Waingapu**	**3.02**	**258**	P		**Pn**	**16 34 06.2**			**+1.1**
WSI				S		**Sn**	**16 34 40.2**			**-0.2**
WSI	**Waingapu**	**3.02**	**258**	P		**Pn**	**16 34 06.5**			**+1.4**
	baz=3.2,SNR=5.0									
WSI				S		**Sn**	**16 34 45.4**			**+5.0**
	baz=3.2,SNR=3.9									
LBFI	**Labuhan Bajo,**	**3.41**	**279**	P		x	16 34 11.4			
LBFI				S		x	16 34 50.9			
KNRA	**Kununurra**	**8.48**	**142**	P		**Pn**	**16 35 19.3**			**-0.1**
	baz=8.0,SNR=34									
KNRA				S		**Sn**	**16 36 51.7**			**-1.8**
	baz=8.0,SNR=5.8									
MTN	**Manton Dam**	**8.57**	**117**	P		**Pn**	**16 35 22.5**			**+1.9**
	baz=8.2,SNR=13									
MTN				S		**Sn**	**16 36 54.2**			**-1.5**
	baz=8.2,SNR=6.5									
JAGI	**Jajag, Banyuwa**	**9.06**	**273**	S		**Sn**	**16 37 05.6**			**-2.1**
	baz=9.3,SNR=3.2									
KDU	**Kakadu**	**9.71**	**113**	P		**Pn**	**16 35 38.4**			**+2.2**
	baz=9.4,SNR=5.7									
KDU				S		**Sn**	**16 37 24.6**			**+1.0**
	baz=9.4,SNR=4.6									
WRKA	**Warakurna**	**16.60**	**164**	P		**P**	**16 37 08.8**			**+0.9**
	baz=16,SNR=5.6									
WRKA				S		**Sn**	**16 40 06.0**			**-4.9**
	baz=16,SNR=4.6									
QIS	**Mount Isa**	**19.46**	**128**	P		**Pn**	**16 37 41.7**			**+0.3**
	baz=19,SNR=4.5									

JMA **12** *17:14:54.2±0.1,36″.65N×141″.27E, h45km±2km, M3.3*

IDC **12** *17:15:00.8±7.2,36″.24N×140″.81E, h78km±44km, mb3.2/5, mb1 3.3/7, mb1mx3.1/27, mbtmp3.5/7, ML2.6/2, MS2.6/2, Ms1 2.7/2, ms1mx2.3/13, Error ellipse: s-maj=105.7km s-min=27.2km az=71.0*

ISC 12 17:14:50.4±2.4,**36″.63N**±0″.06×**141″.27E**±0″.09,**h5**km±12km, **n22,** σ1**30**/20,**mb3.4/5,1C-3D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
JHO	**Hitachi**	**0.56**	**268**	⇓P		**Pn**	**17 15 05.9**			**+0.7**
JHO				S		**Sn**	**17 15 14.4**			**-0.5**
ONAJ	**Iwakimizuishiy**	**0.60**	**321**	⇓P		**Pn**	**17 15 06.1**			**+0.3**
ONAJ				S		**Sn**	**17 15 14.5**			**-1.5**
JFK	**Kawauchi**	**0.80**	**337**	P		**Pn**	**17 15 08.7**			**+0.2**
JYT	**Yasato**	**0.96**	**245**	⇓P		**Pn**	**17 15 11.5**			**+1.0**
JYT				S		**Sn**	**17 15 24.2**			**-0.3**
JFT	**Otama**	**1.16**	**320**	P		**Pn**	**17 15 15.1**			**+1.7**
JMM	**Marumori**	**1.29**	**343**	⇑P		**Pn**	**17 15 15.6**			**+0.4**
JMM				S		**Sg**	**17 15 31.4**			**-0.6**
JAG	**Ashikaga**	**1.48**	**263**	P		**Pg**	**17 15 19.3**			**+0.5**
MJAR	**Matsushiro Arr**	**2.46**	**269**	P		**Pb**	**17 15 33.9**			**-1.3**
	5.0nm,0.3s,baz=117,slow=9.7,SNR=33									
MJAR				S		**Sb**	**17 16 05.0**			**-1.0**
	7.0nm,0.3s,baz=56,slow=29,SNR=5.2									
MJAR				LR		LR	17 16 43.6			
	comp=Z,82nm,21.6s,baz=140,slow=49									
MAT	**Matsushiro**	**2.47**	**269**	P		**Pb**	**17 15 34.6**			**-0.7**
MAT				S		**Sn**	**17 16 02.0**			**+0.1**
USRK	**Ussuriysk Arra**	**10.35**	**320**	P		Pn	17 17 26.9			+7.4
	0.2nm,0.3s,baz=139,slow=16,SNR=3.9									
SONM	**Songino Array**	**27.92**	**305**	P		**P**	**17 20 42.5**			**+0.9**
	0.8nm,0.6s,baz=104,slow=8.9,SNR=8.0									
H11N2	**WAKE ISLAND Hy**	**28.04**	**120**	T		T	17 50 31.6			
	baz=315,slow=76,SNR=12									
H11N1	**WAKE ISLAND Hy**	**28.05**	**120**	T		T	17 50 32.2			
	baz=315,slow=76,SNR=6.4									
H11N3	**WAKE ISLAND Hy**	**28.06**	**120**	T		T	17 50 33.7			
	baz=315,slow=76,SNR=5.3									
H11S1	**WAKE ISLAND Hy**	**28.74**	**122**	T		T	17 51 49.2			
	baz=320,slow=75									
H11S3	**WAKE ISLAND Hy**	**28.74**	**122**	T		T	17 51 49.3			
	baz=320,slow=75									
H11S2	**WAKE ISLAND Hy**	**28.76**	**122**	T		T	17 51 28.9			
	baz=320									
CMAR	**Chiang Mai Arr**	**41.28**	**256**	LR		LR	17 39 29.1			
	comp=Z,12nm,19.2s,baz=330,slow=36									
ZALV	**Zalesovo Beam**	**42.10**	**313**	P		**P**	**17 22 46.3**			**+3.1**
	0.2nm,0.3s,baz=91,slow=8.6,SNR=2.2									
MKAR	**Makanchi Array**	**44.24**	**302**	P		**P**	**17 23 01.9**			**+1.3**
	0.6nm,1.0s,baz=85,slow=8.7,SNR=2.8									
KURBB	**Kurchatov Arra**	**46.16**	**308**	P		**P**	**17 23 15.7**			**-0.1**
	0.3nm,0.5s,baz=84,slow=8.7,SNR=8.8									
WRA	**Warramunga Arr**	**56.65**	**188**	P		**P**	**17 24 32.7**			**-1.9**
	0.1nm,0.3s,baz=6.6,slow=7.5,SNR=4.1									

ISCJB **12** *17:40:11.7±0.3,37″.20S±0″.06×52″.21E±0″.08, h10km, mb4.6/46, MS4.1/19, Error ellipse: s-maj=9.5km s-min=8.3km az=162.0*

IDC **12** *17:40:11.6±0.5,37″.21S×52″.19E, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.4/26, mbtmp4.4/20, ML4.1/1, MS4.0/17, Ms1 4.0/17, ms1mx3.9/29, Error ellipse: s-maj=18.7km s-min=10.7km az=72.0*

BJI **12** *17:40:11.4,37″.06S×52″.29E, h5km, mB5.2/11, mb5.0/19, Ms5.0/5, Ms7 4.7/6*

NEIC **12** *17:40:13.3±0.2,37″.18S×52″.18E, h10km, mb4.8/23, Error ellipse: s-maj=8.3km s-min=6.8km az=63.0*

ISC 12 17:40:13.5±0.3,**37″.21S**±0″.06×**52″.09E**±0″.08,**h10**km,**n140,** σ1**09**/144,**mb4.8**/46,**MS4.1**/19,**7C-4D,South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
OPO	**Ambohidratompo**	**19.06**	**346**	P		**Pn**	**17 44 37.5**			**+0.6**
OPO				S		**S**	**17 48 12.6**			**0.0**
OPO	**Ambohidratompo**	**19.06**	**346**	P		**Pn**	**17 44 37.5**			**+0.6**
	0.6nm,0.3s,baz=174,slow=8.8,SNR=6.9									
OPO				S		**S**	**17 48 12.6**			**0.0**
	0.2nm,0.3s,baz=245,slow=17,SNR=2.3									
OPO				LR		LR	17 50 20.8			
	comp=Z,786nm,18.1s,baz=180,slow=32									
LBTB	**Lobatse**	**25.64**	**291**	*e*P		**P**	**17 45 42.9**			**-0.6**
	21nm,1.4s									
LBTB	**Lobatse**	**25.64**	**291**	P		**P**	**17 45 43.5**			**0.0**
	3.4nm,0.7s,baz=158,slow=11,SNR=6.0									
LBTB				LR		LR	17 54 49.7			
	comp=Z,185nm,18.2s,baz=134,slow=34									
SUR	**Sutherland**	**26.07**	**271**	LR		LR	17 54 03.3			
	comp=Z,159nm,20.3s,baz=355,slow=32									
LSZ	**Lusaka**	**30.44**	**309**	*e*P		**P**	**17 46 26.8**			**+0.3**
	4.3nm,0.9s									
MAW	**Mawson**	**31.05**	**172**	P		**P**	**17 46 32.3**			**+1.1**
	5.2nm,1.3s									
MAW	**Mawson**	**31.05**	**172**	LR		LR	17 55 49.6			
	comp=Z,543nm,20.1s,baz=16,slow=30									
SYO	**Syowa Base**	**32.59**	**188**	⇓*e*P		**P**	**17 46 44.8**			**+0.1**
H08S1	**Diego Garcia H**	**34.77**	**37**	T		T	18 23 10.7			
	baz=205,SNR=3.4									
H08S2	**Diego Garcia H**	**34.78**	**37**	T		T	18 23 10.1			
	baz=205,SNR=2.7									
H08S3	**Diego Garcia H**	**34.79**	**37**	T		T	18 23 10.9			
	baz=205,SNR=5.0									
TSUM	**Tsumeb**	**35.05**	**291**	*e*P		**P**	**17 47 06.3**			**-0.5**
	5.3nm,0.9s									
TSUM	**Tsumeb**	**35.05**	**291**	P		**P**	**17 47 06.5**			**-0.3**
	2.6nm,0.7s,baz=131,slow=9.3,SNR=5.9									
KMBO	**Kilima Mbogo**	**38.43**	**336**	P		**P**	**17 47 35.1**			**-0.5**
KMBO	**Kilima Mbogo**	**38.43**	**336**	LR		LR	18 01 30.2			
	comp=Z,438nm,21.3s,baz=96,slow=33									
SNAA	**Sanae**	**44.25**	**202**	P		**P**	**17 48 23.0**			**+0.4**
SNAA	**Sanae**	**44.25**	**202**	P		**P**	**17 48 23.0**			**+0.4**
	3.1nm,0.9s,baz=76,slow=9.4,SNR=12									
H01W2	**Cape Leeuwin H**	**49.41**	**107**	T		T	18 41 59.9			
	baz=248,slow=75,SNR=82									
H01W3	**Cape Leeuwin H**	**49.42**	**107**	T		T	18 42 00.1			
	baz=248,slow=75,SNR=90									
H01W1	**Cape Leeuwin H**	**49.43**	**107**	T		T	18 42 02.3			
	baz=248,slow=75,SNR=97									
PALK	**Pallekele**	**51.71**	**37**	*e*P		**P**	**17 49 19.4**			**-1.7**
QSPA	**South Pole Qui**	**52.98**	**180**	*e*P		**P**	**17 49 29.4**			**-0.7**
	15nm,1.1s									
QSPA				*e*PcP		**PcP**	**17 50 36.4**			**-2.3**
QSPA				PcP		**PcP**	**17 50 38.1**			**-0.5**
QSPA	**South Pole Qui**	**52.98**	**180**	P		**P**	**17 49 29.7**			**-0.4**
	10nm,1.0s,baz=262,slow=8.4,SNR=13									
QSPA				PcP		**PcP**	**17 50 38.1**			**-0.5**
	1.2nm,0.8s,baz=216,slow=1.2,SNR=3.6									
VNDA	**Vanda**	**58.06**	**166**	P		**P**	**17 50 06.0**			**-0.2**
VNDA	**Vanda**	**58.06**	**166**	P		**P**	**17 50 06.0**			**-0.2**
	1.3nm,0.9s,baz=271,slow=7.0,SNR=4.5									
VNDA				LR		LR	18 12 05.4			
	comp=Z,258nm,20.6s,baz=278,slow=33									
DBIC	**Dimbokro**	**68.71**	**297**	*e*P		**P**	**17 51 17.5**			**-0.1**
	11nm,1.1s									
DBIC	**Dimbokro**	**68.71**	**297**	P		**P**	**17 51 18.0**			**+0.4**
	5.8nm,1.0s,baz=125,slow=7.1,SNR=4.1									
DBIC				LR		LR	18 18 05.4			
	comp=Z,92nm,19.9s,baz=114,slow=33									
TOA0	**Torodi Ar. Sit**	**68.92**	**306**	*e*P		**P**	**17 51 18.9**			**+0.1**
TORD	**Torodi Ar. Bea**	**68.92**	**306**	P		**P**	**17 51 19.1**			**+0.2**
TORD	**Torodi Ar. Bea**	**68.92**	**306**	P		**P**	**17 51 19.1**			**+0.2**
	3.5nm,0.9s,baz=128,slow=5.2,SNR=15									
TORD				LR		LR	18 20 21.9			
	comp=Z,198nm,18.4s,baz=140,slow=35									
AS31	**Alice Springs**	**69.85**	**105**	*e*P		**P**	**17 51 23.6**			**-1.0**
CM31	**Chiang Mai Arr**	**70.81**	**47**	*e*P		**P**	**17 51 29.8**			**-0.6**
	12nm,0.8s									
CMAR	**Chiang Mai Arr**	**70.81**	**47**	P		**P**	**17 51 29.6**			**-0.7**
CMAR	**Chiang Mai Arr**	**70.81**	**47**	P		**P**	**17 51 29.6**			**-0.7**
	9.5nm,0.9s,baz=232,slow=6.9,SNR=94									
CMAR				LR		LR	18 17 36.9			
	comp=Z,58nm,19.3s,baz=210,slow=32									
CHTO	**Chiang Mai**	**71.08**	**47**	*e*P		**P**	**17 51 30.3**			**-1.8**
	1.3nm,0.9s									
KOLN	**Koldanda**	**71.09**	**29**	*e*P		**P**	**17 51 31.0**			**-1.1**
	60nm,1.3s									
STKA	**Stephens Creek**	**71.20**	**116**	*e*P		**P**	**17 51 32.2**			**-0.5**
	2.5nm,1.4s									
STKA				*e*			17 51 40.1			
STKA	**Stephens Creek**	**71.20**	**116**	P		**P**	**17 51 32.2**			**-0.5**
	8.8nm,0.9s,baz=201,slow=7.7,SNR=8.9									
STKA				LR		LR	18 15 32.5			
	comp=Z,124nm,21.4s,baz=203,slow=30									
DMN	**Daman**	**71.55**	**31**	*e*P		**P**	**17 51 34.1**			**-0.9**
	40nm,1.2s									
RAMN	**Ramite**	**71.59**	**32**	*e*P		**P**	**17 51 34.8**			**-0.4**
	71nm,1.3s									
PKI	**Pulchoki**	**71.64**	**31**	*e*P		**P**	**17 51 34.4**			**-1.2**
DANN	**Dangsing**	**71.67**	**29**	*e*P		**P**	**17 51 34.4**			**-1.4**
	44nm,1.4s									
GKN	**Gorkha**	**71.71**	**30**	*e*P		**P**	**17 51 34.7**			**-1.1**
	22nm,1.0s									
KKN	**Kakani**	**71.78**	**31**	*e*P		**P**	**17 51 35.1**			**-1.2**
ODAN	**Odare**	**71.85**	**33**	*e*P		**P**	**17 51 35.7**			**-1.1**
	21nm,0.8s									
JIRN	**Jiri**	**72.04**	**32**	*e*P		**P**	**17 51 37.3**			**-0.8**
GUN	**Gumba**	**72.13**	**31**	*e*P		**P**	**17 51 38.0**			**-0.6**
	76nm,1.2s									
WRA	**Warramunga Arr**	**72.21**	**102**	P		**P**	**17 51 38.5**			**-0.5**
WRA	**Warramunga Arr**	**72.21**	**102**	P		**P**	**17 51 38.5**			**-0.5**
	7.1nm,0.7s,baz=231,slow=5.2,SNR=81									
WRAB	**Tennant Creek**	**72.23**	**102**	*e*P		**P**	**17 51 38.7**			**-0.4**
	12nm,0.8s									
WRAB				*e*			17 51 46.2			
TAPN	**Taplejung**	**72.42**	**33**	*e*P		**P**	**17 51 39.2**			**-1.0**
	31nm,1.2s									
KBL	**Kabul**	**73.11**	**15**	*e*P		**P**	**17 51 44.4**			**+0.3**
	7.6nm,1.0s									
LSA	**Lhasa**	**75.96**	**34**	*e*P		**P**	**17 52 00.8**			**-0.3**
	17nm,1.0s									
SLVN	**Son La**	**75.97**	**49**	*e*P		**P**	**17 52 00.9**			**0.0**
	12nm,0.9s									
SANT	**Santorini**	**77.26**	**338**	*e*P		**P**	**17 52 08.4**			**+0.6**
	71nm,0.9s									
QIZ	**Qiongzhong**	**78.00**	**55**	P		**P**	**17 52 12.7**			**+0.4**
QIZ				S		**S**	**18 02 06.8**			**+0.7**
QIZ				LR		LR				
	comp=Z,510nm,3.9s									
KMI	**Kunming**	**78.19**	**46**	P		**P**	**17 52 12.0**			**-1.5**
KMI				pP		**pP**	**17 52 20.1**			**+3.3**
KMI				sP		**sP**	**17 52 22.5**			**+4.5**
KMI				pmax		pmax				
	comp=Z,8.0nm,1.5s									
KMI				LR		LR				
	comp=Z,47nm,23.0s									
BRTR	**Keskin Array B**	**78.42**	**346**	P		**P**	**17 52 14.0**			**-0.3**
BRTR	**Keskin

HHC				sS	**sS**	**18 04 53.8**	**-1.2**
HHC				SS	**SS**	**18 11 13.7**	**-1.1**
HHC				pmax	pmax		
	comp=Z,26nm,1.1s						
HHC				pmax	pmax		
	comp=Z,210nm,4.4s						
HHC				LR	LR		
	comp=N,180nm,17.1s						
HHC				LR	LR		
	comp=E,260nm,17.7s						
HHC				LR	LR		
	comp=Z,250nm,18.2s						
ZAA0	**Zalesovo Array**	**95.09**	**19**	*e*P	**P**	**17 53 34.1**	**-2.0**
ZALV	**Zalesovo Beam**	**95.09**	**19**	P	**P**	**17 53 34.6**	**-1.4**
ZALV	**Zalesovo Beam**	**95.09**	**19**	P	**P**	**17 53 34.6**	**-1.4**
	1.3nm,0.6s,baz=211,slow=4.9,SNR=7.1						
ZALV				LR	LR	18 32 18.6	
	comp=Z,64nm,19.5s,baz=268,slow=33						
TBI	**Tubual**	**116.44**	**158**	*e*LR	LR	18 34 21.0	
	147nm,24.2s						
RKT	**Rikitea**	**119.63**	**173**	*e*LR	LR	18 35 42.8	
	197nm,27.0s						
PPT2	**Papeete2**	**121.80**	**156**	*e*SS	SS	18 17 27.6	+11
	48nm,23.5s						
PPT2	**Papeete2**	**121.80**	**156**	*e*LR	LR	18 36 49.1	
	86nm,24.0s						
JSC	**Jenkinsville**	**142.32**	**280**	*e*PKPdf	**PKPdf**	**17 59 48.8**	**+2.5**
SWET	**Sewanee**	**146.27**	**280**	*e*PKPdf	**PKPdf**	**17 59 54.6**	**+1.5**
COLD	**Coldfoot**	**147.37**	**16**	*e*PKPbc	**PKPbc**	**17 59 56.2**	**-0.2**
IM04	**Indian Mountai**	**147.51**	**19**	*e*PKPbc	**PKPbc**	**17 59 57.3**	**+0.5**
INK	**Inuvik**	**148.69**	**4**	*e*PKPdf	**PKPbc**	**17 59 59.9**	**0.0**
FCC	**Fort Churchill**	**149.27**	**325**	*e*PKPdf	**PKPbc**	**18 00 01.1**	**-0.4**
COLA	**College**	**149.87**	**17**	*e*PKPdf	**PKPdf**	**17 59 56.2**	**-1.8**
CAST	**Castle Rocks**	**149.93**	**22**	*e*PKPdf	**PKPbc**	**18 00 02.6**	**-0.5**
KTH	**Kantishna Hill**	**150.16**	**21**	*e*PKPbc	**PKPbc**	**18 00 03.9**	**+0.1**
ILAR	**Eielson Array**	**150.18**	**16**	PKPbc	**PKPbc**	**18 00 02.9**	**-0.8**
ILAR	**Eielson Array**	**150.18**	**16**	PKPbc	**PKPbc**	**18 00 02.9**	**-0.8**
	10.0nm,0.8s,baz=316,slow=3.2,SNR=79						
PBMO	**Poplar Bluff**	**150.19**	**281**	*e*PKPdf	**PKPbc**	**18 00 04.4**	**-0.1**
TRF	**Thorofare Moun**	**150.42**	**20**	*e*PKPbc	**PKPbc**	**18 00 04.4**	**-0.1**
MCK	**McKinley**	**150.56**	**19**	*e*PKPdf	**PKPdf**	**18 00 00.7**	**+1.5**
JFWS	**Jewell Farm**	**150.79**	**293**	*e*PKPdf	**PKPbc**	**18 00 05.9**	**+0.1**
EGAK	**Eagle**	**151.29**	**12**	*e*PKPbc	**PKPbc**	**18 00 06.0**	**-0.3**
EYMN	**Ely**	**151.37**	**304**	*e*PKPdf	**PKPbc**	**18 00 07.1**	**+0.1**
DOT	**Dot Lake**	**151.77**	**15**	*e*PKPdf	**PKPbc**	**18 00 07.8**	**+0.3**
PMR	**Palmer**	**152.22**	**22**	*e*PKPbc	**PKPbc**	**18 00 08.1**	**-0.3**
RC01	**Rabbit Creek A**	**152.43**	**23**	*e*PKPbc	**PKPbc**	**18 00 09.3**	**+0.3**
YKA	**Yellowknife Ar**	**153.38**	**346**	PKP	**PKPdf**	**18 00 02.4**	**-1.1**
YKA				PKPbc	**PKPbc**	**18 00 10.8**	**-0.3**
YKA	**Yellowknife Ar**	**153.38**	**346**	PKP	**PKPdf**	**18 00 02.3**	**-1.1**
	0.6nm,0.8s,baz=29,slow=1.6,SNR=9.4						
YKA				PKPbc	**PKPbc**	**18 00 10.8**	**-0.3**
	2.9nm,0.7s,baz=17,slow=1.7,SNR=40						
WMOK	**Wichita Mounta**	**156.34**	**273**	*e*PKPdf	**PKPdf**	**18 00 08.5**	**+0.1**
TXAR	**Lajitas Array**	**158.30**	**256**	PKP	**PKPdf**	**18 00 10.3**	**-0.9**
TXAR	**Lajitas Array**	**158.30**	**256**	PKP	**PKPdf**	**18 00 10.3**	**-0.9**
	2.2nm,0.9s,baz=129,slow=2.4,SNR=14						
PDAR	**Pinedale Array**	**164.88**	**297**	PKP	**PKPdf**	**18 00 16.7**	**-1.1**
PDAR	**Pinedale Array**	**164.88**	**297**	PKP	**PKPdf**	**18 00 16.7**	**-1.1**
	1.1nm,1.0s,baz=101,slow=4.7,SNR=5.1						
NVAR	**Mina Array Bea**	**172.30**	**282**	PKP	**PKPdf**	**18 00 23.7**	**+0.9**
NVAR	**Mina Array Bea**	**172.30**	**282**	PKP	**PKPdf**	**18 00 23.7**	**+0.9**
	2.3nm,0.9s,baz=196,slow=1.7,SNR=7.4						

MAN 12 18:06:41.9±2.8N×125°42.E±2.8, h28km±5km, mb4.4, ML3.2, MS3.1, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.08**	**119**	*e*P	Pb	18 06 45.9	-0.1
SCPH				*e*S	Sb	18 06 48.9	-0.4
MSLP	**Maasin**	**0.63**	**299**	*e*P	Pn	18 06 54.1	0.0
MSLP				*e*S	Sb	18 07 00.1	-2.0
PLP	**Palo**	**1.40**	**342**	*e*P	Pn	18 07 04.8	0.0
PLP				*e*S	Sn	18 07 23.1	+0.7
OCLP	**Ormoc**	**1.46**	**327**	*e*P	Pb	18 07 08.4	+0.8
CGP	**Cagayan de Oro**	**1.54**	**208**	*e*P	Pb	18 07 07.7	-1.1
CGP				*e*S	Sb	18 07 30.2	+2.4
GUIM	**Jordan**	**2.90**	**286**	*e*P	Pn	18 07 26.5	+1.2

IDC 12 18:14:39.1±5.6, 21°48N×143°22E, h356km±59km, mb3.0/9, mb1 3.2/10, mb1mx3.1/26, mbtmp3.7/10, Error ellipse: s-maj=24.1km s-min=16.5km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.63**	**345**	P	P	18 18 00.2	0.0
	0.4nm,0.3s,baz=167,slow=11,SNR=4.6						
SONM	**Songino Array**	**39.52**	**321**	P	P	18 21 37.1	+0.2
	0.2nm,0.4s,baz=127,slow=7.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**41.62**	**274**	P	P	18 21 54.2	+0.1
	0.3nm,0.6s,baz=99,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**42.08**	**193**	P	P	18 21 57.4	-0.2
	0.5nm,0.5s,baz=16,slow=9.6,SNR=19						
ZALV	**Zalesovo Beam**	**54.40**	**322**	P	P	18 23 29.5	-0.9
	0.3nm,0.3s,baz=117,slow=5.0,SNR=2.0						
ZALV				PcP	PcP	18 24 28.7	-0.3
	0.4nm,0.3s,baz=116,slow=3.4,SNR=2.4						
MKAR	**Makanchi Array**	**54.87**	**313**	P	P	18 23 34.0	0.0
	0.2nm,0.3s,baz=91,slow=7.2,SNR=5.2						
ILAR	**Eielson Array**	**62.21**	**27**	P	P	18 24 23.2	-0.5
	0.6nm,0.6s,baz=260,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**76.63**	**28**	P	P	18 25 51.6	+0.4
	1.1nm,0.5s,baz=291,slow=5.7,SNR=16						
ARCES	**ARCESS Array B**	**79.13**	**342**	P	P	18 26 05.4	+0.7
	3.9nm,0.9s,baz=75,slow=8.5,SNR=10						
FINES	**FINESS Array B**	**83.39**	**335**	P	P	18 26 26.4	-0.6
	0.9nm,0.4s,baz=73,slow=4.8,SNR=9.5						

*ISCJB **12** 18:15:21.6±1.9, 49°45S×107°02E±0.6, h10km, mb3.7/5, MS3.4/1, Error ellipse: s-maj=64.7km s-min=18.1km az=29.7*

*IDC **12** 18:15:23.7±1.7, 49°55S×109°68E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/15, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/23, Error ellipse: s-maj=66.5km s-min=22.0km az=118.0*

ISC 12 18:15:24.5±1.7, 49°5S±0.2°×109°6E±0.4, h10km, n10, σ1°37/7, mb3.8/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.97**	**15**	T	T	18 33 59.5	
	baz=194,slow=74,SNR=32						
H01W1	**Cape Leeuwin H**	**14.98**	**15**	T	T	18 33 59.5	
	baz=194,slow=74,SNR=24						
H01W3	**Cape Leeuwin H**	**14.99**	**15**	T	T	18 34 01.3	
	baz=194,slow=74,SNR=32						
STKA	**Stephens Creek**	**29.68**	**66**	P	**P**	**18 21 30.6**	**+0.3**
	1.4nm,0.7s,baz=207,slow=6.8,SNR=2.7						
STKA				LR	LR	18 31 35.2	
	comp=Z,96nm,19.4s,baz=203,slow=33						
VNDA	**Vanda**	**34.22**	**162**	P	**P**	**18 22 10.2**	**+0.5**
	0.9nm,0.7s,baz=288,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**35.50**	**43**	P	**P**	**18 22 20.4**	**-1.0**
	1.3nm,0.9s,baz=207,slow=8.9,SNR=4.6						
QSPA	**South Pole Qui**	**40.63**	**180**	P	**P**	**18 23 04.1**	**-0.2**
	1.5nm,0.9s,baz=336,slow=2.4,SNR=5.0						
SNAA	**Sanae**	**50.16**	**202**	P	**P**	**18 24 19.1**	**-0.5**
	0.4nm,0.7s,baz=119,slow=13,SNR=2.7						
TXAR	**Lajitas Array**	**147.74**	**116**	PKPbc	**PKPab**	**18 35 10.9**	**-0.8**
	0.2nm,0.6s,baz=205,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**152.70**	**48**	PKPbc	**PKPbc**	**18 35 22.4**	**+2.3**
	0.3nm,0.6s,baz=293,slow=2.5,SNR=4.1						

*ISCJB **12** 18:45:13.1±0.7, 42°21N±0.05×88°11E±0.07, h10km, mb3.4/7, MS3.1/1, Error ellipse: s-maj=7.5km s-min=6.8km az=157.8*

*IDC **12** 18:45:13.3±1.0, 42°08N×88°17E, h0km, mb3.4/7, mb1 3.6/13, mb1mx3.5/32, mbtmp3.4/13, ML3.4/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/41, Error ellipse: s-maj=23.5km s-min=14.2km az=42.0*

*BJI **12** 18:45:19.7, 42°26N×87°97E, h3km, ML3.6/10*

*NNC **12** 18:45:20.2±4.2, 42°48N×87°62E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=34.5km s-min=25.9km az=96.0*

ISC 12 18:45:14.7±0.8, 42°20N±0.06°×88°09E±0.07, h10km, n20, σ2°23/28, mb3.5/7, 8C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.65**	**350**	Pg	**Pg**	**18 45 47.8**	**+1.5**
WMQ				Sg	**Sb**	**18 46 08.3**	**+2.3**
WMQ				smax	smax		
	comp=N,2μm,0.6s						
WMQ				smax	smax		
	comp=E,2μm,0.7s						
MK31	**Makanchi Array**	**6.19**	**320**	↑Pn	**Pn**	**18 46 48.1**	**+2.0**
	0.7nm,0.2s,baz=136,slow=15,SNR=262						
MK31				↓Pg	**Pb**	**18 47 00.0**	**-2.5**
	2.6nm,0.3s,baz=139,slow=13,SNR=18						
MK31				↓Sn	**Sn**	**18 47 57.0**	**+0.1**
	4.9nm,0.5s,baz=135,slow=24,SNR=5.7						
MK31				↓Lg	Lg	18 48 19.6	
	9.0nm,0.7s,baz=146,slow=31,SNR=4.4						
MKAR	**Makanchi Array**	**6.19**	**320**	Pn	**Pn**	**18 46 48.3**	**+2.2**
	1.9nm,0.3s,baz=135,slow=14,SNR=165						
MKAR				Pg	**Pb**	**18 47 00.1**	**-2.5**
	3.8nm,0.3s,baz=132,slow=15,SNR=36						
MKAR				Sn	**Sn**	**18 47 56.8**	**-0.1**
	3.4nm,0.3s,baz=136,slow=27,SNR=8.8						
MKAR				Lg	Lg	18 48 30.2	
	2.1nm,0.3s,baz=154,slow=28,SNR=5.7						
TKM2	**Tokmak 2**	**9.25**	**279**	↓Pn	**Pn**	**18 47 29.5**	**+1.2**
	3.0nm,0.5s						
TKM2				↑Sn	**Sn**	**18 49 11.7**	**-0.8**
	7.1nm,0.8s						
TKM2				↑Lg	Lg	18 50 00.1	
	6.2nm,0.7s						
KSH	**Kashi**	**9.57**	**258**	P	Pn	18 47 37.1	+4.5
KSH				S	**Sn**	**18 49 23.9**	**+3.7**
KSH				LR	LR		
	comp=N,13nm,1.0s						
KSH				LR	LR		
	comp=E,11nm,0.8s						
AAK	**Ala-Archa**	**10.07**	**277**	Pn	**Pn**	**18 47 41.1**	**+1.6**
	comp=E,0.3nm,0.3s,baz=144,slow=12,SNR=4.1						
AAK				Lg	Lg	18 50 39.5	
	comp=E,0.2nm,0.3s,baz=294,slow=20,SNR=3.7						
KURBB	**Kurchatov Arra**	**10.69**	**325**	↑Pn	**Pn**	**18 47 48.7**	**+0.9**
	comp=E,1.6nm,0.8s						
KURBB				↑Sn	**Sn**	**18 49 44.5**	**-3.0**
	comp=E,4.9nm,0.7s						
KURBB				↑Lg	Lg	18 50 44.0	
	comp=E,15nm,0.6s						
KURBB	**Kurchatov Arra**	**10.69**	**325**	Pn	**Pn**	**18 47 48.6**	**+0.8**
	comp=E,0.3nm,0.3s,baz=132,slow=13,SNR=5.2						
KURBB				Sn	**Sn**	**18 49 43.3**	**-4.2**
	comp=E,0.3nm,0.3s,baz=101,slow=13,SNR=4.2						
KURK	**Kurchatov**	**10.72**	**326**	↓Pn	**Pn**	**18 47 49.1**	**+0.8**
	comp=E,1.4nm,1.0s						
KURK				↑Sn	**Sn**	**18 49 44.4**	**-3.9**
	comp=E,1.6nm,1.0s						
KURK				↑Lg	Lg	18 50 46.8	
	comp=E,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**11.95**	**351**	Pn	**Pn**	**18 48 06.1**	**+1.1**
	comp=E,0.6nm,0.3s,baz=170,slow=13,SNR=14						
ZALV				Sn	Sn	18 50 13.0	-5.4
	comp=E,0.5nm,0.3s,baz=173,slow=25,SNR=5.4						
SONM	**Songino Array**	**14.11**	**60**	Pn	**Pn**	**18 48 33.1**	**-1.5**
	comp=E,0.0nm,0.3s,baz=257,slow=14,SNR=2.3						
SONM				Lg	Lg	18 52 42.1	
	comp=E,0.1nm,0.3s,baz=243,slow=32,SNR=3.0						
BVAR	**Borovoye Array**	**16.07**	**318**	Pn	**Pn**	**18 48 56.7**	**-3.9**
	comp=E,0.1nm,0.3s,baz=114,slow=14,SNR=2.4						
AKTO	**Aktyubinsk**	**22.22**	**300**	P	**P**	**18 50 11.2**	**-0.1**
	comp=E,0.4nm,0.4s,baz=92,slow=17,SNR=2.5						
CMAR	**Chiang Mai Arr**	**25.41**	**155**	P	**P**	**18 50 39.9**	**-2.6**
	comp=E,0.1nm,0.4s,baz=338,slow=10.0,SNR=2.6						
ARCES	**ARCESS Array B**	**41.68**	**332**	P	**P**	**18 53 04.2**	**+1.1**
	comp=E,4.1nm,1.0s,baz=96,slow=9.2,SNR=2.8						
MLR	**Muntele Rosu**	**43.95**	**296**	LR	LR	19 13 04.7	
	comp=E,21nm,19.3s,baz=300,slow=38						
ILAR	**Eielson Array**	**65.04**	**23**	P	**P**	**18 55 55.9**	**+1.2**
	comp=E,0.2nm,0.6s,baz=303,slow=3.9,SNR=3.2						
YKA	**Yellowknife Ar**	**74.07**	**11**	P	**P**	**18 56 52.4**	**+2.0**
	comp=E,0.1nm,0.4s,baz=338,slow=5.6,SNR=3.2						
WRA	**Warramunga Arr**	**75.14**	**135**	P	**P**	**18 56 56.6**	**-0.5**
	comp=E,0.7nm,0.8s,baz=332,slow=6.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**78.65**	**277**	P	**P**	**18 57 18.1**	**+0.9**
	comp=E,0.9nm,1.1s,baz=45,slow=6.2,SNR=3.7						

*IDC **12** 18:49:28.8±1.8, 5°45S×152°98E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML2.8/1, Error ellipse: s-maj=57.8km s-min=26.0km az=131.0*

*ISCJB **12** 18:49:33.2±0.7, 5°47S±0.10×152°8E±0.1, h37km, mb3.9/10, Error ellipse: s-maj=20.7km s-min=11.9km az=25.1*

*NEIC **12** 18:49:36.5±0.6, 5°55S×152°85E, h55km, mb4.5/2, Error ellipse: s-maj=18.8km s-min=10.4km az=115.0*

ISC 12 18:49:35.1±0.7, 5°5S±0.1×152°8E±0.1, h37km, n25, σ1°04/27, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.80**	**235**	*e*Pn	**Pn**	**18 51 12.2**	**0.0**
PMG				Pn	Pn	18 51 13.2	+0.9
PMG				Sn	**Sn**	**18 52 26.7**	**-1.8**
PMG				*e*Sn	Sn	18 52 27.4	-1.0
PMG	**Port Moresby**	**6.80**	**235**	Pn	**Pn**	**18 51 13.2**	**+0.9**
	1.0nm,0.3s,baz=51,slow=13,SNR=5.7						
PMG				Sn	**Sn**	**18 52 26.7**	**-1.8**
	3.7nm,0.3s,baz=132,slow=17,SNR=4.0						
WRAB	**Tennant Creek**	**22.97**	**230**	*e*P	**P**	**18 54 37.1**	**+0.6**
	11nm,1.3s						
WRA	**Warramunga Arr**	**22.98**	**230**	P	**P**	**18 54 36.6**	**0.0**
WRA	**Warramunga Arr**	**22.98**	**230**	P	**P**	**18 54 36.6**	**0.0**
	1.6nm,0.7s,baz=53,slow=9.9,SNR=8.3						
AS31	**Alice Springs**	**25.64**	**223**	*e*P	**P**	**18 55 02.7**	**+1.3**
STKA	**Stephens Creek**	**28.28**	**200**	P	**P**	**18 55 24.7**	**-0.3**
TAU	**Tasmania Unive**	**37.59**	**187**	P	**P**	**18 56 48.7**	**+2.7**
ODZ	**Otahua Downs**	**42.40**	**161**	P	**P**	**18 57 24.3**	**-1.6**
	19nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.13**	**296**	P	**P**	**18 59 26.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.13**	**296**	P	**P**	**18 59 26.1**	**+0.6**
	0.6nm,0.8s,baz=117,slow=5.2,SNR=4.9						
SONM	**Songino Array**	**66.87**	**328**	P	**P**	**19 00 24.3**	**+0.8**
SONM	**Songino Array**	**66.87**	**328**	P	**P**	**19 00 24.3**	**+0.8**
	0.4nm,0.6s,baz=149,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**19 01 45.0**	**0.0**
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**19 01 45.0**	**0.0**
	0.8nm,0.8s,baz=104,slow=5.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**19 01 48.9**	**-0.6**
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**19 01 48.9**	**-0.6**
	0.8nm,0.6s,baz=120,slow=5.8,SNR=4.8						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**19 01 53.8**	**-1.3**
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**19 01 53.8**	**-1.3**
	0.9nm,0.9s,baz=238,slow=5.0,SNR=5.6						
BVAR	**Borovoye Array**	**89.75**	**323**	P	**P**	**19 02 29.4**	**-0.1**
BVAR	**Borovoye Array**	**89.75**	**323**	P	**P**	**19 02 29.4**	**-0.1**
	0.8nm,0.7s,baz=98,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**19 02 57.6**	**-0.7**
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**19 02 57.6**	**-0.7**
	0.2nm,0.5s,baz=266,slow=4.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**150.48**	**287**	PKPbc	**PKPbc**	**19 09 24.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**150.48**	**287**	PKPbc	**PKPbc**	**19 09 24.2**	**+0.3**
	0.6nm,0.8s,baz=57,slow=2.2,SNR=3.5						

*IDC **12** 18:52:16.0±3.2, 15°91S×173°67W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.4/4, ML1.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/35, Error ellipse: s-maj=161.2km s-min=24.5km az=145.0*

ISC 12 18:52:22.3±3.0, 15°8S±0.8×173°8W±0.6, h42km, n7, σ1°17/7, mb3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.68**	**47**	Pn	**Pn**	**18 53 02.2**	**-0.8**
	4.0nm,0.3s,baz=219,slow=6.5,SNR=2.5						
AFI				Sn	**Sn**	**18 53 35.3**	**+1.0**
	39nm,0.3s,baz=190,slow=11,SNR=8.5						
HNR	**Honiara**	**26.36**	**281**	LR	LR	19 07 06.1	
	comp=Z,114nm,18.5s,baz=113,slow=34						
WRA	**Warramunga Arr**	**49.39**	**257**	P	**P**	**19 01 08.2**	**0.0**
	0.2nm,0.4s,baz=96,slow=7.0,SNR=8.4						
PDAR	**Pinedale Array**	**82.78**	**42**	P	**P**	**19 04 43.3**	**+1.0**
	0.5nm,0.8s,baz=201,slow=4.8,SNR=3.8						
ILAR	**Eielson Array**	**82.86**	**11**	P	**P**	**19 04 41.2**	**-0.7**
	5.6nm,0.3s,baz=224,slow=2.5,SNR=6.5						
YKA	**Yellowknife Ar**	**90.57**	**24**	P	**P**	**19 05 18.8**	**-0.8**
	0.1nm,0.4s,baz=227,slow=4.4,SNR=2.9						
BRTR	**Keskin Array B**	**146.18**	**320**	PKPbc	**PKPab**	**19 12 00.5**	**+1.3**
	1.4nm,0.9s,baz=65,slow=5.1,SNR=4.8						

IDC 12 19:05:10.2±1.9, 4°07N×126°98E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.7/3, Error ellipse: s-maj=152.0km s-min=25.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	19 10 35.2	-0.2
	1.5nm,0.6s,baz=343,slow=11,SNR=13						
STKA	**Stephens Creek**	**38.36**	**160**	P	P	19 12 33.2	+0.1
	2.4nm,1.0s,baz=328,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	19 15 00.7	0.0
	0.2nm,0.4s,baz=126,slow=6.6,SNR=4.5						

*IDC **12** 19:18:27.2±0.9, 53°72N×163°69W, h0km, mb4.1/24, mb1 4.3/27, mb1mx4.3/35, mbtmp4.2/27, ML4.5/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/46, Error ellipse: s-maj=25.8km s-min=11.2km az=163.0*

*ISCJB **12** 19:18:28.8±1.2, 53°40N±0.04×163°36W±0.05, h31km±8km, mb4.3/38, MS3.5/3, Error ellipse: s-maj=7.5km s-min=4.7km az=165.3*

*NEIC **12** 19:18:32.7±0.5, 53°65N×163°58W, h42km±3km, mb4.4/12, ML3.8(AEIC), Error ellipse: s-maj=8.1km s-min=3.0km az=159.0*

*BJI **12** 19:18:33.4, 54°44N×164°43W, h25km, mB5.1/6, mb4.5/15, Ms4.7/1*

ISC 12 19:18:31.2±1.8, 53°53N±0.07×163°48W±0.04, h30km±11km, n144, σ1°11/138, mb4.4/38, MS3.5/3, 6C-3D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.15**	**326**	P	**Pn**	**19 18 50.7**	**-0.7**
WESE				S	**Sb**	**19 19 07.1**	**-0.1**
WESN	**West Dahl Nort**	**1.23**	**328**	P	**Pn**	**19 18 52.1**	**-0.3**
WESN				S	**Sb**	**19 19 09.9**	**+0.5**
SSLW	**Shishaldin Wes**	**1.30**	**343**	P	**Pn**	**19 18 53.0**	**-0.4**
SSBA	**Shishaldin**	**1.30**	**343**	P	**Pn**	**19 18 52.8**	**-0.6**
SSBA				S	**Sb**	**19 19 12.2**	**+0.7**
SSLN	**Shishaldin Nor**	**1.32**	**347**	P	**Pn**	**19 18 53.5**	**-0.1**
FALS	**False Pass**	**1.33**	**2**	P	**Pn**	**19 18 53.2**	**-0.5**
FALS				S	**Sb**	**19 19 13.9**	**+1.7**
AKSA	**Akutan Strait**	**1.45**	**296**	P	**Pn**	**19 18 55.0**	**-0.3**
AKUT	**Akutan**	**1.49**	**295**	P	**Pn**	**19 18 55.9**	**+0.1**
ZRO	**Akutan Zero**	**1.59**	**292**	P	**Pn**	**19 18 56.9**	**-0.3**
DRIA	**Deer Island**	**1.61**	**26**	P	**Pn**	**19 18 57.2**	**-0.3**
AKGG	**Akutan Green G**	**1.64**	**295**	P	**Pn**	**19 18 57.7**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.65**	**293**	P	**Pn**	**19 18 58.0**	**-0.1**
AKRB				S	**Sn**	**19 19 19.6**	**+1.3**
DTNA	**Dutton South F**	**1.78**	**23**	P	**Pn**	**19 18 59.5**	**-0.3**
UNV	**Unalaska Valle**	**1.83**	**281**	P	**Pn**	**19 19 00.0**	**-0.5**
UNV				S	**Sn**	**19 19 24.2**	**+1.6**
DOL	**Dolgoi Island**	**1.88**	**30**	P	**Pn**	**19 19 00.1**	**-1.1**
MREP	**Makushin Rep't**	**1.97**	**280**	P	**Pn**	**19 19 02.7**	**+0.2**
MSW	**Makushin Switc**	**2.00**	**283**	P	**Pn**	**19 19 02.6**	**-0.4**
PS4A	**Pavlof South-4**	**2.05**	**27**	P	**Pn**	**19 19 03.1**	**-0.5**
MCIR	**Makushin Cirqu**	**2.07**	**283**	P	**Pn**	**19 19 04.2**	**+0.2**
MSOM	**Makushin Julie**	**2.09**	**279**	P	**Pn**	**19 19 04.2**	**+0.2**
SDPT	**Sand Point**	**2.53**	**43**	*e*Pn	**Pn**	**19 19 09.5**	**-0.7**
OKFG	**Magazine Ridge**	**2.65**	**269**	P	**Pn**	**19 19 11.8**	**0.0**
NIKH	**Nikolski High**	**3.28**	**262**	P	**Pn**	**19 19 15.9**	**-0.9**
VNHG	**Veniaminof 1**	**3.67**	**41**	P	**Pn**	**19 19 25.6**	**-0.3**
SEW	**Seward**	**10.11**	**44**	Pn	**Pn**	**19 20 55.5**	**+1.3**
RC01	**Rabbit Creek A**	**10.60**	**39**	*e*Pn	Pn	19 20 55.6	-5.1
GAMB	**Gambell**	**11.12**	**341**	*e*Pn	**Pn**	**19 21 06.7**	**-1.2**
	3.8nm,0.7s						
JPK	**Jack Peak**	**11.81**	**44**	P	**Pn**	**19 21 19.4**	**+2.0**
EYAK	**Cordova Ski Ar**	**11.92**	**47**	P	Pn	19 21 12.7	-6.1
TRF	**Thorofare Moun**	**12.08**	**29**	*e*Pn	**Pn**	**19 21 21.2**	**+0.1**
DIV	**Divide**	**12.20**	**44**	*e*Pn	Pn	19 21 13.7	-9.0
TNA	**Tin City**	**12.28**	**351**	*e*Pn	**Pn**	**19 21 25.0**	**+1.3**
	10nm,1.2s						
KLU	**Klutina**	**12.32**	**43**	P

GTA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
JOF	**Joensuu**	**63.32**	**352**	*ep*	**P**		**19 28 55.2**	**-1.4**
	1.7nm,0.6s								
KURK	**Kurchatov**	**63.79**	**321**	*eP*	**P**		**19 28 59.1**	**-0.8**
	3.4nm,1.0s								
KAF	**Kangasniemi**	**64.44**	**355**	*ep*	**P**		**19 29 03.1**	**-0.9**
	6.5nm,0.7s								
ENH	**Enshi**	**64.59**	**287**	*eP*	**P**		**19 29 05.1**	**-0.5**
	2.1nm,0.5s								
FINES	**FINESS Array B**	**65.12**	**355**	P	**P**		**19 29 07.3**	**-1.2**
FINES	**FINESS Array B**	**65.12**	**355**	P	**P**		**19 29 07.3**	**-1.2**
	3.7nm,0.7s,baz=22,slow=7.9,SNR=10								
MK31	**Makanchi Array**	**65.51**	**316**	*eP*	**P**		**19 29 10.0**	**-1.3**
MKAR	**Makanchi Array**	**65.51**	**316**	P	**P**		**19 29 10.3**	**-1.0**
MKAR	**Makanchi Array**	**65.51**	**316**	P	**P**		**19 29 10.3**	**-1.0**
	2.0nm,0.9s,baz=46,slow=6.3,SNR=14								
NB2	**NORSAR Subarra**	**65.70**	**3**	P	**P**		**19 29 11.2**	**-1.1**
	comp=Z,4.9nm,0.9s,baz=358,slow=6.9								
NOA	**NORSAR Array B**	**65.70**	**3**	P	**P**		**19 29 11.2**	**-1.1**
NOA	**NORSAR Array B**	**65.70**	**3**	P	**P**		**19 29 11.2**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=358,slow=6.4,SNR=9.3								
HFS	**Hagfors**	**66.67**	**2**	P	**P**		**19 29 17.5**	**-0.9**
HFS	**Hagfors**	**66.67**	**2**	P	**P**		**19 29 17.5**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=46,slow=6.2,SNR=26								
ABKAR	**Akbulak array**	**71.22**	**332**	*eP*	**P**		**19 29 46.6**	**-0.3**
	comp=Z,4.9nm,0.6s								
AAK	**Ala-Archa**	**72.08**	**319**	*eP*	**P**		**19 29 52.1**	**-0.3**
	comp=Z,2.4nm,0.6s								
EKS2	**Erkin-Say**	**72.33**	**319**	*eP*	**P**		**19 29 54.0**	**+0.1**
	comp=Z,4.9nm,0.9s								
KKAR	**Karatay Array**	**73.19**	**322**	*eP*	**P**		**19 29 58.0**	**-0.8**
	comp=Z,1.8nm,0.6s								
KSH	**Kashi**	**74.12**	**316**	P	P		19 30 07.9	+3.5
KSH				*ePcP*	**PcP**		**19 30 24.0**	**+4.5**
KSH				*ePP*	**PP**		**19 32 54.0**	**+4.5**
KSH				*eS*	**S**		**19 39 36.2**	**+0.9**
KSH				*esS*	sS		19 39 53.0	+2.0
KSH				*eSS*	**SS**		**19 44 22.4**	**+2.8**
KSH				pmax	pmax				
	comp=Z,3.0nm,1.2s								
KSH				pmax	pmax				
	comp=Z,110nm,2.9s								
KSH				LR	LR				
	comp=Z,24nm,7.3s								
KSH				LR	LR				
	comp=Z,61nm,3.9s								
KSH				LR	LR				
	comp=Z,26nm,3.1s								
LSA	**Lhasa**	**75.06**	**300**	*eP*	**P**		**19 30 11.1**	**+0.6**
	comp=Z,6.8nm,0.8s								
PMG	**Port Moresby**	**75.32**	**231**	LR	LR		19 58 30.0		
	comp=Z,53nm,19.9s,baz=358,slow=32								
CLL	**Collm**	**75.50**	**2**	*eP*	**P**		**19 30 12.0**	**0.0**
DPC	**Dobruska-Polom**	**76.50**	**0**	*eP*	**P**		**19 30 18.1**	**+0.3**
DPC				*ex*	x		19 30 22.7		
KRLC	**Kraliky**	**76.77**	**360**	*eP*	**P**		**19 30 20.1**	**+0.7**
MORC	**Moravsky Berou**	**77.07**	**359**	*ǁiP*	**P**		**19 30 21.1**	**0.0**
KHC	**Kasperske Hory**	**77.69**	**2**	*eP*	**P**		**19 30 24.9**	**+0.4**
GERES	**GERESS Array B**	**77.97**	**2**	P	**P**		**19 30 25.9**	**-0.3**
GERES	**GERESS Array B**	**77.97**	**2**	P	**P**		**19 30 25.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=12,slow=6.8,SNR=8.8								
TRPA	**Tarpa**	**78.59**	**356**	*ǁiP*	**P**		**19 30 30.3**	**+0.9**
TAPN	**Taplejung**	**78.73**	**301**	*eP*	**P**		**19 30 31.0**	**0.0**
	comp=Z,7.7nm,0.5s								
BUR08	**Bucovina Ar. S**	**78.94**	**354**	*eP*	**P**		**19 30 31.0**	**-0.6**
BURAR	**Bucovina Array**	**78.96**	**354**	*ǁiP*	**P**		**19 30 31.5**	**-0.2**
GUN	**Gumba**	**79.21**	**303**	*eP*	**P**		**19 30 33.7**	**+0.1**
	comp=Z,34nm,0.9s								
JIRN	**Jiri**	**79.25**	**302**	*eP*	**P**		**19 30 33.9**	**0.0**
	comp=Z,38nm,0.5s								
KKN	**Kakani**	**79.61**	**303**	*eP*	**P**		**19 30 35.7**	**0.0**
	comp=Z,14nm,1.0s								
RAMN	**Ramite**	**79.63**	**301**	*eP*	**P**		**19 30 35.5**	**-0.3**
	comp=Z,34nm,0.8s								
PKI	**Pulchoki**	**79.72**	**303**	*eP*	**P**		**19 30 36.1**	**-0.3**
	comp=Z,8.2nm,0.5s								
PKIN	**Phulchoki**	**79.72**	**303**	*eP*	**P**		**19 30 36.3**	**-0.1**
	comp=Z,6.1nm,0.6s								
GKN	**Gorkha**	**79.75**	**304**	*eP*	**P**		**19 30 36.4**	**0.0**
	comp=Z,18nm,0.7s								
CMAR	**Chiang Mai Arr**	**79.76**	**287**	P	**P**		**19 30 36.3**	**0.0**
CMAR	**Chiang Mai Arr**	**79.76**	**287**	P	**P**		**19 30 36.3**	**0.0**
	comp=Z,2.1nm,0.8s,baz=17,slow=5.3,SNR=16								
DMN	**Daman**	**79.84**	**303**	*eP*	**P**		**19 30 37.0**	**0.0**
	comp=Z,13nm,0.6s								
DANN	**Dangsing**	**79.90**	**304**	*eP*	**P**		**19 30 37.4**	**+0.1**
	comp=Z,52nm,0.7s								
KOLN	**Koldanda**	**80.46**	**304**	*eP*	**P**		**19 30 40.2**	**-0.1**
	comp=Z,22nm,1.0s								
KBZ	**Khabaz**	**80.51**	**341**	P	**P**		**19 30 40.0**	**+0.1**
KBZ	**Khabaz**	**80.51**	**341**	P	**P**		**19 30 40.0**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=12,slow=3.6,SNR=7.0								
BZS	**Buzias**	**81.14**	**356**	*ǁiP*	**P**		**19 30 41.2**	**-2.1**
VOIR		**81.14**	**354**	*ǁiP*	**P**		**19 30 42.2**	**-1.3**
CFR	**Carcaliu**	**81.17**	**352**	*ǁiP*	**P**		**19 30 43.0**	**-0.5**
ARR	**Arges**	**81.24**	**354**	*ǁiP*	**P**		**19 30 44.9**	**+0.9**
GZR	**Gura Zlata**	**81.31**	**356**	*ǁiP*	**P**		**19 30 44.4**	**+0.1**
TIRR	**Tirgusor**	**81.86**	**351**	*ǁiP*	**P**		**19 30 46.8**	**-0.3**
ESDC	**Sonseca Array**	**85.50**	**16**	P	**P**		**19 31 07.6**	**+1.7**
ESDC	**Sonseca Array**	**85.50**	**16**	P	**P**		**19 31 07.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=344,slow=5.6,SNR=3.5								
BR131	**Keskin Array S**	**85.95**	**347**	*eP*	**P**		**19 31 08.3**	**0.0**
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**85.95**	**347**	P	**P**		**19 31 08.9**	**+0.6**
BRTR	**Keskin Array B**	**85.95**	**347**	P	**P**		**19 31 08.9**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=12,slow=2.9,SNR=12								
WRA	**Warramunga Arr**	**90.57**	**236**	P	**P**		**19 31 29.2**	**-1.1**
WRA	**Warramunga Arr**	**90.57**	**236**	P	**P**		**19 31 29.2**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=36,slow=6.3,SNR=3.1								
H03N2	**Juan Fernandez**	**113.11**	**115**	T	T		21 40 41.0		
	baz=325								
H03N1	**Juan Fernandez**	**113.12**	**115**	T	T		21 40 40.4		
	baz=325								
H03N3	**Juan Fernandez**	**113.13**	**115**	T	T		21 40 41.6		
	baz=325								

PGC ***12*** *19:20:22.8±68.0, 60.06N×139.37W, h5km, ML3.8/3, 86km northeast of Yakutat, Ak Southeastern Alaska*
NEIC ***12*** *19:20:22.8, 60.06N×139.37W, h5km, ML3.7(AEIC), ML3.8(OTT), After OTT.*

ISC 12 19:20:20.3±2.0, 60.09N±0.05×139.31W±0.05, h5km±16km, n47, σ1§42/55, 4D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YKU2	**Yakutat**	**0.60**	**198**	P	**Pn**	**19 20 35.0**	**-0.5**
YKU2				S	**Sn**	**19 20 45.4**	**-0.2**
CHX	**Chaix Hills**	**0.91**	**269**	P	**Pn**	**19 20 39.3**	**-0.5**
DHAK	**Deception Hill**	**1.15**	**150**	P	**Pn**	**19 20 43.8**	**+0.8**
DHAK				S	**Sn**	**19 21 00.3**	**+1.2**
CTGM	**Chitina Glacie**	**1.33**	**312**	P	**Pn**	**19 20 44.6**	**-1.1**
BALM	**Baldy**	**1.77**	**304**	P	**Pn**	**19 20 51.5**	**-0.3**
SKAG	**Skagway**	**2.11**	**106**	P	**Pb**	**19 20 58.9**	**-0.1**
SKAG				S	**Sb**	**19 21 25.3**	**-0.2**
WHY	**Whitehorse**	**2.27**	**73**	ǁPn	**Pb**	**19 21 01.0**	**-0.9**
WHY				ǁPg	**Pg**	**19 21 04.3**	**+0.4**
WHY				ǁSg	**Sg**	**19 21 34.4**	**+1.0**
WHY	**Whitehorse**	**2.27**	**73**	P	**Pb**	**19 21 00.9**	**-1.0**
GLB	**Gilahina Butte**	**2.59**	**304**	P	**Pn**	**19 21 04.0**	**+1.0**
GOAT	**Goat Mountain**	**2.74**	**283**	P	**Pn**	**19 21 05.8**	**+0.9**
BESE	**Bessie Mountai**	**2.74**	**122**	P	**Pn**	**19 21 06.7**	**+1.8**
BESE				S	**Sb**	**19 21 43.2**	**-0.4**
BMRM	**Bremner River**	**2.76**	**291**	P	**Pn**	**19 21 06.1**	**+0.9**
SGAM	**Sherman Glacie**	**2.96**	**281**	P	**Pn**	**19 21 09.0**	**+1.0**
WASW	**Wrangell South**	**3.00**	**310**	P	**Pn**	**19 21 10.6**	**+1.8**
DIV	**Divide**	**3.35**	**291**	P	**Pn**	**19 21 14.5**	**+1.1**
MENT	**Mentasta**	**3.56**	**325**	*ePn*	Pb	19 21 19.6	-4.1
DAWY	**Dawson**	**3.99**	**360**	ǁPn	**Pn**	**19 21 24.2**	**+2.1**
DAWY				ǁSg	**Sg**	**19 22 27.8**	**-0.7**
DAWY	**Dawson**	**3.99**	**360**	P	**Pn**	**19 21 24.3**	**+2.1**
PAX	**Paxson**	**4.13**	**317**	*ePn*	**Pn**	**19 21 24.3**	**+0.2**
DOT	**Dot Lake**	**4.22**	**330**	*ePn*	**Pn**	**19 21 27.1**	**+1.8**
SCRK	**Sand Creek**	**4.48**	**333**	P	**Pn**	**19 21 30.1**	**+1.2**
PWL	**Port Wells**	**4.53**	**284**	P	**Pn**	**19 21 31.0**	**+1.5**
EGAK	**Eagle**	**4.79**	**350**	P	**Pn**	**19 21 34.1**	**+1.1**
PMR	**Palmer**	**5.04**	**292**	*ePn*	**Pn**	**19 21 38.8**	**+2.4**
	27nm,0.4s						
DLBC	**Dease Lake**	**5.04**	**105**	ǁPn	**Pn**	**19 21 38.7**	**+2.1**
DLBC				ǁPg	Pg	19 21 53.1	-3.7
DLBC				ǁSg	**Sg**	**19 22 59.8**	**-2.3**
DLBC	**Dease Lake**	**5.04**	**105**	*ePn*	**Pn**	**19 21 38.4**	**+1.8**
DLBC				*ePb*	Pb	19 21 52.4	+3.4
DLBC				*eSg*	**Sg**	**19 23 02.0**	**-0.1**
SEW	**Seward**	**5.07**	**275**	P	**Pn**	**19 21 36.9**	**0.0**
WRAK	**Wrangell Islan**	**5.20**	**132**	*ePn*	**Pn**	**19 21 40.6**	**+1.9**
	23nm,0.4s						
RC01	**Rabbit Creek A**	**5.24**	**286**	*ePn*	**Pn**	**19 21 40.1**	**+0.9**
SLKM	**Skilak Lake**	**5.44**	**279**	P	**Pn**	**19 21 42.1**	**+0.1**
RND	**Reindeer**	**5.62**	**310**	P	**Pn**	**19 21 46.1**	**+1.6**
SUA	**Susitna One**	**5.77**	**289**	P	**Pn**	**19 21 47.8**	**+1.2**
BRLK	**Bradley Lake**	**5.83**	**272**	P	**Pn**	**19 21 47.9**	**+0.5**
MCK	**McKinley**	**5.83**	**313**	*ePn*	**Pn**	**19 21 49.8**	**+2.4**
	18nm,0.7s						
TRF	**Thorofare Moun**	**6.20**	**308**	P	**Pn**	**19 21 53.0**	**+0.4**
TRF				*eSg*	Sb	19 23 30.2	+6.9
COLA	**College**	**6.22**	**324**	*ePn*	**Pn**	**19 21 50.9**	**-1.7**
	8.6nm,0.8s						
SKT	**Skwentna**	**6.23**	**293**	P	**Pn**	**19 21 53.8**	**+0.9**
STLK	**Strandline Lak**	**6.29**	**288**	P	**Pn**	**19 21 53.8**	**0.0**
KTH	**Kantishna Hill**	**6.50**	**307**	P	**Pn**	**19 21 57.8**	**+1.2**
PPLA	**Purkeypile**	**6.78**	**300**	P	**Pn**	**19 22 00.9**	**+0.5**
OPT	**Oil Point**	**7.02**	**272**	P	**Pn**	**19 22 04.8**	**+1.1**
KDAK	**Kodiak Island**	**7.25**	**257**	P	**Pn**	**19 22 07.7**	**+1.0**
OHAK	**Old Harbor**	**7.83**	**255**	*ePn*	**Pn**	**19 22 14.9**	**+0.1**
	190nm,1.4s						
MOBC	**Moresby Island**	**8.05**	**147**	P	**Pn**	**19 22 20.2**	**+2.4**
TT01	**Tatalina**	**8.47**	**297**	P	**Pn**	**19 22 23.8**	**+0.2**
INK	**Inuvik**	**8.62**	**14**	Pn	**Pn**	**19 22 27.2**	**+1.6**
	9.8nm,0.9s						
DGMT	**Dagmar**	**23.26**	**104**	Pn	**P**	**19 25 24.4**	**-4.0**
	25nm,0.4s						

NIED ***12*** *19:27:00, 28.90N×132.20E, h8km, Mw4.2 Best double couple: M○2.29000×10^15 NP1:ϕs46.00000°, δ61.00000°, λ-20.00000°. NP2:ϕs146.00000°, δ73.00000°, λ-150.00000°.*
IDC ***12*** *19:27:27.0±1.0, 28.72N×132.45E, h0km, mb3.9/13, mb1 4.1/16, mb1mx4.0/28, mbtmp4.0/16, ML4.1/3, MS3.3/6, Ms1 3.3/6, ms1mx3.1/42, Error ellipse: s-maj=23.6km s-min=20.1km az=120.0*
NEIC ***12*** *19:27:29.1±2.4, 28.75N×132.37E, h12km±14km, mb4.1/9, Error ellipse: s-maj=8.5km s-min=5.3km az=131.0*
ISCJB ***12*** *19:27:30.9±0.4, 28.88N±0.03×132.32E±0.04, h33km, mb4.0/22, MS3.3/4, Error ellipse: s-maj=5.0km s-min=3.6km az=39.3*
JMA ***12*** *19:27:31.8±0.3, 28.88N×132.23E, h82km, M4.5*

ISC 12 19:27:32.3±0.6, 28.80N±0.04×132.35E±0.06, h35km, n78, σ1§41/90, mb4.0/22, MS3.2/4, West of Bonin Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**2.15**	**258**	P	**Pn**	**19 28 05.1**	**-0.5**
JZK				*eS*	**Sn**	**19 28 31.9**	**+0.8**
JTN	**Tanegashima 3**	**2.20**	**327**	P	**Pn**	**19 28 05.6**	**-0.8**
JTN				S	**Sn**	**19 28 30.3**	**-2.1**
JNN	**Nakanoshima**	**2.40**	**296**	P	**Pn**	**19 28 08.2**	**-0.9**
JNN				*eS*	**Sn**	**19 28 35.7**	**-1.6**
JAM	**Amami Oshima**	**2.45**	**262**	P	**Pn**	**19 28 08.5**	**-1.2**
JAM				*eS*	**Sn**	**19 28 37.1**	**-1.3**
JKC	**Kuchinoerabu**	**2.50**	**312**	P	**Pn**	**19 28 10.3**	**-0.2**
JKC				*eS*	**Sn**	**19 28 37.5**	**-2.3**
JTSR	**Tashiro 2**	**2.67**	**333**	P	**Pn**	**19 28 12.0**	**-0.8**
JTSR				*eS*	**Sn**	**19 28 40.8**	**-3.1**
JAMN	**Amaminishikomi**	**2.85**	**260**	P	**Pn**	**19 28 14.3**	**-1.0**
JAMN				S	**Sn**	**19 28 47.0**	**-1.4**
JNAR	**Kushima--Naru**	**2.87**	**341**	P	**Pn**	**19 28 15.0**	**-0.6**
JNAR				*eS*	**Sn**	**19 28 46.0**	**-3.0**
JMZ	**Minamidaito 2**	**3.13**	**199**	P	**Pn**	**19 28 17.4**	**-1.8**
JMZ				*eS*	**Sn**	**19 28 52.0**	**-3.4**
JTK	**Tokunoshima**	**3.17**	**252**	P	**Pn**	**19 28 18.9**	**-0.7**
JTK				*eS*	**Sn**	**19 28 54.4**	**-1.8**
JTZ	**Takazaki**	**3.28**	**341**	P	**Pn**	**19 28 20.6**	**-0.6**
JTZ				*eS*	**Sn**	**19 28 55.8**	**-3.2**
JSJ	**Shimokoshiki**	**3.67**	**322**	P	**Pn**	**19 29 25.4**	**-1.1**
JSJ				*eS*	**Sn**	**19 29 04.3**	**-4.2**
JTO	**Tosashimizu**	**4.07**	**5**	P	**Pn**	**19 28 30.5**	**-1.5**
JTO				*eS*	Sn	19 29 11.8	-6.6
JOW	**Kunigami**	**4.11**	**242**	P	**Pn**	**19 28 31.0**	**-1.6**
JOW				S	**Sn**	**19 29 16.4**	**-3.1**
JOW	**Kunigami**	**4.11**	**242**	*eP*	**Pn**	**19 28 31.2**	**-1.4**
JNU	**Nakatsue**	**4.49**	**344**	*ePn*	**Pn**	**19 28 36.5**	**-1.4**
JNU				Sn	**Sn**	**19 29 25.8**	**-3.1**
JNU	**Nakatsue**	**4.49**	**344**	Pn	**Pn**	**19 28 37.2**	**-0.7**
	9.2nm,0.3s,baz=146,slow=7.0,SNR=99						
JNU				Sn	**Sn**	**19 29 25.8**	**-3.1**
	30nm,0.3s,baz=184,slow=15,SNR=9.8						
JCJ	**Chichijima**	**8.86**	**99**	LR	LR	19 32 11.3	
	comp=Z,137nm,19.0s,baz=24,slow=32						
MAJO	**Matsushiro**	**9.16**	**31**	*ePn*	**Pn**	**19 29 42.6**	**+0.6**
	26nm,0.4s						
MAT	**Matsushiro**	**9.16**	**31**	P	**Pn**	**19 29 43.1**	**+1.1**
MAT				*eS*	**Sn**	**19 31 24.2**	**+0.4**
MJAR	**Matsushiro Arr**	**9.16**	**31**	Pn	**Pn**	**19 29 42.0**	**0.0**
MJAR	**Matsushiro Arr**	**9.16**	**31**	Pn	**Pn**	**19 29 42.0**	**0.0**
	8.6nm,0.3s,baz=226,slow=14,SNR=69						
KSRS	**Korea Array**	**9.39**	**338**	Pn	**Pn**	**19 29 45.3**	**+0.2**
	0.5nm,0.3s,baz=154,slow=14,SNR=7.6						
KSAR	**Wonju Array Be**	**9.40**	**338**	Pn	**Pn**	**19 29 45.3**	**+0.1**
INCN	**Inchon**	**9.89**	**333**	Pn	**Pn**	**19 29 51.6**	**-0.4**
YHNB	**Yeheng**	**10.64**	**250**	*ePn*	**Pn**	**19 30 00.9**	**-1.4**
USRK	**Ussuriysk Arra**	**15.37**	**359**	Pn	**P**	**19 31 09.4**	**-1.3**
	0.4nm,0.3s,baz=170,slow=9.5,SNR=9.2						
USRK				LR	LR	19 37 12.9	
	comp=Z,75nm,19.2s,baz=143,slow=38						
MDJ	**Mudanjiang**	**15.94**	**353**	Pn	**Pn**	**19 31 13.9**	**+0.1**
ENH	**Enshi**	**19.95**	**280**	*eP*	**P**	**19 32 01.2**	**-0.2**
	5.8nm,0.6s						
ULN	**Ulaanbaatar**	**27.30**	**321**	P	**P**	**19 33 15.4**	**+1.7**
	3.1nm,1.0s						
SONM	**Songino Array**	**27.65**	**321**	P	**P**	**19 33 17.6**	**+0.8**
SONM	**Songino Array**	**27.65**	**321**	P	**P**	**19 33 17.6**	**+0.8**
	1.1nm,0.7s,baz=139,slow=9.7,SNR=8.1						
SONM				LR	LR	19 44 56.0	
	comp=Z,65nm,18.4s,baz=171,slow=38						
PETK	**Petropavlovsk-**	**30.62**	**30**	LR	LR	19 46 17.8	
	comp=Z,40nm,18.8s,baz=47,slow=37						
CMAR	**Chiang Mai Arr**	**32.20**	**259**	P	**P**	**19 33 58.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**32.20**	**259**	P	**P**	**19 33 58.5**	**+1.3**
	0.5nm,0.8s,baz=61,slow=6.1,SNR=5.3						
CMAR				LR	LR	19 48 51.3	
	comp=Z,51nm,18.7s,baz=15,slow=40						
YAK	**Yakutsk**	**33.28**	**358**	*eP*	**P**	**19 34 05.2**	**-0.9**
	4.6nm,0.8s						
LSA	**Lhasa**	**35.83**	**282**	*eP*	**P**	**19 34 29.7**	**+0.5**
	3.5nm,1.3s						
SEY	**Seymchan**	**36.55**	**15**	P	**P**	**19 34 35.3**	**+1.0**
SEY	**Seymchan**	**36.55**	**15**	P	**P**	**19 34 35.3**	**+1.0**
	1.4nm,0.5s,baz=204,slow=19,SNR=5.3						
TAPN	**Taplejung**	**39.24**	**279**	*eP*	**P**	**19 34 59.6**	**+1.7**
ODAN	**Odare**	**39.63**	**278**	*eP*	**P**	**19 35 02.4**	**+1.3**
	22nm,0.8s						
GUN	**Gumba**	**40.70**	**280**	*eP*	**P**	**19 35 11.8**	**+1.7**
	32nm,0.9s						
PKI	**Pulchoki**	**41.19**	**280**	*eP*	**P**	**19 35 15.5**	**+1.4**
	16nm,1.0s						
PKIN	**Phulchoki**	**41.20**	**280**	*eP*	**P**	**19 35 15.4**	**+1.3**
	4.6nm,0.5s						
KKN	**Kakani**	**41.25**	**280**	*eP*	**P**	**19 35 16.1**	**+1.7**
	11nm,0.9s						
DMN	**Daman**	**41.44**	**280**	*eP*	**P**	**19 35 17.3**	**+1.3**
	12nm,1.1s						
DANN	**Dangsing**	**42.43**	**282**	*eP*	**P**	**19 35 25.4**	**+1.2**
	16nm,1.0s						
ZALV	**Zalesovo Beam**	**42.54**	**320**	P	**P**	**19 35 23.8**	**-0.5**
ZALV	**Zalesovo Beam**	**42.54**	**320**	P	**P**	**19 35 23.8**	**-0.5**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=3.7						
MK31	**Makanchi Array**	**42.66**	**309**	*eP*	**P**	**19 35 26.0**	**+0.5**
MKAR	**Makanchi Array**	**42.66**	**309**	P	**P**	**19 35 26.5**	**+1.0**
MKAR	**Makanchi Array**	**42.66**	**309**	P	**P**	**19 35 26.5**	**+1.0**
	1.5nm,0.7s,baz=97,slow=9.8,SNR=18						
KURK	**Kurchatov**	**45.57**	**314**	*eP*	**P**	**19 35 49.2**	**+0.6**
	2.4nm,1.0s						
TKM2	**Tokmak 2**	**47.26**	**303**	*eP*	**P**	**19 36 03.7**	**+1.3**
	1.7nm,0.6s						
AAK	**Ala-Archa**	**48.09**	**303**	P	**P**	19 36 11.9	+3.2
WRAB	**Tennant Creek**	**48.49**	**177**	*eP*	**P**	**19 36 12.0**	**+0.3**
WRA	**Warramunga Arr**	**48.49**	**178**	P	**P**	**19 36 10.7**	**-1.0**
WRA	**Warramunga Arr**	**48.49**	**178**	P	**P**	**19 36 10.7**	**-1.0**
	0.8nm,1.0s,baz=356,slow=8.2,SNR=2.7						
EKS2	**Erkin-Say**	**48.61**	**303**	P	**P**	**19 36 12.8**	**0.0**
KKAR	**Karatay Array**	**50.97**	**304**	P	**P**	**19 36 30.3**	**-0.2**
	2.2nm,0.8s						
ABKAR	**Akbulak array**	**57.60**	**312**	*eP*	**P**	**19 37 18.7**	**+0.1**
	0.5nm,0.6s						
MCK	**McKinley**	**59.63**	**30**	P	**P**	**19 37 32.8**	**+0.3**
	7.4nm,1.1s						
ILAR	**Eielson Array**	**60.44**	**29**	P	**P**	**19 37 38.0**	**-0.1**
ILAR	**Eielson Array**	**60.44**	**29**	P	**P**	**19 37 38.0**	**-0.1**
	0.6nm,0.6s,baz=268,slow=6.3,SNR=8.2						
INK	**Inuvik**	**65.08**	**24**	P	**P**	**19 38 09.1**	**+0.3**
INK	**Inuvik**	**65.08**	**24**	P	**P**	**19 38 09.1**	**+0.3**
	1.2nm,0.5s,baz=324,slow=3.8,SNR=4.7						
ARCES	**ARCESS Array B**	**68.95**	**339**	P	**P**	**19 38 34.3**	**+0.9**
ARCES	**ARCESS Array B**	**68.95**	**339**	P	**P**	**19 38 34.3**	**+0.9**
	6.4nm,1.1s,baz=52,slow=9.3,SNR=3.6						
GNI	**Garni**	**70.38**	**306**	LR	LR	20 14 02.2	
	comp=Z,46nm,21.2s,baz=263,slow=40						
RES	**Resolute Bay**	**72.32**	**12**	P	**P**	**19 38 54.7**	**+0.8**
RES	**Resolute Bay**	**72.32**	**12**	P	**P**	**19 38 54.7**	**+0.8**
	2.9nm,0.6s,baz=311,slow=6.5,SNR=11						
FINES	**FINESS Array B**	**72.42**	**331**	P	**P**	**19 38 55.1**	**+0.5**
FINES	**FINESS Array B**	**72.42**	**331**	P	**P**	**19 38 55.1**	**+0.5**
	1.6nm,0.7s,baz=57,slow=5.1,SNR=9.9						
YKA	**Yellowknife Ar**	**74.64**	**26**	P	**P**	**19 39 07.5**	**-0.2**
YKA	**Yellowknife Ar**	**74.64**	**26**	P	**P**	**19 39 07.5**	**-0.2**
	0.7nm,0.9s,baz=300,slow=5.8,SNR=7.5						
BRTR	**Keskin Array B**	**78.31**	**309**	P	**P**	**19 39 29.6**	**+0.5**
BRTR	**Keskin Array B**	**78.31**	**309**	P	**P**	**19 39 29.7**	**+0.5**
	1.2nm,1.0s,baz=134,slow=3.6,SNR=5.1						
NB2	**NORSAR Subarra**	**78.59**	**335**	P	**P**	**19 39 29.6**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=52,slow=5.9						

DJA 12 19:50:01.3±1.2, 3°S±8°×14°0E±°, h13km, M4.0/3, MLv4.0/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.82**	**31**	P	Pg	19 50 16.2	-1.0
GENI				S	Sg	19 50 27.9	0.0
SMPI	**Sarmi**	**1.67**	**321**	P	Pn	19 50 29.5	-0.7
SMPI				S	Sb	19 50 52.1	-0.6
SRPI	**Serui, Papua**	**3.78**	**292**	P	Pn	19 51 00.1	+0.7
SRPI				S	Sn	19 51 44.8	+1.0

NIED ***12*** *19:51:00, 34.00N×137.00E, h360km, Mw4.3 Best double couple: M○3.37000×10^15 NP1:ϕs97.00000°, δ53.00000°, λ144.00000°. NP2:ϕs211.00000°, δ62.00000°, λ43.00000°.*
BJI ***12*** *19:51:49.4, 34.03N×137.21E, h376km, mB4.8/15, mb4.6/18*
MOS ***12*** *19:51:50.2±0.9, 33.97N×136.92E, h355km, mb4.1/36, Error ellipse: s-maj=9.5km s-min=6.4km az=107.2*
ISCJB ***12*** *19:51:50.5±0.3, 33.98N±0.04×136.97E±0.03, h359km±1km, mb4.0/62, Error ellipse: s-maj=6.3km s-min=4.0km az=157.0*
JMA ***12*** *19:51:50.7±0.2, 34.01N×136.97E, h360km±2km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs183.00000°, δ73.00000°, λ39.00000°. NP2:ϕs80.00000°, δ53.00000°, λ159.00000°. Principal axes: T Plg39.0000°, Azm48.0000°; N Plg48.0000°, Azm202.0000°; P Plg13.0000°, Azm307.00000°;*
IDC

YNCB YEONCHEON 9.10 299 P Pn 19 53 59.4 +0.9
SNR=26
INCN Inchon 9.11 295 *e*Pn Pn 19 53 58.6 -0.1
124nm,0.6s
KSGAH Ganghwa 9.33 296 P Pn 19 54 01.9 +0.7
SNR=16
ERM Erimo 9.37 29 *e*P Pn 19 54 00.2 -1.4
VLA Vladivostok 9.95 338 *i*P Pn 19 54 08.7 +0.2
USRK Uesuriysk Arra 10.91 341 P Pn 19 54 20.2 +0.3
24nm,0.3s,baz=148,slow=10,SNR=374
ASAJ Asahikawa 11.01 22 *e*Pn Pn 19 54 20.6 -0.5
11nm,0.8s
ASAJ *e*S S 19 56 14.2 -10
ASAJ Asahikawa 11.01 22 P Pn 19 54 20.6 -0.6
1.6nm,0.3s,baz=227,slow=11,SNR=27
MDJ Mudanjiang 12.06 334 *e*Pn P 19 54 32.5 -0.8
33nm,0.6s
CN2 Changchun 13.29 321 *e*P Pn 19 54 49.4 +1.4
CN2 pmax pmax
comp=Z,50nm,0.6s
YSS Yuzh-Sakhalins 13.67 17⇑*i*P Pn 19 54 52.6 +0.1
YSS *e*S S 19 57 16.2 -3.8
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax smax
comp=N,30nm,1.0s
YSS Yuzh-Sakhalins 13.67 17 *e*P Pn 19 54 52.4 -0.1
comp=N,38nm,0.6s
HABR Khabarovsk 14.55 355 *e*P P 19 54 59.1 -1.5
HABR *e*S S 19 57 35.7 -1.9
HABR pmax pmax
comp=Z,10.0nm,1.5s
KLR Kul'dur 15.72 347 *e*P P 19 55 08.0 -5.5
YHNB Yeheng 16.46 240 *e*Pn P 19 55 19.2 -2.7
comp=Z,129nm,1.6s
NACB Ninganchiao 16.62 238 *e*Pn P 19 55 21.9 -1.6
comp=Z,25nm,0.8s
BJT Baijiatuan 17.67 296 *e*P P 19 55 32.9 -1.7
comp=Z,50nm,0.5s
HIA Hailar 19.91 325 *e*P P 19 55 55.6 -2.4
comp=Z,59nm,0.9s
XAN Xi'an 23.24 278 P P 19 56 27.8 -0.9
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,39nm,5.9s
XAN LR LR
comp=Z,240nm,13.5s
XAN LR LR
comp=Z,65nm,10.2s
XAN LR LR
comp=Z,90nm,14.5s
ENH Enshi 23.55 269 *e*P P 19 56 30.5 -1.1
comp=Z,18nm,0.6s
PETK Petropavlovsk- 24.15 31 P P 19 56 37.5 +0.9
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 24.15 31 P P 19 56 37.5 +0.9
comp=Z,3.9nm,0.7s,baz=219,slow=5.5,SNR=7.9
YAK Yakutsk 28.45 353 P P 19 57 12.6 -2.0
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK Yakutsk 28.45 353 Pn P 19 57 12.6 -2.0
comp=Z,9.0nm,0.6s
TLY Talaya 29.82 317 *e*P P 19 57 29.3 +2.4
TLY pmax pmax
comp=Z,10.0nm,0.9s
FX1 Attu Island--F 31.89 43 P P 19 57 45.8 +0.9
comp=Z,2.2nm,0.3s,baz=140,slow=7.9,SNR=9.7
HVS Khovu-Aksy 35.59 312 *i*P P 19 58 17.4 +0.8
HVS pmax pmax
comp=Z,61nm,1.1s
CM31 Chiang Mai Arr 37.23 255 *e*P P 19 58 29.4 -1.2
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 37.23 255 P P 19 58 29.8 -0.8
comp=Z,0.9nm,0.7s,baz=49,slow=7.6,SNR=11
CMAR ScP ScP 20 03 54.5 -0.2
comp=Z,0.3nm,0.7s,baz=358,slow=2.9,SNR=4.5
TIXI Tiksi 37.97 356 *e*P P 19 58 37.1 +1.1
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 37.97 356 P P 19 58 39.4 +3.4
comp=Z,1.8nm,0.4s
LSA Lhasa 38.93 277 *e*P P 19 58 44.8 -0.3
LSA pmax pmax
comp=Z,2.0nm,0.6s
LSA Lhasa 38.93 277 *e*P P 19 58 44.8 -0.3
comp=Z,2.1nm,0.6s
WMQ Urumqi 39.09 300 P P 19 58 45.1 -0.6
ZAA0 Zalesovo Array 41.41 315 *e*P P 19 59 03.8 -0.5
ZALV Zalesovo Beam 41.41 315 P P 19 59 04.0 -0.3
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 41.41 315 P P 19 59 04.0 -0.3
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 41.41 315 P P 19 59 04.0 -0.3
comp=Z,1.9nm,0.3s,baz=96,slow=7.8,SNR=19
NVS Novosibirsk 42.44 316 *e*P P 19 59 11.1 -1.4
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s
TAPN Taplejung 42.57 275 *e*P P 19 59 12.9 -1.5
comp=Z,4.7nm,0.3s
MK31 Makanchi Array 42.76 304 *e*P P 19 59 15.6 +0.3
MK31 pmax pmax
comp=Z,7.0nm,0.4s
MK31 Makanchi Array 42.76 304 *e*P P 19 59 15.2 -0.1
MK31 Makanchi Array 42.76 304 *e*P P 19 59 15.2 -0.1
MKAR Makanchi Array 42.76 304 P P 19 59 15.4 +0.1
MKAR pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 42.76 304 P P 19 59 15.4 +0.1
comp=Z,15nm,0.6s,baz=84,slow=9.3,SNR=162
ODAN Odare 43.02 274 *e*P P 19 59 15.9 -2.0
comp=Z,8.6nm,0.5s
RAMN Ramite 43.64 275 *e*P P 19 59 21.0 -1.8
comp=Z,19nm,0.6s
JIRN Jiri 43.72 276 *e*P P 19 59 22.6 -0.9
comp=Z,34nm,0.3s
GUN Gumba 43.88 276 *e*P P 19 59 24.0 -0.8
comp=Z,10nm,0.4s
PKI Pulchoki 44.40 276 *e*P P 19 59 27.7 -1.1
comp=Z,8.5nm,0.5s
PKIN Phulchoki 44.40 276 *e*P P 19 59 27.6 -1.2
comp=Z,5.7nm,0.5s
KKN Kakani 44.42 277 *e*P P 19 59 27.9 -1.0
comp=Z,4.2nm,0.3s
DMN Daman 44.63 276 *e*P P 19 59 29.8 -0.8
comp=Z,4.0nm,0.3s
GKN Gorkha 44.88 277 *e*P P 19 59 31.7 -0.7
comp=Z,9.1nm,0.3s
KURK Kurchatov 45.05 310*d i*P P 19 59 32.6 -0.5
KURK pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 45.05 310 *e*P P 19 59 32.7 -0.4
comp=Z,15nm,0.9s
KURBB Kurchatov Arra 45.11 310 P P 19 59 33.5 -0.1
comp=Z,8.6nm,0.6s,baz=90,slow=6.9,SNR=131
TNA Tin City 45.27 29 *e*P P 19 59 35.5 +0.9
comp=Z,6.6nm,1.1s
TNA pP pP 20 00 47.8 +2.5
DANN Dangsing 45.47 278 *e*P P 19 59 36.9 -0.3
comp=Z,49nm,0.6s
KOLN Koldanda 45.81 277 *e*P P 19 59 39.3 -0.4
comp=Z,3.8nm,0.3s
TKM2 Tokmak 2 47.95 300 *e*P P 19 59 55.5 -0.4
TKM2 pmax pmax
comp=Z,8.0nm,1.0s
TKM2 Tokmak 2 47.95 300 *e*P P 19 59 55.5 -0.4
comp=Z,7.5nm,1.0s
KSH Kashi 48.39 295 *i*P P 20 00 02.8 +3.7
KSH *e*PP PP 20 01 59.0 +3.6
KSH *e*PcS PcS 20 05 17.9 +1.8
KSH *e*S S 20 06 36.6 +4.3
KSH sS sS 20 08 46.8 +6.1
KSH *e*SS SS 20 10 12.8 +6.0
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,170nm,5.6s
AAK Ala-Archa 48.80 300 *e*P P 20 00 02.3 +0.1
AAK pmax pmax
comp=Z,5.0nm,1.2s
AAK Ala-Archa 48.80 300 *e*P P 20 00 01.6 -0.7
comp=Z,1.4nm,0.4s
AAK Ala-Archa 48.80 300 P P 20 00 01.8 -0.4
comp=Z,1.6nm,0.5s,baz=113,slow=7.2,SNR=13
EKS2 Erkin-Say 49.31 300 P P 20 00 01.4 -4.6
EKS2 pmax pmax
comp=Z,2.0nm,0.9s
EKS2 Erkin-Say 49.31 300 P P 20 00 01.4 -4.6
comp=Z,2.1nm,0.9s
BVA0 Borovoye Array 50.00 314 P P 20 00 09.0 -1.8
BVA0 pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 50.00 314 P P 20 00 10.8 0.0
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR pmax pmax
comp=N,1.0nm,0.7s
BVAR Borovoye Array 50.00 314 P P 20 00 10.8 0.0
comp=N,4.2nm,0.6s,baz=114,slow=7.1,SNR=33
BVAR ScP ScP 20 04 45.1 -1.2
comp=N,0.9nm,0.7s,baz=91,slow=5.9,SNR=3.9
BRVK Borovoye 50.06 314⇓*i*P P 20 00 11.5 +0.2
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 50.06 314 *e*P P 20 00 11.5 +0.2
comp=Z,2.3nm,0.3s
KK31 Karatay Array 51.56 301 P P 20 00 22.2 -0.3
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 51.56 301 *e*P P 20 00 22.4 -0.1
KKAR pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 51.56 301 *e*P P 20 00 22.4 -0.1
comp=Z,4.0nm,0.4s
MCK McKinley 53.15 32 *e*P P 20 00 34.0 +0.3
MCK pmax pmax
comp=Z,6.0nm,0.6s
MCK McKinley 53.15 32 *e*P P 20 00 34.0 +0.3
comp=Z,6.0nm,0.6s
PMR Palmer 53.20 35 *e*P P 20 00 33.8 -0.3
PMR pmax pmax
comp=Z,18nm,1.0s
PMR Palmer 53.20 35 *e*P P 20 00 33.8 -0.3
comp=Z,18nm,1.0s
COLA College 53.56 31 P P 20 00 37.5 +0.9
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 53.56 31 P P 20 00 37.5 +0.9
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 53.68 183 *e*P P 20 00 37.3 -0.7
WRAB Tennant Creek 53.68 183 *e*P P 20 00 37.3 -0.7
WRA Warramunga Arr 53.69 183 P P 20 00 37.5 -0.6
comp=Z,2.4nm,0.3s,baz=0.2,slow=7.6,SNR=93
WRA ScP ScP 20 05 02.2 -0.3
comp=Z,0.4nm,0.7s,baz=2.8,slow=4.7,SNR=4.5
ILAR Eielson Array 53.98 31 P P 20 00 39.9 +0.3
comp=Z,2.1nm,0.6s,baz=282,slow=5.6,SNR=7.4
SVE Sverdlovsk 55.07 319⇓*e*P P 20 00 48.3 +0.8
SVE pmax pmax
comp=Z,11nm,1.2s
KBL Kabul 55.14 291 *e*P P 20 00 47.7 -1.0
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 55.14 291 *e*P P 20 00 47.7 -1.0
comp=Z,4.9nm,0.8s
ARU Arti 56.27 319*d i*P P 20 00 55.7 -0.3
ARU S S 20 08 18.0 +0.4
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 56.27 319 *e*P P 20 00 55.7 -0.3
AB31 Akbulak array 57.15 311 *i*P P 20 01 01.7 -0.6
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 57.15 311 *e*P P 20 01 01.8 -0.5
comp=Z,6.5nm,0.5s
AS31 Alice Springs 57.41 183 *e*P P 20 01 03.5 -0.8
INK Inuvik 58.72 26 *e*P P 20 01 13.4 +0.8
comp=Z,3.7nm,0.6s
INK Inuvik 58.72 26 P P 20 01 13.4 +0.8
comp=Z,2.1nm,0.3s,baz=305,slow=7.1,SNR=13
SIT Sitka 61.03 39 P P 20 01 21.8 -6.6
SIT Sitka 61.03 39 P P 20 01 21.8 -6.6
DLBC Dease Lake 63.23 36 P P 20 01 44.6 +1.6
comp=Z,1.5nm,0.6s,baz=261,slow=19,SNR=3.3
ARCES ARCESS Array B 65.55 339 P P 20 01 57.6 -0.1
comp=Z,2.6nm,0.8s,baz=57,slow=8.8,SNR=6.2
STKA Stephens Creek 65.66 176 *e*P P 20 01 58.8 0.0
comp=Z,0.4nm,0.6s
STKA Stephens Creek 65.66 176 P P 20 01 58.4 -0.3
comp=Z,1.6nm,0.5s,baz=350,slow=6.1,SNR=6.0
JOF Joensuu 66.92 331 *e*P P 20 02 05.8 -0.6
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 66.92 331 *e*p P 20 02 05.8 -0.6
comp=Z,1.4nm,0.3s
YKA Yellowknife Ar 68.22 28 P P 20 02 14.9 +0.5
comp=Z,2.1nm,0.8s,baz=294,slow=6.0,SNR=22
OBN Obninsk 68.34 323 *e*P P 20 02 15.5 +0.3
OBN *e* 20 02 37.8
OBN *e*S S 20 10 46.7 -0.3
OBN pmax pmax
comp=Z,4.0nm,1.0s
VSR Storozhevoye 68.81 318 *e*P P 20 02 17.5 -0.7
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 69.32 332 *e*P P 20 02 20.6 -0.5
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 69.32 332 *e*p P 20 02 20.6 -0.5
comp=Z,2.2nm,0.4s
FINES FINESS Array B 69.79 331 P P 20 02 23.9 -0.1
comp=Z,2.4nm,0.4s,baz=57,slow=5.6,SNR=49
KIV Kislovodsk 70.13 310 *e*P P 20 02 28.0 +1.5
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 70.13 310 P P 20 02 21.4 -5.1
comp=Z,6.4nm,0.8s
NEW Newport 74.81 42 P P 20 02 54.8 +1.0
comp=Z,1.7nm,0.5s,baz=329,slow=15,SNR=3.9
YBH Yreka Blue Hor 75.06 50 P P 20 02 56.5 +1.2
comp=Z,3.3nm,0.7s,baz=290,slow=3.9,SNR=7.2
SUW Suwalki 75.45 326 P P 20 02 55.3 -1.8
SUW Suwalki 75.45 326 P P 20 02 55.3 -1.8
NB2 NORSAR Subarra 75.54 336 P P 20 02 57.5 -0.1
comp=Z,0.9nm,0.6s,baz=44,slow=5.9
NOA NORSAR Array B 75.54 336 P P 20 02 57.6 -0.1
comp=Z,0.6nm,0.5s,baz=46,slow=5.5,SNR=7.8
JTMT Jette 76.67 41 *e*P P 20 03 05.6 +1.3
comp=Z,4.5nm,0.7s
BRTR Keskin Array B 78.10 310 P P 20 03 12.2 -0.1
comp=Z,0.6nm,0.5s,baz=136,slow=5.4,SNR=5.0
FFC Flin Flon 78.19 31 P P 20 03 12.1 -0.2
FFC pmax pmax
comp=Z,3.0nm,0.6s
FFC Flin Flon 78.19 31 P P 20 03 12.1 -0.2
comp=Z,2.8nm,0.6s
FCC Fort Churchill 78.30 24 *e*P P 20 03 12.6 -0.2
FCC Fort Churchill 78.30 24 *e*P P 20 03 12.6 -0.2
comp=Z,0.1nm,0.7s
LRM Limekiln Ridge 78.83 42 *e*P P 20 03 17.0 +0.7
comp=Z,85nm,0.9s
NVAR Mina Array Bea 79.70 51 P P 20 03 22.5 +1.4
comp=Z,3.8nm,0.7s,baz=294,slow=4.6,SNR=8.5
SHPR Sheep Range 82.86 51 *e*P P 20 03 38.8 +1.3
comp=Z,1.8nm,0.7s
GERES GERESS Array B 83.31 326 P P 20 03 38.9 -0.6
comp=Z,0.3nm,0.3s,baz=45,slow=5.8,SNR=5.4
PFO Pinyon Flat Ob 83.74 54 *e*P P 20 03 42.5 +0.6
comp=Z,9.3nm,0.8s
PFO Pinyon Flat Ob 83.74 54 P P 20 03 42.6 +0.6
comp=Z,8.9nm,0.7s,baz=323,slow=4.7,SNR=17
BAR Barrett 84.15 54 P P 20 03 44.4 +0.5
comp=Z,4.0nm,0.8s
TXAR Lajitas Array 94.84 50 P P 20 04 35.1 +0.8
comp=Z,1.8nm,0.7s,baz=293,slow=2.8,SNR=23
SAML Samuel 148.93 41 *e*PKPbc PKPbc 20 10 58.0 -0.6
SAML *e*PKPab PKPab 20 11 03.6 -0.2
LPAZ La Paz 151.35 58 PKPbc PKPbc 20 11 05.3 +0.3
comp=Z,1.7nm,0.5s,baz=27,slow=3.9,SNR=7.8

ISCJB ***12*** *19:55:29.5±0.4, 44.51N±0.04×104.69E±0.07, h10km, mb3.6/8, MS3.2/9, Error ellipse: s-maj=6.8km s-min=6.4km az=169.3*
IDC ***12*** *19:55:29.4±0.8, 44.54N×104.56E, h0km, mb3.6/8, mb1 3.9/12, mb1mx3.8/28, mbtmp3.8/12, ML3.7/2, MS3.4/13, Ms1 3.4/13, ms1mx3.2/36, Error ellipse: s-maj=18.7km s-min=16.8km az=167.0*
MOS ***12*** *19:55:33.0±1.3, 44.53N×104.72E, h38km, mb3.8/5, Error ellipse: s-maj=19.5km s-min=10.8km az=97.5*

ISC 12 19:55:30.9±0.6, 44.54N±0.05×104.61E±0.05, h10km, n31, σ1§68/26, mb3.5/8, MS3.2/9, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**3.52**	**20**	Pn	**Pn**	**19 56 25.2**	**-0.6**
	7.5nm,0.3s,baz=200,slow=15,SNR=305						
SONM				Pg	**Pb**	**19 56 32.5**	**-0.9**
	34nm,0.3s,baz=205,slow=16,SNR=43						
SONM				Lg	Lg	19 57 17.0	
	139nm,0.3s,baz=204,slow=31,SNR=15						
SONM				LR	LR	19 58 00.9	
	comp=Z,301nm,18.4s,baz=166,slow=43						
BTO	**Baotou**	**5.61**	**133**	*e*Pg	**Pn**	**19 56 56.1**	**+1.6**
BTO				Sg	**Sn**	**19 57 58.2**	**-0.8**
BTO				SMZ			
	440nm,0.7s						
BTO				smax	smax		
	comp=N,78nm,0.4s						
BTO				smax	smax		
	comp=E,120nm,0.4s						
ZAK	**Zakamensk**	**5.91**	**352**	*e*P	**Pn**	**19 56 58.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,58nm,0.8s						
GTA	**Gaotai**	**6.25**	**216**	Pn	**Pn**	**19 57 05.3**	**+2.0**
GTA				Pg	Pg	19 57 24.9	-5.7
GTA				Sn	**Sn**	**19 58 15.9**	**+1.1**
GTA				Sg	**Sg**	**19 58 47.0**	**-4.4**
GTA				smax	smax		
	comp=N,190nm,1.2s						
GTA				smax	smax		
	comp=E,260nm,1.0s						
GTA				LR	LR		
	comp=N,580nm,3.3s						
GTA				LR	LR		
	comp=E,1μm,3.6s						
GTA				LR	LR		
	comp=Z,420nm,8.5s						
HHC	**Hu-ho-hao-te**	**6.32**	**123**	*e*P	**Pn**	**19 57 04.1**	**-0.1**
HHC				S	**Sn**	**19 58 15.3**	**-1.1**
HHC				LR	LR		
	comp=N,1μm,7.3s						
HHC				LR	LR		
	comp=E,850nm,7.4s						
HHC				LR	LR		
	comp=Z,1μm,13.2s						
TLY	**Talaya**	**7.17**	**355**	*e*P	Pn	19 57 19.5	+3.7
TLY				pmax	pmax		
	comp=Z,11nm,0.9s						
TLY	**Talaya**	**7.17**	**355**	*e*P	Pn	19 57 19.5	+3.7
	comp=Z,11nm,0.9s						
MOY	**Mondy**	**7.53**	**343**	*e*P	Pn	19 57 25.4	+4.6
MOY				pmax	pmax		
	comp=Z,67nm,1.4s						
LZH	**Lanzhou**	**8.47**	**184**	*e*P	Pn	19 57 37.2	+3.4
LZH				pP	pP	19 57 39.3	
LZH				sP		19 57 41.5	
LZH				PP	**PnPn**	**19 57 45.3**	**+4.0**
LZH				*e*S	Sn	19 59 21.0	+11
LZH				sS	sS	19 59 26.2	
LZH				*e*SS	Sb	19 59 34.0	-4.7
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.2s						
LZH				LR	LR		
	comp=N,470nm,7.2s						
LZH				LR	LR		
	comp=E,880nm,9.5s						
LZH				LR	LR		
	comp=Z,920nm,11.0s						
MKAR	**Makanchi Array**	**15.75**	**286**	P	**Pn**	**19 59 12.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,136nm,20.9s						
MKAR	**Makanchi Array**	**15.75**	**286**	Pn	**Pn**	**19 59 12.2**	**-0.7**
	comp=Z,2.8nm,0.3s,baz=90,slow=14,SNR=155						
MKAR				Lg	Lg	20 03 46.9	
	comp=Z,0.1nm,0.3s,baz=102,slow=25,SNR=4.0						
MKAR				LR	LR	20 05 39.2	
	comp=Z,136nm,20.9s,baz=92,slow=39						
ZALV	**Zalesovo Beam**	**15.94**	**313**	Lg	Lg	20 03 45.7	
	comp=Z,0.1nm,0.3s,baz=124,slow=19,SNR=8.9						
ZALV				LR	LR	20 05 30.1	
	comp=Z,131nm,18.7s,baz=79,slow=38						
KURBB	**Kurchatov Arra**	**18.56**	**298**	Lg	Lg	20 05 15.1	
	comp=Z,0.0nm,0.3s,baz=101,slow=33,SNR=8.6						
KSRS	**Korea Array**	**18.93**	**104**	P	**Pn**	**19 59 52.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=300,slow=9.6,SNR=11						
KSRS				LR	LR	20 07 59.6	
	comp=Z,86nm,19.1s,baz=310,slow=40						
USRK	**Ussuriysk Arra**	**19.55**	**81**	P	**Pn**	**20 00 00.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=289,slow=14,SNR=4.0						
AAK	**Ala-Archa**	**21.84**	**276**	P	**P**	**20 00 25.0**	**+1.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK				MLR	MLR		
	comp=Z,15nm,28.6s						
AAK	**Ala-Archa**	**21.84**	**276**	P	**P**	**20 00 25.0**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=83,slow=12,SNR=5.8						
AAK				LR	LR	20 09 33.6	
	comp=Z,180nm,18.2s,baz=60,slow=39						
JNU	**Nakatsue**	**23.33**	**110**	LR	LR	20 09 20.8	
	comp=Z,41nm,19.7s,baz=322,slow=36						
BVAR	**Borovoye Array**	**23.90**	**303**	P	**P**	**20 00 45.9**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,119nm,21.4s						
BVAR	**Borovoye Array**	**23.90**	**303**	P	**P**	**20 00 45.9**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=83,slow=12,SNR=2.4						
BVAR				LR	LR	20 10 38.2	
	comp=Z,119nm,21.4s,baz=88,slow=38						
CMAR	**Chiang Mai Arr**	**26.44**	**192**	P	**P**	**20 01 07.8**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=358,slow=8.5,SNR=6.1						
CMAR				LR	LR	20 13 15.4	
	comp=Z,21nm,20.1s,baz=20,slow=40						
AKTO	**Aktyubinsk**	**31.61**	**298**	LR	LR	20 15 27.6	
	comp=Z,126nm,19.3s,baz=82,slow=38						
PETK	**Petropavlovsk-**	**35.25**	**57**	P	**P**	**20 02 27.1**	**+1.7**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PETK				MLR	MLR		
	comp=Z,15nm,28.6s						
PETK	**Petropavlovsk-**	**35.25**	**57**	P	**P**	**20 02 27.1**	**+1.7**
	comp=Z,4.6nm,0.9s,baz=254,slow=10,SNR=2.7						
PETK				LR	LR	20 18 44.6	
	comp=Z,56nm,18.7s,baz=223,slow=40						
OBN	**Obninsk**	**43.46**	**309**	LR	LR	20 22 24.5	
	comp=Z,95nm,19.4s,baz=90,slow=37						
BRTR	**Keskin Array B**	**51.33**	**291**	P	**P**	**20 04 33.8**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=90,slow=7.2,SNR=3.1						
MLR	**Muntele Rosu**	**53.43**	**301**	LR	LR	20 29 27.7	
	comp=Z,21nm,18.6s,baz=20,slow=38						
NOA	**NORSAR Array B**	**53.84**	**323**	LR	LR	20 30 47.0	
	comp=Z,44nm,18.7s,baz=275,slow=39						
ILAR	**Eielson Array**	**57.70**	**29**	P	**P**	**20 05 20.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=293,slow=5.5,SNR=4.7						
YKA	**Yellowknife Ar**	**68.78**	**18**	P	**P**	**20 06 33.8**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=339,slow=6.7,SNR=3.9						
WRA	**Warramunga Arr**	**69.69**	**150**	P	**P**	**20 06 40.1**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=344,slow=6.9,SNR=10						

CASC 12 20:35:54.1±1.2, 13.49N×90.46W, h22km±8km, MD3.5, 3C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.69**	**0⇑**	*i*P	Pb	20 36 06.9	-0.8
SBLS	**San Blas**	**0.88**	**66⇓**	*i*P	Pb	20 36 10.6	-0.4
SBLS				*e*S	Sb	20 36 22.8	+0.1
RTR	**El Retiro**	**0.89**	**62⇓**	*i*P	Pb	20 36 10.9	-0.2
RTR				*e*S	Sn	20 36 23.5	-0.4
SNJE	**San Jose**	**0.91**	**65⇓**	*i*P	Pb	20 36 11.1	-0.4
SNJE				*e*S	Sb	20 36 23.4	+0.1
PCG	**Pacaya**	**0.92**	**351**	*e*P	Pb	20 36 11.0	-0.7
RBDL	**Robledal**	**0.97**	**50⇓**	*i*P	Pb	20 36 12.1	-0.5

RBDL				*e*S	Sn	20 36 25.7	-0.4		
NBG	**Las Nubes**	**1.10**	**6**‖	*e*P	Pb	20 36 15.0	+0.1		
NBG				*e*S	Sn	20 36 29.5	+0.1		
BOQS	**Boqueron**	**1.17**	**78**	*e*P	Pn	20 36 15.0	-0.5		
BOQS				*e*S	Sb	20 36 30.9	0.0		
LFU	**La Fuente**	**1.33**	**78**	*e*P	Pn	20 36 17.6	0.0		
LFRS	**El Faro**	**1.36**	**84**‖	*e*P	Pn	20 36 17.6	-0.4		
LBRS	**Las Brisas**	**1.40**	**79**	*e*P	Pn	20 36 18.5	+0.1		
SNVI	**San Vicente**	**1.58**	**85**	*e*P	Pn	20 36 20.9	-0.1		
MRL	**Marmol**	**1.74**	**25**‖	*e*P	Pn	20 36 24.0	+0.7		

IDC ***12*** *20:41:49.1±1.7,2˙04N×96˙08E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML2.7/1, MS3.7/3, Ms1 3.7/3, ms1mx2.9/33, Error ellipse: s-maj=52.6km s-min=21.2km az=52.0*

ISCJB ***12*** *20:41:51.5±1.1,2˙1N±0˙1×96˙1E±0˙2, h27km, mb3.8/7, MS3.7/3, Error ellipse: s-maj=26.1km s-min=14.5km az=138.5*

ISC 12 20:41:53.4±1.5**,2˙1N**±0˙2×**96˙2E**±0˙2**, h27**km**, n18,** σ**0**§**61/9, mb3.8/7, MS3.6/3, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.84**	**76**	Pn	**Pn**	**20 42 37.0**	**-0.1**
	1.1nm,0.3s,baz=263,slow=10.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**16.48**	**9**	Pn	**Pn**	**20 45 42.8**	**-0.1**
	baz=200,slow=11,SNR=8.1						
H08S2	**Diego Garcia H**	**25.53**	**247**	T	T	21 13 43.6	
	baz=68,slow=75,SNR=245						
H08S3	**Diego Garcia H**	**25.53**	**248**	T	T	21 13 43.8	
	baz=68,slow=75,SNR=164						
H08S1	**Diego Garcia H**	**25.55**	**247**	T	T	21 13 43.8	
	baz=68,slow=75,SNR=39						
H01W3	**Cape Leeuwin H**	**40.46**	**157**	T	T	21 32 34.7	
	baz=333,slow=75,SNR=61						
H01W2	**Cape Leeuwin H**	**40.48**	**157**	T	T	21 32 35.7	
	baz=333,slow=75,SNR=64						
H01W1	**Cape Leeuwin H**	**40.48**	**157**	T	T	21 32 34.0	
	baz=333,slow=75,SNR=69						
WRA	**Warramunga Arr**	**43.38**	**122**	P	**P**	**20 49 55.0**	**+1.1**
	0.8nm,0.9s,baz=301,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**44.75**	**127**	P	**P**	**20 50 04.0**	**-0.9**
	0.1nm,0.6s,baz=299,slow=8.0,SNR=2.5						
JNU	**Nakatsue**	**44.83**	**43**	LR	LR	21 09 42.6	
	comp=Z,198nm,20.7s,baz=193,slow=37						
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**20 50 15.9**	**+0.4**
	1.1nm,0.6s,baz=157,slow=8.6,SNR=13						
SONM	**Songino Array**	**46.41**	**10**	P	**P**	**20 50 17.7**	**-0.1**
	0.4nm,0.3s,baz=190,slow=8.8,SNR=9.6						
KURBB	**Kurchatov Arra**	**50.61**	**346**	P	**P**	**20 50 50.0**	**+0.2**
	0.4nm,0.7s,baz=171,slow=6.8,SNR=8.6						
MJAR	**Matsushiro Arr**	**51.74**	**43**	LR	LR	21 13 33.4	
	comp=Z,51nm,21.9s,baz=230,slow=37						
ZALV	**Zalesovo Beam**	**52.52**	**352**	P	**P**	**20 51 04.1**	**0.0**
	1.6nm,0.5s,baz=178,slow=6.9,SNR=12						
ASAJ	**Asahikawa**	**58.58**	**38**	LR	LR	21 17 23.3	
	comp=Z,52nm,21.4s,baz=207,slow=36						
ARCES	**ARCESS Array B**	**81.35**	**340**	P	**P**	**20 54 07.1**	**-0.1**
	6.1nm,0.9s,baz=92,slow=7.2,SNR=3.6						

IDC ***12*** *20:43:48.3±2.0, 15˙20S×174˙40W, h0km, mb4.1/4, mb1 4.4/5, mb1mx3.9/20, mbtmp4.1/5, ML2.6/1, Error ellipse: s-maj=101.3km s-min=23.5km az=150.0*

ISCJB ***12*** *20:43:50.9±1.9, 15˙35S±0˙7×174˙2W±0˙3, h33km, mb4.1/4, Error ellipse: s-maj=106.7km s-min=10.0km az=154.6*

ISC 12 20:43:52.7±1.9**,15˙35S**±0˙6×**174˙2W**±0˙3**, h35**km**, n10,** σ**0**§**95/9, mb4.0/4, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.74**	**60**	Pn	**Pn**	**20 44 35.6**	**+1.3**
	53nm,0.3s,baz=270,slow=10,SNR=28						
AFI				Sn	**Sn**	**20 45 04.6**	**-1.6**
	105nm,0.3s,baz=221,slow=20,SNR=16						
H11S2	**WAKE ISLAND Hy**	**38.48**	**330**	T	T	21 32 10.3	
	baz=157						
H11S3	**WAKE ISLAND Hy**	**38.50**	**330**	T	T	21 32 11.9	
	baz=157						
H11S1	**WAKE ISLAND Hy**	**38.50**	**330**	T	T	21 32 09.8	
	baz=157						
WRA	**Warramunga Arr**	**49.10**	**257**	P	**P**	**20 52 37.3**	**+0.1**
	1.1nm,0.7s,baz=93,slow=7.6,SNR=17						
WRA				PcP	**PcP**	**20 53 59.8**	**-0.7**
	0.3nm,0.7s,baz=97,slow=3.3,SNR=3.9						
ASAR	**Alice Springs**	**49.39**	**252**	P	**P**	**20 52 39.2**	**-0.2**
	7.5nm,0.8s,baz=84,slow=8.6,SNR=66						
ILAR	**Eielson Array**	**82.51**	**11**	P	**P**	**20 56 11.8**	**+0.4**
	0.5nm,0.5s,baz=230,slow=6.0,SNR=12						
CMAR	**Chiang Mai Arr**	**91.84**	**289**	P	**P**	**20 56 57.8**	**0.0**
	0.5nm,0.8s,baz=113,slow=2.6,SNR=3.0						
BRTR	**Keskin Array B**	**145.59**	**320**	PKPbc	**PKPab**	**21 03 28.1**	**-0.3**
	2.5nm,0.8s,baz=79,slow=2.0,SNR=17						
GERES	**GERESS Array B**	**145.93**	**351**	PKPbc	**PKPab**	**21 03 28.9**	**-0.3**
	0.5nm,0.7s,baz=328,slow=3.5,SNR=3.4						

IDC ***12*** *21:08:42.3±0.7, 12˙78N×120˙86E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.2/26, mbtmp4.1/19, MS3.6/5, Ms1 3.6/5, ms1mx3.1/38, Error ellipse: s-maj=20.9km s-min=12.2km az=93.0*

MAN ***12*** *21:08:44, 12˙85N×120˙87E, h0km, mb4.7, ML3.6, MS3.6*

ISCJB ***12*** *21:08:45.8±0.6, 12˙88N±0˙03×120˙93E±0˙04, h29km±5km, mb4.2/35, MS3.6/7, Error ellipse: s-maj=6.9km s-min=4.8km az=179.9*

BJI ***12*** *21:08:45.4, 12˙96N×121˙15E, h30km, mB4.9/8, mb4.4/20, Ms4.4/5, Ms7 4.1/5*

NEIC ***12*** *21:08:48.9±1.0, 12˙90N×120˙95E, h46km±9km, mb4.5/13, Error ellipse: s-maj=8.6km s-min=6.7km az=66.0*

ISC 12 21:08:46.5±0.7**,12˙86N**±0˙03×**120˙89E**±0˙04**, h25**km±4km**, n103,** σ**1**§**34/112, mb4.3/35, MS3.6/7, 7C-4D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.45**	**150**	*e*P	**Pb**	**21 08 54.9**	**-1.1**
SJMP				*e*S	**Sb**	**21 09 02.6**	**+0.2**
PGP	**Puerto Galera**	**0.65**	**5**‖	*i*P	**Pb**	**21 08 56.1**	**-3.1**
PGP				*i* S	**Sb**	**21 09 04.1**	**-3.8**
BUSP	**Coron**	**1.08**	**219**	*e*P	**Pn**	**21 09 05.9**	**-0.2**
BUSP				*e*S	**Sb**	**21 09 21.6**	**+1.3**
TGY	**Tagaytay City**	**1.24**	**2**	Pg	**Pn**	**21 09 08.1**	**-0.3**
TGY				Lg	Lg	21 09 27.1	
TGY	**Tagaytay City**	**1.24**	**2**	Pg	**Pn**	**21 09 08.1**	**-0.3**
	2μm,0.3s,baz=181,slow=2.8,SNR=133						
TGY				Lg	Lg	21 09 27.1	
	2μm,0.3s,baz=193,slow=21,SNR=13						
TGY				LR	LR	21 09 46.4	
	comp=Z,5μm,21.1s,baz=60,slow=49						
TGY	**Tagaytay City**	**1.24**	**2**‖	*e*P	**Pb**	**21 09 08.7**	**-0.6**
LQP	**Lukban**	**1.40**	**27**‖	*e*P	**Pn**	**21 09 10.4**	**-0.2**
LQP				*e*S	**Sb**	**21 09 34.9**	**+5.2**
AUQP	**San Andres**	**1.80**	**75**	*e*P	**Pb**	**21 09 17.5**	**-1.4**
KALP	**Kalibo**	**1.84**	**129**	*e*P	**Pn**	**21 09 14.6**	**-1.9**
GQP	**Guinayangan**	**1.84**	**55**‖	*e*P	**Pn**	**21 09 17.5**	**+1.0**
GQP				*i* S	**Sb**	**21 09 44.0**	**+1.9**
CUYO	**Cuyo Island**	**2.00**	**176**	*e*P	**Pn**	**21 09 17.9**	**-0.8**
ENPP	**El Nido**	**2.18**	**221**	*e*P	**Pn**	**21 09 21.6**	**+0.4**
RCP	**Roxas**	**2.22**	**125**‖	*e*P	**Pn**	**21 09 22.0**	**+0.2**
GUIM	**Jordan**	**2.77**	**143**	*e*P	**Pn**	**21 09 29.6**	**+0.3**
PVCP	**Virac**	**3.26**	**77**‖	*e*P	**Pn**	**21 09 38.6**	**+2.5**
BCPH	**Baguio City Da**	**3.52**	**355**‖	*i*P	**Pn**	**21 09 41.0**	**+1.2**
PPR	**Puerto Princes**	**3.72**	**215**‖	*e*P	**Pn**	**21 09 44.2**	**+1.8**
SZP	**Santa**	**4.69**	**355**	*e*Pn	**Pn**	**21 09 57.3**	**+1.6**
ENH	**Enshi**	**20.29**	**330**	*e*P	**P**	**21 13 21.1**	**+0.5**
	4.1nm,0.5s						
KMI	**Kunming**	**21.03**	**308**	P	**P**	**21 13 32.7**	**+3.9**
KMI				pP	pP	21 13 43.1	+7.4
KMI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
CM31	**Chiang Mai Arr**	**21.84**	**288**	*e*P	**P**	**21 13 39.0**	**+1.6**
	19nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.84**	**288**	P	**P**	**21 13 38.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.84**	**288**	P	**P**	**21 13 38.2**	**+0.8**
	5.7nm,0.8s,baz=105,slow=7.9,SNR=61						
CHTO	**Chiang Mai**	**21.92**	**288**	*e*P	**P**	**21 13 39.7**	**+1.5**
	6.5nm,0.6s						
JNU	**Nakatsue**	**22.14**	**23**	P	**P**	**21 13 40.6**	**+0.1**
JNU	**Nakatsue**	**22.14**	**23**	P	**P**	**21 13 40.6**	**+0.1**
	9.3nm,0.9s,baz=220,slow=18,SNR=3.2						
PSI	**Prapat**	**23.92**	**247**	P	**P**	**21 14 00.1**	**+1.3**
PSI	**Prapat**	**23.92**	**247**	P	**P**	**21 14 00.1**	**+1.3**
	5.8nm,0.6s,baz=71,slow=3.5,SNR=5.8						
PSI				LR	LR	21 22 47.0	
	comp=Z,112nm,18.9s,baz=68,slow=35						
KSAR	**Wonju Array Be**	**25.27**	**13**	P	**P**	**21 14 11.7**	**+0.9**
KSRS	**Korea Array**	**25.29**	**13**	P	**P**	**21 14 11.7**	**+0.8**
	1.8nm,0.9s,baz=236,slow=29,SNR=4.5						
KSRS				LR	LR	21 24 34.8	
	comp=Z,94nm,19.9s,baz=214,slow=38						
LZH	**Lanzhou**	**27.76**	**329**	*e*P	**P**	**21 14 33.6**	**+0.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,86nm,5.7s						
LZH				LR	LR		
	comp=N,280nm,13.5s						
LZH				LR	LR		
	comp=E,250nm,14.0s						
LZH				LR	LR		
	comp=Z,360nm,17.6s						
LSA	**Lhasa**	**32.25**	**306**	*e*P	**P**	**21 15 14.6**	**+0.9**
	5.9nm,0.6s						
GTA	**Gaotai**	**32.35**	**329**	P	**P**	**21 15 14.5**	**+0.4**
GTA				pP	**pP**	**21 15 21.7**	**+0.1**
GTA				sP	**sP**	**21 15 24.7**	**0.0**
GTA				pmax	pmax		
	comp=Z,13nm,0.7s						
GTA				pmax	pmax		
	comp=Z,110nm,4.5s						
GTA				LR	LR		
	comp=N,180nm,17.3s						
GTA				LR	LR		
	comp=E,180nm,17.6s						
GTA				LR	LR		
	comp=Z,320nm,18.8s						
USRK	**Ussuriysk Arra**	**32.66**	**15**	P	**P**	**21 15 16.4**	**-0.1**
	1.5nm,0.7s,baz=200,slow=6.6,SNR=4.1						
TAPN	**Taplejung**	**34.20**	**300**	*e*P	**P**	**21 15 31.7**	**+1.1**
	25nm,0.7s						
ODAN	**Odare**	**34.33**	**299**	*e*P	**P**	**21 15 32.5**	**+0.9**
	52nm,0.8s						
RAMN	**Ramite**	**35.02**	**299**	*e*P	**P**	**21 15 38.9**	**+1.2**
	49nm,1.0s						
WRAB	**Tennant Creek**	**35.17**	**158**	*e*P	**P**	**21 15 38.5**	**-0.2**
	13nm,1.0s						
WRA	**Warramunga Arr**	**35.18**	**158**	P	**P**	**21 15 38.4**	**-0.3**
WRA	**Warramunga Arr**	**35.18**	**158**	P	**P**	**21 15 38.4**	**-0.3**
	4.3nm,0.6s,baz=335,slow=9.7,SNR=46						
JIRN	**Jiri**	**35.58**	**300**	*e*P	**P**	**21 15 43.8**	**+1.2**
	51nm,0.7s						
GUN	**Gumba**	**35.92**	**300**	*e*P	**P**	**21 15 46.5**	**+1.0**
	76nm,0.9s						
PKI	**Pulchoki**	**36.22**	**299**	*e*P	**P**	**21 15 48.5**	**+0.5**
	35nm,1.0s						
PKIN	**Phulchoki**	**36.23**	**299**	*e*P	**P**	**21 15 48.5**	**+0.5**
	12nm,0.6s						
KKN	**Kakani**	**36.39**	**300**	*e*P	**P**	**21 15 50.0**	**+0.7**
	24nm,0.9s						
DMN	**Daman**	**36.49**	**299**	*e*P	**P**	**21 15 50.9**	**+0.7**
	36nm,0.9s						
ULN	**Ulaanbaatar**	**36.77**	**344**	*e*P	**P**	**21 15 50.9**	**-1.3**
	4.1nm,1.1s						
SONM	**Songino Array**	**36.92**	**344**	P	**P**	**21 15 52.6**	**-0.8**
SONM	**Songino Array**	**36.92**	**344**	P	**P**	**21 15 52.6**	**-0.8**
	1.7nm,0.7s,baz=162,slow=9.7,SNR=13						
SONM				LR	LR	21 31 30.2	
	comp=Z,85nm,18.8s,baz=197,slow=37						
GKN	**Gorkha**	**37.00**	**300**	*e*P	**P**	**21 15 54.9**	**+0.5**
	30nm,1.1s						
KOLN	**Koldanda**	**37.81**	**299**	*e*P	**P**	**21 16 03.0**	**+1.6**
	17nm,0.7s						
DANN	**Dangsing**	**37.84**	**300**	*e*P	**P**	**21 16 02.2**	**+0.5**
	15nm,0.6s						
AS31	**Alice Springs**	**38.46**	**161**	*e*P	**P**	**21 16 06.7**	**+0.1**
WMQ	**Urumqi**	**41.99**	**324**	P	**P**	**21 16 37.0**	**+1.3**
MK31	**Makanchi Array**	**46.82**	**324**	*e*P	**P**	**21 17 13.5**	**-0.8**
MKAR	**Makanchi Array**	**46.82**	**324**	P	**P**	**21 17 14.7**	**+0.4**
MKAR	**Makanchi Array**	**46.82**	**324**	P	**P**	**21 17 14.7**	**+0.4**
	1.8nm,0.5s,baz=118,slow=8.4,SNR=38						
MKAR				LR	LR	21 38 33.1	
	comp=Z,95nm,18.2s,baz=112,slow=38						
KSH	**Kashi**	**47.60**	**312**	*e*P	**P**	**21 17 22.6**	**+2.0**
KSH				*e*PP	**PP**	**21 19 15.1**	**+2.8**
KSH				*e*PcS	**PcS**	**21 22 42.9**	**-2.8**
KSH				*e*S	**S**	**21 24 14.0**	**-0.7**
KSH				*e*SS	**SS**	**21 27 39.5**	**-3.5**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,54nm,4.0s						
KSH				LR	LR		
	comp=N,130nm,6.8s						
KSH				LR	LR		
	comp=E,140nm,7.7s						
KSH				LR	LR		
	comp=Z,140nm,6.5s						
ULHL	**Ulahol**	**48.45**	**316**	P	P	21 17 23.8	-3.5
	SNR=6.3						
STKA	**Stephens Creek**	**48.70**	**156**	P	**P**	**21 17 29.1**	**+0.2**
STKA	**Stephens Creek**	**48.70**	**156**	P	**P**	**21 17 29.1**	**+0.2**
	2.5nm,0.7s,baz=323,slow=12,SNR=4.1						
KZA	**Kyzart**	**49.06**	**315**	P	**P**	**21 17 34.1**	**+1.9**
	SNR=8.7						
TKM2	**Tokmak 2**	**49.16**	**316**	P	**P**	**21 17 33.9**	**+1.2**
	SNR=6.8						
TKM2	**Tokmak 2**	**49.16**	**316**	*e*P	**P**	**21 17 33.5**	**+0.8**
	3.1nm,0.6s						
KBK	**Karagaybulak**	**49.49**	**316**	P	**P**	**21 17 36.7**	**+1.5**
	SNR=10						
UCH	**Uchtor**	**49.63**	**315**	P	**P**	**21 17 38.5**	**+1.9**
	SNR=13						
PETK	**Petropavlovsk-**	**49.68**	**28**	P	**P**	**21 17 36.6**	**+0.4**
PETK	**Petropavlovsk-**	**49.68**	**28**	P	**P**	**21 17 36.6**	**+0.4**
	4.1nm,0.8s,baz=195,slow=5.7,SNR=3.2						
CHMS	**Chumysh**	**49.76**	**316**	P	**P**	**21 17 37.8**	**+0.7**
	SNR=7.3						
AAK	**Ala-Archa**	**49.79**	**316**	*e*P	**P**	**21 17 37.5**	**0.0**
	2.6nm,0.6s						
ZAA0	**Zalesovo Array**	**49.89**	**333**	*e*P	**P**	**21 17 35.8**	**-1.9**
ZALV	**Zalesovo Beam**	**49.89**	**333**	P	**P**	**21 17 36.2**	**-1.5**
ZALV	**Zalesovo Beam**	**49.89**	**333**	P	**P**	**21 17 36.2**	**-1.5**
	1.4nm,0.4s,baz=114,slow=7.3,SNR=9.9						
ZALV				LR	LR	21 37 44.3	
	comp=Z,42nm,19.6s,baz=67,slow=35						
USP	**Ospenovka**	**50.03**	**316**	P	**P**	**21 17 40.0**	**+0.9**
	SNR=7.4						
AML	**Almayashu**	**50.16**	**315**	P	**P**	**21 17 41.8**	**+1.3**
	SNR=10						
EKS2	**Erkin-Say**	**50.29**	**315**	P	**P**	**21 17 42.5**	**+1.3**
	SNR=6.7						
EKS2	**Erkin-Say**	**50.29**	**315**	*e*P	**P**	**21 17 41.4**	**+0.2**
	8.8nm,1.1s						
KKAR	**Karatay Array**	**52.70**	**315**	*e*P	**P**	**21 17 58.7**	**-0.4**
	4.3nm,0.7s						
BVAR	**Borovoye Array**	**56.57**	**326**	P	**P**	**21 18 26.9**	**-0.1**
BVAR	**Borovoye Array**	**56.57**	**326**	P	**P**	**21 18 26.9**	**-0.1**
	0.9nm,0.4s,baz=126,slow=9.3,SNR=13						
BRVK	**Borovoye**	**56.64**	**326**	*e*P	**P**	**21 18 27.2**	**-0.3**
	3.6nm,0.8s						
TIXI	**Tiksi**	**58.96**	**3**	*e*P	**P**	**21 18 42.2**	**-1.2**
	4.9nm,0.8s						
ABKAR	**Akbulak array**	**61.49**	**319**	*e*P	**P**	**21 19 00.8**	**-0.3**
	1.2nm,0.5s						
KBZ	**Khabaz**	**72.58**	**312**	P	**P**	**21 20 11.6**	**-0.2**
KBZ	**Khabaz**	**72.58**	**312**	P	**P**	**21 20 11.6**	**-0.2**
	3.0nm,1.0s,baz=142,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**79.43**	**26**	P	**P**	**21 20 50.4**	**0.0**
ILAR	**Eielson Array**	**79.43**	**26**	P	**P**	**21 20 50.4**	**0.0**
	0.2nm,0.7s,baz=261,slow=3.6,SNR=3.3						
BRTR	**Keskin Array B**	**79.82**	**308**	P	**P**	**21 20 52.4**	**-0.8**
BRTR	**Keskin Array B**	**79.82**	**308**	P	**P**	**21 20 52.4**	**-0.8**
	1.2nm,1.0s,baz=72,slow=2.9,SNR=4.1						
ARCES	**ARCESS Array B**	**79.94**	**339**	P	**P**	**21 20 53.3**	**+0.3**
ARCES	**ARCESS Array B**	**79.94**	**339**	P	**P**	**21 20 53.3**	**+0.3**
	2.4nm,0.8s,baz=89,slow=5.8,SNR=3.6						
FINES	**FINESS Array B**	**81.11**	**331**	P	**P**	**21 20 58.7**	**-0.7**
FINES	**FINESS Array B**	**81.11**	**331**	P	**P**	**21 20 58.7**	**-0.7**
	1.0nm,0.7s,baz=16,slow=6.1,SNR=2.9						
VRI	**Vrincioaia**	**83.76**	**315**‖	*i*P	**P**	**21 21 14.3**	**+0.6**
MLR	**Muntele Rosu**	**84.38**	**315**‖	*i*P	**P**	**21 21 17.2**	**+0.2**
BURAR	**Bucovina Array**	**84.40**	**317**‖	*i*P	**P**	**21 21 17.3**	**+0.3**
NOA	**NORSAR Array B**	**88.09**	**333**	P	**P**	**21 21 33.2**	**-1.6**
NOA	**NORSAR Array B**	**88.09**	**333**	P	**P**	**21 21 33.2**	**-1.6**
	0.8nm,0.8s,baz=70,slow=4.4,SNR=3.6						
CLL	**Collm**	**90.91**	**323**	*e*P	P	21 21 44.0	-4.2
YKA	**Yellowknife Ar**	**93.48**	**23**	P	**P**	**21 22 00.0**	**+0.2**
YKA	**Yellowknife Ar**	**93.48**	**23**	P	**P**	**21 22 00.0**	**+0.2**
	0.2nm,0.5s,baz=314,slow=3.8,SNR=4.0						
TXAR	**Lajitas Array**	**119.94**	**45**	PKP	**PKPdf**	**21 27 34.9**	**-0.8**
	0.2nm,0.7s,baz=174,slow=1.3,SNR=3.4						

IDC ***12*** *21:32:58.3±0.8, 5˙24S×146˙03E, h0km, mb3.9/10, mb1 4.0/13, mb1mx4.0/19, mbtmp3.9/13, ML3.6/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/37, Error ellipse: s-maj=40.0km s-min=16.3km az=82.0*

ISCJB ***12*** *21:33:01.1±0.6, 5˙27S±0˙06×145˙9E±0˙2, h27km, mb3.8/10, MS3.5/2, Error ellipse: s-maj=23.1km s-min=7.8km az=166.5*

ISC 12 21:33:02.7±0.8**,5˙24S**±0˙09×**146˙0E**±0˙2**, h27**km**, n23,** σ**0**§**79/15, mb3.8/9, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.31**	**164**	Pn	**Pn**	**21 34 06.9**	**+0.4**
	11nm,0.3s,baz=333,slow=5.9,SNR=14						
PMG				Sn	**Sn**	**21 34 56.1**	**+0.1**
	22nm,0.3s,baz=162,slow=20,SNR=6.7						
PMG				LR	LR	21 36 20.3	
	comp=Z,425nm,20.7s,baz=5.0,slow=47						
HNR	**Honiara**	**14.49**	**108**	LR	LR	21 41 29.7	
	comp=Z,46nm,20.7s,baz=292,slow=36						
CTA	**Charters Tower**	**14.76**	**179**	Pn	**Pn**	**21 36 30.2**	**+0.4**
	0.3nm,0.3s,baz=42,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**18.47**	**217**	P	**P**	**21 37 16.2**	**-0.5**
	0.2nm,0.3s,baz=40,slow=12,SNR=16						
DZM	**Mont Dzumac**	**25.95**	**132**	LR	LR	21 47 18.4	
	comp=Z,129nm,19.0s,baz=23,slow=33						
STKA	**Stephens Creek**	**26.81**	**188**	P	**P**	**21 38 40.7**	**0.0**
	2.3nm,0.9s,baz=0.0,slow=8.1,SNR=2.4						
STKA				LR	LR	21 49 26.5	
	comp=Z,131nm,19.3s,baz=21,slow=37						
H11S3	**WAKE ISLAND Hy**	**31.21**	**40**	T	T	22 12 37.3	
	baz=225,slow=78						
H11S2	**WAKE ISLAND Hy**	**31.22**	**40**	T	T	22 12 34.9	
	baz=225,slow=78						
H11S1	**WAKE ISLAND Hy**	**31.23**	**40**	T	T	22 12 36.1	
	baz=225,slow=78						
H11N1	**WAKE ISLAND Hy**	**32.24**	**39**	T	T	22 13 54.1	
	baz=231						
H11N3	**WAKE ISLAND Hy**	**32.26**	**39**	T	T	22 13 51.2	
	baz=231						
H11N2	**WAKE ISLAND Hy**	**32.26**	**39**	T	T	22 13 52.6	
	baz=231						
USRK	**Ussuriysk Arra**	**50.80**	**347**	P	**P**	**21 42 00.8**	**+0.1**
	2.4nm,0.8s,baz=158,slow=11,SNR=5.3						
CMAR	**Chiang Mai Arr**	**51.97**	**298**	P	**P**	**21 42 09.9**	**-0.1**
	0.2nm,0.5s,baz=123,slow=5.9,SNR=3.5						
SONM	**Songino Array**	**63.24**	**331**	P	**P**	**21 43 29.0**	**+0.1**
	0.3nm,0.6s,baz=108,slow=4.7,SNR=2.7						
VNDA	**Vanda**	**72.73**	**176**	P	**P**	**21 44 27.7**	**-0.2**
	1.2nm,0.8s,baz=5.6,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**76.25**	**321**	P	**P**	**21 44 49.5**	**+0.5**
	0.3nm,0.8s,baz=116,slow=4.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**77.82**	**328**	P	**P**	**21 44 59.6**	**+2.0**
	0.9nm,0.8s,baz=109,slow=6.7,SNR=3.7						
QSPA	**South Pole Qui**	**84.72**	**180**	P	**P**	**21 45 33.7**	**-0.5**
	1.2nm,0.3s,baz=300,slow=1.8,SNR=4.6						
ILAR	**Eielson Array**	**85.20**	**23**	P	**P**	**21 45 35.5**	**-0.9**
	0.6nm,0.7s,baz=246,slow=4.9,SNR=8.1						
YKA	**Yellowknife Ar**	**98.99**	**28**	P	**Pdif**	**21 46 40.6**	**0.0**
	0.1nm,0.5s,baz=264,slow=2.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**143.89**	**285**	PKP	PKPbc	21 52 34.4	0.0
	0.3nm,0.7s,baz=291,slow=1.3,SNR=5.0						
DBIC	**Dimbokro**	**150.93**	**274**	PKPbc	**PKPbc**	**21 52 52.9**	**-1.2**
	3.3nm,0.6s,baz=162,slow=1.5,SNR=6.2						

ATH ***12*** *21:39:28.5, 40˙56N×25˙76E, h10km±2km, MD3.2/10*

ISCJB ***12*** *21:39:28.7±0.4, 40˙56N±0˙02×25˙68E±0˙02, h3km±4km, Error ellipse: s-maj=3.6km s-min=2.9km az=172.1*

ISK ***12*** *21:39:28.8, 40˙51N×25˙70E, h7km, MD3.3*

CSEM ***12*** *21:39:29.0±0.1, 40˙54N×25˙68E, h5km, ML2.3, Error ellipse: s-maj=2.7km s-min=2.3km az=8.0*

THE ***12*** *21:39:29.5, 40˙58N×25˙65E, h11km±1km, ML2.3/5, Error ellipse: s-maj=1.2km s-min=0.6km az=295.0*

DDA ***12*** *21:39:32.7, 40˙45N×26˙00E, h7km, MD3.0*

ISC 12 21:39:29.4±0.8**, 40˙55N**±0˙02×**25˙70E**±0˙02**, h12**km±6km**, n76,** σ**0**§**70/111, Aegean Sea**

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

EDRB	Edirne	1.52	31	*e*PN	Pn	21 39 57.0	+0.6		
EDRB	Edirne	1.52	31	*e*Pn	Pn	21 39 57.0	+0.6		
GONE	Gonen-Balikesi	1.60	108	*e*PN	Pn	21 39 57.8	+0.3		
GONE	Gonen-Balikesi	1.60	108	*e*Pn	Pn	21 39 57.8	+0.3		
NVR	Nevrokopi	1.60	301	P	Pn	21 39 56.6	-1.0		
NVR	Nevrokopi	1.60	301	*e*PG	Pb	21 39 58.6	-0.4		
NVR	Nevrokopi	1.60	301	P	Pn	21 39 56.6	-1.0		
NVR	Nevrokopi	1.60	301	*e*Pg	Pb	21 39 58.6	-0.4		
CRLT	Corlu	1.65	69	*e*PN	Pn	21 39 59.0	+0.8		
CRLT	Corlu	1.65	69	*e*Pn	Pn	21 39 59.0	+0.8		
EDC	Edincik	1.67	96	*e*PN	Pn	21 39 59.0	+0.6		
EDC	Edincik	1.67	96	*e*Pn	Pn	21 39 59.0	+0.6		
BALY	Balya	1.68	118	*i* P	Pb	21 40 00.4	+0.1		
BALY				*i* S	Sg	21 40 23.1	-0.4		
BALY	Balya	1.68	118	*i* P	Pb	21 40 00.4	+0.1		
BALY				*i* S	Sg	21 40 23.1	-0.4		
SRS	Serrai	1.69	290	*e*PG	Pb	21 40 00.8	+0.3		
SRS	Serrai	1.69	290	*e*Pg	Pb	21 40 00.8	+0.3		
PLG	Polygyros	1.73	265	*e*PN	Pb	21 40 00.9	-0.2		
PLG	Polygyros	1.73	265	*e*Pn	Pb	21 40 00.9	-0.2		
PHSR	Pinarhisar	1.75	51	*e*PN	Pn	21 40 00.5	+0.9		
PHSR	Pinarhisar	1.75	51	*e*Pn	Pn	21 40 00.5	+0.9		
BALB	Balikesir	1.91	118	*e*PN	Pn	21 40 02.3	+0.6		
BALB	Balikesir	1.91	118	*e*Pn	Pn	21 40 02.3	+0.6		
SLVT	Silivri	2.02	70	*e*PN	Pn	21 40 04.4	+1.1		
SLVT	Silivri	2.02	70	*e*Pn	Pn	21 40 04.4	+1.1		
CTKS	Kestanelik-??a	2.24	71	*e*PN	Pn	21 40 07.4	+1.2		
CTKS	Kestanelik-??a	2.24	71	*e*Pn	Pn	21 40 07.4	+1.2		
ARMT	Armutlu	2.41	89	*e*PN	Pn	21 40 09.8	+1.1		
ARMT	Armutlu	2.41	89	*e*Pn	Pn	21 40 09.8	+1.1		
BGKT	Bogazkoy	2.42	74	*e*PN	Pn	21 40 09.9	+1.2		
BGKT	Bogazkoy	2.42	74	*e*Pn	Pn	21 40 09.9	+1.2		
TVSB	Tavsanli	3.09	110	*e*PN	Pn	21 40 19.5	+1.4		
TVSB	Tavsanli	3.09	110	*e*Pn	Pn	21 40 19.5	+1.4		

IDC 12 21:46:11.0±3.2, 17.06S×174.19W, h89km±36km, mb3.9/4, mb1 4.1/5, mb1mx3.6/21, mbtmp4.3/5, Error ellipse: s-maj=54.2km s-min=22.2km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
AFI	**Afiamalu**	**3.90**	**37**	P	Pn	21	47	08.8	0.0
	18nm,0.3s,baz=76,slow=1.1,SNR=26								
AFI				S	Sn	21	47	49.3	-4.2
	88nm,0.3s,baz=49,slow=22,SNR=27								
URZ	**Urewera**	**22.46**	**198**	P	P	21	51	02.6	-0.2
	12nm,0.4s,baz=49,slow=1.0,SNR=21								
STKA	**Stephens Creek**	**42.57**	**241**	P	P	21	53	58.6	+0.3
	1.8nm,0.4s,baz=71,slow=7.7,SNR=8.2								
WRA	**Warramunga Arr**	**48.75**	**258**	P	P	21	54	46.6	-0.6
	2.1nm,0.5s,baz=96,slow=7.0,SNR=62								
WRA				PcP	PcP	21	56	11.1	0.0
	0.4nm,0.5s,baz=91,slow=3.1,SNR=3.9								
ILAR	**Eielson Array**	**84.21**	**11**	P	P	21	58	32.0	-0.1
	0.6nm,1.0s,baz=232,slow=6.5,SNR=7.2								

PGC 12 21:51:45.1±1.8, 48.67N×128.89W, h10km, ML3.5/9, Mw4.4, 223km west of Tofino, Bc Vancouver Island Region
NEIC 12 21:51:45.1, 48.67N×128.89W, h10km, mb4.1/3, MW4.4(OTT), After OTT.
ISCJB 12 21:51:49.6±0.3, 48.88N±0.02×128.32W±0.04, h10km, mb3.8/15, Error ellipse: s-maj=4.2km s-min=3.3km az=158.6
IDC 12 21:51:50.7±0.8, 48.98N×128.11W, h0km, mb3.9/14, mb1 4.1/23, mb1mx4.0/37, mbtmp3.9/23, ML3.4/7, MS3.5/3, Ms1 3.5/3, ms1mx3.4/70, Error ellipse: s-maj=19.5km s-min=8.4km az=61.0

ISC 12 21:51:51.5±0.6, 48.98N±0.04×128.22W±0.04, h10km, n180, σ1§32/176, mb3.9/14, 43C-54D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
EDB	**Eliza Dome**	**1.15**	**39**	Pn	**Pb**	**21**	**52**	**12.0**	**-1.3**
EDB				⇑Sn	**Sn**	**21**	**52**	**31.6**	**+2.3**
EDB	**Eliza Dome**	**1.15**	**39**	Pn	**Pb**	**21**	**52**	**12.0**	**-1.3**
EDB				Sn	**Sn**	**21**	**52**	**31.6**	**+2.3**
ETB	**Estevan Point**	**1.17**	**70**	⇓Pn	**Pg**	**21**	**52**	**13.4**	**-0.6**
ETB	**Estevan Point**	**1.17**	**70**	Pn	**Pg**	**21**	**52**	**13.4**	**-0.6**
FHRB	**Fair Harbour**	**1.29**	**34**	⇑Pn	**Pn**	**21**	**52**	**14.2**	**-1.4**
FHRB				⇓Sn	**Sg**	**21**	**52**	**34.7**	**+1.7**
TOFB	**Tofino**	**1.53**	**83**	⇓Pn	**Pn**	**21**	**52**	**17.1**	**-1.7**
TOFB				⇑Sn	**Sg**	**21**	**52**	**40.6**	**-0.1**
WOSB	**Woss**	**1.59**	**42**	⇑Pn	**Pn**	**21**	**52**	**19.2**	**-0.6**
WOSB				⇓Sn	**Sg**	**21**	**52**	**43.7**	**+0.9**
WOSB	**Woss**	**1.59**	**42**	Pn	**Pn**	**21**	**52**	**19.2**	**-0.6**
WOSB				Sn	**Sg**	**21**	**52**	**43.7**	**+0.9**
GDR	**Gold River**	**1.64**	**60**	⇓Pn	**Pn**	**21**	**52**	**19.6**	**-0.7**
GDR				⇑Sn	**Sg**	**21**	**52**	**44.3**	**+0.1**
GDR	**Gold River**	**1.64**	**60**	Pn	**Pn**	**21**	**52**	**19.6**	**-0.7**
GDR				Sn	**Sg**	**21**	**52**	**44.3**	**+0.1**
PHC	**Port Hardy**	**1.80**	**16**	⇑Pn	**Pn**	**21**	**52**	**20.5**	**-2.0**
PHC				⇑Sn	**Sb**	**21**	**52**	**46.1**	**-0.9**
PHC	**Port Hardy**	**1.80**	**16**	Pn	**Pn**	**21**	**52**	**20.5**	**-2.0**
PHC				Sn	**Sb**	**21**	**52**	**46.1**	**-0.9**
TLCB	**Telegraph Cove**	**1.81**	**29**	⇓Pn	**Pn**	**21**	**52**	**22.0**	**-0.6**
TLCB				⇓Sn	**Sg**	**21**	**52**	**48.1**	**-1.4**
BTB	**Buttle Lake**	**1.84**	**74**	Pn	**Pn**	**21**	**52**	**22.4**	**-0.8**
BTB				⇑Sn	**Sb**	**21**	**52**	**49.0**	**+0.7**
BTB	**Buttle Lake**	**1.84**	**74**	Pn	**Pn**	**21**	**52**	**22.4**	**-0.8**
BTB				Sn	**Sb**	**21**	**52**	**49.0**	**+0.7**
BMSB	**Bamfield Mari**	**2.04**	**93**	⇓Pn	**Pn**	**21**	**52**	**23.8**	**-2.1**
BMSB				⇑Sn	**Sb**	**21**	**52**	**52.4**	**-1.6**
MWAB	**Mount Washingt**	**2.05**	**67**	⇓Sn	**Sb**	**21**	**52**	**55.5**	**+1.0**
PFB	**Port Renfrew**	**2.54**	**98**	⇓Pn	**Pn**	**21**	**52**	**30.6**	**-2.1**
PFB				⇑Sn	**Sn**	**21**	**53**	**03.8**	**+0.1**
PFB	**Port Renfrew**	**2.54**	**98**	Pn	**Pn**	**21**	**52**	**30.6**	**-2.1**
PFB				Sn	**Sn**	**21**	**53**	**03.8**	**+0.1**
YOUB	**Youbou, Lake C**	**2.61**	**90**	⇓Pn	**Pn**	**21**	**52**	**32.1**	**-1.7**
YOUB				⇑Sn	**Sn**	**21**	**53**	**07.4**	**+1.9**
YOUB	**Youbou, Lake C**	**2.61**	**90**	Pn	**Pn**	**21**	**52**	**32.1**	**-1.7**
YOUB				Sn	**Sn**	**21**	**53**	**07.4**	**+1.9**
LZB	**Mount Lazard**	**2.93**	**96**	⇑Pn	**Pn**	**21**	**52**	**36.2**	**-1.9**
LZB				⇑Sn	**Sn**	**21**	**53**	**14.7**	**+1.2**
LZB	**Mount Lazard**	**2.93**	**96**	Pn	**Pn**	**21**	**52**	**36.2**	**-1.9**
LZB				Sn	**Sn**	**21**	**53**	**14.7**	**+1.2**
PGC	**Sidney**	**3.17**	**94**	*e*Pn	**Pn**	**21**	**52**	**39.5**	**-1.8**
PGC				*e*Sn	**Sn**	**21**	**53**	**17.1**	**-2.1**
BBB	**Bella Bella**	**3.21**	**1**	Pn	**Pn**	**21**	**52**	**39.1**	**-2.7**
BBB				⇑Sn	**Sn**	**21**	**53**	**19.3**	**-0.7**
BBB	**Bella Bella**	**3.21**	**1**	Pn	**Pn**	**21**	**52**	**39.8**	**-2.0**
BBB				Sn	**Sn**	**21**	**53**	**19.3**	**-0.7**
BBB	**Bella Bella**	**3.21**	**1**	Pn	**Pn**	**21**	**52**	**39.8**	**-2.0**
	65nm,0.3s,baz=199,slow=12,SNR=290								
BBB				Sn	**Sn**	**21**	**53**	**19.2**	**-0.7**
	12nm,0.3s,baz=313,slow=21,SNR=3.4								
NLWA	**Neilton Lookou**	**3.32**	**117**	*e*Pn	**Pn**	**21**	**52**	**41.2**	**-2.3**
NLWA				*e*Sn	**Sn**	**21**	**53**	**21.3**	**-1.7**
VDB	**Vedder Mountai**	**4.03**	**87**	P	**Pn**	**21**	**52**	**52.5**	**-0.7**
RPW	**Rockport**	**4.47**	**94**	P	**Pn**	**21**	**52**	**58.6**	**-0.8**
LON	**Longmire**	**4.86**	**115**	P	**Pn**	**21**	**53**	**04.1**	**-0.6**
TWW	**Teanaway**	**5.27**	**108**	P	**Pn**	**21**	**53**	**10.8**	**+0.6**
TBM	**Table Mountain**	**5.42**	**107**	P	**Pn**	**21**	**53**	**12.7**	**+0.3**
ETW	**Entiat**	**5.45**	**102**	P	**Pn**	**21**	**53**	**12.5**	**-0.2**
EBG	**Ellensburg**	**5.55**	**109**	P	**Pn**	**21**	**53**	**14.4**	**+0.3**
WTV	**Waterville**	**5.66**	**100**	P	**Pn**	**21**	**53**	**15.4**	**-0.3**
NEW	**Newport**	**7.39**	**91**	*e*Pn	**Pn**	**21**	**53**	**38.3**	**-1.2**
NEW	**Newport**	**7.39**	**91**	Pn	**Pn**	**21**	**53**	**38.5**	**-0.9**
	0.4nm,0.3s,baz=270,slow=17,SNR=4.2								
NEW				LR	LR	21	56	52.9	
	comp=Z,501nm,19.9s,baz=284,slow=41								
YBH	**Yreka Blue Hor**	**8.22**	**150**	Pn	**Pn**	**21**	**53**	**50.6**	**-0.2**
YBH	**Yreka Blue Hor**	**8.22**	**150**	Pn	**Pn**	**21**	**53**	**50.6**	**-0.2**
	0.1nm,0.3s,baz=356,slow=13,SNR=7.2								
YBH				LR	LR	21	56	40.9	
	comp=Z,238nm,18.2s,baz=347,slow=35								
M02C	**Callahan**	**8.48**	**151**	⇑P	Pn	21	53	50.5	-3.9
	baz=8.4								
M04C	**Macdoel**	**8.48**	**146**	⇑P	**Pn**	**21**	**53**	**53.9**	**-0.5**
	baz=8.5								
DLBC	**Dease Lake**	**9.53**	**354**	Pn	**Pn**	**21**	**54**	**09.0**	**+0.3**
DLBC	**Dease Lake**	**9.53**	**354**	Pn	**Pn**	**21**	**54**	**09.0**	**+0.3**
	0.3nm,0.3s,baz=136,slow=23,SNR=5.9								
DLBC				LR	LR	21	57	32.3	
	comp=Z,339nm,20.2s,baz=156,slow=36								
MSO	**Missoula**	**9.83**	**97**	⇑P	**Pn**	**21**	**54**	**12.3**	**-0.6**
	baz=10								
CHMT	**Chamberlain Mo**	**10.26**	**96**	*e*Pn	**Pn**	**21**	**54**	**17.9**	**-0.9**
	1.6nm,0.8s								
HLID	**Hailey**	**10.98**	**114**	*e*Pn	**Pn**	**21**	**54**	**28.5**	**-0.2**
	2.3nm,0.8s								
HLID	**Hailey**	**10.98**	**114**	⇓P	**Pn**	**21**	**54**	**29.5**	**+0.7**
	baz=11								
EGMT	**Eagleton**	**12.29**	**88**	⇑P	**Pn**	**21**	**54**	**46.0**	**-0.5**
	baz=13								
ELK	**Elko**	**12.34**	**127**	Pn	Pn	21	54	50.9	+3.5
ELK	**Elko**	**12.34**	**127**	Pn	Pn	21	54	50.9	+3.5
	baz=90,slow=20								
NVAR	**Mina Array Bea**	**12.75**	**142**	Pn	Pn	21	54	56.4	+3.5
NVAR	**Mina Array Bea**	**12.75**	**142**	Pn	Pn	21	54	56.4	+3.5
	0.1nm,0.3s,baz=319,slow=12,SNR=2.6								
A19A	**Klindworth Far**	**12.80**	**83**	⇓P	**Pn**	**21**	**54**	**53.8**	**+0.3**
	baz=13								
C19A	**Slack Wire Ran**	**12.81**	**88**	⇑P	Pn	21	54	56.0	+2.4
	baz=13								
D19A	**Cripps Ranch,**	**13.06**	**91**	⇑P	Pn	21	55	00.7	+3.6
	baz=14								
E20A	**Meyer Farm, Mu**	**13.74**	**93**	⇓P	**P**	**21**	**55**	**17.0**	**+1.9**
	baz=14,SNR=7.3								
F20A	**Billings**	**13.96**	**96**	⇓P	**P**	**21**	**55**	**18.7**	**+1.2**
	baz=14,SNR=6.1								
DUG	**Dugway**	**14.04**	**123**	⇓P	**P**	**21**	**55**	**19.5**	**+1.1**
	baz=14,SNR=5.4								
PDAR	**Pinedale Array**	**14.40**	**109**	Pn	**Pn**	**21**	**55**	**16.1**	**+0.7**
PDAR	**Pinedale Array**	**14.40**	**109**	Pn	**Pn**	**21**	**55**	**16.1**	**+0.7**
	0.1nm,0.3s,baz=312,slow=12,SNR=12								
MPMC	**Manual Prospec**	**15.12**	**145**	⇓P	**Pn**	**21**	**55**	**22.7**	**-2.6**
	baz=15								
H21A	**Big Horn, Sher**	**15.13**	**99**	⇑P	**P**	**21**	**55**	**32.4**	**+1.9**
	baz=16,SNR=5.4								
B23A	**Brockton**	**15.33**	**83**	⇑P	**Pn**	**21**	**55**	**29.0**	**+1.1**
	baz=16								
C23A	**Lambert**	**15.34**	**86**	⇓P	**Pn**	**21**	**55**	**29.3**	**+1.4**
	baz=16								
YKA	**Yellowknife Ar**	**15.51**	**24**	Pn	**Pn**	**21**	**55**	**27.8**	**-2.1**
YKA	**Yellowknife Ar**	**15.51**	**24**	Pn	**Pn**	**21**	**55**	**27.8**	**-2.1**
	0.1nm,0.3s,baz=213,slow=12,SNR=14								
F23A	**Volborg**	**15.79**	**93**	⇑P	**P**	**21**	**55**	**36.0**	**-1.7**
	baz=16								
I22A	**9 Mile Ranch,**	**15.81**	**101**	⇑P	**P**	**21**	**55**	**36.9**	**-1.1**
	baz=16								
K22A	**Casper**	**16.37**	**105**	⇑P	**P**	**21**	**55**	**42.0**	**-2.3**
	baz=17								
L22A	**Ellis Ranch, M**	**16.75**	**106**	⇑P	**P**	**21**	**55**	**46.6**	**-1.9**
	baz=17								
FFC	**Flin Flon**	**17.14**	**60**	*e*Pn	**Pn**	**21**	**55**	**48.5**	**-2.4**
	39nm,0.9s								
L23A	**Garrett**	**17.17**	**105**	⇑P	**P**	**21**	**55**	**52.2**	**-1.0**
	baz=18								
J24A	**Dixon Ranch, L**	**17.24**	**100**	⇑P	**P**	**21**	**55**	**52.4**	**-1.5**
	baz=18								
G25A	**Newell**	**17.29**	**93**	⇓P	**P**	**21**	**55**	**56.1**	**+1.8**
	baz=18								
RSSD	**Black Hills**	**17.30**	**97**	*e*Pn	**P**	**21**	**55**	**53.4**	**-1.3**
	6.7nm,0.8s								
H25A	**Fruitdale**	**17.39**	**95**	⇓P	**P**	**21**	**55**	**57.5**	**+2.1**
	baz=18,SNR=5.6								
N23A	**Red Feather La**	**17.68**	**109**	⇑P	**P**	**21**	**56**	**01.2**	**+2.3**
	baz=18								
O22A	**Kremmling**	**17.74**	**112**	⇑P	**P**	**21**	**56**	**00.2**	**+0.7**
	baz=18								
J25A	**Sunshine Ranch**	**17.77**	**99**	⇓P	**P**	**21**	**56**	**01.2**	**+1.5**
	baz=18								
F27A	**Lemmon**	**17.97**	**90**	⇑P	**P**	**21**	**56**	**02.2**	**+0.4**
	baz=18								
O23A	**Lake Granby, G**	**18.09**	**111**	⇓P	**P**	**21**	**56**	**06.1**	**+2.7**
	baz=18,SNR=6.5								
K25A	**Mack Ranch, Ha**	**18.09**	**101**	⇓P	**P**	**21**	**56**	**05.4**	**+2.0**
	baz=18								
G27A	**Dupree**	**18.20**	**91**	⇓P	**P**	**21**	**56**	**05.0**	**+0.6**
	baz=19								
J26A	**Sides Ranch, S**	**18.28**	**99**	⇑P	**P**	**21**	**56**	**06.2**	**+0.9**
	baz=19,SNR=5.8								
MONP	**Monument Peak**	**18.35**	**147**	⇑P	Pn	**21**	**56**	**03.8**	**-2.3**
	baz=18								
H27A	**Howes**	**18.38**	**94**	⇑P	**Pn**	**21**	**56**	**07.9**	**+1.5**
	baz=19,SNR=5.2								
ISCO	**Idaho Springs**	**18.53**	**111**	⇑P	**Pn**	**21**	**56**	**08.8**	**+0.4**
	baz=19								
I27A	**Quinn**	**18.62**	**95**	⇑P	**Pn**	**21**	**56**	**11.0**	**+1.6**
	baz=19								
P23A	**Jefferson**	**18.65**	**113**	⇓P	**Pn**	**21**	**56**	**11.3**	**+1.4**
	baz=19,SNR=12								
ILAR	**Eielson Array**	**18.70**	**335**	P	**P**	**21**	**56**	**06.5**	**-3.1**
ILAR	**Eielson Array**	**18.70**	**335**	P	**P**	**21**	**56**	**06.5**	**-3.1**
	0.0nm,0.3s,baz=159,slow=13,SNR=11								
G28A	**Parade**	**18.98**	**92**	⇓P	**Pn**	**21**	**56**	**13.9**	**+0.3**
	baz=19,SNR=8.0								
J27A	**Elkhorn Farm,**	**19.01**	**98**	⇑P	**Pn**	**21**	**56**	**15.4**	**+1.4**
	baz=19								
H28A	**Mission Ridge**	**19.06**	**93**	⇑P	**Pn**	**21**	**56**	**14.8**	**+0.3**
	baz=19								
S22A	**4UR Ranch, Cre**	**19.12**	**118**	⇓P	**Pn**	**21**	**56**	**15.2**	**-0.4**
	baz=19,SNR=15								
I28A	**Midland**	**19.23**	**95**	⇓P	**Pn**	**21**	**56**	**17.4**	**+0.7**
	baz=20,SNR=10								
E29A	**Napoleon**	**19.31**	**86**	⇑P	**Pn**	**21**	**56**	**18.8**	**+1.2**
	baz=20								
R23A	**Moffat**	**19.41**	**115**	⇑P	**P**	**21**	**56**	**17.4**	**-0.6**
	baz=20								
J28A	**Allard Ranch,**	**19.43**	**96**	⇑P	**Pn**	**21**	**56**	**19.2**	**+0.1**
	baz=20,SNR=7.0								
INK	**Inuvik**	**19.56**	**354**	*e*P	**Pn**	**21**	**56**	**18.9**	**-1.4**
INK	**Inuvik**	**19.56**	**354**	P	**Pn**	**21**	**56**	**19.5**	**-0.8**
	0.1nm,0.3s,baz=169,slow=11,SNR=6.3								
A30A	**Hoffart Farm,**	**19.59**	**79**	⇑P	**Pn**	**21**	**56**	**21.7**	**+0.8**
	baz=20,SNR=8.3								
H29A	**Onida**	**19.61**	**92**	⇓P	**Pn**	**21**	**56**	**20.6**	**-0.5**
	baz=20								
B30A	**Myrvik Farm, E**	**19.68**	**80**	⇓P	**Pn**	**21**	**56**	**23.5**	**+1.6**
	baz=20,SNR=17								
D30A	**Buhanan**	**19.74**	**84**	⇓P	**Pn**	**21**	**56**	**21.8**	**-0.8**
	baz=20								
I29A	**Vivian Onida**	**19.79**	**94**	⇓P	**Pn**	**21**	**56**	**22.6**	**-0.7**
	baz=20,SNR=5.8								
Q25A	**Bedland, Calha**	**19.91**	**111**	⇓P	**Pn**	**21**	**56**	**24.3**	**-0.6**
	baz=20								
J29A	**Okreek**	**20.04**	**96**	⇑P	Pn	21	56	25.4	-0.8
	baz=20								
P26A	**Davis Ranch, A**	**20.07**	**109**	⇑P	**P**	**21**	**56**	**24.8**	**-0.2**
	baz=20								
G30A	**Faulkton**	**20.12**	**90**	⇑P	Pn	21	56	26.5	-0.8
	baz=20,SNR=9.2								
OGNE	**Ogallala**	**20.13**	**104**	⇓P	**P**	**21**	**56**	**24.9**	**-0.6**
	baz=20								
S24A	**Houchin Ranch,**	**20.14**	**116**	⇓P	Pn	21	56	26.9	-0.9
	baz=20								
K29A	**Lazy Trails An**	**20.33**	**97**	⇓P	Pn	21	56	28.1	-1.7
	baz=21								
Q26A	**Hugo**	**20.35**	**110**	⇑P	Pn	21	56	28.6	-1.5
	baz=21								
V22A	**San Miguel Ran**	**20.36**	**122**	⇓P	Pn	21	56	28.6	-1.7
	baz=20								
R25A	**Fountain Ranch**	**20.36**	**113**	⇓P	Pn	21	56	29.3	-1.0
	baz=21								
T24B	**San Luis**	**20.43**	**117**	⇑P	Pn	21	56	29.3	-1.9
	baz=21								
N28A	**Pribbeno Ranch**	**20.58**	**104**	⇓P	Pn	21	56	31.5	-1.2
	baz=21								
S25A	**Robets Cordova**	**20.59**	**114**	⇑P	Pn	21	56	31.5	-1.5
	baz=21,SNR=10								
M29A	**Burnside Ranch**	**20.73**	**101**	⇑P	**P**	**21**	**56**	**31.7**	**-0.3**
	baz=21								
R26A	**Arlington**	**20.78**	**112**	⇓P	**P**	**21**	**56**	**32.5**	**-0.2**
	baz=21								
ULM	**Lac du Bonnet**	**20.91**	**74**	P	**P**	**21**	**56**	**33.5**	**-0.4**
ULM	**Lac du Bonnet**	**20.91**	**74**	P	**P**	**21**	**56**	**33.5**	**-0.4**
	0.0nm,0.9s,baz=303,slow=8.9,SNR=5.5								
T25A	**Trinidad**	**20.95**	**116**	⇑P	Pn	21	56	35.1	-2.1
	baz=21,SNR=7.7								
R27A	**Eads**	**21.18**	**111**	⇓P	**P**	**21**	**56**	**37.2**	**+0.1**
	baz=21,SNR=7.5								
S26A	**Kim**	**21.20**	**113**	⇓P	**P**	**21**	**56**	**37.3**	**+0.1**
	baz=21								
ANMO	**Albuquerque**	**21.32**	**123**	P	**P**	**21**	**56**	**36.9**	**-1.7**
ANMO	**Albuquerque**	**21.32**	**123**	P	**P**	**21**	**56**	**36.9**	**-1.7**
	2.9nm,1.0s,baz=327,slow=13,SNR=3.8								
W23A	**Werner Place,**	**21.33**	**122**	⇓P	**P**	**21**	**56**	**38.8**	**+0.1**
	baz=22								
T26A	**Comanche Natio**	**21.41**	**114**	⇑P	**P**	**21**	**56**	**39.9**	**+0.4**
	baz=22								
V24A	**Rampart Ranch,**	**21.42**	**120**	⇑P	**P**	**21**	**56**	**40.5**	**+0.8**
	baz=22,SNR=6.7								
COLD	**Coldfoot**	**21.44**	**337**	*e*P	**P**	**21**	**56**	**40.6**	**+1.2**
	12nm,1.5s								
U25A	**Circle Dot Ran**	**21.45**	**117**	⇓P	**P**	**21**	**56**	**40.3**	**+0.3**
	baz=22,SNR=10								
P29A	**Atwood**	**21.57**	**106**	⇓P	**P**	**21**	**56**	**41.6**	**+0.5**
	baz=22,SNR=5.0								
IM04	**Indian Mountai**	**21.61**	**331**	*e*P	**P**	**21**	**56**	**43.0**	**+1.8**
W24A	**Lazy 6 Ranch,**	**21.71**	**121**	⇓P	**P**	**21**	**56**	**43.6**	**+0.8**
	baz=22,SNR=11								
V25A	**Rancho No Teng**	**21.72**	**118**	⇑P	**P**	**21**	**56**	**43.2**	**+0.4**
	baz=22,SNR=7.1								
R28A	**Tribune**	**21.76**	**109**	⇓P	**P**	**21**	**56**	**42.8**	**-0.4**
	baz=22								
U26A	**Atchley Ranch,**	**21.84**	**116**	⇑P	**P**	**21**	**56**	**43.9**	**-0.3**
	baz=22,SNR=6.2								
Q29A	**Oakley**	**21.95**	**107**	⇓P	**P**	**21**	**56**	**45.1**	**-0.1**
	baz=22								
P30A	**Selden**	**22.04**	**105**	⇑P	**P**	**21**	**56**	**46.1**	**-0.1**
	baz=22								
V26A	**Tequesquite Ra**	**22.23**	**117**	⇓P	**P**	**21**	**56**	**48.4**	**+0.1**
	baz=22,SNR=12								
W25A	**X Bar L. Ranch,**	**22.24**	**119**	⇓P	**P**	**21**	**56**	**48.6**	**+0.1**
	baz=22								
Y23A	**Lovelace Mesa,**	**22.29**	**124**	⇓P	**P**	**21**	**56**	**48.1**	**-1.0**
	baz=22								
U27A	**Thompson Grove**	**22.37**	**115**	⇑P	**P**	**21**	**56**	**51.1**	**+1.3**
	baz=23,SNR=5.4								
Q30A	**Quinter**	**22.38**	**106**	⇓P	**P**	**21**	**56**	**49.6**	**-0.2**
	baz=23								
P31A	**Stockton**	**22.61**	**104**	⇓P	**P**	**21**	**56**	**52.6**	**+0.4**
	baz=23								
Y24A	**Capitan**	**22.64**	**123**	⇓P	**P**	**21**	**56**	**52.9**	**+0.2**
	baz=23								
R30A	**Dighton**	**22.75**	**108**	⇑P	**P**	**21**	**56**	**53.5**	**-0.3**
	baz=23								
TXAR	**Lajitas Array**	**27.14**	**127**	P	**P**	**21**	**57**	**36.6**	**+1.8**
TXAR	**Lajitas Array**	**27.14**	**127**	P	**P**	**21**	**57**	**36.6**	**+1.8**
	0.1nm,0.4s,baz=334,slow=16,SNR=2.3								
RES	**Resolute Bay**	**29.36**	**17**	P	**P**	**21**	**57**	**55.7**	**+1.7**
RES	**Resolute Bay**	**29.36**	**17**	P	**P**	**21**	**57**	**55.7**	**+1.7**
	0.7nm,0.5s,baz=224,slow=10,SNR=15								
H11N2	**WAKE ISLAND Hy**	**58.94**	**265**	T	T	23	04	59.6	
	baz=46,slow=75,SNR=49								
H11N3	**WAKE ISLAND Hy**	**58.94**	**265**	T	T	23	04	59.0	
	baz=46,slow=75,SNR=51								
H11N1	**WAKE ISLAND Hy**	**58.96**	**265**	T	T	23

M_{rr}1.74±.02; $M_{\theta\theta}$-3.87±.02; $M_{\phi\phi}$2.13±.02; $M_{r\theta}$-0.53±.10; $M_{\theta\phi}$2.74±.01; $M_{r\phi}$-1.06±.10; Best double couple: M_{o}4.39400×10^{19} NP1:ϕ_s250.00000°, δ71.00000°, λ22.00000°. NP2:ϕ_s152.00000°, δ69.00000°, λ159.00000°. Principal axes: T 3.8530, Plg29.0000°, Azm112.0000°; N 1.0820, Plg61.0000°, Azm289.0000°; P -4.9350, Plg1.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.

*SZGRF **12** 21:53:16.0, 18°.37N×72°.23W, h33km, mb6.9, MS7.2, Haiti region*

*NEIC **12** 21:53:24.5±0.0, 18°.83N×72°.16W, h10km, Moment Tensor Solution. s125 Moment tensor: Scale 10^{19}Nm; M_{rr}1.63; $M_{\theta\theta}$-3.71; $M_{\phi\phi}$2.08; $M_{r\theta}$0.42; $M_{\theta\phi}$2.50; $M_{r\phi}$1.93; Best double couple: M_{o}4.50000×10^{19} NP1:ϕ_s330.00000°, δ68.00000°, λ151.00000°. NP2:ϕ_s71.00000°, δ64.00000°, λ25.00000°. Principal axes: T 4.4000, Plg35.0000°, Azm289.0000°; N 0.2600, Plg54.0000°, Azm115.0000°; P -4.6500, Plg2.0000°, Azm21.0000°;*

ISC 12 21:53:10.4±0.5, 18°.38N±0°.03×72°.59W±0°.02, h15km±2km, h15km:pP-P,n2363,σ1°64/2605, mb6.6/394, MS7.2/256, 518C-309D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.37**	**64**	*e*Pn	**Pn**	**21 53 32.9**	**-2.2**
SDDR				*e*S	**Sg**	**21 53 54.3**	**-0.4**
GTBY	**Guantanamo Bay**	**2.84**	**303**	*e*Pn	Pn	21 53 51.9	-3.3
GTBY				*e*S	**Sn**	**21 54 27.1**	**-2.1**
GRTK	**Grand Turk**	**3.40**	**23**	*e*Pn	**Pn**	**21 54 01.4**	**-1.5**
GRTK				*e*S	**Sn**	**21 54 42.9**	**-0.1**
GWJ	**Greenwich**	**3.95**	**266**	*e*P	**Pn**	**21 54 09.2**	**-1.4**
GWJ	**Greenwich**	**3.95**	**266**	*e*P	**Pn**	**21 54 09.2**	**-1.4**
HOJ	**Hope**	**3.97**	**265**	*e*P	**Pn**	**21 54 10.2**	**-0.7**
HOJ	**Hope**	**3.97**	**265**	*e*P	**Pn**	**21 54 10.2**	**-0.7**
HOJ	**Hope**	**3.97**	**265**	*e*P	**Pn**	**21 54 10.2**	**-0.7**
STH	**Stony Hill**	**4.02**	**266**	*i* S	**Sn**	**21 54 57.4**	**-1.1**
BNJ	**Bonny Gate**	**4.14**	**270**	*e*P	**Pn**	**21 54 11.4**	**-1.8**
BNJ	**Bonny Gate**	**4.14**	**270**	*e*P	**Pn**	**21 54 11.4**	**-1.8**
CVJ	**Coleyville**	**4.70**	**269**	*e*P	**Pn**	**21 54 19.9**	**-1.0**
CVJ	**Coleyville**	**4.70**	**269**	*e*P	**Pn**	**21 54 19.9**	**-1.0**
MTDJ	**Mount Denham**	**4.70**	**269**	↑*e*Pn	**Pn**	**21 54 19.4**	**-1.6**
MTDJ				*e*S	**Sb**	**21 55 23.5**	**-5.7**
MCJ	**Malvern**	**4.87**	**265**	*e*P	**Pn**	**21 54 23.3**	**0.0**
MCJ	**Malvern**	**4.87**	**265**	*e*P	**Pn**	**21 54 23.3**	**0.0**
AGPR	**Aguadilla, PR** 4μm,1.7s	**5.20**	**88**	↑*i*Pn	**Pn**	**21 54 28.5**	**+0.8**
AGPR				*e*S	Sb	21 55 36.5	-6.9
LSP	**Las Mesas**	**5.23**	**91**	*e*Pn	**Pn**	**21 54 28.7**	**+0.5**
AOPR	**Arecibo Observ**	**5.54**	**89**	*e*Pn	**Pn**	**21 54 33.3**	**+0.9**
OBIP	**Obispado Ponce** 12μm,1.6s	**5.70**	**92**	*e*Pn	**Pn**	**21 54 34.5**	**0.0**
OBIP				*e*S	Sb	21 55 49.0	-8.6
CELP	**Cerrillos**	**5.72**	**92**	*e*Pn	**Pn**	**21 54 34.8**	**-0.1**
CBYP	**Canovanas** 1μm,1.3s	**6.39**	**90**	*e*Pn	**Pn**	**21 54 43.8**	**-0.4**
CBYP				*e*S	Sb	21 56 08.5	-9.3
HUMP	**Col San Antoni**	**6.41**	**91**	*e*Pn	**Pn**	**21 54 45.0**	**+0.7**
MTP	**Monte Pirata** 30μm,1.4s	**6.69**	**91**	*e*Pn	**Pn**	**21 54 48.1**	**-0.1**
MTP				*e*S	**Sn**	**21 56 03.2**	**-1.1**
CDVI	**St. Croix**	**7.47**	**94**	*e*Pn	**Pn**	**21 54 57.4**	**-1.5**
CDVI				*e*S	**Sn**	**21 56 20.1**	**-3.2**
SABA	**Saba**	**8.93**	**93**	↑*e*P	**Pn**	**21 55 18.5**	**-0.4**
SABA	**Saba**	**8.93**	**93**	*e*Pn	**Pn**	**21 55 19.1**	**+0.2**
SKI	**Saint Kitts**	**9.44**	**95**	↑P	**Pn**	**21 55 25.1**	**-0.5**
SDV	**Santo Domingo**	**9.63**	**168**	*e*Pn	**Pn**	**21 55 30.2**	**+1.4**
SDV				*e*S	**Sn**	**21 57 16.1**	**-0.7**
ANWB	**Willy Bob** 11μm,1.2s	**10.30**	**92**	*e*Pn	**Pn**	**21 55 34.7**	**-3.0**
ANWB				*e*S	**Sn**	**21 57 36.5**	**+3.4**
BPA	**Boggy Peak**	**10.31**	**96**	↓*i*P	**Pn**	**21 55 37.8**	**-0.2**
LZG	**Guadaloupe-1**	**10.57**	**101**	*e*P	**Pn**	**21 55 40.3**	**-1.1**
FNG	**Fond-Bernard**	**10.67**	**101**	*e*P	**Pn**	**21 55 42.0**	**-0.9**
SSG	**Sans Toucher**	**10.67**	**101**	*e*P	**Pn**	**21 55 42.1**	**-0.8**
HMG	**Houelmont**	**10.68**	**101**	*e*P	**Pn**	**21 55 41.0**	**-1.9**
SCG	**Saint Claude**	**10.68**	**101**	*e*P	**Pn**	**21 55 40.9**	**-2.2**
TAG	**Tarade**	**10.70**	**101**	*e*P	**Pn**	**21 55 42.3**	**-1.0**
LKG	**Breislack**	**10.70**	**101**	↑*i*P	**Pn**	**21 55 41.3**	**-2.1**
ECG	**Echelle**	**10.70**	**101**	*e*P	**Pn**	**21 55 42.6**	**-0.8**
PHG	**Guadaloupe-2**	**10.72**	**101**	*e*P	**Pn**	**21 55 42.9**	**-0.8**
BCG	**Bois Riant Cap**	**10.73**	**101**	*e*P	**Pn**	**21 55 42.9**	**-0.8**
DOG	**Dongo Capester**	**10.74**	**101**	*e*P	**Pn**	**21 55 43.4**	**-0.4**
TBG	**Guadaloupe-3**	**10.76**	**102**	*e*P	**Pn**	**21 55 42.5**	**-1.6**
SEG	**Port Louis**	**10.76**	**99**	*e*P	**Pn**	**21 55 43.5**	**-0.6**
BBL	**Barber's Block**	**11.01**	**103**	*e*P	**Pn**	**21 55 47.7**	**+0.2**
MGG	**Marie-Galante**	**11.05**	**101**	*e*P	**Pn**	**21 55 46.2**	**-1.8**
MDN	**Morne-Daniel**	**11.14**	**104**	*e*P	**Pn**	**21 55 48.0**	**-1.3**
DPMT	**Pointe Michel**	**11.17**	**104**	*e*P	**Pn**	**21 55 51.9**	**+2.2**
DSHT	**Scott's Head**	**11.19**	**105**	*e*P	**Pn**	**21 55 51.5**	**+1.6**
DEG	**La Desirade**	**11.20**	**99**	*e*P	**Pn**	**21 55 49.7**	**-0.4**
DBCT	**Belle View Cho**	**11.20**	**104**	*e*P	**Pn**	**21 55 52.3**	**+2.1**
DBCT	**Belle View Cho**	**11.20**	**104**	*e*	Pn	21 56 01.3	+11
H05N1	**Guadeloupe/Mar**	**11.20**	**99**	Pn	**Pn**	**21 55 51.1**	**+0.9**
H05N1				Sn	**Sn**	**21 57 56.9**	**+1.7**
DSTT	**Stowe**	**11.25**	**104**	*e*	Pn	21 55 54.2	+3.5
UPA	**Univ. de Panam**	**11.52**	**217**	*e*P	**Pn**	**21 55 54.2**	**-0.3**
BCIP	**Isla Barro Col**	**11.55**	**218**	*e*P	**Pn**	**21 55 53.8**	**-1.1**
BCIP	**Isla Barro Col**	**11.55**	**218**	*e*Pn	**Pn**	**21 55 52.9**	**-2.0**
BCIP				*e*S	Sn	21 57 56.1	-7.6
FDF	**Fort de France**	**11.55**	**107**	*e*P	**Pn**	**21 55 53.0**	**-1.9**
FDF				*e*S	**Sn**	**21 58 02.2**	**-1.6**
FDF	comp=Z,214nm,2.5s			pmax	pmax		
FDF	**Fort de France**	**11.55**	**107**	↑*e*P	**Pn**	**21 55 52.6**	**-2.4**
FDF	**Fort de France**	**11.55**	**107**	*e*P	**Pn**	**21 55 53.8**	**-1.1**
FDF	**Fort de France** comp=Z,214nm,2.5s	**11.55**	**107**	*e*Pn	**Pn**	**21 55 53.0**	**-1.9**
FDF				*e*S	**Sn**	**21 58 02.1**	**-1.6**
PINA	**Piqa, Costa Ab**	**11.62**	**220**	*e*P	**Pn**	**21 55 54.0**	**-1.8**
BVM	**Bellevue**	**11.63**	**106**	*e*P	**Pn**	**21 55 57.0**	**+1.0**
BIM	**Bigot**	**11.70**	**107**	*e*P	**Pn**	**21 55 56.1**	**-0.9**
TRMF	**Trois Ilets**	**11.71**	**107**	*e*P	**Pn**	**21 55 55.1**	**-2.0**
ZAM	**Aeronautique**	**11.72**	**107**	*e*P	**Pn**	**21 55 55.2**	**-1.9**
ZANG	**Zanguenga, Cho**	**11.74**	**218**	*e*P	**Pn**	**21 55 56.5**	**-1.0**
ZANG				*e*S	Sn	21 58 01.7	-6.6
LPMF	**Morne Lapointe**	**11.77**	**107**	*e*P	**Pn**	**21 55 59.2**	**+1.2**
MVM	**Montagne Vaucl**	**11.84**	**107**	*e*P	**Pn**	**21 55 57.8**	**-1.2**
H05S1	**Guadeloupe/Mar** SNR=3617	**11.94**	**108**	Pn	**Pn**	**21 56 02.4**	**+2.1**
H05S1				Sn	**Sn**	**21 58 15.1**	**+1.9**
SLW	**Petit Monier**	**12.00**	**109**	*e*P	**Pn**	**21 56 01.0**	**0.0**
SVB	**Belmont**	**12.03**	**113**	*e*P	**Pn**	**21 55 59.4**	**-2.1**
SVB	**Belmont**	**12.03**	**113**	*e*P	**Pn**	**21 55 59.6**	**-1.9**
SVV	**Soufriere Volc**	**12.04**	**113**	*e*	**Pn**	**21 55 59.6**	**-2.0**
FCV	**Fort Charlotte**	**12.09**	**114**	*e*	**Pn**	**21 56 02.7**	**+0.5**
MCLT	**Moule a Chique**	**12.12**	**111**	*e*P	**Pn**	**21 56 03.5**	**+0.8**
BHS	**Barnard House**	**12.13**	**113**	*e*P	**Pn**	**21 56 01.0**	**-1.8**
GRSS	**Sisters**	**12.19**	**116**	↑*e*P	**Pn**	**21 56 02.6**	**-1.0**
GRHS	**Sauteurs**	**12.20**	**119**	*e*P	**Pn**	**21 56 02.3**	**-1.5**
GRW	**Mount Saint Ca**	**12.22**	**119**	*e*P	**Pn**	**21 56 03.7**	**-0.5**
GRGR	**Grenville** comp=Z,19nm,0.2s	**12.24**	**119**	*e*Pn	**Pn**	**21 56 02.0**	**-2.3**
GRGR				*e*S	Sn	21 58 28.8	+8.2
TCE	**Chacachacare**	**12.97**	**125**	*e*P	Pn	21 56 18.6	+4.3
CNI	**Changuinola**	**13.12**	**229**	*e*P	Pn	21 56 12.9	-3.4
CNI				*e*S	Sn	21 58 32.6	-10
TRN	**Trinidad (W)**	**13.28**	**124**	*e*P	**Pn**	**21 56 20.1**	**+1.6**
ALNG	**Atlantic LNG**	**13.34**	**126**	*e*P	Pn	21 56 23.2	+3.9
BUAY	**Buenos Aires**	**13.38**	**126**	*e*P	Pn	21 56 24.4	+4.4
TPP	**Pointe-a-Pierr**	**13.44**	**125**	*e*P	**Pn**	**21 56 23.4**	**+2.7**
TPR	**Prospect**	**13.47**	**120**	*e*P	**Pn**	**21 56 22.9**	**+1.7**
SIPA	**Siparia**	**13.50**	**126**	*e*P	**P**	**21 56 33.3**	**+2.5**
BOT	**Bacolet**	**13.53**	**120**	*e*P	**Pn**	**21 56 24.7**	**+2.8**
ROSC	**El Rosal**	**13.55**	**187**	*e*Pn	**Pn**	**21 56 23.3**	**+0.7**
ROSC				*e*S	Sn	**21 58 50.0**	**-3.3**
ROSC	**El Rosal** comp=Z,14nm,0.3s,baz=99,slow=5.7,SNR=67	**13.55**	**187**	Pn	**Pn**	**21 56 24.2**	**+1.6**
ROSC				Sn	**Sn**	**21 58 57.4**	**+4.2**
ROSC	comp=Z,43nm,0.3s,baz=107,slow=19,SNR=3.7			LR	LR	22 01 32.0	
BBGH	**Gun Hill** comp=Z,69μm,1.8s	**13.58**	**111**	*e*Pn	**Pn**	**21 56 23.9**	**+1.3**
BBGH				*e*S	S	21 59 06.8	-10
BRU	**Baru**	**13.58**	**227**	*e*P	**Pn**	**21 56 21.9**	**-1.1**
BRU				*e*S	Sn	21 58 47.1	-6.9
TOSP	**Speyside**	**13.61**	**119**	*e*P	**Pn**	**21 56 21.9**	**-1.2**
TOSP	**Speyside**	**13.61**	**119**	*e*P	**Pn**	**21 56 23.7**	**+0.6**
TBH	**Brigand Hill**	**13.64**	**124**	*e*P	Pn	21 56 26.7	+3.2
BRU2	**Volcan**	**13.68**	**227**	*e*P	**Pn**	**21 56 24.6**	**+0.5**
BUS	**Buena Vista**	**13.94**	**232**	*e*P	**Pn**	**21 56 27.4**	**-0.6**
ACR	**Cerro Adams**	**14.11**	**228**	*e*P	**Pn**	**21 56 29.6**	**-0.4**
CGA2	**Cerro Gallo 2**	**14.20**	**236**	*e*P	**Pn**	**21 56 30.4**	**-0.8**
QCR	**Quepos**	**14.33**	**233**	*e*P	**Pn**	**21 56 34.0**	**+1.1**
HUEN		**14.41**	**247**	*e*P	**P**	**21 56 40.0**	**-0.8**
JTS	**JuntasAbangare**	**14.42**	**238**	*e*Pn	**Pn**	**21 56 35.7**	**+1.5**
JTS				Sn	**Sn**	**21 59 10.6**	**-3.4**
JTS	**JuntasAbangare** comp=Z,29nm,0.3s,baz=48,slow=14,SNR=59	**14.42**	**238**	Pn	**Pn**	**21 56 35.3**	**+1.1**
JTS	comp=Z,3.0nm,0.3s,baz=56,slow=3.6,SNR=2.7			Sn	**Sn**	**21 59 10.6**	**-3.4**
JTS	comp=Z,900μm,18.6s,baz=56,slow=38			LR	LR	22 02 17.4	
TGUH	**Tegucigalpa,Un**	**14.74**	**255**	*e*P	**Pn**	**21 56 40.0**	**+1.5**
TGUH	**Tegucigalpa,Un** comp=Z,2μm,2.6s	**14.74**	**255**	*e*Pn	**Pn**	**21 56 38.5**	**0.0**
CNGN	**Cerro Negro**	**14.80**	**249**	↓*e*P	**Pn**	**21 56 41.1**	**+1.7**
JCR	**Jicaral**	**14.81**	**237**	*e*P	**Pn**	**21 56 40.4**	**+1.0**
COPN	**Copaltepe**	**14.85**	**247**	*e*P	**P**	**21 56 43.8**	**-1.9**
TEIG	**Tepich**	**14.92**	**280**	*e*Pn	**Pn**	**21 56 38.7**	**-2.2**
TEIG				*e*S	**Sn**	**21 59 20.4**	**-5.7**
TEIG	**Tepich** comp=Z,108nm,0.3s,baz=88,slow=8.1,SNR=132	**14.92**	**280**	Pn	**Pn**	**21 56 40.3**	**-0.7**
TEIG	comp=Z,22nm,0.3s,baz=343,slow=20,SNR=6.0			Sn	Sn	21 59 17.9	-8.3
TEIG	comp=Z,834μm,18.8s,baz=92,slow=37			LR	LR	22 02 18.7	
VCR	**Vista de Mar**	**15.06**	**239**	*e*P	**P**	**21 56 46.4**	**-1.9**
CNCH	**Conchagua**	**15.52**	**253**	*e*P	**P**	**21 56 51.5**	**-1.9**
I51GB	**BERMUDA INFRAS** baz=209,slow=309	**15.63**	**26**	*i*		23 25 44.9	
BBSR	**BB Station** comp=Z,2μm,0.8s	**15.64**	**26**	*e*Pn	Pn	21 56 45.0	-5.4
BBSR				*e*S	Sn	21 59 34.7	-8.7
CAHU	**Cacacuatique**	**15.70**	**255**	*e*P	**Pn**	**21 56 52.1**	**+0.7**
RGRS	**Roger Stewart**	**16.00**	**336**	*e*Pn	Pn	21 56 49.9	-5.1
NHSC	**New Hope** comp=Z,8μm,1.4s	**16.17**	**337**	*e*Pn	Pn	21 56 52.3	-4.9
NHSC				*e*S	Sn	21 59 34.8	-22
TIGA	**Tifton** comp=Z,5μm,1.0s	**16.37**	**325**	*e*Pn	**Pn**	**21 56 56.5**	**-3.3**
TIGA				*e*S	Sn	21 59 49.6	-12
TIGA	**Tifton** baz=16	**16.37**	**325**	↓P	**Pn**	**21 56 56.1**	**-3.7**
LBRS	**Las Brisas**	**16.47**	**256**	*e*P	**Pn**	**21 57 00.9**	**-0.4**
LFU	**La Fuente**	**16.53**	**256**	*e*P	**P**	**21 57 03.5**	**-1.1**
SNET	**Serv Nac Est T**	**16.66**	**256**	*e*P	**P**	**21 57 05.8**	**-0.1**
BOQS	**Boqueron**	**16.69**	**256**	*e*P	**Pn**	**21 57 05.0**	**+0.8**
MRL	**Marmol**	**16.71**	**261**	*e*P	**Pn**	**21 57 05.0**	**+0.6**
RBDL	**Robledal**	**16.95**	**258**	*e*P	**Pn**	**21 57 08.2**	**+0.8**
SBLS	**San Blas**	**16.98**	**257**	*e*P	**P**	**21 57 08.8**	**-0.8**
CNNC	**Cliffs of the** comp=Z,899nm,0.5s	**17.44**	**345**	*e*Pn	Pn	21 57 08.1	-5.0
APG	**El Apazote**	**17.45**	**262**	P	**Pn**	**21 57 13.0**	**-0.7**
APG	**El Apazote** comp=Z,2.6nm,0.3s,baz=86,slow=9.6,SNR=58	**17.45**	**262**	P	**Pn**	**21 57 13.0**	**-0.7**
APG	comp=Z,1072μm,19.9s,baz=102,slow=37			LR	LR	22 04 01.7	
IXG	**Ixpaco**	**17.65**	**259**	*e*P	**P**	**21 57 18.8**	**+1.7**
GOGA	**Godfrey**	**17.86**	**329**	*e*P	**Pn**	**21 57 15.4**	**-3.0**
GOGA	comp=Z,4μm,1.6s			pmax	pmax		
GOGA	**Godfrey** comp=Z,4μm,1.6s	**17.86**	**329**	*e*Pn	**Pn**	**21 57 15.4**	**-3.0**
BRAL	**Brewton** comp=Z,10μm,1.6s	**18.17**	**317**	*e*Pn	**Pn**	**21 57 21.5**	**-0.6**
KMSC	**Kings Mountain**	**18.41**	**337**	*e*Pn	**P**	**21 57 21.0**	**-4.1**
KMSC				*e*S	Sn	22 00 32.3	-18
KMSC	**Kings Mountain** baz=18	**18.41**	**337**	↑P	**P**	**21 57 21.4**	**-3.7**
OTAV	**Otavalo** comp=Z,28μm,1.9s	**18.93**	**198**	↓*e*P	**Pn**	**21 57 34.0**	**+2.0**
OTAV				*e*S	**S**	**22 01 07.4**	**+0.9**
JSRW	**J. Sargeant Re**	**19.79**	**348**	*e*P	**P**	**21 57 38.4**	**-1.7**
TKL	**Tuckaleechee C**	**19.86**	**332**	*e*P	**P**	**21 57 40.6**	**-0.4**
TKL	**Tuckaleechee C** comp=Z,6.1nm,0.3s,baz=156,slow=14,SNR=77	**19.86**	**332**	P	**P**	**21 57 40.8**	**-0.2**
TKL	comp=Z,10nm,0.3s,baz=38,slow=20,SNR=2.9			S	S	22 01 09.8	-14
TKL	comp=Z,1005μm,19.7s,baz=138,slow=39			LR	LR	22 06 05.5	
VWCC	**Virginia Weste**	**19.88**	**342**	*e*P	**P**	**21 57 41.5**	**+0.3**
VWCC				*e*S	S	22 01 06.0	-19
BLA	**Blacksburg**	**19.98**	**341**	*e*P	**P**	**21 57 41.7**	**-0.6**
BLA				*e*S	S	22 01 15.5	-11
BLA	comp=Z,2μm,0.6s			pmax	pmax		
BLA	**Blacksburg** comp=Z,2μm,0.6s	**19.98**	**341**	*e*P	**P**	**21 57 41.7**	**-0.6**
BLA				*e*S	S	22 01 15.5	-11
CPCT	**Cooper Cave**	**20.02**	**330**	*e*Pn	**P**	**21 57 43.4**	**+0.6**
CBN	**Corbin** comp=Z,24μm,1.3s	**20.19**	**349**	*e*P	**P**	**21 57 43.5**	**-1.0**
CBN				*e*S	S	22 01 19.7	-11
CBN	comp=Z,729μm,22.0s			LR	LR		
TZTN	**Tazewell** comp=Z,5μm,1.2s	**20.51**	**334**	*e*Pn	**P**	**21 57 47.5**	**-0.6**
SWET	**Sewanee** comp=Z,11μm,1.8s	**20.53**	**327**	*e*Pn	Pn	21 57 50.6	0.0
VBMS	**Vicksburg** comp=Z,12μm,1.8s	**21.23**	**314**	*e*P	**P**	**21 57 56.1**	**+0.3**
SDMD	**Soldier's Deli**	**21.28**	**351**	*e*Pn	**P**	**21 57 55.5**	**-0.8**
MVL	**Millersville** comp=Z,11μm,2.3s	**21.79**	**352**	*e*P	**P**	**21 58 00.8**	**-0.9**
OXF	**Oxford** comp=Z,3μm,1.0s	**21.97**	**320**	*e*P	**P**	**21 58 04.1**	**+0.3**
OXF				pmax	pmax		
OXF	**Oxford** comp=Z,3μm,1.0s	**21.97**	**320**	*e*P	**P**	**21 58 04.0**	**+0.3**
CPNY	**Central Park**	**22.36**	**357**	*e*P	**P**	**21 58 07.1**	**-0.9**
PAL	**Palisades**	**22.58**	**357**	*e*P	**P**	**21 58 09.0**	**-1.2**
PAL	**Palisades** comp=Z,13μm,1.4s	**22.58**	**357**	*e*P	**P**	**21 58 09.0**	**-1.2**
PTGA	**Pitinga** comp=Z,2μm,1.0s	**22.69**	**145**	↑*i*P	**P**	**21 58 12.0**	**+0.3**
PTGA				S	**S**	**22 02 23.4**	**+3.8**
PTGA	comp=Z,867μm,19.0s			LR	LR		
PTGA	**Pitinga** comp=Z,720nm,0.8s,baz=338,slow=12,SNR=163	**22.69**	**145**	P	**P**	**21 58 11.9**	**+0.3**
PTGA	comp=Z,78nm,0.7s,baz=75,slow=19,SNR=2.0			S	**S**	**22 02 23.4**	**+3.8**
PTGA	comp=Z,1002μm,19.9s,baz=333,slow=38			LR	LR	22 07 26.0	
ODNJ	**Ogdensburg**	**22.69**	**356**	*e*P	**P**	**21 58 10.7**	**-0.8**
YLE	**Yale** comp=Z,5μm,1.0s	**22.86**	**359**	*e*P	**P**	**21 58 12.5**	**-0.7**
UTMT	**University of** comp=Z,7μm,1.1s	**22.94**	**325**	*e*P	**P**	**21 58 15.1**	**+1.0**
WCI	**Wyandotte Cave**	**23.11**	**332**	*e*P	**P**	**21 58 14.7**	**-1.2**
WCI	comp=Z,1μm,1.0s			pmax	pmax		
WCI	**Wyandotte Cave** comp=Z,1μm,1.0s	**23.11**	**332**	*e*P	**P**	**21 58 14.7**	**-1.2**
KSPA	**Keystone Colle**	**23.26**	**354**	*e*P	**P**	**21 58 16.8**	**-0.5**
PVMO	**Portageville** comp=Z,5μm,1.1s	**23.46**	**323**	*e*P	**P**	**21 58 19.3**	**0.0**
USIN	**University of** comp=Z,24μm,2.7s	**23.55**	**329**	*e*P	**P**	**21 58 20.1**	**-0.1**
ACSO	**Alum Creek Sta** comp=Z,1μm,0.9s	**23.55**	**340**	*e*P	**P**	**21 58 19.4**	**-0.9**
ACSO				*e*S	S	22 02 42.2	+8.4
PARMO	**Parma**	**23.67**	**324**	*e*P	**P**	**21 58 24.0**	**+2.6**
BINY	**Binghamton** comp=Z,10μm,1.4s	**23.92**	**354**	*e*P	**P**	**21 58 23.1**	**-0.7**
NATX	**Nacogdoches** comp=Z,20μm,2.2s	**23.96**	**308**	*e*P	**P**	**21 58 25.3**	**+1.0**
UALR	**University of** comp=Z,14μm,2.5s	**23.98**	**317**	*e*P	**P**	**21 58 25.5**	**+1.0**
BLO	**Bloomington**	**23.99**	**333**	*e*P	**P**	**21 58 25.0**	**+0.6**
BLO	**Bloomington** comp=Z,40μm,3.0s	**23.99**	**333**	*e*P	**P**	**21 58 25.0**	**+0.6**
HRV	**Adam Dziewonsk**	**24.06**	**2**	*e*P	**P**	**21 58 24.7**	**-0.4**
HRV				*e*S	**S**	**22 02 46.7**	**+4.8**
HRV	comp=Z,9μm,1.8s			pmax	pmax		
HRV	**Adam Dziewonsk** comp=Z,9μm,1.8s	**24.06**	**2**	*e*P	**P**	**21 58 24.7**	**-0.4**
HRV				*e*S	**S**	**22 02 46.7**	**+4.8**
HKT	**Hockley**	**24.08**	**303**	*e*P	**P**	**21 58 25.1**	**-0.3**
HKT	comp=Z,5μm,1.8s			*e*ScP	ScP	22 05 56.6	+12
PBMO	**Poplar Bluff** comp=Z,9μm,1.8s	**24.13**	**323**	*e*P	**P**	**21 58 25.1**	**-0.7**
SIUC	**Southern Illin** comp=Z,9μm,1.6s	**24.14**	**326**	*e*P	**P**	**21 58 26.2**	**+0.3**
TRY	**Troy** comp=Z,7μm,1.6s	**24.29**	**358**	*e*P	**P**	**21 58 27.0**	**-0.2**
ERPA	**Erie** comp=Z,8μm,2.0s	**24.49**	**347**	*e*P	**P**	**21 58 28.4**	**-0.6**
MIAR	**Mount Ida**	**24.66**	**315**	*e*P	**P**	**21 58 31.1**	**+0.4**
MIAR	comp=Z,2μm,1.4s			pmax	pmax		
MIAR	**Mount Ida** comp=Z,2μm,1.4s	**24.66**	**315**	*e*P	**P**	**21 58 31.1**	**+0.4**
035Z	**Hargill** baz=25	**24.86**	**293**	↑P	**P**	**21 58 33.4**	**+0.9**
KVTX	**Kingsville** comp=Z,4μm,1.4s	**24.98**	**296**	*e*P	**P**	**21 58 35.4**	**+1.8**
035A	**Encino** baz=25	**25.00**	**295**	P	**P**	**21 58 33.9**	**+0.1**
835A	**Beeville** baz=25,SNR=115	**25.14**	**298**	↓P	**P**	**21 58 35.7**	**+0.6**
SFIN	**Scholer Farm**	**25.24**	**333**	*e*P	**P**	**21 58 35.5**	**-0.3**
SFIN	**Scholer Farm** baz=25,SNR=228	**25.24**	**333**	↓P	**P**	**21 58 35.8**	**0.0**
HNH	**Hanover** comp=Z,5μm,1.8s	**25.25**	**1**	*e*P	**P**	**21 58 36.1**	**+0.3**
735A	**Kenedy** baz=25,SNR=137	**25.30**	**299**	↓P	**P**	**21 58 36.4**	**-0.1**
SLM	**Saint Louis**	**25.36**	**326**	*e*P	**P**	**21 58 36.5**	**-0.5**
SLM	comp=Z,2μm,1.3s			pmax	pmax		
SLM	**Saint Louis** comp=Z,2μm,1.3s	**25.36**	**326**	*e*P	**P**	**21 58 36.5**	**-0.5**
635A	**Leesville** baz=25,SNR=84	**25.45**	**300**	↓P	**P**	**21 58 37.6**	**-0.2**
535A	**Dale** baz=26,SNR=58	**25.51**	**302**	↓P	**P**	**21 58 37.5**	**-0.9**
934A	**Benavides** baz=26,SNR=163	**25.53**	**296**	↓P	**P**	**21 58 39.7**	**+1.1**
034A	**Hebbronville** baz=26,SNR=210	**25.53**	**294**	↑P	**P**	**21 58 39.3**	**+0.6**
AAM	**Ann Arbor**	**25.64**	**341**	*e*P	**P**	**21 58 39.0**	**-0.4**
AAM	**Ann Arbor** comp=Z,12μm,2.2s	**25.64**	**341**	*e*P	**P**	**21 58 39.0**	**-0.4**
834A	**Tilden** baz=26,SNR=161	**25.70**	**297**	↑P	**P**	**21 58 40.5**	**+0.4**
LBNH	**Lisbon**	**25.79**	**1**	*e*P	**P**	**21 58 40.8**	**0.0**
LBNH	comp=Z,2μm,1.3s			pmax	pmax		
LBNH	**Lisbon** comp=Z,2μm,1.3s	**25.79**	**1**	*e*P	**P**	**21 58 40.8**	**0.0**
LBNH				*e*S	S	22 03 24.1	+15
335A	**Moody** baz=26,SNR=146	**25.87**	**304**	↓P	**P**	**21 58 42.0**	**+0.3**
634A	**China Grove, S** baz=26,SNR=36	**25.92**	**300**	↑P	**P**	**21 58 42.1**	**0.0**
734A	**La Parita Cree** baz=26,SNR=79	**25.92**	**299**	↓P	**P**	**21 58 42.1**	**0.0**
ATAH	**Atahualpa**	**26.00**	**193**	P	**P**	**21 58 45.0**	**+1.7**
ATAH	**Atahualpa** comp=Z,219nm,1.1s,baz=8.4,slow=4.9,SNR=30	**26.00**	**193**	P	**P**	**21 58 45.0**	**+1.7**
ATAH	comp=Z,180μm,18.8s,baz=9.6,slow=43			LR	LR	22 11 37.5	
933A	**Laredo** baz=26	**26.18**	**295**	↓P	**P**	**21 58 44.8**	**+0.2**
PTN	**Potsdam (NY)**	**26.19**	**356**	*e*P	**P**	**21 58 43.8**	**-0.6**
PTN	**Potsdam (NY)**	**26.19**	**356**	*e*P	**P**	**21 58 43.8**	**-0.6**
WHTX	**Lake Whitney**	**26.19**	**306**	*e*P	**P**	**21 58 44.6**	**0.0**
WHTX	**Lake Whitney** baz=26,SNR=154	**26.19**	**306**	↑P	**P**	**21 58 44.5**	**0.0**
LONY	**Lake Ozonia** comp=Z,337nm,1.4s	**26.21**	**357**	*e*P	**P**	**21 58 44.0**	**-0.7**
WVL

331A	**San Angelo**	28.26	302	⇓P		P	21 59 02.9	-0.4
	baz=28,SNR=146							
Z32A	**Haskell**	28.29	307	⇓P		P	21 59 03.1	-0.4
	baz=28,SNR=385							
W33A	**Caddo, Fort Co**	28.39	311	⇑P		P	21 59 04.2	-0.1
	baz=28,SNR=140							
U34A	**Anderson Ranch**	28.40	314	⇑P		P	21 59 03.9	-0.5
	baz=28,SNR=140							
231A	**Bronte**	28.40	304	⇓P		P	21 59 03.7	-0.8
	baz=28,SNR=52							
WMOK	**Wichita Mounta**	28.41	310	*e*P		P	21 59 04.1	-0.5
WMOK				pmax		pmax		
	comp=Z,801nm,1.3s							
WMOK	**Wichita Mounta**	28.41	310	*e*P		P	21 59 04.1	-0.5
	comp=Z,801nm,1.3s							
Y32A	**R-V Farms, Ver**	28.56	308	⇓P		P	21 59 05.6	-0.2
	baz=29,SNR=252							
V33A	**Lossen Ranch,**	28.59	313	⇓P		P	21 59 05.6	-0.5
	baz=29,SNR=87							
530A	**J-C Ranch, Com**	28.62	300	⇑P		P	21 59 06.2	-0.3
	baz=29,SNR=93							
X32A	**Elmer**	28.63	309	⇑P		P	21 59 05.6	-0.9
	baz=29,SNR=234							
JFWS	**Jewell Farm**	28.67	332	*e*P		P	21 59 05.8	-0.9
JFWS				pmax		pmax		
	comp=Z,1μm,0.8s							
JFWS	**Jewell Farm**	28.67	332	*e*P		P	21 59 05.8	-0.9
	comp=Z,1μm,0.8s							
SAML	**Samuel**	28.70	160	⇑*i*P		P	21 59 06.3	-0.9
	comp=Z,186nm,1.1s							
131A	**Roby**	28.73	305	⇑P		P	21 59 07.3	-0.1
	baz=29,SNR=38							
430A	**Baggett Ranch,**	28.74	301	⇓P		P	21 59 07.1	-0.4
	baz=29,SNR=52							
Z31A	**Sharp Cattle R**	28.80	306	⇓P		P	21 59 07.5	-0.5
	baz=29,SNR=178							
330A	**Mertzon**	28.89	302	⇑P		P	21 59 08.5	-0.4
	baz=29,SNR=91							
W32A	**Sentinel**	28.93	311	⇑P		P	21 59 08.8	-0.4
	baz=29,SNR=319							
230A	**Sterling City**	29.01	303	⇓P		P	21 59 09.6	-0.4
	baz=29							
V32A	**Arapaho**	29.07	312	⇓P		P	21 59 10.0	-0.4
	baz=29,SNR=143							
130A	**Snyder**	29.15	305	⇑P		P	21 59 10.5	-0.7
	baz=29,SNR=37							
Y31A	**Rekieta Farm,**	29.16	308	⇑P		P	21 59 10.7	-0.5
	baz=29,SNR=172							
T33A	**Patterson Ranc**	29.22	315	⇓P		P	21 59 11.3	-0.4
	baz=29,SNR=129							
429A	**Davenport Ranc**	29.23	300	⇑P		P	21 59 11.0	-0.9
	baz=29,SNR=54							
X31A	**McDonald Ranch**	29.24	309	⇓P		P	21 59 11.0	-0.9
	baz=29,SNR=173							
SCIA	**State Center**	29.31	328	*e*P		P	21 59 11.6	-0.8
	comp=Z,860nm,1.2s							
KSU1	**Kansas State U**	29.33	320	*e*P		P	21 59 11.6	-1.1
	comp=Z,14μm,2.5s							
KSU1				*e*PcP		PcP	22 02 21.3	+2.3
KSU1	**Kansas State U**	29.33	320	⇓P		P	21 59 11.8	-0.8
	baz=29							
KSU1				⇑S		S	22 04 06.0	+0.5
	baz=29							
S33A	**Kaszmaul Farm,**	29.34	316	⇓P		P	21 59 12.1	-0.6
	baz=29,SNR=40							
529A	**Stev Forest Ra**	29.35	299	⇓P		P	21 59 12.5	-0.4
	baz=29,SNR=63							
U32A	**Winter Ranch,**	29.37	313	⇓P		P	21 59 12.8	-0.2
	baz=29,SNR=61							
W31A	**Holland Ranch,**	29.47	310	⇑P		P	21 59 12.8	-1.2
	baz=30,SNR=166							
Z30A	**Sanderson Ranc**	29.54	306	⇑P		P	21 59 14.1	-0.5
	baz=30,SNR=113							
329A	**Wagon Wheel Ra**	29.57	302	⇓P		P	21 59 14.0	-0.9
	baz=30,SNR=124							
229A	**Bryant Ranch,**	29.59	303	⇑P		P	21 59 14.6	-0.6
	baz=30,SNR=93							
Y30A	**Stafford Cattl**	29.60	307	⇓P		P	21 59 14.3	-0.9
	baz=30,SNR=72							
V31A	**Spring Creek L**	29.67	311	⇑P		P	21 59 15.5	-0.2
	baz=30,SNR=155							
R33A	**Olander Ranch,**	29.73	317	⇑P		P	21 59 15.6	-0.6
	baz=30,SNR=193							
628A	**Black Gap, Mar**	29.73	298	⇓P		P	21 59 15.6	-0.8
	baz=30,SNR=75							
T32A	**Huddler Ranch,**	29.73	314	⇑P		P	21 59 15.8	-0.5
	baz=30,SNR=144							
X30A	**Coker Ranch, T**	29.82	308	⇓P		P	21 59 15.9	-1.2
	baz=30,SNR=162							
528A	**Cox Ranch, San**	29.83	299	⇓P		P	21 59 16.8	-0.5
	baz=30,SNR=177							
129A	**Stewart Farms,**	29.87	304	⇓P		P	21 59 16.9	-0.7
	baz=30,SNR=46							
428A	**Kincaid Ranch,**	29.91	300	⇑P		P	21 59 17.8	-0.1
	baz=30,SNR=275							
W30A	**Crocket Farms**	29.93	310	⇓P		P	21 59 17.7	-0.3
	baz=30							
U31A	**Nine Bar Ranch**	29.96	312	⇑P		P	21 59 18.0	-0.3
	baz=30,SNR=23							
Z29A	**Hungry Hill Ra**	29.98	305	⇓P		P	21 59 18.0	-0.6
	baz=30,SNR=407							
S32A	**Newby Ranch, P**	30.02	315	⇓P		P	21 59 18.4	-0.4
	baz=30,SNR=37							
Q33A	**Connelly Farm,**	30.03	318	⇓P		P	21 59 18.7	-0.1
	baz=30,SNR=195							
627A	**Terlingua Ranc**	30.15	297	⇓P		P	21 59 19.9	-0.2
	baz=30,SNR=273							
Y29A	**Porterfield Fa**	30.19	306	⇑P		P	21 59 19.8	-0.6
	baz=30,SNR=69							
P33A	**Williams Farm,**	30.21	319	⇓P		P	21 59 20.2	-0.1
	baz=30,SNR=58							
T31A	**Randall Ranch,**	30.21	314	⇑P		P	21 59 20.0	-0.4
	baz=30,SNR=198							
328A	**Wristen Ranch,**	30.21	301	⇓P		P	21 59 19.5	-1.1
	baz=30,SNR=116							
R32A	**Long Quarter,**	30.27	317	⇓P		P	21 59 20.3	-0.7
	baz=30,SNR=84							
228A	**UT Block 9, Go**	30.27	303	⇓P		P	21 59 20.8	-0.3
	baz=30,SNR=97							
V30A	**Spur Ranch, Mi**	30.27	311	⇓P		P	21 59 20.9	-0.2
	baz=30,SNR=32							
S31A	**Mullinville**	30.34	315	⇑P		P	21 59 21.6	-0.1
	baz=30,SNR=189							
TXAR	**Lajitas Array**	30.35	297	P		P	21 59 21.8	-0.1
TXAR				PcP		PcP	22 02 21.9	0.0
TXAR				*e*			22 31 16.2	
TXAR	**Lajitas Array**	30.35	297	P		P	21 59 21.8	-0.1
	comp=Z,77nm,0.8s,baz=113,slow=6.9,SNR=96							
TXAR				PcP		PcP	22 02 21.9	0.0
	comp=Z,55nm,0.7s,baz=119,slow=3.4,SNR=8.6							
TXAR				LR		LR	22 13 28.0	
	comp=Z,275μm,21.9s,baz=0.0,slow=40							
TXAR				P3K1Pbc			22 31 16.2	
	comp=Z,1.4nm,0.9s,baz=279,slow=2.8,SNR=6.8							
128A	**Castleberry Fa**	30.36	304	⇑P		P	21 59 21.3	-0.6
	baz=30,SNR=441							
X29A	**Tulia**	30.44	307	⇑P		P	21 59 22.2	-0.5
	baz=30,SNR=187							
NNA	**Nana**	30.47	188	PFAKE			21 59 40.0	+17
NNA				LR		LR		
	comp=Z,393μm,19.0s							
Q32A	**Meitler Ranch,**	30.49	318	⇑P		P	21 59 22.0	-0.9
	baz=30,SNR=156							
527A	**Woodward Ranch**	30.51	298	⇓P		P	21 59 22.8	-0.5
	baz=30,SNR=264							
Z28A	**Tucker Farm, M**	30.52	305	⇑P		P	21 59 22.8	-0.5
	baz=30,SNR=104							
427A	**Hayter Ranch,**	30.53	300	⇓P		P	21 59 23.0	-0.5
	baz=30,SNR=255							
U30A	**WK&E Inc. Balk**	30.60	312	⇑P		P	21 59 23.5	-0.5
	baz=31,SNR=110							
AMTX	**Amarillo**	30.61	308	⇑P		P	21 59 23.4	-0.7
	baz=31							
Y28A	**McKinney Farm,**	30.65	306	⇑P		P	21 59 24.0	-0.5
	baz=31,SNR=35							
W29A	**Amraillo**	30.69	309	⇑P		P	21 59 24.3	-0.5
	baz=31,SNR=126							
R31A	**Burdett**	30.73	316	⇓P		P	21 59 24.5	-0.6
	baz=31,SNR=164							
327A	**Balmorhea Ranc**	30.76	301	⇑P		P	21 59 25.1	-0.3
	baz=31,SNR=19							
T30A	**Plains**	30.77	313	⇓P		P	21 59 25.1	-0.3
	baz=31,SNR=22							
227A	**Bennet, Jal**	30.80	302	⇑P		P	21 59 24.8	-1.0
	baz=31,SNR=47							
626A	**Big Bend Ranch**	30.80	297	⇓P		P	21 59 25.5	-0.4
	baz=31,SNR=105							
X28A	**Dimmitt**	30.85	307	⇑P		P	21 59 25.1	-1.1
	baz=31,SNR=10							
COWI	**Conover**	30.85	337	*e*P		P	21 59 25.1	-0.9
	comp=Z,682nm,1.1s							
COWI				*e*PcP		PcP	22 02 26.7	+3.9
COWI				LR		LR		
	comp=Z,295μm,20.0s							
P32A	**Huiting Farm,**	30.88	319	⇑P		P	21 59 25.9	-0.4
	baz=31,SNR=152							
526A	**Mary Lane Ranc**	30.89	298	⇓P		P	21 59 26.4	-0.3
	baz=31,SNR=388							
V29A	**Stinnett**	30.92	310	⇑P		P	21 59 26.7	-0.1
	baz=31,SNR=108							
426A	**McDonald Obser**	31.00	299	⇓P		P	21 59 27.1	-0.6
	baz=31,SNR=460							
U29A	**Oasis Ranch, S**	31.01	311	⇓P		P	21 59 27.0	-0.6
	baz=31,SNR=17							
S30A	**Montezuma**	31.02	314	⇑P		P	21 59 27.2	-0.5
	baz=31,SNR=206							
Q31A	**Ellis**	31.04	317	⇓P		P	21 59 27.4	-0.3
	baz=31,SNR=196							
O32A	**Brockman Farm,**	31.06	320	⇑P		P	21 59 27.3	-0.7
	baz=31,SNR=74							
127A	**Arkansas Junct**	31.07	303	⇓P		P	21 59 27.2	-1.0
	baz=31,SNR=61							
MSTX	**Muleshoe**	31.07	306	*e*P		P	21 59 27.6	-0.7
MSTX				*e*PcP		PcP	22 02 26.7	+2.9
MSTX	**Muleshoe**	31.07	306	⇓P		P	21 59 27.1	-1.1
	baz=31,SNR=126							
326A	**Caldwell Ranch**	31.14	300	⇓P		P	21 59 28.6	-0.2
	baz=31,SNR=97							
W28A	**Vega**	31.16	309	⇑P		P	21 59 28.5	-0.5
	baz=31,SNR=15							
Z27A	**Tatum**	31.18	305	⇑P		P	21 59 27.5	-1.6
	baz=31,SNR=270							
R30A	**Dighton**	31.23	315	⇑P		P	21 59 28.8	-0.7
	baz=31,SNR=271							
P31A	**Stockton**	31.31	318	⇓P		P	21 59 29.5	-0.7
	baz=31,SNR=122							
Y27A	**Causey**	31.34	306	⇓P		P	21 59 29.6	-1.0
	baz=31,SNR=172							
T29A	**Hugoton**	31.36	312	⇑P		P	21 59 30.0	-0.6
	baz=31,SNR=65							
N32A	**Stulken Farm,**	31.38	321	⇓P		P	21 59 29.0	-1.7
	baz=31,SNR=25							
V28A	**Channing**	31.38	309	⇓P		P	21 59 29.7	-1.3
	baz=31,SNR=18							
S29A	**Ulysses**	31.46	313	⇑P		P	21 59 31.4	-0.1
	baz=32,SNR=266							
226B	**Tecolote Peak,**	31.52	302	⇑P		P	21 59 31.9	-0.3
	baz=32,SNR=109							
Q30A	**Quinter**	31.56	316	⇓P		P	21 59 31.5	-0.8
	baz=32,SNR=216							
X27A	**F and S Farms,**	31.58	307	⇑P		P	21 59 31.8	-0.9
	baz=32,SNR=47							
126A	**Clayton Basin,**	31.59	303	⇑P		P	21 59 32.2	-0.5
	baz=32,SNR=109							
SPMN	**St. Paul**	31.62	332	*e*P		P	21 59 32.0	-0.8
	comp=Z,901nm,1.2s							
SPMN	**St. Paul**	31.62	332	⇓P		P	21 59 32.2	-0.5
	baz=32,SNR=34							
O31A	**Woolen Ranch,**	31.64	319	⇓P		P	21 59 32.3	-0.8
	baz=32,SNR=120							
U28A	**Mallet**	31.66	311	⇑P		P	21 59 32.4	-0.9
	baz=32,SNR=63							
BGNE	**Belgrade**	31.69	322	*e*P		P	21 59 33.6	+0.2
BGNE	**Belgrade**	31.69	322	⇑P		P	21 59 32.8	-0.7
	baz=32,SNR=9.4							
W27A	**Bowe Ranch, En**	31.72	308	⇓P		P	21 59 33.9	-0.1
	baz=32,SNR=152							
Z26A	**Caprock**	31.76	304	⇑P		P	21 59 33.3	-1.0
	baz=32,SNR=170							
N31A	**Bailey Ranch,**	31.81	320	⇓P		P	21 59 34.3	-0.2
	baz=32,SNR=25							
425A	**Indio Mountain**	31.82	299	⇓P		P	21 59 34.9	-0.1
	baz=32,SNR=354							
V27A	**Dan Oppiter Fa**	31.84	309	⇓P		P	21 59 35.6	+0.7
	baz=32,SNR=46							
Y26A	**Elida**	31.87	305	⇓P		P	21 59 35.1	-0.2
	baz=32,SNR=79							
R29A	**Marienthal**	31.88	315	⇓P		P	21 59 35.2	0.0
	baz=32,SNR=67							
P30A	**Selden**	31.88	317	⇓P		P	21 59 34.8	-0.5
	baz=32,SNR=411							
T28A	**Walsh**	31.92	312	⇓P		P	21 59 35.2	-0.4
	baz=32,SNR=275							
325A	**Bean Ranch, Si**	31.97	300	⇑P		P	21 59 35.8	-0.5
	baz=32,SNR=791							
S28A	**Manter**	31.99	313	⇓P		P	21 59 36.0	-0.3
	baz=32							
Q29A	**Oakley**	32.01	316	⇑P		P	21 59 35.9	-0.5
	baz=32,SNR=420							
225A	**Deer Hill, Car**	32.06	301	⇑P		P	21 59 37.2	+0.1
	baz=32,SNR=620							
X26A	**CR and CF Fran**	32.09	306	⇓P		P	21 59 36.4	-0.8
	baz=32,SNR=172							
125A	**Gardner Draw,**	32.10	303	⇑P		P	21 59 36.6	-0.7
	baz=32,SNR=323							
U27A	**Thompson Grove**	32.11	310	⇑P		P	21 59 37.0	-0.3
	baz=32,SNR=169							
O30A	**MW Ranch, Wils**	32.12	318	⇑P		P	21 59 36.5	-0.7
	baz=32,SNR=84							
M31A	**Lambtecht Ranc**	32.14	321	⇓P		P	21 59 36.7	-0.7
	baz=32,SNR=130							
W26A	**Owens Ranch, T**	32.26	307	⇓P		P	21 59 38.5	-0.2
	baz=32,SNR=149							
R28A	**Tribune**	32.29	314	⇓P		P	21 59 38.4	-0.5
	baz=32,SNR=770							
T27A	**Campo**	32.32	311	⇓P		P	21 59 38.7	-0.5
	baz=32,SNR=148							
Z25A	**Roswell**	32.34	304	⇓P		P	21 59 39.1	-0.3
	baz=32,SNR=511							
P29A	**Atwood**	32.36	317	⇓P		P	21 59 39.0	-0.4
	baz=32,SNR=124							
ECSD	**EROS Data Cent**	32.37	327	*e*P		P	21 59 38.0	-1.4
	comp=Z,463nm,1.2s							
ECSD				*e*PcP		PcP	22 02 30.2	+3.3
ECSD				LR		LR		
	comp=Z,1711μm,19.0s							
ECSD	**EROS Data Cent**	32.37	327	⇑P		P	21 59 38.9	-0.5
	baz=32							
MNTX	**Cornudas Mount**	32.40	300	*e*P		P	21 59 39.7	-0.1
	comp=Z,2μm,1.4s							
MNTX				LR		LR		
	comp=Z,380μm,22.0s							
324A	**Moseley Ranch,**	32.41	300	⇓P		P	21 59 39.7	-0.4
	baz=32,SNR=1000							
N30A	**Hueftle Ranch,**	32.50	319	⇑P		P	21 59 40.2	-0.4
	baz=32,SNR=116							
Y25A	**Mesa, Roswell**	32.54	305	⇑P		P	21 59 40.6	-0.6
	baz=32,SNR=195							
V26A	**Tequesquite Ra**	32.55	309	⇓P		P	21 59 41.2	-0.1
	baz=32,SNR=245							
O29A	**4D Ranch, Culb**	32.56	318	⇑P		P	21 59 40.6	-0.5
	baz=33,SNR=93							
L31A	**Butterfield Fa**	32.57	322	⇓P		P	21 59 40.1	-1.1
	baz=33,SNR=40							
224A	**Cornudas Mount**	32.62	301	⇑P		P	21 59 41.9	0.0
	baz=33,SNR=870							
Q28A	**Sharon Springs**	32.67	315	⇓P		P	21 59 41.5	-0.7
	baz=33,SNR=72							
S27A	**Las Animas**	32.73	312	⇓P		P	21 59 42.3	-0.5
	baz=33,SNR=44							
X25A	**Clemmons Ranch**	32.73	306	⇓P		P	21 59 42.6	-0.3
	baz=33,SNR=143							
124A	**Stringfield Ra**	32.75	302	⇓P		P	21 59 43.0	-0.1
	baz=33,SNR=719							
U26A	**Atchley Ranch,**	32.77	310	⇑P		P	21 59 42.7	-0.6
	baz=33,SNR=360							
M30A	**Dale-Ortello V**	32.79	321	⇓P		P	21 59 42.4	-0.8
	baz=33,SNR=26							
W25A	**X Bar L Ranch,**	32.83	307	⇑P		P	21 59 43.9	+0.1
	baz=33,SNR=414							
N29A	**Votaw Ranch, W**	32.84	319	⇑P		P	21 59 43.1	-0.5
	baz=33,SNR=42							
Z24A	**Sheeppen Canyo**	32.88	303	⇑P		P	21 59 44.0	-0.2
	baz=33,SNR=688							
P28A	**Saint Francis**	32.88	316	⇓P		P	21 59 43.9	-0.2
	baz=33,SNR=150							
R27A	**Eads**	32.94	313	⇑P		P	21 59 44.2	-0.5
	baz=33,SNR=179							
L30A	**Spencer Herefo**	32.95	321	⇓P		P	21 59 43.9	-0.6
	baz=33,SNR=298							
T26A	**Comanche Natio**	33.00	311	⇑P		P	21 59 44.5	-0.7
	baz=33,SNR=260							
S26A	**Kim**	33.11	312	⇓P		P	21 59 45.2	-0.9
	baz=33,SNR=85							
Y24A	**Capitan**	33.12	304	⇑P		P	21 59 46.3	0.0
	baz=33							
KSCO	**Kaye Shedlock'**	33.18	315	*e*P		P	21 59 47.0	+0.3
KSCO	**Kaye Shedlock'**	33.18	315	⇓P		P	21 59 46.0	-0.7
	baz=33,SNR=27							
O28A	**Krutsinger Ran**	33.19	317	⇑P		P	21 59 46.3	-0.4
	baz=33,SNR=56							
V25A	**Rancho No Teng**	33.19	308	⇑P		P	21 59 47.0	0.0
	baz=33,SNR=892							
M29A	**Burnside Ranch**	33.23	320	⇓P		P	21 59 46.3	-0.8
	baz=33,SNR=117							
U25A	**Circle Dot Ran**	33.26	309	⇓P		P	21 59 46.8	-0.7
	baz=33,SNR=133							
EYMN	**Ely**	33.28	337	*e*P		P	21 59 46.1	-1.1
	comp=Z,1μm,1.1s							
EYMN				LR		LR		
	comp=Z,599μm,20.0s							
K30A	**Basset**	33.33	322	⇓P		P	21 59 46.8	-1.0
	baz=33,SNR=15							
223A	**Chaparral, Ant**	33.34	301	⇑P		P	21 59 47.8	-0.4
	baz=33							
N28A	**Pribbeno Ranch**	33.34	318	⇓P		P	21 59 46.6	-1.4
	baz=33,SNR=107							
X24A	**Lazy VL Ranch,**	33.34	305	⇓P		P	21 59 48.2	-0.1
	baz=33,SNR=56							
123A	**Bell Site, Whi**	33.38	302	⇓P		P	21 59 48.3	-0.2
	baz=33,SNR=32							
R26A	**Arlington**	33.40	313	⇑P		P	21 59 48.0	-0.6
	baz=33,SNR=187							
P27A	**Ficken Ranch,**	33.42	315	⇓P		P	21 59 48.0	-0.7
	baz=33,SNR=57							
L29A	**Maesberg Ranch**	33.47	321	⇑P		P	21 59 48.1	-1.0
	baz=34,SNR=165							
Z23A	**Rita Site, Whi**	33.54	303	⇑P		P	21 59 49.6	-0.3
	baz=34,SNR=228							
W24A	**Lazy 6 Ranch,**	33.55	307	⇑P		P	21 59 49.8	-0.3
	baz=34,SNR=491							
T25A	**Trinidad**	33.57	310	⇓P		P	21 59 50.0	-0.2
	baz=34,SNR=513							
Y23A	**Lovelace Mesa,**	33.61	304	⇑P		P	21 59 50.6	0.0
	baz=34							
M28A	**Bar X Bar Ranc**	33.63	319	⇓P		P	21 59 49.9	-0.6
	baz=34,SNR=81							
V24A	**Rampart Ranch,**	33.64	308	⇓P		P	21 59 50.7	-0.2
	baz=34,SNR=157							
J30A	**Dallas**	33.66	323	⇓P		P	21 59 49.1	-1.6
	baz=34,SNR=53							
O27A	**Beecher Island**	33.68	316	⇓P		P	21 59 50.1	-1.0
	baz=34,SNR=41							
Q26A	**Hugo**	33.74	314	⇓P		P	21 59 51.5	-0.2
	baz=34,SNR=429							
K29A	**Lazy Trails An**	33.79	322	⇓P		P	21 59 51.1	-0.8
	baz=34,SNR=63							
OGNE	**Ogallala**	33.79	318	*e*P		P	21 59 51.2	-0.8
	comp=Z,35μm,1.5s							
OGNE				LR		LR		
	comp=Z,348μm,19.0s							
OGNE	**Ogallala**	33.79	318	⇓P		P	21 59 51.2	-0.8
	baz=34							
S25A	**Robets Cordova**	33.81	311	⇑P		P	21 59 51.9	-0.3
	baz=34,SNR=399							
U24A	**Moreno Valley**	33.91	309	⇓P		P	21 59 53.5	+0.3
	baz=34							
222A	**Williams Famil**	33.92	300	⇓P		P	21 59 53.1	-0.1
	baz=34							
R25A	**Fountain Ranch**	33.92	312	⇑P		P	21 59 52.8	-0.3
	baz=34,SNR=152							
X23A	**Hourglass Bar**	33.93	305	⇓P		P	21 59 53.3	-0.1
	baz=34							
P26A	**Davis Ranch, A**	33.94	315	⇑P		P	21 59 53.0	-0.3
	baz=34,SNR=96							
N27A	**Anderson Farm,**	34.04	317	⇑P		P	21 59 53.4	-0.7
	baz=34,SNR=19							
L28A	**Connealy Angus**	34.07	320	⇑P		P	21 59 53.2	-1.1
	baz=34,SNR=34							
BRSD	**Miller**	34.09	325	*e*P		P	21 59 53.2	-1.2
BRSD	**Miller**	34.09	325	⇑P		P	21 59 53.6	-0.8
	baz=34,SNR=17							
W23A	**Werner Place,**	34.10	306	⇑P		P	21 59 54.5	-0.4
	baz=34,SNR=232							
Z22A	**Elephant Butte**	34.13	303	⇑P		P	21 59 55.0	-0.1
	baz=34,SNR=510							
BNM	**Barren Site**	34.13	304	*e*P		P	21 59 55.3	+0.1
	comp=Z,2μm,1.2s							
BNM				*e*PP		PP	22 01 22.4	+10
LPM	**Los Pinos Moun**	34.19	304	*e*P		P	21 59 55.8	+0.2
LPM				*e*PP		PP	22 01 23.3	+10
J29A	**Okreek**	34.19	323	⇑P		P	21 59 54.4	-0.9
	baz=34,SNR=149							
Q25A	**Bedland, Calha**	34.24	313	⇓P		P	21 59 55.5	-0.5
	baz=34,SNR=129							
T24B	**San Luis**	34.24	310	⇓P		P	21 59 56.1	-0.1
	baz=34,SNR=598							
O26A	**Horse Wrangler**	34.25	316	⇑P		P	21 59 56.1	+0.1
	baz=34,SNR=44							
ANMO	**Albuquerque**	34.26	306	*e*P		P	21 59 56.7	+0.5
	comp=Z,4μm,2.4s							
ANMO				*e*PcP		PcP	22 02 36.1	+3.5
ANMO	**Albuquerque**	34.26	306	P		P	21 59 56.6	+0.4
	comp=Z,264nm,1.1s,baz=123,slow=10,SNR=73							
ANMO				LR		LR	22 15 44.6	
	comp=Z,398μm,18.1s,baz=104,slow=40							
M27A	**Reverse DX Ran**	34.34	319	⇑P		P	21 59 56.3	-0.4
	baz=34,SNR=70							
V23A	**

R23A **Moffat** 35.03 311 ⇑P P 22 00 02.9 -0.1
baz=35
I28A **Midland** 35.04 323 ⇓P P 22 00 02.5 -0.1
baz=35
L26A **Underwood Farm** 35.05 319 ⇓P P 22 00 01.3 -1.5
baz=35,SNR=36
N25A **Grover** 35.05 316 ⇑P P 22 00 02.6 -0.3
baz=35,SNR=34
F30A **Leola** 35.06 327 ⇑P P 22 00 02.4 -0.4
baz=35
U22A **Llaves** 35.07 308 ⇓P P 22 00 03.4 +0.1
baz=35,SNR=558
J27A **Elkhorn Farm,** 35.08 321 ⇑P P 22 00 02.1 -1.0
baz=35,SNR=62
G29A **Hoven** 35.10 326 ⇓P P 22 00 03.1 0.0
baz=35
AGMN **Agassiz Nation** 35.33 333 *e*P P 22 00 05.4 +0.3
comp=Z,2µm,1.5s
AGMN LR LR
comp=Z,428µm,19.0s
AGMN **Agassiz Nation** 35.33 333 ⇑P P 22 00 04.7 -0.3
baz=35
Q23A **Hartsel** 35.34 312 ⇑P P 22 00 05.0 -0.7
baz=35,SNR=21
M25A **Palm-Egli Farm** 35.35 317 ⇓P P 22 00 05.3 -0.2
baz=35
H28A **Mission Ridge** 35.37 324 ⇑P P 22 00 04.2 -1.3
baz=35,SNR=91
O24A **Longmont** 35.37 315 ⇑P P 22 00 05.7 0.0
baz=35,SNR=37
E30A **Jud** 35.45 328 ⇑P P 22 00 05.6 -0.5
baz=36,SNR=34
F29A **Eureka** 35.47 327 ⇓P P 22 00 05.1 -1.3
baz=36,SNR=15
K26A **Motz Farm, Whi** 35.47 320 ⇑P P 22 00 05.0 -1.5
baz=36
LPIG **La Paz** 35.54 286 P P 22 00 07.8 +0.7
LPIG **La Paz** 35.54 286 P P 22 00 07.8 +0.7
comp=Z,728nm,1.1s,baz=254,slow=0.5,SNR=68
319A **Douglas** 35.54 298 ⇓P P 22 00 07.6 +0.3
baz=36,SNR=606
P23A **Jefferson** 35.55 313 ⇑P P 22 00 06.9 -0.6
baz=36,SNR=185
G28A **Parade** 35.56 325 ⇑P P 22 00 06.0 -1.2
baz=36,SNR=71
S22A **4UR Ranch, Cre** 35.57 310 ⇑P P 22 00 07.3 -0.4
baz=36,SNR=418
N24A **Carr** 35.58 316 ⇑P P 22 00 07.7 +0.1
baz=36,SNR=91
I27A **Quinn** 35.59 322 ⇑P P 22 00 06.6 -0.8
baz=36,SNR=91
ISCO **Idaho Springs** 35.59 314 *e*P P 22 00 07.4 -0.4
ISCO pmax pmax
comp=Z,3µm,2.0s
ISCO MLR MLR
comp=Z,1042µm,19.0s
ISCO **Idaho Springs** 35.59 314 *e*P P 22 00 07.4 -0.4
comp=Z,3µm,2.0s
ISCO LR LR
comp=Z,1042µm,19.0s
ISCO **Idaho Springs** 35.59 314 ⇓P P 22 00 07.2 -0.5
baz=36
L25A **Engebretsen Ra** 35.67 318 ⇓P P 22 00 07.6 -0.6
baz=36
J26A **Sides Ranch, S** 35.75 321 ⇑P P 22 00 09.2 +0.4
baz=36
D30A **Buchanan** 35.80 329 ⇓P P 22 00 09.0 -0.1
baz=36
K25A **Mack Ranch, Ha** 35.85 319 ⇓P P 22 00 08.6 -1.2
baz=36
M24A **Cheyenne** 35.86 317 ⇑P P 22 00 08.1 -1.9
baz=36
E29A **Napoleon** 35.87 328 ⇑P P 22 00 08.3 -1.4
baz=36,SNR=67
H27A **Howes** 35.94 323 ⇓P P 22 00 09.5 -1.0
baz=36,SNR=120
O23A **Lake Granby, G** 35.98 314 ⇑P P 22 00 10.8 -0.4
baz=36,SNR=139
SIV **San Ignacio** 35.99 161 P P 22 00 10.5 -0.5
SIV **San Ignacio** 35.99 161 P P 22 00 10.5 -0.5
comp=Z,117nm,1.1s,baz=356,slow=9.0,SNR=79
SIV LR LR 22 16 07.5
comp=Z,800µm,19.1s,baz=354,slow=38
F28A **McLaughlin** 36.00 326 ⇓P P 22 00 09.9 -0.9
baz=36,SNR=22
I26A **New Underwood** 36.03 322 ⇓P P 22 00 10.3 -1.0
baz=36
C30A **Mose, Pekin** 36.08 330 ⇑P P 22 00 10.7 -0.8
baz=36,SNR=301
D29A **Pettibone, Tap** 36.18 328 ⇑P P 22 00 11.5 -0.9
baz=36,SNR=141
L24A **Wheatland** 36.22 318 ⇓P P 22 00 12.0 -1.0
baz=36
J25A **Sunshine Ranch** 36.23 320 ⇑P P 22 00 12.1 -0.9
baz=36
SMCO **Snowmass** 36.26 312 *e*P P 22 00 13.2 -0.5
comp=Z,2µm,1.4s
P22A **Eagle** 36.29 313 ⇑P P 22 00 12.6 -1.1
baz=36,SNR=171
G27A **Dupree** 36.31 324 ⇓P P 22 00 13.0 -0.6
baz=36,SNR=103
N23A **Red Feather La** 36.32 315 ⇓P P 22 00 13.9 -0.1
baz=36
H26A **Fairpoint** 36.33 323 ⇑P P 22 00 13.4 -0.4
baz=36
O22A **Kremmling** 36.39 314 ⇑P P 22 00 13.7 -0.9
baz=36,SNR=477
E28A **Huff** 36.41 327 ⇓P P 22 00 13.5 -0.9
baz=36,SNR=118
M23A **Laramie** 36.45 316 ⇓P P 22 00 14.4 -0.6
baz=36
K24A **Anderson Ranch** 36.50 319 ⇑P P 22 00 16.0 +0.6
baz=36
I25A **Rochford** 36.55 321 P P 22 00 17.4 +1.6
baz=36
B30A **Myrvik Farm, E** 36.55 331 ⇓P P 22 00 14.7 -0.8
baz=36,SNR=371
MVCO **Mesa Verde** 36.60 308 *e*P P 22 00 15.2 -1.2
comp=Z,970nm,1.6s
MVCO LR LR
comp=Z,286µm,21.0s
MVCO **Mesa Verde** 36.60 308 ⇓P P 22 00 15.8 -0.6
baz=37,SNR=131
N22A **Wattenberg Ran** 36.62 315 ⇓P P 22 00 16.3 -0.3
baz=37
SCHQ **Schefferville** 36.65 6 *e*P P 22 00 15.8 -0.5
comp=Z,65nm,0.7s
SCHQ **Schefferville** 36.65 6 P P 22 00 15.8 -0.5
comp=Z,223nm,0.8s,baz=195,slow=7.0,SNR=120
SCHQ LR LR 22 15 58.9
comp=Z,268µm,18.0s,baz=195,slow=38
F27A **Lemmon** 36.67 325 ⇑P P 22 00 16.2 -0.5
baz=37,SNR=169
MDND **Maddock** 36.73 329 *e*P P 22 00 16.5 -0.5
comp=Z,2µm,1.1s
MDND **Maddock** 36.73 329 ⇓P P 22 00 16.3 -0.7
baz=37,SNR=164
J24A **Dixon Ranch, L** 36.73 320 ⇓P P 22 00 15.9 -1.3
baz=37
L23A **Garrett** 36.75 317 ⇑P P 22 00 17.0 -0.6
baz=37
D28A **Regan** 36.76 328 ⇓P P 22 00 17.0 -0.3
baz=37,SNR=22
E27A **Carson** 36.78 326 ⇑P P 22 00 16.8 -0.7
baz=37,SNR=36
H25A **Fruitdale** 36.81 322 ⇓P P 22 00 16.6 -1.3
baz=37
ULM **Lac du Bonnet** 36.84 335 *e*P P 22 00 16.0 -2.0
comp=Z,2.7nm,0.9s
ULM *e*PP PnPn 22 01 43.4 +1.4
ULM **Lac du Bonnet** 36.84 335 P P 22 00 15.9 -2.0
comp=Z,122nm,0.8s,baz=140,slow=8.1,SNR=40
ULM LR LR 22 16 37.5
comp=Z,678µm,18.8s,baz=146,slow=38
W18A **Petrified Fore** 36.87 304 *e*P P 22 00 19.1 +0.5
comp=Z,1µm,1.4s
W18A **Petrified Fore** 36.87 304 ⇑P P 22 00 18.6 -0.1
baz=37,SNR=108
X18A **Snowflake** 36.87 303 ⇑P P 22 00 19.2 +0.6
baz=37,SNR=164
A30A **Hoffart Farm,** 36.89 332 ⇑P P 22 00 17.5 -0.9
baz=37,SNR=758
I24A **Kuemmerle Ranc** 36.99 320 ⇑P P 22 00 19.1 -0.4
baz=37
PV01 **Paradox Valley** 36.99 310 *e*P P 22 00 20.1 +0.4
M22A **Cedar Creek Ra** 36.99 316 ⇓P P 22 00 19.5 -0.2
baz=37

TUC **Tucson** 37.00 300 *e*P P 22 00 19.9 +0.3
TUC pmax pmax
comp=Z,5µm,2.8s
TUC MLR MLR
comp=Z,518µm,20.0s
TUC **Tucson** 37.00 300 *e*P P 22 00 19.9 +0.3
comp=Z,5µm,2.8s
TUC LR LR
comp=Z,518µm,20.0s
F26A **Lodgepole** 37.01 324 ⇑P P 22 00 18.7 -0.9
baz=37,SNR=13
C28A **Hausauer Farms** 37.02 328 ⇓P P 22 00 18.7 -0.8
baz=37,SNR=43
K23A **Bowen Ranch, D** 37.03 318 ⇓P P 22 00 20.1 +0.3
baz=37
B29A **Wagenman Farm,** 37.04 330 ⇓P P 22 00 19.2 -0.4
baz=37,SNR=224
G25A **Newell** 37.04 323 ⇓P P 22 00 18.8 -1.0
baz=37
L22A **Ellis Ranch, M** 37.19 317 ⇑P P 22 00 21.7 +0.4
baz=37
D27A **Center** 37.19 327 ⇑P P 22 00 20.7 -0.3
baz=37,SNR=29
E26A **Carlson Angus** 37.28 325 ⇑P P 22 00 20.6 -1.2
baz=37,SNR=37
A29A **Manning Farm,** 37.30 331 ⇑P P 22 00 21.1 -0.8
baz=37,SNR=538
J23A **Dilts Ranch, B** 37.32 319 ⇓P P 22 00 22.1 -0.2
baz=37
PV04 **Paradox Valley** 37.33 310 *e*P P 22 00 22.6 +0.1
PV04 *e*PcP PcP 22 02 45.2 +3.5
H24A **Dirks Ranch, A** 37.44 322 ⇓P P 22 00 22.9 -0.3
baz=37
F25A **Bowman** 37.50 324 ⇑P P 22 00 22.4 -1.3
baz=38
B28A **Dugan Ranch, T** 37.51 329 ⇓P P 22 00 22.8 -0.8
baz=38,SNR=270
K22A **Casper** 37.55 317 ⇓P P 22 00 23.8 -0.5
baz=38
O20A **White River Ci** 37.55 313 *e*P P 22 00 25.1 +0.7
O20A *e*PP PnPn 22 01 55.3 +4.3
O20A **White River Ci** 37.55 313 ⇓P P 22 00 24.2 -0.2
baz=38,SNR=135
I23A **Meade Ranch, G** 37.56 320 ⇓P P 22 00 23.6 -0.7
baz=38
C27A **Sayler Ranch,** 37.58 328 ⇑P P 22 00 24.0 -0.3
baz=38,SNR=69
D26A **Manning** 37.62 326 ⇑P P 22 00 23.8 -0.9
baz=38,SNR=83
G24A **Alzada** 37.69 323 ⇓P P 22 00 24.3 -1.1
baz=38
A28A **Rude Farm, Bot** 37.78 330 ⇓P P 22 00 25.0 -1.0
baz=38,SNR=305
E25A **Miller Ranch,** 37.81 325 ⇑P P 22 00 26.6 +0.2
baz=38,SNR=12
H23A **Clabaugh Cattl** 37.84 321 ⇓P P 22 00 26.0 -0.6
baz=38
N20A **Spence Gulch,** 37.86 314 ⇑P P 22 00 27.2 +0.1
baz=38,SNR=28
J22A **Midwest** 37.90 319 ⇑P P 22 00 27.2 0.0
baz=38
B27A **Peters Farms,** 37.92 329 ⇑P P 22 00 26.7 -0.5
baz=38,SNR=56
BESB **Sao Joao Dos P** 37.94 128 ⇑*i*P P 22 00 26.7 -1.0
BESB *i* 22 00 28.3
BESB *i* 22 00 35.1
BESB *i* 22 00 41.7
BESB *e* 22 00 53.9
BESB *e* 22 00 54.0
BESB *e* 22 01 47.9
BESB *i* 22 01 52.5
BESB *i* 22 06 11.9
BESB *e* 22 07 54.3
BESB *e* 22 14 17.0
C26A **Wahner Farm, P** 37.95 327 ⇓P P 22 00 26.9 -0.6
baz=38,SNR=168
F24A **Ekalaka** 38.01 323 ⇓P P 22 00 27.3 -0.7
baz=38
K21A **Alcova** 38.01 317 ⇓P P 22 00 27.6 -0.6
baz=38
X16A **Lo Mia Camp, P** 38.03 303 ⇓P P 22 00 28.9 +0.4
baz=38,SNR=429
I22A **9 Mile Ranch,** 38.15 319 ⇓P P 22 00 28.6 -0.7
baz=38
D25A **Fairfield** 38.17 326 ⇓P P 22 00 29.3 0.0
baz=38,SNR=16
G23A **Biddle** 38.19 322 ⇓P P 22 00 29.7 +0.2
baz=38
WUAZ **Wupatki** 38.27 304 *e*P P 22 00 30.8 +0.3
WUAZ comp=Z,22nm,0.8s LR LR
comp=Z,481µm,19.0s
WUAZ **Wupatki** 38.27 304 ⇓P P 22 00 30.4 -0.1
baz=38,SNR=333
E24A **Baker** 38.35 324 ⇑P P 22 00 30.7 -0.1
baz=38
B26A **Jensen Ranch,** 38.38 328 ⇑P P 22 00 31.3 +0.2
baz=38,SNR=30
H22A **Clearmont** 38.43 320 ⇓P P 22 00 31.6 -0.1
baz=38
J21A **Lysite** 38.48 318 ⇑P P 22 00 31.6 -0.6
baz=38
C25A **Freed Ranch, W** 38.48 326 ⇑P P 22 00 31.5 -0.5
baz=38,SNR=25
F23A **Volborg** 38.49 322 ⇑P P 22 00 31.8 -0.3
baz=38
214A **Organ Pipe Nat** 38.61 298 *e*P P 22 00 33.5 +0.3
comp=Z,668nm,1.4s
214A **Organ Pipe Nat** 38.61 298 ⇑P P 22 00 33.2 0.0
baz=39,SNR=124
I21A **Big Trails, Te** 38.61 319 ⇓P P 22 00 32.8 -0.4
baz=39
A26A **Wade Farm, Ken** 38.63 329 ⇓P P 22 00 32.9 -0.2
baz=39,SNR=147
D24A **Glendive** 38.69 325 ⇓P P 22 00 34.2 +0.5
baz=39,SNR=17
G22A **Biry** 38.73 321 ⇓P P 22 00 34.4 +0.3
baz=39
SRU **San Rafael** 38.77 310 *e*P P 22 00 34.6 -0.1
SRU **San Rafael** 38.77 310 *e*P P 22 00 34.6 -0.1
B25A **Knox Farm, Ray** 38.79 327 ⇓P P 22 00 34.4 -0.1
baz=39,SNR=83
H21A **Big Horn, Sher** 38.87 320 ⇑P P 22 00 35.2 -0.1
baz=39
J20A **Shoshoni** 38.89 318 ⇓P P 22 00 35.4 -0.2
baz=39
C24A **Savage** 38.99 325 ⇓P P 22 00 35.4 -0.9
baz=39
Z14A **Wintersburg** 39.00 301 ⇑P P 22 00 36.5 +0.1
baz=39,SNR=58
F22A **Rosebud** 39.02 322 ⇑P P 22 00 35.9 -0.6
baz=39,SNR=14
Y14A **Wickenburg** 39.17 301 ⇓P P 22 00 38.0 0.0
baz=39,SNR=91
A25A **Svangstu Ranch** 39.19 328 ⇓P P 22 00 37.4 -0.5
baz=39,SNR=104
E22A **Miles City** 39.20 323 ⇓P P 22 00 37.1 -0.9
baz=39,SNR=9.4
I20A **Worland** 39.20 318 ⇓P P 22 00 37.1 -1.0
baz=39
D23A **Lindsay** 39.21 324 ⇑P P 22 00 37.9 -0.2
baz=39
U15A **North Rim** 39.24 305 ⇑P P 22 00 38.9 +0.1
baz=39,SNR=560
G21A **Lodge Grass** 39.28 321 ⇑P P 22 00 38.5 -0.2
baz=39
TMUT **Trail Mountain** 39.34 310 *e*P P 22 00 35.8 -3.8
H20A **Greybull** 39.39 319 ⇑P P 22 00 39.4 -0.2
baz=39
DGMT **Dagmar** 39.45 327 *e*P P 22 00 39.6 -0.4
comp=Z,15µm,2.8s
DGMT LR LR
comp=Z,1036µm,21.0s
DGMT **Dagmar** 39.45 327 ⇓P P 22 00 39.9 -0.1
baz=39,SNR=30
J19A **Crowheart** 39.47 317 ⇑P P 22 00 40.0 -0.5
baz=40
LAO **LASA Array** 39.50 323 *e*P P 22 00 40.2 -0.3
comp=Z,836nm,1.4s
LAO LR LR
comp=Z,971µm,19.0s
F21A **Absaloka Mine,** 39.55 321 ⇑P P 22 00 40.7 -0.2
baz=40,SNR=8.6
113A **Mohawk Valley,** 39.55 299 ⇑P P 22 00 41.7 +0.6
baz=40,SNR=96
C23A **Lambert** 39.57 325 ⇑P P 22 00 40.6 -0.4
baz=40,SNR=24

BW06 **Boulder Array** 39.58 316 *e*P P 22 00 40.8 -0.6
comp=Z,2µm,1.7s
BW06 LR LR
comp=Z,1026µm,19.0s
PDAR **Pinedale Array** 39.58 316 P P 22 00 40.9 -0.6
PDAR PcP PcP 22 02 47.7 -0.9
PDAR P'P' 22 32 52.5
PDAR **Pinedale Array** 39.58 316 P P 22 00 40.9 -0.6
comp=Z,224nm,1.1s,baz=104,slow=12,SNR=32
PDAR PcP PcP 22 02 47.7 -0.9
comp=Z,69nm,0.7s,baz=104,slow=6.6,SNR=7.7
PDAR LR LR 22 18 23.8
comp=Z,1012µm,18.5s,baz=120,slow=38
PDAR PKPPKP P'P'df 22 32 52.5 -22
comp=Z,1.4nm,1.0s,baz=93,slow=4.5,SNR=3.8
A24A **Westby** 39.63 327 ⇓P P 22 00 41.0 -0.5
baz=40,SNR=266
D22A **Cohagen** 39.74 324 ⇑P P 22 00 42.0 -0.4
baz=40,SNR=23
DAU **Daniels Canyon** 39.78 312 *e*P P 22 00 43.0 -0.2
DAU **Daniels Canyon** 39.78 312 *e*P P 22 00 43.0 -0.2
I19A **Meeteetse** 39.80 318 ⇓P P 22 00 42.6 -0.6
baz=40
MVU **Marysvale** 39.81 309 *e*P P 22 00 43.4 0.0
comp=Z,426nm,1.3s
MVU *e*PcP PcP 22 02 47.9 -1.6
B23A **Brockton** 39.86 326 ⇓P P 22 00 43.4 0.0
baz=40,SNR=6.6
G20A **Bridger** 39.89 320 ⇑P P 22 00 43.3 -0.5
baz=40
MPU **Maple Canyon** 39.90 311 *e*P P 22 00 44.0 -0.1
E21A **Keefer Ranch,** 39.91 322 ⇑P P 22 00 43.1 -0.8
baz=40,SNR=13
C22A **Vida** 39.92 325 ⇑P P 22 00 43.4 -0.5
baz=40,SNR=16
H19A **Powell** 40.09 319 ⇑P P 22 00 44.5 -1.1
baz=40
A23A **Redstone** 40.11 327 ⇑P P 22 00 45.0 -0.5
baz=40,SNR=100
W13A **Hualapai Mount** 40.15 303 ⇓P P 22 00 46.9 +0.7
baz=40,SNR=503
F20A **Billings** 40.15 321 ⇑P P 22 00 44.8 -1.1
baz=40,SNR=30
D21A **La Casta Ranch** 40.15 323 ⇓P P 22 00 45.8 -0.1
baz=40,SNR=21
PDMCI **Parker Dam,Lak** 40.17 302 ⇓P P 22 00 46.2 0.0
baz=40,SNR=127
NLU **North Lily Min** 40.20 311 *e*P P 22 00 46.7 +0.1
CTU **Camp Tracy** 40.23 312 *e*P P 22 00 46.8 0.0
B22A **Reddig Ranch S** 40.30 325 ⇑P P 22 00 47.2 +0.1
baz=40,SNR=36
Y12C **Blythe** 40.37 301 ⇓P P 22 00 48.2 +0.3
baz=40,SNR=50
CCUT **Cedar City** 40.38 307 *e*P P 22 00 48.1 0.0
GLA **Glamis** 40.48 300 *e*P P 22 00 49.3 +0.4
GLA pmax pmax
comp=Z,1µm,2.3s
GLA **Glamis** 40.48 300 *e*P P 22 00 49.3 +0.4
comp=Z,1µm,2.3s
GLA **Glamis** 40.48 300 ⇑P P 22 00 48.9 0.0
baz=40,SNR=98
RLMT **Red Lodge** 40.49 319 PFAKE 22 01 00.0 +11
RLMT LR LR
comp=Z,772µm,19.0s
E20A **Meyer Farm, Mu** 40.50 322 ⇓P P 22 00 48.5 -0.3
baz=40,SNR=26
H18A **Shoshone NF, C** 40.52 319 ⇑P P 22 00 47.9 -1.3
baz=40
F19A **Roth Farm, Mol** 40.65 321 ⇓P P 22 00 49.0 -1.1
baz=41
NEE2 **Needles Airpor** 40.66 302 ⇑P P 22 00 50.4 +0.2
baz=41,SNR=13
A22A **Carney Farms,** 40.67 326 ⇓P P 22 00 50.2 0.0
baz=41,SNR=277
I17A **Pilgrim Ck.** 40.76 317 ⇓P P 22 00 51.0 -0.2
baz=41
DUG **Dugway** 40.81 311 *e*P P 22 00 51.6 0.0
DUG pmax pmax
comp=Z,915nm,1.2s
DUG MLR MLR
comp=Z,198µm,19.0s
DUG **Dugway** 40.81 311 *e*P P 22 00 51.6 0.0
comp=Z,915nm,1.2s
DUG LR LR
comp=Z,198µm,19.0s
DUG **Dugway** 40.81 311 ⇓P P 22 00 51.1 -0.5
baz=41,SNR=646
D20A **Manuel Ranch,** 40.82 323 ⇑P P 22 00 51.0 -0.5
baz=41,SNR=21
E19A **Rath Farm, Rou** 40.87 321 ⇓P P 22 00 51.4 -0.5
baz=41,SNR=42
LVC **Limon Verde** 40.90 175 *e*P P 22 00 51.5 -1.0
comp=Z,374nm,1.3s
LVC LR LR
comp=Z,322µm,22.0s
B21A **Ellsworth Farm** 40.93 325 ⇓P P 22 00 52.1 -0.2
baz=41,SNR=25
IRM **Iron Mountain** 40.96 301 ⇓P P 22 00 53.0 +0.2
baz=41,SNR=840
H17A **Grant Village** 40.97 318 *e*P P 22 00 54.8 +1.8
comp=Z,2µm,1.7s
H17A **Grant Village** 40.97 318 ⇓P P 22 00 53.8 +0.8
baz=41
C20A **Veseth Ranch,** 41.08 323 ⇑P P 22 00 53.2 -0.3
baz=41,SNR=33
BC3 **Big Chuckawall** 41.11 300 ⇓P P 22 00 53.8 -0.3
baz=41,SNR=166
LDFC **Landfair** 41.12 303 *e*P P 22 00 55.6 +1.5
YFT **Old Faithful** 41.16 318 *e*P P 22 00 56.0 +1.5
A21A **Bergtoll Ranch** 41.21 326 ⇓P P 22 00 54.9 +0.3
baz=41,SNR=267
BGU **Big Grassy Mou** 41.22 312 *e*P P 22 00 54.5 -0.5
SWSC **Sam W. Stewart** 41.27 299 ⇑P P 22 00 55.8 +0.6
baz=41,SNR=69
D19A **Cripps Ranch,** 41.29 322 ⇓P P 22 00 54.6 -0.7
baz=41,SNR=55
YMR **Madison River** 41.34 318 *e*P P 22 00 56.7 +0.7
HVU **Hansel Valley** 41.35 313 *e*P P 22 00 55.0 -1.0
HVU **Hansel Valley** 41.35 313 *e*P P 22 00 55.0 -1.0
H07S1 **FLORES T-PHASE** 41.38 51 *e*P P 22 00 56.8 +0.6
DVTC **Desert V Tower** 41.47 299 ⇑P P 22 00 56.6 -0.4
baz=41,SNR=18
SHPR **Sheep Range** 41.49 305 *e*P P 22 00 57.8 +0.6
SHPR *e* 22 02 46.0
B20A **Solberg Farm,** 41.49 324 ⇓P P 22 00 56.8 -0.1
baz=42,SNR=85
GMRC **Granite Mounta** 41.50 302 ⇓P P 22 00 57.2 -0.1
baz=42,SNR=212
H07N1 **FLORES T-PHASE** 41.55 50 *e*P P 22 00 58.5 +1.0
BDFB **Brasilia** 41.58 143 P P 22 00 57.7 -0.3
BDFB **Brasilia** 41.58 143 P P 22 00 57.7 -0.3
comp=Z,239nm,0.8s,baz=316,slow=9.9,SNR=208
CEN1 **Los Morros** 41.58 177 *e*P P 22 01 05.3 +7.3
CEN1 **Los Morros** 41.58 177 *e*P P 22 01 05.3 +7.3
BELC **Belle Mtn. Jos** 41.62 301 ⇑P P 22 00 58.4 +0.1
baz=42,SNR=173
A20A **Cobblestone Ra** 41.68 325 ⇑P P 22 00 58.5 0.0
baz=42,SNR=315
C19A **Slack Wire Ran** 41.69 323 ⇓P P 22 00 59.8 +1.2
baz=42,SNR=17
QLMT **Earthquake Lak** 41.71 318 *e*P P 22 00 59.9 +0.9
MONP **Monument Peak** 41.77 299 ⇑P P 22 00 60.0 +0.3
baz=42,SNR=256
TUQ **Turquoise Moun** 41.85 303 ⇑P P 22 01 00.5 +0.4
baz=42,SNR=48
PFO **Pinyon Flat Ob** 41.92 300 P P 22 01 01.1 +0.3
PFO PcP PcP 22 02 57.9 +1.6
PFO LR LR
comp=Z,115µm,19.0s
PFO **Pinyon Flat Ob** 41.92 300 P P 22 01 01.1 +0.3
comp=Z,73nm,1.1s,baz=99,slow=8.1,SNR=53
PFO PcP PcP 22 02 57.9 +1.6
comp=Z,109nm,1.1s,baz=87,slow=20,SNR=4.4
PFO **Pinyon Flat Ob** 41.92 300 ⇓P P 22 01 01.5 +0.7
baz=42,SNR=64
BAR **Barrett** 41.95 299 *e*P P 22 01 01.8 +0.8
comp=Z,110nm,1.1s
B19A **Brinkman Farms** 42.01 324 ⇑P P 22 01 00.9 -0.3
baz=42,SNR=101
HEC **Hector,Ludlow** 42.05 302 ⇓P P 22 01 02.1 +0.3
baz=42,SNR=174
A19A **Klindworth Far** 42.16 325 ⇑P P 22 01 02.5 +0.1
baz=42,SNR=143
BOZ **Bozeman (W)** 42.20 319 *e*P P 22 01 02.6 -0.3
BOZ pmax pmax
comp=Z,986nm,1.4s
BOZ MLR MLR

comp=Z,713µm,21.0s
BOZ Bozeman (W) 42.20 319 *e*P **P 22 01 02.6 -0.3**
comp=Z,986nm,1.4s
BOZ LR LR
comp=Z,713µm,21.0s
SHOC Shoshone 42.23 303 ⇑P **P 22 01 03.8 +0.7**
baz=42,SNR=61
EGMT Eagleton 42.24 323 *e*P **P 22 01 02.6 -0.5**
comp=Z,1µm,1.5s
EGMT LR LR
comp=Z,959µm,19.0s
EGMT Eagleton 42.24 323 ⇓P **P 22 01 02.4 -0.8**
baz=42,SNR=85
R11A Troy Canyon, C 42.29 307 *e*P **P 22 01 04.0 +0.2**
comp=Z,37nm,0.4s
R11A Troy Canyon, C 42.29 307 ⇑P **P 22 01 04.0 +0.2**
baz=42,SNR=467
109C Camp Elliot, M 42.34 299 ⇓P **P 22 01 04.0 -0.1**
baz=42,SNR=29
BBRC Big Bear Solar 42.42 301 ⇓P **P 22 01 04.3 -0.6**
baz=42,SNR=29
TPNV Topopah Spring 42.44 305 *e*P **P 22 01 05.8 +0.8**
TPNV Topopah Spring 42.44 305 *e*P **P 22 01 05.8 +0.8**
TPNV Topopah Spring 42.44 305 ⇓P **P 22 01 05.5 +0.4**
baz=42,SNR=239
GSC Goldstone 42.52 302 *e*P **P 22 01 06.0 +0.4**
GSC pmax pmax
comp=Z,829nm,1.4s
GSC Goldstone 42.52 302 *e*P **P 22 01 06.0 +0.4**
comp=Z,829nm,1.4s
GSC Goldstone 42.52 302 ⇑P **P 22 01 05.5 -0.1**
baz=42,SNR=244
MURC Murrieta 42.53 300 ⇓P **P 22 01 05.4 -0.3**
baz=42,SNR=133
RRX Edison Barstow 42.60 302 ⇑P **P 22 01 06.1 0.0**
baz=43,SNR=6.8
FFC Flin Flon 42.67 335 PFAKE
FFC LR LR 22 01 20.0 +14
comp=Z,497µm,19.0s
DLMT Dillon 42.69 318 *e*P P 22 01 02.3 -4.6
ELK Elko 42.74 311 *e*P **P 22 01 07.0 -0.5**
ELK PcP **PcP 22 02 58.9 -0.1**
ELK Elko 42.74 311 P P 22 01 02.0 -5.5
comp=Z,262nm,1.1s,baz=270,slow=20
ELK PcP **PcP 22 02 58.9 -0.1**
comp=Z,125nm,0.9s,baz=0.8,slow=1.2,SNR=5.2
ELK LR LR 22 20 54.3
comp=Z,440µm,18.0s,baz=278,slow=39
LRM Limekiln Ridge 42.80 319 *e*P **P 22 01 07.4 -0.4**
FURC Furnace Creek, 42.81 304 ⇑P **P 22 01 07.9 +0.1**
baz=43,SNR=173
BFSC Mount Baldy Ra 43.02 301 ⇑P **P 22 01 09.7 0.0**
baz=43,SNR=95
CALA Caldeira 43.02 53 *e*P P 22 01 15.2 +5.6
PCED Cedros 43.04 53 *e*P **P 22 01 11.1 +1.5**
comp=Z,1µm,1.3s
HLID Hailey 43.14 315 *e*P **P 22 01 10.4 -0.2**
comp=Z,17µm,0.6s
HLID *e* 22 03 03.5
HLID LR LR
comp=Z,819µm,19.0s
HLID Hailey 43.14 315 ⇑P **P 22 01 10.0 -0.7**
baz=43,SNR=448
PCAN Candelaria 43.16 53 *e*P **P 22 01 12.6 +2.0**
comp=Z,494nm,0.8s
PICO Pico 43.21 53 *e*P **P 22 01 13.2 +2.1**
MPMC Manual Prospec 43.22 303 ⇓P **P 22 01 11.3 -0.1**
baz=43,SNR=276
LRMC Laurel Mountai 43.27 302 ⇓P **P 22 01 12.0 +0.3**
baz=43,SNR=18
FCC Fort Churchill 43.28 344 *e*P **P 22 01 09.7 -1.6**
FCC *e* 22 02 53.6
FCC Fort Churchill 43.28 344 *e*P **P 22 01 09.7 -1.6**
comp=Z,1.1nm,0.5s
FCC *e* 22 02 53.6
GRAC Grapevine Rang 43.33 305 ⇓P **P 22 01 12.6 +0.5**
baz=43,SNR=118
MWC Mount Wilson 43.34 301 *e*P **P 22 01 13.6 +1.2**
MWC Mount Wilson 43.34 301 *e*P **P 22 01 13.6 +1.2**
EDW2 Edwards Air Fo 43.40 302 ⇓P **P 22 01 12.6 0.0**
baz=43,SNR=360
ROSA Rosais 43.41 53 *e*P **P 22 01 13.7 +1.1**
comp=Z,661nm,1.7s
ROSA *e*S **S 22 07 43.6 +3.3**
ROSA *e*SS **SnSn 22 11 04.6 -7.7**
PID Ribeirinha 43.43 53 *e*P **P 22 01 14.8 +2.0**
PASC Pasadena Art C 43.44 301 *e*P **P 22 01 13.6 +0.7**
comp=Z,956nm,1.7s
RCBR Riachuelo 43.45 120 *e*P **P 22 01 12.7 -0.6**
comp=Z,716nm,1.3s
RCBR *e* 22 02 59.4
RCBR Riachuelo 43.45 120 LR LR 22 20 48.0
comp=Z,335µm,18.6s,baz=294,slow=38
FMP Fort Macarthur 43.45 300 ⇓P **P 22 01 13.7 +0.7**
baz=43,SNR=7.3
TPH Tonopah 43.47 306 *e*P **P 22 01 13.7 +0.3**
TPH Tonopah 43.47 306 *e*P **P 22 01 13.7 +0.3**
CIS Catalina Islan 43.50 299 ⇑P **P 22 01 13.5 0.0**
baz=44,SNR=148
PMAN Manadas 43.50 53 *e*P **P 22 01 14.4 +1.0**
comp=Z,6µm,1.9s
SCI San Clemente I 43.56 299 ⇑P **P 22 01 14.7 +0.8**
baz=44,SNR=17
DECC Green Verdugo 43.57 301 ⇓P **P 22 01 14.1 +0.1**
baz=44,SNR=19
PGRA Graciosa 43.68 52 *e*P **P 22 01 13.0 -1.8**
comp=Z,683nm,1.5s
PGRA *e*S **S 22 07 48.3 +3.9**
PGRA *e*SS **ScS 22 11 09.8 -4.3**
CWC Cottonwood Cre 43.77 304 ⇓P **P 22 01 16.2 +0.4**
baz=44
CHMT Chamberlain Mo 43.78 320 *e*P **P 22 01 15.2 -0.5**
ISA Isabella 43.93 303 *e*P **P 22 01 17.5 +0.5**
ISA Isabella 43.93 303 *e*P **P 22 01 17.5 +0.5**
ISA Isabella 43.93 303 ⇓P **P 22 01 17.2 +0.3**
baz=44,SNR=155
OSI Osito Adit 43.95 301 *e*P **P 22 01 17.4 +0.3**
comp=Z,435nm,1.2s
OSI Osito Adit 43.95 301 ⇓P **P 22 01 17.3 +0.2**
baz=44
TIN Tinemaha 44.01 305 ⇑P **P 22 01 18.5 +0.9**
baz=44,SNR=95
MFID Camas Ranch 44.05 314 *e*P **P 22 01 17.2 -0.7**
SLMT Seeley Lake 44.07 320 *e*P **P 22 01 17.9 -0.2**
BMN Battle Mountai 44.09 310 *e*P **P 22 01 17.6 -0.6**
BMN pmax pmax
comp=Z,509nm,1.3s
BMN Battle Mountai 44.09 310 *e*P **P 22 01 17.6 -0.6**
comp=Z,509nm,1.3s
ARVC Arvin 44.12 302 ⇑P **P 22 01 18.6 +0.2**
baz=44,SNR=38
ADH Angra Heroismo 44.15 53 *e*P **P 22 01 19.0 +0.4**
comp=Z,460nm,1.5s
MSO Missoula 44.17 319 *e*P **P 22 01 18.6 -0.2**
MSO Missoula 44.17 319 ⇓P **P 22 01 18.0 -0.7**
baz=44,SNR=125
NV11 Mina Array Sit 44.26 307 *e*P **P 22 01 19.8 +0.1**
MTUM Tungsten Hills 44.34 305 *e*P **P 22 01 20.9 +0.6**
NVAR Mina Array Bea 44.38 306 P P **22 01 20.8 +0.1**
NVAR PcP **PcP 22 03 04.7 +0.1**
NVAR Mina Array Bea 44.38 306 P P **22 01 20.8 +0.1**
comp=Z,118nm,0.9s,baz=102,slow=7.4,SNR=80
NVAR PcP **PcP 22 03 04.7 +0.1**
comp=Z,70nm,0.8s,baz=134,slow=3.9,SNR=2.4
NVAR LR LR 22 21 53.4
comp=Z,329µm,19.3s,baz=266,slow=39
VES Vestal, Richgr 44.45 303 ⇑P **P 22 01 21.6 +0.6**
baz=44,SNR=182
SWMT Swartz Lake 44.50 320 *e*P **P 22 01 18.9 -2.5**
BSC Santa Cruz Isl 44.60 300 ⇓P **P 22 01 22.4 +0.1**
baz=45,SNR=50
MLAC Mammoth Lakes 44.61 305 ⇑P **P 22 01 23.1 +0.6**
baz=45,SNR=29
RCTC Rector, Farmer 44.66 303 ⇓P **P 22 01 24.1 +1.4**
baz=45,SNR=52
YBMT Yellow Bay 44.67 321 *e*P **P 22 01 22.3 -0.4**
comp=Z,802nm,0.5s
SBC Santa Barbara 44.73 301 ⇓P **P 22 01 23.8 +0.5**
baz=45,SNR=17
JTMT Jette 44.78 320 *e*P **P 22 01 23.3 -0.3**
PKM Peak Mountain 44.88 301 ⇓P **P 22 01 24.9 +0.2**
baz=45,SNR=92
BLMT Blacktail Moun 44.94 321 *e*P **P 22 01 24.7 -0.3**
SMMC Simmler 45.09 302 ⇓P **P 22 01 26.8 +0.5**
baz=45,SNR=16
PSET Sete Cidades 45.13 55 *e*P **P 22 01 28.6 +2.2**
comp=Z,2µm,1.7s
PSET *e*S **S 22 08 04.6 -0.9**
PSET *e*SS **SS 22 11 32.1 +4.3**
BSMT Bassoo Peak 45.13 320 *e*P **P 22 01 26.4 -0.1**
comp=Z,6µm,2.6s
WALA Waterton Lakes 45.16 322 *e*P **P 22 01 26.1 -0.5**
PDA Ponta Delgada 45.16 55 *e*P **P 22 01 28.7 +2.1**
comp=Z,303nm,1.2s
WAKR Walker 45.26 306 *e*P **P 22 01 28.1 +0.4**
comp=Z,6µm,2.6s
GRON Grota Negra 45.26 55 *e*P **P 22 01 27.9 +0.4**
comp=Z,89nm,0.6s
FRB Frobisher Bay 45.41 3 LR LR 22 19 19.9
comp=Z,292µm,21.2s,baz=183,slow=35
PSMA Santa Maria 45.42 56 *e*P **P 22 01 29.5 +0.7**
comp=Z,826nm,1.1s
PSMN Pico do Norte, 45.48 56 *e*P **P 22 01 29.2 0.0**
comp=Z,786nm,1.4s
PSMN *e*S **S 22 08 08.5 -2.0**
PSMN *e*SS SnSn 22 11 51.0 -11
PAHR Pah Rah Range 45.50 308 *e*P **P 22 01 29.5 0.0**
comp=Z,367nm,1.6s
PAHR *e* 22 03 04.3
BART Pico Bartolome 45.55 55 *e*P P 22 01 33.3 +3.5
comp=Z,1µm,1.3s
WVOR Wild Horse Val 45.68 312 *e*P **P 22 01 30.6 -0.3**
WVOR pmax pmax
comp=Z,944nm,1.3s
WVOR MLR MLR
comp=Z,634µm,19.0s
WVOR Wild Horse Val 45.68 312 *e*P **P 22 01 30.6 -0.3**
comp=Z,944nm,1.3s
WVOR LR LR
comp=Z,634µm,19.0s
BB16B Bebedouro 45.69 148*c i*P **P 22 01 30.0 -1.0**
BB16B *i* 22 01 31.7
BB16B *i* 22 01 39.5
BB16B *i* 22 03 21.6
BB16B *e* 22 08 09.7
BB16B *e* 22 11 32.5
BB16B Bebedouro 45.69 148⇑*i*P **P 22 01 29.9 -1.0**
BB16B *i* 22 01 31.7
BB16B *i* 22 02 08.3
BB16B *i* 22 03 20.5
BB16B *i* 22 08 14.8
BB16B *i* 22 11 41.5
BB16B *i* 22 15 28.9
BB16B *i* 22 19 46.1
CMB Columbia Colle 45.89 305 *e*P **P 22 01 32.4 -0.2**
CMB *e* 22 03 19.3
CMB pmax pmax
comp=Z,366nm,1.4s
CMB Columbia Colle 45.89 305 *e*P **P 22 01 32.4 -0.2**
comp=Z,366nm,1.4s
CMB *e* 22 03 19.3
SAO San Andreas Ge 46.49 304 *e*P **P 22 01 37.7 +0.5**
SAO pmax pmax
comp=Z,468nm,1.3s
SAO San Andreas Ge 46.49 304 *e*P **P 22 01 37.7 +0.5**
comp=Z,468nm,1.3s
NEW Newport 46.73 320 *e*P **P 22 01 38.2 -0.7**
comp=Z,1µm,1.3s
NEW LR LR
comp=Z,773µm,19.0s
NEW Newport 46.73 320 P **P 22 01 38.3 -0.6**
comp=Z,678nm,1.2s,baz=127,slow=7.2,SNR=74
NEW LR LR 22 22 14.8
comp=Z,1104µm,18.1s,baz=107,slow=37
NEW Newport 46.73 320 ⇓P **P 22 01 38.1 -0.8**
baz=47,SNR=548
CPUP Villa Florida 46.85 161 *e*P **P 22 01 38.6 -1.4**
comp=Z,71nm,1.3s
CPUP Villa Florida 46.85 161 P **P 22 01 38.9 -1.1**
comp=Z,44nm,0.6s,baz=326,slow=8.2,SNR=54
CPUP LR LR 22 23 08.4
comp=Z,671µm,19.6s,baz=328,slow=38
NRS Narsarsuaq 46.86 18⇓*i*P **P 22 01 41.6 +1.9**
NRS pmax pmax
comp=Z,330nm,1.0s
EDM Edmonton 46.93 327 *e*P **P 22 01 39.6 -0.8**
EDM Edmonton 46.93 327 *e*P **P 22 01 39.6 -0.8**
SACV Santiago Islan 46.94 86 PFAKE
SACV LR LR 22 01 50.0 +9.0
comp=Z,196µm,22.0s
LCO Las Campanas 47.15 178 *e*P **P 22 01 42.3 -0.3**
comp=Z,638nm,1.0s
LCO LR LR
comp=Z,131µm,20.0s
OD2 Odessa Site #2 47.38 318 P **P 22 01 43.5 -0.5**
WRD Warden 47.44 317 P **P 22 01 46.9 +2.4**
HAWA Hanford 47.55 317 *e*P **P 22 01 44.8 -0.5**
comp=Z,864nm,1.5s
HAWA LR LR
comp=Z,642µm,19.0s
PINOR Pine Mountain 47.65 313 *e*P **P 22 01 46.1 +0.1**
comp=Z,2µm,1.9s
VIPM Ingram Point 47.67 314 P **P 22 01 48.6 +2.0**
VIPM Ingram Point 47.67 314 P **P 22 01 48.6 +2.0**
J05D Fort Rock, OR 47.76 312 ⇓P **P 22 01 46.4 -0.8**
baz=48
M04C Macdoel 47.80 310 ⇑P **P 22 01 47.9 +0.4**
baz=48
SAW Saint Andrews 47.92 318 P **P 22 01 48.2 -0.1**
WDC Whiskeytown Da 48.05 308 *e*P **P 22 01 47.9 -1.4**
WDC pmax pmax
comp=Z,355nm,1.4s
WDC Whiskeytown Da 48.05 308 *e*P **P 22 01 47.9 -1.4**
comp=Z,355nm,1.4s
I05D Terrebonne, OR 48.12 314 ⇓P **P 22 01 50.6 +0.7**
baz=48
B08A Colville Reser 48.12 319 P **P 22 01 48.9 -0.9**
HOPS Hopland 48.14 306 *e*P **P 22 01 51.4 +1.4**
comp=Z,1µm,1.3s
HOPS *e*PP PP 22 03 49.3 +7.0
TRW Toppenish Ridg 48.18 316 P **P 22 01 50.3 0.0**
WTV Waterville 48.27 318 P **P 22 01 50.7 -0.3**
G05D Wamic, OR 48.37 315 ⇓P **P 22 01 52.1 +0.4**
baz=48
YBH Yreka Blue Hor 48.43 310 *e*P **P 22 01 50.9 -1.4**
comp=Z,167nm,0.9s
YBH *e* 22 03 21.6
YBH Yreka Blue Hor 48.43 310 P **P 22 01 50.9 -1.4**
comp=Z,151nm,0.8s,baz=85,slow=3.7,SNR=58
YBH LR LR 22 24 44.0
comp=Z,739µm,18.3s,baz=104,slow=39
M02C Callahan 48.46 309 ⇑P **P 22 01 52.2 -0.3**
baz=48
NAC Naches 48.51 317 P **P 22 01 53.5 +0.7**
PNT Penticton 48.66 320 P **P 22 01 54.2 +0.3**
PNT Penticton 48.66 320 P **P 22 01 54.1 +0.3**
TWW Teanaway 48.66 317 P **P 22 01 56.6 +2.5**
BBOR Butler Butte 48.68 311 P **P 22 01 52.9 -1.4**
LON Longmire 49.15 316 *e*P **P 22 01 57.3 -0.5**
LON pmax pmax
comp=Z,838nm,1.4s
LON Longmire 49.15 316 *e*P **P 22 01 57.3 -0.5**
comp=Z,838nm,1.4s
L02D Cave Junction, 49.17 310 ⇑P **P 22 01 58.3 +0.4**
baz=49
I03D Drain, OR 49.35 312 ⇓P **P 22 01 59.6 +0.4**
baz=49
COR Corvallis 49.54 313 *e*P **P 22 02 01.0 +0.3**
COR pmax pmax
comp=Z,2µm,1.4s
COR Corvallis 49.54 313 *e*P **P 22 02 01.0 +0.3**
comp=Z,2µm,1.4s
JCW Jim Creek 49.69 318 P **P 22 02 01.1 -0.7**
KEBM Edson Butte 49.86 311 *e*P **P 22 02 03.9 +0.7**
comp=Z,5µm,1.3s
CFAA Coronel Fontan 49.88 175 LR LR 22 27 28.2
comp=Z,23µm,19.5s,baz=30,slow=41
MCW Mount Constitu 50.42 319 P **P 22 02 06.6 -0.7**
MCW Mount Constitu 50.42 319 P **P 22 02 06.6 -0.7**
SFJD Kangerlussuaq 50.63 11 *e*P **P 22 02 08.2 -0.4**
comp=Z,1µm,1.4s
SFJD Kangerlussuaq 50.63 11 LR LR 22 21 17.0
comp=Z,142µm,22.0s,baz=218,slow=33
NLWA Neilton Lookou 50.69 317 *e*P **P 22 02 09.3 -0.1**
comp=Z,2µm,1.4s
NLWA LR LR
comp=Z,525µm,19.0s
STW Striped Peak 50.78 318 P **P 22 02 10.1 +0.1**
PGC Sidney 50.80 318 *e*P **P 22 02 09.9 -0.1**
PEL Peldehue 51.27 178 *e*P **P 22 02 13.0 -0.8**
CLCH Cerro Calan 51.52 178 *e*P **P 22 02 15.8 +0.1**
PMAR Madeira 51.68 63 *e*P **P 22 02 18.7 +1.4**
comp=Z,2µm,1.7s
PMAR *e*S **S 22 09 42.4 +3.9**
FUL Funchal 51.70 63 *e*P **P 22 02 19.8 +2.6**
comp=Z,1µm,1.6s
FUL *e*S **S 22 09 42.1 +3.7**
LMEL Las Melosas 51.99 177⇑*i*P **P 22 02 20.7 +1.4**
LMEL Las Melosas 51.99 177*i*P **P 22 02 20.7 +1.4**
PMPS Porto Santo 52.18 62 *e*P **P 22 02 23.5 +2.8**
comp=Z,2µm,1.8s
PMPS *e*S S 22 09 52.3 +7.3
PMPST Porto Santo, M 52.18 62 *e*P **P 22 02 22.5 +1.7**
comp=Z,2µm,1.9s
PMPST *e*S **S 22 09 50.3 +5.3**
ILULI Ilulissat 52.54 9⇓*i*P **P 22 02 23.4 +0.6**
ILULI pmax pmax
comp=Z,240nm,1.0s
ILULI MLR MLR
comp=Z,140µm,17.0s
ILULI Ilulissat 52.54 9⇓*i*P **P 22 02 23.4 +0.6**
comp=Z,244nm,1.0s
ILULI
comp=Z,137µm,17.0s
YKA Yellowknife Ar 52.76 337 P **P 22 02 22.9 -1.6**
YKA *e* 22 39 54.5
YKA Yellowknife Ar 52.76 337 P **P 22 02 22.9 -1.6**
comp=Z,58nm,0.9s,baz=122,slow=6.4,SNR=218
YKA P4KPbc 22 39 54.4
comp=Z,1.4nm,1.1s,baz=119,slow=3.9,SNR=5.5
BBTS Babate 53.70 85 P **P 22 02 31.9 -0.2**
BBTS Babate 53.70 85 P **P 22 02 31.9 -0.2**
comp=Z,131nm,1.0s,baz=276,slow=1.8,SNR=17
BBTS LR LR 22 20 48.2
comp=Z,203µm,21.5s,baz=279,slow=31
BBB Bella Bella 54.69 322 LR LR 22 27 05.2
comp=Z,601µm,18.7s,baz=116,slow=37
LPA La Plata 54.80 165*c i*P **P 22 02 40.0 +0.3**
LPA S **S 22 10 21.0 +0.9**
LPA PKIKS 22 13 51.0
LPA
comp=Z,133µm,21.0s
TRQA Tornquist 57.02 170 *e*P **P 22 02 55.3 -0.4**
comp=Z,467nm,1.5s
BORG Borgarnes 57.45 23 LR LR 22 24 13.9
comp=Z,65µm,21.4s,baz=243,slow=32
SUMG Summit 57.61 12 *i* P **P 22 02 59.9 0.0**
SUMG pmax pmax
comp=Z,630nm,1.1s
SUMG MLR MLR
comp=Z,160µm,17.0s
SUMG Summit 57.61 12 *i* P **P 22 02 59.9 0.0**
comp=Z,630nm,1.1s
SUMG
comp=Z,156µm,16.0s
SUMG Summit 57.61 12 *e*P **P 22 02 59.8 -0.1**
comp=Z,860nm,0.9s
RES Resolute Bay 57.61 353 *e*P **P 22 02 58.5 -0.8**
comp=Z,1µm,1.5s
RES Resolute Bay 57.61 353 P **P 22 02 58.4 -1.0**
comp=Z,82nm,0.7s,baz=170,slow=9.4,SNR=49
RES LR LR 22 26 44.7
comp=Z,252µm,21.5s,baz=156,slow=35
DLBC Dease Lake 57.63 328 *e*P **P 22 03 00.3 +0.4**
DLBC Dease Lake 57.63 328 P **P 22 03 00.1 +0.2**
comp=Z,295nm,0.7s,baz=96,slow=5.0,SNR=70
DLBC LR LR 22 30 43.3
comp=Z,312µm,18.0s,baz=103,slow=39
PMAFR Mafra 58.07 55 *e*P **P 22 03 04.7 +1.5**
comp=Z,1µm,1.5s
PMAFR *e*S **S 22 11 06.4 +2.6**
LIS Lisbon 58.17 55 *e*P **P 22 03 03.1 -0.8**
LIS *e*S **S 22 11 04.3 -0.7**
LIS AMS AMS 22 29 07.8
comp=Z,123µm,15.6s
LIS Lisbon 58.17 55 *e*P **P 22 03 03.1 -0.8**
LIS *e*S **S 22 11 04.3 -0.7**
LIS A A 22 29 07.8
comp=Z,123µm,15.6s
LIS Lisbon 58.17 55 *e*P **P 22 03 03.1 -0.8**
WRAK Wrangell Islan 58.24 326 *e*P **P 22 03 03.2 -0.8**
comp=Z,2µm,2.0s
WRAK LR LR
comp=Z,361µm,19.0s
PFVI Vila Bisbo 58.40 57 *e*P **P 22 03 07.4 +1.8**
comp=Z,958nm,1.5s
PFVI *e*S **S 22 11 08.1 -0.1**
CRAG Craig 58.42 324 *e*P **P 22 03 07.2 +1.8**
comp=Z,733nm,1.2s
CRAG *e*PP PP 22 05 22.7 +8.1
PTEO Sao Teotonio 58.49 57 *e*P **P 22 03 08.2 +2.1**
comp=Z,1µm,1.4s
PTEO *e*S **S 22 11 11.3 +2.1**
MORF Marmelete 58.54 57 *e*P **P 22 03 08.2 +1.6**
comp=Z,2µm,1.8s
MORF *e*S **S 22 11 13.3 +3.2**
MORF Marmelete 58.54 57 *e*P **P 22 03 05.6 -1.0**
MORF *e*S **S 22 11 09.4 -0.7**
PNCL Nicolau / Gran 58.65 56 *e*P **P 22 03 08.2 +1.0**
comp=Z,1µm,1.6s
PNCL *e*S **S 22 11 13.9 +2.6**
PTO Porto 58.67 53 *e*P **P 22 03 07.7 +0.4**
comp=Z,1µm,1.4s
PCAS Casmilo, Conde 58.71 54 *e*P **P 22 03 09.3 +1.6**
comp=Z,2µm,1.7s
PCAS *e*S **S 22 11 14.5 +2.4**
VAL Valentia 58.73 40 *e*P **P 22 03 08.3 +0.7**
VAL Valentia 58.73 40⇓*i*S **S 22 11 14.2 +2.3**
PTOM Tomar 58.76 54 *e*P **P 22 03 07.7 -0.3**
comp=Z,1µm,1.3s
PTOM *e*S **S 22 11 18.3 +5.5**
PLCA Paso Flores 58.84 178 *e*P **P 22 03 08.0 -0.4**
comp=Z,880nm,1.5s
PLCA P'P' 22 32 43.1
PLCA ⇑*e* 22 32 59.9
PLCA Paso Flores 58.84 178 P **P 22 03 08.2 -0.3**
comp=Z,123nm,0.9s,baz=356,slow=7.4,SNR=100
PLCA PKPPKP **P'P'df** **22 32 43.1 +4.6**
comp=Z,4.3nm,0.9s,baz=223,slow=3.4,SNR=5.7
PLCA PKP2bc 22 32 59.9
comp=Z,30nm,1.3s,baz=124,slow=3.1,SNR=5.2
MESJ Messejana 58.89 56 *e*P **P 22 03 08.1 -0.9**
MESJ *e*S **S 22 11 13.9 -0.5**
MESJ AMS AMS 22 27 52.7
comp=Z,219µm,16.5s
MESJ Messejana 58.89 56 *e*P **P 22 03 08.1 -0.9**
MESJ *e*S **S 22 11 13.9 -0.5**
MESJ A A 22 27 52.7
comp=Z,219µm,16.5s
MESJ Messejana 58.89 56 *e*P **P 22 03 08.1 -0.9**
MESJ *e*S **S 22 11 13.9 -0.5**
PMTG Montargil 58.90 55 *e*P **P 22 03 10.5 +1.5**
comp=Z,2µm,1.8s
PMTG *e*S **S 22 11 16.5 +2.0**
PGAV Gavieira, Arco 58.95 52 *e*P **P 22 03 10.6 +1.1**
comp=Z,2µm,1.7s
PGAV Gavieira, Arco 58.95 52 *e*P **P 22 03 11.0 +1.5**
comp=Z,2µm,1.7s
PGAV *e*S **S 22 11 14.5 -0.9**
PGAV *e*LQ LQ 22 17 56.8
PGAV A A 22 24 56.0
comp=Z,103µm,20.0s
EVOP Sao Brissos 58.97 56 *e*P **P 22 03 09.6 +0.1**
EVOP pmax pmax
comp=Z,3µm,1.5s
EVOP Sao Brissos 58.97 56 *e*P **P 22 03 09.6 +0.1**
comp=Z,3µm,1.5s
EVO Evora 59.05 56 *e*P **P 22 03 09.6 -0.5**
comp=Z,3µm,1.5s
EVO *e*R
comp=Z,143µm,21.0s
EVO Evora 59.05 56 *e*P **P 22 03 11.6 +1.5**
comp=Z,2µm,1.6s
EVO *e*S **S 22 11 18.8 +2.2**
PBDV Barranco-do-Ve 59.12 57 *e*P **P 22 03 12.9 +2.3**
comp=Z,3µm,1.6s
PBDV *e*S **S 22 11 21.2 +3.7**
PCAB Cabril 59.12 52 *e*P **P 22 03 11.1 +0.5**
comp=Z,737nm,1.3s
PCAB *e*S **S 22 11 19.7 +2.2**
PBEJ Beja 59.17 56 *e*P **P 22 03 12.3 +1.4**
comp=Z,2µm,1.5s
PBEJ *e*S **S 22 11 21.2 +3.1**
PVIS Viseu 59.19 53 *e*P **P 22 03 13.0 +1.9**
comp=Z,1µm,2.1s
PVIS *e*S **S 22 11 18.3 -0.1**
POLO Lamas de Olo 59.28 52 *e*P **P 22 03 12.5 +0.7**

POLO
comp=Z,655nm,1.8s
PVAQ Vaqueiros 59.29 57 *e*P **P** **22 11 20.6 +0.9**
comp=Z,2µm,1.6s
PVAQ Vaqueiros 59.29 57 *e*P **P** **22 03 14.1 +2.4**
comp=Z,2µm,1.6s
PVAQ *e*S **S** **22 11 21.4 +1.7**
PVAQ *e*LQ LQ 22 17 53.6
PVAQ *e*LR LR 22 22 51.5
comp=Z,237µm,18.0s
PVRL Vila Real 59.34 52 *e*P **P** **22 03 14.2 +2.1**
comp=Z,2µm,1.9s
PVRL *e*S **S** **22 11 23.8 +3.5**
PESTR Estremoz 59.39 55 *e*P **P** **22 03 13.8 +1.4**
comp=Z,2µm,1.9s
PESTR *e*S **S** **22 11 22.0 +1.0**
MTE Manteigas 59.45 54 *e*P **P** **22 03 13.8 +0.9**
comp=Z,1µm,1.5s
MTE Manteigas 59.45 54 *e*P **P** **22 03 15.4 +2.5**
comp=Z,1µm,1.5s
MTE *e*S **S** **22 11 22.9 +1.1**
MTE *e*LQ LQ 22 17 43.3
MTE *e*LR LR 22 20 46.0
comp=Z,272µm,20.0s
MTE Manteigas 59.45 54 *e*P **P** **22 03 12.9 0.0**
comp=Z,452nm,0.9s
MTE LR LR
comp=Z,261µm,20.0s
PCBR Castelo Branco 59.49 54 *e*P **P** **22 03 13.1 0.0**
comp=Z,1µm,1.8s
PCBR *e*S **S** **22 11 23.8 +1.6**
PMRV Marv??o 59.55 55 *e*P **P** **22 03 11.8 -1.7**
comp=Z,2µm,1.7s
PMRV Marv??o 59.55 55 *e*P **P** **22 03 14.4 +0.9**
comp=Z,2µm,1.7s
PMRV *e*S **S** **22 11 25.8 +2.8**
PMRV *e*LQ LQ 22 18 00.0
PMRV A A 22 26 43.4
comp=Z,100µm,20.0s
MVO Moncorvo 59.86 53 *e*P **P** **22 03 15.8 +0.1**
comp=Z,1µm,1.8s
MVO Moncorvo 59.86 53 *e*P **P** **22 03 17.1 +1.4**
comp=Z,1µm,1.8s
MVO *e*S **S** **22 11 28.1 +1.1**
MVO *e*LQ LQ 22 17 43.8
MVO *e*LR LR 22 23 15.4
comp=Z,131µm,20.0s
SIT Sitka 59.99 326 *e*P **P** **22 03 18.1 +1.9**
SIT pmax pmax
comp=Z,476nm,1.2s
SIT Sitka 59.99 326 *e*P **P** **22 03 18.1 +1.9**
comp=Z,476nm,1.2s
RTC Rabat Centre 60.09 61 *e*P **P** **22 03 17.6 +0.3**
comp=Z,2µm,1.4s
RTC LR LR
comp=Z,275µm,19.0s
PBRG Braganca 60.09 52 *e*P **P** **22 03 18.7 +1.5**
comp=Z,1µm,1.5s
PBRG *e*S **S** **22 11 29.6 -0.4**
SCO Scoresbysund 60.16 17 *i*P **P** **22 03 17.3 +0.2**
SCO pmax pmax
comp=Z,120nm,1.0s
SCO MLR MLR
comp=Z,120µm,18.0s
SCO Scoresbysund 60.16 17 *i*P **P** **22 03 17.3 +0.2**
comp=Z,120nm,1.0s
SCO
comp=Z,116µm,18.0s
SKAG Skagway 60.55 329 *e*P **P** **22 03 21.5 +1.5**
comp=Z,1µm,1.6s
SKAG *e*PP **PP** **22 05 33.9 +0.6**
DSB Dublin 61.27 39 *e*P **P** **22 03 24.1 -0.9**
comp=Z,180nm,1.3s
GMM Mts of Mourne 61.65 38 *e*P **P** **22 03 26.8 -0.7**
PAB San Pablo 61.90 54 *e*P **P** **22 03 29.6 0.0**
PAB pmax pmax
comp=Z,1µm,1.4s
PAB MLR MLR
comp=Z,166µm,19.0s
PAB San Pablo 61.90 54 *e*P **P** **22 03 29.6 0.0**
comp=Z,1µm,1.4s
PAB LR LR
comp=Z,166µm,19.0s
ESDC Sonseca Array 62.20 54 P **P** **22 03 31.6 0.0**
ESDC P'P'
ESDC ⇑*e* 22 32 48.2
ESDC Sonseca Array 62.20 54 P **P** **22 03 31.6 0.0**
comp=Z,72nm,0.8s,baz=275,slow=6.9,SNR=139
ESDC LR LR 22 27 23.0
comp=Z,129µm,19.0s,baz=265,slow=33
ESDC PKPPKP **P'P'df** **22 32 39.2 -3.6**
comp=Z,11nm,1.2s,baz=64,slow=2.4,SNR=9.1
ESDC PKP2bc 22 32 48.2
comp=Z,29nm,1.1s,baz=52,slow=2.4,SNR=18
ESLA Sonseca Array 62.20 54 *e*P **P** **22 03 31.6 0.0**
comp=Z,681nm,1.4s
KPL Plockton 62.28 34 *e*P **P** **22 03 29.4 -2.3**
KPL AMS AMS 22 22 34.0
comp=Z,117µm,34.6s
YRC Rhoscolyn 62.34 39 *e*P **P** **22 03 31.7 -0.5**
YRE Yr Eifl 62.40 39 *e*P **P** **22 03 31.6 -1.0**
GAL1 Galloway 62.45 37 *e*P **P** **22 03 32.1 -0.8**
GAL1 *e* 22 11 33.6
GAL1 AMS AMS 22 23 18.3
comp=Z,75µm,27.7s
INK Inuvik 62.45 338 *e*P **P** **22 03 31.4 -1.2**
comp=Z,970nm,1.4s
INK Inuvik 62.45 338 P **P** **22 03 31.6 -1.1**
comp=Z,512nm,1.3s,baz=107,slow=7.6,SNR=50
INK LR LR 22 30 59.9
comp=Z,447µm,20.4s,baz=114,slow=36
WLF1 Llynfaes 62.45 39 *e*P **P** **22 03 32.1 -0.8**
WLF1 *e* 22 11 36.8
WLF1 AMS AMS 22 23 22.6
comp=Z,110µm,24.4s
DYA Yadsworthy 62.48 42 *e*P **P** **22 03 32.7 -0.5**
DYA *e* 22 11 53.4
DYA AMS AMS 22 23 13.6
comp=Z,137µm,25.4s
KAC Achnashellach 62.50 34 *e*P **P** **22 03 31.9 -1.3**
WME Myndd Eilian 62.52 39 *e*P **P** **22 03 33.3 -0.1**
SOFL Sornfelli, Far 62.54 29 *e*P **P** **22 03 32.1 -1.3**
SOFL *e* 22 12 03.2
SOFL AMS AMS 22 22 30.9
comp=Z,110µm,37.9s
HEX Exmoor 62.61 41 *e*P **P** **22 03 33.4 -0.7**
PGBU Glenifferbraes 62.70 36 *e*P **P** **22 03 33.0 -1.6**
PGBU *e* 22 11 49.8
PGBU AMS AMS 22 22 45.8
comp=Z,70µm,29.0s
WPM1 Penmaenmawr 62.74 39 *e*P **P** **22 03 31.8 -3.2**
ROSF Rostrenen 62.79 45 *e*P **P** **22 03 35.2 -0.1**
comp=Z,928nm,1.2s
ROSF Rostrenen 62.79 45 *e*P **P** **22 03 35.2 -0.1**
ROSF pmax pmax
comp=Z,928nm,1.2s
ROSF Rostrenen 62.79 45 *e*P **P** **22 03 35.2 -0.1**
comp=Z,928nm,1.2s
EAB Aberfoyle 62.83 36 *e*P **P** **22 03 34.8 -0.7**
QUIF Quistinic 62.84 45⇑*i*P **P** **22 03 35.6 0.0**
comp=Z,2µm,1.4s
QUIF Quistinic 62.84 45⇑*i*P **P** **22 03 35.6 0.0**
QUIF pmax pmax
comp=Z,2µm,1.4s
QUIF Quistinic 62.84 45⇑*i*P **P** **22 03 35.6 0.0**
comp=Z,2µm,1.4s
H10N3 ASCENSION HYDR 62.94 109 T T 23 10 49.2
baz=294,slow=75,SNR=14
H10N2 ASCENSION HYDR 62.95 109 T T 23 11 07.6
baz=294,slow=75,SNR=15
H10N1 ASCENSION HYDR 62.96 109 T T 23 10 50.7
baz=294,slow=75,SNR=9.4
MDO Dochfour 62.99 34 *e*P **P** **22 03 34.9 -1.5**
ASCN Ascension 63.11 109 *e*P **P** **22 03 36.9 -1.0**
comp=Z,605nm,1.3s
ASCN LR LR
comp=Z,99µm,21.0s
FOEL Foel Wylfa 63.13 39 *e*P **P** **22 03 37.6 +0.1**
FOEL *e* 22 11 57.7
FOEL AMS AMS 22 23 43.0
comp=Z,97µm,24.8s
MVH1 Achvaich 63.16 34 *e*P **P** **22 03 35.8 -1.8**
MCH1 Michaelchurch 63.19 40 *e*P **P** **22 03 35.9 -1.9**
MCH1 *e* 22 12 03.0
MCH1 AMS AMS 22 24 10.0
comp=Z,95µm,24.1s

SGMF Saint Gilles 63.26 45 *e*P **P** **22 03 38.3 -0.1**
comp=Z,2µm,1.5s
SGMF Saint Gilles 63.26 45 *e*P **P** **22 03 38.3 -0.1**
SGMF pmax pmax
comp=Z,2µm,1.5s
SGMF Saint Gilles 63.26 45 *e*P **P** **22 03 38.3 -0.1**
comp=Z,2µm,1.5s
H10S3 ASCENSION HYDR 63.27 110 T T 23 11 32.3
baz=295,slow=74,SNR=14
H10S1 ASCENSION HYDR 63.28 110 T T 23 11 32.9
baz=295,slow=74,SNR=15
H10S2 ASCENSION HYDR 63.29 110 T T 23 11 11.9
baz=295,slow=74,SNR=19
MONM Monmouth 63.29 41 *e*P **P** **22 03 36.3 -2.2**
HLM1 Long Mynd 63.30 40 *e*P **P** **22 03 37.5 -1.1**
KESW Keswick, Cumbr 63.35 38 *e*P **P** **22 03 37.5 -1.3**
KESW *e* 22 12 03.0
KESW AMS AMS 22 32 44.7
comp=Z,76µm,17.9s
ESK Eskdalemuir 63.36 37 *i*P **P** **22 03 39.5 +0.5**
ESK Eskdalemuir 63.36 37 *e*P **P** **22 03 37.9 -1.1**
ESK *e* 22 12 15.2
ESK AMS AMS 22 31 15.7
comp=Z,73µm,17.8s
ESK Eskdalemuir 63.36 37 PFAKE 22 03 50.0 +11
ESK LR LR
comp=Z,88µm,19.0s
EKA Eskdalemuir Ar 63.39 37 P **P** **22 03 38.4 -0.8**
EKA P'P'
EKA ⇑*e* 22 32 40.9
EKA Eskdalemuir Ar 63.39 37 P **P** **22 03 38.4 -0.8**
comp=Z,35nm,0.6s,baz=265,slow=6.0,SNR=6.1
EKA LR LR 22 29 00.8
comp=Z,48µm,18.0s,baz=255,slow=34
EKA PKPPKP P'P'df 22 32 24.5 -16
comp=Z,7.9nm,1.1s,baz=41,slow=2.3,SNR=4.1
EKA PKP2bc 22 32 40.9
comp=Z,19nm,1.0s,baz=72,slow=4.6,SNR=7.4
OLDB Oldbury-Upon-S 63.44 41 *e*P **P** **22 03 37.2 -2.3**
OLDB AMB AMB 22 03 51.2
comp=Z,998nm,2.9s
EBL Broad Law 63.50 36 *e*P **P** **22 03 38.1 -1.8**
DAWY Dawson 63.51 333 *e*P **P** **22 03 39.2 -0.7**
MCD Coleburn Disti 63.60 34 *e*P **P** **22 03 38.5 -2.0**
COYC Coyhaique 63.65 180⇑*i*P **P** **22 03 40.4 -0.4**
COYC Coyhaique 63.65 180⇑*i*P **P** **22 03 40.4 -0.4**
MME1 Meikle Cairn 63.72 35 *e*P **P** **22 03 39.4 -2.0**
STNC Stoke 63.75 39 *e*P **P** **22 03 38.8 -2.7**
STNC AMS AMS 22 24 14.3
comp=Z,90µm,21.8s
ESY Stoneypath 63.76 36 *e*P **P** **22 03 40.2 -1.4**
XAL Allendale 63.89 37 *e*P **P** **22 03 40.9 -1.5**
SWN1 Swindon 63.90 41 *e*P **P** **22 03 41.0 -1.6**
SWN1 AMB AMB 22 03 46.7
comp=Z,568nm,2.9s
SWN1 *e* 22 12 02.2
SWN1 AMS AMS 22 28 12.0
comp=Z,138µm,20.3s
DRUM Mains of Drumt 63.94 35 *e*P **P** **22 03 41.3 -1.5**
DRUM AMS AMS 22 23 21.0
comp=Z,94µm,33.9s
LHO Holmfirth 63.99 39 *e*P **P** **22 03 40.7 -2.5**
HPK Haverah Park 64.16 38 *e*P **P** **22 03 43.7 -0.5**
HPK *e* 22 12 06.1
HPK AMS AMS 22 24 11.1
comp=Z,103µm,25.0s
KBI1 Birley Grange 64.17 39 *e*P **P** **22 03 42.6 -1.8**
SJPF Ste Jean 64.17 50⇑*i*P **P** **22 03 45.0 +0.4**
comp=Z,3µm,1.2s
SJPF Ste Jean 64.17 50⇑*i*P **P** **22 03 45.0 +0.4**
SJPF pmax pmax
comp=Z,3µm,1.2s
SJPF Ste Jean 64.17 50⇑*i*P **P** **22 03 45.0 +0.4**
comp=Z,3µm,1.2s
WOL Wolverton 64.25 41 *e*P **P** **22 03 42.1 -2.8**
WOL *e* 22 12 03.0
WOL AMS AMS 22 24 33.2
comp=Z,128µm,22.5s
DAG Danmarks Havn 64.29 12⇑*i*P **P** **22 03 45.7 +1.0**
DAG pmax pmax
comp=Z,180nm,0.9s
DAG MLR MLR
comp=Z,220µm,22.0s
DAG Danmarks Havn 64.29 12⇑*i*P **P** **22 03 45.7 +1.0**
comp=Z,211nm,0.9s
DAG
comp=Z,195µm,22.0s
ALE Aert 64.31 1 P **P** **22 03 43.7 -1.1**
comp=Z,2µm,0.9s,SNR=47
JMIC Jan Mayen 64.39 19 *e*P **P** **22 03 47.3 +1.8**
JMIC IAmb IAmb 22 03 55.6
comp=Z,3µm,2.5s
JMIC *e*S **S** **22 12 23.9 +0.7**
JMIC *e*SS **SS** **22 16 39.8 +7.0**
JMIC Jan Mayen 64.39 19 P **P** **22 03 46.8 +1.3**
JMIC Jan Mayen 64.39 19 P **P** **22 03 46.8 +1.3**
comp=Z,61nm,0.8s,baz=214,slow=7.3,SNR=2.1
JMIC LR LR 22 27 03.3
comp=Z,59µm,21.2s,baz=256,slow=32
GRR Gorron 64.40 45⇑*i*P **P** **22 03 45.7 -0.2**
comp=Z,952nm,1.0s
GRR Gorron 64.40 45⇑*i*P **P** **22 03 45.7 -0.2**
GRR pmax pmax
comp=Z,952nm,1.0s
GRR Gorron 64.40 45⇑*i*P **P** **22 03 45.7 -0.2**
comp=Z,952nm,1.0s
EGAK Eagle 64.41 334 *e*P **P** **22 03 45.5 -0.3**
comp=Z,205nm,0.5s
EGAK LR LR
comp=Z,553µm,19.0s
LCHF La Chataignera 64.47 46 *e*P **P** **22 03 47.0 +0.6**
OLHC Oulhaca 64.47 59 P P 22 03 52.0 +5.3
FLN La Foliniere 64.65 44⇑*i*P **P** **22 03 47.6 0.0**
comp=Z,681nm,0.9s,baz=270
FLN *e*R
comp=Z,110µm,19.5s
FLN La Foliniere 64.65 44⇑*i*P **P** **22 03 47.6 0.0**
FLN pmax pmax
comp=Z,681nm,0.9s
FLN La Foliniere 64.65 44⇑*i*P **P** **22 03 47.6 0.0**
comp=Z,681nm,0.9s
ETSF Etsaut 64.67 51⇑*i*P **P** **22 03 48.3 +0.4**
comp=Z,3µm,1.5s
ETSF Etsaut 64.67 51⇑*i*P **P** **22 03 48.3 +0.4**
ETSF pmax pmax
comp=Z,3µm,1.5s
ETSF Etsaut 64.67 51⇑*i*P **P** **22 03 48.3 +0.4**
comp=Z,3µm,1.5s
MFF Saint Martin d 64.88 47⇑*i*P **P** **22 03 49.2 +0.1**
comp=Z,2µm,1.3s
MFF Saint Martin d 64.88 47⇑*i*P **P** **22 03 49.2 +0.1**
MFF pmax pmax
comp=Z,2µm,1.3s
MFF Saint Martin d 64.88 47⇑*i*P **P** **22 03 49.2 +0.1**
comp=Z,2µm,1.3s
LDF La Druitiere 64.89 44⇑*i*P **P** **22 03 49.0 -0.2**
comp=Z,1µm,1.0s
LDF La Druitiere 64.89 44⇑*i*P **P** **22 03 49.0 -0.2**
LDF pmax pmax
comp=Z,1µm,1.0s
LDF La Druitiere 64.89 44⇑*i*P **P** **22 03 49.0 -0.2**
comp=Z,1µm,1.0s
LMK Market Rasen 64.90 39 *e*P **P** **22 03 46.7 -2.4**
LMK *e* 22 12 34.8
LMK AMS AMS 22 24 58.5
comp=Z,96µm,23.8s
LRW Lerwick 64.98 32 *e*P **P** **22 03 48.8 -0.7**
LRW *e* 22 12 36.2
LRW AMS AMS 22 23 54.7
comp=Z,107µm,36.0s
USTO Oran 65.13 59 P **P** **22 03 51.0 +0.1**
MENT Mentasta 65.22 332 *e*P **P** **22 03 51.4 +0.4**
HMNX Herstmonceux 65.22 42 *e*P **P** **22 03 50.1 -1.1**
HMNX *e* 22 12 24.5
HMNX AMS AMS 22 25 01.4
comp=Z,146µm,25.1s
CHRN Cochrane 65.22 180 *e*P **P** **22 03 52.2 +1.1**
EPF Esparros 65.32 50⇑*i*P **P** **22 03 52.5 +0.4**
comp=Z,4µm,1.4s
EPF Esparros 65.32 50⇑*i*P **P** **22 03 52.5 +0.4**
EPF pmax pmax
comp=Z,4µm,1.4s
EPF Esparros 65.32 50⇑*i*P **P** **22 03 52.5 +0.4**
comp=Z,4µm,1.4s
BMRM Bremner River 65.38 329 *e*P **P** **22 03 53.1 +1.0**
comp=Z,3µm,1.3s
DOT Dot Lake 65.47 332 *e*P **P** **22 03 52.9 +0.2**
comp=Z,4µm,2.0s
ODJA Bouhanifia 65.50 59 P **P** **22 03 54.0 +0.6**
LFF La Frestale 65.53 48⇑*i*P **P** **22 03 53.2 -0.2**
comp=Z,2µm,1.1s
LFF La Frestale 65.53 48⇑*i*P **P** **22 03 53.2 -0.2**
LFF pmax pmax
comp=Z,2µm,1.1s
LFF La Frestale 65.53 48⇑*i*P **P** **22 03 53.2 -0.2**
comp=Z,2µm,1.1s
ELSH Elham, Standar 65.73 42 *e*P **P** **22 03 52.2 -2.3**
ELSH *e* 22 12 34.9
ELSH AMS AMS 22 25 29.2
comp=Z,141µm,24.6s
DIV Divide 65.96 329 *e*P **P** **22 03 56.4 +0.5**
comp=Z,1µm,1.1s
PAX Paxson 66.01 331 *e*P **P** **22 03 56.2 -0.1**
PAX pmax pmax
comp=Z,908nm,1.2s
PAX Paxson 66.01 331 *e*P **P** **22 03 56.2 -0.1**
comp=Z,908nm,1.2s
RJF Les Rejaudoux 66.07 48⇑*i*P **P** **22 03 56.5 -0.4**
comp=Z,2µm,1.3s
RJF *e*R
comp=Z,106µm,21.5s
RJF Les Rejaudoux 66.07 48⇑*i*P **P** **22 03 56.5 -0.4**
RJF pmax pmax
comp=Z,2µm,1.3s
RJF Les Rejaudoux 66.07 48⇑*i*P **P** **22 03 56.5 -0.4**
comp=Z,2µm,1.3s
MID Middleton Isla 66.09 328 *e*P **P** **22 03 55.3 -1.4**
MID pmax pmax
comp=Z,5µm,1.5s
MID Middleton Isla 66.09 328 *e*P **P** **22 03 55.3 -1.4**
comp=Z,5µm,1.5s
MENF Mencas 66.37 42 *e*P **P** **22 03 57.5 -1.2**
EANR 'Ain N'Sour 66.44 58 P **P** **22 03 59.6 +0.1**
CAF Calviac 66.47 48⇑*i*P **P** **22 03 59.3 -0.2**
comp=Z,2µm,1.1s
CAF Calviac 66.47 48⇑*i*P **P** **22 03 59.3 -0.2**
CAF pmax pmax
comp=Z,2µm,1.1s
CAF Calviac 66.47 48⇑*i*P **P** **22 03 59.3 -0.2**
comp=Z,2µm,1.1s
TCF Toulx Ste Croi 66.51 47⇑*i*P **P** **22 03 59.2 -0.5**
comp=Z,1µm,1.1s
TCF Toulx Ste Croi 66.51 47⇑*i*P **P** **22 03 59.2 -0.5**
TCF pmax pmax
comp=Z,1µm,1.1s
TCF Toulx Ste Croi 66.51 47⇑*i*P **P** **22 03 59.2 -0.5**
comp=Z,1µm,1.1s
ECHA Ech Chlef 66.64 58 P **P** **22 04 02.0 +1.4**
ETRT Tiaret 66.67 59 P P 22 03 55.7 -5.3
TIC Toumodi 66.67 91 *e*P P 22 03 57.9 -3.3
comp=Z,1µm,1.8s
TIC Toumodi 66.67 91 *e*P P'P'df 22 32 23.6 -10
comp=Z,217nm,1.4s
EBNR Beni Rached 66.75 58 P **P** **22 04 01.0 -0.5**
HYF Humbligny 66.77 46⇑*i*P **P** **22 04 01.1 -0.2**
HYF Humbligny 66.77 46⇑*i*P **P** **22 04 01.1 -0.2**
LIC Lamto 66.79 91⇑*i*P **P** **22 04 00.4 -1.6**
comp=Z,1µm,1.3s,baz=280
LIC *e*R
comp=Z,278µm,22.8s
LIC Lamto 66.79 91 *e*P **P** **22 03 59.3 -2.7**
comp=Z,979nm,1.3s
LIC Lamto 66.79 91 *e*P P'P'df 22 32 24.1 -10
comp=Z,298nm,1.5s
LIC Lamto 66.79 91⇑*i*P **P** **22 04 00.4 -1.6**
comp=Z,1µm,1.3s
DBIC Dimbokro 66.82 91⇑*i*P **P** **22 04 00.6 -1.6**
comp=Z,2µm,1.1s
DBIC P'P' 22 32 32.4
DBIC Dimbokro 66.82 91 P **P** **22 04 00.9 -1.3**
comp=Z,69nm,1.0s,baz=274,slow=7.0,SNR=24
DBIC LR LR 22 29 04.0
comp=Z,230µm,21.1s,baz=264,slow=32
DBIC PKPPKP **P'P'df** **22 32 32.4 -1.2**
comp=Z,43nm,1.2s,baz=118,slow=5.5,SNR=9.8
ILAR Eielson Array 66.84 333 P **P** **22 04 00.6 -0.9**
ILAR P'P' 22 32 26.9
ILAR *e* 22 40 54.9
ILAR Eielson Array 66.84 333 P **P** **22 04 00.6 -0.9**
comp=Z,89nm,1.0s,baz=103,slow=4.7,SNR=66
ILAR PKPPKP P'P'df 22 32 26.9 -8.0
comp=Z,1.0nm,0.8s,baz=275,slow=5.2,SNR=4.6
ILAR LR LR 22 35 17.0
comp=Z,414µm,18.6s,baz=106,slow=38
ILAR P4KPbc 22 40 54.9
comp=Z,1.3nm,1.1s,baz=123,slow=3.6,SNR=6.5
BGF Bois d'Agland 66.94 47⇑*i*P **P** **22 04 01.9 -0.5**
comp=Z,658nm,0.9s
BGF Bois d'Agland 66.94 47⇑*i*P **P** **22 04 01.9 -0.5**
BGF pmax pmax
comp=Z,658nm,0.9s
BGF Bois d'Agland 66.94 47⇑*i*P **P** **22 04 01.9 -0.5**
comp=Z,658nm,0.9s
KIC Kosan Boka 67.02 91 *e*P **P** **22 04 00.7 -2.7**
comp=Z,2µm,1.6s
KIC Kosan Boka 67.02 91 *e*P P'P'df 22 32 25.1 -8.2
comp=Z,612nm,1.9s
PYM Petit Puy Mans 67.10 47 *e*P **P** **22 04 04.3 +0.8**
COLA College 67.26 333*c*P **P** **22 04 03.2 -0.8**
COLA pmax pmax
comp=Z,2µm,1.4s
COLA College 67.26 333 *e*P **P** **22 04 03.3 -0.8**
comp=Z,532nm,1.1s
COLA *e*PP **PP** **22 06 30.5 -1.5**
COLA LR LR
comp=Z,378µm,20.0s
AVF Avril sur Loir 67.28 46⇑*i*P **P** **22 04 03.7 -0.8**
comp=Z,2µm,1.5s
AVF Avril sur Loir 67.28 46⇑*i*P **P** **22 04 03.7 -0.8**
AVF pmax pmax
comp=Z,2µm,1.5s
AVF Avril sur Loir 67.28 46⇑*i*P **P** **22 04 03.7 -0.8**
comp=Z,2µm,1.5s
LBL Lubilhac 67.29 48 *e*P **P** **22 04 06.0 +1.2**
SSF Saint Saulge 67.37 46⇑*i*P **P** **22 04 04.4 -0.7**
comp=Z,2µm,1.4s
SSF Saint Saulge 67.37 46⇑*i*P **P** **22 04 04.4 -0.7**
SSF pmax pmax
comp=Z,2µm,1.4s
SSF Saint Saulge 67.37 46⇑*i*P **P** **22 04 04.4 -0.7**
comp=Z,2µm,1.4s
PLDF La Plantade 67.51 47 *e*P **P** **22 04 06.6 +0.5**
COLF Collangettes 67.59 48 *e*P **P** **22 04 07.6 +1.0**
LOR Lormes 67.60 46⇑*i*P **P** **22 04 05.9 -0.7**
comp=Z,936nm,1.0s,baz=266
LOR *e*R
comp=Z,196µm,20.5s
LOR Lormes 67.60 46⇑*i*P **P** **22 04 05.9 -0.7**
comp=Z,936nm,1.0s
PMR Palmer 67.61 330 *e*P **P** **22 04 06.4 +0.1**
PMR pmax pmax
comp=Z,4µm,2.0s
PMR Palmer 67.61 330 *e*P **P** **22 04 06.3 +0.1**
comp=Z,4µm,2.0s
SMF Signal de Mont 67.62 46⇑*i*P **P** **22 04 06.1 -0.6**
comp=Z,2µm,1.6s
SMF Signal de Mont 67.62 46⇑*i*P **P** **22 04 06.1 -0.6**
SMF pmax pmax
comp=Z,2µm,1.6s
SMF Signal de Mont 67.62 46⇑*i*P **P** **22 04 06.1 -0.6**
comp=Z,2µm,1.6s
MCK McKinley 67.64 332 *e*P **P** **22 04 06.0 -0.5**
MCK pmax pmax
comp=Z,2µm,0.9s
MCK McKinley 67.64 332 *e*P **P** **22 04 06.0 -0.5**
comp=Z,2µm,0.9s
BAIF Baives 67.70 43⇑*i*P **P** **22 04 06.5 -0.6**
comp=Z,656nm,1.4s
BAIF Baives 67.70 43⇑*i*P **P** **22 04 06.5 -0.6**
BAIF pmax pmax
comp=Z,656nm,1.4s
BAIF Baives 67.70 43⇑*i*P **P** **22 04 06.5 -0.6**
comp=Z,656nm,1.4s
SEW Seward 67.70 328 *e*P **P** **22 04 06.7 -0.2**
comp=Z,886nm,1.2s
SNF Seneffe 67.73 42 P **P** **22 04 06.9 -0.4**
UCC Uccle 67.77 42 P **P** **22 04 08.9 +1.4**
LASF Ste Croix 67.81 49⇑*i*P **P** **22 04 08.2 +0.2**
comp=Z,2µm,1.4s
LASF Ste Croix 67.81 49⇑*i*P **P** **22 04 08.2 +0.2**
comp=Z,2µm,1.4s

RC01 **Rabbit Creek A** 67.88 329 *e*P P 22 04 08.5 +0.5
comp=Z,4µm,1.7s
ABA **Alger-Bouzarea** 67.90 57 P P 22 04 01.5 -7.2
DOU **Dourbes** 67.95 43 P P 22 04 08.3 -0.4
SUE **Sulen** 67.97 31⇑*i*P P 22 04 10.2 +1.5
SUE IAmb IAmb 22 04 21.3
comp=Z,875nm,1.8s
GIVF **Givet** 68.09 43⇑*i*P P 22 04 09.2 -0.4
comp=Z,986nm,1.2s
GIVF **Givet** 68.09 43⇑*i*P P 22 04 09.2 -0.4
GIVF pmax pmax
comp=Z,986nm,1.2s
GIVF **Givet** 68.09 43⇑*i*P P 22 04 09.2 -0.4
comp=Z,986nm,1.2s
FOO **Floro** 68.13 30⇑*i*P P 22 04 09.3 -0.2
FOO IAmb IAmb 22 04 25.9
comp=Z,217nm,1.8s
FOO *e*S S 22 13 08.1 -0.7
FOO *e*SS SS 22 17 29.8 -1.2
ASK **Askoy** 68.17 31 *e*P P 22 04 11.5 +1.6
ASK *e*S S 22 13 10.0 +0.6
KMY **Karmoy** 68.18 33 *e*P P 22 04 11.5 +1.6
KMY *e* 22 04 11.7
KMY *e*S S 22 13 10.6 +1.2
SSB **Saint Sauveur** 68.20 48 *e*P P 22 04 10.5 0.0
SSB pmax pmax
comp=Z,963nm,1.5s
SSB MLR MLR
comp=Z,71µm,20.0s
SSB **Saint Sauveur** 68.20 48 *e*P P 22 04 10.5 0.0
SSB **Saint Sauveur** 68.20 48 *e*P P
comp=Z,963nm,1.5s
SSB LR LR
comp=Z,71µm,20.0s
TRF **Thorofare Moun** 68.23 332 *e*P P 22 04 10.3 -0.1
comp=Z,4µm,1.8s
BER **Bergen** 68.24 32⇑*i*P P 22 04 11.2 +0.9
BER IAmb IAmb 22 04 28.1
comp=Z,455nm,1.3s
BER *e*S S 22 13 08.4 -1.7
BER *e*SS SS 22 17 32.6 -0.1
RUND **Rundenannen** 68.25 32 *e*P P 22 04 10.1 -0.3
ADJB **Djebel Djouab** 68.30 58 P P 22 04 08.9 -2.4
VIVF **Saint-Julien-I** 68.33 48⇑*i*P P 22 04 11.7 +0.4
comp=Z,2µm,1.1s
VIVF **Saint-Julien-I** 68.33 48⇑*i*P P 22 04 11.7 +0.4
VIVF pmax pmax
comp=Z,2µm,1.1s
VIVF **Saint-Julien-I** 68.33 48⇑*i*P P 22 04 11.7 +0.4
comp=Z,2µm,1.1s
MEZF **Maizieres J'vi** 68.33 44⇑*i*P P 22 04 10.8 -0.3
comp=Z,1µm,1.0s,baz=271
MEZF **Maizieres J'vi** 68.33 44⇑*i*P P 22 04 10.8 -0.3
comp=Z,1µm,1.0s
SFTF **Sexfontaines** 68.34 45⇑*i*P P 22 04 10.8 -0.4
comp=Z,2µm,1.3s,baz=263
SFTF **Sexfontaines** 68.34 45⇑*i*P P 22 04 10.8 -0.4
comp=Z,2µm,1.3s
BCLA **Clavier** 68.39 42 P P 22 04 11.0 -0.4
comp=Z,297nm,2.0s
COLD **Coldfoot** 68.41 336 *e*P P 22 04 11.8 +0.5
comp=Z,10µm,1.3s
KTH **Kantishna Hill** 68.52 332 *e*P P 22 04 11.8 -0.3
comp=Z,117nm,0.5s
BEBN **Eben Emael** 68.60 42 P P 22 04 12.6 -0.1
HYA **Hoyanger** 68.67 31 *e*P P 22 04 10.0 -2.9
HYA IAmb IAmb 22 04 30.6
AKET **Djebel Ketaf** 68.67 58 P P 22 04 11.4 -2.3
HGN **Heimansgroeve** 68.77 42 *e*P P 22 04 13.2 -0.6
comp=Z,4µm,2.8s
HGN *e*S S 22 13 14.0 -2.8
HGN *e*SS SS 22 16 58.6 -43
HGN *e*SSS SSS 22 21 02.7
PAGF **Fort de Pagny** 68.77 44⇑*i*P P 22 04 13.7 -0.2
comp=Z,422nm,1.3s,baz=258
PAGF **Fort de Pagny** 68.77 44⇑*i*P P 22 04 13.7 -0.2
comp=Z,422nm,1.3s
BLS5 **Blasjo** 68.80 33 *e*P P 22 04 13.7 -0.2
BLS5 *e*S S 22 13 16.4 -0.5
MEM **Membach** 68.82 42 P P 22 04 13.5 -0.6
ODD1 **Odda** 68.88 32 *e*P P 22 04 14.5 +0.1
ODD1 IAmb IAmb 22 04 30.4
comp=Z,1µm,3.6s
ODD1 *e*S S 22 13 15.2 -2.8
THEF **They Montfort** 68.97 45 *e*P P 22 04 14.8 -0.4
WLF **Walferdange** 68.98 43 P P 22 04 15.1 -0.1
comp=Z,441nm,1.9s
WLF **Walferdange** 68.98 43 *e*P P 22 04 15.2 +0.1
WLF pmax pmax
comp=Z,414nm,1.1s
WLF MLR MLR
comp=Z,162µm,19.0s
WLF **Walferdange** 68.98 43 *e*P P 22 04 17.1 +2.0
comp=Z,2µm,2.1s
WLF *e*S S 22 13 18.9 -0.5
WLF **Walferdange** 68.98 43 *e*P P 22 04 15.2 +0.1
comp=Z,414nm,1.1s
WLF LR LR
comp=Z,162µm,19.0s
SMRF **Simiane la Rot** 69.05 49⇑*i*P P 22 04 16.4 +0.6
comp=Z,1µm,1.3s
SMRF **Simiane la Rot** 69.05 49⇑*i*P P 22 04 16.4 +0.6
comp=Z,1µm,1.3s
GRN **Grenoble** 69.05 48 *e*P P 22 04 16.2 +0.4
PPLA **Purkeypile** 69.07 331 *e*P P 22 04 15.0 -0.7
comp=Z,63nm,0.9s
CABF **La Chapelle** 69.17 46⇑*i*P P 22 04 16.0 -0.5
comp=Z,1µm,1.4s
CABF **La Chapelle** 69.17 46⇑*i*P P 22 04 16.0 -0.5
CABF pmax pmax
comp=Z,1µm,1.4s
CABF **La Chapelle** 69.17 46⇑*i*P P 22 04 16.0 -0.5
comp=Z,1µm,1.4s
ORIF **Oris-en-Rattie** 69.18 48⇑*i*P P 22 04 17.0 +0.4
comp=Z,3µm,1.5s
ORIF *e*R
comp=Z,162µm,20.2s
ORIF **Oris-en-Rattie** 69.18 48⇑*i*P P 22 04 17.0 +0.4
ORIF pmax pmax
comp=Z,3µm,1.5s
ORIF **Oris-en-Rattie** 69.18 48⇑*i*P P 22 04 17.0 +0.4
comp=Z,3µm,1.5s
LEPF **PUYLOUBIER** 69.19 50 *e*P P 22 04 16.5 -0.1
SNART **Snartemo** 69.20 34 *e*P P 22 04 17.1 +0.7
HAU **Haudompre** 69.23 45⇑*i*P P 22 04 16.0 -0.8
comp=Z,3µm,1.8s
HAU *e*R
comp=Z,104µm,20.0s
HAU **Haudompre** 69.23 45⇑*i*P P 22 04 16.0 -0.8
HAU pmax pmax
comp=Z,3µm,1.8s
HAU **Haudompre** 69.23 45⇑*i*P P 22 04 16.0 -0.8
comp=Z,3µm,1.8s
WTSB **Winterswijk** 69.24 41 *e*P P 22 04 16.6 -0.1
comp=Z,2µm,1.8s
GDM **Grand'Maison** 69.32 48 *e*P P 22 04 17.8 +0.2
MOL **Molde** 69.32 29⇑*i*P P 22 04 18.2 +1.2
MOL IAmb IAmb 22 04 46.2
comp=Z,891nm,1.9s
MOL *e*S S 22 13 22.2 -0.7
MOL *e*SS SS 22 17 49.8 +0.5
KDAK **Kodiak Island** 69.33 326 PFAKE 22 04 30.0 +13
KDAK LR LR
comp=Z,660µm,19.0s
RSO **Redoubt South** 69.35 329 *e*P P 22 04 16.8 -0.7
comp=Z,857nm,1.0s
OG25 **Le Caire** 69.37 49 *e*P P 22 04 18.3 +0.5
BUG **Bochum--Univer** 69.57 41 *e*P P 22 04 20.3 +1.6
comp=Z,814nm,1.4s
HINF **Hinteralfeld** 69.58 45⇑*i*P P 22 04 18.1 -0.9
comp=Z,617nm,1.2s
HINF **Hinteralfeld** 69.58 45⇑*i*P P 22 04 18.1 -0.9
HINF pmax pmax
comp=Z,617nm,1.2s
HINF **Hinteralfeld** 69.58 45⇑*i*P P 22 04 18.1 -0.9
comp=Z,617nm,1.2s
LOMF **Lomont** 69.61 45 *e*P P 22 04 18.7 -0.5
RSL **Roselend** 69.63 47 *e*P P 22 04 19.4 -0.1
LPL **La Plagne** 69.72 47⇑*i*P P 22 04 20.3 +0.2
comp=Z,720nm,0.8s
LPL **La Plagne** 69.72 47⇑*i*P P 22 04 20.3 +0.2
LPL pmax pmax
comp=Z,720nm,0.8s
LPL **La Plagne** 69.72 47⇑*i*P P 22 04 20.3 +0.2
comp=Z,720nm,0.8s

OHAK **Old Harbor** 69.73 325 *e*P P 22 04 18.9 -0.7
comp=Z,2µm,1.5s
BNI **Bardonecchia** 69.73 48 *e*P P 22 04 20.3 +0.2
BNI pmax pmax
comp=Z,1µm,1.4s
BNI MLR MLR
comp=Z,137µm,20.0s
BNI **Bardonecchia** 69.73 48 *e*P P 22 04 20.3 +0.2
comp=Z,1µm,1.4s
BNI LR LR
comp=Z,137µm,20.0s
LPG **La Plagne** 69.73 47⇑*i*P P 22 04 20.6 +0.3
comp=Z,545nm,0.8s
LPG **La Plagne** 69.73 47⇑*i*P P 22 04 20.6 +0.3
LPG pmax pmax
comp=Z,545nm,0.8s
LPG **La Plagne** 69.73 47⇑*i*P P 22 04 20.6 +0.3
comp=Z,545nm,0.8s
ECH **Echery** 69.75 45 *e*P P 22 04 19.4 -0.6
ECH pmax pmax
comp=Z,673nm,1.3s
ECH MLR MLR
comp=Z,77µm,19.0s
ECH **Echery** 69.75 45 *e*P P 22 04 19.5 -0.6
ECH **Echery** 69.75 45 *e*P P 22 04 19.4 -0.6
comp=Z,673nm,1.3s
ECH LR LR
comp=Z,77µm,19.0s
MOF **Molkenrain** 69.77 45 *e*P P 22 04 18.7 -1.5
IM04 **Indian Mountai** 69.79 334 *e*P P 22 04 19.0 -0.9
LMR **La Mourre** 69.79 50⇑*i*P P 22 04 19.9 -0.4
comp=Z,2µm,1.4s
LMR **La Mourre** 69.79 50⇑*i*P P 22 04 19.9 -0.4
LMR pmax pmax
comp=Z,2µm,1.4s
LMR **La Mourre** 69.79 50⇑*i*P P 22 04 19.9 -0.4
comp=Z,2µm,1.4s
IBBN **Ibbenburen** 69.81 40 *e*P P 22 04 21.9 +1.7
comp=Z,1µm,1.2s
CDF **Champ du Feu** 69.81 44⇑*i*P P 22 04 19.8 -0.7
comp=Z,2µm,1.6s
CDF **Champ du Feu** 69.81 44⇑*i*P P 22 04 19.8 -0.7
CDF pmax pmax
comp=Z,2µm,1.5s
CDF **Champ du Feu** 69.81 44⇑*i*P P 22 04 19.8 -0.7
comp=Z,2µm,1.5s
MBDF **Montbardon** 69.83 48⇑*i*P P 22 04 21.0 +0.3
comp=Z,812nm,0.8s
MBDF **Montbardon** 69.83 48⇑*i*P P 22 04 21.0 +0.3
MBDF pmax pmax
comp=Z,812nm,0.8s
MBDF **Montbardon** 69.83 48⇑*i*P P 22 04 21.0 +0.3
comp=Z,812nm,0.8s
WLS **Welschbruch** 69.86 44 *e*P P 22 04 19.6 -1.1
SET **Setif** 69.87 57 P P 22 04 21.5 +0.4
SURF **Saint Ours** 69.89 49 *e*P P 22 04 21.8 +0.7
HOMB **Homborsund** 69.89 34⇑*i*P P 22 04 22.6 +2.0
OG22 **Abries** 69.94 48 *e*P P 22 04 22.7 +1.2
CKHR **Kef el Ahmar** 69.99 58 P P 22 04 22.9 +1.1
CALN **Calern** 70.02 49 *e*P P 22 04 21.8 -0.1
LANF **Langenberg** 70.11 44 *e*P P 22 04 21.9 -0.3
MVIF **Mont Vial** 70.19 49 *e*P P 22 04 22.8 -0.2
TOUF **Mont Tournerai** 70.25 49 *e*P P 22 04 23.2 -0.2
LUCF **Luceram** 70.33 49 *e*P P 22 04 23.1 -0.7
MUD **Monsted U'grnd** 70.35 36⇑*i*P P 22 04 25.8 +2.4
MUD pmax pmax
comp=Z,160nm,0.9s
MUD MLR MLR
comp=Z,60µm,19.0s
MUD **Monsted U'grnd** 70.35 36⇑*i*P P 22 04 25.8 +2.4
comp=Z,162nm,0.9s
MUD
comp=Z,60µm,18.0s
REVF **Revere** 70.37 49 *e*P P 22 04 23.7 -0.2
REVF **Revere** 70.37 49 *e*P P 22 04 24.3 +0.4
AUTN **L'Aution** 70.38 49 *e*P P 22 04 24.2 0.0
KONO **Kongsberg** 70.39 32⇑*e*P P 22 04 22.1 -1.6
KONO pmax pmax
comp=Z,2µm,2.5s
KONO MLR MLR
comp=Z,592µm,19.0s
KONO **Kongsberg** 70.39 32 *e*P P 22 04 22.4 -1.2
KONO IAmb IAmb 22 04 41.7
comp=Z,5µm,3.0s
KONO *e*S S 22 13 36.1 +0.5
KONO *e*SS SS 22 18 06.4 +0.4
KONO **Kongsberg** 70.39 32 *e*P P 22 04 23.8 +0.1
comp=Z,630nm,1.5s
KONO LR LR
comp=Z,108µm,20.0s
SBF **Sospel** 70.40 49⇑*i*P P 22 04 23.8 -0.3
comp=Z,881nm,0.9s
SBF **Sospel** 70.40 49⇑*i*P P 22 04 23.8 -0.3
SBF pmax pmax
comp=Z,881nm,0.9s
SBF **Sospel** 70.40 49⇑*i*P P 22 04 23.8 -0.3
comp=Z,881nm,0.9s
TNS **Taunus Mts** 70.41 42 *e*P P 22 04 25.9 +1.8
comp=Z,1µm,1.8s
SAOF **Saorge** 70.47 49 *e*P P 22 04 23.8 -0.7
BFO **Black Forest** 70.52 44 *i*P P 22 04 24.4 -0.3
BFO **Black Forest** 70.52 44 *e*P P 22 04 26.2 +1.5
comp=Z,7µm,3.4s
BFO **Black Forest** 70.52 44 PFAKE 22 04 40.0 +15
BFO LR LR
comp=Z,77µm,19.0s
TBLU **Trondheim** 70.55 28 *e*P P 22 04 25.1 +0.5
TBLU *e*S S 22 13 38.7 +1.3
CTEI **Djebel Teioual** 70.69 57 P P 22 04 27.8 +1.6
PTCN **Pitcairn Islan** 70.70 234 PFAKE 22 04 40.0 +14
PTCN LR LR
comp=Z,44µm,19.0s
CASM **Ain Smara** 70.73 57 P P 22 04 27.6 +1.3
CKFL **Kef-Lekhel** 70.89 57 P P 22 04 28.6 +1.2
CAEH **'Ain El Ouahch** 70.94 57 P P 22 04 33.0 +5.5
OSL **Oslo** 70.94 32 *e*P P 22 04 27.5 +0.6
OSL IAmb IAmb 22 04 43.2
comp=Z,2µm,2.5s
NAO01 **NSAR Array S** 70.97 31 *e*P P 22 04 27.4 +0.2
comp=Z,248nm,1.0s
KBS **Kingsbay** 71.03 12 *e*P P 22 04 27.4 +0.2
KBS pmax pmax
comp=Z,213nm,0.9s
KBS MLR MLR
comp=Z,163µm,21.0s
KBS **Kingsbay** 71.03 12⇑*i*P P 22 04 28.6 +1.4
KBS *e*S S 22 13 43.5 +0.9
KBS *e*SS SS 22 18 17.1 +1.9
KBS IAMs_20 IAMs_20 22 32 09.3
comp=Z,275µm,25.2s
KBS **Kingsbay** 71.03 12 *e*P P 22 04 27.4 +0.2
comp=Z,213nm,0.9s
KBS LR LR
comp=Z,163µm,21.0s
STU **Stuttgart** 71.04 44 *e*P P 22 04 27.1 -0.8
STU pmax pmax
comp=Z,828nm,1.4s
STU **Stuttgart** 71.04 44 *e*P P 22 04 29.4 +1.5
comp=Z,1µm,1.7s
STU **Stuttgart** 71.04 44 *e*P P 22 04 27.1 -0.8
comp=Z,828nm,1.4s
NB2 **NORSAR Subarra** 71.11 31 P P 22 04 28.8 +0.7
comp=Z,4µm,3.3s,baz=274,slow=6.5
NB2 **NORSAR Subarra** 71.11 31 P P 22 04 28.8 +0.7
baz=274,slow=6.5
NOA **NORSAR Array B** 71.11 31 P P 22 04 28.1 -0.1
NOA P'P' 22 32 19.3
NOA **NORSAR Array B** 71.11 31 P P 22 04 28.1 -0.1
comp=Z,32nm,0.8s,baz=275,slow=6.3,SNR=65
NOA PKPPKP P'P'df 22 32 19.3 -8.3
comp=Z,12nm,1.1s,baz=91,slow=4.0,SNR=7.5
NOA LR LR 22 33 12.7
comp=Z,22µm,19.3s,baz=265,slow=34
BSEG **Bad Segeberg** 71.21 38 *e*P P 22 04 30.6 +1.9
NSS **Namsos** 71.24 27⇑*i*P P 22 04 29.9 +1.2
NSS IAmb IAmb 22 04 45.0
comp=Z,1µm,2.1s
NSS *e*S S 22 13 43.7 -1.6
TOA0 **Torodi Ar. Sit** 71.25 82 *e*P P 22 04 28.1 -1.6
TORD **Torodi Ar. Bea** 71.25 82 P P 22 04 28.0 -1.7
TORD P'P' 22 32 23.9
TORD **Torodi Ar. Bea** 71.25 82 P P 22 04 28.0 -1.7
comp=Z,57nm,0.9s,baz=285,slow=5.7,SNR=164
TORD LR LR 22 31 08.8
comp=Z,165µm,21.3s,baz=270,slow=32

TORD PKPPKP P'P'df 22 32 23.9 -2.8
comp=Z,31nm,1.1s,baz=97,slow=2.7,SNR=18
CMAH **Djebel Manchou** 71.41 57 P P 22 04 31.4 +1.0
TUE **Stuetta** 71.42 46 *e*P P 22 04 30.8 +0.3
comp=Z,299nm,0.8s
TUE LR LR
comp=Z,116µm,20.0s
CLZ **Clausthal** 71.46 40 *e*P P 22 04 32.4 +2.0
comp=Z,1µm,1.4s
ABSA **Djebel Ababsia** 71.52 57 P P 22 04 33.4 +2.3
STOK **Stokkvaagen** 71.57 25 *e*P P 22 04 34.3 +3.6
KONS **Konsvik** 71.60 25 *e*P P 22 04 31.3 +0.4
KONS IAmb IAmb 22 04 47.0
comp=Z,2µm,2.4s
KONS *e*S S 22 13 47.5 -1.9
LOF **Lofoten** 71.66 23 *e*P PcP 22 04 47.6 -2.7
DAVA **Damuels** 71.68 45 *i*P P 22 04 32.2 +0.2
comp=Z,428nm,1.0s,SNR=42
FLOS **Flostrand** 71.71 25 *e*P P 22 04 34.2 +2.7
PGF **Pioggiola** 71.71 50⇑*i*P P 22 04 31.6 -0.5
comp=Z,1µm,1.2s
PGF **Pioggiola** 71.71 50⇑*i*P P 22 04 31.6 -0.5
PGF pmax pmax
comp=Z,1µm,1.3s
PGF **Pioggiola** 71.71 50⇑*i*P P 22 04 31.6 -0.5
comp=Z,1µm,1.3s
DAVOX **Davos/Dischmat** 71.75 46 P P 22 04 32.5 +0.1
DAVOX **Davos/Dischmat** 71.75 46 P P 22 04 32.5 +0.1
comp=Z,36nm,0.6s,baz=281,slow=6.4,SNR=65
DAVOX LR LR 22 34 00.4
comp=Z,45µm,18.2s,baz=281,slow=34
HSP **Hornsund** 71.80 14 *e*P P 22 04 32.8 +0.9
SPITS **Spitsbergen Ar** 71.92 13 P P 22 04 32.1 -0.6
SPITS **Spitsbergen Ar** 71.92 13 P P 22 04 32.1 -0.6
comp=Z,32nm,0.6s,baz=211,slow=1.7,SNR=37
SPITS LR LR 22 35 19.9
comp=Z,116µm,20.5s,baz=240,slow=35
TAOE **Nuku Hiva Isla** 71.92 254 *e*P P 22 04 37.8 +4.0
comp=Z,2µm,1.5s
TAOE *e*S S 22 13 58.3 +3.3
comp=Z,141µm,26.6s
TAOE *e*LQ LQ 22 23 33.7
comp=Z,285µm,29.6s
TAOE *e*LR LR 22 26 32.2
comp=Z,276µm,23.2s,baz=67
TAOE **Nuku Hiva Isla** 71.92 254 *e*P P 22 04 35.9 +2.0
comp=Z,2µm,1.6s
MOR8 **Moi Rana** 72.16 25 *e*P P 22 04 34.4 +0.1
MOR8 IAmb IAmb 22 04 53.3
comp=Z,548nm,1.5s
LLD **Lille Linde** 72.16 37 *i*P P 22 04 37.5 +3.1
LLD **Lille Linde** 72.16 37 *i*P P 22 04 37.5 +3.1
COP **Copenhagen** 72.24 36⇑*i*P P 22 04 37.2 +2.3
COP pmax pmax
comp=Z,140nm,0.9s
COP MLR MLR
comp=Z,45µm,20.0s
COP **Copenhagen** 72.24 36⇑*i*P P 22 04 37.2 +2.3
comp=Z,141nm,0.9s
COP
comp=Z,45µm,19.0s
RETA **Reutte** 72.25 45 *i*P P 22 04 35.2 0.0
comp=Z,724nm,1.2s,SNR=66
GRF **Grafenberg Arr** 72.25 43 *e*P P 22 04 37.0 +1.9
comp=Z,1µm,1.8s
GRF *e*S S 22 13 57.3 -0.3
GRF *e*L L 22 33 56.4
comp=Z,115µm,19.3s
FETA **Feichten** 72.29 46 *i*P P 22 04 35.7 +0.1
comp=Z,956nm,1.4s,SNR=69
STEI **Steigen** 72.31 23 *e*P P 22 04 32.9 -2.2
STEI IAmb IAmb 22 04 53.4
comp=Z,279nm,1.1s
HFS **Hagfors** 72.41 32 P P 22 04 35.9 0.0
HFS P'P' 22 32 16.2
HFS **Hagfors** 72.41 32 P P 22 04 35.9 0.0
comp=Z,13nm,0.7s,baz=261,slow=2.9,SNR=20
HFS PKPPKP P'P'df 22 32 16.2 -9.1
comp=Z,5.4nm,0.9s,baz=236,slow=1.6,SNR=4.9
TAM **Tamanrasset** 72.47 71⇑*e*P P 22 04 37.6 +0.5
TAM *e* 22 07 19.2
TAM pmax pmax
comp=Z,851nm,1.6s
TAM MLR MLR
comp=Z,134µm,21.0s
TAM **Tamanrasset** 72.47 71⇑*e*P P 22 04 37.6 +0.5
comp=Z,851nm,1.6s
TAM *e*PP PP 22 07 19.2 +1.0
TAM LR LR
comp=Z,134µm,21.0s
VSL **Villasalto** 72.47 53 *e*P P 22 04 36.5 -0.1
comp=Z,3µm,1.8s
VSL LR LR
comp=Z,79µm,20.0s
VLC **Villacollemand** 72.47 49 *e*P P 22 04 35.2 -1.3
comp=Z,1µm,1.4s
VLC LR LR
comp=Z,58µm,20.0s
FUR **Furstenfeldbru** 72.50 44 *e*P P 22 04 38.4 +1.8
comp=Z,1µm,1.4s
MOTA **Moosalm** 72.50 45 *i*P P 22 04 36.5 -0.4
comp=Z,274nm,0.7s,SNR=61
WATA **Walderalm** 72.81 45⇑*i*P P 22 04 38.2 -0.5
comp=Z,176nm,0.9s,SNR=25
ROTZ **Rotzenmuhle** 72.87 43 *e*P P 22 04 41.0 +2.2
comp=Z,4µm,2.6s
ROTZ *e*S S 22 14 05.8 +1.1
RGN **Rugen** 72.89 37 *e*P P 22 04 38.6 -0.2
comp=Z,1µm,1.6s
BJO **Bjornoya** 72.90 16 *e*P P 22 04 43.4 +4.9
BJO IAmb IAmb 22 04 47.9
comp=Z,714nm,1.5s
BJO *e*S S 22 14 02.9 -1.2
TANN **Tannenbergstha** 72.94 42 *e*P P 22 04 41.2 +1.9
comp=Z,2µm,2.3s
TANN *e*S S 22 14 05.7 +0.2
NKC **Novy Kostel** 72.96 42 *e*P P 22 04 38.7 -0.7
NKC *e* 22 04 42.2
NKC *e* 22 04 52.3
NKC *e*S SKiKP 22 14 09.0 -3.1
NKC *e*SS SS 22 18 51.7 +5.9
NKC MLR MLR
comp=Z,85µm,18.3s
NKC **Novy Kostel** 72.96 42⇑*e*P P 22 04 38.7 -0.7
NKC *ep*P pP 22 04 42.2 -2.1
NKC *e*PCP PcP 22 04 52.3 -4.0
NKC *ex* x 22 07 38.8
NKC *e*S SKiKP 22 14 09.0 -3.1
NKC *e*SS SS 22 18 51.7 +5.9
NKC *e*PKPPKP P'P'df 22 32 13.3 -11
NKC AMS AMS 22 34 10.0
comp=Z,85µm,18.3s
KEST **Kesra** 73.10 57 *e*P P 22 04 40.7 +0.1
KEST **Kesra** 73.10 57 P P 22 04 40.7 +0.1
comp=Z,88nm,0.8s,baz=193,slow=1.9,SNR=208
KEST LR LR 22 32 40.2
comp=Z,25µm,20.7s,baz=222,slow=32
CLL **Collm** 73.15 41 *e*P P 22 04 40.0 -0.4
CLL *i* 22 04 51.7
CLL *e*S S 22 14 10.0 +2.3
CLL *e* 22 15 00.0
CLL pmax pmax
comp=Z,3µm,3.0s
CLL MLR MLR
comp=Z,80µm,20.2s
CLL **Collm** 73.15 41 *e*P P 22 04 42.3 +1.9
comp=Z,689nm,1.5s
CLL *e*S S 22 14 08.2 +0.5
CLL **Collm** 73.15 41 *e*P P 22 04 40.0 -0.4
comp=Z,3µm,3.0s
CLL *e*Plp 22 04 46.0
comp=Z,18µm,20.1s
CLL *i* 22 04 51.7
comp=Z,3µm,2.5s
CLL *e*PP PP 22 07 33.0 +10
CLL *e*(PPPP) 22 09 53.0
CLL *e*S S 22 14 10.0 +2.3
comp=N,43µm,28.3s
CLL *e*S S 22 14 10.0 +2.3
comp=E,32µm,21.0s
CLL *e* 22 15 00.0
CLL *e*SS SS 22 18 48.0 -0.6
CLL *e*PKPPKPdf P'P'df 22 32 18.0 -6.1
CLL Lm MLR 22 34 00.0
comp=N,70µm,20.3s
CLL Lm MLR 22 34 00.0

	comp=E,66µm,20.6s								
CLL					Lm	MLR	22 34 00.0		
	comp=E,80µm,20.2s								
WET	**Wettzell**	**73.40**	**43**	*e*P		P	22 04 45.9	+3.9	
	comp=E,7µm,3.2s								
TRO	**Tromso**	**73.45**	**21**	⇑*i*P		P	22 04 47.6	+5.8	
TRO					IAmb	IAmb	22 05 03.7		
	comp=E,3µm,2.2s								
TRO				*e*S		**S**	**22 14 09.9**	**-0.6**	
TRO				*e*SS		**SS**	**22 18 53.1**	**+0.7**	
RUE	**Ruedersdorf**	**73.45**	**40**	*e*P		**P**	**22 04 42.3**	**+0.1**	
	comp=E,585nm,1.2s								
ABTA	**Abfaltersbach**	**73.54**	**46**	*i* P		**P**	**22 04 42.5**	**-0.4**	
	comp=E,856nm,1.6s,SNR=56								
RKT	**Rikitea**	**73.57**	**238**	*e*P		**P**	**22 04 46.2**	**+2.9**	
	comp=E,238nm,1.2s								
RKT				*e*S		**SKiKP**	**22 14 15.7**	**+2.1**	
	comp=E,115µm,30.2s								
RKT				*e*SS		**SS**	**22 19 02.1**	**+5.4**	
	comp=E,91µm,29.2s								
RKT				*e*LQ		LQ	22 24 12.5		
	comp=E,290µm,39.2s								
RKT				*e*LR		LR	22 27 17.6		
	comp=E,191µm,31.2s								
BSD	**Bornholm Skovb**	**73.72**	**37**	⇑*i*P		**P**	**22 04 45.6**	**+1.9**	
BSD					pmax	pmax			
	comp=E,250nm,0.9s								
BSD					MLR	MLR			
	comp=E,81µm,19.0s								
BSD	**Bornholm Skovb**	**73.72**	**37**	⇑*i*P		**P**	**22 04 45.6**	**+1.9**	
	comp=E,249nm,0.8s								
BSD									
	comp=E,81µm,18.0s								
BRG	**Berggiesshubel**	**73.80**	**41**	⇑*i*P		**P**	**22 04 44.4**	**0.0**	
	comp=E,101nm,1.0s								
BRG				*i*			22 04 56.8		
	comp=E,887nm,1.5s								
BRG					PP	PP	22 07 34.0	+5.3	
BRG					S	S	22 14 22.0	+6.9	
BRG					SS	**SS**	**22 19 04.0**	**+5.4**	
BRG				*e*PKKP		PKKPdf	22 23 40.0	-23	
	comp=E,65nm,1.4s								
BRG				*e*PKPPKP		P'P'df	22 32 15.7	-7.2	
	comp=E,68nm,2.2s								
BRG									
	comp=N,64µm,19.4s								
BRG									
	comp=E,89µm,20.5s								
BRG									
	comp=E,136µm,19.9s								
BRG	**Berggiesshubel**	**73.80**	**41**	⇑*i*P		**P**	**22 04 44.3**	**0.0**	
BRG				*i*			22 04 56.8		
BRG							22 07 34.0		
BRG					S	S	22 14 22.0	+6.9	
BRG					SS	**SS**	**22 19 04.0**	**+5.4**	
BRG					pmax	pmax			
	comp=Z,101nm,1.0s								
BRG					MLR	MLR			
	comp=N,64µm,19.4s								
BRG					MLR	MLR			
	comp=E,89µm,20.5s								
BRG					MLR	MLR			
	comp=E,136µm,19.9s								
BRG	**Berggiesshubel**	**73.80**	**41**	*e*P		**P**	**22 04 46.3**	**+2.0**	
KHC	**Kasperske Hory**	**73.86**	**43**	⇑*i*P		**P**	**22 04 44.6**	**-0.1**	
KHC				*e*			22 04 47.9		
KHC				*e*			22 04 57.7		
KHC				*e*S		**S**	**22 14 19.9**	**+4.0**	
KHC				*e*SS		**SS**	**22 18 58.4**	**-1.2**	
KHC					MLR	MLR			
	comp=E,111µm,18.5s								
KHC	**Kasperske Hory**	**73.86**	**43**	⇑*i*P		**P**	**22 04 44.6**	**-0.1**	
KHC				*e*pP		**pP**	**22 04 47.9**	**-1.7**	
KHC				*e*PCP		**PcP**	**22 04 57.7**	**-2.5**	
KHC				*e*x		x	22 07 46.6		
KHC				*e*S		**S**	**22 14 19.9**	**+4.0**	
KHC				*e*SS		**SS**	**22 18 58.4**	**-1.2**	
KHC				*e*x		x	22 32 05.3		
KHC				*e*PKPPKP		P'P'df	22 32 11.7	-11	
KHC				AMS		AMS	22 36 40.0		
	comp=E,111µm,18.5s								
KHC	**Kasperske Hory**	**73.86**	**43**	*e*P		**P**	**22 04 44.7**	**0.0**	
	comp=E,606nm,1.3s								
SDPT	**Sand Point**	**73.90**	**324**	*e*P		**P**	**22 04 45.3**	**+0.5**	
	comp=E,2µm,1.4s								
GEC2	**GERESS Array S**	**73.98**	**43**	*e*P		**P**	**22 04 47.2**	**+1.7**	
	comp=E,2µm,2.1s								
GEC2				*e*S		**SKiKP**	**22 14 14.2**	**+0.4**	
GERES	**GERESS Array B**	**73.98**	**43**	P		**P**	**22 04 45.3**	**-0.2**	
GERES				P'P'			22 32 08.0		
GERES	**GERESS Array B**	**73.98**	**43**	P		**P**	**22 04 45.3**	**-0.2**	
	comp=E,44nm,0.7s,baz=270,slow=4.0,SNR=175								
GERES				PKPPKP		P'P'df	22 32 08.0	-15	
	comp=E,3.4nm,1.1s,baz=207,slow=1.1,SNR=8.3								
GERES				LR		LR	22 32 32.0		
	comp=E,87µm,22.0s,baz=278,slow=32								
HOPEN	**Hopen**	**74.03**	**14**	*e*P		**P**	**22 04 45.3**	**+0.2**	
HOPEN					IAmb	IAmb	22 04 54.7		
	comp=E,1µm,1.5s								
HOPEN					IAMs_20	IAMs_20	22 31 08.3		
	comp=E,170µm,22.3s								
KBA	**Koelnbreinsper**	**74.05**	**45**	*i* P		**P**	**22 04 45.6**	**-0.4**	
	comp=E,1µm,1.7s,SNR=67								
SHEL	**Horse Pasture**	**74.12**	**113**	*e*P		**P**	**22 04 44.6**	**-2.2**	
SHEL					pmax	pmax			
	comp=E,100nm,1.3s								
SHEL					MLR	MLR			
	comp=E,41µm,19.0s								
SHEL	**Horse Pasture**	**74.12**	**113**	*e*P		**P**	**22 04 44.5**	**-2.2**	
	comp=E,100nm,1.3s								
SHEL					LR	LR			
	comp=E,41µm,19.0s								
PRA	**Prague**	**74.25**	**42**	⇑P		**P**	**22 04 47.0**	**+0.1**	
PRA				S		**S**	**22 14 22.0**	**+1.9**	
PVCC	**Panska Ves**	**74.25**	**41**	*e*P		**P**	**22 04 46.8**	**-0.1**	
PVCC				*e*			22 04 50.3		
PVCC				*e*			22 05 00.1		
PVCC				*e*S		**S**	**22 14 23.6**	**+3.4**	
PVCC				*e*SS		**SS**	**22 19 11.8**	**+6.3**	
PVCC					MLR	MLR			
	comp=E,147µm,19.7s								
PVCC	**Panska Ves**	**74.25**	**41**	⇑*e*P		**P**	**22 04 46.8**	**-0.1**	
PVCC				*e*pP		**pP**	**22 04 50.3**	**-1.6**	
PVCC				*e*PCP		**PcP**	**22 05 00.1**	**-1.7**	
PVCC				*e*x		x	22 07 50.5		
PVCC				*e*S		**S**	**22 14 23.6**	**+3.4**	
PVCC				*e*SS		**SS**	**22 19 11.8**	**+6.3**	
PVCC				*e*x		x	22 32 05.4		
PVCC				*e*PKPPKP		**P'P'df**	**22 32 17.0**	**-5.1**	
PVCC				AMS		AMS	22 34 50.0		
	comp=E,147µm,19.7s								
MYKA	**Terra Mystica**	**74.33**	**46**	*i* P		**P**	**22 04 47.0**	**-0.5**	
	comp=E,273nm,0.8s,SNR=47								
PRU	**Pruhonice**	**74.33**	**42**	⇑*e*P		**P**	**22 04 46.9**	**-0.5**	
PRU				*e*			22 04 50.7		
PRU				*e*			22 05 00.5		
PRU				*e*S		**S**	**22 14 21.0**	**-0.1**	
PRU				*e*SS		**SS**	**22 19 04.1**	**-2.5**	
PRU					MLR	MLR			
	comp=E,139µm,19.0s								
PRU	**Pruhonice**	**74.33**	**42**	⇑*e*P		**P**	**22 04 46.9**	**-0.5**	
PRU				*e*pP		**pP**	**22 04 50.7**	**-1.6**	
PRU				*e*PCP		**PcP**	**22 05 00.5**	**-1.6**	
PRU				*e*x		x	22 07 50.6		
PRU				*e*S		**S**	**22 14 21.0**	**-0.1**	
PRU				*e*SS		**SS**	**22 19 04.1**	**-2.5**	
PRU				*e*x		x	22 32 08.1		
PRU				AMS		AMS	22 35 00.0		
	comp=E,139µm,19.0s								
MOA	**Molln**	**74.53**	**44**	*i* P		**P**	**22 04 47.9**	**-0.8**	
	comp=E,679nm,1.2s,SNR=76								
TRI	**Trieste**	**74.58**	**47**	*e*P		**P**	**22 04 48.7**	**-0.2**	
TRI					pmax	pmax			
	comp=E,944nm,1.3s								
TRI	**Trieste**	**74.58**	**47**	*e*P		**P**	**22 04 48.7**	**-0.2**	
	comp=E,944nm,1.3s								
JAVS	**Javornik**	**74.75**	**46**	*i* P		**P**	**22 04 49.8**	**-0.2**	
OBKA	**Obir**	**74.96**	**46**	*i* P		**P**	**22 04 50.9**	**-0.4**	
	comp=E,468nm,0.9s,SNR=70								
LJU	**Ljubljana**	**75.04**	**46**	*e*P		**P**	**22 04 51.5**	**-0.1**	
LJU				*e*PP		PP	22 07 24.2	-15	
LJU				*e*S		**S**	**22 14 28.1**	**-1.1**	
LJU				*e*PS		**PnS**	**22 15 11.7**	**+7.2**	
LJU				*e*SS		SS	22 19 28.2	+11	
TREC	**Trest**	**75.06**	**43**	⇑*i*P		**P**	**22 04 51.5**	**-0.2**	
TREC				*e*			22 04 54.6		
TREC				*e*			22 05 04.7		
TREC				*e*S		**S**	**22 14 32.5**	**+3.2**	
TREC				*e*SS		**SS**	**22 19 14.7**	**-3.1**	
TREC					MLR	MLR			
	comp=Z,113µm,18.7s								
TREC	**Trest**	**75.06**	**43**	⇑*i*P		**P**	**22 04 51.5**	**-0.2**	
TREC				*e*pP		**pP**	**22 04 54.6**	**-2.0**	
TREC				*e*PCP		**PcP**	**22 05 04.7**	**-0.6**	
TREC				*e*x		x	22 07 58.9		
TREC				*e*S		**S**	**22 14 32.5**	**+3.2**	
TREC				*e*SS		**SS**	**22 19 14.7**	**-3.1**	
TREC				*e*x		x	22 32 05.8		
TREC				AMS		AMS	22 37 30.0		
	comp=E,113µm,18.7s								
KTK1	**Kautokeino**	**75.07**	**22**	*e*P		**P**	**22 04 51.7**	**+0.4**	
KTK1				*e*S		**S**	**22 14 27.5**	**-1.2**	
UPC	**Upice**	**75.16**	**41**	*e*P		**P**	**22 04 52.2**	**0.0**	
UPC				*e*			22 04 55.6		
UPC				*e*			22 05 05.3		
UPC	**Upice**	**75.16**	**41**	⇑*e*P		**P**	**22 04 52.2**	**0.0**	
UPC				*e*pP		**pP**	**22 04 55.6**	**-1.6**	
UPC				*e*PCP		**PcP**	**22 05 05.3**	**-0.4**	
UPC				*e*x		x	22 32 07.1		
UPC				*e*PKPPKP		**P'P'df**	**22 32 20.7**	**+0.2**	
SOKA	**Soboth**	**75.26**	**45**	*i* P		**P**	**22 04 52.1**	**-0.8**	
	comp=Z,543nm,1.3s,SNR=94								
KSP	**Ksiaz**	**75.28**	**41**	⇑*e*P		**P**	**22 04 52.9**	**+0.1**	
KSP				*e**PP		**pP**	**22 04 56.1**	**-1.7**	
KSP				*e*			22 07 38.5		
KSP				*e*S		**S**	**22 14 33.0**	**+1.4**	
KSP				*e*SS		**SS**	**22 19 28.0**	**+7.0**	
KSP					MLR	MLR			
	comp=Z,624µm,23.1s								
KSP	**Ksiaz**	**75.28**	**41**	*e*P		**P**	**22 04 53.0**	**+0.1**	
KSP				*e*pP		**pP**	**22 04 55.1**	**-2.7**	
KSP				*e*PcP		**PcP**	**22 05 04.5**	**-1.7**	
KSP				*e*S		**S**	**22 14 34.0**	**+2.4**	
KSP				*e*SS		SS	22 19 37.5	+16	
KSP					LMZ	LR	22 30 51.6		
PERS	**Pernice**	**75.32**	**45**	*i* P		**P**	**22 04 52.3**	**-1.0**	
PERS				*e*S		**S**	**22 14 28.6**	**-3.8**	
GKP	**Gorka Klasztor**	**75.38**	**38**	*e*P		**P**	**22 04 53.9**	**+0.5**	
GKP				*e**PP		**pP**	**22 04 56.2**	**-2.1**	
GKP				*e*			22 05 04.8		
GKP				*e*S		**S**	**22 14 34.4**	**+1.7**	
GKP					pmax	pmax			
	comp=Z,300nm,0.9s								
GKP					MLR	MLR			
	comp=Z,116µm,22.8s								
GKP	**Gorka Klasztor**	**75.38**	**38**	*e*P		**P**	**22 04 53.8**	**+0.4**	
GKP				*e*pP		**pP**	**22 04 56.1**	**-2.2**	
GKP				*e*PcP		**PcP**	**22 05 04.8**	**-1.8**	
GKP				*e*S		**S**	**22 14 34.3**	**+1.6**	
GKP				*e*SS		SS	22 19 37.3	+15	
GKP					LMZ	LR	22 31 27.7		
DPC	**Dobruska-Polom**	**75.39**	**41**	⇑*e*P		**P**	**22 04 53.1**	**-0.5**	
DPC				*e*			22 04 56.7		
DPC				*e*			22 05 06.8		
DPC				*e*S		**S**	**22 14 36.2**	**+3.2**	
DPC				*e*SS		**SS**	**22 19 22.8**	**0.0**	
DPC	**Dobruska-Polom**	**75.39**	**41**	⇑*e*P		**P**	**22 04 53.1**	**-0.5**	
DPC				*e*pP		**pP**	**22 04 56.7**	**-1.8**	
DPC				*e*PCP		**PcP**	**22 05 06.8**	**+0.1**	
DPC				*e*x		x	22 07 59.0		
DPC				*e*S		**S**	**22 14 36.2**	**+3.2**	
DPC				*e*SS		**SS**	**22 19 22.8**	**0.0**	
DPC				*e*x		x	22 32 06.8		
DPC				*e*PKPPKP		**P'P'df**	**22 32 18.7**	**-1.5**	
DPC				AMS		AMS	22 35 40.0		
ARSA	**Arzberg**	**75.48**	**45**	*i* P		**P**	**22 04 53.5**	**-0.6**	
	comp=Z,380nm,1.2s,SNR=86								
NVLJ	**Novalja**	**75.56**	**48**	*i* P		**P**	**22 04 54.3**	**-0.3**	
CONA	**Conrad Observa**	**75.57**	**44**	*i* P		**P**	**22 04 54.6**	**-0.1**	
	comp=Z,347nm,1.4s,SNR=69								
TNA	**Tin City**	**75.62**	**335**	*e*P		**P**	**22 04 54.8**	**+0.3**	
	comp=Z,1µm,1.4s								
BOJS	**Bojanci**	**75.64**	**47**	*i* P		**P**	**22 04 55.0**	**-0.1**	
BOJS				*e*S		**S**	**22 14 39.8**	**+4.0**	
FALS	**False Pass**	**75.65**	**323**	*e*P		**P**	**22 04 56.0**	**+1.1**	
	comp=Z,954nm,1.3s								
KRLC	**Kraliky**	**75.73**	**42**	⇑*e*P		**P**	**22 04 55.7**	**+0.1**	
KRLC				*e*			22 04 59.1		
KRLC				*e*			22 05 09.0		
KRLC	**Kraliky**	**75.73**	**42**	⇑*e*P		**P**	**22 04 55.7**	**+0.1**	
KRLC				*e*pP		**pP**	**22 04 59.1**	**-1.4**	
KRLC				*e*PCP		**PcP**	**22 05 09.0**	**+0.8**	
ARCES	**ARCESS Array B**	**75.73**	**21**	P		**P**	**22 04 54.6**	**-0.5**	
ARCES	**ARCESS Array B**	**75.73**	**21**	P		**P**	**22 04 54.6**	**-0.5**	
	comp=Z,26nm,0.6s,baz=296,slow=3.9,SNR=66								
ARCES					LR	LR	22 34 03.3		
	comp=Z,46µm,21.3s,baz=286,slow=32								
ARE0	**ARCESS Array S**	**75.73**	**21**	*e*P		**P**	**22 04 54.9**	**-0.2**	
VRAC	**Vranov**	**75.77**	**42**	⇑*i*P		**P**	**22 04 55.7**	**0.0**	
VRAC	**Vranov**	**75.77**	**42**	P		**P**	**22 04 55.5**	**-0.2**	
VRAC						P'P'	22 32 15.1		
VRAC	**Vranov**	**75.77**	**42**	P		**P**	**22 04 55.5**	**-0.2**	
	comp=Z,44nm,0.8s,baz=282,slow=6.7,SNR=34								
VRAC					PKPPKP	**P'P'df**	**22 32 15.1**	**-4.3**	
	comp=Z,1.8nm,0.5s,baz=32,slow=5.4,SNR=3.3								
VRAC					LR	LR	22 35 35.2		
	comp=Z,49µm,19.8s,baz=281,slow=34								
SOP	**Sopron**	**76.08**	**44**	⇑*e*P		**P**	**22 04 57.5**	**0.0**	
SOP	**Sopron**	**76.08**	**44**	*e*PP		PKKPdf	22 23 52.6	-7.0	
KEV	**Kevo**	**76.19**	**21**	*e*P		**P**	**22 04 57.8**	**+0.1**	
KEV					pmax	pmax			
	comp=Z,392nm,1.3s								
KEV					MLR	MLR			
	comp=Z,78µm,21.0s								
KEV	**Kevo**	**76.19**	**21**	*e*p		**P**	**22 04 57.1**	**-0.6**	
	comp=Z,286nm,1.2s								
KEV	**Kevo**	**76.19**	**21**	*e*P		**P**	**22 04 57.8**	**+0.1**	
	comp=Z,392nm,1.3s								
KEV					LR	LR			
	comp=Z,78µm,21.0s								
UDBI	**Udbina**	**76.20**	**47**	*i* P		**P**	**22 04 58.4**	**+0.1**	
MORC	**Moravsky Berou**	**76.28**	**42**	*e*P		**P**	**22 04 58.7**	**0.0**	
MORC					pmax	pmax			
	comp=Z,2µm,1.8s								
MORC	**Moravsky Berou**	**76.28**	**42**	⇑*i*P		**P**	**22 04 59.0**	**+0.3**	
MORC	**Moravsky Berou**	**76.28**	**42**	*e*P		**P**	**22 04 58.6**	**0.0**	
	comp=Z,2µm,1.8s								
SISC	**Sisak**	**76.42**	**46**	*i* P		**P**	**22 04 59.6**	**+0.2**	
SMOL	**Smolenice**	**76.47**	**43**	*e*P		P	22 05 03.5	+3.8	
SMOL	**Smolenice**	**76.47**	**43**	*e*		P	22 05 03.5	+3.8	
BEHE	**Becsehely**	**76.48**	**45**	⇑*e*P		**P**	**22 05 00.1**	**+0.3**	
BEHE	**Becsehely**	**76.48**	**45**	*e*PP		**PKKPdf**	**22 23 55.0**	**-3.9**	
RAC	**Raciborz**	**76.62**	**41**	*e*P		**P**	**22 04 59.0**	**-1.5**	
RAC				*e*S		**S**	**22 14 44.7**	**-1.8**	
RAC					MLR	MLR			
	comp=N,190µm,23.6s								
RAC					MLR	MLR			
	comp=Z,170µm,24.5s								
RAC					MLR	MLR			
	comp=E,190µm,25.4s								
OKC	**Ostrava-Krasne**	**76.64**	**42**	⇑*i*P		**P**	**22 05 01.1**	**+0.4**	
OKC				*e*			22 05 04.2		
OKC				*e*			22 05 14.1		
OKC				*e*S		**S**	**22 14 51.3**	**+4.6**	
OKC					MLR	MLR			
	comp=Z,122µm,18.5s								
OKC	**Ostrava-Krasne**	**76.64**	**42**	⇑*i*P		**P**	**22 05 01.1**	**+0.4**	
OKC				*e*pP		**pP**	**22 05 04.2**	**-1.4**	
OKC				*e*PCP		**PcP**	**22 05 14.1**	**+2.0**	
OKC				*e*S		**S**	**22 14 51.3**	**+4.6**	
OKC				*e*PKPPKP		**P'P'df**	**22 32 16.5**	**-1.3**	
OKC				AMS		AMS	22 36 30.0		
	comp=Z,122µm,18.5s								
PKST	**T"'s**	**77.15**	**44**	⇑*e*P		**P**	**22 05 03.5**	**-0.1**	
PKST	**T"'s**	**77.15**	**44**	*e*PKKPdf		PKKPdf	22 23 58.6	+0.7	
AKUT	**Akutan**	**77.15**	**323**	*e*P		**P**	**22 05 04.2**	**+0.8**	
	comp=Z,2µm,1.8s								
WDD	**Wield Dalam**	**77.19**	**56**	*e*P		**P**	**22 05 03.3**	**-0.7**	
	comp=Z,3µm,1.8s								
WDD					LR	LR			
	comp=Z,56µm,19.0s								
CUC	**Castrocucco**	**77.23**	**52**	*e*P		**P**	**22 05 03.6**	**-0.7**	
	comp=Z,455nm,1.1s								
CUC					LR	LR			
	comp=Z,64µm,20.0s								
CSKK	**Cs˘‡kako**	**77.27**	**44**	⇑*e*P		**P**	**22 05 04.4**	**+0.1**	
STCH	**Steam Cracks**	**77.30**	**286**	*e*P		**P**	**22 05 02.7**	**-2.3**	
PKSG		**77.35**	**44**	⇑*e*P		**P**	**22 05 04.5**	**-0.2**	
PUH	**Pauahi**	**77.39**	**286**	*e*P		**P**	**22 05 06.3**	**+0.8**	
	comp=Z,1µm,1.3s								
PKS9	**Tamasi**	**77.46**	**45**	⇑*e*P		**P**	**22 05 05.3**	**0.0**	
POHA	**Pohakuloa**	**77.57**	**287**	*e*P		**P**	**22 05 06.5**	**-0.2**	
	comp=Z,1µm,1.5s								
POHA					LR	LR			
	comp=Z,104µm,19.0s								
OJC	**Ojcow**	**77.59**	**41**	*e*P		**P**	**22 05 06.2**	**+0.2**	
OJC				*e*pP		**pP**	**22 05 08.5**	**-2.5**	
OJC				*e*PcP		**PcP**	**22 05 17.4**	**+1.2**	
OJC				*e*PP		**PP**	**22 08 02.6**	**+1.9**	
OJC				*e*S		**S**	**22 14 59.1**	**+2.0**	
OJC				*e*SKSac		**SKKSac**	**22 15 20.2**	**+0.4**	
OJC				*e*SS		SS	22 20 13.2	+17	
OJC				L		L	22 38 36.0		
	comp=Z,162µm,18.3s								
UNV	**Unalaska Valle**	**77.64**	**323**	*e*P		**P**	**22 05 06.2**	**+0.1**	
	comp=Z,521nm,0.9s								
GAMB	**Gambell**	**77.64**	**333**	*e*P		**P**	**22 05 06.5**	**+0.5**	
	comp=Z,23nm,0.6s								
CEL	**Celeste**	**77.70**	**54**	*e*P		**P**	**22 05 04.6**	**-2.3**	
	comp=Z,231nm,1.4s								
CEL					LR	LR			
	comp=Z,73µm,20.0s								
BUD	**Budapest**	**77.75**	**44**	⇑*e*		**P**	**22 05 08.5**	**+1.6**	
PKSM	**Moragy**	**77.80**	**45**	⇑*i*P		**P**	**22 05 07.1**	**-0.1**	
PKSM	**Moragy**	**77.80**	**45**	⇓*i*P		P'P'df	22 31 43.1	-33	
PKSM	**Moragy**	**77.80**	**45**	⇑*e*P		**P**	**22 05 07.3**	**+0.1**	
BEL	**Belsk**	**77.81**	**39**	*e*P		**P**	**22 05 08.0**	**+0.8**	
BEL				*e**PP		**pP**	**22 05 10.3**	**-1.9**	
BEL				*e*S		**S**	**22 15 03.0**	**+3.6**	
BEL					pmax	pmax			
	comp=Z,400nm,1.1s								
BEL					MLR	MLR			
	comp=Z,111µm,26.4s								
BEL	**Belsk**	**77.81**	**39**	*e*P		**P**	**22 05 07.9**	**+0.8**	
BEL				*e*pP		**pP**	**22 05 10.2**	**-1.9**	
BEL				*e*S		**S**	**22 15 02.9**	**+3.6**	
BEL				*e*SS		SS	22 20 16.4	+17	
BEL					LMZ	LR	22 32 38.4		
PKS7	**Kunszentmiklos**	**77.94**	**44**	⇑*e*P		**P**	**22 05 07.6**	**-0.4**	
KAF	**Kangasniemi**	**78.02**	**28**	*e*P		**P**	**22 05 06.5**	**-1.6**	
KAF					pmax	pmax			
	comp=Z,460nm,1.2s								
KAF	**Kangasniemi**	**78.02**	**28**	*e*p		**P**	**22 05 06.5**	**-1.6**	
	comp=Z,460nm,1.2s								
FINES	**FINESS Array B**	**78.10**	**29**	P		P	**22 05 08.4**	**-0.2**	
FINES				P'P'			22 32 07.3		
FINES	**FINESS Array B**	**78.10**	**29**	P		**P**	**22 05 08.4**	**-0.2**	
	comp=Z,37nm,0.8s,baz=272,slow=2.9,SNR=75								
FINES				PKPPKP		P'P'df	22 32 07.3	-7.7	
	comp=Z,2.3nm,0.8s,baz=74,slow=8.1,SNR=5.0								
FINES				LR		LR	22 37 15.5		
	comp=Z,40µm,19.5s,baz=282,slow=34								
FIA1	**FINESS Array S**	**78.10**	**29**	*e*P		**P**	**22 05 08.4**	**-0.2**	
NIE	**Niedzica**	**78.11**	**42**	*e*P		**P**	**22 05 10.0**	**+1.0**	
NIE				*e*pP		**pP**	**22 05 12.2**	**-1.7**	
NIE				*e*PcP		**PcP**	**22 05 21.2**	**+2.7**	
NIE				*e*S		**S**	**22 15 07.4**	**+4.6**	
NIE				*e*SKSac		**ScS**	**22 15 28.4**	**0.0**	
NIE				*e*SS		SS	22 20 22.6	+19	
NIE				L		L	22 37 30.0		
	comp=Z,101µm,18.3s								
TIP	**Timpagrande**	**78.13**	**53**	P		P	**22 05 07.5**	**-1.9**	
TIP	**Timpagrande**	**78.13**	**53**	*e*P		**P**	**22 05 07.4**	**-1.9**	
	comp=Z,2µm,2.1s								
TIP					LR	LR			
	comp=Z,59µm,22.0s								
PSZ	**Piszkesteto**	**78.21**	**43**	*e*P		**P**	**22 05 10.0**	**+0.4**	
PSZ					pmax	pmax			
	comp=Z,1µm,1.5s								
PSZ					MLR	MLR			
	comp=Z,68µm,20.0s								
PSZ	**Piszkesteto**	**78.21**	**43**	⇓*i*P		**P**	**22 05 10.1**	**+0.4**	
PSZ	**Piszkesteto**	**78.21**	**43**	⇑*i*P		P'P'df	22 31 58.1	-17	
PSZ	**Piszkesteto**	**78.21**	**43**	*e*P		**P**	**22 05 10.0**	**+0.4**	
	comp=Z,1µm,1.5s								
PSZ					LR	LR			
	comp=Z,68µm,20.0s								
PSZ	**Piszkesteto**	**78.21**	**43**	⇑*e*P		**P**	**22 05 10.9**	**+1.3**	
PKSN	**Nyarlorinc**	**78.45**	**44**	⇑*e*P		**P**	**22 05 11.5**	**+0.7**	
BRY	**Bratogost**	**78.53**	**49**	⇑*i*P		**P**	**22 05 11.1**	**-0.4**	
HCY	**Herceg Novi**	**78.61**	**49**	⇑*i*P		**P**	**22 05 11.6**	**-0.2**	
SUW	**Suwalki**	**78.66**	**37**	*e*P		**P**	**22 05 11.4**	**-0.4**	
SUW					pmax	pmax			
	comp=Z,809nm,1.2s								
SUW	**Suwalki**	**78.66**	**37**	*e*P		**P**	**22 05 11.4**	**-0.4**	
SUW				*e*pP		**pP**	**22 05 13.4**	**-3.3**	
SUW				*e*PcP		**PcP**	**22 05 21.1**	**+0.4**	
SUW				*e*S		**S**	**22 15 10.2**	**+1.9**	
SUW				*e*SKSac		**SKSac**	**22 15 23.6**	**-2.8**	
SUW				*e*SS		SS	22 20 24.1	+12	
SUW					LMZ	LR	22 30 24.6		
SUW	**Suwalki**	**78.66**	**37**	*e*P		**P**	**22

KWP	Kalwaria Pacla	79.56	41	*e*P	P	22 05 17.9	+1.0	
KWP				*e*pP	pP	22 05 20.0	-1.8	
KWP				*e*PcP	PcP	22 05 26.5	+1.7	
KWP				*e*S	S	22 15 22.3	+4.1	
KWP				*e*SS	SS	22 20 23.6	-2.1	
KWP				LMZ	LR	22 32 46.1		
KWP	Kalwaria Pacla	79.56	41⇑	*i*P	P	22 05 18.1	+1.2	
KWP	Kalwaria Pacla	79.56	41⇓	*i*P	PKKPdf	22 23 53.0	-1.1	
KWP	Kalwaria Pacla	79.56	41⇓	*i*P	P'P'df	22 32 08.4	-4.2	
KWP	Kalwaria Pacla	79.56	41	*e*P	P	22 05 17.8	+0.9	
	comp=Z,661nm,1.1s							
KWP				LR	LR			
	comp=Z,75µm,20.0s							
UZH	Uzhgorod	79.58	42	*e*P	P	22 05 15.5	-1.4	
UZH				*e*		22 05 16.7		
UZH				*e*		22 05 22.0		
UZH				*i*		22 05 25.0		
UZH				*e*		22 08 20.0		
UZH				*e*PPP	PPP	22 10 13.0		
UZH				*e*S	S	22 15 12.2	-6.1	
UZH				*i*		22 15 28.8		
UZH				*e*PS	PnS	22 15 55.0	-7.3	
UZH				*e*SS	SS	22 20 28.5	+2.7	
UZH				*e*SSS	SSS	22 23 42.5		
PVY	Plav	79.62	49⇑	*i*P	P	22 05 17.7	+0.2	
BANR	Banloc	79.69	46⇓	*i*P	P	22 05 21.1	+3.5	
SIRR	Siria	79.81	45⇑	*i*P	P	22 05 18.7	+0.4	
VLO	Vlora	79.84	51	P	P	22 05 21.6	+3.0	
VLO	Vlora	79.84	51	P	P	22 05 21.6	+3.0	
VLO	Vlora	79.84	51	P	P	22 05 21.6	+3.0	
ISAL	Salakas	79.85	35	*e*P	P	22 05 18.0	-0.3	
ISAL				AMB	AMB	22 05 35.9		
	comp=Z,189nm,1.4s							
TRPA	Tarpa	79.87	43⇑	*i*P	P	22 05 19.1	+0.6	
TRPA	Tarpa	79.87	43⇑	*i*P	PKKPbc	22 24 07.4	+2.1	
TRPA	Tarpa	79.87	43⇓	*i*P	P'P'df	22 31 59.0	-13	
TRPA	Tarpa	79.87	43⇑	*e*P	P	22 05 21.1	+2.6	
BZS	Buzias	79.95	45⇑	P	PKKPbc	22 24 01.0	-4.0	
BZS	Buzias	79.95	45⇓	*i*P	P	22 05 19.3	+0.2	
BZS	Buzias	79.95	45⇑	*i*P	PKKPbc	22 24 01.0	-4.0	
BZS	Buzias	79.95	45⇑	*i*P	P'P'df	22 32 05.8	-6.1	
JOF	Joensuu	79.96	27	*e*P	P	22 05 17.3	-1.4	
JOF				pmax	pmax			
	comp=Z,847nm,1.3s							
JOF	Joensuu	79.96	27	*e*p	P	22 05 17.3	-1.4	
	comp=Z,847nm,1.3s							
IIGN	Ignalina	79.97	35	*e*P	P	22 05 18.6	-0.3	
IIGN				AMB	AMB	22 05 28.9		
	comp=Z,296nm,1.1s							
PHP	Peshkopia	80.21	49	P	P	22 05 21.0	+0.4	
PHP	Peshkopia	80.21	49	P	P	22 05 21.0	+0.4	
PHP	Peshkopia	80.21	49	P	P	22 05 21.0	+0.4	
IDID	Didziasalis	80.26	35	*e*P	P	22 05 20.2	-0.3	
IDID				AMB	AMB	22 05 30.8		
	comp=Z,197nm,1.0s							
KEK	Kerkira	80.27	51	P	P	22 05 21.6	+0.7	
KEK	Kerkira	80.27	51	*e*P	P	22 05 21.1	+0.2	
KEK	Kerkira	80.27	51	P	P	22 05 21.6	+0.7	
LVV	L'vov	80.33	41	*i*P	P	22 05 21.3	+0.3	
LVV				*i*		22 08 23.9		
LVV				*i*S	S	22 15 25.1	-1.2	
LVV				*e*SS	SS	22 20 32.3	-4.8	
LVV				MLR	MLR			
	comp=N,28µm,18.0s							
LVV				MLR	MLR			
	comp=E,30µm,18.0s							
LVV				MLR	MLR			
	comp=Z,35µm,18.0s							
DRGR		80.36	44	⇑P	PKKPbc	22 24 07.2	+2.9	
DRGR		80.36	44	*e*P	P	22 05 21.4	+0.1	
DRGR		80.36	44⇑	*i*P	PKKPbc	22 24 07.2	+2.9	
SRN	Sarande	80.38	51	P	P	22 05 21.6	+0.2	
SRN	Sarande	80.38	51	P	P	22 05 21.6	+0.2	
NACGM	Naroch	80.41	35	*e*P	P	22 05 20.0	-1.3	
NACGM	Naroch	80.41	35	*e*	PKKPbc	22 24 03.0	-1.3	
PUL	Pulkovo	80.62	30	*e*P	P	22 05 21.8	-0.5	
PUL				pmax	pmax			
	comp=Z,679nm,1.1s							
PUL				MLR	MLR			
	comp=Z,77µm,22.0s							
BMR	Baia Mare	80.62	43⇓	*i*P	P	22 05 22.6	0.0	
IGT	Igoumenitsa	80.72	51	P	P	22 05 21.9	-1.4	
IGT	Igoumenitsa	80.72	51	P	P	22 05 21.9	-1.4	
IGT	Igoumenitsa	80.72	51	P	P	22 05 21.9	-1.4	
DEV	Deva	80.75	45⇓	*i*P	P	22 05 24.3	+1.0	
KBN	Korca	80.75	50	P	P	22 05 24.5	+0.9	
KBN	Korca	80.75	50	P	P	22 05 24.5	+0.9	
KBN	Korca	80.75	50	P	P	22 05 24.5	+0.9	
GZR	Gura Zlata	80.80	45	⇓P	PKKPbc	22 24 05.6	+2.4	
GZR	Gura Zlata	80.80	45⇑	*i*P	P	22 05 24.2	+0.5	
GZR	Gura Zlata	80.80	45⇓	*i*P	PKKPbc	22 24 05.6	+2.4	
GZR	Gura Zlata	80.80	45⇑	*i*P	P'P'df	22 32 09.9	-0.5	
SKO	Skopje	80.84	49	P	P	22 05 23.1	-0.9	
SKO	Skopje	80.84	49	P	P	22 05 23.1	-0.9	
SKO	Skopje	80.84	49	*i*P	P	22 05 23.8	-0.2	
SKO	Skopje	80.84	49	P	P	22 05 23.1	-0.9	
CJR	Cluj-Napoca	80.97	44⇑	*i*P	P	22 05 25.0	+0.4	
NEST	Nestorio	81.00	50	P	P	22 05 27.3	+2.4	
BIA	Bitola	81.03	50	P	P	22 05 24.7	-0.3	
BIA	Bitola	81.03	50	*i*P	P	22 05 24.8	-0.3	
BIA	Bitola	81.03	50	P	P	22 05 24.7	-0.3	
JAN	Janina	81.07	51	P	P	22 05 25.0	-0.2	
JAN	Janina	81.07	51	P	P	22 05 25.0	-0.2	
JAN	Janina	81.07	51	*e*P	P	22 05 26.0	+0.8	
JAN	Janina	81.07	51	P	P	22 05 25.0	-0.2	
VAH	Vaihoa	81.10	251	*e*P	P	22 05 28.8	+3.2	
	comp=Z,1µm,1.4s							
MNK	Minsk	81.12	35	*c i*P	P	22 05 23.0	-2.1	
MNK				*i*S	S	22 15 30.0	-4.3	
MNK				pmax	pmax			
	comp=E,350nm,1.2s							
MNK				pmax	pmax			
	comp=Z,710nm,1.0s							
MNK				pmax	pmax			
	comp=Z,45µm,8.0s							
MNK				pmax	pmax			
	comp=E,11µm,8.0s							
MNK				smax	smax			
	comp=N,63µm,10.0s							
MNK				MLR	MLR			
	comp=N,33µm,18.0s							
MNK				MLR	MLR			
	comp=E,107µm,18.0s							
MNK				MLR	MLR			
	comp=Z,100µm,18.0s							
MNK	Minsk	81.12	35	*e*P	PKKPbc	22 24 02.0	-0.7	
FNA	Florina	81.14	50	P	P	22 05 25.6	0.0	
FNA	Florina	81.14	50	P	P	22 05 25.6	0.0	
FNA	Florina	81.14	50	P	P	22 05 25.6	0.0	
MICGM	Minsk	81.14	35⇑	*i*P	P	22 05 23.0	-2.3	
MICGM	Minsk	81.14	35	*e*	PKKPbc	22 24 02.0	-0.7	
LKD2	Lefkada island	81.17	52	P	P	22 05 27.8	+2.0	
LKD2	Lefkada island	81.17	52	P	P	22 05 27.8	+2.0	
PMOR	Pomariorio Ree	81.25	251	*e*P	P	22 05 29.7	+3.3	
	comp=Z,1µm,1.5s							
VLS	Valsamata	81.29	53	P	P	22 05 27.8	+1.4	
VLS	Valsamata	81.29	53	P	P	22 05 27.8	+1.4	
VLS	Valsamata	81.29	53	*e*P	P	22 05 29.5	+3.1	
VLS	Valsamata	81.29	53	P	P	22 05 27.8	+1.4	
MEV	Metsovon	81.31	51	P	P	22 05 30.5	+3.8	
MEV	Metsovon	81.31	51	P	P	22 05 30.5	+3.8	
LOT	Lotru	81.45	45⇑	*i*P	P	22 05 29.0	+1.7	
LOT	Lotru	81.45	45⇓	*i*P	PKKPbc	22 24 04.4	+2.6	
LOT	Lotru	81.45	45⇓	*i*P	P'P'df	22 32 00.7	-8.6	
KFL	Anninata	81.46	53	P	P	22 05 30.1	+2.8	
KZN	Kozani	81.56	50	P	P	22 05 28.1	+0.2	
KZN	Kozani	81.56	50	P	P	22 05 28.1	+0.2	
KZN	Kozani	81.56	50	*e*P	P	22 05 28.5	+0.6	
KZN	Kozani	81.56	50	P	P	22 05 28.1	+0.2	
PDO	Prodromos	81.62	52	P	P	22 05 28.7	+0.6	
PDO	Prodromos	81.62	52	*e*P	P	22 05 28.8	+0.6	
MDB	Medias	81.65	44⇑	*i*P	P	22 05 29.7	+1.5	
BUR08	Bucovina Ar. S	81.73	43	*e*P	P	22 05 29.0	+0.4	
BURAR	Bucovina Array	81.75	43	⇓P	PKKPbc	22 24 04.6	+3.4	
BURAR	Bucovina Array	81.75	43⇓	*i*P	P	22 05 28.7	-0.1	
BURAR	Bucovina Array	81.75	43⇓	*i*P	PKKPbc	22 24 04.6	+3.4	
BURAR	Bucovina Array	81.75	43⇑	*i*P	P'P'df	22 32 02.3	-6.4	
GRG	Griva	81.83	50	P	P	22 05 29.4	+0.2	
GRG	Griva	81.83	50	P	P	22 05 29.4	+0.2	
GRG	Griva	81.83	50	P	P	22 05 29.4	+0.2	
VAY	Valandovo	81.84	49	P	P	22 05 28.9	-0.3	
VAY	Valandovo	81.84	49	P	P	22 05 28.9	-0.3	
VAY	Valandovo	81.84	49	*e*P	P	22 05 28.9	-0.3	
VAY	Valandovo	81.84	49	*i*P	P	22 05 29.1	-0.2	
VAY	Valandovo	81.84	49	P	P	22 05 28.9	-0.3	
SFD	Strofades	81.88	54	P	P	22 05 30.9	+1.4	
VTS	Vitosha	81.92	48	P	P	22 05 30.2	+0.4	
VTS	Vitosha	81.92	48	P	P	22 05 30.2	+0.4	
VTS	Vitosha	81.92	48	*e*P	P	22 05 30.9	+1.1	
VTS	Vitosha	81.92	48⇑	*i*P	P	22 05 30.2	+0.4	
VTS	Vitosha	81.92	48⇓	*i*P	PKKPbc	22 24 01.8	+1.1	
VTS	Vitosha	81.92	48⇑	*i*P	P'P'df	22 31 54.0	-14	
VTS	Vitosha	81.92	48	P	P	22 05 30.2	+0.4	
THL	Klokotos Trika	81.95	51	P	P	22 05 29.9	0.0	
THL	Klokotos Trika	81.95	51	*e*P	P	22 05 29.9	0.0	
RLS	Riolos of Patr	81.99	53	P	P	22 05 29.7	-0.4	
RLS	Riolos of Patr	81.99	53	*e*P	P	22 05 30.8	+0.7	
RLS	Riolos of Patr	81.99	53	P	P	22 05 29.7	-0.4	
EVR	Evrytania	81.99	52	P	P	22 05 30.9	+0.7	
EVR	Evrytania	81.99	52	*e*P	P	22 05 31.4	+1.2	
EVR	Evrytania	81.99	52	P	P	22 05 30.9	+0.7	
KKB	Krupnik	82.05	49	*e*P	P	22 05 31.9	+1.5	
ARR	Arges	82.06	45⇑	*i*P	P	22 05 30.4	0.0	
ARR	Arges	82.06	45⇑	*i*P	PKKPbc	22 24 03.0	+2.6	
ARR	Arges	82.06	45⇓	*i*P	P'P'df	22 32 06.4	-1.7	
KNT	Kendrikon	82.13	49	P	P	22 05 31.2	+0.4	
KNT	Kendrikon	82.13	49	P	P	22 05 31.2	+0.4	
KNT	Kendrikon	82.13	49	P	P	22 05 31.2	+0.4	
LIT	Litokhoron	82.15	50	P	P	22 05 32.3	+1.4	
LIT	Litokhoron	82.15	50	P	P	22 05 32.3	+1.4	
LIT	Litokhoron	82.15	50	P	P	22 05 32.3	+1.4	
DRO	Drossia	82.20	53	P	P	22 05 31.2	0.0	
DRO	Drossia	82.20	53	*e*P	P	22 05 32.0	+0.8	
MAKR	Makrakomi, Fth	82.20	52	P	P	22 05 31.6	+0.3	
MAKR	Makrakomi, Fth	82.20	52	*e*P	P	22 05 31.9	+0.6	
MAKR	Makrakomi, Fth	82.20	52	P	P	22 05 31.6	+0.3	
EFP	Efpalio	82.21	52	P	P	22 05 32.2	+1.0	
EFP	Efpalio	82.21	52	*e*P	P	22 05 32.2	+1.0	
VOIR		82.31	45⇓	*i*P	P	22 05 31.8	0.0	
VOIR		82.31	45⇑	*i*P	P'P'df	22 32 04.3	-3.4	
LAKA	Lakka	82.32	52	P	P	22 05 32.9	+1.0	
LAKA	Lakka	82.32	52	*e*P	P	22 05 32.7	+0.8	
LAKA	Lakka	82.32	52	P	P	22 05 32.9	+1.0	
AMT	Artemida-Makis	82.32	53	P	P	22 05 32.0	+0.1	
AMT	Artemida-Makis	82.32	53	*e*P	P	22 05 32.5	+0.6	
THE	Thessaloniki	82.33	50	P	P	22 05 31.8	0.0	
THE	Thessaloniki	82.33	50	P	P	22 05 31.8	0.0	
THE	Thessaloniki	82.33	50	P	P	22 05 31.8	0.0	
AGG	Agios Georgios	82.35	52	P	P	22 05 32.3	+0.3	
AGG	Agios Georgios	82.35	52	P	P	22 05 32.3	+0.3	
AGG	Agios Georgios	82.35	52	P	P	22 05 32.3	+0.3	
DOPR	Dopca	82.37	44⇑	*i*P	P	22 05 32.1	+0.1	
DOPR	Dopca	82.37	44⇑	*i*P	PKKPbc	22 24 00.2	+0.6	
DOPR	Dopca	82.37	44⇓	*i*P	P'P'df	22 32 04.7	-2.8	
KALE	Kalithea	82.39	52	P	P	22 05 31.9	-0.4	
KALE	Kalithea	82.39	52	*e*P	P	22 05 32.4	+0.1	
KALE	Kalithea	82.39	52	P	P	22 05 31.9	-0.4	
HORT	Hortiatis	82.44	50	P	P	22 05 32.8	+0.3	
HORT	Hortiatis	82.44	50	P	P	22 05 32.8	+0.3	
GOLR		82.44	45⇑	*i*P	P	22 05 32.9	+0.6	
MEH	Mehetia	82.47	248	*e*P	P	22 05 35.8	+2.9	
	comp=Z,157nm,1.7s							
PRAR	RAŠCA	82.48	43⇓	*i*P	P	22 05 32.5	0.0	
KLV	Kalavryta, Ach	82.51	53	P	P	22 05 33.4	+0.5	
KLV	Kalavryta, Ach	82.51	53	*e*P	P	22 05 33.4	+0.5	
KLV	Kalavryta, Ach	82.51	53	P	P	22 05 33.4	+0.5	
PYL	PYLOS	82.54	54	P	P	22 05 32.2	-0.8	
PYL	PYLOS	82.54	54	*e*P	P	22 05 32.9	+0.1	
PYL	PYLOS	82.54	54	P	P	22 05 32.2	-0.8	
HUMR	Humele	82.55	46⇑	*i*P	P	22 05 33.2	+0.3	
SOH	Sokhos	82.56	50	P	P	22 05 33.6	+0.5	
SOH	Sokhos	82.56	50	P	P	22 05 33.6	+0.5	
SOH	Sokhos	82.56	50	P	P	22 05 33.6	+0.5	
ITM	Ithomi	82.59	53	P	P	22 05 32.8	-0.5	
ITM	Ithomi	82.59	53	*e*P	P	22 05 33.4	+0.1	
ITM	Ithomi	82.59	53	P	P	22 05 32.8	-0.5	
MMB	Musomiste	82.59	49	*e*P	P	22 05 34.3	+1.1	
MMB	Musomiste	82.59	49⇑	*i*P	P	22 05 33.8	+0.6	
PGB	Panagyurishte	82.61	48	*e*P	P	22 05 34.3	+1.0	
SRS	Serrai	82.64	49	P	P	22 05 33.5	0.0	
SRS	Serrai	82.64	49	P	P	22 05 33.5	0.0	
SRS	Serrai	82.64	49	P	P	22 05 33.5	0.0	
AXAR	Agios Charalam	82.67	52	P	P	22 05 33.8	+0.1	
AXAR	Agios Charalam	82.67	52	P	P	22 05 33.8	+0.1	
DSF	Desfina	82.68	52	P	P	22 05 33.4	-0.4	
DSF	Desfina	82.68	52	*e*P	P	22 05 33.6	-0.2	
DSF	Desfina	82.68	52	P	P	22 05 33.4	-0.4	
GUR	Goura	82.68	53	P	P	22 05 34.0	+0.1	
GUR	Goura	82.68	53	*e*P	P	22 05 33.6	-0.3	
GUR	Goura	82.68	53	P	P	22 05 34.0	+0.1	
FYTO	Fytoko, Volos	82.69	51	P	P	22 05 33.4	-0.3	
FYTO	Fytoko, Volos	82.69	51	P	P	22 05 33.4	-0.3	
NVR	Nevrokopi	82.76	49	P	P	22 05 34.3	+0.2	
NVR	Nevrokopi	82.76	49	*e*P	P	22 05 34.6	+0.5	
NVR	Nevrokopi	82.76	49	P	P	22 05 34.3	+0.2	
PLG	Polygyros	82.76	50	P	P	22 05 34.3	+0.2	
PLG	Polygyros	82.76	50	P	P	22 05 34.3	+0.2	
PLG	Polygyros	82.76	50	*e*P	P	22 05 34.4	+0.3	
PLG	Polygyros	82.76	50	P	P	22 05 34.3	+0.2	
VLX	Vlachokerasia	82.88	53	P	P	22 05 35.9	+1.0	
VLX	Vlachokerasia	82.88	53	*e*P	P	22 05 35.8	+0.9	
VLX	Vlachokerasia	82.88	53	P	P	22 05 35.9	+1.0	
XOR	Xorichti	82.88	51	P	P	22 05 38.0	+3.2	
XOR	Xorichti	82.88	51	P	P	22 05 38.0	+3.2	
MLR	Muntele Rosu	82.89	45⇑	*i*P	P	22 05 35.2	+0.3	
MLR	Muntele Rosu	82.89	45⇑	*i*P	P'P'df	22 32 00.3	-6.4	
MLR	Muntele Rosu	82.89	45	P	P	22 05 35.1	+0.2	
MLR				P'P'		22 32 00.7		
MLR	Muntele Rosu	82.89	45	P	P	22 05 35.1	+0.2	
	comp=Z,25nm,0.8s,baz=281,slow=1.5,SNR=211							
MLR				PKPPKP	P'P'df	22 32 00.7	-5.9	
	comp=Z,7.3nm,1.3s,baz=351,slow=3.4,SNR=7.6							
MLR				LR	LR	22 40 16.7		
	comp=Z,9µm,20.0s,baz=280,slow=34							
NEO	Neokhori	82.92	51	P	P	22 05 34.6	-0.4	
NEO	Neokhori	82.92	51	*e*P	P	22 05 34.8	-0.2	
NEO	Neokhori	82.92	51	P	P	22 05 34.6	-0.4	
LKR	Lokris	82.96	52	P	P	22 05 35.0	-0.2	
LKR	Lokris	82.96	52	*e*P	P	22 05 34.9	-0.2	
LKR	Lokris	82.96	52	P	P	22 05 35.0	-0.2	
TESR	Tescani	83.03	43⇑	*i*P	P	22 05 34.9	-0.4	
TESR	Tescani	83.03	43⇑	*i*P	PKKPbc	22 23 58.4	+0.3	
TESR	Tescani	83.03	43⇓	*i*P	P'P'df	22 32 03.7	-2.5	
SMIA	Simia	83.05	51	P	P	22 05 37.1	+1.5	
SMIA	Simia	83.05	51	*e*P	P	22 05 34.8	-0.8	
PAIG	Paliouri	83.07	50	P	P	22 05 35.8	+0.1	
PAIG	Paliouri	83.07	50	P	P	22 05 35.8	+0.1	
PAIG	Paliouri	83.07	50	P	P	22 05 35.8	+0.1	
PLD	Plovdiv	83.12	48	P	P	22 05 35.6	-0.3	
PLD	Plovdiv	83.12	48	P	P	22 05 35.6	-0.3	
PLD	Plovdiv	83.12	48	*e*P	P	22 05 36.7	+0.8	
PLD	Plovdiv	83.12	48	P	P	22 05 35.6	-0.3	
SECR		83.12	45⇑	*i*P	P	22 05 35.8	-0.1	
LTK	Loutraki	83.13	52	P	P	22 05 35.5	-0.6	
LTK	Loutraki	83.13	52	*e*P	P	22 05 36.0	-0.1	
LTK	Loutraki	83.13	52	P	P	22 05 35.5	-0.6	
SKIA	Skiathos	83.15	51	P	P	22 05 37.4	+1.3	
SKIA	Skiathos	83.15	51	*e*P	P	22 05 35.7	-0.4	
PMSA	Palmer Station	83.15	176	*e*P	P	22 05 36.2	+0.9	
	comp=Z,852nm,1.4s							
PMSA				LR	LR			
	comp=Z,93µm,20.0s							
OUR	Ouranopolis	83.16	50	P	P	22 05 38.1	+2.0	
OUR	Ouranopolis	83.16	50	P	P	22 05 38.1	+2.0	
OUR	Ouranopolis	83.16	50	P	P	22 05 38.1	+2.0	
KIEV	Kiev	83.20	39	*e*P	P	22 05 35.3	-0.8	
KIEV				pmax	pmax			
	comp=Z,337nm,1.4s							
KIEV				MLR	MLR			
	comp=Z,127µm,19.0s							
KIEV	Kiev	83.20	39	*e*P	P	22 05 35.3	-0.8	
	comp=Z,337nm,1.4s							
KIEV				LR	LR			
	comp=Z,127µm,19.0s							
PVL	Pavlikeni	83.21	47	*e*P	P	22 05 36.4	+0.1	
PLOR	Plostina	83.25	44⇑	*i*P	P	22 05 37.1	+0.6	
RZN	Rozhen	83.27	48	*e*P	P	22 05 37.5	+0.6	
VRI	Vrincioaia	83.29	44	*e*P	P	22 05 37.1	+0.4	
VRI	Vrincioaia	83.29	44⇑	*i*P	P	22 05 37.3	+0.6	
VRI	Vrincioaia	83.29	44⇑	*i*P	P'P'df	22 31 50.2	-16	
KAVA	Kavala	83.34	49	P	P	22 05 37.1	0.0	
KAVA	Kavala	83.34	49	P	P	22 05 37.1	0.0	
SULR		83.37	45⇑	*i*P	P	22 05 36.6	-0.5	
MRKA	Markates	83.38	52	P	P	22 05 37.3	-0.1	
MRKA	Markates	83.38	52	*e*P	P	22 05 37.0	-0.4	
IAS	Iasi	83.39	43⇓	*i*P	P	22 05 35.9	-1.3	
ISR	Istrita	83.42	45⇑	*i*P	P	22 05 36.8	-0.7	
ISR	Istrita	83.42	45⇓	*i*P	P'P'df	22 32 03.0	-2.6	
AOS	Alonnisos	83.45	51	P	P	22 05 38.7	+1.0	
AOS	Alonnisos	83.45	51	P	P	22 05 38.7	+1.0	
TVO	Taravao	83.48	249	*e*P	P	22 05 41.0	+2.8	
	comp=Z,120nm,1.4s							
TIAR	Tiarei	83.48	249	*e*P	P	22 05 40.9	+2.8	
	comp=Z,69nm,1.3s							
DID	Didima	83.49	53	P	P	22 05 34.3	-3.7	
DID	Didima	83.49	53	*e*P	P	22 05 37.5	-0.5	
DID	Didima	83.49	53	P	P	22 05 34.3	-3.7	
VLI	Veliai	83.50	54	P	P	22 05 36.8	-1.2	
VLI	Veliai	83.50	54	*e*P	P	22 05 38.5	+0.5	
VLI	Veliai	83.50	54	P	P	22 05 36.8	-1.2	
SZH	Strazhica	83.61	47	*e*P	P	22 05 39.0	+0.6	
GRER		83.62	44⇑	*i*P	P	22 05 38.6	+0.2	
ERET	Eretria	83.62	52	P	P	22 05 38.4	-0.3	
PETR	Petresti	83.67	44⇑	*i*P	P	22 05 40.1	+1.5	
PPT	Papeete	83.69	249	P	P	22 05 41.5	+2.3	
PPT	Papeete	83.69	249	P	P	22 05 41.5	+2.3	
	comp=Z,59nm,0.8s,baz=48,slow=13,SNR=5.8							
PPT2	Papeete2	83.70	249	*e*P	P	22 05 42.5	+3.2	
	comp=Z,178nm,1.6s							
PPT2	Papeete2	83.70	249	*e*S	S	22 16 04.3	+2.3	
	comp=Z,117µm,25.8s							
PPT2				*e*SS	SS	22 21 33.4	+4.1	
	comp=Z,93µm,28.0s							
PPT2				*e*LQ	LQ	22 28 27.6		
	comp=Z,375µm,32.5s							
PPT2				*e*LR	LR	22 31 57.5		
	comp=Z,171µm,22.5s,baz=60							
ATH	Athens Observa	83.70	52	P	P	22 05 38.6	-0.4	
ATH	Athens Observa	83.70	52	P	P	22 05 38.6	-0.4	
ATH	Athens Observa	83.70	52	*e*P	P	22 05 39.3	+0.3	
ATH	Athens Observa	83.70	52	P	P	22 05 38.6	-0.4	
PAE	Paea	83.73	249	*e*P	P	22 05 42.3	+3.0	
	comp=Z,91nm,1.2s							
DIM	Dimitrovgrad	83.73	48	*e*P	P	22 05 39.8	+0.8	
ATHU	Athens Univers	83.76	52	P	P	22 05 39.2	-0.1	
ATHU	Athens Univers	83.76	52	P	P	22 05 39.2	-0.1	
KDZ	Kurdzhali	83.78	48	*e*P	P	22 05 39.0	-0.3	
KDZ	Kurdzhali	83.78	48⇑	*i*P	P	22 05 39.1	-0.3	
PGOR	Pogoanele	83.78	45⇑	*i*P	P	22 05 38.7	-0.5	
PTL	Penteli	83.79	52	P	P	22 05 39.0	-0.5	
PTL	Penteli	83.79	52	*e*P	P	22 05 39.4	-0.1	
PTL	Penteli	83.79	52	P	P	22 05 39.0	-0.5	
RDO	Rodhopi	84.03	49	P	P	22 05 39.9	-0.7	
RDO	Rodhopi	84.03	49	*e*P	P	22 05 39.8	-0.8	
RDO	Rodhopi	84.03	49	P	P	22 05 39.9	-0.7	
ANKY	Antikythira Is	84.05	54	P	P	22 05 42.9	+2.1	
ANKY	Antikythira Is	84.05	54	*e*P	P	22 05 40.8	0.0	
ANKY	Antikythira Is	84.05	54	P	P	22 05 42.9	+2.1	
LEOM	Leova	84.08	43⇑	*i*P	P	22 05 39.5	-1.2	
AMRR	Amara	84.12	45⇑	*i*P	P	22 05 40.2	-0.7	
LIA	Limnos Island	84.18	50	P	P	22 05 42.4	+1.1	
LIA	Limnos Island	84.18	50	P	P	22 05 42.4	+1.1	
SMTH	Samothraki Isl	84.24	49	P	P	22 05 43.0	+1.3	
SMTH

comp=Z,1μm,1.4s
SANT LR LR
comp=Z,43μm,21.0s
OBN Obninsk 85.55 33α *i*P **P 22 05 46.8 -1.1**
OBN *e* 22 05 52.8
OBN *e* 22 09 01.0
OBN *e* 22 11 02.6
OBN *e*S S 22 16 12.9 -6.2
OBN *e*SS **SS 22 21 56.1 +2.1**
OBN pmax pmax
comp=Z,5μm,2.8s
OBN pmax pmax
comp=Z,154nm,1.3s
OBN MLR MLR
comp=Z,76μm,19.0s
OBN Obninsk 85.55 33 P **P 22 05 47.3 -0.7**
OBN P'P' 22 31 59.7
OBN LR LR
comp=Z,84μm,20.0s
OBN Obninsk 85.55 33 P **P 22 05 47.3 -0.7**
comp=Z,46nm,0.6s,baz=279,slow=1.7,SNR=28
OBN PKPPKP **P'P'df 22 31 59.7 -1.6**
comp=Z,6.8nm,0.5s,baz=175,slow=23,SNR=7.0
TBI Tubuai 85.72 244 *e*P **P 22 05 52.0 +2.7**
comp=Z,362nm,1.3s
TBI Tubuai 85.72 244 *e*S **S 22 16 24.0 +2.2**
comp=Z,46μm,31.8s
TBI *e*SS **SS 22 22 03.4 +4.6**
comp=Z,61μm,28.5s
TBI *e*LQ LQ 22 29 14.5
comp=Z,81μm,34.0s
TBI *e*LR LR 22 32 54.9
comp=Z,258μm,23.8s,baz=66
MOS Moscow 85.82 32κ *i*P **P 22 05 49.5 +0.3**
MOS *e* 22 09 13.0
MOS *e*PPP PPP 22 11 13.4
MOS *e*S S 22 16 15.3 -6.4
MOS *e*PS PnS 22 17 45.8 +27
MOS pmax pmax
comp=Z,5μm,3.8s
MOS pmax pmax
comp=N,2μm,3.9s
MOS pmax pmax
comp=E,2μm,3.6s
MOS pmax pmax
comp=Z,602nm,2.1s
MOS pmax pmax
comp=E,124nm,1.8s
MOS pmax pmax
comp=N,212nm,2.2s
MOS smax smax
comp=N,34μm,11.2s
MOS smax smax
comp=E,34μm,11.2s
LAST Lasithi 85.96 54 P **P 22 05 49.5 -1.0**
LAST Lasithi 85.96 54 P **P 22 05 49.5 -1.0**
BALY Balya 86.00 50 *i*P P 22 05 47.0 -3.6
NPS Neapolis 86.03 54 P **P 22 05 50.6 -0.2**
NPS Neapolis 86.03 54 P **P 22 05 50.6 -0.2**
NPS Neapolis 86.03 54 *e*P **P 22 05 50.7 -0.1**
NPS Neapolis 86.03 54 P **P 22 05 50.6 -0.2**
ELBA Catalca 86.08 48 *i*P **P 22 05 50.2 -0.7**
SMG Samos 86.12 52 P **P 22 05 49.6 -1.6**
SMG Samos 86.12 52 *e*P **P 22 05 51.0 -0.2**
SMG Samos 86.12 52 P **P 22 05 49.6 -1.6**
GCAM G?zelcaml? 86.42 52 *i*P P 22 05 48.0 -4.6
AKHS Akhisar 86.44 50 *i*P **P 22 05 51.0 -1.7**
PRGR Permogore 86.50 25⇑*i*P **P 22 05 52.5 0.0**
PRGR *e* 22 05 54.8
PRGR *e*S S 22 16 18.6 -10
PRGR pmax pmax
comp=Z,403nm,1.6s
ZKR Zakros 86.54 54 P **P 22 05 52.5 -0.8**
ZKR Zakros 86.54 54 P **P 22 05 52.5 -0.8**
DURS Dursunbey 86.66 49 *i*P **P 22 05 51.2 -2.7**
BUY Buyukada 86.67 48 *i*P **P 22 05 52.3 -1.5**
BDRM Kayabasi 86.80 52 *i*P **P 22 05 52.3 -2.2**
MSKU Masuku 86.91 93 PKKPbc PKKPbc 22 23 50.9 +2.6
MSKU P'P' 22 31 49.6
MSKU Masuku 86.91 93 PKKPbc PKKPbc 22 23 50.9 +2.6
comp=Z,8.6nm,0.8s,baz=264,slow=0.5,SNR=5.1
MSKU PKPPKP P'P'df 22 31 49.6 -8.1
comp=Z,2.8nm,0.4s,baz=263,slow=1.0,SNR=2.9
MSKU LR LR 22 40 16.9
comp=Z,70μm,20.9s,baz=36,slow=33
AYDN Tasoluk 86.92 51 *i*P **P 22 05 57.7 +2.5**
ULDT Uludag 86.94 49 *i*P P 22 05 51.2 -4.1
DEMI Demirci 87.04 50 *i*P P 22 05 51.2 -4.5
KARP Karpathos 87.12 54 P **P 22 05 55.3 -0.8**
KARP Karpathos 87.12 54 *e*P **P 22 05 55.5 -0.6**
KARP Karpathos 87.12 54 P **P 22 05 55.3 -0.8**
GDZ Gediz 87.58 50 *i*P **P 22 05 57.7 -0.8**
ARG Arkhangelos 87.61 53 P **P 22 05 57.4 -1.1**
ARG Arkhangelos 87.61 53 P **P 22 05 57.4 -1.1**
ARG Arkhangelos 87.61 53 *e*P **P 22 05 57.2 -1.3**
ARG Arkhangelos 87.61 53 P **P 22 05 57.4 -1.1**
TURN Turunc 87.74 52 *i*P P 22 05 55.5 -3.5
DNZL Cakiroluk 87.77 51 *i*P **P 22 05 57.7 -1.8**
BORA Eskisehir 87.98 49 *i*P P 22 05 54.4 -5.8
BTAS Taskesti 88.10 48 *i*P **P 22 05 57.7 -3.1**
GOLH Golhisar 88.32 51 *i*P **P 22 06 00.9 -1.1**
SEYT Eskypehyr 88.40 49 *i*P **P 22 05 59.8 -2.5**
SIM Simferopol' 88.46 43*c i*P **P 22 06 02.0 -0.3**
SIM *e* 22 16 35.0
SIM *e*S **S 22 16 47.0 -0.7**
SIM pmax pmax
comp=Z,7μm,9.7s
SIM MLR MLR
comp=N,49μm,18.4s
VOR Voronezh 88.50 35 *e*P **P 22 06 01.0 -1.3**
VOR pmax pmax
comp=Z,500nm,1.2s
VSR Storozhevoye 88.72 36 *e*P **P 22 06 02.3 -1.1**
VSR *e* 22 09 28.7
VSR *e*S **SKSac 22 16 28.7 -3.6**
VSR *e*SS **SS 22 22 41.7 +1.2**
VSR pmax pmax
comp=N,70nm,1.3s
VSR pmax pmax
comp=E,80nm,1.3s
VSR pmax pmax
comp=Z,130nm,1.3s
VSR pmax pmax
comp=E,250nm,2.7s
VSR pmax pmax
comp=Z,1μm,2.7s
VSR pmax pmax
comp=N,310nm,2.3s
VSR smax smax
comp=N,2μm,6.2s
VSR smax smax
comp=E,7μm,6.2s
VSR smax smax
comp=Z,980nm,6.2s
AKAS Kas 88.72 52 *i*P **P 22 06 04.3 +0.4**
BCAM Yenicaga 88.75 47 *i*P P 22 05 59.8 -4.2
BOLV Bolvadin 88.78 50 *i*P P 22 05 59.8 -4.3
ISP Isparta 88.81 50 P **P 22 06 02.6 -1.7**
ISP Isparta 88.81 50 *e*P **P 22 06 03.8 -0.4**
ISP pmax pmax
comp=Z,2μm,2.3s
ISP MLR MLR
comp=Z,41μm,21.0s
ISP Isparta 88.81 50⇑*i*P **P 22 06 03.6 -0.7**
ISP Isparta 88.81 50 *e*P **P 22 06 03.8 -0.4**
comp=Z,2μm,2.3s
ISP LR LR
comp=Z,41μm,21.0s
SMY Shemya 88.84 326 *e*P **P 22 06 02.8 -1.1**
SMY pmax pmax
comp=Z,2μm,1.7s
SMY Shemya 88.84 326 *e*P **P 22 06 02.8 -1.1**
comp=Z,2μm,1.7s
SGKT Sivrigoynuk 88.84 47 *i*P **P 22 06 01.9 -2.6**
VORD Divnogorie 88.91 36 *e*P **P 22 06 03.1 -1.2**
VORD *e*S **SKSac 22 16 29.7 -3.7**
VORD *e*SS **SS 22 22 48.9 +5.6**
VORD pmax pmax
comp=N,40nm,1.1s
VORD pmax pmax
comp=E,80nm,1.1s
VORD pmax pmax
comp=Z,100nm,1.1s
VORD pmax pmax
comp=E,550nm,2.9s
VORD pmax pmax
comp=Z,1μm,2.9s
VORD pmax pmax
comp=N,460nm,3.0s
VORD smax smax
comp=N,5μm,6.5s
VORD smax smax
comp=E,6μm,6.5s
VORD smax smax
comp=Z,480nm,6.5s
KORT Korkueli 88.99 51 *i*P **P 22 06 03.0 -2.2**
TIXI Tiksi 89.00 353*c i*P **P 22 06 03.2 -1.1**
TIXI pmax pmax
comp=Z,306nm,1.7s
TIXI MLR MLR
comp=Z,123μm,20.0s
TIXI Tiksi 89.00 353 *e*P **P 22 06 03.5 -0.9**
comp=Z,824nm,1.5s
TIXI LR LR
comp=Z,207μm,22.0s
FX1 Attu Island--F 89.26 326 P **P 22 06 06.7 +0.8**
FX1 PP **PP 22 09 35.1 -0.8**
FX1 Attu Island--F 89.26 326 P **P 22 06 06.7 +0.8**
comp=Z,94nm,0.8s,baz=61,slow=8.1,SNR=25
FX1 PP **PP 22 09 35.1 -0.8**
comp=Z,141nm,1.2s,baz=88,slow=13,SNR=4.9
FX1 LR LR 22 47 37.5
comp=Z,223μm,18.2s,baz=87,slow=37
ANTO Ankara 89.64 48 *e*P **P 22 06 08.0 -0.1**
ANTO pmax pmax
comp=Z,345nm,1.0s
ANTO MLR MLR
comp=Z,31μm,21.0s
ANTO Ankara 89.64 48⇑P **P 22 06 08.4 +0.3**
SNR=96
ANTO Ankara 89.64 48 *e*P **P 22 06 08.0 -0.1**
comp=Z,345nm,1.0s
ANTO LR LR
comp=Z,31μm,21.0s
KAST KASTAMONU 89.77 46 *i*P **P 22 06 06.2 -2.4**
ILGA Ilgaz 89.80 47 *i*P **P 22 06 08.3 -0.7**
ELDT Eldivan 89.83 47 *i*P **P 22 06 09.4 +0.3**
BBAL Bala 90.00 48 *i*P P 22 06 05.1 -4.7
VRHR Novokhopersk 90.13 35 *e*P **P 22 06 09.5 -0.5**
VRHR *e* 22 06 09.6
VRHR *e*S **SKSac 22 16 36.9 -3.7**
VRHR *e*SS **SS 22 22 58.5 -2.5**
VRHR pmax pmax
comp=N,90nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,180nm,0.9s
VRHR smax smax
comp=E,4μm,4.9s
VRHR smax smax
comp=Z,470nm,4.9s
VRHR smax smax
comp=N,2μm,4.8s
BR131 Keskin Array S 90.29 48 *e*P **P 22 06 10.5 -0.7**
comp=N,175nm,1.0s
BRTR Keskin Array B 90.29 48 P **P 22 06 10.8 -0.5**
BRTR PKKPbc **PKKPbc 22 23 38.9 -1.9**
BRTR P'P' 22 31 41.8
BRTR Keskin Array B 90.29 48 P **P 22 06 10.8 -0.5**
comp=N,18nm,0.8s,baz=287,slow=4.2,SNR=89
BRTR PKKPbc **PKKPbc 22 23 38.9 -1.9**
comp=N,9.4nm,0.8s,baz=140,slow=3.7,SNR=9.6
BRTR PKPPKP P'P'df 22 31 41.7 -11
comp=N,2.2nm,1.1s,baz=152,slow=2.9,SNR=3.0
BRTR LR LR 22 48 02.0
comp=N,13μm,18.1s,baz=307,slow=36
ANN Anapa 90.65 42 *i*P **P 22 06 13.1 +0.6**
ANN *e* 22 09 49.4
ANN *e*S **SKSac 22 16 44.1 +0.3**
ANN *e*SS **SS 22 23 07.3 -1.5**
ANN *e*SSS SSS 22 26 38.6
ANN pmax pmax
comp=N,5μm,8.6s
ANN pmax pmax
comp=E,660nm,2.8s
ANN pmax pmax
comp=Z,14μm,8.6s
ANN pmax pmax
comp=N,166nm,1.9s
ANN pmax pmax
comp=E,57nm,0.9s
ANN pmax pmax
comp=Z,795nm,1.9s
ANN smax smax
comp=N,35μm,16.6s
ANN smax smax
comp=Z,16μm,16.5s
ANN smax smax
comp=E,6μm,8.3s
ANN MLR MLR
comp=E,63μm,18.0s
ANN MLR MLR
comp=Z,75μm,18.0s
ANN MLR MLR
comp=N,23μm,18.0s
CTKT Corum 90.72 47 *i*P **P 22 06 10.5 -2.8**
CDAG Cicekdag 90.85 48 *i*P **P 22 06 12.6 -1.2**
PPCY Paphos 91.30 53 P **P 22 06 17.3 +1.5**
ALFC Alevga 91.38 52 P **P 22 06 16.9 +0.6**
AYK Aydincik 91.53 51 *i*P P 22 06 22.2 +5.4
SEY Seymchan 91.64 341⇑*i*P **P 22 06 16.6 -0.2**
SEY Seymchan 91.64 341 P **P 22 06 16.8 +0.1**
SEY Seymchan 91.64 341 P **P 22 06 16.8 +0.1**
comp=N,387nm,1.4s,baz=75,slow=3.5,SNR=30
SEY LR LR 22 52 50.6
comp=N,209μm,18.1s,baz=52,slow=39
SZAC Souni-Zanaja 91.76 53 P **P 22 06 19.0 +1.0**
MAMC Mammari 91.84 52 P **P 22 06 19.4 +1.1**
CSS Prodhromos 92.01 52 P P 22 06 15.7 -3.4
CSS Prodhromos 92.01 52 *e*P **P 22 06 18.4 -0.7**
comp=N,72nm,1.3s
CSS LR LR
comp=Z,8μm,20.0s
SOKR Solikamsk 92.09 23*d i*P **P 22 06 19.6 +0.7**
SOKR 22 09 58.8
SOKR S **SKSac 22 16 51.6 +0.2**
SOKR SS **SS 22 23 25.0 -3.6**
SOKR pmax pmax
comp=Z,350nm,2.3s
SOKR MLR MLR
comp=Z,47μm,18.0s
GULE Gulek 92.12 50 *i*P **P 22 06 19.0 -0.8**
SCER sogukcermik 92.66 46 *i*P **P 22 06 25.4 +3.2**
SOC Sochi 92.67 42*c i*P **P 22 06 21.9 -0.1**
SOC *i* 22 10 02.4
SOC *e*PPP PPP 22 12 04.0
SOC *e*S **SKSac 22 16 55.6 +0.2**
SOC *e* 22 17 26.7
SOC *e*SS **SS 22 23 36.6 -1.4**
SOC *e*SSS SSS 22 27 16.2
SOC pmax pmax
comp=Z,188nm,0.9s
SOC pmax pmax
comp=Z,4μm,4.1s
SOC MLR MLR
comp=E,37μm,20.0s
SOC MLR MLR
comp=Z,41μm,20.0s
SOC MLR MLR
comp=N,13μm,21.0s
PINB Pinarbasi 92.68 48 *i*P P 22 06 17.9 -4.5
GRSN GIRESUNGRSN 92.96 45 *i*P **P 22 06 23.3 -0.1**
SUSE Susehri 93.24 46 *i*P **P 22 06 25.4 +0.5**
ARNB Al Arnab 93.59 50 *e*P **P 22 06 26.5 0.0**
MIDW Midway 93.81 301 PFAKE 22 06 40.0 +13
MIDW LR LR
comp=Z,85μm,22.0s
BTCH Batrach 93.88 50 *e*P **P 22 06 28.1 +0.3**
AKCD Akcadag 93.92 48 *i*P **P 22 06 27.7 -0.3**
MACK Trabzon 93.96 45 *i*P **P 22 06 25.4 -2.6**
RAR Rarotonga 93.97 249 PFAKE 22 06 40.0 +12
RAR LR LR
comp=Z,63μm,20.0s
KUZU Kuzuini 94.00 49 *i*P P 22 06 24.3 -4.0
GOF Gofitskoye 94.02 40⇑*i*P **P 22 06 28.8 +0.7**
GOF pmax pmax
comp=Z,60nm,1.3s
GZT Gaziantep 94.09 49 *i*P **P 22 06 28.6 -0.2**
BEYL Beirut 94.09 52 *e*P **P 22 06 29.5 +0.8**
BHL Bhannes 94.20 52 *e*P **P 22 06 30.4 +1.1**
BIDA Albida 94.22 51 *e*P **P 22 06 29.5 +0.1**
KIV Kislovodsk 94.36 41 *e*P **P 22 06 29.7 -0.2**
KIV *e* 22 10 14.6
KIV *e* 22 17 04.6
KIV *e*SS SS 22 24 02.6 +0.3
KIV pmax pmax
comp=Z,3μm,6.2s
KIV pmax pmax
comp=Z,90nm,1.0s
KIV MLR MLR
comp=Z,46μm,20.0s
KIV Kislovodsk 94.36 41 ⇓P **P 22 06 29.3 -0.5**
SNR=39
KIV Kislovodsk 94.36 41 PFAKE 22 06 40.0 +10
KIV LR LR
comp=Z,55μm,22.0s
MMAI Mount Meron Ar 94.38 53 P **P 22 06 30.1 0.0**
MMAI PP **PP 22 10 12.1 -5.1**
MMAI PKKPbc **PKKPbc 22 23 32.0 +2.0**
MMAI Mount Meron Ar 94.38 53 P **P 22 06 30.1 0.0**
comp=Z,4.1nm,0.6s,baz=348,slow=3.7,SNR=9.8
MMAI PP **PP 22 10 12.1 -5.1**
comp=Z,14nm,1.1s,baz=308,slow=7.1,SNR=2.9
MMAI PKKPbc **PKKPbc 22 23 32.0 +2.0**
comp=Z,6.4nm,0.8s,baz=84,slow=5.9,SNR=9.1
EUZM Uzumlu 94.49 46 *i*P **P 22 06 29.7 -0.9**
ATAB Bozova 94.56 48 *i*P **P 22 06 29.7 -1.2**
ELZG Elazig 94.57 47 *i*P **P 22 06 34.0 +2.9**
KBZ Khabaz 94.61 41 P **P 22 06 31.1 +0.2**
KBZ Khabaz 94.61 41 P **P 22 06 31.1 +0.2**
KBZ PKKPbc **PKKPbc 22 23 30.0 +0.4**
KBZ Khabaz 94.61 41 P **P 22 06 31.1 +0.2**
comp=Z,10nm,0.9s,baz=254,slow=7.0,SNR=21
KBZ PKKPbc **PKKPbc 22 23 30.0 +0.4**
comp=Z,12nm,0.8s,baz=144,slow=0.9,SNR=7.5
KBZ LR LR 22 49 49.5
comp=Z,37μm,18.4s,baz=298,slow=36
BRBR Barbar 94.63 53 *e*P **P 22 06 29.4 -2.1**
NEY Neytrino 94.74 42 *i*P **P 22 06 32.1 +0.4**
TCHB Talchebab 94.96 53 *e*P **P 22 06 31.8 -1.0**
ARU Arti 94.96 25*c i*P **P 22 06 32.0 -0.2**
ARU 22 10 20.2
ARU S **SKSac 22 17 07.2 -0.2**
ARU PS **PS 22 19 02.4 -1.4**
ARU pmax pmax
comp=Z,280nm,2.5s
ARU pmax pmax
comp=Z,9μm,15.7s
ARU Arti 94.96 25 PFAKE 22 06 40.0 +7.8
ARU LR LR
comp=Z,72μm,19.0s
DBOC Borcka 95.02 44 *i*P **P 22 06 30.7 -2.1**
RABH Abou Rabah 95.13 51 *e*P P 22 06 29.3 -4.3
NCK Nalchik 95.16 41 *e*P **P 22 06 33.6 +0.1**
DBAD Bademkaya 95.20 44 *i*P **P 22 06 32.9 -0.9**
ARTV Artvin 95.27 44 *i*P **P 22 06 31.3 -3.0**
DDEM Demirkent 95.30 44 *i*P **P 22 06 34.0 -0.3**
DAGI Agillar 95.31 44 *i*P **P 22 06 35.0 +0.7**
EIL Elat 95.43 56 LR LR 22 46 34.8
comp=Z,23μm,20.9s,baz=277,slow=34
JHLN Al Jahlan 95.48 50 *e*P P 22 06 27.3 -7.8
SVE Sverdlovsk 95.49 24⇑*i*P **P 22 06 34.6 0.0**
SVE *e* 22 10 27.1
SVE *e*S **SKSac 22 17 09.0 -1.2**
SVE *e* 22 17 54.7
SVE *e*SS SS 22 24 30.1 +13
SVE pmax pmax
comp=Z,349nm,2.5s
SVE pmax pmax
comp=Z,6μm,14.4s
SVE MLR MLR
comp=Z,71μm,21.0s
SVE MLR MLR
comp=N,39μm,21.0s
SALA Sala 95.53 53 *e*P **P 22 06 34.6 -0.9**
ONI Oni 95.54 42 P **P 22 06 36.6 +1.4**
ONI S **SKKSac 22 17 31.5 -3.2**
DIYA Diyarbakir 95.63 47 *i*P **P 22 06 34.0 -1.8**
ZEI Tsey 95.72 41 *e*P **P 22 06 35.4 -0.9**
ZEI *e* 22 10 24.5
ZEI *e*S **SKSac 22 17 16.4 +4.0**
ZEI *i* 22 17 51.6
ZEI *e*PS **PS 22 19 12.8 -0.4**
ZEI *e*SS **SS 22 24 24.0 +2.1**
ZEI pmax pmax
comp=Z,5μm,11.0s
ZEI pmax pmax
comp=Z,103nm,1.1s
ZEI pmax pmax
comp=N,74nm,1.0s
ZEI pmax pmax
comp=E,83nm,1.2s
ZEI MLR MLR
comp=Z,36μm,18.0s
ZEI MLR MLR
comp=E,32μm,21.0s
ZEI MLR MLR
comp=N,20μm,17.0s
HOMI Horasan 95.82 45 *i*P **P 22 06 37.2 +0.3**
BNGL BINGOL 95.84 46 *i*P **P 22 06 35.0 -1.9**
ASF Jabal al Asfar 95.89 53 P **P 22 06 37.6 +0.5**
ASF PKKPbc **PKKPdf 22 23 26.6 +0.3**
ASF Jabal al Asfar 95.89 53 P **P 22 06 37.6 +0.5**
comp=N,6.6nm,1.0s,baz=263,slow=2.8,SNR=16
ASF PKKPbc **PKKPdf 22 23 26.6 +0.3**
comp=N,7.0nm,1.2s,baz=33,slow=17,SNR=3.5
ASF LR LR 22 48 52.9
comp=N,11μm,19.9s,baz=228,slow=35
ZALF Zalf 95.89 53 *e*P P 22 06 31.5 -5.5
TSUM Tsumeb 96.04 108 *e*P **P 22 06 38.0 0.0**
comp=N,120nm,1.4s
TSUM *e*PP **PP 22 10 27.6 -3.3**
TSUM PKKPbc **PKKPdf 22 23 27.6 +0.6**
TSUM Tsumeb 96.04 108 PKKPbc PKKPbc 22 23 27.6 +2.0
comp=N,6.6nm,1.1s,baz=106,slow=11,SNR=3.2
TSUM LR LR 22 42 33.6
comp=N,90μm,21.9s,baz=284,slow=31
AKH Akhalkalaki 96.17 43 P **P 22 06 40.3 +2.0**
AKH S **SKKSac 22 17 35.0 -4.6**
GUDG Gudauri 96.25 42 P **P 22 06 40.1 +1.4**
PET Petropavlovsk 96.28 332*c i*P **P 22 06 39.8 +1.6**
PET *e* 22 10 34.5
PET *e* 22 17 14.8
PET *e*S **S 22 17 53.6 -3.9**
PET *e*PS **PS 22 19 22.5 +4.2**
PET *e*PPS PPS 22 19 57.2
PET *e*SS **SS 22 24 33.6 +5.1**
PET pmax pmax
comp=Z,4μm,8.2s
PET pmax pmax
comp=Z,94nm,1.9s
PET pmax pmax
comp=Z,8μm,5.3s
PET pmax pmax
comp=Z,154nm,3.0s
PET pmax pmax
comp=Z,9μm,6.3s
PET pmax pmax
comp=Z,16μm,6.3s
PET MLR MLR
comp=Z,186μm,20.0s
PET MLR MLR
comp=Z,148μm,20.0s
PET Petropavlovsk 96.28 332 P **P 22 06 39.0 +0.8**
comp=Z,906nm,2.1s
PET LR LR
comp=Z,168μm,21.0s
SFNV Sufian 96.33 48 *e*P P 22 06 34.7 -4.3
MARD Mardin 96.38 47 *i*P **P 22 06 38.2 -1.1**
DIGO Kars 96.60 44 *i*P P 22 06 37.2 -3.2
PEA0B Petropavlovsk- 96.64 332 *e*P **P 22 06 38.3 -1.7**
PETK Petropavlovsk- 96.64 332 P **P 22 06 41.3 +1.3**
PETK 22 10 36.2
PETK Petropavlovsk- 96.64 332 P **P 22 06 41.3 +1.3**
PETK PP **PP 22 10 36.2 +2.4**
PETK Petropavlovsk- 96.64 332 P **P 22 06 41.3 +1.3**
comp=Z,49nm,1.0s,baz=88,slow=5.2,SNR=14
PETK PP **PP 22 10 36.2 +2.4**
comp=Z,33nm,1.1s,baz=67,slow=11,SNR=4.9
PETK LR LR 22 53 44.9
comp=Z,140μm,19.1s,baz=55,slow=38
TUTA Tutak 96.75 45 *i*P **P 22 06 41.4 +0.4**

KZR	**Kazreti**	**96.78**	**42**		P	**P**	**22 06 43.7**	**+2.8**
TBLG	**Delisi**	**96.80**	**42**		P	**P**	**22 06 42.6**	**+1.6**
TBLG					S	**SKSac**	**22 17 19.5**	**+1.7**
TATV	**Tatvan**	**96.82**	**46**	*i*	P	P	22 06 37.2	-4.2
MZRK	**Al-Mazaregh**	**97.00**	**49**	*e*	P	P	22 06 37.4	-4.6
SIRN	**S¨–rnak**	**97.42**	**47**	*i*	P	P	22 06 40.4	-3.6
GEVA	**Gevas**	**97.46**	**46**	*i*	P	**P**	**22 06 42.5**	**-1.7**
TVAN	**Van**	**97.58**	**45**	*i*	P	Pdif	22 06 45.7	+0.8
RUDU	**RUNDU**	**97.60**	**106**	⇑	*i*P	**P**	**22 06 44.2**	**-0.8**
GNI	**Garni**	**97.63**	**43**	⇓	P	Pdif	22 06 45.4	+0.4
	SNR=12							
GNI	**Garni**	**97.63**	**43**		*e*P	**P**	**22 06 44.5**	**-0.5**
	comp=Z,259nm,1.5s							
GNI	**Garni**	**97.63**	**43**		P	Pdif	22 06 45.6	+0.6
	comp=Z,9.8nm,1.1s,baz=46,slow=24,SNR=4.3							
GNI					LR	LR	22 52 50.2	
	comp=Z,18μm,18.4s,baz=314,slow=37							
MAK	**Makhachkala**	**97.86**	**40**	*c*	*i*P	Pdif	22 06 47.9	+2.2
MAK					*e*S	**SKSac**	**22 17 26.0**	**+3.0**
MAK					*e*PS	**PS**	**22 19 43.6**	**+7.7**
MAK					*e*SS	SS	22 25 00.3	+8.8
MAK					pmax	pmax		
	comp=Z,440nm,1.8s							
MAK					pmax	pmax		
	comp=Z,2μm,2.9s							
MAK					pmax	pmax		
	comp=E,195nm,1.1s							
MAK					pmax	pmax		
	comp=N,226nm,1.1s							
MAK					smax	smax		
	comp=E,30μm,9.0s							
MAK					smax	smax		
	comp=N,18μm,9.4s							
MAK					MLR	MLR		
	comp=Z,54μm,17.0s							
YAK	**Yakutsk**	**97.92**	**350**	*c*	*i*P	Pdif	22 06 46.6	+1.1
YAK					*e*		22 10 44.6	
YAK					*e*PPP	PPP	22 12 51.2	
YAK					*e*S	**SKSac**	**22 17 20.8**	**-1.8**
YAK					*e*		22 18 14.8	
YAK					*e*SSS	SSS	22 28 33.7	
YAK					pmax	pmax		
	comp=Z,67nm,1.4s							
YAK					pmax	pmax		
	comp=N,31nm,1.2s							
YAK					pmax	pmax		
	comp=E,6.0nm,1.4s							
YAK					pmax	pmax		
	comp=Z,3μm,4.2s							
YAK					pmax	pmax		
	comp=N,2μm,4.9s							
YAK					pmax	pmax		
	comp=E,1μm,4.9s							
YAK					smax	smax		
	comp=N,11μm,11.0s							
YAK					smax	smax		
	comp=E,6μm,10.8s							
YAK					MLR	MLR		
	comp=Z,217μm,21.0s							
YAK					MLR	MLR		
	comp=E,94μm,20.0s							
YAK					MLR	MLR		
	comp=N,129μm,19.0s							
YAK	**Yakutsk**	**97.92**	**350**		*e*P	**P**	**22 06 45.2**	**-0.3**
	comp=N,188nm,1.3s							
YAK					LR	LR		
	comp=Z,204μm,19.0s							
HAKT	**HAKKARI**	**98.28**	**46**	*i*	P	**P**	**22 06 47.8**	**-0.2**
AKTO	**Aktyubinsk**	**98.87**	**29**		P	**P**	**22 06 49.4**	**-0.6**
AKTO							22 10 52.9	
AKTO	**Aktyubinsk**	**98.87**	**29**		P	**P**	**22 06 49.4**	**-0.6**
AKTO					PP	**PP**	**22 10 52.9**	**+2.0**
AKTO					PKKPbc	**PKKPbc**	**22 23 17.2**	**-1.2**
AKTO	**Aktyubinsk**	**98.87**	**29**		P	**P**	**22 06 49.4**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=339,slow=4.3,SNR=16							
AKTO					PP	**PP**	**22 10 52.9**	**+2.0**
	comp=Z,16nm,1.0s,baz=303,slow=6.6,SNR=3.9							
AKTO					PKKPbc	**PKKPbc**	**22 23 17.2**	**-1.2**
	comp=Z,11nm,0.9s,baz=92,slow=2.5,SNR=12							
AKTO					LR	LR	22 51 34.3	
	comp=Z,44μm,18.4s,baz=322,slow=36							
KOMG	**Komaggas**	**98.97**	**118**		*e*P	**P**	**22 06 47.7**	**-3.1**
SKR	**Severo-Kuril's**	**99.02**	**331**		*e*P	**Pdif**	**22 06 48.0**	**-2.7**
SKR					*e*S	**SKSac**	**22 17 26.0**	**-2.5**
SKR					pmax	pmax		
	comp=Z,2μm,2.0s							
SKR					pmax	pmax		
	comp=Z,7μm,6.0s							
SKR					smax	smax		
	comp=N,14μm,16.0s							
SKR					smax	smax		
	comp=E,15μm,14.0s							
SKR					smax	smax		
	comp=Z,5μm,14.0s							
IMRD	**Marand**	**99.03**	**44**		*e*P	**Pdif**	**22 06 51.5**	**+0.3**
IHRS	**Heris**	**100.12**	**44**		*e*P	**Pdif**	**22 06 55.6**	**-0.6**
IBST	**Bostanabad**	**100.36**	**45**		*e*P	**Pdif**	**22 06 57.8**	**+0.5**
ABKAR	**Akbulak array**	**100.59**	**29**		*e*Pdif	**Pdif**	**22 06 57.2**	**-0.6**
	comp=Z,300nm,1.1s							
ABKAR	**Akbulak array**	**100.59**	**29**	⇑	P	**Pdif**	**22 06 56.0**	**-1.8**
	baz=101							
SNAA	**Sanae**	**101.15**	**162**		*e*Pdif	**Pdif**	**22 06 59.7**	**+0.1**
	comp=Z,1μm,0.9s							
SNAA					*e*PP	**PP**	**22 11 09.2**	**+0.6**
IDHR	**Dehrash**	**101.62**	**47**		*e*P	**Pdif**	**22 06 59.5**	**-3.4**
UPI	**Upington**	**101.78**	**116**		*e*P	**Pdif**	**22 07 04.2**	**+0.7**
BRVK	**Borovoye**	**101.95**	**22**	⇓	P	**Pdif**	**22 07 04.7**	**+1.1**
	SNR=21							
BRVK	**Borovoye**	**101.95**	**22**		PFAKE		22 07 10.0	+6.3
BRVK					LR	LR		
	comp=Z,94μm,20.0s							
BVAR	**Borovoye Array**	**102.01**	**22**		P	**Pdif**	**22 07 03.4**	**-0.6**
BVAR							22 11 19.3	
BVAR	**Borovoye Array**	**102.01**	**22**		P	**Pdif**	**22 07 03.4**	**-0.6**
BVAR					PP	**PP**	**22 11 19.3**	**+4.7**
BVAR					PKKPbc	**PKKPbc**	**22 23 06.6**	**-2.9**
BVAR	**Borovoye Array**	**102.01**	**22**		P	**Pdif**	**22 07 03.4**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=332,slow=3.3,SNR=14							
BVAR					PP	**PP**	**22 11 19.3**	**+4.7**
	comp=Z,14nm,1.1s,baz=325,slow=7.0,SNR=3.0							
BVAR					PKKPbc	**PKKPbc**	**22 23 06.6**	**-2.9**
	comp=Z,6.9nm,0.8s,baz=161,slow=4.2,SNR=11							
SUR	**Sutherland**	**102.40**	**120**		PFAKE		22 07 20.0	+14
SUR					LR	LR		
	comp=Z,70μm,21.0s							
AFI	**Afiamalu**	**102.83**	**259**		PFAKE		22 07 20.0	+12
AFI					LR	LR		
	comp=Z,84μm,22.0s							
CLNS	**Chul'man**	**103.65**	**350**		*e*P	**Pdif**	**22 07 13.6**	**+2.4**
CLNS					pmax	pmax		
	comp=Z,22nm,1.5s							
CLNS					pmax	pmax		
	comp=N,11nm,1.4s							
CLNS					pmax	pmax		
	comp=E,6.0nm,1.1s							
CLNS					MLR	MLR		
	comp=N,61μm,18.0s							
CLNS					MLR	MLR		
	comp=Z,73μm,18.0s							
CLNS					MLR	MLR		
	comp=E,49μm,16.0s							
NVS	**Novosibirsk**	**104.21**	**14**		*e*P	**Pdif**	**22 07 11.2**	**-2.5**
NVS					*e*		22 11 31.0	
NVS					*e*S	**Sdif**	**22 18 54.8**	**-9.4**
NVS					pmax	pmax		
	comp=E,60nm,3.0s							
NVS					pmax	pmax		
	comp=Z,232nm,3.0s							
NVS					pmax	pmax		
	comp=Z,597nm,2.4s							
NVS					pmax	pmax		
	comp=N,69nm,1.9s							
NVS					pmax	pmax		
	comp=E,86nm,1.8s							
NVS					smax	smax		
	comp=N,847nm,4.3s							
LSZ	**Lusaka**	**104.68**	**101**	⇑	P	**Pdif**	**22 07 17.4**	**+0.7**
LSZ	**Lusaka**	**104.68**	**101**		*e*Pdif	**Pdif**	**22 07 17.2**	**+0.5**
LSZ					*e*PP	**PP**	**22 11 36.7**	**+0.2**
LSZ					PKKPbc	**PKKPbc**	**22 23 01.2**	**+0.4**
LSZ					LR	LR		
	comp=Z,76μm,20.0s							
LSZ	**Lusaka**	**104.68**	**101**		PKKPbc	PKKPbc	22 23 01.2	+0.4
	comp=Z,3.1nm,0.8s,baz=246,slow=0.0,SNR=3.7							
SWZ	**Schweizer**	**105.01**	**114**		*e*P	**Pdif**	**22 07 14.9**	**-3.0**
IVRN	**Varamin**	**105.10**	**45**		*e*P	**Pdif**	**22 07 19.5**	**+1.3**
NVL	**N'lazarevskaya**	**105.38**	**160**	*c*	*i*P	**Pdif**	**22 07 19.9**	**+1.6**
NVL					pmax	pmax		
	comp=Z,42nm,1.3s							
ZAA0	**Zalesovo Array**	**105.39**	**14**		Pdif	**Pdif**	**22 07 18.1**	**-0.8**
ZALV	**Zalesovo Beam**	**105.39**	**14**		P	**Pdif**	**22 07 18.5**	**-0.5**
ZALV							22 11 37.3	
ZALV	**Zalesovo Beam**	**105.39**	**14**		Pdif	**Pdif**	**22 07 18.5**	**-0.5**
ZALV					PP	**PP**	**22 11 37.3**	**-2.2**
ZALV					PKKPbc	PKKPbc	22 22 52.8	-6.7
ZALV	**Zalesovo Beam**	**105.39**	**14**		Pdif	**Pdif**	**22 07 18.5**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=338,slow=6.6,SNR=8.1							
ZALV					PP	**PP**	**22 11 37.3**	**-2.2**
	comp=Z,12nm,1.0s,baz=333,slow=5.0,SNR=4.9							
ZALV					PKKPbc	PKKPbc	22 22 52.8	-6.7
	comp=Z,2.1nm,0.7s,baz=167,slow=4.7,SNR=4.7							
IGLO	**Ghaloghah**	**105.58**	**42**		*e*P	**Pdif**	**22 07 20.2**	**-0.3**
ISHM	**Shahmirzad**	**105.65**	**43**		*e*P	**Pdif**	**22 07 23.4**	**+2.5**
IPIR	**Pirpir**	**105.86**	**47**		*e*P	**Pdif**	**22 07 19.8**	**-2.1**
IKLH	**Kolahrood**	**105.97**	**46**		*e*P	**Pdif**	**22 07 21.6**	**-0.7**
IANJ	**Anjilo**	**106.26**	**43**		*e*P	**Pdif**	**22 07 26.1**	**+2.5**
KURK	**Kurchatov**	**106.68**	**19**		P	**Pdif**	**22 07 25.4**	**+0.6**
KURK							22 11 52.9	
KURK					MLR	MLR		
	comp=Z,54μm,22.0s							
KURK	**Kurchatov**	**106.68**	**19**	⇑	P	**Pdif**	**22 07 25.7**	**+0.9**
	SNR=10							
KURK	**Kurchatov**	**106.68**	**19**		Pdif	**Pdif**	**22 07 25.4**	**+0.6**
KURK					PKiKP	**PKiKP**	**22 11 36.4**	**+1.3**
KURK					PP	**PP**	**22 11 52.9**	**+3.7**
KURK					PKKPbc	**PKKPbc**	**22 22 51.4**	**-4.1**
KURK					LR	LR		
	comp=Z,54μm,22.0s							
IZEF	**Zefreh**	**106.73**	**46**		*e*P	**Pdif**	**22 07 24.7**	**-1.1**
KURBB	**Kurchatov Arra**	**106.74**	**19**		Pdiff	**Pdif**	**22 07 25.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=320,slow=5.7,SNR=8.9							
KURBB					PKiKP	**PKiKP**	**22 11 36.4**	**+1.1**
	comp=Z,11nm,1.2s,baz=330,slow=2.0,SNR=3.1							
KURBB					PP	**PP**	**22 11 52.9**	**+3.3**
	comp=Z,3.4nm,0.7s,baz=340,slow=5.9,SNR=4.2							
KURBB					PKKPbc	**PKKPbc**	**22 22 51.4**	**-3.9**
	comp=Z,11nm,0.8s,baz=160,slow=2.6,SNR=14							
FURI	**Furi**	**106.99**	**74**		P	**Pdif**	**22 07 29.0**	**+1.7**
FURI					S	**PP**	**22 11 56.5**	**+2.9**
YSS	**Yuzh-Sakhalins**	**107.59**	**335**	*d*	*i*P	**Pdif**	**22 07 32.0**	**+3.1**
YSS					*e*		22 11 54.0	
YSS					*i*		22 18 10.0	
YSS					*e*		22 18 46.0	
YSS					*e*PS	**PS**	**22 21 19.0**	**+0.6**
YSS					*e*SSS	SSS	22 31 04.0	
YSS					pmax	pmax		
	comp=Z,2μm,7.0s							
YSS					pmax	pmax		
	comp=Z,190nm,2.0s							
YSS					pmax	pmax		
	comp=N,4μm,8.0s							
YSS					pmax	pmax		
	comp=Z,9μm,8.0s							
YSS					MLR	MLR		
	comp=N,95μm,20.0s							
YSS					MLR	MLR		
	comp=E,114μm,20.0s							
YSS					MLR	MLR		
	comp=Z,202μm,20.0s							
YSS	**Yuzh-Sakhalins**	**107.59**	**335**		PFAKE		22 11 50.0	
YSS					LR	LR		
	comp=Z,61μm,20.0s							
QSPA	**South Pole Qui**	**108.33**	**180**		*e*Pdif	**Pdif**	**22 07 33.8**	**+2.1**
	comp=Z,260nm,2.1s							
QSPA					PP	**PP**	**22 12 06.9**	**+5.0**
QSPA					PKKPbc	**PKKPbc**	**22 22 52.4**	**+0.8**
QSPA					LR	LR		
	comp=Z,90μm,20.0s							
QSPA	**South Pole Qui**	**108.33**	**180**		PP	PP	22 12 06.9	+4.9
	comp=Z,42nm,1.1s,baz=113,slow=5.5,SNR=5.1							
QSPA					PKKPbc	**PKKPbc**	**22 22 52.4**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=147,slow=1.7,SNR=5.9							
YUK	**Yuzh-Kuril'sk**	**108.62**	**332**	*d*	*i*P	**Pdif**	**22 07 31.9**	**-1.6**
YUK					*i*		22 12 05.4	
YUK					*i* PPP	PPP	22 14 21.7	
YUK					*i* S	**SKSac**	**22 18 09.2**	**-3.9**
YUK					*i* PS	**PS**	**22 21 21.3**	**-7.6**
YUK					*i* SS	**SS**	**22 27 25.2**	**+6.1**
YUK					MLR	MLR		
	comp=N,57μm,22.0s							
YUK					MLR	MLR		
	comp=E,117μm,22.0s							
YUK					MLR	MLR		
	comp=Z,156μm,22.0s							
HABR	**Khabarovsk**	**109.02**	**341**	*c*	*e*P	**Pdif**	**22 07 32.8**	**-2.4**
HABR					*e*		22 12 05.7	
HABR					*e*PPP	PPP	22 14 22.2	
HABR					*e*PS	**PS**	**22 21 31.1**	**-1.6**
HABR					*e*SS	SS	22 27 25.1	+1.0
HABR					*e*SSS	SSS	22 31 29.7	
HABR					MLR	MLR		
	comp=N,61μm,18.0s							
HABR					MLR	MLR		
	comp=Z,129μm,18.0s							
HABR					MLR	MLR		
	comp=E,217μm,20.0s							
MZM	**Mzuzu**	**109.13**	**96**	*i*	P	**PP**	**22 12 06.3**	**-2.8**
MZM					PKP	**SP**	**22 21 31.0**	**-3.2**
KMBO	**Kilima Mbogo**	**109.17**	**85**		Pdif	**Pdif**	**22 07 37.6**	**+0.7**
KMBO					PP	**PP**	**22 12 11.1**	**+1.4**
KMBO					PKKPbc	**PKKPbc**	**22 22 50.8**	**+3.9**
KMBO					LR	LR		
	comp=Z,113μm,20.0s							
KMBO	**Kilima Mbogo**	**109.17**	**85**		Pdiff	**Pdif**	**22 07 37.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=210,slow=20,SNR=2.1							
KMBO					PP	**PP**	**22 12 11.1**	**+1.4**
	comp=Z,4.6nm,0.9s,baz=293,slow=10,SNR=6.6							
KMBO					PKKPbc	**PKKPbc**	**22 22 50.8**	**+3.9**
	comp=Z,3.1nm,0.8s,baz=54,slow=13,SNR=5.0							
ISRO	**Mashad**	**109.21**	**39**		*e*P	**Pdif**	**22 07 36.7**	**+0.2**
KLR	**Kul'dur**	**109.30**	**343**		*e*P	**Pdif**	**22 07 33.7**	**-2.8**
KLR					*e*		22 12 05.7	
KLR					*e*		22 21 24.5	
KLR					*e*SSS	SSS	22 27 27.0	
KLR					pmax	pmax		
	comp=Z,2μm,3.5s							
KLR					pmax	pmax		
	comp=N,2.0nm,4.0s							
KLR					pmax	pmax		
	comp=Z,5.0nm,4.0s							
DODT	**Dodoma, Tanzan**	**109.31**	**90**		PKP	**Pdif**	**22 07 38.5**	**+1.2**
DODT					*i* P	**PP**	**22 12 06.3**	**-4.2**
ISRV	**Sarvestan**	**109.31**	**49**		*e*P	**Pdif**	**22 07 31.1**	**-6.2**
IRK	**Irkutsk**	**109.62**	**2**		*e*P	**Pdif**	**22 07 38.8**	**+0.9**
IRK					*e*		22 12 21.0	
IRK					*e*		22 21 43.2	
IRK					pmax	pmax		
	comp=Z,73nm,2.8s							
ASAJ	**Asahikawa**	**109.97**	**334**		PKiKP	**PKiKP**	**22 11 43.2**	**+1.8**
ASAJ					PP	**PP**	**22 12 11.7**	**-1.6**
ASAJ					PKKPbc	**PKKPbc**	**22 22 42.5**	**-2.4**
ASAJ	**Asahikawa**	**109.97**	**334**		PKiKP	**PKiKP**	**22 11 43.2**	**+1.8**
	comp=Z,16nm,1.1s,baz=205,slow=14,SNR=2.1							
ASAJ					PP	**PP**	**22 12 11.7**	**-1.6**
	comp=Z,54nm,1.1s,baz=27,slow=1.9,SNR=4.4							
ASAJ					PKKPbc	**PKKPbc**	**22 22 42.5**	**-2.4**
	comp=Z,11nm,0.8s,baz=82,slow=27,SNR=4.7							
MOY	**Mondy**	**110.03**	**4**		*e*P	**Pdif**	**22 07 39.9**	**+0.1**
MOY					*e*		22 12 14.6	
MOY					pmax	pmax		
	comp=Z,93nm,3.4s							
TLY	**Talaya**	**110.16**	**2**		*e*P	**Pdif**	**22 07 42.5**	**+2.2**
TLY					*e*		22 18 21.4	
TLY					*e*PS	**PS**	**22 21 39.7**	**-4.4**
TLY					*e*PPS	PPS	22 22 48.3	
TLY					pmax	pmax		
	comp=Z,29nm,1.6s							
TLY					pmax	pmax		
	comp=Z,37nm,2.2s							
TLY	**Talaya**	**110.16**	**2**	⇓	P	**Pdif**	**22 07 42.8**	**+2.5**
	SNR=7.7							
TLY	**Talaya**	**110.16**	**2**		PFAKE		22 11 50.0	
TLY					LR	LR		
	comp=Z,74μm,21.0s							
WAKE	**Wake Island**	**110.84**	**300**		PFAKE		22 12 00.0	
WAKE					LR	LR		
	comp=Z,69μm,19.0s							
MK31	**Makanchi Array**	**111.28**	**18**		P	**Pdif**	**22 07 44.5**	**-0.9**
MK31	**Makanchi Array**	**111.28**	**18**		Pdif	**Pdif**	**22 07 44.5**	**-0.9**
MKAR	**Makanchi Array**	**111.28**	**18**		P	**Pdif**	**22 07 46.4**	**+1.0**
MKAR					*i*		22 11 44.9	
MKAR							22 12 26.4	
MKAR	**Makanchi Array**	**111.28**	**18**		Pdif	**Pdif**	**22 07 46.4**	**+1.0**
MKAR					PKiKP	**PKiKP**	**22 11 44.9**	**+1.0**
MKAR					PP	**PP**	**22 12 26.4**	**+3.7**
MKAR					PKKPbc	**PKKPbc**	**22 22 36.6**	**-4.2**
MKAR	**Makanchi Array**	**111.28**	**18**		Pdiff	**Pdif**	**22 07 46.4**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=90,slow=1.4,SNR=3.2							
MKAR					PKiKP	**PKiKP**	**22 11 44.9**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=342,slow=3.1,SNR=4.6							
MKAR					PP	**PP**	**22 12 26.4**	**+3.7**
	comp=Z,7.7nm,0.8s,baz=342,slow=5.3,SNR=4.6							
MKAR					PKKPbc	**PKKPbc**	**22 22 36.6**	**-4.2**
	comp=Z,1.8nm,0.7s,baz=137,slow=3.5,SNR=5.0							
ERM	**Erimo**	**111.43**	**332**		PFAKE		22 12 00.0	
ERM					LR	LR		
	comp=Z,144μm,21.0s							
ZAK	**Zakamensk**	**111.44**	**3**		*e*P	**Pdif**	**22 07 45.6**	**-0.5**
ZAK					pmax	pmax		
	comp=Z,6.0nm,1.7s							
HIA	**Hailar**	**111.77**	**351**		PFAKE		22 12 00.0	
HIA					LR	LR		
	comp=Z,120μm,21.0s							
EKS2	**Erkin-Say**	**111.81**	**26**		PFAKE		22 12 00.0	
EKS2					LR	LR		
	comp=Z,56μm,19.0s							
FRU	**Bishkek**	**112.02**	**25**		*e*P	**Pdif**	**22 07 58.0**	**+9.2**
FRU					*i*		22 12 38.0	
FRU					*e*		22 18 20.0	
FRU					*e*		22 22 06.0	
FRU					pmax	pmax		
	comp=Z,1μm,16.0s							
FRU					pmax	pmax		
	comp=Z,6μm,17.0s							
FRU					pmax	pmax		
	comp=N,4μm,18.0s							
FRU					pmax	pmax		
	comp=E,2μm,18.0s							
FRU					MLR	MLR		
	comp=Z,60μm,19.5s							
AAK	**Ala-Archa**	**112.13**	**26**		P	**Pdif**	**22 07 52.0**	**+2.5**
AAK					*i*		22 11 47.1	
AAK							22 12 30.5	
AAK					MLR	MLR		
	comp=Z,88μm,21.0s							
AAK	**Ala-Archa**	**112.13**	**26**		Pdif	**Pdif**	**22 07 52.0**	**+2.5**
AAK					PKiKP	**PKiKP**	**22 11 47.1**	**+1.2**
AAK					PP	**PP**	**22 12 30.5**	**+1.4**
AAK					PKKPbc	**PKKPbc**	**22 22 36.9**	**-1.2**
AAK					LR	LR		
	comp=Z,88μm,21.0s							
AAK	**Ala-Archa**	**112.13**	**26**		Pdiff	**Pdif**	**22 07 52.0**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=63,slow=4.5,SNR=1.9							
AAK					PKiKP	**PKiKP**	**22 11 47.1**	**+1.2**
	comp=Z,5.7nm,1.1s,baz=275,slow=4.5,SNR=4.5							
AAK					PP	**PP**	**22 12 30.5**	**+1.4**
	comp=Z,12nm,1.0s,baz=297,slow=4.2,SNR=4.1							
AAK					PKKPbc	**PKKPbc**	**22 22 36.9**	**-1.2**
	comp=Z,22nm,0.8s,baz=160,slow=3.8,SNR=22							
TKM2	**Tokmak 2**	**112.34**	**25**		*e*PKIKP	**PKiKP**	**22 11 46.4**	**+0.1**
TKM2					MLR	MLR		
	comp=Z,91μm,20.0s							
TKM2	**Tokmak 2**	**112.34**	**25**		*e*PKPdf	**PKiKP**	**22 11 46.4**	**+0.1**
TKM2					LR	LR		
	comp=Z,91μm,20.0s							
AAA	**Alma-Ata**	**112.57**	**24**		*e*P	**Pdif**	**22 07 50.5**	**-0.7**
AAA					pmax	pmax		
	comp=Z,2μm,10.6s							
TARA	**Tarawa**	**112.72**	**279**		PFAKE		22 12 00.0	
TARA					LR	LR		
	comp=Z,145μm,19.0s							
MSVF	**Nonsavu**	**113.26**	**258**		*e*PKIKP	**PKiKP**	**22 11 49.5**	**+1.0**
MSVF					*e*		22 12 39.4	
MSVF					MLR	MLR		
	comp=Z,135μm,22.0s							
MSVF	**Nonsavu**	**113.26**	**258**		*e*PKPdf	**PKiKP**	**22 11 49.5**	**+1.0**
MSVF					*e*		22 12 39.4	
MSVF					LR	LR		
	comp=Z,135μm,22.0s							
BANOM	**Banah**	**113.61**	**50**	⇓	P	**Pdif**	**22 07 57.4**	**+1.2**
BANOM	**Banah**	**113.61**	**50**	⇓	Pdiff	**Pdif**	**22 07 55.3**	**-0.9**
ASUD	**Al Ashush, Dub**	**113.65**	**52**	⇑	Pdiff	**Pdif**	**22 07 55.6**	**-0.7**
NAZ	**Nazwa, Dubai**	**113.69**	**51**	⇓	Pdiff	**Pdif**	**22 07 54.0**	**-2.5**
USRK	**Ussuriysk Arra**	**113.79**	**341**		PKiKP	**PKiKP**	**22 11 50.2**	**+1.5**
	comp=Z,6.2nm,0.9s,baz=8.1,slow=3.1,SNR=5.4							
USRK					PP	**PP**	**22 12 38.0**	**-2.5**
	comp=Z,23nm,1.0s,baz=6.8,slow=6.1,SNR=5.0							
USRK					PKKPbc	**PKKPbc**	**22 22 30.8**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=210,slow=1.6,SNR=4.0							
ULN	**Ulaanbaatar**	**114.06**	**0**	⇑	P	**Pdif**	**22 07 59.4**	**+1.5**
	SNR=6.6							
ULN	**Ulaanbaatar**	**114.06**	**0**		Pdif	**Pdif**	**22 07 58.6**	**+0.7**
ULN					*e*PKPdf	PKPdf	22 11 51.6	+2.2
ULN					*e*PP	**PP**	**22 12 46.6**	**+4.2**
ULN					LR	LR		
	comp=Z,142μm,21.0s							
SONM	**Songino Array**	**114.08**	**1**		Pdif	**Pdif**	**22 08 00.8**	**+2.8**
SONM					PKP	**PKiKP**	**22 11 46.1**	**-3.3**
SONM					PP	**PP**	**22 12 49.1**	**+6.5**
SONM					PKKPbc	**PKKPbc**	**22 22 28.3**	**-3.4**
SONM	**Songino Array**	**114.08**	**1**		Pdiff	**Pdif**	**22 08 00.8**	**+2.8**
	comp=Z,1.4nm,0.9s,baz=334,slow=3.9,SNR=7.7							
SONM					PKP	**PKiKP**	**22 11 46.1**	**-3.3**
	comp=Z,2.8nm,0.9s,baz=341,slow=5.4,SNR=7.5							
SONM					PP	PP	22 12 49.1	+6.5
	comp=Z,15nm,1.0s,baz=354,slow=6.2,SNR=7.5							
SONM					PKKPbc	**PKKPbc**	**22 22 28.3**	**-3.4**
	comp=Z,7.2nm,1.1s,baz=182,slow=3.3,SNR=7.5							
MDJ	**Mudanjiang**	**114.12**	**343**		Pdif	**Pdif**	**22 07 56.3**	**-1.7**
MDJ					PP	**PP**	**22 12 43.7**	**+0.9**
MDJ					SS	SS	22 28 34.5	+2.4
MDJ					AMB	AMB		
	comp=Z,5μm,8.1s							
MDJ					LR	LR		
	comp=Z,84μm,40.0s							
MDJ					LR	LR

WMQ PKS **PKSdf** **22 15 28.2 -0.7**
WMQ SKS **SKSdf** **22 18 57.3 -6.8**
WMQ SKKS **SKKSac** **22 19 48.1 -7.0**
WMQ SS **SS** **22 28 50.9 +0.3**
WMQ AMB AMB
comp=Z,2µm,12.6s
WMQ LR LR
comp=Z,89µm,27.0s
WMQ LR LR
comp=Z,70µm,23.6s
WMQ LR LR
comp=Z,87µm,30.4s
CN2 Changchun 115.95 346 *e*Pdif **Pdif** **22 08 07.2 +1.0**
CN2 PP PP 22 13 01.2 +5.5
CN2 SKS **SKSdf** **22 19 05.1 +0.4**
CN2 *e*S **Sdif** **22 20 40.0 -2.7**
CN2 SS **SS** **22 28 57.8 +1.8**
CN2 LR LR
comp=Z,79µm,23.0s
URZ Urewera 116.92 236 PKP **PKPdf** **22 11 52.6 -2.1**
URZ *e*PKPdf **PKiKP** **22 11 54.1 -0.7**
URZ Urewera 116.92 236 PKP **PKPdf** **22 11 52.6 -2.1**
comp=Z,10nm,0.7s,baz=144,slow=8.9,SNR=3.0
URZ Urewera 116.92 236 PKP **PKPdf** **22 11 56.6 +1.8**
MAJO Matsushiro 118.11 332 *i* PKIKP **PKPdf** **22 11 55.1 -2.2**
MAJO MLR MLR
comp=Z,571µm,23.0s
MAJO Matsushiro 118.11 332 *e*PKPdf **PKPdf** **22 11 58.0 +0.6**
MAJO LR LR
comp=Z,87µm,20.0s
MAT Matsushiro 118.11 332 PKP **PKPdf** **22 11 57.3 0.0**
MJAR Matsushiro Arr 118.11 332 PKP **PKPdf** **22 11 57.9 +0.6**
MJAR PP **PP** **22 13 10.8 -0.2**
MJAR PKKPbc **PKKPbc** **22 22 14.2 -3.0**
MJAR Matsushiro Arr 118.11 332 PKP **PKPdf** **22 11 57.9 +0.6**
comp=Z,14nm,1.0s,baz=279,slow=1.6,SNR=10
MJAR PP **PP** **22 13 10.9 -0.2**
comp=Z,42nm,1.3s,baz=10.0,slow=4.5,SNR=5.8
MJAR PKKPbc **PKKPbc** **22 22 14.2 -3.0**
comp=Z,2.5nm,0.8s,baz=196,slow=3.6,SNR=4.3
SNZO South Karori 118.83 232 PFAKE 22 12 10.0 +12
SNZO LR LR
comp=Z,64µm,20.0s
HHC Hu-ho-hao-te 120.95 356 *e*PKP **PKPdf** **22 12 02.7 -0.1**
HHC PP **PP** **22 13 35.0 +4.7**
HHC SKS **SKSdf** **22 19 11.0 -3.6**
HHC SKKS **SKKSac** **22 20 27.7 -3.5**
HHC SS **SS** **22 30 00.8 0.0**
HHC AMB AMB
comp=Z,12µm,7.3s
HHC LR LR
comp=Z,233µm,21.6s
KSRS Korea Array 121.20 341 PKP **PKPdf** **22 12 02.1 -1.1**
comp=Z,19nm,1.0s,baz=356,slow=1.3,SNR=22
KSRS PP **PP** **22 13 31.7 -0.4**
comp=Z,18nm,1.1s,baz=8.5,slow=5.5,SNR=6.1
KSRS PKKPbc **PKKPbc** **22 22 03.7 -2.0**
comp=Z,2.3nm,0.8s,baz=148,slow=40,SNR=5.0
KSAR Wonju Array Be 121.22 341 PKP **PKPdf** **22 12 02.1 -1.1**
KSAR PP **PP** **22 13 31.7 -0.6**
KSAR PKKPbc **PKKPbc** **22 22 03.8 -2.0**
BJI Beijing 121.31 352 PKP **PKPdf** **22 12 03.0 -0.3**
BJI LR LR
comp=Z,83µm,29.3s
BJT Baijiatuau 121.33 352 *e*PKPdf **PKPdf** **22 12 03.6 +0.3**
BJT LR LR
comp=Z,116µm,22.0s
RPZ Rata Peaks 121.44 230 PKP **PKPdf** **22 12 01.7 -1.7**
RPZ *e*PKPdf **PKiKP** **22 12 03.7 +0.1**
RPZ Rata Peaks 121.44 230 PKP **PKPdf** **22 12 01.7 -1.7**
comp=Z,47nm,0.6s,baz=158,slow=1.4,SNR=18
DL2 Dalian 121.48 347⇑ *i*PKP PKPdf 22 11 50.6 -13
DL2 PP PP 22 13 26.3 -7.6
DL2 SKS SKSdf 22 19 03.3 -12
DL2 SKKS **SKKSac** **22 20 34.3 -0.1**
DL2 Dalian 121.48 347 SS SS 22 29 56.4 -11
DL2 pmax pmax
comp=Z,2µm,6.2s
DL2 LR LR
comp=N,54µm,19.3s
DL2 LR LR
comp=E,43µm,19.4s
DL2 LR LR
comp=Z,75µm,19.0s
DHRM DHARAMSHALA 121.50 31 *e*P **PKPdf** **22 12 03.5 -0.7**
DHRM AMS AMS 22 53 33.5
comp=Z,37µm,32.2s
INCN Inchon 121.56 342 PFAKE 22 12 20.0 +16
INCN LR LR
comp=Z,126µm,21.0s
ODZ Otahua Downs 121.62 228 *e*PKPdf **PKPdf** **22 12 05.0 +1.4**
GTA Gaotai 122.07 7⇑ PKP **PKPdf** **22 12 03.8 -1.2**
GTA sPKP 22 12 11.0
GTA PP **PP** **22 13 41.3 +3.3**
GTA SKS **SKSdf** **22 19 13.8 -3.1**
GTA SKKS **SKKSac** **22 20 33.6 -5.0**
GTA SS **SS** **22 30 16.0 +0.7**
GTA AMB AMB
comp=Z,6µm,7.6s
GTA LR LR
comp=Z,71µm,19.5s
TJN Taejon 122.36 341 *i* PKIKP **PKPdf** **22 12 06.5 +1.1**
SMLA Simla 122.84 31 *e*P **PKPdf** **22 12 03.6 -2.8**
SMLA AMB AMB 22 55 22.4
comp=Z,73nm,27.1s
JCZ Jackson Bay 123.06 229 PKP **PKPdf** **22 12 06.6 0.0**
ABPO Ambohimpanom 123.25 101 *e*PKIKP **PKPdf** **22 12 07.4 -0.3**
ABPO MLR MLR
comp=Z,62µm,21.0s
ABPO Ambohimpanom 123.25 101 *e*PKPdf **PKPdf** **22 12 07.4 -0.3**
ABPO LR LR
comp=Z,62µm,21.0s
MAW Mawson 123.29 161 PKP **PKPdf** **22 12 05.4 -0.8**
MAW Mawson 123.29 161 PKP **PKPdf** **22 12 05.4 -0.8**
comp=Z,26nm,0.7s,baz=256,slow=2.8,SNR=19
WHZ Wether Hill Ro 123.41 227 *e*PKPdf **PKPdf** **22 12 06.7 -0.4**
TIY Taiyuan 124.01 355 PKP **PKPdf** **22 12 10.9 +2.2**
TIY PP PP 22 13 58.7 +7.7
TIY AMB AMB
comp=Z,5µm,5.3s
TIY LR LR
comp=Z,113µm,16.5s
JNU Nakatsue 124.09 336 PKP **PKPdf** **22 12 09.1 +0.1**
JNU Nakatsue 124.09 336 PKP **PKPdf** **22 12 09.0 +0.1**
comp=Z,24nm,1.1s,baz=221,slow=11,SNR=2.8
BHJ Bhuj 124.57 43 *ex* **PP** **22 13 53.2 -2.5**
BHJ AMS AMS 23 06 40.3
comp=Z,31µm,25.4s
DZM Mont Dzumac 124.78 256 *e*PKiKP **PKiKP** **22 12 10.8 0.0**
comp=Z,331nm,1.2s
DZM Mont Dzumac 124.78 256 *e*PP PP 22 13 54.9 -3.5
comp=Z,5µm,25.2s
DZM *e*SKSac **SKSac** **22 19 13.9 -0.1**
comp=Z,8µm,24.6s
DZM *e*Sdif **Sdif** **22 21 54.3 -2.8**
comp=Z,13µm,28.7s
DZM Mont Dzumac 124.78 256 *e*PS PS 22 23 58.9 +0.3
comp=Z,15µm,26.2s
DZM *e*SS SS 22 30 39.1 -14
comp=Z,94µm,29.4s
DZM Mont Dzumac 124.78 256 *e*LQ LQ 22 45 51.4
comp=Z,167µm,39.6s
DZM *e*LR LR 22 50 54.6
comp=Z,104µm,23.4s
DZM Mont Dzumac 124.78 256 PKP **PKPdf** **22 12 10.2 -0.3**
DZM *e*PKPdf **PKiKP** **22 12 10.4 -0.5**
DZM Mont Dzumac 124.78 256 PKP **PKPdf** **22 12 10.2 -0.3**
comp=Z,94nm,1.1s,baz=89,slow=9.0,SNR=20
DZM Mont Dzumac 124.78 256 *e*P **PKPdf** **22 12 09.3 -1.2**
DZM Mont Dzumac 124.78 256 *e*P **PKPdf** **22 12 09.3 -1.2**
NDI New Delhi 124.85 33 *e*PKP **PKPdf** **22 12 08.0 -2.5**
NDI *ex* x 22 14 04.0
TIA Tai'an 124.93 350 PKP **PKPdf** **22 12 10.9 +0.5**
TIA PP PP 22 14 06.6 +9.4
TIA AMB AMB
comp=Z,4µm,7.2s
TIA LR LR
comp=Z,171µm,22.0s
LGTI Lohaghat 125.70 29 *ex* **PKPdf** **22 12 13.2 +1.2**
LZH Lanzhou 125.72 4⇑ PKP **PKPdf** **22 12 12.0 -0.2**
LZH sPKP 22 12 16.5
LZH PP **PP** **22 14 06.0 +3.4**
LZH PKS **PKSdf** **22 15 47.2 -1.8**
LZH SKS **SKSdf** **22 19 25.0 +1.0**
LZH SKKS **SKKSac** **22 20 56.0 -6.2**
LZH SS **SS** **22 31 02.5 +1.0**
LZH AMB AMB
comp=Z,10µm,8.8s
LZH LR LR
comp=Z,89µm,20.4s
MSEY Mahe Island 127.51 82 PFAKE 22 12 30.0 +14
MSEY LR LR
comp=Z,72µm,20.0s
XAN Xi'an 127.85 358 PKP **PKPdf** **22 12 14.8 -1.3**
XAN PP **PP** **22 14 20.3 +3.7**
XAN SKS **SKSdf** **22 19 27.2 -0.5**
XAN SKKS **SKKSac** **22 21 10.8 -4.6**
XAN SS **SS** **22 31 32.2 +4.4**
XAN LR LR
comp=Z,87µm,26.1s
XAN LR LR
comp=Z,60µm,25.5s
XAN LR LR
comp=Z,38µm,16.1s
DANN Dangsing 128.21 27 *e*P **PKPdf** **22 12 14.7 -2.6**
comp=Z,752nm,1.1s
HNR Honiara 128.38 272 PKPpre PKPpre 22 12 10.5
HNR PKP **PKiKP** **22 12 18.4 +0.3**
HNR Honiara 128.38 272 PKhKP PKPpre 22 12 10.5
comp=Z,53nm,0.6s,baz=344,slow=20,SNR=3.2
HNR PKP **PKiKP** **22 12 18.4 +0.3**
comp=Z,41nm,0.4s,baz=195,slow=3.2,SNR=3.5
KOLN Koldanda 128.65 27 *e*P **PKPdf** **22 12 16.5 -1.5**
comp=Z,719nm,1.4s
GKN Gorkha 128.89 26 *e*P **PKPdf** **22 12 17.2 -1.2**
comp=Z,1µm,1.3s
SSE Sheshan 129.06 345 PKP **PKPdf** **22 12 20.0 +1.6**
SSE SKS **SKSdf** **22 19 32.4 +2.5**
SSE SS **SS** **22 31 42.1 -0.7**
SSE AMB AMB
comp=Z,2µm,7.0s
SSE LR LR
comp=Z,106µm,21.3s
SSE LR LR
comp=Z,41µm,21.3s
SSE LR LR
comp=Z,107µm,22.3s
BHPL Bhopal 129.31 36 *e*P **PKPdf** **22 12 15.6 -3.6**
BHPL AMS AMS 23 05 27.6
comp=Z,47µm,21.5s
KKN Kakani 129.34 26 *e*P **PKPdf** **22 12 18.0 -1.4**
comp=Z,933nm,1.6s
DMN Daman 129.43 26 *e*P **PKPdf** **22 12 17.5 -2.1**
comp=Z,493nm,1.4s
GUN Gumba 129.48 25 *e*P **PKPdf** **22 12 18.6 -1.2**
comp=Z,740nm,1.4s
PKIN Phulchoki 129.58 26 *e*P **PKPdf** **22 12 18.0 -1.9**
comp=Z,455nm,1.5s
PKI Pulchoki 129.59 26 *e*P **PKPdf** **22 12 18.3 -1.7**
comp=Z,586nm,1.4s
LSA Lhasa 129.69 18 PKP **PKPdf** **22 12 19.8 -0.5**
LSA SKKS 22 21 27.7
LSA AMB AMB
comp=Z,12µm,14.0s
LSA LR LR
comp=Z,39µm,34.0s
LSA LR LR
comp=Z,32µm,26.0s
LSA LR LR
comp=Z,94µm,34.0s
LSA Lhasa 129.69 18 *e*PKIKP **PKPdf** **22 12 19.9 -0.4**
LSA *e* 22 14 30.7
LSA MLR MLR
comp=Z,68µm,21.0s
LSA Lhasa 129.69 18 *e*PKPdf **PKPdf** **22 12 19.9 -0.4**
LSA *e*PP **PP** **22 14 30.7 +1.3**
LSA LR LR
comp=Z,68µm,21.0s
JIRN Jiri 129.82 25 *e*P **PKPdf** **22 12 18.8 -1.7**
comp=Z,267nm,1.2s
RAMN Ramite 130.62 25 *e*P **PKPdf** **22 12 20.3 -1.5**
comp=Z,2µm,1.8s
POO Poona 130.67 44⇑ *i*PKP **PKPdf** **22 12 20.0 -1.9**
comp=Z,464nm,1.5s
POO *e*P **PKiKP** **22 12 20.3 -2.4**
POO *i* PP **PP** **22 14 36.0 -0.1**
POO *i* PKSP 22 15 45.0
POO *i* PPP PPP 22 17 26.0
TAPN Taplejung 130.69 23 *e*P **PKPdf** **22 12 20.2 -1.8**
comp=Z,688nm,1.4s
CD2 Chengdu 130.87 4 *e*PKP **PKPdf** **22 12 19.4 -2.6**
CD2 PP **PP** **22 14 41.0 +4.7**
CD2 SKS **SKSdf** **22 19 28.2 -5.2**
CD2 SKKS **SKKSac** **22 21 32.0 -2.3**
CD2 SS **SS** **22 32 03.9 -1.1**
CD2 AMB AMB
comp=Z,11µm,11.9s
CD2 LR LR
comp=Z,91µm,17.8s
WHN Wuhan 130.90 352⇑ PKP **PKPdf** **22 12 24.4 +2.5**
WHN PP **PP** **22 14 39.0 +2.6**
ODAN Odare 131.01 24 *e*P **PKPdf** **22 12 20.5 -2.1**
comp=Z,745nm,1.6s
AKL Akola 131.05 39 *ex* **PP** **22 14 38.5 +0.2**
GUMO Guam 131.28 308 PFAKE 22 12 30.0 +7.0
GUMO LR LR
comp=Z,53µm,22.0s
RER Riviere de l'E 131.47 102 PFAKE 22 12 30.0 +6.7
RER LR LR
comp=Z,43µm,21.0s
ENH Enshi 131.59 358 *e*PKPdf **PKPdf** **22 12 22.9 -0.4**
ENH LR LR
comp=Z,3µm,21.0s
NGP Nagpur 131.88 37 *e*P **PKPdf** **22 12 22.3 -1.7**
NGP *ex* x 22 32 20.1
CASY Casey 132.09 182 *e*PKPdf **PKPdf** **22 12 23.3 +0.3**
CASY LR LR
comp=Z,143µm,20.0s
GOA Goa 132.80 47 *e*P **PKPdf** **22 12 23.8 -2.1**
BOK Bokaro 133.11 27 *e*P **PKPdf** **22 12 26.1 -0.2**
BOK AMS AMS 23 03 17.9
comp=Z,36µm,31.1s
SHL Shillong 133.78 20 *e*PKP **PKPdf** **22 12 27.0 -0.7**
SHL *ex* x 22 15 57.0
SHL AMS AMS 23 02 11.2
comp=Z,40µm,37.8s
HYB Hyderabad 134.49 40 *i* Pdiff **Pdif** **22 09 30.0 +0.8**
HYB *e*PKP **PKPdf** **22 12 26.0 -3.1**
HYB *e*PP **PP** **22 15 02.0 +1.6**
HYB *e*PKS PKSdf 22 15 58.0 -7.7
HYB Hyderabad 134.49 40 *e*P **PKPdf** **22 12 27.5 -1.5**
HYB AMS AMS 23 01 35.4
comp=Z,19µm,27.6s
TAIP Taipei 134.78 342 PFAKE 22 12 40.0 +11
TATO LR LR
comp=Z,64µm,20.0s
YHNB Yeheng 135.10 342 PFAKE 22 12 40.0 +10
YHNB LR LR
comp=Z,61µm,21.0s
GYA Guiyang 135.42 1 Pdif **Pdif** **22 09 32.8 -0.5**
GYA PKP **PKiKP** **22 12 31.7 -0.6**
GYA PP **PP** **22 15 09.1 +3.6**
GYA PKS **PKSdf** **22 16 05.1 -2.2**
GYA SKKS 22 21 58.0
GYA SS **SS** **22 33 01.4 +1.0**
GYA AMB AMB
comp=Z,15µm,14.6s
GYA LR LR
comp=Z,40µm,18.3s
GYA LR LR
comp=Z,66µm,20.2s
GYA LR LR
comp=Z,74µm,18.3s
QZH Quanzhou 135.58 345⇑ *i*PKP **PKPdf** **22 12 28.6 -2.3**
QZH PP **PP** **22 15 06.0 -0.4**
QZH PKS PKSdf 22 16 00.5 -6.8
QZH SS SS 22 33 00.3 -1.9
QZH AMB AMB
comp=Z,12µm,6.5s
QZH LR LR
comp=Z,172µm,20.5s
SSLB Suanglung 136.05 342 *e*PKPpre PKPpre 22 12 22.4
KMI Kunming 136.52 6 Pdif **Pdif** **22 09 42.8 +4.5**
KMI PP **PP** **22 15 16.3 +3.8**
KMI PKS **PKSdf** **22 16 09.2 -0.4**
KMI SKKS 22 22 03.4
KMI SS **SS** **22 33 11.5 -2.3**
KMI AMB AMB
comp=Z,6µm,15.1s
KMI LR LR
comp=Z,84µm,21.0s
TPUB Ta-pu 136.61 342 PKPdf **PKPdf** **22 12 32.4 -0.5**
VIS Vishakhapatnam 137.01 35 *e*P **PKPdf** **22 12 32.5 -1.2**
VIS AMS AMS 23 04 31.9
comp=Z,18µm,25.7s
PAF Port-aux-Franc 137.04 145 PFAKE 22 12 40.0 +7.3
PAF LR LR
comp=Z,102µm,20.0s
ARMA Armidale 138.23 245 *e*PKPpre PKPpre 22 12 28.8
GZH Guangzhou 138.38 352 PKIKP PKPdf 22 12 28.7 -7.4
GZH PP PP 22 15 16.8 -7.1
TAU Tasmania Unive 138.40 225 *e*PKIKP **PKPdf** **22 12 36.8 +1.3**
TAU MLR MLR
comp=Z,43µm,20.0s
TAU Tasmania Unive 138.40 225 *e*PKPdf **PKPdf** **22 12 36.8 +1.3**
TAU LR LR
comp=Z,43µm,20.0s
EIDS Eidsvold 139.02 252 *e*PKPpre PKPpre 22 12 33.1
CAN Canberra 139.57 237 *e*PKIKP PKPpre 22 12 33.1
CAN *e* 22 12 38.1
CAN MLR MLR
comp=Z,60µm,22.0s
CAN Canberra 139.57 237 *e*PKPpre PKPpre 22 12 33.1
CAN *e*PKPdf **PKPdf** **22 12 38.1 +0.2**
CAN LR LR
comp=Z,60µm,22.0s
TRD Trivandrum 139.79 51 *e*P **PKPdf** **22 12 36.0 -2.9**
TRD AMS AMS 23 06 39.9
comp=Z,20µm,24.3s
PMG Port Moresby 140.47 278 PKP x 22 12 36.4
PMG Port Moresby 140.47 278 PKPpre PKPpre 22 12 34.9
PMG *e*PKPpre PKPpre 22 12 35.0
PMG *e*PKPdf **PKPdf** **22 12 40.1 0.0**
PMG PP **PP** **22 15 39.9 +0.8**
PMG LR LR
comp=Z,65µm,21.0s
PMG Port Moresby 140.47 278 PKhKP PKPpre 22 12 34.9
comp=Z,23nm,0.8s,baz=36,slow=6.7,SNR=4.4
PMG PP **PP** **22 15 39.8 +0.8**
comp=Z,23nm,1.0s,baz=294,slow=12,SNR=2.5
KAAM Kaadhehdhoo 141.32 65 PKP x 22 12 40.6
APYP Conner 141.50 339 *e*P **PKPdf** **22 12 38.4 -3.4**
CHTO Chiang Mai 142.11 13 *e*PKHKP PKPpre 22 12 33.9
CHTO MLR MLR
comp=Z,74µm,19.0s
CHTO Chiang Mai 142.11 13 *e*PKPdf PKPpre 22 12 33.9
CHTO LR LR
comp=Z,74µm,19.0s
CMAR Chiang Mai Arr 142.46 13 PKPpre PKPpre 22 12 38.5
CMAR PP **PP** **22 15 53.1 +4.1**
CMAR Chiang Mai Arr 142.46 13 PKhKP PKPpre 22 12 38.5
comp=Z,12nm,0.7s,baz=326,slow=4.5,SNR=22
CMAR PP **PP** **22 15 53.1 +4.1**
comp=Z,17nm,1.1s,baz=325,slow=5.2,SNR=2.4
QIZ Qiongzhong 142.75 356 PKPbc PKPdf 22 12 36.4 -7.7
QIZ PP PP **22 15 53.9 +3.3**
QIZ Qiongzhong 142.75 356 *e*PKPdf **PKPdf** **22 12 44.0 -0.1**
QIZ LR LR
comp=Z,109µm,20.0s
BCPH Baguio City Da 143.10 339⇓ *i*P PKPab 22 12 41.0 +0.7
PALK Pallekele 143.33 48⇑ Pdiff **Pdif** **22 10 06.3 -2.2**
BALP Baler 143.33 337 *e*P **PKPdf** **22 12 46.1 +0.9**
CTA Charters Tower 143.34 261 PKPpre PKPpre 22 12 41.0
CTA PKP PKPbc 22 12 43.6 +1.4
CTA Charters Tower 143.34 261 PKhKP PKPpre 22 12 41.0
comp=Z,422nm,1.1s,baz=44,slow=3.1,SNR=31
CTA PKP PKPbc 22 12 43.6 +1.4
comp=Z,688nm,1.1s,baz=53,slow=3.7,SNR=52
CTAO Charters Tower 143.34 261 *e*PKIKP **PKPdf** **22 12 43.8 -1.3**
CTAO *e* 22 15 58.9
CTAO MLR MLR
comp=Z,84µm,22.0s
CTAO Charters Tower 143.34 261 *e*PKPdf **PKPdf** **22 12 43.8 -1.3**
CTAO *e*PP **PP** **22 15 58.9 +2.4**
CTAO LR LR
comp=Z,84µm,22.0s
PVCP Virac 144.19 331 *e*P **PKPab** **22 12 40.6 -3.7**
GENI Genyem 144.28 292 PKP **PKPab** **22 12 43.9 -0.9**
DGAR Diego Garcia 144.29 77 PFAKE 22 13 00.0 +13
DGAR LR LR
comp=Z,72µm,21.0s
GQP Guinayangan 144.66 334⇓ *e*P **PKPab** **22 12 44.2 -1.8**
LQP Lukban 144.84 336⇓ *e*P **PKPdf** **22 12 49.3 +1.2**
TGY Tagaytay City 145.08 337 PKPbc **PKPbc** **22 12 47.3 -0.3**
TGY Tagaytay City 145.08 337 PKPbc **PKPbc** **22 12 47.3 -0.3**
comp=Z,308nm,0.5s,baz=123,slow=8.8,SNR=17
AUQP San Andres 145.08 333 *e*P PKPdf 22 12 56.2 +7.9
SMPI Sarmi 145.26 294 PKP **PKPbc** **22 12 46.9 -1.4**
BOAC Boac 145.31 335 *e*P **PKPdf** **22 12 49.8 +1.1**
COEN Coen 145.41 272 *e*PKPdf **PKPbc** **22 12 48.2 -0.5**
DGPR DIGLIPUR 145.54 25 *e*P **PKPdf** **22 12 47.8 -1.3**
DGPR AMS AMS 23 08 34.2
comp=Z,25µm,49.0s
PLP Palo 145.90 328 *e*P **PKPdf** **22 12 47.6 -2.1**
WAMI Wamena 146.17 291 PKP **PKPbc** **22 12 51.1 0.0**
OCLP Ormoc 146.19 329 *e*P **PKPab** **22 12 53.0 +1.2**
STKA Stephens Creek 146.41 240 PKPbc **PKPdf** **22 12 49.5 -0.5**
STKA Stephens Creek 146.41 240 PKPbc **PKPdf** **22 12 49.5 -0.5**
comp=Z,178nm,1.0s,baz=94,slow=3.7,SNR=46
RCP Roxas 146.62 332⇓ *e*P **PKPab** **22 12 54.2 +0.8**
PBA Port Blair 146.83 27 *e*P PKPdf 22 12 50.3 -0.9
PBA AMS AMS 23 05 22.3
comp=Z,14µm,20.4s
MSLP Maasin 146.84 327 *e*P **PKPab** **22 12 54.1 -0.2**
BAKI Biak 147.06 298 PKP **PKPab** **22 12 58.7 +3.4**
LLP Lapu-Lapu 147.13 329⇓ *e*P **PKPdf** **22 12 52.2 +0.4**
SRPI Serui, Papua 147.31 297 PKP **PKPab** **22 12 59.1 +2.9**
BUTP Butuan 147.42 325 *e*P **PKPab** **22 12 56.5 0.0**
GUIM Jordan 147.52 331 *e*P **PKPab** **22 12 56.9 0.0**
BIPH Bislig 147.65 323⇓ *e*P **PKPab** **22 12 57.5 +0.1**
ENPP El Nido 148.30 337 *e*P **PKPab** **22 13 04.1 +4.1**
SNPH Sibulan 148.33 329⇑ *e*P PKPdf 22 12 45.3 -8.5
CGP Cagayan de Oro 148.34 326⇓ *e*P **PKPbc** **22 12 57.5 +0.3**
BUKP Musuan 148.63 325 *e*P **PKPbc** **22 12 57.1 -0.8**
MWPI Manokwari, Pap 148.63 301 PKP x 22 12 55.6
MATI Mati 148.71 322 *e*P **PKPbc** **22 12 58.0 -0.2**
DAV Davao City (W) 149.00 323 *e*PKPdf **PKPdf** **22 12 55.4 +0.5**
DAV *e*PKPbc **PKPbc** **22 12 59.1 +0.2**
DAV *e*PKPab **PKiKP** **22 13 01.4 +1.2**
DAV LR LR
comp=Z,64µm,22.0s
PAGZ Pagadian 149.54 327 *e*P **PKPbc** **22 12 58.5 -1.7**
CTBH Cotabato--PC H 149.62 325⇓ *i*P **PKPbc** **22 13 02.0 +1.6**
PPR Puerto Princes 149.87 337⇓ *e*P **PKPab** **22 13 06.2 -0.1**
GSPH General Santos 150.16 323⇓ *e*P **PKPbc** **22 13 03.9 +2.0**
SWI Sorong 150.82 304 PKP **PKPbc** **22 13 00.9 -2.4**
FAKI Fak Fak 151.23 299 PKP **PKPdf** **22 13 00.9 +2.5**
CMBY CAMPBELL BAY 151.47 29 *e*P **PKPdf** **22 12 56.5 -2.2**
CMBY AMS AMS 22 55 43.5
comp=Z,16µm,29.5s
SGSI Sangihe 151.72 319 PKP **PKPbc** **22 13 02.9 -2.5**
TNTI Ternate 152.66 312 PKP **PKPbc** **22 13 04.6 -3.0**
KDM Kudat 153.20 339⇓ *e*P **PKPdf** **22 13 04.3 +3.1**
LBMI Labuha 153.54 310 PKP **PKPdf** **22 13 03.2 +1.4**
BNDI Bandanaira 154.06 299 PKP **PKPbc** **22 13 06.9 -3.7**
MYLDM Lahad Datu 154.16 334 PKP x 22 13 07.0
MYLDM Lahad Datu 154.16 334⇑ P **PKPdf** **22 13 06.5 +3.8**
MSAI Masohi 154.17 303 PKP **PKPdf** **22 13 06.3 +3.6**
KKM Kota Kinabalu 154.22 340 PKP x 22 13 03.3
KKM Kota Kinabalu 154.22 340 *e*PKPdf **PKPdf** **22 13 02.4 -0.5**
KKM *e*PKPbc **PKPbc** **22 13 09.7 -1.4**
KKM LR LR
comp=Z,55µm,21.0s
KKM Kota Kinabalu 154.22 340⇓ P **PKPdf** **22 13 06.1 +3.2**
SDKM Sandakan 154.25 337⇑ P **PKPdf** **22 13 05.5 +2.6**
LHMI Lhok Sumawe 154.37 25 PKP **PKPdf** **22 13 06.8 +3.8**
WRAB Tennant Creek 154.51 262 *e*PKIKP **PKPdf** **22 13 01.7 -1.3**
WRAB MLR MLR
comp=Z,84µm,22.0s
WRAB Tennant Creek 154.51 262 *e*PKPdf **PKPdf** **22 13 01.7 -1.3**
WRAB LR LR
comp=Z,84µm,22.0s
WRA Warramunga Arr 154.53 262 PKP **PKPdf** **22 13 01.8 -1.3**
WRA PKPbc **PKiKP** **22 13 12.7 +1.2**
WRA PP **PP** **22 17 03.9 +2.2**
WRA Warramunga Arr 154.53 262 PKP **PKPdf** **22 13 01.8 -1.3**
comp=Z,123nm,1.0s,baz=83,slow=1.4,SNR=91
WRA PKPbc **PKiKP** **22 13 12.7 +1.2**
comp=Z,376nm,1.1s,baz=86,slow=1.6,SNR=41
WRA PP **PP** **22 17 03.9 +2.2**
comp=Z,15nm,1.0s,baz=95,slow=3.7,SNR=5.6
SAUI Saumlaki 154.58 291 PKP **PKPbc** **22 13 10.6 -1.1**

AS31	**Alice Springs**	**154.74**	**253**	*e*PKPdf	**PKPdf**	**22 13 02.2**	**-1.1**
AS31				*e*PKPbc	**PKiKP**	**22 13 13.5**	**+1.6**
KMSI	**Cibinong**	**155.09**	**317**	PKP	**PKPdf**	**22 13 06.3**	**+2.3**
TSM	**Tawau**	**155.22**	**334**	⇑P	**PKPdf**	**22 13 08.6**	**+4.5**
LASI	**Langsa, Aceh**	**155.47**	**23**	PKP	x	22 13 08.9	
NLAI	**Namlea**	**155.54**	**306**	PKP	**PKPdf**	**22 13 08.0**	**+3.4**
KULM	**Kulim**	**155.55**	**16**	PKP	x	22 13 07.0	
KULM	**Kulim**	**155.55**	**16**	*e*PKPdf	**PKPdf**	**22 13 03.7**	**-0.9**
KULM				*e*PKPbc	PKPbc	22 13 11.8	
KULM				LR	LR		
	comp=Z,59μm,20.0s						
KULM	**Kulim**	**155.55**	**16**	⇑P	**PKPdf**	**22 13 07.2**	**+2.6**
SANI	**Sanana**	**155.60**	**310**	PKP	**PKPdf**	**22 13 05.2**	**+0.5**
GTOI	**Gorontalo**	**155.66**	**319**	PKP	**PKPdf**	**22 13 08.3**	**+3.6**
KTGM	**Kuala Trenggan**	**156.06**	**11**	⇓P	**PKPdf**	**22 13 06.4**	**+1.1**
TPTI		**156.25**	**26**	PKP	**PKPdf**	**22 13 07.2**	**+1.7**
KCSI	**Kotacane, Aceh**	**156.25**	**25**	PKP	**PKPdf**	**22 13 05.1**	**-0.5**
IPM	**Ipoh**	**156.43**	**16**	PKP	x	22 13 04.7	
IPM	**Ipoh**	**156.43**	**16**	*e*PKPdf	**PKPdf**	**22 13 05.6**	**-0.2**
IPM				*e*PKPab	**PKPab**	**22 13 33.6**	**-0.3**
IPM	**Ipoh**	**156.43**	**16**	⇓P	**PKPdf**	**22 13 08.1**	**+2.4**
MRSI	**Marisa**	**156.44**	**321**	PKP	**PKPdf**	**22 13 09.2**	**+3.4**
TOLI	**Toli-Toli**	**156.57**	**324**	PKP	x	22 13 07.2	
TSI	**Tuntungan**	**156.57**	**23**	PKP	**PKPdf**	**22 13 03.9**	**-2.0**
SNSI	**Sinabang, Aceh**	**156.63**	**29**	PKP	**PKPdf**	**22 13 05.8**	**-0.2**
LUWI	**Luwuk**	**157.10**	**317**	PKP	**PKPdf**	**22 13 10.9**	**+4.3**
PSI	**Prapat**	**157.35**	**23**	PKP	x	22 13 05.7	
PSI	**Prapat**	**157.35**	**23**	PKP	**PKPdf**	**22 13 06.2**	**-1.0**
PSI				PKPab	**PKPab**	**22 13 37.5**	**-0.6**
PSI	**Prapat**	**157.35**	**23**	PKP	**PKPdf**	**22 13 06.2**	**-1.0**
	comp=Z,50nm,1.3s,baz=259,slow=1.9,SNR=17						
PSI				PKPab	**PKPab**	**22 13 37.5**	**-0.6**
	comp=Z,220nm,0.9s,baz=298,slow=3.0,SNR=22						
FORT	**Forrest**	**157.58**	**233**	*e*PKPdf	**PKPdf**	**22 13 07.0**	**+0.3**
FRIM	**Kepong**	**157.77**	**15**	⇑P	**PKPdf**	**22 13 08.3**	**+0.8**
BTM	**Bintulu**	**157.84**	**345**	⇓P	**PKPdf**	**22 13 11.7**	**+4.1**
GSI	**Gunungsitoli**	**158.17**	**27**	PKP	**PKPdf**	**22 13 09.0**	**+1.0**
SBUM	**Sibu**	**158.76**	**347**	PKP	x	22 13 14.9	
SBUM	**Sibu**	**158.76**	**347**	⇑P	**PKPdf**	**22 13 10.8**	**+2.1**
KGM	**Kluang**	**159.33**	**12**	⇑P	**PKPdf**	**22 13 12.0**	**+2.7**
MNSI	**Mandailing Nat**	**159.44**	**23**	PKP	**PKPdf**	**22 13 10.4**	**+0.9**
MYKOM	**Kota Tinggi**	**159.65**	**10**	PKP	x	22 13 08.7	
MYKOM	**Kota Tinggi**	**159.65**	**10**	⇑P	**PKPdf**	**22 13 11.6**	**+1.9**
KSM	**Kuching**	**160.06**	**351**	PKP	x	22 13 16.8	
KSM	**Kuching**	**160.06**	**351**	*e*PKPdf	**PKPdf**	**22 13 09.7**	**-0.5**
KSM				LR	LR		
	comp=Z,50μm,19.0s						
KSM	**Kuching**	**160.06**	**351**	⇑P	**PKPdf**	**22 13 11.4**	**+1.2**
KKSI	**Kolaka, Sulawe**	**160.16**	**314**	PKP	x	22 13 15.1	
BKNI	**Bangkinang**	**160.38**	**19**	PKP	**PKPdf**	**22 13 08.3**	**-2.2**
TTSI	**Tana Toraja**	**160.51**	**320**	PKP	PKPdf	22 13 16.6	+6.0
BKB	**Balikpapan**	**160.60**	**330**	PKP	**PKPdf**	**22 13 14.1**	**+3.3**
TPRI	**Tanjung Pinang**	**160.61**	**9**	PKP	**PKPdf**	**22 13 13.1**	**+2.3**
MMSI	**Mamuju**	**160.76**	**323**	PKP	x	22 13 10.6	
PPI	**Padang Panjang**	**160.90**	**22**	PKP	**PKPdf**	**22 13 09.0**	**-2.1**
PDSI	**Padang**	**161.34**	**22**	PKP	**PKPdf**	**22 13 09.1**	**-2.5**
BNSI	**Bone**	**161.37**	**317**	PKP	**PKPdf**	**22 13 12.4**	**+0.8**
RGRI	**Rengat**	**161.40**	**16**	PKP	**PKPdf**	**22 13 11.4**	**-0.2**
BKSI	**Bulukumba**	**162.04**	**315**	PKP	**PKPdf**	**22 13 11.4**	**-0.9**
KAPI	**Kappang**	**162.06**	**316**	PFAKE		22 13 20.0	+7.7
KAPI				LR	LR		
	comp=Z,58μm,21.0s						
MMRI	**Maumere**	**162.65**	**302**	PKP	**PKPdf**	**22 13 13.3**	**+0.4**
MMRI	**Maumere**	**162.65**	**302**	*e*PKPdf	**PKPdf**	**22 13 11.9**	**-1.0**
JMBI	**JAMBI**	**162.95**	**13**	PKP	PKPdf	22 13 18.6	+5.4
NWAO	**Narrogin (SRO)**	**163.04**	**209**	PKP	**PKPdf**	**22 13 11.8**	**-1.0**
NWAO				PKPab	**PKPab**	**22 14 04.0**	**+1.7**
NWAO				PP	**PP**	**22 17 46.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**163.04**	**209**	PKP	**PKPdf**	**22 13 11.8**	**-1.0**
	comp=Z,30nm,1.0s,baz=203,slow=3.6,SNR=5.9						
NWAO				PKPab	**PKPab**	**22 14 04.0**	**+1.7**
	comp=Z,106nm,1.0s,baz=129,slow=5.4,SNR=9.6						
NWAO				PP	**PP**	**22 17 46.5**	**+0.2**
	comp=Z,16nm,1.1s,baz=93,slow=12,SNR=2.4						
BBKI	**Banjar Baru**	**163.48**	**333**	PKP	**PKPdf**	**22 13 14.5**	**+0.8**
PBKI	**Pangkalan Bun**	**163.87**	**345**	PKP	**PKPdf**	**22 13 13.4**	**-0.7**
LBFI	**Labuhan Bajo,**	**164.38**	**307**	PKP	x	22 13 11.9	
TPI	**Tanjungpandan**	**164.47**	**359**	PKP	**PKPdf**	**22 13 15.8**	**+1.2**
WSI	**Waingapu**	**164.80**	**303**	PKP	**PKPdf**	**22 13 19.2**	**+4.4**
LHSI	**Lahat**	**165.04**	**15**	PKP	**PKPdf**	**22 13 16.0**	**+0.9**
MNAI	**Manna**	**165.40**	**18**	PKP	**PKPdf**	**22 13 19.8**	**+4.4**
MDSI	**Maura Dua**	**165.83**	**13**	PKP	**PKPdf**	**22 13 15.4**	**-0.3**
LWLI	**Liwa**	**166.32**	**14**	PKP	**PKPdf**	**22 13 16.1**	**-0.2**
BLSI	**Bandar Lampung**	**166.89**	**10**	PKP	**PKPdf**	**22 13 15.0**	**-1.6**
KASI	**Kota Agung**	**166.91**	**13**	PKP	**PKPdf**	**22 13 16.6**	**0.0**
KMMI	**Kalianget**	**167.05**	**330**	PKP	**PKPdf**	**22 13 17.8**	**+1.1**
MTNI	**Mataram**	**167.11**	**318**	PKP	x	22 13 17.8	
KHKI	**Kahang-Kahang**	**167.25**	**320**	PKP	x	22 13 20.2	
SRBI	**Singaraja**	**167.26**	**322**	PKP	**PKPdf**	**22 13 15.7**	**-1.1**
ABJI	**Asem Bagus**	**167.56**	**327**	PKP	**PKPdf**	**22 13 17.9**	**+0.9**
UWJI	**Ujung Watu**	**167.62**	**343**	PKP	**PKPdf**	**22 13 21.6**	**+4.5**
DNP	**Denpasar**	**167.74**	**321**	PKP	**PKPdf**	**22 13 18.5**	**+1.4**
NBBI	**Negara**	**167.83**	**324**	PKP	x	22 13 17.4	
BLJI	**Banyuglugur**	**167.84**	**330**	PKP	**PKPdf**	**22 13 17.6**	**+0.4**
MBWA	**Marble Bar**	**168.08**	**255**	PFAKE		22 13 30.0	+13
MBWA				LR	LR		
	comp=Z,98μm,19.0s						
COCO	**West Island**	**168.09**	**60**	PFAKE		22 13 30.0	+13
COCO				LR	LR		
	comp=Z,67μm,22.0s						
JAGI	**Jajag, Banyuwa**	**168.17**	**326**	PKP	**PKPdf**	**22 13 17.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**168.17**	**326**	*e*PKPdf	**PKPdf**	**22 13 16.5**	**-1.0**
CGJI	**Cibinong**	**168.18**	**8**	PKP	**PKPdf**	**22 13 18.1**	**+0.6**
DBJI	**Dramaga**	**168.22**	**3**	PKP	**PKPdf**	**22 13 19.0**	**+1.5**
SMRI	**Semarang**	**168.35**	**345**	PKP	**PKPdf**	**22 13 19.3**	**+1.7**
NGJI	**Ngawi**	**168.36**	**340**	PKP	**PKPdf**	**22 13 22.2**	**+4.6**
GMJI	**Gumukmas**	**168.37**	**329**	PKP	**PKPdf**	**22 13 20.4**	**+2.8**
LEM	**Lembang**	**168.51**	**359**	PKP	**PKPdf**	**22 13 19.6**	**+1.7**
SKJI	**Sukabumi**	**168.66**	**4**	PKP	**PKPdf**	**22 13 17.2**	**-0.6**
KRKI	**Karangkates**	**168.72**	**334**	PKP	x	22 13 19.1	
BJII	**Banjamegara**	**168.79**	**348**	PKP	x	22 13 20.8	
PWJI	**Pagerwojo**	**168.85**	**337**	PKP	**PKPdf**	**22 13 19.2**	**+1.3**
KPJI	**Karang Pucung**	**168.92**	**352**	PKP	**PKPdf**	**22 13 21.5**	**+3.6**
WOJI	**Wonogiri, Jawa**	**168.97**	**341**	PKP	PKPdf	22 13 23.2	+5.2
CISI	**Cisompet, Garu**	**169.23**	**358**	PKP	**PKPdf**	**22 13 17.0**	**-1.2**
PCJI	**Pacitan**	**169.23**	**340**	PKP	**PKPdf**	**22 13 19.6**	**+1.5**
CMJI	**Cimerak**	**169.42**	**354**	PKP	**PKPdf**	**22 13 20.0**	**+1.8**
XMIS	**Christmas Isla**	**171.96**	**12**	*e*PKPdf	**PKPdf**	**22 13 19.6**	**0.0**
XMIS				*e*PP	**PP**	**22 18 32.2**	**+0.7**

ISCJB ***12*** *22:00:39.7±0.1, 18°.37N±0°.03×72°.77W±0°.01, h6km, mb5.6/226, MS6.0/4, Error ellipse: s-maj=4.5km s-min=1.8km az=11.3*

IDC ***12*** *22:00:39.7±0.4, 18°.41N×72°.77W, h0km, mb5.2/42, mb1 5.3/46, mb1mx5.3/48, mbtmp5.2/46, ML4.8/4, Error ellipse: s-maj=11.3km s-min=9.7km az=52.0*

MOS ***12*** *22:00:40.2±0.8, 18°.36N×72°.71W, h16km, mb6.1/72, Error ellipse: s-maj=10.3km s-min=7.4km az=129.2*

GCMT ***12*** *22:00:41.5±0.6, 18°.58N×72°.88W, h12km, MW6.0/36, Moment Tensor Solution. s36,c54; Duration: 3s1 Moment tensor: Scale 10¹⁸Nm; Mrr1.22±.09; Mθθ-0.91±.08; Mϕϕ-0.31±.09; Mrθ-0.03±.41; Mϕθ0.50±.05; Mϕr0.19±.27; Best double couple: M₀1.22200×10¹⁸ NP1:ϕs306.00000°, δ48.00000°, λ99.00000°. NP2: ϕs113.00000°, δ43.00000°, λ80.00000°. Principal axes: T 1.2430, Plg83.0000°, Azm277.0000°; N -0.0460, Plg7.0000°, Azm120.0000°; P -1.2010, Plg3.0000°, Azm30.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*

NEIC ***12*** *22:00:41.5±0.1, 18°.39N×72°.78W, h10km, mb6.0/105 Error ellipse: s-maj=3.8km s-min=2.6km az=11.0*

ISC 12 22:00:40.7±0.2, **18°.34N**±0°.04×**72.79W**±0°.04, **h6km, n920,**
σ1§**28**/924, **mb5.7**/229, **MS6.0**/4, **161C-171D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.56**	**66**	*e*Pn		**Pn**		**22 01 08.3**	**-0.8**
SDDR				*e*S		**Sg**		**22 01 32.0**	**+0.9**
GTBY	**Guantanamo Bay**	**2.70**	**306**	*e*Pn		**Pn**		**22 01 23.6**	**-1.1**
GTBY				*e*S		**Sn**		**22 01 59.5**	**+1.7**
MTDJ	**Mount Denham**	**4.51**	**269**	*e*Pn		**Pn**		**22 01 49.6**	**-0.1**
MTDJ				*e*S		**Sn**		**22 02 37.9**	**-4.6**
AGPR	**Aguadilla, PR**	**5.40**	**88**	*e*Pn		**Pn**		**22 02 04.2**	**+2.4**
LSP	**Las Mesas**	**5.43**	**91**	*e*Pn		Pn		22 01 58.1	-4.1
LSP				*e*Pg		Pb		22 02 19.9	+3.9
CBYP	**Canovanas**	**6.59**	**89**	*e*Pn		Pn		22 02 21.7	+3.4
MTP	**Monte Pirata**	**6.89**	**91**	*e*Pn		**Pn**		**22 02 22.6**	**+0.3**
	1μm,0.9s								
SDV	**Santo Domingo**	**9.63**	**167**	*e*Pn		**Pn**		**22 03 01.3**	**+1.2**
SDV				*e*S		**Sn**		**22 04 46.4**	**-2.3**
ANWB	**Willy Bob**	**10.50**	**92**	*e*Pn		**Pn**		**22 03 12.7**	**+0.9**
LZG	**Guadaloupe-1**	**10.75**	**100**	*e*P		**Pn**		**22 03 17.7**	**+2.4**
FNG	**Fond-Bernard**	**10.85**	**100**	*e*P		**Pn**		**22 03 18.1**	**+1.3**
SSG	**Sans Toucher**	**10.85**	**100**	*e*P		Pn		22 03 22.3	+5.4
ECG	**Echelle**	**10.89**	**100**	*e*P		Pn		22 03 21.1	+3.8
PHG	**Guadaloupe-2**	**10.90**	**101**	*e*P		**Pn**		**22 03 19.5**	**+1.9**
BCG	**Bois Riant Cap**	**10.91**	**100**	*e*P		Pn		22 03 21.4	+3.9
DOG	**Dongo Capester**	**10.92**	**100**	*e*P		Pn		22 03 22.6	+4.8
SEG	**Port Louis**	**10.95**	**98**	*e*P		**Pn**		**22 03 20.5**	**+2.5**
MGG	**Marie-Galante**	**11.23**	**101**	*e*P		Pn		22 03 25.4	+3.5
H05N1	**Guadeloupe/Mar**	**11.39**	**98**	Pn		**Pn**		**22 03 25.2**	**+1.2**
	SNR=52								
BCIP	**Isla Barro Col**	**11.39**	**218**	*e*Pn		**Pn**		**22 03 23.5**	**-0.6**
FDF	**Fort de France**	**11.72**	**106**	*e*P		**Pn**		**22 03 27.8**	**-0.9**
FDF	**Fort de France**	**11.72**	**106**	*e*Pn		**Pn**		**22 03 27.8**	**-0.9**
H05S1	**Guadeloupe/Mar**	**12.12**	**107**	Pn		**Pn**		**22 03 35.3**	**+1.4**
GRGR	**Grenville**	**12.39**	**118**	*e*Pn		**Pn**		**22 03 38.6**	**+0.8**
DWPF	**Disney**	**12.55**	**322**	Pn		**Pn**		**22 03 40.2**	**+0.3**
ROSC	**El Rosal**	**13.48**	**187**	*e*Pn		**Pn**		**22 03 56.1**	**+3.0**
ROSC	**El Rosal**	**13.48**	**187**	Pn		**Pn**		**22 03 55.4**	**+2.4**
	44nm,0.3s,baz=79,slow=20,SNR=12								
BBGH	**Gun Hill**	**13.74**	**110**	*e*Pn		P		22 04 01.4	-3.7
JTS	**JuntasAbangare**	**14.23**	**237**	Pn		**Pn**		**22 04 04.9**	**+1.9**
JTS	**JuntasAbangare**	**14.23**	**237**	Pn		**Pn**		**22 04 04.9**	**+1.9**
	5.8nm,0.3s,baz=120,slow=14,SNR=7.3								
TGUH	**Tegucigalpa,Un**	**14.54**	**255**	*e*Pn		**Pn**		**22 04 08.3**	**+1.2**
TEIG	**Tepich**	**14.74**	**280**	*e*Pn		**Pn**		**22 04 09.3**	**-0.6**
TEIG	**Tepich**	**14.74**	**280**	Pn		**Pn**		**22 04 09.4**	**-0.5**
	26nm,0.3s,baz=235,slow=22,SNR=13								
BBSR	**BB Station**	**15.76**	**26**	*e*Pn		**Pn**		**22 04 19.8**	**-3.5**
APG	**El Apazote**	**17.25**	**262**	P		**Pn**		**22 04 42.4**	**-0.3**
APG	**El Apazote**	**17.25**	**262**	P		**Pn**		**22 04 42.4**	**-0.3**
	1.3nm,0.3s,baz=126,slow=19,SNR=3.4								
KMSC	**Kings Mountain**	**18.38**	**337**	*e*Pn		Pn		22 04 50.5	-5.8
ODNJ	**Ogdensburg**	**22.72**	**356**	*e*P		**P**		**22 05 47.8**	**+4.4**
	288nm,1.0s								
PTGA	**Pitinga**	**22.76**	**145**	P		**P**		**22 05 45.5**	**+1.4**
PTGA	**Pitinga**	**22.76**	**145**	P		**P**		**22 05 45.5**	**+1.4**
	299nm,1.1s,baz=345,slow=18,SNR=2.8								
NATX	**Nacogdoches**	**23.84**	**308**	*e*P		**P**		**22 05 56.1**	**+1.4**
	4μm,1.9s								
HKT	**Hockley**	**23.94**	**303**	*e*P		**P**		**22 05 55.7**	**0.0**
HKT						pmax	pmax		
	comp=Z,133nm,1.6s								
KVTX	**Kingsville**	**24.82**	**296**	*e*P		**P**		**22 06 05.8**	**+1.9**
	comp=Z,2μm,1.6s								
835A	**Beeville**	**24.99**	**298**	⇓P		**P**		**22 06 06.4**	**+1.0**
	baz=25								
735A	**Kenedy**	**25.15**	**299**	⇓P		**P**		**22 06 08.0**	**+1.2**
	baz=25								
635A	**Leesville**	**25.30**	**300**	⇑P		**P**		**22 06 09.1**	**+1.0**
	baz=25								
535A	**Dale**	**25.36**	**302**	⇑P		**P**		**22 06 10.8**	**+2.0**
	baz=25								
934A	**Benavides**	**25.37**	**296**	⇓P		**P**		**22 06 10.0**	**+1.1**
	baz=25								
034A	**Hebbronville**	**25.38**	**295**	⇓P		**P**		**22 06 11.2**	**+2.3**
	baz=25								
834A	**Tilden**	**25.55**	**297**	⇓P		**P**		**22 06 10.8**	**+0.4**
	baz=26								
335A	**Moody**	**25.74**	**305**	⇓P		**P**		**22 06 12.4**	**+0.2**
	baz=26								
734A	**La Parita Cree**	**25.77**	**299**	⇑P		**P**		**22 06 13.4**	**+0.9**
	baz=26								
634A	**China Grove, S**	**25.77**	**300**	⇓P		**P**		**22 06 13.9**	**+1.4**
	baz=26								
ATAH	**Atahualpa**	**25.91**	**193**	P		**P**		**22 06 16.1**	**+1.9**
ATAH	**Atahualpa**	**25.91**	**193**	P		**P**		**22 06 16.1**	**+1.9**
	comp=Z,111nm,0.9s,baz=337,slow=22,SNR=5.2								
WHTX	**Lake Whitney**	**26.06**	**306**	⇑P		**P**		**22 06 15.6**	**+0.6**
	baz=26								
534A	**Blanco**	**26.09**	**301**	⇑P		**P**		**22 06 16.3**	**+0.8**
	baz=26								
135A	**Vickery Place,**	**26.27**	**307**	⇓P		**P**		**22 06 17.0**	**+0.1**
	baz=26								
833A	**Chaparral WMA,**	**26.32**	**297**	⇑P		**P**		**22 06 17.7**	**+0.3**
	baz=26								
733A	**Divot King Ran**	**26.35**	**298**	⇓P		**P**		**22 06 17.5**	**-0.2**
	baz=26								
633A	**Saathoff Ranch**	**26.48**	**300**	⇓P		**P**		**22 06 20.8**	**+1.9**
	baz=26								
Z35A	**Perchaven, San**	**26.51**	**309**	⇓P		**P**		**22 06 21.4**	**+2.2**
	baz=26								
533A	**Kerrville**	**26.57**	**301**	⇑P		**P**		**22 06 21.6**	**+1.9**
	baz=26								
234A	**Clairette**	**26.59**	**306**	⇓P		**P**		**22 06 21.4**	**+1.6**
	baz=27								
134A	**White-Moore Ra**	**26.78**	**307**	⇓P		**P**		**22 06 22.2**	**+0.6**
	baz=27								
832A	**Faith Ranch, C**	**26.80**	**297**	⇓P		**P**		**22 06 22.1**	**+0.3**
	baz=27								
TUL1	**Tulsa**	**26.82**	**315**	⇑P		**P**		**22 06 21.8**	**-0.1**
	baz=27								
433A	**Art**	**26.85**	**302**	⇓P		**P**		**22 06 23.7**	**+1.5**
	baz=27								
732A	**Laxson Ranch,**	**26.92**	**298**	⇑P		**P**		**22 06 23.7**	**+0.8**
	baz=27								
333A	**Richland Sprin**	**26.98**	**304**	⇓P		**P**		**22 06 24.9**	**+1.5**
	baz=27								
632A	**Uvalde**	**27.00**	**299**	⇑P		**P**		**22 06 25.0**	**+1.4**
	baz=27								
Z34A	**Collier Ranch,**	**27.02**	**309**	⇓P		**P**		**22 06 27.0**	**+3.2**
	baz=27								
Y34A	**Reagan Ranch,**	**27.18**	**310**	⇓P		**P**		**22 06 25.8**	**+0.7**
	baz=27								
532A	**Rocksprings**	**27.29**	**301**	⇑P		**P**		**22 06 25.1**	**-1.2**
	baz=27								
133A	**Hamilton Ranch**	**27.44**	**306**	⇓P		**P**		**22 06 26.0**	**-1.5**
	baz=27								
432A	**Menard**	**27.46**	**302**	⇑P		**P**		**22 06 25.6**	**-2.2**
	baz=27								
X34A	**Smith Ranch, M**	**27.54**	**311**	⇓P		**P**		**22 06 28.6**	**+0.2**
	baz=28								
332A	**Millersview**	**27.60**	**303**	⇓P		**P**		**22 06 27.9**	**-1.1**
	baz=28								
Z33A	**Whitaker Ranch**	**27.61**	**308**	⇑P		**P**		**22 06 30.7**	**+1.6**
	baz=28								
631A	**Perdido Creek**	**27.62**	**299**	⇑P		**P**		**22 06 29.0**	**-0.2**
	baz=28								
V34A	**Guthrie**	**27.95**	**314**	⇑P		**P**		**22 06 32.9**	**+0.8**
	baz=28								
431A	**Sonora**	**28.05**	**301**	⇓P		**P**		**22 06 33.4**	**+0.3**
	baz=28								
331A	**San Angelo**	**28.12**	**303**	⇓P		**P**		**22 06 34.6**	**+0.9**
	baz=28								
Z32A	**Haskell**	**28.16**	**307**	⇓P		**P**		**22 06 34.6**	**+0.6**
	baz=28								
231A	**Bronte**	**28.26**	**304**	⇓P		**P**		**22 06 36.9**	**+2.0**
	baz=28								
Y32A	**R-V Farms, Ver**	**28.44**	**309**	⇑P		**P**		**22 06 37.1**	**+0.6**
	baz=28								
530A	**J-C Ranch, Com**	**28.48**	**300**	⇓P		**P**		**22 06 37.2**	**+0.3**
	baz=28								
Z31A	**Sharp Cattle R**	**28.67**	**307**	⇓P		**P**		**22 06 39.1**	**+0.5**
	baz=29								
330A	**Mertzon**	**28.75**	**302**	⇓P		**P**		**22 06 39.7**	**+0.4**
	baz=29								
Y31A	**Rekieta Farm,**	**29.03**	**308**	⇑P		**P**		**22 06 42.3**	**+0.6**
	baz=29								
429A	**Davenport Ranc**	**29.08**	**300**	⇓P		**P**		**22 06 41.5**	**-0.7**
	baz=29								
KSU1	**Kansas State U**	**29.24**	**320**	⇓P		**P**		**22 06 44.0**	**+0.5**
	baz=29								
W31A	**Holland Ranch,**	**29.34**	**310**	⇑P		**P**		**22 06 43.1**	**-1.4**
	baz=29								
329A	**Wagon Wheel Ra**	**29.43**	**302**	⇑P		**P**		**22 06 43.1**	**-2.3**
	baz=29								
229A	**Bryant Ranch,**	**29.45**	**303**	⇓P		**P**		**22 06 44.9**	**-0.7**
	baz=29								
Y30A	**Stafford Cattl**	**29.48**	**307**	⇓P		**P**		**22 06 44.2**	**-1.6**
	baz=30								
V31A	**Spring Creek L**	**29.55**	**311**	⇑P		**P**		**22 06 47.0**	**+0.7**
	baz=30								
T32A	**Huddler Ranch,**	**29.63**	**315**	⇑P		**P**		**22 06 46.3**	**-0.7**
	baz=30								
528A	**Cox Ranch, San**	**29.68**	**299**	⇓P		**P**		**22 06 48.3**	**+0.7**
	baz=30								
X30A	**Coker Ranch, T**	**29.70**	**308**	⇑P		**P**		**22 06 48.2**	**+0.6**
	baz=30								
129A	**Stewart Farms,**	**29.74**	**304**	⇓P		**P**		**22 06 49.0**	**+0.9**
	baz=30								
Z29A	**Hungry Hill Ra**	**29.85**	**306**	⇓P		**P**		**22 06 49.5**	**+0.4**
	baz=30								
Q33A	**Connelly Farm,**	**29.94**	**319**	⇑P		**P**		**22 06 52.2**	**+2.5**
	baz=30								
627A	**Terlingua Ranc**	**29.99**	**297**	⇑P		**P**		**22 06 51.1**	**+0.6**
	baz=30								
Y29A	**Porterfield Fa**	**30.06**	**307**	⇑P		**P**		**22 06 51.9**	**+1.0**
	baz=30								
T31A	**Randall Ranch,**	**30.10**	**314**	⇑P		**P**		**22 06 53.0**	**+1.8**
	baz=30								
228A	**UT Block 9, Go**	**30.13**	**303**	⇑P		**P**		**22 06 51.9**	**+0.3**
	baz=30								
R32A	**Long Quarter,**	**30.16**	**317**	⇑P		**P**		**22 06 52.1**	**+0.4**
	baz=30								
TXAR	**Lajitas Array**	**30.20**	**297**	P		**P**		**22 06 52.5**	**+0.2**
TXAR				PcP		**PcP**		**22 09 53.5**	**+0.1**
TXAR	**Lajitas Array**	**30.20**	**297**	P		**P**		**22 06 52.4**	**+0.2**
	comp=Z,18nm,0.8s,baz=120,slow=6.5,SNR=6.9								
TXAR				PcP		**PcP**		**22 09 53.5**	**+0.1**
	comp=Z,8.6nm,0.9s,baz=145,slow=3.3,SNR=5.0								
128A	**Castleberry Fa**	**30.22**	**304**	⇓P		**P**		**22 06 52.7**	**+0.4**
	baz=30								
S31A	**Mullinville**	**30.24**	**315**	⇓P		**P**		**22 06 53.7**	**+1.3**
	baz=30								
X29A	**Tulia**	**30.32**	**308**	⇓P		**P**		**22 06 53.2**	**0.0**
	baz=30								
527A	**Woodward Ranch**	**30.36**	**299**	⇑P		**P**		**22 06 54.4**	**+0.6**
	baz=30								
Z28A	**Tucker Farm, M**	**30.39**	**305**	⇓P		**P**		**22 06 55.8**	**+1.9**
	baz=30								
427A	**Hayter Ranch,**	**30.39**	**300**	⇓P		**P**		**22 06 55.1**	**+1.2**
	baz=30								
W29A	**Amraillo**	**30.56**	**309**	⇓P		**P**		**22 06 54.3**	**-1.0**
	baz=30								
T30A	**Plains**	**30.66**	**313**	⇓P		**P**		**22 06 57.9**	**+1.7**
	baz=31								
526A	**Mary Lane Ranc**	**30.74**	**298**	⇓P		**P**		**22 06 56.6**	**-0.4**
	baz=31								
V29A	**Stinnett**	**30.80**	**310**	⇓P		**P**		**22 06 57.5**	**+0.1**
	baz=31								
426A	**McDonald Obser**	**30.85**	**299**	⇓P		**P**		**22 06 59.2**	**+1.1**
	baz=31								
S30A	**Montezuma**	**30.91**	**314**	⇓P		**P**		**22 07 00.7**	**+2.3**
	baz=31								
127A	**Arkansas Junct**	**30.93**	**303**	⇓P		**P**		**22 06 59.0**	**+0.3**
	baz=31								
MSTX	**Mulesho

T24B **San Luis** 34.12 310 ⇓P P 22 07 29.1 +2.3
baz=34
ANMO **Albuquerque** 34.13 306 *eP* P 22 07 26.6 -0.2
ANMO **Albuquerque** 34.13 306 P P 22 07 27.4 +0.6
comp=Z,22nm,1.1s,baz=113,slow=13,SNR=5.0
O26A **Horse Wrangler** 34.15 316 ⇑P P 22 07 28.5 +1.7
baz=34
Y22D **IRIS PASSCAL I** 34.20 304 ⇓P P 22 07 28.6 +1.2
baz=34
V23A **Ortiz Mt. (NFS** 34.21 307 ⇓P P 22 07 28.7 +1.2
baz=34
M27A **Reverse DX Ran** 34.24 319 ⇑P P 22 07 29.3 +1.8
baz=34
S24A **Houchin Ranch,** 34.24 311 ⇑P P 22 07 30.1 +2.3
baz=34
LENM **Lemitar** 34.27 304 *eP* P 22 07 28.5 +0.4
comp=Z,516nm,1.9s
221A **Mesquite Ranch** 34.30 300 ⇑P P 22 07 29.3 +1.1
baz=34
P25A **Willow Gulch B** 34.36 314 ⇑P P 22 07 30.2 +1.5
baz=34
N26A **Koester Ranch,** 34.40 317 ⇑P P 22 07 30.1 +1.2
baz=34
U23A **El Rito** 34.43 308 ⇑P P 22 07 30.1 +0.7
baz=34
121A **Cookes Peak, D** 34.44 301 ⇓P P 22 07 30.6 +1.1
baz=34
LAZ **Ladron** 34.48 305 *eP* P 22 07 30.9 +1.1
comp=Z,167nm,1.6s
L27A **T5 Ranch, Ells** 34.51 320 ⇑P P 22 07 31.7 +1.8
baz=34
T23A **Casias Ranch,** 34.59 309 ⇓P P 22 07 32.1 +1.2
baz=35
J28A **Allard Ranch,** 34.64 322 ⇓P P 22 07 34.0 +3.0
baz=35
M26A **McRoberts Ranc** 34.68 318 ⇓P P 22 07 34.7 +3.3
baz=35
LPAZ **La Paz** 34.71 172 P P 22 07 33.1 +0.8
LPAZ **La Paz** 34.71 172 P P 22 07 33.1 +0.8
comp=Z,23nm,0.9s,baz=295,slow=14,SNR=4.4
320A **Kipp Ranch, An** 34.76 299 ⇑P P 22 07 34.3 +2.0
baz=35
V22A **San Miguel Ran** 34.82 307 ⇓P P 22 07 34.0 +1.2
baz=35
P24A **Kohler Place,** 34.86 314 ⇓P P 22 07 34.1 +1.0
baz=35
R23A **Moffat** 34.91 311 ⇓P P 22 07 34.9 +1.3
baz=35
U22A **Llaves** 34.95 308 ⇓P P 22 07 35.1 +1.2
baz=35
N25A **Grover** 34.95 317 ⇓P P 22 07 34.9 +1.1
baz=35
L26A **Underwood Farm** 34.95 319 ⇓P P 22 07 36.0 +2.3
baz=35
I28A **Midland** 34.96 323 ⇑P P 22 07 35.6 +2.0
baz=35
Q23A **Hartsel** 35.23 312 ⇓P P 22 07 39.7 +3.3
baz=35
M25A **Palm-Egli Farm** 35.25 317 ⇓P P 22 07 38.5 +2.2
baz=35
O24A **Longmont** 35.26 315 ⇓P P 22 07 39.1 +2.6
baz=35
AGMN **Agassiz Nation** 35.28 333 ⇑P P 22 07 38.5 +2.1
baz=35
LPIG **La Paz** 35.36 286 P P 22 07 38.3 +1.0
LPIG **La Paz** 35.36 286 P P 22 07 38.3 +1.0
comp=Z,103nm,0.9s,baz=20,slow=3.5,SNR=6.7
K26A **Motz Farm, Whi** 35.38 320 ⇑P P 22 07 37.6 +0.3
baz=35
P23A **Jefferson** 35.44 313 ⇓P P 22 07 40.0 +1.8
baz=35
S22A **4UR Ranch, Cre** 35.45 310 ⇓P P 22 07 39.5 +1.2
baz=35
ISCO **Idaho Springs** 35.48 314 ⇑P P 22 07 39.9 +1.3
baz=36
L25A **Engebretsen Ra** 35.57 319 ⇑P P 22 07 38.2 -0.9
baz=36
D30A **Buchanan** 35.74 329 ⇓P P 22 07 42.5 +2.2
baz=36
K25A **Mack Ranch, Ha** 35.76 319 ⇑P P 22 07 42.4 +1.7
baz=36
M24A **Cheyenne** 35.76 317 ⇑P P 22 07 42.9 +2.1
baz=36
D29A **Pettibone, Tap** 36.12 328 ⇓P P 22 07 45.7 +2.2
baz=36
L24A **Wheatland** 36.12 318 ⇑P P 22 07 45.0 +1.1
baz=36
G27A **Dupree** 36.24 325 ⇑P P 22 07 45.1 +0.5
baz=36
H26A **Fairpoint** 36.25 323 ⇑P P 22 07 44.6 -0.1
baz=36
O22A **Kremmling** 36.28 314 ⇓P P 22 07 45.2 -0.2
baz=36
B30A **Myrvik Farm, E** 36.49 331 ⇓P P 22 07 48.5 +1.8
baz=36
F27A **Lemmon** 36.59 325 ⇓P P 22 07 49.7 +2.0
baz=37
L23A **Garrett** 36.65 317 ⇓P P 22 07 49.5 +1.0
baz=37
D28A **Regan** 36.69 328 ⇑P P 22 07 52.2 +3.7
baz=37
E27A **Carson** 36.70 326 ⇓P P 22 07 52.7 +4.1
baz=37
SCHQ **Schefferville** 36.71 6 P P 22 07 47.8 -0.7
SCHQ **Schefferville** 36.71 6 P P 22 07 47.8 -0.7
comp=Z,53nm,0.9s,baz=185,slow=10,SNR=4.9
X18A **Snowflake** 36.73 304 ⇓P P 22 07 50.2 +1.1
baz=37
W18A **Petrified Fore** 36.73 305 *eP* P 22 07 49.9 +0.7
ULM **Lac du Bonnet** 36.80 335 P P 22 07 48.5 -0.8
ULM **Lac du Bonnet** 36.80 335 P P 22 07 48.5 -0.8
comp=Z,66nm,1.0s,baz=124,slow=9,SNR=6.8
A30A **Hoffart Farm,** 36.84 332 ⇓P P 22 07 52.0 +2.3
baz=37
G25A **Newell** 36.96 323 ⇓P P 22 07 51.7 +0.9
baz=37
B29A **Wagenman Farm,** 36.98 330 ⇓P P 22 07 54.7 +3.8
baz=37
E26A **Carlson Angus** 37.21 326 ⇑P P 22 07 56.0 +3.1
baz=37
A29A **Manning Farm,** 37.25 331 ⇓P P 22 07 56.5 +3.3
baz=37
O20A **White River Ci** 37.44 313 ⇑P P 22 07 57.0 +1.9
baz=37
B28A **Dugan Ranch, T** 37.45 330 ⇓P P 22 07 57.1 +2.2
baz=37
K22A **Casper** 37.45 318 ⇑P P 22 07 56.7 +1.6
baz=37
C27A **Sayler Ranch,** 37.51 328 ⇑P P 22 07 57.6 +2.1
baz=38
A28A **Rude Farm, Bot** 37.72 330 ⇑P P 22 07 55.8 -1.4
baz=38
E25A **Miller Ranch,** 37.74 325 ⇓P P 22 07 55.8 -1.6
baz=38
J22A **Midwest** 37.80 319 ⇓P P 22 07 57.2 -1.0
baz=38
X16A **Lo Mia Camp, P** 37.89 303 ⇓P P 22 07 57.9 -1.1
baz=38
K21A **Alcova** 37.91 317 ⇑P P 22 07 57.5 -1.6
baz=38
F24A **Ekalaka** 37.92 323 ⇑P P 22 07 58.3 -0.7
baz=38
I22A **9 Mile Ranch,** 38.05 319 ⇓P P 22 08 01.4 +1.2
baz=38
D25A **Fairfield** 38.09 326 ⇑P P 22 07 56.2 -4.2
baz=38
WUAZ **Wupatki** 38.13 305 ⇓P P 22 08 01.6 +0.6
baz=38
J21A **Lysite** 38.38 318 ⇓P P 22 08 04.6 +1.5
baz=38
214A **Organ Pipe Nat** 38.46 298 *eP* P 22 08 04.6 +1.0
214A **Organ Pipe Nat** 38.46 298 ⇑P P 22 08 04.7 +1.0
baz=38
I21A **Big Trails, Te** 38.52 319 ⇑P P 22 08 04.2 +0.1
baz=38
D24A **Glendive** 38.62 325 ⇑P P 22 08 07.8 +3.0
baz=39
G22A **Birney** 38.64 321 ⇓P P 22 08 07.9 +2.8
baz=39
B25A **Knox Farm, Ray** 38.72 327 ⇓P P 22 08 07.7 +2.1
baz=39
Z14A **Wintersburg** 38.85 301 ⇑P P 22 08 07.0 +0.1
baz=39
F22A **Rosebud** 38.93 322 ⇓P P 22 08 06.7 -0.7
baz=39
Y14A **Wickenburg** 39.03 302 ⇑P P 22 08 07.0 -1.5
baz=39
U15A **North Rim** 39.10 306 ⇓P P 22 08 09.2 -0.1
baz=39
I20A **Worland** 39.11 319 ⇑P P 22 08 09.1 +0.1
baz=39
E22A **Miles City** 39.12 323 ⇑P P 22 08 10.9 +1.9
baz=39
A25A **Svangstu Ranch** 39.13 328 ⇑P P 22 08 10.1 +1.1
baz=39
J19A **Creeart** 39.37 317 ⇑P P 22 08 11.8 +0.5
baz=39
113A **Mohawk Valley,** 39.41 300 ⇓P P 22 08 11.6 +0.1
baz=39
PDAR **Pinedale Array** 39.47 316 P P 22 08 11.3 -0.9
PDAR PcP PcP 22 10 20.2 0.0
PDAR **Pinedale Array** 39.47 316 P P 22 08 11.3 -0.9
comp=Z,8.1nm,0.6s,baz=120,slow=9.3,SNR=7.0
PDAR PcP PcP 22 10 20.2 0.0
comp=Z,14nm,0.9s,baz=112,slow=4.3,SNR=3.4
BW06 **Boulder Array** 39.48 316 *eP* P 22 08 12.0 -0.3
comp=Z,200nm,1.6s
A24A **Westby** 39.57 328 ⇓P P 22 08 15.3 +2.6
baz=40
I19A **Meeteetse** 39.70 318 ⇑P P 22 08 15.1 +1.0
baz=40
H19A **Powell** 40.00 319 ⇑P P 22 08 17.6 +1.1
baz=40
W13A **Hualapai Mount** 40.01 303 ⇓P P 22 08 16.7 0.0
baz=40,SNR=6.5
PDMCI **Parker Dam,Lak** 40.03 302 ⇑P P 22 08 17.4 +0.7
baz=40
A23A **Redstone** 40.04 327 ⇑P P 22 08 19.2 +2.5
baz=40
F20A **Billings** 40.06 321 ⇑P P 22 08 18.1 +1.2
baz=40
D21A **La Casta Ranch** 40.07 323 ⇑P P 22 08 18.8 +1.9
baz=40
NLU **North Lily Min** 40.08 311 *eP* P 22 08 17.1 -0.2
comp=Z,250nm,1.8s
Y12C **Blythe** 40.22 301 ⇓P P 22 08 19.5 +1.1
baz=40
GLA **Glamis** 40.34 300 *eP* P 22 08 20.4 +1.0
GLA **Glamis** 40.34 300 *eP* P 22 08 20.4 +1.0
GLA **Glamis** 40.34 300 ⇑P P 22 08 19.9 +0.5
baz=40
ARUT **Antelope Range** 40.38 307 *eP* P 22 08 20.1 +0.3
ARUT pmax pmax
comp=Z,938nm,0.9s
ARUT **Antelope Range** 40.38 307 *eP* P 22 08 20.1 +0.3
comp=Z,938nm,0.9s
RLMT **Red Lodge** 40.40 320 *eP* P 22 08 19.5 -0.4
comp=Z,805nm,1.9s
E20A **Meyer Farm, Mu** 40.42 322 ⇑P P 22 08 21.1 +1.3
baz=40
H18A **Shoshone NF, C** 40.43 319 ⇓P P 22 08 21.1 +0.9
baz=40
F19A **Roth Farm, Mol** 40.56 321 ⇓P P 22 08 22.3 +1.2
baz=40
A22A **Carney Farms,** 40.60 326 ⇑P P 22 08 23.8 +2.5
baz=41
I17A **Pilgrim Ck.** 40.66 317 ⇓P P 22 08 22.4 +0.4
baz=41
DUG **Dugway** 40.69 311 *eP* P 22 08 22.5 +0.2
DUG pmax pmax
comp=Z,101nm,1.3s
DUG **Dugway** 40.69 311 *eP* P 22 08 22.5 +0.2
comp=Z,101nm,1.3s
DUG **Dugway** 40.69 311 ⇓P P 22 08 22.0 -0.3
baz=41,SNR=5.5
D20A **Manuel Ranch,** 40.73 323 ⇓P P 22 08 22.2 -0.2
baz=41
E19A **Rath Farm, Rou** 40.78 322 ⇓P P 22 08 24.1 +1.2
baz=41
IRM **Iron Mountain** 40.82 301 ⇓P P 22 08 23.3 +0.1
baz=41,SNR=8.0
H17A **Grant Village** 40.87 318 ⇑P P 22 08 26.8 +2.9
baz=41
BGU **Big Grassy Mou** 41.11 312 *eP* P 22 08 25.6 -0.1
comp=Z,154nm,1.7s
SWSC **Sam W. Stewart** 41.12 299 ⇑P P 22 08 26.8 +1.1
baz=41
A21A **Bergtoll Ranch** 41.13 326 ⇓P P 22 08 27.1 +1.4
baz=41
HVU **Hansel Valley** 41.24 313 *eP* P 22 08 27.0 +0.1
HVU pmax pmax
comp=Z,254nm,1.6s
HVU **Hansel Valley** 41.24 313 *eP* P 22 08 26.9 +0.1
comp=Z,254nm,1.6s
DVTC **Desert V Tower** 41.32 299 ⇓P P 22 08 28.5 +0.9
baz=41
SHPR **Sheep Range** 41.35 305 *eP* P 22 08 29.2 +1.4
comp=Z,343nm,1.8s
GMRC **Granite Mounta** 41.35 302 ⇑P P 22 08 28.3 +0.5
baz=41
B20A **Solberg Farm,** 41.41 325 ⇑P P 22 08 30.4 +2.4
baz=41
BELC **Belle Mtn. Jos** 41.48 301 ⇓P P 22 08 30.3 +1.4
baz=41
A20A **Cobblestone Ra** 41.61 325 ⇓P P 22 08 32.0 +2.4
baz=42
QLMT **Earthquake Lak** 41.61 318 *eP* P 22 08 30.2 +0.3
comp=Z,18nm,1.3s
MONP **Monument Peak** 41.63 299 ⇓P P 22 08 30.8 +0.6
baz=42,SNR=8.2
BDFB **Brasilia** 41.66 143 P P 22 08 30.6 +0.2
BDFB **Brasilia** 41.66 143 P P 22 08 30.6 +0.2
comp=Z,117nm,0.9s,baz=328,slow=3.8,SNR=10
TUQ **Turquoise Moun** 41.71 303 ⇑P P 22 08 32.7 +2.0
baz=42
PFO **Pinyon Flat Ob** 41.78 300 P P 22 08 31.7 +0.4
PFO **Pinyon Flat Ob** 41.78 300 P P 22 08 31.7 +0.4
comp=Z,7.9nm,1.1s,baz=82,slow=7.1,SNR=4.1
PFO **Pinyon Flat Ob** 41.78 300 ⇑P P 22 08 32.8 +1.5
baz=42
HEC **Hector,Ludlow** 41.91 302 ⇑P P 22 08 33.3 +1.1
baz=42
SHOC **Shoshone** 42.09 304 ⇑P P 22 08 34.0 +0.3
baz=42,SNR=8.0
EGMT **Eagleton** 42.16 323 ⇓P P 22 08 32.8 -1.3
baz=42
R11A **Troy Canyon, C** 42.16 307 ⇓P P 22 08 34.5 0.0
baz=42
109C **Camp Elliot, M** 42.20 299 ⇓P P 22 08 34.6 0.0
baz=42
BBRC **Big Bear Solar** 42.27 301 ⇓P P 22 08 38.4 +2.9
baz=42
TPNV **Topopah Spring** 42.31 305 ⇓P P 22 08 36.7 +1.0
baz=42,SNR=5.6
GSC **Goldstone** 42.38 303 ⇓P P 22 08 36.7 +0.5
baz=42
MURC **Murrieta** 42.39 300 ⇑P P 22 08 36.6 +0.4
baz=42,SNR=8.0
RRX **Edison Barstow** 42.45 302 ⇑P P 22 08 38.3 +1.6
baz=42
MCMT **McKenzie Canyo** 42.52 317 *eP* P 22 08 37.6 +0.3
comp=Z,94nm,1.4s
ELK **Elko** 42.62 311 P P 22 08 32.9 -5.3
ELK **Elko** 42.62 311 P P 22 08 32.9 -5.3
comp=Z,15nm,0.7s,baz=167,slow=2.1,SNR=8.0
FURC **Furnace Creek,** 42.67 304 ⇑P P 22 08 39.2 +0.8
baz=43,SNR=9.8
BFSC **Mount Baldy Ra** 42.87 301 ⇑P P 22 08 40.1 -0.1
baz=43
HLID **Hailey** 43.04 315 ⇓P P 22 08 41.8 +0.3
baz=43
MPMC **Manual Prospec** 43.08 303 ⇑P P 22 08 42.9 +0.9
baz=43
LRMC **Laurel Mountai** 43.12 303 ⇑P P 22 08 43.7 +1.4
baz=43
MWC **Mount Wilson** 43.20 301 *eP* P 22 08 43.8 +0.9
MWC **Mount Wilson** 43.20 301 *eP* P 22 08 43.8 +0.9
EDW2 **Edwards Air Fo** 43.26 302 ⇓P P 22 08 43.9 +0.7
baz=43,SNR=10
TPH **Tonopah** 43.33 306 *eP* P 22 08 44.2 +0.2
TPH **Tonopah** 43.33 306 *eP* P 22 08 44.2 +0.2
CIS **Catalina Islan** 43.35 299 ⇑P P 22 08 44.6 +0.6
baz=43,SNR=7.8
CHMT **Chamberlain Mo** 43.69 320 *eP* P 22 08 46.1 -0.7
comp=Z,101nm,1.7s
ISA **Isabella** 43.79 303 ⇑P P 22 08 48.1 +0.5
baz=44
TIN **Tinemaha** 43.88 305 ⇑P P 22 08 48.3 0.0
baz=44
ARVC **Arvin** 43.98 302 ⇑P P 22 08 50.1 +1.1
baz=44
BLG **Laguna Peak** 44.00 300 P P 22 08 50.8 +1.5
baz=44
MSO **Missoula** 44.07 319 *eP* P 22 08 50.6 +0.9
comp=Z,292nm,2.0s
MSO **Missoula** 44.07 319 ⇓P P 22 08 49.7 0.0
baz=44
NVAR **Mina Array Bea** 44.24 307 P P 22 08 51.5 +0.2
NVAR **Mina Array Bea** 44.24 307 P P 22 08 51.5 +0.2
comp=Z,23nm,0.8s,baz=92,slow=6.5,SNR=10
VES **Vestal, Richgr** 44.31 303 ⇓P P 22 08 52.0 +0.4
baz=44,SNR=15
SWMT **Swartz Lake** 44.41 320 *eP* P 22 08 53.2 +0.8
BSC **Santa Cruz Isl** 44.45 300 ⇑P P 22 08 52.9 0.0
baz=44,SNR=11
MLAC **Mammoth Lakes** 44.47 305 ⇑P P 22 08 53.1 -0.1
baz=44
RCTC **Rector, Farmer** 44.52 303 ⇑P P 22 08 53.9 +0.7
baz=44
JTMT **Jette** 44.69 321 *eP* P 22 08 56.0 +1.3
comp=Z,94nm,1.9s
PKM **Peak Mountain** 44.74 301 ⇑P P 22 08 54.0 -1.3
baz=45
SMMC **Simmler** 44.95 302 ⇓P P 22 08 51.6 -5.2
baz=45
BSMT **Bassoo Peak** 45.04 320 *eP* P 22 08 58.3 +0.8
WVOR **Wild Horse Val** 45.57 312 *eP* P 22 09 01.2 -0.5
WVOR pmax pmax
comp=Z,410nm,2.0s
WVOR **Wild Horse Val** 45.57 312 *eP* P 22 09 01.1 -0.5
comp=Z,410nm,2.0s
CMB **Columbia Colle** 45.76 306 *eP* P 22 09 03.5 +0.3
CMB **Columbia Colle** 45.76 306 *eP* P 22 09 03.5 +0.3
SAO **San Andreas Ge** 46.35 304 *eP* P 22 09 07.7 -0.1
SAO **San Andreas Ge** 46.35 304 *eP* P 22 09 07.7 -0.1
NEW **Newport** 46.63 320 P P 22 09 09.2 -0.8
NEW **Newport** 46.63 320 P P 22 09 09.2 -0.8
comp=Z,11nm,0.6s,baz=84,slow=6.7,SNR=9.7
NEW **Newport** 46.63 320 ⇓P P 22 09 09.9 0.0
baz=47,SNR=6.5
OHCM **Honcut** 46.87 307 *eP* P 22 09 12.7 +0.9
CPUP **Villa Florida** 46.87 161 P P 22 09 11.2 -0.7
CPUP **Villa Florida** 46.87 161 P P 22 09 11.2 -0.7
comp=Z,4.4nm,0.5s,baz=330,slow=8.3,SNR=4.1
LCO **Las Campanas** 47.11 177 *eP* P 22 09 14.0 -0.1
J05D **Fort Rock, OR** 47.64 312 ⇓P P 22 09 15.1 -2.9
baz=48
M04C **Macdoel** 47.69 310 ⇑P P 22 09 17.9 -0.4
baz=48
WDC **Whiskeytown Da** 47.92 308 *eP* P 22 09 17.3 -2.7
WDC **Whiskeytown Da** 47.92 308 *eP* P 22 09 17.3 -2.7
G05D **Wamic, OR** 48.26 315 ⇑P P 22 09 22.0 -0.7
baz=48
YBH **Yreka Blue Hor** 48.31 310 *eP* P 22 09 21.6 -1.5
comp=Z,314nm,2.2s
YBH **Yreka Blue Hor** 48.31 310 P P 22 09 20.8 -2.3
comp=Z,15nm,0.7s,baz=94,slow=4.4,SNR=15
M02C **Callahan** 48.33 309 ⇑P P 22 09 22.9 -0.4
baz=48
H04A **Detroit Lake** 48.69 314 *eP* P 22 09 25.9 0.0
comp=Z,794nm,2.2s
LON **Longmire** 49.05 317 *eP* P 22 09 29.6 +0.9
LON pmax pmax
comp=Z,573nm,2.4s
LON **Longmire** 49.05 317 *eP* P 22 09 29.6 +0.9
comp=Z,573nm,2.4s
L02D **Cave Junction,** 49.05 310 ⇓P P 22 09 28.4 -0.3
baz=49
I03D **Drain, OR** 49.23 312 ⇓P P 22 09 30.4 +0.3
baz=49
B06A **Marblemount** 49.42 319 *eP* P 22 09 35.5 +4.1
comp=Z,58nm,0.9s
COR **Corvallis** 49.43 313 *eP* P 22 09 31.5 -0.1
COR pmax pmax
comp=Z,73nm,1.6s
COR **Corvallis** 49.43 313 *eP* P 22 09 31.4 -0.1
comp=Z,73nm,1.6s
CFAA **Coronel Fontan** 49.85 175 P P 22 09 34.8 0.0
CFAA **Coronel Fontan** 49.85 175 P P 22 09 34.8 0.0
comp=Z,2.6nm,1.0s,baz=322,slow=8.9,SNR=4.5
PGC **Sidney** 50.70 318 *eP* P 22 09 39.8 -1.3
SFJD **Kangerlussuaq** 50.71 11 *i* P P 22 09 40.9 0.0
comp=Z,22nm,0.8s
SFJD **Kangerlussuaq** 50.71 11 *eP* P 22 09 38.6 -2.2
SFJD **Kangerlussuaq** 50.71 11 P P 22 09 40.6 -0.3
comp=Z,29nm,0.8s,baz=192,slow=6.2,SNR=6.0
PMAR **Madeira** 51.88 63 *eP* P 22 09 51.5 +1.0
comp=Z,331nm,1.6s
ILULI **Ilulissat** 52.61 10 *i* P P 22 09 55.8 +0.7
ILULI pmax pmax
comp=Z,28nm,1.0s
ILULI **Ilulissat** 52.61 10 *i* P P 22 09 55.8 +0.7
comp=Z,28nm,1.0s
YKA **Yellowknife Ar** 52.72 337 P P 22 09 54.5 -1.5
YKA **Yellowknife Ar** 52.72 337 P P 22 09 54.5 -1.5
comp=Z,58nm,0.9s,baz=124,slow=7.2,SNR=14
BBTS **Babate** 53.90 85 P P 22 10 03.9 -1.5
BBTS **Babate** 53.90 85 P P 22 10 03.9 -1.5
comp=Z,18nm,0.7s,baz=256,slow=4.2,SNR=2.3
BBB **Bella Bella** 54.61 322 P P 22 10 09.9 0.0
BBB **Bella Bella** 54.61 322 P P 22 10 09.9 0.0
comp=Z,26nm,1.0s,baz=152,slow=11,SNR=6.3
DLBC **Dease Lake** 57.56 328 *eP* P 22 10 31.3 +0.1
DLBC **Dease Lake** 57.56 328 P P 22 10 30.8 -0.4
comp=Z,40nm,0.6s,baz=84,slow=4.5,SNR=31
RES **Resolute Bay** 57.63 353 P P 22 10 31.0 -0.3
RES **Resolute Bay** 57.63 353 P P 22 10 31.0 -0.3
comp=Z,37nm,0.9s,baz=180,slow=13,SNR=7.3
SUMG **Summit** 57.69 12 *i* P P 22 10 32.7 +0.5
SUMG pmax pmax
comp=Z,94nm,0.9s
SUMG **Summit** 57.69 12 *i* P P 22 10 32.7 +0.5
comp=Z,94nm,0.9s
SUMG **Summit** 57.69 12 *eP* P 22 10 31.5 -0.7
comp=Z,156nm,1.1s
WRAK **Wrangell Islan** 58.17 326 *eP* P 22 10 33.1 -2.2
comp=Z,498nm,2.3s
MORF **Marmelete** 58.73 57 *eP* P 22 10 41.8 +2.1
comp=Z,206nm,1.4s
PLCA **Paso Flores** 58.80 178 P P 22 10 39.0 -0.9
comp=Z,105nm,1.3s
PLCA **Paso Flores** 58.80 178 P P 22 10 40.0 0.0
comp=Z,25nm,0.9s,baz=354,slow=8.3,SNR=11
PNCL **Nicolau / Gran** 58.83 56 *eP* P 22 10 45.2 +4.9
comp=Z,110nm,1.3s
PCAS **Casmilo, Conde** 58.89 54 *eP* P 22 10 46.1 +5.4
comp=Z,247nm,2.0s
PTOM **Tomar** 58.95 54 *eP* P 22 10 41.1 0.0
comp=Z,136nm,1.1s
MESJ **Messejana** 59.08 56 *eP* P 22 10 42.7 +0.7
MESJ **Messejana** 59.08 56 *eP* P 22 10 42.7 +0.7
PMTG **Montargil** 59.08 55 *eP* P 22 10 40.6 -1.4
comp=Z,124nm,1.6s
PGAV **Gavieira, Arco** 59.13 52 *eP* P 22 10 44.0 +1.5
comp=Z,170nm,1.9s
EVOP **Sao Brissos** 59.16 56 *eP* P 22 10 42.5 0.0
EVOP pmax pmax
comp=Z,142nm,1.1s
EVOP **Sao Brissos** 59.16 56 *eP* P 22 10 42.5 0.0
comp=Z,142nm,1.1s
EVO **Evora** 59.24 56 *eP* P 22 10 42.5 -0.6
comp=Z,142nm,1.1s
EVO **Evora** 59.24 56 *eP* P 22 10 43.7 +0.6
comp=Z,133nm,2.0s
PCAB **Cabril** 59.30 52 *eP* P 22 10 45.0 +1.4
comp=Z,206nm,1.3s
PBDV **Barranco-do-Ve** 59.31 57 *eP* P 22 10 45.5 +1.8
comp=Z,185nm,1.1s
PBEJ **Beja** 59.36 56 *eP* P 22 10 45.3 +1.4
comp=Z,97nm,1.3s
PVIS **Viseu** 59.37 53 *eP* P 22 10 44.4 +0.3
comp=Z,140nm,2.0s
POLO **Lamas de Olo** 59.47 52 *eP* P 22 10 46.1 +1.3
comp=Z,72nm,1.4s
PVAQ **Vaqueiros** 59.48 57 *eP* P 22 10 46.4 +1.6
comp=Z,163nm,1.7s
PVRL **Vila Real** 59.52 52 *eP* P 22 10 45.6 +0.5
comp=Z,128nm,1.1s
PESTR **Estremoz** 59.58 55 *eP* P 22 10 46.1 +0.6
comp=Z,146nm,1.6s
MTE **Manteigas** 59.63 53 *eP* P 22 10 45.6 -0.3
comp=Z,153nm,1.7s
MTE **Manteigas** 59.63 53 *eP* P 22 10 46.7 +0.8
comp=Z,85nm,1.0s
PCBR **Castelo Branco** 59.67 54 *eP* P 22 10 46.3 +0.2
comp=Z,145nm,1.0s
PMRV **Marv??o** 59.73 55 *eP* P 22 10 47.0 +0.4
comp=Z,186nm,1.1s
MVO **Moncorvo** 60.04 53 *eP* P 22 10 48.4 -0.3
comp=Z,158nm,1.1s
SCO **Scoresbysund** 60.26 17 *i* P P 22 10 50.4 +0.8
SCO pmax pmax
comp=Z,13nm,0.7s

SCO **Scoresbysund** 60.26 17 *i* P P 22 10 50.4 +0.8
comp=Z,13nm,0.7s
PBRG **Braganca** 60.27 52 *e*P P 22 10 52.6 +2.4
comp=Z,101nm,1.9s
SKAG **Skagway** 60.49 329 *e*P P 22 10 49.8 -1.5
comp=Z,147nm,1.6s
PAB **San Pablo** 62.09 54 *e*P P 22 11 03.1 +0.4
PAB pmax pmax
comp=Z,12nm,1.0s
PAB **San Pablo** 62.09 54 *e*P P 22 11 03.1 +0.4
comp=Z,12nm,1.0s
ESDC **Sonseca Array** 62.38 54 P P 22 11 04.9 +0.3
ESDC **Sonseca Array** 62.38 54 P P 22 11 04.9 +0.3
comp=Z,18nm,1.0s,baz=273,slow=7.1,SNR=16
ESLA **Sonseca Array** 62.38 54 *e*P P 22 11 04.0 -0.6
INK **Inuvik** 62.42 339 P P 22 11 04.4 +0.2
INK **Inuvik** 62.42 339 P P 22 11 04.4 +0.2
comp=Z,26nm,1.0s,baz=125,slow=8.0,SNR=4.6
ROSF **Rostrenen** 62.96 45 *e*P P 22 11 08.2 0.0
comp=Z,108nm,1.1s
ROSF **Rostrenen** 62.96 45 *e*P P 22 11 08.2 0.0
ROSF pmax pmax
comp=Z,108nm,1.1s
ROSF **Rostrenen** 62.96 45 *e*P P 22 11 08.2 0.0
comp=Z,108nm,1.1s
QUIF **Quistinic** 63.01 45 *e*P P 22 11 08.5 0.0
comp=Z,128nm,1.0s
QUIF **Quistinic** 63.01 45 *e*P P 22 11 08.5 0.0
QUIF pmax pmax
comp=Z,128nm,1.0s
QUIF **Quistinic** 63.01 45 *e*P P 22 11 08.5 0.0
comp=Z,128nm,1.0s
H10N3 **ASCENSION HYDR** 63.11 109 T T 23 17 52.9
baz=302,slow=75,SNR=3.5
H10N2 **ASCENSION HYDR** 63.12 109 T T 23 17 56.8
baz=302
H10N1 **ASCENSION HYDR** 63.13 109 T T 23 17 56.0
baz=302,slow=75,SNR=2.4
SGMF **Saint Gilles** 63.43 45 *e*P P 22 11 11.1 -0.2
comp=Z,159nm,1.2s
SGMF **Saint Gilles** 63.43 45 *e*P P 22 11 11.1 -0.2
SGMF pmax pmax
comp=Z,159nm,1.2s
SGMF **Saint Gilles** 63.43 45 *e*P P 22 11 11.1 -0.2
comp=Z,159nm,1.2s
H10S3 **ASCENSION HYDR** 63.44 110 T T 23 18 26.1
baz=301,slow=75,SNR=12
H10S1 **ASCENSION HYDR** 63.45 110 T T 23 18 27.1
baz=301,slow=75,SNR=9.5
H10S2 **ASCENSION HYDR** 63.46 110 T T 23 18 27.6
baz=301,slow=75,SNR=9.8
ESK **Eskdalemuir** 63.52 37 *e*P P 22 11 12.7 +0.9
ESK pmax pmax
comp=Z,76nm,1.1s
ESK **Eskdalemuir** 63.52 37 *e*P P 22 11 12.7 +0.9
comp=Z,76nm,1.1s
EKA **Eskdalemuir Ar** 63.54 37 P P 22 11 11.1 -0.9
EKA **Eskdalemuir Ar** 63.54 37 P P 22 11 11.1 -0.9
comp=Z,31nm,0.8s,baz=278,slow=5.4,SNR=13
SJPF **Ste Jean** 64.35 50 *e*P P 22 11 18.0 +0.5
comp=Z,281nm,1.1s
SJPF **Ste Jean** 64.35 50 *e*P P 22 11 18.0 +0.5
SJPF pmax pmax
comp=Z,281nm,1.1s
SJPF **Ste Jean** 64.35 50 *e*P P 22 11 18.0 +0.5
comp=Z,281nm,1.1s
ALE **Alert** 64.36 2 P P 22 11 16.8 -0.1
comp=Z,317nm,0.6s,SNR=9.7
DAG **Danmarks Havn** 64.38 12 *i* P P 22 11 17.1 0.0
DAG pmax pmax
comp=Z,27nm,0.9s
DAG **Danmarks Havn** 64.38 12 *i* P P 22 11 17.1 0.0
comp=Z,32nm,0.9s
LARF **Larrau** 64.53 50 *e*P P 22 11 19.4 +0.7
GRR **Gorron** 64.57 45 *e*P P 22 11 18.6 -0.2
comp=Z,172nm,1.1s
GRR **Gorron** 64.57 45 *e*P P 22 11 18.6 -0.2
GRR pmax pmax
comp=Z,172nm,1.1s
GRR **Gorron** 64.57 45 *e*P P 22 11 18.6 -0.2
comp=Z,172nm,1.1s
FLN **La Foliniere** 64.82 44 *e*P P 22 11 20.4 -0.1
comp=Z,82nm,0.8s
FLN **La Foliniere** 64.82 44 *e*P P 22 11 20.4 -0.1
FLN pmax pmax
comp=Z,82nm,0.8s
FLN **La Foliniere** 64.82 44 *e*P P 22 11 20.4 -0.1
comp=Z,82nm,0.8s
ETSF **Etsaut** 64.85 51 *e*P P 22 11 21.2 +0.4
comp=Z,153nm,1.1s
ETSF **Etsaut** 64.85 51 *e*P P 22 11 21.2 +0.4
ETSF pmax pmax
comp=Z,153nm,1.1s
ETSF **Etsaut** 64.85 51 *e*P P 22 11 21.2 +0.4
comp=Z,153nm,1.1s
MFF **Saint Martin d** 65.05 47 *e*P P 22 11 22.0 0.0
comp=Z,256nm,1.0s
MFF **Saint Martin d** 65.05 47 *e*P P 22 11 22.0 0.0
MFF pmax pmax
comp=Z,256nm,1.0s
MFF **Saint Martin d** 65.05 47 *e*P P 22 11 22.0 0.0
comp=Z,256nm,1.0s
LDF **La Druitiere** 65.06 44 *e*P P 22 11 21.9 -0.1
comp=Z,332nm,1.3s
LDF **La Druitiere** 65.06 44 *e*P P 22 11 21.9 -0.1
LDF pmax pmax
comp=Z,332nm,1.3s
LDF **La Druitiere** 65.06 44 *e*P P 22 11 21.9 -0.1
comp=Z,332nm,1.3s
MENT **Mentasta** 65.16 332 *e*P P 22 11 22.0 -0.5
BMRM **Bremner River** 65.31 329 *e*P P 22 11 23.8 +0.3
comp=Z,264nm,1.3s
DOT **Dot Lake** 65.42 332 *e*P P 22 11 24.8 +0.6
comp=Z,211nm,1.6s
EPF **Esparros** 65.50 50 *e*P P 22 11 25.5 +0.4
comp=Z,200nm,1.1s
EPF **Esparros** 65.50 50 *e*P P 22 11 25.5 +0.4
EPF pmax pmax
comp=Z,200nm,1.1s
EPF **Esparros** 65.50 50 *e*P P 22 11 25.5 +0.4
comp=Z,200nm,1.1s
RESF **Ens** 65.51 51 *e*P P 22 11 25.9 +0.7
LFF **La Frestale** 65.71 48 *e*P P 22 11 26.1 -0.2
comp=Z,202nm,1.0s
LFF **La Frestale** 65.71 48 *e*P P 22 11 26.1 -0.2
LFF pmax pmax
comp=Z,202nm,1.0s
LFF **La Frestale** 65.71 48 *e*P P 22 11 26.1 -0.2
comp=Z,202nm,1.0s
DIV **Divide** 65.90 329 *e*P P 22 11 27.1 -0.2
comp=Z,85nm,0.9s
PAX **Paxson** 65.96 331 *e*P P 22 11 27.4 -0.3
PAX pmax pmax
comp=Z,72nm,1.1s
PAX **Paxson** 65.96 331 *e*P P 22 11 27.4 -0.3
comp=Z,72nm,1.1s
RJF **Les Rejaudoux** 66.25 48 *e*P P 22 11 29.5 -0.3
comp=Z,149nm,1.0s
RJF **Les Rejaudoux** 66.25 48 *e*P P 22 11 29.5 -0.3
RJF pmax pmax
comp=Z,149nm,1.0s
RJF **Les Rejaudoux** 66.25 48 *e*P P 22 11 29.5 -0.3
comp=Z,149nm,1.0s
CAF **Calviac** 66.65 48 *e*P P 22 11 32.2 -0.2
comp=Z,190nm,1.0s
CAF **Calviac** 66.65 48 *e*P P 22 11 32.2 -0.2
CAF pmax pmax
comp=Z,190nm,1.0s
CAF **Calviac** 66.65 48 *e*P P 22 11 32.2 -0.2
comp=Z,190nm,1.0s
TCF **Toulx Ste Croi** 66.69 47 *e*P P 22 11 32.3 -0.3
comp=Z,163nm,1.0s
TCF **Toulx Ste Croi** 66.69 47 *e*P P 22 11 32.3 -0.3
TCF pmax pmax
comp=Z,163nm,1.0s
TCF **Toulx Ste Croi** 66.69 47 *e*P P 22 11 32.3 -0.3
comp=Z,163nm,1.0s
VALF **Valcebollere** 66.77 51 *e*P P 22 11 33.3 -0.1
ILAR **Eielson Array** 66.79 333 P P 22 11 31.9 -0.9
ILAR **Eielson Array** 66.79 333 P P 22 11 31.9 -0.9
comp=Z,14nm,1.0s,baz=96,slow=4.0,SNR=25
HYF **Humbligny** 66.94 46 *e*P P 22 11 34.0 -0.2
HYF **Humbligny** 66.94 46 *e*P P 22 11 34.0 -0.2
LIC **Lamto** 66.98 91 *e*P P 22 11 33.2 -1.8
comp=Z,374nm,1.6s,baz=276
LIC **Lamto** 66.98 91 *e*P P 22 11 33.2 -1.8
comp=Z,374nm,1.6s

DBIC **Dimbokro** 67.02 90 P P 22 11 34.9 -0.3
DBIC **Dimbokro** 67.02 90 P P 22 11 34.9 -0.3
comp=Z,35nm,1.0s,baz=281,slow=8.5,SNR=5.1
BGF **Bois d'Agland** 67.11 47 *e*P P 22 11 34.7 -0.6
comp=Z,97nm,0.8s
BGF **Bois d'Agland** 67.11 47 *e*P P 22 11 34.7 -0.6
BGF pmax pmax
comp=Z,97nm,0.8s
BGF **Bois d'Agland** 67.11 47 *e*P P 22 11 34.7 -0.6
comp=Z,97nm,0.8s
COLA **College** 67.21 333 *e*P P 22 11 35.6 +0.1
COLA pmax pmax
comp=Z,95nm,1.2s
COLA **College** 67.21 333 *e*P P 22 11 35.0 -0.5
comp=Z,41nm,1.1s
PYM **Petit Puy Mans** 67.27 47 *e*P P 22 11 37.3 +0.9
AVF **Avril sur Loir** 67.45 46 *e*P P 22 11 36.7 -0.7
comp=Z,166nm,1.2s
AVF **Avril sur Loir** 67.45 46 *e*P P 22 11 36.7 -0.7
AVF pmax pmax
comp=Z,166nm,1.2s
AVF **Avril sur Loir** 67.45 46 *e*P P 22 11 36.7 -0.7
comp=Z,166nm,1.2s
LBL **Lubilhac** 67.47 48 *e*P P 22 11 37.7 0.0
SSF **Saint Saulge** 67.54 46 *e*P P 22 11 37.4 -0.6
comp=Z,79nm,0.9s
SSF **Saint Saulge** 67.54 46 *e*P P 22 11 37.4 -0.6
SSF pmax pmax
comp=Z,79nm,0.9s
SSF **Saint Saulge** 67.54 46 *e*P P 22 11 37.4 -0.6
comp=Z,79nm,0.9s
PMR **Palmer** 67.55 330 *e*P P 22 11 36.6 -1.1
PMR pmax pmax
comp=Z,748nm,2.5s
PMR **Palmer** 67.55 330 *e*P P 22 11 36.6 -1.1
comp=Z,748nm,2.5s
MCK **McKinley** 67.59 332 *e*P P 22 11 37.4 -0.6
MCK pmax pmax
comp=Z,279nm,1.8s
MCK **McKinley** 67.59 332 *e*P P 22 11 37.4 -0.6
comp=Z,279nm,1.8s
SEW **Seward** 67.64 328 *e*P P 22 11 38.0 -0.2
comp=Z,405nm,1.8s
PLDF **La Plantade** 67.69 47 *e*P P 22 11 40.8 +1.8
LOR **Lormes** 67.77 46 *e*P P 22 11 38.9 -0.6
comp=Z,177nm,0.9s
LOR **Lormes** 67.77 46 *e*P P 22 11 38.9 -0.6
comp=Z,177nm,0.9s
SMF **Signal de Mont** 67.80 46 *e*P P 22 11 39.0 -0.6
comp=Z,98nm,1.0s
SMF **Signal de Mont** 67.80 46 *e*P P 22 11 39.0 -0.6
SMF pmax pmax
comp=Z,98nm,1.0s
SMF **Signal de Mont** 67.80 46 *e*P P 22 11 39.0 -0.6
comp=Z,98nm,1.0s
RC01 **Rabbit Creek A** 67.82 329 *e*P P 22 11 39.5 0.0
comp=Z,271nm,1.6s
BAIF **Baives** 67.86 43 *e*P P 22 11 39.4 -0.5
comp=Z,102nm,1.3s
BAIF **Baives** 67.86 43 *e*P P 22 11 39.4 -0.5
BAIF pmax pmax
comp=Z,102nm,1.3s
BAIF **Baives** 67.86 43 *e*P P 22 11 39.4 -0.5
comp=Z,102nm,1.3s
SNF **Seneffe** 67.89 42 P P 22 11 41.8 +1.7
LASF **Ste Croix** 67.99 49 *e*P P 22 11 41.2 +0.3
comp=Z,126nm,1.0s
LASF **Ste Croix** 67.99 49 *e*P P 22 11 41.2 +0.3
comp=Z,126nm,1.0s
DOU **Douzies** 68.11 43 P P 22 11 41.7 +0.2
TRF **Thorofare Moun** 68.17 332 *e*P P 22 11 41.5 -0.4
comp=Z,519nm,2.0s
GIVF **Givet** 68.26 43 *e*P P 22 11 42.0 -0.4
comp=Z,161nm,1.0s
GIVF **Givet** 68.26 43 *e*P P 22 11 42.0 -0.4
GIVF pmax pmax
comp=Z,161nm,1.0s
GIVF **Givet** 68.26 43 *e*P P 22 11 42.0 -0.4
comp=Z,161nm,1.0s
COLD **Coldfoot** 68.37 336 *e*P P 22 11 42.4 -0.4
comp=Z,114nm,1.3s
SSB **Saint Sauveur** 68.38 48 *e*P P 22 11 43.9 +0.6
SSB **Saint Sauveur** 68.38 48 *e*P P 22 11 43.9 +0.6
KTH **Kantishna Hill** 68.46 332 *e*P P 22 11 42.6 -0.9
comp=Z,764nm,1.3s
MEZF **Maizieres J'vi** 68.50 44 *e*P P 22 11 43.7 -0.3
comp=Z,334nm,0.9s
MEZF **Maizieres J'vi** 68.50 44 *e*P P 22 11 43.7 -0.3
comp=Z,334nm,0.9s
VIVF **Saint-Julien-l** 68.50 48 *e*P P 22 11 44.7 +0.6
comp=Z,243nm,1.0s
VIVF **Saint-Julien-l** 68.50 48 *e*P P 22 11 44.7 +0.6
VIVF pmax pmax
comp=Z,243nm,1.0s
VIVF **Saint-Julien-l** 68.50 48 *e*P P 22 11 44.7 +0.6
comp=Z,243nm,1.0s
SFTF **Sexfontaines** 68.51 45 *e*P P 22 11 43.6 -0.4
comp=Z,126nm,0.9s
SFTF **Sexfontaines** 68.51 45 *e*P P 22 11 43.6 -0.4
comp=Z,126nm,0.9s
BCLA **Clavier** 68.55 42 P P 22 11 46.3 +2.0
BEBN **Eben Emael** 68.77 42 P P 22 11 45.8 +0.2
PAGF **Fort de Pagny** 68.94 44 *e*P P 22 11 46.6 -0.1
comp=Z,37nm,1.0s
PAGF **Fort de Pagny** 68.94 44 *e*P P 22 11 46.6 -0.1
comp=Z,37nm,1.0s
SPU **Mount Spurr** 68.94 329 *e*P P 22 11 47.0 +0.4
MEM **Membach** 68.99 42 P P 22 11 49.2 +2.3
comp=Z,66nm,2.3s
MEM **Membach** 68.99 42 *e*P P 22 11 49.7 +2.7
MEM pmax pmax
comp=Z,614nm,2.5s
MEM **Membach** 68.99 42 *e*P P 22 11 49.7 +2.7
comp=Z,614nm,2.5s
PPLA **Purkeypile** 69.02 331 *e*P P 22 11 45.8 -1.3
comp=Z,122nm,1.5s
THEF **They Montfort** 69.14 45 *e*P P 22 11 49.0 +1.0
WLF **Walferdange** 69.14 43 P P 22 11 48.3 +0.4
comp=Z,49nm,1.5s
WLF **Walferdange** 69.14 43 *e*P P 22 11 48.1 +0.1
comp=Z,34nm,0.9s
SMRF **Simiane la Rot** 69.23 49 *e*P P 22 11 49.2 +0.5
comp=Z,57nm,0.8s
SMRF **Simiane la Rot** 69.23 49 *e*P P 22 11 49.2 +0.5
comp=Z,57nm,0.8s
KDAK **Kodiak Island** 69.25 326 *e*P P 22 11 48.7 +0.3
comp=Z,327nm,1.7s
RSO **Redoubt South** 69.29 329 *e*P P 22 11 48.0 -0.9
CABF **La Chapelle** 69.34 46 *e*P P 22 11 48.9 -0.5
comp=Z,122nm,1.0s
CABF **La Chapelle** 69.34 46 *e*P P 22 11 48.9 -0.5
CABF pmax pmax
comp=Z,122nm,1.0s
CABF **La Chapelle** 69.34 46 *e*P P 22 11 48.9 -0.5
comp=Z,122nm,1.0s
ORIF **Oris-en-Rattie** 69.35 48 *e*P P 22 11 50.1 +0.6
comp=Z,104nm,1.0s
ORIF **Oris-en-Rattie** 69.35 48 *e*P P 22 11 50.1 +0.6
ORIF pmax pmax
comp=Z,104nm,1.0s
ORIF **Oris-en-Rattie** 69.35 48 *e*P P 22 11 50.1 +0.6
comp=Z,104nm,1.0s
HAU **Haudompre** 69.40 45 *e*P P 22 11 49.0 -0.6
HAU **Haudompre** 69.40 45 *e*P P 22 11 49.0 -0.6
HAU **Haudompre** 69.40 45 *e*P P 22 11 49.0 -0.6
OHAK **Old Harbor** 69.65 325 *e*P P 22 11 50.2 -0.7
comp=Z,291nm,1.5s
BUG **Bochum--Univer** 69.73 41 *e*P P 22 11 51.6 +0.1
comp=Z,29nm,0.9s
HINF **Hinteralfeld** 69.75 45 *e*P P 22 11 50.9 -0.9
comp=Z,91nm,1.1s
HINF **Hinteralfeld** 69.75 45 *e*P P 22 11 50.9 -0.9
HINF pmax pmax
comp=Z,91nm,1.1s
HINF **Hinteralfeld** 69.75 45 *e*P P 22 11 50.9 -0.9
comp=Z,91nm,1.1s
LOMF **Lomont** 69.78 45 *e*P P 22 11 53.3 +1.3
RSL **Roselend** 69.80 47 *e*P P 22 11 52.2 -0.1
LPL **La Plagne** 69.89 47 *e*P P 22 11 53.1 +0.1
comp=Z,135nm,0.9s
LPL **La Plagne** 69.89 47 *e*P P 22 11 53.1 +0.1
LPL pmax pmax
comp=Z,135nm,0.9s
LPL **La Plagne** 69.89 47 *e*P P 22 11 53.1 +0.1
comp=Z,135nm,0.9s
LPG **La Plagne** 69.91 47 *e*P P 22 11 53.4 +0.3
comp=Z,95nm,0.9s

LPG **La Plagne** 69.91 47 *e*P P 22 11 53.4 +0.3
LPG pmax pmax
comp=Z,95nm,0.9s
LPG **La Plagne** 69.91 47 *e*P P 22 11 53.4 +0.3
comp=Z,95nm,0.9s
ECH **Echery** 69.92 45 *e*P P 22 11 52.9 +0.1
ECH pmax pmax
comp=Z,37nm,0.9s
ECH **Echery** 69.92 45 *e*P P 22 11 53.9 +1.1
ECH **Echery** 69.92 45 *e*P P 22 11 52.9 +0.1
comp=Z,37nm,0.9s
MOF **Molkenrain** 69.94 45 *e*P P 22 11 52.1 -0.9
IBBN **Ibbenburen** 69.97 40 *e*P P 22 11 53.0 0.0
comp=Z,93nm,1.0s
LMR **La Mourre** 69.97 50 *e*P P 22 11 53.1 -0.1
comp=Z,93nm,1.1s
LMR **La Mourre** 69.97 50 *e*P P 22 11 53.1 -0.1
LMR pmax pmax
comp=Z,93nm,1.1s
LMR **La Mourre** 69.97 50 *e*P P 22 11 53.1 -0.1
comp=Z,93nm,1.1s
CDF **Champ du Feu** 69.98 44 *e*P P 22 11 52.8 -0.5
comp=Z,220nm,1.5s
CDF **Champ du Feu** 69.98 44 *e*P P 22 11 52.8 -0.5
CDF pmax pmax
comp=Z,220nm,1.5s
CDF **Champ du Feu** 69.98 44 *e*P P 22 11 52.8 -0.5
comp=Z,220nm,1.5s
MBDF **Montbardon** 70.00 48 *e*P P 22 11 53.9 +0.3
comp=Z,131nm,0.9s
MBDF **Montbardon** 70.00 48 *e*P P 22 11 53.9 +0.3
MBDF pmax pmax
comp=Z,131nm,0.9s
MBDF **Montbardon** 70.00 48 *e*P P 22 11 53.9 +0.3
comp=Z,131nm,0.9s
WLS **Welschbruch** 70.03 44 *e*P P 22 11 52.9 -0.7
CALN **Calern** 70.20 49 *e*P P 22 11 56.2 +1.4
SENIN **Lac Senin/Sane** 70.20 46 *e*P P 22 11 55.5 +0.7
LANF **Langenberg** 70.28 44 *e*P P 22 11 56.4 +1.4
MVIF **Mont Vial** 70.37 49 *e*P P 22 11 57.0 +1.2
TOUF **Mont Tournerai** 70.43 49 *e*P P 22 11 57.2 +1.0
MUD **Monsted U'grnd** 70.50 36 *i* P P 22 11 58.1 +2.0
MUD pmax pmax
comp=Z,44nm,1.1s
MUD **Monsted U'grnd** 70.50 36 *i* P P 22 11 58.1 +2.0
comp=Z,44nm,1.0s
KONO **Kongsberg** 70.53 32 *i* P P 22 11 57.3 +1.0
KONO pmax pmax
comp=Z,158nm,1.0s
REVF **Revere** 70.54 49 *e*P P 22 11 59.0 +2.2
AUTN **L'Aution** 70.56 49 *e*P P 22 11 59.0 +1.9
TNS **Taunus Mts** 70.58 42 *e*P P 22 11 56.6 -0.2
comp=Z,27nm,0.8s
SBF **Sospel** 70.58 49 *e*P P 22 11 56.8 -0.2
comp=Z,141nm,0.9s
SBF **Sospel** 70.58 49 *e*P P 22 11 56.8 -0.2
SBF pmax pmax
comp=Z,141nm,0.9s
SBF **Sospel** 70.58 49 *e*P P 22 11 56.8 -0.2
comp=Z,141nm,0.9s
SVW2 **Sparrevohn** 70.65 329 *e*P P 22 11 56.1 -1.0
comp=Z,95nm,1.4s
BFO **Black Forest** 70.69 44 *e*P P 22 11 57.5 0.0
comp=Z,17nm,0.9s
KBS **Kingsbay** 71.12 12 *e*P P 22 11 59.9 +0.4
KBS pmax pmax
comp=Z,38nm,1.0s
KBS **Kingsbay** 71.12 12 *e*P P 22 11 59.9 +0.4
comp=Z,38nm,1.0s
STU **Stuttgart** 71.21 44 *e*P P 22 12 01.6 +0.9
STU pmax pmax
comp=Z,240nm,2.0s
STU **Stuttgart** 71.21 44 *e*P P 22 12 00.9 +0.2
comp=Z,30nm,0.8s
STU **Stuttgart** 71.21 44 *e*P P 22 12 01.6 +0.9
comp=Z,240nm,2.0s
NB2 **NORSAR Subarra** 71.25 31 P P 22 12 01.1 +0.4
comp=Z,38nm,0.9s,baz=275,slow=6.5
NB2 **NORSAR Subarra** 71.25 31 P P 22 12 01.1 +0.4
baz=275,slow=6.5
NOA **NORSAR Array B** 71.25 31 P P 22 12 00.6 -0.1
NOA **NORSAR Array B** 71.25 31 P P 22 12 00.6 -0.1
comp=Z,73nm,0.8s,baz=275,slow=6.2,SNR=11
BSEG **Bad Segeberg** 71.36 38 *e*P P 22 12 01.1 -0.3
comp=Z,22nm,0.9s
NRDL **Niedersach Rie** 71.38 40 *e*P P 22 12 00.7 -0.8
comp=Z,27nm,1.0s
TORD **Torodi Ar. Bea** 71.45 82 P P 22 12 01.6 -1.1
TORD **Torodi Ar. Bea** 71.45 82 P P 22 12 01.6 -1.1
comp=Z,27nm,1.0s,baz=279,slow=3.6,SNR=12
TUE **Stuetta** 71.59 46 *e*P P 22 12 04.0 +0.7
comp=Z,54nm,1.0s
CLZ **Clausthal** 71.62 40 *e*P P 22 12 03.0 -0.1
comp=Z,58nm,0.9s
DAVA **Damuels** 71.85 45⇑ *i*P P 22 12 04.7 0.0
comp=Z,49nm,0.8s
PGF **Pioggiola** 71.89 50 *e*P P 22 12 04.5 -0.5
comp=Z,107nm,1.1s
PGF **Pioggiola** 71.89 50 *e*P P 22 12 04.5 -0.5
PGF pmax pmax
comp=Z,107nm,1.1s
PGF **Pioggiola** 71.89 50 *e*P P 22 12 04.5 -0.5
comp=Z,107nm,1.1s
DAVOX **Davos/Dischmat** 71.92 46 P P 22 12 04.9 -0.3
DAVOX **Davos/Dischmat** 71.92 46 P P 22 12 04.9 -0.3
comp=Z,20nm,0.7s,baz=322,slow=8.1,SNR=16
SPITS **Spitsbergen Ar** 72.01 13 P P 22 12 03.8 -1.2
SPITS **Spitsbergen Ar** 72.01 13 P P 22 12 03.8 -1.2
comp=Z,15nm,0.6s,baz=236,slow=1.0,SNR=23
GRF **Grafenberg Arr** 72.42 43 *e*P P 22 12 09.6 +1.7
comp=Z,24nm,0.9s
RETA **Reutte** 72.42 45⇑ *i*P P 22 12 08.3 +0.2
comp=Z,134nm,0.9s
FETA **Feichten** 72.46 45⇑ *i*P P 22 12 08.4 0.0
comp=Z,101nm,0.9s
CHGN **Chignik** 72.54 324 *e*P P 22 12 07.7 -0.8
HFS **Hagfors** 72.55 32 P P 22 12 08.5 0.0
HFS **Hagfors** 72.55 32 P P 22 12 08.5 0.0
comp=Z,5.6nm,0.8s,baz=282,slow=7.2,SNR=3.3
VLC **Villacollemand** 72.65 48 *e*P P 22 12 08.7 -0.8
VSL **Villasalto** 72.65 53 *e*P P 22 12 09.4 -0.1
comp=Z,42nm,1.1s
FUR **Furstenfeldbru** 72.66 44 *e*P P 22 12 09.2 -0.2
comp=Z,64nm,0.8s
MOTA **Moosalm** 72.67 45⇓ *i*P P 22 12 09.4 -0.2
comp=Z,59nm,0.8s
TAM **Tamanrasset** 72.67 71 P P 22 12 09.7 -0.4
TAM pmax pmax
comp=Z,37nm,1.2s
TAM **Tamanrasset** 72.67 71 P P 22 12 09.7 -0.4
comp=Z,37nm,1.2s
ROTZ **Rotzenmuhle** 73.04 42 *e*P P 22 12 12.1 +0.5
comp=Z,41nm,0.9s
TANN **Tannenbergstha** 73.11 42 *e*P P 22 12 12.4 +0.3
comp=Z,47nm,0.8s
NKC **Novy Kostel** 73.12 42 *e*P P 22 12 12.2 +0.1
NKC *e* 22 12 14.7
NKC *e* 22 12 17.3
NKC **Novy Kostel** 73.12 42 *e*P P 22 12 12.2 +0.1
NKC *ep*P **pP** 22 12 14.7 +0.6
NKC *es*P **sP** 22 12 17.3 +2.5
KEST **Kesra** 73.29 57 *e*P P 22 12 13.5 +0.1
KEST **Kesra** 73.29 57 P P 22 12 13.7 +0.2
comp=Z,14nm,0.8s,baz=274,slow=3.1,SNR=18
CLL **Collm** 73.31 41 *e*P P 22 12 15.0 +1.8
CLL *i* 22 12 18.2
CLL *i* 22 12 20.7
CLL *i* 22 12 23.8
CLL pmax pmax
comp=Z,14nm,0.9s
CLL **Collm** 73.31 41 *e*P P 22 12 14.7 +1.5
comp=Z,26nm,0.9s
CLL **Collm** 73.31 41 *e*P P 22 12 15.0 +1.8
comp=Z,14nm,0.9s
CLL *i* (sP) **sP** 22 12 18.2 +2.3
comp=Z,41nm,1.0s
CLL *i* 22 12 20.7
CLL *i* 22 12 23.8
ABTA **Abfaltersbach** 73.71 46⇑ *i*P P 22 12 16.3 +0.5
comp=Z,75nm,0.8s
BSD **Bornholm Skovb** 73.87 37 *e*P P 22 12 19.2 +2.8
BSD pmax pmax
comp=Z,47nm,0.9s
BSD **Bornholm Skovb** 73.87 37 *i* P P 22 12 19.2 +2.8
comp=Z,47nm,0.9s
BRG **Berggiesshubel** 73.97 41 *e*P P 22 12 18.8 +1.8

comp=Z,25nm,0.8s
BRG *e*PP **PP** 22 15 01.7 -0.1
comp=Z,335nm,2.9s
BRG *e* 22 32 02.0
comp=Z,68nm,2.2s
BRG Berggiesshubel 73.97 41 *e*P **P** **22 12 18.8 +1.8**
BRG *e* 22 15 01.7
BRG pmax pmax
comp=Z,25nm,0.8s
BRG pmax pmax
comp=Z,335nm,2.9s
BRG pmax pmax
comp=Z,68nm,2.2s
KHC Kasperske Hory 74.02 43 *e*P **P** **22 12 17.5 0.0**
KHC *e* 22 12 19.9
KHC *e* 22 12 22.8
KHC Kasperske Hory 74.02 43 *e*P **P** **22 12 17.5 0.0**
KHC *e*pP **pP** **22 12 19.9 +0.5**
KHC *e*sP **sP** **22 12 22.8 +2.7**
KHC Kasperske Hory 74.02 43 *e*P **P** **22 12 17.4 0.0**
comp=Z,74nm,1.0s
GEC2 GERESS Array S 74.15 43 *e*P **P** **22 12 18.0 -0.3**
comp=Z,51nm,0.9s
GERES GERESS Array B 74.15 43 P **P** **22 12 18.4 +0.1**
GERES GERESS Array B 74.15 43 P **P** **22 12 18.4 +0.1**
comp=Z,36nm,0.8s,baz=274,slow=4.7,SNR=35
KBA Koelnbreinsper 74.22 45⇑*i*P **P** **22 12 19.4 +0.6**
comp=Z,58nm,1.0s
PRA Prague 74.41 42 P **P** **22 12 21.0 +1.4**
PVCC Panska Ves 74.42 41 *e*P **P** **22 12 20.3 +0.6**
PVCC *e* 22 12 22.4
PVCC Panska Ves 74.42 41 *e*P **P** **22 12 20.3 +0.6**
PVCC *e*pP **pP** **22 12 22.4 +0.8**
PRU Pruhonice 74.49 42 *e*P **P** **22 12 20.2 +0.1**
PRU *e* 22 12 25.6
PRU Pruhonice 74.49 42 *e*P **P** **22 12 20.2 +0.1**
PRU *e*pP **pP** **22 12 25.6 +3.5**
MYKA Terra Mystica 74.50 46⇑*i*P **P** **22 12 20.0 -0.3**
comp=Z,47nm,0.8s
MOA Molln 74.69 44⇑*i*P **P** **22 12 21.1 -0.2**
comp=Z,83nm,0.8s
TRI Trieste 74.75 46 *e*P **P** **22 12 22.1 +0.4**
TRI pmax pmax
comp=Z,291nm,0.4s
TRI Trieste 74.75 46 *e*P **P** **22 12 22.1 +0.4**
comp=Z,291nm,0.4s
OBKA Obir 75.13 46⇑*i*pP **P** **22 12 25.0 +0.9**
comp=Z,89nm,0.8s
TREC Trest 75.22 43 *e*P **P** **22 12 24.4 0.0**
TREC *e* 22 12 26.5
TREC *e* 22 12 29.7
TREC Trest 75.22 43 *e*P **P** **22 12 24.4 0.0**
TREC *e*pP **pP** **22 12 26.5 +0.1**
TREC *e*sP **sP** **22 12 29.7 +2.6**
UPC Upice 75.33 41 *e*P **P** **22 12 25.4 +0.5**
UPC *e* 22 12 27.4
UPC Upice 75.33 41 *e*P **P** **22 12 25.4 +0.5**
UPC *e*pP **pP** **22 12 27.4 +0.5**
SOKA Soboth 75.43 45 *i*P **P** **22 12 25.2 -0.5**
comp=Z,46nm,0.9s,SNR=9.3
KSP Ksiaz 75.44 41 *e*P **P** **22 12 25.2 -0.4**
KSP *e**PP **pP** **22 12 31.0 +3.5**
DPC Dobruska-Polom 75.55 41 *e*P **P** **22 12 26.4 +0.1**
DPC *e* 22 12 28.6
DPC *e* 22 12 31.8
DPC Dobruska-Polom 75.55 41 *e*P **P** **22 12 26.4 +0.1**
DPC *e*pP **pP** **22 12 28.6 +0.3**
DPC *e*sP **sP** **22 12 31.8 +2.8**
TNA Tin City 75.58 335 *e*P **P** **22 12 25.7 -0.3**
comp=Z,133nm,1.4s
ARSA Arzberg 75.64 45⇑*i*P **P** **22 12 26.0 -0.9**
comp=Z,38nm,1.0s
CONA Conrad Observa 75.73 44⇑*i*pP **P** **22 12 28.3 +0.9**
comp=Z,35nm,0.9s
ARCES ARCESS Array B 75.85 21 P **P** **22 12 26.8 -0.8**
ARCES ARCESS Array B 75.85 21 P **P** **22 12 26.8 -0.8**
comp=Z,12nm,0.6s,baz=287,slow=4.3,SNR=21
KRLC Kraliky 75.90 42 *e*P **P** **22 12 30.2 +1.9**
KRLC *e* 22 12 34.0
KRLC Kraliky 75.90 42 *e*P **P** **22 12 30.2 +1.9**
KRLC *e*pP **pP** **22 12 34.0 +3.7**
VRAC Vranov 75.93 42⇓*i*P **P** **22 12 27.6 -0.8**
VRAC Vranov 75.93 42 P **P** **22 12 28.0 -0.4**
VRAC Vranov 75.93 42 P **P** **22 12 28.0 -0.4**
comp=Z,20nm,0.9s,baz=297,slow=5.3,SNR=9.5
SOP Sopron 76.25 44 *e*P **P** **22 12 32.9 +2.7**
KEV Kevo 76.30 21 *e*P **P** **22 12 27.0 -3.1**
KEV pmax pmax
comp=Z,34nm,1.0s
KEV Kevo 76.30 21 *e*p **P** **22 12 27.0 -3.1**
comp=Z,34nm,1.0s
MORC Moravsky Berou 76.44 42⇑P **P** **22 12 31.7 +0.3**
MORC Moravsky Berou 76.44 42⇑*i*P **P** **22 12 31.7 +0.3**
SMOL Smolenice 76.64 43 *e*P **P** **22 12 35.0 +2.5**
SMOL Smolenice 76.64 43 *e*P **P** **22 12 35.0 +2.5**
BEHE Becsehely 76.65 45 *e*P **P** **22 12 32.4 +0.2**
OKC Ostrava-Krasne 76.81 42 *e*P **P** **22 12 34.3 +0.9**
OKC *e* 22 12 39.2
OKC Ostrava-Krasne 76.81 42 *e*P **P** **22 12 34.3 +0.9**
OKC *e*pP **pP** **22 12 39.2 +3.8**
CUC Castrocucco 77.42 52 *e*P **P** **22 12 37.1 +0.1**
comp=Z,45nm,1.1s
CSKK Cs˙‡kako 77.44 44 *e*P **P** **22 12 37.0 0.0**
PKSG 77.52 44 *e*P **P** **22 12 37.4 0.0**
UNV Unalaska Valle 77.56 323 *e*P **P** **22 12 38.0 +0.6**
comp=Z,437nm,1.9s
GAMB Gambell 77.59 333 *e*P **P** **22 12 37.7 +0.2**
comp=Z,104nm,1.6s
PKS9 Tamasi 77.63 45 *e*P **P** **22 12 38.5 +0.4**
OJC Ojcow 77.76 41 *e*P **P** **22 12 39.4 +0.7**
PKSM Moragy 77.97 45⇑P **P** **22 12 41.4 +1.5**
PKSM Moragy 77.97 45⇑*i*P **P** **22 12 41.4 +1.5**
PKSM Moragy 77.97 45 *e*P **P** **22 12 40.4 +0.5**
KAF Kangasniemi 78.15 28 *e*P **P** **22 12 39.6 -1.0**
KAF pmax pmax
comp=Z,32nm,0.8s
KAF Kangasniemi 78.15 28 *e*p **P** **22 12 39.6 -1.0**
comp=Z,32nm,0.8s
FINES FINESS Array B 78.24 29 P **P** **22 12 41.0 -0.2**
FINES PKKPbc **PKKPbc** **22 31 37.3 -3.8**
FINES FINESS Array B 78.24 29 P **P** **22 12 41.0 -0.2**
comp=Z,14nm,0.8s,baz=291,slow=2.2,SNR=10
FINES PKKPbc **PKKPbc** **22 31 37.3 -3.8**
comp=Z,1.4nm,0.7s,baz=69,slow=6.3,SNR=4.2
FIA1 FINESS Array S 78.24 29 *e*P **P** **22 12 42.0 +0.9**
PSZ Piszkesteto 78.38 43 *e*P **P** **22 12 44.0 +1.7**
PSZ pmax pmax
comp=Z,67nm,1.0s
PSZ Piszkesteto 78.38 43⇑*i*P **P** **22 12 43.0 +0.7**
PSZ Piszkesteto 78.38 43 *e*P **P** **22 12 44.0 +1.7**
comp=Z,67nm,1.0s
PSZ Piszkesteto 78.38 43 *e*P **P** **22 12 43.5 +1.2**
STHS Stebnicka Huta 78.86 42 *e*P **P** **22 12 46.7 +1.8**
STHS pmax pmax
comp=Z,9.0nm,0.8s
STHS Stebnicka Huta 78.86 42 *e*P **P** **22 12 46.7 +1.8**
STHS *e*PP **PP** **22 15 41.9 -1.2**
CRVS Cervenica-Dubn 79.14 42 *e*P **P** **22 12 47.7 +1.3**
CRVS pmax pmax
comp=Z,98nm,1.7s
CRVS Cervenica-Dubn 79.14 42 *e*P **P** **22 12 47.7 +1.3**
CRVS *e*PCP **PcP** **22 12 55.2 +0.4**
APA Apatity 79.22 22⇑*i*P **P** **22 12 46.8 +0.4**
APA *i* S **pP** **22 12 47.0 -1.4**
APA *i* 22 12 56.0
APA *i* SS SS 22 27 51.0 -1.2
APA MLR MLR
comp=Z,6µm,15.0s
VSU Vasula 79.43 32 *e*P **P** **22 12 47.1 -0.6**
VSU pmax pmax
comp=Z,91nm,1.0s
LVZ Lovozero 79.53 22 *e*P **P** **22 12 48.5 +0.3**
LVZ pmax pmax
comp=Z,64nm,1.3s
KOLS Kolonicke sedl 79.64 42 *e*P **P** **22 12 51.3 +2.2**
KOLS pmax pmax
comp=Z,168nm,2.3s
KOLS Kolonicke sedl 79.64 42 *e*P **P** **22 12 51.3 +2.2**
KWP Kalwaria Pacla 79.72 41⇓P **P** **22 12 50.9 +1.3**
KWP Kalwaria Pacla 79.72 41⇓*i*P **P** **22 12 50.9 +1.3**
UZH Uzhgorod 79.74 42 *e*P **P** **22 12 49.0 -0.6**
UZH *e* 22 12 56.2
ISAL Salakas 80.00 35 *e*P **P** **22 12 51.1 +0.2**
ISAL AMB AMB 22 12 58.9
comp=Z,34nm,1.2s
TRPA Tarpa 80.04 43⇑*i*P **P** **22 12 51.9 +0.7**
TRPA Tarpa 80.04 43 *e*P **P** **22 12 52.1 +0.9**
JOF Joensuu 80.09 27 *e*P **P** **22 12 50.4 -0.8**
JOF pmax pmax
comp=Z,73nm,0.8s
JOF Joensuu 80.09 27 *e*p **P** **22 12 50.4 -0.8**
comp=Z,73nm,0.8s
IIGN Ignalina 80.11 35 *e*P **P** **22 12 51.8 +0.3**
IIGN AMB AMB 22 13 00.1
comp=Z,54nm,1.0s
BZS Buzias 80.13 45⇓P **P** **22 12 52.5 +0.7**
BZS Buzias 80.13 45⇓*i*P **P** **22 12 52.5 +0.7**
IDID Didziasalis 80.41 35 *e*P **P** **22 12 53.4 +0.3**
IDID AMB AMB 22 13 02.1
comp=Z,30nm,1.1s
DRGR 80.53 44⇑P **P** **22 12 54.3 +0.3**
DRGR 80.53 44⇑*i*P **P** **22 12 54.3 +0.3**
NACGM Naroch 80.56 35 *e* **P** **22 12 51.0 -2.9**
PUL Pulkovo 80.75 30 *e*P **P** **22 12 56.3 +1.5**
PUL pmax pmax
comp=Z,115nm,1.0s
BMR Baia Mare 80.78 43⇑P **P** **22 12 55.9 +0.6**
BMR Baia Mare 80.78 43⇑*i*P **P** **22 12 55.9 +0.6**
VAH Vaihoa 80.90 251 *e*P **P** **22 12 58.2 +1.8**
IGT Igoumenitsa 80.90 51 *e*P **P** **22 12 57.2 +1.1**
GZR Gura Zlata 80.97 45⇑P **P** **22 12 57.1 +0.6**
GZR Gura Zlata 80.97 45⇑*i*P **P** **22 12 57.0 +0.6**
PMOR Pomariorio Ree 81.05 251 *e*P **P** **22 12 59.1 +1.9**
comp=Z,290nm,1.4s
CJR Cluj-Napoca 81.13 44⇓P **P** **22 12 58.1 +0.8**
CJR Cluj-Napoca 81.13 44⇓*i*P **P** **22 12 58.1 +0.8**
LOT Lotru 81.62 45⇓*i*P **P** **22 13 01.1 +1.1**
PDO Prodromos 81.80 52 *e*P **P** **22 13 01.9 +1.0**
BURAR Bucovina Array 81.91 43⇑P **P** **22 13 03.7 +2.3**
BURAR Bucovina Array 81.91 43⇑*i*P **P** **22 13 03.7 +2.3**
GRG Griva 82.01 50 *e*P **P** **22 13 03.2 +1.2**
VTS Vitosha 82.10 48 P **P** **22 13 03.4 +0.8**
VTS Vitosha 82.10 48⇓*i*P **P** **22 13 03.4 +0.8**
THL Klokotos Trika 82.14 51 *e*P **P** **22 13 02.4 -0.2**
EVR Evrytania 82.17 52 *e*P **P** **22 13 05.4 +2.4**
ARR Arges 82.23 45⇓*i*P **P** **22 13 03.4 +0.3**
MEH Mehetia 82.27 248 *e*P **P** **22 13 05.3 +1.7**
comp=Z,39nm,1.3s
KNT Kendrikon 82.31 49 *e*P **P** **22 13 04.8 +1.3**
LIT Litokhoron 82.33 50 *e*P **P** **22 13 04.3 +0.6**
DRO Drossia 82.38 53 *e*P **P** **22 13 05.3 +1.3**
MAKR Makrakomi, Fth 82.39 52 *e*P **P** **22 13 04.5 +0.5**
VOIR 82.48 45 P **P** **22 13 05.5 +1.1**
VOIR 82.48 45⇓*i*P **P** **22 13 05.5 +1.1**
LAKA Lakka 82.50 52 *e*P **P** **22 13 06.3 +1.7**
AGG Agios Georgios 82.53 51 *e*P **P** **22 13 05.6 +0.8**
DOPR Dopca 82.54 44⇓*i*P **P** **22 13 06.8 +2.1**
KALE Kalithea 82.58 52 *e*P **P** **22 13 07.0 +2.0**
HORT Hortiatis 82.62 50 *e*P **P** **22 13 06.3 +1.0**
DSF Desfina 82.86 52 *e*P **P** **22 13 08.1 +1.6**
GUR Goura 82.86 53 *e*P **P** **22 13 06.9 +0.3**
NVR Nevrokopi 82.94 49 *e*P **P** **22 13 07.7 +0.9**
PLG Polygyros 82.94 50 *e*P **P** **22 13 06.6 -0.3**
MLR Muntele Rosu 83.06 44⇑*i*P **P** **22 13 08.5 +1.0**
MLR Muntele Rosu 83.06 44 P **P** **22 13 08.5 +1.0**
MLR Muntele Rosu 83.06 44 P **P** **22 13 08.5 +1.0**
comp=Z,16nm,0.7s,baz=318,slow=1.9,SNR=27
TVO Taravao 83.28 249 *e*P **P** **22 13 10.6 +1.6**
comp=Z,26nm,1.3s
TIAR Tiarei 83.28 249 *e*P **P** **22 13 10.2 +1.3**
comp=Z,19nm,0.9s
LTK Loutraki 83.31 52 *e*P **P** **22 13 10.5 +1.7**
KIEV Kiev 83.36 39 *e*P **P** **22 13 08.0 -0.7**
KIEV pmax pmax
comp=Z,21nm,0.8s
KIEV Kiev 83.36 39 *e*P **P** **22 13 08.0 -0.7**
comp=Z,21nm,0.8s
PLOR Plostina 83.41 44⇓P P 22 13 12.5 +3.3
PLOR Plostina 83.41 44⇓*i*P P 22 13 12.5 +3.3
VRI Vrincioaia 83.46 44 P P 22 13 05.0 -4.4
VRI Vrincioaia 83.46 44⇓*i*P P 22 13 05.0 -4.4
PPT2 Papeete2 83.50 249 *e*P **P** **22 13 11.8 +1.7**
comp=Z,71nm,1.4s
PAE Paea 83.53 249 *e*P **P** **22 13 11.6 +1.5**
comp=Z,35nm,1.3s
DID Didima 83.67 53 *e*P **P** **22 13 10.8 +0.1**
VLI Veliai 83.69 54 *e*P **P** **22 13 08.8 -1.9**
KDZ Kurdzhali 83.95 48⇑P **P** **22 13 12.4 +0.4**
KDZ Kurdzhali 83.95 48⇑*i*P **P** **22 13 12.4 +0.4**
PTL Penteli 83.97 52 *e*P **P** **22 13 13.0 +0.8**
KIS Kishinev 84.43 42 *e*P **P** **22 13 12.0 -2.3**
KIS *e* 22 13 21.0
KIS pmax pmax
comp=Z,700nm,2.7s
KIS Kishinev 84.43 42 *e*P **P** **22 13 12.0 -2.3**
KIS XM 22 13 15.0
comp=Z,700nm,2.7s
KLMR Klimovskoe 84.48 27 *e*P **P** **22 13 12.6 -1.7**
KLMR pmax pmax
comp=Z,142nm,1.6s
ALN Alexandroupoli 84.65 49 *e*P **P** **22 13 15.7 +0.2**
TIRR Tirgusor 85.06 45⇑P **P** **22 13 19.2 +1.7**
TIRR Tirgusor 85.06 45⇑*i*P **P** **22 13 19.2 +1.7**
TIRR Tirgusor 85.06 45 *e*P **P** **22 13 18.8 +1.2**
comp=Z,283nm,2.2s
TBI Tubuai 85.52 244 *e*P **P** **22 13 22.3 +2.2**
comp=Z,296nm,1.2s
APE Apeiranthos 85.54 53 *e*P **P** **22 13 21.4 +1.2**
APE pmax pmax
comp=Z,36nm,1.4s
IDI Anoyia 85.64 54 P **P** **22 13 20.9 +0.2**
IDI Anoyia 85.64 54 P **P** **22 13 20.9 +0.2**
comp=Z,24nm,0.8s,baz=311,slow=6.1,SNR=11
OBN Obninsk 85.70 33 *e*P **P** **22 13 21.0 +0.5**
OBN *e* 22 13 27.0
OBN pmax pmax
comp=Z,184nm,1.7s
OBN Obninsk 85.70 33 *e*P **P** **22 13 20.1 -0.3**
OBN Obninsk 85.70 33 P **P** **22 13 19.7 -0.7**
comp=Z,22nm,0.7s,baz=305,slow=23,SNR=5.7
LAST Lasithi 86.14 54 *e*P **P** **22 13 23.7 +0.5**
PRGR Permogore 86.63 25⇓*i*P **P** **22 13 23.1 -1.8**
PRGR pmax pmax
comp=Z,142nm,0.8s
ARG Arkhangelos 87.80 53 *e*P **P** **22 13 30.5 -0.7**
SIM Simferopol' 88.62 43 *e*P **P** **22 13 37.0 +2.1**
SIM pmax pmax
comp=Z,22nm,0.9s
TIXI Tiksi 89.03 353⇑*e*P **P** **22 13 35.7 -0.5**
TIXI pmax pmax
comp=Z,99nm,1.7s
TIXI Tiksi 89.03 353 *e*P **P** **22 13 36.2 0.0**
comp=Z,56nm,1.1s
VORD Divnogorie 89.06 36 *e*P **P** **22 13 36.7 -0.1**
VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,50nm,1.2s
VORD pmax pmax
comp=E,9.0nm,1.3s
ANTO Ankara 89.81 48⇓P **P** **22 13 41.2 +0.5**
ANTO Ankara 89.81 48⇓*i*P **P** **22 13 41.2 +0.5**
ANTO Ankara 89.81 48 *e*P **P** **22 13 40.8 +0.1**
VRHR Novokhopersk 90.28 35 *e*P **P** **22 13 42.8 +0.3**
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,30nm,1.0s
VRHR pmax pmax
comp=Z,30nm,1.0s
BRTR Keskin Array B 90.47 48 P **P** **22 13 43.8 -0.1**
BRTR PKKPbc **PKKPbc** **22 31 10.8 -1.4**
BRTR Keskin Array B 90.47 48 P **P** **22 13 43.8 -0.1**
comp=Z,6.1nm,0.8s,baz=280,slow=3.2,SNR=6.3
BRTR PKKPbc **PKKPbc** **22 31 10.8 -1.4**
comp=Z,1.2nm,0.7s,baz=141,slow=5.8,SNR=4.6
SEY Seymchan 91.62 341⇑*i*P **P** **22 13 48.6 +0.1**
SEY Seymchan 91.62 341 P **P** **22 13 48.5 0.0**
SEY Seymchan 91.62 341 P **P** **22 13 48.5 0.0**
baz=45,slow=5.9
MMAI Mount Meron Ar 94.57 53 P **P** **22 14 01.8 -1.0**
MMAI Mount Meron Ar 94.57 53 P **P** **22 14 01.8 -1.0**
comp=Z,1.9nm,0.5s,baz=328,slow=5.1,SNR=3.2
KBZ Khabaz 94.77 41 PKKPbc PKKPbc 22 30 57.9 -3.1
KBZ Khabaz 94.77 41 PKKPbc PKKPbc 22 30 57.9 -3.1
comp=Z,1.9nm,0.8s,baz=301,slow=4.3,SNR=4.9
NEY Neytrino 94.90 41 *e*P **P** **22 14 05.9 +1.6**
ARU Arti 95.09 25*d*/*i*P **P** **22 14 05.1 +0.5**
ARU 22 17 53.6
ARU S **SKSac** **22 24 40.4 -0.5**
ARU SS **SS** **22 31 38.2 -6.0**
ARU pmax pmax
comp=Z,31nm,1.7s
NCK Nalchik 95.32 41 *e*P **P** **22 14 07.6 +1.6**
BVAR Borovoye Array 102.13 22 PKKPbc PKKPbc 22 30 37.7 -3.3
BVAR Borovoye Array 102.13 22 PKKPbc PKKPbc 22 30 37.7 -3.3
comp=Z,1.8nm,0.8s,baz=146,slow=0.5,SNR=5.4
ZALV Zalesovo Beam 105.48 14 PKKPbc PKKPbc 22 30 26.8 -4.3
ZALV Zalesovo Beam 105.48 14 PKKPbc PKKPbc 22 30 26.8 -4.3
comp=Z,3.7nm,1.1s,baz=156,slow=4.0,SNR=3.7
KURK Kurchatov 106.79 19 PKKPbc PKKPbc 22 30 23.3 -3.6
KURK PKKPab **PKKPdf** **22 30 39.5 +1.3**
KURBB Kurchatov Arra 106.84 19 PKKPbc PKKPbc 22 30 23.3 -3.5
comp=Z,1.8nm,0.8s,baz=153,slow=2.4,SNR=13
KURBB PKKPab **PKKPdf** **22 30 39.5 +1.4**
comp=Z,1.7nm,0.8s,baz=160,slow=3.5,SNR=5.7
MKAR Makanchi Array 111.39 18 PKKPbc PKKPbc 22 30 09.3 -3.0
MKAR Makanchi Array 111.39 18 PKKPbc PKKPbc 22 30 09.3 -3.0
comp=Z,0.9nm,0.9s,baz=172,slow=2.5,SNR=3.7
AAK Ala-Archa 112.26 26 PKKPbc PKKPbc 22 30 04.9 -4.6
AAK Ala-Archa 112.26 26 PKKPbc PKKPbc 22 30 04.9 -4.6
comp=Z,2.7nm,0.8s,baz=201,slow=5.1,SNR=6.6
SONM Songino Array 114.13 1 PP **PP** **22 20 17.5 +2.9**
SONM PKKPbc **PKKPbc** **22 30 00.4 -2.9**
SONM Songino Array 114.13 1 PP **PP** **22 20 17.5 +2.9**
comp=Z,4.8nm,1.1s,baz=347,slow=5.9,SNR=4.1
SONM PKKPbc **PKKPbc** **22 30 00.4 -2.9**
comp=Z,1.5nm,0.9s,baz=181,slow=3.8,SNR=3.6
SYO Syowa Base 114.96 158⇓*eX* **PP** **22 20 23.6 +2.6**
KSH Kashi 115.47 26 *e*PKP **PKPdf** **22 19 26.4 +2.2**
KSH *e*PP PP 22 20 36.2 +12
KSH *e*SKS **SKSdf** **22 26 33.1 -4.1**
KSH *e*SKKS **SKKSac** **22 27 24.1 -3.9**
KSH *e*SS SS 22 36 31.3 +8.0
KSH LR LR
comp=Z,2µm,10.5s
HHC Hu-ho-hao-te 120.98 356 *e*PKP **PKPdf** **22 19 36.2 +1.5**
HHC PP **PP** **22 21 06.8 +4.5**
HHC SKKS 22 27 58.1
HHC SS **SS** **22 37 38.4 +4.5**
KSRS Korea Array 121.18 341 PKP **PKPdf** **22 19 34.1 -0.9**
comp=Z,2.9nm,0.9s,baz=0.0,slow=2.4,SNR=3.8
KSAR Wonju Array Be 121.20 341 PKP **PKPdf** **22 19 34.1 -0.9**
BJI Beijing 121.33 352 PKP **PKPdf** **22 19 34.1 -1.1**
GTA Gaotai 122.14 7 *e*PKP **PKPdf** **22 19 38.5 +1.5**
GTA sPKP 22 19 45.5
MAW Mawson 123.31 161 PKP **PKPdf** **22 19 37.5 -0.6**
MAW Mawson 123.31 161 PKP **PKPdf** **22 19 37.5 -0.6**
comp=Z,13nm,0.9s,baz=285,slow=8.2,SNR=6.4
OPO Ambohidratompo 123.31 101 PKP **PKPdf** **22 19 38.9 -0.9**
OPO Ambohidratompo 123.31 101 PKP **PKPdf** **22 19 38.9 -0.9**
comp=Z,8.2nm,0.9s,baz=246,slow=2.4,SNR=4.0
LZH Lanzhou 125.78 3 *e*PKP **PKPdf** **22 19 43.7 -0.4**
LZH sPKP 22 19 48.2
LZH PP **PP** **22 21 38.1 +3.3**
LZH SKKS 22 28 28.8
LZH SS **SS** **22 38 33.5 -1.4**
LZH AMB AMB
comp=Z,1µm,9.3s
LZH LR LR
comp=Z,1µm,18.5s
LZH LR LR
comp=Z,2µm,18.0s
LZH LR LR
comp=Z,2µm,20.2s
NJ2 Nanjing 128.67 347 *e*PKP **PKPdf** **22 19 50.9 +1.4**
CD2 Chengdu 130.93 4 *e*PKP **PKPdf** **22 19 52.2 -1.7**
GYA Guiyang 135.47 1 Pdif **Pdif** **22 17 02.8 -2.5**
GYA PKP **PKPdf** **22 20 02.0 -0.7**
GYA PP **PP** **22 22 40.9 +3.3**
GYA PKS **PKSdf** **22 23 37.8 -1.5**
GYA SKKS 22 29 31.5
GYA SS **SS** **22 40 32.6 -1.1**
GYA AMB AMB
comp=Z,360nm,14.0s
GYA LR LR
comp=Z,5µm,19.3s
GYA LR LR
comp=Z,3µm,20.5s
GYA LR LR
comp=Z,4µm,19.8s
KMI Kunming 136.58 6 PKP **PKPdf** **22 20 04.4 -0.5**
CMAR Chiang Mai Arr 142.54 13 PKP **PKPdf** **22 20 13.6 -2.1**
CMAR PP **PP** **22 23 18.9 -2.4**
CMAR Chiang Mai Arr 142.54 13 PKP **PKPdf** **22 20 13.6 -2.1**
comp=Z,2.5nm,0.5s,baz=320,slow=4.7,SNR=4.2
CMAR PP **PP** **22 23 18.9 -2.4**
comp=Z,4.4nm,0.9s,baz=330,slow=5.2,SNR=3.7
CTA Charters Tower 143.14 261 PKPpre PKPpre 22 20 12.8
CTA Charters Tower 143.14 261 PKhKP PKPpre 22 20 12.8
comp=Z,12nm,0.7s,baz=42,slow=2.5,SNR=4.3
COEN Coen 145.21 272 *e*PKPdf **PKPbc** **22 20 18.9 -1.1**
STKA Stephens Creek 146.22 240 *e*PKPbc **PKPdf** **22 20 22.0 +0.4**
STKA Stephens Creek 146.22 240 PKPbc **PKPdf** **22 20 21.4 -0.2**
comp=Z,35nm,0.9s,baz=67,slow=2.0,SNR=9.9
BBOO Buckleboo 150.37 235 *e*PKPbc **PKPbc** **22 20 32.2 -1.3**
WRA Warramunga Arr 154.33 262 PKP **PKPdf** **22 20 33.2 -1.4**
WRA PKPbc **PKPbc** **22 20 41.2 -1.6**
WRA Warramunga Arr 154.33 262 PKP **PKPdf** **22 20 33.2 -1.4**
comp=Z,14nm,0.9s,baz=77,slow=1.4,SNR=7.9
WRA PKPbc **PKPbc** **22 20 41.2 -1.6**
comp=Z,14nm,0.8s,baz=15,slow=1.0,SNR=14
PSI Prapat 157.47 22 PKPab **PKPab** **22 21 07.3 -3.1**
PSI Prapat 157.47 22 PKPab **PKPab** **22 21 07.3 -3.1**
comp=Z,33nm,0.9s,baz=332,slow=7.5,SNR=9.9
NWAO Narrogin (SRO) 162.91 210 PKP **PKPdf** **22 20 45.5 +1.0**
NWAO Narrogin (SRO) 162.91 210 PKP **PKPdf** **22 20 45.5 +1.0**
comp=Z,13nm,0.8s,baz=121,slow=18,SNR=3.6

IDC ***12*** *22:07:00.4±0.7, 18˚.43N×72˚.75W, h0km, mb4.4/19, mb1 4.7/19, mb1mx4.6/29, mbtmp4.4/19, Error ellipse: s-maj=19.9km s-min=18.8km az=33.0*
ISCJB ***12*** *22:07:01.1±0.5, 18˚.4N±0˚.1×72˚.63W±0˚.06, h13km, mb4.5/24, Error ellipse: s-maj=15.5km s-min=6.9km az=14.1*
NEIC ***12*** *22:07:02.0±0.5, 18˚.46N×72˚.63W, h10km, mb5.0/4, Error ellipse: s-maj=14.4km s-min=7.5km az=15.0*

ISC 12 22:07:02.3±0.6, 18˚.4N±0˚.1×72˚.69W±0˚.08, h13km, n75, s1811/77, mb4.6/24, 7C-4D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.45**	**66**	Pn	Pn	22 07 24.2	-4.2
CRPR	**Cabo Rojo, PR**	**5.32**	**93**	*e*Pn	**Pn**	**22 08 21.3**	**-0.2**
LSP	**Las Mesas**	**5.33**	**91**	*e*Pn	**Pn**	**22 08 21.1**	**-0.6**
CELP	**Cerrillos**	**5.82**	**92**	*e*Pn	**Pn**	**22 08 26.9**	**-1.5**
CELP				*e*Sn	**Sn**	**22 09 33.3**	**-1.7**
TXAR	**Lajitas Array**	**30.26**	**297**	P	**P**	**22 13 11.0**	**-2.3**
TXAR	**Lajitas Array**	**30.26**	**297**	P	**P**	**22 13 11.0**	**-2.3**
	3.2nm,0.9s,baz=112,slow=6.1,SNR=2.9						
PDAR	**Pinedale Array**	**39.50**	**316**	P	**P**	**22 14 32.1**	**-0.9**
PDAR	**Pinedale Array**	**39.50**	**316**	P	**P**	**22 14 32.1**	**-0.9**
	2.9nm,1.1s,baz=106,slow=9.7,SNR=2.6						
TPH	**Tonopah**	**43.38**	**306**	*e*P	**P**	**22 15 05.9**	**+1.1**
	17nm,1.2s						
NVAR	**Mina Array Bea**	**44.29**	**307**	P	**P**	**22 15 12.9**	**+0.7**
NVAR	**Mina Array Bea**	**44.29**	**307**	P	**P**	**22 15 12.9**	**+0.7**
	2.7nm,1.0s,baz=118,slow=7.6,SNR=3.6						
NEW	**Newport**	**46.65**	**320**	P	**P**	**22 15 30.9**	**+0.3**
NEW	**Newport**	**46.65**	**320**	P	**P**	**22 15 30.9**	**+0.3**
	15nm,1.1s,baz=96,slow=5.3,SNR=5.3						
CFAA	**Coronel Fontan**	**49.90**	**175**	P	**P**	**22 15 56.1**	**+0.4**
CFAA	**Coronel Fontan**	**49.90**	**175**	P	**P**	**22 15 56.1**	**+0.4**
	0.6nm,0.6s,baz=353,slow=8.1,SNR=4.7						
YKA	**Yellowknife Ar**	**52.71**	**337**	P	**P**	**22 16 16.1**	**-0.2**
YKA	**Yellowknife Ar**	**52.71**	**337**	P	**P**	**22 16 16.1**	**-0.2**
	4.5nm,0.9s,baz=124,slow=7.6,SNR=4.1						
DLBC	**Dease Lake**	**57.57**	**328**	P	**P**	**22 16 50.6**	**-1.1**
DLBC	**Dease Lake**	**57.57**	**328**	P	**P**	**22 16 50.6**	**-1.1**
	7.4nm,1.0s,baz=153,slow=6.8,SNR=2.3						
PLCA	**Paso Flores**	**58.85**	**178**	P	**P**	**22 17 01.3**	**+0.5**
PLCA	**Paso Flores**	**58.85**	**178**	P	**P**	**22 17 01.3**	**+0.5**
	7.8nm,0.8s,baz=351,slow=6.4,SNR=6.8						
ESDC	**Sonseca Array**	**62.27**	**54**	P	**P**	**22 17 24.0**	**-0.3**
ESDC	**Sonseca Array**	**62.27**	**54**	P	**P**	**22 17 24.0**	**-0.3**
	4.9nm,0.9s,baz=271,slow=6.8,SNR=6.9						
EKA	**Eskdalemuir Ar**	**63.44**	**37**	P	**P**	**22 17 31.1**	**-0.7**
EKA	**Eskdalemuir Ar**	**63.44**	**37**	P	**P**	**22 17 31.1**	**-0.7**

2.7nm,0.8s,baz=266,slow=6.7,SNR=2.7
PAX Paxson 65.96 331 *e*P **P 22 17 47.1 -1.1**
5.0nm,1.0s
ILAR Eielson Array 66.78 333 P **P 22 17 53.8 +0.5**
ILAR Eielson Array 66.78 333 P **P 22 17 53.8 +0.5**
1.6nm,0.9s,baz=101,slow=3.7,SNR=3.9
COLD Coldfoot 68.36 336 *e*P **P 22 18 03.7 +0.5**
IM04 Indian Mountai 69.74 334 *e*P **P 22 18 12.9 +1.1**
NB2 NORSAR Subarra 71.15 31 P **P 22 18 23.2 +2.6**
comp=Z,50nm,1.7s,baz=274,slow=6.2
NB2 NORSAR Subarra 71.15 31 P **P 22 18 23.2 +2.6**
baz=274,slow=6.2
NOA NORSAR Array B 71.15 31 P **P 22 18 21.1 +0.5**
NOA NORSAR Array B 71.15 31 P **P 22 18 21.1 +0.5**
comp=Z,2.7nm,1.1s,baz=274,slow=6.3,SNR=2.7
DAVOX Davos/Dischmat 71.81 46 P **P 22 18 26.0 +1.0**
DAVOX Davos/Dischmat 71.81 46 P **P 22 18 26.0 +1.0**
comp=Z,4.7nm,0.8s,baz=313,slow=3.9,SNR=4.0
SPITS Spitsbergen Ar 71.93 13 P **P 22 18 25.9 +0.9**
SPITS Spitsbergen Ar 71.93 13 P **P 22 18 25.9 +0.9**
comp=Z,12nm,1.1s,baz=276,slow=5.5,SNR=3.8
NKC Novy Kostel 73.02 42 *e*P **P 22 18 34.0 +2.1**
KEST Kesra 73.18 57 P **P 22 18 33.4 +0.1**
KEST Kesra 73.18 57 P **P 22 18 33.4 +0.1**
comp=Z,4.5nm,0.8s,baz=294,slow=1.3,SNR=7.5
KHC Kasperske Hory 73.91 43 *e*P **P 22 18 37.6 +0.3**
KHC Kasperske Hory 73.91 43 *e*P **P 22 18 36.1 -1.2**
GERES GERESS Array B 74.04 43 P **P 22 18 38.7 +0.6**
GERES GERESS Array B 74.04 43 P **P 22 18 38.7 +0.6**
comp=Z,6.3nm,1.0s,baz=270,slow=3.6,SNR=9.0
PVCC Panska Ves 74.31 41 *e*P **P 22 18 42.4 +2.9**
PRU Pruhonice 74.39 42 *e*P **P 22 18 42.2 +2.2**
TREC Trest 75.12 43 *e*P **P 22 18 44.2 0.0**
UPC Upice 75.22 41 *e*P **P 22 18 46.1 +1.3**
DPC Dobruska-Polom 75.45 41 *e*P **P 22 18 46.5 +0.4**
TNA Tin City 75.57 335 *e*P **P 22 18 46.3 -0.1**
comp=Z,58nm,1.8s
ARCES ARCESS Array B 75.76 21 P **P 22 18 46.8 -0.8**
ARCES ARCESS Array B 75.76 21 P **P 22 18 46.8 -0.8**
comp=Z,4.1nm,0.9s,baz=303,slow=5.0,SNR=4.5
KRLC Kraliky 75.79 42 *e*P **P 22 18 49.1 +1.0**
OKC Ostrava-Krasne 76.70 42 *e*P **P 22 18 54.9 +1.7**
PKSM Moragy 77.86 45 ⇓*i*P **P 22 19 00.3 +0.5**
FINES FINESS Array B 78.11 29 P **P 22 19 01.1 0.0**
FINES FINESS Array B 78.11 29 P **P 22 19 01.1 0.0**
comp=Z,2.7nm,0.8s,baz=335,slow=2.0,SNR=4.0
PSZ Piszkesteto 78.27 43 ⇑*i*P **P 22 19 04.2 +2.0**
PSZ Piszkesteto 78.27 43 *e*P **P 22 19 02.5 +0.4**
comp=Z,44nm,1.6s
KWP Kalwaria Pacla 79.62 41 ⇓*i*P **P 22 19 09.4 0.0**
TRPA Tarpa 79.93 43 ⇓*i*P **P 22 19 12.2 +1.1**
BZS Buzias 80.02 45 ⇑*i*P **P 22 19 12.6 +0.9**
GZR Gura Zlata 80.86 45 ⇓*i*P **P 22 19 17.3 +1.0**
BURAR Bucovina Array 81.80 43 ⇑*i*P **P 22 19 20.4 -0.9**
VTS Vitosha 81.99 48 ⇑*i*P **P 22 19 23.5 +1.1**
ARR Arges 82.12 45 ⇑*i*P **P 22 19 24.5 +1.5**
VOIR 82.38 45 ⇑*i*P **P 22 19 24.9 +0.6**
MLR Muntele Rosu 82.96 44 ⇑*i*P **P 22 19 29.4 +2.0**
MLR Muntele Rosu 82.96 44 P **P 22 19 28.2 +0.8**
MLR Muntele Rosu 82.96 44 P **P 22 19 28.2 +0.8**
comp=Z,3.8nm,0.9s,baz=220,slow=1.2,SNR=9.3
BRTR Keskin Array B 90.36 48 P **P 22 20 04.1 +0.3**
BRTR Keskin Array B 90.36 48 P **P 22 20 04.1 +0.3**
comp=Z,4.5nm,1.1s,baz=270,slow=4.6,SNR=5.0
WRA Warramunga Arr 154.43 262 PKP **PKPdf 22 26 55.6 +0.5**
WRA PKPbc **PKPbc 22 27 02.8 -0.7**
WRA Warramunga Arr 154.43 262 PKP **PKPdf 22 26 55.6 +0.5**
comp=Z,1.8nm,0.9s,baz=89,slow=1.7,SNR=3.0
WRA PKPbc **PKPbc 22 27 02.8 -0.7**
comp=Z,2.7nm,1.0s,baz=12,slow=0.9,SNR=12

ISCJB ***12*** *22:09:10.5±0.4, 18°.43N±0°.07×72°.68W±0°.06, h13km, mb4.1/17, Error ellipse: s-maj=9.7km s-min=8.6km az=165.7*
IDC ***12*** *22:09:10.5±0.9, 18°.53N×72°.69W, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/26, mbtmp4.2/16, Error ellipse: s-maj=29.6km s-min=18.3km az=24.0*
NEIC ***12*** *22:09:11.6±0.4, 18°.45N×72°.64W, h10km, mb4.1/1, Error ellipse: s-maj=9.9km s-min=8.3km az=143.0*
ISC 12 22:09:12.3±0.5, 18°.46N±0°.08×72°.71W±0°.07, h13km, n40, σ0ˢ93/41, mb4.1/17, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.45**	**69**	*e*Pn	Pn	22 09 34.9	-3.3
GTBY	**Guantanamo Bay**	**2.70**	**303**	Pn	**Pn**	**22 09 56.3**	**+0.9**
GRTK	**Grand Turk**	**3.38**	**26**	Pn	**Pn**	**22 10 05.0**	**+0.2**
MTDJ	**Mount Denham**	**4.59**	**268**	Pn	**Pn**	**22 10 21.3**	**-0.2**
BCIP	**Isla Barro Col**	**11.54**	**218**	*e*Pn	**Pn**	**22 11 56.3**	**-0.5**
ROSC	**El Rosal**	**13.61**	**187**	*e*Pn	**Pn**	**22 12 26.8**	**+1.2**
PTGA	**Pitinga**	**22.82**	**145**	*e*P	**P**	**22 14 13.5**	**-1.7**
	4.1nm,0.7s						
TXAR	**Lajitas Array**	**30.21**	**297**	P	**P**	**22 15 23.8**	**+0.9**
	1.8nm,0.9s,baz=118,slow=5.3,SNR=2.6						
PDAR	**Pinedale Array**	**39.44**	**316**	P	**P**	**22 16 42.5**	**0.0**
	2.4nm,0.9s,baz=97,slow=12,SNR=3.1						
BDFB	**Brasilia**	**41.71**	**143**	P	**P**	**22 17 03.0**	**+1.7**
	14nm,0.9s,baz=261,slow=13,SNR=3.5						
NVAR	**Mina Array Bea**	**44.24**	**306**	P	**P**	**22 17 21.2**	**-0.6**
NVAR	**Mina Array Bea**	**44.24**	**306**	P	**P**	**22 17 21.2**	**-0.6**
	2.4nm,0.9s,baz=104,slow=6.7,SNR=4.1						
YKA	**Yellowknife Ar**	**52.64**	**337**	P	**P**	**22 18 25.0**	**-0.9**
YKA	**Yellowknife Ar**	**52.64**	**337**	P	**P**	**22 18 25.0**	**-0.9**
	2.3nm,0.8s,baz=127,slow=7.4,SNR=4.8						
DLBC	**Dease Lake**	**57.50**	**328**	P	**P**	**22 19 02.4**	**+1.2**
DLBC	**Dease Lake**	**57.50**	**328**	P	**P**	**22 19 02.4**	**+1.2**
	3.8nm,0.9s,baz=87,slow=6.7,SNR=6.7						
ESDC	**Sonseca Array**	**62.25**	**54**	P	**P**	**22 19 32.4**	**-1.7**
ESDC	**Sonseca Array**	**62.25**	**54**	P	**P**	**22 19 32.4**	**-1.7**
	1.5nm,0.9s,baz=267,slow=6.2,SNR=2.7						
EKA	**Eskdalemuir Ar**	**63.40**	**37**	P	**P**	**22 19 42.0**	**+0.6**
EKA	**Eskdalemuir Ar**	**63.40**	**37**	P	**P**	**22 19 42.0**	**+0.6**
	2.2nm,0.8s,baz=268,slow=5.7,SNR=2.7						
ILAR	**Eielson Array**	**66.72**	**333**	P	**P**	**22 20 02.6**	**-0.2**
ILAR	**Eielson Array**	**66.72**	**333**	P	**P**	**22 20 02.6**	**-0.2**
	1.2nm,0.9s,baz=107,slow=5.8,SNR=4.0						
DBIC	**Dimbokro**	**66.94**	**91**	P	**P**	**22 20 06.1**	**+1.0**
DBIC	**Dimbokro**	**66.94**	**91**	P	**P**	**22 20 06.1**	**+1.0**
	3.7nm,0.8s,baz=281,slow=5.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**71.36**	**82**	P	**P**	**22 20 31.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**71.36**	**82**	P	**P**	**22 20 31.4**	**-1.2**
	1.0nm,0.8s,baz=288,slow=5.5,SNR=3.6						
GERES	**GERESS Array B**	**74.01**	**43**	P	**P**	**22 20 49.1**	**+1.3**
GERES	**GERESS Array B**	**74.01**	**43**	P	**P**	**22 20 49.1**	**+1.3**
	2.1nm,0.8s,baz=289,slow=4.1,SNR=4.6						
ARCES	**ARCESS Array B**	**75.70**	**21**	P	**P**	**22 20 57.5**	**+0.4**
ARCES	**ARCESS Array B**	**75.70**	**21**	P	**P**	**22 20 57.5**	**+0.4**
	2.9nm,0.8s,baz=280,slow=5.4,SNR=2.6						
FINES	**FINESS Array B**	**78.09**	**29**	P	**P**	**22 21 10.3**	**-0.5**
FINES	**FINESS Array B**	**78.09**	**29**	P	**P**	**22 21 10.3**	**-0.5**
	1.4nm,0.8s,baz=266,slow=5.6,SNR=2.2						
MLR	**Muntele Rosu**	**82.92**	**44**	P	**P**	**22 21 37.4**	**+0.3**
MLR	**Muntele Rosu**	**82.92**	**44**	P	**P**	**22 21 37.4**	**+0.3**
	0.8nm,0.7s,baz=206,slow=6.5,SNR=3.6						
BRTR	**Keskin Array B**	**90.33**	**48**	P	**P**	**22 22 13.3**	**-0.3**
BRTR	**Keskin Array B**	**90.33**	**48**	P	**P**	**22 22 13.3**	**-0.3**
	0.7nm,0.9s,baz=300,slow=3.2,SNR=3.2						
STKA	**Stephens Creek**	**146.35**	**240**	PKPbc	**PKPbc**	**22 28 53.2**	**-0.2**
STKA	**Stephens Creek**	**146.35**	**240**	PKPbc	**PKPbc**	**22 28 53.2**	**-0.2**
	3.3nm,0.9s,baz=111,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**154.42**	**262**	PKP	**PKPdf**	**22 29 04.6**	**-0.5**
WRA				PKPbc	**PKPbc**	**22 29 12.3**	**-1.1**
WRA	**Warramunga Arr**	**154.42**	**262**	PKP	**PKPdf**	**22 29 04.6**	**-0.5**
	1.2nm,0.7s,baz=94,slow=2.3,SNR=3.0						
WRA				PKPbc	**PKPbc**	**22 29 12.3**	**-1.1**
	2.1nm,0.7s,baz=84,slow=2.5,SNR=4.9						

IDC ***12*** *22:09:45.3±0.9, 0°.08S×123°.51E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.1/20, mbtmp4.3/7, Error ellipse: s-maj=48.5km s-min=19.7km az=73.0*
ISCJB ***12*** *22:09:57.1±0.5, 0°.14S±0°.06×124°.02E±0°.05, h119km±5km, mb4.2/7, Error ellipse: s-maj=11.2km s-min=6.6km az=32.4*
DJA ***12*** *22:09:58.3±0.3, 0°.S±5°×12°.4E±°, h90km±10km, M4.8/10, MLv4.8/10*
ISC 12 22:09:58.0±0.8, 0°.14S±0°.06×123°.96E±0°.05, h110km±8km, n19, σ1ˢ49/22, mb4.1/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.71**	**1**	P	**Pn**	**22 10 16.6**	**+0.1**
KMSI				S	**Sn**	**22 10 32.1**	**+1.7**
LUWI	**Luwuk**	**1.49**	**233**	P	**Pn**	**22 10 25.7**	**+1.0**
MRSI	**Marisa**	**2.12**	**287**	P	**Pn**	**22 10 31.8**	**-0.7**
MRSI				S	**Sn**	**22 10 55.4**	**-3.4**
APSI	**Ampana**	**2.44**	**252**	P	**Pn**	**22 10 37.6**	**+1.0**
SANI	**Sanana**	**2.77**	**133**	P	**Pn**	**22 10 39.5**	**-1.5**
SANI				S	**Sn**	**22 11 11.0**	**-3.1**
TOLI	**Toli-Toli**	**3.41**	**292**	P	x	22 10 51.3	
TNTI	**Ternate**	**3.52**	**75**	P	**Pn**	**22 10 51.5**	**+0.5**
LBMI	**Labuha**	**3.57**	**98**	P	**Pn**	**22 10 51.2**	**-0.5**
LBMI				S	**Sn**	**22 11 32.5**	**-0.6**
NLAI	**Namlea**	**4.39**	**134**	P	**Pn**	**22 11 02.8**	**+0.1**
NLAI				S	**Sn**	**22 11 52.5**	**-0.3**
SWI	**Sorong**	**7.33**	**96**	P	Pn	22 11 48.6	+6.1
WRA	**Warramunga Arr**	**22.15**	**153**	P	**P**	**22 14 46.3**	**+1.3**
	7.4nm,0.8s,baz=333,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**35.70**	**154**	P	**P**	**22 16 48.1**	**+2.1**
	26nm,0.9s,baz=347,slow=5.1,SNR=3.3						
MJAR	**Matsushiro Arr**	**38.82**	**18**	P	**P**	**22 17 11.9**	**-0.4**
	2.8nm,0.6s,baz=190,slow=9.3,SNR=8.5						
USRK	**Ussuriysk Arra**	**44.73**	**8**	P	**P**	**22 18 00.7**	**+0.4**
	2.4nm,0.4s,baz=192,slow=6.0,SNR=21						
SONM	**Songino Array**	**50.17**	**345**	P	**P**	**22 18 42.2**	**-0.3**
	1.2nm,0.7s,baz=161,slow=8.4,SNR=3.0						
MKAR	**Makanchi Array**	**59.24**	**328**	P	**P**	**22 19 46.5**	**-1.4**
	0.8nm,0.5s,baz=121,slow=8.4,SNR=13						
KURBB	**Kurchatov Arra**	**63.57**	**330**	P	**P**	**22 20 16.0**	**-1.0**
	1.1nm,0.6s,baz=134,slow=6.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**121.38**	**285**	PKP	**PKPdf**	**22 28 39.9**	**+0.4**
	0.9nm,0.6s,baz=103,slow=1.3,SNR=9.0						
CFAA	**Coronel Fontan**	**146.37**	**161**	PKPbc	**PKPab**	**22 29 28.3**	**+0.4**
	0.2nm,0.4s,baz=205,slow=19,SNR=2.5						

IDC ***12*** *22:11:43.1±1.6, 18°.18N×72°.92W, h0km, mb4.2/13, mb1 4.5/13, mb1mx4.3/26, mbtmp4.2/13, Error ellipse: s-maj=52.0km s-min=21.2km az=7.0*
ISC 12 22:11:44.5±1.8, 18°.2N±0°.4×73°.0W±0°.2, h10km, n15, σ0ˢ72/13, mb4.3/13, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**12.46**	**117**	*e*	Pn	22 14 48.9	+6.8
TXAR	**Lajitas Array**	**30.11**	**297**	P	P	22 17 56.9	+2.4
	1.4nm,0.8s,baz=109,slow=4.1,SNR=4.9						
NVAR	**Mina Array Bea**	**44.20**	**307**	P	**P**	**22 19 54.7**	**+0.6**
	1.5nm,0.7s,baz=93,slow=4.5,SNR=4.3						
YKA	**Yellowknife Ar**	**52.80**	**337**	P	**P**	**22 20 58.7**	**-1.1**
	2.7nm,0.8s,baz=124,slow=7.3,SNR=4.0						
DLBC	**Dease Lake**	**57.61**	**328**	P	**P**	**22 21 34.7**	**+0.1**
	5.9nm,0.9s,baz=72,slow=4.1,SNR=3.0						
ESDC	**Sonseca Array**	**62.63**	**54**	P	**P**	**22 22 08.8**	**-0.6**
	3.1nm,0.9s,baz=294,slow=8.6,SNR=4.1						
EKA	**Eskdalemuir Ar**	**63.79**	**37**	P	**P**	**22 22 18.1**	**+1.4**
	1.3nm,0.6s,baz=271,slow=6.7,SNR=4.6						
ILAR	**Eielson Array**	**66.85**	**333**	P	**P**	**22 22 36.0**	**-0.4**
	1.3nm,0.9s,baz=90,slow=3.8,SNR=4.8						
NOA	**NORSAR Array B**	**71.49**	**31**	P	**P**	**22 23 05.1**	**-0.1**
	0.7nm,0.6s,baz=275,slow=6.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**71.66**	**82**	P	**P**	**22 23 06.5**	**-0.6**
	2.2nm,0.9s,baz=300,slow=4.0,SNR=3.8						
KEST	**Kesra**	**73.54**	**57**	P	**P**	**22 23 18.4**	**+0.4**
	1.2nm,0.9s,baz=277,slow=17,SNR=3.9						
GERES	**GERESS Array B**	**74.40**	**43**	P	**P**	**22 23 22.9**	**+0.1**
	3.9nm,0.8s,baz=284,slow=5.4,SNR=9.4						
ARCES	**ARCESS Array B**	**76.07**	**21**	P	**P**	**22 23 31.4**	**-0.5**
	5.9nm,0.8s,baz=293,slow=3.4,SNR=3.5						
MLR	**Muntele Rosu**	**83.31**	**44**	P	**P**	**22 24 12.5**	**+0.6**
	2.5nm,0.9s,baz=8.6,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**154.12**	**262**	PKPbc	**PKPbc**	**22 31 45.3**	**-0.1**
	1.4nm,0.9s,baz=89,slow=1.6,SNR=4.0						

ISCJB ***12*** *22:12:02.9±0.1, 18°.44N±0°.03×72°.52W±0°.01, h11km, mb5.4/233, MS5.7/3, Error ellipse: s-maj=3.7km s-min=1.9km az=11.1*
IDC ***12*** *22:12:02.7±0.3, 18°.46N×72°.51W, h0km, mb5.0/43, mb1 5.1/47, mb1mx5.1/50, mbtmp5.0/47, ML3.9/3, Error ellipse: s-maj=11.2km s-min=8.6km az=59.0*
MOS ***12*** *22:12:03.1±1.0, 18°.51N×72°.53W, h10km, mb5.8/74, Error ellipse: s-maj=6.0km s-min=4.5km az=73.5*
NEIC ***12*** *22:12:04.7±0.1, 18°.45N×72°.51W, h10km, mb5.7/125, Error ellipse: s-maj=3.4km s-min=2.5km az=23.0*
SZGRF ***12*** *22:12:11.0, 18°.98N×72°.28W, h33km, mb5.7, Haiti region*
ISC 12 22:12:04.9±0.8, 18°.42N±0°.04×72°.54W±0°.03, h14km±4km, n985, σ0ˢ88/1019, mb5.5/233, MS5.7/3, 290C-236D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.31**	**64**	*e*Pn	**Pn**	**22 12 26.4**	**-2.5**
SDDR				*e*S	**Sb**	**22 12 45.3**	**-0.8**
GTBY	**Guantanamo Bay**	**2.86**	**302**	*e*Pn	**Pn**	**22 12 48.3**	**-1.8**
GTBY				*e*S	**Sb**	**22 13 33.4**	**+2.7**
GRTK	**Grand Turk**	**3.35**	**23**	*e*Pn	**Pn**	**22 12 56.3**	**-0.6**
GRTK				*e*S	**Sn**	**22 13 39.9**	**+3.5**
MTDJ	**Mount Denham**	**4.75**	**269**	*e*Pn	**Pn**	**22 13 15.6**	**-0.6**
MTDJ				*e*S	**Sb**	**22 14 20.4**	**-4.7**
CBYP	**Canovanas**	**6.35**	**90**	*e*Pn	**Pn**	**22 13 38.6**	**+0.5**
	628nm,1.0s						
SDV	**Santo Domingo**	**9.65**	**169**	*e*Pn	**Pn**	**22 14 24.8**	**+1.2**
SDV				*e*S	**Sn**	**22 16 08.6**	**-3.4**
ANWB	**Willy Bob**	**10.25**	**92**	*e*P	**Pn**	**22 14 31.3**	**-0.4**
	170nm,0.7s						
H05N1	**Guadeloupe/Mar**	**11.16**	**99**	Pn	**Pn**	**22 14 43.9**	**-0.2**
	SNR=26						
BCIP	**Isla Barro Col**	**11.61**	**219**	*e*Pn	**Pn**	**22 14 50.6**	**+0.3**
	804nm,1.0s						
TRN	**Trinidad (W)**	**13.25**	**124**	*e*	P	22 15 18.8	-3.8
TPP	**Pointe-a-Pierr**	**13.42**	**125**	*e*	**P**	**22 15 26.9**	**+2.5**
BOT	**Bacolet**	**13.51**	**121**	*e*	**P**	**22 15 25.5**	**+0.1**
BBGH	**Gun Hill**	**13.54**	**111**	Pn	**Pn**	**22 15 17.7**	**+1.0**
ROSC	**El Rosal**	**13.59**	**188**	*e*Pn	Pn	22 15 21.3	+3.5
ROSC				*e*S	**Sn**	**22 17 49.3**	**+0.4**
ROSC	**El Rosal**	**13.59**	**188**	Pn	**Pn**	**22 15 18.4**	**+0.7**
	3.4nm,0.3s,baz=86,slow=16,SNR=6.6						
ROSC				Sn	**Sn**	**22 17 53.2**	**+4.4**
	3.3nm,0.3s,baz=268,slow=23,SNR=4.1						
TBH	**Brigand Hill**	**13.62**	**124**	*e*	**P**	**22 15 26.0**	**-0.6**
JTS	**JuntasAbangare**	**14.48**	**238**	Pn	**Pn**	**22 15 31.3**	**+1.7**
	136nm,0.9s						
TEIG	**Tepich**	**14.97**	**279**	*e*Pn	**Pn**	**22 15 36.2**	**+0.1**
	214nm,1.1s						
TEIG	**Tepich**	**14.97**	**279**	Pn	**Pn**	**22 15 35.5**	**-0.6**
	1.7nm,0.3s,baz=75,slow=12,SNR=5.3						
TIGA	**Tifton**	**16.37**	**324**	⇑P	**Pn**	**22 15 52.9**	**-1.5**
	baz=16						
APG	**El Apazote**	**17.50**	**262**	P	**P**	**22 16 09.8**	**-0.2**
APG	**El Apazote**	**17.50**	**262**	P	**P**	**22 16 09.8**	**-0.2**
	baz=45,slow=21,SNR=4.1						
GOGA	**Godfrey**	**17.86**	**329**	*e*P	**Pn**	**22 16 12.6**	**-0.4**
GOGA				pmax	pmax		
	comp=Z,59nm,1.1s						
GOGA	**Godfrey**	**17.86**	**329**	*e*Pn	**Pn**	**22 16 12.6**	**-0.4**
	comp=Z,59nm,1.1s						
BRAL	**Brewton**	**18.18**	**316**	*e*Pn	**P**	**22 16 17.6**	**+0.5**
	comp=Z,401nm,1.2s						
KMSC	**Kings Mountain**	**18.40**	**337**	⇑P	**P**	**22 16 18.6**	**-1.0**
	baz=18						
OTAV	**Otavalo**	**18.98**	**198**	*e*P	**Pn**	**22 16 28.1**	**+0.9**
TKL	**Tuckaleechee C**	**19.85**	**332**	*e*P	**Pn**	**22 16 36.8**	**-0.3**
TKL	**Tuckaleechee C**	**19.85**	**332**	P	**P**	**22 16 35.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=160,slow=12,SNR=4.2						
VWCC	**Virginia Weste**	**19.86**	**342**	*e*P	**Pn**	**22 16 37.0**	**-0.3**
BLA	**Blacksburg**	**19.96**	**341**	*e*P	**P**	**22 16 37.6**	**+0.8**
BLA				pmax	pmax		
	comp=Z,499nm,1.3s						
BLA	**Blacksburg**	**19.96**	**341**	*e*P	**P**	**22 16 37.5**	**+0.8**
	comp=Z,499nm,1.3s						
BLA				*e*S	S	22 20 03.1	-18
CPCT	**Cooper Cave**	**20.02**	**330**	*e*P	Pn	22 16 38.5	-0.6
SWET	**Sewanee**	**20.53**	**327**	*e*P	**P**	**22 16 43.1**	**+0.2**
	comp=Z,814nm,1.9s						
SDMD	**Soldier's Deli**	**21.25**	**351**	*e*P	**P**	**22 16 50.6**	**0.0**
	comp=Z,210nm,1.3s						
OXF	**Oxford**	**21.97**	**320**	*e*P	**P**	**22 16 58.2**	**-0.2**
OXF				pmax	pmax		
	comp=Z,452nm,1.1s						
OXF	**Oxford**	**21.97**	**320**	*e*P	**P**	**22 16 58.2**	**-0.2**
	comp=Z,452nm,1.1s						
BRNJ	**Basking Ridge**	**22.26**	**356**	*e*P	**P**	**22 17 04.0**	**+2.6**
	comp=Z,201nm,1.1s						
PTGA	**Pitinga**	**22.69**	**146**	*e*P	**P**	**22 17 07.5**	**+1.3**
	comp=Z,146nm,1.2s						
PTGA	**Pitinga**	**22.69**	**146**	P	**P**	**22 17 07.0**	**+0.8**
	comp=Z,41nm,1.0s,baz=344,slow=12,SNR=6.9						
HALT	**Halls**	**22.90**	**323**	*e*P	**P**	**22 17 08.6**	**+0.3**
WCI	**Wyandotte Cave**	**23.11**	**331**	*e*P	**P**	**22 17 09.8**	**-0.6**
WCI	**Wyandotte Cave**	**23.11**	**331**	*e*P	**P**	**22 17 09.8**	**-0.6**
ACSO	**Alum Creek Sta**	**23.54**	**340**	*e*P	**P**	**22 17 15.8**	**+1.1**
	comp=Z,252nm,1.4s						
BINY	**Binghamton**	**23.89**	**354**	*e*P	**P**	**22 17 17.0**	**-1.1**
	comp=Z,382nm,1.8s						
BLO	**Bloomington**	**23.98**	**332**	*e*P	**P**	**22 17 20.0**	**+1.0**
BLO				pmax	pmax		
	comp=Z,339nm,1.4s						
BLO	**Bloomington**	**23.98**	**332**	*e*P	**P**	**22 17 20.0**	**+1.0**
	comp=Z,339nm,1.4s						
UALR	**University of**	**23.99**	**317**	*e*P	**P**	**22 17 19.6**	**+0.5**
	comp=Z,848nm,2.2s						
ALLY	**Alegheny Colle**	**24.05**	**346**	*e*P	**P**	**22 17 19.6**	**0.0**
	comp=Z,418nm,1.9s						
HKT	**Hockley**	**24.11**	**303**	⇑*i*P	**P**	**22 17 18.6**	**-1.6**
HKT				pmax	pmax		
	comp=Z,36nm,1.0s						
SIUC	**Southern Illin**	**24.14**	**326**	*e*P	**P**	**22 17 20.9**	**+0.4**
	comp=Z,569nm,1.4s						
ACCN	**Adirondack Com**	**24.91**	**358**	*e*P	**P**	**22 17 28.5**	**+1.1**
	comp=Z,116nm,1.3s						
835A	**Beeville**	**25.17**	**298**	⇑P	**P**	**22 17 29.1**	**-0.8**
	baz=25						
SFIN	**Scholer Farm**	**25.23**	**333**	*e*P	**P**	**22 17 30.5**	**+0.2**
	comp=Z,187nm,1.0s						
SFIN	**Scholer Farm**	**25.23**	**333**	⇑P	**P**	**22 17 30.6**	**+0.3**
	baz=25,SNR=12						
735A	**Kenedy**	**25.33**	**299**	⇑P	**P**	**22 17 32.1**	**+0.8**
	baz=25,SNR=6.3						
SLM	**Saint Louis**	**25.36**	**326**	*e*P	**P**	**22 17 31.7**	**+0.1**
SLM				pmax	pmax		
	comp=Z,2μm,2.3s						
SLM	**Saint Louis**	**25.36**	**326**	*e*P	**P**	**22 17 31.7**	**+0.1**
	comp=Z,2μm,2.3s						
635A	**Leesville**	**25.47**	**300**	⇓P	**P**	**22 17 32.5**	**-0.2**
	baz=26						
535A	**Dale**	**25.53**	**302**	⇑P	**P**	**22 17 33.0**	**-0.2**
	baz=26						
934A	**Benavides**	**25.56**	**296**	⇓P	**P**	**22 17 33.9**	**+0.4**
	baz=26						
034A	**Hebbronville**	**25.57**	**294**	⇓P	**P**	**22 17 34.5**	**+1.0**
	baz=26,SNR=9.1						
AAM	**Ann Arbor**	**25.62**	**341**	*e*P	**P**	**22 17 34.4**	**+0.5**
AAM				pmax	pmax		
	comp=Z,429nm,1.4s						
AAM	**Ann Arbor**	**25.62**	**341**	*e*P	**P**	**22 17 34.4**	**+0.5**
	comp=Z,429nm,1.4s						
834A	**Tilden**	**25.73**	**297**	⇑P	**P**	**22 17 35.6**	**+0.5**
	baz=26,SNR=8.2						
LBNH	**Lisbon**	**25.75**	**1**	*e*P	**P**	**22 17 36.0**	**+0.9**
LBNH				pmax	pmax		
	comp=Z,151nm,1.5s						
LBNH	**Lisbon**	**25.75**	**1**	*e*P	**P**	**22 17 36.0**	**+0.9**
	comp=Z,151nm,1.5s						
335A	**Moody**	**25.89**	**304**	⇑P	**P**	**22 17 37.2**	**+0.7**
	baz=26						
634A	**China Grove, S**	**25.95**	**300**	⇑P	**P**	**22 17 37.4**	**+0.4**
	baz=26						
734A	**La Parita Cree**	**25.95**	**298**	⇑P	**P**	**22 17 37.4**	**+0.4**
	baz=26						
ATAH	**Atahualpa**	**26.04**	**193**	P	**P**	**22 17 39.6**	**+1.3**
ATAH	**Atahualpa**	**26.04**	**193**	P	**P**	**22 17 39.6**	**+1.3**
	comp=Z,5.9nm,0.7s,baz=7.6,slow=15,SNR=3.1						
WHTX	**Lake Whitney**	**26.21**	**306**	*e*P	**P**	**22 17 40.0**	**+0.6**
	comp=Z,211nm,1.4s						
WHTX	**Lake Whitney**	**26.21**	**306**	⇓P	**P**	**22 17 39.2**	**-0.2**
	baz=26						
534A	**Blanco**	**26.26**	**301**	⇓P	**P**	**22 17 40.1

comp=Z,95nm,0.8s
JFWS **Jewell Farm** 28.66 332 *e*P P 22 18 01.1 0.0
comp=Z,95nm,0.8s
SAML **Samuel** 28.71 160 P P 22 18 02.5 +0.6
131A **Roby** 28.75 305 ⇑P P 22 18 02.3 +0.1
baz=29
430A **Baggett Ranch,** 28.76 301 ⇑P P 22 18 02.2 -0.2
baz=29
Z31A **Sharp Cattle R** 28.82 306 ⇓P P 22 18 02.8 0.0
baz=29
330A **Mertzon** 28.92 302 ⇑P P 22 18 03.4 -0.3
baz=29
W32A **Sentinel** 28.95 310 ⇓P P 22 18 03.9 0.0
baz=29,SNR=7.4
230A **Sterling City** 29.03 303 ⇓P P 22 18 04.8 +0.1
baz=29
V32A **Arapaho** 29.09 312 ⇓P P 22 18 05.2 +0.1
baz=29
130A **Snyder** 29.18 304 ⇓P P 22 18 06.0 0.0
baz=29
Y31A **Rekieta Farm,** 29.18 308 ⇑P P 22 18 05.9 -0.1
baz=29
T33A **Patterson Ranc** 29.23 315 ⇓P P 22 18 06.1 -0.3
baz=29
429A **Davenport Ranc** 29.25 300 ⇓P P 22 18 06.0 -0.7
baz=29
X31A **McDonald Ranch** 29.26 309 ⇑P P 22 18 06.1 -0.6
baz=29
KSU1 **Kansas State U** 29.34 320 *e*P P 22 18 07.5 +0.2
comp=Z,132nm,1.2s
KSU1 **Kansas State U** 29.34 320 ⇓P P 22 18 07.2 -0.1
baz=29,SNR=7.7
S33A **Kaszmaul Farm,** 29.35 316 ⇓P P 22 18 07.0 -0.4
baz=29
529A **Stev Forest Ra** 29.38 299 ⇑P P 22 18 07.2 -0.6
baz=29
U32A **Winter Ranch,** 29.39 313 ⇑P P 22 18 07.9 +0.1
baz=29
W31A **Holland Ranch,** 29.48 310 ⇑P P 22 18 08.1 -0.6
baz=30
Z30A **Sanderson Ranc** 29.56 306 ⇑P P 22 18 08.9 -0.5
baz=30
329A **Wagon Wheel Ra** 29.59 302 ⇓P P 22 18 09.0 -0.7
baz=30
229A **Bryant Ranch,** 29.62 303 ⇓P P 22 18 09.6 -0.3
baz=30
Y30A **Stafford Cattl** 29.62 307 ⇓P P 22 18 09.7 -0.3
baz=30
V31A **Spring Creek L** 29.68 311 ⇓P P 22 18 10.5 +0.1
baz=30
R33A **Olander Ranch,** 29.74 317 ⇑P P 22 18 11.1 +0.2
baz=30
T32A **Huddler Ranch,** 29.75 314 ⇓P P 22 18 11.1 +0.1
baz=30
X30A **Coker Ranch, T** 29.84 308 ⇓P P 22 18 11.5 -0.4
baz=30
528A **Cox Ranch, San** 29.86 299 ⇓P P 22 18 12.1 -0.1
baz=30
129A **Stewart Farms,** 29.89 304 ⇓P P 22 18 12.2 -0.2
baz=30
428A **Kincaid Ranch,** 29.93 300 ⇑P P 22 18 13.4 +0.6
baz=30,SNR=5.5
Z29A **Hungry Hill Ra** 30.00 305 ⇓P P 22 18 13.9 +0.6
baz=30
Q33A **Connelly Farm,** 30.04 318 ⇓P P 22 18 14.1 +0.6
baz=30,SNR=7.7
627A **Terlingua Ranc** 30.18 297 ⇓P P 22 18 15.0 +0.1
baz=30,SNR=5.5
Y29A **Porterfield Fa** 30.21 306 ⇑P P 22 18 15.3 +0.2
baz=30
P33A **Williams Farm,** 30.21 319 ⇑P P 22 18 14.9 -0.1
baz=30
T31A **Randall Ranch,** 30.22 314 ⇑P P 22 18 15.5 +0.4
baz=30
328A **Wristen Ranch,** 30.23 301 ⇑P P 22 18 15.3 -0.1
baz=30
R32A **Long Quarter,** 30.28 317 ⇑P P 22 18 15.4 -0.2
baz=30
V30A **Spur Ranch, Mi** 30.29 310 ⇑P P 22 18 16.1 +0.3
baz=30
228A **UT Block 9, Go** 30.29 303 ⇓P P 22 18 15.7 -0.2
baz=30
S31A **Mullinville** 30.36 315 ⇑P P 22 18 16.9 +0.5
baz=30,SNR=5.7
128A **Castleberry Fa** 30.38 304 ⇓P P 22 18 16.7 0.0
baz=30
TXAR **Lajitas Array** 30.38 297 P P 22 18 17.0 +0.3
TXAR PcP PcP 22 21 16.5 -0.1
TXAR **Lajitas Array** 30.38 297 P P 22 18 17.0 +0.3
comp=Z,14nm,1.0s,baz=115,slow=6.6,SNR=15
TXAR PcP PcP 22 21 16.5 -0.1
comp=Z,4.4nm,1.0s,baz=128,slow=5.8,SNR=3.5
X29A **Tulia** 30.46 307 ⇑P P 22 18 17.4 -0.1
baz=30
Q32A **Meitler Ranch,** 30.50 318 ⇑P P 22 18 18.0 +0.4
baz=30
527A **Woodward Ranch** 30.54 298 ⇓P P 22 18 18.6 +0.4
baz=30
Z28A **Tucker Farm, M** 30.54 305 ⇑P P 22 18 18.5 +0.4
baz=30
427A **Hayter Ranch,** 30.56 300 ⇑P P 22 18 18.4 +0.1
baz=31
U30A **WK&E Inc. Balk** 30.62 312 ⇓P P 22 18 19.3 +0.5
baz=31
AMTX **Amarillo** 30.63 308 ⇑P P 22 18 18.7 -0.2
baz=31
W29A **Amraillo** 30.70 309 ⇑P P 22 18 19.6 +0.1
baz=31
R31A **Burdett** 30.74 316 ⇓P P 22 18 20.0 +0.3
baz=31
T30A **Plains** 30.78 313 ⇑P P 22 18 21.0 +0.8
baz=31
227A **Bennet, Jal** 30.82 302 ⇑P P 22 18 20.7 +0.1
baz=31
626A **Big Bend Ranch** 30.83 297 ⇓P P 22 18 21.3 +0.6
baz=31
X28A **Dimmitt** 30.87 307 ⇑P P 22 18 21.7 +0.7
baz=31
P32A **Huiting Farm,** 30.89 319 ⇑P P 22 18 21.6 +0.6
baz=31
526A **Mary Lane Ranc** 30.92 298 ⇑P P 22 18 22.1 +0.5
baz=31,SNR=8.7
V29A **Stinnett** 30.94 310 ⇑P P 22 18 22.1 +0.5
baz=31
U29A **Oasis Ranch, S** 31.02 311 ⇓P P 22 18 23.1 +0.8
baz=31
426A **McDonald Obser** 31.03 299 ⇓P P 22 18 23.3 +0.7
baz=31,SNR=6.3
S30A **Montezuma** 31.03 314 ⇑P P 22 18 22.6 +0.2
baz=31
Q31A **Ellis** 31.04 317 ⇓P P 22 18 23.2 +0.8
baz=31,SNR=7.5
O32A **Brockman Farm,** 31.07 320 ⇓P P 22 18 22.9 +0.3
baz=31
127A **Arkansas Junct** 31.09 303 ⇑P P 22 18 22.9 -0.1
baz=31
MSTX **Muleshoe** 31.09 306 ⇓P P 22 18 23.3 +0.3
baz=31
W28A **Vega** 31.18 309 ⇑P P 22 18 23.5 -0.2
baz=31
Z27A **Tatum** 31.20 304 ⇓P P 22 18 23.7 -0.3
baz=31
R30A **Dighton** 31.24 315 ⇑P P 22 18 24.3 +0.1
baz=31,SNR=5.5
P31A **Stockton** 31.32 318 ⇑P P 22 18 24.7 -0.2
baz=31
Y27A **Causey** 31.36 305 ⇓P P 22 18 25.1 -0.3
baz=31
T29A **Hugoton** 31.37 312 ⇓P P 22 18 24.9 -0.5
baz=31
N32A **Stulken Farm,** 31.38 321 ⇑P P 22 18 24.8 -0.5
baz=31
S29A **Ulysses** 31.47 313 ⇑P P 22 18 25.9 -0.3
baz=32
Q30A **Quinter** 31.57 316 ⇓P P 22 18 27.2 +0.1
baz=32,SNR=5.5
126A **Clayton Basin,** 31.61 303 ⇓P P 22 18 27.4 -0.1
baz=32
SPMN **St. Paul** 31.62 332 ⇓P P 22 18 27.3 0.0
baz=32
O31A **Woolen Ranch,** 31.65 319 ⇓P P 22 18 27.8 +0.1
baz=32,SNR=6.7
U28A **Mallet** 31.67 310 ⇑P P 22 18 27.8 -0.3
baz=32
BGNE **Belgrade** 31.69 322 ⇑P P 22 18 27.7 -0.4
baz=32
W27A **Bowe Ranch, En** 31.74 308 ⇑P P 22 18 28.8 +0.1
baz=32
Z26A **Caprock** 31.78 304 ⇑P P 22 18 28.8 -0.3
baz=32
N31A **Bailey Ranch,** 31.82 320 ⇑P P 22 18 29.3 +0.1
baz=32
425A **Indio Mountain** 31.85 299 ⇓P P 22 18 29.6 -0.1
baz=32
V27A **Dan Oppiter Fa** 31.85 309 ⇓P P 22 18 29.3 -0.3
baz=32
R29A **Marienthal** 31.89 315 ⇑P P 22 18 30.5 +0.5
baz=32
Y26A **Elida** 31.89 305 ⇓P P 22 18 29.8 -0.3
baz=32
P30A **Selden** 31.89 317 ⇓P P 22 18 30.3 +0.4
baz=32,SNR=11
T28A **Walsh** 31.93 312 ⇑P P 22 18 31.2 +0.8
baz=32,SNR=6.1
325A **Bean Ranch, Si** 32.00 300 ⇓P P 22 18 31.5 +0.5
baz=32,SNR=6.8
S28A **Manter** 32.00 313 ⇑P P 22 18 31.3 +0.4
baz=32
Q29A **Oakley** 32.02 315 ⇓P P 22 18 31.4 +0.3
baz=32,SNR=11
225A **Deer Hill, Car** 32.09 301 ⇓P P 22 18 31.8 0.0
baz=32
X26A **CR and CF Fran** 32.11 306 ⇓P P 22 18 31.9 0.0
baz=32,SNR=5.3
125A **Gardner Draw,** 32.12 302 ⇑P P 22 18 32.0 -0.1
baz=32
O30A **MW Ranch, Wils** 32.12 318 ⇓P P 22 18 32.6 +0.6
baz=32
U27A **Thompson Grove** 32.13 310 ⇑P P 22 18 32.0 -0.1
baz=32
M31A **Lambtecht Ranc** 32.14 321 ⇓P P 22 18 32.5 +0.4
baz=32,SNR=7.6
W26A **Owens Ranch, T** 32.28 307 ⇑P P 22 18 33.4 0.0
baz=32
R28A **Tribune** 32.30 314 ⇓P P 22 18 33.7 +0.1
baz=32,SNR=8.5
T27A **Campo** 32.34 311 ⇓P P 22 18 33.8 -0.1
baz=32
ECSD **EROS Data Cent** 32.37 326 ⇑P P 22 18 34.3 +0.3
baz=32
P29A **Atwood** 32.37 317 ⇑P P 22 18 34.3 +0.2
baz=32
Z25A **Roswell** 32.37 304 ⇓P P 22 18 34.3 +0.1
baz=32
MNTX **Cornudas Mount** 32.42 300 *e*P P 22 18 34.9 +0.2
comp=Z,355nm,1.9s
324A **Moseley Ranch,** 32.44 300 ⇓P P 22 18 35.3 +0.4
baz=32,SNR=10
N30A **Hueftle Ranch,** 32.50 319 ⇓P P 22 18 36.0 +0.7
baz=32,SNR=10
Y25A **Mesa, Roswell** 32.56 305 ⇑P P 22 18 36.2 +0.2
baz=33
O29A **4D Ranch, Culb** 32.57 318 ⇓P P 22 18 35.9 +0.1
baz=33,SNR=7.7
L31A **Butterfield Fa** 32.57 322 ⇑P P 22 18 36.3 +0.5
baz=33
V26A **Tequesquite Ra** 32.57 308 ⇓P P 22 18 36.0 0.0
baz=33
224A **Cornudas Mount** 32.65 301 ⇑P P 22 18 37.0 +0.2
baz=33,SNR=7.0
Q28A **Sharon Springs** 32.68 315 ⇓P P 22 18 36.8 -0.1
baz=33
S27A **Las Animas** 32.74 312 ⇑P P 22 18 37.4 -0.1
baz=33
X25A **Clemmons Ranch** 32.75 306 ⇑P P 22 18 37.2 -0.5
baz=33
124A **Stringfield Ra** 32.77 302 ⇑P P 22 18 38.3 +0.4
baz=33,SNR=8.2
U26A **Atchley Ranch,** 32.79 309 ⇓P P 22 18 37.8 -0.2
baz=33
M30A **Dale-Ortello V** 32.80 320 ⇑P P 22 18 38.3 +0.5
baz=33,SNR=8.5
N29A **Votaw Ranch, W** 32.84 319 ⇓P P 22 18 38.5 +0.2
baz=33
W25A **X Bar L Ranch,** 32.85 307 ⇑P P 22 18 38.7 +0.2
baz=33,SNR=5.9
P28A **Saint Francis** 32.89 316 ⇑P P 22 18 39.0 +0.3
baz=33
Z24A **Sheeppen Canyo** 32.90 303 ⇑P P 22 18 39.4 +0.4
baz=33,SNR=7.8
L30A **Spencer Herefo** 32.95 321 ⇓P P 22 18 39.3 +0.2
baz=33,SNR=12
R27A **Eads** 32.96 313 ⇓P P 22 18 39.2 -0.2
baz=33
T26A **Comanche Natio** 33.01 311 ⇓P P 22 18 39.9 -0.1
baz=33
Y24A **Capitan** 33.15 304 ⇑P P 22 18 41.7 +0.6
baz=33,SNR=6.7
O28A **Krusinger Ran** 33.20 317 ⇑P P 22 18 41.7 +0.3
baz=33
V25A **Rancho No Teng** 33.21 308 ⇓P P 22 18 42.3 +0.6
baz=33,SNR=9.5
M29A **Burnside Ranch** 33.24 320 ⇓P P 22 18 42.3 +0.6
baz=33,SNR=9.3
EYMN **Ely** 33.27 337 P P 22 18 42.7 +0.9
comp=Z,179nm,1.6s
U25A **Circle Dot Ran** 33.28 309 ⇓P P 22 18 42.8 +0.5
baz=33
N28A **Pribbeno Ranch** 33.35 318 ⇓P P 22 18 43.1 +0.4
baz=33
X24A **Lazy VL Ranch,** 33.36 305 ⇑P P 22 18 43.2 +0.2
baz=33
L29A **Maesberg Ranch** 33.47 321 ⇑P P 22 18 44.6 +0.9
baz=34,SNR=10.0
Z23A **Rita Site, Whi** 33.57 303 ⇓P P 22 18 45.2 +0.5
baz=34
W24A **Lazy 6 Ranch,** 33.57 307 ⇓P P 22 18 45.9 +1.1
baz=34
T25A **Trinidad** 33.59 310 ⇓P P 22 18 45.5 +0.5
baz=34,SNR=6.5
M28A **Bar X Bar Ranc** 33.63 319 ⇓P P 22 18 46.1 +0.9
baz=34
Y23A **Lovelace Mesa,** 33.63 304 ⇓P P 22 18 46.5 +1.1
baz=34,SNR=6.5
J30A **Dallas** 33.67 323 ⇑P P 22 18 45.5 +0.1
baz=34
O27A **Beecher Island** 33.69 316 ⇓P P 22 18 45.9 +0.2
baz=34
Q26A **Hugo** 33.76 314 ⇑P P 22 18 47.1 +0.8
baz=34,SNR=5.5
K29A **Lazy Trails An** 33.80 322 ⇓P P 22 18 46.8 +0.3
baz=34
OGNE **Ogallala** 33.80 318 ⇑P P 22 18 46.4 -0.2
baz=34
S25A **Robets Cordova** 33.83 311 ⇑P P 22 18 47.2 +0.2
baz=34
U24A **Moreno Valley** 33.92 309 ⇓P P 22 18 47.8 -0.2
baz=34
R25A **Fountain Ranch** 33.93 312 ⇑P P 22 18 48.2 +0.4
baz=34
X23A **Hourglass Bar** 33.95 305 ⇓P P 22 18 48.5 +0.3
baz=34
BRSD **Miller** 34.09 325 ⇓P P 22 18 48.9 -0.1
baz=34
W23A **Werner Place,** 34.12 306 ⇓P P 22 18 50.1 +0.4
baz=34
Z22A **Elephant Butte** 34.15 302 ⇓P P 22 18 50.2 +0.3
baz=34
J29A **Okreek** 34.19 323 ⇓P P 22 18 50.4 +0.4
baz=34
LPM **Los Pinos Moun** 34.21 304 *e*P P 22 18 51.5 +1.1
comp=Z,67nm,1.4s
T24B **San Luis** 34.26 310 ⇓P P 22 18 51.6 +0.6
baz=34,SNR=8.9
O26A **Horse Wrangler** 34.26 316 ⇓P P 22 18 51.7 +0.9
baz=34
ANMO **Albuquerque** 34.28 306 *e*P P 22 18 51.9 +0.9
comp=Z,377nm,2.5s
ANMO **Albuquerque** 34.28 306 P P 22 18 51.4 +0.3
comp=Z,19nm,1.1s,baz=120,slow=10,SNR=4.2
M27A **Reverse DX Ran** 34.34 319 ⇓P P 22 18 52.5 +1.1
baz=34
V23A **Ortiz Mt. (NFS** 34.35 307 ⇑P P 22 18 53.3 +1.7
baz=34
Y22D **IRIS PASSCAL I** 34.36 304 ⇑P P 22 18 52.8 +1.1
baz=34
S24A **Houchin Ranch,** 34.38 311 ⇓P P 22 18 53.3 +1.4
baz=34
221A **Mesquite Ranch** 34.47 300 ⇑P P 22 18 53.3 +0.7
baz=34
P25A **Willow Gulch B** 34.48 314 ⇑P P 22 18 53.1 +0.5
baz=34
N26A **Koester Ranch,** 34.51 317 ⇓P P 22 18 53.7 +1.0
baz=34
I29A **Vivian Onida** 34.56 324 ⇓P P 22 18 54.7 +1.6
baz=35
U23A **El Rito** 34.58 308 ⇑P P 22 18 55.0 +1.4
baz=35,SNR=7.9
121A **Cookes Peak, D** 34.61 301 ⇑P P 22 18 55.0 +1.1
baz=35
SDCO **Great Sand Dun** 34.63 311 *e*P P 22 18 54.2 +0.2
comp=Z,39nm,1.1s
J28A **Allard Ranch,** 34.73 322 ⇑P P 22 18 55.8 +1.1
baz=35
T23A **Casias Ranch,** 34.73 309 ⇑P P 22 18 56.0 +1.0
baz=35
O25A **Wiggins** 34.74 315 ⇓P P 22 18 55.8 +1.0
baz=35
LPAZ **La Paz** 34.76 173 *e*P P 22 18 58.4 +2.8
comp=Z,40nm,1.3s
LPAZ PcP PcP 22 21 28.9 -0.5
LPAZ **La Paz** 34.76 173 P P 22 18 56.6 +1.0
comp=Z,17nm,1.2s,baz=75,slow=6.8,SNR=7.4
LPAZ PcP PcP 22 21 28.9 -0.5
comp=Z,12nm,0.9s,baz=45,slow=5.7,SNR=3.4
M26A **McRoberts Ranc** 34.79 318 ⇓P P 22 18 55.8 +0.6
baz=35
H29A **Onida** 34.89 325 ⇓P P 22 18 57.3 +1.3
baz=35
Q24A **Divide** 34.90 313 ⇓P P 22 18 57.2 +0.8
baz=35
320A **Kipp Ranch, An** 34.93 299 ⇑P P 22 18 57.9 +1.3
baz=35
V22A **San Miguel Ran** 34.97 307 ⇓P P 22 18 58.5 +1.5
baz=35
S23A **Nye Farm, Mont** 34.97 310 ⇓P P 22 18 58.2 +1.2
baz=35
P24A **Kohler Place,** 34.99 314 ⇓P P 22 18 57.5 +0.4
baz=35
I28A **Midland** 35.04 323 ⇓P P 22 18 57.7 +0.4
baz=35
R23A **Moffat** 35.05 311 ⇓P P 22 18 58.1 +0.4
baz=35
L26A **Underwood Farm** 35.05 319 ⇑P P 22 18 58.0 +0.5
baz=35
N25A **Grover** 35.06 316 ⇑P P 22 18 58.3 +0.6
baz=35
J27A **Elkhorn Farm,** 35.08 321 ⇑P P 22 18 57.8 +0.1
baz=35
U22A **Llaves** 35.09 308 ⇓P P 22 18 59.4 +1.4
baz=35,SNR=9.7
AGMN **Agassiz Nation** 35.32 333 ⇓P P 22 18 59.8 +0.2
baz=35
M25A **Palm-Egli Farm** 35.36 317 ⇑P P 22 19 01.1 +0.9
baz=35,SNR=6.3
H28A **Mission Ridge** 35.37 324 ⇓P P 22 19 00.7 +0.6
baz=35
O24A **Longmont** 35.38 315 ⇓P P 22 19 00.6 +0.2
baz=35
E30A **Jud** 35.45 328 ⇑P P 22 19 01.0 +0.3
baz=36,SNR=8.6
K26A **Motz Farm, Whi** 35.48 320 ⇑P P 22 19 01.4 +0.3
baz=36,SNR=11
G28A **Parade** 35.57 325 ⇓P P 22 19 01.7 -0.1
baz=36,SNR=7.5
319A **Douglas** 35.57 298 ⇓P P 22 19 02.9 +0.8
baz=36,SNR=9.8
LPIG **La Paz** 35.58 286 P P 22 19 03.0 +1.0
LPIG **La Paz** 35.58 286 P P 22 19 03.0 +1.0
comp=Z,18nm,0.3s,baz=130,slow=2.6,SNR=7.7
S22A **4UR Ranch, Cre** 35.59 310 ⇓P P 22 19 02.4 0.0
baz=36
I27A **Quinn** 35.59 322 ⇑P P 22 19 01.9 -0.1
baz=36
N24A **Carr** 35.59 316 ⇑P P 22 19 02.6 +0.3
baz=36
ISCO **Idaho Springs** 35.60 314 ⇑P P 22 19 02.4 -0.1
baz=36
L25A **Engebretsen Ra** 35.67 318 ⇓P P 22 19 03.3 +0.4
baz=36
J26A **Sides Ranch, S** 35.76 321 ⇓P P 22 19 03.7 +0.2
baz=36
D30A **Buchanan** 35.80 329 ⇑P P 22 19 03.5 -0.2
baz=36,SNR=6.3
K25A **Mack Ranch, Ha** 35.86 319 ⇓P P 22 19 05.0 +0.6
baz=36,SNR=7.5
E29A **Napoleon** 35.87 328 ⇓P P 22 19 04.2 -0.1
baz=36
M24A **Cheyenne** 35.87 317 ⇓P P 22 19 05.1 +0.5
baz=36
H27A **Howes** 35.94 323 ⇑P P 22 19 05.3 +0.3
baz=36,SNR=7.0
O23A **Lake Granby, G** 36.00 314 ⇑P P 22 19 05.6 -0.2
baz=36
SIV **San Ignacio** 36.01 161 P P 22 19 04.9 -0.8
SIV PcP PcP 22 21 32.7 +0.3
SIV **San Ignacio** 36.01 161 P P 22 19 04.9 -0.8
comp=Z,9.5nm,0.9s,baz=343,slow=7.9,SNR=3.9
SIV PcP PcP 22 21 32.7 +0.3
comp=Z,11nm,1.0s,baz=282,slow=9.9,SNR=2.6
I26A **New Underwood** 36.04 322 ⇑P P 22 19 06.0 +0.1
baz=36
C30A **Mose, Pekin** 36.08 330 ⇓P P 22 19 06.4 +0.3
baz=36,SNR=14
D29A **Pettibone, Tap** 36.18 328 ⇓P P 22 19 07.2 +0.3
baz=36,SNR=12
L24A **Wheatland** 36.23 318 ⇑P P 22 19 08.1 +0.4
baz=36,SNR=8.9
J25A **Sunshine Ranch** 36.24 320 ⇓P P 22 19 07.7 0.0
baz=36,SNR=5.8
P22A **Eagle** 36.30 313 ⇑P P 22 19 08.5 +0.1
baz=36
G27A **Dupree** 36.32 324 ⇓P P 22 19 08.0 -0.2
baz=36,SNR=5.0
H26A **Fairpoint** 36.33 323 ⇓P P 22 19 08.4 0.0
baz=36,SNR=7.0
O22A **Kremmling** 36.40 314 ⇓P P 22 19 09.4 0.0
baz=36
E28A **Huff** 36.41 327 ⇓P P 22 19 09.2 +0.2
baz=36
M23A **Laramie** 36.46 316 ⇓P P 22 19 09.7 0.0
baz=36
K24A **Anderson Ranch** 36.51 319 ⇑P P 22 19 10.5 +0.5
baz=36
B30A **Myrvik Farm, E** 36.54 331 ⇑P P 22 19 10.4 +0.3
baz=37,SNR=14
SCHQ **Schefferville** 36.61 6 P P 22 19 09.7 -0.9
SCHQ PcP PcP 22 21 33.4 -0.1
SCHQ **Schefferville** 36.61 6 P P 22 19 09.7 -0.9
comp=Z,22nm,0.9s,baz=154,slow=16,SNR=5.8
SCHQ PcP PcP 22 21 33.4 -0.1
comp=Z,16nm,1.0s,baz=198,slow=3.2,SNR=3.3
MVCO **Mesa Verde** 36.62 308 ⇓P P 22 19 11.2 0.0
baz=37
N22A **Wattenberg Ran** 36.63 315 ⇑P P 22 19 11.2 -0.1
baz=37
F27A **Lemmon** 36.67 325 ⇓P P 22 19 11.2 -0.1
baz=37
MDND **Maddock** 36.72 329 ⇓P P 22 19 11.5 -0.1
baz=37
J24A **Dixon Ranch, L** 36.73 320 ⇓P P 22 19 12.0 +0.1
baz=37,SNR=7.2
D28A **Regan** 36.76 328 ⇓P P 22 19 11.9 0.0
baz=37
L23A **Garrett** 36.76 317 ⇓P P 22 19 11.9 -0.3
baz=37,SNR=7.7
E27A **Carson** 36.78 326 ⇓P P 22 19 12.6 +0.4
baz=37
H25A **Fruitdale** 36.81 322 ⇑P P 22 19 12.6 +0.1
baz=37
ULM **Lac du Bonnet** 36.83 335 P P 22 19 10.6 -1.9
comp=Z,50nm,1.1s
ULM **Lac du Bonnet** 36.83 335 P P 22 19 10.9 -1.5
comp=Z,79nm,1.2s,baz=145,slow=5.5,SNR=9.6
A30A **Hoffart Farm,** 36.88 331 ⇓P P 22 19 13.2 +0.2
baz=37,SNR=17
W18A **Petrified Fore** 36.89 304 *e*P P 22 19 14.7 +1.3
comp=Z,72nm,1.3s
W18A **Petrified Fore** 36.89 304 ⇑P P 22 19 14.4 +1.0
baz=37,SNR=6.1
X18A **Snowflake** 36.89 303 ⇑P P 22 19 14.4 +1.0
baz=37
I24A **Kuemmerle Ranc** 37.00 320 ⇑P P 22 19 14.4 +0.2
baz=37
M22A **Cedar Creek Ra** 37.01 316 ⇑P P 22 19 15.2 +0.8
baz=37
F26A **Lodgepole** 37.02 324 ⇑P P 22 19 14.3 +0.1
baz=37
C28A **Hausauer Farms** 37.02 328 ⇑P P 22 19 14.3 +0.1
baz=37,SNR=9.2
B29A **Wagenman Farm,** 37.03 330 ⇑P P 22 19 14.4 +0.2
baz=37,SNR=13
K23A **Bowen Ranch, D** 37.03 318 ⇑P P 22 19 14.8 +0.3
baz=37

G25A	**Newell**	37.04	323	⇓P		P		22 19 14.8	+0.3		
	baz=37,SNR=9.7										
D27A	**Center**	37.19	327	⇓P		P		22 19 16.0	+0.3		
	baz=37										
L22A	**Ellis Ranch, M**	37.20	317	⇓P		P		22 19 16.9	+0.9		
	baz=37										
E26A	**Carlson Angus**	37.28	325	⇑P		P		22 19 16.6	+0.1		
	baz=37										
A29A	**Manning Farm,**	37.30	331	⇓P		P		22 19 16.5	+0.1		
	baz=37,SNR=14										
J23A	**Dilts Ranch, B**	37.32	319	⇑P		P		22 19 17.7	+0.8		
	baz=37										
H24A	**Dirks Ranch, A**	37.45	322	⇑P		P		22 19 17.9	0.0		
	baz=37										
F25A	**Bowman**	37.50	324	⇑P		P		22 19 18.5	+0.2		
	baz=38										
B28A	**Dugan Ranch, T**	37.50	329	⇑P		P		22 19 18.6	+0.4		
	baz=38,SNR=9.0										
K22A	**Casper**	37.56	317	*eP*		P		22 19 19.4	+0.5		
	comp=Z,236nm,1.6s										
K22A	**Casper**	37.56	317	⇓P		P		22 19 18.9	0.0		
	baz=38,SNR=5.5										
I23A	**Meade Ranch, G**	37.56	320	⇓P		P		22 19 19.9	+0.9		
	baz=38										
O20A	**White River Ci**	37.56	313	⇓P		P		22 19 19.9	+0.8		
	baz=38										
C27A	**Sayler Ranch,**	37.58	328	⇓P		P		22 19 19.5	+0.6		
	baz=38										
D26A	**Manning**	37.62	326	⇓P		P		22 19 19.2	-0.1		
	baz=38										
G24A	**Alzada**	37.69	322	⇓P		P		22 19 19.8	-0.2		
	baz=38										
A28A	**Rude Farm, Bot**	37.78	330	⇓P		P		22 19 20.9	+0.4		
	baz=38,SNR=6.9										
E25A	**Miller Ranch,**	37.81	325	⇓P		P		22 19 21.1	+0.1		
	baz=38										
H23A	**Clabaugh Cattl**	37.85	321	⇑P		P		22 19 20.9	-0.4		
	baz=38										
J22A	**Midwest**	37.91	319	⇓P		P		22 19 22.2	+0.2		
	baz=38,SNR=15										
B27A	**Peters Farms,**	37.91	329	⇓P		P		22 19 22.1	+0.4		
	baz=38,SNR=5.5										
C26A	**Wahner Farm, P**	37.95	327	⇓P		P		22 19 22.3	+0.2		
	baz=38,SNR=6.5										
F24A	**Ekalaka**	38.01	323	⇑P		P		22 19 22.7	0.0		
	baz=38										
K21A	**Alcova**	38.02	317	⇓P		P		22 19 23.3	+0.4		
	baz=38,SNR=16										
X16A	**Lo Mia Camp, P**	38.05	303	⇑P		P		22 19 25.1	+1.8		
	baz=38										
I22A	**9 Mile Ranch,**	38.16	319	⇓P		P		22 19 23.9	-0.1		
	baz=38										
D25A	**Fairfield**	38.17	326	⇓P		P		22 19 24.3	+0.4		
	baz=38										
G23A	**Biddle**	38.19	322	⇓P		P		22 19 24.0	-0.2		
	baz=38										
WUAZ	**Wupatki**	38.29	304	*eP*		P		22 19 26.9	+1.7		
	comp=Z,65nm,1.3s										
WUAZ	**Wupatki**	38.29	304	⇓P		P		22 19 26.1	+0.9		
	baz=38										
E24A	**Baker**	38.35	324	⇓P		P		22 19 25.6	+0.1		
	baz=38										
B26A	**Jensen Ranch,**	38.38	328	⇑P		P		22 19 26.6	+0.9		
	baz=38										
H22A	**Clearmont**	38.44	320	⇑P		P		22 19 26.6	+0.3		
	baz=38										
C25A	**Freed Ranch, W**	38.48	326	⇑P		P		22 19 28.5	+1.9		
	baz=38										
J21A	**Lysite**	38.49	318	⇓P		P		22 19 27.1	+0.3		
	baz=38										
F23A	**Volborg**	38.49	322	⇑P		P		22 19 26.4	-0.3		
	baz=38										
I21A	**Big Trails, Te**	38.62	319	⇓P		P		22 19 27.6	-0.3		
	baz=39,SNR=9.6										
A26A	**Wade Farm, Ken**	38.63	329	⇓P		P		22 19 28.6	+0.8		
	baz=39										
214A	**Organ Pipe Nat**	38.64	298	*eP*		P		22 19 28.9	+0.8		
	comp=Z,492nm,2.5s										
214A	**Organ Pipe Nat**	38.64	298	⇓P		P		22 19 29.1	+1.1		
	baz=39										
D24A	**Glendive**	38.69	325	⇓P		P		22 19 28.3	0.0		
	baz=39										
G22A	**Birney**	38.74	321	⇓P		P		22 19 29.3	+0.5		
	baz=39										
B25A	**Knox Farm, Ray**	38.79	327	⇑P		P		22 19 29.8	+0.7		
	baz=39										
SRU	**San Rafael**	38.79	310	*eP*		P		22 19 29.7	+0.3		
SRU				pmax		pmax					
	comp=Z,70nm,1.5s										
SRU	**San Rafael**	38.79	310	*eP*		P		22 19 29.7	+0.3		
	comp=Z,70nm,1.5s										
J20A	**Shoshoni**	38.90	318	⇓P		P		22 19 30.9	+0.7		
	baz=39										
C24A	**Savage**	38.99	325	⇑P		P		22 19 31.2	+0.4		
	baz=39										
F22A	**Rosebud**	39.02	322	⇑P		P		22 19 31.0	-0.1		
	baz=39,SNR=15										
A25A	**Svangstu Ranch**	39.19	328	⇑P		P		22 19 32.8	+0.3		
	baz=39										
Y14A	**Wickenburg**	39.20	301	⇓P		P		22 19 33.4	+0.7		
	baz=39										
E22A	**Miles City**	39.21	323	⇓P		P		22 19 32.5	-0.2		
	baz=39										
D23A	**Lindsay**	39.21	324	⇑P		P		22 19 33.0	+0.3		
	baz=39										
I20A	**Worland**	39.21	318	⇓P		P		22 19 32.7	-0.1		
	baz=39										
U15A	**North Rim**	39.26	305	⇓P		P		22 19 34.5	+1.0		
	baz=39,SNR=6.3										
G21A	**Lodge Grass**	39.29	321	⇓P		P		22 19 33.0	-0.4		
	baz=39										
H20A	**Greybull**	39.40	319	⇑P		P		22 19 34.3	-0.1		
	baz=39,SNR=7.7										
DGMT	**Dagmar**	39.45	327	⇑P		P		22 19 35.0	+0.4		
	baz=40										
J19A	**Crowheart**	39.48	317	⇑P		P		22 19 35.2	0.0		
	baz=40,SNR=5.6										
C23A	**Lambert**	39.57	325	⇑P		P		22 19 36.1	+0.5		
	baz=40										
113A	**Mohawk Valley,**	39.58	299	⇓P		P		22 19 36.1	+0.3		
	baz=40										
BW06	**Boulder Array**	39.59	316	*eP*		P		22 19 36.4	+0.3		
	comp=Z,152nm,1.6s										
PDAR	**Pinedale Array**	39.59	316	P		P		22 19 35.8	-0.3		
PDAR				PcP		PcP		22 21 42.8	-0.5		
PDAR	**Pinedale Array**	39.59	316	P		P		22 19 35.8	-0.3		
	comp=Z,18nm,1.0s,baz=121,slow=10,SNR=16										
PDAR				PcP		PcP		22 21 42.8	-0.5		
	comp=Z,2.3nm,0.7s,baz=120,slow=4.9,SNR=4.2										
A24A	**Westby**	39.63	327	⇑P		P		22 19 36.8	+0.7		
	baz=40,SNR=8.1										
D22A	**Cohagen**	39.74	324	⇑P		P		22 19 37.5	+0.4		
	baz=40										
I19A	**Meeteetse**	39.80	318	⇑P		P		22 19 37.9	0.0		
	baz=40,SNR=7.9										
B23A	**Brockton**	39.86	326	⇑P		P		22 19 39.3	+1.3		
	baz=40										
G20A	**Bridger**	39.90	320	⇓P		P		22 19 38.0	-0.5		
	baz=40										
E21A	**Keefer Ranch,**	39.91	322	⇑P		P		22 19 38.6	0.0		
	baz=40										
C22A	**Vida**	39.92	325	⇓P		P		22 19 38.9	+0.3		
	baz=40										
H19A	**Powell**	40.10	319	⇑P		P		22 19 40.3	+0.1		
	baz=40,SNR=7.9										
A23A	**Redstone**	40.11	327	⇑P		P		22 19 41.0	+0.9		
	baz=40,SNR=11										
D21A	**La Casta Ranch**	40.15	323	⇑P		P		22 19 41.1	+0.5		
	baz=40										
F20A	**Billings**	40.15	321	⇑P		P		22 19 40.4	-0.2		
	baz=40										
W13A	**Hualapai Mount**	40.17	303	⇑P		P		22 19 41.5	+0.5		
	baz=40,SNR=9.1										
PDMCI	**Parker Dam,Lak**	40.19	302	⇓P		P		22 19 41.6	+0.7		
	baz=40										
NLU	**North Lily Min**	40.21	311	P		P		22 19 42.0	+0.7		
	comp=Z,77nm,1.4s										
B22A	**Reddig Ranch S**	40.30	325	⇓P		P		22 19 42.6	+0.8		
	baz=40										
Y12C	**Blythe**	40.39	301	⇑P		P		22 19 43.3	+0.6		
	baz=40										
RLMT	**Red Lodge**	40.49	319	*eP*		P		22 19 43.8	+0.2		
	comp=Z,153nm,1.3s										
E20A	**Meyer Farm, Mu**	40.51	322	⇓P		P		22 19 44.0	+0.5		
	baz=40										
GLA	**Glamis**	40.51	300	P		P		22 19 45.2	+1.5		
GLA				pmax		pmax					
	comp=Z,59nm,2.0s										
GLA	**Glamis**	40.51	300	P		P		22 19 45.2	+1.5		
	comp=Z,60nm,2.0s										
GLA	**Glamis**	40.51	300	⇓P		P		22 19 44.2	+0.5		
	baz=40										
H18A	**Shoshone NF, C**	40.53	318	⇓P		P		22 19 43.5	-0.4		
	baz=40										
F19A	**Roth Farm, Mol**	40.66	320	⇑P		P		22 19 45.0	+0.2		
	baz=41										
A22A	**Carney Farms,**	40.67	326	⇑P		P		22 19 45.8	+1.0		
	baz=41										
I17A	**Pilgrim Ck.**	40.77	317	⇓P		P		22 19 46.4	+0.6		
	baz=41,SNR=7.8										
D20A	**Manuel Ranch,**	40.82	323	⇓P		P		22 19 46.3	+0.3		
	baz=41										
DUG	**Dugway**	40.83	311	⇓P		P		22 19 46.6	+0.3		
	baz=41,SNR=6.8										
E19A	**Rath Farm, Rou**	40.87	321	⇓P		P		22 19 47.0	+0.5		
	baz=41,SNR=7.9										
LVC	**Limon Verde**	40.93	175	*eP*		P		22 19 49.0	+1.6		
B21A	**Ellsworth Farm**	40.93	325	⇓P		P		22 19 47.9	+1.0		
	baz=41										
SPUT	**South Promonto**	40.97	312	*eP*		P		22 19 47.6	+0.2		
	comp=Z,65nm,1.2s										
H17A	**Grant Village**	40.98	318	P		P		22 19 48.2	+0.6		
	comp=Z,4μm,3.6s										
H17A	**Grant Village**	40.98	318	⇓P		P		22 19 47.9	+0.3		
	baz=41										
IRM	**Iron Mountain**	40.98	301	⇑P		P		22 19 48.3	+0.8		
	baz=41,SNR=11										
C20A	**Veseth Ranch,**	41.08	323	⇓P		P		22 19 49.1	+0.9		
	baz=41,SNR=9.6										
BC3	**Big Chuckawall**	41.13	300	⇓P		P		22 19 49.4	+0.5		
	baz=41										
A21A	**Bergtoll Ranch**	41.21	326	⇑P		P		22 19 50.4	+1.2		
	baz=41										
BGU	**Big Grassy Mou**	41.24	312	*eP*		P		22 19 48.1	-1.6		
	comp=Z,41nm,1.4s										
D19A	**Cripps Ranch,**	41.29	322	⇓P		P		22 19 50.8	+0.9		
	baz=41,SNR=11										
SWSC	**Sam W. Stewart**	41.29	299	⇓P		P		22 19 50.4	+0.3		
	baz=41										
HVU	**Hansel Valley**	41.37	313	P		P		22 19 48.9	-1.9		
HVU				pmax		pmax					
	comp=Z,257nm,2.3s										
HVU	**Hansel Valley**	41.37	313	P		P		22 19 48.9	-1.9		
	comp=Z,257nm,2.3s										
B20A	**Solberg Farm,**	41.49	324	⇑P		P		22 19 52.6	+1.1		
	baz=42										
SHPR	**Sheep Range**	41.51	305	*eP*		P		22 19 53.2	+1.2		
	comp=Z,3μm,3.9s										
GMRC	**Granite Mounta**	41.52	302	⇓P		P		22 19 52.8	+0.7		
	baz=42										
BDFB	**Brasilia**	41.58	143	P		P		22 19 52.4	-0.3		
BDFB	**Brasilia**	41.58	143	P		P		22 19 52.4	-0.3		
	comp=Z,25nm,1.0s,baz=19,slow=7.8,SNR=7.2										
BELC	**Belle Mtn. Jos**	41.65	301	⇑P		P		22 19 53.4	+0.3		
	baz=42										
A20A	**Cobblestone Ra**	41.69	325	⇓P		P		22 19 54.1	+0.9		
	baz=42,SNR=8.8										
C19A	**Slack Wire Ran**	41.69	323	⇑P		P		22 19 53.8	+0.6		
	baz=42										
QLMT	**Earthquake Lak**	41.72	318	*eP*		P		22 19 53.5	-0.2		
	comp=Z,16nm,1.3s										
MONP	**Monument Peak**	41.80	299	⇓P		P		22 19 55.5	+0.9		
	baz=42,SNR=8.3										
TUQ	**Turquoise Moun**	41.87	303	⇑P		P		22 19 55.9	+0.9		
	baz=42,SNR=9.4										
PFO	**Pinyon Flat Ob**	41.95	300	P		P		22 19 56.3	+0.7		
PFO	**Pinyon Flat Ob**	41.95	300	P		P		22 19 56.3	+0.7		
	comp=Z,5.7nm,1.0s,baz=115,slow=6.0,SNR=4.7										
PFO	**Pinyon Flat Ob**	41.95	300	⇓P		P		22 19 56.3	+0.7		
	baz=42										
B19A	**Brinkman Farms**	42.01	324	⇓P		P		22 19 56.7	+0.9		
	baz=42										
HEC	**Hector,Ludlow**	42.07	302	⇑P		P		22 19 57.6	+1.0		
	baz=42										
A19A	**Klindworth Far**	42.16	325	⇓P		P		22 19 57.7	+0.6		
	baz=42,SNR=8.1										
EGMT	**Eagleton**	42.24	323	*eP*		P		22 19 58.2	+0.4		
	comp=Z,195nm,1.4s										
EGMT	**Eagleton**	42.24	323	⇓P		P		22 19 58.1	+0.4		
	baz=42										
SHOC	**Shoshone**	42.25	303	⇑P		P		22 19 58.8	+0.9		
	baz=42,SNR=8.5										
R11A	**Troy Canyon, C**	42.31	307	P		P		22 19 59.5	+1.0		
	comp=Z,49nm,1.3s										
R11A	**Troy Canyon, C**	42.31	307	⇓P		P		22 19 59.2	+0.7		
	baz=42,SNR=11										
109C	**Camp Elliot, M**	42.37	299	⇑P		P		22 19 59.5	+0.6		
	baz=42										
BBRC	**Big Bear Solar**	42.45	301	⇑P		P		22 20 00.6	+0.8		
	baz=42										
TPNV	**Topopah Spring**	42.46	305	⇑P		P		22 20 01.0	+1.2		
	baz=42,SNR=9.5										
GSC	**Goldstone**	42.55	302	⇑P		P		22 20 01.4	+1.0		
	baz=42,SNR=9.9										
MURC	**Murrieta**	42.56	300	⇓P		P		22 20 01.7	+1.2		
	baz=42,SNR=5.2										
MCMT	**McKenzie Canyo**	42.63	317	*eP*		P		22 20 02.5	+1.4		
	comp=Z,15nm,1.2s										
ELK	**Elko**	42.75	311	P		P		22 19 57.2	-5.0		
ELK	**Elko**	42.75	311	P		P		22 19 57.2	-5.0		
	comp=Z,17nm,1.0s,baz=180,slow=5.0,SNR=11										
FURC	**Furnace Creek,**	42.83	304	⇑P		P		22 20 04.2	+1.7		
	baz=43,SNR=7.8										
BFSC	**Mount Baldy Ra**	43.04	301	⇓P		P		22 20 05.5	+1.0		
	baz=43										
HLID	**Hailey**	43.16	315	*eP*		P		22 20 05.5	+0.2		
	comp=Z,106nm,1.5s										
HLID	**Hailey**	43.16	315	⇑P		P		22 20 06.4	+1.1		
	baz=43										
MPMC	**Manual Prospec**	43.24	303	⇓P		P		22 20 06.9	+0.7		
	baz=43,SNR=7.3										
LRMC	**Laurel Mountai**	43.29	302	⇓P		P		22 20 07.4	+0.9		
	baz=43										
GRAC	**Grapevine Rang**	43.35	305	⇓P		P		22 20 08.0	+1.1		
	baz=43,SNR=6.5										
MWC	**Mount Wilson**	43.37	301	*eP*		P		22 20 08.1	+0.9		
MWC				pmax		pmax					
	comp=Z,138nm,1.9s										
MWC	**Mount Wilson**	43.37	301	*eP*		P		22 20 08.1	+0.9		
	comp=Z,138nm,1.9s										
EDW2	**Edwards Air Fo**	43.42	302	⇓P		P		22 20 08.5	+1.0		
	baz=43,SNR=7.9										
RCBR	**Riachuelo**	43.42	120	P		P		22 20 07.2	-0.4		
RCBR	**Riachuelo**	43.42	120	P		P		22 20 07.2	-0.4		
	comp=Z,25nm,1.0s,baz=267,slow=6.4,SNR=5.2										
TPH	**Tonopah**	43.48	306	*eP*		P		22 20 09.1	+1.0		
TPH				pmax		pmax					
	comp=Z,69nm,1.1s										
TPH	**Tonopah**	43.48	306	*eP*		P		22 20 09.1	+1.0		
	comp=Z,68nm,1.1s										
CIS	**Catalina Islan**	43.52	299	⇑P		P		22 20 09.5	+1.2		
	baz=44,SNR=6.5										
ISA	**Isabella**	43.95	303	*eP*		P		22 20 13.1	+1.3		
ISA				pmax		pmax					
	comp=Z,25nm,1.7s										
ISA	**Isabella**	43.95	303	*eP*		P		22 20 13.1	+1.3		
	comp=Z,25nm,1.7s										
ISA	**Isabella**	43.95	303	⇑P		P		22 20 12.7	+1.0		
	baz=44										
TIN	**Timemaha**	44.03	305	⇓P		P		22 20 13.8	+1.3		
	baz=44,SNR=7.7										
BMN	**Battle Mountai**	44.10	310	*eP*		P		22 20 13.6	+0.6		
BMN				pmax		pmax					
	comp=Z,81nm,1.6s										
BMN	**Battle Mountai**	44.10	310	*eP*		P		22 20 13.6	+0.6		
	comp=Z,81nm,1.6s										
ARVC	**Arvin**	44.14	302	⇑P		P		22 20 14.6	+1.4		
	baz=44										
MSO	**Missoula**	44.17	319	⇓P		P		22 20 14.1	+0.7		
	baz=44										
NV11	**Mina Array Sit**	44.28	306	*eP*		P		22 20 15.1	+0.6		
NVAR	**Mina Array Bea**	44.40	306	P		P		22 20 16.2	+0.8		
NVAR				PcP		PcP		22 21 59.7	+0.5		
NVAR	**Mina Array Bea**	44.40	306	P		P		22 20 16.2	+0.8		
	comp=Z,12nm,0.9s,baz=104,slow=6.3,SNR=22										
NVAR				PcP		PcP		22 21 59.7	+0.5		
	comp=Z,6.6nm,1.0s,baz=147,slow=3.5,SNR=3.9										
VES	**Vestal, Richgr**	44.47	303	⇑P		P		22 20 17.0	+1.2		
	baz=44,SNR=15										
BSC	**Santa Cruz Isl**	44.62	300	⇑P		P		22 20 17.6	+0.5		
	baz=45,SNR=5.7										
MLAC	**Mammoth Lakes**	44.63	305	⇑P		P		22 20 18.8	+1.4		
	baz=45										
RCTC	**Rector, Farmer**	44.68	303	⇓P		P		22 20 18.6	+1.1		
	baz=45										
PKM	**Peak Mountain**	44.91	301	⇑P		P		22 20 20.6	+1.0		
	baz=45										
FRB	**Frobisher Bay**	45.38	2	P		P		22 20 22.0	-0.5		
FRB	**Frobisher Bay**	45.38	2	P		P		22 20 22.0	-0.5		
	comp=Z,34nm,0.9s,baz=193,slow=5.9,SNR=10										
WVOR	**Wild Horse Val**	45.70	312	*eP*		P		22 20 25.8	+0.2		
WVOR				pmax		pmax					
	comp=Z,128nm,1.5s										
WVOR	**Wild Horse Val**	45.70	312	*eP*		P		22 20 25.8	+0.2		
	comp=Z,128nm,1.5s										
CMB	**Columbia Colle**	45.91	305	*eP*		P		22 20 28.2	+0.9		
CMB				pmax		pmax					
	comp=Z,89nm,1.7s										
CMB	**Columbia Colle**	45.91	305	*eP*		P		22 20 28.2	+0.9		
	comp=Z,89nm,1.7s										
NEW	**Newport**	46.73	320	*eP*		P		22 20 33.1	-0.4		
	comp=Z,149nm,1.4s										
NEW	**Newport**	46.73	320	P		P		22 20 33.2	-0.4		
	comp=Z,59nm,1.0s,baz=131,slow=5.8,SNR=22										
NEW	**Newport**	46.73	320	⇓P		P		22 20 33.6	0.0		
	baz=47,SNR=16										
CPUP	**Villa Florida**	46.87	161	*eP*		P		22 20 36.4	+1.6		
CPUP				PcP		PcP		22 22 08.1	+0.6		
CPUP	**Villa Florida**	46.87	161	P		P		22 20 35.6	+0.9		
	comp=Z,5.5nm,0.6s,baz=340,slow=6.6,SNR=10										
CPUP				PcP		PcP		22 22 08.1	+0.6		
	comp=Z,12nm,1.0s,baz=323,slow=4.9,SNR=3.1										
LCO	**Las Campanas**	47.18	178	*eP*		P		22 20 34.2	-3.2		
	comp=Z,670nm,2.5s										
J05D	**Fort Rock, OR**	47.77	312	⇑P		P		22 20 42.1	+0.2		
	baz=48										
M04C	**Macdoel**	47.82	310	⇑P		P		22 20 43.0	+0.7		
	baz=48										
I05D	**Terrebonne, OR**	48.13	314	⇓P		P		22 20 45.6	+1.0		
	baz=48										
G05D	**Wamic, OR**	48.38	315	⇑P		P		22 20 47.5	+1.1		
	baz=48										
YBH	**Yreka Blue Hor**	48.44	310	*eP*		P		22 20 46.9	-0.1		
	comp=Z,11nm,0.8s										
YBH	**Yreka Blue Hor**	48.44	310	P		P		22 20 45.4	-1.7		
	comp=Z,15nm,0.8s,baz=84,slow=4.0,SNR=16										
M02C	**Callahan**	48.47	309	⇓P		P		22 20 46.9	-0.3		
	baz=48										
LON	**Longmire**	49.16	316	*eP*		P		22 20 52.4	0.0		
LON				pmax		pmax					
	comp=Z,133nm,1.7s										
LON	**Longmire**	49.16	316	*eP*		P		22 20 52.4	0.0		
	comp=Z,133nm,1.7s										
L02D	**Cave Junction,**	49.19	310	⇓P		P		22 20 53.3	+0.6		
	baz=49										
I03D	**Drain, OR**	49.36	312	⇓P		P		22 20 54.9	+0.9		
	baz=49										
CFAA	**Coronel Fontan**	49.91	175	P		P		22 20 58.2	+0.1		
CFAA	**Coronel Fontan**	49.91	175	P		P		22 20 58.2	+0.1		
	comp=Z,2.4nm,0.9s,baz=345,slow=7.1,SNR=14										
SFJD	**Kangerlussuaq**	50.59	11	*iP*		P		22 21 02.3	-0.5		
	comp=Z,26nm,1.0s										
SFJD	**Kangerlussuaq**	50.59	11	*eP*		P		22 21 03.6	+0.8		
	comp=Z,1μm,2.5s										
SFJD	**Kangerlussuaq**	50.59	11	P		P		22 21 02.0	-0.8		
	comp=Z,45nm,1.1s,baz=200,slow=7.6,SNR=6.9										
NLWA	**Neilton Lookou**	50.70	317	*eP*		P		22 21 04.0	0.0		
	comp=Z,74nm,1.2s										
PGC	**Sidney**	50.80	318	*eP*		P		22 21 03.7	-1.1		
	comp=Z,17nm,2.0s										
ILULI	**Ilulissat**	52.50	9	*iP*		P		22 21 17.2	+0.1		
ILULI				pmax		pmax					
	comp=Z,33nm,0.9s										
ILULI	**Ilulissat**	52.50	9	*iP*		P		22 21 17.2	+0.1		
	comp=Z,33nm,0.8s										
YKA	**Yellowknife Ar**	52.75	337	P		P		22 21 18.3	-0.8		
YKA	**Yellowknife Ar**	52.75	337	P		P		22 21 18.3	-0.8		
	comp=Z,21nm,0.9s,baz=124,

GRR **Gorron** 64.34 45⇑*iP* P 22 22 40.4 +0.2
comp=Z,256nm,1.6s
GRR **Gorron** 64.34 45⇑*iP* P 22 22 40.4 +0.2
GRR pmax pmax
comp=Z,257nm,1.6s
GRR **Gorron** 64.34 45⇑*iP* P 22 22 40.4 +0.2
comp=Z,256nm,1.6s
EGAK **Eagle** 64.41 334 *eP* P 22 22 40.5 +0.2
comp=Z,48nm,1.4s
FLN **La Foliniere** 64.60 44 *eP* P 22 22 42.4 +0.6
comp=Z,124nm,1.3s
FLN **La Foliniere** 64.60 44 *eP* P 22 22 42.4 +0.6
FLN pmax pmax
comp=Z,124nm,1.3s
FLN **La Foliniere** 64.60 44 *eP* P 22 22 42.4 +0.6
comp=Z,124nm,1.3s
ETSF **Etsaut** 64.61 51 *eP* P 22 22 43.0 +0.9
comp=Z,79nm,1.2s
ETSF **Etsaut** 64.61 51 *eP* P 22 22 43.0 +0.9
ETSF pmax pmax
comp=Z,79nm,1.2s
ETSF **Etsaut** 64.61 51 *eP* P 22 22 43.0 +0.9
comp=Z,79nm,1.2s
MFF **Saint Martin d** 64.82 47 *eP* P 22 22 43.9 +0.6
comp=Z,180nm,1.1s
MFF **Saint Martin d** 64.82 47 *eP* P 22 22 43.9 +0.6
MFF pmax pmax
comp=Z,180nm,1.1s
MFF **Saint Martin d** 64.82 47 *eP* P 22 22 43.9 +0.6
comp=Z,180nm,1.1s
LDF **La Druitiere** 64.83 44 *eP* P 22 22 43.8 +0.4
comp=Z,102nm,1.1s
LDF **La Druitiere** 64.83 44 *eP* P 22 22 43.8 +0.4
LDF pmax pmax
comp=Z,102nm,1.1s
LDF **La Druitiere** 64.83 44 *eP* P 22 22 43.8 +0.4
comp=Z,102nm,1.1s
EPF **Esparros** 65.26 50⇑*iP* P 22 22 47.3 +0.9
comp=Z,192nm,1.3s
EPF **Esparros** 65.26 50⇑*iP* P 22 22 47.3 +0.9
EPF pmax pmax
comp=Z,192nm,1.3s
EPF **Esparros** 65.26 50⇑*iP* P 22 22 47.3 +0.9
comp=Z,192nm,1.3s
BMRM **Bremner River** 65.37 329 *eP* P 22 22 47.7 +1.0
comp=Z,269nm,1.6s
DOT **Dot Lake** 65.46 332 *eP* P 22 22 47.8 +0.5
comp=Z,128nm,1.5s
LFF **La Frestale** 65.47 48⇑*iP* P 22 22 48.0 +0.4
comp=Z,143nm,1.3s
LFF **La Frestale** 65.47 48⇑*iP* P 22 22 48.0 +0.4
LFF pmax pmax
comp=Z,143nm,1.3s
LFF **La Frestale** 65.47 48⇑*iP* P 22 22 48.0 +0.4
comp=Z,143nm,1.3s
DIV **Divide** 65.95 329 *eP* P 22 22 51.3 +0.8
comp=Z,150nm,1.4s
PAX **Paxson** 66.01 331 *eP* P 22 22 51.0 +0.1
PAX pmax pmax
comp=Z,100nm,1.4s
PAX **Paxson** 66.01 331 *eP* P 22 22 51.0 +0.1
comp=Z,100nm,1.4s
RJF **Les Rejaudoux** 66.01 48⇑*iP* P 22 22 51.3 +0.2
comp=Z,82nm,1.1s
RJF **Les Rejaudoux** 66.01 48⇑*iP* P 22 22 51.3 +0.2
RJF pmax pmax
comp=Z,82nm,1.1s
RJF **Les Rejaudoux** 66.01 48⇑*iP* P 22 22 51.3 +0.2
comp=Z,82nm,1.1s
MENF **Mencas** 66.31 42 *eP* P 22 22 53.2 +0.3
CAF **Calviac** 66.42 48⇑*iP* P 22 22 54.1 +0.4
comp=Z,119nm,1.1s
CAF **Calviac** 66.42 48⇑*iP* P 22 22 54.1 +0.4
CAF pmax pmax
comp=Z,119nm,1.1s
CAF **Calviac** 66.42 48⇑*iP* P 22 22 54.1 +0.4
comp=Z,119nm,1.1s
TCF **Toulx Ste Croi** 66.46 47⇑*iP* P 22 22 54.1 +0.1
comp=Z,304nm,1.7s
TCF **Toulx Ste Croi** 66.46 47⇑*iP* P 22 22 54.1 +0.1
TCF pmax pmax
comp=Z,304nm,1.7s
TCF **Toulx Ste Croi** 66.46 47⇑*iP* P 22 22 54.1 +0.1
comp=Z,304nm,1.7s
TIC **Toumodi** 66.62 91 *eP* P 22 22 52.8 -2.7
comp=Z,105nm,1.5s
HYF **Humbligny** 66.71 46 *eP* P 22 22 55.9 +0.3
HYF **Humbligny** 66.71 46 *eP* P 22 22 55.9 +0.3
LIC **Lamto** 66.74 91⇑*iP* P 22 22 55.0 -1.3
comp=Z,72nm,1.3s
LIC **Lamto** 66.74 91 *eP* P 22 22 53.8 -2.5
comp=Z,132nm,1.9s
LIC **Lamto** 66.74 91⇑*iP* P 22 22 55.0 -1.3
comp=Z,72nm,1.3s
DBIC **Dimbokro** 66.77 91 *eP* P 22 22 57.0 +0.6
comp=Z,9.5nm,0.9s
DBIC **Dimbokro** 66.77 91 P P 22 22 55.5 -1.0
comp=Z,5.6nm,0.7s,baz=269,slow=8.8,SNR=6.7
ILAR **Eielson Array** 66.83 333 P P 22 22 55.5 -0.4
ILAR PP PP 22 25 20.8 -2.1
ILAR **Eielson Array** 66.83 333 P P 22 22 55.5 -0.4
comp=Z,11nm,1.0s,baz=104,slow=4.7,SNR=32
ILAR PP PP 22 25 20.8 -2.1
comp=Z,3.5nm,1.1s,baz=98,slow=6.2,SNR=2.9
BGF **Bois d'Agland** 66.88 47 *eP* P 22 22 56.6 -0.1
BGF **Bois d'Agland** 66.88 47 *eP* P 22 22 56.6 -0.1
BGF **Bois d'Agland** 66.88 47 *eP* P 22 22 56.6 -0.1
KIC **Kosan Boka** 66.97 91 *eP* P 22 22 55.8 -2.0
comp=Z,270nm,1.9s
PYM **Petit Puy Mans** 67.04 47 *eP* P 22 22 57.7 -0.1
AVF **Avril sur Loir** 67.22 46⇑*iP* P 22 22 58.7 -0.1
comp=Z,135nm,1.3s
AVF **Avril sur Loir** 67.22 46⇑*iP* P 22 22 58.7 -0.1
AVF pmax pmax
comp=Z,135nm,1.3s
AVF **Avril sur Loir** 67.22 46⇑*iP* P 22 22 58.7 -0.1
comp=Z,135nm,1.3s
LBL **Lubilhac** 67.23 48 *eP* P 22 22 59.4 +0.4
COLA **College** 67.25 333 *eP* P 22 22 58.2 -0.4
COLA pmax pmax
comp=Z,135nm,1.2s
COLA **College** 67.25 333 *eP* P 22 22 58.0 -0.6
comp=Z,52nm,1.3s
SSF **Saint Saulge** 67.31 46⇑*iP* P 22 22 59.3 -0.1
comp=Z,124nm,1.4s
SSF **Saint Saulge** 67.31 46⇑*iP* P 22 22 59.3 -0.1
SSF pmax pmax
comp=Z,124nm,1.4s
SSF **Saint Saulge** 67.31 46⇑*iP* P 22 22 59.3 -0.1
comp=Z,124nm,1.4s
PLDF **La Plantade** 67.45 47 *eP* P 22 23 00.1 -0.3
LOR **Lormes** 67.54 46 *eP* P 22 23 00.7 -0.1
comp=Z,161nm,1.2s
LOR **Lormes** 67.54 46 *eP* P 22 23 00.7 -0.1
comp=Z,161nm,1.2s
SMF **Signal de Mont** 67.56 46⇑*iP* P 22 23 00.8 -0.2
comp=Z,110nm,1.2s
SMF **Signal de Mont** 67.56 46⇑*iP* P 22 23 00.8 -0.2
SMF pmax pmax
comp=Z,110nm,1.2s
SMF **Signal de Mont** 67.56 46⇑*iP* P 22 23 00.8 -0.2
comp=Z,110nm,1.2s
PMR **Palmer** 67.60 330 *eP* P 22 23 01.3 +0.4
PMR pmax pmax
comp=Z,38nm,1.1s
PMR **Palmer** 67.60 330 *eP* P 22 23 01.3 +0.4
comp=Z,38nm,1.1s
BAIF **Baives** 67.64 43⇑*iP* P 22 23 01.5 +0.1
comp=Z,34nm,1.1s
BAIF **Baives** 67.64 43⇑*iP* P 22 23 01.5 +0.1
BAIF pmax pmax
comp=Z,34nm,1.1s
BAIF **Baives** 67.64 43⇑*iP* P 22 23 01.5 +0.1
comp=Z,34nm,1.1s
SNF **Seneffe** 67.67 42 P P 22 23 02.2 +0.7
SEW **Seward** 67.70 328 *eP* P 22 23 02.4 +0.8
comp=Z,209nm,1.7s
LASF **Ste Croix** 67.75 49⇑*iP* P 22 23 03.0 +0.8
comp=Z,102nm,1.1s
LASF **Ste Croix** 67.75 49⇑*iP* P 22 23 03.0 +0.8
comp=Z,102nm,1.1s
RC01 **Rabbit Creek A** 67.87 329 *eP* P 22 23 03.2 +0.6
comp=Z,168nm,1.7s
DOU **Dourbes** 67.89 43 P P 22 23 03.2 +0.3
GIVF **Givet** 68.04 43⇑*iP* P 22 23 04.1 +0.2
comp=Z,331nm,1.8s
GIVF **Givet** 68.04 43⇑*iP* P 22 23 04.1 +0.2
GIVF pmax pmax
comp=Z,331nm,1.8s
GIVF **Givet** 68.04 43⇑*iP* P 22 23 04.1 +0.2
comp=Z,331nm,1.8s,baz=289,slow=6.4,SNR=14
TRF **Thorofare Moun** 68.22 332 *eP* P 22 23 05.0 0.0
comp=Z,178nm,1.6s
VIVF **Saint-Julien-l** 68.27 48⇑*iP* P 22 23 06.5 +1.0
comp=Z,126nm,1.1s
VIVF **Saint-Julien-l** 68.27 48⇑*iP* P 22 23 06.5 +1.0
VIVF pmax pmax
comp=Z,126nm,1.1s
VIVF **Saint-Julien-l** 68.27 48⇑*iP* P 22 23 06.5 +1.0
comp=Z,126nm,1.1s
MEZF **Maizieres J'vi** 68.27 44⇑*iP* P 22 23 05.7 +0.3
comp=Z,220nm,1.2s
MEZF **Maizieres J'vi** 68.27 44⇑*iP* P 22 23 05.7 +0.3
comp=Z,220nm,1.2s
SFTF **Sexfontaines** 68.28 45 *eP* P 22 23 05.5 0.0
comp=Z,183nm,1.3s
SFTF **Sexfontaines** 68.28 45 *eP* P 22 23 05.5 0.0
comp=Z,183nm,1.3s
BCLA **Clavier** 68.33 42 P P 22 23 05.8 +0.2
comp=Z,68nm,2.9s
COLD **Coldfoot** 68.40 336 *eP* P 22 23 06.2 +0.3
comp=Z,37nm,1.0s
KTH **Kantishna Hill** 68.51 332 *eP* P 22 23 06.5 -0.2
comp=Z,182nm,1.4s
BEBN **Eben Emael** 68.55 42 P P 22 23 07.4 +0.4
PAGF **Fort de Pagny** 68.72 44 *eP* P 22 23 08.5 +0.3
comp=Z,28nm,1.1s
PAGF **Fort de Pagny** 68.72 44 *eP* P 22 23 08.5 +0.3
comp=Z,28nm,1.1s
MEM **Membach** 68.77 42 P P 22 23 09.0 +0.6
THEF **They Montfort** 68.91 45 *eP* P 22 23 09.5 +0.1
WLF **Walferdange** 68.92 43 P P 22 23 10.2 +0.8
comp=Z,64nm,2.1s
WLF **Walferdange** 68.92 43 *eP* P 22 23 08.8 -0.6
comp=Z,213nm,1.9s
SMRF **Simiane la Rot** 68.99 49 *eP* P 22 23 11.2 +1.2
comp=Z,103nm,1.4s
SMRF **Simiane la Rot** 68.99 49 *eP* P 22 23 11.2 +1.2
comp=Z,103nm,1.4s
PPLA **Purkeypile** 69.07 331 *eP* P 22 23 10.0 -0.3
comp=Z,163nm,1.5s
CABF **La Chapelle** 69.11 46⇑*iP* P 22 23 10.9 +0.1
comp=Z,52nm,1.0s
CABF **La Chapelle** 69.11 46⇑*iP* P 22 23 10.9 +0.1
CABF pmax pmax
comp=Z,52nm,1.0s
CABF **La Chapelle** 69.11 46⇑*iP* P 22 23 10.9 +0.1
comp=Z,52nm,1.0s
ORIF **Oris-en-Rattie** 69.12 48⇑*iP* P 22 23 11.8 +0.9
comp=Z,53nm,1.0s
ORIF **Oris-en-Rattie** 69.12 48⇑*iP* P 22 23 11.8 +0.9
ORIF pmax pmax
comp=Z,53nm,1.0s
ORIF **Oris-en-Rattie** 69.12 48⇑*iP* P 22 23 11.8 +0.9
comp=Z,53nm,1.0s
HAU **Haudompre** 69.17 45 *eP* P 22 23 11.1 +0.1
comp=Z,96nm,1.4s
HAU **Haudompre** 69.17 45 *eP* P 22 23 11.1 +0.1
HAU pmax pmax
comp=Z,96nm,1.4s
HAU **Haudompre** 69.17 45 *eP* P 22 23 11.1 +0.1
comp=Z,96nm,1.4s
RSO **Redoubt South** 69.35 329 *eP* P 22 23 12.6 +0.5
comp=Z,104nm,0.9s
BUG **Bochum--Univer** 69.51 41 *eP* P 22 23 12.2 -0.8
comp=Z,153nm,1.8s
HINF **Hinteralfeld** 69.53 45⇑*iP* P 22 23 13.0 -0.3
comp=Z,58nm,1.2s
HINF **Hinteralfeld** 69.53 45⇑*iP* P 22 23 13.0 -0.3
HINF pmax pmax
comp=Z,58nm,1.2s
HINF **Hinteralfeld** 69.53 45⇑*iP* P 22 23 13.0 -0.3
comp=Z,58nm,1.2s
LOMF **Lomont** 69.55 45 *eP* P 22 23 13.6 +0.1
LPL **La Plagne** 69.66 47⇑*iP* P 22 23 15.1 +0.7
comp=Z,94nm,1.3s
LPL **La Plagne** 69.66 47⇑*iP* P 22 23 15.1 +0.7
LPL pmax pmax
comp=Z,94nm,1.3s
LPL **La Plagne** 69.66 47⇑*iP* P 22 23 15.1 +0.7
comp=Z,94nm,1.3s
LPG **La Plagne** 69.68 47⇑*iP* P 22 23 15.4 +0.9
comp=Z,52nm,1.0s
LPG **La Plagne** 69.68 47⇑*iP* P 22 23 15.4 +0.9
LPG pmax pmax
comp=Z,52nm,1.0s
LPG **La Plagne** 69.68 47⇑*iP* P 22 23 15.4 +0.9
comp=Z,52nm,1.0s
ECH **Echery** 69.69 45 *eP* P 22 23 14.2 -0.1
MOF **Molkenrain** 69.71 45 *eP* P 22 23 14.1 -0.4
LMR **La Mourre** 69.73 50⇑*iP* P 22 23 14.8 +0.2
comp=Z,53nm,1.0s
LMR **La Mourre** 69.73 50⇑*iP* P 22 23 14.8 +0.2
LMR pmax pmax
comp=Z,53nm,1.0s
LMR **La Mourre** 69.73 50⇑*iP* P 22 23 14.8 +0.2
comp=Z,53nm,1.0s
IBBN **Ibbenburen** 69.75 40 *eP* P 22 23 14.0 -0.5
comp=Z,114nm,1.4s
CDF **Champ du Feu** 69.75 44⇑*iP* P 22 23 14.8 +0.1
comp=Z,112nm,1.4s
CDF **Champ du Feu** 69.75 44⇑*iP* P 22 23 14.8 +0.1
CDF pmax pmax
comp=Z,112nm,1.4s
CDF **Champ du Feu** 69.75 44⇑*iP* P 22 23 14.8 +0.1
comp=Z,112nm,1.4s
MBDF **Montbardon** 69.77 48⇑*iP* P 22 23 15.9 +0.9
comp=Z,61nm,1.0s
MBDF **Montbardon** 69.77 48⇑*iP* P 22 23 15.9 +0.9
MBDF pmax pmax
comp=Z,61nm,1.0s
MBDF **Montbardon** 69.77 48⇑*iP* P 22 23 15.9 +0.9
comp=Z,61nm,1.0s
IM04 **Indian Mountai** 69.78 334 *eP* P 22 23 14.1 -0.3
WLS **Welschbruch** 69.81 44 *eP* P 22 23 15.1 +0.1
LANF **Langenberg** 70.05 44 *eP* P 22 23 16.8 +0.4
TOUF **Mont Tournerai** 70.19 49 *eP* P 22 23 17.4 -0.2
MUD **Monsted U'grnd** 70.30 36 *iP* P 22 23 18.6 +0.9
MUD pmax pmax
comp=Z,22nm,1.1s
MUD **Monsted U'grnd** 70.30 36 *iP* P 22 23 18.6 +0.9
comp=Z,22nm,1.1s
REVF **Revere** 70.31 49 *eP* P 22 23 17.8 -0.4
AUTN **L'Aution** 70.32 49 *eP* P 22 23 18.9 +0.4
KONO **Kongsberg** 70.34 32 *eP* P 22 23 18.2 +0.3
KONO pmax pmax
comp=Z,66nm,1.4s
KONO **Kongsberg** 70.34 32 *eP* P 22 23 18.2 +0.3
comp=Z,66nm,1.4s
SBF **Sospel** 70.34 49⇑*iP* P 22 23 18.6 +0.2
comp=Z,70nm,1.0s
SBF **Sospel** 70.34 49⇑*iP* P 22 23 18.6 +0.2
SBF pmax pmax
comp=Z,70nm,1.0s
SBF **Sospel** 70.34 49⇑*iP* P 22 23 18.6 +0.2
comp=Z,70nm,1.0s
TNS **Taunus Mts** 70.35 42 *eP* P 22 23 17.8 -0.5
comp=Z,86nm,1.5s
BFO **Black Forest** 70.46 44 *iP* P 22 23 19.7 +0.7
BFO **Black Forest** 70.46 44 *eP* P 22 23 18.5 -0.5
comp=Z,34nm,1.4s
CTEI **Djebel Teioual** 70.64 57 P P 22 23 20.8 +0.4
CASM **Ain Smara** 70.67 57 P P 22 23 20.6 +0.1
CKFL **Kef-Lekhel** 70.83 57 P P 22 23 22.0 +0.4
NAO01 **NORSAR Array S** 70.91 31 *eP* P 22 23 21.9 +0.5
comp=Z,41nm,1.2s
STU **Stuttgart** 70.99 44 *eP* P 22 23 22.4 +0.3
comp=Z,123nm,1.8s
KBS **Kingsbay** 70.99 12 *eP* P 22 23 23.0 +1.4
KBS pmax pmax
comp=Z,31nm,1.4s
NB2 **NORSAR Subarra** 71.06 31 P P 22 23 22.6 +0.2
comp=Z,49nm,1.2s,baz=274,slow=6.5
NB2 **NORSAR Subarra** 71.06 31 P P 22 23 22.6 +0.2
baz=274,slow=6.5
NOA **NORSAR Array B** 71.06 31 P P 22 23 22.8 +0.4
NOA **NORSAR Array B** 71.06 31 P P 22 23 22.8 +0.4
comp=Z,19nm,1.1s,baz=275,slow=6.3,SNR=9.2
BSEG **Bad Segeberg** 71.15 38 *eP* P 22 23 22.3 -0.7
comp=Z,79nm,1.8s
NRDL **Niedersach Rie** 71.17 40 *eP* P 22 23 23.0 0.0
comp=Z,103nm,1.6s
TOA0 **Torodi Ar. Sit** 71.20 82 *eP* P 22 23 22.6 -1.4
TORD **Torodi Ar. Bea** 71.20 82 P P 22 23 22.9 -1.1
TORD P'P' 22 51 16.6
TORD Torodi Ar. Bea 71.20 82 P P 22 23 22.9 -1.1
comp=Z,13nm,1.1s,baz=289,slow=6.4,SNR=14
TORD PKPPKP **P'P'df** 22 51 16.6 -4.7
comp=Z,2.2nm,1.1s,baz=112,slow=4.1,SNR=6.9
UBBA **Unterbreizbach** 71.28 42 *eP* P 22 23 23.0 -0.7
comp=Z,411nm,2.9s
CMAH **Djebel Manchou** 71.35 57 P P 22 23 24.0 -0.7
TÜE **Stuetta** 71.36 46 *eP* P 22 23 25.4 +0.7
comp=Z,64nm,1.3s
CLZ **Clausthal** 71.40 41 *eP* P 22 23 24.2 -0.4
comp=Z,52nm,1.2s
DAVA **Damuels** 71.62 45⇑*iP* P 22 23 26.6 +0.4
comp=Z,36nm,1.2s,SNR=6.3
PGF **Pioggiola** 71.65 50⇑*iP* P 22 23 26.5 +0.1
comp=Z,108nm,1.1s
PGF **Pioggiola** 71.65 50⇑*iP* P 22 23 26.5 +0.1
PGF pmax pmax
comp=Z,108nm,1.1s
PGF **Pioggiola** 71.65 50⇑*iP* P 22 23 26.5 +0.1
comp=Z,108nm,1.1s
DAVOX **Davos/Dischmat** 71.69 46 P P 22 23 27.1 +0.4
DAVOX **Davos/Dischmat** 71.69 46 P P 22 23 27.1 +0.4
comp=Z,13nm,0.9s,baz=286,slow=7.5,SNR=11
SPITS **Spitsbergen Ar** 71.88 13 P P 22 23 27.0 0.0
SPITS **Spitsbergen Ar** 71.88 13 P P 22 23 27.0 0.0
comp=Z,30nm,1.1s,baz=214,slow=7.0,SNR=6.6
RETA **Reutte** 72.19 45 *iP* P 22 23 29.9 +0.4
comp=Z,64nm,1.1s,SNR=10.0
GRF **Grafenberg Arr** 72.19 43 *eP* P 22 23 28.9 -0.5
comp=Z,85nm,1.7s
FETA **Feichten** 72.23 46 *iP* P 22 23 30.5 +0.6
comp=Z,64nm,1.1s,SNR=13
HFS **Hagfors** 72.36 32 P P 22 23 29.6 -0.6
HFS **Hagfors** 72.36 32 P P 22 23 29.6 -0.6
comp=Z,9.1nm,1.1s,baz=285,slow=5.8,SNR=5.9
TAM **Tamanrasset** 72.41 71 *eP* P 22 23 32.3 +0.9
TAM **Tamanrasset** 72.41 71 *eP* P 22 23 32.3 +0.9
FUR **Furstenfeldbru** 72.44 44 *eP* P 22 23 30.3 -0.6
comp=Z,157nm,1.6s
MOTA **Moosalm** 72.44 45⇑*iP* P 22 23 31.4 +0.3
comp=Z,30nm,1.0s,SNR=10
WATA **Walderalm** 72.76 45⇑*iP* P 22 23 33.0 0.0
comp=Z,42nm,1.4s,SNR=7.1
ROTZ **Rotzenmuhle** 72.82 43 *eP* P 22 23 32.9 -0.2
comp=Z,74nm,1.3s
TANN **Tannenbergstha** 72.89 42 *eP* P 22 23 32.9 -0.7
comp=Z,61nm,1.4s
NKC **Novy Kostel** 72.90 42 *eP* P 22 23 34.5 +0.9
NKC *e* 22 23 37.9
NKC **Novy Kostel** 72.90 42 *eP* P 22 23 34.5 +0.9
NKC *epP* **pP** 22 23 37.9 -0.3
KEST **Kesra** 73.04 57 *eP* P 22 23 35.3 +0.5
KEST **Kesra** 73.04 57 P P 22 23 35.2 +0.4
comp=Z,12nm,0.8s,baz=243,slow=2.8,SNR=14
CLL **Collm** 73.09 41⇑*iP* P 22 23 34.9 +0.2
CLL *e* 22 23 53.0
CLL pmax pmax
comp=Z,148nm,2.2s
CLL **Collm** 73.09 41 *eP* P 22 23 34.0 -0.7
comp=Z,37nm,1.3s
CLL **Collm** 73.09 41⇑*iP* P 22 23 34.9 +0.2
comp=Z,148nm,2.2s
CLL *e*(PcP) **PcP** 22 23 53.0 +1.6
ABTA **Abfaltersbach** 73.48 46⇑*iP* P 22 23 37.4 +0.1
comp=Z,42nm,1.2s,SNR=7.8
BRG **Berggiesshubel** 73.75 41 *eP* P 22 23 38.2 -0.4
comp=Z,65nm,1.4s
KHC **Kasperske Hory** 73.80 43 *eP* P 22 23 39.3 +0.3
KHC *e* 22 23 43.1
KHC **Kasperske Hory** 73.80 43 *eP* P 22 23 39.3 +0.3
KHC *epP* **pP** 22 23 43.1 -0.5
KHC **Kasperske Hory** 73.80 43 *eP* P 22 23 39.2 +0.3
GEC2 **GERESS Array S** 73.92 43 *eP* P 22 23 39.2 -0.6
comp=Z,72nm,1.3s
GERES **GERESS Array B** 73.92 43 P P 22 23 40.5 +0.7
GERES **GERESS Array B** 73.92 43 P P 22 23 40.5 +0.7
comp=Z,25nm,0.9s,baz=268,slow=4.0,SNR=40
KBA **Koelnbreinsper** 73.99 45⇑*iP* P 22 23 40.5 +0.2
comp=Z,68nm,1.4s,SNR=16
PRA **Prague** 74.19 42 P P 22 23 42.0 +0.8
PVCC **Panska Ves** 74.20 41 *eP* P 22 23 41.4 +0.2
PVCC *e* 22 23 44.9
PVCC **Panska Ves** 74.20 41 *eP* P 22 23 41.4 +0.2
PVCC *epP* **pP** 22 23 44.9 -0.9
MYKA **Terra Mystica** 74.27 46⇑*iP* P 22 23 41.9 +0.1
comp=Z,53nm,1.8s,SNR=7.8
PRU **Pruhonice** 74.27 42 *eP* P 22 23 42.1 +0.4
PRU *e* 22 23 46.3
PRU **Pruhonice** 74.27 42 *eP* P 22 23 42.1 +0.4
PRU *epP* **pP** 22 23 46.3 0.0
MOA **Molln** 74.47 44⇑*iP* P 22 23 42.9 +0.1
comp=Z,86nm,1.3s,SNR=13
JAVS **Javornik** 74.69 46 *iP* P 22 23 45.0 +0.7
OBKA **Obir** 74.91 46⇓*iP* P 22 23 45.4 -0.1
comp=Z,54nm,1.3s,SNR=9.8
TREC **Trest** 75.00 43 *eP* P 22 23 46.3 +0.4
TREC *e* 22 23 49.6
TREC **Trest** 75.00 43 *eP* P 22 23 46.3 +0.4
TREC *epP* **pP** 22 23 49.6 -1.0
UPC **Upice** 75.11 41 *eP* P 22 23 47.6 +1.1
UPC *e* 22 23 50.5
UPC **Upice** 75.11 41 *eP* P 22 23 47.6 +1.1
UPC *epP* **pP** 22 23 50.5 -0.6
SOKA **Soboth** 75.20 45⇑*iP* P 22 23 47.1 -0.1
comp=Z,65nm,1.8s,SNR=12
KSP **Ksiaz** 75.22 41 *eP* P 22 23 47.7 +0.6
KSP **Ksiaz** 75.22 41 *eP* P 22 23 48.0 +0.9
VISS **Visnje** 75.24 46 *eP* P 22 23 48.0 +0.6
PERS **Pernice** 75.27 45 *eP* P 22 23 47.5 0.0
DPC **Dobruska-Polom** 75.33 41 *eP* P 22 23 48.2 +0.3
DPC *e* 22 23 52.2
DPC **Dobruska-Polom** 75.33 41 *eP* P 22 23 48.2 +0.3
DPC *epP* **pP** 22 23 52.2 -0.3
ARSA **Arzberg** 75.42 45⇓*iP* P 22 23 48.0 -0.4
comp=Z,48nm,1.5s,SNR=12
CONA **Conrad Observa** 75.51 44⇑*iP* P 22 23 49.4 +0.4
comp=Z,36nm,1.2s,SNR=7.7
BOJS **Bojanci** 75.58 47 *iP* P 22 23 49.8 +0.5
TNA **Tin City** 75.61 335 *eP* P 22 23 49.3 +0.2
comp=Z,89nm,1.4s
KRLC **Kraliky** 75.67 42 *eP* P 22 23 50.5 +0.7
KRLC *e* 22 23 54.3
KRLC **Kraliky** 75.67 42 *eP* P 22 23 50.5 +0.7
KRLC *epP* **pP** 22 23 54.3 -0.2
ARCES **ARCESS Array B** 75.69 21 P P 22 23 49.4 -0.1
ARCES **ARCESS Array B** 75.69 21 P P 22 23 49.4 -0.1
comp=Z,18nm,1.1s,baz=284,slow=4.9,SNR=8.0
VRAC **Vranov** 75.71 42⇓*iP* P 22 23 51.0 +1.0
VRAC **Vranov** 75.71 42 P P 22 23 50.6 +0.6
VRAC **Vranov** 75.71 42 P P 22 23 50.6 +0.6
comp=Z,27nm,1.1s,baz=283,slow=6.0,SNR=14
MORC **Moravsky Berou** 76.22 42 ⇓*P* P 22 23 54.1 +1.2
MORC **Moravsky Berou** 76.22 42⇓*iP* P 22 23 54.1 +1.2
SMOL **Smolenice** 76.41 43 *eP* P 22 23 55.0 +1.0
SMOL **Smolenice** 76.41 43 *eP* P 22 23 55.0 +1.0
OKC **Ostrava-Krasne** 76.59 42 *eP* P 22 23 55.6 +0.6
OKC *e* 22 23 58.9
OKC **Ostrava-Krasne** 76.59 42 *eP* P 22 23 55.6 +0.6
OKC *epP* **pP** 22 23 58.9 -0.7
CUC **Castrocucco** 77.17 52 *eP* P 22 23 58.0 -0.6
comp=Z,58nm,1.4s
CSKK **Cs˘‡kako** 77.21 44⇑*e* P 22 23 59.5 +0.9
PKSG 77.29 44 *e* P 22 23 59.8 +0.8
OJC **Ojcow** 77.54 41 *eP* P 22 24 01.8 +1.5
GAMB **Gambell** 77.64 333 *eP* P 22 24 01.4 +0.9
comp=Z,60nm,1.5s
BUD **Budapest** 77.69 44⇓*e* P 22 24 02.3 +1.1
PKSM **Moragy** 77.74 45 ⇓*P* P 22 24 02.3 +0.8
PKSM **Moragy** 77.74 45⇓*iP* P 22 24 02.3 +0.8
PKSM **Moragy** 77.74 45 *e* P 22 24 02.2 +0.8
KAF **Kangasniemi** 77.97 28 *eP* P 22 24 01.0 -1.4
KAF pmax pmax
comp=Z,45nm,1.4s
KAF **Kangasniemi** 77.97 28 *ep* P 22 24 01.0 -1.4
comp=Z,45nm,1.4s
FINES **FINESS Array B** 78.05 29 P P 22 24 03.2 +0.3
FINES **FINESS Array B** 78.05 29 P P 22 24 03.2 +0.3
comp=Z,29nm,1.1s,baz=272,slow=5.5,SNR=16
PSZ **Piszkesteto** 78.16 43 ⇓*P* P 22 24 05.4 +1.5
PSZ **Piszkesteto** 78.16 43⇓*iP* P 22 24 05.4 +1.5
PSZ **Piszkesteto** 78.16 43 *eP* P 22 24 04.5 +0.6
comp=Z,184nm,1.5s
PSZ **Piszkesteto** 78.16 43⇓*e* P 22 24 05.5 +1.5

SUW	**Suwalki**	**78.60**	**37**	*e*P	**P**	**22 24 06.3**	**+0.2**
SUW				pmax	pmax		
	comp=Z,66nm,1.1s						
SUW	**Suwalki**	**78.60**	**37**	*e*P	**P**	**22 24 06.1**	**0.0**
SUW	**Suwalki**	**78.60**	**37**	*e*P	**P**	**22 24 06.3**	**+0.2**
	comp=Z,66nm,1.1s						
STHS	**Stebnicka Huta**	**78.64**	**42**	*e*P	**P**	**22 24 08.2**	**+1.7**
STHS				pmax	pmax		
	comp=Z,14nm,1.0s						
STHS	**Stebnicka Huta**	**78.64**	**42**	*e*P	**P**	**22 24 08.2**	**+1.7**
CRVS	**Cervenica-Dubn**	**78.92**	**42**	*e*P	**P**	**22 24 10.1**	**+2.1**
CRVS				pmax	pmax		
	comp=Z,125nm,1.9s						
CRVS	**Cervenica-Dubn**	**78.92**	**42**	*e*P	**P**	**22 24 10.1**	**+2.1**
CRVS				*e*PCP	**PcP**	**22 24 20.3**	**+3.7**
CRVS				*e*PP	**PP**	**22 27 05.1**	**-1.3**
APA	**Apatity**	**79.05**	**22** ⇑*i*P		**P**	**22 24 08.8**	**+0.5**
APA				MLR	MLR		
	comp=Z,4μm,23.0s						
VSU	**Vasula**	**79.24**	**32**	*e*P	**P**	**22 24 08.4**	**-1.1**
VSU				pmax	pmax		
	comp=Z,166nm,1.3s						
LVZ	**Lovozero**	**79.37**	**22**	*e*P	**P**	**22 24 10.2**	**+0.1**
LVZ				pmax	pmax		
	comp=Z,47nm,1.2s						
KOLS	**Kolonicke sedl**	**79.42**	**42**	*e*P	**P**	**22 24 11.3**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,78nm,1.6s						
KOLS	**Kolonicke sedl**	**79.42**	**42**	*e*P	**P**	**22 24 11.3**	**+0.5**
KWP	**Kalwaria Pacla**	**79.50**	**41**	*e*P	**P**	**22 24 12.5**	**+1.3**
KWP				pmax	pmax		
	comp=Z,63nm,0.9s						
KWP	**Kalwaria Pacla**	**79.50**	**41**	*e*P	**P**	**22 24 12.5**	**+1.3**
	comp=Z,63nm,0.9s						
UZH	**Uzhgorod**	**79.52**	**42**	*e*P	**P**	**22 24 09.5**	**-1.7**
UZH				*e*		22 24 12.5	
UZH				*i*		22 24 17.2	
UZH				*e*		22 24 20.8	
BANR	**Banloc**	**79.64**	**46** ⇓*i*P		**P**	**22 24 15.1**	**+3.2**
ISAL	**Salakas**	**79.79**	**35**	*e*P	**P**	**22 24 12.0**	**-0.5**
ISAL				AMB	AMB	22 24 13.9	
	comp=Z,29nm,1.4s						
IIGN	**Ignalina**	**79.91**	**35**	*e*P	**P**	**22 24 12.7**	**-0.5**
IIGN				AMB	AMB	22 24 17.9	
	comp=Z,36nm,1.5s						
JOF	**Joensuu**	**79.91**	**27**	*e*P	**P**	**22 24 12.1**	**-1.0**
JOF				pmax	pmax		
	comp=Z,79nm,1.3s						
JOF	**Joensuu**	**79.91**	**27**	*e*p	**P**	**22 24 12.1**	**-1.0**
	comp=Z,78nm,1.3s						
IDID	**Didziasalis**	**80.20**	**35**	*e*P	**P**	**22 24 14.3**	**-0.5**
IDID				AMB	AMB	22 24 16.1	
	comp=Z,25nm,1.2s						
BMR	**Baia Mare**	**80.56**	**43** ⇓P		**P**	**22 24 18.5**	**+1.6**
BMR	**Baia Mare**	**80.56**	**43** ⇓*i*P		**P**	**22 24 18.5**	**+1.6**
PUL	**Pulkovo**	**80.56**	**30**	*e*P	**P**	**22 24 17.2**	**+0.6**
PUL				pmax	pmax		
	comp=Z,99nm,1.3s						
MLR	**Muntele Rosu**	**82.84**	**45** ⇓*i*P		**P**	**22 24 31.0**	**+1.8**
MLR	**Muntele Rosu**	**82.84**	**45**	P	**P**	**22 24 30.7**	**+1.6**
MLR	**Muntele Rosu**	**82.84**	**45**	P	**P**	**22 24 30.7**	**+1.6**
	comp=Z,21nm,1.1s,baz=326,slow=2.5,SNR=20						
KIEV	**Kiev**	**83.14**	**39**	*e*P	**P**	**22 24 28.8**	**-1.6**
PLOR	**Plostina**	**83.19**	**44** ⇑P		**P**	**22 24 32.8**	**+1.9**
PLOR	**Plostina**	**83.19**	**44** ⇑*i*P		**P**	**22 24 32.8**	**+1.9**
KIS	**Kishinev**	**84.20**	**42**	*e*P	**P**	**22 24 36.0**	**0.0**
KIS				*e*		22 24 45.0	
KIS				pmax	pmax		
	comp=Z,500nm,2.7s						
KIS	**Kishinev**	**84.20**	**42**	*e*P	**P**	**22 24 36.0**	**0.0**
KIS				XM		22 24 38.0	
	comp=Z,500nm,2.7s						
IDI	**Anoyia**	**85.40**	**54**	P	**P**	**22 24 42.9**	**+0.5**
IDI	**Anoyia**	**85.40**	**54**	P	**P**	**22 24 42.9**	**+0.5**
	comp=Z,24nm,0.9s,baz=272,slow=6.2,SNR=7.3						
OBN	**Obninsk**	**85.50**	**33**	P	**P**	**22 24 42.4**	**+0.1**
	comp=Z,251nm,1.3s,SNR=5.4						
OBN	**Obninsk**	**85.50**	**33**	*e*P	**P**	**22 24 40.9**	**-1.4**
OBN				*e*		22 28 00.4	
OBN				*e*SS	SS	22 40 56.4	+8.5
OBN				pmax	pmax		
	comp=Z,87nm,1.2s						
MOS	**Moscow**	**85.76**	**32**	*e*P	**P**	**22 24 42.9**	**-0.7**
MOS				pmax	pmax		
	comp=Z,87nm,1.4s						
PRGR	**Permogore**	**86.45**	**25** ⇑*i*P		**P**	**22 24 47.4**	**+0.5**
PRGR				pmax	pmax		
	comp=Z,161nm,1.4s						
MSKU	**Masuku**	**86.86**	**93**	P	**P**	**22 24 49.3**	**-0.5**
MSKU	**Masuku**	**86.86**	**93**	P	**P**	**22 24 49.3**	**-0.5**
	comp=Z,34nm,1.0s,baz=200,slow=0.2,SNR=10						
SIM	**Simferopol'**	**88.40**	**43**	*e*P	**P**	**22 24 58.0**	**+1.3**
SIM				pmax	pmax		
	comp=Z,21nm,1.0s						
VSR	**Storozhevoye**	**88.66**	**36**	*e*P	**P**	**22 24 56.4**	**-1.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,8.0nm,1.1s						
VORD	**Divnogorie**	**88.85**	**36**	*e*P	**P**	**22 24 56.6**	**-2.0**
VORD				pmax	pmax		
	comp=N,5.0nm,1.3s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.3s						
VORD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TIXI	**Tiksi**	**88.98**	**353**	*e*P	**P**	**22 24 59.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,42nm,1.2s						
TIXI	**Tiksi**	**88.98**	**353**	*e*P	**P**	**22 24 59.0**	**+0.2**
	comp=Z,88nm,1.5s						
ANTO	**Ankara**	**89.58**	**48** ⇓P		**P**	**22 25 03.0**	**+0.6**
ANTO	**Ankara**	**89.58**	**48** ⇓*i*P		**P**	**22 25 03.0**	**+0.6**
VRHR	**Novokhopersk**	**90.08**	**35**	*e*P	**P**	**22 25 01.9**	**-2.5**
VRHR				pmax	pmax		
	comp=N,20nm,1.1s						
VRHR				pmax	pmax		
	comp=E,20nm,1.1s						
VRHR				pmax	pmax		
	comp=Z,20nm,1.1s						
BR131	**Keskin Array S**	**90.23**	**48**	*e*P	**P**	**22 25 05.8**	**+0.2**
	comp=Z,14nm,1.1s						
BRTR	**Keskin Array B**	**90.23**	**48**	P	**P**	**22 25 04.7**	**-0.9**
BRTR				PP	**PP**	**22 28 37.2**	**-1.8**
BRTR	**Keskin Array B**	**90.23**	**48**	P	**P**	**22 25 04.7**	**-0.9**
	comp=Z,10nm,1.0s,baz=255,slow=3.7,SNR=12						
BRTR				PP	**PP**	**22 28 37.2**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=242,slow=8.6,SNR=2.3						
SEY	**Seymchan**	**91.62**	**341** ⇑*i*P		**P**	**22 25 10.8**	**-0.5**
SOKR	**Solikamsk**	**92.05**	**23**	*e*P	**P**	**22 25 14.3**	**+1.0**
SOKR				pmax	pmax		
	comp=Z,60nm,1.6s						
KIV	**Kislovodsk**	**94.30**	**41**	*e*P	**P**	**22 25 24.0**	**-0.2**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
NEY	**Neytrino**	**94.68**	**42**	*e*P	**P**	**22 25 23.8**	**-2.3**
ARU	**Arti**	**94.91**	**25**	P	**P**	**22 25 25.6**	**-1.0**
ARU						22 29 14.0	
ARU				S	**SKSac**	**22 36 00.9**	**-0.9**
NCK	**Nalchik**	**95.10**	**41**	*e*P	**P**	**22 25 25.5**	**-2.3**
ASF	**Jabal al Asfar**	**95.83**	**54**	P	**P**	**22 25 32.6**	**+1.2**
ASF	**Jabal al Asfar**	**95.83**	**54**	P	**P**	**22 25 32.6**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=68,slow=0.6,SNR=4.2						
BVAR	**Borovoye Array**	**101.97**	**22**	PKKPbc	PKKPbc	22 42 00.4	-3.9
BVAR	**Borovoye Array**	**101.97**	**22**	PKKPbc	PKKPbc	22 42 00.4	-3.9
	comp=Z,0.6nm,0.7s,baz=178,slow=4.5,SNR=3.9						
KURK	**Kurchatov**	**106.64**	**19**	PKKPbc	PKKPbc	22 41 47.0	-3.2
KURBB	**Kurchatov Arra**	**106.69**	**19**	PKKPbc	PKKPbc	22 41 47.0	-3.1
	comp=Z,1.4nm,1.0s,baz=166,slow=2.5,SNR=9.7						
MKAR	**Makanchi Array**	**111.24**	**18**	PKKPbc	PKKPbc	22 41 32.5	-3.0
MKAR	**Makanchi Array**	**111.24**	**18**	PKKPbc	PKKPbc	22 41 32.5	-3.0
	comp=Z,0.3nm,0.4s,baz=167,slow=6.0,SNR=3.6						
AAK	**Ala-Archa**	**112.08**	**26**	PKKPbc	PKKPbc	22 41 31.1	-1.8
AAK	**Ala-Archa**	**112.08**	**26**	PKKPbc	PKKPbc	22 41 31.1	-1.8
	comp=Z,1.2nm,0.8s,baz=183,slow=5.0,SNR=5.4						
SONM	**Songino Array**	**114.05**	**1**	PKKPbc	PKKPbc	22 41 23.3	-3.1
SONM	**Songino Array**	**114.05**	**1**	PKKPbc	PKKPbc	22 41 23.3	-3.1
	comp=Z,1.0nm,1.0s,baz=160,slow=4.7,SNR=4.9						
KSH	**Kashi**	**115.29**	**27**	*e*PKP	**PKPdf**	**22 30 48.2**	**+1.6**
KSH				*e*PP	PP	22 31 58.0	+12
KSH				*e*SKS	**SKSdf**	**22 37 55.1**	**-3.6**
KSH				AMB	AMB		
	comp=Z,3μm,10.3s						
KSH					LR	LR	
	comp=Z,2μm,11.2s						
KSH					LR	LR	
	comp=Z,1μm,10.8s						
KSH					LR	LR	
	comp=Z,2μm,7.8s						
HHC	**Hu-ho-hao-te**	**120.92**	**356**	*e*PKP	**PKPdf**	**22 30 57.9**	**+0.6**
HHC				PP	**PP**	**22 32 26.3**	**+1.6**
HHC				SKS	**SKSdf**	**22 38 09.6**	**+0.3**
HHC				SKKS	**SKKSac**	**22 39 20.5**	**-5.2**
HHC				SS	**SS**	**22 49 01.8**	**+6.7**
BJI	**Beijing**	**121.28**	**352**	PKP	**PKPdf**	**22 30 54.9**	**-3.0**
GTA	**Gaotai**	**122.03**	**7**	*e*PKP	**PKPdf**	**22 30 59.8**	**+0.2**
GTA				sPKP		22 31 06.9	
OPO	**Ambohidratompo**	**123.09**	**101**	PKP	**PKPdf**	**22 31 02.5**	**+0.5**
OPO	**Ambohidratompo**	**123.09**	**101**	PKP	**PKPdf**	**22 31 02.5**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=242,slow=4.2,SNR=3.5						
DANN	**Dangsing**	**128.16**	**27**	*e*P	**PKPdf**	**22 31 11.5**	**-0.3**
	comp=Z,307nm,2.0s						
KOLN	**Koldanda**	**128.60**	**27**	*e*P	**PKPdf**	**22 31 11.8**	**-0.7**
	comp=Z,72nm,1.4s						
NJ2	**Nanjing**	**128.65**	**348**	*e*PKP	**PKPdf**	**22 31 11.6**	**-0.6**
GKN	**Gorkha**	**128.84**	**26**	*e*P	**PKPdf**	**22 31 12.3**	**-0.6**
	comp=Z,103nm,1.2s						
KKN	**Kakani**	**129.29**	**26**	*e*P	**PKPdf**	**22 31 13.1**	**-0.8**
	comp=Z,99nm,1.6s						
DMN	**Daman**	**129.38**	**26**	*e*P	**PKPdf**	**22 31 13.0**	**-1.1**
	comp=Z,102nm,1.7s						
GUN	**Gumba**	**129.43**	**25**	*e*P	**PKPdf**	**22 31 13.7**	**-0.6**
	comp=Z,149nm,1.8s						
PKI	**Pulchoki**	**129.54**	**26**	*e*P	**PKPdf**	**22 31 13.4**	**-1.1**
	comp=Z,53nm,1.3s						
LSA	**Lhasa**	**129.64**	**19**	*e*PKIKP	**PKPdf**	**22 31 14.9**	**+0.1**
LSA	**Lhasa**	**129.64**	**19**	*e*PKPdf	**PKPdf**	**22 31 14.9**	**+0.1**
JIRN	**Jiri**	**129.77**	**25**	*e*P	**PKPdf**	**22 31 15.1**	**+0.1**
	comp=Z,85nm,1.6s						
RAMN	**Ramite**	**130.57**	**25**	*e*P	**PKPdf**	**22 31 15.9**	**-0.5**
	comp=Z,91nm,1.4s						
TAPN	**Taplejung**	**130.64**	**23**	*e*P	**PKPdf**	**22 31 16.2**	**-0.4**
	comp=Z,111nm,1.6s						
CD2	**Chengdu**	**130.83**	**4**	*e*PKP	**PKPdf**	**22 31 15.9**	**-0.6**
ODAN	**Odare**	**130.96**	**24**	*e*P	**PKPdf**	**22 31 16.2**	**-0.9**
	comp=Z,39nm,1.3s						
GYA	**Guiyang**	**135.39**	**1**	Pdif	**Pdif**	**22 28 25.8**	**-2.0**
GYA				PKP	**PKPdf**	**22 31 24.2**	**-1.1**
GYA				PP	**PP**	**22 34 02.0**	**+2.1**
GYA				PKS	**PKSdf**	**22 34 58.7**	**-3.2**
GYA				SKKS		22 40 52.4	
GYA				SS	**SS**	**22 51 54.2**	**-0.5**
GYA				AMB	AMB		
	comp=Z,180nm,8.0s						
GYA				LR	LR		
	comp=Z,630nm,20.3s						
GYA				LR	LR		
	comp=Z,550nm,21.0s						
GYA				LR	LR		
	comp=Z,690nm,20.8s						
KMI	**Kunming**	**136.48**	**6**	PKP	**PKPdf**	**22 31 27.3**	**-0.2**
KMI				sPKP		22 31 31.4	
KMI				PP	**PP**	**22 34 10.4**	**+3.5**
CMAR	**Chiang Mai Arr**	**142.41**	**13**	PKPpre	PKPpre	22 31 32.8	
CMAR				PKP	**PKPdf**	**22 31 38.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**142.41**	**13**	PKhKP	PKPpre	22 31 32.8	
	comp=Z,3.1nm,0.6s,baz=317,slow=3.1,SNR=11						
CMAR				PKP	**PKPdf**	**22 31 38.3**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=320,slow=2.4,SNR=12						
PALK	**Pallekele**	**143.27**	**48**	PKPdf	PKPbc	22 31 37.3	+0.5
CTA	**Charters Tower**	**143.40**	**261**	PKPpre	PKPpre	22 31 36.5	
CTA	**Charters Tower**	**143.40**	**261**	PKhKP	PKPpre	22 31 36.5	
	comp=Z,46nm,1.0s,baz=64,slow=1.6,SNR=16						
STKA	**Stephens Creek**	**146.47**	**240**	*e*PKPdf	**PKPdf**	**22 31 45.2**	**+0.4**
STKA				*e*PKPbc	**PKPbc**	**22 31 46.7**	**+0.5**
STKA	**Stephens Creek**	**146.47**	**240**	PKPbc	**PKPdf**	**22 31 44.4**	**-0.4**
	comp=Z,14nm,0.9s,baz=101,slow=3.7,SNR=12						
KKM	**Kota Kinabalu**	**154.21**	**340**	*e*PKPbc	**PKPbc**	**22 32 05.2**	**-0.5**
KKM				*e*PKPab	**PKPab**	**22 32 19.7**	**+0.5**
WRAB	**Tennant Creek**	**154.57**	**262**	*e*PKIKP	**PKPdf**	**22 31 57.6**	**-0.1**
WRAB				*e*		22 32 05.7	
WRAB	**Tennant Creek**	**154.57**	**262**	*e*PKPdf	**PKPdf**	**22 31 57.6**	**-0.1**
WRAB				*e*PKPbc	**PKPbc**	**22 32 05.7**	**-0.5**
WRA	**Warramunga Arr**	**154.58**	**262**	PKP	**PKPdf**	**22 31 57.5**	**-0.3**
WRA				PKPbc	**PKPbc**	**22 32 05.5**	**-0.6**
WRA	**Warramunga Arr**	**154.58**	**262**	PKP	**PKPdf**	**22 31 57.5**	**-0.3**
	comp=Z,10nm,1.0s,baz=78,slow=1.1,SNR=16						
WRA				PKPbc	**PKPbc**	**22 32 05.5**	**-0.6**
	comp=Z,7.5nm,1.1s,baz=83,slow=1.9,SNR=5.2						
PSI	**Prapat**	**157.30**	**23**	PKPab	**PKPab**	**22 32 31.9**	**-0.6**
PSI	**Prapat**	**157.30**	**23**	PKPab	**PKPab**	**22 32 31.9**	**-0.6**
	comp=Z,22nm,1.0s,baz=300,slow=6.3,SNR=6.5						

IDC ***12*** *22:15:44.0±1.0, 18°.43N×72°.77W, h0km, mb4.2/9, mb1 4.5/9, mb1mx4.2/24, mbtmp4.2/9, Error ellipse: s-maj=32.4km s-min=29.3km az=148.0*
ISCJB ***12*** *22:15:44.5±1.0, 18°.3N±0°.2×72°.7W±0°.2, h13km, mb4.2/9, Error ellipse: s-maj=25.5km s-min=19.6km az=31.6*
ISC 12 22:15:46.1±0.9,**18°.4N**±0°.2×**72°.7W**±0°.1,**h13km**,**n15**, σ0**983**/16,**mb4.3/9**,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**11.32**	**99**	Pn	**Pn**	**22 18 26.6**	**-1.1**
PDAR	**Pinedale Array**	**39.49**	**316**	P	**P**	**22 23 15.4**	**-1.2**
	1.0nm,0.9s,baz=114,slow=9.0,SNR=2.4						
PLCA	**Paso Flores**	**58.85**	**178**	P	**P**	**22 25 45.0**	**+0.6**
	2.0nm,0.8s,baz=330,slow=11,SNR=3.1						
ESDC	**Sonseca Array**	**62.30**	**54**	P	**P**	**22 26 08.3**	**+0.1**
	3.4nm,0.9s,baz=274,slow=7.2,SNR=4.3						
KEST	**Kesra**	**73.21**	**57**	P	**P**	**22 27 17.3**	**+0.1**
	3.6nm,0.9s,baz=282,slow=4.4,SNR=4.7						
KHC	**Kasperske Hory**	**73.94**	**43**	*e*P	**P**	**22 27 22.0**	**+0.8**
GERES	**GERESS Array B**	**74.07**	**43**	P	**P**	**22 27 22.4**	**+0.4**
	2.7nm,0.8s,baz=280,slow=3.9,SNR=5.8						
UPC	**Upice**	**75.25**	**41**	*e*P	**P**	**22 27 29.7**	**+1.0**
DPC	**Dobruska-Polom**	**75.47**	**41**	*e*P	**P**	**22 27 31.1**	**+1.1**
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**	**22 27 32.1**	**+0.8**
	2.7nm,0.9s,baz=296,slow=4.9,SNR=2.7						
KRLC	**Kraliky**	**75.81**	**42**	*e*P	**P**	**22 27 32.8**	**+0.8**
FINES	**FINESS Array B**	**78.16**	**29**	P	**P**	**22 27 44.6**	**-0.3**
	2.4nm,0.9s,baz=325,slow=2.2,SNR=3.7						
MLR	**Muntele Rosu**	**82.98**	**44**	P	**P**	**22 28 10.8**	**-0.5**
	1.2nm,0.7s,baz=301,slow=3.6,SNR=6.8						
BRTR	**Keskin Array B**	**90.39**	**48**	P	**P**	**22 28 48.2**	**+0.6**
	2.9nm,1.0s,baz=272,slow=3.2,SNR=4.8						
WRA	**Warramunga Arr**	**154.40**	**262**	PKP	**PKPdf**	**22 35 39.2**	**+0.4**
	1.3nm,0.9s,baz=89,slow=3.2,SNR=3.5						
WRA				PKPbc	**PKPbc**	**22 35 46.3**	**-0.9**
	0.4nm,0.5s,baz=88,slow=3.0,SNR=5.4						

ISCJB ***12*** *22:22:27.0±1.6, 18°.2N±0°.3×72°.5W±0°.2, h10km, mb4.1/14, Error ellipse: s-maj=49.5km s-min=13.3km az=20.0*
IDC ***12*** *22:22:27.3±1.5, 18°.21N×72°.53W, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.2/27, mbtmp4.2/14, Error ellipse: s-maj=45.8km s-min=19.5km az=15.0*
ISC 12 22:22:29.0±1.5,**18°.2N**±0°.3×**72°.5W**±0°.1,**h10km**,**n16**, σ0**963**/15,**mb4.2**/14,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**11.12**	**98**	Pn	**Pn**	**22 25 08.6**	**+0.5**
	SNR=5.3						
TXAR	**Lajitas Array**	**30.47**	**297**	P	**P**	**22 28 42.7**	**+0.4**
	0.8nm,0.8s,baz=116,slow=6.1,SNR=4.8						
PDAR	**Pinedale Array**	**39.72**	**316**	P	**P**	**22 30 02.5**	**+0.5**
	0.9nm,0.7s,baz=116,slow=9.4,SNR=6.5						
FRB	**Frobisher Bay**	**45.55**	**2**	P	**P**	**22 30 48.5**	**-0.1**
	5.4nm,0.8s,baz=117,slow=18,SNR=5.2						
NEW	**Newport**	**46.87**	**320**	P	**P**	**22 30 59.1**	**-0.3**
	3.4nm,0.7s,baz=145,slow=4.6,SNR=4.7						
YKA	**Yellowknife Ar**	**52.91**	**337**	P	**P**	**22 31 44.5**	**-0.5**
	1.7nm,0.8s,baz=125,slow=7.5,SNR=12						
ILAR	**Eielson Array**	**66.99**	**333**	P	**P**	**22 33 21.6**	**-0.2**
	1.2nm,1.0s,baz=93,slow=5.4,SNR=7.4						
TORD	**Torodi Ar. Bea**	**71.21**	**82**	P	**P**	**22 33 47.4**	**-1.5**
	2.2nm,0.9s,baz=294,slow=5.3,SNR=2.2						
SPITS	**Spitsbergen Ar**	**72.05**	**13**	P	**P**	**22 33 53.0**	**+0.2**
	21nm,1.2s,baz=235,slow=5.1,SNR=3.8						
KEST	**Kesra**	**73.13**	**57**	P	**P**	**22 34 00.1**	**+0.1**
	1.7nm,0.7s,baz=205,slow=8.7,SNR=5.9						
GERES	**GERESS Array B**	**74.04**	**43**	P	**P**	**22 34 06.0**	**+0.7**
	2.5nm,0.8s,baz=270,slow=4.0,SNR=7.8						
ARCES	**ARCESS Array B**	**75.84**	**21**	P	**P**	**22 34 14.4**	**-0.7**
	2.2nm,0.7s,baz=297,slow=5.3,SNR=6.2						
FINES	**FINESS Array B**	**78.19**	**29**	P	**P**	**22 34 29.2**	**+0.7**
	0.9nm,0.5s,baz=291,slow=2.7,SNR=8.1						
MLR	**Muntele Rosu**	**82.95**	**45**	P	P	22 34 55.9	+1.4
	1.5nm,0.8s,baz=277,slow=1.9,SNR=8.5						
BRTR	**Keskin Array B**	**90.34**	**48**	P	**P**	**22 35 31.2**	**+0.3**
	0.6nm,0.7s,baz=332,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**154.57**	**262**	PKPbc	**PKPbc**	**22 42 30.9**	**-0.1**
	1.9nm,1.1s,baz=97,slow=2.2,SNR=3.2						

ISCJB ***12*** *22:32:34.8±0.9, 18°.5N±0°.2×72°.6W±0°.1, h13km, mb3.8/9, Error ellipse: s-maj=25.5km s-min=14.7km az=38.0*
IDC ***12*** *22:32:34.1±0.9, 18°.41N×72°.62W, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/24, mbtmp3.9/9, Error ellipse: s-maj=30.5km s-min=20.8km az=39.0*
ISC 12 22:32:36.2±0.9,**18°.4N**±0°.2×**72°.6W**±0°.1,**h13km**,**n11**, σ0**996**/12,**mb4.0**/9,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**11.24**	**99**	Pn	**Pn**	**22 35 17.0**	**+0.3**
PTGA	**Pitinga**	**22.72**	**145**	P	**P**	**22 37 39.3**	**+1.3**
	5.6nm,0.8s,baz=350,slow=12,SNR=6.5						
TXAR	**Lajitas Array**	**30.31**	**297**	P	**P**	**22 38 48.5**	**+0.9**
	0.7nm,0.9s,baz=86,slow=12,SNR=4.6						
BDFB	**Brasilia**	**41.61**	**143**	P	**P**	**22 40 23.8**	**-0.6**
	2.0nm,0.6s,baz=122,slow=15,SNR=3.0						
YKA	**Yellowknife Ar**	**52.73**	**337**	P	**P**	**22 41 49.8**	**-0.7**
	0.5nm,0.7s,baz=126,slow=7.5,SNR=6.1						
ESDC	**Sonseca Array**	**62.23**	**54**	P	**P**	**22 42 58.3**	**+0.3**
	0.6nm,0.6s,baz=271,slow=6.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**71.29**	**82**	P	**P**	**22 43 54.9**	**-1.2**
	1.0nm,1.0s,baz=270,slow=3.4,SNR=2.5						
KEST	**Kesra**	**73.13**	**57**	P	**P**	**22 44 06.9**	**0.0**
	4.1nm,1.3s,baz=268,slow=7.9,SNR=4.3						
GERES	**GERESS Array B**	**74.00**	**43**	P	**P**	**22 44 11.4**	**-0.4**
	1.1nm,0.8s,baz=299,slow=6.0,SNR=6.4						
FINES	**FINESS Array B**	**78.12**	**29**	P	**P**	**22 44 36.2**	**+1.4**
	1.3nm,0.9s,baz=332,slow=5.0,SNR=2.8						
WRA	**Warramunga Arr**	**154.49**	**262**	PKP	**PKPdf**	**22 52 28.8**	**-0.3**
	0.6nm,0.9s,baz=80,slow=2.4,SNR=3.2						
WRA				PKPbc	**PKPbc**	**22 52 36.5**	**-1.1**
	0.7nm,0.9s,baz=79,slow=2.5,SNR=4.0						

IDC ***12*** *22:33:50.0±0.7, 1°.47S×99°.41E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.2/29, mbtmp4.2/22, ML3.9/2, Error ellipse: s-maj=22.3km s-min=16.8km az=59.0*
DJA ***12*** *22:33:51.1±1.0, 2°.S±4°×9°9E±°, h15km, M4.8/9, mb4.7/4, MLv4.8/9*
ISCJB ***12*** *22:33:53.0±0.4, 1°.46S±0°.05×99°.32E±0°.04, h30km, mb4.2/24, Error ellipse: s-maj=7.6km s-min=5.0km az=41.6*
NEIC ***12*** *22:33:53.8±3.1, 1°.46S×99°.46E, h26km±20km, mb4.3/4, Error ellipse: s-maj=12.4km s-min=11.3km az=218.0*
ISC 12 22:33:55.1±0.5,**1°.38S**±0°.06×**99°.41E**±0°.06,**h30km**,**n84**, σ0**992**/75,**mb4.2**/24,**2C-1D**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.15**	**66**	P	**Pn**	**22 34 14.8**	**-0.4**
PDSI				S	**Sb**	**22 34 33.1**	**+2.0**
PPI	**Padang Panjang**	**1.35**	**47**	P	**Pn**	**22 34 18.2**	**+0.3**
PPI	**Padang Panjang**	**1.35**	**47**	P	**Pn**	**22 34 18.1**	**+0.1**
	baz=0.8;SNR=305						
MNSI	**Mandailing Nat**	**2.17**	**4**	P	**Pn**	**22 34 30.6**	**+1.4**
BKNI	**Bangkinang**	**2.35**	**44**	P	**Pb**	**22 34 35.2**	**-1.7**
BKNI				S	Sb	22 35 12.2	+6.7
BKNI	**Bangkinang**	**2.35**	**44**	P	**Pn**	**22 34 33.0**	**+1.2**
	baz=1.4,SNR=9.9						
RGRI	**Rengat**	**3.10**	**71**	P	**Pb**	**22 34 49.5**	**-0.1**
RGRI

2.0nm,0.7s,baz=79,slow=7.6,SNR=3.0
BRTR Keskin Array B 72.47 312 P **P 22 45 17.9 -1.4**
BRTR Keskin Array B 72.47 312 P **P 22 45 17.9 -1.4**
0.9nm,0.8s,baz=128,slow=8.2,SNR=5.1
LBTB Lobatse 74.75 245 P **P 22 45 33.1 +0.1**
LBTB Lobatse 74.75 245 P **P 22 45 33.1 +0.1**
1.3nm,0.9s,baz=127,slow=5.1,SNR=2.6
SEY Seymchan 75.28 22 P **P 22 45 34.7 -0.3**
SEY Seymchan 75.28 22 P **P 22 45 34.7 -0.3**
1.0nm,0.3s,baz=197,slow=19,SNR=3.4
VRI Vrincioaia 79.00 317 ⇓*iP* **P 22 45 56.1 -0.2**
MLR Muntele Rosu 79.45 317 ⇑*iP* **P 22 46 01.0 +2.1**
BURAR Bucovina Array 80.41 319 ⇑*iP* **P 22 46 04.8 +0.8**
FINES FINESS Array B 83.30 332 P **P 22 46 18.4 -0.3**
FINES FINESS Array B 83.30 332 P **P 22 46 18.4 -0.3**
1.1nm,0.5s,baz=112,slow=4.6,SNR=11
ARCES ARCESS Array B 85.70 340 P **P 22 46 31.1 +0.3**
ARCES ARCESS Array B 85.70 340 P **P 22 46 31.1 +0.3**
7.1nm,1.0s,baz=90,slow=3.8,SNR=2.8
GERES GERESS Array B 88.20 319 P **P 22 46 43.3 -0.2**
GERES GERESS Array B 88.20 319 P **P 22 46 43.3 -0.2**
0.5nm,0.6s,baz=91,slow=5.0,SNR=3.8
SPITS Spitsbergen Ar 89.91 348 P **P 22 46 50.4 -0.5**
SPITS Spitsbergen Ar 89.91 348 P **P 22 46 50.4 -0.5**
5.8nm,1.0s,baz=92,slow=10,SNR=6.3
KEST Kesra 90.85 306 P **P 22 46 57.0 +0.8**
KEST Kesra 90.85 306 P **P 22 46 57.0 +0.8**
1.1nm,0.8s,baz=188,slow=7.1,SNR=3.0
CPUP Villa Florida 144.46 218 PKP **PKPab 22 53 27.4 -0.1**
CPUP Villa Florida 144.46 218 PKP **PKPab 22 53 27.4 -0.1**
1.8nm,0.6s,baz=104,slow=0.3,SNR=5.1
TXAR Lajitas Array 144.56 36 PKP PKPbc 22 53 28.9 +0.6
TXAR Lajitas Array 144.56 36 PKP PKPbc 22 53 28.9 +0.6
1.8nm,0.5s,baz=195,slow=0.8,SNR=32
SIV San Ignacio 154.12 227 PKPbc **PKPbc 22 53 51.6 -1.6**
SIV San Ignacio 154.12 227 PKPbc **PKPbc 22 53 51.6 -1.6**
1.4nm,0.8s,baz=174,slow=1.9,SNR=3.8

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*NNC **12** 22:43:59.9±2.0, 37°.38N×70°.02E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.9km s-min=16.7km az=119.0*
ISC 12 22:43:48.7±14.0, **36°.5N**±0°.9×**69°.6E**±0°.5, **h10km, n9, σ0s30/9, 4C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.47**	**28**	P		**Pn**		**22 45 24.1**	**-0.2**
	SNR=10								
KK31	**Karatay Array**	**6.64**	**6**	⇓Pn		**Pn**		**22 45 26.3**	**0.0**
	0.8nm,0.5s,baz=196,slow=13,SNR=22								
KK31				⇑Pg		**Pb**		**22 45 44.2**	**0.0**
	1.1nm,0.4s,baz=188,slow=16,SNR=2.8								
KK31				⇓Lg		Lg		22 47 02.7	
	6.0nm,0.6s,baz=185,slow=29,SNR=7.0								
UCH	**Uchtor**	**6.88**	**32**	P		**Pn**		**22 45 29.7**	**-0.3**
	SNR=8.0								
AAK	**Ala-Archa**	**7.21**	**30**	⇑Lg		Lg		22 47 19.0	
	9.8nm,0.9s								
AAK	**Ala-Archa**	**7.21**	**30**	P		**Pn**		**22 45 34.8**	**+0.5**
	SNR=7.1								
CHMS	**Chumysh**	**7.62**	**30**	P		**Pn**		**22 45 39.8**	**+0.1**
	SNR=6.5								
USP	**Ospenovka**	**7.75**	**28**	P		**Pn**		**22 45 41.6**	**+0.1**
	SNR=8.1								
TKM2	**Tokmak 2**	**7.92**	**34**	⇑Pn		**Pn**		**22 45 43.8**	**-0.3**
	5.7nm,0.6s								
TKM2				⇑Lg		Lg		22 47 41.5	
	7.7nm,1.4s								
TKM2	**Tokmak 2**	**7.92**	**34**	P		**Pn**		**22 45 44.3**	**+0.3**
	SNR=12								

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*IDC **12** 22:46:01.4±1.2, 18°.47N×72°.70W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.7/5, Error ellipse: s-maj=46.3km s-min=26.6km az=35.0*
*ISCJB **12** 22:46:02.1±1.1, 18°.6N±0°.3×72°.6W±0°.2, h13km, mb3.6/5, Error ellipse: s-maj=42.8km s-min=22.3km az=37.7*
ISC 12 22:46:03.6±1.1, **18°.5N**±0°.2×**72°.7W**±0°.2, **h13km, n6, σ1s53/6, mb3.5/5, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**30.26**	**297**	P		**P**		**22 52 15.9**	**+1.3**
	0.8nm,1.0s,baz=112,slow=9.8,SNR=2.2								
BDFB	**Brasilia**	**41.69**	**143**	P		**P**		**22 53 52.4**	**-0.1**
	1.8nm,0.5s,baz=293,slow=9.3,SNR=4.0								
YKA	**Yellowknife Ar**	**52.64**	**337**	P		**P**		**22 55 16.2**	**-1.0**
	0.4nm,0.8s,baz=122,slow=7.5,SNR=4.7								
TORD	**Torodi Ar. Bea**	**71.29**	**82**	P		**P**		**22 57 24.4**	**+1.0**
	1.7nm,1.2s,baz=308,slow=4.7,SNR=2.6								
GERES	**GERESS Array B**	**73.95**	**43**	P		**P**		**22 57 38.7**	**-0.1**
	0.2nm,0.4s,baz=289,slow=6.1,SNR=2.2								
WRA	**Warramunga Arr**	**154.49**	**262**	PKPbc		**PKPbc**		**23 06 03.0**	**-1.9**
	0.7nm,1.0s,baz=86,slow=3.3,SNR=3.8								

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*ISCJB **12** 22:52:48.6±0.4, 18°.31N±0°.05×72°.82W±0°.04, h6km, mb3.9/15, Error ellipse: s-maj=7.4km s-min=5.1km az=171.2*
*IDC **12** 22:52:49.6±0.7, 18°.43N×72°.81W, h0km, mb3.9/14, mb1 4.2/15, mb1mx4.1/25, mbtmp3.9/15, ML4.3/1, Error ellipse: s-maj=22.5km s-min=17.0km az=27.0*
*NEIC **12** 22:52:51.3±0.3, 18°.44N×72°.85W, h10km, mb4.7/2, Error ellipse: s-maj=9.0km s-min=6.1km az=194.0*
ISC 12 22:52:50.5±0.4, **18°.39N**±0°.06×**72°.82W**±0°.05, **h6km, n46, σ0s92/55, mb3.9/15, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.56**	**68**	*e*Pn		**Pn**		**22 53 18.5**	**-0.4**
SDDR				*e*Sn		**Sn**		**22 53 38.5**	**-1.1**
GTBY	**Guantanamo Bay**	**2.65**	**306**	*e*Pn		**Pn**		**22 53 33.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**5.44**	**93**	*e*Pn		**Pn**		**22 54 12.3**	**+0.2**
	70nm,0.5s								
LSP	**Las Mesas**	**5.45**	**91**	Pn		Pn		22 54 15.5	+3.2
CELP	**Cerrillos**	**5.94**	**92**	*e*Pn		**Pn**		**22 54 19.4**	**+0.4**
CELP				*e*Sn		**Sn**		**22 55 27.1**	**-0.2**
SDV	**Santo Domingo**	**9.68**	**167**	*e*Pn		**Pn**		**22 55 11.8**	**+1.2**
	6.8nm,0.6s								
SDV				*e*Sn		**Sn**		**22 56 56.5**	**-3.4**
LZG	**Guadaloupe-1**	**10.78**	**100**	*e*P		**Pn**		**22 55 26.4**	**+0.9**
MLG	**Mont-d'or**	**10.86**	**101**	*e*P		**Pn**		**22 55 26.7**	**0.0**
BCIP	**Isla Barro Col**	**11.42**	**218**	*e*Pn		**Pn**		**22 55 34.2**	**-0.1**
BCIP				*e*Sn		**Sn**		**22 57 41.7**	**-0.6**
TEIG	**Tepich**	**14.71**	**280**	Pn		**Pn**		**22 56 19.9**	**+0.7**
TEIG	**Tepich**	**14.71**	**280**	Pn		**Pn**		**22 56 19.9**	**+0.7**
	1.5nm,0.3s,baz=64,slow=10,SNR=6.6								
PTGA	**Pitinga**	**22.82**	**145**	*e*P		**P**		**22 57 55.6**	**+1.3**
	64nm,2.2s								
PTGA	**Pitinga**	**22.82**	**145**	P		**P**		**22 57 55.1**	**+0.8**
	3.0nm,0.8s,baz=333,slow=16,SNR=5.3								
TXAR	**Lajitas Array**	**30.16**	**297**	P		**P**		**22 59 01.9**	**+0.3**
TXAR				PcP		**PcP**		**23 02 03.5**	**+0.6**
TXAR	**Lajitas Array**	**30.16**	**297**	P		**P**		**22 59 01.9**	**+0.3**
	0.5nm,0.7s,baz=109,slow=8.0,SNR=5.2								
TXAR				PcP		**PcP**		**23 02 03.5**	**+0.6**
	0.7nm,0.7s,baz=132,slow=5.2,SNR=7.1								
MNTX	**Cornudas Mount**	**32.21**	**301**	*e*P		**P**		**22 59 20.0**	**+0.4**
	2.8nm,1.1s								
PDAR	**Pinedale Array**	**39.42**	**316**	P		**P**		**23 00 21.5**	**-0.1**
PDAR				PcP		**PcP**		**23 02 29.4**	**-0.3**
PDAR	**Pinedale Array**	**39.42**	**316**	P		**P**		**23 00 21.5**	**-0.1**
	0.6nm,0.6s,baz=114,slow=11,SNR=5.5								
PDAR				PcP		**PcP**		**23 02 29.4**	**-0.3**
	0.8nm,0.7s,baz=127,slow=3.3,SNR=4.1								
NVAR	**Mina Array Bea**	**44.20**	**307**	P		**P**		**23 01 01.4**	**+0.7**
NVAR	**Mina Array Bea**	**44.20**	**307**	P		**P**		**23 01 01.4**	**+0.7**
	0.7nm,0.6s,baz=87,slow=7.9,SNR=4.1								
CPUP	**Villa Florida**	**46.93**	**161**	P		**P**		**23 01 24.1**	**+2.1**
CPUP	**Villa Florida**	**46.93**	**161**	P		**P**		**23 01 24.1**	**+2.1**
	3.7nm,0.8s,baz=265,slow=18,SNR=3.4								
YKA	**Yellowknife Ar**	**52.67**	**337**	P		**P**		**23 02 05.0**	**-0.3**
YKA	**Yellowknife Ar**	**52.67**	**337**	P		**P**		**23 02 05.0**	**-0.3**
	1.0nm,0.8s,baz=125,slow=7.3,SNR=13								
ESDC	**Sonseca Array**	**62.37**	**54**	P		**P**		**23 03 14.2**	**0.0**
ESDC	**Sonseca Array**	**62.37**	**54**	P		**P**		**23 03 14.2**	**0.0**
	0.9nm,0.7s,baz=305,slow=7.7,SNR=3.8								
ILAR	**Eielson Array**	**66.73**	**333**	P		**P**		**23 03 42.1**	**-0.2**
ILAR	**Eielson Array**	**66.73**	**333**	P		**P**		**23 03 42.1**	**-0.2**
	0.8nm,0.9s,baz=138,slow=3.7,SNR=6.1								
TORD	**Torodi Ar. Bea**	**71.47**	**82**	P		**P**		**23 04 11.1**	**-1.4**
TORD	**Torodi Ar. Bea**	**71.47**	**82**	P		**P**		**23 04 11.1**	**-1.4**
	0.5nm,0.6s,baz=291,slow=5.1,SNR=3.5								
KEST	**Kesra**	**73.28**	**57**	P		**P**		**23 04 23.6**	**+0.5**
	1.3nm,0.8s,baz=308,slow=16,SNR=3.2								
GERES	**GERESS Array B**	**74.13**	**43**	P		**P**		**23 04 28.1**	**+0.2**
GERES	**GERESS Array B**	**74.13**	**43**	P		**P**		**23 04 28.1**	**+0.2**
	1.4nm,0.7s,baz=275,slow=5.9,SNR=9.3								
ARCES	**ARCESS Array B**	**75.81**	**21**	P		**P**		**23 04 37.0**	**-0.1**
ARCES	**ARCESS Array B**	**75.81**	**21**	P		**P**		**23 04 37.0**	**-0.1**
	2.1nm,0.7s,baz=300,slow=2.7,SNR=4.7								
FINES	**FINESS Array B**	**78.20**	**29**	P		**P**		**23 04 50.8**	**+0.1**
FINES	**FINESS Array B**	**78.20**	**29**	P		**P**		**23 04 50.8**	**+0.1**
	0.7nm,0.7s,baz=267,slow=2.5,SNR=3.2								
BRTR	**Keskin Array B**	**90.45**	**48**	P		**P**		**23 05 53.7**	**+0.2**
BRTR	**Keskin Array B**	**90.45**	**48**	P		**P**		**23 05 53.7**	**+0.2**
	0.4nm,0.7s,baz=298,slow=3.1,SNR=2.8								
STKA	**Stephens Creek**	**146.23**	**240**	PKPbc		**PKPdf**		**23 12 31.3**	**-0.1**
STKA	**Stephens Creek**	**146.23**	**240**	PKPbc		**PKPdf**		**23 12 31.3**	**-0.1**
	1.5nm,0.6s,baz=158,slow=5.4,SNR=4.2								
WRA	**Warramunga Arr**	**154.31**	**262**	PKP		**PKPdf**		**23 12 43.3**	**-1.0**
WRA				PKPbc		**PKPbc**		**23 12 51.5**	**-1.1**
WRA	**Warramunga Arr**	**154.31**	**262**	PKP		**PKPdf**		**23 12 43.3**	**-1.0**
	1.1nm,1.0s,baz=82,slow=1.4,SNR=5.4								
WRA				PKPbc		**PKPbc**		**23 12 51.5**	**-1.1**
	1.2nm,0.7s,baz=86,slow=2.6,SNR=11								
ASAR	**Alice Springs**	**154.53**	**253**	PKPbc		**PKPbc**		**23 12 51.4**	**-1.6**
ASAR	**Alice Springs**	**154.53**	**253**	PKPbc		**PKPbc**		**23 12 51.4**	**-1.6**
	0.8nm,0.8s,baz=74,slow=1.9,SNR=6.1								

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*ISCJB **12** 22:55:37.5±0.9, 18°.9N±0°.3×72°.3W±0°.1, h10km, mb3.4/4, Error ellipse: s-maj=43.1km s-min=9.8km az=16.9*
*IDC **12** 22:55:37.8±1.6, 18°.91N×72°.24W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, ML4.4/1, Error ellipse: s-maj=60.0km s-min=26.0km az=8.0*
ISC 12 22:55:39.8±1.1, **19°.0N**±0°.3×**72°.3W**±0°.1, **h10km, n10, σ0s72/10, mb3.5/4, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**10.41**	**104**	*e*P		**Pn**		**22 58 10.1**	**+0.8**
MLG	**Mont-d'or**	**10.50**	**104**	*e*P		**Pn**		**22 58 10.5**	**0.0**
SEG	**Port Louis**	**10.59**	**102**	*e*P		**Pn**		**22 58 12.2**	**+0.6**
H05N1	**Guadeloupe/Mar**	**11.03**	**102**	Pn		**Pn**		**22 58 17.5**	**-0.2**
	SNR=10.0								
TEIG	**Tepich**	**15.12**	**277**	Pn		**Pn**		**22 59 13.5**	**-0.1**
	1.6nm,0.3s,baz=83,slow=7.5,SNR=5.7								
TXAR	**Lajitas Array**	**30.34**	**296**	P		**P**		**23 01 52.6**	**+0.6**
	0.5nm,1.0s,baz=124,slow=8.1,SNR=2.9								
YKA	**Yellowknife Ar**	**52.31**	**337**	P		**P**		**23 04 50.8**	**-0.5**
	0.3nm,0.7s,baz=121,slow=7.6,SNR=2.7								
TORD	**Torodi Ar. Bea**	**70.88**	**82**	P		**P**		**23 06 56.5**	**-1.1**
	0.6nm,0.9s,baz=305,slow=6.2,SNR=2.5								
GERES	**GERESS Array B**	**73.34**	**43**	P		**P**		**23 07 12.7**	**+0.8**
	0.4nm,0.7s,baz=285,slow=3.8,SNR=3.6								
WRA	**Warramunga Arr**	**154.89**	**263**	PKPbc		**PKPbc**		**23 15 42.1**	**-0.3**
	0.4nm,0.9s,baz=76,slow=2.7,SNR=3.1								

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*ISCJB **12** 23:07:01.8±0.4, 18°.42N±0°.05×72°.67W±0°.03, h13km, mb3.8/13, Error ellipse: s-maj=6.5km s-min=3.8km az=3.7*
*IDC **12** 23:07:02.4±0.8, 18°.58N×72°.52W, h0km, mb3.8/11, mb1 4.1/14, mb1mx4.0/28, mbtmp3.9/14, ML3.8/2, Error ellipse: s-maj=25.1km s-min=16.8km az=36.0*
*NEIC **12** 23:07:03.7±0.4, 18°.52N×72°.59W, h10km, mb4.6/2, Error ellipse: s-maj=7.3km s-min=5.7km az=15.0*
ISC 12 23:07:04.0±0.5, **18°.52N**±0°.06×**72°.67W**±0°.04, **h13km, n47, σ1s34/57, mb4.0/13, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.39**	**70**	*e*Pn		**Pn**		**23 07 28.4**	**-0.7**
SDDR				*e*S		**Sn**		**23 07 45.6**	**-1.8**
GTBY	**Guantanamo Bay**	**2.70**	**302**	*e*Pn		**Pn**		**23 07 46.6**	**-0.5**
GTBY				*e*Pg		**Pg**		**23 07 55.5**	**-0.2**
GTBY				*e*S		**Sb**		**23 08 24.7**	**-0.4**
GRTK	**Grand Turk**	**3.31**	**26**	*e*Pn		**Pn**		**23 07 55.0**	**-0.4**
GRTK				*e*S		**Sn**		**23 08 37.4**	**+2.7**
MTDJ	**Mount Denham**	**4.63**	**267**	*e*Pn		**Pn**		**23 08 14.0**	**+0.3**
MTDJ				*e*S		**Sn**		**23 09 06.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**5.31**	**95**	*e*Pn		**Pn**		**23 08 22.1**	**-0.8**
CRPR				*e*S		**Sn**		**23 09 24.1**	**+0.1**
LSP	**Las Mesas**	**5.31**	**93**	*e*Pn		**Pn**		**23 08 22.4**	**-0.7**
OBIP	**Obispado Ponce**	**5.78**	**94**	*e*Pn		**Pn**		**23 08 28.5**	**-1.0**
CELP	**Cerrillos**	**5.80**	**93**	*e*Pn		**Pn**		**23 08 28.9**	**-1.0**
CBYP	**Canovanas**	**6.47**	**91**	*e*Pn		**Pn**		**23 08 38.8**	**-0.2**
CBYP				*e*S		**Sn**		**23 09 55.6**	**+2.7**
MTP	**Monte Pirata**	**6.77**	**92**	*e*Pn		**Pn**		**23 08 43.0**	**-0.2**
MTP				*e*S		**Sn**		**23 10 03.0**	**+2.8**
SDV	**Santo Domingo**	**9.78**	**168**	*e*Pn		**Pn**		**23 09 23.6**	**-1.1**
SDV				*e*S		Sn		23 11 06.6	-7.9
H05N1	**Guadeloupe/Mar**	**11.30**	**99**	Pn		**Pn**		**23 09 44.1**	**-1.1**
	SNR=14								
BCIP	**Isla Barro Col**	**11.61**	**218**	*e*Pn		**Pn**		**23 09 49.9**	**+0.3**
ROSC	**El Rosal**	**13.68**	**187**	Pn		**Pn**		**23 10 21.1**	**+2.9**
ROSC	**El Rosal**	**13.68**	**187**	Pn		**Pn**		**23 10 21.1**	**+2.9**
	baz=51,slow=16,SNR=1.4								
TEIG	**Tepich**	**14.83**	**279**	Pn		**P**		**23 10 36.6**	**-2.7**
TEIG	**Tepich**	**14.83**	**279**	Pn		**P**		**23 10 36.6**	**-2.7**
	0.8nm,0.3s,baz=43,slow=17,SNR=1.5								
BBSR	**BB Station**	**15.55**	**26**	*e*Pn		**Pn**		**23 10 41.0**	**-2.0**
TKL	**Tuckaleechee C**	**19.70**	**332**	P		**Pn**		**23 11 34.2**	**-0.4**
TKL	**Tuckaleechee C**	**19.70**	**332**	P		**Pn**		**23 11 34.2**	**-0.4**
	0.1nm,0.3s,baz=160,slow=15,SNR=2.0								
VWCC	**Virginia Weste**	**19.73**	**342**	*e*P		**Pn**		**23 11 35.6**	**+0.7**
PTGA	**Pitinga**	**22.85**	**146**	*e*P		**P**		**23 12 06.7**	**-0.4**
	4.3nm,0.8s								
PTGA	**Pitinga**	**22.85**	**146**	P		**P**		**23 12 07.1**	**0.0**
	6.3nm,0.7s,baz=339,slow=14,SNR=10								
SAML	**Samuel**	**28.86**	**160**	*e*P		**P**		**23 13 00.2**	**-2.2**
	1.5nm,0.6s								
TXAR	**Lajitas Array**	**30.22**	**297**	P		**P**		**23 13 16.9**	**+2.3**
TXAR	**Lajitas Array**	**30.22**	**297**	P		**P**		**23 13 16.9**	**+2.3**
	0.3nm,0.5s,baz=96,slow=7.3,SNR=3.9								
ULM	**Lac du Bonnet**	**36.68**	**335**	P		**P**		**23 14 11.1**	**+0.6**
ULM	**Lac du Bonnet**	**36.68**	**335**	P		**P**		**23 14 11.1**	**+0.6**
	3.0nm,0.8s,baz=148,slow=11,SNR=4.7								
PDAR	**Pinedale Array**	**39.42**	**316**	P		**P**		**23 14 34.6**	**+0.6**
PDAR	**Pinedale Array**	**39.42**	**316**	P		**P**		**23 14 34.6**	**+0.6**
	0.4nm,0.7s,baz=133,slow=8.8,SNR=2.7								
FRB	**Frobisher Bay**	**45.28**	**3**	P		**P**		**23 15 21.2**	**+0.2**
FRB	**Frobisher Bay**	**45.28**	**3**	P		**P**		**23 15 21.2**	**+0.2**
	2.9nm,0.8s,baz=135,slow=4.9,SNR=4.4								
YKA	**Yellowknife Ar**	**52.60**	**337**	P		**P**		**23 16 17.1**	**-0.2**
YKA	**Yellowknife Ar**	**52.60**	**337**	P		**P**		**23 16 17.0**	**-0.2**
	1.3nm,0.8s,baz=125,slow=7.5,SNR=16								
SUMG	**Summit**	**57.49**	**12**	*i* P		**P**		**23 16 53.0**	**+0.1**
	5.2nm,0.8s								
ESDC	**Sonseca Array**	**62.18**	**54**	P		**P**		**23 17 24.8**	**-0.6**
ESDC	**Sonseca Array**	**62.18**	**54**	P		**P**		**23 17 24.8**	**-0.6**
	0.8nm,0.7s,baz=266,slow=7.5,SNR=4.8								
ILAR	**Eielson Array**	**66.68**	**333**	P		**P**		**23 17 54.4**	**+0.1**
ILAR	**Eielson Array**	**66.68**	**333**	P		**P**		**23 17 54.4**	**+0.1**
	0.5nm,0.8s,baz=86,slow=5.5,SNR=5.1								
TORD	**Torodi Ar. Bea**	**71.31**	**82**	P		**P**		**23 18 23.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**71.31**	**82**	P		**P**		**23 18 23.1**	**-0.8**
	0.6nm,0.9s,baz=316,slow=4.0,SNR=2.8								
KEST	**Kesra**	**73.09**	**57**	P		**P**		**23 18 34.8**	**+0.4**
KEST	**Kesra**	**73.09**	**57**	P		**P**		**23 18 34.8**	**+0.4**
	1.2nm,0.9s,baz=285,slow=12,SNR=5.6								
GERES	**GERESS Array B**	**73.94**	**43**	P		**P**		**23 18 39.5**	**+0.4**
GERES	**GERESS Array B**	**73.94**	**43**	P		**P**		**23 18 39.5**	**+0.4**
	0.6nm,0.7s,baz=293,slow=6.9,SNR=4.8								
WRA	**Warramunga Arr**	**154.47**	**262**	PKPbc		**PKPbc**		**23 27 03.9**	**-1.3**
WRA				PKPab		**PKPab**		**23 27 21.3**	**+1.6**
WRA	**Warramunga Arr**	**154.47**	**262**	PKPbc		**PKPbc**		**23 27 03.9**	**-1.3**
	0.4nm,0.7s,baz=89,slow=3.0,SNR=5.2								
WRA				PKPab		**PKPab**		**23 27 21.3**	**+1.6**
	0.4nm,0.6s,baz=91,slow=3.0,SNR=4.6								

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*ISCJB **12** 23:08:44.1±1.5, 17°.9N±0°.3×72°.9W±0°.1, h10km, mb3.8/11, Error ellipse: s-maj=44.2km s-min=14.7km az=2.8*
*IDC **12** 23:08:44.3±1.6, 17°.94N×72°.85W, h0km, mb3.8/11, mb1 4.1/12, mb1mx4.0/24, mbtmp3.9/12, ML3.7/1, Error ellipse: s-maj=48.4km s-min=21.3km az=9.0*
ISC 12 23:08:46.4±1.5, **18°.1N**±0°.4×**72°.9W**±0°.1, **h10km, n13, σ0s70/12, mb3.8/11, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**14.73**	**281**	Pn		**Pn**		**23 12 14.9**	**0.0**
	0.3nm,0.3s,baz=67,slow=6.5,SNR=2.0								
TXAR	**Lajitas Array**	**30.26**	**297**	P		**P**		**23 14 57.1**	**-0.7**
	0.4nm,0.8s,baz=123,slow=9.8,SNR=3.2								
SCHQ	**Schefferville**	**36.97**	**6**	P		P		23 15 57.9	+2.2
	3.4nm,0.8s,baz=219,slow=12,SNR=3.7								
PDAR	**Pinedale Array**	**39.62**	**316**	P		**P**		**23 16 19.0**	**+0.6**
	0.4nm,0.6s,baz=119,slow=6.6,SNR=3.8								
NVAR	**Mina Array Bea**	**44.35**	**307**	P		**P**		**23 16 58.1**	**+0.9**
	0.5nm,0.4s,baz=85,slow=10,SNR=3.4								
YKA	**Yellowknife Ar**	**52.93**	**337**	P		**P**		**23 18 03.0**	**+0.5**
	0.6nm,0.7s,baz=122,slow=7.0,SNR=3.1								
ESDC	**Sonseca Array**	**62.58**	**54**	P		**P**		**23 19 10.7**	**-0.2**
	0.5nm,0.6s,baz=269,slow=7.8,SNR=2.8								
ILAR	**Eielson Array**	**66.99**	**333**	P		**P**		**23 19 38.8**	**-0.3**
	0.5nm,0.9s,baz=103,slow=4.0,SNR=4.6								
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P		**P**		**23 20 08.4**	**+0.1**
	0.7nm,0.8s,baz=269,slow=6.5,SNR=5.6								
GERES	**GERESS Array B**	**74.37**	**43**	P		**P**		**23 20 24.4**	**-0.1**
	1.7nm,0.7s,baz=282,slow=5.9,SNR=4.0								
ARCES	**ARCESS Array B**	**76.10**	**21**	P		**P**		**23 20 33.0**	**-1.0**
	4.2nm,1.0s,baz=282,slow=4.2,SNR=2.1								
BRTR	**Keskin Array B**	**90.68**	**48**	P		**P**		**23 21 50.9**	**+1.1**
	0.9nm,0.9s,baz=213,slow=4.3,SNR=3.6								
WRA	**Warramunga Arr**	**154.23**	**261**	PKPbc		**PKPbc**		**23 28 47.3**	**-0.3**
	0.3nm,0.6s,baz=8.5,slow=0.8,SNR=3.3								

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*JSN **12** 23:12:00.4±0.7, 21°.03N×73°.42W, h0km, 999km*
*ISCJB **12** 23:12:00.8±0.9, 18°.41N±0°.02×72°.53W±0°.01, h0km, 5km, mb5.3/246, MS4.8/2, Error ellipse: s-maj=4.1km s-min=1.7km az=14.9*
*IDC **12** 23:12:02.1±0.3, 18°.41N×72°.53W, h0km, mb4.9/29, mb1 5.0/33, mb1mx5.0/36, mbtmp4.9/33, ML3.9/4, Error ellipse: s-maj=12.7km s-min=9.3km az=61.0*
*MOS **12** 23:12:02.6±0.9, 18°.40N×72°.51W, h13km, mb5.6/78, Error ellipse: s-maj=5.0km s-min=4.3km az=73.1*
*NEIC **12** 23:12:04.0±0.1, 18°.40N×72°.51W, h10km, mb5.3/151, Error ellipse: s-maj=3.0km s-min=2.0km az=17.0*
*SZGRF **12** 23:12:06.7, 18°.15N×72°.40W, h33km, mb5.5, Haiti region*
ISC 12 23:12:04.3±1.4, **18°.38N**±0°.03×**72°.50W**±0°.03, **h14km**±8**km, n1138, σ0s98/1180, mb5.3/247, MS4.8/3, 336C-214D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.29**	**62**	*e*Pn		**Pn**		**23 12 25.9**	**-2.2**
SDDR				*e*S		**Sg**		**23 12 48.0**	**+1.9**
GTBY	**Guantanamo Bay**	**2.91**	**302**	*e*Pn		**Pn**		**23 12 47.9**	**-2.3**
GTBY				*e*S		**Sn**		**23 13 27.1**	**+2.0**
GRTK	**Grand Turk**	**3.37**	**22**	*e*Pn		**Pn**		**23 12 56.2**	**-0.3**
GRTK				*e*S		**Sn**		**23 13 39.3**	**+2.9**
YHJ	**Yallahs**	**3.83**	**263**	*i* P		**Pn**		**23 13 05.6**	**+2.7**
YHJ	**Yallahs**	**3.83**	**263**	*i* P		**Pn**		**23 13 05.6**	**+2.7**
GWJ	**Gre

JSC Jenkinsville 17.66 335 eP Pn 23 16 10.1 +0.1
JSC Jenkinsville 17.66 335 ePn Pn 23 16 10.1 +0.1
GOGA Godfrey 17.91 329 eP Pn 23 16 12.6 -0.4
GOGA pmax pmax
comp=Z,184nm,2.2s
GOGA Godfrey 17.91 329 ePn Pn 23 16 12.6 -0.4
comp=Z,184nm,2.2s
KMSC Kings Mountain 18.45 337 ⇑P Pn 23 16 19.9 +0.3
baz=18,SNR=6.3
OTAV Otavalo 18.95 199 ePn Pn 23 16 28.6 +2.2
comp=Z,1µm,2.6s
JSRW J. Sargeant Re 19.81 347 ePn P 23 16 33.8 -0.6
TKL Tuckaleechee C 19.90 332 eP P 23 16 36.2 +0.8
TKL S S 23 20 03.8 -15
TKL Tuckaleechee C 19.90 332 P P 23 16 36.0 +0.6
comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=4.9
TKL S S 23 20 03.8 -15
comp=Z,0.1nm,0.3s,baz=242,slow=22,SNR=1.3
VWCC Virginia Weste 19.91 342 eP Pn 23 16 37.2 0.0
VWCC eS S 23 20 02.6 -17
BLA Blacksburg 20.01 341 eP Pn 23 16 38.6 +0.1
BLA pmax pmax
comp=Z,138nm,1.1s
BLA Blacksburg 20.01 341 eP Pn 23 16 38.6 +0.1
comp=Z,138nm,1.1s
BLA eS S 23 20 05.9 -16
CPCT Cooper Cave 20.07 330 ePn Pn 23 16 38.4 -0.7
TZTN Tazewell 20.55 334 eP P 23 16 43.4 +0.9
comp=Z,135nm,1.4s
SWET Sewanee 20.58 327 eP P 23 16 43.1 +0.2
comp=Z,122nm,1.5s
SDMD Soldier's Deli 21.29 351 eP P 23 16 50.6 +0.1
comp=Z,86nm,1.1s
VBMS Vicksburg 21.29 314 eP P 23 16 51.6 +1.0
comp=Z,155nm,1.3s
MVL Millersville 21.80 352 eP P 23 16 58.7 +2.8
comp=Z,72nm,1.2s
PTGA Pitinga 22.64 146 eP P 23 17 05.8 +0.6
comp=Z,30nm,1.1s
PTGA S Sn 23 21 23.5 -3.3
PTGA e 23 21 28.7
PTGA Pitinga 22.64 146 P P 23 17 05.7 +0.6
comp=Z,74nm,1.0s,baz=337,slow=11,SNR=56
PTGA S Sn 23 21 23.5 -3.3
comp=Z,4.3nm,0.6s,baz=235,slow=18,SNR=1.6
ODNJ Ogdensburg 22.70 356 eP P 23 17 05.9 +0.4
comp=Z,101nm,1.4s
UTMT University of 22.99 324 eP P 23 17 08.0 -0.7
comp=Z,334nm,1.1s
WCI Wyandotte Cave 23.16 331 eP P 23 17 10.5 +0.1
WCI pmax pmax
comp=Z,43nm,0.9s
WCI Wyandotte Cave 23.16 331 eP P 23 17 10.5 +0.1
comp=Z,43nm,0.9s
KSPA Keystone Colle 23.27 354 eP P 23 17 13.1 +1.7
ACSO Alum Creek Sta 23.58 340 eP P 23 17 15.2 +0.7
comp=Z,53nm,1.0s
USIN University of 23.59 329 eP P 23 17 14.0 -0.7
comp=Z,136nm,1.1s
PARMO Parma 23.72 324 eP P 23 17 18.3 +2.4
BLO Bloomington 24.03 332 eP P 23 17 19.8 +0.9
BLO pmax pmax
comp=Z,66nm,1.0s
BLO Bloomington 24.03 332 eP P 23 17 19.8 +0.9
comp=Z,66nm,1.0s
UALR University of 24.04 317 eP P 23 17 20.4 +1.4
comp=Z,37nm,1.1s
HKT Hockley 24.16 303 ⇑iP P 23 17 20.1 0.0
HKT pmax pmax
comp=Z,13nm,1.3s
HKT Hockley 24.16 303 eP P 23 17 19.6 -0.4
comp=Z,46nm,1.4s
PBMO Poplar Bluff 24.18 323 eP P 23 17 20.3 -0.1
comp=Z,43nm,1.0s
SIUC Southern Illin 24.19 326 eP P 23 17 20.9 +0.5
comp=Z,127nm,1.1s
MMNY Mt. Morris Dam 24.70 350 eP P 23 17 26.0 +1.0
comp=Z,77nm,1.1s
MMNY epP pP 23 17 38.9 +10
MIAR Mount Ida 24.72 315 eP P 23 17 25.7 +0.4
MIAR pmax pmax
comp=Z,72nm,1.5s
MIAR Mount Ida 24.72 315 eP P 23 17 25.7 +0.4
comp=Z,72nm,1.5s
035Z Hargill 24.93 293 ⇑P P 23 17 27.5 +0.2
baz=25
835A Beeville 25.22 298 ⇑P P 23 17 30.1 +0.3
baz=25
SFIN Scholer Farm 25.28 333 ⇑P P 23 17 30.4 +0.2
baz=25,SNR=19
735A Kenedy 25.38 299 ⇑P P 23 17 31.9 +0.7
baz=25,SNR=6.4
635A Leesville 25.52 300 ⇑P P 23 17 32.3 -0.3
baz=26
535A Dale 25.58 302 ⇓P P 23 17 33.2 +0.1
baz=26
934A Benavides 25.61 296 ⇑P P 23 17 33.9 +0.5
baz=26
034A Hebbronville 25.61 294 ⇓P P 23 17 34.3 +0.9
baz=26,SNR=11
AAM Ann Arbor 25.67 341 eP P 23 17 34.6 +0.9
AAM pmax pmax
comp=Z,116nm,1.3s
AAM Ann Arbor 25.67 341 eP P 23 17 34.5 +0.9
comp=Z,116nm,1.3s
834A Tilden 25.78 297 ⇓P P 23 17 35.2 +0.3
baz=26
335A Moody 25.94 304 ⇓P P 23 17 36.7 +0.3
baz=26,SNR=9.1
634A China Grove, S 26.00 300 ⇑P P 23 17 37.2 +0.3
baz=26
734A La Parita Cree 26.00 298 ⇓P P 23 17 37.1 +0.2
baz=26
ATAH Atahualpa 26.01 193 P P 23 17 41.2 +3.7
ATAH Atahualpa 26.01 193 P P 23 17 41.2 +3.7
comp=Z,18nm,1.0s,baz=8.3,slow=7.5,SNR=5.7
933A Laredo 26.26 295 ⇓P P 23 17 39.5 +0.2
baz=26,SNR=6.8
WHTX Lake Whitney 26.26 306 eP P 23 17 39.5 +0.2
comp=Z,40nm,1.0s
WHTX Lake Whitney 26.26 306 ⇑P P 23 17 39.5 +0.2
baz=26,SNR=10
534A Blanco 26.31 301 ⇑P P 23 17 39.5 -0.3
baz=26,SNR=26
434A Burnet 26.43 303 ⇓P P 23 17 40.3 -0.5
baz=26,SNR=12
135A Vickery Place, 26.47 307 ⇓P P 23 17 41.4 +0.2
baz=26
833A Chaparral WMA, 26.55 297 ⇓P P 23 17 41.5 -0.4
baz=26,SNR=20
733A Divot King Ran 26.58 298 ⇑P P 23 17 41.3 -0.8
baz=26
334A Lometa 26.60 304 ⇑P P 23 17 42.0 -0.4
baz=27,SNR=15
633A Saathoff Ranch 26.70 299 ⇓P P 23 17 43.0 -0.3
baz=27,SNR=8.9
533A Kerrville 26.78 301 ⇓P P 23 17 43.7 -0.3
baz=27,SNR=5.2
234A Clairette 26.79 305 ⇓P P 23 17 43.4 -0.7
baz=27
SADO Sadowa 26.89 350 P P 23 17 43.8 -1.0
SADO Sadowa 26.89 350 P P 23 17 43.8 -1.0
comp=Z,14nm,1.1s,baz=88,slow=4.6,SNR=3.6
134A White-Moore Ra 26.98 307 ⇓P P 23 17 45.6 -0.2
baz=27,SNR=11
TUL1 Tulsa 26.99 315 ⇓P P 23 17 46.0 +0.2
baz=27,SNR=13
832A Faith Ranch, C 27.03 296 ⇑P P 23 17 45.6 -0.6
baz=27,SNR=16
433A Art 27.07 302 ⇓P P 23 17 46.2 -0.4
baz=27,SNR=16
732A Laxson Ranch, 27.15 297 ⇑P P 23 17 46.3 -1.0
baz=27
333A Richland Sprin 27.19 303 ⇓P P 23 17 47.2 -0.5
baz=27,SNR=19
Z34A Collier Ranch, 27.21 308 ⇓P P 23 17 47.6 -0.3
baz=27
632A Uvalde 27.22 299 ⇑P P 23 17 47.9 -0.1
baz=27
Y34A Reagan Ranch, 27.36 309 ⇑P P 23 17 49.4 +0.2
baz=27,SNR=22
233A Rising Star 27.39 305 ⇓P P 23 17 49.1 -0.4
baz=27
532A Rocksprings 27.51 300 ⇓P P 23 17 50.6 0.0
baz=28,SNR=22
JCT Junction City 27.55 301 eP P 23 17 51.0 +0.1
JCT pmax pmax
comp=Z,33nm,1.2s
JCT Junction City 27.55 301 eP P 23 17 51.0 +0.1
comp=Z,33nm,1.2s
JCT Junction City 27.55 301 ⇑P P 23 17 50.7 -0.2
baz=28,SNR=5.7
133A Hamilton Ranch 27.64 306 ⇑P P 23 17 51.8 0.0
baz=28,SNR=7.5
432A Menard 27.67 302 ⇓P P 23 17 51.7 -0.3
baz=28
X34A Smith Ranch, M 27.73 311 ⇑P P 23 17 52.3 -0.2
baz=28,SNR=10.0
Z33A Whitaker Ranch 27.81 307 ⇓P P 23 17 53.1 -0.2
baz=28,SNR=11
332A Millersview 27.81 303 ⇑P P 23 17 53.0 -0.3
baz=28,SNR=11
631A Perdido Creek 27.85 298 ⇓P P 23 17 53.1 -0.5
baz=28,SNR=13
232A Coleman 27.92 304 ⇓P P 23 17 54.0 -0.3
baz=28
W34A Bridge Creek, 28.00 312 ⇓P P 23 17 55.0 +0.1
baz=28
Y33A Hilltop Ranch, 28.03 309 ⇑P P 23 17 55.3 +0.1
baz=28
531A Rocksprings 28.05 300 ⇑P P 23 17 55.5 0.0
baz=28
V34A Guthrie 28.13 313 ⇑P P 23 17 55.8 -0.2
baz=28,SNR=7.1
ABTX Abilene, Hawle 28.21 305 ⇑P P 23 17 56.4 -0.4
baz=28
431A Sonora 28.27 301 ⇓P P 23 17 56.9 -0.5
baz=28,SNR=17
331A San Angelo 28.33 302 ⇑P P 23 17 57.6 -0.3
baz=28,SNR=8.5
Z32A Haskell 28.36 307 ⇑P P 23 17 57.9 -0.2
baz=28,SNR=8.2
W33A Caddo, Fort Co 28.45 311 ⇓P P 23 17 58.7 -0.2
baz=28
U34A Anderson Ranch 28.46 314 ⇑P P 23 17 59.1 +0.2
baz=28
231A Bronte 28.47 304 ⇓P P 23 17 58.9 -0.3
baz=28
WMOK Wichita Mounta 28.48 310 eP P 23 17 58.3 -0.9
WMOK pmax pmax
comp=Z,13nm,1.0s
WMOK Wichita Mounta 28.48 310 eP P 23 17 58.3 -0.9
comp=Z,13nm,1.0s
Y32A R-V Farms, Ver 28.63 308 ⇓P P 23 18 00.5 0.0
baz=29,SNR=7.3
V33A Lossen Ranch, 28.66 312 ⇑P P 23 18 00.3 -0.4
baz=29
SAML Samuel 28.67 161 eP P 23 18 00.6 -0.3
comp=Z,13nm,0.8s
SAML ePcP PcP 23 21 12.1 +0.4
530A J-C Ranch, Com 28.70 300 ⇑P P 23 18 00.7 -0.5
baz=29,SNR=16
X32A Elmer 28.70 309 ⇓P P 23 18 00.9 -0.2
baz=29,SNR=8.1
JFWS Jewell Farm 28.71 332 eP P 23 18 00.2 -0.9
JFWS pmax pmax
comp=Z,64nm,0.8s
JFWS Jewell Farm 28.71 332 eP P 23 18 00.2 -0.9
comp=Z,64nm,0.8s
430A Baggett Ranch, 28.81 301 ⇓P P 23 18 01.6 -0.6
baz=29
Z31A Sharp Cattle R 28.87 306 ⇑P P 23 18 02.5 -0.2
baz=29,SNR=7.7
330A Mertzon 28.97 302 ⇑P P 23 18 03.0 -0.6
baz=29,SNR=6.0
W32A Sentinel 29.00 310 ⇑P P 23 18 03.4 -0.3
baz=29,SNR=13
230A Sterling City 29.08 303 ⇑P P 23 18 03.9 -0.7
baz=29,SNR=6.6
V32A Arapaho 29.14 312 ⇑P P 23 18 04.8 -0.2
baz=29
130A Snyder 29.23 305 ⇑P P 23 18 05.6 -0.3
baz=29
Y31A Rekieta Farm, 29.23 308 ⇓P P 23 18 05.3 -0.6
baz=29,SNR=7.2
T33A Patterson Ranc 29.29 315 ⇑P P 23 18 06.1 -0.2
baz=29
429A Davenport Ranc 29.30 300 ⇑P P 23 18 05.6 -1.0
baz=29,SNR=8.0
KSU1 Kansas State U 29.39 320 eP P 23 18 07.0 -0.2
comp=Z,59nm,1.1s
KSU1 Kansas State U 29.39 320 ⇑P P 23 18 07.0 -0.2
baz=29,SNR=6.6
S33A Kaszmaul Farm, 29.40 316 ⇓P P 23 18 07.4 +0.1
baz=29
529A Stev Forest Ra 29.42 299 ⇑P P 23 18 07.0 -0.7
baz=29,SNR=9.8
U32A Winter Ranch, 29.44 313 ⇓P P 23 18 07.5 -0.2
baz=29,SNR=5.5
W31A Holland Ranch, 29.53 310 ⇑P P 23 18 08.0 -0.5
baz=30
Z30A Sanderson Ranc 29.61 306 ⇓P P 23 18 09.3 0.0
baz=30,SNR=7.7
329A Wagon Wheel Ra 29.64 302 ⇓P P 23 18 09.1 -0.5
baz=30,SNR=9.1
229A Bryant Ranch, 29.67 303 ⇑P P 23 18 09.6 -0.2
baz=30
Y30A Stafford Cattl 29.67 307 ⇓P P 23 18 09.6 -0.3
baz=30,SNR=5.7
V31A Spring Creek L 29.73 311 ⇑P P 23 18 10.6 +0.3
baz=30,SNR=7.6
R33A Olander Ranch, 29.79 317 ⇑P P 23 18 11.0 +0.2
baz=30,SNR=7.3
T32A Huddler Ranch, 29.80 314 ⇓P P 23 18 11.0 +0.1
baz=30,SNR=5.1
628A Black Gap, Mar 29.81 297 ⇑P P 23 18 11.0 -0.1
baz=30,SNR=9.7
X30A Coker Ranch, T 29.89 308 ⇓P P 23 18 11.6 -0.2
baz=30,SNR=7.1
528A Cox Ranch, San 29.91 299 ⇓P P 23 18 11.9 -0.1
baz=30,SNR=13
428A Kincaid Ranch, 29.98 300 ⇓P P 23 18 13.2 +0.5
baz=30,SNR=27
Z29A Hungry Hill Ra 30.05 305 ⇓P P 23 18 12.9 -0.3
baz=30,SNR=7.8
S32A Newby Ranch, P 30.08 315 ⇑P P 23 18 13.3 -0.1
baz=30
Q33A Connelly Farm, 30.09 318 ⇓P P 23 18 14.0 +0.6
baz=30,SNR=16
627A Terlingua Ranc 30.22 297 ⇑P P 23 18 14.8 0.0
baz=30,SNR=28
Y29A Porterfield Fa 30.26 306 ⇑P P 23 18 15.0 -0.1
baz=30,SNR=11
P33A Williams Farm, 30.26 319 ⇑P P 23 18 15.2 +0.3
baz=30
T31A Randall Ranch, 30.27 314 ⇑P P 23 18 15.1 +0.1
baz=30,SNR=7.6
328A Wristen Ranch, 30.28 301 ⇓P P 23 18 14.6 -0.6
baz=30
R32A Long Quarter, 30.33 317 ⇑P P 23 18 15.6 +0.1
baz=30,SNR=5.3
V30A Spur Ranch, Mi 30.34 310 ⇑P P 23 18 16.0 +0.3
baz=30
228A UT Block 9, Go 30.34 303 ⇓P P 23 18 15.8 0.0
baz=30
S31A Mullinville 30.41 315 ⇑P P 23 18 16.6 +0.3
baz=30,SNR=8.0
128A Castleberry Fa 30.43 304 ⇓P P 23 18 16.2 -0.4
baz=30,SNR=12
TXAR Lajitas Array 30.43 297 P P 23 18 16.4 -0.2
TXAR PcP PcP 23 21 16.3 +0.1
TXAR Lajitas Array 30.43 297 P P 23 18 16.4 -0.2
comp=Z,6.8nm,0.9s,baz=119,slow=7.7,SNR=33
TXAR PcP PcP 23 21 16.3 +0.1
comp=Z,4.7nm,0.9s,baz=127,slow=3.3,SNR=6.8
X29A Tulia 30.51 307 ⇑P P 23 18 17.2 -0.2
baz=30
Q32A Meitler Ranch, 30.55 318 ⇓P P 23 18 17.6 +0.1
baz=30,SNR=11
527A Woodward Ranch 30.59 298 ⇑P P 23 18 17.9 -0.2
baz=31,SNR=17
Z28A Tucker Farm, M 30.59 305 ⇓P P 23 18 17.8 -0.2
baz=31
427A Hayter Ranch, 30.61 300 ⇓P P 23 18 17.7 -0.5
baz=31,SNR=15
U30A WK&E Inc. Balk 30.67 312 ⇓P P 23 18 18.7 +0.1
baz=31
AMTX Amarillo 30.68 308 eP P 23 18 18.6 -0.2
comp=Z,44nm,1.3s
AMTX Amarillo 30.68 308 ⇑P P 23 18 18.6 -0.2
baz=31
W29A Amraillo 30.75 309 ⇑P P 23 18 19.1 -0.4
baz=31
R31A Burdett 30.79 316 ⇑P P 23 18 19.9 +0.3
baz=31,SNR=11
T30A Plains 30.84 313 ⇓P P 23 18 19.9 -0.2
baz=31
626A Big Bend Ranch 30.88 297 ⇓P P 23 18 20.8 +0.2
baz=31,SNR=13
X28A Dimmitt 30.92 307 ⇓P P 23 18 20.5 -0.4
baz=31
P32A Huiting Farm, 30.94 319 ⇑P P 23 18 21.0 +0.1
baz=31,SNR=9.2
526A Mary Lane Ranc 30.97 298 ⇓P P 23 18 21.4 -0.1
baz=31,SNR=32
V29A Stinnett 30.99 310 ⇑P P 23 18 21.2 -0.3
baz=31
426A McDonald Obser 31.08 299 ⇑P P 23 18 22.3 -0.1
baz=31,SNR=31
S30A Montezuma 31.08 314 ⇑P P 23 18 22.1 -0.2
baz=31,SNR=6.6
Q31A Ellis 31.09 317 ⇑P P 23 18 22.2 -0.1
baz=31,SNR=8.7
O32A Brockman Farm, 31.11 320 ⇓P P 23 18 22.2 -0.2
baz=31
127A Arkansas Junct 31.14 303 ⇓P P 23 18 22.6 -0.3
baz=31
MSTX Muleshoe 31.14 306 ⇓P P 23 18 22.0 -0.9
baz=31,SNR=7.2
Z27A Tatum 31.25 304 ⇑P P 23 18 22.4 -1.4
baz=31,SNR=8.9
R30A Dighton 31.29 315 ⇓P P 23 18 23.9 -0.2
baz=31,SNR=11
P31A Stockton 31.37 318 ⇑P P 23 18 24.3 -0.4
baz=31,SNR=13
Y27A Causey 31.41 306 ⇓P P 23 18 24.9 -0.4
baz=31,SNR=6.2
T29A Hugoton 31.42 312 ⇑P P 23 18 25.3 0.0
baz=31
S29A Ulysses 31.52 313 ⇓P P 23 18 26.3 +0.1
baz=32,SNR=10
226B Tecolote Peak, 31.59 302 ⇑P P 23 18 26.3 -0.6
baz=32
Q30A Quinter 31.62 316 ⇑P P 23 18 26.9 0.0
baz=32,SNR=12
126A Clayton Basin, 31.66 303 ⇓P P 23 18 26.6 -0.8
baz=32
SPMN St. Paul 31.66 332 eP P 23 18 26.7 -0.5
comp=Z,28nm,1.0s
SPMN St. Paul 31.66 332 ⇑P P 23 18 26.7 -0.5
baz=32
O31A Woolen Ranch, 31.70 319 ⇑P P 23 18 27.4 -0.3
baz=32,SNR=8.2
U28A Mallet 31.73 310 ⇓P P 23 18 27.2 -0.7
baz=32
BGNE Belgrade 31.74 322 ⇑P P 23 18 27.8 -0.2
baz=32
W27A Bowe Ranch, En 31.79 308 ⇓P P 23 18 27.5 -1.1
baz=32
Z26A Caprock 31.83 304 ⇓P P 23 18 28.1 -0.9
baz=32
N31A Bailey Ranch, 31.86 320 ⇑P P 23 18 28.6 -0.5
baz=32
425A Indio Mountain 31.90 299 ⇑P P 23 18 29.6 -0.1
baz=32,SNR=11
Y26A Elida 31.94 305 ⇓P P 23 18 29.0 -0.9
baz=32
R29A Marienthal 31.94 315 ⇑P P 23 18 29.1 -0.7
baz=32
P30A Selden 31.94 317 ⇑P P 23 18 30.2 +0.4
baz=32,SNR=17
T28A Walsh 31.98 312 ⇑P P 23 18 30.4 +0.2
baz=32,SNR=5.8
325A Bean Ranch, Si 32.05 300 ⇓P P 23 18 30.9 -0.1
baz=32,SNR=27
S28A Manter 32.05 313 ⇓P P 23 18 30.7 -0.2
baz=32,SNR=6.0
Q29A Oakley 32.07 316 ⇑P P 23 18 30.8 -0.2
baz=32,SNR=15
225A Deer Hill, Car 32.14 301 ⇑P P 23 18 31.8 0.0
baz=32,SNR=16
X26A CR and CF Fran 32.16 306 ⇑P P 23 18 31.3 -0.5
baz=32,SNR=11
125A Gardner Draw, 32.17 303 ⇓P P 23 18 31.2 -0.7
baz=32,SNR=10
O30A MW Ranch, Wils 32.17 318 ⇑P P 23 18 31.7 -0.1
baz=32,SNR=5.7
U27A Thompson Grove 32.18 310 ⇑P P 23 18 31.6 -0.4
baz=32,SNR=5.8
M31A Lambtecht Ranc 32.19 321 ⇑P P 23 18 32.1 +0.1
baz=32,SNR=7.4
W26A Owens Ranch, T 32.33 307 ⇑P P 23 18 33.2 -0.1
baz=32,SNR=5.4
R28A Tribune 32.36 314 ⇓P P 23 18 33.4 -0.1
baz=32,SNR=16
T27A Campo 32.39 311 ⇓P P 23 18 33.3 -0.5
baz=32
ECSD EROS Data Cent 32.41 326 eP P 23 18 32.7 -1.2
comp=Z,11nm,0.8s
ECSD EROS Data Cent 32.41 326 ⇑P P 23 18 32.8 -1.0
baz=32,SNR=8.1
Z25A Roswell 32.42 304 ⇓P P 23 18 33.7 -0.5
baz=32,SNR=17
P29A Atwood 32.42 317 ⇓P P 23 18 33.5 -0.5
baz=32
MNTX Cornudas Mount 32.47 300 eP P 23 18 34.6 +0.1
comp=Z,43nm,1.3s
324A Moseley Ranch, 32.49 300 ⇑P P 23 18 34.6 -0.2
baz=32,SNR=17
N30A Hueftle Ranch, 32.55 319 ⇓P P 23 18 35.2 0.0
baz=32
Y25A Mesa, Roswell 32.62 305 ⇑P P 23 18 35.4 -0.5
baz=33
O29A 4D Ranch, Culb 32.62 318 ⇓P P 23 18 35.8 +0.1
baz=33,SNR=12
V26A Tequesquite Ra 32.62 308 ⇓P P 23 18 35.7 -0.2
baz=33,SNR=7.2
224A Cornudas Mount 32.70 301 ⇓P P 23 18 36.7 +0.1
baz=33,SNR=9.0
Q28A Sharon Springs 32.73 315 ⇓P P 23 18 36.7 -0.1
baz=33,SNR=5.9
X25A Clemmons Ranch 32.80 306 ⇓P P 23 18 37.5 -0.1
baz=33
124A Stringfield Ra 32.82 302 ⇓P P 23 18 38.3 +0.5
baz=33,SNR=5.4
U26A Atchley Ranch, 32.84 309 ⇑P P 23 18 38.0 +0.1
baz=33,SNR=11
M30A Dale-Ortello V 32.85 320 ⇓P P 23 18 37.5 -0.2
baz=33,SNR=6.3
N29A Votaw Ranch, W 32.89 319 ⇑P P 23 18 38.0 -0.1
baz=33
W25A X Bar L Ranch, 32.90 307 ⇑P P 23 18 38.6 +0.2
baz=33,SNR=14
P28A Saint Francis 32.94 316 ⇓P P 23 18 38.5 -0.1
baz=33,SNR=6.8
Z24A Sheeppen Canyo 32.95 303 ⇓P P 23 18 38.9 0.0
baz=33,SNR=13
L30A Spencer Herefo 33.00 321 ⇓P P 23 18 39.2 +0.1
baz=33,SNR=16
R27A Eads 33.01 313 ⇓P P 23 18 38.9 -0.3
baz=33,SNR=6.0
T26A Comanche Natio 33.06 311 ⇑P P 23 18 39.3 -0.5
baz=33,SNR=9.6
Y24A Capitan 33.20 304 ⇑P P 23 18 41.4 +0.3
baz=33,SNR=9.1
V25A Rancho No Teng 33.26 308 ⇓P P 23 18 41.6 0.0
baz=33,SNR=35
M29A Burnside Ranch 33.29 320 ⇑P P 23 18 41.9 +0.3
baz=33,SNR=6.5
EYMN Ely 33.31 337 eP P 23 18 43.3 +1.7
comp=Z,30nm,1.1s
U25A Circle Dot Ran 33.33 309 ⇑P P 23 18 41.8 -0.3
baz=33,SNR=10
K30A Basset 33.38 322 ⇓P P 23 18 42.1 -0.2
baz=33
N28A Pribbeno Ranch 33.40 318 ⇑P P 23 18 42.5 0.0
baz=33
X24A Lazy VL Ranch, 33.41 305 ⇓P P 23 18 43.4 +0.4
baz=33,SNR=5.8
R26A Arlington 33.47 313 ⇓P P 23 18 43.2 0.0
baz=33
L29A Maesberg Ranch 33.52 321 ⇓P P 23 18 43.4 -0.2
baz=34
Z23A Rita Site, Whi 33.62 303 ⇑P P 23 18 44.3 -0.3
baz=34
W24A Lazy 6 Ranch, 33.62 307 ⇑P P 23 18 45.2 +0.5
baz=34,SNR=12
T25A Trinidad 33.64 310 ⇑P P 23 18 44.9 +0.1
baz=34,SNR=16
M28A Bar X Bar Ranc 33.68 319 ⇓P P 23 18 44.9 -0.2
baz=34
Y23A Lovelace Mesa, 33.69 304 ⇑P P 23 18 45.1 -0.2
baz=34,SNR=7.1

V24A **Rampart Ranch,** 33.71 307 ⇓P P 23 18 46.5 +0.9
baz=34,SNR=6.5
J30A **Dallas** 33.72 323 ⇓P P 23 18 45.1 -0.2
baz=34,SNR=7.9
O27A **Beecher Island** 33.74 316 ⇑P P 23 18 45.3 -0.3
baz=34
Q26A **Hugo** 33.81 314 ⇓P P 23 18 46.4 +0.1
baz=34,SNR=15
K29A **Lazy Trails An** 33.84 322 ⇓P P 23 18 45.9 -0.5
baz=34
OGNE **Ogallala** 33.85 318 ⇓P P 23 18 46.2 -0.3
baz=34
S25A **Robets Cordova** 33.88 311 ⇓P P 23 18 47.0 +0.1
baz=34,SNR=12
R25A **Fountain Ranch** 33.98 312 ⇓P P 23 18 48.1 +0.3
baz=34,SNR=10.0
W23A **Werner Place,** 34.17 306 ⇓P P 23 18 50.2 +0.7
baz=34,SNR=5.7
Z22A **Elephant Butte** 34.20 302 ⇑P P 23 18 50.3 +0.5
baz=34,SNR=7.3
BNM **Barren Site** 34.21 304 eP P 23 18 51.0 +1.2
J29A **Okreek** 34.24 323 ⇑P P 23 18 50.0 +0.1
baz=34,SNR=6.0
LPM **Los Pinos Moun** 34.26 304 eP P 23 18 51.0 +0.7
Q25A **Bedland, Calha** 34.30 313 ⇓P P 23 18 51.6 +1.0
baz=34,SNR=5.4
T24B **San Luis** 34.31 310 ⇑P P 23 18 51.4 +0.5
baz=34,SNR=17
O26A **Horse Wrangler** 34.31 316 ⇓P P 23 18 50.9 +0.3
baz=34
ANMO **Albuquerque** 34.33 306 eP P 23 18 50.9 0.0
comp=Z,29nm,1.3s
ANMO **Albuquerque** 34.33 306 P P 23 18 51.4 +0.5
comp=Z,8.3nm,1.0s,baz=126,slow=11,SNR=12
M27A **Reverse DX Ran** 34.39 319 ⇑P P 23 18 52.0 +0.8
baz=34,SNR=5.6
V23A **Ortiz Mt. (NFS** 34.40 307 ⇓P P 23 18 52.4 +0.8
baz=34,SNR=8.7
S24A **Houchin Ranch,** 34.43 311 ⇑P P 23 18 52.3 +0.4
baz=34,SNR=9.4
LENM **Lemitar** 34.48 304 eP P 23 18 52.8 +0.5
221A **Mesquite Ranch** 34.52 300 ⇑P P 23 18 53.1 +0.6
baz=34
P25A **Willow Gulch B** 34.53 314 ⇑P P 23 18 53.1 +0.6
baz=34
N26A **Koester Ranch,** 34.55 317 ⇑P P 23 18 53.3 +0.6
baz=34
U23A **El Rito** 34.62 308 ⇓P P 23 18 54.4 +0.9
baz=35,SNR=12
ARE **Arequipa** 34.64 178 eP P 23 18 54.0 +0.3
ARE **Arequipa** 34.64 178 eP P 23 18 54.0 +0.3
121A **Cookes Peak, D** 34.66 301 eP P 23 18 54.9 +1.1
121A **Cookes Peak, D** 34.66 301 ⇓P P 23 18 54.1 +0.3
baz=35
SDCO **Great Sand Dun** 34.68 311 eP P 23 18 53.9 -0.1
comp=Z,22nm,1.1s
SDCO ePcP PcP 23 21 28.5 +0.5
LAZ **Ladron** 34.69 304 eP P 23 18 54.6 +0.6
comp=Z,28nm,1.4s
G30A **Faulkton** 34.69 326 ⇑P P 23 18 53.3 -0.4
baz=35
LPAZ **La Paz** 34.72 173 eP P 23 18 54.8 0.0
LPAZ PcP PcP 23 21 28.4 -0.3
LPAZ **La Paz** 34.72 173 P P 23 18 55.1 +0.3
comp=Z,8.3nm,1.0s,baz=10,slow=7.5,SNR=17
LPAZ PcP PcP 23 21 28.4 -0.3
comp=Z,10nm,0.8s,baz=22,slow=5.4,SNR=3.5
J28A **Allard Ranch,** 34.78 322 ⇑P P 23 18 54.1 -0.4
baz=35
T23A **Casias Ranch,** 34.78 309 ⇓P P 23 18 54.7 -0.2
baz=35
O25A **Wiggins** 34.79 315 ⇓P P 23 18 54.7 0.0
baz=35
M26A **McRoberts Ranc** 34.84 318 ⇓P P 23 18 55.4 +0.2
baz=35,SNR=6.5
H29A **Onida** 34.94 325 ⇑P P 23 18 55.7 -0.2
baz=35
Q24A **Divide** 34.95 313 ⇓P P 23 18 56.6 +0.2
baz=35,SNR=5.6
V22A **San Miguel Ran** 35.02 307 ⇑P P 23 18 57.8 +0.9
baz=35,SNR=7.2
S23A **Nye Farm, Mont** 35.02 310 ⇑P P 23 18 57.3 +0.3
baz=35
P24A **Kohler Place,** 35.04 314 ⇓P P 23 18 56.7 -0.2
baz=35
I28A **Midland** 35.09 323 ⇓P P 23 18 56.5 -0.6
baz=35,SNR=12
R23A **Moffat** 35.10 311 ⇓P P 23 18 57.9 +0.3
baz=35,SNR=7.0
L26A **Underwood Farm** 35.10 319 ⇑P P 23 18 57.0 -0.3
baz=35
J27A **Elkhorn Farm,** 35.13 321 ⇓P P 23 18 57.2 -0.4
baz=35
U22A **Llaves** 35.14 308 ⇑P P 23 18 58.8 +0.9
baz=35,SNR=8.2
AGMN **Agassiz Nation** 35.37 333 ⇓P P 23 18 59.4 0.0
baz=35
M25A **Palm-Egli Farm** 35.41 317 ⇑P P 23 19 00.3 +0.3
baz=35,SNR=6.6
H28A **Mission Ridge** 35.42 324 ⇑P P 23 18 59.2 -0.8
baz=35
O24A **Longmont** 35.43 315 ⇓P P 23 18 59.9 -0.4
baz=35
E30A **Jud** 35.50 328 ⇑P P 23 18 59.8 -0.8
baz=36
G28A **Parade** 35.62 325 ⇓P P 23 19 01.2 -0.5
baz=36,SNR=11
P23A **Jefferson** 35.62 313 ⇑P P 23 19 02.8 +0.7
baz=36,SNR=6.1
S22A **4UR Ranch, Cre** 35.64 310 ⇑P P 23 19 02.6 +0.3
baz=36,SNR=15
I27A **Quinn** 35.64 322 ⇑P P 23 19 01.4 -0.6
baz=36,SNR=8.8
N24A **Carr** 35.64 316 ⇓P P 23 19 02.0 -0.1
baz=36,SNR=6.0
ISCO **Idaho Springs** 35.65 314 eP P 23 19 01.9 -0.4
ISCO pmax pmax
comp=Z,22nm,1.3s
ISCO **Idaho Springs** 35.65 314 eP P 23 19 01.9 -0.4
comp=Z,22nm,1.3s
ISCO **Idaho Springs** 35.65 314 ⇓P P 23 19 02.2 -0.1
baz=36,SNR=12
L25A **Engebretsen Ra** 35.72 318 ⇓P P 23 19 02.6 -0.1
baz=36
J26A **Sides Ranch, S** 35.81 321 ⇑P P 23 19 02.7 -0.6
baz=36,SNR=6.4
D30A **Buchanan** 35.84 329 ⇑P P 23 19 03.6 +0.1
baz=36,SNR=11
K25A **Mack Ranch, Ha** 35.91 319 ⇓P P 23 19 04.6 +0.2
baz=36,SNR=7.2
E29A **Napoleon** 35.91 328 ⇓P P 23 19 03.2 -1.0
baz=36
M24A **Cheyenne** 35.92 317 ⇓P P 23 19 04.6 +0.1
baz=36,SNR=13
SIV **San Ignacio** 35.96 161 P P 23 19 04.8 0.0
SIV PcP PcP 23 21 31.8 +0.2
SIV **San Ignacio** 35.96 161 P P 23 19 04.8 0.0
comp=Z,14nm,0.8s,baz=9.3,slow=11,SNR=26
SIV PcP PcP 23 21 31.8 +0.2
comp=Z,7.5nm,0.9s,baz=318,slow=8.6,SNR=3.6
H27A **Howes** 35.99 323 ⇓P P 23 19 04.6 -0.3
baz=36,SNR=8.9
O23A **Lake Granby, G** 36.05 314 ⇑P P 23 19 05.6 -0.1
baz=36,SNR=6.2
I26A **New Underwood** 36.09 322 ⇓P P 23 19 04.7 -1.1
baz=36
C30A **Mose, Pekin** 36.13 330 ⇑P P 23 19 06.1 +0.1
baz=36,SNR=22
D29A **Pettibone, Tap** 36.23 328 ⇓P P 23 19 06.7 -0.1
baz=36,SNR=7.9
PHWY **Pilot Hill** 36.25 316 eP P 23 19 07.5 0.0
comp=Z,45nm,1.5s
L24A **Wheatland** 36.28 318 ⇓P P 23 19 07.8 +0.3
baz=36,SNR=7.0
J25A **Sunshine Ranch** 36.29 320 ⇑P P 23 19 07.1 -0.4
baz=36,SNR=11
SMCO **Snowmass** 36.33 312 eP P 23 19 08.2 -0.1
comp=Z,23nm,1.0s
P22A **Eagle** 36.35 313 ⇑P P 23 19 07.6 -0.7
baz=36
G27A **Dupree** 36.37 324 ⇑P P 23 19 07.8 -0.3
baz=36,SNR=9.1
H26A **Fairpoint** 36.38 323 ⇓P P 23 19 07.3 -0.9
baz=36,SNR=11
N23A **Red Feather La** 36.38 315 ⇓P P 23 19 08.0 -0.5
baz=36
O22A **Kremmling** 36.45 314 ⇓P P 23 19 08.6 -0.6
baz=36,SNR=12

E28A **Huff** 36.46 327 ⇓P P 23 19 08.5 -0.4
baz=36,SNR=5.8
M23A **Laramie** 36.51 316 ⇑P P 23 19 09.0 -0.6
baz=36,SNR=6.3
K24A **Anderson Ranch** 36.56 319 ⇓P P 23 19 09.6 -0.3
baz=36
B30A **Myrvik Farm, E** 36.59 331 ⇑P P 23 19 09.9 0.0
baz=37,SNR=13
SCHQ **Schefferville** 36.64 5 P P 23 19 09.6 -0.7
SCHQ **Schefferville** 36.64 5 P P 23 19 09.6 -0.7
comp=Z,10nm,1.1s,baz=188,slow=6.1,SNR=6.1
N22A **Wattenberg Ran** 36.68 315 ⇓P P 23 19 10.9 -0.2
baz=37,SNR=11
F27A **Lemmon** 36.72 325 ⇓P P 23 19 10.9 -0.2
baz=37,SNR=16
MDND **Maddock** 36.77 329 ⇓P P 23 19 11.3 -0.2
baz=37,SNR=9.5
J24A **Dixon Ranch, L** 36.78 320 ⇓P P 23 19 11.5 -0.2
baz=37,SNR=7.1
D28A **Regan** 36.81 328 ⇓P P 23 19 11.7 -0.1
baz=37
L23A **Garrett** 36.81 317 ⇑P P 23 19 12.1 -0.1
baz=37,SNR=26
E27A **Carson** 36.83 326 ⇓P P 23 19 11.8 -0.2
baz=37
RSSD **Black Hills** 36.84 321 eP P 23 19 11.9 -0.5
RSSD pmax pmax
comp=Z,4.0nm,1.2s
RSSD **Black Hills** 36.84 321 eP P 23 19 11.9 -0.5
comp=Z,4.1nm,1.2s
H25A **Fruitdale** 36.86 322 ⇓P P 23 19 11.9 -0.5
baz=37
ULM **Lac du Bonnet** 36.88 335 eP P 23 19 11.2 -1.2
comp=Z,26nm,1.1s
ULM **Lac du Bonnet** 36.88 335 P P 23 19 10.8 -1.5
comp=Z,18nm,1.0s,baz=144,slow=7.7,SNR=19
A30A **Hoffer Farm,** 36.93 331 ⇓P P 23 19 12.8 0.0
baz=37,SNR=29
W18A **Petrified Fore** 36.94 304 ⇓P P 23 19 13.5 +0.2
baz=37
X18A **Snowflake** 36.94 303 ⇑P P 23 19 13.5 +0.2
baz=37,SNR=9.2
I24A **Kuemmerle Ranc** 37.05 320 ⇑P P 23 19 13.2 -0.9
baz=37
M22A **Cedar Creek Ra** 37.05 316 ⇓P P 23 19 14.1 -0.2
baz=37
PV01 **Paradox Valley** 37.06 310 eP P 23 19 14.5 +0.2
comp=Z,864nm,0.9s
F26A **Lodgepole** 37.06 324 ⇓P P 23 19 13.5 -0.5
baz=37,SNR=6.3
C28A **Hausauer Farms** 37.07 328 ⇓P P 23 19 14.0 0.0
baz=37
TUC **Tucson** 37.07 299 eP P 23 19 13.8 -0.5
TUC **Tucson** 37.07 299 eP P 23 19 13.8 -0.5
B29A **Wagenman Farm,** 37.08 330 ⇑P P 23 19 14.0 0.0
baz=37,SNR=12
K23A **Bowen Ranch, D** 37.09 318 ⇑P P 23 19 13.9 -0.5
baz=37
G25A **Newell** 37.09 323 ⇓P P 23 19 13.6 -0.7
baz=37,SNR=12
L22A **Ellis Ranch, M** 37.25 317 ⇓P P 23 19 16.1 +0.3
baz=37,SNR=6.4
E26A **Carlson Angus** 37.33 325 ⇑P P 23 19 16.1 -0.2
baz=37
A29A **Manning Farm,** 37.35 331 ⇓P P 23 19 16.2 -0.2
baz=37,SNR=22
PV04 **Paradox Valley** 37.40 310 eP P 23 19 17.8 +0.6
H24A **Dirks Ranch, A** 37.49 322 ⇓P P 23 19 16.9 -0.9
baz=38,SNR=12
F25A **Bowman** 37.55 324 ⇑P P 23 19 17.6 -0.6
baz=38
B28A **Dugan Ranch, T** 37.55 329 ⇓P P 23 19 18.5 +0.4
baz=38,SNR=15
K22A **Casper** 37.61 317 ⇓P P 23 19 18.7 -0.1
baz=38,SNR=12
O20A **White River Ci** 37.62 313 ⇑P P 23 19 19.5 +0.6
baz=38,SNR=9.9
C27A **Sayler Ranch,** 37.63 328 ⇓P P 23 19 18.5 -0.3
baz=38
D26A **Manning** 37.67 326 ⇓P P 23 19 18.9 -0.2
baz=38,SNR=7.2
A28A **Rude Farm, Bot** 37.83 330 ⇓P P 23 19 20.2 -0.2
baz=38,SNR=12
E25A **Mir Ranch,** 37.86 325 ⇑P P 23 19 20.7 -0.2
baz=38,SNR=5.4
N20A **Spence Gulch,** 37.92 314 ⇓P P 23 19 21.1 -0.6
baz=38
J22A **Midwest** 37.96 319 ⇓P P 23 19 21.7 -0.1
baz=38,SNR=19
C26A **Wahner Farm, P** 38.00 327 ⇓P P 23 19 21.9 0.0
baz=38,SNR=16
F24A **Ekalaka** 38.06 323 ⇑P P 23 19 21.9 -0.6
baz=38,SNR=5.5
K21A **Alcova** 38.07 317 ⇓P P 23 19 23.2 +0.4
baz=38,SNR=38
X16A **Lo Mia Camp, P** 38.10 303 ⇓P P 23 19 24.2 +1.0
baz=38,SNR=14
I22A **9 Mile Ranch,** 38.20 319 ⇓P P 23 19 23.2 -0.7
baz=38,SNR=15
D25A **Fairfield** 38.22 326 ⇑P P 23 19 23.3 -0.5
baz=38
G23A **Biddle** 38.24 322 ⇓P P 23 19 23.5 -0.5
baz=38,SNR=5.3
WUAZ **Wupatki** 38.34 304 eP P 23 19 25.5 +0.4
comp=Z,45nm,1.6s
WUAZ **Wupatki** 38.34 304 ⇓P P 23 19 25.5 +0.4
baz=38,SNR=5.5
B26A **Jensen Ranch,** 38.43 328 ⇓P P 23 19 25.4 -0.2
baz=38
J21A **Lysite** 38.54 318 ⇓P P 23 19 26.5 -0.2
baz=38,SNR=34
F23A **Volborg** 38.54 322 ⇑P P 23 19 25.4 -1.1
baz=38,SNR=9.4
I21A **Big Trails, Te** 38.67 319 ⇓P P 23 19 26.9 -0.9
baz=39,SNR=30
A26A **Wade Farm, Ken** 38.68 329 ⇑P P 23 19 27.4 -0.1
baz=39,SNR=8.2
214A **Organ Pipe Nat** 38.69 298 ⇑P P 23 19 27.3 -0.6
baz=39,SNR=8.0
D24A **Glendive** 38.74 325 ⇓P P 23 19 27.5 -0.7
baz=39
G22A **Birney** 38.79 321 ⇑P P 23 19 28.4 -0.2
baz=39,SNR=12
B25A **Knox Farm, Ray** 38.84 327 ⇓P P 23 19 28.9 -0.1
baz=39,SNR=6.4
SRU **San Rafael** 38.84 310 eP P 23 19 29.6 +0.3
SRU pmax pmax
comp=Z,18nm,1.1s
SRU **San Rafael** 38.84 310 eP P 23 19 29.6 +0.3
comp=Z,18nm,1.1s
J20A **Shoshoni** 38.95 318 ⇑P P 23 19 30.0 -0.1
baz=39,SNR=18
C24A **Savage** 39.05 325 ⇓P P 23 19 30.7 0.0
baz=39
F22A **Rosebud** 39.07 322 ⇓P P 23 19 30.3 -0.6
baz=39,SNR=14
A25A **Svangstu Ranch** 39.24 328 ⇑P P 23 19 32.4 +0.1
baz=39,SNR=5.6
Y14A **Wickenburg** 39.25 301 ⇓P P 23 19 32.3 -0.3
baz=39
E22A **Miles City** 39.26 323 ⇓P P 23 19 32.0 -0.5
baz=39,SNR=7.2
D23A **Lindsay** 39.26 324 ⇑P P 23 19 32.5 -0.1
baz=39
I20A **Worland** 39.26 318 ⇓P P 23 19 32.1 -0.6
baz=39,SNR=16
U15A **North Rim** 39.31 305 ⇑P P 23 19 33.7 +0.3
baz=39,SNR=11
G21A **Lodge Grass** 39.34 321 ⇓P P 23 19 32.4 -0.9
baz=39,SNR=7.9
TMUT **Trail Mountain** 39.40 310 eP P 23 19 34.7 +0.5
comp=Z,29nm,1.2s
H20A **Greybull** 39.45 319 ⇑P P 23 19 33.4 -0.8
baz=39
DGMT **Dagmar** 39.50 327 eP P 23 19 35.0 +0.5
comp=Z,308nm,2.3s
DGMT **Dagmar** 39.50 327 ⇑P P 23 19 34.4 -0.1
baz=40
J19A **Crowheart** 39.53 317 ⇑P P 23 19 34.3 -0.7
baz=40,SNR=32
LAO **LASA Array** 39.55 323 eP P 23 19 34.5 -0.5
comp=Z,32nm,1.1s
C23A **Lambert** 39.62 325 ⇑P P 23 19 35.7 +0.2
baz=40,SNR=10
113A **Mohawk Valley,** 39.63 299 ⇑P P 23 19 35.9 +0.2
baz=40
PDAR **Pinedale Array** 39.64 316 P P 23 19 35.2 -0.8
PDAR PcP PcP 23 21 42.6 -0.3

PDAR **Pinedale Array** 39.64 316 P P 23 19 35.2 -0.8
comp=Z,8.8nm,1.0s,baz=116,slow=10,SNR=36
PDAR PcP PcP 23 21 42.6 -0.3
comp=Z,3.5nm,0.9s,baz=104,slow=4.7,SNR=3.6
A24A **Westby** 39.68 327 ⇓P P 23 19 36.5 +0.5
baz=40,SNR=22
D22A **Cohagen** 39.79 324 ⇓P P 23 19 37.2 +0.3
baz=40,SNR=18
DAU **Daniels Canyon** 39.84 312 eP P 23 19 37.9 +0.1
DAU **Daniels Canyon** 39.84 312 eP P 23 19 37.9 +0.1
I19A **Meeteetse** 39.85 318 ⇓P P 23 19 37.8 0.0
baz=40,SNR=31
MVU **Marysvale** 39.87 309 eP P 23 19 38.8 +0.8
comp=Z,15nm,1.2s
B23A **Brockton** 39.91 326 ⇓P P 23 19 38.4 +0.5
baz=40,SNR=11
G20A **Bridger** 39.95 320 ⇓P P 23 19 37.3 -1.1
baz=40
E21A **Keefer Ranch,** 39.96 322 ⇓P P 23 19 37.8 -0.6
baz=40
C22A **Vida** 39.97 325 ⇓P P 23 19 38.4 -0.1
baz=40,SNR=7.8
MPU **Maple Canyon** 39.97 311 eP P 23 19 38.9 +0.2
comp=Z,30nm,1.1s
H19A **Powell** 40.15 319 ⇓P P 23 19 40.2 +0.1
baz=40,SNR=18
A23A **Redstone** 40.16 327 ⇑P P 23 19 41.1 +1.1
baz=40,SNR=7.5
D21A **La Casta Ranch** 40.20 323 ⇓P P 23 19 40.5 +0.1
baz=40,SNR=12
F20A **Billings** 40.20 321 ⇓P P 23 19 39.8 -0.6
baz=40,SNR=7.1
W13A **Hualapai Mount** 40.22 303 ⇓P P 23 19 41.9 +1.0
baz=40,SNR=16
PDMCI **Parker Dam,Lak** 40.24 302 ⇑P P 23 19 41.4 +0.6
baz=40
NLU **North Lily Min** 40.26 311 eP P 23 19 41.7 +0.5
comp=Z,27nm,1.2s
CTU **Camp Tracy** 40.30 312 eP P 23 19 41.9 +0.5
comp=Z,21nm,1.0s
B22A **Reddig Ranch S** 40.35 325 ⇓P P 23 19 42.2 +0.6
baz=40
Y12C **Blythe** 40.44 301 ⇑P P 23 19 42.4 -0.1
baz=40
CCUT **Cedar City** 40.45 307 eP P 23 19 43.5 +0.7
comp=Z,12nm,1.1s
CCUT ePcP PcP 23 21 46.7 +1.1
RLMT **Red Lodge** 40.55 319 eP P 23 19 42.9 -0.6
comp=Z,36nm,1.1s
E20A **Meyer Farm, Mu** 40.56 322 ⇑P P 23 19 42.9 -0.4
baz=40,SNR=20
GLA **Glamis** 40.56 300 ⇑P P 23 19 43.5 0.0
baz=40
ARUT **Antelope Range** 40.58 307 eP P 23 19 43.9 +0.2
ARUT pmax pmax
comp=Z,475nm,1.0s
ARUT **Antelope Range** 40.58 307 eP P 23 19 43.9 +0.2
comp=Z,475nm,1.0s
H18A **Shoshone NF, C** 40.58 319 ⇑P P 23 19 42.8 -1.0
baz=41,SNR=29
LOHW **Long Hollow** 40.70 317 eP P 23 19 44.4 -0.4
comp=Z,63nm,1.0s
F19A **Roth Farm, Mol** 40.71 320 ⇓P P 23 19 44.1 -0.5
baz=41,SNR=9.2
A22A **Carney Farms,** 40.72 326 ⇑P P 23 19 46.0 +1.3
baz=41,SNR=20
REDW **Red Top Meadow** 40.75 316 eP P 23 19 45.0 -0.2
comp=Z,87nm,1.0s
I17A **Pilgrim Ck.** 40.81 317 ⇓P P 23 19 46.2 +0.5
baz=41,SNR=21
MOOW **Moose Ponds** 40.85 317 eP P 23 19 45.6 -0.4
comp=Z,47nm,1.0s
D20A **Manuel Ranch,** 40.87 323 ⇑P P 23 19 46.0 +0.1
baz=41,SNR=12
TPAW **Teton Pass** 40.87 316 eP P 23 19 46.0 -0.2
comp=Z,36nm,1.0s
DUG **Dugway** 40.88 311 eP P 23 19 46.1 -0.1
DUG e 23 21 47.3
DUG pmax pmax
comp=Z,25nm,1.0s
DUG **Dugway** 40.88 311 eP P 23 19 46.1 -0.1
comp=Z,26nm,1.0s
DUG ePcP PcP 23 21 47.3 +0.5
DUG **Dugway** 40.88 311 ⇓P P 23 19 46.4 +0.3
baz=41,SNR=21
LVC **Limon Verde** 40.89 175 eP P 23 19 45.9 -0.6
comp=Z,17nm,0.9s
E19A **Rath Farm, Rou** 40.92 321 ⇓P P 23 19 46.5 +0.1
baz=41,SNR=26
FLWY **Flagg Ranch** 40.97 317 eP P 23 19 47.2 +0.3
comp=Z,29nm,1.1s
B21A **Ellsworth Farm** 40.98 325 ⇑P P 23 19 47.6 +0.8
baz=41
FXWY **Fox Creek** 40.98 316 eP P 23 19 46.8 -0.4
comp=Z,42nm,1.0s
H17A **Grant Village** 41.03 318 ⇓P P 23 19 47.9 +0.4
baz=41,SNR=13
IRM **Iron Mountain** 41.03 301 ⇓P P 23 19 47.9 +0.5
baz=41,SNR=16
IMW **Indian Meadow** 41.04 317 eP P 23 19 47.6 -0.1
comp=Z,31nm,1.1s
C20A **Veseth Ranch,** 41.13 323 ⇑P P 23 19 48.5 +0.5
baz=41,SNR=11
BC3 **Big Chuckawall** 41.19 300 ⇑P P 23 19 48.8 0.0
baz=41,SNR=5.6
YFT **Old Faithful** 41.22 318 eP P 23 19 50.0 +0.9
comp=Z,24nm,1.1s
A21A **Bergtoll Ranch** 41.26 326 ⇓P P 23 19 50.0 +0.9
baz=41,SNR=22
BGU **Big Grassy Mou** 41.29 312 eP P 23 19 49.8 +0.2
comp=Z,18nm,1.2s
D19A **Cripps Ranch,** 41.34 322 ⇓P P 23 19 50.0 +0.2
baz=41,SNR=14
SWSC **Sam W. Stewart** 41.34 299 ⇑P P 23 19 50.2 +0.3
baz=41
YMR **Madison River** 41.40 318 eP P 23 19 51.0 +0.5
comp=Z,125nm,2.3s
HVU **Hansel Valley** 41.42 313 eP P 23 19 50.4 -0.2
HVU pmax pmax
comp=Z,61nm,1.9s
HVU **Hansel Valley** 41.42 313 eP P 23 19 50.4 -0.2
comp=Z,61nm,1.9s
BDFB **Brasilia** 41.53 143 P P 23 19 51.8 +0.2
BDFB **Brasilia** 41.53 143 P P 23 19 51.8 +0.2
comp=Z,26nm,1.0s,baz=322,slow=11,SNR=32
B20A **Solberg Farm,** 41.54 324 ⇑P P 23 19 52.2 +0.8
baz=42
SHPR **Sheep Range** 41.56 305 eP P 23 19 52.8 +0.9
SHPR ePcP PcP 23 21 49.8 +0.6
GMRC **Granite Mounta** 41.57 302 ⇑P P 23 19 52.6 +0.7
baz=42,SNR=5.7
A20A **Cobblestone Ra** 41.73 325 ⇑P P 23 19 53.8 +0.8
baz=42,SNR=31
C19A **Slack Wire Ran** 41.74 323 ⇑P P 23 19 52.9 -0.2
baz=42,SNR=6.2
QLMT **Earthquake Lak** 41.77 318 eP P 23 19 54.7 +1.1
MONP **Monument Peak** 41.85 299 ⇑P P 23 19 54.8 +0.4
baz=42,SNR=10
TUQ **Turquoise Moun** 41.92 303 ⇓P P 23 19 55.2 +0.4
baz=42,SNR=6.6
PFO **Pinyon Flat Ob** 42.00 300 ⇑P P 23 19 55.6 +0.1
baz=42
B19A **Brinkman Farms** 42.06 324 ⇑P P 23 19 55.8 +0.1
baz=42,SNR=15
HEC **Hector,Ludlow** 42.12 302 ⇓P P 23 19 56.8 +0.4
baz=42
A19A **Klindworth Far** 42.21 325 ⇑P P 23 19 57.3 +0.4
baz=42,SNR=15
BOZ **Bozeman (W)** 42.26 319 eP P 23 19 57.6 +0.1
BOZ pmax pmax
comp=Z,27nm,1.1s
BOZ **Bozeman (W)** 42.26 319 eP P 23 19 57.6 +0.1
comp=Z,27nm,1.1s
EGMT **Eagleton** 42.30 323 eP P 23 19 57.6 0.0
comp=Z,46nm,1.1s
EGMT **Eagleton** 42.30 323 ⇑P P 23 19 57.7 0.0
baz=42,SNR=14
R11A **Troy Canyon, C** 42.36 307 ⇓P P 23 19 58.9 +0.5
baz=42,SNR=18
TPNV **Topopah Spring** 42.51 305 eP P 23 20 01.3 +1.6
TPNV pmax pmax
comp=Z,40nm,1.2s
TPNV **Topopah Spring** 42.51 305 eP P 23 20 01.3 +1.6
comp=Z,40nm,1.2s
TPNV **Topopah Spring** 42.51 305 ⇑P P 23 20 00.7 +1.0
baz=42,SNR=12
GSC **Goldstone** 42.60 302 eP P 23 20 01.1 +0.8
GSC pmax pmax

comp=Z,74nm,1.8s
GSC **Goldstone** 42.60 302 eP P 23 20 01.1 +0.8
comp=Z,74nm,1.8s
GSC **Goldstone** 42.60 302 ⇑P P 23 20 00.7 +0.5
baz=42,SNR=10
MURC **Murrieta** 42.61 300 ⇓P P 23 20 00.8 +0.4
baz=43
MCMT **McKenzie Canyo** 42.68 317 eP P 23 20 01.4 +0.4
DLMT **Dillon** 42.74 318 eP P 23 20 01.7 +0.3
comp=Z,40nm,1.0s
ELK **Elko** 42.80 311 eP P 23 20 02.4 +0.3
comp=Z,12nm,1.0s
ELK eP cP P 23 21 55.0 +1.7
LRM **Limekiln Ridge** 42.85 319 eP P 23 20 01.4 -1.0
HRY **Holter Researc** 42.88 320 eP P 23 20 02.4 0.0
HRY eP P 23 21 36.2 -5.7
FURC **Furnace Creek,** 42.88 304 ⇓P P 23 20 03.2 +0.8
baz=43,SNR=7.2
BFSC **Mount Baldy Ra** 43.09 301 ⇓P P 23 20 04.7 +0.4
baz=43
HLID **Hailey** 43.20 315 eP P 23 20 05.0 -0.1
comp=Z,91nm,1.9s
HLID eP cP P 23 21 50.5 -4.0
HLID **Hailey** 43.20 315 ⇑P P 23 20 05.2 0.0
baz=43,SNR=16
MPMC **Manual Prospec** 43.30 303 ⇓P P 23 20 06.4 +0.3
baz=43,SNR=11
FCC **Fort Churchill** 43.31 344 eP P 23 20 04.5 -1.0
FCC pmax pmax
comp=Z,1.0nm,1.0s
FCC **Fort Churchill** 43.31 344 eP P 23 20 04.5 -1.0
comp=Z,0.7nm,1.0s
LRMC **Laurel Mountai** 43.34 302 ⇑P P 23 20 06.9 +0.6
baz=43
RCBR **Riachuelo** 43.37 120 eP P 23 20 07.0 +0.3
comp=Z,40nm,0.9s
RCBR **Riachuelo** 43.37 120 P P 23 20 07.2 +0.5
comp=Z,36nm,0.9s,baz=302,slow=7.1,SNR=15
GRAC **Grapevine Rang** 43.40 305 ⇑P P 23 20 07.5 +0.8
baz=43,SNR=10
EDW2 **Edwards Air Fo** 43.47 302 ⇑P P 23 20 07.7 +0.4
baz=43,SNR=12
TPH **Tonopah** 43.53 306 eP P 23 20 09.1 +1.1
TPH pmax pmax
comp=Z,37nm,1.0s
TPH **Tonopah** 43.53 306 eP P 23 20 09.1 +1.1
comp=Z,37nm,1.0s
CIS **Catalina Islan** 43.57 299 ⇓P P 23 20 09.2 +1.0
baz=44
CHMT **Chamberlain Mo** 43.84 320 eP P 23 20 10.0 -0.3
ISA **Isabella** 44.00 303 eP P 23 20 12.5 +0.9
ISA pmax pmax
comp=Z,42nm,1.7s
ISA **Isabella** 44.00 303 eP P 23 20 12.5 +0.9
comp=Z,42nm,1.7s
ISA **Isabella** 44.00 303 ⇑P P 23 20 11.8 +0.2
baz=44,SNR=8.0
TIN **Tinemaha** 44.08 305 ⇓P P 23 20 12.9 +0.6
baz=44,SNR=7.8
MFID **Camas Ranch** 44.11 314 eP P 23 20 12.1 -0.3
comp=Z,15nm,1.0s
SLMT **Seeley Lake** 44.13 320 eP P 23 20 12.3 -0.2
BMN **Battle Mountai** 44.15 310 eP P 23 20 13.2 +0.4
BMN pmax pmax
comp=Z,16nm,1.1s
BMN **Battle Mountai** 44.15 310 eP P 23 20 13.2 +0.4
comp=Z,16nm,1.1s
ARVC **Arvin** 44.19 302 ⇑P P 23 20 13.8 +0.8
baz=44
MSO **Missoula** 44.22 319 eP P 23 20 13.5 +0.2
comp=Z,22nm,1.2s
MSO **Missoula** 44.22 319 ⇑P P 23 20 13.1 -0.1
baz=44
NVAR **Mina Array Bea** 44.45 306 P P 23 20 15.5 +0.2
NVAR PcP PP 23 21 59.9 +1.0
NVAR **Mina Array Bea** 44.45 306 P P 23 20 15.5 +0.2
comp=Z,8.8nm,0.9s,baz=102,slow=6.8,SNR=26
NVAR PcP PP 23 21 59.9 +1.0
comp=Z,4.6nm,0.9s,baz=159,slow=3.7,SNR=5.4
VES **Vestal, Richgr** 44.52 303 ⇓P P 23 20 16.4 +0.7
baz=44,SNR=14
SWMT **Swartz Lake** 44.56 320 eP P 23 20 15.6 -0.3
BSC **Santa Cruz Isl** 44.67 300 ⇓P P 23 20 17.4 +0.5
baz=45
YBMT **Yellow Bay** 44.72 321 eP P 23 20 17.1 -0.2
RCTC **Rector, Farmer** 44.73 303 ⇑P P 23 20 18.3 +1.0
baz=45
JTMT **Jette** 44.83 320 eP P 23 20 17.9 -0.3
PKM **Peak Mountain** 44.96 301 ⇑P P 23 20 19.4 0.0
baz=45,SNR=5.3
BLMT **Blacktail Moun** 45.00 321 eP P 23 20 19.5 -0.1
BSMT **Bassoo Peak** 45.19 320 eP P 23 20 21.0 0.0
WALA **Waterton Lakes** 45.21 322 eP P 23 20 20.4 -0.6
comp=Z,1.2nm,1.3s
WAKR **Walker** 45.33 306 eP P 23 20 23.5 +1.2
WVOR **Wild Horse Val** 45.75 312 eP P 23 20 25.0 -0.5
WVOR pmax pmax
comp=Z,26nm,1.1s
WVOR **Wild Horse Val** 45.75 312 eP P 23 20 25.0 -0.5
comp=Z,26nm,1.1s
CMB **Columbia Colle** 45.96 305 eP P 23 20 27.1 0.0
CMB pmax pmax
comp=Z,30nm,1.5s
CMB **Columbia Colle** 45.96 305 eP P 23 20 27.1 0.0
comp=Z,30nm,1.5s
NEW **Newport** 46.78 320 eP P 23 20 32.9 -0.5
comp=Z,49nm,1.0s
NEW **Newport** 46.78 320 ⇑P P 23 20 33.3 -0.1
baz=47,SNR=34
CPUP **Villa Florida** 46.82 161 eP P 23 20 33.0 -0.8
comp=Z,1.9nm,0.8s
CPUP eP cP P 23 22 07.1 +0.3
CPUP PcP PP 23 22 07.1 -17
CPUP **Villa Florida** 46.82 161 P P 23 20 32.7 -1.1
comp=Z,14nm,0.7s,baz=311,slow=7.7,SNR=19
CPUP PcP P 23 22 07.1 +0.3
comp=Z,11nm,0.9s,baz=285,slow=5.1,SNR=2.9
EDM **Edmonton** 46.97 327 eP P 23 20 34.3 -0.5
EDM **Edmonton** 46.97 327 eP P 23 20 34.3 -0.5
OHCM **Honcut** 47.07 307 eP P 23 20 36.1 +0.4
LCO **Las Campanas** 47.15 178 eP P 23 20 36.5 -0.2
comp=Z,36nm,1.0s
J05D **Fort Rock, OR** 47.82 312 ⇓P P 23 20 41.4 -0.3
baz=48
M04C **Macdoel** 47.87 310 ⇓P P 23 20 41.8 -0.3
baz=48
YBH **Yreka Blue Hor** 48.49 310 eP P 23 20 45.6 -1.3
comp=Z,95nm,2.0s
LTY **Liberty** 48.64 317 eP P 23 20 47.5 -0.4
comp=Z,143nm,2.0s
LON **Longmire** 49.21 316 eP P 23 20 52.3 0.0
LON pmax pmax
comp=Z,24nm,1.2s
LON **Longmire** 49.21 316 eP P 23 20 52.3 0.0
comp=Z,24nm,1.2s
I03D **Drain, OR** 49.41 312 ⇑P P 23 20 53.5 -0.2
baz=49
KEBM **Edson Butte** 49.92 311 eP P 23 20 58.9 +1.1
comp=Z,251nm,1.4s
SFJD **Kangerlussuaq** 50.61 11 *i* P P 23 21 00.9 -1.6
comp=Z,14nm,1.0s
SFJD **Kangerlussuaq** 50.61 11 eP P 23 21 02.7 +0.2
comp=Z,72nm,1.3s
SFJD PcP PcP 23 22 19.9 0.0
SFJD **Kangerlussuaq** 50.61 11 P P 23 21 01.8 -0.6
comp=Z,23nm,1.0s,baz=213,slow=6.3,SNR=4.8
SFJD PcP PcP 23 22 19.9 0.0
comp=Z,16nm,0.9s,baz=141,slow=3.9,SNR=3.7
YKA **Yellowknife Ar** 52.79 337 P P 23 21 17.7 -1.2
YKA **Yellowknife Ar** 52.79 337 P P 23 21 17.7 -1.2
comp=Z,9.1nm,0.9s,baz=124,slow=7.4,SNR=79
TRQA **Tornquist** 57.00 170 eP P 23 21 50.2 +0.6
comp=Z,18nm,1.3s
SUMG **Summit** 57.59 12 *i* P P 23 21 53.4 -0.4
SUMG pmax pmax
comp=Z,47nm,1.0s
SUMG **Summit** 57.59 12 *i* P P 23 21 53.4 -0.4
comp=Z,47nm,1.0s
SUMG **Summit** 57.59 12 eP P 23 21 53.4 -0.4
comp=Z,75nm,1.0s
MORF **Marmelete** 58.47 57 eP P 23 22 01.7 +1.5
comp=Z,103nm,1.7s
PNCL **Nicolau / Gran** 58.58 56 eP P 23 22 02.1 +1.3
comp=Z,115nm,1.9s
PTO **Porto** 58.60 53 eP P 23 22 02.3 +1.4
comp=Z,174nm,1.7s
MESJ **Messejana** 58.82 56 eP P 23 22 02.9 +0.4
MESJ **Messejana** 58.82 56 eP P 23 22 02.9 +0.4
PMTG **Montargil** 58.83 55 eP P 23 22 03.2 +0.7
comp=Z,73nm,1.7s
PLCA **Paso Flores** 58.84 178 eP P 23 22 02.6 +0.1
comp=Z,43nm,1.0s
PLCA **Paso Flores** 58.84 178 P P 23 22 02.9 +0.4
comp=Z,30nm,0.9s,baz=359,slow=8.3,SNR=34
PGAV **Gavieira, Arco** 58.89 52 eP P 23 22 04.0 +0.9
comp=Z,118nm,0.9s
EVOP **Sao Brissos** 58.90 56 eP P 23 22 02.9 -0.1
EVOP pmax pmax
comp=Z,75nm,1.0s
EVOP **Sao Brissos** 58.90 56 eP P 23 22 02.9 -0.1
comp=Z,75nm,1.0s
EVO **Evora** 58.98 56 eP P 23 22 02.9 -0.8
comp=Z,75nm,1.0s
EVO **Evora** 58.98 56 eP P 23 22 04.2 +0.5
comp=Z,66nm,1.4s
PBDV **Barranco-do-Ve** 59.05 57 eP P 23 22 05.8 +1.6
comp=Z,141nm,1.9s
PCAB **Cabril** 59.06 52 eP P 23 22 05.3 +1.1
comp=Z,85nm,1.4s
PBEJ **Beja** 59.10 56 eP P 23 22 05.8 +1.3
comp=Z,62nm,1.8s
PVIS **Viseu** 59.12 53 eP P 23 22 05.5 +0.9
comp=Z,104nm,1.9s
PVAQ **Vaqueiros** 59.22 57 eP P 23 22 07.0 +1.7
comp=Z,115nm,1.6s
POLO **Lamas de Olo** 59.22 52 eP P 23 22 06.0 +0.6
comp=Z,41nm,1.6s
PVRL **Vila Real** 59.27 52 eP P 23 22 06.5 +0.8
comp=Z,91nm,1.5s
PESTR **Estremoz** 59.32 55 eP P 23 22 07.0 +1.0
comp=Z,53nm,1.0s
MTE **Manteigas** 59.38 54 eP P 23 22 07.3 +0.8
comp=Z,112nm,2.2s
MTE **Manteigas** 59.38 54 eP P 23 22 06.9 +0.4
comp=Z,48nm,1.0s
PCBR **Castelo Branco** 59.42 54 eP P 23 22 07.4 +0.8
comp=Z,90nm,1.3s
PMRV **Marv??o** 59.48 55 eP P 23 22 07.6 +0.5
comp=Z,106nm,2.1s
MVO **Moncorvo** 59.79 53 eP P 23 22 09.9 +0.6
comp=Z,97nm,1.1s
PBRG **Braganca** 60.02 52 eP P 23 22 11.5 +0.7
comp=Z,57nm,1.8s
SCO **Scoresbysund** 60.13 17 *i* P P 23 22 10.7 -0.3
SCO pmax pmax
comp=Z,3.0nm,0.9s
SCO **Scoresbysund** 60.13 17 *i* P P 23 22 10.7 -0.3
comp=Z,3.2nm,0.9s
PAB **San Pablo** 61.83 54 eP P 23 22 23.3 0.0
PAB pmax pmax
comp=Z,37nm,1.1s
PAB **San Pablo** 61.83 54 eP P 23 22 23.3 0.0
comp=Z,38nm,1.1s
ESDC **Sonseca Array** 62.13 54 P P 23 22 25.6 +0.4
ESDC **Sonseca Array** 62.13 54 P P 23 22 25.6 +0.4
comp=Z,19nm,0.8s,baz=275,slow=7.2,SNR=64
INK **Inuvik** 62.48 338 eP P 23 22 25.8 -1.1
ROSF **Rostrenen** 62.73 45 eP P 23 22 29.3 +0.3
comp=Z,68nm,1.1s
ROSF **Rostrenen** 62.73 45 eP P 23 22 29.3 +0.3
ROSF pmax pmax
comp=Z,68nm,1.0s
ROSF **Rostrenen** 62.73 45 eP P 23 22 29.3 +0.3
comp=Z,68nm,1.0s
QUIF **Quistinic** 62.78 45 eP P 23 22 29.6 +0.3
comp=Z,81nm,0.9s
QUIF **Quistinic** 62.78 45 eP P 23 22 29.6 +0.3
QUIF pmax pmax
comp=Z,81nm,0.9s
QUIF **Quistinic** 62.78 45 eP P 23 22 29.6 +0.3
comp=Z,81nm,0.9s
SGMF **Saint Gilles** 63.20 45 eP P 23 22 32.3 +0.2
comp=Z,134nm,1.2s
SGMF **Saint Gilles** 63.20 45 eP P 23 22 32.3 +0.2
SGMF pmax pmax
comp=Z,134nm,1.3s
SGMF **Saint Gilles** 63.20 45 eP P 23 22 32.3 +0.2
comp=Z,134nm,1.3s
SJPF **Ste Jean** 64.11 50 *i* P P 23 22 39.0 +0.8
comp=Z,138nm,0.9s
SJPF **Ste Jean** 64.11 50 *i* P P 23 22 39.0 +0.8
SJPF pmax pmax
comp=Z,138nm,0.9s
SJPF **Ste Jean** 64.11 50 *i* P P 23 22 39.0 +0.8
comp=Z,138nm,0.9s
ALE **Alert** 64.31 1 P P 23 22 37.9 -1.0
comp=Z,79nm,1.1s,SNR=6.9
GRR **Gorron** 64.34 45 *i* P P 23 22 39.8 +0.2
comp=Z,62nm,0.9s
GRR **Gorron** 64.34 45 *i* P P 23 22 39.8 +0.2
GRR pmax pmax
comp=Z,62nm,0.9s
GRR **Gorron** 64.34 45 *i* P P 23 22 39.8 +0.2
comp=Z,62nm,0.9s
EGAK **Eagle** 64.45 334 eP P 23 22 39.7 -0.4
comp=Z,13nm,1.1s
FLN **La Foliniere** 64.59 44 *i* P P 23 22 41.5 +0.2
comp=Z,72nm,0.9s
FLN **La Foliniere** 64.59 44 *i* P P 23 22 41.5 +0.2
FLN pmax pmax
comp=Z,72nm,0.9s
FLN **La Foliniere** 64.59 44 *i* P P 23 22 41.5 +0.2
comp=Z,72nm,0.9s
ETSF **Etsaut** 64.60 51 *i* P P 23 22 42.3 +0.8
comp=Z,86nm,1.0s
ETSF **Etsaut** 64.60 51 *i* P P 23 22 42.3 +0.8
ETSF pmax pmax
comp=Z,86nm,1.0s
ETSF **Etsaut** 64.60 51 *i* P P 23 22 42.3 +0.8
comp=Z,86nm,1.0s
MFF **Saint Martin d** 64.82 47 *i* P P 23 22 43.1 +0.3
comp=Z,133nm,1.0s
MFF **Saint Martin d** 64.82 47 *i* P P 23 22 43.1 +0.3
MFF pmax pmax
comp=Z,133nm,1.0s
MFF **Saint Martin d** 64.82 47 *i* P P 23 22 43.1 +0.3
comp=Z,133nm,1.0s
LDF **La Druitiere** 64.83 44 *i* P P 23 22 43.0 +0.2
comp=Z,91nm,0.9s
LDF **La Druitiere** 64.83 44 *i* P P 23 22 43.0 +0.2
LDF pmax pmax
comp=Z,91nm,0.9s
LDF **La Druitiere** 64.83 44 *i* P P 23 22 43.0 +0.2
comp=Z,91nm,0.9s
EPF **Esparros** 65.25 50 *i* P P 23 22 46.5 +0.7
comp=Z,146nm,1.1s
EPF **Esparros** 65.25 50 *i* P P 23 22 46.5 +0.7
EPF pmax pmax
comp=Z,146nm,1.1s
EPF **Esparros** 65.25 50 *i* P P 23 22 46.5 +0.7
comp=Z,146nm,1.1s
RESF **Ens** 65.26 51 eP P 23 22 47.0 +1.1
BMRM **Bremner River** 65.42 329 eP P 23 22 47.7 +1.2
comp=Z,270nm,1.9s
LFF **La Frestale** 65.47 48 *i* P P 23 22 47.3 +0.3
comp=Z,119nm,1.0s
LFF **La Frestale** 65.47 48 *i* P P 23 22 47.3 +0.3
LFF pmax pmax
comp=Z,119nm,1.0s
LFF **La Frestale** 65.47 48 *i* P P 23 22 47.3 +0.3
comp=Z,119nm,1.0s
DOT **Dot Lake** 65.51 332 eP P 23 22 47.8 +0.8
comp=Z,78nm,1.6s
DIV **Divide** 66.00 329 eP P 23 22 51.1 +0.8
RJF **Les Rejaudoux** 66.01 48 *i* P P 23 22 50.6 +0.1
comp=Z,83nm,1.0s
RJF **Les Rejaudoux** 66.01 48 *i* P P 23 22 50.6 +0.1
RJF pmax pmax
comp=Z,83nm,1.0s
RJF **Les Rejaudoux** 66.01 48 *i* P P 23 22 50.6 +0.1
comp=Z,83nm,1.0s
PAX **Paxson** 66.06 331 eP P 23 22 50.3 -0.3
PAX pmax pmax
comp=Z,34nm,1.1s
PAX **Paxson** 66.06 331 eP P 23 22 50.3 -0.3
comp=Z,34nm,1.1s
CAF **Calviac** 66.41 48 *i* P P 23 22 53.3 +0.1
comp=Z,109nm,1.0s
CAF **Calviac** 66.41 48 *i* P P 23 22 53.3 +0.1
CAF pmax pmax
comp=Z,109nm,1.0s
CAF **Calviac** 66.41 48 *i* P P 23 22 53.3 +0.1
comp=Z,109nm,1.0s
TCF **Toulx Ste Croi** 66.45 47 *i* P P 23 22 53.4 0.0
comp=Z,102nm,1.0s
TCF **Toulx Ste Croi** 66.45 47 *i* P P 23 22 53.4 0.0
TCF pmax pmax
comp=Z,102nm,1.0s
TCF **Toulx Ste Croi** 66.45 47 *i* P P 23 22 53.4 0.0
comp=Z,102nm,1.0s
VALF **Valcebollere** 66.52 51 eP P 23 22 55.2 +1.1
LIC **Lamto** 66.70 91 *i* P P 23 22 52.0 -3.5
comp=Z,32nm,0.8s
LIC **Lamto** 66.70 91 *i* P P 23 22 52.0 -3.5
comp=Z,32nm,0.8s
LIC **Lamto** 66.70 91 *i* P P 23 22 52.0 -3.5
comp=Z,32nm,0.8s
HYF **Humbligny** 66.71 46 eP P 23 22 55.2 +0.2
HYF **Humbligny** 66.71 46 eP P 23 22 55.2 +0.2
DBIC **Dimbokro** 66.73 91 eP P 23 22 53.2 -2.4
comp=Z,20nm,0.9s
DBIC **Dimbokro** 66.73 91 pP P 23 22 52.9 -2.7
comp=Z,15nm,0.8s,baz=100,slow=10.0,SNR=13
DBIC **Dimbokro** 66.73 91 pP P 23 22 52.9 -2.7
ILAR **Eielson Array** 66.88 333 P P 23 22 54.8 -0.9
ILAR **Eielson Array** 66.88 333 P P 23 22 54.8 -0.9
comp=Z,6.2nm,0.9s,baz=108,slow=4.4,SNR=38
BGF **Bois d'Agland** 66.88 47 *i* P P 23 22 56.0 -0.1
comp=Z,93nm,0.9s
BGF **Bois d'Agland** 66.88 47 *i* P P 23 22 56.0 -0.1
BGF pmax pmax
comp=Z,93nm,0.9s
BGF **Bois d'Agland** 66.88 47 *i* P P 23 22 56.0 -0.1
comp=Z,93nm,0.9s
PYM **Petit Puy Mans** 67.03 47 eP P 23 22 58.6 +1.4
AVF **Avril sur Loir** 67.22 46 *i* P P 23 22 58.0 -0.2
comp=Z,65nm,1.1s
AVF **Avril sur Loir** 67.22 46 *i* P P 23 22 58.0 -0.2
AVF pmax pmax
comp=Z,65nm,1.1s
AVF **Avril sur Loir** 67.22 46 *i* P P 23 22 58.0 -0.2
comp=Z,65nm,1.1s
LBL **Lubilhac** 67.23 48 eP P 23 23 00.2 +1.8
COLA **College** 67.30 333 eP P 23 22 57.5 -0.8
COLA pmax pmax
comp=Z,61nm,1.3s
SSF **Saint Saulge** 67.31 46 *i* P P 23 22 58.5 -0.3
comp=Z,76nm,1.3s
SSF **Saint Saulge** 67.31 46 *i* P P 23 22 58.5 -0.3
SSF pmax pmax
comp=Z,76nm,1.3s
SSF **Saint Saulge** 67.31 46 *i* P P 23 22 58.5 -0.3
comp=Z,76nm,1.3s
PLDF **La Plantade** 67.45 47 eP P 23 23 00.9 +1.1
LOR **Lormes** 67.54 46 *i* P P 23 23 00.0 -0.3
comp=Z,122nm,1.0s
LOR **Lormes** 67.54 46 *i* P P 23 23 00.0 -0.3
comp=Z,122nm,1.0s
SMF **Signal de Mont** 67.56 46 *i* P P 23 23 00.2 -0.2
comp=Z,68nm,0.9s
SMF **Signal de Mont** 67.56 46 *i* P P 23 23 00.2 -0.2
SMF pmax pmax
comp=Z,68nm,0.9s
SMF **Signal de Mont** 67.56 46 *i* P P 23 23 00.2 -0.2
comp=Z,68nm,0.9s
BAIF **Baives** 67.64 43 *i* P P 23 23 00.7 -0.1
BAIF **Baives** 67.64 43 *i* P P 23 23 00.7 -0.1
BAIF **Baives** 67.64 43 *i* P P 23 23 00.7 -0.1
SNF **Seneffe** 67.67 42 P P 23 23 01.6 +0.6
MCK **McKinley** 67.68 332 eP P 23 23 00.7 -0.2
MCK **McKinley** 67.68 332 eP P 23 23 00.7 -0.2
LASF **Ste Croix** 67.75 49 eP P 23 23 02.3 +0.7
comp=Z,98nm,1.0s
LASF **Ste Croix** 67.75 49 eP P 23 23 02.3 +0.7
comp=Z,98nm,1.0s
DOU **Dourbes** 67.89 43 P P 23 23 02.9 +0.5
GIVF **Givet** 68.04 43 *i* P P 23 23 03.3 0.0
comp=Z,83nm,1.0s
GIVF **Givet** 68.04 43 *i* P P 23 23 03.3 0.0
GIVF pmax pmax
comp=Z,83nm,1.0s
GIVF **Givet** 68.04 43 *i* P P 23 23 03.3 0.0
comp=Z,83nm,1.0s
VIVF **Saint-Julien-l** 68.27 48 *i* P P 23 23 05.8 +0.9
comp=Z,140nm,1.0s
VIVF **Saint-Julien-l** 68.27 48 *i* P P 23 23 05.8 +0.9
VIVF pmax pmax
comp=Z,140nm,1.0s
VIVF **Saint-Julien-l** 68.27 48 *i* P P 23 23 05.8 +0.9
comp=Z,140nm,1.0s
TRF **Thorofare Moun** 68.27 332 eP P 23 23 05.0 +0.2
comp=Z,177nm,2.1s
MEZF **Maizieres J'vi** 68.27 44 *i* P P 23 23 05.0 +0.2
comp=Z,193nm,1.0s
MEZF **Maizieres J'vi** 68.27 44 *i* P P 23 23 05.0 +0.2
comp=Z,193nm,1.0s
SFTF **Sexfontaines** 68.28 45 *i* P P 23 23 04.8 -0.1
comp=Z,130nm,1.1s
SFTF **Sexfontaines** 68.28 45 *i* P P 23 23 04.8 -0.1
comp=Z,130nm,1.1s
BCLA **Clavier** 68.33 42 P P 23 23 05.5 +0.4
comp=Z,29nm,3.0s
COLD **Coldfoot** 68.44 336 eP P 23 23 05.4 -0.2
comp=Z,35nm,1.1s
BEBN **Eben Emael** 68.55 42 P P 23 23 07.2 +0.7
KTH **Kantishna Hill** 68.56 332 eP P 23 23 06.2 -0.3
PAGF **Fort de Pagny** 68.71 44 *i* P P 23 23 07.7 +0.1
comp=Z,29nm,1.1s
PAGF **Fort de Pagny** 68.71 44 *i* P P 23 23 07.7 +0.1
comp=Z,29nm,1.1s
MEM **Membach** 68.77 42 P P 23 23 08.4 +0.6
comp=Z,21nm,1.1s
MEM **Membach** 68.77 42 eP P 23 23 09.0 +1.1
MEM **Membach** 68.77 42 eP P 23 23 09.0 +1.1
THEF **They Montfort** 68.91 45 eP P 23 23 08.1 -0.8
WLF **Walferdange** 68.92 43 P P 23 23 09.6 +0.8
comp=Z,46nm,2.9s
WLF **Walferdange** 68.92 43 eP P 23 23 09.7 +0.8
WLF pmax pmax
comp=Z,346nm,2.6s
WLF **Walferdange** 68.92 43 eP P 23 23 08.8 -0.1
comp=Z,46nm,1.3s
WLF **Walferdange** 68.92 43 eP P 23 23 09.7 +0.8
comp=Z,346nm,2.6s
SMRF **Simiane la Rot** 68.99 49 eP P 23 23 10.4 +0.9
comp=Z,162nm,1.4s
SMRF **Simiane la Rot** 68.99 49 eP P 23 23 10.4 +0.9
comp=Z,162nm,1.4s
CABF **La Chapelle** 69.11 46 *i* P P 23 23 10.2 0.0
comp=Z,29nm,0.8s
CABF **La Chapelle** 69.11 46 *i* P P 23 23 10.2 0.0
CABF pmax pmax
comp=Z,29nm,0.8s
CABF **La Chapelle** 69.11 46 *i* P P 23 23 10.2 0.0
comp=Z,29nm,0.8s
ORIF **Ois-en-Rattie** 69.11 48 *i* P P 23 23 11.1 +0.8
comp=Z,74nm,1.1s
ORIF **Oris-en-Rattie** 69.11 48 *i* P P 23 23 11.1 +0.8
ORIF pmax pmax
comp=Z,74nm,1.1s
ORIF **Oris-en-Rattie** 69.11 48 *i* P P 23 23 11.1 +0.8
comp=Z,74nm,1.1s
PPLA **Purkeypile** 69.12 331 eP P 23 23 09.6 -0.4
comp=Z,44nm,1.5s
HAU **Haudompre** 69.17 45 *i* P P 23 23 10.3 -0.2
comp=Z,52nm,1.2s
HAU **Haudompre** 69.17 45 *i* P P 23 23 10.3 -0.2
HAU pmax pmax
comp=Z,52nm,1.2s
HAU **Haudompre** 69.17 45 *i* P P 23 23 10.3 -0.2
comp=Z,52nm,1.2s
RSO **Redoubt South** 69.40 329 eP P 23 23 12.1 +0.2
comp=Z,63nm,0.8s
BUG **Bochum--Univer** 69.51 41 eP P 23 23 13.2 +0.8
comp=Z,23nm,1.7s
HINF **Hinteralfeld** 69.52 45 eP P 23 23 12.2 -0.5
comp=Z,25nm,0.9s
HINF **Hinteralfeld** 69.52 45 eP P 23 23 12.2 -0.5
HINF pmax pmax
comp=Z,25nm,0.9s
HINF **Hinteralfeld** 69.52 45 eP P 23 23 12.2 -0.5
comp=Z,25nm,0.9s
OG01 **Vacheresse** 69.54 47 eP P 23 23 13.3 +0.4
LOMF **Lomont** 69.55 45 eP P 23 23 13.3 +0.4
RSL **Roselend** 69.56 47 eP P 23 23 13.5 +0.4
LPL **La Plagne** 69.66 47 *i* P P 23 23 14.3 +0.5
comp=Z,67nm,0.9s
LPL **La Plagne** 69.66 47 *i* P P 23 23 14.3 +0.5
LPL pmax pmax
comp=Z,67nm,0.9s

LPL La Plagne 69.66 47⇑*i*P P 23 23 14.3 +0.5
comp=Z,67nm,0.9s
LPG La Plagne 69.67 47⇑*i*P P 23 23 14.6 +0.6
comp=Z,67nm,1.0s
LPG La Plagne 69.67 47⇑*i*P P 23 23 14.6 +0.6
LPG pmax pmax
comp=Z,67nm,1.0s
LPG La Plagne 69.67 47⇑*i*P P 23 23 14.6 +0.6
comp=Z,67nm,1.0s
ECH Echery 69.69 45 *e*P P 23 23 13.9 +0.2
MOF Molkenrain 69.71 45 *e*P P 23 23 13.5 -0.4
LMR La Mourre 69.73 50⇑*i*P P 23 23 14.1 +0.1
comp=Z,79nm,1.2s
LMR La Mourre 69.73 50⇑*i*P P 23 23 14.1 +0.1
LMR pmax pmax
comp=Z,79nm,1.2s
LMR La Mourre 69.73 50⇑*i*P P 23 23 14.1 +0.1
comp=Z,79nm,1.2s
IBBN Ibbenburen 69.75 40 *e*P P 23 23 14.1 +0.2
comp=Z,58nm,1.1s
CDF Champ du Feu 69.75 44⇑*i*P P 23 23 14.1 -0.1
comp=Z,61nm,1.1s
CDF Champ du Feu 69.75 44⇑*i*P P 23 23 14.1 -0.1
CDF pmax pmax
comp=Z,61nm,1.1s
CDF Champ du Feu 69.75 44⇑*i*P P 23 23 14.1 -0.1
comp=Z,61nm,1.1s
MBDF Montbardon 69.77 48⇑*i*P P 23 23 15.1 +0.7
comp=Z,74nm,1.0s
MBDF Montbardon 69.77 48⇑*i*P P 23 23 15.1 +0.7
MBDF pmax pmax
comp=Z,74nm,1.0s
MBDF Montbardon 69.77 48⇑*i*P P 23 23 15.1 +0.7
comp=Z,74nm,1.0s
IM04 Indian Mountai 69.83 334 *e*P P 23 23 13.3 -0.9
SENIN Lac Senin/Sane 69.97 47 *e*P P 23 23 16.8 +1.1
LANF Langenberg 70.05 44 *e*P P 23 23 16.6 +0.7
TOUF Mont Tournerai 70.19 49 *e*P P 23 23 17.6 +0.6
MUD Monsted U'grnd 70.30 36 *i*P P 23 23 18.5 +1.3
MUD pmax pmax
comp=Z,24nm,0.9s
MUD Monsted U'grnd 70.30 36 *i*P P 23 23 18.5 +1.3
comp=Z,24nm,0.9s
AUTN L'Aution 70.31 49 *e*P P 23 23 18.3 +0.4
SBF Sospel 70.34 49⇑*i*P P 23 23 17.9 +0.1
comp=Z,114nm,1.1s
SBF Sospel 70.34 49⇑*i*P P 23 23 17.9 +0.1
SBF pmax pmax
comp=Z,114nm,1.1s
SBF Sospel 70.34 49⇑*i*P P 23 23 17.9 +0.1
comp=Z,114nm,1.1s
KONO Kongsberg 70.35 32 *e*P P 23 23 18.1 +0.7
KONO pmax pmax
comp=Z,137nm,1.2s
TNS Taunus Mts 70.35 42 *e*P P 23 23 17.7 -0.1
comp=Z,59nm,1.5s
BFO Black Forest 70.46 44 *i*P P 23 23 19.2 +0.8
BFO Black Forest 70.46 44 *e*P P 23 23 18.5 +0.1
comp=Z,60nm,1.9s
CASM Ain Smara 70.66 57 P P 23 23 21.0 +1.1
CKFL Kef-Lekhel 70.82 57 P P 23 23 22.0 +1.0
CAEH 'Ain El Ouahch 70.86 57 P P 23 23 23.0 +1.9
NA001 NORSAR Array S 70.92 31 *e*P P 23 23 21.3 +0.3
comp=Z,14nm,0.9s
STU Stuttgart 70.98 44 *e*P P 23 23 22.0 +0.4
comp=Z,39nm,1.1s
NB2 NORSAR Subarra 71.07 31 P P 23 23 22.2 +0.3
comp=Z,30nm,1.2s,baz=274,slow=6.2
NB2 NORSAR Subarra 71.07 31 P P 23 23 22.2 +0.3
baz=274,slow=6.2
NOA NORSAR Array B 71.07 31 P P 23 23 22.2 +0.3
NOA NORSAR Array B 71.07 31 P P 23 23 22.2 +0.3
comp=Z,12nm,1.0s,baz=274,slow=6.3,SNR=17
BSEG Bad Segeberg 71.16 38 *e*P P 23 23 22.5 0.0
comp=Z,31nm,1.2s
TOA0 Torodi Ar. Sit 71.17 82 *e*P P 23 23 22.1 -1.2
TORD Torodi Ar. Bea 71.17 82 P P 23 23 22.1 -1.1
TORD P'P' 23 51 16.0
TORD Torodi Ar. Bea 71.17 82 P P 23 23 22.1 -1.1
comp=Z,15nm,1.1s,baz=291,slow=5.3,SNR=27
TORD PKPPKP **P'P'df 23 51 16.0 -4.9**
comp=Z,1.6nm,1.0s,baz=13,slow=3.9,SNR=6.6
NRDL Niedersach Rie 71.17 40 *e*P P 23 23 22.8 +0.3
comp=Z,37nm,1.1s
UBBA Unterbreizbach 71.28 42 *e*P P 23 23 23.0 -0.2
comp=Z,34nm,1.6s
CMAH Djebel Manchou 71.34 57 P P 23 23 24.0 -0.1
TUE Stuetta 71.36 46 *e*P P 23 23 24.7 +0.5
CLZ Clausthal 71.40 41 *e*P P 23 23 24.0 -0.1
comp=Z,36nm,1.0s
DAVA Damuels 71.62 45⇑*i*P P 23 23 26.3 +0.7
comp=Z,32nm,0.9s,SNR=7.1
PGF Pioggiola 71.64 50⇑*i*P P 23 23 25.6 -0.2
comp=Z,135nm,1.3s
PGF Pioggiola 71.64 50⇑*i*P P 23 23 25.6 -0.2
PGF pmax pmax
comp=Z,135nm,1.3s
PGF Pioggiola 71.64 50⇑*i*P P 23 23 25.6 -0.2
comp=Z,135nm,1.3s
RETA Reutte 72.19 45⇑*i*P P 23 23 29.5 +0.6
comp=Z,56nm,1.0s,SNR=11
GRF Grafenberg Arr 72.19 43 *e*P P 23 23 28.7 -0.2
comp=Z,32nm,1.4s
FETA Feichten 72.23 46 *i*P P 23 23 30.2 +0.9
comp=Z,45nm,1.0s,SNR=10
FUR Furstenfeldbru 72.44 44 *e*P P 23 23 30.2 -0.2
comp=Z,73nm,1.0s
MOTA Moosalm 72.44 45⇑*i*P P 23 23 30.8 +0.3
comp=Z,28nm,0.8s,SNR=25
ROTZ Rotzenmuhle 72.82 43 *e*P P 23 23 32.9 +0.3
comp=Z,41nm,1.1s
TANN Tannenbergstha 72.89 42 *e*P P 23 23 32.7 -0.3
comp=Z,36nm,0.9s
NKC Novy Kostel 72.90 42 *e*P P 23 23 33.5 +0.4
NKC Novy Kostel 72.90 42 *e*P P 23 23 33.5 +0.4
KEST Kesra 73.03 57 P P 23 23 34.9 +0.7
KEST Kesra 73.03 57 P P 23 23 34.9 +0.7
comp=Z,19nm,0.8s,baz=185,slow=2.2,SNR=32
CLL Collm 73.10 41⇑*i*P P 23 23 34.3 +0.1
CLL *e* 23 23 50.0
CLL pmax pmax
comp=Z,31nm,1.1s
CLL Collm 73.10 41 *e*P P 23 23 34.1 -0.1
comp=Z,31nm,1.1s
CLL Collm 73.10 41⇑*i*P P 23 23 34.3 +0.1
comp=Z,31nm,1.1s
CLL *e*PcP **PcP 23 23 50.0 -0.9**
ABTA Abfaltersbach 73.48 46⇑*i*P P 23 23 36.8 +0.2
comp=Z,28nm,1.0s,SNR=11
BRG Berggiesshubel 73.75 41 *i*P P 23 23 38.5 +0.5
comp=Z,34nm,0.9s
BRG *e* 23 39 12.5
comp=Z,4.6nm,0.9s
BRG
comp=N,4μm,13.5s
BRG
comp=E,4μm,21.4s
BRG
comp=Z,5μm,20.0s
BRG Berggiesshubel 73.75 41 *i*P P 23 23 38.5 +0.5
BRG pmax pmax
comp=Z,34nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,4μm,13.5s
BRG MLR MLR
comp=E,4μm,21.4s
BRG MLR MLR
comp=Z,5μm,20.0s
BRG Berggiesshubel 73.75 41 *e*P P 23 23 38.0 0.0
comp=Z,34nm,0.9s
KHC Kasperske Hory 73.80 43 *e*P P 23 23 38.8 +0.4
KHC *e* 23 23 47.5
KHC Kasperske Hory 73.80 43 *e*P P 23 23 38.8 +0.4
KHC *ex* x 23 23 47.5
KHC Kasperske Hory 73.80 43 *e*P P 23 23 39.0 +0.6
comp=Z,43nm,1.0s
GEC2 GERESS Array S 73.92 43 *e*P P 23 23 39.5 +0.3
GEC2 GERESS Array S 73.92 43 *e*P P 23 23 39.1 -0.1
comp=Z,51nm,1.0s
GEC2 GERESS Array S 73.92 43 *e*P P 23 23 39.5 +0.3
GERES GERESS Array B 73.92 43 P P 23 23 39.4 +0.1
GERES PKiKP PKiKP 23 29 39.8 +5.3
GERES GERESS Array B 73.92 43 P P 23 23 39.4 +0.1
comp=Z,24nm,0.8s,baz=276,slow=3.9,SNR=115
GERES PKiKP PKiKP 23 29 39.8 +5.3
comp=Z,0.9nm,0.8s,baz=266,slow=4.0,SNR=4.4
KBA Koelnbreinsper 73.99 45 *i*P P 23 23 40.0 +0.3
comp=Z,50nm,1.4s,SNR=13
PRA Prague 74.19 42 P P 23 23 42.0 +1.4
PVCC Panska Ves 74.20 41 *e*P P 23 23 41.0 +0.3
PVCC Panska Ves 74.20 41 *e*P P 23 23 41.0 +0.3
MYKA Terra Mystica 74.27 46 *i*P P 23 23 41.4 +0.2
comp=Z,30nm,1.0s,SNR=8.8
PRU Pruhonice 74.27 42 *e*P P 23 23 41.7 +0.6
PRU Pruhonice 74.27 42 *e*P P 23 23 41.7 +0.6
MOA Molln 74.47 44 *i*P P 23 23 42.7 +0.3
comp=Z,44nm,1.1s,SNR=11
TRI Trieste 74.51 47 *e*P P 23 23 42.9 +0.3
TRI Trieste 74.51 47 *e*P P 23 23 42.9 +0.3
JAVS Javornik 74.69 46 *i*P P 23 23 44.3 +0.6
OBKA Obir 74.90 46 *i*P P 23 23 45.2 +0.2
comp=Z,38nm,1.1s,SNR=9.6
TREC Trest 75.00 43 *e*P P 23 23 45.6 +0.2
TREC Trest 75.00 43 *e*P P 23 23 45.6 +0.2
UPC Upice 75.11 41 *e*P P 23 23 46.6 +0.6
UPC Upice 75.11 41 *e*P P 23 23 46.6 +0.6
SOKA Soboth 75.20 45⇑*i*P P 23 23 46.3 -0.3
comp=Z,36nm,1.5s,SNR=15
KSP Ksiaz 75.22 41 *e*P P 23 23 46.9 +0.3
KSP Ksiaz 75.22 41 *e*P P 23 23 47.7 +1.1
VISS Visnje 75.24 46 *i*P P 23 23 47.5 +0.7
PERS Pernice 75.26 45 *i*P P 23 23 47.0 -0.1
GKP Gorka Klasztor 75.33 38 *e*P P 23 23 48.3 +1.2
GKP Gorka Klasztor 75.33 38 *e*P P 23 23 48.3 +1.2
DPC Dobruska-Polom 75.33 41 *e*P P 23 23 47.7 +0.4
DPC Dobruska-Polom 75.33 41 *e*P P 23 23 48.1 +0.8
DPC Dobruska-Polom 75.33 41 *e*P P 23 23 47.7 +0.4
ARSA Arzberg 75.42 45⇑*i*P P 23 23 47.9 +0.1
comp=Z,30nm,1.1s,SNR=9.4
NVLJ Novalja 75.50 48 P P 23 23 48.5 +0.2
CONA Conrad Observa 75.51 44 *i*P P 23 23 48.9 +0.5
comp=Z,25nm,1.0s,SNR=8.8
BOJS Bojanci 75.58 47 *i*P P 23 23 49.4 +0.6
TNA Tin City 75.66 335 *e*P P 23 23 49.0 +0.2
comp=Z,24nm,1.0s
KRLC Kraliky 75.68 42 *e*P P 23 23 49.4 +0.1
KRLC Kraliky 75.68 42 *e*P P 23 23 49.4 +0.1
ARCES ARCESS Array B 75.71 21 P P 23 23 49.4 +0.4
ARCES ARCESS Array B 75.71 21 P P 23 23 49.4 +0.4
comp=Z,4.1nm,0.6s,baz=301,slow=2.3,SNR=13
VRAC Vranov 75.71 42⇑*i*P P 23 23 50.1 +0.6
SOP Sopron 76.02 44⇓*e*f 23 23 52.0
UDBI Udbina 76.13 47 P P 23 23 52.9 +0.8
MORC Moravsky Berou 76.22 42⇑P P 23 23 53.2 +0.8
MORC Moravsky Berou 76.22 42⇑*i*P P 23 23 53.2 +0.8
SMOL Smolenice 76.41 43 *e*P P 23 23 54.9 +1.4
SMOL Smolenice 76.41 43 *e*P P 23 23 54.9 +1.4
BEHE Becsehely 76.42 45⇓*e* P 23 23 54.5 +1.0
OKC Ostrava-Krasne 76.59 42 *e*P P 23 23 55.2 +0.8
OKC Ostrava-Krasne 76.59 42 *e*P P 23 23 55.2 +0.8
CUC Castrocucco 77.17 52 *e*P P 23 23 57.5 -0.4
CSKK Cs^tkako 77.21 44⇓*e* P 23 23 58.5 +0.5
PKSG 77.29 44⇓*e* P 23 23 59.0 +0.6
PKS9 Tamasi 77.40 45 *e* P 23 23 59.9 +0.8
GAMB Gambell 77.68 333 *e*P P 23 24 00.9 +0.7
comp=Z,15nm,0.9s
BUD Budapest 77.69 44⇓*e* P 23 24 01.4 +0.8
PKSM Moragy 77.73 45⇑P P 23 24 01.5 +0.6
PKSM Moragy 77.73 45⇑*i*P P 23 24 01.5 +0.6
PKSM Moragy 77.73 45⇓*e* P 23 24 01.8 +0.9
BEL Belsk 77.76 39 *e*P P 23 24 02.4 +1.5
BEL Belsk 77.76 39 *e*P P 23 24 02.4 +1.5
STON Ston 77.87 49 P P 23 24 01.2 -0.5
KAF Kangasniemi 77.98 28 *e*P P 23 24 00.6 -1.3
KAF pmax pmax
comp=Z,32nm,1.3s
KAF Kangasniemi 77.98 28 *e*p P 23 24 00.6 -1.3
comp=Z,32nm,1.3s
FINES FINESS Array B 78.06 29 P P 23 24 02.9 +0.5
FINES FINESS Array B 78.06 29 P P 23 24 02.9 +0.5
comp=Z,14nm,0.9s,baz=283,slow=3.3,SNR=30
PSZ Piszkesteto 78.16 43 ⇑P P 23 24 04.3 +1.0
PSZ Piszkesteto 78.16 43⇑*i*P P 23 24 04.3 +1.0
PSZ Piszkesteto 78.16 43 *e*P P 23 24 04.4 +1.0
PSZ Piszkesteto 78.16 43⇓*e* P 23 24 04.7 +1.4
SUW Suwalki 78.61 37 *e*P P 23 24 05.7 +0.1
SUW pmax pmax
comp=Z,67nm,1.0s
SUW Suwalki 78.61 37 *e*P P 23 24 06.3 +0.7
SUW Suwalki 78.61 37 *e*P P 23 24 05.7 +0.1
comp=Z,67nm,1.0s
STHS Stebnicka Huta 78.64 42 *e*P P 23 24 07.8 +1.9
STHS pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 78.64 42 *e*P P 23 24 07.8 +1.9
CRVS Cervenica-Dubn 78.92 42 *e*P P 23 24 08.7 +1.3
CRVS pmax pmax
comp=Z,55nm,1.7s
CRVS Cervenica-Dubn 78.92 42 *e*P P 23 24 08.7 +1.3
VSU Vasula 79.25 32*c i*P P 23 24 08.9 -0.1
VSU pmax pmax
comp=Z,126nm,1.0s
KOLS Kolonicke sedl 79.42 42 *e*P P 23 24 11.5 +1.3
KOLS pmax pmax
comp=Z,51nm,1.8s
KOLS Kolonicke sedl 79.42 42 *e*P P 23 24 11.5 +1.3
KWP Kalwaria Pacla 79.51 41 ⇑P P 23 24 12.4 +1.7
KWP Kalwaria Pacla 79.51 41 *e*P P 23 24 12.2 +1.6
KWP Kalwaria Pacla 79.51 41⇑*i*P P 23 24 12.4 +1.7
KWP Kalwaria Pacla 79.51 41 *e*P P 23 24 12.3 +1.6
comp=Z,69nm,0.9s
UZH Uzhgorod 79.52 42 *e*P P 23 24 10.8 +0.1
UZH *e* 23 24 15.8
BANR Banloc 79.63 46⇑*i*P P 23 24 15.0 +3.6
ISAL Salakas 79.80 35 *e*P P 23 24 12.3 +0.2
ISAL AMB AMB 23 24 14.5
comp=Z,18nm,1.1s
TRPA Tarpa 79.81 43⇑*i*P P 23 24 13.5 +1.2
TRPA Tarpa 79.81 43⇓*e*P P 23 24 13.7 +1.4
BZS Buzias 79.89 45 ⇑P P 23 24 13.9 +1.1
BZS Buzias 79.89 45⇑*i*P P 23 24 13.9 +1.1
IIGN Ignalina 79.92 35 *e*P P 23 24 12.9 +0.1
IIGN AMB AMB 23 24 14.5
comp=Z,33nm,1.1s
JOF Joensuu 79.93 27 *e*P P 23 24 11.1 -1.5
JOF pmax pmax
comp=Z,52nm,1.0s
JOF Joensuu 79.93 27 *e*p P 23 24 11.1 -1.5
comp=Z,52nm,1.0s
IDID Didziasalis 80.21 35 *e*P P 23 24 14.4 +0.1
IDID AMB AMB 23 24 15.3
comp=Z,19nm,1.4s
LVV L'vov 80.28 41 *e*P P 23 24 16.1 +1.3
DRGR 80.30 44 ⇑P P 23 24 15.8 +0.7
DRGR 80.30 44⇑*i*P P 23 24 15.8 +0.7
NACGM Naroch 80.36 35 *e* P 23 24 14.0 -1.1
BMR Baia Mare 80.56 43 ⇑P P 23 24 17.5 +1.1
BMR Baia Mare 80.56 43⇑*i*P P 23 24 17.5 +1.1
IGT Igoumenitsa 80.65 52 *e*P P 23 24 18.0 +1.0
GZR Gura Zlata 80.74 45 ⇑P P 23 24 18.4 +0.9
GZR Gura Zlata 80.74 45⇑*i*P P 23 24 18.4 +0.9
SKO Skopje 80.78 49 *e*P P 23 24 18.3 +0.6
CJR Cluj-Napoca 80.91 44 ⇓P P 23 24 19.5 +1.2
CJR Cluj-Napoca 80.91 44⇓*i*P P 23 24 19.5 +1.2
BIA Bitola 80.97 50 *e*P P 23 24 19.2 +0.4
FNA Florina 81.07 50 *e*P P 23 24 20.1 +0.8
LOT Lotru 81.39 45⇑*i*P P 23 24 21.5 +0.5
KZN Kozani 81.49 50 *e*P P 23 24 22.6 +1.0
PDO Prodromos 81.55 52 *e*P P 23 24 23.0 +1.2
BUR08 Bucovina Ar. S 81.67 43 *e*P P 23 24 23.4 +1.0
BURAR Bucovina Array 81.69 43 ⇑P P 23 24 23.6 +1.1
BURAR Bucovina Array 81.69 43⇑*i*P P 23 24 23.6 +1.1
VAY Valandovo 81.78 49 *e*P P 23 24 23.3 +0.3
VTS Vitosha 81.86 48 ⇑P P 23 24 24.6 +1.0
VTS Vitosha 81.86 48 *e*P P 23 24 22.1 -1.5
VTS Vitosha 81.86 48⇑*i*P P 23 24 24.6 +1.0
THL Klokotos Trika 81.89 51 *e*P P 23 24 24.0 +0.4
RLS Riolos of Patr 81.92 53 *e*P P 23 24 20.0 -3.8
EVR Evrytania 81.92 52 *e*P P 23 24 25.8 +1.9
ARR Arges 82.00 45⇑*i*P P 23 24 25.3 +1.1
KNT Kendrikon 82.06 49 *e*P P 23 24 23.3 -1.2
DRO Drossia 82.13 53 *e*P P 23 24 26.4 +1.4
MAKR Makrakomi, Fth 82.14 52 *e*P P 23 24 24.8 -0.2
EFP Efpalio 82.16 52 *e*P P 23 24 25.1 +0.2
LAKA Lakka 82.25 52 *e*P P 23 24 26.9 +1.3
AMT Artemida-Makis 82.25 53 *e*P P 23 24 26.8 +1.2

VOIR 82.25 45 ⇑P P 23 24 26.3 +0.8
VOIR 82.25 45⇑*i*P P 23 24 26.3 +0.8
THE Thessaloniki 82.27 50 *e*P P 23 24 26.5 +1.0
AGG Agios Georgios 82.28 52 *e*P P 23 24 26.1 +0.4
DOPR Dopca 82.31 44⇑*i*P P 23 24 26.4 +0.7
KALE Kalithea 82.33 52 *e*P P 23 24 26.3 +0.3
HORT Hortiatis 82.38 50 *e*P P 23 24 27.4 +1.1
KLV Kalavryta, Ach 82.44 53 *e*P P 23 24 28.0 +1.4
HUMR Humele 82.49 46⇑*i*P P 23 24 27.3 +0.6
SOH Sokhos 82.49 50 *e*P P 23 24 28.0 +1.2
ITM Ithomi 82.53 53 *e*P P 23 24 27.0 0.0
SRS Serrai 82.58 49 *e*P P 23 24 27.8 +0.6
DSF Desfina 82.61 52 *e*P P 23 24 27.5 0.0
GUR Goura 82.61 53 *e*P P 23 24 27.1 -0.5
PLG Polygyros 82.70 50 *e*P P 23 24 29.6 +1.7
NVR Nevrokopi 82.70 49 *e*P P 23 24 28.6 +0.7
VLX Vlachokerasia 82.81 53 *e*P P 23 24 30.4 +1.8
XOR Xorichti 82.82 51 *e*P P 23 24 26.8 -1.7
MLR Muntele Rosu 82.84 45⇑*i*P P 23 24 29.5 +0.9
LKR Lokris 82.89 52 *e*P P 23 24 29.4 +0.5
TESR Tescani 82.97 43⇑*i*P P 23 24 29.6 +0.5
PAIG Paliouri 83.00 50 *e*P P 23 24 30.3 +0.9
LTK Loutraki 83.06 52 *e*P P 23 24 29.5 -0.3
OUR Ouranopolis 83.10 50 *e*P P 23 24 29.7 -0.2
KIEV Kiev 83.15 39⇑*i*P P 23 24 29.4 -0.5
KIEV Kiev 83.15 39 *e*P P 23 24 29.8 -0.1
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 83.15 39 P P 23 24 30.6 +0.6
AKASG Malin Array Be 83.15 39 P P 23 24 30.6 +0.6
AKASG Malin Array Be 83.15 39 P P 23 24 30.6 +0.6
PLOR Plostina 83.19 44⇑P P 23 24 31.6 +1.3
PLOR Plostina 83.19 44⇑*i*P P 23 24 31.6 +1.3
RZN Rozhen 83.20 48 *e*P P 23 24 30.8 +0.1
VRI Vrincioaia 83.23 44 ⇑P P 23 24 31.8 +1.3
VRI Vrincioaia 83.23 44⇑*i*P P 23 24 31.8 +1.3
KAVA Kavala 83.28 49 *e*P P 23 24 31.2 +0.4
MRKA Markates 83.31 52 *e*P P 23 24 31.5 +0.4
ISR Istrita 83.36 45 ⇓P P 23 24 30.9 -0.3
ISR Istrita 83.36 45⇓*i*P P 23 24 30.9 -0.3
DID Didima 83.42 53 *e*P P 23 24 29.3 -2.4
SZH Strazhica 83.55 47 *e*P P 23 24 31.3 -0.9
DIM Dimitrovgrad 83.67 48 *e*P P 23 24 34.0 +1.2
KDZ Kurdzhali 83.71 48 ⇑P P 23 24 30.3 -2.8
KDZ Kurdzhali 83.71 48⇑*i*P P 23 24 30.3 -2.8
PTL Penteli 83.72 52 *e*P P 23 24 33.4 +0.2
RDO Rodhopi 83.96 49 *e*P P 23 24 34.7 +0.4
KIS Kishinev 84.20 42 *e*P P 23 24 34.0 -1.4
KIS *e* 23 24 43.0
KIS Kishinev 84.20 42 *e*P P 23 24 34.0 -1.4
JMB Yambol 84.26 47 *e*P P 23 24 34.0 -1.8
KLMR Klimovskoe 84.32 27 *e*P P 23 24 34.0 -1.7
KLMR pmax pmax
comp=Z,82nm,1.6s
ALN Alexandroupoli 84.41 49 *e*P P 23 24 36.7 +0.1
PSN Preselentsi 84.95 46 *e*P P 23 24 38.0 -1.3
CHOS Chios island 85.25 51 *e*P P 23 24 40.2 -0.8
APE Apeiranthos 85.29 53 *e*P P 23 24 40.1 -1.1
APE pmax pmax
comp=Z,33nm,1.3s
OBN Obninsk 85.51 33 P P 23 24 41.3 -0.5
comp=Z,239nm,1.1s,SNR=6.2
OBN Obninsk 85.51 33⇑*i*P P 23 24 41.5 -0.3
OBN *e* 23 24 49.7
OBN *e* 23 28 02.1
OBN pmax pmax
comp=Z,94nm,1.7s
MOS Moscow 85.77 32 *e*P P 23 24 42.2 -0.9
MOS pmax pmax
comp=Z,47nm,1.5s
NPS Neapolis 85.96 54 *e*P P 23 24 42.2 -2.3
SMG Samos 86.06 52 *e*P P 23 24 45.3 +0.4
PRGR Permogore 86.47 25⇑*i*P P 23 24 46.8 +0.4
PRGR pmax pmax
comp=Z,94nm,0.8s
MSKU Masuku 86.82 93 P P P 23 24 48.7 -0.4
MSKU Masuku 86.82 93 P P P 23 24 48.7 -0.4
comp=Z,28nm,0.9s,baz=179,slow=0.0,SNR=12
KARP Karpathos 87.05 54 *e*P P 23 24 49.5 -0.4
ARG Arkhangelos 87.55 53 *e*P P 23 24 51.2 -1.0
SIM Simferopol' 88.40 43 *e*P P 23 24 57.0 +0.9
SIM pmax pmax
comp=Z,18nm,1.4s
VSR Storozhevoye 88.67 36 *e*P P 23 24 54.1 -3.1
VSR pmax pmax
comp=N,5.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 88.86 36 *e*P P 23 24 56.0 -2.1
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,7.0nm,1.0s
VORD pmax pmax
comp=E,20nm,1.1s
TIXI Tiksi 89.02 353⇑*i*P P 23 24 58.2 -0.2
TIXI pmax pmax
comp=Z,37nm,1.7s
TIXI Tiksi 89.02 353 *e*P P 23 24 58.5 0.0
comp=Z,16nm,0.9s
ANTO Ankara 89.58 48 ⇑P P 23 25 02.5 +0.6
ANTO Ankara 89.58 48⇑*i*P P 23 25 02.5 +0.6
ANTO Ankara 89.58 48 *e*P P 23 25 02.4 +0.6
comp=Z,21nm,0.9s
VRHR Novokhopersk 90.08 35 *e*P P 23 25 02.4 -1.4
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 90.23 48 *e*P P 23 25 05.1 +0.1
comp=Z,12nm,1.0s
BRTR Keskin Array B 90.23 48 P P 23 25 05.0 +0.1
BRTR Keskin Array B 90.23 48 P P 23 25 05.0 +0.1
comp=Z,9.7nm,0.9s,baz=270,slow=3.7,SNR=22
SEY Seymchan 91.67 341⇑*e*P P 23 25 12.1 +1.1
SOKR Solikamsk 92.06 23 *e*P P 23 25 13.9 +1.1
SOKR pmax pmax
comp=Z,10.0nm,0.7s
KIV Kislovodsk 94.30 41 *e*P P 23 25 23.7 0.0
KIV pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 94.55 41 P P 23 25 26.0 +1.4
KBZ Khabaz 94.55 41 P P 23 25 26.0 +1.4
KBZ Khabaz 94.55 41 P P 23 25 26.0 +1.4
comp=Z,4.9nm,0.9s,baz=26,slow=3.3,SNR=8.0
NEY Neytrino 94.68 42 *e*P P 23 25 26.1 +0.5
ARU Arti 94.93 25*d i*P P 23 25 26.7 +0.6
ARU 23 29 14.4
ARU S **SKSac 23 36 01.7 +0.3**
ARU pmax pmax
comp=Z,39nm,2.5s
NCK Nalchik 95.11 41 *i*P P 23 25 26.8 -0.5
EIL Elat 95.36 57 P P 23 25 29.4 +0.7
EIL Elat 95.36 57 P P 23 25 29.4 +0.7
comp=Z,7.6nm,1.0s,baz=26,slow=4.6,SNR=6.5
SVE Sverdlovsk 95.46 24 *e*P P 23 25 29.0 +0.5
ZEI Tsey 95.66 41 *e*P P 23 25 29.9 -0.2
ZEI pmax pmax
comp=Z,8.0nm,1.0s
ASF Jabal al Asfar 95.82 54 P P 23 25 31.9 +1.1
ASF Jabal al Asfar 95.82 54 P P 23 25 31.9 +1.1
comp=Z,4.2nm,1.0s,baz=240,slow=1.8,SNR=5.4
ZALV Zalesovo Beam 105.37 14 P Pdif P 23 26 13.3 +0.3
ZALV Zalesovo Beam 105.37 14 Pdif Pdif P 23 26 13.3 +0.3
ZALV Zalesovo Beam 105.37 14 Pdiff Pdif P 23 26 13.3 +0.3
comp=Z,0.3nm,0.5s,baz=298,slow=9.9,SNR=3.6
KURK Kurchatov 106.66 19 PKKPbc PKKPbc 23 41 46.3 -3.3
KURBB Kurchatov Arra 106.71 19 PKKPbc PKKPbc 23 41 46.3 -3.1
comp=Z,1.1nm,0.9s,baz=169,slow=2.6,SNR=13
SONM Songino Array 114.08 1 PKKPbc PKKPbc 23 41 23.7 -2.1
SONM PKKPab **PKKPbc 23 41 28.7 +2.9**
SONM Songino Array 114.08 1 PKKPbc PKKPbc 23 41 23.7 -2.1
comp=Z,0.1nm,0.5s,baz=135,slow=32,SNR=4.4
SONM PKKPab **PKKPbc 23 41 28.7 +2.9**
comp=Z,0.7nm,0.8s,baz=179,slow=4.1,SNR=4.4
WMQ Urumqi 115.49 16 PKP PKPdf 23 30 46.4 +0.2
WMQ PP PP 23 31 53.8 +7.1
WMQ PKS **PKSdf 23 34 26.2 +3.3**
WMQ SS SS 23 47 48.1 +3.6
HHC Hu-ho-hao-te 120.95 356 *e*PKP PKPdf 23 30 58.0 +1.1

HHC					PP	PP	23 32 30.6	+6.2	
HHC					SKS	**SKSdf**	**23 38 12.2**	**+3.3**	
HHC					SKKS	**SKKSac**	**23 39 25.2**	**-0.2**	
BJI	**Beijing**	**121.32**	**352**		PKP	**PKPdf**	**23 30 56.5**	**-0.9**	
RPZ	**Rata Peaks**	**121.50**	**230**		PKP	**PKPdf**	**23 30 57.5**	**-0.1**	
RPZ	**Rata Peaks**	**121.50**	**230**		PKP	**PKPdf**	**23 30 57.5**	**-0.1**	
	comp=Z,9.7nm,0.9s,baz=45,slow=8.6,SNR=3.2								
GTA	**Gaotai**	**122.06**		**7**	*e*PKP	**PKPdf**	**23 30 58.8**	**-0.3**	
GTA					sPKP		23 31 05.8		
MAW	**Mawson**	**123.26**	**161**		PKP	**PKPdf**	**23 31 00.3**	**+0.1**	
MAW	**Mawson**	**123.26**	**161**		PKP	**PKPdf**	**23 31 00.3**	**+0.1**	
	comp=Z,8.2nm,0.8s,baz=267,slow=8.2,SNR=4.3								
LZH	**Lanzhou**	**125.72**		**4**	*e*PKP	**PKPdf**	**23 31 05.5**	**-0.7**	
LZH					sPKP		23 31 10.1		
LZH					PP	**PP**	**23 33 00.5**	**+3.9**	
LZH					SKKS		23 39 52.5		
LZH					*e*SS	**SS**	**23 50 01.0**	**+5.4**	
LZH					AMB	AMB			
	comp=Z,97nm,8.6s								
LZH					LR	LR			
	comp=Z,160nm,18.5s								
LZH					LR	LR			
	comp=Z,150nm,18.2s								
LZH					LR	LR			
	comp=Z,200nm,20.3s								
NJ2	**Nanjing**	**128.69**	**348**		*e*P	**Pdif**	**23 27 56.4**	**-0.7**	
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
CD2	**Chengdu**	**130.86**		**4**	*e*PKP	**PKPdf**	**23 31 15.8**	**-0.2**	
GYA	**Guiyang**	**135.42**		**1**	Pdif	**Pdif**	**23 28 25.0**	**-2.4**	
GYA					PKP	**PKPdf**	**23 31 23.2**	**-1.6**	
GYA					PP	**PP**	**23 34 01.8**	**+2.3**	
GYA					PKS	**PKSdf**	**23 34 57.6**	**-3.8**	
GYA					SKKS		23 40 51.4		
GYA					SS	**SS**	**23 51 55.0**	**+0.4**	
GYA					AMB	AMB			
	comp=Z,120nm,7.8s								
GYA					LR	LR			
	comp=Z,180nm,20.6s								
GYA					LR	LR			
	comp=Z,150nm,21.2s								
GYA					LR	LR			
	comp=Z,140nm,20.4s								
KMI	**Kunming**	**136.51**		**6**	PKP	**PKPdf**	**23 31 25.9**	**-1.1**	
CMAR	**Chiang Mai Arr**	**142.44**		**13**	PKPpre	PKPpre	23 31 33.1		
CMAR	**Chiang Mai Arr**	**142.44**		**13**	PKhKP	PKPpre	23 31 33.1		
	comp=Z,4.5nm,0.9s,baz=326,slow=4.6,SNR=18								
CTA	**Charters Tower**	**143.43**	**261**		PKPpre	PKPpre	23 31 35.9		
CTA	**Charters Tower**	**143.43**	**261**		PKhKP	PKPpre	23 31 35.9		
	comp=Z,40nm,1.0s,baz=52,slow=3.4,SNR=16								
CTAO	**Charters Tower**	**143.43**	**261**		*e*PKIKP	PKPab	23 31 35.6	+0.2	
CTAO	**Charters Tower**	**143.43**	**261**		*e*PKPdf	PKPab	23 31 35.6	+0.2	
STKA	**Stephens Creek**	**146.49**	**240**		*e*PKPbc	**PKPdf**	**23 31 44.3**	**0.0**	
STKA	**Stephens Creek**	**146.49**	**240**		PKPbc	**PKPdf**	**23 31 44.3**	**0.0**	
	comp=Z,18nm,0.9s,baz=17,slow=1.7,SNR=18								
WRA	**Warramunga Arr**	**154.61**	**262**		PKP	**PKPdf**	**23 31 56.9**	**-0.3**	
WRA					PKPbc	**PKPbc**	**23 32 04.3**	**-1.4**	
WRA	**Warramunga Arr**	**154.61**	**262**		PKP	**PKPdf**	**23 31 56.9**	**-0.3**	
	comp=Z,13nm,0.9s,baz=78,slow=1.2,SNR=49								
WRA					PKPbc	**PKPbc**	**23 32 04.3**	**-1.4**	
	comp=Z,9.1nm,0.9s,baz=16,slow=1.0,SNR=28								
ASAR	**Alice Springs**	**154.82**	**253**		PKP	**PKPdf**	**23 31 57.0**	**-0.4**	
ASAR					PKPbc	**PKPbc**	**23 32 05.2**	**-0.9**	
ASAR					PKPab	**PKPab**	**23 32 21.1**	**-0.1**	
ASAR	**Alice Springs**	**154.82**	**253**		PKP	**PKPdf**	**23 31 57.0**	**-0.4**	
	comp=Z,3.8nm,0.8s,baz=110,slow=1.7,SNR=25								
ASAR					PKPbc	**PKPbc**	**23 32 05.2**	**-0.9**	
	comp=Z,5.4nm,0.9s,baz=100,slow=2.2,SNR=17								
ASAR					PKPab	**PKPab**	**23 32 21.1**	**-0.1**	
	comp=Z,9.6nm,0.9s,baz=109,slow=3.4,SNR=4.5								

*BJI **12**:23:14:31.6, 13°.37S×33°.98E, h10km, mb4.9/16*
*ISCJB **12**:23:14:34.3±0.2, 13°.88S±0°.03×34°.51E±0°.04, h28km, mb4.7/47, Error ellipse: s-maj=5.9km s-min=4.2km az=34.7*
*NEIC **12**:23:14:34.1±0.2, 13°.84S×34°.50E, h10km, mb4.7/9, Error ellipse: s-maj=7.2km s-min=5.3km az=112.0*
NEIC Felt [IV] at Lilongwe. Also felt at Salima. Felt [III] at Lichinga, Mozambique.
*IDC **12**:23:14:38.7±0.5, 13°.71S×34°.55E, h38km±3km, mb4.1/21, mb1 4.3/23, mb1mx4.2/28, mbtmp4.3/23, ML4.6/3, Error ellipse: s-maj=15.6km s-min=13.3km az=30.0*

ISC 12 23:14:37.0±0.3, 13°.76S±0°.04×34°.49E±0°.05, h28km, h28km:pP-P, n164, σ2s01/209, mb4.6/47, 2C-1D, Malawi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**6.29**	**255**	*e*Pn		**Pn**		**23 16 08.6**	**+0.5**
LSZ				*e*Sn		**Sn**		**23 17 16.0**	**-3.2**
LSZ				Lg		Lg		23 17 47.8	
LSZ	**Lusaka**	**6.29**	**255**	Pn		**Pn**		**23 16 08.7**	**+0.6**
	28nm,0.3s,baz=74,slow=13,SNR=697								
LSZ				Sn		**Sn**		**23 17 17.7**	**-1.5**
	54nm,0.3s,baz=336,slow=15,SNR=14								
LSZ				Lg		Lg		23 17 47.8	
	90nm,0.3s,baz=149,slow=24,SNR=9.0								
LSZ	**Lusaka**	**6.29**	**255**	*i* P		**Pn**		**23 16 09.2**	**+1.1**
DODT	**Dodoma, Tanzan**	**7.62**		**9**	*i* P	**Pn**		**23 16 26.4**	**0.0**
DODT					*i* S	**Sn**		**23 17 47.1**	**-4.8**
MSNA	**Messina**	**9.54**	**206**	*e*P		**Pn**		**23 16 52.4**	**-0.2**
MSNA					AML	AML		23 19 50.2	
	comp=Z,509nm,0.6s								
MSNA	**Messina**	**9.54**	**206**	*e*P		**Pn**		**23 16 52.4**	**-0.2**
MAUS	**Longido**	**11.16**		**11**	*i* P	**Pn**		**23 17 14.5**	**-0.5**
MAUS					*i* S	Sn		23 19 13.5	-5.5
KMBO	**Kilima Mbogo**	**12.84**		**13**	*e*Pn	**Pn**		**23 17 36.0**	**-2.0**
KMBO					Sn	Sn		23 19 50.8	-10
KMBO					Lg	Lg		23 21 16.8	
KMBO	**Kilima Mbogo**	**12.84**		**13**	Pn	**Pn**		**23 17 36.6**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=184,slow=16,SNR=16								
KMBO					Sn	Sn		23 19 50.8	-10
	comp=Z,1.2nm,0.3s,baz=91,slow=22,SNR=5.4								
KMBO					Lg	Lg		23 21 16.8	
	comp=Z,2.0nm,0.3s,baz=77,slow=22,SNR=8.5								
KMBO	**Kilima Mbogo**	**12.84**		**13**	*i* P	**Pn**		**23 17 36.6**	**-1.5**
OPO	**Ambohidratompo**	**13.10**	**113**		Pn	**Pn**		**23 17 40.6**	**-0.9**
OPO					Sn	Sn		23 20 11.0	+4.6
OPO	**Ambohidratompo**	**13.10**	**113**		Pn	**Pn**		**23 17 40.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=288,slow=10,SNR=7.7								
OPO					Sn	Sn		23 20 11.0	+4.6
	comp=Z,1.2nm,0.3s,baz=267,slow=16,SNR=2.0								
SLR	**Silverton**	**13.27**	**205**	*e*P		**Pn**		**23 17 43.0**	**-0.8**
SLR					AML	AML		23 21 32.2	
	comp=Z,182nm,0.6s								
ABPO	**Ambohimpanom**	**13.29**	**115**	*e*Pn		**Pn**		**23 17 41.7**	**-2.4**
	comp=Z,30nm,0.9s								
ABPO					*e*Sn	**Sn**		**23 20 06.4**	**-4.7**
MBAR	**Mbarara**	**13.59**	**344**	*i* P		**Pn**		**23 17 49.4**	**+1.2**
OBSV	**Observatory**	**13.75**	**205**	*e*P		**Pn**		**23 17 49.5**	**-1.0**
OBSV					AML	AML		23 21 54.0	
	comp=Z,189nm,0.7s								
ERPM	**east rand prop**	**13.83**	**204**	*e*P		**Pn**		**23 17 49.0**	**-2.4**
ERPM					AML	AML		23 21 54.6	
	comp=Z,72nm,0.7s								
ERPM	**east rand prop**	**13.83**	**204**	*e*P		**Pn**		**23 17 49.0**	**-2.4**
LBTB	**Lobatse**	**13.99**	**215**	*e*P		**Pn**		**23 17 51.2**	**-2.4**
LBTB					AML	AML		23 22 02.7	
	comp=Z,105nm,0.7s								
LBTB	**Lobatse**	**13.99**	**215**	*e*Pn		**Pn**		**23 17 50.8**	**-2.8**
LBTB					Sn	Sn		23 20 15.4	-13
LBTB					Lg	Lg		23 21 50.3	
LBTB	**Lobatse**	**13.99**	**215**	Pn		**Pn**		**23 17 51.0**	**-2.5**
	comp=Z,5.2nm,0.3s,baz=42,slow=13,SNR=112								
LBTB					Sn	Sn		23 20 15.4	-13
	comp=Z,3.8nm,0.3s,baz=321,slow=19,SNR=4.9								
LBTB					Lg	Lg		23 21 50.3	
	comp=Z,3.2nm,0.3s,baz=148,slow=21,SNR=5.1								
KLOF	**Kloof**	**14.09**	**206**	*e*P		**Pn**		**23 17 52.1**	**-3.0**
KLOF					AML	AML		23 22 03.2	
	comp=Z,144nm,0.7s								
KLOF	**Kloof**	**14.09**	**206**	*e*P		**Pn**		**23 17 52.1**	**-3.0**
WDLM	**Western Deep L**	**14.24**	**207**	*e*P		**Pn**		**23 17 54.3**	**-2.8**
WDLM					AML	AML		23 22 14.8	
	comp=Z,90nm,0.6s								
RUDU	**RUNDU**	**14.80**	**252**	*e*P		Pn		23 18 01.5	-3.1
RUDU					AML	AML		23 22 41.4	
	comp=Z,67nm,0.7s								
RUDU	**RUNDU**	**14.80**	**252**	*e*P		Pn		23 18 01.5	-3.1
SWZ	**Schweizer**	**15.87**	**211**	*e*P		**Pn**		**23 18 14.1**	**-4.6**
SWZ					AML	AML		23 22 52.1	
	comp=Z,97nm,0.7s								
TSUM	**Tsumeb**	**17.09**	**249**	*e*Pn		**Pn**		**23 18 31.7**	**-2.5**
	comp=Z,32nm,0.8s								
TSUM						S	Sn	23 21 31.4	-12
TSUM						Lg	Lg	23 23 38.6	
TSUM	**Tsumeb**	**17.09**	**249**			P	**Pn**	**23 18 31.2**	**-3.0**
	comp=Z,1.3nm,0.3s,baz=65,slow=9.8,SNR=28								
TSUM						S	Sn	23 21 31.4	-12
	comp=Z,0.4nm,0.3s,baz=99,slow=14,SNR=3.6								
TSUM						Lg	Lg	23 23 38.6	
	comp=Z,1.1nm,0.3s,baz=114,slow=22,SNR=6.2								
KSD	**Kokstad**	**17.35**	**195**	*e*P		**P**		**23 18 38.0**	**-0.6**
KSD						AML	AML	23 24 01.4	
	comp=Z,20nm,0.7s								
KSD	**Kokstad**	**17.35**	**195**	*e*P		**P**		**23 18 38.0**	**-0.6**
HVD	**Gariep Dam**	**18.71**	**205**	*e*P		**P**		**23 18 49.3**	**-4.2**
HVD						AML	AML	23 24 50.8	
	comp=Z,44nm,0.8s								
HVD	**Gariep Dam**	**18.71**	**205**	*e*P		**P**		**23 18 49.3**	**-4.2**
UPI	**Upington**	**19.05**	**218**	*e*P		**P**		**23 18 54.4**	**-2.8**
UPI						AML	AML	23 24 51.8	
	comp=Z,38nm,0.7s								
UPI	**Upington**	**19.05**	**218**	*e*P		**P**		**23 18 54.4**	**-2.8**
GRM	**Grahamstown**	**20.78**	**199**	*e*P		Pn		23 19 20.4	+1.8
SUR	**Sutherland**	**22.36**	**212**	*e*P		**P**		**23 19 31.0**	**-2.2**
	comp=Z,16nm,1.0s								
SUR						S	**S**	**23 23 40.7**	**+3.0**
SUR						Lg	Lg	23 26 13.8	
SUR	**Sutherland**	**22.36**	**212**			P	**P**	**23 19 30.5**	**-2.7**
	comp=Z,6.5nm,0.5s,baz=66,slow=8.6,SNR=9.3								
SUR						S	**S**	**23 23 40.7**	**+3.0**
	comp=Z,15nm,0.8s,baz=11,slow=15,SNR=3.1								
SUR						Lg	Lg	23 26 13.8	
	comp=Z,138nm,1.1s,baz=303,slow=22,SNR=5.9								
MSKU	**Masuku**	**23.90**	**298**	*e*P		**P**		**23 19 47.4**	**-1.2**
	comp=Z,18nm,0.9s								
MSKU						Lg	Lg	23 27 00.4	
MSKU	**Masuku**	**23.90**	**298**			P	**P**	**23 19 47.8**	**-0.8**
	comp=Z,6.3nm,0.5s,baz=238,slow=0.6,SNR=5.4								
MSKU						Lg	Lg	23 27 00.4	
TOA0	**Torodi Ar. Sit**	**42.08**	**308**	*e*P		**P**		**23 22 26.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**42.08**	**308**			P	**P**	**23 22 26.5**	**-0.3**
TORD						pP	**pP**	**23 22 37.0**	**+1.9**
TORD	**Torodi Ar. Bea**	**42.08**	**308**			P	**P**	**23 22 26.5**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=124,slow=7.9,SNR=22								
TORD						pP	**pP**	**23 22 37.0**	**+1.9**
	comp=Z,6.1nm,0.8s,baz=117,slow=6.5,SNR=17								
EIL	**Elat**	**43.17**		**1**	P		**P**	**23 22 34.9**	**-0.5**
EIL	**Elat**	**43.17**		**1**	P		**P**	**23 22 34.9**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=212,slow=13,SNR=3.0								
KIC	**Kosan Boka**	**43.77**	**295**	*e*P			**P**	**23 22 39.8**	**-0.8**
	comp=Z,48nm,0.7s								
LIC	**Lamto**	**43.97**	**294**	*e*P			**P**	**23 22 41.4**	**-0.7**
	comp=Z,49nm,0.8s								
DBIC	**Dimbokro**	**44.02**	**295**	*e*P			**P**	**23 22 41.5**	**-1.0**
	comp=Z,20nm,0.9s								
DBIC	**Dimbokro**	**44.02**	**295**		P		**P**	**23 22 42.2**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=122,slow=9.6,SNR=3.9								
TIC	**Toumodi**	**44.15**	**295**	*e*P			**P**	**23 22 43.0**	**-0.6**
	comp=Z,94nm,0.8s								
BR131	**Keskin Array S**	**53.21**	**359**	*e*P			**P**	**23 23 53.8**	**+0.8**
	comp=Z,5.3nm,0.8s								
BR131				*e*				23 24 05.5	
BRTR	**Keskin Array B**	**53.21**	**359**			P	**P**	**23 23 54.4**	**+1.4**
BRTR						pP	**pP**	**23 24 05.3**	**+3.8**
BRTR	**Keskin Array B**	**53.21**	**359**			P	**P**	**23 23 54.4**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=175,slow=9.4,SNR=19								
BRTR						pP	**pP**	**23 24 05.3**	**+3.8**
	comp=Z,6.2nm,0.8s,baz=180,slow=9.2,SNR=21								
BR231	**Keskin MP Arra**	**53.34**	**358**	*e*P			**P**	**23 23 54.2**	**+0.3**
SYO	**Syowa Base**	**55.31**	**178**	*i*eX			pP	23 24 18.6	+2.2
MAW	**Mawson**	**56.92**	**167**	P			**P**	**23 24 20.8**	**+1.6**
MAW	**Mawson**	**56.92**	**167**	P			**P**	**23 24 20.8**	**+1.6**
	comp=Z,4.8nm,0.6s,baz=316,slow=9.6,SNR=7.0								
KBZ	**Khabaz**	**57.72**		**7**	P		**P**	**23 24 25.9**	**+0.8**
KBZ	**Khabaz**	**57.72**		**7**	P		**P**	**23 24 25.9**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=214,slow=7.3,SNR=4.3								
CFR	**Carcaliu**	**58.94**	**355**	*i*P			**P**	**23 24 34.9**	**+1.3**
SBF	**Sospel**	**62.43**	**338**	*e*P			**P**	**23 24 58.9**	**+1.3**
SBF					*e*pP		**pP**	**23 25 10.3**	**+3.9**
SBF	**Sospel**	**62.43**	**338**	*e*P			**P**	**23 24 58.9**	**+1.3**
SBF					*e*pP		**pP**	**23 25 10.3**	**+3.9**
KOLN	**Koldanda**	**62.99**		**49**	*e*P		**P**	**23 25 00.6**	**-1.2**
	comp=Z,24nm,1.0s								
MBDF	**Montbardon**	**63.42**	**338**	*e*P			**P**	**23 25 04.1**	**-0.2**
	comp=Z,23nm,1.1s								
MBDF	**Montbardon**	**63.42**	**338**	*e*P			**P**	**23 25 04.1**	**-0.2**
	comp=Z,23nm,1.1s								
DANN	**Dangsing**	**63.43**		**48**	*e*P		**P**	**23 25 03.5**	**-1.4**
	comp=Z,21nm,0.8s								
GKN	**Gorkha**	**63.88**		**49**	*e*P		**P**	**23 25 06.5**	**-1.2**
	comp=Z,29nm,1.0s								
DMN	**Daman**	**64.01**		**50**	*e*P		**P**	**23 25 07.4**	**-1.3**
	comp=Z,11nm,0.7s								
ESDC	**Sonseca Array**	**64.09**	**328**		P		**P**	**23 25 10.0**	**+1.3**
ESDC					pP		**pP**	**23 25 21.0**	**+3.6**
ESDC	**Sonseca Array**	**64.09**	**328**		P		**P**	**23 25 10.0**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=138,slow=6.3,SNR=7.1								
ESDC					pP		**pP**	**23 25 21.0**	**+3.6**
	comp=Z,2.8nm,0.8s,baz=142,slow=6.1,SNR=6.4								
LPG	**La Plagne**	**64.09**	**339**	*e*P			**P**	**23 25 09.8**	**+0.9**
	comp=Z,28nm,1.1s								
LPG	**La Plagne**	**64.09**	**339**	*e*P			**P**	**23 25 09.8**	**+0.9**
	comp=Z,28nm,1.1s								
LPL	**La Plagne**	**64.12**	**339**	*e*P			**P**	**23 25 09.7**	**+0.8**
	comp=Z,36nm,1.2s								
LPL	**La Plagne**	**64.12**	**339**	*e*P			**P**	**23 25 09.7**	**+0.8**
	comp=Z,36nm,1.2s								
FETA	**Feichten**	**64.14**	**342**	*i*P			**P**	**23 25 10.7**	**+1.7**
	comp=Z,11nm,0.9s								
PKIN	**Phulchoki**	**64.21**		**50**	*e*P		**P**	**23 25 08.5**	**-1.5**
	comp=Z,5.4nm,0.5s								
PKI	**Pulchoki**	**64.21**		**50**	*e*P		**P**	**23 25 08.7**	**-1.4**
	comp=Z,9.1nm,0.6s								
KKN	**Kakani**	**64.24**		**50**	*e*P		**P**	**23 25 08.9**	**-1.2**
	comp=Z,6.2nm,0.4s								
EPF	**Esparros**	**64.60**	**333**	*e*P			**P**	**23 25 13.5**	**+1.6**
EPF	**Esparros**	**64.60**	**333**	*e*P			**P**	**23 25 13.5**	**+1.6**
GUN	**Gumba**	**64.75**		**50**	*e*P		**P**	**23 25 12.4**	**-1.2**
	comp=Z,39nm,0.8s								
RAMN	**Ramite**	**64.77**		**51**	*e*P		**P**	**23 25 12.8**	**-0.9**
	comp=Z,21nm,0.9s								
JIRN	**Jiri**	**64.84**		**50**	*e*P		**P**	**23 25 13.0**	**-1.3**
	comp=Z,31nm,0.8s								
ETSF	**Etsaut**	**64.89**	**332**	*e*P			**P**	**23 25 15.3**	**+1.4**
	comp=Z,10.0nm,0.9s								
ETSF					*e*pP		**pP**	**23 25 26.8**	**+4.1**
ETSF	**Etsaut**	**64.89**	**332**	*e*P			**P**	**23 25 15.3**	**+1.4**
	comp=Z,10.0nm,0.9s								
ETSF					*e*pP		**pP**	**23 25 26.8**	**+4.1**
GERES	**GERESS Array B**	**64.99**	**345**		P		**P**	**23 25 15.1**	**+0.7**
GERES					pP		**pP**	**23 25 26.0**	**+2.8**
GERES	**GERESS Array B**	**64.99**	**345**		P		**P**	**23 25 15.1**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=163,slow=5.2,SNR=4.7								
GERES					pP		**pP**	**23 25 26.0**	**+2.8**
	comp=Z,2.9nm,0.7s,baz=101,slow=4.5,SNR=4.6								
CABF	**La Chapelle**	**65.29**	**339**	*e*P			**P**	**23 25 17.8**	**+1.4**
CABF	**La Chapelle**	**65.29**	**339**	*e*P			**P**	**23 25 17.8**	**+1.4**
ODAN	**Odare**	**65.33**		**52**	*e*P		**P**	**23 25 16.3**	**-0.9**
	comp=Z,25nm,0.9s								
SJPF	**Ste Jean**	**65.37**	**332**	*e*P			**P**	**23 25 18.9**	**+2.0**
SJPF	**Ste Jean**	**65.37**	**332**	*e*P			**P**	**23 25 18.9**	**+2.0**
KKAR	**Karatay Array**	**65.50**		**28**	*e*P		**P**	**23 25 17.3**	**-0.4**
	comp=Z,19nm,0.8s								
KSH	**Kashi**	**65.58**		**34**	*e*P		**P**	**23 25 15.5**	**-3.0**
KSH					*e*PP		**PP**	**23 27 40.1**	**-3.1**
KSH					*e*PcS			23 29 50.7	
KSH					*e*S		S	23 33 55.2	-7.1
KSH					*e*sS		sS	23 34 03.1	-14
KSH					*e*SS		SS	23 38 09.2	-7.7
KSH					pmax		pmax		
	comp=Z,3.0nm,0.7s								
TAPN	**Taplejung**	**65.82**		**51**	*e*P		**P**	**23 25 19.6**	**-0.9**
	comp=Z,18nm,1.1s								
HINF	**Hinteralfeld**	**66.07**	**340**	*e*P			**P**	**23 25 22.3**	**+0.9**
HINF	**Hinteralfeld**	**66.07**	**340**	*e*P			**P**	**23 25 22.3**	**+0.9**
SMF	**Signal de Mont**	**66.13**	**337**	*e*P			**P**	**23 25 22.7**	**+1.0**
	comp=Z,35nm,1.1s								
SMF					*e*pP		**pP**	**23 25 34.3**	**+3.8**
SMF	**Signal de Mont**	**66.13**	**337**	*e*P			**P**	**23 25 22.7**	**+1.0**
	comp=Z,35nm,1.1s								
SMF					*e*pP		**pP**	**23 25 34.3**	**+3.8**
HAU	**Haudompre**	**66.40**	**340**	*e*P			**P**	**23 25 24.5**	**+1.0**
	comp=Z,22nm,0.9s								
HAU	**Haudompre**	**66.40**	**340**	*e*P			**P**	**23 25 24.5**	**+1.0**
	comp=Z,22nm,0.9s								
AVF	**Avril sur Loir**	**66.44**	**337**	*e*P			**P**	**23 25 24.8**	**+1.2**
	comp=Z,11nm,1.0s								
AVF	**Avril sur Loir**	**66.44**	**337**	*e*P			**P**	**23 25 24.8**	**+1.2**
	comp=Z,11nm,1.0s								
CDF	**Champ du Feu**	**66.45**	**341**	*e*P			**P**	**23 25 24.7**	**+0.9**
	comp=Z,19nm,1.1s								
CDF					*e*pP		**pP**	**23 25 36.2**	**+3.6**
CDF	**Champ du Feu**	**66.45**	**341**	*e*P			**P**	**23 25 24.7**	**+0.9**
	comp=Z,19nm,1.0s								
CDF					*e*pP		**pP**	**23 25 36.2**	**+3.6**
TCF	**Toulx Ste Croi**	**66.46**	**336**	*e*P			**P**	**23 25 25.5**	**+1.6**
	comp=Z,12nm,0.8s								
TCF					*e*pP		**pP**	**23 25 37.1**	**+4.4**
TCF	**Toulx Ste Croi**	**66.46**	**336**	*e*P			**P**	**23 25 25.5**	**+1.6**
	comp=Z,12nm,0.8s								
TCF					*e*pP		**pP**	**23 25 37.1**	**+4.4**
ABKAR	**Akbulak array**	**66.65**		**18**	*e*P		**P**	**23 25 24.3**	**-0.6**
	comp=Z,2.5nm,0.6s								
ABKAR					*e*			23 25 35.5	
AKTO	**Aktyubinsk**	**67.16**		**16**	P		**P**	**23 25 27.9**	**-0.3**
AKTO	**Aktyubinsk**	**67.16**		**16**	P		**P**	**23 25 27.9**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=218,slow=6.5,SNR=6.9								
MEZF	**Maizieres J'vi**	**67.27**	**339**	*e*P			**P**	**23 25 30.6**	**+1.7**
MEZF					*e*pP		**pP**	**23 25 42.1**	**+4.4**
MEZF	**Maizieres J'vi**	**67.27**	**339**	*e*P			**P**	**23 25 30.6**	**+1.7**
MEZF					*e*pP		**pP**	**23 25 42.1**	**+4.4**
TKM2	**Tokmak 2**	**67.82**		**31**	*e*P		**P**	**23 25 32.8**	**0.0**
	comp=Z,13nm,0.8s								
GIVF	**Givet**	**68.72**	**340**	*e*P			**P**	**23 25 39.2**	**+1.2**
GIVF	**Givet**	**68.72**	**340**	*e*P			**P**	**23 25 39.2**	**+1.2**
BAIF	**Baives**	**68.89**	**340**	*e*P			**P**	**23 25 39.3**	**+0.2**
	comp=Z,24nm,1.1s								
BAIF					*e*pP		**pP**	**23 25 51.7**	**+3.8**
BAIF	**Baives**	**68.89**	**340**	*e*P			**P**	**23 25 39.3**	**+0.2**
	comp=Z,24nm,1.1s								
BAIF					*e*pP		**pP**	**23 25 51.7**	**+3.8**
LSA	**Lhasa**	**69.62**		**51**	*e*P		**P**	**23 25 45.0**	**+0.3**
	comp=Z,18nm,1.8s								
CM01	**Chiang Mai Arr**	**71.13**		**65**	*e*P		**P**	**23 25 53.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**71.13**		**65**	P		**P**	**23 25 53.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**71.13**		**65**	P		**P**	**23 25 53.4**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=256,slow=7.3,SNR=25								
MK01	**Makanchi Array**	**73.92**		**32**	*e*P		**P**	**23 26 09.1**	**-0.5**
MKAR	**Makanchi Array**	**73.93**		**32**	*e*P		**P**	**23 26 09.4**	**-0.3**
MKAR					pP		**pP**	**23 26 20.9**	**+2.4**
MKAR	**Makanchi Array**	**73.93**		**32**	P		**P**	**23 26 09.2**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=224,slow=6.4,SNR=51								
MKAR					pP		**pP**	**23 26 20.9**	**+2.4**
	comp=Z,5.1nm,0.8s,baz=228,slow=7.2,SNR=15								
WMQ	**Urumqi**	**75.03**		**37**	P		**P**	**23 26 16.9**	**+0.7**

ILAR	Eielson Array	66.98	333	P		P	23 31 39.8	-0.2	
	0.4nm,0.9s,baz=116,slow=4.1,SNR=3.6								
KEST	Kesra	73.32	57	P		P	23 32 19.9	+0.4	
	0.6nm,0.7s,baz=220,slow=7.9,SNR=3.8								
GERES	GERESS Array B	74.23	43	P		P	23 32 24.4	-0.2	
	1.3nm,0.9s,baz=286,slow=7.0,SNR=5.7								
WRA	Warramunga Arr	154.38	262	PKPbc		PKPbc	23 40 47.9	-0.9	
	0.8nm,0.9s,baz=88,slow=2.6,SNR=4.9								
ASAR	Alice Springs	154.56	253	PKPbc		PKPbc	23 40 49.5	+0.3	
	0.4nm,0.7s,baz=111,slow=2.0,SNR=3.3								

IDC ***12*** *23:26:03.7±0.7, 18°.37N × 72°.54W, h0km, mb4.0/14, mb1 4.2/18, mb1mx4.1/31, mbtmp4.0/18, ML3.5/4, Error ellipse: s-maj=20.5km s-min=15.7km az=19.0*

ISCJB ***12*** *23:26:04.4±0.3, 18°.43N±0°.05 × 72°.58W±0°.04, h13km, mb4.0/18, Error ellipse: s-maj=7.6km s-min=5.3km az=12.0*

NEIC ***12*** *23:26:05.8±0.3, 18°.47N × 72°.58W, h10km, mb4.3/4, Error ellipse: s-maj=6.3km s-min=4.7km az=192.0*

ISC 12 23:26:06.0±0.4, 18°.45N±0°.07 × 72°.58W±0°.04, h13km, n60, σ1.9 07/71, mb4.1/18, 1C, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.34	66	*e*Pn	Pn	23 26 28.7	-1.7
SDDR				*e*S	Sg	23 26 50.4	+1.3
GTBY	Guantanamo Bay	2.80	302	*e*Pn	Pn	23 26 49.7	-0.8
GTBY				*e*S	Sb	23 27 28.4	-1.8
MTDJ	Mount Denham	4.71	268	*e*Pn	Pn	23 27 16.5	-0.3
CRPR	Cabo Rojo, PR	5.22	94	*e*Pn	Pn	23 27 24.7	+0.9
	72nm,0.7s						
LSP	Las Mesas	5.23	92	*e*Pn	Pn	23 27 25.4	+1.5
LSP				*e*S	Sg	23 28 50.2	-3.7
CELP	Cerrillos	5.72	93	*e*Pn	Pn	23 27 31.1	+0.5
CBYP	Canovanas	6.39	91	*e*Pn	Pn	23 27 40.7	+0.8
	34nm,0.7s						
CBYP				*e*S	Sb	23 29 15.1	+1.6
MTP	Monte Pirata	6.69	92	*e*Pn	Pn	23 27 45.3	+1.3
	21nm,0.6s						
MTP				*e*S	Sb	23 29 20.9	-1.2
SDV	Santo Domingo	9.69	168	*e*Pn	Pn	23 28 25.6	+0.2
	3.7nm,0.6s						
H05N1	Guadeloupe/Mar	11.21	99	Pn	Pn	23 28 45.4	-0.6
	SNR=4.6						
BCIP	Isla Barro Col	11.61	218	*e*Pn	Pn	23 28 51.2	-0.3
ROSC	El Rosal	13.62	187	*e*Pn	Pn	23 29 21.6	+2.3
ROSC	El Rosal	13.62	187	Pn	Pn	23 29 19.5	+0.2
	0.8nm,0.3s,baz=105,slow=20,SNR=2.3						
TEIG	Tepich	14.92	279	Pn	Pn	23 29 38.3	+1.6
TEIG	Tepich	14.92	279	Pn	Pn	23 29 38.3	+1.6
	0.8nm,0.3s,baz=172,slow=19,SNR=2.4						
BBSR	BB Station	15.58	26	Pn	Pn	23 29 44.3	-1.0
	12nm,0.8s						
APG	El Apazote	17.46	261	P	P	23 30 10.4	-0.4
APG	El Apazote	17.46	261	P	P	23 30 10.4	-0.4
	0.3nm,0.3s,baz=83,slow=17,SNR=2.7						
TKL	Tuckaleechee C	19.80	332	P	Pn	23 30 37.1	-0.6
TKL	Tuckaleechee C	19.80	332	P	Pn	23 30 37.1	-0.6
	0.2nm,0.3s,baz=162,slow=12,SNR=3.2						
VWCC	Virginia Weste	19.82	342	*e*P	P	23 30 36.7	+0.3
PTGA	Pitinga	22.74	146	P	P	23 31 06.3	-1.7
PTGA	Pitinga	22.74	146	P	P	23 31 06.3	-1.7
	3.3nm,0.7s,baz=16,slow=18,SNR=2.9						
SAML	Samuel	28.76	160	*e*P	P	23 32 03.8	+0.3
	1.3nm,0.7s						
TXAR	Lajitas Array	30.33	297	P	P	23 32 18.1	+0.6
TXAR	Lajitas Array	30.33	297	P	P	23 32 18.1	+0.6
	0.6nm,0.8s,baz=128,slow=8.1,SNR=6.1						
BNM	Barren Site	34.10	304	*e*P	P	23 32 51.4	+0.7
	3.0nm,0.8s						
LPM	Los Pinos Moun	34.15	304	P	P	23 32 51.6	+0.5
	2.1nm,0.5s						
ULM	Lac du Bonnet	36.78	335	P	P	23 33 13.5	+0.2
ULM	Lac du Bonnet	36.78	335	P	P	23 33 13.5	+0.2
	4.1nm,1.0s,baz=164,slow=10,SNR=3.5						
PDAR	Pinedale Array	39.53	316	P	P	23 33 37.5	+0.6
PDAR	Pinedale Array	39.53	316	P	P	23 33 37.5	+0.6
	0.4nm,0.6s,baz=120,slow=8.4,SNR=2.8						
PFO	Pinyon Flat Ob	41.89	300	P	P	23 33 58.1	+1.7
PFO	Pinyon Flat Ob	41.89	300	P	P	23 33 58.1	+1.7
	1.4nm,0.6s,baz=171,slow=6.1,SNR=3.6						
FRB	Frobisher Bay	45.34	3	P	P	23 34 23.8	+0.3
FRB	Frobisher Bay	45.34	3	P	P	23 34 23.8	+0.3
	2.7nm,0.7s,baz=189,slow=5.8,SNR=4.9						
YKA	Yellowknife Ar	52.70	337	P	P	23 35 19.7	-0.2
YKA	Yellowknife Ar	52.70	337	P	P	23 35 19.7	-0.2
	1.0nm,0.8s,baz=124,slow=7.2,SNR=14						
SUMG	Summit	57.54	12	*i* P	P	23 35 55.5	+0.2
	6.5nm,0.9s						
ESDC	Sonseca Array	62.15	54	P	P	23 36 26.4	-0.7
ESDC	Sonseca Array	62.15	54	P	P	23 36 26.4	-0.7
	1.1nm,0.7s,baz=269,slow=8.6,SNR=4.8						
ILAR	Eielson Array	66.78	333	P	P	23 36 56.5	-0.4
ILAR	Eielson Array	66.78	333	P	P	23 36 56.5	-0.4
	0.5nm,0.8s,baz=113,slow=3.4,SNR=5.1						
TORD	Torodi Ar. Bea	71.24	82	P	P	23 37 24.8	-0.6
TORD	Torodi Ar. Bea	71.24	82	P	P	23 37 24.8	-0.6
	1.6nm,1.0s,baz=276,slow=6.1,SNR=5.1						
KEST	Kesra	73.06	57	P	P	23 37 37.1	+0.9
KEST	Kesra	73.06	57	P	P	23 37 37.1	+0.9
	2.4nm,0.8s,baz=252,slow=4.5,SNR=7.1						
GERES	GERESS Array B	73.93	43	P	P	23 37 41.7	+0.6
GERES	GERESS Array B	73.93	43	P	P	23 37 41.7	+0.6
	1.8nm,0.8s,baz=270,slow=4.0,SNR=13						
FINES	FINESS Array B	78.04	29	P	P	23 38 05.0	+0.9
FINES	FINESS Array B	78.04	29	P	P	23 38 05.0	+0.9
	2.4nm,0.9s,baz=286,slow=6.8,SNR=4.5						
MLR	Muntele Rosu	82.84	45	↑*i* P	P	23 38 32.4	+1.9
BRTR	Keskin Array B	90.25	48	P	P	23 39 07.2	+0.4
BRTR	Keskin Array B	90.25	48	P	P	23 39 07.2	+0.4
	0.6nm,0.8s,baz=298,slow=2.7,SNR=4.0						
STKA	Stephens Creek	146.45	240	PKPbc	PKPdf	23 45 46.6	+0.6
STKA	Stephens Creek	146.45	240	PKPbc	PKPdf	23 45 46.6	+0.6
	2.3nm,0.9s,baz=174,slow=3.5,SNR=3.2						
WRA	Warramunga Arr	154.54	262	PKP	PKPdf	23 45 58.4	-0.6
WRA				PKPbc	PKPbc	23 46 05.9	-1.5
WRA	Warramunga Arr	154.54	262	PKP	PKPdf	23 45 58.4	-0.6
	1.0nm,0.8s,baz=85,slow=1.2,SNR=5.9						
WRA				PKPbc	PKPbc	23 46 05.9	-1.5
	1.5nm,1.0s,baz=91,slow=2.6,SNR=7.3						
ASAR	Alice Springs	154.76	254	PKP	PKPdf	23 45 58.7	-0.5
ASAR				PKPbc	PKPbc	23 46 06.7	-1.1
ASAR				PKPab	PKPab	23 46 22.6	-0.1
ASAR	Alice Springs	154.76	254	PKP	PKPdf	23 45 58.7	-0.5
	0.3nm,0.6s,baz=116,slow=2.2,SNR=3.6						
ASAR				PKPbc	PKPbc	23 46 06.7	-1.1
	0.3nm,0.5s,baz=73,slow=2.4,SNR=6.2						
ASAR				PKPab	PKPab	23 46 22.6	-0.1
	0.6nm,0.7s,baz=99,slow=5.2,SNR=4.5						

ISCJB ***12*** *23:27:34.4±0.2, 18°.49N±0°.03 × 72°.81W±0°.02, h6km, mb4.4/50, MS4.8/1, Error ellipse: s-maj=4.6km s-min=2.8km az=11.1*

BJI ***12*** *23:27:35.7, 18°.50N × 72°.80W, h10km, mB5.2/1, Ms5.1/1, Ms7 4.8/1*

IDC ***12*** *23:27:35.7±0.5, 18°.60N × 72°.78W, h0km, mb4.2/24, mb1 4.4/28, mb1mx4.3/34, mbtmp4.2/28, ML3.8/4, MS5.3/1, Ms1 5.3/1, ms1mx4.8/37, Error ellipse: s-maj=15.5km s-min=11.4km az=60.0*

NEIC ***12*** *23:27:36.9±0.2, 18°.54N × 72°.77W, h10km, mb4.7/28, Error ellipse: s-maj=4.8km s-min=3.6km az=212.0*

JSN ***12*** *23:27:44.8±4.4, 17°.59N × 73°.13W, h15km±999km, MD5.4*

ISC 12 23:27:36.2±0.3, 18°.53N±0°.05 × 72°.83W±0°.03, h6km, n298, σ0.9 99/316, mb4.4/51, 93C-69D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.53	73	*e*Pn	Pn	23 28 03.2	-0.9
SDDR				*e*S	Sb	23 28 23.5	-1.1
GTBY	Guantanamo Bay	2.56	303	*e*Pn	Pn	23 28 17.2	-1.1
GTBY				*e*S	Sb	23 28 55.2	+0.8
YHJ	Yallahs	3.54	260	*i* P	Pn	23 28 33.1	+1.3
YHJ	Yallahs	3.54	260	*i* P	Pn	23 28 33.1	+1.3
GWJ	Greenwich	3.73	264	*i* P	Pn	23 28 39.3	+4.8
GWJ	Greenwich	3.73	264	*i* P	Pn	23 28 39.3	+4.8
HOJ	Hope	3.76	263	*i* P	Pn	23 28 39.5	+4.8
HOJ	Hope	3.76	263	*i* P	Pn	23 28 39.5	+4.8
STH	Stony Hill	3.81	264	*i* P	Pn	23 28 35.3	-0.2
STH				*i* S	Sn	23 29 18.4	-2.2
STH	Stony Hill	3.81	264	*i* P	Pn	23 28 35.3	-0.2
STH				*i* S	Sn	23 29 18.4	-2.2
PCJ	Portland Cotta	4.19	260	*i* P	Pn	23 28 42.8	+2.1
PCJ	Portland Cotta	4.19	260	*i* P	Pn	23 28 42.8	+2.1
MTDJ	Mount Denham	4.48	267	*e*Pn	Pn	23 28 45.3	+0.6
MTDJ				*e*S	Sn	23 29 38.4	+1.1
AGPR	Aguadilla, PR	5.43	90	*e*Pn	Pn	23 28 55.1	-2.6
CRPR	Cabo Rojo, PR	5.46	95	*e*Pn	Pn	23 28 57.7	-0.5
CRPR				*e*S	Sg	23 30 31.8	+0.2
OBIP	Obispado Ponce	5.93	94	*e*Pn	Pn	23 29 03.7	-0.9
OBIP				*e*S	Sg	23 30 51.3	+4.5
CBYP	Canovanas	6.62	91	*e*Pn	Pn	23 29 14.4	+0.2
CBYP				*e*S	Sn	23 30 30.9	+0.7
MTP	Monte Pirata	6.93	92	*e*Pn	Pn	23 29 19.0	+0.7
SDV	Santo Domingo	9.82	167	*e*Pn	Pn	23 29 56.6	-1.6
H05N1	Guadeloupe/Mar	11.45	99	Pn	Pn	23 30 20.1	-0.3
	SNR=12						
BCIP	Isla Barro Col	11.53	217	*e*Pn	Pn	23 30 18.7	-2.7
GRGR	Grenville	12.51	119	*e*Pn	Pn	23 30 34.1	-0.8
ROSC	El Rosal	13.67	186	*e*Pn	Pn	23 30 51.2	+0.1
ROSC				Sn	Sn	23 33 21.3	-2.3
ROSC	El Rosal	13.67	186	Pn	Pn	23 30 51.0	-0.1
	3.7nm,0.3s,baz=252,slow=24,SNR=7.5						
ROSC				Sn	Sn	23 33 21.3	-2.3
	0.6nm,0.3s,baz=91,slow=21,SNR=1.2						
ROSC				LR	LR	23 35 30.4	
	comp=Z,12μm,18.2s,baz=188,slow=34						
TEIG	Tepich	14.68	279	*e*Pn	Pn	23 31 04.6	+0.1
TEIG				Sn	Sn	23 33 38.8	-8.7
TEIG	Tepich	14.68	279	Pn	Pn	23 31 04.8	+0.3
	2.3nm,0.3s,baz=76,slow=4.2,SNR=5.0						
TEIG				Sn	Sn	23 33 38.8	-8.7
	0.3nm,0.3s,baz=172,slow=16,SNR=1.6						
BBSR	BB Station	15.61	26	*e*Pn	Pn	23 31 14.5	-2.3
TIGA	Tifton	16.12	325	Pn	Pn	23 31 24.0	+0.6
TIGA	Tifton	16.12	325	↑P	Pn	23 31 24.0	+0.6
	baz=16						
APG	El Apazote	17.25	261	Pn	P	23 31 40.0	+0.4
APG	El Apazote	17.25	261	Pn	P	23 31 40.0	+0.4
	0.3nm,0.3s,baz=91,slow=18,SNR=4.0						
JSC	Jenkinsville	17.40	336	*e*Pn	P	23 31 43.2	+2.3
KMSC	Kings Mountain	18.19	337	*e*Pn	Pn	23 31 48.8	-0.6
	73nm,1.7s						
KMSC	Kings Mountain	18.19	337	↑P	P	23 31 49.9	+0.2
	baz=18						
OTAV	Otavalo	19.00	198	*e*Pn	P	23 32 00.1	+0.9
	201nm,2.1s						
JSRW	J. Sargeant Re	19.60	348	*e*P	P	23 32 04.7	-0.4
TKL	Tuckaleechee C	19.62	333	*e*P	Pn	23 32 06.4	-0.4
TKL	Tuckaleechee C	19.62	333	P	Pn	23 32 06.8	0.0
	0.2nm,0.3s,baz=155,slow=11,SNR=4.7						
VWCC	Virginia Weste	19.67	343	*e*P	P	23 32 06.7	+0.7
CPCT	Cooper Cave	19.78	331	*e*Pn	Pn	23 32 09.7	+1.0
CBN	Corbin	20.00	349	*e*P	Pn	23 32 10.6	-0.6
	45nm,0.6s						
SWET	Sewanee	20.28	328	*e*Pn	Pn	23 32 14.9	+0.2
	161nm,2.0s						
SDMD	Soldier's Deli	21.09	351	*e*P	P	23 32 21.0	-0.4
	48nm,1.0s						
OXF	Oxford	21.71	320	*e*P	P	23 32 27.7	-0.4
	64nm,1.2s						
ODNJ	Ogdensburg	22.53	356	*e*P	P	23 32 37.6	+0.8
	469nm,2.9s						
PTGA	Pitinga	22.94	145	*e*P	P	23 32 41.1	-0.2
	8.5nm,1.5s						
PTGA	Pitinga	22.94	145	P	P	23 32 42.8	+1.4
	13nm,1.1s,baz=336,slow=12,SNR=7.0						
ACSO	Alum Creek Sta	23.33	340	*e*P	P	23 32 47.5	+2.3
	30nm,1.0s						
HKT	Hockley	23.81	303	*e*P	P	23 32 50.7	+0.8
	36nm,1.4s						
SFIN	Scholer Farm	25.00	334	*e*P	P	23 33 02.1	+1.3
	52nm,1.3s						
SFIN	Scholer Farm	25.00	334	↑P	P	23 33 01.8	+1.0
	baz=25						
735A	Kenedy	25.03	299	↑P	P	23 33 01.7	+0.6
	baz=25						
034A	Hebbronville	25.27	294	↓P	P	23 33 03.6	+0.2
	baz=25						
834A	Tilden	25.43	297	↑P	P	23 33 05.4	+0.5
	baz=26						
335A	Moody	25.60	304	↑P	P	23 33 07.0	+0.7
	baz=26						
933A	Laredo	25.91	295	↓P	P	23 33 09.7	+0.4
	baz=26						
WHTX	Lake Whitney	25.92	306	↑P	P	23 33 09.9	+0.7
	baz=26						
534A	Blanco	25.97	301	↓P	P	23 33 09.9	+0.2
	baz=26,SNR=8.1						
434A	Burnet	26.08	303	↑P	P	23 33 11.3	+0.4
	baz=26						
833A	Chaparral WMA,	26.20	297	↑P	P	23 33 11.6	-0.3
	baz=26,SNR=6.9						
334A	Lometa	26.26	304	↓P	P	23 33 12.7	+0.4
	baz=26						
633A	Saathoff Ranch	26.35	299	↓P	P	23 33 13.6	+0.4
	baz=26						
234A	Clairette	26.45	305	↑P	P	23 33 14.2	+0.1
	baz=26						
134A	White-Moore Ra	26.64	307	↑P	P	23 33 16.2	+0.4
	baz=27						
TUL1	Tulsa	26.66	315	*e*P	P	23 33 16.2	+0.2
	29nm,1.1s						
TUL1	Tulsa	26.66	315	↓P	P	23 33 16.5	+0.5
	baz=27						
832A	Faith Ranch, C	26.68	296	↑P	P	23 33 16.2	0.0
	baz=27,SNR=8.9						
SADO	Sadowa	26.69	350	P	P	23 33 16.4	+0.3
SADO	Sadowa	26.69	350	P	P	23 33 16.4	+0.3
	3.7nm,0.6s,baz=246,slow=6.9,SNR=4.7						
433A	Art	26.72	302	↓P	P	23 33 16.0	-0.6
	baz=27,SNR=10.0						
333A	Richland Sprin	26.84	303	↓P	P	23 33 17.7	+0.1
	baz=27,SNR=6.6						
632A	Uvalde	26.87	299	↑P	P	23 33 17.6	-0.4
	baz=27						
Y34A	Reagan Ranch,	27.03	310	↑P	P	23 33 19.6	+0.4
	baz=27						
233A	Rising Star	27.05	305	↑P	P	23 33 19.6	+0.1
	baz=27						
532A	Rocksprings	27.17	300	↑P	P	23 33 20.6	0.0
	baz=27						
JCT	Junction City	27.20	301	↑P	P	23 33 20.8	-0.1
	baz=27						
133A	Hamilton Ranch	27.30	306	↑P	P	23 33 21.4	-0.4
	baz=27						
432A	Menard	27.33	302	↓P	P	23 33 21.9	-0.1
	baz=27						
X34A	Smith Ranch, M	27.39	311	↑P	P	23 33 22.7	+0.1
	baz=27						
332A	Millersview	27.47	303	↑P	P	23 33 23.3	0.0
	baz=28						
Z33A	Whitaker Ranch	27.47	307	↓P	P	23 33 23.7	+0.4
	baz=28						
631A	Perdido Creek	27.50	298	↓P	P	23 33 23.4	-0.2
	baz=28						
232A	Coleman	27.58	304	↓P	P	23 33 24.2	-0.1
	baz=28						
531A	Rocksprings	27.70	300	↑P	P	23 33 25.4	-0.1
	baz=28						
ABTX	Abilene, Hawle	27.86	305	↓P	P	23 33 26.9	+0.1
	baz=28						
431A	Sonora	27.92	301	↑P	P	23 33 27.2	-0.2
	baz=28						
331A	San Angelo	27.99	302	↑P	P	23 33 28.0	0.0
	baz=28						
Z32A	Haskell	28.02	307	↑P	P	23 33 28.0	-0.2
	baz=28						
Y32A	R-V Farms, Ver	28.29	308	↑P	P	23 33 30.9	+0.3
	baz=28						
V33A	Lossen Ranch,	28.32	313	↑P	P	23 33 31.0	+0.2
	baz=28						
530A	J-C Ranch, Com	28.35	299	↓P	P	23 33 30.7	-0.6
	baz=28						
X32A	Elmer	28.36	309	↓P	P	23 33 31.3	+0.1
	baz=28						
JFWS	Jewell Farm	28.43	332	*e*P	P	23 33 34.3	+2.6
	30nm,1.1s						
131A	Roby	28.46	305	↑P	P	23 33 32.6	+0.4
	baz=28						
Z31A	Sharp Cattle R	28.53	306	↑P	P	23 33 32.9	+0.1
	baz=29						
330A	Mertzon	28.62	302	↓P	P	23 33 33.2	-0.4
	baz=29						
W32A	Sentinel	28.66	311	↑P	P	23 33 33.8	-0.2
	baz=29						
SAML	Samuel	28.92	160	*e*P	P	23 33 35.4	-0.8
	1.7nm,0.5s						
429A	Davenport Ranc	28.95	300	↓P	P	23 33 36.3	-0.3
	baz=29						
529A	Stev Forest Ra	29.08	299	↓P	P	23 33 37.3	-0.4
	baz=29						
329A	Wagon Wheel Ra	29.30	302	↓P	P	23 33 39.6	-0.1
	baz=29						
229A	Bryant Ranch,	29.32	303	↓P	P	23 33 40.3	+0.5
	baz=29						
V31A	Spring Creek L	29.40	311	↓P	P	23 33 40.9	+0.4
	baz=29						
628A	Black Gap, Mar	29.46	297	↑P	P	23 33 41.2	+0.1
	baz=30						
528A	Cox Ranch, San	29.56	299	↑P	P	23 33 42.6	+0.6
	baz=30						
428A	Kincaid Ranch,	29.64	300	↑P	P	23 33 42.7	0.0
	baz=30,SNR=9.5						
Z29A	Hungry Hill Ra	29.71	305	↑P	P	23 33 43.9	+0.6
	baz=30						
Q33A	Connelly Farm,	29.77	318	↓P	P	23 33 44.1	+0.4
	baz=30						
627A	Terlingua Ranc	29.88	297	↑P	P	23 33 44.5	-0.4
	baz=30,SNR=6.5						
Y29A	Porterfield Fa	29.91	306	↑P	P	23 33 45.8	+0.6
	baz=30						
328A	Wristen Ranch,	29.94	301	↓P	P	23 33 45.5	+0.2
	baz=30						
R32A	Long Quarter,	30.00	317	↓P	P	23 33 46.0	+0.2
	baz=30						
S31A	Mullinville	30.08	315	↑P	P	23 33 46.9	+0.4
	baz=30						
TXAR	Lajitas Array	30.08	297	P	P	23 33 47.1	+0.4
TXAR				PcP	PcP	23 36 48.7	+0.2
TXAR	Lajitas Array	30.08	297	P	P	23 33 47.1	+0.4
	1.7nm,0.8s,baz=103,slow=6.5,SNR=7.5						
TXAR				PcP	PcP	23 36 48.7	+0.2
	0.4nm,0.7s,baz=128,slow=5.8,SNR=3.6						
128A	Castleberry Fa	30.09	304	↑P	P	23 33 47.5	+0.8
	baz=30						
527A	Woodward Ranch	30.24	298	↓P	P	23 33 48.0	-0.1
	baz=30,SNR=7.0						
Z28A	Tucker Farm, M	30.25	305	↓P	P	23 33 48.6	+0.5
	baz=30						
427A	Hayter Ranch,	30.26	300	↓P	P	23 33 48.0	-0.3
	baz=30,SNR=7.1						
526A	Mary Lane Ranc	30.62	298	↓P	P	23 33 51.2	-0.3
	baz=31,SNR=8.3						
426A	McDonald Obser	30.73	299	↑P	P	23 33 52.8	+0.3
	baz=31,SNR=11						
Q31A	Ellis	30.77	317	↑P	P	23 33 53.3	+0.7
	baz=31						
Z27A	Tatum	30.90	304	↓P	P	23 33 53.8	-0.1
	baz=31						
R30A	Dighton	30.96	315	↓P	P	23 33 54.7	+0.4
	baz=31						
P31A	Stockton	31.05	318	↓P	P	23 33 56.1	+1.1
	baz=31						
126A	Clayton Basin,	31.31	303	↑P	P	23 33 57.3	-0.2
	baz=31						
Z26A	Caprock	31.49	304	↑P	P	23 33 59.1	0.0
	baz=32						
325A	Bean Ranch, Si	31.70	300	↑P	P	23 34 01.2	+0.2
	baz=32,SNR=9.8						
Q29A	Oakley	31.75	316	↑P	P	23 34 01.4	+0.2
	baz=32						
225A	Deer Hill, Car	31.79	301	↓P	P	23 34 01.9	+0.1
	baz=32,SNR=6.7						
X26A	CR and CF Fran	31.82	306	↓P	P	23 34 01.9	-0.1
	baz=32						
125A	Gardner Draw,	31.83	302	↑P	P	23 34 01.9	-0.2
	baz=32						
R28A	Tribune	32.03	314	↓P	P	23 34 04.6	+0.9
	baz=32						
Z25A	Roswell	32.07	304	↑P	P	23 34 04.1	-0.1
	baz=32,SNR=6.7						
324A	Moseley Ranch,	32.14	300	↓P	P	23 34 05.0	+0.1
	baz=32,SNR=15						
Y25A	Mesa, Roswell	32.27	305	↓P	P	23 34 05.9	0.0
	baz=32						
V26A	Tequesquite Ra	32.28	308	↓P	P	23 34 06.4	+0.3
	baz=32						
224A	Cornudas Mount	32.35	301	↓P	P	23 34 07.1	+0.4
	baz=32,SNR=8.0						
124A	Stringfield Ra	32.48	302	↓P	P	23 34 07.8	-0.1
	baz=32,SNR=7.7						
U26A	Atchley Ranch,	32.50	310	↑P	P	23 34 08.4	+0.4
	baz=32						
W25A	X Bar L Ranch,	32.56	307	↓P	P	23 34 08.4	-0.1
	baz=33						
Z24A	Sheeppen Canyo	32.60	303	↓P	P	23 34 09.2	+0.2
	baz=33,SNR=7.0						
S26A	Kim	32.84	312	↓P	P	23 34 11.8	+0.9
	baz=33						
Y24A	Capitan	32.85	304	↑P	P	23 34 10.9	-0.2
	baz=33,SNR=6.5						
V25A	Rancho No Teng	32.92	308	↑P	P	23 34 12.5	+0.8
	baz=33						
U25A	Circle Dot Ran	32.99	309	↓P	P	23 34 13.2	+0.9
	baz=33						
X24A	Lazy VL Ranch,	33.07	305	↓P	P	23 34 13.9	+0.9
	baz=33						
R26A	Arlington	33.13	313	↑P	P	23 34 14.6	+1.2
	baz=33						
Z23A	Rita Site, Whi	33.27	303	↑P	P	23 34 15.6	+0.9
	baz=33						
W24A	Lazy 6 Ranch,	33.28	307	↑P	P	23 34 15.8	+0.9
	baz=33						
T25A	Trinidad	33.30	310	↑P	P	23 34 15.9	+

baz=37
ULM Lac du Bonnet 36.61 335 P P 23 34 42.7 -0.4
ULM Lac du Bonnet 36.61 335 P P 23 34 42.7 -0.4
5.9nm,0.9s,baz=166,slow=11,SNR=4.7
A30A Hoffart Farm, 36.65 332 ⇓P P 23 34 44.2 +0.7
baz=37
A29A Manning Farm, 37.06 331 ⇓P P 23 34 47.5 +0.4
baz=37
B28A Dugan Ranch, T 37.26 329 ⇑P P 23 34 49.9 +1.1
baz=37
J22A Midwest 37.64 319 ⇑P P 23 34 52.5 +0.3
baz=38
K21A Alcova 37.74 317 ⇓P P 23 34 53.4 +0.3
baz=38,SNR=5.5
X16A Lo Mia Camp, P 37.76 303 ⇓P P 23 34 54.0 +0.7
baz=38
J21A Lysite 38.22 318 ⇑P P 23 34 56.8 -0.3
baz=38
I21A Big Trails, Te 38.35 319 ⇑P P 23 34 58.1 -0.1
baz=38
F22A Rosebud 38.76 322 ⇑P P 23 35 01.5 +0.1
baz=39
I20A Worland 38.94 318 ⇑P P 23 35 03.3 +0.1
baz=39
U15A North Rim 38.96 305 ⇓P P 23 35 03.8 +0.2
baz=39,SNR=5.7
J19A Crowheart 39.21 317 ⇓P P 23 35 05.8 +0.4
baz=39
PDAR Pinedale Array 39.31 316 P P 23 35 06.6 +0.2
PDAR PcP PcP 23 37 15.0 -0.1
PDAR Pinedale Array 39.31 316 P P 23 35 06.6 +0.2
0.7nm,0.6s,baz=130,slow=9.7,SNR=4.8
PDAR PcP PcP 23 37 15.0 -0.1
0.5nm,0.7s,baz=111,slow=5.1,SNR=2.9
A24A Westby 39.39 327 ⇑P P 23 35 07.1 +0.5
baz=39
D22A Cohagen 39.48 324 ⇑P P 23 35 08.2 +0.7
baz=40
I19A Meeteetse 39.53 318 ⇓P P 23 35 08.7 +0.5
baz=40
H19A Powell 39.83 319 ⇑P P 23 35 10.8 +0.2
baz=40
W13A Hualapai Mount 39.87 303 ⇑P P 23 35 12.0 +0.8
baz=40
E20A Meyer Farm, Mu 40.24 322 ⇓P P 23 35 14.2 +0.3
baz=40
H18A Shoshone NF, C 40.26 319 ⇑P P 23 35 13.7 -0.5
baz=40
LOHW Long Hollow 40.37 317 eP P 23 35 14.8 -0.4
14nm,1.3s
REDW Red Top Meadow 40.43 316 eP P 23 35 15.7 0.0
18nm,1.3s
I17A Pilgrim Ck. 40.49 317 ⇑P P 23 35 16.4 +0.2
baz=40
MOOW Moose Ponds 40.52 317 eP P 23 35 16.3 -0.2
13nm,1.3s
DUG Dugway 40.54 311 eP P 23 35 16.6 0.0
11nm,1.3s
DUG Dugway 40.54 311 ⇑P P 23 35 16.5 0.0
baz=41
TPAW Teton Pass 40.55 316 eP P 23 35 16.9 +0.2
20nm,1.4s
D20A Manuel Ranch, 40.56 323 ⇑P P 23 35 17.2 +0.7
baz=41
E19A Rath Farm, Rou 40.61 321 ⇑P P 23 35 17.6 +0.7
baz=41
FXWY Fox Creek 40.66 316 eP P 23 35 17.4 -0.2
29nm,1.7s
BGU Big Grassy Mou 40.95 312 eP P 23 35 20.8 +0.8
21nm,2.2s
A21A Bergtoll Ranch 40.96 326 ⇓P P 23 35 20.8 +1.1
baz=41
SHPR Sheep Range 41.22 305 eP P 23 35 23.4 +1.2
5.9nm,1.1s
A20A Cobblestone Ra 41.43 325 ⇑P P 23 35 24.3 +0.7
baz=42
BDFB Brasilia 41.84 143 P P 23 35 26.9 -0.4
BDFB Brasilia 41.84 143 P P 23 35 26.9 -0.4
6.4nm,0.8s,baz=312,slow=8.5,SNR=6.4
R11A Troy Canyon, C 42.02 307 eP P 23 35 30.0 +1.2
5.5nm,1.2s
R11A Troy Canyon, C 42.02 307 ⇓P P 23 35 28.9 +0.2
baz=42
TPNV Topopah Spring 42.17 305 ⇓P P 23 35 30.4 +0.4
baz=42
MCMT McKenzie Canyo 42.35 317 eP P 23 35 32.1 +0.6
2.1nm,0.9s
HLID Hailey 42.88 315 ⇓P P 23 35 35.5 -0.1
baz=43
MPMC Manual Prospec 42.95 303 ⇑P P 23 35 36.2 -0.2
baz=43
EDW2 Edwards Air Fo 43.12 301 ⇓P P 23 35 38.4 +0.7
baz=43
NVAR Mina Array Bea 44.10 306 P P 23 35 46.8 +1.1
NVAR Mina Array Bea 44.10 306 P P 23 35 46.8 +1.1
1.5nm,0.9s,baz=91,slow=5.6,SNR=2.7
PTRM Twissleman Ran 45.05 302 eP P 23 35 51.3 -1.8
FRB Frobisher Bay 45.27 3 P P 23 35 53.9 -0.4
FRB Frobisher Bay 45.27 3 P P 23 35 53.9 -0.4
6.6nm,0.8s,baz=180,slow=9.9,SNR=6.0
NEW Newport 46.47 320 ⇓P P 23 36 03.8 -0.3
baz=46
EDM Edmonton 46.68 328 eP P 23 36 06.0 +0.3
J05D Fort Rock, OR 47.49 312 ⇓P P 23 36 11.6 -0.6
baz=48
M04C Macdoel 47.53 310 ⇑P P 23 36 11.1 -1.5
baz=48
I05D Terrebonne, OR 47.85 314 ⇑P P 23 36 13.6 -1.4
baz=48
B08A Colville Reser 47.86 319 eP P 23 36 14.4 -0.6
9.3nm,1.0s
G05D Wamic, OR 48.10 315 ⇓P P 23 36 15.8 -1.1
baz=48
H04A Detroit Lake 48.53 314 eP P 23 36 20.8 +0.6
246nm,2.8s
YKA Yellowknife Ar 52.53 337 P P 23 36 49.2 -0.9
YKA Yellowknife Ar 52.53 337 P P 23 36 49.2 -0.9
2.3nm,0.9s,baz=124,slow=7.5,SNR=11
RES Resolute Bay 57.44 353 P P 23 37 26.6 +1.2
RES Resolute Bay 57.44 353 P P 23 37 26.6 +1.2
4.5nm,1.1s,baz=144,slow=4.5,SNR=12
SUMG Summit 57.51 12 iP P 23 37 26.1 -0.3
11nm,1.1s
SUMG Summit 57.51 12 eP P 23 37 25.4 -1.0
PLCA Paso Flores 59.00 178 P P 23 37 38.5 +1.7
PLCA Paso Flores 59.00 178 P P 23 37 38.5 +1.7
2.6nm,0.7s,baz=347,slow=6.0,SNR=6.4
SCO Scoresbysund 60.09 18 iP P 23 37 45.4 +1.6
ESDC Sonseca Array 62.30 54 P P 23 37 59.9 +0.4
ESDC Sonseca Array 62.30 54 P P 23 37 59.9 +0.4
1.5nm,0.8s,baz=288,slow=6.4,SNR=3.4
ILAR Eielson Array 66.60 333 P P 23 38 26.3 -0.9
ILAR Eielson Array 66.60 333 P P 23 38 26.3 -0.9
3.0nm,1.2s,baz=89,slow=3.8,SNR=7.4
COLD Coldfoot 68.18 336 eP P 23 38 37.2 +0.1
22nm,1.7s
NOA NORSAR Array B 71.10 31 P P 23 38 55.5 +0.3
NOA NORSAR Array B 71.10 31 P P 23 38 55.5 +0.3
1.1nm,0.7s,baz=277,slow=6.5,SNR=3.1
TORD Torodi Ar. Bea 71.46 82 P P 23 38 56.7 -1.5
TORD Torodi Ar. Bea 71.46 82 P P 23 38 56.7 -1.5
1.3nm,0.8s,baz=278,slow=5.6,SNR=8.6
FETA Feichten 72.35 46 ⇓ipP P 23 39 04.3 +1.1
4.4nm,0.7s
NKC Novy Kostel 73.00 42 eP P 23 39 07.1 +0.2
CLL Collm 73.19 41 eP P 23 39 06.0 -1.9
KEST Kesra 73.22 57 P P 23 39 09.2 +0.7
KEST Kesra 73.22 57 P P 23 39 09.2 +0.7
2.3nm,1.0s,baz=274,slow=12,SNR=7.4
KHC Kasperske Hory 73.90 43 eP P 23 39 12.9 +0.7
KHC epP pP 23 39 15.5 +1.3
KHC ex x 23 39 20.4
GERES GERESS Array B 74.03 43 P P 23 39 13.0 -0.1
GERES GERESS Array B 74.03 43 P P 23 39 13.0 -0.1
2.3nm,0.8s,baz=262,slow=4.8,SNR=12
PRU Pruhonice 74.37 42 eP P 23 39 15.8 +0.9
MOA Molln 74.58 44 ⇑iP P 23 39 16.1 0.0
7.2nm,0.7s
TREC Trest 75.11 43 eP P 23 39 18.7 -0.5
DPC Dobruska-Polom 75.43 41 eP P 23 39 21.1 0.0
DPC epP pP 23 39 24.6 +1.6
ARCES ARCESS Array B 75.68 21 P P 23 39 22.8 +0.7
ARCES ARCESS Array B 75.68 21 P P 23 39 22.8 +0.7
2.9nm,0.8s,baz=279,slow=4.0,SNR=8.0
KRLC Kraliky 75.78 42 eP P 23 39 22.9 -0.2
MORC Moravsky Berou 76.32 42 ⇑iP P 23 39 26.2 0.0
PKSM Moragy 77.85 45 ⇑iP P 23 39 35.7 +0.9
FINES FINESS Array B 78.08 29 P P 23 39 36.3 +0.6
FINES FINESS Array B 78.08 29 P P 23 39 36.3 +0.6
1.7nm,0.7s,baz=258,slow=3.7,SNR=5.8
PSZ Piszkesteto 78.26 43 ⇓iP P 23 39 38.7 +1.6
KWP Kalwaria Pacla 79.60 41 ⇑iP P 23 39 45.8 +1.4
DRGR 80.41 44 ⇑iP P 23 39 48.8 -0.1
BURAR Bucovina Array 81.79 43 ⇑iP P 23 39 54.8 -1.5
MLR Muntele Rosu 82.95 44 ⇑iP P 23 40 03.6 +1.2
BRTR Keskin Array B 90.36 48 P P 23 40 38.9 0.0
BRTR Keskin Array B 90.36 48 P P 23 40 38.9 0.0
0.6nm,0.7s,baz=298,slow=4.5,SNR=3.9
KSH Kashi 115.31 26 ePKP PKPdf 23 46 20.3 +1.0
KSH ePP PP 23 47 29.9 +11
KSH eSKS SKSdf 23 53 27.4 -5.0
KSH eSKKS SKKSac 23 54 18.2 -4.2
WMQ Urumqi 115.44 16 PKP PKPdf 23 46 18.4 -1.0
LZH Lanzhou 125.59 3 ePKP PKPdf 23 46 39.2 0.0
LZH sPKP 23 46 44.0
LZH LR LR
comp=N,140nm,18.1s
LZH LR LR
comp=E,150nm,18.4s
LZH LR LR
comp=Z,180nm,20.1s
CD2 Chengdu 130.74 4 ePKP PKPdf 23 46 46.2 -2.8
GYA Guiyang 135.28 1 ePdif Pdif 23 43 57.8 -2.2
GYA PKP PKPdf 23 46 55.4 -2.4
GYA PP PP 23 49 35.2 +3.4
GYA AMB AMB
comp=Z,90nm,7.8s
STKA Stephens Creek 146.29 240 PKPbc PKPdf 23 47 17.3 +0.1
STKA Stephens Creek 146.29 240 PKPbc PKPdf 23 47 17.3 +0.1
1.5nm,0.6s,baz=131,slow=7.4,SNR=4.5
WRA Warramunga Arr 154.32 262 PKP PKPdf 23 47 29.2 -0.8
WRA PKPbc PKPbc 23 47 36.8 -1.6
WRA Warramunga Arr 154.32 262 PKP PKPdf 23 47 29.2 -0.8
1.1nm,1.0s,baz=79,slow=1.1,SNR=3.8
WRA PKPbc PKPbc 23 47 36.8 -1.6
1.7nm,0.8s,baz=84,slow=2.5,SNR=8.7
ASAR Alice Springs 154.56 254 PKP PKPdf 23 47 31.4 +1.1
ASAR PKPbc PKiKP 23 47 40.0 +1.1
ASAR Alice Springs 154.56 254 PKP PKPdf 23 47 31.4 +1.1
0.5nm,0.7s,baz=60,slow=1.8,SNR=3.2
ASAR PKPbc PKiKP 23 47 39.9 +1.1
0.8nm,0.7s,baz=98,slow=2.1,SNR=6.5

*ISCJB **12** 23:35:36.9±0.3, 18°.34N±0°.04×72°.85W±0°.02, h6km, mb4.1/31, MS4.8/2, Error ellipse: s-maj=5.4km s-min=3.2km az=12.9*
*IDC **12** 23:35:36.9±0.6, 18°.35N×72°.89W, h0km, mb4.0/21, mb1 4.2/24, mb1mx4.2/30, mbtmp4.1/24, ML3.3/3, Error ellipse: s-maj=18.4km s-min=13.0km az=52.0*
*NEIC **12** 23:35:39.2±0.3, 18°.38N×72°.87W, h10km, mb4.6/17, Error ellipse: s-maj=6.1km s-min=4.4km az=208.0*
*BJI **12** 23:35:39.1, 18°.40N×72°.80W, h10km, Ms5.0/1, Ms7 4.7/1*
ISC 12 23:35:38.3±0.4, **18°.37N**±0°.05×**72°.87W**±0°.04, **h6km, n98,** σ1§**49**/110, **mb4.1**/32, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SDDR	Presa de Saban	1.62	68	ePn		Pn	23 36 07.3	-0.1
SDDR				eS		Sn	23 36 28.8	+0.1
GTBY	Guantanamo Bay	2.62	307	ePn		Pn	23 36 21.6	+0.4
GTBY				eS		Sb	23 37 00.6	+2.3
GRTK	Grand Turk	3.53	27	ePn		Pn	23 36 33.8	+0.2
MTDJ	Mount Denham	4.43	269	Pn		Pn	23 36 47.5	+1.3
AGPR	Aguadilla, PR	5.47	88	ePn		Pn	23 37 00.1	-0.3
AGPR				eS		Sg	23 38 32.3	-1.7
CRPR	Cabo Rojo, PR	5.49	93	ePn		Pn	23 37 01.1	+0.5
CRPR				eS		Sn	23 38 05.8	+1.7
LSP	Las Mesas	5.50	91	ePn		Pn	23 37 02.2	+1.4
LSP				eS		Sb	23 38 25.1	+4.1
AOPR	Arecibo Observ	5.81	89	ePn		Pn	23 37 08.2	+3.1
OBIP	Obispado Ponce	5.96	92	ePn		Pn	23 37 08.1	+1.0
OBIP				eS		Sn	23 38 15.5	-0.3
CELP	Cerrillos	5.99	92	ePn		Pn	23 37 07.9	+0.4
CELP				eS		Sn	23 38 19.4	+3.0
CPD	Cerro la Pandu	6.62	92	ePn		Pn	23 37 17.3	+1.1
CBYP	Canovanas	6.66	90	ePn		Pn	23 37 18.3	+1.5
CBYP				eS		Sn	23 38 33.6	+0.4
MTP	Monte Pirata	6.96	91	ePn		Pn	23 37 21.9	+1.1
MTP				eS		Sn	23 38 40.3	-0.1
SDV	Santo Domingo	9.67	167	ePn		Pn	23 37 59.7	+1.4
SDV				eS		Sn	23 39 41.8	-5.6
LZG	Guadaloupe-1	10.83	100	eP		Pn	23 38 16.4	+2.4
MLG	Mont-d'or	10.91	100	eP		Pn	23 38 16.6	+1.5
BCIP	Isla Barro Col	11.38	217	ePn		Pn	23 38 21.7	+0.3
BCIP				eS		Sn	23 40 38.4	+9.4
H05N1	Guadeloupe/Mar	11.46	98	Pn		Pn	23 38 22.3	-0.4
	SNR=5.0							
GRGR	Grenville	12.47	118	ePn		Pn	23 38 37.5	+1.1
ROSC	El Rosal	13.51	186	ePn		Pn	23 38 52.5	+1.6
ROSC				eS		Sn	23 41 26.8	+5.1
ROSC	El Rosal	13.51	186	Pn		Pn	23 38 52.0	+1.1
	0.4nm,0.3s,baz=106,slow=18,SNR=5.0							
ROSC				Sn		Sn	23 41 20.3	-1.4
	1.7nm,0.3s,baz=268,slow=22,SNR=1.7							
TEIG	Tepich	14.66	280	Pn		Pn	23 39 06.9	+0.5
TEIG	Tepich	14.66	280	Pn		Pn	23 39 06.9	+0.5
	0.9nm,0.3s,baz=90,slow=19,SNR=4.0							
BBSR	BB Station	15.77	26	ePn		Pn	23 39 19.0	-1.9
OTAV	Otavalo	18.83	198	ePn		Pn	23 40 01.4	+1.5
	23nm,1.2s							
TKL	Tuckaleechee C	19.75	333	eP		P	23 40 10.0	+1.1
TKL	Tuckaleechee C	19.75	333	P		P	23 40 10.0	+1.1
	0.2nm,0.3s,baz=141,slow=9.7,SNR=5.8							
JSRW	J. Sargeant Re	19.75	348	eP		P	23 40 10.0	+1.1
VWCC	Virginia Weste	19.82	343	eP		P	23 40 10.6	+1.0
CPCT	Cooper Cave	19.91	331	ePn		Pn	23 40 13.7	+1.5
CBN	Corbin	20.15	350	eP		Pn	23 40 15.0	-0.1
	33nm,0.5s							
CBN				LR		LR		
	comp=Z,5μm,19.9s							
SWET	Sewanee	20.40	328	ePn		Pn	23 40 18.6	+0.5
	comp=Z,134nm,2.2s							
TZTN	Tazewell	20.41	335	ePn		Pn	23 40 19.2	+1.0
	comp=Z,38nm,1.3s							
PTGA	Pitinga	22.83	145	eP		P	23 40 42.7	+0.4
	comp=Z,15nm,1.0s							
PTGA	Pitinga	22.83	145	P		P	23 40 42.4	+0.1
	comp=Z,7.6nm,0.8s,baz=334,slow=11,SNR=8.9							
HKT	Hockley	23.86	303	eP		P	23 40 54.0	+1.5
	comp=Z,10nm,1.1s							
WHTX	Lake Whitney	25.98	306	eP		P	23 41 13.0	+1.1
	comp=Z,11nm,0.7s							
SAML	Samuel	28.78	160	eP		P	23 41 36.5	-0.6
	comp=Z,1.3nm,0.9s							
TXAR	Lajitas Array	30.12	297	P		P	23 41 49.7	+0.6
TXAR	Lajitas Array	30.12	297	P		P	23 41 49.7	+0.6
	comp=Z,0.7nm,0.7s,baz=119,slow=9.4,SNR=5.4							
TXAR				PcP		PcP	23 44 51.7	+1.0
	comp=Z,0.3nm,0.7s,baz=141,slow=3.5,SNR=3.1							
LPAZ	La Paz	34.75	172	P		P	23 42 29.3	-0.9
	comp=Z,1.3nm,0.9s							
LPAZ	La Paz	34.75	172	P		P	23 42 27.7	-2.5
	comp=Z,1.1nm,0.9s,baz=12,slow=9.3,SNR=1.9							
SCHQ	Schefferville	36.69	6	P		P	23 42 45.8	-0.1
SCHQ	Schefferville	36.69	6	P		P	23 42 45.8	-0.1
	comp=Z,3.1nm,0.6s,baz=190,slow=6.1,SNR=5.6							
ULM	Lac du Bonnet	36.74	335	P		P	23 42 44.9	-1.5
ULM	Lac du Bonnet	36.74	335	P		P	23 42 44.9	-1.5
	comp=Z,2.5nm,0.8s,baz=167,slow=8.2,SNR=3.2							
PDAR	Pinedale Array	39.40	316	P		P	23 43 09.2	0.0
PDAR	Pinedale Array	39.40	316	P		P	23 43 09.2	0.0
	comp=Z,1.2nm,1.0s,baz=128,slow=11,SNR=4.6							
LOHW	Long Hollow	40.46	317	eP		P	23 43 18.7	+0.7
	comp=Z,8.1nm,1.2s							
REDW	Red Top Meadow	40.52	316	eP		P	23 43 20.5	+2.0
	comp=Z,55nm,2.1s							
MOOW	Moose Ponds	40.62	317	eP		P	23 43 19.7	+0.4
	comp=Z,4.8nm,0.8s							
TPAW	Teton Pass	40.64	316	eP		P	23 43 20.2	+0.7
	comp=Z,99nm,3.0s							
FXWY	Fox Creek	40.75	317	eP		P	23 43 20.8	+0.4
	comp=Z,3.1nm,0.8s							
BDFB	Brasilia	41.73	143	P		P	23 43 28.8	+0.3
BDFB	Brasilia	41.73	143	P		P	23 43 28.8	+0.3
	comp=Z,9.7nm,0.8s,baz=301,slow=11,SNR=15							
BOZ	Bozeman (W)	42.04	319	eP		P	23 43 35.0	+4.1
	comp=Z,14nm,0.8s							
NVAR	Mina Array Bea	44.17	307	P		P	23 43 49.1	+0.8
NVAR	Mina Array Bea	44.17	307	P		P	23 43 49.1	+0.8
	comp=Z,0.5nm,0.6s,baz=87,slow=9.1,SNR=3.8							
FRB	Frobisher Bay	45.44	3	P		P	23 43 56.9	-0.8
FRB	Frobisher Bay	45.44	3	P		P	23 43 56.9	-0.8
	comp=Z,1.7nm,0.7s,baz=182,slow=11,SNR=3.2							
HAWA	Hanford	47.38	317	eP		P	23 44 14.4	+1.2
	comp=Z,11nm,0.7s							
YKA	Yellowknife Ar	52.67	337	P		P	23 44 52.3	-0.8
YKA	Yellowknife Ar	52.67	337	P		P	23 44 52.3	-0.8
	comp=Z,1.3nm,0.8s,baz=123,slow=7.4,SNR=10							
RES	Resolute Bay	57.59	353	P		P	23 45 27.1	-1.4
RES	Resolute Bay	57.59	353	P		P	23 45 27.1	-1.4
	comp=Z,0.5nm,0.4s,baz=174,slow=9.2,SNR=3.7							
SUMG	Summit	57.68	12	iP		P	23 45 34.2	+4.5
	comp=Z,7.4nm,0.8s							
SUMG	Summit	57.68	12	eP		P	23 45 33.1	+3.5
	comp=Z,11nm,1.0s							
ESDC	Sonseca Array	62.42	54	P		P	23 46 03.3	+0.9
ESDC	Sonseca Array	62.42	54	P		P	23 46 03.3	+0.9
	comp=Z,0.2nm,0.3s,baz=261,slow=6.4,SNR=2.9							
ILAR	Eielson Array	66.73	333	P		P	23 46 28.3	-1.7
ILAR	Eielson Array	66.73	333	P		P	23 46 28.3	-1.7
	comp=Z,0.6nm,0.8s,baz=99,slow=5.6,SNR=3.6							
DBIC	Dimbokro	67.09	90	P		P	23 46 32.2	-1.0
DBIC	Dimbokro	67.09	90	P		P	23 46 32.2	-1.0
	comp=Z,5.3nm,1.1s,baz=147,slow=6.0,SNR=3.3							
NB2	NORSAR Subarra	71.26	31	P		P	23 46 59.0	+0.7
	comp=Z,3.2nm,1.1s,baz=275,slow=6.2							
NOA	NORSAR Array B	71.26	31	P		P	23 46 56.8	-1.5
NOA	NORSAR Array B	71.26	31	P		P	23 46 56.8	-1.5
	comp=Z,0.7nm,0.8s,baz=275,slow=6.3,SNR=2.8							
TORD	Torodi Ar. Bea	71.52	82	P		P	23 46 59.3	-1.3
TORD	Torodi Ar. Bea	71.52	82	P		P	23 46 59.3	-1.3
	comp=Z,1.4nm,0.8s,baz=281,slow=4.5,SNR=7.7							
KEST	Kesra	73.33	57	P		P	23 47 12.9	+1.6
KEST	Kesra	73.33	57	P		P	23 47 12.9	+1.6
	comp=Z,0.8nm,0.8s,baz=0.0,slow=8.1,SNR=2.7							
CLL	Collm	73.34	41	eP		P	23 47 15.0	+4.2
GERES	GERESS Array B	74.18	43	P		P	23 47 17.2	+1.2
GERES	GERESS Array B	74.18	43	P		P	23 47 17.2	+1.2
	comp=Z,1.5nm,0.7s,baz=289,slow=4.1,SNR=8.3							
ARCES	ARCESS Array B	75.84	21	P		P	23 47 24.6	-0.5
ARCES	ARCESS Array B	75.84	21	P		P	23 47 24.6	-0.5
	comp=Z,4.6nm,0.9s,baz=316,slow=7.6,SNR=5.2							
FINES	FINESS Array B	78.24	29	P		P	23 47 37.8	-0.9
FINES	FINESS Array B	78.24	29	P		P	23 47 37.8	-0.9
	comp=Z,2.9nm,1.0s,baz=357,slow=5.6,SNR=3.3							
BRTR	Keskin Array B	90.50	48	P		P	23 48 42.1	+0.5
BRTR	Keskin Array B	90.50	48	P		P	23 48 42.1	+0.5
	comp=Z,0.6nm,0.7s,baz=262,slow=4.4,SNR=5.8							
WMQ	Urumqi	115.60	15	PKP		PKPdf	23 54 22.4	+0.6
HHC	Hu-ho-hao-te	120.94	356	ePKP		PKPdf	23 54 32.0	-0.2
HHC				PP		PP	23 56 00.8	+1.2
HHC				SKKS			00 02 59.9	
LZH	Lanzhou	125.75	3	ePKP		PKPdf	23 54 42.1	+0.5
LZH				sPKP			23 54 46.8	
LZH				LR	LR			
	comp=Z,110nm,18.0s							
LZH				LR	LR			
	comp=Z,100nm,18.2s							
LZH				LR	LR			
	comp=Z,150nm,20.0s							
STKA	Stephens Creek	146.18	240	PKPbc		PKPdf	23 55 18.6	-0.4
STKA				ePKPdf		PKPbc	23 55 18.8	-1.3
STKA	Stephens Creek	146.18	240	PKPbc		PKPdf	23 55 18.6	-0.4
	comp=Z,2.9nm,0.9s,baz=108,slow=12,SNR=3.9							
WRA	Warramunga Arr	154.26	262	PKP		PKPdf	23 55 29.6	-2.4
WRA				PKPbc		PKPbc	23 55 38.9	-1.4
WRA	Warramunga Arr	154.26	262	PKP		PKPdf	23 55 29.6	-2.4
	comp=Z,1.0nm,0.9s,baz=87,slow=1.4,SNR=5.3							
WRA				PKPbc		PKPbc	23 55 38.8	-1.4
	comp=Z,1.1nm,0.7s,baz=89,slow=2.6,SNR=9.3							
ASAR	Alice Springs	154.48	253	PKP		PKPdf	23 55 30.2	-2.0
ASAR				PKPbc		PKPbc	23 55 39.4	-1.2
ASAR	Alice Springs	154.48	253	PKP		PKPdf	23 55 30.2	-2.0
	comp=Z,0.2nm,0.3s,baz=46,slow=2.9,SNR=3.8							
ASAR				PKPbc		PKPbc	23 55 39.4	-1.2
	comp=Z,0.4nm,0.6s,baz=119,slow=2.3,SNR=4.1							

*IDC **12** 23:38:51.4±1.0, 18°.48N×72°.50W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/25, mbtmp3.7/6, Error ellipse: s-maj=35.2km s-min=21.6km az=25.0*
*ISCJB **12** 23:38:52.5±1.0, 18°.6N±0°.2×72°.4W±0°.2, h13km, mb3.6/6, Error ellipse: s-maj=32.9km s-min=15.9km az=30.8*
ISC 12 23:38:53.6±1.0, **18°.5N**±0°.2×**72°.5W**±0°.1, **h13km, n8,** σ1§**52**/8, **mb3.7**/6, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
H05N1	Guadeloupe/Mar	11.14	99	Pn		Pn	23 41 32.9	+0.2
PTGA	Pitinga	22.73	146	P		P	23 43 56.5	+1.0
	4.9nm,0.7s,baz=352,slow=14,SNR=4.1							
TXAR	Lajitas Array	30.38	297	P		P	23 45 06.9	+1.3
	0.4nm,0.8s,baz=115,slow=10,SNR=3.0							
YKA	Yellowknife Ar	52.70	337	P		P	23 48 07.0	-0.6
	0.5nm,0.8s,baz=126,slow=7.6,SNR=4.6							
TORD	Torodi Ar. Bea	71.16	82	P		P	23 50 11.0	-1.7
	0.7nm,0.9s,baz=290,slow=6.0,SNR=2.6							
KEST	Kesra	72.98	57	P		P	23 50 24.3	+0.9
	1.2nm,0.8s,baz=219,slow=3.0,SNR=5.6							
GERES	GERESS Array B	73.86	43	P		P	23 50 28.8	+0.5
	0.5nm,0.7s,baz=272,slow=4.8,SNR=3.8							
ASAR	Alice Springs	154.84	254	PKPab		PKPab	23 59 08.6	-2.1
	0.7nm,0.8s,baz=111,slow=4.1,SNR=3.8							

IDC 12 23:43:21.9±5.6, **18°.15N**×**72°.42W**, **h0**km, **mb3.1**/4, **mb1 3.6**/4, **mb1mx3.4**/24, **mbtmp3.1**/4, **Error ellipse: s-maj=155.9km s-min=38.5km az=2.0, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TXAR	Lajitas Array	30.60	297	P		P	23 49 38.3	+0.4
	0.1nm,0.7s,baz=106,slow=12,SNR=2.3							
PDAR	Pinedale Array	39.85	316	P		P	23 50 56.3	-1.3
	0.2nm,0.5s,baz=107,slow=7.9,SNR=2.1							
YKA	Yellowknife Ar	53.03	337	P		P	23 52 40.9	+0.5
	0.2nm,0.7s,baz=122,slow=6.4,SNR=4.2							
GERES	GERESS Array B	74.05	43	P		P	23 54 59.9	0.0
	0.2nm,0.5s,baz=279,slow=1.9,SNR=4.5							

*ISCJB **12** 23:47:13.7±0.6, 45°.48N±0°.04×21°.24E±0°.04, h11km±5km, Error ellipse: s-maj=7.0km s-min=3.8km az=140.9*
*BUC **12** 23:47:14.1±0.6, 45°.50N×21°.29E, h15km±5km, MD2.2/3, Error ellipse: s-maj=10.6km s-min=4.6km az=320.0*
*BEO **12** 23:47:14.1±0.3, 45°.55N×21°.26E, h12km±4km, ML1.8/7*
ISC 12 23:47:14.2±0.9, **45°.51N**±0°.04×**21°.26E**±0°.03, **h14**km±**7**km, **n20,** σ0§**44**/32, **4C-5D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BANR	Banloc	0.15	216	⇑iP		Pg	23 47 17.8	-0.3
BANR	Banloc	0.15	216	S		Sg	23 47 21.0	+0.4
BANR	Banloc	0.15	216	⇑iP		Pg	23 47 17.8	-0.3
BANR				iS		Sg	23 47 21.0	+0.4
BZS	Buzias	0.27	66	⇓iPg		Pg	23 47 20.1	+0.2
BZS				iSg		Sb	23 47 24.7	-0.6
BZS	Buzias	0.27	66	⇓iP		Pb	23 47 20.2	-0.6
BZS	Buzias	0.27	66	S		Sb	23 47 24.9	-0.4
BZS	Buzias	0.27	66	⇓iP		Pb	23 47 20.2	-0.6
BZS				iS		Sb	23 47 24.9	-0.4

*ISCJB **12** 23:47:35.7±0.3, 18°41N±0.04°×72°87W±0.03, h6km, mb3.9/17, MS4.7/1, Error ellipse: s-maj=6.0km s-min=3.5km az=9.8*
*IDC **12** 23:47:36.3±0.6, 18°36N×72°87W, h0km, mb3.9/15, mb1 4.2/17, mb1mx4.0/28, mbtmp4.0/17, ML3.6/2, Error ellipse: s-maj=20.8km s-min=13.8km az=45.0*
*NEIC **12** 23:47:38.1±0.3, 18°42N×72°86W, h10km, mb4.5/4, Error ellipse: s-maj=5.7km s-min=4.5km az=14.0*

ISC 12 23:47:37.5±0.4, **18°43N**±0.05°×**72°90W**±0.04, **h6**km, **n71**, σ1°**65**/84, **mb4.0**/17, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.63**	**70**	*e*Pn	**Pn**	**23 48 05.6**	**-1.2**
SDDR				*e*S	**Sn**	**23 48 26.8**	**-1.3**
GTBY	**Guantanamo Bay**	**2.56**	**306**	*e*Pn	**Pn**	**23 48 17.9**	**-1.7**
GTBY				*e*S	**Sn**	**23 48 50.6**	**-0.5**
GRTK	**Grand Turk**	**3.49**	**28**	*e*Pn	**Pn**	**23 48 31.5**	**-0.9**
GRTK				*e*S	Sn	23 49 05.9	-8.2
MTDJ	**Mount Denham**	**4.40**	**268**	*e*Pn	**Pn**	**23 48 45.6**	**+0.6**
MTDJ				*e*S	**Sb**	**23 49 46.6**	**-2.2**
AGPR	**Aguadilla, PR**	**5.50**	**89**	Pn	**Pn**	**23 49 01.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**5.52**	**93**	*e*Pn	**Pn**	**23 49 00.0**	**-0.3**
CRPR				*e*S	Sb	23 50 13.3	-7.6
LSP	**Las Mesas**	**5.53**	**92**	*e*Pn	**Pn**	**23 49 00.9**	**+0.4**
LSP				*e*S	**Sb**	**23 50 26.0**	**+4.7**
AOPR	**Arecibo Observ**	**5.84**	**90**	*e*Pn	**Pn**	**23 49 05.1**	**+0.4**
OBIP	**Obispado Ponce**	**6.00**	**93**	*e*Pn	**Pn**	**23 49 06.4**	**-0.4**
OBIP				*e*S	**Sn**	**23 50 15.9**	**0.0**
CELP	**Cerrillos**	**6.02**	**92**	*e*Pn	**Pn**	**23 49 06.6**	**-0.6**
CELP				*e*S	**Sn**	**23 50 15.9**	**-0.6**
CPD	**Cerro la Pandu**	**6.65**	**92**	*e*Pn	**Pn**	**23 49 16.0**	**+0.1**
CBYP	**Canovanas**	**6.70**	**90**	*e*Pn	**Pn**	**23 49 16.6**	**+0.1**
CBYP				*e*S	**Sn**	**23 50 34.1**	**+0.9**
HUMP	**Col San Antoni**	**6.71**	**91**	*e*Pn	**Pn**	**23 49 19.4**	**+2.8**
MTP	**Monte Pirata**	**6.99**	**92**	*e*Pn	**Pn**	**23 49 19.5**	**-1.1**
MTP				*e*S	**Sn**	**23 50 41.7**	**+1.2**
CDVI	**St. Croix**	**7.77**	**94**	*e*Pn	**Pn**	**23 49 29.1**	**-2.1**
SDV	**Santo Domingo**	**9.74**	**167**	*e*Pn	**Pn**	**23 49 58.6**	**+0.2**
SDV				*e*S	**Sn**	**23 51 43.5**	**-4.8**
LZG	**Guadaloupe-1**	**10.87**	**100**	*e*P	**Pn**	**23 50 13.4**	**-0.3**
BCIP	**Isla Barro Col**	**11.40**	**217**	*e*Pn	**Pn**	**23 50 20.9**	**-0.1**
H05N1	**Guadeloupe/Mar** SNR=6.7	**11.51**	**99**	Pn	**Pn**	**23 50 22.1**	**-0.4**
ROSC	**El Rosal**	**13.56**	**186**	*e*Pn	**Pn**	**23 50 52.5**	**+1.6**
ROSC				S	**Sn**	**23 53 27.6**	**+5.3**
ROSC	**El Rosal** 1.2nm,0.3s,baz=98,slow=14,SNR=9.2	**13.56**	**186**	Pn	**Pn**	**23 50 52.6**	**+1.7**
TEIG	**Tepich**	**14.62**	**280**	*e*Pn	**Pn**	**23 51 06.5**	**+1.4**
TEIG	**Tepich** 0.6nm,0.3s,baz=148,slow=6.2,SNR=1.9	**14.62**	**280**	Pn	**Pn**	**23 51 07.0**	**+1.9**
BBSR	**BB Station**	**15.73**	**26**	Pn	**Pn**	**23 51 18.0**	**-1.7**
OTAV	**Otavalo** 34nm,1.5s	**18.88**	**197**	*e*Pn	**Pn**	**23 51 59.7**	**-0.1**
TKL	**Tuckaleechee C**	**19.68**	**333**	P	**Pn**	**23 52 09.3**	**+0.5**
TKL	**Tuckaleechee C** 0.1nm,0.3s,baz=156,slow=14,SNR=3.4	**19.68**	**333**	P	**Pn**	**23 52 09.3**	**+0.5**
JSRW	**J. Sargeant Re**	**19.68**	**348**	*e*P	**Pn**	**23 52 08.5**	**-0.3**
VWCC	**Virginia Weste**	**19.75**	**343**	*e*P	**P**	**23 52 08.9**	**+0.7**
CPCT	**Cooper Cave**	**19.84**	**331**	*e*P	**Pn**	**23 52 14.7**	**+4.0**
SWET	**Sewanee** 51nm,1.8s	**20.33**	**328**	*e*P	Pn	23 52 20.4	+3.8
PTGA	**Pitinga** 21nm,1.3s	**22.90**	**145**	*e*P	**P**	**23 52 41.8**	**-0.5**
PTGA	**Pitinga** 9.8nm,0.8s,baz=334,slow=11,SNR=12	**22.90**	**145**	P	**P**	**23 52 41.7**	**-0.5**
SAML	**Samuel** 1.6nm,0.8s	**28.84**	**160**	*e*P	**P**	**23 53 35.6**	**-1.3**
TXAR	**Lajitas Array**	**30.07**	**297**	P	**P**	**23 53 48.5**	**+0.7**
TXAR	**Lajitas Array** 0.8nm,0.9s,baz=118,slow=6.5,SNR=7.1	**30.07**	**297**	P	**P**	**23 53 48.5**	**+0.7**
TXAR				PcP	**PcP**	**23 56 49.6**	**-0.2**
	0.5nm,1.0s,baz=241,slow=1.7,SNR=3.3						
LPM	**Los Pinos Moun**	**33.92**	**305**	*e*P	**P**	**23 54 23.5**	**+1.7**
LPAZ	**La Paz**	**34.81**	**172**	P	**P**	**23 54 29.6**	**-0.4**
LPAZ	**La Paz** 1.1nm,0.7s,baz=14,slow=3.0,SNR=4.3	**34.81**	**172**	P	**P**	**23 54 29.6**	**-0.4**
SCHQ	**Schefferville**	**36.64**	**6**	P	**P**	**23 54 45.3**	**+0.7**
SCHQ	**Schefferville** 2.3nm,0.5s,baz=240,slow=16,SNR=3.1	**36.64**	**6**	P	**P**	**23 54 45.3**	**+0.7**
PDAR	**Pinedale Array**	**39.34**	**316**	P	**P**	**23 55 08.1**	**+0.2**
PDAR	**Pinedale Array** 0.6nm,0.9s,baz=128,slow=12,SNR=2.8	**39.34**	**316**	P	**P**	**23 55 08.1**	**+0.2**
BDFB	**Brasilia**	**41.80**	**143**	P	**P**	**23 55 28.0**	**-0.4**
BDFB	**Brasilia** 13nm,1.0s,baz=307,slow=11,SNR=13	**41.80**	**143**	P	**P**	**23 55 28.0**	**-0.4**
YBH	**Yreka Blue Hor**	**48.17**	**310**	P	**P**	**23 56 19.4**	**+0.6**
YBH	**Yreka Blue Hor** 1.8nm,0.8s,baz=90,slow=5.1,SNR=3.5	**48.17**	**310**	P	**P**	**23 56 19.4**	**+0.6**
YKA	**Yellowknife Ar**	**52.60**	**337**	P	**P**	**23 56 51.1**	**-0.8**
YKA	**Yellowknife Ar** 0.8nm,0.8s,baz=125,slow=7.1,SNR=16	**52.60**	**337**	P	**P**	**23 56 51.1**	**-0.8**
SUMG	**Summit** 5.2nm,0.9s	**57.63**	**12**	*i* P	**P**	**23 57 29.8**	**+1.2**
ESDC	**Sonseca Array**	**62.41**	**54**	P	**P**	**23 58 01.8**	**+0.2**
ESDC	**Sonseca Array** 0.8nm,0.7s,baz=270,slow=6.4,SNR=3.6	**62.41**	**54**	P	**P**	**23 58 01.8**	**+0.2**
ILAR	**Eielson Array**	**66.66**	**333**	P	**P**	**23 58 28.4**	**-0.4**
ILAR	**Eielson Array** 0.7nm,1.1s,baz=128,slow=4.0,SNR=3.6	**66.66**	**333**	P	**P**	**23 58 28.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**71.54**	**82**	P	**P**	**23 58 57.9**	**-2.1**
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=286,slow=3.1,SNR=7.1	**71.54**	**82**	P	**P**	**23 58 57.9**	**-2.1**
KEST	**Kesra**	**73.33**	**57**	P	**P**	**23 59 10.7**	**+0.2**
KEST	**Kesra** 1.4nm,1.0s,baz=243,slow=2.3,SNR=2.5	**73.33**	**57**	P	**P**	**23 59 10.7**	**+0.2**
GERES	**GERESS Array B**	**74.16**	**43**	P	**P**	**23 59 15.5**	**+0.4**
GERES	**GERESS Array B** 1.5nm,0.9s,baz=276,slow=3.9,SNR=6.8	**74.16**	**43**	P	**P**	**23 59 15.5**	**+0.4**
FINES	**FINESS Array B**	**78.21**	**29**	P	**P**	**23 59 39.2**	**+1.4**
FINES	**FINESS Array B** 1.0nm,0.8s,baz=266,slow=5.5,SNR=3.4	**78.21**	**29**	P	**P**	**23 59 39.2**	**+1.4**
BRTR	**Keskin Array B**	**90.49**	**48**	P	**P**	**00 00 39.5**	**-1.2**
BRTR	**Keskin Array B** 0.7nm,1.0s,baz=294,slow=1.4,SNR=3.5	**90.49**	**48**	P	**P**	**00 00 39.5**	**-1.2**
KSH	**Kashi**	**115.44**	**26**	*e*PKP	**PKPdf**	**00 06 20.0**	**-0.9**
KSH				*e*SKS	**SKSdf**	**00 13 27.3**	**-6.6**
WMQ	**Urumqi**	**115.56**	**15**	PKP	**PKPdf**	**00 06 21.4**	**+0.5**
LZH	**Lanzhou**	**125.70**	**3**	*e*PKP	**PKPdf**	**00 06 42.5**	**+1.7**
LZH				sPKP		00 06 47.0	
LZH	comp=N,120nm,18.3s			LR	LR		
LZH	comp=E,110nm,18.0s			LR	LR		
LZH	comp=Z,160nm,20.2s			LR	LR		
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**	**00 07 30.6**	**-0.6**
WRA				PKPbc	**PKPbc**	**00 07 37.8**	**-1.7**
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=45,slow=3.5,SNR=4.3	**154.23**	**262**	PKP	**PKPdf**	**00 07 30.6**	**-0.6**
WRA	0.8nm,0.7s,baz=87,slow=2.4,SNR=6.0			PKPbc	**PKPbc**	**00 07 37.8**	**-1.7**
ASAR	**Alice Springs**	**154.46**	**254**	PKPbc	**PKPbc**	**00 07 38.5**	**-1.4**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=132,slow=1.4,SNR=3.2	**154.46**	**254**	PKPbc	**PKPbc**	**00 07 38.6**	**-1.4**

*ISCJB **12** 23:54:57.8±0.7, 18°5N±0.1°×72°8W±0.1°, h6km, mb3.5/7, Error ellipse: s-maj=18.6km s-min=14.3km az=42.8*
*IDC **12** 23:54:58.2±0.9, 18°39N×72°82W, h0km, mb3.6/7, mb1 4.0/9, mb1mx3.8/26, mbtmp3.8/9, ML3.5/2, Error ellipse: s-maj=31.5km s-min=20.4km az=30.0*

ISC 12 23:54:59.5±0.7, **18°5N**±0.1°×**72°8W**±0.1°, **h6**km, **n10**, σ1°**23**/10, **mb3.6**/7, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal** 1.9nm,0.3s,baz=75,slow=20,SNR=2.3	**13.61**	**187**	Pn	**Pn**	**23 58 14.1**	**+0.6**
TEIG	**Tepich** 1.0nm,0.3s,baz=104,slow=4.2,SNR=5.1	**14.74**	**279**	Pn	**Pn**	**23 58 29.1**	**+0.6**
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=154,slow=8.6,SNR=2.8	**30.16**	**297**	P	**P**	**00 01 10.4**	**-0.2**
BDFB	**Brasilia** 3.4nm,0.8s,baz=350,slow=6.8,SNR=4.0	**41.75**	**143**	P	**P**	**00 02 49.3**	**-0.6**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=79,slow=6.5,SNR=3.3	**44.19**	**306**	P	**P**	**00 03 09.3**	**-0.3**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=125,slow=7.4,SNR=11	**52.62**	**337**	P	**P**	**00 04 13.5**	**-0.5**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=248,slow=7.2,SNR=2.9	**71.42**	**82**	P	**P**	**00 06 20.2**	**-1.0**
GERES	**GERESS Array B**	**74.05**	**43**	P	**P**	**00 06 37.3**	**+0.9**
	0.6nm,0.9s,baz=329,slow=1.6,SNR=4.8						
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=317,slow=7.9,SNR=3.7	**90.37**	**48**	P	**P**	**00 08 03.9**	**+1.8**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=88,slow=3.2,SNR=6.3	**154.36**	**262**	PKPbc	**PKPbc**	**00 14 59.6**	**-2.1**

*ISCJB **12** 23:55:25.8±0.9, 18°4N±0.1°×72°8W±0.2, h6km, mb3.6/5, Error ellipse: s-maj=22.3km s-min=15.4km az=152.6*
*IDC **12** 23:55:26.3±1.0, 18°37N×72°78W, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.8/26, mbtmp3.9/7, ML3.2/2, Error ellipse: s-maj=40.6km s-min=23.0km az=55.0*

ISC 12 23:55:27.4±0.9, **18°4N**±0.1°×**72°8W**±0.2, **h6**km, **n8**, σ1°**14**/8, **mb3.6**/5, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal** 1.6nm,0.3s,baz=92,slow=22,SNR=4.1	**13.57**	**187**	Pn	**Pn**	**23 58 41.7**	**+0.7**
TEIG	**Tepich** 0.3nm,0.3s,baz=108,slow=21,SNR=3.3	**14.75**	**280**	Pn	**Pn**	**23 58 56.5**	**-0.2**
BDFB	**Brasilia** 5.5nm,0.7s,baz=299,slow=10,SNR=7.5	**41.72**	**143**	P	**P**	**00 03 16.9**	**-0.7**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=83,slow=7.4,SNR=2.9	**44.21**	**307**	P	**P**	**00 03 38.7**	**+0.9**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=124,slow=7.4,SNR=6.1	**52.65**	**337**	P	**P**	**00 04 42.3**	**+0.1**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=106,slow=4.1,SNR=4.6	**66.72**	**333**	P	**P**	**00 06 18.5**	**-0.6**
GERES	**GERESS Array B** 0.5nm,0.7s,baz=343,slow=5.6,SNR=3.1	**74.07**	**43**	P	**P**	**00 07 05.4**	**+0.9**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=78,slow=1.3,SNR=4.6	**154.36**	**262**	PKPbc	**PKPbc**	**00 15 27.8**	**-1.9**

*IDC **12** 23:55:35.2±1.6, 8°78S×126°36E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=152.3km s-min=31.6km az=60.0*
*ISCJB **12** 23:55:43.8±0.8, 9°70S±0.06°×125°77E±0.06, h33km, mb3.5/1, Error ellipse: s-maj=10.2km s-min=7.0km az=44.7*

ISC 12 23:55:45.1±1.0, **9°70S**±0.09°×**125°72E**±0.09, **h35**km, **n13**, σ1°**84**/14, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe** baz=1.8,SNR=10	**1.43**	**268**	P	**Pn**	**23 56 09.2**	**+0.4**
MTN	**Manton Dam** baz=6.0,SNR=5.7	**6.16**	**121**	P	**Pn**	**23 57 15.8**	**+2.2**
MTN	baz=6.0,SNR=3.6			S	**Sn**	**23 58 23.2**	**+0.3**
KNRA	**Kununurra** baz=6.7,SNR=3.4	**6.64**	**154**	P	Pn	23 57 24.7	+4.5
KDU	**Kakadu** baz=7.1,SNR=5.6	**7.26**	**115**	P	**Pn**	**23 57 30.7**	**+2.0**
LUWI	**Luwuk** baz=8.1,SNR=3.3	**9.09**	**341**	P	**Pn**	**23 57 54.2**	**+0.3**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=319,slow=13,SNR=21	**13.15**	**142**	Pn	**Pn**	**23 58 47.8**	**-1.6**
WRA	0.5nm,0.3s,baz=314,slow=23,SNR=7.1			Sn	Sn	00 01 09.4	-5.2
WRKA	**Warakurna** baz=16,SNR=3.7	**15.45**	**171**	P	**Pn**	**23 59 21.1**	**+0.6**
WRKA	baz=16,SNR=4.0			S	**Sn**	**00 02 11.3**	**+0.8**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=323,slow=11,SNR=17	**15.94**	**152**	Pn	**Pn**	**23 59 27.6**	**+0.7**
ASAR	0.2nm,0.3s,baz=319,slow=18,SNR=12			Sn	**Sn**	**00 02 19.7**	**-2.8**
MEEK	**Meekatharra** baz=18,SNR=4.7	**18.14**	**201**	P	Pn	00 00 01.1	+6.7
MEEK	baz=18,SNR=3.2			S	**Sn**	**00 03 13.6**	**-2.2**
QLP	**Quilpie** baz=24,SNR=3.5	**24.26**	**136**	P	**P**	**00 01 01.1**	**+2.0**
BTDF	**Bukit Timah Da** baz=25,SNR=10	**24.46**	**296**	P	**P**	**00 01 01.4**	**+0.4**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=129,slow=7.1,SNR=3.3	**68.27**	**329**	P	P	00 06 34.7	-7.8
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=74,slow=1.7,SNR=3.6	**125.12**	**279**	PKP	**PKPdf**	**00 14 40.2**	**-2.7**

IDC 13 00:00:01.5±3.1, **18°18N×72°18W, h0**km, **mb3.2**/2, **mb1 3.6**/2, **mb1mx3.3**/24, **mbtmp3.2**/2, **Error ellipse: s-maj=90.3km s-min=69.0km az=58.0, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=125,slow=10,SNR=3.1	**30.79**	**297**	P	P	00 06 19.1	-0.1
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=123,slow=6.8,SNR=3.7	**53.09**	**337**	P	P	00 09 20.3	-0.1
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=87,slow=2.9,SNR=5.6	**154.88**	**262**	PKPbc	**PKPbc**	**00 20 06.0**	**+0.1**

*ISCJB **13** 00:10:17.7±0.3, 18°48N±0.04°×72°62W±0.03, h13km, mb3.9/16, Error ellipse: s-maj=5.6km s-min=3.7km az=9.0*
*IDC **13** 00:10:18.0±0.7, 18°53N×72°66W, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/26, mbtmp3.9/15, ML2.7/1, Error ellipse: s-maj=22.2km s-min=17.1km az=57.0*
*NEIC **13** 00:10:19.1±0.2, 18°49N×72°64W, h10km, mb4.3/4, Error ellipse: s-maj=5.1km s-min=4.6km az=35.0*

ISC 13 00:10:19.5±0.4, **18°46N**±0.05°×**72°66W**±0.04, **h13**km, **n56**, σ1°**28**/65, **mb4.0**/16, **1C-2D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.40**	**68**	*e*Pn	**Pn**	**00 10 43.0**	**-1.8**
SDDR				*e*Sn	**Sn**	**00 10 59.9**	**-3.2**
GTBY	**Guantanamo Bay**	**2.74**	**303**	*e*Pn	**Pn**	**00 11 03.0**	**-0.2**
GTBY				*e*Sn	**Sn**	**00 11 34.1**	**-2.1**
GRTK	**Grand Turk**	**3.36**	**25**	*e*Pn	**Pn**	**00 11 10.3**	**-1.4**
GRTK				*e*Sn	**Sn**	**00 11 49.5**	**-1.9**
CRPR	**Cabo Rojo, PR** 75nm,0.4s	**5.29**	**94**	*e*Pn	**Pn**	**00 11 38.4**	**+0.1**
CRPR				*e*Sn	**Sn**	**00 12 39.8**	**+0.6**
LSP	**Las Mesas**	**5.30**	**92**	*e*Pn	**Pn**	**00 11 38.5**	**0.0**
LSP				*e*Sn	**Sn**	**00 12 38.9**	**-0.5**
CELP	**Cerrillos**	**5.79**	**93**	*e*Pn	**Pn**	**00 11 44.7**	**-0.4**
CELP				*e*Sn	**Sn**	**00 12 49.5**	**-1.9**
CBYP	**Canovanas** 44nm,0.6s	**6.46**	**91**	*e*Pn	**Pn**	**00 11 54.6**	**+0.2**
CBYP				*e*Sn	**Sn**	**00 13 07.8**	**-0.4**
MTP	**Monte Pirata** 47nm,0.8s	**6.76**	**92**	*e*Pn	**Pn**	**00 11 58.3**	**-0.2**
MTP				*e*Sn	**Sn**	**00 13 14.3**	**-1.1**
SDV	**Santo Domingo** 8.1nm,0.6s	**9.72**	**168**	*e*Pn	**Pn**	**00 12 39.4**	**+0.1**
SDV				*e*Sn	**Sn**	**00 14 23.2**	**-5.3**
H05N1	**Guadeloupe/Mar** SNR=8.9	**11.28**	**99**	Pn	**Pn**	**00 13 00.6**	**+0.1**
BCIP	**Isla Barro Col**	**11.57**	**218**	*e*Pn	**Pn**	**00 13 03.7**	**-0.8**
ROSC	**El Rosal**	**13.62**	**187**	*e*Pn	**Pn**	**00 13 34.5**	**+1.6**
ROSC	**El Rosal** 0.8nm,0.3s,baz=88,slow=13,SNR=6.1	**13.62**	**187**	Pn	**Pn**	**00 13 33.6**	**+0.7**
TEIG	**Tepich**	**14.85**	**279**	*e*Pn	**Pn**	**00 13 48.1**	**-1.2**
OTAV	**Otavalo** 8.0nm,1.0s	**18.98**	**198**	*e*P	**Pn**	**00 14 42.0**	**0.0**
VWCC	**Virginia Weste**	**19.79**	**343**	*e*P	**P**	**00 14 50.3**	**+0.7**
BLA	**Blacksburg** 34nm,1.0s	**19.89**	**342**	*e*P	**P**	**00 14 51.1**	**+0.4**
PTGA	**Pitinga**	**22.79**	**145**	P	**P**	**00 15 22.2**	**+0.1**
PTGA	**Pitinga** 7.2nm,0.9s,baz=329,slow=11,SNR=9.0	**22.79**	**145**	P	**P**	**00 15 22.2**	**+0.1**
SAML	**Samuel** 2.7nm,0.7s	**28.79**	**160**	*e*P	**P**	**00 16 16.5**	**-0.9**
TXAR	**Lajitas Array**	**30.26**	**297**	P	**P**	**00 16 31.7**	**+1.2**
TXAR	**Lajitas Array** 0.5nm,0.9s,baz=119,slow=10,SNR=4.6	**30.26**	**297**	P	**P**	**00 16 31.7**	**+1.2**
LPAZ	**La Paz** 0.6nm,0.5s	**34.81**	**172**	*e*P	**P**	**00 17 12.0**	**+1.0**
LPAZ	**La Paz** 0.9nm,0.8s,baz=252,slow=3.2,SNR=3.6	**34.81**	**172**	P	**P**	**00 17 12.8**	**+1.8**
SCHQ	**Schefferville**	**36.58**	**6**	P	**P**	**00 17 24.9**	**-0.2**
SCHQ	**Schefferville** 3.4nm,0.5s,baz=213,slow=8.4,SNR=5.1	**36.58**	**6**	P	**P**	**00 17 24.9**	**-0.2**
ULM	**Lac du Bonnet**	**36.74**	**335**	P	**P**	**00 17 25.6**	**-1.0**
ULM	**Lac du Bonnet** 2.0nm,0.8s,baz=141,slow=6.5,SNR=2.8	**36.74**	**335**	P	**P**	**00 17 25.6**	**-1.0**
PDAR	**Pinedale Array**	**39.48**	**316**	P	**P**	**00 17 50.0**	**0.0**
PDAR	**Pinedale Array** 0.5nm,0.6s,baz=131,slow=9.3,SNR=4.3	**39.48**	**316**	P	**P**	**00 17 50.0**	**0.0**
LVC	**Limon Verde**	**40.98**	**175**	*e*P	**P**	**00 18 02.6**	**0.0**
NVAR	**Mina Array Bea**	**44.28**	**306**	P	**P**	**00 18 30.5**	**+1.2**
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=94,slow=6.7,SNR=3.4	**44.28**	**306**	P	**P**	**00 18 30.5**	**+1.2**
YKA	**Yellowknife Ar**	**52.66**	**337**	P	**P**	**00 19 32.4**	**-0.9**
YKA	**Yellowknife Ar** 0.8nm,0.8s,baz=123,slow=7.1,SNR=12	**52.66**	**337**	P	**P**	**00 19 32.3**	**-0.9**
SUMG	**Summit** 6.3nm,1.1s	**57.55**	**12**	*i* P	**P**	**00 20 08.9**	**0.0**
PLCA	**Paso Flores**	**58.92**	**178**	*e*P	**P**	**00 20 19.0**	**+0.6**
ESDC	**Sonseca Array**	**62.20**	**54**	P	**P**	**00 20 41.2**	**+0.2**
ESDC	**Sonseca Array** 1.6nm,0.7s,baz=270,slow=7.1,SNR=7.8	**62.20**	**54**	P	**P**	**00 20 41.2**	**+0.2**
ILAR	**Eielson Array**	**66.74**	**333**	P	**P**	**00 21 09.9**	**-0.3**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=92,slow=5.9,SNR=4.7	**66.74**	**333**	P	**P**	**00 21 09.9**	**-0.3**
KEST	**Kesra**	**73.12**	**57**	P	**P**	**00 21 51.3**	**+1.2**
KEST	**Kesra** 1.4nm,0.8s,baz=267,slow=13,SNR=5.7	**73.12**	**57**	P	**P**	**00 21 51.3**	**+1.2**
GERES	**GERESS Array B**	**73.97**	**43**	P	**P**	**00 21 56.0**	**+1.1**
GERES	**GERESS Array B** 1.5nm,0.8s,baz=284,slow=5.4,SNR=7.9	**73.97**	**43**	P	**P**	**00 21 56.0**	**+1.1**
FINES	**FINESS Array B**	**78.07**	**29**	P	**P**	**00 22 17.9**	**+0.1**
FINES	**FINESS Array B** 1.4nm,0.9s,baz=346,slow=3.9,SNR=3.9	**78.07**	**29**	P	**P**	**00 22 17.9**	**+0.1**
DRGR		**80.35**	**44**	∥ *i*P	**P**	**00 22 32.7**	**+2.0**
MLR	**Muntele Rosu**	**82.89**	**44**	∥ *i*P	**P**	**00 22 46.5**	**+2.2**
VRI	**Vrincioaia**	**83.28**	**44**	∥ *i*P	**P**	**00 22 48.7**	**+2.6**
BRTR	**Keskin Array B**	**90.29**	**48**	P	**P**	**00 23 20.5**	**-0.2**
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=310,slow=4.2,SNR=3.3	**90.29**	**48**	P	**P**	**00 23 20.5**	**-0.2**
WRA	**Warramunga Arr**	**154.47**	**262**	PKPbc	**PKPbc**	**00 30 20.2**	**-0.6**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=89,slow=2.9,SNR=4.3	**154.47**	**262**	PKPbc	**PKPbc**	**00 30 20.2**	**-0.6**
ASAR	**Alice Springs**	**154.70**	**254**	PKPab	**PKPab**	**00 30 36.3**	**+0.2**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=90,slow=2.8,SNR=4.5	**154.70**	**254**	PKPab	**PKPab**	**00 30 36.3**	**+0.2**

*ISCJB **13** 00:22:28.7±0.7, 18°6N±0.1°×72°7W±0.2, h13km, mb3.6/8, Error ellipse: s-maj=23.3km s-min=14.1km az=159.7*
*IDC **13** 00:22:28.3±0.8, 18°57N×72°64W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/26, mbtmp3.8/9, ML2.4/1, Error ellipse: s-maj=31.4km s-min=19.0km az=51.0*

ISC 13 00:22:30.3±0.7, **18°6N**±0.1°×**72°7W**±0.2, **h13**km, **n10**, σ0°**86**/10, **mb3.7**/8, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal** 0.4nm,0.3s,baz=169,slow=5.2,SNR=6.0	**13.70**	**187**	Pn	**Pn**	**00 25 44.5**	**-0.3**
PTGA	**Pitinga** 5.7nm,1.0s,baz=334,slow=12,SNR=5.0	**22.86**	**146**	P	**P**	**00 27 34.3**	**+0.6**
TXAR	**Lajitas Array** 0.5nm,1.0s,baz=116,slow=14,SNR=3.2	**30.22**	**297**	P	**P**	**00 28 41.5**	**+0.5**
BDFB	**Brasilia** 3.8nm,0.7s,baz=302,slow=9.1,SNR=5.5	**41.75**	**143**	P	**P**	**00 30 20.1**	**+0.5**
YKA	**Yellowknife Ar** 0.5nm,0.8s,baz=124,slow=7.2,SNR=8.1	**52.58**	**337**	P	**P**	**00 31 44.0**	**+0.5**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=99,slow=10,SNR=3.4	**66.66**	**333**	P	**P**	**00 33 20.8**	**+0.2**
TORD	**Torodi Ar. Bea** 0.8nm,1.1s,baz=291,slow=6.0,SNR=3.4	**71.29**	**82**	P	**P**	**00 33 50.5**	**+0.3**
GERES	**GERESS Array B** 0.5nm,0.7s,baz=259,slow=8.9,SNR=2.3	**73.91**	**43**	P	**P**	**00 34 04.6**	**-0.7**
BRTR	**Keskin Array B** 0.4nm,0.9s,baz=30,slow=12,SNR=2.1	**90.23**	**48**	P	**P**	**00 35 30.9**	**-0.3**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=88,slow=2.2,SNR=3.5	**154.49**	**262**	PKPbc	**PKPbc**	**00 42 29.8**	**-1.8**

*ISCJB **13** 00:23:10.8±0.5, 18°49N±0.07°×72°80W±0.08, h6km, mb4.0/14, Error ellipse: s-maj=11.9km s-min=8.7km az=141.3*
*IDC **13** 00:23:11.7±0.6, 18°49N×72°79W, h0km, mb4.1/12, mb1 4.4/14, mb1mx4.2/27, mbtmp4.2/14, ML3.5/2, Error ellipse: s-maj=23.5km s-min=14.5km az=57.0*
*NEIC **13** 00:23:13.2±0.3, 18°50N×72°79W, h10km, mb4.5/3, Error ellipse: s-maj=8.2km s-min=5.8km az=50.0*

**ISC 13 00:23:12.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.43**	**65**	Pn	**Pn**	**00 24 21.9**	**0.0**
SDDR				*e*S	**Sb**	**00 24 41.1**	**+0.3**
AGPR	**Aguadilla, PR**	**5.27**	**88**	Pn	**Pn**	**00 25 16.4**	**+1.8**
AGPR				*e*S	Sn	00 26 22.3	+7.1
CELP	**Cerrillos**	**5.79**	**92**	*e*Pn	**Pn**	**00 25 21.6**	**-0.2**
CELP				*e*S	**Sn**	**00 26 28.6**	**+0.6**
CBYP	**Canovanas** 108nm,0.8s	**6.46**	**90**	*e*Pn	**Pn**	**00 25 32.6**	**+1.5**
CBYP				*e*S	Sn	00 26 35.5	-9.3
MTP	**Monte Pirata** 133nm,0.9s	**6.76**	**91**	*e*Pn	**Pn**	**00 25 36.0**	**+0.8**
MTP				*e*S	**Sn**	**00 26 53.4**	**+1.4**
ANWB	**Willy Bob**	**10.37**	**92**	Pn	**Pn**	**00 26 24.0**	**-0.6**
LZG	**Guadaloupe-1**	**10.63**	**100**	*e*P	**Pn**	**00 26 29.6**	**+1.3**
PHG	**Guadaloupe-2**	**10.79**	**101**	*e*P	**Pn**	**00 26 31.4**	**+0.9**
SEG	**Port Louis**	**10.83**	**99**	*e*P	**Pn**	**00 26 31.9**	**+1.0**
DEG	**La Desirade**	**11.26**	**99**	*e*P	**Pn**	**00 26 37.6**	**+0.6**
H05N1	**Guadeloupe/Mar** SNR=14	**11.27**	**99**	Pn	**Pn**	**00 26 36.8**	**-0.2**
BCIP	**Isla Barro Col**	**11.51**	**218**	*e*Pn	**Pn**	**00 26 40.5**	**+0.2**
FDF	**Fort de France** 151nm,0.8s	**11.61**	**107**	*e*Pn	Pn	00 26 46.9	+5.1
GRGR	**Grenville**	**12.30**	**119**	*e*Pn	**Pn**	**00 26 49.9**	**-1.2**
ROSC	**El Rosal**	**13.54**	**187**	Pn	**Pn**	**00 27 08.6**	**+0.1**
ROSC	**El Rosal** 1.2nm,0.3s,baz=90,slow=20,SNR=7.4	**13.54**	**187**	Pn	**Pn**	**00 27 08.6**	**+0.1**
JTS	**JuntasAbangare**	**14.37**	**238**	*e*Pn	P	00 27 23.1	-3.3
JTS	**JuntasAbangare** 0.7nm,0.3s,baz=331,slow=19,SNR=2.0	**14.37**	**238**	Pn	**Pn**	**00 27 21.7**	**+2.2**
TEIG	**Tepich**	**14.86**	**280**	Pn	**Pn**	**00 27 26.0**	**-0.1**
TEIG	**Tepich** 0.8nm,0.3s,baz=90,slow=12,SNR=2.4	**14.86**	**280**	Pn	**Pn**	**00 27 26.0**	**-0.1**
TKL	**Tuckaleechee C**	**19.83**	**332**	P	**Pn**	**00 28 27.6**	**-0.6**
TKL	**Tuckaleechee C** 0.3nm,0.3s,baz=148,slow=16,SNR=3.4	**19.83**	**332**	P	**Pn**	**00 28 27.6**	**-0.6**
VWCC	**Virginia Weste**	**19.86**	**343**	P	**P**	**00 28 27.6**	**+0.5**
PTGA	**Pitinga**	**22.73**	**145**	P	**P**	**00 28 59.8**	**+1.7**
PTGA	**Pitinga** 22nm,0.7s,baz=328,slow=12,SNR=15	**22.73**	**145**	P	**P**	**00 28 59.2**	**+1.2**
SAML	**Samuel** 7.0nm,0.7s	**28.72**	**160**	*e*P	**P**	**00 29 53.0**	**-0.4**
TXAR	**Lajitas Array**	**30.29**	**297**	P	**P**	**00 30 08.1**	**+0.7**
TXAR				PcP	**PcP**	**00 33 08.4**	**+0.6**
TXAR	**Lajitas Array** 1.1nm,0.9s,baz=110,slow=7.2,SNR=4.5	**30.29**	**297**	P	**P**	**00 30 08.1**	**+0.7**
TXAR				PcP	**PcP**	**00 33 08.4**	**+0.6**
LPM	**Los Pinos Moun** 4.4nm,0.8s	**34.13**	**304**	*e*P	**P**	**00 30 40.8**	**-0.4**
LPAZ	**La Paz**	**34.74**	**172**	P	**P**	**00 30 47.8**	**+0.8**
LPAZ	**La Paz** 2.3nm,0.8s,baz=303,slow=6.1,SNR=3.6	**34.74**	**172**	P	**P**	**00 30 47.8**	**+0.8**
SCHQ	**Schefferville**	**36.66**	**6**	P	**P**	**00 31 02.8**	**+0.4**
SCHQ	**Schefferville** 5.3nm,0.8s,baz=245,slow=5.5,SNR=4.3	**36.66**	**6**	P	**P**	**00 31 02.8**	**+0.4**
ULM	**Lac du Bonnet**	**36.81**	**335**	P	**P**	**00 31 04.3**	**+0.6**
ULM	**Lac du Bonnet** 15nm,1.1s,baz=144,slow=7.1,SNR=6.7	**36.81**	**335**	P	**P**	**00 31 04.3**	**+0.6**
PDAR	**Pinedale Array**	**39.53**	**316**	P	**P**	**00 31 27.4**	**+0.2**
PDAR				PcP	**PcP**	**00 33 34.1**	**-0.4**
PDAR	**Pinedale Array** 0.9nm,0.7s,baz=108,slow=12,SNR=3.9	**39.53**	**316**	P	**P**	**00 31 27.4**	**+0.2**
PDAR				PcP	**PcP**	**00 33 34.1**	**-0.4**
BDFB	**Brasilia**	**41.62**	**143**	P	**P**	**00 31 44.5**	**0.0**
BDFB	**Brasilia** 3.3nm,0.5s,baz=285,slow=3.1,SNR=6.3	**41.62**	**143**	P	**P**	**00 31 44.5**	**0.0**
MCMT	**McKenzie Canyo** 2.0nm,0.8s	**42.57**	**317**	*e*P	**P**	**00 31 53.4**	**+1.3**
NVAR	**Mina Array Bea**	**44.32**	**307**	P	**P**	**00 32 06.5**	**+0.1**
NVAR				PcP	**PcP**	**00 33 51.2**	**+0.8**
NVAR	**Mina Array Bea** 1.5nm,0.9s,baz=100,slow=5.1,SNR=4.5	**44.32**	**307**	P	**P**	**00 32 06.5**	**+0.1**
NVAR				PcP	**PcP**	**00 33 51.2**	**+0.8**
NEW	**Newport**	**46.68**	**320**	P	**P**	**00 32 24.6**	**0.0**
NEW	**Newport** 4.2nm,0.9s,baz=118,slow=10,SNR=5.2	**46.68**	**320**	P	**P**	**00 32 24.6**	**0.0**
CPUP	**Villa Florida**	**46.87**	**161**	P	**P**	**00 32 25.6**	**-0.6**
CPUP	**Villa Florida** 2.0nm,0.6s,baz=336,slow=9.6,SNR=5.7	**46.87**	**161**	P	**P**	**00 32 25.6**	**-0.6**
SUMG	**Summit** 9.5nm,1.1s	**57.62**	**12**	*i* P	**P**	**00 33 45.9**	**-0.2**
PLCA	**Paso Flores**	**58.84**	**178**	P	**P**	**00 33 54.1**	**-0.4**
PLCA	**Paso Flores** 5.4nm,1.0s,baz=31,slow=9.5,SNR=6.4	**58.84**	**178**	P	**P**	**00 33 54.1**	**-0.4**
SCO	**Scoresbysund** 2.2nm,0.8s	**60.18**	**17**	*i* P	P	00 34 07.4	+4.1
ESDC	**Sonseca Array**	**62.25**	**54**	P	**P**	**00 34 16.7**	**-1.3**
ESDC	**Sonseca Array** 3.7nm,0.8s,baz=275,slow=7.0,SNR=13	**62.25**	**54**	P	**P**	**00 34 16.7**	**-1.3**
ILAR	**Eielson Array**	**66.81**	**333**	P	**P**	**00 34 45.0**	**-2.2**
ILAR	**Eielson Array** 1.6nm,0.9s,baz=97,slow=4.5,SNR=6.8	**66.81**	**333**	P	**P**	**00 34 45.0**	**-2.2**
IM04	**Indian Mountai**	**69.76**	**334**	P	**P**	**00 35 05.8**	**0.0**
NOA	**NORSAR Array B**	**71.15**	**31**	P	**P**	**00 35 12.3**	**-2.1**
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=275,slow=6.3,SNR=2.7	**71.15**	**31**	P	**P**	**00 35 12.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**71.32**	**82**	P	**P**	**00 35 14.8**	**-1.3**
TORD	**Torodi Ar. Bea** 2.4nm,0.8s,baz=295,slow=5.5,SNR=7.4	**71.32**	**82**	P	**P**	**00 35 14.8**	**-1.3**
KEST	**Kesra**	**73.16**	**57**	P	**P**	**00 35 26.6**	**-0.4**
KEST	**Kesra** 3.0nm,0.7s,baz=224,slow=1.0,SNR=11	**73.16**	**57**	P	**P**	**00 35 26.6**	**-0.4**
CLL	**Collm**	**73.19**	**41**	*e*(sP)	sP	00 35 31.0	-1.6
BRG	**Berggiesshubel** 7.2nm,1.0s	**73.85**	**41**	*e*P	**P**	**00 35 30.8**	**+0.2**
KHC	**Kasperske Hory**	**73.90**	**43**	*e*P	**P**	**00 35 30.0**	**-1.0**
GERES	**GERESS Array B**	**74.03**	**43**	P	**P**	**00 35 31.3**	**-0.6**
GERES	**GERESS Array B** 3.9nm,0.8s,baz=266,slow=4.0,SNR=11	**74.03**	**43**	P	**P**	**00 35 31.3**	**-0.6**
KSP	**Ksiaz**	**75.32**	**41**	*e*P	**P**	**00 35 39.7**	**+0.5**
GKP	**Gorka Klasztor**	**75.42**	**38**	*e*P	**P**	**00 35 40.7**	**+1.0**
ARCES	**ARCESS Array B**	**75.76**	**21**	P	**P**	**00 35 40.5**	**-0.9**
ARCES	**ARCESS Array B** 5.4nm,1.0s,baz=298,slow=2.6,SNR=4.5	**75.76**	**21**	P	**P**	**00 35 40.5**	**-0.9**
FINES	**FINESS Array B**	**78.14**	**29**	P	**P**	**00 35 53.1**	**-1.7**
FINES	**FINESS Array B** 1.5nm,0.6s,baz=266,slow=3.8,SNR=8.7	**78.14**	**29**	P	**P**	**00 35 53.1**	**-1.7**
KWP	**Kalwaria Pacla**	**79.61**	**41**	*e*P	**P**	**00 36 05.3**	**+2.1**
BRTR	**Keskin Array B**	**90.34**	**48**	P	**P**	**00 36 57.1**	**-0.4**
BRTR	**Keskin Array B** 1.4nm,0.8s,baz=288,slow=4.7,SNR=5.9	**90.34**	**48**	P	**P**	**00 36 57.1**	**-0.4**
KSH	**Kashi**	**115.37**	**26**	*e*PKP	**PKPdf**	**00 42 38.9**	**+0.7**
KSH				*e*PP	PP	00 43 48.3	+10
KSH				*e*SKS	**SKSdf**	**00 49 46.3**	**-4.1**
WMQ	**Urumqi**	**115.53**	**16**	PKP	**PKPdf**	**00 42 38.4**	**+0.1**
HHC	**Hu-ho-hao-te**	**120.94**	**356**	*e*PKP	**PKPdf**	**00 42 49.0**	**+0.1**
HHC				PP	**PP**	**00 44 20.7**	**+4.3**
HHC				SKS	**SKSdf**	**00 50 01.4**	**+0.4**
HHC				SKKS	**SKKSac**	**00 51 13.2**	**-4.3**
HHC				SS	**SS**	**01 00 48.3**	**+1.3**
HHC	comp=Z,620nm,18.6s			LR	LR		
GTA	**Gaotai**	**122.08**	**7**	PKP	**PKPdf**	**00 42 51.8**	**+0.7**
GTA				*e*PKP		00 42 58.8	
LZH	**Lanzhou**	**125.73**	**3**	*e*PKP	**PKPdf**	**00 42 58.7**	**+0.4**
LZH				*e*SKP		00 43 03.2	
LZH	comp=N,160nm,18.0s			LR	LR		
LZH	comp=E,160nm,18.0s			LR	LR		
LZH	comp=Z,190nm,20.1s			LR	LR		
CD2	**Chengdu**	**130.87**	**4**	*e*PKP	**PKPdf**	**00 43 07.4**	**-0.7**
GYA	**Guiyang**	**135.42**	**1**	*e*Pdif	**Pdif**	**00 40 18.2**	**-1.2**
GYA				PKP	**PKPdf**	**00 42 13.0**	**+0.2**
GYA				PP	**PP**	**00 45 55.8**	**+4.2**
GYA	comp=Z,80nm,7.7s			AMB	AMB		
STKA	**Stephens Creek**	**146.36**	**240**	PKPbc	**PKPdf**	**00 43 36.1**	**0.0**
STKA	**Stephens Creek** 3.0nm,0.8s,baz=51,slow=9.8,SNR=4.3	**146.36**	**240**	PKPbc	**PKPdf**	**00 43 36.1**	**0.0**
WRA	**Warramunga Arr**	**154.46**	**262**	PKP	**PKPdf**	**00 43 48.4**	**-0.6**
WRA				PKPbc	**PKPbc**	**00 43 55.7**	**-1.7**
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=83,slow=1.8,SNR=5.3	**154.46**	**262**	PKP	**PKPdf**	**00 43 48.4**	**-0.6**
WRA				PKPbc	**PKPbc**	**00 43 55.7**	**-1.7**
ASAR	**Alice Springs**	**154.68**	**253**	PKPbc	**PKPbc**	**00 43 57.0**	**-0.8**
ASAR	**Alice Springs** 2.1nm,0.9s,baz=82,slow=1.9,SNR=5.4	**154.68**	**253**	PKPbc	**PKPbc**	**00 43 57.0**	**-0.8**
	1.1nm,0.8s,baz=91,slow=2.3,SNR=5.9						

CSEM ***13*** *00:27:54.7±0.3,45°.75N×14°.15E,h2km,ML2.6/5, Error ellipse: s-maj=11.2km s-min=5.1km az=48.0*

LJU 13 00:27:53.9, 45°.76N×14°.20E, h17km, ML2.1, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.16**	**99**	*i* Pg	Pg	00 27 58.3	+0.1
CEY				*i* Sg	Sg	00 28 01.2	+0.1
CEY	comp=Z,68nm,0.1s						
CEY	**Cerknica**	**0.16**	**99**	*i* Pg	Pg	00 27 58.3	+0.1
CEY				*i* Sg	Sg	00 28 01.2	0.0
CEY	comp=Z,68nm,0.1s						
JAVS	**Javornik**	**0.16**	**324**	↓*i* Pg	Pg	00 27 58.3	-0.1
JAVS				*i* Sg	Sg	00 28 01.2	-0.2
JAVS	comp=Z,489nm,0.1s						
JAVS	**Javornik**	**0.16**	**324**	↓*i* Pg	Pg	00 27 58.3	-0.1
JAVS				*i* Sg	Sg	00 28 01.2	-0.2
JAVS	comp=Z,489nm,0.1s						
SKDS	**Skadanscina**	**0.25**	**211**	*i* Sg	Sb	00 28 04.2	0.0
SKDS	comp=Z,117nm,0.1s						
SKDS	**Skadanscina**	**0.25**	**211**	*i* Sg	Sb	00 28 04.2	0.0
SKDS	comp=Z,117nm,0.1s						
KNDS	**Knezji Dol**	**0.27**	**152**	*i* Sg	Sb	00 28 04.7	-0.1
KNDS	comp=Z,85nm,0.1s						
KNDS	**Knezji Dol**	**0.27**	**152**	*i* Sg	Sb	00 28 04.7	0.0
KNDS	comp=Z,85nm,0.1s						
CRNS	**Crni Vrh**	**0.32**	**7**	*i* Pg	Pg	00 28 00.7	-0.2
CRNS				*i* Sg	Sg	00 28 05.8	+0.3
CRNS	comp=Z,47nm,0.1s						
VOJS	**Vojsko**	**0.35**	**320**	*i* Sg	Sg	00 28 06.7	+0.2
VOJS	comp=Z,81nm,0.1s						
VOJS	**Vojsko**	**0.35**	**320**	*i* Sg	Sg	00 28 06.7	+0.2
	comp=Z,81nm,0.1s						
LJU	**Ljubljana**	**0.36**	**39**	*e*Sg	Sb	00 28 09.1	+1.8
NVLJ	**Novalja**	**1.29**	**158**	*e*Pg	Pg	00 28 18.3	-0.5
NVLJ				Sg	Sg	00 28 36.6	+1.1
NVLJ	**Novalja**	**1.29**	**158**	*e*Pg	Pb	00 28 18.2	+0.5
NVLJ				Sg	Sg	00 28 36.6	+1.0
UDBI	**Udbina**	**1.66**	**138**	*e*Pn	Pg	00 28 25.6	-0.3
UDBI				Sn	Sg	00 28 47.7	+0.1
UDBI	**Udbina**	**1.66**	**138**	*e*Pn	Pg	00 28 25.6	-0.3
UDBI				Sn	Sg	00 28 47.6	+0.1

IDC 13 00:32:26.0±3.8, 4.79S×151°.04E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/17, mbtmp3.2/2, Error ellipse: s-maj=151.2km s-min=49.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=51,slow=10,SNR=6.4	**22.17**	**226**	P	P	00 37 24.4	+0.6
ASAR	**Alice Springs** 0.4nm,0.5s,baz=59,slow=7.8,SNR=6.0	**25.01**	**220**	P	P	00 37 51.2	-0.7
TORD	**Torodi Ar. Bea** 0.2nm,0.3s,baz=61,slow=1.5,SNR=6.8	**148.64**	**287**	PKPbc	PKPbc	00 52 15.8	-0.4

IDC ***13*** *00:33:57.3±0.9, 18°.36N×72°.76W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=35.2km s-min=21.8km az=56.0*

ISCJB ***13*** *00:33:58.1±0.8, 18°.4N±0°.1×72°.8W±0°.2, h13km, mb3.6/6, Error ellipse: s-maj=26.1km s-min=15.1km az=162.3*

ISC 13 00:33:59.5±0.8, 18°.4N±0°.1×72°.7W±0°.2, h13km, n8, σ1s32/9, mb3.7/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** 0.7nm,0.3s,baz=96,slow=15,SNR=4.0	**13.56**	**187**	Pn	**Pn**	**00 37 12.9**	**+0.8**
PTGA	**Pitinga** 4.8nm,0.9s,baz=342,slow=9.9,SNR=5.4	**22.77**	**145**	P	**P**	**00 39 01.6**	**-0.3**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=110,slow=6.8,SNR=3.1	**30.24**	**297**	P	**P**	**00 40 10.4**	**0.0**
BDFB	**Brasilia** 2.3nm,0.8s,baz=330,slow=8.1,SNR=3.9	**41.67**	**143**	P	**P**	**00 41 48.0**	**-0.2**
YKA	**Yellowknife Ar** 0.7nm,0.8s,baz=126,slow=7.0,SNR=4.2	**52.69**	**337**	P	**P**	**00 43 14.2**	**+0.8**
GERES	**GERESS Array B** 0.8nm,0.8s,baz=281,slow=2.0,SNR=4.7	**74.04**	**43**	P	**P**	**00 45 34.6**	**-0.6**
MLR	**Muntele Rosu** 0.4nm,0.9s,baz=241,slow=5.9,SNR=4.9	**82.95**	**44**	P	**P**	**00 46 26.4**	**+1.8**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=109,slow=1.4,SNR=3.4	**154.42**	**262**	PKP	**PKPdf**	**00 53 50.5**	**-1.8**
WRA	0.9nm,0.8s,baz=84,slow=2.2,SNR=7.3			PKPbc	**PKPbc**	**00 53 59.2**	**-1.5**

ISCJB ***13*** *00:35:31.7±0.7, 18°.6N±0°.1×72°.7W±0°.1, h13km, mb3.9/13, Error ellipse: s-maj=18.3km s-min=15.2km az=172.7*

IDC ***13*** *00:35:31.5±1.2, 18°.59N×72°.62W, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/27, mbtmp3.9/14, ML3.0/1, Error ellipse: s-maj=32.3km s-min=20.6km az=17.0*

ISC 13 00:35:33.7±0.7, 18°.6N±0°.1×72°.6W±0°.1, h13km, n15, σ0s78/15, mb4.0/13, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** 1.6nm,0.3s,baz=99,slow=19,SNR=3.3	**13.77**	**187**	Pn	**Pn**	**00 38 49.2**	**+0.2**
TXAR	**Lajitas Array** 0.6nm,1.0s,baz=113,slow=9.1,SNR=3.4	**30.21**	**297**	P	**P**	**00 41 44.2**	**0.0**
SCHQ	**Schefferville** 2.1nm,0.5s,baz=262,slow=8.0,SNR=5.0	**36.43**	**6**	P	**P**	**00 42 39.2**	**+1.2**
ULM	**Lac du Bonnet** 3.5nm,0.8s,baz=168,slow=7.5,SNR=4.4	**36.62**	**335**	P	**P**	**00 42 38.6**	**-1.0**
PDAR	**Pinedale Array** 0.5nm,0.9s,baz=108,slow=8.6,SNR=3.5	**39.39**	**316**	P	**P**	**00 43 03.3**	**-0.1**
YKA	**Yellowknife Ar** 1.0nm,0.8s,baz=124,slow=7.2,SNR=12	**52.54**	**337**	P	**P**	**00 44 46.5**	**+0.1**
ESDC	**Sonseca Array** 1.0nm,0.9s,baz=270,slow=7.3,SNR=4.3	**62.10**	**54**	P	**P**	**00 45 54.5**	**-0.1**
EKA	**Eskdalemuir Ar** 2.1nm,0.9s,baz=71,slow=3.6,SNR=3.5	**63.24**	**37**	P	**P**	**00 46 01.7**	**0.0**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=112,slow=4.9,SNR=4.8	**66.62**	**333**	P	**P**	**00 46 23.0**	**-0.6**
TORD	**Torodi Ar. Bea** 0.8nm,0.9s,baz=294,slow=4.0,SNR=3.4	**71.27**	**82**	P	**P**	**00 46 51.9**	**-1.5**
GERES	**GERESS Array B** 1.6nm,0.8s,baz=282,slow=6.3,SNR=8.3	**73.85**	**43**	P	**P**	**00 47 08.8**	**+0.5**
ARCES	**ARCESS Array B** 1.4nm,0.6s,baz=318,slow=3.3,SNR=4.6	**75.55**	**21**	P	**P**	**00 47 17.7**	**+0.1**
FINES	**FINESS Array B** 1.4nm,0.8s,baz=267,slow=3.8,SNR=4.0	**77.93**	**29**	P	**P**	**00 47 31.2**	**0.0**
MLR	**Muntele Rosu** 1.0nm,1.0s,baz=117,slow=2.3	**82.77**	**45**	P	**P**	**00 47 58.8**	**+1.1**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=79,slow=3.0,SNR=3.0	**154.51**	**263**	PKP	**PKPdf**	**00 55 27.6**	**+1.0**

DJA 13 00:37:08.7±0.3, 2°N±3°×99°E±°, h10km, M3.8/7, MLv3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.97**	**350**	P	x	00 37 21.8	
MNSI	**Mandailing Nat**	**1.15**	**155**	P	Pb	00 37 26.1	-4.5
GSI	**Gunungsitoli**	**1.60**	**251**	P	Pn	00 37 34.4	-2.7
GSI				S	Sn	00 37 56.6	-1.3
TSI	**Tuntungan**	**1.73**	**342**	P	Pn	00 37 39.4	+0.5
KCSI	**Kotacane, Aceh**	**2.13**	**322**	P	Pn	00 37 45.5	+1.1
TPTI		**2.37**	**307**	P	Pn	00 37 48.1	+0.4
TPTI				S	Sb	00 38 20.5	-0.4
BKNI	**Bangkinang**	**2.46**	**128**	P	Pn	00 37 49.8	+0.9
BKNI				S	Sb	00 38 22.0	-1.5
PPI	**Padang Panjang**	**2.63**	**150**	P	Pn	00 37 53.2	+2.0
PDSI	**Padang**	**3.06**	**153**	P	Pn	00 37 57.6	+0.4
IPM	**Ipoh**	**3.26**	**36**	P	x	00 37 58.7	
KULM	**Kulim**	**3.76**	**24**	P	x	00 38 04.6	

ISCJB ***13*** *00:42:46.4±0.3, 18°.48N±0°.05×72°.93W±0°.05, h6km, mb4.0/27, Error ellipse: s-maj=7.4km s-min=5.6km az=42.1*

IDC ***13*** *00:42:47.5±0.7, 18°.48N×72°.86W, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.1/30, mbtmp4.0/18, ML3.3/2, Error ellipse: s-maj=21.2km s-min=15.4km az=52.0*

NEIC ***13*** *00:42:49.0±2.2, 18°.47N×72°.92W, h12km±14km, mb4.3/16, Error ellipse: s-maj=6.2km s-min=4.6km az=223.0*

ISC 13 00:42:48.3±0.4, 18°.46N±0°.07×72°.91W±0°.06, h6km, n64, σ0s90/66, mb4.1/27, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.62**	**71**	*e*Pn	**Pn**	**00 43 16.7**	**-0.8**
GTBY	**Guantanamo Bay**	**2.54**	**305**	*e*Pn	**Pn**	**00 43 28.6**	**-1.5**
GRTK	**Grand Turk**	**3.47**	**29**	*e*Pn	**Pn**	**00 43 42.7**	**0.0**
MTDJ	**Mount Denham**	**4.40**	**268**	*e*Pn	**Pn**	**00 43 55.9**	**+0.2**
CRPR	**Cabo Rojo, PR** 244nm,0.6s	**5.53**	**94**	*e*Pn	**Pn**	**00 44 12.1**	**+0.9**
CELP	**Cerrillos**	**6.03**	**93**	*e*Pn	**Pn**	**00 44 19.0**	**+0.9**
SDV	**Santo Domingo** 14nm,0.6s	**9.77**	**167**	*e*Pn	**Pn**	**00 45 09.4**	**-0.3**
ROSC	**El Rosal**	**13.59**	**186**	*e*Pn	**Pn**	**00 46 02.8**	**+0.7**
ROSC	**El Rosal** 1.2nm,0.3s,baz=274,slow=20,SNR=5.6	**13.59**	**186**	Pn	**Pn**	**00 46 03.5**	**+1.4**
TEIG	**Tepich**	**14.61**	**279**	Pn	**Pn**	**00 46 17.6**	**+1.9**
TEIG	**Tepich** 0.6nm,0.3s,baz=119,slow=3.3,SNR=8.0	**14.61**	**279**	Pn	**Pn**	**00 46 17.5**	**+1.9**
OTAV	**Otavalo** 14nm,1.1s	**18.91**	**197**	*e*P	**P**	**00 47 10.5**	**+0.2**
TKL	**Tuckaleechee C**	**19.64**	**333**	*e*Pn	**P**	**00 47 17.6**	**-0.1**
JSRW	**J. Sargeant Re**	**19.65**	**348**	*e*P	**P**	**00 47 16.7**	**-1.1**
CPCT	**Cooper Cave**	**19.81**	**331**	*e*P	**P**	**00 47 19.2**	**-0.3**
BLA	**Blacksburg** 13nm,0.7s	**19.81**	**342**	*e*P	**P**	**00 47 18.4**	**-1.2**
CBN	**Corbin** 21nm,0.4s	**20.05**	**350**	*e*P	**P**	**00 47 21.9**	**-0.3**
SWET	**Sewanee** 31nm,1.4s	**20.30**	**328**	*e*P	**P**	**00 47 25.4**	**+0.4**
OXF	**Oxford** 28nm,1.1s	**21.71**	**321**	*e*P	**P**	**00 47 39.9**	**-0.2**
PTGA	**Pitinga** 7.8nm,1.0s	**22.93**	**145**	*e*P	**P**	**00 47 52.2**	**-1.1**
PTGA	**Pitinga** 6.7nm,0.9s,baz=338,slow=12,SNR=7.8	**22.93**	**145**	P	**P**	**00 47 54.4**	**+1.1**
ACSO	**Alum Creek Sta** 18nm,1.1s	**23.37**	**340**	*e*P	**P**	**00 47 57.5**	**-0.1**
HKT	**Hockley** 5.6nm,1.0s	**23.78**	**303**	*e*P	**P**	**00 48 02.0**	**+0.3**
WHTX	**Lake Whitney** 7.1nm,0.8s	**25.89**	**306**	*e*P	**P**	**00 48 20.9**	**-0.2**
TUL1	**Tulsa** 9.4nm,0.9s	**26.66**	**315**	*e*P	**P**	**00 48 28.2**	**+0.2**
SAML	**Samuel** 3.3nm,1.0s	**28.88**	**160**	*e*P	**P**	**00 48 46.6**	**-1.3**
TXAR	**Lajitas Array**	**30.04**	**297**	P	**P**	**00 48 59.2**	**+0.9**
TXAR	**Lajitas Array** 0.8nm,0.9s,baz=110,slow=7.2,SNR=6.3	**30.04**	**297**	P	**P**	**00 48 59.2**	**+0.9**
BNM	**Barren Site** 5.8nm,1.0s	**33.84**	**304**	*e*P	**P**	**00 49 31.7**	**-0.1**
LPM	**Los Pinos Moun** 7.2nm,1.0s	**33.89**	**305**	*e*P	**P**	**00 49 32.1**	**-0.1**
LAZ	**Ladron** 2.4nm,1.0s	**34.32**	**304**	*e*P	**P**	**00 49 33.8**	**-2.2**
PDAR	**Pinedale Array**	**39.31**	**316**	P	**P**	**00 50 18.3**	**-0.1**
PDAR	**Pinedale Array** 0.9nm,0.9s,baz=135,slow=10,SNR=3.2	**39.31**	**316**	P	**P**	**00 50 18.3**	**-0.1**
SHPR	**Sheep Range** 1.5nm,0.9s	**41.19**	**305**	*e*P	**P**	**00 50 31.2**	**-2.8**
BDFB	**Brasilia**	**41.83**	**143**	P	**P**	**00 50 39.0**	**-0.3**
BDFB	**Brasilia** 3.6nm,0.8s,baz=319,slow=11,SNR=4.0	**41.83**	**143**	P	**P**	**00 50 39.0**	**-0.3**
HLID	**Hailey** 7.8nm,1.6s	**42.87**	**315**	*e*P	**P**	**00 50 46.3**	**-1.3**
NVAR	**Mina Array Bea**	**44.08**	**307**	P	**P**	**00 50 57.8**	**+0.2**
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=79,slow=7.7,SNR=4.2	**44.08**	**307**	P	**P**	**00 50 57.8**	**+0.2**
FRB	**Frobisher Bay**	**45.35**	**3**	P	**P**	**00 51 06.9**	**0.0**
FRB	**Frobisher Bay** 2.0nm,0.8s,baz=40,slow=9.9,SNR=2.5	**45.35**	**3**	P	**P**	**00 51 06.9**	**0.0**
YKA	**Yellowknife Ar**	**52.57**	**337**	P	**P**	**00 52 02.6**	**+0.2**
YKA	**Yellowknife Ar** 1.5nm,0.8s,baz=126,slow=7.5,SNR=18	**52.57**	**337**	P	**P**	**00 52 02.6**	**+0.2**
PLCA	**Paso Flores**	**58.93**	**178**	P	**P**	**00 52 48.6**	**+0.3**
PLCA	**Paso Flores** 1.7nm,0.8s,baz=80,slow=15,SNR=3.2	**58.93**	**178**	P	**P**	**00 52 48.6**	**+0.3**
EKA	**Eskdalemuir Ar**	**63.51**	**37**	P	**P**	**00 53 19.3**	**0.0**
EKA	**Eskdalemuir Ar** 3.3nm,0.9s,baz=238,slow=8.1,SNR=3.0	**63.51**	**37**	P	**P**	**00 53 19.3**	**0.0**
ILAR	**Eielson Array**	**66.63**	**333**	P	**P**	**00 53 38.7**	**-0.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=111,slow=3.9,SNR=6.3	**66.63**	**333**	P	**P**	**00 53 38.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**00 54

CELP	Cerrillos	5.65	93	ePn		Pn	00 44 52.0	+0.5	
CELP				eS		Sn	00 45 56.4	+0.5	
CPD	Cerro la Pandu	6.29	93	ePn		Pn	00 45 01.1	+0.9	
CPD	Cerro la Pandu	6.29	93	ePn		Pn	00 45 01.1	+0.9	
CBYP	Canovanas	6.33	91	ePn		Pn	00 45 00.8	0.0	
CBYP				eS		Sn	00 46 17.2	+4.6	
HUMP	Col San Antoni	6.34	92	ePn		Pn	00 44 56.8	-4.2	
MTP	Monte Pirata	6.63	92	ePn		Pn	00 45 05.9	+1.0	
MTP				eS		Sn	00 46 25.5	+5.7	
SABA	Saba	8.86	94	ePn		Pn	00 45 37.4	+1.8	
SDV	Santo Domingo	9.69	169	ePn		Pn	00 45 47.0	0.0	
SDV				eS		Sn	00 47 30.9	-4.6	
ANWB	Willy Bob	10.24	93	ePn		Pn	00 45 55.0	+0.6	
	89nm,0.8s								
LZG	Guadaloupe-1	10.51	101	eP		Pn	00 45 59.1	+0.9	
MLG	Mont-d'or	10.59	101	eP		Pn	00 45 59.6	+0.2	
FNG	Fond-Bernard	10.62	101	eP		Pn	00 46 00.5	+0.8	
HMG	Houelmont	10.62	102	eP		Pn	00 46 01.0	+1.2	
SCG	Saint Claude	10.63	101	eP		Pn	00 46 00.1	+0.2	
PHG	Guadaloupe-2	10.67	101	eP		Pn	00 46 01.4	+0.9	
SEG	Port Louis	10.71	99	eP		Pn	00 45 59.3	-1.5	
H05N1	Guadeloupe/Mar	11.14	99	Pn		Pn	00 46 07.7	+0.8	
	SNR=34								
FDF	Fort de France	11.51	107	eP		Pn	00 46 10.7	-1.2	
FDF				eS		Sn	00 48 20.2	+0.2	
FDF				pmax		pmax			
	comp=Z,783nm,1.3s								
FDF	Fort de France	11.51	107	ePn		Pn	00 46 10.7	-1.2	
	comp=Z,783nm,1.3s								
FDF				eS		Sn	00 48 20.1	+0.2	
BCIP	Isla Barro Col	11.65	219	ePn		Pn	00 46 12.9	-0.9	
BCIP				eS		Sn	00 48 22.6	-0.8	
GRGR	Grenville	12.22	119	ePn		Pn	00 46 20.3	-1.3	
TRN	Trinidad (W)	13.26	124	e		Pn	00 46 39.8	+4.0	
TPP	Pointe-a-Pierr	13.42	126	e		P	00 46 43.2	-4.1	
BBGH	Gun Hill	13.54	111	Pn		Pn	00 46 37.6	-2.0	
ROSC	El Rosal	13.63	188	Pn		Pn	00 46 41.7	+0.4	
ROSC	El Rosal	13.63	188	Pn		Pn	00 46 41.7	+0.4	
	comp=Z,2.2nm,0.3s,baz=96,slow=14,SNR=11								
JTS	JuntasAbangare	14.52	238	ePn		Pn	00 46 55.7	+2.6	
JTS	JuntasAbangare	14.52	238	Pn		Pn	00 46 53.2	+0.1	
	comp=Z,3.9nm,0.3s,baz=31,slow=8.9,SNR=7.8								
TGUH	Tegucigalpa,Un	14.83	255	ePn		Pn	00 46 59.4	+2.2	
TEIG	Tepich	14.98	279	ePn		Pn	00 46 59.6	+0.3	
	comp=Z,226nm,1.4s								
TEIG	Tepich	14.98	279	Pn		Pn	00 46 58.3	-0.9	
	comp=Z,1.9nm,0.3s,baz=106,slow=13,SNR=4.8								
BBSR	BB Station	15.54	25	ePn		Pn	00 47 05.2	-1.4	
TIGA	Tifton	16.35	324	ePn		Pn	00 47 16.9	-0.1	
TIGA	Tifton	16.35	324	⇑P		Pn	00 47 16.3	-0.7	
	baz=16								
CNNC	Cliffs of the	17.39	345	ePn		Pn	00 47 28.9	-1.1	
	comp=Z,22nm,0.5s								
JSC	Jenkinsville	17.59	335	eP		Pn	00 47 31.0	-1.5	
JSC	Jenkinsville	17.59	335	ePn		Pn	00 47 31.0	-1.5	
GOGA	Godfrey	17.84	329	eP		P	00 47 36.7	+0.5	
GOGA				pmax		pmax			
	comp=Z,53nm,1.4s								
GOGA	Godfrey	17.84	329	ePn		P	00 47 36.7	+0.5	
	comp=Z,53nm,1.4s								
BRAL	Brewton	18.16	316	ePn		Pn	00 47 39.3	-0.3	
	comp=Z,114nm,1.1s								
KMSC	Kings Mountain	18.37	337	ePn		P	00 47 40.9	-1.3	
KMSC				eS		Sn	00 50 53.4	-14	
KMSC	Kings Mountain	18.37	337	⇓P		P	00 47 40.7	-1.5	
	baz=18,SNR=6.2								
OTAV	Otavalo	19.02	198	eP		Pn	00 47 51.6	+1.0	
	comp=Z,72nm,1.1s								
JSRW	J. Sargeant Re	19.74	347	eP		Pn	00 47 58.0	-0.5	
TKL	Tuckaleechee C	19.83	332	eP		P	00 47 58.5	+0.4	
TKL	Tuckaleechee C	19.83	332	P		Pn	00 47 59.0	-0.7	
	comp=Z,0.6nm,0.3s,baz=153,slow=12,SNR=9.6								
VWCC	Virginia Weste	19.84	342	eP		Pn	00 47 59.6	-0.2	
BLA	Blacksburg	19.93	341	eP		P	00 47 58.5	-0.8	
BLA				pmax		pmax			
	comp=Z,99nm,0.9s								
BLA	Blacksburg	19.93	341	eP		P	00 47 58.5	-0.8	
	comp=Z,100nm,0.9s								
CPCT	Cooper Cave	20.00	330	eP		P	00 48 00.8	+0.9	
CBN	Corbin	20.13	349	eP		P	00 48 01.9	+0.6	
	comp=Z,70nm,0.7s								
TZTN	Tazewell	20.48	334	ePn		P	00 48 06.1	+1.0	
	comp=Z,54nm,0.9s								
SWET	Sewanee	20.51	327	eP		P	00 48 05.0	-0.5	
	comp=Z,379nm,2.0s								
SDMD	Soldier's Deli	21.22	351	eP		P	00 48 11.3	-1.8	
	comp=Z,46nm,0.9s								
MVL	Millersville	21.73	352	eP		P	00 48 19.6	+1.1	
	comp=Z,82nm,1.4s								
OXF	Oxford	21.96	320	eP		P	00 48 21.4	+0.3	
OXF				pmax		pmax			
	comp=Z,256nm,1.1s								
OXF	Oxford	21.96	320	eP		P	00 48 21.4	+0.3	
	comp=Z,256nm,1.1s								
BRNJ	Basking Ridge	22.22	356	eP		P	00 48 24.6	+0.7	
	comp=Z,49nm,0.8s								
ODNJ	Ogdensburg	22.62	356	eP		P	00 48 29.3	+1.1	
	comp=Z,345nm,2.4s								
PTGA	Pitinga	22.71	146	eP		P	00 48 30.2	+0.9	
	comp=Z,24nm,1.3s								
PTGA	Pitinga	22.71	146	P		P	00 48 31.1	+1.8	
	comp=Z,44nm,1.0s,baz=338,slow=10,SNR=19								
HALT	Halls	22.88	323	eP		P	00 48 30.9	0.0	
UTMT	University of	22.92	324	P		P	00 48 32.9	+1.6	
	comp=Z,331nm,1.1s								
WCI	Wyandotte Cave	23.08	331	eP		P	00 48 33.5	+0.5	
WCI				pmax		pmax			
	comp=Z,29nm,0.8s								
WCI	Wyandotte Cave	23.08	331	eP		P	00 48 33.5	+0.5	
	comp=Z,29nm,0.8s								
GLAT	Glass	23.11	324	eP		P	00 48 33.3	+0.1	
HBAR	Harrisburg	23.41	320	eP		P	00 48 38.7	+2.3	
ACSO	Alum Creek Sta	23.51	340	eP		P	00 48 36.4	-0.9	
	comp=Z,41nm,0.9s								
USIN	University of	23.52	329	eP		P	00 48 36.8	-0.6	
	comp=Z,187nm,1.6s								
PARMO	Parma	23.65	324	eP		P	00 48 39.2	+0.5	
BLO	Bloomington	23.96	332	eP		P	00 48 42.7	+1.1	
BLO				pmax		pmax			
	comp=Z,260nm,2.0s								
BLO	Bloomington	23.96	332	eP		P	00 48 42.7	+1.1	
	comp=Z,260nm,2.0s								
NATX	Nacogdoches	23.97	308	eP		P	00 48 43.0	+1.2	
	comp=Z,126nm,0.8s								
UALR	University of	23.98	317	eP		P	00 48 43.0	+1.2	
	comp=Z,26nm,1.0s								
HKT	Hockley	24.10	303	eP		P	00 48 43.6	+0.7	
HKT				pmax		pmax			
	comp=Z,257nm,2.5s								
HKT	Hockley	24.10	303	eP		P	00 48 43.6	+0.7	
	comp=Z,257nm,2.5s								
PBMO	Poplar Bluff	24.12	323	eP		P	00 48 43.1	0.0	
	comp=Z,36nm,0.9s								
SIUC	Southern Illin	24.12	326	eP		P	00 48 43.0	-0.1	
	comp=Z,118nm,1.3s								
MMNY	Mt. Morris Dam	24.63	350	eP		P	00 48 48.6	+0.9	
	comp=Z,182nm,1.5s								
MIAR	Mount Ida	24.66	315	eP		P	00 48 50.3	+2.2	
MIAR				pmax		pmax			
	comp=Z,174nm,2.3s								
MIAR	Mount Ida	24.66	315	eP		P	00 48 50.3	+2.2	
	comp=Z,174nm,2.3s								
035Z	Hargill	24.89	293	⇓P		P	00 48 50.4	+0.2	
	baz=25								
835A	Beeville	25.17	298	⇑P		P	00 48 52.8	0.0	
	baz=25								
SFIN	Scholer Farm	25.20	333	eP		P	00 48 53.1	+0.3	
	comp=Z,25nm,0.7s								
SFIN	Scholer Farm	25.20	333	⇓P		P	00 48 52.7	-0.2	
	baz=25,SNR=9.4								
635A	Leesville	25.47	300	⇑P		P	00 48 55.4	-0.1	
	baz=26								
535A	Dale	25.53	302	⇓P		P	00 48 56.1	+0.2	
	baz=26								
934A	Benavides	25.56	296	⇑P		P	00 48 56.7	+0.4	
	baz=26								
034A	Hebbronville	25.57	294	⇑P		P	00 48 56.8	+0.4	
	baz=26								
AAM	Ann Arbor	25.59	341	eP		P	00 48 58.1	+1.7	
AAM				pmax		pmax			
	comp=Z,112nm,1.4s								
AAM	Ann Arbor	25.59	341	eP		P	00 48 58.1	+1.7	
	comp=Z,112nm,1.4s								
834A	Tilden	25.73	297	⇑P		P	00 48 58.2	+0.4	
	baz=26								
335A	Moody	25.89	304	⇓P		P	00 48 59.9	+0.7	
	baz=26								
634A	China Grove, S	25.94	300	⇑P		P	00 49 00.4	+0.6	
	baz=26								
734A	La Parita Cree	25.95	298	⇓P		P	00 49 00.4	+0.6	
	baz=26								
WHTX	Lake Whitney	26.20	306	eP		P	00 49 02.6	+0.5	
	comp=Z,21nm,0.9s								
WHTX	Lake Whitney	26.20	306	⇓P		P	00 49 02.6	+0.5	
	baz=26								
933A	Laredo	26.21	295	⇓P		P	00 49 02.8	+0.6	
	baz=26								
534A	Blanco	26.26	301	⇑P		P	00 49 03.5	+0.8	
	baz=26,SNR=9.4								
434A	Burnet	26.38	303	⇑P		P	00 49 03.9	+0.2	
	baz=26								
135A	Vickery Place,	26.41	307	⇑P		P	00 49 03.8	-0.2	
	baz=26								
833A	Chaparral WMA,	26.50	297	⇓P		P	00 49 04.8	0.0	
	baz=26								
733A	Divot King Ran	26.53	298	⇓P		P	00 49 05.3	+0.3	
	baz=26								
334A	Lometa	26.55	304	⇓P		P	00 49 05.1	-0.1	
	baz=27								
Z35A	Perchaven, San	26.64	309	⇓P		P	00 49 06.1	0.0	
	baz=27								
633A	Seathoff Ranch	26.65	299	⇓P		P	00 49 06.0	-0.1	
	baz=27								
533A	Kerrville	26.73	301	⇑P		P	00 49 06.8	-0.2	
	baz=27								
234A	Clairette	26.73	305	⇑P		P	00 49 06.5	-0.4	
	baz=27								
SADO	Sadowa	26.82	350	P		P	00 49 07.9	+0.4	
SADO	Sadowa	26.82	350	P		P	00 49 07.9	+0.4	
	comp=Z,5.8nm,0.8s,baz=118,slow=1.6,SNR=4.0								
134A	White-Moore Ra	26.93	306	⇑P		P	00 49 08.2	-0.5	
	baz=27								
TUL1	Tulsa	26.93	315	eP		P	00 49 08.1	-0.4	
	comp=Z,56nm,1.2s								
TUL1	Tulsa	26.93	315	⇑P		P	00 49 08.4	-0.2	
	baz=27,SNR=6.1								
832A	Faith Ranch, C	26.98	296	⇓P		P	00 49 08.3	-0.9	
	baz=27								
433A	Art	27.01	302	⇓P		P	00 49 09.3	-0.2	
	baz=27								
732A	Laxson Ranch,	27.10	297	⇑P		P	00 49 10.2	0.0	
	baz=27								
333A	Richland Sprin	27.13	303	⇓P		P	00 49 10.5	0.0	
	baz=27,SNR=8.9								
Z34A	Collier Ranch,	27.15	308	⇓P		P	00 49 10.9	+0.3	
	baz=27								
632A	Uvalde	27.17	299	⇑P		P	00 49 11.3	+0.5	
	baz=27								
Y34A	Reagan Ranch,	27.30	309	⇓P		P	00 49 12.7	+0.7	
	baz=27,SNR=7.1								
233A	Rising Star	27.33	305	⇓P		P	00 49 12.5	+0.2	
	baz=27								
532A	Rocksprings	27.46	300	⇓P		P	00 49 14.0	+0.4	
	baz=28								
JCT	Junction City	27.49	301	eP		P	00 49 14.4	+0.6	
JCT				pmax		pmax			
	comp=Z,34nm,1.3s								
JCT	Junction City	27.49	301	eP		P	00 49 14.4	+0.6	
	comp=Z,34nm,1.3s								
JCT	Junction City	27.49	301	⇑P		P	00 49 14.0	+0.2	
	baz=28								
133A	Hamilton Ranch	27.58	306	⇓P		P	00 49 14.9	+0.4	
	baz=28								
432A	Menard	27.62	302	⇓P		P	00 49 15.0	+0.1	
	baz=28								
X34A	Smith Ranch, M	27.67	311	⇓P		P	00 49 14.8	-0.5	
	baz=28,SNR=5.7								
Z33A	Whitaker Ranch	27.75	307	⇓P		P	00 49 16.3	+0.3	
	baz=28								
332A	Millersview	27.76	303	⇓P		P	00 49 15.7	-0.4	
	baz=28,SNR=7.2								
631A	Perdido Creek	27.80	298	⇓P		P	00 49 16.4	-0.2	
	baz=28								
232A	Coleman	27.87	304	⇑P		P	00 49 17.1	-0.1	
	baz=28								
V34A	Guthrie	28.07	313	⇑P		P	00 49 19.0	+0.2	
	baz=28								
X33A	Lawton	28.12	310	⇑P		P	00 49 19.2	-0.1	
	baz=28								
ABTX	Abilene, Hawle	28.15	305	eP		P	00 49 21.5	+1.8	
	comp=Z,37nm,1.4s								
ABTX	Abilene, Hawle	28.15	305	⇑P		P	00 49 19.4	-0.3	
	baz=28								
431A	Sonora	28.22	301	⇓P		P	00 49 19.8	-0.5	
	baz=28								
331A	San Angelo	28.28	302	⇑P		P	00 49 20.8	-0.1	
	baz=28								
Z32A	Haskell	28.30	307	⇑P		P	00 49 21.2	+0.2	
	baz=28								
W33A	Caddo, Fort Co	28.39	311	⇑P		P	00 49 22.0	+0.3	
	baz=28								
U34A	Anderson Ranch	28.39	314	⇑P		P	00 49 21.9	+0.2	
	baz=28								
231A	Bronte	28.41	304	⇓P		P	00 49 22.0	-0.1	
	baz=28								
WMOK	Wichita Mounta	28.42	310	eP		P	00 49 23.1	+1.1	
WMOK				pmax		pmax			
	comp=Z,245nm,3.0s								
WMOK	Wichita Mounta	28.42	310	eP		P	00 49 23.1	+1.1	
	comp=Z,245nm,3.0s								
Y32A	R-V Farms, Ver	28.57	308	⇓P		P	00 49 23.5	+0.1	
	baz=29								
V33A	Lossen Ranch,	28.59	312	⇓P		P	00 49 23.3	-0.2	
	baz=29								
JFWS	Jewell Farm	28.64	332	eP		P	00 49 23.6	-0.2	
JFWS				pmax		pmax			
	comp=Z,51nm,0.8s								
JFWS	Jewell Farm	28.64	332	eP		P	00 49 23.6	-0.2	
	comp=Z,51nm,0.8s								
X32A	Elmer	28.64	309	⇑P		P	00 49 24.0	0.0	
	baz=29								
530A	J-C Ranch, Com	28.65	299	⇓P		P	00 49 24.0	-0.1	
	baz=29								
SAML	Samuel	28.74	161	eP		P	00 49 23.4	-1.6	
	comp=Z,5.8nm,0.8s								
430A	Baggett Ranch,	28.76	301	⇑P		P	00 49 24.9	-0.2	
	baz=29								
Z31A	Sharp Cattle R	28.81	306	⇓P		P	00 49 25.3	-0.3	
	baz=29								
330A	Mertzon	28.91	302	⇑P		P	00 49 26.0	-0.5	
	baz=29								
W32A	Sentinel	28.94	310	⇑P		P	00 49 26.2	-0.4	
	baz=29,SNR=6.6								
230A	Sterling City	29.03	303	⇑P		P	00 49 27.0	-0.5	
	baz=29								
Y31A	Rekieta Farm,	29.17	307	⇑P		P	00 49 28.5	-0.1	
	baz=29								
T33A	Patterson Ranc	29.22	315	⇑P		P	00 49 28.8	-0.3	
	baz=29								
X31A	McDonald Ranch	29.25	309	⇓P		P	00 49 28.7	-0.6	
	baz=29								
429A	Davenport Ranc	29.25	300	⇓P		P	00 49 28.6	-0.9	
	baz=29								
KSU1	Kansas State U	29.32	320	eP		P	00 49 30.5	+0.5	
	comp=Z,235nm,2.2s								
KSU1	Kansas State U	29.32	320	⇓P		P	00 49 29.7	-0.3	
	baz=29,SNR=5.1								
529A	Stev Forest Ra	29.37	299	⇓P		P	00 49 29.4	-1.2	
	baz=29								
U32A	Winter Ranch,	29.38	313	⇓P		P	00 49 30.5	0.0	
	baz=29								
W31A	Holland Ranch,	29.47	310	⇓P		P	00 49 31.7	+0.4	
	baz=30								
Z30A	Sanderson Ranc	29.56	306	⇑P		P	00 49 32.5	+0.3	
	baz=30								
329A	Wagon Wheel Ra	29.59	302	⇓P		P	00 49 32.9	+0.4	
	baz=30								
V31A	Spring Creek L	29.67	311	⇑P		P	00 49 33.3	+0.1	
	baz=30								
R33A	Olander Ranch,	29.73	317	⇓P		P	00 49 33.6	+0.1	
	baz=30,SNR=5.0								
T32A	Huddler Ranch,	29.73	314	⇑P		P	00 49 33.8	+0.1	
	baz=30								
628A	Black Gap, Mar	29.76	297	⇑P		P	00 49 33.8	-0.2	
	baz=30								
X30A	Coker Ranch, T	29.83	308	⇑P		P	00 49 34.4	-0.2	
	baz=30								
528A	Cox Ranch, San	29.86	299	⇓P		P	00 49 34.9	-0.1	
	baz=30								
428A	Kincaid Ranch,	29.93	300	⇓P		P	00 49 35.6	+0.1	
	baz=30,SNR=11								
Z29A	Hungry Hill Ra	30.00	305	⇑P		P	00 49 35.5	-0.6	
	baz=30								
Q33A	Connelly Farm,	30.02	318	⇑P		P	00 49 36.3	+0.1	
	baz=30,SNR=7.8								
Y29A	Porterfield Fa	30.20	306	⇑P		P	00 49 37.4	-0.5	
	baz=30								
T31A	Randall Ranch,	30.21	313	⇓P		P	00 49 37.9	0.0	
	baz=30								
328A	Wristen Ranch,	30.23	301	⇓P		P	00 49 37.9	-0.2	
	baz=30								
R32A	Long Quarter,	30.26	317	⇑P		P	00 49 38.4	0.0	
	baz=30								
228A	UT Block 9, Go	30.29	303	⇑P		P	00 49 38.6	-0.1	
	baz=30								
S31A	Mullinville	30.34	315	⇓P		P	00 49 39.1	0.0	
	baz=30								
128A	Castleberry Fa	30.38	304	⇑P		P	00 49 38.9	-0.5	
	baz=30,SNR=9.4								
TXAR	Lajitas Array	30.38	297	P		P	00 49 39.6	0.0	
TXAR				PcP		PcP	00 52 40.1	+0.8	
TXAR	Lajitas Array	30.38	297	P		P	00 49 39.6	0.0	
	comp=Z,4.2nm,0.9s,baz=112,slow=9.9,SNR=18								
TXAR				PcP		PcP	00 52 40.1	+0.8	
	comp=Z,2.0nm,0.9s,baz=131,slow=3.5,SNR=4.4								
X29A	Tulia	30.45	307	⇓P		P	00 49 39.5	-0.6	
	baz=30								
Q32A	Meitler Ranch,	30.48	318	⇑P		P	00 49 39.9	-0.3	
	baz=30								
527A	Woodward Ranch	30.54	298	⇓P		P	00 49 40.9	-0.1	
	baz=31,SNR=8.5								
427A	Hayter Ranch,	30.56	300	⇓P		P	00 49 41.0	0.0	
	baz=31,SNR=10.0								
U30A	WK&E Inc. Balk	30.61	312	⇑P		P	00 49 41.4	-0.1	
	baz=31								
AMTX	Amarillo	30.62	308	⇑P		P	00 49 41.1	-0.5	
	baz=31								
Y28A	McKinney Farm,	30.66	306	⇑P		P	00 49 41.3	-0.6	
	baz=31								
W29A	Amraillo	30.70	309	⇑P		P	00 49 41.7	-0.6	
	baz=31								
R31A	Burdett	30.73	316	⇓P		P	00 49 42.4	0.0	
	baz=31,SNR=5.6								
626A	Big Bend Ranch	30.83	297	⇑P		P	00 49 44.9	+1.4	
	baz=31								
P32A	Huiting Farm,	30.87	319	⇑P		P	00 49 43.9	+0.2	
	baz=31,SNR=6.8								
526A	Mary Lane Ranc	30.92	298	⇑P		P	00 49 44.6	+0.3	
	baz=31,SNR=11								
V29A	Stinnett	30.93	310	⇓P		P	00 49 44.3	0.0	
	baz=31								
S30A	Montezuma	31.02	314	⇑P		P	00 49 45.2	+0.1	
	baz=31								
426A	McDonald Obser	31.03	299	⇓P		P	00 49 45.5	+0.2	
	baz=31,SNR=12								
Q31A	Ellis	31.03	317	⇓P		P	00 49 45.4	+0.3	
	baz=31								
MSTX	Muleshoe	31.09	306	eP		P	00 49 46.1	+0.4	
	comp=Z,26nm,1.3s								
Z27A	Tatum	31.19	304	⇓P		P	00 49 46.8	+0.1	
	baz=31								
R30A	Dighton	31.22	315	⇓P		P	00 49 47.3	+0.5	
	baz=31								
P31A	Stockton	31.31	318	⇑P		P	00 49 47.6	0.0	
	baz=31,SNR=6.2								
Y27A	Causey	31.36	305	⇓P		P	00 49 47.8	-0.3	
	baz=31								
T29A	Hugoton	31.36	312	⇑P		P	00 49 47.6	-0.4	
	baz=31								
S29A	Ulysses	31.46	313	⇓P		P	00 49 48.8	-0.2	
	baz=32								
226B	Tecolote Peak,	31.54	302	⇓P		P	00 49 49.3	-0.4	
	baz=32								
Q30A	Quinter	31.55	316	⇓P		P	00 49 49.2	-0.5	
	baz=32								
SPMN	St. Paul	31.59	332	⇑P		P	00 49 49.5	-0.4	
	baz=32								
126A	Clayton Basin,	31.60	303	⇑P		P	00 49 49.9	-0.4	
	baz=32								
O31A	Woolen Ranch,	31.63	319	⇑P		P	00 49 50.1	-0.3	
	baz=32,SNR=5.4								
U28A	Mallet	31.66	310	⇓P		P	00 49 50.4	-0.4	
	baz=32								
BGNE	Belgrade	31.67	322	⇓P		P	00 49 50.3	-0.4	
	baz=32								
W27A	Bowe Ranch, En	31.73	308	⇑P		P	00 49 51.1	-0.3	
	baz=32								
Z26A	Caprock	31.78	304	⇑P		P	00 49 51.3	-0.6	
	baz=32								
425A	Indio Mountain	31.85	299	⇓P		P	00 49 52.3	-0.2	
	baz=32								
P30A	Selden	31.88	317	⇓P		P	00 49 52.9	+0.4	
	baz=32,SNR=16								
Y26A	Elida	31.88	305	⇑P		P	00 49 53.3	+0.5	
	baz=32								
T28A	Walsh	31.92	312	⇓P		P	00 49 53.5	+0.5	
	baz=32								
S28A	Manter	31.99	313	⇑P		P	00 49 54.1	+0.5	
	baz=32								
325A	Bean Ranch, Si	32.00	300	⇑P		P	00 49 53.8	-0.1	
	baz=32,SNR=12								
Q29A	Oakley	32.01	315	⇑P		P	00 49 54.2	+0.4	
	baz=32,SNR=13								
225A	Deer Hill, Car	32.08	301	⇑P		P	00 49 54.7	+0.1	
	baz=32,SNR=12								
X26A	CR and CF Fran	32.10	306	⇑P		P	00 49 54.9	+0.2	
	baz=32								
O30A	MW Ranch, Wils	32.11	318	⇑P		P	00 49 55.0	+0.4	
	baz=32								
125A	Gardner Draw,	32.12	302	⇓P		P	00 49 54.5	-0.3	
	baz=32,SNR=6.4				

U25A **Circle Dot Ran** 33.27 309 ⇓P P 00 50 05.2 +0.2
baz=33
K30A **Basset** 33.31 322 ⇓P P 00 50 05.6 +0.5
baz=33,SNR=5.6
N28A **Pribbeno Ranch** 33.33 318 ⇑P P 00 50 05.6 +0.3
baz=33
X24A **Lazy VL Ranch,** 33.36 305 ⇑P P 00 50 05.8 0.0
baz=33
R26A **Arlington** 33.40 313 ⇓P P 00 50 05.9 -0.2
baz=33
L29A **Maesberg Ranch** 33.46 321 ⇓P P 00 50 06.7 +0.3
baz=34
Z23A **Rita Site, Whi** 33.56 303 ⇑P P 00 50 07.8 +0.3
baz=34
W24A **Lazy 6 Ranch,** 33.56 306 ⇑P P 00 50 07.5 -0.1
baz=34
T25A **Trinidad** 33.58 310 ⇑P P 00 50 08.2 +0.5
baz=34,SNR=12
M28A **Bar X Bar Ranc** 33.62 319 ⇓P P 00 50 08.0 +0.2
baz=34
Y23A **Lovelace Mesa,** 33.63 304 ⇓P P 00 50 08.4 +0.3
baz=34,SNR=13
J30A **Dallas** 33.65 323 ⇑P P 00 50 07.8 -0.2
baz=34,SNR=10
V24A **Rampart Ranch,** 33.65 307 ⇑P P 00 50 08.2 -0.1
baz=34
Q26A **Hugo** 33.74 314 ⇓P P 00 50 08.8 -0.2
baz=34,SNR=5.2
K29A **Lazy Trails An** 33.78 322 ⇓P P 00 50 09.3 +0.1
baz=34
OGNE **Ogallala** 33.79 318 ⇑P P 00 50 09.5 +0.2
baz=34
S25A **Robets Cordova** 33.81 311 ⇑P P 00 50 09.2 -0.5
baz=34,SNR=5.8
R25A **Fountain Ranch** 33.92 312 ⇓P P 00 50 10.2 -0.4
baz=34
P26A **Davis Ranch, A** 33.93 315 ⇑P P 00 50 10.6 -0.1
baz=34
222A **Williams Famil** 33.94 300 ⇓P P 00 50 10.7 -0.1
baz=34
X23A **Hourglass Bar** 33.95 305 ⇑P P 00 50 10.8 -0.1
baz=34,SNR=8.5
N27A **Anderson Farm,** 34.03 317 ⇑P P 00 50 11.5 0.0
baz=34
W23A **Werner Place,** 34.12 306 ⇑P P 00 50 12.8 +0.4
baz=34,SNR=9.5
Z22A **Elephant Butte** 34.15 302 ⇑P P 00 50 12.6 0.0
baz=34,SNR=9.0
BNM **Barren Site** 34.15 304 eP P 00 50 13.5 +0.7
comp=Z,30nm,1.2s
J29A **Okreek** 34.17 323 ⇑P P 00 50 12.5 -0.1
baz=34,SNR=7.1
LPM **Los Pinos Moun** 34.20 304 eP P 00 50 14.3 +1.1
O26A **Horse Wrangler** 34.25 316 ⇑P P 00 50 14.0 +0.6
baz=34
T24B **San Luis** 34.25 310 ⇑P P 00 50 13.7 +0.1
baz=34,SNR=13
ANMO **Albuquerque** 34.28 305 eP P 00 50 14.7 +0.9
ANMO **Albuquerque** 34.28 305 P P 00 50 13.9 +0.2
comp=Z,4.6nm,1.0s,baz=112,slow=13,SNR=7.4
V23A **Ortiz Mt. (NFS** 34.35 307 ⇓P P 00 50 15.9 +1.5
baz=34,SNR=6.2
S24A **Houchin Ranch,** 34.37 311 ⇓P P 00 50 15.2 +0.6
baz=34
LENM **Lemitar** 34.43 304 eP P 00 50 15.9 +0.9
P25A **Willow Gulch B** 34.47 314 ⇑P P 00 50 15.9 +0.6
baz=34
R24A **Sanders Place,** 34.54 312 ⇓P P 00 50 16.3 +0.3
baz=35
I29A **Vivian Onida** 34.54 324 ⇓P P 00 50 15.9 +0.2
baz=35
U23A **El Rito** 34.57 308 ⇓P P 00 50 16.4 +0.1
baz=35
121A **Cookes Peak, D** 34.61 301 ⇓P P 00 50 16.9 +0.2
baz=35
SDCO **Great Sand Dun** 34.62 311 eP P 00 50 17.2 +0.4
comp=Z,17nm,1.1s
G30A **Faulkton** 34.62 326 ⇑P P 00 50 17.5 +1.1
baz=35
LAZ **Ladron** 34.63 304 eP P 00 50 17.3 +0.4
comp=Z,12nm,1.1s
ARE **Arequipa** 34.71 178 eP P 00 50 19.0 +1.3
ARE **Arequipa** 34.71 178 eP P 00 50 19.0 +1.3
J28A **Allard Ranch,** 34.71 322 ⇓P P 00 50 18.1 +0.8
baz=35
T23A **Casias Ranch,** 34.72 309 ⇑P P 00 50 18.3 +0.6
baz=35
M26A **McRoberts Ranc** 34.77 318 ⇑P P 00 50 19.0 +1.1
baz=35
LPAZ **La Paz** 34.79 173 eP P 00 50 18.5 -0.2
comp=Z,20nm,1.2s
LPAZ PcP PcP 00 52 52.3 +0.1
LPAZ **La Paz** 34.79 173 P P 00 50 18.9 +0.2
comp=Z,5.9nm,0.9s,baz=350,slow=7.3,SNR=10
LPAZ PcP PcP 00 52 52.3 +0.1
comp=Z,6.1nm,1.1s,baz=48,slow=4.9,SNR=3.8
K27A **Flueckinger Fa** 34.89 320 ⇑P P 00 50 19.1 +0.3
baz=35
Q24A **Divide** 34.89 313 ⇓P P 00 50 19.2 0.0
baz=35
V22A **San Miguel Ran** 34.96 307 ⇓P P 00 50 20.5 +0.8
baz=35,SNR=9.4
S23A **Nye Farm, Mont** 34.96 310 ⇑P P 00 50 20.0 +0.2
baz=35
P24A **Kohler Place,** 34.97 314 ⇓P P 00 50 20.1 +0.3
baz=35
I28A **Midland** 35.02 323 ⇓P P 00 50 20.1 +0.2
baz=35
R23A **Moffat** 35.04 311 ⇑P P 00 50 20.6 +0.2
baz=35,SNR=11
L26A **Underwood Farm** 35.04 319 ⇑P P 00 50 20.8 +0.6
baz=35
J27A **Elkhorn Farm,** 35.07 321 ⇓P P 00 50 20.3 -0.1
baz=35
U22A **Llaves** 35.08 308 ⇑P P 00 50 21.8 +1.1
baz=35,SNR=11
AGMN **Agassiz Nation** 35.30 333 eP P 00 50 22.9 +0.8
comp=Z,181nm,2.5s
AGMN **Agassiz Nation** 35.30 333 ⇓P P 00 50 22.4 +0.3
baz=35
M25A **Palm-Egli Farm** 35.34 317 ⇓P P 00 50 23.0 +0.1
baz=35,SNR=6.1
H28A **Mission Ridge** 35.35 324 ⇑P P 00 50 22.4 -0.4
baz=35
E30A **Jud** 35.43 328 ⇑P P 00 50 22.9 -0.4
baz=36
F29A **Eureka** 35.45 326 ⇑P P 00 50 23.5 -0.1
baz=36
K26A **Motz Farm, Whi** 35.46 320 ⇑P P 00 50 23.5 -0.2
baz=36
G28A **Parade** 35.55 325 ⇓P P 00 50 24.0 -0.4
baz=36,SNR=9.5
I27A **Quinn** 35.57 322 ⇑P P 00 50 24.4 -0.3
baz=36,SNR=6.5
N24A **Carr** 35.58 316 ⇓P P 00 50 24.6 -0.3
baz=36
S22A **4UR Ranch, Cre** 35.58 310 ⇓P P 00 50 24.8 -0.3
baz=36,SNR=8.5
ISCO **Idaho Springs** 35.59 314 eP P 00 50 25.6 +0.4
ISCO pmax pmax
comp=Z,49nm,1.4s
ISCO **Idaho Springs** 35.59 314 eP P 00 50 25.6 +0.4
comp=Z,49nm,1.4s
ISCO **Idaho Springs** 35.59 314 ⇓P P 00 50 25.0 -0.2
baz=36,SNR=12
J26A **Sides Ranch, S** 35.74 321 ⇑P P 00 50 25.5 -0.6
baz=36
D30A **Buchanan** 35.77 329 ⇓P P 00 50 25.7 -0.5
baz=36,SNR=7.7
K25A **Mack Ranch, Ha** 35.84 319 ⇑P P 00 50 26.8 -0.3
baz=36,SNR=5.3
E29A **Napoleon** 35.84 328 ⇑P P 00 50 26.4 -0.6
baz=36
M24A **Cheyenne** 35.86 317 ⇓P P 00 50 27.0 -0.3
baz=36,SNR=11
H27A **Howes** 35.92 323 ⇑P P 00 50 27.0 -0.7
baz=36
SIV **San Ignacio** 36.03 161 P P 00 50 30.1 +1.3
SIV **San Ignacio** 36.03 161 P P 00 50 30.1 +1.3
comp=Z,6.0nm,0.7s,baz=7.4,slow=10,SNR=15
C30A **Mose, Pekin** 36.05 330 ⇓P P 00 50 28.8 +0.1
baz=36,SNR=11
D29A **Pettibone, Tap** 36.16 328 ⇓P P 00 50 29.4 -0.2
baz=36,SNR=7.8
PHWY **Pilot Hill** 36.19 316 eP P 00 50 31.2 +0.9
comp=Z,32nm,1.6s
L24A **Wheatland** 36.22 317 ⇓P P 00 50 29.8 -0.5
baz=36,SNR=5.7

J25A **Sunshine Ranch** 36.22 320 ⇓P P 00 50 29.8 -0.5
baz=36
SMCO **Snowmass** 36.26 312 eP P 00 50 31.0 -0.1
comp=Z,24nm,1.2s
P22A **Eagle** 36.29 313 ⇑P P 00 50 30.2 -0.9
baz=36
G27A **Dupree** 36.30 324 ⇓P P 00 50 30.4 -0.4
baz=36,SNR=8.4
H26A **Fairpoint** 36.31 323 ⇑P P 00 50 30.0 -1.1
baz=36,SNR=8.3
N23A **Red Feather La** 36.32 315 ⇓P P 00 50 30.3 -1.0
baz=36
E28A **Huff** 36.39 327 ⇑P P 00 50 31.1 -0.5
baz=36
O22A **Kremmling** 36.39 314 ⇑P P 00 50 30.7 -1.3
baz=36
K24A **Anderson Ranch** 36.49 319 ⇑P P 00 50 32.4 -0.2
baz=36,SNR=6.9
B30A **Myrvik Farm, E** 36.52 331 ⇑P P 00 50 32.1 -0.5
baz=37,SNR=5.8
SCHQ **Schefferville** 36.57 6 eP P 00 50 33.2 +0.2
SCHQ **Schefferville** 36.57 6 P P 00 50 33.0 0.0
comp=Z,6.7nm,0.7s,baz=217,slow=7.7,SNR=8.4
MVCO **Mesa Verde** 36.61 308 ⇑P P 00 50 33.2 -0.7
baz=37
N22A **Wattenberg Ran** 36.62 315 ⇓P P 00 50 33.0 -0.9
baz=37
F27A **Lemmon** 36.65 325 ⇓P P 00 50 34.0 +0.1
baz=37,SNR=12
MDND **Maddock** 36.70 329 eP P 00 50 34.0 -0.2
MDND **Maddock** 36.70 329 ⇓P P 00 50 34.0 -0.2
baz=37,SNR=5.5
J24A **Dixon Ranch, L** 36.72 320 ⇓P P 00 50 34.4 -0.2
baz=37,SNR=6.7
D28A **Regan** 36.74 328 ⇑P P 00 50 34.3 -0.2
baz=37
L23A **Garrett** 36.75 317 ⇑P P 00 50 34.6 -0.3
baz=37,SNR=11
RSSD **Black Hills** 36.77 321 eP P 00 50 35.3 +0.2
RSSD pmax pmax
comp=Z,10.0nm,1.2s
RSSD **Black Hills** 36.77 321 eP P 00 50 35.3 +0.2
comp=Z,9.5nm,1.2s
H25A **Fruitdale** 36.80 322 ⇑P P 00 50 35.0 -0.1
baz=37,SNR=6.6
ULM **Lac du Bonnet** 36.81 335 eP P 00 50 33.9 -1.1
ULM **Lac du Bonnet** 36.81 335 P P 00 50 33.1 -1.9
comp=Z,12nm,0.9s,baz=151,slow=8.6,SNR=12
A30A **Hoffart Farm,** 36.86 331 ⇓P P 00 50 35.8 +0.2
baz=37,SNR=20
X18A **Snowflake** 36.89 303 ⇑P P 00 50 36.3 +0.1
baz=37
I24A **Kuemmerle Ranc** 36.98 320 ⇑P P 00 50 37.1 +0.3
baz=37
M22A **Cedar Creek Ra** 36.99 316 ⇑P P 00 50 37.2 +0.1
baz=37
C28A **Hausauer Farms** 36.99 328 ⇓P P 00 50 37.5 +0.8
baz=37
F26A **Lodgepole** 37.00 324 ⇓P P 00 50 37.0 +0.2
baz=37
PV01 **Paradox Valley** 37.00 310 eP P 00 50 37.9 +0.7
comp=Z,747nm,1.0s
B29A **Wagenman Farm,** 37.01 330 ⇓P P 00 50 36.8 0.0
baz=37,SNR=9.2
K23A **Bowen Ranch, D** 37.02 318 ⇓P P 00 50 38.0 +0.9
baz=37
TUC **Tucson** 37.02 299 eP P 00 50 37.9 +0.7
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** 37.02 299 eP P 00 50 37.9 +0.7
comp=Z,4.1nm,0.9s
G25A **Newell** 37.02 323 ⇑P P 00 50 36.9 -0.2
baz=37,SNR=14
L22A **Ellis Ranch, M** 37.18 317 ⇑P P 00 50 38.8 +0.2
baz=37,SNR=5.1
E26A **Carlson Angus** 37.26 325 ⇓P P 00 50 38.9 -0.2
baz=37
A29A **Manning Farm,** 37.27 331 ⇑P P 00 50 39.0 0.0
baz=37,SNR=15
J23A **Dilts Ranch, B** 37.31 319 ⇑P P 00 50 39.2 -0.3
baz=37
PV04 **Paradox Valley** 37.34 310 eP P 00 50 42.8 +2.8
H24A **Dirks Ranch, A** 37.43 322 ⇑P P 00 50 39.9 -0.6
baz=38,SNR=6.3
PV10 **Paradox Valley** 37.43 310 eP P 00 50 42.9 +2.0
comp=Z,150nm,1.0s
F25A **Bowman** 37.48 324 ⇓P P 00 50 40.6 -0.3
baz=38
B28A **Dugan Ranch, T** 37.48 329 ⇓P P 00 50 40.5 -0.3
baz=38,SNR=11
K22A **Casper** 37.54 317 eP P 00 50 41.9 +0.3
comp=Z,20nm,0.9s
K22A **Casper** 37.54 317 ⇓P P 00 50 41.1 -0.5
baz=38,SNR=6.7
O20A **White River Ci** 37.55 313 eP P 00 50 42.5 +0.7
comp=Z,251nm,2.8s
O20A **White River Ci** 37.55 313 ⇑P P 00 50 41.8 0.0
baz=38
C27A **Sayler Ranch,** 37.56 328 ⇓P P 00 50 41.6 +0.1
baz=38
D26A **Manning** 37.60 326 ⇓P P 00 50 42.0 +0.1
baz=38
G24A **Alzada** 37.68 322 ⇑P P 00 50 42.5 -0.1
baz=38
A28A **Rude Farm, Bot** 37.75 330 ⇑P P 00 50 42.7 -0.5
baz=38,SNR=8.3
E25A **Miller Ranch,** 37.80 325 ⇓P P 00 50 43.1 -0.4
baz=38
J22A **Midwest** 37.89 318 ⇑P P 00 50 44.1 -0.5
baz=38,SNR=16
C26A **Wahner Farm, P** 37.93 327 ⇑P P 00 50 44.4 -0.2
baz=38,SNR=13
F24A **Ekalaka** 37.99 323 ⇑P P 00 50 44.9 -0.4
baz=38
K21A **Alcova** 38.00 317 ⇓P P 00 50 45.1 -0.5
baz=38,SNR=23
X16A **Lo Mia Camp, P** 38.05 303 ⇑P P 00 50 46.8 +0.8
baz=38,SNR=5.3
I22A **9 Mile Ranch,** 38.14 319 ⇑P P 00 50 46.4 -0.2
baz=38,SNR=6.9
D25A **Fairfield** 38.15 326 ⇓P P 00 50 46.7 +0.2
baz=38
WUAZ **Wupatki** 38.28 304 eP P 00 50 48.9 +0.9
comp=Z,17nm,1.0s
WUAZ **Wupatki** 38.28 304 ⇓P P 00 50 48.4 +0.5
baz=38,SNR=8.1
J21A **Lysite** 38.47 318 ⇓P P 00 50 49.4 -0.1
baz=38,SNR=12
F23A **Volborg** 38.47 322 ⇓P P 00 50 49.1 -0.2
baz=38,SNR=5.2
I21A **Big Trails, Te** 38.60 319 ⇑P P 00 50 50.2 -0.4
baz=39,SNR=18
A26A **Wade Farm, Ken** 38.60 329 ⇓P P 00 50 50.5 +0.1
baz=39,SNR=6.4
214A **Organ Pipe Nat** 38.63 298 ⇑P P 00 50 51.0 +0.2
baz=39
D24A **Glendive** 38.67 325 ⇓P P 00 50 51.5 +0.6
baz=39
G22A **Birney** 38.72 321 ⇓P P 00 50 51.0 -0.4
baz=39,SNR=6.9
B25A **Knox Farm, Ray** 38.77 327 ⇓P P 00 50 51.7 0.0
baz=39,SNR=7.4
SRU **San Rafael** 38.78 310 eP P 00 50 52.4 +0.3
SRU pmax pmax
comp=Z,14nm,1.1s
SRU **San Rafael** 38.78 310 eP P 00 50 52.4 +0.3
comp=Z,14nm,1.1s
H21A **Big Horn, Sher** 38.86 320 ⇓P P 00 50 52.4 -0.2
baz=39
J20A **Shoshoni** 38.88 317 ⇑P P 00 50 52.7 -0.1
baz=39,SNR=6.9
C24A **Savage** 38.98 325 ⇑P P 00 50 53.9 +0.5
baz=39
F22A **Rosebud** 39.00 322 ⇑P P 00 50 53.9 +0.1
baz=39,SNR=23
A25A **Svangstu Ranch** 39.17 328 ⇓P P 00 50 54.8 -0.2
baz=39,SNR=7.2
E22A **Miles City** 39.19 323 ⇑P P 00 50 55.2 -0.1
baz=39
D23A **Lindsay** 39.19 324 ⇑P P 00 50 55.3 0.0
baz=39
I20A **Worland** 39.20 318 ⇑P P 00 50 54.9 -0.6
baz=39,SNR=7.8
U15A **North Rim** 39.25 305 ⇓P P 00 50 56.9 +0.7
baz=39,SNR=15
G21A **Lodge Grass** 39.27 321 ⇑P P 00 50 55.6 -0.4
baz=39,SNR=6.0
TMUT **Trail Mountain** 39.34 310 eP P 00 50 57.4 +0.4

comp=Z,18nm,1.1s
H20A **Greybull** 39.38 319 ⇓P P 00 50 56.5 -0.5
baz=39,SNR=7.0
DGMT **Dagmar** 39.43 327 eP P 00 50 58.1 +0.9
comp=Z,282nm,2.4s
DGMT **Dagmar** 39.43 327 ⇓P P 00 50 57.3 +0.1
baz=40
J19A **Crowheart** 39.47 317 ⇓P P 00 50 57.4 -0.5
baz=40,SNR=17
LAO **LASA Array** 39.48 323 eP P 00 50 58.0 +0.2
comp=Z,31nm,1.2s
C23A **Lambert** 39.55 325 ⇑P P 00 50 58.1 -0.2
baz=40,SNR=8.5
PDAR **Pinedale Array** 39.57 316 P P 00 50 58.1 -0.7
PDAR **Pinedale Array** 39.57 316 P P 00 50 58.1 -0.7
comp=Z,4.4nm,0.9s,baz=117,slow=12,SNR=15
A24A **Westby** 39.61 327 ⇓P P 00 50 59.0 +0.2
baz=40,SNR=19
D22A **Cohagen** 39.72 324 ⇓P P 00 51 00.6 +0.9
baz=40,SNR=12
I19A **Meeteetse** 39.79 318 ⇓P P 00 51 00.6 +0.1
baz=40,SNR=13
MVU **Marysvale** 39.81 308 eP P 00 51 01.4 +0.6
comp=Z,15nm,1.4s
B23A **Brockton** 39.84 326 ⇓P P 00 51 01.4 +0.7
baz=40,SNR=7.9
G20A **Bridger** 39.88 320 ⇑P P 00 51 00.8 -0.4
baz=40
C22A **Vida** 39.90 325 ⇓P P 00 51 01.3 +0.2
baz=40,SNR=6.9
MPU **Maple Canyon** 39.91 311 eP P 00 51 02.0 +0.5
comp=Z,19nm,1.0s
H19A **Powell** 40.09 319 ⇓P P 00 51 02.9 0.0
baz=40,SNR=5.6
A23A **Redstone** 40.09 327 ⇓P P 00 51 03.0 +0.3
baz=40
D21A **La Casta Ranch** 40.13 323 ⇑P P 00 51 02.8 -0.4
baz=40,SNR=6.6
F20A **Billings** 40.13 321 ⇑P P 00 51 03.0 -0.2
baz=40
W13A **Hualapai Mount** 40.16 303 ⇓P P 00 51 04.2 +0.5
baz=40
PDMCI **Parker Dam,Lak** 40.19 302 ⇑P P 00 51 04.2 +0.5
baz=40
NLU **North Lily Min** 40.20 311 eP P 00 51 04.7 +0.7
comp=Z,15nm,1.1s
CTU **Camp Tracy** 40.23 312 eP P 00 51 05.3 +1.1
comp=Z,18nm,1.2s
B22A **Reddig Ranch S** 40.28 325 ⇑P P 00 51 05.4 +1.0
baz=40
Y12C **Blythe** 40.39 301 ⇑P P 00 51 05.6 +0.2
baz=40
CCUT **Cedar City** 40.39 307 eP P 00 51 06.6 +1.0
comp=Z,8.4nm,1.1s
E20A **Meyer Farm, Mu** 40.49 322 ⇑P P 00 51 05.8 -0.3
baz=40,SNR=14
H18A **Shoshone NF, C** 40.51 318 ⇓P P 00 51 05.8 -0.8
baz=40,SNR=8.9
ARUT **Antelope Range** 40.52 307 eP P 00 51 07.2 +0.6
ARUT pmax pmax
comp=Z,424nm,1.0s
ARUT **Antelope Range** 40.52 307 eP P 00 51 07.2 +0.6
comp=Z,424nm,1.0s
LOHW **Long Hollow** 40.63 317 eP P 00 51 07.8 +0.2
comp=Z,43nm,1.1s
F19A **Roth Farm, Mol** 40.64 320 ⇓P P 00 51 07.0 -0.5
baz=41,SNR=6.8
A22A **Carney Farms,** 40.65 326 ⇓P P 00 51 07.6 +0.2
baz=41,SNR=10
REDW **Red Top Meadow** 40.69 316 eP P 00 51 07.9 -0.1
comp=Z,46nm,1.1s
I17A **Pilgrim Ck.** 40.75 317 ⇓P P 00 51 08.5 0.0
baz=41,SNR=6.8
MOOW **Moose Ponds** 40.78 317 eP P 00 51 08.9 +0.1
comp=Z,30nm,0.9s
D20A **Manuel Ranch,** 40.80 322 ⇑P P 00 51 08.8 +0.1
baz=41,SNR=8.1
TPAW **Teton Pass** 40.81 316 eP P 00 51 09.3 +0.3
comp=Z,43nm,1.3s
DUG **Dugway** 40.82 311 eP P 00 51 09.5 +0.5
DUG pmax pmax
comp=Z,18nm,1.0s
DUG **Dugway** 40.82 311 eP P 00 51 09.5 +0.5
comp=Z,18nm,1.0s
DUG **Dugway** 40.82 311 ⇑P P 00 51 08.8 -0.3
baz=41,SNR=14
E19A **Rath Farm, Rou** 40.85 321 ⇓P P 00 51 09.1 -0.1
baz=41,SNR=21
FLWY **Flagg Ranch** 40.90 317 eP P 00 51 10.6 +0.9
comp=Z,89nm,1.9s
B21A **Ellsworth Farm** 40.91 325 ⇓P P 00 51 10.3 +0.8
baz=41
FXWY **Fox Creek** 40.92 316 eP P 00 51 10.1 +0.1
comp=Z,34nm,1.1s
H17A **Grant Village** 40.96 318 eP P 00 51 10.7 +0.4
comp=Z,17nm,1.2s
H17A **Grant Village** 40.96 318 ⇓P P 00 51 11.1 +0.8
baz=41
LVC **Limon Verde** 40.97 175 eP P 00 51 10.4 0.0
comp=Z,11nm,0.9s
IMW **Indian Meadow** 40.98 317 eP P 00 51 10.5 +0.1
comp=Z,17nm,0.9s
IRM **Iron Mountain** 40.98 301 ⇓P P 00 51 10.6 +0.3
baz=41,SNR=16
GCMT **Greycliff** 41.05 320 eP P 00 51 09.7 -1.2
comp=Z,20nm,1.2s
BC3 **Big Chuckawall** 41.13 300 ⇓P P 00 51 11.9 +0.2
baz=41
LDFC **Landfair** 41.14 302 eP P 00 51 13.6 +1.9
comp=Z,23nm,0.9s
A21A **Bergtoll Ranch** 41.19 326 ⇑P P 00 51 12.2 +0.4
baz=41,SNR=13
BGU **Big Grassy Mou** 41.23 312 eP P 00 51 12.7 +0.3
comp=Z,12nm,1.1s
D19A **Cripps Ranch,** 41.27 322 ⇑P P 00 51 12.8 +0.2
baz=41,SNR=16
YMR **Madison River** 41.33 318 eP P 00 51 17.0 +3.7
comp=Z,46nm,1.7s
HVU **Hansel Valley** 41.35 313 eP P 00 51 13.7 +0.3
HVU pmax pmax
comp=Z,89nm,2.3s
HVU **Hansel Valley** 41.35 313 eP P 00 51 13.7 +0.3
comp=Z,89nm,2.3s
B20A **Solberg Farm,** 41.47 324 ⇑P P 00 51 14.3 +0.1
baz=42,SNR=8.4
SHPR **Sheep Range** 41.50 305 eP P 00 51 16.0 +1.3
GMRC **Granite Mounta** 41.52 302 ⇑P P 00 51 15.4 +0.5
baz=42
BDFB **Brasilia** 41.59 143 P P 00 51 15.2 -0.3
BDFB **Brasilia** 41.59 143 P P 00 51 15.2 -0.3
comp=Z,12nm,0.8s,baz=320,slow=8.0,SNR=13
BELC **Belle Mtn. Jos** 41.64 301 ⇑P P 00 51 16.7 +0.8
baz=42
A20A **Cobblestone Ra** 41.66 325 ⇑P P 00 51 16.0 +0.3
baz=42,SNR=18
C19A **Slack Wire Ran** 41.67 323 ⇑P P 00 51 16.9 +1.1
baz=42
QLMT **Earthquake Lak** 41.70 318 eP P 00 51 17.6 +1.3
MONP **Monument Peak** 41.80 299 ⇓P P 00 51 18.0 +0.7
baz=42
TUQ **Turquoise Moun** 41.87 303 ⇓P P 00 51 18.5 +0.8
baz=42
B19A **Brinkman Farms** 41.99 324 ⇓P P 00 51 18.8 +0.4
baz=42,SNR=6.9
A19A **Klindworth Far** 42.14 324 ⇓P P 00 51 20.4 +0.7
baz=42,SNR=12
BOZ **Bozeman (W)** 42.20 319 eP P 00 51 20.3 0.0
BOZ pmax pmax
comp=Z,21nm,0.9s
BOZ **Bozeman (W)** 42.20 319 eP P 00 51 20.3 0.0
comp=Z,21nm,0.9s
EGMT **Eagleton** 42.23 323 eP P 00 51 20.6 +0.2
comp=Z,39nm,1.2s
EGMT **Eagleton** 42.23 323 ⇓P P 00 51 20.5 +0.1
baz=42,SNR=14
SHOC **Shoshone** 42.25 303 ⇓P P 00 51 21.4 +0.8
baz=42
R11A **Troy Canyon, C** 42.30 307 eP P 00 51 21.8 +0.5
comp=Z,15nm,1.2s
R11A **Troy Canyon, C** 42.30 307 ⇓P P 00 51 21.5 +0.3
baz=42,SNR=15
TPNV **Topopah Spring** 42.46 305 eP P 00 51 22.7 +0.2
TPNV pmax pmax
comp=Z,20nm,1.0s
TPNV **Topopah Spring** 42.46 305 eP P 00 51 22.7 +0.2
comp=Z,20nm,1.0s
TPNV **Topopah Spring** 42.46 305 ⇑P P 00 51 22.8 +0.3
baz=42,SNR=5.6

GSC Goldstone 42.54 302 *e*P P 00 51 24.5 +1.3
GSC pmax pmax
comp=Z,20nm,1.3s
GSC Goldstone 42.54 302 *e*P P 00 51 24.5 +1.3
comp=Z,20nm,1.3s
GSC Goldstone 42.54 302 ⇓P P 00 51 23.5 +0.3
baz=42
MURC Murrieta 42.56 300 ⇓P P 00 51 24.1 +0.9
baz=43
MCMT McKenzie Canyo 42.61 317 *e*P P 00 51 24.6 +0.8
comp=Z,10nm,1.1s
DLMT Dillon 42.68 318 *e*P P 00 51 24.8 +0.7
comp=Z,24nm,1.1s
ELK Elko 42.74 311 *e*P P 00 51 25.2 +0.3
comp=Z,7.8nm,1.0s
LRM Limekiln Ridge 42.79 319 *e*P P 00 51 26.0 +0.8
HRY Holter Researc 42.81 320 *e*P P 00 51 25.4 +0.2
FURC Furnace Creek, 42.83 304 ⇓P P 00 51 26.4 +1.1
baz=43,SNR=6.0
BFSC Mount Baldy Ra 43.04 301 ⇑P P 00 51 27.6 +0.4
baz=43
HLID Hailey 43.14 315 *e*P P 00 51 28.0 0.0
comp=Z,141nm,2.7s
HLID Hailey 43.14 315 ⇓P P 00 51 28.6 +0.6
baz=43,SNR=12
FCC Fort Churchill 43.23 344 *e*P P 00 51 27.2 -1.0
FCC pmax pmax
comp=Z,6.0nm,2.6s
FCC Fort Churchill 43.23 344 *e*P P 00 51 27.2 -1.0
comp=Z,5.8nm,2.6s
MPMC Manual Prospec 43.24 303 ⇓P P 00 51 29.1 +0.2
baz=43,SNR=5.4
GRAC Grapevine Rang 43.34 305 ⇑P P 00 51 29.9 +0.4
baz=43
EDW2 Edwards Air Fo 43.42 301 ⇑P P 00 51 30.9 +0.6
baz=43
RCBR Riachuelo 43.42 120 P P 00 51 30.7 +0.2
RCBR Riachuelo 43.42 120 P P 00 51 30.7 +0.2
comp=Z,27nm,1.1s,baz=309,slow=7.9,SNR=6.3
TPH Tonopah 43.48 306 *e*P P 00 51 32.0 +1.2
TPH pmax pmax
comp=Z,24nm,1.0s
TPH Tonopah 43.48 306 *e*P P 00 51 32.0 +1.2
comp=Z,24nm,1.0s
CIS Catalina Islan 43.52 299 ⇑P P 00 51 32.2 +1.2
baz=44
CHMT Chamberlain Mo 43.77 320 *e*P P 00 51 32.9 -0.1
ISA Isabella 43.95 302 *e*P P 00 51 36.1 +1.6
ISA pmax pmax
comp=Z,5.0nm,1.5s
ISA Isabella 43.95 302 *e*P P 00 51 36.1 +1.6
comp=Z,4.7nm,1.5s
ISA Isabella 43.95 302 ⇓P P 00 51 35.6 +1.1
baz=44
MFID Camas Ranch 44.05 314 *e*P P 00 51 35.5 +0.3
comp=Z,15nm,1.2s
SLMT Seeley Lake 44.06 320 *e*P P 00 51 36.0 +0.6
BMN Battle Mountai 44.09 309 *e*P P 00 51 38.1 +2.4
BMN pmax pmax
comp=Z,12nm,1.0s
BMN Battle Mountai 44.09 309 *e*P P 00 51 38.1 +2.4
comp=Z,12nm,1.0s
MSO Missoula 44.16 319 *e*P P 00 51 36.8 +0.7
comp=Z,11nm,1.2s
MSO Missoula 44.16 319 ⇑P P 00 51 36.6 +0.6
baz=44
NVAR Mina Array Bea 44.39 306 P P 00 51 38.1 -0.1
NVAR Mina Array Bea 44.39 306 P P 00 51 38.1 -0.1
comp=Z,2nm,0.9s,baz=86,slow=6.4,SNR=20
VES Vestal, Richgr 44.47 303 ⇑P P 00 51 40.0 +1.4
baz=44
PKM Peak Mountain 44.90 301 ⇑P P 00 51 43.2 +0.9
baz=45
WALA Waterton Lakes 45.14 322 *e*P P 00 51 45.2 +1.3
comp=Z,0.6nm,1.2s
WAKR Walker 45.27 306 *e*P P 00 51 46.9 +1.7
FRB Frobisher Bay 45.34 2 P P 00 51 44.7 -0.3
FRB Frobisher Bay 45.34 2 P P 00 51 44.7 -0.3
comp=Z,18nm,0.8s,baz=189,slow=8.7,SNR=20
PTRM Twissleman Ran 45.34 302 *e*P P 00 51 48.1 +2.5
WVOR Wild Horse Val 45.69 312 *e*P P 00 51 48.6 +0.3
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 45.69 312 *e*P P 00 51 48.6 +0.3
comp=Z,14nm,1.0s
J08A Circle Bar Ran 45.85 313 *e*P P 00 51 49.7 +0.1
comp=Z,19nm,1.0s
F10A Beach Ranch, E 45.90 317 *e*P P 00 51 49.5 -0.4
comp=Z,25nm,2.8s
CMB Columbia Colle 45.91 305 *e*P P 00 51 50.4 +0.4
CMB pmax pmax
comp=Z,11nm,1.2s
CMB Columbia Colle 45.91 305 *e*P P 00 51 50.4 +0.4
comp=Z,11nm,1.2s
E09A Wood Farm, Sta 46.69 317 *e*P P 00 51 55.9 -0.1
comp=Z,16nm,1.2s
NEW Newport 46.71 320 *e*P P 00 51 55.7 -0.5
comp=Z,31nm,1.0s
NEW Newport 46.71 320 ⇑P P 00 51 56.2 0.0
baz=47,SNR=15
I07A Izee 46.78 314 *e*P P 00 51 57.5 +0.6
comp=Z,22nm,1.5s
CPUP Villa Florida 46.90 161 *e*P P 00 51 56.4 -1.4
comp=Z,1.0nm,0.8s
CPUP Villa Florida 46.90 161 P P 00 51 56.7 -1.0
comp=Z,4.3nm,0.6s,baz=334,slow=7.4,SNR=8.9
OHCM Honcut 47.01 307 *e*P P 00 51 59.4 +0.8
LCO Las Campanas 47.22 178 *e*P P 00 52 02.3 +1.8
comp=Z,24nm,0.9s
C09A Chrisman Ranch 47.24 319 *e*P P 00 52 00.6 +0.3
comp=Z,18nm,1.1s
K05A Summer Lake 47.37 312 *e*P P 00 52 03.4 +1.8
comp=Z,19nm,1.0s
D08A Wollman Farm, 47.38 318 *e*P P 00 52 01.4 0.0
comp=Z,160nm,2.6s
HAWA Hanford 47.55 317 *e*P P 00 52 02.7 0.0
comp=Z,126nm,2.8s
E07A Sunnyside 47.81 317 *e*P P 00 52 05.0 +0.2
comp=Z,157nm,2.6s
G06A Carlson Farm, 47.90 315 *e*P P 00 52 07.5 +2.0
comp=Z,56nm,1.6s
B08A Colville Reser 48.11 319 *e*P P 00 52 06.5 -0.6
YBH Yreka Blue Hor 48.43 310 P P 00 52 07.2 -2.5
YBH Yreka Blue Hor 48.43 310 P P 00 52 07.2 -2.5
comp=Z,6.3nm,0.9s,baz=91,slow=5.4,SNR=5.6
LTY Liberty 48.57 317 *e*P P 00 52 10.9 +0.2
comp=Z,37nm,1.5s
H04A Detroit Lake 48.80 314 *e*P P 00 52 13.0 +0.5
comp=Z,31nm,1.0s
LON Longmire 49.15 316 *e*P P 00 52 15.3 +0.2
LON pmax pmax
comp=Z,39nm,1.8s
LON Longmire 49.15 316 *e*P P 00 52 15.3 +0.2
comp=Z,39nm,1.8s
SFJD Kangerlussuaq 50.55 11 *i*P P 00 52 25.8 +0.5
comp=Z,13nm,1.0s
SFJD Kangerlussuaq 50.55 11 *e*P P 00 52 26.8 +1.5
SFJD Kangerlussuaq 50.55 11 P P 00 52 24.9 -0.4
comp=Z,27nm,1.1s,baz=190,slow=7.2,SNR=5.2
SFJD LR LR 01 10 22.3
comp=Z,3µm,21.6s,baz=172,slow=32
YKA Yellowknife Ar 52.72 337 P P 00 52 40.8 -0.9
YKA Yellowknife Ar 52.72 337 P P 00 52 40.7 -0.9
comp=Z,7.2nm,0.9s,baz=124,slow=7.5,SNR=23
YKW3 Yellowknife Ar 52.76 337 *e*P P 00 52 41.1 -0.9
comp=Z,0.2nm,0.9s
SUMG Summit 57.53 12 *i*P P 00 53 16.7 0.0
SUMG pmax pmax
comp=Z,46nm,0.9s
SUMG Summit 57.53 12 *i*P P 00 53 16.7 0.0
comp=Z,46nm,0.9s
SUMG Summit 57.53 12 *e*P P 00 53 16.3 -0.3
comp=Z,53nm,1.0s
RES Resolute Bay 57.55 353 *e*P P 00 53 15.8 -0.5
comp=Z,7.8nm,0.9s
DLBC Dease Lake 57.60 328 *e*P P 00 53 17.6 +0.6
PLCA Paso Flores 58.91 178 P P 00 53 26.1 -0.2
PLCA Paso Flores 58.91 178 P P 00 53 26.1 -0.2
comp=Z,17nm,0.8s,baz=352,slow=6.6,SNR=20
EVO Evora 58.96 56 *e*P P 00 53 27.0 +0.2
comp=Z,63nm,1.8s
PBDV Barranco-do-Ve 59.02 57 *e*P P 00 53 30.3 +3.0
comp=Z,138nm,1.5s
PVRL Vila Real 59.24 53 *e*P P 00 53 29.8 +1.0
comp=Z,89nm,1.6s
PESTR Estremoz 59.29 55 *e*P P 00 53 29.5 +0.4
comp=Z,46nm,1.3s
MTE Manteigas 59.35 54 *e*P P 00 53 31.7 +2.1
comp=Z,84nm,1.5s
PCBR Castelo Branco 59.39 54 *e*P P 00 53 31.0 +1.3
comp=Z,45nm,1.7s
PMRV Marv??o 59.45 55 *e*P P 00 53 30.0 -0.2
comp=Z,45nm,1.4s
MVO Moncorvo 59.76 53 *e*P P 00 53 32.8 +0.4
comp=Z,59nm,1.8s
PBRG Bragança 59.99 52 *e*P P 00 53 33.7 -0.2
comp=Z,53nm,1.7s
SCO Scoresbysund 60.07 17 *i*P P 00 53 34.0 +0.1
SCO pmax pmax
comp=Z,3.0nm,0.9s
SCO Scoresbysund 60.07 17 *i*P P 00 53 34.0 +0.1
comp=Z,3.3nm,0.9s
ESDC Sonseca Array 62.10 54 P P 00 53 48.7 +0.4
ESDC Sonseca Array 62.10 54 P P 00 53 48.7 +0.4
comp=Z,7.7nm,0.9s,baz=270,slow=7.1,SNR=12
INK Inuvik 62.41 338 *e*P P 00 53 49.0 -0.7
comp=Z,25nm,1.4s
ROSF Rostrenen 62.69 45 *e*P P 00 53 51.6 -0.4
comp=Z,305nm,1.8s
ROSF Rostrenen 62.69 45 *e*P P 00 53 51.6 -0.4
ROSF pmax pmax
comp=Z,305nm,1.8s
ROSF Rostrenen 62.69 45 *e*P P 00 53 51.6 -0.4
comp=Z,305nm,1.8s
QUIF Quistinic 62.74 45 *e*P P 00 53 52.6 +0.3
comp=Z,201nm,1.4s
QUIF Quistinic 62.74 45 *e*P P 00 53 52.6 +0.3
QUIF pmax pmax
comp=Z,201nm,1.4s
QUIF Quistinic 62.74 45 *e*P P 00 53 52.6 +0.3
comp=Z,201nm,1.4s
SGMF Saint Gilles 63.16 45 *e*P P 00 53 54.7 -0.5
comp=Z,456nm,1.9s
SGMF Saint Gilles 63.16 45 *e*P P 00 53 54.7 -0.5
SGMF pmax pmax
comp=Z,457nm,1.9s
SGMF Saint Gilles 63.16 45 *e*P P 00 53 54.7 -0.5
comp=Z,456nm,1.9s
EKA Eskdalemuir Ar 63.29 37 P P 00 53 56.5 +0.6
EKA Eskdalemuir Ar 63.29 37 P P 00 53 56.5 +0.6
comp=Z,5.6nm,0.7s,baz=274,slow=5.8,SNR=9.0
SJPF Ste Jean 64.07 50 *e*P P 00 54 01.6 +0.3
comp=Z,101nm,1.2s
SJPF Ste Jean 64.07 50 *e*P P 00 54 01.6 +0.3
SJPF pmax pmax
comp=Z,101nm,1.2s
SJPF Ste Jean 64.07 50 *e*P P 00 54 01.6 +0.3
comp=Z,101nm,1.2s
GRR Gorron 64.30 45 *e*P P 00 54 02.2 -0.4
comp=Z,51nm,0.9s
GRR Gorron 64.30 45 *e*P P 00 54 02.2 -0.4
GRR pmax pmax
comp=Z,51nm,0.9s
GRR Gorron 64.30 45 *e*P P 00 54 02.2 -0.4
comp=Z,51nm,0.9s
FLN La Foliniere 64.56 44 *e*P P 00 54 03.8 -0.5
FLN La Foliniere 64.56 44 *e*P P 00 54 03.8 -0.5
FLN La Foliniere 64.56 44 *e*P P 00 54 03.8 -0.5
ETSF Etsaut 64.57 51 *e*P P 00 54 04.7 +0.1
comp=Z,90nm,1.4s
ETSF Etsaut 64.57 51 *e*P P 00 54 04.7 +0.1
ETSF pmax pmax
comp=Z,90nm,1.4s
ETSF Etsaut 64.57 51 *e*P P 00 54 04.7 +0.1
comp=Z,90nm,1.4s
MFF Saint Martin d 64.78 47 *e*P P 00 54 05.7 -0.1
comp=Z,39nm,0.9s
MFF Saint Martin d 64.78 47 *e*P P 00 54 05.7 -0.1
MFF pmax pmax
comp=Z,39nm,0.9s
MFF Saint Martin d 64.78 47 *e*P P 00 54 05.7 -0.1
comp=Z,39nm,0.9s
LDF La Druitiere 64.79 44 *e*P P 00 54 05.3 -0.6
LDF La Druitiere 64.79 44 *e*P P 00 54 05.3 -0.6
LDF La Druitiere 64.79 44 *e*P P 00 54 05.3 -0.6
EPF Esparros 65.22 51 *e*P P 00 54 09.0 +0.1
comp=Z,114nm,1.5s
EPF Esparros 65.22 51 *e*P P 00 54 09.0 +0.1
EPF pmax pmax
comp=Z,114nm,1.5s
EPF Esparros 65.22 51 *e*P P 00 54 09.0 +0.1
comp=Z,114nm,1.5s
LFF La Frestale 65.44 48 *e*P P 00 54 09.7 -0.4
comp=Z,310nm,1.7s
LFF La Frestale 65.44 48 *e*P P 00 54 09.7 -0.4
LFF pmax pmax
comp=Z,310nm,1.7s
LFF La Frestale 65.44 48 *e*P P 00 54 09.7 -0.4
comp=Z,310nm,1.7s
RJF Les Rejaudoux 65.97 48 *e*P P 00 54 12.9 -0.7
comp=Z,94nm,1.4s
RJF Les Rejaudoux 65.97 48 *e*P P 00 54 12.9 -0.7
RJF pmax pmax
comp=Z,94nm,1.4s
RJF Les Rejaudoux 65.97 48 *e*P P 00 54 12.9 -0.7
comp=Z,94nm,1.4s
PAX Paxson 65.98 331 *e*P P 00 54 14.3 +0.8
PAX pmax pmax
comp=Z,18nm,1.2s
PAX Paxson 65.98 331 *e*P P 00 54 14.3 +0.8
comp=Z,18nm,1.2s
CAF Calviac 66.38 48 *e*P P 00 54 15.8 -0.4
comp=Z,31nm,1.0s
CAF Calviac 66.38 48 *e*P P 00 54 15.8 -0.4
CAF pmax pmax
comp=Z,31nm,1.0s
CAF Calviac 66.38 48 *e*P P 00 54 15.8 -0.4
comp=Z,31nm,1.0s
TCF Toulx Ste Croi 66.42 47 *e*P P 00 54 15.7 -0.8
comp=Z,66nm,1.2s
TCF Toulx Ste Croi 66.42 47 *e*P P 00 54 15.7 -0.8
TCF pmax pmax
comp=Z,66nm,1.2s
TCF Toulx Ste Croi 66.42 47 *e*P P 00 54 15.7 -0.8
comp=Z,66nm,1.2s
HYF Humbligny 66.67 46 *e*P P 00 54 17.8 -0.2
HYF Humbligny 66.67 46 *e*P P 00 54 17.8 -0.2
DBIC Dimbokro 66.75 91 P P 00 54 19.4 +0.3
DBIC Dimbokro 66.75 91 P P 00 54 19.4 +0.3
comp=Z,5.3nm,0.9s,baz=286,slow=6.7,SNR=5.9
ILAR Eielson Array 66.80 333 P P 00 54 16.9 -1.6
ILAR Eielson Array 66.80 333 P P 00 54 16.9 -1.6
comp=Z,4.3nm,0.9s,baz=101,slow=4.7,SNR=17
BGF Bois d'Agland 66.84 47 *e*P P 00 54 18.3 -0.8
comp=Z,25nm,0.8s
BGF Bois d'Agland 66.84 47 *e*P P 00 54 18.3 -0.8
BGF pmax pmax
comp=Z,25nm,0.8s
BGF Bois d'Agland 66.84 47 *e*P P 00 54 18.3 -0.8
comp=Z,25nm,0.8s
AVF Avril sur Loir 67.18 46 *e*P P 00 54 20.4 -0.9
comp=Z,85nm,1.6s
AVF Avril sur Loir 67.18 46 *e*P P 00 54 20.4 -0.9
AVF pmax pmax
comp=Z,85nm,1.6s
AVF Avril sur Loir 67.18 46 *e*P P 00 54 20.4 -0.9
comp=Z,85nm,1.6s
COLA College 67.22 333 *e*P P 00 54 23.2 +2.0
COLA pmax pmax
comp=Z,33nm,1.1s
SSF Saint Saulge 67.27 46 *e*P P 00 54 21.2 -0.7
comp=Z,47nm,1.3s
SSF Saint Saulge 67.27 46 *e*P P 00 54 21.2 -0.7
SSF pmax pmax
comp=Z,47nm,1.3s
SSF Saint Saulge 67.27 46 *e*P P 00 54 21.2 -0.7
comp=Z,47nm,1.3s
LOR Lormes 67.50 46 *e*P P 00 54 22.4 -0.9
comp=Z,82nm,1.3s
LOR Lormes 67.50 46 *e*P P 00 54 22.4 -0.9
comp=Z,82nm,1.3s
SMF Signal de Mont 67.52 46 *e*P P 00 54 22.7 -0.8
comp=Z,57nm,1.3s
SMF Signal de Mont 67.52 46 *e*P P 00 54 22.7 -0.8
SMF pmax pmax
comp=Z,57nm,1.3s
SMF Signal de Mont 67.52 46 *e*P P 00 54 22.7 -0.8
comp=Z,57nm,1.3s
PMR Palmer 67.58 330 *e*P P 00 54 23.5 0.0
PMR pmax pmax
comp=Z,6.0nm,0.7s
PMR Palmer 67.58 330 *e*P P 00 54 23.5 0.0
comp=Z,6.5nm,0.7s
BAIF Baives 67.60 43 *e*P P 00 54 22.7 -1.2
comp=Z,75nm,1.6s
BAIF Baives 67.60 43 *e*P P 00 54 22.7 -1.2
BAIF pmax pmax
comp=Z,75nm,1.6s
BAIF Baives 67.60 43 *e*P P 00 54 22.7 -1.2
comp=Z,75nm,1.6s
MCK McKinley 67.61 332 *e*P P 00 54 24.7 +1.0
MCK pmax pmax
comp=Z,19nm,1.2s
MCK McKinley 67.61 332 *e*P P 00 54 24.7 +1.0
comp=Z,19nm,1.2s
LASF Ste Croix 67.71 49 *e*P P 00 54 24.6 -0.1
LASF Ste Croix 67.71 49 *e*P P 00 54 24.6 -0.1
GIVF Givet 68.00 43 *e*P P 00 54 25.7 -0.7
GIVF Givet 68.00 43 *e*P P 00 54 25.7 -0.7
GIVF Givet 68.00 43 *e*P P 00 54 25.7 -0.7
MEZF Maizieres J'vi 68.23 44 *e*P P 00 54 27.5 -0.4
comp=Z,45nm,0.9s
MEZF Maizieres J'vi 68.23 44 *e*P P 00 54 27.5 -0.4
comp=Z,45nm,0.9s
VIVF Saint-Julien-l 68.23 48 *e*P P 00 54 28.3 +0.3
comp=Z,39nm,1.0s
VIVF Saint-Julien-l 68.23 48 *e*P P 00 54 28.3 +0.3
VIVF pmax pmax
comp=Z,39nm,1.0s
VIVF Saint-Julien-l 68.23 48 *e*P P 00 54 28.3 +0.3
comp=Z,39nm,1.0s
SFTF Sexfontaines 68.24 45 *e*P P 00 54 27.2 -0.7
comp=Z,200nm,1.8s
SFTF Sexfontaines 68.24 45 *e*P P 00 54 27.2 -0.7
comp=Z,200nm,1.8s
COLD Coldfoot 68.37 336 *e*P P 00 54 29.2 +0.8
comp=Z,114nm,2.3s
KTH Kantishna Hill 68.48 332 *e*P P 00 54 29.4 +0.1
comp=Z,30nm,1.2s
PAGF Fort de Pagny 68.67 44 *e*P P 00 54 30.4 -0.2
comp=Z,26nm,1.4s
PAGF Fort de Pagny 68.67 44 *e*P P 00 54 30.4 -0.2
comp=Z,26nm,1.4s
MEM Membach 68.72 42 P P 00 54 34.4 +3.5
comp=Z,9.4nm,1.2s
SMRF Simiane la Rot 68.95 49 *e*P P 00 54 32.8 +0.3
comp=Z,238nm,1.6s
SMRF Simiane la Rot 68.95 49 *e*P P 00 54 32.8 +0.3
comp=Z,238nm,1.6s
CABF La Chapelle 69.07 46 *e*P P 00 54 32.6 -0.7
comp=Z,43nm,1.2s
CABF La Chapelle 69.07 46 *e*P P 00 54 32.6 -0.7
CABF pmax pmax
comp=Z,43nm,1.2s
CABF La Chapelle 69.07 46 *e*P P 00 54 32.6 -0.7
comp=Z,43nm,1.2s
ORIF Oris-en-Rattie 69.08 48 *e*P P 00 54 33.8 +0.4
comp=Z,37nm,1.1s
ORIF Oris-en-Rattie 69.08 48 *e*P P 00 54 33.8 +0.4
ORIF pmax pmax
comp=Z,37nm,1.1s
ORIF Oris-en-Rattie 69.08 48 *e*P P 00 54 33.8 +0.4
comp=Z,37nm,1.1s
HAU Haudompre 69.13 45 *e*P P 00 54 33.0 -0.5
HAU Haudompre 69.13 45 *e*P P 00 54 33.0 -0.5
HAU Haudompre 69.13 45 *e*P P 00 54 33.0 -0.5
RSO Redoubt South 69.33 329 *e*P P 00 54 34.6 -0.1
LPL La Plagne 69.62 47 *e*P P 00 54 36.8 -0.1
comp=Z,26nm,0.9s
LPL La Plagne 69.62 47 *e*P P 00 54 36.8 -0.1
LPL pmax pmax
comp=Z,26nm,0.9s
LPL La Plagne 69.62 47 *e*P P 00 54 36.8 -0.1
comp=Z,26nm,0.9s
LPG La Plagne 69.64 47 *e*P P 00 54 37.2 +0.2
comp=Z,21nm,0.8s
LPG La Plagne 69.64 47 *e*P P 00 54 37.2 +0.2
LPG pmax pmax
comp=Z,21nm,0.8s
LPG La Plagne 69.64 47 *e*P P 00 54 37.2 +0.2
comp=Z,21nm,0.8s
LMR La Mourre 69.70 50 *e*P P 00 54 37.1 0.0
comp=Z,105nm,1.3s
LMR La Mourre 69.70 50 *e*P P 00 54 37.1 0.0
LMR pmax pmax
comp=Z,105nm,1.3s
LMR La Mourre 69.70 50 *e*P P 00 54 37.1 0.0
comp=Z,105nm,1.3s
CDF Champ du Feu 69.71 44 *e*P P 00 54 36.3 -0.9
comp=Z,103nm,1.7s
CDF Champ du Feu 69.71 44 *e*P P 00 54 36.3 -0.9
CDF pmax pmax
comp=Z,103nm,1.7s
CDF Champ du Feu 69.71 44 *e*P P 00 54 36.3 -0.9
comp=Z,103nm,1.7s
MBDF Montbardon 69.73 48 *e*P P 00 54 37.5 0.0
comp=Z,54nm,1.4s
MBDF Montbardon 69.73 48 *e*P P 00 54 37.5 0.0
MBDF pmax pmax
comp=Z,54nm,1.4s
MBDF Montbardon 69.73 48 *e*P P 00 54 37.5 0.0
comp=Z,54nm,1.4s
IM04 Indian Mountai 69.75 334 *e*P P 00 54 36.4 -0.7
SENIN Lac Senin/Sane 69.93 47 *e*P P 00 54 39.4 +0.7
SBF Sospel 70.30 49 *e*P P 00 54 40.2 -0.7
comp=Z,61nm,1.0s
SBF Sospel 70.30 49 *e*P P 00 54 40.2 -0.7
SBF pmax pmax
comp=Z,61nm,1.0s
SBF Sospel 70.30 49 *e*P P 00 54 40.2 -0.7
comp=Z,61nm,1.0s
NB2 NORSAR Subarra 71.02 31 P P 00 54 45.2 +0.4
comp=Z,32nm,1.7s,baz=275,slow=6.5
NB2 NORSAR Subarra 71.02 31 P P 00 54 45.2 +0.4
baz=275,slow=6.5
NOA NORSAR Array B 71.02 31 P P 00 54 45.2 +0.4
NOA NORSAR Array B 71.02 31 P P 00 54 45.2 +0.4
comp=Z,6.2nm,1.0s,baz=275,slow=6.3,SNR=6.1
TOA0 Torodi Ar. Sit 71.17 82 *e*P P 00 54 44.9 -1.7
TORD Torodi Ar. Bea 71.17 82 P P 00 54 45.2 -1.3
TORD Torodi Ar. Bea 71.17 82 P P 00 54 45.2 -1.3
comp=Z,5.1nm,1.1s,baz=275,slow=5.7,SNR=8.1
PGF Pioggiola 71.61 50 *e*P P 00 54 48.2 -0.7
comp=Z,65nm,1.3s
PGF Pioggiola 71.61 50 *e*P P 00 54 48.2 -0.7
PGF pmax pmax
comp=Z,65nm,1.3s
PGF Pioggiola 71.61 50 *e*P P 00 54 48.2 -0.7
comp=Z,65nm,1.3s
DAVOX Davos/Dischmat 71.65 46 P P 00 54 49.4 +0.3
DAVOX Davos/Dischmat 71.65 46 P P 00 54 49.4 +0.3
comp=Z,7.4nm,0.8s,baz=89,slow=1.7,SNR=5.0
SPITS Spitsbergen Ar 71.84 13 P P 00 54 49.5 0.0
SPITS Spitsbergen Ar 71.84 13 P P 00 54 49.5 0.0
comp=Z,11nm,0.9s,baz=223,slow=5.9,SNR=5.0
GRF Grafenberg Arr 72.15 43 *e*P P 00 54 51.8 -0.1
comp=Z,35nm,1.8s
FETA Feichten 72.19 46 ⇑*i*P P 00 54 52.4 +0.1
comp=Z,15nm,0.9s
NKC Novy Kostel 72.86 42 *e*P P 00 54 58.0 +1.9
NKC Novy Kostel 72.86 42 *e*P P 00 54 58.0 +1.9
KEST Kesra 73.01 57 *e*P P 00 54 58.5 +1.2
KEST Kesra 73.01 57 P P 00 54 57.8 +0.4
comp=Z,8.9nm,1.0s,baz=82,slow=1.9,SNR=13
CLL Collm 73.05 41 *e*P P 00 54 59.0 +1.8
CLL *e* 00 55 03.0
CLL pmax pmax
comp=Z,11nm,1.5s
CLL Collm 73.05 41 *e*P P 00 54 59.0 +1.8
comp=Z,11nm,1.5s
CLL *e*(sP) **sP** 00 55 03.0 -2.9
comp=Z,14nm,1.2s
BRG Berggiesshubel 73.71 41 *e*P P 00 55 00.8 -0.2
comp=Z,12nm,1.4s
BRG Berggiesshubel 73.71 41 *e*P P 00 55 00.8 -0.2
BRG pmax pmax
comp=Z,12nm,1.4s
KHC Kasperske Hory 73.76 43 *e*P P 00 55 01.9 +0.4
KHC *e* 00 55 07.9
KHC MLR MLR
comp=Z,3µm,18.3s
KHC Kasperske Hory 73.76 43 *e*P P 00 55 01.9 +0.4
KHC *e*pP **pP** 00 55 07.9 0.0
KHC AMS AMS 01 23 30.0
comp=Z,3µm,18.3s
KHC Kasperske Hory 73.76 43 *e*P P 00 55 01.7 +0.2
GERES GERESS Array B 73.89 43 P P 00 55 02.5 +0.2
GERES GERESS Array B 73.89 43 P P 00 55 02.5 +0.2
comp=Z,9.9nm,0.9s,baz=268,slow=4.0,SNR=18
PVCC Panska Ves 74.16 41 *e*P P 00 55 05.7 +2.0

PVCC *e* 00 55 17.0
PVCC Panska Ves 74.16 41 *e*P **P 00 55 05.7 +2.0**
PVCC *e*PCP **PcP 00 55 17.0 -1.7**
PRU Pruhonice 74.23 42 *e*P **P 00 55 04.6 +0.4**
PRU *e* 00 55 10.8
PRU MLR MLR
comp=Z,2µm,18.2s
PRU Pruhonice 74.23 42 *e*P **P 00 55 04.6 +0.4**
PRU *e*pP **pP 00 55 10.8 +0.2**
PRU AMS AMS 01 22 50.0
comp=Z,2µm,18.2s
CADS Cadrg 74.36 46 *e*P **P 00 55 04.8 -0.2**
MOA Molln 74.43 44⇑ *i*P **P 00 55 02.9 -2.5**
comp=Z,20nm,1.1s
TREC Trest 74.96 43 *e*P **P 00 55 08.8 +0.4**
TREC MLR MLR
comp=Z,2µm,17.4s
TREC Trest 74.96 43 *e*P **P 00 55 08.8 +0.4**
TREC AMS AMS 01 24 40.0
comp=Z,2µm,17.4s
UPC Upice 75.07 41 *e*P **P 00 55 09.5 +0.5**
UPC *e* 00 55 16.1
UPC Upice 75.07 41 *e*P **P 00 55 09.5 +0.5**
UPC *e*pP **pP 00 55 16.1 +0.7**
SOKA Soboth 75.16 45⇑ *i*P **P 00 55 09.1 -0.6**
comp=Z,12nm,1.4s
KSP Ksiaz 75.18 41 *e*P **P 00 55 09.7 +0.1**
KSP Ksiaz 75.18 41 *e*P **P 00 55 09.8 +0.1**
GKP Gorka Klasztor 75.28 38 *e*P **P 00 55 11.8 +1.6**
GKP Gorka Klasztor 75.28 38 *e*P **P 00 55 11.8 +1.6**
DPC Dobruska-Polom 75.29 41 *e*P **P 00 55 10.7 +0.4**
DPC Dobruska-Polom 75.29 41 *e*P **P 00 55 10.9 +0.5**
DPC Dobruska-Polom 75.29 41 *e*P **P 00 55 10.7 +0.4**
TNA Tin City 75.59 335 *e*P **P 00 55 11.8 +0.2**
comp=Z,12nm,0.9s
KRLC Kraliky 75.63 42 *e*P **P 00 55 13.2 +0.9**
KRLC Kraliky 75.63 42 *e*P **P 00 55 13.2 +0.9**
ARCES ARCESS Array B 75.64 21 P **P 00 55 11.5 -0.5**
ARCES ARCESS Array B 75.64 21 P **P 00 55 11.5 -0.5**
comp=Z,6.5nm,0.8s,baz=322,slow=3.7,SNR=5.1
ARCES LR LR 01 22 45.8
comp=Z,2µm,22.0s,baz=252,slow=31
VRAC Vranov 75.67 42⇓ *i*P **P 00 55 12.9 +0.4**
VRAC Vranov 75.67 42 P **P 00 55 12.8 +0.3**
VRAC Vranov 75.67 42 P **P 00 55 12.8 +0.3**
comp=Z,8.4nm,1.0s,baz=299,slow=6.0,SNR=8.1
SOP Sopron 75.98 44⇓ *e* **P 00 55 14.6 +0.3**
MORC Moravsky Berou 76.18 42 *e*P **P 00 55 15.8 +0.4**
MORC pmax pmax
comp=Z,13nm,1.0s
MORC Moravsky Berou 76.18 42⇑ *i*P **P 00 55 15.9 +0.4**
MORC Moravsky Berou 76.18 42 *e*P **P 00 55 15.8 +0.4**
comp=Z,13nm,1.0s
OKC Ostrava-Krasne 76.55 42 *e*P **P 00 55 18.2 +0.7**
OKC MLR MLR
comp=Z,2µm,16.6s
OKC Ostrava-Krasne 76.55 42 *e*P **P 00 55 18.2 +0.7**
OKC AMS AMS 01 26 00.0
comp=Z,2µm,16.6s
OJC Ojcow 77.50 41 *e*P **P 00 55 23.9 +1.1**
PKSM Moragy 77.70 45⇓ *i*P **P 00 55 23.0 -1.0**
PKSM Moragy 77.70 45⇓ **P 00 55 24.3 +0.3**
FINES FINESS Array B 78.01 29 P **P 00 55 25.0 -0.4**
FINES FINESS Array B 78.01 29 P **P 00 55 25.0 -0.4**
comp=Z,9.1nm,1.0s,baz=267,slow=3.8,SNR=9.2
NIE Niedzica 78.01 42 *e*P **P 00 55 27.7 +1.9**
PSZ Piszkesteto 78.11 43 *e*P **P 00 55 26.7 +0.3**
PSZ Piszkesteto 78.11 43⇑ *i*P **P 00 55 25.6 -0.8**
PSZ Piszkesteto 78.11 43 *e*P **P 00 55 26.7 +0.3**
PSZ Piszkesteto 78.11 43⇓ *e* **P 00 55 27.6 +1.2**
SUW Suwalki 78.56 37 *e*P **P 00 55 28.2 -0.4**
SUW Suwalki 78.56 37 *e*P **P 00 55 28.1 -0.5**
SUW Suwalki 78.56 37 *e*P **P 00 55 28.1 -0.5**
comp=Z,26nm,0.9s
STHS Stebnicka Huta 78.60 42 *e*P **P 00 55 30.3 +1.3**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 78.60 42 *e*P **P 00 55 30.3 +1.3**
CRVS Cervenica-Dubn 78.87 42 *e*P **P 00 55 32.0 +1.5**
CRVS pmax pmax
comp=Z,203nm,3.4s
CRVS Cervenica-Dubn 78.87 42 *e*P **P 00 55 32.0 +1.5**
VSU Vasula 79.20 32 *e*P **P 00 55 31.8 -0.2**
VSU pmax pmax
comp=Z,53nm,1.0s
KOLS Kolonicke sedl 79.38 42 *e*P **P 00 55 34.7 +1.4**
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 79.38 42 *e*P **P 00 55 34.7 +1.4**
KWP Kalwaria Pacla 79.47 41 *e*P **P 00 55 34.9 +1.2**
KWP pmax pmax
comp=Z,24nm,0.9s
KWP Kalwaria Pacla 79.47 41 *e*P **P 00 55 35.3 +1.6**
KWP Kalwaria Pacla 79.47 41⇑ *i*P **P 00 55 35.0 +1.2**
KWP Kalwaria Pacla 79.47 41 *e*P **P 00 55 34.9 +1.2**
comp=Z,24nm,0.9s
UZH Uzhgorod 79.48 42 *e*P **P 00 55 31.5 -2.2**
UZH *i* 00 55 35.0
UZH *e* 00 55 42.0
ISAL Salakas 79.75 35 *e*P **P 00 55 33.4 -1.7**
TRPA Tarpa 79.77 43⇑ *i*P **P 00 55 36.3 +0.9**
BZS Buzias 79.86 45⇓ *i*P **P 00 55 36.6 +0.7**
IIGN Ignalina 79.87 35 *e*P **P 00 55 33.9 -1.8**
IDID Didziasalis 80.16 35 *e*P **P 00 55 35.5 -1.8**
LVV L'vov 80.23 41 *e*P **P 00 55 38.3 +0.4**
LVV *e* 00 55 41.5
LVV *e* 00 55 47.5
DRGR 80.26 44⇑ *i*P **P 00 55 38.6 +0.5**
NACGM Naroch 80.31 35 *e* **P 00 55 37.0 -1.1**
GZR Gura Zlata 80.70 45⇓ *i*P **P 00 55 41.4 +0.9**
MNK Minsk 81.02 36 *e*P **P 00 55 41.0 -0.9**
MICGM Minsk 81.05 36 *e* **P 00 55 41.0 -1.1**
BUR08 Bucovina Ar. S 81.63 43 *e*P **P 00 55 46.0 +0.6**
BURAR Bucovina Array 81.65 43⇑ *i*P **P 00 55 45.5 -0.1**
VTS Vitosha 81.82 48⇑ *i*P **P 00 55 48.0 +1.3**
VOIR 82.22 45⇑ *i*P **P 00 55 49.5 +0.9**
DOPR Dopca 82.28 44⇓ *i*P **P 00 55 49.4 +0.6**
HUMR Humele 82.45 46⇑ *i*P **P 00 55 50.7 +1.0**
MMB Musomiste 82.50 49⇑ *i*P **P 00 55 51.4 +1.3**
MLR Muntele Rosu 82.80 45⇓ *i*P **P 00 55 53.0 +1.3**
KIEV Kiev 83.10 39 *e*P **P 00 55 52.3 -0.7**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 83.10 39 *e*P **P 00 55 52.3 -0.7**
comp=Z,6.1nm,1.0s
PLOR Plostina 83.15 44⇑ *i*P **P 00 55 54.9 +1.5**
VRI Vrincioaia 83.19 44⇓ *i*P **P 00 55 55.1 +1.5**
ISR Istrita 83.32 45⇓ *i*P **P 00 55 54.5 +0.2**
KDZ Kurdzhali 83.68 48⇓ *i*P **P 00 55 56.7 +0.5**
KIS Kishinev 84.16 42 *e*P P 00 56 04.0 +5.5
KIS Kishinev 84.16 42 *e*P P 00 56 04.0 +5.5
JMB Yambol 84.23 47⇑ *i*P **P 00 55 57.8 -1.1**
KLMR Klimovskoe 84.26 27 *e*P **P 00 55 57.6 -1.1**
KLMR pmax pmax
comp=Z,29nm,1.3s
CFR Carcaliu 84.36 44⇓ *i*P **P 00 55 59.4 -0.1**
PSN Preselentsi 84.91 46⇑ *i*P **P 00 56 02.3 0.0**
IDI Anoyia 85.36 54 P **P 00 56 05.5 +0.7**
IDI Anoyia 85.36 54 P **P 00 56 05.5 +0.7**
comp=Z,18nm,0.7s,baz=81,slow=24,SNR=14
OBN Obninsk 85.46 33⇓ *i*P **P 00 56 03.9 -0.9**
OBN *e* 00 59 19.4
OBN pmax pmax
comp=Z,23nm,1.2s
OBN Obninsk 85.46 33 P **P 00 56 05.6 +0.8**
OBN Obninsk 85.46 33 P **P 00 56 05.6 +0.8**
comp=Z,7.0nm,0.6s,baz=355,slow=23,SNR=4.1
PRGR Permogore 86.41 25⇑ *i*P **P 00 56 09.5 +0.1**
PRGR pmax pmax
comp=Z,60nm,1.2s
SIM Simferopol' 88.36 43 *e*P **P 00 56 20.8 +1.6**
SIM pmax pmax
comp=Z,11nm,1.3s
VSR Storozhevoye 88.62 36 *e*P **P 00 56 19.1 -1.2**
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,4.0nm,0.9s
VORD Divnogorie 88.81 36 *e*P **P 00 56 19.5 -1.6**
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,90nm,0.7s
VORD pmax pmax
comp=Z,7.0nm,0.7s
TIXI Tiksi 88.94 353⇑ *i*P **P 00 56 20.2 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,1.2s
ANTO Ankara 89.54 48 *e*P **P 00 56 25.5 +0.6**
ANTO pmax pmax
comp=Z,8.0nm,0.8s
ANTO Ankara 89.54 48⇑ *i*P **P 00 56 26.0 +1.0**
ANTO Ankara 89.54 48 *e*P **P 00 56 25.5 +0.6**
comp=Z,7.7nm,0.8s
VRHR Novokhopersk 90.03 35 *e*P **P 00 56 25.2 -1.7**
VRHR pmax pmax
comp=N,9.0nm,1.2s
VRHR pmax pmax
comp=Z,10.0nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,1.0s
BR131 Keskin Array S 90.19 48 *e*P **P 00 56 28.2 +0.1**
comp=E,3.3nm,0.8s
BRTR Keskin Array B 90.19 48 P **P 00 56 28.2 +0.1**
BRTR Keskin Array B 90.19 48 P **P 00 56 28.2 +0.1**
comp=E,8.2nm,1.1s,baz=263,slow=4.2,SNR=15
SEY Seymchan 91.59 341⇓ *i*P **P 00 56 35.0 +1.1**
NEY Neytrino 94.64 42 *e*P **P 00 56 47.9 -0.7**
ARU Arti 94.87 25 P **P 00 56 49.7 +0.6**
ARU 01 00 38.2
ARU S **SKSac 01 07 25.0 +1.3**
ARU SP **SP 01 09 18.3 +1.0**
ARU PS **PS 01 09 27.7 +7.5**
ARU SS **SS 01 14 26.0 +0.6**
NCK Nalchik 95.06 41 *e*P **P 00 56 50.6 +0.3**
ZEI Tsey 95.62 41 *e*P **P 00 56 51.6 -1.5**
ZEI pmax pmax
comp=Z,5.0nm,1.2s
SYO Syowa Base 114.97 158⇓ *e*X PKPdf 01 02 02.0 -5.4
KSH Kashi 115.25 27 *e*PKP **PKPdf 01 02 10.4 +1.2**
KSH *e*PP PP 01 03 14.8 +6.2
KSH *e*SKS **SKSdf 01 09 17.2 -3.5**
KSH *e*SKKS **SKKSac 01 10 07.6 -2.9**
KSH *e*SS **SS 01 19 04.0 -0.6**
WMQ Urumqi 115.43 16 PKP **PKPdf 01 02 09.0 -0.3**
WMQ PP **PP 01 03 09.9 +0.4**
WMQ PKS **PKSdf 01 05 49.2 +3.1**
WMQ AMB AMB
comp=Z,56nm,10.7s
HHC Hu-ho-hao-te 120.88 356 *e*PKP **PKPdf 01 02 19.5 -0.5**
HHC PP **PP 01 03 51.6 +4.4**
HHC SKS **SKSdf 01 09 28.8 -2.5**
HHC SS **SS 01 20 21.5 +4.7**
HHC LR LR
comp=Z,1µm,19.0s
GTA Gaotai 121.99 7 PKP **PKPdf 01 02 24.7 +2.5**
GTA sPKP 01 02 31.7
LZH Lanzhou 125.65 4 *e*PKP **PKPdf 01 02 29.5 +0.2**
LZH sPKP 01 02 34.2
LZH LR LR
comp=Z,170nm,17.8s
LZH LR LR
comp=Z,170nm,18.1s
LZH LR LR
comp=Z,210nm,20.3s
NJ2 Nanjing 128.61 348 *e*PKP **PKPdf 01 02 32.7 -2.1**
CD2 Chengdu 130.79 4 *e*PKP **PKPdf 01 02 37.2 -1.9**
GYA Guiyang 135.35 1 *e*Pdif **Pdif 00 59 47.8 -2.5**
GYA PKP **PKPdf 01 02 47.2 -0.7**
GYA PP **PP 01 05 24.0 +1.6**
GYA PKS **PKSdf 01 06 21.5 -3.0**
GYA SKKS 01 12 14.3
GYA SS **SS 01 23 19.6 +3.2**
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=Z,120nm,19.6s
GYA LR LR
comp=Z,110nm,20.2s
GYA LR LR
comp=Z,130nm,19.4s
CMAR Chiang Mai Arr 142.37 13 PKP **PKPdf 01 02 58.0 -2.8**
CMAR Chiang Mai Arr 142.37 13 PKP **PKPdf 01 02 58.0 -2.8**
comp=Z,1.5nm,0.5s,baz=333,slow=4.5,SNR=7.9
CTAO Charters Tower 143.42 261 PKIKP PKPbc 01 03 00.3 +0.6
CTAO Charters Tower 143.42 261 PKPdf PKPbc 01 03 00.3 +0.6
STKA Stephens Creek 146.51 240 *e*PKPbc **PKPbc 01 03 08.4 -0.6**
STKA Stephens Creek 146.51 240 PKPbc **PKPdf 01 03 07.3 -0.2**
comp=Z,6.0nm,0.8s,baz=48,slow=7.8,SNR=6.5
WRAB Tennant Creek 154.59 262 *e*PKIKP **PKPdf 01 03 20.1 -0.3**
WRAB Tennant Creek 154.59 262 *e*PKPdf **PKPdf 01 03 20.1 -0.3**
WRA Warramunga Arr 154.60 262 PKP **PKPdf 01 03 19.7 -0.7**
WRA PKPbc **PKPbc 01 03 27.6 -1.3**
WRA Warramunga Arr 154.60 262 PKP **PKPdf 01 03 19.7 -0.7**
comp=Z,4.6nm,0.9s,baz=80,slow=1.1,SNR=12
WRA PKPbc **PKPbc 01 03 27.6 -1.3**
comp=Z,4.3nm,0.9s,baz=88,slow=3.0,SNR=9.6
ASAR Alice Springs 154.82 254 PKP **PKPdf 01 03 19.1 -1.6**
ASAR PKPbc **PKPbc 01 03 28.4 -1.0**
ASAR Alice Springs 154.82 254 PKP **PKPdf 01 03 19.1 -1.6**
comp=Z,1.6nm,0.9s,baz=119,slow=1.0,SNR=11
ASAR PKPbc **PKPbc 01 03 28.4 -1.0**
comp=Z,2.8nm,0.9s,baz=88,slow=2.3,SNR=7.6

*ISCJB **13** 00:59:02.6± 1.1, 18°.34N ± 0°.03 × 72°.89W ± 0°.01, h5km ± 7km, mb5.1/174, MS5.3/6, Error ellipse: s-maj=4.3km s-min=2.2km az=13.0*
*IDC **13** 00:59:02.7± 0.4, 18°.39N × 72°.77W, h0km, mb4.6/27, mb1 4.7/32, mb1mx4.7/36, mbtmp4.6/32, ML3.9/5, Error ellipse: s-maj=13.6km s-min=10.0km az=63.0*
*MOS **13** 00:59:03.6± 1.1, 18°.31N × 72°.82W, h13km, mb5.6/61, Error ellipse: s-maj=6.1km s-min=4.9km az=70.5*
*GCMT **13** 00:59:05.1± 0.9, 18°.66N × 72°.97W, h12km, MW5.2/15, Moment Tensor Solution. s15,c30; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr 0.81±.10; Mθθ -0.70±.09; Mφφ -0.10±.08; Mrθ -0.36±.27; Mrφ 0.23±.05; Mθφ -0.26±.19; Best double couple: M0 .90100×10^17 NP1: φs 269.00000°, δ 57.00000°, λ 68.00000°. NP2: φs 126.00000°, δ 39.00000°, λ 120.00000°. Principal axes: T 0.9760, Plg69.0000°, Azm131.0000°; N -0.1490, Plg19.0000°, Azm281.0000°; P -0.8260, Plg10.0000°, Azm14.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BJI **13** 00:59:05.0± 0.2, 18°.35N × 72°.81W, h10km, mb5.2/87, Error ellipse: s-maj=3.7km s-min=2.9km az=196.0*
*JSN **13** 00:59:09.6± 1.7, 18°.65N × 73°.21W, h0km ± 999km, MD5.4*
ISC 13 00:59:05.9± 0.7, 18°.38N ± 0°.04 × 72°.85W ± 0°.03, h17km ± 3km, n852, σ1 $23/831, mb5.2/177, MS5.4/6, 175C-189D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.59**	**68**	*e*Pn	**Pn**		**00 59 32.6**	**-0.9**
SDDR				*e*S	**Sb**		**00 59 54.9**	**0.0**
GTBY	**Guantanamo Bay**	**2.64**	**306**	*e*Pn	**Pn**		**00 59 45.3**	**-2.5**
GTBY				*e*S	**Sn**		**01 00 20.5**	**+1.1**
YHJ	**Yallahs**	**3.50**	**263**	*i* P	**Pn**		**01 00 01.1**	**+1.4**
YHJ	**Yallahs**	**3.50**	**263**	*i* P	**Pn**		**01 00 01.1**	**+1.4**
GRTK	**Grand Turk**	**3.51**	**27**	*e*Pn	**Pn**		**00 59 59.1**	**-0.6**
GRTK				*e*S	**Sn**		**01 00 39.4**	**-1.5**
GWJ	**Greenwich**	**3.70**	**266**	*i* P	**Pn**		**01 00 02.8**	**+0.3**
GWJ	**Greenwich**	**3.70**	**266**	*i* P	**Pn**		**01 00 02.8**	**+0.3**
HOJ	**Hope**	**3.73**	**265**	*i* P	**Pn**		**01 00 02.7**	**-0.1**
HOJ	**Hope**	**3.73**	**265**	*i* P	**Pn**		**01 00 02.7**	**-0.1**
HOJ	**Hope**	**3.73**	**265**	*i* P	**Pn**		**01 00 02.7**	**-0.1**
STH	**Stony Hill**	**3.78**	**266**	*i* P	**Pn**		**01 00 02.7**	**-0.8**
STH				*i* S	**Sn**		**01 00 44.4**	**-3.3**
STH	**Stony Hill**	**3.78**	**266**	*i* P	**Pn**		**01 00 02.7**	**-0.8**
STH				*i* S	**Sn**		**01 00 44.4**	**-3.3**
STH	**Stony Hill**	**3.78**	**266**	*i* P	**Pn**		**01 00 02.7**	**-0.8**
STH				*i* S	**Sn**		**01 00 44.4**	**-3.3**
PCJ	**Portland Cotta**	**4.15**	**262**	*i* P	**Pn**		**01 00 09.6**	**+1.1**
PCJ	**Portland Cotta**	**4.15**	**262**	*i* P	**Pn**		**01 00 09.6**	**+1.1**
CVJ	**Coleyville**	**4.46**	**269**	*i* P	**Pn**		**01 00 13.7**	**+0.8**
CVJ	**Coleyville**	**4.46**	**269**	*i* P	**Pn**		**01 00 13.7**	**+0.8**
MTDJ	**Mount Denham**	**4.46**	**269**	*e*Pn	**Pn**		**01 00 12.2**	**-0.7**
MTDJ				*e*S	**Sn**		**01 01 06.6**	**+2.1**
AGPR	**Aguadilla, PR**	**5.44**	**88**	*e*Pn	**Pn**		**01 00 27.8**	**+1.4**
1µm,1.1s
AGPR *e*S **Sg 01 02 01.5 +0.8**
CRPR Cabo Rojo, PR 5.46 93 *e*Pn **Pn 01 00 27.1 +0.5**
636nm,1.0s
CRPR *e*S Sn 01 01 36.2 +7.0
LSP Las Mesas 5.47 91 *e*Pn **Pn 01 00 27.7 +0.9**
LSP *e*S **Sg 01 01 58.6 -3.1**
AOPR Arecibo Observ 5.78 89 *e*Pn Pn 01 00 34.5 +3.4
CELP Cerrillos 5.96 92 *e*Pn **Pn 01 00 33.9 +0.4**
CELP *e*S **Sn 01 01 39.9 -1.6**
CBYP Canovanas 6.64 90 *e*Pn **Pn 01 00 44.5 +1.6**
170nm,0.7s
CBYP *e*S **Sn 01 02 03.7 +5.5**
HUMP Col San Antoni 6.65 91 *e*Pn Pn 01 00 46.6 +3.6
MTP Monte Pirata 6.94 91 *e*Pn **Pn 01 00 48.0 +1.2**
258nm,0.9s
MTP *e*S **Sn 01 02 10.0 +4.5**
SABA Saba 9.17 93 *e*Pn Pn 01 01 22.0 +4.5
SDV Santo Domingo 9.68 167 *e*Pn **Pn 01 01 24.8 +0.2**
SDV *e*S Sn 01 03 05.8 -7.4
LZG Guadaloupe-1 10.81 100 *e*P **Pn 01 01 40.9 +0.9**
MLG Mont-d'or 10.89 101 *e*P **Pn 01 01 42.8 +1.7**
FNG Fond-Bernard 10.91 101 *e*P **Pn 01 01 42.1 +0.7**
HMG Houelmont 10.91 101 *e*P **Pn 01 01 41.9 +0.4**
SCG Saint Claude 10.92 101 *e*P **Pn 01 01 43.1 +1.5**
BCIP Isla Barro Col 11.40 217 *e*Pn **Pn 01 01 46.4 -1.7**
H05N1 Guadeloupe/Mar 11.44 99 Pn **Pn 01 01 47.5 -1.2**
GRW Mount Saint Ca 12.43 118 *e* **Pn 01 02 03.8 +1.4**
GRGR Grenville 12.45 118 *e*Pn **Pn 01 02 02.4 -0.1**
620nm,1.2s
TRN Trinidad (W) 13.48 123 *e* **Pn 01 02 18.6 +2.1**
ROSC El Rosal 13.52 186 *e*Pn **Pn 01 02 18.4 +0.9**
ROSC *e*S **Sn 01 04 50.8 +3.2**
ROSC El Rosal 13.52 186 Pn **Pn 01 02 18.5 +1.1**
6.8nm,0.3s,baz=31,slow=3.0,SNR=19
TPP Pointe-a-Pierr 13.63 124 *e* **P 01 02 28.2 +0.7**
BOT Bacolet 13.74 120 *e* **P 01 02 26.2 -2.4**
TBR Briganti Hill 13.84 123 *e* **P 01 02 27.8 -2.0**
JTS JuntasAbangare 14.21 237 *e*Pn **Pn 01 02 28.9 +2.2**
JTS JuntasAbangare 14.21 237 Pn **Pn 01 02 28.3 +1.7**
1.0nm,0.3s,baz=336,slow=20,SNR=2.9
TGUH Tegucigalpa,Un 14.51 255 Pn **Pn 01 02 31.8 +1.3**
160nm,1.2s
TEIG Tepich 14.69 280 *e*Pn **Pn 01 02 34.1 +1.2**
TEIG Tepich 14.69 280 Pn **Pn 01 02 34.2 +1.2**
2.5nm,0.3s,baz=303,slow=1.0,SNR=5.6
BBSR BB Station 15.75 26 *e*Pn **Pn 01 02 45.7 -1.3**
75nm,0.8s
NHSC New Hope 16.08 337 *e*P **Pn 01 02 48.6 -2.6**
1µm,2.1s
TIGA Tifton 16.24 325 *e*Pn **Pn 01 02 53.7 +0.4**
TIGA Tifton 16.24 325⇓ P **Pn 01 02 51.1 -2.2**
baz=16
APG El Apazote 17.21 261 P **Pn 01 03 06.8 +0.9**
APG El Apazote 17.21 261 P **Pn 01 03 06.8 +0.9**
0.5nm,0.3s,baz=83,slow=10,SNR=6.3
JSC Jenkinsville 17.53 336 *e*P **Pn 01 03 08.5 -1.1**
JSC Jenkinsville 17.53 336 *e*Pn **Pn 01 03 08.5 -1.1**
GOGA Godfrey 17.74 330 *e*P **P 01 03 14.6 +1.6**
GOGA pmax pmax
comp=Z,97nm,1.6s
GOGA Godfrey 17.74 330 *e*Pn **P 01 03 14.6 +1.6**
comp=Z,97nm,1.6s
BRAL Brewton 18.00 317 *e*Pn **P 01 03 19.5 +3.6**
KMSC Kings Mountain 18.32 337 *e*Pn **Pn 01 03 16.9 -2.4**
KMSC Kings Mountain 18.32 337⇑ P **Pn 01 03 17.3 -2.0**
baz=18,SNR=6.5
OTAV Otavalo 18.85 198 *e*Pn **Pn 01 03 26.2 -0.1**
comp=Z,596nm,2.3s
LRAL Lakeview Retre 19.35 322 *e*P **P 01 03 31.2 +0.6**
comp=Z,82nm,1.3s
JSRW J. Sargeant Re 19.74 348 *e*P **P 01 03 35.2 +0.3**
TKL Tuckaleechee C 19.75 333 *e*Pn **Pn 01 03 37.9 +1.4**
TKL Tuckaleechee C 19.75 333 P **P 01 03 34.2 -0.8**
comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=4.0
VWCC Virginia Weste 19.81 343 *e*P **P 01 03 36.2 +0.5**
BLA Blacksburg 19.91 342 *e*P **P 01 03 36.6 -0.2**
BLA pmax pmax
comp=Z,119nm,1.1s
BLA Blacksburg 19.91 342 *e*P **P 01 03 36.6 -0.2**
comp=Z,118nm,1.1s
CPCT Cooper Cave 19.91 331 *e*P **Pn 01 03 38.6 +0.2**
CBN Corbin 20.15 350 *e*P Pn 01 03 40.8 -0.4
comp=Z,80nm,0.5s
SWET Sewanee 20.40 328 *e*P **P 01 03 43.3 +1.1**
comp=Z,220nm,1.5s
TZTN Tazewell 20.41 335 *e*P Pn 01 03 43.6 -0.8
comp=Z,181nm,1.3s
VBMS Vicksburg 21.06 314 *e*P P 01 03 55.2 +6.0
comp=Z,532nm,1.8s
MVL Millersville 21.76 353 *e*P **P 01 03 59.0 +2.3**
comp=Z,52nm,1.0s
OXF Oxford 21.82 321 *e*P **P 01 03 58.1 +0.7**
OXF pmax pmax
comp=Z,171nm,1.1s
OXF Oxford 21.82 321 *e*P **P 01 03 58.1 +0.7**
comp=Z,171nm,1.1s
BRNJ Basking Ridge 22.28 357 *e*P **P 01 04 04.6 +2.4**
comp=Z,370nm,1.5s
CPNY Central Park 22.36 358 *e*P **P 01 04 03.6 +0.5**
comp=Z,62nm,1.0s
PAL Palisades 22.57 358 *e*P **P 01 04 04.9 -0.5**
PAL pmax pmax
comp=Z,132nm,1.4s
PAL Palisades 22.57 358 *e*P **P 01 04 04.8 -0.5**
comp=Z,132nm,1.4s
ODNJ Ogdensburg 22.68 357 *e*P **P 01 04 07.7 +1.1**
comp=Z,88nm,1.3s
HALT Halls 22.75 323 *e*P **P 01 04 11.9 +4.5**
UTMT University of 22.80 325 *e*P **P 01 04 12.6 +4.7**
comp=Z,84nm,1.0s
PTGA Pitinga 22.82 145 *e*P **P 01 04 08.1 -0.3**
comp=Z,22nm,1.2s
PTGA Pitinga 22.82 145 P **P 01 04 07.7 -0.6**
comp=Z,26nm,0.9s,baz=346,slow=11,SNR=18
GLAT Glass 22.98 324 *e*P **P 01 04 10.8 +1.0**
WCI Wyandotte Cave 23.00 332 *e*P **P 01 04 11.8 +1.8**
WCI pmax pmax
comp=Z,158nm,1.7s
WCI Wyandotte Cave 23.00 332 *e*P **P 01 04 11.8 +1.8**
comp=Z,158nm,1.7s
GNAR Gosnell 23.18 323 *e*P P 01 04 18.2 +6.4
KSPA Keystone Colle 23.24 354 *e*P **P 01 04 16.4 +4.1**
HBAR Harrisburg 23.27 321 *e*P **P 01 04 13.3 +0.6**
USIN University of 23.43 329 *e*P **P 01 04 14.2 0.0**
comp=Z,14nm,0.3s
ACSO Alum Creek Sta 23.47 340 *e*P **P 01 04 14.5 -0.2**
comp=Z,113nm,1.4s
PARMO Parma 23.53 324 *e*P **P 01 04 17.7 +2.4**
NATX Nacogdoches 23.77 308 P **P 01 04 19.2 +1.5**
comp=Z,276nm,1.6s
UALR University of 23.82 317 *e*P **P 01 04 16.1 -2.0**
comp=Z,7.1nm,0.8s
HKT Hockley 23.88 303 *e*P **P 01 04 18.9 +0.2**
HKT pmax pmax
comp=Z,99nm,1.6s
HKT Hockley 23.88 303 *e*P **P 01 04 18.9 +0.2**
comp=Z,99nm,1.6s
BLO Bloomington 23.88 333 *e*P **P 01 04 20.7 +2.0**
BLO pmax pmax
comp=Z,123nm,1.4s
BLO Bloomington 23.88 333 *e*P **P 01 04 20.7 +2.0**
comp=Z,123nm,1.4s
BINY Binghamton 23.90 354 *e*P **P 01 04 19.6 +0.9**
comp=Z,476nm,1.9s
PBMO Poplar Bluff 23.99 323 *e*P **P 01 04 21.2 +1.5**
comp=Z,68nm,1.1s
SIUC Southern Illin 24.01 327 *e*P **P 01 04 20.6 +0.6**
comp=Z,172nm,1.5s
HRV Adam Dziewonsk 24.08 2 *e*P **P 01 04 22.4 +1.9**
HRV pmax pmax
comp=Z,103nm,1.3s
HRV Adam Dziewonsk 24.08 2 *e*P **P 01 04 22.4 +1.9**
comp=Z,103nm,1.3s
ERPA Erie 24.43 347 *e*P P 01 04 28.6 +4.8
comp=Z,419nm,2.3s
MIAR Mount Ida 24.49 315 *e*P **P 01 04 26.0 +1.6**
MIAR pmax pmax
comp=Z,59nm,1.4s
MIAR Mount Ida 24.49 315 *e*P **P 01 04 25.9 +1.6**
comp=Z,59nm,1.4s
035Z Hargill 24.63 294⇓ P **P 01 04 23.2 -2.5**
baz=25
MMNY Mt. Morris Dam 24.66 351 *e*P **P 01 04 29.0 +3.2**
comp=Z,336nm,1.5s

ACCN Adirondack Com 24.94 359 eP P 01 04 28.9 +0.6
comp=Z,179nm,1.8s
SFIN Scholer Farm 25.13 334 eP P 01 04 33.2 +3.1
SFIN Scholer Farm 25.13 334 ⇓P P 01 04 31.6 +1.6
baz=25,SNR=7.3
635A Leesville 24.25 300 ⇓P P 01 04 30.5 -0.6
baz=25
535A Dale 25.30 302 ⇓P P 01 04 31.8 0.0
baz=25
934A Benavides 25.31 296 ⇑P P 01 04 32.1 +0.2
baz=25
034A Hebbronville 25.31 295 ⇑P P 01 04 32.6 +0.8
baz=25,SNR=5.7
834A Tilden 25.49 297 ⇑P P 01 04 34.2 +0.7
baz=26,SNR=9.6
AAM Ann Arbor 25.56 341 eP P 01 04 35.7 +1.8
AAM pmax pmax
comp=Z,151nm,1.4s
AAM Ann Arbor 25.56 341 eP P 01 04 35.7 +1.8
comp=Z,151nm,1.4s
335A Moody 25.68 305 ⇑P P 01 04 35.4 +0.3
baz=26
734A La Parita Cree 25.71 299 ⇓P P 01 04 35.2 -0.2
baz=26
634A China Grove, S 25.71 300 ⇓P P 01 04 35.2 -0.3
baz=26
LBNH Lisbon 25.80 2 eP P 01 04 40.5 +4.4
LBNH pmax pmax
comp=Z,151nm,1.6s
LBNH Lisbon 25.80 2 eP P 01 04 40.5 +4.4
comp=Z,151nm,1.6s
ATAH Atahualpa 25.93 193 P P 01 04 39.4 +1.4
ATAH Atahualpa 25.93 193 P P 01 04 39.4 +1.4
comp=Z,18nm,0.9s,baz=31,slow=3.6,SNR=9.0
933A Laredo 25.96 296 ⇑P P 01 04 37.2 -0.6
baz=26
WHTX Lake Whitney 26.00 306 eP P 01 04 38.2 +0.2
comp=Z,53nm,1.1s
WHTX Lake Whitney 26.00 306 ⇓P P 01 04 38.2 +0.2
baz=26,SNR=19
534A Blanco 26.03 301 ⇑P P 01 04 38.6 +0.2
baz=26,SNR=24
434A Burnet 26.15 303 ⇓P P 01 04 39.8 +0.3
baz=26,SNR=6.3
LONY Lake Ozonia 26.20 357 eP P 01 04 43.7 +3.9
LONY epP pP 01 04 50.5 +5.6
comp=Z,53nm,1.4s
135A Vickery Place, 26.21 307 ⇑P P 01 04 39.9 0.0
baz=26
833A Chaparral WMA, 26.26 297 ⇑P P 01 04 39.9 -0.5
baz=26,SNR=18
334A Lometa 26.33 304 ⇓P P 01 04 40.7 -0.4
baz=26,SNR=15
FRNY Flat Rock 26.39 359 eP P 01 04 41.9 +0.4
comp=Z,106nm,1.8s
633A Saathoff Ranch 26.42 300 ⇓P P 01 04 41.2 -0.7
baz=26
Z35A Perchaven, San 26.45 309 ⇓P P 01 04 41.9 -0.2
baz=26
533A Kerrville 26.50 301 ⇑P P 01 04 42.1 -0.6
baz=26
234A Clairette 26.52 306 ⇑P P 01 04 42.2 -0.6
baz=27
134A White-Moore Ra 26.72 307 ⇓P P 01 04 44.3 -0.3
baz=27
832A Faith Ranch, C 26.74 297 ⇑P P 01 04 44.1 -0.7
baz=27,SNR=9.9
TUL1 Tulsa 26.76 315 eP P 01 04 45.5 +0.6
comp=Z,67nm,1.0s
TUL1 Tulsa 26.76 315 ⇓P P 01 04 45.5 +0.6
baz=27,SNR=18
433A Art 26.79 302 ⇑P P 01 04 44.9 -0.4
baz=27,SNR=13
SADO Sadowa 26.84 350 P P 01 04 44.5 -1.0
SADO Sadowa 26.84 350 P P 01 04 44.5 -1.0
comp=Z,21nm,1.2s,baz=103,slow=0.4,SNR=5.4
732A Laxson Ranch, 26.86 298 ⇓P P 01 04 45.2 -0.7
baz=27
333A Richland Sprin 26.91 304 ⇑P P 01 04 45.8 -0.6
baz=27
632A Uvalde 26.93 299 ⇑P P 01 04 45.8 -0.8
baz=27
Z34A Collier Ranch, 26.95 309 ⇓P P 01 04 46.2 -0.5
baz=27
Y34A Reagan Ranch, 27.11 310 ⇑P P 01 04 48.2 +0.1
baz=27,SNR=15
233A Rising Star 27.12 305 ⇓P P 01 04 47.8 -0.4
baz=27
532A Rocksprings 27.23 301 ⇓P P 01 04 49.2 -0.1
baz=27,SNR=13
JCT Junction City 27.27 301 eP P 01 04 50.2 +0.6
JCT pmax pmax
comp=Z,36nm,1.3s
JCT Junction City 27.27 301 eP P 01 04 50.2 +0.6
comp=Z,36nm,1.3s
JCT Junction City 27.27 301 ⇑P P 01 04 49.9 +0.3
baz=27
133A Hamilton Ranch 27.38 306 ⇑P P 01 04 50.8 +0.3
baz=27
432A Menard 27.40 302 ⇓P P 01 04 50.6 -0.2
baz=27
X34A Smith Ranch, M 27.48 311 ⇑P P 01 04 51.6 +0.2
baz=28,SNR=17
332A Millersview 27.54 303 ⇓P P 01 04 51.5 -0.5
baz=28
Z33A Whitaker Ranch 27.55 308 ⇑P P 01 04 51.7 -0.4
baz=28,SNR=7.3
631A Perdido Creek 27.56 299 ⇓P P 01 04 51.4 -0.8
baz=28,SNR=12
232A Coleman 27.65 304 ⇑P P 01 04 52.2 -0.8
baz=28
W34A Bridge Creek, 27.76 312 ⇑P P 01 04 53.4 -0.5
baz=28
531A Rocksprings 27.77 300 ⇓P P 01 04 53.3 -0.8
baz=28
Y33A Hilltop Ranch, 27.77 309 ⇓P P 01 04 53.6 -0.5
baz=28
V34A Guthrie 27.89 314 ⇓P P 01 04 55.0 0.0
baz=28
X33A Lawton 27.93 310 ⇓P P 01 04 55.2 -0.3
baz=28
ABTX Abilene, Hawle 27.94 306 ⇓P P 01 04 55.2 -0.4
baz=28
431A Sonora 27.99 301 ⇑P P 01 04 55.9 -0.1
baz=28,SNR=7.7
331A San Angelo 28.06 303 ⇑P P 01 04 56.4 -0.3
baz=28
Z32A Haskell 28.10 307 ⇓P P 01 04 56.4 -0.6
baz=28,SNR=10
231A Bronte 28.20 304 ⇑P P 01 04 57.3 -0.6
baz=28
W33A Caddo, Fort Co 28.21 311 ⇓P P 01 04 58.1 +0.2
baz=28,SNR=6.0
U34A Anderson Ranch 28.23 315 ⇑P P 01 04 58.0 0.0
baz=28
WMOK Wichita Mounta 28.23 310 eP P 01 04 58.3 +0.1
WMOK pmax pmax
comp=Z,20nm,1.3s
WMOK Wichita Mounta 28.23 310 eP P 01 04 58.2 +0.1
comp=Z,20nm,1.3s
Y32A R-V Farms, Ver 28.38 308 ⇑P P 01 04 58.9 -0.5
baz=28
530A J-C Ranch, Com 28.41 300 ⇑P P 01 04 59.2 -0.7
baz=28,SNR=7.5
V33A Lossen Ranch, 28.41 313 ⇓P P 01 04 59.3 -0.5
baz=28
X32A Elmer 28.45 309 ⇓P P 01 04 59.5 -0.6
baz=28
430A Baggett Ranch, 28.53 301 ⇑P P 01 05 00.3 -0.6
baz=29
131A Roby 28.54 305 ⇑P P 01 05 00.2 -0.7
baz=29
JFWS Jewell Farm 28.56 333 eP P 01 05 00.3 -0.6
JFWS pmax pmax
comp=Z,25nm,0.7s
JFWS Jewell Farm 28.56 333 eP P 01 05 00.3 -0.6
comp=Z,25nm,0.7s
Z31A Sharp Cattle R 28.61 307 ⇑P P 01 05 01.3 -0.2
baz=29
330A Mertzon 28.69 302 ⇑P P 01 05 01.2 -1.1
baz=29
W32A Sentinel 28.75 311 ⇑P P 01 05 02.2 -0.6
baz=29,SNR=15
SAML Samuel 28.78 160 eP P 01 05 01.2 -1.8
comp=Z,10nm,1.4s
230A Sterling City 28.81 303 ⇑P P 01 05 02.7 -0.7
baz=29
V32A Arapaho 28.90 312 ⇑P P 01 05 04.0 0.0
baz=29
130A Snyder 28.95 305 ⇑P P 01 05 04.1 -0.6
baz=29
Y31A Rekieta Farm, 28.97 308 ⇓P P 01 05 04.3 -0.4
baz=29
429A Davenport Ranc 29.02 300 ⇑P P 01 05 04.6 -0.7
baz=29
X31A McDonald Ranch 29.05 309 ⇑P P 01 05 05.2 -0.3
baz=29
529A Stev Forest Ra 29.14 299 ⇑P P 01 05 05.9 -0.5
baz=29
KSU1 Kansas State U 29.18 320 eP P 01 05 08.4 +1.9
KSU1 Kansas State U 29.18 320 ⇑P P 01 05 07.1 +0.6
baz=29
U32A Winter Ranch, 29.20 313 ⇓P P 01 05 07.1 +0.4
baz=29
W31A Holland Ranch, 29.28 310 ⇓P P 01 05 07.8 +0.3
baz=29
Z30A Sanderson Ranc 29.35 306 ⇑P P 01 05 08.2 +0.1
baz=29
329A Wagon Wheel Ra 29.37 302 ⇓P P 01 05 07.8 -0.5
baz=29,SNR=8.9
229A Bryant Ranch, 29.39 303 ⇑P P 01 05 07.9 -0.7
baz=29
Y30A Stafford Cattl 29.41 307 ⇑P P 01 05 08.2 -0.5
baz=30
V31A Spring Creek L 29.49 311 ⇓P P 01 05 09.3 -0.1
baz=30,SNR=6.1
628A Black Gap, Mar 29.52 298 ⇓P P 01 05 09.1 -0.6
baz=30
T32A Huddler Ranch, 29.56 315 ⇑P P 01 05 10.4 +0.5
baz=30
R33A Olander Ranch, 29.57 317 ⇑P P 01 05 10.4 +0.5
baz=30
528A Cox Ranch, San 29.62 299 ⇓P P 01 05 10.7 +0.1
baz=30,SNR=11
X30A Coker Ranch, T 29.64 308 ⇓P P 01 05 10.7 0.0
baz=30
129A Stewart Farms, 29.67 304 ⇑P P 01 05 11.0 0.0
baz=30
428A Kincaid Ranch, 29.70 300 ⇑P P 01 05 11.7 +0.4
baz=30,SNR=25
Z29A Hungry Hill Ra 29.79 305 ⇓P P 01 05 11.8 -0.2
baz=30,SNR=11
Q33A Connelly Farm, 29.88 319 ⇓P P 01 05 13.0 +0.3
baz=30,SNR=10
Y29A Porterfield Fa 29.99 307 ⇓P P 01 05 13.7 -0.2
baz=30,SNR=15
328A Wristen Ranch, 30.00 301 ⇓P P 01 05 13.4 -0.5
baz=30
T31A Randall Ranch, 30.03 314 ⇓P P 01 05 14.2 0.0
baz=30,SNR=5.9
228A UT Block 9, Go 30.07 303 ⇓P P 01 05 13.8 -0.7
baz=30
R32A Long Quarter, 30.10 317 ⇑P P 01 05 14.9 +0.2
baz=30
TXAR Lajitas Array 30.14 297 P P 01 05 15.5 +0.2
TXAR PcP PcP 01 08 15.2 -1.3
TXAR Lajitas Array 30.14 297 P P 01 05 15.5 +0.2
comp=Z,5.1nm,1.0s,baz=114,slow=8.3,SNR=19
TXAR PcP PcP 01 08 15.2 -1.3
comp=Z,0.8nm,0.7s,baz=134,slow=2.7,SNR=4.4
128A Castleberry Fa 30.16 304 ⇓P P 01 05 14.4 -0.9
baz=30,SNR=13
S31A Mullinville 30.18 315 ⇓P P 01 05 16.0 +0.6
baz=30,SNR=5.6
X29A Tulia 30.25 308 ⇓P P 01 05 15.5 -0.7
baz=30
527A Woodward Ranch 30.30 299 ⇑P P 01 05 16.5 -0.2
baz=30,SNR=9.8
Z28A Tucker Farm, M 30.32 305 ⇓P P 01 05 16.0 -0.8
baz=30
427A Hayter Ranch, 30.32 300 ⇓P P 01 05 16.5 -0.4
baz=30,SNR=8.7
Q32A Meitler Ranch, 30.33 318 ⇑P P 01 05 16.4 -0.3
baz=30,SNR=5.7
AMTX Amarillo 30.42 308 eP P 01 05 18.0 +0.3
AMTX Amarillo 30.42 308 ⇑P P 01 05 16.8 -0.9
baz=30
U30A WK&E Inc. Balk 30.43 312 ⇓P P 01 05 17.2 -0.5
baz=30
Y28A McKinney Farm, 30.45 306 ⇓P P 01 05 17.1 -0.9
baz=30
W29A Amraillo 30.50 309 ⇓P P 01 05 17.4 -1.0
baz=30
R31A Burdett 30.56 316 ⇓P P 01 05 19.2 +0.4
baz=31,SNR=6.6
626A Big Bend Ranch 30.59 297 ⇓P P 01 05 18.0 -1.2
baz=31
227A Bennet, Jal 30.59 302 ⇑P P 01 05 19.2 0.0
baz=31
526A Mary Lane Ranc 30.68 298 ⇑P P 01 05 19.9 -0.1
baz=31,SNR=27
P32A Huiting Farm, 30.72 319 ⇓P P 01 05 21.0 +0.8
baz=31,SNR=7.9
V29A Stinnett 30.74 310 ⇓P P 01 05 21.1 +0.7
baz=31
426A McDonald Obser 30.79 299 ⇓P P 01 05 21.0 -0.2
baz=31,SNR=9.8
U29A Oasis Ranch, S 30.83 312 ⇑P P 01 05 21.8 +0.6
baz=31
S30A Montezuma 30.85 314 ⇑P P 01 05 21.3 -0.1
baz=31,SNR=5.9
127A Arkansas Junct 30.87 303 ⇓P P 01 05 21.4 -0.3
baz=31
MSTX Muleshoe 30.88 306 ⇓P P 01 05 21.6 -0.1
baz=31
Z27A Tatum 30.98 305 ⇑P P 01 05 21.5 -1.1
baz=31,SNR=11
R30A Dighton 31.06 315 ⇓P P 01 05 22.9 -0.3
baz=31,SNR=6.2
Y27A Causey 31.15 306 ⇑P P 01 05 23.4 -0.7
baz=31
P31A Stockton 31.15 318 ⇓P P 01 05 24.1 +0.1
baz=31
T29A Hugoton 31.18 313 ⇑P P 01 05 23.9 -0.5
baz=31
S29A Ulysses 31.29 314 ⇑P P 01 05 25.1 -0.2
baz=31,SNR=6.2
226B Tecolote Peak, 31.32 302 ⇑P P 01 05 24.3 -1.3
baz=31
Q30A Quinter 31.39 317 ⇓P P 01 05 25.5 -0.6
baz=32
U28A Mallet 31.48 311 ⇓P P 01 05 26.0 -1.0
baz=32
O31A Woolen Ranch, 31.49 319 ⇑P P 01 05 26.4 -0.5
baz=32
SPMN St. Paul 31.51 333 ⇑P P 01 05 27.6 +0.6
baz=32
GDL2 Guadalupe Moun 31.52 302 eP P 01 05 27.6 +0.2
W27A Bowe Ranch, En 31.53 308 ⇑P P 01 05 26.4 -1.1
baz=32
Z26A Caprock 31.56 304 ⇑P P 01 05 26.5 -1.2
baz=32
425A Indio Mountain 31.61 299 ⇓P P 01 05 27.2 -1.1
baz=32,SNR=10.0
R29A Marienthal 31.71 315 ⇓P P 01 05 29.7 +0.7
baz=32
P30A Selden 31.72 317 ⇑P P 01 05 29.7 +0.6
baz=32,SNR=11
T28A Walsh 31.74 312 ⇓P P 01 05 29.4 +0.1
baz=32,SNR=5.6
325A Bean Ranch, Si 31.76 300 ⇓P P 01 05 29.8 +0.1
baz=32,SNR=17
S28A Manter 31.81 313 ⇓P P 01 05 30.2 +0.3
baz=32
Q29A Oakley 31.84 316 ⇑P P 01 05 30.3 +0.2
baz=32,SNR=18
225A Deer Hill, Car 31.86 302 ⇓P P 01 05 30.8 +0.3
baz=32,SNR=12
X26A CR and CF Fran 31.89 307 ⇓P P 01 05 30.4 -0.3
baz=32
125A Gardner Draw, 31.89 303 ⇓P P 01 05 30.4 -0.3
baz=32,SNR=10
U27A Thompson Grove 31.93 310 ⇓P P 01 05 30.6 -0.4
baz=32
O30A MW Ranch, Wils 31.96 319 ⇓P P 01 05 31.2 +0.1
baz=32
M31A Lambtecht Ranc 31.99 321 ⇓P P 01 05 32.0 +0.7
baz=32
W26A Owens Ranch, T 32.07 307 ⇓P P 01 05 32.1 -0.1
baz=32
R28A Tribune 32.12 314 ⇓P P 01 05 32.4 -0.2
baz=32,SNR=25
T27A Campo 32.14 311 ⇓P P 01 05 32.7 -0.1
baz=32
Z25A Roswell 32.15 304 ⇓P P 01 05 32.4 -0.5
baz=32,SNR=17
P29A Atwood 32.20 317 ⇑P P 01 05 33.3 +0.1
baz=32
324A Moseley Ranch, 32.20 300 ⇑P P 01 05 33.5 0.0
baz=32,SNR=24
ECSD EROS Data Cent 32.24 327 eP P 01 05 32.9 -0.6
ECSD EROS Data Cent 32.24 327 ⇓P P 01 05 33.9 +0.4
baz=32
N30A Hueftle Ranch, 32.34 319 ⇑P P 01 05 35.5 +1.1
baz=32
Y25A Mesa, Roswell 32.35 305 ⇑P P 01 05 34.4 -0.3
baz=32
V26A Tequesquite Ra 32.37 309 ⇑P P 01 05 34.5 -0.4
baz=32,SNR=6.8
O29A 4D Ranch, Culb 32.40 318 ⇑P P 01 05 35.5 +0.5
baz=32,SNR=6.7
224A Cornudas Mount 32.41 301 ⇑P P 01 05 35.3 -0.1
baz=32,SNR=26
Q28A Sharon Springs 32.50 315 ⇓P P 01 05 36.7 +0.7
baz=33
X25A Clemmons Ranch 32.54 306 ⇑P P 01 05 36.8 +0.4
baz=33
124A Stringfield Ra 32.55 302 ⇓P P 01 05 37.1 +0.5
baz=33,SNR=22
U26A Atchley Ranch, 32.59 310 ⇑P P 01 05 36.3 -0.5
baz=33,SNR=5.7
W25A X Bar L Ranch, 32.64 307 ⇓P P 01 05 37.2 -0.1
baz=33,SNR=14
Z24A Sheeppen Canyo 32.67 304 ⇑P P 01 05 37.9 +0.2
baz=33,SNR=21
N29A Votaw Ranch, W 32.68 319 ⇓P P 01 05 38.0 +0.5
baz=33
P28A Saint Francis 32.72 316 ⇑P P 01 05 37.9 +0.1
baz=33
R27A Eads 32.77 313 ⇓P P 01 05 38.3 0.0
baz=33
L30A Spencer Herefo 32.80 321 ⇓P P 01 05 39.6 +1.1
baz=33,SNR=8.4
T26A Comanche Natio 32.81 311 ⇑P P 01 05 38.5 -0.3
baz=33
Y24A Capitan 32.93 305 ⇓P P 01 05 39.8 0.0
baz=33,SNR=9.2
V25A Rancho No Teng 33.00 308 ⇓P P 01 05 40.9 +0.4
baz=33,SNR=29
O28A Krutsinger Ran 33.02 317 ⇓P P 01 05 41.1 +0.7
baz=33
U25A Circle Dot Ran 33.07 309 ⇑P P 01 05 41.3 +0.2
baz=33,SNR=8.7
M29A Burnside Ranch 33.08 320 ⇑P P 01 05 42.2 +1.3
baz=33
N28A Pribbeno Ranch 33.18 318 ⇑P P 01 05 42.8 +1.0
baz=33
K30A Basset 33.18 323 ⇑P P 01 05 43.6 +1.8
baz=33
R26A Arlington 33.23 313 ⇑P P 01 05 44.9 +2.5
baz=33
L29A Maesberg Ranch 33.32 321 ⇓P P 01 05 45.3 +2.3
baz=33
Z23A Rita Site, Whi 33.34 303 ⇓P P 01 05 43.9 +0.5
baz=33
W24A Lazy 6 Ranch, 33.36 307 ⇓P P 01 05 45.0 +1.4
baz=33,SNR=11
T25A Trinidad 33.39 311 ⇓P P 01 05 44.3 +0.5
baz=33,SNR=18
Y23A Lovelace Mesa, 33.41 304 ⇓P P 01 05 44.6 +0.5
baz=34,SNR=18
V24A Rampart Ranch, 33.45 308 ⇑P P 01 05 45.9 +1.4
baz=34
Q26A Hugo 33.57 314 ⇓P P 01 05 46.0 +0.7
baz=34,SNR=16
S25A Robets Cordova 33.63 311 ⇓P P 01 05 46.1 +0.1
baz=34,SNR=6.5
222A Williams Famil 33.71 301 ⇑P P 01 05 46.6 0.0
baz=34
R25A Fountain Ranch 33.74 312 ⇓P P 01 05 47.2 +0.4
baz=34
P26A Davis Ranch, A 33.77 315 ⇑P P 01 05 47.6 +0.6
baz=34
W23A Werner Place, 33.91 306 ⇑P P 01 05 48.5 +0.1
baz=34,SNR=12
Z22A Elephant Butte 33.92 303 ⇓P P 01 05 49.6 +1.1
baz=34,SNR=10
BNM Barren Site 33.94 304 eP P 01 05 49.2 +0.5
comp=Z,23nm,1.0s
LPM Los Pinos Moun 33.99 305 eP P 01 05 49.9 +0.8
comp=Z,23nm,1.0s
J29A Okreek 34.05 323 ⇓P P 01 05 50.4 +1.1
baz=34,SNR=6.2
T24B San Luis 34.06 310 ⇑P P 01 05 50.7 +0.9
baz=34,SNR=15
Q25A Bedland, Calha 34.07 313 ⇑P P 01 05 50.4 +0.7
baz=34
ANMO Albuquerque 34.07 306 P P 01 05 50.1 +0.3
ANMO Albuquerque 34.07 306 P P 01 05 50.1 +0.3
comp=Z,6.6nm,1.0s,baz=128,slow=8.1,SNR=10
O26A Horse Wrangler 34.09 316 ⇑P P 01 05 50.8 +1.0
baz=34
Y22D IRIS PASSCAL I 34.14 304 ⇑P P 01 05 51.1 +0.7
baz=34
V23A Ortiz Mt. (NFS 34.14 307 ⇓P P 01 05 51.1 +0.7
baz=34
S24A Houchin Ranch, 34.18 311 ⇓P P 01 05 51.4 +0.6
baz=34
LENM Lemitar 34.21 304 eP P 01 05 51.8 +0.7
comp=Z,26nm,1.4s
P25A Willow Gulch B 34.30 314 ⇓P P 01 05 52.7 +1.0
baz=34
N26A Koester Ranch, 34.33 317 ⇓P P 01 05 52.9 +1.0
baz=34
R24A Sanders Place, 34.36 312 ⇓P P 01 05 52.8 +0.5
baz=34
U23A El Rito 34.37 308 ⇓P P 01 05 52.8 +0.4
baz=34,SNR=15
121A Cookes Peak, D 34.38 301 ⇓P P 01 05 53.3 +0.8
baz=34,SNR=7.7
LAZ Ladron 34.42 304 eP P 01 05 52.8 -0.1
comp=Z,10nm,1.1s
I29A Vivian Onida 34.42 324 ⇑P P 01 05 54.5 +2.0
baz=34
SDCO Great Sand Dun 34.43 311 eP P 01 05 52.4 -0.6
comp=Z,15nm,1.0s
T23A Casias Ranch, 34.53 309 ⇓P P 01 05 54.4 +0.6
baz=35
M26A McRoberts Ranc 34.62 318 ⇓P P 01 05 54.9 +0.5
baz=35
Q24A Divide 34.71 313 ⇑P P 01 05 55.4 -0.1
baz=35,SNR=6.4
K27A Fluecknger Fa 34.75 321 ⇓P P 01 05 56.4 +1.0
baz=35
V22A San Miguel Ran 34.75 307 ⇑P P 01 05 56.5 +0.7
baz=35
LPAZ La Paz 34.76 172 eP P 01 05 56.0 -0.3
comp=Z,25nm,1.4s
LPAZ La Paz 34.76 172 P P 01 05 55.6 -0.6
comp=Z,3.7nm,0.5s,baz=12,slow=4.1,SNR=13
S23A Nye Farm, Mont 34.77 310 ⇓P P 01 05 56.3 +0.4
baz=35
R23A Moffat 34.85 311 ⇓P P 01 05 56.9 +0.2
baz=35,SNR=6.4
U22A Llaves 34.88 308 ⇑P P 01 05 57.4 +0.5
baz=35,SNR=19
I28A Midland 34.90 323 ⇓P P 01 05 57.6 +0.9
baz=35
M25A Palm-Egli Farm 35.19 317 ⇓P P 01 05 59.8 +0.5
baz=35
O24A Longmont 35.20 315 ⇑P P 01 05 59.8 +0.3
baz=35
AGMN Agassiz Nation 35.22 333 ⇑P P 01 06 00.2 +0.9
baz=35
K26A Motz Farm, Whi 35.32 320 ⇓P P 01 06 01.0 +0.6
baz=35
319A Douglas 35.33 299 ⇓P P 01 06 01.7 +1.0
baz=35
P23A Jefferson 35.38 313 ⇑P P 01 06 01.8 +0.6
baz=35
S22A 4UR Ranch, Cre 35.39 310 ⇓P P 01 06 01.5 +0.2
baz=35
ISCO Idaho Springs 35.42 314 ⇑P P 01 06 02.1 +0.6
baz=36,SNR=5.7
N24A Carr 35.42 316 ⇓P P 01 06 01.9 +0.6
baz=36
G28A Parade 35.43 325 ⇓P P 01 06 01.9 +0.7
baz=36
I27A Quinn 35.44 323 ⇑P P 01 06 02.1 +0.7
baz=36
L25A Engebretsen Ra 35.51 319 ⇑P P 01 06 02.7 +0.6
baz=36
J26A Sides Ranch, S 35.60 321 ⇑P P 01 06 03.5 +0.8
baz=36

D30A **Buchanan** 35.68 329 ⇓P P 01 06 04.3 +1.1
baz=36
K25A **Mack Ranch, Ha** 35.70 319 ⇑P P 01 06 04.4 +0.7
baz=36
M24A **Cheyenne** 35.70 317 ⇓P P 01 06 04.3 +0.6
baz=36,SNR=5.7
H27A **Howes** 35.80 323 ⇑P P 01 06 05.7 +1.3
baz=36,SNR=9.7
O23A **Lake Granby, G** 35.81 314 ⇓P P 01 06 05.0 +0.1
baz=36
C30A **Mose, Pekin** 35.97 330 ⇑P P 01 06 07.1 +1.3
baz=36
D29A **Pettibone, Tap** 36.06 328 ⇓P P 01 06 08.3 +1.7
baz=36
L24A **Wheatland** 36.06 318 ⇓P P 01 06 08.1 +1.3
baz=36,SNR=6.5
SIV **San Ignacio** 36.07 161 P P 01 06 05.5 -1.4
SIV **San Ignacio** 36.07 161 P P 01 06 05.5 -1.4
comp=Z,2.2nm,0.7s,baz=11,slow=9.6,SNR=6.7
J25A **Sunshine Ranch** 36.08 320 ⇓P P 01 06 08.1 +1.2
baz=36
P22A **Eagle** 36.11 313 ⇓P P 01 06 07.9 +0.5
baz=36
G27A **Dupree** 36.18 325 ⇓P P 01 06 08.9 +1.3
baz=36
O22A **Kremmling** 36.22 314 ⇑P P 01 06 09.1 +0.7
baz=36
MVCO **Mesa Verde** 36.41 308 ⇑P P 01 06 10.4 +0.4
baz=36
B30A **Myrvik Farm, E** 36.43 331 ⇑P P 01 06 11.5 +1.7
baz=36,SNR=7.5
N22A **Wattenberg Ran** 36.45 315 ⇑P P 01 06 10.6 +0.2
baz=36
F27A **Lemmon** 36.53 325 ⇓P P 01 06 12.8 +2.1
baz=37,SNR=9.1
L23A **Garrett** 36.59 317 ⇓P P 01 06 11.5 0.0
baz=37,SNR=12
H25A **Fruitdale** 36.66 322 ⇑P P 01 06 13.5 +1.7
baz=37
X18A **Snowflake** 36.67 303 ⇓P P 01 06 13.0 +0.9
baz=37
W18A **Petrified Fore** 36.67 305 ⇓P P 01 06 12.8 +0.6
baz=37
SCHQ **Schefferville** 36.68 6 P P 01 06 10.7 -1.1
SCHQ **Schefferville** 36.68 6 P P 01 06 10.7 -1.1
comp=Z,5.6nm,0.9s,baz=170,slow=11,SNR=3.7
ULM **Lac du Bonnet** 36.74 335 P P 01 06 12.2 -0.1
ULM **Lac du Bonnet** 36.74 335 P P 01 06 12.2 -0.1
comp=Z,24nm,1.1s,baz=146,slow=8.4,SNR=11
A30A **Hoffart Farm,** 36.78 332 ⇑P P 01 06 14.5 +1.9
baz=37,SNR=11
TUC **Tucson** 36.79 300 *eP* P 01 06 12.9 -0.2
TUC pmax pmax
comp=Z,9.0nm,1.3s
TUC **Tucson** 36.79 300 *eP* P 01 06 12.9 -0.2
comp=Z,9.3nm,1.3s
PV01 **Paradox Valley** 36.81 310 *eP* P 01 06 14.1 +0.8
comp=Z,642nm,1.0s
M22A **Cedar Creek Ra** 36.83 316 ⇓P P 01 06 14.9 +1.4
baz=37
I24A **Kuemmerle Ranc** 36.84 321 ⇓P P 01 06 15.3 +1.9
baz=37
G25A **Newell** 36.90 323 ⇓P P 01 06 14.9 +1.1
baz=37,SNR=8.8
B29A **Wagenman Farm,** 36.92 330 ⇓P P 01 06 16.3 +2.4
baz=37
L22A **Ellis Ranch, M** 37.02 317 ⇑P P 01 06 16.4 +1.3
baz=37
A29A **Manning Farm,** 37.19 331 ⇑P P 01 06 18.1 +2.0
baz=37,SNR=11
H24A **Dirks Ranch, A** 37.29 322 ⇓P P 01 06 18.5 +1.2
baz=37
O20A **White River Ci** 37.38 313 ⇓P P 01 06 18.8 +0.7
baz=37
K22A **Casper** 37.39 318 ⇓P P 01 06 19.5 +1.3
baz=37
B28A **Dugan Ranch, T** 37.39 330 ⇓P P 01 06 19.8 +1.9
baz=38
A28A **Rude Farm, Bot** 37.66 330 ⇑P P 01 06 21.7 +1.5
baz=38
N20A **Spence Gulch,** 37.69 314 ⇑P P 01 06 21.6 +0.8
baz=38
J22A **Midwest** 37.74 319 ⇓P P 01 06 21.6 +0.5
baz=38,SNR=6.1
X16A **Lo Mia Camp, P** 37.83 303 ⇑P P 01 06 22.5 +0.5
baz=38
K21A **Alcova** 37.85 317 ⇑P P 01 06 22.3 +0.3
baz=38,SNR=26
I22A **9 Mile Ranch,** 37.99 319 ⇑P P 01 06 23.1 -0.1
baz=38
WUAZ **Wupatki** 38.07 304 ⇓P P 01 06 24.0 0.0
baz=38,SNR=9.3
J21A **Lysite** 38.32 318 ⇑P P 01 06 25.7 -0.3
baz=38,SNR=9.3
F23A **Volborg** 38.34 323 ⇓P P 01 06 26.3 +0.3
baz=38
I21A **Big Trails, Te** 38.45 319 ⇑P P 01 06 27.1 0.0
baz=38,SNR=7.4
A26A **Wade Farm, Ken** 38.51 329 ⇓P P 01 06 28.2 +0.8
baz=39
J20A **Shoshoni** 38.73 318 ⇑P P 01 06 30.6 +1.2
baz=39,SNR=7.3
F22A **Rosebud** 38.87 322 ⇓P P 01 06 29.6 -0.9
baz=39,SNR=8.6
Y14A **Wickenburg** 38.97 302 ⇑P P 01 06 31.2 -0.2
baz=39
U15A **North Rim** 39.04 306 ⇓P P 01 06 32.7 +0.4
baz=39,SNR=13
I20A **Worland** 39.05 319 ⇓P P 01 06 32.6 +0.5
baz=39,SNR=6.8
H20A **Greybull** 39.23 319 ⇑P P 01 06 33.8 +0.2
baz=39
J19A **Crowheart** 39.31 317 ⇑P P 01 06 34.3 0.0
baz=39,SNR=6.5
DGMT **Dagmar** 39.32 327 ⇓P P 01 06 35.0 +0.8
baz=39
PDAR **Pinedale Array** 39.41 316 P P 01 06 34.9 -0.4
PDAR PcP PcP 01 08 41.8 -1.6
PDAR **Pinedale Array** 39.41 316 P P 01 06 34.9 -0.4
comp=Z,3.4nm,0.7s,baz=122,slow=7.4,SNR=16
PDAR PcP PcP 01 08 41.8 -1.6
comp=Z,3.4nm,1.0s,baz=90,slow=4.4,SNR=3.8
C23A **Lambert** 39.43 325 ⇓P P 01 06 35.7 +0.5
baz=40,SNR=5.8
A24A **Westby** 39.51 328 ⇓P P 01 06 36.6 +0.9
baz=40
D22A **Cohagen** 39.60 324 ⇓P P 01 06 37.5 +0.9
baz=40,SNR=6.6
DAU **Daniels Canyon** 39.60 312 *eP* P 01 06 37.5 +0.5
DAU pmax pmax
comp=Z,17nm,0.9s
DAU **Daniels Canyon** 39.60 312 *eP* P 01 06 37.5 +0.5
comp=Z,17nm,0.9s
I19A **Meeteetse** 39.64 318 ⇑P P 01 06 37.0 -0.1
baz=40,SNR=9.8
G20A **Bridger** 39.74 320 ⇓P P 01 06 37.9 +0.1
baz=40
C22A **Vida** 39.78 325 ⇓P P 01 06 38.5 +0.5
baz=40
H19A **Powell** 39.94 319 ⇓P P 01 06 39.4 -0.1
baz=40,SNR=7.0
W13A **Hualapai Mount** 39.94 303 ⇓P P 01 06 39.7 0.0
baz=40
PDMCI **Parker Dam,Lak** 39.97 302 ⇓P P 01 06 39.7 0.0
baz=40
D21A **La Casta Ranch** 40.01 323 ⇓P P 01 06 40.8 +0.9
baz=40
ARUT **Antelope Range** 40.31 307 *eP* P 01 06 43.4 +0.6
ARUT pmax pmax
comp=Z,228nm,1.0s
ARUT **Antelope Range** 40.31 307 *eP* P 01 06 43.4 +0.6
comp=Z,228nm,1.0s
E20A **Meyer Farm, Mu** 40.36 322 ⇑P P 01 06 42.8 -0.1
baz=40,SNR=6.6
H18A **Shoshone NF, C** 40.36 319 ⇑P P 01 06 42.3 -0.9
baz=40,SNR=17
F19A **Roth Farm, Mol** 40.50 321 ⇑P P 01 06 44.6 +0.5
baz=41
A22A **Carney Farms,** 40.54 326 ⇓P P 01 06 45.8 +1.5
baz=41,SNR=6.3
I17A **Pilgrim Ck.** 40.59 317 ⇑P P 01 06 45.3 +0.3
baz=41,SNR=18
DUG **Dugway** 40.63 311 ⇑P P 01 06 45.2 -0.1
baz=41,SNR=20
D20A **Manuel Ranch,** 40.67 323 ⇓P P 01 06 46.3 +0.8
baz=41
E19A **Rath Farm, Rou** 40.72 322 ⇓P P 01 06 46.8 +0.9
baz=41,SNR=8.4

IRM **Iron Mountain** 40.75 301 ⇓P P 01 06 46.2 0.0
baz=41,SNR=13
H17A **Grant Village** 40.81 318 ⇓P P 01 06 47.4 +0.5
baz=41
BC3 **Big Chuckawall** 40.90 300 ⇑P P 01 06 47.7 +0.1
baz=41
GCMT **Greycliff** 40.91 320 *eP* P 01 06 49.3 +1.8
comp=Z,26nm,1.6s
A21A **Bergtoll Ranch** 41.07 326 ⇓P P 01 06 49.7 +1.0
baz=41
D19A **Cripps Ranch,** 41.14 322 ⇓P P 01 06 50.4 +1.0
baz=41,SNR=6.3
SHPR **Sheep Range** 41.29 305 *eP* P 01 06 52.2 +1.3
comp=Z,16nm,1.2s
GMRC **Granite Mounta** 41.29 302 ⇑P P 01 06 50.6 -0.2
baz=41
B20A **Solberg Farm,** 41.35 325 ⇓P P 01 06 52.4 +1.4
baz=41,SNR=6.4
BELC **Belle Mtn. Jos** 41.41 301 ⇓P P 01 06 51.9 +0.1
baz=41
C19A **Slack Wire Ran** 41.54 323 ⇓P P 01 06 54.2 +1.6
baz=42
A20A **Cobblestone Ra** 41.55 325 ⇓P P 01 06 53.9 +1.3
baz=42,SNR=8.6
QLMT **Earthquake Lak** 41.55 318 *eP* P 01 06 54.9 +2.0
comp=Z,3.4nm,1.1s
MONP **Monument Peak** 41.56 299 ⇑P P 01 06 53.6 +0.4
baz=42
TUQ **Turquoise Moun** 41.64 303 ⇑P P 01 06 54.2 +0.5
baz=42
PFO **Pinyon Flat Ob** 41.72 300 *eP* P 01 07 00.5 +6.2
comp=Z,6.2nm,1.1s
BDFB **Brasilia** 41.72 143 P P 01 06 54.1 -0.3
BDFB **Brasilia** 41.72 143 P P 01 06 54.1 -0.3
comp=Z,36nm,0.8s,baz=314,slow=9.5,SNR=49
HEC **Hector,Ludlow** 41.84 302 ⇑P P 01 06 55.6 +0.3
baz=42
B19A **Brinkman Farms** 41.87 324 ⇑P P 01 06 55.8 +0.5
baz=42,SNR=5.8
A19A **Klindworth Far** 42.02 325 ⇓P P 01 06 58.0 +1.5
baz=42
SHOC **Shoshone** 42.03 304 ⇑P P 01 06 57.1 +0.4
baz=42
R11A **Troy Canyon, C** 42.10 307 ⇓P P 01 06 57.5 0.0
baz=42,SNR=13
EGMT **Eagleton** 42.10 323 ⇓P P 01 06 58.2 +1.1
baz=42,SNR=5.4
TPNV **Topopah Spring** 42.25 305 ⇑P P 01 06 59.3 +0.7
baz=42,SNR=9.9
GSC **Goldstone** 42.32 303 *eP* P 01 07 00.5 +1.3
GSC pmax pmax
comp=Z,33nm,1.6s
GSC **Goldstone** 42.32 303 *eP* P 01 07 00.5 +1.3
comp=Z,33nm,1.6s
GSC **Goldstone** 42.32 303 ⇓P P 01 06 59.9 +0.7
baz=42
MCMT **McKenzie Canyo** 42.46 317 *eP* P 01 07 01.0 +0.6
comp=Z,29nm,1.4s
FURC **Furnace Creek,** 42.61 304 ⇑P P 01 07 02.2 +0.8
baz=43
HRY **Holter Researc** 42.67 320 *eP* P 01 07 03.3 +1.4
comp=Z,15nm,1.0s
BFSC **Mount Baldy Ra** 42.81 301 ⇓P P 01 07 03.4 +0.2
baz=43
HLID **Hailey** 42.97 315 ⇑P P 01 07 04.2 -0.3
baz=43,SNR=5.9
MPMC **Manual Prospec** 43.02 303 ⇑P P 01 07 05.4 +0.4
baz=43
GRAC **Grapevine Rang** 43.13 305 ⇑P P 01 07 06.1 +0.4
baz=43
EDW2 **Edwards Air Fo** 43.19 302 ⇑P P 01 07 06.8 +0.6
baz=43
CIS **Catalina Islan** 43.29 299 ⇑P P 01 07 07.4 +0.5
baz=43
CHMT **Chamberlain Mo** 43.63 320 *eP* P 01 07 09.8 +0.1
comp=Z,8.3nm,1.2s
RCBR **Riachuelo** 43.66 120 *eP* P 01 07 10.7 +0.6
comp=Z,4.3nm,0.7s
RCBR **Riachuelo** 43.66 120 P P 01 07 09.3 -0.8
comp=Z,8.5nm,0.9s,baz=283,slow=7.0,SNR=3.7
MFID **Camas Ranch** 43.88 314 *eP* P 01 07 11.9 +0.2
comp=Z,17nm,1.2s
SLMT **Seely Lake** 43.92 320 *eP* P 01 07 12.8 +0.7
comp=Z,19nm,1.5s
MSO **Missoula** 44.01 319 ⇓P P 01 07 14.0 +1.3
baz=44
NVAR **Mina Array Bea** 44.18 307 P P 01 07 15.2 +0.9
NVAR **Mina Array Bea** 44.18 307 P P 01 07 15.2 +0.9
comp=Z,2.3nm,0.8s,baz=102,slow=5.9,SNR=11
VES **Vestal, Richgr** 44.25 303 ⇑P P 01 07 15.5 +0.9
baz=44
RCTC **Rector, Farmer** 44.46 303 ⇑P P 01 07 16.9 +0.6
baz=44
NEW **Newport** 46.57 320 ⇓P P 01 07 33.4 +0.5
baz=47,SNR=15
EDM **Edmonton** 46.80 328 *eP* P 01 07 35.0 +0.4
EDM **Edmonton** 46.80 328 *eP* P 01 07 35.0 +0.4
CPUP **Villa Florida** 46.93 161 P P 01 07 34.9 -0.9
CPUP **Villa Florida** 46.93 161 P P 01 07 34.9 -0.9
comp=Z,1.5nm,0.6s,baz=311,slow=9.2,SNR=3.6
LCO **Las Campanas** 47.16 177 *eP* P 01 07 37.5 -0.4
J05D **Fort Rock, OR** 47.58 312 ⇑P P 01 07 41.3 +0.3
baz=48
M04C **Macdoel** 47.62 310 ⇓P P 01 07 41.7 +0.3
baz=48
I03D **Drain, OR** 49.17 312 ⇑P P 01 07 53.9 +0.9
baz=49
SFJD **Kangerlussuaq** 50.68 11 *i* P P 01 08 06.0 +1.9
comp=Z,13nm,0.9s
YKA **Yellowknife Ar** 52.67 337 P P 01 08 17.9 -1.1
YKA **Yellowknife Ar** 52.67 337 P P 01 08 17.9 -1.1
comp=Z,11nm,0.9s,baz=125,slow=7.2,SNR=52
SUMG **Summit** 57.66 12 *i* P P 01 08 56.7 +1.2
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG **Summit** 57.66 12 *i* P P 01 08 56.7 +1.2
comp=Z,32nm,1.0s
SUMG **Summit** 57.66 12 *eP* P 01 08 55.6 +0.2
comp=Z,54nm,1.1s
PLCA **Paso Flores** 58.84 178 *eP* P 01 09 03.1 -0.6
comp=Z,8.1nm,1.0s
PLCA **Paso Flores** 58.84 178 P P 01 09 01.9 -1.8
comp=Z,4.2nm,0.9s,baz=8.6,slow=7.4,SNR=6.5
PGAV **Gavieira, Arco** 59.15 52 *eP* P 01 09 08.6 +2.6
comp=Z,106nm,1.9s
EVOP **Sao Brissos** 59.17 56 *eP* P 01 09 05.9 -0.2
EVOP pmax pmax
comp=Z,160nm,1.6s
EVOP **Sao Brissos** 59.17 56 *eP* P 01 09 05.9 -0.2
comp=Z,160nm,1.6s
EVO **Evora** 59.26 56 *eP* P 01 09 05.9 -0.8
comp=Z,160nm,1.6s
EVO **Evora** 59.26 56 *eP* P 01 09 10.6 +3.9
comp=Z,56nm,1.7s
PVIS **Viseu** 59.39 53 *eP* P 01 09 10.0 +2.4
comp=Z,108nm,1.5s
PVAQ **Vaqueiros** 59.49 57 *eP* P 01 09 10.9 +2.5
comp=Z,81nm,1.7s
PVRL **Vila Real** 59.54 52 *eP* P 01 09 11.1 +2.4
comp=Z,75nm,1.6s
PESTR **Estremoz** 59.59 55 *eP* P 01 09 11.8 +2.8
comp=Z,72nm,1.9s
PCBR **Castelo Branco** 59.69 54 *eP* P 01 09 13.8 +4.2
comp=Z,47nm,1.4s
PMRV **Marv??o** 59.75 55 *eP* P 01 09 10.5 +0.4
comp=Z,52nm,1.7s
SCO **Scoresbysund** 60.23 17 *i* P P 01 09 16.7 +3.9
SCO pmax pmax
comp=Z,4.0nm,1.2s
SCO **Scoresbysund** 60.23 17 *i* P P 01 09 16.7 +3.9
comp=Z,4.0nm,1.2s
ESDC **Sonseca Array** 62.40 54 P P 01 09 27.8 -0.3
ESDC **Sonseca Array** 62.40 54 P P 01 09 27.8 -0.3
comp=Z,6.7nm,0.9s,baz=264,slow=7.2,SNR=7.6
ROSF **Rostrenen** 62.96 45 *eP* P 01 09 31.4 -0.3
comp=Z,264nm,1.6s
ROSF **Rostrenen** 62.96 45 *eP* P 01 09 31.4 -0.3
ROSF pmax pmax
comp=Z,264nm,1.6s
ROSF **Rostrenen** 62.96 45 *eP* P 01 09 31.4 -0.3
comp=Z,264nm,1.6s
QUIF **Quistinic** 63.02 45 *eP* P 01 09 32.3 +0.3
comp=Z,337nm,1.7s
QUIF **Quistinic** 63.02 45 *eP* P 01 09 32.3 +0.3
QUIF pmax pmax
comp=Z,337nm,1.7s
QUIF **Quistinic** 63.02 45 *eP* P 01 09 32.3 +0.3
comp=Z,337nm,1.7s

SGMF **Saint Gilles** 63.44 45 *eP* P 01 09 34.6 -0.2
comp=Z,364nm,1.9s
SGMF **Saint Gilles** 63.44 45 *eP* P 01 09 34.6 -0.2
SGMF pmax pmax
comp=Z,364nm,1.9s
SGMF **Saint Gilles** 63.44 45 *eP* P 01 09 34.6 -0.2
comp=Z,364nm,1.9s
ALE **Alert** 64.32 2 P P 01 09 39.8 -0.3
comp=Z,100nm,1.0s,SNR=7.5
DAG **Danmarks Havn** 64.35 12 *eP* P 01 09 40.9 +0.6
DAG pmax pmax
comp=Z,16nm,1.0s
DAG **Danmarks Havn** 64.35 12 *i* P P 01 09 40.9 +0.6
comp=Z,16nm,1.0s
SJPF **Ste Jean** 64.36 50 *eP* P 01 09 41.2 +0.2
comp=Z,149nm,1.5s
SJPF **Ste Jean** 64.36 50 *eP* P 01 09 41.2 +0.2
SJPF pmax pmax
comp=Z,149nm,1.5s
SJPF **Ste Jean** 64.36 50 *eP* P 01 09 41.2 +0.2
comp=Z,149nm,1.5s
GRR **Gorron** 64.57 45 *eP* P 01 09 42.0 -0.3
GRR **Gorron** 64.57 45 *eP* P 01 09 42.0 -0.3
GRR **Gorron** 64.57 45 *eP* P 01 09 42.0 -0.3
FLN **La Foliniere** 64.83 44 *eP* P 01 09 43.9 0.0
FLN **La Foliniere** 64.83 44 *eP* P 01 09 43.9 0.0
FLN **La Foliniere** 64.83 44 *eP* P 01 09 43.9 0.0
ETSF **Etsaut** 64.86 51 *eP* P 01 09 44.8 +0.4
comp=Z,128nm,1.5s
ETSF **Etsaut** 64.86 51 *eP* P 01 09 44.8 +0.4
ETSF pmax pmax
comp=Z,128nm,1.5s
ETSF **Etsaut** 64.86 51 *eP* P 01 09 44.8 +0.4
comp=Z,128nm,1.5s
MFF **Saint Martin d** 65.06 47 *eP* P 01 09 45.5 0.0
comp=Z,155nm,1.5s
MFF **Saint Martin d** 65.06 47 *eP* P 01 09 45.5 0.0
MFF pmax pmax
comp=Z,155nm,1.5s
MFF **Saint Martin d** 65.06 47 *eP* P 01 09 45.5 0.0
comp=Z,155nm,1.5s
LDF **La Druitiere** 65.06 44 *eP* P 01 09 45.4 -0.1
comp=Z,25nm,0.8s
LDF **La Druitiere** 65.06 44 *eP* P 01 09 45.4 -0.1
LDF pmax pmax
comp=Z,25nm,0.8s
LDF **La Druitiere** 65.06 44 *eP* P 01 09 45.4 -0.1
comp=Z,25nm,0.8s
BMRM **Bremner River** 65.26 329 *eP* P 01 09 46.4 -0.1
comp=Z,114nm,1.3s
EPF **Esparros** 65.51 50 *eP* P 01 09 48.9 +0.3
comp=Z,128nm,1.5s
EPF **Esparros** 65.51 50 *eP* P 01 09 48.9 +0.3
EPF pmax pmax
comp=Z,128nm,1.5s
EPF **Esparros** 65.51 50 *eP* P 01 09 48.9 +0.3
comp=Z,128nm,1.5s
LFF **La Frestale** 65.72 48 *eP* P 01 09 49.5 -0.3
comp=Z,102nm,1.2s
LFF **La Frestale** 65.72 48 *eP* P 01 09 49.5 -0.3
LFF pmax pmax
comp=Z,102nm,1.3s
LFF **La Frestale** 65.72 48 *eP* P 01 09 49.5 -0.3
comp=Z,102nm,1.3s
PAX **Paxson** 65.90 331 *eP* P 01 09 51.0 +0.3
PAX pmax pmax
comp=Z,56nm,1.4s
PAX **Paxson** 65.90 331 *eP* P 01 09 51.0 +0.3
comp=Z,56nm,1.4s
RJF **Les Rejaudoux** 66.25 48 *eP* P 01 09 53.0 -0.3
comp=Z,47nm,1.2s
RJF **Les Rejaudoux** 66.25 48 *eP* P 01 09 53.0 -0.3
RJF pmax pmax
comp=Z,47nm,1.2s
RJF **Les Rejaudoux** 66.25 48 *eP* P 01 09 53.0 -0.3
comp=Z,47nm,1.2s
CAF **Calviac** 66.66 48 *eP* P 01 09 55.6 -0.3
comp=Z,112nm,1.4s
CAF **Calviac** 66.66 48 *eP* P 01 09 55.6 -0.3
CAF pmax pmax
comp=Z,112nm,1.4s
CAF **Calviac** 66.66 48 *eP* P 01 09 55.6 -0.3
comp=Z,112nm,1.4s
TCF **Toulx Ste Croi** 66.70 47 *eP* P 01 09 55.7 -0.4
comp=Z,110nm,1.4s
TCF **Toulx Ste Croi** 66.70 47 *eP* P 01 09 55.7 -0.4
TCF pmax pmax
comp=Z,110nm,1.4s
TCF **Toulx Ste Croi** 66.70 47 *eP* P 01 09 55.7 -0.4
comp=Z,110nm,1.4s
ILAR **Eielson Array** 66.73 333 P P 01 09 54.9 -1.1
ILAR **Eielson Array** 66.73 333 P P 01 09 54.9 -1.1
comp=Z,4.8nm,1.0s,baz=105,slow=3.4,SNR=19
TIC **Toumodi** 66.92 91 *eP* P 01 09 56.7 -1.3
comp=Z,31nm,1.0s
HYF **Humbligny** 66.95 46 *eP* P 01 09 57.4 -0.3
HYF **Humbligny** 66.95 46 *eP* P 01 09 57.4 -0.3
LIC **Lamto** 67.03 91 *eP* P 01 09 57.3 -1.4
comp=Z,60nm,1.2s
LIC **Lamto** 67.03 91 *eP* P 01 09 57.3 -1.4
comp=Z,66nm,1.2s
LIC **Lamto** 67.03 91 *eP* P 01 09 57.3 -1.4
comp=Z,60nm,1.2s
DBIC **Dimbokro** 67.06 90 *eP* P 01 09 58.4 -0.5
comp=Z,19nm,1.1s
DBIC **Dimbokro** 67.06 90 P P 01 09 56.6 -2.3
comp=Z,9.0nm,1.0s,baz=276,slow=9.5,SNR=6.2
BGF **Bois d'Agland** 67.12 47 *eP* P 01 09 58.2 -0.6
comp=Z,35nm,1.0s
BGF **Bois d'Agland** 67.12 47 *eP* P 01 09 58.2 -0.6
BGF pmax pmax
comp=Z,35nm,1.0s
BGF **Bois d'Agland** 67.12 47 *eP* P 01 09 58.2 -0.6
comp=Z,35nm,1.0s
COLA **College** 67.15 333 *eP* P 01 09 58.3 -0.3
COLA pmax pmax
comp=Z,19nm,1.1s
COLA **College** 67.15 333 *eP* P 01 09 58.2 -0.3
comp=Z,19nm,1.1s
KIC **Kosan Boka** 67.26 91 *eP* P 01 09 58.8 -1.4
comp=Z,65nm,1.1s
AVF **Avril sur Loir** 67.46 46 *eP* P 01 10 00.1 -0.8
comp=Z,146nm,1.7s
AVF **Avril sur Loir** 67.46 46 *eP* P 01 10 00.1 -0.8
AVF pmax pmax
comp=Z,146nm,1.7s
AVF **Avril sur Loir** 67.46 46 *eP* P 01 10 00.1 -0.8
comp=Z,146nm,1.7s
SSF **Saint Saulge** 67.55 46 *eP* P 01 10 00.9 -0.6
comp=Z,104nm,1.6s
SSF **Saint Saulge** 67.55 46 *eP* P 01 10 00.9 -0.6
SSF pmax pmax
comp=Z,104nm,1.6s
SSF **Saint Saulge** 67.55 46 *eP* P 01 10 00.9 -0.6
comp=Z,104nm,1.6s
LOR **Lormes** 67.78 46 *eP* P 01 10 02.3 -0.6
comp=Z,105nm,1.4s
LOR **Lormes** 67.78 46 *eP* P 01 10 02.3 -0.6
comp=Z,105nm,1.4s
SMF **Signal de Mont** 67.80 46 *eP* P 01 10 02.4 -0.7
comp=Z,41nm,1.1s
SMF **Signal de Mont** 67.80 46 *eP* P 01 10 02.4 -0.7
SMF pmax pmax
comp=Z,41nm,1.1s
SMF **Signal de Mont** 67.80 46 *eP* P 01 10 02.4 -0.7
comp=Z,41nm,1.1s
BAIF **Baives** 67.87 43 *eP* P 01 10 02.9 -0.5
comp=Z,124nm,1.9s
BAIF **Baives** 67.87 43 *eP* P 01 10 02.9 -0.5
BAIF pmax pmax
comp=Z,124nm,1.9s
BAIF **Baives** 67.87 43 *eP* P 01 10 02.9 -0.5
comp=Z,124nm,1.9s
LASF **Ste Croix** 68.00 49 *eP* P 01 10 04.6 +0.2
comp=Z,203nm,1.6s
LASF **Ste Croix** 68.00 49 *eP* P 01 10 04.6 +0.2
comp=Z,203nm,1.6s
TRF **Thorofare Moun** 68.12 332 *eP* P 01 10 04.6 -0.4
comp=Z,69nm,1.4s
GIVF **Givet** 68.26 43 *eP* P 01 10 05.4 -0.5
comp=Z,81nm,1.3s
GIVF **Givet** 68.26 43 *eP* P 01 10 05.4 -0.5
GIVF pmax pmax
comp=Z,81nm,1.3s
GIVF **Givet** 68.26 43 *eP* P 01 10 05.4 -0.5
comp=Z,81nm,1.3s
COLD **Coldfoot** 68.31 336 *eP* P 01 10 06.4 +0.5

	comp=Z,42nm,1.4s								
KTH	**Kantishna Hill**	**68.41**	**332**	*e*P		**P**		**01 10 07.2**	**+0.5**
	comp=Z,74nm,1.4s								
MEZF	**Maizieres J'vi**	**68.50**	**44**	*e*P		**P**		**01 10 07.2**	**-0.2**
	comp=Z,73nm,1.0s								
MEZF	**Maizieres J'vi**	**68.50**	**44**	*e*P		**P**		**01 10 07.2**	**-0.2**
	comp=Z,73nm,1.0s								
SFTF	**Sexfontaines**	**68.51**	**45**	*e*P		**P**		**01 10 07.2**	**-0.3**
	comp=Z,162nm,1.6s								
SFTF	**Sexfontaines**	**68.51**	**45**	*e*P		**P**		**01 10 07.2**	**-0.3**
	comp=Z,162nm,1.6s								
VIVF	**Saint-Julien-l**	**68.51**	**48**	*e*P		**P**		**01 10 08.2**	**+0.6**
	comp=Z,114nm,1.5s								
VIVF	**Saint-Julien-l**	**68.51**	**48**	*e*P		**P**		**01 10 08.2**	**+0.6**
VIVF					pmax	pmax			
	comp=Z,114nm,1.5s								
VIVF	**Saint-Julien-l**	**68.51**	**48**	*e*P		**P**		**01 10 08.2**	**+0.6**
	comp=Z,114nm,1.5s								
PAGF	**Fort de Pagny**	**68.95**	**44**	*e*P		**P**		**01 10 09.8**	**-0.4**
	comp=Z,33nm,1.6s								
PAGF	**Fort de Pagny**	**68.95**	**44**	*e*P		**P**		**01 10 09.8**	**-0.4**
	comp=Z,33nm,1.5s								
PPLA	**Purkeypile**	**68.96**	**331**	*e*P		**P**		**01 10 09.5**	**-0.7**
	comp=Z,50nm,1.4s								
MEM	**Membach**	**68.99**	**42**	P		**P**		**01 10 12.7**	**+2.3**
RSO	**Redoubt South**	**69.23**	**329**	P		**P**		**01 10 14.8**	**+2.8**
	comp=Z,59nm,0.9s								
SMRF	**Simiane la Rot**	**69.24**	**49**	*e*P		**P**		**01 10 12.7**	**+0.5**
	comp=Z,203nm,1.8s								
SMRF	**Simiane la Rot**	**69.24**	**49**	*e*P		**P**		**01 10 12.7**	**+0.5**
	comp=Z,203nm,1.8s								
CABF	**La Chapelle**	**69.35**	**46**	*e*P		**P**		**01 10 12.2**	**-0.6**
	comp=Z,64nm,1.4s								
CABF	**La Chapelle**	**69.35**	**46**	*e*P		**P**		**01 10 12.2**	**-0.6**
CABF					pmax	pmax			
	comp=Z,64nm,1.4s								
CABF	**La Chapelle**	**69.35**	**46**	*e*P		**P**		**01 10 12.2**	**-0.6**
	comp=Z,64nm,1.4s								
ORIF	**Oris-en-Rattie**	**69.36**	**48**	*e*P		**P**		**01 10 13.4**	**+0.4**
	comp=Z,159nm,1.8s								
ORIF	**Oris-en-Rattie**	**69.36**	**48**	*e*P		**P**		**01 10 13.4**	**+0.4**
ORIF					pmax	pmax			
	comp=Z,159nm,1.8s								
ORIF	**Oris-en-Rattie**	**69.36**	**48**	*e*P		**P**		**01 10 13.4**	**+0.4**
	comp=Z,159nm,1.8s								
HAU	**Haudompre**	**69.40**	**45**	*e*P		**P**		**01 10 12.4**	**-0.7**
	comp=Z,66nm,1.5s								
HAU	**Haudompre**	**69.40**	**45**	*e*P		**P**		**01 10 12.4**	**-0.7**
HAU					pmax	pmax			
	comp=Z,66nm,1.5s								
HAU	**Haudompre**	**69.40**	**45**	*e*P		**P**		**01 10 12.4**	**-0.7**
	comp=Z,66nm,1.5s								
IM04	**Indian Mountai**	**69.69**	**334**	*e*P		**P**		**01 10 13.8**	**-0.7**
HINF	**Hinteralfeld**	**69.76**	**45**	*e*P		**P**		**01 10 14.8**	**-0.5**
	comp=Z,103nm,1.9s								
HINF	**Hinteralfeld**	**69.76**	**45**	*e*P		**P**		**01 10 14.8**	**-0.5**
HINF					pmax	pmax			
	comp=Z,103nm,1.8s								
HINF	**Hinteralfeld**	**69.76**	**45**	*e*P		**P**		**01 10 14.8**	**-0.5**
	comp=Z,103nm,1.8s								
LPL	**La Plagne**	**69.90**	**47**	*e*P		**P**		**01 10 16.6**	**+0.2**
	comp=Z,116nm,1.6s								
LPL	**La Plagne**	**69.90**	**47**	*e*P		**P**		**01 10 16.6**	**+0.2**
LPL					pmax	pmax			
	comp=Z,116nm,1.6s								
LPL	**La Plagne**	**69.90**	**47**	*e*P		**P**		**01 10 16.6**	**+0.2**
	comp=Z,116nm,1.6s								
LPG	**La Plagne**	**69.92**	**47**	*e*P		**P**		**01 10 16.9**	**+0.3**
	comp=Z,18nm,0.8s								
LPG	**La Plagne**	**69.92**	**47**	*e*P		**P**		**01 10 16.9**	**+0.3**
LPG					pmax	pmax			
	comp=Z,18nm,0.8s								
LPG	**La Plagne**	**69.92**	**47**	*e*P		**P**		**01 10 16.9**	**+0.3**
	comp=Z,18nm,0.8s								
LMR	**La Mourre**	**69.98**	**50**	*e*P		**P**		**01 10 16.2**	**-0.5**
	comp=Z,136nm,1.5s								
LMR	**La Mourre**	**69.98**	**50**	*e*P		**P**		**01 10 16.2**	**-0.5**
LMR					pmax	pmax			
	comp=Z,136nm,1.5s								
LMR	**La Mourre**	**69.98**	**50**	*e*P		**P**		**01 10 16.2**	**-0.5**
	comp=Z,136nm,1.5s								
CDF	**Champ du Feu**	**69.99**	**44**	*e*P		**P**		**01 10 16.1**	**-0.6**
	comp=Z,110nm,1.8s								
CDF	**Champ du Feu**	**69.99**	**44**	*e*P		**P**		**01 10 16.1**	**-0.6**
CDF					pmax	pmax			
	comp=Z,110nm,1.8s								
CDF	**Champ du Feu**	**69.99**	**44**	*e*P		**P**		**01 10 16.1**	**-0.6**
	comp=Z,110nm,1.8s								
MBDF	**Montbardon**	**70.01**	**48**	*e*P		**P**		**01 10 18.1**	**+1.0**
	comp=Z,49nm,1.2s								
MBDF	**Montbardon**	**70.01**	**48**	*e*P		**P**		**01 10 18.1**	**+1.0**
MBDF					pmax	pmax			
	comp=Z,49nm,1.2s								
MBDF	**Montbardon**	**70.01**	**48**	*e*P		**P**		**01 10 18.1**	**+1.0**
	comp=Z,49nm,1.2s								
SBF	**Sospel**	**70.59**	**49**	*e*P		**P**		**01 10 20.0**	**-0.5**
	comp=Z,92nm,1.2s								
SBF	**Sospel**	**70.59**	**49**	*e*P		**P**		**01 10 20.0**	**-0.5**
SBF					pmax	pmax			
	comp=Z,92nm,1.2s								
SBF	**Sospel**	**70.59**	**49**	*e*P		**P**		**01 10 20.0**	**-0.5**
	comp=Z,92nm,1.2s								
NB2	**NORSAR Subarra**	**71.24**	**31**	P		**P**		**01 10 26.2**	**+2.1**
	comp=Z,13nm,1.0s,baz=276,slow=6.5								
NOA	**NORSAR Array B**	**71.24**	**31**	P		**P**		**01 10 23.4**	**-0.7**
NOA	**NORSAR Array B**	**71.24**	**31**	P		**P**		**01 10 23.4**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=276,slow=6.3,SNR=3.5								
TOA0	**Torodi Ar. Sit**	**71.49**	**82**	*e*P		**P**		**01 10 24.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**71.49**	**82**	P		**P**		**01 10 25.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**71.49**	**82**	P		**P**		**01 10 25.1**	**-1.3**
	comp=Z,14nm,1.1s,baz=287,slow=4.5,SNR=20								
PGF	**Pioggiola**	**71.90**	**50**	*e*P		**P**		**01 10 28.0**	**-0.5**
	comp=Z,125nm,1.4s								
PGF	**Pioggiola**	**71.90**	**50**	*e*P		**P**		**01 10 28.0**	**-0.5**
PGF					pmax	pmax			
	comp=Z,125nm,1.4s								
PGF	**Pioggiola**	**71.90**	**50**	*e*P		**P**		**01 10 28.0**	**-0.5**
	comp=Z,125nm,1.4s								
GRF	**Grafenberg Arr**	**72.42**	**43**	*e*P		**P**		**01 10 34.0**	**+2.6**
	comp=Z,25nm,1.3s								
FETA	**Feichten**	**72.47**	**45**	⇑*i*pP		**P**		**01 10 32.8**	**+0.9**
	comp=Z,30nm,1.3s								
TAM	**Tamanrasset**	**72.70**	**71**	*e*P		**P**		**01 10 34.5**	**+0.8**
TAM					pmax	pmax			
	comp=Z,14nm,1.3s								
TAM	**Tamanrasset**	**72.70**	**71**	*e*P		**P**		**01 10 34.5**	**+0.8**
	comp=Z,14nm,1.3s								
NKC	**Novy Kostel**	**73.13**	**42**	*e*P		**P**		**01 10 38.7**	**+3.1**
NKC	**Novy Kostel**	**73.13**	**42**	*e*P		**P**		**01 10 38.7**	**+3.1**
KEST	**Kesra**	**73.31**	**57**	*e*P		**P**		**01 10 37.7**	**+0.7**
KEST	**Kesra**	**73.31**	**57**	P		**P**		**01 10 37.1**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=310,slow=1.2,SNR=9.3								
CLL	**Collm**	**73.31**	**41**	*e*P		**P**		**01 10 39.0**	**+2.4**
CLL				*i*				01 10 43.5	
CLL				*i*				01 10 48.3	
CLL					pmax	pmax			
	comp=Z,37nm,1.8s								
CLL	**Collm**	**73.31**	**41**	*e*P		**P**		**01 10 39.0**	**+2.4**
	comp=Z,37nm,1.8s								
CLL				*i*	(sP)		**sP**	**01 10 43.5**	**-0.5**
CLL				*i*				01 10 48.3	
BRG	**Berggiesshubel**	**73.97**	**41**	*e*P		**P**		**01 10 41.1**	**+0.7**
	comp=Z,8.0nm,1.1s								
BRG				*e*				01 10 44.6	
	comp=Z,16nm,1.2s								
BRG	**Berggiesshubel**	**73.97**	**41**	*e*P		**P**		**01 10 41.2**	**+0.7**
BRG				*e*				01 10 44.6	
BRG					pmax	pmax			
	comp=Z,8.0nm,1.1s								
BRG					pmax	pmax			
	comp=Z,16nm,1.2s								
KHC	**Kasperske Hory**	**74.03**	**43**	*e*P		**P**		**01 10 40.5**	**-0.4**
KHC				*e*				01 10 44.6	
KHC	**Kasperske Hory**	**74.03**	**43**	*e*P		**P**		**01 10 40.5**	**-0.4**
KHC				*e*pP			**pP**	**01 10 44.6**	**-1.7**
KHC	**Kasperske Hory**	**74.03**	**43**	*e*P		**P**		**01 10 40.8**	**-0.1**
	comp=Z,32nm,1.3s								
GERES	**GERESS Array B**	**74.15**	**43**	P		**P**		**01 10 41.5**	**-0.2**
GERES	**GERESS Array B**	**74.15**	**43**	P		**P**		**01 10 41.5**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=270,slow=5.2,SNR=22								
KBA	**Koelnbreinsper**	**74.22**	**45**	⇓*i*pP		**P**		**01 10 44.7**	**+2.4**
	comp=Z,40nm,1.3s								
PRA	**Prague**	**74.41**	**42**	P		**P**		**01 10 44.0**	**+0.9**
PVCC	**Panska Ves**	**74.42**	**41**	*e*P		P		01 10 46.7	+3.6
PVCC	**Panska Ves**	**74.42**	**41**	*e*P		P		01 10 46.7	+3.6
PRU	**Pruhonice**	**74.50**	**42**	*e*P		**P**		**01 10 44.0**	**+0.4**
PRU				*e*				01 10 47.2	
PRU	**Pruhonice**	**74.50**	**42**	*e*P		**P**		**01 10 44.0**	**+0.4**
PRU				*e*pP			**pP**	**01 10 47.2**	**-1.8**
CADS	**Cadrg**	**74.64**	**46**	*e*P		**P**		**01 10 45.1**	**+0.5**
MOA	**Molln**	**74.70**	**44**	⇑*i*P		**P**		**01 10 44.6**	**-0.2**
	comp=Z,25nm,0.9s								
TREC	**Trest**	**75.23**	**43**	*e*P		**P**		**01 10 50.5**	**+2.7**
TREC	**Trest**	**75.23**	**43**	*e*P		**P**		**01 10 50.5**	**+2.7**
UPC	**Upice**	**75.33**	**41**	*e*P		P		01 10 52.0	+3.6
UPC	**Upice**	**75.33**	**41**	*e*P		P		01 10 52.0	+3.6
SOKA	**Soboth**	**75.44**	**45**	⇑*i*pP		**P**		**01 10 50.5**	**+1.4**
	comp=Z,25nm,1.6s								
KSP	**Ksiaz**	**75.44**	**41**	*e*P		**P**		**01 10 51.1**	**+2.1**
GKP	**Gorka Klasztor**	**75.54**	**38**	*e*P		**P**		**01 10 52.3**	**+2.8**
GKP	**Gorka Klasztor**	**75.54**	**38**	*e*P		**P**		**01 10 52.2**	**+2.8**
DPC	**Dobruska-Polom**	**75.55**	**41**	*e*P		**P**		**01 10 50.0**	**+0.3**
DPC	**Dobruska-Polom**	**75.55**	**41**	*e*P		**P**		**01 10 50.0**	**+0.3**
ARCES	**ARCESS Array B**	**75.83**	**21**	P		**P**		**01 10 50.8**	**-0.1**
ARCES	**ARCESS Array B**	**75.83**	**21**	P		**P**		**01 10 50.8**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=327,slow=3.5,SNR=13								
KRLC	**Kraliky**	**75.90**	**42**	*e*P		**P**		**01 10 53.8**	**+2.1**
KRLC	**Kraliky**	**75.90**	**42**	*e*P		**P**		**01 10 53.8**	**+2.1**
VRAC	**Vranov**	**75.94**	**42**	⇑*i*P		**P**		**01 10 53.3**	**+1.4**
SOP	**Sopron**	**76.25**	**44**	⇓*e*P		P		01 10 59.4	+5.7
MORC	**Moravsky Berou**	**76.44**	**42**	*e*P		**P**		**01 10 55.3**	**+0.5**
MORC					pmax	pmax			
	comp=Z,8.0nm,0.8s								
MORC	**Moravsky Berou**	**76.44**	**42**	*e*P		**P**		**01 10 55.3**	**+0.5**
	comp=Z,8.5nm,0.8s								
OKC	**Ostrava-Krasne**	**76.81**	**42**	*e*P		**P**		**01 10 57.3**	**+0.5**
OKC				*e*				01 11 00.8	
OKC	**Ostrava-Krasne**	**76.81**	**42**	*e*P		**P**		**01 10 57.3**	**+0.5**
OKC				*e*pP			**pP**	**01 11 00.8**	**-1.5**
PKST	**T``s**	**77.32**	**44**	⇓*e*P		P		01 11 03.8	+4.0
CSKK	**Cs˘ákako**	**77.44**	**44**	*e*P		P		01 11 04.8	+4.4
PKSG		**77.53**	**44**	⇓*e*		P		01 11 06.2	+5.3
GAMB	**Gambell**	**77.54**	**333**	*e*P		**P**		**01 11 01.1**	**+0.6**
	comp=Z,16nm,1.2s								
OJC	**Ojcow**	**77.76**	**41**	*e*P		**P**		**01 11 04.2**	**+2.1**
BEL	**Belsk**	**77.97**	**39**	*e*P		P		01 11 08.0	+4.7
BEL	**Belsk**	**77.97**	**39**	*e*P		P		01 11 07.9	+4.7
PKSM	**Moragy**	**77.97**	**45**	⇓P		**P**		**01 11 02.8**	**-0.6**
PKSM	**Moragy**	**77.97**	**45**	⇓*i*P		**P**		**01 11 02.8**	**-0.6**
KAF	**Kangasniemi**	**78.14**	**28**	*e*P		P		01 11 08.9	+4.9
KAF					pmax	pmax			
	comp=Z,5.0nm,0.7s								
KAF	**Kangasniemi**	**78.14**	**28**	*e*p		P		01 11 08.9	+4.9
	comp=Z,4.9nm,0.7s								
FINES	**FINESS Array B**	**78.23**	**29**	P		**P**		**01 11 04.1**	**-0.3**
FINES	**FINESS Array B**	**78.23**	**29**	P		**P**		**01 11 04.1**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=271,slow=4.3,SNR=12								
PSZ	**Piszkesteto**	**78.38**	**43**	*e*P		**P**		**01 11 07.4**	**+1.6**
PSZ					pmax	pmax			
	comp=Z,58nm,1.4s								
PSZ	**Piszkesteto**	**78.38**	**43**	⇑*i*P		P		01 11 10.8	+5.1
PSZ	**Piszkesteto**	**78.38**	**43**	*e*P		**P**		**01 11 07.4**	**+1.6**
	comp=Z,58nm,1.4s								
PSZ	**Piszkesteto**	**78.38**	**43**	*e*		P		01 11 10.4	+4.7
SUW	**Suwalki**	**78.81**	**37**	*e*P		**P**		**01 11 08.9**	**+1.1**
SUW	**Suwalki**	**78.81**	**37**	*e*P		**P**		**01 11 08.8**	**+1.0**
SUW	**Suwalki**	**78.81**	**37**	*e*P		**P**		**01 11 09.0**	**+1.1**
	comp=Z,48nm,1.3s								
STHS	**Stebnicka Huta**	**78.87**	**42**	*e*P		P		01 11 12.5	+4.2
STHS					pmax	pmax			
	comp=Z,4.0nm,0.9s								
STHS	**Stebnicka Huta**	**78.87**	**42**	*e*P		P		01 11 12.5	+4.2
STHS				*e*PP			**PP**	**01 14 09.4**	**+2.8**
CRVS	**Cervenica-Dubn**	**79.14**	**42**	*e*P		P		01 11 14.1	+4.3
CRVS					pmax	pmax			
	comp=Z,17nm,1.5s								
CRVS	**Cervenica-Dubn**	**79.14**	**42**	*e*P		P		01 11 14.1	+4.3
CRVS				*e*PP			**PP**	**01 14 10.6**	**+1.7**
VSU	**Vasula**	**79.42**	**32**	*e*P		**P**		**01 11 10.9**	**-0.2**
VSU					pmax	pmax			
	comp=Z,37nm,1.1s								
KOLS	**Kolonicke sedl**	**79.65**	**42**	*e*P		P		01 11 16.6	+4.0
KOLS					pmax	pmax			
	comp=Z,14nm,1.6s								
KOLS	**Kolonicke sedl**	**79.65**	**42**	*e*P		P		01 11 16.6	+4.0
KWP	**Kalwaria Pacla**	**79.73**	**41**	⇑P		**P**		**01 11 13.9**	**+0.9**
KWP	**Kalwaria Pacla**	**79.73**	**41**	*e*P		**P**		**01 11 15.0**	**+2.0**
KWP	**Kalwaria Pacla**	**79.73**	**41**	⇑*i*P		**P**		**01 11 13.9**	**+0.9**
KWP	**Kalwaria Pacla**	**79.73**	**41**	*e*P		**P**		**01 11 13.7**	**+0.8**
	comp=Z,34nm,1.1s								
UZH	**Uzhgorod**	**79.74**	**42**	*e*P		P		01 11 17.8	+4.8
ISAL	**Salakas**	**79.99**	**35**	*e*P		**P**		**01 11 14.8**	**+0.6**
ISAL					AMB	AMB		01 11 20.5	
	comp=Z,20nm,1.7s								
TRPA	**Tarpa**	**80.04**	**43**	⇑*i*P		**P**		**01 11 16.1**	**+1.4**
JOF	**Joensuu**	**80.08**	**27**	*e*P		**P**		**01 11 16.0**	**+1.4**
JOF					pmax	pmax			
	comp=Z,6.0nm,0.7s								
JOF	**Joensuu**	**80.08**	**27**	*e*p		**P**		**01 11 16.0**	**+1.4**
	comp=Z,5.7nm,0.7s								
IIGN	**Ignalina**	**80.11**	**35**	*e*P		**P**		**01 11 15.5**	**+0.6**
IIGN					AMB	AMB		01 11 23.2	
	comp=Z,25nm,1.2s								
BZS	**Buzias**	**80.13**	**45**	⇓P		**P**		**01 11 16.3**	**+1.1**
BZS	**Buzias**	**80.13**	**45**	⇓*i*P		**P**		**01 11 16.3**	**+1.1**
IDID	**Didziasalis**	**80.40**	**35**	*e*P		**P**		**01 11 17.1**	**+0.6**
IDID					AMB	AMB		01 11 24.1	
	comp=Z,10nm,1.0s								
LVV	**L'vov**	**80.50**	**41**	*e*P		P		01 11 21.5	+4.4
DRGR		**80.53**	**44**	⇓P		**P**		**01 11 18.3**	**+0.8**
DRGR		**80.53**	**44**	⇓*i*P		**P**		**01 11 18.3**	**+0.8**
BMR	**Baia Mare**	**80.79**	**43**	⇑P		**P**		01 11 23.3	+4.6
BMR	**Baia Mare**	**80.79**	**43**	⇑*i*P		**P**		01 11 23.3	+4.6
GZR	**Gura Zlata**	**80.98**	**45**	⇑P		**P**		**01 11 18.9**	**-1.0**
GZR	**Gura Zlata**	**80.98**	**45**	⇑*i*P		**P**		**01 11 18.9**	**-1.0**
CJR	**Cluj-Napoca**	**81.14**	**44**	⇑P		P		01 11 25.3	+4.6
CJR	**Cluj-Napoca**	**81.14**	**44**	⇑*i*P		P		01 11 25.3	+4.6
MNK	**Minsk**	**81.26**	**35**	*e*P		**P**		**01 11 21.0**	**-0.1**
MICGM	**Minsk**	**81.29**	**35**	*e*		**P**		**01 11 21.0**	**-0.2**
FNA	**Florina**	**81.33**	**50**	*e*P		**P**		**01 11 23.0**	**+1.2**
LOT	**Lotru**	**81.63**	**45**	⇓*i*P		**P**		**01 11 26.1**	**+2.7**
PDO	**Predromos**	**81.81**	**52**	*e*P		**P**		**01 11 24.5**	**+0.2**
BUR08	**Bucovina Ar. S**	**81.89**	**43**	*e*P		**P**		**01 11 27.1**	**+2.4**
BURAR	**Bucovina Array**	**81.91**	**43**	⇑P		P		01 11 28.9	+4.1
BURAR	**Bucovina Array**	**81.91**	**43**	⇑*i*P		P		01 11 28.9	+4.1
VTS	**Vitosha**	**82.11**	**48**	⇑P		**P**		**01 11 28.3**	**+2.3**
VTS	**Vitosha**	**82.11**	**48**	*e*P		**P**		**01 11 27.8**	**+1.8**
VTS	**Vitosha**	**82.11**	**48**	⇑*i*P		**P**		**01 11 28.3**	**+2.3**
EVR	**Evrytania**	**82.19**	**52**	*e*P		P		01 11 31.5	+5.1
KNT	**Kendrikon**	**82.31**	**49**	*e*P		P		**01 11 28.5**	**+1.5**
LIT	**Litokhoron**	**82.34**	**50**	*e*P		P		01 11 31.2	+4.1
DRO	**Drossia**	**82.40**	**53**	*e*P		P		01 11 32.4	+4.9
EFP	**Efpalio**	**82.40**	**52**	*e*P		**P**		**01 11 30.2**	**+2.8**
LAKA	**Lakka**	**82.51**	**52**	*e*P		**P**		**01 11 27.9**	**-0.2**
AGG	**Agios Georgios**	**82.54**	**51**	*e*P		**P**		**01 11 31.1**	**+2.9**
DOPR	**Dopca**	**82.55**	**44**	⇑*i*P		**P**		**01 11 30.2**	**+2.1**
HORT	**Hortiatis**	**82.63**	**50**	*e*P		**P**		**01 11 30.0**	**+1.3**
HUMR	**Humele**	**82.73**	**46**	⇑*i*P		**P**		**01 11 26.6**	**-2.4**
SOH	**Sokhos**	**82.75**	**50**	*e*P		P		01 11 32.8	+3.5
MMB	**Musomiste**	**82.78**	**49**	⇑P		**P**		**01 11 29.9**	**+0.5**
MMB	**Musomiste**	**82.78**	**49**	⇑*i*P		**P**		**01 11 29.9**	**+0.5**
SRS	**Serrai**	**82.83**	**49**	*e*P		P		01 11 34.1	+4.5
DSF	**Desfina**	**82.87**	**52**	*e*P		P		01 11 34.1	+4.1
NVR	**Nevrokopi**	**82.95**	**49**	*e*P		**P**		**01 11 32.1**	**+1.8**
PLG	**Polygyros**	**82.95**	**50**	*e*P		**P**		**01 11 31.8**	**+1.5**
MLR	**Muntele Rosu**	**83.07**	**44**	⇓*i*P		**P**		**01 11 32.4**	**+1.4**
VLX	**Vlachokerasia**	**83.08**	**53**	*e*P		**P**		**01 11 33.8**	**+2.7**
KIEV	**Kiev**	**83.36**	**39**	*c i*P		**P**		**01 11 31.9**	**-0.2**
KIEV	**Kiev**	**83.36**	**39**	*e*P		**P**		**01 11 34.3**	**+2.2**
	comp=Z,17nm,1.3s								
PVL	**Pavlikeni**	**83.39**	**47**	*e*P		**P**		**01 11 30.8**	**-1.7**
PLOR	**Plostina**	**83.42**	**44**	⇓P		P		01 11 36.4	+3.8
PLOR	**Plostina**	**83.42**	**44**	⇓*i*P		P		01 11 36.4	+3.8
RZN	**Rozhen**	**83.46**	**48**	*e*P		**P**		**01 11 32.8**	**-0.3**
VRI	**Vrincioaia**	**83.46**	**44**	⇑P		P		01 11 37.9	+5.1
VRI	**Vrincioaia**	**83.46**	**44**	⇑*i*P		P		01 11 37.9	+5.1
KAVA	**Kavala**	**83.53**	**49**	*e*P		P		01 11 38.2	+5.0
DID	**Didima**	**83.69**	**53**	*e*P		**P**		**01 11 33.5**	**-0.7**
KDZ	**Kurdzhali**	**83.96**	**48**	*e*P		**P**		**01 11 34.4**	**-1.1**
RDO	**Rodhopi**	**84.21**	**49**	*e*P		P		01 11 40.3	+3.6
KIS	**Kishinev**	**84.43**	**42**	*e*P		P		01 11 41.0	+3.3
KIS				*e*				01 11 50.0	
KIS	**Kishinev**	**84.43**	**42**	*e*P		P		01 11 41.0	+3.3
KLMR	**Klimovskoe**	**84.47**	**27**	*e*P		**P**		**01 11 40.0**	**+2.4**
KLMR					pmax	pmax			
	comp=Z,97nm,1.4s								
PRK	**Paraskevi**	**85.38**	**50**	*e*P		P		01 11 35.4	-7.2
CHOS	**Chios island**	**85.51**	**51**	*e*P		**P**		**01 11 45.2**	**+1.8**
IDI	**Anoyia**	**85.66**	**54**	P		**P**		**01 11 43.9**	**-0.3**
IDI	**Anoyia**	**85.66**	**54**	P		**P**		**01 11 43.9**	**-0.3**
	comp=Z,12nm,0.9s,baz=289,slow=10,SNR=5.2								
OBN	**Obninsk**	**85.69**	**33**	⇑*e*P		**P**		**01 11 43.9**	**+0.1**
OBN				*e*				01 14 57.2	
OBN					pmax	pmax			
	comp=Z,68nm,1.7s								
OBN	**Obninsk**	**85.69**	**33**	*e*P		**P**		**01 11 44.8**	**+1.0**
	comp=Z,121nm,1.6s								
MOS	**Moscow**	**85.95**	**32**	*e*P		P		01 11 49.2	+4.1
MOS					pmax	pmax			
	comp=Z,56nm,1.4s								
PRGR	**Permogore**	**86.61**	**25**	⇓*i*P		**P**		**01 11 48.8**	**+0.6**
PRGR					pmax	pmax			
	comp=Z,100nm,1.4s								
SIM	**Simferopol'**	**88.63**	**43**	*e*P		**P**		**01 12 00.3**	**+2.0**
SIM					pmax	pmax			
	comp=Z,11nm,1.2s								
VSR	**Storozhevoye**	**88.87**	**36**	*e*P		**P**		**01 11 58.0**	**-1.3**
VSR					pmax	pmax			
	comp=N,10.0nm,1.4s								
VSR					pmax	pmax			
	comp=E,5.0nm,1.4s								
VSR					pmax	pmax			
	comp=Z,10.0nm,1.4s								
TIXI	**Tiksi**	**88.98**	**353**	*e*P		**P**		**01 11 58.5**	**-0.9**
TIXI					pmax	pmax			
	comp=Z,21nm,1.7s								
TIXI	**Tiksi**	**88.98**	**353**	*e*P		**P**		**01 11 59.1**	**-0.3**
	comp=Z,25nm,1.3s								
VORD	**Divnogorie**	**89.06**	**36**	*e*P		**P**		**01 11 59.1**	**-1.1**
VORD					pmax	pmax			
	comp=Z,9.0nm,1.1s								
VORD					pmax	pmax			
	comp=N,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=E,10.0nm,1.0s								
ANTO	**Ankara**	**89.82**	**48**	*e*P		**P**		**01 12 05.5**	**+1.3**
ANTO					pmax	pmax			
	comp=Z,15nm,1.0s								
ANTO	**Ankara**	**89.82**	**48**	*e*P		**P**		**01 12 05.5**	**+1.3**
	comp=Z,15nm,1.0s								
VRHR	**Novokhopersk**	**90.28**	**35**	*e*P		**P**		**01 12 05.1**	**-0.8**
VRHR					pmax	pmax			
	comp=N,5.0nm,1.0s			

comp=Z,5.1nm,0.4s,baz=324,slow=3.2,SNR=4.0

*ISCJB **13** 01:00:24.3±0.4, 18°45'N±0'07"×73°11'W±0'05, h6km, mb4.5/40, Error ellipse: s-maj=10.8km s-min=6.7km az=14.9*

*IDC **13** 01:00:25.3±2.2, 18°50'N×73°09'W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/24, mbtmp4.2/10, Error ellipse: s-maj=60.8km s-min=23.3km az=13.0*

*NEIC **13** 01:00:26.4±0.3, 18°46'N×73°07'W, h10km, mb4.7/31, Error ellipse: s-maj=7.9km s-min=5.3km az=24.0*

ISC 13 01:00:25.7±0.5, **18°47'N**±0'.08×**73°07'W**±0'.07, **h6**km, **n65**, σ1**9**10/63, **mb4.6**/40, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.76**	**73**	*ePn*		**Pb**	**01 00 58.2**	**-0.2**
AGPR	**Aguadilla, PR**	**5.65**	**89**	*ePn*		**Pn**	**01 01 48.5**	**-1.8**
CRPR	**Cabo Rojo, PR**	**5.68**	**94**	*ePn*		**Pn**	**01 01 49.9**	**-0.7**
CELP	**Cerrillos**	**6.18**	**93**	*ePn*		Pn	01 01 51.4	-6.1
SDV	**Santo Domingo**	**9.82**	**166**	*ePn*		**Pn**	**01 02 45.5**	**-2.1**
BCIP	**Isla Barro Col**	**11.35**	**216**	*ePn*		**Pn**	**01 03 09.1**	**+0.6**
TEIG	**Tepich**	**14.46**	**279**	*ePn*		Pn	01 03 43.1	-8.0
BBSR	**BB Station**	**15.76**	**27**	*ePn*		**Pn**	**01 04 08.2**	**-0.1**
TIGA	**Tifton**	**16.04**	**326**	*ePn*		**Pn**	**01 04 11.4**	**-0.5**
KMSC	**Kings Mountain**	**18.16**	**338**	*ePn*		**Pn**	**01 04 34.5**	**-4.0**
BLA	**Blacksburg** 87nm,1.3s	**19.76**	**342**	*eP*		**P**	**01 04 54.0**	**-2.5**
ODNJ	**Ogdensburg** 56nm,1.2s	**22.57**	**357**	*eP*		**P**	**01 05 26.5**	**-0.3**
PTGA	**Pitinga** 22nm,1.1s	**23.02**	**145**	*eP*		**P**	**01 05 32.6**	**+1.0**
HKT	**Hockley** 16nm,1.1s	**23.65**	**303**	*eP*		**P**	**01 05 37.3**	**-0.6**
WMOK	**Wichita Mounta** 16nm,1.2s	**28.01**	**310**	*eP*		**P**	**01 06 17.7**	**+0.1**
TXAR	**Lajitas Array**	**29.91**	**297**	P		**P**	**01 06 34.7**	**+0.1**
TXAR	**Lajitas Array** 1.3nm,0.8s,baz=122,slow=13,SNR=2.0	**29.91**	**297**	P		**P**	**01 06 34.7**	**+0.1**
MSTX	**Muleshoe** 20nm,1.1s	**30.65**	**306**	*eP*		**P**	**01 06 40.4**	**-0.7**
MNTX	**Cornudas Mount** 7.1nm,1.1s	**31.96**	**301**	*eP*		**P**	**01 06 53.6**	**+0.9**
ECSD	**EROS Data Cent** 34nm,1.4s	**32.04**	**327**	*eP*		**P**	**01 06 53.9**	**+0.7**
BNM	**Barren Site**	**33.71**	**304**	*eP*		**P**	**01 07 08.3**	**+0.1**
SDCO	**Great Sand Dun** 22nm,1.5s	**34.21**	**311**	*eP*		**P**	**01 07 13.4**	**+0.9**
ISCO	**Idaho Springs** 14nm,1.3s	**35.20**	**314**	*eP*		**P**	**01 07 19.8**	**-1.2**
ULM	**Lac du Bonnet** 22nm,1.3s	**36.57**	**335**	*eP*		**P**	**01 07 32.8**	**+0.5**
SCHQ	**Schefferville**	**36.61**	**6**	P		**P**	**01 07 34.2**	**+1.6**
SCHQ	**Schefferville** 6.6nm,0.7s,baz=183,slow=11,SNR=4.9	**36.61**	**6**	P		**P**	**01 07 34.2**	**+1.6**
K22A	**Casper**	**37.18**	**318**	*eP*		**P**	**01 07 38.5**	**+0.7**
WUAZ	**Wupatki** 6.6nm,1.0s	**37.84**	**304**	*eP*		**P**	**01 07 43.3**	**-0.3**
LAO	**LASA Array** 18nm,1.4s	**39.16**	**323**	*eP*		**P**	**01 07 54.3**	**0.0**
PDAR	**Pinedale Array**	**39.20**	**316**	P		**P**	**01 07 56.6**	**+1.6**
PDAR	**Pinedale Array** 0.7nm,0.6s,baz=108,slow=8.6,SNR=2.6	**39.20**	**316**	P		**P**	**01 07 56.6**	**+1.6**
CCUT	**Cedar City** 5.3nm,1.1s	**39.96**	**307**	*eP*		**P**	**01 08 02.5**	**+1.1**
H17A	**Grant Village** 8.3nm,1.1s	**40.60**	**318**	*eP*		**P**	**01 08 06.7**	**+0.1**
EGMT	**Eagleton** 18nm,1.3s	**41.90**	**323**	*eP*		**P**	**01 08 16.2**	**-0.8**
MCMT	**McKenzie Canyo**	**42.24**	**317**	*eP*		**P**	**01 08 19.9**	**-0.1**
TPH	**Tonopah** 11nm,1.2s	**43.05**	**306**	*eP*		**P**	**01 08 26.5**	**-0.1**
WVOR	**Wild Horse Val** 12nm,1.2s	**45.29**	**312**	*eP*		**P**	**01 08 44.9**	**+0.4**
YKA	**Yellowknife Ar**	**52.50**	**337**	P		**P**	**01 09 38.3**	**-1.0**
YKA	**Yellowknife Ar** 2.9nm,0.8s,baz=128,slow=7.8,SNR=3.2	**52.50**	**337**	P		**P**	**01 09 38.3**	**-1.0**
INK	**Inuvik** 6.9nm,1.1s	**62.20**	**339**	*eP*		**P**	**01 10 48.8**	**+1.1**
ILAR	**Eielson Array**	**66.56**	**333**	P		**P**	**01 11 16.1**	**-0.2**
ILAR	**Eielson Array** 1.6nm,0.9s,baz=96,slow=5.6,SNR=2.9	**66.56**	**333**	P		**P**	**01 11 16.1**	**-0.2**
COLA	**College** 7.5nm,1.0s	**66.98**	**333**	*eP*		**P**	**01 11 18.6**	**-0.4**
COLD	**Coldfoot** 5.9nm,0.9s	**68.14**	**336**	*eP*		**P**	**01 11 27.4**	**+1.0**
KTH	**Kantishna Hill** 15nm,1.1s	**68.22**	**332**	*eP*		**P**	**01 11 27.4**	**+0.4**
NOA	**NORSAR Array B**	**71.27**	**31**	P		**P**	**01 11 45.1**	**-0.7**
NOA	**NORSAR Array B** 2.1nm,0.9s,baz=274,slow=6.3,SNR=2.1	**71.27**	**31**	P		**P**	**01 11 45.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**71.69**	**82**	P		**P**	**01 11 50.2**	**+1.2**
TORD	**Torodi Ar. Bea** 2.1nm,0.8s,baz=294,slow=5.0,SNR=2.1	**71.69**	**82**	P		**P**	**01 11 50.2**	**+1.2**
TAM	**Tamanrasset** 8.7nm,1.5s	**72.87**	**71**	*eP*		**P**	**01 11 57.0**	**+0.8**
CLL	**Collm**	**73.38**	**41**	*eP*		**P**	**01 12 01.0**	**+2.5**
KHC	**Kasperske Hory** 6.9nm,1.0s	**74.10**	**43**	*eP*		**P**	**01 12 03.0**	**+0.1**
GERES	**GERESS Array B**	**74.23**	**43**	P		**P**	**01 12 04.5**	**+0.8**
GERES	**GERESS Array B** 4.4nm,0.8s,baz=270,slow=4.0,SNR=4.9	**74.23**	**43**	P		**P**	**01 12 04.5**	**+0.8**
TNA	**Tin City** 23nm,1.5s	**75.35**	**335**	*eP*		**P**	**01 12 09.6**	**-0.1**
ARCES	**ARCESS Array B**	**75.81**	**21**	P		**P**	**01 12 13.3**	**+1.0**
ARCES	**ARCESS Array B** 2.5nm,0.8s,baz=301,slow=3.8,SNR=2.6	**75.81**	**21**	P		**P**	**01 12 13.3**	**+1.0**
MORC	**Moravsky Berou** 6.7nm,1.0s	**76.51**	**42**	*eP*		**P**	**01 12 17.3**	**+0.6**
FINES	**FINESS Array B**	**78.25**	**29**	P		**P**	**01 12 26.9**	**+0.7**
FINES	**FINESS Array B** 3.3nm,1.0s,baz=297,slow=4.0,SNR=2.2	**78.25**	**29**	P		**P**	**01 12 26.9**	**+0.7**
PSZ	**Piszkesteto** 26nm,1.5s	**78.46**	**43**	*eP*		**P**	**01 12 27.0**	**-0.7**
KWP	**Kalwaria Pacla** 16nm,1.0s	**79.80**	**41**	*eP*		**P**	**01 12 36.0**	**+1.1**
ANTO	**Ankara** 5.4nm,0.7s	**89.92**	**48**	*eP*		**P**	**01 13 26.4**	**+0.2**
BR131	**Keskin Array S** 6.9nm,1.3s	**90.57**	**48**	*eP*		**P**	**01 13 30.1**	**+0.8**
CSS	**Prodhromos** 3.0nm,1.2s	**92.31**	**52**	*eP*		**P**	**01 13 37.5**	**+0.1**

*IDC **13** 01:05:45.5±0.6, 18°42'N×72°64'W, h0km, mb4.3/21, mb1 4.5/23, mb1mx4.4/29, mbtmp4.4/23, ML3.9/2, Error ellipse: s-maj=17.1km s-min=14.5km az=42.0*

*ISCJB **13** 01:05:47.3±0.2, 18°46'N±0'.03×72°64'W±0'.02, h13km, mb4.4/66, MS5.0/2, Error ellipse: s-maj=5.1km s-min=2.4km az=14.9*

*NEIC **13** 01:05:48.6±0.2, 18°54'N×72°65'W, h10km, mb4.5/39, Error ellipse: s-maj=6.1km s-min=4.3km az=29.0*

ISC 13 01:05:48.7±0.3, **18°49'N**±0'.05×**72°66'W**±0'.04, **h13**km, **n320**, σ1**9**06/335, **mb4.5**/65, **90C-93D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.39**	**69**	*ePn*		**Pn**	**01 06 12.6**	**-1.2**
SDDR				*eSn*		**Sn**	**01 06 31.2**	**-0.8**
GTBY	**Guantanamo Bay**	**2.72**	**302**	*ePn*		**Pn**	**01 06 31.1**	**-0.9**
GTBY				*eSn*		**Sn**	**01 07 04.8**	**-0.1**
GTBY				*eSg*		**Sg**	**01 07 14.2**	**-1.9**
GRTK	**Grand Turk**	**3.33**	**25**	*ePn*		**Pn**	**01 06 40.7**	**+0.3**
GRTK				*eSn*		**Sn**	**01 07 20.3**	**+0.5**
CRPR	**Cabo Rojo, PR** 264nm,0.5s	**5.29**	**94**	*ePn*		**Pn**	**01 07 07.8**	**+0.3**
CRPR				*eSn*		**Sn**	**01 08 08.3**	**-0.1**
LSP	**Las Mesas**	**5.30**	**93**	*ePn*		**Pn**	**01 07 08.9**	**+1.3**
LSP				*eSn*		**Sn**	**01 08 09.9**	**+1.2**
AOPR	**Arecibo Observ**	**5.61**	**91**	*ePn*		**Pn**	**01 07 13.0**	**+1.2**
CELP	**Cerrillos**	**5.79**	**93**	*ePn*		**Pn**	**01 07 14.7**	**+0.3**
CBYP	**Canovanas** 106nm,0.5s	**6.46**	**91**	*ePn*		**Pn**	**01 07 24.1**	**+0.4**
HUMP	**Col San Antoni**	**6.48**	**92**	*ePn*		Pn	01 07 26.7	+3.0
MTP	**Monte Pirata** 413nm,1.3s	**6.76**	**92**	*ePn*		**Pn**	**01 07 28.9**	**+1.2**
MTP				*eSn*		**Sn**	**01 08 47.4**	**+2.8**
SDV	**Santo Domingo**	**9.75**	**168**	*ePn*		**Pn**	**01 08 09.5**	**+0.6**
MLG	**Mont-d'or**	**10.73**	**101**	*eP*		**Pn**	**01 08 22.0**	**-0.2**
PHG	**Guadaloupe-2**	**10.81**	**102**	*eP*		**Pn**	**01 08 25.5**	**+2.2**
SEG	**Port Louis**	**10.85**	**99**	*eP*		**Pn**	**01 08 24.4**	**+0.6**
H05N1	**Guadeloupe/Mar** SNR=14	**11.29**	**99**	Pn		**Pn**	**01 08 29.4**	**-0.4**
BCIP	**Isla Barro Col**	**11.60**	**218**	*ePn*		**Pn**	**01 08 33.5**	**-0.5**
GRGR	**Grenville**	**12.35**	**119**	*ePn*		**Pn**	**01 08 44.4**	**+0.1**
ROSC	**El Rosal**	**13.65**	**187**	*ePn*		Pn	01 09 05.7	+3.2
ROSC	**El Rosal** 4.1nm,0.3s,baz=56,slow=20,SNR=6.8	**13.65**	**187**	Pn		**Pn**	**01 09 01.7**	**-0.7**
TEIG	**Tepich**	**14.84**	**279**	Pn		**Pn**	**01 09 19.3**	**+1.0**
TEIG	**Tepich** 2.7nm,0.3s,baz=20,slow=1.1,SNR=9.3	**14.84**	**279**	Pn		**Pn**	**01 09 19.3**	**+1.0**
KMSC	**Kings Mountain** baz=18	**18.28**	**337**	⇓P		**Pn**	**01 10 02.4**	**+0.2**
OTAV	**Otavalo**	**19.01**	**198**	*ePn*		**Pn**	**01 10 14.9**	**+3.3**
VWCC	**Virginia Weste**	**19.76**	**342**	*eP*		**Pn**	**01 10 20.2**	**+0.3**
CPCT	**Cooper Cave**	**19.89**	**330**	*ePn*		**Pn**	**01 10 24.9**	**+3.3**
WCI	**Wyandotte Cave** 12nm,0.8s	**22.98**	**332**	*eP*		**P**	**01 10 54.7**	**+1.6**
ACSO	**Alum Creek Sta** 18nm,0.8s	**23.42**	**340**	*eP*		**P**	**01 10 59.5**	**+2.0**
HKT	**Hockley** 3.7nm,0.9s	**23.96**	**303**	*eP*		**P**	**01 11 03.9**	**+1.1**
ACCN	**Adirondack Com** 15nm,0.7s	**24.83**	**358**	*eP*		**P**	**01 11 12.3**	**+1.7**
835A	**Beeville** baz=25	**25.03**	**298**	⇓P		**P**	**01 11 13.9**	**+1.2**
SFIN	**Scholer Farm** baz=25	**25.11**	**333**	⇓P		**P**	**01 11 15.2**	**+2.0**
834A	**Tilden** baz=26	**25.59**	**297**	⇓P		**P**	**01 11 19.2**	**+1.5**
335A	**Moody** baz=26	**25.75**	**304**	⇓P		**P**	**01 11 20.2**	**+1.1**
WHTX	**Lake Whitney** 8.7nm,0.8s	**26.07**	**306**	*eP*		**P**	**01 11 23.6**	**+1.6**
WHTX	**Lake Whitney** baz=26	**26.07**	**306**	⇓P		**P**	**01 11 23.0**	**+0.9**
833A	**Chaparral WMA,** baz=26	**26.36**	**297**	⇓P		**P**	**01 11 25.4**	**+0.7**
633A	**Saathoff Ranch** baz=26	**26.51**	**299**	⇓P		**P**	**01 11 27.1**	**+1.0**
SADO	**Sadowa**	**26.75**	**350**	P		**P**	**01 11 26.7**	**-1.3**
SADO	**Sadowa** 3.9nm,0.9s,baz=238,slow=5.6,SNR=4.4	**26.75**	**350**	P		**P**	**01 11 26.7**	**-1.3**
TUL1	**Tulsa** baz=27	**26.80**	**315**	⇑P		**P**	**01 11 29.3**	**+0.7**
832A	**Faith Ranch, C** baz=27	**26.84**	**296**	⇓P		**P**	**01 11 30.0**	**+0.9**
433A	**Art** baz=27	**26.88**	**302**	⇓P		**P**	**01 11 29.8**	**+0.5**
732A	**Laxson Ranch,** baz=27	**26.96**	**297**	⇓P		**P**	**01 11 30.7**	**+0.6**
631A	**Perdido Creek** baz=28	**27.66**	**298**	⇑P		**P**	**01 11 36.6**	**+0.2**
431A	**Sonora** baz=28	**28.08**	**301**	⇓P		**P**	**01 11 41.2**	**+1.0**
331A	**San Angelo** baz=28	**28.14**	**302**	⇓P		**P**	**01 11 41.8**	**+1.1**
WMOK	**Wichita Mounta** 4.3nm,0.9s	**28.29**	**310**	*eP*		**P**	**01 11 42.5**	**+0.5**
Y32A	**R-V Farms, Ver** baz=28	**28.44**	**308**	⇓P		**P**	**01 11 44.3**	**+0.9**
530A	**J-C Ranch, Com** baz=28	**28.51**	**299**	⇓P		**P**	**01 11 45.1**	**+1.0**
JFWS	**Jewell Farm** 27nm,0.6s	**28.54**	**332**	*eP*		**P**	**01 11 44.3**	**+0.3**
430A	**Baggett Ranch,** baz=29	**28.62**	**301**	⇓P		**P**	**01 11 46.1**	**+1.0**
Z31A	**Sharp Cattle R** baz=29	**28.68**	**306**	⇓P		**P**	**01 11 46.3**	**+0.8**
330A	**Mertzon** baz=29	**28.78**	**302**	⇑P		**P**	**01 11 47.2**	**+0.8**
W32A	**Sentinel** baz=29	**28.81**	**310**	⇓P		**P**	**01 11 47.8**	**+1.2**
SAML	**Samuel** 7.5nm,0.8s	**28.83**	**160**	*eP*		**P**	**01 11 47.8**	**+1.0**
230A	**Sterling City** baz=29	**28.89**	**303**	⇓P		**P**	**01 11 48.0**	**+0.6**
429A	**Davenport Ranc** baz=29	**29.11**	**300**	⇓P		**P**	**01 11 50.3**	**+0.9**
X31A	**McDonald Ranch** baz=29	**29.12**	**309**	⇑P		**P**	**01 11 50.0**	**+0.7**
529A	**Stev Forest Ra** baz=29	**29.24**	**299**	⇓P		**P**	**01 11 51.3**	**+0.7**
329A	**Wagon Wheel Ra** baz=29	**29.45**	**302**	⇑P		**P**	**01 11 53.0**	**+0.5**
628A	**Black Gap, Mar** baz=30	**29.62**	**297**	⇓P		**P**	**01 11 54.5**	**+0.6**
528A	**Cox Ranch, San** baz=30	**29.72**	**299**	⇑P		**P**	**01 11 55.4**	**+0.5**
428A	**Kincaid Ranch,** baz=30	**29.79**	**300**	⇑P		**P**	**01 11 56.7**	**+1.2**
Z29A	**Hungry Hill Ra** baz=30	**29.86**	**305**	⇓P		**P**	**01 11 57.3**	**+1.3**
Q33A	**Connelly Farm,** baz=30	**29.91**	**318**	⇓P		**P**	**01 11 57.6**	**+1.4**
Y29A	**Porterfield Fa** baz=30	**30.07**	**306**	⇑P		**P**	**01 11 58.9**	**+1.0**
T31A	**Randall Ranch,** baz=30	**30.08**	**314**	⇓P		**P**	**01 11 58.7**	**+0.9**
S31A	**Mullinville** baz=30	**30.22**	**315**	⇑P		**P**	**01 12 00.2**	**+1.1**
128A	**Castleberry Fa** baz=30	**30.24**	**304**	⇓P		**P**	**01 11 59.8**	**+0.4**
TXAR	**Lajitas Array**	**30.24**	**297**	P		**P**	**01 11 59.5**	**0.0**
TXAR				PcP		**PcP**	**01 14 59.4**	**-0.8**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=106,slow=8.0,SNR=7.6	**30.24**	**297**	P		**P**	**01 11 59.5**	**0.0**
TXAR				PcP		**PcP**	**01 14 59.4**	**-0.8**
Q32A	**Meitler Ranch,** baz=30	**30.36**	**318**	⇑P		**P**	**01 12 01.3**	**+0.9**
527A	**Woodward Ranch** baz=30	**30.40**	**298**	⇑P		**P**	**01 12 01.9**	**+1.0**
427A	**Hayter Ranch,** baz=30	**30.42**	**300**	⇑P		**P**	**01 12 02.0**	**+0.9**
NNA	**Nana** 38nm,1.3s	**30.57**	**188**	*eP*		**P**	**01 12 03.2**	**+0.8**
R31A	**Burdett** baz=31	**30.60**	**316**	⇑P		**P**	**01 12 03.4**	**+0.9**
626A	**Big Bend Ranch** baz=31	**30.69**	**297**	⇓P		**P**	**01 12 04.1**	**+0.7**
526A	**Mary Lane Ranc** baz=31	**30.78**	**298**	⇑P		**P**	**01 12 05.4**	**+1.1**
426A	**McDonald Obser** baz=31	**30.89**	**299**	⇓P		**P**	**01 12 05.8**	**+0.5**
Q31A	**Ellis** baz=31	**30.91**	**317**	⇑P		**P**	**01 12 06.2**	**+1.0**
MSTX	**Muleshoe** baz=31	**30.95**	**306**	⇓P		**P**	**01 12 06.3**	**+0.6**
P31A	**Stockton** baz=31	**31.19**	**318**	⇑P		**P**	**01 12 08.7**	**+1.0**
N32A	**Stulken Farm,** baz=31	**31.25**	**321**	⇑P		**P**	**01 12 09.5**	**+1.4**
S29A	**Ulysses** baz=31	**31.34**	**313**	⇑P		**P**	**01 12 10.3**	**+1.3**
SPMN	**St. Paul** baz=32	**31.49**	**332**	⇓P		**P**	**01 12 11.1**	**+0.9**
O31A	**Woolen Ranch,** baz=32	**31.51**	**319**	⇑P		**P**	**01 12 11.8**	**+1.3**
W27A	**Bowe Ranch, En** baz=32	**31.60**	**308**	⇓P		**P**	**01 12 11.7**	**+0.3**
Z26A	**Caprock** baz=32	**31.64**	**304**	⇑P		**P**	**01 12 12.1**	**+0.3**
425A	**Indio Mountain** baz=32	**31.71**	**299**	⇑P		**P**	**01 12 13.8**	**+1.3**
P30A	**Selden** baz=32	**31.76**	**317**	⇓P		**P**	**01 12 13.2**	**+0.5**
T28A	**Walsh** baz=32	**31.79**	**312**	⇑P		**P**	**01 12 13.9**	**+0.8**
325A	**Bean Ranch, Si** baz=32	**31.86**	**300**	⇑P		**P**	**01 12 14.9**	**+1.1**
Q29A	**Oakley** baz=32	**31.89**	**316**	⇓P		**P**	**01 12 14.7**	**+0.8**
125A	**Gardner Draw,** baz=32	**31.98**	**302**	⇑P		**P**	**01 12 16.0**	**+1.2**
U27A	**Thompson Grove** baz=32	**31.99**	**310**	⇑P		**P**	**01 12 15.6**	**+0.8**
O30A	**MW Ranch, Wils** baz=32	**31.99**	**318**	⇑P		**P**	**01 12 16.0**	**+1.3**
M31A	**Lambtecht Ranc** baz=32	**32.01**	**321**	⇓P		**P**	**01 12 16.2**	**+1.3**
R28A	**Tribune** baz=32	**32.17**	**314**	⇑P		**P**	**01 12 17.3**	**+1.0**
T27A	**Campo** baz=32	**32.20**	**311**	⇑P		**P**	**01 12 17.3**	**+0.7**
Z25A	**Roswell** baz=32	**32.23**	**304**	⇑P		**P**	**01 12 17.6**	**+0.7**
ECSD	**EROS Data Cent** baz=32	**32.24**	**327**	⇑P		**P**	**01 12 17.0**	**+0.2**
MNTX	**Cornudas Mount** 5.6nm,1.1s	**32.28**	**300**	*eP*		**P**	**01 12 17.8**	**+0.4**
324A	**Moseley Ranch,** baz=32,SNR=7.9	**32.30**	**300**	⇓P		**P**	**01 12 18.2**	**+0.6**
O29A	**4D Ranch, Culb** baz=32	**32.43**	**318**	⇑P		**P**	**01 12 19.6**	**+1.0**
224A	**Cornudas Mount** baz=32,SNR=6.3	**32.51**	**301**	⇓P		**P**	**01 12 19.2**	**-0.3**
124A	**Stringfield Ra** baz=33	**32.63**	**302**	⇑P		**P**	**01 12 21.9**	**+1.2**
U26A	**Atchley Ranch,** baz=33	**32.65**	**309**	⇓P		**P**	**01 12 21.5**	**+0.8**
W25A	**X Bar L Ranch,** baz=33	**32.71**	**307**	⇓P		**P**	**01 12 22.4**	**+1.2**
Z24A	**Sheeppen Canyo** baz=33	**32.76**	**303**	⇓P		**P**	**01 12 23.0**	**+1.3**
L30A	**Spencer Herefo** baz=33	**32.82**	**321**	⇓P		**P**	**01 12 23.5**	**+1.5**
Y24A	**Capitan** baz=33	**33.01**	**304**	⇓P		**P**	**01 12 25.1**	**+1.2**
V25A	**Rancho No Teng** baz=33	**33.07**	**308**	⇓P		**P**	**01 12 25.4**	**+1.0**
U25A	**Circle Dot Ran** baz=33	**33.14**	**309**	⇑P		**P**	**01 12 25.6**	**+0.6**
K30A	**Basset** baz=33	**33.20**	**322**	⇓P		**P**	**01 12 26.7**	**+1.4**
N28A	**Pribbeno Ranch** baz=33	**33.21**	**318**	⇓P		**P**	**01 12 26.1**	**+0.7**
Z23A	**Rita Site, Whi** baz=33	**33.43**	**303**	⇓P		**P**	**01 12 28.7**	**+1.2**
W24A	**Lazy 6 Ranch,** baz=33	**33.43**	**306**	⇓P		**P**	**01 12 29.4**	**+1.8**
T25A	**Trinidad** baz=33	**33.45**	**310**	⇓P		**P**	**01 12 29.3**	**+1.6**
Y23A	**Lovelace Mesa,** baz=34	**33.49**	**304**	⇑P		**P**	**01 12 29.4**	**+1.3**
O27A	**Beecher Island** baz=34	**33.55**	**316**	⇓P		**P**	**01 12 29.3**	**+0.9**
Q26A	**Hugo** baz=34	**33.62**	**314**	⇑P		**P**	**01 12 30.6**	**+1.5**
S25A	**Robets Cordova** baz=34	**33.69**	**311**	⇓P		**P**	**01 12 30.8**	**+1.0**
R25A	**Fountain Ranch** baz=34	**33.79**	**312**	⇑P		**P**	**01 12 31.4**	**+0.7**
W23A	**Werner Place,** baz=34	**33.98**	**306**	⇑P		**P**	**01 12 33.7**	**+1.3**
BNM	**Barren Site**	**34.02**	**304**	*eP*		**P**	**01 12 33.8**	**+1.1**
LPM	**Los Pinos Moun** 5.5nm,0.7s	**34.07**	**304**	*eP*		**P**	**01 12 34.4**	**+1.3**
T24B	**San Luis** baz=34	**34.12**	**310**	⇑P		**P**	**01 12 35.3**	**+1.6**
ANMO	**Albuquerque** 1.8nm,0.8s	**34.14**	**305**	*eP*		**P**	**01 12 34.4**	**+0.6**
V23A	**Ortiz Mt. (NFS** baz=34	**34.21**	**307**	⇓P		**P**	**01 12 35.8**	**+1.4**
R24A	**Sanders Place,** baz=34	**34.41**	**312**	⇑P		**P**	**01 12 37.2**	**+1.1**
121A	**Cookes Peak, D** baz=34	**34.47**	**301**	⇓P		**P**	**01 12 37.7**	**+1.1**
SDCO	**Great Sand Dun** 2.9nm,0.9s	**34.49**	**311**	*eP*		**P**	**01 12 37.2**	**+0.4**
LAZ	**Ladron**	**34.50**	**304**	*eP*		**P**	**01 12 37.8**	**+0.9**
Q24A	**Divide** baz=35	**34.77**	**313**	⇑P		**P**	**01 12 40.5**	**+1.3**
V22A	**San Miguel Ran** baz=35	**34.83**	**307**	⇓P		**P**	**01 12 41.1**	**+1.4**
LPAZ	**La Paz** 5.1nm,1.0s	**34.85**	**172**	*eP*		**P**	**01 12 42.3**	**+1.9**
R23A	**Moffat** baz=35	**34.91**	**311**	⇓P		**P**	**01 12 41.6**	**+1.1**
U22A	**Llaves** baz=35	**34.95**	**308**	⇓P		**P**	**01 12 42.4**	**+1.6**
319A	**Douglas** baz=35,SNR=6.3	**35.43**	**298**	⇑P		**P**	**01 12 46.4**	**+1.5**
S22A	**4UR Ranch, Cre** baz=35	**35.45**	**310**	⇓P		**P**	**01 12 46.1**	**+1.0**
I27A	**Quinn** baz=36	**35.46**	**322**	⇑P		**P**	**01 12 45.3**	**+0.5**
ISCO	**Idaho Springs** baz=35	**35.46**	**314**	⇓P		**P**	**01 12 45.1**	**-0.1**
J26A	**Sides Ranch, S** baz=36	**35.62**	**321**	⇓P		**P**	**01 12 47.0**	**+0.7**
D30A	**Buchanan** baz=36	**35.67**	**329**	⇓P		**P**	**01 12 47.2**	**+0.7**
M24A	**Cheyenne** baz=36	**35.73**	**317**	⇓P		**P**	**01 12 47.6**	**+0.2**
C30A	**Mose, Pekin** baz=36	**35.95**	**330**	⇓P		**P**	**01 12 49.8**	**+0.8**
D29A	**Pettibone, Tap** baz=36	**36.05**	**328**	⇑P		**P**	**01 12 50.5**	**+0.6**
L24A	**Wheatland** baz=36	**36.09**	**318**	⇓P		**P**	**01 12 51.3**	**+0.9**
J25A	**Sunshine Ranch** baz=36	**36.11**	**320**	⇑P		**P**	**01 12 51.4**	**+0.9**
B30A	**Myrvik Farm, E** baz=36	**36.42**	**331**	⇓P		**P**	**01 12 53.4**	**+0.5**
F27A	**Lemmon** baz=36	**36.54**	**325**	⇑P		**P**	**01 12 55.0**	**+0.9**
SCHQ	**Schefferville**	**36.55**	**6**	P		**P**	**01 12 52.5**	**-1.4**
SCHQ	**Schefferville** 6.5nm,0.6s,baz=199,slow=3.3,SNR=10.0	**36.55**	**6**	P		**P**	**01 12 52.5**	**-1.4**
J24A	**Dixon Ranch, L** baz=37	**36.60**	**320**	⇓P		**P**	**01 12 55.8**	**+1.1**
L23A	**Garrett** baz=37	**36.62**	**317**	⇑P		**P**	**01 12 55.6**	**+0.5**
E27A	**Carson** baz=37	**36.65**	**326**	⇑P		**P**	**01 12 55.8**	**+0.8**
ULM	**Lac du Bonnet** 15nm,1.3s	**36.71**	**335**	*eP*		**P**	**01 12 54.5**	**-0.9**
ULM	**Lac du Bonnet** 6.4nm,0.9s,baz=146,slow=10,SNR=5.6	**36.71**	**335**	P		**P**	**01 12 53.9**	**-1.5**
A30A	**Hoffart Farm,** baz=37,SNR=7.9	**36.76**	**332**	⇓P		**P**	**01 12 55.8**	**0.0**
B29A	**Wagenman Farm,** baz=37	**36.91**	**330**	⇑P		**P**	**01 12 58.2**	**+1.1**
A29A	**Manning Farm,** baz=37,SNR=5.5	**37.17**	**331**	⇓P		**P**	**01 13 00.2**	**+0.8**
B28A	**Dugan Ranch, T** baz=37	**37.38**	**329**	⇑P		**P**	**01 13 01.8**	**+0.7**
K22A	**Casper** baz=37	**37.42**	**317**	⇑P		**P**	**01 13 02.4**	**+0.6**
A28A	**Rude Farm, Bot** baz=38	**37.65**	**330**	⇓P		**P**	**01 13 04.3**	**+0.9**
J22A	**Midwest** baz=38	**37.77**	**319**	⇓P		**P**	**01 13 05.2**	**+0.5**
C26A	**Wahner Farm, P** baz=38	**37.83**	**327**	⇓P		**P**	**01 13 05.8**	**+0.8**
K21A	**Alcova** baz=38,SNR=6.6	**37.88**	**317**	⇑P		**P**	**01 13 06.4**	**+0.7**
I22A	**9 Mile Ranch,** baz=38	**38.02**	**319**	⇓P		**P**	**01 13 07.4**	**+0.7**
WUAZ	**Wupatki** baz=38	**38.15**	**304**	⇑P		**P**	**01 13 09.2**	**+1.2**
E24A	**Baker** baz=38	**38.22**	**324**

D22A	Cohagen baz=40	39.61	324	⇑P		P	01 13 21.0	+1.1
I19A	Meeteetse baz=40	39.67	318	⇓P		P	01 13 21.2	+0.5
B23A	Brockton baz=40	39.73	326	⇓P		P	01 13 22.5	+1.5
C22A	Vida baz=40	39.79	325	⇑P		P	01 13 22.1	+0.7
H19A	Powell baz=40	39.97	319	⇑P		P	01 13 24.0	+1.0
D21A	La Casta Ranch baz=40	40.02	323	⇑P		P	01 13 24.7	+1.3
E20A	Meyer Farm, Mu baz=40	40.37	322	⇑P		P	01 13 27.1	+0.7
H18A	Shoshone NF, C baz=40,SNR=7.5	40.39	318	⇑P		P	01 13 26.1	-0.6
F19A	Roth Farm, Mol baz=40	40.52	320	⇓P		P	01 13 28.1	+0.4
A22A	Carney Farms, baz=40	40.54	326	⇓P		P	01 13 29.1	+1.5
I17A	Pilgrim Ck. baz=41	40.63	317	⇑P		P	01 13 29.9	+1.2
DUG	Dugway 4.0nm,1.0s	40.69	311	*e*P		P	01 13 29.6	+0.5
DUG	Dugway baz=41	40.69	311	⇑P		P	01 13 30.0	+0.9
D20A	Manuel Ranch, baz=41	40.69	323	⇓P		P	01 13 30.1	+1.1
H17A	Grant Village baz=41	40.84	318	⇑P		P	01 13 31.3	+0.8
IRM	Iron Mountain baz=41	40.84	301	⇓P		P	01 13 32.1	+1.7
A21A	Bergtoll Ranch baz=41	41.08	326	⇑P		P	01 13 33.7	+1.6
D19A	Cripps Ranch, baz=41	41.16	322	⇓P		P	01 13 33.4	+0.6
BELC	Belle Mtn. Jos baz=42	41.51	301	⇑P		P	01 13 36.9	+1.0
A20A	Cobblestone Ra baz=42,SNR=5.4	41.55	325	⇑P		P	01 13 36.7	+0.7
QLMT	Earthquake Lak 0.3nm,0.5s	41.58	318	*e*P		P	01 13 37.9	+1.4
BDFB	Brasilia	41.71	143	P		P	01 13 35.8	-1.8
BDFB	Brasilia 1.4nm,0.4s,baz=324,slow=14,SNR=3.2	41.71	143	P		P	01 13 35.8	-1.8
B19A	Brinkman Farms baz=42	41.88	324	⇑P		P	01 13 39.5	+0.8
A19A	Klindworth Far baz=42	42.03	325	⇓P		P	01 13 41.4	+1.5
EGMT	Eagleton baz=42	42.11	323	⇓P		P	01 13 41.5	+0.8
R11A	Troy Canyon, C baz=42	42.17	307	⇑P		P	01 13 42.8	+1.4
GSC	Goldstone baz=42	42.41	302	⇑P		P	01 13 44.5	+1.3
MCMT	McKenzie Canyo 1.4nm,0.7s	42.49	317	*e*P		P	01 13 45.0	+1.0
FFC	Flin Flon 3.6nm,0.8s	42.54	335	*e*P		P	01 13 43.2	-0.6
BFSC	Mount Baldy Ra baz=43	42.90	301	⇓P		P	01 13 48.6	+1.2
HLID	Hailey 1.9nm,0.7s	43.02	315	*e*P		P	01 13 48.8	+0.7
HLID	Hailey baz=43	43.02	315	⇑P		P	01 13 49.5	+1.3
MPMC	Manual Prospec baz=43	43.10	303	⇓P		P	01 13 49.8	+0.8
FCC	Fort Churchill	43.16	344	*e*P		P	01 13 47.9	-0.9
EDW2	Edwards Air Fo baz=43	43.28	301	⇑P		P	01 13 51.4	+1.1
CHMT	Chamberlain Mo 21nm,2.3s	43.65	320	*e*P		P	01 13 53.7	+0.4
NVAR	Mina Array Bea	44.26	306	P		P	01 13 58.9	+0.6
NVAR	Mina Array Bea 0.6nm,0.4s,baz=192,slow=28,SNR=4.8	44.26	306	P		P	01 13 58.9	+0.6
WVOR	Wild Horse Val 4.4nm,0.9s	45.56	312	*e*P		P	01 14 08.7	+0.3
NEW	Newport 9.3nm,1.0s	46.60	320	*e*P		P	01 14 16.3	-0.2
NEW	Newport baz=47,SNR=7.7	46.60	320	⇑P		P	01 14 16.7	+0.2
EDM	Edmonton	46.80	327	*e*P		P	01 14 17.7	-0.3
SFJD	Kangerlussuaq 11nm,0.9s	50.53	11	*i* P		P	01 14 45.1	-1.3
SFJD	Kangerlussuaq	50.53	11	P		P	01 14 45.8	-0.5
SFJD	Kangerlussuaq 16nm,1.0s,baz=227,slow=4.8,SNR=3.9	50.53	11	P		P	01 14 45.8	-0.5
YKA	Yellowknife Ar	52.63	337	P		P	01 15 01.9	-0.3
YKA	Yellowknife Ar 2.7nm,0.8s,baz=124,slow=7.3,SNR=32	52.63	337	P		P	01 15 01.8	-0.3
RES	Resolute Bay	57.49	353	P		P	01 15 36.9	-0.2
RES	Resolute Bay 3.3nm,0.9s,baz=171,slow=10,SNR=7.9	57.49	353	P		P	01 15 36.9	-0.2
SUMG	Summit 19nm,0.9s	57.51	12	*i* P		P	01 15 39.0	+1.2
SUMG	Summit 22nm,0.9s	57.51	12	*e*P		P	01 15 37.3	-0.5
PLCA	Paso Flores 3.5nm,0.8s	58.95	178	*e*P		P	01 15 47.1	-0.7
PLCA	Paso Flores 2.4nm,0.8s,baz=36,slow=7.8,SNR=4.8	58.95	178	P		P	01 15 46.8	-1.0
SCO	Scoresbysund 1.6nm,0.7s	60.07	17	*i* P		P	01 15 53.9	-1.2
ESDC	Sonseca Array	62.19	54	P		P	01 16 09.8	-0.3
ESDC	Sonseca Array 5.1nm,0.8s,baz=272,slow=6.8,SNR=18	62.19	54	P		P	01 16 09.8	-0.3
INK	Inuvik 11nm,1.4s	62.32	338	*e*P		P	01 16 09.7	-0.6
ASCN	Ascension 39nm,0.9s	63.21	109	*e*P		P	01 16 17.4	+0.2
ILAR	Eielson Array	66.71	333	P		P	01 16 38.7	-0.5
ILAR	Eielson Array 1.7nm,0.8s,baz=102,slow=4.4,SNR=13	66.71	333	P		P	01 16 38.7	-0.5
DBIC	Dimbokro 20nm,1.4s	66.89	91	*e*P		P	01 16 43.5	+2.4
DBIC	Dimbokro 1.4nm,0.5s,baz=239,slow=5.0,SNR=4.6	66.89	91	P		P	01 16 38.7	-2.4
MCK	McKinley 4.8nm,0.9s	67.51	332	*e*P		P	01 16 44.5	+0.3
NAO01	NORSAR Array S 1.4nm,0.5s	70.90	31	*e*P		P	01 17 05.9	+0.5
NB2	NORSAR Subarra comp=Z,1.8nm,0.8s,baz=276,slow=6.5	71.05	31	P		P	01 17 06.7	+0.4
NOA	NORSAR Array B	71.05	31	P		P	01 17 05.8	-0.5
NOA	NORSAR Array B comp=Z,1.6nm,0.8s,baz=275,slow=6.3,SNR=4.2	71.05	31	P		P	01 17 05.8	-0.5
TOA0	Torodi Ar. Sit	71.30	82	*e*P		P	01 17 07.0	-1.6
TORD	Torodi Ar. Bea	71.30	82	P		P	01 17 07.0	-1.5
TORD	Torodi Ar. Bea comp=Z,3.0nm,0.8s,baz=288,slow=3.8,SNR=12	71.30	82	P		P	01 17 07.0	-1.5
MOTA	Moosalm comp=Z,6.4nm,0.8s	72.47	45	⇓*i* P		P	01 17 15.3	+0.1
TAM	Tamanrasset comp=Z,6.3nm,1.4s	72.49	71	*e*P		P	01 17 15.0	-0.8
NKC	Novy Kostel	72.92	42	*e*P		P	01 17 18.2	+0.5
KEST	Kesra	73.10	57	P		P	01 17 19.7	+0.6
KEST	Kesra comp=Z,4.1nm,0.8s,baz=110,slow=1.4,SNR=13	73.10	57	P		P	01 17 19.7	+0.6
CLL	Collm comp=Z,5.0nm,0.9s	73.11	41	*e*P		P	01 17 19.0	+0.2
BRG	Berggiesshubel comp=Z,6.1nm,0.8s	73.77	41	*e*P		P	01 17 22.9	+0.2
KHC	Kasperske Hory	73.82	43	*e*P		P	01 17 23.4	+0.3
KHC				*ep*P		pP	01 17 28.6	+1.3
GERES	GERESS Array B	73.95	43	P		P	01 17 23.5	-0.4
GERES	GERESS Array B comp=Z,6.0nm,0.8s,baz=270,slow=4.0,SNR=27	73.95	43	P		P	01 17 23.5	-0.4
PRU	Pruhonice	74.29	42	*e*P		P	01 17 26.3	+0.6
MOA	Molln comp=Z,9.3nm,0.7s	74.49	44	⇑*i* P		P	01 17 26.9	-0.1
TREC	Trest	75.02	43	*e*P		P	01 17 30.5	+0.5
UPC	Upice	75.12	41	*e*P		P	01 17 30.8	+0.2
DPC	Dobruska-Polom	75.35	41	*e*P		P	01 17 32.0	+0.1
CONA	Conrad Observa comp=Z,9.9nm,1.4s	75.53	44	⇑*i* P		P	01 17 33.1	0.0
ARCES	ARCESS Array B	75.66	21	P		P	01 17 32.4	-0.9
ARCES	ARCESS Array B comp=Z,6.8nm,0.8s,baz=278,slow=3.6,SNR=15	75.66	21	P		P	01 17 32.4	-0.9
KRLC	Kraliky	75.69	42	*e*P		P	01 17 34.4	+0.5
VRAC	Vranov	75.73	42	⇑*i* P		P	01 17 34.5	+0.4
MORC	Moravsky Berou	76.24	42	⇑*i* P		P	01 17 37.5	+0.5
MORC	Moravsky Berou comp=Z,6.0nm,0.7s	76.24	42	*e*P		P	01 17 37.4	+0.4
OKC	Ostrava-Krasne	76.61	42	*e*P		P	01 17 39.7	+0.7
PKSM	Moragy	77.76	45	⇑*i* P		P	01 17 45.7	+0.1
KAF	Kangasniemi comp=Z,0.4nm,0.4s	77.95	28	*ep*		P	01 17 46.5	+0.2

FINES	FINESS Array B	78.04	29	P		P	01 17 46.3	-0.5
FINES	FINESS Array B comp=Z,4.5nm,0.8s,baz=284,slow=4.2,SNR=18	78.04	29	P		P	01 17 46.3	-0.5
TIP	Timpagrande comp=Z,2.1nm,0.7s	78.12	53	*e*P		P	01 17 48.1	+0.3
PSZ	Piszkesteto comp=Z,12nm,1.3s	78.18	43	*e*P		P	01 17 49.2	+1.2
KWP	Kalwaria Pacla	79.52	41	*e*P		P	01 17 56.3	+1.1
KWP	Kalwaria Pacla	79.52	41	⇑*i* P		P	01 17 56.5	+1.2
KWP	Kalwaria Pacla comp=Z,14nm,0.9s	79.52	41	*e*P		P	01 17 56.4	+1.1
TRPA	Tarpa	79.83	43	⇑*i* P		P	01 17 56.8	-0.1
JOF	Joensuu comp=Z,4.5nm,0.5s	79.89	27	*ep*		P	01 17 57.0	0.0
BZS	Buzias	79.92	45	⇑*i* P		P	01 17 58.2	+0.7
DRGR		80.33	44	⇑*i* P		P	01 18 00.2	+0.5
GZR	Gura Zlata	80.77	45	⇓*i* P		P	01 18 02.3	+0.2
BUR08	Bucovina Ar. S	81.69	43	*e*P		P	01 18 08.2	+1.1
VTS	Vitosha	81.90	48	⇓*i* P		P	01 18 08.9	+0.6
VOIR		82.28	45	⇓*i* P		P	01 18 11.0	+0.8
DOPR	Dopca	82.34	44	⇑*i* P		P	01 18 10.0	-0.4
MMB	Musomiste	82.57	49	⇓*i* P		P	01 18 12.6	+0.9
MLR	Muntele Rosu	82.86	45	⇑*i* P		P	01 18 14.4	+1.1
KIEV	Kiev comp=Z,3.9nm,1.0s	83.15	39	*e*P		P	01 18 14.0	-0.5
VRI	Vrincioaia	83.26	44	⇑*i* P		P	01 18 16.4	+1.3
BR131	Keskin Array S comp=Z,1.0nm,0.8s	90.27	48	*e*P		P	01 18 49.3	-0.4
BRTR	Keskin Array B	90.27	48	P		P	01 18 49.0	-0.7
BRTR	Keskin Array B comp=Z,2.1nm,0.9s,baz=270,slow=3.7,SNR=10	90.27	48	P		P	01 18 49.0	-0.7
CSS	Prodhromos comp=Z,5.1nm,1.3s	92.00	52	*e*P		P	01 18 58.7	+1.1
ARU	Arti comp=Z,2.2nm,0.7s	94.89	25	*e*P		P	01 19 10.9	+0.5
GNI	Garni comp=Z,3.6nm,0.7s	97.60	43	*e*P		Pdif	01 19 24.5	+1.1
EKS2	Erkin-Say	111.74	26	*e*PKP		PKiKP	01 24 25.2	+1.5
SYO	Syowa Base	115.06	158	‖*e*P		Pdif	01 20 41.4	+1.4
WMQ	Urumqi	115.43	16	PKP		PKPdf	01 24 31.2	+0.6
HHC	Hu-ho-hao-te	120.83	356	*e*PKP		PKPdf	01 24 42.0	+0.8
HHC				PP		PP	01 26 14.7	+6.6
HHC				SKS		SKSdf	01 31 55.8	+2.6
HHC				SKKS		SKKSac	01 33 07.6	-1.6
HHC				SS		SS	01 42 47.3	+9.2
HHC	comp=Z,640nm,22.6s			LR		LR		
LZH	Lanzhou	125.62	3	*e*PKP		PKPdf	01 24 51.3	+0.8
LZH				sPKP			01 24 55.8	
LZH	comp=Z,120nm,18.0s			LR		LR		
LZH	comp=Z,120nm,18.1s			LR		LR		
LZH	comp=Z,140nm,20.3s			LR		LR		
STKA	Stephens Creek	146.41	240	PKPbc		PKPdf	01 25 27.6	-1.0
STKA	Stephens Creek comp=Z,2.2nm,0.6s,baz=91,slow=7.9,SNR=6.0	146.41	240	PKPbc		PKPdf	01 25 27.6	-1.0
WRA	Warramunga Arr	154.47	262	PKP		PKPdf	01 25 39.8	-1.7
WRA				PKPbc		PKPbc	01 25 46.5	-3.4
WRA	Warramunga Arr comp=Z,1.8nm,1.0s,baz=76,slow=1.5,SNR=6.1	154.47	262	PKP		PKPdf	01 25 39.8	-1.7
WRA	comp=Z,1.2nm,0.7s,baz=89,slow=2.7,SNR=9.0			PKPbc		PKPbc	01 25 46.5	-3.4
ASAR	Alice Springs	154.71	254	PKP		PKPdf	01 25 40.2	-1.5
ASAR				PKPbc		PKPbc	01 25 48.8	-1.6
ASAR	Alice Springs comp=Z,0.5nm,0.8s,baz=130,slow=4.1,SNR=3.6	154.71	254	PKP		PKPdf	01 25 40.2	-1.5
ASAR	comp=Z,0.8nm,0.6s,baz=97,slow=2.5,SNR=8.2			PKPbc		PKPbc	01 25 48.8	-1.6

ISCJB ***13*** *01:08:40.5±0.5, 18.0°00N±0.0°06×72.2°99W±0.0°06, h10km, mb4.0/4, Error ellipse: s-maj=9.3km s-min=7.7km az=41.7*
IDC ***13*** *01:08:41.7±1.8, 18.0°05N×72.2°96W, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.6/24, mbtmp3.8/2, Error ellipse: s-maj=61.3km s-min=54.0km az=139.0*
NEIC ***13*** *01:08:42.5±0.6, 18.0°01N×73.0°01W, h10km, mb4.2/5, Error ellipse: s-maj=9.6km s-min=7.7km az=81.0*
ISC 13 01:08:42.5±0.6, 18°03N±0.08°×72°97W±0.07, h10km, n17, σ1°11/20, mb4.0/4, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.86	59	*e*Pn			Pn	01 09 14.0	-0.4
SDDR				*e*Sn			Sn	01 09 35.7	-2.3
GTBY	Guantanamo Bay	2.77	313	*e*Pn			Pn	01 09 25.8	-1.1
MTP	Monte Pirata	7.06	88	*e*Pn			Pn	01 10 25.8	-0.1
BCIP	Isla Barro Col	11.05	218	*e*Pn			Pn	01 11 19.5	-1.2
ROSC	El Rosal	13.16	186	*e*Pn			Pn	01 11 49.3	-0.7
OTAV	Otavalo 9.0nm,1.0s	18.48	198	*e*P			P	01 12 58.2	-1.1
KMSC	Kings Mountain 8.0nm,0.4s	18.59	338	*e*P			Pn	01 13 00.7	+0.5
BLA	Blacksburg 13nm,0.9s	20.20	343	*e*P			P	01 13 17.9	+0.4
PTGA	Pitinga	22.61	144	*e*P			P	01 13 43.8	+0.1
SAML	Samuel 11nm,1.3s	28.50	159	*e*P			P	01 14 40.2	+2.0
121A	Cookes Peak, D 2.7nm,0.8s	34.46	302	*e*P			P	01 15 30.7	-0.1
YKA	Yellowknife Ar	52.94	337	P			P	01 17 59.4	+0.7
YKA	Yellowknife Ar 1.1nm,0.8s,baz=121,slow=7.3,SNR=4.4	52.94	337	P			P	01 17 59.4	+0.7
GERES	GERESS Array B	74.49	43	P			P	01 20 22.2	+0.9
GERES	GERESS Array B 0.6nm,0.7s,baz=290,slow=5.8,SNR=3.8	74.49	43	P			P	01 20 22.2	+0.9
WRA	Warramunga Arr	154.12	261	PKP			PKPdf	01 28 34.5	-0.8
WRA				PKPbc			PKiKP	01 28 44.6	+1.2
WRA	Warramunga Arr 0.4nm,0.8s,baz=82,slow=3.7,SNR=2.8	154.12	261	PKP			PKPdf	01 28 34.5	-0.8
WRA	0.6nm,0.7s,baz=70,slow=1.7,SNR=5.0			PKPbc			PKiKP	01 28 44.8	+1.2

ISCJB ***13*** *01:12:28.1±1.2, 18.5°N±0.1°×72.6°W±0.3, h13km, mb3.3/4, Error ellipse: s-maj=35.4km s-min=18.7km az=172.9*
IDC ***13*** *01:12:28.2±1.5, 18.5°57N×72.5°58W, h0km, mb3.4/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=38.3km s-min=34.0km az=29.0*
ISC 13 01:12:30.0±1.2, 18°5N±0.1°×72°6W±0°2, h13km, n6, σ1°29/6, mb3.3/4, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROSC	El Rosal 0.9nm,0.3s,baz=104,slow=19,SNR=2.7	13.68	187	Pn			Pn	01 15 43.8	-0.3
TXAR	Lajitas Array 0.4nm,0.9s,baz=100,slow=9.8,SNR=3.0	30.31	297	P			P	01 18 42.8	+1.4
PDAR	Pinedale Array 0.3nm,0.5s,baz=116,slow=10,SNR=2.8	39.49	316	P			P	01 19 59.9	-0.7
YKA	Yellowknife Ar 0.5nm,0.9s,baz=126,slow=7.6,SNR=6.2	52.64	337	P			P	01 21 42.2	-1.3
GERES	GERESS Array B 0.1nm,0.3s,baz=278,slow=6.7,SNR=2.1	73.88	43	P			P	01 24 05.5	+0.8
WRA	Warramunga Arr 0.8nm,0.9s,baz=78,slow=2.0,SNR=4.0	154.56	262	PKPbc			PKPbc	01 32 31.7	+0.3

ISCJB ***13*** *01:14:51.6±0.3, 18.4°44N±0.0°04×72.2°95W±0.0°03, h6km, mb4.1/21, Error ellipse: s-maj=6.0km s-min=4.6km az=16.8*
IDC ***13*** *01:14:52.1±0.6, 18.4°41N×72.2°99W, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.1/27, mbtmp4.0/17, ML3.2/2, Error ellipse: s-maj=21.3km s-min=16.3km az=53.0*
NEIC ***13*** *01:14:53.8±0.3, 18.4°5N×72.2°94W, h10km, mb4.4/7, Error ellipse: s-maj=6.8km s-min=5.4km az=21.0*
ISC 13 01:14:53.1±0.4, 18.4°5N±0.0°06×72.2°96W±0.0°05, h6km, n63, σ1°19/69, mb4.1/21, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.67	71	*e*Pn			Pn	01 15 22.7	-0.3
SDDR				*e*Sn			Sn	01 15 44.2	-0.5
GTBY	Guantanamo Bay	2.51	306	*e*Pn			Pn	01 15 34.4	-0.1
GTBY				*e*Sg			Sg	01 16 13.9	0.0
GRTK	Grand Turk	3.50	29	*e*Pn			Pn	01 15 48.1	+0.1
GRTK				*e*Sn			Sn	01 16 29.8	+0.1
AGPR	Aguadilla, PR	5.55	89	*e*Pn			Pn	01 16 16.4	+0.1
AGPR				*e*Sn			Sn	01 17 17.0	-3.4
CRPR	Cabo Rojo, PR	5.57	94	*e*Pn			Pn	01 16 16.7	+0.1
CRPR				*e*Sg			Sb	01 17 42.4	+4.4

LSP	Las Mesas	5.58	92	*e*Pn		Pn	01 16 16.1	-0.7
CELP	Cerrillos	6.07	92	*e*Pn		Pn	01 16 23.6	+0.1
CBYP	Canovanas	6.74	90	*e*Pn		Pn	01 16 35.1	+2.3
MTP	Monte Pirata	7.04	92	*e*Pn		Pn	01 16 37.1	+0.3
SDV	Santo Domingo 10.0nm,0.8s	9.77	166	*e*Pn		Pn	01 17 14.2	-0.3
MLG	Mont-d'or	11.00	101	*e*P		Pn	01 17 27.8	-3.4
ROSC	El Rosal	13.57	186	*e*Pn		Pn	01 18 08.2	+1.5
ROSC	El Rosal 1.8nm,0.3s,baz=82,slow=18,SNR=6.0	13.57	186	Pn		Pn	01 18 06.7	0.0
TEIG	Tepich	14.57	279	*e*Pn		Pn	01 18 21.3	+1.4
BBSR	BB Station	15.73	27	*e*Pn		Pn	01 18 33.5	-1.9
OTAV	Otavalo 9.7nm,0.8s	18.88	197	*e*P		Pn	01 19 16.3	+0.9
TKL	Tuckaleechee C	19.64	333	P		Pn	01 19 23.3	-0.6
TKL	Tuckaleechee C 0.1nm,0.3s,baz=174,slow=15,SNR=2.5	19.64	333	P		Pn	01 19 23.3	-0.6
SAML	Samuel 3.3nm,0.7s	28.88	160	*e*P		P	01 20 51.0	-1.8
TXAR	Lajitas Array	30.01	297	P		P	01 21 04.3	+1.3
TXAR	Lajitas Array 0.6nm,0.9s,baz=117,slow=9.7,SNR=4.2	30.01	297	P		P	01 21 04.3	+1.3
BNM	Barren Site 5.1nm,1.1s	33.81	304	*e*P		P	01 21 37.5	+1.0
LAZ	Ladron	34.29	304	*e*P		P	01 21 41.9	+1.3
LPAZ	La Paz 3.2nm,1.0s	34.84	172	*e*P		P	01 21 45.3	-0.5
LPAZ	La Paz 1.6nm,0.6s,baz=169,slow=2.3,SNR=4.4	34.84	172	P		P	01 21 46.8	+0.9
PDAR	Pinedale Array	39.29	316	P		P	01 22 23.4	+0.3
PDAR	Pinedale Array 0.4nm,0.5s,baz=122,slow=9.5,SNR=5.1	39.29	316	P		P	01 22 23.4	+0.3
BDFB	Brasilia	41.84	142	P		P	01 22 44.1	-0.2
BDFB	Brasilia 8.7nm,0.8s,baz=304,slow=9.0,SNR=9.5	41.84	142	P		P	01 22 44.1	-0.2
EGMT	Eagleton	41.98	323	*e*P		P	01 22 45.4	+0.3
NVAR	Mina Array Bea	44.06	307	P		P	01 23 03.0	+0.8
NVAR	Mina Array Bea 0.6nm,0.7s,baz=106,slow=6.7,SNR=3.4	44.06	307	P		P	01 23 03.0	+0.8
YKA	Yellowknife Ar	52.56	337	P		P	01 24 07.3	+0.2
YKA	Yellowknife Ar 1.3nm,0.8s,baz=125,slow=7.3,SNR=16	52.56	337	P		P	01 24 07.3	+0.2
PLCA	Paso Flores 3.7nm,0.8s	58.92	178	*e*P		P	01 24 52.6	-0.5
ILAR	Eielson Array	66.62	333	P		P	01 25 44.0	-0.2
ILAR	Eielson Array 0.9nm,1.1s,baz=96,slow=5.2,SNR=5.5	66.62	333	P		P	01 25 44.0	-0.2
NOA	NORSAR Array B	71.23	31	P		P	01 26 12.8	-0.2
NOA	NORSAR Array B 0.8nm,0.9s,baz=278,slow=6.2,SNR=2.4	71.23	31	P		P	01 26 12.8	-0.2
TORD	Torodi Ar. Bea	71.59	82	P		P	01 26 16.6	+0.7
TORD	Torodi Ar. Bea 0.9nm,0.8s,baz=280,slow=4.9,SNR=5.2	71.59	82	P		P	01 26 16.6	+0.7
KEST	Kesra	73.36	57	P		P	01 26 27.8	+1.6
KEST	Kesra 1.0nm,0.8s,baz=296,slow=17,SNR=4.1	73.36	57	P		P	01 26 27.8	+1.6
GERES	GERESS Array B	74.18	43	P		P	01 26 31.6	+0.8
GERES	GERESS Array B 1.2nm,0.7s,baz=286,slow=5.0,SNR=6.3	74.18	43	P		P	01 26 31.6	+0.8
ARCES	ARCESS Array B	75.80	21	P		P	01 26 38.8	-0.9
ARCES	ARCESS Array B 4.5nm,1.0s,baz=316,slow=6.8,SNR=3.5	75.80	21	P		P	01 26 38.8	-0.9
UNV	Unalaska Valle 46nm,1.2s	77.38	323	*e*P		P	01 26 47.6	-1.2
FINES	FINESS Array B	78.22	29	P		P	01 26 52.8	-0.6
FINES	FINESS Array B 1.2nm,0.8s,baz=321,slow=4.9,SNR=4.2	78.22	29	P		P	01 26 52.8	-0.6
MLR	Muntele Rosu	83.09	44	P		P	01 27 20.9	+0.8
MLR	Muntele Rosu 1.7nm,1.1s,baz=330,slow=5.2,SNR=5.8	83.09	44	P		P	01 27 20.9	+0.8
KIEV	Kiev	83.37	39	*e*P		P	01 27 20.5	-0.6
ANTO	Ankara 3.3nm,0.8s	89.86	48	*e*P		P	01 27 52.2	-1.1
BRTR	Keskin Array B	90.51	48	P		P	01 27 57.0	+0.5
BRTR	Keskin Array B 1.4nm,1.1s,baz=264,slow=3.4,SNR=4.3	90.51	48	P		P	01 27 57.0	+0.5
CSS	Prodhromos 15nm,1.8s	92.25	52	*e*P		P	01 28 04.8	+0.4
STKA	Stephens Creek	146.14	240	PKPbc		PKPdf	01 34 32.2	-1.6
STKA	Stephens Creek 2.8nm,1.0s,baz=62,slow=14,SNR=3.0	146.14	240	PKPbc		PKPdf	01 34 32.2	-1.6
WRA	Warramunga Arr	154.19	262	PKP		PKPdf	01 34 46.6	-0.2
WRA				PKPbc		PKPbc	01 34 53.1	-1.9
WRA	Warramunga Arr 0.6nm,0.8s,baz=85,slow=2.3,SNR=3.2	154.19	262	PKP		PKPdf	01 34 46.6	-0.2
WRA	0.7nm,0.6s,baz=88,slow=2.6,SNR=7.3			PKPbc		PKPbc	01 34 53.1	-1.9
ASAR	Alice Springs	154.42	254	PKPbc		PKPbc	01 34 53.6	-1.8
ASAR	Alice Springs 0.3nm,0.6s,baz=96,slow=2.6,SNR=3.7	154.42	254	PKPbc		PKPbc	01 34 53.6	-1.8

JSN ***13*** *01:16:43.9±3.5, 20.2°2N×72.2°91W, h246km±619km, MD5.7*
ISCJB ***13*** *01:16:48.4±0.1, 18.4°41N±0.0°02×72.2°82W±0.0°02, h6km, mb4.9/180, MS4.9/7, Error ellipse: s-maj=3.3km s-min=2.0km az=15.5*
IDC ***13*** *01:16:48.5±0.4, 18.4°44N×72.2°78W, h0km, mb4.3/36, mb1 4.5/41, mb1mx4.5/45, mbtmp4.4/41, ML4.1/5, MS5.0/5, Ms1 5.0/5, ms1mx4.3/61, Error ellipse: s-maj=12.8km s-min=10.1km az=67.0*
MOS ***13*** *01:16:49.3±1.1, 18.4°6N×72.2°78W, h10km, mb5

JTS **JuntasAbangare** 14.24 237 *e*Pn **Pn** 01 20 12.6 +0.2
190nm,1.4s
JTS **JuntasAbangare** 14.24 237 Pn **Pn** 01 20 14.6 +2.2
1.0nm,0.3s,baz=322,slow=19,SNR=2.6
JTS LR LR 01 25 56.9
comp=Z,3µm,19.3s,baz=74,slow=38
TGUH **Tegucigalpa,Un** 14.52 255 *e*Pn **Pn** 01 20 17.8 +1.7
TEIG **Tepich** 14.67 279 *e*Pn **Pn** 01 20 18.7 +0.5
TEIG eSn **Sn** 01 22 56.6 -4.5
TEIG **Tepich** 14.67 279 Pn **Pn** 01 20 18.1 0.0
3.2nm,0.3s,baz=123,slow=15,SNR=11
BBSR **BB Station** 15.70 26 *e*Pn **Pn** 01 20 29.1 -2.7
52nm,0.6s
NHSC **New Hope** 16.02 337 *e*Pn **P** 01 20 38.4 -1.1
TIGA **Tifton** 16.19 325 *e*Pn **Pn** 01 20 35.8 -2.2
TIGA **Tifton** 16.19 325 ⇑P **Pn** 01 20 36.8 -1.3
baz=16
APG **El Apazote** 17.21 261 P **Pn** 01 20 51.7 +0.3
APG **El Apazote** 17.21 261 P **Pn** 01 20 51.7 +0.3
0.3nm,0.3s,baz=62,slow=13,SNR=4.4
CNNC **Cliffs of the** 17.33 346 *e*Pn **P** 01 20 53.7 -0.2
41nm,0.5s
JSC **Jenkinsville** 17.48 336 *e*P **Pn** 01 20 52.4 -1.9
JSC **Jenkinsville** 17.48 336 *e*Pn **Pn** 01 20 52.4 -1.9
GOGA **Godfrey** 17.69 330 *e*P **Pn** 01 20 55.6 -1.4
GOGA pmax pmax
comp=Z,40nm,1.2s
GOGA **Godfrey** 17.69 330 *e*Pn **Pn** 01 20 55.6 -1.4
comp=Z,40nm,1.2s
BRAL **Brewton** 17.96 317 *e*Pn **P** 01 21 01.9 +1.0
comp=Z,340nm,1.5s
KMSC **Kings Mountain** 18.27 337 *e*Pn **Pn** 01 21 01.9 -2.2
comp=Z,58nm,1.1s
KMSC **Kings Mountain** 18.27 337 ⇑P **Pn** 01 21 03.1 -1.1
baz=18,SNR=7.0
OTAV **Otavalo** 18.90 198 *e*P **Pn** 01 21 12.9 +0.4
comp=Z,956nm,2.5s
JSRW **J. Sargeant Re** 19.69 348 *e*P **Pn** 01 21 20.7 -0.6
TKL **Tuckaleechee C** 19.70 333 *e*P **Pn** 01 21 21.7 +0.3
TKL **Tuckaleechee C** 19.70 333 P **P** 01 21 19.5 -0.5
comp=Z,0.5nm,0.3s,baz=156,slow=12,SNR=9.8
TKL LR LR 01 28 59.9
comp=Z,5µm,20.4s,baz=150,slow=37
VWCC **Virginia Weste** 19.76 343 *e*P **Pn** 01 21 21.6 -0.5
BLA **Blacksburg** 19.85 342 *e*P **P** 01 21 22.2 +0.5
BLA *e*S S 01 24 53.7 -12
BLA pmax pmax
comp=Z,63nm,0.7s
BLA **Blacksburg** 19.85 342 *e*P **P** 01 21 22.2 +0.5
comp=Z,63nm,0.7s
BLA *e*S S 01 24 53.7 -12
CPCT **Cooper Cave** 19.86 331 *e*P **Pn** 01 21 23.8 +0.5
CBN **Corbin** 20.09 350 *e*P Pn 01 21 25.3 -0.7
comp=Z,77nm,0.6s
SWET **Sewanee** 20.35 328 *e*P **P** 01 21 28.1 +0.9
comp=Z,326nm,2.1s
TZTN **Tazewell** 20.36 335 *e*P Pn 01 21 29.1 -0.1
comp=Z,412nm,1.8s
VBMS **Vicksburg** 21.02 314 *e*Pn P 01 21 39.8 +5.4
comp=Z,332nm,1.6s
SDMD **Soldier's Deli** 21.19 351 *e*P **P** 01 21 36.2 0.0
comp=Z,51nm,0.8s
MVL **Millersville** 21.70 353 *e*P **P** 01 21 44.4 +2.7
comp=Z,415nm,2.3s
OXF **Oxford** 21.77 321 *e*P **P** 01 21 42.5 +0.1
OXF pmax pmax
comp=Z,99nm,1.1s
OXF **Oxford** 21.77 321 *e*P **P** 01 21 42.5 +0.1
comp=Z,99nm,1.1s
BRNJ **Basking Ridge** 22.22 357 *e*P **P** 01 21 49.7 +2.5
CPNY **Central Park** 22.30 358 *e*P **P** 01 21 49.7 +1.6
comp=Z,44nm,0.8s
PAL **Palisades** 22.51 358 *e*P **P** 01 21 51.3 +1.0
PAL pmax pmax
comp=Z,88nm,1.3s
PAL **Palisades** 22.51 358 *e*P **P** 01 21 51.3 +1.0
comp=Z,88nm,1.3s
ODNJ **Ogdensburg** 22.62 357 *e*P **P** 01 21 52.6 +1.1
comp=Z,82nm,1.3s
HALT **Halls** 22.71 323 *e*P **P** 01 21 53.1 +0.6
PTGA **Pitinga** 22.87 145 *e*P **P** 01 21 55.5 +1.1
comp=Z,20nm,1.5s
PTGA **Pitinga** 22.87 145 P **P** 01 21 53.0 -1.4
comp=Z,12nm,0.6s,baz=344,slow=12,SNR=11
WCI **Wyandotte Cave** 22.95 332 *e*P **P** 01 21 55.8 +0.8
WCI pmax pmax
comp=Z,299nm,2.5s
WCI **Wyandotte Cave** 22.95 332 *e*P **P** 01 21 55.8 +0.8
comp=Z,299nm,2.5s
USIN **University of** 23.37 329 *e*P **P** 01 22 01.5 +2.1
comp=Z,68nm,1.2s
ACSO **Alum Creek Sta** 23.41 340 *e*P **P** 01 22 01.4 +1.7
comp=Z,42nm,0.9s
PARMO **Parma** 23.48 324 *e*P P 01 22 06.6 +6.2
NATX **Nacogdoches** 23.73 308 *e*P **P** 01 22 05.0 +2.1
comp=Z,509nm,1.9s
BLO **Bloomington** 23.83 333 *e*P **P** 01 22 06.1 +2.3
BLO pmax pmax
comp=Z,593nm,2.7s
BLO **Bloomington** 23.83 333 *e*P **P** 01 22 06.1 +2.3
comp=Z,593nm,2.7s
BINY **Binghamton** 23.84 354 *e*P **P** 01 22 04.1 +0.2
comp=Z,252nm,1.9s
HKT **Hockley** 23.84 303 *c*P **P** 01 22 05.7 +1.7
HKT pmax pmax
comp=Z,29nm,1.6s
HKT **Hockley** 23.84 303 *e*P **P** 01 22 05.8 +1.7
comp=Z,337nm,2.3s
PBMO **Poplar Bluff** 23.94 323 *e*P **P** 01 22 05.5 +0.6
comp=Z,656nm,3.0s
SIUC **Southern Illin** 23.96 327 *e*P **P** 01 22 05.6 +0.5
comp=Z,32nm,0.8s
ALLY **Alegheny Colle** 23.96 346 *e*P **P** 01 22 06.0 +0.9
comp=Z,178nm,1.4s
HRV **Adam Dziewonsk** 24.02 2 *e*P **P** 01 22 05.8 +0.2
HRV pmax pmax
comp=Z,43nm,0.8s
HRV **Adam Dziewonsk** 24.02 2 *e*P **P** 01 22 05.8 +0.2
comp=Z,43nm,0.8s
MIAR **Mount Ida** 24.45 315 *e*P **P** 01 22 13.7 +4.1
MIAR pmax pmax
comp=Z,105nm,1.7s
MIAR **Mount Ida** 24.45 315 *e*P **P** 01 22 13.7 +4.1
comp=Z,105nm,1.7s
MMNY **Mt. Morris Dam** 24.60 351 *e*P **P** 01 22 13.4 +2.5
comp=Z,78nm,0.9s
ACCN **Adirondack Com** 24.88 359 *e*P **P** 01 22 14.2 +0.8
comp=Z,32nm,0.7s
835A **Beeville** 24.90 298 ⇓P **P** 01 22 14.1 +0.3
baz=25
735A **Kenedy** 25.06 299 ⇓P **P** 01 22 16.0 +0.9
baz=25
SFIN **Scholer Farm** 25.08 334 *e*P **P** 01 22 17.9 +2.6
SFIN **Scholer Farm** 25.08 334 ⇓P **P** 01 22 16.4 +1.2
baz=25
635A **Leesville** 25.21 300 ⇓P **P** 01 22 16.0 -0.5
baz=25,SNR=6.2
934A **Benavides** 25.29 296 ⇓P **P** 01 22 17.9 +0.7
baz=25
034A **Hebbronville** 25.29 295 ⇑P **P** 01 22 18.6 +1.3
baz=25
834A **Tilden** 25.46 297 ⇓P **P** 01 22 20.0 +1.2
baz=26
AAM **Ann Arbor** 25.51 341 *e*P **P** 01 22 21.3 +2.2
AAM pmax pmax
comp=Z,158nm,1.6s
AAM **Ann Arbor** 25.51 341 *e*P **P** 01 22 21.3 +2.2
comp=Z,158nm,1.6s
335A **Moody** 25.64 305 ⇓P **P** 01 22 21.2 +0.7
baz=26,SNR=6.5
634A **China Grove, S** 25.68 300 ⇑P **P** 01 22 22.7 +1.8
baz=26
734A **La Parita Cree** 25.68 299 ⇓P **P** 01 22 21.8 +1.0
baz=26
LBNH **Lisbon** 25.74 2 *e*P **P** 01 22 22.6 +1.4
LBNH pmax pmax
comp=Z,30nm,0.8s
LBNH **Lisbon** 25.74 2 *e*P **P** 01 22 22.6 +1.4
comp=Z,30nm,0.8s
933A **Laredo** 25.93 295 ⇑P **P** 01 22 24.2 +1.0
baz=26
WHTX **Lake Whitney** 25.96 306 *e*P **P** 01 22 24.4 +1.0
comp=Z,22nm,0.7s
WHTX **Lake Whitney** 25.96 306 ⇓P **P** 01 22 24.1 +0.7
baz=26,SNR=12
ATAH **Atahualpa** 25.99 193 P **P** 01 22 25.2 +1.1
ATAH **Atahualpa** 25.99 193 P **P** 01 22 25.2 +1.1
comp=Z,12nm,0.8s,baz=356,slow=18,SNR=6.2
ATAH LR LR 01 34 07.8
comp=Z,3µm,21.1s,baz=7.6,slow=40
534A **Blanco** 26.00 301 ⇓P **P** 01 22 25.0 +1.2
baz=26,SNR=25
434A **Burnet** 26.12 303 ⇓P **P** 01 22 25.9 +1.0
baz=26
135A **Vickery Place,** 26.17 307 ⇓P **P** 01 22 26.6 +1.3
baz=26
833A **Chaparral WMA,** 26.23 297 ⇓P **P** 01 22 26.7 +0.9
baz=26,SNR=14
733A **Divot King Ran** 26.25 298 ⇓P **P** 01 22 26.8 +0.7
baz=26
334A **Lometa** 26.29 304 ⇑P **P** 01 22 27.6 +1.1
baz=26
633A **Saathoff Ranch** 26.38 299 ⇓P **P** 01 22 26.6 -0.7
baz=26
Z35A **Perchaven, San** 26.41 309 ⇓P **P** 01 22 28.2 +0.8
baz=26
533A **Kerrville** 26.47 301 ⇑P **P** 01 22 29.4 +1.3
baz=26,SNR=5.2
234A **Clairette** 26.49 306 ⇑P **P** 01 22 29.3 +1.2
baz=26
134A **White-Moore Ra** 26.68 307 ⇑P **P** 01 22 30.5 +0.6
baz=27
832A **Faith Ranch, C** 26.71 297 ⇓P **P** 01 22 30.5 +0.3
baz=27
TUL1 **Tulsa** 26.72 315 *e*P **P** 01 22 30.8 +0.7
comp=Z,79nm,1.1s
TUL1 **Tulsa** 26.72 315 ⇓P **P** 01 22 30.6 +0.4
baz=27
433A **Art** 26.75 302 ⇓P **P** 01 22 31.8 +1.2
baz=27,SNR=17
SADO **Sadowa** 26.78 350 P **P** 01 22 28.8 -1.8
SADO **Sadowa** 26.78 350 P **P** 01 22 28.8 -1.8
comp=Z,7.0nm,1.0s,baz=168,slow=1.9,SNR=3.3
SADO LR LR 01 32 45.1
comp=Z,3µm,19.3s,baz=171,slow=36
732A **Laxson Ranch,** 26.83 297 ⇓P **P** 01 22 31.4 +0.2
baz=27
333A **Richland Sprin** 26.88 304 ⇑P **P** 01 22 32.0 +0.2
baz=27
632A **Uvalde** 26.90 299 ⇑P **P** 01 22 31.9 -0.1
baz=27
Z34A **Collier Ranch,** 26.92 308 ⇓P **P** 01 22 32.6 +0.6
baz=27
Y34A **Reagan Ranch,** 27.07 310 ⇑P **P** 01 22 34.8 +1.4
baz=27,SNR=7.6
233A **Rising Star** 27.08 305 ⇑P **P** 01 22 34.0 +0.4
baz=27
532A **Rocksprings** 27.20 300 ⇓P **P** 01 22 35.3 +0.6
baz=27
JCT **Junction City** 27.23 301 *e*P **P** 01 22 35.7 +0.8
JCT pmax pmax
comp=Z,35nm,1.2s
JCT **Junction City** 27.23 301 *e*P **P** 01 22 35.7 +0.8
comp=Z,35nm,1.2s
133A **Hamilton Ranch** 27.34 306 ⇓P **P** 01 22 37.5 +1.7
baz=27,SNR=5.7
432A **Menard** 27.36 302 ⇑P **P** 01 22 37.3 +1.2
baz=27
X34A **Smith Ranch, M** 27.44 311 ⇑P **P** 01 22 38.2 +1.5
baz=28
332A **Millersview** 27.50 303 ⇑P **P** 01 22 39.2 +1.8
baz=28
Z33A **Whitaker Ranch** 27.51 308 ⇓P **P** 01 22 38.8 +1.4
baz=28
631A **Perdido Creek** 27.53 299 ⇓P **P** 01 22 38.9 +1.3
baz=28
232A **Coleman** 27.62 304 ⇑P **P** 01 22 39.8 +1.5
baz=28
531A **Rocksprings** 27.74 300 ⇑P **P** 01 22 41.2 +1.7
baz=28
V34A **Guthrie** 27.85 313 ⇓P **P** 01 22 41.9 +1.6
baz=28
ABTX **Abilene, Hawle** 27.90 306 *e*P **P** 01 22 45.3 +4.4
comp=Z,86nm,1.9s
ABTX **Abilene, Hawle** 27.90 306 ⇑P **P** 01 22 42.9 +2.0
baz=28
431A **Sonora** 27.95 301 ⇓P **P** 01 22 43.1 +1.6
baz=28
331A **San Angelo** 28.02 302 ⇑P **P** 01 22 43.4 +1.4
baz=28
Z32A **Haskell** 28.06 307 ⇓P **P** 01 22 43.7 +1.4
baz=28
231A **Bronte** 28.16 304 ⇑P **P** 01 22 43.7 +0.5
baz=28
W33A **Caddo, Fort Co** 28.16 311 ⇑P **P** 01 22 43.5 +0.3
baz=28
U34A **Anderson Ranch** 28.18 315 ⇑P **P** 01 22 43.6 +0.2
baz=28
WMOK **Wichita Mounta** 28.19 310 *e*P **P** 01 22 43.5 +0.1
WMOK **Wichita Mounta** 28.19 310 *e*P **P** 01 22 43.5 +0.1
V33A **Lossen Ranch,** 28.37 313 ⇑P **P** 01 22 45.5 +0.4
baz=28
530A **J-C Ranch, Com** 28.38 300 ⇑P **P** 01 22 46.2 +1.0
baz=28,SNR=9.1
X32A **Elmer** 28.41 309 ⇓P **P** 01 22 45.7 +0.3
baz=28
430A **Baggett Ranch,** 28.50 301 ⇓P **P** 01 22 46.7 +0.4
baz=28
JFWS **Jewell Farm** 28.51 333 *e*P **P** 01 22 45.8 -0.4
JFWS pmax pmax
comp=Z,24nm,0.6s
JFWS **Jewell Farm** 28.51 333 *e*P **P** 01 22 45.8 -0.4
comp=Z,24nm,0.6s
Z31A **Sharp Cattle R** 28.57 307 ⇑P **P** 01 22 47.5 +0.6
baz=29
330A **Mertzon** 28.66 302 ⇓P **P** 01 22 48.5 +0.8
baz=29
W32A **Sentinel** 28.71 311 ⇑P **P** 01 22 48.9 +0.9
baz=29
230A **Sterling City** 28.77 303 ⇑P **P** 01 22 48.6 -0.1
baz=29
SAML **Samuel** 28.83 160 *e*P **P** 01 22 47.5 -1.7
comp=Z,3.5nm,0.8s
Y31A **Rekieta Farm,** 28.93 308 ⇓P **P** 01 22 51.1 +1.0
baz=29
429A **Davenport Ranc** 28.99 300 ⇑P **P** 01 22 51.8 +1.2
baz=29
529A **Stev Forest Ra** 29.11 299 ⇓P **P** 01 22 52.0 +0.3
baz=29
KSU1 **Kansas State U** 29.13 320 *e*P **P** 01 22 51.5 -0.2
comp=Z,31nm,1.0s
KSU1 **Kansas State U** 29.13 320 ⇑P **P** 01 22 52.2 +0.5
baz=29
W31A **Holland Ranch,** 29.24 310 ⇓P **P** 01 22 53.7 +0.8
baz=29
Z30A **Sanderson Ranc** 29.31 306 ⇓P **P** 01 22 54.3 +0.8
baz=29
329A **Wagon Wheel Ra** 29.33 302 ⇓P **P** 01 22 55.3 +1.6
baz=29
229A **Bryant Ranch,** 29.36 303 ⇓P **P** 01 22 55.3 +1.4
baz=29
V31A **Spring Creek L** 29.45 311 ⇓P **P** 01 22 55.9 +1.2
baz=30
628A **Black Gap, Mar** 29.49 298 ⇑P **P** 01 22 55.9 +0.8
baz=30
T32A **Huddler Ranch,** 29.52 315 ⇑P **P** 01 22 56.4 +1.2
baz=30
R33A **Olander Ranch,** 29.52 317 ⇓P **P** 01 22 56.0 +0.8
baz=30
528A **Cox Ranch, San** 29.59 299 ⇑P **P** 01 22 56.3 +0.2
baz=30,SNR=13
X30A **Coker Ranch, T** 29.60 308 ⇑P **P** 01 22 56.4 +0.4
baz=30
428A **Kincaid Ranch,** 29.67 300 ⇑P **P** 01 22 57.1 +0.4
baz=30,SNR=15
Z29A **Hungry Hill Ra** 29.75 305 ⇓P **P** 01 22 57.9 +0.5
baz=30
Q33A **Connelly Farm,** 29.83 319 ⇑P **P** 01 22 58.7 +0.8
baz=30,SNR=5.9
Y29A **Porterfield Fa** 29.96 307 ⇓P **P** 01 22 59.7 +0.4
baz=30
328A **Wristen Ranch,** 29.97 301 ⇑P **P** 01 22 59.8 +0.5
baz=30
T31A **Randall Ranch,** 29.99 314 ⇑P **P** 01 23 00.2 +0.8
baz=30
228A **UT Block 9, Go** 30.03 303 ⇑P **P** 01 23 00.0 +0.1
baz=30
R32A **Long Quarter,** 30.06 317 ⇓P **P** 01 23 00.6 +0.6
baz=30
TXAR **Lajitas Array** 30.11 297 P **P** 01 23 00.3 -0.3
TXAR PcP **PcP** 01 26 02.1 -0.2
TXAR ScP **ScP** 01 29 46.3 +1.0
TXAR **Lajitas Array** 30.11 297 P **P** 01 23 00.3 -0.3
comp=Z,0.8nm,0.7s,baz=111,slow=6.8,SNR=7.3
TXAR PcP **PcP** 01 26 02.1 -0.2
comp=Z,0.6nm,0.7s,baz=132,slow=3.8,SNR=3.3
TXAR ScP **ScP** 01 29 46.3 +1.0
comp=Z,0.5nm,0.8s,baz=103,slow=5.6,SNR=4.3
128A **Castleberry Fa** 30.12 304 ⇑P **P** 01 23 01.0 +0.2
baz=30
S31A **Mullinville** 30.13 315 ⇓P **P** 01 23 00.9 +0.2
baz=30
527A **Woodward Ranch** 30.27 298 ⇑P **P** 01 23 02.3 +0.2
baz=30,SNR=9.0
Q32A **Meitler Ranch,** 30.28 318 ⇓P **P** 01 23 02.5 +0.5
baz=30
Z28A **Tucker Farm, M** 30.29 305 ⇓P **P** 01 23 02.1 -0.1
baz=30
427A **Hayter Ranch,** 30.29 300 ⇑P **P** 01 23 02.5 +0.3
baz=30
AMTX **Amarillo** 30.38 308 *e*P P 01 23 10.2 +7.1
comp=Z,129nm,2.5s
AMTX **Amarillo** 30.38 308 ⇓P **P** 01 23 03.2 +0.2
baz=30
U30A **WK&E Inc. Balk** 30.39 312 ⇑P **P** 01 23 03.3 +0.3
baz=30
W29A **Amraillo** 30.46 309 ⇓P **P** 01 23 04.3 +0.6
baz=30
R31A **Burdett** 30.52 316 ⇓P **P** 01 23 04.3 +0.2
baz=31
626A **Big Bend Ranch** 30.56 297 ⇑P **P** 01 23 05.6 +1.0
baz=31
526A **Mary Lane Ranc** 30.65 298 ⇑P **P** 01 23 06.1 +0.7
baz=31,SNR=6.5
P32A **Huiting Farm,** 30.68 319 ⇓P **P** 01 23 06.2 +0.8
baz=31
426A **McDonald Obser** 30.76 299 ⇓P **P** 01 23 06.4 -0.1
baz=31,SNR=16
S30A **Montezuma** 30.81 314 ⇑P **P** 01 23 06.9 +0.2
baz=31
127A **Arkansas Junct** 30.83 303 ⇑P **P** 01 23 07.0 -0.1
baz=31
O32A **Brockman Farm,** 30.86 320 ⇑P **P** 01 23 08.4 +1.3
baz=31
Z27A **Tatum** 30.94 305 ⇓P **P** 01 23 08.1 +0.1
baz=31
R30A **Dighton** 31.01 315 ⇓P **P** 01 23 08.9 +0.4
baz=31
P31A **Stockton** 31.11 318 ⇑P **P** 01 23 09.1 -0.1
baz=31
Y27A **Causey** 31.11 306 ⇓P **P** 01 23 10.2 +0.7
baz=31
S29A **Ulysses** 31.24 314 ⇓P **P** 01 23 10.5 -0.1
baz=31
226B **Tecolote Peak,** 31.28 302 ⇓P **P** 01 23 10.3 -0.7
baz=31
126A **Clayton Basin,** 31.35 303 ⇑P **P** 01 23 11.2 -0.3
baz=31
Q30A **Quinter** 31.35 316 ⇑P **P** 01 23 12.2 +0.8
baz=31,SNR=6.7
O31A **Woolen Ranch,** 31.44 319 ⇓P **P** 01 23 12.0 -0.2
baz=32
Z26A **Caprock** 31.53 304 ⇑P **P** 01 23 12.6 -0.6
baz=32
425A **Indio Mountain** 31.58 299 ⇑P **P** 01 23 14.1 +0.4
baz=32,SNR=6.1
P30A **Seiden** 31.68 317 ⇑P **P** 01 23 14.4 +0.1
baz=32,SNR=6.8
T28A **Walsh** 31.70 312 ⇑P **P** 01 23 15.2 +0.6
baz=32
325A **Bean Ranch, Si** 31.73 300 ⇑P **P** 01 23 15.4 +0.4
baz=32
S28A **Manter** 31.77 313 ⇑P **P** 01 23 15.8 +0.6
baz=32
Q29A **Oakley** 31.80 316 ⇑P **P** 01 23 15.8 +0.4
baz=32,SNR=8.7
225A **Deer Hill, Car** 31.82 302 ⇑P **P** 01 23 16.0 +0.2
baz=32
X26A **CR and CF Fran** 31.86 306 ⇑P **P** 01 23 16.5 +0.4
baz=32
125A **Gardner Draw,** 31.86 303 ⇑P **P** 01 23 15.7 -0.4
baz=32
U27A **Thompson Grove** 31.89 310 ⇑P **P** 01 23 16.6 +0.3
baz=32
O30A **MW Ranch, Wils** 31.91 318 ⇑P **P** 01 23 16.8 +0.5
baz=32
M31A **Lambtecht Ranc** 31.94 321 ⇑P **P** 01 23 17.0 +0.4
baz=32
R28A **Tribune** 32.08 314 ⇑P **P** 01 23 18.3 +0.4
baz=32,SNR=8.4
T27A **Campo** 32.10 311 ⇓P **P** 01 23 18.0 -0.2
baz=32
Z25A **Roswell** 32.11 304 ⇑P **P** 01 23 18.1 -0.2
baz=32
MNTX **Cornudas Mount** 32.16 301 *e*P **P** 01 23 18.8 +0.2
comp=Z,67nm,1.7s
324A **Moseley Ranch,** 32.17 300 ⇑P **P** 01 23 19.3 +0.4
baz=32,SNR=18
ECSD **EROS Data Cent** 32.19 327 *e*P **P** 01 23 18.2 -0.5
comp=Z,133nm,2.6s
ECSD **EROS Data Cent** 32.19 327 ⇑P **P** 01 23 18.6 -0.1
baz=32
N30A **Hueftle Ranch,** 32.30 319 ⇓P **P** 01 23 19.9 +0.2
baz=32
Y25A **Mesa, Roswell** 32.31 305 ⇓P **P** 01 23 19.4 -0.6
baz=32
V26A **Tequesquite Ra** 32.33 309 ⇓P **P** 01 23 20.0 -0.1
baz=32
224A **Cornudas Mount** 32.38 301 ⇑P **P** 01 23 21.6 +0.9
baz=32,SNR=21
Q28A **Sharon Springs** 32.46 315 ⇑P **P** 01 23 21.7 +0.4
baz=32
124A **Stringfield Ra** 32.51 302 ⇑P **P** 01 23 23.2 +1.2
baz=32,SNR=12
U26A **Atchley Ranch,** 32.55 310 ⇑P **P** 01 23 21.8 -0.3
baz=33
W25A **X Bar L Ranch,** 32.60 307 ⇓P **P** 01 23 22.6 -0.1
baz=33
N29A **Votaw Ranch, W** 32.63 319 ⇓P **P** 01 23 22.8 0.0
baz=33
Z24A **Sheeppen Canyo** 32.64 303 ⇓P **P** 01 23 22.6 -0.5
baz=33
P28A **Saint Francis** 32.67 316 ⇑P **P** 01 23 23.3 +0.2
baz=33
L30A **Spencer Herefo** 32.75 321 ⇓P **P** 01 23 24.1 +0.4
baz=33
T26A **Comanche Natio** 32.77 311 ⇓P **P** 01 23 24.5 +0.3
baz=33
Y24A **Capitan** 32.89 304 ⇓P **P** 01 23 26.4 +1.2
baz=33,SNR=9.1
V25A **Rancho No Teng** 32.96 308 ⇑P **P** 01 23 26.8 +1.0
baz=33,SNR=16
O28A **Krutsinger Ran** 32.98 317 ⇓P **P** 01 23 26.7 +1.0
baz=33
M29A **Burnside Ranch** 33.03 320 ⇑P **P** 01 23 27.3 +1.0
baz=33
U25A **Circle Dot Ran** 33.03 309 ⇑P **P** 01 23 27.0 +0.5
baz=33
N28A **Pribbeno Ranch** 33.13 318 ⇑P **P** 01 23 27.6 +0.5
baz=33
L29A **Maesberg Ranch** 33.27 321 ⇑P **P** 01 23 28.6 +0.3
baz=33
Z23A **Rita Site, Whi** 33.31 303 ⇑P **P** 01 23 29.1 +0.3
baz=33
W24A **Lazy 6 Ranch,** 33.32 307 ⇓P **P** 01 23 29.5 +0.6
baz=33
T25A **Trinidad** 33.35 310 ⇓P **P** 01 23 29.4 +0.3
baz=33
Y23A **Lovelace Mesa,** 33.38 304 ⇑P **P** 01 23 30.0 +0.5
baz=33,SNR=14
J30A **Dallas** 33.48 324 ⇓P **P** 01 23 30.3 +0.3
baz=34
Q26A **Hugo** 33.53 314 ⇑P **P** 01 23 31.2 +0.5
baz=34
OGNE **Ogallala** 33.59 318 ⇑P **P** 01 23 31.9 +0.8
baz=34
S25A **Robets Cordova** 33.59 311 ⇑P **P** 01 23 31.3 +0.1
baz=34
R25A **Fountain Ranch** 33.70 312 ⇓P **P** 01 23 31.7 -0.5
baz=34
P26A **Davis Ranch, A** 33.72 315 ⇓P **P** 01 23 31.9 -0.4
baz=34
N27A **Anderson Farm,** 33.84 318 ⇑P **P** 01 23 33.4 +0.2
baz=34
W23A **Werner Place,** 33.87 306 ⇓P **P** 01 23 33.4 -0.4
baz=34
Z22A **Elephant Butte** 33.89 303 ⇑P **P** 01 23 33.4 -0.5
baz=34
BNM **Barren Site** 33.90 304 *e*P **P** 01 23 34.9 +0.8
comp=Z,46nm,1.5s
LPM **Los Pinos Moun** 33.95 305 *e*P **P** 01 23 35.4 +0.9
J29A **Okreek** 34.00 323 ⇑P **P** 01 23 35.1 +0.5
baz=34

T24B **San Luis** 34.02 310 ⇓P P 01 23 35.0 -0.1
baz=34
ANMO **Albuquerque** 34.03 306 eP P 01 23 40.4 +5.2
comp=Z,40nm,1.8s
ANMO **Albuquerque** 34.03 306 P P 01 23 35.5 +0.4
comp=Z,1.6nm,0.8s,baz=320,slow=20,SNR=4.1
V23A **Ortiz Mt. (NFS** 34.11 307 ⇓P P 01 23 37.6 +1.8
baz=34
M27A **Reverse DX Ran** 34.13 319 ⇓P P 01 23 38.0 +2.2
baz=34
LENM **Lemitar** 34.18 304 eP P 01 23 38.4 +2.0
R24A **Sanders Place,** 34.32 312 ⇑P P 01 23 38.0 +0.4
baz=34
U23A **El Rito** 34.33 308 ⇑P P 01 23 38.7 +0.9
baz=34,SNR=5.6
121A **Cookes Peak, D** 34.35 301 eP P 01 23 38.1 +0.2
comp=Z,30nm,1.3s
121A **Cookes Peak, D** 34.35 301 ⇑P P 01 23 38.1 +0.2
baz=34
I29A **Vivian Onida** 34.37 324 ⇑P P 01 23 38.9 +1.2
baz=34
LAZ **Ladron** 34.38 304 eP P 01 23 39.8 +1.6
comp=Z,22nm,1.5s
SDCO **Great Sand Dun** 34.39 311 eP P 01 23 38.7 +0.3
comp=Z,14nm,1.2s
L27A **T5 Ranch, Ells** 34.40 320 ⇑P P 01 23 38.7 +0.6
baz=34
T23A **Casias Ranch,** 34.49 309 ⇑P P 01 23 39.3 +0.1
baz=34
J28A **Allard Ranch,** 34.53 322 ⇑P P 01 23 39.4 +0.2
baz=35
V22A **San Miguel Ran** 34.72 307 ⇓P P 01 23 41.9 +0.7
baz=35,SNR=8.6
P24A **Kohler Place,** 34.76 314 ⇓P P 01 23 42.2 +0.8
baz=35
R23A **Moffat** 34.81 311 ⇓P P 01 23 42.6 +0.6
baz=35
LPAZ **La Paz** 34.82 172 eP P 01 23 43.5 +1.0
comp=Z,18nm,1.4s
LPAZ **La Paz** 34.82 172 P P 01 23 41.4 -1.0
comp=Z,2.3nm,0.7s,baz=28,slow=4.9,SNR=6.2
LPAZ LR LR 01 39 15.8
comp=Z,2µm,18.2s,baz=18,slow=39
U22A **Llaves** 34.84 308 ⇓P P 01 23 43.1 +0.9
baz=35,SNR=6.4
L26A **Underwood Farm** 34.84 319 ⇑P P 01 23 42.5 +0.5
baz=35
I28A **Midland** 34.85 323 ⇓P P 01 23 42.8 +0.9
baz=35
J27A **Elkhorn Farm,** 34.88 322 ⇑P P 01 23 43.0 +0.8
baz=35
M25A **Palm-Egli Farm** 35.14 317 ⇑P P 01 23 45.1 +0.4
baz=35
AGMN **Agassiz Nation** 35.17 333 eP P 01 23 46.1 +1.6
comp=Z,230nm,2.7s
AGMN **Agassiz Nation** 35.17 333 ⇓P P 01 23 45.0 +0.4
baz=35
H28A **Mission Ridge** 35.18 324 ⇑P P 01 23 45.4 +0.6
baz=35
K26A **Motz Farm, Whi** 35.27 320 ⇑P P 01 23 46.9 +1.2
baz=35
319A **Douglas** 35.30 298 ⇑P P 01 23 46.9 +0.8
baz=35,SNR=9.6
P23A **Jefferson** 35.34 313 ⇑P P 01 23 47.2 +0.6
baz=35
S22A **4UR Ranch, Cre** 35.35 310 ⇑P P 01 23 47.4 +0.7
baz=35
ISCO **Idaho Springs** 35.37 314 eP P 01 23 47.9 +1.1
ISCO pmax pmax
comp=Z,41nm,1.8s
ISCO **Idaho Springs** 35.37 314 eP P 01 23 47.9 +1.1
comp=Z,41nm,1.8s
ISCO **Idaho Springs** 35.37 314 ⇓P P 01 23 47.5 +0.7
baz=35
G28A **Parade** 35.38 325 ⇓P P 01 23 47.0 +0.5
baz=35
I27A **Quinn** 35.40 323 ⇓P P 01 23 47.0 +0.3
baz=35
J26A **Sides Ranch, S** 35.55 321 ⇓P P 01 23 48.8 +0.7
baz=36
D30A **Buchanan** 35.62 329 ⇑P P 01 23 49.4 +0.9
baz=36
M24A **Cheyenne** 35.65 317 ⇓P P 01 23 49.5 +0.4
baz=36
H27A **Howes** 35.75 323 ⇓P P 01 23 50.0 +0.3
baz=36
O23A **Lake Granby, G** 35.77 314 ⇑P P 01 23 50.2 -0.1
baz=36
C30A **Mose, Pekin** 35.91 330 ⇓P P 01 23 51.1 +0.2
baz=36
PHWY **Pilot Hill** 35.98 316 eP P 01 23 57.2 +5.1
comp=Z,50nm,2.0s
L24A **Wheatland** 36.02 318 ⇑P P 01 23 51.8 -0.3
baz=36
SMCO **Snowmass** 36.04 312 eP P 01 23 53.6 +0.9
comp=Z,21nm,1.3s
SIV **San Ignacio** 36.12 161 P P 01 23 51.0 -2.0
SIV **San Ignacio** 36.12 161 P P 01 23 51.0 -2.0
comp=Z,0.8nm,0.5s,baz=332,slow=9.2,SNR=3.6
G27A **Dupree** 36.13 324 ⇓P P 01 23 52.8 -0.1
baz=36
H26A **Fairpoint** 36.14 323 ⇑P P 01 23 52.6 -0.5
baz=36
O22A **Kremmling** 36.18 314 ⇑P P 01 23 52.8 -1.0
baz=36
M23A **Laramie** 36.24 316 ⇓P P 01 23 53.3 -0.8
baz=36
MVCO **Mesa Verde** 36.38 308 eP P 01 23 59.9 +4.5
comp=Z,99nm,2.5s
MVCO **Mesa Verde** 36.38 308 ⇓P P 01 23 54.5 -0.9
baz=36
B30A **Myrvik Farm, E** 36.38 331 ⇓P P 01 23 54.8 -0.2
baz=36
N22A **Wattenberg Ran** 36.41 315 ⇑P P 01 23 54.4 -1.3
baz=36
F27A **Lemmon** 36.48 325 ⇑P P 01 23 55.2 -0.8
baz=36
L23A **Garrett** 36.55 317 ⇓P P 01 23 57.1 +0.3
baz=37,SNR=6.9
RSSD **Black Hills** 36.59 321 eP P 01 24 05.6 +8.5
RSSD pmax pmax
comp=Z,35nm,2.0s
RSSD **Black Hills** 36.59 321 eP P 01 24 05.6 +8.5
comp=Z,35nm,2.0s
E27A **Carson** 36.59 326 ⇓P P 01 23 57.5 +0.6
baz=37
SCHQ **Schefferville** 36.62 6 P P 01 23 55.7 -1.2
SCHQ **Schefferville** 36.62 6 P P 01 23 55.7 -1.2
comp=Z,6.0nm,0.8s,baz=203,slow=7.8,SNR=7.2
ULM **Lac du Bonnet** 36.69 335 eP P 01 23 57.1 -0.4
comp=Z,18nm,1.1s
ULM **Lac du Bonnet** 36.69 335 P P 01 23 55.8 -1.7
comp=Z,6.8nm,1.0s,baz=153,slow=9.8,SNR=5.9
A30A **Hoffart Farm,** 36.73 332 ⇑P P 01 23 58.7 +0.8
baz=37
TUC **Tucson** 36.75 300 eP P 01 24 00.6 +2.1
TUC pmax pmax
comp=Z,64nm,2.4s
TUC **Tucson** 36.75 300 eP P 01 24 00.6 +2.1
comp=Z,64nm,2.4s
PV01 **Paradox Valley** 36.77 310 eP P 01 23 59.8 +1.1
comp=Z,6µm,2.1s
M22A **Cedar Creek Ra** 36.78 316 ⇑P P 01 23 58.8 0.0
baz=37
I24A **Kuemmerle Ranc** 36.79 321 ⇑P P 01 23 59.4 +0.6
baz=37
F26A **Lodgepole** 36.83 325 ⇓P P 01 23 59.3 +0.4
baz=37
G25A **Newell** 36.85 323 ⇑P P 01 23 59.4 +0.3
baz=37
PV04 **Paradox Valley** 37.11 310 eP P 01 24 07.5 +5.9
A29A **Manning Farm,** 37.14 331 ⇑P P 01 24 01.7 +0.3
baz=37
H24A **Dirks Ranch, A** 37.25 322 ⇓P P 01 24 02.6 +0.1
baz=37
F25A **Bowman** 37.31 324 ⇑P P 01 24 03.5 +0.5
baz=37
O20A **White River Ci** 37.33 313 eP P 01 24 05.1 +1.7
comp=Z,203nm,2.6s
O20A **White River Ci** 37.33 313 ⇓P P 01 24 03.4 0.0
baz=37
B28A **Dugan Ranch, T** 37.34 330 ⇑P P 01 24 03.6 +0.5
baz=37
K22A **Casper** 37.34 318 eP P 01 24 03.8 +0.4
comp=Z,74nm,1.8s
K22A **Casper** 37.34 318 ⇑P P 01 24 03.7 +0.3
baz=37
J22A **Midwest** 37.70 319 ⇓P P 01 24 06.2 -0.2
baz=38
C26A **Wahner Farm, P** 37.78 327 ⇑P P 01 24 07.3 +0.4
baz=38
X16A **Lo Mia Camp, P** 37.79 303 ⇑P P 01 24 07.6 +0.2
baz=38
K21A **Alcova** 37.80 317 ⇓P P 01 24 08.1 +0.7
baz=38,SNR=11
I22A **9 Mile Ranch,** 37.95 319 ⇓P P 01 24 08.7 +0.2
baz=38,SNR=6.4
D25A **Fairfield** 37.98 326 ⇑P P 01 24 08.9 +0.2
baz=38
G23A **Biddle** 37.99 322 ⇑P P 01 24 08.9 +0.1
baz=38
WUAZ **Wupatki** 38.03 304 eP P 01 24 12.1 +2.7
comp=Z,22nm,1.2s
WUAZ **Wupatki** 38.03 304 ⇑P P 01 24 09.3 -0.1
baz=38
J21A **Lysite** 38.27 318 ⇑P P 01 24 11.4 +0.1
baz=38,SNR=9.1
F23A **Volborg** 38.29 323 ⇓P P 01 24 11.6 +0.2
baz=38
I21A **Big Trails, Te** 38.41 319 ⇓P P 01 24 12.1 -0.4
baz=38,SNR=8.4
D24A **Glendive** 38.51 325 ⇑P P 01 24 13.6 +0.6
baz=39
J20A **Shoshoni** 38.68 318 ⇓P P 01 24 15.0 +0.3
baz=39
F22A **Rosebud** 38.82 322 ⇓P P 01 24 15.5 -0.3
baz=39,SNR=8.9
Y14A **Wickenburg** 38.93 301 ⇓P P 01 24 15.8 -1.0
baz=39
I20A **Worland** 39.00 318 ⇓P P 01 24 16.8 -0.6
baz=39
E22A **Miles City** 39.01 323 ⇑P P 01 24 17.3 0.0
baz=39
D23A **Lindsay** 39.02 325 ⇓P P 01 24 17.7 +0.3
baz=39
G21A **Lodge Grass** 39.08 321 ⇓P P 01 24 17.6 -0.4
baz=39
TMUT **Trail Mountain** 39.11 310 eP P 01 24 19.5 +0.9
comp=Z,241nm,2.7s
H20A **Greybull** 39.19 319 ⇓P P 01 24 18.4 -0.5
baz=39
J19A **Crowheart** 39.27 317 ⇑P P 01 24 19.3 -0.3
baz=39,SNR=8.2
BW06 **Boulder Array** 39.37 316 eP P 01 24 20.2 -0.4
comp=Z,23nm,1.6s
PDAR **Pinedale Array** 39.37 316 P P 01 24 20.2 -0.3
PDAR PcP PcP 01 26 29.0 0.0
PDAR **Pinedale Array** 39.37 316 P P 01 24 20.2 -0.3
comp=Z,1.4nm,0.6s,baz=122,slow=10,SNR=10
PDAR PcP PcP 01 26 29.0 0.0
comp=Z,2.2nm,0.9s,baz=116,slow=6.8,SNR=4.0
C23A **Lambert** 39.38 325 ⇓P P 01 24 20.7 +0.3
baz=39
A24A **Westby** 39.46 328 ⇑P P 01 24 21.4 +0.4
baz=40
D22A **Cohagen** 39.55 324 ⇑P P 01 24 21.9 +0.1
baz=40
MVU **Marysvale** 39.58 309 eP P 01 24 28.9 +6.4
comp=Z,18nm,1.5s
I19A **Meeteetse** 39.59 318 ⇑P P 01 24 22.6 +0.2
baz=40,SNR=10
MPU **Maple Canyon** 39.68 311 eP P 01 24 24.4 +1.2
comp=Z,14nm,1.2s
B23A **Brockton** 39.68 326 ⇓P P 01 24 24.0 +1.1
baz=40
G20A **Bridger** 39.69 320 ⇑P P 01 24 23.0 -0.1
baz=40
C22A **Vida** 39.73 325 ⇑P P 01 24 24.3 +1.0
baz=40
H19A **Powell** 39.89 319 ⇑P P 01 24 25.1 +0.3
baz=40
W13A **Hualapai Mount** 39.91 303 ⇓P P 01 24 25.3 +0.2
baz=40
F20A **Billings** 39.95 321 ⇓P P 01 24 25.6 +0.4
baz=40
D21A **La Casta Ranch** 39.96 323 ⇓P P 01 24 25.3 +0.1
baz=40
NLU **North Lily Min** 39.97 311 eP P 01 24 31.6 +5.9
comp=Z,120nm,2.5s
CTU **Camp Tracy** 40.01 312 eP P 01 24 31.7 +5.8
comp=Z,18nm,1.3s
CCUT **Cedar City** 40.15 307 eP P 01 24 33.3 +6.1
comp=Z,86nm,2.7s
ARUT **Antelope Range** 40.28 307 eP P 01 24 28.7 +0.5
ARUT pmax pmax
comp=Z,147nm,0.8s
ARUT **Antelope Range** 40.28 307 eP P 01 24 28.6 +0.5
comp=Z,147nm,0.8s
E20A **Meyer Farm, Mu** 40.31 322 ⇑P P 01 24 28.2 0.0
baz=40
H18A **Shoshone NF, C** 40.32 319 ⇓P P 01 24 27.9 -0.6
baz=40,SNR=16
LOHW **Long Hollow** 40.43 317 eP P 01 24 29.8 +0.4
comp=Z,102nm,1.9s
F19A **Roth Farm, Mol** 40.45 321 ⇓P P 01 24 29.1 -0.3
baz=40
REDW **Red Top Meadow** 40.48 316 eP P 01 24 30.2 +0.4
comp=Z,83nm,1.6s
A22A **Carney Farms,** 40.49 326 ⇑P P 01 24 30.0 +0.4
baz=40
I17A **Pilgrim Ck.** 40.55 317 ⇑P P 01 24 30.3 0.0
baz=41,SNR=8.5
MOOW **Moose Ponds** 40.58 317 eP P 01 24 30.9 +0.2
comp=Z,17nm,0.8s
DUG **Dugway** 40.59 311 eP P 01 24 31.8 +1.1
DUG pmax pmax
comp=Z,124nm,2.6s
DUG **Dugway** 40.59 311 eP P 01 24 31.8 +1.1
comp=Z,124nm,2.6s
DUG **Dugway** 40.59 311 ⇓P P 01 24 30.8 +0.2
baz=41
TPAW **Teton Pass** 40.60 316 eP P 01 24 31.3 +0.4
comp=Z,120nm,2.3s
D20A **Manuel Ranch,** 40.63 323 ⇓P P 01 24 31.2 +0.4
baz=41
E19A **Rath Farm, Rou** 40.67 322 ⇑P P 01 24 30.9 -0.2
baz=41,SNR=6.4
FLWY **Flagg Ranch** 40.70 317 eP P 01 24 37.1 +5.4
comp=Z,72nm,1.8s
FXWY **Fox Creek** 40.72 317 eP P 01 24 32.0 +0.2
comp=Z,18nm,1.0s
IRM **Iron Mountain** 40.72 301 ⇑P P 01 24 31.8 0.0
baz=41
H17A **Grant Village** 40.76 318 eP P 01 24 36.5 +4.3
comp=Z,93nm,2.4s
H17A **Grant Village** 40.76 318 ⇑P P 01 24 32.8 +0.6
baz=41
IMW **Indian Meadow** 40.77 317 eP P 01 24 33.4 +1.1
comp=Z,21nm,1.4s
GCMT **Greycliff** 40.86 320 eP P 01 24 32.1 -0.7
comp=Z,34nm,1.9s
BC3 **Big Chuckawall** 40.87 300 ⇓P P 01 24 33.4 +0.3
baz=41
LDFC **Landfair** 40.88 303 eP P 01 24 36.0 +2.9
comp=Z,28nm,1.2s
C20A **Veseth Ranch,** 40.89 324 ⇑P P 01 24 34.1 +1.2
baz=41
LVC **Limon Verde** 40.98 174 eP P 01 24 32.4 -1.7
comp=Z,7.7nm,0.9s
BGU **Big Grassy Mou** 41.00 312 eP P 01 24 35.4 +1.3
comp=Z,9.7nm,1.3s
A21A **Bergtoll Ranch** 41.02 326 ⇑P P 01 24 34.8 +0.8
baz=41
D19A **Cripps Ranch,** 41.09 322 ⇑P P 01 24 35.4 +0.8
baz=41
HVU **Hansel Valley** 41.14 313 eP P 01 24 36.5 +1.3
HVU pmax pmax
comp=Z,86nm,2.2s
HVU **Hansel Valley** 41.14 313 eP P 01 24 36.5 +1.3
comp=Z,86nm,2.2s
SHPR **Sheep Range** 41.25 305 eP P 01 24 38.6 +2.4
B20A **Solberg Farm,** 41.30 324 ⇓P P 01 24 38.1 +1.8
baz=41
A20A **Cobblestone Ra** 41.50 325 ⇑P P 01 24 38.8 +0.8
baz=42
QLMT **Earthquake Lak** 41.50 318 eP P 01 24 39.4 +1.2
MONP **Monument Peak** 41.53 299 ⇑P P 01 24 38.8 +0.2
baz=42
PFO **Pinyon Flat Ob** 41.68 300 ⇓P P 01 24 38.5 -1.3
baz=42
BDFB **Brasilia** 41.77 143 P P 01 24 39.5 -1.0
BDFB **Brasilia** 41.77 143 P P 01 24 39.5 -1.0
comp=Z,13nm,0.6s,baz=314,slow=10,SNR=14
B19A **Brinkman Farms** 41.82 324 ⇓P P 01 24 40.4 -0.2
baz=42
A19A **Klindworth Far** 41.97 325 ⇓P P 01 24 41.8 -0.1
baz=42
BOZ **Bozeman (W)** 42.00 319 eP P 01 24 49.5 +7.3
BOZ pmax pmax
comp=Z,13nm,0.6s
BOZ **Bozeman (W)** 42.00 319 eP P 01 24 49.5 +7.3
comp=Z,13nm,0.6s
EGMT **Eagleton** 42.05 323 ⇓P P 01 24 42.4 -0.1
baz=42
R11A **Troy Canyon, C** 42.06 307 eP P 01 24 45.0 +2.2
TPNV **Topopah Spring** 42.21 305 eP P 01 24 48.4 +4.3
TPNV pmax pmax
comp=Z,21nm,1.3s
TPNV **Topopah Spring** 42.21 305 eP P 01 24 48.4 +4.3
comp=Z,21nm,1.3s
TPNV **Topopah Spring** 42.21 305 ⇓P P 01 24 42.9 -1.1
baz=42,SNR=5.8
GSC **Goldstone** 42.29 302 eP P 01 24 47.4 +2.8
GSC pmax pmax
comp=Z,108nm,2.5s
GSC **Goldstone** 42.29 302 eP P 01 24 47.4 +2.8
comp=Z,108nm,2.5s
GSC **Goldstone** 42.29 302 ⇓P P 01 24 44.4 -0.2
baz=42
MCMT **McKenzie Canyo** 42.41 317 eP P 01 24 46.4 +0.7
comp=Z,4.9nm,0.9s
DLMT **Dillon** 42.48 318 eP P 01 24 47.3 +1.1
comp=Z,22nm,1.3s
ELK **Elko** 42.52 311 eP P 01 24 47.5 +0.9
comp=Z,6.7nm,1.1s
FFC **Flin Flon** 42.52 335 eP P 01 24 45.0 -1.1
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC **Flin Flon** 42.52 335 eP P 01 24 45.0 -1.1
comp=Z,9.6nm,1.0s
HLID **Hailey** 42.93 315 eP P 01 24 50.8 +0.9
comp=Z,97nm,2.6s
HLID **Hailey** 42.93 315 ⇑P P 01 24 50.1 +0.3
baz=43
MPMC **Manual Prospec** 42.99 303 ⇑P P 01 24 49.9 -0.5
baz=43
GRAC **Grapevine Rang** 43.09 305 ⇓P P 01 24 51.9 +0.8
baz=43
EDW2 **Edwards Air Fo** 43.16 302 ⇑P P 01 24 52.3 +0.7
baz=43
FCC **Fort Churchill** 43.16 344 eP P 01 24 50.5 -0.7
FCC pmax pmax
comp=Z,3.0nm,2.1s
FCC **Fort Churchill** 43.16 344 eP P 01 24 50.5 -0.7
comp=Z,2.6nm,2.1s
TPH **Tonopah** 43.23 306 eP P 01 24 54.6 +2.2
TPH pmax pmax
comp=Z,53nm,1.7s
TPH **Tonopah** 43.23 306 eP P 01 24 54.6 +2.2
comp=Z,53nm,1.7s
CHMT **Chamberlain Mo** 43.58 320 eP P 01 25 01.0 +5.9
RCBR **Riachuelo** 43.69 120 eP P 01 24 56.6 +0.5
comp=Z,20nm,1.2s
ISA **Isabella** 43.69 303 eP P 01 25 03.3 +7.3
ISA pmax pmax
comp=Z,34nm,1.7s
ISA **Isabella** 43.69 303 eP P 01 25 03.3 +7.3
comp=Z,34nm,1.7s
MFID **Camas Ranch** 43.83 314 eP P 01 25 01.1 +4.0
comp=Z,65nm,2.2s
SLMT **Seeley Lake** 43.87 320 eP P 01 24 57.2 -0.2
comp=Z,32nm,1.8s
NVAR **Mina Array Bea** 44.15 307 P P 01 25 00.6 +0.8
NVAR **Mina Array Bea** 44.15 307 P P 01 25 00.6 +0.8
comp=Z,2.8nm,0.8s,baz=90,slow=6.3,SNR=8.8
WAKR **Walker** 45.03 306 eP P 01 25 08.3 +1.5
comp=Z,59nm,2.0s
WVOR **Wild Horse Val** 45.46 312 eP P 01 25 10.9 +0.8
WVOR pmax pmax
comp=Z,73nm,2.1s
WVOR **Wild Horse Val** 45.46 312 eP P 01 25 10.8 +0.8
comp=Z,73nm,2.1s
J08A **Circle Bar Ran** 45.63 313 eP P 01 25 12.0 +0.6
comp=Z,145nm,2.5s
F10A **Beach Ranch, E** 45.70 317 eP P 01 25 16.0 +4.1
comp=Z,126nm,2.5s
NEW **Newport** 46.52 320 eP P 01 25 18.3 0.0
comp=Z,191nm,3.0s
NEW **Newport** 46.52 320 ⇓P P 01 25 17.0 -1.2
baz=46
EDM **Edmonton** 46.75 328 eP P 01 25 19.0 -1.0
EDM **Edmonton** 46.75 328 eP P 01 25 19.0 -1.0
OHCM **Honcut** 46.77 307 eP P 01 25 26.3 +6.1
CPUP **Villa Florida** 46.98 161 eP P 01 25 21.4 -0.6
comp=Z,0.3nm,0.6s
CPUP **Villa Florida** 46.98 161 P P 01 25 21.2 -0.7
comp=Z,3.8nm,0.9s,baz=58,slow=12,SNR=2.3
LCO **Las Campanas** 47.21 177 eP P 01 25 26.6 +2.5
comp=Z,20nm,1.1s
G06A **Carlson Farm,** 47.69 315 eP P 01 25 33.0 +5.5
comp=Z,96nm,1.8s
B08A **Colville Reser** 47.92 319 eP P 01 25 28.5 -0.7
comp=Z,12nm,0.9s
YBH **Yreka Blue Hor** 48.20 310 P P 01 25 31.3 -0.2
YBH **Yreka Blue Hor** 48.20 310 P P 01 25 31.3 -0.2
comp=Z,2.9nm,0.8s,baz=133,slow=11,SNR=3.8
LTY **Liberty** 48.37 318 eP P 01 25 37.9 +5.2
comp=Z,35nm,1.6s
YKA **Yellowknife Ar** 52.61 337 P P 01 26 03.8 -0.6
YKA **Yellowknife Ar** 52.61 337 P P 01 26 03.8 -0.6
comp=Z,4.9nm,0.8s,baz=125,slow=7.6,SNR=16
DLBC **Dease Lake** 57.45 328 eP P 01 26 40.1 +0.5
RES **Resolute Bay** 57.53 353 P P 01 26 39.2 -0.5
RES **Resolute Bay** 57.53 353 P P 01 26 39.2 -0.5
comp=Z,2.6nm,0.8s,baz=173,slow=12,SNR=7.3
SUMG **Summit** 57.61 12 *i* P P 01 26 40.9 +0.1
SUMG pmax pmax
comp=Z,20nm,1.0s
SUMG **Summit** 57.61 12 *i* P P 01 26 40.9 +0.1
comp=Z,20nm,1.0s
SUMG **Summit** 57.61 12 eP P 01 26 40.7 -0.2
comp=Z,25nm,0.9s
PLCA **Paso Flores** 58.90 178 eP P 01 26 49.3 -0.6
comp=Z,8.4nm,0.9s
PLCA **Paso Flores** 58.90 178 P P 01 26 49.3 -0.6
comp=Z,5.6nm,0.9s,baz=9.6,slow=8.7,SNR=5.7
SCO **Scoresbysund** 60.18 17 *i* P P 01 26 59.0 +0.8
SCO pmax pmax
comp=Z,3.0nm,0.8s
SCO **Scoresbysund** 60.18 17 *i* P P 01 26 59.0 +0.8
comp=Z,2.8nm,0.8s
MDT **Midelt** 62.23 62 P P 01 27 12.3 -0.7
MDT **Midelt** 62.23 62 P P 01 27 12.3 -0.7
comp=Z,3.0nm,0.8s,baz=268,slow=9.9,SNR=1.4
INK **Inuvik** 62.31 339 eP P 01 27 15.3 +2.6
comp=Z,29nm,1.6s
INK **Inuvik** 62.31 339 P P 01 27 12.8 +0.1
comp=Z,2.0nm,0.8s,baz=112,slow=4.8,SNR=5.8
ESDC **Sonseca Array** 62.37 54 P P 01 27 13.7 0.0
ESDC **Sonseca Array** 62.37 54 P P 01 27 13.7 0.0
comp=Z,1.5nm,0.7s,baz=280,slow=7.0,SNR=7.0
QUIF **Quistinic** 62.98 45 eP P 01 27 18.1 +0.6
QUIF **Quistinic** 62.98 45 eP P 01 27 18.1 +0.6
QUIF **Quistinic** 62.98 45 eP P 01 27 18.1 +0.6
ASCN **Ascension** 63.36 109 eP P 01 27 22.3 +1.7
comp=Z,38nm,0.9s
EKA **Eskdalemuir Ar** 63.50 37 P P 01 27 19.3 -1.5
EKA **Eskdalemuir Ar** 63.50 37 P P 01 27 19.3 -1.5
comp=Z,4.4nm,0.8s,baz=278,slow=5.1,SNR=7.9
EGAK **Eagle** 64.26 334 eP P 01 27 26.2 +0.5
SJPF **Ste Jean** 64.33 50 eP P 01 27 26.9 +0.3
comp=Z,66nm,1.0s
SJPF **Ste Jean** 64.33 50 eP P 01 27 26.9 +0.3
SJPF pmax pmax
comp=Z,66nm,1.0s
SJPF **Ste Jean** 64.33 50 eP P 01 27 26.9 +0.3
comp=Z,66nm,1.0s
GRR **Gorron** 64.53 45 eP P 01 27 27.8 0.0
GRR **Gorron** 64.53 45 eP P 01 27 27.8 0.0
GRR **Gorron** 64.53 45 eP P 01 27 27.8 0.0
FLN **La Foliniere** 64.79 44 eP P 01 27 29.5 0.0
comp=Z,96nm,1.3s
FLN **La Foliniere** 64.79 44 eP P 01 27 29.5 0.0
FLN pmax pmax
comp=Z,96nm,1.3s
FLN **La Foliniere** 64.79 44 eP P 01 27 29.5 0.0
comp=Z,96nm,1.3s
ETSF **Etsaut** 64.82 51 eP P 01 27 30.4 +0.5
ETSF **Etsaut** 64.82 51 eP P 01 27 30.4 +0.5
ETSF **Etsaut** 64.82 51 eP P 01 27 30.4 +0.5
MFF **Saint Martin d** 65.02 47 eP P 01 27 31.0 0.0
comp=Z,92nm,1.2s

MFF	**Saint Martin d**	**65.02**	**47**	*e*P	**P**	**01 27 31.0**	**0.0**
MFF				pmax	pmax			
	comp=Z,92nm,1.2s							
MFF	**Saint Martin d**	**65.02**	**47**	*e*P	**P**	**01 27 31.0**	**0.0**
	comp=Z,92nm,1.2s							
LDF	**La Druitiere**	**65.03**	**44**	*e*P	**P**	**01 27 31.0**	**0.0**
LDF	**La Druitiere**	**65.03**	**44**	*e*P	**P**	**01 27 31.0**	**0.0**
LDF	**La Druitiere**	**65.03**	**44**	*e*P	**P**	**01 27 31.0**	**0.0**
EPF	**Esparros**	**65.48**	**50**	*e*P	**P**	**01 27 34.6**	**+0.5**
	comp=Z,126nm,1.6s							
EPF	**Esparros**	**65.48**	**50**	*e*P	**P**	**01 27 34.6**	**+0.5**
EPF				pmax	pmax			
	comp=Z,126nm,1.6s							
EPF	**Esparros**	**65.48**	**50**	*e*P	**P**	**01 27 34.6**	**+0.5**
	comp=Z,126nm,1.6s							
LFF	**La Frestale**	**65.68**	**48**	*e*P	**P**	**01 27 35.4**	**+0.1**
	comp=Z,204nm,1.5s							
LFF	**La Frestale**	**65.68**	**48**	*e*P	**P**	**01 27 35.4**	**+0.1**
LFF				pmax	pmax			
	comp=Z,204nm,1.5s							
LFF	**La Frestale**	**65.68**	**48**	*e*P	**P**	**01 27 35.4**	**+0.1**
	comp=Z,204nm,1.5s							
PAX	**Paxson**	**65.85**	**331**	*e*P	**P**	**01 27 37.5**	**+1.3**
PAX	**Paxson**	**65.85**	**331**	*e*P	**P**	**01 27 37.5**	**+1.3**
RJF	**Les Rejaudoux**	**66.22**	**48**	*e*P	**P**	**01 27 38.5**	**-0.3**
RJF	**Les Rejaudoux**	**66.22**	**48**	*e*P	**P**	**01 27 38.5**	**-0.3**
RJF	**Les Rejaudoux**	**66.22**	**48**	*e*P	**P**	**01 27 38.5**	**-0.3**
CAF	**Calviac**	**66.62**	**48**	*e*P	**P**	**01 27 41.3**	**-0.2**
	comp=Z,146nm,1.6s							
CAF	**Calviac**	**66.62**	**48**	*e*P	**P**	**01 27 41.3**	**-0.2**
CAF				pmax	pmax			
	comp=Z,147nm,1.6s							
CAF	**Calviac**	**66.62**	**48**	*e*P	**P**	**01 27 41.3**	**-0.2**
	comp=Z,146nm,1.6s							
TCF	**Toulx Ste Croi**	**66.66**	**47**	*e*P	**P**	**01 27 41.3**	**-0.3**
	comp=Z,58nm,1.2s							
TCF	**Toulx Ste Croi**	**66.66**	**47**	*e*P	**P**	**01 27 41.3**	**-0.3**
TCF				pmax	pmax			
	comp=Z,58nm,1.2s							
TCF	**Toulx Ste Croi**	**66.66**	**47**	*e*P	**P**	**01 27 41.3**	**-0.3**
	comp=Z,58nm,1.2s							
ILAR	**Eielson Array**	**66.68**	**333**	P	**P**	**01 27 40.9**	**-0.5**
ILAR	**Eielson Array**	**66.68**	**333**	P	**P**	**01 27 40.9**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=103,slow=4.5,SNR=14							
HYF	**Humbligny**	**66.91**	**46**	*e*P	**P**	**01 27 43.1**	**-0.1**
HYF	**Humbligny**	**66.91**	**46**	*e*P	**P**	**01 27 43.1**	**-0.1**
TIC	**Toumodi**	**66.92**	**91**	*e*P	**P**	**01 27 42.8**	**-1.0**
	comp=Z,14nm,1.0s							
LIC	**Lamto**	**67.04**	**91**	*e*P	**P**	**01 27 44.4**	**-0.1**
	comp=Z,18nm,0.9s							
LIC	**Lamto**	**67.04**	**91**	*e*P	**P**	**01 27 44.3**	**-0.2**
	comp=Z,41nm,1.4s							
LIC	**Lamto**	**67.04**	**91**	*e*P	**P**	**01 27 44.4**	**-0.1**
	comp=Z,18nm,0.9s							
DBIC	**Dimbokro**	**67.07**	**90**	*e*P	**P**	**01 27 44.0**	**-0.8**
	comp=Z,30nm,1.6s							
DBIC	**Dimbokro**	**67.07**	**90**	P	**P**	**01 27 43.8**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=184,slow=5.7,SNR=3.5							
BGF	**Bois d'Agland**	**67.09**	**47**	*e*P	**P**	**01 27 43.8**	**-0.5**
	comp=Z,24nm,0.9s							
BGF	**Bois d'Agland**	**67.09**	**47**	*e*P	**P**	**01 27 43.8**	**-0.5**
BGF				pmax	pmax			
	comp=Z,25nm,0.9s							
BGF	**Bois d'Agland**	**67.09**	**47**	*e*P	**P**	**01 27 43.8**	**-0.5**
	comp=Z,24nm,0.9s							
COLA	**College**	**67.10**	**333**	*e*P	**P**	**01 27 44.9**	**+0.9**
COLA				pmax	pmax			
	comp=Z,25nm,0.9s							
COLA	**College**	**67.10**	**333**	*e*P	**P**	**01 27 42.1**	**-1.9**
	comp=Z,8.1nm,1.0s							
KIC	**Kosan Boka**	**67.27**	**91**	*e*P	**P**	**01 27 45.2**	**-0.8**
	comp=Z,44nm,1.4s							
AVF	**Avril sur Loir**	**67.42**	**46**	*e*P	**P**	**01 27 46.1**	**-0.3**
AVF	**Avril sur Loir**	**67.42**	**46**	*e*P	**P**	**01 27 46.1**	**-0.3**
AVF	**Avril sur Loir**	**67.42**	**46**	*e*P	**P**	**01 27 46.1**	**-0.3**
MCK	**McKinley**	**67.48**	**332**	*e*P	**P**	**01 27 46.6**	**+0.1**
MCK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MCK	**McKinley**	**67.48**	**332**	*e*P	**P**	**01 27 46.6**	**+0.1**
	comp=Z,9.4nm,0.9s							
SSF	**Saint Saulge**	**67.51**	**46**	*e*P	**P**	**01 27 46.5**	**-0.5**
	comp=Z,126nm,1.7s							
SSF	**Saint Saulge**	**67.51**	**46**	*e*P	**P**	**01 27 46.5**	**-0.5**
SSF				pmax	pmax			
	comp=Z,126nm,1.7s							
SSF	**Saint Saulge**	**67.51**	**46**	*e*P	**P**	**01 27 46.5**	**-0.5**
	comp=Z,126nm,1.7s							
LOR	**Lormes**	**67.74**	**46**	*e*P	**P**	**01 27 48.0**	**-0.5**
	comp=Z,61nm,1.3s							
LOR	**Lormes**	**67.74**	**46**	*e*P	**P**	**01 27 48.0**	**-0.5**
	comp=Z,61nm,1.3s							
SMF	**Signal de Mont**	**67.77**	**46**	*e*P	**P**	**01 27 48.0**	**-0.6**
	comp=Z,55nm,1.2s							
SMF	**Signal de Mont**	**67.77**	**46**	*e*P	**P**	**01 27 48.0**	**-0.6**
SMF				pmax	pmax			
	comp=Z,55nm,1.2s							
SMF	**Signal de Mont**	**67.77**	**46**	*e*P	**P**	**01 27 48.0**	**-0.6**
	comp=Z,55nm,1.2s							
BAIF	**Baives**	**67.83**	**43**	*e*P	**P**	**01 27 48.5**	**-0.4**
	comp=Z,151nm,1.9s							
BAIF	**Baives**	**67.83**	**43**	*e*P	**P**	**01 27 48.5**	**-0.4**
BAIF				pmax	pmax			
	comp=Z,151nm,1.9s							
BAIF	**Baives**	**67.83**	**43**	*e*P	**P**	**01 27 48.5**	**-0.4**
	comp=Z,151nm,1.9s							
LASF	**Ste Croix**	**67.96**	**49**	*e*P	**P**	**01 27 50.2**	**+0.3**
	comp=Z,91nm,1.4s							
LASF	**Ste Croix**	**67.96**	**49**	*e*P	**P**	**01 27 50.2**	**+0.3**
	comp=Z,91nm,1.4s							
GIVF	**Givet**	**68.22**	**43**	*e*P	**P**	**01 27 51.1**	**-0.3**
GIVF	**Givet**	**68.22**	**43**	*e*P	**P**	**01 27 51.1**	**-0.3**
GIVF	**Givet**	**68.22**	**43**	*e*P	**P**	**01 27 51.1**	**-0.3**
COLD	**Coldfoot**	**68.26**	**336**	*e*P	**P**	**01 27 51.7**	**+0.3**
	comp=Z,19nm,1.2s							
KTH	**Kantishna Hill**	**68.35**	**332**	*e*P	**P**	**01 27 54.5**	**+2.4**
	comp=Z,25nm,1.0s							
MEZF	**Maizieres J'vi**	**68.47**	**44**	*e*P	**P**	**01 27 53.0**	**0.0**
	comp=Z,119nm,1.3s							
MEZF	**Maizieres J'vi**	**68.47**	**44**	*e*P	**P**	**01 27 53.0**	**0.0**
	comp=Z,119nm,1.3s							
SFTF	**Sexfontaines**	**68.47**	**45**	*e*P	**P**	**01 27 52.6**	**-0.5**
SFTF	**Sexfontaines**	**68.47**	**45**	*e*P	**P**	**01 27 52.6**	**-0.5**
VIVF	**Saint-Julien-l**	**68.48**	**48**	*e*P	**P**	**01 27 53.7**	**+0.5**
	comp=Z,86nm,1.4s							
VIVF	**Saint-Julien-l**	**68.48**	**48**	*e*P	**P**	**01 27 53.7**	**+0.5**
VIVF				pmax	pmax			
	comp=Z,86nm,1.4s							
VIVF	**Saint-Julien-l**	**68.48**	**48**	*e*P	**P**	**01 27 53.7**	**+0.5**
	comp=Z,86nm,1.4s							
RSO	**Redoubt South**	**69.18**	**329**	*e*P	P	01 28 01.6	+4.2
SMRF	**Simiane la Rot**	**69.20**	**49**	*e*P	**P**	**01 27 58.4**	**+0.7**
	comp=Z,139nm,1.6s							
SMRF	**Simiane la Rot**	**69.20**	**49**	*e*P	**P**	**01 27 58.4**	**+0.7**
	comp=Z,139nm,1.6s							
CABF	**La Chapelle**	**69.31**	**46**	*e*P	**P**	**01 27 58.0**	**-0.4**
CABF	**La Chapelle**	**69.31**	**46**	*e*P	**P**	**01 27 58.0**	**-0.4**
CABF	**La Chapelle**	**69.31**	**46**	*e*P	**P**	**01 27 58.0**	**-0.4**
ORIF	**Oris-en-Rattie**	**69.33**	**48**	*e*P	**P**	**01 27 59.2**	**+0.7**
	comp=Z,55nm,1.4s							
ORIF	**Oris-en-Rattie**	**69.33**	**48**	*e*P	**P**	**01 27 59.2**	**+0.7**
ORIF				pmax	pmax			
	comp=Z,55nm,1.4s							
ORIF	**Oris-en-Rattie**	**69.33**	**48**	*e*P	**P**	**01 27 59.2**	**+0.7**
	comp=Z,55nm,1.4s							
HAU	**Haudompre**	**69.37**	**45**	*e*P	**P**	**01 27 58.1**	**-0.5**
HAU	**Haudompre**	**69.37**	**45**	*e*P	**P**	**01 27 58.1**	**-0.5**
HAU	**Haudompre**	**69.37**	**45**	*e*P	**P**	**01 27 58.1**	**-0.5**
IM04	**Indian Mountai**	**69.63**	**334**	*e*P	**P**	**01 27 59.5**	**-0.5**
HINF	**Hinteralfeld**	**69.72**	**45**	*e*P	**P**	**01 28 00.1**	**-0.8**
HINF	**Hinteralfeld**	**69.72**	**45**	*e*P	**P**	**01 28 00.1**	**-0.8**
HINF	**Hinteralfeld**	**69.72**	**45**	*e*P	**P**	**01 28 00.1**	**-0.8**
LPL	**La Plagne**	**69.87**	**47**	*e*P	**P**	**01 28 02.3**	**+0.3**
	comp=Z,20nm,0.9s							
LPL	**La Plagne**	**69.87**	**47**	*e*P	**P**	**01 28 02.3**	**+0.3**
LPL				pmax	pmax			
	comp=Z,20nm,0.9s							
LPL	**La Plagne**	**69.87**	**47**	*e*P	**P**	**01 28 02.3**	**+0.3**
	comp=Z,20nm,0.9s							
LPG	**La Plagne**	**69.88**	**47**	*e*P	**P**	**01 28 02.5**	**+0.3**
	comp=Z,27nm,1.1s							
LPG	**La Plagne**	**69.88**	**47**	*e*P	**P**	**01 28 02.5**	**+0.3**
LPG				pmax	pmax			
	comp=Z,27nm,1.1s							
LPG	**La Plagne**	**69.88**	**47**	*e*P	**P**	**01 28 02.5**	**+0.3**
	comp=Z,27nm,1.1s							
CDF	**Champ du Feu**	**69.95**	**44**	*e*P	**P**	**01 28 01.8**	**-0.5**
CDF	**Champ du Feu**	**69.95**	**44**	*e*P	**P**	**01 28 01.8**	**-0.5**
LMR	**La Mourre**	**69.95**	**50**	*e*P	**P**	**01 28 02.1**	**-0.2**
	comp=Z,290nm,1.8s							
LMR	**La Mourre**	**69.95**	**50**	*e*P	**P**	**01 28 02.1**	**-0.2**
LMR				pmax	pmax			
	comp=Z,290nm,1.8s							
LMR	**La Mourre**	**69.95**	**50**	*e*P	**P**	**01 28 02.1**	**-0.2**
	comp=Z,290nm,1.8s							
MBDF	**Montbardon**	**69.98**	**48**	*e*P	**P**	**01 28 02.9**	**+0.3**
MBDF	**Montbardon**	**69.98**	**48**	*e*P	**P**	**01 28 02.9**	**+0.3**
MBDF	**Montbardon**	**69.98**	**48**	*e*P	**P**	**01 28 02.9**	**+0.3**
SBF	**Sospel**	**70.55**	**49**	*e*P	**P**	**01 28 06.1**	**0.0**
	comp=Z,64nm,1.2s							
SBF	**Sospel**	**70.55**	**49**	*e*P	**P**	**01 28 06.1**	**0.0**
SBF				pmax	pmax			
	comp=Z,64nm,1.2s							
SBF	**Sospel**	**70.55**	**49**	*e*P	**P**	**01 28 06.1**	**0.0**
	comp=Z,64nm,1.2s							
NAO01	**NORSAR Array S**	**71.05**	**31**	*e*P	**P**	**01 28 09.2**	**+0.6**
	comp=Z,9.9nm,0.8s							
NB2	**NORSAR Subarra**	**71.19**	**31**	P	P	**01 28 10.1**	**+0.5**
	comp=Z,19nm,1.2s,baz=276,slow=6.5							
NOA	**NORSAR Array B**	**71.19**	**31**	P	**P**	**01 28 09.8**	**+0.2**
NOA	**NORSAR Array B**	**71.19**	**31**	P	**P**	**01 28 09.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=275,slow=6.4,SNR=6.2							
TOA0	**Torodi Ar. Sit**	**71.49**	**82**	*e*P	**P**	**01 28 10.2**	**-1.9**
TORD	**Torodi Ar. Bea**	**71.49**	**82**	P	**P**	**01 28 10.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**71.49**	**82**	P	**P**	**01 28 10.8**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=278,slow=5.8,SNR=10							
PGF	**Pioggiola**	**71.86**	**50**	*e*P	**P**	**01 28 13.4**	**-0.7**
PGF	**Pioggiola**	**71.86**	**50**	*e*P	**P**	**01 28 13.4**	**-0.7**
PGF	**Pioggiola**	**71.86**	**50**	*e*P	**P**	**01 28 13.4**	**-0.7**
DAVOX	**Davos/Dischmat**	**71.89**	**46**	P	**P**	**01 28 14.2**	**0.0**
DAVOX	**Davos/Dischmat**	**71.89**	**46**	P	**P**	**01 28 14.2**	**0.0**
	comp=Z,3.6nm,0.7s,baz=308,slow=15,SNR=4.1							
SPITS	**Spitsbergen Ar**	**71.93**	**13**	P	**P**	**01 28 13.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**71.93**	**13**	P	**P**	**01 28 13.6**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=308,slow=4.7,SNR=5.3							
GRF	**Grafenberg Arr**	**72.38**	**43**	*e*P	P	01 28 20.3	+3.4
	comp=Z,30nm,1.6s							
GRF				*e*		01 28 26.5		
MOTA	**Moosalm**	**72.63**	**45**	⇑*i*P	**P**	**01 28 18.6**	**-0.1**
	comp=Z,21nm,1.3s							
TAM	**Tamanrasset**	**72.68**	**71**	*e*P	**P**	**01 28 20.3**	**+0.9**
TAM				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TAM	**Tamanrasset**	**72.68**	**71**	*e*P	**P**	**01 28 20.2**	**+0.9**
	comp=Z,4.2nm,0.9s							
CLL	**Collm**	**73.27**	**41**	*e*P	**P**	**01 28 22.0**	**-0.1**
CLL				*i*		01 28 29.8		
CLL	**Collm**	**73.27**	**41**	*e*P	**P**	**01 28 22.0**	**-0.1**
CLL				*i* (sP)	**sP**	**01 28 29.8**	**+5.0**
	comp=Z,55nm,1.8s							
KEST	**Kesra**	**73.28**	**57**	*e*P	**P**	**01 28 23.0**	**+0.3**
KEST	**Kesra**	**73.28**	**57**	P	**P**	**01 28 21.8**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=185,slow=6.2,SNR=15							
BRG	**Berggiesshubel**	**73.93**	**41**	*e*P	**P**	**01 28 26.4**	**+0.4**
	comp=Z,6.7nm,1.1s							
BRG				*e*		01 28 36.5		
	comp=Z,31nm,1.5s							
BRG	**Berggiesshubel**	**73.93**	**41**	*e*P	**P**	**01 28 26.4**	**+0.4**
BRG				*e*		01 28 36.5		
BRG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
BRG				pmax	pmax			
	comp=Z,31nm,1.5s							
KHC	**Kasperske Hory**	**73.99**	**43**	*e*P	**P**	**01 28 26.8**	**+0.3**
KHC				*e*		01 28 35.9		
KHC	**Kasperske Hory**	**73.99**	**43**	*e*P	**P**	**01 28 26.8**	**+0.3**
KHC				*ex*	x	01 28 35.9		
KHC	**Kasperske Hory**	**73.99**	**43**	*e*P	**P**	**01 28 26.7**	**+0.3**
	comp=Z,13nm,1.0s							
GERES	**GERESS Array B**	**74.11**	**43**	P	**P**	**01 28 26.7**	**-0.6**
GERES	**GERESS Array B**	**74.11**	**43**	P	**P**	**01 28 26.7**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=276,slow=5.1,SNR=20							
PRA	**Prague**	**74.37**	**42**	P	**P**	**01 28 30.0**	**+1.4**
PRU	**Pruhonice**	**74.46**	**42**	*e*P	**P**	**01 28 29.7**	**+0.6**
PRU				*e*		01 28 39.4		
PRU	**Pruhonice**	**74.46**	**42**	*e*P	**P**	**01 28 29.7**	**+0.6**
PRU				*ex*	x	01 28 39.4		
MOA	**Molln**	**74.66**	**44**	⇑*i*P	**P**	**01 28 30.3**	**-0.1**
	comp=Z,12nm,0.8s							
TREC	**Trest**	**75.19**	**43**	*e*P	**P**	**01 28 33.8**	**+0.4**
TREC				*e*		01 28 41.2		
TREC	**Trest**	**75.19**	**43**	*e*P	**P**	**01 28 33.8**	**+0.4**
TREC				*ex*	x	01 28 41.2		
UPC	**Upice**	**75.29**	**41**	*e*P	P	01 28 37.8	+3.9
UPC	**Upice**	**75.29**	**41**	*e*P	P	01 28 37.8	+3.9
TNA	**Tin City**	**75.47**	**335**	*e*P	**P**	**01 28 37.3**	**+2.6**
DPC	**Dobruska-Polom**	**75.51**	**41**	*e*P	**P**	**01 28 35.5**	**+0.2**
DPC				*e*		01 28 43.8		
DPC	**Dobruska-Polom**	**75.51**	**41**	*e*P	**P**	**01 28 35.5**	**+0.2**
DPC				*ex*	x	01 28 43.8		
DPC	**Dobruska-Polom**	**75.51**	**41**	*e*P	**P**	**01 28 36.1**	**+0.8**
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**	**01 28 35.1**	**-1.2**
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**	**01 28 35.1**	**-1.2**
	comp=Z,3.1nm,0.6s,baz=318,slow=4.9,SNR=8.0							
KRLC	**Kraliky**	**75.86**	**42**	*e*P	**P**	**01 28 39.3**	**+2.0**
KRLC				*e*		01 28 47.1		
KRLC	**Kraliky**	**75.86**	**42**	*e*P	**P**	**01 28 39.3**	**+2.0**
KRLC				*ex*	x	01 28 47.1		
VRAC	**Vranov**	**75.89**	**42**	⇑*i*P	**P**	**01 28 37.5**	**0.0**
VRAC	**Vranov**	**75.89**	**42**	P	**P**	**01 28 36.8**	**-0.6**
VRAC	**Vranov**	**75.89**	**42**	P	**P**	**01 28 36.8**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=286,slow=3.6,SNR=4.5							
MORC	**Moravsky Berou**	**76.40**	**42**	⇑P	**P**	**01 28 41.0**	**+0.6**
MORC	**Moravsky Berou**	**76.40**	**42**	⇑*i*P	**P**	**01 28 41.0**	**+0.6**
MORC	**Moravsky Berou**	**76.40**	**42**	*e*P	**P**	**01 28 40.6**	**+0.2**
	comp=Z,20nm,1.4s							
OKC	**Ostrava-Krasne**	**76.77**	**42**	*e*P	P	01 28 46.7	+4.3
OKC				*e*		01 28 52.6		
OKC	**Ostrava-Krasne**	**76.77**	**42**	*e*P	P	01 28 46.7	+4.3
OKC				*ex*	x	01 28 52.6		
GAMB	**Gambell**	**77.48**	**333**	*e*P	**P**	**01 28 46.0**	**-0.1**
	comp=Z,7.2nm,1.0s							
OJC	**Ojcow**	**77.72**	**41**	*e*P	P	01 28 58.1	+10
PKSM	**Moragy**	**77.93**	**45**	⇓P	**P**	**01 28 50.7**	**+1.7**
PKSM	**Moragy**	**77.93**	**45**	⇓*i*P	**P**	**01 28 50.7**	**+1.7**
FINES	**FINESS Array B**	**78.18**	**29**	P	**P**	**01 28 49.6**	**-0.4**
FINES	**FINESS Array B**	**78.18**	**29**	P	**P**	**01 28 49.6**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=260,slow=4.7,SNR=7.9							
NIE	**Niedzica**	**78.24**	**42**	*e*P	P	01 29 02.1	+11
TIP	**Timpagrande**	**78.30**	**53**	*e*P	**P**	**01 28 52.4**	**+1.1**
	comp=Z,2.1nm,0.5s							
PSZ	**Piszkesteto**	**78.34**	**43**	⇑P	P	01 28 55.9	+4.6
PSZ	**Piszkesteto**	**78.34**	**43**	⇑*i*P	P	01 28 55.9	+4.6
PSZ	**Piszkesteto**	**78.34**	**43**	*e*P	**P**	**01 28 51.2**	**-0.1**
	comp=Z,66nm,1.8s							
STHS	**Stebnicka Huta**	**78.83**	**42**	*e*P	**P**	**01 28 56.9**	**+3.0**
STHS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
STHS	**Stebnicka Huta**	**78.83**	**42**	*e*P	**P**	**01 28 56.9**	**+3.0**
CRVS	**Cervenica-Dubn**	**79.10**	**42**	*e*P	P	01 29 00.5	+5.1
CRVS				pmax	pmax			
	comp=Z,14nm,1.8s							
CRVS	**Cervenica-Dubn**	**79.10**	**42**	*e*	P	01 29 00.5	+5.1
VSU	**Vasula**	**79.38**	**32**	*e*P	**P**	**01 28 57.7**	**+1.1**
VSU				pmax	pmax			
	comp=Z,31nm,1.2s							
KOLS	**Kolonicke sedl**	**79.61**	**42**	*e*P	P	01 29 02.6	+4.4
KOLS				pmax	pmax			
	comp=Z,38nm,2.2s							
KOLS	**Kolonicke sedl**	**79.61**	**42**	*e*	P	01 29 02.6	+4.4
KWP	**Kalwaria Pacla**	**79.69**	**41**	⇑P	**P**	**01 29 00.1**	**+1.5**
KWP	**Kalwaria Pacla**	**79.69**	**41**	⇑*i*P	**P**	**01 29 00.1**	**+1.5**
KWP	**Kalwaria Pacla**	**79.69**	**41**	*e*P	**P**	**01 28 59.9**	**+1.3**
	comp=Z,14nm,0.8s							
UZH	**Uzhgorod**	**79.70**	**42**	*e*P	**P**	**01 28 59.8**	**+1.2**
UZH				*e*		01 29 02.4		
TRPA	**Tarpa**	**80.00**	**43**	⇓*i*P	**P**	**01 28 58.5**	**-1.8**
JOF	**Joensuu**	**80.03**	**27**	*e*P	**P**	**01 28 59.9**	**-0.2**
JOF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
JOF	**Joensuu**	**80.03**	**27**	*e*p	**P**	**01 28 59.9**	**-0.2**
	comp=Z,3.7nm,0.7s							
BZS	**Buzias**	**80.09**	**45**	⇑P	**P**	**01 29 00.4**	**-0.4**
BZS	**Buzias**	**80.09**	**45**	⇑*i*P	**P**	**01 29 00.3**	**-0.5**
DRGR		**80.49**	**44**	⇑P	**P**	**01 29 05.2**	**+2.1**
DRGR		**80.49**	**44**	⇑*i*P	**P**	**01 29 05.2**	**+2.1**
NACGM	**Naroch**	**80.51**	**35**	*e*	**P**	**01 29 03.0**	**+0.1**
BMR	**Baia Mare**	**80.75**	**43**	⇑P	**P**	**01 29 05.2**	**+0.9**
BMR	**Baia Mare**	**80.75**	**43**	⇑*i*P	**P**	**01 29 05.2**	**+0.9**
GZR	**Gura Zlata**	**80.94**	**45**	⇓P	P	01 29 11.3	+5.8
GZR	**Gura Zlata**	**80.94**	**45**	⇓*i*P	P	01 29 11.3	+5.8
BUR08	**Bucovina Ar. S**	**81.85**	**43**	*e*P	**P**	**01 29 11.8**	**+1.5**
BURAR	**Bucovina Array**	**81.87**	**43**	⇑P	**P**	**01 29 10.4**	**0.0**
BURAR	**Bucovina Array**	**81.87**	**43**	⇑*i*P	**P**	**01 29 10.4**	**0.0**
VTS	**Vitosha**	**82.07**	**48**	⇑P	P	01 29 15.6	+4.0
VTS	**Vitosha**	**82.07**	**48**	⇑*i*P	P	01 29 15.6	+4.0
VOIR		**82.45**	**45**	⇑P	**P**	**01 29 13.7**	**+0.2**
VOIR		**82.45**	**45**	⇑*i*P	**P**	**01 29 13.7**	**+0.2**
DOPR	**Dopca**	**82.51**	**44**	⇑*i*P	P	01 29 17.5	+3.8
HUMR	**Humele**	**82.69**	**46**	⇑*i*P	P	01 29 19.9	+5.2
MLR	**Muntele Rosu**	**83.03**	**44**	⇓*i*P	**P**	**01 29 17.6**	**+1.0**
MLR	**Muntele Rosu**	**83.03**	**44**	P	**P**	**01 29 17.1**	**+0.5**
MLR	**Muntele Rosu**	**83.03**	**44**	P	**P**	**01 29 17.1**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=225,slow=3.4,SNR=17							
KIEV	**Kiev**	**83.31**	**39**	*e*P	**P**	**01 29 18.9**	**+1.2**
KIEV	**Kiev**	**83.31**	**39**	*e*P	**P**	**01 29 18.9**	**+1.2**
PLOR	**Plostina**	**83.38**	**44**	⇑P	**P**	**01 29 15.2**	**-3.0**
PLOR	**Plostina**	**83.38**	**44**	⇑*i*P	**P**	**01 29 15.2**	**-3.0**
VRI	**Vrincioaia**	**83.42**	**44**	⇓P	P	01 29 10.2	-8.2
VRI	**Vrincioaia**	**83.42**	**44**	⇓*i*P	P	01 29 10.2	-8.2
KLMR	**Klimovskoe**	**84.42**	**27**	*e*P	**P**	**01 29 22.0**	**-1.2**
KLMR				pmax	pmax			
	comp=Z,58nm,1.6s							
OBN	**Obninsk**	**85.64**	**33**	⇑*e*P	**P**	**01 29 29.8**	**+0.4**
OBN				*i* S	SKSac	01 39 44.5	-11
OBN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
OBN	**Obninsk**	**85.64**	**33**	P	**P**	**01 29 28.8**	**-0.6**
OBN	**Obninsk**	**85.64**	**33**	P	**P**	**01 29 28.8**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=0.0,slow=20,SNR=2.4							
PRGR	**Permogore**	**86.56**	**25**	*e*P	**P**	**01 29 34.1**	**+0.3**
PRGR				pmax	pmax			
	comp=Z,21nm,0.9s							
TIXI	**Tiksi**	**88.92**	**353**	*e*P	**P**	**01 29 44.9**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TIXI	**Tiksi**	**88.92**	**353**	*e*P	**P**	**01 29 45.5**	**+0.6**
	comp=Z,8.3nm,0.9s							
BR131	**Keskin Array S**	**90.44**	**48**	*e*P	**P**	**01 29 52.7**	**-0.2**
	comp=Z,2.3nm,0.8s							
BRTR	**Keskin Array B**	**90.44**	**48**	P	**P**	**01 29 53.0**	**0.0**
BRTR	**Keskin Array B**	**90.44**	**48**	P	**P**	**01 29 53.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=286,slow=3.6,SNR=4.6							
SEY	**Seymchan**	**91.51**	**341**	*e*P	**P**	**01 29 58.5**	**+1.3**
SEY	**Seymchan**	**91.51**	**341**	P	**P**	**01 29 58.2**	**+1.1**
SEY	**Seymchan**	**91.51**	**341**	P	**P**	**01 29 58.2**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=279,slow=23,SNR=5.4							
NEY	**Neytrino**	**94.86**	**41**	*e*P	**P**	**01 30 13.7**	**+0.4**
ARU	**Arti**	**95.02**	**25**	P	**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.53**	**69**	*e*Pn	**Pb**	**01 25 00.1**	**+0.1**
SDDR				*e*Sn	**Sg**	**01 25 21.8**	**+1.4**
GTBY	**Guantanamo Bay**	**2.64**	**305**	*e*Pn	**Pn**	**01 25 12.5**	**-1.9**
GTBY				*e*Sn	**Sn**	**01 25 45.3**	**-1.5**
GRTK	**Grand Turk**	**3.44**	**27**	*e*Pn	**Pn**	**01 25 24.4**	**-0.9**
GRTK				*e*Sn	**Sn**	**01 26 04.0**	**-2.3**
YHJ	**Yallahs**	**3.56**	**262**	*i* P	**Pn**	**01 25 28.6**	**+1.6**
YHJ	**Yallahs**	**3.56**	**262**	*i* P	**Pn**	**01 25 28.6**	**+1.6**
GWJ	**Greenwich**	**3.75**	**265**	*e*P	**Pn**	**01 25 29.1**	**-0.7**
GWJ	**Greenwich**	**3.75**	**265**	*e*P	**Pn**	**01 25 29.1**	**-0.7**
HOJ	**Hope**	**3.78**	**264**	*i* P	**Pn**	**01 25 30.3**	**+0.2**
HOJ	**Hope**	**3.78**	**264**	*i* P	**Pn**	**01 25 30.3**	**+0.2**
STH	**Stony Hill**	**3.83**	**265**	*i* P	**Pn**	**01 25 30.2**	**-0.6**
STH				*i* S	**Sn**	**01 26 15.2**	**-1.0**
STH	**Stony Hill**	**3.83**	**265**	*i* P	**Pn**	**01 25 30.2**	**-0.6**
STH				*i* S	**Sn**	**01 26 15.2**	**-1.0**
PCJ	**Portland Cotta**	**4.21**	**261**	*i* P	**Pn**	**01 25 37.7**	**+1.8**
PCJ	**Portland Cotta**	**4.21**	**261**	*i* P	**Pn**	**01 25 37.7**	**+1.8**
CVJ	**Coleyville**	**4.51**	**268**	*e*P	**Pn**	**01 25 38.9**	**-1.2**
CVJ	**Coleyville**	**4.51**	**268**	*e*P	**Pn**	**01 25 38.9**	**-1.2**
MTDJ	**Mount Denham**	**4.51**	**268**	*e*Pn	**Pn**	**01 25 39.5**	**-0.7**
MCJ	**Malvern**	**4.68**	**265**	*e*P	**Pn**	**01 25 42.7**	**+0.3**
MCJ	**Malvern**	**4.68**	**265**	*e*P	**Pn**	**01 25 42.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**5.42**	**94**	*e*Pn	**Pn**	**01 25 55.3**	**+2.7**
CRPR				*e*Sn	**Sn**	**01 26 54.0**	**-1.3**
LSP	**Las Mesas**	**5.43**	**92**	*e*Pn	**Pn**	**01 25 53.5**	**+0.7**
LSP				*e*Pg	Pb	01 26 10.7	+4.2
LSP				*e*Sn	**Sn**	**01 26 53.8**	**-1.9**
AOPR	**Arecibo Observ**	**5.74**	**90**	*e*Pn	**Pn**	**01 25 58.1**	**+1.1**
CELP	**Cerrillos**	**5.92**	**93**	*e*Pn	**Pn**	**01 26 02.1**	**+2.6**
CELP				*e*Sg	**Sg**	**01 27 38.7**	**-2.7**
CBYP	**Canovanas**	**6.59**	**90**	*e*Pn	**Pn**	**01 26 09.3**	**+0.5**
CBYP				*e*Pg	Pb	01 26 30.5	+4.1
CBYP				*e*Sn	**Sn**	**01 27 24.2**	**-0.1**
CBYP				*e*Sg	Sb	01 27 53.4	+7.9
HUMP	**Col San Antoni**	**6.61**	**91**	*e*Pn	**Pn**	**01 26 07.3**	**-1.6**
MTP	**Monte Pirata**	**6.89**	**92**	*e*Pn	**Pn**	**01 26 13.5**	**+0.7**
MTP				*e*Sg	Sg	01 28 06.3	-6.3
SDV	**Santo Domingo**	**9.72**	**167**	*e*Pn	**Pn**	**01 26 52.7**	**+0.8**
SDV				*e*Sn	**Sn**	**01 28 40.2**	**-1.4**
BCIP	**Isla Barro Col**	**11.47**	**217**	*e*Pn	**Pn**	**01 27 13.7**	**-2.0**
BCIP				*e*Sn	**Sn**	**01 29 23.7**	**-0.5**
ROSC	**El Rosal**	**13.58**	**187**	*e*Pn	**Pn**	**01 27 46.3**	**+1.5**
ROSC	**El Rosal**	**13.58**	**187**	Pn	**Pn**	**01 27 47.0**	**+2.1**
	0.9nm,0.3s,baz=108,slow=23,SNR=5.4						
TEIG	**Tepich**	**14.72**	**279**	*e*Pn	**Pn**	**01 27 58.9**	**-1.2**
TEIG	**Tepich**	**14.72**	**279**	Pn	**Pn**	**01 27 59.3**	**-0.8**
	1.2nm,0.3s,baz=58,slow=13,SNR=5.1						
APG	**El Apazote**	**17.26**	**261**	P	**P**	**01 28 35.4**	**+0.6**
APG	**El Apazote**	**17.26**	**261**	P	**P**	**01 28 35.4**	**+0.6**
	0.3nm,0.3s,baz=251,slow=19,SNR=5.6						
OTAV	**Otavalo**	**18.92**	**198**	*e*Pn	**Pn**	**01 28 56.2**	**+2.3**
	121nm,2.0s						
TKL	**Tuckaleechee C**	**19.72**	**333**	*e*P	**P**	**01 29 01.7**	**+0.2**
PTGA	**Pitinga**	**22.84**	**145**	*e*P	**P**	**01 29 34.7**	**-0.6**
	33nm,1.4s						
ACSO	**Alum Creek Sta**	**23.43**	**340**	*e*P	**P**	**01 29 40.0**	**-1.2**
	11nm,0.8s						
HKT	**Hockley**	**23.89**	**303**	*e*P	**P**	**01 29 45.2**	**-0.5**
	104nm,2.4s						
ACCN	**Adirondack Com**	**24.88**	**358**	*e*P	**P**	**01 29 54.8**	**+0.1**
	11nm,0.7s						
WHTX	**Lake Whitney**	**26.00**	**306**	*e*P	**P**	**01 30 05.6**	**+0.6**
	38nm,1.4s						
JFWS	**Jewell Farm**	**28.53**	**333**	*e*P	**P**	**01 30 26.6**	**-1.0**
SAML	**Samuel**	**28.82**	**160**	*e*P	**P**	**01 30 29.2**	**-1.2**
	14nm,1.4s						
TXAR	**Lajitas Array**	**30.15**	**297**	P	**P**	**01 30 43.2**	**+0.9**
TXAR	**Lajitas Array**	**30.15**	**297**	P	**P**	**01 30 43.2**	**+0.9**
	0.4nm,0.8s,baz=116,slow=8.1,SNR=3.4						
MNTX	**Cornudas Mount**	**32.20**	**301**	*e*P	**P**	**01 31 01.9**	**+1.6**
	17nm,1.4s						
BNM	**Barren Site**	**33.94**	**304**	*e*P	**P**	**01 31 16.6**	**+1.0**
	9.8nm,1.3s						
LPM	**Los Pinos Moun**	**34.00**	**304**	*e*P	**P**	**01 31 14.5**	**-1.6**
	6.1nm,0.9s						
ANMO	**Albuquerque**	**34.07**	**306**	*e*P	**P**	**01 31 17.5**	**+0.7**
	6.7nm,1.3s						
ANMO	**Albuquerque**	**34.07**	**306**	P	**P**	**01 31 17.6**	**+0.9**
	0.8nm,0.7s,baz=132,slow=14,SNR=2.0						
LAZ	**Ladron**	**34.42**	**304**	*e*P	**P**	**01 31 20.2**	**+0.4**
SDCO	**Great Sand Dun**	**34.43**	**311**	*e*P	**P**	**01 31 19.8**	**-0.1**
	3.0nm,1.1s						
LPAZ	**La Paz**	**34.81**	**172**	*e*P	P	01 31 18.9	-4.7
	3.6nm,0.9s						
ISCO	**Idaho Springs**	**35.41**	**314**	*e*P	P	01 31 31.9	+3.5
	50nm,2.8s						
SCHQ	**Schefferville**	**36.62**	**6**	P	**P**	**01 31 39.3**	**+1.1**
SCHQ	**Schefferville**	**36.62**	**6**	P	**P**	**01 31 39.3**	**+1.1**
	4.3nm,0.6s,baz=218,slow=10,SNR=5.4						
ULM	**Lac du Bonnet**	**36.71**	**335**	*e*P	**P**	**01 31 38.2**	**-0.8**
	2.3nm,0.7s						
BW06	**Boulder Array**	**39.40**	**316**	*e*P	**P**	**01 32 01.8**	**-0.3**
	8.5nm,1.5s						
PDAR	**Pinedale Array**	**39.40**	**316**	P	**P**	**01 32 02.0**	**-0.1**
PDAR	**Pinedale Array**	**39.40**	**316**	P	**P**	**01 32 02.0**	**-0.1**
	0.9nm,0.9s,baz=126,slow=12,SNR=3.4						
LOHW	**Long Hollow**	**40.46**	**317**	*e*P	**P**	**01 32 10.7**	**-0.2**
	9.2nm,1.1s						
REDW	**Red Top Meadow**	**40.52**	**316**	*e*P	**P**	**01 32 11.0**	**-0.4**
	9.8nm,1.1s						
MOOW	**Moose Ponds**	**40.62**	**317**	*e*P	**P**	**01 32 11.9**	**-0.3**
	34nm,2.1s						
DUG	**Dugway**	**40.63**	**311**	*e*P	**P**	**01 32 12.2**	**0.0**
	3.5nm,0.9s						
TPAW	**Teton Pass**	**40.64**	**316**	*e*P	**P**	**01 32 11.8**	**-0.7**
	31nm,1.9s						
FXWY	**Fox Creek**	**40.75**	**317**	*e*P	**P**	**01 32 13.4**	**0.0**
	29nm,2.0s						
BGU	**Big Grassy Mou**	**41.04**	**312**	*e*P	**P**	**01 32 17.1**	**+1.4**
	2.9nm,1.3s						
BDFB	**Brasilia**	**41.74**	**143**	P	**P**	**01 32 22.1**	**+0.6**
BDFB	**Brasilia**	**41.74**	**143**	P	**P**	**01 32 22.1**	**+0.6**
	5.2nm,1.1s,baz=336,slow=12,SNR=3.8						
MCMT	**McKenzie Canyo**	**42.45**	**317**	*e*P	**P**	**01 32 26.3**	**-0.9**
	8.3nm,1.7s						
HLID	**Hailey**	**42.97**	**315**	*e*P	P	01 32 35.2	+3.8
	43nm,2.5s						
TPH	**Tonopah**	**43.27**	**306**	*e*P	**P**	**01 32 34.6**	**+0.6**
	30nm,1.8s						
NVAR	**Mina Array Bea**	**44.19**	**307**	P	**P**	**01 32 42.1**	**+0.7**
NVAR	**Mina Array Bea**	**44.19**	**307**	P	**P**	**01 32 42.1**	**+0.7**
	0.5nm,0.8s,baz=97,slow=7.5,SNR=2.1						
WVOR	**Wild Horse Val**	**45.50**	**312**	*e*P	**P**	**01 32 51.3**	**-0.4**
	1.9nm,0.6s						
NEW	**Newport**	**46.56**	**320**	*e*P	**P**	**01 32 59.4**	**-0.4**
	3.6nm,1.0s						
EDM	**Edmonton**	**46.77**	**328**	*e*P	**P**	**01 33 01.0**	**-0.4**
B08A	**Colville Reser**	**47.95**	**319**	*e*P	**P**	**01 33 11.2**	**+0.5**
	25nm,1.8s						
YKA	**Yellowknife Ar**	**52.63**	**337**	P	**P**	**01 33 45.8**	**-0.1**
YKA	**Yellowknife Ar**	**52.63**	**337**	P	**P**	**01 33 45.7**	**-0.1**
	1.3nm,0.8s,baz=126,slow=7.6,SNR=17						
RES	**Resolute Bay**	**57.54**	**353**	P	**P**	**01 34 19.6**	**-1.5**
RES	**Resolute Bay**	**57.54**	**353**	P	**P**	**01 34 19.6**	**-1.5**
	1.1nm,0.7s,baz=188,slow=8.8,SNR=3.7						
SUMG	**Summit**	**57.60**	**12**	*e*P	**P**	**01 34 21.9**	**-0.2**
	11nm,1.0s						
PLCA	**Paso Flores**	**58.90**	**178**	*e*P	**P**	**01 34 30.7**	**-0.4**
	7.3nm,1.3s						
ESDC	**Sonseca Array**	**62.33**	**54**	P	**P**	**01 34 54.0**	**-0.8**
ESDC	**Sonseca Array**	**62.33**	**54**	P	**P**	**01 34 54.0**	**-0.8**
	0.3nm,0.6s,baz=268,slow=9.8,SNR=2.4						
INK	**Inuvik**	**62.33**	**339**	*e*P	P	01 34 50.4	-3.7
	8.2nm,1.4s						
EKA	**Eskdalemuir Ar**	**63.47**	**37**	P	**P**	**01 35 02.4**	**+0.5**
EKA	**Eskdalemuir Ar**	**63.47**	**37**	P	**P**	**01 35 02.4**	**+0.5**
	2.7nm,0.8s,baz=282,slow=3.5,SNR=2.2						
ILAR	**Eielson Array**	**66.70**	**333**	P	**P**	**01 35 22.1**	**-0.7**
ILAR	**Eielson Array**	**66.70**	**333**	P	**P**	**01 35 22.1**	**-0.7**
	0.3nm,0.9s,baz=81,slow=5.6,SNR=3.1						
MCK	**McKinley**	**67.50**	**332**	*e*P	**P**	**01 35 27.4**	**-0.5**
	46nm,1.8s						
TOA0	**Torodi Ar. Sit**	**71.44**	**82**	*e*P	**P**	**01 35 53.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**71.44**	**82**	P	**P**	**01 35 52.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**71.44**	**82**	P	**P**	**01 35 52.0**	**-1.1**
	0.5nm,0.8s,baz=276,slow=5.8,SNR=3.1						
GERES	**GERESS Array B**	**74.08**	**43**	P	**P**	**01 36 08.8**	**+0.5**
GERES	**GERESS Array B**	**74.08**	**43**	P	**P**	**01 36 08.8**	**+0.5**
	0.7nm,0.7s,baz=299,slow=1.4,SNR=7.3						
ARCES	**ARCESS Array B**	**75.76**	**21**	P	**P**	**01 36 18.1**	**+0.5**
ARCES	**ARCESS Array B**	**75.76**	**21**	P	**P**	**01 36 18.1**	**+0.5**
	2.6nm,0.9s,baz=282,slow=5.8,SNR=5.1						
MORC	**Moravsky Berou**	**76.37**	**42**	*e*P	**P**	**01 36 20.4**	**-1.1**
	8.2nm,1.4s						
FINES	**FINESS Array B**	**78.15**	**29**	P	**P**	**01 36 32.2**	**+1.1**
FINES	**FINESS Array B**	**78.15**	**29**	P	**P**	**01 36 32.2**	**+1.1**
	1.0nm,0.7s,baz=282,slow=5.3,SNR=4.5						
TIP	**Timpagrande**	**78.26**	**53**	*e*P	**P**	**01 36 31.7**	**-0.6**
	6.9nm,1.4s						
PSZ	**Piszkesteto**	**78.31**	**43**	*e*P	P	01 36 29.2	-3.2
	11nm,1.5s						
KWP	**Kalwaria Pacla**	**79.65**	**41**	*e*P	**P**	**01 36 39.2**	**-0.5**
	14nm,1.2s						
BUR08	**Bucovina Ar. S**	**81.82**	**43**	*e*P	**P**	**01 36 50.9**	**-0.5**
MLR	**Muntele Rosu**	**83.00**	**44**	P	**P**	**01 36 58.1**	**+0.4**
MLR	**Muntele Rosu**	**83.00**	**44**	P	**P**	**01 36 58.1**	**+0.4**
	0.9nm,1.0s,baz=171,slow=7.6,SNR=6.0						
BRTR	**Keskin Array B**	**90.40**	**48**	P	**P**	**01 37 34.4**	**+0.3**
BRTR	**Keskin Array B**	**90.40**	**48**	P	**P**	**01 37 34.4**	**+0.3**
	0.9nm,0.9s,baz=320,slow=45,SNR=3.2						
KURK	**Kurchatov**	**106.70**	**19**	*e*PKP	**PKiKP**	**01 42 58.9**	**+1.4**
TKM2	**Tokmak 2**	**112.37**	**25**	*e*PKP	**PKiKP**	**01 43 08.9**	**+0.2**
WMQ	**Urumqi**	**115.52**	**16**	PKP	**PKPdf**	**01 43 14.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**120.88**	**356**	*e*PKP	**PKPdf**	**01 43 24.9**	**-0.1**
HHC				PP	**PP**	**01 44 56.3**	**+4.2**
HHC				SKS	**SKSdf**	**01 50 33.7**	**-4.2**
HHC				SKKS	**SKKSac**	**01 51 48.5**	**-5.6**
HHC				SS	**SS**	**02 01 28.5**	**+5.4**
HHC				LR	LR		
	comp=Z,380nm,25.0s						
LZH	**Lanzhou**	**125.68**	**3**	*e*PKP	**PKPdf**	**01 43 34.0**	**-0.4**
LZH				sPKP		01 43 38.5	
LZH				LR	LR		
	comp=N,140nm,18.0s						
LZH				LR	LR		
	comp=E,130nm,18.0s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						
STKA	**Stephens Creek**	**146.27**	**240**	PKPbc	**PKPbc**	**01 44 13.0**	**-0.3**
STKA	**Stephens Creek**	**146.27**	**240**	PKPbc	**PKPbc**	**01 44 13.0**	**-0.3**
	2.4nm,0.7s,baz=85,slow=4.0,SNR=4.2						
WRA	**Warramunga Arr**	**154.34**	**262**	PKP	**PKPdf**	**01 44 25.4**	**+0.3**
WRA				PKPbc	**PKiKP**	**01 44 35.4**	**+1.9**
WRA	**Warramunga Arr**	**154.34**	**262**	PKP	**PKPdf**	**01 44 25.4**	**+0.3**
	0.5nm,0.8s,baz=105,slow=1.2,SNR=3.2						
WRA				PKPbc	**PKiKP**	**01 44 35.4**	**+1.9**
	0.8nm,0.8s,baz=85,slow=2.6,SNR=4.8						

JMA 13 01:29:07.9±0.2, 37.80N×144.78E, h41km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.76**	**299**	P	Pn	01 29 51.2	+1.6
OFUJ				*e*S	Sn	01 30 23.5	+1.8
JIO	**Ouri**	**2.78**	**285**	P	Pn	01 29 51.6	+1.7
JIO				*e*S	Sn	01 30 24.1	+1.8
MIYJ	**Miyakonagasawa**	**2.92**	**308**	P	Pn	01 29 53.1	+1.3
MIYJ				*e*S	Sn	01 30 26.9	+1.3
JMK	**Ichinoseki**	**3.02**	**293**	*e*S	Sn	01 30 29.5	+1.3
JOM	**Ohasama**	**3.20**	**303**	P	Pn	01 29 57.7	+2.0
JOM				*e*S	Sn	01 30 35.1	+2.5
JOU	**Okura**	**3.30**	**281**	P	Pn	01 29 59.7	+2.7
JOU				*e*S	Sn	01 30 38.1	+3.1
JFT	**Otama**	**3.54**	**267**	P	Pn	01 30 02.4	+2.1
JFT				*e*S	Sn	01 30 43.3	+2.4
JRG	**Rokugo**	**3.62**	**297**	P	Pn	01 30 04.1	+2.7
JRG				*e*S	Sn	01 30 46.2	+3.3
JYK	**Kaneyama**	**3.65**	**289**	P	Pn	01 30 04.7	+2.8
JYK				*e*S	Sn	01 30 46.9	+3.2
JRY	**Ryogami san**	**5.04**	**251**	P	Pn	01 30 21.8	+0.9
JRY				*e*S	Sn	01 31 16.7	-1.2

IDC ***13*** *01:32:42.5±0.3, 18.40N×72.90W, h0km, mb4.8/48, mb1 4.9/53, mb1mx4.9/55, mbtmp4.8/53, ML4.3/5, MS5.2/31, Ms1 5.2/31, ms1mx5.0/59, Error ellipse: s-maj=10.5km s-min=8.5km az=62.0*

ISCJB ***13*** *01:32:42.1±0.1, 18.39N±0.02×72.92W±0.01, h6km, mb5.2/284, MS5.4/47, Error ellipse: s-maj=3.2km s-min=1.5km az=13.6*

MOS ***13*** *01:32:43.9±1.1, 18.73N×72.79W, h10km, mb5.6/79, MS5.6/9, Error ellipse: s-maj=5.9km s-min=4.6km az=71.9*

NEIC ***13*** *01:32:44.2±0.1, 18.42N×72.86W, h10km, mb5.3/158, Error ellipse: s-maj=3.2km s-min=2.3km az=20.0*

GCMT ***13*** *01:32:44.2±0.3, 18.63N×72.98W, h14km±1km, MW5.6/68, Moment Tensor Solution. s5,c8; s68,c116; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr 3.34±.28; Mθθ -3.03±.19; Mϕϕ -0.31±.14; Mrθ -0.97±.33; Mϕθ 0.81±.08; Mϕr 0.21±.29; Best double couple: M0 3.44200×10^17 NP1: ϕs 284.00000°, δ53.00000°, λ89.00000°. NP2: ϕs 106.00000°, δ37.00000°, λ91.00000°. Principal axes: T 3.4870, Plg82.0000°, Azm189.0000°; N -0.0910, Plg1.0000°, Azm285.0000°; P -3.3970, Plg8.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

JSN ***13*** *01:32:44.1±0.9, 18.68N×72.91W, h0km±999km, MD5.4*

SZGRF ***13*** *01:32:46.9, 18.32N×71.84W, h25km, mb5.7, Dominican Republic region*

ISC 13 01:32:43.5±0.2, 18°37N±0°.04×72°90W±0°.03, h6km, n1212, σ1°16/1244, mb5.3/290, MS5.4/47, 250C-228D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.64**	**68**	*e*Pn	**Pn**	**01 33 11.6**	**-1.4**
SDDR				*e*Sn	**Sb**	**01 33 35.2**	**-0.1**
GTBY	**Guantanamo Bay**	**2.60**	**307**	*e*Pn	**Pn**	**01 33 24.4**	**-1.7**
GTBY				*e*Sn	**Sn**	**01 33 57.7**	**-0.3**
YHJ	**Yallahs**	**3.45**	**263**	*i* P	**Pn**	**01 33 38.8**	**+1.0**
YHJ	**Yallahs**	**3.45**	**263**	*i* P	**Pn**	**01 33 38.8**	**+1.0**
GWJ	**Greenwich**	**3.65**	**266**	*i* P	**Pn**	**01 33 40.8**	**+0.2**
GWJ	**Greenwich**	**3.65**	**266**	*i* P	**Pn**	**01 33 40.8**	**+0.2**
HOJ	**Hope**	**3.68**	**265**	*i* P	**Pn**	**01 33 41.6**	**+0.7**
HOJ	**Hope**	**3.68**	**265**	*i* P	**Pn**	**01 33 41.6**	**+0.7**
HOJ	**Hope**	**3.68**	**265**	*i* P	**Pn**	**01 33 41.6**	**+0.7**
STH	**Stony Hill**	**3.73**	**266**	*i* P	**Pn**	**01 33 41.5**	**-0.1**
STH				*i* S	**Sn**	**01 34 25.6**	**-0.3**
STH	**Stony Hill**	**3.73**	**266**	*i* P	**Pn**	**01 33 41.5**	**-0.1**
STH				*i* S	**Sn**	**01 34 25.6**	**-0.3**
STH	**Stony Hill**	**3.73**	**266**	*i* P	**Pn**	**01 33 41.5**	**-0.1**
STH				*i* S	**Sn**	**01 34 25.6**	**-0.3**
PCJ	**Portland Cotta**	**4.10**	**262**	*i* P	**Pn**	**01 33 47.6**	**+0.9**
PCJ	**Portland Cotta**	**4.10**	**262**	*i* P	**Pn**	**01 33 47.6**	**+0.9**
CVJ	**Coleyville**	**4.41**	**269**	*i* P	**Pn**	**01 33 51.2**	**+0.2**
CVJ	**Coleyville**	**4.41**	**269**	*i* P	**Pn**	**01 33 51.2**	**+0.2**
MTDJ	**Mount Denham**	**4.41**	**269**	*e*Pn	**Pn**	**01 33 50.8**	**-0.2**
MTDJ				*e*Pg	**Pb**	**01 34 03.9**	**+2.5**
MCJ	**Malvern**	**4.57**	**265**	*i* P	**Pn**	**01 33 54.4**	**+1.1**
MCJ	**Malvern**	**4.57**	**265**	*i* P	**Pn**	**01 33 54.4**	**+1.1**
AGPR	**Aguadilla, PR**	**5.50**	**88**	*e*Pn	**Pn**	**01 34 08.6**	**+2.6**
	5μm,1.3s						
AGPR				*e*Pg	**Pg**	**01 34 26.8**	**-2.0**
AGPR				*e*Sg	**Sg**	**01 35 34.5**	**-5.6**
CRPR	**Cabo Rojo, PR**	**5.52**	**93**	*e*Pn	**Pn**	**01 34 06.8**	**+0.6**
	608nm,0.6s						
CRPR				*e*Pg	**Pg**	**01 34 26.1**	**-3.0**
CRPR				*e*Sn	**Sn**	**01 35 10.9**	**+1.0**
CRPR				*e*Sg	**Sg**	**01 35 40.4**	**-0.3**
LSP	**Las Mesas**	**5.53**	**91**	*e*Pn	**Pn**	**01 34 08.1**	**+1.8**
LSP				*e*Pg	**Pg**	**01 34 29.8**	**+0.4**
LSP				*e*Sn	**Sn**	**01 35 12.3**	**+2.0**
LSP				*e*Sg	Sg	01 35 34.2	-6.8
AOPR	**Arecibo Observ**	**5.84**	**89**	*e*Pn	**Pn**	**01 34 12.4**	**+1.8**
CELP	**Cerrillos**	**6.01**	**92**	*e*Pn	**Pn**	**01 34 13.5**	**+0.5**
CBYP	**Canovanas**	**6.69**	**90**	*e*Pn	**Pn**	**01 34 23.7**	**+1.3**
	410nm,0.8s						
CBYP				*e*Sn	**Sn**	**01 35 39.1**	**+0.1**
CBYP				*e*Sg	Sb	01 36 07.8	+7.2
HUMP	**Col San Antoni**	**6.70**	**91**	*e*Pn	**Pn**	**01 34 25.5**	**+3.0**
MTP	**Monte Pirata**	**6.99**	**91**	*e*Pn	**Pn**	**01 34 28.1**	**+1.7**
	797nm,1.0s						
MTP				*e*Sn	**Sn**	**01 35 47.4**	**+1.1**
SABA	**Saba**	**9.22**	**93**	*e*Pn	**Pn**	**01 35 00.2**	**+3.2**
SDV	**Santo Domingo**	**9.68**	**167**	*e*Pn	**Pn**	**01 35 05.0**	**+1.4**
SDV				*e*Sn	**Sn**	**01 36 51.1**	**-1.8**
ANWB	**Willy Bob**	**10.60**	**92**	*e*Pn	**Pn**	**01 35 16.9**	**+1.0**
	219nm,0.8s						
ANWB				*e*Sn	**Sn**	**01 37 15.6**	**+0.6**
MLG	**Mont-d'or**	**10.94**	**100**	*e*P	Pn	01 35 15.6	-5.0
SSG	**Sans Toucher**	**10.96**	**100**	*e*P	**Pn**	**01 35 22.0**	**+0.9**
HMG	**Houelmont**	**10.96**	**101**	*e*P	**Pn**	**01 35 21.6**	**+0.6**
SCG	**Saint Claude**	**10.97**	**101**	*e*P	**Pn**	**01 35 20.6**	**-0.6**
LKG	**Breislack**	**10.99**	**100**	*e*P	Pn	01 35 27.4	+5.9
PHG	**Guadaloupe-2**	**11.01**	**101**	*e*P	**Pn**	**01 35 23.7**	**+2.0**
DOG	**Dongo Capester**	**11.03**	**100**	*e*P	**Pn**	**01 35 25.1**	**+3.2**
SEG	**Port Louis**	**11.05**	**98**	*e*P	**Pn**	**01 35 23.4**	**+1.2**
MGG	**Marie-Galante**	**11.34**	**101**	*e*P	**Pn**	**01 35 28.0**	**+2.0**
BCIP	**Isla Barro Col**	**11.36**	**217**	*e*Pn	**Pn**	**01 35 26.3**	**-0.1**
BCIP				*e*Sn	**Sn**	**01 37 29.4**	**-4.3**
DEG	**La Desirade**	**11.49**	**98**	*e*P	**Pn**	**01 35 29.2**	**+0.9**
H05N1	**Guadeloupe/Mar**	**11.49**	**98**	Pn	**Pn**	**01 35 28.7**	**+0.5**
	SNR=79						
GRW	**Mount Saint Ca**	**12.47**	**118**	*e*	Pn	01 35 47.1	+5.4
GRGR	**Grenville**	**12.49**	**118**	*e*Pn	**Pn**	**01 35 41.5**	**-0.5**
	1μm,1.4s						
GRGR				*e*Sn	**Sn**	**01 37 58.5**	**-3.1**
ROSC	**El Rosal**	**13.51**	**186**	*e*Pn	**Pn**	**01 35 57.9**	**+1.8**
ROSC				*e*Sn	**Sn**	**01 38 26.9**	**+0.1**
ROSC	**El Rosal**	**13.51**	**186**	Pn	**Pn**	**01 35 57.2**	**+1.1**
	5.5nm,0.3s,baz=102,slow=8.0,SNR=28						
ROSC				LR	LR	01 41 13.3	
	comp=Z,5μm,21.7s,baz=1.5,slow=38						
TRN	**Trinidad (W)**	**13.52**	**123**	*e*	**Pn**	**01 35 58.7**	**+2.8**
TPP	**Pointe-a-Pierr**	**13.67**	**124**	*e*	**P**	**01 36 08.1**	**+1.2**
TPR	**Prospect**	**13.72**	**120**	*e*	P	01 36 04.1	-3.4
BOT	**Bacolet**	**13.78**	**120**	*e*	P	01 36 04.3	-3.9
BBGH	**Gun Hill**	**13.85**	**110**	*e*Pn	**Pn**	**01 36 01.5**	**+1.1**
TBH	**Brigand Hill**	**13.88**	**123**	*e*	**P**	**01 36 07.0**	**-2.2**
JTS	**JuntasAbangare**	**14.17**	**237**	Pn	Pn	01 36 08.3	+3.5
	965nm,0.9s,SNR=6.8						
JTS	**JuntasAbangare**	**14.17**	**237**	*e*Pn	Pn	01 36 08.3	+3.5
JTS	**JuntasAbangare**	**14.17**	**237**	Pn	**Pn**	**01 36 06.2**	**+1.3**
	4.1nm,0.3s,baz=44,slow=22,SNR=11						
JTS				LR	LR	01 41 51.1	
	comp=Z,5μm,19.0s,baz=57,slow=39						
TGUH	**Tegucigalpa,Un**	**14.45**	**255**	*e*Pn	**Pn**	**01 36 10.7**	**+2.0**
TEIG	**Tepich**	**14.63**	**280**	*e*Pn	**Pn**	**01 36 11.4**	**+0.2**
TEIG				*e*Sn	**Sn**	**01 38 49.7**	**-4.1**
TEIG	**Tepich**	**14.63**	**280**	Pn	**Pn**	**01 36 11.4**	**+0.2**
	8.3nm,0.3s,baz=102,slow=11,SNR=14						
BBSR	**BB Station**	**15.78**	**26**	*e*Pn	**Pn**	**01 36 23.5**	**-2.8**
	169nm,0.6s						
BBSR				*e*Sn	Sn	01 39 11.7	-10
RGRS	**Roger Stewart**	**15.89**	**337**	*e*Pn	**Pn**	**01 36 27.7**	**0.0**
NHSC	**New Hope**	**16.06**	**337**	*e*Pn	**Pn**	**01 36 27.2**	**-2.8**
	221nm,1.0s						
TIGA	**Tifton**	**16.21**	**325**	*e*Pn	**Pn**	**01 36 31.1**	**-0.8**
TIGA	**Tifton**	**16

baz=25,SNR=5.8
SFIN Scholer Farm 25.11 334 *e*P P 01 38 08.6 -0.5
comp=Z,47nm,0.8s
SFIN Scholer Farm 25.11 334 ⇓P P 01 38 09.5 +0.4
baz=25
635A Leesville 25.20 300 ⇓P P 01 38 10.3 +0.4
baz=25
535A Dale 25.26 302 ⇑P P 01 38 10.4 -0.1
baz=25,SNR=5.6
HNH Hanover 25.26 1 *e*P P 01 38 15.1 +4.7
comp=Z,376nm,2.0s
934A Benavides 25.27 296 ⇑P P 01 38 11.8 +1.2
baz=25,SNR=11
034A Hebbronville 25.27 295 ⇑P P 01 38 10.9 +0.3
baz=25,SNR=15
834A Tilden 25.44 297 ⇑P P 01 38 12.3 +0.1
baz=25,SNR=29
AAM Ann Arbor 25.55 341 *e*P P 01 38 14.7 +1.7
AAM pmax pmax
comp=Z,146nm,1.1s
AAM Ann Arbor 25.55 341 *e*P P 01 38 14.7 +1.7
comp=Z,146nm,1.1s
MDV Middlebury 25.55 360 *e*P P 01 38 13.6 +0.6
335A Moody 25.64 305 ⇓P P 01 38 13.8 -0.2
baz=26,SNR=17
734A La Parita Cree 25.67 299 ⇓P P 01 38 14.1 -0.2
baz=26
634A China Grove, S 25.67 300 ⇑P P 01 38 14.5 +0.2
baz=26
LBNH Lisbon 25.80 2 *e*P P 01 38 16.0 +0.7
LBNH pmax pmax
comp=Z,75nm,0.8s
LBNH Lisbon 25.80 2 *e*P P 01 38 16.0 +0.7
comp=Z,75nm,0.8s
933A Laredo 25.92 296 ⇑P P 01 38 16.8 +0.3
baz=26,SNR=16
ATAH Atahualpa 25.92 193 P P 01 38 18.4 +1.3
ATAH Atahualpa 25.92 193 P P 01 38 18.4 +1.3
comp=Z,38nm,1.0s,baz=344,slow=7.0,SNR=16
WHTX Lake Whitney 25.96 306 *e*P P 01 38 17.3 +0.4
comp=Z,88nm,0.9s
WHTX Lake Whitney 25.96 306 ⇑P P 01 38 16.6 -0.3
baz=26,SNR=30
534A Blanco 25.99 301 ⇑P P 01 38 17.1 -0.2
baz=26,SNR=42
434A Burnet 26.11 303 ⇑P P 01 38 17.8 -0.5
baz=26,SNR=10
135A Vickery Place, 26.17 307 ⇑P P 01 38 18.4 -0.4
baz=26
LONY Lake Ozonia 26.21 357 *e*P P 01 38 19.1 +0.1
comp=Z,172nm,1.9s
833A Chaparral WMA, 26.21 297 ⇑P P 01 38 19.1 -0.1
baz=26,SNR=34
733A Divot King Ran 26.24 298 ⇓P P 01 38 19.2 -0.3
baz=26,SNR=12
WVL Waterville 26.26 5 *e*P P 01 38 28.0 +8.6
334A Lometa 26.29 304 ⇓P P 01 38 19.8 -0.1
baz=26,SNR=14
633A Saathoff Ranch 26.37 300 ⇓P P 01 38 20.6 -0.1
baz=26,SNR=9.7
FRNY Flat Rock 26.39 359 *e*P P 01 38 21.2 +0.6
comp=Z,49nm,1.0s
Z35A Perchaven, San 26.41 309 ⇓P P 01 38 21.0 0.0
baz=26
533A Kerrville 26.46 301 ⇓P P 01 38 21.4 -0.1
baz=26
234A Clairette 26.48 306 ⇓P P 01 38 21.6 -0.1
baz=26,SNR=8.6
134A White-Moore Ra 26.68 307 ⇑P P 01 38 23.5 +0.1
baz=27,SNR=9.6
832A Faith Ranch, C 26.69 297 ⇓P P 01 38 23.1 -0.5
baz=27,SNR=17
TUL1 Tulsa 26.73 315 *e*P P 01 38 24.3 +0.5
comp=Z,142nm,1.1s
TUL1 Tulsa 26.73 315 ⇑P P 01 38 23.7 -0.1
baz=27,SNR=19
433A Art 26.75 302 ⇓P P 01 38 23.9 -0.2
baz=27,SNR=22
732A Laxson Ranch, 26.81 298 ⇓P P 01 38 24.2 -0.5
baz=27,SNR=11
SADO Sadowa 26.83 350 P P 01 38 24.4 -0.2
SADO Sadowa 26.83 350 P P 01 38 24.4 -0.2
comp=Z,8.3nm,0.6s,baz=158,slow=2.9,SNR=9.9
SADO LR LR 01 48 50.0
comp=Z,7µm,19.5s,baz=176,slow=36
333A Richland Sprin 26.88 304 ⇓P P 01 38 24.9 -0.3
baz=27,SNR=17
632A Uvalde 26.89 299 ⇓P P 01 38 25.0 -0.3
baz=27,SNR=7.7
Z34A Collier Ranch, 26.92 309 ⇓P P 01 38 24.9 -0.6
baz=27
Y34A Reagan Ranch, 27.08 310 ⇑P P 01 38 27.1 +0.2
baz=27,SNR=17
233A Rising Star 27.08 305 ⇓P P 01 38 26.5 -0.6
baz=27
532A Rocksprings 27.19 301 ⇑P P 01 38 27.7 -0.4
baz=27,SNR=19
JCT Junction City 27.22 301 *e*P P 01 38 28.8 +0.4
JCT pmax pmax
comp=Z,43nm,0.9s
JCT Junction City 27.22 301 *e*P P 01 38 28.8 +0.4
comp=Z,43nm,0.9s
JCT Junction City 27.22 301 ⇓P P 01 38 28.2 -0.2
baz=27
133A Hamilton Ranch 27.34 306 ⇑P P 01 38 28.8 -0.6
baz=27
432A Menard 27.36 302 ⇓P P 01 38 29.2 -0.3
baz=27
X34A Smith Ranch, M 27.45 311 ⇑P P 01 38 30.3 0.0
baz=28
332A Millersview 27.50 303 ⇑P P 01 38 30.2 -0.7
baz=28,SNR=12
Z33A Whitaker Ranch 27.51 308 ⇓P P 01 38 30.9 0.0
baz=28
631A Perdido Creek 27.52 299 ⇓P P 01 38 30.3 -0.7
baz=28,SNR=7.0
232A Coleman 27.61 304 ⇑P P 01 38 31.1 -0.8
baz=28,SNR=7.2
W34A Bridge Creek, 27.72 312 ⇑P P 01 38 32.8 +0.1
baz=28
531A Rocksprings 27.73 300 ⇑P P 01 38 32.5 -0.4
baz=28
V34A Guthrie 27.86 314 ⇓P P 01 38 33.4 -0.5
baz=28,SNR=9.9
X33A Lawton 27.90 310 ⇑P P 01 38 33.6 -0.7
baz=28,SNR=7.5
ABTX Abilene, Hawle 27.90 306 *e*P P 01 38 34.7 +0.3
comp=Z,74nm,1.4s
ABTX Abilene, Hawle 27.90 306 ⇑P P 01 38 34.1 -0.4
baz=28
431A Sonora 27.95 301 ⇑P P 01 38 34.3 -0.6
baz=28,SNR=15
331A San Angelo 28.02 303 ⇑P P 01 38 34.7 -0.8
baz=28,SNR=12
Z32A Haskell 28.06 307 ⇓P P 01 38 35.5 -0.3
baz=28,SNR=12
231A Bronte 28.16 304 ⇓P P 01 38 35.8 -0.9
baz=28,SNR=8.3
W33A Caddo, Fort Co 28.17 311 ⇑P P 01 38 36.6 -0.2
baz=28
U34A Anderson Ranch 28.19 315 ⇑P P 01 38 36.9 0.0
baz=28,SNR=7.1
WMOK Wichita Mounta 28.19 310 *e*P P 01 38 36.6 -0.4
WMOK pmax pmax
comp=Z,164nm,2.1s
WMOK Wichita Mounta 28.19 310 *e*P P 01 38 36.6 -0.4
comp=Z,164nm,2.1s
Y32A R-V Farms, Ver 28.34 309 ⇑P P 01 38 38.4 +0.1
baz=28,SNR=9.1
530A J-C Ranch, Com 28.37 300 ⇑P P 01 38 38.3 -0.4
baz=28,SNR=12
V33A Lossen Ranch, 28.38 313 ⇓P P 01 38 38.5 -0.2
baz=28,SNR=5.7
X32A Elmer 28.41 309 ⇓P P 01 38 38.7 -0.3
baz=28,SNR=11
430A Baggett Ranch, 28.49 301 ⇓P P 01 38 39.4 -0.4
baz=28,SNR=9.1
131A Roby 28.50 305 ⇑P P 01 38 38.9 -0.9
baz=28
JFWS Jewell Farm 28.54 333 *e*P P 01 38 40.1 +0.1
JFWS pmax pmax
comp=Z,46nm,0.6s
JFWS Jewell Farm 28.54 333 *e*P P 01 38 40.1 +0.1
comp=Z,46nm,0.6s
Z31A Sharp Cattle R 28.57 307 ⇑P P 01 38 40.4 0.0
baz=29,SNR=10
U33A Lingo Farm, Me 28.58 314 P P 01 38 40.8 +0.4
baz=29

330A Mertzon 28.65 302 ⇑P P 01 38 40.5 -0.6
baz=29,SNR=13
W32A Sentinel 28.71 311 ⇑P P 01 38 41.4 -0.2
baz=29,SNR=13
230A Sterling City 28.77 303 ⇑P P 01 38 41.6 -0.6
baz=29,SNR=15
SAML Samuel 28.79 160 *e*P P 01 38 41.8 -0.6
comp=Z,9.8nm,0.9s
V32A Arapaho 28.86 312 ⇓P P 01 38 42.6 -0.3
baz=29
130A Snyder 28.92 305 ⇓P P 01 38 42.9 -0.5
baz=29
Y31A Rekieta Farm, 28.93 308 ⇓P P 01 38 43.0 -0.6
baz=29,SNR=7.3
429A Davenport Ranc 28.98 300 ⇑P P 01 38 43.4 -0.7
baz=29,SNR=9.6
X31A McDonald Ranch 29.02 309 ⇑P P 01 38 43.4 -0.9
baz=29,SNR=10
T33A Patterson Ranc 29.02 315 ⇑P P 01 38 44.1 -0.2
baz=29
529A Stev Forest Ra 29.09 299 ⇓P P 01 38 44.6 -0.6
baz=29,SNR=9.2
S33A Kaszmaul Farm, 29.14 316 ⇓P P 01 38 45.4 0.0
baz=29
KSU1 Kansas State U 29.15 320 *e*P P 01 38 45.4 0.0
comp=Z,52nm,0.8s
KSU1 Kansas State U 29.15 320 ⇑P P 01 38 45.1 -0.3
baz=29
U32A Winter Ranch, 29.16 313 ⇓P P 01 38 46.1 +0.4
baz=29
W31A Holland Ranch, 29.25 310 ⇓P P 01 38 45.9 -0.5
baz=29
Z30A Sanderson Ranc 29.31 306 ⇑P P 01 38 46.2 -0.8
baz=29,SNR=7.0
329A Wagon Wheel Ra 29.32 302 ⇑P P 01 38 46.7 -0.5
baz=29,SNR=13
229A Bryant Ranch, 29.35 303 ⇓P P 01 38 47.0 -0.4
baz=29
Y30A Stafford Cattl 29.38 307 ⇑P P 01 38 47.3 -0.3
baz=29
V31A Spring Creek L 29.45 311 ⇓P P 01 38 48.1 -0.1
baz=30,SNR=7.0
628A Black Gap, Mar 29.48 298 ⇓P P 01 38 48.2 -0.3
baz=30,SNR=8.8
T32A Huddler Ranch, 29.53 315 ⇓P P 01 38 48.6 -0.3
baz=30
R33A Olander Ranch, 29.54 317 ⇓P P 01 38 49.1 +0.2
baz=30,SNR=8.8
528A Cox Ranch, San 29.58 299 ⇑P P 01 38 49.2 -0.3
baz=30,SNR=15
X30A Coker Ranch, T 29.60 308 ⇑P P 01 38 49.2 -0.3
baz=30,SNR=13
129A Stewart Farms, 29.63 304 ⇓P P 01 38 49.1 -0.8
baz=30
428A Kincaid Ranch, 29.66 300 ⇓P P 01 38 50.7 +0.5
baz=30,SNR=43
Z29A Hungry Hill Ra 29.75 306 ⇓P P 01 38 51.1 +0.2
baz=30,SNR=17
S32A Newby Ranch, P 29.82 316 ⇑P P 01 38 51.7 +0.2
baz=30
Q33A Connelly Farm, 29.84 319 ⇓P P 01 38 51.8 +0.2
baz=30,SNR=15
627A Terlingua Ranc 29.89 297 P P 01 38 52.5 +0.3
baz=30
Y29A Porterfield Fa 29.95 307 ⇑P P 01 38 52.7 -0.1
baz=30,SNR=18
328A Wristen Ranch, 29.96 301 ⇑P P 01 38 52.4 -0.4
baz=30
T31A Randall Ranch, 30.00 314 ⇑P P 01 38 52.8 -0.2
baz=30,SNR=6.6
P33A Williams Farm, 30.02 320 ⇑P P 01 38 53.6 +0.5
baz=30
228A UT Block 9, Go 30.03 303 ⇓P P 01 38 53.0 -0.4
baz=30
R32A Long Quarter, 30.07 317 ⇓P P 01 38 53.7 0.0
baz=30,SNR=8.2
TXAR Lajitas Array 30.09 297 P P 01 38 54.2 +0.2
TXAR PcP PcP 01 41 56.0 +0.2
TXAR ScP ScP 01 45 40.7 +1.9
TXAR Lajitas Array 30.09 297 P P 01 38 54.2 +0.2
comp=Z,7.5nm,0.9s,baz=119,slow=7.3,SNR=45
TXAR PcP PcP 01 41 56.0 +0.2
comp=Z,1.8nm,0.7s,baz=125,slow=1.9,SNR=4.8
TXAR ScP ScP 01 45 40.7 +1.9
comp=Z,2.1nm,0.8s,baz=113,slow=3.4,SNR=2.8
128A Castleberry Fa 30.12 304 ⇑P P 01 38 53.8 -0.4
baz=30,SNR=17
S31A Mullinville 30.14 315 ⇓P P 01 38 54.6 +0.3
baz=30,SNR=8.9
X29A Tulia 30.22 308 ⇑P P 01 38 54.6 -0.4
baz=30,SNR=6.2
527A Woodward Ranch 30.26 299 ⇓P P 01 38 55.6 +0.1
baz=30,SNR=30
427A Hayter Ranch, 30.28 300 ⇓P P 01 38 55.8 +0.2
baz=30,SNR=12
Z28A Tucker Farm, M 30.28 305 ⇓P P 01 38 55.4 -0.2
baz=30,SNR=8.1
Q32A Meitler Ranch, 30.30 318 ⇓P P 01 38 55.8 +0.2
baz=30,SNR=7.7
AMTX Amarillo 30.39 309 *e*P P 01 38 56.5 0.0
comp=Z,52nm,1.3s
AMTX Amarillo 30.39 309 ⇑P P 01 38 56.1 -0.4
baz=30
U30A WK&E Inc. Balk 30.39 312 ⇑P P 01 38 56.8 +0.2
baz=30,SNR=7.5
Y28A McKinney Farm, 30.41 306 ⇓P P 01 38 56.4 -0.5
baz=30,SNR=10.0
NNA Nana 30.42 188 *e*P P 01 38 57.1 +0.3
comp=Z,48nm,1.2s
W29A Amraillo 30.46 309 ⇑P P 01 38 56.7 -0.5
baz=30
R31A Burdett 30.53 316 ⇓P P 01 38 57.6 -0.2
baz=30,SNR=8.6
626A Big Bend Ranch 30.54 297 ⇓P P 01 38 57.8 -0.1
baz=30,SNR=16
227A Bennet, Jal 30.55 302 ⇑P P 01 38 57.0 -1.0
baz=31
X28A Dimmitt 30.62 308 ⇑P P 01 38 58.2 -0.5
baz=31
526A Mary Lane Ranc 30.63 298 ⇑P P 01 38 59.4 +0.5
baz=31,SNR=33
P32A Huiting Farm, 30.69 319 ⇑P P 01 38 59.3 +0.2
baz=31,SNR=10
V29A Stinnett 30.70 310 ⇑P P 01 38 59.5 +0.1
baz=31
426A McDonald Obser 30.75 299 ⇑P P 01 39 00.4 +0.5
baz=31,SNR=26
S30A Montezuma 30.82 314 ⇓P P 01 39 00.8 +0.5
baz=31,SNR=5.2
127A Arkansas Junct 30.83 303 ⇓P P 01 39 00.4 -0.1
baz=31,SNR=9.1
MSTX Muleshoe 30.84 306 *e*P P 01 39 00.3 -0.3
comp=Z,25nm,0.8s
MSTX Muleshoe 30.84 306 ⇑P P 01 39 00.3 -0.3
baz=31,SNR=12
Q31A Ellis 30.84 317 ⇓P P 01 39 00.5 0.0
baz=31
O32A Brockman Farm, 30.88 320 ⇑P P 01 39 01.0 +0.2
baz=31
326A Caldwell Ranch 30.89 301 ⇓P P 01 39 01.0 -0.1
baz=31
Z27A Tatum 30.94 305 ⇓P P 01 39 00.8 -0.7
baz=31,SNR=13
R30A Dighton 31.03 315 ⇓P P 01 39 02.4 +0.3
baz=31,SNR=12
Y27A Causey 31.11 306 ⇑P P 01 39 02.6 -0.4
baz=31,SNR=7.8
P31A Stockton 31.12 318 ⇓P P 01 39 03.2 +0.3
baz=31,SNR=10
T29A Hugoton 31.15 313 ⇓P P 01 39 03.2 0.0
baz=31
V28A Channing 31.16 310 ⇑P P 01 39 03.5 +0.1
baz=31
S29A Ulysses 31.25 314 ⇑P P 01 39 04.6 +0.5
baz=31,SNR=8.5
226B Tecolote Peak, 31.28 302 ⇑P P 01 39 04.4 -0.1
baz=31
126A Clayton Basin, 31.34 303 ⇓P P 01 39 04.7 -0.3
baz=31,SNR=6.4
X27A F and S Farms, 31.35 307 ⇑P P 01 39 05.0 -0.1
baz=31,SNR=8.5
Q30A Quinter 31.36 317 ⇑P P 01 39 05.5 +0.4
baz=31,SNR=12
U28A Mallet 31.44 311 ⇓P P 01 39 05.6 -0.3
baz=31
O31A Woolen Ranch, 31.46 319 ⇓P P 01 39 05.8 -0.1
baz=32,SNR=7.9
W27A Bowe Ranch, En 31.49 308 ⇓P P 01 39 06.0 -0.3
baz=32

SPMN St. Paul 31.50 333 *e*P P 01 39 08.0 +1.9
comp=Z,59nm,1.5s
SPMN St. Paul 31.50 333 ⇑P P 01 39 06.9 +0.8
baz=32
BGNE Belgrade 31.51 322 *e*P P 01 39 07.2 +0.8
BGNE Belgrade 31.51 322 ⇓P P 01 39 07.5 +1.1
baz=32
Z26A Caprock 31.52 304 ⇑P P 01 39 05.7 -0.9
baz=32,SNR=12
425A Indio Mountain 31.57 299 ⇑P P 01 39 07.7 +0.6
baz=32,SNR=17
V27A Dan Oppiter Fa 31.61 309 ⇓P P 01 39 07.4 +0.1
baz=32
P30A Selden 31.69 317 ⇓P P 01 39 08.2 +0.2
baz=32,SNR=14
T28A Walsh 31.70 312 ⇑P P 01 39 08.1 -0.1
baz=32,SNR=8.8
325A Bean Ranch, Si 31.72 300 ⇑P P 01 39 09.0 +0.5
baz=32,SNR=36
S28A Manter 31.78 313 ⇓P P 01 39 09.0 +0.2
baz=32,SNR=6.5
Q29A Oakley 31.81 316 ⇓P P 01 39 09.2 +0.2
baz=32,SNR=19
225A Deer Hill, Car 31.82 302 ⇑P P 01 39 10.0 +0.7
baz=32,SNR=30
125A Gardner Draw, 31.86 303 ⇑P P 01 39 09.3 -0.2
baz=32,SNR=18
X26A CR and CF Fran 31.86 307 ⇑P P 01 39 09.4 -0.2
baz=32,SNR=11
U27A Thompson Grove 31.89 310 ⇑P P 01 39 09.3 -0.6
baz=32,SNR=5.9
O30A MW Ranch, Wils 31.93 319 ⇑P P 01 39 10.3 +0.2
baz=32,SNR=7.5
M31A Lambtecht Ranc 31.96 321 ⇑P P 01 39 10.5 +0.2
baz=32,SNR=12
W26A Owens Ranch, T 32.03 308 ⇑P P 01 39 11.2 +0.1
baz=32,SNR=8.7
R28A Tribune 32.09 314 ⇓P P 01 39 11.5 -0.1
baz=32,SNR=18
Z25A Roswell 32.10 304 ⇑P P 01 39 11.8 0.0
baz=32,SNR=19
T27A Campo 32.11 312 ⇑P P 01 39 11.4 -0.3
baz=32
MNTX Cornudas Mount 32.15 301 *e*P P 01 39 12.2 +0.2
comp=Z,82nm,1.1s
324A Moseley Ranch, 32.16 300 ⇓P P 01 39 12.5 +0.2
baz=32,SNR=38
P29A Atwood 32.16 317 ⇓P P 01 39 12.6 +0.4
baz=32
ECSD EROS Data Cent 32.21 327 *e*P P 01 39 11.7 -0.8
comp=Z,329nm,2.8s
ECSD EROS Data Cent 32.21 327 ⇓P P 01 39 11.6 -0.8
baz=32,SNR=7.9
Y25A Mesa, Roswell 32.31 305 ⇓P P 01 39 13.3 -0.2
baz=32,SNR=11
V26A Tequesquite Ra 32.33 309 ⇑P P 01 39 13.3 -0.4
baz=32,SNR=8.4
O29A 4D Ranch, Culb 32.37 318 ⇑P P 01 39 14.7 +0.8
baz=32
224A Cornudas Mount 32.37 301 ⇑P P 01 39 14.6 +0.4
baz=32,SNR=37
L31A Butterfield Fa 32.40 323 ⇑P P 01 39 15.1 +1.0
baz=32
Q28A Sharon Springs 32.47 315 ⇓P P 01 39 15.3 +0.5
baz=32
X25A Clemmons Ranch 32.50 306 ⇓P P 01 39 14.9 -0.3
baz=32,SNR=5.6
124A Stringfield Ra 32.51 302 ⇑P P 01 39 15.6 +0.2
baz=32,SNR=29
U26A Atchley Ranch, 32.55 310 ⇓P P 01 39 15.5 -0.2
baz=33,SNR=14
W25A X Bar L Ranch, 32.60 307 ⇓P P 01 39 16.3 +0.2
baz=33,SNR=9.6
Z24A Sheeppen Canyo 32.63 304 ⇓P P 01 39 16.8 +0.3
baz=33,SNR=27
N29A Votaw Ranch, W 32.65 319 ⇑P P 01 39 16.4 0.0
baz=33,SNR=7.0
P28A Saint Francis 32.69 316 ⇓P P 01 39 16.7 0.0
baz=33,SNR=13
R27A Eads 32.74 313 ⇓P P 01 39 17.1 -0.1
baz=33
L30A Spencer Herefo 32.77 322 ⇑P P 01 39 18.1 +0.7
baz=33,SNR=11
T26A Comanche Natio 32.78 311 ⇓P P 01 39 17.3 -0.4
baz=33,SNR=6.5
Y24A Capitan 32.89 305 ⇑P P 01 39 19.3 +0.6
baz=33,SNR=25
S26A Kim 32.89 312 ⇑P P 01 39 19.3 +0.7
baz=33
V25A Rancho No Teng 32.97 308 ⇑P P 01 39 20.0 +0.6
baz=33,SNR=15
KSCO Kaye Shedlock' 32.98 315 *e*P P 01 39 20.1 +0.8
KSCO Kaye Shedlock' 32.98 315 ⇓P P 01 39 20.0 +0.6
baz=33
O28A Krutsinger Ran 32.99 317 ⇓P P 01 39 20.4 +1.0
baz=33
U25A Circle Dot Ran 33.04 309 ⇑P P 01 39 19.9 -0.1
baz=33,SNR=11
M29A Burnside Ranch 33.05 320 ⇑P P 01 39 21.0 +1.1
baz=33
X24A Lazy VL Ranch, 33.11 306 ⇓P P 01 39 21.4 +0.8
baz=33
N28A Pribbeno Ranch 33.15 318 ⇓P P 01 39 20.9 +0.2
baz=33,SNR=6.4
K30A Basset 33.16 323 ⇓P P 01 39 21.3 +0.6
baz=33,SNR=7.3
EYMN Ely 33.17 337 *e*P P 01 39 26.2 +5.4
comp=Z,37nm,1.0s
R26A Arlington 33.19 313 ⇓P P 01 39 21.7 +0.5
baz=33
P27A Ficken Ranch, 33.22 316 ⇑P P 01 39 21.9 +0.4
baz=33
L29A Maesberg Ranch 33.29 321 ⇓P P 01 39 22.2 +0.3
baz=33,SNR=10
Z23A Rita Site, Whi 33.30 303 ⇑P P 01 39 22.6 +0.3
baz=33,SNR=6.8
W24A Lazy 6 Ranch, 33.32 307 ⇓P P 01 39 23.4 +1.0
baz=33,SNR=18
T25A Trinidad 33.35 311 ⇓P P 01 39 23.0 +0.3
baz=33,SNR=7.6
Y23A Lovelace Mesa, 33.37 304 ⇑P P 01 39 23.7 +0.8
baz=33,SNR=27
V24A Rampart Ranch, 33.41 308 ⇑P P 01 39 23.9 +0.6
baz=33,SNR=6.9
M28A Bar X Bar Ranc 33.44 319 ⇑P P 01 39 24.0 +0.7
baz=34
O27A Beecher Island 33.48 317 ⇑P P 01 39 24.6 +0.8
baz=34
J30A Dallas 33.50 324 ⇑P P 01 39 24.1 +0.4
baz=34,SNR=5.6
Q26A Hugo 33.54 314 ⇑P P 01 39 24.5 +0.2
baz=34
S25A Robets Cordova 33.59 311 ⇓P P 01 39 25.3 +0.5
baz=34,SNR=8.5
OGNE Ogallala 33.60 318 ⇓P P 01 39 25.5 +0.8
baz=34
K29A Lazy Trails An 33.62 322 ⇓P P 01 39 25.7 +0.9
baz=34
222A Williams Famil 33.67 301 ⇑P P 01 39 26.1 +0.6
baz=34
U24A Moreno Valley 33.68 309 ⇓P P 01 39 26.7 +1.0
baz=34,SNR=5.4
X23A Hourglass Bar 33.70 305 ⇑P P 01 39 26.9 +1.1
baz=34
R25A Fountain Ranch 33.70 312 ⇓P P 01 39 26.0 +0.3
baz=34,SNR=8.8
P26A Davis Ranch, A 33.73 315 ⇑P P 01 39 27.1 +1.1
baz=34
N27A Anderson Farm, 33.85 318 ⇓P P 01 39 27.4 +0.5
baz=34
W23A Werner Place, 33.87 306 ⇑P P 01 39 28.3 +1.0
baz=34,SNR=24
Z22A Elephant Butte 33.88 303 ⇑P P 01 39 28.4 +1.0
baz=34,SNR=5.2
BNM Barren Site 33.90 304 *e*P P 01 39 28.2 +0.7
comp=Z,41nm,1.0s
BRSD Miller 33.93 326 *e*P P 01 39 25.0 -2.4
LPM Los Pinos Moun 33.95 305 *e*P P 01 39 28.8 +0.8
J29A Okreek 34.02 323 ⇑P P 01 39 28.5 +0.2
baz=34
T24B San Luis 34.02 310 ⇓P P 01 39 29.6 +0.9
baz=34,SNR=9.5
ANMO Albuquerque 34.03 306 *e*P P 01 39 29.3 +0.6
ANMO Albuquerque 34.03 306 P P 01 39 29.3 +0.6
comp=Z,4.1nm,0.8s,baz=122,slow=8.8,SNR=17
Q25A Bedland, Calha 34.03 314 ⇑P P 01 39 29.2 +0.6
baz=34

O26A	**Horse Wrangler**	**34.06 316**	⇓P		**P**		**01 39 28.5**	**-0.2**
	baz=34							
Y22D	**IRIS PASSCAL I**	**34.10 304**	⇓P		**P**		**01 39 30.0**	**+0.8**
	baz=34							
V23A	**Ortiz Mt. (NFS**	**34.11 307**	⇑P		**P**		**01 39 30.2**	**+0.9**
	baz=34,SNR=8.1							
S24A	**Houchin Ranch,**	**34.14 311**	⇑P		**P**		**01 39 30.3**	**+0.5**
	baz=34,SNR=8.8							
M27A	**Reverse DX Ran**	**34.15 319**	⇓P		**P**		**01 39 29.9**	**+0.4**
	baz=34,SNR=10.0							
LENM	**Lemitar**	**34.17 304**	*e*P		**P**		**01 39 30.6**	**+0.7**
221A	**Mesquite Ranch**	**34.20 300**	⇑P		**P**		**01 39 31.0**	**+1.0**
	baz=34							
K28A	**Ten Mile Ranch**	**34.20 321**	P		**P**		**01 39 30.3**	**+0.3**
	baz=34							
P25A	**Willow Gulch B**	**34.26 315**	⇑P		**P**		**01 39 31.3**	**+0.7**
	baz=34							
N26A	**Koester Ranch,**	**34.30 317**	⇓P		**P**		**01 39 31.5**	**+0.7**
	baz=34							
R24A	**Sanders Place,**	**34.32 312**	⇓P		**P**		**01 39 32.2**	**+1.0**
	baz=34							
U23A	**El Rito**	**34.33 308**	⇓P		**P**		**01 39 32.7**	**+1.4**
	baz=34,SNR=12							
121A	**Cookes Peak, D**	**34.34 301**	*e*P		**P**		**01 39 32.2**	**+0.8**
	comp=Z,30nm,0.9s							
121A	**Cookes Peak, D**	**34.34 301**	⇓P		**P**		**01 39 32.8**	**+1.4**
	baz=34,SNR=16							
LAZ	**Ladron**	**34.38 305**	*e*P		**P**		**01 39 32.0**	**+0.3**
	comp=Z,287nm,0.2s							
I29A	**Vivian Onida**	**34.40 324**	⇓P		**P**		**01 39 32.0**	**+0.5**
	baz=34							
L27A	**T5 Ranch, Ells**	**34.41 320**	⇓P		**P**		**01 39 31.8**	**0.0**
	baz=34							
T23A	**Casias Ranch,**	**34.49 309**	⇓P		**P**		**01 39 33.6**	**+0.9**
	baz=34,SNR=5.1							
J28A	**Allard Ranch,**	**34.55 322**	⇓P		**P**		**01 39 32.9**	**0.0**
	baz=35							
M26A	**McRoberts Ranc**	**34.59 318**	⇓P		**P**		**01 39 34.1**	**+0.8**
	baz=35							
ARE	**Arequipa**	**34.64 178**	*e*P		**P**		**01 39 34.0**	**-0.1**
ARE	**Arequipa**	**34.64 178**	*e*P		**P**		**01 39 34.0**	**-0.1**
320A	**Kipp Ranch, An**	**34.65 299**	⇑P		**P**		**01 39 35.5**	**+1.4**
	baz=35,SNR=9.1							
Q24A	**Divide**	**34.68 313**	⇓P		**P**		**01 39 34.5**	**+0.1**
	baz=35,SNR=7.2							
V22A	**San Miguel Ran**	**34.72 307**	⇑P		**P**		**01 39 35.8**	**+1.1**
	baz=35,SNR=16							
K27A	**Flueckinger Fa**	**34.72 321**	⇓P		**P**		**01 39 34.9**	**+0.5**
	baz=35							
S23A	**Nye Farm, Mont**	**34.74 311**	⇑P		**P**		**01 39 35.2**	**+0.3**
	baz=35							
LPAZ	**La Paz**	**34.76 172**	*e*P		**P**		**01 39 35.2**	**-0.3**
	comp=Z,37nm,1.1s							
LPAZ	**La Paz**	**34.76 172**	P		**P**		**01 39 36.7**	**+1.2**
	comp=Z,5.6nm,0.5s,baz=16,slow=5.4,SNR=10							
LPAZ			LR		LR		01 54 51.9	
	comp=Z,11µm,20.7s,baz=3.5,slow=38							
P24A	**Kohler Place,**	**34.77 314**	⇑P		**P**		**01 39 35.6**	**+0.6**
	baz=35							
R23A	**Moffat**	**34.82 311**	⇑P		**P**		**01 39 35.8**	**+0.3**
	baz=35,SNR=14							
U22A	**Llaves**	**34.84 308**	⇑P		**P**		**01 39 36.5**	**+0.8**
	baz=35,SNR=19							
L26A	**Underwood Farm**	**34.86 319**	⇓P		**P**		**01 39 36.1**	**+0.5**
	baz=35							
I28A	**Midland**	**34.87 323**	⇓P		**P**		**01 39 35.5**	**-0.1**
	baz=35,SNR=9.5							
J27A	**Elkhorn Farm,**	**34.90 322**	⇑P		**P**		**01 39 36.9**	**+0.9**
	baz=35							
M25A	**Palm-Egli Farm**	**35.16 317**	⇑P		**P**		**01 39 39.4**	**+1.1**
	baz=35							
O24A	**Longmont**	**35.17 315**	⇑P		**P**		**01 39 38.9**	**+0.5**
	baz=35							
AGMN	**Agassiz Nation**	**35.21 333**	*e*P		**P**		**01 39 39.0**	**+0.6**
	comp=Z,33nm,0.9s							
AGMN	**Agassiz Nation**	**35.21 333**	⇑P		**P**		**01 39 38.4**	**0.0**
	baz=35,SNR=10							
H28A	**Mission Ridge**	**35.21 324**	⇑P		**P**		**01 39 39.0**	**+0.5**
	baz=35							
LPIG	**La Paz**	**35.26 286**	P		**P**		**01 39 40.3**	**+1.1**
LPIG	**La Paz**	**35.26 286**	P		**P**		**01 39 40.3**	**+1.1**
	comp=Z,26nm,0.3s,baz=133,slow=2.3,SNR=3.6							
319A	**Douglas**	**35.29 299**	⇓P		**P**		**01 39 40.7**	**+1.2**
	baz=35,SNR=38							
K26A	**Motz Farm, Whi**	**35.29 320**	⇑P		**P**		**01 39 39.5**	**+0.1**
	baz=35							
E30A	**Jud**	**35.31 328**	⇓P		**P**		**01 39 39.5**	**+0.2**
	baz=35							
F29A	**Eureka**	**35.32 327**	⇓P		**P**		**01 39 39.2**	**-0.2**
	baz=35							
P23A	**Jefferson**	**35.34 313**	⇓P		**P**		**01 39 40.7**	**+0.5**
	baz=35							
S22A	**4UR Ranch, Cre**	**35.35 310**	⇓P		**P**		**01 39 40.4**	**+0.2**
	baz=35,SNR=11							
ISCO	**Idaho Springs**	**35.38 314**	*e*P		**P**		**01 39 40.4**	**0.0**
ISCO			pmax		pmax			
	comp=Z,297nm,2.8s							
ISCO	**Idaho Springs**	**35.38 314**	*e*P		**P**		**01 39 40.4**	**0.0**
	comp=Z,297nm,2.8s							
ISCO	**Idaho Springs**	**35.38 314**	⇑P		**P**		**01 39 40.1**	**-0.3**
	baz=35,SNR=14							
G28A	**Parade**	**35.40 325**	⇑P		**P**		**01 39 39.8**	**-0.4**
	baz=35,SNR=10							
I27A	**Quinn**	**35.42 323**	⇓P		**P**		**01 39 40.0**	**-0.4**
	baz=35,SNR=7.1							
J26A	**Sides Ranch, S**	**35.57 321**	⇓P		**P**		**01 39 41.4**	**-0.3**
	baz=36							
D30A	**Buchanan**	**35.66 329**	⇑P		**P**		**01 39 42.0**	**-0.3**
	baz=36							
M24A	**Cheyenne**	**35.67 317**	⇓P		**P**		**01 39 42.3**	**-0.4**
	baz=36,SNR=8.5							
E29A	**Napoleon**	**35.72 328**	⇓P		**P**		**01 39 42.9**	**0.0**
	baz=36							
H27A	**Howes**	**35.77 323**	⇓P		**P**		**01 39 43.3**	**-0.1**
	baz=36,SNR=9.2							
O23A	**Lake Granby, G**	**35.78 314**	⇑P		**P**		**01 39 44.0**	**+0.2**
	baz=36							
F28A	**McLaughlin**	**35.84 326**	⇑P		**P**		**01 39 44.2**	**+0.2**
	baz=36							
I26A	**New Underwood**	**35.86 322**	⇓P		**P**		**01 39 44.1**	**0.0**
	baz=36							
C30A	**Mose, Pekin**	**35.94 330**	⇓P		**P**		**01 39 44.9**	**+0.1**
	baz=36,SNR=10							
PHWY	**Pilot Hill**	**36.00 316**	*e*P		**P**		**01 39 47.9**	**+2.2**
L24A	**Wheatland**	**36.03 318**	⇑P		**P**		**01 39 45.8**	**0.0**
	baz=36							
D29A	**Pettibone, Tap**	**36.03 329**	⇑P		**P**		**01 39 45.6**	**+0.1**
	baz=36							
SMCO	**Snowmass**	**36.05 312**	*e*P		**P**		**01 39 46.7**	**+0.4**
	comp=Z,24nm,1.0s							
J25A	**Sunshine Ranch**	**36.05 320**	⇑P		**P**		**01 39 45.5**	**-0.4**
	baz=36,SNR=6.9							
SIV	**San Ignacio**	**36.08 160**	P		**P**		**01 39 45.8**	**-0.4**
SIV	**San Ignacio**	**36.08 160**	P		**P**		**01 39 45.8**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=326,slow=10,SNR=8.9							
SIV			LR		LR		01 55 22.9	
	comp=Z,11µm,18.5s,baz=352,slow=38							
P22A	**Eagle**	**36.08 313**	⇑P		**P**		**01 39 46.0**	**-0.4**
	baz=36							
N23A	**Red Feather La**	**36.12 315**	⇑P		**P**		**01 39 46.6**	**-0.1**
	baz=36							
G27A	**Dupree**	**36.15 325**	⇑P		**P**		**01 39 46.6**	**-0.1**
	baz=36,SNR=13							
H26A	**Fairpoint**	**36.16 323**	⇓P		**P**		**01 39 46.6**	**-0.1**
	baz=36,SNR=10.0							
O22A	**Kremmling**	**36.19 314**	⇓P		**P**		**01 39 46.8**	**-0.6**
	baz=36							
I25A	**Rochford**	**36.37 321**	P		**P**		**01 39 48.8**	**+0.1**
	baz=36							
MVCO	**Mesa Verde**	**36.38 308**	*e*P		**P**		**01 39 49.0**	**+0.1**
	comp=Z,13nm,0.8s							
MVCO	**Mesa Verde**	**36.38 308**	⇑P		**P**		**01 39 48.5**	**-0.4**
	baz=36,SNR=13							
B30A	**Myrvik Farm, E**	**36.41 331**	⇑P		**P**		**01 39 49.0**	**+0.3**
	baz=36,SNR=10							
N22A	**Wattenberg Ran**	**36.42 315**	⇓P		**P**		**01 39 49.4**	**+0.1**
	baz=36							
F27A	**Lemmon**	**36.51 325**	⇓P		**P**		**01 39 50.2**	**+0.6**
	baz=36,SNR=10.0							
J24A	**Dixon Ranch, L**	**36.54 320**	⇑P		**P**		**01 39 50.5**	**+0.4**
	baz=36							
L23A	**Garrett**	**36.56 317**	⇓P		**P**		**01 39 50.5**	**+0.1**
	baz=37,SNR=12							
MDND	**Maddock**	**36.58 329**	*e*P		**P**		**01 39 50.7**	**+0.4**
	comp=Z,45nm,0.8s							
MDND	**Maddock**	**36.58 329**	⇓P		**P**		**01 39 50.8**	**+0.6**
	baz=37							
RSSD	**Black Hills**	**36.61 321**	*e*P		**P**		**01 39 51.1**	**+0.3**
RSSD			pmax		pmax			
	comp=Z,20nm,2.2s							
RSSD	**Black Hills**	**36.61 321**	*e*P		**P**		**01 39 51.0**	**+0.3**
	comp=Z,20nm,2.2s							
D28A	**Regan**	**36.61 328**	⇑P		**P**		**01 39 51.0**	**+0.5**
	baz=37							
X18A	**Snowflake**	**36.63 304**	⇑P		**P**		**01 39 51.8**	**+0.8**
	baz=37,SNR=6.7							
W18A	**Petrified Fore**	**36.63 305**	*e*P		P		01 39 54.3	+3.3
H25A	**Fruitdale**	**36.64 322**	⇑P		**P**		**01 39 51.1**	**+0.3**
	baz=37							
SCHQ	**Schefferville**	**36.69 6**	P		**P**		**01 39 50.1**	**-1.0**
SCHQ	**Schefferville**	**36.69 6**	P		**P**		**01 39 50.1**	**-1.0**
	comp=Z,8.0nm,0.6s,baz=200,slow=7.0,SNR=13							
SCHQ			LR		LR		01 55 38.6	
	comp=Z,5µm,18.4s,baz=200,slow=38							
ULM	**Lac du Bonnet**	**36.73 335**	*e*P		**P**		**01 39 50.2**	**-1.1**
	comp=Z,24nm,0.9s							
ULM	**Lac du Bonnet**	**36.73 335**	P		**P**		**01 39 50.1**	**-1.3**
	comp=Z,9.0nm,0.9s,baz=142,slow=8.4,SNR=11							
TUC	**Tucson**	**36.74 300**	*e*P		**P**		**01 39 52.8**	**+0.9**
TUC			pmax		pmax			
	comp=Z,11nm,0.9s							
TUC	**Tucson**	**36.74 300**	*e*P		**P**		**01 39 52.8**	**+0.9**
	comp=Z,11nm,0.9s							
A30A	**Hoffart Farm,**	**36.76 332**	⇑P		**P**		**01 39 52.2**	**+0.5**
	baz=37,SNR=16							
PV01	**Paradox Valley**	**36.77 310**	*e*P		**P**		**01 39 52.4**	**+0.1**
	comp=Z,744nm,0.7s							
M22A	**Cedar Creek Ra**	**36.80 316**	⇑P		**P**		**01 39 52.4**	**-0.1**
	baz=37							
I24A	**Kuemmerle Ranc**	**36.81 321**	⇑P		**P**		**01 39 52.1**	**-0.3**
	baz=37							
F26A	**Lodgepole**	**36.85 325**	⇑P		**P**		**01 39 52.9**	**+0.3**
	baz=37,SNR=10							
G25A	**Newell**	**36.87 323**	⇓P		**P**		**01 39 52.3**	**-0.5**
	baz=37,SNR=14							
C28A	**Hausauer Farms**	**36.87 329**	⇓P		**P**		**01 39 53.2**	**+0.4**
	baz=37							
B29A	**Wagenman Farm,**	**36.90 330**	⇑P		**P**		**01 39 53.5**	**+0.6**
	baz=37							
L22A	**Ellis Ranch, M**	**36.99 317**	⇓P		**P**		**01 39 54.2**	**+0.1**
	baz=37							
PV04	**Paradox Valley**	**37.11 310**	*e*P		**P**		**01 39 55.8**	**+0.7**
E26A	**Carlson Angus**	**37.12 326**	⇓P		**P**		**01 39 54.9**	**-0.1**
	baz=37							
A29A	**Manning Farm,**	**37.17 331**	⇑P		**P**		**01 39 55.0**	**-0.2**
	baz=37,SNR=16							
H24A	**Dirks Ranch, A**	**37.27 322**	⇑P		**P**		**01 39 55.0**	**-1.2**
	baz=37,SNR=6.1							
F25A	**Bowman**	**37.33 324**	⇑P		**P**		**01 39 57.3**	**+0.6**
	baz=37							
O20A	**White River Ci**	**37.34 313**	*e*P		**P**		**01 39 57.9**	**+0.8**
	comp=Z,87nm,1.5s							
O20A	**White River Ci**	**37.34 313**	⇑P		**P**		**01 39 57.9**	**+0.8**
	baz=37,SNR=10							
K22A	**Casper**	**37.36 318**	*e*P		**P**		**01 39 57.2**	**+0.2**
	comp=Z,35nm,0.9s							
K22A	**Casper**	**37.36 318**	⇑P		**P**		**01 39 56.8**	**-0.3**
	baz=37,SNR=6.9							
B28A	**Dugan Ranch, T**	**37.37 330**	⇑P		**P**		**01 39 57.3**	**+0.5**
	baz=37							
C27A	**Sayler Ranch,**	**37.43 328**	⇓P		**P**		**01 39 58.6**	**+1.1**
	baz=37							
D26A	**Manning**	**37.47 326**	⇓P		**P**		**01 39 58.6**	**+0.8**
	baz=38							
G24A	**Alzada**	**37.52 323**	⇓P		**P**		**01 39 58.8**	**+0.4**
	baz=38							
A28A	**Rude Farm, Bot**	**37.64 330**	⇑P		**P**		**01 39 59.6**	**+0.3**
	baz=38,SNR=5.1							
E25A	**Miller Ranch,**	**37.65 325**	⇓P		**P**		**01 39 59.5**	**+0.1**
	baz=38,SNR=6.2							
N20A	**Spence Gulch,**	**37.66 314**	⇑P		**P**		**01 39 60.0**	**+0.2**
	baz=38							
J22A	**Midwest**	**37.71 319**	⇑P		**P**		**01 39 59.7**	**-0.4**
	baz=38,SNR=11							
X16A	**Lo Mia Camp, P**	**37.78 303**	⇓P		**P**		**01 40 01.4**	**+0.5**
	baz=38,SNR=12							
C26A	**Wahner Farm, P**	**37.80 328**	⇑P		**P**		**01 40 00.6**	**0.0**
	baz=38							
K21A	**Alcova**	**37.81 317**	⇑P		**P**		**01 40 01.1**	**+0.1**
	baz=38,SNR=15							
F24A	**Ekalaka**	**37.84 323**	⇑P		**P**		**01 40 00.5**	**-0.6**
	baz=38							
I22A	**9 Mile Ranch,**	**37.96 319**	⇓P		**P**		**01 40 01.7**	**-0.5**
	baz=38,SNR=14							
D25A	**Fairfield**	**38.01 326**	⇑P		**P**		**01 40 03.0**	**+0.5**
	baz=38							
G23A	**Biddle**	**38.01 322**	⇓P		**P**		**01 40 02.1**	**-0.4**
	baz=38							
WUAZ	**Wupatki**	**38.03 305**	*e*P		**P**		**01 40 03.1**	**+0.3**
	comp=Z,49nm,1.3s							
WUAZ	**Wupatki**	**38.03 305**	⇓P		**P**		**01 40 03.0**	**+0.1**
	baz=38,SNR=14							
E24A	**Baker**	**38.19 324**	⇓P		**P**		**01 40 04.9**	**+1.0**
	baz=38							
B26A	**Jensen Ranch,**	**38.24 328**	⇓P		**P**		**01 40 04.4**	**+0.1**
	baz=38							
H22A	**Clearmont**	**38.25 320**	⇓P		**P**		**01 40 05.4**	**+0.8**
	baz=38							
J21A	**Lysite**	**38.29 318**	⇑P		**P**		**01 40 04.5**	**-0.5**
	baz=38,SNR=17							
F23A	**Volborg**	**38.31 323**	⇓P		**P**		**01 40 04.0**	**-1.1**
	baz=38,SNR=7.5							
214A	**Organ Pipe Nat**	**38.35 298**	*e*P		**P**		**01 40 06.3**	**+0.7**
	comp=Z,57nm,1.5s							
214A	**Organ Pipe Nat**	**38.35 298**	⇑P		**P**		**01 40 06.2**	**+0.7**
	baz=38							
I21A	**Big Trails, Te**	**38.42 319**	⇓P		**P**		**01 40 05.2**	**-0.9**
	baz=38,SNR=14							
A26A	**Wade Farm, Ken**	**38.49 329**	⇓P		**P**		**01 40 06.8**	**+0.4**
	baz=38							
D24A	**Glendive**	**38.53 325**	⇓P		**P**		**01 40 07.5**	**+0.8**
	baz=38							
SRU	**San Rafael**	**38.56 310**	*e*P		**P**		**01 40 07.8**	**+0.5**
SRU	**San Rafael**	**38.56 310**	*e*P		**P**		**01 40 07.8**	**+0.5**
B25A	**Knox Farm, Ray**	**38.64 327**	⇓P		**P**		**01 40 08.6**	**+1.0**
	baz=39							
H21A	**Big Horn, Sher**	**38.69 320**	⇓P		**P**		**01 40 08.4**	**+0.1**
	baz=39							
J20A	**Shoshoni**	**38.70 318**	⇓P		**P**		**01 40 08.4**	**+0.1**
	baz=39,SNR=12							
Z14A	**Wintersburg**	**38.75 301**	⇑P		**P**		**01 40 08.8**	**0.0**
	baz=39							
C24A	**Savage**	**38.84 326**	⇓P		**P**		**01 40 09.6**	**+0.3**
	baz=39							
F22A	**Rosebud**	**38.84 322**	⇑P		**P**		**01 40 08.6**	**-0.8**
	baz=39,SNR=18							
Y14A	**Wickenburg**	**38.92 302**	⇓P		**P**		**01 40 10.4**	**+0.1**
	baz=39,SNR=7.5							
U15A	**North Rim**	**39.00 306**	⇓P		**P**		**01 40 10.8**	**-0.4**
	baz=39,SNR=21							
I20A	**Worland**	**39.02 319**	⇑P		**P**		**01 40 10.6**	**-0.4**
	baz=39,SNR=6.6							
E22A	**Miles City**	**39.03 323**	⇓P		**P**		**01 40 10.9**	**-0.2**
	baz=39							
A25A	**Svangstu Ranch**	**39.05 328**	⇑P		**P**		**01 40 11.4**	**+0.4**
	baz=39							
D23A	**Lindsay**	**39.05 325**	⇓P		**P**		**01 40 11.7**	**+0.6**
	baz=39							
G21A	**Lodge Grass**	**39.10 321**	⇑P		**P**		**01 40 11.3**	**-0.4**
	baz=39							
TMUT	**Trail Mountain**	**39.12 310**	*e*P		**P**		**01 40 12.2**	**0.0**
	comp=Z,17nm,1.0s							
H20A	**Greybull**	**39.20 319**	⇑P		**P**		**01 40 12.1**	**-0.5**
	baz=39							
J19A	**Crowheart**	**39.28 317**	⇓P		**P**		**01 40 13.0**	**-0.3**
	baz=39,SNR=12							
DGMT	**Dagmar**	**39.30 327**	⇑P		**P**		**01 40 14.0**	**+0.8**
	baz=39							
113A	**Mohawk Valley,**	**39.30 300**	⇓P		**P**		**01 40 13.7**	**+0.3**
	baz=39							
LAO	**LASA Array**	**39.33 323**	*e*P		**P**		**01 40 14.0**	**+0.5**
BW06	**Boulder Array**	**39.38 316**	*e*P		**P**		**01 40 13.1**	**-1.1**
	comp=Z,15nm,1.0s							
PDAR	**Pinedale Array**	**39.38 316**	P		**P**		**01 40 13.4**	**-0.8**
PDAR			PcP		**PcP**		**01 42 21.6**	**-1.0**
PDAR			ScP		**ScP**		**01 46 11.9**	**+0.1**
PDAR	**Pinedale Array**	**39.38 316**	P		**P**		**01 40 13.4**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=121,slow=10,SNR=31							
PDAR			PcP		**PcP**		**01 42 21.6**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=118,slow=7.3,SNR=2.8							
PDAR			ScP		**ScP**		**01 46 11.9**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=117,slow=6.4,SNR=3.8							
C23A	**Lambert**	**39.41 325**	⇑P		**P**		**01 40 14.6**	**+0.5**
	baz=39,SNR=11							
A24A	**Westby**	**39.48 328**	⇑P		**P**		**01 40 15.8**	**+1.1**
	baz=40,SNR=14							
DAU	**Daniels Canyon**	**39.56 312**	*e*P		**P**		**01 40 15.9**	**0.0**
DAU	**Daniels Canyon**	**39.56 312**	*e*P		**P**		**01 40 15.9**	**0.0**
D22A	**Cohagen**	**39.57 324**	⇑P		**P**		**01 40 15.8**	**+0.3**
	baz=40,SNR=12							
MVU	**Marysvale**	**39.58 309**	*e*P		**P**		**01 40 17.0**	**+1.0**
I19A	**Meeteetse**	**39.60 318**	⇓P		**P**		**01 40 15.8**	**-0.3**
	baz=40,SNR=15							
MPU	**Maple Canyon**	**39.69 311**	*e*P		**P**		**01 40 17.0**	**+0.3**
	comp=Z,17nm,0.8s							
G20A	**Bridger**	**39.71 320**	⇑P		**P**		**01 40 16.0**	**-0.8**
	baz=40							
B23A	**Brockton**	**39.71 326**	⇑P		**P**		**01 40 16.3**	**-0.3**
	baz=40							
C22A	**Vida**	**39.76 325**	⇑P		**P**		**01 40 16.9**	**-0.1**
	baz=40,SNR=8.4							
W13A	**Hualapai Mount**	**39.90 303**	⇑P		**P**		**01 40 19.3**	**+0.7**
	baz=40							
PDMCI	**Parker Dam,Lak**	**39.92 302**	⇓P		**P**		**01 40 19.5**	**+1.0**
	baz=40							
NLU	**North Lily Min**	**39.98 311**	*e*P		**P**		**01 40 18.8**	**-0.5**
	comp=Z,43nm,1.4s							
D21A	**La Casta Ranch**	**39.98 323**	⇓P		**P**		**01 40 18.9**	**-0.1**
	baz=40,SNR=6.5							
CTU	**Camp Tracy**	**40.02 312**	*e*P		**P**		**01 40 19.0**	**-0.5**
	comp=Z,24nm,1.2s							
Y12C	**Blythe**	**40.12 301**	⇑P		**P**		**01 40 20.6**	**+0.4**
	baz=40							
GLA	**Glamis**	**40.23 300**	*e*P		**P**		**01 40 22.0**	**+0.8**
GLA			pmax		pmax			
	comp=Z,14nm,1.5s							
GLA	**Glamis**	**40.23 300**	*e*P		**P**		**01 40 22.0**	**+0.8**
	comp=Z,14nm,1.5s							
GLA	**Glamis**	**40.23 300**	⇓P		**P**		**01 40 20.9**	**-0.3**
	baz=40							
ARUT	**Antelope Range**	**40.28 307**	*e*P		**P**		**01 40 21.8**	**+0.1**
ARUT			pmax		pmax			
	comp=Z,263nm,0.7s							
ARUT	**Antelope Range**	**40.28 307**	*e*P		**P**		**01 40 21.8**	**+0.1**
	comp=Z,263nm,0.7s							
RLMT	**Red Lodge**	**40.30 320**	*e*P		**P**		**01 40 21.2**	**-0.6**
	comp=Z,17nm,0.7s							
E20A	**Meyer Farm, Mu**	**40.33 322**	⇓P		**P**		**01 40 21.2**	**-0.6**
	baz=40,SNR=14							
H18A	**Shoshone NF, C**	**40.33 319**	⇑P		**P**		**01 40 21.2**	**-0.9**
	baz=40,SNR=19							
F19A	**Roth Farm, Mol**	**40.47 321**	⇓P		**P**		**01 40 22.4**	**-0.7**
	baz=40,SNR=6.5							
A22A	**Carney Farms,**	**40.52 326**	⇓P		**P**		**01 40 23.6**	**+0.2**
	baz=40,SNR=8.3							
I17A	**Pilgrim Ck.**	**40.56 317**	⇓P		**P**		**01 40 24.0**	**0.0**
	baz=41,SNR=9.9							
DUG	**Dugway**	**40.59 311**	*e*P		**P**		**01 40 24.2**	**0.0**
DUG			pmax		pmax			
	comp=Z,14nm,0.8s							
DUG	**Dugway**	**40.59 311**	*e*P		**P**		**01 40 24.2**	**0.0**
	comp=Z,14nm,0.8s							
DUG	**Dugway**	**40.59 311**	⇓P		**P**		**01 40 24.3**	**+0.1**
	baz=41,SNR=20							
D20A	**Manuel Ranch,**	**40.65 323**	⇑P		**P**		**01 40 24.5**	**0.0**
	baz=41							
E19A	**Rath Farm, Rou**	**40.69 322**	⇓P		**P**		**01 40 24.6**	**-0.3**
	baz=41,SNR=14							
IRM	**Iron Mountain**	**40.71 301**	⇓P		**P**		**01 40 26.1**	**+0.9**
	baz=41,SNR=20							
SPUT	**South Promonto**	**40.74 313**	*e*P		**P**		**01 40 24.9**	**-0.5**
	comp=Z,16nm,0.8s							
H17A	**Grant Village**	**40.78 318**	*e*P		**P**		**01 40 25.2**	**-0.6**
	comp=Z,19nm,1.1s							
H17A	**Grant Village**	**40.78 318**	⇓P		**P**		**01 40 25.6**	**-0.2**
	baz=41							
BC3	**Big Chuckawall**	**40.86 300**	⇑P		**P**		**01 40 26.6**	**+0.1**
	baz=41,SNR=8.7							
LDFC	**Landfair**	**40.88 303**	*e*P		**P**		**01 40 28.0**	**+1.5**
	comp=Z,39nm,1.0s							
GCMT	**Greycliff**	**40.88 320**	*e*P		**P**		**01 40 26.2**	**-0.3**
	comp=Z,20nm,1.2s							
C20A	**Veseth Ranch,**	**40.91 324**	⇑P		**P**		**01 40 26.9**	**+0.3**
	baz=41							
LVC	**Limon Verde**	**40.92 174**	*e*P		**P**		**01 40 26.0**	**-1.1**
	comp=Z,18nm,0.9s							
BGU	**Big Grassy Mou**	**41.01 312**	*e*P		**P**		**01 40 27.8**	**+0.1**
	comp=Z,19nm,1.3s							
SWSC	**Sam W. Stewart**	**41.01 299**	⇓P		**P**		**01 40 27.5**	**-0.1**
	baz=41

FCC Fort Churchill 43.21 344 *e*P **P 01 40 43.7 -1.4**
FCC pmax pmax
comp=Z,3,0nm,1.4s
FCC Fort Churchill 43.21 344 *e*P **P 01 40 43.7 -1.4**
comp=Z,2.5nm,1.4s
TPH Tonopah 43.23 306 *e*P **P 01 40 46.6 +0.7**
TPH pmax pmax
comp=Z,57nm,1.4s
TPH Tonopah 43.23 306 *e*P **P 01 40 46.5 +0.7**
comp=Z,57nm,1.4s
CHMT Chamberlain Mo 43.60 320 *e*P **P 01 40 48.8 0.0**
comp=Z,14nm,1.3s
ISA Isabella 43.69 303 *e*P **P 01 40 50.3 +0.9**
ISA pmax pmax
comp=Z,24nm,2.0s
ISA Isabella 43.69 303 *e*P **P 01 40 50.3 +0.9**
comp=Z,24nm,2.0s
ISA Isabella 43.69 303 ⇑P **P 01 40 50.6 +1.2**
baz=44
RCBR Riachuelo 43.70 120 *e*P **P 01 40 49.3 -0.4**
comp=Z,22nm,1.1s
RCBR Riachuelo 43.70 120 P **P 01 40 49.8 +0.1**
comp=Z,5.6nm,0.6s,baz=297,slow=9.5,SNR=5.5
TIN Tinemaha 43.77 305 ⇓P **P 01 40 51.8 +1.7**
baz=44
MFID Camas Ranch 43.84 314 *e*P **P 01 40 50.3 -0.4**
comp=Z,9.7nm,0.8s
ARVC Arvin 43.87 302 ⇓P **P 01 40 52.0 +1.1**
baz=44
SLMT Seeley Lake 43.89 320 *e*P **P 01 40 50.2 -0.9**
comp=Z,84nm,1.9s
MSO Missoula 43.98 320 ⇑P **P 01 40 52.7 +1.0**
baz=44
NV11 Mina Array Sit 44.03 307 *e*P **P 01 40 52.8 +0.5**
NVAR Mina Array Bea 44.14 307 P **P 01 40 54.0 +0.7**
NVAR Mina Array Bea 44.14 307 P **P 01 40 54.0 +0.7**
comp=Z,6.3nm,0.8s,baz=94,slow=7.2,SNR=29
NVAR LR LR 02 01 19.9
comp=Z,2µm,19.5s,baz=262,slow=39
VES Vestal, Richgr 44.21 303 ⇑P **P 01 40 54.7 +1.1**
baz=44
SWMT Swartz Lake 44.32 320 *e*P **P 01 40 54.9 +0.4**
comp=Z,11nm,1.0s
BSC Santa Cruz Isl 44.35 300 ⇓P **P 01 40 55.9 +1.2**
baz=44
RCTC Rector, Farmer 44.42 303 ⇑P **P 01 40 56.2 +1.0**
baz=44
YBMT Yellow Bay 44.49 321 *e*P **P 01 40 56.0 +0.2**
comp=Z,7.5nm,0.9s
JTMT Jette 44.60 321 *e*P **P 01 40 56.5 -0.1**
comp=Z,7.6nm,0.9s
PKM Peak Mountain 44.64 301 ⇓P **P 01 40 58.4 +1.2**
baz=45
BSMT Bassoo Peak 44.95 320 *e*P **P 01 40 59.3 -0.3**
comp=Z,42nm,1.8s
WAKR Walker 45.03 306 *e*P **P 01 41 01.0 +0.7**
comp=Z,20nm,1.1s
FRB Frobisher Bay 45.44 3 P **P 01 41 01.2 -1.6**
FRB Frobisher Bay 45.44 3 P **P 01 41 01.2 -1.6**
comp=Z,17nm,0.8s,baz=185,slow=8.5,SNR=24
FRB LR LR 02 00 36.6
comp=Z,5µm,19.1s,baz=175,slow=37
NEW Newport 46.54 320 P **P 01 41 11.7 -0.3**
NEW Newport 46.54 320 P **P 01 41 11.7 -0.3**
comp=Z,4.6nm,0.6s,baz=121,slow=5.6,SNR=18
NEW Newport 46.54 320 ⇑P **P 01 41 11.4 -0.6**
baz=46,SNR=11
EDM Edmonton 46.78 328 *e*P **P 01 41 13.1 -0.6**
EDM Edmonton 46.78 328 *e*P **P 01 41 13.1 -0.6**
CPUP Villa Florida 46.94 161 *e*P **P 01 41 14.6 -0.5**
comp=Z,4.3nm,1.4s
CPUP Villa Florida 46.94 161 P **P 01 41 14.3 -0.8**
comp=Z,2.2nm,0.7s,baz=336,slow=8.9,SNR=4.6
CPUP LR LR 02 02 41.3
comp=Z,6µm,18.4s,baz=328,slow=38
LCO Las Campanas 47.15 177 *e*P **P 01 41 17.9 +0.8**
comp=Z,37nm,1.1s
J05D Fort Rock, OR 47.54 312 ⇑P **P 01 41 19.1 -0.9**
baz=48
M04C Macdoel 47.59 310 ⇑P **P 01 41 19.4 -0.9**
baz=48
I05D Terrebonne, OR 47.91 314 ⇓P **P 01 41 22.6 -0.1**
baz=48
YBH Yreka Blue Hor 48.21 310 P **P 01 41 23.9 -1.1**
YBH Yreka Blue Hor 48.21 310 P **P 01 41 24.0 -1.1**
comp=Z,7.2nm,0.7s,baz=85,slow=5.8,SNR=12
M02C Callahan 48.23 309 ⇑P **P 01 41 24.8 -0.5**
baz=48
I03D Drain, OR 49.14 312 ⇓P **P 01 41 31.8 -0.2**
baz=49
CFAA Coronel Fontan 49.89 175 P **P 01 41 37.7 -0.2**
CFAA Coronel Fontan 49.89 175 P **P 01 41 37.7 -0.2**
comp=Z,1.2nm,0.9s,baz=345,slow=6.7,SNR=9.5
CFAA LR LR 02 07 11.9
comp=Z,331nm,18.1s,baz=26,slow=42
SFJD Kangerlussuaq 50.70 11 *i*P **P 01 41 43.2 -0.3**
comp=Z,16nm,1.0s
SFJD Kangerlussuaq 50.70 11 P **P 01 41 42.9 -0.6**
SFJD Kangerlussuaq 50.70 11 P **P 01 41 42.9 -0.6**
comp=Z,15nm,0.8s,baz=204,slow=6.8,SNR=4.1
SFJD LR LR 02 01 42.9
comp=Z,3µm,20.6s,baz=230,slow=34
ILULI Ilulissat 52.60 10 *i*P **P 01 41 58.1 +0.4**
ILULI pmax pmax
comp=Z,23nm,1.0s
ILULI Ilulissat 52.60 10 *i*P **P 01 41 58.1 +0.4**
comp=Z,23nm,0.9s
YKA Yellowknife Ar 52.65 337 P **P 01 41 57.5 -0.7**
YKA Yellowknife Ar 52.65 337 P **P 01 41 57.5 -0.7**
comp=Z,7.9nm,0.7s,baz=125,slow=7.3,SNR=113
YKW3 Yellowknife Ar 52.70 337 *e*P **P 01 41 57.9 -0.6**
comp=Z,0.6nm,1.0s
DLBC Dease Lake 57.48 328 *e*P **P 01 42 33.7 +0.3**
BORG Borgarnes 57.58 23 LR LR 02 04 38.2
comp=Z,3µm,19.3s,baz=150,slow=33
RES Resolute Bay 57.59 353 *e*P **P 01 42 33.4 -0.2**
comp=Z,4.2nm,0.6s
RES Resolute Bay 57.59 353 P **P 01 42 33.2 -0.4**
comp=Z,17nm,0.9s,baz=173,slow=8.5,SNR=28
RES LR LR 02 08 02.3
comp=Z,3µm,18.5s,baz=155,slow=37
SUMG Summit 57.68 12 *i*P **P 01 42 35.3 +0.4**
SUMG pmax pmax
comp=Z,37nm,0.8s
SUMG Summit 57.68 12 *i*P **P 01 42 35.3 +0.4**
comp=Z,37nm,0.8s
SUMG Summit 57.68 12 *e*P **P 01 42 34.7 -0.2**
comp=Z,47nm,0.8s
PLCA Paso Flores 58.84 178 *e*P **P 01 42 42.4 -0.5**
comp=Z,78nm,1.6s
PLCA Paso Flores 58.84 178 P **P 01 42 42.5 -0.5**
comp=Z,7.8nm,0.8s,baz=0.7,slow=9.3,SNR=10
PNCL Nicolau / Gran 58.90 56 *e*P **P 01 42 44.9 +1.4**
comp=Z,111nm,1.6s
PTOM Tomar 59.01 54 *e*P P 01 42 48.0 +3.8
comp=Z,157nm,1.6s
MESJ Messejana 59.14 56 *e*P **P 01 42 46.1 +0.9**
MESJ Messejana 59.14 56 *e*P **P 01 42 46.1 +0.9**
PMTG Montargil 59.14 55 *e*P **P 01 42 47.8 +2.6**
comp=Z,93nm,1.6s
PGAV Gavieira, Arco 59.19 52 *e*P **P 01 42 48.0 +2.4**
comp=Z,135nm,1.7s
EVOP Sao Brissos 59.22 56 *e*P **P 01 42 45.9 +0.2**
EVOP pmax pmax
comp=Z,357nm,1.7s
EVOP Sao Brissos 59.22 56 *e*P **P 01 42 45.9 +0.2**
comp=Z,357nm,1.7s
EVO Evora 59.30 56 *e*P **P 01 42 45.9 -0.4**
comp=Z,357nm,1.7s
EVO *e*R
comp=Z,4µm,22.5s
EVO Evora 59.30 56 *e*P **P 01 42 47.6 +1.3**
comp=Z,96nm,1.8s
PCAB Cabril 59.36 52 *e*P **P 01 42 47.3 +0.6**
comp=Z,136nm,1.9s
PBDV Barranco-do-Ve 59.37 57 *e*P **P 01 42 49.3 +2.5**
comp=Z,172nm,1.5s
PBEJ Beja 59.42 56 *e*P **P 01 42 47.4 +0.3**
comp=Z,83nm,1.7s
PVIS Viseu 59.43 53 *e*P **P 01 42 48.2 +1.0**
comp=Z,99nm,1.9s
POLO Lamas de Olo 59.53 52 *e*P **P 01 42 49.0 +1.1**
comp=Z,67nm,1.6s
PVAQ Vaqueiros 59.54 57 *e*P **P 01 42 49.0 +1.0**
comp=Z,137nm,1.6s
PVRL Vila Real 59.58 52 *e*P **P 01 42 49.0 +0.8**
comp=Z,127nm,1.3s

PESTR Estremoz 59.64 55 *e*P **P 01 42 49.5 +0.9**
comp=Z,136nm,1.7s
MTE Manteigas 59.69 54 *e*P **P 01 42 50.1 +1.1**
comp=Z,115nm,1.6s
PCBR Castelo Branco 59.73 54 *e*P **P 01 42 49.8 +0.6**
comp=Z,115nm,1.5s
PMRV Marv??o 59.80 55 *e*P **P 01 42 50.2 +0.5**
comp=Z,103nm,1.7s
MVO Moncorvo 60.10 53 *e*P **P 01 42 52.3 +0.5**
comp=Z,90nm,1.4s
SCO Scoresbysund 60.26 17 *i*P **P**
SCO pmax pmax **01 42 53.4 +1.1**
comp=Z,7.0nm,0.8s
SCO Scoresbysund 60.26 17 *i*P **P 01 42 53.4 +1.1**
comp=Z,6.9nm,0.8s
PAB San Pablo 62.15 54 *e*P **P 01 43 06.1 +0.3**
PAB pmax pmax
comp=Z,112nm,1.4s
PAB San Pablo 62.15 54 *e*P **P 01 43 06.1 +0.3**
comp=Z,112nm,1.4s
INK Inuvik 62.35 339 *e*P **P 01 43 05.6 -0.8**
comp=Z,35nm,1.5s
INK Inuvik 62.35 339 P **P 01 43 05.8 -0.7**
comp=Z,5.3nm,0.8s,baz=113,slow=6.3,SNR=6.8
ESDC Sonseca Array 62.44 54 P **P 01 43 08.1 +0.4**
ESDC Sonseca Array 62.44 54 P **P 01 43 08.1 +0.4**
comp=Z,15nm,1.1s,baz=276,slow=7.0,SNR=24
ESDC LR LR 02 05 56.2
comp=Z,3µm,20.1s,baz=260,slow=32
ROSF Rostrenen 63.00 45 *e*P **P 01 43 09.8 -1.4**
comp=Z,262nm,1.6s
ROSF Rostrenen 63.00 45 *e*P **P 01 43 09.8 -1.4**
ROSF pmax pmax
comp=Z,262nm,1.6s
ROSF Rostrenen 63.00 45 *e*P **P 01 43 09.8 -1.4**
comp=Z,262nm,1.6s
QUIF Quistinic 63.06 45 *e*P **P 01 43 10.1 -1.5**
comp=Z,194nm,1.4s
QUIF Quistinic 63.06 45 *e*P **P 01 43 10.1 -1.5**
QUIF pmax pmax
comp=Z,194nm,1.4s
QUIF Quistinic 63.06 45 *e*P **P 01 43 10.1 -1.5**
comp=Z,194nm,1.4s
ASCN Ascension 63.38 109 *e*P **P 01 43 14.5 +0.3**
comp=Z,75nm,1.1s
SGMF Saint Gilles 63.48 45 *e*P **P 01 43 12.8 -1.6**
comp=Z,568nm,1.8s
SGMF Saint Gilles 63.48 45 *e*P **P 01 43 12.8 -1.6**
SGMF pmax pmax
comp=Z,568nm,1.8s
SGMF Saint Gilles 63.48 45 *e*P **P 01 43 12.8 -1.6**
comp=Z,568nm,1.8s
ESK Eskdalemuir 63.55 37 *e*P **P**
ESK pmax pmax **01 43 17.9 +3.2**
comp=Z,26nm,0.8s
ESK Eskdalemuir 63.55 37 *e*P **P 01 43 17.9 +3.2**
comp=Z,26nm,0.8s
EKA Eskdalemuir Ar 63.58 37 P **P 01 43 14.3 -0.5**
EKA Eskdalemuir Ar 63.58 37 P **P 01 43 14.3 -0.5**
comp=Z,3.9nm,0.6s,baz=275,slow=5.8,SNR=17
EGAK Eagle 64.29 334 *e*P **P 01 43 19.2 -0.3**
comp=Z,17nm,1.0s
ALE Alert 64.33 2 P **P 01 43 18.8 -0.7**
comp=Z,202nm,0.8s,SNR=14
DAG Danmarks Havn 64.36 12 *i*P **P**
DAG pmax pmax **01 43 20.0 +0.3**
comp=Z,15nm,1.0s
DAG Danmarks Havn 64.36 12 *i*P **P 01 43 20.0 +0.3**
comp=Z,15nm,1.0s
SJPF Ste Jean 64.41 50 *e*P **P 01 43 19.6 -1.0**
SJPF Ste Jean 64.41 50 *e*P **P 01 43 19.6 -1.0**
SJPF Ste Jean 64.41 50 *e*P **P 01 43 19.6 -1.0**
GRR Gorron 64.61 45 *e*P **P 01 43 20.3 -1.5**
comp=Z,143nm,1.3s
GRR Gorron 64.61 45 *e*P **P**
GRR pmax pmax **01 43 20.3 -1.5**
comp=Z,143nm,1.3s
GRR Gorron 64.61 45 *e*P **P 01 43 20.3 -1.5**
comp=Z,143nm,1.3s
FLN La Foliniere 64.87 44 *e*P **P**
FLN *e*R **01 43 22.2 -1.3**
comp=Z,8µm,21.8s
FLN La Foliniere 64.87 44 *e*P **P 01 43 22.2 -1.3**
FLN La Foliniere 64.87 44 *e*P **P 01 43 22.2 -1.3**
ETSF Etsaut 64.90 51 *e*P **P 01 43 22.8 -1.1**
comp=Z,143nm,1.3s
ETSF Etsaut 64.90 51 *e*P **P**
ETSF pmax pmax **01 43 22.8 -1.1**
comp=Z,143nm,1.3s
ETSF Etsaut 64.90 51 *e*P **P 01 43 22.8 -1.1**
comp=Z,143nm,1.3s
MENT Mentasta 65.08 332 *e*P **P 01 43 25.1 +0.4**
MFF Saint Martin d 65.10 47 *e*P **P 01 43 23.8 -1.2**
comp=Z,344nm,1.6s
MFF Saint Martin d 65.10 47 *e*P **P**
MFF pmax pmax **01 43 23.8 -1.2**
comp=Z,344nm,1.6s
MFF Saint Martin d 65.10 47 *e*P **P 01 43 23.8 -1.2**
comp=Z,344nm,1.6s
LDF La Druitiere 65.11 44 *e*P **P 01 43 23.6 -1.4**
comp=Z,265nm,1.5s
LDF La Druitiere 65.11 44 *e*P **P**
LDF pmax pmax **01 43 23.6 -1.4**
comp=Z,265nm,1.5s
LDF La Druitiere 65.11 44 *e*P **P 01 43 23.6 -1.4**
comp=Z,265nm,1.5s
BMRM Bremner River 65.23 329 *e*P **P 01 43 26.2 +0.4**
comp=Z,68nm,1.0s
EPF Esparros 65.56 50 *e*P **P 01 43 27.3 -0.8**
comp=Z,410nm,1.7s
EPF Esparros 65.56 50 *e*P **P**
EPF pmax pmax **01 43 27.3 -0.8**
comp=Z,410nm,1.7s
EPF Esparros 65.56 50 *e*P **P 01 43 27.3 -0.8**
comp=Z,410nm,1.7s
LFF La Frestale 65.76 48 *e*P **P 01 43 27.8 -1.6**
comp=Z,314nm,1.5s
LFF La Frestale 65.76 48 *e*P **P**
LFF pmax pmax **01 43 27.8 -1.6**
comp=Z,314nm,1.5s
LFF La Frestale 65.76 48 *e*P **P 01 43 27.8 -1.6**
comp=Z,314nm,1.5s
DIV Divide 65.82 329 *e*P **P 01 43 29.3 -0.2**
comp=Z,53nm,1.0s
PAX Paxson 65.88 331 *e*P **P**
PAX pmax pmax **01 43 29.7 -0.3**
comp=Z,35nm,1.2s
PAX Paxson 65.88 331 *e*P **P 01 43 29.6 -0.3**
comp=Z,35nm,1.2s
RJF Les Rejaudoux 66.30 48 *e*P **P 01 43 31.2 -1.6**
comp=Z,145nm,1.4s
RJF *e*R
comp=Z,3µm,19.2s
RJF Les Rejaudoux 66.30 48 *e*P **P**
RJF pmax pmax **01 43 31.2 -1.6**
comp=Z,145nm,1.4s
RJF Les Rejaudoux 66.30 48 *e*P **P 01 43 31.2 -1.6**
comp=Z,145nm,1.4s
CAF Calviac 66.70 48 *e*P **P 01 43 33.9 -1.6**
comp=Z,265nm,1.5s
CAF Calviac 66.70 48 *e*P **P**
CAF pmax pmax **01 43 33.9 -1.6**
comp=Z,265nm,1.5s
CAF Calviac 66.70 48 *e*P **P 01 43 33.9 -1.6**
comp=Z,265nm,1.5s
ILAR Eielson Array 66.71 333 P **P 01 43 34.1 -1.0**
ILAR Eielson Array 66.71 333 P **P 01 43 34.1 -1.0**
comp=Z,3.4nm,0.9s,baz=112,slow=4.3,SNR=33
TCF Toulx Ste Croi 66.74 47 *e*P **P**
TCF pmax pmax **01 43 33.8 -1.9**
comp=Z,168nm,1.4s
TCF Toulx Ste Croi 66.74 47 *e*P **P 01 43 33.8 -1.9**
comp=Z,168nm,1.4s
TCF Toulx Ste Croi 66.74 47 *e*P **P 01 43 33.8 -1.9**
comp=Z,168nm,1.4s
TIC Toumodi 66.97 90 *e*P **P 01 43 37.4 -0.2**
comp=Z,17nm,0.7s
HYF Humbligny 66.99 46 *e*P **P 01 43 35.7 -1.5**
HYF Humbligny 66.99 46 *e*P **P 01 43 35.7 -1.5**
LIC Lamto 67.08 91 *e*P **P 01 43 36.6 -1.7**
comp=Z,33nm,0.8s
LIC *e*R
comp=Z,3µm,22.8s
LIC Lamto 67.08 91 *e*P **P 01 43 38.3 0.0**
comp=Z,89nm,1.2s
LIC Lamto 67.08 91 *e*P **P 01 43 36.6 -1.7**
comp=Z,33nm,0.8s

DBIC Dimbokro 67.12 90 *e*P **P 01 43 37.9 -0.7**
comp=Z,13nm,0.8s
DBIC Dimbokro 67.12 90 P **P 01 43 37.4 -1.2**
comp=Z,9.9nm,0.7s,baz=277,slow=8.4,SNR=12
DBIC LR LR 02 10 05.3
comp=Z,2µm,19.9s,baz=261,slow=33
COLA College 67.14 333 ǁ*i*P **P 01 43 36.6 -1.1**
COLA pmax pmax
comp=Z,37nm,1.0s
COLA College 67.14 333 *e*P **P 01 43 36.3 -1.4**
comp=Z,12nm,0.9s
BGF Bois d'Agland 67.16 47 *e*P **P 01 43 36.4 -1.9**
comp=Z,48nm,0.8s
BGF Bois d'Agland 67.16 47 *e*P **P**
BGF pmax pmax **01 43 36.4 -1.9**
comp=Z,48nm,0.8s
BGF Bois d'Agland 67.16 47 *e*P **P 01 43 36.4 -1.9**
comp=Z,48nm,0.8s
KIC Kosan Boka 67.32 91 *e*P **P 01 43 39.8 0.0**
comp=Z,35nm,0.7s
PMR Palmer 67.47 330 *e*P **P 01 43 39.7 -0.2**
PMR pmax pmax
comp=Z,25nm,1.1s
PMR Palmer 67.47 330 *e*P **P 01 43 39.7 -0.2**
comp=Z,25nm,1.1s
AVF Avril sur Loir 67.50 46 *e*P **P 01 43 38.5 -1.9**
comp=Z,318nm,1.8s
AVF Avril sur Loir 67.50 46 *e*P **P**
AVF pmax pmax **01 43 38.5 -1.9**
comp=Z,318nm,1.8s
AVF Avril sur Loir 67.50 46 *e*P **P 01 43 38.5 -1.9**
comp=Z,318nm,1.8s
MCK McKinley 67.51 332 *e*P **P**
MCK pmax pmax **01 43 39.9 -0.3**
comp=Z,31nm,1.2s
MCK McKinley 67.51 332 *e*P **P 01 43 39.9 -0.3**
comp=Z,31nm,1.2s
SSF Saint Saulge 67.59 46 *e*P **P 01 43 39.0 -2.0**
comp=Z,170nm,1.4s
SSF Saint Saulge 67.59 46 *e*P **P**
SSF pmax pmax **01 43 39.0 -2.0**
comp=Z,170nm,1.4s
SSF Saint Saulge 67.59 46 *e*P **P 01 43 39.0 -2.0**
comp=Z,170nm,1.4s
RC01 Rabbit Creek A 67.73 329 *e*P **P 01 43 41.7 +0.1**
comp=Z,199nm,1.9s
LOR Lormes 67.82 46 *e*P **P**
LOR *e*R **01 43 40.6 -1.9**
comp=Z,131nm,1.3s
comp=Z,6µm,22.5s
LOR Lormes 67.82 46 *e*P **P 01 43 40.6 -1.9**
comp=Z,131nm,1.3s
SMF Signal de Mont 67.84 46 *e*P **P 01 43 40.7 -1.9**
comp=Z,138nm,1.4s
SMF Signal de Mont 67.84 46 *e*P **P**
SMF pmax pmax **01 43 40.7 -1.9**
comp=Z,138nm,1.4s
SMF Signal de Mont 67.84 46 *e*P **P 01 43 40.7 -1.9**
comp=Z,138nm,1.4s
BAIF Baives 67.91 43 *e*P **P 01 43 41.2 -1.7**
BAIF Baives 67.91 43 *e*P **P 01 43 41.2 -1.7**
BAIF Baives 67.91 43 *e*P **P 01 43 41.2 -1.7**
SNF Seneffe 67.94 42 P **P 01 43 43.7 +0.6**
LASF Ste Croix 68.04 49 *e*P **P**
comp=Z,214nm,1.6s **01 43 43.0 -0.9**
LASF Ste Croix 68.04 49 *e*P **P 01 43 43.0 -0.9**
comp=Z,214nm,1.6s
TRF Thorofare Moun 68.10 332 *e*P **P 01 43 43.3 -0.8**
comp=Z,83nm,1.4s
DOU Dourbes 68.16 43 P **P 01 43 44.5 0.0**
COLD Coldfoot 68.30 336 *e*P **P 01 43 45.0 -0.1**
comp=Z,26nm,1.0s
GIVF Givet 68.30 43 *e*P **P 01 43 43.6 -1.8**
comp=Z,308nm,1.7s
GIVF Givet 68.30 43 *e*P **P**
GIVF pmax pmax **01 43 43.6 -1.8**
comp=Z,308nm,1.7s
GIVF Givet 68.30 43 *e*P **P 01 43 43.6 -1.8**
comp=Z,308nm,1.7s
KTH Kantishna Hill 68.39 332 *e*P **P 01 43 45.3 -0.5**
comp=Z,28nm,1.0s
MEZF Maizieres J'vi 68.54 44 *e*P **P**
comp=Z,400nm,1.6s **01 43 45.4 -1.6**
MEZF Maizieres J'vi 68.54 44 *e*P **P 01 43 45.4 -1.6**
comp=Z,400nm,1.6s
SFTF Sexfontaines 68.55 45 *e*P **P 01 43 45.3 -1.8**
comp=Z,275nm,1.5s
SFTF Sexfontaines 68.55 45 *e*P **P 01 43 45.3 -1.8**
comp=Z,275nm,1.5s
VIVF Saint-Julien-l 68.56 48 *e*P **P 01 43 46.3 -0.9**
comp=Z,259nm,1.5s
VIVF Saint-Julien-l 68.56 48 *e*P **P**
VIVF pmax pmax **01 43 46.3 -0.9**
comp=Z,259nm,1.5s
VIVF Saint-Julien-l 68.56 48 *e*P **P 01 43 46.3 -0.9**
comp=Z,259nm,1.5s
PPLA Purkeypile 68.94 331 *e*P **P 01 43 48.2 -1.2**
comp=Z,105nm,1.7s
PAGF Fort de Pagny 68.99 44 *e*P **P 01 43 48.3 -1.4**
comp=Z,28nm,1.2s
PAGF Fort de Pagny 68.99 44 *e*P **P 01 43 48.3 -1.4**
comp=Z,28nm,1.2s
MEM Membach 69.03 42 P **P 01 43 51.2 +1.3**
WLF Walferdange 69.19 43 *e*P **P**
WLF pmax pmax **01 43 51.6 +0.6**
comp=Z,120nm,1.5s
WLF Walferdange 69.19 43 *e*P **P 01 43 51.3 +0.3**
comp=Z,223nm,2.0s
WLF *es*P sP 01 44 01.4 +7.8
WLF Walferdange 69.19 43 *e*P **P 01 43 51.6 +0.6**
comp=Z,120nm,1.5s
RSO Redoubt South 69.21 329 *e*P **P 01 43 50.7 -0.4**
comp=Z,103nm,0.8s
SMRF Simiane la Rot 69.28 49 *e*P **P 01 43 51.0 -0.7**
comp=Z,200nm,1.5s
SMRF Simiane la Rot 69.28 49 *e*P **P 01 43 51.0 -0.7**
comp=Z,200nm,1.5s
CABF La Chapelle 69.39 46 *e*P **P 01 43 50.7 -1.7**
comp=Z,75nm,1.1s
CABF La Chapelle 69.39 46 *e*P **P**
CABF pmax pmax **01 43 50.7 -1.7**
comp=Z,75nm,1.1s
CABF La Chapelle 69.39 46 *e*P **P 01 43 50.7 -1.7**
comp=Z,75nm,1.1s
ORIF Oris-en-Rattie 69.41 48 *e*P **P 01 43 51.7 -0.8**
comp=Z,85nm,1.3s
ORIF *e*R
comp=Z,3µm,20.2s
ORIF Oris-en-Rattie 69.41 48 *e*P **P**
ORIF pmax pmax **01 43 51.7 -0.8**
comp=Z,85nm,1.3s
ORIF Oris-en-Rattie 69.41 48 *e*P **P 01 43 51.7 -0.8**
comp=Z,85nm,1.3s
HAU Haudompre 69.44 45 *e*P **P 01 43 50.9 -1.7**
comp=Z,200nm,1.8s
HAU *e*R
comp=Z,5µm,19.8s
HAU Haudompre 69.44 45 *e*P **P**
HAU pmax pmax **01 43 50.9 -1.7**
comp=Z,201nm,1.8s
HAU Haudompre 69.44 45 *e*P **P 01 43 50.9 -1.7**
comp=Z,200nm,1.8s
BUG Bochum--Univer 69.77 41 *e*P **P 01 43 54.8 +0.3**
comp=Z,77nm,1.6s
HINF Hinteralfeld 69.80 45 *e*P **P 01 43 52.8 -2.0**
HINF Hinteralfeld 69.80 45 *e*P **P 01 43 52.8 -2.0**
HINF Hinteralfeld 69.80 45 *e*P **P 01 43 52.8 -2.0**
LPL La Plagne 69.94 47 *e*P **P 01 43 55.0 -1.0**
comp=Z,33nm,0.7s
LPL La Plagne 69.94 47 *e*P **P**
LPL pmax pmax **01 43 55.0 -1.0**
comp=Z,33nm,0.7s
LPL La Plagne 69.94 47 *e*P **P 01 43 55.0 -1.0**
comp=Z,33nm,0.7s
BNI Bardonecchia 69.95 48 *e*P **P**
BNI pmax pmax **01 43 57.0 +1.0**
comp=Z,89nm,1.5s
BNI Bardonecchia 69.95 48 *e*P **P 01 43 57.0 +1.0**
comp=Z,89nm,1.5s
LPG La Plagne 69.96 47 *e*P **P 01 43 55.2 -1.0**
comp=Z,48nm,0.9s
LPG La Plagne 69.96 47 *e*P **P**
LPG pmax pmax **01 43 55.2 -1.0**
comp=Z,49nm,0.9s
LPG La Plagne 69.96 47 *e*P **P 01 43 55.2 -1.0**
comp=Z,48nm,0.9s
ECH Echery 69.97 45 *e*P **P 01 43 55.8 -0.1**

ECH pmax pmax
comp=Z,91nm,1.5s
ECH Echery 69.97 45 *e*P **P 01 43 55.8 -0.1**
comp=Z,91nm,1.5s
IBBN Ibbenburen 70.00 40 *e*P **P 01 43 56.2 +0.3**
comp=Z,99nm,1.4s
CDF Champ du Feu 70.03 44 *e*P **P 01 43 54.6 -1.7**
comp=Z,213nm,1.7s
CDF Champ du Feu 70.03 44 *e*P **P 01 43 54.6 -1.7**
CDF pmax pmax
comp=Z,213nm,1.7s
CDF Champ du Feu 70.03 44 *e*P **P 01 43 54.6 -1.7**
comp=Z,213nm,1.7s
LMR La Mourre 70.03 50 *e*P **P 01 43 54.7 -1.6**
comp=Z,294nm,1.7s
LMR La Mourre 70.03 50 *e*P **P 01 43 54.7 -1.6**
LMR pmax pmax
comp=Z,294nm,1.7s
LMR La Mourre 70.03 50 *e*P **P 01 43 54.7 -1.6**
comp=Z,294nm,1.7s
MBDF Montbardon 70.06 48 *e*P **P 01 43 55.7 -0.9**
comp=Z,170nm,1.4s
MBDF Montbardon 70.06 48 *e*P **P 01 43 55.7 -0.9**
MBDF pmax pmax
comp=Z,170nm,1.4s
MBDF Montbardon 70.06 48 *e*P **P 01 43 55.7 -0.9**
comp=Z,170nm,1.4s
KONO Kongsberg 70.56 32 *e*P **P 01 44 00.4 +1.2**
KONO pmax pmax
comp=Z,90nm,1.3s
TNS Taunus Mts 70.62 42 *e*P **P 01 44 00.2 +0.4**
comp=Z,138nm,1.7s
TNS *es*P sP 01 44 10.3 +7.8
SBF Sospel 70.63 49 *e*P **P 01 43 58.5 -1.5**
comp=Z,259nm,1.6s
SBF Sospel 70.63 49 *e*P **P 01 43 58.5 -1.5**
SBF pmax pmax
comp=Z,259nm,1.6s
SBF Sospel 70.63 49 *e*P **P 01 43 58.5 -1.5**
comp=Z,259nm,1.6s
BFO Black Forest 70.73 44 *i* P **P 01 44 01.5 +1.0**
BFO Black Forest 70.73 44 *e*P **P 01 44 00.3 -0.2**
comp=Z,74nm,1.7s
KBS Kingsbay 71.10 12 *e*P **P 01 44 01.8 -0.4**
KBS pmax pmax
comp=Z,21nm,1.4s
NAO01 NORSAR Array S 71.13 31 *e*P **P 01 44 04.3 +1.6**
comp=Z,15nm,0.8s
STU Stuttgart 71.26 44 *e*P **P 01 44 03.3 -0.4**
STU pmax pmax
comp=Z,52nm,1.3s
STU Stuttgart 71.26 44 *e*P **P 01 44 03.6 -0.1**
comp=Z,215nm,2.1s
STU Stuttgart 71.26 44 *e*P **P 01 44 03.3 -0.4**
comp=Z,52nm,1.3s
NB2 NORSAR Subarra 71.27 31 P **P 01 44 04.5 +0.9**
comp=Z,54nm,1.4s,baz=275,slow=6.2
NB2 NORSAR Subarra 71.27 31 P **P 01 44 04.5 +0.9**
baz=275,slow=6.2
NOA NORSAR Array B 71.27 31 P **P 01 44 03.7 +0.1**
NOA NORSAR Array B 71.27 31 P **P 01 44 03.7 +0.1**
comp=Z,9.7nm,1.1s,baz=275,slow=6.4,SNR=9.2
NOA LR LR 02 11 55.9
comp=Z,952nm,19.8s,baz=280,slow=33
BSEG Bad Segeberg 71.40 38 *e*P **P 01 44 05.4 +1.0**
NRDL Niedersach Rie 71.42 40 *e*P **P 01 44 05.2 +0.7**
comp=Z,62nm,1.5s
UBBA Unterbreizbach 71.54 42 *e*P **P 01 44 05.5 +0.3**
comp=Z,222nm,2.3s
TOA0 Torodi Ar. Sit 71.55 82 *e*P **P 01 44 04.4 -1.5**
TORD Torodi Ar. Bea 71.55 82 P **P 01 44 04.8 -1.2**
TORD Torodi Ar. Bea 71.55 82 P **P 01 44 04.8 -1.2**
comp=Z,10nm,0.9s,baz=286,slow=5.6,SNR=36
TORD LR LR 02 12 50.7
comp=Z,2μm,20.5s,baz=295,slow=34
CLZ Clausthal 71.66 40 *e*P **P 01 44 06.6 +0.5**
comp=Z,61nm,1.4s
PGF Pioggiola 71.94 50 *e*P **P 01 44 06.2 -1.9**
comp=Z,248nm,1.5s
PGF Pioggiola 71.94 50 *e*P **P 01 44 06.2 -1.9**
PGF pmax pmax
comp=Z,248nm,1.5s
PGF Pioggiola 71.94 50 *e*P **P 01 44 06.2 -1.9**
comp=Z,248nm,1.5s
DAVOX Davos/Dischmat 71.96 46 P **P 01 44 08.4 +0.2**
DAVOX Davos/Dischmat 71.96 46 P **P 01 44 08.4 +0.2**
comp=Z,8.8nm,0.7s,baz=194,slow=2.9,SNR=6.6
DAVOX LR LR 02 11 00.4
comp=Z,2μm,20.2s,baz=302,slow=32
SPITS Spitsbergen Ar 72.00 13 LR LR 02 14 19.1
comp=Z,2μm,20.6s,baz=255,slow=35
GRF Grafenberg Arr 72.46 43 *e*P **P 01 44 11.2 +0.3**
comp=Z,198nm,2.3s
RETA Reutte 72.46 45↑ *ip*P **P 01 44 11.9 +0.9**
comp=Z,62nm,1.0s,SNR=5.7
FETA Feichten 72.51 45↑ *ip*P **P 01 44 11.9 +0.5**
comp=Z,50nm,1.2s,SNR=8.9
HFS Hagfors 72.58 32 P **P 01 44 11.4 0.0**
HFS Hagfors 72.58 32 P **P 01 44 11.4 0.0**
comp=Z,2.2nm,0.7s,baz=311,slow=3.2,SNR=9.9
FUR Furstenfeldbru 72.71 44 *e*P **P 01 44 12.8 +0.4**
comp=Z,86nm,1.2s
FUR *es*P sP 01 44 23.0 +7.9
MOTA Moosalm 72.71 45 *i* pP **P 01 44 13.3 +0.7**
comp=Z,22nm,0.8s,SNR=19
TAM Tamanrasset 72.75 71 *e*P **P 01 44 13.6 +0.3**
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM Tamanrasset 72.75 71 *e*P **P 01 44 13.6 +0.3**
comp=Z,8.3nm,0.9s
ROTZ Rotzenmuhle 73.08 42 *e*P **P 01 44 15.3 +0.7**
comp=Z,68nm,1.4s
TANN Tannenbergstha 73.15 42 *e*P **P 01 44 15.4 +0.4**
comp=Z,161nm,2.1s
NKC Novy Kostel 73.17 42 *e*P **P 01 44 16.3 +1.2**
NKC MLR MLR
comp=Z,3μm,19.2s
NKC Novy Kostel 73.17 42 *e*P **P 01 44 16.3 +1.2**
NKC AMS AMS 02 13 20.0
comp=Z,3μm,19.2s
RKT Rikitea 73.31 238 *e*P P 01 44 26.1 +10
comp=Z,65nm,1.4s
RKT Rikitea 73.31 238 *e*LR LR 02 06 51.2
comp=Z,1μm,31.5s
CLL Collm 73.35 41 *e*P **P 01 44 17.0 +0.9**
CLL *i* 01 44 23.7
CLL *i* 01 44 26.2
CLL pmax pmax
comp=Z,35nm,1.6s
CLL MLR MLR
comp=Z,1μm,20.5s
CLL Collm 73.35 41 *e*P **P 01 44 16.4 +0.3**
comp=Z,73nm,1.7s
CLL *es*P sP 01 44 26.4 +7.6
CLL Collm 73.35 41 *e*P **P 01 44 17.0 +0.9**
comp=Z,35nm,1.6s
CLL *i* (sP) **sP 01 44 23.7 +4.9**
CLL *i* 01 44 26.2
comp=Z,72nm,1.7s
CLL *e* 01 46 51.0
CLL LmH 02 15 00.0
comp=N,2μm,19.6s
CLL LmH 02 15 00.0
comp=E,900nm,19.8s
CLL LV 02 19 00.0
comp=Z,1μm,20.5s
KEST Kesra 73.36 57 *e*P **P 01 44 17.2 +0.6**
KEST Kesra 73.36 57 P **P 01 44 17.0 +0.4**
comp=Z,5.4nm,0.7s,baz=253,slow=3.2,SNR=16
KEST LR LR 02 11 41.2
comp=Z,875nm,21.8s,baz=224,slow=32
ABTA Abfaltersbach 73.76 46↑ *ip*P **P 01 44 19.3 +0.5**
comp=Z,46nm,1.5s,SNR=8.5
BRG Berggiesshubel 74.01 41 *e*P **P 01 44 20.8 +0.8**
comp=Z,13nm,1.0s
BRG *i* 01 44 30.0
comp=Z,55nm,1.4s
BRG
comp=N,3μm,25.2s
BRG
comp=E,2μm,20.3s
BRG
comp=Z,2μm,23.0s
BRG Berggiesshubel 74.01 41 *e*P **P 01 44 20.8 +0.8**
BRG *i* 01 44 30.0
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,55nm,1.5s
BRG MLR MLR
comp=N,3μm,25.2s
BRG MLR MLR
comp=E,2μm,20.3s
BRG MLR MLR
comp=Z,2μm,23.0s
BRG Berggiesshubel 74.01 41 *e*P **P 01 44 20.4 +0.4**
comp=Z,54nm,1.4s
KHC Kasperske Hory 74.06 43↑ *i*P **P 01 44 20.6 +0.2**
KHC pmax pmax
comp=Z,144nm,1.2s
KHC Kasperske Hory 74.06 43 *e*P **P 01 44 21.0 +0.6**
KHC *ex* x 01 44 29.5
KHC AMS AMS 02 14 00.0
comp=Z,5μm,19.5s
KHC Kasperske Hory 74.06 43 *e*P **P 01 44 21.0 +0.6**
comp=Z,63nm,1.3s
GEC2 GERESS Array S 74.19 43 *e*P **P 01 44 21.6 +0.3**
comp=Z,60nm,1.2s
GERES GERESS Array B 74.19 43 P **P 01 44 22.0 +0.7**
GERES GERESS Array B 74.19 43 P **P 01 44 22.0 +0.7**
comp=Z,11nm,0.7s,baz=272,slow=4.7,SNR=46
GERES LR LR 02 11 39.5
comp=Z,3μm,22.0s,baz=268,slow=32
KBA Koelnbreinsper 74.26 45↑ *ip*P **P 01 44 22.6 +0.8**
comp=Z,55nm,1.1s,SNR=14
PRA Prague 74.45 42 P **P 01 44 24.0 +1.4**
PVCC Panska Ves 74.46 41 *e*P **P 01 44 22.7 +0.1**
PVCC MLR MLR
comp=Z,4μm,17.6s
PVCC Panska Ves 74.46 41 *e*P **P 01 44 22.7 +0.1**
PVCC AMS AMS 02 16 10.0
comp=Z,4μm,17.6s
PRU Pruhonice 74.53 42 *e*P **P 01 44 24.0 +0.9**
PRU MLR MLR
comp=Z,6μm,18.7s
PRU Pruhonice 74.53 42 *e*P **P 01 44 24.0 +0.9**
PRU AMS AMS 02 15 50.0
comp=Z,6μm,18.7s
MYKA Terra Mystica 74.54 46↑ *i*P **P 01 44 23.7 +0.4**
comp=Z,45nm,1.6s
CADS Cadrg 74.68 46 *i* P **P 01 44 24.6 +0.5**
CADS Cadrg 74.68 46 P **P 01 44 24.6 +0.5**
MOA Molln 74.74 44 *i* P **P 01 44 24.7 +0.3**
comp=Z,70nm,1.4s,SNR=11
TRI Trieste 74.80 46 *e*P **P**
TRI pmax pmax
comp=Z,89nm,1.2s
TRI Trieste 74.80 46 *e*P **P 01 44 25.6 +1.0**
comp=Z,88nm,1.2s
OBKA Obir 75.18 46↑ *ip*P **P 01 44 27.6 +0.6**
comp=Z,36nm,0.8s,SNR=10.0
TREC Trest 75.27 43 *e*P **P**
TREC MLR MLR
comp=Z,6μm,19.6s
TREC Trest 75.27 43 *e*P **P 01 44 27.9 +0.5**
TREC AMS AMS 02 14 50.0
comp=Z,6μm,19.6s
UPC Upice 75.37 41 *e*P **P 01 44 28.7 +0.8**
UPC Upice 75.37 41 *e*P **P 01 44 28.7 +0.8**
SOKA Soboth 75.48 45↑ *i*P **P 01 44 28.8 +0.1**
comp=Z,36nm,1.1s,SNR=6.6
KSP Ksiaz 75.48 41 *e*P **P 01 44 29.6 +1.1**
KSP Ksiaz 75.48 41 *e*P **P 01 44 30.0 +1.5**
TNA Tin City 75.51 335 *e*P **P 01 44 28.0 -0.3**
PERS Pernice 75.54 45 *e*P **P 01 44 28.5 -0.5**
PERS Pernice 75.54 45 *e*P **P 01 44 28.5 -0.5**
GKP Gorka Klasztor 75.57 38 *e*P **P 01 44 31.0 +2.0**
GKP Gorka Klasztor 75.57 38 *e*P **P 01 44 30.9 +2.0**
DPC Dobruska-Polom 75.59 41 *e*P **P 01 44 30.3 +1.0**
DPC *e* 01 44 38.6
DPC Dobruska-Polom 75.59 41 *e*P **P 01 44 30.3 +1.0**
DPC *ex* x 01 44 38.6
DPC AMS AMS 02 14 50.0
ARSA Arzberg 75.69 45↑ *ip*P **P 01 44 30.6 +0.7**
comp=Z,31nm,1.1s,SNR=5.9
CONA Conrad Observa 75.78 44⇓ *i*P **P 01 44 30.4 0.0**
comp=Z,23nm,0.9s
LEGS Legarje 75.81 46 *e*P **P 01 44 31.5 +0.9**
LEGS Legarje 75.81 46 *e*P **P 01 44 31.5 +0.9**
ARCES ARCESS Array B 75.85 21 P **P 01 44 29.8 -0.6**
ARCES ARCESS Array B 75.85 21 P **P 01 44 29.8 -0.6**
comp=Z,5.0nm,0.6s,baz=294,slow=4.1,SNR=16
KRLC Kraliky 75.94 42 *e*P **P 01 44 32.7 +1.5**
KRLC Kraliky 75.94 42 *e*P **P 01 44 32.7 +1.5**
VRAC Vranov 75.97 42↑ P **P 01 44 32.4 +1.0**
VRAC Vranov 75.97 42 P **P 01 44 32.2 +0.8**
VRAC Vranov 75.97 42 P **P 01 44 32.2 +0.8**
comp=Z,8.0nm,0.8s,baz=275,slow=6.4,SNR=7.9
VRAC LR LR 02 15 08.6
comp=Z,4μm,19.3s,baz=277,slow=34
SOP Sopron 76.29 44⇓ *e*P **P 01 44 34.4 +1.2**
MORC Moravsky Berou 76.48 42 ⇓P **P 01 44 35.5 +1.2**
MORC Moravsky Berou 76.48 42⇓ *i*P **P 01 44 35.5 +1.2**
MORC Moravsky Berou 76.48 42 *e*P **P 01 44 35.2 +0.9**
comp=Z,47nm,1.3s
SMOL Smolenice 76.68 43 *e*P **P 01 44 37.3 +1.9**
SMOL Smolenice 76.68 43 *e*P **P 01 44 37.3 +1.9**
OKC Ostrava-Krasne 76.85 42 *e*P **P 01 44 36.8 +0.5**
OKC MLR MLR
comp=Z,5μm,19.3s
OKC Ostrava-Krasne 76.85 42 *e*P **P 01 44 36.8 +0.5**
OKC AMS AMS 02 15 50.0
comp=Z,5μm,19.3s
PKST T˜'s 77.36 44↑ *e*P **P 01 44 39.7 +0.4**
UNV Unalaska Valle 77.47 323 *e*P **P 01 44 39.2 -0.5**
comp=Z,34nm,0.8s
CSKK Cs˛‡kako 77.48 44↑ *e*P **P 01 44 40.6 +0.6**
GAMB Gambell 77.52 333 *e*P **P 01 44 39.9 +0.1**
PKSG 77.56 44⇓ *e* P **P 01 44 41.3 +0.9**
OJC Ojcow 77.80 41 *e*P **P 01 44 42.9 +1.2**
PKSM Moragy 78.01 45 ⇓P **P 01 44 43.5 +0.6**
PKSM Moragy 78.01 45⇓ *i*P **P 01 44 43.5 +0.6**
PKSM Moragy 78.01 45↑ *e* P **P 01 44 43.1 +0.2**
KAF Kangasniemi 78.17 28 *e*P **P 01 44 44.0 +0.5**
KAF pmax pmax
comp=Z,7.0nm,0.8s
KAF Kangasniemi 78.17 28 *ep* **P 01 44 44.0 +0.5**
comp=Z,6.5nm,0.8s
FINES FINESS Array B 78.25 29 P **P 01 44 44.2 +0.2**
FINES FINESS Array B 78.25 29 P **P 01 44 44.2 +0.2**
comp=Z,9.8nm,0.8s,baz=298,slow=4.1,SNR=12
FINES LR LR 02 16 26.5
comp=Z,1μm,19.9s,baz=284,slow=34
NIE Niedzica 78.32 42 *e*P **P 01 44 46.8 +2.2**
TIP Timpagrande 78.37 53 *e*P **P 01 44 45.9 +0.7**
comp=Z,6.2nm,0.8s
PSZ Piszkesteto 78.42 43↑ P **P 01 44 48.0 +2.7**
PSZ Piszkesteto 78.42 43↑ *i*P **P 01 44 48.0 +2.7**
PSZ Piszkesteto 78.42 43 *e*P **P 01 44 47.0 +1.8**
PSZ Piszkesteto 78.42 43↑ *e* **P 01 44 47.7 +2.4**
SUW Suwalki 78.84 37 *e*P **P 01 44 48.6 +1.2**
SUW Suwalki 78.84 37 *e*P **P 01 44 48.5 +1.2**
STHS Stebnicka Huta 78.91 42 *e*P **P 01 44 49.6 +1.8**
STHS pmax pmax
comp=Z,17nm,1.6s
STHS Stebnicka Huta 78.91 42 *e*P **P 01 44 49.6 +1.8**
CRVS Cervenica-Dubn 79.18 42 *e*P **P 01 44 51.5 +2.2**
CRVS pmax pmax
comp=Z,45nm,1.8s
CRVS Cervenica-Dubn 79.18 42 *e*P **P 01 44 51.5 +2.2**
VSU Vasula 79.46 32 *d i*P **P 01 44 50.6 0.0**
VSU pmax pmax
comp=Z,69nm,1.2s
LVZ Lovozero 79.54 22 *e*P **P 01 44 50.8 -0.1**
LVZ pmax pmax
comp=Z,36nm,1.2s
KOLS Kolonicke sedl 79.69 42 *e*P **P 01 44 54.2 +2.1**
KOLS pmax pmax
comp=Z,23nm,1.7s
KOLS Kolonicke sedl 79.69 42 *e*P **P 01 44 54.2 +2.1**
KOLS *e*PP **PP 01 47 52.9 +0.2**
KWP Kalwaria Pacla 79.77 41 ⇓P **P 01 44 54.1 +1.6**
KWP Kalwaria Pacla 79.77 41 *e*P **P 01 44 55.0 +2.5**
KWP Kalwaria Pacla 79.77 41⇓ *i*P **P 01 44 54.1 +1.6**
UZH Uzhgorod 79.78 42⇓ *i*P **P 01 44 55.0 +2.4**
UZH *i* 01 45 03.8
UZH *e* 01 47 48.0
UZH *es* **S 01 54 56.8 +0.8**
SIRR Siria 80.02 45↑ *i*P **P 01 44 55.2 +1.2**
ISAL Salakas 80.02 35 *e*P **P 01 44 54.2 +0.4**
ISAL AMB AMB 01 45 05.9
comp=Z,18nm,1.5s
TRPA Tarpa 80.08 43⇓ *i*P **P 01 44 54.8 +0.6**
TRPA Tarpa 80.08 43⇓ *e* **P 01 44 55.9 +1.7**
JOF Joensuu 80.11 27 *e*P **P 01 44 54.7 +0.7**
JOF pmax pmax
comp=Z,18nm,0.6s
JOF Joensuu 80.11 27 *ep* **P 01 44 54.7 +0.7**
comp=Z,18nm,0.6s
IIGN Ignalina 80.14 35 *e*P **P 01 44 54.8 +0.4**
IIGN AMB AMB 01 45 06.0
comp=Z,39nm,1.4s
BZS Buzias 80.17 45↑ P **P 01 44 55.3 +0.5**
BZS Buzias 80.17 45↑ *i*P **P 01 44 55.3 +0.5**
IDID Didziasalis 80.44 35 *e*P **P 01 44 56.4 +0.5**
IDID AMB AMB 01 45 08.0
comp=Z,21nm,1.5s
LVV L'vov 80.53 41 *i* P **P 01 44 58.1 +1.5**
DRGR 80.57 44 ⇓P **P 01 44 57.9 +0.9**
DRGR 80.57 44⇓ *i*P **P 01 44 57.9 +0.9**
NACGM Naroch 80.59 35 *e* **P 01 44 56.0 -0.8**
PUL Pulkovo 80.77 30 *e*P **P 01 44 58.1 +0.4**
PUL pmax pmax
comp=Z,60nm,1.4s
BMR Baia Mare 80.83 43↑ P **P 01 44 59.2 +0.9**
BMR Baia Mare 80.83 43↑ *i*P **P 01 44 59.2 +0.9**
GZR Gura Zlata 81.02 45↑ P **P 01 45 00.3 +0.9**
GZR Gura Zlata 81.02 45↑ *i*P **P 01 45 00.3 +0.9**
CJR Cluj-Napoca 81.18 44↑ P **P 01 45 02.3 +2.1**
CJR Cluj-Napoca 81.18 44↑ *i*P **P 01 45 02.3 +2.1**
MNK Minsk 81.30 35 *e*P **P 01 44 59.0 -1.6**
MICGM Minsk 81.32 35 *e* **P 01 44 59.0 -1.7**
FNA Florina 81.37 50 *e*P **P 01 45 02.4 +1.0**
LOT Lotru 81.67 45↑ *i*P **P 01 45 03.6 +0.7**
BUR08 Bucovina Ar. S 81.93 43 *e*P **P 01 45 05.9 +1.6**
BURAR Bucovina Array 81.95 43 ⇓P **P 01 45 06.3 +1.9**
BURAR Bucovina Array 81.95 43⇓ *i*P **P 01 45 06.3 +1.9**
VTS Vitosha 82.15 48 ⇓P **P 01 45 05.8 +0.2**
VTS Vitosha 82.15 48 *e*P **P 01 45 07.3 +1.4**
VTS Vitosha 82.15 48⇓ *i*P **P 01 45 05.8 +0.2**
THL Klokotos Trika 82.19 51 *e*P **P 01 45 05.8 +0.2**
EVR Evrytania 82.23 52 *e*P **P 01 45 07.6 +1.6**
ARR Arges 82.27 45⇓ *i*P **P 01 45 07.2 +1.1**
KKB Krupnik 82.28 49 *e*P **P 01 45 09.0 +2.9**
KNT Kendrikon 82.36 49 *e*P **P 01 45 07.7 +1.2**
DRO Drossia 82.44 53 *e*P **P 01 45 07.9 +0.9**
MAKR Makrakomi, Fth 82.44 52 *e*P P 01 45 11.2 +4.2
EFP Efpalio 82.45 52 *e*P **P 01 45 09.4 +2.4**
VOIR 82.53 45↑ P **P 01 45 08.6 +1.2**
VOIR 82.53 45↑ *i*P **P 01 45 08.6 +1.2**
LAKA Lakka 82.56 52 *e*P **P 01 45 08.3 +0.7**
THE Thessaloniki 82.57 50 *e*P **P 01 45 09.2 +1.6**
AGG Agios Georgios 82.59 51 *e*P **P 01 45 09.6 +1.8**
DOPR Dopca 82.59 44⇓ *i*P **P 01 45 08.7 +1.1**
MTUR Matau 82.61 45⇑ P **P 01 45 09.5 +1.6**
MTUR Matau 82.61 45↑ *i*P **P 01 45 09.4 +1.6**
HORT Hortiatis 82.67 50 *e*P **P 01 45 09.3 +1.0**
PRAR RASCA 82.68 43↑ *i*P **P 01 45 09.6 +1.5**
KLV Kalavryta, Ach 82.75 52 *e*P **P 01 45 09.6 +0.9**
HUMR Humele 82.77 46↑ *i*P **P 01 45 09.1 +0.5**
SOH Sokhos 82.79 50 *e*P **P 01 45 10.8 +2.0**
MMB Musomiste 82.82 49 ⇓P **P 01 45 11.0 +2.0**
MMB Musomiste 82.82 49 *e*P **P 01 45 09.6 +0.6**
MMB Musomiste 82.82 49⇓ *i*P **P 01 45 11.0 +2.0**
ITM Ithomi 82.84 53 *e*P **P 01 45 06.6 -2.5**
SRS Serrai 82.87 49 *e*P **P 01 45 09.0 -0.2**
GUR Goura 82.92 53 *e*P **P 01 45 08.4 -1.2**
NVR Nevrokopi 82.99 49 *e*P **P 01 45 11.1 +1.3**
PLG Polygyros 82.99 50 *e*P **P 01 45 10.7 +0.8**
MLR Muntele Rosu 83.11 44⇓ *i*P **P 01 45 12.0 +1.5**
MLR Muntele Rosu 83.11 44 P **P 01 45 12.0 +1.5**
MLR Muntele Rosu 83.11 44 P **P 01 45 12.0 +1.5**
comp=Z,10nm,0.8s,baz=272,slow=3.3,SNR=43
MLR LR LR 02 19 47.9
comp=Z,411nm,19.7s,baz=284,slow=34
XOR Xorichti 83.12 51 *e*P **P 01 45 11.2 +0.7**
VLX Vlachokerasia 83.12 53 *e*P **P 01 45 13.0 +2.3**
PMSA Palmer Station 83.16 176 *e*P **P 01 45 11.9 +2.0**
comp=Z,76nm,1.1s
LKR Lokris 83.20 52 *e*P **P 01 45 13.0 +2.1**
TESR Tescani 83.24 43↑ *i*P **P 01 45 12.4 +1.4**
KIEV Kiev 83.39 39 *e*P **P 01 45 11.7 +0.1**
KIEV pmax pmax
comp=Z,37nm,1.5s
KIEV Kiev 83.39 39 *e*P **P 01 45 11.7 +0.1**
comp=Z,37nm,1.5s
AKASG Malin Array Be 83.40 39 P **P 01 45 11.9 +0.2**
AKASG Malin Array Be 83.40 39 P **P 01 45 11.9 +0.2**
AKASG Malin Array Be 83.40 39 P **P 01 45 11.9 +0.2**
comp=Z,7.4nm,0.7s,baz=287,slow=4.9,SNR=22
PPT Papeete 83.41 249 LR LR 02 18 08.9
comp=Z,1μm,18.2s,baz=34,slow=33
PPT2 Papeete2 83.42 249 *e*LR LR 02 11 33.1
comp=Z,3μm,25.5s
PVL Pavlikeni 83.43 47 *e*P **P 01 45 13.0 +1.0**
PLOR Plostina 83.46 44 ⇓P **P 01 45 13.4 +1.2**
PLOR Plostina 83.46 44⇓ *i*P **P 01 45 13.4 +1.2**
RZN Rozhen 83.49 48 *e*P **P 01 45 13.7 +1.1**
VRI Vrincioaia 83.50 44 ⇓P **P 01 45 14.0 +1.6**
VRI Vrincioaia 83.50 44⇓ *i*P **P 01 45 14.0 +1.6**
ISR Istrita 83.63 45⇑ P **P 01 45 13.3 +0.2**
ISR Istrita 83.63 45↑ *i*P **P 01 45 13.3 +0.2**
SZH Strazhica 83.83 47 *e*P **P 01 45 13.7 -0.4**
DIM Dimitrovgrad 83.95 48 *e*P **P 01 45 16.0 +1.3**
KDZ Kurdzhali 84.00 48⇑ P **P 01 45 17.5 +2.5**
KDZ Kurdzhali 84.00 48 *e*P **P 01 45 16.0 +1.0**
KDZ Kurdzhali 84.00 48↑ *i*P **P 01 45 17.5 +2.5**
PTL Penteli 84.03 52 *e*P **P 01 45 15.3 0.0**
RDO Rodhopi 84.25 49 *e*P **P 01 45 17.3 +1.0**
LEOM Leova 84.29 43⇑ P **P 01 45 18.2 +1.9**
LEOM Leova 84.29 43↑ *i*P **P 01 45 18.2 +1.9**
LIA Limnos Island 84.41 50 *e*P **P 01 45 16.1 -1.0**
KIS Kishinev 84.47 42 *e*P **P 01 45 18.0 +0.8**
KIS Kishinev 84.47 42 *e*P **P 01 45 18.0 +0.8**
KLMR Klimovskoe 84.50 27 *e*P **P 01 45 17.2 +0.1**
KLMR pmax pmax
comp=Z,153nm,1.9s
CFR Carcaliu 84.67 44⇑ P **P 01 45 18.6 +0.3**
CFR Carcaliu 84.67 44⇑ *i*P **P 01 45 18.6 +0.3**
MSAB Monastry St. A 84.84 45⇓ *i*P **P 01 45 19.6 +0.4**
PRD Provadia 84.86 46⇑ P **P 01 45 21.3 +2.0**
TIRR Tirgusor 85.11 45⇑ P **P 01 45 23.4 +2.9**
TIRR Tirgusor 85.11 45↑ *i*P **P 01 45 23.4 +2.9**
PSN Preselentsi 85.23 46 ⇓P **P 01 45 22.1 +1.0**
PSN Preselentsi 85.23 46 *e*P **P 01 45 21.1 0.0**
PSN Preselentsi 85.23 46⇓ *i*P **P 01 45 22.1 +1.0**
TBI Tubuai 85.45 244 *e*LR LR 02 12 29.8
comp=Z,2μm,23.8s,baz=63
APE Apeiranthos 85.60 53 *e*P **P 01 45 24.5 +1.3**
APE pmax pmax
comp=Z,40nm,1.2s
IDI Anoyia 85.71 54 P **P 01 45 24.1 +0.4**
IDI Anoyia 85.71 54 P **P 01 45 24.1 +0.4**
comp=Z,16nm,0.7s,baz=264,slow=8.0,SNR=14
IDI LR LR 02 17 46.1
comp=Z,612nm,22.0s,baz=298,slow=32
OBN Obninsk 85.72 33 P **P 01 45 24.9 +1.6**
comp=Z,273nm,1.3s,SNR=5.5
OBN Obninsk 85.72 33⇓ *e*P **P 01 45 23.2 -0.1**
OBN *i* S S 01 55 49.9 -6.4
OBN pmax pmax
comp=Z,67nm,1.2s
OBN Obninsk 85.72 33 P **P 01 45 23.8 +0.5**
OBN Obninsk 85.72 33 P **P 01 45 23.8 +0.5**
comp=Z,17nm,0.8s,baz=7.7,slow=23,SNR=11
OBN LR LR 02 23 08.2
comp=Z,976nm,18.0s,baz=293,slow=35
MOS Moscow 85.98 32 *e*P **P 01 45 24.2 -0.4**
MOS pmax pmax
comp=Z,40nm,1.0s
NPS Neapolis 86.27 54 *e*P **P 01 45 28.9 +2.4**
PRGR Permogore 86.64 25⇓ *i*P **P 01 45 28.7 +1.0**
PRGR pmax pmax
comp=Z,140nm,1.4s
MSKU Masuku 87.20 93 P **P 01 45 31.9 +0.4**
MSKU Masuku 87.20 93 P **P 01 45 31.9 +0.4**
comp=Z,10nm,0.5s,baz=1.5,slow=0.5,SNR=7.6
MSKU LR LR 02 19 57.5
comp=Z,401nm,19.4s,baz=354,slow=32
SIM Simferopol' 88.67 43 *e*P **P**
SIM pmax pmax
comp=Z,14nm,0.9s
VSR Storozhevoye 88.90 36 *e*P **P 01 45 37.5 -1.3**

VSR					pmax	pmax			
	comp=N,5.0nm,0.9s								
VSR					pmax	pmax			
	comp=E,5.0nm,0.9s								
VSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
VSR					MLR	MLR			
	comp=N,980nm,17.0s								
VSR					MLR	MLR			
	comp=E,1μm,17.0s								
VSR					MLR	MLR			
	comp=Z,2μm,17.0s								
TIXI	**Tiksi**	**88.98**	**353**	*e*P	**P**		**01 45 38.3**	**-0.4**	
TIXI					pmax	pmax			
	comp=Z,26nm,1.4s								
TIXI	**Tiksi**	**88.98**	**353**	*e*P	**P**		**01 45 38.1**	**-0.7**	
	comp=Z,27nm,1.1s								
VORD	**Divnogorie**	**89.09**	**36**	*e*P	**P**		**01 45 38.1**	**-1.6**	
VORD					pmax	pmax			
	comp=N,10.0nm,1.0s								
VORD					pmax	pmax			
	comp=E,10.0nm,1.0s								
VORD					pmax	pmax			
	comp=Z,9.0nm,1.0s								
VORD					MLR	MLR			
	comp=N,730nm,19.0s								
VORD					MLR	MLR			
	comp=E,960nm,19.0s								
VORD					MLR	MLR			
	comp=Z,2μm,19.0s								
ANTO	**Ankara**	**89.87**	**48**	*e*P	**P**		**01 45 44.6**	**+0.9**	
ANTO					pmax	pmax			
	comp=Z,23nm,0.8s								
ANTO	**Ankara**	**89.87**	**48**	*e*P	**P**		**01 45 44.6**	**+0.9**	
	comp=Z,24nm,0.8s								
VRHR	**Novokhopersk**	**90.31**	**35**	*e*P	**P**		**01 45 46.0**	**+0.6**	
VRHR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.8s								
VRHR					pmax	pmax			
	comp=Z,20nm,0.8s								
VRHR					MLR	MLR			
	comp=N,750nm,22.0s								
VRHR					MLR	MLR			
	comp=E,2μm,22.0s								
VRHR					MLR	MLR			
	comp=Z,3μm,22.0s								
BR131	**Keskin Array S**	**90.52**	**48**	*e*P	**P**		**01 45 47.5**	**+0.7**	
	comp=Z,10nm,0.9s								
BRTR	**Keskin Array B**	**90.52**	**48**	P	**P**		**01 45 46.8**	**0.0**	
BRTR				PKKPbc	**PKKPdf**		**02 03 08.8**	**-1.6**	
BRTR	**Keskin Array B**	**90.52**	**48**	P	**P**		**01 45 46.8**	**0.0**	
	comp=Z,9.5nm,0.9s,baz=271,slow=2.8,SNR=23								
BRTR				PKKPbc	**PKKPdf**		**02 03 08.8**	**-1.6**	
	comp=Z,0.9nm,0.8s,baz=279,slow=4.1,SNR=4.6								
SEY	**Seymchan**	**91.55**	**341**	*i* P	**P**		**01 45 51.0**	**+0.1**	
SEY	**Seymchan**	**91.55**	**341**	P	**P**		**01 45 51.6**	**+0.7**	
SEY	**Seymchan**	**91.55**	**341**	P	**P**		**01 45 51.6**	**+0.7**	
	comp=Z,4.7nm,0.8s,baz=3.5,slow=22,SNR=7.2								
SOKR	**Solikamsk**	**92.22**	**23**	*e*P	**P**		**01 45 56.5**	**+2.5**	
SOKR					pmax	pmax			
	comp=Z,20nm,1.0s								
CSS	**Prodhromos**	**92.25**	**52**	*e*P	**P**		**01 45 56.0**	**+1.2**	
	comp=Z,9.4nm,1.4s								
KIV	**Kislovodsk**	**94.56**	**41**	*e*P	**P**		**01 46 06.6**	**+1.3**	
KIV					pmax	pmax			
	comp=Z,11nm,1.1s								
KIV	**Kislovodsk**	**94.56**	**41**	*e*P	**P**		**01 46 06.6**	**+1.3**	
	comp=Z,11nm,1.1s								
KBZ	**Khabaz**	**94.81**	**41**	P	**P**		**01 46 07.8**	**+1.5**	
KBZ	**Khabaz**	**94.81**	**41**	P	**P**		**01 46 07.8**	**+1.5**	
KBZ	**Khabaz**	**94.81**	**41**	P	**P**		**01 46 07.8**	**+1.5**	
	comp=Z,4.4nm,0.9s,baz=290,slow=4.1,SNR=8.8								
KBZ					LR	LR	02 27 56.6		
	comp=Z,1μm,19.0s,baz=286,slow=35								
NEY	**Neytrino**	**94.94**	**41**	*e*P	**P**		**01 46 08.6**	**+1.4**	
ARU	**Arti**	**95.10**	**25***c*	*i*P	**P**		**01 46 07.7**	**+0.3**	
ARU							01 49 56.4		
ARU					S	**SKSac**	**01 56 43.1**	**-0.6**	
ARU					pmax	pmax			
	comp=Z,16nm,1.7s								
ARU	**Arti**	**95.10**	**25**	*e*P	**P**		**01 46 08.7**	**+1.3**	
	comp=Z,81nm,1.9s								
NCK	**Nalchik**	**95.36**	**41**	*e*P	**P**		**01 46 08.9**	**0.0**	
SVE	**Sverdlovsk**	**95.62**	**24**	*e*P	P		01 46 13.8	+4.1	
SVE					pmax	pmax			
	comp=Z,15nm,1.5s								
EIL	**Elat**	**95.69**	**56**	P	**P**		**01 46 11.6**	**+1.0**	
EIL	**Elat**	**95.69**	**56**	P	**P**		**01 46 11.6**	**+1.0**	
	comp=Z,2.1nm,0.7s,baz=22,slow=8.1,SNR=3.5								
ZEI	**Tsey**	**95.92**	**41**	*e*P	**P**		**01 46 12.3**	**+0.6**	
ZEI					pmax	pmax			
	comp=Z,4.0nm,0.7s								
ASF	**Jabal al Asfar**	**96.13**	**53**	P	**P**		**01 46 13.5**	**+0.7**	
ASF	**Jabal al Asfar**	**96.13**	**53**	P	**P**		**01 46 13.5**	**+0.7**	
	comp=Z,2.0nm,0.8s,baz=254,slow=4.1,SNR=5.0								
PETK	**Petropavlovsk-**	**96.52**	**332**		LR	LR	02 33 29.4		
	comp=Z,1μm,18.6s,baz=56,slow=38								
GNI	**Garni**	**97.84**	**43**	*e*P	Pdif		01 46 21.4	+0.9	
	comp=Z,26nm,1.4s								
AKTO	**Aktyubinsk**	**99.03**	**29**	P	**Pdif**		**01 46 26.6**	**+1.3**	
AKTO	**Aktyubinsk**	**99.03**	**29**	P	**Pdif**		**01 46 26.6**	**+1.3**	
AKTO	**Aktyubinsk**	**99.03**	**29**	P	**Pdif**		**01 46 26.6**	**+1.3**	
	comp=Z,0.9nm,0.8s,baz=339,slow=10,SNR=4.2								
AKTO					LR	LR	02 31 14.7		
	comp=Z,730nm,18.1s,baz=313,slow=36								
ABKAR	**Akbulak array**	**100.74**	**29**	*e*Pdif	**Pdif**		**01 46 35.0**	**+2.1**	
	comp=Z,2.8nm,1.1s								
SNAA	**Sanae**	**101.23**	**162**	*e*Pdif	**Pdif**		**01 46 35.6**	**+1.1**	
	comp=Z,16nm,1.8s								
BVAR	**Borovoye Array**	**102.13**	**22**	P	**Pdif**		**01 46 40.6**	**+1.6**	
BVAR	**Borovoye Array**	**102.13**	**22**	P	**Pdif**		**01 46 40.6**	**+1.6**	
BVAR				PKKPbc	**PKKPbc**		**02 02 40.3**	**-3.4**	
BVAR	**Borovoye Array**	**102.13**	**22**	P	**Pdif**		**01 46 40.6**	**+1.6**	
	comp=Z,0.5nm,0.5s,baz=318,slow=4.1,SNR=3.3								
BVAR				PKKPbc	**PKKPbc**		**02 02 40.3**	**-3.4**	
	comp=Z,0.9nm,0.6s,baz=155,slow=5.5,SNR=6.2								
ZALV	**Zalesovo Beam**	**105.47**	**13**	P	Pdif		01 47 03.9	+10	
ZALV	**Zalesovo Beam**	**105.47**	**13**	Pdif	Pdif		01 47 03.9	+10	
ZALV	**Zalesovo Beam**	**105.47**	**13**	Pdiff	Pdif		01 47 03.9	+10	
	comp=Z,0.5nm,0.4s,baz=320,slow=6.7,SNR=3.9								
KURK	**Kurchatov**	**106.79**	**18**	P	**Pdif**		**01 47 04.6**	**+4.8**	
KURK	**Kurchatov**	**106.79**	**18**	Pdif	**Pdif**		**01 47 04.6**	**+4.8**	
KURK				PKKPbc	**PKKPbc**		**02 02 26.1**	**-3.5**	
KURBB	**Kurchatov Arra**	**106.84**	**19**	Pdiff	**Pdif**		**01 47 04.6**	**+4.5**	
	comp=Z,0.2nm,0.6s,baz=338,slow=3.3,SNR=4.1								
KURBB				PKKPbc	**PKKPbc**		**02 02 26.1**	**-3.4**	
	comp=Z,0.9nm,0.6s,baz=156,slow=2.9,SNR=12								
MK31	**Makanchi Array**	**111.39**	**18**	*e*PKIKP	**PKiKP**		**01 51 20.8**	**+2.1**	
MK31	**Makanchi Array**	**111.39**	**18**	*e*PKP	**PKiKP**		**01 51 20.8**	**+2.1**	
MKAR	**Makanchi Array**	**111.39**	**18**	PKKPbc	PKKPbc		02 02 11.8	-3.2	
MKAR	**Makanchi Array**	**111.39**	**18**	PKKPbc	PKKPbc		02 02 11.8	-3.2	
	comp=Z,0.4nm,0.7s,baz=151,slow=2.8,SNR=3.8								
TKM2	**Tokmak 2**	**112.47**	**25**	*e*PKIKP	**PKiKP**		**01 51 22.6**	**+1.4**	
TKM2	**Tokmak 2**	**112.47**	**25**	*e*PKP	**PKiKP**		**01 51 22.6**	**+1.4**	
SONM	**Songino Array**	**114.10**	**1**	PP	PP		01 52 24.1	+6.9	
SONM				PKKPbc	**PKKPbc**		**02 02 10.0**	**+3.8**	
SONM	**Songino Array**	**114.10**	**1**	PP	PP		01 52 24.1	+6.9	
	comp=Z,3.5nm,1.3s,baz=350,slow=6.8,SNR=5.6								
SONM				PKKPbc	**PKKPbc**		**02 02 10.0**	**+3.8**	
	comp=Z,1.6nm,0.8s,baz=161,slow=4.4,SNR=6.5								
KSH	**Kashi**	**115.48**	**26**	*e*PKP	**PKPdf**		**01 51 29.1**	**+2.2**	
KSH				*e*PP	PP		01 52 38.2	+11	
KSH				*e*SKS	**SKSdf**		**01 58 36.1**	**-3.9**	
WMQ	**Urumqi**	**115.61**	**15**	PKP	**PKPdf**		**01 51 27.6**	**+0.7**	
WMQ				PP	PP		01 52 35.0	+7.1	
WMQ				PKS	**PKSdf**		**01 55 03.0**	**-0.7**	
WMQ				SKS	**SKSdf**		**01 58 34.7**	**-5.2**	
WMQ				SKKS	SKKSac		01 59 22.9	-8.4	
WMQ				AMB	AMB				
	comp=Z,56nm,10.7s								
WMQ				LR	LR				
	comp=Z,810nm,25.0s								
WMQ				LR	LR				
	comp=Z,710nm,23.3s								
WMQ				LR	LR				
	comp=Z,960nm,19.7s								
CN2	**Changchun**	**115.89**	**345**	*e*Pdif	**Pdif**		**01 47 38.7**	**-1.7**	
CN2				PP	**PP**		**01 52 32.3**	**+2.6**	
CN2				LR	LR				
	comp=Z,930nm,19.0s								
HHC	**Hu-ho-hao-te**	**120.94**	**356**	*e*PKP	**PKPdf**		**01 51 38.0**	**+0.7**	
HHC				PP	**PP**		**01 53 08.0**	**+3.3**	
HHC				SKS	**SKSdf**		**01 58 49.6**	**-0.7**	
HHC				SKKS	**SKKSac**		**02 00 02.8**	**-3.9**	
HHC				SS	**SS**		**02 09 35.3**	**-0.8**	
HHC				LR	LR				
	comp=Z,2μm,22.1s								
BJI	**Beijing**	**121.28**	**352**	PKP	**PKPdf**		**01 51 34.6**	**-3.2**	
BJI				LR	LR				
	comp=Z,2μm,27.1s								
GTA	**Gaotai**	**122.12**	**7**	*e*PKP	**PKPdf**		**01 51 42.5**	**+2.8**	
GTA				sPKP			01 51 49.5		
GTA				PP	PP		01 53 21.5	+8.7	
GTA				SKS	**SKSdf**		**01 58 53.2**	**+0.6**	
GTA				SKKS	**SKKSac**		**02 00 13.9**	**-0.6**	
GTA				SS	SS		02 09 59.1	+7.8	
GTA				LR	LR				
	comp=Z,1μm,21.8s								
GTA				LR	LR				
	comp=Z,1μm,20.4s								
GTA				LR	LR				
	comp=Z,2μm,20.9s								
LZH	**Lanzhou**	**125.75**	**3**	*e*PKP	**PKPdf**		**01 51 46.3**	**-0.5**	
LZH				sPKP			01 51 50.8		
LZH				PP	**PP**		**01 53 41.0**	**+3.7**	
LZH				SS	SS		02 10 35.4	-1.9	
LZH				AMB	AMB				
	comp=Z,280nm,9.7s								
LZH				LR	LR				
	comp=Z,470nm,18.0s								
LZH				LR	LR				
	comp=Z,480nm,18.1s								
LZH				LR	LR				
	comp=Z,750nm,20.1s								
NJ2	**Nanjing**	**128.61**	**347**	*e*PKP	**PKPdf**		**01 51 50.8**	**-1.3**	
CD2	**Chengdu**	**130.90**	**4**	*e*PKP	**PKPdf**		**01 51 54.9**	**-1.7**	
GYA	**Guiyang**	**135.44**	**1**	*e*Pdif	**Pdif**		**01 49 04.2**	**-3.7**	
GYA				PKP	**PKPdf**		**01 52 03.0**	**-2.3**	
GYA				PP	**PP**		**01 54 44.7**	**+4.6**	
GYA				PKS	**PKSdf**		**01 55 38.9**	**-3.0**	
GYA				SKKS			02 01 33.2		
GYA				SS	**SS**		**02 12 35.4**	**-0.6**	
GYA				AMB	AMB				
	comp=Z,160nm,7.6s								
GYA				LR	LR				
	comp=Z,160nm,19.4s								
GYA				LR	LR				
	comp=Z,140nm,20.1s								
GYA				LR	LR				
	comp=Z,180nm,19.8s								
PMG	**Port Moresby**	**140.18**	**277**	*e*PKPdf	**PKPdf**		**01 52 14.5**	**+0.4**	
CMAR	**Chiang Mai Arr**	**142.53**	**13**	PKP	**PKPdf**		**01 52 18.6**	**+0.2**	
CMAR	**Chiang Mai Arr**	**142.53**	**13**	PKP	**PKPdf**		**01 52 18.6**	**+0.2**	
	comp=Z,1.5nm,0.3s,baz=320,slow=4.3,SNR=6.1								
CTA	**Charters Tower**	**143.05**	**261**	PKP	**PKPdf**		**01 52 18.8**	**-0.4**	
CTA	**Charters Tower**	**143.05**	**261**	PKP	**PKPdf**		**01 52 18.8**	**-0.4**	
	comp=Z,11nm,0.9s,baz=60,slow=2.7,SNR=7.5								
CTAO	**Charters Tower**	**143.05**	**261**	*e*PKHKP	PKPpre		01 52 07.8		
CTAO				*e*			01 52 18.3		
CTAO	**Charters Tower**	**143.05**	**261**	*e*PKPpre	PKPpre		01 52 07.8		
CTAO				*e*PKPdf	**PKPdf**		**01 52 18.3**	**-0.8**	
PALK	**Pallekele**	**143.56**	**48**	*e*PKPdf	**PKPdf**		**01 52 20.5**	**+0.2**	
COEN	**Coen**	**145.11**	**272**	*e*PKPbc	**PKPbc**		**01 52 21.7**	**-0.6**	
STKA	**Stephens Creek**	**146.15**	**240**	*e*PKPbc	**PKPdf**		**01 52 23.9**	**-0.3**	
STKA	**Stephens Creek**	**146.15**	**240**	PKPbc	**PKPdf**		**01 52 23.9**	**-0.3**	
	comp=Z,17nm,1.0s,baz=121,slow=3.9,SNR=21								
BBOO	**Buckleboo**	**150.31**	**235**	*e*PKPbc	**PKPbc**		**01 52 34.6**	**-1.5**	
WRAB	**Tennant Creek**	**154.22**	**262**	*e*PKIKP	**PKPdf**		**01 52 36.3**	**-0.9**	
WRAB				*e*			01 52 44.2		
WRAB	**Tennant Creek**	**154.22**	**262**	*e*PKPdf	**PKPdf**		**01 52 36.3**	**-0.9**	
WRAB				*e*PKPbc	**PKPbc**		**01 52 44.2**	**-1.1**	
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**		**01 52 36.3**	**-0.9**	
WRA				PKPbc	**PKPbc**		**01 52 44.0**	**-1.4**	
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**		**01 52 36.3**	**-0.9**	
	comp=Z,7.8nm,0.9s,baz=78,slow=1.4,SNR=35								
WRA				PKPbc	**PKPbc**		**01 52 44.0**	**-1.4**	
	comp=Z,9.1nm,0.7s,baz=86,slow=1.5,SNR=37								
AS31	**Alice Springs**	**154.45**	**253**	*e*PKPdf	**PKPdf**		**01 52 37.0**	**-0.4**	
AS31				*e*PKPbc	**PKPbc**		**01 52 44.6**	**-1.2**	
ASAR	**Alice Springs**	**154.45**	**253**	PKP	**PKPdf**		**01 52 36.2**	**-1.2**	
ASAR				PKPbc	**PKPbc**		**01 52 44.4**	**-1.5**	
ASAR				PKPab	**PKPab**		**01 52 60.0**	**-0.2**	
ASAR	**Alice Springs**	**154.45**	**253**	PKP	**PKPdf**		**01 52 36.2**	**-1.2**	
	comp=Z,2.5nm,0.9s,baz=95,slow=1.6,SNR=15								
ASAR				PKPbc	**PKPbc**		**01 52 44.4**	**-1.5**	
	comp=Z,4.0nm,0.8s,baz=101,slow=2.3,SNR=14								
ASAR				PKPab	**PKPab**		**01 52 60.0**	**-0.2**	
	comp=Z,1.8nm,0.5s,baz=108,slow=3.7,SNR=8.3								
KULM	**Kulim**	**155.64**	**16**	*e*PKPdf	**PKPdf**		**01 52 39.8**	**+0.5**	
KULM				*e*PKPab	**PKPab**		**01 53 04.1**	**-1.0**	
IPM	**Ipoh**	**156.52**	**15**	*e*PKPab	**PKPab**		**01 53 08.0**	**-0.9**	
PSI	**Prapat**	**157.47**	**22**	PKPab	**PKPab**		**01 53 12.1**	**-1.1**	
PSI	**Prapat**	**157.47**	**22**	PKPab	**PKPab**		**01 53 12.1**	**-1.1**	
	comp=Z,14nm,0.8s,baz=338,slow=8.2,SNR=8.6								
KAPI	**Kappang**	**161.86**	**316**	*e*PKPdf	**PKPdf**		**01 52 48.5**	**+1.9**	
KAPI				*e*PKPab	**PKPab**		**01 53 31.9**	**-0.3**	

MEX 13 01:35:47.9±0.5, 16°.98N×99°.01W, h14km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TLIG	**Tlapa**	**0.72**	**36**	*i* P		Pg	01	35	59.5	-2.6
TLIG				*i* S		Sg	01	36	09.2	-2.6
PNIG	**Pinotepa**	**1.02**	**124**	*i* P		Pb	01	36	04.5	-3.0
PNIG				*i* S		Sb	01	36	16.5	-4.4
PLIG	**Platanillo**	**1.48**	**341**	*i* P		Pn	01	36	10.8	-3.5
PLIG				*i* S		Sn	01	36	28.4	-5.3
ARIG	**Puente Sto Nin**	**1.82**	**316**	*e*P		Pn	01	36	15.5	-3.5
ARIG				*i* S		Sn	01	36	37.1	-4.7
YAIG	**Yautepec**	**1.88**	**358**	*e*P		Pn	01	36	17.4	-2.4
YAIG				*e*S		Sn	01	36	39.6	-3.9

IDC ***13*** *01:36:29.5±0.4, 18°.33N×72°.91W, h0km, mb4.7/43, mb1 4.9/47, mb1mx4.9/50, mbtmp4.8/47, ML4.3/3, MS5.2/5, Ms1 5.2/5, ms1mx4.6/59, Error ellipse: s-maj=11.9km s-min=9.8km az=59.0*

MOS ***13*** *01:36:29.2±1.0, 18°.39N×72°.73W, h10km, mb5.7/98, MS5.5/4, Error ellipse: s-maj=9.6km s-min=5.4km az=121.7*

ISCJB ***13*** *01:36:30.8±0.1, 18°.38N±0°.03×72°.89W±0°.01, h16km, mb5.3/285, MS5.3/15, Error ellipse: s-maj=3.9km s-min=1.9km az=11.5*

GCMT ***13*** *01:36:31.4±0.3, 18°.60N×72°.98W, h13km±1km, MW5.6/55, Moment Tensor Solution. s3,c4; s55,c101; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr2.80±.26; Mθθ-2.74±.17; Mϕϕ-0.05±.12; Mrθ-0.13±.25; Mθϕ0.21±.07; Mϕr-0.31±.26; Best double couple: M○2.79700×10¹⁷ NP1:ϕ○268.00000°, δ46.00000°, λ81.00000°. NP2: ϕ○101.00000°, δ44.00000°, λ99.00000°. Principal axes: T 2.8370, Plg84.0000°, Azm104.0000°; N -0.0770, Plg6.0000°, Azm274.0000°; P -2.7580, Plg1.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

NEIC ***13*** *01:36:31.4±0.1, 18°.40N×72°.83W, h10km, mb5.4/169 Error ellipse: s-maj=3.4km s-min=2.4km az=18.0*

SZGRF ***13*** *01:36:41.6, 18°.97N×71°.87W, h18km, mb5.7, Dominican Republic region*

ISC 13 01:36:32.1±0.7, 18°.33N±0°.03×72°.89W±0°.03, h15km±4km, n1017, σ1°.15/951, mb5.4/291, MS5.4/15, 164C-145D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SDDR	**Presa de Saban**	**1.66**	**67**	*e*Pn		**Pn**	**01**	**36**	**59.7**	**-1.0**
SDDR				*e*Sn		**Sn**	**01**	**37**	**22.1**	**+0.4**
GTBY	**Guantanamo Bay**	**2.63**	**308**	*e*Pn		**Pn**	**01**	**37**	**13.8**	**-0.3**
GRTK	**Grand Turk**	**3.57**	**27**	*e*Pn		**Pn**	**01**	**37**	**25.3**	**-1.7**
GRTK				*e*Pg		**Pg**	**01**	**37**	**39.1**	**-1.5**
GRTK				*e*Sn		**Sn**	**01**	**38**	**06.9**	**-2.1**
MTDJ	**Mount Denham**	**4.41**	**269**	*e*Pn		**Pn**	**01**	**37**	**39.6**	**+1.0**
AGPR	**Aguadilla, PR**	**5.49**	**88**	*e*Pn		Pn	01	37	58.4	+4.9
AGPR				*e*Sg		Sb	01	39	19.7	+6.1
CRPR	**Cabo Rojo, PR**	**5.51**	**92**	*e*Pn		**Pn**	**01**	**37**	**54.8**	**+1.1**
CRPR				*e*Pg		Pg	01	38	13.2	-4.4
CRPR				*e*Sn		**Sn**	**01**	**38**	**56.4**	**-0.4**
LSP	**Las Mesas**	**5.52**	**91**	*e*Pn		**Pn**	**01**	**37**	**53.2**	**-0.7**
LSP				*e*Sg		Sb	01	39	20.7	+6.3
CELP	**Cerrillos**	**6.01**	**91**	*e*Pn		**Pn**	**01**	**38**	**01.2**	**+0.6**
CELP				*e*Pg		Pg	01	38	21.9	-5.4
CBYP	**Canovanas**	**6.69**	**89**	*e*Pn		**Pn**	**01**	**38**	**09.2**	**-0.7**
CBYP				*e*Sg		Sg	01	39	58.0	-8.8
MTP	**Monte Pirata**	**6.98**	**91**	*e*Pn		**Pn**	**01**	**38**	**12.7**	**-1.2**
MTP				*e*Pg		Pg	01	38	40.5	-5.4
MTP				*e*Sn		**Sn**	**01**	**39**	**32.6**	**-0.6**
SDV	**Santo Domingo**	**9.64**	**167**	*e*Pn		**Pn**	**01**	**38**	**52.6**	**+2.0**
SDV				*e*Sn		**Sn**	**01**	**40**	**37.1**	**-1.8**
MLG	**Mont-d'or**	**10.92**	**100**	*e*P		**Pn**	**01**	**39**	**09.2**	**+1.1**
HMG	**Houelmont**	**10.95**	**101**	*e*P		**Pn**	**01**	**39**	**10.0**	**+1.6**
SCG	**Saint Claude**	**10.96**	**100**	*e*P		**Pn**	**01**	**39**	**10.9**	**+2.3**
PHG	**Guadaloupe-2**	**11.00**	**100**	*e*P		**Pn**	**01**	**39**	**11.3**	**+2.1**
SEG	**Port Louis**	**11.04**	**98**	*e*P		**Pn**	**01**	**39**	**11.9**	**+2.2**
BCIP	**Isla Barro Col**	**11.33**	**217**	*e*Pn		**Pn**	**01**	**39**	**12.8**	**-0.8**
BCIP				*e*Sn		**Sn**	**01**	**41**	**16.0**	**-4.0**
H05N1	**Guadeloupe/Mar**	**11.48**	**98**	Pn		**Pn**	**01**	**39**	**16.3**	**+0.6**
	SNR=43									
ROSC	**El Rosal**	**13.46**	**186**	Pn		**Pn**	**01**	**39**	**43.9**	**+0.7**
ROSC	**El Rosal**	**13.46**	**186**	Pn		**Pn**	**01**	**39**	**43.9**	**+0.7**
	baz=54,slow=8.7,SNR=2.0									
TRN	**Trinidad (W)**	**13.49**	**123**	*e*		**P**	**01**	**39**	**49.5**	**-2.8**
TPP	**Pointe-a-Pierr**	**13.65**	**124**	*e*		**P**	**01**	**39**	**51.4**	**-2.7**
TPR	**Prospect**	**13.70**	**120**	*e*		Pn	01	39	49.9	+3.9
TBH	**Brigand Hill**	**13.85**	**123**	*e*		**P**	**01**	**39**	**56.5**	**+0.1**
JTS	**JuntasAbangare**	**14.15**	**237**	Pn		P	01	39	56.3	-3.4
	1μm,1.0s,SNR=5.2									
JTS	**JuntasAbangare**	**14.15**	**237**	*e*Pn		**Pn**	**01**	**39**	**55.3**	**+3.1**
	22nm,1.0s									
JTS	**JuntasAbangare**	**14.15**	**237**	Pn		**Pn**	**01**	**39**	**52.4**	**+0.2**
	0.8nm,0.3s,baz=52,slow=15,SNR=2.3									
TGUH	**Tegucigalpa,Un**	**14.45**	**255**	*e*Pn		**Pn**	**01**	**39**	**56.8**	**+0.6**
TEIG	**Tepich**	**14.65**	**280**	*e*Pn		**Pn**	**01**	**39**	**58.7**	**-0.3**
TEIG				*e*Sn		Sn	01	42	30.0	-11
TEIG	**Tepich**	**14.65**	**280**	Pn		**Pn**	**01**	**39**	**58.3**	**-0.6**
	4.1nm,0.3s,baz=18,slow=6.4,SNR=6.9									
BBSR	**BB Station**	**15.81**	**26**	*e*Pn		**Pn**	**01**	**40**	**11.3**	**-3.0**
BBSR				*e*Sn		Sn	01	42	54.7	-15
NHSC	**New Hope**	**16.10**	**337**	*e*Pn		**Pn**	**01**	**40**	**16.8**	**-1.2**
TIGA	**Tifton**	**16.25**	**325**	*e*Pn		**Pn**	**01**	**40**	**18.8**	**-1.1**
APG	**El Apazote**	**17.15**	**261**	P		**Pn**	**01**	**40**	**31.3**	**-0.4**
APG	**El Apazote**	**17.15**	**261**	P		**Pn**	**01**	**40**	**31.3**	**-0.4**
	0.7nm,0.3s,baz=84,slow=14,SNR=11									
KMSC	**Kings Mountain**	**18.35**	**338**	*e*Pn		**Pn**	**01**	**40**	**44.5**	**-1.6**
OTAV	**Otavalo**	**18.79**	**197**	*e*P		**Pn**	**01**	**40**	**52.6**	**+0.5**
	402nm,1.6s									
TKL	**Tuckaleechee C**	**19.77**	**333**	*e*P		**P**	**01**	**41**	**01.9**	**+0.2**
JSRW	**J. Sargeant Re**	**19.78**	**348**	*e*P		**P**	**01**	**41**	**00.5**	**-1.3**
VWCC	**Virginia Weste**	**19.84**	**343**	*e*P		**P**	**01**	**41**	**01.9**	**-0.7**
CPCT	**Cooper Cave**	**19.93**	**331**	*e*P		**P**	**01**	**41**	**03.2**	**-0.3**
BLA	**Blacksburg**	**19.94**	**342**	*e*P		**P**	**01**	**41**	**03.5**	**-0.1**
BLA					pmax	pmax				
	comp=Z,295nm,1.1s									
BLA	**Blacksburg**	**19.94**	**342**	*e*P		**P**	**01**	**41**	**03.5**	**-0.1**
	comp=Z,296nm,1.1s									
CBN	**Corbin**	**20.18**	**350**	*e*P		**P**	**01**	**41**	**03.6**	**-2.6**
SWET	**Sewanee**	**20.42**	**328**	*e*P		**P**	**01**	**41**	**07.5**	**-1.4**
	comp=Z,210nm,0.6s									
VBMS	**Vicksburg**	**21.06**	**314**	*e*P		**P**	**01**	**41**	**16.5**	**+0.8**
	comp=Z,574nm,1.6s									
SDMD	**Soldier's Deli**	**21.28**	**

WHTX Lake Whitney 25.98 306 eP P 01 42 03.5 -0.9
WHTX Lake Whitney 25.98 306 ⇑P P 01 42 04.8 +0.3
baz=26,SNR=16
534A Blanco 26.02 301 ⇑P P 01 42 05.5 +0.7
baz=26,SNR=13
434A Burnet 26.14 303 ⇑P P 01 42 06.4 +0.5
baz=26,SNR=6.9
135A Vickery Place, 26.20 307 ⇓P P 01 42 06.8 +0.4
baz=26,SNR=6.7
833A Chaparral WMA, 26.23 297 ⇑P P 01 42 07.1 +0.4
baz=26,SNR=15
733A Divot King Ran 26.27 298 ⇓P P 01 42 06.6 -0.5
baz=26
334A Lometa 26.32 304 ⇓P P 01 42 07.6 +0.1
baz=26,SNR=6.4
633A Saathoff Ranch 26.40 300 ⇓P P 01 42 08.3 0.0
baz=26,SNR=12
FRNY Flat Rock 26.43 359 eP P 01 42 05.9 -2.4
comp=Z,110nm,1.5s
Z35A Perchaven, San 26.44 309 ⇓P P 01 42 07.6 -0.9
baz=26
533A Kerrville 26.49 301 ⇓P P 01 42 09.0 0.0
baz=26
234A Clairette 26.51 306 ⇑P P 01 42 10.0 +0.8
baz=26
134A White-Moore Ra 26.71 307 ⇑P P 01 42 11.0 -0.1
baz=27
832A Faith Ranch, C 26.72 297 ⇓P P 01 42 11.2 +0.1
baz=27,SNR=16
TUL1 Tulsa 26.76 315 eP P 01 42 11.0 -0.5
comp=Z,108nm,0.9s
TUL1 Tulsa 26.76 315 ⇑P P 01 42 10.7 -0.7
baz=27
433A Art 26.77 302 ⇑P P 01 42 12.0 +0.3
baz=27,SNR=6.3
732A Laxson Ranch, 26.84 298 ⇓P P 01 42 12.0 -0.2
baz=27
SADO Sadowa 26.88 350 P P 01 42 11.4 -0.9
SADO Sadowa 26.88 350 P P 01 42 11.4 -0.9
comp=Z,33nm,1.2s,baz=207,slow=2.9,SNR=3.1
333A Richland Sprin 26.90 304 ⇑P P 01 42 12.9 +0.1
baz=27,SNR=12
632A Uvalde 26.92 299 ⇓P P 01 42 13.2 +0.3
baz=27
Z34A Collier Ranch, 26.95 309 ⇑P P 01 42 14.3 +1.1
baz=27,SNR=5.8
Y34A Reagan Ranch, 27.11 310 ⇓P P 01 42 15.0 +0.5
baz=27
233A Rising Star 27.11 305 ⇓P P 01 42 14.6 -0.1
baz=27
532A Rocksprings 27.21 301 ⇑P P 01 42 16.4 +0.7
baz=27,SNR=6.6
JCT Junction City 27.25 301 eP P 01 42 16.4 +0.5
JCT pmax pmax
comp=Z,91nm,1.3s
JCT Junction City 27.25 301 eP P 01 42 16.4 +0.5
comp=Z,91nm,1.3s
JCT Junction City 27.25 301 ⇑P P 01 42 16.5 +0.5
baz=27
133A Hamilton Ranch 27.36 306 ⇑P P 01 42 17.4 +0.5
baz=27
432A Menard 27.38 302 ⇑P P 01 42 17.6 +0.5
baz=27
X34A Smith Ranch, M 27.48 311 ⇓P P 01 42 17.5 -0.4
baz=28
332A Millersview 27.52 303 ⇑P P 01 42 18.6 +0.2
baz=28
631A Perdido Creek 27.54 299 ⇑P P 01 42 19.6 +1.1
baz=28,SNR=9.2
Z33A Whitaker Ranch 27.54 308 ⇓P P 01 42 18.7 +0.2
baz=28
V34A Guthrie 27.89 314 ⇓P P 01 42 21.4 -0.1
baz=28
X33A Lawton 27.93 310 ⇓P P 01 42 22.6 +0.7
baz=28
ABTX Abilene, Hawle 27.93 306 eP P 01 42 21.6 -0.3
comp=Z,86nm,1.3s
ABTX Abilene, Hawle 27.93 306 ⇑P P 01 42 22.2 +0.2
baz=28
431A Sonora 27.97 301 ⇑P P 01 42 22.5 +0.1
baz=28,SNR=8.4
331A San Angelo 28.04 303 ⇓P P 01 42 22.1 -0.9
baz=28
Z32A Haskell 28.09 307 ⇓P P 01 42 22.5 -0.9
baz=28
231A Bronte 28.18 304 ⇓P P 01 42 23.6 -0.6
baz=28
U34A Anderson Ranch 28.22 315 ⇓P P 01 42 24.1 -0.4
baz=28
WMOK Wichita Mounta 28.22 311 eP P 01 42 24.2 -0.4
WMOK pmax pmax
comp=Z,19nm,0.9s
WMOK Wichita Mounta 28.22 311 eP P 01 42 24.2 -0.4
comp=Z,19nm,0.9s
Y32A R-V Farms, Ver 28.37 309 ⇑P P 01 42 25.5 -0.4
baz=28
530A J-C Ranch, Com 28.40 300 ⇑P P 01 42 26.2 0.0
baz=28
V33A Lossen Ranch, 28.41 313 ⇑P P 01 42 25.8 -0.4
baz=28
X32A Elmer 28.44 310 ⇓P P 01 42 26.7 +0.2
baz=28
430A Baggett Ranch, 28.52 301 ⇑P P 01 42 27.5 +0.2
baz=28
JFWS Jewell Farm 28.58 333 eP P 01 42 28.2 +0.6
JFWS pmax pmax
comp=Z,52nm,0.6s
JFWS Jewell Farm 28.58 333 eP P 01 42 28.2 +0.6
comp=Z,52nm,0.6s
U33A Lingo Farm, Me 28.61 314 P P 01 42 27.3 -0.7
baz=29
W32A Sentinel 28.74 311 ⇑P P 01 42 29.4 +0.1
baz=29
SAML Samuel 28.75 160 eP P 01 42 29.4 0.0
comp=Z,35nm,1.0s
230A Sterling City 28.80 303 ⇓P P 01 42 30.2 +0.5
baz=29
429A Davenport Ranc 29.00 300 ⇓P P 01 42 32.7 +1.1
baz=29
X31A McDonald Ranch 29.05 309 ⇓P P 01 42 32.1 +0.2
baz=29
529A Stev Forest Ra 29.12 299 ⇓P P 01 42 33.5 +0.8
baz=29
KSU1 Kansas State U 29.18 320 eP P 01 42 34.5 +1.4
comp=Z,62nm,0.9s
W31A Holland Ranch, 29.28 310 ⇑P P 01 42 33.5 -0.4
baz=29
329A Wagon Wheel Ra 29.35 302 ⇓P P 01 42 34.5 -0.2
baz=29,SNR=14
229A Bryant Ranch, 29.38 303 ⇓P P 01 42 35.1 +0.2
baz=29
Y30A Stafford Cattl 29.40 307 ⇑P P 01 42 35.0 -0.2
baz=29
V31A Spring Creek L 29.48 312 ⇓P P 01 42 35.6 -0.2
baz=30
628A Black Gap, Mar 29.50 298 ⇓P P 01 42 36.6 +0.6
baz=30
T32A Huddler Ranch, 29.56 315 ⇑P P 01 42 36.6 +0.1
baz=30
R33A Olander Ranch, 29.57 317 ⇑P P 01 42 36.6 +0.1
baz=30
528A Cox Ranch, San 29.60 299 ⇑P P 01 42 36.0 -1.0
baz=30,SNR=6.7
X30A Coker Ranch, T 29.63 308 ⇑P P 01 42 37.2 +0.1
baz=30
428A Kincaid Ranch, 29.68 300 ⇓P P 01 42 37.6 -0.1
baz=30,SNR=15
Z29A Hungry Hill Ra 29.77 306 ⇑P P 01 42 37.4 -1.0
baz=30
Q33A Connelly Farm, 29.88 319 ⇑P P 01 42 38.5 -0.8
baz=30
Y29A Porterfield Fa 29.98 307 ⇓P P 01 42 40.5 +0.2
baz=30,SNR=12
328A Wristen Ranch, 29.99 301 ⇓P P 01 42 40.3 -0.1
baz=30
T31A Randall Ranch, 30.03 314 ⇓P P 01 42 40.4 -0.2
baz=30
228A UT Block 9, Go 30.05 303 ⇓P P 01 42 39.7 -1.3
baz=30
V30A Spur Ranch, Mi 30.08 311 ⇑P P 01 42 40.4 -0.8
baz=30
R32A Long Quarter, 30.11 317 ⇑P P 01 42 38.8 -2.5
baz=30
TXAR Lajitas Array 30.12 297 P P 01 42 41.5 0.0
TXAR Lajitas Array 30.12 297 P P 01 42 41.5 0.0
comp=Z,9.2nm,0.9s,baz=116,slow=9.7,SNR=7.8
128A Castleberry Fa 30.14 304 ⇓P P 01 42 41.6 -0.1
baz=30,SNR=12

S31A Mullinville 30.17 315 ⇑P P 01 42 40.8 -1.1
baz=30
X29A Tulia 30.25 308 ⇓P P 01 42 41.9 -0.8
baz=30
527A Woodward Ranch 30.28 299 ⇑P P 01 42 43.3 +0.2
baz=30,SNR=8.8
427A Hayter Ranch, 30.31 300 ⇓P P 01 42 43.1 -0.1
baz=30,SNR=7.2
Z28A Tucker Farm, M 30.31 305 ⇑P P 01 42 43.3 +0.1
baz=30,SNR=10
Q32A Meitler Ranch, 30.33 318 ⇓P P 01 42 41.6 -1.6
baz=30
AMTX Amarillo 30.41 309 eP P 01 42 44.5 +0.4
comp=Z,135nm,1.7s
AMTX Amarillo 30.41 309 ⇑P P 01 42 42.8 -1.3
baz=30
Y28A McKinney Farm, 30.44 306 ⇑P P 01 42 43.3 -1.0
baz=30
W29A Amarillo 30.49 309 ⇓P P 01 42 44.3 -0.5
baz=30
R31A Burdett 30.56 316 ⇓P P 01 42 45.4 +0.1
baz=31
626A Big Bend Ranch 30.57 297 ⇓P P 01 42 45.5 0.0
baz=31
526A Mary Lane Ranc 30.66 298 ⇑P P 01 42 46.4 0.0
baz=31,SNR=16
P32A Huitting Farm, 30.73 319 ⇑P P 01 42 47.1 +0.4
baz=31
V29A Stinnett 30.73 310 ⇓P P 01 42 46.7 -0.2
baz=31
426A McDonald Obser 30.77 299 ⇓P P 01 42 48.0 +0.5
baz=31,SNR=19
S30A Montezuma 30.85 314 ⇓P P 01 42 47.9 0.0
baz=31
127A Arkansas Junct 30.85 304 ⇑P P 01 42 47.9 -0.2
baz=31,SNR=9.3
MSTX Muleshoe 30.87 306 eP P 01 42 48.5 +0.4
comp=Z,54nm,1.1s
MSTX Muleshoe 30.87 306 ⇑P P 01 42 46.8 -1.3
baz=31
Q31A Ellis 30.88 317 ⇓P P 01 42 47.8 -0.2
baz=31
Z27A Tatum 30.96 305 ⇑P P 01 42 46.6 -2.5
baz=31
R30A Dighton 31.06 315 ⇓P P 01 42 49.2 -0.5
baz=31
CLNB Carlsbad 31.13 302 eP P 01 42 51.4 +0.9
comp=Z,36nm,0.7s
T29A Hugoton 31.18 313 ⇓P P 01 42 49.7 -1.1
baz=31
S29A Ulysses 31.29 314 ⇑P P 01 42 51.8 0.0
baz=31
226B Tecolote Peak, 31.30 302 ⇑P P 01 42 52.1 +0.1
baz=31
126A Clayton Basin, 31.37 303 ⇓P P 01 42 51.9 -0.7
baz=31,SNR=8.3
X27A F and S Farms, 31.38 307 ⇑P P 01 42 52.4 -0.3
baz=31
Q30A Quinter 31.39 317 ⇓P P 01 42 51.3 -1.4
baz=31
O31A Woolen Ranch, 31.49 319 ⇑P P 01 42 52.4 -1.1
baz=32
GDL2 Guadalupe Moun 31.50 302 eP P 01 42 54.4 +0.6
W27A Bone Ranch, En 31.52 308 ⇑P P 01 42 53.4 -0.5
baz=32
Z26A Caprock 31.55 304 ⇑P P 01 42 52.5 -1.6
baz=32
425A Indio Mountain 31.60 299 ⇑P P 01 42 54.2 -0.4
baz=32
R29A Marienthal 31.71 315 ⇓P P 01 42 55.2 -0.3
baz=32
P30A Selden 31.72 317 ⇓P P 01 42 55.1 -0.5
baz=32,SNR=7.7
T28A Walsh 31.73 312 ⇓P P 01 42 54.9 -0.8
baz=32
325A Bean Ranch, Si 31.75 300 ⇑P P 01 42 56.3 +0.3
baz=32,SNR=11
S28A Manter 31.81 313 ⇓P P 01 42 55.2 -1.1
baz=32
225A Deer Hill, Car 31.84 302 ⇓P P 01 42 57.7 +0.9
baz=32,SNR=15
Q29A Oakley 31.85 316 ⇑P P 01 42 56.4 -0.3
baz=32,SNR=6.8
125A Gardner Draw, 31.88 303 ⇓P P 01 42 58.0 +0.9
baz=32,SNR=13
X26A CR and CF Fran 31.88 307 ⇑P P 01 42 56.3 -0.8
baz=32
U27A Thompson Grove 31.92 310 ⇓P P 01 42 56.9 -0.6
baz=32
O30A MW Ranch, Wils 31.96 319 ⇑P P 01 42 56.3 -1.4
baz=32
W26A Owens Ranch, T 32.06 308 ⇓P P 01 42 57.8 -0.8
baz=32
R28A Tribune 32.12 314 ⇑P P 01 42 59.4 +0.3
baz=32,SNR=7.2
Z25A Roswell 32.13 304 ⇓P P 01 42 59.6 +0.3
baz=32,SNR=17
T27A Campo 32.14 312 ⇓P P 01 42 59.0 -0.3
baz=32
MNTX Cornudas Mount 32.17 301 eP P 01 42 59.8 +0.2
comp=Z,112nm,1.4s
324A Moseley Ranch, 32.19 300 ⇓P P 01 43 00.0 +0.2
baz=32,SNR=22
P29A Atwood 32.20 317 ⇓P P 01 42 58.6 -1.1
baz=32
ECSD EROS Data Cent 32.25 327 ⇑P P 01 43 00.7 +0.6
baz=32
Y25A Mesa, Roswell 32.33 305 ⇓P P 01 43 02.2 +1.2
baz=32
V26A Tequesquite Ra 32.36 309 ⇓P P 01 43 01.8 +0.5
baz=32
224A Cornudas Mount 32.40 301 ⇓P P 01 43 02.0 +0.3
baz=32,SNR=21
O29A 4D Ranch, Culb 32.40 318 ⇑P P 01 43 01.2 -0.3
baz=32
Q28A Sharon Springs 32.50 315 ⇓P P 01 43 02.4 0.0
baz=32
X25A Clemmons Ranch 32.53 306 ⇓P P 01 43 03.1 +0.3
baz=32
124A Stringfield Ra 32.53 302 ⇓P P 01 43 04.5 +1.5
baz=32,SNR=14
U26A Atchley Ranch, 32.58 310 ⇓P P 01 43 03.5 +0.2
baz=33
W25A X Bar L Ranch, 32.63 307 ⇑P P 01 43 04.3 +0.5
baz=33
Z24A Sheeppen Canyo 32.66 304 ⇑P P 01 43 04.1 0.0
baz=33,SNR=18
N29A Votaw Ranch, W 32.69 319 ⇓P P 01 43 03.1 -0.9
baz=33
P28A Saint Francis 32.72 316 ⇓P P 01 43 03.5 -0.9
baz=33
L30A Spencer Herefo 32.80 322 ⇓P P 01 43 05.5 +0.5
baz=33,SNR=5.6
Y24A Capitan 32.91 305 ⇓P P 01 43 06.8 +0.5
baz=33,SNR=11
V25A Rancho No Teng 32.99 308 ⇑P P 01 43 06.8 -0.1
baz=33
KSCO Kaye Shedlock' 33.01 315 eP P 01 43 06.0 -0.9
comp=Z,25nm,0.8s
O28A Krutsinger Ran 33.03 317 ⇑P P 01 43 07.0 0.0
baz=33
U25A Circle Dot Ran 33.07 309 ⇑P P 01 43 07.4 -0.1
baz=33
N28A Pribbeno Ranch 33.18 318 ⇑P P 01 43 08.8 +0.4
baz=33
K30A Basset 33.19 323 ⇑P P 01 43 08.8 +0.5
baz=33
EYMN Ely 33.21 337 eP P 01 43 08.6 +0.2
comp=Z,81nm,1.4s
P27A Ficken Ranch, 33.25 316 ⇑P P 01 43 10.3 +1.3
baz=33
L29A Maesberg Ranch 33.33 321 ⇓P P 01 43 10.5 +0.9
baz=33
Z23A Rita Site, Whi 33.33 303 ⇑P P 01 43 10.8 +1.0
baz=33
W24A Lazy 6 Ranch, 33.35 307 ⇓P P 01 43 11.1 +1.1
baz=33,SNR=11
T25A Trinidad 33.38 311 ⇓P P 01 43 11.0 +0.7
baz=33
Y23A Lovelace Mesa, 33.40 304 ⇑P P 01 43 11.5 +1.0
baz=33,SNR=12
V24A Rampart Ranch, 33.44 308 ⇑P P 01 43 15.1 +4.2
baz=33
M28A Bar X Bar Ranc 33.48 319 ⇑P P 01 43 11.3 +0.4
baz=34
O27A Beecher Island 33.52 317 ⇓P P 01 43 12.2 +0.9
baz=34
Q26A Hugo 33.57 314 ⇓P P 01 43 12.3 +0.5
baz=34,SNR=6.9

S25A Robets Cordova 33.63 311 ⇑P P 01 43 13.0 +0.6
baz=34
222A Williams Famil 33.69 301 ⇑P P 01 43 14.3 +1.3
baz=34
X23A Hourglass Bar 33.72 305 ⇓P P 01 43 14.4 +1.1
baz=34
R25A Fountain Ranch 33.74 312 ⇑P P 01 43 14.3 +1.0
baz=34
N27A Anderson Farm, 33.88 318 ⇓P P 01 43 14.9 +0.4
baz=34
W23A Werner Place, 33.90 306 ⇑P P 01 43 15.8 +1.0
baz=34,SNR=10
Z22A Elephant Butte 33.91 303 ⇓P P 01 43 16.2 +1.3
baz=34
BNM Barren Site 33.92 304 eP P 01 43 15.0 -0.1
LPM Los Pinos Moun 33.98 305 eP P 01 43 15.8 +0.3
T24B San Luis 34.05 310 ⇓P P 01 43 17.7 +1.4
baz=34,SNR=5.6
ANMO Albuquerque 34.06 306 eP P 01 43 16.4 +0.2
comp=Z,49nm,1.4s
ANMO Albuquerque 34.06 306 P P 01 43 16.2 0.0
comp=Z,6.2nm,1.0s,baz=110,slow=11,SNR=3.5
O26A Horse Wrangler 34.09 316 ⇓P P 01 43 17.5 +1.1
baz=34
Y22D IRIS PASSCAL I 34.13 304 ⇑P P 01 43 20.3 +3.6
baz=34
V23A Ortiz Mt. (NFS 34.13 307 ⇑P P 01 43 18.4 +1.6
baz=34
S24A Houchin Ranch, 34.17 311 ⇓P P 01 43 18.5 +1.2
baz=34
M27A Reverse DX Ran 34.18 319 ⇑P P 01 43 17.7 +0.6
baz=34
LENM Lemitar 34.20 304 eP P 01 43 17.6 +0.1
221A Mesquite Ranch 34.22 300 ⇓P P 01 43 19.5 +1.9
baz=34
K28A Ten Mile Ranch 34.24 321 P P 01 43 17.8 +0.3
baz=34
R24A Sanders Place, 34.35 312 ⇓P P 01 43 19.0 +0.3
baz=34
U23A El Rito 34.36 308 ⇓P P 01 43 19.6 +0.8
baz=34
121A Cookes Peak, D 34.37 301 eP P 01 43 19.1 +0.2
comp=Z,62nm,1.0s
121A Cookes Peak, D 34.37 301 ⇑P P 01 43 19.7 +0.8
baz=34
LAZ Ladron 34.40 305 eP P 01 43 20.0 +0.8
I29A Vivian Onida 34.43 324 ⇓P P 01 43 19.7 +0.6
baz=34
L27A T5 Ranch, Ells 34.45 320 ⇑P P 01 43 20.0 +0.6
baz=34
O25A Wiggins 34.56 316 ⇓P P 01 43 21.4 +1.0
baz=35
320A Kipp Ranch, An 34.68 299 ⇑P P 01 43 22.6 +1.0
baz=35,SNR=7.8
Q24A Divide 34.71 313 ⇓P P 01 43 22.3 +0.4
baz=35
LPAZ La Paz 34.72 172 eP P 01 43 23.0 +0.5
comp=Z,75nm,1.4s
V22A San Miguel Ran 34.74 307 ⇓P P 01 43 23.5 +1.3
baz=35,SNR=6.4
K27A Flueckinger Fa 34.75 321 ⇓P P 01 43 22.4 +0.4
baz=35
S23A Nye Farm, Mont 34.77 311 ⇓P P 01 43 22.8 +0.4
baz=35
R23A Moffat 34.85 311 ⇑P P 01 43 23.3 +0.2
baz=35
U22A Llaves 34.87 308 ⇑P P 01 43 23.8 +0.5
baz=35,SNR=9.9
L26A Underwood Farm 34.89 319 ⇑P P 01 43 23.4 +0.1
baz=35
I28A Midland 34.90 323 ⇑P P 01 43 24.0 +0.8
baz=35
M25A Palm-Egli Farm 35.19 318 ⇓P P 01 43 26.6 +0.8
baz=35
AGMN Agassiz Nation 35.24 333 eP P 01 43 26.5 +0.5
comp=Z,32nm,1.1s
LPIG La Paz 35.27 286 P P 01 43 26.6 0.0
LPIG La Paz 35.27 286 P P 01 43 26.6 0.0
comp=Z,36nm,0.4s,baz=153,slow=2.3,SNR=3.0
319A Douglas 35.31 299 ⇓P P 01 43 28.3 +1.3
baz=35,SNR=21
K26A Motz Farm, Whi 35.32 320 ⇑P P 01 43 26.8 -0.1
baz=35
S22A 4UR Ranch, Cre 35.38 310 ⇑P P 01 43 28.7 +0.9
baz=35
ISCO Idaho Springs 35.41 314 eP P 01 43 27.5 -0.5
ISCO pmax pmax
comp=Z,114nm,2.0s
ISCO Idaho Springs 35.41 314 eP P 01 43 27.4 -0.5
comp=Z,114nm,2.0s
ISCO Idaho Springs 35.41 314 ⇑P P 01 43 27.6 -0.4
baz=35
N24A Carr 35.42 316 ⇓P P 01 43 29.0 +1.2
baz=35
G28A Parade 35.44 325 ⇑P P 01 43 28.5 +0.7
baz=35
J26A Sides Ranch, S 35.61 321 ⇑P P 01 43 29.3 0.0
baz=36
D30A Buchanan 35.69 329 ⇑P P 01 43 30.4 +0.5
baz=36
K25A Mack Ranch, Ha 35.70 319 ⇓P P 01 43 30.6 +0.4
baz=36
M24A Cheyenne 35.70 317 ⇑P P 01 43 30.6 +0.3
baz=36
H27A Howes 35.81 323 ⇓P P 01 43 31.8 +0.8
baz=36
C30A Mose, Pekin 35.98 330 ⇓P P 01 43 33.4 +1.0
baz=36
PHWY Pilot Hill 36.03 316 eP P 01 43 32.8 -0.4
comp=Z,68nm,1.6s
L24A Wheatland 36.06 318 ⇑P P 01 43 34.2 +0.8
baz=36
D29A Pettibone, Tap 36.07 329 ⇑P P 01 43 34.0 +0.8
baz=36
SMCO Snowmass 36.08 312 eP P 01 43 32.5 -1.4
comp=Z,41nm,1.1s
P22A Eagle 36.11 313 ⇑P P 01 43 35.0 +1.1
baz=36
N23A Red Feather La 36.15 316 ⇓P P 01 43 34.8 +0.5
baz=36
G27A Dupree 36.19 325 ⇑P P 01 43 34.8 +0.5
baz=36
O22A Kremmling 36.22 314 ⇑P P 01 43 34.9 0.0
baz=36
E28A Huff 36.30 327 ⇓P P 01 43 35.9 +0.8
baz=36
I25A Rochford 36.40 321 P P 01 43 37.2 +0.9
baz=36
MVCO Mesa Verde 36.41 308 eP P 01 43 36.5 +0.1
comp=Z,56nm,1.4s
N22A Wattenberg Ran 36.45 315 ⇓P P 01 43 37.5 +0.7
baz=36
B30A Myrvik Farm, E 36.45 331 ⇑P P 01 43 37.7 +1.3
baz=36,SNR=5.7
L23A Garrett 36.59 317 ⇓P P 01 43 37.9 -0.1
baz=37
MDND Maddock 36.62 330 eP P 01 43 37.8 -0.1
comp=Z,447nm,1.8s
X18A Snowflake 36.66 304 ⇓P P 01 43 39.0 +0.5
baz=37
E27A Carson 36.66 326 ⇑P P 01 43 39.4 +1.2
baz=37
W18A Petrified Fore 36.66 305 eP P 01 43 41.6 +3.0
comp=Z,53nm,1.1s
W18A Petrified Fore 36.66 305 ⇑P P 01 43 39.8 +1.2
baz=37
H25A Fruitdale 36.67 322 ⇓P P 01 43 39.4 +1.0
baz=37
SCHQ Schefferville 36.73 6 eP P 01 43 38.4 -0.3
comp=Z,206nm,1.8s
SCHQ Schefferville 36.73 6 P P 01 43 38.5 -0.1
comp=Z,27nm,0.8s,baz=186,slow=7.6,SNR=9.7
ULM Lac du Bonnet 36.77 335 eP P 01 43 39.0 0.0
comp=Z,33nm,1.0s
ULM Lac du Bonnet 36.77 335 P P 01 43 38.6 -0.4
comp=Z,18nm,0.9s,baz=142,slow=8.7,SNR=7.5
TUC Tucson 36.77 300 eP P 01 43 38.8 -0.6
TUC pmax pmax
comp=Z,95nm,2.0s
TUC Tucson 36.77 300 eP P 01 43 38.8 -0.6
comp=Z,95nm,2.0s
A30A Hoffart Farm, 36.80 332 ⇑P P 01 43 39.4 +0.1
baz=37,SNR=6.5
PV01 Paradox Valley 36.80 310 eP P 01 43 39.0 -0.8
F26A Lodgepole 36.89 325 ⇓P P 01 43 40.7 +0.5
baz=37
G25A Newell 36.91 323 ⇑P P 01 43 40.6 +0.3

baz=37
B29A **Wagenman Farm,** 36.94 330 ⇓P P 01 43 41.7 +1.2
baz=37
A29A **Manning Farm,** 37.21 331 ⇑P P 01 43 43.9 +1.1
baz=37,SNR=7.1
O20A **White River Ci** 37.37 313 eP P 01 43 46.0 +1.4
comp=Z,18nm,0.9s
O20A **White River Ci** 37.37 313 ⇑P P 01 43 44.7 +0.1
baz=37
K22A **Casper** 37.39 318 eP P 01 43 44.2 -0.5
K22A **Casper** 37.39 318 ⇑P P 01 43 45.2 +0.5
baz=37
A28A **Rude Farm, Bot** 37.68 330 ⇑P P 01 43 47.4 +0.5
baz=38
E25A **Miller Ranch,** 37.69 325 ⇓P P 01 43 47.6 +0.6
baz=38
J22A **Midwest** 37.75 319 P P 01 43 47.7 0.0
baz=38
X16A **Lo Mia Camp, P** 37.81 303 ⇑P P 01 43 47.7 -0.7
baz=38,SNR=11
K21A **Alcova** 37.85 317 ⇑P P 01 43 47.7 -0.9
baz=38,SNR=8.4
I22A **9 Mile Ranch,** 38.00 319 ⇑P P 01 43 49.5 -0.2
baz=38
WUAZ **Wupatki** 38.06 305 eP P 01 43 50.3 -0.1
comp=Z,35nm,1.0s
WUAZ **Wupatki** 38.06 305 ⇑P P 01 43 50.6 +0.2
baz=38
J21A **Lysite** 38.32 318 ⇑P P 01 43 52.4 -0.2
baz=38,SNR=9.0
214A **Organ Pipe Nat** 38.38 299 eP P 01 43 54.1 +1.1
comp=Z,56nm,1.4s
214A **Organ Pipe Nat** 38.38 299 ⇓P P 01 43 53.6 +0.6
baz=38
I21A **Big Trails, Te** 38.46 319 ⇓P P 01 43 53.3 -0.4
baz=38
A26A **Wade Farm, Ken** 38.52 329 ⇓P P 01 43 53.4 -0.6
baz=38
SRU **San Rafael** 38.59 310 eP P 01 43 54.2 -0.7
SRU pmax pmax
comp=Z,17nm,0.9s
SRU **San Rafael** 38.59 310 eP P 01 43 54.2 -0.7
comp=Z,17nm,0.9s
G22A **Birney** 38.59 321 ⇑P P 01 43 54.6 -0.1
baz=39
J20A **Shoshoni** 38.73 318 ⇓P P 01 43 56.2 +0.3
baz=39
Z14A **Wintersburg** 38.77 301 ⇓P P 01 43 57.2 +1.0
baz=39
F22A **Rosebud** 38.88 322 ⇑P P 01 43 57.2 +0.1
baz=39
Y14A **Wickenburg** 38.95 302 ⇑P P 01 43 58.1 +0.3
baz=39
U15A **North Rim** 39.03 306 ⇓P P 01 43 58.8 +0.1
baz=39,SNR=12
I20A **Worland** 39.05 319 ⇑P P 01 43 58.8 +0.2
baz=39
G21A **Lodge Grass** 39.14 321 ⇓P P 01 43 58.8 -0.4
baz=39
TMUT **Trail Mountain** 39.15 310 eP P 01 44 00.2 +0.5
comp=Z,32nm,1.0s
J19A **Crowheart** 39.31 317 ⇓P P 01 44 01.1 +0.2
baz=39
LAO **LASA Array** 39.37 323 eP P 01 44 00.7 -0.5
comp=Z,61nm,1.4s
PDAR **Pinedale Array** 39.41 316 P P 01 44 01.4 -0.4
PDAR **Pinedale Array** 39.41 316 P P 01 44 01.4 -0.4
comp=Z,2.5nm,0.6s,baz=134,slow=11,SNR=5.5
C23A **Lambert** 39.45 325 ⇓P P 01 44 02.5 +0.8
baz=39
A24A **Westby** 39.52 328 ⇑P P 01 44 03.2 +0.9
baz=40
DAU **Daniels Canyon** 39.60 312 eP P 01 44 03.1 -0.3
DAU **Daniels Canyon** 39.60 312 eP P 01 44 03.1 -0.3
D22A **Cohagen** 39.61 324 ⇓P P 01 44 03.9 +0.8
baz=40
MVU **Marysvale** 39.61 309 eP P 01 44 01.3 -2.2
comp=Z,34nm,1.4s
I19A **Meeteetse** 39.64 318 ⇑P P 01 44 04.0 +0.4
baz=40
MPU **Maple Canyon** 39.72 311 eP P 01 44 04.2 -0.1
comp=Z,30nm,1.0s
G20A **Bridger** 39.74 320 ⇓P P 01 44 04.5 +0.2
baz=40
C22A **Vida** 39.79 325 ⇑P P 01 44 05.9 +1.3
baz=40
W13A **Hualapai Mount** 39.93 303 ⇓P P 01 44 06.8 +0.7
baz=40
H19A **Powell** 39.94 319 ⇑P P 01 44 06.4 +0.4
baz=40
PDMCI **Parker Dam,Lak** 39.95 302 ⇑P P 01 44 07.0 +1.0
baz=40
F20A **Billings** 40.00 321 ⇓P P 01 44 06.3 -0.2
baz=40
NLU **North Lily Min** 40.01 311 eP P 01 44 06.8 0.0
comp=Z,47nm,1.3s
D21A **La Casta Ranch** 40.02 323 ⇑P P 01 44 06.4 -0.1
baz=40
CTU **Camp Tracy** 40.05 312 eP P 01 44 07.1 +0.1
comp=Z,41nm,1.3s
Y12C **Blythe** 40.14 301 ⇑P P 01 44 07.4 -0.3
baz=40,SNR=8.8
CCUT **Cedar City** 40.18 307 eP P 01 44 08.2 0.0
comp=Z,12nm,1.2s
GLA **Glamis** 40.26 300 eP P 01 44 08.0 -0.7
GLA pmax pmax
comp=Z,11nm,1.3s
GLA **Glamis** 40.26 300 eP P 01 44 08.0 -0.7
comp=Z,11nm,1.3s
GLA **Glamis** 40.26 300 ⇓P P 01 44 08.9 +0.2
baz=40
ARUT **Antelope Range** 40.30 307 eP P 01 44 08.9 -0.3
ARUT **Antelope Range** 40.30 307 eP P 01 44 08.9 -0.3
RLMT **Red Lodge** 40.34 320 eP P 01 44 08.5 -0.9
comp=Z,34nm,0.9s
E20A **Meyer Farm, Mu** 40.36 322 ⇑P P 01 44 09.2 -0.3
baz=40
H18A **Shoshone NF, C** 40.37 319 ⇑P P 01 44 07.6 -2.1
baz=40,SNR=5.7
LOHW **Long Hollow** 40.48 317 eP P 01 44 10.3 -0.3
comp=Z,36nm,0.9s
F19A **Roth Farm, Mol** 40.51 321 ⇓P P 01 44 10.7 +0.1
baz=40
A22A **Carney Farms,** 40.55 326 ⇓P P 01 44 11.3 +0.4
baz=40
I17A **Pilgrim Ck.** 40.59 317 ⇓P P 01 44 11.5 -0.1
baz=41
DUG **Dugway** 40.62 311 eP P 01 44 11.6 -0.2
DUG pmax pmax
comp=Z,47nm,1.3s
DUG **Dugway** 40.62 311 eP P 01 44 11.6 -0.2
comp=Z,47nm,1.3s
DUG **Dugway** 40.62 311 ⇑P P 01 44 12.1 +0.3
baz=41
MOOW **Moose Ponds** 40.63 317 eP P 01 44 11.3 -0.5
comp=Z,216nm,2.1s
TPAW **Teton Pass** 40.65 316 eP P 01 44 12.7 +0.6
comp=Z,25nm,0.8s
D20A **Manuel Ranch,** 40.68 323 ⇑P P 01 44 11.9 -0.1
baz=41
E19A **Rath Farm, Rou** 40.73 322 ⇑P P 01 44 12.8 +0.3
baz=41
IRM **Iron Mountain** 40.74 301 ⇓P P 01 44 12.3 -0.4
baz=41,SNR=26
FLWY **Flagg Ranch** 40.75 317 eP P 01 44 19.0 +6.2
comp=Z,156nm,1.6s
SPUT **South Promonto** 40.77 313 eP P 01 44 12.4 -0.6
comp=Z,35nm,1.1s
H17A **Grant Village** 40.81 318 eP P 01 44 13.6 +0.2
comp=Z,35nm,1.3s
IMW **Indian Meadow** 40.82 317 eP P 01 44 13.8 +0.3
comp=Z,17nm,0.9s
LVC **Limon Verde** 40.88 174 eP P 01 44 13.9 -0.1
comp=Z,18nm,1.0s
BC3 **Big Chuckawall** 40.88 300 ⇑P P 01 44 12.8 -1.2
baz=41,SNR=8.5
LDFC **Landfair** 40.90 303 eP P 01 44 16.3 +2.2
comp=Z,67nm,1.1s
GCMT **Greyclifft** 40.91 320 eP P 01 44 13.6 -0.5
YFT **Old Faithful** 41.00 318 eP P 01 44 20.2 +5.3
comp=Z,181nm,2.1s
BGU **Big Grassy Mou** 41.04 312 eP P 01 44 15.1 -0.1
comp=Z,26nm,1.3s
A21A **Bergtoll Ranch** 41.09 326 ⇑P P 01 44 14.8 -0.5
baz=41,SNR=5.4
D19A **Cripps Ranch,** 41.15 322 ⇑P P 01 44 15.8 -0.2
baz=41
HVU **Hansel Valley** 41.18 313 eP P 01 44 16.5 +0.2
HVU pmax pmax
comp=Z,117nm,2.1s
HVU **Hansel Valley** 41.18 313 eP P 01 44 16.5 +0.2
comp=Z,117nm,2.1s
SHPR **Sheep Range** 41.28 305 eP P 01 44 18.1 +0.8
GMRC **Granite Mounta** 41.28 302 ⇑P P 01 44 17.1 -0.1
baz=41
BELC **Belle Mtn. Jos** 41.40 301 ⇓P P 01 44 18.3 +0.1
baz=41
MONP **Monument Peak** 41.55 299 ⇑P P 01 44 19.8 +0.2
baz=42
QLMT **Earthquake Lak** 41.55 318 eP P 01 44 20.7 +1.3
A20A **Cobblestone Ra** 41.56 325 ⇓P P 01 44 19.1 -0.1
baz=42
TUQ **Turquoise Moun** 41.63 303 ⇑P P 01 44 20.7 +0.6
baz=42,SNR=10
PFO **Pinyon Flat Ob** 41.70 300 eP P 01 44 21.4 +0.7
comp=Z,14nm,1.1s
PFO **Pinyon Flat Ob** 41.70 300 P P 01 44 20.7 +0.1
comp=Z,3.8nm,0.8s,baz=90,slow=5.0,SNR=4.1
PFO **Pinyon Flat Ob** 41.70 300 ⇓P P 01 44 21.1 +0.4
baz=42
BDFB **Brasilia** 41.72 142 P P 01 44 20.6 -0.2
BDFB **Brasilia** 41.72 142 P P 01 44 20.6 -0.2
comp=Z,21nm,0.7s,baz=307,slow=9.7,SNR=12
BAR **Barrett** 41.72 299 eP P 01 44 27.0 +6.3
comp=Z,19nm,1.3s
HEC **Hector,Ludlow** 41.83 302 ⇑P P 01 44 21.9 +0.2
baz=42,SNR=9.6
SHOC **Shoshone** 42.02 304 ⇑P P 01 44 23.2 +0.1
baz=42,SNR=8.8
BOZ **Bozeman (W)** 42.05 319 eP P 01 44 27.8 +4.4
BOZ pmax pmax
comp=Z,54nm,1.6s
BOZ **Bozeman (W)** 42.05 319 eP P 01 44 27.8 +4.4
comp=Z,54nm,1.6s
R11A **Troy Canyon, C** 42.09 307 eP P 01 44 25.4 +1.5
comp=Z,16nm,1.0s
R11A **Troy Canyon, C** 42.09 307 ⇓P P 01 44 23.9 0.0
baz=42
EGMT **Eagleton** 42.11 323 eP P 01 44 23.2 -0.6
comp=Z,56nm,1.3s
EGMT **Eagleton** 42.11 323 ⇑P P 01 44 23.3 -0.4
baz=42
TPNV **Topopah Spring** 42.23 305 eP P 01 44 27.0 +1.9
TPNV pmax pmax
comp=Z,53nm,1.2s
TPNV **Topopah Spring** 42.23 305 eP P 01 44 26.9 +1.9
comp=Z,53nm,1.2s
TPNV **Topopah Spring** 42.23 305 ⇑P P 01 44 24.7 -0.3
baz=42,SNR=10
GSC **Goldstone** 42.30 303 eP P 01 44 26.1 +0.5
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC **Goldstone** 42.30 303 eP P 01 44 26.1 +0.5
comp=Z,8.9nm,1.1s
GSC **Goldstone** 42.30 303 ⇓P P 01 44 25.1 -0.5
baz=42,SNR=13
MURC **Murrieta** 42.31 300 ⇓P P 01 44 25.2 -0.4
baz=42,SNR=7.1
MCMT **McKenzie Canyo** 42.46 317 eP P 01 44 28.0 +1.2
comp=Z,17nm,1.0s
ELK **Elko** 42.55 311 eP P 01 44 28.2 +0.5
comp=Z,49nm,1.7s
FFC **Flin Flon** 42.59 335 eP P 01 44 27.1 -0.4
FFC **Flin Flon** 42.59 335 eP P 01 44 27.1 -0.4
FURC **Furnace Creek,** 42.60 304 ⇓P P 01 44 28.1 +0.3
baz=43,SNR=8.5
HRY **Holter Researc** 42.67 320 eP P 01 44 27.7 -0.7
BFSC **Mount Baldy Ra** 42.79 301 ⇑P P 01 44 29.6 0.0
baz=43,SNR=10
HLID **Hailey** 42.97 315 eP P 01 44 30.8 -0.2
comp=Z,12nm,0.8s
HLID **Hailey** 42.97 315 ⇓P P 01 44 30.5 -0.5
baz=43
MPMC **Manual Prospec** 43.01 303 ⇓P P 01 44 31.0 -0.4
baz=43,SNR=10
MWC **Mount Wilson** 43.12 301 eP P 01 44 34.6 +2.3
MWC pmax pmax
comp=Z,31nm,1.3s
MWC **Mount Wilson** 43.12 301 eP P 01 44 34.6 +2.3
comp=Z,31nm,1.3s
GRAC **Grapevine Rang** 43.12 305 ⇑P P 01 44 32.3 +0.2
baz=43
EDW2 **Edwards Air Fo** 43.18 302 ⇑P P 01 44 32.0 -0.6
baz=43,SNR=9.8
FCC **Fort Churchill** 43.25 344 eP P 01 44 30.7 -2.0
FCC pmax pmax
comp=Z,1.0nm,0.9s
FCC **Fort Churchill** 43.25 344 eP P 01 44 30.7 -2.0
comp=Z,0.8nm,0.9s
TPH **Tonopah** 43.26 306 eP P 01 44 33.9 +0.5
TPH pmax pmax
comp=Z,32nm,1.0s
TPH **Tonopah** 43.26 306 eP P 01 44 33.9 +0.5
comp=Z,32nm,1.0s
CIS **Cabin Islan** 43.27 299 ⇓P P 01 44 33.7 +0.4
baz=43,SNR=6.5
RCBR **Riachuelo** 43.67 120 eP P 01 44 37.9 +1.1
comp=Z,16nm,0.8s
RCBR **Riachuelo** 43.67 120 P P 01 44 36.2 -0.6
comp=Z,13nm,0.8s,baz=290,slow=8.2,SNR=5.5
RCBR LR LR 02 01 50.6
comp=Z,146nm,19.7s,baz=98,slow=35
ISA **Isabella** 43.71 303 eP P 01 44 37.1 +0.2
ISA pmax pmax
comp=Z,7.0nm,1.2s
ISA **Isabella** 43.71 303 eP P 01 44 37.1 +0.2
comp=Z,7.1nm,1.2s
ISA **Isabella** 43.71 303 ⇓P P 01 44 36.5 -0.4
baz=44
MFID **Camas Ranch** 43.88 314 eP P 01 44 38.6 +0.4
comp=Z,31nm,1.3s
BMN **Battle Mountai** 43.89 310 eP P 01 44 43.1 +4.7
BMN pmax pmax
comp=Z,43nm,1.5s
BMN **Battle Mountai** 43.89 310 eP P 01 44 43.1 +4.7
comp=Z,43nm,1.5s
ARVC **Arvin** 43.90 302 ⇓P P 01 44 38.5 +0.2
baz=44
SLMT **Seeley Lake** 43.93 320 eP P 01 44 37.6 -1.0
NV11 **Mina Array Sit** 44.06 307 eP P 01 44 40.2 +0.4
MTUM **Tungsten Hills** 44.13 305 eP P 01 44 46.2 +5.8
NVAR **Mina Array Bea** 44.17 307 P P 01 44 41.5 +0.7
NVAR **Mina Array Bea** 44.17 307 P P 01 44 41.5 +0.7
comp=Z,5.4nm,0.8s,baz=98,slow=7.4,SNR=7.7
VES **Vestal, Richgr** 44.23 303 ⇑P P 01 44 41.5 +0.5
baz=44,SNR=14
SWMT **Swartz Lake** 44.35 320 eP P 01 44 42.2 +0.2
BSC **Santa Cruz Isl** 44.37 300 ⇓P P 01 44 42.6 +0.4
baz=44
RCTC **Rector, Farmer** 44.44 303 ⇑P P 01 44 42.6 -0.1
baz=44
JTMT **Jette** 44.63 321 eP P 01 44 43.4 -0.9
PKM **Peak Mountain** 44.66 301 ⇓P P 01 44 44.3 -0.4
baz=45
BSMT **Bassoo Peak** 44.98 320 eP P 01 44 47.8 +0.7
WAKR **Walker** 45.05 306 eP P 01 44 49.1 +1.3
PTRM **Twissleman Ran** 45.10 302 eP P 01 44 51.7 +3.6
FRB **Frobisher Bay** 45.48 3 P P 01 44 49.0 -1.4
FRB **Frobisher Bay** 45.48 3 P P 01 44 49.0 -1.4
comp=Z,33nm,1.0s,baz=179,slow=8.0,SNR=4.9
WVOR **Wild Horse Val** 45.50 312 eP P 01 44 51.6 +0.4
WVOR pmax pmax
comp=Z,107nm,1.7s
WVOR **Wild Horse Val** 45.50 312 eP P 01 44 51.5 +0.4
comp=Z,107nm,1.7s
J08A **Circle Bar Ran** 45.67 313 eP P 01 44 53.0 +0.5
comp=Z,54nm,1.3s
CMB **Columbia Colle** 45.68 306 eP P 01 44 55.0 +2.4
CMB pmax pmax
comp=Z,25nm,1.4s
CMB **Columbia Colle** 45.68 306 eP P 01 44 55.0 +2.4
comp=Z,25nm,1.4s
F10A **Beach Ranch, E** 45.74 317 eP P 01 44 56.5 +3.5
NEW **Newport** 46.58 320 eP P 01 45 00.2 +0.7
comp=Z,37nm,1.2s
NEW **Newport** 46.58 320 P P 01 44 58.4 -1.1
comp=Z,11nm,1.1s,baz=124,slow=8.1,SNR=4.6
NEW LR LR 02 04 44.6
comp=Z,3µm,20.8s,baz=109,slow=36
NEW **Newport** 46.58 320 ⇑P P 01 44 58.7 -0.8
baz=47,SNR=9.1
I07A **Izee** 46.61 314 eP P 01 45 01.5 +1.6
comp=Z,89nm,2.3s
OHCM **Honcut** 46.80 307 eP P 01 45 01.4 +0.2
EDM **Edmonton** 46.81 328 eP P 01 45 01.4 +0.1
EDM **Edmonton** 46.81 328 eP P 01 45 01.4 +0.1
CPUP **Villa Florida** 46.90 161 eP P 01 44 60.0 -2.1
comp=Z,0.8nm,0.9s
CPUP **Villa Florida** 46.90 161 P P 01 45 00.2 -1.9
comp=Z,1.2nm,0.5s,baz=320,slow=7.9,SNR=2.4
K05A **Summer Lake** 47.18 312 eP P 01 45 06.1 +1.6
comp=Z,26nm,0.9s
D08A **Wollman Farm,** 47.23 318 eP P 01 45 08.5 +4.0
HAWA **Hanford** 47.39 317 eP P 01 45 06.7 +0.9
comp=Z,30nm,1.4s
J05D **Fort Rock, OR** 47.57 312 ⇑P P 01 45 07.1 -0.4
baz=48
M04C **Macdoel** 47.62 310 ⇑P P 01 45 07.7 -0.1
baz=48
E07A **Sunnyside** 47.65 317 eP P 01 45 14.2 +6.3
comp=Z,314nm,3.0s
G06A **Carlson Farm,** 47.73 315 eP P 01 45 10.0 +1.4
comp=Z,147nm,1.8s
B08A **Colville Reser** 47.97 319 eP P 01 45 09.1 -1.3
comp=Z,28nm,0.8s
G05D **Wamic, OR** 48.20 315 ⇑P P 01 45 12.0 -0.1
baz=48
YBH **Yreka Blue Hor** 48.24 310 eP P 01 45 11.7 -0.9
comp=Z,156nm,2.4s
YBH **Yreka Blue Hor** 48.24 310 P P 01 45 10.5 -2.1
comp=Z,9.7nm,0.8s,baz=50,slow=5.5,SNR=10
YBH LR LR 02 07 55.1
comp=Z,4µm,18.2s,baz=102,slow=39
M02C **Callahan** 48.26 309 ⇓P P 01 45 13.1 +0.3
baz=48
LTY **Liberty** 48.42 318 eP P 01 45 18.3 +4.4
comp=Z,177nm,2.0s
H04A **Detroit Lake** 48.62 314 eP P 01 45 16.1 +0.7
comp=Z,99nm,1.4s
LON **Longmire** 48.99 317 eP P 01 45 23.5 +5.3
LON pmax pmax
comp=Z,51nm,1.6s
LON **Longmire** 48.99 317 eP P 01 45 23.5 +5.3
comp=Z,51nm,1.6s
I03D **Drain, OR** 49.17 312 ⇓P P 01 45 19.7 +0.2
baz=49
CFAA **Coronel Fontan** 49.85 175 P P 01 45 23.7 -1.2
CFAA **Coronel Fontan** 49.85 175 P P 01 45 23.7 -1.2
comp=Z,1.3nm,0.7s,baz=344,slow=5.4,SNR=6.3
SFJD **Kangerlussuaq** 50.73 11 iP P 01 45 33.5 +2.4
comp=Z,18nm,0.8s
SFJD **Kangerlussuaq** 50.73 11 P P 01 45 31.3 +0.3
SFJD **Kangerlussuaq** 50.73 11 P P 01 45 31.3 +0.3
comp=Z,11nm,0.9s,baz=214,slow=3.6,SNR=3.0
ILULI **Ilulissat** 52.64 10 iP P 01 45 50.1 +4.9
ILULI pmax pmax
comp=Z,21nm,0.8s
ILULI **Ilulissat** 52.64 10 iP P 01 45 50.1 +4.9
comp=Z,21nm,0.7s
YKA **Yellowknife Ar** 52.69 337 P P 01 45 44.6 -1.2
YKA **Yellowknife Ar** 52.69 337 P P 01 45 44.6 -1.2
comp=Z,7.6nm,0.7s,baz=125,slow=7.4,SNR=12
RES **Resolute Bay** 57.63 353 P P 01 46 19.9 -1.3
RES **Resolute Bay** 57.63 353 P P 01 46 19.9 -1.3
comp=Z,8.5nm,0.8s,baz=174,slow=12,SNR=5.5
SUMG **Summit** 57.72 12 eP P 01 46 21.7 -0.7
SUMG pmax pmax
comp=Z,59nm,0.9s
SUMG **Summit** 57.72 12 iP P 01 46 21.6 -0.7
comp=Z,51nm,0.8s
SUMG **Summit** 57.72 12 eP P 01 46 21.7 -0.7
comp=Z,59nm,0.9s
PLCA **Paso Flores** 58.80 178 eP P 01 46 29.2 -0.7
comp=Z,48nm,1.3s
PLCA **Paso Flores** 58.80 178 P P 01 46 28.1 -1.8
comp=Z,22nm,1.1s,baz=353,slow=8.9,SNR=5.9
PLCA LR LR 02 12 35.5
comp=Z,2µm,20.9s,baz=19,slow=37
PTOM **Tomar** 59.03 54 eP P 01 46 35.5 +3.9
comp=Z,129nm,1.7s
MESJ **Messejana** 59.16 56 eP P 01 46 33.5 +1.0
MESJ **Messejana** 59.16 56 eP P 01 46 33.5 +1.0
PMTG **Montargil** 59.16 55 eP P 01 46 35.6 +3.0
comp=Z,121nm,1.5s
PGAV **Gavieira, Arco** 59.21 52 eP P 01 46 34.0 +1.0
comp=Z,172nm,1.5s
EVOP **Sao Brissos** 59.24 56 eP P 01 46 32.7 -0.4
EVOP pmax pmax
comp=Z,225nm,1.3s
EVOP **Sao Brissos** 59.24 56 eP P 01 46 32.7 -0.4
comp=Z,225nm,1.3s
EVO **Evora** 59.32 56 eP P 01 46 32.7 -1.0
comp=Z,225nm,1.3s
EVO **Evora** 59.32 56 eP P 01 46 37.5 +3.8
comp=Z,135nm,1.9s
PCAB **Cabril** 59.38 52 eP P 01 46 35.3 +1.2
comp=Z,124nm,1.6s
PBDV **Barranco-do-Ve** 59.39 57 eP P 01 46 39.2 +5.0
comp=Z,170nm,1.3s
PVIS **Viseu** 59.45 53 eP P 01 46 35.6 +1.0
comp=Z,100nm,1.9s
POLO **Lamas de Olo** 59.55 52 eP P 01 46 38.5 +3.2
comp=Z,51nm,2.3s
PVAQ **Vaqueiros** 59.56 57 eP P 01 46 36.9 +1.6
comp=Z,92nm,1.4s
PVRL **Vila Real** 59.60 52 eP P 01 46 36.2 +0.6
comp=Z,153nm,1.7s
PESTR **Estremoz** 59.66 55 eP P 01 46 37.0 +1.0
comp=Z,128nm,1.3s
MTE **Manteigas** 59.71 53 eP P 01 46 40.3 +3.9
comp=Z,91nm,2.1s
PCBR **Castelo Branco** 59.75 54 eP P 01 46 37.8 +1.2
comp=Z,136nm,1.4s
PMRV **Marv??o** 59.81 55 eP P 01 46 38.1 +1.0
comp=Z,173nm,1.8s
MVO **Moncorvo** 60.12 53 eP P 01 46 40.4 +1.2
comp=Z,77nm,2.0s
SCO **Scoresbysund** 60.29 17 iP P 01 46 45.5 +5.7
SCO pmax pmax
comp=Z,8.0nm,0.9s
SCO **Scoresbysund** 60.29 17 iP P 01 46 45.5 +5.7
comp=Z,7.7nm,0.9s
PBRG **Braganca** 60.35 52 eP P 01 46 43.4 +2.6
comp=Z,100nm,1.8s
PAB **San Pablo** 62.17 54 eP P 01 46 53.6 +0.4
PAB pmax pmax
comp=Z,60nm,1.2s
PAB **San Pablo** 62.17 54 eP P 01 46 53.6 +0.4
comp=Z,60nm,1.2s
INK **Inuvik** 62.39 339 eP P 01 46 54.8 +0.8
comp=Z,77nm,1.6s
INK **Inuvik** 62.39 339 P P 01 46 54.2 +0.2
comp=Z,3.2nm,0.7s,baz=79,slow=6.5,SNR=7.0
ESDC **Sonseca Array** 62.46 54 P P 01 46 55.2 +0.1
ESDC **Sonseca Array** 62.46 54 P P 01 46 55.2 +0.1
comp=Z,7.1nm,0.8s,baz=279,slow=6.1,SNR=12
ROSF **Rostrenen** 63.03 45 eP P 01 46 57.8 -0.8
ROSF **Rostrenen** 63.03 45 eP P 01 46 57.8 -0.8
ROSF **Rostrenen** 63.03 45 eP P 01 46 57.8 -0.8
QUIF **Quistinic** 63.08 45 eP P 01 46 58.3 -0.7
comp=Z,254nm,1.5s
QUIF **Quistinic** 63.08 45 eP P 01 46 58.3 -0.7
QUIF pmax pmax
comp=Z,254nm,1.5s
QUIF **Quistinic** 63.08 45 eP P 01 46 58.3 -0.7
comp=Z,254nm,1.5s
DAWY **Dawson** 63.43 333 eP P 01 47 00.3 -0.7
SGMF **Saint Gilles** 63.50 45 eP P 01 47 01.1 -0.7
comp=Z,86nm,1.2s
SGMF **Saint Gilles** 63.50 45 eP P 01 47 01.1 -0.7
SGMF pmax pmax
comp=Z,86nm,1.2s
SGMF **Saint Gilles** 63.50 45 eP P 01 47 01.1 -0.7
comp=Z,86nm,1.2s
ESK **Eskdalemuir** 63.58 37 eP P 01 47 05.9 +3.7
ESK pmax pmax
comp=Z,39nm,0.8s
ESK **Eskdalemuir** 63.58 37 eP P 01 47 05.9 +3.7
comp=Z,39nm,0.8s
EKA **Eskdalemuir Ar** 63.61 37 P P 01 47 01.5 -0.8
EKA **Eskdalemuir Ar** 63.61 37 P P 01 47 01.5 -0.8
comp=Z,5.0nm,0.6s,baz=272,slow=5.6,SNR=8.7
EGAK **Eagle** 64.33 334 eP P 01 47 05.5 -1.4
comp=Z,18nm,1.0s
ALE **Alert** 64.37 2 P P 01 47 05.2 -1.8
comp=Z,224nm,0.7s,SNR=6.7
DAG **Danmarks Havn** 64.40 12 iP P 01 47 11.1 +3.9
DAG pmax pmax
comp=Z,25nm,0.8s
DAG **Danmarks Havn** 64.40 12 iP P 01 47 11.1 +3.9
comp=Z,33nm,0.8s
SJPF **Ste Jean** 64.43 50 eP P 01 47 07.7 -0.3

	comp=Z,189nm,1.2s							
SJPF	**Ste Jean**	**64.43**	**50**	*eP*		**P**	**01 47 07.7**	**-0.3**
SJPF				pmax		pmax		
	comp=Z,189nm,1.2s							
SJPF	**Ste Jean**	**64.43**	**50**	*eP*		**P**	**01 47 07.7**	**-0.3**
	comp=Z,189nm,1.2s							
JMIC	**Jan Mayen**	**64.54**	**19**	LR		LR	02 10 44.9	
	comp=Z,2µm,21.5s,baz=259,slow=32							
GRR	**Gorron**	**64.64**	**45**	*eP*		**P**	**01 47 08.2**	**-1.0**
	comp=Z,122nm,1.2s							
GRR	**Gorron**	**64.64**	**45**	*eP*		**P**	**01 47 08.2**	**-1.0**
GRR				pmax		pmax		
	comp=Z,123nm,1.2s							
GRR	**Gorron**	**64.64**	**45**	*eP*		**P**	**01 47 08.2**	**-1.0**
	comp=Z,122nm,1.2s							
FLN	**La Foliniere**	**64.89**	**44**	*eP*		**P**	**01 47 10.0**	**-0.9**
	comp=Z,126nm,1.2s							
FLN	**La Foliniere**	**64.89**	**44**	*eP*		**P**	**01 47 10.0**	**-0.9**
FLN				pmax		pmax		
	comp=Z,125nm,1.2s							
FLN	**La Foliniere**	**64.89**	**44**	*eP*		**P**	**01 47 10.0**	**-0.9**
	comp=Z,126nm,1.2s							
ETSF	**Etsaut**	**64.92**	**51**	*eP*		**P**	**01 47 11.0**	**-0.3**
	comp=Z,145nm,1.3s							
ETSF	**Etsaut**	**64.92**	**51**	*eP*		**P**	**01 47 11.0**	**-0.3**
ETSF				pmax		pmax		
	comp=Z,145nm,1.3s							
ETSF	**Etsaut**	**64.92**	**51**	*eP*		**P**	**01 47 11.0**	**-0.3**
	comp=Z,145nm,1.3s							
MENT	**Mentasta**	**65.12**	**332**	*eP*		**P**	**01 47 12.2**	**0.0**
MFF	**Saint Martin d**	**65.12**	**47**	*eP*		**P**	**01 47 11.8**	**-0.6**
	comp=Z,191nm,1.2s							
MFF	**Saint Martin d**	**65.12**	**47**	*eP*		**P**	**01 47 11.8**	**-0.6**
MFF				pmax		pmax		
	comp=Z,191nm,1.2s							
MFF	**Saint Martin d**	**65.12**	**47**	*eP*		**P**	**01 47 11.8**	**-0.6**
	comp=Z,191nm,1.2s							
LDF	**La Druitiere**	**65.13**	**44**	*eP*		**P**	**01 47 11.6**	**-0.8**
	comp=Z,104nm,1.1s							
LDF	**La Druitiere**	**65.13**	**44**	*eP*		**P**	**01 47 11.6**	**-0.8**
LDF				pmax		pmax		
	comp=Z,104nm,1.1s							
LDF	**La Druitiere**	**65.13**	**44**	*eP*		**P**	**01 47 11.6**	**-0.8**
	comp=Z,104nm,1.1s							
BMRM	**Bremner River**	**65.27**	**329**	*eP*		**P**	**01 47 13.7**	**+0.5**
	comp=Z,88nm,1.0s							
DOT	**Dot Lake**	**65.38**	**332**	*eP*		**P**	**01 47 13.7**	**-0.2**
	comp=Z,94nm,1.6s							
EPF	**Esparros**	**65.58**	**50**	*eP*		**P**	**01 47 15.3**	**-0.2**
	comp=Z,240nm,1.2s							
EPF	**Esparros**	**65.58**	**50**	*eP*		**P**	**01 47 15.3**	**-0.2**
EPF				pmax		pmax		
	comp=Z,240nm,1.2s							
EPF	**Esparros**	**65.58**	**50**	*eP*		**P**	**01 47 15.3**	**-0.2**
	comp=Z,240nm,1.2s							
LFF	**La Frestale**	**65.79**	**48**	*eP*		**P**	**01 47 15.8**	**-0.9**
	comp=Z,109nm,1.1s							
LFF	**La Frestale**	**65.79**	**48**	*eP*		**P**	**01 47 15.8**	**-0.9**
LFF				pmax		pmax		
	comp=Z,109nm,1.1s							
LFF	**La Frestale**	**65.79**	**48**	*eP*		**P**	**01 47 15.8**	**-0.9**
	comp=Z,109nm,1.1s							
DIV	**Divide**	**65.86**	**329**	*eP*		**P**	**01 47 16.6**	**-0.3**
	comp=Z,55nm,0.9s							
PAX	**Paxson**	**65.92**	**331**	*eP*		**P**	**01 47 17.3**	**-0.1**
PAX				pmax		pmax		
	comp=Z,35nm,1.1s							
PAX	**Paxson**	**65.92**	**331**	*eP*		**P**	**01 47 17.3**	**-0.1**
	comp=Z,35nm,1.1s							
RJF	**Les Rejaudoux**	**66.32**	**48**	*eP*		**P**	**01 47 19.2**	**-1.0**
	comp=Z,154nm,1.2s							
RJF	**Les Rejaudoux**	**66.32**	**48**	*eP*		**P**	**01 47 19.2**	**-1.0**
RJF				pmax		pmax		
	comp=Z,154nm,1.2s							
RJF	**Les Rejaudoux**	**66.32**	**48**	*eP*		**P**	**01 47 19.2**	**-1.0**
	comp=Z,154nm,1.2s							
CAF	**Calviac**	**66.73**	**48**	*eP*		**P**	**01 47 22.0**	**-0.8**
	comp=Z,294nm,1.5s							
CAF	**Calviac**	**66.73**	**48**	*eP*		**P**	**01 47 22.0**	**-0.8**
CAF				pmax		pmax		
	comp=Z,294nm,1.5s							
CAF	**Calviac**	**66.73**	**48**	*eP*		**P**	**01 47 22.0**	**-0.8**
	comp=Z,294nm,1.5s							
ILAR	**Eielson Array**	**66.75**	**333**	P		**P**	**01 47 21.0**	**-1.6**
ILAR	**Eielson Array**	**66.75**	**333**	P		**P**	**01 47 21.0**	**-1.6**
	comp=Z,5.1nm,0.9s,baz=90,slow=4.4,SNR=12							
TCF	**Toulx Ste Croi**	**66.76**	**47**	*eP*		**P**	**01 47 21.9**	**-1.1**
	comp=Z,142nm,1.2s							
TCF	**Toulx Ste Croi**	**66.76**	**47**	*eP*		**P**	**01 47 21.9**	**-1.1**
TCF				pmax		pmax		
	comp=Z,143nm,1.2s							
TCF	**Toulx Ste Croi**	**66.76**	**47**	*eP*		**P**	**01 47 21.9**	**-1.1**
	comp=Z,142nm,1.2s							
VALF	**Valcebollere**	**66.85**	**51**	*eP*		**P**	**01 47 24.8**	**+1.0**
HYF	**Humbligny**	**67.01**	**46**	*eP*		**P**	**01 47 23.8**	**-0.8**
HYF	**Humbligny**	**67.01**	**46**	*eP*		**P**	**01 47 23.8**	**-0.8**
LIC	**Lamto**	**67.08**	**91**	*eP*		**P**	**01 47 23.8**	**-1.7**
	comp=Z,34nm,0.9s							
LIC	**Lamto**	**67.08**	**91**	*eP*		**P**	**01 47 23.8**	**-1.7**
	comp=Z,34nm,0.9s							
DBIC	**Dimbokro**	**67.11**	**90**	*eP*		**P**	**01 47 25.2**	**-0.5**
	comp=Z,24nm,1.2s							
DBIC	**Dimbokro**	**67.11**	**90**	P		**P**	**01 47 25.6**	**-0.1**
	comp=Z,12nm,0.8s,baz=270,slow=5.5,SNR=7.0							
COLA	**College**	**67.17**	**333**	*eP*		**P**	**01 47 25.7**	**+0.5**
COLA				pmax		pmax		
	comp=Z,71nm,1.1s							
COLA	**College**	**67.17**	**333**	*eP*		**P**	**01 47 24.4**	**-0.8**
	comp=Z,54nm,1.0s							
BGF	**Bois d'Agland**	**67.19**	**47**	*eP*		**P**	**01 47 24.5**	**-1.2**
	comp=Z,248nm,1.5s							
BGF	**Bois d'Agland**	**67.19**	**47**	*eP*		**P**	**01 47 24.5**	**-1.2**
BGF				pmax		pmax		
	comp=Z,248nm,1.5s							
BGF	**Bois d'Agland**	**67.19**	**47**	*eP*		**P**	**01 47 24.5**	**-1.2**
	comp=Z,248nm,1.5s							
PMR	**Palmer**	**67.50**	**330**	*eP*		**P**	**01 47 28.7**	**+1.3**
PMR				pmax		pmax		
	comp=Z,49nm,1.1s							
PMR	**Palmer**	**67.50**	**330**	*eP*		**P**	**01 47 28.7**	**+1.3**
	comp=Z,49nm,1.1s							
AVF	**Avril sur Loir**	**67.53**	**46**	*eP*		**P**	**01 47 26.5**	**-1.3**
	comp=Z,156nm,1.5s							
AVF	**Avril sur Loir**	**67.53**	**46**	*eP*		**P**	**01 47 26.5**	**-1.3**
AVF				pmax		pmax		
	comp=Z,156nm,1.5s							
AVF	**Avril sur Loir**	**67.53**	**46**	*eP*		**P**	**01 47 26.5**	**-1.3**
	comp=Z,156nm,1.5s							
LBL	**Lubilhac**	**67.54**	**48**	*eP*		P	01 47 31.6	+3.5
MCK	**McKinley**	**67.55**	**332**	*eP*		**P**	**01 47 28.0**	**+0.3**
MCK				pmax		pmax		
	comp=Z,34nm,1.1s							
MCK	**McKinley**	**67.55**	**332**	*eP*		**P**	**01 47 28.0**	**+0.3**
	comp=Z,34nm,1.1s							
SEW	**Seward**	**67.59**	**328**	*eP*		P	01 47 33.5	+5.6
	comp=Z,55nm,1.0s							
SSF	**Saint Saulge**	**67.61**	**46**	*eP*		**P**	**01 47 27.1**	**-1.3**
	comp=Z,68nm,1.1s							
SSF	**Saint Saulge**	**67.61**	**46**	*eP*		**P**	**01 47 27.1**	**-1.3**
SSF				pmax		pmax		
	comp=Z,68nm,1.1s							
SSF	**Saint Saulge**	**67.61**	**46**	*eP*		**P**	**01 47 27.1**	**-1.3**
	comp=Z,68nm,1.1s							
RC01	**Rabbit Creek A**	**67.77**	**329**	*eP*		**P**	**01 47 29.1**	**-0.1**
	comp=Z,55nm,1.1s							
LOR	**Lormes**	**67.84**	**46**	*eP*		**P**	**01 47 28.6**	**-1.3**
	comp=Z,125nm,1.1s							
LOR	**Lormes**	**67.84**	**46**	*eP*		**P**	**01 47 28.6**	**-1.3**
	comp=Z,125nm,1.1s							
SMF	**Signal de Mont**	**67.87**	**46**	*eP*		**P**	**01 47 28.7**	**-1.3**
	comp=Z,95nm,1.1s							
SMF	**Signal de Mont**	**67.87**	**46**	*eP*		**P**	**01 47 28.7**	**-1.3**
SMF				pmax		pmax		
	comp=Z,95nm,1.1s							
SMF	**Signal de Mont**	**67.87**	**46**	*eP*		**P**	**01 47 28.7**	**-1.3**
	comp=Z,95nm,1.1s							
BAIF	**Baives**	**67.94**	**43**	*eP*		**P**	**01 47 29.2**	**-1.1**
BAIF	**Baives**	**67.94**	**43**	*eP*		**P**	**01 47 29.2**	**-1.1**
BAIF	**Baives**	**67.94**	**43**	*eP*		**P**	**01 47 29.2**	**-1.1**
LASF	**Ste Croix**	**68.06**	**49**	*eP*		**P**	**01 47 30.9**	**-0.4**
	comp=Z,76nm,1.0s							
LASF	**Ste Croix**	**68.06**	**49**	*eP*		**P**	**01 47 30.9**	**-0.4**
	comp=Z,76nm,1.0s							
TRF	**Thorofare Moun**	**68.13**	**332**	*eP*		**P**	**01 47 31.1**	**-0.5**
	comp=Z,103nm,1.4s							
GIVF	**Givet**	**68.33**	**43**	*eP*		**P**	**01 47 31.7**	**-1.1**
	comp=Z,180nm,1.5s							
GIVF	**Givet**	**68.33**	**43**	*eP*		**P**	**01 47 31.7**	**-1.1**
GIVF				pmax		pmax		
	comp=Z,180nm,1.5s							
GIVF	**Givet**	**68.33**	**43**	*eP*		**P**	**01 47 31.7**	**-1.1**
	comp=Z,180nm,1.5s							
COLD	**Coldfoot**	**68.33**	**336**	*eP*		**P**	**01 47 31.9**	**-0.6**
	comp=Z,177nm,2.2s							
KTH	**Kantishna Hill**	**68.42**	**332**	*eP*		**P**	**01 47 32.0**	**-1.3**
	comp=Z,228nm,1.0s							
SSB	**Saint Sauveur**	**68.45**	**48**	*eP*		**P**	**01 47 35.2**	**+1.4**
SSB				pmax		pmax		
	comp=Z,158nm,1.9s							
SSB	**Saint Sauveur**	**68.45**	**48**	*eP*		**P**	**01 47 35.2**	**+1.4**
	comp=Z,158nm,1.9s							
MEZF	**Maizieres J'vi**	**68.57**	**44**	*eP*		**P**	**01 47 33.5**	**-0.9**
	comp=Z,298nm,1.3s							
MEZF	**Maizieres J'vi**	**68.57**	**44**	*eP*		**P**	**01 47 33.5**	**-0.9**
	comp=Z,298nm,1.3s							
SFTF	**Sexfontaines**	**68.58**	**45**	*eP*		**P**	**01 47 33.3**	**-1.1**
	comp=Z,181nm,1.3s							
SFTF	**Sexfontaines**	**68.58**	**45**	*eP*		**P**	**01 47 33.3**	**-1.1**
	comp=Z,181nm,1.3s							
VIVF	**Saint-Julien-l**	**68.58**	**48**	*eP*		**P**	**01 47 34.3**	**-0.3**
	comp=Z,155nm,1.1s							
VIVF	**Saint-Julien-l**	**68.58**	**48**	*eP*		**P**	**01 47 34.3**	**-0.3**
VIVF				pmax		pmax		
	comp=Z,155nm,1.1s							
VIVF	**Saint-Julien-l**	**68.58**	**48**	*eP*		**P**	**01 47 34.3**	**-0.3**
	comp=Z,155nm,1.1s							
PPLA	**Purkeypile**	**68.98**	**331**	*eP*		P	01 47 41.7	+4.8
	comp=Z,191nm,2.0s							
PAGF	**Fort de Pagny**	**69.01**	**44**	*eP*		**P**	**01 47 36.2**	**-0.9**
	comp=Z,77nm,1.6s							
PAGF	**Fort de Pagny**	**69.01**	**44**	*eP*		**P**	**01 47 36.2**	**-0.9**
	comp=Z,77nm,1.6s							
MEM	**Membach**	**69.06**	**42**	XP		P	01 47 41.3	+3.9
	comp=Z,25nm,1.4s							
MEM	**Membach**	**69.06**	**42**	*eP*		**P**	**01 47 37.5**	**+0.2**
MEM				pmax		pmax		
	comp=Z,62nm,1.3s							
MEM	**Membach**	**69.06**	**42**	*eP*		**P**	**01 47 37.5**	**+0.2**
	comp=Z,62nm,1.3s							
THEF	**They Montfort**	**69.21**	**45**	*eP*		**P**	**01 47 39.7**	**+1.3**
WLF	**Walferdange**	**69.21**	**43**	*eP*		P	01 47 42.5	+4.2
	comp=Z,83nm,1.6s							
RSO	**Redoubt South**	**69.24**	**329**	*eP*		**P**	**01 47 38.5**	**-0.1**
	comp=Z,154nm,1.0s							
SMRF	**Simiane la Rot**	**69.31**	**49**	*eP*		**P**	**01 47 39.0**	**-0.1**
	comp=Z,141nm,1.4s							
SMRF	**Simiane la Rot**	**69.31**	**49**	*eP*		**P**	**01 47 39.0**	**-0.1**
	comp=Z,141nm,1.4s							
CABF	**La Chapelle**	**69.42**	**46**	*eP*		**P**	**01 47 38.8**	**-1.0**
	comp=Z,98nm,1.2s							
CABF	**La Chapelle**	**69.42**	**46**	*eP*		**P**	**01 47 38.8**	**-1.0**
CABF				pmax		pmax		
	comp=Z,98nm,1.2s							
CABF	**La Chapelle**	**69.42**	**46**	*eP*		**P**	**01 47 38.8**	**-1.0**
	comp=Z,98nm,1.2s							
ORIF	**Oris-en-Rattie**	**69.43**	**48**	*eP*		**P**	**01 47 39.7**	**-0.2**
	comp=Z,51nm,0.9s							
ORIF	**Oris-en-Rattie**	**69.43**	**48**	*eP*		**P**	**01 47 39.7**	**-0.2**
ORIF				pmax		pmax		
	comp=Z,51nm,0.9s							
ORIF	**Oris-en-Rattie**	**69.43**	**48**	*eP*		**P**	**01 47 39.7**	**-0.2**
	comp=Z,51nm,0.9s							
HAU	**Haudompre**	**69.47**	**45**	*eP*		**P**	**01 47 38.7**	**-1.3**
	comp=Z,180nm,1.7s							
HAU	**Haudompre**	**69.47**	**45**	*eP*		**P**	**01 47 38.7**	**-1.3**
HAU				pmax		pmax		
	comp=Z,180nm,1.7s							
HAU	**Haudompre**	**69.47**	**45**	*eP*		**P**	**01 47 38.7**	**-1.3**
	comp=Z,180nm,1.7s							
OHAK	**Old Harbor**	**69.60**	**325**	*eP*		**P**	**01 47 38.9**	**-1.7**
	comp=Z,275nm,1.8s							
IM04	**Indian Mountai**	**69.71**	**334**	*eP*		**P**	**01 47 39.9**	**-1.2**
BUG	**Bochum--Univer**	**69.80**	**41**	*eP*		P	01 47 45.8	+3.9
	comp=Z,125nm,1.7s							
BUG				*epP*		pP	01 47 51.1	+4.4
HINF	**Hinteralfeld**	**69.83**	**45**	*eP*		**P**	**01 47 40.8**	**-1.4**
	comp=Z,44nm,1.1s							
HINF	**Hinteralfeld**	**69.83**	**45**	*eP*		**P**	**01 47 40.8**	**-1.4**
HINF				pmax		pmax		
	comp=Z,44nm,1.1s							
HINF	**Hinteralfeld**	**69.83**	**45**	*eP*		**P**	**01 47 40.8**	**-1.4**
	comp=Z,44nm,1.1s							
LOMF	**Lomont**	**69.85**	**45**	*eP*		P	01 47 46.4	+4.0
LPL	**La Plagne**	**69.97**	**47**	*eP*		**P**	**01 47 42.9**	**-0.5**
	comp=Z,44nm,0.6s							
LPL	**La Plagne**	**69.97**	**47**	*eP*		**P**	**01 47 42.9**	**-0.5**
LPL				pmax		pmax		
	comp=Z,44nm,0.6s							
LPL	**La Plagne**	**69.97**	**47**	*eP*		**P**	**01 47 42.9**	**-0.5**
	comp=Z,44nm,0.6s							
BNI	**Bardonecchia**	**69.98**	**48**	*eP*		P	01 47 48.9	+5.5
BNI				pmax		pmax		
	comp=Z,129nm,1.6s							
BNI	**Bardonecchia**	**69.98**	**48**	*eP*		P	01 47 48.9	+5.5
	comp=Z,128nm,1.6s							
LPG	**La Plagne**	**69.98**	**47**	*eP*		**P**	**01 47 43.2**	**-0.4**
	comp=Z,83nm,1.1s							
LPG	**La Plagne**	**69.98**	**47**	*eP*		**P**	**01 47 43.2**	**-0.4**
LPG				pmax		pmax		
	comp=Z,83nm,1.1s							
LPG	**La Plagne**	**69.98**	**47**	*eP*		**P**	**01 47 43.2**	**-0.4**
	comp=Z,83nm,1.1s							
ECH	**Echery**	**69.99**	**45**	*eP*		**P**	**01 47 43.7**	**+0.4**
ECH	**Echery**	**69.99**	**45**	*eP*		**P**	**01 47 46.3**	**+3.1**
ECH	**Echery**	**69.99**	**45**	*eP*		**P**	**01 47 43.6**	**+0.4**
MOF	**Molkenrain**	**70.01**	**45**	*eP*		**P**	**01 47 46.2**	**+2.8**
IBBN	**Ibbenburen**	**70.03**	**40**	*eP*		P	01 47 47.3	+4.0
	comp=Z,354nm,2.2s							
IBBN				*epP*		pP	01 47 52.5	+4.4
LMR	**La Mourre**	**70.05**	**50**	*eP*		**P**	**01 47 42.6**	**-1.0**
	comp=Z,360nm,1.8s							
LMR	**La Mourre**	**70.05**	**50**	*eP*		**P**	**01 47 42.6**	**-1.0**
LMR				pmax		pmax		
	comp=Z,360nm,1.8s							
LMR	**La Mourre**	**70.05**	**50**	*eP*		**P**	**01 47 42.6**	**-1.0**
	comp=Z,360nm,1.8s							
CDF	**Champ du Feu**	**70.05**	**44**	*eP*		**P**	**01 47 42.3**	**-1.4**
	comp=Z,183nm,1.6s							
CDF	**Champ du Feu**	**70.05**	**44**	*eP*		**P**	**01 47 42.3**	**-1.4**
CDF				pmax		pmax		
	comp=Z,183nm,1.6s							
CDF	**Champ du Feu**	**70.05**	**44**	*eP*		**P**	**01 47 42.3**	**-1.4**
	comp=Z,183nm,1.6s							
MBDF	**Montbardon**	**70.08**	**48**	*eP*		**P**	**01 47 43.7**	**-0.3**
	comp=Z,49nm,0.8s							
MBDF	**Montbardon**	**70.08**	**48**	*eP*		**P**	**01 47 43.7**	**-0.3**
MBDF				pmax		pmax		
	comp=Z,49nm,0.8s							
MBDF	**Montbardon**	**70.08**	**48**	*eP*		**P**	**01 47 43.7**	**-0.3**
	comp=Z,49nm,0.8s							
SENIN	**Lac Senin/Sane**	**70.27**	**46**	*eP*		**P**	**01 47 46.2**	**+1.0**
LANF	**Langenberg**	**70.35**	**44**	*eP*		**P**	**01 47 46.2**	**+0.8**
KONO	**Kongsberg**	**70.59**	**32**	*eP*		**P**	**01 47 45.7**	**-0.9**
KONO				pmax		pmax		
	comp=Z,18nm,0.9s							
KONO	**Kongsberg**	**70.59**	**32**	*eP*		**P**	**01 47 45.7**	**-0.9**
	comp=Z,18nm,0.9s							
SVW2	**Sprevohn**	**70.61**	**329**	*eP*		**P**	**01 47 46.9**	**+0.2**
	comp=Z,21nm,1.0s							
TNS	**Taunus Mts**	**70.64**	**42**	*eP*		P	01 47 51.2	+4.0
	comp=Z,45nm,1.4s							
TNS				*epP*		pP	01 47 56.2	+4.2
SBF	**Sospel**	**70.65**	**49**	*eP*		**P**	**01 47 46.5**	**-0.9**
	comp=Z,118nm,1.0s							
SBF	**Sospel**	**70.65**	**49**	*eP*		**P**	**01 47 46.5**	**-0.9**
SBF				pmax		pmax		
	comp=Z,118nm,1.0s							
SBF	**Sospel**	**70.65**	**49**	*eP*		**P**	**01 47 46.5**	**-0.9**
	comp=Z,118nm,1.0s							
BFO	**Black Forest**	**70.76**	**44**	*eP*		**P**	**01 47 46.9**	**-1.0**
BFO				pmax		pmax		
	comp=Z,40nm,1.4s							
BFO	**Black Forest**	**70.76**	**44**	*eP*		P	01 47 51.3	+3.4
	comp=Z,140nm,2.1s							
BFO	**Black Forest**	**70.76**	**44**	*eP*		**P**	**01 47 46.9**	**-1.0**
	comp=Z,40nm,1.4s							
KBS	**Kingsbay**	**71.14**	**12**	*eP*		**P**	**01 47 51.7**	**+2.0**
KBS				pmax		pmax		
	comp=Z,51nm,1.7s							
KBS	**Kingsbay**	**71.14**	**12**	*eP*		**P**	**01 47 47.4**	**-2.3**
	comp=Z,15nm,0.8s							
NAO01	**NORSAR Array S**	**71.16**	**31**	*eP*		**P**	**01 47 47.4**	**-2.7**
	comp=Z,18nm,0.8s							
STU	**Stuttgart**	**71.28**	**44**	*eP*		P	01 47 54.9	+3.9
STU				pmax		pmax		
	comp=Z,79nm,1.4s							
STU	**Stuttgart**	**71.28**	**44**	*eP*		P	01 47 54.8	+3.8
	comp=Z,99nm,1.5s							
STU	**Stuttgart**	**71.28**	**44**	*eP*		P	01 47 54.9	+3.9
	comp=Z,79nm,1.4s							
NB2	**NORSAR Subarra**	**71.31**	**31**	P		**P**	**01 47 52.0**	**+1.0**
	comp=Z,44nm,1.2s,baz=276,slow=6.5							
NB2	**NORSAR Subarra**	**71.31**	**31**	P		**P**	**01 47 52.0**	**+1.0**
	baz=276,slow=6.5							
NOA	**NORSAR Array B**	**71.31**	**31**	P		**P**	**01 47 51.0**	**0.0**
NOA	**NORSAR Array B**	**71.31**	**31**	P		**P**	**01 47 51.0**	**0.0**
	comp=Z,4.2nm,0.8s,baz=279,slow=6.4,SNR=10							
BSEG	**Bad Segeberg**	**71.43**	**38**	*eP*		P	01 47 55.7	+3.9
	comp=Z,84nm,1.8s							
NRDL	**Niedersach Rie**	**71.45**	**40**	*eP*		P	01 47 56.0	+4.1
	comp=Z,146nm,2.0s							
TOA0	**Torodi Ar. Sit**	**71.55**	**82**	*eP*		**P**	**01 47 51.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P		**P**	**01 47 52.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P		**P**	**01 47 52.0**	**-1.2**
	comp=Z,11nm,0.9s,baz=291,slow=5.3,SNR=11							
UBBA	**Unterbreizbach**	**71.57**	**42**	*eP*		P	01 47 56.6	+4.0
	comp=Z,38nm,1.5s							
TUE	**Stuetta**	**71.67**	**46**	*eP*		**P**	**01 47 53.6**	**-0.1**
	comp=Z,88nm,1.5s							
CLZ	**Clausthal**	**71.68**	**40**	*eP*		P	01 47 57.4	+3.9
	comp=Z,55nm,1.2s							
DAVA	**Damuels**	**71.92**	**45**	⇑*ipP*		**P**	**01 47 56.2**	**+1.1**
	comp=Z,24nm,0.7s,SNR=6.0							
PGF	**Pioggiola**	**71.97**	**50**	*eP*		**P**	**01 47 54.4**	**-1.0**
	comp=Z,145nm,1.2s							
PGF	**Pioggiola**	**71.97**	**50**	*eP*		**P**	**01 47 54.4**	**-1.0**
PGF				pmax		pmax		
	comp=Z,145nm,1.2s							
PGF	**Pioggiola**	**71.97**	**50**	*eP*		**P**	**01 47 54.4**	**-1.0**
	comp=Z,145nm,1.2s							
GRF	**Grafenberg Arr**	**72.48**	**43**	*eP*		P	01 48 02.5	+4.2
	comp=Z,72nm,1.6s							
GRF				*epP*		pP	01 48 07.7	+4.6
FETA	**Feichten**	**72.53**	**45**	⇑*ipP*		**P**	**01 47 59.6**	**+0.8**
	comp=Z,50nm,1.2s							
HFS	**Hagfors**	**72.61**	**32**	P		**P**	**01 47 59.1**	**+0.4**
HFS	**Hagfors**	**72.61**	**32**	P		**P**	**01 47 59.1**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=243,slow=9.5,SNR=3.3							
HFS				LR		LR	02 18 28.3	
	comp=Z,2µm,18.1s,baz=274,slow=35							
VLC	**Villacollemand**	**72.72**	**48**	*eP*		**P**	**01 47 59.5**	**-0.4**
	comp=Z,74nm,1.0s							
FUR	**Furstenfeldbru**	**72.73**	**44**	*eP*		P	01 48 03.9	+4.1
	comp=Z,100nm,1.3s							
FUR				*epP*		pP	01 48 08.8	+4.2
MOTA	**Moosalm**	**72.74**	**45**	⇑*ipP*		**P**	**01 48 00.3**	**+0.3**
	comp=Z,42nm,0.9s,SNR=11							
TAM	**Tamanrasset**	**72.76**	**71**	*eP*		**P**	**01 48 00.3**	**-0.3**
TAM	**Tamanrasset**	**72.76**	**71**	*eP*		**P**	**01 48 00.3**	**-0.3**
USHA	**Ushuaia**	**72.97**	**177**	P		**P**	**01 48 01.0**	**+0.3**
USHA	**Ushuaia**	**72.97**	**177**	P		**P**	**01 48 01.0**	**+0.3**
	comp=Z,31nm,1.0s,baz=9.2,slow=6.6,SNR=4.8							
ROTZ	**Rotzenmuhle**	**73.11**	**42**	*eP*		P	01 48 06.3	+4.3
	comp=Z,78nm,1.4s							
TANN	**Tannenbergstha**	**73.17**	**42**	*eP*		P	01 48 06.3	+3.9
	comp=Z,63nm,1.4s							
TANN				*epP*		pP	01 48 11.6	+4.4
NKC	**Novy Kostel**	**73.19**	**42**	*eP*		P	01 48 06.2	+3.7
NKC				*e*			01 48 12.7	
NKC	**Novy Kostel**	**73.19**	**42**	*epP*		**P**	**01 48 06.2**	**+3.7**
NKC				*ex*		x	01 48 12.7	
KEST	**Kesra**	**73.38**	**57**	*eP*		**P**	**01 48 04.2**	**+0.2**
KEST	**Kesra**	**73.38**	**57**	P		**P**	**01 48 04.7**	**+0.7**
	comp=Z,6.4nm,0.8s,baz=295,slow=1.2,SNR=8.8							
CLL	**Collm**	**73.38**	**41**	*eP*		**P**	**01 48 06.0**	**+2.5**
CLL				*i*			01 48 11.7	
CLL				*e*			01 48 14.0	
CLL	**Collm**	**73.38**	**41**	*eP*		P	01 48 07.3	+3.8
	comp=Z,88nm,2.0s							
CLL	**Collm**	**73.38**	**41**	*eP*		**P**	**01 48 06.0**	**+2.5**
CLL				*i*			01 48 11.7	
**BRG

PKST T"'s 77.39 44 *eP* P 01 48 30.5 +3.8
CUC Castrocucco 77.49 52 *eP* **P 01 48 27.4 -0.1**
comp=Z,39nm,1.0s
CSKK Cs˙ŧkako 77.51 44 *eP* P 01 48 32.3 +5.0
GAMB Gambell 77.56 333 *eP* **P 01 48 26.9 -0.3**
comp=Z,20nm,1.2s
PKSG 77.59 44 *e* P 01 48 32.7 +4.9
OJC Ojcow 77.83 41 *eP* P 01 48 33.7 +4.7
PKSM Morągy 78.04 45 *e* P 01 48 33.4 +3.1
FINES FINESS Array B 78.29 29 P **P 01 48 31.3 -0.1**
FINES FINESS Array B 78.29 29 P **P 01 48 31.3 -0.1**
comp=Z,5.7nm,0.8s,baz=277,slow=4.4,SNR=10
NIE Niedzica 78.34 42 *eP* P 01 48 37.3 +5.3
TIP Timpagrande 78.39 53 *eP* **P 01 48 31.1 -1.4**
comp=Z,143nm,2.6s
PSZ Piszkesteto 78.45 43 *eP* **P 01 48 32.5 -0.2**
PSZ pmax pmax
comp=Z,352nm,2.1s
PSZ Piszkesteto 78.45 43 *eP* **P 01 48 32.5 -0.2**
comp=Z,352nm,2.1s
PSZ Piszkesteto 78.45 43 *e* P 01 48 38.4 +5.8
SUW Suwalki 78.87 37 *eP* **P 01 48 34.2 -0.5**
SUW Suwalki 78.87 37 *eP* **P 01 48 34.1 -0.6**
SUW Suwalki 78.87 37 *eP* **P 01 48 33.5 -1.2**
comp=Z,60nm,1.0s
STHS Stebnicka Huta 78.93 42 *eP* **P 01 48 37.1 +1.9**
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 78.93 42 *eP* **P 01 48 37.1 +1.9**
CRVS Cervenica-Dubn 79.21 42 *eP* P 01 48 41.0 +4.3
CRVS pmax pmax
comp=Z,94nm,2.0s
CRVS Cervenica-Dubn 79.21 42 *eP* P 01 48 41.0 +4.3
APA Apatity 79.26 22⇑*iP* P 01 48 42.6 +6.0
PDG Podgorica 79.41 49 P P 01 48 41.4 +3.5
TTG Podgorica 79.41 49 P P 01 48 41.4 +3.5
TTG Podgorica 79.41 49 P P 01 48 41.4 +3.5
VSU Vasula 79.49 32 *eP* **P 01 48 40.8 +2.8**
VSU pmax pmax
comp=Z,53nm,0.8s
DIVS Divibare 79.50 47 P **P 01 48 39.4 +0.9**
LVZ Lovozero 79.57 22 *eP* **P 01 48 40.6 +2.2**
LVZ pmax pmax
comp=Z,83nm,1.7s
LVZ Lovozero 79.57 22 *eP* **P 01 48 41.3 +2.9**
comp=Z,550nm,2.0s
KOLS Kolonicke sedl 79.71 42 *eP* P 01 48 43.7 +4.2
KOLS pmax pmax
comp=Z,62nm,2.0s
KOLS Kolonicke sedl 79.71 42 *eP* P 01 48 43.7 +4.2
KWP Kalwaria Pacla 79.79 41 *eP* **P 01 48 40.5 +0.6**
KWP pmax pmax
comp=Z,76nm,0.9s
KWP Kalwaria Pacla 79.79 41 *eP* P 01 48 43.4 +3.5
KWP Kalwaria Pacla 79.79 41 *eP* **P 01 48 40.5 +0.6**
comp=Z,76nm,0.9s
UZH Uzhgorod 79.81 42 *eP* P 01 48 43.8 +3.9
UZH *e* 01 48 50.2
ISAL Salakas 80.06 35 *eP* **P 01 48 44.2 +3.0**
ISAL AMB AMB 01 48 50.8
comp=Z,26nm,1.3s
IIGN Ignalina 80.17 35 *eP* **P 01 48 44.9 +3.1**
IIGN AMB AMB 01 48 55.8
comp=Z,33nm,1.2s
PHP Peshkopia 80.46 49 P **P 01 48 45.1 +1.4**
PHP Peshkopia 80.46 49 P **P 01 48 45.1 +1.4**
PHP Peshkopia 80.46 49 P **P 01 48 45.1 +1.4**
IDID Didziasalis 80.47 35 *eP* **P 01 48 46.2 +2.9**
IDID AMB AMB 01 48 54.9
comp=Z,27nm,1.2s
LVV L'vov 80.56 41 *eP* P 01 48 49.1 +5.1
NACGM Naroch 80.62 35 *e* **P 01 48 46.0 +1.8**
PUL Pulkovo 80.81 30 *eP* **P 01 48 47.0 +1.9**
PUL pmax pmax
comp=Z,48nm,1.0s
IGT Igoumenitsa 80.98 51 P **P 01 48 48.4 +2.0**
IGT Igoumenitsa 80.98 51 P **P 01 48 48.4 +2.0**
IGT Igoumenitsa 80.98 51 P **P 01 48 48.4 +2.0**
FNA Florina 81.39 50 P P 01 48 52.0 +3.3
FNA Florina 81.39 50 P P 01 48 52.0 +3.3
FNA Florina 81.39 50 *eP* **P 01 48 50.3 +1.6**
FNA Florina 81.39 50 P P 01 48 52.0 +3.3
KZN Kozani 81.82 50 *eP* P 01 48 56.7 +5.7
BUR08 Bucovina Ar. S 81.96 43 *eP* **P 01 48 51.0 -0.6**
VTS Vitosha 82.17 48 P **P 01 48 54.0 +1.1**
VTS Vitosha 82.17 48 P **P 01 48 54.0 +1.1**
VTS Vitosha 82.17 48 P **P 01 48 54.0 +1.1**
THL Klokotos Trika 82.21 51 *eP* **P 01 48 52.9 -0.1**
RLS Riolos of Patr 82.25 53 *eP* P 01 48 56.9 +3.7
EVR Evrytania 82.25 52 *eP* **P 01 48 54.8 +1.5**
KNT Kendrikon 82.38 49 P P 01 48 57.4 +3.6
KNT Kendrikon 82.38 49 P P 01 48 57.4 +3.6
KNT Kendrikon 82.38 49 *eP* P 01 48 57.4 +3.6
KNT Kendrikon 82.38 49 P P 01 48 57.4 +3.6
MAKR Makrakomi, Fth 82.46 52 *eP* P 01 48 58.1 +3.8
LAKA Lakka 82.58 52 *eP* **P 01 48 56.2 +1.2**
AGG Agios Georgios 82.61 51 *eP* **P 01 48 57.1 +2.0**
KALE Kalithea 82.66 52 *eP* **P 01 48 53.5 -1.9**
HORT Hortiatis 82.70 50 *eP* **P 01 48 56.4 +0.8**
KLV Kalavryta, Ach 82.77 52 *eP* **P 01 48 57.3 +1.3**
SOH Sokhos 82.81 49 *eP* **P 01 48 57.6 +1.5**
ITM Ithomi 82.86 53 *eP* **P 01 48 54.9 -1.5**
SRS Serrai 82.89 49 *eP* **P 01 48 57.0 +0.5**
NVR Nevrokopi 83.02 49 *eP* **P 01 48 58.8 +1.6**
PLG Polygyros 83.02 50 *eP* **P 01 48 57.9 +0.7**
MLR Muntele Rosu 83.14 44 P **P 01 48 58.9 +1.1**
MLR Muntele Rosu 83.14 44 P **P 01 48 58.9 +1.1**
comp=Z,7.7nm,0.8s,baz=344,slow=3.2,SNR=11
LKR Lokris 83.22 52 *eP* P 01 48 54.4 -3.8
PAIG Paliouri 83.33 50 *eP* **P** 01 49 05.4 +6.7
KIEV Kiev 83.42 39 *eP* **P 01 48 58.6 -0.4**
KIEV pmax pmax
comp=Z,46nm,1.5s
KIEV Kiev 83.42 39 *eP* **P 01 48 58.6 -0.4**
comp=Z,46nm,1.5s
AKASG Malin Array Be 83.43 39 P **P 01 48 59.5 +0.5**
AKASG Malin Array Be 83.43 39 P **P 01 48 59.5 +0.5**
AKASG Malin Array Be 83.43 39 P **P 01 48 59.5 +0.5**
comp=Z,8.3nm,0.8s,baz=288,slow=4.8,SNR=14
MRKA Markates 83.64 51 *eP* **P 01 49 02.5 +2.1**
PTL Penteli 84.05 52 *eP* **P 01 49 02.6 0.0**
RDO Rodhopi 84.28 49 *eP* **P 01 49 05.0 +1.4**
KLMR Klimovskoe 84.53 27 *eP* **P 01 49 04.2 -0.2**
KLMR pmax pmax
comp=Z,148nm,1.6s
TIRR Tirgusor 85.13 45 *eP* **P 01 49 05.0 -2.8**
TIRR pmax pmax
comp=Z,13nm,0.8s
TIRR Tirgusor 85.13 45 *eP* **P 01 49 05.0 -2.8**
comp=Z,13nm,0.8s
CHOS Chios island 85.57 51 *eP* **P 01 49 07.5 -2.8**
APE Apeiranthos 85.62 53 *eP* **P 01 49 13.5 +3.0**
APE pmax pmax
comp=Z,40nm,1.3s
IDI Anoyia 85.73 54 P **P 01 49 10.8 -0.3**
IDI Anoyia 85.73 54 P **P 01 49 10.8 -0.3**
comp=Z,13nm,0.8s,baz=2.6,slow=4.8,SNR=6.7
OBN Obninsk 85.75 33⇓*iP* **P 01 49 13.5 +2.8**
OBN *e* 01 52 30.8
OBN pmax pmax
comp=Z,54nm,1.7s
OBN Obninsk 85.75 33 *eP* **P 01 49 09.3 -1.4**
comp=Z,308nm,1.8s
OBN Obninsk 85.75 33 P **P 01 49 11.9 +1.2**
comp=Z,18nm,0.8s,baz=305,slow=5.5,SNR=8.6
MOS Moscow 86.02 32 *eP* **P 01 49 14.6 +2.6**
MOS *e* 01 49 20.4
MOS pmax pmax
comp=Z,87nm,1.5s
NPS Neapolis 86.29 54 *eP* **P 01 49 13.1 -0.7**
PRGR Permogore 86.67 25⇑*iP* **P 01 49 15.9 +0.8**
PRGR pmax pmax
comp=Z,193nm,1.5s
SIM Simferopol' 88.69 43 *eP* P 01 49 18.4 -6.8
SIM pmax pmax
comp=Z,22nm,1.1s
VSR Storozhevoye 88.93 36 *eP* P 01 49 29.4 +3.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR MLR MLR
comp=N,550nm,17.0s
VSR MLR MLR
comp=E,740nm,17.0s
VSR MLR MLR
comp=Z,2μm,17.0s
TIXI Tiksi 89.02 353 *eP* **P 01 49 27.8 +1.7**
TIXI pmax pmax
comp=Z,24nm,1.7s
TIXI Tiksi 89.02 353 *eP* **P 01 49 25.6 -0.6**
comp=Z,42nm,1.3s
VORD Divnogorie 89.12 36 *eP* P 01 49 30.9 +3.9
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,4.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.2s
VORD MLR MLR
comp=N,1μm,23.0s
VORD MLR MLR
comp=E,630nm,23.0s
VORD MLR MLR
comp=Z,2μm,23.0s
ANTO Ankara 89.89 48 *eP* **P 01 49 30.3 -0.7**
ANTO pmax pmax
comp=Z,96nm,1.5s
ANTO Ankara 89.89 48 *eP* **P 01 49 30.3 -0.7**
comp=Z,96nm,1.5s
VRHR Novokhopersk 90.34 35 *eP* **P 01 49 33.2 +0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR MLR MLR
comp=N,4μm,20.0s
VRHR MLR MLR
comp=E,1μm,20.0s
VRHR MLR MLR
comp=Z,2μm,20.0s
BR131 Keskin Array S 90.54 48 *eP* **P 01 49 34.3 +0.2**
comp=Z,9.3nm,0.8s
BRTR Keskin Array B 90.54 48 P **P 01 49 35.4 +1.3**
BRTR Keskin Array B 90.54 48 P **P 01 49 35.4 +1.3**
comp=Z,4.9nm,0.8s,baz=292,slow=4.1,SNR=12
ANN Anapa 90.88 42 *eP* P 01 49 47.3 +12
ANN *eS* S 02 00 21.3 -11
ANN pmax pmax
comp=N,88nm,1.5s
ANN pmax pmax
comp=E,14nm,1.5s
ANN pmax pmax
comp=Z,101nm,1.5s
SEY Seymchan 91.59 341⇑*iP* **P 01 49 39.7 +1.4**
SEY Seymchan 91.59 341 P **P 01 49 39.1 +0.9**
SEY Seymchan 91.59 341 P **P 01 49 39.1 +0.9**
comp=Z,7.0nm,0.8s,baz=6.4,slow=2.2,SNR=5.2
SOKR Solikamsk 92.26 23 *eP* P 01 49 46.4 +5.0
SOKR pmax pmax
comp=Z,40nm,1.8s
CSS Prodhromos 92.27 52 *eP* **P 01 49 41.5 -0.6**
comp=Z,20nm,1.6s
KIV Kislovodsk 94.59 41 *eP* **P 01 49 51.9 -0.7**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 94.59 41 *eP* **P 01 49 51.9 -0.7**
comp=Z,7.8nm,0.9s
KBZ Khabaz 94.83 41 P **P 01 49 53.8 +0.2**
KBZ Khabaz 94.83 41 P **P 01 49 53.8 +0.2**
KBZ Khabaz 94.83 41 P **P 01 49 53.8 +0.2**
comp=Z,2.6nm,1.0s,baz=333,slow=1.9,SNR=3.4
NEY Neytrino 94.97 41 *eP* **P 01 49 56.2 +1.7**
ARU Arti 95.13 25*c iP* P 01 49 58.1 +3.4
ARU 01 53 49.1
ARU S **SKSac 02 00 34.1 +4.1**
ARU SP **SP 02 02 24.2 -0.8**
ARU PS **PS 02 02 35.0 +7.6**
ARU SS SS 02 07 41.6 +7.7
ARU pmax pmax
comp=Z,40nm,2.5s
ARU Arti 95.13 25 *eP* **P 01 49 53.6 -1.1**
comp=Z,50nm,1.8s
NCK Nalchik 95.39 41 *eP* **P 01 49 59.1 +2.9**
SVE Sverdlovsk 95.66 24 *eP* **P 01 49 56.1 -1.0**
SVE pmax pmax
comp=Z,21nm,2.0s
ZEI Tsey 95.95 41 *eP* **P 01 49 58.9 -0.1**
ZEI pmax pmax
comp=Z,21nm,1.7s
GNI Garni 97.87 43 *eP* Pdif 01 50 08.8 +1.0
comp=Z,40nm,1.5s
SNAA Sanae 101.19 162 P **Pdif 01 50 22.9 +1.3**
SNAA Sanae 101.19 162 P **Pdif 01 50 22.9 +1.3**
comp=Z,1.2nm,1.1s,baz=305,slow=12,SNR=3.2
HABR Khabarovsk 108.97 341 *eP* **Pdif 01 50 55.7 -1.0**
HABR 01 55 27.8
HABR *e*PS **PS 02 04 54.3 +0.3**
HABR *e*SS SS 02 10 48.1 +2.9
HABR *e*SSS SSS 02 14 52.9
HABR pmax pmax
comp=Z,63nm,1.5s
HABR MLR MLR
comp=Z,2μm,21.0s
MKAR Makanchi Array 111.42 18 P **Pdif 01 51 04.8 -3.0**
MKAR Makanchi Array 111.42 18 Pdif **Pdif 01 51 04.8 -3.0**
MKAR Makanchi Array 111.42 18 Pdiff **Pdif 01 51 04.8 -3.0**
comp=Z,0.2nm,0.7s,baz=347,slow=5.0,SNR=3.7
TKM2 Tokmak 2 112.50 25 *e*PKIKP **PKiKP 01 55 07.7 -0.7**
TKM2 Tokmak 2 112.50 25 *e*PKP **PKiKP 01 55 07.7 -0.7**
KSH Kashi 115.52 26 *e*PKP **PKPdf 01 55 17.2 +3.1**
KSH *e*PP PP 01 56 26.2 +11
KSH *e*SKS **SKSdf 02 02 24.1 -2.1**
KSH *e*SKKS **SKKSac 02 03 15.1 -2.1**
KSH LR LR
comp=Z,68nm,4.3s
KSH LR LR
comp=Z,200nm,5.7s
KSH LR LR
comp=Z,190nm,5.8s
WMQ Urumqi 115.64 15 PKP **PKPdf 01 55 16.2 +2.0**
WMQ PP PP 01 56 24.3 +8.9
CN2 Changchun 115.93 345 *e*Pdif **Pdif 01 51 27.3 -0.5**
CN2 LR LR
comp=Z,2μm,21.0s
HHC Hu-ho-hao-te 120.98 356 *e*PKP **PKPdf 01 55 26.8 +2.2**
HHC PP **PP 01 56 55.0 +2.7**
HHC SKS **SKSdf 02 02 37.6 +1.1**
HHC SKKS **SKKSac 02 03 47.4 -5.8**
HHC SS **SS 02 13 20.8 -2.2**
KSRS Korea Array 121.15 341 PKP **PKPdf 01 55 26.1 +1.3**
comp=Z,0.9nm,0.4s,baz=113,slow=2.8,SNR=3.3
KSAR Wonju Array Be 121.17 341 PKP **PKPdf 01 55 26.1 +1.3**
BJI Beijing 121.32 352 PKP **PKPdf 01 55 27.4 +2.3**
BJI LR LR
comp=Z,2μm,29.2s
GTA Gaotai 122.16 7 *e*PKP **PKPdf 01 55 30.9 +4.0**
GTA PP PP 01 57 07.6 +7.3
GTA SKKS 02 03 59.4
GTA SS **SS 02 13 41.7 +3.6**
GTA LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 125.79 3 *e*PKP **PKPdf 01 55 35.1 +1.1**
LZH sPKP 01 55 39.8
LZH PP PP 01 57 30.0 +5.2
LZH SKKS 02 04 19.8
LZH *e*SS **SS 02 14 24.5 +0.4**
LZH AMB AMB
comp=Z,290nm,9.2s
LZH LR LR
comp=Z,530nm,18.1s
LZH LR LR
comp=Z,510nm,18.2s
LZH LR LR
comp=Z,900nm,20.3s
CD2 Chengdu 130.94 4 *e*PKP **PKPdf 01 55 44.2 +0.4**
GYA Guiyang 135.48 1 *e*Pdif **Pdif 01 52 52.8 -2.5**
GYA PKP **PKPdf 01 55 51.4 -1.2**
GYA PP **PP 01 58 31.0 +3.4**
GYA PKS **PKSdf 01 59 25.6 -3.6**
GYA SKKS 02 05 21.0
GYA SS **SS 02 16 22.3 -0.5**
GYA AMB AMB
comp=Z,260nm,8.6s
GYA LR LR
comp=Z,210nm,19.8s
GYA LR LR
comp=Z,150nm,20.3s
GYA LR LR
comp=Z,230nm,19.5s
CMAR Chiang Mai Arr 142.57 13 PKP **PKPdf 01 56 07.2 +1.6**
CMAR Chiang Mai Arr 142.57 13 PKP **PKPdf 01 56 07.2 +1.6**
comp=Z,3.2nm,0.8s,baz=328,slow=3.9,SNR=5.9
CTA Charters Tower 143.04 261 PKP **PKPdf 01 56 05.7 -0.6**
CTA Charters Tower 143.04 261 PKP **PKPdf 01 56 05.7 -0.6**
comp=Z,6.9nm,0.9s,baz=92,slow=8.8,SNR=3.1
STKA Stephens Creek 146.14 240 *e*PKPbc **PKPdf 01 56 11.8 +0.5**
STKA Stephens Creek 146.14 240 PKPbc **PKPbc 01 56 12.1 -0.2**
comp=Z,11nm,0.8s,baz=85,slow=2.1,SNR=8.7
BBOO Buckleboo 150.29 235 *e*PKPbc **PKPbc 01 56 22.1 -1.2**
BBOO *e*PKPab **PKPab 01 56 28.9 -0.7**
WRAB Tennant Creek 154.22 262 *e*PKIKP **PKPdf 01 56 23.7 -0.6**
WRAB *e* 01 56 31.5
WRAB *e* 01 56 45.9
WRAB Tennant Creek 154.22 262 *e*PKPdf **PKPdf 01 56 23.6 -0.6**
WRAB *e*PKPbc **PKPbc 01 56 31.4 -1.1**
WRAB *e*PKPab **PKPab 01 56 45.9 -0.5**
WRA Warramunga Arr 154.23 262 PKP **PKPdf 01 56 23.6 -0.8**
WRA PKPbc **PKPbc 01 56 30.9 -1.6**
WRA Warramunga Arr 154.23 262 PKP **PKPdf 01 56 23.6 -0.8**
comp=Z,3.4nm,0.8s,baz=82,slow=1.4,SNR=4.9
WRA PKPbc **PKPbc 01 56 30.9 -1.6**
comp=Z,4.7nm,0.8s,baz=87,slow=2.4,SNR=10
ASAR Alice Springs 154.44 253 PKP **PKPdf 01 56 24.4 -0.1**
ASAR PKPbc **PKiKP 01 56 33.7 +0.7**
ASAR Alice Springs 154.44 253 PKP **PKPdf 01 56 24.4 -0.1**
comp=Z,0.8nm,0.7s,baz=108,slow=3.0,SNR=2.7
ASAR PKPbc **PKiKP 01 56 33.7 +0.7**
comp=Z,1.1nm,0.6s,baz=116,slow=2.4,SNR=5.3
PSI Prapat 157.51 22 PKPab **PKPab 01 56 59.9 -0.6**
PSI Prapat 157.51 22 PKPab **PKPab 01 56 59.9 -0.6**
comp=Z,4.9nm,0.4s,baz=338,slow=5.4,SNR=4.2

NNC 13 01:46:55.6±9.6, 37.11N×70.96E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=76.0km s-min=64.2km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=23	**5.45**	**22**	P		Pn	01 48 19.4	+0.8
UCH	**Uchtor** SNR=8.9	**5.80**	**27**	P		Pn	01 48 23.5	0.0
EKS2	**Erkin-Say** SNR=6.2	**5.96**	**20**	P		Pn	01 48 26.6	+1.4
KK31	**Karatay Array** 2.6nm,0.3s,baz=176,slow=13,SNR=92	**6.00**	**357**	⇑P		Pn	01 48 27.3	+1.6
KK31				⇓S		Sn	01 49 37.0	+1.9
	4.2nm,0.5s,baz=184,slow=24,SNR=3.8							
AAK	**Ala-Archa** 3.1nm,0.4s	**6.15**	**25**	⇑P		Pn	01 48 28.1	+0.1
AAK				⇑S		Sn	01 49 40.4	+1.2
	4.3nm,0.5s							
AAK	**Ala-Archa** SNR=8.5	**6.15**	**25**	P		Pn	01 48 29.0	+1.0
TKM2	**Tokmak 2** 2.6nm,0.8s	**6.81**	**30**	⇓P		Pn	01 48 35.7	-1.3
TKM2				⇓S		Sn	01 49 54.6	-0.9
	2.1nm,0.8s							
TKM2	**Tokmak 2** SNR=5.0	**6.81**	**30**	P		Pn	01 48 36.4	-0.6

*CSEM **13** 01:49:40.6, 45.77N×14.20E, h0km, ML1.0, After LJU*

LJU 13 01:49:40.6, 45.77N×14.20E, h15km, ML1.0, 4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.15**	**321**	⇓*i* Pg		Pg	01 49 44.8	0.0
JAVS				*i* Sg		Sg	01 49 47.7	+0.1
JAVS								
	comp=Z,29nm,0.1s							
JAVS	**Javornik**	**0.15**	**321**	⇓*i* Pg		Pg	01 49 44.8	0.0
JAVS				*i* Sg		Sg	01 49 47.7	+0.2
	comp=Z,29nm,0.1s							
CEY	**Cerknica**	**0.16**	**102**	*i* Pg		Pg	01 49 44.8	0.0
CEY				*i* Sg		Sg	01 49 47.9	+0.4
CEY								
	comp=Z,4.0nm,0.1s							
CEY	**Cerknica**	**0.16**	**102**	*i* Pg		Pg	01 49 44.8	+0.1
CEY				*i* Sg		Sg	01 49 47.9	+0.4
	comp=Z,4.0nm,0.1s							
SKDS	**Skadanscina**	**0.26**	**210**	⇓*i* Pg		Pg	01 49 46.3	-0.1
SKDS				*i* Sg		Sg	01 49 50.8	+0.6
SKDS								
	comp=Z,29nm,0.1s							
SKDS	**Skadanscina**	**0.26**	**210**	⇓*i* Pg		Pg	01 49 46.3	0.0
SKDS				*i* Sg		Sg	01 49 50.8	+0.6
	comp=Z,29nm,0.1s							
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg		Pg	01 49 47.8	0.0
VOJS				*i* Sg		Sg	01 49 53.1	+0.4
VOJS								
	comp=Z,3.0nm,0.1s							
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg		Pg	01 49 47.8	0.0
VOJS				*i* Sg		Sg	01 49 53.1	+0.3
	comp=Z,3.0nm,0.1s							

*ISCJB **13** 01:49:57.7±0.2, 18.40N±0.04×72.87W±0.03, h6km, mb4.1/54, Error ellipse: s-maj=5.8km s-min=4.0km az=13.5*

*IDC **13** 01:49:57.9±0.6, 18.38N×72.88W, h0km, mb4.0/19, mb1 4.2/21, mb1mx4.2/28, mbtmp4.0/21, ML2.2/1, Error ellipse: s-maj=20.0km s-min=15.6km az=31.0*

*NEIC **13** 01:50:00.0±0.2, 18.43N×72.88W, h10km, mb4.3/39, Error ellipse: s-maj=5.0km s-min=3.3km az=24.0*

ISC 13 01:49:59.2±0.4, 18.42N±0.06×72.82W±0.04, h6km, n104, σ0.88/108, mb4.2/54, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.56**	**69**	*e*Pn		**Pg**	01 50 29.0	-0.2
SDDR				*e*Sg		**Sg**	01 50 50.5	+1.1
GTBY	**Guantanamo Bay**	**2.63**	**305**	*e*Pn		**Pn**	01 50 39.7	-2.5
AGPR	**Aguadilla, PR**	**5.42**	**89**	*e*Pn		**Pn**	01 51 20.2	-0.4
CRPR	**Cabo Rojo, PR**	**5.45**	**93**	*e*Pn		**Pn**	01 51 22.9	+2.0
LSP	**Las Mesas**	**5.46**	**92**	*e*Pn		**Pn**	01 51 20.9	-0.2
LSP				*e*Pg		**Pg**	01 51 42.3	-1.5
LSP				*e*Sg		**Sg**	01 52 51.4	-3.1
CELP	**Cerrillos**	**5.94**	**92**	*e*Pn		**Pn**	01 51 29.3	+1.5
CBYP	**Canovanas**	**6.62**	**90**	*e*Pn		Pn	01 51 40.6	+3.5
MTP	**Monte Pirata**	**6.92**	**91**	*e*Pn		**Pn**	01 51 41.0	-0.1
SDV	**Santo Domingo**	**9.71**	**167**	*e*Pn		**Pn**	01 52 21.6	+2.0
SDV				*e*Sn		**Sn**	01 54 08.1	-1.1
BCIP	**Isla Barro Col**	**11.44**	**217**	*e*Pn		**Pn**	01 52 42.9	-0.3
ROSC	**El Rosal**	**13.56**	**186**	Pn		**Pn**	01 53 13.1	+0.6
ROSC	**El Rosal** 0.3nm,0.3s,baz=108,slow=20,SNR=1.9	**13.56**	**186**	Pn		**Pn**	01 53 13.1	+0.6
TGUH	**Tegucigalpa,Un**	**14.53**	**255**	*e*Pn		**Pn**	01 53 25.6	+0.1
TEIG	**Tepich**	**14.70**	**280**	Pn		**Pn**	01 53 28.0	+0.2
TEIG	**Tepich** 0.9nm,0.3s,baz=99,slow=19,SNR=2.4	**14.70**	**280**	Pn		**Pn**	01 53 28.0	+0.2
KMSC	**Kings Mountain**	**18.30**	**337**	*e*Pn		**Pn**	01 54 13.1	-0.6
OTAV	**Otavalo** 5.4nm,0.8s	**18.89**	**198**	*e*P		**Pn**	01 54 21.4	-0.1
BLA	**Blacksburg** 22nm,0.9s	**19.88**	**342**	*e*P		**P**	01 54 31.6	+0.3
SDMD	**Soldier's Deli** 19nm,1.0s	**21.21**	**351**	*e*P		**P**	01 54 46.9	+1.3
PTGA	**Pitinga** 6.9nm,1.0s	**22.84**	**145**	*e*P		**P**	01 55 04.3	+1.0
HKT	**Hockley** 3.0nm,0.8s	**23.88**	**303**	*e*P		**P**	01 55 13.8	+0.3
MIAR	**Mount Ida** 17nm,1.5s	**24.48**	**315**	*e*P		**P**	01 55 17.8	-1.4
TUL1	**Tulsa** 7.5nm,0.8s	**26.75**	**315**	*e*P		**P**	01 55 40.0	+0.3
WMOK	**Wichita Mounta** 2.5nm,0.8s	**28.22**	**310**	*e*P		**P**	01 55 52.4	-0.6
JFWS	**Jewell Farm** 7.0nm,0.7s	**28.54**	**333**	*e*P		**P**	01 55 57.0	+1.4
SAML	**Samuel** 4.3nm,0.9s	**28.81**	**160**	*e*P		**P**	01 55 59.2	+1.0
TXAR	**Lajitas Array**	**30.14**	**297**	P		**P**	01 56 09.1	-1.1
TXAR	**Lajitas Array** 0.8nm,0.8s,baz=116,slow=8.5,SNR=7.1	**30.14**	**297**	P		**P**	01 56 09.1	-1.1

MNTX	Cornudas Mount 3.8nm,0.9s	32.19	301	*eP*	P		01 56 27.9	-0.2
BNM	Barren Site 8.9nm,0.5s	33.93	304	*eP*	P		01 56 42.6	-0.9
LPM	Los Pinos Moun 10nm,1.3s	33.99	305	*eP*	P		01 56 44.4	+0.5
ANMO	Albuquerque 1.9nm,0.9s	34.06	306	*eP*	P		01 56 44.7	+0.1
121A	Cookes Peak, D 2.7nm,0.9s	34.38	301	*eP*	P		01 56 48.1	+0.7
LAZ	Ladron	34.41	304	*eP*	P		01 56 48.2	+0.6
SDCO	Great Sand Dun 8.5nm,1.6s	34.42	311	*eP*	P		01 56 47.9	+0.1
ULM	Lac du Bonnet	36.72	335	P	P		01 57 08.3	+1.3
ULM	Lac du Bonnet 2.6nm,0.9s,baz=164,slow=3.8,SNR=3.5	36.72	335	P	P		01 57 08.3	+1.3
PV01	Paradox Valley	36.80	310	*eP*	P		01 57 08.6	+0.4
O20A	White River Ci 2.5nm,0.7s	37.37	313	*eP*	P		01 57 12.2	-0.7
K22A	Casper	37.37	318	*eP*	P		01 57 12.5	-0.4
WUAZ	Wupatki 3.2nm,1.0s	38.06	304	*eP*	P		01 57 19.2	+0.3
SRU	San Rafael 1.7nm,0.6s	38.58	310	*eP*	P		01 57 23.4	+0.2
LAO	LASA Array	39.34	323	*eP*	P		01 57 29.3	0.0
PDAR	Pinedale Array	39.40	316	P	P		01 57 29.1	-1.0
PDAR	Pinedale Array 0.6nm,1.0s,baz=126,slow=14,SNR=2.7	39.40	316	P	P		01 57 29.1	-1.0
NLU	North Lily Min 3.1nm,0.8s	40.01	311	*eP*	P		01 57 35.3	+0.2
CCUT	Cedar City 4.3nm,1.3s	40.18	307	*eP*	P		01 57 36.9	+0.3
ARUT	Antelope Range	40.31	307	*eP*	P		01 57 38.0	+0.4
SPUT	South Promonto 2.7nm,0.9s	40.77	313	*eP*	P		01 57 40.6	-0.7
BGU	Big Grassy Mou 1.7nm,1.1s	41.03	312	*eP*	P		01 57 43.5	0.0
BDFB	Brasilia	41.74	143	P	P		01 57 49.5	0.0
BDFB	Brasilia 3.3nm,0.7s,baz=248,slow=5.4,SNR=4.0	41.74	143	P	P		01 57 49.5	0.0
EGMT	Eagleton 29nm,1.5s	42.08	323	*eP*	P		01 57 50.1	-1.9
R11A	Troy Canyon, C 1.6nm,1.0s	42.09	307	*eP*	P		01 57 52.5	+0.2
MCMT	McKenzie Canyo	42.44	317	*eP*	P		01 57 55.1	0.0
HLID	Hailey 2.3nm,1.0s	42.96	315	*eP*	P		01 57 59.4	+0.1
TPH	Tonopah 3.7nm,0.9s	43.27	306	*eP*	P		01 58 01.9	+0.1
MFID	Camas Ranch 1.2nm,0.5s	43.87	314	*eP*	P		01 58 06.2	-0.3
NVAR	Mina Array Bea	44.18	307	P	P		01 58 09.2	0.0
NVAR	Mina Array Bea 1.1nm,0.8s,baz=96,slow=8.5,SNR=5.2	44.18	307	P	P		01 58 09.2	0.0
YKA	Yellowknife Ar	52.64	337	P	P		01 59 13.1	-0.7
YKA	Yellowknife Ar 1.2nm,0.8s,baz=125,slow=7.3,SNR=16	52.64	337	P	P		01 59 13.1	-0.7
DLBC	Dease Lake	57.48	328	P	P		01 59 49.7	+0.7
DLBC	Dease Lake 3.3nm,0.7s,baz=163,slow=2.5,SNR=7.6	57.48	328	P	P		01 59 49.7	+0.7
SUMG	Summit 8.8nm,1.1s	57.62	12	*eP*	P		01 59 49.8	-0.3
PLCA	Paso Flores 16nm,1.5s	58.88	178	*eP*	P		01 59 59.0	+0.1
PLCA	Paso Flores 1.9nm,0.8s,baz=180,slow=17,SNR=3.9	58.88	178	P	P		01 59 59.1	+0.1
ESDC	Sonseca Array	62.36	54	P	P		02 00 23.6	+0.8
ESDC	Sonseca Array 1.9nm,0.8s,baz=271,slow=2.5,SNR=6.0	62.36	54	P	P		02 00 23.6	+0.8
ILAR	Eielson Array	66.71	333	P	P		02 00 50.0	-0.8
ILAR	Eielson Array 0.9nm,0.9s,baz=98,slow=5.2,SNR=9.0	66.71	333	P	P		02 00 50.0	-0.8
COLD	Coldfoot 4.5nm,1.0s	68.28	336	*eP*	P		02 01 00.4	-0.3
KTH	Kantishna Hill 5.3nm,1.0s	68.38	332	*eP*	P		02 01 01.1	-0.3
NB2	NORSAR Subarra comp=Z,1.2nm,0.7s,baz=276,slow=6.5	71.20	31	P	P		02 01 24.4	+5.6
NOA	NORSAR Array B	71.20	31	P	P		02 01 19.5	+0.6
NOA	NORSAR Array B comp=Z,0.6nm,0.9s,baz=275,slow=6.3,SNR=3.5	71.20	31	P	P		02 01 19.5	+0.6
TORD	Torodi Ar. Bea	71.47	82	P	P		02 01 20.0	-1.2
TORD	Torodi Ar. Bea comp=Z,1.5nm,0.8s,baz=275,slow=6.4,SNR=10.0	71.47	82	P	P		02 01 20.0	-1.2
KEST	Kesra	73.27	57	P	P		02 01 31.8	0.0
KEST	Kesra comp=Z,1.1nm,0.8s,baz=308,slow=7.5,SNR=3.7	73.27	57	P	P		02 01 31.8	0.0
KHC	Kasperske Hory comp=Z,3.7nm,1.0s	73.98	43	*eP*	P		02 01 36.2	+0.6
GERES	GERESS Array B	74.11	43	P	P		02 01 37.5	+1.0
GERES	GERESS Array B comp=Z,2.0nm,0.8s,baz=272,slow=4.9,SNR=10	74.11	43	P	P		02 01 37.5	+1.0
TNA	Tin City comp=Z,3.5nm,1.0s	75.50	335	*eP*	P		02 01 44.0	0.0
ARCES	ARCESS Array B	75.78	21	P	P		02 01 45.5	-0.2
ARCES	ARCESS Array B comp=Z,4.3nm,0.9s,baz=279,slow=8.1,SNR=3.8	75.78	21	P	P		02 01 45.5	-0.2
MORC	Moravsky Berou comp=Z,2.6nm,0.8s	76.40	42	*eP*	P		02 01 49.5	0.0
GAMB	Gambell comp=Z,8.5nm,1.4s	77.51	333	*eP*	P		02 01 56.5	+1.0
FINES	FINESS Array B	78.18	29	P	P		02 01 59.0	-0.2
FINES	FINESS Array B comp=Z,1.1nm,0.8s,baz=305,slow=4.9,SNR=3.2	78.18	29	P	P		02 01 59.0	-0.2
KWP	Kalwaria Pacla comp=Z,9.8nm,1.0s	79.69	41	*eP*	P		02 02 09.8	+2.0
BUR08	Bucovina Ar. S	81.85	43	*eP*	P		02 02 20.8	+1.2
MLR	Muntele Rosu	83.03	44	P	P		02 02 26.8	+1.0
MLR	Muntele Rosu comp=Z,1.3nm,0.9s,baz=162,slow=18	83.03	44	P	P		02 02 26.8	+1.0
AKASG	Malin Array Be	83.32	39	P	P		02 02 27.0	0.0
AKASG	Malin Array Be comp=Z,0.9nm,0.6s,baz=281,slow=5.2,SNR=5.4	83.32	39	P	P		02 02 27.0	0.0
BR131	Keskin Array S comp=Z,0.7nm,0.7s	90.44	48	*eP*	P		02 03 01.9	-0.3
BRTR	Keskin Array B	90.44	48	P	P		02 03 01.6	-0.5
BRTR	Keskin Array B comp=Z,0.9nm,0.9s,baz=286,slow=1.7,SNR=4.3	90.44	48	P	P		02 03 01.7	-0.5
CSS	Prodhromos comp=Z,5.7nm,1.4s	92.17	52	*eP*	P		02 03 10.7	+0.6
WRA	Warramunga Arr	154.31	262	PKP	PKPdf		02 09 52.2	-0.8
WRA				PKPbc	PKPbc		02 10 00.3	-1.0
WRA	Warramunga Arr comp=Z,0.7nm,0.9s,baz=84,slow=2.2,SNR=3.8	154.31	262	PKP	PKPdf		02 09 52.2	-0.8
WRA	comp=Z,1.2nm,0.9s,baz=87,slow=2.9,SNR=7.0			PKPbc	PKPbc		02 10 00.3	-1.0
ASAR	Alice Springs	154.53	254	PKPbc	PKPbc		02 10 00.2	-1.4
ASAR	Alice Springs comp=Z,0.4nm,0.8s,baz=97,slow=2.2,SNR=3.4	154.53	254	PKPbc	PKPbc		02 10 00.2	-1.4

IDC 13 01:50:16.6±3.2, 6°16S×150°28E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, ML2.7/1, Error ellipse: s-maj=128.9km s-min=36.6km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby 2.9nm,0.3s,baz=40,slow=8.1,SNR=5.6	4.47	224	Pn		Pn	Pn	01 51 26.6	+0.8
PMG				Sn			Sn	01 52 16.9	-1.6
WRA	Warramunga Arr 3.9nm,0.8s,baz=53,slow=11,SNR=6.0	20.68	227	P		P	P	01 54 58.8	+0.3
ASAR	Alice Springs 1.1nm,0.8s,baz=56,slow=9.6,SNR=4.4	23.48	220	P		P	P	01 55 28.5	+0.3
TORD	Torodi Ar. Bea 2.6nm,1.0s,baz=95,slow=3.3,SNR=4.2	148.29	285	PKPbc		PKPbc	PKPbc	02 10 05.0	-1.0

*IDC **13** 01:51:07.0±1.6, 18°11N×72°91W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.7/9, Error ellipse: s-maj=52.4km s-min=21.8km az=13.0*

ISC 13 01:51:14.0±2.3, 19°1N±0°5×72°9W±0°2, h10km, n10, σ1§50/9, mb3.7/9, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	Lajitas Array 0.7nm,0.9s,baz=132,slow=6.7,SNR=3.1	29.77	296	P		P	P	01 57 20.1	-0.9
PDAR	Pinedale Array 0.3nm,0.6s,baz=113,slow=8.9,SNR=2.9	38.86	315	P		P	P	01 58 41.6	+1.9
NVAR	Mina Array Bea 0.6nm,0.7s,baz=96,slow=6.4,SNR=2.7	43.72	306	P		P	P	01 59 18.8	-0.9
YKA	Yellowknife Ar 1.0nm,0.8s,baz=123,slow=7.3,SNR=5.7	51.98	337	P		P	P	02 00 23.9	+0.8
DLBC	Dease Lake 2.8nm,1.0s,baz=119,slow=10,SNR=2.8	56.86	328	P		P	P	02 00 59.2	+0.5
ILAR	Eielson Array 0.4nm,0.6s,baz=109,slow=4.9,SNR=2.8	66.06	333	P		P	P	02 01 59.6	-1.1
NOA	NORSAR Array B 1.0nm,0.8s,baz=274,slow=6.3,SNR=3.1	70.63	31	P		P	P	02 02 30.2	+0.6
TORD	Torodi Ar. Bea 0.9nm,0.6s,baz=253,slow=4.8,SNR=3.0	71.43	82	P		P	P	02 02 31.4	-3.8
GERES	GERESS Array B 0.5nm,0.6s,baz=279,slow=13,SNR=2.5	73.65	43	P		P	P	02 02 46.6	-1.4
WRA	Warramunga Arr 0.7nm,0.8s,baz=79,slow=2.3,SNR=3.1	154.33	264	PKPbc		PKPdf	PKPdf	02 11 09.1	+1.9

*IDC **13** 01:55:13.6±0.4, 18°27N×72°81W, h0km, mb4.4/36, mb1 4.6/40, mb1mx4.6/44, mbtmp4.5/40, ML4.2/4, Error ellipse: s-maj=12.9km s-min=9.6km az=63.0*

*ISCJB **13** 01:55:14.3±0.1, 18°33N±0°02×72°83W±0°01, h10km, mb4.8/142, MS5.0/5, Error ellipse: s-maj=3.6km s-min=1.9km az=12.1*

*JSN **13** 01:55:14.8±1.1, 19°14N×72°84W, h0km≈999km, MD4.7*

*NEIC **13** 01:55:16.0±0.1, 18°34N×72°84W, h10km, mb4.9/106, Error ellipse: s-maj=3.6km s-min=2.7km az=19.0*

*GCMT **13** 01:55:16.0±0.9, 18°59N×73°08W, h14km±3km, MW5.1/23, Moment Tensor Solution. s23,c35; Duration: 1§2 Moment tensor: Scale 10^16 Nm; Mr=5.84±1.62; Mθθ=-4.66±1.15; Mϕϕ=-1.17±.79; Mrθ=-0.86±1.69; Mϕϕ=1.91±.45; Mϕr=-3.02±1.40; Best double couple: Mo=6.33500×10^16 NP1:ϕs=136.00000°, δ52.00000°, λ119.00000°. NP2: ϕs=274.00000°, δ47.00000°, λ58.00000°. Principal axes: T 7.1490, Plg67.0000°, Azm109.0000°; N -1.6170, Plg22.0000°, Azm296.0000°; P -5.5220, Plg3.0000°, Azm205.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 13 01:55:14.5±1.0, 18°33N±0°04×72°81W±0°03, h4km±6km, n556, σ1§13/578, mb4.8/144, MS4.8/5, 119C-134D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.58	65	*e*Pn			Pn	01 55 43.6	+0.2
SDDR				*e*Sn			Sb	01 56 05.2	+0.3
GTBY	Guantanamo Bay	2.70	307	*e*Pn			Pn	01 55 56.4	-2.3
GTBY				*e*Pg			Pb	01 56 03.8	+0.4
GTBY				*e*Sn			Sn	01 56 30.9	-0.9
YHJ	Yallahs	3.53	264	*i* P			Pn	01 56 12.2	+2.0
YHJ	Yallahs	3.53	264	*i* P			Pn	01 56 12.2	+2.0
GRTK	Grand Turk	3.54	26	*e*Pn			Pn	01 56 10.4	+0.1
GRTK				*e*Sn			Sn	01 56 51.5	-1.2
GWJ	Greenwich	3.73	267	*i* P			Pn	01 56 14.7	+1.6
GWJ	Greenwich	3.73	267	*i* P			Pn	01 56 14.7	+1.6
HOJ	Hope	3.76	266	*i* P			Pn	01 56 14.2	+0.8
HOJ	Hope	3.76	266	*i* P			Pn	01 56 14.2	+0.8
STH	Stony Hill	3.81	267	*i* P			Pn	01 56 14.2	+0.1
STH				*i* S			Sn	01 56 60.0	+0.6
STH	Stony Hill	3.81	267	*i* P			Pn	01 56 14.2	+0.1
STH				*i* S			Sn	01 56 60.0	+0.6
PCJ	Portland Cotta	4.18	263	*i* P			Pn	01 56 20.7	+1.6
PCJ	Portland Cotta	4.18	263	*i* P			Pn	01 56 20.7	+1.6
MTDJ	Mount Denham	4.49	269	*e*Pn			Pn	01 56 23.5	0.0
MTDJ				*e*Pg			Pg	01 56 38.0	-2.6
MTDJ				*e*Sn			Sn	01 57 15.7	-0.5
MCJ	Malvern	4.65	266	*i* P			Pn	01 56 26.8	+1.1
MCJ	Malvern	4.65	266	*i* P			Pn	01 56 26.8	+1.1
AGPR	Aguadilla, PR 812nm,1.2s	5.41	88	*e*Pn			Pn	01 56 38.6	+2.6
AGPR				*e*Sn			Sn	01 57 39.2	+0.3
CRPR	Cabo Rojo, PR 187nm,0.5s	5.43	92	*e*Pn			Pn	01 56 37.9	+1.6
CRPR				*e*Sn			Sn	01 57 40.9	+1.6
CRPR				*e*Sb			Sb	01 57 58.3	+2.8
CRPR				*e*Sg			Sg	01 58 08.3	-0.7
LSP	Las Mesas	5.44	91	*e*Pn			Pn	01 56 38.5	+2.0
LSP				*e*Sn			Sn	01 57 41.3	+1.6
AOPR	Arecibo Observ	5.75	89	*e*Pn			Pn	01 56 42.8	+2.0
CELP	Cerrillos	5.93	91	*e*Pn			Pn	01 56 44.5	+1.4
CELP				*e*Sn			Sn	01 57 54.3	+2.7
CELP				*e*Sg			Sg	01 58 20.6	-4.4
CBYP	Canovanas 63nm,1.1s	6.61	89	*e*Pn			Pn	01 56 55.1	+2.5
CBYP				*e*Sn			Sn	01 58 10.1	+1.7
CBYP				*e*Sg			Sg	01 58 39.7	-7.1
HUMP	Col San Antoni	6.62	90	*e*Pn			Pn	01 56 54.7	+2.0
MTP	Monte Pirata 91nm,0.7s	6.90	91	*e*Pn			Pn	01 56 58.4	+1.8
MTP				*e*Pg			Pg	01 57 25.8	-1.0
MTP				*e*Sn			Sn	01 58 15.6	0.0
MTP				*e*Sg			Sg	01 58 51.9	-4.5
SABA	Saba	9.13	93	*e*Pn			Pn	01 57 29.2	+2.0
SDV	Santo Domingo	9.62	167	*e*Pn			Pn	01 57 35.8	+1.8
SDV				*e*Sn			Sn	01 59 19.0	-3.7
MLG	Mont-d'or	10.85	100	*e*P			Pn	01 57 55.5	+4.8
BCIP	Isla Barro Col	11.38	218	*e*Pn			Pn	01 57 57.0	-0.9
H05N1	Guadeloupe/Mar	11.40	98	Pn			Pn	01 57 58.4	+0.1
GRGR	Grenville 344nm,1.1s	12.40	118	*e*Pn			Pn	01 58 13.1	+1.2
GRGR				*e*Sn			Sn	02 00 31.3	+0.6
ROSC	El Rosal	13.47	187	*e*Pn			Pn	01 58 29.2	+2.3
ROSC	El Rosal 5.2nm,0.3s,baz=116,slow=5.1,SNR=12	13.47	187	Pn			Pn	01 58 28.1	+1.2
JTS	JuntasAbangare	14.21	237	*e*Pn			Pn	01 58 37.0	+0.2
TGUH	Tegucigalpa,Un	14.52	255	*e*Pn			Pn	01 58 41.4	+0.4
TEIG	Tepich	14.72	280	*e*Pn			Pn	01 58 43.2	-0.5
TEIG	Tepich 8.5nm,0.3s,baz=95,slow=0.7,SNR=26	14.72	280	Pn			Pn	01 58 43.5	-0.2
BBSR	BB Station 28nm,0.5s	15.78	26	*e*Pn			Pn	01 58 55.8	-1.8
NHSC	New Hope	16.14	337	*e*Pn			Pn	01 59 02.0	-0.2
APG	El Apazote	17.23	262	P			Pn	01 59 16.0	-0.5
APG	El Apazote 1.0nm,0.3s,baz=75,slow=10,SNR=9.5	17.23	262	P			Pn	01 59 16.0	-0.5
CNNC	Cliffs of the 23nm,0.4s	17.44	346	*e*Pn			Pn	01 59 15.9	-2.8
KMSC	Kings Mountain baz=18	18.38	337	⇑P			Pn	01 59 28.0	-2.4
OTAV	Otavalo 669nm,2.0s	18.81	198	*e*P			Pn	01 59 38.6	+2.4
JSRW	J. Sargeant Re	19.80	348	*e*P			P	01 59 45.8	-0.1
TKL	Tuckaleechee C	19.81	333	*e*P			P	01 59 45.8	-0.3
TKL	Tuckaleechee C 0.4nm,0.3s,baz=145,slow=12,SNR=6.4	19.81	333	P			Pn	01 59 47.6	-0.1
VWCC	Virginia Weste	19.87	343	*e*P			Pn	01 59 48.0	-0.3
BLA	Blacksburg 37nm,0.8s	19.97	342	*e*P			P	01 59 48.1	+0.3
CPCT	Cooper Cave	19.97	331	*e*Pn			Pn	01 59 51.1	+1.5
CBN	Corbin 41nm,0.5s	20.20	350	*e*P			Pn	01 59 52.1	-0.2
SWET	Sewanee 98nm,1.7s	20.46	328	*e*Pn			Pn	01 59 55.9	+0.5
TZTN	Tazewell 217nm,1.9s	20.47	335	*e*Pn			P	01 59 53.7	+0.4
VBMS	Vicksburg 121nm,1.4s	21.12	314	*e*Pn			P	02 00 01.7	+1.4
SDMD	Soldier's Deli 280nm,2.2s	21.30	351	*e*P			P	02 00 02.4	+0.1
MVL	Millersville 203nm,2.2s	21.82	353	*e*P			P	02 00 09.2	+1.4
OXF	Oxford 107nm,1.4s	21.88	321	*e*P			P	02 00 08.5	0.0
PAL	Palisades 35nm,1.0s	22.62	358	*e*P			P	02 00 17.0	+0.6
ODNJ	Ogdensburg 32nm,1.0s	22.73	356	*e*P			P	02 00 17.8	+0.2
PTGA	Pitinga 20nm,1.3s	22.76	145	*e*P			P	02 00 18.7	+0.6
PTGA	Pitinga 28nm,1.0s,baz=340,slow=11,SNR=18	22.76	145	P			P	02 00 18.9	+0.8
ACSO	Alum Creek Sta 41nm,1.1s	23.53	340	*e*P			P	02 00 25.1	-0.6
NATX	Nacogdoches 31nm,0.5s	23.83	308	*e*P			P	02 00 28.4	-0.4
HKT	Hockley 222nm,2.5s	23.94	303	*e*P			P	02 00 29.4	-0.4
PBMO	Poplar Bluff 23nm,1.0s	24.05	323	*e*P			P	02 00 30.7	-0.1
SIUC	Southern Illin 16nm,0.6s	24.07	327	*e*P			P	02 00 31.1	+0.1
MIAR	Mount Ida 18nm,1.1s	24.55	315	*e*P			P	02 00 35.5	0.0
035Z	Hargill baz=25	24.68	294	⇑P			P	02 00 37.3	+0.6
MMNY	Mt. Morris Dam	24.71	351	*e*P			P	02 00 37.0	+0.2
835A	Beeville baz=25	24.98	298	⇓P			P	02 00 39.8	+0.4
735A	Kenedy baz=25	25.14	299	⇓P			P	02 00 41.8	+1.0
SFIN	Scholer Farm 22nm,1.1s	25.19	334	*e*P			P	02 00 41.3	+0.1
SFIN	Scholer Farm baz=25	25.19	334	⇓P			P	02 00 42.1	+0.9
635A	Leesville baz=25	25.29	300	⇓P			P	02 00 43.1	+0.8
034A	Hebbronville baz=25	25.37	295	⇓P			P	02 00 44.0	+1.1
834A	Tilden baz=26	25.54	297	⇑P			P	02 00 45.0	+0.5
AAM	Ann Arbor 106nm,1.6s	25.62	341	*e*P			P	02 00 43.3	-1.7
335A	Moody baz=26	25.73	305	⇑P			P	02 00 46.8	+0.7
634A	China Grove, S baz=26	25.77	300	⇑P			P	02 00 47.0	+0.4
ATAH	Atahualpa	25.89	193	P			P	02 00 49.2	+1.0
ATAH	Atahualpa 17nm,1.0s,baz=22,slow=3.4,SNR=8.6	25.89	193	P			P	02 00 49.2	+1.0
WHTX	Lake Whitney 33nm,0.9s	26.05	306	*e*P			P	02 00 49.8	+0.7
WHTX	Lake Whitney baz=26,SNR=6.0	26.05	306	⇓P			P	02 00 49.4	+0.3
534A	Blanco baz=26,SNR=10	26.09	301	⇓P			P	02 00 49.7	+0.2
434A	Burnet baz=26	26.21	303	⇑P			P	02 00 51.0	+0.4
135A	Vickery Place, baz=26	26.27	307	⇑P			P	02 00 51.7	+0.7
833A	Chaparral WMA, baz=26	26.31	297	⇑P			P	02 00 52.0	+0.5
733A	Divot King Ran baz=26	26.34	298	⇓P			P	02 00 52.4	+0.7
334A	Lometa baz=26	26.39	304	⇑P			P	02 00 52.9	+0.7
633A	Saathoff Ranch baz=26	26.47	300	⇓P			P	02 00 53.6	+0.7
Z35A	Perchaven, San baz=26	26.50	309	⇓P			P	02 00 54.0	+0.8
533A	Kerrville baz=26	26.56	301	⇑P			P	02 00 54.5	+0.8
134A	White-Moore Ra baz=27	26.78	307	⇑P			P	02 00 56.6	+0.9
832A	Faith Ranch, C baz=27	26.79	297	⇓P			P	02 00 56.4	+0.6
TUL1	Tulsa 38nm,1.0s	26.82	315	*e*P			P	02 00 56.5	+0.5
TUL1	Tulsa baz=27,SNR=11	26.82	315	⇓P			P	02 00 56.4	+0.4
433A	Art baz=27	26.84	302	⇓P			P	02 00 57.0	+0.7
SADO	Sadowa	26.89	350	P			P	02 00 56.1	-0.4
SADO	Sadowa 4.9nm,0.7s,baz=71,slow=2.2,SNR=3.5	26.89	350	P			P	02 00 56.1	-0.4
732A	Laxson Ranch, baz=27	26.91	298	⇓P			P	02 00 57.3	+0.4
333A	Richland Sprin baz=27	26.97	304	⇓P			P	02 00 58.2	+0.7
632A	Uvalde baz=27	26.99	299	⇑P			P	02 00 58.5	+0.9
Z34A	Collier Ranch, baz=27	27.01	309	⇓P			P	02 00 58.7	+0.9
Y34A	Reagan Ranch, baz=27	27.17	310	⇑P			P	02 00 59.8	+0.6
233A	Rising Star baz=27	27.18	305	⇑P			P	02 01 00.1	+0.8
532A	Rocksprings baz=27	27.29	301	⇑P			P	02 01 01.2	+0.8
JCT	Junction City 25nm,1.3s	27.32	301	*e*P			P	02 00 59.5	-1.2
JCT	Junction City baz=27	27.32	301	⇓P			P	02 01 00.1	-0.5
133A	Hamilton Ranch baz=27	27.43	306	⇓P			P	02 01 01.2	-0.4
432A	Menard baz=27	27.45	302	⇓P			P	02 01 01.9	+0.1
X34A	Smith Ranch, M baz=28	27.54	311	⇑P			P	02 01 02.6	+0.1
332A	Millersview baz=28	27.59	303	⇓P			P	02 01 03.5	+0.4
Z33A	Whitaker Ranch baz=28	27.61	308	⇓P			P	02 01 03.9	+0.8
531A	Rocksprings baz=28	27.82	300	⇑P			P	02 01 05.5	+0.3
Y33A	Hilltop Ranch, baz=28	27.83	309	⇓P			P	02 01 05.8	+0.7
V34A	Guthrie baz=28	27.95	314	⇓P			P	02 01 06.6	+0.4
ABTX	Abilene, Hawle 32nm,1.6s	28.00	306	*e*P			P	02 01 06.5	-0.2
ABTX	Abilene, Hawle baz=28	28.00	306	⇓P			P	02 01 07.3	+0.6
431A	Sonora baz=28	28.04	301	⇓P			P	02 01 07.5	+0.4
331A	San Angelo baz=28	28.11	303	⇑P			P	02 01 07.6	-0.1
Z32A	Haskell baz=28	28.16	307	⇓P			P	02 01 07.7	-0.4
231A	Bronte baz=28	28.25	304	⇑P			P	02 01 08.5	-0.4
U34A	Anderson Ranch baz=28	28.29	315	⇑P			P	02 01 09.3	+0.2
WMOK	Wichita Mounta 70nm,2.3s	28.29	310	*e*P			P	02 01 09.1	-0.1
Y32A	R-V Farms, Ver baz=28,SNR=6.4	28.43	309	⇓P			P	02 01 10.6	0.0
530A	J-C Ranch, Com baz=28	28.47	300	⇑P			P	02 01 11.0	+0.1
V33A	Lossen Ranch, baz=28	28.47	313	⇑P			P	02 01 11.2	+0.4
X32A	Elmer baz=28	28.51	309	⇓P			P	02 01 11.2	+0.1
Z31A	Sharp Cattle R baz=29	28.67	307	⇑P			P	02 01 13.1	+0.5
SAML	Samuel 6.5nm,1.3s	28.72	160	*e*P			P	02 01 12.9	-0.2
330A	Mertzon baz=29	28.75	302	⇓P			P	02 01 13.7	+0.4
W32A	Sentinel baz=29	28.81	311	⇓P			P	02 01 14.1	+0.2
130A	Snyder baz=29	29.01	305	⇓P			P	02 01 15.5	-0.2
Y31A	Rekieta Farm, baz=29	29.03	308	⇑P			P	02 01 15.7	-0.1
429A	Davenport Ranc baz=29	29.07	300	⇓P			P	02 01 15.8	-0.6
X31A	McDonald Ranch baz=29	29.11	309	⇓P			P	02 01 15.9	-0.7
529A	Stev Forest Ra baz=29	29.19	299	⇓P			P	02 01 17.0	-0.3
KSU1	Kansas State U 24nm,1.0s	29.24	320	*e*P			P	02 01 17.8	+0.2
KSU1	Kansas State U baz=29	29.24	320	⇓P			P	02 01 17.7	+0.1
Z30A	Sanderson Ranc baz=29	29.41	306	⇓P			P	02 01 19.8	+0.6
329A	Wagon Wheel Ra baz=29	29.42	302	⇓P			P	02 01

baz=30
V30A Spur Ranch, Mi 30.15 311 ⇑P P 02 01 26.5 +0.7
baz=30
R32A Long Quarter, 30.16 317 ⇑P P 02 01 26.8 +0.9
baz=30
TXAR Lajitas Array 30.19 297 P P 02 01 26.5 +0.2
TXAR Lajitas Array 30.19 297 P P 02 01 26.5 +0.2
0.4nm,0.5s,baz=116,slow=9.7,SNR=12
128A Castleberry Fa 30.21 304 ⇑P P 02 01 26.9 +0.5
baz=30
S31A Mullinville 30.23 315 ⇓P P 02 01 27.4 +0.9
baz=30
X29A Tulia 30.31 308 ⇓P P 02 01 27.6 +0.3
baz=30
527A Woodward Ranch 30.35 299 ⇑P P 02 01 28.6 +0.8
baz=30,SNR=5.2
427A Hayter Ranch, 30.38 300 ⇑P P 02 01 28.2 +0.3
baz=30
Z28A Tucker Farm, M 30.38 305 ⇑P P 02 01 28.4 +0.5
baz=30
NNA Nana 30.38 188 eP P 02 01 28.8 +0.9
Q32A Meitler Ranch, 30.39 318 ⇑P P 02 01 28.6 +0.7
baz=30
AMTX Amarillo 30.48 309 ⇓P P 02 01 29.3 +0.5
baz=30
U30A WK&E Inc. Balk 30.48 312 ⇑P P 02 01 29.2 +0.4
baz=30
Y28A McKinney Farm, 30.51 306 ⇑P P 02 01 29.3 +0.2
baz=30
R31A Burdett 30.62 316 ⇑P P 02 01 30.3 +0.4
baz=31
227A Bennet, Jal 30.65 302 ⇑P P 02 01 30.4 +0.2
baz=31
526A Mary Lane Ranc 30.73 298 ⇑P P 02 01 31.4 +0.3
baz=31,SNR=6.9
P32A Huiting Farm, 30.79 319 ⇓P P 02 01 32.1 +0.7
baz=31
426A McDonald Obser 30.84 299 ⇑P P 02 01 32.9 +0.7
baz=31
S30A Montezuma 30.91 314 ⇑P P 02 01 33.4 +0.9
baz=31
Q31A Ellis 30.93 317 ⇑P P 02 01 33.4 +0.8
baz=31
MSTX Muleshoe 30.93 306 eP P 02 01 34.5 +1.7
192nm,2.8s
MSTX Muleshoe 30.93 306 ⇓P P 02 01 33.5 +0.7
baz=31
Z27A Tatum 31.03 305 ⇑P P 02 01 33.6 -0.1
baz=31
R30A Dighton 31.12 315 ⇓P P 02 01 34.9 +0.6
baz=31
P31A Stockton 31.21 318 ⇓P P 02 01 35.3 +0.2
baz=31,SNR=6.1
S29A Ulysses 31.35 314 ⇑P P 02 01 36.8 +0.4
baz=31
126A Clayton Basin, 31.44 303 ⇓P P 02 01 37.5 +0.3
baz=31
X27A F and S Farms, 31.45 307 ⇑P P 02 01 37.9 +0.6
baz=31
Q30A Quinter 31.45 317 ⇓P P 02 01 37.4 +0.1
baz=31,SNR=7.1
O31A Woolen Ranch, 31.55 319 ⇓P P 02 01 38.1 +0.1
baz=32
GDL2 Guadalupe Moun 31.57 302 eP P 02 01 38.7 +0.2
1.8nm,0.4s
P30A Selden 31.78 317 ⇓P P 02 01 41.0 +0.9
baz=32,SNR=8.9
T28A Walsh 31.80 312 ⇑P P 02 01 40.9 +0.6
baz=32
325A Bean Ranch, Si 31.82 300 ⇓P P 02 01 40.7 0.0
baz=32,SNR=8.1
S28A Manter 31.87 313 ⇑P P 02 01 41.4 +0.4
baz=32
Q29A Oakley 31.91 316 ⇓P P 02 01 41.7 +0.5
baz=32,SNR=11
225A Deer Hill, Car 31.91 302 ⇑P P 02 01 42.0 +0.5
baz=32,SNR=11
125A Gardner Draw, 31.95 303 ⇓P P 02 01 41.4 -0.4
baz=32
X26A CR and CF Fran 31.95 307 ⇓P P 02 01 41.8 0.0
baz=32
U27A Thompson Grove 31.99 310 ⇓P P 02 01 41.8 -0.2
baz=32
O30A MW Ranch, Wils 32.02 319 ⇓P P 02 01 42.6 +0.4
baz=32
M31A Lambtecht Ranc 32.05 321 ⇓P P 02 01 43.2 +0.8
baz=32
W26A Owens Ranch, T 32.13 308 ⇓P P 02 01 44.1 +0.8
baz=32
R28A Tribune 32.18 314 ⇑P P 02 01 43.9 +0.1
baz=32,SNR=9.4
T27A Campo 32.20 312 ⇑P P 02 01 44.2 +0.3
baz=32
Z25A Roswell 32.20 304 ⇑P P 02 01 44.0 0.0
baz=32
MNTX Cornudas Mount 32.25 301 eP P 02 01 44.6 +0.3
33nm,1.6s
324A Moseley Ranch, 32.26 300 ⇑P P 02 01 44.7 +0.1
baz=32,SNR=15
ECSD EROS Data Cent 32.30 327 eP P 02 01 44.0 -0.6
138nm,3.0s
ECSD EROS Data Cent 32.30 327 ⇓P P 02 01 44.5 -0.1
baz=32
V26A Tequesquite Ra 32.42 309 ⇓P P 02 01 46.3 +0.3
baz=32
O29A 4D Ranch, Culb 32.46 318 ⇑P P 02 01 47.0 +0.9
baz=32
224A Cornudas Mount 32.47 301 ⇓P P 02 01 46.7 +0.3
baz=32,SNR=12
L31A Butterfield Fa 32.49 323 ⇑P P 02 01 47.3 +1.0
baz=32
Q28A Sharon Springs 32.56 315 ⇓P P 02 01 47.8 +0.8
baz=32
124A Stringfield Ra 32.60 302 ⇓P P 02 01 48.3 +0.7
baz=33,SNR=11
U26A Atchley Ranch, 32.64 310 ⇓P P 02 01 48.8 +0.9
baz=33
W25A X Bar L Ranch, 32.70 307 ⇓P P 02 01 49.4 +1.0
baz=33
Z24A Sheeppen Canyo 32.73 304 ⇓P P 02 01 49.1 +0.4
baz=33,SNR=9.2
N29A Votaw Ranch, W 32.74 319 ⇑P P 02 01 49.5 +0.9
baz=33
P28A Saint Francis 32.78 316 ⇓P P 02 01 49.6 +0.7
baz=33
R27A Eads 32.83 313 ⇑P P 02 01 49.9 +0.5
baz=33
L30A Spencer Herefo 32.86 322 ⇑P P 02 01 50.4 +0.8
baz=33
Y24A Capitan 32.98 305 ⇓P P 02 01 50.9 0.0
baz=33
V25A Rancho No Teng 33.06 308 ⇓P P 02 01 51.4 -0.2
baz=33,SNR=12
U25A Circle Dot Ran 33.13 309 ⇑P P 02 01 52.1 -0.1
baz=33
M29A Burnside Ranch 33.14 320 ⇑P P 02 01 52.6 +0.5
baz=33
N28A Pribbeno Ranch 33.24 318 ⇑P P 02 01 53.7 +0.7
baz=33
K30A Basset 33.24 323 ⇓P P 02 01 53.8 +0.9
baz=33
R26A Arlington 33.29 313 ⇓P P 02 01 54.6 +1.2
baz=33
Z23A Rita Site, Whi 33.40 303 ⇓P P 02 01 55.0 +0.6
baz=33
W24A Lazy 6 Ranch, 33.42 307 ⇑P P 02 01 55.6 +0.9
baz=33
T25A Trinidad 33.45 311 ⇓P P 02 01 55.9 +1.0
baz=33
J30A Dallas 33.59 324 ⇑P P 02 01 57.3 +1.4
baz=34
Q26A Hugo 33.63 314 ⇓P P 02 01 57.2 +0.8
baz=34
S25A Robets Cordova 33.69 311 ⇑P P 02 01 58.1 +1.0
baz=34
OGNE Ogallala 33.70 318 ⇓P P 02 01 58.0 +1.1
baz=34
222A Williams Famil 33.76 301 ⇓P P 02 01 58.7 +1.0
baz=34
U24A Moreno Valley 33.78 309 ⇑P P 02 01 58.9 +1.0
baz=34
R25A Fountain Ranch 33.80 312 ⇑P P 02 01 58.9 +1.0
baz=34
BNM Barren Site 33.99 304 eP P 02 02 00.6 +0.8
38nm,1.6s
LPM Los Pinos Moun 34.05 305 eP P 02 02 01.1 +0.9
J29A Okreek 34.11 323 ⇓P P 02 02 00.7 +0.2
baz=34
T24B San Luis 34.12 310 ⇑P P 02 02 02.1 +1.2
baz=34
ANMO Albuquerque 34.12 306 eP P 02 02 01.9 +1.0
39nm,1.9s
ANMO Albuquerque 34.12 306 P P 02 02 02.2 +1.3
1.7nm,0.7s,baz=130,slow=7.3,SNR=6.4
Q25A Bedland, Calha 34.13 314 ⇓P P 02 02 02.1 +1.3
baz=34
V23A Ortiz Mt. (NFS 34.20 307 ⇓P P 02 02 01.9 +0.4
baz=34
S24A Houchin Ranch, 34.24 311 ⇑P P 02 02 02.4 +0.5
baz=34
M27A Reverse DX Ran 34.24 319 ⇓P P 02 02 02.6 +0.9
baz=34
LENM Lemitar 34.27 304 eP P 02 02 03.6 +1.5
N26A Koester Ranch, 34.39 317 ⇓P P 02 02 03.9 +0.9
baz=34
R24A Sanders Place, 34.42 312 ⇓P P 02 02 04.0 +0.6
baz=34
U23A El Rito 34.43 308 ⇑P P 02 02 04.1 +0.6
baz=34
121A Cookes Peak, D 34.44 301 eP P 02 02 04.2 +0.7
26nm,1.4s
121A Cookes Peak, D 34.44 301 ⇑P P 02 02 03.6 +0.1
baz=34
LAZ Ladron 34.47 305 eP P 02 02 05.3 +1.4
13nm,1.4s
I29A Vivian Onida 34.48 324 ⇑P P 02 02 04.3 +0.6
baz=34
SDCO Great Sand Dun 34.49 311 eP P 02 02 04.0 -0.1
11nm,1.1s
ARE Arequipa 34.59 178 eP P 02 02 05.0 -0.1
J28A Allard Ranch, 34.64 322 ⇓P P 02 02 05.6 +0.6
baz=35
LPAZ La Paz 34.70 172 eP P 02 02 06.5 +0.1
22nm,1.1s
LPAZ La Laz 34.70 172 P P 02 02 05.2 -1.1
4.2nm,1.0s,baz=19,slow=8.0,SNR=9.7
Q24A Divide 34.77 313 ⇑P P 02 02 07.0 +0.4
baz=35
K27A Flueckinger Fa 34.81 321 ⇓P P 02 02 06.5 0.0
baz=35
R23A Moffat 34.91 311 ⇑P P 02 02 08.0 +0.3
baz=35,SNR=6.7
I28A Midland 34.96 323 ⇓P P 02 02 07.7 0.0
baz=35
AGMN Agassiz Nation 35.29 333 eP P 02 02 12.9 +2.5
148nm,2.3s
AGMN Agassiz Nation 35.29 333 ⇑P P 02 02 11.6 +1.1
baz=35
K26A Motz Farm, Whi 35.38 320 ⇑P P 02 02 12.4 +0.9
baz=35
319A Douglas 35.38 299 ⇑P P 02 02 12.6 +0.9
baz=35
P23A Jefferson 35.44 313 ⇓P P 02 02 12.7 +0.3
baz=35
S22A 4UR Ranch, Cre 35.45 310 ⇑P P 02 02 13.0 +0.6
baz=35
ISCO Idaho Springs 35.48 314 eP P 02 02 13.8 +1.1
17nm,1.6s
ISCO Idaho Springs 35.48 314 ⇑P P 02 02 13.1 +0.5
baz=36
G28A Parade 35.49 325 ⇓P P 02 02 12.7 +0.4
baz=36
I27A Quinn 35.50 323 ⇑P P 02 02 12.3 -0.2
baz=36
J26A Sides Ranch, S 35.66 321 ⇑P P 02 02 14.5 +0.6
baz=36
M24A Cheyenne 35.76 317 ⇑P P 02 02 15.5 +0.6
baz=36
H27A Howes 35.86 323 ⇓P P 02 02 15.8 +0.3
baz=36
O23A Lake Granby, G 35.87 314 ⇓P P 02 02 16.3 +0.3
baz=36
SIV San Ignacio 36.01 161 P P 02 02 16.4 -0.6
SIV San Ignacio 36.01 161 P P 02 02 16.4 -0.6
3.1nm,1.0s,baz=1.5,slow=10,SNR=4.7
C30A Mose, Pekin 36.03 330 ⇓P P 02 02 17.5 +0.7
baz=36
PHWY Pilot Hill 36.09 316 eP P 02 02 23.2 +5.4
25nm,1.7s
J25A Sunshine Ranch 36.14 320 ⇓P P 02 02 18.7 +0.7
baz=36
P22A Eagle 36.17 313 ⇑P P 02 02 18.6 +0.1
baz=36
N23A Red Feather La 36.21 315 ⇓P P 02 02 19.3 +0.5
baz=36
G27A Dupree 36.24 325 ⇑P P 02 02 19.2 +0.5
baz=36
H26A Fairpoint 36.25 323 ⇓P P 02 02 19.0 +0.2
baz=36
O22A Kremmling 36.28 314 ⇓P P 02 02 19.5 0.0
baz=36
MVCO Mesa Verde 36.47 308 eP P 02 02 24.0 +2.9
30nm,1.8s
MVCO Mesa Verde 36.47 308 ⇑P P 02 02 21.3 +0.2
baz=36
B30A Myrvik Farm, E 36.50 331 ⇓P P 02 02 21.5 +0.7
baz=36
N22A Wattenberg Ran 36.51 315 ⇑P P 02 02 22.0 +0.6
baz=36
F27A Lemmon 36.60 325 ⇓P P 02 02 22.5 +0.7
baz=37
J24A Dixon Ranch, L 36.63 320 ⇑P P 02 02 22.3 0.0
baz=37
L23A Garrett 36.65 317 ⇑P P 02 02 22.6 +0.1
baz=37,SNR=7.0
MDND Maddock 36.67 329 ⇓P P 02 02 23.3 +1.0
baz=37
SCHO Scheefferville 36.73 6 P P 02 02 22.4 -0.3
SCHO Scheefferville 36.73 6 P P 02 02 22.4 -0.3
5.8nm,0.9s,baz=107,slow=4.5,SNR=4.3
ULM Lac du Bonnet 36.80 335 eP P 02 02 22.4 -1.0
17nm,1.2s
ULM Lac du Bonnet 36.80 335 P P 02 02 22.7 -0.7
8.2nm,0.9s,baz=144,slow=8.0,SNR=7.1
A30A Hoffart Farm, 36.84 332 ⇑P P 02 02 24.2 +0.4
baz=37,SNR=8.7
TUC Tucson 36.84 300 eP P 02 02 27.7 +3.5
37nm,2.0s
PV01 Paradox Valley 36.87 310 eP P 02 02 25.1 +0.7
1um,1.4s
F26A Lodgepole 36.94 325 ⇑P P 02 02 24.5 -0.2
baz=37
G25A Newell 36.96 323 ⇑P P 02 02 24.9 0.0
baz=37
E26A Carlson Angus 37.21 326 ⇓P P 02 02 27.0 0.0
baz=37
A29A Manning Farm, 37.25 331 ⇓P P 02 02 27.2 -0.1
baz=37
H24A Dirks Ranch, A 37.35 322 ⇓P P 02 02 27.9 -0.4
baz=37
F25A Bowman 37.42 324 ⇓P P 02 02 29.0 +0.2
baz=37
O20A White River Ci 37.44 313 eP P 02 02 30.1 +0.9
52nm,1.8s
K22A Casper 37.45 318 eP P 02 02 30.3 +1.0
236nm,2.8s
K22A Casper 37.45 318 ⇑P P 02 02 29.0 -0.3
baz=37
B28A Dugan Ranch, T 37.45 330 ⇓P P 02 02 28.9 -0.1
baz=38
J22A Midwest 37.80 319 ⇓P P 02 02 32.3 0.0
baz=38
C26A Wahner Farm, P 37.89 328 ⇑P P 02 02 32.8 0.0
baz=38
K21A Alcova 37.91 317 ⇑P P 02 02 33.5 +0.3
baz=38,SNR=9.0
I22A 9 Mile Ranch, 38.05 319 ⇓P P 02 02 33.9 -0.4
baz=38
WUAZ Wupatki 38.12 305 eP P 02 02 34.9 -0.1
25nm,1.5s
J21A Lysite 38.38 318 ⇑P P 02 02 37.1 -0.1
baz=38,SNR=11
F23A Volborg 38.40 323 ⇑P P 02 02 37.2 +0.1
baz=38
I21A Big Trails, Te 38.52 319 ⇓P P 02 02 38.0 -0.2
baz=38,SNR=12
A26A Wade Farm, Ken 38.57 329 ⇓P P 02 02 38.9 +0.4
baz=39
D24A Glendive 38.62 325 ⇓P P 02 02 39.3 +0.4
baz=39
J20A Shoshoni 38.79 318 ⇓P P 02 02 40.8 +0.2
baz=39
F22A Rosebud 38.93 322 ⇓P P 02 02 41.3 -0.3
baz=39,SNR=9.7
Y14A Wickenburg 39.02 302 ⇑P P 02 02 43.1 +0.6
baz=39
U15A North Rim 39.10 306 ⇓P P 02 02 44.0 +0.7
baz=39
I20A Worland 39.11 319 ⇓P P 02 02 42.9 -0.2
baz=39
E22A Miles City 39.12 323 ⇑P P 02 02 43.1 0.0
baz=39
G21A Lodge Grass 39.19 321 ⇓P P 02 02 43.7 -0.1
baz=39
J19A Crowheart 39.37 317 ⇑P P 02 02 45.4 -0.1
baz=39,SNR=7.9
DGMT Dagmar 39.38 327 ⇑P P 02 02 45.9 +0.6
baz=39
BW06 Boulder Array 39.47 316 eP P 02 02 46.1 -0.2
9.3nm,1.1s
PDAR Pinedale Array 39.47 316 P P 02 02 46.0 -0.4
PDAR Pinedale Array 39.47 316 P P 02 02 46.0 -0.4
1.6nm,0.6s,baz=118,slow=10,SNR=12
C23A Lambert 39.50 325 ⇓P P 02 02 46.7 +0.4
baz=40
A24A Westby 39.57 328 ⇓P P 02 02 47.8 +1.0
baz=40
D22A Cohagen 39.66 324 ⇓P P 02 02 48.0 +0.4
baz=40
I19A Meeteetse 39.70 318 ⇓P P 02 02 48.3 +0.2
baz=40,SNR=9.0
MPU Maple Canyon 39.78 311 eP P 02 02 50.4 +1.5
7.3nm,0.9s
B23A Brockton 39.79 326 ⇓P P 02 02 49.4 +0.7
baz=40
G20A Bridger 39.80 320 ⇓P P 02 02 48.5 -0.4
baz=40
C22A Vida 39.84 325 ⇑P P 02 02 49.5 +0.4
baz=40
H19A Powell 40.00 319 ⇓P P 02 02 51.1 +0.5
baz=40
W13A Hualapai Mount 40.00 303 ⇓P P 02 02 51.1 +0.3
baz=40
D21A La Casta Ranch 40.07 323 ⇓P P 02 02 52.3 +1.2
baz=40
NLU North Lily Min 40.07 311 eP P 02 02 52.7 +1.3
CCUT Cedar City 40.24 307 eP P 02 02 52.9 +0.1
6.2nm,1.1s
GLA Glamis 40.33 300 eP P 02 02 57.8 +4.4
GLA Glamis 40.33 300 ⇓P P 02 02 53.9 +0.5
baz=40
ARUT Antelope Range 40.37 307 eP P 02 02 53.9 0.0
133nm,0.9s
E20A Meyer Farm, Mu 40.42 322 ⇑P P 02 02 54.2 +0.3
baz=40
H18A Shoshone NF, C 40.42 319 ⇓P P 02 02 53.5 -0.8
baz=40,SNR=10
LOHW Long Hollow 40.53 317 eP P 02 02 55.4 +0.2
15nm,0.9s
F19A Roth Farm, Mol 40.56 321 ⇓P P 02 02 54.8 -0.4
baz=40
REDW Red Top Meadow 40.59 316 eP P 02 02 55.1 -0.5
30nm,1.1s
A22A Carney Farms, 40.60 326 ⇓P P 02 02 56.1 +0.7
baz=41
I17A Pilgrim Ck. 40.65 317 ⇑P P 02 02 57.4 +1.2
baz=41
MOOW Moose Ponds 40.69 317 eP P 02 02 56.5 +0.1
10nm,0.8s
DUG Dugway 40.69 311 eP P 02 02 56.8 +0.4
14nm,1.4s
DUG Dugway 40.69 311 ⇑P P 02 02 57.0 +0.7
baz=41
TPAW Teton Pass 40.71 316 eP P 02 02 57.3 +0.6
180nm,2.8s
D20A Manuel Ranch, 40.73 323 ⇓P P 02 02 57.6 +1.0
baz=41
E19A Rath Farm, Rou 40.78 322 ⇓P P 02 02 57.5 +0.5
baz=41
FLWY Flagg Ranch 40.81 317 eP P 02 03 02.8 +5.4
24nm,1.4s
IRM Iron Mountain 40.81 301 ⇓P P 02 02 57.5 +0.2
baz=41
FXWY Fox Creek 40.82 317 eP P 02 02 57.6 +0.1
49nm,1.9s
H17A Grant Village 40.87 318 eP P 02 02 59.5 +1.6
138nm,3.0s
IMW Indian Meadow 40.88 317 eP P 02 02 58.8 +0.8
64nm,2.2s
GCMT Greycliff 40.97 320 eP P 02 02 55.7 -2.9
6.9nm,0.9s
C20A Veseth Ranch, 41.00 324 ⇑P P 02 02 59.8 +1.1
baz=41
BGU Big Grassy Mou 41.10 312 eP P 02 03 00.9 +1.1
12nm,1.5s
A21A Bergtoll Ranch 41.14 326 ⇑P P 02 03 00.8 +1.0
baz=41
D19A Cripps Ranch, 41.20 322 ⇑P P 02 03 01.1 +0.6
baz=41
HVU Hansel Valley 41.24 313 eP P 02 03 00.4 -0.5
18nm,1.4s
DVTC Desert V Tower 41.31 299 ⇓P P 02 03 02.2 +0.6
baz=41
SHPR Sheep Range 41.35 305 eP P 02 03 03.6 +1.7
21nm,1.6s
B20A Solberg Farm, 41.41 325 ⇑P P 02 03 03.5 +1.3
baz=41
BELC Belle Mtn. Jos 41.47 301 ⇑P P 02 03 03.7 +0.8
baz=41
A20A Cobblestone Ra 41.61 325 ⇑P P 02 03 04.7 +1.0
baz=42
QLMT Earthquake Lak 41.61 318 eP P 02 03 05.1 +1.1
BDFB Brasilia 41.66 143 P P 02 03 04.1 -0.4
BDFB Brasilia 41.66 143 P P 02 03 04.1 -0.4
42nm,1.0s,baz=320,slow=10,SNR=32
PFO Pinyon Flat Ob 41.77 300 ⇑P P 02 03 05.7 +0.3
baz=42
B19A Brinkman Farms 41.93 324 ⇑P P 02 03 07.5 +1.1
baz=42
A19A Klindworth Far 42.08 325 ⇑P P 02 03 08.3 +0.7
baz=42
R11A Troy Canyon, C 42.16 307 eP P 02 03 09.3 +0.8
R11A Troy Canyon, C 42.16 307 ⇑P P 02 03 09.3 +0.8
baz=42
EGMT Eagleton 42.16 323 eP P 02 03 09.2 +0.9
108nm,2.4s
EGMT Eagleton 42.16 323 ⇓P P 02 03 08.8 +0.5
baz=42
TPNV Topopah Spring 42.30 305 eP P 02 03 11.4 +1.7
29nm,1.7s
TPNV Topopah Spring 42.30 305 ⇓P P 02 03 10.7 +1.0
baz=42
GSC Goldstone 42.38 303 eP P 02 03 10.7 +0.5
MCMT McKenzie Canyo 42.52 317 eP P 02 03 12.4 +1.0
6.7nm,1.2s
DLMT Dillon 42.59 318 eP P 02 03 13.2 +1.3
16nm,1.2s
ELK Elko 42.62 311 eP P 02 03 16.2 +3.9
16nm,1.6s
FFC Flin Flon 42.63 335 eP P 02 03 11.5 -0.4
9.6nm,1.1s
HLID Hailey 43.03 315 eP P 02 03 16.0 +0.4
47nm,2.3s
HLID Hailey 43.03 315 ⇑P P 02 03 15.4 -0.2
baz=43,SNR=7.5
FCC Fort Churchill 43.28 344 eP P 02 03 16.5 -0.5
4.2nm,2.5s
TPH Tonopah 43.33 306 eP P 02 03 19.9 +1.9
9.7nm,1.1s
MFID Camas Ranch 43.94 314 eP P 02 03 23.3 +0.5
24nm,1.7s
SLMT Seeley Lake 43.98 320 eP P 02 03 23.7 +0.5
9.7nm,1.2s
MSO Missoula 44.07 320 ⇑P P 02 03 23.3 -0.5
baz=44
NVAR Mina Array Bea 44.24 307 P P 02 03 25.7 +0.2
NVAR Mina Array Bea 44.24 307 P P 02 03 25.7 +0.2
0.4nm,0.3s,baz=83,slow=6.8,SNR=8.4
SWMT Swartz Lake 44.41 320 eP P 02 03 26.7 +0.2
7.6nm,1.3s
JTMT Jette 44.69 321 eP P 02 03 29.3 +0.5
10nm,1.3s
FRB Frobisher Bay 45.48 3 P P 02 03 35.0 +0.4
FRB Frobisher Bay 45.48 3 P P 02 03 35.0 +0.4
8.6nm,1.0s,baz=158,slow=6.9,SNR=8.1
WVOR Wild Horse Val 45.56 312 eP P 02 03 36.1 +0.3
20nm,1.3s
J08A Circle Bar Ran 45.73 313 eP P 02 03 37.9 +0.8
57nm,1.8s
F10A Beach Ranch, E 45.80 317 eP P 02 03 37.8 +0.2
149nm,2.6s
E09A Wood Farm, Sta 46.59 317 eP P 02 03 48.5 +4.8
31nm,1.8s
NEW Newport 46.63 320 eP P 02 03 44.6 +0.6

126nm,2.8s
NEW Newport 46.63 320 P **P** 02 03 44.5 +0.4
5.4nm,0.9s,baz=116,slow=7.5,SNR=5.8
EDM Edmonton 46.86 328 *eP* **P** 02 03 46.0 +0.2
CPUP Villa Florida 46.87 161 *eP* **P** 02 03 45.2 -0.8
2.2nm,1.3s
LCO Las Campanas 47.10 177 *eP* **P** 02 03 48.8 +0.8
49nm,1.3s
YBH Yreka Blue Hor 48.30 310 P **P** 02 03 56.2 -1.0
YBH Yreka Blue Hor 48.30 310 P **P** 02 03 56.2 -1.0
3.0nm,0.8s,baz=70,slow=8.4,SNR=3.9
LTY Liberty 48.48 318 *eP* P 02 04 03.0 +4.6
86nm,2.3s
H04A Detroit Lake 48.68 314 *eP* **P** 02 04 00.8 +0.8
85nm,1.7s
KEBM Edson Butte 49.73 311 *eP* P 02 04 14.3 +6.2
239nm,1.5s
CFAA Coronel Fontan 49.84 175 P **P** 02 04 07.2 -1.7
CFAA Coronel Fontan 49.84 175 P **P** 02 04 07.2 -1.7
0.5nm,0.7s,baz=335,slow=8.7,SNR=5.4
YKA Yellowknife Ar 52.73 337 P **P** 02 04 29.8 -0.3
YKA Yellowknife Ar 52.73 337 P **P** 02 04 29.8 -0.3
3.6nm,0.8s,baz=125,slow=7.4,SNR=39
DLBC Dease Lake 57.57 328 P **P** 02 05 05.5 +0.2
DLBC Dease Lake 57.57 328 P **P** 02 05 05.5 +0.2
6.7nm,0.6s,baz=76,slow=4.3,SNR=14
RES Resolute Bay 57.64 353 P **P** 02 05 05.5 0.0
RES Resolute Bay 57.64 353 P **P** 02 05 05.5 0.0
5.4nm,0.9s,baz=180,slow=12,SNR=8.6
SUMG Summit 57.71 12 *i* P **P** 02 05 06.9 +0.4
12nm,1.0s
SUMG Summit 57.71 12 *eP* **P** 02 05 06.8 +0.3
342nm,2.9s
PLCA Paso Flores 58.79 178 P **P** 02 05 11.9 -2.1
PLCA Paso Flores 58.79 178 P **P** 02 05 11.9 -2.1
3.2nm,0.8s,baz=349,slow=12,SNR=5.6
MDT Midelt 62.25 62 P **P** 02 05 36.3 -1.8
MDT Midelt 62.25 62 P **P** 02 05 36.3 -1.8
13nm,0.8s,baz=239,slow=8.5,SNR=6.3
ESDC Sonseca Array 62.40 54 P **P** 02 05 39.2 +0.3
ESDC Sonseca Array 62.40 54 P **P** 02 05 39.2 +0.3
6.6nm,1.0s,baz=274,slow=6.2,SNR=7.0
INK Inuvik 62.43 339 *eP* P 02 05 42.2 +3.9
21nm,1.5s
INK Inuvik 62.43 339 P **P** 02 05 39.7 +1.3
6.3nm,1.2s,baz=145,slow=8.7,SNR=4.6
DAWY Dawson 63.47 333 *eP* **P** 02 05 46.0 +0.5
SJPF Ste Jean 64.37 50 *eP* **P** 02 05 53.2 +1.4
97nm,1.3s
SJPF Ste Jean 64.37 50 *eP* **P** 02 05 53.2 +1.4
97nm,1.3s
FLN La Foliniere 64.84 44 *eP* **P** 02 05 56.3 +1.6
240nm,1.6s
FLN La Foliniere 64.84 44 *eP* **P** 02 05 56.3 +1.6
240nm,1.6s
ETSF Etsaut 64.87 51 *eP* **P** 02 05 56.2 +1.1
ETSF Etsaut 64.87 51 *eP* **P** 02 05 56.2 +1.1
MFF Saint Martin d 65.07 47 *eP* **P** 02 05 58.0 +1.7
MFF Saint Martin d 65.07 47 *eP* **P** 02 05 58.0 +1.7
LDF La Druitiere 65.08 44 *eP* **P** 02 05 58.5 +2.2
LDF La Druitiere 65.08 44 *eP* **P** 02 05 58.5 +2.2
DOT Dot Lake 65.42 332 *eP* **P** 02 05 59.2 +0.9
14nm,1.0s
EPF Esparros 65.52 50 *eP* **P** 02 06 01.6 +2.3
50nm,1.2s
EPF Esparros 65.52 50 *eP* **P** 02 06 01.6 +2.3
50nm,1.3s
LFF La Frestale 65.73 48 *eP* **P** 02 06 01.9 +1.3
172nm,1.4s
LFF La Frestale 65.73 48 *eP* **P** 02 06 01.9 +1.3
172nm,1.4s
RJF Les Rejaudoux 66.27 48 *eP* **P** 02 06 04.3 +0.3
RJF Les Rejaudoux 66.27 48 *eP* **P** 02 06 04.3 +0.3
CAF Calviac 66.67 48 *eP* **P** 02 06 07.3 +0.6
58nm,1.4s
CAF Calviac 66.67 48 *eP* **P** 02 06 07.3 +0.6
58nm,1.4s
TCF Toulx Ste Croi 66.71 47 *eP* **P** 02 06 08.3 +1.4
117nm,1.6s
TCF Toulx Ste Croi 66.71 47 *eP* **P** 02 06 08.3 +1.4
117nm,1.6s
ILAR Eielson Array 66.79 333 P **P** 02 06 06.2 -0.8
ILAR Eielson Array 66.79 333 P **P** 02 06 06.2 -0.8
1.5nm,0.7s,baz=102,slow=4.5,SNR=16
TIC Toumodi 66.88 91 *eP* P 02 06 12.0 +3.5
9.4nm,0.7s
LIC Lamto 67.00 91 *eP* **P** 02 06 08.7 -0.5
15nm,0.9s
LIC Lamto 67.00 91 *eP* **P** 02 06 07.9 -1.3
64nm,1.7s
LIC Lamto 67.00 91 *eP* **P** 02 06 08.7 -0.5
15nm,0.9s
DBIC Dimbokro 67.03 90 P **P** 02 06 08.1 -1.3
DBIC Dimbokro 67.03 90 P **P** 02 06 08.1 -1.3
3.9nm,0.7s,baz=270,slow=8.2,SNR=5.1
BGF Bois d'Agland 67.14 47 *eP* **P** 02 06 10.2 +0.6
44nm,1.1s
BGF Bois d'Agland 67.14 47 *eP* **P** 02 06 10.2 +0.6
44nm,1.1s
KIC Kosan Boka 67.23 91 *eP* **P** 02 06 09.9 -0.8
30nm,1.1s
SSF Saint Saulge 67.56 46 *eP* **P** 02 06 12.8 +0.6
SSF Saint Saulge 67.56 46 *eP* **P** 02 06 12.8 +0.6
MCK McKinley 67.59 332 *eP* **P** 02 06 12.5 +0.4
16nm,1.1s
LOR Lormes 67.79 46 *eP* **P** 02 06 14.3 +0.6
23nm,1.1s
LOR Lormes 67.79 46 *eP* **P** 02 06 14.3 +0.6
23nm,1.0s
RC01 Rabbit Creek A 67.82 329 *eP* P 02 06 19.0 +5.4
189nm,2.2s
TRF Thorofare Moun 68.18 332 *eP* **P** 02 06 15.4 -0.6
43nm,1.6s
COLD Coldfoot 68.37 336 *eP* **P** 02 06 17.3 +0.3
13nm,1.1s
KTH Kantishna Hill 68.47 332 *eP* **P** 02 06 20.8 +3.1
SFTF Sexfontaines 68.53 45 *eP* **P** 02 06 18.9 +0.6
SFTF Sexfontaines 68.53 45 *eP* **P** 02 06 18.9 +0.6
PAGF Fort de Pagny 68.96 44 *eP* **P** 02 06 21.9 +0.9
10nm,1.1s
PAGF Fort de Pagny 68.96 44 *eP* **P** 02 06 21.9 +0.9
10nm,1.1s
IM04 Indian Mountai 69.75 334 *eP* **P** 02 06 25.5 -0.1
LPL La Plagne 69.91 47 *eP* **P** 02 06 28.1 +0.9
8.2nm,0.7s
LPL La Plagne 69.91 47 *eP* **P** 02 06 28.1 +0.9
8.2nm,0.7s
LPG La Plagne 69.93 47 *eP* **P** 02 06 28.2 +0.8
26nm,1.1s
LPG La Plagne 69.93 47 *eP* **P** 02 06 28.2 +0.8
26nm,1.1s
NAO01 NORSAR Array S 71.12 31 *eP* **P** 02 06 35.0 +0.9
12nm,1.0s
NB2 NORSAR Subarra 71.27 31 P **P** 02 06 36.6 +1.6
comp=Z,15nm,1.4s,baz=276,slow=6.2
NOA NORSAR Array B 71.27 31 P **P** 02 06 35.4 +0.4
NOA NORSAR Array B 71.27 31 P **P** 02 06 35.4 +0.4
comp=Z,3.3nm,1.0s,baz=275,slow=6.2,SNR=3.6
TOA0 Torodi Ar. Sit 71.47 82 *eP* **P** 02 06 36.4 -0.6
TORD Torodi Ar. Bea 71.47 82 P **P** 02 06 36.5 -0.5
TORD Torodi Ar. Bea 71.47 82 P **P** 02 06 36.5 -0.5
comp=Z,5.5nm,1.0s,baz=286,slow=4.8,SNR=18
DAVOX Davos/Dischmat 71.94 46 P **P** 02 06 40.5 +1.0
DAVOX Davos/Dischmat 71.94 46 P **P** 02 06 40.5 +1.0
comp=Z,2.9nm,0.8s,baz=0.4,slow=23,SNR=3.4
TAM Tamanrasset 72.69 71 *eP* **P** 02 06 45.0 +0.7
comp=Z,13nm,1.5s
KEST Kesra 73.31 57 *eP* **P** 02 06 48.8 +1.1
KEST Kesra 73.31 57 P **P** 02 06 48.6 +0.9
comp=Z,3.4nm,1.0s,baz=299,slow=21,SNR=7.6
KHC Kasperske Hory 74.04 43 *eP* **P** 02 06 51.6 -0.1
KHC Kasperske Hory 74.04 43 *eP* **P** 02 06 51.6 -0.1
comp=Z,11nm,1.3s
GERES GERESS Array B 74.17 43 P **P** 02 06 52.8 +0.2
GERES GERESS Array B 74.17 43 P **P** 02 06 52.8 +0.2
comp=Z,1.5nm,0.8s,baz=273,slow=4.3,SNR=12
PVCC Panska Ves 74.44 41 *eP* **P** 02 06 53.9 0.0
PRU Pruhonice 74.51 42 *eP* P 02 06 57.8 +3.4
TREC Trest 75.25 43 *eP* **P** 02 07 01.3 +2.6
DPC Dobruska-Polom 75.57 41 *eP* **P** 02 07 02.1 +1.6
TNA Tin City 75.58 335 *eP* **P** 02 06 58.3 -1.9
comp=Z,4.3nm,0.9s
ARCES ARCESS Array B 75.86 21 P **P** 02 07 00.8 -1.0
ARCES ARCESS Array B 75.86 21 P **P** 02 07 00.8 -1.0
comp=Z,2.4nm,0.5s,baz=32,slow=10.0,SNR=17
KRLC Kraliky 75.92 42 *eP* **P** 02 07 04.9 +2.4

MORC Moravsky Berou 76.46 42 *eP* **P** 02 07 07.2 +1.6
comp=Z,16nm,1.4s
GAMB Gambell 77.60 333 *eP* **P** 02 07 12.6 +1.0
comp=Z,14nm,1.4s
FINES FINESS Array B 78.26 29 P **P** 02 07 16.0 +0.6
FINES FINESS Array B 78.26 29 P **P** 02 07 16.0 +0.6
comp=Z,2.3nm,0.6s,baz=270,slow=3.4,SNR=12
PSZ Piszkesteto 78.40 43 *eP* **P** 02 07 18.5 +1.9
comp=Z,22nm,1.5s
KWP Kalwaria Pacla 79.75 41 *eP* **P** 02 07 26.2 +2.4
comp=Z,14nm,1.1s
BUR08 Bucovina Ar. S 81.91 43 *eP* **P** 02 07 37.0 +1.4
MLR Muntele Rosu 83.08 44 P **P** 02 07 42.2 +0.4
MLR Muntele Rosu 83.08 44 P **P** 02 07 42.2 +0.4
comp=Z,4.7nm,1.0s,baz=19,slow=4.4
PMSA Palmer Station 83.11 176 *eP* **P** 02 07 41.9 +0.9
comp=Z,126nm,1.4s
AKASG Malin Array Be 83.38 39 P **P** 02 07 43.5 +0.5
AKASG Malin Array Be 83.38 39 P **P** 02 07 43.5 +0.5
comp=Z,0.7nm,0.5s,baz=286,slow=4.7,SNR=5.4
IDI Anoyia 85.67 54 P **P** 02 07 55.3 +0.3
IDI Anoyia 85.67 54 P **P** 02 07 55.3 +0.3
comp=Z,9.6nm,0.9s,baz=281,slow=10,SNR=5.2
OBN Obninsk 85.72 33 *eP* **P** 02 07 54.7 0.0
comp=Z,10.0nm,0.6s
OBN Obninsk 85.72 33 P **P** 02 07 55.4 +0.7
comp=Z,3.4nm,0.4s,baz=196,slow=23,SNR=3.5
BR131 Keskin Array S 90.49 48 *eP* **P** 02 08 18.7 +0.6
comp=Z,3.8nm,0.9s
BRTR Keskin Array B 90.49 48 P **P** 02 08 18.1 0.0
BRTR Keskin Array B 90.49 48 P **P** 02 08 18.1 0.0
comp=Z,4.3nm,1.0s,baz=277,slow=3.4,SNR=18
ARU Arti 95.10 25 *eP* **P** 02 08 39.2 +0.4
BRVK Borovoye 102.08 22 *e*Pdif **Pdif** 02 09 11.3 +1.1
TKM2 Tokmak 2 112.48 25 *e*PKP **PKiKP** 02 13 54.9 +2.3
KSH Kashi 115.49 26 *e*PKP **PKPdf** 02 14 00.2 +1.9
KSH *e*PP PP 02 15 07.7 +8.9
KSH *e*SKS **SKSdf** 02 21 07.2 -4.4
KSH *e*SKKS **SKKSac** 02 21 56.2 -6.3
KSH *e*SS **SS** 02 31 01.3 +3.4
KSH AMB AMB
comp=Z,100nm,4.7s
KSH LR LR
comp=Z,43nm,6.4s
KSH LR LR
comp=Z,76nm,5.1s
WMQ Urumqi 115.63 16 PKP **PKPdf** 02 13 58.6 +0.2
WMQ PP PP 02 15 06.0 +6.6
WMQ AMB AMB
comp=Z,11nm,10.7s
WMQ LR LR
comp=Z,110nm,25.0s
WMQ LR LR
comp=Z,100nm,23.3s
WMQ LR LR
comp=Z,100nm,19.7s
HHC Hu-ho-hao-te 120.99 356 *e*PKP **PKPdf** 02 14 09.2 +0.3
HHC PP PP 02 15 42.8 +6.3
HHC SKS **SKSdf** 02 21 20.3 -1.7
HHC SKKS **SKKSac** 02 22 34.2 -4.5
HHC SS **SS** 02 32 14.8 +6.4
HHC LR LR
comp=Z,800nm,20.6s
BJI Beijing 121.34 352 PKP **PKPdf** 02 14 08.5 -0.9
BJI LR LR
comp=Z,1μm,20.0s
BJI LR LR
comp=Z,790nm,17.5s
BJI LR LR
comp=Z,950nm,27.7s
LZH Lanzhou 125.79 3 *e*PKP **PKPdf** 02 14 17.3 -1.0
LZH sPKP 02 14 21.8
LZH PP **PP** 02 16 12.2 +3.2
LZH SKKS 02 23 01.5
LZH *e*SS **SS** 02 33 06.5 -2.9
LZH AMB AMB
comp=Z,97nm,8.9s
LZH LR LR
comp=Z,150nm,18.2s
LZH LR LR
comp=Z,140nm,18.1s
LZH LR LR
comp=Z,190nm,20.3s
NJ2 Nanjing 128.68 347 *e*PKP **PKPdf** 02 14 23.3 -0.4
GYA Guiyang 135.48 1 *e*Pdif **Pdif** 02 11 37.8 -1.7
GYA PKP **PKPdf** 02 14 36.4 -0.4
GYA PP **PP** 02 17 15.0 +3.2
GYA PKS **PKSdf** 02 18 11.4 -2.0
GYA SKKS 02 24 05.6
GYA SS **SS** 02 35 07.2 -1.0
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=Z,140nm,19.2s
GYA LR LR
comp=Z,120nm,20.3s
GYA LR LR
comp=Z,130nm,19.8s
PMG Port Moresby 140.27 277 *e*PKPdf **PKPdf** 02 14 47.6 +1.9
CTAO Charters Tower 143.12 261 *e*PKPdf PKPbc 02 14 46.9 -0.6
COEN Coen 145.20 272 *e*PKPbc **PKPbc** 02 14 53.9 -0.1
STKA Stephens Creek 146.20 240 *e*PKPbc **PKPdf** 02 14 55.9 +0.1
STKA Stephens Creek 146.20 240 PKPbc **PKPdf** 02 14 55.6 -0.1
comp=Z,7.7nm,0.8s,baz=52,slow=2.7,SNR=11
BBOO Buckleboo 150.35 235 *e*PKPbc **PKPbc** 02 15 06.5 -1.2
KKM Kota Kinabalu 154.20 339 *e*PKPdf **PKPdf** 02 15 06.6 -2.3
WRAB Tennant Creek 154.30 262 *e*PKPdf **PKPdf** 02 15 08.4 -0.3
WRAB *e*PKPbc **PKPbc** 02 15 16.3 -0.6
WRA Warramunga Arr 154.31 262 PKP **PKPdf** 02 15 08.4 -0.3
WRA PKPbc **PKPbc** 02 15 14.8 -2.2
WRA Warramunga Arr 154.31 262 PKP **PKPdf** 02 15 08.4 -0.3
comp=Z,5.0nm,1.0s,baz=80,slow=1.1,SNR=19
WRA PKPbc **PKPbc** 02 15 14.8 -2.2
comp=Z,5.9nm,0.9s,baz=85,slow=2.5,SNR=17
ASAR Alice Springs 154.52 253 PKP **PKPdf** 02 15 08.6 -0.4
ASAR PKPbc **PKPbc** 02 15 15.2 -2.1
ASAR Alice Springs 154.52 253 PKP **PKPdf** 02 15 08.6 -0.4
comp=Z,1.7nm,1.0s,baz=50,slow=3.0,SNR=9.4
ASAR PKPbc **PKPbc** 02 15 15.2 -2.1
comp=Z,2.8nm,0.9s,baz=99,slow=2.4,SNR=10

ISCJB ***13*** *01:57:32.5±0.1, 18°.41N±0°.03×72°.94W±0°.01, h6km, mb5.3/302, MS5.0/36, Error ellipse: s-maj=3.7km s-min=1.7km az=9.6*

IDC ***13*** *01:57:32.5±0.4, 18°.32N×72°.98W, h0km, mb4.9/47, mb1 4.9/51, mb1mx4.9/54, mbtmp4.8/51, ML3.6/3, MS4.8/28, Ms1 4.8/28, ms1mx4.6/43, Error ellipse: s-maj=12.5km s-min=9.1km az=49.0*

MOS ***13*** *01:57:33.2±1.1, 18°.46N×72°.89W, h11km, mb5.7/91, MS5.3/5, Error ellipse: s-maj=5.2km s-min=4.2km az=71.5*

GCMT ***13*** *01:57:34.6±0.3, 18°.64N×73°.02W, h12km, MW5.4/48, Moment Tensor Solution. s17,c18; s48,c89; Duration: 1s4 Moment tensor: Scale 10^17^Nm; Mrr 1.84±.06; Mθθ -1.58±.05; Mϕϕ -0.26±.05; Mrθ -0.11±.16; Mθϕ 0.23±.04; Mϕr -0.41±.17; Best double couple: Mo 1.77300×10^17^ NP1:ϕs 269.00000°, δ47.00000°, λ74.00000°. NP2: ϕs 111.00000°, δ45.00000°, λ106.00000°. Principal axes: T 1.9260, Plg79.0000°, Azm103.0000°; N -0.3090, Plg11.0000°, Azm279.0000°; P -1.6210, Plg1.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

NEIC ***13*** *01:57:34.5±0.1, 18°.39N×72°.88W, h10km, mb5.4/172 Error ellipse: s-maj=3.2km s-min=2.3km az=200.0*

BJI ***13*** *01:57:34.3, 18°.40N×72°.90W, h10km, mB5.7/8, Ms5.7/13, Ms7 5.3/14*

JSN ***13*** *01:57:36.7±0.4, 17°.16N×73°.05W, h15km, MD5.4*

SZGRF ***13*** *01:57:38.4, 18°.16N×72°.52W, h33km, mb5.6, Haiti region*

ISC 13 01:57:33.6±0.2, 18°.41N±0°.04×72°.91W±0°.03, h6km, n1183, σ1 9 07/1194, mb5.4/306, MS5.0/36, 238C-212D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.64**	**69**	*e*Pn	**Pb**	**01 58 04.6**	**+0.3**
SDDR				*e*Sn	**Sb**	**01 58 25.5**	**+0.2**
GTBY	**Guantanamo Bay**	**2.57**	**306**	*e*Pn	**Pn**	**01 58 16.4**	**+0.7**
GTBY				*e*Sn	**Sn**	**01 58 47.8**	**+0.4**
GTBY				*e*Sg	**Sg**	**01 58 54.8**	**-1.5**
GRTK	**Grand Turk**	**3.51**	**28**	*e*Pn	**Pn**	**01 58 29.6**	**+0.9**
GRTK				*e*Sn	**Sn**	**01 59 10.4**	**-0.2**

GWJ Greenwich 3.64 265 *i* P **Pn** 01 58 31.6 +0.9
GWJ Greenwich 3.64 265 *i* P **Pn** 01 58 31.6 +0.9
HOJ Hope 3.67 264 *i* P **Pn** 01 58 31.6 +0.7
HOJ Hope 3.67 264 *i* P **Pn** 01 58 31.6 +0.7
HOJ Hope 3.67 264 *i* P **Pn** 01 58 31.6 +0.7
STH Stony Hill 3.72 266 *i* P **Pn** 01 58 32.1 +0.5
STH *i* S **Sn** 01 59 14.1 -1.7
STH Stony Hill 3.72 266 *i* P **Pn** 01 58 32.1 +0.5
STH *i* S **Sn** 01 59 14.1 -1.7
STH Stony Hill 3.72 266 *i* P **Pn** 01 58 32.1 +0.5
STH *i* S **Sn** 01 59 14.1 -1.7
MTDJ Mount Denham 4.40 268 Pn **Pn** 01 58 39.9 -1.1
CRPR Cabo Rojo, PR 5.53 93 *e*Pn **Pn** 01 58 58.3 +1.9
CRPR *e*Sg **Sg** 02 00 29.2 -2.0
ANWB Willy Bob 10.61 92 *e*Pn **Pn** 02 00 06.9 +0.7
BCIP Isla Barro Col 11.38 217 *e*Pn **Pn** 02 00 17.8 +0.9
H05N1 Guadeloupe/Mar 11.51 99 Pn **Pn** 02 00 20.5 +2.0
ROSC El Rosal 13.54 186 *e*Pn **Pn** 02 00 49.3 +2.6
ROSC El Rosal 13.54 186 Pn **Pn** 02 00 44.5 -2.2
1.6nm,0.3s,baz=83,slow=17,SNR=2.7
ROSC LR LR 02 06 08.1
comp=Z,2μm,21.9s,baz=4.5,slow=38
TRN Trinidad (W) 13.54 123 *e* P 02 00 52.0 -3.7
TPP Pointe-a-Pierr 13.70 124 *e* **P** 02 00 59.1 +1.7
JTS JuntasAbangare 14.18 237 Pn P 02 00 59.3 -3.4
704nm,1.1s,SNR=6.2
JTS JuntasAbangare 14.18 237 *e*Pn **Pn** 02 00 57.5 +2.5
JTS JuntasAbangare 14.18 237 *e*Pn **Pn** 02 00 56.5 +1.4
2.8nm,0.3s,baz=3.7,slow=12,SNR=5.7
JTS LR LR 02 06 22.5
comp=Z,3μm,18.1s,baz=58,slow=38
TGUH Tegucigalpa,Un 14.45 255 *e*Pn **Pn** 02 01 00.9 +2.1
TEIG Tepich 14.62 280 *e*Pn **Pn** 02 01 00.3 -0.8
TEIG *e*Sn Sn 02 03 36.7 -6.8
TEIG Tepich 14.62 280 Pn **Pn** 02 01 00.7 -0.3
8.1nm,0.3s,baz=43,slow=1.9,SNR=13
BBSR BB Station 15.75 26 *e*Pn **Pn** 02 01 13.4 -2.6
313nm,1.4s
RGRS Roger Stewart 15.85 337 *e*Pn **Pn** 02 01 16.2 -1.1
CSU Charleston Sou 15.88 337 *e*Pn **Pn** 02 01 16.7 -1.0
NHSC New Hope 16.03 337 *e*Pn **Pn** 02 01 19.6 0.0
441nm,1.3s
TIGA Tifton 16.18 325 *e*Pn **Pn** 02 01 21.3 -0.3
TIGA Tifton 16.18 325 ⇑P **Pn** 02 01 22.6 +1.0
baz=16
APG El Apazote 17.15 261 P **Pn** 02 01 33.7 -0.6
APG El Apazote 17.15 261 P **Pn** 02 01 33.7 -0.6
0.7nm,0.3s,baz=81,slow=11,SNR=7.5
APG LR LR 02 08 27.2
comp=Z,3μm,20.1s,baz=80,slow=38
JSC Jenkinsville 17.48 336 *e*Pn **Pn** 02 01 35.3 -2.7
JSC Jenkinsville 17.48 336 *e*Pn **Pn** 02 01 35.2 -2.7
GOGA Godfrey 17.68 330 *e*P **P** 02 01 41.5 0.0
GOGA pmax pmax
comp=Z,562nm,2.0s
GOGA Godfrey 17.68 330 *e*Pn **P** 02 01 41.5 0.0
comp=Z,562nm,2.0s
BRAL Brewton 17.94 317 *e*Pn **P** 02 01 46.2 +1.9
comp=Z,2μm,1.6s
KMSC Kings Mountain 18.27 337 *e*Pn **Pn** 02 01 45.7 -2.1
KMSC Kings Mountain 18.27 337 ⇓P **P** 02 01 48.4 +0.4
baz=18
OTAV Otavalo 18.86 197 *e*P **Pn** 02 01 57.5 +1.9
comp=Z,197nm,1.3s
TKL Tuckaleechee C 19.69 333 *e*P **P** 02 02 04.0 +0.4
TKL Tuckaleechee C 19.69 333 P **Pn** 02 02 05.1 +0.1
comp=Z,0.5nm,0.3s,baz=155,slow=14,SNR=3.6
TKL LR LR 02 10 01.1
comp=Z,5μm,19.9s,baz=138,slow=38
JSRW J. Sargeant Re 19.70 348 *e*P **P** 02 02 04.0 +0.3
VWCC Virginia Weste 19.77 343 *e*P **P** 02 02 05.0 +0.6
CPCT Cooper Cave 19.85 331 *e*P **Pn** 02 02 07.6 +0.7
BLA Blacksburg 19.86 342 *e*P **P** 02 02 05.9 +0.4
BLA pmax pmax
comp=Z,223nm,1.1s
BLA Blacksburg 19.86 342 *e*P **P** 02 02 05.9 +0.4
comp=Z,223nm,1.1s
CBN Corbin 20.11 350 *e*P Pn 02 02 09.0 -0.8
comp=Z,171nm,0.8s
SWET Sewanee 20.34 328 *e*P Pn 02 02 12.8 0.0
comp=Z,434nm,1.7s
TZTN Tazewell 20.36 335 *e*Pn Pn 02 02 13.3 +0.4
comp=Z,1μm,2.4s
VBMS Vicksburg 20.99 314 *e*Pn Pn 02 02 20.3 0.0
comp=Z,714nm,1.5s
SDMD Soldier's Deli 21.20 352 *e*P **P** 02 02 20.2 +0.2
comp=Z,360nm,1.4s
MVL Millersville 21.72 353 *e*P **P** 02 02 28.2 +2.7
comp=Z,816nm,2.5s
BRNJ Basking Ridge 22.25 357 *e*P **P** 02 02 33.4 +2.3
comp=Z,381nm,1.4s
CPNY Central Park 22.33 358 *e*P **P** 02 02 31.5 -0.4
comp=Z,120nm,1.1s
PAL Palisades 22.54 358 *e*P **P** 02 02 35.9 +1.6
PAL pmax pmax
comp=Z,288nm,1.5s
PAL Palisades 22.54 358 *e*P **P** 02 02 35.9 +1.6
comp=Z,288nm,1.5s
ODNJ Ogdensburg 22.65 357 *e*P **P** 02 02 36.5 +1.1
HALT Halls 22.69 323 *e*P **P** 02 02 37.2 +1.3
UTMT University of 22.74 325 *e*P **P** 02 02 37.5 +1.0
comp=Z,475nm,1.4s
YLE Yale 22.83 360 *e*P **P** 02 02 40.5 +3.2
PTGA Pitinga 22.89 145 P **P** 02 02 38.1 0.0
PTGA Pitinga 22.89 145 P **P** 02 02 38.1 0.0
comp=Z,55nm,1.1s,baz=331,slow=9.9,SNR=16
PTGA LR LR 02 11 58.6
comp=Z,3μm,18.0s,baz=330,slow=38
WCI Wyandotte Cave 22.95 332 *e*P **P** 02 02 38.3 -0.4
WCI pmax pmax
comp=Z,384nm,1.9s
WCI Wyandotte Cave 22.95 332 *e*P **P** 02 02 38.2 -0.4
comp=Z,384nm,1.9s
GNAR Gosnell 23.12 323 *e*P **P** 02 02 39.8 -0.6
KSPA Keystone Colle 23.20 355 *e*P **P** 02 02 41.1 -0.1
HBAR Harrisburg 23.21 321 *e*P **P** 02 02 41.8 +0.4
USIN University of 23.37 330 *e*P **P** 02 02 42.9 0.0
comp=Z,511nm,1.9s
ACSO Alum Creek Sta 23.42 340 *e*P **P** 02 02 45.8 +2.3
comp=Z,246nm,1.4s
PARMO Parma 23.47 324 *e*P **P** 02 02 46.0 +2.1
NATX Nacogdoches 23.71 308 *e*P **P** 02 02 48.5 +2.1
comp=Z,437nm,1.4s
UALR University of 23.76 317 *e*P **P** 02 02 47.6 +0.8
comp=Z,1μm,2.5s
HKT Hockley 23.81 303 *c i*P **P** 02 02 47.2 -0.1
HKT pmax pmax
comp=Z,16nm,0.9s
HKT Hockley 23.81 303 *e*P **P** 02 02 48.0 +0.7
comp=Z,788nm,2.1s
BLO Bloomington 23.83 333 *e*P **P** 02 02 48.1 +0.7
BLO pmax pmax
comp=Z,442nm,1.6s
BLO Bloomington 23.83 333 *e*P **P** 02 02 48.1 +0.7
comp=Z,442nm,1.6s
BINY Binghamton 23.86 354 *e*P **P** 02 02 48.4 +0.7
comp=Z,2μm,2.4s
PBMO Poplar Bluff 23.93 323 *e*P **P** 02 02 49.4 +1.0
comp=Z,336nm,1.8s
SIUC Southern Illin 23.95 327 *e*P **P** 02 02 50.3 +1.6
comp=Z,168nm,1.1s
ALLY Alegheny Colle 23.98 347 *e*P **P** 02 02 50.0 +1.1
HRV Adam Dziewonsk 24.05 2 *e*P **P** 02 02 49.9 +0.4
HRV pmax pmax
comp=Z,276nm,1.6s
HRV Adam Dziewonsk 24.05 2 *e*P **P** 02 02 49.9 +0.4
comp=Z,276nm,1.6s
TRY Troy 24.26 359 *e*P P 02 02 58.9 +7.5
ERPA Erie 24.39 347 *e*P **P** 02 02 51.9 -0.8
comp=Z,2μm,3.0s
MIAR Mount Ida 24.43 315 *e*P **P** 02 02 54.6 +1.5
MIAR pmax pmax
comp=Z,177nm,1.5s
MIAR Mount Ida 24.43 315 *e*P **P** 02 02 54.6 +1.5
comp=Z,177nm,1.5s
035Z Hargill 24.57 294 ⇓P **P** 02 02 55.8 +1.4
baz=25,SNR=5.9
MMNY Mt. Morris Dam 24.62 351 *e*P **P** 02 02 56.1 +1.4
KVTX Kingsville 24.69 296 *e*P **P** 02 02 56.3 +0.8
comp=Z,415nm,1.4s
035A Encino 24.71 295 P **P** 02 02 56.5 +0.8
baz=25
835A Beeville 24.86 298 ⇑P **P** 02 02 58.2 +1.2
baz=25,SNR=17
ACCN Adirondack Com 24.91 359 *e*P **P** 02 02 58.4 +1.0

comp=Z,112nm,1.3s
735A **Kenedy** 25.02 299 ⇓P P 02 02 59.3 +0.8
baz=25,SNR=24
SFIN **Scholer Farm** 25.08 334 *e*P P 02 03 00.4 +1.6
SFIN **Scholer Farm** 25.08 334 ⇓P P 02 03 00.5 +1.6
baz=25
635A **Leesville** 25.17 300 ⇑P P 02 03 00.2 +0.4
baz=25,SNR=19
HNH **Hanover** 25.23 1 *e*P P 02 03 06.3 +6.2
535A **Dale** 25.23 302 ⇑P P 02 03 00.8 +0.4
baz=25,SNR=10
934A **Benavides** 25.24 296 ⇓P P 02 03 01.7 +1.2
baz=25,SNR=12
034A **Hebbronville** 25.25 295 ⇓P P 02 03 01.7 +1.2
baz=25,SNR=17
834A **Tilden** 25.42 297 ⇑P P 02 03 02.9 +0.8
baz=25,SNR=23
AAM **Ann Arbor** 25.51 341 *e*P P 02 03 04.4 +1.6
AAM pmax pmax
comp=Z,539nm,1.9s
AAM **Ann Arbor** 25.51 341 *e*P P 02 03 04.4 +1.6
comp=Z,539nm,1.9s
335A **Moody** 25.61 305 ⇑P P 02 03 04.5 +0.7
baz=26,SNR=17
734A **La Parita Cree** 25.64 299 ⇓P P 02 03 04.5 +0.3
baz=26,SNR=14
634A **China Grove, S** 25.64 300 ⇓P P 02 03 04.2 +0.1
baz=26,SNR=12
LBNH **Lisbon** 25.77 2 *e*P P 02 03 09.2 +4.1
LBNH pmax pmax
comp=Z,627nm,2.5s
LBNH **Lisbon** 25.77 2 *e*P P 02 03 09.2 +4.1
comp=Z,627nm,2.5s
933A **Laredo** 25.89 296 ⇑P P 02 03 07.0 +0.5
baz=26,SNR=21
WHTX **Lake Whitney** 25.93 306 *e*P P 02 03 07.8 +1.1
comp=Z,110nm,0.9s
WHTX **Lake Whitney** 25.93 306 ⇓P P 02 03 07.0 +0.3
baz=26,SNR=23
ATAH **Atahualpa** 25.95 193 LR LR 02 15 15.8
comp=Z,3µm,20.5s,baz=6.1,slow=41
534A **Blanco** 25.96 301 ⇑P P 02 03 07.3 +0.2
baz=26,SNR=31
434A **Burnet** 26.09 303 ⇓P P 02 03 07.9 -0.3
baz=26,SNR=13
135A **Vickery Place,** 26.14 307 ⇑P P 02 03 09.2 +0.6
baz=26,SNR=9.0
LONY **Lake Ozonia** 26.17 357 *e*P P 02 03 11.9 +3.2
comp=Z,103nm,1.6s
833A **Chaparral WMA,** 26.19 297 ⇓P P 02 03 09.4 +0.3
baz=26,SNR=26
733A **Divot King Ran** 26.22 298 ⇓P P 02 03 09.3 -0.1
baz=26,SNR=16
334A **Lometa** 26.26 304 ⇓P P 02 03 10.1 +0.4
baz=26,SNR=20
633A **Saathoff Ranch** 26.35 300 ⇓P P 02 03 10.9 +0.3
baz=26,SNR=17
Z35A **Perchaven, San** 26.38 309 ⇓P P 02 03 11.2 +0.4
baz=26,SNR=11
533A **Kerrville** 26.43 301 ⇓P P 02 03 11.4 0.0
baz=26,SNR=10
234A **Clairette** 26.45 306 ⇓P P 02 03 11.8 +0.3
baz=26
134A **White-Moore Ra** 26.65 307 ⇓P P 02 03 13.6 +0.3
baz=27,SNR=19
832A **Faith Ranch, C** 26.67 297 ⇓P P 02 03 13.7 +0.3
baz=27,SNR=32
TUL1 **Tulsa** 26.70 315 *e*P P 02 03 14.2 +0.6
comp=Z,211nm,1.2s
TUL1 **Tulsa** 26.70 315 ⇑P P 02 03 13.6 0.0
baz=27,SNR=15
433A **Art** 26.72 302 ⇑P P 02 03 13.8 -0.2
baz=27,SNR=14
732A **Laxson Ranch,** 26.79 298 ⇓P P 02 03 14.3 -0.2
baz=27,SNR=19
SADO **Sadowa** 26.80 350 P P 02 03 16.2 +1.8
SADO **Sadowa** 26.80 350 P P 02 03 16.2 +1.8
comp=Z,29nm,1.0s,baz=208,slow=4.9,SNR=5.3
SADO LR LR 02 12 53.5
comp=Z,4µm,21.5s,baz=178,slow=34
333A **Richland Sprin** 26.85 304 ⇑P P 02 03 14.9 -0.1
baz=27,SNR=24
632A **Uvalde** 26.87 299 ⇑P P 02 03 15.5 +0.3
baz=27,SNR=12
Z34A **Collier Ranch,** 26.89 309 ⇑P P 02 03 15.9 +0.5
baz=27,SNR=7.4
Y34A **Reagan Ranch,** 27.05 310 ⇓P P 02 03 17.2 +0.4
baz=27,SNR=19
233A **Rising Star** 27.05 305 ⇑P P 02 03 17.0 +0.1
baz=27,SNR=7.8
532A **Rocksprings** 27.16 301 ⇑P P 02 03 18.2 +0.2
baz=27,SNR=17
JCT **Junction City** 27.20 301 *e*P P 02 03 18.5 +0.3
JCT pmax pmax
comp=Z,118nm,1.3s
JCT **Junction City** 27.20 301 *e*P P 02 03 18.5 +0.3
comp=Z,118nm,1.3s
JCT **Junction City** 27.20 301 ⇓P P 02 03 17.9 -0.3
baz=27,SNR=14
133A **Hamilton Ranch** 27.31 306 ⇑P P 02 03 19.1 -0.1
baz=27,SNR=15
432A **Menard** 27.33 302 ⇑P P 02 03 19.1 -0.3
baz=27,SNR=15
X34A **Smith Ranch, M** 27.41 311 ⇑P P 02 03 20.4 +0.3
baz=28,SNR=10
332A **Millersview** 27.47 303 ⇑P P 02 03 20.5 -0.2
baz=28,SNR=12
Z33A **Whitaker Ranch** 27.48 308 ⇑P P 02 03 20.9 +0.2
baz=28,SNR=18
631A **Perdido Creek** 27.49 299 ⇑P P 02 03 20.5 -0.4
baz=28,SNR=8.4
232A **Coleman** 27.58 304 ⇓P P 02 03 21.4 -0.3
baz=28,SNR=7.7
W34A **Bridge Creek,** 27.69 312 ⇑P P 02 03 22.6 0.0
baz=28
531A **Rocksprings** 27.70 300 ⇑P P 02 03 23.0 +0.2
baz=28,SNR=6.1
Y33A **Hilltop Ranch,** 27.71 309 ⇑P P 02 03 23.0 +0.2
baz=28
V34A **Guthrie** 27.82 314 ⇓P P 02 03 23.8 +0.1
baz=28,SNR=9.4
X33A **Lawton** 27.87 310 ⇑P P 02 03 24.4 +0.2
baz=28
ABTX **Abilene, Hawle** 27.87 306 *e*P P 02 03 24.8 +0.5
comp=Z,142nm,1.5s
ABTX **Abilene, Hawle** 27.87 306 ⇓P P 02 03 24.1 -0.1
baz=28,SNR=11
431A **Sonora** 27.92 301 ⇑P P 02 03 25.1 +0.4
baz=28,SNR=15
331A **San Angelo** 27.99 303 ⇑P P 02 03 25.1 -0.2
baz=28,SNR=14
Z32A **Haskell** 28.03 307 ⇓P P 02 03 25.5 -0.2
baz=28,SNR=17
231A **Bronte** 28.13 304 ⇑P P 02 03 26.2 -0.4
baz=28,SNR=7.9
W33A **Caddo, Fort Co** 28.14 311 ⇓P P 02 03 26.7 +0.1
baz=28,SNR=8.6
U34A **Anderson Ranch** 28.16 315 ⇓P P 02 03 27.0 +0.2
baz=28,SNR=10
WMOK **Wichita Mounta** 28.16 310 *e*P P 02 03 27.0 +0.2
WMOK pmax pmax
comp=Z,150nm,1.8s
WMOK **Wichita Mounta** 28.16 310 *e*P P 02 03 27.0 +0.2
comp=Z,150nm,1.8s
Y32A **R-V Farms, Ver** 28.31 309 ⇓P P 02 03 28.1 -0.1
baz=28,SNR=15
530A **J-C Ranch, Com** 28.35 300 ⇓P P 02 03 28.0 -0.5
baz=28,SNR=13
V33A **Lossen Ranch,** 28.35 313 ⇓P P 02 03 28.0 -0.5
baz=28
X32A **Elmer** 28.38 309 ⇑P P 02 03 28.0 -0.8
baz=28,SNR=14
430A **Baggett Ranch,** 28.46 301 ⇑P P 02 03 29.2 -0.4
baz=28
131A **Roby** 28.47 305 ⇑P P 02 03 29.2 -0.4
baz=28
JFWS **Jewell Farm** 28.50 333 *e*P P 02 03 30.2 +0.4
JFWS pmax pmax
comp=Z,227nm,1.8s
JFWS **Jewell Farm** 28.50 333 *e*P P 02 03 30.2 +0.4
comp=Z,228nm,1.8s
Z31A **Sharp Cattle R** 28.54 307 ⇓P P 02 03 29.7 -0.5
baz=29,SNR=9.4
U33A **Lingo Farm, Me** 28.55 314 P P 02 03 30.7 +0.4
baz=29
330A **Mertzon** 28.62 302 ⇓P P 02 03 30.6 -0.4
baz=29,SNR=11
W32A **Sentinel** 28.68 311 ⇓P P 02 03 31.3 -0.2
baz=29,SNR=16
230A **Sterling City** 28.74 303 ⇑P P 02 03 31.5 -0.6
baz=29,SNR=6.3
SAML **Samuel** 28.83 160 *e*P P 02 03 33.1 +0.2
comp=Z,20nm,0.9s
V32A **Arapaho** 28.83 312 ⇓P P 02 03 32.5 -0.3
baz=29,SNR=7.7
130A **Snyder** 28.89 305 ⇑P P 02 03 32.7 -0.7
baz=29
Y31A **Rekieta Farm,** 28.90 308 ⇑P P 02 03 33.1 -0.3
baz=29,SNR=11
429A **Davenport Ranc** 28.95 300 ⇑P P 02 03 33.7 -0.3
baz=29,SNR=8.3
X31A **McDonald Ranch** 28.99 309 ⇓P P 02 03 33.7 -0.4
baz=29,SNR=7.5
T33A **Patterson Ranc** 28.99 315 P P 02 03 34.5 +0.3
baz=29
529A **Stev Forest Ra** 29.07 299 ⇑P P 02 03 34.6 -0.4
baz=29,SNR=14
S33A **Kaszmaul Farm,** 29.11 316 ⇓P P 02 03 35.2 0.0
baz=29
KSU1 **Kansas State U** 29.12 320 *e*P P 02 03 35.5 +0.3
comp=Z,76nm,1.1s
KSU1 **Kansas State U** 29.12 320 ⇓P P 02 03 35.2 -0.1
baz=29
U32A **Winter Ranch,** 29.13 313 ⇑P P 02 03 35.5 0.0
baz=29,SNR=10.0
W31A **Holland Ranch,** 29.22 310 ⇑P P 02 03 35.9 -0.3
baz=29,SNR=7.6
Z30A **Sanderson Ranc** 29.28 306 ⇑P P 02 03 36.9 +0.1
baz=29,SNR=8.4
329A **Wagon Wheel Ra** 29.30 302 ⇑P P 02 03 36.8 -0.3
baz=29,SNR=17
229A **Bryant Ranch,** 29.32 303 ⇓P P 02 03 36.9 -0.4
baz=29,SNR=12
Y30A **Stafford Cattl** 29.34 307 ⇑P P 02 03 37.3 -0.2
baz=29,SNR=7.7
V31A **Spring Creek L** 29.42 311 ⇑P P 02 03 38.1 +0.1
baz=30,SNR=10
628A **Black Gap, Mar** 29.45 298 ⇓P P 02 03 38.4 +0.1
baz=30,SNR=8.3
T32A **Huddler Ranch,** 29.50 315 ⇓P P 02 03 38.7 0.0
baz=30
R33A **Olander Ranch,** 29.50 317 ⇓P P 02 03 38.9 +0.2
baz=30
528A **Cox Ranch, San** 29.55 299 ⇓P P 02 03 39.3 0.0
baz=30,SNR=19
X30A **Coker Ranch, T** 29.57 308 ⇑P P 02 03 39.2 -0.1
baz=30,SNR=12
129A **Stewart Farms,** 29.61 304 ⇑P P 02 03 39.9 +0.1
baz=30
428A **Kincaid Ranch,** 29.63 300 ⇓P P 02 03 40.7 +0.7
baz=30,SNR=31
Z29A **Hungry Hill Ra** 29.72 305 ⇓P P 02 03 40.6 -0.1
baz=30,SNR=15
U31A **Nine Bar Ranch** 29.72 312 ⇑P P 02 03 39.9 -0.8
baz=30
S32A **Newby Ranch, P** 29.79 316 ⇓P P 02 03 41.3 0.0
baz=30
Q33A **Connelly Farm,** 29.81 319 ⇓P P 02 03 41.7 +0.3
baz=30,SNR=12
627A **Terlingua Ranc** 29.86 297 P P 02 03 42.5 +0.3
baz=30
Y29A **Porterfield Fa** 29.93 307 ⇓P P 02 03 42.6 0.0
baz=30,SNR=17
328A **Wristen Ranch,** 29.93 301 ⇓P P 02 03 42.4 -0.3
baz=30
T31A **Randall Ranch,** 29.97 314 ⇑P P 02 03 42.9 0.0
baz=30,SNR=11
P33A **Williams Farm,** 29.99 319 ⇑P P 02 03 43.3 +0.3
baz=30
228A **UT Block 9, Go** 30.00 303 ⇑P P 02 03 43.2 0.0
baz=30
V30A **Spur Ranch, Mi** 30.02 311 ⇓P P 02 03 43.2 -0.2
baz=30
R32A **Long Quarter,** 30.04 317 ⇓P P 02 03 43.7 +0.2
baz=30,SNR=12
TXAR **Lajitas Array** 30.07 297 P P 02 03 44.6 +0.7
TXAR PcP PcP 02 06 46.2 +0.4
TXAR **Lajitas Array** 30.07 297 P P 02 03 44.6 +0.7
comp=Z,14nm,1.0s,baz=120,slow=7.4,SNR=22
TXAR PcP PcP 02 06 46.2 +0.4
comp=Z,3.7nm,1.1s,baz=94,slow=4.1,SNR=4.3
TXAR LR LR 02 17 40.8
comp=Z,789nm,19.7s,baz=0.0,slow=40
128A **Castleberry Fa** 30.09 304 ⇓P P 02 03 43.9 -0.1
baz=30,SNR=25
S31A **Mullinville** 30.11 315 ⇑P P 02 03 44.1 0.0
baz=30,SNR=11
X29A **Tulia** 30.19 308 ⇑P P 02 03 44.3 -0.6
baz=30,SNR=9.9
527A **Woodward Ranch** 30.23 299 ⇓P P 02 03 45.6 +0.2
baz=30,SNR=19
Z28A **Tucker Farm, M** 30.25 305 ⇓P P 02 03 45.0 -0.5
baz=30,SNR=11
427A **Hayter Ranch,** 30.25 300 ⇓P P 02 03 45.8 +0.3
baz=30,SNR=27
Q32A **Meitler Ranch,** 30.27 318 ⇓P P 02 03 45.3 -0.1
baz=30,SNR=9.8
AMTX **Amarillo** 30.36 308 *e*P P 02 03 46.7 +0.3
comp=Z,85nm,1.4s
AMTX **Amarillo** 30.36 308 ⇓P P 02 03 46.1 -0.3
baz=30
U30A **WK&E Inc. Balk** 30.36 312 ⇓P P 02 03 46.8 +0.4
baz=30,SNR=8.8
Y28A **McKinney Farm,** 30.39 306 ⇑P P 02 03 46.2 -0.5
baz=30,SNR=12
W29A **Amraillo** 30.43 309 ⇑P P 02 03 46.4 -0.7
baz=30,SNR=6.7
327A **Balmorhea Ranc** 30.48 301 ⇑P P 02 03 47.6 +0.1
baz=30
R31A **Burdett** 30.50 316 ⇓P P 02 03 48.3 +0.8
baz=30,SNR=12
626A **Big Bend Ranch** 30.52 297 ⇓P P 02 03 47.9 0.0
baz=30
227A **Bennet, Jal** 30.52 302 ⇑P P 02 03 48.2 +0.3
baz=30
T30A **Plains** 30.53 313 ⇑P P 02 03 48.6 +0.7
baz=31
X28A **Dimmitt** 30.59 307 ⇑P P 02 03 48.6 +0.1
baz=31
526A **Mary Lane Ranc** 30.61 298 ⇓P P 02 03 49.5 +0.8
baz=31,SNR=25
P32A **Huiting Farm,** 30.66 319 ⇑P P 02 03 49.8 +0.9
baz=31,SNR=7.7
V29A **Stinnett** 30.67 310 ⇑P P 02 03 50.3 +1.1
baz=31,SNR=8.3
426A **McDonald Obser** 30.72 299 ⇓P P 02 03 50.5 +0.7
baz=31,SNR=30
S30A **Montezuma** 30.78 314 ⇑P P 02 03 51.1 +0.9
baz=31,SNR=12
127A **Arkansas Junct** 30.80 303 ⇓P P 02 03 50.5 +0.2
baz=31,SNR=8.3
Q31A **Ellis** 30.81 317 ⇓P P 02 03 51.1 +0.8
baz=31,SNR=13
MSTX **Muleshoe** 30.81 306 *e*P P 02 03 50.7 +0.2
comp=Z,89nm,1.5s
MSTX **Muleshoe** 30.81 306 ⇑P P 02 03 50.9 +0.5
baz=31,SNR=7.2
O32A **Brockman Farm,** 30.84 320 ⇑P P 02 03 51.1 +0.5
baz=31
326A **Caldwell Ranch** 30.86 301 ⇑P P 02 03 51.6 +0.6
baz=31,SNR=6.2
W28A **Vega** 30.91 309 ⇑P P 02 03 51.3 0.0
baz=31
Z27A **Tatum** 30.91 305 ⇓P P 02 03 51.1 -0.2
baz=31,SNR=12
R30A **Dighton** 30.99 315 ⇑P P 02 03 52.8 +0.9
baz=31,SNR=11
Y27A **Causey** 31.08 306 ⇓P P 02 03 52.9 +0.1
baz=31
P31A **Stockton** 31.09 318 ⇑P P 02 03 53.3 +0.6
baz=31,SNR=10
T29A **Hugoton** 31.11 313 ⇓P P 02 03 53.8 +0.8
baz=31
V28A **Channing** 31.13 310 ⇓P P 02 03 53.7 +0.4
baz=31
N32A **Stulken Farm,** 31.16 321 ⇓P P 02 03 54.4 +1.0
baz=31
S29A **Ulysses** 31.22 314 ⇑P P 02 03 55.3 +1.3
baz=31,SNR=11
226B **Tecolote Peak,** 31.25 302 ⇑P P 02 03 54.6 +0.3
baz=31
126A **Clayton Basin,** 31.31 303 ⇓P P 02 03 55.4 +0.5
baz=31,SNR=9.6
X27A **F and S Farms,** 31.32 307 ⇑P P 02 03 55.2 +0.2
baz=31
Q30A **Quinter** 31.33 317 ⇓P P 02 03 55.8 +0.9
baz=31,SNR=12
U28A **Mallet** 31.41 311 ⇓P P 02 03 56.1 +0.4
baz=31
O31A **Woolen Ranch,** 31.42 319 ⇓P P 02 03 56.1 +0.5
baz=32,SNR=9.2
SPMN **St. Paul** 31.46 333 *e*P P 02 04 00.2 +4.4
comp=Z,104nm,1.7s
W27A **Bowe Ranch, En** 31.46 308 ⇑P P 02 03 56.7 +0.5
baz=32,SNR=8.1
Z26A **Caprock** 31.49 304 ⇓P P 02 03 56.3 -0.2
baz=32,SNR=6.4
425A **Indio Mountain** 31.55 299 ⇑P P 02 03 57.4 +0.4
baz=32,SNR=13
V27A **Dan Oppiter Fa** 31.58 309 ⇑P P 02 03 57.5 +0.3
baz=32
N31A **Bailey Ranch,** 31.59 321 ⇑P P 02 03 58.0 +0.9
baz=32
R29A **Marienthal** 31.64 315 ⇓P P 02 03 58.5 +0.8
baz=32
P30A **Selden** 31.66 317 ⇓P P 02 03 58.5 +0.8
baz=32,SNR=19
T28A **Walsh** 31.67 312 ⇓P P 02 03 58.8 +0.8
baz=32,SNR=12
325A **Bean Ranch, Si** 31.69 300 ⇓P P 02 03 58.5 +0.1
baz=32,SNR=24
S28A **Manter** 31.75 313 ⇑P P 02 03 59.4 +0.7
baz=32,SNR=8.4
Q29A **Oakley** 31.78 316 ⇑P P 02 03 59.8 +1.0
baz=32,SNR=14
225A **Deer Hill, Car** 31.79 302 ⇑P P 02 03 59.8 +0.7
baz=32,SNR=21
125A **Gardner Draw,** 31.83 303 ⇓P P 02 03 59.4 0.0
baz=32,SNR=18
X26A **CR and CF Fran** 31.83 307 ⇓P P 02 03 59.6 +0.2
baz=32,SNR=17
U27A **Thompson Grove** 31.86 310 ⇑P P 02 03 59.8 +0.1
baz=32,SNR=12
O30A **MW Ranch, Wils** 31.89 319 ⇓P P 02 04 00.1 +0.3
baz=32
M31A **Lambtecht Ranc** 31.93 321 ⇑P P 02 04 01.0 +0.9
baz=32
W26A **Owens Ranch, T** 32.00 307 ⇓P P 02 04 01.4 +0.5
baz=32,SNR=14
R28A **Tribune** 32.06 314 ⇑P P 02 04 01.9 +0.5
baz=32,SNR=21
T27A **Campo** 32.08 312 ⇑P P 02 04 01.9 +0.3
baz=32,SNR=5.2
Z25A **Roswell** 32.08 304 ⇓P P 02 04 01.9 +0.3
baz=32,SNR=30
MNTX **Cornudas Mount** 32.12 301 *e*P P 02 04 02.8 +0.9
comp=Z,162nm,1.5s
P29A **Atwood** 32.13 317 ⇑P P 02 04 02.2 +0.2
baz=32
324A **Moseley Ranch,** 32.13 300 ⇓P P 02 04 02.5 +0.3
baz=32,SNR=43
ECSD **EROS Data Cent** 32.18 327 *e*P P 02 04 02.0 -0.3
comp=Z,80nm,1.9s
ECSD **EROS Data Cent** 32.18 327 ⇓P P 02 04 02.9 +0.6
baz=32
N30A **Hueftle Ranch,** 32.28 319 ⇓P P 02 04 03.8 +0.5
baz=32
Y25A **Mesa, Roswell** 32.28 305 ⇓P P 02 04 03.4 0.0
baz=32
V26A **Tequesquite Ra** 32.30 309 ⇓P P 02 04 03.9 +0.3
baz=32,SNR=12
O29A **4D Ranch, Culb** 32.33 318 ⇑P P 02 04 04.7 +1.0
baz=32
224A **Cornudas Mount** 32.35 301 ⇓P P 02 04 04.5 +0.4
baz=32,SNR=30
L31A **Butterfield Fa** 32.36 323 ⇑P P 02 04 04.9 +1.0
baz=32
Q28A **Sharon Springs** 32.44 315 ⇑P P 02 04 04.8 +0.1
baz=32
X25A **Clemmons Ranch** 32.47 306 ⇑P P 02 04 05.8 +0.8
baz=32,SNR=12
124A **Stringfield Ra** 32.48 302 ⇓P P 02 04 06.0 +0.7
baz=32,SNR=25
U26A **Atchley Ranch,** 32.52 310 ⇓P P 02 04 06.2 +0.6
baz=33,SNR=15
W25A **X Bar L Ranch,** 32.58 307 ⇓P P 02 04 06.9 +0.9
baz=33,SNR=17
Z24A **Sheeppen Canyo** 32.60 304 ⇓P P 02 04 07.2 +0.9
baz=33,SNR=33
N29A **Votaw Ranch, W** 32.62 319 ⇓P P 02 04 06.0 -0.2
baz=33,SNR=6.3
P28A **Saint Francis** 32.65 316 ⇓P P 02 04 07.0 +0.4
baz=33,SNR=8.3
R27A **Eads** 32.70 313 ⇑P P 02 04 07.0 0.0
baz=33,SNR=9.1
L30A **Spencer Herefo** 32.74 322 ⇑P P 02 04 07.5 +0.3
baz=33
T26A **Comanche Natio** 32.75 311 ⇓P P 02 04 06.7 -0.8
baz=33,SNR=9.5
Y24A **Capitan** 32.86 305 ⇑P P 02 04 09.2 +0.7
baz=33,SNR=17
V25A **Rancho No Teng** 32.93 308 ⇓P P 02 04 10.2 +1.0
baz=33,SNR=27
KSCO **Kaye Shedlock'** 32.94 315 ⇑P P 02 04 09.6 +0.4
baz=33
O28A **Krutsinger Ran** 32.96 317 ⇑P P 02 04 09.3 +0.1
baz=33
U25A **Circle Dot Ran** 33.01 309 ⇑P P 02 04 10.1 +0.3
baz=33,SNR=13
M29A **Burnside Ranch** 33.02 320 ⇑P P 02 04 10.3 +0.6
baz=33
X24A **Lazy VL Ranch,** 33.08 306 ⇓P P 02 04 11.3 +0.8
baz=33
123A **Bell Site, Whi** 33.11 302 ⇑P P 02 04 11.5 +0.8
baz=33
N28A **Pribbeno Ranch** 33.12 318 ⇓P P 02 04 11.1 +0.5
baz=33,SNR=8.1
EYMN **Ely** 33.13 337 *e*P P 02 04 20.9 +10
comp=Z,74nm,1.4s
R26A **Arlington** 33.16 313 ⇑P P 02 04 11.0 -0.1
baz=33
P27A **Ficken Ranch,** 33.19 316 ⇑P P 02 04 11.5 +0.2
baz=33
Z23A **Rita Site, Whi** 33.27 303 ⇑P P 02 04 12.9 +0.8
baz=33,SNR=12
W24A **Lazy 6 Ranch,** 33.29 307 ⇑P P 02 04 13.6 +1.3
baz=33,SNR=18
T25A **Trinidad** 33.32 311 ⇓P P 02 04 13.7 +1.1
baz=33,SNR=19
Y23A **Lovelace Mesa,** 33.35 304 ⇓P P 02 04 13.7 +0.9
baz=33,SNR=25
V24A **Rampart Ranch,** 33.38 308 ⇓P P 02 04 14.4 +1.3
baz=33
M28A **Bar X Bar Ranc** 33.41 319 ⇓P P 02 04 13.5 +0.3
baz=34
O27A **Beecher Island** 33.45 317 ⇓P P 02 04 13.8 +0.3
baz=34
Q26A **Hugo** 33.51 314 ⇓P P 02 04 15.0 +0.9
baz=34,SNR=15
S25A **Robets Cordova** 33.56 311 ⇑P P 02 04 15.1 +0.4
baz=34,SNR=15
OGNE **Ogallala** 33.57 318 ⇓P P 02 04 15.1 +0.6
baz=34
222A **Williams Famil** 33.64 301 ⇑P P 02 04 16.1 +0.8
baz=34
U24A **Moreno Valley** 33.65 309 ⇑P P 02 04 16.6 +1.0
baz=34,SNR=6.6
R25A **Fountain Ranch** 33.67 312 ⇓P P 02 04 16.3 +0.7
baz=34,SNR=7.4
P26A **Davis Ranch, A** 33.70 315 ⇑P P 02 04 16.3 +0.5
baz=34
N27A **Anderson Farm,** 33.82 318 ⇑P P 02 04 17.1 +0.4
baz=34
L28A **Connealy Angus** 33.85 320 ⇓P P 02 04 18.2 +1.2
baz=34
Z22A **Elephant Butte** 33.85 303 ⇑P P 02 04 18.3 +1.1
baz=34,SNR=9.0
BRSD **Miller** 33.90 326 *e*P P 02 04 17.4 +0.2
J29A **Okreek** 33.99 323 ⇑P P 02 04 18.7 +0.6
baz=34,SNR=5.4
T24B **San Luis** 33.99 310 ⇓P P 02 04 19.3 +0.7
baz=34,SNR=12
ANMO **Albuquerque** 34.00 306 *e*P P 02 04 19.8 +1.3
comp=Z,48nm,1.3s
ANMO **Albuquerque** 34.00 306 P P 02 04 19.9 +1.3
comp=Z,17nm,1.1s,baz=120,slow=10,SNR=16
ANMO LR LR 02 20 03.4
comp=Z,1µm,18.1s,baz=109,slow=40
Q25A **Bedland, Calha** 34.00 313 ⇑P P 02 04 18.9 +0.4
baz=34
O26A **Horse Wrangler** 34.02 316 ⇓P P 02 04 19.4 +0.8
baz=34
Y22D **IRIS PASSCAL I** 34.07 304 ⇑P P 02 04 20.4 +1.3
baz=34

V23A **Ortiz Mt. (NFS** 34.08 307 ⇑P P 02 04 20.3 +1.1
baz=34,SNR=15
S24A **Houchin Ranch,** 34.11 311 ⇓P P 02 04 19.9 +0.4
baz=34,SNR=9.8
M27A **Reverse DX Ran** 34.11 319 ⇓P P 02 04 19.6 +0.3
baz=34
221A **Mesquite Ranch** 34.17 300 ⇑P P 02 04 21.2 +1.2
baz=34,SNR=6.9
K28A **Ten Mile Ranch** 34.17 321 P P 02 04 19.3 -0.5
baz=34
N26A **Koester Ranch,** 34.27 317 ⇓P P 02 04 21.6 +1.0
baz=34
R24A **Sanders Place,** 34.29 312 ⇑P P 02 04 21.6 +0.6
baz=34
U23A **El Rito** 34.30 308 ⇓P P 02 04 22.3 +1.1
baz=34,SNR=15
121A **Cookes Peak, D** 34.31 301 eP P 02 04 22.6 +1.3
comp=Z,122nm,1.3s
121A **Cookes Peak, D** 34.31 301 ⇑P P 02 04 22.5 +1.3
baz=34,SNR=12
I29A **Vivian Onida** 34.36 324 ⇑P P 02 04 22.2 +0.9
baz=34
SDCO **Great Sand Dun** 34.36 311 eP P 02 04 22.0 +0.3
comp=Z,29nm,1.1s
G30A **Faulkton** 34.45 326 ⇑P P 02 04 22.6 +0.6
baz=34
T23A **Casias Ranch,** 34.46 309 ⇑P P 02 04 23.4 +0.9
baz=34,SNR=7.0
O25A **Wiggins** 34.49 315 ⇑P P 02 04 23.4 +0.8
baz=34
J28A **Allard Ranch,** 34.52 322 ⇓P P 02 04 23.5 +0.8
baz=35
320A **Kipp Ranch, An** 34.63 299 ⇓P P 02 04 25.0 +1.0
baz=35,SNR=9.6
Q24A **Divide** 34.65 313 ⇓P P 02 04 24.7 +0.5
baz=35,SNR=9.3
K27A **Flueckinger Fa** 34.69 321 ⇑P P 02 04 24.2 -0.1
baz=35
V22A **San Miguel Ran** 34.69 307 ⇓P P 02 04 25.6 +1.1
baz=35,SNR=19
S23A **Nye Farm, Mont** 34.71 310 ⇓P P 02 04 25.4 +0.8
baz=35,SNR=8.8
P24A **Kohler Place,** 34.74 314 ⇓P P 02 04 25.6 +0.8
baz=35
R23A **Moffat** 34.78 311 ⇑P P 02 04 26.4 +1.0
baz=35,SNR=15
LPAZ **La Paz** 34.80 172 eP P 02 04 27.8 +1.8
comp=Z,40nm,1.4s
LPAZ **La Paz** 34.80 172 LR LR 02 19 33.4
comp=Z,6µm,21.5s,baz=356,slow=38
U22A **Llaves** 34.81 308 ⇓P P 02 04 26.6 +1.0
baz=35,SNR=22
I28A **Midland** 34.83 323 ⇑P P 02 04 25.7 +0.3
baz=35
J27A **Elkhorn Farm,** 34.87 322 ⇓P P 02 04 26.6 +0.8
baz=35
M25A **Palm-Egli Farm** 35.12 317 ⇑P P 02 04 28.9 +0.8
baz=35,SNR=12
O24A **Longmont** 35.14 315 ⇓P P 02 04 28.9 +0.7
baz=35
AGMN **Agassiz Nation** 35.17 333 eP P 02 04 28.6 +0.4
comp=Z,258nm,2.1s
AGMN **Agassiz Nation** 35.17 333 ⇑P P 02 04 28.8 +0.6
baz=35
H28A **Mission Ridge** 35.17 324 ⇑P P 02 04 29.2 +0.8
baz=35
K26A **Motz Farm, Whi** 35.26 320 ⇓P P 02 04 29.4 +0.3
baz=35
319A **Douglas** 35.26 299 ⇑P P 02 04 30.6 +1.2
baz=35,SNR=28
P23A **Jefferson** 35.31 313 ⇓P P 02 04 30.9 +1.0
baz=35,SNR=7.0
S22A **4UR Ranch, Cre** 35.32 310 ⇑P P 02 04 30.6 +0.6
baz=35,SNR=14
ISCO **Idaho Springs** 35.35 314 eP P 02 04 31.1 +0.8
ISCO pmax pmax
comp=Z,68nm,1.6s
ISCO **Idaho Springs** 35.35 314 eP P 02 04 31.1 +0.8
comp=Z,68nm,1.6s
ISCO **Idaho Springs** 35.35 314 ⇑P P 02 04 30.7 +0.4
baz=35,SNR=16
N24A **Carr** 35.35 316 ⇑P P 02 04 31.1 +1.0
baz=35
G28A **Parade** 35.37 325 ⇑P P 02 04 30.4 +0.3
baz=35
I27A **Quinn** 35.38 323 ⇓P P 02 04 30.6 +0.4
baz=35
L25A **Engebretsen Ra** 35.45 319 ⇑P P 02 04 31.3 +0.5
baz=36
J26A **Sides Ranch, S** 35.54 321 ⇑P P 02 04 31.9 +0.3
baz=36
D30A **Buchanan** 35.62 329 ⇑P P 02 04 32.6 +0.5
baz=36
K25A **Mack Ranch, Ha** 35.63 319 ⇓P P 02 04 33.0 +0.6
baz=36
M24A **Cheyenne** 35.63 317 ⇑P P 02 04 33.1 +0.6
baz=36,SNR=8.2
E29A **Napoleon** 35.68 328 ⇑P P 02 04 33.7 +1.0
baz=36
H27A **Howes** 35.74 323 ⇑P P 02 04 33.5 +0.3
baz=36
O23A **Lake Granby, G** 35.75 314 ⇓P P 02 04 34.2 +0.5
baz=36
I26A **New Underwood** 35.83 322 ⇑P P 02 04 34.1 +0.1
baz=36
C30A **Mose, Pekin** 35.91 330 ⇑P P 02 04 35.2 +0.6
baz=36
PHWY **Pilot Hill** 35.96 316 eP P 02 04 35.9 +0.4
comp=Z,53nm,1.5s
D29A **Pettibone, Tap** 36.00 329 ⇑P P 02 04 36.0 +0.7
baz=36
SMCO **Snowmass** 36.02 312 eP P 02 04 36.7 +0.6
comp=Z,39nm,1.1s
J25A **Sunshine Ranch** 36.02 320 ⇓P P 02 04 36.4 +0.6
baz=36
P22A **Eagle** 36.05 313 ⇑P P 02 04 36.6 +0.4
baz=36
N23A **Red Feather La** 36.09 315 ⇓P P 02 04 37.2 +0.7
baz=36
SIV **San Ignacio** 36.12 160 P P 02 04 37.0 +0.4
SIV **San Ignacio** 36.12 160 P P 02 04 37.0 +0.4
comp=Z,7.3nm,0.9s,baz=358,slow=7.9,SNR=4.4
SIV LR LR 02 20 15.1
comp=Z,5µm,18.2s,baz=354,slow=38
G27A **Dupree** 36.12 325 ⇓P P 02 04 36.9 +0.4
baz=36
H26A **Fairpoint** 36.12 323 ⇑P P 02 04 36.9 +0.4
baz=36
O22A **Kremmling** 36.15 314 ⇑P P 02 04 37.3 +0.1
baz=36,SNR=6.8
E28A **Huff** 36.23 327 ⇓P P 02 04 37.7 +0.4
baz=36
K24A **Anderson Ranch** 36.28 319 ⇑P P 02 04 38.9 +0.9
baz=36
I25A **Rochford** 36.33 321 P P 02 04 38.1 -0.4
baz=36
MVCO **Mesa Verde** 36.35 308 eP P 02 04 39.5 +0.8
MVCO **Mesa Verde** 36.35 308 ⇓P P 02 04 39.2 +0.4
baz=36,SNR=5.6
B30A **Myrvik Farm, E** 36.38 331 ⇑P P 02 04 39.0 +0.4
baz=36
N22A **Wattenberg Ran** 36.38 315 ⇑P P 02 04 39.8 +0.7
baz=36,SNR=6.7
F27A **Lemmon** 36.47 325 ⇑P P 02 04 39.8 +0.3
baz=36
J24A **Dixon Ranch, L** 36.51 320 ⇑P P 02 04 40.4 +0.5
baz=37
L23A **Garrett** 36.53 317 ⇓P P 02 04 40.5 +0.3
baz=37,SNR=9.0
MDND **Maddock** 36.55 329 eP P 02 04 43.8 +3.7
comp=Z,221nm,1.5s
MDND **Maddock** 36.55 329 ⇓P P 02 04 39.9 -0.2
baz=37
RSSD **Black Hills** 36.57 321 eP P 02 04 43.3 +2.7
RSSD pmax pmax
comp=Z,19nm,1.2s
RSSD **Black Hills** 36.57 321 eP P 02 04 43.3 +2.7
comp=Z,19nm,1.2s
E27A **Carson** 36.59 326 ⇑P P 02 04 41.1 +0.7
baz=37
X18A **Snowflake** 36.60 303 ⇑P P 02 04 41.8 +0.9
baz=37,SNR=16
W18A **Petrified Fore** 36.60 305 eP P 02 04 42.4 +1.5
comp=Z,79nm,1.3s
W18A **Petrified Fore** 36.60 305 ⇑P P 02 04 41.7 +0.8
baz=37,SNR=11
SCHQ **Schefferville** 36.66 6 P P 02 04 41.0 +0.1
SCHQ **Schefferville** 36.66 6 P P 02 04 41.0 +0.1
comp=Z,12nm,1.0s,baz=182,slow=8.3,SNR=4.5
SCHQ LR LR 02 18 49.0
comp=Z,3µm,20.4s,baz=206,slow=35
ULM **Lac du Bonnet** 36.69 335 eP P 02 04 41.0 -0.2
comp=Z,66nm,1.5s
ULM **Lac du Bonnet** 36.69 335 P P 02 04 40.8 -0.4
comp=Z,27nm,1.1s,baz=138,slow=6.3,SNR=9.0
ULM LR LR 02 19 54.3
comp=Z,595nm,19.4s,baz=158,slow=36
TUC **Tucson** 36.72 300 eP P 02 04 43.3 +1.5
TUC pmax pmax
comp=Z,21nm,1.1s
TUC **Tucson** 36.72 300 eP P 02 04 43.3 +1.5
comp=Z,21nm,1.1s
A30A **Hoffart Farm,** 36.72 332 ⇓P P 02 04 42.3 +0.7
baz=37
PV01 **Paradox Valley** 36.74 310 eP P 02 04 42.9 +0.7
comp=Z,2µm,1.2s
M22A **Cedar Creek Ra** 36.76 316 ⇑P P 02 04 42.7 +0.5
baz=37
I24A **Kuemmerle Ranc** 36.78 321 ⇓P P 02 04 42.4 +0.2
baz=37
K23A **Bowen Ranch, D** 36.80 318 ⇑P P 02 04 42.6 +0.1
baz=37
F26A **Lodgepole** 36.82 325 ⇓P P 02 04 42.7 +0.3
baz=37
G25A **Newell** 36.84 323 ⇓P P 02 04 42.8 +0.2
baz=37,SNR=10
B29A **Wagenman Farm,** 36.86 330 ⇓P P 02 04 43.4 +0.7
baz=37
L22A **Ellis Ranch, M** 36.96 317 ⇑P P 02 04 44.8 +0.9
baz=37
PV04 **Paradox Valley** 37.08 310 eP P 02 04 46.0 +1.0
E26A **Carlson Angus** 37.09 326 ⇓P P 02 04 45.2 +0.4
baz=37
A29A **Manning Farm,** 37.13 331 ⇑P P 02 04 45.6 +0.6
baz=37
H24A **Dirks Ranch, A** 37.23 322 ⇑P P 02 04 46.2 +0.2
baz=37
F25A **Bowman** 37.30 324 ⇑P P 02 04 46.8 +0.2
baz=37
O20A **White River Ci** 37.31 313 eP P 02 04 47.8 +0.9
comp=Z,41nm,1.1s
O20A **White River Ci** 37.31 313 ⇓P P 02 04 46.8 -0.1
baz=37,SNR=9.2
K22A **Casper** 37.32 318 eP P 02 04 47.4 +0.5
comp=Z,72nm,1.3s
K22A **Casper** 37.32 318 ⇓P P 02 04 47.0 +0.1
baz=37,SNR=7.0
B28A **Dugan Ranch, T** 37.33 330 ⇑P P 02 04 47.1 +0.4
baz=37
D26A **Manning** 37.43 326 ⇓P P 02 04 49.0 +1.4
baz=38
G24A **Alzada** 37.48 323 ⇓P P 02 04 48.2 0.0
baz=38
E25A **Miller Ranch,** 37.62 325 ⇓P P 02 04 49.6 +0.4
baz=38
N20A **Spence Gulch,** 37.62 314 ⇑P P 02 04 50.4 +0.8
baz=38
J22A **Midwest** 37.68 319 ⇑P P 02 04 50.0 +0.1
baz=38,SNR=9.6
X16A **Lo Mia Camp, P** 37.76 303 ⇑P P 02 04 51.3 +0.6
baz=38,SNR=16
C26A **Wagner Farm, P** 37.77 328 ⇑P P 02 04 51.1 +0.6
baz=38
K21A **Alcova** 37.78 317 ⇓P P 02 04 51.4 +0.5
baz=38,SNR=19
F24A **Ekalaka** 37.80 323 ⇑P P 02 04 51.0 +0.2
baz=38
I22A **9 Mile Ranch,** 37.93 319 ⇓P P 02 04 52.3 +0.3
baz=38,SNR=6.5
G23A **Biddle** 37.98 322 ⇑P P 02 04 52.1 -0.2
baz=38
WUAZ **Wupatki** 38.00 304 eP P 02 04 54.4 +1.6
comp=Z,67nm,1.3s
WUAZ **Wupatki** 38.00 304 ⇑P P 02 04 54.2 +1.4
baz=38,SNR=13
J21A **Lysite** 38.26 318 ⇓P P 02 04 55.1 +0.3
baz=38,SNR=11
F23A **Volborg** 38.28 323 ⇓P P 02 04 55.2 +0.3
baz=38
214A **Organ Pipe Nat** 38.33 298 ⇑P P 02 04 56.2 +0.8
baz=38,SNR=12
I21A **Big Trails, Te** 38.39 319 ⇓P P 02 04 55.8 -0.1
baz=38,SNR=11
SRU **San Rafael** 38.52 310 eP P 02 04 58.0 +0.8
SRU pmax pmax
comp=Z,75nm,1.8s
SRU **San Rafael** 38.52 310 eP P 02 04 58.0 +0.8
comp=Z,75nm,1.8s
J20A **Shoshoni** 38.66 318 ⇑P P 02 04 58.8 +0.6
baz=39,SNR=6.5
Z14A **Wintersburg** 38.72 301 ⇑P P 02 04 59.3 +0.6
baz=39,SNR=8.7
F22A **Rosebud** 38.81 322 ⇑P P 02 04 59.4 +0.2
baz=39,SNR=12
Y14A **Wickenburg** 38.90 301 ⇓P P 02 05 00.8 +0.6
baz=39,SNR=9.8
U15A **North Rim** 38.97 306 ⇑P P 02 05 02.1 +1.0
baz=39,SNR=19
I20A **Worland** 38.98 319 ⇑P P 02 05 01.0 +0.1
baz=39,SNR=6.5
E22A **Miles City** 39.00 323 ⇑P P 02 05 01.2 +0.3
baz=39
A25A **Svangstu Ranch** 39.01 328 ⇑P P 02 05 01.6 +0.7
baz=39
D23A **Lindsay** 39.01 325 ⇑P P 02 05 01.8 +0.8
baz=39
G21A **Lodge Grass** 39.07 321 ⇑P P 02 05 01.5 -0.1
baz=39
TMUT **Trail Mountain** 39.09 310 eP P 02 05 03.4 +1.4
comp=Z,280nm,2.4s
H20A **Greybull** 39.17 319 ⇓P P 02 05 02.4 0.0
baz=39
J19A **Crowheart** 39.24 317 ⇑P P 02 05 03.5 +0.4
baz=39,SNR=11
DGMT **Dagmar** 39.26 327 eP P 02 05 03.5 +0.5
comp=Z,763nm,2.9s
113A **Mohawk Valley,** 39.28 299 ⇑P P 02 05 03.8 +0.5
baz=39,SNR=7.3
BW06 **Boulder Array** 39.35 316 eP P 02 05 03.5 -0.6
comp=Z,57nm,1.6s
PDAR **Pinedale Array** 39.35 316 P P 02 05 03.2 -0.8
PDAR PcP PcP 02 07 12.1 -0.5
PDAR **Pinedale Array** 39.35 316 P P 02 05 03.2 -0.8
comp=Z,3.9nm,0.7s,baz=111,slow=8.4,SNR=12
PDAR PcP PcP 02 07 12.1 -0.5
comp=Z,5.4nm,1.0s,baz=130,slow=2.3,SNR=4.5
PDAR LR LR 02 22 54.8
comp=Z,3µm,18.5s,baz=122,slow=39
C23A **Lambert** 39.37 325 ⇓P P 02 05 04.3 +0.4
baz=39
A24A **Westby** 39.45 328 ⇑P P 02 05 05.2 +0.7
baz=40
DAU **Daniels Canyon** 39.53 312 eP P 02 05 06.8 +1.1
DAU **Daniels Canyon** 39.53 312 eP P 02 05 06.8 +1.1
D22A **Cohagen** 39.54 324 ⇑P P 02 05 06.3 +1.0
baz=40
MVU **Marysvale** 39.55 309 eP P 02 05 07.1 +1.2
comp=Z,50nm,1.5s
I19A **Meeteetse** 39.57 318 ⇑P P 02 05 06.0 +0.1
baz=40,SNR=10
MPU **Maple Canyon** 39.65 311 eP P 02 05 06.0 -0.6
comp=Z,38nm,1.1s
G20A **Bridger** 39.67 320 ⇑P P 02 05 06.5 -0.1
baz=40
C22A **Vida** 39.72 325 ⇓P P 02 05 07.2 +0.4
baz=40
H19A **Powell** 39.87 319 ⇑P P 02 05 08.9 +0.6
baz=40,SNR=8.9
W13A **Hualapai Mount** 39.87 303 ⇑P P 02 05 09.9 +1.4
baz=40
PDMCI **Parker Dam,Lak** 39.90 302 ⇑P P 02 05 09.4 +0.9
baz=40,SNR=10
F20A **Billings** 39.93 321 ⇓P P 02 05 08.9 +0.2
baz=40
D21A **La Casta Ranch** 39.95 323 ⇑P P 02 05 09.4 +0.7
baz=40
NLU **North Lily Min** 39.95 311 eP P 02 05 10.5 +1.4
comp=Z,45nm,1.3s
CTU **Camp Tracy** 39.99 312 eP P 02 05 10.1 +0.8
comp=Z,42nm,1.3s
Y12C **Blythe** 40.09 301 ⇑P P 02 05 10.6 +0.5
baz=40,SNR=8.3
B22A **Reddig Ranch S** 40.11 326 ⇑P P 02 05 11.2 +1.1
baz=40
GLA **Glamis** 40.20 300 ⇑P P 02 05 12.1 +1.0
baz=40,SNR=14
E20A **Meyer Farm, Mu** 40.29 322 ⇓P P 02 05 11.9 +0.2
baz=40,SNR=7.9
H18A **Shoshone NF, C** 40.30 319 ⇓P P 02 05 11.5 -0.4
baz=40,SNR=8.3
LOHW **Long Hollow** 40.41 317 eP P 02 05 13.3 +0.5
comp=Z,62nm,1.1s
F19A **Roth Farm, Mol** 40.44 321 ⇓P P 02 05 13.0 0.0
baz=40
REDW **Red Top Meadow** 40.46 316 eP P 02 05 13.7 +0.4
comp=Z,79nm,1.1s
A22A **Carney Farms,** 40.48 326 ⇓P P 02 05 14.3 +1.1
baz=40,SNR=6.7
I17A **Pilgrim Ck.** 40.53 317 ⇓P P 02 05 14.4 +0.6
baz=41,SNR=8.4
MOOW **Moose Ponds** 40.56 317 eP P 02 05 14.3 +0.1
comp=Z,39nm,1.0s
DUG **Dugway** 40.56 311 eP P 02 05 15.0 +0.9
DUG pmax pmax
comp=Z,40nm,1.1s
DUG **Dugway** 40.56 311 eP P 02 05 14.9 +0.9
comp=Z,40nm,1.1s
DUG **Dugway** 40.56 311 ⇑P P 02 05 14.8 +0.8
baz=41,SNR=12
TPAW **Teton Pass** 40.58 316 eP P 02 05 14.7 +0.3
comp=Z,59nm,1.1s
D20A **Manuel Ranch,** 40.61 323 ⇑P P 02 05 14.4 +0.1
baz=41
E19A **Rath Farm, Rou** 40.66 322 ⇑P P 02 05 15.1 +0.5
baz=41,SNR=6.8
FLWY **Flagg Ranch** 40.68 317 eP P 02 05 16.2 +1.1
comp=Z,204nm,1.8s
IRM **Iron Mountain** 40.68 301 ⇑P P 02 05 15.9 +0.9
baz=41,SNR=24
FXWY **Fox Creek** 40.70 317 eP P 02 05 15.5 +0.2
comp=Z,51nm,1.1s
H17A **Grant Village** 40.74 318 eP P 02 05 17.1 +1.4
comp=Z,123nm,2.3s
H17A **Grant Village** 40.74 318 ⇑P P 02 05 16.3 +0.7
baz=41
IMW **Indian Meadow** 40.75 317 eP P 02 05 16.7 +0.9
comp=Z,25nm,1.0s
BC3 **Big Chuckawall** 40.83 300 ⇓P P 02 05 16.8 +0.5
baz=41,SNR=16
GCMT **Greycliff** 40.84 320 eP P 02 05 16.5 +0.2
comp=Z,50nm,1.6s
C20A **Veseth Ranch,** 40.88 324 ⇑P P 02 05 17.5 +1.0
baz=41
YFT **Old Faithful** 40.94 318 eP P 02 05 19.5 +2.3
comp=Z,34nm,1.1s
LVC **Limon Verde** 40.96 174 eP P 02 05 17.0 -0.5
comp=Z,42nm,1.5s
BGU **Big Grassy Mou** 40.98 312 eP P 02 05 18.2 +0.7
comp=Z,29nm,1.3s
SWSC **Sam W. Stewart** 40.99 299 ⇑P P 02 05 18.5 +1.0
baz=41
A21A **Bergtoll Ranch** 41.01 326 ⇑P P 02 05 19.0 +1.5
baz=41,SNR=7.1
D19A **Cripps Ranch,** 41.08 322 ⇓P P 02 05 18.5 +0.3
baz=41
HVU **Hansel Valley** 41.11 313 eP P 02 05 18.0 -0.6
HVU pmax pmax
comp=Z,310nm,2.6s
HVU **Hansel Valley** 41.11 313 eP P 02 05 17.9 -0.6
comp=Z,310nm,2.6s
YMR **Madison River** 41.12 318 eP P 02 05 20.0 +1.3
comp=Z,53nm,1.6s
DVTC **Desert V Tower** 41.19 299 ⇑P P 02 05 19.9 +0.6
baz=41
SHPR **Sheep Range** 41.22 305 eP P 02 05 20.5 +0.9
GMRC **Granite Mounta** 41.22 302 ⇑P P 02 05 20.1 +0.5
baz=41,SNR=8.7
B20A **Solberg Farm,** 41.29 325 ⇑P P 02 05 20.5 +0.7
baz=41
BELC **Belle Mtn. Jos** 41.34 301 ⇑P P 02 05 21.0 +0.4
baz=41,SNR=10
C19A **Slack Wire Ran** 41.48 323 ⇑P P 02 05 22.1 +0.6
baz=42
QLMT **Earthquake Lak** 41.49 318 eP P 02 05 23.2 +1.5
A20A **Cobblestone Ra** 41.49 325 ⇑P P 02 05 22.3 +0.8
baz=42,SNR=7.3
MONP **Monument Peak** 41.49 299 ⇑P P 02 05 22.9 +0.9
baz=42,SNR=14
TUQ **Turquoise Moun** 41.58 303 ⇓P P 02 05 23.8 +1.3
baz=42,SNR=20
PFO **Pinyon Flat Ob** 41.65 300 P P 02 05 23.1 +0.1
PFO **Pinyon Flat Ob** 41.65 300 P P 02 05 23.1 +0.1
comp=Z,3.5nm,0.8s,baz=107,slow=7.3,SNR=9.0
PFO **Pinyon Flat Ob** 41.65 300 ⇓P P 02 05 23.9 +0.8
baz=42,SNR=7.2
HEC **Hector,Ludlow** 41.77 302 ⇓P P 02 05 25.3 +1.3
baz=42,SNR=11
BDFB **Brasilia** 41.78 143 P P 02 05 24.4 +0.1
BDFB **Brasilia** 41.78 143 P P 02 05 24.4 +0.1
comp=Z,64nm,1.2s,baz=316,slow=11,SNR=16
BDFB LR LR 02 23 25.4
comp=Z,3µm,18.0s,baz=316,slow=37
B19A **Brinkman Farms** 41.81 324 ⇓P P 02 05 25.0 +0.9
baz=42
SHOC **Shoshone** 41.96 304 ⇓P P 02 05 26.8 +1.3
baz=42,SNR=9.7
A19A **Klindworth Far** 41.96 325 ⇓P P 02 05 26.5 +1.1
baz=42
BOZ **Bozeman (W)** 41.98 319 eP P 02 05 26.9 +1.2
BOZ pmax pmax
comp=Z,20nm,0.7s
BOZ **Bozeman (W)** 41.98 319 eP P 02 05 26.9 +1.2
comp=Z,20nm,0.7s
R11A **Troy Canyon, C** 42.03 307 eP P 02 05 27.6 +1.4
comp=Z,30nm,1.3s
R11A **Troy Canyon, C** 42.03 307 ⇓P P 02 05 27.4 +1.2
baz=42,SNR=11
EGMT **Eagleton** 42.04 323 eP P 02 05 27.2 +1.2
comp=Z,51nm,1.4s
EGMT **Eagleton** 42.04 323 ⇓P P 02 05 27.0 +1.0
baz=42
109C **Camp Elliot, M** 42.06 299 ⇓P P 02 05 27.4 +1.1
baz=42
BBRC **Big Bear Solar** 42.14 301 ⇓P P 02 05 28.8 +1.5
baz=42
TPNV **Topopah Spring** 42.18 305 eP P 02 05 29.4 +2.0
TPNV pmax pmax
comp=Z,88nm,1.4s
TPNV **Topopah Spring** 42.18 305 eP P 02 05 29.4 +2.0
comp=Z,88nm,1.4s
TPNV **Topopah Spring** 42.18 305 ⇑P P 02 05 28.8 +1.3
baz=42,SNR=14
GSC **Goldstone** 42.25 302 ⇓P P 02 05 29.0 +1.0
baz=42,SNR=15
MURC **Murrieta** 42.26 300 ⇓P P 02 05 28.9 +1.0
baz=42,SNR=13
RRX **Edison Barstow** 42.32 302 ⇓P P 02 05 29.9 +1.4
baz=42
MCMT **McKenzie Canyo** 42.39 317 eP P 02 05 30.1 +0.9
comp=Z,12nm,0.9s
DLMT **Dillon** 42.46 318 eP P 02 05 30.5 +0.9
comp=Z,45nm,1.3s
ELK **Elko** 42.49 311 eP P 02 05 30.7 +0.7
comp=Z,20nm,1.1s
ELK **Elko** 42.49 311 LR LR 02 25 07.2
comp=Z,2µm,19.2s,baz=359,slow=39
FURC **Furnace Creek,** 42.54 304 ⇓P P 02 05 31.6 +1.4
baz=43,SNR=14
LRM **Limekiln Ridge** 42.58 319 eP P 02 05 30.7 +0.1
HRY **Holter Researc** 42.60 320 eP P 02 05 31.0 +0.3
BFSC **Mount Baldy Ra** 42.74 301 ⇓P P 02 05 32.7 +0.7
baz=43,SNR=8.1
HLID **Hailey** 42.91 315 eP P 02 05 34.0 +0.7
comp=Z,60nm,1.7s
HLID **Hailey** 42.91 315 ⇑P P 02 05 33.8 +0.5
baz=43,SNR=9.9
LRMC **Laurel Mountai** 42.99 303 ⇑P P 02 05 34.6 +0.5
baz=43
GRAC **Grapevine Rang** 43.06 305 ⇓P P 02 05 35.6 +1.2
baz=43,SNR=12
EDW2 **Edwards Air Fo** 43.12 302 ⇑P P 02 05 36.0 +1.0
baz=43,SNR=14
FCC **Fort Churchill** 43.17 344 eP P 02 05 34.4 -0.5
FCC pmax pmax
comp=Z,2.0nm,1.4s
FCC **Fort Churchill** 43.17 344 eP P 02 05 34.4 -0.5
comp=Z,1.8nm,1.4s
TPH **Tonopah** 43.20 306 eP P 02 05 37.2 +1.4
TPH pmax pmax
comp=Z,58nm,1.3s
TPH **Tonopah** 43.20 306 eP P 02 05 37.2 +1.4
comp=Z,58nm,1.3s
CIS **Catalina Islan** 43.22 299 ⇓P P 02 05 36.6 +0.8
baz=43,SNR=7.8

DECC **Green Verdugo** 43.29 301 ⇓P P 02 05 37.3 +0.9
baz=43
CHMT **Chamberlain Mo** 43.56 320 eP P 02 05 38.3 -0.3
ISA **Isabella** 43.66 303 ⇓P P 02 05 40.4 +1.1
baz=44,SNR=9.7
RCBR **Riachuelo** 43.73 120 eP P 02 05 39.9 -0.2
comp=Z,92nm,1.7s
RCBR **Riachuelo** 43.73 120 P P 02 05 40.1 0.0
comp=Z,7.9nm,0.7s,baz=306,slow=8.2,SNR=5.8
RCBR LR LR 02 24 47.2
comp=Z,898nm,18.1s,baz=282,slow=37
TIN **Tinemaha** 43.74 305 ⇓P P 02 05 41.4 +1.4
baz=44
MFID **Camas Ranch** 43.81 314 eP P 02 05 40.8 +0.3
comp=Z,134nm,2.2s
BMN **Battle Mountai** 43.83 310 eP P 02 05 41.3 +0.5
BMN pmax pmax
comp=Z,35nm,1.3s
BMN **Battle Mountai** 43.83 310 eP P 02 05 41.3 +0.5
comp=Z,35nm,1.3s
ARVC **Arvin** 43.85 302 ⇑P P 02 05 42.1 +1.3
baz=44,SNR=14
SLMT **Seeley Lake** 43.86 320 eP P 02 05 41.9 +1.0
BLG **Laguna Peak** 43.87 300 P P 02 05 42.5 +1.5
baz=44
MSO **Missoula** 43.95 319 eP P 02 05 42.6 +1.0
comp=Z,45nm,1.8s
MSO **Missoula** 43.95 319 ⇓P P 02 05 42.1 +0.5
baz=44
MTUM **Tungsten Hills** 44.07 305 eP P 02 05 44.4 +1.6
NVAR **Mina Array Bea** 44.12 307 P P 02 05 43.2 +0.1
NVAR **Mina Array Bea** 44.12 307 P P 02 05 43.2 +0.1
comp=Z,6.3nm,0.8s,baz=121,slow=6.9,SNR=13
VES **Vestal, Richgr** 44.18 303 ⇓P P 02 05 45.0 +1.6
baz=44,SNR=13
SWMT **Swartz Lake** 44.29 320 eP P 02 05 44.8 +0.5
BSC **Santa Cruz Isl** 44.32 300 ⇓P P 02 05 45.4 +0.8
baz=44
MLAC **Mammoth Lakes** 44.34 305 ⇓P P 02 05 46.1 +1.1
baz=44
RCTC **Rector, Farmer** 44.39 303 ⇓P P 02 05 46.0 +0.9
baz=44,SNR=7.4
YBMT **Yellow Bay** 44.45 321 eP P 02 05 46.1 +0.5
comp=Z,18nm,1.3s
JTMT **Jette** 44.56 321 eP P 02 05 46.9 +0.4
PKM **Peak Mountain** 44.61 301 ⇑P P 02 05 48.2 +1.1
baz=45,SNR=8.8
BSMT **Bassoo Peak** 44.91 320 eP P 02 05 50.1 +0.7
WAKR **Walker** 45.00 306 eP P 02 05 51.3 +1.1
PTRM **Twissleman Ran** 45.05 302 eP P 02 05 52.3 +1.9
FRB **Frobisher Bay** 45.40 3 P P 02 05 53.2 +0.5
FRB **Frobisher Bay** 45.40 3 P P 02 05 53.2 +0.5
comp=Z,27nm,1.1s,baz=192,slow=9.3,SNR=9.3
FRB LR LR 02 23 47.1
comp=Z,3µm,20.6s,baz=180,slow=35
WVOR **Wild Horse Val** 45.44 312 eP P 02 05 54.1 +0.5
WVOR pmax pmax
comp=Z,34nm,1.1s
WVOR **Wild Horse Val** 45.44 312 eP P 02 05 54.1 +0.5
comp=Z,34nm,1.1s
J08A **Circle Bar Ran** 45.61 313 eP P 02 05 55.1 +0.3
comp=Z,49nm,1.1s
CMB **Columbia Colle** 45.63 305 eP P 02 05 55.8 +0.8
CMB pmax pmax
comp=Z,114nm,2.1s
CMB **Columbia Colle** 45.63 305 eP P 02 05 55.8 +0.8
comp=Z,114nm,2.1s
F10A **Beach Ranch, E** 45.68 317 eP P 02 05 55.0 -0.4
comp=Z,35nm,1.4s
E09A **Wood Farm, Sta** 46.47 317 eP P 02 06 01.3 -0.2
comp=Z,34nm,1.3s
NEW **Newport** 46.51 320 eP P 02 06 01.2 -0.6
comp=Z,40nm,1.3s
NEW **Newport** 46.51 320 P P 02 06 01.9 +0.2
comp=Z,22nm,1.2s,baz=124,slow=7.1,SNR=12
NEW **Newport** 46.51 320 ⇑P P 02 06 02.0 +0.2
baz=46,SNR=11
I07A **Izee** 46.54 314 eP P 02 06 02.8 +0.5
comp=Z,74nm,2.0s
OHCM **Honcut** 46.74 307 eP P 02 06 04.7 +1.0
EDM **Edmonton** 46.74 328 eP P 02 06 03.5 0.0
EDM **Edmonton** 46.74 328 eP P 02 06 03.5 0.0
CPUP **Villa Florida** 46.98 161 eP P 02 06 05.5 0.0
comp=Z,2.8nm,1.4s
CPUP **Villa Florida** 46.98 161 P P 02 06 05.2 -0.3
comp=Z,7.8nm,1.0s,baz=320,slow=7.6,SNR=4.3
C09A **Chrisman Ranch** 47.03 319 eP P 02 06 06.9 +1.0
comp=Z,96nm,1.8s
K05A **Summer Lake** 47.12 312 eP P 02 06 07.5 +0.7
comp=Z,44nm,1.3s
OD2 **Odessa Site #2** 47.15 318 P P 02 06 06.8 -0.1
D08A **Wollman Farm,** 47.16 318 eP P 02 06 06.9 0.0
comp=Z,43nm,1.7s
LCO **Las Campanas** 47.19 177 eP P 02 06 07.6 +0.1
comp=Z,60nm,1.3s
HAWA **Hanford** 47.32 317 eP P 02 06 08.3 +0.1
comp=Z,27nm,1.3s
J05D **Fort Rock, OR** 47.51 312 ⇓P P 02 06 10.1 +0.3
baz=48
M04C **Macdoel** 47.55 310 ⇑P P 02 06 10.4 +0.2
baz=48
E07A **Sunnyside** 47.59 317 eP P 02 06 11.3 +1.0
comp=Z,26nm,1.1s
VTHM **Trough** 47.60 315 P P 02 06 11.6 +1.2
G06A **Carlson Farm,** 47.67 315 eP P 02 06 12.1 +1.2
comp=Z,130nm,1.6s
SAW **Saint Andrews** 47.70 319 P P 02 06 11.1 0.0
TRW **Toppenish Ridg** 47.95 316 P P 02 06 14.4 +1.3
G05D **Wamic, OR** 48.13 315 ⇑P P 02 06 15.9 +1.5
baz=48
YBH **Yreka Blue Hor** 48.18 310 P P 02 06 13.6 -1.3
YBH **Yreka Blue Hor** 48.18 310 P P 02 06 13.6 -1.3
comp=Z,7.9nm,0.7s,baz=122,slow=5.0,SNR=12
M02C **Callahan** 48.20 309 ⇑P P 02 06 14.9 -0.2
baz=48
ETW **Entiat** 48.26 318 P P 02 06 15.8 +0.3
LTY **Liberty** 48.35 318 eP P 02 06 16.4 +0.2
comp=Z,116nm,1.7s
H04A **Detroit Lake** 48.56 314 eP P 02 06 18.5 +0.7
WPW **White Pass** 48.73 317 P P 02 06 19.6 +0.4
RCS **Mount Rainier-** 48.91 317 P P 02 06 21.0 +0.2
LON **Longmire** 48.92 317 eP P 02 06 20.5 -0.1
LON pmax pmax
comp=Z,35nm,1.4s
LON **Longmire** 48.92 317 eP P 02 06 20.5 -0.1
comp=Z,35nm,1.4s
I03D **Drain, OR** 49.10 312 ⇓P P 02 06 22.7 +0.8
baz=49
KEBM **Edson Butte** 49.61 311 eP P 02 06 28.4 +2.5
comp=Z,287nm,1.3s
CFAA **Coronel Fontan** 49.93 175 P P 02 06 26.6 -1.7
CFAA **Coronel Fontan** 49.93 175 P P 02 06 26.6 -1.7
comp=Z,0.5nm,0.6s,baz=350,slow=7.1,SNR=5.9
CFAA LR LR 02 30 15.6
comp=Z,144nm,19.1s,baz=30,slow=39
NLWA **Neilton Lookou** 50.46 317 eP P 02 06 33.5 +1.3
comp=Z,102nm,1.5s
SFJD **Kangerlussuaq** 50.66 11 LR LR 02 26 17.9
comp=Z,2µm,20.9s,baz=226,slow=34
YKA **Yellowknife Ar** 52.62 337 P P 02 06 47.5 -0.5
YKA **Yellowknife Ar** 52.62 337 P P 02 06 47.5 -0.5
comp=Z,13nm,0.9s,baz=125,slow=7.5,SNR=20
DLBC **Dease Lake** 57.45 328 eP P 02 07 24.0 +0.8
DLBC **Dease Lake** 57.45 328 P P 02 07 24.5 +1.3
comp=Z,20nm,0.7s,baz=88,slow=4.9,SNR=21
RES **Resolute Bay** 57.55 353 eP P 02 07 23.3 -0.3
comp=Z,97nm,1.8s
RES **Resolute Bay** 57.55 353 P P 02 07 23.6 +0.1
comp=Z,14nm,1.0s,baz=178,slow=9.6,SNR=12
SUMG **Summit** 57.65 12 eP P 02 07 24.7 0.0
SUMG pmax pmax
comp=Z,1µm,2.9s
SUMG **Summit** 57.65 12 *i* P P 02 07 25.1 +0.3
comp=Z,24nm,1.3s
SUMG **Summit** 57.65 12 eP P 02 07 24.7 0.0
comp=Z,1µm,2.9s
PLCA **Paso Flores** 58.88 178 eP P 02 07 33.1 -0.2
comp=Z,70nm,1.4s
PLCA **Paso Flores** 58.88 178 P P 02 07 32.0 -1.3
comp=Z,7.8nm,0.7s,baz=359,slow=7.8,SNR=16
PNCL **Nicolau / Gran** 58.89 56 eP P 02 07 37.1 +3.6
comp=Z,78nm,1.3s
PTOM **Tomar** 59.00 54 eP P 02 07 38.4 +4.1
comp=Z,104nm,1.5s
PMTG **Montargil** 59.13 55 eP P 02 07 41.7 +6.5
comp=Z,130nm,1.7s
EVOP **Sao Brissos** 59.21 56 eP P 02 07 35.2 -0.5
EVOP pmax pmax
comp=Z,223nm,1.5s
EVOP **Sao Brissos** 59.21 56 eP P 02 07 35.2 -0.5
comp=Z,223nm,1.5s
EVO **Evora** 59.29 56 eP P 02 07 35.2 -1.2
comp=Z,223nm,1.5s
EVO eR
comp=Z,2µm,21.8s
EVO **Evora** 59.29 56 eP P 02 07 37.5 +1.1
comp=Z,92nm,1.7s
PBDV **Barranco-do-Ve** 59.36 57 eP P 02 07 38.9 +2.0
comp=Z,146nm,1.8s
PBEJ **Beja** 59.41 56 eP P 02 07 38.8 +1.6
comp=Z,80nm,2.0s
PVIS **Viseu** 59.42 53 eP P 02 07 38.5 +1.3
comp=Z,124nm,1.9s
POLO **Lamas de Olo** 59.51 52 eP P 02 07 39.0 +1.1
comp=Z,56nm,1.8s
PESTR **Estremoz** 59.63 55 eP P 02 07 40.2 +1.5
comp=Z,74nm,1.5s
MTE **Manteigas** 59.68 54 eP P 02 07 40.5 +1.4
comp=Z,102nm,1.6s
PCBR **Castelo Branco** 59.72 54 eP P 02 07 40.9 +1.6
comp=Z,91nm,1.5s
PMRV **Marv??o** 59.78 55 eP P 02 07 41.1 +1.4
comp=Z,116nm,1.7s
MVO **Moncorvo** 60.08 53 eP P 02 07 43.2 +1.3
comp=Z,94nm,1.9s
SCO **Scoresbysund** 60.23 18 *i* P P 02 07 43.7 +1.5
SCO pmax pmax
comp=Z,4.0nm,0.8s
SCO **Scoresbysund** 60.23 18 *i* P P 02 07 43.7 +1.5
comp=Z,4.4nm,0.8s
PBRG **Braganca** 60.31 52 eP P 02 07 44.7 +1.3
comp=Z,79nm,2.0s
PAB **San Pablo** 62.14 54 eP P 02 07 57.5 +1.7
PAB pmax pmax
comp=Z,53nm,1.2s
PAB **San Pablo** 62.14 54 eP P 02 07 57.5 +1.7
comp=Z,53nm,1.2s
INK **Inuvik** 62.31 339 eP P 02 07 55.7 -0.6
comp=Z,53nm,1.6s
INK **Inuvik** 62.31 339 P P 02 07 56.0 -0.3
comp=Z,8.5nm,1.1s,baz=117,slow=8.4,SNR=6.4
ESDC **Sonseca Array** 62.43 54 P P 02 07 59.0 +1.2
ESDC **Sonseca Array** 62.43 54 P P 02 07 59.0 +1.2
comp=Z,23nm,1.1s,baz=276,slow=6.5,SNR=12
ESDC LR LR 02 29 52.7
comp=Z,919nm,20.9s,baz=305,slow=31
ROSF **Rostrenen** 62.98 45 eP P 02 08 01.0 -0.2
comp=Z,516nm,1.9s
ROSF **Rostrenen** 62.98 45 eP P 02 08 01.0 -0.2
ROSF pmax pmax
comp=Z,516nm,1.9s
ROSF **Rostrenen** 62.98 45 eP P 02 08 01.0 -0.2
comp=Z,516nm,1.9s
QUIF **Quistinic** 63.04 45 eP P 02 08 01.3 -0.3
comp=Z,527nm,1.8s
QUIF **Quistinic** 63.04 45 eP P 02 08 01.3 -0.3
QUIF pmax pmax
comp=Z,527nm,1.8s
QUIF **Quistinic** 63.04 45 eP P 02 08 01.3 -0.3
comp=Z,527nm,1.8s
ASCN **Ascension** 63.41 109 eP P 02 08 04.7 +0.2
comp=Z,52nm,0.9s
SGMF **Saint Gilles** 63.46 45 eP P 02 08 04.0 -0.4
comp=Z,673nm,1.9s
SGMF **Saint Gilles** 63.46 45 eP P 02 08 04.0 -0.4
SGMF pmax pmax
comp=Z,673nm,1.9s
SGMF **Saint Gilles** 63.46 45 eP P 02 08 04.0 -0.4
comp=Z,673nm,1.9s
EKA **Eskdalemuir Ar** 63.55 37 P P 02 08 04.8 -0.1
EKA **Eskdalemuir Ar** 63.55 37 P P 02 08 04.8 -0.1
comp=Z,1.2nm,0.6s,baz=283,slow=4.5,SNR=3.5
EGAK **Eagle** 64.25 334 eP P 02 08 09.7 +0.4
comp=Z,15nm,1.0s
ALE **Alert** 64.30 2 P P 02 08 09.0 -0.3
comp=Z,125nm,1.1s,SNR=9.6
DAG **Danmarks Havn** 64.33 12 *i* P P 02 08 09.7 +0.1
DAG pmax pmax
comp=Z,17nm,0.9s
DAG **Danmarks Havn** 64.33 12 *i* P P 02 08 09.7 +0.1
comp=Z,21nm,0.9s
SJPF **Ste Jean** 64.39 50 eP P 02 08 10.9 +0.3
comp=Z,374nm,1.8s
SJPF **Ste Jean** 64.39 50 eP P 02 08 10.9 +0.3
SJPF pmax pmax
comp=Z,374nm,1.8s
SJPF **Ste Jean** 64.39 50 eP P 02 08 10.9 +0.3
comp=Z,374nm,1.8s
GRR **Gorron** 64.60 45 eP P 02 08 11.6 -0.2
comp=Z,244nm,1.6s
GRR **Gorron** 64.60 45 eP P 02 08 11.6 -0.2
GRR pmax pmax
comp=Z,244nm,1.6s
GRR **Gorron** 64.60 45 eP P 02 08 11.6 -0.2
comp=Z,244nm,1.6s
FLN **La Foliniere** 64.85 44 eP P 02 08 13.2 -0.3
comp=Z,88nm,1.2s
FLN eR
comp=Z,3µm,21.0s
FLN **La Foliniere** 64.85 44 eP P 02 08 13.2 -0.3
FLN pmax pmax
comp=Z,88nm,1.3s
FLN **La Foliniere** 64.85 44 eP P 02 08 13.2 -0.3
comp=Z,88nm,1.3s
ETSF **Etsaut** 64.89 51 eP P 02 08 14.3 +0.3
comp=Z,215nm,1.6s
ETSF **Etsaut** 64.89 51 eP P 02 08 14.3 +0.3
ETSF pmax pmax
comp=Z,215nm,1.6s
ETSF **Etsaut** 64.89 51 eP P 02 08 14.3 +0.3
comp=Z,215nm,1.6s
MENT **Mesta** 65.05 332 eP P 02 08 14.2 -0.4
MFF **Saint Martin d** 65.08 47 eP P 02 08 14.6 -0.5
comp=Z,297nm,1.6s
MFF **Saint Martin d** 65.08 47 eP P 02 08 14.6 -0.5
MFF pmax pmax
comp=Z,297nm,1.6s
MFF **Saint Martin d** 65.08 47 eP P 02 08 14.6 -0.5
comp=Z,297nm,1.6s
LDF **La Druitiere** 65.09 44 eP P 02 08 14.9 -0.1
comp=Z,371nm,1.9s
LDF **La Druitiere** 65.09 44 eP P 02 08 14.9 -0.1
LDF pmax pmax
comp=Z,371nm,1.9s
LDF **La Druitiere** 65.09 44 eP P 02 08 14.9 -0.1
comp=Z,371nm,1.9s
BMRM **Bremner River** 65.20 329 eP P 02 08 17.0 +1.4
comp=Z,284nm,1.7s
DOT **Dot Lake** 65.31 332 eP P 02 08 16.3 +0.1
comp=Z,93nm,1.6s
EPF **Esparros** 65.54 50 eP P 02 08 18.6 +0.4
comp=Z,357nm,1.6s
EPF **Esparros** 65.54 50 eP P 02 08 18.6 +0.4
EPF pmax pmax
comp=Z,357nm,1.6s
EPF **Esparros** 65.54 50 eP P 02 08 18.6 +0.4
comp=Z,357nm,1.6s
LFF **La Frestale** 65.75 48 eP P 02 08 19.3 -0.1
comp=Z,328nm,1.7s
LFF **La Frestale** 65.75 48 eP P 02 08 19.3 -0.1
LFF pmax pmax
comp=Z,328nm,1.7s
LFF **La Frestale** 65.75 48 eP P 02 08 19.3 -0.1
comp=Z,328nm,1.7s
DIV **Divide** 65.78 329 eP P 02 08 19.6 +0.2
comp=Z,45nm,1.0s
PAX **Paxson** 65.84 331 eP P 02 08 20.2 +0.4
PAX pmax pmax
comp=Z,54nm,1.3s
PAX **Paxson** 65.84 331 eP P 02 08 20.2 +0.4
comp=Z,54nm,1.3s
RJF **Les Rejaudoux** 66.28 48 eP P 02 08 22.4 -0.4
comp=Z,200nm,1.5s
RJF eR
comp=Z,1µm,22.0s
RJF **Les Rejaudoux** 66.28 48 eP P 02 08 22.4 -0.4
RJF pmax pmax
comp=Z,200nm,1.5s
RJF **Les Rejaudoux** 66.28 48 eP P 02 08 22.4 -0.4
comp=Z,200nm,1.5s
ILAR **Eielson Array** 66.68 333 P P 02 08 24.6 -0.4
ILAR **Eielson Array** 66.68 333 P P 02 08 24.6 -0.4
comp=Z,9.8nm,1.1s,baz=104,slow=4.4,SNR=17
CAF **Calviac** 66.69 48 eP P 02 08 25.0 -0.5
comp=Z,129nm,1.3s
CAF **Calviac** 66.69 48 eP P 02 08 25.0 -0.5
CAF pmax pmax
comp=Z,129nm,1.3s
CAF **Calviac** 66.69 48 eP P 02 08 25.0 -0.5
comp=Z,129nm,1.3s
TCF **Toulx Ste Croi** 66.72 47 eP P 02 08 25.2 -0.5
comp=Z,196nm,1.6s
TCF **Toulx Ste Croi** 66.72 47 eP P 02 08 25.2 -0.5
TCF pmax pmax
comp=Z,196nm,1.6s
TCF **Toulx Ste Croi** 66.72 47 eP P 02 08 25.2 -0.5
comp=Z,196nm,1.6s
HYF **Humbligny** 66.97 46 eP P 02 08 27.0 -0.2
HYF **Humbligny** 66.97 46 eP P 02 08 27.0 -0.2
TIC **Toumodi** 66.98 91 eP P 02 08 26.7 -1.1
comp=Z,84nm,1.5s
LIC **Lamto** 67.09 91 eP P 02 08 28.0 -0.5
comp=Z,112nm,1.4s
LIC eR
comp=Z,1µm,23.0s
LIC **Lamto** 67.09 91 eP P 02 08 27.8 -0.7
comp=Z,104nm,1.4s
LIC **Lamto** 67.09 91 eP P 02 08 28.0 -0.5
comp=Z,112nm,1.4s
COLA **College** 67.10 333 eP P 02 08 27.5 -0.2
COLA pmax pmax
comp=Z,9.0nm,1.2s
COLA **College** 67.10 333 eP P 02 08 27.4 -0.2
comp=Z,8.8nm,1.2s
DBIC **Dimbokro** 67.13 90 eP P 02 08 28.7 0.0
comp=Z,33nm,1.2s
DBIC **Dimbokro** 67.13 90 P P 02 08 28.7 0.0
comp=Z,11nm,1.0s,baz=270,slow=7.2,SNR=6.6
BGF **Bois d'Agland** 67.15 47 eP P 02 08 27.7 -0.6
comp=Z,89nm,1.4s
BGF **Bois d'Agland** 67.15 47 eP P 02 08 27.7 -0.6
BGF pmax pmax
comp=Z,89nm,1.4s
BGF **Bois d'Agland** 67.15 47 eP P 02 08 27.7 -0.6
comp=Z,89nm,1.4s
KIC **Kosan Boka** 67.33 91 eP P 02 08 29.3 -0.7
comp=Z,141nm,1.5s
PMR **Palmer** 67.43 330 eP P 02 08 30.3 +0.5
PMR pmax pmax
comp=Z,83nm,1.4s
PMR **Palmer** 67.43 330 eP P 02 08 30.3 +0.5
comp=Z,83nm,1.4s
MCK **McKinley** 67.47 332 eP P 02 08 29.8 -0.3
MCK pmax pmax
comp=Z,45nm,1.2s
MCK **McKinley** 67.47 332 eP P 02 08 29.8 -0.3
comp=Z,45nm,1.2s
AVF **Avril sur Loir** 67.48 46 eP P 02 08 29.6 -0.8
comp=Z,304nm,1.9s
AVF **Avril sur Loir** 67.48 46 eP P 02 08 29.6 -0.8
AVF pmax pmax
comp=Z,304nm,1.9s
AVF **Avril sur Loir** 67.48 46 eP P 02 08 29.6 -0.8
comp=Z,304nm,1.9s
SSF **Saint Saulge** 67.57 46 eP P 02 08 30.3 -0.7
comp=Z,108nm,1.3s
SSF **Saint Saulge** 67.57 46 eP P 02 08 30.3 -0.7
SSF pmax pmax
comp=Z,108nm,1.3s
SSF **Saint Saulge** 67.57 46 eP P 02 08 30.3 -0.7
comp=Z,108nm,1.3s
RC01 **Rabbit Creek A** 67.70 329 eP P 02 08 32.2 +0.7
comp=Z,255nm,2.0s
LOR **Lormes** 67.80 46 eP P 02 08 31.8 -0.7
comp=Z,129nm,1.4s
LOR eR
comp=Z,2µm,23.0s
LOR **Lormes** 67.80 46 eP P 02 08 31.8 -0.7
comp=Z,129nm,1.4s
SMF **Signal de Mont** 67.83 46 eP P 02 08 31.9 -0.8
comp=Z,134nm,1.4s
SMF **Signal de Mont** 67.83 46 eP P 02 08 31.9 -0.8
SMF pmax pmax
comp=Z,135nm,1.4s
SMF **Signal de Mont** 67.83 46 eP P 02 08 31.9 -0.8
comp=Z,134nm,1.4s
BAIF **Baives** 67.89 43 eP P 02 08 32.3 -0.6
comp=Z,218nm,1.9s
BAIF **Baives** 67.89 43 eP P 02 08 32.3 -0.6
BAIF pmax pmax
comp=Z,218nm,1.9s
BAIF **Baives** 67.89 43 eP P 02 08 32.3 -0.6
comp=Z,218nm,1.9s
LASF **Ste Croix** 68.02 49 eP P 02 08 34.2 +0.2
comp=Z,195nm,1.4s
LASF **Ste Croix** 68.02 49 eP P 02 08 34.2 +0.2
comp=Z,195nm,1.4s
TRF **Thorofare Moun** 68.06 332 eP P 02 08 34.4 +0.4
comp=Z,40nm,1.0s
DOU **Dourbes** 68.14 43 P P 02 08 35.7 +1.2
comp=Z,38nm,3.0s
COLD **Coldfoot** 68.26 336 eP P 02 08 36.0 +1.0
comp=Z,27nm,1.0s
GIVF **Givet** 68.28 43 eP P 02 08 35.0 -0.4
comp=Z,173nm,1.5s
GIVF **Givet** 68.28 43 eP P 02 08 35.0 -0.4
GIVF pmax pmax
comp=Z,173nm,1.5s
GIVF **Givet** 68.28 43 eP P 02 08 35.0 -0.4
comp=Z,173nm,1.5s
KTH **Kantishna Hill** 68.35 332 eP P 02 08 35.8 +0.1
comp=Z,289nm,1.2s
SFTF **Sexfontaines** 68.54 45 eP P 02 08 36.6 -0.5
comp=Z,126nm,1.3s
SFTF **Sexfontaines** 68.54 45 eP P 02 08 36.6 -0.5
comp=Z,126nm,1.3s
VIVF **Saint-Julien-l** 68.54 48 eP P 02 08 37.6 +0.4
comp=Z,127nm,1.3s
VIVF **Saint-Julien-l** 68.54 48 eP P 02 08 37.6 +0.4
VIVF pmax pmax
comp=Z,127nm,1.3s
VIVF **Saint-Julien-l** 68.54 48 eP P 02 08 37.6 +0.4
comp=Z,127nm,1.3s
BCLA **Clavier** 68.57 42 P P 02 08 37.5 +0.3
comp=Z,26nm,2.5s
PPLA **Purkeypile** 68.90 331 eP P 02 08 39.4 +0.1
comp=Z,80nm,1.5s
PAGF **Fort de Pagny** 68.97 44 eP P 02 08 39.4 -0.4
comp=Z,69nm,1.6s
PAGF **Fort de Pagny** 68.97 44 eP P 02 08 39.4 -0.4
comp=Z,69nm,1.6s
MEM **Membach** 69.01 42 P P 02 08 41.5 +1.6
comp=Z,36nm,2.4s
WLF **Walferdange** 69.17 43 eP P 02 08 41.3 +0.4
WLF pmax pmax
comp=Z,57nm,1.3s
WLF **Walferdange** 69.17 43 eP P 02 08 41.3 +0.4
comp=Z,115nm,1.9s
WLF **Walferdange** 69.17 43 eP P 02 08 41.3 +0.4
comp=Z,58nm,1.3s
RSO **Redoubt South** 69.17 329 eP P 02 08 41.4 +0.4
SMRF **Simiane la Rot** 69.27 49 eP P 02 08 42.0 +0.3
comp=Z,448nm,1.9s
SMRF **Simiane la Rot** 69.27 49 eP P 02 08 42.0 +0.3
comp=Z,448nm,1.9s
CABF **La Chapelle** 69.37 46 eP P 02 08 41.9 -0.5
CABF **La Chapelle** 69.37 46 eP P 02 08 41.9 -0.5
CABF **La Chapelle** 69.37 46 eP P 02 08 41.9 -0.5
ORIF **Oris-en-Rattie** 69.39 48 eP P 02 08 42.9 +0.3
comp=Z,286nm,1.7s
ORIF eR
comp=Z,865nm,19.2s
ORIF **Oris-en-Rattie** 69.39 48 eP P 02 08 42.9 +0.3
ORIF pmax pmax
comp=Z,286nm,1.7s
ORIF **Oris-en-Rattie** 69.39 48 eP P 02 08 42.9 +0.3
comp=Z,286nm,1.7s
HAU **Haudompre** 69.43 45 eP P 02 08 41.8 -0.8
comp=Z,235nm,1.8s
HAU eR
comp=Z,2µm,21.8s
HAU **Haudompre** 69.43 45 eP P 02 08 41.8 -0.8
HAU pmax pmax
comp=Z,235nm,1.8s
HAU **Haudompre** 69.43 45 eP P 02 08 41.8 -0.8
comp=Z,235nm,1.8s
OHAK **Old Harbor** 69.53 325 eP P 02 08 43.3 +0.3
comp=Z,187nm,1.5s
IM04 **Indian Mountai** 69.63 334 eP P 02 08 42.8 -0.8
BUG **Bochum--Univer** 69.75 41 eP P 02 08 44.5 0.0
comp=Z,118nm,1.6s

HINF Hinteralfeld 69.78 45 eP P 02 08 44.0 -0.9
comp=Z,102nm,1.8s
HINF Hinteralfeld 69.78 45 eP P 02 08 44.0 -0.9
HINF pmax pmax
comp=Z,102nm,1.8s
HINF Hinteralfeld 69.78 45 eP P 02 08 44.0 -0.9
comp=Z,102nm,1.8s
LPL La Plagne 69.93 47 eP P 02 08 46.0 0.0
comp=Z,148nm,1.7s
LPL La Plagne 69.93 47 eP P 02 08 46.0 0.0
LPL pmax pmax
comp=Z,148nm,1.7s
LPL La Plagne 69.93 47 eP P 02 08 46.0 0.0
comp=Z,148nm,1.7s
BNI Bardonecchia 69.94 48 eP P 02 08 46.9 +0.9
BNI pmax pmax
comp=Z,89nm,1.5s
BNI Bardonecchia 69.94 48 eP P 02 08 46.9 +0.9
comp=Z,89nm,1.5s
LPG La Plagne 69.94 47 eP P 02 08 46.4 +0.2
comp=Z,120nm,1.4s
LPG La Plagne 69.94 47 eP P 02 08 46.4 +0.2
LPG pmax pmax
comp=Z,120nm,1.4s
LPG La Plagne 69.94 47 eP P 02 08 46.4 +0.2
comp=Z,120nm,1.4s
ECH Echery 69.95 45 eP P 02 08 46.3 +0.5
ECH pmax pmax
comp=Z,67nm,1.4s
ECH Echery 69.95 45 eP P 02 08 46.3 +0.5
comp=Z,67nm,1.4s
IBBN Ibbenburen 69.98 40 eP P 02 08 46.2 +0.3
comp=Z,92nm,1.4s
CDF Champ du Feu 70.01 44 eP P 02 08 45.5 -0.8
comp=Z,210nm,1.9s
CDF Champ du Feu 70.01 44 eP P 02 08 45.5 -0.8
CDF pmax pmax
comp=Z,210nm,1.9s
CDF Champ du Feu 70.01 44 eP P 02 08 45.5 -0.8
comp=Z,210nm,1.9s
LMR La Mourre 70.01 50 eP P 02 08 45.8 -0.5
comp=Z,104nm,1.4s
LMR La Mourre 70.01 50 eP P 02 08 45.8 -0.5
LMR pmax pmax
comp=Z,104nm,1.4s
LMR La Mourre 70.01 50 eP P 02 08 45.8 -0.5
comp=Z,104nm,1.4s
MBDF Montbardon 70.04 48 eP P 02 08 46.7 +0.1
comp=Z,139nm,1.5s
MBDF Montbardon 70.04 48 eP P 02 08 46.7 +0.1
MBDF pmax pmax
comp=Z,139nm,1.5s
MBDF Montbardon 70.04 48 eP P 02 08 46.7 +0.1
comp=Z,139nm,1.5s
SENIN Lac Senin/Sane 70.23 46 eP P 02 08 49.3 +1.5
KONO Kongsberg 70.53 32 eP P 02 08 49.5 +0.3
KONO pmax pmax
comp=Z,116nm,1.3s
SVW2 Sparrevohn 70.54 329 eP P 02 08 49.7 +0.5
comp=Z,25nm,1.1s
TNS Taunus Mts 70.60 42 eP P 02 08 50.1 +0.3
comp=Z,65nm,1.5s
SBF Sospel 70.62 49 eP P 02 08 49.7 -0.4
comp=Z,308nm,1.8s
SBF Sospel 70.62 49 eP P 02 08 49.7 -0.4
SBF pmax pmax
comp=Z,308nm,1.8s
SBF Sospel 70.62 49 eP P 02 08 49.7 -0.4
comp=Z,308nm,1.8s
BFO Black Forest 70.72 44 eP P 02 08 50.1 -0.5
comp=Z,338nm,2.9s
KBS Kingsbay 71.07 12 eP P 02 08 51.9 -0.2
KBS pmax pmax
comp=Z,37nm,1.2s
STU Stuttgart 71.24 44 eP P 02 08 52.1 -1.6
STU Stuttgart 71.24 44 eP P 02 08 53.6 -0.1
comp=Z,118nm,2.0s
STU Stuttgart 71.24 44 eP P 02 08 52.1 -1.6
NB2 NORSAR Subarra 71.25 31 P P 02 08 54.3 +0.8
comp=Z,45nm,1.4s,baz=275,slow=6.2
NB2 NORSAR Subarra 71.25 31 P P 02 08 54.3 +0.8
baz=275,slow=6.2
NOA NORSAR Array B 71.25 31 P P 02 08 53.0 -0.5
NOA NORSAR Array B 71.25 31 P P 02 08 53.0 -0.5
comp=Z,8.1nm,1.2s,baz=275,slow=6.3,SNR=3.9
NOA LR LR 02 35 29.8
comp=Z,507nm,21.4s,baz=270,slow=32
BSEG Bad Segeberg 71.38 38 eP P 02 08 54.6 +0.2
comp=Z,203nm,2.5s
NRDL Niedersach Rie 71.40 40 eP P 02 08 55.2 +0.7
comp=Z,50nm,1.4s
UBBA Unterbreizbach 71.52 42 eP P 02 08 55.6 +0.4
comp=Z,143nm,2.1s
TOA0 Torodi Ar. Sit 71.55 82 eP P 02 08 54.8 -1.3
TORD Torodi Ar. Bea 71.55 82 P P 02 08 55.9 -0.2
TORD Torodi Ar. Bea 71.55 82 P P 02 08 55.9 -0.2
comp=Z,11nm,1.1s,baz=288,slow=6.2,SNR=16
TORD LR LR 02 39 37.7
comp=Z,591nm,19.0s,baz=300,slow=35
TUE Stuetta 71.62 46 eP P 02 08 57.1 +0.8
comp=Z,222nm,0.5s
CLZ Clausthal 71.64 40 eP P 02 08 56.5 +0.4
comp=Z,60nm,1.7s
PGF Pioggiola 71.93 50 eP P 02 08 57.6 -0.5
comp=Z,238nm,1.5s
PGF Pioggiola 71.93 50 eP P 02 08 57.6 -0.5
PGF pmax pmax
comp=Z,238nm,1.5s
PGF Pioggiola 71.93 50 eP P 02 08 57.6 -0.5
comp=Z,238nm,1.5s
DAVOX Davos/Dischmat 71.95 46 P P 02 08 58.5 +0.3
DAVOX Davos/Dischmat 71.95 46 P P 02 08 58.5 +0.3
comp=Z,11nm,1.0s,baz=265,slow=3.8,SNR=5.5
SPITS Spitsbergen Ar 71.97 13 P P 02 08 57.5 0.0
SPITS Spitsbergen Ar 71.97 13 P P 02 08 57.5 0.0
comp=Z,19nm,0.9s,baz=186,slow=8.7,SNR=11
GRF Grafenberg Arr 72.44 43 eP P 02 09 01.0 +0.1
comp=Z,81nm,1.8s
RETA Reutte 72.45 45 *i* pP P 02 09 02.3 +1.3
comp=Z,51nm,1.4s,SNR=7.0
FETA Feichten 72.49 45 *i* pP P 02 09 02.9 +1.5
comp=Z,48nm,1.7s,SNR=9.8
HFS Hagfors 72.55 32 P P 02 09 01.3 0.0
HFS Hagfors 72.55 32 P P 02 09 01.3 0.0
comp=Z,3.4nm,1.0s,baz=246,slow=28,SNR=3.6
FUR Furstenfeldbru 72.69 44 eP P 02 09 02.6 +0.2
comp=Z,174nm,2.0s
MOTA Moosalm 72.70 45 ⇑ *i* P P 02 09 03.2 +0.5
comp=Z,32nm,1.0s,SNR=8.4
VSL Villasalto 72.70 53 eP P 02 09 08.6 +5.9
comp=Z,105nm,1.5s
TAM Tamanrasset 72.75 71 eP P 02 09 04.4 +1.0
TAM pmax pmax
comp=Z,35nm,1.7s
TAM Tamanrasset 72.75 71 eP P 02 09 04.4 +1.0
comp=Z,35nm,1.7s
ROTZ Rotzenmuhle 73.06 42 eP P 02 09 05.1 +0.5
comp=Z,55nm,1.5s
TANN Tannenbergstha 73.13 42 eP P 02 09 05.1 +0.1
comp=Z,35nm,1.5s
NKC Novy Kostel 73.15 42 eP P 02 09 05.5 +0.4
NKC *e* 02 09 09.8
NKC Novy Kostel 73.15 42 eP P 02 09 05.5 +0.4
NKC *e*pP **pP 02 09 09.8 +2.7**
RKT Rikitea 73.32 238 eLR LR 02 31 39.3
comp=Z,835nm,36.5s
CLL Collm 73.33 41 eP P 02 09 02.0 -4.1
CLL *e* 02 09 06.0
CLL pmax pmax
comp=Z,66nm,2.7s
CLL MLR MLR
comp=Z,900nm,20.5s
CLL Collm 73.33 41 eP P 02 09 06.3 +0.2
comp=Z,101nm,2.1s
CLL Collm 73.33 41 eP P 02 09 06.0 -0.1
comp=Z,39nm,1.6s
CLL *i* (sP) **sP 02 09 10.3 +1.5**
CLL *e*PP **PP 02 11 45.0 -4.2**
CLL LmV 02 37 00.0
comp=Z,900nm,20.5s
KEST Kesra 73.35 57 eP P 02 09 08.2 +1.5
KEST Kesra 73.35 57 P P 02 09 08.2 +1.5
comp=Z,4.3nm,1.0s,baz=70,slow=0.8,SNR=6.0
KEST LR LR 02 37 47.6
comp=Z,189nm,20.2s,baz=226,slow=33
ABTA Abfaltersbach 73.74 46 ⇑ *i* P P 02 09 08.9 +0.2
comp=Z,40nm,1.5s,SNR=11

BRG Berggiesshubel 73.99 41 eP P 02 09 10.3 +0.3
comp=Z,51nm,1.5s
KHC Kasperske Hory 74.05 43 *d* iP P 02 09 11.2 +0.8
KHC pmax pmax
comp=Z,154nm,1.2s
KHC Kasperske Hory 74.05 43 eP P 02 09 11.6 +1.1
KHC *e*pP **pP 02 09 14.8 +2.4**
KHC AMS AMS 02 34 30.0
comp=Z,3μm,23.5s
KHC Kasperske Hory 74.05 43 eP P 02 09 11.6 +1.1
comp=Z,51nm,1.3s
GEC2 GERESS Array S 74.17 43 eP P 02 09 12.3 +1.0
GEC2 GERESS Array S 74.17 43 eP P 02 09 11.3 0.0
comp=Z,64nm,1.5s
GEC2 GERESS Array S 74.17 43 eP P 02 09 12.3 +1.0
GERES GERESS Array B 74.17 43 P P 02 09 12.3 +1.0
GERES GERESS Array B 74.17 43 P P 02 09 12.3 +1.0
comp=Z,11nm,1.0s,baz=260,slow=4.1,SNR=14
KBA Koelnbreinsper 74.25 45 *i* pP P 02 09 12.8 +1.0
comp=Z,71nm,1.4s,SNR=14
PRA Prague 74.43 42 P P 02 09 14.0 +1.4
PVCC Panska Ves 74.44 41 eP P 02 09 13.9 +1.3
PVCC MLR MLR
comp=Z,2μm,22.1s
PVCC Panska Ves 74.44 41 eP P 02 09 13.9 +1.3
PVCC AMS AMS 02 36 40.0
comp=Z,2μm,22.1s
PRU Pruhonice 74.52 42 eP P 02 09 13.9 +0.8
PRU *e* 02 09 18.2
PRU MLR MLR
comp=Z,2μm,18.9s
PRU Pruhonice 74.52 42 eP P 02 09 13.9 +0.8
PRU *e*pP **pP 02 09 18.2 +3.1**
PRU AMS AMS 02 37 00.0
comp=Z,2μm,18.9s
MYKA Terra Mystica 74.53 46 *i* P P 02 09 13.4 0.0
comp=Z,36nm,1.4s,SNR=11
CADS Cadrg 74.67 46 eP P 02 09 14.6 +0.5
MOA Molln 74.72 44 ⇑ iP P 02 09 14.5 +0.1
comp=Z,73nm,1.3s,SNR=17
TRI Trieste 74.78 46 eP P 02 09 16.0 +1.3
TRI pmax pmax
comp=Z,49nm,1.0s
TRI Trieste 74.78 46 eP P 02 09 16.0 +1.3
comp=Z,49nm,1.0s
OBKA Obir 75.17 46 ⇑ iP P 02 09 17.4 +0.3
comp=Z,63nm,1.6s,SNR=12
LJU Ljubljana 75.24 46 eP P 02 09 18.1 +0.7
TREC Trest 75.25 43 eP P 02 09 18.5 +1.1
TREC MLR MLR
comp=Z,2μm,18.3s
TREC Trest 75.25 43 eP P 02 09 18.5 +1.1
TREC AMS AMS 02 37 30.0
comp=Z,2μm,18.3s
UPC Upice 75.35 41 eP P 02 09 18.8 +0.9
UPC Upice 75.35 41 eP P 02 09 18.8 +0.9
KSP Ksiaz 75.46 41 eP P 02 09 19.4 +0.9
KSP Ksiaz 75.46 41 eP P 02 09 20.0 +1.5
SOKA Soboth 75.46 45 *i* P P 02 09 19.3 +0.6
comp=Z,33nm,1.3s,SNR=13
TNA Tin City 75.47 335 eP P 02 09 19.0 +0.8
comp=Z,42nm,1.2s
GKP Gorka Klasztor 75.55 38 eP P 02 09 20.5 +1.5
GKP Gorka Klasztor 75.55 38 eP P 02 09 20.4 +1.5
DPC Dobruska-Polom 75.57 41 eP P 02 09 20.5 +1.2
DPC Dobruska-Polom 75.57 41 eP P 02 09 20.5 +1.2
DPC AMS AMS 02 39 50.0
DPC Dobruska-Polom 75.57 41 eP P 02 09 20.5 +1.2
ARSA Arzberg 75.67 45 ⇓ *i* P P 02 09 19.9 0.0
comp=Z,25nm,1.1s,SNR=9.2
CONA Conrad Observa 75.76 44 *i* pP P 02 09 21.7 +1.2
comp=Z,31nm,1.6s,SNR=8.6
LEGS Legarje 75.80 46 eP P 02 09 21.0 +0.4
ARCES ARCESS Array B 75.82 21 P P 02 09 20.1 -0.2
ARCES ARCESS Array B 75.82 21 P P 02 09 20.1 -0.2
comp=Z,7.4nm,0.6s,baz=287,slow=2.8,SNR=12
ARCES LR LR 02 37 45.4
comp=Z,1μm,21.6s,baz=258,slow=32
VRAC Vranov 75.95 42 P P 02 09 21.9 +0.4
VRAC Vranov 75.95 42 P P 02 09 21.9 +0.4
comp=Z,9.5nm,1.0s,baz=285,slow=6.7,SNR=8.6
KEV Kevo 76.27 21 eP P 02 09 28.1 +5.3
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 76.27 21 ep P 02 09 28.1 +5.3
comp=Z,0.6nm,0.4s
SOP Sopron 76.27 44 ⇓ eP P 02 09 24.5 +1.3
MORC Moravsky Berou 76.46 42 eP P 02 09 24.9 +0.6
MORC pmax pmax
comp=Z,149nm,2.0s
MORC Moravsky Berou 76.46 42 ⇓ iP P 02 09 25.9 +1.6
MORC Moravsky Berou 76.46 42 eP P 02 09 24.9 +0.6
comp=Z,149nm,2.0s
SMOL Smolenice 76.66 43 eP P 02 09 27.3 +1.8
SMOL Smolenice 76.66 43 eP P 02 09 27.3 +1.8
OKC Ostrava-Krasne 76.83 42 eP P 02 09 25.6 -0.7
OKC MLR MLR
comp=Z,2μm,16.9s
OKC Ostrava-Krasne 76.83 42 eP P 02 09 25.6 -0.7
OKC AMS AMS 02 38 40.0
comp=Z,2μm,16.9s
PKST T"s 77.34 44 ⇓ eP P 02 09 30.0 +0.7
CUC Castrocucco 77.46 52 eP P 02 09 30.4 +0.3
comp=Z,38nm,1.4s
CSKK Cs˙tkako 77.47 44 ⇑ eP P 02 09 31.2 +1.2
GAMB Gambell 77.48 333 eP P 02 09 30.9 +1.2
comp=Z,24nm,1.3s
PKSG 77.55 44 ⇑ eP P 02 09 31.8 +1.4
OJC Ojcow 77.78 41 eP P 02 09 32.4 +0.7
BEL Belsk 77.99 39 eP P 02 09 34.9 +2.1
BEL Belsk 77.99 39 eP P 02 09 34.9 +2.1
PKSM Moragy 78.00 45 ⇓ iP P 02 09 34.1 +1.2
PKSM Moragy 78.00 45 ⇓ eP P 02 09 34.1 +1.2
KAF Kangasniemi 78.14 28 eP P 02 09 34.1 +0.7
KAF pmax pmax
comp=Z,9.0nm,0.9s
KAF Kangasniemi 78.14 28 ep P 02 09 34.1 +0.7
comp=Z,9.4nm,0.9s
FINES FINESS Array B 78.23 29 P P 02 09 34.8 +0.9
FINES FINESS Array B 78.23 29 P P 02 09 34.8 +0.9
comp=Z,7.4nm,0.7s,baz=320,slow=5.0,SNR=12
FIA1 FINESS Array S 78.23 29 eP P 02 09 34.9 +0.9
NIE Niedzica 78.30 42 eP P 02 09 36.4 +1.8
TIP Timpagrande 78.36 53 eP P 02 09 37.3 +2.1
comp=Z,63nm,1.9s
PSZ Piszkesteto 78.41 43 eP P 02 09 37.1 +1.8
PSZ pmax pmax
comp=Z,128nm,1.5s
PSZ Piszkesteto 78.41 43 ⇑ iP P 02 09 37.3 +2.0
PSZ Piszkesteto 78.41 43 eP P 02 09 37.1 +1.8
comp=Z,128nm,1.5s
PSZ Piszkesteto 78.41 43 ⇓ eP P 02 09 36.9 +1.6
SUW Suwalki 78.82 37 eP P 02 09 37.9 +0.6
SUW Suwalki 78.82 37 eP P 02 09 37.9 +0.6
SUW Suwalki 78.82 37 eP P 02 09 38.2 +0.9
comp=Z,80nm,1.3s
STHS Stebnicka Huta 78.89 42 eP P 02 09 39.6 +1.8
STHS pmax pmax
comp=Z,10.0nm,1.3s
STHS Stebnicka Huta 78.89 42 eP P 02 09 39.6 +1.8
CRVS Cervenica-Dubn 79.16 42 eP P 02 09 41.4 +2.0
CRVS pmax pmax
comp=Z,66nm,1.7s
CRVS Cervenica-Dubn 79.16 42 eP P 02 09 41.4 +2.0
APA Apatity 79.19 22 ⇑ iP P 02 09 39.8 +0.7
VSU Vasula 79.43 32 *c* iP P 02 09 40.8 +0.2
VSU pmax pmax
comp=Z,101nm,1.3s
LVZ Lovozero 79.51 22 eP P 02 09 40.9 0.0
LVZ pmax pmax
comp=Z,54nm,1.2s
KOLS Kolonicke sedl 79.67 42 eP P 02 09 44.2 +2.1
KOLS pmax pmax
comp=Z,68nm,1.8s
KOLS Kolonicke sedl 79.67 42 eP P 02 09 44.2 +2.1
KWP Kalwaria Pacla 79.75 41 ⇓ P P 02 09 45.0 +2.5
KWP Kalwaria Pacla 79.75 41 eP P 02 09 45.0 +2.5
KWP Kalwaria Pacla 79.75 41 ⇓ iP P 02 09 45.0 +2.5
KWP Kalwaria Pacla 79.75 41 eP P 02 09 44.6 +2.1
comp=Z,61nm,1.0s
UZH Uzhgorod 79.76 42 eP P 02 09 43.2 +0.6
UZH *e* 02 09 49.2
ISAL Salakas 80.00 35 eP P 02 09 44.2 +0.5
ISAL AMB AMB 02 09 51.8

comp=Z,25nm,2.6s
SIRR Siria 80.00 45 ⇑ iP P 02 09 45.5 +1.5
TRPA Tarpa 80.06 43 ⇑ iP P 02 09 46.0 +1.8
TRPA Tarpa 80.06 43 ⇓ eP P 02 09 45.8 +1.6
JOF Joensuu 80.08 27 eP P 02 09 44.7 +0.7
JOF pmax pmax
comp=Z,13nm,0.7s
JOF Joensuu 80.08 27 ep P 02 09 44.7 +0.7
comp=Z,13nm,0.7s
IIGN Ignalina 80.12 35 eP P 02 09 44.4 0.0
IIGN AMB AMB 02 09 51.9
comp=Z,34nm,1.3s
BZS Buzias 80.16 45 ⇑ iP P 02 09 46.5 +1.7
IDID Didziasalis 80.41 35 eP P 02 09 44.5 -1.5
IDID AMB AMB 02 09 53.9
comp=Z,20nm,2.5s
LVV L'vov 80.52 41 *i* P P 02 09 47.7 +1.0
DRGR 80.55 44 ⇑ iP P 02 09 48.5 +1.5
NACGM Naroch 80.57 35 *e* P P 02 09 46.0 -0.8
PUL Pulkovo 80.75 30 eP P 02 09 48.1 +0.4
PUL pmax pmax
comp=Z,73nm,1.3s
BMR Baia Mare 80.81 43 ⇓ P P 02 09 50.2 +1.9
BMR Baia Mare 80.81 43 ⇓ iP P 02 09 50.2 +1.9
VAH Vaihoa 80.81 251 eP P 02 09 48.5 -0.3
comp=Z,85nm,1.1s
IGT Igoumenitsa 80.94 51 eP P 02 09 50.2 +1.0
PMOR Pomariorio Ree 80.97 251 eP P 02 09 49.3 -0.3
comp=Z,149nm,1.4s
GZR Gura Zlata 81.00 45 ⇑ iP P 02 09 51.0 +1.6
MNK Minsk 81.28 35 eP P 02 09 50.0 -0.6
MNK pmax pmax
comp=Z,220nm,15.0s
JAN Janina 81.29 51 eP P 02 09 53.0 +1.9
MICGM Minsk 81.30 35 eP P 02 09 50.0 -0.7
FNA Florina 81.35 50 eP P 02 09 52.2 +0.8
KZN Kozani 81.78 50 eP P 02 09 53.0 -0.7
PDO Prodromos 81.84 52 eP P 02 09 55.4 +1.4
BUR08 Bucovina Ar. S 81.92 43 eP P 02 09 55.6 +1.3
BURAR Bucovina Array 81.94 43 ⇑ iP P 02 09 56.3 +1.9
VAY Valandovo 82.06 49 eP P 02 09 55.7 +0.7
VTS Vitosha 82.13 48 ⇓ P P 02 09 56.9 +1.3
VTS Vitosha 82.13 48 eP P 02 09 55.5 -0.1
VTS Vitosha 82.13 48 ⇓ iP P 02 09 56.9 +1.3
THL Klokotos Trika 82.18 51 eP P 02 09 56.2 +0.5
EVR Evrytania 82.22 52 eP P 02 09 56.7 +0.6
ARR Arges 82.26 45 ⇑ iP P 02 09 57.9 +1.8
KKB Krupnik 82.26 49 eP P 02 09 57.3 +1.2
KNT Kendrikon 82.34 49 eP P 02 09 57.3 +0.7
LIT Litokhoron 82.37 50 eP P 02 09 58.0 +1.3
DRO Drossia 82.43 53 eP P 02 09 57.8 +0.7
MAKR Makrakomi, Fth 82.43 52 eP P 02 09 58.6 +1.5
EFP Efpalio 82.44 52 eP P 02 09 59.3 +2.2
VOIR 82.51 45 ⇑ P P 02 09 59.2 +1.8
VOIR 82.51 45 ⇑ iP P 02 09 59.2 +1.8
LAKA Lakka 82.55 52 eP P 02 09 59.2 +1.5
THE Thessaloniki 82.55 50 eP P 02 09 59.3 +1.7
DOPR Dopca 82.57 44 ⇑ iP P 02 09 59.3 +1.6
AGG Agios Georgios 82.57 51 eP P 02 09 58.6 +0.8
KALE Kalithea 82.62 52 eP P 02 10 00.3 +2.2
HORT Hortiatis 82.66 50 eP P 02 09 59.4 +1.1
KLV Kalavryta, Ach 82.73 52 eP P 02 10 00.2 +1.5
HUMR Humele 82.75 46 ⇑ iP P 02 09 59.9 +1.3
SOH Sokhos 82.78 50 eP P 02 10 00.0 +1.1
MMB Musomiste 82.81 49 eP P 02 10 00.0 +1.0
PGB Panagyurishte 82.82 48 eP P 02 10 00.1 +1.0
SRS Serrai 82.86 49 eP P 02 10 00.2 +1.0
GUR Goura 82.91 53 eP P 02 10 00.6 +0.9
NVR Nevrokopi 82.98 49 eP P 02 10 00.7 +0.8
PLG Polygyros 82.98 50 eP P 02 10 01.5 +1.6
MLR Muntele Rosu 83.09 44 ⇑ iP P 02 10 03.0 +2.5
MLR Muntele Rosu 83.09 44 P P 02 10 01.5 +1.0
MLR Muntele Rosu 83.09 44 P P 02 10 01.5 +1.0
comp=Z,27nm,1.2s,baz=318,slow=4.8
XOR Xorichti 83.11 51 eP P 02 10 01.3 +0.7
VLX Vlachokerasia 83.11 53 eP P 02 10 03.2 +2.5
LKR Lokris 83.18 52 eP P 02 09 58.6 -2.4
TESR Tescani 83.22 43 ⇓ iP P 02 10 02.2 +1.2
PLD Plovdiv 83.34 48 eP P 02 10 06.0 +4.3
SKIA Skiathos 83.37 51 eP P 02 10 02.3 +0.4
KIEV Kiev 83.37 39 eP P 02 10 01.4 -0.3
KIEV pmax pmax
comp=Z,67nm,1.7s
KIEV Kiev 83.37 39 eP P 02 10 01.4 -0.3
comp=Z,67nm,1.7s
AKASG Malin Array Be 83.38 39 P P 02 10 01.8 +0.1
AKASG Malin Array Be 83.38 39 P P 02 10 01.8 +0.1
AKASG Malin Array Be 83.38 39 P P 02 10 01.8 +0.1
comp=Z,7.0nm,0.9s,baz=283,slow=5.4,SNR=22
PVL Pavlikeni 83.42 47 eP P 02 10 02.9 +0.9
PPT2 Papeete2 83.42 249 eLR LR 02 36 14.2
comp=Z,1μm,29.0s
PLOR Plostina 83.44 44 ⇓ P P 02 10 03.8 +1.6
PLOR Plostina 83.44 44 ⇓ iP P 02 10 03.8 +1.6
RZN Rozhen 83.48 48 eP P 02 10 04.0 +1.3
VRI Vrincioaia 83.49 44 ⇑ P P 02 10 04.7 +2.3
VRI Vrincioaia 83.49 44 ⇑ iP P 02 10 04.7 +2.3
MRKA Markates 83.61 51 eP P 02 10 00.6 -2.6
ISR Istrita 83.61 45 ⇑ P P 02 10 04.5 +1.4
ISR Istrita 83.61 45 ⇑ iP P 02 10 04.5 +1.4
DID Didima 83.72 53 eP P 02 10 03.7 -0.1
SZH Strazhica 83.82 47 eP P 02 10 04.0 -0.1
DIM Dimitrovgrad 83.94 48 eP P 02 10 06.0 +1.3
KDZ Kurdzhali 83.99 48 ⇑ P P 02 10 06.1 +1.1
KDZ Kurdzhali 83.99 48 eP P 02 10 04.2 -0.8
KDZ Kurdzhali 83.99 48 ⇑ iP P 02 10 06.1 +1.1
PTL Penteli 84.02 52 eP P 02 10 06.4 +1.1
RDO Rodhopi 84.24 49 eP P 02 10 07.3 +1.0
KIS Kishinev 84.45 42 eP P 02 10 08.0 +0.8
KIS *e* 02 10 12.0
KIS *eS* **S 02 20 30.0 -4.2**
KIS Kishinev 84.45 42 eP P 02 10 08.0 +0.8
KIS *eS* **S 02 20 30.0 -4.2**
KLMR Klimovskoe 84.47 27 eP P 02 10 05.7 -1.4
KLMR pmax pmax
comp=Z,118nm,1.4s
JMB Yambol 84.53 47 eP P 02 10 06.7 -1.1
CFR Carcaliu 84.65 44 ⇓ P P 02 10 08.1 -0.2
CFR Carcaliu 84.65 44 ⇓ iP P 02 10 08.1 -0.2
PRD Provadia 84.85 46 eP P 02 10 10.0 +0.7
PSN Preselentsi 85.21 46 eP P 02 10 09.6 -1.6
TBI Tubuai 85.45 244 eLR LR 02 37 14.1
comp=Z,1μm,27.0s
APE Apeiranthos 85.59 53 eP P 02 10 13.0 -0.3
APE pmax pmax
comp=Z,32nm,1.3s
IDI Anoyia 85.69 54 P P 02 10 15.2 +1.4
IDI Anoyia 85.69 54 P P 02 10 15.2 +1.4
comp=Z,34nm,1.2s,baz=286,slow=6.7,SNR=6.3
OBN Obninsk 85.70 33 P P 02 10 13.1 -0.2
comp=Z,302nm,1.5s,SNR=5.9
OBN Obninsk 85.70 33 ⇓ iP P 02 10 13.1 -0.2
OBN *eS* S 02 20 40.1 -6.1
OBN pmax pmax
comp=Z,83nm,1.2s
OBN Obninsk 85.70 33 eP P 02 10 13.9 +0.6
comp=Z,124nm,1.4s
OBN Obninsk 85.70 33 P P 02 10 13.6 +0.3
comp=Z,23nm,0.8s,baz=288,slow=8.3,SNR=14
MOS Moscow 85.96 32 eP P 02 10 13.2 -1.4
MOS pmax pmax
comp=Z,88nm,1.5s
PRGR Permogore 86.61 25 ⇑ iP P 02 10 18.7 +1.0
PRGR pmax pmax
comp=Z,120nm,1.4s
MSKU Masuku 87.22 93 P P 02 10 21.9 +0.2
MSKU Masuku 87.22 93 P P 02 10 21.9 +0.2
comp=Z,4.3nm,0.5s,baz=154,slow=0.9,SNR=8.0
SIM Simferopol' 88.65 43 eP P 02 10 28.8 +0.9
SIM pmax pmax
comp=Z,19nm,1.2s
VSR Storozhevoye 88.88 36 eP P 02 10 27.2 -1.6
VSR pmax pmax
comp=N,6.0nm,1.2s
VSR pmax pmax
comp=E,9.0nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
TIXI Tiksi 88.94 353 ⇑ iP P 02 10 28.2 -0.5
TIXI pmax pmax
comp=Z,33nm,1.2s
TIXI Tiksi 88.94 353 eP P 02 10 28.7 0.0
comp=Z,51nm,1.4s

FX1	**Attu Island--F**	**89.07**	**326**	LR	LR	02 51 42.4		
	comp=Z,494nm,19.4s,baz=84,slow=36							
VORD	**Divnogorie**	**89.07**	**36**	*e*P	**P**	**02 10 27.9**	**-1.8**	
VORD				pmax	pmax			
	comp=N,50nm,0.7s							
VORD				pmax	pmax			
	comp=E,100nm,0.7s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ANTO	**Ankara**	**89.85**	**48**	*e*P	**P**	**02 10 35.1**	**+1.4**	
ANTO				pmax	pmax			
	comp=Z,38nm,1.2s							
ANTO	**Ankara**	**89.85**	**48**	*e*P	**P**	**02 10 35.1**	**+1.4**	
	comp=Z,38nm,1.2s							
VRHR	**Novokhopersk**	**90.29**	**35**	*e*P	**P**	**02 10 34.3**	**-1.1**	
VRHR				pmax	pmax			
	comp=N,20nm,1.1s							
VRHR				pmax	pmax			
	comp=E,10.0nm,1.1s							
VRHR				pmax	pmax			
	comp=Z,30nm,1.1s							
BR131	**Keskin Array S**	**90.50**	**48**	*e*P	**P**	**02 10 37.1**	**+0.3**	
	comp=Z,18nm,1.2s							
BRTR	**Keskin Array B**	**90.50**	**48**	P	**P**	**02 10 37.6**	**+0.8**	
BRTR	**Keskin Array B**	**90.50**	**48**	P	**P**	**02 10 37.6**	**+0.8**	
	comp=Z,14nm,1.1s,baz=274,slow=3.6,SNR=23							
BRTR				LR	LR	02 47 36.6		
	comp=Z,181nm,21.9s,baz=337,slow=33							
SEY	**Seymchan**	**91.52**	**341**	*c iP*	**P**	**02 10 41.6**	**+0.7**	
SEY	**Seymchan**	**91.52**	**341**	P	**P**	**02 10 41.2**	**+0.4**	
SEY	**Seymchan**	**91.52**	**341**	P	**P**	**02 10 41.2**	**+0.4**	
	comp=Z,19nm,1.1s,baz=263,slow=23,SNR=12							
SOKR	**Solikamsk**	**92.19**	**23**	*e*P	**P**	**02 10 45.4**	**+1.4**	
SOKR				pmax	pmax			
	comp=Z,30nm,1.4s							
CSS	**Prodhromos**	**92.24**	**52**	*e*P	**P**	**02 10 46.1**	**+1.3**	
	comp=Z,10nm,1.4s							
GOF	**Gofitskoye**	**94.19**	**40**	*e*P	P	02 10 59.4	+5.8	
KIV	**Kislovodsk**	**94.54**	**41**	*e*P	**P**	**02 10 55.1**	**-0.2**	
KIV				pmax	pmax			
	comp=Z,21nm,1.4s							
KIV	**Kislovodsk**	**94.54**	**41**	*e*P	**P**	**02 10 55.1**	**-0.2**	
	comp=Z,21nm,1.4s							
MMAI	**Mount Meron Ar**	**94.61**	**53**	P	**P**	**02 10 56.5**	**+0.6**	
MMAI	**Mount Meron Ar**	**94.61**	**53**	P	**P**	**02 10 56.5**	**+0.6**	
	comp=Z,0.5nm,0.3s,baz=357,slow=2.9,SNR=4.3							
KBZ	**Khabaz**	**94.79**	**41**	P	**P**	**02 10 57.5**	**+1.2**	
KBZ	**Khabaz**	**94.79**	**41**	P	**P**	**02 10 57.5**	**+1.2**	
KBZ	**Khabaz**	**94.79**	**41**	P	**P**	**02 10 57.5**	**+1.2**	
	comp=Z,3.4nm,0.9s,baz=274,slow=6.9,SNR=5.0							
KBZ				LR	LR	02 51 05.6		
	comp=Z,598nm,20.1s,baz=294,slow=34							
NEY	**Neytrino**	**94.92**	**41**	*i* P	**P**	**02 10 56.6**	**-0.6**	
ARU	**Arti**	**95.07**	**25**	*d iP*	**P**	**02 10 56.8**	**-0.6**	
ARU						02 14 45.3		
ARU				S	**SKSac**	**02 21 32.0**	**-1.7**	
ARU				SS	**SS**	**02 28 31.6**	**-5.2**	
ARU				pmax	pmax			
	comp=Z,23nm,1.7s							
ARU	**Arti**	**95.07**	**25**	*e*P	**P**	**02 10 58.5**	**+1.1**	
	comp=Z,138nm,2.3s							
NCK	**Nalchik**	**95.34**	**41**	*e*P	**P**	**02 10 58.2**	**-0.7**	
SVE	**Sverdlovsk**	**95.59**	**24**	*e*P	**P**	**02 10 58.1**	**-1.6**	
SVE				pmax	pmax			
	comp=Z,18nm,1.6s							
ZEI	**Tsey**	**95.90**	**41**	*e*P	**P**	**02 11 01.8**	**0.0**	
ZEI				pmax	pmax			
	comp=Z,14nm,1.9s							
ASF	**Jabal al Asfar**	**96.12**	**53**	P	**P**	**02 11 03.7**	**+0.9**	
ASF	**Jabal al Asfar**	**96.12**	**53**	P	**P**	**02 11 03.7**	**+0.9**	
	comp=Z,2.5nm,1.0s,baz=214,slow=2.9,SNR=5.1							
GNI	**Garni**	**97.83**	**43**	*e*P	Pdif	02 11 12.2	+1.7	
	comp=Z,21nm,1.3s							
GNI	**Garni**	**97.83**	**43**	P	Pdif	02 11 11.6	+1.1	
	comp=Z,4.1nm,0.9s,baz=22,slow=14,SNR=4.7							
AKTO	**Aktyubinsk**	**99.00**	**29**	P	**Pdif**	**02 11 16.0**	**+0.7**	
AKTO	**Aktyubinsk**	**99.00**	**29**	P	**Pdif**	**02 11 16.0**	**+0.7**	
AKTO	**Aktyubinsk**	**99.00**	**29**	P	**Pdif**	**02 11 16.0**	**+0.7**	
	comp=Z,2.2nm,1.1s,baz=317,slow=6.6,SNR=4.0							
ABKAR	**Akbulak array**	**100.72**	**29**	*e*Pdif	**Pdif**	**02 11 24.8**	**+1.8**	
KURK	**Kurchatov**	**106.76**	**18**	P	**Pdif**	**02 11 52.7**	**+2.9**	
KURK	**Kurchatov**	**106.76**	**18**	Pdif	**Pdif**	**02 11 52.7**	**+2.9**	
KURBB	**Kurchatov Arra**	**106.81**	**19**	Pdiff	**Pdif**	**02 11 52.7**	**+2.7**	
	comp=Z,0.9nm,1.1s,baz=314,slow=5.0,SNR=4.2							
MKAR	**Makanchi Array**	**111.36**	**18**	PKKPbc	PKKPbc	02 27 03.2	-2.0	
MKAR	**Makanchi Array**	**111.36**	**18**	PKKPbc	PKKPbc	02 27 03.2	-2.0	
	comp=Z,0.4nm,0.8s,baz=206,slow=4.7,SNR=4.2							
EKS2	**Erkin-Say**	**111.92**	**26**	*e*PKIKP	**PKiKP**	**02 16 10.0**	**-0.1**	
EKS2	**Erkin-Say**	**111.92**	**26**	*e*PKP	**PKiKP**	**02 16 10.0**	**-0.1**	
AAK	**Ala-Archa**	**112.24**	**25**	*e*PKIKP	**PKiKP**	**02 16 10.3**	**-0.5**	
AAK	**Ala-Archa**	**112.24**	**25**	*e*PKP	**PKiKP**	**02 16 10.3**	**-0.5**	
TKM2	**Tokmak 2**	**112.44**	**25**	*e*PKIKP	**PKiKP**	**02 16 12.9**	**+1.7**	
TKM2	**Tokmak 2**	**112.44**	**25**	*e*PKP	**PKiKP**	**02 16 12.9**	**+1.7**	
SONM	**Songino Array**	**114.06**	**1**	PKKPbc	PKKPbc	02 27 04.8	+8.4	
SONM	**Songino Array**	**114.06**	**1**	PKKPbc	PKKPbc	02 27 04.8	+8.4	
	comp=Z,0.8nm,0.8s,baz=148,slow=3.4,SNR=4.9							
KSH	**Kashi**	**115.46**	**26**	*e*PKP	**PKPdf**	**02 16 18.0**	**+1.0**	
KSH				eSKS	**SKSdf**	**02 23 25.3**	**-4.7**	
KSH				*e*SKKS	**SKKSac**	**02 24 14.2**	**-6.5**	
KSH				LR	LR			
	comp=Z,110nm,6.9s							
KSH				LR	LR			
	comp=Z,130nm,5.4s							
KSH				LR	LR			
	comp=Z,180nm,9.2s							
WMQ	**Urumqi**	**115.58**	**15**	PKP	**PKPdf**	**02 16 17.4**	**+0.4**	
WMQ				PP	**PP**	**02 17 18.5**	**+0.7**	
WMQ				PKS	**PKSdf**	**02 19 52.8**	**-0.9**	
WMQ				SKS	**SKSdf**	**02 23 24.5**	**-5.4**	
WMQ				SKKS	SKKSac	02 24 12.7	-8.5	
WMQ				AMB	AMB			
	comp=Z,66nm,10.7s							
WMQ				LR	LR			
	comp=Z,600nm,25.0s							
WMQ				LR	LR			
	comp=Z,450nm,23.3s							
WMQ				LR	LR			
	comp=Z,920nm,19.7s							
CN2	**Changchun**	**115.85**	**345**	*e*Pdif	**Pdif**	**02 12 31.0**	**+0.6**	
CN2				LR	LR			
	comp=Z,1μm,20.0s							
CN2				LR	LR			
	comp=Z,870nm,20.0s							
CN2				LR	LR			
	comp=Z,780nm,21.0s							
HHC	**Hu-ho-hao-te**	**120.90**	**356**	*e*PKP	**PKPdf**	**02 16 28.1**	**+0.7**	
HHC				PP	**PP**	**02 17 57.6**	**+3.0**	
HHC				SKS	**SKSdf**	**02 23 37.2**	**-3.1**	
HHC				AMB	AMB			
	comp=Z,250nm,8.8s							
HHC				LR	LR			
	comp=Z,1μm,22.5s							
HHC				LR	LR			
	comp=Z,1μm,21.1s							
HHC				LR	LR			
	comp=Z,1μm,22.1s							
GTA	**Gaotai**	**122.08**	**7**	*e*PKP	**PKPdf**	**02 16 30.1**	**+0.4**	
GTA				sPKP		02 16 37.0		
GTA				PP	**PP**	**02 18 07.2**	**+4.5**	
GTA				SKS	**SKSdf**	**02 23 40.4**	**-2.3**	
GTA				SKKS	**SKKSac**	**02 24 59.7**	**-4.7**	
GTA				SS	**SS**	**02 34 42.5**	**+1.6**	
GTA				AMB	AMB			
	comp=Z,210nm,6.6s							
GTA				LR	LR			
	comp=Z,1μm,20.4s							
GTA				LR	LR			
	comp=Z,480nm,17.6s							
GTA				LR	LR			
	comp=Z,1μm,20.9s							
LZH	**Lanzhou**	**125.72**	**3**	*e*PKP	**PKPdf**	**02 16 37.6**	**+0.8**	
LZH				sPKP		02 16 42.3		
LZH				PP	PP	02 18 33.0	+5.8	
LZH				SKKS		02 25 21.5		
LZH				*e*SS	**SS**	**02 35 26.7**	**-0.2**	
LZH				AMB	AMB			
	comp=Z,320nm,9.1s							
LZH				LR	LR			
	comp=Z,400nm,18.5s							
LZH				LR	LR			
	comp=Z,380nm,18.2s							
LZH				LR	LR			
	comp=Z,600nm,20.3s							
NJ2	**Nanjing**	**128.58**	**347**	*e*PKP	**PKPdf**	**02 16 41.2**	**-1.0**	
CD2	**Chengdu**	**130.86**	**4**	*e*PKP	**PKPdf**	**02 16 46.4**	**-0.2**	
GYA	**Guiyang**	**135.40**	**1**	*e*Pdif	**Pdif**	**02 13 55.4**	**-2.5**	
GYA				PKP	**PKPdf**	**02 16 52.8**	**-2.6**	
GYA				PP	**PP**	**02 19 33.0**	**+3.0**	
GYA				PKS	**PKSdf**	**02 20 28.6**	**-3.4**	
GYA				SKKS		02 26 23.1		
GYA				SS	**SS**	**02 37 25.7**	**0.0**	
GYA				AMB	AMB			
	comp=Z,210nm,8.3s							
GYA				LR	LR			
	comp=Z,280nm,19.5s							
GYA				LR	LR			
	comp=Z,170nm,20.2s							
GYA				LR	LR			
	comp=Z,260nm,19.8s							
PMG	**Port Moresby**	**140.17**	**277**	*e*PKPdf	**PKPdf**	**02 17 03.4**	**-0.9**	
CHTO	**Chiang Mai**	**142.16**	**13**	*e*PKIKP	**PKPdf**	**02 17 07.3**	**-0.5**	
CHTO	**Chiang Mai**	**142.16**	**13**	*e*PKPdf	**PKPdf**	**02 17 07.3**	**-0.5**	
CMAR	**Chiang Mai Arr**	**142.50**	**13**	PKP	**PKPdf**	**02 17 06.5**	**-1.8**	
CMAR	**Chiang Mai Arr**	**142.50**	**13**	PKP	**PKPdf**	**02 17 06.5**	**-1.8**	
	comp=Z,1.3nm,0.3s,baz=321,slow=1.8,SNR=4.2							
CTAO	**Charters Tower**	**143.04**	**261**	*e*PKPdf	PKPab	02 17 03.6	-0.9	
PALK	**Pallekele**	**143.54**	**48**	*e*PKPdf	**PKPdf**	**02 17 09.8**	**-0.6**	
COEN	**Coen**	**145.10**	**272**	*e*PKPdf	**PKPdf**	**02 17 12.8**	**-0.2**	
STKA	**Stephens Creek**	**146.16**	**240**	PKPbc	**PKPdf**	**02 17 14.3**	**0.0**	
STKA				*e*PKPdf	**PKPbc**	**02 17 14.8**	**-0.6**	
STKA	**Stephens Creek**	**146.16**	**240**	PKPbc	**PKPdf**	**02 17 14.3**	**0.0**	
	comp=Z,8.1nm,0.9s,baz=78,slow=3.2,SNR=9.0							
DLV	**T Lat**	**149.81**	**357**	*e*PKPdf	**PKPdf**	**02 17 20.1**	**-1.0**	
DLV				*e*PKPbc	**PKPbc**	**02 17 25.8**	**0.0**	
KKM	**Kota Kinabalu**	**154.09**	**339**	*e*PKPdf	**PKPdf**	**02 17 28.3**	**+0.9**	
KKM				*e*PKPbc	**PKPbc**	**02 17 34.8**	**-0.7**	
KKM				*e*PKPab	**PKPab**	**02 17 49.9**	**+1.2**	
WRAB	**Tennant Creek**	**154.22**	**262**	*e*PKIKP	**PKPdf**	**02 17 26.2**	**-1.1**	
WRAB	**Tennant Creek**	**154.22**	**262**	*e*PKPdf	**PKPdf**	**02 17 26.1**	**-1.1**	
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**	**02 17 27.1**	**-0.1**	
WRA				PKPbc	**PKPbc**	**02 17 33.8**	**-1.7**	
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**	**02 17 27.1**	**-0.1**	
	comp=Z,6.3nm,1.0s,baz=84,slow=1.2,SNR=9.2							
WRA				PKPbc	**PKPbc**	**02 17 33.8**	**-1.7**	
	comp=Z,5.2nm,0.8s,baz=89,slow=3.0,SNR=9.8							
AS31	**Alice Springs**	**154.45**	**254**	*e*PKPbc	**PKPbc**	**02 17 34.7**	**-1.3**	
ASAR	**Alice Springs**	**154.45**	**254**	PKP	**PKPdf**	**02 17 26.6**	**-1.0**	
ASAR				PKPbc	**PKPbc**	**02 17 34.1**	**-1.8**	
ASAR	**Alice Springs**	**154.45**	**254**	PKP	**PKPdf**	**02 17 26.6**	**-1.0**	
	comp=Z,1.5nm,1.0s,baz=101,slow=1.3,SNR=4.2							
ASAR				PKPbc	**PKPbc**	**02 17 34.1**	**-1.8**	
	comp=Z,6.4nm,1.1s,baz=109,slow=2.1,SNR=8.4							
KULM	**Kulim**	**155.61**	**16**	*e*PKPdf	**PKPdf**	**02 17 26.6**	**-2.7**	
KULM				*e*PKPab	**PKPab**	**02 17 54.9**	**-0.2**	

TAP 13 02:00:01.4, 22°.83N×120°.91E, h12km, ML2.0, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu**	**0.04**	**207**	*i* P	Pg	02 00 03.9	+0.3
	baz=195						
TAW				S	Sg	02 00 06.0	+0.7
	baz=195						
EAST	**Anshuo**	**0.06**	**263**	⇑*i*P	Pg	02 00 04.6	+0.6
	baz=259						
EAST				S	Sg	02 00 06.3	+0.5
	baz=259						
SCZT	**Fangliau**	**0.27**	**266**	*i* P	Pb	02 00 07.8	-0.4
	baz=265						
SCZT				S	Sb	02 00 12.2	-0.6
	baz=265						
TWK1	**Hengchun**	**0.46**	**193**	*e*P	Pb	02 00 11.3	-0.1
	baz=191						

TAP 13 02:00:01.6, 22°.83N×120°.91E, h10km±1km, ML2.3, 2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.15**	**95**	⇓*i*P	Pg	02 00 05.7	+0.8
	baz=96						
TWG				*i* S	Sg	02 00 08.1	+0.8
	baz=96						
TTN	**Taitung**	**0.23**	**110**	*e*P	Pg	02 00 06.9	+0.5
	baz=109						
ECL	**Taimali**	**0.24**	**170**	P	Pg	02 00 06.9	+0.4
	baz=12						
ECL				*e*S	Sg	02 00 10.1	+0.4
	baz=12						
ECL	**Taimali**	**0.24**	**170**	P	Pg	02 00 06.8	+0.4
	baz=169						
ECL				S	Sg	02 00 10.2	+0.4
	baz=169						
SSD	**Sandimen**	**0.27**	**251**	⇓*i*P	Pg	02 00 07.1	+0.1
	baz=252						
SSD				*e*S	Sg	02 00 10.0	-0.6
	baz=252						
STYT	**Tauyuan**	**0.35**	**337**	P	Pg	02 00 09.3	+0.6
	baz=337						
ELDTW	**Lidau**	**0.37**	**16**	P	Pg	02 00 09.1	+0.1
	baz=24						
ELDTW				S	Sg	02 00 14.2	+0.2
	baz=24						
TWM1	**Shoushan**	**0.45**	**269**	*e*P	Pb	02 00 11.1	-0.5
	baz=269						
EAST	**Anshuo**	**0.45**	**187**	*e*P	Pg	02 00 11.0	+0.5
	baz=187						
EAST				*e*S	Sb	02 00 18.0	-0.6
	baz=187						
WTP	**Ta-pu**	**0.49**	**327**	*e*P	Pb	02 00 12.4	0.0
	baz=321						
CHN1	**Nanshi**	**0.49**	**315**	*e*P	Pb	02 00 12.4	0.0
	baz=314						
SCZT	**Fangliau**	**0.53**	**210**	*e*P	Pb	02 00 12.8	-0.2
	baz=210						
SCZT				*e*S	Sb	02 00 20.0	-0.8
	baz=210						
TWK	**Hsinying**	**0.58**	**318**	*e*P	Pb	02 00 14.5	+0.6
	baz=320						
TWK				*e*S	Sb	02 00 23.3	+1.0
	baz=320						
TWF1	**Yuli**	**0.63**	**35**	P	Pg	02 00 13.9	+0.1
	baz=35						
TWF1				*e*S	Sg	02 00 20.9	-1.2
	baz=35						
ALS	**Alishan**	**0.68**	**352**	*e*P	Pg	02 00 15.3	+0.2
	baz=359						
EHY	**Hungye**	**0.77**	**30**	*e*P	Pg	02 00 16.7	+0.3
	baz=37						
CHN5	**Tsauling**	**0.79**	**345**	*e*P	Pn	02 00 18.6	-0.4
	baz=344						
SMLT	**Sun Moon Lake**	**1.04**	**360**	*e*P	Pn	02 00 22.4	-0.1
	baz=7.0						
SMLT				*e*S	Sn	02 00 38.2	+0.9
	baz=7.0						
TYC	**Yuchr**	**1.07**	**358**	*e*P	Pn	02 00 23.9	+1.3
	baz=1.0						

ISCJB ***13*** *02:05:42.9±0.5, 15°.96N±0°.07×94°.42W±0°.03, h63km±9km, mb3.7/4, Error ellipse: s-maj=11.7km s-min=4.6km az=17.0*

MEX ***13*** *02:05:44.5±0.6, 15°.85N×94°.46W, h83km±14km, MD4.0*

IDC ***13*** *02:05:46.5±3.4, 16°.00N×94°.11W, h80km±34km, mb3.5/4, mb1 3.9/8, mb1mx3.6/26, mbtmp3.7/8, Error ellipse: s-maj=31.6km s-min=22.0km az=55.0*

ISC 13 02:05:43.9±1.0, 15°.95N±0°.07×94°.40W±0°.04, h57km±13km, n17, σ1°57/26, mb3.6/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.17**	**102**	*e*P	**Pn**	**02 06 04.8**	**+0.8**
PCIG				*i* S	**Sn**	**02 06 20.6**	**+1.6**
HUIG	**Huatulco**	**1.65**	**264**	*e*P	**Pn**	**02 06 09.4**	**-1.1**
HUIG				*e*S	**Sn**	**02 06 29.4**	**-1.3**
THIG		**2.31**	**116**	*e*P	**Pn**	**02 06 19.9**	**+0.4**
THIG				*i* S	**Sn**	**02 06 47.1**	**+0.4**
VHO	**Vista Hermosa**	**2.50**	**297**	*e*P	**Pn**	**02 06 22.8**	**+0.5**
VHO				*i* S	**Sn**	**02 06 52.0**	**+0.2**
PNIG	**Pinotepa**	**3.60**	**278**	*e*P	**Pn**	**02 06 36.7**	**-0.6**
PNIG				*i* S	**Sn**	**02 07 17.6**	**-1.1**
APG	**El Apazote**	**3.91**	**103**	P	**Pn**	**02 06 39.7**	**-2.0**
	14nm,0.3s,baz=255,slow=22,SNR=139						
APG				S	**Sn**	**02 07 23.1**	**-3.4**
	9.4nm,0.3s,baz=283,slow=20,SNR=5.0						
LVIG	**Laguna Verde**	**4.22**	**333**	*e*P	**Pn**	**02 06 45.5**	**-0.2**
LVIG				*e*S	**Sn**	**02 07 33.1**	**-0.6**
SCIG	**Sabancuy**	**4.30**	**45**	*e*P	**Pn**	**02 06 47.6**	**+0.9**
TLIG	**Tlapa**	**4.30**	**293**	*e*P	**Pn**	**02 06 49.2**	**+2.2**
TLIG				*e*S	**Sn**	**02 07 37.0**	**+1.1**
TEIG	**Tepich**	**7.22**	**53**	P	**Pn**	**02 07 26.7**	**-0.1**
	16nm,0.3s,baz=2.9,slow=0.7,SNR=69						
TEIG				S	**Sn**	**02 08 43.7**	**-3.7**
	29nm,0.3s,baz=31,slow=21,SNR=12						
JTS	**JuntasAbangare**	**10.78**	**120**	P	**Pn**	**02 08 17.0**	**+1.3**
	3.1nm,0.3s,baz=318,slow=18,SNR=7.2						
TXAR	**Lajitas Array**	**15.82**	**329**	P	**P**	**02 09 26.4**	**+0.4**
	0.0nm,0.3s,baz=147,slow=14,SNR=2.3						
NVAR	**Mina Array Bea**	**30.71**	**321**	P	**P**	**02 11 56.0**	**+2.2**
	0.2nm,0.5s,baz=140,slow=8.5,SNR=4.9						
YKA	**Yellowknife Ar**	**48.62**	**348**	P	**P**	**02 14 21.0**	**-0.7**
	0.4nm,0.6s,baz=153,slow=7.6,SNR=6.6						
ILAR	**Eielson Array**	**60.15**	**337**	P	**P**	**02 15 45.0**	**-0.4**
	0.4nm,0.9s,baz=128,slow=5.8,SNR=4.0						
ARCES	**ARCESS Array B**	**85.02**	**18**	P	**P**		
	3.4nm,0.8s,baz=307,slow=5.1,SNR=4.7						
WRA	**Warramunga Arr**	**133.58**	**257**	PKP	**PKPdf**	**02 24 53.8**	**-1.1**
	0.2nm,0.5s,baz=85,slow=2.6,SNR=5.1						

ISCJB ***13*** *02:11:17.8±2.6, 18°.2N±0°.6×73°.2W±0°.2, h10km, mb3.6/9, Error ellipse: s-maj=81.2km s-min=20.6km az=10.4*

IDC ***13*** *02:11:17.1±3.0, 18°.07N×73°.18W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.9/25, mbtmp3.7/9, Error ellipse: s-maj=94.2km s-min=24.1km az=12.0*

ISC 13 02:11:19.0±2.7, 18°.2N±0°.6×73°.1W±0°.2, h10km, n9, σ1°10/9, mb3.9/9, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**29.98**	**297**	P	**P**	**02 17 29.0**	**+1.1**
	0.7nm,1.0s,baz=111,slow=6.9,SNR=4.2						
PDAR	**Pinedale Array**	**39.37**	**316**	P	**P**	**02 18 48.1**	**-0.9**
	0.5nm,1.0s,baz=160,slow=8.4,SNR=3.0						
YKA	**Yellowknife Ar**	**52.76**	**337**	P	**P**	**02 20 33.1**	**-0.7**
	0.4nm,0.8s,baz=126,slow=7.4,SNR=5.0						
ESDC	**Sonseca Array**	**62.76**	**54**	P	**P**	**02 21 45.8**	**+1.1**
	1.9nm,0.9s,baz=280,slow=7.0,SNR=3.6						
NOA	**NORSAR Array B**	**71.57**	**31**	P	**P**	**02 22 40.1**	**-0.2**
	0.8nm,0.8s,baz=327,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**71.80**	**82**	P	**P**	**02 22 41.0**	**-1.3**
	1.0nm,0.9s,baz=260,slow=5.1,SNR=3.5						
GERES	**GERESS Array B**	**74.51**	**43**	P	**P**	**02 22 58.8**	**+0.8**
	1.0nm,0.8s,baz=270,slow=5.3,SNR=5.2						
MLR	**Muntele Rosu**	**83.42**	**44**	P	**P**	**02 23 47.0**	**+0.1**
	0.5nm,0.8s,baz=333,slow=2.3,SNR=2.9						
AKASG	**Malin Array Be**	**83.71**	**39**	P	**P**	**02 23 49.1**	**+1.0**
	0.3nm,0.4s,baz=280,slow=5.4,SNR=3.0						

JSN ***13*** *02:11:20.9±10.0, 18°.84N×72°.59W, h0km±999km, MD5.3*

IDC ***13*** *02:11:27.8±0.4, 18°.39N×72°.96W, h0km, mb4.5/30, mb1 4.6/35, mb1mx4.6/39, mbtmp4.5/35, ML3.6/4, MS4.5/5, Ms1 4.5/5, ms1mx4.1/30, Error ellipse: s-maj=12.3km s-min=10.6km az=60.0*

ISCJB ***13*** *02:11:28.7±0.1, 18°.37N±0°.02×73°.04W±0°.01, h10km, mb4.9/195, MS4.6/6, Error ellipse: s-maj=3.4km s-min=2.0km az=9.5*

MOS ***13*** *02:11:29.0±1.2, 18°.36N×73°.05W, h10km, mb5.3/57, Error ellipse: s-maj=5.9km s-min=5.1km az=81.6*

NEIC ***13*** *02:11:30.7±0.2, 18°.40N×73°.04W, h10km, mb5.0/128, Error ellipse: s-maj=4.3km s-min=3.0km az=194.0*

ISC 13 02:11:30.4±0.7, 18°.39N±0°.04×73°.02W±0°.03, h12km±4km, n809, σ1°25/811, mb5.0/195, MS4.7/6, 182C-161D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.75**	**70**	*e*Pn	**Pn**	**02 11 59.9**	**-0.7**
SDDR				*e*Sn	**Sn**	**02 12 23.0**	**+0.1**
GTBY	**Guantanamo Bay**	**2.50**	**308**	*e*Pn	**Pn**	**02 12 09.5**	**-1.3**
GTBY				*e*Sn	**Sn**	**02 12 40.0**	**-1.2**
YHJ	**Yallahs**	**3.34**	**262**	*e*P	**Pn**	**02 12 21.9**	**-0.6**
YHJ	**Yallahs**	**3.34**	**262**	*e*P	**Pn**	**02 12 21.9**	**-0.6**
GWJ	**Greenwich**	**3.54**	**265**	*e*P	**Pn**	**02 12 24.6**	**-0.7**
GWJ	**Greenwich**	**3.54**	**265**	*e*P	**Pn**	**02 12 24.6**	**-0.7**
HOJ	**Hope**	**3.56**	**264**	*e*P	Pn	02 12 16.9	-8.7
HOJ	**Hope**	**3.56**	**264**	*e*P	Pn	02 12 16.9	-8.7
HOJ	**Hope**	**3.56**	**264**	*e*P	Pn	02 12 16.9	-8.7
GRTK	**Grand Turk**	**3.58**	**29**	*e*Pn	**Pn**	**02 12 24.3**	**-1.5**
GRTK				*e*Pg	**Pb**	**02 12 35.2**	**+1.6**
GRTK				*e*Sn	**Sn**	**02 13 07.5**	**-0.4**
GRTK				*e*Sg	**Sb**	**02 13 19.0**	**+2.0**
STH	**Stony Hill**	**3.61**	**266**	*e*P	Pn	02 12 16.3	-10
STH				*i* S	**Sn**	**02 13 10.2**	**+1.3**
STH	**Stony Hill**	**3.61**	**266**	*e*P	Pn	02 12 16.3	-10
STH				*i* S	**Sn**	**02 13 10.2**	**+1.3**
STH	**Stony Hill**	**3.61**	**266**	*e*P	Pn	02 12 16.3	-10
STH				*i* S	**Sn**	**02 13 10.2**	**+1.3**
PCJ	**Portland Cotta**	**3.99**	**261**	*e*P	**Pn**	**02 12 32.1**	**+0.8**
PCJ	**Portland Cotta**	**3.99**	**261**	*e*P	**Pn**	**02 12 32.1**	**+0.8**
CVJ	**Coleyville**	**4.29**	**268**	*e*P	**Pn**	**02 12 35.3**	**-0.3**
CVJ	**Coleyville**	**4.29**	**268**	*e*P	**

comp=Z,161nm,1.4s
BLA **Blacksburg** 19.84 342 *e*P P 02 16 01.5 +0.2
comp=Z,160nm,1.4s
CBN **Corbin** 20.10 350 *e*P P 02 16 04.1 +0.1
comp=Z,45nm,0.5s
SWET **Sewanee** 20.30 328 *e*Pn Pn 02 16 08.4 +0.1
comp=Z,57nm,1.3s
TZTN **Tazewell** 20.32 335 *e*P P 02 16 07.4 +0.9
comp=Z,121nm,1.3s
VBMS **Vicksburg** 20.93 314 *e*Pn Pn 02 16 14.6 -1.0
comp=Z,112nm,1.2s
SDMD **Soldier's Deli** 21.20 352 *e*P P 02 16 15.8 -0.1
comp=Z,909nm,2.9s
MVL **Millersville** 21.72 353 *e*P P 02 16 24.4 +2.9
comp=Z,86nm,1.4s
PAL **Palisades** 22.55 358 *e*P P 02 16 32.0 +1.6
PAL pmax pmax
comp=Z,236nm,1.1s
PAL **Palisades** 22.55 358 *e*P P 02 16 32.0 +1.6
comp=Z,236nm,1.1s
ODNJ **Ogdensburg** 22.66 357 *e*P P 02 16 31.4 -0.1
comp=Z,108nm,1.6s
UTMT **University of** 22.69 325 *e*P P 02 16 37.3 +5.4
comp=Z,185nm,1.3s
WCI **Wyandotte Cave** 22.91 332 *e*P P 02 16 36.1 +1.9
WCI pmax pmax
comp=Z,377nm,2.9s
WCI **Wyandotte Cave** 22.91 332 *e*P P 02 16 36.1 +1.9
comp=Z,377nm,2.9s
PTGA **Pitinga** 22.93 145 *e*P P 02 16 36.0 +1.3
comp=Z,64nm,1.3s
PTGA **Pitinga** 22.93 145 P P 02 16 31.7 -3.0
comp=Z,46nm,1.3s,baz=340,slow=9.7,SNR=13
KSPA **Keystone Colle** 23.21 355 *e*P P 02 16 38.9 +1.6
USIN **University of** 23.33 330 *e*P P 02 16 43.1 +4.6
comp=Z,51nm,1.2s
ACSO **Alum Creek Sta** 23.40 341 *e*P P 02 16 39.3 +0.1
comp=Z,56nm,1.2s
PARMO **Parma** 23.41 324 *e*P P 02 16 45.4 +6.0
NATX **Nacogdoches** 23.63 308 *e*P P 02 16 41.9 +0.3
comp=Z,48nm,0.8s
UALR **University of** 23.69 317 *e*P P 02 16 41.7 -0.4
comp=Z,24nm,0.9s
HKT **Hockley** 23.73 303 *i*P P 02 16 42.1 -0.4
HKT pmax pmax
comp=Z,11nm,0.9s
HKT **Hockley** 23.73 303 *e*P P 02 16 42.7 +0.3
comp=Z,596nm,2.9s
BLO **Bloomington** 23.79 333 *e*P P 02 16 45.3 +2.3
BLO pmax pmax
comp=Z,72nm,1.2s
BLO **Bloomington** 23.79 333 *e*P P 02 16 45.3 +2.3
comp=Z,72nm,1.2s
PBMO **Poplar Bluff** 23.88 324 *e*P P 02 16 44.3 +0.5
comp=Z,108nm,1.8s
SIUC **Southern Illin** 23.91 327 *e*P P 02 16 45.1 +1.0
comp=Z,199nm,1.8s
MIAR **Mount Ida** 24.36 315 *e*P P 02 16 49.9 +1.5
MIAR pmax pmax
comp=Z,46nm,1.2s
MIAR **Mount Ida** 24.36 315 *e*P P 02 16 49.9 +1.5
comp=Z,46nm,1.2s
035Z **Hargill** 24.47 294 ⇑P P 02 16 49.9 +0.4
baz=24
KVTX **Kingsville** 24.61 296 *e*P P 02 16 49.9 -0.8
comp=Z,49nm,0.7s
MMNY **Mt. Morris Dam** 24.61 351 *e*P P 02 16 51.5 +0.9
comp=Z,95nm,1.2s
035A **Encino** 24.62 295 P P 02 16 52.4 +1.6
baz=25
835A **Beeville** 24.77 298 ⇑P P 02 16 53.8 +1.6
baz=25,SNR=8.9
ACCN **Adirondack Com** 24.92 359 *e*P P 02 16 54.4 +1.0
comp=Z,25nm,0.8s
735A **Kenedy** 24.93 299 ⇓P P 02 16 55.1 +1.5
baz=25,SNR=9.3
SFIN **Scholer Farm** 25.04 334 *e*P P 02 16 59.3 +4.8
comp=Z,36nm,0.9s
SFIN **Scholer Farm** 25.04 334 ⇑P P 02 16 56.5 +2.0
baz=25,SNR=5.8
635A **Leesville** 25.09 300 ⇓P P 02 16 55.3 +0.3
baz=25
535A **Dale** 25.15 302 ⇓P P 02 16 56.1 +0.5
baz=25
034A **Hebbronville** 25.16 295 ⇑P P 02 16 57.0 +1.3
baz=25,SNR=6.7
934A **Benavides** 25.16 296 ⇑P P 02 16 57.1 +1.5
baz=25,SNR=8.7
834A **Tilden** 25.33 297 ⇑P P 02 16 58.1 +0.9
baz=25,SNR=12
335A **Moody** 25.53 305 ⇑P P 02 16 59.7 +0.7
baz=26,SNR=7.3
734A **La Parita Cree** 25.55 299 ⇓P P 02 16 59.4 +0.1
baz=26
634A **China Grove, S** 25.56 300 ⇑P P 02 16 59.7 +0.4
baz=26
933A **Laredo** 25.80 296 ⇓P P 02 17 02.5 +0.9
baz=26,SNR=8.5
WHTX **Lake Whitney** 25.85 306 *e*P P 02 17 02.6 +0.7
comp=Z,59nm,0.9s
WHTX **Lake Whitney** 25.85 306 ⇑P P 02 17 02.5 +0.6
baz=26,SNR=10
534A **Blanco** 25.88 301 ⇓P P 02 17 02.8 +0.5
baz=26,SNR=15
ATAH **Atahualpa** 25.91 192 P P 02 17 03.1 0.0
ATAH **Atahualpa** 25.91 192 P P 02 17 03.1 0.0
comp=Z,19nm,1.1s,baz=331,slow=2.8,SNR=6.8
ATAH LR LR 02 27 59.7
comp=Z,984nm,20.4s,baz=1.6,slow=38
434A **Burnet** 26.00 303 ⇓P P 02 17 03.5 +0.1
baz=26,SNR=6.4
135A **Vickery Place,** 26.06 307 ⇑P P 02 17 04.1 +0.2
baz=26
833A **Chaparral WMA,** 26.10 297 ⇓P P 02 17 04.8 +0.6
baz=26,SNR=16
733A **Divot King Ran** 26.13 298 ⇑P P 02 17 04.4 -0.2
baz=26,SNR=7.0
334A **Lometa** 26.18 304 ⇑P P 02 17 05.0 0.0
baz=26,SNR=13
633A **Saathoff Ranch** 26.26 300 ⇑P P 02 17 05.9 +0.2
baz=26,SNR=8.1
Z35A **Perchaven, San** 26.30 309 ⇑P P 02 17 06.4 +0.3
baz=26
533A **Kerrville** 26.35 301 ⇓P P 02 17 06.4 -0.2
baz=26
234A **Clairette** 26.38 306 ⇓P P 02 17 06.5 -0.2
baz=26
134A **White-Moore Ra** 26.58 307 ⇓P P 02 17 09.0 +0.4
baz=27,SNR=7.5
832A **Faith Ranch, C** 26.58 297 ⇓P P 02 17 08.9 +0.3
baz=27,SNR=14
TUL1 **Tulsa** 26.63 315 *e*P P 02 17 09.7 +0.7
comp=Z,68nm,1.2s
TUL1 **Tulsa** 26.63 315 ⇑P P 02 17 09.3 +0.3
baz=27,SNR=5.8
433A **Art** 26.64 302 ⇓P P 02 17 09.5 +0.3
baz=27,SNR=13
732A **Laxson Ranch,** 26.70 298 ⇓P P 02 17 09.3 -0.4
baz=27,SNR=9.7
333A **Richland Sprin** 26.77 304 ⇓P P 02 17 10.4 +0.1
baz=27,SNR=12
632A **Uvalde** 26.78 299 ⇑P P 02 17 10.5 +0.1
baz=27,SNR=7.8
SADO **Sadowa** 26.79 350 P P 02 17 08.8 -1.5
SADO **Sadowa** 26.79 350 P P 02 17 08.8 -1.5
comp=Z,4.6nm,0.6s,baz=107,slow=4.1,SNR=3.5
Z34A **Collier Ranch,** 26.81 309 ⇑P P 02 17 10.7 +0.1
baz=27
233A **Rising Star** 26.97 305 ⇑P P 02 17 11.9 -0.3
baz=27
Y34A **Reagan Ranch,** 26.97 310 ⇓P P 02 17 12.6 +0.5
baz=27,SNR=14
532A **Rocksprings** 27.08 301 ⇓P P 02 17 13.3 +0.1
baz=27,SNR=12
JCT **Junction City** 27.11 301 *e*P P 02 17 13.9 +0.4
JCT pmax pmax
comp=Z,19nm,0.9s
JCT **Junction City** 27.11 301 *e*P P 02 17 13.9 +0.4
comp=Z,19nm,0.9s
JCT **Junction City** 27.11 301 ⇓P P 02 17 13.3 -0.2
baz=27
133A **Hamilton Ranch** 27.23 306 ⇑P P 02 17 14.7 +0.3
baz=27
432A **Menard** 27.25 302 ⇓P P 02 17 14.7 +0.1
baz=27,SNR=10
X34A **Smith Ranch, M** 27.34 311 ⇓P P 02 17 15.6 +0.2
baz=27,SNR=8.0
332A **Millersview** 27.39 303 ⇑P P 02 17 15.6 -0.3
baz=27,SNR=7.0
631A **Perdido Creek** 27.41 299 ⇑P P 02 17 16.0 -0.1
baz=27,SNR=14
Z33A **Whitaker Ranch** 27.41 308 ⇑P P 02 17 16.3 +0.3
baz=27,SNR=7.4
531A **Rocksprings** 27.61 300 ⇓P P 02 17 17.7 -0.2
baz=28
Y33A **Hilltop Ranch,** 27.63 309 ⇓P P 02 17 17.7 -0.3
baz=28
V34A **Guthrie** 27.76 314 ⇓P P 02 17 19.5 +0.4
baz=28
ABTX **Abilene, Hawle** 27.79 306 *e*P P 02 17 19.8 +0.3
comp=Z,21nm,1.1s
ABTX **Abilene, Hawle** 27.79 306 ⇓P P 02 17 19.4 -0.1
baz=28
X33A **Lawton** 27.79 310 ⇓P P 02 17 19.1 -0.4
baz=28
431A **Sonora** 27.84 301 ⇓P P 02 17 20.0 0.0
baz=28,SNR=9.4
331A **San Angelo** 27.91 303 ⇓P P 02 17 20.1 -0.4
baz=28,SNR=6.6
Z32A **Haskell** 27.95 307 ⇑P P 02 17 21.0 0.0
baz=28,SNR=10
231A **Bronte** 28.05 304 ⇓P P 02 17 21.4 -0.4
baz=28
W33A **Caddo, Fort Co** 28.07 312 ⇑P P 02 17 22.3 +0.3
baz=28
WMOK **Wichita Mounta** 28.09 311 *e*P P 02 17 22.2 +0.1
WMOK pmax pmax
comp=Z,15nm,1.0s
WMOK **Wichita Mounta** 28.09 311 *e*P P 02 17 22.2 +0.1
comp=Z,15nm,1.0s
U34A **Anderson Ranch** 28.09 315 ⇓P P 02 17 22.0 -0.1
baz=28
Y32A **R-V Farms, Ver** 28.23 309 ⇑P P 02 17 23.5 0.0
baz=28,SNR=6.0
530A **J-C Ranch, Com** 28.26 300 ⇑P P 02 17 23.5 -0.2
baz=28,SNR=7.4
V33A **Lossen Ranch,** 28.28 313 ⇓P P 02 17 23.2 -0.6
baz=28
X32A **Elmer** 28.31 310 ⇑P P 02 17 24.0 -0.1
baz=28,SNR=7.6
430A **Baggett Ranch,** 28.38 301 ⇓P P 02 17 24.6 -0.2
baz=28
131A **Roby** 28.39 305 ⇓P P 02 17 24.7 -0.2
baz=28
Z31A **Sharp Cattle R** 28.46 307 ⇑P P 02 17 25.4 -0.1
baz=28
JFWS **Jewell Farm** 28.47 333 *e*P P 02 17 25.1 -0.3
JFWS pmax pmax
comp=Z,17nm,0.8s
JFWS **Jewell Farm** 28.47 333 *e*P P 02 17 25.1 -0.3
comp=Z,17nm,0.8s
330A **Mertzon** 28.54 302 ⇑P P 02 17 25.9 -0.3
baz=28,SNR=6.6
W32A **Sentinel** 28.61 311 ⇓P P 02 17 26.7 -0.1
baz=29,SNR=7.5
230A **Sterling City** 28.66 303 ⇑P P 02 17 26.8 -0.5
baz=29
V32A **Arapaho** 28.76 312 ⇑P P 02 17 28.0 -0.1
baz=29
130A **Snyder** 28.81 305 P P 02 17 29.2 +0.7
baz=29
Y31A **Reata Farm,** 28.83 308 ⇓P P 02 17 28.8 +0.1
baz=29,SNR=7.4
SAML **Samuel** 28.85 160 *e*P P 02 17 27.9 -1.1
comp=Z,2.2nm,0.8s
429A **Davenport Ranc** 28.86 300 ⇓P P 02 17 28.5 -0.6
baz=29,SNR=5.3
X31A **McDonald Ranch** 28.91 309 ⇑P P 02 17 28.8 -0.7
baz=29
529A **Stev Forest Ra** 28.98 299 ⇑P P 02 17 29.8 -0.4
baz=29,SNR=6.2
KSU1 **Kansas State U** 29.06 320 *e*P P 02 17 31.5 +0.8
comp=Z,44nm,1.1s
KSU1 **Kansas State U** 29.06 320 ⇑P P 02 17 31.0 +0.4
baz=29
W31A **Holland Ranch,** 29.14 310 ⇓P P 02 17 31.7 +0.2
baz=29
Z30A **Sanderson Ranc** 29.20 306 ⇑P P 02 17 31.9 -0.2
baz=29
329A **Wagon Wheel Ra** 29.21 302 ⇑P P 02 17 32.0 -0.2
baz=29,SNR=9.3
229A **Bryant Ranch,** 29.24 303 ⇑P P 02 17 32.7 +0.3
baz=29
Y30A **Stafford Cattl** 29.27 307 ⇓P P 02 17 33.1 +0.4
baz=29
V31A **Spring Creek L** 29.35 312 ⇓P P 02 17 33.7 +0.3
baz=29
628A **Black Gap, Mar** 29.36 298 ⇓P P 02 17 33.5 0.0
baz=29
T32A **Huddler Ranch,** 29.43 315 ⇑P P 02 17 34.4 +0.4
baz=29
R33A **Olander Ranch,** 29.44 318 ⇑P P 02 17 34.2 0.0
baz=29
528A **Cox Ranch, San** 29.46 299 ⇑P P 02 17 34.4 -0.1
baz=29,SNR=8.6
X30A **Coker Ranch, T** 29.49 308 ⇑P P 02 17 34.6 0.0
baz=30
129A **Stewart Farms,** 29.52 304 ⇓P P 02 17 34.9 -0.1
baz=30
428A **Kincaid Ranch,** 29.55 300 ⇓P P 02 17 35.6 +0.4
baz=30,SNR=15
Z29A **Hungry Hill Ra** 29.64 306 ⇓P P 02 17 36.0 0.0
baz=30,SNR=11
Q33A **Connelly Farm,** 29.75 319 ⇓P P 02 17 37.7 +0.8
baz=30
627A **Terlingua Ranc** 29.77 297 P P 02 17 37.7 +0.4
baz=30
Y29A **Portarfield Fa** 29.85 307 ⇑P P 02 17 38.0 +0.2
baz=30,SNR=9.4
328A **Wristen Ranch,** 29.85 301 ⇓P P 02 17 37.6 -0.3
baz=30
T31A **Randall Ranch,** 29.90 314 ⇑P P 02 17 38.3 +0.1
baz=30
228A **UT Block 9, Go** 29.92 303 ⇓P P 02 17 38.3 -0.1
baz=30
TXAR **Lajitas Array** 29.98 297 P P 02 17 38.3 -0.8
TXAR **Lajitas Array** 29.98 297 P P 02 17 38.3 -0.8
comp=Z,6.9nm,1.0s,baz=118,slow=7.7,SNR=31
128A **Castleberry Fa** 30.01 304 ⇓P P 02 17 39.5 +0.2
baz=30,SNR=9.9
S31A **Mullinville** 30.05 315 ⇑P P 02 17 39.7 +0.2
baz=30
X29A **Tulia** 30.11 308 ⇓P P 02 17 39.8 -0.3
baz=30
527A **Woodward Ranch** 30.14 299 ⇑P P 02 17 40.3 -0.3
baz=30,SNR=11
427A **Hayter Ranch,** 30.17 300 ⇓P P 02 17 40.8 +0.1
baz=30,SNR=11
Z28A **Tucker Farm, M** 30.18 305 ⇑P P 02 17 40.6 -0.1
baz=30
Q32A **Meitler Ranch,** 30.20 318 ⇑P P 02 17 41.0 +0.2
baz=30
AMTX **Amarillo** 30.28 309 *e*P P 02 17 41.7 0.0
comp=Z,26nm,1.1s
AMTX **Amarillo** 30.28 309 ⇑P P 02 17 41.5 -0.2
baz=30
U30A **WK&E Inc. Balk** 30.29 312 ⇓P P 02 17 41.5 -0.2
baz=30
Y28A **McKinney Farm,** 30.31 306 ⇓P P 02 17 41.6 -0.4
baz=30
W29A **Amraillo** 30.36 309 P P 02 17 43.0 +0.6
baz=30
626A **Big Bend Ranch** 30.43 297 ⇓P P 02 17 43.2 +0.2
baz=30
R31A **Burdett** 30.43 316 ⇑P P 02 17 43.2 +0.2
baz=30
227A **Bennet, Jal** 30.44 302 ⇑P P 02 17 43.3 +0.2
baz=30
X28A **Dimmitt** 30.52 308 ⇑P P 02 17 43.8 0.0
baz=30
526A **Mary Lane Ranc** 30.52 298 ⇑P P 02 17 44.0 +0.1
baz=30,SNR=16
P32A **Huiting Farm,** 30.60 319 ⇑P P 02 17 44.9 +0.6
baz=31
V29A **Stinnett** 30.60 310 ⇑P P 02 17 45.2 +0.7
baz=31
426A **McDonald Obser** 30.64 299 ⇑P P 02 17 45.0 0.0
baz=31,SNR=13
127A **Arkansas Junct** 30.72 303 ⇓P P 02 17 45.5 -0.1
baz=31
S30A **Montezuma** 30.72 314 ⇑P P 02 17 45.8 +0.3
baz=31
MSTX **Muleshoe** 30.73 306 *e*P P 02 17 45.5 -0.2
comp=Z,20nm,0.9s
MSTX **Muleshoe** 30.73 306 ⇑P P 02 17 45.9 +0.2
baz=31
Q31A **Ellis** 30.75 317 ⇓P P 02 17 46.2 +0.5
baz=31
326A **Caldwell Ranch** 30.78 301 ⇑P P 02 17 45.6 -0.6
baz=31
O32A **Brockman Farm,** 30.79 320 ⇑P P 02 17 46.1 +0.1
baz=31
Z27A **Tatum** 30.83 305 ⇓P P 02 17 46.3 -0.3
baz=31,SNR=5.8
R30A **Dighton** 30.93 315 ⇑P P 02 17 48.1 +0.8
baz=31
P31A **Stockton** 31.03 318 ⇓P P 02 17 48.7 +0.5
baz=31
S29A **Ulysses** 31.15 314 ⇓P P 02 17 49.6 +0.3
baz=31
226B **Tecolote Peak,** 31.16 302 ⇑P P 02 17 49.8 +0.3
baz=31
126A **Clayton Basin,** 31.23 303 ⇓P P 02 17 49.9 -0.2
baz=31
X27A **F and S Farms,** 31.25 307 ⇓P P 02 17 50.6 +0.3
baz=31,SNR=6.1
Q30A **Quinter** 31.27 317 ⇑P P 02 17 50.5 +0.2
baz=31
U28A **Mallet** 31.34 311 ⇓P P 02 17 50.7 -0.3
baz=31
GDL2 **Guadalupe Moun** 31.36 302 *e*P P 02 17 51.6 +0.3
comp=Z,4.4nm,0.8s
O31A **Woolen Ranch,** 31.36 319 ⇑P P 02 17 51.3 +0.2
baz=31
W27A **Bowe Ranch, En** 31.39 308 ⇑P P 02 17 51.2 -0.3
baz=31
Z26A **Caprock** 31.41 304 ⇑P P 02 17 51.3 -0.4
baz=31
425A **Indio Mountain** 31.46 299 ⇑P P 02 17 52.4 +0.2
baz=31,SNR=9.3
P30A **Seiden** 31.60 318 ⇑P P 02 17 53.8 +0.6
baz=32,SNR=6.7
T28A **Walsh** 31.60 312 ⇓P P 02 17 53.8 +0.4
baz=32
325A **Bean Ranch, Si** 31.61 300 ⇑P P 02 17 54.0 +0.4
baz=32,SNR=17
S28A **Manter** 31.68 313 ⇓P P 02 17 54.2 +0.2
baz=32
225A **Deer Hill, Car** 31.71 302 ⇑P P 02 17 54.9 +0.6
baz=32,SNR=11
Q29A **Oakley** 31.72 316 ⇑P P 02 17 54.4 +0.2
baz=32
125A **Gardner Draw,** 31.75 303 ⇑P P 02 17 54.9 +0.3
baz=32,SNR=8.4
X26A **CR and CF Fran** 31.75 307 ⇑P P 02 17 54.7 +0.1
baz=32,SNR=6.5
U27A **Thompson Grove** 31.79 310 ⇑P P 02 17 54.9 -0.1
baz=32
O30A **MW Ranch, Wils** 31.84 319 ⇓P P 02 17 55.4 +0.1
baz=32
M31A **Lambtecht Ranc** 31.87 321 ⇑P P 02 17 56.0 +0.4
baz=32
W26A **Owens Ranch, T** 31.93 308 ⇓P P 02 17 56.4 +0.2
baz=32,SNR=7.2
R28A **Tribune** 31.99 314 ⇓P P 02 17 56.7 0.0
baz=32
Z25A **Roswell** 32.00 304 ⇑P P 02 17 57.0 +0.2
baz=32,SNR=9.0
MNTX **Cornudas Mount** 32.04 301 *e*P P 02 17 57.1 0.0
comp=Z,28nm,1.1s
324A **Moseley Ranch,** 32.05 300 ⇓P P 02 17 57.8 +0.4
baz=32,SNR=18
Y25A **Mesa, Roswell** 32.20 305 ⇓P P 02 17 58.9 +0.3
baz=32
V26A **Tequesquite Ra** 32.23 309 ⇑P P 02 17 58.7 -0.2
baz=32
224A **Cornudas Mount** 32.26 301 ⇑P P 02 17 59.8 +0.6
baz=32,SNR=16
O29A **4D Ranch, Culb** 32.27 318 ⇑P P 02 17 59.9 +0.8
baz=32
L31A **Butterfield Fa** 32.31 323 ⇑P P 02 17 59.7 +0.3
baz=32
X25A **Clemmons Ranch** 32.39 306 ⇑P P 02 18 00.5 +0.1
baz=32
124A **Stringfield Ra** 32.40 302 ⇑P P 02 18 01.6 +1.1
baz=32,SNR=12
W25A **X Bar L Ranch,** 32.50 307 ⇓P P 02 18 02.1 +0.8
baz=32,SNR=5.9
Z24A **Sheeppen Canyo** 32.52 304 ⇓P P 02 18 02.5 +0.9
baz=32,SNR=13
P28A **Saint Francis** 32.59 316 ⇑P P 02 18 02.2 +0.2
baz=33
R27A **Eads** 32.64 314 ⇓P P 02 18 02.5 +0.1
baz=33
T26A **Comanche Natio** 32.68 311 ⇑P P 02 18 02.9 0.0
baz=33
L30A **Spencer Herefo** 32.68 322 ⇓P P 02 18 03.1 +0.4
baz=33
Y24A **Capitan** 32.78 305 ⇓P P 02 18 04.6 +0.8
baz=33,SNR=11
V25A **Rancho No Teng** 32.86 308 ⇑P P 02 18 05.6 +1.1
baz=33
U25A **Circle Dot Ran** 32.93 309 ⇓P P 02 18 05.9 +0.7
baz=33
M29A **Burnside Ranch** 32.96 320 ⇑P P 02 18 06.7 +1.6
baz=33
X24A **Lazy VL Ranch,** 33.00 306 ⇑P P 02 18 06.7 +0.9
baz=33
123A **Bell Site, Whi** 33.02 302 ⇓P P 02 18 06.7 +0.8
baz=33
N28A **Pribbeno Ranch** 33.06 318 ⇓P P 02 18 06.5 +0.5
baz=33
K30A **Basset** 33.07 323 ⇓P P 02 18 06.2 +0.2
baz=33
R26A **Arlington** 33.09 313 ⇑P P 02 18 06.3 -0.1
baz=33
EYMN **Ely** 33.11 337 *e*P P 02 18 07.4 +1.1
comp=Z,44nm,1.4s
Z23A **Rita Site, Whi** 33.19 303 ⇑P P 02 18 08.2 +0.8
baz=33,SNR=7.8
W24A **Lazy 6 Ranch,** 33.21 307 ⇓P P 02 18 08.8 +1.2
baz=33,SNR=9.0
T25A **Trinidad** 33.25 311 ⇑P P 02 18 08.7 +0.8
baz=33,SNR=5.9
Y23A **Lovelace Mesa,** 33.27 304 ⇑P P 02 18 09.2 +1.2
baz=33,SNR=14
V24A **Rampart Ranch,** 33.31 308 ⇑P P 02 18 08.6 +0.1
baz=33
J30A **Dallas** 33.41 324 ⇓P P 02 18 08.7 -0.3
baz=33
Q26A **Hugo** 33.44 314 ⇓P P 02 18 09.7 +0.2
baz=33
S25A **Robets Cordova** 33.49 311 ⇓P P 02 18 10.4 +0.4
baz=34
222A **Williams Famil** 33.56 301 ⇓P P 02 18 11.0 +0.4
baz=34
W23A **Werner Place,** 33.76 306 ⇑P P 02 18 13.5 +1.1
baz=34,SNR=9.4
Z22A **Elephant Butte** 33.77 303 ⇑P P 02 18 13.7 +1.3
baz=34,SNR=6.7
BNM **Barren Site** 33.79 304 *e*P P 02 18 13.4 +0.8
comp=Z,45nm,1.0s
LPM **Los Pinos Moun** 33.84 305 *e*P P 02 18 14.3 +1.3
T24B **San Luis** 33.92 310 ⇑P P 02 18 14.4 +0.6
baz=34
ANMO **Albuquerque** 33.92 306 *e*P P 02 18 14.8 +1.0
comp=Z,14nm,1.2s
ANMO *e*ScP ScP 02 24 41.2 +4.1
ANMO **Albuquerque** 33.92 306 P P 02 18 14.6 +0.9
comp=Z,5.8nm,1.0s,baz=119,slow=12,SNR=10.0
Q25A **Bedland, Calha** 33.93 314 ⇓P P 02 18 14.6 +0.8
baz=34
V23A **Ortiz Mt. (NFS** 34.00 307 ⇓P P 02 18 16.0 +1.5
baz=34,SNR=6.2
S24A **Houchin Ranch,** 34.04 311 ⇑P P 02 18 15.5 +0.6
baz=34
LENM **Lemitar** 34.06 304 *e*P P 02 18 16.2 +1.2
221A **Mesquite Ranch** 34.09 300 ⇑P P 02 18 16.3 +1.1
baz=34
R24A **Sanders Place,** 34.22 312 ⇓P P 02 18 16.7 +0.3
baz=34
U23A **El Rito** 34.23 308 ⇓P P 02 18 17.4 +1.0
baz=34,SNR=8.1
121A **Cookes Peak, D** 34.23 301 *e*P P 02 18 17.8 +1.4
comp=Z,30nm,1.1s
121A **Cookes Peak, D** 34.23 301 ⇓P P 02 18 17.5 +1.1
baz=34,SNR=11
LAZ **Ladron** 34.27 305 *e*P P 02 18 17.6 +0.8
comp=Z,23nm,1.2s
T23A **Casias Ranch,** 34.39 309 ⇓P P 02 18 18.5 +0.6
baz=34
320A **Kipp Ranch, An** 34.54 299 ⇑P P 02 18 20.5 +1.3
baz=34,SNR=6.4
Q24A **Divide** 34.58 313 ⇓P P 02 18 19.4 -0.1

baz=35
K27A **Flueckinger Fa** 34.63 321 ⇓P P 02 18 20.3 +0.6
baz=35
P24A **Kohler Place,** 34.67 314 ⇓P P 02 18 20.6 +0.4
baz=35
R23A **Moffat** 34.71 311 ⇑P P 02 18 20.9 +0.2
baz=35
U22A **Llaves** 34.74 308 ⇓P P 02 18 22.2 +1.4
baz=35,SNR=8.6
I28A **Midland** 34.78 323 ⇓P P 02 18 20.9 0.0
baz=35
LPAZ **La Paz** 34.80 172 *e*P P 02 18 22.1 +0.2
comp=Z,12nm,1.2s
LPAZ **La Paz** 34.80 172 P P 02 18 21.6 -0.3
comp=Z,3.3nm,0.8s,baz=12,slow=4.5,SNR=3.9
LPAZ LR LR 02 33 37.2
comp=Z,1µm,19.9s,baz=346,slow=38
M25A **Palm-Egli Farm** 35.06 318 ⇑P P 02 18 23.9 +0.4
baz=35
O24A **Longmont** 35.07 315 ⇑P P 02 18 23.7 +0.1
baz=35
AGMN **Agassiz Nation** 35.13 333 *e*P P 02 18 29.5 +5.7
comp=Z,17nm,1.1s
AGMN **Agassiz Nation** 35.13 333 ⇑P P 02 18 24.8 +1.0
baz=35
LPIG **La Paz** 35.14 286 P P 02 18 25.0 +0.8
LPIG **La Paz** 35.14 286 P P 02 18 25.0 +0.8
comp=Z,12nm,0.3s,baz=195,slow=4.3,SNR=4.2
319A **Douglas** 35.18 299 ⇓P P 02 18 25.6 +1.0
baz=35,SNR=16
K26A **Motz Farm, Whi** 35.20 320 ⇑P P 02 18 25.2 +0.6
baz=35
S22A **4UR Ranch, Cre** 35.25 310 ⇑P P 02 18 25.5 +0.2
baz=35
ISCO **Idaho Springs** 35.28 314 *e*P P 02 18 26.3 +0.7
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO **Idaho Springs** 35.28 314 *e*P P 02 18 26.3 +0.7
comp=Z,9.5nm,1.0s
ISCO **Idaho Springs** 35.28 314 ⇑P P 02 18 26.1 +0.5
baz=35
N24A **Carr** 35.29 316 ⇑P P 02 18 26.0 +0.6
baz=35
G28A **Parade** 35.32 325 ⇑P P 02 18 25.5 0.0
baz=35
I27A **Quinn** 35.33 323 ⇑P P 02 18 25.5 -0.2
baz=35
J26A **Sides Ranch, S** 35.48 321 ⇑P P 02 18 27.2 +0.1
baz=36
M24A **Cheyenne** 35.57 317 ⇑P P 02 18 27.9 -0.1
baz=36
O23A **Lake Granby, G** 35.68 315 ⇑P P 02 18 28.7 -0.4
baz=36
H27A **Howes** 35.69 324 ⇑P P 02 18 28.8 +0.1
baz=36
SMCO **Snowmass** 35.95 312 *e*P P 02 18 31.9 +0.4
comp=Z,62nm,2.0s
J25A **Sunshine Ranch** 35.96 321 ⇓P P 02 18 31.6 +0.5
baz=36
P22A **Eagle** 35.98 313 ⇑P P 02 18 31.2 -0.3
baz=36
G27A **Dupree** 36.07 325 ⇑P P 02 18 31.8 -0.1
baz=36
H26A **Fairpoint** 36.07 323 ⇓P P 02 18 31.8 -0.2
baz=36
O22A **Kremmling** 36.09 314 ⇑P P 02 18 31.6 -0.9
baz=36
MVCO **Mesa Verde** 36.27 308 *e*P P 02 18 34.8 +0.7
comp=Z,7.1nm,0.8s
MVCO **Mesa Verde** 36.27 308 ⇑P P 02 18 33.8 -0.3
baz=36
I25A **Rochford** 36.28 321 P P 02 18 34.4 +0.4
baz=36
B30A **Myrvik Farm, E** 36.34 331 ⇑P P 02 18 34.1 -0.1
baz=36
F27A **Lemmon** 36.42 325 ⇑P P 02 18 34.5 -0.5
baz=36
J24A **Dixon Ranch, L** 36.45 320 ⇓P P 02 18 34.9 -0.4
baz=36
L23A **Garrett** 36.47 317 ⇑P P 02 18 35.0 -0.6
baz=36
X18A **Snowflake** 36.52 304 ⇓P P 02 18 36.8 +0.7
baz=36,SNR=5.9
W18A **Petrified Fore** 36.52 305 *e*P P 02 18 37.5 +1.3
comp=Z,24nm,1.0s
W18A **Petrified Fore** 36.52 305 ⇓P P 02 18 36.4 +0.2
baz=36
E27A **Carson** 36.54 326 ⇑P P 02 18 36.7 +0.8
baz=37
TUC **Tucson** 36.63 300 *e*P P 02 18 38.3 +1.3
TUC pmax pmax
comp=Z,121nm,2.8s
TUC **Tucson** 36.63 300 *e*P P 02 18 38.2 +1.3
comp=Z,121nm,2.8s
ULM **Lac du Bonnet** 36.66 335 P P 02 18 34.5 -2.3
ULM **Lac du Bonnet** 36.66 335 P P 02 18 34.5 -2.3
comp=Z,5.0nm,0.9s,baz=180,slow=8.5,SNR=4.8
PV01 **Paradox Valley** 36.67 310 *e*P P 02 18 38.0 +0.5
comp=Z,577nm,0.9s
SCHQ **Schefferville** 36.68 6 P P 02 18 34.5 -2.5
SCHQ **Schefferville** 36.68 6 P P 02 18 34.5 -2.5
comp=Z,7.6nm,0.9s,baz=215,slow=18,SNR=2.9
A30A **Hoffart Farm,** 36.69 332 ⇑P P 02 18 37.7 +0.5
baz=37
F26A **Lodgepole** 36.77 325 ⇓P P 02 18 37.4 -0.5
baz=37
G25A **Newell** 36.78 323 ⇓P P 02 18 37.9 -0.2
baz=37
E26A **Carlson Angus** 37.04 326 ⇓P P 02 18 39.9 -0.4
baz=37
A29A **Manning Farm,** 37.09 331 ⇑P P 02 18 40.5 -0.1
baz=37
H24A **Dirks Ranch, A** 37.18 322 ⇓P P 02 18 41.1 -0.4
baz=37
O20A **White River Ci** 37.24 313 *e*P P 02 18 43.7 +1.4
comp=Z,59nm,1.8s
O20A **White River Ci** 37.24 313 ⇓P P 02 18 41.6 -0.7
baz=37
J22A **Midwest** 37.62 319 ⇓P P 02 18 45.8 +0.5
baz=38
X16A **Lo Mia Camp, P** 37.67 303 ⇓P P 02 18 46.9 +0.9
baz=38,SNR=11
K21A **Alcova** 37.72 317 ⇓P P 02 18 47.0 +0.7
baz=38,SNR=12
C26A **Wahner Farm, P** 37.72 328 ⇓P P 02 18 47.0 +1.0
baz=38
I22A **9 Mile Ranch,** 37.87 320 ⇓P P 02 18 47.8 +0.4
baz=38
WUAZ **Wupatki** 37.92 305 *e*P P 02 18 49.3 +1.2
comp=Z,24nm,1.0s
WUAZ **Wupatki** 37.92 305 ⇓P P 02 18 49.2 +1.2
baz=38,SNR=9.8
G23A **Biddle** 37.92 322 ⇓P P 02 18 47.8 0.0
baz=38
J21A **Lysite** 38.20 318 ⇓P P 02 18 50.5 +0.3
baz=38,SNR=8.3
F23A **Volborg** 38.23 323 ⇓P P 02 18 50.3 0.0
baz=38
214A **Organ Pipe Nat** 38.24 298 ⇑P P 02 18 50.5 -0.1
baz=38
I21A **Big Trails, Te** 38.33 319 ⇑P P 02 18 51.3 -0.1
baz=38,SNR=7.5
D24A **Glendive** 38.45 325 ⇑P P 02 18 52.6 +0.5
baz=38
SRU **San Rafael** 38.45 310 *e*P P 02 18 53.3 +0.8
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU **San Rafael** 38.45 310 *e*P P 02 18 53.3 +0.8
comp=Z,8.6nm,1.0s
G22A **Birney** 38.47 321 P P 02 18 52.5 +0.1
baz=38
J20A **Shoshoni** 38.60 318 ⇓P P 02 18 53.8 +0.2
baz=39
Z14A **Wintersburg** 38.64 301 ⇑P P 02 18 54.3 +0.5
baz=39
F22A **Rosebud** 38.75 322 ⇑P P 02 18 54.7 0.0
baz=39
Y14A **Wickenburg** 38.81 302 ⇑P P 02 18 55.7 +0.3
baz=39
U15A **North Rim** 38.89 306 ⇓P P 02 18 57.4 +1.0
baz=39,SNR=9.2
I20A **Worland** 38.92 319 ⇑P P 02 18 56.4 +0.1
baz=39
D23A **Lindsay** 38.96 325 ⇑P P 02 18 56.6 +0.2
baz=39
G21A **Lodge Grass** 39.01 321 ⇓P P 02 18 56.8 -0.2
baz=39
H20A **Greybull** 39.11 319 ⇑P P 02 18 57.8 0.0
baz=39
J19A **Crowheart** 39.18 317 ⇑P P 02 18 58.4 -0.1
baz=39
113A **Mohawk Valley,** 39.19 300 ⇑P P 02 18 58.8 +0.3
baz=39
LAO **LASA Array** 39.24 323 *e*P P 02 18 59.5 +0.7
comp=Z,114nm,2.3s
PDAR **Pinedale Array** 39.28 316 P P 02 18 57.4 -2.0
PDAR **Pinedale Array** 39.28 316 P P 02 18 57.4 -2.0
comp=Z,3.3nm,1.1s,baz=123,slow=10,SNR=11
C23A **Lambert** 39.33 326 ⇑P P 02 19 00.3 +0.8
baz=39
A24A **Westby** 39.40 328 ⇑P P 02 19 01.0 +0.9
baz=39
DAU **Daniels Canyon** 39.46 312 *e*P P 02 19 01.0 -0.1
DAU pmax pmax
comp=Z,18nm,1.3s
DAU **Daniels Canyon** 39.46 312 *e*P P 02 19 01.0 -0.1
comp=Z,18nm,1.3s
MVU **Marysvale** 39.48 309 *e*P P 02 19 03.5 +2.3
comp=Z,12nm,1.4s
D22A **Cohagen** 39.48 324 ⇓P P 02 19 02.0 +1.2
baz=40
I19A **Meeteetse** 39.51 318 ⇑P P 02 19 01.0 -0.3
baz=40
MPU **Maple Canyon** 39.58 311 *e*P P 02 19 01.9 -0.1
comp=Z,12nm,1.0s
B23A **Brockton** 39.63 326 ⇑P P 02 19 02.7 +0.7
baz=40
C22A **Vida** 39.67 325 ⇓P P 02 19 02.5 +0.2
baz=40
W13A **Hualapai Mount** 39.79 303 ⇓P P 02 19 05.2 +1.4
baz=40,SNR=12
PDMCI **Parker Dam,Lak** 39.81 302 ⇑P P 02 19 04.3 +0.6
baz=40
H19A **Powell** 39.81 319 ⇓P P 02 19 03.9 +0.2
baz=40
NLU **North Lily Min** 39.88 311 *e*P P 02 19 05.5 +1.1
comp=Z,8.0nm,1.0s
D21A **La Casta Ranch** 39.90 323 ⇓P P 02 19 05.3 +1.0
baz=40
CTU **Camp Tracy** 39.92 312 *e*P P 02 19 05.6 +0.9
comp=Z,20nm,1.3s
Y12C **Blythe** 40.01 301 ⇓P P 02 19 05.9 +0.6
baz=40
CCUT **Cedar City** 40.04 307 *e*P P 02 19 06.6 +0.8
comp=Z,11nm,1.1s
GLA **Glamis** 40.12 300 *e*P P 02 19 06.9 +0.6
GLA pmax pmax
comp=Z,21nm,1.3s
GLA **Glamis** 40.12 300 *e*P P 02 19 06.9 +0.6
comp=Z,21nm,1.3s
GLA **Glamis** 40.12 300 ⇓P P 02 19 06.7 +0.4
baz=40,SNR=6.0
ARUT **Antelope Range** 40.17 307 *e*P P 02 19 06.9 +0.1
ARUT pmax pmax
comp=Z,286nm,1.0s
ARUT **Antelope Range** 40.17 307 *e*P P 02 19 06.9 +0.1
comp=Z,286nm,1.0s
E20A **Meyer Farm, Mu** 40.24 322 ⇓P P 02 19 07.0 -0.2
baz=40
H18A **Shoshone NF, C** 40.24 319 ⇑P P 02 19 06.6 -0.8
baz=40,SNR=7.2
LOHW **Long Hollow** 40.35 317 *e*P P 02 19 08.4 +0.1
comp=Z,21nm,1.1s
F19A **Roth Farm, Mol** 40.38 321 ⇑P P 02 19 08.4 0.0
baz=40
REDW **Red Top Meadow** 40.40 316 *e*P P 02 19 08.8 +0.1
comp=Z,106nm,1.9s
A22A **Carney Farms,** 40.43 327 ⇓P P 02 19 09.6 +0.9
baz=40
I17A **Pilgrim Ck.** 40.47 317 ⇓P P 02 19 09.6 +0.3
baz=40,SNR=5.9
DUG **Dugway** 40.49 311 *e*P P 02 19 09.9 +0.4
DUG pmax pmax
comp=Z,26nm,1.4s
DUG **Dugway** 40.49 311 *e*P P 02 19 09.9 +0.4
comp=Z,26nm,1.4s
DUG **Dugway** 40.49 311 ⇓P P 02 19 09.8 +0.4
baz=40,SNR=9.4
TPAW **Teton Pass** 40.52 316 *e*P P 02 19 09.8 +0.1
comp=Z,18nm,1.1s
D20A **Manuel Ranch,** 40.56 323 ⇓P P 02 19 10.3 +0.5
baz=41
IRM **Iron Mountain** 40.60 301 ⇓P P 02 19 11.4 +1.1
baz=41,SNR=15
E19A **Rath Farm, Rou** 40.60 322 ⇑P P 02 19 10.2 0.0
baz=41,SNR=8.7
FLWY **Flagg Ranch** 40.62 317 *e*P P 02 19 10.2 -0.4
comp=Z,96nm,2.1s
FXWY **Fox Creek** 40.63 317 *e*P P 02 19 10.8 +0.1
comp=Z,31nm,1.4s
H17A **Grt Village** 40.68 318 *e*P P 02 19 13.9 +2.8
comp=Z,19nm,1.5s
H17A **Grant Village** 40.68 318 ⇓P P 02 19 12.2 +1.1
baz=41
IMW **Indian Meadow** 40.69 317 *e*P P 02 19 11.0 -0.2
comp=Z,92nm,2.5s
BC3 **Big Chuckawall** 40.75 300 ⇓P P 02 19 12.1 +0.5
baz=41,SNR=6.4
LDFC **Landfair** 40.77 303 *e*P P 02 19 13.5 +1.8
comp=Z,21nm,1.0s
GCMT **Greycliff** 40.79 320 *e*P P 02 19 11.4 -0.4
comp=Z,3.9nm,0.8s
C20A **Veseth Ranch,** 40.83 324 ⇓P P 02 19 13.1 +1.1
baz=41
SWSC **Sam W. Stewart** 40.90 299 ⇓P P 02 19 13.5 +0.8
baz=41
BGU **Big Grassy Mou** 40.91 312 *e*P P 02 19 13.2 +0.4
comp=Z,6.5nm,1.2s
LVC **Limon Verde** 40.95 174 *e*P P 02 19 14.0 +0.6
comp=Z,3.5nm,0.8s
A21A **Bergtoll Ranch** 40.97 326 ⇓P P 02 19 14.0 +0.9
baz=41
D19A **Cripps Ranch,** 41.03 322 ⇓P P 02 19 14.6 +0.9
baz=41
HVU **Hansel Valley** 41.05 313 *e*P P 02 19 14.1 +0.1
HVU pmax pmax
comp=Z,47nm,2.1s
HVU **Hansel Valley** 41.05 313 *e*P P 02 19 14.1 +0.1
comp=Z,47nm,2.1s
GMRC **Granite Mounta** 41.14 302 ⇓P P 02 19 15.6 +0.8
baz=41
SHPR **Sheep Range** 41.14 305 *e*P P 02 19 15.5 +0.6
BELC **Belle Mtn. Jos** 41.26 301 ⇓P P 02 19 16.7 +0.9
baz=41
MONP **Monument Peak** 41.41 299 ⇑P P 02 19 18.2 +1.0
baz=41,SNR=6.4
QLMT **Earthquake Lak** 41.43 318 *e*P P 02 19 18.7 +1.6
A20A **Cobblestone Ra** 41.44 325 ⇑P P 02 19 18.2 +1.3
baz=41
TUQ **Turquoise Moun** 41.49 303 ⇑P P 02 19 18.4 +0.6
baz=42,SNR=5.9
PFO **Pinyon Flat Ob** 41.56 300 *e*P P 02 19 19.6 +1.3
PFO **Pinyon Flat Ob** 41.56 300 P P 02 19 18.7 +0.4
comp=Z,2.4nm,0.8s,baz=132,slow=3.5,SNR=4.5
PFO **Pinyon Flat Ob** 41.56 300 ⇑P P 02 19 19.0 +0.6
baz=42
HEC **Hector,Ludlow** 41.69 302 ⇑P P 02 19 20.0 +0.7
baz=42
B19A **Brinkman Farms** 41.76 324 ⇓P P 02 19 20.6 +1.0
baz=42
BDFB **Brasilia** 41.84 142 P P 02 19 18.6 -2.0
BDFB **Brasilia** 41.84 142 P P 02 19 18.6 -2.0
comp=Z,43nm,1.1s,baz=323,slow=10,SNR=19
SHOC **Shoshone** 41.88 304 ⇑P P 02 19 21.9 +1.1
baz=42
A19A **Klindworth Far** 41.91 325 ⇓P P 02 19 21.7 +0.8
baz=42
R11A **Troy Canyon, C** 41.95 307 *e*P P 02 19 22.6 +1.1
comp=Z,34nm,2.0s
R11A **Troy Canyon, C** 41.95 307 ⇓P P 02 19 22.2 +0.6
baz=42,SNR=7.1
EGMT **Eagleton** 41.98 323 *e*P P 02 19 25.6 +4.1
comp=Z,179nm,2.8s
EGMT **Eagleton** 41.98 323 ⇓P P 02 19 21.8 +0.3
baz=42
TPNV **Topopah Spring** 42.10 305 *e*P P 02 19 24.4 +1.7
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV **Topopah Spring** 42.10 305 *e*P P 02 19 24.4 +1.7
comp=Z,20nm,1.0s
TPNV **Topopah Spring** 42.10 305 ⇓P P 02 19 24.1 +1.4
baz=42,SNR=20
GSC **Goldstone** 42.17 303 *e*P P 02 19 24.7 +1.5
GSC pmax pmax
comp=Z,14nm,1.0s
GSC **Goldstone** 42.17 303 *e*P P 02 19 24.7 +1.5
comp=Z,14nm,1.0s
GSC **Goldstone** 42.17 303 ⇓P P 02 19 23.9 +0.7
baz=42,SNR=5.6
MURC **Murrieta** 42.17 300 ⇓P P 02 19 24.4 +1.2
baz=42
MCMT **McKenzie Canyo** 42.33 317 *e*P P 02 19 23.9 -0.6
comp=Z,4.1nm,0.8s
DLMT **Dillon** 42.40 318 *e*P P 02 19 26.2 +1.2
comp=Z,16nm,1.1s
ELK **Elko** 42.42 311 *e*P P 02 19 26.1 +0.8
comp=Z,5.0nm,0.8s
FURC **Furnace Creek,** 42.46 304 ⇓P P 02 19 26.9 +1.5
baz=42,SNR=7.0
BFSC **Mount Baldy Ra** 42.66 301 P P 02 19 27.9 +0.6
baz=43
HLID **Hailey** 42.84 315 *e*P P 02 19 28.9 +0.3
comp=Z,84nm,2.4s
HLID **Hailey** 42.84 315 ⇑P P 02 19 29.0 +0.3
baz=43,SNR=6.4
GRAC **Grapevine Rang** 42.98 305 ⇓P P 02 19 30.7 +1.0
baz=43
EDW2 **Edwards Air Fo** 43.04 302 ⇑P P 02 19 30.9 +0.6
baz=43,SNR=8.7
TPH **Tonopah** 43.13 306 *e*P P 02 19 32.2 +1.1
TPH pmax pmax
comp=Z,24nm,1.0s
TPH **Tonopah** 43.13 306 *e*P P 02 19 32.2 +1.1
comp=Z,24nm,1.0s
FCC **Fort Churchill** 43.16 344 *e*P P 02 19 31.0 +0.3
FCC pmax pmax
comp=Z,2.0nm,1.8s
FCC **Fort Churchill** 43.16 344 *e*P P 02 19 31.0 +0.3
comp=Z,1.6nm,1.8s
ISA **Isabella** 43.58 303 *e*P P 02 19 36.0 +1.4
ISA pmax pmax
comp=Z,22nm,1.5s
ISA **Isabella** 43.58 303 *e*P P 02 19 36.0 +1.4
comp=Z,22nm,1.5s
ISA **Isabella** 43.58 303 ⇓P P 02 19 35.4 +0.8
baz=44
MFID **Camas Ranch** 43.74 314 *e*P P 02 19 35.9 0.0
comp=Z,7.1nm,1.0s
ARVC **Arvin** 43.76 302 ⇑P P 02 19 37.0 +1.0
baz=44
RCBR **Riachuelo** 43.81 120 *e*P P 02 19 37.2 +0.6
comp=Z,15nm,1.1s
MSO **Missoula** 43.89 320 ⇑P P 02 19 38.0 +1.0
baz=44
NVAR **Mina Array Bea** 44.04 307 P P 02 19 39.3 +0.8
NVAR **Mina Array Bea** 44.04 307 P P 02 19 39.3 +0.8
comp=Z,2.7nm,0.8s,baz=98,slow=6.5,SNR=15
VES **Vestal, Richgr** 44.10 303 ⇓P P 02 19 40.2 +1.5
baz=44
RCTC **Rector, Farmer** 44.31 303 ⇓P P 02 19 41.7 +1.3
baz=44
JTMT **Jette** 44.51 321 *e*P P 02 19 42.0 0.0
comp=Z,5.8nm,1.1s
PKM **Peak Mountain** 44.52 301 ⇓P P 02 19 43.3 +1.0
baz=44
WAKR **Walker** 44.92 306 *e*P P 02 19 46.5 +1.1
WVOR **Wild Horse Val** 45.37 312 *e*P P 02 19 49.1 +0.2
WVOR pmax pmax
comp=Z,11nm,0.9s
WVOR **Wild Horse Val** 45.37 312 *e*P P 02 19 49.1 +0.2
comp=Z,11nm,0.9s
FRB **Frobisher Bay** 45.42 3 P P 02 19 47.9 -0.9
FRB **Frobisher Bay** 45.42 3 P P 02 19 47.9 -0.9
comp=Z,6.1nm,1.0s,baz=239,slow=6.1,SNR=6.6
J08A **Circle Bar Ran** 45.54 313 *e*P P 02 19 50.2 -0.1
comp=Z,17nm,1.1s
F10A **Beach Ranch, E** 45.62 317 *e*P P 02 19 50.6 -0.2
comp=Z,12nm,1.1s
E09A **Wood Farm, Sta** 46.41 317 *e*P P 02 19 56.9 0.0
comp=Z,11nm,1.2s
NEW **Newport** 46.45 320 *e*P P 02 19 57.5 +0.3
NEW **Newport** 46.45 320 ⇓P P 02 19 57.3 +0.1
baz=46
EDM **Edmonton** 46.70 328 *e*P P 02 19 59.2 +0.1
EDM **Edmonton** 46.70 328 *e*P P 02 19 59.1 +0.1
CPUP **Villa Florida** 47.00 161 *e*P P 02 20 02.8 +1.2
comp=Z,1.1nm,1.2s
CPUP **Villa Florida** 47.00 161 LR LR 02 40 59.9
comp=Z,736nm,19.0s,baz=318,slow=38
J05D **Fort Rock, OR** 47.44 312 ⇑P P 02 20 05.4 +0.2
baz=47
M04C **Macdoel** 47.48 310 ⇓P P 02 20 05.7 +0.2
baz=47
G06A **Carlson Farm,** 47.60 315 *e*P P 02 20 07.7 +1.3
comp=Z,76nm,2.0s
LTY **Liberty** 48.29 318 *e*P P 02 20 11.6 0.0
comp=Z,35nm,1.7s
LTY *e*ScP ScP 02 25 29.0 -4.2
H04A **Detroit Lake** 48.49 314 *e*P P 02 20 14.0 +0.8
comp=Z,30nm,1.1s
I03D **Drain, OR** 49.03 312 ⇓P P 02 20 17.7 +0.4
baz=49
CFAA **Coronel Fontan** 49.92 175 P P 02 20 23.5 -0.6
CFAA **Coronel Fontan** 49.92 175 P P 02 20 23.5 -0.6
comp=Z,0.4nm,0.6s,baz=327,slow=3.9,SNR=6.3
YKA **Yellowknife Ar** 52.59 337 P P 02 20 42.2 -1.6
YKA **Yellowknife Ar** 52.59 337 P P 02 20 42.2 -1.6
comp=Z,2.9nm,0.7s,baz=125,slow=7.4,SNR=18
RES **Resolute Bay** 57.55 353 *e*P P 02 21 17.9 -1.5
comp=Z,13nm,1.2s
SUMG **Summit** 57.68 12 *i*P P 02 21 21.6 +0.7
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG **Summit** 57.68 12 *i*P P 02 21 21.6 +0.7
comp=Z,17nm,0.9s
SUMG **Summit** 57.68 12 *e*P P 02 21 21.8 +0.9
comp=Z,20nm,0.9s
PLCA **Paso Flores** 58.87 178 *e*P P 02 21 27.8 -1.4
comp=Z,29nm,1.3s
PLCA **Paso Flores** 58.87 178 P P 02 21 27.6 -1.6
comp=Z,10nm,1.1s,baz=356,slow=6.2,SNR=6.2
PMTG **Montargil** 59.23 55 *e*P P 02 21 35.8 +4.0
comp=Z,62nm,1.7s
PGAV **Gavieira, Arco** 59.27 52 *e*P P 02 21 33.3 +1.1
comp=Z,80nm,1.5s
EVOP **Sao Brissos** 59.30 56 *e*P P 02 21 34.1 +1.8
EVOP pmax pmax
comp=Z,76nm,1.3s
EVOP **Sao Brissos** 59.30 56 *e*P P 02 21 34.1 +1.8
comp=Z,76nm,1.3s
EVO **Evora** 59.39 56 *e*P P 02 21 34.1 +1.2
comp=Z,76nm,1.3s
EVO **Evora** 59.39 56 *e*P P 02 21 36.2 +3.3
comp=Z,40nm,1.2s
PBDV **Barranco-do-Ve** 59.46 57 *e*P P 02 21 35.1 +1.6
comp=Z,161nm,1.6s
PBEJ **Beja** 59.51 56 *e*P P 02 21 36.9 +3.2
comp=Z,60nm,1.8s
POLO **Lamas de Olo** 59.61 52 *e*P P 02 21 37.4 +2.9
comp=Z,50nm,1.9s
PVRL **Vila Real** 59.66 53 *e*P P 02 21 38.6 +3.8
comp=Z,79nm,1.9s
PESTR **Estremoz** 59.72 55 *e*P P 02 21 41.3 +6.1
MTE **Manteigas** 59.77 54 *e*P P 02 21 39.1 +3.5
comp=Z,51nm,1.6s
PCBR **Castelo Branco** 59.81 54 *e*P P 02 21 39.3 +3.5
comp=Z,52nm,1.2s
PMRV **Marv??o** 59.88 55 *e*P P 02 21 38.9 +2.6
comp=Z,47nm,1.2s
MVO **Moncorvo** 60.18 53 *e*P P 02 21 41.1 +2.7
comp=Z,52nm,2.1s
SCO **Scoresbysund** 60.27 18 *i*P P 02 21 37.2 -1.2
SCO pmax pmax
comp=Z,2.0nm,1.0s
SCO **Scoresbysund** 60.27 18 *i*P P 02 21 37.2 -1.2
comp=Z,2.4nm,1.0s
PAB **San Pablo** 62.23 54 *e*P P 02 21 53.5 +1.2
PAB pmax pmax
comp=Z,27nm,1.2s
PAB **San Pablo** 62.23 54 *e*P P 02 21 53.5 +1.2
comp=Z,27nm,1.2s
INK **Inuvik** 62.29 339 *e*P P 02 21 52.2 +0.1
comp=Z,35nm,1.9s
ESDC **Sonseca Array** 62.53 54 P P 02 21 54.1 -0.2
ESDC **Sonseca Array** 62.53 54 P P 02 21 54.1 -0.2
comp=Z,7.5nm,1.0s,baz=277,slow=6.5,SNR=12
QUIF **Quistinic** 63.13 45 *e*P P 02 21 59.6 +1.6
QUIF **Quistinic** 63.13 45 *e*P P 02 21 59.6 +1.6
QUIF **Quistinic** 63.13 45 *e*P P 02 21 59.6 +1.6
ESK **Eskdalemuir** 63.60 37 *e*P P 02 22 01.0 -0.1
ESK pmax pmax
comp=Z,40nm,1.2s
ESK **Eskdalemuir** 63.60 37 *e*P P 02 22 01.0 -0.1

	comp=Z,40nm,1.2s								
EKA	**Eskdalemuir Ar**	**63.63**	**37**	P		**P**	02 21 59.7	**-1.5**
EKA	**Eskdalemuir Ar**	**63.63**	**37**	P		**P**	02 21 59.7	**-1.5**
	comp=Z,2.6nm,0.9s,baz=329,slow=16,SNR=2.7								
SJPF	**Ste Jean**	**64.48**	**50**	*e*P		**P**	02 22 09.6	**+2.5**
	comp=Z,58nm,1.2s								
SJPF	**Ste Jean**	**64.48**	**50**	*e*P		**P**	02 22 09.6	**+2.5**
SJPF					pmax	pmax			
	comp=Z,58nm,1.2s								
SJPF	**Ste Jean**	**64.48**	**50**	*e*P		**P**	02 22 09.6	**+2.5**
	comp=Z,58nm,1.2s								
GRR	**Gorron**	**64.68**	**45**	*e*P		**P**	02 22 09.3	**+1.0**
GRR	**Gorron**	**64.68**	**45**	*e*P		**P**	02 22 09.3	**+1.0**
GRR	**Gorron**	**64.68**	**45**	*e*P		**P**	02 22 09.3	**+1.0**
FLN	**La Foliniere**	**64.93**	**44**	*e*P		**P**	02 22 11.8	**+1.9**
FLN	**La Foliniere**	**64.93**	**44**	*e*P		**P**	02 22 11.8	**+1.9**
FLN	**La Foliniere**	**64.93**	**44**	*e*P		**P**	02 22 11.8	**+1.9**
MFF	**Saint Martin d**	**65.17**	**47**	*e*P		**P**	02 22 13.5	**+2.0**
	comp=Z,62nm,1.2s								
MFF	**Saint Martin d**	**65.17**	**47**	*e*P		**P**	02 22 13.5	**+2.0**
MFF					pmax	pmax			
	comp=Z,62nm,1.2s								
MFF	**Saint Martin d**	**65.17**	**47**	*e*P		**P**	02 22 13.5	**+2.0**
	comp=Z,62nm,1.2s								
LDF	**La Druitiere**	**65.17**	**44**	*e*P		**P**	02 22 12.7	**+1.2**
LDF	**La Druitiere**	**65.17**	**44**	*e*P		**P**	02 22 12.7	**+1.2**
LDF	**La Druitiere**	**65.17**	**44**	*e*P		**P**	02 22 12.7	**+1.2**
EPF	**Esparros**	**65.63**	**50**	*e*P		**P**	02 22 16.8	**+2.2**
	comp=Z,27nm,1.0s								
EPF	**Esparros**	**65.63**	**50**	*e*P		**P**	02 22 16.8	**+2.2**
EPF					pmax	pmax			
	comp=Z,27nm,1.0s								
EPF	**Esparros**	**65.63**	**50**	*e*P		**P**	02 22 16.8	**+2.2**
	comp=Z,27nm,1.0s								
LFF	**La Frestale**	**65.84**	**48**	*e*P		**P**	02 22 17.7	**+1.9**
	comp=Z,130nm,1.4s								
LFF	**La Frestale**	**65.84**	**48**	*e*P		**P**	02 22 17.7	**+1.9**
LFF					pmax	pmax			
	comp=Z,130nm,1.4s								
LFF	**La Frestale**	**65.84**	**48**	*e*P		**P**	02 22 17.7	**+1.9**
	comp=Z,130nm,1.4s								
RJF	**Les Rejaudoux**	**66.37**	**48**	*e*P		**P**	02 22 21.1	**+1.8**
	comp=Z,29nm,1.1s								
RJF	**Les Rejaudoux**	**66.37**	**48**	*e*P		**P**	02 22 21.1	**+1.8**
RJF					pmax	pmax			
	comp=Z,29nm,1.1s								
RJF	**Les Rejaudoux**	**66.37**	**48**	*e*P		**P**	02 22 21.1	**+1.8**
	comp=Z,29nm,1.1s								
ILAR	**Eielson Array**	**66.64**	**333**	P		**P**	02 22 19.7	**-1.0**
ILAR	**Eielson Array**	**66.64**	**333**	P		**P**	02 22 19.7	**-1.0**
	comp=Z,1.1nm,0.7s,baz=90,slow=4.5,SNR=5.4								
CAF	**Calviac**	**66.78**	**48**	*e*P		**P**	02 22 23.8	**+1.9**
	comp=Z,45nm,1.2s								
CAF	**Calviac**	**66.78**	**48**	*e*P		**P**	02 22 23.8	**+1.9**
CAF					pmax	pmax			
	comp=Z,45nm,1.2s								
CAF	**Calviac**	**66.78**	**48**	*e*P		**P**	02 22 23.8	**+1.9**
	comp=Z,45nm,1.2s								
TCF	**Toulx Ste Croi**	**66.81**	**47**	*e*P		**P**	02 22 23.7	**+1.6**
	comp=Z,52nm,1.3s								
TCF	**Toulx Ste Croi**	**66.81**	**47**	*e*P		**P**	02 22 23.7	**+1.6**
TCF					pmax	pmax			
	comp=Z,52nm,1.3s								
TCF	**Toulx Ste Croi**	**66.81**	**47**	*e*P		**P**	02 22 23.7	**+1.6**
	comp=Z,52nm,1.3s								
COLA	**College**	**67.06**	**333**	*e*P		**P**	02 22 23.4	**+0.1**
COLA					pmax	pmax			
	comp=Z,43nm,1.1s								
COLA	**College**	**67.06**	**333**	*e*P		**P**	02 22 23.1	**-0.1**
	comp=Z,13nm,1.1s								
TIC	**Toumodi**	**67.08**	**90**	*e*P		**P**	02 22 22.7	**-1.7**
	comp=Z,22nm,1.0s								
LIC	**Lamto**	**67.20**	**91**	*e*P		**P**	02 22 23.4	**-1.7**
	comp=Z,31nm,1.1s								
LIC	**Lamto**	**67.20**	**91**	*e*P		**P**	02 22 23.5	**-1.7**
	comp=Z,35nm,1.1s								
LIC	**Lamto**	**67.20**	**91**	*e*P		**P**	02 22 23.4	**-1.7**
	comp=Z,31nm,1.1s								
DBIC	**Dimbokro**	**67.23**	**90**	*e*P		**P**	02 22 23.3	**-1.9**
	comp=Z,7.7nm,0.9s								
DBIC	**Dimbokro**	**67.23**	**90**	P		**P**	02 22 23.7	**-1.6**
	comp=Z,5.7nm,0.8s,baz=280,slow=5.1,SNR=6.0								
BGF	**Bois d'Agland**	**67.23**	**47**	*e*P		**P**	02 22 26.3	**+1.5**
	comp=Z,57nm,1.1s								
BGF	**Bois d'Agland**	**67.23**	**47**	*e*P		**P**	02 22 26.3	**+1.5**
BGF					pmax	pmax			
	comp=Z,57nm,1.1s								
BGF	**Bois d'Agland**	**67.23**	**47**	*e*P		**P**	02 22 26.3	**+1.5**
	comp=Z,57nm,1.1s								
KIC	**Kosan Boka**	**67.43**	**91**	*e*P		**P**	02 22 25.1	**-1.5**
	comp=Z,19nm,0.7s								
MCK	**McKinley**	**67.44**	**332**	*e*P		P	02 22 29.3	+3.5
MCK					pmax	pmax			
	comp=Z,41nm,1.5s								
MCK	**McKinley**	**67.44**	**332**	*e*P		P	02 22 29.3	+3.5
	comp=Z,41nm,1.5s								
AVF	**Avril sur Loir**	**67.57**	**46**	*e*P		**P**	02 22 28.1	**+1.2**
	comp=Z,56nm,1.4s								
AVF	**Avril sur Loir**	**67.57**	**46**	*e*P		**P**	02 22 28.1	**+1.2**
AVF					pmax	pmax			
	comp=Z,56nm,1.4s								
AVF	**Avril sur Loir**	**67.57**	**46**	*e*P		**P**	02 22 28.1	**+1.2**
	comp=Z,56nm,1.4s								
LOR	**Lormes**	**67.89**	**46**	*e*P		**P**	02 22 30.4	**+1.5**
	comp=Z,58nm,1.3s								
LOR	**Lormes**	**67.89**	**46**	*e*P		**P**	02 22 30.4	**+1.5**
	comp=Z,58nm,1.3s								
SMF	**Signal de Mont**	**67.91**	**46**	*e*P		**P**	02 22 30.5	**+1.4**
	comp=Z,82nm,1.5s								
SMF	**Signal de Mont**	**67.91**	**46**	*e*P		**P**	02 22 30.5	**+1.4**
SMF					pmax	pmax			
	comp=Z,82nm,1.5s								
SMF	**Signal de Mont**	**67.91**	**46**	*e*P		**P**	02 22 30.5	**+1.4**
	comp=Z,82nm,1.5s								
BAIF	**Baives**	**67.97**	**43**	*e*P		**P**	02 22 31.1	**+1.8**
	comp=Z,36nm,1.2s								
BAIF	**Baives**	**67.97**	**43**	*e*P		**P**	02 22 31.1	**+1.8**
BAIF					pmax	pmax			
	comp=Z,36nm,1.2s								
BAIF	**Baives**	**67.97**	**43**	*e*P		**P**	02 22 31.1	**+1.8**
	comp=Z,36nm,1.2s								
TRF	**Thorofare Moun**	**68.02**	**332**	*e*P		**P**	02 22 31.6	**+1.9**
	comp=Z,167nm,2.4s								
LASF	**Ste Croix**	**68.11**	**49**	*e*P		**P**	02 22 32.8	**+2.4**
LASF	**Ste Croix**	**68.11**	**49**	*e*P		**P**	02 22 32.8	**+2.4**
COLD	**Coldfoot**	**68.23**	**336**	*e*P		**P**	02 22 31.1	**+0.4**
	comp=Z,13nm,1.1s								
KTH	**Kantishna Hill**	**68.31**	**332**	*e*P		**P**	02 22 31.1	**-0.3**
	comp=Z,194nm,1.3s								
GIVF	**Givet**	**68.36**	**43**	*e*P		**P**	02 22 33.6	**+1.8**
GIVF	**Givet**	**68.36**	**43**	*e*P		**P**	02 22 33.6	**+1.8**
GIVF	**Givet**	**68.36**	**43**	*e*P		**P**	02 22 33.6	**+1.8**
SFTF	**Sexfontaines**	**68.62**	**45**	*e*P		**P**	02 22 35.1	**+1.6**
	comp=Z,79nm,1.3s								
SFTF	**Sexfontaines**	**68.62**	**45**	*e*P		**P**	02 22 35.1	**+1.6**
	comp=Z,79nm,1.3s								
VIVF	**Saint-Julien-l**	**68.63**	**48**	*e*P		**P**	02 22 36.3	**+2.7**
	comp=Z,102nm,1.4s								
VIVF	**Saint-Julien-l**	**68.63**	**48**	*e*P		**P**	02 22 36.3	**+2.7**
VIVF					pmax	pmax			
	comp=Z,102nm,1.4s								
VIVF	**Saint-Julien-l**	**68.63**	**48**	*e*P		**P**	02 22 36.3	**+2.7**
	comp=Z,102nm,1.4s								
PAGF	**Fort de Pagny**	**69.05**	**44**	*e*P		**P**	02 22 38.1	**+1.9**
	comp=Z,16nm,1.2s								
PAGF	**Fort de Pagny**	**69.05**	**44**	*e*P		**P**	02 22 38.1	**+1.9**
	comp=Z,16nm,1.2s								
RSO	**Redoubt South**	**69.13**	**329**	*e*P		**P**	02 22 36.9	**+0.3**
ORIF	**Oris-en-Rattie**	**69.48**	**48**	*e*P		**P**	02 22 41.7	**+2.7**
	comp=Z,58nm,1.4s								
ORIF	**Oris-en-Rattie**	**69.48**	**48**	*e*P		**P**	02 22 41.7	**+2.7**
ORIF					pmax	pmax			
	comp=Z,58nm,1.4s								
ORIF	**Oris-en-Rattie**	**69.48**	**48**	*e*P		**P**	02 22 41.7	**+2.7**
	comp=Z,58nm,1.4s								
OHAK	**Old Harbor**	**69.48**	**325**	*e*P		**P**	02 22 38.5	**-0.1**
	comp=Z,143nm,1.9s								
IM04	**Indian Mountai**	**69.60**	**334**	*e*P		**P**	02 22 37.9	**-1.3**
HINF	**Hinteralfeld**	**69.87**	**45**	*e*P		**P**	02 22 42.4	**+1.1**
	comp=Z,43nm,1.3s								
HINF	**Hinteralfeld**	**69.87**	**45**	*e*P		**P**	02 22 42.4	**+1.1**
HINF					pmax	pmax			
	comp=Z,43nm,1.3s								
HINF	**Hinteralfeld**	**69.87**	**45**	*e*P		**P**	02 22 42.4	**+1.1**
	comp=Z,43nm,1.3s								
LPL	**La Plagne**	**70.02**	**47**	*e*P		**P**	02 22 44.7	**+2.3**
	comp=Z,22nm,0.9s								
LPL	**La Plagne**	**70.02**	**47**	*e*P		**P**	02 22 44.7	**+2.3**
LPL					pmax	pmax			
	comp=Z,22nm,0.9s								
LPL	**La Plagne**	**70.02**	**47**	*e*P		**P**	02 22 44.7	**+2.3**
	comp=Z,22nm,0.9s								
BNI	**Bardonecchia**	**70.03**	**48**	*e*P		**P**	02 22 43.6	**+1.2**
BNI					pmax	pmax			
	comp=Z,25nm,1.2s								
BNI	**Bardonecchia**	**70.03**	**48**	*e*P		**P**	02 22 43.6	**+1.2**
	comp=Z,24nm,1.2s								
LPG	**La Plagne**	**70.03**	**47**	*e*P		**P**	02 22 44.8	**+2.2**
	comp=Z,14nm,0.9s								
LPG	**La Plagne**	**70.03**	**47**	*e*P		**P**	02 22 44.8	**+2.2**
LPG					pmax	pmax			
	comp=Z,14nm,0.9s								
LPG	**La Plagne**	**70.03**	**47**	*e*P		**P**	02 22 44.8	**+2.2**
	comp=Z,14nm,0.9s								
CDF	**Champ du Feu**	**70.09**	**44**	*e*P		**P**	02 22 44.4	**+1.7**
	comp=Z,32nm,1.2s								
CDF	**Champ du Feu**	**70.09**	**44**	*e*P		**P**	02 22 44.4	**+1.7**
CDF					pmax	pmax			
	comp=Z,32nm,1.2s								
CDF	**Champ du Feu**	**70.09**	**44**	*e*P		**P**	02 22 44.4	**+1.7**
	comp=Z,32nm,1.2s								
MBDF	**Montbardon**	**70.13**	**48**	*e*P		**P**	02 22 45.5	**+2.4**
	comp=Z,24nm,0.9s								
MBDF	**Montbardon**	**70.13**	**48**	*e*P		**P**	02 22 45.5	**+2.4**
MBDF					pmax	pmax			
	comp=Z,24nm,0.9s								
MBDF	**Montbardon**	**70.13**	**48**	*e*P		**P**	02 22 45.5	**+2.4**
	comp=Z,24nm,0.9s								
SBF	**Sospel**	**70.71**	**49**	*e*P		**P**	02 22 47.9	**+1.4**
SBF	**Sospel**	**70.71**	**49**	*e*P		**P**	02 22 47.9	**+1.4**
SBF	**Sospel**	**70.71**	**49**	*e*P		**P**	02 22 47.9	**+1.4**
NAO01	**NORSAR Array S**	**71.17**	**31**	*e*P		**P**	02 22 50.6	**+1.7**
	comp=Z,14nm,1.1s								
NB2	**NORSAR Subarra**	**71.31**	**31**	P		**P**	02 22 51.2	**+1.4**
	comp=Z,1.9nm,0.7s,baz=275,slow=6.5								
NOA	**NORSAR Array B**	**71.31**	**31**	P		**P**	02 22 50.2	**+0.4**
NOA	**NORSAR Array B**	**71.31**	**31**	P		**P**	02 22 50.2	**+0.4**
	comp=Z,2.0nm,0.9s,baz=278,slow=6.1,SNR=3.6								
NOA					LR	LR	02 48 45.0		
	comp=Z,170nm,22.0s,baz=295,slow=31								
TOA0	**Torodi Ar. Sit**	**71.66**	**82**	*e*P		**P**	02 22 50.7	**-1.9**
TORD	**Torodi Ar. Bea**	**71.66**	**82**	P		**P**	02 22 51.1	**-1.6**
TORD	**Torodi Ar. Bea**	**71.66**	**82**	P		**P**	02 22 51.1	**-1.6**
	comp=Z,5.6nm,0.9s,baz=290,slow=5.5,SNR=17								
PGF	**Pioggiola**	**72.02**	**50**	*e*P		**P**	02 22 56.1	**+1.6**
PGF	**Pioggiola**	**72.02**	**50**	*e*P		**P**	02 22 56.1	**+1.6**
PGF	**Pioggiola**	**72.02**	**50**	*e*P		**P**	02 22 56.1	**+1.6**
GRF	**Grafenberg Arr**	**72.52**	**43**	*e*P		**P**	02 22 57.3	**0.0**
	comp=Z,21nn,1.8s								
RETA	**Reutte**	**72.53**	**45**	⇑*i*P			02 22 57.7	**+0.3**
	comp=Z,19nm,1.1s								
TAM	**Tamanrasset**	**72.85**	**71**	*e*P		**P**	02 22 59.3	**-0.6**
TAM					pmax	pmax			
	comp=Z,4.0nm,1.1s								
TAM	**Tamanrasset**	**72.85**	**71**	*e*P		**P**	02 22 59.3	**-0.6**
	comp=Z,3.7nm,1.1s								
CLL	**Collm**	**73.41**	**41**	*e*P		**P**	02 23 02.0	**-0.5**
CLL				*e*			02 23 08.0		
CLL	**Collm**	**73.41**	**41**	*e*P		**P**	02 23 02.0	**-0.5**
CLL				*e*(sP)		**sP**	02 23 08.0	**+0.3**
KEST	**Kesra**	**73.44**	**57**	*e*P		**P**	02 23 03.3	**+0.2**
KEST	**Kesra**	**73.44**	**57**	P		**P**	02 23 03.0	**-0.1**
	comp=Z,4.0nm,1.0s,baz=216,slow=7.7,SNR=6.2								
BRG	**Berggiesshubel**	**74.07**	**41**	*e*P		**P**	02 23 09.2	**+2.8**
	comp=Z,8.8nm,1.0s								
BRG	**Berggiesshubel**	**74.07**	**41**	*e*P		**P**	02 23 09.2	**+2.8**
BRG					pmax	pmax			
	comp=Z,9.0nm,1.0s								
KHC	**Kasperske Hory**	**74.13**	**43**	*e*P		**P**	02 23 05.8	**-1.0**
KHC				*e*			02 23 09.5		
KHC	**Kasperske Hory**	**74.13**	**43**	*e*P		**P**	02 23 05.8	**-1.0**
KHC				*e*pP		**pP**	02 23 09.5	**-1.1**
KHC	**Kasperske Hory**	**74.13**	**43**	*e*P		**P**	02 23 07.0	**+0.2**
	comp=Z,198nm,3.0s								
GEC2	**GERESS Array S**	**74.26**	**43**	*e*P		**P**	02 23 10.6	**+3.0**
GEC2	**GERESS Array S**	**74.26**	**43**	*e*P		**P**	02 23 10.6	**+3.0**
GERES	**GERESS Array B**	**74.26**	**43**	P		**P**	02 23 08.2	**+0.6**
GERES	**GERESS Array B**	**74.26**	**43**	P		**P**	02 23 08.2	**+0.6**
	comp=Z,7.5nm,0.9s,baz=270,slow=4.0,SNR=21								
PRU	**Pruhonice**	**74.60**	**42**	*e*P		**P**	02 23 12.4	**+3.0**
PRU				*e*			02 23 21.8		
PRU	**Pruhonice**	**74.60**	**42**	*e*P		**P**	02 23 12.4	**+3.0**
PRU				*e*PCP		**PcP**	02 23 21.8	**-2.0**
MOA	**Molln**	**74.81**	**44**	⇑*i*P		**P**	02 23 10.8	**+0.1**
	comp=Z,14nm,1.0s								
TREC	**Trest**	**75.33**	**43**	*e*P		**P**	02 23 14.8	**+1.1**
TREC				*e*			02 23 24.5		
TREC	**Trest**	**75.33**	**43**	*e*P		**P**	02 23 14.8	**+1.1**
TREC				*e*PCP		**PcP**	02 23 24.5	**-2.5**
UPC	**Upice**	**75.43**	**41**	*e*P		**P**	02 23 15.6	**+1.3**
UPC				*e*			02 23 25.5		
UPC	**Upice**	**75.43**	**41**	*e*P		**P**	02 23 15.6	**+1.3**
UPC				*e*PCP		**PcP**	02 23 25.5	**-1.9**
TNA	**Tin City**	**75.44**	**335**	*e*P		**P**	02 23 14.6	**+0.6**
	comp=Z,20nm,1.4s								
KSP	**Ksiaz**	**75.54**	**41**	*e*P		P	02 23 18.8	+3.9
DPC	**Dobruska-Polom**	**75.65**	**41**	*e*P		**P**	02 23 16.0	**+0.4**
DPC				*e*			02 23 25.9		
DPC	**Dobruska-Polom**	**75.65**	**41**	*e*P		**P**	02 23 16.0	**+0.4**
DPC				*e*PCP		**PcP**	02 23 25.9	**-2.5**
DPC	**Dobruska-Polom**	**75.65**	**41**	*e*P		**P**	02 23 16.5	**+0.9**
CONA	**Conrad Observa**	**75.84**	**44**	⇓*i*P		**P**	02 23 16.8	**0.0**
	comp=Z,8.7nm,1.1s								
ARCES	**ARCESS Array B**	**75.87**	**21**	P		**P**	02 23 15.6	**-0.8**
ARCES	**ARCESS Array B**	**75.87**	**21**	P		**P**	02 23 15.6	**-0.8**
	comp=Z,3.7nm,0.7s,baz=289,slow=3.7,SNR=8.0								
KRLC	**Kraliky**	**76.00**	**42**	*e*P		**P**	02 23 17.1	**-0.5**
KRLC	**Kraliky**	**76.00**	**42**	*e*P		**P**	02 23 17.1	**-0.5**
VRAC	**Vranov**	**76.04**	**42**	⇑*i*P		P	02 23 21.5	+3.7
VRAC	**Vranov**	**76.04**	**42**	P		P	02 23 18.1	**+0.4**
VRAC	**Vranov**	**76.04**	**42**	P		P	02 23 18.1	**+0.4**
	comp=Z,5.9nm,1.0s,baz=260,slow=6.0,SNR=5.5								
MORC	**Moravsky Berou**	**76.54**	**42**	*e*P		**P**	02 23 20.9	**+0.2**
MORC					pmax	pmax			
	comp=Z,7.0nm,0.9s								
MORC	**Moravsky Berou**	**76.54**	**42**	*e*P		**P**	02 23 20.9	**+0.2**
	comp=Z,6.9nm,0.9s								
OKC	**Ostrava-Krasne**	**76.91**	**42**	*e*P		**P**	02 23 23.4	**+0.7**
OKC	**Ostrava-Krasne**	**76.91**	**42**	*e*P		**P**	02 23 23.4	**+0.7**
GAMB	**Gambell**	**77.45**	**333**	*e*P		**P**	02 23 25.6	**+0.2**
	comp=Z,50nm,2.4s								
OJC	**Ojcow**	**77.86**	**41**	*e*P		**P**	02 23 28.2	**+0.2**
PKSM	**Moragy**	**78.08**	**45**	⇑*i*P		**P**	02 23 29.7	**+0.4**
PKSM	**Moragy**	**78.08**	**45**	⇑*i*P		**P**	02 23 29.7	**+0.4**
FINES	**FINESS Array B**	**78.29**	**29**	P		**P**	02 23 29.3	**-0.9**
FINES	**FINESS Array B**	**78.29**	**29**	P		**P**	02 23 29.3	**-0.9**
	comp=Z,3.0nm,0.8s,baz=333,slow=2.1,SNR=6.4								
PSZ	**Piszkesteto**	**78.49**	**43**	⇑P		**P**	02 23 34.2	**+2.6**
PSZ	**Piszkesteto**	**78.49**	**43**	⇑*i*P		**P**	02 23 34.2	**+2.6**
PSZ	**Piszkesteto**	**78.49**	**43**	*e*P		**P**	02 23 33.1	**+1.5**
	comp=Z,20nm,1.3s								
STHS	**Stebnicka Huta**	**78.97**	**42**	*e*P		**P**	02 23 32.5	**-1.7**
STHS					pmax	pmax			
	comp=Z,3.0nm,1.4s								
STHS	**Stebnicka Huta**	**78.97**	**42**	*e*P		**P**	02 23 32.5	**-1.7**
CRVS	**Cervenica-Dubn**	**79.24**	**42**	*e*P		**P**	02 23 35.9	**+0.2**
CRVS					pmax	pmax			
	comp=Z,39nm,2.3s								
CRVS	**Cervenica-Dubn**	**79.24**	**42**	*e*P		**P**	02 23 35.8	**+0.1**
VSU	**Vasula**	**79.50**	**32**	*i* P		**P**	02 23 37.0	**+0.2**
VSU					pmax	pmax			
	comp=Z,29nm,1.0s								
LVZ	**Lovozero**	**79.56**	**22**	*e*P		**P**	02 23 37.6	**+0.5**
LVZ					pmax	pmax			
	comp=Z,58nm,1.3s								
KOLS	**Kolonicke sedl**	**79.75**	**42**	*e*P		**P**	02 23 38.6	**+0.2**
KOLS					pmax	pmax			
	comp=Z,6.0nm,1.5s								
KOLS	**Kolonicke sedl**	**79.75**	**42**	*e*P		**P**	02 23 38.6	**+0.2**
KWP	**Kalwaria Pacla**	**79.83**	**41**	⇑P		P	02 23 34.1	-4.7
KWP	**Kalwaria Pacla**	**79.83**	**41**	*e*P		**P**	02 23 39.5	**+0.7**
KWP	**Kalwaria Pacla**	**79.83**	**41**	⇑*i*P		P	02 23 34.1	-4.7
KWP	**Kalwaria Pacla**	**79.83**	**41**	*e*P		**P**	02 23 39.4	**+0.5**
	comp=Z,31nm,1.0s								
UZH	**Uzhgorod**	**79.84**	**42**	*e*P		**P**	02 23 39.4	**+0.5**
UZH				*e*			02 23 46.0		
TRPA	**Tarpa**	**80.14**	**43**	⇑*i*P		**P**	02 23 41.8	**+1.3**
BZS	**Buzias**	**80.24**	**45**	⇓P		**P**	02 23 42.0	**+0.9**
BZS	**Buzias**	**80.24**	**45**	⇓*i*P		**P**	02 23 42.0	**+0.9**
DRGR		**80.64**	**44**	⇓P		P	02 23 36.9	-6.4
DRGR		**80.64**	**44**	⇓*i*P		P	02 23 36.9	-6.4
NACGM	**Naroch**	**80.64**	**35**	*e*		**P**	02 23 41.0	**-2.1**
GZR	**Gura Zlata**	**81.09**	**45**	⇑P		P	02 23 42.4	-3.4
GZR	**Gura Zlata**	**81.09**	**45**	⇑*i*P		P	02 23 42.4	-3.4
BUR08	**Bucovina Ar. S**	**82.00**	**43**	*e*P		**P**	02 23 51.2	**+0.6**
BURAR	**Bucovina Array**	**82.02**	**43**	⇓P		**P**	02 23 51.6	**+0.9**
BURAR	**Bucovina Array**	**82.02**	**43**	⇓*i*P		**P**	02 23 51.6	**+0.9**
VTS	**Vitosha**	**82.22**	**48**	⇑P		**P**	02 23 52.4	**+0.5**
VTS	**Vitosha**	**82.22**	**48**	⇑*i*P		**P**	02 23 52.4	**+0.5**
ARR	**Arges**	**82.34**	**45**	⇑*i*P		P	02 23 46.2	-6.2
VOIR		**82.60**	**45**	⇑P		**P**	02 23 54.3	**+0.5**
VOIR		**82.60**	**45**	⇑*i*P		**P**	02 23 54.3	**+0.5**
DOPR	**Dopca**	**82.65**	**44**	⇑*i*P		**P**	02 23 54.8	**+0.8**
MMB	**Musomiste**	**82.90**	**49**	⇑P		**P**	02 23 56.5	**+1.2**
MMB	**Musomiste**	**82.90**	**49**	⇑*i*P		**P**	02 23 56.5	**+1.2**
MLR	**Muntele Rosu**	**83.18**	**44**	⇑*i*P		**P**	02 23 58.3	**+1.5**
MLR	**Muntele Rosu**	**83.18**	**44**	P		**P**	02 23 56.0	**-0.9**
MLR	**Muntele Rosu**	**83.18**	**44**	P		**P**	02 23 56.0	**-0.9**
	comp=Z,3.7nm,1.0s,baz=61,slow=4.6,SNR=6.9								
KIEV	**Kiev**	**83.45**	**39**	*e*P		**P**	02 23 56.9	**-1.0**
KIEV	**Kiev**	**83.45**	**39**	*e*P		**P**	02 24 00.5	**+2.6**
	comp=Z,17nm,1.5s								
AKASG	**Malin Array Be**	**83.46**	**39**	P		**P**	02 23 57.2	**-0.8**
AKASG	**Malin Array Be**	**83.46**	**39**	P		**P**	02 23 57.2	**-0.8**
AKASG	**Malin Array Be**	**83.46**	**39**	P		**P**	02 23 57.2	**-0.8**
	comp=Z,2.6nm,0.7s,baz=279,slow=5.4,SNR=8.0								
PLOR	**Plostina**	**83.52**	**44**	⇑P		**P**	02 23 55.4	**-3.1**
PLOR	**Plostina**	**83.52**	**44**	⇑*i*P		**P**	02 23 55.4	**-3.1**
KDZ	**Kurdzhali**	**84.08**	**48**	⇑P		**P**	02 24 01.9	**+0.5**
KDZ	**Kurdzhali**	**84.08**	**48**	⇑*i*P		**P**	02 24 01.9	**+0.5**
KIS	**Kishinev**	**84.53**	**42**	*e*P		P	02 24 08.0	+4.5
KIS				*e*			02 24 15.0		
KIS	**Kishinev**	**84.53**	**42**	*e*P		P	02 24 08.0	+4.5
KLMR	**Klimovskoe**	**84.53**	**27**	*e*P		**P**	02 24 02.3	**-0.9**
KLMR					pmax	pmax			
	comp=Z,51nm,1.6s								
JMB	**Yambol**	**84.62**	**47**	⇑P		P	02 23 59.0	-5.1
JMB	**Yambol**	**84.62**	**47**	⇑*i*P		P	02 23 59.0	-5.1
CFR	**Carcaliu**	**84.74**	**44**	⇑P		**P**	02 24 03.8	**-0.8**
CFR	**Carcaliu**	**84.74**	**44**	⇑*i*P		**P**	02 24 03.8	**-0.8**
TLB	**Topalu**	**84.88**	**45**	⇓P		**P**	02

MTDJ	Mount Denham	4.44	268	ePn	Pn	02 19 04.3	+0.8	
MTDJ				eSn	Sn	02 19 54.2	-1.4	
AGPR	Aguadilla, PR	5.46	89	ePn	Pn	02 19 19.6	+2.2	
	579nm,1.2s							
AGPR				eSg	Sg	02 20 48.5	-2.4	
CRPR	Cabo Rojo, PR	5.48	93	ePn	Pn	02 19 19.8	+2.1	
	4.0nm,2.6s							
CRPR				ePg	Pg	02 19 42.1	+1.5	
CRPR				eSg	Sg	02 20 47.8	-3.9	
LSP	Las Mesas	5.49	92	ePn	Pn	02 19 20.6	+2.7	
LSP				eSg	Sg	02 20 48.4	-3.6	
AOPR	Arecibo Observ	5.80	90	ePn	Pn	02 19 24.5	+2.4	
CELP	Cerrillos	5.98	92	ePn	Pn	02 19 26.4	+1.8	
CBYP	Canovanas	6.66	90	ePn	Pn	02 19 36.3	+2.4	
CBYP				eSg	Sg	02 21 25.5	-3.8	
HUMP	Col San Antoni	6.67	91	ePn	Pn	02 19 41.0	+7.0	
MTP	Monte Pirata	6.95	91	ePn	Pn	02 19 40.0	+2.1	
MTP				eSg	Sg	02 21 34.4	-4.4	
SDV	Santo Domingo	9.71	167	ePn	Pn	02 20 18.1	+2.0	
SDV				eSn	Sn	02 22 01.6	-4.0	
MLG	Mont-d'or	10.91	101	eP	Pn	02 20 33.3	+1.0	
BCIP	Isla Barro Col	11.41	217	ePn	Pn	02 20 40.0	+0.8	
H05N1	Guadeloupe/Mar	11.46	99	Pn	Pn	02 20 41.3	+1.5	
	SNR=7.5							
GRGR	Grenville	12.48	118	ePn	Pn	02 20 56.4	+2.6	
ROSC	El Rosal	13.55	186	ePn	Pn	02 21 11.1	+2.4	
ROSC	El Rosal	13.55	186	Pn	Pn	02 21 09.4	+0.7	
	1.6nm,0.3s,baz=102,slow=19,SNR=3.0							
JTS	JuntasAbangare	14.22	237	ePn	Pn	02 21 19.2	+1.6	
JTS	JuntasAbangare	14.22	237	LR	LR	02 26 18.7		
	comp=Z,639nm,18.2s,baz=68,slow=36							
TGUH	Tegucigalpa,Un	14.50	255	ePn	Pn	02 21 18.4	-2.9	
TEIG	Tepich	14.66	280	ePn	Pn	02 21 23.6	0.0	
TEIG	Tepich	14.66	280	Pn	Pn	02 21 23.8	+0.2	
	1.1nm,0.3s,baz=35,slow=16,SNR=4.4							
BBSR	BB Station	15.73	26	ePn	Pn	02 21 35.9	-1.7	
TIGA	Tifton	16.20	325	ePn	Pn	02 21 43.0	-0.7	
KMSC	Kings Mountain	18.28	337	ePn	Pn	02 22 09.8	-0.1	
OTAV	Otavalo	18.88	198	eP	Pn	02 22 20.4	+2.7	
	37nm,1.3s							
JSRW	J. Sargeant Re	19.71	348	eP	P	02 22 25.6	0.0	
VWCC	Virginia Weste	19.78	343	eP	P	02 22 26.4	0.0	
BLA	Blacksburg	19.87	342	eP	P	02 22 24.6	-2.8	
	39nm,1.1s							
CPCT	Cooper Cave	19.87	331	eP	P	02 22 24.2	-3.2	
CBN	Corbin	20.11	350	eP	P	02 22 29.0	-1.0	
	29nm,0.5s							
SWET	Sewanee	20.36	328	ePn	Pn	02 22 40.3	+5.4	
	70nm,1.5s							
TZTN	Tazewell	20.37	335	ePn	Pn	02 22 38.1	+3.2	
	69nm,1.3s							
SDMD	Soldier's Deli	21.21	351	eP	P	02 22 40.2	-1.6	
	28nm,1.1s							
PAL	Palisades	22.54	358	eP	P	02 22 57.1	+1.0	
	24nm,0.9s							
ODNJ	Ogdensburg	22.64	357	eP	P	02 22 55.6	-1.7	
	14nm,0.9s							
UTMT	University of	22.76	325	eP	P	02 22 57.4	-1.2	
	102nm,0.8s							
PTGA	Pitinga	22.86	145	eP	P	02 22 60.0	+0.2	
	35nm,1.1s							
PTGA	Pitinga	22.86	145	P	P	02 23 01.0	+1.2	
	17nm,0.9s,baz=345,slow=13,SNR=8.1							
USIN	University of	23.39	329	eP	P	02 23 03.5	-1.5	
ACSO	Alum Creek Sta	23.43	340	eP	P	02 23 01.9	-3.5	
BLO	Bloomington	23.84	333	eP	P	02 23 09.4	-0.1	
HKT	Hockley	23.85	303	eP	P	02 23 09.7	+0.1	
	26nm,1.3s							
SIUC	Southern Illin	23.97	327	eP	P	02 23 10.8	+0.1	
MIAR	Mount Ida	24.45	315	eP	P	02 23 15.4	+0.2	
	24nm,1.3s							
MMNY	Mt. Morris Dam	24.62	351	eP	P	02 23 15.1	-1.5	
	16nm,0.6s							
835A	Beeville	24.89	298	⇑P	P	02 23 20.2	+0.9	
	baz=25							
SFIN	Scholer Farm	25.09	334	eP	P	02 23 20.2	-0.7	
	14nm,0.9s							
SFIN	Scholer Farm	25.09	334	⇓P	P	02 23 24.0	+3.1	
	baz=25							
034A	Hebbronville	25.28	295	⇓P	P	02 23 22.9	+0.1	
	baz=25							
834A	Tilden	25.46	297	⇑P	P	02 23 25.3	+0.9	
	baz=25							
WHTX	Lake Whitney	25.96	306	eP	P	02 23 28.6	-0.3	
	44nm,1.2s							
WHTX	Lake Whitney	25.96	306	⇓P	P	02 23 29.1	+0.2	
	baz=26,SNR=9.1							
534A	Blanco	26.00	301	⇑P	P	02 23 29.5	+0.2	
	baz=26,SNR=12							
434A	Burnet	26.12	303	⇑P	P	02 23 30.8	+0.3	
	baz=26							
833A	Chaparral WMA,	26.22	297	⇓P	P	02 23 31.4	0.0	
	baz=26							
334A	Lometa	26.30	304	⇓P	P	02 23 32.2	+0.3	
	baz=26							
633A	Saathoff Ranch	26.38	300	⇑P	P	02 23 32.8	+0.1	
	baz=26							
533A	Kerrville	26.47	301	⇓P	P	02 23 34.0	+0.4	
	baz=26							
234A	Clairette	26.49	306	⇑P	P	02 23 33.9	+0.2	
	baz=26							
134A	White-Moore Ra	26.69	307	⇑P	P	02 23 35.6	+0.1	
	baz=27							
832A	Faith Ranch, C	26.71	297	⇓P	P	02 23 35.1	-0.6	
	baz=27							
TUL1	Tulsa	26.72	315	eP	P	02 23 35.7	-0.1	
	37nm,1.1s							
TUL1	Tulsa	26.72	315	⇓P	P	02 23 35.7	-0.1	
	baz=27,SNR=9.1							
433A	Art	26.75	302	⇓P	P	02 23 36.2	+0.1	
	baz=27,SNR=7.4							
732A	Laxson Ranch,	26.83	298	⇓P	P	02 23 36.3	-0.5	
	baz=27							
333A	Richland Sprin	26.88	304	⇑P	P	02 23 37.4	+0.1	
	baz=27,SNR=6.4							
Y34A	Reagan Ranch,	27.08	310	⇓P	P	02 23 39.4	+0.4	
	baz=27,SNR=9.0							
233A	Rising Star	27.09	305	⇓P	P	02 23 39.4	+0.2	
	baz=27							
532A	Rocksprings	27.20	300	⇓P	P	02 23 40.6	+0.4	
	baz=27							
133A	Hamilton Ranch	27.34	306	⇑P	P	02 23 41.6	+0.2	
	baz=27							
432A	Menard	27.36	302	⇑P	P	02 23 41.8	+0.2	
	baz=27							
X34A	Smith Ranch, M	27.44	311	⇓P	P	02 23 42.9	+0.7	
	baz=27							
332A	Millersview	27.50	303	⇓P	P	02 23 43.5	+0.6	
	baz=27							
Z33A	Whitaker Ranch	27.52	308	⇑P	P	02 23 44.0	+1.1	
	baz=27							
631A	Perdido Creek	27.53	299	⇑P	P	02 23 43.3	+0.1	
	baz=27							
X33A	Lawton	27.90	310	⇓P	P	02 23 47.7	+1.4	
	baz=28							
ABTX	Abilene, Hawle	27.91	306	eP	P	02 23 44.6	-1.9	
	36nm,1.8s							
ABTX	Abilene, Hawle	27.91	306	⇑P	P	02 23 47.5	+1.0	
	baz=28							
431A	Sonora	27.95	301	⇓P	P	02 23 47.3	+0.4	
	baz=28							
331A	San Angelo	28.02	303	⇑P	P	02 23 48.1	+0.5	
	baz=28							
Z32A	Haskell	28.06	307	⇓P	P	02 23 48.0	+0.2	
	baz=28,SNR=5.7							
W33A	Caddo, Fort Co	28.17	311	⇓P	P	02 23 49.2	+0.4	
	baz=28							
U34A	Anderson Ranch	28.19	315	⇑P	P	02 23 49.0	+0.1	
	baz=28							
WMOK	Wichita Mounta	28.19	310	eP	P	02 23 48.1	-0.9	
	8.1nm,1.3s							
V33A	Lossen Ranch,	28.38	313	⇓P	P	02 23 51.2	+0.6	
	baz=28							
530A	J-C Ranch, Com	28.38	300	⇓P	P	02 23 51.1	+0.4	
	baz=28							
X32A	Elmer	28.41	309	⇑P	P	02 23 51.9	+1.0	
	baz=28							
JFWS	Jewell Farm	28.52	333	eP	P	02 23 49.7	-2.1	
	19nm,0.9s							
Z31A	Sharp Cattle R	28.57	307	⇑P	P	02 23 53.1	+0.7	
	baz=28							
W32A	Sentinel	28.71	311	⇓P	P	02 23 54.3	+0.6	
	baz=29,SNR=6.4							
SAML	Samuel	28.82	160	eP	P	02 23 53.6	-1.0	
	10nm,1.3s							
Y31A	Rekieta Farm,	28.93	308	⇓P	P	02 23 56.5	+0.9	
	baz=29							
429A	Davenport Ranc	28.99	300	⇑P	P	02 23 56.9	+0.7	
	baz=29							
KSU1	Kansas State U	29.14	320	eP	P	02 23 57.2	-0.2	
	14nm,1.0s							
Z30A	Sanderson Ranc	29.31	306	⇑P	P	02 24 00.4	+1.3	
	baz=29							
329A	Wagon Wheel Ra	29.33	302	⇑P	P	02 24 00.3	+1.1	
	baz=29							
V31A	Spring Creek L	29.45	311	⇑P	P	02 24 02.2	+2.0	
	baz=29							
T32A	Huddler Ranch,	29.53	315	⇓P	P	02 24 02.9	+2.1	
	baz=29							
R33A	Olander Ranch,	29.53	317	⇑P	P	02 24 02.9	+2.1	
	baz=29							
528A	Cox Ranch, San	29.59	299	⇑P	P	02 24 02.2	+0.6	
	baz=30							
X30A	Coker Ranch, T	29.60	308	⇓P	P	02 24 02.6	+1.0	
	baz=30							
428A	Kincaid Ranch,	29.66	300	⇑P	P	02 24 02.5	+0.3	
	baz=30							
Z29A	Hungry Hill Ra	29.75	305	⇑P	P	02 24 03.5	+0.6	
	baz=30							
Q33A	Connelly Farm,	29.84	319	⇑P	P	02 24 05.8	+2.2	
	baz=30							
Y29A	Porterfield Fa	29.96	307	⇓P	P	02 24 04.6	-0.2	
	baz=30,SNR=5.4							
R32A	Log Quarter,	30.07	317	⇑P	P	02 24 07.4	+1.8	
	baz=30							
TXAR	Lajitas Array	30.11	297	P	P	02 24 05.2	-0.9	
TXAR	Lajitas Array	30.11	297	P	P	02 24 05.2	-0.9	
	1.1nm,1.0s,baz=120,slow=8.0,SNR=6.1							
128A	Castleberry Fa	30.12	304	⇑P	P	02 24 06.9	+0.6	
	baz=30							
527A	Woodward Ranch	30.27	299	⇑P	P	02 24 08.3	+0.7	
	baz=30							
Z28A	Tucker Farm, M	30.29	305	⇑P	P	02 24 08.8	+1.1	
	baz=30							
427A	Hayter Ranch,	30.29	300	⇑P	P	02 24 08.7	+0.9	
	baz=30							
Y28A	McKinney Farm,	30.42	306	⇑P	P	02 24 09.6	+0.8	
	baz=30							
R31A	Burdett	30.52	316	⇓P	P	02 24 10.5	+0.9	
	baz=30							
626A	Big Bend Ranch	30.55	297	⇑P	P	02 24 10.6	+0.5	
	baz=30							
526A	Mary Lane Ranc	30.64	298	⇑P	P	02 24 11.3	+0.3	
	baz=30							
P32A	Huiting Farm,	30.69	319	⇓P	P	02 24 12.4	+1.3	
	baz=31							
426A	McDonald Obser	30.76	299	⇓P	P	02 24 12.2	+0.1	
	baz=31,SNR=5.6							
S30A	Montezuma	30.81	314	⇑P	P	02 24 13.0	+0.8	
	baz=31							
Q31A	Ellis	30.84	317	⇑P	P	02 24 14.3	+1.9	
	baz=31							
MSTX	Muleshoe	30.84	306	eP	P	02 24 11.7	-0.9	
	6.1nm,0.8s							
Z27A	Tatum	30.94	305	⇓P	P	02 24 13.7	+0.2	
	baz=31							
R30A	Dighton	31.02	315	⇓P	P	02 24 14.6	+0.6	
	baz=31							
P31A	Stockton	31.12	318	⇑P	P	02 24 16.3	+1.4	
	baz=31							
S29A	Ulysses	31.25	314	⇑P	P	02 24 18.4	+2.2	
	baz=31							
Q30A	Quinter	31.36	316	⇓P	P	02 24 18.4	+1.3	
	baz=31							
U28A	Mallet	31.44	311	⇓P	P	02 24 19.2	+1.4	
	baz=31							
P30A	Selden	31.68	317	⇑P	P	02 24 20.4	+0.5	
	baz=32,SNR=7.7							
325A	Bean Ranch, Si	31.73	300	⇓P	P	02 24 20.7	+0.2	
	baz=32							
Q29A	Oakley	31.81	316	⇓P	P	02 24 21.3	+0.3	
	baz=32,SNR=9.0							
225A	Deer Hill, Car	31.82	302	⇑P	P	02 24 21.8	+0.4	
	baz=32,SNR=5.3							
125A	Gardner Draw,	31.86	303	⇑P	P	02 24 22.0	+0.4	
	baz=32							
U27A	Thompson Grove	31.89	310	⇑P	P	02 24 21.7	-0.2	
	baz=32							
W26A	Owens Ranch, T	32.03	307	⇓P	P	02 24 23.6	+0.5	
	baz=32							
R28A	Tribune	32.08	314	⇑P	P	02 24 23.3	-0.2	
	baz=32,SNR=8.4							
Z25A	Roswell	32.11	304	⇓P	P	02 24 23.6	-0.2	
	baz=32,SNR=6.9							
MNTX	Cornudas Mount	32.16	301	eP	P	02 24 23.4	-0.7	
	8.0nm,1.2s							
324A	Moseley Ranch,	32.17	300	⇑P	P	02 24 24.1	-0.3	
	baz=32,SNR=8.8							
ECSD	EROS Data Cent	32.20	327	eP	P	02 24 26.8	+2.5	
Y25A	Mesa, Roswell	32.31	305	⇑P	P	02 24 26.0	+0.4	
	baz=32							
V26A	Tequesquite Ra	32.33	309	⇓P	P	02 24 26.5	+0.8	
	baz=32							
224A	Cornudas Mount	32.38	301	⇓P	P	02 24 26.2	-0.1	
	baz=32,SNR=13							
124A	Stringfield Ra	32.51	302	⇑P	P	02 24 27.5	0.0	
	baz=32							
U26A	Atchley Ranch,	32.55	310	⇓P	P	02 24 27.4	-0.3	
	baz=32,SNR=5.7							
W25A	X Bar L Ranch,	32.61	307	⇓P	P	02 24 28.0	-0.2	
	baz=32,SNR=5.7							
Z24A	Sheeppen Canyo	32.64	303	⇑P	P	02 24 28.5	-0.1	
	baz=32,SNR=5.6							
P28A	Saint Francis	32.68	316	⇓P	P	02 24 28.8	+0.1	
	baz=33							
R27A	Eads	32.73	313	⇑P	P	02 24 29.1	-0.1	
	baz=33							
L30A	Spencer Herefo	32.76	321	⇓P	P	02 24 29.9	+0.6	
	baz=33							
T26A	Comanche Natio	32.78	311	⇑P	P	02 24 29.3	-0.4	
	baz=33							
Y24A	Capitan	32.89	304	⇑P	P	02 24 31.2	+0.4	
	baz=33,SNR=5.4							
V25A	Rancho No Teng	32.97	308	⇑P	P	02 24 30.8	-0.6	
	baz=33,SNR=6.5							
U25A	Circle Dot Ran	33.04	309	⇓P	P	02 24 32.7	+0.7	
	baz=33							
W24A	Lazy 6 Ranch,	33.32	307	⇓P	P	02 24 35.1	+0.6	
	baz=33,SNR=5.7							
T25A	Trinidad	33.35	310	⇓P	P	02 24 34.8	+0.1	
	baz=33,SNR=6.3							
Y23A	Lovelace Mesa,	33.38	304	⇑P	P	02 24 34.8	-0.2	
	baz=33							
V24A	Rampart Ranch,	33.41	308	⇑P	P	02 24 35.7	+0.3	
	baz=33							
Q26A	Hugo	33.53	314	⇑P	P	02 24 36.1	-0.2	
	baz=33,SNR=7.8							
S25A	Robets Cordova	33.59	311	⇑P	P	02 24 36.8	0.0	
	baz=34							
W23A	Werner Place,	33.87	306	⇓P	P	02 24 39.7	+0.4	
	baz=34							
Z22A	Elephant Butte	33.89	303	⇓P	P	02 24 39.2	-0.2	
	baz=34							
BNM	Barren Site	33.90	304	eP	P	02 24 39.3	-0.3	
	15nm,1.1s							
LPM	Los Pinos Moun	33.96	305	eP	P	02 24 40.3	+0.3	
T24B	San Luis	34.02	310	⇑P	P	02 24 41.5	+0.8	
	baz=34,SNR=5.4							
ANMO	Albuquerque	34.03	306	eP	P	02 24 38.4	-2.3	
	5.4nm,1.3s							
ANMO	Albuquerque	34.03	306	P	P	02 24 40.5	-0.1	
	0.6nm,0.5s,baz=159,slow=6.5,SNR=3.1							
V23A	Ortiz Mt. (NFS	34.11	307	⇑P	P	02 24 42.8	+1.4	
	baz=34,SNR=5.1							
S24A	Houchin Ranch,	34.14	311	⇑P	P	02 24 42.2	+0.4	
	baz=34							
LENM	Lemitar	34.18	304	eP	P	02 24 41.1	-0.8	
R24A	Sanders Place,	34.32	312	⇑P	P	02 24 44.4	+1.2	
	baz=34							
U23A	El Rito	34.33	308	⇓P	P	02 24 44.6	+1.3	
	baz=34							
121A	Cookes Peak, D	34.35	301	eP	P	02 24 43.2	-0.2	
	8.9nm,0.9s							
121A	Cookes Peak, D	34.35	301	⇓P	P	02 24 44.1	+0.7	
	baz=34							
LAZ	Ladron	34.38	304	eP	P	02 24 43.9	+0.1	
	6.8nm,1.1s							
SDCO	Great Sand Dun	34.39	311	eP	P	02 24 43.1	-0.8	
	7.6nm,1.1s							
320A	Kipp Ranch, An	34.66	299	⇑P	P	02 24 46.7	+0.6	
	baz=34							
Q24A	Divide	34.68	313	⇑P	P	02 24 47.6	+1.2	
	baz=35							
K27A	Flueckinger Fa	34.71	321	⇑P	P	02 24 47.9	+1.6	
	baz=35							
V22A	San Miguel Ran	34.72	307	⇓P	P	02 24 47.6	+0.9	
	baz=35							
LPAZ	La Paz	34.80	172	eP	P	02 24 42.1	-5.7	
	8.0nm,1.2s							
LPAZ	La Paz	34.80	172	P	P	02 24 46.2	-1.6	
	1.4nm,0.8s,baz=270,slow=3.0,SNR=3.2							
U22A	Llaves	34.85	308	⇑P	P	02 24 48.9	+1.2	
	baz=35,SNR=5.4							
319A	Douglas	35.30	299	⇑P	P	02 24 51.9	+0.3	
	baz=35							
S22A	4UR Ranch, Cre	35.35	310	⇑P	P	02 24 52.8	+0.6	
	baz=35							
ISCO	Idaho Springs	35.38	314	eP	P	02 24 50.3	-2.1	
	12nm,1.4s							
ISCO	Idaho Springs	35.38	314	⇓P	P	02 24 52.9	+0.5	
	baz=35							
I27A	Quinn	35.40	323	⇑P	P	02 24 53.8	+1.5	
	baz=35							
SMCO	Snowmass	36.05	312	eP	P	02 25 01.9	+3.6	
	9.4nm,1.0s							
SIV	San Ignacio	36.10	161	P	P	02 24 58.6	+0.1	
SIV	San Ignacio	36.10	161	P	P	02 24 58.6	+0.1	
	2.3nm,0.8s,baz=7.8,slow=15,SNR=2.6							
O22A	Kremmling	36.18	314	⇓P	P	02 25 00.6	+1.3	
	baz=36							
B30A	Myrvik Farm, E	36.40	331	⇑P	P	02 25 02.6	+2.0	
	baz=36							
N22A	Wattenberg Ran	36.41	315	⇑P	P	02 25 02.0	+0.8	
	baz=36							
F27A	Lemmon	36.50	325	⇓P	P	02 25 03.3	+1.7	
	baz=36							
J24A	Dixon Ranch, L	36.53	320	⇑P	P	02 25 03.8	+1.7	
	baz=36							
L23A	Garrett	36.55	317	⇑P	P	02 25 03.7	+1.4	
	baz=36							
ULM	Lac du Bonnet	36.70	335	eP	P	02 25 01.1	-2.1	
	11nm,1.2s							
ULM	Lac du Bonnet	36.70	335	P	P	02 25 03.8	+0.6	
	4.2nm,0.9s,baz=120,slow=8.0,SNR=5.1							
TUC	Tucson	36.75	300	eP	P	02 25 04.2	+0.2	
PV01	Paradox Valley	36.77	310	eP	P	02 25 04.2	-0.1	
	507nm,1.2s							
G25A	Newell	36.86	323	⇓P	P	02 25 05.8	+1.1	
	baz=37							
A29A	Manning Farm,	37.15	331	⇑P	P	02 25 08.4	+1.3	
	baz=37							
O20A	White River Ci	37.34	313	eP	P	02 25 09.3	+0.3	
	7.0nm,1.1s							
K22A	Casper	37.35	318	eP	P	02 25 07.8	-1.3	
	13nm,1.1s							
J22A	Midwest	37.70	319	⇓P	P	02 25 12.9	+0.9	
	baz=38,SNR=5.3							
X16A	Lo Mia Camp, P	37.79	303	⇓P	P	02 25 14.0	+1.0	
	baz=38							
K21A	Alcova	37.81	317	⇓P	P	02 25 14.0	+1.0	
	baz=38,SNR=10							
I22A	9 Mile Ranch,	37.95	319	⇑P	P	02 25 15.5	+1.4	
	baz=38							
WUAZ	Wupatki	38.03	304	eP	P	02 25 15.1	+0.2	
	7.4nm,1.0s							
WUAZ	Wupatki	38.03	304	⇓P	P	02 25 15.4	+0.5	
	baz=38							
F23A	Volborg	38.30	323	⇓P	P	02 25 17.9	+1.0	
	baz=38							
I21A	Big Trails, Te	38.42	319	⇑P	P	02 25 19.0	+1.0	
	baz=38,SNR=9.3							
SRU	San Rafael	38.56	310	eP	P	02 25 15.8	-3.6	
	5.7nm,1.1s							
F22A	Rosebud	38.83	322	⇓P	P	02 25 21.4	+0.1	
	baz=39,SNR=5.6							
U15A	North Rim	39.01	306	⇑P	P	02 25 23.7	+0.5	
	baz=39							
I20A	Worland	39.01	319	⇓P	P	02 25 24.7	+1.8	
	baz=39							
A25A	Svangstu Ranch	39.03	328	⇑P	P	02 25 24.5	+1.6	
	baz=39							
J19A	Crowheart	39.27	317	⇓P	P	02 25 25.4	+0.2	
	baz=39,SNR=6.2							
LAO	LASA Array	39.32	323	eP	P	02 25 24.7	-0.7	
PDAR	Pinedale Array	39.37	316	P	P	02 25 26.7	+0.5	
PDAR	Pinedale Array	39.37	316	P	P	02 25 26.7	+0.5	
	1.6nm,0.7s,baz=124,slow=10,SNR=8.0							
BW06	Boulder Array	39.38	316	eP	P	02 25 26.3	+0.1	
	6.9nm,1.2s							
C23A	Lambert	39.40	325	⇑P	P	02 25 28.6	+2.6	
	baz=39							
A24A	Westby	39.47	328	⇑P	P	02 25 28.9	+2.3	
	baz=39							
D22A	Cohagen	39.56	324	⇑P	P	02 25 29.7	+2.3	
	baz=40							
I19A	Meeteetse	39.60	318	⇑P	P	02 25 28.4	+0.4	
	baz=40							
MPU	Maple Canyon	39.68	311	eP	P	02 25 27.6	-1.1	
	14nm,1.4s							
H19A	Powell	39.90	319	⇑P	P	02 25 32.0	+1.6	
	baz=40							
W13A	Hualapai Mount	39.91	303	⇑P	P	02 25 30.6	-0.1	
	baz=40							
F20A	Billings	39.96	321	⇓P	P	02 25 31.9	+1.1	
	baz=40							
D21A	La Casta Ranch	39.97	323	⇑P	P	02 25 31.9	+1.1	
	baz=40							
NLU	North Lily Min	39.98	311	eP	P	02 25 30.5	-0.7	
	2.0nm,0.8s							
CTU	Camp Tracy	40.02	312	eP	P	02 25 31.3	-0.2	
	7.7nm,1.1s							
CCUT	Cedar City	40.15	307	eP	P	02 25 32.6	-0.1	
	9.1nm,1.4s							
ARUT	Antelope Range	40.28	307	eP	P	02 25 32.0	-1.6	
	91nm,1.0s							
E20A	Meyer Farm, Mu	40.32	322	⇓P	P	02 25 33.9	+0.2	
	baz=40							
H18A	Shoshone NF, C	40.33	319	⇑P	P	02 25 34.3	+0.2	
	baz=40,SNR=6.4							
LOHW	Long Hollow	40.44	317	eP	P	02 25 34.3	-0.6	
	12nm,1.0s							
F19A	Roth Farm, Mol	40.46	321	⇓P	P	02 25 35.8	+0.8	
	baz=40							
REDW	Red Top Meadow	40.49	316	eP	P	02 25 35.2	-0.2	
	26nm,1.3s							
A22A	Carney Farms,	40.50	326

	15nm,1.3s							
ELK	**Elko**	**42.52**	**311**	*e*P		**P**	**02 25 52.9**	**+0.7**
	64nm,2.8s							
ELK	**Elko**	**42.52**	**311**	P		**P**	**02 25 51.3**	**-0.8**
	3.1nm,1.1s,baz=144,slow=4.0,SNR=6.8							
HLID	**Hailey**	**42.94**	**315**	*e*P		P	02 25 52.0	-3.4
	4.7nm,1.1s							
HLID	**Hailey**	**42.94**	**315**	⇑P		**P**	**02 25 55.9**	**+0.5**
	baz=43							
EDW2	**Edwards Air Fo**	**43.16**	**302**	⇑P		**P**	**02 25 57.4**	**+0.2**
	baz=43							
TPH	**Tonopah**	**43.24**	**306**	*e*P		**P**	**02 25 57.0**	**-1.0**
	16nm,1.3s							
ISA	**Isabella**	**43.69**	**303**	*e*P		**P**	**02 26 00.4**	**-1.1**
ISA	**Isabella**	**43.69**	**303**	⇓P		**P**	**02 26 02.0**	**+0.5**
	baz=44							
MFID	**Camas Ranch**	**43.84**	**314**	*e*P		**P**	**02 26 01.0**	**-1.6**
	3.8nm,1.0s							
MSO	**Missoula**	**43.97**	**319**	⇓P		**P**	**02 26 05.5**	**+1.8**
	baz=44							
NVAR	**Mina Array Bea**	**44.15**	**307**	P		**P**	**02 26 05.1**	**-0.2**
NVAR	**Mina Array Bea**	**44.15**	**307**	P		**P**	**02 26 05.1**	**-0.2**
	0.6nm,0.7s,baz=140,slow=7.1,SNR=4.0							
WVOR	**Wild Horse Val**	**45.47**	**312**	*e*P		**P**	**02 26 15.0**	**-0.7**
	4.7nm,1.0s							
NEW	**Newport**	**46.53**	**320**	*e*P		**P**	**02 26 23.6**	**-0.3**
	9.6nm,1.1s							
NEW	**Newport**	**46.53**	**320**	⇓P		**P**	**02 26 25.3**	**+1.4**
	baz=46,SNR=5.8							
EDM	**Edmonton**	**46.76**	**328**	*e*P		**P**	**02 26 24.8**	**-0.8**
CFAA	**Coronel Fontan**	**49.93**	**175**	P		**P**	**02 26 50.8**	**+0.6**
CFAA	**Coronel Fontan**	**49.93**	**175**	P		**P**	**02 26 50.8**	**+0.6**
	0.4nm,0.4s,baz=309,slow=7.1,SNR=4.8							
YKA	**Yellowknife Ar**	**52.63**	**337**	P		**P**	**02 27 09.4**	**-0.6**
YKA	**Yellowknife Ar**	**52.63**	**337**	P		**P**	**02 27 09.4**	**-0.6**
	5.1nm,0.9s,baz=124,slow=7.4,SNR=19							
SUMG	**Summit**	**57.63**	**12**	*i* P		**P**	**02 27 45.5**	**-1.1**
	6.3nm,0.9s							
SUMG	**Summit**	**57.63**	**12**	*e*P		**P**	**02 27 45.4**	**-1.1**
	25nm,1.4s							
PLCA	**Paso Flores**	**58.88**	**178**	*e*P		**P**	**02 27 55.0**	**-0.2**
	9.8nm,1.1s							
PLCA	**Paso Flores**	**58.88**	**178**	P		**P**	**02 27 55.2**	**0.0**
	3.7nm,0.8s,baz=3.8,slow=12,SNR=9.8							
PAB	**San Pablo**	**62.10**	**55**	*e*P		**P**	**02 28 18.2**	**+0.7**
	42nm,1.5s							
INK	**Inuvik**	**62.33**	**339**	*e*P		**P**	**02 28 17.1**	**-1.2**
	13nm,1.4s							
ESDC	**Sonseca Array**	**62.39**	**54**	P		**P**	**02 28 19.0**	**-0.4**
ESDC	**Sonseca Array**	**62.39**	**54**	P		**P**	**02 28 19.0**	**-0.4**
	4.7nm,1.0s,baz=277,slow=7.1,SNR=9.5							
EKA	**Eskdalemuir Ar**	**63.52**	**37**	P		**P**	**02 28 25.8**	**-0.7**
EKA	**Eskdalemuir Ar**	**63.52**	**37**	P		**P**	**02 28 25.8**	**-0.7**
	2.7nm,1.0s,baz=268,slow=5.0,SNR=2.5							
PAX	**Paxson**	**65.86**	**331**	*e*P		**P**	**02 28 40.5**	**-1.3**
	13nm,1.2s							
ILAR	**Eielson Array**	**66.69**	**333**	P		**P**	**02 28 45.5**	**-1.4**
ILAR	**Eielson Array**	**66.69**	**333**	P		**P**	**02 28 45.5**	**-1.4**
	0.8nm,0.8s,baz=112,slow=2.7,SNR=5.7							
TIC	**Toumodi**	**66.93**	**91**	*e*P		**P**	**02 28 48.2**	**-1.2**
	21nm,1.0s							
LIC	**Lamto**	**67.05**	**91**	*e*P		**P**	**02 28 49.6**	**-0.5**
	42nm,1.4s							
COLA	**College**	**67.11**	**333**	*e*P		**P**	**02 28 50.3**	**+0.7**
	26nm,1.6s							
KIC	**Kosan Boka**	**67.28**	**91**	*e*P		**P**	**02 28 51.1**	**-0.5**
	27nm,1.1s							
COLD	**Coldfoot**	**68.27**	**336**	*e*P		**P**	**02 28 55.1**	**-1.9**
	9.4nm,1.1s							
KTH	**Kantishna Hill**	**68.36**	**332**	*e*P		**P**	**02 28 57.0**	**-0.7**
	19nm,1.2s							
IM04	**Indian Mountai**	**69.65**	**334**	*e*P		P	02 29 02.5	-3.1
NAO01	**NORSAR Array S**	**71.07**	**31**	*e*P		**P**	**02 29 12.7**	**-1.6**
	17nm,1.1s							
NB2	**NORSAR Subarra**	**71.22**	**31**	P		**P**	**02 29 15.8**	**+0.5**
	comp=Z,9.6nm,1.2s,baz=275,slow=6.5							
NB2	**NORSAR Subarra**	**71.22**	**31**	P		**P**	**02 29 15.8**	**+0.5**
	comp=Z,9.6nm,1.2s,baz=275,slow=6.5							
NOA	**NORSAR Array B**	**71.22**	**31**	P		**P**	**02 29 13.6**	**-1.7**
NOA	**NORSAR Array B**	**71.22**	**31**	P		**P**	**02 29 13.6**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=272,slow=6.2,SNR=2.9							
TOA0	**Torodi Ar. Sit**	**71.50**	**82**	*e*P		**P**	**02 29 16.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**71.50**	**82**	P		**P**	**02 29 17.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**71.50**	**82**	P		**P**	**02 29 17.5**	**-0.2**
	comp=Z,3.9nm,1.0s,baz=289,slow=4.7,SNR=11							
DAVA	**Damuels**	**71.84**	**45**	⇑*i*PP		**P**	**02 29 20.4**	**+0.9**
	comp=Z,7.1nm,0.9s							
FETA	**Feichten**	**72.45**	**45**	⇑*i*P		**P**	**02 29 23.6**	**+0.5**
	comp=Z,19nm,1.5s							
MOTA	**Moosalm**	**72.66**	**45**	⇓*i*PP		**P**	**02 29 25.1**	**+0.8**
	comp=Z,6.6nm,0.8s							
TAM	**Tamanrasset**	**72.70**	**71**	*e*P		**P**	**02 29 26.2**	**+1.2**
	comp=Z,4.9nm,1.4s							
CLL	**Collm**	**73.30**	**41**	*e*P		**P**	**02 29 28.0**	**+0.2**
CLL				*e*(sP)		**sP**	**02 29 34.0**	**+3.5**
CLL				*e*PcP		**PcP**	**02 29 44.0**	**-0.2**
KEST	**Kesra**	**73.31**	**57**	*e*P		**P**	**02 29 29.2**	**+0.9**
KEST	**Kesra**	**73.31**	**57**	P		**P**	**02 29 28.5**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=305,slow=9.2,SNR=4.7							
BRG	**Berggiesshubel**	**73.95**	**41**	*e*P		**P**	**02 29 30.9**	**-0.7**
	comp=Z,13nm,1.4s							
BRG				*e*			02 29 38.2	
	comp=Z,8.9nm,1.0s							
KHC	**Kasperske Hory**	**74.01**	**43**	*e*P		**P**	**02 29 32.7**	**+0.6**
KHC				*e*pP		**pP**	**02 29 37.7**	**+3.6**
KHC	**Kasperske Hory**	**74.01**	**43**	*e*P		**P**	**02 29 32.3**	**+0.2**
	comp=Z,11nm,1.2s							
GEC2	**GERESS Array S**	**74.14**	**43**	*e*P		**P**	**02 29 33.9**	**+1.0**
GERES	**GERESS Array B**	**74.14**	**43**	P		**P**	**02 29 33.8**	**+0.8**
GERES	**GERESS Array B**	**74.14**	**43**	P		**P**	**02 29 33.8**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=268,slow=4.0,SNR=17							
PRU	**Pruhonice**	**74.48**	**42**	*e*P		**P**	**02 29 35.3**	**+0.5**
PRU				*e*pP		**pP**	**02 29 40.8**	**+4.0**
OBKA	**Obir**	**75.13**	**46**	⇑*i*pP		**P**	**02 29 40.1**	**+1.3**
	comp=Z,12nm,0.9s							
TNA	**Tin City**	**75.48**	**335**	*e*P		**P**	**02 29 40.0**	**-0.2**
	comp=Z,7.4nm,1.0s							
GKP	**Gorka Klasztor**	**75.52**	**38**	*e*P		P	02 29 47.4	+6.7
DPC	**Dobruska-Polom**	**75.54**	**41**	*e*P		**P**	**02 29 42.1**	**+1.1**
DPC				*e*pP		**pP**	**02 29 47.2**	**+4.3**
DPC	**Dobruska-Polom**	**75.54**	**41**	*e*P		**P**	**02 29 40.9**	**0.0**
ARCES	**ARCESS Array B**	**75.80**	**21**	P		**P**	**02 29 41.1**	**-1.0**
ARCES	**ARCESS Array B**	**75.80**	**21**	P		**P**	**02 29 41.1**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=306,slow=4.2,SNR=8.3							
KRLC	**Kraliky**	**75.88**	**42**	*e*P		**P**	**02 29 44.1**	**+1.2**
MORC	**Moravsky Berou**	**76.43**	**42**	*e*P		**P**	**02 29 46.5**	**+0.5**
	comp=Z,15nm,1.3s							
OKC	**Ostrava-Krasne**	**76.80**	**42**	*e*P		**P**	**02 29 48.0**	**0.0**
GAMB	**Gambell**	**77.50**	**333**	*e*P		**P**	**02 29 51.9**	**+0.2**
	comp=Z,11nm,1.3s							
OJC	**Ojcow**	**77.74**	**41**	*e*P		**P**	**02 29 54.9**	**+1.5**
FINES	**FINESS Array B**	**78.20**	**29**	P		**P**	**02 29 55.6**	**-0.1**
FINES	**FINESS Array B**	**78.20**	**29**	P		**P**	**02 29 55.6**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=242,slow=4.1,SNR=5.8							
PSZ	**Piszkesteto**	**78.37**	**43**	*e*P		**P**	**02 29 58.5**	**+1.5**
	comp=Z,19nm,1.3s							
SUW	**Suwalki**	**78.79**	**37**	*e*P		P	02 30 05.3	+6.3
KWP	**Kalwaria Pacla**	**79.71**	**41**	*e*P		**P**	**02 30 06.1**	**+1.9**
KWP	**Kalwaria Pacla**	**79.71**	**41**	*e*P		**P**	**02 30 05.6**	**+1.4**
	comp=Z,16nm,0.9s							
NACGM	**Naroch**	**80.54**	**35**	*e*		**P**	**02 30 08.0**	**-0.5**
BUR08	**Bucovina Ar. S**	**81.88**	**43**	*e*P		**P**	**02 30 15.7**	**-0.3**
KIEV	**Kiev**	**83.34**	**39**	*e*P		**P**	**02 30 21.6**	**-1.8**
	comp=Z,5.4nm,1.0s							
AKASG	**Malin Array Be**	**83.35**	**39**	P		**P**	**02 30 23.9**	**+0.5**
AKASG	**Malin Array Be**	**83.35**	**39**	P		**P**	**02 30 23.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=286,slow=5.1,SNR=8.9							
OBN	**Obninsk**	**85.67**	**33**	LR		LR	03 05 02.9	
	comp=Z,278nm,18.6s,baz=90,slow=33							
TIXI	**Tiksi**	**88.94**	**353**	*e*P		**P**	**02 30 49.0**	**-1.6**
	comp=Z,7.9nm,1.0s							
ANTO	**Ankara**	**89.81**	**48**	*e*P		**P**	**02 30 53.5**	**-2.0**
	comp=Z,5.7nm,0.8s							
BR131	**Keskin Array S**	**90.47**	**48**	*e*P		**P**	**02 30 59.0**	**+0.4**
	comp=Z,1.1nm,0.8s							
BRTR	**Keskin Array B**	**90.47**	**48**	P		**P**	**02 30 59.1**	**+0.6**
BRTR	**Keskin Array B**	**90.47**	**48**	P		**P**	**02 30 59.1**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=262,slow=3.7,SNR=12							
CSS	**Prodhromos**	**92.20**	**52**	*e*P		**P**	**02 31 07.0**	**+0.4**
	comp=Z,2.8nm,1.0s							
KIV	**Kislovodsk**	**94.51**	**41**	*e*P		**P**	**02 31 17.4**	**+0.3**
KSH	**Kashi**	**115.43**	**26**	*e*PKP		**PKPdf**	**02 36 42.1**	**+3.3**
KSH				*e*PP		PP	02 37 51.6	+13
KSH				*e*SKS		**SKSdf**	**02 43 49.1**	**-2.8**
KSH				*e*SKKS		**SKKSac**	**02 44 40.0**	**-2.5**
WMQ	**Urumqi**	**115.56**	**15**	PKP		**PKPdf**	**02 36 39.4**	**+0.5**
HHC	**Hu-ho-hao-te**	**120.90**	**356**	*e*PKP		**PKPdf**	**02 36 49.9**	**+0.6**
HHC				PP		**PP**	**02 38 21.2**	**+4.7**
HHC				SKS		**SKSdf**	**02 44 04.9**	**+2.7**
HHC				SKKS		**SKKSac**	**02 45 17.4**	**-1.1**
HHC				SS		**SS**	**02 54 51.2**	**+3.6**
HHC				LR		LR		
	comp=Z,380nm,20.0s							
LZH	**Lanzhou**	**125.71**	**3**	*e*PKP		**PKPdf**	**02 36 59.5**	**+0.8**
LZH				sPKP			02 37 03.0	
LZH				LR		LR		
	comp=Z,150nm,20.2s							
WRA	**Warramunga Arr**	**154.27**	**262**	PKP		**PKPdf**	**02 37 47.3**	**-1.9**
WRA				PKPbc		**PKPbc**	**02 37 55.7**	**-1.8**
WRA	**Warramunga Arr**	**154.27**	**262**	PKP		**PKPdf**	**02 37 47.3**	**-1.9**
	comp=Z,1.3nm,1.0s,baz=72,slow=1.4,SNR=4.6							
WRA				PKPbc		**PKPbc**	**02 37 55.7**	**-1.8**
	comp=Z,2.9nm,0.9s,baz=70,slow=1.2,SNR=8.9							
ASAR	**Alice Springs**	**154.50**	**254**	PKPbc		**PKPbc**	**02 37 56.2**	**-1.7**
ASAR				PKPab		**PKPab**	**02 38 11.1**	**-1.3**
ASAR	**Alice Springs**	**154.50**	**254**	PKPbc		**PKPbc**	**02 37 56.2**	**-1.7**
	comp=Z,0.9nm,1.0s,baz=96,slow=1.9,SNR=3.8							
ASAR				PKPab		**PKPab**	**02 38 11.1**	**-1.3**
	comp=Z,1.6nm,1.0s,baz=85,slow=3.5,SNR=5.5							

PGC 13 02:22:20.0±11.0, 48.66°N×128.88°W, h10km, ML2.9/3, Mw3.5,5D,223km west of Tofino, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.67**	**43**	⇑Pn	Pn	02 22 46.8	-2.6
EDB				⇓Sn	Sn	02 23 06.7	-4.2
FHRB	**Fair Harbour**	**1.81**	**39**	⇑Sn	Sn	02 23 10.1	-4.0
WOSB	**Woss**	**2.13**	**44**	⇓Pn	Pn	02 22 54.0	-1.8
WOSB				⇓Sn	Sn	02 23 19.1	-3.3
PHC	**Port Hardy**	**2.25**	**24**	⇑Pn	Pn	02 22 55.2	-2.1
PHC				⇑Sn	Sn	02 23 20.8	-4.3
TLCB	**Telegraph Cove**	**2.31**	**34**	⇑Pn	Pn	02 22 56.9	-1.2
TLCB				⇓Sn	Sn	02 23 23.0	-3.5
BTB	**Buttle Lake**	**2.35**	**69**	⇓Pn	Pn	02 22 57.1	-1.8
BTB				⇑Sn	Sn	02 23 24.5	-3.5
BBB	**Bella Bella**	**3.56**	**8**	⇑Pn	Pn	02 23 14.5	-0.8
BBB				⇑Sn	Sn	02 23 53.9	-3.5

*ISCJB **13** 02:24:15.2±0.4, 18.29°N±0.05°×72.93°W±0.04, h6km, mb3.9/17, Error ellipse: s-maj=7.7km s-min=5.0km az=0.6*
*IDC **13** 02:24:16.0±0.9, 18.27°N×72.91°W, h0km, mb3.6/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.7/9, ML4.4/1, Error ellipse: s-maj=35.7km s-min=19.7km az=31.0*
*NEIC **13** 02:24:17.6±0.3, 18.30°N×72.95°W, h10km, mb4.2/10, Error ellipse: s-maj=7.1km s-min=5.4km az=10.0*

ISC 13 02:24:17.1±0.5, 18.31°N±0.07°×72.97°W±0.05, h6km, n43, σ1°34/48, mb3.9/17, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.73**	**67**	*e*Pn	**Pn**	**02 24 45.9**	**-1.9**
SDDR				*e*Sn	**Sn**	**02 25 07.2**	**-3.0**
GRTK	**Grand Turk**	**3.63**	**28**	*e*Pn	**Pn**	**02 25 14.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**5.58**	**92**	*e*Pn	**Pn**	**02 25 40.5**	**-0.2**
CRPR				*e*Sg	**Sb**	**02 27 07.4**	**+5.3**
LSP	**Las Mesas**	**5.59**	**90**	*e*Pn	**Pn**	**02 25 42.3**	**+1.4**
LSP				*e*Sn	**Sn**	**02 26 44.2**	**-1.4**
CELP	**Cerrillos**	**6.08**	**91**	*e*Pn	**Pn**	**02 25 46.6**	**-0.9**
CBYP	**Canovanas**	**6.76**	**89**	*e*Pn	**Pn**	**02 25 58.5**	**+1.6**
MTP	**Monte Pirata**	**7.05**	**91**	*e*Pn	**Pn**	**02 26 00.5**	**-0.4**
ROSC	**El Rosal**	**13.44**	**186**	*e*Pn	**Pn**	**02 27 29.6**	**+0.8**
TGUH	**Tegucigalpa,Un**	**14.37**	**255**	*e*Pn	**Pn**	**02 27 40.6**	**-0.6**
TEIG	**Tepich**	**14.58**	**280**	*e*Pn	**Pn**	**02 27 46.4**	**+2.3**
TEIG	**Tepich**	**14.58**	**280**	Pn	**Pn**	**02 27 45.9**	**+1.8**
	1.7nm,0.3s,baz=350,slow=11,SNR=7.1						
BBSR	**BB Station**	**15.86**	**26**	*e*Pn	**Pn**	**02 28 00.1**	**-0.9**
OTAV	**Otavalo**	**18.75**	**197**	*e*P	**P**	**02 28 36.4**	**-0.9**
	9.8nm,1.2s						
ODNJ	**Ogdensburg**	**22.74**	**357**	*e*P	**P**	**02 29 19.6**	**-0.3**
	17nm,1.0s						
TUL1	**Tulsa**	**26.73**	**316**	*e*P	**P**	**02 29 57.9**	**+0.5**
SAML	**Samuel**	**28.75**	**160**	*e*P	**P**	**02 30 15.6**	**-0.1**
	1.7nm,0.6s						
TXAR	**Lajitas Array**	**30.06**	**297**	P	**P**	**02 30 26.8**	**-0.6**
TXAR	**Lajitas Array**	**30.06**	**297**	P	**P**	**02 30 26.8**	**-0.6**
	0.4nm,0.9s,baz=132,slow=3.5,SNR=3.6						
MSTX	**Muleshoe**	**30.82**	**306**	*e*P	**P**	**02 30 35.0**	**+0.9**
	3.2nm,0.7s						
BNM	**Barren Site**	**33.88**	**304**	*e*P	**P**	**02 31 01.0**	**0.0**
	1.7nm,0.7s						
LPAZ	**La Paz**	**34.71**	**172**	*e*P	**P**	**02 31 07.5**	**-1.1**
	1.4nm,0.8s						
SRU	**San Rafael**	**38.55**	**310**	*e*P	**P**	**02 31 40.2**	**-0.7**
	1.5nm,0.6s						
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**02 31 47.5**	**-0.4**
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**02 31 47.5**	**-0.4**
	0.3nm,0.7s,baz=127,slow=11,SNR=2.4						
BDFB	**Brasilia**	**41.74**	**142**	P	**P**	**02 32 07.1**	**-0.4**
BDFB	**Brasilia**	**41.74**	**142**	P	**P**	**02 32 07.1**	**-0.4**
	4.4nm,0.8s,baz=300,slow=12,SNR=4.3						
EGMT	**Eagleton**	**42.08**	**323**	*e*P	**P**	**02 32 10.2**	**+0.3**
	5.7nm,1.0s						
NVAR	**Mina Array Bea**	**44.13**	**307**	P	**P**	**02 32 28.6**	**+1.8**
NVAR	**Mina Array Bea**	**44.13**	**307**	P	**P**	**02 32 28.6**	**+1.8**
	0.3nm,0.6s,baz=108,slow=5.9,SNR=2.6						
YKA	**Yellowknife Ar**	**52.69**	**337**	P	**P**	**02 33 32.5**	**+0.5**
YKA	**Yellowknife Ar**	**52.69**	**337**	P	**P**	**02 33 32.5**	**+0.5**
	0.7nm,1.0s,baz=124,slow=7.2,SNR=5.9						
INK	**Inuvik**	**62.39**	**339**	*e*P	**P**	**02 34 39.3**	**-1.0**
	7.1nm,1.5s						
ILAR	**Eielson Array**	**66.74**	**333**	P	**P**	**02 35 08.8**	**-0.1**
ILAR	**Eielson Array**	**66.74**	**333**	P	**P**	**02 35 08.8**	**-0.1**
	0.4nm,0.9s,baz=116,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**71.62**	**82**	P	**P**	**02 35 39.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**71.62**	**82**	P	**P**	**02 35 39.2**	**-0.9**
	0.5nm,0.9s,baz=330,slow=5.5,SNR=4.2						
GERES	**GERESS Array B**	**74.29**	**43**	P	**P**	**02 35 55.9**	**+0.5**
GERES	**GERESS Array B**	**74.29**	**43**	P	**P**	**02 35 55.9**	**+0.5**
	0.8nm,0.8s,baz=285,slow=2.6,SNR=3.8						
GAMB	**Gambell**	**77.55**	**333**	*e*P	**P**	**02 36 13.5**	**-0.1**
	8.6nm,1.4s						
WRA	**Warramunga Arr**	**154.16**	**262**	PKP	**PKPdf**	**02 44 11.9**	**+1.2**
WRA				PKPbc	**PKPbc**	**02 44 18.2**	**-0.6**
WRA	**Warramunga Arr**	**154.16**	**262**	PKP	**PKPdf**	**02 44 11.9**	**+1.2**
	1.3nm,1.2s,baz=67,slow=1.3,SNR=3.1						
WRA				PKPbc	**PKPbc**	**02 44 18.2**	**-0.6**
	0.5nm,0.7s,baz=90,slow=3.2,SNR=5.5						
ASAR	**Alice Springs**	**154.37**	**253**	PKPab	**PKPab**	**02 44 32.0**	**-1.4**
ASAR	**Alice Springs**	**154.37**	**253**	PKPab	**PKPab**	**02 44 32.0**	**-1.4**
	0.2nm,0.4s,baz=219,slow=9.7,SNR=4.2						

*ISCJB **13** 02:26:31.0±0.2, 18.39°N±0.03°×72.83°W±0.02, h6km, mb4.5/107, MS4.9/2, Error ellipse: s-maj=4.1km s-min=2.5km az=12.6*
*IDC **13** 02:26:31.6±0.5, 18.31°N×72.89°W, h0km, mb4.2/22, mb1 4.4/27, mb1mx4.4/31, mbtmp4.2/27, ML3.8/5, MS4.0/1, Ms1 4.0/1, ms1mx3.5/44, Error ellipse: s-maj=14.7km s-min=12.3km az=58.0*
*NEIC **13** 02:26:33.7±0.2, 18.44°N×72.83°W, h10km, mb4.7/91, Error ellipse: s-maj=4.1km s-min=3.0km az=25.0*
*BJI **13** 02:26:34.8, 18.50°N×72.80W, h10km, Ms5.1/1, Ms7 5.0/3*

ISC 13 02:26:32.8±0.3, 18.41°N±0.04°×72.82W±0.03, h6km, n387, σ1°06/408, mb4.6/108, 96C-85D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.56**	**68**	*e*Pn	**Pg**	**02 27 02.8**	**0.0**
SDDR				*e*Sg	**Sg**	**02 27 23.9**	**+0.9**
GTBY	**Guantanamo Bay**	**2.64**	**305**	*e*Pn	**Pn**	**02 27 15.4**	**-0.6**
GTBY				*e*Sn	**Sn**	**02 27 47.8**	**-0.6**
GRTK	**Grand Turk**	**3.47**	**27**	*e*Pn	**Pn**	**02 27 27.9**	**+0.4**
GRTK				*e*Sn	**Sn**	**02 28 06.0**	**-2.9**
MTDJ	**Mount Denham**	**4.48**	**268**	*e*Pn	**Pn**	**02 27 40.6**	**-0.9**
AGPR	**Aguadilla, PR**	**5.42**	**88**	*e*Pn	**Pn**	**02 27 53.1**	**-1.1**
AGPR				*e*Pg	Pb	02 28 12.5	+4.5
AGPR				*e*Sn	**Sn**	**02 28 57.2**	**+0.3**
AGPR				*e*Sg	**Sg**	**02 29 28.2**	**+1.2**
CRPR	**Cabo Rojo, PR**	**5.44**	**93**	*e*Pn	**Pn**	**02 27 55.5**	**+1.0**
CRPR				*e*Sg	**Sg**	**02 29 22.8**	**-4.9**
LSP	**Las Mesas**	**5.45**	**92**	*e*Pn	**Pn**	**02 27 54.6**	**-0.2**
LSP				*e*Pg	Pg	02 28 13.8	-3.5
LSP				*e*Sg	**Sg**	**02 29 25.7**	**-2.4**
AOPR	**Arecibo Observ**	**5.76**	**90**	*e*Pn	**Pn**	**02 28 01.8**	**+2.9**
CELP	**Cerrillos**	**5.94**	**92**	*e*Pn	**Pn**	**02 28 02.0**	**+0.6**
CELP				*e*Sn	**Sn**	**02 29 09.8**	**-0.1**
CELP				*e*Sg	**Sg**	**02 29 40.2**	**-3.5**
CBYP	**Canovanas**	**6.62**	**90**	*e*Pn	**Pn**	**02 28 10.8**	**+0.1**
CBYP				*e*Pg	Pb	02 28 32.7	+4.3
CBYP				*e*Sn	**Sn**	**02 29 27.5**	**+1.0**
MTP	**Monte Pirata**	**6.91**	**91**	*e*Pn	**Pn**	**02 28 15.5**	**+0.8**
MTP				*e*Sg	Sb	02 30 03.7	+7.5
SDV	**Santo Domingo**	**9.70**	**167**	*e*Pn	**Pn**	**02 28 55.2**	**+1.9**
SDV				*e*Sn	**Sn**	**02 30 40.8**	**-1.9**
BCIP	**Isla Barro Col**	**11.44**	**217**	*e*Pn	**Pn**	**02 29 17.9**	**+1.0**
ROSC	**El Rosal**	**13.55**	**186**	*e*Pn	**Pn**	**02 29 48.2**	**+2.1**
ROSC				*e*Sn	**Sn**	**02 32 16.8**	**-0.5**
ROSC	**El Rosal**	**13.55**	**186**	Pn	**Pn**	**02 29 46.4**	**+0.3**
	1.5nm,0.3s,baz=113,slow=5.6,SNR=6.5						
ROSC				LR	LR	02 34 38.8	
	comp=Z,602nm,18.4s,baz=174,slow=36						
JTS	**JuntasAbangare**	**14.25**	**237**	*e*Pn	**Pn**	**02 29 57.7**	**+2.3**
JTS	**JuntasAbangare**	**14.25**	**237**	Pn	**Pn**	**02 29 55.5**	**+0.1**
	0.9nm,0.3s,baz=300,slow=20,SNR=2.4						
TGUH	**Tegucigalpa,Un**	**14.54**	**255**	*e*Pn	**Pn**	**02 30 01.6**	**+2.4**
	39nm,1.0s						
TEIG	**Tepich**	**14.70**	**280**	*e*Pn	**Pn**	**02 30 00.3**	**-1.2**
TEIG	**Tepich**	**14.70**	**280**	Pn	**Pn**	**02 30 00.2**	**-1.3**
	2.0nm,0.3s,baz=64,slow=16,SNR=6.0						
APG	**El Apazote**	**17.24**	**261**	P	**Pn**	**02 30 34.3**	**-0.3**
APG	**El Apazote**	**17.24**	**261**	P	**Pn**	**02 30 34.3**	**-0.3**
	0.4nm,0.3s,baz=36,slow=19,SNR=6.0						
JSC	**Jenkinsville**	**17.51**	**336**	*e*P	**P**	**02 30 39.6**	**+0.7**
KMSC	**Kings Mountain**	**18.30**	**337**	*e*Pn	**Pn**	**02 30 45.5**	**-2.0**
KMSC	**Kings Mountain**	**18.30**	**337**	⇑P	**Pn**	**02 30 46.1**	**-1.4**
	baz=18						
OTAV	**Otavalo**	**18.89**	**198**	*e*Pn	**Pn**	**02 30 57.9**	**+2.7**
JSRW	**J. Sargeant Re**	**19.72**	**348**	*e*P	**P**	**02 31 03.4**	**+0.3**
JSRW				*e*Pn	**Pn**	**02 31 04.2**	**-0.3**
TKL	**Tuckaleechee C**	**19.73**	**333**	*e*P	**P**	**02 31 03.9**	**+0.6**
TKL	**Tuckaleechee C**	**19.73**	**333**	P	**P**	**02 31 03.6**	**+0.3**
	0.2nm,0.3s,baz=147,slow=10,SNR=4.4						
VWCC	**Virginia Weste**	**19.79**	**343**	*e*P	**P**	**02 31 04.6**	**+0.7**
BLA	**Blacksburg**	**19.89**	**342**	*e*P	**P**	**02 31 05.6**	**+0.6**
	80nm,1.3s						
**CP

ABTX **Abilene, Hawle** 27.94 306 *e*P P 02 32 23.3 -0.9
ABTX **Abilene, Hawle** 27.94 306 ⇓P P 02 32 23.9 -0.3
baz=28
431A **Sonora** 27.99 301 ⇓P P 02 32 24.1 -0.6
baz=28
331A **San Angelo** 28.06 303 ⇑P P 02 32 25.2 -0.1
baz=28
Z32A **Haskell** 28.10 307 ⇑P P 02 32 25.2 -0.4
baz=28
231A **Bronte** 28.20 304 ⇓P P 02 32 26.1 -0.4
baz=28
W33A **Caddo, Fort Co** 28.20 311 ⇓P P 02 32 26.8 +0.3
baz=28
U34A **Anderson Ranch** 28.22 315 ⇓P P 02 32 27.0 +0.4
baz=28
WMOK **Wichita Mounta** 28.23 310 *e*P P 02 32 26.0 -0.7
4.6nm,1.0s
Y32A **R-V Farms, Ver** 28.38 308 ⇑P P 02 32 27.9 -0.1
baz=28
V33A **Lossen Ranch,** 28.41 313 ⇑P P 02 32 28.0 -0.3
baz=28
530A **J-C Ranch, Com** 28.42 300 ⇓P P 02 32 28.1 -0.4
baz=28
X32A **Elmer** 28.45 309 ⇑P P 02 32 28.1 -0.6
baz=28
430A **Baggett Ranch,** 28.54 301 ⇓P P 02 32 29.1 -0.5
baz=28
JFWS **Jewell Farm** 28.54 333 *e*P P 02 32 28.1 -1.3
14nm,0.7s
Z31A **Sharp Cattle R** 28.61 307 ⇑P P 02 32 29.8 -0.3
baz=29
330A **Mertzon** 28.70 302 ⇑P P 02 32 30.4 -0.5
baz=29
W32A **Sentinel** 28.75 311 ⇓P P 02 32 30.8 -0.5
baz=29
SAML **Samuel** 28.80 160 *e*P P 02 32 30.9 -0.9
5.7nm,0.8s
230A **Sterling City** 28.81 303 ⇓P P 02 32 31.3 -0.7
baz=29
429A **Davenport Ranc** 29.02 300 ⇑P P 02 32 33.3 -0.6
baz=29
X31A **McDonald Ranch** 29.05 309 ⇓P P 02 32 33.4 -0.7
baz=29
529A **Stev Forest Ra** 29.14 299 ⇓P P 02 32 34.4 -0.5
baz=29
KSU1 **Kansas State U** 29.17 320 *e*P P 02 32 34.9 -0.1
12nm,0.7s
KSU1 **Kansas State U** 29.17 320 ⇑P P 02 32 35.6 +0.6
baz=29
W31A **Holland Ranch,** 29.28 310 ⇑P P 02 32 35.2 -0.8
baz=29
Z30A **Sanderson Ranc** 29.35 306 ⇑P P 02 32 36.0 -0.7
baz=29
329A **Wagon Wheel Ra** 29.37 302 ⇑P P 02 32 36.2 -0.7
baz=29,SNR=5.7
229A **Bryant Ranch,** 29.40 303 ⇓P P 02 32 36.4 -0.8
baz=29
V31A **Spring Creek L** 29.49 311 ⇑P P 02 32 37.9 0.0
baz=30
628A **Black Gap, Mar** 29.53 298 ⇑P P 02 32 38.8 +0.4
baz=30
T32A **Huddler Ranch,** 29.56 315 ⇓P P 02 32 38.7 +0.2
baz=30
R33A **Olander Ranch,** 29.56 317 ⇓P P 02 32 39.6 +1.1
baz=30
528A **Cox Ranch, San** 29.62 299 ⇑P P 02 32 39.5 +0.2
baz=30
X30A **Coker Ranch, T** 29.64 308 ⇓P P 02 32 38.7 -0.5
baz=30
428A **Kincaid Ranch,** 29.70 300 ⇓P P 02 32 40.4 +0.5
baz=30,SNR=16
Z29A **Hungry Hill Ra** 29.79 305 ⇓P P 02 32 40.2 -0.4
baz=30,SNR=6.7
Q33A **Connelly Farm,** 29.87 319 ⇑P P 02 32 41.5 +0.3
baz=30
Y29A **Porterfield Fa** 29.99 307 ⇑P P 02 32 42.1 -0.4
baz=30,SNR=6.7
328A **Wristen Ranch,** 30.01 301 ⇓P P 02 32 41.9 -0.6
baz=30
R32A **Long Quarter,** 30.10 317 ⇓P P 02 32 43.4 +0.1
baz=30
TXAR **Lajitas Array** 30.14 297 P P 02 32 44.1 +0.2
TXAR PcP PcP 02 35 44.9 -0.5
TXAR **Lajitas Array** 30.14 297 P P 02 32 44.1 +0.2
2.4nm,0.9s,baz=108,slow=7.0,SNR=17
TXAR PcP PcP 02 35 44.8 -0.5
0.6nm,0.8s,baz=172,slow=1.8,SNR=4.0
128A **Castleberry Fa** 30.16 304 ⇑P P 02 32 43.7 -0.3
baz=30,SNR=6.8
S31A **Mullinville** 30.17 315 ⇑P P 02 32 44.0 0.0
baz=30
X29A **Tulia** 30.25 308 ⇑P P 02 32 44.2 -0.6
baz=30
527A **Woodward Ranch** 30.31 299 ⇑P P 02 32 45.0 -0.4
baz=30,SNR=8.1
Z28A **Tucker Farm, M** 30.32 305 ⇑P P 02 32 44.5 -0.9
baz=30
427A **Hayter Ranch,** 30.33 300 ⇓P P 02 32 45.1 -0.4
baz=30,SNR=5.6
AMTX **Amarillo** 30.42 308 ⇑P P 02 32 44.7 -1.6
baz=30
R31A **Burdett** 30.56 316 ⇑P P 02 32 47.6 +0.3
baz=30
626A **Big Bend Ranch** 30.59 297 ⇓P P 02 32 48.1 +0.3
baz=31
526A **Mary Lane Ranc** 30.68 298 ⇓P P 02 32 48.8 +0.1
baz=31,SNR=12
P32A **Huiting Farm,** 30.72 319 ⇓P P 02 32 49.6 +0.9
baz=31
426A **McDonald Obser** 30.80 299 ⇑P P 02 32 49.8 0.0
baz=31,SNR=11
Q31A **Ellis** 30.87 317 ⇓P P 02 32 50.1 +0.1
baz=31
127A **Arkansas Junct** 30.87 303 ⇓P P 02 32 49.7 -0.5
baz=31
MSTX **Muleshoe** 30.88 306 *e*P P 02 32 49.4 -0.9
9.9nm,1.0s
MSTX **Muleshoe** 30.88 306 ⇑P P 02 32 49.9 -0.4
baz=31
O32A **Brockman Farm,** 30.90 320 ⇓P P 02 32 51.4 +1.1
baz=31
Z27A **Tatum** 30.98 305 ⇑P P 02 32 50.3 -0.9
baz=31
R30A **Dighton** 31.05 315 ⇑P P 02 32 51.5 -0.2
baz=31
P31A **Stockton** 31.15 318 ⇓P P 02 32 53.3 +0.8
baz=31
226B **Tecolote Peak,** 31.32 302 ⇓P P 02 32 53.7 -0.6
baz=31
Q30A **Quinter** 31.39 316 ⇑P P 02 32 55.2 +0.5
baz=31
X27A **F and S Farms,** 31.39 307 ⇓P P 02 32 54.1 -0.7
baz=31
GDL2 **Guadalupe Moun** 31.52 302 *e*P P 02 32 56.4 +0.4
P30A **Selden** 31.71 317 ⇓P P 02 32 58.1 +0.5
baz=32,SNR=5.4
325A **Bean Ranch, Si** 31.77 300 ⇓P P 02 32 58.3 +0.1
baz=32,SNR=8.4
Q29A **Oakley** 31.84 316 ⇑P P 02 32 58.9 +0.2
baz=32
125A **Gardner Draw,** 31.90 303 ⇑P P 02 32 58.8 -0.5
baz=32,SNR=6.3
U27A **Thompson Grove** 31.93 310 ⇑P P 02 32 59.1 -0.5
baz=32
O30A **MW Ranch, Wils** 31.95 319 ⇓P P 02 32 59.8 +0.2
baz=32
Z25A **Roswell** 32.15 304 ⇓P P 02 33 01.1 -0.4
baz=32,SNR=6.3
MNTX **Cornudas Mount** 32.20 301 *e*P P 02 33 01.5 -0.3
11nm,1.2s
324A **Moseley Ranch,** 32.21 300 ⇑P P 02 33 01.8 -0.3
baz=32,SNR=16
Y25A **Mesa, Roswell** 32.35 305 ⇓P P 02 33 03.3 0.0
baz=32
V26A **Tequesquite Ra** 32.37 309 ⇓P P 02 33 03.2 -0.2
baz=32
224A **Cornudas Mount** 32.42 301 ⇑P P 02 33 04.0 0.0
baz=32,SNR=15
X25A **Clemmons Ranch** 32.54 306 ⇑P P 02 33 05.2 +0.2
baz=32
124A **Stringfield Ra** 32.55 302 ⇓P P 02 33 05.7 +0.5
baz=32,SNR=9.2
U26A **Atchley Ranch,** 32.58 310 ⇑P P 02 33 04.8 -0.6
baz=33
Z24A **Sheeppen Canyo** 32.68 303 ⇑P P 02 33 06.4 +0.1
baz=33,SNR=11
R27A **Eads** 32.77 313 ⇓P P 02 33 07.3 +0.4
baz=33
T26A **Comanche Natio** 32.81 311 ⇑P P 02 33 07.2 -0.2
baz=33
Y24A **Capitan** 32.93 304 ⇑P P 02 33 08.7 +0.3
baz=33,SNR=7.2
V25A **Rancho No Teng** 33.00 308 ⇑P P 02 33 09.0 -0.1
baz=33,SNR=12
U25A **Circle Dot Ran** 33.07 309 ⇓P P 02 33 09.3 -0.4
baz=33
Z23A **Rita Site, Whi** 33.34 303 ⇓P P 02 33 12.2 +0.2
baz=33
W24A **Lazy 6 Ranch,** 33.36 307 ⇓P P 02 33 12.4 +0.2
baz=33
T25A **Trinidad** 33.38 310 ⇑P P 02 33 12.2 -0.3
baz=33
Y23A **Lovelace Mesa,** 33.42 304 ⇑P P 02 33 12.9 +0.2
baz=33,SNR=11
V24A **Rampart Ranch,** 33.45 308 ⇓P P 02 33 13.8 +0.8
baz=33
Q26A **Hugo** 33.57 314 ⇓P P 02 33 14.5 +0.6
baz=34
S25A **Robets Cordova** 33.63 311 ⇑P P 02 33 15.0 +0.5
baz=34
R25A **Fountain Ranch** 33.74 312 ⇑P P 02 33 15.4 0.0
baz=34
W23A **Werner Place,** 33.91 306 ⇓P P 02 33 17.3 +0.3
baz=34,SNR=5.5
Z22A **Elephant Butte** 33.93 303 ⇑P P 02 33 17.4 +0.3
baz=34
BNM **Barren Site** 33.94 304 *e*P P 02 33 17.8 +0.5
LPM **Los Pinos Moun** 33.99 305 *e*P P 02 33 18.7 +1.0
T24B **San Luis** 34.06 310 ⇓P P 02 33 18.8 +0.4
baz=34
ANMO **Albuquerque** 34.07 306 *e*P P 02 33 19.2 +0.8
19nm,1.6s
M27A **Reverse DX Ran** 34.17 319 ⇓P P 02 33 19.7 +0.7
baz=34
S24A **Houlin Ranch,** 34.18 311 ⇓P P 02 33 19.8 +0.4
baz=34
LENM **Lemitar** 34.21 304 *e*P P 02 33 19.6 -0.1
12nm,1.2s
R24A **Sanders Place,** 34.36 312 ⇑P P 02 33 21.6 +0.8
baz=34
121A **Cookes Peak, D** 34.39 301 *e*P P 02 33 21.6 +0.4
18nm,1.4s
121A **Cookes Peak, D** 34.39 301 ⇑P P 02 33 21.9 +0.7
baz=34,SNR=5.7
LAZ **Ladron** 34.42 304 *e*P P 02 33 21.8 +0.4
T23A **Casias Ranch,** 34.53 309 ⇓P P 02 33 22.7 +0.3
baz=34
320A **Kipp Ranch, An** 34.70 299 ⇑P P 02 33 23.7 -0.2
baz=35
LPAZ **La Paz** 34.78 172 *e*P P 02 33 25.8 +0.7
3.6nm,0.9s
LPAZ **La Paz** 34.78 172 P P 02 33 25.1 0.0
1.0nm,0.5s,baz=333,slow=4.2,SNR=3.8
R23A **Moffat** 34.85 311 ⇑P P 02 33 25.8 +0.6
baz=35
U22A **Llaves** 34.88 308 ⇑P P 02 33 26.2 +0.7
baz=35,SNR=8.0
AGMN **Agassiz Nation** 35.21 333 *e*P P 02 33 27.7 -0.1
11nm,1.1s
AGMN **Agassiz Nation** 35.21 333 ⇓P P 02 33 33.4 +5.6
baz=35
K26A **Motz Farm, Whi** 35.31 320 ⇑P P 02 33 29.9 +1.0
baz=35
319A **Douglas** 35.34 299 ⇓P P 02 33 30.4 +1.1
baz=35,SNR=6.5
S22A **4UR Ranch, Cre** 35.39 310 ⇓P P 02 33 29.6 -0.3
baz=35
ISCO **Idaho Springs** 35.41 314 *e*P P 02 33 29.9 -0.2
3.7nm,1.0s
ISCO **Idaho Springs** 35.41 314 ⇑P P 02 33 30.3 +0.2
baz=35
D30A **Buchanan** 35.66 329 ⇓P P 02 33 35.3 +3.5
baz=36
M24A **Cheyenne** 35.69 317 ⇓P P 02 33 33.0 +0.7
baz=36,SNR=5.1
SMCO **Snowmass** 36.08 312 *e*P P 02 33 36.3 +0.4
22nm,1.7s
G27A **Dupree** 36.17 324 ⇓P P 02 33 37.1 +0.9
baz=36
MVCO **Mesa Verde** 36.41 308 *e*P P 02 33 38.5 -0.1
3.8nm,0.8s
N22A **Wattenberg Ran** 36.45 315 ⇓P P 02 33 39.4 +0.5
baz=36
F27A **Lemmon** 36.52 325 ⇓P P 02 33 42.9 +3.7
baz=36
L23A **Garrett** 36.59 317 ⇓P P 02 33 40.4 +0.4
baz=37
SCHQ **Schefferville** 36.65 6 P P 02 33 41.7 +1.6
SCHQ **Schefferville** 36.65 6 P P 02 33 41.7 +1.6
5.7nm,0.6s,baz=188,slow=8.4,SNR=9.4
W18A **Petrified Fore** 36.67 304 *e*P P 02 33 41.5 +0.7
4.7nm,0.6s
ULM **Lac du Bonnet** 36.73 335 *e*P P 02 33 44.8 +4.0
28nm,1.6s
ULM **Lac du Bonnet** 36.73 335 P P 02 33 42.6 +1.9
3.8nm,0.7s,baz=160,slow=7.4,SNR=6.0
A30A **Hoffart Farm,** 36.76 332 ⇑P P 02 33 45.1 +3.9
baz=37
TUC **Tucson** 36.79 300 *e*P P 02 33 42.7 +1.0
28nm,2.1s
PV01 **Paradox Valley** 36.81 310 *e*P P 02 33 42.5 +0.5
F26A **Lodgepole** 36.87 325 ⇓P P 02 33 43.0 +0.9
baz=37
G25A **Newell** 36.89 323 ⇑P P 02 33 42.8 +0.5
baz=37
O20A **White River Ci** 37.37 313 *e*P P 02 33 47.4 +0.7
6.1nm,0.9s
J22A **Midwest** 37.73 319 ⇑P P 02 33 49.8 +0.1
baz=38,SNR=5.3
K21A **Alcova** 37.84 317 ⇓P P 02 33 50.6 -0.1
baz=38,SNR=13
I22A **9 Mile Ranch,** 37.98 319 ⇑P P 02 33 51.9 +0.1
baz=38
G23A **Biddle** 38.03 322 ⇓P P 02 33 52.3 +0.3
baz=38
WUAZ **Wupatki** 38.07 304 *e*P P 02 33 53.7 +1.1
5.2nm,0.9s
WUAZ **Wupatki** 38.07 304 ⇓P P 02 33 52.1 -0.6
baz=38
J21A **Lysite** 38.31 318 ⇑P P 02 33 54.6 0.0
baz=38
I21A **Big Trails, Te** 38.45 319 ⇓P P 02 33 55.4 -0.3
baz=38
SRU **San Rafael** 38.59 310 *e*P P 02 33 56.7 -0.3
3.3nm,0.8s
F22A **Rosebud** 38.86 322 ⇑P P 02 33 58.6 -0.4
baz=39
I20A **Worland** 39.04 318 ⇑P P 02 33 59.7 -0.9
baz=39
U15A **North Rim** 39.04 306 ⇓P P 02 33 59.6 -1.3
baz=39,SNR=6.9
J19A **Crowheart** 39.30 317 ⇑P P 02 34 02.5 -0.4
baz=39
LAO **LASA Array** 39.35 323 *e*P P 02 34 03.3 +0.3
113A **Mohawk Valley,** 39.35 299 ⇑P P 02 34 02.4 -0.8
baz=39
PDAR **Pinedale Array** 39.41 316 P P 02 34 03.0 -0.8
PDAR PcP PcP 02 36 11.2 -0.9
PDAR **Pinedale Array** 39.41 316 P P 02 34 03.0 -0.8
1.3nm,1.0s,baz=119,slow=6.9,SNR=9.0
PDAR PcP PcP 02 36 11.2 -0.9
1.2nm,0.9s,baz=120,slow=7.7,SNR=3.4
D22A **Cohagen** 39.59 324 ⇓P P 02 34 06.0 +1.0
baz=40
DAU **Daniels Canyon** 39.60 312 *e*P P 02 34 05.5 0.0
12nm,1.2s
I19A **Meeteetse** 39.63 318 ⇓P P 02 34 05.4 -0.3
baz=40
MPU **Maple Canyon** 39.72 311 *e*P P 02 34 07.0 +0.6
34nm,1.9s
C22A **Vida** 39.77 325 ⇓P P 02 34 07.1 +0.6
baz=40
H19A **Powell** 39.93 319 ⇑P P 02 34 07.5 -0.6
baz=40
W13A **Hualapai Mount** 39.95 303 ⇑P P 02 34 07.9 -0.6
baz=40,SNR=6.2
NLU **North Lily Min** 40.01 311 *e*P P 02 34 08.6 -0.3
5.8nm,1.0s
CTU **Camp Tracy** 40.05 312 *e*P P 02 34 08.9 -0.2
4.7nm,0.9s
CCUT **Cedar City** 40.19 307 *e*P P 02 34 10.4 0.0
1.8nm,0.8s
GLA **Glamis** 40.28 300 *e*P P 02 34 11.6 +0.6
0.9nm,0.6s
ARUT **Antelope Range** 40.31 307 *e*P P 02 34 11.2 -0.2
E20A **Meyer Farm, Mu** 40.35 322 ⇑P P 02 34 11.8 +0.4
baz=40
H18A **Shoshone NF, C** 40.36 319 ⇑P P 02 34 11.5 -0.2
baz=40
I17A **Pilgrim Ck.** 40.59 317 ⇑P P 02 34 13.5 -0.1
baz=41
DUG **Dugway** 40.63 311 *e*P P 02 34 13.6 -0.3
9.1nm,1.1s
DUG **Dugway** 40.63 311 ⇓P P 02 34 13.2 -0.7
baz=41
TPAW **Teton Pass** 40.64 316 *e*P P 02 34 13.8 -0.4
11nm,1.1s
E19A **Rath Farm, Rou** 40.71 322 ⇑P P 02 34 14.2 -0.2
baz=41
FXWY **Fox Creek** 40.76 317 *e*P P 02 34 14.9 -0.2
209nm,3.0s
IRM **Iron Mountain** 40.76 301 ⇓P P 02 34 14.9 0.0
baz=41,SNR=6.5
H17A **Grant Village** 40.80 318 *e*P P 02 34 22.9 +7.4
65nm,2.3s
IMW **Indian Meadow** 40.81 317 *e*P P 02 34 16.2 +0.6
20nm,1.6s
GCMT **Greycliff** 40.90 320 *e*P P 02 34 16.0 -0.1
BC3 **Big Chuckawall** 40.91 300 ⇓P P 02 34 15.4 -0.8
baz=41
LDFC **Landfair** 40.92 303 *e*P P 02 34 15.7 -0.7
LVC **Limon Verde** 40.95 174 *e*P P 02 34 17.4 +0.6
3.7nm,0.8s
BGU **Big Grassy Mou** 41.04 312 *e*P P 02 34 16.5 -0.8
5.8nm,1.3s
A21A **Bergtoll Ranch** 41.06 326 ⇓P P 02 34 18.5 +1.3
baz=41
HVU **Hansel Valley** 41.18 313 *e*P P 02 34 18.0 -0.4
2.2nm,0.7s
BDFB **Brasilia** 41.73 143 P P 02 34 21.3 -1.8
BDFB **Brasilia** 41.73 143 P P 02 34 21.3 -1.8
9.2nm,0.8s,baz=313,slow=10,SNR=12
BOZ **Bozeman (W)** 42.04 319 *e*P P 02 34 24.8 -0.6
26nm,0.7s
EGMT **Eagleton** 42.09 323 *e*P P 02 34 25.6 -0.1
8.3nm,1.0s
R11A **Troy Canyon, C** 42.10 307 *e*P P 02 34 25.9 -0.2
14nm,1.6s
TPNV **Topopah Spring** 42.25 305 *e*P P 02 34 28.8 +1.5
11nm,1.3s
GSC **Goldstone** 42.32 302 *e*P P 02 34 27.9 +0.1
59nm,2.6s
GSC **Goldstone** 42.32 302 ⇑P P 02 34 27.9 +0.1
baz=42
MCMT **McKenzie Canyo** 42.45 317 *e*P P 02 34 29.1 +0.2
4.1nm,1.0s
DLMT **Dillon** 42.52 318 *e*P P 02 34 34.4 +5.1
12nm,1.3s
ELK **Elko** 42.55 311 *e*P P 02 34 30.6 +0.7
3.5nm,1.0s
HLID **Hailey** 42.97 315 *e*P P 02 34 33.3 +0.2
66nm,2.8s
HLID **Hailey** 42.97 315 ⇓P P 02 34 33.3 +0.2
baz=43
EDW2 **Edwards Air Fo** 43.20 302 ⇓P P 02 34 34.9 0.0
baz=43
FCC **Fort Churchill** 43.20 344 *e*P P 02 34 33.9 -0.5
0.2nm,0.9s
TPH **Tonopah** 43.27 306 *e*P P 02 34 35.7 +0.1
60nm,2.3s
CHMT **Chamberlain Mo** 43.62 320 *e*P P 02 34 37.5 -0.8
ISA **Isabella** 43.73 303 *e*P P 02 34 39.2 +0.1
3.2nm,1.6s
MFID **Camas Ranch** 43.87 314 *e*P P 02 34 38.7 -1.6
8.2nm,1.4s
NVAR **Mina Array Bea** 44.18 307 P P 02 34 42.3 -0.7
NVAR **Mina Array Bea** 44.18 307 P P 02 34 42.3 -0.7
1.5nm,0.7s,baz=97,slow=7.5,SNR=9.8
VES **Vestal, Richgr** 44.25 303 ⇑P P 02 34 43.1 -0.2
baz=44
JTMT **Jette** 44.62 320 *e*P P 02 34 45.0 -1.2
WAKR **Walker** 45.07 306 *e*P P 02 34 48.5 -1.5
FRB **Frobisher Bay** 45.40 3 P P 02 34 51.9 0.0
FRB **Frobisher Bay** 45.40 3 P P 02 34 51.9 0.0
6.5nm,0.8s,baz=174,slow=8.5,SNR=5.9
WVOR **Wild Horse Val** 45.50 312 *e*P P 02 34 52.5 -0.8
9.5nm,1.2s
J08A **Circle Bar Ran** 45.67 313 *e*P P 02 34 54.5 -0.1
16nm,1.4s
NEW **Newport** 46.56 320 *e*P P 02 35 01.2 -0.3
15nm,1.3s
NEW **Newport** 46.56 320 ⇓P P 02 35 03.4 +1.9
baz=46
EDM **Edmonton** 46.79 328 *e*P P 02 35 02.9 -0.2
YKA **Yellowknife Ar** 52.65 337 P P 02 35 46.7 -0.9
YKA **Yellowknife Ar** 52.65 337 P P 02 35 46.7 -0.9
1.9nm,0.8s,baz=126,slow=7.6,SNR=15
DLBC **Dease Lake** 57.49 328 *e*P P 02 36 23.3 +0.5
SUMG **Summit** 57.63 12 *i* P P 02 36 24.1 +0.2
9.9nm,0.9s
SUMG **Summit** 57.63 12 *e*P P 02 36 23.2 -0.7
12nm,0.9s
PLCA **Paso Flores** 58.87 178 *e*P P 02 36 32.1 -0.4
8.3nm,1.1s
PLCA **Paso Flores** 58.87 178 P P 02 36 31.4 -1.1
3.2nm,1.0s,baz=22,slow=8.8,SNR=3.3
SCO **Scoresbysund** 60.20 17 *i* P P 02 36 45.1 +3.8
2.2nm,0.8s
PAB **San Pablo** 62.07 54 *e*P P 02 36 56.0 +1.4
40nm,1.6s
ESDC **Sonseca Array** 62.36 54 P P 02 36 56.6 0.0
ESDC **Sonseca Array** 62.36 54 P P 02 36 56.6 0.0
1.8nm,0.8s,baz=280,slow=6.9,SNR=11
ILAR **Eielson Array** 66.72 333 P P 02 37 23.8 -0.7
ILAR **Eielson Array** 66.72 333 P P 02 37 23.8 -0.7
1.6nm,1.0s,baz=106,slow=4.5,SNR=10
DBIC **Dimbokro** 67.04 90 P P 02 37 27.0 -0.5
DBIC **Dimbokro** 67.04 90 P P 02 37 27.0 -0.5
4.2nm,0.9s,baz=289,slow=4.2,SNR=3.0
COLA **College** 67.14 333 *e*P P 02 37 26.9 -0.3
7.1nm,1.0s
MCK **McKinley** 67.51 332 *e*P P 02 37 29.6 -0.1
12nm,1.0s
TRF **Thorofare Moun** 68.10 332 *e*P P 02 37 33.3 -0.2
26nm,1.4s
COLD **Coldfoot** 68.29 336 *e*P P 02 37 34.4 -0.1
8.6nm,1.1s
KTH **Kantishna Hill** 68.39 332 *e*P P 02 37 34.7 -0.5
29nm,1.3s
NAO01 **NORSAR Array S** 71.06 31 *e*P P 02 37 51.9 +0.3
7.3nm,0.9s
NB2 **NORSAR Subarra** 71.20 31 P P 02 37 54.5 +1.9
comp=Z,9.8nm,1.2s,baz=276,slow=6.5
NOA **NORSAR Array B** 71.20 31 P P 02 37 53.4 +0.8
NOA **NORSAR Array B** 71.20 31 P P 02 37 53.4 +0.8
comp=Z,1.3nm,1.0s,baz=274,slow=6.3,SNR=3.8
TOA0 **Torodi Ar. Sit** 71.47 82 *e*P P 02 37 54.0 -0.9
TORD **Torodi Ar. Bea** 71.47 82 P P 02 37 54.6 -0.3
TORD **Torodi Ar. Bea** 71.47 82 P P 02 37 54.6 -0.3
comp=Z,2.5nm,0.9s,baz=290,slow=5.9,SNR=8.0
TAM **Tamanrasset** 72.67 71 *e*P P 02 38 03.4 +1.2
comp=Z,2.3nm,1.0s
KEST **Kesra** 73.28 57 *e*P P 02 38 05.9 +0.4
KEST **Kesra** 73.28 57 P P 02 38 06.5 +1.0
comp=Z,2.2nm,1.0s,baz=291,slow=17,SNR=2.9
CLL **Collm** 73.28 41 *e*(sP) P 02 38 10.0 +4.9
BRG **Berggiesshubel** 73.93 41 *e*P P 02 38 15.7 +6.7
comp=Z,12nm,1.2s
BRG *e* 02 38 20.1
comp=Z,7.0nm,1.1s
KHC **Kasperske Hory** 73.99 43 *e*P P 02 38 11.0 +1.6
KHC **Kasperske Hory** 73.99 43 *e*P P 02 38 08.8 -0.6
comp=Z,9.0nm,1.3s
GERES **GERESS Array B** 74.12 43 P P 02 38 11.3 +1.1
GERES **GERESS Array B** 74.12 43 P P 02 38 11.3 +1.1
comp=Z,4.7nm,0.9s,baz=280,slow=3.9,SNR=10
TNA **Tin City** 75.51 335 *e*P P 02 38 17.0 -0.7
comp=Z,11nm,1.2s
DPC **Dobruska-Polom** 75.52 41 *e*P P 02 38 20.7 +2.5
DPC *e*pP pP 02 38 24.1 +3.9
ARCES **ARCESS Array B** 75.79 21 P P 02 38 20.9 +1.6
ARCES **ARCESS Array B** 75.79 21 P P 02 38 20.9 +1.6
comp=Z,2.5nm,0.7s,baz=290,slow=7.2,SNR=5.8
KRLC **Kraliky** 75.86 42 *e*pP pP 02 38 25.4 +3.2
MORC **Moravsky Berou** 76.40 42 *e*P P 02 38 22.4 -0.8
comp=Z,9.5nm,1.2s
OKC **Ostrava-Krasne** 76.77 42 *e*pP pP 02 38 31.9 +4.6
OKC *e*PCP PcP 02 38 37.4 +0.8
GAMB **Gambell** 77.52 333 *e*P P 02 38 29.2 0.0
comp=Z,14nm,1.5s
FINES **FINESS Array B** 78.19 29 P P 02 38 33.5 +0.5
FINES **FINESS Array B** 78.19 29 P P 02 38 33.5 +0.5
comp=Z,2.7nm,0.7s,baz=342,slow=12,SNR=4.6

PSZ	**Piszkesteto**	**78.35**	**43**	*e*P	**P**	**02 38 35.5**	**+1.2**
	comp=Z,24nm,1.5s							
KWP	**Kalwaria Pacla**	**79.69**	**41**	*e*P	**P**	**02 38 42.9**	**+1.4**
	comp=Z,13nm,1.0s							
BUR08	**Bucovina Ar. S**	**81.86**	**43**	*e*P	**P**	**02 38 50.8**	**-2.5**
AKASG	**Malin Array Be**	**83.32**	**39**	P	**P**	**02 39 01.0**	**+0.3**
AKASG	**Malin Array Be**	**83.32**	**39**	P	**P**	**02 39 01.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=284,slow=4.7,SNR=4.7							
OBN	**Obninsk**	**85.65**	**33**	*e*P	**P**	**02 39 11.6**	**-0.8**
	comp=Z,6.7nm,0.5s							
TIXI	**Tiksi**	**88.95**	**353**	*e*P	**P**	**02 39 27.3**	**-0.7**
	comp=Z,5.2nm,0.8s							
ANTO	**Ankara**	**89.79**	**48**	*e*P	**P**	**02 39 31.5**	**-1.2**
	comp=Z,4.9nm,0.7s							
BR131	**Keskin Array S**	**90.44**	**48**	*e*P	**P**	**02 39 36.4**	**+0.6**
	comp=Z,3.0nm,1.0s							
BRTR	**Keskin Array B**	**90.44**	**48**	P	**P**	**02 39 36.1**	**+0.3**
BRTR	**Keskin Array B**	**90.44**	**48**	P	**P**	**02 39 36.1**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=286,slow=5.9,SNR=5.0							
CSS	**Prodhromos**	**92.17**	**52**	*e*P	**P**	**02 39 43.0**	**-0.8**
	comp=Z,3.0nm,1.1s							
KSH	**Kashi**	**115.42**	**26**	*e*PKP	**PKPdf**	**02 45 18.0**	**+1.8**
KSH				*e*PP	PP	02 46 26.4	+10
KSH				*e*SKS	**SKSdf**	**02 52 25.2**	**-4.0**
KSH				*e*SKKS	**SKKSac**	**02 53 13.0**	**-6.8**
KSH				*e*SS	**SS**	**03 02 16.9**	**+2.2**
WMQ	**Urumqi**	**115.55**	**16**	PKP	**PKPdf**	**02 45 16.4**	**+0.2**
HHC	**Hu-ho-hao-te**	**120.91**	**356**	*e*PKP	**PKPdf**	**02 45 27.3**	**+0.6**
HHC				PP	**PP**	**02 46 56.5**	**+2.6**
HHC				SKS	**SKSdf**	**02 52 42.0**	**+2.4**
HHC				SKKS	**SKKSac**	**02 53 56.0**	**+0.1**
HHC				SS	SS	03 03 33.0	+7.9
HHC				LR	LR		
	comp=Z,430nm,22.5s							
GTA	**Gaotai**	**122.07**	**7**	*e*PKP	PKPdf	02 45 34.6	+5.6
LZH	**Lanzhou**	**125.71**	**3**	*e*PKP	**PKPdf**	**02 45 35.6**	**-0.5**
LZH				sPKP		02 45 40.1	
LZH				LR	LR		
	comp=Z,140nm,18.0s							
LZH				LR	LR		
	comp=Z,140nm,18.0s							
LZH				LR	LR		
	comp=Z,180nm,20.1s							
NJ2	**Nanjing**	**128.59**	**347**	*e*PKP	**PKPdf**	**02 45 40.8**	**-0.7**
GYA	**Guiyang**	**135.40**	**1**	*e*Pdif	**Pdif**	**02 42 54.8**	**-2.4**
GYA				PKP	**PKPdf**	**02 45 53.2**	**-1.5**
GYA				PP	**PP**	**02 48 33.0**	**+3.8**
STKA	**Stephens Creek**	**146.24**	**240**	PKPbc	**PKPdf**	**02 46 13.1**	**-0.7**
STKA	**Stephens Creek**	**146.24**	**240**	PKPbc	**PKPdf**	**02 46 13.1**	**-0.7**
	comp=Z,5.4nm,0.9s,baz=116,slow=4.6,SNR=8.2							
WRAB	**Tennant Creek**	**154.30**	**262**	*e*PKPdf	**PKPdf**	**02 46 25.6**	**-1.0**
WRAB				*e*PKPbc	**PKPbc**	**02 46 33.0**	**-1.9**
WRA	**Warramunga Arr**	**154.31**	**262**	PKP	**PKPdf**	**02 46 26.2**	**-0.5**
WRA				PKPbc	**PKPbc**	**02 46 34.0**	**-1.0**
WRA	**Warramunga Arr**	**154.31**	**262**	PKP	**PKPdf**	**02 46 26.2**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=68,slow=1.3,SNR=11							
WRA				PKPbc	**PKPbc**	**02 46 34.0**	**-1.0**
	comp=Z,4.1nm,1.0s,baz=87,slow=2.5,SNR=12							
ASAR	**Alice Springs**	**154.53**	**254**	PKPbc	**PKPbc**	**02 46 33.5**	**-1.9**
ASAR				PKPab	**PKPab**	**02 46 48.5**	**-1.3**
ASAR	**Alice Springs**	**154.53**	**254**	PKPbc	**PKPbc**	**02 46 33.5**	**-1.9**
	comp=Z,1.9nm,1.0s,baz=97,slow=2.3,SNR=6.7							
ASAR				PKPab	**PKPab**	**02 46 48.5**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=113,slow=2.7,SNR=4.5							
PSI	**Prapat**	**157.41**	**22**	PKPab	**PKPab**	**02 47 00.8**	**-1.4**
PSI	**Prapat**	**157.41**	**22**	PKPab	**PKPab**	**02 47 00.8**	**-1.4**
	comp=Z,4.2nm,0.8s,baz=132,slow=18,SNR=3.8							

ISCJB ***13*** *02:43:45.0₅0.2, 18˚.45N₅0˚.03×72˚.97W₅0˚.02, h6ᵏᵐ, mb4.5/111, MS4.2/13, Error ellipse: s-maj=3.7km s-min=2.3km az=10.0*

IDC ***13*** *02:43:44.9₅0.4, 18˚.52N×72˚.89W, h0ᵏᵐ, mb4.3/23, mb1 4.5/28, mb1mx4.5/31, mbtmp4.4/28, ML3.9/5, MS4.1/13, Ms1 4.1/13, ms1mx3.8/44, Error ellipse: s-maj=14.1km s-min=11.8km az=69.0*

JSN ***13*** *02:43:45.9₅1.4, 18˚.97N×72˚.98W, h0ᵏᵐ₅999ᵏᵐ, MD5.2*

NEIC ***13*** *02:43:47.2₅0.2, 18˚.47N×72˚.96W, h10ᵏᵐ, mb4.7/90, Error ellipse: s-maj=3.8km s-min=2.8km az=198.0*

ISC 13 02:43:45.9₅0.3, 18˚.45N₅0˚.04×72˚.90W₅0˚.03, h6ᵏᵐ, n520, σ1ˢ04/534, mb4.6/111, MS4.1/13, 165C-115D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.61**	**70**	*e*Pn		**Pb**		**02 44 15.9**	**-0.2**
SDDR				*e*Sn		**Sg**		**02 44 38.3**	**+0.4**
GTBY	**Guantanamo Bay**	**2.56**	**305**	*e*Pn		**Pn**		**02 44 25.8**	**-2.2**
GTBY				*e*Sn		**Sn**		**02 44 57.2**	**-2.3**
GTBY				*e*Sg		**Sb**		**02 45 03.5**	**-0.5**
YHJ	**Yallahs**	**3.46**	**261**	*e*P		**Pn**		**02 44 40.4**	**-0.1**
YHJ	**Yallahs**	**3.46**	**261**	*e*P		**Pn**		**02 44 40.4**	**-0.1**
GRTK	**Grand Turk**	**3.47**	**28**	*e*Pn		**Pn**		**02 44 40.7**	**+0.2**
GRTK				*e*Pg		**Pg**		**02 44 52.9**	**+0.4**
GRTK				*e*Sn		**Sn**		**02 45 23.2**	**+1.3**
GWJ	**Greenwich**	**3.66**	**265**	*e*P		**Pn**		**02 44 42.1**	**-1.1**
GWJ	**Greenwich**	**3.66**	**265**	*e*P		**Pn**		**02 44 42.1**	**-1.1**
HOJ	**Hope**	**3.69**	**264**	*e*P		**Pn**		**02 44 43.4**	**-0.2**
HOJ	**Hope**	**3.69**	**264**	*e*P		**Pn**		**02 44 43.4**	**-0.2**
STH	**Stony Hill**	**3.74**	**265**	*e*P		**Pn**		**02 44 43.0**	**-1.2**
STH				*e*S		**Sn**		**02 45 27.1**	**-1.5**
STH	**Stony Hill**	**3.74**	**265**	*e*P		**Pn**		**02 44 43.0**	**-1.2**
STH				*e*S		**Sn**		**02 45 27.1**	**-1.5**
PCJ	**Portland Cotta**	**4.11**	**261**	*i*P		**Pn**		**02 44 50.2**	**+0.8**
PCJ	**Portland Cotta**	**4.11**	**261**	*e*P		**Pn**		**02 44 50.2**	**+0.8**
CVJ	**Coleyville**	**4.41**	**268**	*e*P		**Pn**		**02 44 52.7**	**-0.9**
CVJ	**Coleyville**	**4.41**	**268**	*e*P		**Pn**		**02 44 52.7**	**-0.9**
MTDJ	**Mount Denham**	**4.41**	**268**	*e*Pn		**Pn**		**02 44 52.3**	**-1.2**
MTDJ				*e*Pg		**Pb**		**02 45 06.5**	**+2.6**
MCJ	**Malvern**	**4.58**	**264**	*e*P		**Pn**		**02 44 56.0**	**+0.1**
MCJ	**Malvern**	**4.58**	**264**	*e*P		**Pn**		**02 44 56.0**	**+0.1**
AGPR	**Aguadilla, PR**	**5.49**	**89**	*e*Pn		**Pn**		**02 45 10.3**	**+2.0**
	494nm,1.1s								
AGPR				*e*Pg		**Pg**		**02 45 31.8**	**+0.6**
AGPR				*e*Sg		**Sg**		**02 46 41.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**5.52**	**94**	*e*Pn		**Pn**		**02 45 10.3**	**+1.7**
	267nm,0.9s								
CRPR				*e*Pg		**Pg**		**02 45 29.7**	**-2.0**
LSP	**Las Mesas**	**5.53**	**92**	*e*Pn		**Pn**		**02 45 11.6**	**+2.8**
LSP				*e*Sg		Sg		02 46 37.5	-6.0
AOPR	**Arecibo Observ**	**5.83**	**90**	*e*Pn		**Pn**		**02 45 15.5**	**+2.5**
CELP	**Cerrillos**	**6.01**	**93**	*e*Pn		**Pn**		**02 45 16.8**	**+1.3**
CELP				*e*Pg		Pg		02 45 37.0	-4.2
CELP				*e*Sn		**Sn**		**02 46 20.1**	**-4.6**
CBYP	**Canovanas**	**6.69**	**90**	*e*Pn		**Pn**		**02 45 27.7**	**+2.9**
	70nm,0.7s								
CBYP				*e*Sg		Sb		02 47 10.1	+7.2
HUMP	**Col San Antoni**	**6.70**	**91**	*e*Pn		Pn		02 45 32.4	+7.5
MTP	**Monte Pirata**	**6.99**	**92**	*e*Pn		**Pn**		**02 45 31.2**	**+2.4**
	74nm,0.7s								
MTP				*e*Sn		**Sn**		**02 46 47.3**	**-1.4**
SABA	**Saba**	**9.22**	**94**	*e*Pn		Pn		02 46 03.9	+4.3
SDV	**Santo Domingo**	**9.76**	**167**	*e*Pn		**Pn**		**02 46 09.0**	**+1.9**
SDV				*e*Sn		**Sn**		**02 47 52.9**	**-4.2**
MLG	**Mont-d'or**	**10.95**	**101**	*e*P		**Pn**		**02 46 25.1**	**+1.8**
SEG	**Port Louis**	**11.06**	**99**	*e*P		Pn		02 46 28.1	+3.4
BCIP	**Isla Barro Col**	**11.42**	**217**	*e*Pn		**Pn**		**02 46 28.4**	**-1.4**
BCIP				*e*Sn		Sn		02 48 31.6	-6.2
H05N1	**Guadeloupe/Mar**	**11.50**	**99**	Pn		**Pn**		**02 46 31.8**	**+1.0**
GRGR	**Grenville**	**12.53**	**118**	*e*Pn		Pn		02 46 48.1	+3.2
ROSC	**El Rosal**	**13.58**	**186**	*e*Pn		**Pn**		**02 47 01.8**	**+2.1**
ROSC				*e*Sn		**Sn**		**02 49 29.8**	**-1.3**
ROSC	**El Rosal**	**13.58**	**186**	Pn		**Pn**		**02 47 02.1**	**+2.5**
	3.5nm,0.3s,baz=78,slow=14,SNR=19								
JTS	**JuntasAbangare**	**14.21**	**237**	*e*Pn		**Pn**		**02 47 09.2**	**+1.3**
JTS	**JuntasAbangare**	**14.21**	**237**	Pn		**Pn**		**02 47 09.7**	**+1.8**
	1.7nm,0.3s,baz=311,slow=20,SNR=2.8								
TGUH	**Tegucigalpa,Un**	**14.48**	**255**	*e*Pn		**Pn**		**02 47 11.7**	**+0.2**
TEIG	**Tepich**	**14.63**	**279**	*e*Pn		**Pn**		**02 47 12.4**	**-1.1**
TEIG	**Tepich**	**14.63**	**279**	Pn		**Pn**		**02 47 12.8**	**-0.7**
	3.4nm,0.3s,baz=351,slow=16,SNR=14								
APG	**El Apazote**	**17.17**	**261**	P		**P**		**02 47 47.8**	**-0.8**
APG	**El Apazote**	**17.17**	**261**	P		**P**		**02 47 47.8**	**-0.8**
	0.6nm,0.3s,baz=92,slow=12,SNR=10								
APG				LR		LR		02 53 38.7	
	comp=Z,372nm,20.9s,baz=68,slow=34								
GOGA	**Godfrey**	**17.66**	**330**	*e*Pn		**P**		**02 47 53.7**	**+0.1**
	18nm,1.3s								
KMSC	**Kings Mountain**	**18.24**	**337**	*e*Pn		**P**		**02 48 00.8**	**+0.9**
OTAV	**Otavalo**	**18.90**	**197**	*e*P		**Pn**		**02 48 10.4**	**+2.0**
	33nm,0.9s								
TKL	**Tuckaleechee C**	**19.66**	**333**	*e*P		**P**		**02 48 16.2**	**+0.5**
TKL	**Tuckaleechee C**	**19.66**	**333**	P		**P**		**02 48 15.6**	**0.0**
	0.1nm,0.3s,baz=167,slow=13,SNR=4.1								
TKL				LR		LR		02 56 01.6	
	comp=Z,473nm,20.4s,baz=140,slow=38								
JSRW	**J. Sargeant Re**	**19.67**	**348**	*e*P		**P**		**02 48 15.8**	**+0.2**
VWCC	**Virginia Weste**	**19.73**	**343**	*e*P		**Pn**		**02 48 17.5**	**-0.4**
CPCT	**Cooper Cave**	**19.83**	**331**	*e*P		**Pn**		**02 48 18.9**	**-0.1**
BLA	**Blacksburg**	**19.83**	**342**	*e*P		**P**		**02 48 18.0**	**+0.6**
	66nm,1.3s								
CBN	**Corbin**	**20.07**	**350**	*e*P		Pn		02 48 21.8	0.0
	31nm,0.5s								
SWET	**Sewanee**	**20.32**	**328**	*e*Pn		Pn		02 48 28.8	+4.0
	133nm,1.9s								
TZTN	**Tazewell**	**20.33**	**335**	*e*P		Pn		02 48 24.0	-0.9
	66nm,1.4s								
VBMS	**Vicksburg**	**20.98**	**314**	*e*Pn		Pn		02 48 36.4	+3.9
	283nm,2.0s								
SDMD	**Soldier's Deli**	**21.17**	**352**	*e*P		**P**		**02 48 34.8**	**+2.9**
	25nm,1.0s								
OXF	**Oxford**	**21.73**	**321**	*e*P		**P**		**02 48 38.5**	**+0.4**
	46nm,1.0s								
PAL	**Palisades**	**22.50**	**358**	*e*P		**P**		**02 48 46.9**	**+0.7**
	29nm,1.0s								
ODNJ	**Ogdensburg**	**22.61**	**357**	*e*P		**P**		**02 48 47.7**	**+0.3**
	20nm,1.0s								
PTGA	**Pitinga**	**22.91**	**145**	*e*P		**P**		**02 48 52.1**	**+1.4**
	4.9nm,1.0s								
PTGA	**Pitinga**	**22.91**	**145**	P		**P**		**02 48 51.7**	**+1.0**
	12nm,0.8s,baz=341,slow=10,SNR=16								
PTGA				LR		LR		02 59 07.5	
	comp=Z,240nm,18.1s,baz=342,slow=40								
WCI	**Wyandotte Cave**	**22.92**	**332**	*e*P		**P**		**02 48 50.4**	**-0.3**
	9.0nm,0.8s								
USIN	**University of**	**23.34**	**329**	*e*P		**P**		**02 48 55.1**	**+0.1**
	28nm,1.0s								
ACSO	**Alum Creek Sta**	**23.39**	**340**	*e*P		**P**		**02 48 55.7**	**+0.2**
	38nm,0.9s								
UALR	**University of**	**23.74**	**317**	*e*P		**P**		**02 48 59.1**	**+0.1**
BLO	**Bloomington**	**23.80**	**333**	*e*P		**P**		**02 49 01.0**	**+1.5**
	15nm,0.7s								
HKT	**Hockley**	**23.80**	**303**	*e*P		**P**		**02 49 00.3**	**+0.7**
	153nm,2.4s								
PBMO	**Poplar Bluff**	**23.91**	**323**	*e*P		**P**		**02 49 01.7**	**+1.2**
	253nm,2.8s								
SIUC	**Southern Illin**	**23.93**	**327**	*e*P		**P**		**02 49 01.2**	**+0.4**
	346nm,2.5s								
MIAR	**Mount Ida**	**24.41**	**315**	*e*P		P		02 49 10.4	+5.1
	78nm,1.8s								
035Z	**Hargill**	**24.56**	**293**	⇓P		**P**		**02 49 06.6**	**-0.1**
	baz=24								
MMNY	**Mt. Morris Dam**	**24.58**	**351**	*e*P		**P**		**02 49 07.1**	**+0.4**
	45nm,1.0s								
835A	**Beeville**	**24.85**	**298**	⇓P		**P**		**02 49 10.7**	**+1.3**
	baz=25,SNR=5.3								
ACCN	**Adirondack Com**	**24.87**	**359**	*e*P		**P**		**02 49 09.4**	**+0.1**
	102nm,1.9s								
735A	**Kenedy**	**25.01**	**299**	⇓P		**P**		**02 49 11.4**	**+0.6**
	baz=25,SNR=8.8								
SFIN	**Scholer Farm**	**25.05**	**334**	*e*P		**P**		**02 49 11.5**	**+0.5**
	14nm,0.9s								
SFIN	**Scholer Farm**	**25.05**	**334**	⇑P		**P**		**02 49 11.7**	**+0.7**
	baz=25								
635A	**Leesville**	**25.16**	**300**	⇓P		**P**		**02 49 12.5**	**+0.4**
	baz=25,SNR=6.5								
535A	**Dale**	**25.22**	**302**	⇓P		**P**		**02 49 13.2**	**+0.5**
	baz=25								
934A	**Benavides**	**25.24**	**296**	⇓P		**P**		**02 49 13.7**	**+0.8**
	baz=25								
034A	**Hebbronville**	**25.24**	**295**	⇓P		**P**		**02 49 13.9**	**+1.0**
	baz=25,SNR=8.0								
834A	**Tilden**	**25.41**	**297**	⇑P		**P**		**02 49 15.3**	**+0.8**
	baz=25,SNR=8.9								
335A	**Moody**	**25.60**	**305**	⇑P		**P**		**02 49 16.4**	**+0.3**
	baz=26								
634A	**China Grove, S**	**25.63**	**300**	⇓P		**P**		**02 49 16.9**	**+0.5**
	baz=26								
734A	**La Parita Cree**	**25.63**	**299**	⇓P		**P**		**02 49 16.9**	**+0.5**
	baz=26								
933A	**Laredo**	**25.89**	**295**	⇑P		**P**		**02 49 19.1**	**+0.3**
	baz=26,SNR=7.7								
WHTX	**Lake Whitney**	**25.91**	**306**	*e*P		**P**		**02 49 19.6**	**+0.6**
	25nm,0.8s								
WHTX	**Lake Whitney**	**25.91**	**306**	⇑P		**P**		**02 49 19.3**	**+0.4**
	baz=26,SNR=9.1								
534A	**Blanco**	**25.96**	**301**	⇑P		**P**		**02 49 19.4**	**0.0**
	baz=26,SNR=14								
ATAH	**Atahualpa**	**25.99**	**193**	P		**P**		**02 49 21.3**	**+1.1**
ATAH	**Atahualpa**	**25.99**	**193**	P		**P**		**02 49 21.3**	**+1.1**
	4.1nm,0.7s,baz=48,slow=16,SNR=2.6								
ATAH				LR		LR		03 00 44.0	
	comp=Z,346nm,19.8s,baz=339,slow=39								
434A	**Burnet**	**26.08**	**303**	⇑P		**P**		**02 49 20.0**	**-0.5**
	baz=26								
833A	**Chaparral WMA,**	**26.18**	**297**	⇓P		**P**		**02 49 21.2**	**-0.2**
	baz=26,SNR=22								
733A	**Divot King Ran**	**26.21**	**298**	⇑P		**P**		**02 49 21.5**	**-0.2**
	baz=26								
334A	**Lometa**	**26.25**	**304**	⇑P		**P**		**02 49 22.2**	**+0.2**
	baz=26,SNR=10								
FRNY	**Flat Rock**	**26.32**	**359**	*e*P		P		02 49 29.5	+7.1
	122nm,1.9s								
633A	**Saathoff Ranch**	**26.34**	**300**	⇓P		**P**		**02 49 22.8**	**0.0**
	baz=26,SNR=8.9								
Z35A	**Perchaven, San**	**26.36**	**309**	⇓P		**P**		**02 49 23.1**	**0.0**
	baz=26								
533A	**Kerrville**	**26.43**	**301**	⇑P		**P**		**02 49 23.6**	**-0.1**
	baz=26								
234A	**Clairette**	**26.44**	**306**	⇓P		**P**		**02 49 24.2**	**+0.4**
	baz=26								
134A	**White-Moore Ra**	**26.64**	**307**	⇓P		**P**		**02 49 25.8**	**+0.2**
	baz=27,SNR=6.3								
832A	**Farm Ranch, C**	**26.66**	**297**	⇓P		**P**		**02 49 25.7**	**-0.1**
	baz=27,SNR=16								
TUL1	**Tulsa**	**26.68**	**315**	*e*P		**P**		**02 49 26.1**	**+0.3**
	27nm,0.8s								
TUL1	**Tulsa**	**26.68**	**315**	⇑P		**P**		**02 49 26.1**	**+0.3**
	baz=27,SNR=6.6								
433A	**Art**	**26.71**	**302**	⇑P		**P**		**02 49 25.8**	**-0.4**
	baz=27,SNR=12								
SADO	**Sadowa**	**26.76**	**350**	LR		LR		02 59 29.2	
	comp=Z,375nm,21.9s,baz=183,slow=35								
732A	**Laxson Ranch,**	**26.78**	**297**	⇑P		**P**		**02 49 26.7**	**-0.2**
	baz=27,SNR=7.1								
333A	**Richland Sprin**	**26.84**	**304**	⇓P		**P**		**02 49 27.0**	**-0.4**
	baz=27,SNR=7.8								
632A	**Uvalde**	**26.86**	**299**	⇓P		**P**		**02 49 27.4**	**-0.2**
	baz=27								
Z34A	**Collier Ranch,**	**26.88**	**308**	⇑P		**P**		**02 49 27.5**	**-0.1**
	baz=27								
Y34A	**Reagan Ranch,**	**27.03**	**310**	⇑P		**P**		**02 49 29.2**	**+0.2**
	baz=27								
233A	**Rising Star**	**27.04**	**305**	⇑P		**P**		**02 49 29.0**	**-0.2**
	baz=27								
532A	**Rocksprings**	**27.16**	**300**	⇑P		**P**		**02 49 30.0**	**-0.2**
	baz=27,SNR=14								
JCT	**Junction City**	**27.19**	**301**	*e*P		**P**		**02 49 30.3**	**-0.3**
	17nm,1.1s								
JCT	**Junction City**	**27.19**	**301**	⇑P		**P**		**02 49 30.7**	**+0.2**
	baz=27								
133A	**Hamilton Ranch**	**27.30**	**306**	⇓P		**P**		**02 49 31.4**	**-0.1**
	baz=27								
432A	**Menard**	**27.32**	**302**	⇓P		**P**		**02 49 31.4**	**-0.3**
	baz=27								
X34A	**Smith Ranch, M**	**27.40**	**311**	⇓P		**P**		**02 49 32.8**	**+0.4**
	baz=27								
332A	**Millersview**	**27.46**	**303**	⇓P		**P**		**02 49 32.7**	**-0.3**
	baz=27,SNR=6.6								
Z33A	**Whitaker Ranch**	**27.47**	**308**	⇓P		**P**		**02 49 32.6**	**-0.4**
	baz=27,SNR=7.7								
631A	**Perdido Creek**	**27.49**	**299**	⇑P		**P**		**02 49 33.1**	**-0.1**
	baz=27,SNR=12								
232A	**Coleman**	**27.57**	**304**	⇑P		**P**		**02 49 33.9**	**-0.1**
	baz=28								
W34A	**Bridge Creek,**	**27.67**	**312**	⇓P		**P**		**02 49 35.2**	**+0.3**
	baz=28								
531A	**Rocksprings**	**27.69**	**300**	⇓P		**P**		**02 49 35.2**	**+0.1**
	baz=28								
Y33A	**Hilltop Ranch,**	**27.69**	**309**	⇑P		**P**		**02 49 35.4**	**+0.4**
	baz=28								
V34A	**Guthrie**	**27.81**	**313**	⇓P		**P**		**02 49 36.7**	**+0.8**
	baz=28								
ABTX	**Abilene, Hawle**	**27.86**	**306**	*e*P		**P**		**02 49 37.2**	**+0.7**
	136nm,2.8s								
ABTX	**Abilene, Hawle**	**27.86**	**306**	⇓P		**P**		**02 49 36.0**	**-0.6**
	baz=28								
431A	**Sonora**	**27.91**	**301**	⇑P		**P**		**02 49 36.6**	**-0.5**
	baz=28,SNR=9.0								
331A	**San Angelo**	**27.98**	**303**	⇑P		**P**		**02 49 37.2**	**-0.4**
	baz=28,SNR=5.4								
Z32A	**Haskell**	**28.02**	**307**	⇓P		**P**		**02 49 37.9**	**0.0**
	baz=28,SNR=7.5								
231A	**Bronte**	**28.12**	**304**	⇑P		**P**		**02 49 38.5**	**-0.4**
	baz=28								
W33A	**Caddo, Fort Co**	**28.12**	**311**	⇓P		**P**		**02 49 39.2**	**+0.3**
	baz=28								
U34A	**Anderson Ranch**	**28.14**	**315**	⇓P		**P**		**02 49 39.5**	**+0.5**
	baz=28								
WMOK	**Wichita Mounta**	**28.15**	**310**	*e*P		**P**		**02 49 39.3**	**+0.3**
	54nm,2.0s								
Y32A	**R-V Farms, Ver**	**28.30**	**308**	⇓P		**P**		**02 49 40.2**	**-0.1**
	baz=28,SNR=6.1								
V33A	**Lossen Ranch,**	**28.33**	**313**	⇓P		**P**		**02 49 40.8**	**+0.1**
	baz=28								
530A	**J-C Ranch, Com**	**28.34**	**300**	⇑P		**P**		**02 49 40.6**	**-0.2**
	baz=28,SNR=9.4								
X32A	**Elmer**	**28.37**	**309**	⇑P		**P**		**02 49 40.9**	**-0.1**
	baz=28								
430A	**Baggett Ranch,**	**28.46**	**301**	⇑P		**P**		**02 49 41.7**	**-0.2**
	baz=28								
131A	**Roby**	**28.46**	**305**	⇑P		**P**		**02 49 41.6**	**-0.2**
	baz=28								
JFWS	**Jewell Farm**	**28.48**	**333**	*e*P		**P**		**02 49 41.8**	**-0.1**
	12nm,0.8s								
Z31A	**Sharp Cattle R**	**28.53**	**307**	⇑P		**P**		**02 49 42.2**	**-0.3**
	baz=28								
330A	**Mertzon**	**28.61**	**302**	⇑P		**P**		**02 49 42.8**	**-0.5**
	baz=28								
W32A	**Sentinel**	**28.67**	**311**	⇓P		**P**		**02 49 43.4**	**-0.3**
	baz=29								
SAML	**Samuel**	**28.86**	**160**	*e*P		**P**		**02 49 44.9**	**-0.5**
	4.6nm,0.8s								
Y31A	**Rekieta Farm,**	**28.89**	**308**	⇑P		**P**		**02 49 45.4**	**-0.3**
	baz=29								
429A	**Davenport Ranc**	**28.94**	**300**	⇑P		**P**		**02 49 45.5**	**-0.7**
	baz=29,SNR=5.4								
X31A	**McDonald Ranch**	**28.97**	**309**	⇑P		**P**		**02 49 46.3**	**-0.1**
	baz=29								
529A	**Stev Forest Ra**	**29.06**	**299**	⇑P		**P**		**02 49 46.9**	**-0.4**
	baz=29,SNR=7.3								
KSU1	**Kansas State U**	**29.09**	**320**	*e*P		**P**		**02 49 47.9**	**+0.4**
	21nm,0.8s								
KSU1	**Kansas State U**	**29.09**	**320**	⇑P		**P**		**02 49 48.4**	**+0.9**
	baz=29								
U32A	**Winter Ranch,**	**29.12**	**313**	⇑P		**P**		**02 49 48.1**	**+0.5**
	baz=29								
W31A	**Holland Ranch,**	**29.20**	**310**	⇑P		**P**		**02 49 48.8**	**+0.4**
	baz=29								
Z30A	**Sanderson Ranc**	**29.27**	**306**	⇑P		**P**		**02 49 49.0**	**-0.1**
	baz=29								
329A	**Wagon Wheel Ra**	**29.29**	**302**	⇑P		**P**		**02 49 48.8**	**-0.5**
	baz=29,SNR=6.3								
229A	**Bryant Ranch,**	**29.32**	**303**	⇓P		**P**		**02 49 49.5**	**-0.1**
	baz=29								
628A

27nm,1.4s
324A **Moseley Ranch,** 32.13 300 ⇓P P 02 50 14.4 0.0
baz=32,SNR=23
ECSD **EROS Data Cent** 32.15 327 ⇓P P 02 50 14.7 +0.3
baz=32
Y25A **Mesa, Roswell** 32.27 305 ⇓P P 02 50 15.5 -0.2
baz=32
V26A **Tequesquite Ra** 32.29 309 ⇓P P 02 50 15.7 -0.1
baz=32
224A **Cornudas Mount** 32.34 301 ⇓P P 02 50 16.7 +0.3
baz=32,SNR=21
X25A **Clemmons Ranch** 32.46 306 ⇓P P 02 50 16.9 -0.4
baz=32
124A **Stringfield Ra** 32.47 302 ⇓P P 02 50 18.3 +0.8
baz=32,SNR=12
U26A **Atchley Ranch,** 32.50 310 ⇑P P 02 50 18.1 +0.4
baz=32,SNR=8.1
W25A **X Bar L Ranch,** 32.56 307 ⇓P P 02 50 18.4 +0.1
baz=32,SNR=8.6
Z24A **Sheeppen Canyo** 32.60 303 ⇑P P 02 50 18.7 +0.1
baz=32,SNR=12
P28A **Saint Francis** 32.63 316 ⇓P P 02 50 19.4 +0.7
baz=33
R27A **Eads** 32.69 313 ⇓P P 02 50 19.6 +0.3
baz=33
L30A **Spencer Herefo** 32.71 321 ⇑P P 02 50 19.9 +0.5
baz=33
T26A **Comanche Natio** 32.73 311 ⇑P P 02 50 19.8 0.0
baz=33
Y24A **Capitan** 32.85 304 ⇑P P 02 50 21.1 +0.2
baz=33,SNR=14
V25A **Rancho No Teng** 32.92 308 ⇑P P 02 50 21.9 +0.4
baz=33,SNR=12
KSCO **Kaye Shedlock'** 32.93 315 *eP* P 02 50 27.9 +6.5
13nm,0.9s
U25A **Circle Dot Ran** 32.99 309 ⇑P P 02 50 22.7 +0.6
baz=33
K30A **Basset** 33.10 323 ⇑P P 02 50 23.7 +1.0
baz=33
Z23A **Rita Site, Whi** 33.26 303 ⇓P P 02 50 24.6 +0.3
baz=33,SNR=5.3
W24A **Lazy 6 Ranch,** 33.28 307 ⇑P P 02 50 25.2 +0.6
baz=33,SNR=8.3
T25A **Trinidad** 33.30 310 ⇓P P 02 50 25.5 +0.7
baz=33,SNR=13
Y23A **Lovelace Mesa,** 33.34 304 ⇓P P 02 50 25.2 +0.1
baz=33,SNR=15
V24A **Rampart Ranch,** 33.37 308 ⇓P P 02 50 25.8 +0.4
baz=33
J30A **Dallas** 33.44 324 ⇓P P 02 50 26.6 +0.9
baz=33
Q26A **Hugo** 33.49 314 ⇑P P 02 50 26.8 +0.5
baz=33,SNR=6.0
S25A **Robets Cordova** 33.55 311 ⇓P P 02 50 27.1 +0.3
baz=34
R25A **Fountain Ranch** 33.66 312 ⇓P P 02 50 28.2 +0.5
baz=34
W23A **Werner Place,** 33.83 306 ⇑P P 02 50 29.8 +0.5
baz=34,SNR=8.0
Z22A **Elephant Butte** 33.85 303 ⇓P P 02 50 30.1 +0.6
baz=34,SNR=9.1
BNM **Barren Site** 33.86 304 *eP* P 02 50 30.4 +0.8
17nm,1.2s
LPM **Los Pinos Moun** 33.91 305 *eP* P 02 50 31.2 +1.1
J29A **Okreek** 33.96 323 ⇓P P 02 50 31.4 +1.1
baz=34
T24B **San Luis** 33.98 310 ⇓P P 02 50 31.5 +0.7
baz=34
ANMO **Albuquerque** 33.99 306 *eP* P 02 50 31.7 +0.9
76nm,2.6s
V23A **Ortiz Mt. (NFS** 34.06 307 ⇑P P 02 50 32.0 +0.6
baz=34,SNR=6.7
S24A **Houchin Ranch,** 34.10 311 ⇑P P 02 50 32.3 +0.5
baz=34
LENM **Lemitar** 34.13 304 *eP* P 02 50 32.2 +0.2
13nm,1.2s
221A **Mesquite Ranch** 34.16 300 ⇑P P 02 50 33.0 +0.8
baz=34
R24A **Sanders Place,** 34.28 312 ⇓P P 02 50 33.7 +0.5
baz=34
U23A **El Rito** 34.29 308 ⇓P P 02 50 33.9 +0.5
baz=34,SNR=7.8
121A **Cookes Peak, D** 34.30 301 *eP* P 02 50 34.4 +0.9
6.7nm,0.8s
121A **Cookes Peak, D** 34.30 301 ⇑P P 02 50 34.1 +0.6
baz=34,SNR=8.1
LAZ **Ladron** 34.34 304 *eP* P 02 50 34.1 +0.3
12nm,1.4s
SDCO **Great Sand Dun** 34.35 311 *eP* P 02 50 34.1 +0.1
11nm,1.1s
320A **Kipp Ranch, An** 34.62 299 ⇑P P 02 50 36.2 0.0
baz=34
Q24A **Divide** 34.63 313 ⇑P P 02 50 36.7 +0.2
baz=35
K27A **Flueckinger Fa** 34.66 321 ⇑P P 02 50 37.2 +0.8
baz=35
V22A **San Miguel Ran** 34.67 307 ⇑P P 02 50 37.4 +0.7
baz=35,SNR=9.3
R23A **Moffat** 34.77 311 ⇓P P 02 50 38.0 +0.4
baz=35
U22A **Llaves** 34.80 308 ⇓P P 02 50 38.9 +1.1
baz=35,SNR=9.9
I28A **Midland** 34.81 323 ⇑P P 02 50 38.2 +0.6
baz=35
LPAZ **La Paz** 34.83 172 *eP* P 02 50 40.1 +1.5
16nm,1.3s
LPAZ **La Paz** 34.83 172 P P 02 50 40.9 +2.3
2.9nm,0.8s,baz=357,slow=9.9,SNR=8.9
LPAZ LR LR 03 06 06.2
comp=Z,436nm,19.9s,baz=12,slow=38
J27A **Elkhorn Farm,** 34.85 322 ⇓P P 02 50 38.7 +0.8
baz=35
M25A **Palm-Egli Farm** 35.10 317 ⇑P P 02 50 40.5 +0.2
baz=35
AGMN **Agassiz Nation** 35.14 333 *eP* P 02 50 41.6 +1.3
AGMN **Agassiz Nation** 35.14 333 ⇑P P 02 50 41.6 +1.3
baz=35
H28A **Mission Ridge** 35.15 324 ⇑P P 02 50 41.5 +1.0
baz=35
319A **Douglas** 35.26 298 ⇑P P 02 50 42.6 +0.9
baz=35,SNR=13
P23A **Jefferson** 35.30 313 ⇑P P 02 50 42.8 +0.6
baz=35
S22A **4UR Ranch, Cre** 35.31 310 ⇓P P 02 50 43.1 +0.8
baz=35
ISCO **Idaho Springs** 35.33 314 *eP* P 02 50 41.8 -0.7
17nm,1.4s
ISCO **Idaho Springs** 35.33 314 ⇑P P 02 50 43.1 +0.6
baz=35
G28A **Parade** 35.34 325 ⇑P P 02 50 43.1 +0.9
baz=35
I27A **Quinn** 35.36 323 ⇓P P 02 50 43.4 +1.1
baz=35
M24A **Cheyenne** 35.62 317 ⇑P P 02 50 45.3 +0.6
baz=36
H27A **Howes** 35.71 323 ⇑P P 02 50 46.2 +0.8
baz=36
C30A **Mose, Pekin** 35.88 330 ⇑P P 02 50 47.8 +1.1
baz=36
SMCO **Snowmass** 36.00 312 *eP* P 02 50 48.6 +0.3
10nm,1.0s
N23A **Red Feather La** 36.07 315 ⇑P P 02 50 48.9 +0.2
baz=36
G27A **Dupree** 36.09 325 ⇑P P 02 50 49.5 +0.9
baz=36
H26A **Fairpoint** 36.10 323 ⇓P P 02 50 49.3 +0.6
baz=36
O22A **Kremmling** 36.14 314 ⇑P P 02 50 49.0 -0.4
baz=36
SIV **San Ignacio** 36.15 160 LR LR 03 06 19.2
comp=Z,565nm,18.2s,baz=1.5,slow=37
MVCO **Mesa Verde** 36.33 308 *eP* P 02 50 51.7 +0.7
4.0nm,0.8s
MVCO **Mesa Verde** 36.33 308 ⇑P P 02 50 51.2 +0.2
baz=36
B30A **Myrvik Farm, E** 36.35 331 ⇑P P 02 50 51.8 +1.1
baz=36
N22A **Wattenberg Ran** 36.37 315 ⇓P P 02 50 51.4 +0.1
baz=36
F27A **Lemmon** 36.45 325 ⇑P P 02 50 53.2 +1.5
baz=36
J24A **Dixon Ranch, L** 36.49 320 ⇑P P 02 50 52.7 +0.6
baz=36
L23A **Garrett** 36.51 317 ⇓P P 02 50 52.6 +0.2
baz=36
X18A **Snowflake** 36.59 303 ⇑P P 02 50 53.7 +0.5
baz=36,SNR=5.0
SCHQ **Schefferville** 36.61 6 P P 02 50 51.7 -1.2
3.6nm,0.5s,baz=136,slow=5.4,SNR=5.1
SCHQ LR LR 03 05 58.6
comp=Z,247nm,18.1s,baz=261,slow=36
ULM **Lac du Bonnet** 36.66 335 P P 02 50 52.7 -0.6
ULM **Lac du Bonnet** 36.66 335 P P 02 50 52.7 -0.6
3.6nm,0.8s,baz=142,slow=9.7,SNR=4.1
ULM LR LR 03 06 53.7
comp=Z,142nm,18.1s,baz=234,slow=38
A30A **Hoffart Farm,** 36.70 332 ⇑P P 02 50 54.4 +0.7
baz=37
TUC **Tucson** 36.71 300 *eP* P 02 50 54.9 +0.8
5.1nm,1.0s
F26A **Lodgepole** 36.79 325 ⇓P P 02 50 55.3 +0.7
baz=37
G25A **Newell** 36.81 323 ⇓P P 02 50 55.4 +0.7
baz=37
E26A **Carlson Angus** 37.06 326 ⇑P P 02 50 57.6 +0.8
baz=37
A29A **Manning Farm,** 37.11 331 ⇑P P 02 50 57.7 +0.6
baz=37
O20A **White River Ci** 37.29 313 *eP* P 02 51 00.5 +1.4
108nm,2.5s
O20A **White River Ci** 37.29 313 ⇑P P 02 50 59.3 +0.2
baz=37
K22A **Casper** 37.30 318 *eP* P 02 51 03.7 +4.6
12nm,0.9s
K22A **Casper** 37.30 318 ⇓P P 02 50 59.0 -0.1
baz=37
B28A **Dugan Ranch, T** 37.30 330 ⇑P P 02 50 59.5 +0.7
baz=37
E25A **Miller Ranch,** 37.59 325 ⇑P P 02 51 02.0 +0.6
baz=38
J22A **Midwest** 37.66 319 ⇑P P 02 51 02.1 0.0
baz=38
C26A **Wahner Farm, P** 37.74 328 ⇓P P 02 51 03.8 +1.2
baz=38,SNR=7.3
X16A **Lo Mia Camp, P** 37.75 303 ⇑P P 02 51 03.7 +0.7
baz=38,SNR=7.3
K21A **Alcova** 37.76 317 ⇑P P 02 51 04.1 +1.0
baz=38
I22A **9 Mile Ranch,** 37.91 319 ⇑P P 02 51 04.1 0.0
baz=38
WUAZ **Wupatki** 37.99 304 *eP* P 02 51 06.1 +1.1
7.7nm,0.9s
WUAZ **Wupatki** 37.99 304 ⇑P P 02 51 05.6 +0.6
baz=38,SNR=7.3
J21A **Lysite** 38.23 318 ⇓P P 02 51 07.0 0.0
baz=38
F23A **Volborg** 38.26 323 ⇓P P 02 51 07.1 +0.1
baz=38
214A **Organ Pipe Nat** 38.32 298 ⇑P P 02 51 08.0 +0.3
baz=38
I21A **Big Trails, Te** 38.37 319 ⇑P P 02 51 08.1 0.0
baz=38
D24A **Glendive** 38.47 325 ⇓P P 02 51 10.0 +1.2
baz=38
SRU **San Rafael** 38.51 310 *eP* P 02 51 08.7 -0.7
4.7nm,1.1s
Z14A **Wintersburg** 38.72 301 ⇑P P 02 51 11.8 +0.9
baz=39
F22A **Rosebud** 38.78 322 ⇑P P 02 51 11.3 -0.1
baz=39
Y14A **Winkenburg** 38.89 301 ⇑P P 02 51 12.5 +0.1
baz=39
U15A **North Rim** 38.96 306 ⇓P P 02 51 13.9 +0.6
baz=39,SNR=5.1
J19A **Crowheart** 39.23 317 ⇑P P 02 51 15.6 +0.3
baz=39
113A **Mohawk Valley,** 39.27 299 ⇓P P 02 51 16.2 +0.6
baz=39
PDAR **Pinedale Array** 39.33 316 P P 02 51 15.4 -0.8
PDAR PcP PcP 02 53 23.2 -1.7
PDAR **Pinedale Array** 39.33 316 P P 02 51 15.4 -0.8
1.2nm,0.6s,baz=125,slow=7.4,SNR=5.2
PDAR PcP PcP 02 53 23.2 -1.7
1.4nm,0.9s,baz=119,slow=5.2,SNR=3.8
C23A **Lambert** 39.35 325 ⇓P P 02 51 17.1 +1.0
baz=39
D22A **Cohagen** 39.51 324 ⇑P P 02 51 18.2 +0.7
baz=40
DAU **Daniels Canyon** 39.52 312 *eP* P 02 51 18.7 +0.7
14nm,1.2s
I19A **Meeteetse** 39.55 318 ⇑P P 02 51 18.2 +0.2
baz=40
MPU **Maple Canyon** 39.64 311 *eP* P 02 51 18.4 -0.5
4.8nm,0.7s
C22A **Vida** 39.70 325 ⇓P P 02 51 19.5 +0.4
baz=40
H19A **Powell** 39.85 319 ⇓P P 02 51 21.0 +0.5
baz=40
W13A **Hualapai Mount** 39.87 303 ⇓P P 02 51 21.7 +0.9
baz=40,SNR=7.1
D21A **La Casta Ranch** 39.92 323 ⇑P P 02 51 21.2 +0.2
baz=40
NLU **North Lily Min** 39.93 311 *eP* P 02 51 20.9 -0.4
7.7nm,1.2s
Y12C **Blythe** 40.08 301 ⇑P P 02 51 22.7 +0.4
baz=40
CCUT **Cedar City** 40.11 307 *eP* P 02 51 23.3 +0.5
3.9nm,1.1s
GLA **Glamis** 40.20 300 *eP* P 02 51 23.9 +0.5
1.7nm,0.8s
E20A **Meyer Farm, Mu** 40.27 322 ⇑P P 02 51 24.3 +0.4
baz=40
H18A **Shoshone NF, C** 40.28 319 ⇑P P 02 51 23.8 -0.4
baz=40
LOHW **Long Hollow** 40.39 317 *eP* P 02 51 25.1 0.0
F19A **Roth Farm, Mol** 40.42 321 ⇑P P 02 51 25.1 0.0
baz=40
REDW **Red Top Meadow** 40.44 316 *eP* P 02 51 25.2 -0.3
A22A **Carney Farms,** 40.46 326 ⇑P P 02 51 26.4 +1.1
baz=40
I17A **Pilgrim Ck.** 40.51 317 ⇑P P 02 51 26.5 +0.5
baz=40
MOOW **Moose Ponds** 40.54 317 *eP* P 02 51 25.8 -0.5
DUG **Dugway** 40.55 311 *eP* P 02 51 26.4 +0.1
9.4nm,1.0s
DUG **Dugway** 40.55 311 ⇓P P 02 51 26.3 +0.1
baz=40,SNR=8.1
D20A **Manuel Ranch,** 40.59 323 ⇑P P 02 51 27.2 +0.7
baz=40
E19A **Rath Farm, Rou** 40.63 322 ⇓P P 02 51 27.1 +0.3
baz=41
FLWY **Flagg Ranch** 40.66 317 *eP* P 02 51 34.5 +7.2
FXWY **Fox Creek** 40.68 317 *eP* P 02 51 26.8 -0.6
IRM **Iron Mountain** 40.68 301 ⇑P P 02 51 27.7 +0.4
baz=41,SNR=13
H17A **Grant Village** 40.73 318 *eP* P 02 51 28.0 +0.1
7.3nm,1.2s
H17A **Grant Village** 40.73 318 ⇓P P 02 51 28.6 +0.7
baz=41
IMW **Indian Meadow** 40.73 317 *eP* P 02 51 32.8 +4.8
GCMT **Greycliff** 40.82 320 *eP* P 02 51 29.3 +0.8
BC3 **Big Chuckawall** 40.83 300 ⇓P P 02 51 28.7 +0.1
baz=41
LDFC **Landfair** 40.84 303 *eP* P 02 51 30.1 +1.3
C20A **Veseth Ranch,** 40.85 324 ⇑P P 02 51 29.2 +0.6
baz=41
BGU **Big Grassy Mou** 40.96 312 *eP* P 02 51 29.9 +0.2
5.6nm,1.2s
SWSC **Sam W. Stewart** 40.98 299 ⇓P P 02 51 30.0 +0.2
baz=41
A21A **Bergtoll Ranch** 40.99 326 ⇓P P 02 51 30.0 +0.3
baz=41
LVC **Limon Verde** 40.99 174 *eP* P 02 51 31.9 +1.7
4.8nm,0.8s
D19A **Cripps Ranch,** 41.06 322 ⇓P P 02 51 30.8 +0.4
baz=41
HVU **Hansel Valley** 41.10 313 *eP* P 02 51 30.2 -0.6
6.9nm,0.8s
SHPR **Sheep Range** 41.21 305 *eP* P 02 51 33.3 +1.4
GMRC **Granite Mounta** 41.22 302 ⇑P P 02 51 32.2 +0.3
baz=41
BELC **Belle Mtn. Jos** 41.34 301 ⇑P P 02 51 32.9 0.0
baz=41
A20A **Cobblestone Ra** 41.46 325 ⇓P P 02 51 34.2 +0.5
baz=41
QLMT **Earthquake Lak** 41.47 318 *eP* P 02 51 34.6 +0.7
MONP **Monument Peak** 41.49 299 ⇑P P 02 51 34.9 +0.7
baz=41,SNR=6.0
TUQ **Turquoise Moun** 41.57 303 ⇓P P 02 51 35.3 +0.6
baz=42,SNR=5.2
HEC **Hector,Ludlow** 41.77 302 ⇑P P 02 51 37.1 +0.8
baz=42
B19A **Brinkman Farms** 41.79 324 ⇓P P 02 51 36.7 +0.4
baz=42
BDFB **Brasilia** 41.81 143 P P 02 51 37.3 +0.5
12nm,0.7s,baz=320,slow=9.4,SNR=13
BDFB LR LR 03 09 30.0
comp=Z,350nm,18.2s,baz=312,slow=37
SHOC **Shoshone** 41.95 303 ⇓P P 02 51 38.8 +1.1
baz=42
EGMT **Eagleton** 42.02 323 *eP* P 02 51 37.7 -0.5
11nm,1.1s
EGMT **Eagleton** 42.02 323 ⇑P P 02 51 39.0 +0.8
baz=42
R11A **Troy Canyon, C** 42.02 307 *eP* P 02 51 38.7 +0.2
4.5nm,1.2s
R11A **Troy Canyon, C** 42.02 307 ⇓P P 02 51 39.2 +0.7
baz=42,SNR=5.3
TPNV **Topopah Spring** 42.17 305 *eP* P 02 51 41.3 +1.6
TPNV **Topopah Spring** 42.17 305 ⇑P P 02 51 40.9 +1.2
baz=42,SNR=5.6
GSC **Goldstone** 42.24 302 *eP* P 02 51 40.9 +0.6
12nm,1.4s
GSC **Goldstone** 42.24 302 ⇓P P 02 51 40.9 +0.6
baz=42
MURC **Murrieta** 42.25 300 ⇑P P 02 51 40.9 +0.6
baz=42
MCMT **McKenzie Canyo** 42.37 317 *eP* P 02 51 42.0 +0.7
4.6nm,0.8s
FFC **Flin Flon** 42.49 335 *eP* P 02 51 42.7 +0.9
FURC **Furnace Creek,** 42.53 304 ⇓P P 02 51 43.5 +1.1
baz=42
BFSC **Mount Baldy Ra** 42.73 301 ⇑P P 02 51 44.9 +0.6
baz=43
HLID **Hailey** 42.89 315 *eP* P 02 51 45.7 +0.2
HLID **Hailey** 42.89 315 ⇑P P 02 51 46.6 +1.0
baz=43
GRAC **Grapevine Rang** 43.05 305 ⇑P P 02 51 47.4 +0.7
baz=43,SNR=5.3
EDW2 **Edwards Air Fo** 43.12 302 ⇑P P 02 51 47.6 +0.3
baz=43,SNR=6.0
FCC **Fort Churchill** 43.14 344 *eP* P 02 51 45.8 -1.2
TPH **Tonopah** 43.19 306 *eP* P 02 51 48.1 +0.1
11nm,1.3s
ISA **Isabella** 43.65 303 *eP* P 02 51 52.1 +0.4
1.7nm,1.4s
ISA **Isabella** 43.65 303 ⇓P P 02 51 52.6 +1.0
baz=44
MFID **Camas Ranch** 43.79 314 *eP* P 02 51 52.4 -0.4
2.0nm,0.6s
ARVC **Arvin** 43.84 302 ⇑P P 02 51 53.6 +0.6
baz=44
NVAR **Mina Array Bea** 44.10 307 P P 02 51 56.2 +0.8
NVAR **Mina Array Bea** 44.10 307 P P 02 51 56.2 +0.8
2.0nm,0.9s,baz=88,slow=7.1,SNR=10
VES **Vestal, Richgr** 44.17 303 ⇑P P 02 51 56.7 +1.0
baz=44
JTMT **Jette** 44.54 320 *eP* P 02 51 58.8 +0.1
BSMT **Bassoo Peak** 44.89 320 *eP* P 02 52 02.7 +1.2
7.1nm,1.3s
WAKR **Walker** 44.99 306 *eP* P 02 52 03.1 +0.6
WVOR **Wild Horse Val** 45.42 312 *eP* P 02 52 05.3 -0.4
9.3nm,1.1s
NEW **Newport** 46.49 320 *eP* P 02 52 13.4 -0.6
7.6nm,1.0s
NEW **Newport** 46.49 320 ⇑P P 02 52 13.9 -0.1
baz=46
CPUP **Villa Florida** 47.01 161 LR LR 03 12 24.9
comp=Z,324nm,18.6s,baz=321,slow=36
YKA **Yellowknife Ar** 52.59 337 P P 02 52 59.5 -0.7
YKA **Yellowknife Ar** 52.59 337 P P 02 52 59.4 -0.7
3.5nm,0.9s,baz=125,slow=7.6,SNR=55
BBB **Bella Bella** 54.46 322 LR LR 03 16 48.6
comp=Z,176nm,20.9s,baz=180,slow=36
RES **Resolute Bay** 57.51 353 *eP* P 02 53 35.2 -0.4
4.2nm,0.9s
SUMG **Summit** 57.60 12 *i* P P 02 53 37.0 +0.2
6.7nm,0.9s
SUMG **Summit** 57.60 12 *eP* P 02 53 36.4 -0.4
55nm,1.8s
PLCA **Paso Flores** 58.91 178 *eP* P 02 53 46.0 0.0
10nm,0.8s
PLCA **Paso Flores** 58.91 178 P P 02 53 45.2 -0.7
8.1nm,0.7s,baz=346,slow=8.5,SNR=16
ESDC **Sonseca Array** 62.40 54 P P 02 54 10.1 +0.2
ESDC **Sonseca Array** 62.40 54 P P 02 54 10.1 +0.2
3.4nm,0.9s,baz=276,slow=6.7,SNR=9.0
ILAR **Eielson Array** 66.65 333 P P 02 54 36.5 -0.7
ILAR **Eielson Array** 66.65 333 P P 02 54 36.5 -0.7
1.6nm,0.9s,baz=103,slow=4.7,SNR=16
TIC **Toumodi** 66.97 91 *e*PKP1 P 02 54 42.1 +2.0
2.2nm,0.2s
COLA **College** 67.07 333 *eP* P 02 54 40.5 +0.7
5.9nm,1.0s
LIC **Lamto** 67.08 91 *e*PKIKP P 02 54 41.0 +0.2
37nm,1.4s
DBIC **Dimbokro** 67.11 90 P P 02 54 39.9 -1.1
DBIC **Dimbokro** 67.11 90 P P 02 54 39.9 -1.1
3.3nm,0.9s,baz=317,slow=5.9,SNR=3.4
KIC **Kosan Boka** 67.31 91 *e*PKP1 P 02 54 41.6 -0.7
26nm,1.3s
MCK **McKinley** 67.44 332 *eP* P 02 54 42.1 -0.2
13nm,1.1s
TRF **Thorofare Moun** 68.03 332 *eP* P 02 54 45.8 -0.3
8.6nm,0.9s
COLD **Coldfoot** 68.23 336 *eP* P 02 54 47.7 +0.6
6.2nm,1.1s
KTH **Kantishna Hill** 68.32 332 *eP* P 02 54 46.6 -1.3
9.1nm,0.9s
WLF **Walferdange** 69.13 43 *eP* P 02 54 55.2 +2.1
18nm,1.1s
OHAK **Old Harbor** 69.51 325 *eP* P 02 54 53.8 -1.4
33nm,1.3s
NB2 **NORSAR Subarra** 71.21 31 P P 02 55 06.7 +1.0
comp=Z,0.9nm,0.6s,baz=276,slow=6.5
NOA **NORSAR Array B** 71.21 31 P P 02 55 04.1 -1.6
NOA **NORSAR Array B** 71.21 31 P P 02 55 04.1 -1.6
comp=Z,1.9nm,0.8s,baz=275,slow=6.2,SNR=5.6
NOA LR LR 03 22 23.0
comp=Z,81nm,20.6s,baz=350,slow=33
TOA0 **Torodi Ar. Sit** 71.53 82 *eP* P 02 55 08.1 -0.3
TORD **Torodi Ar. Bea** 71.53 82 P P 02 55 06.8 -1.5
TORD **Torodi Ar. Bea** 71.53 82 P P 02 55 06.8 -1.5
comp=Z,2.1nm,1.0s,baz=262,slow=3.9,SNR=12
FETA **Feichten** 72.45 45⇑ *i*P P 02 55 14.7 +1.2
comp=Z,10nm,1.4s
MOTA **Moosalm** 72.66 45⇑ *i*P P 02 55 15.5 +0.7
comp=Z,7.1nm,1.0s
TAM **Tamanrasset** 72.72 71 *eP* P 02 55 15.2 -0.4
comp=Z,0.9nm,0.6s
CLL **Collm** 73.29 41 *eP* P 02 55 20.0 +1.7
KEST **Kesra** 73.31 57 *eP* P 02 55 19.6 +0.8
KEST **Kesra** 73.31 57 P P 02 55 19.9 +1.1
comp=Z,3.5nm,0.9s,baz=232,slow=5.0,SNR=5.8
BRG **Berggiesshubel** 73.95 41 *eP* P 02 55 25.8 +3.6
comp=Z,8.9nm,1.1s
BRG *e* 02 55 29.0
comp=Z,11nm,1.4s
KHC **Kasperske Hory** 74.01 43 *eP* P 02 55 23.0 +0.4
KHC **Kasperske Hory** 74.01 43 *eP* P 02 55 23.1 +0.6
comp=Z,12nm,1.4s
GERES **GERESS Array B** 74.14 43 P P 02 55 24.4 +1.0
GERES **GERESS Array B** 74.14 43 P P 02 55 24.4 +1.0
comp=Z,3.6nm,0.8s,baz=286,slow=5.0,SNR=15
TNA **Tin City** 75.44 335 *eP* P 02 55 30.1 -0.4
comp=Z,5.2nm,1.0s
ARCES **ARCESS Array B** 75.78 21 P P 02 55 32.5 +0.1
ARCES **ARCESS Array B** 75.78 21 P P 02 55 32.5 +0.1
comp=Z,3.1nm,0.7s,baz=305,slow=4.3,SNR=8.8
MORC **Moravsky Berou** 76.42 42 *eP* P 02 55 37.4 +0.9
comp=Z,8.1nm,1.2s
GAMB **Gambell** 77.45 333 *eP* P 02 55 42.3 +0.4
comp=Z,5.0nm,1.0s
PKSM **Moragy** 77.96 45⇑ *i*P P 02 55 46.6 +1.5
FINES **FINESS Array B** 78.19 29 P P 02 55 46.9 +0.8
FINES **FINESS Array B** 78.19 29 P P 02 55 46.9 +0.8
comp=Z,2.0nm,0.8s,baz=122,slow=2.5,SNR=5.9
PSZ **Piszkesteto** 78.37 43⇑ *i*P P 02 55 50.4 +3.0
PSZ **Piszkesteto** 78.37 43 *eP* P 02 55 49.7 +2.2
comp=Z,4.0nm,0.8s
KWP **Kalwaria Pacla** 79.71 41 *eP* P 02 55 56.8 +2.1
KWP **Kalwaria Pacla** 79.71 41⇑ *i*P P 02 55 56.8 +2.1
KWP **Kalwaria Pacla** 79.71 41 *eP* P 02 55 56.5 +1.9
comp=Z,108nm,2.1s
ISAL **Salakas** 79.96 35 *eP* P 02 55 53.9 -2.0
ISAL AMB AMB 02 55 57.2
comp=Z,10nm,1.0s
SIRR **Siria** 79.97 45⇑ *i*P P 02 55 56.9 +0.7
TRPA **Tarpa** 80.02 43⇑ *i*P P 02 55 58.0 +1.6
IIGN **Ignalina** 80.08 35 *eP* P 02 55 54.7 -1.8
IIGN AMB AMB 02 55 58.6

	comp=Z,6.7nm,1.2s							
BZS	**Buzias**	80.12	45	⇑	*i*P	P	02 55 58.4	+1.4
GZR	**Gura Zlata**	80.96	45	⇑	*i*P	P	02 56 03.0	+1.4
BUR08	**Bucovina Ar. S**	81.88	43		*e*P	P	02 56 08.0	+1.5
BURAR	**Bucovina Array**	81.89	43	⇑	*i*P	P	02 56 08.6	+2.1
VTS	**Vitosha**	82.09	48	⇑	*i*P	P	02 56 09.1	+1.3
ARR	**Arges**	82.22	45	⇑	*i*P	P	02 56 10.1	+1.9
VOIR		82.47	45	⇑	*i*P	P	02 56 11.3	+1.7
DOPR	**Dopca**	82.53	44	⇑	*i*P	P	02 56 04.6	-5.2
MMB	**Musomiste**	82.77	49	⇓	*i*P	P	02 56 13.3	+2.1
MLR	**Muntele Rosu**	83.05	44	⇑	*i*P	P	02 56 14.5	+1.8
KIEV	**Kiev**	83.33	39		*e*P	P	02 56 13.6	-0.2
AKASG	**Malin Array Be**	83.34	39		P	P	02 56 14.1	+0.2
AKASG	**Malin Array Be**	83.34	39		P	P	02 56 14.1	+0.2
	comp=Z,2.3nm,0.7s,baz=284,slow=4.4,SNR=8.5							
VRI	**Vrincioaia**	83.45	44	⇑	*i*P	P	02 56 17.0	+2.4
TIXI	**Tiksi**	88.91	353		*e*P	P	02 56 40.2	-0.6
	comp=Z,4.1nm,0.1s							
ANTO	**Ankara**	89.81	48		*e*P	P	02 56 46.9	+1.0
	comp=Z,6.1nm,0.8s							
BR131	**Keskin Array S**	90.47	48		*e*P	P	02 56 49.4	+0.4
	comp=Z,1.2nm,0.8s							
BRTR	**Keskin Array B**	90.47	48		P	P	02 56 49.8	+0.7
BRTR	**Keskin Array B**	90.47	48		P	P	02 56 49.8	+0.7
	comp=Z,2.3nm,0.9s,baz=270,slow=3.8,SNR=14							
CSS	**Prodhromos**	92.20	52		*e*P	P	02 56 57.4	+0.4
	comp=Z,1.6nm,0.7s							
KBZ	**Khabaz**	94.75	41		P	P	02 57 06.4	-2.1
KBZ	**Khabaz**	94.75	41		P	P	02 57 06.4	-2.1
	comp=Z,1.7nm,1.0s,baz=258,slow=9.3,SNR=3.3							
MK31	**Makanchi Array**	111.31	18		*e*PKP	PKiKP	03 02 22.2	+1.1
TKM2	**Tokmak 2**	112.40	25		*e*PKP	PKiKP	03 02 23.8	+0.3
KSH	**Kashi**	115.42	26		*e*PKP	PKPdf	03 02 31.2	+1.9
KSH					*e*PP	PP	03 03 38.3	+9.0
KSH					*e*SKS	SKSdf	03 09 38.2	-4.1
KSH					*e*SKKS	SKKSac	03 10 27.2	-5.6
KSH					*e*SS	SS	03 19 32.3	+4.6
WMQ	**Urumqi**	115.53	15		PKP	PKPdf	03 02 29.4	+0.1
HHC	**Hu-ho-hao-te**	120.86	356		*e*PKP	PKPdf	03 02 40.3	+0.6
HHC					PP	PP	03 04 10.4	+3.7
HHC					SKS	SKSdf	03 09 48.1	-4.5
HHC					SKKS	SKKSac	03 11 07.3	-1.4
HHC					SS	SS	03 20 45.6	+8.0
HHC					LR	LR		
	comp=Z,440nm,19.6s							
LZH	**Lanzhou**	125.68	3		*e*PKP	PKPdf	03 02 50.5	+1.4
LZH					sPKP		03 02 55.0	
LZH					LR	LR		
	comp=Z,130nm,17.9s							
LZH					LR	LR		
	comp=Z,120nm,18.1s							
LZH					LR	LR		
	comp=Z,150nm,20.0s							
GYA	**Guiyang**	135.36	1		*e*Pdif	Pdif	03 00 08.6	-1.5
GYA					PKP	PKPdf	03 03 06.4	-1.3
GYA					PP	PP	03 05 45.2	+3.1
PMG	**Port Moresby**	140.18	277		*e*PKPdf	PKPdf	03 03 17.1	+0.5
COEN	**Coen**	145.12	272		*e*PKPdf	PKPbc	03 03 24.3	-0.5
STKA	**Stephens Creek**	146.19	240		PKPbc	PKPdf	03 03 26.4	-0.3
STKA	**Stephens Creek**	146.19	240		PKPbc	PKPdf	03 03 26.4	-0.3
	comp=Z,2.9nm,0.7s,baz=68,slow=6.2,SNR=4.3							
KKM	**Kota Kinabalu**	154.06	339		*e*PKPdf	PKPdf	03 03 41.1	+1.4
WRAB	**Tennant Creek**	154.24	262		*e*PKPdf	PKPdf	03 03 38.7	-0.9
WRAB					*e*PKPbc	PKPbc	03 03 46.1	-1.7
WRA	**Warramunga Arr**	154.25	262		PKP	PKPdf	03 03 39.1	-0.6
WRA					PKPbc	PKPbc	03 03 46.6	-1.3
WRA	**Warramunga Arr**	154.25	262		PKP	PKPdf	03 03 39.1	-0.6
	comp=Z,1.4nm,0.8s,baz=83,slow=1.5,SNR=10							
WRA					PKPbc	PKPbc	03 03 46.6	-1.3
	comp=Z,2.3nm,0.7s,baz=88,slow=2.3,SNR=17							
ASAR	**Alice Springs**	154.48	254		PKP	PKPdf	03 03 39.5	-0.4
ASAR					PKPbc	PKPbc	03 03 46.8	-1.5
ASAR					PKPab	PKPab	03 04 03.0	+0.2
ASAR	**Alice Springs**	154.48	254		PKP	PKPdf	03 03 39.5	-0.4
	comp=Z,0.4nm,0.6s,baz=116,slow=1.6,SNR=4.3							
ASAR					PKPbc	PKPbc	03 03 46.8	-1.5
	comp=Z,0.7nm,0.6s,baz=91,slow=2.3,SNR=7.5							
ASAR					PKPab	PKPab	03 04 03.0	+0.2
	comp=Z,4.0nm,0.9s,baz=112,slow=4.2,SNR=16							
PSI	**Prapat**	157.40	22		PKPab	PKPab	03 04 14.0	-1.3
PSI	**Prapat**	157.40	22		PKPab	PKPab	03 04 14.0	-1.3
	comp=Z,8.7nm,0.8s,baz=293,slow=7.6,SNR=7.3							
KAPI	**Kappang**	161.81	316		*e*PKPdf	PKPdf	03 03 48.5	-0.6

JSN **13** *02:54:07.7±1.3, 19°.70N×72°.29W, h0km±999km, MD5.1*
IDC **13** *02:54:16.8±0.5, 18°.46N×72°.91W, h0km, mb4.2/20, mb1 4.4/23, mb1mx4.3/31, mbtmp4.2/23, ML3.5/3, MS4.2/2, Ms1 4.2/2, ms1mx3.5/44, Error ellipse: s-maj=16.8km s-min=13.9km az=45.0*
NEIC **13** *02:54:19.1±0.2, 18°.43N×72°.92W, h10km, mb4.4/71, Error ellipse: s-maj=4.3km s-min=3.2km az=198.0*
ISC 13 02:54:21.0±0.8, 18°.41N±0°.04×72°.94W±0°.04, h25km±5km, n378, σ1s03/402, mb4.3/84, MS4.6/4, 102C-101D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	1.67	70	*e*Pn	Pn	02 54 47.9	-0.8
SDDR				*e*Sn	Sn	02 55 09.3	0.0
GTBY	**Guantanamo Bay**	2.55	307	*e*Pn	Pn	02 54 58.5	-2.2
GTBY				*e*Sn	Sn	02 55 30.9	0.0
GRTK	**Grand Turk**	3.52	29	*e*Pn	Pn	02 55 12.7	-1.4
GRTK				*e*Sn	Sn	02 55 52.0	-2.9
GWJ	**Greenwich**	3.62	265	*i* P	Pn	02 55 15.7	+0.2
GWJ	**Greenwich**	3.62	265	*e*P	Pn	02 55 15.7	+0.2
HOJ	**Hope**	3.64	264	*i* P	Pn	02 55 16.3	+0.5
HOJ	**Hope**	3.64	264	*i* P	Pn	02 55 16.3	+0.5
STH	**Stony Hill**	3.69	265	*i* P	Pn	02 55 16.2	-0.3
STH				*i* S	Sb	02 56 08.7	-1.2
STH	**Stony Hill**	3.69	265	*i* P	Pn	02 55 16.2	-0.3
STH				*i* S	Sb	02 56 08.7	-1.2
PCJ	**Portland Cotta**	4.07	261	*i* P	Pn	02 55 23.6	+2.1
PCJ	**Portland Cotta**	4.07	261	*i* P	Pn	02 55 23.6	+2.1
MTDJ	**Mount Denham**	4.37	268	*e*Pn	Pn	02 55 25.6	-0.3
MTDJ				*e*Sn	Sn	02 56 17.2	+1.2
MCJ	**Malvern**	4.54	265	*i* P	Pn	02 55 28.9	+0.8
MCJ	**Malvern**	4.54	265	*i* P	Pn	02 55 28.9	+0.8
AGPR	**Aguadilla, PR**	5.53	89	*e*Pn	Pn	02 55 42.7	+1.0
CRPR	**Cabo Rojo, PR**	5.56	93	*e*Pn	Pn	02 55 41.1	-1.0
	122nm,0.9s						
CRPR				*e*Pg	Pb	02 56 04.2	+6.8
CRPR				*e*Sn	Sn	02 56 45.0	-0.2
CRPR				*e*Sg	Sb	02 57 14.8	+11
LSP	**Las Mesas**	5.57	91	*e*Pn	Pn	02 55 43.2	+1.0
LSP				*e*Pg	Pb	02 56 04.8	+7.3
AOPR	**Arecibo Observ**	5.88	90	*e*Pn	Pn	02 55 48.6	+2.1
CELP	**Cerrillos**	6.05	92	*e*Pn	Pn	02 55 48.6	-0.3
CBYP	**Canovanas**	6.73	90	*e*Pn	Pn	02 55 59.5	+1.2
MTP	**Monte Pirata**	7.03	91	*e*Pn	Pn	02 56 04.0	+1.7
SDV	**Santo Domingo**	9.73	166	*e*Pn	Pn	02 56 40.6	+1.0
SDV				*e*Sn	Sn	02 58 25.0	-3.2
BCIP	**Isla Barro Col**	11.37	217	*e*Pn	Pn	02 57 00.3	-1.6
ROSC	**El Rosal**	13.54	186	*e*Pn	Pn	02 57 32.4	+0.4
ROSC	**El Rosal**	13.54	186	Pn	Pn	02 57 33.6	+1.7
	1.0nm,0.3s,baz=102,slow=22,SNR=7.2						
JTS	**JuntasAbangare**	14.16	237	*e*Pn	Pn	02 57 40.6	+0.6
TGUH	**Tegucigalpa,Un**	14.43	255	*e*Pn	Pn	02 57 43.8	+0.2
TEIG	**Tepich**	14.59	280	*e*Pn	Pn	02 57 45.6	-0.3
	15nm,0.6s						
TEIG	**Tepich**	14.59	280	Pn	Pn	02 57 46.1	+0.2
	2.1nm,0.3s,baz=74,slow=16,SNR=6.2						
TIGA	**Tifton**	16.16	325	*e*Pn	Pn	02 58 03.5	-2.9
	26nm,0.9s						
KMSC	**Kings Mountain**	18.26	338	*e*P	P	02 58 35.2	+2.6
	272nm,2.9s						
OTAV	**Otavalo**	18.85	197	*e*P	Pn	02 58 42.1	+1.7
	21nm,1.2s						
TKL	**Tuckaleechee C**	19.68	333	P	Pn	02 58 49.0	-0.7
TKL				*e*Pn	pP	02 58 53.9	-1.3
TKL	**Tuckaleechee C**	19.68	333	P	Pn	02 58 49.0	-0.7
	0.2nm,0.3s,baz=139,slow=11,SNR=3.0						
JSRW	**J. Sargeant Re**	19.69	348	*e*P	Pn	02 58 49.2	-0.7
VWCC	**Virginia Weste**	19.76	343	*e*P	Pn	02 58 49.9	-0.7
CPCT	**Cooper Cave**	19.84	331	*e*P	P	02 58 49.6	-0.3
CPCT				*e*Pn	pP	02 58 56.9	-0.1
BLA	**Blacksburg**	19.85	342	*e*P	P	02 58 49.8	-0.3
	30nm,1.0s						
CBN	**Corbin**	20.10	350	*e*P	P	02 58 53.0	+0.2
	34nm,0.4s						
SWET	**Sewanee**	20.33	328	*e*P	Pn	02 58 56.9	-0.6
	9.8nm,0.9s						
SWET				*e*Pn	pP	02 59 01.6	-0.7
PAL	**Palisades**	22.53	358	*e*P	P	02 59 19.7	+0.8
	48nm,1.2s						
ODNJ	**Ogdensburg**	22.64	357	*e*P	P	02 59 21.4	+1.3
	28nm,1.2s						
PTGA	**Pitinga**	22.90	145	*e*P	P	02 59 24.9	+1.8
	21nm,1.2s						
PTGA				*e*pP	pP	02 59 31.0	+0.9
PTGA	**Pitinga**	22.90	145	P	P	02 59 24.1	+1.0
	8.9nm,1.0s,baz=332,slow=10,SNR=7.5						
ACSO	**Alum Creek Sta**	23.41	340	*e*P	P	02 59 29.2	+1.2
	20nm,1.1s						
HKT	**Hockley**	23.79	303	*e*P	P	02 59 32.6	+0.9
	36nm,1.8s						
SIUC	**Southern Illin**	23.93	327	*e*P	P	02 59 33.8	+0.7
MIAR	**Mount Ida**	24.40	315	*e*P	P	02 59 38.4	+0.9
	5.4nm,0.9s						
MMNY	**Mt. Morris Dam**	24.61	351	*e*P	P	02 59 39.3	+0.1
	58nm,1.3s						
835A	**Beeville**	24.83	298	⇓	P	02 59 41.9	+0.5
	baz=25						
ACCN	**Adirondack Com**	24.90	359	*e*P	P	02 59 41.9	0.0
	15nm,1.1s						
735A	**Kenedy**	24.99	299	⇓	P	02 59 44.0	+1.2
	baz=25						
SFIN	**Scholer Farm**	25.06	334	*e*P	P	02 59 43.9	+0.6
	15nm,0.9s						
SFIN	**Scholer Farm**	25.06	334	⇓	P	02 59 45.0	+1.7
	baz=25						
635A	**Leesville**	25.14	300	⇓	P	02 59 45.1	+0.9
	baz=25						
934A	**Benavides**	25.22	296	⇓	P	02 59 44.9	0.0
	baz=25						
034A	**Hebbronville**	25.22	295	⇑	P	02 59 45.3	+0.5
	baz=25						
834A	**Tilden**	25.39	297	⇓	P	02 59 47.7	+1.2
	baz=25						
335A	**Moody**	25.58	305	⇓	P	02 59 48.6	+0.4
	baz=26						
933A	**Laredo**	25.87	296	⇑	P	02 59 51.6	+0.8
	baz=26,SNR=6.0						
WHTX	**Lake Whitney**	25.90	306	*e*P	P	02 59 52.3	+1.2
	18nm,0.8s						
WHTX	**Lake Whitney**	25.90	306	⇓	P	02 59 51.6	+0.6
	baz=26,SNR=7.7						
534A	**Blanco**	25.94	301	⇓	P	02 59 52.1	+0.7
	baz=26,SNR=8.4						
434A	**Burnet**	26.06	303	⇑	P	02 59 52.1	-0.4
	baz=26						
833A	**Chaparral WMA,**	26.16	297	⇓	P	02 59 53.9	+0.5
	baz=26,SNR=12						
733A	**Divot King Ran**	26.19	298	⇑	P	02 59 54.2	+0.5
	baz=26						
334A	**Lometa**	26.24	304	⇑	P	02 59 54.5	+0.4
	baz=26,SNR=6.6						
633A	**Seathoff Ranch**	26.32	300	⇑	P	02 59 55.2	+0.3
	baz=26						
134A	**White-Moore Ra**	26.63	307	⇑	P	02 59 58.2	+0.6
	baz=27						
832A	**Faith Ranch, C**	26.64	297	⇑	P	02 59 58.1	+0.3
	baz=27,SNR=8.0						
TUL1	**Tulsa**	26.67	315	*e*P	P	02 59 59.2	+1.2
	14nm,0.9s						
TUL1	**Tulsa**	26.67	315	⇓	P	02 59 58.0	0.0
	baz=27						
433A	**Art**	26.69	302	⇓	P	02 59 58.3	+0.1
	baz=27,SNR=7.0						
732A	**Laxson Ranch,**	26.76	298	⇓	P	02 59 59.0	+0.1
	baz=27						
333A	**Richland Sprin**	26.82	304	⇑	P	02 59 59.7	+0.3
	baz=27,SNR=7.9						
632A	**Uvalde**	26.84	299	⇑	P	02 59 59.7	+0.1
	baz=27						
Y34A	**Reagan Ranch,**	27.02	310	⇑	P	03 00 01.6	+0.4
	baz=27						
233A	**Rising Star**	27.03	305	⇓	P	03 00 02.0	+0.7
	baz=27						
532A	**Rocksprings**	27.14	301	⇑	P	03 00 03.0	+0.7
	baz=27,SNR=9.3						
JCT	**Junction City**	27.17	301	*e*P	P	03 00 04.0	+1.4
	6.3nm,0.8s						
133A	**Hamilton Ranch**	27.28	306	⇓	P	03 00 04.3	+0.8
	baz=27						
432A	**Menard**	27.30	302	⇑	P	03 00 03.9	+0.1
	baz=27						
X34A	**Smith Ranch, M**	27.39	311	⇓	P	03 00 05.5	+1.0
	baz=27						
332A	**Millersview**	27.44	303	⇑	P	03 00 05.7	+0.7
	baz=28						
Z33A	**Whitaker Ranch**	27.46	308	⇓	P	03 00 06.1	+0.9
	baz=28						
631A	**Perdido Creek**	27.47	299	⇓	P	03 00 05.5	+0.2
	baz=28,SNR=5.4						
232A	**Coleman**	27.56	304	⇑	P	03 00 06.8	+0.7
	baz=28						
531A	**Rocksprings**	27.67	300	⇓	P	03 00 08.0	+0.8
	baz=28						
V34A	**Guthrie**	27.80	314	⇓	P	03 00 09.0	+0.9
	baz=28						
ABTX	**Abilene, Hawle**	27.85	306	*e*P	P	03 00 08.8	+0.2
	5.5nm,1.0s						
ABTX	**Abilene, Hawle**	27.85	306	⇑	P	03 00 09.0	+0.4
	baz=28						
431A	**Sonora**	27.89	301	⇑	P	03 00 09.8	+0.7
	baz=28,SNR=5.1						
331A	**San Angelo**	27.96	303	⇑	P	03 00 10.2	+0.5
	baz=28,SNR=5.4						
Z32A	**Haskell**	28.01	307	⇓	P	03 00 10.9	+0.9
	baz=28						
231A	**Bronte**	28.10	304	⇑	P	03 00 11.5	+0.6
	baz=28						
W33A	**Caddo, Fort Co**	28.12	311	⇑	P	03 00 12.0	+1.0
	baz=28						
WMOK	**Wichita Mounta**	28.14	310	*e*P	P	03 00 12.3	+1.1
	4.0nm,0.8s						
Y32A	**R-V Farms, Ver**	28.28	309	⇑	P	03 00 13.1	+0.6
	baz=28						
530A	**J-C Ranch, Com**	28.32	300	⇑	P	03 00 13.3	+0.4
	baz=28						
V33A	**Loen Ranch,**	28.33	313	⇑	P	03 00 13.5	+0.7
	baz=28						
X32A	**Elmer**	28.36	309	⇑	P	03 00 13.9	+0.7
	baz=28						
430A	**Baggett Ranch,**	28.44	301	⇑	P	03 00 14.3	+0.3
	baz=28						
131A	**Roby**	28.44	305	⇓	P	03 00 14.3	+0.3
	baz=28						
JFWS	**Jewell Farm**	28.49	333	*e*P	P	03 00 15.6	+1.4
	9.5nm,0.7s						
Z31A	**Sharp Cattle R**	28.52	307	⇓	P	03 00 15.2	+0.6
	baz=28						
330A	**Mertzon**	28.60	302	⇓	P	03 00 15.6	+0.2
	baz=29						
W32A	**Sentinel**	28.66	311	⇑	P	03 00 16.4	+0.6
	baz=29						
230A	**Sterling City**	28.72	303	⇓	P	03 00 16.8	+0.4
	baz=29						
SAML	**Samuel**	28.84	160	*e*P	P	03 00 18.0	+0.5
	5.2nm,1.0s						
130A	**Snyder**	28.86	305	⇑	P	03 00 18.1	+0.4
	baz=29						
Y31A	**Rekieta Farm,**	28.88	308	⇓	P	03 00 18.2	+0.4
	baz=29						
429A	**Davenport Ranc**	28.92	300	⇑	P	03 00 18.5	+0.2
	baz=29						
X31A	**McDonald Ranch**	28.96	309	⇑	P	03 00 18.6	+0.1
	baz=29						
529A	**Stev Forest Ra**	29.04	299	⇓	P	03 00 19.5	+0.2
	baz=29,SNR=5.1						
Z30A	**Sanderson Ranc**	29.26	306	⇑	P	03 00 21.8	+0.6
	baz=29						
329A	**Wagon Wheel Ra**	29.27	302	⇓	P	03 00 21.4	+0.1
	baz=29						
229A	**Bryant Ranch,**	29.30	303	⇓	P	03 00 22.2	+0.6
	baz=29						
628A	**Black Gap, Mar**	29.42	298	⇑	P	03 00 23.6	+0.9
	baz=29						
T32A	**Huddler Ranch,**	29.48	315	⇓	P	03 00 23.9	+0.8
	baz=30						
R33A	**Olander Ranch,**	29.48	317	⇑	P	03 00 23.9	+0.8
	baz=30						
528A	**Cox Ranch, San**	29.52	299	⇓	P	03 00 24.3	+0.6
	baz=30,SNR=7.2						
X30A	**Coker Ranch, T**	29.54	308	⇑	P	03 00 24.4	+0.6
	baz=30						
428A	**Kincaid Ranch,**	29.60	300	⇓	P	03 00 25.2	+0.9
	baz=30,SNR=20						
Z29A	**Hungry Hill Ra**	29.69	306	⇓	P	03 00 25.5	+0.4
	baz=30,SNR=6.1						
Q33A	**Connelly Farm,**	29.79	319	⇑	P	03 00 26.8	+1.0
	baz=30						
Y29A	**Porterfield Fa**	29.90	307	⇑	P	03 00 27.5	+0.6
	baz=30,SNR=7.5						
328A	**Wristen Ranch,**	29.91	301	⇓	P	03 00 27.1	+0.1
	baz=30						
R32A	**Long Quarter,**	30.02	317	⇓	P	03 00 28.4	+0.5
	baz=30						
TXAR	**Lajitas Array**	30.04	297		P	P	03 00 29.1	+0.9
TXAR					PcP	PcP	03 03 29.8	-0.2
TXAR	**Lajitas Array**	30.04	297		P	P	03 00 29.1	+0.9
	3.0nm,1.0s,baz=121,slow=7.6,SNR=22							
TXAR					PcP	PcP	03 03 29.8	-0.2
	0.9nm,0.9s,baz=123,slow=4.6,SNR=5.1							
128A	**Castleberry Fa**	30.06	304	⇑	P	03 00 28.7	+0.4
	baz=30,SNR=7.1						
S31A	**Mullinville**	30.09	315	⇓	P	03 00 29.2	+0.7
	baz=30						
527A	**Woodward Ranch**	30.20	299	⇓	P	03 00 30.2	+0.5
	baz=30						
427A	**Hayter Ranch,**	30.23	300	⇓	P	03 00 30.5	+0.6
	baz=30,SNR=7.1						
Z28A	**Tucker Farm, M**	30.23	305	⇑	P	03 00 30.2	+0.4
	baz=30						
Q32A	**Meitler Ranch,**	30.24	318	⇑	P	03 00 30.9	+1.1
	baz=30						
Y28A	**McKinney Farm,**	30.36	306	⇓	P	03 00 31.4	+0.4
	baz=30						
626A	**Big Bend Ranch**	30.49	297	⇓	P	03 00 32.5	+0.3
	baz=30						
227A	**Bennet, Jal**	30.50	302	⇓	P	03 00 32.8	+0.6
	baz=30						
526A	**Mary Lane Ranc**	30.58	298	⇓	P	03 00 34.2	+1.1
	baz=31,SNR=17						
426A	**McDonald Obser**	30.70	299	⇓	P	03 00 34.7	+0.6
	baz=31,SNR=12						
MSTX	**Muleshoe**	30.79	306	*e*P	P	03 00 35.0	+0.2
	104nm,2.5s						
MSTX	**Muleshoe**	30.79	306	⇓	P	03 00 35.1	+0.4
	baz=31						
Z27A	**Tatum**	30.88	305	⇑	P	03 00 35.4	-0.3
	baz=31,SNR=6.1						
R30A	**Dighton**	30.97	315	⇓	P	03 00 36.9	+0.6
	baz=31						
P31A	**Stockton**	31.07	318	⇓	P	03 00 37.9	+0.8
	baz=31						
226B	**Tecolote Peak,**	31.22	302	⇑	P	03 00 39.3	+0.7
	baz=31						
126A	**Clayton Basin,**	31.29	303	⇓	P	03 00 40.0	+0.8
	baz=31						
X27A	**F and S Farms,**	31.30	307	⇓	P	03 00 40.2	+0.9
	baz=31						
Q30A	**Quinter**	31.31	317	⇓	P	03 00 40.5	+1.2
	baz=31						
GDL2	**Guadalupe Moun**	31.42	302	*e*P	P	03 00 40.4	0.0
	0.9nm,0.4s						
Z26A	**Caprock**	31.47	304	⇑	P	03 00 40.6	-0.2
	baz=32						
425A	**Indio Mountain**	31.52	299	⇓	P	03 00 42.6	+1.3
	baz=32,SNR=6.6						
P30A	**Selden**	31.64	317	⇑	P	03 00 43.2	+1.1
	baz=32						
T28A	**Walsh**	31.65	312	⇑	P	03 00 43.1	+0.8
	baz=32						
325A	**Bean Ranch, Si**	31.67	300	⇑	P	03 00 43.7	+1.0
	baz=32,SNR=14						
S28A	**Manter**	31.72	313	⇑	P	03 00 43.9	+0.9
	baz=32						
225A	**Deer Hill, Car**	31.76	302	⇓	P	03 00 44.4	+0.9
	baz=32,SNR=9.6						
125A	**Gardner Draw,**	31.80	303	⇑	P	03 00 44.4	+0.6
	baz=32,SNR=7.1						
X26A	**CR and CF Fran**	31.80	307	⇓	P	03 00 44.6	+0.8
	baz=32						
U27A	**Thompson Grove**	31.84	310	⇑	P	03 00 44.6	+0.6
	baz=32						
W26A	**Owens Ranch, T**	31.98	307	⇑	P	03 00 46.0	+0.7
	baz=32						
R28A	**Tribune**	32.03	314	⇓	P	03 00 46.8	+1.1
	baz=32						
Z25A	**Roswell**	32.05	304	⇓	P	03 00 46.5	+0.5
	baz=32						
MNTX	**Cornudas Mount**	32.10	301	*e*P	P	03 00 46.7	+0.5
	13nm,1.3s						
324A	**Moseley Ranch,**	32.11	300	⇑	P	03 00 47.3	+0.8
	baz=32,SNR=15						
Y25A	**Mesa, Roswell**	32.25	305	⇓	P	03 00 48.2	+0.5
	baz=32						
V26A	**Tequesquite Ra**	32.28	309	⇓	P	03 00 48.4	+0.5
	baz=32						
224A	**Cornudas Mount**	32.32	301	⇑	P	03 00 49.4	+1.0
	baz=32,SNR=18						
X25A	**Clemmons Ranch**	32.45	306	⇑	P	03 00 50.4	+1.0
	baz=32						
124A	**Stringfield Ra**	32.45	302	⇓	P	03 00 51.3	+1.7
	baz=32,SNR=14						
U26A	**Atchley Ranch,**	32.49

LPAZ	La Paz 10nm,1.4s	34.80	172	*e*P	P	03 01 10.8 +0.2
AGMN	Agassiz Nation	35.15	333	*e*P	P	03 01 13.8 +1.2
K26A	Motz Farm, Whi baz=35	35.23	320	⇓P	P	03 01 14.9 +1.4
319A	Douglas baz=35,SNR=10	35.24	299	⇑P	P	03 01 15.4 +1.7
S22A	4UR Ranch, Cre baz=35	35.30	310	⇓P	P	03 01 15.1 +0.8
ISCO	Idaho Springs 3.6nm,0.9s	35.33	314	*e*P	P	03 01 15.0 +0.4
ISCO	Idaho Springs baz=35	35.33	314	⇑P	P	03 01 15.1 +0.5
M24A	Cheyenne baz=36	35.61	317	⇓P	P	03 01 17.3 +0.5
H27A	Howes baz=36	35.72	323	⇑P	P	03 01 18.1 +0.6
SMCO	Snowmass	35.99	312	*e*P	P	03 01 21.1 +0.7
O22A	Kremmling baz=36	36.13	314	⇑P	P	03 01 22.0 +0.5
MVCO	Mesa Verde 2.7nm,0.7s	36.32	308	*e*P	P	03 01 23.2 +0.1
N22A	Wattenberg Ran baz=36	36.36	315	⇑P	P	03 01 23.2 -0.2
L23A	Garrett baz=36	36.51	317	⇓P	P	03 01 24.7 +0.2
X18A	Snowflake baz=37	36.58	303	⇑P	P	03 01 26.3 +1.1
W18A	Petrified Fore 7.7nm,1.0s	36.58	305	*e*P	P	03 01 26.6 +1.4
ULM	Lac du Bonnet	36.67	335	P	P	03 01 24.3 -1.3
ULM	Lac du Bonnet 3.6nm,1.0s,baz=180,slow=13,SNR=2.9	36.67	335	P	P	03 01 24.3 -1.3
TUC	Tucson 3.9nm,0.9s	36.69	300	*e*P	P	03 01 27.6 +1.5
PV01	Paradox Valley	36.72	310	*e*P	P	03 01 27.6 +1.1
F26A	Lodgepole baz=37	36.80	325	⇑P	P	03 01 27.3 +0.6
G25A	Newell baz=37	36.81	323	⇓P	P	03 01 27.5 +0.5
O20A	White River Ci 5.3nm,1.0s	37.29	313	*e*P	P	03 01 32.5 +1.3
O20A	White River Ci baz=37	37.29	313	⇑P	P	03 01 32.5 +1.3
K22A	Casper baz=37	37.30	318	⇓P	P	03 01 31.8 +0.6
J22A	Midwest baz=38	37.66	319	⇑P	P	03 01 34.4 +0.1
X16A	Lo Mia Camp, P baz=38	37.73	303	⇓P	P	03 01 36.3 +1.3
K21A	Alcova baz=38,SNR=5.9	37.76	317	⇑P	P	03 01 36.0 +0.8
I22A	9 Mile Ranch, baz=38	37.91	319	⇑P	P	03 01 36.5 +0.2
WUAZ	Wupatki 6.7nm,0.9s	37.98	304	*e*P	P	03 01 38.3 +1.3
WUAZ	Wupatki baz=38	37.98	304	⇓P	P	03 01 37.8 +0.7
J21A	Lysite baz=38,SNR=5.0	38.23	318	⇑P	P	03 01 39.3 +0.2
I21A	Big Trails, Te baz=38	38.37	319	⇑P	P	03 01 40.0 -0.3
SRU	San Rafael 3.5nm,0.9s	38.50	310	*e*P	P	03 01 41.7 +0.2
J20A	Shoshoni baz=39	38.64	318	⇓P	P	03 01 43.3 +0.7
Z14A	Wintersburg baz=39	38.70	301	⇓P	P	03 01 44.0 +1.1
F22A	Rosebud baz=39	38.79	322	⇓P	P	03 01 43.6 0.0
U15A	North Rim baz=39,SNR=7.8	38.95	306	⇓P	P	03 01 46.8 +1.5
D23A	Lindsay baz=39	38.99	325	⇑P	P	03 01 46.8 +1.5
J19A	Crowheart baz=39	39.22	317	⇑P	P	03 01 47.6 +0.2
113A	Mohawk Valley, baz=39	39.25	299	⇓P	P	03 01 48.4 +0.8
PDAR	Pinedale Array	39.33	316	P	P	03 01 48.1 -0.3
PDAR				PcP	PcP	03 03 56.4 -0.3
PDAR	Pinedale Array 0.9nm,0.8s,baz=116,slow=10,SNR=5.7	39.33	316	P	P	03 01 48.1 -0.3
PDAR				PcP	PcP	03 03 56.4 -0.3
	1.2nm,0.8s,baz=121,slow=5.7,SNR=5.8					
C23A	Lambert baz=39	39.35	325	⇓P	P	03 01 49.6 +1.3
D22A	Cohagen baz=40	39.52	324	⇑P	P	03 01 50.8 +1.1
MVU	Marysvale	39.53	309	*e*P	P	03 01 51.4 +1.3
I19A	Meeteetse baz=40	39.55	318	⇑P	P	03 01 50.6 +0.4
MPU	Maple Canyon 4.7nm,0.9s	39.63	311	*e*P	P	03 01 51.2 +0.3
C22A	Vida baz=40	39.70	325	⇓P	P	03 01 51.7 +0.5
W13A	Hualapai Mount baz=40,SNR=7.6	39.85	303	⇑P	P	03 01 54.0 +1.2
H19A	Powell baz=40	39.85	319	⇑P	P	03 01 52.9 +0.2
PDMCI	Parker Dam,Lak baz=40	39.87	302	⇓P	P	03 01 53.5 +0.7
NLU	North Lily Min 6.9nm,1.3s	39.92	311	*e*P	P	03 01 54.0 +0.6
Y12C	Blythe baz=40	40.07	301	⇑P	P	03 01 55.3 +0.9
CCUT	Cedar City 3.1nm,1.0s	40.09	307	*e*P	P	03 01 55.6 +0.8
GLA	Glamis 1.3nm,0.8s	40.18	300	*e*P	P	03 01 57.0 +1.6
GLA	Glamis baz=40	40.18	300	⇑P	P	03 01 56.6 +1.2
ARUT	Antelope Range 78nm,0.8s	40.22	307	*e*P	P	03 01 56.4 +0.6
E20A	Meyer Farm, Mu baz=40	40.27	322	⇓P	P	03 01 56.4 +0.4
H18A	Shoshone NF, C baz=40	40.28	319	⇓P	P	03 01 56.0 -0.3
I17A	Pilgrim Ck. baz=40	40.51	317	⇓P	P	03 01 58.7 +0.6
DUG	Dugway 6.5nm,1.4s	40.54	311	*e*P	P	03 01 58.7 +0.3
DUG	Dugway baz=40,SNR=5.3	40.54	311	⇓P	P	03 01 59.0 +0.6
E19A	Rath Farm, Rou baz=41	40.64	322	⇑P	P	03 01 59.4 +0.4
IRM	Iron Mountain baz=41,SNR=8.6	40.66	301	⇑P	P	03 02 00.5 +1.2
H17A	Grant Village	40.72	318	*e*P	P	03 02 00.5 +0.5
BC3	Big Chuckawall baz=41	40.81	300	⇑P	P	03 02 01.7 +1.0
LDFC	Landfair	40.82	303	*e*P	P	03 02 02.2 +1.4
GCMT	Greycliff	40.82	320	*e*P	P	03 02 01.0 +0.3
BGU	Big Grassy Mou 4.8nm,1.3s	40.95	312	*e*P	P	03 02 01.8 0.0
LVC	Limon Verde 4.5nm,0.9s	40.96	174	*e*P	P	03 02 00.9 -1.2
A21A	Bergtoll Ranch baz=41	40.99	326	⇑P	P	03 02 03.2 +1.3
D19A	Cripps Ranch, baz=41	41.06	322	⇑P	P	03 02 03.5 +1.0
HVU	Hansel Valley 3.4nm,0.9s	41.09	313	*e*P	P	03 02 03.1 +0.2
SHPR	Sheep Range 14nm,1.4s	41.20	305	*e*P	P	03 02 05.6 +1.7
GMRC	Granite Mounta baz=41	41.20	302	⇑P	P	03 02 04.7 +0.8
BELC	Belle Mtn. Jos baz=41	41.32	301	⇓P	P	03 02 05.6 +0.7
C19A	Slack Wire Ran baz=42	41.46	323	⇓P	P	03 02 07.1 +1.3
A20A	Cobblestone Ra baz=42	41.47	325	⇑P	P	03 02 06.9 +1.1
MONP	Monument Peak baz=42	41.47	299	⇓P	P	03 02 07.2 +1.0
TUQ	Turquoise Moun baz=42	41.55	303	⇑P	P	03 02 08.3 +1.5
HEC	Hector,Ludlow baz=42	41.75	302	⇑P	P	03 02 09.7 +1.3
BDFB	Brasilia	41.80	142	P	P	03 02 09.1 +0.2
BDFB	Brasilia 4.6nm,0.9s,baz=310,slow=10,SNR=5.6	41.80	142	P	P	03 02 09.1 +0.2
SHOC	Shoshone baz=42	41.93	304	⇓P	P	03 02 11.3 +1.5
R11A	Troy Canyon, C 2.5nm,0.8s	42.01	307	*e*P	P	03 02 11.6 +1.1
R11A	Troy Canyon, C baz=42	42.01	307	⇓P	P	03 02 11.7 +1.2
TPNV	Topopah Spring baz=42	42.15	305	⇓P	P	03 02 13.4 +1.7
GSC	Goldstone	42.23	302	*e*P	P	03 02 13.3 +1.1
GSC	Goldstone baz=42	42.23	302	⇓P	P	03 02 13.7 +1.4
MURC	Murrieta baz=42	42.23	300	⇓P	P	03 02 13.9 +1.7
MCMT	McKenzie Canyo 2.0nm,1.0s	42.37	317	*e*P	P	03 02 14.2 +0.7
ELK	Elko	42.47	311	LR	LR	03 24 46.5
	comp=Z,238nm,18.5s,baz=203,slow=43					
FURC	Furnace Creek, baz=42	42.52	304	⇓P	P	03 02 16.3 +1.9
BFSC	Mount Baldy Ra baz=43	42.72	301	⇑P	P	03 02 17.4 +1.1
HLID	Hailey 1.9nm,0.8s	42.89	315	*e*P	P	03 02 17.5 -0.1
HLID	Hailey baz=43	42.89	315	⇑P	P	03 02 18.8 +1.1
GRAC	Grapevine Rang baz=43	43.04	305	⇓P	P	03 02 20.6 +1.9
EDW2	Edwards Air Fo baz=43	43.10	302	⇓P	P	03 02 20.8 +1.5
TPH	Tonopah 9.2nm,1.1s	43.18	306	*e*P	P	03 02 21.3 +1.3
ISA	Isabella 3.2nm,1.8s	43.63	303	*e*P	P	03 02 23.0 -0.6
ISA	Isabella baz=44	43.63	303	⇑P	P	03 02 24.7 +1.1
MFID	Camas Ranch 2.8nm,0.8s	43.79	314	*e*P	P	03 02 24.9 +0.1
ARVC	Arvin baz=44	43.82	302	⇓P	P	03 02 26.3 +1.3
NVAR	Mina Array Bea	44.09	307	P	P	03 02 27.7 +0.3
NVAR	Mina Array Bea 1.9nm,0.8s,baz=88,slow=7.1,SNR=14	44.09	307	P	P	03 02 27.7 +0.3
SWMT	Swartz Lake	44.27	320	*e*P	P	03 02 27.1 -1.5
JTMT	Jette	44.54	321	*e*P	P	03 02 30.6 -0.2
WAKR	Walker	44.97	306	*e*P	P	03 02 35.1 +0.6
WVOR	Wild Horse Val 7.9nm,1.3s	45.41	312	*e*P	P	03 02 37.7 -0.2
NEW	Newport 5.8nm,1.1s	46.49	320	*e*P	P	03 02 45.9 -0.2
CPUP	Villa Florida 0.8nm,1.1s	46.99	161	*e*P	P	03 02 49.1 -1.0
YKA	Yellowknife Ar	52.60	337	P	P	03 03 31.8 -0.5
YKA	Yellowknife Ar 2.5nm,0.8s,baz=126,slow=7.5,SNR=36	52.60	337	P	P	03 03 31.8 -0.5
RES	Resolute Bay 3.0nm,0.9s	57.54	353	*e*P	P	03 04 07.4 -0.5
SUMG	Summit 8.5nm,0.8s	57.65	12	*i* P	P	03 04 09.3 +0.1
SUMG	Summit 9.4nm,0.8s	57.65	12	*e*P	P	03 04 08.4 -0.8
PLCA	Paso Flores	58.88	178	P	P	03 04 16.6 -1.1
PLCA	Paso Flores 2.4nm,0.9s,baz=275,slow=14,SNR=3.2	58.88	178	P	P	03 04 16.6 -1.1
SCO	Scoresbysund 1.4nm,0.7s	60.23	18	*i* P	P	03 04 28.3 +1.7
ESDC	Sonseca Array	62.45	54	P	P	03 04 42.2 0.0
ESDC	Sonseca Array 2.0nm,0.8s,baz=273,slow=7.5,SNR=6.6	62.45	54	P	P	03 04 42.2 0.0
EKA	Eskdalemuir Ar	63.57	37	P	P	03 04 47.9 -1.4
EKA	Eskdalemuir Ar 2.1nm,0.9s,baz=274,slow=4.6,SNR=3.4	63.57	37	P	P	03 04 47.9 -1.4
ILAR	Eielson Array	66.66	333	P	P	03 05 07.5 -1.8
ILAR	Eielson Array 1.5nm,0.9s,baz=104,slow=4.6,SNR=14	66.66	333	P	P	03 05 07.5 -1.8
MCK	McKinley 22nm,1.5s	67.46	332	*e*P	P	03 05 14.3 -0.1
TRF	Thorofare Moun 5.2nm,0.7s	68.04	332	*e*P	P	03 05 18.0 -0.2
COLD	Coldfoot 4.7nm,1.0s	68.24	336	*e*P	P	03 05 19.3 +0.1
KTH	Kantishna Hill 20nm,1.4s	68.33	332	*e*P	P	03 05 19.9 0.0
NB2	NORSAR Subarra comp=Z,2.9nm,0.8s,baz=276,slow=6.5	71.26	31	P	P	03 05 38.4 +0.4
NOA	NORSAR Array B	71.26	31	P	P	03 05 37.3 -0.7
NOA	NORSAR Array B comp=Z,1.1nm,0.9s,baz=278,slow=6.2,SNR=2.7	71.26	31	P	P	03 05 37.3 -0.7
TOA0	Torodi Ar. Sit	71.58	82	*e*P	P	03 05 39.2 -1.5
TORD	Torodi Ar. Bea	71.58	82	P	P	03 05 39.7 -1.0
TORD	Torodi Ar. Bea comp=Z,2.7nm,1.0s,baz=294,slow=7.1,SNR=9.1	71.58	82	P	P	03 05 39.7 -1.0
SPITS	Spitsbergen Ar	71.97	13	P	P	03 05 41.8 -0.1
SPITS	Spitsbergen Ar comp=Z,6.6nm,0.8s,baz=265,slow=8.7,SNR=3.3	71.97	13	P	P	03 05 41.8 -0.1
TAM	Tamasset comp=Z,2.4nm,1.1s	72.77	71	*e*P	P	03 05 47.8 -0.1
CLL	Collm	73.35	41	*i* (sP)	sP	03 05 55.4 -6.3
KHC	Kasperske Hory comp=Z,10nm,1.2s	74.06	43	*e*P	P	03 05 55.4 +0.6
GERES	GERESS Array B	74.19	43	P	P	03 05 55.7 0.0
GERES	GERESS Array B comp=Z,4.8nm,0.8s,baz=265,slow=6.7,SNR=9.1	74.19	43	P	P	03 05 55.7 0.0
GERES				LR	LR	03 31 24.6
	comp=Z,208nm,20.6s,baz=280,slow=30					
TNA	Tin City comp=Z,9.4nm,1.4s	75.45	335	*e*P	P	03 06 02.5 0.0
ARCES	ARCESS Array B	75.83	21	P	P	03 06 03.6 -1.0
ARCES	ARCESS Array B comp=Z,2.4nm,0.8s,baz=310,slow=4.2,SNR=3.1	75.83	21	P	P	03 06 03.6 -1.0
MORC	Moravsky Berou comp=Z,4.7nm,0.9s	76.48	42	*e*P	P	03 06 09.2 +0.5
GAMB	Gambell comp=Z,2.0nm,0.8s	77.47	333	*e*P	P	03 06 14.6 +0.7
FINES	FINESS Array B	78.24	29	P	P	03 06 18.7 +0.4
FINES	FINESS Array B comp=Z,1.1nm,0.7s,baz=316,slow=3.8,SNR=3.1	78.24	29	P	P	03 06 18.7 +0.4
PSZ	Piszkesteto comp=Z,20nm,1.6s	78.42	43	*e*P	P	03 06 20.6 +0.9
KWP	Kalwaria Pacla	79.76	41	*e*P	P	03 06 28.9 +2.0
KWP	Kalwaria Pacla comp=Z,14nm,1.0s	79.76	41	*e*P	P	03 06 28.6 +1.7
BUR08	Bucovina Ar. S	81.93	43	*e*P	P	03 06 39.8 +1.1
MLR	Muntele Rosu	83.11	44	P	P	03 06 45.5 +0.6
MLR	Muntele Rosu comp=Z,1.4nm,0.8s,baz=334,slow=0.8,SNR=11	83.11	44	P	P	03 06 45.5 +0.6
AKASG	Malin Array Be	83.39	39	P	P	03 06 45.9 -0.2
AKASG	Malin Array Be comp=Z,1.1nm,0.7s,baz=276,slow=6.5,SNR=4.7	83.39	39	P	P	03 06 45.9 -0.2
BR131	Keskin Array S comp=Z,2.9nm,1.1s	90.52	48	*e*P	P	03 07 21.6 +0.4
BRTR	Keskin Array B	90.52	48	P	P	03 07 21.0 -0.2
BRTR	Keskin Array B comp=Z,1.0nm,0.9s,baz=284,slow=5.0,SNR=5.3	90.52	48	P	P	03 07 21.0 -0.2
KSH	Kashi	115.47	26	*e*PKP	PKPdf	03 13 04.2 +3.0
KSH				*e*PP	PP	03 14 11.8 +10
KSH				*e*SKKS	SKSdf	03 20 11.3 -0.7
KSH				*e*SKKS	SKKSac	03 21 00.5 -2.4
WMQ	Urumqi	115.58	15	PKP	PKPdf	03 13 01.6 +0.4
HHC	Hu-ho-hao-te	120.90	356	*e*PKP	PKPdf	03 13 12.7 +1.1
HHC				PP	PP	03 14 40.4 +1.4
HHC				SKS	SKSdf	03 20 21.5 -0.8
HHC				SKKS	SKKSac	03 21 36.9 -1.7
HHC				SS	SS	03 31 13.8 +5.7
HHC				LR	LR	
	comp=Z,230nm,20.1s					
LZH	Lanzhou	125.72	3	*e*PKP	PKPdf	03 13 21.2 +0.2
LZH				sPKP		03 13 25.7
LZH				LR	LR	
	comp=Z,130nm,17.8s					
LZH				LR	LR	
	comp=Z,120nm,18.0s					
LZH				LR	LR	
	comp=Z,160nm,20.1s					
STKA	Stephens Creek	146.14	240	PKPbc	PKPdf	03 13 58.6 +0.1
STKA	Stephens Creek comp=Z,1.0nm,0.4s,baz=271,slow=6.4,SNR=3.9	146.14	240	PKPbc	PKPdf	03 13 58.6 +0.1
WRA	Warramunga Arr	154.20	262	PKP	PKPdf	03 14 11.2 -0.3
WRA				PKPbc	PKPbc	03 14 18.8 -0.9
WRA	Warramunga Arr comp=Z,1.7nm,1.0s,baz=57,slow=1.1,SNR=6.5	154.20	262	PKP	PKPdf	03 14 11.2 -0.3
WRA				PKPbc	PKPbc	03 14 18.8 -0.9
	comp=Z,2.1nm,0.8s,baz=88,slow=2.7,SNR=12					
ASAR	Alice Springs	154.43	254	PKP	PKPdf	03 14 11.0 -0.7
ASAR				PKPbc	PKPbc	03 14 18.8 -1.3
ASAR				PKPab	PKPab	03 14 33.9 -0.5
ASAR	Alice Springs comp=Z,0.4nm,0.8s,baz=95,slow=2.0,SNR=3.0	154.43	254	PKP	PKPdf	03 14 11.0 -0.7
ASAR				PKPbc	PKPbc	03 14 18.8 -1.3
	comp=Z,0.8nm,0.8s,baz=120,slow=3.0,SNR=4.9					
ASAR				PKPab	PKPab	03 14 33.9 -0.5
	comp=Z,0.4nm,0.8s,baz=104,slow=3.7,SNR=4.9					

CASC 13 02:57:05.8±1.5, 14°.53N×92°.25W, h76^{km}±18^{km}, MD3.7, ML3.5,1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.63	109	⇓*i*P	Pn	02 57 20.7	+0.2
PCG	Pacaya	1.60	94	*e*P	Pn	02 57 33.6	+1.0
PCG				*e*S	Sn	02 57 54.3	+1.5
MRL	Marmol	2.53	77	*e*P	Pn	02 57 45.3	+0.3
RTR	El Retiro	2.60	104	*e*P	Pn	02 57 45.9	-0.1
SBLS	San Blas	2.64	105	*e*P	Pn	02 57 46.6	+0.1
BOQS	Boqueron	2.99	105	*e*P	Pn	02 57 52.1	+0.9
SNET	Serv Nac Est T comp=Z,226nm,0.4s	3.04	106	AML	AML	02 58 33.3	
LFU	La Fuente	3.14	104	*e*P	Pn	02 57 53.0	-0.2
LBRS	Las Brisas	3.21	104	*e*S	Sn	02 58 33.4	+2.1
SNVI	San Vicente	3.43	105	*e*P	Pn	02 57 57.2	0.0
SNVI				*e*S	Sn	02 58 38.2	+1.3

JSN 13 03:13:23.9±0.7, 17°.40N×72°.28W, h13^{km}, MD4.8
IDC 13 03:13:25.5±1.2, 18°.41N×72°.53W, h0^{km}, mb3.6/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, ML2.5/1, Error ellipse: s-maj=37.9km s-min=27.3km az=15.0
NEIC 13 03:13:26.9±0.4, 18°.54N×72°.64W, h10^{km}, mb3.9/2, ML4.0, Error ellipse: s-maj=9.9km s-min=4.7km az=178.0
ISC 13 03:13:27.8±2.2, 18°.48N±0'.06×72°.56W±0'.04, h12^{km}±14^{km}, n36, σ1$98/48, mb3.8/9, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.30	67	*e*Pn	Pn	03 13 49.3	-2.5
SDDR				*e*S	Sg	03 14 09.6	-0.2
GTBY	Guantanamo Bay	2.81	301	*e*Pn	Pn	03 14 10.0	-2.5
GTBY				*e*S	Sn	03 14 48.5	+2.2
GRTK	Grand Turk	3.30	24	*e*Pn	Pn	03 14 18.2	-1.0
GRTK				*e*S	Sn	03 14 56.4	-2.0
GWJ	Greenwich	3.98	265	*i* P	Pn	03 14 28.3	-0.5
GWJ				*i* S	Sn	03 15 15.8	+0.2
GWJ	Greenwich	3.98	265	*i* P	Pn	03 14 28.3	-0.5
GWJ				*i* S	Sn	03 15 15.8	+0.2
HOJ	Hope	4.01	264	*i* P	Pn	03 14 27.9	-1.2
HOJ	Hope	4.01	264	*i* P	Pn	03 14 27.9	-1.2
STH	Stony Hill	4.06	265	*i* P	Pn	03 14 28.4	-1.4
STH	Stony Hill	4.06	265	*i* P	Pn	03 14 28.4	-1.4
MTDJ	Mount Denham	4.74	268	*e*Pn	Pn	03 14 37.5	-1.6
MTDJ				*e*S	Sn	03 15 35.9	+1.9
MCJ	Malvern	4.91	264	*i* P	Pn	03 14 40.0	-1.4
MCJ	Malvern	4.91	264	*i* P	Pn	03 14 40.0	-1.4
AGPR	Aguadilla, PR	5.17	89	Pn	Pn	03 14 47.2	+2.3
CRPR	Cabo Rojo, PR 71nm,0.5s	5.20	94	*e*Pn	Pn	03 14 45.4	+0.1
CRPR				*e*S	Sn	03 15 41.2	-4.1
LSP	Las Mesas	5.21	92	*e*Pn	Pn	03 14 46.8	+1.3
LSP				*e*S	Sb	03 15 54.2	-7.1
OBIP	Obispado Ponce 46nm,0.6s	5.67	93	*e*Pn	Pn	03 14 52.1	+0.2
OBIP				*e*S	Sn	03 15 59.5	+2.5
CELP	Cerrillos	5.69	93	*e*Pn	Pn	03 14 52.5	+0.3
CELP				*e*S	Sn	03 16 00.5	+3.0
CBYP	Canovanas 31nm,0.6s	6.37	91	*e*Pn	Pn	03 15 02.2	+0.7
CBYP				*e*S	Sn	03 16 15.7	+1.5
MTP	Monte Pirata 33nm,0.6s	6.67	92	*e*Pn	Pn	03 15 07.2	+1.6
MTP				*e*S	Sn	03 16 24.2	+2.7
SDV	Santo Domingo 3.9nm,0.4s	9.72	169	*e*Pn	Pn	03 15 47.6	0.0
SDV				*e*S	Sn	03 17 31.6	-5.3
PHG	Guadaloupe-2	10.71	102	*e*P	Pn	03 16 02.9	+1.7
SEG	Port Louis	10.75	99	*e*P	Pn	03 16 03.6	+2.1
H05N1	Guadeloupe/Mar SNR=5.0	11.19	99	Pn	Pn	03 16 07.5	-0.1
BCIP	Isla Barro Col	11.65	218	*e*Pn	Pn	03 16 12.6	-1.2
GRGR	Grenville	12.26	119	*e*Pn	Pn	03 16 22.8	+0.4
ROSC	El Rosal 0.5nm,0.3s,baz=86,slow=19,SNR=2.6	13.65	188	Pn	Pn	03 16 41.1	-0.6
PTGA	Pitinga 3.4nm,0.9s	22.75	146	P	P	03 18 32.3	+2.2
SAML	Samuel 1.6nm,0.7s	28.78	160	P	P	03 19 25.2	-0.4
TXAR	Lajitas Array 0.2nm,0.8s,baz=143,slow=14,SNR=3.4	30.34	297	P	P	03 19 39.4	-0.2
PDAR	Pinedale Array 0.3nm,0.5s,baz=119,slow=12,SNR=3.3	39.53	316	P	P	03 21 00.2	+1.4
YKA	Yellowknife Ar 0.4nm,0.7s,baz=124,slow=7.4,SNR=4.7	52.68	337	P	P	03 22 41.0	-0.7
ESDC	Sonseca Array 0.6nm,0.7s,baz=238,slow=5.0,SNR=3.5	62.12	54	P	P	03 23 48.5	-0.3
TORD	Torodi Ar. Bea 0.8nm,1.2s,baz=251,slow=4.4,SNR=3.0	71.21	82	P	P	03 24 46.8	-0.5
ARCES	ARCESS Array B 5.9nm,1.0s,baz=329,slow=4.5,SNR=3.8	75.63	21	P	P	03 25 12.5	+0.1
BRTR	Keskin Array B 0.4nm,0.7s,baz=300,slow=3.2,SNR=2.5	90.20	48	P	P	03 26 29.6	+0.9
WRA	Warramunga Arr 0.5nm,0.9s,baz=90,slow=4.2,SNR=5.2	154.57	262	PKPbc	PKPbc	03 33 28.4	-0.9

JSN 13 03:17:04.8±1.5, 18°.87N×72°.41W, h15^{km}±999^{km}, MD5.0
ISCJB 13 03:17:09.9±1.1, 18°.42N±0'.03×72°.96W±0'.02, h12^{km}±7^{km}, mb4.5/89, MS4.2/6, Error ellipse: s-maj=6.0km s-min=3.7km az=12.0
IDC 13 03:17:09.1±0.5, 18°.45N×72°.94W, h0^{km}, mb4.3/29, mb1 4.4/33, mb1mx4.4/38, mbtmp4.3/33, ML3.4/3, MS4.0/5, Ms1 4.0/5, ms1mx3.5/43, Error ellipse: s-maj=15.0km s-min=11.1km az=47.0
NEIC 13 03:17:11.5±0.2, 18°.41N×72°.96W, h10^{km}, mb4.6/64, Error ellipse: s-maj=4.7km s-min=3.5km az=197.0
BJI 13 03:17:11.2, 18°.40N×73°.00W, h10^{km}, Ms7 4.7/2
ISC 13 03:17:11.4±0.9, 18°.46N±0'.05×72°.92W±0'.03, h10^{km}±5^{km}, n410, σ1$03/413, mb4.6/91, MS4.0/6, 116C-103D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.64	71	*e*Pn	Pn	03 17 41.4	+1.2
SDDR				*e*S	Sg	03 18 05.5	+1.5
GTBY	Guantanamo Bay	2.53	306	*e*Pn	Pn	03 17 50.2	-2.3
GTBY				*e*S	Sn	03 18 21.8	-1.6
YHJ	Yallahs	3.44	261	*i* P	Pn	03 18 04.4	-0.7
YHJ	Yallahs	3.44	261	*i* P	Pn	03 18 04.4	-0.7
GRTK	Grand Turk	3.47	29	*e*Pn	Pn	03 18 06.1	+0.6
GRTK				*e*S	Sn	03 18 45.2	-1.5
GWJ	Greenwich	3.64	265	*i* P	Pn	03 18 06.6	-1.3
GWJ	Greenwich	3.64	265	*i* P	Pn	03 18 06.6	-1.3
HOJ	Hope	3.66	264	*i* P	Pn	03 18 07.2	-0.9
HOJ	Hope	3.66	264	*i* P	Pn	03 18 07.2	-0.9
STH	Stony Hill	3.71	265	*i* P	Pn	03 18 07.5	-1.3
STH				*i* S	Sn	03 18 55.3	+2.7
STH	Stony Hill	3.71	265	*i* P	Pn	03 18 07.5	-1.3
STH				*i* S	Sn	03 18 55.3	+2.7
PCJ	Portland Cotta	4.09	261	*i* P	Pn	03 18 14.2	+0.2
PCJ	Portland Cotta	4.09	261	*i* P	P

TIGA	Tifton baz=16	16.13 325	⇑P		Pn	03 20 56.5	-1.6
APG	El Apazote	17.15 261	P		Pn	03 21 11.7	+0.2
APG	El Apazote 0.2nm,0.3s,baz=321,slow=10,SNR=3.4	17.15 261	P		Pn	03 21 11.7	+0.2
GOGA	Godfrey 60nm,1.6s	17.63 330	Pn		P	03 21 18.2	+0.1
KMSC	Kings Mountain baz=18	18.22 337	⇓P		Pn	03 21 23.8	-0.6
OTAV	Otavalo 35nm,1.1s	18.90 197	Pn		Pn	03 21 33.6	+0.3
TKL	Tuckaleechee C	19.64 333	P		P	03 21 40.2	0.0
TKL			ePn		pP	03 21 43.4	+0.2
TKL	Tuckaleechee C 0.2nm,0.3s,baz=151,slow=8.6,SNR=4.9	19.64 333	P		P	03 21 40.2	0.0
TKL			LR		LR	03 30 49.5	
	comp=Z,332nm,18.2s,baz=91,slow=42						
JSRW	J. Sargeant Re	19.65 348	eP		P	03 21 39.8	-0.4
VWCC	Virginia Weste	19.71 343	eP		P	03 21 41.9	+0.9
CPCT	Cooper Cave	19.80 331	ePn		Pn	03 21 44.2	+0.7
TZTN	Tazewell 35nm,1.1s	20.30 335	ePn		Pn	03 21 49.4	-0.1
SDMD	Soldier's Deli 103nm,1.7s	21.15 352	eP		P	03 21 57.6	+1.0
MVL	Millersville 257nm,2.8s	21.67 353	eP		P	03 22 07.7	+5.6
OXF	Oxford 45nm,1.1s	21.71 321	eP		P	03 22 02.9	+0.4
PTGA	Pitinga 4.4nm,1.2s	22.93 145	eP		P	03 22 17.3	+1.5
PTGA	Pitinga 7.3nm,1.0s,baz=340,slow=13,SNR=5.3	22.93 145	P		P	03 22 15.1	-0.7
ACSO	Alum Creek Sta 223nm,2.5s	23.37 340	eP		P	03 22 24.4	+4.3
HKT	Hockley 18nm,1.2s	23.77 303	eP		P	03 22 24.4	+0.4
PBMO	Poplar Bluff 24nm,1.4s	23.88 323	eP		P	03 22 24.8	-0.3
SIUC	Southern Illin	23.90 327	eP		P	03 22 26.6	+1.3
MIAR	Mount Ida 11nm,1.2s	24.38 315	P		P	03 22 30.5	+0.7
835A	Beeville baz=25	24.82 298	⇑P		P	03 22 32.7	-1.1
635A	Leesville baz=25	25.13 300	⇓P		P	03 22 36.6	0.0
535A	Dale baz=25	25.20 302	⇑P		P	03 22 38.1	+0.9
934A	Benavides baz=25	25.21 296	⇓P		P	03 22 37.5	+0.1
834A	Tilden baz=25	25.38 297	⇓P		P	03 22 39.2	+0.3
335A	Moody baz=26	25.57 305	⇑P		P	03 22 41.0	+0.5
734A	La Parita Cree baz=26	25.61 299	⇓P		P	03 22 41.1	+0.2
634A	China Grove, S baz=26	25.61 300	⇑P		P	03 22 41.4	+0.5
933A	Laredo baz=26	25.86 295	⇑P		P	03 22 44.1	+0.8
WHTX	Lake Whitney 12nm,0.7s	25.89 306	eP		P	03 22 43.5	0.0
WHTX	Lake Whitney baz=26,SNR=9.1	25.89 306	⇑P		P	03 22 44.0	+0.5
534A	Blanco baz=26	25.93 301	⇑P		P	03 22 44.0	+0.1
ATAH	Atahualpa comp=Z,205nm,20.4s,baz=10.0,slow=37	26.00 192	LR		LR	03 33 04.6	
434A	Burnet baz=26	26.05 303	⇑P		P	03 22 45.0	0.0
135A	Vickery Place, baz=26	26.10 307	⇑P		P	03 22 46.2	+0.8
833A	Chaparral WMA, baz=26,SNR=10.0	26.15 297	⇓P		P	03 22 45.9	0.0
733A	Divot King Ran baz=26	26.18 298	⇑P		P	03 22 46.1	-0.1
334A	Lometa baz=26	26.22 304	⇓P		P	03 22 46.2	-0.3
633A	Saathoff Ranch baz=26	26.31 300	⇓P		P	03 22 47.1	-0.2
Z35A	Perchaven, San baz=26	26.34 309	⇓P		P	03 22 48.0	+0.5
533A	Kerrville baz=26	26.40 301	⇑P		P	03 22 48.1	-0.1
234A	Clairette baz=26	26.42 306	⇓P		P	03 22 48.3	0.0
134A	White-Moore Ra baz=27	26.61 307	⇑P		P	03 22 50.3	+0.3
832A	Faith Ranch, C baz=27,SNR=5.9	26.63 297	⇑P		P	03 22 49.9	-0.4
TUL1	Tulsa 32nm,1.1s	26.65 315	eP		P	03 22 50.7	+0.4
TUL1	Tulsa baz=27	26.65 315	⇓P		P	03 22 50.4	+0.1
433A	Art baz=27	26.68 302	⇓P		P	03 22 50.6	-0.2
SADO	Sadowa	26.75 350	P		P	03 22 50.9	-0.2
SADO	Sadowa 4.4nm,0.9s,baz=259,slow=16,SNR=2.3	26.75 350	P		P	03 22 50.9	-0.2
SADO			LR		LR	03 32 43.1	
	comp=Z,348nm,18.6s,baz=173,slow=35						
732A	Laxson Ranch, baz=27	26.75 297	⇑P		P	03 22 50.6	-0.8
333A	Richland Sprin baz=27,SNR=9.5	26.81 304	⇓P		P	03 22 51.7	-0.1
632A	Uvalde baz=27	26.83 299	⇑P		P	03 22 51.4	-0.6
Y34A	Reagan Ranch, baz=27,SNR=7.4	27.00 310	⇑P		P	03 22 53.9	+0.4
233A	Rising Star baz=27,SNR=5.6	27.01 305	⇓P		P	03 22 53.5	-0.2
532A	Rocksprings baz=27,SNR=10	27.13 300	⇑P		P	03 22 54.9	+0.1
JCT	Junction City 14nm,1.1s	27.16 301	eP		P	03 22 57.2	+2.2
JCT	Junction City baz=27	27.16 301	⇑P		P	03 22 55.1	0.0
133A	Hamilton Ranch baz=27	27.27 306	⇑P		P	03 22 56.2	+0.2
432A	Menard baz=27	27.29 302	⇑P		P	03 22 56.0	-0.2
X34A	Smith Ranch, M baz=27,SNR=5.6	27.37 311	⇓P		P	03 22 57.6	+0.8
332A	Millersview baz=27	27.43 303	⇑P		P	03 22 57.7	+0.2
Z33A	Whitaker Ranch baz=28	27.44 308	⇑P		P	03 22 57.5	0.0
631A	Perdido Creek baz=27	27.46 299	⇓P		P	03 22 57.6	-0.1
232A	Coleman baz=28	27.55 304	⇓P		P	03 22 58.5	0.0
531A	Rocksprings baz=28	27.66 300	⇓P		P	03 23 00.2	+0.6
X33A	Lawton baz=28	27.82 310	⇑P		P	03 23 01.2	+0.2
ABTX	Abilene, Hawle baz=28	27.83 306	⇓P		P	03 23 01.5	+0.4
431A	Sonora baz=28	27.88 301	⇑P		P	03 23 01.7	+0.1
331A	San Angelo baz=28	27.95 303	⇑P		P	03 23 01.7	-0.4
Z32A	Haskell baz=28,SNR=11	27.99 307	⇑P		P	03 23 02.8	+0.4
231A	Bronte baz=28	28.09 304	⇓P		P	03 23 03.3	0.0
W33A	Caddo, Fort Co baz=28	28.10 311	⇑P		P	03 23 04.1	+0.8
U34A	Anderson Ranch baz=28	28.11 315	⇑P		P	03 23 03.3	-0.2
WMOK	Wichita Mounta 140nm,3.0s	28.12 310	eP		P	03 23 04.2	+0.6
Y32A	R-V Farms, Ver baz=28	28.27 308	⇓P		P	03 23 05.1	+0.2
V33A	Lossen Ranch, baz=28	28.31 313	⇑P		P	03 23 04.9	-0.3
530A	J-C Ranch, Com baz=28	28.31 300	⇑P		P	03 23 04.8	-0.5
X32A	Elmer baz=28	28.34 309	⇓P		P	03 23 05.4	-0.2
430A	Baggett Ranch, baz=28	28.43 301	⇓P		P	03 23 05.9	-0.5
Z31A	Sharp Cattle R baz=28	28.50 307	⇑P		P	03 23 06.5	-0.5
330A	Mertzon baz=29	28.59 302	⇓P		P	03 23 06.8	-1.0
W32A	Sentinel baz=29	28.64 311	⇓P		P	03 23 08.2	0.0
130A	Snyder baz=29	28.85 305	⇑P		P	03 23 09.5	-0.6
Y31A	Rekieta Farm, baz=29	28.86 308	⇑P		P	03 23 09.7	-0.5
SAML	Samuel 1.0nm,0.8s	28.88 160	eP		P	03 23 08.3	-2.1
429A	Davenport Ranc baz=29	28.91 300	⇓P		P	03 23 09.6	-1.2
X31A	McDonald Ranch baz=29	28.95 309	⇓P		P	03 23 10.1	-0.8
529A	Stev Forest Ra baz=29	29.03 299	⇓P		P	03 23 10.4	-1.4
KSU1	Kansas State U 17nm,0.8s	29.07 320	eP		P	03 23 12.4	+0.5
KSU1	Kansas State U baz=29	29.07 320	⇑P		P	03 23 12.4	+0.5
U32A	Winter Ranch, baz=29	29.09 313	⇓P		P	03 23 12.0	-0.2
W31A	Holland Ranch, baz=29	29.17 310	⇑P		P	03 23 13.0	+0.1
Z30A	Sanderson Ranc baz=29	29.24 306	⇑P		P	03 23 13.5	-0.1
329A	Wagon Wheel Ra baz=29	29.26 302	⇓P		P	03 23 13.4	-0.4
229A	Bryant Ranch, baz=29	29.29 303	⇓P		P	03 23 13.7	-0.3
V31A	Spring Creek L baz=29	29.38 311	⇓P		P	03 23 14.9	+0.1
R33A	Olander Ranch, baz=30	29.46 317	⇓P		P	03 23 15.8	+0.3
528A	Cox Ranch, San baz=30,SNR=7.1	29.52 299	⇑P		P	03 23 16.0	-0.2
X30A	Coker Ranch, T baz=30	29.53 308	⇓P		P	03 23 16.0	-0.1
428A	Kincaid Ranch, baz=30,SNR=12	29.59 300	⇓P		P	03 23 16.8	0.0
Z29A	Hungry Hill Ra baz=30,SNR=7.9	29.68 305	⇑P		P	03 23 17.1	-0.4
Q33A	Connelly Farm, baz=30	29.77 319	⇓P		P	03 23 18.2	0.0
Y29A	Porterfield Fa baz=30,SNR=7.4	29.89 307	⇓P		P	03 23 19.1	-0.2
TXAR	Lajitas Array	30.04 297	P		P	03 23 20.7	0.0
TXAR			PcP		PcP	03 26 21.9	-0.9
TXAR	Lajitas Array 2.0nm,1.0s,baz=119,slow=8.4,SNR=13	30.04 297	P		P	03 23 20.7	0.0
TXAR			PcP		PcP	03 26 21.9	-0.9
	0.4nm,0.9s,baz=69,slow=4.9,SNR=2.7						
128A	Castleberry Fa baz=30,SNR=5.6	30.05 304	⇑P		P	03 23 20.5	-0.3
X29A	Tulia baz=30	30.15 308	⇓P		P	03 23 21.3	-0.3
527A	Woodward Ranch baz=30,SNR=8.0	30.20 298	⇑P		P	03 23 21.8	-0.5
Z28A	Tucker Farm, M baz=30	30.21 305	⇑P		P	03 23 21.7	-0.6
427A	Hayter Ranch, baz=30,SNR=5.7	30.22 300	⇓P		P	03 23 22.1	-0.2
Q32A	Meitler Ranch, baz=30	30.22 318	⇑P		P	03 23 22.3	+0.1
AMTX	Amarillo 12nm,0.8s	30.32 308	eP		P	03 23 29.1	+6.0
AMTX	Amarillo baz=30	30.32 308	⇓P		P	03 23 22.8	-0.3
U30A	WK&E Inc. Balk baz=30	30.32 312	⇓P		P	03 23 22.7	-0.4
Y28A	McKinney Farm, baz=30	30.34 306	⇓P		P	03 23 22.5	-0.9
626A	Big Bend Ranch baz=30	30.48 297	⇑P		P	03 23 23.8	-0.9
526A	Mary Lane Ranc baz=31,SNR=9.3	30.57 298	⇓P		P	03 23 25.2	-0.4
426A	McDonald Obser baz=31,SNR=11	30.69 299	⇑P		P	03 23 26.3	-0.3
127A	Arkansas Junct baz=31	30.76 303	⇓P		P	03 23 26.9	-0.3
MSTX	Muleshoe 10nm,0.9s	30.77 306	eP		P	03 23 26.9	-0.3
MSTX	Muleshoe baz=31	30.77 306	⇑P		P	03 23 26.8	-0.4
O32A	Brockman Farm, baz=31	30.80 320	⇓P		P	03 23 27.4	+0.2
Z27A	Tatum baz=31	30.87 305	⇑P		P	03 23 27.7	-0.4
R30A	Dighton baz=31	30.95 315	⇑P		P	03 23 28.4	-0.3
Y27A	Causey baz=31	31.04 306	⇑P		P	03 23 29.0	-0.6
P31A	Stockton baz=31	31.04 318	⇑P		P	03 23 29.9	+0.5
S29A	Ulysses baz=31	31.18 314	⇑P		P	03 23 30.9	+0.2
126A	Clayton Basin, baz=31	31.28 303	⇓P		P	03 23 31.0	-0.7
X27A	F and S Farms, baz=31	31.28 307	⇑P		P	03 23 31.3	-0.4
Q30A	Quinter baz=31	31.28 316	⇑P		P	03 23 31.7	+0.1
U28A	Mallet baz=31	31.37 311	⇓P		P	03 23 32.3	-0.2
O31A	Woolen Ranch, baz=31	31.38 319	⇑P		P	03 23 32.5	+0.1
W27A	Bows Ranch, En baz=31	31.42 308	⇓P		P	03 23 32.4	-0.5
Z26A	Caprock baz=31	31.45 304	⇑P		P	03 23 32.1	-1.1
425A	Indio Mountain baz=32	31.51 299	⇓P		P	03 23 33.1	-0.7
P30A	Selden baz=32,SNR=5.5	31.61 317	⇑P		P	03 23 35.1	+0.6
T28A	Walsh baz=32	31.63 312	⇑P		P	03 23 35.6	+0.9
325A	Bean Ranch, Si baz=32,SNR=12	31.66 300	⇓P		P	03 23 35.0	-0.1
S28A	Manter baz=32	31.70 313	⇑P		P	03 23 35.8	+0.4
225A	Deer Hill, Car baz=32,SNR=13	31.75 302	⇓P		P	03 23 36.0	+0.1
X26A	CR and CF Fran baz=32	31.79 306	⇑P		P	03 23 35.7	-0.5
125A	Gardner Draw, baz=32	31.79 303	⇑P		P	03 23 35.7	-0.5
U27A	Thompson Grove baz=32	31.82 310	⇓P		P	03 23 36.2	-0.2
O30A	MW Ranch, Wils baz=32	31.85 319	⇑P		P	03 23 36.6	+0.1
M31A	Lambtecht Ranc baz=32	31.88 321	⇑P		P	03 23 36.8	0.0
W26A	Owens Ranch, T baz=32	31.96 307	⇓P		P	03 23 37.0	-0.7
R28A	Tribune baz=32,SNR=5.5	32.01 314	⇑P		P	03 23 38.4	+0.3
Z25A	Roswell baz=32	32.04 304	⇑P		P	03 23 38.0	-0.4
324A	Moseley Ranch, baz=32,SNR=14	32.10 300	⇑P		P	03 23 39.1	+0.2
Y25A	Mesa, Roswell baz=32	32.24 305	⇑P		P	03 23 40.2	+0.1
V26A	Tequesquite Ra baz=32	32.26 309	⇓P		P	03 23 40.3	0.0
224A	Cornudas Mount baz=32,SNR=14	32.31 301	⇑P		P	03 23 41.0	+0.2
X25A	Clemmons Ranch baz=32	32.43 306	⇑P		P	03 23 41.7	-0.2
124A	Stringfield Ra baz=32,SNR=8.7	32.44 302	⇓P		P	03 23 43.1	+1.0
U26A	Atchley Ranch, baz=32,SNR=5.9	32.48 310	⇓P		P	03 23 42.5	+0.2
W25A	X Bar L Ranch, baz=32	32.53 307	⇓P		P	03 23 42.8	0.0
Z24A	Sheeppen Canyo baz=33,SNR=7.5	32.57 303	⇓P		P	03 23 43.3	+0.2
P28A	Saint Francis baz=33	32.61 316	⇓P		P	03 23 43.8	+0.5
R27A	Eads baz=33	32.66 313	⇑P		P	03 23 44.3	+0.5
L30A	Spencer Herefo baz=33	32.69 321	⇓P		P	03 23 44.2	+0.3
T26A	Comanche Natio baz=33	32.71 311	⇓P		P	03 23 44.5	+0.2
Y24A	Capitan baz=33,SNR=9.8	32.82 304	⇓P		P	03 23 45.6	+0.2
V25A	Rancho No Teng baz=33,SNR=12	32.89 308	⇑P		P	03 23 46.3	+0.3
KSCO	Kaye Shedlock' 5.7nm,0.5s	32.90 315	eP		P	03 23 46.4	+0.5
KSCO	Kaye Shedlock' baz=33	32.90 315	⇑P		P	03 23 45.9	0.0
U25A	Circle Dot Ran baz=33	32.97 309	⇑P		P	03 23 46.6	0.0
R26A	Arlington baz=33	33.12 313	⇑P		P	03 23 48.5	+0.7
Z23A	Rita Site, Whi baz=33	33.23 303	⇓P		P	03 23 48.9	0.0
W24A	Lazy 6 Ranch, baz=33,SNR=8.1	33.25 307	⇑P		P	03 23 50.2	+1.1
T25A	Trinidad baz=33	33.28 310	⇓P		P	03 23 50.0	+0.6
Y23A	Lovelace Mesa, baz=33,SNR=9.3	33.31 304	⇑P		P	03 23 50.2	+0.6
V24A	Rampart Ranch, baz=33	33.34 308	⇑P		P	03 23 50.3	+0.4
J30A	Dallas baz=34	33.41 324	⇓P		P	03 23 51.2	+1.0
Q26A	Hugo baz=34	33.46 314	⇓P		P	03 23 51.4	+0.6
S25A	Robets Cordova baz=34	33.52 311	⇑P		P	03 23 52.0	+0.6
222A	Williams Famil baz=34	33.60 301	⇓P		P	03 23 52.4	+0.3
X23A	Hourglass Bar baz=34,SNR=7.1	33.63 305	⇓P		P	03 23 52.9	+0.4
W23A	Werner Place, baz=34	33.80 306	⇓P		P	03 23 54.5	+0.6
Z22A	Elephant Butte baz=34	33.82 303	⇓P		P	03 23 54.7	+0.7
BNM	Barren Site 23nm,1.1s	33.83 304	eP		P	03 23 54.6	+0.4
BRSD	Miller 24nm,0.4s	33.85 326	eP		P	03 23 56.0	+2.1
LPM	Los Pinos Moun	33.88 305	eP		P	03 23 55.5	+0.8
T24B	San Luis baz=34	33.95 310	⇓P		P	03 23 56.4	+1.1
ANMO	Albuquerque 11nm,1.4s	33.96 306	eP		P	03 23 55.5	+0.2
ANMO	Albuquerque 3.8nm,1.1s,baz=127,slow=8.4,SNR=5.8	33.96 306	P		P	03 23 55.2	0.0
V23A	Ortiz Mt. (NFS baz=34	34.03 307	⇑P		P	03 23 56.8	+0.9
S24A	Houchin Ranch, baz=34	34.07 311	⇓P		P	03 23 56.8	+0.5
R24A	Sanders Place, baz=34	34.25 312	⇑P		P	03 23 58.5	+0.8
U23A	El Rito baz=34,SNR=7.1	34.26 308	⇓P		P	03 23 59.1	+1.3
121A	Cookes Peak, D baz=34	34.28 301	⇑P		P	03 23 58.6	+0.6
LAZ	Ladron 14nm,1.3s	34.31 304	eP		P	03 23 59.3	+1.0
SDCO	Great Sand Dun 9.7nm,1.1s	34.32 311	eP		P	03 23 58.1	-0.4
320A	Kipp Ranch, An baz=35	34.59 299	⇑P		P	03 24 01.1	+0.4
V22A	San Miguel Ran baz=35	34.65 307	⇑P		P	03 24 02.2	+0.9
R23A	Moffat baz=35	34.74 311	⇓P		P	03 24 02.3	+0.2
I28A	Midland baz=35	34.79 323	⇑P		P	03 24 02.2	0.0
LPAZ	La Paz 2.4nm,1.0s	34.85 172	eP		P	03 24 04.3	+0.8
LPAZ	La Paz 1.2nm,0.7s,baz=7.5,slow=4.7,SNR=4.7	34.85 172	P		P	03 24 03.8	+0.3
LPAZ			LR		LR	03 39 53.4	
	comp=Z,213nm,18.9s,baz=185,slow=39						
319A	Douglas baz=35,SNR=12	35.23 298	⇓P		P	03 24 07.1	+0.9
P23A	Jefferson baz=35	35.27 313	⇓P		P	03 24 07.9	+1.1
S22A	4UR Ranch, Cre baz=35	35.28 310	⇓P		P	03 24 07.8	+1.0
N24A	Carr baz=35	35.31 316	⇑P		P	03 24 07.0	+0.2
ISCO	Idaho Springs 9.2nm,1.1s	35.31 314	eP		P	03 24 07.9	+0.9
G28A	Parade baz=35	35.32 325	⇑P		P	03 24 07.7	+1.0
L25A	Engebretsen Ra baz=35	35.40 319	⇓P		P	03 24 08.4	+0.9
K25A	Mack Ranch, Ha baz=36	35.59 319	⇑P		P	03 24 10.1	+1.0
M24A	Cheyenne baz=36	35.59 317	⇑P		P	03 24 09.7	+0.5
H27A	Howes baz=36	35.69 323	⇑P		P	03 24 10.5	+0.6
SMCO	Snowmass 15nm,1.1s	35.97 312	eP		P	03 24 13.6	+0.7
G27A	Dupree baz=36	36.07 325	⇑P		P	03 24 12.9	-0.2
H26A	Fairpoint baz=36	36.08 323	⇑P		P	03 24 13.2	0.0
N22A	Wattenberg Ran baz=36	36.34 315	⇓P		P	03 24 16.0	+0.2
L23A	Garrett baz=36	36.48 317	⇑P		P	03 24 17.4	+0.4
E27A	Carson baz=37	36.54 326	⇓P		P	03 24 18.0	+0.8
X18A	Snowflake baz=36	36.56 303	⇑P		P	03 24 18.1	+0.5
ULM	Lac du Bonnet	36.64 335	eP		P	03 24 23.6	+5.7
ULM	Lac du Bonnet 1.5nm,0.6s,baz=148,slow=13,SNR=2.7	36.64 335	P		P	03 24 16.1	-1.7
TUC	Tucson 1.6nm,0.6s	36.68 300	eP		P	03 24 19.5	+0.9
PV01	Paradox Valley	36.70 310	eP		P	03 24 19.9	+1.0
F26A	Lodgepole baz=37	36.77 325	⇑P		P	03 24 19.3	+0.1
G25A	Newell baz=37	36.79 323	⇑P		P	03 24 19.3	0.0
C28A	Hausauer Farms baz=37	36.79 329	⇑P		P	03 24 19.8	+0.6
A29A	Manning Farm, baz=37	37.08 331	⇑P		P	03 24 21.8	0.0
H24A	Dirks Ranch, A baz=37	37.18 322	⇓P		P	03 24 22.8	+0.1
O20A	White River Ci 16nm,1.4s	37.27 313	eP		P	03 24 25.1	+1.4
O20A	White River Ci baz=37	37.27 313	⇑P		P	03 24 23.5	-0.1
E25A	Miller Ranch, baz=38	37.57 325	⇑P		P	03 24 26.4	+0.5
J22A	Midwest baz=38	37.63 319	⇓P		P	03 24 26.7	0.0
X16A	Lo Mia Camp, P baz=38	37.72 303	⇑P		P	03 24 27.6	0.0
K21A	Alcova baz=38,SNR=5.1	37.74 317	⇓P		P	03 24 28.6	+1.0
I22A	9 Mile Ranch, baz=38	37.88 319	⇓P		P	03 24 28.9	+0.2
WUAZ	Wupatki 13nm,1.1s	37.96 304	eP		P	03 24 30.5	+1.0
WUAZ	Wupatki baz=38	37.96 304	⇑P		P	03 24 29.5	0.0
J21A	Lysite baz=38	38.21 318	⇓P		P	03 24 32.0	+0.4
I21A	Big Trails, Te baz=38	38.34 319	⇑P		P	03 24 32.5	-0.1
SRU	San Rafael 7.8nm,1.1s	38.48 310	eP		P	03 24 38.3	+4.4
F22A	Rosebud baz=39	38.76 322	⇓P		P	03 24 36.3	+0.4
Y14A	Wickenburg baz=39	38.86 301	⇓P		P	03 24 37.5	+0.5
U15A	North Rim baz=39,SNR=6.5	38.93 306	⇓P		P	03 24 37.9	+0.1
I20A	Worland baz=39	38.94 319	⇓P		P	03 24 38.0	+0.4
J19A	Crowheart baz=39	39.20 317	⇑P		P	03 24 40.0	+0.1
113A	Mohawk Valley, baz=39	39.24 299	⇓P		P	03 24 40.2	+0.2
PDAR	Pinedale Array	39.30 316	P		P	03 24 40.5	-0.3
PDAR			PcP		PcP	03 26 48.6	-0.8
PDAR	Pinedale Array 1.0nm,0.7s,baz=124,slow=9.4,SNR=8.2	39.30 316	P		P	03 24 40.5	-0.3
PDAR			PcP		PcP	03 26 48.6	-0.8
	1.0nm,1.0s,baz=107,slow=4.8,SNR=3.5						
C23A	Lambert baz=39	39.33 325	⇑P		P	03 24 41.5	+0.9
A24A	Westby baz=39	39.40 328	⇓P		P	03 24 42.2	+1.0
D22A	Cohagen baz=40	39.49 324	⇓P		P	03 24 42.7	+0.7
DAU	Daniels Canyon	39.49 312	eP		P	03 24 48.0	+5.6
MVU	Marysvale 11nm,1.4s	39.51 309	eP		P	03 24 49.6	+7.0
I19A	Meeteetse baz=40	39.53 318	⇑P		P	03 24 42.7	+0.2

MPU	Maple Canyon	39.61	311	*e*P	P	03 24 47.3	+4.0	
	9.3nm,1.0s							
W13A	Hualapai Mount	39.84	303	⇓P	P	03 24 45.8	+0.5	
	baz=40							
NLU	North Lily Min	39.91	311	*e*P	P	03 24 51.3	+5.5	
	7.4nm,1.0s							
CTU	Camp Tracy	39.95	312	*e*P	P	03 24 52.5	+6.4	
	11nm,1.2s							
CCUT	Cedar City	40.08	307	*e*P	P	03 24 48.2	+0.9	
	81nm,3.0s							
ARUT	Antelope Range	40.21	307	*e*P	P	03 24 48.6	+0.3	
	193nm,1.1s							
E20A	Meyer Farm, Mu	40.25	322	⇑P	P	03 24 48.6	+0.2	
	baz=40							
H18A	Shoshone NF, C	40.25	319	⇓P	P	03 24 47.9	-0.7	
	baz=40,SNR=8.6							
LOHW	Long Hollow	40.36	317	*e*P	P	03 24 50.0	+0.5	
	12nm,0.9s							
F19A	Roth Farm, Mol	40.39	321	⇑P	P	03 24 49.9	+0.2	
	baz=40							
REDW	Red Top Meadow	40.42	316	*e*P	P	03 24 50.5	+0.5	
	14nm,0.9s							
A22A	Carney Farms,	40.43	326	⇓P	P	03 24 50.4	+0.5	
	baz=40							
I17A	Pilgrim Ck.	40.48	317	⇓P	P	03 24 51.0	+0.4	
	baz=40							
MOOW	Moose Ponds	40.52	317	*e*P	P	03 24 50.8	-0.1	
	11nm,0.9s							
DUG	Dugway	40.52	311	*e*P	P	03 24 51.2	+0.3	
	10nm,1.0s							
DUG	Dugway	40.52	311	⇑P	P	03 24 51.1	+0.3	
	baz=40							
TPAW	Teton Pass	40.54	316	*e*P	P	03 24 51.0	0.0	
	7.6nm,0.9s							
E19A	Rath Farm, Rou	40.61	322	⇓P	P	03 24 51.6	+0.2	
	baz=41							
IRM	Iron Mountain	40.65	301	⇓P	P	03 24 51.0	-0.8	
	baz=41,SNR=5.5							
FXWY	Fox Creek	40.65	317	*e*P	P	03 24 51.9	-0.1	
	8.8nm,0.9s							
BC3	Big Chuckawall	40.80	300	⇑P	P	03 24 53.7	+0.5	
	baz=41							
LDFC	Landfair	40.81	303	*e*P	P	03 24 55.0	+1.7	
	10nm,1.0s							
C20A	Veseth Ranch,	40.83	324	⇑P	P	03 24 53.9	+0.8	
	baz=41							
BGU	Big Grassy Mou	40.93	312	*e*P	P	03 24 54.9	+0.6	
	9.2nm,1.4s							
SWSC	Sam W. Stewart	40.95	299	⇓P	P	03 24 54.0	-0.3	
	baz=41							
A21A	Bergtoll Ranch	40.97	326	⇓P	P	03 24 55.6	+1.3	
	baz=41							
HVU	Hansel Valley	41.07	313	*e*P	P	03 24 55.3	-0.1	
	6.1nm,1.1s							
SHPR	Sheep Range	41.18	305	*e*P	P	03 24 57.5	+1.1	
GMRC	Granite Mounta	41.19	302	⇑P	P	03 24 56.4	0.0	
	baz=41							
BELC	Belle Mtn. Jos	41.31	301	⇑P	P	03 24 57.2	-0.2	
	baz=41							
C19A	Slack Wire Ran	41.43	323	⇓P	P	03 24 58.2	+0.1	
	baz=42							
A20A	Cobblestone Ra	41.44	325	⇑P	P	03 24 58.7	+0.5	
	baz=42							
QLMT	Earthquake Lak	41.44	318	*e*P	P	03 24 59.9	+1.4	
MONP	Monument Peak	41.46	299	⇑P	P	03 24 58.0	-0.8	
	baz=41							
TUQ	Turquoise Moun	41.54	303	⇓P	P	03 25 00.0	+0.8	
	baz=42							
BDFB	Brasilia	41.83	143	P	P	03 25 01.0	-0.8	
BDFB	Brasilia	41.83	143	P	P	03 25 01.0	-0.8	
	18nm,1.0s,baz=318,slow=9.2,SNR=16							
SHOC	Shoshone	41.92	303	⇑P	P	03 25 02.8	+0.5	
	baz=42							
R11A	Troy Canyon, C	41.99	307	*e*P	P	03 25 04.1	+1.1	
	5.7nm,1.1s							
R11A	Troy Canyon, C	41.99	307	⇓P	P	03 25 03.3	+0.4	
	baz=42							
TPNV	Topopah Spring	42.14	305	*e*P	P	03 25 05.6	+1.4	
	102nm,2.7s							
TPNV	Topopah Spring	42.14	305	⇑P	P	03 25 05.0	+0.8	
	baz=42							
MCMT	McKenzie Canyo	42.35	317	*e*P	P	03 25 07.2	+1.3	
	4.4nm,1.0s							
DLMT	Dillon	42.42	318	*e*P	P	03 25 07.3	+0.9	
	12nm,1.0s							
ELK	Elko	42.45	311	*e*P	P	03 25 12.1	+5.4	
ELK	Elko	42.45	311	P	P	03 25 00.8	-5.9	
	1.7nm,0.7s,baz=0.0,slow=20							
ELK				LR	LR	03 43 15.7		
	comp=Z,254nm,19.4s,baz=178,slow=37							
HLID	Hailey	42.86	315	*e*P	P	03 25 10.3	+0.2	
	5.6nm,1.0s							
EDW2	Edwards Air Fo	43.09	302	⇑P	P	03 25 12.4	+0.6	
	baz=43							
FCC	Fort Churchill	43.12	344	P	P	03 25 11.0	-0.6	
TPH	Tonopah	43.16	306	*e*P	P	03 25 13.3	+0.8	
	19nm,1.3s							
NVAR	Mina Array Bea	44.08	307	P	P	03 25 18.7	-1.3	
NVAR	Mina Array Bea	44.08	307	P	P	03 25 18.7	-1.3	
	1.4nm,0.7s,baz=87,slow=6.9,SNR=7.6							
FRB	Frobisher Bay	45.35	3	P	P	03 25 28.6	-0.7	
FRB	Frobisher Bay	45.35	3	P	P	03 25 28.6	-0.7	
	3.3nm,0.8s,baz=192,slow=8.1,SNR=3.7							
WVOR	Wild Horse Val	45.40	312	*e*P	P	03 25 30.2	0.0	
	88nm,2.7s							
J08A	Circle Bar Ran	45.56	313	*e*P	P	03 25 31.5	-0.1	
	8.2nm,1.0s							
NEW	Newport	46.46	320	*e*P	P	03 25 38.4	-0.1	
	6.1nm,1.0s							
NEW	Newport	46.46	320	P	P	03 25 37.6	-0.9	
	5.1nm,1.0s,baz=82,slow=6.0,SNR=4.9							
EDM	Edmonton	46.60	326	*e*P	P	03 25 40.2	-0.1	
YBH	Yreka Blue Hor	48.13	310	P	P	03 25 50.4	-1.3	
YBH	Yreka Blue Hor	48.13	310	P	P	03 25 50.4	-1.3	
	3.4nm,0.9s,baz=236,slow=4.7,SNR=3.9							
YKA	Yellowknife Ar	52.56	337	P	P	03 26 24.4	-0.4	
YKA	Yellowknife Ar	52.56	337	P	P	03 26 24.4	-0.4	
	3.6nm,1.0s,baz=127,slow=7.5,SNR=23							
DLBC	Dease Lake	57.40	328	*e*P	P	03 26 59.3	-0.6	
DLBC	Dease Lake	57.40	328	P	P	03 26 59.1	-0.8	
	3.1nm,0.7s,baz=107,slow=4.6,SNR=4.0							
SUMG	Summit	57.60	12	*i* P	P	03 27 02.3	+0.8	
	9.6nm,0.9s							
SUMG	Summit	57.60	12	*e*P	P	03 27 04.4	+2.9	
	242nm,3.0s							
PLCA	Paso Flores	58.93	178	P	P	03 27 10.1	-0.6	
PLCA	Paso Flores	58.93	178	P	P	03 27 10.1	-0.6	
	5.2nm,1.1s,baz=334,slow=7.2,SNR=4.1							
INK	Inuvik	62.26	339	P	P	03 27 32.0	-1.1	
INK	Inuvik	62.26	339	P	P	03 27 32.0	-1.1	
	1.7nm,0.6s,baz=197,slow=6.4,SNR=11							
ESDC	Sonseca Array	62.41	54	P	P	03 27 35.0	+0.3	
ESDC	Sonseca Array	62.41	54	P	P	03 27 35.0	+0.3	
	4.1nm,1.0s,baz=280,slow=6.0,SNR=5.6							
DIV	Divide	65.73	329	*e*P	P	03 28 03.0	+6.8	
	32nm,1.1s							
PAX	Paxson	65.79	331	*e*P	P	03 28 01.2	+4.7	
ILAR	Eielson Array	66.63	333	P	P	03 28 00.7	-1.1	
ILAR	Eielson Array	66.63	333	P	P	03 28 00.7	-1.1	
	1.9nm,1.1s,baz=122,slow=4.0,SNR=6.2							
TIC	Toumodi	66.99	91	*e*P	P	03 28 03.5	-1.5	
	2.5nm,0.2s							
COLA	College	67.05	333	*e*P	P	03 28 07.7	+3.3	
LIC	Lamto	67.11	91	*e*P	P	03 28 04.1	-1.6	
	50nm,1.5s							
DBIC	Dimbokro	67.14	90	*e*P	P	03 28 05.2	-0.6	
	7.2nm,0.8s							
DBIC	Dimbokro	67.14	90	P	P	03 28 05.0	-0.9	
	6.9nm,0.9s,baz=270,slow=8.0,SNR=6.4							
KIC	Kosan Boka	67.34	91	*e*P	P	03 28 05.8	-1.4	
	16nm,0.9s							
MCK	McKinley	67.42	332	*e*P	P	03 28 12.8	+5.9	
COLD	Coldfoot	68.21	336	*e*P	P	03 28 13.1	+1.4	
	11nm,1.2s							
KTH	Kantishna Hill	68.30	332	*e*P	P	03 28 15.8	+3.4	
	21nm,1.1s							
NB2	NORSAR Subarra	71.21	31	P	P	03 28 32.6	+2.2	
	comp=Z,16nm,1.7s,baz=275,slow=6.5							
NOA	NORSAR Array B	71.21	31	P	P	03 28 29.8	-0.5	
NOA	NORSAR Array B	71.21	31	P	P	03 28 29.8	-0.5	
	comp=Z,2.8nm,1.0s,baz=275,slow=6.2,SNR=3.0							
TOA0	Torodi Ar. Sit	71.56	82	*e*P	P	03 28 32.6	-0.6	
TORD	Torodi Ar. Bea	71.56	82	P	P	03 28 32.4	-0.8	
TORD	Torodi Ar. Bea	71.56	82	P	P	03 28 32.4	-0.8	
	comp=Z,3.5nm,0.8s,baz=291,slow=5.0,SNR=16							
SPITS	Spitsbergen Ar	71.92	13	P	P	03 28 33.8	-0.5	
SPITS	Spitsbergen Ar	71.92	13	P	P	03 28 33.8	-0.5	
	comp=Z,12nm,1.0s,baz=247,slow=41,SNR=3.0							
KEST	Kesra	73.33	57	P	P	03 28 44.0	+0.4	
KEST	Kesra	73.33	57	P	P	03 28 44.0	+0.4	
	comp=Z,2.3nm,0.9s,baz=245,slow=7.2,SNR=5.1							
BRG	Berggiesshubel	73.96	41	*e*P	P	03 28 51.1	+4.2	
	comp=Z,47nm,2.0s							
KHC	Kasperske Hory	74.02	43	*e*P	P	03 28 46.5	-0.8	
KHC	Kasperske Hory	74.02	43	*e*P	P	03 28 47.9	+0.6	
	comp=Z,9.2nm,1.1s							
GEC2	GERESS Array S	74.15	43	*e*P	P	03 28 49.4	+1.2	
GERES	GERESS Array B	74.15	43	P	P	03 28 48.4	+0.2	
GERES	GERESS Array B	74.15	43	P	P	03 28 48.4	+0.2	
	comp=Z,4.8nm,0.9s,baz=257,slow=5.2,SNR=12							
DPC	Dobruska-Polom	75.54	41	*e*P	P	03 28 57.3	+1.1	
ARCES	ARCESS Array B	75.78	21	P	P	03 28 56.8	-0.3	
ARCES	ARCESS Array B	75.78	21	P	P	03 28 56.8	-0.3	
	comp=Z,3.1nm,0.8s,baz=283,slow=4.2,SNR=10							
GAMB	Gambell	77.43	333	*e*P	P	03 29 13.5	+7.0	
	comp=Z,8.4nm,1.1s							
FINES	FINESS Array B	78.19	29	P	P	03 29 10.2	-0.6	
FINES	FINESS Array B	78.19	29	P	P	03 29 10.2	-0.6	
	comp=Z,2.5nm,0.9s,baz=337,slow=2.9,SNR=5.6							
PSZ	Piszkesteto	78.38	43	*e*P	P	03 29 20.7	+8.5	
KWP	Kalwaria Pacla	79.72	41	*e*P	P	03 29 20.7	+1.3	
	comp=Z,18nm,1.0s							
BUR08	Bucovina Ar. S	81.89	43	*e*P	P	03 29 32.3	+1.1	
AKASG	Malin Array Be	83.35	39	P	P	03 29 38.0	-0.6	
AKASG	Malin Array Be	83.35	39	P	P	03 29 38.0	-0.6	
	comp=Z,1.7nm,0.7s,baz=281,slow=5.3,SNR=5.3							
TIXI	Tiksi	88.89	353	*e*P	P	03 30 08.5	+3.0	
	comp=Z,4.4nm,0.8s							
BR131	Keskin Array S	90.48	48	*e*P	P	03 30 14.3	+0.5	
	comp=Z,2.7nm,0.9s							
BRTR	Keskin Array B	90.48	48	P	P	03 30 14.2	+0.5	
BRTR	Keskin Array B	90.48	48	P	P	03 30 14.2	+0.5	
	comp=Z,1.9nm,0.9s,baz=274,slow=4.7,SNR=9.4							
SEY	Seymchan	91.46	341	P	P	03 30 18.6	+0.9	
SEY	Seymchan	91.46	341	P	P	03 30 18.6	+0.9	
	comp=Z,1.8nm,0.6s,baz=5.1,slow=23,SNR=5.7							
KSH	Kashi	115.42	26	*e*PKP	PKPdf	03 35 56.0	+2.1	
KSH				*e*PP	PP	03 37 02.6	+8.5	
KSH				*e*SKS	SKSdf	03 43 03.1	-3.4	
KSH				*e*SKKS	SKKSac	03 43 51.8	-5.2	
KSH				*e*SS	SS	03 52 57.3	+5.3	
WMQ	Urumqi	115.53	15	PKP	PKPdf	03 35 54.6	+0.7	
HHC	Hu-ho-hao-te	120.85	356	*e*PKP	PKPdf	03 36 05.1	+0.8	
HHC				PP	PP	03 37 35.9	+4.6	
HHC				SKS	SKSdf	03 43 17.6	+0.9	
HHC				SKKS	SKKSac	03 44 25.3	-7.5	
HHC				SS	SS	03 54 07.8	+6.1	
HHC				LR	LR			
	comp=Z,210nm,19.6s							
BJI	Beijing	121.19	352	PKP	PKPdf	03 36 02.8	-2.0	
LZH	Lanzhou	125.67	3	*e*PKP	PKPdf	03 36 14.0	+0.2	
LZH				sPKP		03 36 18.5		
LZH				LR	LR			
	comp=Z,160nm,20.0s							
STKA	Stephens Creek	146.18	240	PKPbc	PKPdf	03 36 49.8	-1.6	
STKA	Stephens Creek	146.18	240	PKPbc	PKPdf	03 36 49.8	-1.6	
	comp=Z,2.4nm,0.9s,baz=208,slow=16,SNR=2.2							
WRA	Warramunga Arr	154.22	262	PKP	PKPdf	03 37 03.1	-1.2	
WRA				PKPbc	PKPbc	03 37 09.9	-2.6	
WRA	Warramunga Arr	154.22	262	PKP	PKPdf	03 37 03.1	-1.2	
	comp=Z,1.0nm,0.9s,baz=68,slow=1.6,SNR=4.6							
WRA				PKPbc	PKPbc	03 37 09.9	-2.6	
	comp=Z,2.3nm,1.0s,baz=83,slow=2.1,SNR=7.4							
ASAR	Alice Springs	154.46	254	PKP	PKPdf	03 37 02.7	-1.9	
ASAR				PKPab	PKPab	03 37 26.8	-0.5	
ASAR	Alice Springs	154.46	254	PKP	PKPdf	03 37 02.7	-1.9	
	comp=Z,0.4nm,0.8s,baz=126,slow=1.6,SNR=3.0							
ASAR				PKPab	PKPab	03 37 26.8	-0.5	
	comp=Z,1.3nm,0.8s,baz=122,slow=4.3,SNR=8.3							

*ISCJB **13** 03:31:55.6±0.9, 18.32N±0.03×72.91W±0.02, h11km±5km, mb4.7/124, MS4.0/9, Error ellipse: s-maj=5.0km s-min=2.4km az=12.4*
*IDC **13** 03:31:55.2±0.4, 18.40N×72.89W, h0km, mb4.5/26, mb1 4.6/31, mb1mx4.6/34, mbtmp4.5/31, ML3.7/4, MS3.8/10, Ms1 3.8/10, ms1mx3.5/40, Error ellipse: s-maj=14.1km s-min=10.9km az=52.0*
*NEIC **13** 03:31:57.2±0.1, 18.32N×72.87W, h10km, mb4.7/92, Error ellipse: s-maj=3.6km s-min=2.5km az=195.0*
*JSN **13** 03:32:01.0±1.3, 18.14N×72.78W, h48km±999km, MD5.3*
ISC 13 03:31:58.1±0.7, 18.32N±0.04×72.92W±0.03, h16km±4km, n602, σ0º92/619, mb4.7/125, MS4.1/9, 172C-168D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.68	67	*e*Pn	Pn	03 32 26.5	-0.4
SDDR				*e*S	Sn	03 32 48.0	-0.1
GTBY	Guantanamo Bay	2.62	308	*e*Pn	Pn	03 32 38.3	-1.4
GTBY				*e*Pg	Pg	03 32 47.5	-0.8
GTBY				*e*S	Sb	03 33 17.0	+0.5
YHJ	Yallahs	3.43	263	*e*P	Pn	03 32 53.0	+2.1
YHJ	Yallahs	3.43	263	*e*P	Pn	03 32 53.0	+2.1
GRTK	Grand Turk	3.59	28	*e*Pn	Pn	03 32 52.6	-0.5
GRTK				*e*S	Sn	03 33 32.2	-3.0
GWJ	Greenwich	3.63	267	*i* PA	Pn	03 32 56.4	+2.6
GWJ	Greenwich	3.63	267	*i* P	Pn	03 32 56.4	+2.6
HOJ	Hope	3.66	266	*i* P	Pn	03 32 55.4	+1.3
HOJ	Hope	3.66	266	*i* P	Pn	03 32 55.3	+1.3
STH	Stony Hill	3.71	267	*i* PA	Pn	03 32 56.0	+1.3
STH				*i* S	Sn	03 33 38.2	+0.1
STH	Stony Hill	3.71	267	*i* P	Pn	03 32 56.0	+1.3
STH				*i* S	Sn	03 33 38.2	+0.1
PCJ	Portland Cotta	4.07	263	*i* P	Pn	03 33 01.1	+1.3
PCJ	Portland Cotta	4.07	263	*i* P	Pn	03 33 01.1	+1.3
CVJ	Coleyville	4.39	269	*e*P	Pn	03 33 05.8	+1.6
CVJ	Coleyville	4.39	269	*e*P	Pn	03 33 05.8	+1.6
MTDJ	Mount Denham	4.39	269	*e*Pn	Pn	03 33 04.0	-0.2
MTDJ				*e*Pg	Pg	03 33 22.9	+0.8
MTDJ				*e*S	Sb	03 34 02.0	-5.6
MCJ	Malvern	4.55	266	*i* P	Pn	03 33 08.8	+2.4
MCJ	Malvern	4.55	266	*i* P	Pn	03 33 08.8	+2.4
AGPR	Aguadilla, PR	5.52	88	*e*Pn	Pn	03 33 18.2	-1.4
	386nm,0.9s						
AGPR				*e*S	Sg	03 34 58.8	+3.5
CRPR	Cabo Rojo, PR	5.53	92	*e*Pn	Pn	03 33 19.2	-0.6
	91nm,0.6s						
CRPR				*e*S	Sn	03 34 31.3	+8.2
LSP	Las Mesas	5.54	91	*e*Pn	Pn	03 33 21.2	+1.2
LSP				*e*S	Sb	03 34 38.7	-2.2
AOPR	Arecibo Observ	5.86	89	*e*Pn	Pn	03 33 26.4	+2.1
OBIP	Obispado Ponce	6.01	92	*e*Pn	Pn	03 33 25.6	-0.7
	207nm,1.0s						
OBIP				*e*S	Sn	03 34 37.9	+3.0
CELP	Cerrillos	6.03	91	*e*Pn	Pn	03 33 26.7	0.0
CELP				*e*S	Sn	03 34 44.1	+8.6
CBYP	Canovanas	6.71	89	*e*Pn	Pn	03 33 37.2	+1.1
	204nm,1.1s						
CBYP				*e*S	Sn	03 34 55.8	+3.6
HUMP	Col San Antoni	6.72	90	*e*Pn	Pn	03 33 39.7	+3.5
MTP	Monte Pirata	7.01	91	*e*Pn	Pn	03 33 39.0	-1.1
	133nm,1.0s						
MTP				*e*S	Sn	03 35 00.4	+1.0
CDVI	St. Croix	7.78	93	*e*Pn	Pn	03 33 49.8	-0.8
CDVI				*e*S	Sn	03 35 16.6	-1.9
SDV	Santo Domingo	9.64	166	*e*Pn	Pn	03 34 17.2	+0.8
SDV				*e*S	Sn	03 35 58.1	-6.5
ANWB	Willy Bob	10.61	92	Pn	Pn	03 34 29.4	-0.1
SCG	Saint Claude	10.98	100	*e*P	Pn	03 34 36.1	+1.4
PHG	Guadaloupe-2	11.02	100	*e*P	Pn	03 34 40.2	+5.0
SEG	Port Louis	11.06	98	*e*P	Pn	03 34 35.8	0.0
BCIP	Isla Barro Col	11.31	217	*e*Pn	Pn	03 34 37.1	-2.0
BCIP				*e*S	Sn	03 36 37.9	-7.3
H05N1	Guadeloupe/Mar	11.50	98	Pn	Pn	03 34 42.2	+0.4
	SNR=7.1						
GRGR	Grenville	12.49	118	Pn	Pn	03 34 53.9	-1.4
ROSC	El Rosal	13.45	186	*e*Pn	Pn	03 35 08.9	+0.1
ROSC				*e*S	Sn	03 37 36.3	-2.0
ROSC	El Rosal	13.45	186	Pn	Pn	03 35 08.7	-0.1
	4.1nm,0.3s,baz=104,slow=6.1,SNR=28						
JTS	JuntasAbangare	14.12	237	Pn	Pn	03 35 16.7	-0.9
	123nm,1.4s						
JTS	JuntasAbangare	14.12	237	Pn	Pn	03 35 18.9	+1.3
	1.3nm,0.3s,baz=255,slow=18,SNR=2.7						
JTS				LR	LR	03 40 27.2	
	comp=Z,246nm,19.1s,baz=30,slow=36						
TGUH	Tegucigalpa,Un	14.42	255	*e*Pn	Pn	03 35 21.3	-0.4
TEIG	Tepich	14.62	280	*e*Pn	Pn	03 35 24.6	+0.1
TEIG				*e*S	Sn	03 38 05.0	-1.3
TEIG	Tepich	14.62	280	Pn	Pn	03 35 25.5	+1.0
	5.4nm,0.3s,baz=82,slow=1.5,SNR=10						
BBSR	BB Station	15.83	26	*e*Pn	Pn	03 35 38.8	-1.5
BBSR				*e*S	Sn	03 38 27.4	-8.1
APG	El Apazote	17.13	262	P	Pn	03 35 57.7	+0.5
APG	El Apazote	17.13	262	P	Pn	03 35 57.7	+0.5
	0.2nm,0.3s,baz=104,slow=19,SNR=3.2						
APG				LR	LR	03 42 07.9	
	comp=Z,304nm,20.6s,baz=97,slow=36						
KMSC	Kings Mountain	18.35	338	*e*Pn	P	03 36 12.8	+0.9
KMSC	Kings Mountain	18.35	338	⇓P	P	03 36 13.5	+1.6
	baz=18						
OTAV	Otavalo	18.78	197	*e*Pn	Pn	03 36 18.8	+1.1
	230nm,1.8s						
TKL	Tuckaleechee C	19.77	333	P	P	03 36 27.4	-0.1
TKL				*e*Pn	pP	03 36 32.5	+0.5
TKL	Tuckaleechee C	19.77	333	P	P	03 36 27.4	-0.1
	0.2nm,0.3s,baz=148,slow=9.0,SNR=5.1						
TKL				LR	LR	03 45 00.8	
	comp=Z,373nm,18.4s,baz=134,slow=40						
JSRW	J. Sargeant Re	19.78	348	*e*P	Pn	03 36 29.0	-0.2
VWCC	Virginia Weste	19.85	343	*e*P	Pn	03 36 29.4	-0.6
CPCT	Cooper Cave	19.92	331	*e*Pn	Pn	03 36 33.0	+2.1
BLA	Blacksburg	19.94	342	*e*P	P	03 36 30.0	+0.6
	23nm,0.8s						
CBN	Corbin	20.19	350	*e*P	P	03 36 32.5	+0.5
	46nm,0.6s						
TZTN	Tazewell	20.43	335	*e*P	Pn	03 36 38.5	+1.7
	70nm,1.4s						
VBMS	Vicksburg	21.05	314	*e*P	P	03 36 42.8	+1.4
	163nm,1.7s						
SDMD	Soldier's Deli	21.29	352	*e*P	P	03 36 49.5	+5.6
	32nm,1.0s						
MVL	Millersville	21.80	353	*e*P	P	03 36 52.3	+2.8
	35nm,1.4s						
OXF	Oxford	21.81	321	*e*P	P	03 36 48.8	-0.8
	97nm,1.3s						
ODNJ	Ogdensburg	22.73	357	*e*P	P	03 37 02.7	+3.4
	37nm,1.1s						
PTGA	Pitinga	22.82	145	*e*P	P	03 37 00.1	-0.4
	20nm,1.1s						
PTGA	Pitinga	22.82	145	P	P	03 37 00.6	+0.1
	12nm,0.9s,baz=338,slow=11,SNR=13						
ACSO	Alum Creek Sta	23.50	340	*e*P	P	03 37 12.3	+5.1
	52nm,1.4s						
HKT	Hockley	23.85	303	*e*P	P	03 37 10.9	+0.2
	12nm,0.9s						
PBMO	Poplar Bluff	23.99	324	*e*P	P	03 37 12.0	0.0
	21nm,1.1s						
035Z	Hargill	24.59	294	⇓P	P	03 37 17.6	0.0
	baz=25						
835A	Beeville	24.89	298	⇓P	P	03 37 21.0	+0.7
	baz=25						
ACCN	Adirondack Com	24.99	359	*e*P	P	03 37 25.0	+4.0
	206nm,2.3s						
735A	Kenedy	25.05	299	⇑P	P	03 37 21.7	-0.1
	baz=25,SNR=7.4						
SFIN	Scholer Farm	25.15	334	⇑P	P	03 37 22.9	+0.4
	baz=25						
635A	Leesville	25.20	301	⇑P	P	03 37 23.1	-0.1
	baz=25						
535A	Dale	25.27	302	⇑P	P	03 37 24.0	+0.2
	baz=25						
034A	Hebbronville	25.27	295	⇓P	P	03 37 24.7	+0.9
	baz=25						
934A	Benavides	25.27	296	⇓P	P	03 37 24.2	+0.4
	baz=25						
834A	Tilden	25.45	297	⇓P	P	03 37 25.4	0.0
	baz=26,SNR=11						
335A	Moody	25.65	305	⇑P	P	03 37 27.4	+0.3
	baz=26						
734A	La Parita Cree	25.67	299	⇓P	P	03 37 27.5	+0.1
	baz=26,SNR=5.4						
634A	China Grove, S	25.68	300	⇓P	P	03 37 27.5	0.0
	baz=26						
WHTX	Lake Whitney	25.97	306	*e*P	P	03 37 30.2	+0.1
	14nm,0.8s						
WHTX	Lake Whitney	25.97	306	⇑P	P	03 37 30.2	+0.1
	baz=26,SNR=14						
534A	Blanco	26.00	301	⇓P	P	03 37 30.3	-0.1
	baz=26,SNR=9.1						
434A	Burnet	26.12	303	⇓P	P	03 37 31.1	-0.4
	baz=26						
135A	Vickery Place,	26.18	308	⇑P	P	03 37 32.2	+0.2
	baz=26						
833A	Chaparral WMA,	26.22	297	⇓P	P	03 37 32.1	-0.3
	baz=26,SNR=10						
733A

Z31A	Sharp Cattle R baz=29	28.59 307	⇓P	P	03 37 53.2	-0.4
330A	Mertzon baz=29	28.66 302	⇓P	P	03 37 53.8	-0.5
W32A	Sentinel baz=29,SNR=7.4	28.73 311	⇓P	P	03 37 54.8	-0.1
SAML	Samuel 1.7nm,0.9s	28.75 160	eP	P	03 37 54.0	-1.1
230A	Sterling City baz=29	28.78 303	⇑P	P	03 37 54.8	-0.6
V32A	Arapaho baz=29	28.88 312	⇑P	P	03 37 56.1	-0.1
Y31A	Rekieta Farm, baz=29	28.95 308	⇑P	P	03 37 56.6	-0.2
429A	Davenport Ranc baz=29	28.98 300	⇑P	P	03 37 56.6	-0.6
X31A	McDonald Ranch baz=29	29.03 309	⇓P	P	03 37 57.0	-0.5
529A	Stev Forest Ra baz=29	29.10 299	⇑P	P	03 37 57.3	-1.0
KSU1	Kansas State U 22nm,0.8s	29.18 320	eP	P	03 37 58.8	0.0
KSU1	Kansas State U baz=29,SNR=7.2	29.18 320	⇑P	P	03 37 58.6	-0.2
U32A	Winter Ranch, baz=29	29.18 313	⇑P	P	03 37 58.2	-0.7
W31A	Holland Ranch, baz=29	29.26 310	⇓P	P	03 37 59.0	-0.7
Z30A	Sanderson Ranc baz=29	29.32 306	⇑P	P	03 37 59.6	-0.5
329A	Wagon Wheel Ra baz=29,SNR=7.4	29.34 302	⇑P	P	03 37 59.7	-0.7
229A	Bryant Ranch, baz=29	29.36 303	⇓P	P	03 38 00.2	-0.4
V31A	Spring Creek L baz=30	29.47 312	⇑P	P	03 38 01.6	+0.1
628A	Black Gap, Mar baz=30	29.48 298	⇓P	P	03 38 01.4	-0.3
T32A	Huddler Ranch, baz=30	29.55 315	⇓P	P	03 38 02.4	+0.2
R33A	Olander Ranch, baz=30	29.56 318	⇓P	P	03 38 02.5	+0.3
528A	Cox Ranch, San baz=30,SNR=8.8	29.58 299	⇑P	P	03 38 02.4	-0.2
X30A	Coker Ranch, T baz=30	29.61 308	⇓P	P	03 38 02.9	+0.1
428A	Kincaid Ranch, baz=30,SNR=18	29.66 300	⇓P	P	03 38 03.2	-0.1
Z29A	Hungry Hill Ra baz=30,SNR=8.9	29.76 306	⇓P	P	03 38 04.0	-0.1
U31A	Nine Bar Ranch baz=30	29.77 313	⇑P	P	03 38 03.9	-0.2
Q33A	Connelly Farm, baz=30,SNR=7.0	29.87 319	⇓P	P	03 38 05.3	+0.4
Y29A	Porterfield Fa baz=30,SNR=8.6	29.97 307	⇓P	P	03 38 06.1	+0.2
T31A	Randall Ranch, baz=30	30.02 314	⇓P	P	03 38 06.5	+0.2
228A	UT Block 9, Go baz=30	30.04 303	⇓P	P	03 38 06.3	-0.3
R32A	Long Quarter, baz=30	30.09 317	⇑P	P	03 38 07.1	+0.2
TXAR	Lajitas Array	30.10 297	P	P	03 38 06.3	-0.9
TXAR			PcP	PcP	03 41 08.9	+0.2
TXAR			ScP	ScP	03 44 52.7	+2.2
TXAR	Lajitas Array 2.0nm,1.0s,baz=119,slow=10,SNR=11	30.10 297	P	P	03 38 06.3	-0.9
TXAR			PcP	PcP	03 41 08.9	+0.2
TXAR	1.4nm,0.9s,baz=112,slow=2.9,SNR=5.7		ScP	ScP	03 44 52.7	+2.2
128A	1.3nm,1.2s,baz=129,slow=3.6,SNR=3.9 Castleberry Fa baz=30,SNR=9.0	30.13 304	⇑P	P	03 38 07.1	-0.3
S31A	Mullinville baz=30	30.16 315	⇑P	P	03 38 07.8	+0.2
X29A	Tulia baz=30	30.23 308	⇓P	P	03 38 09.0	+0.7
527A	Woodward Ranch baz=30,SNR=10	30.27 299	⇑P	P	03 38 09.0	+0.4
427A	Hayter Ranch, baz=30,SNR=6.6	30.29 300	⇑P	P	03 38 08.9	+0.1
Z28A	Tucker Farm, M baz=30	30.30 305	⇓P	P	03 38 09.0	+0.1
Q32A	Meitler Ranch, baz=30	30.32 318	⇓P	P	03 38 09.4	+0.5
AMTX	Amarillo baz=30	30.40 309	⇓P	P	03 38 09.7	0.0
U30A	WK&E Inc. Balk baz=30	30.41 312	⇓P	P	03 38 10.1	+0.3
Y28A	McKinney Farm, baz=30	30.43 306	⇑P	P	03 38 10.4	+0.4
W29A	Amraillo baz=30	30.48 309	⇑P	P	03 38 10.8	+0.3
R31A	Burdett baz=31,SNR=5.4	30.55 316	⇓P	P	03 38 11.1	+0.1
526A	Mary Lane Ranc baz=31,SNR=16	30.64 298	⇑P	P	03 38 12.2	+0.2
P32A	Huiting Farm, baz=31,SNR=5.7	30.72 319	⇓P	P	03 38 12.4	0.0
426A	McDonald Obser baz=31,SNR=21	30.76 299	⇓P	P	03 38 13.0	-0.1
S30A	Montezuma baz=31	30.84 314	⇓P	P	03 38 13.6	0.0
127A	Arkansas Junct baz=31	30.84 304	⇑P	P	03 38 13.6	-0.1
MSTX	Muleshoe 78nm,2.3s	30.85 306	eP	P	03 38 13.7	0.0
MSTX	Muleshoe baz=31	30.85 306	⇑P	P	03 38 13.8	0.0
Q31A	Ellis baz=31	30.86 317	⇑P	P	03 38 13.9	+0.2
326A	Caldwell Ranch baz=31	30.90 301	⇓P	P	03 38 13.8	-0.4
O32A	Brockman Farm, baz=31	30.90 320	⇑P	P	03 38 14.4	+0.4
Z27A	Tatum baz=31	30.95 305	⇓P	P	03 38 14.3	-0.3
R30A	Dighton baz=31	31.05 315	⇑P	P	03 38 15.6	+0.2
Y27A	Causey baz=31	31.12 306	⇑P	P	03 38 16.0	-0.2
P31A	Stockton baz=31,SNR=6.0	31.15 318	⇓P	P	03 38 16.5	+0.3
T29A	Hugoton baz=31	31.17 313	⇓P	P	03 38 16.8	+0.3
S29A	Ulysses baz=31	31.27 314	⇑P	P	03 38 17.9	+0.5
226B	Tecolote Peak, baz=31	31.29 302	⇑P	P	03 38 17.7	+0.1
126A	Clayton Basin, baz=31	31.35 303	⇑P	P	03 38 18.2	0.0
Q30A	Quinter baz=31,SNR=6.6	31.38 317	⇓P	P	03 38 18.3	0.0
U28A	Mallet baz=32	31.46 311	⇓P	P	03 38 19.3	+0.2
O31A	Woolen Ranch, baz=32,SNR=5.5	31.48 319	⇓P	P	03 38 19.2	+0.1
Z26A	Caprock baz=32	31.53 304	⇓P	P	03 38 19.3	-0.5
425A	Indio Mountain baz=32	31.58 299	⇑P	P	03 38 20.1	-0.1
V27A	Dan Oppiter Fa baz=32	31.63 309	⇑P	P	03 38 19.8	-0.8
R29A	Marienthal baz=32	31.70 315	⇑P	P	03 38 21.3	+0.1
P30A	Selden baz=32,SNR=10	31.71 318	⇑P	P	03 38 21.4	+0.1
T28A	Walsh baz=32	31.72 312	⇓P	P	03 38 21.4	0.0
325A	Bean Ranch, Si baz=32,SNR=12	31.73 300	⇑P	P	03 38 22.0	+0.3
S28A	Manter baz=32	31.80 313	⇑P	P	03 38 22.5	+0.4
225A	Deer Hill, Car baz=32,SNR=13	31.83 302	⇓P	P	03 38 22.7	+0.2
Q29A	Oakley baz=32,SNR=5.0	31.84 316	⇓P	P	03 38 22.6	+0.3
125A	Gardner Draw, baz=32,SNR=7.3	31.86 303	⇑P	P	03 38 23.1	+0.3
X26A	CR and CF Fran baz=32	31.87 307	⇑P	P	03 38 22.3	-0.4
U27A	Thompson Grove baz=32	31.91 310	⇓P	P	03 38 22.8	-0.3
O30A	MW Ranch, Wils baz=32	31.95 319	⇓P	P	03 38 23.2	-0.1
M31A	Lambtecht Ranc baz=32	31.99 321	⇑P	P	03 38 23.8	+0.2
W26A	Owens Ranch, T baz=32	32.05 308	⇑P	P	03 38 24.4	+0.1
R28A	Tribune baz=32,SNR=12	32.11 314	⇓P	P	03 38 25.0	+0.2
Z25A	Roswell baz=32	32.12 304	⇑P	P	03 38 24.9	0.0
T27A	Campo baz=32	32.12 312	⇓P	P	03 38 24.9	0.0
MNTX	Cornudas Mount 5.2nm,0.8s	32.16 301	eP	P	03 38 25.4	+0.2
324A	Moseley Ranch, baz=32,SNR=12	32.17 300	⇓P	P	03 38 25.7	+0.2
P29A	Atwood baz=32	32.19 317	⇑P	P	03 38 25.7	+0.3
ECSD	EROS Data Cent 58nm,2.3s	32.24 327	eP	P	03 38 24.6	-1.2
Y25A	Mesa, Roswell baz=32	32.32 305	⇓P	P	03 38 27.0	+0.2
V26A	Tequesquite Ra baz=32	32.35 309	⇑P	P	03 38 27.4	+0.5
224A	Cornudas Mount baz=32,SNR=22	32.38 301	⇓P	P	03 38 27.7	+0.4
O29A	4D Ranch, Culb baz=32	32.39 318	⇑P	P	03 38 27.7	+0.5
L31A	Butterfield Fa baz=32	32.42 323	⇑P	P	03 38 27.7	+0.3
Q28A	Sharon Springs baz=32	32.49 316	⇑P	P	03 38 28.2	+0.1
X25A	Clemmons Ranch baz=32	32.51 306	⇑P	P	03 38 28.7	+0.3
124A	Stringfield Ra baz=32,SNR=14	32.52 302	⇓P	P	03 38 29.4	+0.8
U26A	Atchley Ranch, baz=33,SNR=6.2	32.57 310	⇓P	P	03 38 28.9	-0.1
W25A	X Bar L Ranch, baz=33,SNR=9.2	32.62 307	⇓P	P	03 38 29.8	+0.4
Z24A	Sheeppen Canyo baz=33,SNR=12	32.65 304	⇑P	P	03 38 30.0	+0.4
N29A	Votaw Ranch, W baz=33	32.68 319	⇑P	P	03 38 29.8	+0.1
P28A	Saint Francis baz=33	32.71 316	⇓P	P	03 38 30.3	+0.3
R27A	Eads baz=33	32.76 314	⇓P	P	03 38 30.4	-0.1
L30A	Spencer Herefo baz=33	32.80 322	⇓P	P	03 38 30.7	0.0
T26A	Comanche Natio baz=33	32.80 311	⇑P	P	03 38 30.8	-0.1
Y24A	Capitan baz=33,SNR=12	32.90 305	⇑P	P	03 38 32.4	+0.5
V25A	Rancho No Teng baz=33,SNR=15	32.98 308	⇑P	P	03 38 32.9	+0.4
KSCO	Kaye Shedlock' baz=33	33.00 315	⇑P	P	03 38 32.8	+0.2
O28A	Krsinger Ran baz=33	33.02 317	⇑P	P	03 38 33.1	+0.4
U25A	Circle Dot Ran baz=33	33.05 309	⇓P	P	03 38 33.4	+0.2
M29A	Burnside Ranch baz=33	33.08 320	⇓P	P	03 38 33.7	+0.5
N28A	Pribbeno Ranch baz=33,SNR=5.5	33.17 318	⇑P	P	03 38 33.9	-0.2
K30A	Basset baz=33	33.18 323	⇑P	P	03 38 34.7	+0.6
R26A	Arlington baz=33	33.21 313	⇓P	P	03 38 34.8	+0.4
P27A	Ficken Ranch, baz=33	33.24 316	⇓P	P	03 38 35.0	+0.3
Z23A	Rita Site, Whi baz=33	33.31 303	⇑P	P	03 38 36.2	+0.8
L29A	Maesberg Ranch baz=33,SNR=5.2	33.32 321	⇓P	P	03 38 35.2	-0.1
W24A	Lazy 6 Ranch, baz=33,SNR=8.5	33.34 307	⇓P	P	03 38 36.5	+0.8
T25A	Trinidad baz=33,SNR=8.6	33.37 311	⇑P	P	03 38 36.4	+0.4
Y23A	Lovelace Mesa, baz=33,SNR=13	33.39 304	⇑P	P	03 38 36.8	+0.6
V24A	Rampart Ranch, baz=34	33.43 308	⇑P	P	03 38 36.4	-0.1
M28A	Bar X Bar Ranc baz=34	33.47 319	⇑P	P	03 38 36.9	+0.3
J30A	Dallas baz=34	33.53 324	⇑P	P	03 38 37.2	+0.2
Q26A	Hugo baz=34,SNR=6.5	33.56 314	⇑P	P	03 38 38.1	+0.6
S25A	Robets Cordova baz=34	33.61 311	⇑P	P	03 38 38.3	+0.2
OGNE	Ogallala baz=34	33.63 318	⇓P	P	03 38 38.2	+0.2
222A	Williams Famil baz=34	33.68 301	⇑P	P	03 38 39.6	+0.9
U24A	Moreno Valley baz=34	33.70 309	⇑P	P	03 38 40.2	+1.3
X23A	Hourglass Bar baz=34,SNR=14	33.71 305	⇓P	P	03 38 39.3	+0.4
R25A	Fountain Ranch baz=34	33.72 312	⇓P	P	03 38 39.8	+0.8
P26A	Davis Ranch, A baz=34	33.76 315	⇓P	P	03 38 39.5	+0.2
W23A	Wemer Place, baz=34	33.88 306	⇑P	P	03 38 41.7	+1.3
Z22A	Elephant Butte baz=34,SNR=7.2	33.89 303	⇑P	P	03 38 41.4	+0.8
BNM	Barren Site 15nm,1.1s	33.91 304	eP	P	03 38 41.8	+1.1
LPM	Los Pinos Moun	33.96 305	eP	P	03 38 42.1	+1.0
T24B	San Luis baz=34,SNR=11	34.04 310	⇑P	P	03 38 42.9	+1.0
ANMO	Albuquerque 15nm,1.5s	34.04 306	eP	P	03 38 42.4	+0.6
J29A	Okreek baz=34	34.05 323	⇓P	P	03 38 41.2	-0.4
Q25A	Bedland, Calha baz=34	34.05 314	⇓P	P	03 38 43.1	+1.2
V23A	Ortiz Mt. (NFS baz=34,SNR=8.4	34.12 307	⇑P	P	03 38 43.6	+1.0
S24A	Houchin Ranch, baz=34	34.16 311	⇑P	P	03 38 43.5	+0.5
M27A	Revese DX Ran baz=34	34.17 319	⇓P	P	03 38 43.2	+0.4
P25A	Willow Gulch B baz=34	34.28 315	⇑P	P	03 38 44.2	+0.3
N26A	Koester Ranch, baz=34	34.33 317	⇓P	P	03 38 44.6	+0.4
R24A	Sanders Place, baz=34	34.34 312	⇑P	P	03 38 45.1	+0.7
U23A	El Rito baz=34,SNR=7.6	34.35 308	⇑P	P	03 38 45.5	+1.0
121A	Cookes Peak, D 19nm,1.2s	34.35 301	eP	P	03 38 45.5	+1.0
121A	Cookes Peak, D baz=34	34.35 301	⇓P	P	03 38 45.0	+0.5
LAZ	Ladron 8.7nm,1.1s	34.39 305	eP	P	03 38 44.9	0.0
I29A	Vivian Onida baz=34	34.42 324	⇑P	P	03 38 45.1	+0.3
T23A	Casiass Ranch, baz=34	34.51 309	⇓P	P	03 38 46.3	+0.4
M26A	McRoberts Ranc baz=35	34.61 318	⇑P	P	03 38 46.8	+0.2
320A	Kipp Ranch, An baz=35	34.66 299	⇑P	P	03 38 48.3	+1.1
Q24A	Divide baz=35	34.70 313	⇑P	P	03 38 47.7	+0.1
LPAZ	La Paz 18nm,1.3s	34.71 172	eP	P	03 38 48.1	-0.1
LPAZ	La Paz 1.2nm,0.6s,baz=40,slow=2.5,SNR=4.5	34.71 172	P	P	03 38 49.1	+0.9
V22A	San Miguel Ran baz=35	34.73 307	⇑P	P	03 38 48.2	+0.4
K27A	Flueckinger Fa baz=35	34.75 321	⇑P	P	03 38 47.8	+0.1
S23A	Nye Farm, Mont baz=35	34.76 311	⇓P	P	03 38 48.6	+0.6
R23A	Moffat baz=35,SNR=8.8	34.84 311	⇓P	P	03 38 48.9	+0.2
U22A	Llaves baz=35	34.86 308	⇓P	P	03 38 49.9	+1.0
I28A	Midland baz=35	34.90 323	⇓P	P	03 38 48.3	-0.7
J27A	Elkhorn Farm, baz=35	34.93 322	⇓P	P	03 38 48.9	-0.4
M25A	Palm-Egli Farm baz=35	35.18 318	⇑P	P	03 38 51.9	+0.4
O24A	Longmont baz=35	35.19 315	⇑P	P	03 38 52.0	+0.3
H28A	Mission Ridge baz=35	35.24 324	⇓P	P	03 38 51.2	-0.6
AGMN	Agassiz Nation baz=35	35.24 333	⇑P	P	03 38 51.3	-0.5
P23A	Jefferson baz=35	35.36 313	⇑P	P	03 38 53.8	+0.4
S22A	4UR Ranch, Cre baz=35	35.37 310	⇑P	P	03 38 53.5	+0.1
ISCO	Idaho Springs 6.8nm,1.0s	35.40 314	eP	P	03 38 54.1	+0.5
ISCO	Idaho Springs baz=35,SNR=6.9	35.40 314	⇑P	P	03 38 54.1	+0.5
N24A	Carr baz=35	35.41 316	⇑P	P	03 38 53.2	-0.3
G28A	Parade baz=36	35.43 325	⇓P	P	03 38 53.3	-0.2
I27A	Quinn baz=36	35.44 323	⇑P	P	03 38 53.4	-0.2
K25A	Mack Ranch, Ha baz=36	35.69 319	⇓P	P	03 38 56.2	+0.3
M24A	Cheyenne baz=36,SNR=6.2	35.69 317	⇑P	P	03 38 56.1	+0.1
H27A	Howes baz=36	35.80 324	⇑P	P	03 38 56.5	-0.2
O23A	Lake Granby, G baz=36	35.80 315	⇑P	P	03 38 57.3	+0.2
F28A	McLaughlin baz=36	35.87 326	⇓P	P	03 38 57.4	+0.2
C30A	Mose, Pekin baz=36	35.98 330	⇑P	P	03 38 58.2	0.0
SIV	San Ignacio	36.04 160	P	P	03 38 58.1	-0.8
SIV	San Ignacio 0.8nm,0.6s,baz=30,slow=20,SNR=2.7	36.04 160	P	P	03 38 58.1	-0.8
L24A	Wheatland baz=36	36.05 318	⇓P	P	03 38 59.3	+0.3
SMCO	Snowmass 130nm,2.8s	36.07 312	eP	P	03 38 59.9	+0.4
J25A	Sunshine Ranch baz=36	36.08 321	⇑P	P	03 38 59.0	-0.2
P22A	Eagle baz=36	36.10 313	⇑P	P	03 38 59.6	0.0
N23A	Red Feather La baz=36	36.14 316	⇓P	P	03 38 60.0	0.0
G27A	Dupree baz=36,SNR=5.3	36.18 325	⇓P	P	03 38 59.8	-0.2
H26A	Fairpoint baz=36	36.19 323	⇑P	P	03 38 59.8	-0.2
O22A	Kremmling baz=36	36.21 314	⇓P	P	03 39 00.3	-0.3
K24A	Anderson Ranch baz=36	36.34 319	⇓P	P	03 39 01.7	+0.3
MVCO	Mesa Verde baz=36	36.39 308	⇓P	P	03 39 02.2	+0.1
N22A	Wattenberg Ran baz=36	36.44 315	⇓P	P	03 39 02.5	0.0
B30A	Myrvik Farm, E baz=36	36.45 331	⇓P	P	03 39 02.6	+0.4
J24A	Dixon Ranch, L baz=37	36.57 320	⇑P	P	03 39 04.0	+0.6
L23A	Garrett baz=37,SNR=7.0	36.58 317	⇑P	P	03 39 03.5	-0.1
X18A	Snowflake baz=37	36.64 304	⇓P	P	03 39 04.0	-0.2
E27A	Carson baz=37	36.65 326	⇓P	P	03 39 03.6	-0.4
H25A	Fruitdale baz=37	36.66 322	⇓P	P	03 39 03.7	-0.4
SCHQ	Schefferville	36.74 6	P	P	03 39 02.5	-2.0
SCHQ	Schefferville 7.3nm,0.9s,baz=326,slow=11,SNR=3.5	36.74 6	P	P	03 39 02.5	-2.0
SCHQ	comp=Z,173nm,18.0s,baz=284,slow=40		LR	LR	03 56 07.6	
TUC	Tucson 19nm,1.9s	36.75 300	eP	P	03 39 05.8	+0.8
ULM	Lac du Bonnet	36.76 335	eP	P	03 39 03.9	-0.9
ULM	Lac du Bonnet 9.9nm,1.0s,baz=147,slow=6.8,SNR=8.8	36.76 335	P	P	03 39 03.7	-1.1
PV01	Paradox Valley	36.79 310	eP	P	03 39 05.8	+0.4
A30A	Hoffart Farm, baz=37	36.79 332	⇓P	P	03 39 05.4	+0.3
M22A	Cedar Creek Ra baz=37	36.82 316	⇓P	P	03 39 06.2	+0.5
I24A	Kuemmerle Ranc baz=37	36.84 321	⇓P	P	03 39 05.5	-0.1
K23A	Bowen Ranch, D baz=37	36.86 318	⇓P	P	03 39 05.7	-0.3
F26A	Lodgepole baz=37	36.88 325	⇑P	P	03 39 06.1	+0.2
G25A	Newell baz=37,SNR=6.9	36.90 323	⇓P	P	03 39 05.9	-0.2
B29A	Wagenman Farm, baz=37	36.93 330	⇑P	P	03 39 06.7	+0.4
L22A	Ellis Ranch, M baz=37	37.02 317	⇓P	P	03 39 07.7	+0.4
E26A	Carlson Angus baz=37	37.16 326	⇑P	P	03 39 07.7	-0.5
A29A	Manning Farm, baz=37	37.20 331	⇑P	P	03 39 08.2	-0.3
H24A	Dirks Ranch, A baz=37	37.29 322	⇓P	P	03 39 08.8	-0.7
F25A	Bowman baz=37	37.36 324	⇓P	P	03 39 10.3	+0.3
O20A	White River Ci 206nm,3.0s	37.36 313	eP	P	03 39 11.8	+1.5
O20A	White River Ci baz=37	37.36 313	⇑P	P	03 39 11.2	+0.9
K22A	Casper 16nm,1.0s	37.38 318	eP	P	03 39 10.5	+0.1
K22A	Casper baz=37	37.38 318	⇓P	P	03 39 10.3	-0.1
A28A	Rude Farm, Bot baz=38	37.68 330	⇑P	P	03 39 12.8	+0.2
N20A	Spence Gulch, baz=38	37.68 314	⇑P	P	03 39 13.7	+0.7
E25A	Miller Ranch, baz=38	37.68 325	⇓P	P	03 39 12.8	0.0
J22A	Midwest baz=38,SNR=8.6	37.74 319	⇓P	P	03 39 13.2	-0.1
X16A	Lo Mia Camp, P baz=38,SNR=9.0	37.80 303	⇑P	P	03 39 15.0	+1.0
C26A	Wahner Farm, P baz=38	37.84 328	⇑P	P	03 39 14.1	+0.1
K21A	Alcova baz=38,SNR=15	37.84 317	⇓P	P	03 39 14.8	+0.5
I22A	9 Mile Ranch, baz=38,SNR=5.4	37.99 320	⇑P	P	03 39 15.1	-0.3
G23A	Biddle baz=38	38.04 322	⇑P	P	03 39 15.3	-0.5
D25A	Fairfield baz=38	38.04 326	⇓P	P	03 39 15.7	-0.1
WUAZ	Wupatki 8.1nm,1.0s	38.04 305	eP	P	03 39 17.2	+1.2
WUAZ	Wupatki baz=38,SNR=6.0	38.04 305	⇑P	P	03 39 16.7	+0.7
E24A	Baker baz=38	38.21 324	⇓P	P	03 39 17.0	-0.2
J21A	Lysite baz=38,SNR=14	38.31 318	⇓P	P	03 39 18.4	+0.2
F23A	Volborg baz=38	38.34 323	⇑P	P	03 39 17.6	-0.7
I21A	Big Trails, Te baz=38,SNR=11	38.45 319	⇑P	P	03 39 18.8	-0.5
A26A	Wade Farm, Ken baz=39	38.52 329	⇓P	P	03 39 19.9	+0.2
D24A	Glendive baz=39	38.56 325	⇓P	P	03 39 19.8	-0.3
SRU	San Rafael 6.7nm,1.1s	38.57 310	eP	P	03 39 20.9	+0.4
G22A	Birney baz=39	38.58 321	⇓P	P	03 39 19.5	-0.9
H21A	Big Horn, Sher baz=39	38.72 320	⇑P	P	03 39 20.7	-0.8
J20A	Shoshoni baz=39	38.72 318	⇑P	P	03 39 21.7	+0.1
F22A	Rosebud baz=39,SNR=7.7	38.87 322	⇓P	P	03 39 22.2	-0.6
Y14A	Wickenburg baz=39	38.94 302	⇑P	P	03 39 23.9	+0.4
U15A	North Rim baz=39,SNR=7.8	39.02 306	⇑P	P	03 39 25.4	+1.0
I20A	Worland baz=39,SNR=6.9	39.04 319	⇑P	P	03 39 24.0	-0.3
A25A	Svangstu Ranch baz=39	39.08 328	⇓P	P	03 39 25.0	+0.6
H20A	Greybull baz=39	39.23 319	⇑P	P	03 39 25.1	-0.7
J19A	Crowheart baz=39,SNR=8.4	39.30 317	⇑P	P	03 39 26.3	-0.3
113A	Mohawk Valley, baz=39	39.31 300	⇓P	P	03 39 26.6	+0.1

PDAR Pinedale Array 39.40 316 P P 03 39 26.9 -0.6
PDAR PcP PcP 03 41 34.5 -1.1
PDAR Pinedale Array 39.40 316 P P 03 39 26.9 -0.6
2.1nm,0.8s,baz=122,slow=11,SNR=15
PDAR PcP PcP 03 41 34.5 -1.1
1.6nm,0.9s,baz=111,slow=6.5,SNR=3.9
PDAR LR LR 03 56 58.9
comp=Z,248nm,18.1s,baz=109,slow=38
C23A Lambert 39.44 325 ⇓P P 03 39 27.5 0.0
baz=40,SNR=6.0
A24A Westby 39.52 328 ⇓P P 03 39 28.5 +0.5
baz=40
DAU Daniels Canyon 39.58 312 eP P 03 39 29.6 +0.5
MVU Marysvale 39.60 309 eP P 03 39 30.0 +0.9
11nm,1.4s
D22A Cohagen 39.60 324 ⇑P P 03 39 29.2 +0.4
baz=40,SNR=7.0
I19A Meeteetse 39.63 318 ⇓P P 03 39 29.3 0.0
baz=40,SNR=10.0
MPU Maple Canyon 39.70 311 eP P 03 39 30.3 +0.4
9.7nm,1.1s
G20A Bridger 39.73 320 ⇓P P 03 39 28.8 -1.2
baz=40
C22A Vida 39.78 325 ⇓P P 03 39 30.2 -0.1
baz=40
H19A Powell 39.93 319 ⇓P P 03 39 31.6 -0.2
baz=40,SNR=5.9
PDMCI Parker Dam,Lak 39.93 302 ⇓P P 03 39 31.6 -0.1
baz=40
F20A Billings 39.99 321 ⇓P P 03 39 31.8 -0.4
baz=40
NLU North Lily Min 40.00 311 eP P 03 39 33.0 +0.6
8.2nm,1.1s
D21A La Casta Ranch 40.01 323 ⇓P P 03 39 32.2 -0.1
baz=40
CTU Camp Tracy 40.04 312 eP P 03 39 33.5 +0.8
22nm,1.5s
CCUT Cedar City 40.16 307 eP P 03 39 34.6 +0.8
4.5nm,1.0s
ARUT Antelope Range 40.29 307 eP P 03 39 35.3 +0.4
172nm,1.0s
E20A Meyer Farm, Mu 40.35 322 ⇑P P 03 39 34.9 -0.2
baz=40,SNR=6.5
H18A Shoshone NF, C 40.36 319 ⇓P P 03 39 34.6 -0.8
baz=40,SNR=8.9
LOHW Long Hollow 40.47 317 eP P 03 39 36.0 -0.3
21nm,1.5s
F19A Roth Farm, Mol 40.50 321 ⇓P P 03 39 35.9 -0.5
baz=40
REDW Red Top Meadow 40.52 316 eP P 03 39 36.9 +0.2
29nm,1.0s
A22A Carney Farms, 40.55 327 ⇓P P 03 39 37.0 +0.4
baz=41
I17A Pilgrim Ck. 40.59 317 ⇑P P 03 39 37.7 +0.4
baz=41,SNR=9.4
DUG Dugway 40.61 311 eP P 03 39 37.5 0.0
14nm,1.3s
DUG Dugway 40.61 311 ⇑P P 03 39 37.5 0.0
baz=41,SNR=7.5
MOOW Moose Ponds 40.62 317 eP P 03 39 37.5 -0.1
14nm,0.9s
TPAW Teton Pass 40.64 316 eP P 03 39 37.9 +0.1
12nm,1.1s
D20A Manuel Ranch, 40.67 323 ⇓P P 03 39 37.7 -0.1
baz=41
E19A Rath Farm, Rou 40.72 322 ⇓P P 03 39 38.2 +0.1
baz=41,SNR=8.1
IRM Iron Mountain 40.72 301 ⇓P P 03 39 38.8 +0.5
baz=41,SNR=7.8
FLWY Flagg Ranch 40.74 317 eP P 03 39 38.8 +0.3
61nm,2.0s
FXWY Fox Creek 40.75 317 eP P 03 39 38.6 0.0
11nm,1.0s
H17A Grant Village 40.80 318 eP P 03 39 39.8 +0.7
44nm,2.1s
H17A Grant Village 40.80 318 ⇓P P 03 39 39.0 -0.1
baz=41
IMW Indian Meadow 40.81 317 eP P 03 39 39.1 -0.1
11nm,1.0s
BC3 Big Chuckawall 40.87 300 ⇓P P 03 39 39.4 -0.2
baz=41
LDFC Landfair 40.88 303 eP P 03 39 41.7 +2.0
18nm,1.3s
C20A Veseth Ranch, 40.94 324 ⇓P P 03 39 40.1 +0.2
baz=41
BGU Big Grassy Mou 41.03 312 eP P 03 39 41.2 +0.3
8.8nm,1.3s
A21A Bergtoll Ranch 41.08 326 ⇑P P 03 39 41.5 +0.5
baz=41,SNR=5.6
D19A Cripps Ranch, 41.14 322 ⇓P P 03 39 41.4 -0.3
baz=41,SNR=5.7
HVU Hansel Valley 41.16 313 eP P 03 39 41.7 -0.3
5.9nm,1.0s
SHPR Sheep Range 41.26 305 eP P 03 39 43.7 +0.9
QLMT Earthquake Lak 41.54 318 eP P 03 39 45.6 +0.5
C19A Slack Wire Ran 41.54 323 ⇑P P 03 39 44.9 0.0
baz=42
A20A Cobblestone Ra 41.55 325 ⇓P P 03 39 45.3 +0.3
baz=42,SNR=5.1
TUQ Turquoise Moun 41.61 303 ⇑P P 03 39 46.2 +0.4
baz=42
BDFB Brasilia 41.72 142 P P 03 39 46.9 +0.2
BDFB Brasilia 41.72 142 P P 03 39 46.9 +0.2
26nm,0.8s,baz=313,slow=9.8,SNR=36
B19A Brinkman Farms 41.88 324 ⇓P P 03 39 47.6 +0.1
baz=42
A19A Klindworth Far 42.03 325 ⇓P P 03 39 49.2 +0.4
baz=42
R11A Troy Canyon, C 42.08 307 eP P 03 39 50.6 +1.0
19nm,1.8s
R11A Troy Canyon, C 42.08 307 ⇑P P 03 39 49.4 -0.1
baz=42
EGMT Eagleton 42.10 323 eP P 03 39 49.6 +0.1
18nm,1.4s
EGMT Eagleton 42.10 323 ⇑P P 03 39 49.4 0.0
baz=42
TPNV Topopah Spring 42.22 305 eP P 03 39 52.3 +1.6
12nm,1.2s
TPNV Topopah Spring 42.22 305 ⇑P P 03 39 51.7 +1.0
baz=42
MCMT McKenzie Canyo 42.45 317 eP P 03 39 53.1 +0.6
6.9nm,1.0s
DLMT Dillon 42.52 318 eP P 03 39 53.5 +0.5
9.5nm,0.9s
ELK Elko 42.54 311 eP P 03 39 53.6 +0.3
ELK Elko 42.54 311 P P 03 39 48.0 -5.3
4.8nm,1.1s,baz=72,slow=0.5,SNR=12
FURC Furnace Creek, 42.59 304 ⇑P P 03 39 54.4 +0.9
baz=43
HRY Holter Researc 42.66 320 eP P 03 39 53.7 -0.4
4.2nm,0.8s
HLID Hailey 42.96 315 eP P 03 39 57.0 +0.3
39nm,2.0s
HLID Hailey 42.96 315 ⇓P P 03 39 56.8 +0.1
baz=43,SNR=7.3
GRAC Grapevine Rang 43.10 305 ⇑P P 03 39 57.4 -0.3
baz=43
EDW2 Edwards Air Fo 43.16 302 ⇑P P 03 39 58.6 +0.4
baz=43,SNR=6.7
TPH Tonopah 43.25 306 eP P 03 40 00.2 +1.1
17nm,1.3s
FCC Fort Churchill 43.25 344 eP P 03 39 57.1 -1.4
CHMT Chamberlain Mo 43.62 320 eP P 03 40 01.8 -0.2
24nm,2.3s
RCBR Riachuelo 43.69 120 P P 03 40 02.3 -0.4
21nm,1.1s
RCBR Riachuelo 43.69 120 P P 03 40 02.3 -0.4
14nm,1.0s,baz=303,slow=6.8,SNR=4.3
ISA Isabella 43.70 303 ⇓P P 03 40 03.5 +1.0
baz=44
MFID Camas Ranch 43.86 314 eP P 03 40 03.8 -0.1
34nm,2.1s
SLMT Seeley Lake 43.92 320 eP P 03 40 03.9 -0.4
22nm,1.8s
MSO Missoula 44.01 320 eP P 03 40 05.0 0.0
11nm,1.4s
MSO Missoula 44.01 320 ⇑P P 03 40 04.6 -0.3
baz=44
NVAR Mina Array Bea 44.16 307 P P 03 40 06.2 -0.2
NVAR Mina Array Bea 44.16 307 P P 03 40 06.2 -0.2
1.9nm,0.9s,baz=104,slow=6.3,SNR=8.6
SWMT Swartz Lake 44.35 320 eP P 03 40 08.2 +0.6
5.2nm,1.1s
JTMT Jette 44.62 321 eP P 03 40 09.9 0.0
10nm,1.6s
PKM Peak Mountain 44.65 301 ⇑P P 03 40 10.9 +0.6
baz=45
BSMT Bassoo Peak 44.98 321 eP P 03 40 13.1 +0.4

WVOR Wild Horse Val 45.49 312 eP P 03 40 17.0 +0.2
8.5nm,1.0s
J08A Circle Bar Ran 45.66 313 eP P 03 40 18.1 -0.1
11nm,1.0s
F10A Beach Ranch, E 45.73 317 eP P 03 40 18.2 -0.5
8.7nm,1.0s
E09A Wood Farm, Sta 46.53 318 eP P 03 40 24.9 +0.1
27nm,1.6s
NEW Newport 46.57 320 eP P 03 40 24.1 -1.0
12nm,1.1s
NEW Newport 46.57 320 P P 03 40 24.1 -1.0
6.7nm,1.0s,baz=122,slow=8.0,SNR=12
NEW Newport 46.57 320 ⇑P P 03 40 24.6 -0.6
baz=47,SNR=7.2
EDM Edmonton 46.81 328 eP P 03 40 26.4 -0.5
LTY Liberty 48.41 318 eP P 03 40 39.6 0.0
68nm,2.0s
H04A Detroit Lake 48.61 314 eP P 03 40 41.5 +0.4
CFAA Coronel Fontan 49.84 175 LR LR 04 03 30.6
comp=Z,19nm,19.4s,slow=38
YKA Yellowknife Ar 52.69 337 P P 03 41 10.4 -1.1
YKA Yellowknife Ar 52.69 337 P P 03 41 10.4 -1.1
6.0nm,0.8s,baz=125,slow=7.3,SNR=91
SUMG Summit 57.73 12 iP P 03 41 48.0 -0.2
13nm,1.0s
SUMG Summit 57.73 12 eP P 03 41 47.9 -0.4
24nm,1.0s
PLCA Paso Flores 58.79 178 P P 03 41 56.6 +1.0
PLCA Paso Flores 58.79 178 P P 03 41 56.6 +1.0
3.2nm,0.7s,baz=2.6,slow=7.6,SNR=7.6
EVO Evora 59.35 56 eP P 03 41 56.1 -3.5
PBDV Barranco-do-Ve 59.41 57 eP P 03 42 01.3 +1.2
70nm,1.4s
PVAQ Vaqueiros 59.58 57 eP P 03 42 00.8 -0.5
82nm,1.6s
PESTR Estremoz 59.68 55 eP P 03 42 03.0 +1.1
50nm,1.5s
MVO Moncorvo 60.14 53 eP P 03 42 07.8 +2.7
INK Inuvik 62.39 339 eP P 03 42 19.1 -0.6
20nm,1.6s
ESDC Sonseca Array 62.49 54 P P 03 42 21.4 +0.3
ESDC Sonseca Array 62.49 54 P P 03 42 21.4 +0.3
8.9nm,1.1s,baz=273,slow=7.4,SNR=14
JMIC Jan Mayen 64.55 19 LR LR 04 07 41.4
comp=Z,40nm,20.6s,baz=63,slow=33
PAX Paxson 65.92 331 eP P 03 42 43.3 +0.2
14nm,1.1s
ILAR Eielson Array 66.75 333 P P 03 42 47.4 -1.0
ILAR Eielson Array 66.75 333 P P 03 42 47.4 -1.0
2.5nm,0.9s,baz=103,slow=4.7,SNR=21
ILAR LR LR 04 14 24.4
comp=Z,166nm,18.6s,baz=50,slow=38
TIC Toumodi 66.99 90 eP P 03 42 48.8 -1.9
57nm,1.4s
LIC Lamto 67.10 91 eP P 03 42 49.5 -1.9
72nm,1.2s
DBIC Dimbokro 67.14 90 eP P 03 42 50.8 -0.9
11nm,0.8s
DBIC Dimbokro 67.14 90 P P 03 42 50.6 -1.1
11nm,0.9s,baz=271,slow=6.5,SNR=10
DBIC LR LR 04 09 10.9
comp=Z,141nm,20.2s,baz=172,slow=33
COLA College 67.17 333 eP P 03 42 51.6 +0.7
KIC Kosan Boka 67.33 91 eP P 03 42 51.1 -1.8
67nm,1.1s
MCK McKinley 67.54 332 eP P 03 42 53.6 +0.2
COLD Coldfoot 68.33 336 eP P 03 42 58.3 0.0
46nm,0.8s
KTH Kantishna Hill 68.42 332 eP P 03 42 58.8 -0.2
26nm,1.3s
IM04 Indian Mountai 69.71 334 eP P 03 43 06.2 -0.7
SENIN Lac Senin/Sane 70.30 46 eP P 03 43 11.8 +0.7
NB2 NORSAR Subarra 71.33 31 P P 03 43 17.0 +0.1
comp=Z,7.7nm,1.1s,baz=275,slow=6.2
NOA NORSAR Array B 71.33 31 P P 03 43 15.6 -1.3
NOA NORSAR Array B 71.33 31 P P 03 43 15.6 -1.3
comp=Z,2.1nm,0.8s,baz=275,slow=6.1,SNR=5.2
TOA0 Torodi Ar. Sit 71.57 82 eP P 03 43 17.9 -1.2
TORD Torodi Ar. Bea 71.57 82 P P 03 43 17.7 -1.4
TORD Torodi Ar. Bea 71.57 82 P P 03 43 17.7 -1.4
comp=Z,9.5nm,0.9s,baz=290,slow=5.2,SNR=37
DAVOX Davos/Dischmat 72.01 46 P P 03 43 20.2 -1.3
DAVOX Davos/Dischmat 72.01 46 P P 03 43 20.2 -1.3
comp=Z,2.5nm,0.7s,baz=203,slow=7.7
GRF Grafenberg Arr 72.51 43 eP P 03 43 24.1 -0.1
comp=Z,22nm,1.7s
RETA Reutte 72.51 45⇓iP P 03 43 24.4 +0.1
comp=Z,16nm,1.1s
FETA Feichten 72.56 45⇑iP P 03 43 25.0 +0.3
comp=Z,14nm,1.0s
MOTA Moosalm 72.76 45⇓iP P 03 43 25.2 -0.7
comp=Z,9.8nm,0.8s
TAM Tamanrasset 72.78 71 eP P 03 43 26.5 0.0
comp=Z,3.3nm,0.9s
KEST Kesra 73.40 57 eP P 03 43 30.0 +0.2
KEST Kesra 73.40 57 P P 03 43 29.8 0.0
comp=Z,4.6nm,0.9s,baz=283,slow=7.8,SNR=9.4
KEST LR LR 04 09 52.1
comp=Z,42nm,21.5s,baz=242,slow=31
CLL Collm 73.40 41 eP P 03 43 29.0 -0.4
BRG Berggiesshubel 74.06 41 eP P 03 43 33.3 0.0
comp=Z,11nm,1.0s
KHC Kasperske Hory 74.11 43 eP P 03 43 33.5 -0.2
KHC Kasperske Hory 74.11 43 eP P 03 43 33.5 -0.2
comp=Z,14nm,1.2s
GEC2 GERESS Array S 74.24 43 eP P 03 43 34.8 +0.3
GERES GERESS Array B 74.24 43 P P 03 43 34.8 +0.3
GERES GERESS Array B 74.24 43 P P 03 43 34.8 +0.3
comp=Z,5.7nm,0.9s,baz=270,slow=5.1,SNR=19
KBA Koehnreinsper 74.31 45⇑iP P 03 43 34.8 -0.2
comp=Z,14nm,1.2s
PVCC Panska Ves 74.51 41 eP P 03 43 36.8 +0.9
PRU Pruhonice 74.58 42 eP P 03 43 36.4 +0.1
PRU epP pP 03 43 41.9 +0.3
MOA Molln 74.79 44⇓iP P 03 43 37.5 -0.1
comp=Z,13nm,1.1s
TREC Trest 75.32 43 eP P 03 43 40.8 +0.2
TREC epP pP 03 43 45.9 0.0
UPC Upice 75.42 41 eP P 03 43 41.6 +0.4
SOKA Soboth 75.52 45⇓iP P 03 43 41.1 -0.9
comp=Z,7.6nm,1.0s
TNA Tin City 75.54 335 eP P 03 43 42.0 +0.4
DPC Dobruska-Polom 75.64 41 eP P 03 43 42.5 0.0
DPC epP pP 03 43 48.2 +0.4
DPC Dobruska-Polom 75.64 41 eP P 03 43 42.9 +0.4
CONA Conrad Observa 75.83 44⇓iP P 03 43 43.6 -0.1
comp=Z,8.3nm,1.1s
ARCES ARCESS Array B 75.90 21 P P 03 43 43.2 -0.4
ARCES ARCESS Array B 75.90 21 P P 03 43 43.2 -0.4
comp=Z,4.5nm,0.6s,baz=290,slow=5.0,SNR=22
KRLC Kraliky 75.99 42 eP P 03 43 44.8 +0.3
VRAC Vranov 76.02 42⇓iP P 03 43 44.0 -0.7
MORC Moravsky Berou 76.53 42 eP P 03 43 47.8 +0.2
comp=Z,21nm,1.4s
OKC Ostrava-Krasne 76.90 42 eP P 03 43 49.3 -0.3
OJC Ojcow 77.85 41 ePX P 03 43 55.6 +0.7
PKSM Moragy 78.06 45⇑iP P 03 43 56.3 +0.2
PKSM Moragy 78.06 45⇓eP P 03 43 56.4 +0.3
KAF Kangasniemi 78.22 28 ep P 03 43 56.7 0.0
FINES FINESS Array B 78.31 29 P P 03 43 57.4 +0.2
FINES FINESS Array B 78.31 29 P P 03 43 57.4 +0.2
comp=Z,4.2nm,0.6s,baz=262,slow=3.4,SNR=26
PSZ Piszkesteto 78.47 43⇑iP P 03 44 00.0 +1.5
PSZ Piszkesteto 78.47 43 eP P 03 43 59.3 +0.8
comp=Z,34nm,1.5s
PSZ Piszkesteto 78.47 43⇓eP P 03 43 58.7 +0.2
SUW Suwalki 78.89 37 eP P 03 44 01.2 +0.6
comp=Z,17nm,0.9s
STHS Stebnicka Huta 78.95 42 eP P 03 44 02.4 +1.3
CRVS Cervenica-Dubn 79.23 42 eP P 03 44 04.0 +1.4
KOLS Kolonicke sedl 79.73 42 e P 03 44 04.9 -0.4
KWP Kalwaria Pacla 79.81 41 eP P 03 44 06.9 +1.1
KWP Kalwaria Pacla 79.81 41⇑iP P 03 44 06.9 +1.1
KWP Kalwaria Pacla 79.81 41 eP P 03 44 06.9 +1.1
comp=Z,18nm,1.0s
SIRR Siria 80.07 45⇑iP P 03 44 08.2 +1.0
ISAL Salakas 80.08 35 eP P 03 44 03.2 -3.8
TRPA Tarpa 80.13 43⇑iP P 03 44 08.2 +0.8
JOF Joensuu 80.16 27 ep P 03 44 07.1 -0.2
comp=Z,7.5nm,0.6s
IIGN Ignalina 80.20 35 eP P 03 44 04.0 -3.6
BZS Buzias 80.22 45⇓iP P 03 44 09.3 +1.3
NACGM Naroch 80.64 35 e P 03 44 18.0 +8.0
GZR Gura Zlata 81.07 45⇑iP P 03 44 13.1 +0.5
MICGM Minsk 81.37 35 e P 03 44 13.0 -1.0

BUR08 Bucovina Ar. S 81.98 43 eP P 03 44 18.1 +0.7
BURAR Bucovina Array 82.00 43⇑iP P 03 44 16.5 -1.1
VTS Vitosha 82.19 48⇓iP P 03 44 19.1 +0.3
ARR Arges 82.32 45⇑iP P 03 44 19.5 +0.2
KIEV Kiev 83.44 39 eP P 03 44 24.2 -0.6
comp=Z,76nm,2.8s
AKASG Malin Array Be 83.45 39 P P 03 44 23.4 -1.5
AKASG Malin Array Be 83.45 39 P P 03 44 23.4 -1.5
comp=Z,2.3nm,0.7s,baz=290,slow=5.4,SNR=9.3
PLOR Plostina 83.51 44⇑iP P 03 44 27.4 +2.0
VRI Vrincioaia 83.55 44⇑iP P 03 44 26.4 +0.8
KDZ Kurdzhali 84.05 48⇓iP P 03 44 28.9 +0.7
CFR Carcaliu 84.72 44⇑iP P 03 44 30.7 -0.8
TIXI Tiksi 89.03 353 eP P 03 44 53.6 +1.7
comp=Z,10.0nm,1.4s
ANTO Ankara 89.91 48 eP P 03 44 57.3 +0.4
comp=Z,13nm,1.0s
BR131 Keskin Array S 90.57 48 eP P 03 44 59.5 -0.4
comp=Z,6.5nm,1.0s
BRTR Keskin Array B 90.57 48 P P 03 44 59.9 -0.1
BRTR Keskin Array B 90.57 48 P P 03 44 59.9 -0.1
comp=Z,6.3nm,1.0s,baz=268,slow=3.9,SNR=26
KBZ Khabaz 94.86 41 P P 03 45 19.6 +0.2
KBZ Khabaz 94.86 41 P P 03 45 19.6 +0.2
comp=Z,3.1nm,1.1s,baz=139,slow=0.4,SNR=4.9
KURK Kurchatov 106.84 18 PKKPbc PKKPbc 04 01 38.9 -3.6
KURBB Kurchatov Arra 106.90 19 PKKPbc PKKPbc 04 01 38.9 -3.4
comp=Z,1.1nm,0.3s,baz=177,slow=5.0,SNR=4.6
MKAR Makanchi Array 111.44 18 PKKPbc PKKPbc 04 01 32.0 +4.3
MKAR Makanchi Array 111.44 18 PKKPbc PKKPbc 04 01 32.0 +4.3
comp=Z,0.5nm,0.8s,baz=142,slow=4.6,SNR=4.1
SONM Songino Array 114.15 1 PKKPbc PKKPbc 04 01 22.1 +3.2
SONM Songino Array 114.15 1 PKKPbc PKKPbc 04 01 22.1 +3.2
comp=Z,0.7nm,0.8s,baz=164,slow=3.4,SNR=7.7
KSH Kashi 115.54 26 ePKP PKPdf 03 50 41.0 +1.1
KSH ePP PP 03 51 49.3 +8.6
KSH eSKS SKSdf 03 57 48.4 -3.4
KSH eSKKS SKKSac 03 58 37.0 -5.9
KSH eSS SS 04 07 43.3 +4.5
WMQ Urumqi 115.66 15 PKP PKPdf 03 50 39.8 -0.1
HHC Hu-ho-hao-te 120.99 356 ePKP PKPdf 03 50 50.5 +0.2
HHC PP PP 03 52 22.0 +3.9
HHC SKS SKSdf 03 58 04.1 +2.0
HHC SKKS SKKSac 03 59 11.3 -7.5
HHC SS SS 04 08 54.3 +5.6
HHC LR LR
comp=Z,220nm,20.4s
GTA Gaotai 122.17 7 ePKP PKPdf 03 50 52.4 -0.3
GTA sPKP 03 50 59.5
LZH Lanzhou 125.80 3 ePKP PKPdf 03 50 59.8 0.0
LZH sPKP 03 51 04.3
LZH LR LR
comp=Z,170nm,20.0s
STKA Stephens Creek 146.11 240 PKPbc PKPdf 03 51 37.1 0.0
STKA Stephens Creek 146.11 240 PKPbc PKPdf 03 51 37.1 0.0
comp=Z,10nm,0.8s,baz=78,slow=2.2,SNR=17
WRA Warramunga Arr 154.21 262 PKP PKPdf 03 51 49.4 -0.7
WRA PKPbc PKPbc 03 51 56.4 -1.9
WRA Warramunga Arr 154.21 262 PKP PKPdf 03 51 49.4 -0.7
comp=Z,6.6nm,0.9s,baz=77,slow=1.2,SNR=26
WRA PKPbc PKPbc 03 51 56.4 -1.9
comp=Z,9.3nm,0.9s,baz=85,slow=1.8,SNR=21
ASAR Alice Springs 154.42 253 PKP PKPdf 03 51 49.5 -0.8
ASAR PKPbc PKPbc 03 51 57.0 -1.7
ASAR Alice Springs 154.42 253 PKP PKPdf 03 51 49.5 -0.8
comp=Z,1.8nm,0.9s,baz=158,slow=1.5,SNR=10
ASAR PKPbc PKPbc 03 51 57.0 -1.7
comp=Z,2.7nm,0.8s,baz=112,slow=1.9,SNR=12

GUC ***13*** *03:35:25.1±0.6, 32°.74S×71°.22W, h54km±4km, MD3.5, ML3.3*
SJA ***13*** *03:35:25.4±0.9, 32°.67S×71°.33W, h75km±10km, MD3.0, ML3.0*

ISC 13 03:35:24.4±1.4, 32°.74S±0°.03×71°.26W±0°.04, h17km±10km, n25, σ0°.74/44, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.43	229	⇓iP	Pn	03 35 36.4	+0.5
IHA				iS	Sn	03 35 44.5	+1.2
JACH	Jahuel	0.56	84	⇓iP	Pn	03 35 37.6	-0.2
JACH				eS	Sn	03 35 46.9	+0.1
PEL	Peldehue	0.63	130	⇑iP	Pn	03 35 38.4	-0.2
PEL				iS	Sn	03 35 48.2	-0.1
PEL				AML	AML	03 35 48.8	
	comp=E,9μm,0.3s						
LCCH	Las Cruces	0.78	200	eP	Pn	03 35 40.7	0.0
SAN	Santiago	0.87	145	iP	Pg	03 35 41.3	0.0
SAN				iS	Sg	03 35 53.5	+0.7
CLCH	Cerro Calan	0.89	137	⇑iP	Pg	03 35 41.8	+0.1
CLCH				eS	Sg	03 35 54.0	+0.5
CLCH				AML	AML	03 35 54.7	
	comp=N,1μm,0.3s						
LACH	Col Las Americ	0.93	139	eP	Pg	03 35 42.6	0.0
LACH				eS	Sg	03 35 55.4	+0.5
LACH				AML	AML	03 35 57.4	
	comp=E,362nm,0.3s						
TACH	Talagante	0.95	164	⇑iP	Pg	03 35 42.7	-0.1
TACH				iS	Sg	03 35 55.6	+0.3
ANTU	Antumapu	0.98	148	⇑iP	Pb	03 35 43.0	0.0
ANTU				iS	Sg	03 35 56.4	+0.1
ANTU				AML	AML	03 35 57.2	
	comp=E,1μm,0.5s						
PCH	Pirque	1.07	145	⇓iP	Pb	03 35 44.4	-0.3
PCH				iS	Sb	03 35 58.9	+0.4
LNV	Longovilo	1.22	186	⇑iP	Pn	03 35 46.3	-0.4
LNV				iS	Sb	03 36 02.3	-0.2
CHCH	Chadas Angostu	1.29	157	⇑iP	Pn	03 35 47.2	-0.6
CHCH				iS	Sb	03 36 04.0	-0.6
LMEL	Las Melosas	1.41	142	⇑iP	Pn	03 35 49.2	-0.4
LMEL				iS	Sn	03 36 07.3	-0.5
LMEL				AML	AML	03 36 09.5	
	comp=N,943nm,0.2s						
CACH	El Canelo	1.48	158	⇓iP	Pn	03 35 50.7	+0.3
CACH				iS	Sb	03 36 10.0	-0.1
CMCH	Combarbala	1.58	8	⇑iP	Pn	03 35 51.1	-0.7
CMCH				iS	Sn	03 36 11.2	-0.7
CMCH				AML	AML	03 36 16.7	
	comp=E,2μm,0.6s						
AUSP	Uspallata	1.66	72	eP	Pb	03 35 54.8	0.0
AUSP				eS	Sg	03 36 17.2	-1.0
RTLS	Leoncito	1.91	61	eP	Pb	03 35 58.6	-0.4
RTLS				eS	Sb	03 36 23.2	+0.6
ARCO	CERRO ARCO	1.96	94	eP	Pb	03 35 59.5	-0.3
ARCO				eS	Sb	03 36 24.0	-0.1
ARCO				AML	AML	03 36 29.7	
	comp=Z,121nm,0.7s						
ASAL	Salagasta	2.05	86	eP	Pb	03 36 00.8	-0.4
ASAL				eS	Sb	03 36 26.8	+0.3
AAGR	Agrelo	2.07	100	eP	Pb	03 36 00.9	-0.8
RTCV	Cerro Valdivia	2.46	70	eP	Pb	03 36 06.3	-2.0
RTLL	Cerro Villicun	2.75	60	eP	Pn	03 36 09.4	+1.6
CFAA	Coronel Fontan	2.80	67	eP	Pn	03 36 10.1	+1.6
CFAA				eP	Pn	03 36 10.1	+1.6
AMOG	MOGNA	2.96	53	eP	Pn	03 36 12.1	+1.3
AVFE	Valle Fertil	3.85	58	eP	Pn	03 36 24.1	+1.1
AVFE				AML	AML	03 37 18.3	
	comp=Z,16nm,0.3s						

ISCJB ***13*** *03:36:59.4±0.8, 10°.6N±0°.2×41°.9W±0°.1, h10km, mb4.1/8, Error ellipse: s-maj=25.7km s-min=16.3km az=162.6*
IDC ***13*** *03:36:59.6±0.9, 10°.67N×41°.90W, h0km, mb4.1/8, mb1 4.3/8, mb1mx3.9/25, mbtmp4.1/8, Error ellipse: s-maj=29.2km s-min=19.1km az=166.0*

ISC 13 03:37:01.1±0.8, 10°.7N±0°.2×41°.9W±0°.1, h10km, n12, σ1°.21/8, mb4.2/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	Guadeloupe/Mar	18.86	283	T	T	04 00 33.9	
	SNR=9.3						
PTGA	Pitinga	21.23	239	P	P	03 41 46.4	-1.0
	9.4nm,0.7s,baz=39,slow=11,SNR=8.1						
H10N3	ASCENSION HYDR	32.88	123	T	T	04 18 35.1	
	baz=304,slow=75,SNR=6.5						
H10N2	ASCENSION HYDR	32.89	123	T	T	04 18 28.9	
	baz=304,slow=75,SNR=4.8						
H10N1	ASCENSION HYDR	32.91	123	T	T	04 18 32.5	
	baz=304,slow=75,SNR=4.8						
DBIC	Dimbokro	36.82	93	P	P	03 44 10.3	+0.6
	8.0nm,0.7s,baz=261,slow=8.3,SNR=13						

LPAZ	**La Paz**	**37.28**	**224**	P	**P**	**03 44 15.4**	**+1.1**
	5.4nm,0.9s,baz=48,slow=6.1,SNR=11							
TORD	**Torodi Ar. Bea**	**42.70**	**82**	P	**P**	**03 44 57.2**	**-1.5**
	2.9nm,0.8s,baz=278,slow=9.0,SNR=9.9							
SCHQ	**Schefferville**	**48.28**	**341**	P	**P**	**03 45 43.0**	**+0.6**
	3.6nm,0.9s,baz=225,slow=8.6,SNR=3.1							
TXAR	**Lajitas Array**	**60.29**	**298**	P	**P**	**03 47 09.2**	**-1.2**
	0.3nm,0.7s,baz=132,slow=6.9,SNR=4.6							
BRTR	**Keskin Array B**	**72.17**	**52**	P	**P**	**03 48 27.1**	**+0.5**
	0.8nm,0.8s,baz=250,slow=4.1,SNR=3.9							
ILAR	**Eielson Array**	**86.73**	**336**	P	**P**	**03 49 45.8**	**+0.5**
	0.8nm,0.9s,baz=48,slow=4.5,SNR=7.1							

ISCJB ***13*** *03:48:23.4±0.6, 18°.57N±0°.10×73°.0W±0°.1, h6km, mb3.6/12, MS3.6/1, Error ellipse: s-maj=18.4km s-min=13.3km az=154.6*

IDC ***13*** *03:48:23.7±0.9, 18°.51N×72°.97W, h0km, mb3.7/12, mb1 4.0/13, mb1mx3.9/26, mbtmp3.7/13, ML2.3/1, MS3.7/1, Ms1 3.7/1, ms1mx3.0/41, Error ellipse: s-maj=27.9km s-min=18.7km az=30.0*

ISC 13 03:48:24.9±0.7, 18°.6N±0°.1×73°.0W±0°.1, h6km, n14, σ0.96/14, mb3.7/12, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**13.69**	**186**			Pn	**Pn**	**03 51 40.6**	**+0.4**
	0.3nm,0.3s,baz=108,slow=20,SNR=1.9								
PTGA	**Pitinga**	**23.04**	**145**	P		**P**	**P**	**03 53 31.7**	**+0.5**
	2.7nm,0.8s,baz=320,slow=13,SNR=4.0								
TXAR	**Lajitas Array**	**29.95**	**297**	P		**P**	**P**	**03 54 34.2**	**-0.1**
	0.6nm,0.9s,baz=102,slow=5.8,SNR=5.9								
TXAR						LR	LR	04 08 38.1	
	comp=Z,145nm,20.2s,baz=180,slow=40								
PDAR	**Pinedale Array**	**39.20**	**316**	P		**P**	**P**	**03 55 54.6**	**+0.4**
	0.2nm,0.6s,baz=119,slow=7.3,SNR=2.7								
NVAR	**Mina Array Bea**	**43.98**	**306**	P		**P**	**P**	**03 56 34.0**	**+0.5**
	0.5nm,0.7s,baz=110,slow=8.5,SNR=3.8								
YKA	**Yellowknife Ar**	**52.45**	**337**	P		**P**	**P**	**03 57 38.5**	**+0.3**
	0.7nm,0.8s,baz=127,slow=7.7,SNR=12								
ESDC	**Sonseca Array**	**62.38**	**54**	P		**P**	**P**	**03 58 49.8**	**+1.0**
	0.5nm,0.6s,baz=285,slow=8.9,SNR=2.9								
ILAR	**Eielson Array**	**66.51**	**333**	P		**P**	**P**	**03 59 14.6**	**-0.8**
	0.4nm,0.8s,baz=91,slow=4.9,SNR=6.3								
TORD	**Torodi Ar. Bea**	**71.57**	**82**	P		**P**	**P**	**03 59 45.8**	**-1.9**
	0.7nm,0.9s,baz=275,slow=6.6,SNR=6.1								
GERES	**GERESS Array B**	**74.09**	**43**	P		**P**	**P**	**04 00 02.3**	**+0.2**
	1.5nm,0.8s,baz=255,slow=4.0,SNR=4.5								
ARCES	**ARCESS Array B**	**75.69**	**21**	P		**P**	**P**	**04 00 11.5**	**+0.6**
	4.1nm,0.9s,baz=12,slow=6.6,SNR=3.7								
FINES	**FINESS Array B**	**78.11**	**29**	P		**P**	**P**	**04 00 24.9**	**+0.2**
	0.9nm,0.9s,baz=279,slow=2.7,SNR=2.4								
BRTR	**Keskin Array B**	**90.43**	**48**	P		**P**	**P**	**04 01 28.3**	**+0.4**
	0.2nm,0.6s,baz=169,slow=0.7,SNR=3.0								
WRA	**Warramunga Arr**	**154.20**	**262**	PKPbc		**PKPbc**	**PKPbc**	**04 08 24.9**	**-1.9**
	0.8nm,0.8s,baz=81,slow=2.2,SNR=4.4								

ISCJB ***13*** *03:52:22.3±0.3, 20°.25S±0°.02×68°.99W±0°.04, h85km±3km, mb4.8/105, Error ellipse: s-maj=6.0km s-min=3.8km az=166.2*

NEIC ***13*** *03:52:23.9±0.3, 20°.30S×68°.93W, h83km±3km, mb4.9/82, Error ellipse: s-maj=5.2km s-min=3.6km az=71.0*

NEIC Felt [IV] at Alto Hospicio, Camina, Iquique, Huara, Pisagua and Pozo Almonte; [III] at Pica; [II] at Arica and Cuya.

GUC ***13*** *03:52:23.9±0.5, 20°.38S×69°.24W, h95km±4km, ML5.3*

IDC ***13*** *03:52:25.2±0.5, 20°.23S×68°.98W, h98km±3km, mb4.5/20, mb1 4.6/22, mb1mx4.6/24, mbtmp4.5/22, MS3.7/3, Ms1 3.7/3, ms1mx3.4/35, Error ellipse: s-maj=14.1km s-min=11.5km az=42.0*

ISC 13 03:52:24.6±0.4, 20°.33S±0°.03×69°.10W±0°.05, h95km±3km, h95km:pP-P, n600, σ1s11/651, mb4.9/106, 187C-181D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB11	**Plate Boundary**	**0.77**	**317**	↓	*iP*		**Pn**	**03 52 41.8**	**-0.7**
PB11					*i* S		**Sn**	**03 52 55.0**	**-0.9**
PB11	**Plate Boundary**	**0.77**	**317**	↑	*iP*		**Pn**	**03 52 41.8**	**-0.7**
PB11					*i* S		**Sn**	**03 52 55.0**	**-0.9**
PB01	**Plate Boundary**	**0.80**	**207**	↑	*iP*		**Pn**	**03 52 41.5**	**-1.1**
PB01					*i* S		**Sn**	**03 52 54.3**	**-1.8**
PB01					AML	AML	03 52 55.6		
	comp=N,165μm,0.2s								
PB01	**Plate Boundary**	**0.80**	**207**	↑	*iP*		**Pn**	**03 52 41.5**	**-1.1**
PB01					*i* S		**Sn**	**03 52 54.3**	**-1.8**
PATCX	**Punta Patache**	**1.10**	**244**	↓	*eP*		**Pn**	**03 52 44.1**	**-1.8**
PATCX					*eS*		**Sn**	**03 52 59.7**	**-2.3**
PATCX					AML	AML	03 53 04.2		
	comp=E,118μm,0.7s								
PSGC	**Pisagua**	**1.21**	**307**	↑	*eP*		**Pn**	**03 52 46.1**	**-1.1**
PSGC					*eS*		**Sn**	**03 53 02.7**	**-1.5**
PSGC					AML	AML	03 53 04.3		
	comp=N,49μm,0.5s								
PSGC	**Pisagua**	**1.21**	**307**	↑	*eP*		**Pn**	**03 52 46.1**	**-1.1**
PSGC					*eS*		**Sn**	**03 53 02.7**	**-1.5**
MNMC	**Minimini**	**1.28**	**338**		*eP*		**Pn**	**03 52 48.2**	**-0.1**
MNMC					*eS*		**Sn**	**03 53 06.5**	**+0.4**
MNMC	**Minimini**	**1.28**	**338**		*eP*		**Pn**	**03 52 48.2**	**-0.1**
MNMC					*eS*		**Sn**	**03 53 06.5**	**+0.4**
PB09	**Plate Boundary**	**1.46**	**185**		*eP*		**Pn**	**03 52 49.8**	**-0.6**
PB09					*eS*		**Sn**	**03 53 08.9**	**-0.9**
PB09	**Plate Boundary**	**1.46**	**185**		*eP*		**Pn**	**03 52 49.8**	**-0.6**
PB09					*eS*		**Sn**	**03 53 08.9**	**-0.9**
PB07	**Plate Boundary**	**1.57**	**208**		*eP*		**Pn**	**03 52 50.1**	**-1.6**
PB07					*eS*		**Sn**	**03 53 10.4**	**-1.8**
PB07					AML	AML	03 53 16.1		
	comp=E,36μm,0.5s								
PB07	**Plate Boundary**	**1.57**	**208**		*eP*		**Pn**	**03 52 50.1**	**-1.6**
PB07					*eS*		**Sn**	**03 53 10.4**	**-1.8**
MACH	**Maria Elena**	**1.95**	**198**		*eP*		**Pn**	**03 52 55.7**	**-0.9**
MACH					*eS*		**Sn**	**03 53 19.7**	**-1.3**
MACH	**Maria Elena**	**1.95**	**198**		*eP*		**Pn**	**03 52 55.7**	**-0.9**
MACH					*eS*		**Sn**	**03 53 19.7**	**-1.3**
PB04	**Plate Boundary**	**1.96**	**191**	↓	*eP*		**Pn**	**03 52 58.3**	**+1.8**
PB04					*eS*		**Sn**	**03 53 25.1**	**+4.4**
PB04					AML	AML	03 53 40.1		
	comp=N,20μm,0.6s								
PB04	**Plate Boundary**	**1.96**	**191**	↓	*eP*		**Pn**	**03 52 58.3**	**+1.8**
PB04					*eS*		**Sn**	**03 53 25.1**	**+4.4**
LVC	**Limon Verde**	**2.28**	**176**		*ePn*		**Pn**	**03 53 01.6**	**+0.7**
LVC					*eSn*		**Sn**	**03 53 27.7**	**-0.9**
PB06	**Plate Boundary**	**2.40**	**191**	↓	*iP*		**Pn**	**03 53 01.3**	**-1.1**
PB06					*i* S		**Sn**	**03 53 30.3**	**-1.2**
PB06					AML	AML	03 53 37.0		
	comp=E,24μm,0.4s								
PB06	**Plate Boundary**	**2.40**	**191**		P		**Pn**	**03 53 01.3**	**-1.1**
PB06					S		**Sn**	**03 53 29.1**	**-2.3**
CEN1	**Los Morros**	**3.21**	**198**		P		**Pn**	**03 53 13.8**	**+0.7**
PB10	**Plate Boundary**	**3.44**	**203**	↓	*eP*		**Pn**	**03 53 13.1**	**-3.1**
PB10					*eS*		**Sn**	**03 53 52.2**	**-3.9**
ANCH	**Antofagasta**	**3.55**	**200**		P		**Pn**	**03 53 14.5**	**-3.1**
LPAZ	**La Paz**	**4.13**	**13**	↑	*ePn*		Pn	03 53 29.4	+3.3
LPAZ					*eS*		Sn	03 54 07.2	-6.4
LPAZ	**La Paz**	**4.13**	**13**		P		Pn	03 53 29.4	+3.3
	comp=E,137nm,0.3s,baz=198,slow=5.5,SNR=1062								
LPAZ					S		**Sn**	**03 54 17.9**	**+4.4**
	comp=E,26nm,0.3s,baz=66,slow=20,SNR=2.3								
LPAZ					LR		LR	03 55 02.2	
	comp=E,535nm,18.9s,baz=205,slow=39								
ARE	**Arequipa**	**4.47**	**329**	↓	*iP*		**Pn**	**03 53 29.4**	**-1.0**
ARE					*i*			03 53 34.9	
ARE					*eS*		**Sn**	**03 54 21.0**	**-0.5**
CPCH	**Copiapo**	**7.09**	**189**		P		Pn	03 54 01.1	-4.6
LCO	**Las Campanas**	**8.76**	**189**		*ePn*		Pn	03 54 23.8	-4.9
LCO					S		Sn	03 55 57.8	-8.1
SIV	**San Ignacio**	**8.76**	**62**		P		**Pn**	**03 54 27.7**	**-0.9**
SIV	**San Ignacio**	**8.76**	**62**		P		**Pn**	**03 54 27.7**	**-0.9**
	comp=E,40nm,0.3s,baz=261,slow=12,SNR=284								
NNA	**Nana**	**11.14**	**317**		*ePn*		**Pn**	**03 54 58.3**	**-2.7**
NNA					*eS*		Sn	03 56 55.0	-8.7
CFAA	**Coronel Fontan**	**11.25**	**176**		P		Pn	03 54 57.5	-4.8
CFAA	**Coronel Fontan**	**11.25**	**176**		P		Pn	03 54 57.5	-4.8
	comp=E,0.4nm,0.3s,baz=350,slow=13,SNR=33								
CPUP	**Villa Florida**	**12.35**	**121**		*ePn*		**Pn**	**03 55 15.7**	**-1.3**
	comp=E,5.4nm,0.8s								
CPUP	**Villa Florida**	**12.35**	**121**		P		**Pn**	**03 55 16.4**	**-0.6**
	comp=E,2.3nm,0.3s,baz=287,slow=12,SNR=67								
SAML	**Samuel**	**12.68**	**28**		*ePn*		**Pn**	**03 55 19.6**	**-1.9**
SAML					*eS*		**Sn**	**03 57 36.4**	**-4.5**
ATAH	**Atahualpa**	**15.92**	**324**		P		**P**	**03 56 08.1**	**+2.7**
ATAH	**Atahualpa**	**15.92**	**324**		P		**P**	**03 56 08.1**	**+2.7**
	comp=E,0.5nm,0.3s,baz=323,slow=4.2,SNR=6.0								
PLCA	**Paso Flores**	**20.37**	**183**		P		**P**	**03 56 53.8**	**+0.2**
PLCA					*ePn*		Pn	03 56 53.9	-2.6
PLCA	**Paso Flores**	**20.37**	**183**		P		**P**	**03 56 53.8**	**+0.2**
	comp=E,101nm,0.9s,baz=8.2,slow=12,SNR=112								
BDFB	**Brasilia**	**20.58**	**80**		P		**P**	**03 56 55.3**	**-0.9**
BDFB	**Brasilia**	**20.58**	**80**		P		**P**	**03 56 55.3**	**-0.9**
	comp=E,28nm,0.5s,baz=251,slow=12,SNR=40								
BDFB					LR		LR	04 05 49.6	
	comp=E,336nm,19.5s,baz=208,slow=39								
PTGA	**Pitinga**	**21.43**	**26**		*eP*		**P**	**03 57 03.1**	**-2.0**
	comp=E,6.0nm,0.6s								
PTGA					*eS*		**S**	**04 00 54.7**	**-3.0**
PTGA	**Pitinga**	**21.43**	**26**		P		**P**	**03 57 03.2**	**-2.0**
	comp=E,32nm,0.5s,baz=204,slow=18,SNR=61								
PTGA					LR		LR	04 06 16.1	
	comp=E,226nm,20.3s,baz=220,slow=39								
OTAV	**Otavalo**	**22.40**	**335**		*eP*		**P**	**03 57 17.8**	**+1.9**
	comp=E,28nm,1.0s								
GRGR	**Grenville**	**33.08**	**13**		*eP*		**P**	**03 58 51.3**	**-0.2**
	comp=E,81nm,0.7s								
RCBR	**Riachuelo**	**35.30**	**70**		*eP*		**P**	**03 59 09.5**	**-1.3**
	comp=E,14nm,0.6s								
FDF	**Fort de France**	**35.71**	**13**		*eP*		**P**	**03 59 13.2**	**-1.0**
	comp=E,51nm,0.6s								
OBIP	**Obispado Ponce**	**38.22**	**4**		*eP*		**P**	**03 59 35.2**	**-0.1**
	comp=E,102nm,0.5s								
CELP	**Cerrillos**	**38.25**	**4**		*eP*		**P**	**03 59 34.9**	**-0.7**
CBYP	**Canovanas**	**38.50**	**5**		*eP*		**P**	**03 59 35.8**	**-2.0**
	comp=E,43nm,0.7s								
APG	**El Apazote**	**40.92**	**327**		P		**P**	**03 59 56.3**	**-1.7**
APG	**El Apazote**	**40.92**	**327**		P		**P**	**03 59 56.3**	**-1.7**
	comp=E,14nm,0.9s,baz=143,slow=10,SNR=8.7								
TEIG	**Tepich**	**44.47**	**334**		P		**P**	**04 00 26.7**	**+0.3**
TEIG	**Tepich**	**44.47**	**334**		P		**P**	**04 00 26.7**	**+0.3**
	comp=E,12nm,0.7s,baz=345,slow=23,SNR=7.8								
RGRS	**Roger Stewart**	**53.99**	**348**		*eP*		**P**	**04 01 39.8**	**+1.0**
NHSC	**New Hope**	**54.18**	**349**		*eP*		**P**	**04 01 41.4**	**+1.2**
	comp=E,99nm,0.9s								
034A	**Hebbronville**	**55.15**	**328**	↓	P		**P**	**04 01 47.9**	**+0.6**
	baz=55								
934A	**Benavides**	**55.51**	**328**	↑	P		**P**	**04 01 50.8**	**+0.8**
	baz=56								
835A	**Beeville**	**55.74**	**329**	↓	P		**P**	**04 01 52.3**	**+0.8**
	baz=56								
933A	**Laredo**	**55.90**	**327**	↑	P		**P**	**04 01 53.2**	**+0.5**
	baz=56								
834A	**Tilden**	**55.96**	**328**	↑	P		**P**	**04 01 54.0**	**+0.9**
	baz=56								
HKT	**Hockley**	**56.23**	**332**		*eP*		**P**	**04 01 55.5**	**+0.6**
	comp=E,11nm,1.2s								
KMSC	**Kings Mountain**	**56.38**	**348**	↓	P		**P**	**04 01 56.6**	**+0.6**
	baz=57								
833A	**Chaparral WMA,**	**56.54**	**328**	↓	P		**P**	**04 01 57.4**	**+0.1**
	baz=57,SNR=12								
734A	**La Parita Cree**	**56.56**	**329**	↑	P		**P**	**04 01 57.8**	**+0.4**
	baz=57								
635A	**Leesville**	**56.64**	**330**	↓	P		**P**	**04 01 58.3**	**+0.4**
	baz=57								
832A	**Faith Ranch, C**	**56.80**	**327**	↑	P		**P**	**04 01 59.2**	**+0.1**
	baz=57,SNR=6.2								
733A	**Divot King Ran**	**56.82**	**328**	↑	P		**P**	**04 01 59.5**	**+0.3**
	baz=57,SNR=5.2								
535A	**Dale**	**57.08**	**330**	↑	P		**P**	**04 02 01.6**	**+0.5**
	baz=57								
732A	**Laxson Ranch,**	**57.16**	**328**	↓	P		**P**	**04 02 02.0**	**+0.4**
	baz=58,SNR=6.2								
633A	**Saathoff Ranch**	**57.37**	**329**	↓	P		**P**	**04 02 03.1**	**0.0**
	baz=58,SNR=8.9								
CPCT	**Cooper Cave**	**57.37**	**345**		*eP*		**P**	**04 02 03.6**	**+0.6**
TKL	**Tuckaleechee C**	**57.40**	**346**		P		**P**	**04 02 02.6**	**-0.5**
TKL	**Tuckaleechee C**	**57.40**	**346**		P		**P**	**04 02 02.6**	**-0.5**
	comp=E,9.4nm,0.7s,baz=174,slow=9.6,SNR=9.3								
632A	**Uvalde**	**57.71**	**328**	↑	P		**P**	**04 02 06.0**	**+0.5**
	baz=58,SNR=6.5								
533A	**Kerrville**	**57.81**	**329**	↑	P		**P**	**04 02 06.2**	**0.0**
	baz=58								
631A	**Perdido Creek**	**58.03**	**328**	↑	P		**P**	**04 02 07.3**	**-0.4**
	baz=58,SNR=11								
434A	**Burnet**	**58.07**	**330**	↓	P		**P**	**04 02 07.4**	**-0.6**
	baz=58								
335A	**Moody**	**58.08**	**331**	↓	P		**P**	**04 02 07.9**	**-0.1**
	baz=58								
532A	**Rocksprings**	**58.28**	**329**	↑	P		**P**	**04 02 09.5**	**-0.1**
	baz=59								
433A	**Art**	**58.40**	**330**	↓	P		**P**	**04 02 10.3**	**0.0**
	baz=59,SNR=11								
334A	**Lometa**	**58.49**	**331**	↓	P		**P**	**04 02 10.7**	**-0.2**
	baz=59								
JCT	**Junction City**	**58.52**	**329**		*eP*		**P**	**04 02 11.5**	**+0.3**
	comp=E,7.8nm,0.8s								
JCT	**Junction City**	**58.52**	**329**	↑	P		**P**	**04 02 10.9**	**-0.3**
	baz=59								
531A	**Rocksprings**	**58.62**	**328**	↑	P		**P**	**04 02 12.1**	**+0.2**
	baz=59,SNR=12								
WHTX	**Lake Whitney**	**58.69**	**332**		*eP*		**P**	**04 02 12.8**	**+0.5**
	comp=E,22nm,1.2s								
WHTX	**Lake Whitney**	**58.69**	**332**	↑	P		**P**	**04 02 12.5**	**+0.2**
	baz=59								
333A	**Richland Sprin**	**58.83**	**330**	↓	P		**P**	**04 02 13.3**	**0.0**
	baz=59,SNR=5.9								
432A	**Menard**	**58.84**	**329**	↑	P		**P**	**04 02 13.2**	**-0.1**
	baz=59,SNR=10								
530A	**J-C Ranch, Com**	**59.01**	**327**	↓	P		**P**	**04 02 15.0**	**+0.5**
	baz=59,SNR=11								
234A	**Clairette**	**59.01**	**331**	↑	P		**P**	**04 02 14.8**	**+0.3**
	baz=59								
431A	**Sonora**	**59.08**	**328**	↓	P		**P**	**04 02 14.9**	**-0.2**
	baz=59,SNR=11								
332A	**Millersview**	**59.23**	**330**	↑	P		**P**	**04 02 16.1**	**0.0**
	baz=60,SNR=13								
628A	**Black Gap, Mar**	**59.28**	**326**	↓	P		**P**	**04 02 17.0**	**+0.6**
	baz=60,SNR=12								
MIAR	**Mount Ida**	**59.33**	**337**		*eP*		**P**	**04 02 16.5**	**-0.1**
	comp=E,14nm,0.8s								
233A	**Rising Star**	**59.37**	**331**	↑	P		**P**	**04 02 17.3**	**+0.3**
	baz=60,SNR=10								
529A	**Stev Forest Ra**	**59.44**	**327**	↑	P		**P**	**04 02 18.0**	**+0.4**
	baz=60,SNR=17								
134A	**White-Moore Ra**	**59.47**	**332**	↓	P		**P**	**04 02 17.8**	**+0.2**
	baz=60								
430A	**Baggett Ranch,**	**59.47**	**328**	↑	P		**P**	**04 02 17.9**	**+0.1**
	baz=60,SNR=13								
331A	**San Angelo**	**59.50**	**329**	↑	P		**P**	**04 02 17.9**	**0.0**
	baz=60,SNR=9.1								
TXAR	**Lajitas Array**	**59.58**	**325**		P		**P**	**04 02 18.6**	**0.0**
TXAR	**Lajitas Array**	**59.58**	**325**		P		**P**	**04 02 18.6**	**0.0**
	comp=E,2.2nm,0.8s,baz=145,slow=7.8,SNR=19								
232A	**Coleman**	**59.61**	**330**	↑	P		**P**	**04 02 18.5**	**-0.1**
	baz=60,SNR=8.4								
429A	**Davenport Ranc**	**59.67**	**327**	↓	P		**P**	**04 02 19.5**	**+0.3**
	baz=60,SNR=16								
Z35A	**Perchaven, San**	**59.75**	**333**	↓	P		**P**	**04 02 19.8**	**+0.2**
	baz=60								
528A	**Cox Ranch, San**	**59.76**	**326**	↓	P		**P**	**04 02 19.2**	**-0.6**
	baz=60,SNR=6.8								
133A	**Hamilton Ranch**	**59.87**	**331**	↑	P		**P**	**04 02 20.2**	**-0.2**
	baz=60,SNR=5.6								
330A	**Mertzon**	**59.95**	**328**	↓	P		**P**	**04 02 21.0**	**0.0**
	baz=60								
231A	**Bronte**	**59.97**	**329**	↓	P		**P**	**04 02 21.0**	**-0.1**
	baz=60								
626A	**Big Bend Ranch**	**60.00**	**325**	↓	P		**P**	**04 02 22.0**	**+0.5**
	baz=60,SNR=16								
Z34A	**Collier Ranch,**	**60.07**	**332**	↑	P		**P**	**04 02 22.3**	**+0.6**
	baz=60								
428A	**Kincaid Ranch,**	**60.16**	**327**	↑	P		**P**	**04 02 22.9**	**+0.4**
	baz=60								
527A	**Woodward Ranch**	**60.19**	**326**	↓	P		**P**	**04 02 23.2**	**+0.4**
	baz=60,SNR=12								
ABTX	**Abilene, Hawle**	**60.22**	**330**		*eP*		**P**	**04 02 22.8**	**-0.1**
ABTX	**Abilene, Hawle**	**60.22**	**330**	↑	P		**P**	**04 02 23.1**	**+0.3**
	baz=60,SNR=10								
PBMO	**Poplar Bluff**	**60.27**	**340**		*eP*		**P**	**04 02 22.7**	**-0.3**
	comp=E,24nm,0.6s								
230A	**Sterling City**	**60.31**	**329**	↓	P		**P**	**04 02 24.0**	**+0.5**
	baz=61								
526A	**Mary Lane Ranc**	**60.37**	**325**	↑	P		**P**	**04 02 24.8**	**+0.7**
	baz=61,SNR=15								
Z33A	**Whitaker Ranch**	**60.37**	**332**	↑	P		**P**	**04 02 24.2**	**+0.3**
	baz=61,SNR=7.8								
329A	**Wagon Wheel Ra**	**60.41**	**328**	↑	P		**P**	**04 02 24.4**	**+0.2**
	baz=61,SNR=8.3								
WCI	**Wyandotte Cave**	**60.45**	**344**		*eP*		**P**	**04 02 23.7**	**-0.5**
	comp=E,12nm,0.8s								
Y34A	**Reagan Ranch,**	**60.50**	**333**	↓	P		**P**	**04 02 25.0**	**+0.4**
	baz=61,SNR=7.3								
131A	**Roby**	**60.61**	**330**	↓	P		**P**	**04 02 25.6**	**+0.1**
	baz=61,SNR=7.1								
427A	**Hayter Ranch,**	**60.63**	**326**	↓	P		**P**	**04 02 25.8**	**0.0**
	baz=61,SNR=6.8								
Z32A	**Haskell**	**60.71**	**331**	↓	P		**P**	**04 02 26.1**	**-0.1**
	baz=61								
229A	**Bryant Ranch,**	**60.72**	**328**	↓	P		**P**	**04 02 26.1**	**-0.2**
	baz=61								
328A	**Wristen Ranch,**	**60.75**	**327**	↓	P		**P**	**04 02 26.6**	**+0.1**
	baz=61,SNR=9.2								
426A	**McDonald Obser**	**60.82**	**326**	↓	P		**P**	**04 02 27.5**	**+0.4**
	baz=61,SNR=9.7								
130A	**Snyder**	**60.82**	**329**	↓	P		**P**	**04 02 27.2**	**+0.3**
	baz=61,SNR=7.4								
Y33A	**Hilltop Ranch,**	**60.92**	**332**	↑	P		**P**	**04 02 27.6**	**+0.1**
	baz=61								
Z31A	**Sharp Cattle R**	**61.03**	**330**	↑	P		**P**	**04 02 28.2**	**-0.1**
	baz=61,SNR=7.9								
X34A	**Smith Ranch, M**	**61.08**	**333**	↑	P		**P**	**04 02 28.3**	**-0.3**
	baz=61								
228A	**UT Block 9, Go**	**61.23**	**328**	↑	P		**P**	**04 02 29.5**	**-0.3**
	baz=62								
Y32A	**R-V Farms, Ver**	**61.28**	**331**	↓	P		**P**	**04 02 30.1**	**+0.1**
	baz=62								
129A	**Stewart Farms,**	**61.28**	**329**	↑	P		**P**	**04 02 30.0**	**-0.1**
	baz=62								
326A	**Caldwell Ranch**	**61.30**	**326**	↑	P		**P**	**04 02 30.3**	**0.0**
	baz=62,SNR=8.3								
X33A	**Lawton**	**61.32**	**332**	↑	P		**P**	**04 02 30.2**	**0.0**
	baz=62								
TUL1	**Tulsa**	**61.38**	**335**		*eP*		**P**	**04 02 30.7**	**+0.1**
	comp=E,10nm,0.8s								
TUL1	**Tulsa**	**61.38**	**335**	↓	P		**P**	**04 02 30.9**	**+0.3**
	baz=62,SNR=5.9								
BLO	**Bloomington**	**61.40**	**345**		*eP*		**P**	**04 02 30.0**	**-0.6**
	comp=E,29nm,0.6s								
425A	**Indio Mountain**	**61.42**	**325**	↓	P		**P**	**04 02 31.5**	**+0.3**
	baz=62,SNR=15								
Z30A	**Sanderson Ranc**	**61.46**	**330**	↑	P		**P**	**04 02 31.7**	**+0.4**
	baz=62,SNR=8.8								
227A	**Bennet, Jal**	**61.50**	**327**	↓	P		**P**	**04 02 31.9**	**+0.3**
	baz=62,SNR=5.1								
X32A	**Elmer**	**61.56**	**332**	↓	P		**P**	**04 02 32.2**	**+0.3**
	baz=62								
128A	**Castleberry Fa**	**61.58**	**328**	↓	P		**P**	**04 02 31.3**	**-0.8**
	baz=62								
Y31A	**Rekieta Farm,**	**61.62**	**331**	↓	P		**P**	**04 02 32.8**	**+0.6**
	baz=62,SNR=6.1								
ACSO	**Alum Creek Sta**	**61.63**	**348**		*eP*		**P**	**04 02 32.2**	**+0.1**
	comp=E,49nm,1.3s								
Z29A	**Hungry Hill Ra**	**61.72**	**329**	↓	P		**P**	**04 02 32.6**	**-0.4**
	baz=62								
W33A	**Caddo, Fort Co**	**61.83**	**333**	↓	P		**P**	**04 02 34.5**	**+0.8**
	baz=62,SNR=10								
325A	**Bean Ranch, Si**	**61.87**	**325**	↑	P		**P**	**04 02 34.6**	**+0.4**
	baz=62,SNR=27								
226B	**Tecolote Peak,**	**62.00**	**326**	↑

baz=65,SNR=6.9
R31A Burdett 64.94 334 ⇓P P 04 02 54.9 +0.7
baz=65
X23A Hourglass Bar 65.01 327 ⇓P P 04 02 55.2 +0.3
baz=65
LPM Los Pinos Moun 65.03 326 eP P 04 02 56.1 +1.1
S29A Ulysses 65.05 332 ⇑P P 04 02 55.3 +0.4
baz=65
T28A Walsh 65.08 331 ⇓P P 04 02 54.9 -0.2
baz=65
W24A Lazy 6 Ranch, 65.11 328 ⇓P P 04 02 55.6 +0.1
baz=65
Q32A Meitler Ranch, 65.15 335 ⇓P P 04 02 55.6 +0.1
baz=66,SNR=5.8
V25A Rancho No Teng 65.21 329 ⇓P P 04 02 56.6 +0.5
baz=66,SNR=7.7
U26A Atchley Ranch, 65.24 330 ⇓P P 04 02 56.7 +0.4
baz=66,SNR=11
R30A Dighton 65.25 333 ⇑P P 04 02 56.5 +0.3
baz=66
T27A Campo 65.30 331 ⇑P P 04 02 56.9 +0.2
baz=66
S28A Manter 65.37 332 ⇓P P 04 02 57.5 +0.5
baz=66,SNR=8.0
ANMO Albuquerque 65.43 327 eP P 04 02 58.3 +0.7
comp=E,48nm,2.4s
SADO Sadowa 65.43 352 P P 04 02 55.8 -1.3
SADO pP pP 04 03 21.8 +0.6
SADO Sadowa 65.43 352 P P 04 02 55.8 -1.3
comp=E,8.4nm,0.7s,baz=221,slow=1.9,SNR=8.4
SADO pP pP 04 03 21.8 +0.6
comp=E,7.4nm,0.7s,baz=214,slow=2.0,SNR=3.9
W23A Werner Place, 65.44 327 ⇓P P 04 02 58.1 +0.4
baz=66
V24A Rampart Ranch, 65.44 328 ⇑P P 04 02 57.9 +0.2
baz=66
Q31A Ellis 65.49 334 ⇑P P 04 02 57.7 0.0
baz=66
U25A Circle Dot Ran 65.56 329 ⇑P P 04 02 59.0 +0.6
baz=66,SNR=12
R29A Marienthal 65.73 333 ⇓P P 04 02 59.8 +0.6
baz=66
T26A Comanche Natio 65.80 330 ⇓P P 04 03 00.3 +0.4
baz=66
Q30A Quinter 65.81 334 ⇑P P 04 03 00.7 +1.0
baz=66,SNR=5.9
TUC Tucson 65.81 322 eP P 04 03 00.9 +1.0
comp=E,18nm,1.5s
JFWS Jewell Farm 65.88 343 eP P 04 02 59.9 -0.2
comp=E,19nm,0.9s
V23A Ortiz Mt. (NFS 65.92 327 ⇓P P 04 03 01.8 +1.1
baz=66,SNR=7.5
P31A Stockton 65.93 335 ⇓P P 04 03 01.0 +0.5
baz=66,SNR=5.6
R28A Tribune 65.95 332 ⇑P P 04 03 01.0 +0.3
baz=66
U24A Moreno Valley 65.99 329 ⇑P P 04 03 02.2 +1.0
baz=66
Q29A Oakley 66.05 333 ⇓P P 04 03 01.7 +0.3
baz=66
S26A Kim 66.11 331 ⇓P P 04 03 02.4 +0.6
baz=66,SNR=12
O32A Brockman Farm, 66.13 336 ⇓P P 04 03 01.9 +0.2
baz=66
T25A Trinidad 66.15 330 ⇓P P 04 03 02.7 +0.5
baz=66
P30A Selden 66.30 334 ⇓P P 04 03 03.4 +0.5
baz=67
R27A Eads 66.34 332 ⇑P P 04 03 03.6 +0.4
baz=67
U23A El Rito 66.38 328 ⇓P P 04 03 04.4 +0.7
baz=67
V22A San Miguel Ran 66.41 327 ⇑P P 04 03 05.1 +1.2
baz=67,SNR=8.3
O31A Woolen Ranch, 66.45 335 ⇓P P 04 03 04.2 +0.4
baz=67
T24B San Luis 66.56 329 ⇑P P 04 03 05.8 +0.9
baz=67
Q28A Sharon Springs 66.56 333 ⇑P P 04 03 05.0 +0.4
baz=67
S25A Robets Cordova 66.58 330 ⇑P P 04 03 04.9 0.0
baz=67
R26A Arlington 66.65 331 ⇓P P 04 03 05.6 +0.4
baz=67,SNR=6.7
U22A Llaves 66.75 327 ⇑P P 04 03 06.7 +0.7
baz=67
214A Organ Pipe Nat 66.76 320 eP P 04 03 07.3 +1.4
comp=E,34nm,1.3s
214A Organ Pipe Nat 66.76 320 ⇑P P 04 03 07.1 +1.2
baz=67,SNR=13
O30A MW Ranch, Wils 66.76 335 ⇑P P 04 03 06.4 +0.6
baz=67
KSCO Kaye Shedlock' 66.86 332 eP P 04 03 07.7 +1.1
comp=E,14nm,0.8s
KSCO Kaye Shedlock' 66.86 332 ⇓P P 04 03 07.1 +0.5
baz=67
S24A Houchin Ranch, 66.94 329 ⇑P P 04 03 07.9 +0.6
baz=67
X18A Snowflake 66.97 324 ⇑P P 04 03 08.4 +0.9
baz=67
O29A 4D Ranch, Culb 67.02 334 ⇑P P 04 03 08.2 +0.7
baz=67
BGNE Belgrade 67.08 337 eP P 04 03 08.2 +0.4
comp=E,58nm,0.8s
BGNE Belgrade 67.08 337 ⇑P P 04 03 08.2 +0.4
baz=67,SNR=5.6
P27A Ficken Ranch, 67.29 332 ⇑P P 04 03 10.4 +1.1
baz=68
M31A Lambtecht Ranc 67.33 336 ⇓P P 04 03 10.2 +0.8
baz=68
R24A Sanders Place, 67.36 330 ⇑P P 04 03 10.7 +0.9
baz=68
O28A Krutsinger Ran 67.42 333 ⇑P P 04 03 11.1 +1.1
baz=68
N29A Votaw Ranch, W 67.53 335 ⇓P P 04 03 11.7 +1.0
baz=68
P26A Davis Ranch, A 67.63 332 ⇓P P 04 03 12.4 +1.0
baz=68
R23A Moffat 67.67 329 ⇓P P 04 03 12.9 +1.0
baz=68,SNR=5.8
X16A Lo Mia Camp, P 67.72 323 ⇓P P 04 03 13.7 +1.6
baz=68,SNR=12
O27A Beecher Island 67.78 333 ⇓P P 04 03 13.3 +1.0
baz=68
N28A Pribbeno Ranch 67.80 334 ⇑P P 04 03 13.1 +0.7
baz=68
S22A 4UR Ranch, Cre 67.80 328 ⇑P P 04 03 13.6 +0.9
baz=68
Z14A Wintersburg 67.83 321 ⇑P P 04 03 14.2 +1.5
baz=68
113A Mohawk Valley, 67.90 320 ⇑P P 04 03 14.2 +1.1
baz=68,SNR=7.3
P25A Willow Gulch B 67.96 331 ⇓P P 04 03 14.6 +1.1
baz=68,SNR=6.3
Q24A Divide 67.97 330 ⇑P P 04 03 15.0 +1.2
baz=68
L31A Butterfield Fa 68.00 337 ⇑P P 04 03 14.3 +0.8
baz=68,SNR=6.4
M29A Burnside Ranch 68.09 335 ⇑P P 04 03 15.5 +1.3
baz=68
L30A Spencer Herefo 68.14 336 ⇑P P 04 03 15.3 +0.9
baz=68
O26A Horse Wrangler 68.18 332 ⇑P P 04 03 15.9 +1.1
baz=68
OGNE Ogallala 68.22 334 ⇓P P 04 03 15.7 +0.7
baz=68
MVCO Mesa Verde 68.23 327 ⇑P P 04 03 16.1 +0.8
baz=68,SNR=8.0
LIC Lamto 68.24 74 eP P 04 03 14.5 -1.1
comp=E,51nm,1.1s
Y14A Wickenburg 68.28 322 ⇓P P 04 03 16.9 +1.4
baz=69,SNR=7.9
P24A Kohler Place, 68.30 331 ⇑P P 04 03 17.1 +1.4
baz=69
N27A Anderson Farm, 68.31 333 ⇑P P 04 03 16.8 +1.2
baz=69
M28A Bar X Bar Ranc 68.32 334 ⇓P P 04 03 16.8 +1.2
baz=69
TIC Toumodi 68.42 74 eP P 04 03 16.0 -0.8
comp=E,7.4nm,0.2s
O25A Wiggins 68.43 332 ⇓P P 04 03 17.9 +1.5
baz=69
WUAZ Wupatki 68.49 324 eP P 04 03 18.3 +1.3
comp=E,18nm,0.9s
WUAZ Wupatki 68.49 324 ⇓P P 04 03 18.6 +1.7
baz=69,SNR=16
L29A Maesberg Ranch 68.53 335 ⇑P P 04 03 18.5 +1.6
baz=69

KIC Kosan Boka 68.55 74 eP P 04 03 16.9 -0.7
comp=E,22nm,0.5s
ECSD EROS Data Cent 68.57 339 eP P 04 03 17.0 0.0
comp=E,40nm,1.6s
ECSD EROS Data Cent 68.57 339 ⇑P P 04 03 17.0 0.0
baz=69,SNR=5.9
DBIC Dimbokro 68.58 74 eP P 04 03 17.1 -0.6
comp=E,15nm,0.6s
DBIC pP PcP 04 03 42.5 +0.3
DBIC Dimbokro 68.58 74 P P 04 03 17.2 -0.5
comp=E,14nm,0.6s,baz=220,slow=7.8,SNR=37
DBIC pP PcP 04 03 42.5 +0.3
comp=E,12nm,0.6s,baz=226,slow=5.8,SNR=4.5
K30A Basset 68.72 336 ⇓P P 04 03 18.3 +0.3
baz=69
SPMN St. Paul 68.72 342 eP P 04 03 17.9 0.0
SPMN St. Paul 68.72 342 ⇑P P 04 03 17.7 -0.3
baz=69
ISCO Idaho Springs 68.85 331 eP P 04 03 20.0 +0.8
comp=E,5.8nm,1.0s
ISCO Idaho Springs 68.85 331 ⇓P P 04 03 19.9 +0.6
baz=69,SNR=5.3
PV01 Paradox Valley 68.97 328 eP P 04 03 21.3 +1.3
comp=E,307nm,0.9s
SMCO Snowmass 69.00 329 eP P 04 03 21.7 +1.5
comp=E,5.4nm,0.8s
Y12C Blythe 69.04 321 ⇑P P 04 03 21.8 +1.6
baz=69,SNR=6.9
K29A Lazy Trails An 69.06 336 ⇓P P 04 03 20.9 +0.8
baz=69,SNR=6.2
PDMCI Parker Dam,Lak 69.20 321 ⇓P P 04 03 22.0 +0.9
baz=70
P22A Eagle 69.22 330 ⇑P P 04 03 22.3 +0.8
baz=70,SNR=5.3
J30A Dallas 69.23 337 ⇓P P 04 03 21.5 +0.3
baz=70,SNR=6.6
DVTC Desert V Tower 69.25 319 ⇓P P 04 03 23.2 +1.6
baz=70,SNR=6.1
SWSC Sam W. Stewart 69.25 319 ⇑P P 04 03 22.5 +1.0
baz=70
O23A Lake Granby, G 69.32 331 ⇓P P 04 03 22.9 +0.8
baz=70
N24A Carr 69.34 332 ⇑P P 04 03 22.9 +0.8
baz=70
BC3 Big Chuckawall 69.53 320 ⇓P P 04 03 24.7 +1.4
baz=70,SNR=15
O22A Kremmling 69.57 330 ⇑P P 04 03 24.6 +0.9
baz=70,SNR=10.0
MONP Monument Peak 69.60 319 ⇓P P 04 03 25.5 +1.6
baz=70,SNR=7.9
W13A Hualapai Mount 69.61 322 ⇑P P 04 03 24.9 +1.0
baz=70
J29A Okreek 69.61 336 ⇑P P 04 03 24.1 +0.5
baz=70,SNR=8.3
BAR Barrett 69.62 318 eP P 04 03 25.3 +1.5
comp=E,15nm,0.9s
U15A North Rim 69.66 324 ⇓P P 04 03 26.1 +1.8
baz=70,SNR=19
IRM Iron Mountain 69.70 320 ⇑P P 04 03 25.7 +1.4
baz=70,SNR=20
K27A Flueckinger Fa 69.77 335 ⇓P P 04 03 25.5 +0.9
baz=70
M24A Cheyenne 69.84 332 ⇑P P 04 03 26.6 +1.4
baz=70,SNR=5.4
QSPA South Pole Qui 69.85 180 eP P 04 03 26.1 +1.2
comp=E,7.9nm,0.8s
N23A Red Feather La 69.88 331 ⇑P P 04 03 26.3 +0.8
baz=70
J28A Allard Ranch, 69.98 336 ⇑P P 04 03 26.6 +0.8
baz=70,SNR=7.3
N22A Wattenberg Ran 70.04 331 ⇑P P 04 03 27.3 +0.8
baz=70
BELC Belle Mtn. Jos 70.10 320 ⇑P P 04 03 28.3 +1.4
baz=70,SNR=8.3
PFO Pinyon Flat Ob 70.11 319 P P 04 03 28.6 +1.6
comp=E,63nm,1.2s,SNR=6.7
PFO Pinyon Flat Ob 70.11 319 eP P 04 03 28.5 +1.6
PFO Pinyon Flat Ob 70.11 319 ⇓P P 04 03 28.5 +1.6
baz=70,SNR=11
I29A Vivian Onida 70.13 337 ⇑P P 04 03 26.9 +0.2
baz=70
J27A Elkhorn Farm, 70.14 335 ⇑P P 04 03 28.3 +1.5
baz=70,SNR=11
LDFC Landfair 70.31 321 eP P 04 03 29.9 +1.8
comp=E,18nm,0.9s
O20A White River Ci 70.35 329 eP P 04 03 29.7 +1.4
comp=E,16nm,1.3s
O20A White River Ci 70.35 329 ⇑P P 04 03 29.7 +1.4
baz=71
GMRC Granite Mounta 70.43 321 ⇑P P 04 03 30.6 +1.7
baz=71,SNR=23
I28A Midland 70.44 336 ⇑P P 04 03 29.5 +0.9
baz=71
MURC Murrieta 70.56 319 ⇑P P 04 03 31.0 +1.4
baz=71
M22A Cedar Creek Ra 70.58 331 ⇓P P 04 03 31.1 +1.3
baz=71
J26A Sides Ranch, S 70.61 334 ⇓P P 04 03 29.9 +0.2
baz=71
H29A Onida 70.62 337 ⇓P P 04 03 29.7 +0.1
baz=71
G30A Faulkton 70.67 338 ⇑P P 04 03 30.6 +0.7
baz=71
SRU San Rafael 70.71 327 eP P 04 03 31.4 +0.9
comp=E,15nm,0.7s
I27A Quinn 70.84 335 ⇓P P 04 03 31.5 +0.5
baz=71
HEC Hector,Ludlow 70.86 320 ⇑P P 04 03 33.0 +1.5
baz=71
N20A Spence Gulch, 70.91 330 ⇑P P 04 03 32.2 +0.5
baz=71
H28A Mission Ridge 70.96 336 ⇓P P 04 03 32.3 +0.5
baz=71,SNR=8.2
TUQ Turquoise Moun 71.04 321 ⇓P P 04 03 33.6 +1.1
baz=71
CCUT Cedar City 71.06 324 eP P 04 03 35.1 +2.3
comp=E,23nm,0.8s
MVU Marysvale 71.14 325 eP P 04 03 34.7 +1.5
G28A Parade 71.26 337 ⇑P P 04 03 34.4 +0.9
baz=72
BFSC Mount Baldy Ra 71.27 319 ⇑P P 04 03 35.5 +1.6
baz=72,SNR=8.8
ARUT Antelope Range 71.28 324 eP P 04 03 36.0 +2.0
comp=E,534nm,0.8s
H27A Howes 71.33 336 ⇓P P 04 03 34.3 +0.4
baz=72,SNR=5.3
SHPR Sheep Range 71.33 322 eP P 04 03 36.0 +1.7
GSC Goldstone 71.47 320 eP P 04 03 36.9 +1.8
comp=E,1.8nm,0.8s
GSC Goldstone 71.47 320 ⇑P P 04 03 36.7 +1.6
baz=72,SNR=7.4
MWC Mount Wilson 71.51 319 eP P 04 03 37.0 +1.5
comp=E,11nm,0.7s
F29A Eureka 71.52 338 ⇑P P 04 03 35.6 +0.6
baz=72
K22A Casper 71.54 332 ⇓P P 04 03 36.0 +0.6
baz=72
RSSD Black Hills 71.67 334 eP P 04 03 36.8 +0.5
comp=E,6.0nm,0.9s
I24A Kummerle Ranc 71.70 334 ⇑P P 04 03 37.1 +0.8
baz=72
K21A Alcova 71.85 331 ⇓P P 04 03 38.4 +1.0
baz=72,SNR=11
F28A McLaughlin 71.88 337 ⇑P P 04 03 38.1 +0.9
baz=72
G27A Dupree 71.90 336 ⇓P P 04 03 37.9 +0.5
baz=72
EDW2 Edwards Air Fo 71.90 319 ⇑P P 04 03 38.6 +0.9
baz=72,SNR=9.3
H25A Fruitdale 71.91 335 ⇓P P 04 03 37.5 0.0
baz=72
MPU Maple Canyon 71.95 327 eP P 04 03 39.5 +1.5
comp=E,16nm,1.0s
DAU Daniels Canyon 72.06 327 eP P 04 03 40.2 +1.5
E29A Napoleon 72.09 338 ⇑P P 04 03 38.5 +0.1
baz=72
J22A Midwest 72.13 332 ⇓P P 04 03 39.0 +0.1
baz=72
NLU North Lily Min 72.13 327 eP P 04 03 40.9 +1.8
comp=E,7.4nm,0.9s
D30A Buchanan 72.26 339 ⇑P P 04 03 39.9 +0.5
baz=73,SNR=7.8
TPNV Topopah Spring 72.27 322 eP P 04 03 42.0 +2.0
comp=E,16nm,0.9s
TPNV Topopah Spring 72.27 322 ⇓P P 04 03 41.2 +1.3
baz=73,SNR=13
FURC Furnace Creek, 72.30 321 ⇓P P 04 03 41.4 +1.6
baz=73,SNR=11

G25A Newell 72.31 335 ⇓P P 04 03 40.6 +0.7
baz=73
BSC Santa Cruz Isl 72.34 318 ⇓P P 04 03 41.5 +1.3
baz=73
F27A Lemmon 72.35 337 ⇑P P 04 03 40.6 +0.5
baz=73
AGMN Agassiz Nation 72.40 342 eP P 04 03 40.1 -0.1
comp=E,12nm,0.8s
AGMN Agassiz Nation 72.40 342 ⇑P P 04 03 40.0 -0.3
baz=73
H24A Dirks Ranch, A 72.40 334 ⇑P P 04 03 40.9 +0.4
baz=73,SNR=6.0
E28A Huff 72.46 338 ⇓P P 04 03 41.5 +0.8
baz=73
J21A Lysite 72.50 332 ⇑P P 04 03 42.0 +0.8
baz=73
CTU Camp Tracy 72.51 327 eP P 04 03 42.6 +1.3
comp=E,6.7nm,1.1s
I22A 9 Mile Ranch, 72.52 333 ⇓P P 04 03 41.8 +0.6
baz=73
F26A Lodgepole 72.58 336 ⇓P P 04 03 42.2 +0.8
baz=73,SNR=9.4
ARVC Arvin 72.58 319 ⇓P P 04 03 42.8 +1.2
baz=73
E27A Carson 72.65 337 ⇑P P 04 03 42.4 +0.5
baz=73
C30A Mose, Pekin 72.69 340 ⇓P P 04 03 42.3 +0.3
baz=73
DUG Dugway 72.69 326 eP P 04 03 43.9 +1.5
comp=E,12nm,1.0s
DUG Dugway 72.69 326 ⇓P P 04 03 43.9 +1.5
baz=73,SNR=12
ISA Isabella 72.72 320 eP P 04 03 44.4 +1.8
comp=E,3.7nm,0.8s
ISA Isabella 72.72 320 ⇓P P 04 03 44.0 +1.5
baz=73,SNR=17
J20A Shoshoni 72.80 331 ⇓P P 04 03 43.6 +0.7
baz=73
I21A Big Trails, Te 72.81 332 ⇓P P 04 03 43.4 +0.5
baz=73,SNR=11
G24A Alzada 72.82 335 ⇑P P 04 03 43.4 +0.4
baz=73
R11A Troy Canyon, C 72.87 323 eP P 04 03 45.3 +1.8
comp=E,5.0nm,0.6s
R11A Troy Canyon, C 72.87 323 ⇑P P 04 03 45.1 +1.7
baz=73,SNR=15
F25A Bowman 72.94 336 ⇓P P 04 03 44.3 +0.7
baz=73
GRAC Grapevine Rang 72.96 321 ⇑P P 04 03 45.4 +1.5
baz=73
PDAR Pinedale Array 73.02 330 P P 04 03 43.6 -0.7
PDAR Pinedale Array 73.02 330 P P 04 03 43.6 -0.7
comp=E,1.3nm,0.7s,baz=126,slow=7.3,SNR=7.7
E26A Carlson Angus 73.02 337 ⇓P P 04 03 44.5 +0.5
baz=73
H22A Clearmont 73.02 333 ⇑P P 04 03 44.8 +0.7
baz=73
PKM Peak Mountain 73.04 318 ⇓P P 04 03 46.1 +1.5
baz=73,SNR=10
G23A Biddle 73.11 334 ⇑P P 04 03 45.3 +0.7
baz=73
J19A Crowheart 73.17 331 ⇓P P 04 03 45.9 +0.8
baz=74,SNR=7.1
MDND Maddock 73.18 339 eP P 04 03 45.6 +0.7
MDND Maddock 73.18 339 ⇑P P 04 03 45.6 +0.7
baz=74,SNR=5.3
VES Vestal, Richgr 73.21 319 ⇓P P 04 03 46.5 +1.3
baz=74
F24A Ekalaka 73.26 335 ⇑P P 04 03 46.1 +0.6
baz=74,SNR=6.2
I20A Worland 73.28 332 ⇓P P 04 03 46.0 +0.3
baz=74
B30A Myrvik Farm, E 73.29 340 ⇑P P 04 03 45.7 +0.2
baz=74
C28A Hausauer Farms 73.33 339 ⇑P P 04 03 46.0 +0.2
baz=74
BGU Big Grassy Mou 73.34 327 eP P 04 03 47.5 +1.3
comp=E,4.7nm,1.0s
E25A Miller Ranch, 73.40 336 ⇓P P 04 03 46.9 +0.6
baz=74
SMMC Simmler 73.42 319 ⇑P P 04 03 48.3 +1.7
baz=74
F23A Volborg 73.54 334 ⇑P P 04 03 47.9 +0.7
baz=74,SNR=6.6
TPH Tonopah 73.61 322 eP P 04 03 49.5 +1.6
comp=E,10nm,0.8s
RCTC Rector, Farmer 73.61 320 ⇑P P 04 03 48.5 +0.9
baz=74
B29A Wagenman Farm, 73.64 340 ⇓P P 04 03 48.4 +0.8
baz=74
H20A Greybull 73.65 332 ⇑P P 04 03 48.6 +0.8
baz=74,SNR=5.4
A30A Hoffart Farm, 73.72 340 ⇑P P 04 03 48.6 +0.6
baz=74
I19A Meeteetse 73.74 331 ⇓P P 04 03 49.3 +0.8
baz=74
E24A Baker 73.80 336 ⇑P P 04 03 49.6 +1.0
baz=74,SNR=6.1
HVU Hansel Valley 73.84 327 eP P 04 03 50.2 +1.1
comp=E,14nm,1.0s
G21A Lodge Grass 73.89 333 ⇑P P 04 03 49.8 +0.5
baz=74
MTUM Tungsten Hills 73.90 321 eP P 04 03 51.4 +1.8
D25A Fairfield 73.91 336 ⇑P P 04 03 50.0 +0.8
baz=74,SNR=5.1
F22A Rosebud 73.94 334 ⇑P P 04 03 50.0 +0.6
baz=74
B28A Dugan Ranch, T 73.96 339 ⇑P P 04 03 50.1 +0.7
baz=74,SNR=7.5
A29A Manning Farm, 74.00 340 ⇓P P 04 03 49.8 +0.2
baz=74,SNR=10.0
C26A Wahner Farm, P 74.03 338 ⇓P P 04 03 50.4 +0.5
baz=74
REDW Red Top Meadow 74.08 330 eP P 04 03 51.8 +1.3
comp=E,16nm,1.3s
LOHW Long Hollow 74.16 330 eP P 04 03 51.8 +0.9
comp=E,109nm,3.0s
ULM Lac du Bonnet 74.16 343 eP P 04 03 50.1 -0.4
comp=E,5.9nm,0.6s
ULM pP pP 04 04 15.3 +0.3
ULM Lac du Bonnet 74.16 343 P P 04 03 50.4 -0.1
comp=E,8.2nm,0.6s,baz=152,slow=6.0,SNR=20
ULM pP pP 04 04 15.3 +0.3
comp=E,5.8nm,0.5s,baz=156,slow=6.0,SNR=4.5
TPAW Teton Pass 74.23 330 eP P 04 03 52.3 +0.9
H19A Powell 74.23 332 ⇓P P 04 03 51.7 +0.5
baz=74
MLAC Mammoth Lakes 74.25 321 ⇓P P 04 03 52.2 +0.6
baz=74
D24A Glendive 74.26 336 ⇑P P 04 03 52.3 +1.0
baz=75
G20A Bridger 74.32 332 ⇓P P 04 03 52.0 +0.3
baz=75
A28A Rude Farm, Bot 74.33 339 ⇑P P 04 03 51.9 +0.3
baz=75
MOOW Moose Ponds 74.33 330 eP P 04 03 53.1 +1.2
comp=E,12nm,1.5s
E22A Miles City 74.35 334 ⇓P P 04 03 51.9 +0.1
baz=75
C25A Freed Ranch, W 74.36 337 ⇓P P 04 03 52.8 +1.0
baz=75
ELK Elko 74.37 325 eP P 04 03 53.6 +1.4
comp=E,6.4nm,1.0s
FXWY Fox Creek 74.37 330 eP P 04 03 53.1 +0.8
comp=E,5.6nm,1.0s
I17A Pilgrim Ck. 74.38 330 ⇑P P 04 03 53.6 +1.4
baz=75,SNR=9.9
NVAR Mina Array Bea 74.47 322 P P 04 03 54.3 +1.4
NVAR Mina Array Bea 74.47 322 P P 04 03 54.3 +1.4
comp=E,7.8nm,0.9s,baz=161,slow=6.5,SNR=31
IMW Indian Meadow 74.53 330 eP P 04 03 54.3 +1.1
comp=E,15nm,1.1s
H18A Shoshone NF, C 74.54 331 ⇓P P 04 03 54.1 +1.0
baz=75,SNR=8.3
FLWY Flagg Ranch 74.56 330 eP P 04 03 54.9 +1.6
comp=E,20nm,0.9s
D23A Lindsay 74.65 335 ⇑P P 04 03 54.9 +1.4
baz=75,SNR=7.2
LAO LASA Array 74.66 334 eP P 04 03 54.6 +1.0
comp=E,174nm,2.6s
RLMT Red Lodge 74.71 332 eP P 04 03 54.9 +0.8
comp=E,28nm,1.5s
H17A Grant Village 74.74 331 eP P 04 03 56.8 +2.4
H17A Grant Village 74.74 331 ⇓P P 04 03 55.7 +1.3
baz=75
F20A Billings 74.75 333 ⇓P P 04 03 54.9 +0.7
baz=75
LKWY Lake 74.79 331 eP P 04 03 56.9 +2.2

	comp=E,7.8nm,0.8s								
B25A	Knox Farm, Ray	74.79	337	⇓	P		P	04 03 55.6	+1.3
	baz=75								
SCHQ	Schefferville	74.88	1		P		P	04 03 54.9	+0.3
SCHQ	Schefferville	74.88	1		P		P	04 03 54.9	+0.3
	comp=E,8.7nm,0.7s,baz=172,slow=3.6,SNR=10								
E21A	Keefer Ranch,	74.89	334	⇑	P		P	04 03 56.0	+1.1
	baz=75								
A26A	Wade Farm, Ken	74.92	338	⇑	P		P	04 03 55.4	+0.4
	baz=75								
D22A	Cohagen	75.02	335	⇑	P		P	04 03 56.9	+1.2
	baz=75,SNR=6.1								
YMR	Madison River	75.13	330	*e*	P		P	04 03 58.7	+2.2
	comp=E,25nm,1.2s								
F19A	Roth Farm, Mol	75.14	332	⇓	P		P	04 03 57.3	+0.9
	baz=75,SNR=8.5								
C23A	Lambert	75.16	336	⇑	P		P	04 03 56.9	+0.5
	baz=76								
D21A	La Casta Ranch	75.28	334	⇑	P		P	04 03 58.5	+1.3
	baz=76,SNR=12								
E20A	Meyer Farm, Mu	75.30	333	⇓	P		P	04 03 58.6	+1.3
	baz=76,SNR=11								
A25A	Svangstu Ranch	75.33	338	⇑	P		P	04 03 58.3	+0.9
	baz=76								
DGMT	Dagmar	75.34	337	*e*	P		P	04 03 58.9	+1.5
	comp=E,20nm,0.9s								
DGMT	Dagmar	75.34	337	⇓	P		P	04 03 58.4	+1.0
	baz=76								
C22A	Vida	75.38	335	⇑	P		P	04 03 58.7	+1.0
	baz=76								
GCMT	Greycliff	75.41	332	*e*	P		P	04 03 58.9	+0.9
	comp=E,4.7nm,0.6s								
E19A	Rath Farm, Rou	75.55	333	⇑	P		P	04 03 59.9	+1.2
	baz=76,SNR=19								
B23A	Brockton	75.63	336	⇑	P		P	04 04 00.7	+1.6
	baz=76,SNR=6.3								
A24A	Westby	75.64	337	⇑	P		P	04 04 00.5	+1.4
	baz=76								
D20A	Manuel Ranch,	75.77	334	⇑	P		P	04 04 01.0	+1.1
	baz=76,SNR=7.9								
B22A	Reddig Ranch S	75.88	336	⇑	P		P	04 04 01.4	+0.9
	baz=76								
PAHR	Pah Rah Range	75.95	322	*e*	P		P	04 04 03.1	+1.9
	comp=E,32nm,0.8s								
HLID	Hailey	75.97	328	*e*	P		P	04 04 02.8	+1.5
	comp=E,11nm,0.8s								
HLID	Hailey	75.97	328	⇓	P		P	04 04 03.2	+1.9
	baz=76,SNR=18								
MCMT	McKenzie Canyo	76.13	330	*e*	P		P	04 04 04.0	+1.7
	comp=E,6.0nm,1.0s								
D19A	Cripps Ranch,	76.14	333	⇓	P		P	04 04 03.3	+1.2
	baz=76,SNR=8.3								
C20A	Veseth Ranch,	76.21	334	⇓	P		P	04 04 02.9	+0.5
	baz=76								
B21A	Ellsworth Farm	76.38	335	⇑	P		P	04 04 04.5	+1.1
	baz=77								
DLMT	Dillon	76.41	330	*e*	P		P	04 04 05.0	+1.3
	comp=E,14nm,1.3s								
A22A	Carney Farms,	76.41	336	⇓	P		P	04 04 04.9	+1.4
	baz=77,SNR=7.7								
C19A	Slack Wire Ran	76.66	334	⇑	P		P	04 04 06.0	+1.1
	baz=77,SNR=6.4								
B20A	Solberg Farm,	76.79	335	⇓	P		P	04 04 06.8	+1.1
	baz=77								
A21A	Bergtoll Ranch	76.80	335	⇑	P		P	04 04 06.6	+0.9
	baz=77								
HRY	Holter Researc	77.08	331	*e*	P		P	04 04 09.1	+1.6
A20A	Cobblestone Ra	77.11	335	⇓	P		P	04 04 08.4	+1.0
	baz=77,SNR=6.8								
TOA0	Torodi Ar. Sit	77.13	71	*e*	P		P	04 04 07.4	-0.9
TOA0				*e*				04 04 32.8	
TORD	Torodi Ar. Bea	77.13	71		P		P	04 04 07.4	-0.8
TORD					pP		pP	04 04 32.8	-0.1
TORD					S		S	04 13 47.8	-2.4
TORD	Torodi Ar. Bea	77.13	71		P		P	04 04 07.4	-0.8
	comp=E,22nm,0.6s,baz=250,slow=5.5,SNR=142								
TORD					pP		pP	04 04 32.8	-0.1
	comp=E,21nm,0.6s,baz=253,slow=5.7,SNR=8.9								
TORD					S		S	04 13 47.8	-2.4
	comp=E,0.9nm,0.8s,baz=256,slow=12,SNR=5.4								
EGMT	Eagleton	77.18	333	*e*	P		P	04 04 08.7	+0.8
	comp=E,14nm,0.9s								
EGMT	Eagleton	77.18	333	⇑	P		P	04 04 08.7	+0.8
	baz=78,SNR=6.2								
A19A	Klindworth Far	77.47	334	⇑	P		P	04 04 10.3	+0.8
	baz=78								
SYO	Syowa Base	77.65	160	⇑	*e*	P	P	04 04 09.6	-0.6
VNDA	Vanda	77.96	190		P		P	04 04 12.9	+1.0
VNDA	Vanda	77.96	190		P		P	04 04 12.9	+1.0
	comp=E,3.8nm,0.8s,baz=136,slow=3.7,SNR=8.9								
MSO	Missoula	78.13	330	*e*	P		P	04 04 16.2	+3.0
	comp=E,11nm,1.2s								
MSO	Missoula	78.13	330	⇑	P		P	04 04 14.3	+1.1
	baz=78								
SLMT	Seeley Lake	78.23	331	*e*	P		P	04 04 15.3	+1.4
SWMT	Swartz Lake	78.66	331	*e*	P		P	04 04 17.5	+1.4
M04C	Macdoel	78.72	323	⇑	P		P	04 04 17.6	+0.9
	baz=79								
K05A	Summer Lake	78.80	324	*e*	P		P	04 04 19.1	+2.0
	comp=E,293nm,2.8s								
YBMT	Yellow Bay	78.92	331	*e*	P		P	04 04 18.8	+1.2
I07A	Izee	78.96	326	*e*	P		P	04 04 19.4	+1.5
	comp=E,7.9nm,0.9s								
JTMT	Jette	78.96	331	*e*	P		P	04 04 19.4	+1.5
M02C	Callahan	79.05	322	⇓	P		P	04 04 19.2	+0.7
	baz=79								
BSMT	Bassoo Peak	79.27	331	*e*	P		P	04 04 21.2	+1.6
J05D	Fort Rock, OR	79.36	324	⇑	P		P	04 04 21.5	+1.3
	baz=80								
E09A	Wood Farm, Sta	79.92	328	*e*	P		P	04 04 24.1	+1.2
	comp=E,122nm,2.8s								
I05D	Terrebonne, OR	80.11	325	⇑	P		P	04 04 26.0	+1.9
	baz=80								
G06A	Carlson Farm,	80.33	326	*e*	P		P	04 04 27.1	+1.9
	comp=E,72nm,1.9s								
HAWA	Hanford	80.54	327	*e*	P		P	04 04 27.6	+1.4
	comp=E,16nm,0.8s								
TSUM	Tsumeb	80.55	107	*e*	P		P	04 04 28.3	+1.1
	comp=E,14nm,1.3s								
NEW	Newport	80.66	330	⇑	P		P	04 04 27.4	+0.5
	baz=81								
D08A	Wollman Farm,	80.69	328	*e*	P		P	04 04 28.5	+1.5
G05D	Wamic, OR	80.69	326	⇑	P		P	04 04 28.6	+1.5
	baz=81								
H04A	Detroit Lake	80.79	325	*e*	P		P	04 04 28.5	+0.8
	comp=E,13nm,0.7s								
I03D	Drain, OR	80.80	323	⇑	P		P	04 04 29.0	+1.4
	baz=81								
OD2	Odessa Site #2	80.81	328		P		P	04 04 29.1	+1.4
E07A	Sunnyside	80.81	327	*e*	P		P	04 04 29.5	+1.8
C09A	Chrisman Ranch	80.88	329	*e*	P		P	04 04 29.7	+1.6
	comp=E,20nm,0.8s								
SAW	Saint Andrews	81.36	328		P		P	04 04 31.8	+1.2
EBG	Ellensburg	81.41	327		P		P	04 04 32.8	+1.9
FCC	Fort Churchill	81.46	347	*e*	P		P	04 04 31.1	+0.4
	comp=E,0.4nm,0.8s								
WTV	Waterville	81.64	328		P		P	04 04 33.4	+1.3
LTY	Liberty	81.70	327	*e*	P		P	04 04 33.8	+1.3
	comp=E,9.6nm,0.8s								
F04A	Amboy	81.73	326	*e*	P		P	04 04 33.8	+1.3
	comp=E,20nm,0.8s								
ETW	Entiat	81.76	328		P		P	04 04 34.0	+1.1
NLW	Nelson Butte	82.08	328		P		P	04 04 35.5	+0.9
EDM	Edmonton	82.64	335	*e*	P		P	04 04 36.8	-0.4
EDM				*e*				04 05 01.4	
B06A	Marblemount	82.95	328	*e*	P		P	04 04 39.2	+0.5
	comp=E,24nm,0.6s								
VDB	Vedder Mountai	83.59	328		P		P	04 04 42.6	+0.5
TAM	Tamanrasset	84.45	63	*e*	P		P	04 04 48.2	+0.8
	comp=E,2.4nm,0.6s								
ESDC	Sonseca Array	85.13	45		P		P	04 04 49.5	-0.7
ESDC					pP		pP	04 05 15.8	+0.5
ESDC	Sonseca Array	85.13	45		P		P	04 04 49.5	-0.7
	comp=E,0.5nm,0.6s,baz=243,slow=5.6,SNR=3.8								
ESDC					pP		pP	04 05 15.8	+0.5
	comp=E,3.6nm,0.9s,baz=248,slow=5.6,SNR=4.2								
MAW	Mawson	85.49	163		P		P	04 04 51.4	-0.1
MAW	Mawson	85.49	163		P		P	04 04 51.4	-0.1
	comp=E,7.2nm,0.7s,baz=75,slow=23,SNR=9.3								
LBTB	Lobatse	85.67	115	*e*	P		P	04 04 54.5	+1.1
	comp=E,8.9nm,0.9s								
LBTB				*e*				04 05 20.3	
YKA	Yellowknife Ar	90.03	341		P		P	04 05 13.3	+0.3
YKA					pP		pP	04 05 37.4	-1.0
YKA	Yellowknife Ar	90.03	341		P		P	04 05 13.3	+0.3
	comp=E,13nm,0.7s,baz=133,slow=4.7,SNR=163								
YKA					pP		pP	04 05 37.3	-1.0
	comp=E,4.8nm,0.8s,baz=133,slow=4.7,SNR=5.3								
KEST	Kesra	92.74	53		P		P	04 05 27.2	+0.8
KEST	Kesra	92.74	53		P		P	04 05 27.2	+0.8
	comp=E,0.8nm,0.6s,baz=172,slow=12,SNR=5.5								
BRTR	Keskin Array B	112.30	54		Pdif		Pdif	04 06 51.1	-2.9
BRTR	Keskin Array B	112.30	54		Pdiff		Pdif	04 06 51.1	-2.9
	comp=E,0.5nm,0.8s,baz=344,slow=4.7,SNR=2.9								
KBZ	Khabaz	119.52	51		PKP		PKPdf	04 11 03.0	-0.2
KBZ	Khabaz	119.52	51		PKP		PKPdf	04 11 03.0	-0.2
	comp=E,1.8nm,0.8s,baz=36,slow=8.8,SNR=5.3								
STKA	Stephens Creek	120.33	210		PKP		PKPdf	04 11 04.7	-0.5
STKA	Stephens Creek	120.33	210		PKP		PKPdf	04 11 04.7	-0.5
	comp=E,1.4nm,0.6s,baz=151,slow=10,SNR=3.9								
H11S2	WAKE ISLAND Hy	127.55	278		T		T	06 31 14.7	
	baz=104,slow=72,SNR=606								
H11S1	WAKE ISLAND Hy	127.56	278		T		T	06 31 09.8	
	baz=104,slow=72,SNR=389								
H11S3	WAKE ISLAND Hy	127.57	278		T		T	06 31 16.0	
	baz=104,slow=72,SNR=379								
H11N3	WAKE ISLAND Hy	127.60	280		T		T	06 31 17.4	
	baz=104,slow=75,SNR=184								
H11N2	WAKE ISLAND Hy	127.61	280		T		T	06 31 18.4	
	baz=104,slow=75,SNR=168								
H11N1	WAKE ISLAND Hy	127.62	280		T		T	06 31 12.1	
	baz=104,slow=75,SNR=96								
AKTO	Aktyubinsk	128.88	41		PKP		PKPdf	04 11 21.0	+0.1
AKTO	Aktyubinsk	128.88	41		PKP		PKPdf	04 11 21.0	+0.1
	comp=E,1.1nm,0.8s,baz=40,slow=11,SNR=4.2								
ASAR	Alice Springs	130.86	208		PKP		PKPdf	04 11 25.4	-0.3
ASAR					pPKP		pPKPdf	04 11 52.8	+0.8
ASAR	Alice Springs	130.86	208		PKP		PKPdf	04 11 25.4	-0.3
	comp=E,2.8nm,0.9s,baz=157,slow=2.2,SNR=18								
ASAR					pPKP		pPKPdf	04 11 52.8	+0.8
	comp=E,0.9nm,0.7s,baz=131,slow=2.0,SNR=2.8								
WRA	Warramunga Arr	133.86	211		PKP		PKPdf	04 11 31.6	+0.3
WRA	Warramunga Ar	133.86	211		PKP		PKPdf	04 11 31.6	+0.3
	comp=E,2.8nm,0.6s,baz=155,slow=1.7,SNR=36								
BVAR	Borovoye Array	134.93	34		PKP		PKPdf	04 11 32.5	+0.2
BVAR					pPKP		pPKPdf	04 11 59.4	+0.7
BVAR	Borovoye Array	134.93	34		PKP		PKPdf	04 11 32.5	+0.2
	comp=E,1.1nm,0.7s,baz=182,slow=8.9,SNR=4.3								
BVAR					pPKP		pPKPdf	04 11 59.4	+0.7
	comp=E,0.9nm,0.7s,baz=256,slow=0.6,SNR=3.1								
KURK	Kurchatov	140.44	32		PKP		PKPdf	04 11 43.4	+1.0
KURBB	Kurchatov Arra	140.46	32		PKP		PKPdf	04 11 43.4	+0.9
	comp=E,1.5nm,0.7s,baz=308,slow=2.4,SNR=6.4								
ZAA0	Zalesovo Array	140.97	24	*e*	PKPdf		PKPdf	04 11 44.0	+0.7
ZALV	Zalesovo Beam	140.97	24		PKPpre		PKPpre	04 11 35.8	
ZALV					PKP		PKPdf	04 11 44.4	+1.0
ZALV					pPKP		pPKPdf	04 12 10.2	+0.5
ZALV	Zalesovo Beam	140.97	24		PKHKP		PKPpre	04 11 35.8	
	comp=E,0.6nm,0.7s,baz=48,slow=2.1,SNR=2.8								
ZALV					PKP		PKPdf	04 11 44.4	+1.0
	comp=E,4.2nm,0.7s,baz=302,slow=2.8,SNR=16								
ZALV					pPKP		pPKPdf	04 12 10.2	+0.5
	comp=E,4.5nm,0.8s,baz=298,slow=3.2,SNR=4.0								
AAK	Ala-Archa	142.23	46		PKP		PKPdf	04 11 47.8	+1.6
AAK	Ala-Archa	142.23	46		PKP		PKPdf	04 11 47.8	+1.6
	comp=E,0.5nm,0.4s,baz=168,slow=7.1,SNR=5.6								
KSH	Kashi	144.49	50	*e*	PKP		PKPab	04 11 46.1	-2.7
KSH				*e*	SKS		SKSdf	04 18 51.6	+0.4
KSH					AMB		AMB		
	comp=E,91nm,6.4s								
KSH					LR		LR		
	comp=E,82nm,4.8s								
KSH					LR		LR		
	comp=E,64nm,6.3s								
KSH					LR		LR		
	comp=E,94nm,4.1s								
MK31	Makanchi Array	144.79	35	*e*	PKPdf		PKPdf	04 11 50.3	0.0
MKAR	Makanchi Array	144.79	35		PKP		PKPdf	04 11 50.2	-0.1
MKAR					pPKP		pPKPdf	04 12 17.1	+0.4
MKAR	Makanchi Array	144.79	35		PKP		PKPdf	04 11 50.2	-0.1
	comp=E,4.2nm,0.5s,baz=318,slow=3.0,SNR=62								
MKAR					pPKP		pPKPdf	04 12 17.1	+0.4
	comp=E,2.9nm,0.5s,baz=320,slow=3.2,SNR=5.1								
SOEI	Soe	147.34	205		PKPbc		PKPbc	04 11 58.1	-0.2
WMQ	Urumqi	149.61	34		PKPbc		PKPdf	04 11 58.3	-0.3
USRK	Ussuriysk Arra	150.43	328		PKPbc		PKPbc	04 12 06.0	+0.9
	comp=E,11nm,0.9s,baz=35,slow=1.3,SNR=20								
MJAR	Matsushiro Arr	151.20	310		PKPbc		PKPbc	04 12 07.3	+0.1
MJAR	Matsushiro Arr	151.20	310		PKPbc		PKPbc	04 12 07.3	+0.1
	comp=E,7.1nm,0.9s,baz=104,slow=2.0,SNR=11								
SONM	Songino Array	152.32	7		PKP		PKPdf	04 12 03.8	+1.1
SONM					PKPbc		PKiKP	04 12 10.3	+0.5
SONM					PKPab		PKPab	04 12 18.3	-1.4
SONM					pPKP		pPKPdf	04 12 30.8	+1.7
SONM	Songino Array	152.32	7		PKP		PKPdf	04 12 03.8	+1.1
	comp=E,1.5nm,0.8s,baz=320,slow=0.8,SNR=12								
SONM					PKPbc		PKiKP	04 12 10.3	+0.5
	comp=E,3.9nm,0.6s,baz=298,slow=1.3,SNR=35								
SONM					PKPab		PKPab	04 12 18.3	-1.4
	comp=E,2.3nm,0.6s,baz=324,slow=2.3,SNR=7.5								
SONM					pPKP		pPKPdf	04 12 30.8	+1.7
	comp=E,1.9nm,0.7s,baz=324,slow=1.8,SNR=3.5								
ULN	Ulaanbaatar	152.36	6	*e*	PKPbc		PKPbc	04 12 10.8	+1.2
KSRS	Korea Array	157.41	323		PKPab		PKPab	04 12 42.0	+0.5
	comp=E,3.4nm,0.7s,baz=49,slow=4.9,SNR=6.3								
KSAR	Wonju Array Be	157.44	323		PKPab		PKPab	04 12 42.0	+0.3
GTA	Gaotai	158.73	24		PKP		PKPdf	04 12 12.8	+1.3
GTA					pPKP		pPKPdf	04 12 39.8	+1.8
GTA					PP		PP	04 16 31.4	+4.0
GTA					SKS		SKSdf	04 19 07.0	-1.8
GTA					SKKS		SKKSac	04 23 08.5	+0.1
GTA					SS		SS	04 36 22.1	+0.1
GTA					AMB		AMB		
	comp=E,130nm,6.4s								
GTA					LR		LR		
	comp=E,170nm,14.7s								
GTA					LR		LR		
	comp=E,110nm,15.7s								
GTA					LR		LR		
	comp=E,190nm,16.6s								
BJI	Beijing	159.84	348		PKP		PKPdf	04 12 11.8	-0.8
LZH	Lanzhou	163.13	20	*e*	PKP		PKPdf	04 12 17.5	+1.1
LZH					pPKP		pPKPdf	04 12 34.8	-8.1
LZH					sPKP			04 12 43.5	
LZH					PKPab		PKPab	04 13 07.4	+0.7
LZH					SKKS			04 23 34.3	
LZH					eSS		SS	04 37 09.6	+1.8
LZH					AMB		AMB		
	comp=E,120nm,9.3s								
LZH					LR		LR		
	comp=E,140nm,18.5s								
LZH					LR		LR		
	comp=E,140nm,19.0s								
LZH					LR		LR		
	comp=E,180nm,20.2s								
NJ2	Nanjing	166.33	330	*e*	PKP		PKPdf	04 12 20.1	+1.1
CD2	Chengdu	167.66	30	*e*	PKP		PKPdf	04 12 19.0	-1.2
GYA	Guiyang	172.77	32		PKP		PKPdf	04 12 23.3	0.0
GYA					pPKP		pPKPdf	04 12 41.8	-8.0
GYA					PKPab		PKPab	04 13 48.8	-0.7
GYA					PKS		PKSdf	04 15 53.5	-2.3
GYA					PP		PP	04 17 41.3	+1.0
GYA					SKKS			04 24 20.0	
GYA					SS		SS	04 38 42.3	-2.8
GYA					AMB		AMB		
	comp=E,120nm,7.8s								
GYA					LR		LR		
	comp=E,140nm,19.2s								
GYA					LR		LR		
	comp=E,120nm,20.3s								
GYA					LR		LR		
	comp=E,130nm,19.8s								

*ISCJB **13** 03:53:46.7±0.4, 18°.29N±0°.06×72°.89W±0°.03, h6km, mb3.8/12, Error ellipse: s-maj=8.5km s-min=3.9km az=8.5*
*IDC **13** 03:53:47.6±1.1, 18°.37N×73°.00W, h0km, mb3.8/10, mb1 4.1/12, mb1mx4.0/26, mbtmp3.9/12, ML3.2/2, Error ellipse: s-maj=32.7km s-min=22.7km az=177.0*
*NEIC **13** 03:53:49.4±0.3, 18°.44N×72°.90W, h10km, mb4.0/2, Error ellipse: s-maj=7.9km s-min=5.5km az=6.0*
ISC 13 03:53:48.6±0.5, 18°.38N±0°.07×72°.90W±0°.04, h6km, n40, σ1s39/50, mb3.9/12, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.64	68	*e*Pn	Pn	03 54 17.5	-0.6
SDDR				*e*S	Sb	03 54 40.8	+0.4
GTBY	Guantanamo Bay	2.60	307	*e*Pn	Pn	03 54 31.2	0.0
GTBY				*e*S	Sb	03 55 04.5	-3.2
GRTK	Grand Turk	3.53	28	*e*Pn	Pn	03 54 43.6	-0.4

MTDJ	Mount Denham	4.40	269	*e*Pn		Pn		03 54 56.8	+0.7
MTDJ				*e*S		Sb		03 56 02.8	+2.8
CRPR	Cabo Rojo, PR	5.52	93	*e*Pn		Pn		03 55 11.9	+0.6
	64nm,0.5s								
CRPR				*e*S		Sn		03 56 15.6	+0.4
OBIP	Obispado Ponce	5.99	92	*e*Pn		Pn		03 55 18.5	+0.7
	27nm,0.6s								
OBIP				*e*S		Sn		03 56 26.3	-0.6
CELP	Cerrillos	6.02	92	*e*Pn		Pn		03 55 16.4	-1.8
CELP				*e*S		Sn		03 56 25.4	-2.0
CBYP	Canovanas	6.69	90	*e*Pn		Pn		03 55 28.8	+1.3
CBYP				*e*S		Sn		03 56 45.8	+1.6
MTP	Monte Pirata	6.99	91	*e*Pn		Pn		03 55 31.2	-0.4
MTP				*e*S		Sn		03 56 46.2	-5.3
SDV	Santo Domingo	9.69	167	*e*Pn		Pn		03 56 09.3	+0.5
SDV				*e*S		Sn		03 57 53.5	-4.7
LZG	Guadaloupe-1	10.86	100	*e*P		Pn		03 56 25.4	+0.7
BCIP	Isla Barro Col	11.36	217	*e*Pn		Pn		03 56 31.4	-0.2
	45nm,0.7s								
ROSC	El Rosal	13.51	186	*e*Pn		Pn		03 57 04.2	+2.9
ROSC	El Rosal	13.51	186	Pn		Pn		03 57 02.0	+0.6
	0.6nm,0.3s,baz=102,slow=20,SNR=3.0								
TEIG	Tepich	14.63	280	Pn		Pn		03 57 15.7	-0.6
TEIG	Tepich	14.63	280	Pn		Pn		03 57 15.7	-0.6
	0.7nm,0.3s,baz=355,slow=11,SNR=4.9								
TXAR	Lajitas Array	30.09	297	P		P		03 59 59.2	+0.1
TXAR	Lajitas Array	30.09	297	P		P		03 59 59.2	+0.1
	0.8nm,0.9s,baz=82,slow=6.5,SNR=4.0								
BNM	Barren Site	33.89	304	*e*P		P		04 00 31.9	-0.7
	2.8nm,0.8s								
PDAR	Pinedale Array	39.38	316	P		P		04 01 17.5	-1.8
PDAR	Pinedale Array	39.38	316	P		P		04 01 17.5	-1.8
	0.4nm,0.7s,baz=108,slow=9.5,SNR=3.9								
MCMT	McKenzie Canyo	42.42	317	*e*P		P		04 01 45.2	+0.8
	2.0nm,1.0s								
NVAR	Mina Array Bea	44.14	307	P		P		04 01 58.9	+0.5
NVAR	Mina Array Bea	44.14	307	P		P		04 01 58.9	+0.5
	0.7nm,0.8s,baz=88,slow=8.0,SNR=3.8								
YKA	Yellowknife Ar	52.65	337	P		P		04 03 02.7	-0.6
YKA	Yellowknife Ar	52.65	337	P		P		04 03 02.7	-0.6
	1.7nm,0.8s,baz=125,slow=7.1,SNR=15								
ILAR	Eielson Array	66.71	333	P		P		04 04 39.3	-0.9
ILAR	Eielson Array	66.71	333	P		P		04 04 39.3	-0.9
	0.8nm,0.9s,baz=94,slow=6.3,SNR=5.9								
NOA	NORSAR Array B	71.27	31	P		P		04 05 09.0	+0.3
NOA	NORSAR Array B	71.27	31	P		P		04 05 09.0	+0.3
	0.3nm,0.7s,baz=292,slow=8.6,SNR=2.5								
GERES	GERESS Array B	74.19	43	P		P		04 05 26.5	+0.1
GERES	GERESS Array B	74.19	43	P		P		04 05 26.5	+0.1
	2.0nm,0.8s,baz=267,slow=4.7,SNR=7.4								
ARCES	ARCESS Array B	75.85	21	P		P		04 05 37.1	+1.7
ARCES	ARCESS Array B	75.85	21	P		P		04 05 37.1	+1.7
	4.2nm,1.1s,baz=308,slow=4.4,SNR=2.7								
FINES	FINESS Array B	78.25	29	P		P		04 05 48.8	-0.3
FINES	FINESS Array B	78.25	29	P		P		04 05 48.8	-0.3
	1.0nm,0.6s,baz=241,slow=4.6,SNR=3.3								
AKASG	Malin Array Be	83.40	39	P		P		04 06 17.8	+1.0
AKASG	Malin Array Be	83.40	39	P		P		04 06 17.8	+1.0
	0.2nm,0.4s,baz=275,slow=3.2,SNR=4.1								
WRA	Warramunga Arr	154.23	262	PKP		PKPdf		04 13 42.2	-0.2
WRA				PKPbc		PKPbc		04 13 48.7	-1.8
WRA	Warramunga Arr	154.23	262	PKP		PKPdf		04 13 42.2	-0.2
	0.7nm,0.9s,baz=138,slow=2.0,SNR=2.9								
WRA				PKPbc		PKPbc		04 13 48.7	-1.8
	1.4nm,1.1s,baz=89,slow=1.6,SNR=4.9								

*ATH **13** 03:54:49.9, 40°.70N×28°.89E, h31km±19km, MD3.7/10*
*ISCJB **13** 03:54:51.6±0.3, 40°.64N±0°.02×28°.74E±0°.02, h10km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=33.3*

AKHS	**Akhisar**	**1.89**	**203**	*i* P	**Pn**	**03 55 23.9**	**-0.4**
AKHS				*i* S	**Sg**	**03 55 52.7**	**-0.4**
AKHS	**Akhisar**	**1.89**	**203**	*i* P	**Pn**	**03 55 23.9**	**-0.4**
AKS	**Akhisar**	**1.89**	**203**	*e*PN	**Pn**	**03 55 23.9**	**-0.4**
AKS	**Akhisar**	**1.89**	**203**	*e*Pn	**Pn**	**03 55 23.9**	**-0.4**
EDRB	**Edirne**	**1.94**	**309**	*e*PN	**Pn**	**03 55 24.6**	**-0.3**
EDRB	**Edirne**	**1.94**	**309**	*e*Pn	**Pn**	**03 55 24.6**	**-0.3**
ENEZ	**Enez**	**1.98**	**274**	*e*PN	**Pn**	**03 55 26.4**	**+1.0**
ENEZ	**Enez**	**1.98**	**274**	*e*Pn	**Pn**	**03 55 26.4**	**+1.0**
EZN	**Ezine**	**2.02**	**247**	*e*PN	**Pn**	**03 55 25.9**	**-0.1**
EZN	**Ezine**	**2.02**	**247**	*e*Pn	**Pn**	**03 55 25.9**	**-0.1**
AYVA	**Ayvalik**	**2.06**	**231**	*i* P	**Pb**	**03 55 29.5**	**0.0**
AYVA				*i* S	**Sg**	**03 55 58.9**	**+0.4**
AYVA	**Ayvalik**	**2.06**	**231**	*i* P	**Pb**	**03 55 29.5**	**0.0**
ALN	**Alexandroupoli**	**2.07**	**278**	*e*PN	**Pn**	**03 55 25.9**	**-0.8**
ALN				*e*SN	**Sn**	**03 55 52.8**	**+0.5**
ALN	**Alexandroupoli**	**2.07**	**278**	*e*Pn	**Pn**	**03 55 25.9**	**-0.8**
ALN				*e*Sn	**Sn**	**03 55 52.8**	**+0.5**
KULA	**Kula-Manisa**	**2.12**	**182**	*e*PN	**Pn**	**03 55 28.0**	**+0.6**
KULA	**Kula-Manisa**	**2.12**	**182**	*e*Pn	**Pn**	**03 55 28.0**	**+0.6**
PRK	**Paraskevi**	**2.35**	**235**	*e*PN	**Pn**	**03 55 30.8**	**+0.2**
PRK				*e*SN	**Sn**	**03 55 59.7**	**+0.4**
PRK	**Paraskevi**	**2.35**	**235**	*e*Pn	**Pn**	**03 55 30.8**	**+0.2**
PRK				*e*Sn	**Sn**	**03 55 59.7**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.44**	**118**	*e*PN	**Pn**	**03 55 31.5**	**-0.4**
SVRH	**Sivrihisar-ESK**	**2.44**	**118**	*e*Pn	**Pn**	**03 55 31.5**	**-0.4**
JMB	**Yambol**	**2.45**	**319**	⇑*i*P	**Pn**	**03 55 31.8**	**-0.1**
SMTH	**Samothraki Isl**	**2.46**	**267**	*e*PN	**Pn**	**03 55 30.7**	**-1.3**
SMTH	**Samothraki Isl**	**2.46**	**267**	*e*Pn	**Pn**	**03 55 30.7**	**-1.3**
RDO	**Rodhopi**	**2.49**	**283**	*e*PN	**Pn**	**03 55 32.3**	**-0.1**
RDO	**Rodhopi**	**2.49**	**283**	*e*Pn	**Pn**	**03 55 32.3**	**-0.1**
SHUT	**Suhut-Afyon**	**2.50**	**146**	*e*PN	**Pn**	**03 55 33.4**	**+0.6**
SHUT	**Suhut-Afyon**	**2.50**	**146**	*e*Pn	**Pn**	**03 55 33.4**	**+0.6**
BCAM	**Yenicaga**	**2.53**	**85**	*i* P	**Pn**	**03 55 33.9**	**+0.8**
BCAM	**Yenicaga**	**2.53**	**85**	*i* P	**Pn**	**03 55 33.9**	**+0.8**
BOLV	**Bolvadin**	**2.56**	**138**	*i* P	**Pn**	**03 55 34.4**	**+0.9**
BOLV				*i* S	**Sg**	**03 56 13.7**	**-0.7**
BOLV	**Bolvadin**	**2.56**	**138**	*i* P	**Pn**	**03 55 34.4**	**+0.9**
SIGR	**SIGRI**	**2.64**	**238**	*e*PN	**Pn**	**03 55 34.1**	**-0.4**
SIGR	**SIGRI**	**2.64**	**238**	*e*Pn	**Pn**	**03 55 34.1**	**-0.4**
KDZ	**Kurdzhali**	**2.71**	**293**	⇑*i*P	**Pn**	**03 55 36.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.76**	**194**	*e*PN	**Pn**	**03 55 37.2**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.76**	**194**	*e*Pn	**Pn**	**03 55 37.2**	**+0.8**
LIA	**Limnos Island**	**2.83**	**256**	*e*PN	**Pn**	**03 55 36.8**	**-0.3**
LIA	**Limnos Island**	**2.83**	**256**	*e*Pn	**Pn**	**03 55 36.8**	**-0.3**
SAFT	**Safranbolu**	**3.04**	**77**	*e*PN	**Pn**	**03 55 41.1**	**+1.0**
SAFT	**Safranbolu**	**3.04**	**77**	*e*Pn	**Pn**	**03 55 41.1**	**+1.0**
CHOS	**Chios island**	**3.06**	**224**	*e*PN	**Pn**	**03 55 41.1**	**+0.7**
CHOS	**Chios island**	**3.06**	**224**	*e*Pn	**Pn**	**03 55 41.1**	**+0.7**
SMG	**Samos**	**3.27**	**208**	*e*PN	**Pn**	**03 55 43.1**	**-0.2**
SMG	**Samos**	**3.27**	**208**	*e*Pn	**Pn**	**03 55 43.1**	**-0.2**
NVR	**Nevrokopi**	**3.77**	**283**	*e*PN	**Pn**	**03 55 49.7**	**-0.4**
NVR	**Nevrokopi**	**3.77**	**283**	*e*Pn	**Pn**	**03 55 49.7**	**-0.4**
MMB	**Musomiste**	**3.91**	**286**	⇑*i*P	**Pg**	**03 56 04.2**	**-3.0**
SRS	**Serrai**	**3.94**	**279**	*e*PN	**Pn**	**03 55 51.8**	**-0.6**
SRS	**Serrai**	**3.94**	**279**	*e*Pn	**Pn**	**03 55 51.8**	**-0.6**
TLB	**Topalu**	**3.99**	**353**	⇓*i*P	**Pn**	**03 55 54.6**	**+1.6**
CFR	**Carcaliu**	**4.57**	**355**	⇑*i*P	**Pn**	**03 56 01.4**	**+0.4**
VTS	**Vitosha**	**4.59**	**297**	⇓*i*P	**Pn**	**03 56 02.1**	**+0.6**
MLR	**Muntele Rosu**	**5.27**	**338**	⇑*i*P	**Pn**	**03 56 12.6**	**+1.7**
VOIR		**5.51**	**332**	⇑*i*P	**Pn**	**03 56 16.8**	**+2.7**
ARR	**Arges**	**5.61**	**329**	⇓*i*P	**Pn**	**03 56 17.9**	**+2.4**
DOPR	**Dopca**	**5.87**	**336**	⇓*i*P	**Pn**	**03 56 21.1**	**+2.2**

CSEM ***13*** *03:56:58.1±1.7,50˚.25N×19˚.41E,h1km,Error ellipse: s-maj=26.8km s-min=16.7km az=60.0*

PRU 13 03:57:00.7,50˚.31N×19˚.26E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**104**	*e*Pg	Pg	03 57 07.7	+0.1
OJC				*e*Sg	Sg	03 57 11.9	-0.4
OKC	**Ostrava-Krasne**	**0.86**	**237**	*e*SG	Sg	03 57 28.7	+0.4
OKC	**Ostrava-Krasne**	**0.86**	**237**	Sg	Sg	03 57 28.7	+0.4
MORC	**Moravsky Berou**	**1.23**	**245**	*e*Pg	Pg	03 57 24.2	-0.2
MORC				*e*Sg	Sg	03 57 40.3	-0.1
KRLC	**Kraliky**	**1.61**	**263**	*e*PG	Pn	03 57 30.0	-0.5
KRLC				*e*SG	Sn	03 57 51.8	-0.2
KRLC	**Kraliky**	**1.61**	**263**	Pg	Pn	03 57 30.0	-0.5
KRLC				Sg	Sn	03 57 51.8	-0.2
DPC	**Dobruska-Polom**	**1.88**	**272**	*e*PG	Pb	03 57 36.4	+0.4
DPC				*e*SG	Sb	03 58 00.3	+0.1
DPC	**Dobruska-Polom**	**1.88**	**272**	Pg	Pb	03 57 36.4	+0.4
DPC				Sg	Sb	03 58 00.3	+0.1

ISCJB ***13*** *04:29:46.8±0.4, 18˚.36N±0˚.04×72˚.93W±0˚.03, h6km, mb3.9/11, Error ellipse: s-maj=6.4km s-min=3.8km az=1.1*
IDC ***13*** *04:29:47.3±0.8, 18˚.37N×72˚.87W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.8/26, mbtmp3.9/9, ML3.3/2, Error ellipse: s-maj=28.1km s-min=20.7km az=53.0*
NEIC ***13*** *04:29:49.0±0.4, 18˚.45N×72˚.94W, h10km, mb4.5/5, Error ellipse: s-maj=8.1km s-min=5.7km az=10.0*

ISC 13 04:29:48.3±0.5, 18˚.39N±0˚.05×72˚.95W±0˚.04, h6km, n38, σ1ᵖ55/53, mb3.9/11, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.68**	**69**	*e*Pn	**Pn**	**04 30 16.8**	**-1.5**
SDDR				*e*Pg	**Pb**	**04 30 19.5**	**-0.2**
SDDR				*e*S	**Sb**	**04 30 41.4**	**+0.3**
GTBY	**Guantanamo Bay**	**2.56**	**307**	*e*Pn	**Pn**	**04 30 30.9**	**+0.6**
GTBY				*e*S	**Sb**	**04 31 05.1**	**-1.2**
GRTK	**Grand Turk**	**3.55**	**28**	*e*Pn	**Pn**	**04 30 42.1**	**-1.8**
GRTK				*e*S	**Sb**	**04 31 34.8**	**0.0**
MTDJ	**Mount Denham**	**4.36**	**269**	*e*Pn	**Pn**	**04 30 54.1**	**-1.1**
MTDJ				*e*S	**Sn**	**04 31 47.9**	**+1.4**
CRPR	**Cabo Rojo, PR** 25nm,0.4s	**5.56**	**93**	*e*Pn	**Pn**	**04 31 12.9**	**+1.3**
CRPR				*e*S	Sg	04 32 54.9	+7.8
LSP	**Las Mesas**	**5.57**	**91**	*e*Pn	**Pn**	**04 31 11.7**	**-0.1**
LSP				*e*S	**Sn**	**04 32 13.9**	**-2.3**
OBIP	**Obispado Ponce** 21nm,0.6s	**6.04**	**92**	*e*Pn	**Pn**	**04 31 18.8**	**+0.6**
OBIP				*e*S	**Sn**	**04 32 28.1**	**+0.4**
CELP	**Cerrillos**	**6.06**	**92**	*e*Pn	**Pn**	**04 31 19.2**	**+0.7**
CELP				*e*S	**Sn**	**04 32 28.4**	**+0.2**
CBYP	**Canovanas**	**6.74**	**90**	Pn	**Pn**	**04 31 29.8**	**+2.0**
CBYP				*e*S	**Sn**	**04 32 48.9**	**+3.9**
MTP	**Monte Pirata**	**7.03**	**91**	*e*Pn	**Pn**	**04 31 31.8**	**-0.1**
MTP				*e*S	**Sn**	**04 32 56.6**	**+4.4**
SDV	**Santo Domingo** 4.5nm,0.6s	**9.71**	**166**	*e*Pn	**Pn**	**04 32 10.2**	**+1.4**
SDV				*e*S	**Sn**	**04 33 52.9**	**-5.4**
ROSC	**El Rosal**	**13.52**	**186**	*e*Pn	**Pn**	**04 33 03.5**	**+2.4**
ROSC				Sn	**Sn**	**04 35 32.8**	**+0.8**
ROSC	**El Rosal** 1.1nm,0.3s,baz=114,slow=6.3,SNR=12	**13.52**	**186**	Pn	**Pn**	**04 33 02.4**	**+1.3**
ROSC	0.6nm,0.3s,baz=52,slow=19,SNR=2.8			Sn	**Sn**	**04 35 32.8**	**+0.8**
TEIG	**Tepich** 23nm,1.2s	**14.59**	**280**	*e*Pn	**Pn**	**04 33 15.5**	**+0.1**
TEIG	**Tepich** 2.6nm,1.1s	**14.59**	**280**	Pn	**Pn**	**04 33 16.7**	**+1.4**
BBSR	**BB Station** 92nm,1.3s	**15.78**	**27**	Pn	**Pn**	**04 33 29.9**	**-1.3**
SAML	**Samuel** 0.8nm,0.5s	**28.82**	**160**	*e*P	**P**	**04 35 47.2**	**-0.3**
TXAR	**Lajitas Array**	**30.05**	**297**	P	**P**	**04 35 59.3**	**+0.8**
TXAR	**Lajitas Array** 0.6nm,1.0s,baz=123,slow=3.3,SNR=4.2	**30.05**	**297**	P	**P**	**04 35 59.3**	**+0.8**
NNA	**Nana** 28nm,1.2s	**30.43**	**188**	P	**P**	**04 36 00.1**	**-1.7**
MNTX	**Cornudas Mount** 4.8nm,1.4s	**32.10**	**301**	*e*P	**P**	**04 36 17.6**	**+1.1**
BNM	**Barren Site** 2.6nm,1.1s	**33.85**	**304**	P	**P**	**04 36 31.2**	**-0.8**
PDAR	**Pinedale Array**	**39.34**	**316**	P	**P**	**04 37 19.8**	**+1.1**
PDAR	**Pinedale Array** 0.3nm,0.9s,baz=106,slow=5.9,SNR=2.4	**39.34**	**316**	P	**P**	**04 37 19.8**	**+1.1**
BDFB	**Brasilia**	**41.79**	**142**	P	**P**	**04 37 39.4**	**+0.3**
BDFB	**Brasilia** 5.6nm,0.7s,baz=338,slow=7.6,SNR=8.0	**41.79**	**142**	P	**P**	**04 37 39.4**	**+0.3**
YKA	**Yellowknife Ar**	**52.62**	**337**	P	**P**	**04 39 03.4**	**+0.5**
YKA	**Yellowknife Ar** 0.7nm,0.9s,baz=123,slow=7.1,SNR=9.2	**52.62**	**337**	P	**P**	**04 39 03.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**71.59**	**82**	P	**P**	**04 41 10.2**	**-0.9**
TORD	**Torodi Ar. Bea** 1.0nm,1.0s,baz=281,slow=8.0,SNR=3.1	**71.59**	**82**	P	**P**	**04 41 10.2**	**-0.9**
GERES	**GERESS Array B**	**74.21**	**43**	P	**P**	**04 41 25.7**	**-0.5**
GERES	**GERESS Array B** 0.3nm,0.5s,baz=281,slow=11,SNR=3.2	**74.21**	**43**	P	**P**	**04 41 25.7**	**-0.5**
ARCES	**ARCESS Array B**	**75.85**	**21**	P	**P**	**04 41 35.7**	**+0.5**
ARCES	**ARCESS Array B** 4.6nm,1.0s,baz=268,slow=6.3,SNR=3.3	**75.85**	**21**	P	**P**	**04 41 35.7**	**+0.5**
WRA	**Warramunga Arr**	**154.19**	**262**	PKP	**PKPdf**	**04 49 42.3**	**+0.3**
WRA				PKPbc	**PKPbc**	**04 49 48.6**	**-1.5**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=73,slow=1.9,SNR=3.8	**154.19**	**262**	PKP	**PKPdf**	**04 49 42.3**	**+0.3**
WRA	0.4nm,0.5s,baz=84,slow=2.7,SNR=14			PKPbc	**PKPbc**	**04 49 48.6**	**-1.5**
ASAR	**Alice Springs**	**154.41**	**254**	PKPbc	**PKPbc**	**04 49 49.5**	**-1.1**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=106,slow=3.4,SNR=2.6	**154.41**	**254**	PKPbc	**PKPbc**	**04 49 49.5**	**-1.1**

IDC ***13*** *04:37:48.1±0.7, 18˚.29N×72˚.76W, h0km, mb3.9/16, mb1 4.2/18, mb1mx4.1/29, mbtmp4.0/18, ML3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/48, Error ellipse: s-maj=24.0km s-min=15.6km az=40.0*
ISCJB ***13*** *04:37:49.5±0.3, 18˚.39N±0˚.04×72˚.77W±0˚.03, h13km, mb4.1/27, MS3.4/1, Error ellipse: s-maj=5.3km s-min=3.5km az=9.0*
NEIC ***13*** *04:37:50.9±0.3, 18˚.47N×72˚.78W, h10km, mb4.5/13, Error ellipse: s-maj=8.2km s-min=5.5km az=18.0*

ISC 13 04:37:50.8±0.4, 18˚.41N±0˚.05×72˚.71W±0˚.04, h13km, n74, σ1ᵖ59/82, mb4.3/27, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.47**	**67**	*e*Pn	**Pn**	**04 38 15.7**	**-1.3**
SDDR				*e*S	**Sb**	**04 38 36.8**	**+0.3**
GTBY	**Guantanamo Bay**	**2.73**	**304**	*e*Pn	**Pn**	**04 38 31.6**	**-2.7**
GTBY				*e*S	**Sn**	**04 39 08.5**	**+1.3**
GRTK	**Grand Turk**	**3.43**	**25**	*e*Pn	**Pn**	**04 38 43.3**	**-0.6**
GRTK				*e*S	**Sn**	**04 39 23.9**	**-0.5**
MTDJ	**Mount Denham**	**4.59**	**269**	*e*Pn	**Pn**	**04 38 59.3**	**-0.6**
MTDJ				*e*S	Sn	04 39 58.3	+5.1
AGPR	**Aguadilla, PR**	**5.32**	**88**	Pn	Pn	04 39 13.7	+3.8
AGPR				*e*S	**Sb**	**04 40 24.7**	**-2.6**
CRPR	**Cabo Rojo, PR** 59nm,0.6s	**5.34**	**93**	*e*Pn	**Pn**	**04 39 11.1**	**+0.9**
CRPR				*e*S	**Sn**	**04 40 14.6**	**+3.0**
LSP	**Las Mesas**	**5.35**	**92**	*e*Pn	**Pn**	**04 39 12.1**	**+1.7**
LSP				*e*S	**Sg**	**04 40 37.7**	**-4.9**
AOPR	**Arecibo Observ**	**5.66**	**90**	*e*Pn	Pn	04 39 18.9	+4.3
OBIP	**Obispado Ponce** 125nm,1.0s	**5.81**	**93**	*e*Pn	**Pn**	**04 39 16.9**	**+0.2**
OBIP				*e*S	**Sn**	**04 40 28.3**	**+5.0**
CELP	**Cerrillos**	**5.83**	**92**	*e*Pn	Pn	04 39 20.1	+3.1
CELP				*e*S	Sb	04 40 35.1	-7.2
CBYP	**Canovanas** 33nm,0.6s	**6.51**	**90**	*e*Pn	**Pn**	**04 39 28.2**	**+1.8**
HUMP	**Col San Antoni**	**6.52**	**91**	*e*Pn	Pb	04 39 35.9	-8.2
MTP	**Monte Pirata** 40nm,0.8s	**6.81**	**91**	*e*Pn	**Pn**	**04 39 32.9**	**+2.5**
MTP				*e*S	**Sn**	**04 40 51.6**	**+3.8**
SDV	**Santo Domingo**	**9.68**	**168**	*e*Pn	**Pn**	**04 40 10.8**	**+0.8**
SDV				*e*S	**Sn**	**04 41 54.8**	**-3.9**
ROSC	**El Rosal**	**13.56**	**187**	*e*Pn	**Pn**	**04 41 04.9**	**+1.6**
ROSC				*e*S	**Sn**	**04 43 33.5**	**-0.6**
ROSC	**El Rosal** 0.9nm,0.3s,baz=72,slow=12,SNR=11	**13.56**	**187**	Pn	**Pn**	**04 41 04.9**	**+1.6**
ROSC	0.4nm,0.3s,baz=90,slow=20,SNR=2.2			Sn	**Sn**	**04 43 32.7**	**-1.5**
JTS	**JuntasAbangare**	**14.34**	**237**	Pn	**Pn**	**04 41 15.3**	**+1.7**
JTS	**JuntasAbangare** 0.5nm,0.3s,baz=17,slow=20,SNR=2.4	**14.34**	**237**	Pn	**Pn**	**04 41 15.3**	**+1.7**
TEIG	**Tepich**	**14.81**	**280**	Pn	**Pn**	**04 41 20.4**	**+0.4**
TEIG	**Tepich** 0.3nm,0.3s,baz=124,slow=16,SNR=3.7	**14.81**	**280**	Pn	**Pn**	**04 41 20.4**	**+0.4**
KMSC	**Kings Mountain** 23nm,1.3s	**18.35**	**337**	*e*P	**P**	**04 42 07.8**	**+2.8**
OTAV	**Otavalo** 100nm,2.3s	**18.91**	**198**	*e*Pn	**Pn**	**04 42 14.8**	**+2.4**
TKL	**Tuckaleechee C**	**19.78**	**332**	P	**Pn**	**04 42 21.7**	**-0.6**
TKL	**Tuckaleechee C** 0.3nm,0.3s,baz=155,slow=9.8,SNR=4.1	**19.78**	**332**	P	**Pn**	**04 42 21.7**	**-0.6**
CPCT	**Cooper Cave**	**19.95**	**331**	*e*Pn	**Pn**	**04 42 25.8**	**+1.5**
SDMD	**Soldier's Deli** 22nm,1.0s	**21.24**	**351**	*e*P	P	04 42 43.3	+6.8
PTGA	**Pitinga**	**22.77**	**145**	*e*P	**P**	**04 42 56.2**	**+3.0**
PTGA	**Pitinga** 9.5nm,1.0s,baz=340,slow=11,SNR=10.0	**22.77**	**145**	P	**P**	**04 42 53.3**	**+0.1**
ACSO	**Alum Creek Sta** 20nm,1.0s	**23.49**	**340**	*e*P	P	04 43 04.6	+4.3
HKT	**Hockley** 104nm,2.9s	**23.97**	**303**	*e*P	**P**	**04 43 04.8**	**-0.2**
SFIN	**Scholer Farm**	**25.16**	**333**	P	**P**	**04 43 17.5**	**+1.7**
ATAH	**Atahualpa** comp=Z,113nm,21.3s,baz=1.6,slow=37	**25.99**	**193**	LR	LR	04 53 47.5	
SAML	**Samuel** 6.3nm,2.3s	**28.76**	**160**	*e*P	**P**	**04 43 48.3**	**-0.1**
TXAR	**Lajitas Array**	**30.24**	**297**	P	**P**	**04 44 00.5**	**-1.1**
TXAR				PcP	**PcP**	**04 47 02.2**	**-0.1**
TXAR	**Lajitas Array** 0.7nm,0.9s,baz=113,slow=6.0,SNR=6.5	**30.24**	**297**	P	**P**	**04 44 00.5**	**-1.1**
TXAR	0.1nm,0.6s,baz=134,slow=3.9,SNR=4.2			PcP	**PcP**	**04 47 02.2**	**-0.1**
BNM	**Barren Site** 3.6nm,1.0s	**34.03**	**304**	*e*P	**P**	**04 44 35.1**	**+0.2**
LPM	**Los Pinos Moun** 4.3nm,1.0s	**34.08**	**304**	*e*P	**P**	**04 44 36.1**	**+0.8**
ULM	**Lac du Bonnet**	**36.77**	**335**	P	**P**	**04 44 58.5**	**+0.5**
ULM	**Lac du Bonnet** 4.5nm,0.9s,baz=208,slow=5.7,SNR=3.6	**36.77**	**335**	P	**P**	**04 44 58.5**	**+0.5**
PDAR	**Pinedale Array**	**39.48**	**316**	P	**P**	**04 45 20.7**	**-0.6**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=145,slow=6.5,SNR=2.9	**39.48**	**316**	P	**P**	**04 45 20.7**	**-0.6**
LOHW	**Long Hollow** 85nm,2.8s	**40.54**	**317**	*e*P	**P**	**04 45 29.2**	**-0.8**
REDW	**Red Top Meadow** 23nm,1.6s	**40.59**	**316**	*e*P	**P**	**04 45 30.8**	**+0.3**
MOOW	**Moose Ponds** 53nm,2.6s	**40.69**	**317**	*e*P	**P**	**04 45 31.1**	**-0.2**
FXWY	**Fox Creek** 3.5nm,1.0s	**40.83**	**316**	*e*P	**P**	**04 45 32.6**	**+0.1**
BDFB	**Brasilia**	**41.67**	**143**	P	**P**	**04 45 37.9**	**-1.5**
BDFB	**Brasilia** 3.8nm,0.6s,baz=334,slow=3.7,SNR=6.1	**41.67**	**143**	P	**P**	**04 45 37.9**	**-1.5**
TPH	**Topah** 13nm,1.7s	**43.36**	**306**	*e*P	**P**	**04 45 53.5**	**+0.3**
NVAR	**Mina Array Bea**	**44.27**	**307**	P	**P**	**04 46 01.0**	**+0.5**
NVAR	**Mina Array Bea** 0.8nm,0.9s,baz=108,slow=5.8,SNR=4.3	**44.27**	**307**	P	**P**	**04 46 01.0**	**+0.5**
FRB	**Frobisher Bay**	**45.39**	**3**	P	**P**	**04 46 09.5**	**+0.8**
FRB	**Frobisher Bay** 3.9nm,0.9s,baz=190,slow=12,SNR=5.4	**45.39**	**3**	P	**P**	**04 46 09.5**	**+0.8**
YKA	**Yellowknife Ar**	**52.69**	**337**	P	**P**	**04 47 03.8**	**-0.9**
YKA	**Yellowknife Ar** 0.7nm,0.7s,baz=124,slow=7.4,SNR=12	**52.69**	**337**	P	**P**	**04 47 03.8**	**-0.9**
ESDC	**Sonseca Array**	**62.28**	**54**	P	**P**	**04 48 13.1**	**+0.3**
ESDC	**Sonseca Array** 2.4nm,1.1s,baz=282,slow=6.0,SNR=2.9	**62.28**	**54**	P	**P**	**04 48 13.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**63.44**	**37**	P	**P**	**04 48 21.4**	**+1.2**
EKA	**Eskdalemuir Ar** 2.5nm,0.9s,baz=282,slow=14,SNR=4.2	**63.44**	**37**	P	**P**	**04 48 21.4**	**+1.2**
ILAR	**Eielson Array**	**66.77**	**333**	P	**P**	**04 48 41.0**	**-0.7**
ILAR	**Eielson Array** 0.7nm,1.0s,baz=104,slow=6.0,SNR=4.3	**66.77**	**333**	P	**P**	**04 48 41.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**71.36**	**82**	P	**P**	**04 49 09.1**	**-1.9**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=282,slow=6.9,SNR=2.7	**71.36**	**82**	P	**P**	**04 49 09.1**	**-1.9**
KEST	**Kesra**	**73.19**	**57**	P	**P**	**04 49 21.9**	**+0.1**
KEST	**Kesra** 1.2nm,0.8s,baz=274,slow=14,SNR=2.1	**73.19**	**57**	P	**P**	**04 49 21.9**	**+0.1**
GERES	**GERESS Array B**	**74.05**	**43**	P	**P**	**04 49 27.4**	**+0.8**
GERES	**GERESS Array B** 1.6nm,0.8s,baz=275,slow=4.8,SNR=6.2	**74.05**	**43**	P	**P**	**04 49 27.4**	**+0.8**
FINES	**FINESS Array B**	**78.14**	**29**	P	**P**	**04 49 49.1**	**-0.3**
FINES	**FINESS Array B** 1.1nm,0.9s,baz=255,slow=9.9,SNR=2.2	**78.14**	**29**	P	**P**	**04 49 49.2**	**-0.3**
BRTR	**Keskin Array B**	**90.36**	**48**	P	**P**	**04 50 51.9**	**-0.4**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=310,slow=9.2,SNR=2.8	**90.36**	**48**	P	**P**	**04 50 51.9**	**-0.4**
WRA	**Warramunga Arr**	**154.41**	**262**	PKP	**PKPdf**	**04 57 42.3**	**-1.3**
WRA				PKPbc	**PKPbc**	**04 57 50.2**	**-1.7**
WRA	**Warramunga Arr** 1.0nm,1.1s,baz=55,slow=1.4,SNR=3.4	**154.41**	**262**	PKP	**PKPdf**	**04 57 42.3**	**-1.3**
WRA	1.3nm,0.9s,baz=85,slow=2.6,SNR=6.8			PKPbc	**PKPbc**	**04 57 50.2**	**-1.7**
ASAR	**Alice Springs**	**154.63**	**253**	PKPbc	**PKPbc**	**04 57 51.2**	**-1.1**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=100,slow=1.8,SNR=4.1	**154.63**	**253**	PKPbc	**PKPbc**	**04 57 51.2**	**-1.1**

BYKL ***13*** *04:41:01.3±0.2, 54˚.07N×109˚.56E*
MOS ***13*** *04:41:01.1±1.1, 53˚.98N×109˚.55E, h10km, mb4.2/1, Error ellipse: s-maj=25.8km s-min=13.0km az=73.6*

ISC 13 04:40:59.2±0.7, 53˚.98N±0˚.02×109˚.59E±0˚.03, h10km, n30, σ2ᵖ08/55, 4C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.40**	**143**	*e*PG	**Pn**	**04 41 10.9**	**-0.2**
SYVR				*e*		04 41 17.5	
SYVR	comp=Z,805nm,0.1s			pmax	pmax		
SYVR	comp=N,5μm,0.2s			smax	smax		
SYVR	**Suvo** comp=N,375nm,0.2s	**0.40**	**143**	⇓*i*Pg	**Pn**	**04 41 10.9**	**-0.2**
SYVR	comp=N,171nm,0.2s			⇑*i*Pg	**Pn**	**04 41 10.9**	**-0.2**
SYVR	comp=N,872nm,0.2s			⇑*i*Pg	**Pn**	**04 41 10.9**	**-0.2**
SYVR				*e*Sg	**Sb**	**04 41 18.0**	**+3.3**
SYVR	comp=N,798nm,0.1s			Pmax			
SYVR	comp=N,3μm,0.1s			Smax			
MXMB	**Maximikha**	**0.88**	**215**	⇑*i*Pg	**Pn**	**04 41 18.9**	**+1.3**
MXMB				*e*Sg	**Sn**	**04 41 32.1**	**+1.7**
MXMB	comp=N,177nm,0.1s			Pmax			
MXMB	comp=N,2μm,0.5s			Smax			
OGRR	**Ongureny**	**1.23**	**255**	*e*PG	**Pg**	**04 41 24.2**	**+1.4**
OGRR				*e*		04 41 40.4	
OGRR	comp=Z,41nm,0.2s			pmax	pmax		
OGRR	comp=N,334nm,0.2s			smax	smax		
OGRR	**Ongureny** comp=N,41nm,0.1s	**1.23**	**255**	⇓*i*Pg	**Pg**	**04 41 24.1**	**+1.3**
OGRR				*e*Sg	**Sn**	**04 41 40.4**	**+1.2**
OGRR	comp=N,267nm,0.2s			Pmax			
OGRR				Smax			
YLYR	**Ulyunkhan**	**1.28**	**45**	*e*PG	**Pn**	**04 41 23.6**	**+0.3**
YLYR				*e*		04 41 39.8	
YLYR	comp=Z,82nm,0.2s			pmax	pmax		
YLYR	comp=E,353nm,0.3s			smax	smax		
YLYR	**Ulyunkhan**	**1.28**	**45**	⇑*i*Pg	**Pn**	**04 41 23.5**	**+0.3**
YLYR				*e*Sg	**Sb**	**04 41 40.5**	**+0.4**
YLYR	comp=E,81nm,0.2s			Pmax			
YLYR	comp=E,352nm,0.3s			Smax			
NIZ	**Nizh Angarsk**	**1.80**	**359**	*e*PN	**Pg**	**04 41 32.7**	**-1.0**
NIZ				*e*		04 41 55.7	
NIZ	comp=Z,164nm,0.3s			pmax	pmax		
NIZ	comp=E,289nm,0.3s			smax	smax		
NIZ	**Nizh Angarsk**	**1.80**	**359**	*e*Pn	**Pb**	**04 41 31.5**	**-0.8**
NIZ				⇓*i*Pg	**Pg**	**04 41 32.7**	**-1.0**
NIZ				*e*Sg	**Sb**	**04 41 54.7**	**-0.2**
NIZ	comp=E,165nm,0.3s			Pmax			
NIZ	comp=E,292nm,0.3s			Smax			
KMO	**Kumora**	**2.13**	**25**	*e*PN	**Pb**	**04 41 38.0**	**+0.2**
KMO				*e*		04 42 04.9	
KMO	comp=Z,37nm,0.3s

MOY	**Mondy**	**5.70**	**250**	*e*Pg	Pg	04 42 44.1	-4.3
MOY				*e*Sn	**Sn**	**04 43 30.5**	**+0.9**
MOY				*e*Sg	**Sg**	**04 43 57.6**	**-4.6**
MOY				Pmax			
	comp=N,3.0nm,0.3s						
MOY				Smax			
	comp=N,19nm,1.0s						
CRS	**Chara**	**5.74**	**56**	*e*Sg	**Sg**	**04 43 58.1**	**-5.3**
CRS				Smax			
	comp=N,70nm,1.6s						
ORL	**Orlik**	**6.04**	**260**	*e*PN	Pn	04 42 32.1	+3.4
ORL				*e*		04 42 50.0	
ORL				*e*S	**Sn**	**04 43 39.9**	**+1.9**
ORL				*e*		04 44 06.8	
ORL				pmax	pmax		
	comp=Z,11nm,1.3s						
ORL				smax	smax		
	comp=N,28nm,1.1s						
ORL	**Orlik**	**6.04**	**260**	*e*Pn	**Pn**	**04 42 31.4**	**+2.7**
ORL				*e*		04 42 38.9	
ORL				*e*Pg	Pg	04 42 49.9	-5.0
ORL				*e*Sn	**Sn**	**04 43 37.3**	**-0.7**
ORL				*e*Sg	**Sg**	**04 44 07.2**	**-5.9**
ORL				max			
	comp=N,11nm,1.1s						
ORL				Smax			
	comp=N,27nm,0.9s						
TUP	**Tupik**	**6.10**	**82**	*e*Sg	Sg	04 44 09.6	-5.3
TUP				Smax			
	comp=N,42nm,0.9s						

ISCJB ***13*** *04:44:28.6±0.5, 18°.25N±0°.06×72°.9W±0°.1, h6km, mb3.8/11, Error ellipse: s-maj=14.2km s-min=9.1km az=1.7*

IDC ***13*** *04:44:29.6±1.0, 18°.33N×72°.78W, h0km, mb3.8/11, mb1 4.1/13, mb1mx3.9/27, mbtmp3.9/13, ML3.1/2, Error ellipse: s-maj=30.0km s-min=21.2km az=30.0*

ISC 13 04:44:30.3±0.6, 18°.28N±0°.08×72°.9W±0°.1, h6km, n13, σ1§10/14, mb3.9/11, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**13.42**	**186**	Pn	**Pn**	**04 47 42.0**	**+0.1**
	0.4nm,0.3s,baz=94,slow=19,SNR=2.6						
ROSC				Sn	**Sn**	**04 50 11.5**	**-0.2**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.9						
TEIG	**Tepich**	**14.70**	**280**	Pn	**Pn**	**04 47 57.6**	**-1.3**
	0.8nm,0.3s,baz=354,slow=17,SNR=4.8						
PTGA	**Pitinga**	**22.75**	**145**	P	**P**	**04 49 33.3**	**-0.2**
	2.5nm,0.7s,baz=348,slow=16,SNR=3.2						
TXAR	**Lajitas Array**	**30.18**	**297**	P	**P**	**04 50 43.7**	**+2.1**
	0.6nm,0.9s,baz=118,slow=7.2,SNR=4.5						
PDAR	**Pinedale Array**	**39.48**	**316**	P	**P**	**04 52 02.8**	**+0.9**
	0.3nm,0.6s,baz=112,slow=7.2,SNR=3.2						
YKA	**Yellowknife Ar**	**52.75**	**337**	P	**P**	**04 53 44.1**	**-1.7**
	0.6nm,0.7s,baz=124,slow=7.3,SNR=12						
ESDC	**Sonseca Array**	**62.45**	**54**	P	**P**	**04 54 54.7**	**+0.1**
	1.1nm,0.9s,baz=271,slow=6.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**71.51**	**82**	P	**P**	**04 55 52.6**	**0.0**
	1.0nm,0.9s,baz=308,slow=6.9,SNR=3.8						
GERES	**GERESS Array B**	**74.22**	**43**	P	**P**	**04 56 07.0**	**-1.3**
	1.5nm,0.8s,baz=289,slow=4.1,SNR=6.9						
ARCES	**ARCESS Array B**	**75.92**	**21**	P	**P**	**04 56 17.5**	**-0.1**
	6.3nm,1.0s,baz=304,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**78.31**	**29**	P	**P**	**04 56 31.8**	**+0.7**
	0.7nm,0.7s,baz=296,slow=7.6,SNR=2.8						
AKASG	**Malin Array Be**	**83.44**	**39**	P	**P**	**04 56 58.5**	**-0.3**
	0.3nm,0.4s,baz=243,slow=5.6,SNR=4.0						
BRTR	**Keskin Array B**	**90.54**	**48**	P	**P**	**04 57 35.0**	**+1.2**
	0.5nm,0.9s,baz=304,slow=2.8,SNR=2.9						

IDC 13 04:51:06.3±61.0, 16°.54S×179°.66W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=1100.0km s-min=163.2km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.27**	**239**	P	P	04 58 28.8	+0.3
	0.5nm,0.3s,baz=72,slow=9.6,SNR=3.9						
WRA	**Warramunga Arr**	**43.72**	**258**	P	P	04 59 13.4	-0.3
	0.5nm,0.9s,baz=94,slow=7.6,SNR=5.5						
ASAR	**Alice Springs**	**44.03**	**253**	P	P	04 59 15.8	-0.3
	1.4nm,0.6s,baz=87,slow=8.0,SNR=18						

ISCJB ***13*** *04:51:25.6±0.8, 18°.6N±0°.1×72°.6W±0°.2, h13km, mb3.7/6, Error ellipse: s-maj=29.0km s-min=18.1km az=0.7*

IDC ***13*** *04:51:25.1±1.5, 18°.56N×72°.54W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/25, mbtmp3.8/7, ML2.5/1, Error ellipse: s-maj=44.8km s-min=29.0km az=31.0*

ISC 13 04:51:27.3±0.9, 18°.6N±0°.1×72°.5W±0°.2, h13km, n7, σ0§96/7, mb3.9/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**13.77**	**188**	Pn	**Pn**	**04 54 42.9**	**+0.2**
	0.5nm,0.3s,baz=100,slow=18,SNR=3.4						
PDAR	**Pinedale Array**	**39.45**	**316**	P	**P**	**04 58 57.3**	**-0.3**
	0.3nm,0.5s,baz=108,slow=10,SNR=2.9						
YKA	**Yellowknife Ar**	**52.58**	**337**	P	**P**	**05 00 40.5**	**+0.1**
	0.4nm,0.8s,baz=122,slow=7.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**71.18**	**82**	P	**P**	**05 02 45.8**	**-0.7**
	1.2nm,1.2s,baz=274,slow=6.9,SNR=2.8						
GERES	**GERESS Array B**	**73.80**	**43**	P	**P**	**05 03 03.0**	**+1.4**
	1.2nm,1.0s,baz=266,slow=3.9,SNR=3.7						
FINES	**FINESS Array B**	**77.89**	**29**	P	**P**	**05 03 25.0**	**+0.3**
	1.7nm,1.0s,baz=307,slow=7.3,SNR=3.3						
BRTR	**Keskin Array B**	**90.12**	**48**	P	**P**	**05 04 26.6**	**-1.0**
	0.6nm,0.7s,baz=283,slow=8.1,SNR=3.8						

ISCJB ***13*** *04:59:37.2±0.5, 6°.25S±0°.05×146°.43E±0°.08, h110km, mb4.2/12, Error ellipse: s-maj=11.2km s-min=6.7km az=10.3*

IDC ***13*** *04:59:38.9±0.7, 6°.27S×146°.53E, h110km±6km, mb4.0/9, mb1 4.2/11, mb1mx4.0/19, mbtmp4.4/11, MS3.1/1, Ms1 3.1/1, ms1mx2.7/30, Error ellipse: s-maj=21.1km s-min=9.6km az=82.0*

NEIC ***13*** *04:59:39.4±2.0, 6°.18S×146°.35E, h112km±18km, mb4.4/5, Error ellipse: s-maj=18.4km s-min=13.1km az=146.0*

ISC 13 04:59:38.8±0.5, 6°.30S±0°.06×146°.50E±0°.08, h110km, n39, σ1§49/53, mb4.2/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.15**	**168**	*e*Pn	**Pn**	**05 00 27.2**	**+0.2**
PMG				S	**Sn**	**05 01 04.2**	**+0.2**
PMG	**Port Moresby**	**3.15**	**168**	P	**Pn**	**05 00 27.3**	**+0.4**
	164nm,0.3s,baz=0.0,slow=8.1,SNR=238						
PMG				S	**Sn**	**05 01 04.2**	**+0.2**
	86nm,0.3s,baz=325,slow=11,SNR=5.6						
PMG				LR	LR	05 01 41.8	
	comp=Z,319nm,21.7s,baz=18,slow=39						
COEN	**Coen**	**8.28**	**203**	*e*Pn	**Pn**	**05 01 37.5**	**+1.3**
	928nm,0.5s						
COEN				*e*S	**Sn**	**05 03 07.4**	**-0.8**
HNR	**Honiara**	**13.68**	**104**	P	**P**	**05 02 52.1**	**-1.2**
HNR	**Honiara**	**13.68**	**104**	P	**P**	**05 02 52.1**	**-1.2**
	18nm,0.3s,baz=188,slow=7.1,SNR=4.0						
CTA	**Charters Tower**	**13.71**	**181**	P	**P**	**05 02 53.3**	**-0.3**
CTA	**Charters Tower**	**13.71**	**181**	P	**P**	**05 02 53.3**	**-0.3**
	11nm,0.3s,baz=0.5,slow=14,SNR=67						
CTAO	**Charters Tower**	**13.71**	**181**	*e*Pn	**P**	**05 02 53.0**	**-0.6**
	53nm,0.6s						
WRAB	**Tennant Creek**	**17.97**	**220**	*e*P	**P**	**05 03 40.6**	**-0.2**
	16nm,0.6s						
WRA	**Warramunga Arr**	**17.98**	**220**	P	**P**	**05 03 40.5**	**-0.5**
WRA				S	**S**	**05 06 56.7**	**-5.2**
WRA	**Warramunga Arr**	**17.98**	**220**	P	**P**	**05 03 40.5**	**-0.5**
	2.3nm,0.3s,baz=41,slow=11,SNR=64						
WRA				S	**S**	**05 06 56.7**	**-5.2**
	0.3nm,0.3s,baz=39,slow=22,SNR=4.1						
EIDS	**Eidsvold**	**19.46**	**167**	*e*P	**Pn**	**05 03 58.5**	**-0.9**
	7.9nm,0.8s						
AS31	**Alice Springs**	**21.09**	**214**	*e*P	**P**	**05 04 15.1**	**+0.4**
ASAR	**Alice Springs**	**21.09**	**214**	P	**P**	**05 04 15.1**	**+0.5**
ASAR				S	**S**	**05 08 06.0**	**+2.6**
ASAR	**Alice Springs**	**21.09**	**214**	P	**P**	**05 04 15.1**	**+0.5**
	12nm,0.6s,baz=50,slow=8.0,SNR=99						
ASAR				S	**S**	**05 08 06.0**	**+2.6**
	3.4nm,1.0s,baz=20,slow=23,SNR=5.7						
DZM	**Mont Dzumac**	**24.84**	**131**	P	**P**	**05 04 53.0**	**+1.7**
	4.6nm,0.8s,baz=348,slow=18,SNR=5.8						
STKA	**Stephens Creek**	**25.86**	**190**	*e*P	**P**	**05 05 00.1**	**-0.1**
	1.6nm,0.8s						
STKA	**Stephens Creek**	**25.86**	**190**	P	**P**	**05 05 00.3**	**+0.1**
	3.9nm,0.4s,baz=342,slow=9.4,SNR=13						
MBWA	**Marble Bar**	**29.83**	**238**	*e*P	**P**	**05 05 35.6**	**-0.2**
	5.2nm,0.5s						
NWAO	**Narrogin (SRO)**	**37.97**	**222**	P	**P**	**05 06 45.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.97**	**222**	P	**P**	**05 06 45.9**	**-0.2**
	7.5nm,0.8s,baz=74,slow=8.3,SNR=5.6						
USRK	**Ussuriysk Arra**	**51.94**	**347**	P	**P**	**05 08 35.5**	**-0.9**
	1.6nm,0.7s,baz=132,slow=8.0,SNR=5.7						
CMAR	**Chiang Mai Arr**	**52.95**	**299**	P	**P**	**05 08 45.6**	**+1.2**
CMAR				pP	**pP**	**05 09 11.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**52.95**	**299**	P	**P**	**05 08 45.6**	**+1.2**
	0.9nm,0.3s,baz=124,slow=5.0,SNR=4.6						
CMAR				pP	**pP**	**05 09 11.3**	**+0.7**
	1.8nm,0.3s,baz=114,slow=5.2,SNR=2.7						
PETK	**Petropavlovsk-**	**59.94**	**8**	P	**P**	**05 09 32.9**	**-0.3**
PETK	**Petropavlovsk-**	**59.94**	**8**	P	**P**	**05 09 32.9**	**-0.3**
	2.4nm,0.8s,baz=160,slow=8.9,SNR=3.5						
VNDA	**Vanda**	**71.64**	**177**	*e*P	**P**	**05 10 48.9**	**+0.9**
VNDA	**Vanda**	**71.64**	**177**	P	**P**	**05 10 48.9**	**+0.9**
	2.8nm,0.6s,baz=336,slow=7.4,SNR=18						
MKAR	**Makanchi Array**	**77.41**	**321**	P	**P**	**05 11 22.2**	**+0.3**
MKAR				pP	**pP**	**05 11 50.9**	**+1.0**
MKAR	**Makanchi Array**	**77.41**	**321**	P	**P**	**05 11 22.2**	**+0.3**
	0.2nm,0.6s,baz=92,slow=4.5,SNR=3.4						
MKAR				pP	**pP**	**05 11 50.9**	**+1.0**
	0.6nm,0.6s,baz=104,slow=6.3,SNR=4.5						
MCK	**McKinley**	**84.70**	**24**	*e*P	**P**	**05 11 59.1**	**-1.1**
	54nm,2.2s						
ILAR	**Eielson Array**	**85.95**	**23**	P	**P**	**05 12 04.4**	**-2.0**
ILAR				pP	**pP**	**05 12 35.0**	**+0.1**
ILAR	**Eielson Array**	**85.95**	**23**	P	**P**	**05 12 04.4**	**-2.0**
	2.3nm,0.7s,baz=254,slow=5.0,SNR=30						
ILAR				pP	**pP**	**05 12 35.0**	**+0.1**
	0.7nm,0.7s,baz=232,slow=4.4,SNR=2.7						
BVAR	**Borovoye Array**	**86.72**	**324**	pP	pP	05 12 39.2	+0.2
	0.6nm,0.7s,baz=101,slow=6.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**144.68**	**284**	PKP	**PKPab**	**05 19 02.8**	**+0.2**
TORD				pPKP	**pPKPdf**	**05 19 32.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**144.68**	**284**	PKP	**PKPab**	**05 19 02.8**	**+0.2**
	3.8nm,0.7s,baz=55,slow=2.5,SNR=11						
TORD				pPKP	**pPKPdf**	**05 19 32.3**	**-1.4**
	1.0nm,0.6s,baz=59,slow=1.9,SNR=2.3						
SIV	**San Ignacio**	**144.85**	**129**	PKP	**PKPdf**	**05 19 05.8**	**+1.8**
SIV	**San Ignacio**	**144.85**	**129**	PKP	**PKPdf**	**05 19 05.8**	**+1.8**
	4.5nm,0.8s,baz=253,slow=6.0,SNR=6.8						

IDC 13 05:01:00.1±2.7, 21°.25S×176°.13W, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/18, mbtmp4.2/3, Error ellipse: s-maj=116.8km s-min=38.6km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.05**	**257**	P	P	05 09 26.6	+0.6
	2.8nm,0.8s,baz=87,slow=8.2,SNR=8.6						
WRA	**Warramunga Arr**	**46.23**	**262**	P	P	05 09 26.9	-0.6
	0.7nm,0.3s,baz=96,slow=7.0,SNR=18						
USRK	**Ussuriysk Arra**	**80.57**	**325**	P	P	05 13 14.5	+0.2
	3.2nm,0.9s,baz=138,slow=6.9,SNR=5.2						
ARCES	**ARCESS Array B**	**129.96**	**350**	PKP	PKPdf	05 20 11.4	+0.3
	2.4nm,0.8s,baz=29,slow=2.1,SNR=3.6						
AKASG	**Malin Array Be**	**144.50**	**332**	PKP	PKPab	05 20 36.1	-0.5
	2.3nm,0.4s,baz=38,slow=3.8,SNR=26						
BRTR	**Keskin Array B**	**148.63**	**313**	PKPbc	PKPbc	05 20 48.0	-1.5
	0.7nm,0.6s,baz=138,slow=4.0,SNR=3.8						
GERES	**GERESS Array B**	**151.36**	**346**	PKPbc	PKPbc	05 20 56.4	+0.5
	0.4nm,0.4s,baz=45,slow=4.3,SNR=2.3						

JSN ***13*** *05:02:54.6±1.0, 18°.71N×72°.74W, h0km±999km, MD5.9*

ISCJB ***13*** *05:02:55.2±0.1, 18°.39N±0°.02×72°.95W±0°.01, h6km, mb5.4/321, MS5.6/197, Error ellipse: s-maj=2.9km s-min=1.4km az=14.9*

IDC ***13*** *05:02:55.2±0.3, 18°.45N×72°.79W, h0km, mb4.9/38, mb1 5.0/43, mb1mx5.0/45, mbtmp4.9/43, ML4.4/5, MS5.5/41, Ms1 5.5/41, ms1mx5.5/43, Error ellipse: s-maj=11.8km s-min=7.8km az=65.0*

MOS ***13*** *05:02:56.9±1.1, 18°.37N×72°.92W, h17km, mb5.8/87, MS5.7/35, Error ellipse: s-maj=4.7km s-min=4.0km az=85.8*

GCMT ***13*** *05:02:57.5±0.1, 18°.64N×72°.92W, h12km, MW5.8/96, Moment Tensor Solution. s68,c145; s96,c245; Duration: 1§9 Moment tensor: Scale 10¹⁷Nm; Mrr5.53±.05; Mθθ-4.83±.05; Mϕϕ-0.69±.05; Mrθ0.18±.17; Mθϕ 1.22±.04; Mϕr-0.11±.17; Best double couple: Mo5.35100×10¹⁷ NP1:ϕs106.00000°, δ46.00000°, λ91.00000°. NP2:ϕs285.00000°, δ44.00000°, λ89.00000°. Principal axes: T 5.5350, Plg89.0000°, Azm43.0000°; N -0.3590, Plg1.0000°, Azm285.0000°; P -5.1670, Plg1.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***13*** *05:02:57.5±0.1, 18°.37N×72°.90W, h10km, mb5.7/217, MS5.6/135, MW5.8 Error ellipse: s-maj=3.2km s-min=2.0km az=198.0*

NEIC Felt at Vieux Bourg d'Aquin.

SZGRF ***13*** *05:03:03.8, 18°.74N×72°.20W, h33km, mb5.8, MS6.1, Haiti region*

NEIC ***13*** *05:03:08.5±0.0, 18°.69N×72°.63W, h10km, Moment Tensor Solution. s145 Moment tensor: Scale 10¹⁷Nm; Mrr3.86; Mθθ-3.82; Mϕϕ-0.05; Mrθ-4.62; Mθϕ 1.59; Mϕr-0.06; Best double couple: Mo6.20000×10¹⁷ NP1:ϕs274.00000°, δ70.00000°, λ78.00000°. NP2:ϕs127.00000°, δ24.00000°, λ120.00000°. Principal axes: T 6.1200, Plg63.0000°, Azm164.0000°; N 0.1900, Plg11.0000°, Azm278.0000°; P -6.3100, Plg23.0000°, Azm14.0000°;*

ISC 13 05:02:56.7±0.2, 18°.37N±0°.03×72°.93W±0°.03, h6km, n1535, σ1§25/1498, mb5.6/325, MS5.7/201, 273C-259D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.67**	**68**	*e*Pn	**Pn**	**05 03 26.1**	**-0.3**
SDDR				*e*Sn	**Sb**	**05 03 48.8**	**-0.4**
GTBY	**Guantanamo Bay**	**2.58**	**307**	*e*Pn	**Pn**	**05 03 37.0**	**-2.0**
GTBY				*e*Sb	**Sb**	**05 04 14.6**	**-0.9**
YHJ	**Yallahs**	**3.43**	**263**	*i* P	**Pn**	**05 03 51.6**	**+0.9**
YHJ	**Yallahs**	**3.43**	**263**	*i* P	**Pn**	**05 03 51.6**	**+0.9**
GRTK	**Grand Turk**	**3.55**	**28**	*e*Pn	**Pn**	**05 03 50.7**	**-1.6**
GWJ	**Greenwich**	**3.63**	**266**	*i* P	**Pn**	**05 03 53.5**	**-0.1**
GWJ	**Greenwich**	**3.63**	**266**	*i* P	**Pn**	**05 03 53.5**	**-0.1**
HOJ	**Hope**	**3.65**	**265**	*i* P	**Pn**	**05 03 54.7**	**+0.9**
STH	**Stony Hill**	**3.70**	**266**	*i* P	**Pn**	**05 03 54.7**	**+0.2**
STH				*i* S	**Sn**	**05 04 40.1**	**+1.6**
STH	**Stony Hill**	**3.70**	**266**	*i* P	**Pn**	**05 03 54.6**	**+0.2**
STH				*i* S	**Sn**	**05 04 40.1**	**+1.6**
STH	**Stony Hill**	**3.70**	**266**	*i* P	**Pn**	**05 03 54.6**	**+0.2**
STH				*i* S	**Sn**	**05 04 40.1**	**+1.6**
BNJ	**Bonny Gate**	**3.83**	**270**	*i* P	**Pn**	**05 03 56.9**	**+0.7**
BNJ	**Bonny Gate**	**3.83**	**270**	*i* P	**Pn**	**05 03 56.9**	**+0.7**
PCJ	**Portland Cotta**	**4.08**	**262**	*i* P	**Pn**	**05 04 00.3**	**+0.8**
PCJ	**Portland Cotta**	**4.08**	**262**	*i* P	**Pn**	**05 04 00.3**	**+0.8**
CVJ	**Coleyville**	**4.38**	**269**	*i* P	**Pn**	**05 04 03.3**	**-0.6**
CVJ	**Coleyville**	**4.38**	**269**	*i* P	**Pn**	**05 04 03.3**	**-0.6**
MTDJ	**Mount Denham**	**4.38**	**269**	*e*Pn	**Pn**	**05 04 03.8**	**-0.1**
MCJ	**Malvern**	**4.55**	**265**	*i* P	**Pn**	**05 04 07.1**	**+0.9**
MCJ	**Malvern**	**4.55**	**265**	*i* P	**Pn**	**05 04 07.1**	**+0.9**
MPR	**Mayaguez**	**5.50**	**91**	*e*Pn	**Pn**	**05 04 21.8**	**+2.7**
AGPR	**Aguadilla, PR**	**5.52**	**88**	*e*Pn	**Pn**	**05 04 22.2**	**+2.7**
	1µm,0.8s						
CRPR	**Cabo Rojo, PR**	**5.54**	**93**	*e*Pn	**Pn**	**05 04 19.6**	**-0.1**
LSP	**Las Mesas**	**5.55**	**91**	*e*Pn	**Pn**	**05 04 20.5**	**+0.6**
AOPR	**Arecibo Observ**	**5.86**	**89**	*e*Pn	**Pn**	**05 04 24.6**	**+0.4**
OBIP	**Obispado Ponce**	**6.01**	**92**	*e*Pn	**Pn**	**05 04 26.1**	**-0.2**
CELP	**Cerrillos**	**6.04**	**92**	*e*Pn	**Pn**	**05 04 26.3**	**-0.3**
CBYP	**Canovanas**	**6.71**	**90**	*e*Pn	**Pn**	**05 04 37.2**	**+1.3**
	620nm,0.8s						
HUMP	**Col San Antoni**	**6.73**	**91**	*e*Pn	**Pn**	**05 04 37.9**	**+1.9**
MTP	**Monte Pirata**	**7.01**	**91**	*e*Pn	**Pn**	**05 04 40.8**	**+0.9**
	767nm,1.0s						
CDVI	**St. Croix**	**7.79**	**93**	*e*Pn	**Pn**	**05 04 52.4**	**+1.8**
SABA	**Saba**	**9.24**	**93**	*e*Pn	**Pn**	**05 05 11.9**	**+1.3**
SDV	**Santo Domingo**	**9.69**	**166**	*e*Pn	**Pn**	**05 05 18.1**	**+1.2**
ANWB	**Willy Bob**	**10.62**	**92**	*e*Pn	**Pn**	**05 05 30.5**	**+1.0**
	210nm,0.7s						
MLG	**Mont-d'or**	**10.96**	**100**	*e*P	**Pn**	**05 05 34.0**	**-0.2**
SSG	**Sans Toucher**	**10.98**	**100**	*e*P	**Pn**	**05 05 36.7**	**+2.1**
HMG	**Houelmont**	**10.99**	**101**	*e*P	**Pn**	**05 05 34.7**	**+0.2**
SCG	**Saint Claude**	**10.99**	**101**	*e*P	**Pn**	**05 05 34.6**	**-0.1**
LKG	**Breislack**	**11.01**	**100**	*e*P	**Pn**	**05 05 36.7**	**+1.7**
ECG	**Echelle**	**11.02**	**100**	*e*P	**Pn**	**05 05 36.8**	**+1.7**
PHG	**Guadaloupe-2**	**11.03**	**101**	*e*P	**Pn**	**05 05 35.5**	**+0.3**
BCG	**Bois Riant Cap**	**11.04**	**100**	*e*P	**Pn**	**05 05 37.3**	**+2.0**
DOG	**Dongo Capester**	**11.05**	**100**	*e*P	**Pn**	**05 05 37.4**	**+1.9**
TBG	**Guadaloupe-3**	**11.07**	**101**	*e*P	**Pn**	**05 05 36.5**	**+0.8**
SEG	**Port Louis**	**11.08**	**98**	*e*P	**Pn**	**05 05 36.8**	**+1.1**
BCIP	**Isla Barro Col**	**11.34**	**217**	*e*Pn	**Pn**	**05 05 39.1**	**-0.3**
MDN	**Morne-Daniel**	**11.45**	**104**	*e*	**Pn**	**05 05 42.4**	**+1.6**
DBCT	**Belle View Cho**	**11.51**	**104**	*e*	Pn	05 05 46.0	+4.4
DEG	**La Desirade**	**11.51**	**98**	*e*P	**Pn**	**05 05 42.4**	**+0.7**
FDF	**Fort de France**	**11.85**	**106**	*e*P	**Pn**	**05 05 46.9**	**+0.5**
FDF				pmax	pmax		
	comp=Z,614nm,1.0s						
FDF	**Fort de France**	**11.85**	**106**	*e*Pn	**Pn**	**05 05 46.9**	**+0.5**
	comp=Z,614nm,1.0s						
GRW	**Mount Saint Ca**	**12.49**	**118**	*e*	**Pn**	**05 05 56.3**	**+1.1**
GRGR	**Grenville**	**12.52**	**118**	*e*Pn	**Pn**	**05 05 54.9**	**-0.6**
	comp=Z,759nm,1.0s						
ROSC	**El Rosal**	**13.50**	**186**	*e*Pn	**Pn**	**05 06 11.1**	**+1.8**
ROSC				Sn	**Sn**	**05 08 41.0**	**+1.1**
ROSC	**El Rosal**	**13.50**	**186**	Pn	**Pn**	**05 06 11.7**	**+2.5**
	comp=Z,7.6nm,0.3s,baz=5.0,slow=3.7,SNR=47						
ROSC				Sn	**Sn**	**05 08 41.0**	**+1.1**
	comp=Z,6.4nm,0.3s,baz=18,slow=20,SNR=8.6						
ROSC				LR	LR	05 12 15.8	
	comp=Z,8µm,18.6s,baz=1.5,slow=41						
TRN	**Trinidad (W)**	**13.54**	**123**	*e*	P	05 06 14.1	-4.6
BUS	**Buena Vista**	**13.68**	**232**	*e*P	Pn	05 06 06.0	-5.7
TPP	**Pointe-a-Pierr**	**13.69**	**124**	*e*	**P**	**05 06 17.8**	**-2.6**
TPR	**Prospect**	**13.74**	**120**	*e*	**P**	**05 06 18.0**	**-3.0**
BOT	**Bacolet**	**13.80**	**120**	*e*	Pn	05 06 17.3	+4.3
ACR	**Cerro Adams**	**13.87**	**227**	*e*P	**Pn**	**05 06 14.4**	**+0.5**
TBH	**Brigand Hill**	**13.90**	**123**	*e*	P	05 06 19.1	-3.6
CGA2	**Cerro Gallo 2**	**13.93**	**235**	*e*P	Pn	05 06 03.7	-11
QCR	**Quepos**	**14.07**	**232**	*e*P	Pn	05 06 19.9	+3.3
JTS	**JuntasAbangare**	**14.15**	**237**	Pn	Pn	05 06 21.1	+3.3
	comp=Z,1µm,0.9s,SNR=8.3						
JTS	**JuntasAbangare**	**14.15**	**237**	Pn	**Pn**	**05 06 20.0**	**+2.3**
JTS	**JuntasAbangare**	**14.15**	**237**	Pn	**Pn**	**05 06 20.0**	**+2.3**
	comp=Z,3.0nm,0.3s,baz=51,slow=15,SNR=6.3						
JTS				LR	LR	05 11 55.4	
	comp=Z,16µm,18.9s,baz=64,slow=38						
TGUH	**Tegucigalpa,Un**	**14.43**	**255**	*e*Pn	**Pn**	**05 06 24.0**	**+2.4**
TEIG	**Tepich**	**14.61**	**280**	*e*Pn	**Pn**	**05 06 24.3**	**+0.2**
TEIG				Sn	Sn	05 08 58.2	-8.2
TEIG	**Tepich**	**14.61**	**280**	Pn	**Pn**	**05 06 24.2**	**+0.1**
	comp=Z,12nm,0.3s,baz=95,slow=3.5,SNR=56						
TEIG				Sn	Sn	05 08 58.2	-8.2
	comp=Z,1.2nm,0.3s,baz=41,slow=19,SNR=3.3						
BBSR	**BB Station**	**15.79**	**26**	*e*Pn	**Pn**	**05 06 36.4**	**-3.2**
	comp=Z,121nm,0.6s						
RGRS	**Roger Stewart**	**15.88**	**337**	*e*Pn	**Pn**	**05 06 39.2**	**-1.7**
CSU	**Charleston Sou**	**15.91**	**338**	*e*Pn	**Pn**	**05 06 39.6**	**-1.5**
NHSC	**New Hope**	**16.06**	**337**	*e*Pn	**Pn**	**05 06 43.8**	**+0.7**
	comp=Z,564nm,1.3s						
TIGA	**Tifton**	**16.20**	**325**	*e*Pn	**Pn**	**05 06 43.0**	**-2.0**
TIGA	**Tifton**	**16.20**	**325**	⇑P	**Pn**	**05 06 43.6**	**-1.4**
	baz=16						
APG	**El Apazote**	**17.13**	**261**	Pn	**P**	**05 06 58.6**	**-0.3**
APG	**El Apazote**	**17.13**	**261**	Pn	**P**	**05 06 58.6**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=83,slow=9.4,SNR=19						
APG				LR	LR	05 14 00.0	
	comp=Z,8µm,20.6s,baz=103,slow=38						
JSC	**Jenkinsville**	**17.51**	**336**	*e*P	**Pn**	**05 07 00.8**	**-0.6**
JSC	**Jenkinsville**

HKT pmax pmax
comp=Z,234nm,1.6s
HKT Hockley 23.82 303 eP P 05 08 10.8 +0.4
comp=Z,3µm,2.8s
BLO Bloomington 23.86 333 eP P 05 08 12.5 +1.7
BLO pmax pmax
comp=Z,239nm,1.3s
BLO Bloomington 23.86 333 eP P 05 08 12.5 +1.7
comp=Z,239nm,1.3s
BINY Binghamton 23.90 354 eP P 05 08 12.0 +0.8
comp=Z,860nm,1.8s
BINY LR LR
comp=Z,14µm,20.0s
PBMO Poplar Bluff 23.95 323 eP P 05 08 11.0 -0.7
comp=Z,766nm,1.9s
SIUC Southern Illin 23.98 327 eP P 05 08 12.5 +0.6
comp=Z,469nm,1.5s
ALLY Alegheny Colle 24.01 347 eP P 05 08 12.4 +0.1
comp=Z,309nm,1.3s
HRV Adam Dziewonsk 24.09 2 eP P 05 08 15.4 +2.4
HRV pmax pmax
comp=Z,764nm,1.9s
HRV Adam Dziewonsk 24.09 2 eP P 05 08 15.3 +2.4
comp=Z,764nm,1.9s
TRY Troy 24.29 359 eP P 05 08 17.2 +2.4
comp=Z,2µm,3.0s
ERPA Erie 24.43 347 PFAKE 05 08 30.0 +14
ERPA LR LR
comp=Z,14µm,21.0s
MIAR Mount Ida 24.44 315 eP P 05 08 16.0 -0.4
MIAR pmax pmax
comp=Z,642nm,2.4s
MIAR MLR MLR
comp=Z,15µm,20.0s
MIAR Mount Ida 24.44 315 eP P 05 08 16.0 -0.4
comp=Z,642nm,2.4s
MIAR LR LR
comp=Z,15µm,20.0s
035Z Hargill 24.57 294 ⇓P P 05 08 17.8 +0.3
baz=25,SNR=11
MMNY Mt. Morris Dam 24.65 351 eP P 05 08 20.1 +2.0
comp=Z,1µm,2.0s
KVTX Kingsville 24.70 296 eP P 05 08 18.0 -0.7
comp=Z,358nm,1.1s
KVTX LR LR
comp=Z,5µm,19.0s
035A Encino 24.71 295 P P 05 08 21.1 +2.3
baz=25
835A Beeville 24.86 298 ⇓P P 05 08 21.6 +1.5
baz=25
ACCN Adirondack Com 24.95 359 eP P 05 08 21.1 +0.3
comp=Z,293nm,1.6s
735A Kenedy 25.03 299 ⇓P P 05 08 22.0 +0.4
baz=25,SNR=45
SFIN Scholer Farm 25.11 334 eP P 05 08 23.3 +1.1
SFIN Scholer Farm 25.11 334 ⇓P P 05 08 23.9 +1.7
baz=25,SNR=7.2
635A Leesville 25.18 300 ⇑P P 05 08 23.0 0.0
baz=25,SNR=40
SLM Saint Louis 25.20 327 eP P 05 08 23.3 +0.2
SLM pmax pmax
comp=Z,193nm,1.5s
SLM Saint Louis 25.20 327 eP P 05 08 23.3 +0.2
comp=Z,193nm,1.5s
535A Dale 25.24 302 ⇑P P 05 08 23.6 +0.1
baz=25,SNR=20
034A Hebbronville 25.25 295 ⇓P P 05 08 24.6 +0.9
baz=25,SNR=36
934A Benavides 25.25 296 ⇓P P 05 08 24.9 +1.2
baz=25,SNR=39
HNH Hanover 25.27 1 eP P 05 08 26.0 +2.4
comp=Z,887nm,2.6s
834A Tilden 25.42 297 ⇓P P 05 08 25.9 +0.6
baz=25,SNR=60
PAYG Puerto Ayora 25.49 224 PFAKE 05 08 40.0 +14
PAYG LR LR
comp=Z,8µm,20.0s
AAM Ann Arbor 25.55 341 eP P 05 08 28.1 +1.9
AAM pmax pmax
comp=Z,790nm,1.8s
AAM MLR MLR
comp=Z,9µm,22.0s
AAM Ann Arbor 25.55 341 eP P 05 08 28.1 +1.9
comp=Z,790nm,1.8s
AAM LR LR
comp=Z,9µm,22.0s
MDV Middlebury 25.55 360 eP P 05 08 28.6 +2.3
335A Moody 25.62 305 ⇓P P 05 08 27.3 +0.3
baz=26,SNR=21
734A La Parita Cree 25.65 299 ⇑P P 05 08 26.8 -0.5
baz=26,SNR=33
634A China Grove, S 25.65 300 ⇑P P 05 08 27.3 0.0
baz=26,SNR=34
634A ⇓S S 05 12 57.6 +1.5
baz=26
LBNH Lisbon 25.81 2 eP P 05 08 30.9 +2.3
LBNH pmax pmax
comp=Z,87nm,0.9s
LBNH MLR MLR
comp=Z,16µm,22.0s
LBNH Lisbon 25.81 2 eP P 05 08 30.9 +2.3
comp=Z,87nm,0.9s
LBNH LR LR
comp=Z,16µm,22.0s
933A Laredo 25.90 296 ⇑P P 05 08 29.4 -0.2
baz=26,SNR=38
ATAH Atahualpa 25.91 193 P P 05 08 32.4 +2.2
ATAH Atahualpa 25.91 193 P P 05 08 32.4 +2.2
comp=Z,28nm,1.0s,baz=11,slow=6.8,SNR=24
ATAH LR LR 05 20 39.9
comp=Z,14µm,21.9s,baz=3.1,slow=41
WHTX Lake Whitney 25.94 306 eP P 05 08 30.4 +0.5
WHTX Lake Whitney 25.94 306 ⇓P P 05 08 29.9 0.0
baz=26,SNR=61
534A Blanco 25.97 301 ⇑P P 05 08 29.6 -0.6
baz=26,SNR=159
434A Burnet 26.09 303 ⇓P P 05 08 30.4 -1.0
baz=26,SNR=47
135A Vickery Place, 26.15 307 ⇓P P 05 08 32.1 +0.3
baz=26,SNR=15
PTN Potsdam (NY) 26.18 357 eP P 05 08 31.7 -0.2
PTN pmax pmax
comp=Z,752nm,2.1s
PTN Potsdam (NY) 26.18 357 eP P 05 08 31.7 -0.2
comp=Z,752nm,2.1s
833A Chaparral WMA, 26.19 297 ⇑P P 05 08 32.1 -0.2
baz=26,SNR=97
LONY Lake Ozonia 26.21 357 eP P 05 08 31.8 -0.4
comp=Z,81nm,1.3s
LONY LR LR
comp=Z,13µm,20.0s
733A Divot King Ran 26.22 298 ⇓P P 05 08 32.3 -0.2
baz=26,SNR=36
WVL Waterville 26.26 5 eP P 05 08 33.7 +1.1
comp=Z,83nm,1.1s
334A Lometa 26.27 304 ⇓P P 05 08 32.4 -0.6
baz=26,SNR=61
633A Saathoff Ranch 26.35 300 ⇑P P 05 08 33.8 +0.1
baz=26,SNR=57
Z35A Perchaven, San 26.39 309 ⇑P P 05 08 33.7 -0.3
baz=26,SNR=24
FRNY Flat Rock 26.39 359 eP P 05 08 34.0 +0.1
comp=Z,493nm,2.1s
533A Kerrville 26.44 301 ⇑P P 05 08 34.4 -0.2
baz=26,SNR=22
234A Clairette 26.47 306 ⇑P P 05 08 34.4 -0.3
baz=26,SNR=34
134A White-Moore Ra 26.67 307 ⇓P P 05 08 36.6 +0.1
baz=27,SNR=41
832A Faith Ranch, C 26.67 297 ⇓P P 05 08 36.1 -0.5
baz=27,SNR=95
TUL1 Tulsa 26.71 315 eP P 05 08 37.0 +0.1
TUL1 Tulsa 26.71 315 ⇓P P 05 08 36.7 -0.2
baz=27,SNR=43
433A Art 26.73 302 ⇓P P 05 08 36.6 -0.5
baz=27,SNR=74
732A Laxson Ranch, 26.79 298 ⇑P P 05 08 37.0 -0.7
baz=27,SNR=53
SADO Sadowa 26.83 350 P P 05 08 36.7 -1.2
SADO Sadowa 26.83 350 P P 05 08 36.7 -1.2
comp=Z,23nm,1.0s,baz=211,slow=3.7,SNR=9.9
SADO LR LR 05 18 58.9
comp=Z,15µm,19.9s,baz=178,slow=36
333A Richland Sprin 26.86 304 ⇓P P 05 08 38.0 -0.2
baz=27,SNR=54
632A Uvalde 26.87 299 ⇓P P 05 08 38.5 +0.1
baz=27,SNR=31
Z34A Collier Ranch, 26.90 309 ⇓P P 05 08 38.8 +0.1
baz=27,SNR=16
PKME Peaks-Kenny Pk 26.99 6 eP P 05 08 39.6 +0.4
comp=Z,237nm,1.7s
PKME LR LR
comp=Z,17µm,20.0s
Y34A Reagan Ranch, 27.06 310 ⇑P P 05 08 40.2 +0.2
baz=27,SNR=64
233A Rising Star 27.06 305 ⇑P P 05 08 39.8 -0.3
baz=27,SNR=25
532A Rocksprings 27.17 301 ⇓P P 05 08 41.4 +0.3
baz=27,SNR=96
JCT Junction City 27.20 301 eP P 05 08 41.4 -0.1
JCT pmax pmax
comp=Z,107nm,1.1s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 27.20 301 eP P 05 08 41.4 -0.1
comp=Z,107nm,1.1s
JCT LR LR
comp=Z,4µm,20.0s
JCT Junction City 27.20 301 ⇓P P 05 08 41.6 +0.2
baz=27,SNR=30
133A Hamilton Ranch 27.32 306 ⇓P P 05 08 42.4 -0.1
baz=27,SNR=26
432A Menard 27.34 302 ⇑P P 05 08 42.4 -0.2
baz=27,SNR=32
X34A Smith Ranch, M 27.43 311 ⇓P P 05 08 43.3 -0.1
baz=28,SNR=38
332A Millersview 27.48 303 ⇑P P 05 08 43.9 0.0
baz=28,SNR=58
Z33A Whitaker Ranch 27.50 308 ⇓P P 05 08 44.0 0.0
baz=28,SNR=49
631A Perdido Creek 27.50 299 ⇑P P 05 08 43.5 -0.6
baz=28,SNR=88
232A Coleman 27.59 304 ⇓P P 05 08 44.5 -0.4
baz=28,SNR=28
W34A Bridge Creek, 27.71 312 ⇑P P 05 08 45.3 -0.5
baz=28,SNR=17
531A Rocksprings 27.71 300 ⇓P P 05 08 45.2 -0.7
baz=28,SNR=16
Y33A Hilltop Ranch, 27.72 309 ⇓P P 05 08 46.0 0.0
baz=28,SNR=15
V34A Guthrie 27.84 314 ⇓P P 05 08 46.4 -0.6
baz=28,SNR=33
X33A Lawton 27.88 310 ⇓P P 05 08 46.4 -0.9
baz=28,SNR=15
ABTX Abilene, Hawle 27.88 306 eP P 05 08 47.8 +0.4
ABTX Abilene, Hawle 27.88 306 ⇑P P 05 08 47.1 -0.3
baz=28,SNR=22
431A Sonora 27.93 301 ⇓P P 05 08 47.3 -0.6
baz=28,SNR=53
331A San Angelo 28.00 303 ⇓P P 05 08 48.1 -0.4
baz=28,SNR=46
Z32A Haskell 28.04 307 ⇑P P 05 08 48.6 -0.3
baz=28,SNR=63
231A Bronte 28.14 304 ⇑P P 05 08 49.4 -0.4
baz=28,SNR=16
W33A Caddo, Fort Co 28.16 312 ⇓P P 05 08 49.8 -0.1
baz=28,SNR=18
U34A Anderson Ranch 28.18 315 ⇓P P 05 08 49.9 -0.1
baz=28,SNR=10.0
WMOK Wichita Mounta 28.18 310 eP P 05 08 50.6 +0.5
WMOK pmax pmax
comp=Z,56nm,1.0s
WMOK MLR MLR
comp=Z,6µm,19.0s
WMOK Wichita Mounta 28.18 310 eP P 05 08 50.6 +0.5
comp=Z,56nm,1.0s
WMOK LR LR
comp=Z,6µm,19.0s
Y32A R-V Farms, Ver 28.32 309 ⇓P P 05 08 51.0 -0.4
baz=28,SNR=41
530A J-C Ranch, Com 28.35 300 ⇓P P 05 08 51.6 -0.1
baz=28,SNR=47
V33A Lossen Ranch, 28.36 313 ⇓P P 05 08 51.8 +0.1
baz=28,SNR=13
X32A Elmer 28.40 309 ⇑P P 05 08 51.2 -0.9
baz=28,SNR=30
430A Baggett Ranch, 28.47 301 ⇑P P 05 08 52.3 -0.5
baz=28,SNR=18
131A Roby 28.48 305 ⇑P P 05 08 52.6 -0.2
baz=28
JFWS Jewell Farm 28.53 333 eP P 05 08 52.8 -0.3
JFWS pmax pmax
comp=Z,116nm,1.1s
JFWS MLR MLR
comp=Z,14µm,21.0s
JFWS Jewell Farm 28.53 333 eP P 05 08 52.8 -0.3
comp=Z,116nm,1.1s
JFWS LR LR
comp=Z,14µm,21.0s
Z31A Sharp Cattle R 28.55 307 ⇑P P 05 08 53.1 -0.3
baz=29,SNR=27
U33A Lingo Farm, Me 28.57 314 P P 05 08 53.9 +0.4
baz=29
330A Mertzon 28.63 302 ⇓P P 05 08 53.5 -0.7
baz=29,SNR=22
W32A Sentinel 28.70 311 ⇓P P 05 08 54.1 -0.6
baz=29,SNR=51
230A Sterling City 28.75 303 ⇑P P 05 08 54.6 -0.7
baz=29,SNR=13
SAML Samuel 28.80 160 eP P 05 08 54.4 -1.3
comp=Z,8.2nm,0.8s
SAML LR LR
comp=Z,18µm,19.0s
V32A Arapaho 28.84 312 ⇑P P 05 08 55.4 -0.6
baz=29,SNR=19
130A Snyder 28.90 305 ⇑P P 05 08 56.0 -0.5
baz=29
Y31A Rekieta Farm, 28.91 308 ⇓P P 05 08 56.7 +0.1
baz=29,SNR=29
429A Davenport Ranc 28.96 300 ⇓P P 05 08 56.5 -0.6
baz=29,SNR=33
X31A McDonald Ranch 29.00 309 ⇑P P 05 08 56.4 -1.0
baz=29,SNR=26
T33A Patterson Ranc 29.01 315 ⇓P P 05 08 57.1 -0.3
baz=29
529A Stev Forest Ra 29.08 299 ⇓P P 05 08 57.8 -0.4
baz=29,SNR=49
S33A Kaszmaul Farm, 29.13 316 ⇑P P 05 08 58.3 -0.2
baz=29
KSU1 Kansas State U 29.14 320 eP P 05 08 58.8 +0.3
comp=Z,114nm,1.0s
KSU1 LR LR
comp=Z,18µm,21.0s
KSU1 Kansas State U 29.14 320 ⇓P P 05 08 57.8 -0.7
baz=29
U32A Winter Ranch, 29.15 313 ⇑P P 05 08 58.2 -0.5
baz=29,SNR=11
SCIA State Center 29.15 328 PFAKE 05 09 10.0 +11
SCIA LR LR
comp=Z,14µm,19.0s
W31A Holland Ranch, 29.23 310 ⇓P P 05 08 59.0 -0.5
baz=29,SNR=20
Z30A Sanderson Ranc 29.29 306 ⇓P P 05 08 59.6 -0.5
baz=29,SNR=16
329A Wagon Wheel Ra 29.31 302 ⇑P P 05 08 59.2 -1.0
baz=29,SNR=48
229A Bryant Ranch, 29.33 303 ⇑P P 05 09 00.1 -0.3
baz=29,SNR=20
Y30A Stafford Cattl 29.36 307 ⇑P P 05 09 00.3 -0.4
baz=29,SNR=5.8
V31A Spring Creek L 29.44 311 ⇓P P 05 09 00.9 -0.4
baz=30,SNR=20
628A Black Gap, Mar 29.46 298 ⇑P P 05 09 01.5 0.0
baz=30,SNR=21
T32A Huddler Ranch, 29.52 315 ⇑P P 05 09 01.3 -0.6
baz=30,SNR=9.6
R33A Olander Ranch, 29.52 317 ⇓P P 05 09 01.6 -0.4
baz=30,SNR=12
528A Cox Ranch, San 29.56 299 ⇓P P 05 09 02.0 -0.5
baz=30,SNR=60
X30A Coker Ranch, T 29.58 308 ⇑P P 05 09 01.8 -0.8
baz=30,SNR=37
129A Stewart Farms, 29.62 304 ⇓P P 05 09 02.5 -0.4
baz=30,SNR=10
428A Kincaid Ranch, 29.64 300 ⇑P P 05 09 03.4 +0.2
baz=30,SNR=104
W30A Crocket Farms 29.69 310 ⇑P P 05 09 03.1 -0.4
baz=30
Z29A Hungry Hill Ra 29.73 306 ⇑P P 05 09 03.6 -0.3
baz=30,SNR=52
U31A Nine Bar Ranch 29.73 313 ⇓P P 05 09 03.6 -0.3
baz=30
S32A Newby Ranch, P 29.80 316 ⇑P P 05 09 04.3 -0.2
baz=30
Q33A Connelly Farm, 29.83 319 ⇑P P 05 09 04.9 +0.2
baz=30,SNR=20
627A Terlingua Ranc 29.87 297 P P 05 09 06.0 +0.8
baz=30
Y29A Porterfield Fa 29.94 307 ⇓P P 05 09 05.3 -0.5
baz=30,SNR=34
328A Wristen Ranch, 29.94 301 ⇑P P 05 09 05.2 -0.6
baz=30,SNR=14
T31A Randall Ranch, 29.98 314 ⇑P P 05 09 05.3 -0.8
baz=30,SNR=14
228A UT Block 9, Go 30.01 303 ⇓P P 05 09 05.7 -0.7
baz=30,SNR=14
P33A Williams Farm, 30.01 320 ⇑P P 05 09 06.0 -0.3
baz=30
V30A Spur Ranch, Mi 30.04 311 ⇓P P 05 09 06.3 -0.3
baz=30,SNR=10
R32A Long Quarter, 30.06 317 ⇓P P 05 09 06.5 -0.2
baz=30,SNR=12
TXAR Lajitas Array 30.07 297 P P 05 09 07.2 +0.1
TXAR Lajitas Array 30.07 297 P P 05 09 07.2 +0.1
comp=Z,24nm,1.1s,baz=113,slow=6.0,SNR=79
TXAR LR LR 05 23 24.8
comp=Z,2µm,18.3s,baz=0.0,slow=41
128A Castleberry Fa 30.10 304 ⇓P P 05 09 06.9 -0.3
baz=30,SNR=58
S31A Mullinville 30.13 315 ⇓P P 05 09 07.7 +0.3
baz=30,SNR=14
X29A Tulia 30.20 308 ⇓P P 05 09 07.6 -0.5
baz=30,SNR=28
527A Woodward Ranch 30.24 299 ⇑P P 05 09 08.5 0.0
baz=30,SNR=81
427A Hayter Ranch, 30.26 300 ⇓P P 05 09 08.5 -0.2
baz=30,SNR=23
Z28A Tucker Farm, M 30.27 305 ⇓P P 05 09 08.1 -0.6
baz=30,SNR=39
Q32A Meitler Ranch, 30.29 318 ⇑P P 05 09 08.3 -0.4
baz=30,SNR=14
AMTX Amarillo 30.37 309 eP P 05 09 09.8 +0.2
comp=Z,101nm,1.2s
AMTX Amarillo 30.37 309 ⇑P P 05 09 09.2 -0.4
baz=30
U30A WK&E Inc. Balk 30.38 312 ⇑P P 05 09 09.4 -0.3
baz=30,SNR=16
Y28A McKinney Farm, 30.40 306 ⇓P P 05 09 09.6 -0.3
baz=30,SNR=11
NNA Nana 30.41 188 PFAKE 05 09 20.0 +10
NNA LR LR
comp=Z,14µm,21.0s
W29A Amraillo 30.45 309 ⇓P P 05 09 09.8 -0.5
baz=30,SNR=11
327A Balmorhea Ranc 30.49 301 ⇑P P 05 09 10.1 -0.6
baz=30
R31A Burdett 30.52 316 ⇓P P 05 09 10.6 -0.3
baz=31,SNR=20
626A Big Bend Ranch 30.52 297 ⇑P P 05 09 11.2 +0.1
baz=30,SNR=35
227A Bennet, Jal 30.53 302 ⇓P P 05 09 10.8 -0.3
baz=30,SNR=9.5
T30A Plains 30.55 313 ⇓P P 05 09 10.5 -0.6
baz=31,SNR=5.8
X28A Dimmitt 30.60 308 ⇓P P 05 09 11.0 -0.7
baz=31,SNR=9.1
526A Mary Lane Ranc 30.61 298 ⇓P P 05 09 12.0 +0.1
baz=31,SNR=115
P32A Huiting Farm, 30.68 319 ⇓P P 05 09 12.1 -0.2
baz=31,SNR=16
V29A Stinnett 30.69 310 ⇓P P 05 09 11.8 -0.6
baz=31,SNR=12
426A McDonald Obser 30.73 299 ⇓P P 05 09 12.5 -0.5
baz=31,SNR=116
U29A Oasis Ranch, S 30.78 312 ⇑P P 05 09 12.9 -0.3
baz=31
S30A Montezuma 30.80 314 ⇓P P 05 09 13.1 -0.2
baz=31,SNR=9.7
127A Arkansas Junct 30.81 303 ⇓P P 05 09 12.6 -0.9
baz=31,SNR=16
MSTX Muleshoe 30.82 306 eP P 05 09 13.3 -0.3
MSTX Muleshoe 30.82 306 ⇑P P 05 09 12.9 -0.7
baz=31,SNR=21
Q31A Ellis 30.83 317 ⇓P P 05 09 13.2 -0.4
baz=31,SNR=13
O32A Brockman Farm, 30.86 320 ⇓P P 05 09 13.3 -0.5
baz=31,SNR=8.2
326A Caldwell Ranch 30.87 301 ⇑P P 05 09 13.8 -0.3
baz=31,SNR=14
W28A Vega 30.92 309 ⇓P P 05 09 13.7 -0.8
baz=31
Z27A Tatum 30.92 305 ⇓P P 05 09 13.2 -1.4
baz=31,SNR=42
R30A Dighton 31.01 315 ⇑P P 05 09 15.4 +0.2
baz=31,SNR=23
Y27A Causey 31.09 306 ⇓P P 05 09 15.4 -0.6
baz=31,SNR=15
P31A Stockton 31.11 318 ⇑P P 05 09 15.3 -0.7
baz=31,SNR=20
T29A Hugoton 31.13 313 ⇓P P 05 09 15.8 -0.5
baz=31,SNR=9.1
V28A Channing 31.14 310 ⇑P P 05 09 16.0 -0.5
baz=31
N32A Stulken Farm, 31.18 321 ⇓P P 05 09 15.8 -0.9
baz=31
S29A Ulysses 31.24 314 ⇑P P 05 09 17.4 +0.1
baz=31,SNR=21
226B Tecolote Peak, 31.26 302 ⇑P P 05 09 17.2 -0.3
baz=31,SNR=14
126A Clayton Basin, 31.32 303 ⇓P P 05 09 17.4 -0.7
baz=31,SNR=24
X27A F and S Farms, 31.33 307 ⇓P P 05 09 17.2 -1.0
baz=31,SNR=13
Q30A Quinter 31.35 317 ⇑P P 05 09 17.9 -0.3
baz=31,SNR=15
U28A Mallet 31.42 311 ⇓P P 05 09 17.9 -1.0
baz=31
O31A Woolen Ranch, 31.44 319 ⇓P P 05 09 18.1 -0.8
baz=32,SNR=14
GDL2 Guadalupe Moun 31.45 302 eP P 05 09 19.8 +0.5
W27A Bowe Ranch, En 31.48 308 ⇑P P 05 09 18.7 -0.7
baz=32,SNR=13
SPMN St. Paul 31.49 333 eP P 05 09 19.5 +0.3
SPMN St. Paul 31.49 333 ⇓P P 05 09 19.0 -0.2
baz=32,SNR=6.3
BGNE Belgrade 31.50 322 eP P 05 09 20.5 +1.1
BGNE Belgrade 31.50 322 ⇑P P 05 09 18.7 -0.7
baz=32
Z26A Caprock 31.50 304 ⇓P P 05 09 18.6 -1.0
baz=32,SNR=18
425A Indio Mountain 31.55 299 ⇑P P 05 09 20.4 +0.2
baz=32,SNR=54
V27A Dan Oppiter Fa 31.60 309 ⇑P P 05 09 19.4 -1.0
baz=32,SNR=11
Y26A Elida 31.61 305 ⇓P P 05 09 20.1 -0.5
baz=32
N31A Bailey Ranch, 31.62 321 ⇑P P 05 09 20.3 -0.2
baz=32
R29A Marienthal 31.66 315 ⇑P P 05 09 20.7 -0.2
baz=32
P30A Selden 31.68 317 ⇓P P 05 09 20.7 -0.4
baz=32,SNR=30
T28A Walsh 31.69 312 ⇑P P 05 09 20.8 -0.5
baz=32,SNR=18
325A Bean Ranch, Si 31.70 300 ⇑P P 05 09 21.1 -0.4
baz=32,SNR=119
S28A Manter 31.76 313 ⇑P P 05 09 21.6 -0.3
baz=32,SNR=15
225A Deer Hill, Car 31.80 302 ⇓P P 05 09 22.4 +0.1
baz=32,SNR=110
Q29A Oakley 31.80 316 ⇑P P 05 09 21.7 -0.4
baz=32,SNR=34
125A Gardner Draw, 31.84 303 ⇑P P 05 09 21.7 -0.9
baz=32,SNR=50
X26A CR and CF Fran 31.84 307 ⇓P P 05 09 22.2 -0.4
baz=32,SNR=27
U27A Thompson Grove 31.88 310 ⇑P P 05 09 22.1 -0.8
baz=32,SNR=25
O30A MW Ranch, Wils 31.91 319 ⇓P P 05 09 22.6 -0.5
baz=32,SNR=10
M31A Lambtecht Ranc 31.95 321 ⇑P P 05 09 22.4 -1.0
baz=32,SNR=22
W26A Owens Ranch, T 32.01 308 ⇓P P 05 09 24.2 0.0
baz=32,SNR=28
R28A Tribune 32.07 314 ⇓P P 05 09 24.3 -0.3
baz=32,SNR=45
Z25A Roswell 32.09 304 ⇓P P 05 09 24.0 -0.8
baz=32,SNR=77
T27A Campo 32.09 312 ⇑P P 05 09 24.3 -0.5
baz=32
MNTX Cornudas Mount 32.13 301 eP P 05 09 25.4 +0.3
comp=Z,207nm,1.4s
MNTX LR LR
comp=Z,4µm,22.0s

324A	**Moseley Ranch,** baz=32,SNR=208	32.14	300	⇓P		P	05 09 24.9	-0.4
P29A	**Atwood** baz=32,SNR=9.7	32.15	317	⇓P		P	05 09 24.9	-0.3
ECSD	**EROS Data Cent** comp=Z,38nm,1.3s	32.20	327	*eP*		P	05 09 24.7	-0.9
ECSD	comp=Z,19µm,19.0s				LR	LR		
ECSD	**EROS Data Cent** baz=32	32.20	327	⇑P		P	05 09 25.2	-0.3
Y25A	**Mesa, Roswell** baz=32,SNR=24	32.29	305	⇓P		P	05 09 26.2	-0.4
N30A	**Hueftle Ranch,** baz=32	32.30	320	⇓P		P	05 09 26.8	+0.3
V26A	**Tequesquite Ra** baz=32,SNR=40	32.31	309	⇑P		P	05 09 26.6	-0.2
O29A	**4D Ranch, Culb** baz=32,SNR=12	32.35	318	⇑P		P	05 09 26.7	-0.3
224A	**Cornudas Mount** baz=32,SNR=147	32.35	301	⇑P		P	05 09 27.3	+0.1
L31A	**Butterfield Fa** baz=32,SNR=12	32.38	323	⇑P		P	05 09 26.2	-1.0
Q28A	**Sharon Springs** baz=32,SNR=8.3	32.45	315	⇓P		P	05 09 27.7	-0.3
X25A	**Clemmons Ranch** baz=32,SNR=42	32.48	306	⇑P		P	05 09 28.1	-0.2
124A	**Stringfield Ra** baz=32,SNR=92	32.49	302	⇓P		P	05 09 28.8	+0.4
S27A	**Las Animas** baz=32	32.50	312	⇑P		P	05 09 28.2	-0.3
U26A	**Atchley Ranch,** baz=33,SNR=59	32.53	310	⇓P		P	05 09 28.5	-0.3
W25A	**X Bar L Ranch,** baz=33,SNR=58	32.59	307	⇑P		P	05 09 29.2	0.0
M30A	**Dale-Ortello V** baz=33,SNR=5.4	32.60	321	⇓P		P	05 09 28.7	-0.5
Z24A	**Sheeppen Canyo** baz=33,SNR=119	32.62	304	⇓P		P	05 09 30.1	+0.6
N29A	**Votaw Ranch, W** baz=33,SNR=5.4	32.64	319	⇑P		P	05 09 28.8	-0.6
P28A	**Saint Francis** baz=33,SNR=11	32.67	316	⇑P		P	05 09 29.1	-0.7
R27A	**Eads** baz=33,SNR=22	32.72	314	⇑P		P	05 09 29.2	-1.1
L30A	**Spencer Herefo** baz=33,SNR=22	32.76	322	⇓P		P	05 09 30.1	-0.4
T26A	**Comanche Natio** baz=33,SNR=26	32.76	311	⇑P		P	05 09 30.2	-0.6
Y24A	**Capitan** baz=33,SNR=93	32.87	305	⇓P		P	05 09 32.0	+0.2
S26A	**Kim** baz=33,SNR=10	32.88	312	⇑P		P	05 09 30.9	-0.8
V25A	**Rancho No Teng** baz=33,SNR=131	32.95	308	⇑P		P	05 09 32.3	-0.1
KSCO	**Kaye Shedlock'**	32.96	315	*eP*		P	05 09 32.8	+0.3
KSCO	**Kaye Shedlock'** baz=33,SNR=7.0	32.96	315	⇓P		P	05 09 32.0	-0.5
O28A	**Krutsinger Ran** baz=33,SNR=17	32.98	317	⇓P		P	05 09 32.4	-0.1
U25A	**Circle Dot Ran** baz=33,SNR=43	33.02	309	⇑P		P	05 09 33.1	+0.1
M29A	**Burnside Ranch** baz=33,SNR=13	33.04	320	⇓P		P	05 09 32.5	-0.5
223A	**Chaparral, Ant** baz=33	33.07	301	⇓P		P	05 09 33.0	-0.4
X24A	**Lazy VL Ranch,** baz=33,SNR=25	33.09	306	⇓P		P	05 09 33.4	-0.3
123A	**Bell Site, Whi** baz=33,SNR=11	33.12	302	⇓P		P	05 09 33.8	0.0
N28A	**Pribbeno Ranch** baz=33,SNR=18	33.14	318	⇓P		P	05 09 33.2	-0.7
K30A	**Basset** baz=33,SNR=9.2	33.14	323	⇑P		P	05 09 33.1	-0.8
EYMN	**Ely** comp=Z,183nm,1.5s	33.16	337	*eP*		P	05 09 34.1	+0.1
EYMN	comp=Z,5µm,20.0s				LR	LR		
R26A	**Arlington** baz=33,SNR=10.0	33.18	313	⇓P		P	05 09 33.5	-0.8
P27A	**Ficken Ranch,** baz=33,SNR=6.7	33.20	316	⇓P		P	05 09 34.0	-0.6
L29A	**Maesberg Ranch** baz=33	33.28	321	⇑P		P	05 09 34.5	-0.6
Z23A	**Rita Site, Whi** baz=33,SNR=35	33.28	303	⇑P		P	05 09 34.5	-0.8
W24A	**Lazy 6 Ranch,** baz=33,SNR=63	33.30	307	⇓P		P	05 09 36.3	+0.7
T25A	**Trinidad** baz=33,SNR=69	33.34	311	⇓P		P	05 09 35.7	-0.1
Y23A	**Lovelace Mesa,** baz=33,SNR=102	33.36	304	⇓P		P	05 09 36.6	+0.6
V24A	**Rampart Ranch,** baz=33,SNR=34	33.39	308	⇑P		P	05 09 37.0	+0.6
M28A	**Bar X Bar Ranc** baz=34	33.43	319	⇓P		P	05 09 36.4	-0.1
O27A	**Beecher Island** baz=34,SNR=13	33.47	317	⇑P		P	05 09 36.5	-0.3
J30A	**Dallas** baz=34,SNR=6.0	33.49	324	⇑P		P	05 09 35.7	-1.1
Q26A	**Hugo** baz=34,SNR=16	33.52	314	⇑P		P	05 09 37.7	+0.3
S25A	**Robets Cordova** baz=34,SNR=34	33.58	311	⇑P		P	05 09 37.6	-0.3
OGNE	**Ogallala** comp=Z,511nm,2.0s	33.59	318	*eP*		P	05 09 37.5	-0.3
OGNE	comp=Z,12µm,19.0s				LR	LR		
OGNE	**Ogallala** baz=34,SNR=8.1	33.59	318	⇓P		P	05 09 37.6	-0.3
K29A	**Lazy Trails An** baz=34	33.60	322	⇑P		P	05 09 37.5	-0.4
222A	**Williams Famil** baz=34	33.65	301	⇑P		P	05 09 38.6	0.0
U24A	**Moreno Valley** baz=34,SNR=18	33.67	309	⇑P		P	05 09 39.1	+0.3
X23A	**Hourglass Bar** baz=34,SNR=48	33.68	305	⇓P		P	05 09 39.3	+0.4
R25A	**Fountain Ranch** baz=34,SNR=38	33.69	312	⇓P		P	05 09 38.4	-0.4
P26A	**Davis Ranch, A** baz=34,SNR=12	33.72	315	⇑P		P	05 09 38.9	-0.1
N27A	**Anderson Farm,** baz=34,SNR=7.3	33.84	318	⇑P		P	05 09 39.6	-0.4
W23A	**Werner Place,** baz=34,SNR=30	33.85	306	⇑P		P	05 09 40.4	+0.1
Z22A	**Elephant Butte** baz=34,SNR=20	33.86	303	⇓P		P	05 09 40.7	+0.3
L28A	**Connealy Angus** baz=34,SNR=6.4	33.87	320	⇓P		P	05 09 39.8	-0.4
BNM	**Barren Site** comp=Z,137nm,1.2s	33.88	304	*eP*		P	05 09 41.4	+0.8
BRSD	**Miller**	33.92	326	*eP*		P	05 09 40.1	-0.4
BRSD	**Miller** baz=34	33.92	326	⇓P		P	05 09 40.4	-0.2
LPM	**Los Pinos Moun**	33.93	305	*eP*		P	05 09 41.6	+0.5
T24B	**San Luis** baz=34,SNR=51	34.01	310	⇓P		P	05 09 42.2	+0.4
J29A	**Okreek** baz=34,SNR=18	34.01	323	⇓P		P	05 09 41.1	-0.3
ANMO	**Albuquerque** comp=Z,100nm,1.4s	34.01	306	*eP*		P	05 09 42.5	+0.8
ANMO	**Albuquerque** comp=Z,3µm,19.0s,baz=106,slow=40	34.01	306	LR		LR	05 25 37.5	
Q25A	**Bedland, Calha** baz=34,SNR=14	34.02	314	⇑P		P	05 09 41.1	-0.6
O26A	**Horse Wrangler** baz=34,SNR=9.3	34.04	316	⇑P		P	05 09 42.0	+0.2
Y22D	**IRIS PASSCAL I** baz=34	34.08	304	⇓P		P	05 09 42.2	0.0
V23A	**Ortiz Mt. (NFS** baz=34,SNR=60	34.09	307	⇓P		P	05 09 43.1	+0.7
S24A	**Houchin Ranch,** baz=34,SNR=23	34.13	311	⇑P		P	05 09 42.4	-0.4
M27A	**Reverse DX Ran** baz=34,SNR=7.5	34.13	319	⇑P		P	05 09 42.3	-0.2
LENM	**Lemitar**	34.15	304	*eP*		P	05 09 44.2	+1.3
221A	**Mesquite Ranch** baz=34,SNR=22	34.18	300	⇓P		P	05 09 44.0	+0.9
K28A	**Ten Mile Ranch** baz=34	34.19	321	P		P	05 09 42.9	-0.2
P25A	**Willow Gulch B** baz=34,SNR=12	34.25	315	⇓P		P	05 09 43.7	+0.1
N26A	**Koester Ranch,** baz=34,SNR=9.6	34.29	317	⇑P		P	05 09 43.8	-0.2
R24A	**Sanders Place,** baz=34	34.31	312	⇓P		P	05 09 44.6	+0.3
U23A	**El Rito** baz=34,SNR=53	34.31	308	⇑P		P	05 09 45.7	+1.3
121A	**Cookes Peak, D** comp=Z,145nm,1.3s	34.32	301	*eP*		P	05 09 45.5	+1.1
121A	**Cookes Peak, D** baz=34,SNR=59	34.32	301	⇓P		P	05 09 45.0	+0.6
LAZ	**Ladron** comp=Z,100nm,1.4s	34.36	305	*eP*		P	05 09 45.6	+0.8
SDCO	**Great Sand Dun** comp=Z,80nm,1.4s	34.38	311	*eP*		P	05 09 45.4	+0.4
SDCO	comp=Z,9µm,19.0s				LR	LR		
I29A	**Vivian Onida** baz=34,SNR=9.9	34.38	324	⇑P		P	05 09 43.6	-1.0
T23A	**Casias Ranch,** baz=34,SNR=30	34.48	309	⇑P		P	05 09 46.2	+0.4
G30A	**Faulkton** baz=34	34.48	326	⇓P		P	05 09 45.2	-0.2
O25A	**Wiggins** baz=34	34.51	315	⇓P		P	05 09 45.0	-0.9
J28A	**Allard Ranch,** baz=35,SNR=10	34.54	322	⇑P		P	05 09 44.3	-1.7
M26A	**McRoberts Ranc** baz=35	34.58	318	⇑P		P	05 09 45.9	-0.5
320A	**Kipp Ranch, An** baz=35,SNR=29	34.63	299	⇓P		P	05 09 47.7	+0.6
ARE	**Arequipa**	34.64	178	*eP*		P	05 09 48.0	+0.7
ARE	**Arequipa**	34.64	178	*eP*		P	05 09 48.0	+0.7
Q24A	**Divide** baz=35,SNR=13	34.66	313	⇑P		P	05 09 47.3	-0.2
V22A	**San Miguel Ran** baz=35,SNR=61	34.70	307	⇓P		P	05 09 48.0	+0.3
K27A	**Flueckinger Fa** baz=35	34.71	321	⇓P		P	05 09 47.1	-0.4
H29A	**Onida** baz=35	34.72	325	⇓P		P	05 09 47.4	-0.1
S23A	**Nye Farm, Mont** baz=35,SNR=14	34.72	311	⇑P		P	05 09 47.5	-0.4
P24A	**Kohler Place,** baz=35,SNR=12	34.75	314	⇓P		P	05 09 48.1	0.0
LPAZ	**La Paz** comp=Z,208nm,1.9s	34.76	172	*eP*		P	05 09 48.6	-0.1
LPAZ	**La Paz** comp=Z,3.6nm,0.6s,baz=19,slow=6.9,SNR=13	34.76	172	P		P	05 09 48.0	-0.7
LPAZ	comp=Z,22µm,21.1s,baz=354,slow=38				LR	LR	05 25 07.3	
R23A	**Moffat** baz=35,SNR=47	34.80	311	⇓P		P	05 09 48.3	-0.3
U22A	**Llaves** baz=35,SNR=67	34.83	308	⇓P		P	05 09 49.1	+0.3
N25A	**Grover** baz=35	34.84	317	⇓P		P	05 09 48.4	-0.4
L26A	**Underwood Farm** baz=35,SNR=8.8	34.85	319	⇑P		P	05 09 48.4	-0.4
I28A	**Midland** baz=35,SNR=15	34.86	323	⇓P		P	05 09 47.4	-1.3
J27A	**Elkhorn Farm,** baz=35,SNR=8.5	34.89	322	⇑P		P	05 09 48.0	-1.0
F30A	**Leola** baz=35	34.90	327	⇑P		P	05 09 48.8	-0.2
G29A	**Hoven** baz=35	34.93	326	⇓P		P	05 09 49.5	+0.1
Q23A	**Hartsel** baz=35	35.12	313	⇑P		P	05 09 51.4	+0.1
M25A	**Palm-Egli Farm** baz=35,SNR=8.8	35.14	318	⇓P		P	05 09 51.2	-0.1
O24A	**Longmont** baz=35,SNR=12	35.15	315	⇓P		P	05 09 51.3	-0.2
H28A	**Mission Ridge** baz=35,SNR=12	35.20	324	⇑P		P	05 09 51.3	-0.3
AGMN	**Agassiz Nation** comp=Z,645nm,2.3s	35.20	333	*eP*		P	05 09 51.5	0.0
AGMN	comp=Z,7µm,22.0s				LR	LR		
AGMN	**Agassiz Nation** baz=35,SNR=24	35.20	333	⇓P		P	05 09 52.3	+0.7
LPIG	**La Paz**	35.24	286	P		P	05 09 53.0	+0.9
LPIG	**La Paz** comp=Z,26nm,0.3s,baz=138,slow=5.6,SNR=3.7	35.24	286	P		P	05 09 53.0	+0.9
319A	**Douglas** baz=35,SNR=64	35.27	299	⇑P		P	05 09 53.1	+0.6
K26A	**Motz Farm, Whi** baz=35	35.28	320	⇑P		P	05 09 51.6	-0.8
E30A	**Jud** baz=35	35.30	328	⇓P		P	05 09 51.7	-0.8
F29A	**Eureka** baz=35	35.31	327	⇑P		P	05 09 52.1	-0.5
P23A	**Jefferson** baz=35,SNR=16	35.33	313	⇑P		P	05 09 53.5	+0.3
S22A	**4UR Ranch, Cre** baz=35,SNR=32	35.34	310	⇓P		P	05 09 52.9	-0.4
ISCO	**Idaho Springs** comp=Z,174nm,1.8s	35.37	314	*eP*		P	05 09 54.2	+0.7
ISCO					pmax	pmax		
ISCO	comp=Z,18µm,19.0s				MLR	MLR		
ISCO	**Idaho Springs** comp=Z,174nm,1.8s	35.37	314	*eP*		P	05 09 54.2	+0.7
ISCO	comp=Z,18µm,19.0s				LR	LR		
ISCO	**Idaho Springs** baz=35,SNR=32	35.37	314	⇑P		P	05 09 53.1	-0.4
N24A	**Carr** baz=35	35.37	316	⇑P		P	05 09 53.2	-0.2
G28A	**Parade** baz=35,SNR=14	35.39	325	⇓P		P	05 09 52.8	-0.5
I27A	**Quinn** baz=35,SNR=18	35.40	323	⇓P		P	05 09 52.7	-0.7
L25A	**Engebretsen Ra** baz=36	35.46	319	⇑P		P	05 09 53.3	-0.8
J26A	**Sides Ranch, S** baz=36,SNR=12	35.56	321	⇓P		P	05 09 54.2	-0.7
D30A	**Buchanan** baz=36	35.65	329	⇓P		P	05 09 55.3	-0.1
K25A	**Mack Ranch, Ha** baz=36	35.65	319	⇓P		P	05 09 55.5	-0.2
M24A	**Cheyenne** baz=36,SNR=21	35.65	317	⇑P		P	05 09 55.5	-0.3
E29A	**Napoleon** baz=36	35.71	328	⇓P		P	05 09 55.7	-0.3
H27A	**Howes** baz=36,SNR=9.4	35.76	323	⇑P		P	05 09 55.9	-0.6
O23A	**Lake Granby, G** baz=36,SNR=11	35.77	314	⇓P		P	05 09 57.0	+0.1
F28A	**McLaughlin** baz=36,SNR=8.4	35.83	326	⇑P		P	05 09 56.3	-0.7
I26A	**New Underwood** baz=36	35.85	322	⇑P		P	05 09 56.4	-0.9
C30A	**Mose, Pekin** baz=36,SNR=7.7	35.93	330	⇑P		P	05 09 57.4	-0.5
PHWY	**Pilot Hill** comp=Z,86nm,1.5s	35.98	316	*eP*		P	05 09 58.8	0.0
L24A	**Wheatland** baz=36,SNR=9.4	36.02	318	⇓P		P	05 09 58.9	0.0
D29A	**Pettibone, Tap** baz=36	36.02	329	⇑P		P	05 09 57.8	-0.9
SMCO	**Snowmass** comp=Z,90nm,1.3s	36.03	312	*eP*		P	05 10 00.0	+0.7
J25A	**Sunshine Ranch** baz=36,SNR=7.5	36.04	321	⇑P		P	05 09 58.5	-0.5
P22A	**Eagle** baz=36,SNR=14	36.06	313	⇑P		P	05 09 58.8	-0.6
SIV	**San Ignacio**	36.08	160	P		P	05 09 58.5	-1.0
SIV	**San Ignacio** comp=Z,5.2nm,0.8s,baz=14,slow=9.1,SNR=12	36.08	160	P		P	05 09 58.5	-1.0
SIV	comp=Z,16µm,19.6s,baz=354,slow=38				LR	LR	05 25 29.5	
N23A	**Red Feather La** baz=36,SNR=7.4	36.11	315	⇑P		P	05 09 59.1	-0.7
G27A	**Dupree** baz=36,SNR=23	36.14	325	⇑P		P	05 09 59.1	-0.7
H26A	**Fairpoint** baz=36,SNR=15	36.15	323	⇑P		P	05 09 58.7	-1.1
O22A	**Kremmling** baz=36,SNR=24	36.17	314	⇑P		P	05 09 59.7	-0.7
M23A	**Laramie** baz=36	36.24	316	⇓P		P	05 10 00.2	-0.6
E28A	**Huff** baz=36,SNR=8.4	36.25	327	⇓P		P	05 09 59.9	-0.7
K24A	**Anderson Ranch** baz=36	36.30	319	⇓P		P	05 10 00.8	-0.5
I25A	**Rochford** baz=36	36.35	321	P		P	05 10 01.6	-0.2
MVCO	**Mesa Verde** comp=Z,57nm,1.3s	36.36	308	*eP*		P	05 10 02.3	+0.3
MVCO	comp=Z,5µm,20.0s				LR	LR		
MVCO	**Mesa Verde** baz=36,SNR=13	36.36	308	⇑P		P	05 10 01.7	-0.2
N22A	**Wattenberg Ran** baz=36,SNR=26	36.40	315	⇑P		P	05 10 02.4	0.0
B30A	**Myrvik Farm, E** baz=36,SNR=10	36.41	331	⇓P		P	05 10 02.8	+0.9
F27A	**Lemmon** baz=36,SNR=25	36.50	325	⇑P		P	05 10 02.2	-0.6
J24A	**Dixon Ranch, L** baz=37,SNR=7.2	36.53	320	⇑P		P	05 10 03.0	-0.2
L23A	**Garrett** baz=37,SNR=25	36.55	317	⇓P		P	05 10 03.1	-0.4
MDND	**Maddock**	36.57	330	*eP*		P	05 10 03.5	+0.1
MDND	**Maddock** baz=37	36.57	330	⇓P		P	05 10 02.4	-1.0
RSSD	**Black Hills** comp=Z,18nm,1.9s	36.59	321	*eP*		P	05 10 03.5	-0.4
RSSD					pmax	pmax		
RSSD	**Black Hills** comp=Z,18nm,1.9s	36.59	321	*eP*		P	05 10 03.5	-0.4
D28A	**Regan** baz=37	36.60	328	⇑P		P	05 10 02.8	-0.8
E27A	**Carson** baz=37,SNR=19	36.61	326	⇑P		P	05 10 03.3	-0.4
X18A	**Snowflake** baz=37,SNR=42	36.61	304	⇓P		P	05 10 03.9	-0.2
W18A	**Petrified Fore**	36.61	305	*eP*		P	05 10 06.0	+1.9
W18A	**Petrified Fore** baz=37,SNR=12	36.61	305	⇑P		P	05 10 04.2	+0.1
H25A	**Fruitdale** baz=37,SNR=7.9	36.62	322	⇑P		P	05 10 02.9	-1.0
SCHQ	**Schefferville**	36.70	6	*eP*		P	05 10 05.9	+1.6
SCHQ	**Schefferville** comp=Z,14nm,1.0s,baz=197,slow=12,SNR=8.8	36.70	6	P		P	05 10 03.3	-1.0
SCHQ	comp=Z,10µm,19.7s,baz=197,slow=35				LR	LR	05 24 32.2	
ULM	**Lac du Bonnet** comp=Z,98nm,1.4s	36.72	335	*eP*		P	05 10 03.6	-0.9
ULM	**Lac du Bonnet** comp=Z,34nm,1.0s,baz=148,slow=7.5,SNR=17	36.72	335	P		P	05 10 02.9	-1.6
ULM	comp=Z,8µm,18.4s,baz=144,slow=38				LR	LR	05 26 13.5	
TUC	**Tucson**	36.72	300	*eP*		P	05 10 05.6	+0.6
TUC					pmax	pmax		
TUC	comp=Z,71nm,1.5s				MLR	MLR		
TUC	**Tucson** comp=Z,5µm,22.0s	36.72	300	*eP*		P	05 10 05.6	+0.6
TUC	comp=Z,71nm,1.5s				LR	LR		
A30A	**Hoffart Farm,** comp=Z,5µm,22.0s baz=37,SNR=25	36.75	332	⇑P		P	05 10 04.6	-0.2
PV01	**Paradox Valley** comp=Z,8µm,1.6s	36.76	310	*eP*		P	05 10 05.6	+0.3
M22A	**Cedar Creek Ra** baz=37	36.78	316	⇓P		P	05 10 04.7	-0.8
I24A	**Kuemmerle Ranc** baz=37,SNR=10	36.80	321	⇓P		P	05 10 05.1	-0.4
K23A	**Bowen Ranch, D** baz=37,SNR=8.1	36.82	318	⇑P		P	05 10 04.8	-1.0
F26A	**Lodgepole** baz=37,SNR=12	36.84	325	⇑P		P	05 10 05.0	-0.7
G25A	**Newell** baz=37,SNR=22	36.86	323	⇓P		P	05 10 05.1	-0.8
C28A	**Hausauer Farms** baz=37	36.86	329	⇑P		P	05 10 05.8	-0.1
B29A	**Wagenman Farm,** baz=37,SNR=6.2	36.89	330	⇓P		P	05 10 05.9	-0.1
L22A	**Ellis Ranch, M** baz=37,SNR=11	36.98	317	⇑P		P	05 10 07.2	0.0
D27A	**Center** baz=37	37.03	327	⇑P		P	05 10 07.1	-0.2
PV04	**Paradox Valley**	37.10	310	*eP*		P	05 10 08.9	+0.8
E26A	**Carlson Angus** baz=37,SNR=13	37.11	326	⇓P		P	05 10 06.7	-1.3
J23A	**Dilts Ranch, B** baz=37	37.12	319	⇑P		P	05 10 07.6	-0.6
A29A	**Manning Farm,** baz=37,SNR=25	37.16	331	⇑P		P	05 10 07.6	-0.7
H24A	**Dirks Ranch, A** baz=37,SNR=9.4	37.25	322	⇓P		P	05 10 08.7	-0.6
F25A	**Bowman** baz=37	37.32	324	⇑P		P	05 10 09.3	-0.5
O20A	**White River Ci**	37.33	313	*eP*		P	05 10 10.9	+0.7
O20A	**White River Ci** baz=37,SNR=20	37.33	313	⇑P		P	05 10 09.5	-0.6
K22A	**Casper**	37.34	318	*eP*		P	05 10 10.5	+0.4
K22A	**Casper** baz=37,SNR=21	37.34	318	⇑P		P	05 10 09.4	-0.8
B28A	**Dugan Ranch, T** baz=37,SNR=23	37.36	330	⇑P		P	05 10 09.5	-0.5
I23A	**Meade Ranch, G** baz=37	37.36	320	⇓P		P	05 10 09.8	-0.4
MNMC	**Minimini**	37.41	175	*eP*		P	05 10 08.9	-2.1
C27A	**Sayler Ranch,** baz=38	37.42	328	⇑P		P	05 10 10.2	-0.4
D26A	**Manning** baz=38,SNR=8.5	37.45	326	⇓P		P	05 10 10.3	-0.7
G24A	**Alzada** baz=38	37.51	323	⇑P		P	05 10 10.5	-0.9
A28A	**Rude Farm, Bot** baz=38,SNR=7.4	37.63	330	⇓P		P	05 10 11.3	-1.1
E25A	**Miller Ranch,** baz=38,SNR=7.8	37.64	325	⇓P		P	05 10 11.9	-0.6
N20A	**Spence Gulch,** baz=38,SNR=13	37.64	314	⇑P		P	05 10 12.3	-0.5
H23A	**Clabaugh Cattl** baz=38	37.65	321	⇓P		P	05 10 12.1	-0.6
J22A	**Midwest** baz=38,SNR=45	37.70	319	⇓P		P	05 10 12.2	-1.0
B27A	**Peters Farms,** baz=38	37.76	329	⇑P		P	05 10 13.5	+0.1
X16A	**Lo Mia Camp, P** baz=38,SNR=70	37.77	303	⇓P		P	05 10 13.9	0.0
C26A	**Wahner Farm, P** baz=38,SNR=14	37.79	328	⇑P		P	05 10 13.3	-0.5
K21A	**Alcova** baz=38,SNR=74	37.80	317	⇓P		P	05 10 13.5	-0.6
F24A	**Ekalaka** baz=38,SNR=9.8	37.83	323	⇑P		P	05 10 13.2	-0.9
PSGC	**Pisagua**	37.83	176	⇑P		P	05 10 10.9	-3.5
I22A	**9 Mile Ranch,** baz=38,SNR=12	37.95	319	⇑P		P	05 10 14.3	-1.0
D25A	**Fairfield** baz=38	38.00	326	⇓P		P	05 10 16.0	+0.4
G23A	**Biddle** baz=38,SNR=9.6	38.00	322	⇑P		P	05 10 14.8	-0.8
WUAZ	**Wupatki** comp=Z,160nm,1.4s	38.01	305	*eP*		P	05 10 17.0	+1.1
WUAZ	comp=Z,3µm,19.0s				LR	LR		
WUAZ	**Wupatki** baz=38,SNR=36	38.01	305	⇑P		P	05 10 16.2	+0.2
PB11	**Plate Boundary**	38.03	175	*eP*		P	05 10 14.3	-1.8
E24A	**Baker** baz=38	38.17	324	⇑P		P	05 10 16.9	-0.1
B26A	**Jensen Ranch,** baz=38	38.23	328	⇓P		P	05 10 17.0	-0.4
H22A	**Clearmont** baz=38,SNR=5.2	38.24	321	⇑P		P	05 10 16.9	-0.8
J21A	**Lysite** baz=38,SNR=19	38.27	318	⇓P		P	05 10 17.9	-0.2
F23A	**Volborg** baz=38,SNR=12	38.30	323	⇓P		P	05 10 16.8	-1.3
C25A	**Freed Ranch, W** baz=38	38.32	327	⇑P		P	05 10 17.5	-0.7
214A	**Organ Pipe Nat** comp=Z,82nm,1.4s	38.33	298	*eP*		P	05 10 19.7	+1.2
214A	**Organ Pipe Nat** baz=38,SNR=27	38.33	298	⇑P		P	05 10 19.1	+0.5
I21A	**Big Trails, Te** baz=38,SNR=51	38.41	319	⇓P		P	05 10 18.2	-1.0
A26A	**Wade Farm, Ken** baz=38	38.48	329	⇓P		P	05 10 18.9	-0.6
D24A	**Glendive** baz=39,SNR=10	38.52	325	⇑P		P	05 10 19.1	-0.8
SRU	**San Rafael** comp=Z,79nm,1.6s	38.54	310	*eP*		P	05 10 21.0	+0.6
SRU					pmax	pmax		
SRU	**San Rafael** comp=Z,79nm,1.6s	38.54	310	*eP*		P	05 10 21.0	+0.6
G22A	**Birney** baz=39	38.54	321	⇓P		P	05 10 20.0	-0.2
B25A	**Knox Farm, Ray** baz=39	38.63	327	⇓P		P	05 10 20.4	-0.4
H21A	**Big Horn, Sher** baz=39,SNR=6.2	38.68	320	⇓P		P	05 10 20.3	-1.1
J20A	**Shoshoni** baz=39,SNR=22	38.68	318	⇓P		P	05 10 20.9	-0.5
Z14A	**Wintersburg**	38.73	301	⇓P		P	05 10 21.8	-0.1

baz=39,SNR=12
C24A **Savage** 38.83 326 ⇓P P 05 10 22.3 -0.2
baz=39
F22A **Rosebud** 38.83 322 ⇓P P 05 10 21.2 -1.3
baz=39,SNR=20
Y14A **Wickenburg** 38.91 302 ⇓P P 05 10 23.5 +0.1
baz=39,SNR=15
U15A **North Rim** 38.98 306 ⇑P P 05 10 24.6 +0.3
baz=39,SNR=71
I20A **Worland** 39.00 319 ⇓P P 05 10 23.5 -0.6
baz=39,SNR=26
E22A **Miles City** 39.02 323 ⇑P P 05 10 24.2 +0.1
baz=39,SNR=11
D23A **Lindsay** 39.03 325 ⇓P P 05 10 24.0 -0.3
baz=39,SNR=6.8
A25A **Svangstu Ranch** 39.03 328 ⇓P P 05 10 23.6 -0.6
baz=39,SNR=9.9
G21A **Lodge Grass** 39.09 321 ⇑P P 05 10 24.1 -0.7
baz=39,SNR=8.1
TMUT **Trail Mountain** 39.10 310 eP P 05 10 26.0 +0.7
comp=Z,163nm,1.6s
H20A **Greybull** 39.19 319 ⇑P P 05 10 24.7 -1.0
baz=39,SNR=13
J19A **Crowheart** 39.26 317 ⇑P P 05 10 25.6 -0.7
baz=39,SNR=36
113A **Mohawk Valley,** 39.28 300 ⇑P P 05 10 26.5 +0.1
baz=39,SNR=12
DGMT **Dagmar** 39.29 327 eP P 05 10 26.8 +0.5
comp=Z,415nm,2.1s
DGMT LR LR
comp=Z,14µm,20.0s
DGMT **Dagmar** 39.29 327 ⇓P P 05 10 26.3 -0.1
baz=39
PB01 **Plate Boundary** 39.31 175 eP P 05 10 25.2 -1.6
LAO **LASA Array** 39.32 323 eP P 05 10 26.4 -0.3
comp=Z,103nm,1.6s
LAO LR LR
comp=Z,9µm,22.0s
F21A **Absaloka Mine,** 39.36 322 ⇑P P 05 10 25.9 -1.1
baz=39
PDAR **Pinedale Array** 39.37 316 P P 05 10 26.3 -1.0
PDAR **Pinedale Array** 39.37 316 P P 05 10 26.3 -1.0
comp=Z,16nm,1.1s,baz=123,slow=7.3,SNR=42
PDAR LR LR 05 27 57.1
comp=Z,10µm,20.2s,baz=119,slow=38
BW06 **Boulder Array** 39.37 316 eP P 05 10 26.6 -0.7
comp=Z,178nm,1.7s
BW06 LR LR
comp=Z,11µm,20.0s
C23A **Lambert** 39.40 325 ⇑P P 05 10 26.5 -0.7
baz=39,SNR=11
A24A **Westby** 39.47 328 ⇑P P 05 10 28.1 +0.2
baz=40,SNR=26
DAU **Daniels Canyon** 39.55 312 eP P 05 10 29.7 +0.8
DAU **Daniels Canyon** 39.55 312 eP P 05 10 29.7 +0.8
D22A **Cohagen** 39.56 324 ⇑P P 05 10 28.6 0.0
baz=40,SNR=18
MVU **Marysvale** 39.56 309 eP P 05 10 29.7 +0.6
comp=Z,63nm,1.4s
I19A **Meeteetse** 39.59 318 ⇑P P 05 10 28.5 -0.6
baz=40,SNR=46
MPU **Maple Canyon** 39.67 311 eP P 05 10 30.4 +0.6
comp=Z,64nm,1.2s
G20A **Bridger** 39.70 320 ⇓P P 05 10 28.7 -1.2
baz=40,SNR=7.2
B23A **Brockton** 39.70 326 ⇑P P 05 10 29.9 +0.2
baz=40,SNR=10.0
E21A **Keefer Ranch,** 39.72 323 ⇑P P 05 10 29.4 -0.6
baz=40
C22A **Vida** 39.74 325 ⇑P P 05 10 30.0 -0.1
baz=40
W13A **Hualapai Mount** 39.88 303 ⇑P P 05 10 31.9 +0.2
baz=40,SNR=81
H19A **Powell** 39.89 319 ⇓P P 05 10 30.8 -0.8
baz=40,SNR=35
PDMCI **Parker Dam,Lak** 39.91 302 ⇓P P 05 10 31.7 +0.1
baz=40,SNR=15
TCUT **Toone Canyon** 39.93 313 eP P 05 10 31.8 -0.2
comp=Z,30nm,1.0s
A23A **Redstone** 39.95 327 ⇑P P 05 10 32.4 +0.6
baz=40
F20A **Billings** 39.96 321 ⇓P P 05 10 30.8 -1.2
baz=40,SNR=18
PB07 **Plate Boundary** 39.96 176 eP P 05 10 30.1 -2.1
NLU **North Lily Min** 39.96 311 eP P 05 10 33.2 +0.9
comp=Z,107nm,1.4s
D21A **La Casta Ranch** 39.97 323 ⇑P P 05 10 32.1 0.0
baz=40,SNR=11
CTU **Camp Tracy** 40.00 312 eP P 05 10 33.1 +0.5
comp=Z,602nm,2.7s
Y12C **Blythe** 40.10 301 ⇑P P 05 10 33.4 +0.2
baz=40,SNR=21
CCUT **Cedar City** 40.13 307 eP P 05 10 34.9 +1.1
comp=Z,317nm,2.6s
B22A **Reddig Ranch S** 40.13 326 ⇑P P 05 10 33.3 -0.1
baz=40
GLA **Glamis** 40.21 300 eP P 05 10 35.5 +1.2
GLA pmax pmax
comp=Z,26nm,1.4s
GLA **Glamis** 40.21 300 eP P 05 10 35.5 +1.2
comp=Z,26nm,1.4s
GLA **Glamis** 40.21 300 ⇑P P 05 10 34.5 +0.2
baz=40,SNR=14
ARUT **Antelope Range** 40.26 307 eP P 05 10 35.1 +0.4
ARUT pmax pmax
comp=Z,2µm,1.4s
ARUT **Antelope Range** 40.26 307 eP P 05 10 35.1 +0.4
comp=Z,2µm,1.4s
RLMT **Red Lodge** 40.29 320 eP P 05 10 34.5 -0.5
comp=Z,140nm,1.4s
RLMT LR LR
comp=Z,12µm,19.0s
E20A **Meyer Farm, Mu** 40.32 322 ⇓P P 05 10 34.6 -0.4
baz=40,SNR=27
H18A **Shoshone NF, C** 40.32 319 ⇑P P 05 10 34.8 -0.4
baz=40,SNR=32
LOHW **Long Hollow** 40.43 317 eP P 05 10 35.8 -0.3
comp=Z,251nm,1.7s
F19A **Roth Farm, Mol** 40.46 321 ⇓P P 05 10 35.5 -0.7
baz=40,SNR=13
REDW **Red Top Meadow** 40.48 316 eP P 05 10 36.3 -0.2
comp=Z,191nm,1.3s
A22A **Carney Farms,** 40.51 326 ⇑P P 05 10 36.8 +0.4
baz=40,SNR=22
I17A **Pilgrim Ck.** 40.55 317 ⇑P P 05 10 37.4 +0.3
baz=41,SNR=39
DUG **Dugway** 40.58 311 eP P 05 10 37.6 +0.3
DUG pmax pmax
comp=Z,93nm,1.4s
DUG MLR MLR
comp=Z,8µm,19.0s
DUG **Dugway** 40.58 311 eP P 05 10 37.6 +0.3
comp=Z,93nm,1.4s
DUG LR LR
comp=Z,8µm,19.0s
DUG **Dugway** 40.58 311 ⇓P P 05 10 37.5 +0.3
baz=41,SNR=52
MOOW **Moose Ponds** 40.58 317 eP P 05 10 36.5 -0.9
comp=Z,416nm,2.1s
TPAW **Teton Pass** 40.60 316 eP P 05 10 38.0 +0.4
comp=Z,148nm,1.4s
D20A **Manuel Ranch,** 40.63 323 ⇓P P 05 10 37.5 -0.1
baz=41,SNR=23
E19A **Rath Farm, Rou** 40.68 322 ⇓P P 05 10 37.6 -0.4
baz=41,SNR=33
IRM **Iron Mountain** 40.69 301 ⇓P P 05 10 38.8 +0.6
baz=41,SNR=102
FLWY **Flagg Ranch** 40.70 317 eP P 05 10 38.6 +0.3
comp=Z,173nm,1.4s
FXWY **Fox Creek** 40.72 317 eP P 05 10 38.1 -0.4
comp=Z,276nm,1.9s
SPUT **South Promonto** 40.73 313 eP P 05 10 38.5 -0.1
comp=Z,42nm,1.0s
LKWY **Lake** 40.73 318 eP P 05 10 39.1 +0.5
LKWY pmax pmax
comp=Z,86nm,1.4s
LKWY MLR MLR
comp=Z,23µm,20.0s
LKWY **Lake** 40.73 318 eP P 05 10 39.1 +0.5
comp=Z,86nm,1.4s
LKWY LR LR
comp=Z,23µm,20.0s
B21A **Ellsworth Farm** 40.76 325 ⇑P P 05 10 38.8 +0.2
baz=41
H17A **Grant Village** 40.76 318 eP P 05 10 39.5 +0.5
H17A **Grant Village** 40.76 318 ⇓P P 05 10 39.2 +0.3
baz=41,SNR=17
IMW **Indian Meadow** 40.77 317 eP P 05 10 39.1 +0.1
comp=Z,354nm,2.4s
BC3 **Big Chuckawall** 40.84 300 ⇑P P 05 10 39.8 +0.3
baz=41,SNR=24
LDFC **Landfair** 40.86 303 eP P 05 10 41.6 +2.0
comp=Z,913nm,2.7s
GCMT **Greycliff** 40.87 320 eP P 05 10 39.5 -0.1
comp=Z,59nm,1.4s
C20A **Veseth Ranch,** 40.90 324 ⇑P P 05 10 39.0 -0.7
baz=41,SNR=21
LVC **Limon Verde** 40.92 174 eP P 05 10 38.8 -1.6
comp=Z,39nm,1.2s
LVC LR LR
comp=Z,8µm,22.0s
YFT **Old Faithful** 40.95 318 eP P 05 10 42.5 +2.0
comp=Z,198nm,1.9s
BGU **Big Grassy Mou** 40.99 312 eP P 05 10 41.0 +0.3
comp=Z,64nm,1.5s
SWSC **Sam W. Stewart** 40.99 299 ⇓P P 05 10 41.2 +0.5
baz=41,SNR=16
A21A **Bergtoll Ranch** 41.04 326 ⇓P P 05 10 41.3 +0.5
baz=41,SNR=30
D19A **Cripps Ranch,** 41.10 322 ⇑P P 05 10 40.9 -0.5
baz=41,SNR=20
HVU **Hansel Valley** 41.13 313 eP P 05 10 41.8 -0.1
HVU pmax pmax
comp=Z,196nm,1.9s
HVU **Hansel Valley** 41.13 313 eP P 05 10 41.8 -0.1
comp=Z,196nm,1.9s
YMR **Madison River** 41.14 318 eP P 05 10 41.6 -0.3
comp=Z,107nm,1.4s
SHPR **Sheep Range** 41.23 305 eP P 05 10 43.5 +0.8
GMRC **Granite Mounta** 41.23 302 ⇓P P 05 10 43.1 +0.3
baz=41,SNR=26
B20A **Solberg Farm,** 41.31 325 ⇑P P 05 10 43.7 +0.6
baz=41,SNR=21
BELC **Belle Mtn. Jos** 41.35 301 ⇑P P 05 10 44.4 +0.6
baz=41,SNR=17
MONP **Monument Peak** 41.50 299 ⇓P P 05 10 45.5 +0.4
baz=42,SNR=28
C19A **Slack Wire Ran** 41.50 323 ⇓P P 05 10 44.6 -0.1
baz=42,SNR=6.5
QLMT **Earthquake Lak** 41.51 318 eP P 05 10 46.3 +1.3
A20A **Cobblestone Ra** 41.51 325 ⇑P P 05 10 45.2 +0.4
baz=42,SNR=26
TUQ **Turquoise Moun** 41.59 303 ⇑P P 05 10 46.6 +0.9
baz=42,SNR=12
PFO **Pinyon Flat Ob** 41.65 300 P P 05 10 47.1 +0.9
comp=Z,110nm,2.2s,SNR=7.6
PFO **Pinyon Flat Ob** 41.65 300 eP P 05 10 47.7 +1.5
PFO **Pinyon Flat Ob** 41.65 300 LR LR 05 30 13.2
comp=Z,2µm,19.3s,baz=106,slow=39
PFO **Pinyon Flat Ob** 41.65 300 ⇓P P 05 10 46.5 +0.3
baz=42,SNR=9.5
BAR **Barrett** 41.68 299 eP P 05 10 48.2 +1.8
comp=Z,46nm,1.5s
BDFB **Brasilia** 41.76 142 P P 05 10 47.0 -0.2
BDFB **Brasilia** 41.76 142 P P 05 10 47.0 -0.2
comp=Z,128nm,1.0s,baz=318,slow=10,SNR=58
BDFB LR LR 05 28 57.6
comp=Z,8µm,18.1s,baz=315,slow=37
HEC **Hector,Ludlow** 41.78 302 ⇓P P 05 10 47.5 +0.2
baz=42,SNR=18
B19A **Brinkman Farms** 41.84 324 ⇓P P 05 10 47.2 -0.2
baz=42,SNR=16
SHOC **Shoshone** 41.97 304 ⇑P P 05 10 48.7 0.0
baz=42,SNR=22
A19A **Klindworth Far** 41.98 325 ⇑P P 05 10 48.6 -0.1
baz=42,SNR=14
BOZ **Bozeman (W)** 42.00 319 eP P 05 10 49.7 +0.8
BOZ pmax pmax
comp=Z,40nm,0.8s
BOZ MLR MLR
comp=Z,9µm,20.0s
BOZ **Bozeman (W)** 42.00 319 eP P 05 10 49.7 +0.8
comp=Z,40nm,0.8s
BOZ LR LR
comp=Z,9µm,20.0s
R11A **Troy Canyon, C** 42.04 307 eP P 05 10 49.5 +0.1
R11A **Troy Canyon, C** 42.04 307 ⇑P P 05 10 49.7 +0.3
baz=42,SNR=40
EGMT **Eagleton** 42.06 323 eP P 05 10 49.5 +0.2
comp=Z,47nm,1.1s
EGMT LR LR
comp=Z,11µm,19.0s
EGMT **Eagleton** 42.06 323 ⇓P P 05 10 48.9 -0.4
baz=42,SNR=9.5
109C **Camp Elliot, M** 42.07 299 ⇓P P 05 10 50.1 +0.6
baz=42,SNR=7.7
BBRC **Big Bear Solar** 42.15 301 ⇓P P 05 10 51.0 +0.6
baz=42
TPNV **Topopah Spring** 42.19 305 eP P 05 10 52.1 +1.5
TPNV pmax pmax
comp=Z,786nm,2.6s
TPNV **Topopah Spring** 42.19 305 eP P 05 10 52.1 +1.5
comp=Z,786nm,2.8s
TPNV **Topopah Spring** 42.19 305 ⇓P P 05 10 51.4 +0.8
baz=42,SNR=42
GSC **Goldstone** 42.26 303 eP P 05 10 52.3 +1.2
GSC pmax pmax
comp=Z,26nm,1.4s
GSC **Goldstone** 42.26 303 eP P 05 10 52.3 +1.2
comp=Z,26nm,1.4s
GSC **Goldstone** 42.26 303 ⇑P P 05 10 51.7 +0.6
baz=42,SNR=39
MURC **Murrieta** 42.26 300 ⇓P P 05 10 51.7 +0.5
baz=42,SNR=18
RRX **Edison Barstow** 42.33 302 ⇑P P 05 10 52.7 +1.1
baz=42
MCMT **McKenzie Canyo** 42.41 317 eP P 05 10 53.1 +0.7
comp=Z,35nm,1.2s
DLMT **Dillon** 42.48 318 eP P 05 10 53.0 +0.2
comp=Z,95nm,1.3s
ELK **Elko** 42.51 311 eP P 05 10 53.3 0.0
ELK **Elko** 42.51 311 P P 05 10 47.5 -5.7
comp=Z,16nm,1.0s,baz=184,slow=0.6,SNR=27
ELK LR LR 05 30 29.0
comp=Z,11µm,19.1s,baz=180,slow=39
FFC **Flin Flon** 42.55 335 P P 05 10 52.6 -0.4
comp=Z,190nm,1.1s,SNR=7.3
FFC **Flin Flon** 42.55 335 eP P 05 10 52.4 -0.6
FFC pmax pmax
comp=Z,62nm,1.3s
FFC MLR MLR
comp=Z,2µm,20.0s
FFC **Flin Flon** 42.55 335 eP P 05 10 52.4 -0.6
comp=Z,62nm,1.3s
FFC LR LR
comp=Z,2µm,20.0s
FURC **Furnace Creek,** 42.55 304 ⇑P P 05 10 53.9 +0.5
baz=43,SNR=37
LRM **Limekiln Ridge** 42.59 319 eP P 05 10 54.3 +0.4
HRY **Holter Researc** 42.62 320 eP P 05 10 54.1 +0.2
BFSC **Mount Baldy Ra** 42.75 301 ⇓P P 05 10 55.8 +0.6
baz=43,SNR=12
HLID **Hailey** 42.93 315 eP P 05 10 56.6 +0.1
comp=Z,250nm,2.3s
HLID LR LR
comp=Z,12µm,19.0s
HLID **Hailey** 42.93 315 ⇑P P 05 10 56.8 +0.2
baz=43,SNR=37
LRMC **Laurel Mountai** 43.00 303 ⇓P P 05 10 57.8 +0.6
baz=43
GRAC **Grapevine Rang** 43.07 305 ⇓P P 05 10 58.0 +0.4
baz=43,SNR=32
MWC **Mount Wilson** 43.07 301 eP P 05 10 59.7 +1.8
MWC pmax pmax
comp=Z,234nm,2.1s
MWC **Mount Wilson** 43.07 301 eP P 05 10 59.7 +1.8
comp=Z,234nm,2.1s
EDW2 **Edwards Air Fo** 43.13 302 ⇓P P 05 10 58.4 +0.2
baz=43,SNR=32
PASC **Pasadena Art C** 43.17 301 eP P 05 10 60.0 +1.5
comp=Z,87nm,1.5s
FMP **Fort Macarthur** 43.18 300 ⇓P P 05 10 59.6 +1.1
baz=43
FCC **Fort Churchill** 43.21 344 eP P 05 10 57.0 -1.3
FCC pmax pmax
comp=Z,3.0nm,1.5s
FCC **Fort Churchill** 43.21 344 eP P 05 10 57.0 -1.3
comp=Z,2.6nm,1.5s
TPH **Tonopah** 43.22 306 eP P 05 10 58.7 -0.3
TPH pmax pmax
comp=Z,128nm,1.4s
TPH **Tonopah** 43.22 306 eP P 05 10 58.7 -0.3
comp=Z,128nm,1.4s
CIS **Catalina Islan** 43.23 299 ⇓P P 05 10 59.7 +0.8
baz=43,SNR=6.7
SCI **San Clemente I** 43.28 299 ⇓P P 05 11 00.3 +1.0
baz=43
DECC **Green Verdugo** 43.30 301 ⇑P P 05 10 59.6 +0.1
baz=43
CWC **Cottonwood Cre** 43.51 304 ⇓P P 05 11 02.2 +0.9
baz=44
CHMT **Chamberlain Mo** 43.58 320 eP P 05 11 02.0 +0.1
ISA **Isabella** 43.67 303 eP P 05 11 03.7 +1.2
ISA pmax pmax
comp=Z,31nm,1.6s
ISA **Isabella** 43.67 303 eP P 05 11 03.7 +1.2
comp=Z,31nm,1.6s
ISA **Isabella** 43.67 303 ⇓P P 05 11 03.2 +0.7
baz=44,SNR=22
OSI **Osito Adit** 43.68 301 ⇑P P 05 11 02.4 -0.2
baz=44
RCBR **Riachuelo** 43.72 120 eP P 05 11 05.2 +2.2
comp=Z,8.6nm,1.0s
RCBR LR LR
comp=Z,2µm,22.0s
RCBR **Riachuelo** 43.72 120 P P 05 11 01.6 -1.5
comp=Z,16nm,0.9s,baz=296,slow=7.5,SNR=5.9
TIN **Tinemaha** 43.76 305 ⇑P P 05 11 04.3 +1.1
baz=44,SNR=20
MFID **Camas Ranch** 43.83 314 eP P 05 11 03.7 -0.1
comp=Z,94nm,1.6s
BMN **Battle Mountai** 43.85 310 eP P 05 11 05.0 +1.0
BMN pmax pmax
comp=Z,54nm,1.4s
BMN **Battle Mountai** 43.85 310 eP P 05 11 05.0 +1.0
comp=Z,54nm,1.4s
ARVC **Arvin** 43.85 302 ⇓P P 05 11 04.7 +0.8
baz=44,SNR=20
BLG **Laguna Peak** 43.88 300 ⇓P P 05 11 04.4 +0.2
baz=44
SLMT **Seeley Lake** 43.88 320 eP P 05 11 04.3 +0.1
MSO **Missoula** 43.97 320 eP P 05 11 03.4 -1.4
comp=Z,39nm,1.3s
MSO **Missoula** 43.97 320 ⇓P P 05 11 05.7 +0.9
baz=44,SNR=6.0
NV11 **Mina Array Sit** 44.01 307 eP P 05 11 06.3 +0.9
MTUM **Tungsten Hills** 44.08 305 eP P 05 11 08.2 +2.2
NVAR **Mina Array Bea** 44.13 307 P P 05 11 06.5 +0.1
NVAR **Mina Array Bea** 44.13 307 P P 05 11 06.5 +0.1
comp=Z,16nm,1.0s,baz=107,slow=5.8,SNR=49
NVAR LR LR 05 33 23.3
comp=Z,3µm,19.5s,baz=263,slow=42
VES **Vestal, Richgr** 44.19 303 ⇑P P 05 11 07.4 +0.8
baz=44,SNR=36
SWMT **Swartz Lake** 44.31 320 eP P 05 11 07.8 +0.3
BSC **Santa Cruz Isl** 44.33 300 ⇓P P 05 11 07.9 +0.1
baz=44
MLAC **Mammoth Lakes** 44.35 305 ⇑P P 05 11 08.7 +0.5
baz=44
RCTC **Rector, Farmer** 44.40 303 ⇑P P 05 11 08.7 +0.4
baz=44,SNR=19
SBC **Santa Barbara** 44.46 301 ⇓P P 05 11 09.0 +0.3
baz=44
YBMT **Yellow Bay** 44.47 321 eP P 05 11 09.2 +0.3
JTMT **Jette** 44.59 321 eP P 05 11 10.0 +0.3
PKM **Peak Mountain** 44.62 301 ⇓P P 05 11 10.5 +0.2
baz=45,SNR=12
BLMT **Blacktail Moun** 44.75 321 eP P 05 11 11.5 +0.3
SMMC **Simmler** 44.83 302 ⇓P P 05 11 12.3 +0.5
baz=45
BSMT **Bassoo Peak** 44.94 320 eP P 05 11 13.0 +0.4
WALA **Waterton Lakes** 44.97 322 eP P 05 11 14.1 +1.3
comp=Z,4.2nm,1.8s
PAHR **Pah Rah Range** 45.25 308 eP P 05 11 23.2 +7.9
comp=Z,181nm,2.7s
FRB **Frobisher Bay** 45.44 3 LR LR 05 29 10.1
comp=Z,11µm,21.7s,baz=180,slow=35
WVOR **Wild Horse Val** 45.45 312 eP P 05 11 16.7 -0.1
WVOR pmax pmax
comp=Z,91nm,1.4s
WVOR MLR MLR
comp=Z,13µm,19.0s
WVOR **Wild Horse Val** 45.45 312 eP P 05 11 16.7 -0.1
comp=Z,91nm,1.4s
WVOR LR LR
comp=Z,13µm,19.0s
J08A **Circle Bar Ran** 45.62 313 eP P 05 11 18.3 +0.2
comp=Z,103nm,1.4s
CMB **Columbia Colle** 45.64 306 eP P 05 11 19.5 +1.3
CMB pmax pmax
comp=Z,61nm,1.5s
CMB **Columbia Colle** 45.64 306 eP P 05 11 19.5 +1.3
comp=Z,61nm,1.5s
F10A **Beach Ranch, E** 45.70 317 eP P 05 11 18.1 -0.4
comp=Z,76nm,1.4s
LNOR **Lincton Mounta** 46.34 317 P P 05 11 24.3 +0.6
LNOR **Lincton Mounta** 46.34 317 P P 05 11 24.2 +0.6
E09A **Wood Farm, Sta** 46.49 317 eP P 05 11 24.4 -0.3
comp=Z,80nm,1.5s
NEW **Newport** 46.53 320 eP P 05 11 24.7 -0.4
comp=Z,140nm,1.6s
NEW **Newport** 46.53 320 P P 05 11 24.4 -0.7
comp=Z,36nm,1.1s,baz=126,slow=7.7,SNR=28
NEW LR LR 05 31 20.0
comp=Z,9µm,20.2s,baz=108,slow=37
NEW **Newport** 46.53 320 ⇑P P 05 11 24.4 -0.7
baz=46,SNR=38
I07A **Izee** 46.56 314 eP P 05 11 26.2 +0.7
comp=Z,74nm,1.8s
OHCM **Honcut** 46.75 307 eP P 05 11 28.0 +1.2
EDM **Edmonton** 46.77 328 eP P 05 11 26.7 -0.1
EDM **Edmonton** 46.77 328 eP P 05 11 26.7 -0.1
CPUP **Villa Florida** 46.95 161 eP P 05 11 27.1 -1.3
comp=Z,11nm,1.6s
CPUP **Villa Florida** 46.95 161 P P 05 11 27.1 -1.3
comp=Z,3.1nm,0.7s,baz=332,slow=7.8,SNR=6.6
CPUP LR LR 05 32 30.3
comp=Z,9µm,19.9s,baz=326,slow=38
C09A **Chrisman Ranch** 47.05 319 eP P 05 11 29.3 +0.2
comp=Z,88nm,1.4s
K05A **Summer Lake** 47.13 312 eP P 05 11 30.5 +0.4
comp=Z,83nm,1.3s
LCO **Las Campanas** 47.15 177 eP P 05 11 30.4 +0.1
comp=Z,46nm,1.0s
LCO LR LR
comp=Z,3µm,21.0s
OD2 **Odessa Site #2** 47.17 318 P P 05 11 29.9 -0.2
D08A **Wollman Farm,** 47.18 318 eP P 05 11 30.1 -0.1
comp=Z,48nm,1.4s
SACV **Santiago Islan** 47.26 86 PFAKE 05 11 40.0 +8.9
SACV LR LR
comp=Z,2µm,21.0s
HAWA **Hanford** 47.34 317 eP P 05 11 31.4 +0.1
comp=Z,69nm,1.5s
HAWA LR LR
comp=Z,8µm,19.0s
J05D **Fort Rock, OR** 47.53 312 ⇑P P 05 11 32.4 -0.6
baz=48
M04C **Macdoel** 47.57 310 ⇓P P 05 11 33.6 +0.2
baz=48
E07A **Sunnyside** 47.61 317 eP P 05 11 33.7 +0.2
comp=Z,66nm,1.4s
G06A **Carlson Farm,** 47.69 315 eP P 05 11 34.9 +0.7
comp=Z,328nm,1.8s
WDC **Whiskeytown Da** 47.81 308 eP P 05 11 33.7 -1.4
WDC pmax pmax
comp=Z,31nm,1.4s
WDC **Whiskeytown Da** 47.81 308 eP P 05 11 33.7 -1.4
comp=Z,31nm,1.4s
I05D **Terrebonne, OR** 47.90 314 ⇑P P 05 11 35.7 -0.1
baz=48
WTV **Waterville** 48.07 318 P P 05 11 37.1 0.0
G05D **Wamic, OR** 48.15 315 ⇑P P 05 11 37.2 -0.5
baz=48
EBG **Ellensburg** 48.19 317 P P 05 11 38.7 +0.7
YBH **Yreka Blue Hor** 48.19 310 eP P 05 11 37.2 -1.0
YBH **Yreka Blue Hor** 48.19 310 P P 05 11 36.9 -1.3
comp=Z,12nm,1.0s,baz=95,slow=3.3,SNR=7.9
YBH LR LR 05 34 18.7
comp=Z,8µm,18.3s,baz=107,slow=39
BPO **Bald Peter** 48.23 314 P P 05 11 40.6 +2.1
LTY **Liberty** 48.37 318 eP P 05 11 39.5 +0.1
comp=Z,149nm,1.5s
BBOR **Butler Butte** 48.45 311 P P 05 11 39.8 -0.4
NLW **Nelson Butte** 48.45 319 P P 05 11 39.9 -0.2
TWW **Teanaway** 48.46 317 P P 05 11 41.3 +1.2
H04A **Detroit Lake** 48.58 314 eP P 05 11 41.6 +0.6
comp=Z,168nm,1.4s
WPW **White Pass** 48.75 317 P P 05 11 43.1 +0.7
FMW **Mount Fremont** 48.91 317 P P 05 11 44.1 +0.3
RCS **Mount Rainier-** 48.93 317 P P 05 11 44.5 +0.5
LON **Longmire** 48.94 317 eP P 05 11 44.1 +0.3
LON pmax pmax

comp=Z,172nm,2.0s
LON Longmire 48.94 317 *e*P **P 05 11 44.1 +0.3**
comp=Z,172nm,2.0s
I03D Drain, OR 49.12 312 ⇑P **P 05 11 44.8 -0.3**
baz=49
B06A Marblemount 49.32 319 *e*P **P 05 11 47.4 +0.8**
comp=Z,336nm,2.6s
KEBM Edson Butte 49.62 311 *e*P **P 05 11 51.5 +2.3**
comp=Z,271nm,1.2s
A05A Maple Falls 49.86 319 *e*P **P 05 11 50.9 +0.2**
comp=Z,86nm,1.5s
CFAA Coronel Fontan 49.89 175 P **P 05 11 50.7 -0.4**
CFAA Coronel Fontan 49.89 175 P **P 05 11 50.7 -0.4**
comp=Z,1.2nm,0.8s,baz=352,slow=7.5,SNR=12
CFAA LR LR 05 35 39.9
comp=Z,416nm,21.9s,baz=32,slow=39
E03A Lebam 50.03 316 *e*P **P 05 11 52.4 +0.4**
comp=Z,100nm,1.3s
NLWA Neilton Lookou 50.48 317 *e*P **P 05 11 57.2 +1.7**
comp=Z,77nm,1.3s
NLWA LR LR
comp=Z,6µm,19.0s
SFJD Kangerlussuaq 50.70 11 *i*P **P 05 11 59.0 +2.2**
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 50.70 11 P **P 05 11 55.5 -1.2**
SFJD Kangerlussuaq 50.70 11 P **P 05 11 55.5 -1.2**
comp=Z,13nm,0.9s,baz=238,slow=13,SNR=2.4
SFJD LR LR 05 31 41.7
comp=Z,9µm,21.1s,baz=213,slow=34
YKA Yellowknife Ar 52.65 337 P **P 05 12 10.1 -1.3**
YKA Yellowknife Ar 52.65 337 P **P 05 12 10.0 -1.3**
comp=Z,15nm,0.9s,baz=125,slow=7.5,SNR=87
BBB Bella Bella 54.51 322 LR LR 05 36 58.2
comp=Z,7µm,18.1s,baz=112,slow=38
LPA La Plata 54.87 165 *ce*P **P 05 12 28.0 +0.1**
LPA S **S 05 20 10.0 +0.4**
LPA PS **PnS 05 20 18.0 -0.8**
LPA
comp=Z,8µm,18.0s
TRQA Tornquist 57.06 170 PFAKE 05 13 00.0 +16
TRQA LR LR
comp=Z,8µm,20.0s
DLBC Dease Lake 57.47 328 *e*P **P 05 12 46.8 +0.4**
DLBC Dease Lake 57.47 328 P **P 05 12 46.7 +0.2**
comp=Z,16nm,0.7s,baz=97,slow=5.8,SNR=23
RES Resolute Bay 57.59 353 *e*P **P 05 12 46.4 -0.5**
comp=Z,271nm,2.0s
RES Resolute Bay 57.59 353 P **P 05 12 45.6 -1.2**
comp=Z,21nm,1.1s,baz=164,slow=6.8,SNR=16
RES LR LR 05 37 33.0
comp=Z,8µm,19.8s,baz=150,slow=36
BORG Borgarnes 57.59 23 LR LR 05 33 17.9
comp=Z,7µm,21.7s,baz=222,slow=32
SUMG Summit 57.69 12 *i*P **P 05 12 46.9 -1.3**
SUMG pmax pmax
comp=Z,45nm,0.9s
SUMG Summit 57.69 12 *i*P **P 05 12 46.9 -1.3**
comp=Z,45nm,0.9s
SUMG Summit 57.69 12 *e*P **P 05 12 46.8 -1.3**
comp=Z,189nm,1.4s
WRAK Wrangell Islan 58.07 326 PFAKE 05 13 00.0 +9.4
WRAK LR LR
comp=Z,8µm,20.0s
MORF Marmelete 58.82 57 *e*P P 05 12 59.9 +3.6
comp=Z,129nm,2.0s
PLCA Paso Flores 58.84 178 *e*P **P 05 12 55.5 -0.7**
comp=Z,63nm,1.3s
PLCA Paso Flores 58.84 178 P **P 05 12 55.4 -0.8**
comp=Z,19nm,1.0s,baz=3.9,slow=7.9,SNR=16
PLCA LR LR 05 40 20.3
comp=Z,2µm,20.5s,baz=10.0,slow=38
PTOM Tomar 59.03 54 *e*P **P 05 12 59.9 +2.3**
comp=Z,111nm,2.4s
MESJ Messejana 59.16 56 *e*P **P 05 12 60.0 +1.4**
MESJ Messejana 59.16 56 *e*P **P 05 13 00.0 +1.4**
PMTG Montargil 59.16 55 *e*P **P 05 13 00.5 +2.0**
comp=Z,104nm,1.9s
PGAV Gavieira, Arco 59.21 52 *e*P **P 05 12 58.3 -0.7**
comp=Z,183nm,1.7s
EVOP Sao Brissos 59.24 56 *e*P **P 05 12 58.5 -0.6**
EVOP pmax pmax
comp=Z,173nm,1.4s
EVOP Sao Brissos 59.24 56 *e*P **P 05 12 58.5 -0.6**
comp=Z,173nm,1.4s
PCVE Castro Verde 59.31 57 *e*P **P 05 13 01.7 +2.1**
comp=Z,102nm,2.0s
EVO Evora 59.33 56 *e*P **P 05 12 58.5 -1.2**
comp=Z,173nm,1.4s
EVO *e*R
comp=Z,8µm,22.8s
EVO Evora 59.33 56 *e*P **P 05 13 02.3 +2.6**
comp=Z,90nm,1.8s
PCAB Cabril 59.38 52 *e*P **P 05 13 01.8 +1.7**
comp=Z,136nm,1.5s
PBDV Barranco-do-Ve 59.39 57 *e*P **P 05 13 02.9 +2.7**
comp=Z,148nm,1.8s
PBEJ Beja 59.44 56 *e*P P 05 13 04.0 +3.5
comp=Z,69nm,1.6s
PVIS Viseu 59.45 53 *e*P **P 05 13 01.9 +1.3**
comp=Z,92nm,1.7s
POLO Lamas de Olo 59.55 52 *e*P **P 05 13 02.4 +1.1**
comp=Z,43nm,1.6s
PVAQ Vaqueiros 59.56 57 *e*P **P 05 13 01.5 +0.2**
comp=Z,119nm,1.4s
PVRL Vila Real 59.60 52 *e*P **P 05 13 04.2 +2.6**
comp=Z,104nm,1.9s
PESTR Estremoz 59.66 55 *e*P **P 05 13 04.0 +2.0**
MTE Manteigas 59.71 54 *e*P **P 05 13 04.2 +1.8**
comp=Z,144nm,1.7s
MTE Manteigas 59.71 54 *e*P **P 05 13 03.9 +1.5**
comp=Z,33nm,0.8s
MTE LR LR
comp=Z,7µm,19.0s
PCBR Castelo Branco 59.75 54 *e*P **P 05 13 04.3 +1.7**
comp=Z,105nm,2.3s
PMRV Marv??o 59.82 55 *e*P **P 05 13 04.9 +1.8**
comp=Z,90nm,1.4s
MVO Moncorvo 60.12 53 *e*P **P 05 13 07.5 +2.3**
comp=Z,103nm,1.6s
SCO Scoresbysund 60.27 17 *i*P **P 05 13 05.5 0.0**
SCO pmax pmax
comp=Z,6.0nm,1.1s
SCO Scoresbysund 60.27 17 *i*P **P 05 13 05.5 0.0**
comp=Z,6.3nm,1.1s
PBRG Braganca 60.35 52 *e*P P 05 13 13.4 +6.7
comp=Z,100nm,1.7s
RTC Rabat Centre 60.37 61 PFAKE 05 13 20.0 +13
RTC LR LR
comp=Z,9µm,22.0s
SKAG Skagway 60.40 329 *e*P **P 05 13 07.3 +0.6**
comp=Z,299nm,2.2s
PAB San Pablo 62.17 54 *e*P **P 05 13 20.3 +1.1**
PAB pmax pmax
comp=Z,7.0nm,1.1s
PAB MLR MLR
comp=Z,6µm,20.0s
PAB San Pablo 62.17 54 *e*P **P 05 13 20.2 +1.1**
comp=Z,7.4nm,1.1s
PAB LR LR
comp=Z,6µm,20.0s
INK Inuvik 62.35 339 *e*P **P 05 13 19.0 -0.7**
comp=Z,233nm,2.0s
INK Inuvik 62.35 339 P **P 05 13 18.6 -1.1**
comp=Z,5.2nm,0.9s,baz=102,slow=8.8,SNR=14
ESDC Sonseca Array 62.46 54 P **P 05 13 20.4 -0.7**
ESDC Sonseca Array 62.46 54 P **P 05 13 20.4 -0.7**
comp=Z,9.0nm,0.8s,baz=276,slow=7.2,SNR=25
ESDC LR LR 05 37 39.3
comp=Z,5µm,18.5s,baz=275,slow=33
QUIF Quistinic 63.08 45 *e*P P 05 13 29.0 +4.1
QUIF Quistinic 63.08 45 *e*P P 05 13 29.0 +4.1
QUIF Quistinic 63.08 45 *e*P P 05 13 29.0 +4.1
DAWY Dawson 63.38 333 *e*P **P 05 13 26.4 -0.4**
ASCN Ascension 63.41 109 PFAKE 05 13 40.0 +12
ASCN LR LR
comp=Z,2µm,19.0s
ESK Eskdalemuir 63.56 37 PFAKE 05 13 40.0 +12
ESK LR LR
comp=Z,7µm,21.0s
EGAK Eagle 64.28 334 *e*P **P 05 13 32.8 +0.2**
comp=Z,348nm,2.8s
EGAK LR LR
comp=Z,6µm,20.0s
ALE Alert 64.33 2 P **P 05 13 31.5 -1.2**
comp=Z,266nm,2.4s,SNR=19
DAG Danmarks Havn 64.37 12 *e*P P 05 13 36.5 +3.5
DAG pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 64.37 12 *i*P P 05 13 36.5 +3.5
comp=Z,24nm,0.8s
SJPF Ste Jean 64.43 50 *e*P **P 05 13 34.0 0.0**
comp=Z,309nm,1.5s
SJPF Ste Jean 64.43 50 *e*P **P 05 13 34.0 0.0**
SJPF pmax pmax
comp=Z,309nm,1.5s
SJPF Ste Jean 64.43 50 *e*P **P 05 13 34.0 0.0**
comp=Z,309nm,1.5s
GRR Gorron 64.63 45 *e*P **P 05 13 34.6 -0.6**
GRR Gorron 64.63 45 *e*P **P 05 13 34.6 -0.6**
GRR Gorron 64.63 45 *e*P **P 05 13 34.6 -0.6**
FLN La Foliniere 64.89 44 *e*P **P 05 13 36.3 -0.5**
comp=Z,88nm,1.1s,baz=252
FLN *e*R
comp=Z,14µm,23.0s
FLN La Foliniere 64.89 44 *e*P **P 05 13 36.3 -0.5**
FLN pmax pmax
comp=Z,88nm,1.1s
FLN La Foliniere 64.89 44 *e*P **P 05 13 36.3 -0.5**
comp=Z,88nm,1.1s
ETSF Etsaut 64.92 51 *e*P **P 05 13 37.3 0.0**
comp=Z,135nm,1.4s
ETSF Etsaut 64.92 51 *e*P **P 05 13 37.3 0.0**
ETSF pmax pmax
comp=Z,135nm,1.4s
ETSF Etsaut 64.92 51 *e*P **P 05 13 37.3 0.0**
comp=Z,135nm,1.4s
MENT Mentasta 65.08 332 *e*P **P 05 13 38.2 +0.3**
MFF Saint Martin d 65.12 47 *e*P **P 05 13 38.0 -0.4**
comp=Z,119nm,1.1s
MFF Saint Martin d 65.12 47 *e*P **P 05 13 38.0 -0.4**
MFF pmax pmax
comp=Z,119nm,1.1s
MFF Saint Martin d 65.12 47 *e*P **P 05 13 38.0 -0.4**
comp=Z,119nm,1.1s
LDF La Druitiere 65.12 44 *e*P **P 05 13 37.9 -0.5**
LDF La Druitiere 65.12 44 *e*P **P 05 13 37.9 -0.5**
LDF La Druitiere 65.12 44 *e*P **P 05 13 37.9 -0.5**
BMRM Bremner River 65.22 329 *e*P **P 05 13 40.2 +1.3**
comp=Z,600nm,1.9s
DOT Dot Lake 65.33 332 *e*P **P 05 13 40.8 +1.3**
comp=Z,740nm,2.8s
EPF Esparros 65.58 50 *e*P **P 05 13 41.6 +0.1**
comp=Z,372nm,1.6s
EPF Esparros 65.58 50 *e*P **P 05 13 41.6 +0.1**
EPF pmax pmax
comp=Z,372nm,1.6s
EPF Esparros 65.58 50 *e*P **P 05 13 41.6 +0.1**
comp=Z,372nm,1.6s
LFF La Frestale 65.78 48 *e*P **P 05 13 42.2 -0.5**
comp=Z,264nm,1.5s
LFF La Frestale 65.78 48 *e*P **P 05 13 42.2 -0.5**
LFF pmax pmax
comp=Z,264nm,1.5s
LFF La Frestale 65.78 48 *e*P **P 05 13 42.2 -0.5**
comp=Z,264nm,1.5s
DIV Divide 65.81 329 *e*P **P 05 13 44.0 +1.3**
comp=Z,160nm,1.4s
PAX Paxson 65.87 331 *e*P **P 05 13 43.9 +0.8**
PAX pmax pmax
comp=Z,90nm,1.4s
PAX Paxson 65.87 331 *e*P **P 05 13 43.9 +0.8**
comp=Z,90nm,1.4s
RJF Les Rejaudoux 66.32 48 *e*P **P 05 13 45.6 -0.6**
comp=Z,216nm,1.5s
RJF *e*R
comp=Z,6µm,20.5s
RJF Les Rejaudoux 66.32 48 *e*P **P 05 13 45.6 -0.6**
RJF pmax pmax
comp=Z,216nm,1.5s
RJF Les Rejaudoux 66.32 48 *e*P **P 05 13 45.6 -0.6**
comp=Z,216nm,1.5s
ILAR Eielson Array 66.71 333 P **P 05 13 47.1 -1.2**
ILAR Eielson Array 66.71 333 P **P 05 13 47.1 -1.2**
comp=Z,6.5nm,0.9s,baz=101,slow=4.3,SNR=34
ILAR LR LR 05 45 03.3
comp=Z,6µm,18.8s,baz=98,slow=38
CAF Calviac 66.72 48 *e*P **P 05 13 48.2 -0.6**
comp=Z,207nm,1.4s
CAF Calviac 66.72 48 *e*P **P 05 13 48.2 -0.6**
CAF pmax pmax
comp=Z,207nm,1.4s
CAF Calviac 66.72 48 *e*P **P 05 13 48.2 -0.6**
comp=Z,207nm,1.4s
TCF Toulx Ste Croi 66.76 47 *e*P **P 05 13 48.3 -0.7**
comp=Z,78nm,1.1s
TCF Toulx Ste Croi 66.76 47 *e*P **P 05 13 48.3 -0.7**
TCF pmax pmax
comp=Z,78nm,1.1s
TCF Toulx Ste Croi 66.76 47 *e*P **P 05 13 48.3 -0.7**
comp=Z,78nm,1.1s
TIC Toumodi 66.99 90 *e*P **P 05 13 50.4 -0.6**
comp=Z,109nm,1.6s
HYF Humbligny 67.01 46 *e*P **P 05 13 50.0 -0.6**
HYF Humbligny 67.01 46 *e*P **P 05 13 50.0 -0.6**
LIC Lamto 67.11 91 *e*P **P 05 13 51.6 -0.1**
comp=Z,43nm,1.0s
LIC *e*R
comp=Z,4µm,23.0s
LIC Lamto 67.11 91 *e*P **P 05 13 51.6 -0.1**
comp=Z,108nm,1.4s
LIC Lamto 67.11 91 *e*P **P 05 13 51.6 -0.1**
comp=Z,43nm,1.0s
COLA College 67.13 333 *e*P **P 05 13 50.6 -0.3**
COLA pmax pmax
comp=Z,22nm,1.5s
COLA MLR MLR
comp=Z,6µm,19.0s
COLA College 67.13 333 *e*P **P 05 13 50.6 -0.3**
comp=Z,22nm,1.5s
COLA LR LR
comp=Z,6µm,19.0s
DBIC Dimbokro 67.14 90 *e*P **P 05 13 50.8 -1.1**
comp=Z,109nm,1.8s
DBIC Dimbokro 67.14 90 P **P 05 13 50.0 -1.8**
comp=Z,11nm,0.9s,baz=273,slow=7.2,SNR=9.8
DBIC LR LR 05 38 43.5
comp=Z,2µm,21.8s,baz=262,slow=32
BGF Bois d'Agland 67.18 47 *e*P **P 05 13 50.8 -0.9**
comp=Z,72nm,1.0s
BGF Bois d'Agland 67.18 47 *e*P **P 05 13 50.8 -0.9**
BGF pmax pmax
comp=Z,72nm,1.0s
BGF Bois d'Agland 67.18 47 *e*P **P 05 13 50.8 -0.9**
comp=Z,72nm,1.0s
KIC Kosan Boka 67.34 91 *e*P **P 05 13 53.2 0.0**
comp=Z,174nm,1.5s
PMR Palmer 67.46 330 *e*P **P 05 13 53.5 +0.4**
PMR pmax pmax
comp=Z,791nm,2.7s
PMR Palmer 67.46 330 *e*P **P 05 13 53.5 +0.4**
comp=Z,791nm,2.7s
MCK McKinley 67.50 332 *e*P **P 05 13 53.8 +0.4**
MCK pmax pmax
comp=Z,89nm,1.4s
MCK McKinley 67.50 332 *e*P **P 05 13 53.8 +0.4**
comp=Z,89nm,1.4s
AVF Avril sur Loir 67.52 46 *e*P **P 05 13 52.8 -1.0**
AVF Avril sur Loir 67.52 46 *e*P **P 05 13 52.8 -1.0**
AVF Avril sur Loir 67.52 46 *e*P **P 05 13 52.8 -1.0**
LBL Lubilhac 67.54 48 *e*P **P 05 13 53.9 -0.2**
SEW Seward 67.55 328 *e*P **P 05 13 54.8 +1.2**
comp=Z,112nm,1.2s
SSF Saint Saulge 67.61 46 *e*P **P 05 13 53.5 -0.9**
comp=Z,304nm,1.8s
SSF Saint Saulge 67.61 46 *e*P **P 05 13 53.5 -0.9**
SSF pmax pmax
comp=Z,304nm,1.8s
SSF Saint Saulge 67.61 46 *e*P **P 05 13 53.5 -0.9**
comp=Z,304nm,1.8s
RC01 Rabbit Creek A 67.72 329 *e*P **P 05 13 55.4 +0.5**
comp=Z,354nm,1.8s
PLDF La Plantade 67.75 47 *e*P **P 05 13 57.0 +1.6**
LOR Lormes 67.84 46 *e*P **P 05 13 54.9 -0.9**
comp=Z,116nm,1.2s,baz=265
LOR *e*R
comp=Z,11µm,22.5s
LOR Lormes 67.84 46 *e*P **P 05 13 54.9 -0.9**
comp=Z,116nm,1.2s
SMF Signal de Mont 67.86 46 *e*P **P 05 13 55.0 -1.0**
SMF Signal de Mont 67.86 46 *e*P **P 05 13 55.0 -1.0**
SMF Signal de Mont 67.86 46 *e*P **P 05 13 55.0 -1.0**
BAIF Baives 67.93 43 *e*P **P 05 13 55.6 -0.7**
BAIF Baives 67.93 43 *e*P **P 05 13 55.6 -0.7**
BAIF Baives 67.93 43 *e*P **P 05 13 55.6 -0.7**
SNF Seneffe 67.95 42 P **P 05 13 58.5 +2.1**
LASF Ste Croix 68.06 49 *e*P **P 05 13 57.2 -0.1**
comp=Z,122nm,1.2s
LASF Ste Croix 68.06 49 *e*P **P 05 13 57.2 -0.1**
comp=Z,122nm,1.2s
TRF Thorofare Moun 68.09 332 *e*P **P 05 13 56.9 -0.3**
comp=Z,207nm,1.6s
SUE Sulen 68.15 31 *e*S **S 05 23 02.2 +4.5**
DOU Dourbes 68.17 43 P **P 05 13 59.3 +1.5**
comp=Z,17nm,1.6s
COLD Coldfoot 68.29 336 *e*P **P 05 13 58.4 +0.2**
comp=Z,850nm,3.0s
FOO Floro 68.30 30 *e*S **S 05 23 05.2 +5.7**
GIVF Givet 68.32 43 *e*P **P 05 13 58.0 -0.8**
comp=Z,297nm,1.6s
GIVF Givet 68.32 43 *e*P **P 05 13 58.0 -0.8**
GIVF pmax pmax
comp=Z,297nm,1.6s
GIVF Givet 68.32 43 *e*P **P 05 13 58.0 -0.8**
comp=Z,297nm,1.6s
KTH Kantishna Hill 68.38 332 *e*P **P 05 13 58.4 -0.5**
comp=Z,5µm,2.8s
BPAW Bear Paw Mtn. 68.43 332 *e*P **P 05 13 59.0 -0.2**
comp=Z,407nm,2.3s
SSB Saint Sauveur 68.45 48 *e*P **P 05 14 00.2 +0.4**
SSB pmax pmax
comp=Z,45nm,1.4s
SSB MLR MLR
comp=Z,4µm,22.0s
SSB Saint Sauveur 68.45 48 *e*P **P 05 14 00.1 +0.4**
comp=Z,45nm,1.4s
SSB LR LR
comp=Z,4µm,22.0s
SFTF Sexfontaines 68.57 45 *e*P **P 05 13 59.7 -0.7**
comp=Z,180nm,1.3s,baz=240
SFTF Sexfontaines 68.57 45 *e*P **P 05 13 59.7 -0.7**
comp=Z,180nm,1.3s
VIVF Saint-Julien-l 68.58 48 *e*P **P 05 14 00.7 +0.2**
comp=Z,179nm,1.3s
VIVF Saint-Julien-l 68.58 48 *e*P **P 05 14 00.7 +0.2**
VIVF pmax pmax
comp=Z,179nm,1.3s
VIVF Saint-Julien-l 68.58 48 *e*P **P 05 14 00.7 +0.2**
comp=Z,179nm,1.3s
BCLA Clavier 68.61 42 P **P 05 14 01.4 +0.8**
comp=Z,42nm,2.4s
PPLA Purkeypile 68.93 331 *e*P **P 05 14 02.6 +0.1**
comp=Z,293nm,2.0s
BLS5 Blasjo 68.98 33 *e*P P 05 14 08.2 +5.4
PAGF Fort de Pagny 69.00 44 *e*P **P 05 14 02.4 -0.7**
comp=Z,39nm,1.3s
PAGF Fort de Pagny 69.00 44 *e*P **P 05 14 02.4 -0.7**
comp=Z,39nm,1.3s
MEM Membach 69.05 42 P **P 05 14 03.4 +0.1**
comp=Z,30nm,1.9s
MEM Membach 69.05 42 *e*P **P 05 14 06.2 +2.9**
MEM pmax pmax
comp=Z,591nm,2.8s
MEM Membach 69.05 42 *e*P **P 05 14 06.2 +2.9**
comp=Z,591nm,2.8s
KDAK Kodiak Island 69.16 326 *e*P **P 05 14 04.3 +0.5**
comp=Z,55nm,1.0s
KDAK LR LR
comp=Z,8µm,21.0s
RSO Redoubt South 69.20 329 *e*P **P 05 14 04.5 +0.3**
THEF They Montfort 69.20 45 *e*P **P 05 14 03.1 -1.2**
WLF Walferdange 69.20 43 P **P 05 14 05.1 +0.8**
comp=Z,49nm,2.3s
WLF Walferdange 69.20 43 *e*P **P 05 14 05.4 +1.1**
WLF pmax pmax
comp=Z,518nm,2.8s
WLF MLR MLR
comp=Z,10µm,22.0s
WLF Walferdange 69.20 43 *e*P **P 05 14 03.2 -1.1**
comp=Z,234nm,2.2s
WLF Walferdange 69.20 43 *e*P **P 05 14 05.4 +1.1**
comp=Z,518nm,2.8s
WLF LR LR
comp=Z,10µm,22.0s
SMRF Simiane la Rot 69.30 49 *e*P **P 05 14 05.4 +0.3**
comp=Z,247nm,1.6s
SMRF Simiane la Rot 69.30 49 *e*P **P 05 14 05.4 +0.3**
comp=Z,247nm,1.6s
CABF La Chapelle 69.41 46 *e*P **P 05 14 05.3 -0.4**
CABF La Chapelle 69.41 46 *e*P **P 05 14 05.3 -0.4**
CABF La Chapelle 69.41 46 *e*P **P 05 14 05.3 -0.4**
ORIF Oris-en-Rattie 69.42 48 *e*P **P 05 14 06.1 +0.2**
comp=Z,198nm,1.6s
ORIF *e*R
comp=Z,4µm,22.0s
ORIF Oris-en-Rattie 69.42 48 *e*P **P 05 14 06.1 +0.2**
ORIF pmax pmax
comp=Z,199nm,1.6s
ORIF Oris-en-Rattie 69.42 48 *e*P **P 05 14 06.1 +0.2**
comp=Z,198nm,1.6s
HAU Haudompre 69.46 45 *e*P **P 05 14 05.3 -0.7**
comp=Z,76nm,1.2s
HAU *e*R
comp=Z,11µm,22.8s
HAU Haudompre 69.46 45 *e*P **P 05 14 05.3 -0.7**
HAU pmax pmax
comp=Z,76nm,1.3s
HAU Haudompre 69.46 45 *e*P **P 05 14 05.3 -0.7**
comp=Z,76nm,1.3s
OHAK Old Harbor 69.55 325 *e*P **P 05 14 07.0 +0.7**
comp=Z,155nm,1.4s
IM04 Indian Mountai 69.66 334 *e*P **P 05 14 06.2 -0.7**
BUG Bochum-Univer 69.79 41 *e*P **P 05 14 06.4 -1.4**
comp=Z,368nm,2.4s
HINF Hinteralfeld 69.82 45 *e*P **P 05 14 07.0 -1.2**
HINF Hinteralfeld 69.82 45 *e*P **P 05 14 07.0 -1.2**
HINF Hinteralfeld 69.82 45 *e*P **P 05 14 07.0 -1.2**
LOMF Lomont 69.84 45 *e*P **P 05 14 07.9 -0.5**
RSL Roselend 69.87 47 *e*P **P 05 14 08.1 -0.6**
LPL La Plagne 69.96 47 *e*P **P 05 14 09.2 -0.1**
comp=Z,164nm,1.5s
LPL La Plagne 69.96 47 *e*P **P 05 14 09.2 -0.1**
LPL pmax pmax
comp=Z,164nm,1.5s
LPL La Plagne 69.96 47 *e*P **P 05 14 09.2 -0.1**
comp=Z,164nm,1.5s
BNI Bardonecchia 69.97 48 *e*P **P 05 14 10.8 +1.5**
BNI pmax pmax
comp=Z,91nm,1.4s
BNI MLR MLR
comp=Z,5µm,21.0s
BNI Bardonecchia 69.97 48 *e*P **P 05 14 10.8 +1.5**
comp=Z,90nm,1.4s
BNI LR LR
comp=Z,5µm,21.0s
LPG La Plagne 69.98 47 *e*P **P 05 14 09.4 -0.1**
comp=Z,118nm,1.3s
LPG La Plagne 69.98 47 *e*P **P 05 14 09.4 -0.1**
LPG pmax pmax
comp=Z,118nm,1.3s
LPG La Plagne 69.98 47 *e*P **P 05 14 09.4 -0.1**
comp=Z,118nm,1.3s
ECH Echery 69.99 45 *e*P **P 05 14 09.6 +0.4**
ECH pmax pmax
comp=Z,37nm,1.1s
ECH MLR MLR
comp=Z,8µm,21.0s
ECH Echery 69.99 45 *e*P **P 05 14 10.0 +0.8**
ECH Echery 69.99 45 *e*P **P 05 14 09.6 +0.4**
comp=Z,37nm,1.1s
ECH LR LR
comp=Z,8µm,21.0s
MOF Molkenrain 70.00 45 *e*P **P 05 14 10.0 +0.6**
IBBN Ibbenburen 70.02 40 *e*P **P 05 14 08.0 -1.2**
comp=Z,143nm,1.6s
CDF Champ du Feu 70.05 44 *e*P **P 05 14 09.0 -0.6**
comp=Z,199nm,1.6s
CDF Champ du Feu 70.05 44 *e*P **P 05 14 09.0 -0.6**
CDF pmax pmax
comp=Z,199nm,1.6s
CDF Champ du Feu 70.05 44 *e*P **P 05 14 09.0 -0.6**
comp=Z,199nm,1.6s
LMR La Mourre 70.05 50 *e*P **P 05 14 09.1 -0.5**
comp=Z,351nm,1.9s
LMR La Mourre 70.05 50 *e*P **P 05 14 09.1 -0.5**
LMR pmax pmax
comp=Z,351nm,1.8s
LMR La Mourre 70.05 50 *e*P **P 05 14 09.1 -0.5**
comp=Z,351nm,1.8s
MBDF Montbardon 70.08 48 *e*P **P 05 14 10.0 0.0**
comp=Z,116nm,1.3s

MBDF	**Montbardon**	**70.08**	**48**	*e*P	**P**	**05 14 10.0**	**0.0**
	comp=Z,116nm,1.3s						
HOMB	**Homborsund**	**70.08**	**34**	IAMs_20	IAMs_20	05 39 17.3	
	comp=Z,5µm,24.0s						
SENIN	**Lac Senin/Sane**	**70.27**	**46**	*e*P	**P**	**05 14 12.8**	**+1.6**
CALN	**Calern**	**70.27**	**49**	*e*P	**P**	**05 14 12.8**	**+1.6**
LANF	**Langenberg**	**70.34**	**44**	*e*P	**P**	**05 14 11.2**	**-0.1**
PTCN	**Pitcairn Islan**	**70.43**	**234**	PFAKE		05 14 20.0	+7.8
PTCN				LR	LR		
	comp=Z,2µm,19.0s						
TOUF	**Mont Tournerai**	**70.50**	**49**	*e*P	**P**	**05 14 13.7**	**+1.1**
SVW2	**Sparrevohn**	**70.56**	**329**	*e*P	**P**	**05 14 12.5**	**+0.1**
	comp=Z,42nm,1.2s						
KONO	**Kongsberg**	**70.57**	**32**	P	**P**	**05 14 12.1**	**-0.4**
KONO				pmax	pmax		
	comp=Z,45nm,0.9s						
KONO	**Kongsberg**	**70.57**	**32**	PFAKE		05 14 20.0	+7.5
KONO				LR	LR		
	comp=Z,3µm,20.0s						
LUCF	**Luceram**	**70.58**	**49**	*e*P	**P**	**05 14 14.7**	**+1.7**
REVF	**Revere**	**70.62**	**49**	*e*P	**P**	**05 14 14.6**	**+1.4**
AUTN	**L'Aution**	**70.63**	**49**	*e*P	**P**	**05 14 14.3**	**+0.8**
TNS	**Taunus Mts**	**70.64**	**42**	*e*P	**P**	**05 14 11.9**	**-1.3**
	comp=Z,155nm,1.8s						
SBF	**Sospel**	**70.65**	**49**	*e*P	**P**	**05 14 12.7**	**-0.7**
	comp=Z,98nm,1.0s						
SBF	**Sospel**	**70.65**	**49**	*e*P	**P**	**05 14 12.7**	**-0.7**
SBF				pmax	pmax		
	comp=Z,98nm,1.0s						
SBF	**Sospel**	**70.65**	**49**	*e*P	**P**	**05 14 12.7**	**-0.7**
	comp=Z,98nm,1.0s						
TBLU	**Trondheim**	**70.71**	**28**	*e*S	S	05 23 35.1	+7.1
BFO	**Black Forest**	**70.75**	**44**	*ce*P	**P**	**05 14 16.4**	**+2.5**
BFO	**Black Forest**	**70.75**	**44**	*e*P	**P**	**05 14 12.0**	**-1.9**
	comp=Z,126nm,2.0s						
BFO	**Black Forest**	**70.75**	**44**	*e*P	**P**	**05 14 13.7**	**-0.2**
	comp=Z,28nm,1.3s						
BFO				LR	LR		
	comp=Z,8µm,22.0s						
KBS	**Kingsbay**	**71.11**	**12**⇓	*e*P	**P**	**05 14 15.6**	**+0.1**
KBS				pmax	pmax		
	comp=Z,13nm,1.1s						
KBS	**Kingsbay**	**71.11**	**12**	PFAKE		05 14 30.0	+15
KBS				LR	LR		
	comp=Z,8µm,22.0s						
NAO01	**NORSAR Array S**	**71.14**	**31**	*e*P	**P**	**05 14 15.4**	**-0.5**
	comp=Z,5.3nm,0.5s						
STU	**Stuttgart**	**71.28**	**44**	*e*P	**P**	**05 14 17.9**	**+0.9**
STU				pmax	pmax		
	comp=Z,31nm,0.8s						
STU	**Stuttgart**	**71.28**	**44**	*e*P	**P**	**05 14 15.4**	**-1.6**
	comp=Z,227nm,2.1s						
STU	**Stuttgart**	**71.28**	**44**	*e*P	**P**	**05 14 17.9**	**+0.9**
	comp=Z,31nm,0.8s						
NB2	**NORSAR Subarra**	**71.29**	**31**	P	**P**	**05 14 16.8**	**-0.1**
	comp=Z,183nm,2.0s,baz=277,slow=6.5						
NB2	**NORSAR Subarra**	**71.29**	**31**	P	**P**	**05 14 16.8**	**-0.1**
	baz=277,slow=6.5						
NOA	**NORSAR Array B**	**71.29**	**31**	P	**P**	**05 14 16.1**	**-0.7**
NOA	**NORSAR Array B**	**71.29**	**31**	P	**P**	**05 14 16.2**	**-0.7**
	comp=Z,15nm,1.2s,baz=275,slow=6.3,SNR=6.7						
NOA				LR	LR	05 41 03.7	
	comp=Z,3µm,21.3s,baz=265,slow=32						
NSS	**Namsos**	**71.40**	**27**	*e*S	S	05 23 42.7	+6.9
BSEG	**Bad Segeberg**	**71.42**	**38**	*e*P	**P**	**05 14 16.5**	**-1.2**
	comp=Z,429nm,2.7s						
NRDL	**Niedersach Rie**	**71.44**	**40**	*e*P	**P**	**05 14 16.9**	**-0.9**
	comp=Z,124nm,1.6s						
NC602	**NORSAR Array S**	**71.47**	**31**	*e*S	**S**	**05 23 40.4**	**+3.6**
UBBA	**Unterbreizbach**	**71.56**	**42**	*e*P	**P**	**05 14 17.2**	**-1.3**
	comp=Z,132nm,1.9s						
TOA0	**Torodi Ar. Sit**	**71.57**	**82**	*e*P	**P**	**05 14 17.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**71.57**	**82**	P	**P**	**05 14 17.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**71.57**	**82**	P	**P**	**05 14 17.6**	**-1.8**
	comp=Z,8.9nm,0.8s,baz=279,slow=6.7,SNR=33						
TORD				LR	LR	05 45 37.9	
	comp=Z,2µm,18.7s,baz=280,slow=36						
TUE	**Stuetta**	**71.66**	**46**	*e*P	**P**	**05 14 20.2**	**+0.6**
	comp=Z,68nm,1.3s						
TUE				LR	LR		
	comp=Z,6µm,20.0s						
CLZ	**Clausthal**	**71.67**	**40**	*e*P	**P**	**05 14 18.4**	**-1.0**
	comp=Z,313nm,2.3s						
DAVA	**Damuels**	**71.92**	**45**⇑	*i*pP	pP	05 14 22.4	-0.7
	comp=Z,31nm,0.9s,SNR=7.7						
PGF	**Pioggiola**	**71.96**	**50**	*e*P	**P**	**05 14 20.8**	**-0.6**
	comp=Z,62nm,1.1s						
PGF	**Pioggiola**	**71.96**	**50**	*e*P	**P**	**05 14 20.8**	**-0.6**
PGF				pmax	pmax		
	comp=Z,63nm,1.0s						
PGF	**Pioggiola**	**71.96**	**50**	*e*P	**P**	**05 14 20.8**	**-0.6**
	comp=Z,62nm,1.0s						
SPA0	**Spitsbergen Ar**	**72.01**	**13**	*e*P	**P**	**05 14 21.8**	**+0.9**
SPA0				IAMs_20	IAMs_20	05 40 59.1	
	comp=Z,9µm,25.6s						
SPITS	**Spitsbergen Ar**	**72.01**	**13**	P	**P**	**05 14 19.6**	**-1.3**
SPITS	**Spitsbergen Ar**	**72.01**	**13**	P	**P**	**05 14 19.6**	**-1.3**
	comp=Z,6.5nm,0.5s,baz=227,slow=5.7,SNR=41						
CHGN	**Chignik**	**72.44**	**324**	*e*P	**P**	**05 14 24.1**	**+0.3**
GRF	**Grafenberg Arr**	**72.48**	**43**	*e*P	**P**	**05 14 23.0**	**-1.2**
	comp=Z,128nm,2.0s						
GRF				*e*L	L	05 41 10.9	
	comp=Z,10µm,21.3s						
RETA	**Reutte**	**72.48**	**45**⇑	*i*P	**P**	**05 14 24.2**	**-0.2**
	comp=Z,62nm,1.1s,SNR=16						
FETA	**Feichten**	**72.53**	**45**⇑	*i*P	**P**	**05 14 25.1**	**+0.4**
	comp=Z,57nm,1.1s,SNR=15						
VLC	**Villacollemand**	**72.72**	**48**	*e*P	**P**	**05 14 26.0**	**+0.2**
	comp=Z,99nm,1.4s						
VLC				LR	LR		
	comp=Z,2µm,20.0s						
FUR	**Furstenfeldbru**	**72.73**	**44**	*e*P	**P**	**05 14 24.5**	**-1.3**
	comp=Z,68nm,1.1s						
VSL	**Villasalto**	**72.73**	**53**	PFAKE		05 14 40.0	+14
VSL				LR	LR		
	comp=Z,3µm,21.0s						
MOTA	**Moosalm**	**72.73**	**45**⇑	*i*P	**P**	**05 14 25.4**	**-0.6**
	comp=Z,32nm,0.9s,SNR=18						
TAM	**Tamanrasset**	**72.77**	**71**	*e*P	**P**	**05 14 26.9**	**+0.3**
TAM				pmax	pmax		
	comp=Z,46nm,1.7s						
TAM				MLR	MLR		
	comp=Z,3µm,19.0s						
TAM	**Tamanrasset**	**72.77**	**71**	*e*P	**P**	**05 14 26.9**	**+0.3**
	comp=Z,46nm,1.7s						
TAM				LR	LR		
	comp=Z,3µm,19.0s						
USHA	**Ushuaia**	**73.01**	**177**	P	**P**	**05 14 27.1**	**+0.1**
USHA	**Ushuaia**	**73.01**	**177**	P	**P**	**05 14 27.1**	**+0.1**
	comp=Z,32nm,1.0s,baz=353,slow=3.0,SNR=4.8						
ROTZ	**Rotzenmuhle**	**73.10**	**42**	*e*P	**P**	**05 14 27.0**	**-0.9**
	comp=Z,96nm,1.4s						
TANN	**Tannenbergstha**	**73.17**	**42**	*e*P	**P**	**05 14 27.1**	**-1.3**
	comp=Z,132nm,1.8s						
NKC	**Novy Kostel**	**73.18**	**42**	*e*P	**P**	**05 14 29.1**	**+0.7**
NKC				*e*		05 14 44.6	
NKC				MLR	MLR		
	comp=Z,5µm,20.3s						
NKC	**Novy Kostel**	**73.18**	**42**	*e*P	**P**	**05 14 29.1**	**+0.7**
NKC				*e*PCP	**PcP**	**05 14 44.6**	**-0.4**
NKC				AMS	AMS	05 41 20.0	
	comp=Z,5µm,20.3s						
RKT	**Rikitea**	**73.29**	**238**	*e*S	**S**	**05 23 55.4**	**-3.3**
	comp=Z,2µm,30.2s						
RKT	**Rikitea**	**73.29**	**238**	*e*LR	LR	05 37 01.2	
	comp=Z,3µm,30.8s,baz=52						
CLL	**Collm**	**73.37**	**41**⇑	*i*P	**P**	**05 14 28.3**	**-1.2**
CLL				*i*		05 14 34.5	
CLL				*e*S	**SKiKP**	**05 24 02.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,104nm,1.9s						
CLL				MLR	MLR		
	comp=Z,2µm,21.3s						
CLL	**Collm**	**73.37**	**41**	*e*P	**P**	**05 14 28.2**	**-1.2**
	comp=Z,51nm,1.4s						
CLL	**Collm**	**73.37**	**41**⇑	*i*P	**P**	**05 14 28.3**	**-1.2**
	comp=Z,104nm,1.9s						
CLL				*i* (sP)	**sP**	**05 14 34.5**	**+2.4**
CLL				*e*S	**SKiKP**	**05 24 02.0**	**+0.6**
CLL				*e*		05 25 06.0	
CLL				*e*SS	**SS**	**05 28 36.0**	**-4.5**
CLL				Lm	MLR	05 44 00.0	
	comp=N,1µm,18.7s						
CLL				Lm	MLR	05 44 00.0	
	comp=E,2µm,21.1s						
CLL				Lm	MLR	05 44 00.0	
	comp=Z,2µm,21.3s						
KEST	**Kesra**	**73.38**	**57**	*e*P	**P**	**05 14 31.4**	**+1.5**
KEST	**Kesra**	**73.38**	**57**	P	**P**	**05 14 28.6**	**-1.3**
	comp=Z,4.3nm,0.8s,baz=210,slow=3.7,SNR=9.0						
KEST				LR	LR	05 42 12.8	
	comp=Z,968nm,21.9s,baz=239,slow=32						
TRO	**Tromso**	**73.58**	**21**	*e*S	**SKiKP**	**05 24 01.2**	**0.0**
TRO				IAMs_20	IAMs_20	05 40 04.0	
	comp=Z,6µm,27.4s						
ABTA	**Abfaltersbach**	**73.78**	**46**⇑	*i*P	**P**	**05 14 31.2**	**-0.9**
	comp=Z,37nm,1.1s,SNR=11						
BRG	**Berggiesshubel**	**74.03**	**41**	*e*P	**P**	**05 14 33.7**	**+0.4**
	comp=Z,47nm,1.2s						
BRG				*i*		05 14 36.5	
	comp=Z,71nm,1.3s						
BRG				*i*		05 14 48.1	
	comp=Z,16nm,1.0s						
BRG				S	**S**	**05 24 07.0**	**+0.7**
BRG				SS	**SS**	**05 28 54.0**	**+3.5**
BRG							
	comp=N,2µm,23.0s						
BRG							
	comp=E,3µm,21.1s						
BRG							
	comp=Z,5µm,20.8s						
BRG	**Berggiesshubel**	**74.03**	**41**	*e*P	**P**	**05 14 33.7**	**+0.4**
BRG				*i*		05 14 36.5	
BRG				*i*		05 14 48.1	
BRG				S	**S**	**05 24 07.0**	**+0.7**
BRG				SS	**SS**	**05 28 54.0**	**+3.5**
BRG				pmax	pmax		
	comp=Z,47nm,1.2s						
BRG				pmax	pmax		
	comp=Z,71nm,1.3s						
BRG				pmax	pmax		
	comp=Z,16nm,1.0s						
BRG				MLR	MLR		
	comp=N,2µm,23.0s						
BRG				MLR	MLR		
	comp=E,3µm,21.1s						
BRG				MLR	MLR		
	comp=Z,5µm,20.8s						
BRG	**Berggiesshubel**	**74.03**	**41**	*e*P	**P**	**05 14 32.2**	**-1.1**
	comp=Z,47nm,1.2s						
KHC	**Kasperske Hory**	**74.08**	**43**	*e*P	**P**	**05 14 33.8**	**0.0**
KHC				*e*		05 14 38.0	
KHC				*e*		05 14 47.0	
KHC				*e*S	**S**	**05 24 05.0**	**-2.2**
KHC				MLR	MLR		
	comp=Z,10µm,20.7s						
KHC	**Kasperske Hory**	**74.08**	**43**	*e*P	**P**	**05 14 33.8**	**0.0**
KHC				*ep*P	**pP**	**05 14 38.0**	**+2.3**
KHC				*e*PCP	**PcP**	**05 14 47.0**	**-1.9**
KHC				*e*S	**S**	**05 24 05.0**	**-2.2**
KHC				AMS	AMS	05 40 20.0	
	comp=Z,10µm,20.7s						
KHC	**Kasperske Hory**	**74.08**	**43**	*e*P	**P**	**05 14 33.6**	**-0.2**
	comp=Z,616nm,2.9s						
HOPEN	**Hopen**	**74.11**	**14**	*e*S	**SKiKP**	**05 24 03.5**	**+1.6**
HOPEN				IAMs_20	IAMs_20	05 40 49.7	
	comp=Z,6µm,20.4s						
GEC2	**GERESS Array S**	**74.21**	**43**	*e*P	**P**	**05 14 34.5**	**-0.1**
GEC2	**GERESS Array S**	**74.21**	**43**	*e*P	**P**	**05 14 33.3**	**-1.3**
	comp=Z,68nm,1.3s						
GEC2	**GERESS Array S**	**74.21**	**43**	*e*P	**P**	**05 14 34.5**	**-0.1**
GERES	**GERESS Array B**	**74.21**	**43**	P	**P**	**05 14 33.6**	**-1.0**
GERES	**GERESS Array B**	**74.21**	**43**	P	**P**	**05 14 33.6**	**-1.0**
	comp=Z,14nm,0.8s,baz=292,slow=3.6,SNR=41						
GERES				LR	LR	05 41 49.3	
	comp=Z,8µm,21.9s,baz=258,slow=32						
KBA	**Koelnbreinsper**	**74.28**	**45**⇑	*ip*P	**P**	**05 14 36.2**	**+1.0**
	comp=Z,70nm,1.8s,SNR=15						
SHEL	**Horse Pasture**	**74.41**	**113**	PFAKE		05 14 50.0	+14
SHEL				LR	LR		
	comp=Z,2µm,19.0s						
PRA	**Prague**	**74.47**	**42**	P	**P**	**05 14 37.0**	**+1.1**
PVCC	**Panska Ves**	**74.48**	**41**	*e*P	**P**	**05 14 37.3**	**+1.3**
PVCC				MLR	MLR		
	comp=Z,6µm,21.6s						
PVCC	**Panska Ves**	**74.48**	**41**	*e*P	**P**	**05 14 37.3**	**+1.3**
PVCC				AMS	AMS	05 42 50.0	
	comp=Z,6µm,21.6s						
PRU	**Pruhonice**	**74.55**	**42**	*e*P	**P**	**05 14 37.1**	**+0.7**
PRU				*e*		05 14 49.8	
PRU				*e*S	**S**	**05 24 08.8**	**-3.5**
PRU				MLR	MLR		
	comp=Z,10µm,22.0s						
PRU	**Pruhonice**	**74.55**	**42**	*e*P	**P**	**05 14 37.1**	**+0.7**
PRU				*e*PCP	**PcP**	**05 14 49.8**	**-1.1**
PRU				*e*S	**S**	**05 24 08.8**	**-3.5**
PRU				AMS	AMS	05 42 20.0	
	comp=Z,10µm,22.0s						
MYKA	**Terra Mystica**	**74.56**	**46**⇑	*i*P	**P**	**05 14 35.9**	**-0.7**
	comp=Z,30nm,1.1s,SNR=13						
CADS	**Cadrg**	**74.70**	**46**	*e*P	**P**	**05 14 37.1**	**-0.3**
MOA	**Molln**	**74.75**	**44**⇓	*i*P	**P**	**05 14 37.1**	**-0.6**
	comp=Z,41nm,1.1s,SNR=8.1						
TRI	**Trieste**	**74.82**	**46**	*e*P	**P**	**05 14 38.9**	**+0.9**
TRI	**Trieste**	**74.82**	**46**	*e*P	**P**	**05 14 38.9**	**+0.9**
OBKA	**Obir**	**75.20**	**46**⇑	*i*P	**P**	**05 14 40.2**	**-0.1**
	comp=Z,54nm,1.1s,SNR=19						
KNDS	**Knezji Dol**	**75.28**	**47**	*e*P	**P**	**05 14 40.7**	**-0.1**
LJU	**Ljubljana**	**75.28**	**46**	*e*P	**P**	**05 14 40.5**	**-0.2**
TREC	**Trest**	**75.28**	**43**	*e*P	**P**	**05 14 41.9**	**+1.2**
TREC				MLR	MLR		
	comp=Z,10µm,20.7s						
TREC	**Trest**	**75.28**	**43**	*e*P	**P**	**05 14 41.9**	**+1.2**
TREC				AMS	AMS	05 41 50.0	
	comp=Z,10µm,20.7s						
UPC	**Upice**	**75.39**	**41**	*e*P	**P**	**05 14 42.4**	**+1.2**
UPC	**Upice**	**75.39**	**41**	*e*P	**P**	**05 14 42.4**	**+1.2**
SOKA	**Soboth**	**75.50**	**45**⇑	*i*P	**P**	**05 14 42.3**	**+0.2**
	comp=Z,46nm,1.2s,SNR=18						
KSP	**Ksiaz**	**75.50**	**41**⇓	*e*P	**P**	**05 14 42.1**	**+0.3**
KSP				*e*S	**S**	**05 24 20.0**	**-2.8**
KSP	**Ksiaz**	**75.50**	**41**	*e*P	**P**	**05 14 43.4**	**+1.6**
TNA	**Tin City**	**75.50**	**335**	*e*P	**P**	**05 14 41.6**	**+0.1**
GKP	**Gorka Klasztor**	**75.59**	**38**	*e*P	**P**	**05 14 44.3**	**+2.0**
GKP	**Gorka Klasztor**	**75.59**	**38**	*e*P	**P**	**05 14 44.3**	**+2.0**
DPC	**Dobruska-Polom**	**75.61**	**41**	*e*P	**P**	**05 14 42.2**	**-0.4**
DPC	**Dobruska-Polom**	**75.61**	**41**	*e*P	**P**	**05 14 42.8**	**+0.2**
DPC				*e*PCP	**PcP**	**05 14 57.3**	**+1.8**
DPC				AMS	AMS	05 44 00.0	
DPC	**Dobruska-Polom**	**75.61**	**41**	*e*P	**P**	**05 14 42.2**	**-0.4**
ARSA	**Arzberg**	**75.71**	**45**⇑	*i*P	**P**	**05 14 43.9**	**+0.7**
	comp=Z,41nm,1.4s,SNR=14						
CONA	**Conrad Observa**	**75.80**	**44**⇑	*i*P	**P**	**05 14 43.2**	**-0.5**
	comp=Z,38nm,1.4s,SNR=13						
ARCES	**ARCESS Array B**	**75.86**	**21**	P	**P**	**05 14 42.8**	**-0.8**
ARCES	**ARCESS Array B**	**75.86**	**21**	P	**P**	**05 14 42.8**	**-0.8**
	comp=Z,9.1nm,0.7s,baz=17,slow=5.3,SNR=32						
ARCES				LR	LR	05 43 09.1	
	comp=Z,4µm,21.6s,baz=266,slow=32						
ARE0	**ARCESS Array S**	**75.86**	**21**	*e*P	**P**	**05 14 45.4**	**+1.8**
ARE0				*e*S	S	05 24 16.1	-10
ARE0				IAMs_20	IAMs_20	05 42 17.1	
	comp=Z,6µm,23.5s						
KRLC	**Kraliky**	**75.95**	**42**	*e*P	**P**	**05 14 47.0**	**+2.4**
KRLC	**Kraliky**	**75.95**	**42**	*e*P	**P**	**05 14 47.0**	**+2.4**
VRAC	**Vranov**	**75.99**	**42**⇑	*i*P	**P**	**05 14 46.1**	**+1.4**
GOLS	**Golise**	**76.03**	**46**	*e*P	**P**	**05 14 44.6**	**-0.4**
SOP	**Sopron**	**76.31**	**44**⇓	*e*P	**P**	**05 14 48.8**	**+2.3**
KEV	**Kevo**	**76.31**	**21**	*e*P	**P**	**05 14 48.6**	**+2.5**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**76.31**	**21**	*ep*	**P**	**05 14 48.6**	**+2.5**
	comp=Z,1.1nm,0.4s						
KEV	**Kevo**	**76.31**	**21**	PFAKE		05 15 00.0	+14
KEV				LR	LR		
	comp=Z,5µm,22.0s						
MORC	**Moravsky Berou**	**76.50**	**42**	*e*P	**P**	**05 14 48.0**	**+0.3**
MORC				pmax	pmax		
	comp=Z,203nm,1.8s						
MORC	**Moravsky Berou**	**76.50**	**42**	*e*P	**P**	**05 14 48.0**	**+0.3**
	comp=Z,203nm,1.8s						
BEHE	**Becsehely**	**76.71**	**45**⇑	*e*P	**P**	**05 14 50.7**	**+1.8**
RAC	**Raciborz**	**76.84**	**41**	*e*P	**P**	**05 14 51.0**	**+1.5**
OKC	**Ostrava-Krasne**	**76.87**	**42**	*e*P	**P**	**05 14 51.0**	**+1.3**
OKC				MLR	MLR		
	comp=Z,8µm,20.2s						
OKC	**Ostrava-Krasne**	**76.87**	**42**	*e*P	**P**	**05 14 51.0**	**+1.3**
OKC				AMS	AMS	05 44 20.0	
	comp=Z,8µm,20.2s						
PKST	**T"'s**	**77.38**	**44**	*e*Pdiff	**P**	**05 14 53.5**	**+0.9**
UNV	**Unalaska Valle**	**77.45**	**323**	*e*P	**P**	**05 14 53.6**	**+0.7**
	comp=Z,151nm,1.4s						
WDD	**Wield Dalam**	**77.46**	**56**	PFAKE		05 15 00.0	+6.7
WDD				LR	LR		
	comp=Z,2µm,22.0s						
CUC	**Castrocucco**	**77.49**	**52**	*e*P	**P**	**05 14 55.1**	**+1.7**
CUC				LR	LR		
	comp=Z,2µm,21.0s						
CSKK	**Cs˙‡kako**	**77.50**	**44**⇑	*e*	**P**	**05 14 54.4**	**+1.1**
GAMB	**Gambell**	**77.51**	**333**	*e*P	**P**	**05 14 53.8**	**+0.8**
	comp=Z,235nm,2.1s						
PKSG		**77.58**	**44**⇑	*e*	**P**	**05 14 54.8**	**+1.1**
KKH	**Kailua Kona**	**77.74**	**287**	*e*P	P	05 14 58.6	+3.5
KKH	**Kailua Kona**	**77.74**	**287**	*e*P	P	05 14 58.6	+3.5
OJC	**Ojcow**	**77.81**	**41**	*e*P	**P**	**05 14 54.8**	**-0.2**
OJC				*ep*P	**pP**	**05 14 57.0**	**0.0**
OJC				L	L	05 45 40.0	
	comp=Z,8µm,20.2s						
CEL	**Celeste**	**77.96**	**54**	PFAKE		05 15 10.0	+14
CEL				LR	LR		
	comp=Z,2µm,19.0s						
BEL	**Belsk**	**78.03**	**39**	*e*P	**P**	**05 14 58.4**	**+2.3**
BEL	**Belsk**	**78.03**	**39**	*e*P	**P**	**05 14 58.4**	**+2.3**
PKSM	**Moragy**	**78.03**	**45**⇓	P	**P**	**05 14 57.4**	**+1.2**
PKSM	**Moragy**	**78.03**	**45**⇓	*i*P	**P**	**05 14 57.4**	**+1.2**
PKSM	**Moragy**	**78.03**	**45**	*e*	**P**	**05 14 55.8**	**-0.4**
KAF	**Kangasniemi**	**78.18**	**28**	*e*P	**P**	**05 14 57.8**	**+1.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**78.18**	**28**	*ep*	**P**	**05 14 57.8**	**+1.1**
	comp=Z,1.5nm,0.4s						
FIA1	**FINESS Array S**	**78.27**	**29**	*e*P	**P**	**05 14 57.8**	**+0.5**
FINES	**FINESS Array B**	**78.27**	**29**	P	**P**	**05 14 56.2**	**-1.1**
FINES	**FINESS Array B**	**78.27**	**29**	P	**P**	**05 14 56.2**	**-1.1**
	comp=Z,9.2nm,0.8s,baz=321,slow=2.7,SNR=25						
FINES				LR	LR	05 44 52.1	
	comp=Z,4µm,21.8s,baz=276,slow=32						
NIE	**Niedzica**	**78.33**	**42**	*e*P	**P**	**05 14 59.0**	**+1.1**
NIE				*ep*P	**pP**	**05 15 01.9**	**+2.0**
NIE				L	L	05 45 13.0	
	comp=Z,7µm,20.8s						
TIP	**Timpagrande**	**78.39**	**53**	P	**P**	**05 14 55.5**	**-3.0**
TIP	**Timpagrande**	**78.39**	**53**	*e*P	**P**	**05 14 59.0**	**+0.5**
TIP				LR	LR		
	comp=Z,637nm,19.0s						
PSZ	**Piszkesteto**	**78.44**	**43**	*e*P	**P**	**05 15 00.4**	**+1.8**
PSZ				MLR	MLR		
	comp=Z,5µm,21.0s						
PSZ	**Piszkesteto**	**78.44**	**43**⇓	*i*P	**P**	**05 15 00.3**	**+1.7**
PSZ	**Piszkesteto**	**78.44**	**43**	*e*P	**P**	**05 15 00.4**	**+1.8**
PSZ				LR	LR		
	comp=Z,5µm,21.0s						
PSZ	**Piszkesteto**	**78.44**	**43**⇑	*e*	**P**	**05 15 00.6**	**+2.0**
SUW	**Suwalki**	**78.86**	**37**	*e*P	**P**	**05 15 01.6**	**+1.0**
SUW	**Suwalki**	**78.86**	**37**	*e*P	**P**	**05 15 01.6**	**+1.0**
SUW	**Suwalki**	**78.86**	**37**	*e*P	**P**	**05 15 01.6**	**+1.0**
STHS	**Stebnicka Huta**	**78.92**	**42**	*e*P	**P**	**05 15 03.4**	**+2.2**
STHS				pmax	pmax		
	comp=Z,15nm,1.1s						
STHS	**Stebnicka Huta**	**78.92**	**42**	*e*P	**P**	**05 15 03.4**	**+2.2**
CRVS	**Cervenica-Dubn**	**79.20**	**42**	*e*P	**P**	**05 15 04.2**	**+1.5**
CRVS				pmax	pmax		
	comp=Z,140nm,1.8s						
CRVS	**Cervenica-Dubn**	**79.20**	**42**	*e*P	**P**	**05 15 04.2**	**+1.5**
APA	**Apatity**	**79.23**	**22**⇑	*i*P	**P**	**05 15 03.0**	**+0.5**
APA				*i*		05 15 11.6	
APA				*i*S	**S**	**05 25 02.0**	**-0.7**
PDG	**Podgorica**	**79.41**	**49**	P	**P**	**05 15 04.1**	**+0.2**
TTG	**Podgorica**	**79.41**	**49**	P	**P**	**05 15 04.1**	**+0.2**
TTG	**Podgorica**	**79.41**	**49**	P	**P**	**05 15 04.1**	**+0.2**
VSU	**Vasula**	**79.47**	**32**⇓	*e*P	**P**	**05 15 04.3**	**+0.4**
VSU				pmax	pmax		
	comp=Z,92nm,1.1s						
DIVS	**Divibare**	**79.49**	**47**	P	**P**	**05 15 06.3**	**+1.9**
LVZ	**Lovozero**	**79.55**	**22**	*e*P	**P**	**05 15 04.4**	**+0.2**
LVZ				MLR	MLR		
	comp=Z,3µm,22.0s						
LVZ	**Lovozero**	**79.55**	**22**	*e*P	**P**	**05 15 04.4**	**+0.2**
LVZ				LR	LR		
	comp=Z,3µm,22.0s						
KOLS	**Kolonicke sedl**	**79.70**	**42**	*e*P	**P**	**05 15 07.1**	**+1.7**
KOLS				pmax	pmax		
	comp=Z,101nm,1.9s						
KOLS	**Kolonicke sedl**	**79.70**	**42**	*e*P	**P**	**05 15 07.1**	**+1.7**
KWP	**Kalwaria Pacla**	**79.78**	**41**	⇑P	**P**	**05 15 07.4**	**+1.6**
KWP	**Kalwaria Pacla**	**79.78**	**41**	*e*P	**P**	**05 15 08.2**	**+2.4**
KWP	**Kalwaria Pacla**	**79.78**	**41**	⇑P	**P**	**05 15 07.4**	**+1.6**
KWP	**Kalwaria Pacla**	**79.78**	**41**	*e*P	**P**	**05 15 07.3**	**+1.5**
	comp=Z,87nm,1.0s						
KWP				LR	LR		
	comp=Z,4µm,20.0s						
UZH	**Uzhgorod**	**79.80**	**42**	*e*P	**P**	**05 15

VTS	**Vitosha**	**82.17**	**48**	*e*P		**P**	**05 15 19.3**	**+0.4**
VTS	**Vitosha**	**82.17**	**48**	⇓*i*P		**P**	**05 15 20.6**	**+1.7**
VTS	**Vitosha**	**82.17**	**48**	P		**P**	**05 15 17.4**	**-1.5**
THL	**Klokotos Trika**	**82.21**	**51**	*e*P		**P**	**05 15 20.7**	**+1.7**
EVR	**Evrytania**	**82.25**	**52**	P		**P**	**05 15 19.2**	**-0.1**
EVR	**Evrytania**	**82.25**	**52**	*e*P		**P**	**05 15 21.8**	**+2.5**
EVR	**Evrytania**	**82.25**	**52**	P		**P**	**05 15 19.2**	**-0.1**
ARR	**Arges**	**82.29**	**45**	⇑*i*P		**P**	**05 15 21.1**	**+1.7**
KKB	**Krupnik**	**82.30**	**49**	*e*P		**P**	**05 15 20.5**	**+1.1**
KNT	**Kendrikon**	**82.38**	**49**	P		**P**	**05 15 19.2**	**-0.6**
KNT	**Kendrikon**	**82.38**	**49**	P		**P**	**05 15 19.2**	**-0.6**
KNT	**Kendrikon**	**82.38**	**49**	*e*P		**P**	**05 15 22.1**	**+2.3**
KNT	**Kendrikon**	**82.38**	**49**	P		**P**	**05 15 19.2**	**-0.6**
DRO	**Drossia**	**82.46**	**53**	P		**P**	**05 15 22.1**	**+1.7**
DRO	**Drossia**	**82.46**	**53**	*e*P		P	05 15 23.5	+3.1
MAKR	**Makrakomi, Fth**	**82.46**	**52**	P		**P**	**05 15 18.5**	**-1.9**
MAKR	**Makrakomi, Fth**	**82.46**	**52**	*e*P		**P**	**05 15 21.2**	**+0.8**
MAKR	**Makrakomi, Fth**	**82.46**	**52**	P		**P**	**05 15 18.5**	**-1.9**
EFP	**Efpalio**	**82.47**	**52**	P		**P**	**05 15 22.1**	**+1.8**
EFP	**Efpalio**	**82.47**	**52**	*e*P		**P**	**05 15 23.1**	**+2.8**
VOIR		**82.55**	**45**	⇑P		**P**	**05 15 21.4**	**+0.7**
VOIR		**82.55**	**45**	⇑*i*P		**P**	**05 15 21.4**	**+0.7**
LAKA	**Lakka**	**82.58**	**52**	*e*P		**P**	**05 15 22.4**	**+1.4**
DOPR	**Dopca**	**82.61**	**44**	⇑*i*P		**P**	**05 15 21.6**	**+0.7**
AGG	**Agios Georgios**	**82.61**	**51**	P		**P**	**05 15 22.8**	**+1.7**
AGG	**Agios Georgios**	**82.61**	**51**	P		**P**	**05 15 22.8**	**+1.7**
AGG	**Agios Georgios**	**82.61**	**51**	*e*P		**P**	**05 15 22.8**	**+1.7**
AGG	**Agios Georgios**	**82.61**	**51**	P		**P**	**05 15 22.8**	**+1.7**
KALE	**Kalithea**	**82.66**	**52**	P		**P**	**05 15 21.4**	**0.0**
KALE	**Kalithea**	**82.66**	**52**	*e*P		P	05 15 26.6	+5.2
KALE	**Kalithea**	**82.66**	**52**	P		**P**	**05 15 21.4**	**0.0**
HORT	**Hortiatis**	**82.69**	**50**	P		**P**	**05 15 20.7**	**-0.9**
HORT	**Hortiatis**	**82.69**	**50**	*e*P		**P**	**05 15 23.5**	**+1.9**
HORT	**Hortiatis**	**82.69**	**50**	P		**P**	**05 15 20.7**	**-0.9**
KLV	**Kalavryta, Ach**	**82.77**	**52**	P		**P**	**05 15 24.3**	**+2.3**
KLV	**Kalavryta, Ach**	**82.77**	**52**	*e*P		**P**	**05 15 24.8**	**+2.8**
KLV	**Kalavryta, Ach**	**82.77**	**52**	P		**P**	**05 15 24.3**	**+2.3**
SOH	**Sokhos**	**82.81**	**49**	*e*P		**P**	**05 15 24.7**	**+2.6**
MMB	**Musomiste**	**82.84**	**49**	⇑P		**P**	**05 15 24.5**	**+2.2**
MMB	**Musomiste**	**82.84**	**49**	*e*P		**P**	**05 15 23.4**	**+1.1**
MMB	**Musomiste**	**82.84**	**49**	⇑*i*P		**P**	**05 15 24.5**	**+2.2**
ITM	**Ithomi**	**82.86**	**53**	*e*P		**P**	**05 15 22.3**	**-0.1**
SRS	**Serrai**	**82.89**	**49**	P		**P**	**05 15 22.1**	**-0.4**
SRS	**Serrai**	**82.89**	**49**	P		**P**	**05 15 22.1**	**-0.4**
SRS	**Serrai**	**82.89**	**49**	*e*P		**P**	**05 15 24.3**	**+1.8**
SRS	**Serrai**	**82.89**	**49**	P		**P**	**05 15 22.1**	**-0.4**
AXAR	**Agios Charalam**	**82.93**	**52**	P		**P**	**05 15 21.1**	**-1.7**
AXAR	**Agios Charalam**	**82.93**	**52**	P		**P**	**05 15 21.1**	**-1.7**
DSF	**Desfina**	**82.94**	**52**	P		**P**	**05 15 22.1**	**-0.8**
DSF	**Desfina**	**82.94**	**52**	*e*P		**P**	**05 15 25.0**	**+2.1**
DSF	**Desfina**	**82.94**	**52**	P		**P**	**05 15 22.1**	**-0.8**
GUR	**Goura**	**82.94**	**53**	P		**P**	**05 15 21.4**	**-1.6**
GUR	**Goura**	**82.94**	**53**	*e*P		**P**	**05 15 25.3**	**+2.3**
GUR	**Goura**	**82.94**	**53**	P		**P**	**05 15 21.4**	**-1.6**
NVR	**Nevrokopi**	**83.01**	**49**	P		**P**	**05 15 20.3**	**-2.9**
NVR	**Nevrokopi**	**83.01**	**49**	*e*P		**P**	**05 15 24.1**	**+0.9**
NVR	**Nevrokopi**	**83.01**	**49**	P		**P**	**05 15 20.3**	**-2.9**
PLG	**Polygyros**	**83.02**	**50**	P		**P**	**05 15 23.6**	**+0.4**
PLG	**Polygyros**	**83.02**	**50**	P		**P**	**05 15 23.6**	**+0.4**
PLG	**Polygyros**	**83.02**	**50**	*e*P		**P**	**05 15 25.3**	**+2.1**
PLG	**Polygyros**	**83.02**	**50**	P		**P**	**05 15 23.6**	**+0.4**
MLR	**Muntele Rosu**	**83.13**	**44**	⇑*i*P		**P**	**05 15 25.1**	**+1.3**
XOR	**Xorichti**	**83.14**	**51**	*e*P		**P**	**05 15 26.7**	**+2.8**
VLX	**Vlachokerasia**	**83.14**	**53**	P		**P**	**05 15 25.7**	**+1.7**
VLX	**Vlachokerasia**	**83.14**	**53**	*e*P		**P**	**05 15 26.1**	**+2.1**
VLX	**Vlachokerasia**	**83.14**	**53**	P		**P**	**05 15 25.7**	**+1.7**
PMSA	**Palmer Station**	**83.16**	**176**	PFAKE			05 15 30.0	+6.9
PMSA				LR		LR		
	comp=Z,3μm,19.0s							
LKR	**Lokris**	**83.22**	**52**	P		**P**	**05 15 25.7**	**+1.5**
LKR	**Lokris**	**83.22**	**52**	*e*P		**P**	**05 15 25.4**	**+1.2**
LKR	**Lokris**	**83.22**	**52**	P		**P**	**05 15 25.7**	**+1.5**
TESR	**Tescani**	**83.25**	**43**	⇑*i*P		**P**	**05 15 26.8**	**+2.5**
SMIA	**Simia**	**83.30**	**51**	*e*P		**P**	**05 15 24.8**	**+0.1**
PAIG	**Paliouri**	**83.32**	**50**	P		**P**	**05 15 25.7**	**+1.0**
PAIG	**Paliouri**	**83.32**	**50**	P		**P**	**05 15 25.7**	**+1.0**
PAIG	**Paliouri**	**83.32**	**50**	*e*P		**P**	**05 15 27.0**	**+2.3**
PAIG	**Paliouri**	**83.32**	**50**	P		**P**	**05 15 25.7**	**+1.0**
PLD	**Plovdiv**	**83.37**	**48**	P		**P**	**05 15 24.3**	**-0.6**
PLD	**Plovdiv**	**83.37**	**48**	P		**P**	**05 15 24.3**	**-0.6**
PLD	**Plovdiv**	**83.37**	**48**	P		**P**	**05 15 24.3**	**-0.6**
PPT	**Papeete**	**83.39**	**249**	LR		LR	05 46 44.5	
	comp=Z,1μm,18.0s,baz=70,slow=32							
LTK	**Loutraki**	**83.39**	**52**	P		**P**	**05 15 26.4**	**+1.2**
LTK	**Loutraki**	**83.39**	**52**	P		**P**	**05 15 26.4**	**+1.2**
PPT2	**Papeete2**	**83.39**	**249**	*e*S		**S**	**05 25 43.0**	**-4.7**
	comp=Z,632nm,24.0s							
PPT2				*e*SS		**SS**	**05 31 12.3**	**-1.1**
	comp=Z,2μm,26.8s							
PPT2	**Papeete2**	**83.39**	**249**	*e*LR		LR	05 41 40.7	
	comp=Z,9μm,28.8s,baz=61							
KIEV	**Kiev**	**83.41**	**39**	⇓*e*P		**P**	**05 15 25.1**	**+0.2**
KIEV	**Kiev**	**83.41**	**39**	*e*P		**P**	**05 15 24.6**	**-0.4**
	comp=Z,102nm,1.7s							
KIEV				LR		LR		
	comp=Z,5μm,21.0s							
AKASG	**Malin Array Be**	**83.42**	**39**	P		**P**	**05 15 24.0**	**-1.0**
AKASG	**Malin Array Be**	**83.42**	**39**	P		**P**	**05 15 24.0**	**-1.0**
AKASG	**Malin Array Be**	**83.42**	**39**	P		**P**	**05 15 24.0**	**-1.0**
	comp=Z,9.5nm,0.8s,baz=287,slow=4.8,SNR=25							
PAE	**Paea**	**83.42**	**249**	*e*P		**P**	**05 15 27.2**	**+1.7**
	comp=Z,12nm,1.0s							
PVL	**Pavlikeni**	**83.45**	**47**	*e*P		**P**	**05 15 25.0**	**-0.3**
PLOR	**Plostina**	**83.48**	**44**	⇓P		P	05 15 29.1	+3.6
PLOR	**Plostina**	**83.48**	**44**	⇓*i*P		P	05 15 29.1	+3.6
VRI	**Vrincioaia**	**83.52**	**44**	⇑P		P	05 15 29.5	+3.8
VRI	**Vrincioaia**	**83.52**	**44**	⇑*i*P		P	05 15 29.5	+3.8
MRKA	**Markates**	**83.64**	**51**	*e*P		P	05 15 21.7	-4.7
DID	**Didima**	**83.75**	**53**	*e*P		**P**	**05 15 27.9**	**+0.8**
SZH	**Strazhica**	**83.85**	**47**	*e*P		**P**	**05 15 27.6**	**+0.2**
ADK	**Adak**	**83.93**	**323**	PFAKE			05 15 40.0	+12
ADK				LR		LR		
	comp=Z,3μm,21.0s							
ATHU	**Athens Univers**	**84.02**	**52**	P		**P**	**05 15 27.9**	**-0.5**
ATHU	**Athens Univers**	**84.02**	**52**	P		**P**	**05 15 27.9**	**-0.5**
KDZ	**Kurdzhali**	**84.02**	**48**	⇑P		**P**	**05 15 31.4**	**+3.1**
KDZ	**Kurdzhali**	**84.02**	**48**	⇑*i*P		**P**	**05 15 31.4**	**+3.1**
PTL	**Penteli**	**84.05**	**52**	P		**P**	**05 15 28.6**	**0.0**
PTL	**Penteli**	**84.05**	**52**	P		**P**	**05 15 28.6**	**0.0**
RDO	**Rodhopi**	**84.27**	**49**	P		**P**	**05 15 29.3**	**-0.3**
RDO	**Rodhopi**	**84.27**	**49**	*e*P		**P**	**05 15 30.9**	**+1.3**
RDO	**Rodhopi**	**84.27**	**49**	P		**P**	**05 15 29.3**	**-0.3**
KIS	**Kishinev**	**84.49**	**42**	*e*P		**P**	**05 15 30.0**	**-0.5**
KIS				*e*S		S	05 25 47.0	-11
KIS				*e*PS		**PnS**	**05 26 46.0**	**-4.5**
KIS				pmax		pmax		
	comp=Z,210nm,2.0s							
KIS				pmax		pmax		
	comp=Z,600nm,8.0s							
KIS	**Kishinev**	**84.49**	**42**	*e*P		**P**	**05 15 30.0**	**-0.5**
	comp=Z,200nm,2.0s							
KIS				*e*S		S	05 25 47.0	-11
	comp=Z,1μm,14.0s							
KLMR	**Klimovskoe**	**84.51**	**27**	*e*P		**P**	**05 15 30.0**	**-0.4**
KLMR				S		**S**	**05 25 53.5**	**-3.8**
KLMR				SS		**SS**	**05 31 25.5**	**-1.5**
KLMR				pmax		pmax		
	comp=Z,163nm,1.6s							
JMB	**Yambol**	**84.57**	**47**	⇑P		**P**	**05 15 32.7**	**+1.6**
JMB	**Yambol**	**84.57**	**47**	⇑*i*P		**P**	**05 15 32.7**	**+1.6**
CFR	**Carcaliu**	**84.69**	**44**	⇓P		**P**	**05 15 31.2**	**-0.4**
CFR	**Carcaliu**	**84.69**	**44**	⇓*i*P		**P**	**05 15 31.2**	**-0.4**
PRD	**Provadia**	**84.88**	**46**	*e*P		**P**	**05 15 32.1**	**-0.5**
TIRR	**Tirgusor**	**85.13**	**45**	*e*P		**P**	**05 15 34.0**	**+0.2**
TIRR				pmax		pmax		
	comp=Z,162nm,2.1s							
TIRR	**Tirgusor**	**85.13**	**45**	*e*P		**P**	**05 15 34.0**	**+0.2**
	comp=Z,162nm,2.1s							
PSN	**Preselentsi**	**85.25**	**46**	*e*P		**P**	**05 15 35.1**	**+0.7**
TBI	**Tubuai**	**85.42**	**244**	*e*S		**S**	**05 26 03.7**	**-3.9**
	comp=Z,480nm,26.8s							
TBI				*e*SS		**SS**	**05 31 41.8**	**-1.3**
	comp=Z,1μm,26.8s							
TBI	**Tubuai**	**85.42**	**244**	*e*LR		LR	05 42 38.2	
	comp=Z,5μm,23.5s,baz=64							
CHOS	**Chios Island**	**85.57**	**51**	*e*P		P	05 15 40.6	+4.3
APE	**Apeiranthos**	**85.62**	**53**	⇑*e*P		**P**	**05 15 36.1**	**-0.4**
APE				pmax		pmax		
	comp=Z,5.0nm,0.7s							
OBN	**Obninsk**	**85.74**	**33**	P		**P**	**05 15 36.4**	**-0.2**
	comp=Z,276nm,1.0s,SNR=6.4							
OBN	**Obninsk**	**85.74**	**33**	⇑*i*P		**P**	**05 15 36.6**	**0.0**
OBN				*e*			05 18 53.7	
OBN				*i*S		S	05 25 59.8	-10
OBN				*i*SS		**SS**	**05 31 50.3**	**+5.0**
OBN				pmax		pmax		
	comp=Z,219nm,2.5s							
OBN				MLR		MLR		
	comp=Z,2μm,19.0s							
OBN	**Obninsk**	**85.74**	**33**	*e*P		**P**	**05 15 36.3**	**-0.2**
	comp=Z,266nm,1.8s							
OBN				LR		LR		
	comp=Z,2μm,21.0s							
SANT	**Santorini**	**85.80**	**53**	PFAKE			05 15 50.0	+13
SANT				LR		LR		
	comp=Z,2μm,19.0s							
MOS	**Moscow**	**86.00**	**32**	*e*P		**P**	**05 15 35.6**	**-2.3**
MOS				pmax		pmax		
	comp=Z,183nm,1.8s							
PRGR	**Permogore**	**86.65**	**25**	⇓*i*P		**P**	**05 15 42.0**	**+1.0**
PRGR				pmax		pmax		
	comp=Z,207nm,1.4s							
MSKU	**Masuku**	**87.23**	**93**	P		**P**	**05 15 43.1**	**-1.6**
MSKU	**Masuku**	**87.23**	**93**	P		**P**	**05 15 43.1**	**-1.6**
	comp=Z,5.8nm,0.8s,baz=252,slow=0.3,SNR=9.0							
KARP	**Karpathos**	**87.38**	**53**	*e*P		**P**	**05 15 43.5**	**-1.7**
SIM	**Simferopol'**	**88.69**	**43**	*e*P		**P**	**05 15 52.1**	**+1.0**
SIM				*e*			05 26 23.0	
SIM				*e*S		**S**	**05 26 42.0**	**+3.4**
SIM				pmax		pmax		
	comp=Z,160nm,2.6s							
VSR	**Storozhevoye**	**88.92**	**36**	*e*P		**P**	**05 15 51.3**	**-0.8**
VSR				*e*S		**SKSac**	**05 26 17.9**	**-4.4**
VSR				*e*PS		**PnS**	**05 27 37.9**	**-5.7**
VSR				*e*SS		**SS**	**05 32 32.2**	**+0.2**
VSR				*e*SSS		SSS	05 36 05.1	
VSR				pmax		pmax		
	comp=E,7.0nm,1.0s							
VSR				pmax		pmax		
	comp=Z,10.0nm,1.0s							
VSR				smax		smax		
	comp=N,260nm,3.8s							
VSR				smax		smax		
	comp=E,330nm,3.8s							
VSR				smax		smax		
	comp=Z,300nm,3.8s							
TIXI	**Tiksi**	**88.98**	**353**	⇓*i*P		**P**	**05 15 52.1**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,75nm,2.5s							
TIXI	**Tiksi**	**88.98**	**353**	*e*P		**P**	**05 15 51.6**	**-0.3**
	comp=Z,34nm,1.1s							
TIXI				LR		LR		
	comp=Z,5μm,22.0s							
ISP	**Isparta**	**89.06**	**50**	PFAKE			05 16 00.0	+6.8
ISP				LR		LR		
	comp=Z,3μm,20.0s							
FX1	**Attu Island--F**	**89.09**	**326**	LR		LR	05 57 22.6	
	comp=Z,2μm,18.1s,baz=85,slow=37							
VORD	**Divnogorie**	**89.11**	**36**	*e*P		**P**	**05 15 52.5**	**-0.5**
VORD				*e*S		**SKSac**	**05 26 20.8**	**-2.6**
VORD				*e*SS		**SS**	**05 32 33.3**	**-1.4**
VORD				pmax		pmax		
	comp=N,9.0nm,1.1s							
VORD				pmax		pmax		
	comp=E,10.0nm,1.1s							
VORD				pmax		pmax		
	comp=Z,10.0nm,1.1s							
VORD				smax		smax		
	comp=N,250nm,4.0s							
VORD				smax		smax		
	comp=E,260nm,4.0s							
VORD				smax		smax		
	comp=Z,210nm,4.0s							
ANTO	**Ankara**	**89.89**	**48**	*e*P		**P**	**05 15 57.3**	**+0.3**
ANTO				pmax		pmax		
	comp=Z,29nm,1.0s							
ANTO				MLR		MLR		
	comp=Z,μm,20.0s							
ANTO	**Ankara**	**89.89**	**48**	*e*P		**P**	**05 15 57.3**	**+0.3**
	comp=Z,29nm,1.0s							
ANTO				LR		LR		
	comp=Z,2μm,20.0s							
VRHR	**Novokhopersk**	**90.33**	**35**	*e*P		**P**	**05 15 57.8**	**-0.9**
VRHR				*e*S		**SKSac**	**05 26 26.3**	**-4.3**
VRHR				pmax		pmax		
	comp=N,10.0nm,1.4s							
VRHR				pmax		pmax		
	comp=Z,20nm,1.4s							
VRHR				pmax		pmax		
	comp=E,10.0nm,1.0s							
VRHR				smax		smax		
	comp=E,630nm,4.2s							
VRHR				smax		smax		
	comp=Z,390nm,3.5s							
VRHR				smax		smax		
	comp=N,270nm,4.1s							
BR131	**Keskin Array S**	**90.54**	**48**	*e*P		**P**	**05 16 00.6**	**+0.5**
	comp=N,26nm,1.0s							
BRTR	**Keskin Array B**	**90.54**	**48**	P		**P**	**05 15 59.3**	**-0.8**
BRTR	**Keskin Array B**	**90.54**	**48**	P		**P**	**05 15 59.3**	**-0.8**
	comp=N,8.5nm,1.0s,baz=309,slow=4.9,SNR=32							
BRTR				LR		LR	05 53 55.1	
	comp=N,894nm,21.1s,baz=317,slow=34							
ANN	**Anapa**	**90.87**	**42**	*e*P		**P**	**05 16 04.0**	**+2.7**
ANN				*e*			05 19 41.6	
ANN				*e*S		**SKSac**	**05 26 36.3**	**+2.4**
ANN				pmax		pmax		
	comp=Z,53nm,1.0s							
SEY	**Seymchan**	**91.55**	**341**	⇑*i*P		**P**	**05 16 04.3**	**+0.2**
SEY	**Seymchan**	**91.55**	**341**	P		**P**	**05 16 03.7**	**-0.4**
SEY	**Seymchan**	**91.55**	**341**	P		**P**	**05 16 03.7**	**-0.4**
	comp=Z,14nm,1.0s,baz=115,slow=2.8,SNR=11							
CSS	**Prodhromos**	**92.27**	**52**	PFAKE			05 16 20.0	+12
CSS				LR		LR		
	comp=Z,290nm,20.0s							
SOC	**Sochi**	**92.89**	**42**	*e*P		**P**	**05 16 12.0**	**+1.3**
SOC				*e*S		**SKSac**	**05 26 46.2**	**+0.8**
SOC				*e*			05 27 14.6	
SOC				*e*SS		**SS**	**05 33 27.6**	**-2.2**
SOC				*e*SSS		SSS	05 37 04.1	
SOC				pmax		pmax		
	comp=Z,35nm,1.0s							
RAR	**Rarotonga**	**93.67**	**249**	PFAKE			05 16 30.0	+15
RAR				LR		LR		
	comp=Z,2μm,22.0s							
KIV	**Kislovodsk**	**94.58**	**41**	PFAKE			05 16 30.0	+11
KIV				LR		LR		
	comp=Z,3μm,20.0s							
KBZ	**Khabaz**	**94.83**	**41**	P		**P**	**05 16 19.4**	**-0.2**
KBZ	**Khabaz**	**94.83**	**41**	P		**P**	**05 16 19.4**	**-0.2**
KBZ	**Khabaz**	**94.83**	**41**	P		**P**	**05 16 19.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=318,slow=7.4,SNR=2.1							
KBZ				LR		LR	05 55 35.7	
	comp=Z,3μm,21.9s,baz=286,slow=33							
ARU	**Arti**	**95.11**	**25**	P		**P**	**05 16 21.5**	**+0.9**
	comp=Z,88nm,1.4s,SNR=5.6							
ARU	**Arti**	**95.11**	**25**	*c i*P		**P**	**05 16 20.9**	**+0.3**
ARU							05 20 10.1	
ARU				S		**SKSac**	**05 26 56.3**	**-0.7**
ARU				PS		**PS**	**05 28 53.9**	**+1.0**
ARU				SS		**SS**	**05 34 01.4**	**+1.0**
ARU				pmax		pmax		
	comp=Z,29nm,1.7s							
ARU	**Arti**	**95.11**	**25**	*e*P		**P**	**05 16 21.0**	**+0.3**
	comp=Z,75nm,1.6s							
ARU				LR		LR		
	comp=Z,3μm,21.0s							
ZEI	**Tsey**	**95.94**	**41**	*e*P		**P**	**05 16 26.5**	**+1.5**
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.1s							
PET	**Petropavlovsk**	**96.14**	**332**	PFAKE			05 16 40.0	+15
PET				LR		LR		
	comp=Z,2μm,21.0s							
TSUM	**Tsumeb**	**96.34**	**108**	PFAKE			05 16 40.0	+13
TSUM				LR		LR		
	comp=Z,2μm,22.0s							
PETK	**Petropavlovsk-**	**96.51**	**332**	LR		LR	06 03 12.3	
	comp=Z,1μm,19.6s,baz=53,slow=38							
GNI	**Garni**	**97.86**	**43**	PFAKE			05 16 40.0	+6.2
GNI				LR		LR		
	comp=Z,2μm,20.0s							
YAK	**Yakutsk**	**97.88**	**349**	*e*P		Pdif	05 16 36.4	+3.3
YAK				*e*			05 20 39.4	
YAK				*e*PPP		PPP	05 22 43.0	
YAK				*e*S		**SKSac**	**05 27 06.7**	**-4.5**
YAK				*e*SS		SKKSac	05 27 49.5	+10
YAK				pmax		pmax		
	comp=Z,5.0nm,0.6s							
YAK				pmax		pmax		
	comp=E,2.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,3.0nm,0.4s							
YAK				pmax		pmax		
	comp=N,11nm,0.9s							
YAK				pmax		pmax		
	comp=E,5.0nm,0.9s							
YAK				smax		smax		
	comp=N,193nm,4.8s							
YAK				smax		smax		
	comp=E,213nm,5.2s							
YAK				MLR		MLR		
	comp=Z,4μm,19.0s							
YAK				MLR		MLR		
	comp=N,2μm,22.0s							
YAK				MLR		MLR		
	comp=E,2μm,27.0s							
YAK	**Yakutsk**	**97.88**	**349**	PFAKE			05 16 40.0	+6.9
YAK				LR		LR		
	comp=Z,4μm,19.0s							
MAK	**Makhachkala**	**98.07**	**40**	*e*P		P	05 16 31.1	-3.2
MAK				*e*S		**SKSac**	**05 27 06.9**	**-6.0**
MAK				*e*SS		**SS**	**05 34 38.7**	**-4.4**
MAK				pmax		pmax		
	comp=Z,31nm,0.6s							
MAK				MLR		MLR		
	comp=Z,2μm,18.0s							
BRVK	**Borovoye**	**102.08**	**22**	PFAKE			05 17 00.0	+8.0
BRVK				LR		LR		
	comp=Z,3μm,21.0s							
AFI	**Afiamalu**	**102.52**	**259**	PFAKE			05 17 10.0	+15
AFI				LR		LR		
	comp=Z,2μm,19.0s							
SUR	**Sutherland**	**102.67**	**120**	PFAKE			05 17 10.0	+15
SUR				LR		LR		
	comp=Z,2μm,19.0s							
LSZ	**Lusaka**	**104.99**	**101**	PFAKE			05 17 20.0	+14
LSZ				LR		LR		
	comp=Z,1μm,20.0s							
NVL	**N'lazarevskaya**	**105.47**	**160**	*e*P		**Pdif**	**05 17 12.4**	**+5.9**
NVL				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**106.80**	**18**	PFAKE			05 21 30.0	
KURK				LR		LR		
	comp=Z,2μm,22.0s							
YSS	**Yuzh-Sakhalins**	**107.47**	**335**	PFAKE			05 21 40.0	
YSS				LR		LR		
	comp=Z,1μm,20.0s							
QSPA	**South Pole Qui**	**108.31**	**180**	PFAKE			05 21 40.0	
QSPA				LR		LR		
	comp=Z,2μm,20.0s							
KMBO	**Kilima Mbogo**	**109.49**	**85**	PFAKE			05 21 40.0	
KMBO				LR		LR		
	comp=Z,1μm,22.0s							
TLY	**Talaya**	**110.19**	**2**	PFAKE			05 21 40.0	
TLY				LR		LR		
	comp=Z,3μm,22.0s							
ERM	**Erimo**	**111.29**	**332**	PFAKE			05 21 40.0	
ERM				LR		LR		
	comp=Z,2μm,21.0s							
ZAK	**Zakamensk**	**111.47**	**3**	*e*PKIKP			05 21 39.7	
ZAK				pmax		pmax		
	comp=Z,4.0nm,2.0s							
HIA	**Hailar**	**111.73**	**351**	PFAKE			05 21 40.0	
HIA				LR		LR		
	comp=Z,2μm,21.0s							
EKS2	**Erkin-Say**	**111.96**	**26**	PFAKE			05 21 40.0	
EKS2				LR		LR		
	comp=Z,3μm,20.0s							
AAK	**Ala-Archa**	**112.28**	**25**	PFAKE			05 21 50.0	
AAK				LR		LR		
	comp=Z,3μm,20.0s							
TARA	**Tarawa**	**112.40**	**279**	PFAKE			05 21 50.0	
TARA				LR		LR		
	comp=Z,2μm,19.0s							
TKM2	**Tokmak 2**	**112.48**	**25**	PFAKE			05 21 50.0	
TKM2				LR		LR		
	comp=Z,3μm,21.0s							
MSVF	**Nonsavu**	**112.95**	**258**	PFAKE			05 21 50.0	
MSVF				LR		LR		
	comp=Z,3μm,20.0s							
MDJ	**Mudanjiang**	**114.03**	**343**	Pdif		**Pdif**	**05 17 44.0**	**-1.4**
MDJ				SS		SS	05 38 18.5	-1.1
MDJ				AMB		AMB		
	comp=Z,180nm,4.9s							
MDJ				LR		LR		
	comp=Z,2μm,28.3s							
MDJ				LR		LR		
	comp=Z,2μm,24.1s							
MDJ				LR		LR		
	comp=Z,2μm,26.9s							
MDJ	**Mudanjiang**	**114.03**	**343**	PFAKE			05 21 50.0	+13
MDJ				LR		LR		
	comp=Z,4μm,20.0s							
SBA	**Scott Base**	**114.06**	**192**	PFAKE			05 21 50.0	+14
SBA				LR		LR		
	comp=Z,1μm,20.0s							
ULN	**Ulaanbaatar**	**114.07**	**0**	PFAKE			05 21 50.0	+13
ULN				LR		LR		
	comp=Z,3μm,22.0s							
SONM	**Songino Array**	**114.10**	**1**	PKKPab		PKKPab	05 32 24.9	-2.4
SONM	**Songino Array**	**

comp=Z,2µm,19.0s
INCN Inchon 121.47 342 PFAKE 05 22 00.0 +8.4
INCN LR LR
comp=Z,3µm,21.0s
GTA Gaotai 122.12 7 *e*PKP **PKPdf 05 21 57.5 +4.6**
GTA PP PP 05 23 35.8 +10
GTA SKS **SKSdf 05 29 07.8 +2.0**
GTA SS SS 05 40 12.0 +7.5
GTA AMB AMB
comp=Z,120nm,8.1s
GTA LR LR
comp=Z,2µm,17.6s
GTA LR LR
comp=Z,1µm,18.5s
GTA LR LR
comp=Z,2µm,19.0s
ABPO Ambohimpanom 123.56 101 PFAKE 05 22 10.0 +14
ABPO LR LR
comp=Z,1µm,22.0s
DZM Mont Dzumac 124.46 255 *e*PP PP 05 23 44.7 +0.7
comp=Z,186nm,25.1s
DZM Mont Dzumac 124.46 255 *e*PS PS 05 33 41.3 -2.2
comp=Z,495nm,27.8s
DZM *e*SS SS 05 40 39.0 +0.9
comp=Z,1µm,31.0s
DZM Mont Dzumac 124.46 255 *e*LR LR 06 00 43.1
comp=Z,2µm,23.6s
LZH Lanzhou 125.76 3 *e*PKP **PKPdf 05 21 59.4 -0.6**
LZH sPKP 05 22 04.0
LZH PP **PP 05 23 54.1 +3.6**
LZH SKKS 05 30 45.1
LZH AMB AMB
comp=Z,230nm,9.0s
LZH LR LR
comp=Z,420nm,18.5s
LZH LR LR
comp=Z,400nm,18.2s
LZH LR LR
comp=Z,600nm,20.3s
MSEY Mahe Island 127.83 81 PFAKE 05 22 20.0 +16
MSEY LR LR
comp=Z,1µm,22.0s
XAN Xi'an 127.86 358 PKP **PKPdf 05 22 03.5 -0.4**
XAN PP PP 05 24 09.5 +5.2
XAN SKS **SKSdf 05 29 13.9 -2.7**
XAN SKKS **SKKSac 05 31 02.9 -1.3**
XAN SS **SS 05 41 20.1 +3.6**
XAN AMB AMB
comp=Z,39nm,5.7s
XAN LR LR
comp=Z,2µm,23.8s
XAN LR LR
comp=Z,340nm,22.1s
XAN LR LR
comp=Z,560nm,24.6s
HNR Honiara 128.07 272 PFAKE 05 22 20.0 +15
HNR LR LR
comp=Z,514nm,20.0s
NJ2 Nanjing 128.61 347 *e*PKP **PKPdf 05 22 03.9 -1.4**
NJ2 SKS **SKSdf 05 29 14.5 -3.4**
NJ2 SKKS **SKKSac 05 31 09.5 +0.6**
NJ2 SS **SS 05 41 26.0 +0.1**
NJ2 AMB AMB
comp=Z,370nm,5.0s
NJ2 LR LR
comp=Z,2µm,22.0s
NJ2 LR LR
comp=Z,1µm,21.7s
NJ2 LR LR
comp=Z,1µm,25.4s
SSE Sheshan 128.98 344 PKP **PKPdf 05 22 03.3 -2.8**
SSE AMB AMB
comp=Z,60nm,6.0s
SSE LR LR
comp=Z,2µm,24.7s
SSE LR LR
comp=Z,1µm,25.1s
SSE LR LR
comp=Z,3µm,24.6s
LSA Lhasa 129.80 18 PFAKE 05 22 20.0 +12
LSA LR LR
comp=Z,2µm,22.0s
WHN Wuhan 130.87 352 *e*PKPbc PKPdf 05 22 27.4 +18
WHN PP PP 05 24 47.6 +24
WHN Wuhan 130.87 352 SS SS 05 41 07.3 -46
WHN LR LR
comp=N,4µm,19.4s
WHN LR LR
comp=E,4µm,17.4s
WHN LR LR
comp=Z,7µm,22.4s
CD2 Chengdu 130.90 4 *e*PKP **PKPdf 05 22 10.3 +0.5**
CD2 PP **PP 05 24 28.6 +4.4**
CD2 PKS PKSdf 05 25 39.3 -7.2
CD2 SKS **SKSdf 05 29 19.8 -2.5**
CD2 SKKS **SKKSac 05 31 19.8 -3.5**
CD2 SS **SS 05 41 53.3 -0.8**
CD2 AMB AMB
comp=Z,300nm,11.2s
CD2 LR LR
comp=Z,2µm,25.0s
CD2 LR LR
comp=Z,2µm,22.6s
CD2 LR LR
comp=Z,2µm,19.0s
GUMO Guam 131.04 308 PFAKE 05 22 20.0 +10
GUMO LR LR
comp=Z,1µm,22.0s
CASY Casey 132.06 182 PFAKE 05 22 20.0 +9.3
CASY LR LR
comp=Z,2µm,22.0s
SHL Shillong 133.90 19 *e*P **PKPdf 05 22 17.0 +1.2**
SHL *e*S SKiKP 05 26 14.0 +20
TATO Taipei 134.69 341 PFAKE 05 22 30.0 +13
TATO LR LR
comp=Z,2µm,20.0s
YHNB Yeheng 135.01 341 PFAKE 05 22 30.0 +12
YHNB LR LR
comp=Z,2µm,22.0s
GYA Guiyang 135.44 1 *e*Pdif **Pdif 05 19 18.8 -2.3**
GYA PKP **PKPdf 05 22 17.0 -1.6**
GYA PP **PP 05 24 55.8 +2.5**
GYA PKS **PKSdf 05 25 52.3 -2.8**
GYA SKKS 05 31 47.6
GYA SS **SS 05 42 51.4 +2.1**
GYA AMB AMB
comp=Z,580nm,8.2s
GYA LR LR
comp=Z,520nm,19.8s
GYA LR LR
comp=Z,490nm,20.4s
GYA LR LR
comp=Z,540nm,19.9s
TAU Tasmania Unive 138.16 225 PFAKE 05 22 30.0 +7.2
TAU LR LR
comp=Z,3µm,21.0s
CAN Canberra 139.30 237 PFAKE 05 22 40.0 +15
CAN LR LR
comp=Z,1µm,20.0s
PMG Port Moresby 140.16 277 PFAKE 05 22 40.0 +13
PMG LR LR
comp=Z,1µm,21.0s
CHTO Chiang Mai 142.19 13 PFAKE 05 22 40.0 +9.1
CHTO LR LR
comp=Z,1µm,19.0s
CMAR Chiang Mai Arr 142.54 13 PKP **PKPdf 05 22 29.7 -1.9**
CMAR Chiang Mai Arr 142.54 13 PKP **PKPdf 05 22 29.7 -1.9**
comp=Z,1.2nm,0.3s,baz=335,slow=4.1,SNR=4.8
QIZ Qiongzhong 142.74 356 PKP **PKPdf 05 22 29.8 -2.1**
QIZ SS SS 05 44 14.9 -0.2
QIZ LR LR
comp=Z,3µm,19.9s
QIZ Qiongzhong 142.74 356 PFAKE 05 22 40.0 +8.1
QIZ LR LR
comp=Z,3µm,21.0s
CTAO Charters Tower 143.02 261 *e*PKIKP PKPab 05 22 27.9 +0.4
CTAO MLR MLR
comp=Z,1µm,20.0s
CTAO Charters Tower 143.02 261 *e*PKPdf PKPab 05 22 27.9 +0.3
CTAO LR LR
comp=Z,1µm,20.0s
DGAR Diego Garcia 144.61 77 PFAKE 05 22 50.0 +15
DGAR LR LR
comp=Z,1µm,21.0s
COEN Coen 145.09 272 *e*PKPdf **PKPbc 05 22 34.5 -0.9**

STKA Stephens Creek 146.13 240 *e*PKPdf **PKPdf 05 22 37.0 -0.3**
STKA Stephens Creek 146.13 240 PKPbc **PKPdf 05 22 37.1 -0.3**
comp=Z,19nm,1.1s,baz=88,slow=2.3,SNR=17
DAV Davao City (W) 148.82 323 PFAKE 05 22 50.0 +0.1
DAV LR LR
comp=Z,2µm,20.0s
BBOO Buckleboo 150.29 235 *e*PKPbc **PKPbc 05 22 47.9 -1.5**
KKM Kota Kinabalu 154.12 339 PFAKE 05 23 00.0 +1.3
KKM LR LR
comp=Z,2µm,21.0s
WRAB Tennant Creek 154.20 262 *e*PKIKP **PKPdf 05 22 50.9 +0.5**
WRAB *e* 05 22 57.4
WRAB MLR MLR
comp=Z,1µm,22.0s
WRAB Tennant Creek 154.20 262 *e*PKPdf **PKPdf 05 22 50.9 +0.5**
WRAB *e*PKPbc **PKPbc 05 22 57.4 -1.1**
WRAB LR LR
comp=Z,1µm,22.0s
WRA Warramunga Arr 154.21 262 PKP **PKPdf 05 22 49.6 -0.7**
WRA PKPbc **PKPbc 05 22 58.3 -0.2**
WRA PKPab **PKPab 05 23 12.8 +0.4**
WRA Warramunga Arr 154.21 262 PKP **PKPdf 05 22 49.6 -0.7**
comp=Z,9.3nm,1.0s,baz=81,slow=1.2,SNR=30
WRA PKPbc **PKPbc 05 22 58.3 -0.2**
comp=Z,16nm,1.1s,baz=85,slow=1.6,SNR=20
WRA PKPab **PKPab 05 23 12.8 +0.4**
comp=Z,6.8nm,0.9s,baz=87,slow=2.8,SNR=6.0
AS31 Alice Springs 154.43 253 *e*PKPdf **PKPdf 05 22 50.8 +0.2**
AS31 *e*PKPbc **PKPbc 05 22 58.8 -0.2**
ASAR Alice Springs 154.43 253 PKP **PKPdf 05 22 49.6 -1.0**
ASAR PKPbc **PKPbc 05 22 58.6 -0.3**
ASAR PKPab **PKPab 05 23 13.6 +0.4**
ASAR Alice Springs 154.43 253 PKP **PKPdf 05 22 49.6 -1.0**
comp=Z,3.1nm,1.0s,baz=83,slow=1.7,SNR=14
ASAR PKPbc **PKPbc 05 22 58.6 -0.3**
comp=Z,3.8nm,0.8s,baz=105,slow=1.8,SNR=17
ASAR PKPab **PKPab 05 23 13.6 +0.4**
comp=Z,5.6nm,0.9s,baz=96,slow=3.2,SNR=8.4
KULM Kulim 155.65 16 PFAKE 05 23 00.0 +7.5
KULM LR LR
comp=Z,2µm,20.0s
KSM Kuching 160.03 350 PFAKE 05 23 10.0 +12
KSM LR LR
comp=Z,1µm,22.0s
KAPI Kappang 161.85 315 PFAKE 05 23 10.0 +10
KAPI LR LR
comp=Z,1µm,22.0s
MBWA Marble Bar 167.77 255 PFAKE 05 23 20.0 +15
MBWA LR LR
comp=Z,1µm,20.0s
COCO West Island 168.37 60 PFAKE 05 23 20.0 +15
COCO LR LR
comp=Z,1µm,19.0s

*ISCJB **13** 05:18:00.2±0.1, 18°.35N±0°.02×72°.91W±0°.01, h6km, mb5.1/230, MS5.1/14, Error ellipse: s-maj=3.4km s-min=1.7km az=14.8*
*IDC **13** 05:18:00.1±0.4, 18°.38N×72°.87W, h0km, mb4.7/34, mb1 4.9/39, mb1mx4.8/41, mbtmp4.7/39, ML4.2/5, MS4.9/10, Ms1 4.9/10, ms1mx4.6/44, Error ellipse: s-maj=11.9km s-min=9.1km az=63.0*
*MOS **13** 05:18:00.7±0.9, 18°.33N×72°.88W, h10km, mb5.5/64, Error ellipse: s-maj=5.6km s-min=4.7km az=100.8*
*NEIC **13** 05:18:02.4±0.1, 18°.32N×72°.89W, h10km, mb5.3/142, Error ellipse: s-maj=3.3km s-min=2.3km az=199.0*
*GCMT **13** 05:18:02.5±0.2, 18°.51N×72°.83W, h14km±1km, MW5.2/57, Moment Tensor Solution. s14,c17; s57,c105; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.77±.07; Mθθ-0.38±.04; Mφφ-0.38±.04; Mrθ-0.10±.07; Mrφ0.61±.02; Mθφ0.25±.06; Best double couple: M0 0.92600×10^17 NP1: ϕs125.00000°, δ38.00000°, λ74.00000°. NP2: ϕs125.00000°, δ53.00000°, λ102.00000°. Principal axes: T 0.8220, Plg78.0000°, Azm277.0000°; N 0.2070, Plg10.0000°, Azm137.0000°; P -1.0290, Plg8.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*BJI **13** 05:18:02.3, 18°.30N×72°.90W, h10km, mB5.4/6, Ms5.2/6, Ms7 5.0/9*
*JSN **13** 05:18:02.3±1.0, 18°.58N×72°.89W, h0km±999km, MD5.2*
*SZGRF **13** 05:18:05.4, 18°.77N×72°.45W, h15km, mb5.4, Haiti region*
ISC 13 05:18:01.5±0.3, 18°.36N±0°.04×72°.86W±0°.04, h6km, n924, s1ş05/915, mb5.2/232, MS5.0/14, 234C-182D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.62**	**67**	*e*Pn		**Pn**	**Pn**	**05 18 29.5**	**-1.1**
SDDR				*e*Sn		**Sb**	**Sb**	**05 18 53.5**	**+1.0**
GTBY	**Guantanamo Bay**	**2.64**	**307**	*e*Pn		**Pn**	**Pn**	**05 18 43.1**	**-1.5**
YHJ	**Yallahs**	**3.48**	**263**	*i* P		**Pn**	**Pn**	**05 18 56.5**	**+0.2**
YHJ	**Yallahs**	**3.48**	**263**	*i* P		**Pn**	**Pn**	**05 18 56.5**	**+0.2**
GRTK	**Grand Turk**	**3.54**	**27**	*e*Pn		**Pn**	**Pn**	**05 18 56.7**	**-0.2**
GWJ	**Greenwich**	**3.69**	**266**	*i* P		**Pn**	**Pn**	**05 18 59.5**	**+0.3**
GWJ	**Greenwich**	**3.69**	**266**	*i* P		**Pn**	**Pn**	**05 18 59.5**	**+0.3**
HOJ	**Hope**	**3.71**	**265**	*i* P		**Pn**	**Pn**	**05 18 59.8**	**+0.4**
HOJ	**Hope**	**3.71**	**265**	*i* P		**Pn**	**Pn**	**05 18 59.8**	**+0.4**
HOJ	**Hope**	**3.71**	**265**	*i* P		**Pn**	**Pn**	**05 18 59.8**	**+0.4**
STH	**Stony Hill**	**3.76**	**266**	*i* P		**Pn**	**Pn**	**05 18 59.8**	**-0.3**
STH				*i* S		**Sn**	**Sn**	**05 19 45.8**	**+1.0**
STH	**Stony Hill**	**3.76**	**266**	*i* P		**Pn**	**Pn**	**05 18 59.8**	**-0.3**
STH				*i* S		**Sn**	**Sn**	**05 19 43.9**	**-0.9**
STH				*i* S		**Sn**	**Sn**	**05 19 45.8**	**+1.0**
STH	**Stony Hill**	**3.76**	**266**	*i* P		**Pn**	**Pn**	**05 18 59.8**	**-0.3**
STH				*i* S		**Sn**	**Sn**	**05 19 45.8**	**+1.0**
PCJ	**Portland Cotta**	**4.13**	**262**	*i* P		**Pn**	**Pn**	**05 19 06.3**	**+1.1**
PCJ	**Portland Cotta**	**4.13**	**262**	*i* P		**Pn**	**Pn**	**05 19 06.3**	**+1.1**
CVJ	**Coleyville**	**4.44**	**269**	*i* P		**Pn**	**Pn**	**05 19 09.8**	**+0.2**
CVJ	**Coleyville**	**4.44**	**269**	*i* P		**Pn**	**Pn**	**05 19 09.8**	**+0.2**
MTDJ	**Mount Denham**	**4.44**	**269**	*e*Pn		**Pn**	**Pn**	**05 19 09.1**	**-0.5**
MPR	**Mayaguez**	**5.44**	**91**	*e*Pn		Pn	Pn	05 19 27.0	+3.8
CRPR	**Cabo Rojo, PR**	**5.48**	**93**	*e*Pn		**Pn**	**Pn**	**05 19 24.9**	**+1.2**
LSP	**Las Mesas**	**5.49**	**91**	*e*Pn		**Pn**	**Pn**	**05 19 26.4**	**+2.6**
LRS	**Lares**	**5.71**	**90**	Pn		Pn	Pn	**05 19 26.7**	**-0.3**
AOPR	**Arecibo Observ**	**5.80**	**89**	*e*Pn		**Pn**	**Pn**	**05 19 30.7**	**+2.5**
OBIP	**Obispado Ponce**	**5.95**	**92**	*e*Pn		**Pn**	**Pn**	**05 19 31.3**	**+1.1**
CELP	**Cerrillos**	**5.98**	**92**	*e*Pn		**Pn**	**Pn**	**05 19 32.7**	**+2.1**
HUMP	**Col San Antoni**	**6.67**	**91**	*e*Pn		Pn	Pn	05 19 43.8	+3.8
MTP	**Monte Pirata** 251nm,0.8s	**6.95**	**91**	*e*Pn		**Pn**	**Pn**	**05 19 46.6**	**+2.7**
CDVI	**St. Croix**	**7.72**	**93**	*e*Pn		**Pn**	**Pn**	**05 19 54.1**	**-0.5**
SDV	**Santo Domingo**	**9.66**	**167**	*e*Pn		**Pn**	**Pn**	**05 20 21.7**	**+0.4**
ANWB	**Willy Bob** 170nm,0.7s	**10.56**	**92**	*e*Pn		**Pn**	**Pn**	**05 20 35.2**	**+1.7**
MLG	**Mont-d'or**	**10.90**	**100**	*e*P		**Pn**	**Pn**	**05 20 40.6**	**+2.4**
SSG	**Sans Toucher**	**10.92**	**100**	*e*P		**Pn**	**Pn**	**05 20 40.6**	**+2.1**
HMG	**Houelmont**	**10.93**	**101**	*e*P		Pn	Pn	05 20 42.0	+3.5
SCG	**Saint Claude**	**10.93**	**101**	*e*P		**Pn**	**Pn**	**05 20 41.0**	**+2.4**
LKG	**Breislack**	**10.95**	**100**	*e*P		Pn	Pn	05 20 43.5	+4.6
ECG	**Echelle**	**10.95**	**100**	*e*P		**Pn**	**Pn**	**05 20 41.5**	**+2.5**
PHG	**Guadaloupe-2**	**10.97**	**101**	*e*P		**Pn**	**Pn**	**05 20 41.9**	**+2.7**
BCG	**Bois Riant Cap**	**10.98**	**100**	*e*P		**Pn**	**Pn**	**05 20 41.5**	**+2.3**
DOG	**Dongo Capester**	**10.99**	**100**	*e*P		Pn	Pn	05 20 43.8	+4.4
TBG	**Guadaloupe-3**	**11.01**	**101**	*e*P		**Pn**	**Pn**	**05 20 41.8**	**+2.2**
SEG	**Port Louis**	**11.01**	**98**	*e*P		**Pn**	**Pn**	**05 20 41.3**	**+1.6**
BBL	**Barber's Block**	**11.26**	**103**	*e*P		**Pn**	**Pn**	**05 20 45.3**	**+2.3**
BCIP	**Isla Barro Col**	**11.37**	**217**	*e*Pn		**Pn**	**Pn**	**05 20 44.1**	**-0.5**
DEG	**La Desirade**	**11.45**	**98**	*e*P		**Pn**	**Pn**	**05 20 47.1**	**+1.4**
SLB	**Belfond**	**12.22**	**110**	*e*		Pn	Pn	05 21 00.2	+4.0
GRW	**Mount Saint Ca**	**12.44**	**118**	*e*		Pn	Pn	05 21 04.3	+5.1
GRGR	**Grenville** 398nm,0.8s	**12.46**	**118**	*e*Pn		**Pn**	**Pn**	**05 20 59.5**	**+0.1**
TRN	**Trinidad (W)**	**13.48**	**123**	*e*		Pn	Pn	05 21 18.4	+5.0
ROSC	**El Rosal**	**13.49**	**186**	*e*Pn		**Pn**	**Pn**	**05 21 16.0**	**+2.0**
ROSC				Sn		**Sn**	**Sn**	**05 23 46.8**	**+2.2**
ROSC	**El Rosal** 9.1nm,0.3s,baz=45,slow=7.1,SNR=30	**13.49**	**186**	Pn		**Pn**	**Pn**	**05 21 15.9**	**+2.0**
ROSC				Sn		**Sn**	**Sn**	**05 23 46.8**	**+2.2**
	3.2nm,0.3s,baz=18,slow=20,SNR=5.2								
TPP	**Pointe-a-Pierr**	**13.63**	**124**	*e*		P		05 21 20.6	-4.0
TPR	**Prospect**	**13.68**	**120**	*e*		P		05 21 21.7	-3.4
BOT	**Bacolet**	**13.74**	**120**	*e*		**P**		**05 21 23.6**	**-2.1**
TBH	**Brigand Hill**	**13.84**	**123**	*e*		**P**		**05 21 25.8**	**-1.1**
JTS	**JuntasAbangare** 633nm,1.1s,SNR=5.0	**14.19**	**237**	Pn		P		05 21 27.3	-3.5
JTS	**JuntasAbangare**	**14.19**	**237**	Pn		**Pn**		**05 21 24.5**	**+1.3**
JTS	**JuntasAbangare** 1.3nm,0.3s,baz=48,slow=17,SNR=2.5	**14.19**	**237**	Pn		**Pn**		**05 21 24.5**	**+1.3**
JTS						LR	LR	05 26 12.6	
	comp=Z,1µm,20.4s,baz=20,slow=35								

TEIG Tepich 14.67 280 *e*Pn **Pn 05 21 30.4 +0.6**
TEIG Sn Sn 05 24 05.2 -7.6
TEIG Tepich 14.67 280 Pn **Pn 05 21 30.3 +0.6**
4.5nm,0.3s,baz=345,slow=23,SNR=9.8
TEIG Sn Sn 05 24 05.2 -7.6
baz=330,slow=20,SNR=1.9
BBSR BB Station 15.78 26 *e*Pn **Pn 05 21 42.0 -2.2**
100nm,0.6s
RGRS Roger Stewart 15.92 337 *e*P **P 05 21 50.5 +0.6**
NHSC New Hope 16.09 337 *e*Pn **P 05 21 50.3 -1.4**
360nm,1.4s
TIGA Tifton 16.25 325 *e*Pn **Pn 05 21 47.8 -2.6**
265nm,1.3s
APG El Apazote 17.19 261 Pn **Pn 05 22 03.1 +0.5**
APG El Apazote 17.19 261 Pn **Pn 05 22 03.1 +0.5**
0.8nm,0.3s,baz=64,slow=12,SNR=8.5
JSC Jenkinsville 17.54 336 *e*P **Pn 05 22 05.7 -1.0**
JSC Jenkinsville 17.54 336 *e*Pn **Pn 05 22 05.7 -1.0**
KMSC Kings Mountain 18.34 337 *e*Pn **Pn 05 22 14.2 -2.3**
50nm,0.9s
KMSC Kings Mountain 18.34 337 ⇓P **Pn 05 22 15.4 -1.1**
baz=18,SNR=7.3
OTAV Otavalo 18.82 198 *e*Pn **Pn 05 22 24.9 +1.9**
613nm,1.8s
TKL Tuckaleechee C 19.76 333 P **P 05 22 32.2 0.0**
TKL *e*Pn **Pn 05 22 33.2 -0.5**
TKL S S 05 26 03.2 -12
TKL Tuckaleechee C 19.76 333 P **P 05 22 32.2 0.0**
0.5nm,0.3s,baz=154,slow=10,SNR=7.1
TKL S S 05 26 03.2 -12
1.3nm,0.3s,baz=57,slow=18,SNR=4.5
TKL LR LR 05 30 44.2
comp=Z,4µm,18.4s,baz=138,slow=39
JSRW J. Sargeant Re 19.76 348 *e*P **P 05 22 31.8 -0.4**
CPCT Cooper Cave 19.92 331 *e*Pn **Pn 05 22 36.0 +0.4**
BLA Blacksburg 19.92 342 *e*P **P 05 22 34.7 +0.6**
BLA pmax pmax
comp=Z,95nm,0.8s
BLA Blacksburg 19.92 342 *e*P **P 05 22 34.7 +0.6**
comp=Z,95nm,0.8s
CBN Corbin 20.16 350 *e*P Pn 05 22 38.2 -0.3
comp=Z,105nm,0.5s
SWET Sewanee 20.41 328 *e*Pn Pn 05 22 42.3 +0.8
comp=Z,412nm,1.9s
TZTN Tazewell 20.42 335 *e*P Pn 05 22 40.7 -0.9
comp=Z,490nm,1.7s
VBMS Vicksburg 21.06 314 *e*Pn **P 05 22 47.8 +1.4**
comp=Z,564nm,1.8s
SDMD Soldier's Deli 21.26 351 *e*P **P 05 22 48.3 -0.2**
comp=Z,471nm,1.8s
MVL Millersville 21.78 353 *e*P **P 05 22 54.9 +0.9**
comp=Z,148nm,1.4s
OXF Oxford 21.82 321 *e*P **P 05 22 55.7 +1.1**
OXF pmax pmax
comp=Z,135nm,1.1s
OXF Oxford 21.82 321 *e*P **P 05 22 55.7 +1.1**
comp=Z,135nm,1.1s
BRNJ Basking Ridge 22.30 357 *e*P **P 05 23 01.5 +1.9**
comp=Z,510nm,1.5s
CPNY Central Park 22.38 358 *e*P **P 05 23 03.6 +3.2**
comp=Z,394nm,1.6s
PAL Palisades 22.59 358 *e*P **P 05 23 04.8 +2.1**
PAL pmax pmax
comp=Z,219nm,1.5s
PAL Palisades 22.59 358 *e*P **P 05 23 04.8 +2.1**
comp=Z,219nm,1.5s
ODNJ Ogdensburg 22.70 357 *e*P **P 05 23 04.3 +0.5**
comp=Z,113nm,1.1s
UTMT University of 22.81 325 *e*P **P 05 23 05.8 +0.6**
comp=Z,229nm,1.2s
PTGA Pitinga 22.82 145 *e*P **P 05 23 05.8 +0.4**
PTGA Pitinga 22.82 145 P **P 05 23 05.6 +0.3**
comp=Z,36nm,0.9s,baz=336,slow=10,SNR=14
WCI Wyandotte Cave 23.01 332 *e*P **P 05 23 08.8 +1.6**
WCI pmax pmax
comp=Z,110nm,1.3s
WCI Wyandotte Cave 23.01 332 *e*P **P 05 23 08.8 +1.6**
comp=Z,110nm,1.3s
KSPA Keystone Colle 23.26 354 *e*P **P 05 23 11.7 +2.0**
USIN University of 23.44 329 *e*P **P 05 23 14.3 +2.8**
comp=Z,225nm,1.4s
ACSO Alum Creek Sta 23.48 340 *e*P **P 05 23 13.7 +1.7**
comp=Z,107nm,1.0s
NATX Nacogdoches 23.77 308 *e*P **P 05 23 16.7 +1.8**
comp=Z,244nm,1.5s
HKT Hockley 23.88 303⇑*e*P **P 05 23 16.1 +0.2**
HKT pmax pmax
comp=Z,19nm,0.9s
HKT Hockley 23.88 303 *e*P **P 05 23 16.3 +0.5**
comp=Z,581nm,2.7s
BINY Binghamton 23.91 354 *e*P **P 05 23 16.6 +0.4**
comp=Z,772nm,2.0s
PBMO Poplar Bluff 24.00 323 *e*P **P 05 23 18.1 +1.1**
comp=Z,50nm,1.0s
SIUC Southern Illin 24.02 327 *e*P **P 05 23 17.2 0.0**
comp=Z,129nm,1.1s
ALLY Alegheny Colle 24.04 347 *e*P **P 05 23 18.9 +1.6**
comp=Z,563nm,1.8s
MIAR Mount Ida 24.50 315 *e*P **P 05 23 22.5 +0.9**
MIAR pmax pmax
comp=Z,51nm,1.1s
MIAR Mount Ida 24.50 315 *e*P **P 05 23 22.5 +0.9**
comp=Z,51nm,1.1s
035Z Hargill 24.63 294 P **P 05 23 24.7 +1.8**
baz=25
MMNY Mt. Morris Dam 24.67 351 *e*P **P 05 23 24.9 +1.8**
comp=Z,166nm,1.1s
KVTX Kingsville 24.76 296 *e*P **P 05 23 23.0 -1.0**
comp=Z,89nm,1.1s
035A Encino 24.78 295 P **P 05 23 26.2 +2.0**
baz=25
835A Beeville 24.92 298⇑P **P 05 23 26.2 +0.6**
baz=25,SNR=7.8
ACCN Adirondack Com 24.96 359 *e*P **P 05 23 26.6 +0.9**
comp=Z,975nm,2.8s
SFIN Scholer Farm 25.14 334 *e*P **P 05 23 29.3 +1.9**
SFIN Scholer Farm 25.14 334 ⇓P **P 05 23 29.0 +1.6**
baz=25,SNR=13
635A Leesville 25.24 300 P **P 05 23 28.8 +0.5**
baz=25
535A Dale 25.30 302 ⇓P **P 05 23 29.3 +0.3**
baz=25,SNR=8.0
934A Benavides 25.31 296⇑P **P 05 23 30.2 +1.2**
baz=25,SNR=8.5
034A Hebbronville 25.31 295 ⇓P **P 05 23 29.7 +0.7**
baz=25,SNR=11
834A Tilden 25.48 297⇑P **P 05 23 31.6 +1.0**
baz=26,SNR=15
AAM Ann Arbor 25.58 341 *e*P **P 05 23 31.4 +0.1**
AAM pmax pmax
comp=Z,336nm,1.8s
AAM Ann Arbor 25.58 341 *e*P **P 05 23 31.4 +0.1**
comp=Z,336nm,1.8s
335A Moody 25.67 305 ⇓P **P 05 23 33.1 +0.8**
baz=26,SNR=12
734A La Parita Cree 25.71 299 ⇓P **P 05 23 33.3 +0.6**
baz=26,SNR=12
634A China Grove, S 25.71 300 ⇓P **P 05 23 32.9 +0.3**
baz=26,SNR=5.9
LBNH Lisbon 25.82 2 *e*P **P 05 23 36.3 +2.8**
LBNH pmax pmax
comp=Z,654nm,2.6s
LBNH Lisbon 25.82 2 *e*P **P 05 23 36.3 +2.8**
comp=Z,654nm,2.6s
ATAH Atahualpa 25.91 193 P **P 05 23 35.5 +0.5**
ATAH Atahualpa 25.91 193 P **P 05 23 35.5 +0.5**
comp=Z,20nm,0.9s,baz=4.4,slow=12,SNR=7.4
ATAH LR LR 05 35 39.4
comp=Z,3µm,20.0s,baz=15,slow=41
933A Laredo 25.96 296 ⇓P **P 05 23 35.6 +0.7**
baz=26,SNR=12
WHTX Lake Whitney 26.00 306 ⇓P **P 05 23 35.4 +0.2**
baz=26,SNR=19
534A Blanco 26.03 301 ⇓P **P 05 23 35.6 0.0**
baz=26,SNR=30
434A Burnet 26.15 303 ⇓P **P 05 23 36.4 -0.3**
baz=26,SNR=12
LONY Lake Ozonia 26.23 357 *e*P **P 05 23 39.8 +2.6**
comp=Z,446nm,2.4s
833A Chaparral WMA, 26.25 297⇑P **P 05 23 37.4 -0.2**
baz=26,SNR=25
733A Divot King Ran 26.28 298 P **P 05 23 38.0 +0.2**
baz=26
334A Lometa 26.33 304 ⇓P **P 05 23 38.5 +0.2**
baz=26,SNR=16
FRNY Flat Rock 26.41 359 *e*P **P 05 23 40.0 +1.2**
comp=Z,441nm,2.3s

633A Saathoff Ranch 26.41 300 ⇑P P 05 23 39.4 +0.4
baz=26,SNR=9.4
Z35A Perchaven, San 26.45 309 P P 05 23 40.2 +0.8
baz=26
533A Kerrville 26.50 301 ⇓P P 05 23 39.9 0.0
baz=26,SNR=5.5
234A Clairette 26.52 306 ⇓P P 05 23 39.9 -0.1
baz=26,SNR=8.1
832A Faith Ranch, C 26.73 297 ⇓P P 05 23 41.8 -0.2
baz=27,SNR=21
TUL1 Tulsa 26.77 315 eP P 05 23 42.4 +0.2
comp=Z,84nm,1.1s
TUL1 Tulsa 26.77 315 ⇓P P 05 23 42.3 +0.2
baz=27,SNR=11
433A Art 26.79 302 ⇑P P 05 23 42.0 -0.5
baz=27,SNR=19
732A Laxson Ranch, 26.85 298 ⇓P P 05 23 42.6 -0.4
baz=27,SNR=11
SADO Sadowa 26.86 350 P P 05 23 42.0 -0.8
SADO Sadowa 26.86 350 P P 05 23 42.0 -0.8
comp=Z,9.5nm,1.1s,baz=199,slow=2.6,SNR=2.2
333A Richland Sprin 26.91 304 ⇑P P 05 23 43.2 -0.4
baz=27,SNR=16
632A Uvalde 26.93 299 P P 05 23 44.4 +0.6
baz=27
Z34A Collier Ranch, 26.96 309 P P 05 23 44.1 +0.2
baz=27
Y34A Reagan Ranch, 27.11 310 ⇓P P 05 23 45.5 +0.1
baz=27,SNR=13
233A Rising Star 27.12 305 P P 05 23 45.5 +0.1
baz=27
532A Rocksprings 27.23 301 ⇑P P 05 23 46.1 -0.4
baz=27,SNR=13
JCT Junction City 27.26 301 eP P 05 23 47.0 +0.2
JCT pmax pmax
comp=Z,38nm,1.1s
JCT Junction City 27.26 301 eP P 05 23 47.0 +0.2
comp=Z,38nm,1.1s
JCT Junction City 27.26 301 ⇓P P 05 23 45.6 -1.1
baz=27
133A Hamilton Ranch 27.38 306 ⇓P P 05 23 47.2 -0.5
baz=27
432A Menard 27.39 302 ⇑P P 05 23 47.8 -0.1
baz=27
X34A Smith Ranch, M 27.48 311 ⇓P P 05 23 49.2 +0.5
baz=28,SNR=8.5
332A Millersview 27.54 303 ⇓P P 05 23 49.1 -0.1
baz=28,SNR=13
Z33A Whitaker Ranch 27.55 308 ⇓P P 05 23 49.4 +0.1
baz=28,SNR=6.7
631A Perdido Creek 27.56 299 ⇑P P 05 23 48.5 -0.9
baz=28,SNR=14
232A Coleman 27.65 304 ⇓P P 05 23 50.0 -0.2
baz=28
W34A Bridge Creek, 27.76 312 ⇓P P 05 23 50.8 -0.3
baz=28
531A Rocksprings 27.77 300 ⇓P P 05 23 50.7 -0.6
baz=28
Y33A Hilltop Ranch, 27.77 309 ⇓P P 05 23 51.1 -0.1
baz=28
V34A Guthrie 27.89 314 ⇑P P 05 23 51.8 -0.5
baz=28,SNR=7.4
X33A Lawton 27.93 310 ⇓P P 05 23 52.6 -0.1
baz=28
ABTX Abilene, Hawle 27.94 306 eP P 05 23 53.4 +0.6
ABTX Abilene, Hawle 27.94 306 ⇑P P 05 23 52.4 -0.4
baz=28
431A Sonora 27.99 301 ⇑P P 05 23 52.5 -0.8
baz=28,SNR=8.4
331A San Angelo 28.06 303 ⇑P P 05 23 53.7 -0.1
baz=28,SNR=6.3
Z32A Haskell 28.10 307 ⇑P P 05 23 54.0 -0.2
baz=28,SNR=9.3
231A Bronte 28.20 304 ⇑P P 05 23 54.5 -0.6
baz=28,SNR=8.9
W33A Caddo, Fort Co 28.21 311 ⇑P P 05 23 54.9 -0.2
baz=28
U34A Anderson Ranch 28.23 315 ⇑P P 05 23 55.2 -0.1
baz=28
WMOK Wichita Mounta 28.23 310 eP P 05 23 55.0 -0.4
WMOK pmax pmax
comp=Z,46nm,1.5s
WMOK Wichita Mounta 28.23 310 eP P 05 23 55.0 -0.4
comp=Z,46nm,1.5s
Y32A R-V Farms, Ver 28.38 309 ⇓P P 05 23 56.6 -0.1
baz=28,SNR=8.5
530A J-C Ranch, Com 28.41 300 ⇑P P 05 23 56.6 -0.5
baz=28,SNR=6.7
V33A Lossen Ranch, 28.42 313 ⇑P P 05 23 56.5 -0.6
baz=28
X32A Elmer 28.45 309 ⇓P P 05 23 56.9 -0.4
baz=28,SNR=6.3
430A Baggett Ranch, 28.53 301 ⇓P P 05 23 57.1 -1.1
baz=28
JFWS Jewell Farm 28.57 333 eP P 05 23 59.6 +1.3
JFWS pmax pmax
comp=Z,42nm,0.8s
JFWS Jewell Farm 28.57 333 eP P 05 23 59.6 +1.3
comp=Z,42nm,0.8s
Z31A Sharp Cattle R 28.61 307 ⇑P P 05 23 58.8 0.0
baz=29,SNR=6.4
U33A Lingo Farm, Me 28.62 314 P P 05 23 58.1 -0.7
baz=29
330A Mertzon 28.69 302 ⇓P P 05 23 59.0 -0.5
baz=29,SNR=6.5
W32A Sentinel 28.75 311 ⇑P P 05 23 60.0 0.0
baz=29,SNR=7.6
SAML Samuel 28.76 160 eP P 05 23 59.3 -0.9
comp=Z,6.7nm,0.9s
230A Sterling City 28.81 303 ⇑P P 05 24 00.3 -0.3
baz=29
V32A Arapaho 28.90 312 ⇓P P 05 24 00.8 -0.5
baz=29
130A Snyder 28.95 305 ⇓P P 05 24 01.2 -0.7
baz=29
Y31A Rekieta Farm, 28.97 308 ⇑P P 05 24 01.9 -0.1
baz=29,SNR=5.7
429A Davenport Ranc 29.02 300 ⇓P P 05 24 01.4 -1.1
baz=29
X31A McDonald Ranch 29.06 309 ⇑P P 05 24 02.2 -0.6
baz=29,SNR=5.6
T33A Patterson Ranc 29.06 315 ⇑P P 05 24 02.3 -0.4
baz=29
529A Stev Forest Ra 29.14 299 ⇓P P 05 24 02.6 -0.9
baz=29
KSU1 Kansas State U 29.19 320 eP P 05 24 03.8 -0.1
comp=Z,44nm,0.9s
KSU1 Kansas State U 29.19 320 ⇑P P 05 24 03.7 -0.1
baz=29,SNR=6.9
U32A Winter Ranch, 29.20 313 ⇑P P 05 24 04.0 +0.1
baz=29
W31A Holland Ranch, 29.29 310 ⇓P P 05 24 04.2 -0.5
baz=29
Z30A Sanderson Ranc 29.35 306 ⇓P P 05 24 04.8 -0.6
baz=29
329A Wagon Wheel Ra 29.36 302 ⇓P P 05 24 05.3 -0.2
baz=29,SNR=8.5
229A Bryant Ranch, 29.39 303 ⇓P P 05 24 05.5 -0.3
baz=29,SNR=5.1
Y30A Stafford Cattl 29.41 307 ⇑P P 05 24 06.4 +0.5
baz=29
V31A Spring Creek L 29.49 311 ⇓P P 05 24 07.3 +0.7
baz=30
628A Black Gap, Mar 29.52 298 ⇑P P 05 24 07.2 +0.3
baz=30,SNR=6.2
T32A Huddler Ranch, 29.57 315 ⇓P P 05 24 08.2 +1.0
baz=30
R33A Olander Ranch, 29.57 317 ⇑P P 05 24 07.8 +0.6
baz=30
528A Cox Ranch, San 29.62 299 ⇑P P 05 24 07.5 -0.3
baz=30,SNR=8.7
X30A Coker Ranch, T 29.64 308 ⇓P P 05 24 07.8 -0.1
baz=30,SNR=9.5
428A Kincaid Ranch, 29.70 300 ⇑P P 05 24 09.2 +0.7
baz=30,SNR=20
Z29A Hungry Hill Ra 29.79 306 ⇓P P 05 24 08.9 -0.4
baz=30,SNR=12
Q33A Connelly Farm, 29.88 319 ⇓P P 05 24 10.7 +0.7
baz=30,SNR=13
627A Terlingua Ranc 29.93 297 P P 05 24 10.8 +0.2
baz=30
Y29A Porterfield Fa 29.99 307 ⇑P P 05 24 11.4 +0.3
baz=30,SNR=12
328A Wristen Ranch, 30.00 301 ⇓P P 05 24 10.7 -0.5
baz=30
T31A Randall Ranch, 30.04 314 ⇓P P 05 24 11.8 +0.4
baz=30
228A UT Block 9, Go 30.07 303 ⇑P P 05 24 11.9 +0.2
baz=30
R32A Long Quarter, 30.11 317 ⇓P P 05 24 11.8 -0.2
baz=30
TXAR Lajitas Array 30.13 297 P P 05 24 11.9 -0.5
TXAR PcP PcP 05 27 13.6 -0.4
TXAR Lajitas Array 30.13 297 P P 05 24 11.9 -0.5
comp=Z,3.5nm,0.9s,baz=115,slow=7.8,SNR=21
TXAR PcP PcP 05 27 13.6 -0.4
comp=Z,1.3nm,0.7s,baz=107,slow=3.0,SNR=5.2
128A Castleberry Fa 30.16 304 ⇓P P 05 24 12.5 0.0
baz=30,SNR=14
S31A Mullinville 30.18 315 ⇓P P 05 24 13.1 +0.4
baz=30
X29A Tulia 30.25 308 ⇑P P 05 24 13.1 -0.3
baz=30,SNR=7.2
527A Woodward Ranch 30.30 299 ⇓P P 05 24 14.0 +0.1
baz=30,SNR=11
427A Hayter Ranch, 30.32 300 ⇓P P 05 24 13.8 -0.3
baz=30,SNR=13
Z28A Tucker Farm, M 30.32 305 ⇓P P 05 24 13.8 -0.3
baz=30
Q32A Meitler Ranch, 30.34 318 ⇓P P 05 24 13.7 -0.3
baz=30,SNR=5.1
AMTX Amarillo 30.43 309 eP P 05 24 14.7 -0.2
comp=Z,22nm,1.0s
AMTX Amarillo 30.43 309 ⇑P P 05 24 14.4 -0.5
baz=30
U30A WK&E Inc. Balk 30.43 312 ⇑P P 05 24 15.2 +0.3
baz=30,SNR=5.1
Y28A McKinney Farm, 30.45 306 ⇑P P 05 24 14.4 -0.7
baz=30,SNR=7.3
R31A Burdett 30.57 316 ⇓P P 05 24 15.7 -0.4
baz=31
626A Big Bend Ranch 30.58 297 ⇓P P 05 24 16.5 +0.1
baz=31
227A Bennet, Jal 30.59 302 ⇑P P 05 24 15.8 -0.6
baz=31
T30A Plains 30.60 313 ⇓P P 05 24 16.6 +0.2
baz=31
X28A Dimmitt 30.66 308 ⇑P P 05 24 16.9 -0.1
baz=31
526A Mary Lane Ranc 30.67 298 ⇓P P 05 24 17.2 0.0
baz=31,SNR=16
P32A Huiting Farm, 30.73 319 ⇓P P 05 24 18.1 +0.6
baz=31
V29A Stinnett 30.74 310 ⇑P P 05 24 18.3 +0.6
baz=31
426A McDonald Obser 30.79 299 ⇓P P 05 24 18.1 -0.2
baz=31,SNR=10.0
S30A Montezuma 30.85 314 ⇓P P 05 24 19.0 +0.4
baz=31,SNR=5.1
127A Arkansas Junct 30.87 303 ⇑P P 05 24 18.6 -0.2
baz=31
Q31A Ellis 30.88 317 ⇑P P 05 24 18.8 0.0
baz=31
MSTX Muleshoe 30.88 306 eP P 05 24 19.2 +0.2
comp=Z,19nm,0.8s
MSTX Muleshoe 30.88 306 ⇑P P 05 24 18.9 0.0
baz=31
O32A Brockman Farm, 30.91 320 ⇓P P 05 24 19.6 +0.5
baz=31
326A Caldwell Ranch 30.93 301 ⇓P P 05 24 18.8 -0.7
baz=31
Z27A Tatum 30.98 305 ⇓P P 05 24 19.0 -0.8
baz=31,SNR=8.0
R30A Dighton 31.06 315 ⇑P P 05 24 21.1 +0.7
baz=31,SNR=7.7
Y27A Causey 31.15 306 ⇑P P 05 24 20.8 -0.6
baz=31
P31A Stockton 31.16 318 ⇓P P 05 24 21.7 +0.4
baz=31
T29A Hugoton 31.18 313 ⇓P P 05 24 22.1 +0.6
baz=31
V28A Channing 31.20 310 ⇑P P 05 24 22.3 +0.6
baz=31
S29A Ulysses 31.29 314 ⇓P P 05 24 23.0 +0.5
baz=31,SNR=7.2
226B Tecolote Peak, 31.32 302 ⇓P P 05 24 23.3 +0.5
baz=31
126A Clayton Basin, 31.38 303 ⇓P P 05 24 23.5 +0.1
baz=31
Q30A Quinter 31.40 317 ⇓P P 05 24 24.1 +0.7
baz=31,SNR=7.2
U28A Mallet 31.48 311 ⇑P P 05 24 24.3 +0.1
baz=32
O31A Woolen Ranch, 31.49 319 ⇑P P 05 24 24.9 +0.7
baz=32
GDL2 Guadalupe Moun 31.51 302 eP P 05 24 25.0 +0.4
comp=Z,58nm,1.0s
SPMN St. Paul 31.52 333 eP P 05 24 29.6 +5.2
comp=Z,221nm,2.5s
SPMN St. Paul 31.52 333 ⇑P P 05 24 26.0 +1.6
baz=32
W27A Bowe Ranch, En 31.53 308 ⇓P P 05 24 24.6 -0.1
baz=32
Z26A Caprock 31.56 304 ⇓P P 05 24 24.3 -0.7
baz=32
425A Indio Mountain 31.61 299 ⇑P P 05 24 25.7 +0.2
baz=32,SNR=10
V27A Dan Oppiter Fa 31.65 309 ⇓P P 05 24 25.9 +0.2
baz=32
P30A Selden 31.73 317 ⇓P P 05 24 26.9 +0.6
baz=32,SNR=12
T28A Walsh 31.74 312 ⇓P P 05 24 26.6 +0.1
baz=32
325A Bean Ranch, Si 31.76 300 ⇓P P 05 24 27.1 +0.2
baz=32,SNR=22
S28A Manter 31.82 313 ⇓P P 05 24 27.1 -0.1
baz=32
Q29A Oakley 31.85 316 ⇑P P 05 24 27.4 0.0
baz=32,SNR=13
225A Deer Hill, Car 31.86 302 ⇓P P 05 24 27.9 +0.2
baz=32,SNR=16
125A Gardner Draw, 31.89 303 ⇑P P 05 24 27.8 -0.2
baz=32,SNR=12
X26A CR and CF Fran 31.89 307 ⇓P P 05 24 27.9 -0.1
baz=32
U27A Thompson Grove 31.93 310 ⇑P P 05 24 28.1 -0.1
baz=32
O30A MW Ranch, Wils 31.96 319 ⇓P P 05 24 28.6 +0.3
baz=32
M31A Lambtecht Ranc 32.00 321 ⇓P P 05 24 29.1 +0.5
baz=32
W26A Owens Ranch, T 32.07 308 ⇑P P 05 24 29.0 -0.4
baz=32
R28A Tribune 32.13 314 ⇓P P 05 24 30.1 +0.2
baz=32,SNR=13
T27A Campo 32.15 312 ⇓P P 05 24 29.3 -0.8
baz=32
Z25A Roswell 32.15 304 ⇓P P 05 24 30.2 +0.1
baz=32,SNR=15
MNTX Cornudas Mount 32.19 301 eP P 05 24 30.2 -0.2
comp=Z,32nm,1.2s
324A Moseley Ranch, 32.20 300 ⇑P P 05 24 30.7 0.0
baz=32,SNR=28
P29A Atwood 32.20 317 ⇑P P 05 24 30.8 +0.3
baz=32
ECSD EROS Data Cent 32.25 327 eP P 05 24 30.1 -0.7
comp=Z,191nm,2.7s
ECSD EROS Data Cent 32.25 327 ⇑P P 05 24 30.7 -0.1
baz=32
Y25A Mesa, Roswell 32.35 305 ⇑P P 05 24 31.7 -0.3
baz=32
V26A Tequesquite Ra 32.37 309 ⇑P P 05 24 32.3 +0.2
baz=32,SNR=5.6
O29A 4D Ranch, Culb 32.40 318 ⇑P P 05 24 32.2 0.0
baz=32
224A Cornudas Mount 32.41 301 ⇓P P 05 24 32.8 +0.2
baz=32,SNR=24
L31A Butterfield Fa 32.43 323 ⇑P P 05 24 32.7 +0.3
baz=32
Q28A Sharon Springs 32.51 315 ⇓P P 05 24 33.3 +0.1
baz=32
X25A Clemmons Ranch 32.54 306 ⇑P P 05 24 33.7 +0.1
baz=32
124A Stringfield Ra 32.55 302 ⇑P P 05 24 34.2 +0.4
baz=32,SNR=21
U26A Atchley Ranch, 32.59 310 ⇓P P 05 24 34.5 +0.4
baz=33,SNR=9.8
W25A X Bar L Ranch, 32.64 307 ⇓P P 05 24 34.9 +0.4
baz=33,SNR=6.8
M30A Dale-Ortello V 32.65 321 ⇑P P 05 24 34.5 +0.2
baz=33
Z24A Sheeppen Canyo 32.67 304 ⇑P P 05 24 35.5 +0.6
baz=33,SNR=18
N29A Votaw Ranch, W 32.69 319 ⇑P P 05 24 34.8 +0.1
baz=33
P28A Saint Francis 32.72 316 ⇓P P 05 24 35.1 0.0
baz=33,SNR=5.4
R27A Eads 32.77 313 ⇓P P 05 24 35.5 -0.1
baz=33
L30A Spencer Herefo 32.80 322 ⇑P P 05 24 36.4 +0.7
baz=33
T26A Comanche Natio 32.82 311 ⇑P P 05 24 35.7 -0.4
baz=33
Y24A Capitan 32.93 305 ⇑P P 05 24 37.8 +0.8
baz=33,SNR=24
V25A Rancho No Teng 33.00 308 ⇓P P 05 24 38.3 +0.6
baz=33,SNR=14
KSCO Kaye Shedlock' 33.01 315 ⇑P P 05 24 37.8 +0.1
baz=33
O28A Krutsinger Ran 33.03 317 ⇑P P 05 24 38.2 +0.4
baz=33
U25A Circle Dot Ran 33.08 309 ⇓P P 05 24 38.6 +0.3
baz=33
M29A Burnside Ranch 33.09 320 ⇓P P 05 24 39.2 +1.0
baz=33
X24A Lazy VL Ranch, 33.15 306 ⇓P P 05 24 40.0 +1.0
baz=33
123A Bell Site, Whi 33.17 302 ⇓P P 05 24 40.3 +1.1
baz=33
N28A Pribbeno Ranch 33.19 318 ⇓P P 05 24 39.4 +0.3
baz=33
K30A Basset 33.19 323 ⇑P P 05 24 39.4 +0.4
baz=33
EYMN Ely 33.20 337 eP P 05 24 42.2 +3.2
comp=Z,31nm,0.9s
R26A Arlington 33.23 313 ⇓P P 05 24 40.0 +0.5
baz=33
P27A Ficken Ranch, 33.26 316 ⇑P P 05 24 40.1 +0.3
baz=33
Z23A Rita Site, Whi 33.34 303 ⇑P P 05 24 41.3 +0.7
baz=33,SNR=7.1
W24A Lazy 6 Ranch, 33.36 307 ⇓P P 05 24 41.9 +1.0
baz=33,SNR=8.7
T25A Trinidad 33.39 311 ⇓P P 05 24 42.0 +0.9
baz=33,SNR=8.7
Y23A Lovelace Mesa, 33.41 304 ⇑P P 05 24 41.9 +0.6
baz=33,SNR=18
V24A Rampart Ranch, 33.45 308 ⇓P P 05 24 42.5 +0.8
baz=34
M28A Bar X Bar Ranc 33.48 319 ⇑P P 05 24 42.7 +1.1
baz=34
J30A Dallas 33.53 324 ⇑P P 05 24 43.6 +1.5
baz=34
Q26A Hugo 33.58 314 ⇓P P 05 24 43.7 +1.1
baz=34
S25A Robets Cordova 33.63 311 ⇓P P 05 24 43.8 +0.6
baz=34,SNR=6.0
U24A Moreno Valley 33.72 309 ⇓P P 05 24 44.7 +0.6
baz=34
R25A Fountain Ranch 33.74 312 ⇓P P 05 24 44.4 +0.3
baz=34
W23A Werner Place, 33.91 306 ⇓P P 05 24 46.4 +0.7
baz=34,SNR=12
Z22A Elephant Butte 33.92 303 ⇑P P 05 24 46.3 +0.6
baz=34
BNM Barren Site 33.94 304 eP P 05 24 46.2 +0.3
comp=Z,23nm,1.0s
LPM Los Pinos Moun 33.99 305 eP P 05 24 47.2 +0.8
J29A Okreek 34.05 323 ⇑P P 05 24 47.2 +0.6
baz=34
T24B San Luis 34.06 310 ⇑P P 05 24 47.6 +0.5
baz=34,SNR=7.6
ANMO Albuquerque 34.07 306 eP P 05 24 46.8 -0.3
ANMO Albuquerque 34.07 306 P P 05 24 46.5 -0.6
comp=Z,3.2nm,0.8s,baz=121,slow=11,SNR=11
Q25A Bedland, Calha 34.07 314 ⇑P P 05 24 47.1 +0.1
baz=34
O26A Horse Wrangler 34.09 316 ⇓P P 05 24 47.7 +0.6
baz=34
V23A Ortiz Mt. (NFS 34.14 307 ⇓P P 05 24 48.7 +1.0
baz=34,SNR=5.8
S24A Houchin Ranch, 34.18 311 ⇓P P 05 24 48.7 +0.6
baz=34
LENM Lemitar 34.21 304 eP P 05 24 49.1 +0.8
221A Mesquite Ranch 34.24 300 ⇑P P 05 24 49.4 +0.9
baz=34
K28A Ten Mile Ranch 34.24 321 P P 05 24 48.3 +0.1
baz=34
P25A Willow Gulch B 34.30 314 ⇑P P 05 24 49.7 +0.8
baz=34
N26A Koester Ranch, 34.34 317 ⇑P P 05 24 50.1 +0.9
baz=34
R24A Sanders Place, 34.36 312 ⇑P P 05 24 49.8 +0.3
baz=34
U23A El Rito 34.37 308 ⇑P P 05 24 50.4 +0.8
baz=34,SNR=11
121A Cookes Peak, D 34.38 301 eP P 05 24 50.5 +0.8
comp=Z,28nm,1.0s
121A Cookes Peak, D 34.38 301 ⇓P P 05 24 50.9 +1.1
baz=34,SNR=11
LAZ Ladron 34.42 305 eP P 05 24 50.2 +0.2
comp=Z,22nm,1.4s
I29A Vivian Onida 34.43 324 ⇓P P 05 24 51.0 +1.1
baz=34
SDCO Great Sand Dun 34.43 311 eP P 05 24 49.8 -0.5
comp=Z,20nm,1.2s
T23A Casias Ranch, 34.53 309 ⇑P P 05 24 51.3 +0.3
baz=34,SNR=5.4
ARE Arequipa 34.63 178 eP P 05 24 51.0 -1.0
ARE Arequipa 34.63 178 eP P 05 24 51.0 -1.0
320A Kipp Ranch, An 34.69 299 ⇑P P 05 24 52.8 +0.4
baz=35
Q24A Divide 34.72 313 ⇓P P 05 24 52.5 -0.2
baz=35,SNR=5.0
LPAZ La Paz 34.74 172 eP P 05 24 53.4 0.0
LPAZ La Paz 34.74 172 P P 05 24 53.1 -0.2
comp=Z,7.3nm,0.9s,baz=355,slow=6.6,SNR=14
K27A Flueckinger Fa 34.76 321 ⇓P P 05 24 53.1 +0.3
baz=35
V22A San Miguel Ran 34.76 307 ⇓P P 05 24 53.6 +0.6
baz=35,SNR=11
S23A Nye Farm, Mont 34.78 311 ⇑P P 05 24 53.2 +0.1
baz=35
P24A Kohler Place, 34.81 314 ⇑P P 05 24 53.5 +0.1
baz=35
R23A Moffat 34.85 311 ⇑P P 05 24 53.9 0.0
baz=35,SNR=8.6
U22A Llaves 34.88 308 ⇓P P 05 24 55.1 +1.0
baz=35,SNR=13
I28A Midland 34.90 323 ⇓P P 05 24 53.5 -0.4
baz=35
M25A Palm-Egli Farm 35.19 317 ⇓P P 05 24 56.5 -0.1
baz=35
O24A Longmont 35.20 315 ⇑P P 05 24 56.7 -0.1
baz=35
AGMN Agassiz Nation 35.24 333 eP P 05 24 58.7 +2.0
comp=Z,36nm,1.2s
AGMN Agassiz Nation 35.24 333 ⇓P P 05 24 57.9 +1.2
baz=35
LPIG La Paz 35.30 286 P P 05 24 57.8 +0.3
LPIG La Paz 35.30 286 P P 05 24 57.8 +0.3
comp=Z,9.5nm,0.2s,baz=100,slow=6.1,SNR=3.8
319A Douglas 35.33 299 ⇑P P 05 24 58.7 +0.9
baz=35,SNR=29
S22A 4UR Ranch, Cre 35.39 310 ⇓P P 05 24 58.5 0.0
baz=35
ISCO Idaho Springs 35.42 314 eP P 05 24 59.2 +0.4
ISCO pmax pmax
comp=Z,115nm,2.3s
ISCO Idaho Springs 35.42 314 eP P 05 24 59.2 +0.4
comp=Z,115nm,2.3s
ISCO Idaho Springs 35.42 314 ⇓P P 05 24 58.9 +0.1
baz=35,SNR=7.3
N24A Carr 35.42 316 ⇓P P 05 24 58.3 -0.3
baz=35
G28A Parade 35.44 325 ⇓P P 05 24 58.5 0.0
baz=36
I27A Quinn 35.45 323 ⇑P P 05 24 58.2 -0.5
baz=36
J26A Sides Ranch, S 35.61 321 ⇓P P 05 25 00.0 -0.1
baz=36
M24A Cheyenne 35.70 317 ⇓P P 05 25 00.6 -0.4
baz=36
H27A Howes 35.81 323 ⇑P P 05 25 01.5 -0.2
baz=36
O23A Lake Granby, G 35.82 314 ⇑P P 05 25 01.8 -0.4
baz=36
C30A Mose, Pekin 35.98 330 ⇑P P 05 25 02.8 -0.3
baz=36
SIV San Ignacio 36.05 160 P P 05 25 03.4 -0.6
SIV San Ignacio 36.05 160 P P 05 25 03.4 -0.6
comp=Z,2.1nm,0.8s,baz=13,slow=8.9,SNR=6.0
D29A Pettibone, Tap 36.07 329 ⇑P P 05 25 04.1 +0.2
baz=36

SMCO **Snowmass** 36.09 312 *e*P P 05 25 04.7 0.0
comp=Z,25nm,1.1s
J25A **Sunshine Ranch** 36.09 320 ⇑P P 05 25 04.2 0.0
baz=36
P22A **Eagle** 36.12 313 ⇓P P 05 25 04.5 -0.1
baz=36
N23A **Red Feather La** 36.16 315 ⇓P P 05 25 05.3 +0.3
baz=36
G27A **Dupree** 36.19 325 ⇓P P 05 25 05.9 +1.0
baz=36
H26A **Fairpoint** 36.19 323 ⇑P P 05 25 05.7 +0.6
baz=36
O22A **Kremmling** 36.22 314 ⇑P P 05 25 05.5 -0.2
baz=36
M23A **Laramie** 36.29 316 ⇑P P 05 25 06.0 -0.1
baz=36
K24A **Anderson Ranch** 36.35 319 ⇑P P 05 25 06.8 +0.3
baz=36
I25A **Rochford** 36.40 321 P P 05 25 07.0 0.0
baz=36
MVCO **Mesa Verde** 36.42 308 *e*P P 05 25 07.9 +0.7
comp=Z,12nm,1.0s
MVCO **Mesa Verde** 36.42 308 ⇓P P 05 25 07.5 +0.2
baz=36
B30A **Myrvik Farm, E** 36.45 331 ⇓P P 05 25 07.8 +0.7
baz=36,SNR=11
N22A **Wattenberg Ran** 36.45 315 ⇑P P 05 25 08.1 +0.5
baz=36
F27A **Lemmon** 36.54 325 ⇓P P 05 25 08.6 +0.6
baz=37
L23A **Garrett** 36.60 317 ⇑P P 05 25 08.5 -0.2
baz=37,SNR=10.0
MDND **Maddock** 36.62 329 *e*P P 05 25 11.2 +2.7
comp=Z,120nm,1.3s
E27A **Carson** 36.65 326 ⇑P P 05 25 09.6 +0.6
baz=37
X18A **Snowflake** 36.67 304 ⇓P P 05 25 09.9 +0.5
baz=37,SNR=8.6
H25A **Fruitdale** 36.67 322 ⇑P P 05 25 08.7 -0.4
baz=37
SCHQ **Schefferville** 36.70 6 P P 05 25 07.7 -1.5
SCHQ **Schefferville** 36.70 6 P P 05 25 07.7 -1.5
comp=Z,13nm,0.9s,baz=173,slow=7.6,SNR=6.8
SCHQ LR LR 05 42 06.1
comp=Z,2µm,18.0s,baz=199,slow=39
ULM **Lac du Bonnet** 36.76 335 *e*P P 05 25 10.2 +0.5
ULM **Lac du Bonnet** 36.76 335 P P 05 25 08.5 -1.2
comp=Z,36nm,1.0s,baz=144,slow=7.9,SNR=16
TUC **Tucson** 36.78 300 *e*P P 05 25 10.8 +0.5
TUC pmax pmax
comp=Z,193nm,2.9s
TUC **Tucson** 36.78 300 *e*P P 05 25 10.8 +0.5
comp=Z,193nm,2.9s
A30A **Hoffart Farm,** 36.79 332 ⇓P P 05 25 10.7 +0.7
baz=37,SNR=12
PV01 **Paradox Valley** 36.81 310 *e*P P 05 25 10.5 -0.1
M22A **Cedar Creek Ra** 36.83 316 ⇓P P 05 25 10.6 -0.2
baz=37
I24A **Kuemmerle Ranc** 36.85 321 ⇑P P 05 25 10.7 0.0
baz=37
K23A **Bowen Ranch, D** 36.87 318 ⇓P P 05 25 11.0 0.0
baz=37
F26A **Lodgepole** 36.88 325 ⇑P P 05 25 11.2 +0.3
baz=37
G25A **Newell** 36.90 323 ⇑P P 05 25 10.9 -0.2
baz=37
L22A **Ellis Ranch, M** 37.03 317 ⇓P P 05 25 12.6 +0.2
baz=37
D27A **Center** 37.08 327 ⇓P P 05 25 13.5 +1.0
baz=37
A29A **Manning Farm,** 37.20 331 ⇓P P 05 25 13.9 +0.4
baz=37,SNR=7.5
H24A **Dirks Ranch, A** 37.30 322 ⇑P P 05 25 14.3 -0.2
baz=37
O20A **White River Ci** 37.38 313 *e*P P 05 25 16.9 +1.5
O20A **White River Ci** 37.38 313 ⇓P P 05 25 15.5 +0.1
baz=37
K22A **Casper** 37.39 318 *e*P P 05 25 15.9 +0.5
K22A **Casper** 37.39 318 ⇑P P 05 25 15.4 -0.1
baz=37
B28A **Dugan Ranch, T** 37.40 330 ⇑P P 05 25 16.1 +0.9
baz=38
A28A **Rude Farm, Bot** 37.67 330 ⇑P P 05 25 18.2 +0.6
baz=38
N20A **Spence Gulch,** 37.69 314 ⇓P P 05 25 18.3 +0.2
baz=38
J22A **Midwest** 37.75 319 ⇓P P 05 25 18.1 -0.3
baz=38,SNR=13
X16A **Lo Mia Camp, P** 37.82 303 ⇓P P 05 25 19.7 +0.5
baz=38,SNR=9.3
C26A **Wahner Farm, P** 37.84 328 ⇑P P 05 25 19.6 +0.7
baz=38
K21A **Alcova** 37.85 317 ⇓P P 05 25 19.3 0.0
baz=38,SNR=16
F24A **Ekalaka** 37.87 323 P P 05 25 19.0 -0.4
baz=38
I22A **9 Mile Ranch,** 38.00 319 ⇑P P 05 25 20.7 +0.1
baz=38
G23A **Biddle** 38.05 322 ⇓P P 05 25 20.9 0.0
baz=38
WUAZ **Wupatki** 38.07 305 *e*P P 05 25 22.1 +0.9
comp=Z,57nm,1.8s
WUAZ **Wupatki** 38.07 305 ⇓P P 05 25 21.4 +0.2
baz=38,SNR=9.2
H22A **Clearmont** 38.29 320 P P 05 25 22.6 -0.3
baz=38
J21A **Lysite** 38.32 318 ⇑P P 05 25 23.2 -0.1
baz=38,SNR=11
F23A **Volborg** 38.35 323 ⇑P P 05 25 23.2 -0.2
baz=38
214A **Organ Pipe Nat** 38.39 298 ⇓P P 05 25 24.0 +0.1
baz=38
I21A **Big Trails, Te** 38.46 319 ⇓P P 05 25 23.8 -0.7
baz=38,SNR=13
D24A **Glendive** 38.56 325 ⇑P P 05 25 25.4 +0.3
baz=39
SRU **San Rafael** 38.59 310 *e*P P 05 25 26.4 +0.7
SRU pmax pmax
comp=Z,192nm,3.0s
SRU **San Rafael** 38.59 310 *e*P P 05 25 26.4 +0.7
comp=Z,192nm,3.0s
J20A **Shoshoni** 38.73 318 ⇑P P 05 25 26.5 -0.2
baz=39
F22A **Rosebud** 38.88 322 ⇑P P 05 25 26.7 -1.1
baz=39,SNR=11
Y14A **Wickenburg** 38.97 302 ⇑P P 05 25 28.6 -0.1
baz=39
U15A **North Rim** 39.04 306 ⇓P P 05 25 30.2 +0.6
baz=39,SNR=8.3
I20A **Worland** 39.05 319 ⇓P P 05 25 29.1 -0.3
baz=39
E22A **Miles City** 39.07 323 ⇑P P 05 25 29.1 -0.3
baz=39
A25A **Svangstu Ranch** 39.08 328 ⇑P P 05 25 29.8 +0.4
baz=39
D23A **Lindsay** 39.08 325 ⇑P P 05 25 29.6 +0.1
baz=39
G21A **Lodge Grass** 39.14 321 ⇑P P 05 25 29.5 -0.5
baz=39
TMUT **Trail Mountain** 39.16 310 *e*P P 05 25 31.4 +0.9
comp=Z,34nm,1.3s
J19A **Crowheart** 39.31 317 ⇓P P 05 25 31.2 -0.4
baz=39,SNR=9.2
DGMT **Dagmar** 39.33 327 *e*P P 05 25 33.8 +2.3
comp=Z,498nm,2.5s
LAO **LASA Array** 39.37 323 *e*P P 05 25 31.7 -0.2
comp=Z,324nm,2.8s
PDAR **Pinedale Array** 39.42 316 P P 05 25 31.6 -0.9
PDAR **Pinedale Array** 39.42 316 P P 05 25 31.6 -0.9
comp=Z,2.9nm,0.6s,baz=123,slow=11,SNR=11
C23A **Lambert** 39.44 325 ⇓P P 05 25 33.1 +0.7
baz=40
A24A **Westby** 39.52 328 ⇓P P 05 25 33.9 +0.9
baz=40
DAU **Daniels Canyon** 39.60 312 *e*P P 05 25 34.2 0.0
DAU pmax pmax
comp=Z,24nm,1.2s
DAU **Daniels Canyon** 39.60 312 *e*P P 05 25 34.2 0.0
comp=Z,24nm,1.2s
D22A **Cohagen** 39.60 324 ⇓P P 05 25 34.3 +0.5
baz=40
I19A **Meeteetse** 39.64 318 ⇑P P 05 25 34.4 0.0
baz=40,SNR=9.1
MPU **Maple Canyon** 39.72 311 *e*P P 05 25 35.1 0.0
comp=Z,216nm,2.7s
B23A **Brockton** 39.74 326 ⇑P P 05 25 34.8 -0.2
baz=40
G20A **Bridger** 39.74 320 ⇑P P 05 25 34.6 -0.5
baz=40
C22A **Vida** 39.79 325 ⇓P P 05 25 35.5 +0.1
baz=40
W13A **Hualapai Mount** 39.94 303 ⇑P P 05 25 37.3 +0.3
baz=40,SNR=7.6
H19A **Powell** 39.94 319 ⇓P P 05 25 36.6 -0.2
baz=40
PDMCI **Parker Dam,Lak** 39.96 302 ⇓P P 05 25 36.9 0.0
baz=40
F20A **Billings** 40.00 321 ⇑P P 05 25 37.3 +0.1
baz=40
D21A **La Casta Ranch** 40.02 323 ⇓P P 05 25 37.5 +0.2
baz=40
NLU **North Lily Min** 40.02 311 *e*P P 05 25 37.8 +0.3
comp=Z,89nm,2.2s
CTU **Camp Tracy** 40.06 312 *e*P P 05 25 38.5 +0.7
comp=Z,25nm,1.2s
Y12C **Blythe** 40.16 301 ⇓P P 05 25 38.4 -0.1
baz=40
CCUT **Cedar City** 40.19 307 *e*P P 05 25 39.8 +0.7
comp=Z,171nm,3.0s
GLA **Glamis** 40.27 300 *e*P P 05 25 40.8 +1.2
GLA pmax pmax
comp=Z,15nm,1.7s
GLA **Glamis** 40.27 300 *e*P P 05 25 40.8 +1.2
comp=Z,15nm,1.7s
GLA **Glamis** 40.27 300 ⇑P P 05 25 38.9 -0.6
baz=40
ARUT **Antelope Range** 40.32 307 *e*P P 05 25 39.7 -0.3
ARUT pmax pmax
comp=Z,256nm,1.0s
ARUT **Antelope Range** 40.32 307 *e*P P 05 25 39.7 -0.3
comp=Z,256nm,1.0s
RLMT **Red Lodge** 40.34 320 *e*P P 05 25 39.8 -0.4
comp=Z,17nm,0.8s
E20A **Meyer Farm, Mu** 40.36 322 ⇑P P 05 25 40.0 -0.1
baz=40,SNR=7.3
H18A **Shoshone NF, C** 40.37 319 ⇑P P 05 25 39.9 -0.5
baz=40,SNR=8.9
LOHW **Long Hollow** 40.48 317 *e*P P 05 25 41.3 -0.1
comp=Z,37nm,1.1s
F19A **Roth Farm, Mol** 40.51 321 ⇓P P 05 25 41.3 -0.1
baz=40
REDW **Red Top Meadow** 40.53 316 *e*P P 05 25 41.7 -0.1
comp=Z,179nm,1.9s
A22A **Carney Farms,** 40.55 326 ⇓P P 05 25 42.1 +0.4
baz=41
I17A **Pilgrim Ck.** 40.60 317 ⇑P P 05 25 42.9 +0.5
baz=41,SNR=14
MOOW **Moose Ponds** 40.63 317 *e*P P 05 25 42.4 -0.2
comp=Z,28nm,1.0s
DUG **Dugway** 40.63 311 *e*P P 05 25 42.4 -0.2
DUG pmax pmax
comp=Z,19nm,1.2s
DUG **Dugway** 40.63 311 *e*P P 05 25 42.4 -0.2
comp=Z,19nm,1.2s
DUG **Dugway** 40.63 311 ⇓P P 05 25 42.4 -0.2
baz=41,SNR=11
TPAW **Teton Pass** 40.65 316 *e*P P 05 25 42.8 0.0
comp=Z,24nm,0.8s
D20A **Manuel Ranch,** 40.68 323 ⇓P P 05 25 42.9 +0.2
baz=41
E19A **Rath Farm, Rou** 40.73 322 ⇓P P 05 25 43.8 +0.6
baz=41
FLWY **Flagg Ranch** 40.75 317 *e*P P 05 25 43.6 0.0
comp=Z,373nm,2.6s
IRM **Iron Mountain** 40.75 301 ⇑P P 05 25 44.0 +0.5
baz=41,SNR=14
FXWY **Fox Creek** 40.77 317 *e*P P 05 25 43.4 -0.3
comp=Z,26nm,1.1s
LKWY **Lake** 40.78 318 *e*P P 05 25 44.0 +0.1
LKWY pmax pmax
comp=Z,9.0nm,1.1s
LKWY **Lake** 40.78 318 *e*P P 05 25 44.0 +0.1
comp=Z,9.3nm,1.1s
H17A **Grant Village** 40.81 318 *e*P P 05 25 45.2 +1.1
H17A **Grant Village** 40.81 318 ⇓P P 05 25 44.8 +0.6
baz=41
IMW **Indian Meadow** 40.82 317 *e*P P 05 25 44.6 +0.3
comp=Z,95nm,2.0s
BC3 **Big Chuckawall** 40.90 300 ⇓P P 05 25 44.9 +0.1
baz=41
LVC **Limon Verde** 40.90 174 *e*P P 05 25 44.1 -0.9
comp=Z,19nm,1.0s
LDFC **Landfair** 40.91 303 *e*P P 05 25 47.4 +2.4
comp=Z,36nm,1.1s
C20A **Veseth Ranch,** 40.95 324 ⇑P P 05 25 45.4 +0.4
baz=41
BGU **Big Grassy Mou** 41.05 312 *e*P P 05 25 46.0 0.0
comp=Z,12nm,1.3s
SWSC **Sam W. Stewart** 41.05 299 ⇑P P 05 25 46.0 +0.1
baz=41
A21A **Bergtoll Ranch** 41.08 326 ⇑P P 05 25 46.6 +0.5
baz=41
D19A **Cripps Ranch,** 41.15 322 ⇑P P 05 25 47.2 +0.5
baz=41
HVU **Hansel Valley** 41.18 313 *e*P P 05 25 46.4 -0.7
HVU pmax pmax
comp=Z,111nm,2.2s
HVU **Hansel Valley** 41.18 313 *e*P P 05 25 46.4 -0.7
comp=Z,111nm,2.2s
YMR **Madison River** 41.19 318 *e*P P 05 25 50.0 +2.9
comp=Z,73nm,1.7s
SHPR **Sheep Range** 41.29 305 *e*P P 05 25 49.3 +1.3
GMRC **Granite Mounta** 41.29 302 ⇑P P 05 25 48.3 +0.2
baz=41
B20A **Solberg Farm,** 41.36 325 ⇓P P 05 25 48.8 +0.5
baz=41
BELC **Belle Mtn. Jos** 41.41 301 ⇓P P 05 25 49.0 -0.1
baz=41
C19A **Slack Wire Ran** 41.55 323 ⇑P P 05 25 50.3 +0.4
baz=42
QLMT **Earthquake Lak** 41.56 318 *e*P P 05 25 51.2 +1.0
A20A **Cobblestone Ra** 41.56 325 ⇓P P 05 25 50.9 +1.0
baz=42
MONP **Monument Peak** 41.56 299 ⇓P P 05 25 50.1 -0.3
baz=42
TUQ **Turquoise Moun** 41.64 303 ⇓P P 05 25 51.3 +0.3
baz=42,SNR=7.1
PFO **Pinyon Flat Ob** 41.71 300 *e*P P 05 25 52.4 +0.9
PFO **Pinyon Flat Ob** 41.71 300 P P 05 25 50.6 -0.9
comp=Z,0.9nm,0.6s,baz=148,slow=9.5,SNR=3.1
BDFB **Brasilia** 41.72 143 P P 05 25 51.3 -0.3
BDFB **Brasilia** 41.72 143 P P 05 25 51.3 -0.3
comp=Z,58nm,0.8s,baz=310,slow=9.5,SNR=68
HEC **Hector,Ludlow** 41.84 302 ⇑P P 05 25 52.7 +0.1
baz=42
B19A **Brinkman Farms** 41.88 324 ⇓P P 05 25 53.3 +0.7
baz=42
A19A **Klindworth Far** 42.03 325 ⇓P P 05 25 54.4 +0.6
baz=42
BOZ **Bozeman (W)** 42.05 319 *e*P P 05 25 56.8 +2.6
BOZ pmax pmax
comp=Z,19nm,1.1s
BOZ **Bozeman (W)** 42.05 319 *e*P P 05 25 56.8 +2.6
comp=Z,18nm,1.1s
R11A **Troy Canyon, C** 42.10 307 *e*P P 05 25 55.4 +0.7
R11A **Troy Canyon, C** 42.10 307 ⇑P P 05 25 54.7 0.0
baz=42,SNR=7.3
EGMT **Eagleton** 42.11 323 *e*P P 05 25 55.0 +0.6
comp=Z,264nm,2.6s
EGMT **Eagleton** 42.11 323 ⇓P P 05 25 55.1 +0.6
baz=42
TPNV **Topopah Spring** 42.25 305 *e*P P 05 25 57.4 +1.5
TPNV pmax pmax
comp=Z,23nm,1.1s
TPNV **Topopah Spring** 42.25 305 *e*P P 05 25 57.4 +1.5
comp=Z,23nm,1.1s
TPNV **Topopah Spring** 42.25 305 ⇑P P 05 25 56.7 +0.8
baz=42,SNR=9.4
GSC **Goldstone** 42.32 303 *e*P P 05 25 57.6 +1.2
GSC pmax pmax
comp=Z,13nm,1.7s
GSC **Goldstone** 42.32 303 *e*P P 05 25 57.6 +1.2
comp=Z,13nm,1.7s
GSC **Goldstone** 42.32 303 ⇓P P 05 25 56.9 +0.5
baz=42,SNR=6.3
MURC **Murrieta** 42.32 300 ⇑P P 05 25 56.9 +0.5
baz=42
MCMT **McKenzie Canyo** 42.46 317 *e*P P 05 25 57.9 +0.3
comp=Z,8.7nm,0.9s
DLMT **Dillon** 42.53 318 *e*P P 05 25 58.6 +0.5
comp=Z,31nm,1.3s
ELK **Elko** 42.56 311 *e*P P 05 25 59.2 +0.7
ELK **Elko** 42.56 311 P P 05 25 52.7 -5.8
comp=Z,6.1nm,0.8s,baz=179,slow=2.7,SNR=24
FFC **Flin Flon** 42.58 335 *e*P P 05 25 59.2 +1.0
FFC pmax pmax
comp=Z,15nm,0.9s
FFC **Flin Flon** 42.58 335 *e*P P 05 25 59.1 +1.0
comp=Z,15nm,0.9s
FURC **Furnace Creek,** 42.61 304 ⇓P P 05 25 59.5 +0.8
baz=43,SNR=5.4
HRY **Holter Researc** 42.67 320 *e*P P 05 25 58.7 -0.4
comp=Z,26nm,1.4s
BFSC **Mount Baldy Ra** 42.81 301 ⇓P P 05 26 01.2 +0.8
baz=43
HLID **Hailey** 42.98 315 *e*P P 05 26 01.8 +0.1
comp=Z,18nm,1.1s
HLID **Hailey** 42.98 315 ⇑P P 05 26 01.9 +0.1
baz=43,SNR=11
GRAC **Grapevine Rang** 43.13 305 ⇑P P 05 26 03.9 +0.9
baz=43
EDW2 **Edwards Air Fo** 43.19 302 ⇑P P 05 26 04.0 +0.5
baz=43,SNR=8.1
FCC **Fort Churchill** 43.24 344 *e*P P 05 26 02.9 -0.4
FCC **Fort Churchill** 43.24 344 *e*P P 05 26 02.9 -0.4
TPH **Tonopah** 43.27 306 *e*P P 05 26 05.0 +0.7
TPH pmax pmax
comp=Z,15nm,1.0s
TPH **Tonopah** 43.27 306 *e*P P 05 26 05.0 +0.7
comp=Z,15nm,1.0s
CHMT **Chamberlain Mo** 43.63 320 *e*P P 05 26 07.6 +0.5
RCBR **Riachuelo** 43.66 120 *e*P P 05 26 07.7 +0.2
comp=Z,5.7nm,1.0s
ISA **Isabella** 43.73 303 *e*P P 05 26 09.0 +1.2
ISA pmax pmax
comp=Z,47nm,1.8s
ISA **Isabella** 43.73 303 *e*P P 05 26 09.0 +1.2
comp=Z,47nm,1.8s
ISA **Isabella** 43.73 303 ⇓P P 05 26 08.8 +1.0
baz=44
MFID **Camas Ranch** 43.88 314 *e*P P 05 26 08.8 -0.2
comp=Z,13nm,1.0s
ARVC **Arvin** 43.91 302 ⇓P P 05 26 10.3 +1.0
baz=44
SLMT **Seeley Lake** 43.93 320 *e*P P 05 26 09.6 +0.2
MSO **Missoula** 44.02 320 ⇑P P 05 26 10.9 +0.9
baz=44
NVAR **Mina Array Bea** 44.18 307 P P 05 26 11.8 +0.1
NVAR **Mina Array Bea** 44.18 307 P P 05 26 11.8 +0.1
comp=Z,3.8nm,0.8s,baz=103,slow=7.1,SNR=17
VES **Vestal, Richgr** 44.25 303 ⇑P P 05 26 12.6 +0.7
baz=44
SWMT **Swartz Lake** 44.35 320 *e*P P 05 26 13.4 +0.6
RCTC **Rector, Farmer** 44.46 303 ⇑P P 05 26 14.0 +0.5
baz=44
JTMT **Jette** 44.63 321 *e*P P 05 26 15.6 +0.6
PKM **Peak Mountain** 44.67 301 ⇑P P 05 26 15.1 -0.5
baz=45
BSMT **Bassoo Peak** 44.98 320 *e*P P 05 26 18.2 +0.4
FRB **Frobisher Bay** 45.45 3 P P 05 26 20.0 -1.0
FRB **Frobisher Bay** 45.45 3 P P 05 26 20.0 -1.0
comp=Z,21nm,0.9s,baz=179,slow=8.4,SNR=12
WVOR **Wild Horse Val** 44.51 312 *e*P P 05 26 21.5 -0.5
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR **Wild Horse Val** 44.51 312 *e*P P 05 26 21.5 -0.5
comp=Z,22nm,1.1s
J08A **Circle Bar Ran** 45.68 313 *e*P P 05 26 22.9 -0.4
comp=Z,19nm,1.0s
F10A **Beach Ranch, E** 45.75 317 *e*P P 05 26 23.0 -0.8
comp=Z,227nm,2.8s
E09A **Wood Farm, Sta** 46.54 317 *e*P P 05 26 29.1 -0.8
comp=Z,24nm,1.4s
NEW **Newport** 46.58 320 *e*P P 05 26 23.4 -6.8
comp=Z,32nm,1.4s
NEW **Newport** 46.58 320 P P 05 26 29.7 -0.6
comp=Z,10nm,1.0s,baz=129,slow=6.9,SNR=12
NEW **Newport** 46.58 320 ⇓P P 05 26 30.1 -0.2
baz=47,SNR=6.9
I07A **Izee** 46.61 314 *e*P P 05 26 31.1 +0.5
comp=Z,16nm,1.2s
EDM **Edmonton** 46.81 328 *e*P P 05 26 31.4 -0.6
EDM **Edmonton** 46.81 328 *e*P P 05 26 31.4 -0.6
CPUP **Villa Florida** 46.91 161 P P 05 26 32.6 -0.3
CPUP **Villa Florida** 46.91 161 P P 05 26 32.6 -0.3
comp=Z,1.8nm,0.7s,baz=331,slow=6.5,SNR=3.6
D08A **Wollman Farm,** 47.23 318 *e*P P 05 26 35.0 -0.3
comp=Z,91nm,2.3s
HAWA **Hanford** 47.39 317 *e*P P 05 26 36.9 +0.3
comp=Z,206nm,2.9s
J05D **Fort Rock, OR** 47.58 312 ⇑P P 05 26 37.9 -0.4
baz=48
M04C **Macdoel** 47.62 310 ⇓P P 05 26 38.8 +0.2
baz=48
E07A **Sunnyside** 47.66 317 *e*P P 05 26 38.6 -0.1
comp=Z,28nm,1.4s
G06A **Carlson Farm,** 47.74 315 *e*P P 05 26 39.9 +0.5
comp=Z,184nm,2.3s
YBH **Yreka Blue Hor** 48.24 310 P P 05 26 41.2 -2.2
YBH **Yreka Blue Hor** 48.24 310 P P 05 26 41.2 -2.2
comp=Z,3.9nm,0.8s,baz=74,slow=7.0,SNR=5.8
LTY **Liberty** 48.42 318 *e*P P 05 26 45.1 +0.4
comp=Z,208nm,2.4s
H04A **Detroit Lake** 48.63 314 *e*P P 05 26 47.0 +0.8
comp=Z,30nm,1.0s
LON **Longmire** 48.99 317 *e*P P 05 26 49.1 +0.1
LON pmax pmax
comp=Z,12nm,1.1s
LON **Longmire** 48.99 317 *e*P P 05 26 49.1 +0.1
comp=Z,12nm,1.1s
I03D **Drain, OR** 49.17 312 ⇑P P 05 26 50.8 +0.4
baz=49
CFAA **Coronel Fontan** 49.87 175 P P 05 26 55.6 -0.2
CFAA **Coronel Fontan** 49.87 175 P P 05 26 55.6 -0.2
comp=Z,0.4nm,0.7s,baz=344,slow=7.2,SNR=8.0
SFJD **Kangerlussuaq** 50.70 11 *i* P P 05 27 03.5 +2.0
comp=Z,14nm,0.8s
SFJD **Kangerlussuaq** 50.70 11 P P 05 27 03.6 +2.0
SFJD **Kangerlussuaq** 50.70 11 P P 05 27 03.6 +2.0
comp=Z,12nm,0.7s,baz=221,slow=8.1,SNR=2.9
YKA **Yellowknife Ar** 52.68 337 P P 05 27 15.5 -1.0
YKA **Yellowknife Ar** 52.68 337 P P 05 27 15.5 -1.0
comp=Z,13nm,0.9s,baz=124,slow=6.7,SNR=46
DLBC **Lease Lake** 57.52 328 LR LR 05 53 30.5
comp=Z,3µm,18.8s,baz=112,slow=37
RES **Resolute Bay** 57.61 353 P P 05 27 49.0 -2.8
RES **Resolute Bay** 57.61 353 P P 05 27 49.0 -2.8
comp=Z,15nm,1.0s,baz=188,slow=8.4,SNR=42
SUMG **Summit** 57.69 12 *i* P P 05 27 53.0 +0.1
SUMG pmax pmax
comp=Z,47nm,1.0s
SUMG **Summit** 57.69 12 *i* P P 05 27 53.0 +0.1
comp=Z,47nm,1.0s
SUMG **Summit** 57.69 12 *e*P P 05 27 52.7 -0.3
comp=Z,75nm,1.1s
PLCA **Paso Flores** 58.82 178 P P 05 28 00.6 -0.3
PLCA **Paso Flores** 58.82 178 P P 05 28 00.6 -0.3
comp=Z,8.2nm,0.8s,baz=355,slow=7.2,SNR=12
MESJ **Messejana** 59.12 56 *e*P P 05 28 04.1 +1.1
MESJ **Messejana** 59.12 56 *e*P P 05 28 04.1 +1.1
PGAV **Gavieira, Arco** 59.17 52 *e*P P 05 28 05.0 +1.5
comp=Z,167nm,1.6s
EVOP **Sao Brissos** 59.20 56 *e*P P 05 28 03.7 +0.1
EVOP **Sao Brissos** 59.20 56 *e*P P 05 28 03.7 +0.1
PCVE **Castro Verde** 59.26 57 *e*P P 05 28 05.9 +1.8
comp=Z,90nm,1.9s
EVO **Evora** 59.28 56 *e*P P 05 28 03.7 -0.5
EVO *e*R
comp=Z,2µm,21.0s
EVO **Evora** 59.28 56 *e*P P 05 28 05.4 +1.2
comp=Z,63nm,2.0s
PBDV **Barranco-do-Ve** 59.35 57 *e*P P 05 28 07.0 +2.3
comp=Z,121nm,1.5s
PBEJ **Beja** 59.40 56 *e*P P 05 28 05.1 +0.1
comp=Z,49nm,1.7s
PVIS **Viseu** 59.41 53 *e*P P 05 28 06.6 +1.5
comp=Z,75nm,1.8s
POLO **Lamas de Olo** 59.51 52 *e*P P 05 28 07.5 +1.7
comp=Z,45nm,1.5s
PVAQ **Vaqueiros** 59.52 57 *e*P P 05 28 06.5 +0.7
comp=Z,83nm,1.8s
PVRL **Vila Real** 59.56 52 *e*P P 05 28 06.7 +0.6
comp=Z,128nm,1.7s
PESTR **Estremoz** 59.62 55 *e*P P 05 28 07.7 +1.2
MTE **Manteigas** 59.67 54 *e*P P 05 28 08.1 +1.2
comp=Z,82nm,1.5s
PCBR **Castelo Branco** 59.71 54 *e*P P 05 28 08.3 +1.2
comp=Z,82nm,1.8s
PMRV **Marv??o** 59.77 55 *e*P P 05 28 08.3 +0.7
comp=Z,77nm,1.7s
MVO **Moncorvo** 60.08 53 *e*P P 05 28 10.6 +0.9
comp=Z,59nm,1.3s
SCO **Scoresbysund** 60.26 17 *i* P P 05 28 11.8 +1.5

SCO pmax pmax
comp=Z,5.0nm,0.8s
SCO Scoresbysund 60.26 17 *i* P **P 05 28 11.8 +1.5**
comp=Z,5.3nm,0.8s
PAB San Pablo 62.13 54 *eP* **P 05 28 25.0 +1.3**
PAB San Pablo 62.13 54 *eP* **P 05 28 24.9 +1.3**
INK Inuvik 62.38 339 *eP* **P 05 28 23.4 -1.3**
ESDC Sonseca Array 62.42 54 P **P 05 28 25.1 -0.5**
ESDC Sonseca Array 62.42 54 P **P 05 28 25.1 -0.5**
comp=Z,11nm,0.9s,baz=274,slow=6.8,SNR=20
ESDC LR LR 05 53 50.2
comp=Z,788nm,18.0s,baz=270,slow=34
ROSF Rostrenen 62.99 45 *eP* **P 05 28 28.8 -0.3**
comp=Z,206nm,1.5s
ROSF Rostrenen 62.99 45 *eP* **P 05 28 28.8 -0.3**
ROSF pmax pmax
comp=Z,206nm,1.5s
ROSF Rostrenen 62.99 45 *eP* **P 05 28 28.8 -0.3**
comp=Z,206nm,1.5s
QUIF Quistinic 63.04 45⇑ *iP* **P 05 28 30.4 +0.9**
comp=Z,357nm,1.6s
QUIF Quistinic 63.04 45⇑ *iP* **P 05 28 30.4 +0.9**
QUIF pmax pmax
comp=Z,357nm,1.6s
QUIF Quistinic 63.04 45⇑ *iP* **P 05 28 30.4 +0.9**
comp=Z,357nm,1.6s
SGMF Saint Gilles 63.46 45 *eP* **P 05 28 33.8 +1.5**
comp=Z,265nm,1.6s
SGMF Saint Gilles 63.46 45 *eP* **P 05 28 33.8 +1.5**
SGMF pmax pmax
comp=Z,265nm,1.6s
SGMF Saint Gilles 63.46 45 *eP* **P 05 28 33.8 +1.5**
comp=Z,265nm,1.6s
EGAK Eagle 64.32 334 *eP* **P 05 28 37.5 -0.2**
comp=Z,18nm,1.0s
ALE Alert 64.34 2 P **P 05 28 38.8 +1.2**
comp=Z,150nm,0.8s,SNR=7.0
DAG Danmarks Havn 64.37 12 *i* P **P 05 28 39.0 +1.2**
DAG pmax pmax
comp=Z,20nm,1.0s
DAG Danmarks Havn 64.37 12 *i* P **P 05 28 39.0 +1.2**
comp=Z,20nm,1.0s
SJPF Ste Jean 64.39 50⇑ *iP* **P 05 28 39.9 +1.4**
comp=Z,103nm,1.1s
SJPF Ste Jean 64.39 50⇑ *iP* **P 05 28 39.9 +1.4**
SJPF pmax pmax
comp=Z,103nm,1.1s
SJPF Ste Jean 64.39 50⇑ *iP* **P 05 28 39.9 +1.4**
comp=Z,103nm,1.1s
GRR Gorron 64.60 45 *eP* **P 05 28 40.4 +0.6**
GRR Gorron 64.60 45 *eP* **P 05 28 40.4 +0.6**
GRR Gorron 64.60 45 *eP* **P 05 28 40.4 +0.6**
FLN La Foliniere 64.85 44 *eP* **P 05 28 42.1 +0.7**
comp=Z,42nm,0.8s,baz=280
FLN *eR*
comp=Z,2µm,22.8s
FLN La Foliniere 64.85 44 *eP* **P 05 28 42.1 +0.7**
FLN pmax pmax
comp=Z,42nm,0.8s
FLN La Foliniere 64.85 44 *eP* **P 05 28 42.1 +0.7**
comp=Z,42nm,0.8s
ETSF Etsaut 64.88 51 *eP* **P 05 28 43.0 +1.2**
comp=Z,66nm,1.1s
ETSF Etsaut 64.88 51 *eP* **P 05 28 43.0 +1.2**
ETSF pmax pmax
comp=Z,66nm,1.1s
ETSF Etsaut 64.88 51 *eP* **P 05 28 43.0 +1.2**
comp=Z,66nm,1.1s
MFF Saint Martin d 65.08 47⇑ *iP* **P 05 28 43.9 +0.9**
comp=Z,75nm,0.9s
MFF Saint Martin d 65.08 47⇑ *iP* **P 05 28 43.9 +0.9**
MFF pmax pmax
comp=Z,75nm,0.9s
MFF Saint Martin d 65.08 47⇑ *iP* **P 05 28 43.9 +0.9**
comp=Z,75nm,0.9s
LDF La Druitiere 65.09 44 *eP* **P 05 28 43.7 +0.7**
comp=Z,23nm,0.6s
LDF La Druitiere 65.09 44 *eP* **P 05 28 43.7 +0.7**
LDF pmax pmax
comp=Z,23nm,0.6s
LDF La Druitiere 65.09 44 *eP* **P 05 28 43.7 +0.7**
comp=Z,23nm,0.6s
BMRM Bremner River 65.27 329 *eP* **P 05 28 45.5 +1.5**
EPF Esparros 65.54 50⇑ *iP* **P 05 28 47.3 +1.2**
comp=Z,132nm,1.2s
EPF Esparros 65.54 50⇑ *iP* **P 05 28 47.3 +1.2**
EPF pmax pmax
comp=Z,132nm,1.3s
EPF Esparros 65.54 50⇑ *iP* **P 05 28 47.3 +1.2**
comp=Z,132nm,1.3s
LFF La Frestale 65.75 48⇑ *iP* **P 05 28 48.0 +0.7**
LFF La Frestale 65.75 48⇑ *iP* **P 05 28 48.0 +0.7**
LFF La Frestale 65.75 48⇑ *iP* **P 05 28 48.0 +0.7**
DIV Divide 65.85 329 *eP* **P 05 28 48.2 +0.4**
comp=Z,40nm,1.0s
PAX Paxson 65.91 331 *eP* **P 05 28 48.8 +0.6**
PAX pmax pmax
comp=Z,81nm,1.6s
PAX Paxson 65.91 331 *eP* **P 05 28 48.8 +0.6**
comp=Z,82nm,1.6s
RJF Les Rejaudoux 66.28 48⇑ *iP* **P 05 28 51.3 +0.6**
comp=Z,36nm,1.0s
RJF *eR*
comp=Z,2µm,20.5s
RJF Les Rejaudoux 66.28 48⇑ *iP* **P 05 28 51.3 +0.6**
RJF pmax pmax
comp=Z,36nm,1.0s
RJF Les Rejaudoux 66.28 48⇑ *iP* **P 05 28 51.3 +0.6**
comp=Z,36nm,1.0s
CAF Calviac 66.69 48⇑ *iP* **P 05 28 54.0 +0.6**
CAF Calviac 66.69 48⇑ *iP* **P 05 28 54.0 +0.6**
CAF Calviac 66.69 48⇑ *iP* **P 05 28 54.0 +0.6**
TCF Toulx Ste Croi 66.72 47 *eP* **P 05 28 54.1 +0.5**
comp=Z,163nm,1.5s
TCF Toulx Ste Croi 66.72 47 *eP* **P 05 28 54.1 +0.5**
TCF pmax pmax
comp=Z,163nm,1.5s
TCF Toulx Ste Croi 66.72 47 *eP* **P 05 28 54.1 +0.5**
comp=Z,163nm,1.5s
ILAR Eielson Array 66.74 333 P **P 05 28 52.4 -1.0**
ILAR Eielson Array 66.74 333 P **P 05 28 52.4 -1.0**
comp=Z,4.9nm,0.8s,baz=103,slow=4.6,SNR=28
TIC Toumodi 66.93 91 *eP* **P 05 28 54.8 -0.6**
comp=Z,35nm,1.1s
HYF Humbligny 66.97 46 *eP* **P 05 28 56.0 +0.9**
HYF Humbligny 66.97 46 *eP* **P 05 28 56.0 +0.9**
LIC Lamto 67.05 91 *eP* **P 05 28 55.4 -0.7**
comp=Z,43nm,1.0s,baz=280
LIC *eR*
comp=Z,2µm,20.5s
LIC Lamto 67.05 91 *eP* **P 05 28 54.8 -1.3**
comp=Z,56nm,1.0s
LIC Lamto 67.05 91 *eP* **P 05 28 55.4 -0.7**
comp=Z,43nm,1.0s
DBIC Dimbokro 67.08 90 *eP* **P 05 28 56.0 -0.3**
DBIC Dimbokro 67.08 90 P **P 05 28 55.6 -0.7**
comp=Z,12nm,0.9s,baz=274,slow=7.4,SNR=12
DBIC LR LR 05 55 04.2
comp=Z,1µm,20.5s,baz=276,slow=33
BGF Bois d'Agland 67.15 47⇑ *iP* **P 05 28 56.6 +0.3**
comp=Z,35nm,0.9s
BGF Bois d'Agland 67.15 47⇑ *iP* **P 05 28 56.6 +0.3**
BGF pmax pmax
comp=Z,35nm,0.9s
BGF Bois d'Agland 67.15 47⇑ *iP* **P 05 28 56.6 +0.3**
comp=Z,35nm,0.9s
COLA College 67.17 333⇓ *iP* **P 05 28 56.1 +0.1**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 67.17 333 *eP* **P 05 28 55.2 -0.7**
comp=Z,6.5nm,1.3s
KIC Kosan Boka 67.28 91 *eP* **P 05 28 56.1 -1.5**
comp=Z,55nm,1.0s
AVF Avril sur Loir 67.48 46 *eP* **P 05 28 58.6 +0.2**
AVF Avril sur Loir 67.48 46 *eP* **P 05 28 58.6 +0.2**
AVF Avril sur Loir 67.48 46 *eP* **P 05 28 58.6 +0.2**
PMR Palmer 67.50 330 *eP* **P 05 28 58.8 +0.7**
PMR Palmer 67.50 330 *eP* **P 05 28 58.8 +0.7**
MCK McKinley 67.54 332 *eP* **P 05 28 58.5 +0.1**
MCK McKinley 67.54 332 *eP* **P 05 28 58.5 +0.1**
SSF Saint Saulge 67.57 46⇑ *iP* **P 05 28 59.1 +0.2**
comp=Z,81nm,1.4s
SSF Saint Saulge 67.57 46⇑ *iP* **P 05 28 59.1 +0.2**
SSF pmax pmax
comp=Z,81nm,1.4s
SSF Saint Saulge 67.57 46⇑ *iP* **P 05 28 59.1 +0.2**
comp=Z,81nm,1.4s
RC01 Rabbit Creek A 67.77 329 *eP* P 05 29 06.8 +7.0
comp=Z,120nm,1.6s
LOR Lormes 67.80 46⇑ *iP* **P 05 29 00.7 +0.3**
comp=Z,51nm,0.9s,baz=272
LOR *eR*
comp=Z,2µm,19.5s
LOR Lormes 67.80 46⇑ *iP* **P 05 29 00.7 +0.3**
comp=Z,51nm,0.9s
SMF Signal de Mont 67.83 46⇑ *iP* **P 05 29 00.9 +0.3**
comp=Z,54nm,1.1s
SMF Signal de Mont 67.83 46⇑ *iP* **P 05 29 00.9 +0.3**
SMF pmax pmax
comp=Z,54nm,1.1s
SMF Signal de Mont 67.83 46⇑ *iP* **P 05 29 00.9 +0.3**
comp=Z,54nm,1.1s
BAIF Baives 67.89 43 *eP* **P 05 29 01.2 +0.3**
comp=Z,135nm,1.7s
BAIF Baives 67.89 43 *eP* **P 05 29 01.2 +0.3**
BAIF pmax pmax
comp=Z,135nm,1.7s
BAIF Baives 67.89 43 *eP* **P 05 29 01.2 +0.3**
comp=Z,135nm,1.7s
LASF Ste Croix 68.02 49⇑ *iP* **P 05 29 02.9 +1.0**
comp=Z,52nm,1.1s
LASF Ste Croix 68.02 49⇑ *iP* **P 05 29 02.9 +1.0**
comp=Z,52nm,1.1s
TRF Thorofare Moun 68.13 332 *eP* **P 05 29 02.9 +0.5**
GIVF Givet 68.29 43⇑ *iP* **P 05 29 03.9 +0.5**
comp=Z,62nm,1.1s
GIVF Givet 68.29 43⇑ *iP* **P 05 29 03.9 +0.5**
GIVF pmax pmax
comp=Z,62nm,1.1s
GIVF Givet 68.29 43⇑ *iP* **P 05 29 03.9 +0.5**
comp=Z,62nm,1.1s
COLD Coldfoot 68.32 336 *eP* **P 05 29 03.4 +0.1**
KTH Kantishna Hill 68.42 332 *eP* **P 05 29 04.3 +0.3**
SFTF Sexfontaines 68.54 45⇑ *iP* **P 05 29 05.4 +0.4**
comp=Z,60nm,0.9s
SFTF Sexfontaines 68.54 45⇑ *iP* **P 05 29 05.4 +0.4**
comp=Z,60nm,0.9s
VIVF Saint-Julien-l 68.54 48⇑ *iP* **P 05 29 06.5 +1.4**
comp=Z,60nm,1.0s
VIVF Saint-Julien-l 68.54 48⇑ *iP* **P 05 29 06.5 +1.4**
VIVF pmax pmax
comp=Z,60nm,1.0s
VIVF Saint-Julien-l 68.54 48⇑ *iP* **P 05 29 06.5 +1.4**
comp=Z,60nm,1.0s
PAGF Fort de Pagny 68.97 44 *eP* **P 05 29 08.4 +0.7**
comp=Z,39nm,1.3s
PAGF Fort de Pagny 68.97 44 *eP* **P 05 29 08.4 +0.7**
comp=Z,39nm,1.3s
WLF Walferdange 69.17 43 *eP* P 05 29 12.6 +3.7
WLF pmax pmax
comp=Z,77nm,1.6s
WLF Walferdange 69.17 43 *eP* P 05 29 12.6 +3.7
comp=Z,77nm,1.6s
RSO Redoubt South 69.24 329 *eP* **P 05 29 09.3 -0.1**
SMRF Simiane la Rot 69.27 49⇑ *iP* **P 05 29 11.1 +1.5**
comp=Z,312nm,1.8s
SMRF Simiane la Rot 69.27 49⇑ *iP* **P 05 29 11.1 +1.5**
comp=Z,312nm,1.8s
CABF La Chapelle 69.37 46 *eP* **P 05 29 10.8 +0.5**
CABF La Chapelle 69.37 46 *eP* **P 05 29 10.8 +0.5**
CABF La Chapelle 69.37 46 *eP* **P 05 29 10.8 +0.5**
ORIF Oris-en-Rattie 69.39 48⇑ *iP* **P 05 29 11.7 +1.2**
comp=Z,118nm,1.4s
ORIF *eR*
comp=Z,2µm,19.5s
ORIF Oris-en-Rattie 69.39 48⇑ *iP* **P 05 29 11.7 +1.2**
ORIF pmax pmax
comp=Z,118nm,1.4s
ORIF Oris-en-Rattie 69.39 48⇑ *iP* **P 05 29 11.7 +1.2**
comp=Z,118nm,1.4s
HAU Haudompre 69.43 45 *eP* **P 05 29 10.9 +0.3**
comp=Z,52nm,1.2s
HAU *eR*
comp=Z,3µm,18.2s
HAU Haudompre 69.43 45 *eP* **P 05 29 10.9 +0.3**
HAU pmax pmax
comp=Z,52nm,1.2s
HAU Haudompre 69.43 45 *eP* **P 05 29 10.9 +0.3**
comp=Z,52nm,1.2s
BUG Bochum--Univer 69.75 41 *eP* **P 05 29 11.4 -1.0**
comp=Z,47nm,1.4s
HINF Hinteralfeld 69.78 45 *eP* **P 05 29 12.8 0.0**
comp=Z,138nm,1.8s
HINF Hinteralfeld 69.78 45 *eP* **P 05 29 12.8 0.0**
HINF pmax pmax
comp=Z,138nm,1.8s
HINF Hinteralfeld 69.78 45 *eP* **P 05 29 12.8 0.0**
comp=Z,138nm,1.8s
LPL La Plagne 69.93 47⇑ *iP* **P 05 29 14.9 +1.0**
LPL La Plagne 69.93 47⇑ *iP* **P 05 29 14.9 +1.0**
LPL La Plagne 69.93 47⇑ *iP* **P 05 29 14.9 +1.0**
LPG La Plagne 69.94 47⇑ *iP* **P 05 29 15.3 +1.2**
comp=Z,38nm,1.1s
LPG La Plagne 69.94 47⇑ *iP* **P 05 29 15.3 +1.2**
LPG pmax pmax
comp=Z,39nm,1.1s
LPG La Plagne 69.94 47⇑ *iP* **P 05 29 15.3 +1.2**
comp=Z,38nm,1.1s
IBBN Ibbenburen 69.99 40 *eP* **P 05 29 13.1 -0.8**
comp=Z,84nm,1.4s
LMR La Mourre 70.01 50⇑ *iP* **P 05 29 14.8 +0.6**
comp=Z,278nm,1.8s
LMR La Mourre 70.01 50⇑ *iP* **P 05 29 14.8 +0.6**
LMR pmax pmax
comp=Z,278nm,1.8s
LMR La Mourre 70.01 50⇑ *iP* **P 05 29 14.8 +0.6**
comp=Z,278nm,1.8s
CDF Champ du Feu 70.01 44⇑ *iP* **P 05 29 14.6 +0.4**
CDF Champ du Feu 70.01 44⇑ *iP* **P 05 29 14.6 +0.4**
CDF Champ du Feu 70.01 44⇑ *iP* **P 05 29 14.6 +0.4**
MBDF Montbardon 70.04 48⇑ *iP* **P 05 29 15.8 +1.3**
comp=Z,129nm,1.5s
MBDF Montbardon 70.04 48⇑ *iP* **P 05 29 15.8 +1.3**
MBDF pmax pmax
comp=Z,129nm,1.5s
MBDF Montbardon 70.04 48⇑ *iP* **P 05 29 15.8 +1.3**
comp=Z,129nm,1.5s
SENIN Lac Senin/Sane 70.23 46 *eP* **P 05 29 17.3 +1.5**
TNS Taunus Mts 70.60 42 *eP* **P 05 29 17.1 -0.7**
comp=Z,44nm,1.3s
SBF Sospel 70.61 49 *eP* **P 05 29 18.7 +0.7**
comp=Z,205nm,1.3s
SBF Sospel 70.61 49 *eP* **P 05 29 18.7 +0.7**
SBF pmax pmax
comp=Z,205nm,1.3s
SBF Sospel 70.61 49 *eP* **P 05 29 18.7 +0.7**
comp=Z,205nm,1.3s
STU Stuttgart 71.24 44 *eP* P 05 29 25.0 +3.4
STU pmax pmax
comp=Z,246nm,2.3s
STU Stuttgart 71.24 44 *eP* **P 05 29 20.5 -1.1**
comp=Z,13nm,0.7s
STU Stuttgart 71.24 44 *eP* P 05 29 25.0 +3.4
comp=Z,246nm,2.3s
NB2 NORSAR Subarra 71.27 31 P **P 05 29 22.9 +1.3**
comp=Z,42nm,1.4s,baz=275,slow=6.5
NB2 NORSAR Subarra 71.27 31 P **P 05 29 22.9 +1.3**
baz=275,slow=6.5
NOA NORSAR Array B 71.27 31 P **P 05 29 22.1 +0.5**
NOA NORSAR Array B 71.27 31 P **P 05 29 22.1 +0.5**
comp=Z,5.4nm,0.9s,baz=278,slow=6.5,SNR=14
BSEG Bad Segeberg 71.39 38 *eP* **P 05 29 21.6 -0.7**
comp=Z,29nm,1.2s
NRDL Niedersach Rie 71.41 40 *eP* **P 05 29 22.0 -0.4**
comp=Z,132nm,2.1s
TORD Torodi Ar. Bea 71.51 82 P **P 05 29 22.8 -1.0**
TORD Torodi Ar. Bea 71.51 82 P **P 05 29 22.8 -1.0**
comp=Z,15nm,0.9s,baz=288,slow=4.7,SNR=33
TUE Stuetta 71.63 46 *eP* **P 05 29 24.9 +0.7**
comp=Z,52nm,1.5s
CLZ Clausthal 71.64 40 *eP* **P 05 29 23.4 -0.6**
comp=Z,30nm,1.1s
DAVA Damuels 71.88 45⇑ *iP* **P 05 29 26.5 +0.8**
comp=Z,17nm,0.9s
PGF Pioggiola 71.92 50⇑ *iP* **P 05 29 26.5 +0.5**
comp=Z,262nm,1.7s
PGF Pioggiola 71.92 50⇑ *iP* **P 05 29 26.5 +0.5**
PGF pmax pmax
comp=Z,263nm,1.7s
PGF Pioggiola 71.92 50⇑ *iP* **P 05 29 26.5 +0.5**
comp=Z,262nm,1.7s
FETA Feichten 72.49 45⇑ *iP* **P 05 29 30.5 +1.2**
comp=Z,22nm,0.9s
FUR Furstenfeldbru 72.69 44 *eP* **P 05 29 29.6 -0.8**
comp=Z,33nm,0.9s
MOTA Moosalm 72.70 45⇑ *iP* **P 05 29 31.4 +0.8**
comp=Z,16nm,0.9s,SNR=7.7
ROTZ Rotzenmuhle 73.07 42 *eP* **P 05 29 32.1 -0.4**
comp=Z,28nm,1.1s
ROTZ *epP* **pP 05 29 36.3 +1.8**
TANN Tannenbergstha 73.13 42 *eP* **P 05 29 32.2 -0.8**
comp=Z,22nm,0.9s
KEST Kesra 73.33 57 P **P 05 29 34.9 +0.4**
KEST Kesra 73.33 57 P **P 05 29 34.9 +0.4**
comp=Z,10nm,1.0s,baz=248,slow=3.3,SNR=14
KEST LR LR 05 56 47.0
comp=Z,344nm,21.9s,baz=242,slow=32
RKT Rikitea 73.34 238 *e*LR LR 05 52 02.8
comp=Z,717nm,29.2s
CLL Collm 73.34 41 *eP* **P 05 29 35.0 +0.9**
CLL *i* 05 29 40.9
CLL *i* 05 29 46.0
CLL pmax pmax
comp=Z,22nm,1.3s
CLL Collm 73.34 41 *eP* **P 05 29 33.3 -0.8**
comp=Z,23nm,1.2s
CLL Collm 73.34 41 *eP* **P 05 29 35.0 +0.9**
comp=Z,22nm,1.3s
CLL *i* (sP) **sP 05 29 40.9 +4.1**
CLL *i* 05 29 46.0
CLL *e*PP PP 05 32 24.0 +6.8
BRG Berggiesshubel 73.99 41 *eP* **P 05 29 37.2 -0.7**
comp=Z,27nm,1.1s
BRG *epP* **pP 05 29 41.7 +1.8**
KHC Kasperske Hory 74.05 43⇑ *iP* **P 05 29 38.5 +0.1**
KHC pmax pmax
comp=Z,40nm,0.9s
KHC Kasperske Hory 74.05 43 *eP* **P 05 29 38.0 -0.4**
KHC Kasperske Hory 74.05 43 *eP* **P 05 29 39.4 +1.0**
comp=Z,43nm,1.3s
GEC2 GERESS Array S 74.18 43 *eP* **P 05 29 38.4 -0.8**
comp=Z,26nm,1.0s
GERES GERESS Array B 74.18 43 P **P 05 29 39.3 +0.1**
GERES GERESS Array B 74.18 43 P **P 05 29 39.3 +0.1**
comp=Z,16nm,0.8s,baz=270,slow=4.0,SNR=46
GERES LR LR 05 57 08.1
comp=Z,1µm,21.4s,baz=260,slow=32
KBA Koelnbreinsper 74.25 45⇑ *iP* **P 05 29 40.4 +0.7**
comp=Z,32nm,1.3s,SNR=8.9
ROBS Robic 74.51 46 *i* P **P 05 29 41.5 +0.5**
MOA Molln 74.73 44⇑ *iP* **P 05 29 42.8 +0.5**
comp=Z,25nm,1.0s
KSP Ksiaz 75.47 41 *eP* **P 05 29 47.2 +0.7**
KSP Ksiaz 75.47 41 *eP* **P 05 29 47.8 +1.3**
GKP Gorka Klasztor 75.56 38 *eP* **P 05 29 48.6 +1.6**
GKP Gorka Klasztor 75.56 38 *eP* **P 05 29 48.6 +1.6**
CONA Conrad Observa 75.77 44⇑ *iP* **P 05 29 49.1 +0.7**
comp=Z,16nm,0.9s,SNR=5.3
ARCES ARCESS Array B 75.85 21 P **P 05 29 47.6 -0.7**
ARCES ARCESS Array B 75.85 21 P **P 05 29 47.6 -0.7**
comp=Z,7.3nm,0.8s,baz=296,slow=3.4,SNR=14
SMOL Smolenice 76.67 43 *eP* **P 05 29 56.4 +3.0**
SMOL Smolenice 76.67 43 *eP* **P 05 29 56.4 +3.0**
BEL Belsk 78.00 39 *eP* P 05 30 05.0 +4.2
BEL Belsk 78.00 39 *eP* P 05 30 04.9 +4.2
KAF Kangasniemi 78.16 28 *eP* **P 05 30 02.9 +1.4**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 78.16 28 *ep* **P 05 30 02.9 +1.4**
comp=Z,0.5nm,0.3s
FINES FINESS Array B 78.25 29 P **P 05 30 01.9 0.0**
FINES FINESS Array B 78.25 29 P **P 05 30 01.9 0.0**
comp=Z,8.4nm,0.8s,baz=267,slow=3.8,SNR=16
SUW Suwalki 78.83 37 *eP* **P 05 30 06.7 +1.4**
SUW Suwalki 78.83 37 *eP* **P 05 30 06.6 +1.3**
STHS Stebnicka Huta 78.89 42 *eP* **P 05 30 07.8 +2.0**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 78.89 42 *e* **P 05 30 07.8 +2.0**
CRVS Cervenica-Dubn 79.17 42 *eP* P 05 30 11.6 +4.3
CRVS pmax pmax
comp=Z,28nm,1.7s
CRVS Cervenica-Dubn 79.17 42 *eP* P 05 30 11.6 +4.3
CRVS Cervenica-Dubn 79.17 42 *eP* P 05 30 11.6 +4.3
comp=Z,28nm,1.7s
VSU Vasula 79.45 32⇑ *iP* **P 05 30 08.4 -0.2**
VSU pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 79.67 42 *eP* P 05 30 15.2 +5.1
KOLS pmax pmax
comp=Z,15nm,1.3s
KOLS Kolonicke sedl 79.67 42 *eP* P 05 30 15.1 +5.0
KOLS Kolonicke sedl 79.67 42 *eP* P 05 30 15.2 +5.1
comp=Z,15nm,1.3s
TRUS Trudelj 79.71 47 *eP* **P 05 30 11.5 +1.2**
KWP Kalwaria Pacla 79.75 41 *eP* **P 05 30 12.4 +1.9**
KWP Kalwaria Pacla 79.75 41 *eP* **P 05 30 12.4 +1.9**
KWP Kalwaria Pacla 79.75 41 *eP* **P 05 30 12.4 +1.9**
UZH Uzhgorod 79.77 42 *eP* P 05 30 14.8 +4.3
GRUS Gruza 80.01 47 *eP* **P 05 30 14.4 +2.4**
JOF Joensuu 80.10 27 *eP* **P 05 30 12.8 +0.7**
JOF pmax pmax
comp=Z,14nm,0.8s
JOF Joensuu 80.10 27 *ep* **P 05 30 12.8 +0.7**
comp=Z,14nm,0.8s
LVV L'vov 80.52 41 *eP* P 05 30 18.5 +3.9
NACGM Naroch 80.58 35 *e* **P 05 30 14.0 -0.8**
MNK Minsk 81.29 35 *eP* **P 05 30 21.0 +2.4**
MICGM Minsk 81.31 35 *eP* **P 05 30 21.0 +2.3**
KIEV Kiev 83.38 39⇓ *iP* **P 05 30 29.5 -0.1**
AKASG Malin Array Be 83.39 39 P **P 05 30 29.5 -0.1**
AKASG Malin Array Be 83.39 39 P **P 05 30 29.5 -0.1**
AKASG Malin Array Be 83.39 39 P **P 05 30 29.5 -0.1**
comp=Z,6.5nm,0.8s,baz=286,slow=5.5,SNR=16
PPT Papeete 83.44 249 LR LR 06 00 46.5
comp=Z,402nm,19.5s,baz=64,slow=31
PPT2 Papeete2 83.45 249 *e*LR LR 05 56 43.3
comp=Z,1µm,27.0s
KIS Kishinev 84.46 42 *eP* P 05 30 39.0 +3.8
KIS *e* 05 30 47.0
KIS Kishinev 84.46 42 *eP* P 05 30 39.0 +3.8
KLMR Klimovskoe 84.50 27 *eP* **P 05 30 37.7 +2.6**
KLMR pmax pmax
comp=Z,95nm,1.6s
TBI Tubuai 85.47 244 *e*LR LR 05 57 40.1
comp=Z,790nm,23.2s
OBN Obninsk 85.72 33⇓ *eP* **P 05 30 40.9 -0.4**
OBN *e* 05 33 55.0
OBN pmax pmax
comp=Z,62nm,1.7s
MOS Moscow 85.98 32 *eP* **P 05 30 45.7 +3.1**
MOS *e* 05 30 54.2
MOS pmax pmax
comp=Z,52nm,0.9s
PRGR Permogore 86.64 25⇑ *iP* **P 05 30 44.4 -1.3**
PRGR pmax pmax
comp=Z,90nm,1.1s
MSKU Masuku 87.17 93 P **P 05 30 48.9 -0.4**
MSKU Masuku 87.17 93 P **P 05 30 48.8 -0.4**
comp=Z,13nm,0.7s,baz=164,slow=0.7,SNR=8.6
SIM Simferopol' 88.65 43 *eP* **P 05 30 58.6 +2.8**
SIM pmax pmax
comp=Z,12nm,1.0s
VSR Storozhevoye 88.89 36 *eP* **P 05 30 58.4 +1.6**
VSR pmax pmax
comp=N,6.0nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=E,4.0nm,0.9s
TIXI Tiksi 89.00 353⇓ *iP* **P 05 30 56.4 -0.5**
TIXI pmax pmax
comp=Z,19nm,1.7s
VORD Divnogorie 89.08 36 *eP* **P 05 30 56.2 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,8.0nm,1.3s
VORD pmax pmax
comp=E,10.0nm,1.4s
VRHR Novokhopersk 90.30 35 *eP* **P 05 31 02.3 -1.1**
VRHR pmax pmax
comp=N,9.0nm,1.0s
VRHR pmax pmax
comp=E,8.0nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 90.50 48 P **P 05 31 04.8 0.0**

BRTR	**Keskin Array B**	**90.50**	**48**	P	**P**	**05 31 04.8**	**0.0**	
	comp=Z,11nm,1.1s,baz=289,slow=3.8,SNR=19							
SEY	**Seymchan**	**91.58**	**341**⇑	*e*P	**P**	**05 31 09.3**	**+0.2**	
SEY	**Seymchan**	**91.58**	**341**	P	**P**	**05 31 09.4**	**+0.4**	
SEY	**Seymchan**	**91.58**	**341**	P	**P**	**05 31 09.4**	**+0.4**	
	comp=Z,6.8nm,1.0s,baz=307,slow=23,SNR=8.2							
KBZ	**Khabaz**	**94.80**	**41**	P	**P**	**05 31 24.8**	**+0.5**	
KBZ	**Khabaz**	**94.80**	**41**	P	**P**	**05 31 24.8**	**+0.5**	
KBZ	**Khabaz**	**94.80**	**41**	P	**P**	**05 31 24.8**	**+0.5**	
	comp=Z,3.7nm,0.9s,baz=164,slow=3.9,SNR=7.0							
ARU	**Arti**	**95.09**	**25***c*	*i*P	**P**	**05 31 25.2**	**-0.2**	
ARU						05 35 13.3		
ARU				S	**SKSac**	**05 42 00.4**	**-1.3**	
ARU				PS	**PS**	**05 43 53.6**	**-4.0**	
ARU				pmax	pmax			
	comp=Z,14nm,1.7s							
ZEI	**Tsey**	**95.91**	**41**	*e*P	**P**	**05 31 31.3**	**+1.6**	
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MKAR	**Makanchi Array**	**111.39**	**18**	PKKPbc	PKKPbc	05 47 29.7	-3.4	
MKAR				PKKPab	**PKKPab**	**05 47 40.3**	**-3.6**	
MKAR	**Makanchi Array**	**111.39**	**18**	PKKPbc	PKKPbc	05 47 29.7	-3.4	
	comp=Z,0.7nm,1.0s,baz=160,slow=4.6,SNR=4.2							
MKAR				PKKPab	**PKKPab**	**05 47 40.3**	**-3.6**	
	comp=Z,0.5nm,0.8s,baz=178,slow=2.7,SNR=4.0							
SONM	**Songino Array**	**114.11**	**1**	PKKPab	PKKPab	05 47 28.8	-3.2	
SONM	**Songino Array**	**114.11**	**1**	PKKPab	PKKPab	05 47 28.8	-3.2	
	comp=Z,1.9nm,1.0s,baz=156,slow=3.1,SNR=11							
KSH	**Kashi**	**115.48**	**26**	*e*PKP	**PKPdf**	**05 36 47.0**	**+2.1**	
KSH				*e*PP	PP	05 37 53.1	+7.7	
KSH				*e*SKS	**SKSdf**	**05 43 54.1**	**-3.9**	
KSH				*e*SKKS	SKKSac	05 44 41.3	-7.5	
KSH				*e*SS	**SS**	**05 53 45.3**	**+1.1**	
KSH				LR	LR			
	comp=Z,300nm,12.0s							
KSH				LR	LR			
	comp=Z,110nm,5.2s							
KSH				LR	LR			
	comp=Z,220nm,10.4s							
WMQ	**Urumqi**	**115.61**	**15**	PKP	**PKPdf**	**05 36 44.6**	**-0.4**	
WMQ				PP	**PP**	**05 37 50.9**	**+5.0**	
WMQ				SKS	**SKSdf**	**05 43 51.8**	**-6.1**	
WMQ				SKKS	SKKSac	05 44 41.0	-8.3	
WMQ				SS	**SS**	**05 53 45.6**	**+0.4**	
WMQ				AMB	AMB			
	comp=Z,130nm,11.6s							
WMQ				LR	LR			
	comp=Z,1μm,20.5s							
HHC	**Hu-ho-hao-te**	**120.96**	**356**	*e*PKP	**PKPdf**	**05 36 55.1**	**-0.3**	
HHC				PP	**PP**	**05 38 25.3**	**+2.4**	
HHC				SKS	**SKSdf**	**05 44 04.6**	**-3.7**	
HHC				SKKS	SKKSac	05 45 17.5	-7.4	
HHC				SS	**SS**	**05 54 55.3**	**+1.0**	
HHC				AMB	AMB			
	comp=Z,100nm,9.1s							
HHC				LR	LR			
	comp=Z,1μm,21.2s							
BJI	**Beijing**	**121.30**	**352**	PKP	**PKPdf**	**05 36 55.6**	**-0.3**	
BJI				LR	LR			
	comp=Z,3μm,24.2s							
GTA	**Gaotai**	**122.13**	**7**	*e*PKP	**PKPdf**	**05 37 00.4**	**+2.7**	
GTA				sPKP		05 37 07.4		
LZH	**Lanzhou**	**125.77**	**3**	*e*PKP	**PKPdf**	**05 37 04.3**	**-0.6**	
LZH				sPKP		05 37 08.8		
LZH				PP	**PP**	**05 38 59.5**	**+4.1**	
LZH				SKKS		05 45 49.0		
LZH				*e*SS	**SS**	**05 55 53.3**	**-2.1**	
LZH				AMB	AMB			
	comp=Z,130nm,8.7s							
LZH				LR	LR			
	comp=Z,230nm,18.0s							
LZH				LR	LR			
	comp=Z,220nm,18.0s							
LZH				LR	LR			
	comp=Z,290nm,20.1s							
CD2	**Chengdu**	**130.91**	**4**	*e*PKP	**PKPdf**	**05 37 13.5**	**-1.1**	
GYA	**Guiyang**	**135.45**	**1**	*e*Pdif	**Pdif**	**05 34 23.3**	**-2.7**	
GYA				PKP	**PKPdf**	**05 37 22.8**	**-0.6**	
GYA				PP	**PP**	**05 40 01.3**	**+3.1**	
GYA				PKS	**PKSdf**	**05 40 56.5**	**-3.5**	
GYA				SKKS		05 46 51.0		
GYA				SS	**SS**	**05 57 52.3**	**-1.9**	
GYA				AMB	AMB			
	comp=Z,140nm,7.8s							
GYA				LR	LR			
	comp=Z,160nm,19.7s							
GYA				LR	LR			
	comp=Z,140nm,20.2s							
GYA				LR	LR			
	comp=Z,170nm,19.6s							
CMAR	**Chiang Mai Arr**	**142.54**	**13**	PKP	**PKPdf**	**05 37 35.3**	**-1.0**	
CMAR	**Chiang Mai Arr**	**142.54**	**13**	PKP	**PKPdf**	**05 37 35.3**	**-1.0**	
	comp=Z,0.6nm,0.3s,baz=324,slow=4.5,SNR=2.6							
CTA	**Charters Tower**	**143.08**	**261**	PKPpre	PKPpre	05 37 32.5		
CTA	**Charters Tower**	**143.08**	**261**	PKhKP	PKPpre	05 37 32.5		
	comp=Z,11nm,1.0s,baz=138,slow=3.5,SNR=2.8							
STKA	**Stephens Creek**	**146.18**	**240**	PKPbc	**PKPdf**	**05 37 41.1**	**-1.1**	
STKA	**Stephens Creek**	**146.18**	**240**	PKPbc	**PKPdf**	**05 37 41.1**	**-1.1**	
	comp=Z,13nm,0.9s,baz=42,slow=1.5,SNR=15							
WRA	**Warramunga Arr**	**154.27**	**262**	PKP	**PKPdf**	**05 37 54.5**	**-0.7**	
WRA				PKPbc	**PKPbc**	**05 38 01.8**	**-1.7**	
WRA	**Warramunga Arr**	**154.27**	**262**	PKP	**PKPdf**	**05 37 54.5**	**-0.7**	
	comp=Z,6.2nm,1.0s,baz=83,slow=1.2,SNR=20							
WRA				PKPbc	**PKPbc**	**05 38 01.8**	**-1.7**	
	comp=Z,12nm,1.0s,baz=86,slow=1.5,SNR=23							
ASAR	**Alice Springs**	**154.48**	**253**	PKP	**PKPdf**	**05 37 54.6**	**-0.9**	
ASAR				PKPbc	**PKPbc**	**05 38 01.9**	**-2.0**	
ASAR				PKPab	**PKPab**	**05 38 16.9**	**-1.4**	
ASAR	**Alice Springs**	**154.48**	**253**	PKP	**PKPdf**	**05 37 54.6**	**-0.9**	
	comp=Z,2.5nm,1.0s,baz=69,slow=2.3,SNR=11							
ASAR				PKPbc	**PKPbc**	**05 38 01.9**	**-2.0**	
	comp=Z,3.0nm,0.9s,baz=92,slow=2.4,SNR=9.7							
ASAR				PKPab	**PKPab**	**05 38 16.9**	**-1.4**	
	comp=Z,2.4nm,0.8s,baz=97,slow=3.1,SNR=6.1							

ISCJB ***13*** *05:24:00.6±0.2, 18°.46N±0°.03×72°.82W±0°.02, h11km, mb4.6/82, MS5.0/4, Error ellipse: s-maj=4.9km s-min=2.7km az=17.0*

IDC ***13*** *05:24:00.2±0.5, 18°.53N×72°.78W, h0km, mb4.4/29, mb1 4.6/32, mb1mx4.5/37, mbtmp4.5/32, ML3.7/3, Error ellipse: s-maj=14.8km s-min=12.1km az=31.0*

NEIC ***13*** *05:24:02.2±0.2, 18°.46N×72°.82W, h10km, mb4.8/50, Error ellipse: s-maj=5.0km s-min=3.1km az=17.0*

BJI ***13*** *05:24:02.0, 18°.40N×72°.80W, h10km, mB5.3/3, Ms5.1/4, Ms7 4.7/6*

ISC 13 05:24:02.7±0.5, 18°.48N±0°.05×72°.83W±0°.04, h14km±2km, h14km:pP-P, n436, σ1s08/467, mb4.7/84, MS5.0/4, 125C-117D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.55**	**71**	*e*Pn	**Pn**	**05 24 28.8**	**-1.1**
GTBY	**Guantanamo Bay**	**2.59**	**304**	*e*Pn	**Pn**	**05 24 42.3**	**-2.0**
GRTK	**Grand Turk**	**3.41**	**28**	*e*Pn	**Pn**	**05 24 55.6**	**+0.1**
AGP	**Aguadilla**	**5.40**	**90**	*e*Pn	**Pn**	**05 25 25.7**	**+2.7**
MPR	**Mayaguez**	**5.41**	**92**	*e*Pb	**Pb**	**05 25 38.5**	**+1.4**
AGPR	**Aguadilla, PR**	**5.43**	**89**	*e*Pn	**Pn**	**05 25 22.7**	**-0.6**
LSP	**Las Mesas**	**5.47**	**92**	*e*Pn	**Pn**	**05 25 24.6**	**+0.8**
AOPR	**Arecibo Observ**	**5.77**	**90**	*e*Pn	**Pn**	**05 25 28.3**	**+0.3**
AOPR				*e*ScP	**ScP**	**05 36 05.6**	**+0.4**
OBIP	**Obispado Ponce**	**5.93**	**93**	*e*Pn	**Pn**	**05 25 30.2**	**0.0**
OBIP				*e*ScP	**ScP**	**05 36 04.9**	**-0.4**
CELP	**Cerrillos**	**5.96**	**93**	*e*Pn	**Pn**	**05 25 29.3**	**-1.2**
CELP				*e*ScP	**ScP**	**05 36 05.7**	**+0.4**
CPD	**Cerro la Pandu**	**6.59**	**93**	*e*Pn	**Pn**	**05 25 40.1**	**+0.9**
HUMP	**Col San Antoni**	**6.64**	**92**	*e*Pn	**Pn**	**05 25 40.7**	**+0.7**
SDV	**Santo Domingo**	**9.77**	**167**	*e*Pn	**Pn**	**05 26 23.2**	**+0.1**
MLG	**Mont-d'or**	**10.89**	**101**	*e*P	**Pn**	**05 26 37.8**	**-0.6**
PHG	**Guadaloupe-2**	**10.97**	**101**	*e*P	**Pn**	**05 26 40.0**	**+0.5**
SEG	**Port Louis**	**11.01**	**99**	*e*P	**Pn**	**05 26 40.4**	**+0.6**
BCIP	**Isla Barro Col**	**11.48**	**217**	*e*Pn	**Pn**	**05 26 44.7**	**-1.7**
	173nm,1.1s						
ROSC	**El Rosal**	**13.62**	**186**	Pn	**Pn**	**05 27 15.5**	**-0.4**
ROSC				Sn	**Sn**	**05 29 50.4**	**+3.0**
ROSC	**El Rosal**	**13.62**	**186**	Pn	**Pn**	**05 27 15.5**	**-0.4**
	3.2nm,0.3s,baz=75,slow=8.7,SNR=5.5						
ROSC				Sn	**Sn**	**05 29 50.4**	**+3.0**
	0.8nm,0.3s,baz=90,slow=20,SNR=1.8						
JTS	**JuntasAbangare**	**14.28**	**237**	*e*P	P	05 27 35.7	+3.8
JTS	**JuntasAbangare**	**14.28**	**237**	Pn	**P**	**05 27 30.2**	**-1.6**
	0.8nm,0.3s,baz=258,slow=20,SNR=2.0						

TGUH	**Tegucigalpa,Un**	**14.54**	**255**	*e*Pn	**Pn**	**05 27 27.9**	**-0.3**	
TEIG	**Tepich**	**14.68**	**279**	*e*Pn	**Pn**	**05 27 29.7**	**-0.4**	
TEIG				Sn	Sn	05 30 04.2	-8.5	
TEIG	**Tepich**	**14.68**	**279**	Pn	**Pn**	**05 27 28.5**	**-1.6**	
	1.5nm,0.3s,baz=58,slow=19,SNR=8.2							
TEIG				Sn	Sn	05 30 04.2	-8.5	
	0.6nm,0.3s,baz=72,slow=20,SNR=4.7							
APG	**El Apazote**	**17.23**	**261**	Pn	**Pn**	**05 28 04.1**	**+0.7**	
APG	**El Apazote**	**17.23**	**261**	Pn	**Pn**	**05 28 04.1**	**+0.7**	
	0.2nm,0.3s,baz=148,slow=19,SNR=3.1							
OTAV	**Otavalo**	**18.95**	**198**	P	**Pn**	**05 28 24.6**	**-0.1**	
	407nm,2.6s							
JSRW	**J. Sargeant Re**	**19.65**	**348**	*e*P	**P**	**05 28 30.2**	**-0.8**	
CBN	**Corbin**	**20.05**	**350**	*e*P	Pn	05 28 38.1	+0.9	
	217nm,1.3s							
LUPA	**Lehigh Univers**	**22.15**	**355**	*e*P	**P**	**05 29 01.2**	**+3.1**	
	243nm,2.4s							
PTGA	**Pitinga**	**22.90**	**145**	P	**P**	**05 29 06.1**	**-0.2**	
	21nm,1.0s,baz=336,slow=20,SNR=2.8							
HKT	**Hockley**	**23.84**	**303**	*e*P	**P**	**05 29 16.0**	**+0.5**	
	19nm,1.0s							
SIUC	**Southern Illin**	**23.93**	**327**	*e*P	**P**	**05 29 17.9**	**+1.5**	
	34nm,1.1s							
SIUC				*es*P	**sP**	**05 29 25.1**	**+2.6**	
035Z	**Hargill**	**24.61**	**293**	⇑P	**P**	**05 29 24.6**	**+1.9**	
	baz=25							
ACCN	**Adirondack Com**	**24.84**	**359**	*e*P	**P**	**05 29 25.4**	**+0.7**	
835A	**Beeville**	**24.89**	**298**	⇓P	**P**	**05 29 26.5**	**+1.3**	
	baz=25							
SFIN	**Scholer Farm**	**25.05**	**334**	*e*P	**P**	**05 29 28.8**	**+2.2**	
	32nm,0.9s							
SFIN	**Scholer Farm**	**25.05**	**334**	⇑P	**P**	**05 29 28.0**	**+1.5**	
	baz=25							
735A	**Kenedy**	**25.05**	**299**	⇓P	**P**	**05 29 27.9**	**+1.2**	
	baz=25,SNR=8.2							
635A	**Leesville**	**25.20**	**300**	⇑P	**P**	**05 29 28.7**	**+0.7**	
	baz=25							
535A	**Dale**	**25.26**	**302**	⇑P	**P**	**05 29 29.1**	**+0.5**	
	baz=25							
934A	**Benavides**	**25.28**	**296**	⇑P	**P**	**05 29 30.0**	**+1.2**	
	baz=25,SNR=6.5							
034A	**Hebbronville**	**25.28**	**294**	⇑P	**P**	**05 29 29.8**	**+1.0**	
	baz=25							
834A	**Tilden**	**25.45**	**297**	⇓P	**P**	**05 29 30.9**	**+0.5**	
	baz=26							
335A	**Moody**	**25.63**	**305**	⇓P	**P**	**05 29 32.3**	**+0.4**	
	baz=26							
634A	**China Grove, S**	**25.67**	**300**	⇑P	**P**	**05 29 32.5**	**+0.2**	
	baz=26							
734A	**La Parita Cree**	**25.67**	**298**	⇑P	**P**	**05 29 32.4**	**0.0**	
	baz=26							
933A	**Laredo**	**25.93**	**295**	⇑P	**P**	**05 29 36.3**	**+1.6**	
	baz=26,SNR=8.8							
WHTX	**Lake Whitney**	**25.95**	**306**	*e*P	**P**	**05 29 35.7**	**+0.9**	
	24nm,0.9s							
WHTX	**Lake Whitney**	**25.95**	**306**	⇓P	**P**	**05 29 35.4**	**+0.6**	
	baz=26,SNR=8.1							
534A	**Blanco**	**25.99**	**301**	⇑P	**P**	**05 29 35.7**	**+0.4**	
	baz=26,SNR=14							
434A	**Burnet**	**26.11**	**303**	⇑P	**P**	**05 29 36.2**	**-0.2**	
	baz=26							
833A	**Chaparral WMA,**	**26.22**	**297**	⇓P	**P**	**05 29 37.7**	**+0.4**	
	baz=26,SNR=14							
733A	**Divot King Ran**	**26.25**	**298**	⇓P	**P**	**05 29 37.7**	**+0.1**	
	baz=26							
334A	**Lometa**	**26.28**	**304**	⇑P	**P**	**05 29 37.8**	**-0.1**	
	baz=26							
FRNY	**Flat Rock**	**26.29**	**359**	*e*P	P	05 29 42.7	+5.0	
	41nm,1.2s							
633A	**Saathoff Ranch**	**26.38**	**299**	⇓P	**P**	**05 29 38.6**	**-0.1**	
	baz=26							
Z35A	**Perchaven, San**	**26.39**	**309**	⇑P	**P**	**05 29 39.0**	**+0.1**	
	baz=26							
533A	**Kerrville**	**26.46**	**301**	⇑P	**P**	**05 29 39.3**	**-0.2**	
	baz=26							
234A	**Clairette**	**26.48**	**305**	⇑P	**P**	**05 29 39.7**	**0.0**	
	baz=26							
134A	**White-Moore Ra**	**26.67**	**307**	⇑P	**P**	**05 29 41.2**	**-0.2**	
	baz=27							
TUL1	**Tulsa**	**26.70**	**315**	*e*P	**P**	**05 29 42.2**	**+0.6**	
	25nm,1.0s							
TUL1	**Tulsa**	**26.70**	**315**	⇑P	**P**	**05 29 41.9**	**+0.3**	
	baz=27							
832A	**Faith Ranch, C**	**26.70**	**296**	⇓P	**P**	**05 29 41.8**	**+0.1**	
	baz=27,SNR=11							
SADO	**Sadowa**	**26.74**	**350**	P	**P**	**05 29 41.8**	**0.0**	
SADO	**Sadowa**	**26.74**	**350**	P	**P**	**05 29 41.8**	**0.0**	
	4.9nm,0.7s,baz=100,slow=6.1,SNR=3.5							
433A	**Art**	**26.75**	**302**	⇓P	**P**	**05 29 42.3**	**+0.2**	
	baz=27,SNR=12							
732A	**Laxson Ranch,**	**26.82**	**297**	⇑P	**P**	**05 29 42.6**	**-0.1**	
	baz=27							
333A	**Richland Sprin**	**26.87**	**303**	⇑P	**P**	**05 29 43.4**	**+0.2**	
	baz=27,SNR=8.6							
632A	**Uvalde**	**26.90**	**299**	⇓P	**P**	**05 29 43.3**	**-0.1**	
	baz=27							
Z34A	**Collier Ranch,**	**26.90**	**308**	⇓P	**P**	**05 29 43.6**	**+0.1**	
	baz=27							
Y34A	**Reagan Ranch,**	**27.06**	**310**	⇑P	**P**	**05 29 45.7**	**+0.9**	
	baz=27,SNR=6.2							
233A	**Rising Star**	**27.07**	**305**	⇑P	**P**	**05 29 44.9**	**-0.1**	
	baz=27							
532A	**Rocksprings**	**27.19**	**300**	⇓P	**P**	**05 29 46.1**	**0.0**	
	baz=27							
JCT	**Junction City**	**27.22**	**301**	*e*P	**P**	**05 29 47.4**	**+0.9**	
	16nm,1.0s							
JCT				*es*P	**sP**	**05 29 54.5**	**+2.0**	
133A	**Hamilton Ranch**	**27.32**	**306**	⇓P	**P**	**05 29 47.3**	**0.0**	
	baz=27							
432A	**Menard**	**27.35**	**302**	⇓P	**P**	**05 29 47.7**	**+0.1**	
	baz=27							
X34A	**Smith Ranch, M**	**27.42**	**311**	⇓P	**P**	**05 29 48.2**	**0.0**	
	baz=28							
332A	**Millersview**	**27.49**	**303**	⇓P	**P**	**05 29 48.6**	**-0.2**	
	baz=28							
Z33A	**Whitaker Ranch**	**27.50**	**308**	⇓P	**P**	**05 29 48.8**	**0.0**	
	baz=28							
631A	**Perdido Creek**	**27.52**	**298**	⇓P	**P**	**05 29 49.0**	**-0.1**	
	baz=28							
Y33A	**Hilltop Ranch,**	**27.72**	**309**	⇑P	**P**	**05 29 51.3**	**+0.5**	
	baz=28							
V34A	**Guthrie**	**27.83**	**313**	⇓P	**P**	**05 29 51.5**	**-0.3**	
	baz=28							
X33A	**Lawton**	**27.88**	**310**	⇓P	**P**	**05 29 51.8**	**-0.4**	
	baz=28							
ABTX	**Abilene, Hawle**	**27.89**	**306**	*e*P	**P**	**05 29 52.9**	**+0.5**	
	145nm,2.6s							
ABTX	**Abilene, Hawle**	**27.89**	**306**	⇓P	**P**	**05 29 51.6**	**-0.7**	
	baz=28							
431A	**Sonora**	**27.95**	**301**	⇓P	**P**	**05 29 52.8**	**-0.1**	
	baz=28							
331A	**San Angelo**	**28.01**	**302**	⇓P	**P**	**05 29 52.6**	**-0.8**	
	baz=28							
Z32A	**Haskell**	**28.05**	**307**	⇑P	**P**	**05 29 53.8**	**0.0**	
	baz=28,SNR=6.2							
231A	**Bronte**	**28.15**	**304**	⇓P	**P**	**05 29 53.9**	**-0.8**	
	baz=28							
U34A	**Anderson Ranch**	**28.16**	**314**	⇑P	**P**	**05 29 54.7**	**0.0**	
	baz=28							
WMOK	**Wichita Mounta**	**28.17**	**310**	*e*P	**P**	**05 29 56.0**	**+1.1**	
	152nm,3.0s							
Y32A	**R-V Farms, Ver**	**28.32**	**308**	⇓P	**P**	**05 29 56.0**	**-0.2**	
	baz=28							
V33A	**Lossen Ranch,**	**28.36**	**313**	⇓P	**P**	**05 29 56.2**	**-0.3**	
	baz=28							
X32A	**Elmer**	**28.39**	**309**	⇑P	**P**	**05 29 56.3**	**-0.5**	
	baz=28							
430A	**Baggett Ranch,**	**28.49**	**301**	⇓P	**P**	**05 29 57.2**	**-0.5**	
	baz=28							
Z31A	**Sharp Cattle R**	**28.56**	**307**	⇓P	**P**	**05 29 57.3**	**-1.0**	
	baz=29							
330A	**Mertzon**	**28.65**	**302**	⇓P	**P**	**05 29 58.0**	**-1.1**	
	baz=29							
W32A	**Sentinel**	**28.69**	**311**	⇓P	**P**	**05 29 59.5**	**0.0**	
	baz=29,SNR=7.4							
230A	**Sterling City**	**28.76**	**303**	⇑P	**P**	**05 29 59.7**	**-0.5**	
	baz=29							
V32A	**Arapaho**	**28.84**	**312**	⇑P	**P**	**05 30 00.4**	**-0.3**	
	baz=29							
SAML	**Samuel**	**28.87**	**160**	P	**P**	**05 30 00.1**	**-1.0**	
	10nm,1.2s							
Y31A	**Rekieta Farm,**	**28.92**	**308**	⇓P	**P**	**05 30 01.2**	**-0.3**	
	baz=29							
X31A	**McDonald Ranch**	**29.00**	**309**	⇑P	**P**	**05 30 01.7**	**-0.5**	
	baz=29							
529A	**Stev Forest Ra**	**29.10**	**299**	⇓P	**P**	**05 30 02.4**	**-0.8**	
	baz=29							
U32A	**Winter Ranch,**	**29.14**	**313**	⇓P	**P**	**05 30 04.0**	**+0.6**	
	baz=29							
W31A	**Holland Ranch,**	**29.23**	**310**	⇓P	**P**	**05 30 04.6**	**+0.3**	
	baz=29							
Z30A	**Sanderson Ranc**	**29.30**	**306**	⇓P	**P**	**05 30 04.9**	**0.0**	
	baz=29							
329A	**Wagon Wheel Ra**	**29.32**	**302**	⇑P	**P**	**05 30 05.3**	**+0.1**	
	baz=29							
229A	**Bryant Ranch,**	**29.35**	**303**	⇑P	**P**	**05 30 05.9**	**+0.5**	
	baz=29							
V31A	**Spring Creek L**	**29.43**	**311**	⇑P	**P**	**05 30 06.8**	**+0.7**	
	baz=30							
628A	**Black Gap, Mar**	**29.48**	**297**	⇑P	**P**	**05 30 06.5**	**-0.1**	
	baz=30							
T32A	**Huddler Ranch,**	**29.50**	**314**	⇓P	**P**	**05 30 07.1**	**+0.5**	
	baz=30							
R33A	**Olander Ranch,**	**29.50**	**317**	⇑P	**P**	**05 30 07.0**	**+0.4**	
	baz=30							
528A	**Cox Ranch, San**	**29.58**	**299**	⇓P	**P**	**05 30 07.7**	**+0.2**	
	baz=30							
X30A	**Coker Ranch, T**	**29.58**	**308**	⇓P	**P**	**05 30 07.7**	**+0.3**	
	baz=30							
428A	**Kincaid Ranch,**	**29.66**	**300**	⇓P	**P**	**05 30 08.6**	**+0.4**	
	baz=30,SNR=14							
Z29A	**Hungry Hill Ra**	**29.74**	**305**	⇑P	**P**	**05 30 09.0**	**+0.2**	
	baz=30,SNR=7.7							
Q33A	**Connelly Farm,**	**29.81**	**319**	⇑P	**P**	**05 30 09.8**	**+0.5**	
	baz=30							
Y29A	**Porterfield Fa**	**29.94**	**306**	⇑P	**P**	**05 30 11.0**	**+0.3**	
	baz=30							
328A	**Wristen Ranch,**	**29.96**	**301**	⇓P	**P**	**05 30 10.8**	**-0.1**	
	baz=30							
T31A	**Randall Ranch,**	**29.97**	**314**	⇑P	**P**	**05 30 11.2**	**+0.4**	
	baz=30							
228A	**UT Block 9, Go**	**30.02**	**303**	⇑P	**P**	**05 30 12.2**	**+0.8**	
	baz=30							
R32A	**Long Quarter,**	**30.04**	**317**	⇑P	**P**	**05 30 11.4**	**0.0**	
	baz=30							
TXAR	**Lajitas Array**	**30.10**	**297**	P	**P**	**05 30 12.3**	**+0.1**	
TXAR				PcP	**PcP**	**05 33 13.6**	**-0.1**	
TXAR	**Lajitas Array**	**30.10**	**297**	P	**P**	**05 30 12.3**	**+0.1**	
	5.2nm,1.0s,baz=116,slow=5.7,SNR=8.4							
TXAR				PcP	**PcP**	**05 33 13.6**	**-0.1**	
	0.9nm,0.9s,baz=119,slow=3.2,SNR=4.1							
TX31	**Lajitas Ar. Si**	**30.10**	**297**	*e*P	**P**	**05 30 12.3**	**+0.2**	
128A	**Castleberry Fa**	**30.11**	**304**	⇑P	**P**	**05 30 12.1**	**0.0**	
	baz=30,SNR=8.8							
S31A	**Mullinville**	**30.11**	**315**	⇓P	**P**	**05 30 12.5**	**+0.4**	
	baz=30							
X29A	**Tulia**	**30.20**	**308**	⇓P	**P**	**05 30 12.8**	**-0.2**	
	baz=30							
Q32A	**Meitler Ranch,**	**30.26**	**318**	⇑P	**P**	**05 30 14.0**	**+0.7**	
	baz=30							
527A	**Woodward Ranch**	**30.26**	**298**	⇓P	**P**	**05 30 13.4**	**-0.2**	
	baz=30							
Z28A	**Tucker Farm, M**	**30.27**	**305**	⇑P	**P**	**05 30 13.7**	**+0.1**	
	baz=30							
427A	**Hayter Ranch,**	**30.28**	**300**	⇓P	**P**	**05 30 13.5**	**-0.3**	
	baz=30							
U30A	**WK&E Inc. Balk**	**30.37**	**312**	⇓P	**P**	**05 30 14.0**	**-0.4**	
	baz=30							
AMTX	**Amarillo**	**30.37**	**308**	⇑P	**P**	**05 30 14.0**	**-0.4**	
	baz=30							
Y28A	**McKinney Farm,**	**30.40**	**306**	⇓P	**P**	**05 30 14.5**	**-0.2**	
	baz=30							
R31A	**Burdett**	**30.50**	**316**	⇓P	**P**	**05 30 15.7**	**+0.2**	
	baz=31							
526A	**Mary Lane Ranc**	**30.64**	**298**	⇓P	**P**	**05 30 16.8**	**-0.1**	
	baz=31,SNR=20							
P32A	**Huiting Farm,**	**30.66**	**319**	⇑P	**P**	**05 30 17.6**	**+0.8**	
	baz=31							
V29A	**Stinnett**	**30.68**	**310**	⇓P	**P**	**05 30 17.8**	**+0.6**	
	baz=31							
426A	**McDonald Obser**	**30.75**	**299**	⇑P	**P**	**05 30 18.1**	**+0.1**	
	baz=31,SNR=13							
127A	**Arkansas Junct**	**30.82**	**303**	⇑P	**P**	**05 30 17.9**	**-0.6**	
	baz=31							
MSTX	**Muleshoe**	**30.83**	**306**	*e*P	**P**	**05 30 18.6**	**+0.1**	
	19nm,1.1s							
MSTX	**Muleshoe**	**30.83**	**306**	⇓P	**P**	**05 30 18.6**	**+0.1**	
	baz=31							
Z27A	**Tatum**	**30.93**	**305**	⇓P	**P**	**05 30 19.1**	**-0.3**	
	baz=31							
R30A	**Dighton**	**31.00**	**315**	⇓P	**P**	**05 30 19.9**	**+0.1**	

baz=33
K30A **Basset** 33.11 323 ⇓P P 05 30 39.1 +0.7
baz=33
N28A **Pribbeno Ranch** 33.11 318 ⇓P P 05 30 38.8 +0.3
baz=33
Z23A **Rita Site, Whi** 33.30 303 ⇑P P 05 30 40.7 +0.4
baz=33
W24A **Lazy 6 Ranch,** 33.31 307 ⇑P P 05 30 41.1 +0.7
baz=33
T25A **Trinidad** 33.33 310 ⇓P P 05 30 41.4 +0.8
baz=33
Y23A **Lovelace Mesa,** 33.37 304 ⇓P P 05 30 41.6 +0.6
baz=33,SNR=12
Q26A **Hugo** 33.51 314 ⇑P P 05 30 42.6 +0.6
baz=34
S25A **Robets Cordova** 33.57 311 ⇑P P 05 30 43.0 +0.3
baz=34
R25A **Fountain Ranch** 33.68 312 ⇑P P 05 30 43.7 +0.2
baz=34
X23A **Hourglass Bar** 33.69 305 ⇑P P 05 30 44.2 +0.5
baz=34
W23A **Werner Place,** 33.86 306 ⇓P P 05 30 46.0 +0.8
baz=34
BNM **Barren Site** 33.89 304 *e*P P 05 30 46.8 +1.3
LPM **Los Pinos Moun** 33.94 304 *e*P P 05 30 46.9 +1.0
T24B **San Luis** 34.00 310 ⇑P P 05 30 47.6 +1.0
baz=34,SNR=6.9
ANMO **Albuquerque** 34.02 306 *e*P P 05 30 47.0 +0.4
ANMO **Albuquerque** 34.02 306 P P 05 30 46.5 -0.1
1.9nm,0.8s,baz=131,slow=8.8,SNR=4.0
V23A **Ortiz Mt. (NFS** 34.09 307 ⇓P P 05 30 48.5 +1.3
baz=34,SNR=6.5
S24A **Houchin Ranch,** 34.12 311 ⇑P P 05 30 48.3 +0.8
baz=34
R24A **Sanders Place,** 34.30 312 ⇑P P 05 30 49.7 +0.7
baz=34
U23A **El Rito** 34.31 308 ⇑P P 05 30 50.5 +1.3
baz=34
121A **Cookes Peak, D** 34.34 301 ⇑P P 05 30 50.4 +1.0
baz=34
LAZ **Ladron** 34.37 304 *e*P P 05 30 50.9 +1.2
SDCO **Great Sand Dun** 34.37 311 *e*P P 05 30 50.4 +0.7
68nm,2.4s
T23A **Casias Ranch,** 34.47 309 ⇑P P 05 30 51.4 +0.8
baz=34
Q24A **Divide** 34.65 313 ⇓P P 05 30 52.6 +0.4
baz=35
320A **Kipp Ranch, An** 34.66 299 ⇑P P 05 30 53.1 +1.0
baz=35
P24A **Kohler Place,** 34.74 314 ⇑P P 05 30 53.5 +0.7
baz=35
R23A **Moffat** 34.79 311 ⇓P P 05 30 54.3 +0.9
baz=35
U22A **Llaves** 34.83 308 ⇑P P 05 30 54.9 +1.3
baz=35,SNR=9.1
M25A **Palm-Egli Farm** 35.12 317 ⇓P P 05 30 56.5 +0.5
baz=35
O24A **Longmont** 35.14 315 ⇓P P 05 30 56.6 +0.4
baz=35
AGMN **Agassiz Nation** 35.14 333 *e*P P 05 30 56.4 +0.6
67nm,1.8s
AGMN **Agassiz Nation** 35.14 333 ⇑P P 05 30 56.1 +0.2
baz=35
LPIG **La Paz** 35.29 286 P P 05 30 57.9 +0.4
LPIG **La Paz** 35.29 286 P P 05 30 57.9 +0.4
12nm,0.3s,baz=108,slow=3.2,SNR=2.2
319A **Douglas** 35.29 298 ⇓P P 05 30 59.1 +1.5
baz=35,SNR=21
S22A **4UR Ranch, Cre** 35.33 310 ⇑P P 05 30 58.0 0.0
baz=35
ISCO **Idaho Springs** 35.35 314 *e*P P 05 30 57.0 -1.2
11nm,1.3s
ISCO **Idaho Springs** 35.35 314 ⇑P P 05 30 58.4 +0.2
baz=35
M24A **Cheyenne** 35.63 317 ⇓P P 05 31 01.1 +0.7
baz=36
H27A **Howes** 35.72 323 ⇑P P 05 31 01.2 +0.2
baz=36
F28A **McLaughlin** 35.79 326 ⇓P P 05 31 02.9 +1.4
baz=36
SMCO **Snowmass** 36.02 312 *e*P P 05 31 03.6 -0.5
15nm,1.2s
G27A **Dupree** 36.10 324 ⇑P P 05 31 05.0 +0.8
baz=36
B30A **Myrvik Farm, E** 36.35 331 ⇑P P 05 31 07.3 +1.0
baz=36
MVCO **Mesa Verde** 36.36 308 ⇑P P 05 31 06.8 0.0
baz=36
N22A **Wattenberg Ran** 36.39 315 ⇓P P 05 31 07.4 +0.4
baz=36
L23A **Garrett** 36.52 317 ⇑P P 05 31 08.2 +0.1
baz=37
SCHQ **Schefferville** 36.58 6 P P 05 31 07.1 -1.0
SCHQ **Schefferville** 36.58 6 P P 05 31 07.1 -1.0
5.6nm,0.7s,baz=203,slow=4.6,SNR=6.6
X18A **Snowflake** 36.62 303 ⇑P P 05 31 09.9 +0.9
baz=37
ULM **Lac du Bonnet** 36.66 335 *e*P P 05 31 08.1 -0.8
21nm,1.1s
ULM **Lac du Bonnet** 36.66 335 P P 05 31 07.8 -1.0
5.6nm,0.8s,baz=155,slow=9.2,SNR=6.8
A30A **Hoffart Farm,** 36.70 332 ⇑P P 05 31 10.2 +1.0
baz=37
A29A **Manning Farm,** 37.11 331 ⇑P P 05 31 14.7 +2.0
baz=37
B28A **Dugan Ranch, T** 37.31 329 ⇑P P 05 31 15.0 +0.6
baz=37
K22A **Casper** 37.32 318 ⇓P P 05 31 14.9 +0.1
baz=37
J22A **Midwest** 37.67 319 ⇓P P 05 31 18.1 +0.3
baz=38
C26A **Wahner Farm, P** 37.75 327 ⇑P P 05 31 19.2 +1.0
baz=38
K21A **Alcova** 37.78 317 ⇓P P 05 31 19.0 +0.2
baz=38,SNR=10
X16A **Lo Mia Camp, P** 37.78 303 ⇑P P 05 31 19.8 +1.0
baz=38,SNR=8.8
I22A **9 Mile Ranch,** 37.92 319 ⇑P P 05 31 19.9 0.0
baz=38
WUAZ **Wupatki** 38.02 304 *e*P P 05 31 22.2 +1.4
8.1nm,1.0s
WUAZ **Wupatki** 38.02 304 ⇓P P 05 31 21.4 +0.5
baz=38,SNR=5.8
J21A **Lysite** 38.25 318 ⇓P P 05 31 22.8 +0.1
baz=38,SNR=5.6
F23A **Volborg** 38.27 322 ⇑P P 05 31 22.7 0.0
baz=38
214A **Organ Pipe Nat** 38.36 298 ⇓P P 05 31 23.6 0.0
baz=38
I21A **Big Trails, Te** 38.39 319 ⇓P P 05 31 23.6 -0.2
baz=38
A26A **Wade Farm, Ken** 38.43 329 ⇑P P 05 31 24.5 +0.6
baz=38
SRU **San Rafael** 38.54 310 *e*P P 05 31 26.2 +1.0
6.6nm,1.0s
F22A **Rosebud** 38.80 322 ⇓P P 05 31 26.6 -0.5
baz=39
Y14A **Wickenburg** 38.92 301 ⇓P P 05 31 28.9 +0.6
baz=39
U15A **North Rim** 38.99 305 ⇑P P 05 31 30.4 +1.3
baz=39,SNR=7.7
TMUT **Trail Mountain** 39.10 310 *e*P P 05 31 30.6 +0.6
14nm,1.2s
J19A **Crowheart** 39.24 317 ⇓P P 05 31 30.9 -0.2
baz=39
PDAR **Pinedale Array** 39.35 316 P P 05 31 31.2 -0.7
PDAR PcP PcP 05 33 40.0 -0.4
PDAR **Pinedale Array** 39.35 316 P P 05 31 31.2 -0.7
1.2nm,0.7s,baz=124,slow=7.9,SNR=5.4
PDAR PcP PcP 05 33 40.0 -0.4
2.2nm,0.9s,baz=131,slow=4.0,SNR=3.8
C23A **Lambert** 39.36 325 ⇑P P 05 31 32.1 +0.4
baz=39
A24A **Westby** 39.43 327 ⇑P P 05 31 32.9 +0.6
baz=40
D22A **Cohagen** 39.52 324 ⇓P P 05 31 34.1 +0.9
baz=40
I19A **Meeteetse** 39.57 318 ⇑P P 05 31 33.8 +0.1
baz=40
MPU **Maple Canyon** 39.66 311 *e*P P 05 31 35.0 +0.4
16nm,1.1s
C22A **Vida** 39.70 325 ⇑P P 05 31 35.1 +0.5
baz=40
DCU **Deer Creek Res** 39.73 312 *e*ScP ScP 05 37 31.5 +1.3
H19A **Powell** 39.87 319 ⇓P P 05 31 36.5 +0.3
baz=40
W13A **Hualapai Mount** 39.90 303 ⇑P P 05 31 37.8 +1.1
baz=40,SNR=6.3

CCUT **Cedar City** 40.13 307 *e*P P 05 31 39.4 +0.8
64nm,2.6s
ARUT **Antelope Range** 40.26 307 *e*P P 05 31 40.3 +0.8
RLMT **Red Lodge** 40.26 319 *e*ScP ScP 05 37 37.3 +5.1
E20A **Meyer Farm, Mu** 40.28 322 ⇑P P 05 31 39.2 -0.3
baz=40
H18A **Shoshone NF, C** 40.30 319 ⇓P P 05 31 39.5 -0.3
baz=40
LOHW **Long Hollow** 40.41 317 *e*P P 05 31 40.1 -0.7
15nm,1.1s
SNOW **Snow King Moun** 40.44 316 *e*P P 05 31 41.4 +0.4
20nm,1.3s
REDW **Red Top Meadow** 40.46 316 *e*P P 05 31 41.5 +0.3
28nm,1.4s
A22A **Carney Farms,** 40.46 326 ⇓P P 05 31 42.1 +1.2
baz=40
I17A **Pilgrim Ck.** 40.53 317 ⇓P P 05 31 41.9 +0.1
baz=41
MOOW **Moose Ponds** 40.56 317 *e*P P 05 31 42.2 +0.2
10nm,1.0s
DUG **Dugway** 40.57 311 *e*P P 05 31 42.4 +0.3
10nm,1.0s
DUG **Dugway** 40.57 311 ⇓P P 05 31 42.4 +0.3
baz=41
TPAW **Teton Pass** 40.58 316 *e*P P 05 31 42.6 +0.3
18nm,1.3s
D20A **Manuel Ranch,** 40.60 323 ⇑P P 05 31 42.6 +0.5
baz=41
E19A **Rath Farm, Rou** 40.65 321 ⇓P P 05 31 42.9 +0.4
baz=41
FXWY **Fox Creek** 40.70 316 *e*P P 05 31 42.8 -0.3
16nm,1.2s
DREC **Desert Rsrch C** 40.70 299 *e*P P 05 31 44.5 +1.5
IRM **Iron Mountain** 40.71 301 ⇓P P 05 31 44.2 +1.0
baz=41,SNR=11
SPUT **South Promonto** 40.72 313 *e*P P 05 31 43.9 +0.6
12nm,1.0s
H17A **Grant Village** 40.74 318 ⇑P P 05 31 43.9 +0.4
baz=41
BC3 **Big Chuckawall** 40.86 300 ⇓P P 05 31 44.9 +0.4
baz=41
C20A **Veseth Ranch,** 40.86 324 ⇓P P 05 31 45.0 +0.8
baz=41
LDFC **Landfair** 40.87 303 *e*P P 05 31 45.7 +1.2
17nm,1.1s
BGU **Big Grassy Mou** 40.98 312 *e*P P 05 31 45.9 +0.4
6.1nm,1.1s
A21A **Bergtoll Ranch** 41.00 326 ⇓P P 05 31 46.0 +0.7
baz=41
D19A **Cripps Ranch,** 41.07 322 ⇓P P 05 31 46.2 +0.2
baz=41
SHPR **Sheep Range** 41.24 305 *e*P P 05 31 49.2 +1.6
GMRC **Granite Mounta** 41.25 302 ⇓P P 05 31 48.0 +0.3
baz=41
A20A **Cobblestone Ra** 41.47 325 ⇑P P 05 31 49.3 0.0
baz=42
MONP **Monument Peak** 41.53 299 ⇓P P 05 31 49.3 -0.8
baz=42
PFO **Pinyon Flat Ob** 41.67 300 P P 05 31 51.2 0.0
PFO **Pinyon Flat Ob** 41.67 300 P P 05 31 51.2 0.0
1.5nm,0.7s,baz=68,slow=5.4,SNR=3.4
PFO **Pinyon Flat Ob** 41.67 300 ⇑P P 05 31 51.9 +0.7
baz=42
BDFB **Brasilia** 41.80 143 *e*P P 05 31 52.4 +0.2
BDFB **Brasilia** 41.80 143 P P 05 31 51.9 -0.4
8.4nm,1.0s,baz=322,slow=9.4,SNR=6.1
A19A **Klindworth Far** 41.95 325 ⇓P P 05 31 54.1 +1.0
baz=42
BOZ **Bozeman (W)** 41.98 319 *e*ScP ScP 05 37 42.2 +3.3
BOZ *e*ScS ScS 05 41 59.1 +3.0
SHOC **Shoshone** 41.98 303 ⇑P P 05 31 54.3 +0.7
baz=42
R11A **Troy Canyon, C** 42.05 307 *e*P P 05 31 55.2 +0.9
87nm,3.0s
R11A **Troy Canyon, C** 42.05 307 ⇓P P 05 31 54.4 +0.1
baz=42
TPNV **Topopah Spring** 42.20 305 *e*P P 05 31 57.3 +1.8
10nm,1.0s
TPNV **Topopah Spring** 42.20 305 ⇓P P 05 31 56.5 +1.0
baz=42,SNR=7.3
GSC **Goldstone** 42.28 302 *e*P P 05 31 57.7 +1.6
8.1nm,1.0s
GSC **Goldstone** 42.28 302 ⇑P P 05 31 56.4 +0.4
baz=42
MURC **Murrieta** 42.29 300 ⇑P P 05 31 56.9 +0.8
baz=42
MCMT **McKenzie Canyo** 42.39 317 *e*P P 05 31 57.2 +0.2
ELK **Elko** 42.50 311 P P 05 31 52.9 -5.1
ELK **Elko** 42.50 311 P P 05 31 52.9 -5.1
3.9nm,0.9s,baz=193,slow=7.7,SNR=7.2
FURC **Furnace Creek,** 42.57 304 ⇓P P 05 31 59.4 +1.2
baz=43
BFSC **Mount Baldy Ra** 42.77 301 ⇑P P 05 32 00.9 +0.8
baz=43
HLID **Hailey** 42.91 315 *e*P P 05 32 01.7 +0.5
52nm,2.4s
HLID **Hailey** 42.91 315 ⇓P P 05 32 01.3 +0.1
baz=43
GRAC **Grapevine Rang** 43.08 305 ⇓P P 05 32 03.7 +1.2
baz=43
FCC **Fort Churchill** 43.13 344 *e*P P 05 32 03.3 +0.8
FCC *e*pP pP 05 32 05.3 -1.6
EDW2 **Edwards Air Fo** 43.15 302 ⇓P P 05 32 03.8 +0.6
baz=43
TPH **Tonopah** 43.22 306 *e*P P 05 32 04.9 +1.0
9.5nm,1.0s
MFID **Camas Ranch** 43.81 314 *e*P P 05 32 08.6 +0.2
9.6nm,1.4s
ARVC **Arvin** 43.87 302 ⇑P P 05 32 10.1 +1.2
baz=44
NV11 **Mina Array Sit** 44.02 307 *e*P P 05 32 10.7 +0.5
NV01 **Mina Array Sit** 44.13 306 *e*P P 05 32 11.0 -0.2
NVAR **Mina Array Bea** 44.13 306 P P 05 32 11.7 +0.5
NVAR **Mina Array Bea** 44.13 306 P P 05 32 11.7 +0.5
2.1nm,0.8s,baz=96,slow=6.4,SNR=9.0
VES **Vestal, Richgr** 44.20 303 ⇑P P 05 32 12.6 +1.1
baz=44
RCTC **Rector, Farmer** 44.41 303 ⇑P P 05 32 14.4 +1.3
baz=44
FRB **Frobisher Bay** 45.33 3 P P 05 32 19.1 -0.8
FRB **Frobisher Bay** 45.33 3 P P 05 32 19.1 -0.8
9.7nm,1.0s,baz=190,slow=5.5,SNR=6.5
WVOR **Wild Horse Val** 45.45 312 *e*P P 05 32 21.8 +0.3
9.8nm,1.0s
J08A **Circle Bar Ran** 45.61 313 *e*P P 05 32 22.9 +0.2
12nm,1.0s
NEW **Newport** 46.50 320 *e*P P 05 32 29.5 -0.1
NEW **Newport** 46.50 320 P P 05 32 28.9 -0.7
3.7nm,1.0s,baz=119,slow=5.1,SNR=4.1
NEW **Newport** 46.50 320 ⇓P P 05 32 29.3 -0.3
baz=46
EDM **Edmonton** 46.72 328 *e*P P 05 32 31.1 -0.1
M04C **Macdoel** 47.57 310 ⇑P P 05 32 38.4 +0.3
baz=48
G06A **Carlson Farm,** 47.67 315 *e*P P 05 32 39.9 +1.1
15nm,2.8s
YBH **Yreka Blue Hor** 48.19 310 P P 05 32 41.4 -1.5
YBH **Yreka Blue Hor** 48.19 310 P P 05 32 41.4 -1.5
3.6nm,0.8s,baz=198,slow=1.8,SNR=4.5
H04A **Detroit Lake** 48.56 314 *e*P P 05 32 46.2 +0.5
28nm,1.1s
I03D **Drain, OR** 49.11 312 ⇑P P 05 32 50.1 +0.3
baz=49
YKA **Yellowknife Ar** 52.58 337 P P 05 33 14.7 -0.9
YKA **Yellowknife Ar** 52.58 337 P P 05 33 14.7 -0.9
6.8nm,1.0s,baz=125,slow=7.6,SNR=18
YKB5 **Yellowknife Ar** 52.58 337 *e*P P 05 33 14.4 -1.2
YKW3 **Yellowknife Ar** 52.62 337 *e*P P 05 33 15.0 -1.0
DLBC **Dease Lake** 57.42 328 *e*P P 05 33 50.3 -0.6
RES **Resolute Bay** 57.49 353 P P 05 33 50.0 -1.0
RES **Resolute Bay** 57.49 353 P P 05 33 50.0 -1.0
5.3nm,0.9s,baz=172,slow=9.1,SNR=6.4
SUMG **Summit** 57.56 12 *i* P P 05 33 52.1 +0.1
17nm,0.9s
PLCA **Paso Flores** 58.95 178 P P 05 34 02.7 +1.1
PLCA **Paso Flores** 58.95 178 P P 05 34 02.7 +1.1
3.0nm,0.8s,baz=0.0,slow=1.0,SNR=5.1
SCO **Scoresbysund** 60.13 17 *i* P P 05 34 15.0 +5.6
ESDC **Sonseca Array** 62.33 54 P P 05 34 25.0 0.0
ESDC **Sonseca Array** 62.33 54 P P 05 34 25.0 0.0
7.0nm,1.0s,baz=278,slow=7.0,SNR=11
ES19 **SONSECA Array** 62.38 54 *e*P P 05 34 24.5 -0.8
BMRM **Bremner River** 65.17 329 *e*P P 05 34 44.7 +1.4
78nm,1.4s
DBIC **Dimbokro** 67.05 90 P P 05 34 55.0 -1.1
DBIC **Dimbokro** 67.05 90 P P 05 34 55.0 -1.1
4.3nm,0.9s,baz=252,slow=6.4,SNR=2.8

MEM **Membach** 68.91 42 P P 05 35 10.0 +2.8
MEM **Membach** 68.91 42 *e*P P 05 35 10.4 +3.3
269nm,2.6s
IM04 **Indian Mountai** 69.60 334 *e*P P 05 35 10.3 -0.9
NB2 **NORSAR Subarra** 71.15 31 P P 05 35 21.1 +0.3
comp=Z,1.7nm,0.7s,baz=274,slow=6.2
NOA **NORSAR Array B** 71.15 31 P P 05 35 20.9 +0.2
NOA **NORSAR Array B** 71.15 31 P P 05 35 20.9 +0.2
comp=Z,6.1nm,1.0s,baz=275,slow=6.3,SNR=6.0
TOA0 **Torodi Ar. Sit** 71.47 82 *e*P P 05 35 21.9 -1.6
TORD **Torodi Ar. Bea** 71.47 82 P P 05 35 22.1 -1.3
TORD **Torodi Ar. Bea** 71.47 82 P P 05 35 22.1 -1.3
comp=Z,4.0nm,1.0s,baz=286,slow=5.6,SNR=9.0
GRF **Grafenberg Arr** 72.34 43 *e*P P 05 35 28.5 +0.4
comp=Z,9.0nm,1.1s
GRF *e*pP pP 05 35 32.0 -0.8
FETA **Feichten** 72.39 46 ⇑*i*P P 05 35 28.7 0.0
comp=Z,14nm,1.2s
TAM **Tamanrasset** 72.66 71 *e*P P 05 35 31.3 +0.6
CLL **Collm** 73.23 41 *e*P P 05 35 33.0 -0.3
CLL *i* (sP) sP 05 35 36.9 -2.8
CLL *e*PcP PcP 05 35 51.0 +1.2
KEST **Kesra** 73.25 57 P P 05 35 32.9 -1.0
KEST **Kesra** 73.25 57 P P 05 35 32.9 -1.0
comp=Z,4.3nm,0.8s,baz=243,slow=3.2,SNR=5.3
KHC **Kasperske Hory** 73.94 43 *e*P P 05 35 37.7 0.0
KHC *e*pP pP 05 35 41.5 -0.8
GERES **GERESS Array B** 74.07 43 P P 05 35 38.3 -0.2
GERES **GERESS Array B** 74.07 43 P P 05 35 38.3 -0.2
comp=Z,7.8nm,0.9s,baz=272,slow=4.8,SNR=28
KBA **Koelnbreinsper** 74.14 45 ⇑*i*P P 05 35 39.1 0.0
comp=Z,18nm,1.1s
PVCC **Panska Ves** 74.33 41 *e*P P 05 35 39.9 0.0
PVCC *e*pP pP 05 35 45.1 +0.6
PRU **Pruhonice** 74.41 42 *e*P P 05 35 40.6 +0.3
PRU *e*pP pP 05 35 44.5 -0.5
MOA **Molln** 74.62 44 ⇑*i*P P 05 35 41.6 -0.1
comp=Z,27nm,1.5s
TREC **Trest** 75.14 43 *e*P P 05 35 44.7 +0.1
UPC **Upice** 75.25 41 *e*P P 05 35 45.8 +0.7
DPC **Dobruska-Polom** 75.47 41 *e*P P 05 35 46.9 +0.4
DPC *e*pP pP 05 35 49.8 -1.4
CONA **Conrad Observa** 75.66 44 ⇑*i*P P 05 35 47.8 +0.2
comp=Z,8.1nm,1.0s
ARCES **ARCESS Array B** 75.73 21 P P 05 35 47.1 -0.5
ARCES **ARCESS Array B** 75.73 21 P P 05 35 47.1 -0.5
comp=Z,5.9nm,0.9s,baz=318,slow=5.2,SNR=6.4
MORC **Moravsky Berou** 76.36 42 *e*P P 05 35 51.9 +0.3
comp=Z,22nm,1.5s
OKC **Ostrava-Krasne** 76.73 42 *e*P P 05 35 54.5 +0.9
OKC *e*pP pP 05 35 57.2 -1.1
FINES **FINESS Array B** 78.13 29 P P 05 36 01.0 -0.2
FINES **FINESS Array B** 78.13 29 P P 05 36 01.0 -0.2
comp=Z,6.8nm,1.0s,baz=241,slow=3.9,SNR=7.5
SUW **Suwalki** 78.72 37 *e*P P 05 36 05.4 +0.8
comp=Z,51nm,1.4s
SUW *e*sP sP 05 36 09.8 -1.2
STHS **Stebnicka Huta** 78.78 42 *e*P P 05 36 05.8 +0.7
CRVS **Cervenica-Dubn** 79.06 42 *e*P P 05 36 07.8 +1.2
KOLS **Kolonicke sedl** 79.56 42 *e*P P 05 36 10.0 +0.6
KWP **Kalwaria Pacla** 79.64 41 *e*P P 05 36 10.8 +1.0
comp=Z,17nm,0.9s
MICGM **Minsk** 81.20 35 *e*P P 05 36 17.0 -1.0
BUR04 **Bucovina Ar. S** 81.83 43 *e*P P 05 36 22.5 +0.8
AKASG **Malin Array Be** 83.28 39 P P 05 36 28.1 -0.8
AKASG **Malin Array Be** 83.28 39 P P 05 36 28.1 -0.8
comp=Z,1.9nm,0.6s,baz=285,slow=4.2,SNR=10
TIXI **Tiksi** 88.88 353 *e*P P 05 36 55.7 -0.5
comp=Z,4.0nm,0.8s
BR231 **Keskin MP Arra** 89.75 48 *e*P P 05 37 03.6 +2.5
BRTR **Keskin Array B** 90.40 48 P P 05 37 03.5 -0.7
BRTR **Keskin Array B** 90.40 48 P P 05 37 03.5 -0.7
comp=Z,2.4nm,1.0s,baz=270,slow=3.7,SNR=7.5
SEY **Seymchan** 91.47 341 P P 05 37 09.2 +0.7
SEY **Seymchan** 91.47 341 P P 05 37 09.2 +0.7
comp=Z,0.7nm,0.3s,baz=358,slow=23,SNR=4.1
KBZ **Khabaz** 94.69 41 P P 05 37 24.8 +1.1
KBZ **Khabaz** 94.69 41 P P 05 37 24.8 +1.1
comp=Z,1.7nm,0.9s,baz=0.0,slow=9.1,SNR=2.1
WAKE **Wake Island** 110.60 300 *e*Pdif Pdif 05 38 41.4 +6.1
KSH **Kashi** 115.36 26 *e*PKP PKPdf 05 42 46.3 +1.7
KSH *e*PP PP 05 43 52.3 +7.8
KSH *e*SKS SKSdf 05 49 53.0 -3.6
KSH *e*SKKS SKKSac 05 50 40.8 -6.1
KSH *e*SS SS 05 59 45.3 +3.6
WMQ **Urumqi** 115.49 16 PKP PKPdf 05 42 44.3 -0.3
WMQ sPKP 05 42 53.6
WMQ PP PP 05 43 50.5 +5.5
WMQ PKS PKSdf 05 46 19.6 -1.7
WMQ SKS SKSdf 05 49 51.4 -5.2
WMQ LR LR
comp=Z,550nm,21.2s
HHC **Hu-ho-hao-te** 120.84 356 *e*PKP PKPdf 05 42 54.9 -0.1
HHC PP PP 05 44 26.3 +4.3
HHC SKS SKSdf 05 50 06.3 -0.7
HHC SKKS SKKSac 05 51 21.8 -1.2
HHC AMB AMB
comp=Z,69nm,8.1s
HHC LR LR
comp=Z,660nm,21.6s
BJI **Beijing** 121.18 352 PKP PKPdf 05 42 55.3 -0.2
GTA **Gaotai** 122.00 7 *e*PKP PKPdf 05 43 00.8 +3.4
LZH **Lanzhou** 125.64 3 *e*PKP PKPdf 05 43 03.8 -0.7
LZH sPKP 05 43 08.3
LZH LR LR
comp=Z,170nm,17.9s
LZH LR LR
comp=Z,160nm,18.1s
LZH LR LR
comp=Z,190nm,20.0s
CD2 **Chengdu** 130.79 4 *e*PKP PKPdf 05 43 12.5 -1.8
GYA **Guiyang** 135.33 1 *e*Pdif Pdif 05 40 23.8 -1.6
GYA PKP PKPdf 05 43 22.0 -1.0
GYA PP PP 05 46 01.4 +4.0
GYA PKS PKSdf 05 46 55.3 -4.3
GYA SKKS 05 52 51.0
GYA SS SS 06 03 52.1 +0.3
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=Z,120nm,19.9s
GYA LR LR
comp=Z,110nm,20.1s
GYA LR LR
comp=Z,120nm,19.6s
STKA **Stephens Creek** 146.26 240 PKPbc PKPdf 05 43 41.9 -0.4
STKA **Stephens Creek** 146.26 240 PKPbc PKPdf 05 43 41.9 -0.4
comp=Z,2.1nm,0.8s,baz=122,slow=3.5,SNR=2.9
WRA **Warramunga Arr** 154.31 262 PKP PKPdf 05 43 54.3 -0.8
WRA PKPbc PKPbc 05 44 02.2 -1.2
WRA PKPab PKPab 05 44 17.3 -0.2
WRA **Warramunga Arr** 154.31 262 PKP PKPdf 05 43 54.3 -0.8
comp=Z,1.9nm,0.9s,baz=90,slow=1.3,SNR=5.3
WRA PKPbc PKPbc 05 44 02.2 -1.2
comp=Z,3.2nm,0.9s,baz=83,slow=1.6,SNR=7.5
WRA PKPab PKPab 05 44 17.3 -0.2
comp=Z,1.4nm,1.0s,baz=69,slow=2.9,SNR=3.5
ASAR **Alice Springs** 154.54 254 PKPbc PKPbc 05 44 03.8 -0.1
ASAR **Alice Springs** 154.54 254 PKPbc PKPbc 05 44 03.8 -0.1
comp=Z,0.7nm,0.6s,baz=90,slow=2.8,SNR=4.3

CSEM ***13*** *05:29:07.7±0.4, 45.°47N×26.°39E, h126km±3km, MD3.4, Error ellipse: s-maj=7.3km s-min=5.8km az=14.0*
BUC 13 05:29:06.3±0.6, 45.°51N×26.°33E, h142km±5km, MD3.2/2, 18C-24D, Error ellipse: s-maj=4.0km s-min=3.5km az=19.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	0.27	266	⇑*i*P	P	Pn	05 29 25.9	-0.1
MLR	**Muntele Rosu**	0.27	266	⇑*i*P	P	Pn	05 29 25.9	-0.1
MLR				*i* S		Sn	05 29 39.8	-1.1
MLR	**Muntele Rosu**	0.27	266	⇑*i*P	P	Pn	05 29 25.9	-0.1
MLR				*i* S		Sn	05 29 39.8	-1.1
PLOR	**Plostina**	0.41	33	⇑*i*P	P	Pn	05 29 26.2	-0.1
PLOR	**Plostina**	0.41	33	⇑*i*P	P	Pn	05 29 26.2	-0.1
PLOR				*i* S		Sn	05 29 40.7	-0.9
PLOR	**Plostina**	0.41	33	⇑*i*P	P	Pn	05 29 26.2	-0.1
PLOR				*i* S		Sn	05 29 40.7	-0.9
ISR	**Istrita**	0.42	159	⇓*i*P	P	Pn	05 29 26.7	+0.3
ISR	**Istrita**	0.42	159	⇓*i*P	P	Pn	05 29 26.7	+0.3
ISR				*i* S		Sn	05 29 41.5	-0.2

ISR	**Istrita**	**0.42**	**159**	⇓*iP*	Pn	05 29 26.7	+0.3	
ISR				*i* S	Sn	05 29 41.5	-0.2	
VRI	**Vrincioaia**	**0.45**	**38**	⇑*iP*	Pn	05 29 26.6	+0.1	
VRI	**Vrincioaia**	**0.45**	**38**	⇑*iP*	Pn	05 29 26.6	+0.1	
VRI				*i* S	Sn	05 29 41.3	-0.6	
VRI	**Vrincioaia**	**0.45**	**38**	⇑*iP*	Pn	05 29 26.6	+0.1	
VRI				*i* S	Sn	05 29 41.3	-0.6	
SECR		**0.51**	**202**	S	Sn	05 29 42.2	-0.2	
SECR		**0.51**	**202**	*i* S	Sn	05 29 42.2	-0.2	
SECR		**0.51**	**202**	*i* S	Sn	05 29 42.2	-0.2	
PETR	**Petresti**	**0.67**	**71**	S	Sn	05 29 43.5	-0.4	
PETR	**Petresti**	**0.67**	**71**	*i* S	Sn	05 29 43.5	-0.4	
PETR	**Petresti**	**0.67**	**71**	*i* S	Sn	05 29 43.5	-0.4	
DOPR	**Dopca**	**0.80**	**305**	⇑*iP*	Pn	05 29 28.6	-0.1	
DOPR	**Dopca**	**0.80**	**305**	⇑*iP*	Pn	05 29 28.6	-0.1	
DOPR				*i* S	Sn	05 29 44.5	-1.3	
DOPR	**Dopca**	**0.80**	**305**	⇑*iP*	Pn	05 29 28.6	-0.1	
DOPR				*i* S	Sn	05 29 44.5	-1.3	
SULR		**0.83**	**184**	⇓*iP*	Pn	05 29 29.3	+0.4	
SULR		**0.83**	**184**	⇓*iP*	Pn	05 29 29.3	+0.4	
SULR				*i* S	Sn	05 29 45.8	-0.3	
SULR		**0.83**	**184**	⇓*iP*	Pn	05 29 29.3	+0.4	
SULR				*i* S	Sn	05 29 45.8	-0.3	
VOIR		**0.91**	**266**	⇑*iP*	Pn	05 29 29.6	0.0	
VOIR		**0.91**	**266**	⇑*iP*	Pn	05 29 29.6	0.0	
VOIR				*i* S	Sn	05 29 45.4	-1.9	
VOIR		**0.91**	**266**	⇑*iP*	Pn	05 29 29.6	0.0	
MTUR	**Matau**	**0.94**	**253**	⇓*iP*	Pn	05 29 30.0	+0.1	
MTUR	**Matau**	**0.94**	**253**	⇓*iP*	Pn	05 29 30.0	+0.1	
MTUR	**Matau**	**0.94**	**253**	⇓*iP*	Pn	05 29 30.0	+0.1	
TESR	**Tescani**	**1.02**	**12**	⇓*iP*	Pn	05 29 30.7	+0.2	
TESR	**Tescani**	**1.02**	**12**	⇓*iP*	Pn	05 29 30.7	+0.2	
TESR				*i* S	Sn	05 29 47.3	-1.7	
TESR	**Tescani**	**1.02**	**12**	⇓*iP*	Pn	05 29 30.7	+0.2	
TESR				*i* S	Sn	05 29 47.3	-1.7	
CIOR	**Ciorogarla**	**1.11**	**197**	S	Sn	05 29 49.4	-0.9	
CIOR	**Ciorogarla**	**1.11**	**197**	*i* S	Sn	05 29 49.4	-0.9	
CIOR	**Ciorogarla**	**1.11**	**197**	*i* S	Sn	05 29 49.4	-0.9	
ARR	**Arges**	**1.21**	**264**	⇓*iP*	Pn	05 29 32.6	+0.3	
ARR	**Arges**	**1.21**	**264**	⇓*iP*	Pn	05 29 32.6	+0.3	
ARR				*i* S	Sn	05 29 51.7	-0.4	
ARR	**Arges**	**1.21**	**264**	⇓*iP*	Pn	05 29 32.6	+0.3	
ARR				*i* S	Sn	05 29 51.7	-0.4	
CFR	**Carcaliu**	**1.31**	**104**	⇓*iP*	Pn	05 29 33.1	-0.2	
CFR	**Carcaliu**	**1.31**	**104**	⇓*iP*	Pn	05 29 33.1	-0.2	
CFR				*i* S	Sn	05 29 51.5	-2.3	
CFR	**Carcaliu**	**1.31**	**104**	⇓*iP*	Pn	05 29 33.1	-0.2	
CFR				*i* S	Sn	05 29 51.5	-2.3	
HUMR	**Humele**	**1.37**	**225**	⇓*iP*	Pn	05 29 33.9	0.0	
HUMR	**Humele**	**1.37**	**225**	⇓*iP*	Pn	05 29 33.9	0.0	
HUMR				*i* S	Sn	05 29 53.8	-1.2	
HUMR	**Humele**	**1.37**	**225**	⇓*iP*	Pn	05 29 33.9	0.0	
HUMR				*i* S	Sn	05 29 53.8	-1.2	
TLB	**Topalu**	**1.52**	**127**	⇑*iP*	Pn	05 29 35.5	0.0	
TLB	**Topalu**	**1.52**	**127**	⇑*iP*	Pn	05 29 35.5	0.0	
TLB				*i* S	Sn	05 29 55.7	-2.1	
TLB	**Topalu**	**1.52**	**127**	⇑*iP*	Pn	05 29 35.5	0.0	
TLB				*i* S	Sn	05 29 55.7	-2.1	
MSAB	**Monastry St. A**	**1.77**	**143**	S	Sn	05 30 01.5	-1.2	
MSAB	**Monastry St. A**	**1.77**	**143**	*i* S	Sn	05 30 01.5	-1.2	
MSAB	**Monastry St. A**	**1.77**	**143**	*i* S	Sn	05 30 01.5	-1.2	
TLCR		**1.78**	**100**	S	Sn	05 30 02.4	-0.4	
TLCR		**1.78**	**100**	*i* S	Sn	05 30 02.4	-0.4	
TLCR		**1.78**	**100**	*i* S	Sn	05 30 02.4	-0.4	
LOT	**Lotru**	**1.81**	**269**	S	Sn	05 30 03.9	+0.2	
LOT	**Lotru**	**1.81**	**269**	*i* S	Sn	05 30 03.9	+0.2	
TIRR	**Tirgusor**	**1.81**	**125**	⇓*iP*	Pn	05 29 38.8	+0.1	
TIRR	**Tirgusor**	**1.81**	**125**	⇓*iP*	Pn	05 29 38.8	+0.1	
TIRR				*i* S	Sn	05 30 01.6	-1.9	
TIRR	**Tirgusor**	**1.81**	**125**	⇓*iP*	Pn	05 29 38.8	+0.1	
TIRR				*i* S	Sn	05 30 01.6	-1.9	

ISCJB ***13*** *05:34:37.6±0.7, 18°.44N±0°.07×72°.7W±0°.2, h13km, mb3.5/8, Error ellipse: s-maj=21.1km s-min=9.1km az=170.0*

IDC ***13*** *05:34:37.1±0.9, 18°.41N×72°.72W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, ML2.6/1, Error ellipse: s-maj=37.4km s-min=18.1km az=57.0*

ISC 13 05:34:39.3±0.8, 18°.46N±0°.09×72°.7W±0°.2, h13km, n11, σ0.52/12, mb3.5/8, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**13.62**	**187**	Pn	**Pn**	**05 37 52.7**	**+0.1**
	0.6nm,0.3s,baz=82,slow=15,SNR=3.5						
ROSC				Sn	**Sn**	**05 40 24.7**	**+0.6**
	0.4nm,0.3s,baz=107,slow=19,SNR=2.4						
PTGA	**Pitinga**	**22.80**	**145**	P	**P**	**05 39 41.4**	**-0.5**
	4.2nm,0.7s,baz=341,slow=12,SNR=8.1						
TXAR	**Lajitas Array**	**30.25**	**297**	P	**P**	**05 40 50.4**	**+0.2**
	0.3nm,0.8s,baz=121,slow=12,SNR=3.3						
PDAR	**Pinedale Array**	**39.47**	**316**	P	**P**	**05 42 09.5**	**-0.2**
	0.3nm,0.5s,baz=149,slow=7.2,SNR=2.7						
BDFB	**Brasilia**	**41.62**	**143**	P	**P**	**05 42 27.8**	**-0.3**
	2.6nm,0.9s,baz=327,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**44.27**	**306**	P	**P**	**05 42 48.6**	**-0.4**
	0.5nm,0.7s,baz=108,slow=8.6,SNR=2.5						
YKA	**Yellowknife Ar**	**52.66**	**337**	P	**P**	**05 43 52.6**	**-0.3**
	0.5nm,0.8s,baz=125,slow=7.5,SNR=8.2						
ILAR	**Eielson Array**	**66.73**	**333**	P	**P**	**05 45 30.3**	**+0.4**
	0.2nm,0.8s,baz=96,slow=4.6,SNR=2.7						
GERES	**GERESS Array B**	**73.98**	**43**	P	**P**	**05 46 15.5**	**+0.9**
	1.0nm,0.9s,baz=286,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**154.46**	**262**	PKPbc	**PKPbc**	**05 54 40.2**	**-0.3**
	0.4nm,0.9s,baz=76,slow=2.3,SNR=2.7						
ASAR	**Alice Springs**	**154.69**	**254**	PKPbc	**PKPbc**	**05 54 40.2**	**-0.7**
	0.4nm,0.9s,baz=102,slow=2.2,SNR=3.1						

IDC 13 05:38:30.2±1.6, 2°.47S×139°.40E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/23, Error ellipse: s-maj=75.3km s-min=26.4km az=96.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.05**	**196**	P	Pn	05 42 42.6	-0.2
	0.3nm,0.3s,baz=17,slow=13,SNR=11						
WRA				S	Sn	05 45 51.4	-14
	0.1nm,0.3s,baz=20,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**21.73**	**194**	P	P	05 43 23.9	+0.5
	0.4nm,0.5s,baz=18,slow=10,SNR=7.7						
TGY	**Tagaytay City**	**24.62**	**312**	LR	LR	05 55 17.4	
	comp=Z,20nm,19.0s,baz=122,slow=41						
MKAR	**Makanchi Array**	**70.02**	**322**	P	P	05 49 44.0	0.0
	0.6nm,0.7s,baz=106,slow=7.5,SNR=6.4						
ILAR	**Eielson Array**	**85.33**	**24**	P	P	05 51 08.7	-0.3
	0.6nm,0.8s,baz=258,slow=4.8,SNR=4.5						

JSN ***13*** *05:49:17.4±0.3, 21°.44N×74°.21W, h15km*

ISCJB ***13*** *05:49:20.4±0.2, 18°.37N±0°.03×72°.98W±0°.02, h6km, mb4.4/52, MS4.3/7, Error ellipse: s-maj=4.4km s-min=3.0km az=17.5*

IDC ***13*** *05:49:20.1±0.4, 18°.39N×72°.87W, h0km, mb4.3/25, mb1 4.4/29, mb1mx4.4/34, mbtmp4.3/29, ML3.8/4, MS4.2/5, Ms1 4.2/5, ms1mx3.7/41, Error ellipse: s-maj=14.4km s-min=12.0km az=54.0*

NEIC ***13*** *05:49:22.7±0.2, 18°.40N×72°.97W, h10km, mb4.6/27, Error ellipse: s-maj=5.3km s-min=4.1km az=13.0*

ISC 13 05:49:21.9±0.3, 18°.40N±0°.05×72°.93W±0°.04, h6km, n314, σ1.9/06/327, mb4.5/52, MS4.1/7, 99C-78D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.66**	**69**	*e*Pn	**Pb**	**05 49 53.1**	**+0.1**
SDDR				*e*Sn	**Sg**	**05 50 15.1**	**-0.2**
GTBY	**Guantanamo Bay**	**2.56**	**307**	*e*Pn	**Pn**	**05 50 01.5**	**-2.4**
GTBY				*e*Sn	**Sn**	**05 50 34.0**	**-1.4**
GRTK	**Grand Turk**	**3.53**	**28**	*e*Pn	**Pn**	**05 50 17.9**	**+0.6**
GWJ	**Greenwich**	**3.62**	**265**	*i* P	**Pn**	**05 50 18.6**	**0.0**
GWJ	**Greenwich**	**3.62**	**265**	*i* P	**Pn**	**05 50 18.6**	**0.0**
HOJ	**Hope**	**3.65**	**264**	*i* P	**Pn**	**05 50 19.6**	**+0.7**
HOJ	**Hope**	**3.65**	**264**	*i* P	**Pn**	**05 50 19.6**	**+0.7**
STH	**Stony Hill**	**3.70**	**266**	*i* P	**Pn**	**05 50 19.0**	**-0.6**
STH				*i* S	**Sn**	**05 51 05.4**	**+1.8**
STH	**Stony Hill**	**3.70**	**266**	*i* P	**Pn**	**05 50 19.0**	**-0.6**
STH				*i* S	**Sn**	**05 51 05.4**	**+1.8**
PCJ	**Portland Cotta**	**4.07**	**261**	*i* P	**Pn**	**05 50 25.6**	**+0.9**
PCJ	**Portland Cotta**	**4.07**	**261**	*i* P	**Pn**	**05 50 25.6**	**+0.9**
MTDJ	**Mount Denham**	**4.38**	**268**	*e*Pn	**Pn**	**05 50 28.2**	**-0.8**
AGPR	**Aguadilla, PR**	**5.53**	**88**	*e*Pn	**Pn**	**05 50 47.3**	**+2.6**
CRPR	**Cabo Rojo, PR**	**5.55**	**93**	*e*Pn	**Pn**	**05 50 46.4**	**+1.3**
	58nm,0.5s						
LSP	**Las Mesas**	**5.56**	**91**	*e*Pn	**Pn**	**05 50 48.1**	**+2.9**
AOPR	**Arecibo Observ**	**5.87**	**90**	*e*Pn	Pn	05 50 53.5	+4.0
OBIP	**Obispado Ponce**	**6.02**	**92**	*e*Pn	**Pn**	**05 50 53.1**	**+1.5**
	46nm,0.6s						
CELP	**Cerrillos**	**6.05**	**92**	*e*Pn	**Pn**	**05 50 52.7**	**+0.8**
CBYP	**Canovanas**	**6.72**	**90**	*e*Pn	**Pn**	**05 51 02.7**	**+1.5**
	37nm,0.7s						
MTP	**Monte Pirata**	**7.02**	**91**	*e*Pn	**Pn**	**05 51 06.9**	**+1.7**
	86nm,1.1s						
SDV	**Santo Domingo**	**9.72**	**166**	*e*Pn	**Pn**	**05 51 44.2**	**+1.7**
BCIP	**Isla Barro Col**	**11.37**	**217**	*e*Pn	**Pn**	**05 52 03.9**	**-1.0**
ROSC	**El Rosal**	**13.53**	**186**	Pn	**Pn**	**05 52 36.7**	**+1.9**
ROSC				Sn	**Sn**	**05 55 06.4**	**+0.5**
ROSC	**El Rosal**	**13.53**	**186**	Pn	**Pn**	**05 52 36.7**	**+1.9**
	1.6nm,0.3s,baz=82,slow=7.1,SNR=13						
ROSC				Sn	**Sn**	**05 55 06.4**	**+0.5**
	0.7nm,0.3s,baz=73,slow=19,SNR=3.0						
JTS	**JuntasAbangare**	**14.16**	**237**	Pn	**Pn**	**05 52 44.0**	**+0.9**
JTS	**JuntasAbangare**	**14.16**	**237**	Pn	**Pn**	**05 52 44.0**	**+0.9**
	0.7nm,0.3s,baz=233,slow=20,SNR=2.5						
TEIG	**Tepich**	**14.60**	**280**	Pn	**Pn**	**05 52 48.7**	**-0.5**
TEIG				Sn	Sn	05 55 24.4	-7.0
TEIG	**Tepich**	**14.60**	**280**	Pn	**Pn**	**05 52 48.7**	**-0.5**
	1.7nm,0.3s,baz=111,slow=22,SNR=11						
TEIG				Sn	Sn	05 55 24.4	-7.0
	0.3nm,0.3s,baz=173,slow=19,SNR=3.2						
APG	**El Apazote**	**17.13**	**261**	Pn	**Pn**	**05 53 21.4**	**-0.9**
APG	**El Apazote**	**17.13**	**261**	Pn	**Pn**	**05 53 21.4**	**-0.9**
	0.2nm,0.3s,baz=87,slow=17,SNR=3.5						
OTAV	**Otavalo**	**18.85**	**197**	*e*Pn	**Pn**	**05 53 46.0**	**+2.3**
	28nm,1.0s						
TKL	**Tuckaleechee C**	**19.69**	**333**	P	**Pn**	**05 53 53.1**	**-0.2**
TKL				S	S	05 57 21.8	-13
TKL	**Tuckaleechee C**	**19.69**	**333**	P	**Pn**	**05 53 53.1**	**-0.2**
	0.1nm,0.3s,baz=151,slow=15,SNR=3.2						
TKL				S	S	05 57 21.8	-13
	0.2nm,0.3s,baz=88,slow=18,SNR=3.0						
JSRW	**J. Sargeant Re**	**19.70**	**348**	*e*P	**P**	**05 53 52.5**	**+0.5**
CPCT	**Cooper Cave**	**19.85**	**331**	*e*Pn	**Pn**	**05 53 56.1**	**+0.9**
BLA	**Blacksburg**	**19.86**	**342**	*e*P	**P**	**05 53 53.7**	**-0.1**
	29nm,1.0s						
TZTN	**Tazewell**	**20.35**	**335**	*e*Pn	Pn	05 54 02.2	+1.1
	64nm,1.4s						
SDMD	**Soldier's Deli**	**21.21**	**352**	*e*P	**P**	**05 54 10.3**	**+2.0**
	27nm,1.1s						
PTGA	**Pitinga**	**22.89**	**145**	*e*P	**P**	**05 54 26.7**	**+0.2**
	14nm,1.9s						
PTGA	**Pitinga**	**22.89**	**145**	P	**P**	**05 54 25.9**	**-0.6**
	5.3nm,0.8s,baz=339,slow=10,SNR=6.7						
PTGA				LR	LR	06 03 20.5	
	comp=Z,377nm,18.9s,baz=320,slow=37						
HKT	**Hockley**	**23.80**	**303**	*e*P	**P**	**05 54 36.8**	**+1.3**
	198nm,2.7s						
PBMO	**Poplar Bluff**	**23.92**	**323**	*e*P	P	05 54 44.3	+7.6
	16nm,1.1s						
MIAR	**Mount Ida**	**24.42**	**315**	*e*P	P	05 54 47.0	+5.7
	42nm,1.8s						
835A	**Beeville**	**24.84**	**298**	⇑P	**P**	**05 54 46.0**	**+0.8**
	baz=25						
735A	**Kenedy**	**25.00**	**299**	⇓P	**P**	**05 54 47.3**	**+0.7**
	baz=25						
635A	**Leesville**	**25.16**	**300**	⇓P	**P**	**05 54 48.6**	**+0.6**
	baz=25						
934A	**Benavides**	**25.23**	**296**	⇓P	**P**	**05 54 49.7**	**+1.0**
	baz=25						
034A	**Hebbronville**	**25.23**	**295**	⇓P	**P**	**05 54 49.6**	**+0.8**
	baz=25						
834A	**Tilden**	**25.40**	**297**	⇑P	**P**	**05 54 51.2**	**+0.9**
	baz=25						
734A	**La Parita Cree**	**25.62**	**299**	⇑P	**P**	**05 54 52.5**	**+0.2**
	baz=26						
634A	**China Grove, S**	**25.63**	**300**	⇑P	**P**	**05 54 52.5**	**+0.2**
	baz=26						
933A	**Laredo**	**25.88**	**296**	⇓P	**P**	**05 54 55.0**	**+0.3**
	baz=26						
WHTX	**Lake Whitney**	**25.91**	**306**	*e*P	**P**	**05 54 55.0**	**+0.1**
	11nm,0.7s						
WHTX	**Lake Whitney**	**25.91**	**306**	⇓P	**P**	**05 54 55.5**	**+0.6**
	baz=26,SNR=5.5						
ATAH	**Atahualpa**	**25.94**	**192**	P	**P**	**05 54 55.1**	**-0.5**
ATAH	**Atahualpa**	**25.94**	**192**	P	**P**	**05 54 55.1**	**-0.5**
	4.4nm,0.6s,baz=80,slow=15,SNR=2.5						
434A	**Burnet**	**26.07**	**303**	⇑P	**P**	**05 54 56.7**	**+0.3**
	baz=26						
833A	**Chaparral WMA,**	**26.17**	**297**	⇑P	**P**	**05 54 57.4**	**+0.1**
	baz=26,SNR=5.2						
733A	**Dvot King Ran**	**26.20**	**298**	⇓P	**P**	**05 54 57.4**	**-0.1**
	baz=26						
334A	**Lometa**	**26.25**	**304**	⇑P	**P**	**05 54 57.6**	**-0.4**
	baz=26,SNR=5.6						
633A	**Saathoff Ranch**	**26.33**	**300**	⇑P	**P**	**05 54 58.6**	**-0.1**
	baz=26,SNR=5.1						
234A	**Clairette**	**26.44**	**306**	⇓P	**P**	**05 54 59.0**	**-0.7**
	baz=26						
134A	**White-Moore Ra**	**26.64**	**307**	⇓P	**P**	**05 55 01.3**	**-0.2**
	baz=27						
832A	**Faith Ranch, C**	**26.65**	**297**	⇓P	**P**	**05 55 01.0**	**-0.7**
	baz=27,SNR=5.9						
TUL1	**Tulsa**	**26.69**	**315**	*e*P	**P**	**05 55 05.2**	**+3.3**
TUL1	**Tulsa**	**26.69**	**315**	⇓P	**P**	**05 55 02.1**	**+0.3**
	baz=27,SNR=6.2						
433A	**Art**	**26.71**	**302**	⇑P	**P**	**05 55 01.8**	**-0.3**
	baz=27						
732A	**Laxson Ranch,**	**26.77**	**298**	⇓P	**P**	**05 55 02.2**	**-0.5**
	baz=27						
SADO	**Sadowa**	**26.80**	**350**	LR	LR	06 04 45.4	
	comp=Z,576nm,20.0s,baz=18,slow=34						
333A	**Richland Sprin**	**26.83**	**304**	⇑P	**P**	**05 55 03.3**	**+0.1**
	baz=27,SNR=7.9						
632A	**Uvalde**	**26.85**	**299**	⇑P	**P**	**05 55 02.9**	**-0.5**
	baz=27						
Z34A	**Collier Ranch,**	**26.88**	**309**	⇑P	**P**	**05 55 03.9**	**+0.3**
	baz=27						
Y34A	**Reagan Ranch,**	**27.03**	**310**	⇓P	**P**	**05 55 05.6**	**+0.6**
	baz=27,SNR=7.3						
532A	**Rocksprings**	**27.15**	**301**	⇑P	**P**	**05 55 06.1**	**0.0**
	baz=27,SNR=8.2						
JCT	**Junction City**	**27.18**	**301**	*e*P	P	05 55 12.9	+6.5
	18nm,1.4s						
JCT	**Junction City**	**27.18**	**301**	⇑P	**P**	**05 55 05.8**	**-0.6**
	baz=27						
432A	**Menard**	**27.31**	**302**	⇓P	**P**	**05 55 06.9**	**-0.7**
	baz=27						
X34A	**Smith Ranch, M**	**27.40**	**311**	⇓P	**P**	**05 55 08.1**	**-0.2**
	baz=27						
332A	**Millersview**	**27.46**	**303**	⇓P	**P**	**05 55 08.2**	**-0.7**
	baz=27						
Z33A	**Whitaker Ranch**	**27.47**	**308**	⇑P	**P**	**05 55 08.5**	**-0.4**
	baz=28						
631A	**Perdido Creek**	**27.48**	**299**	⇓P	**P**	**05 55 08.3**	**-0.8**
	baz=27						
V34A	**Guthrie**	**27.81**	**314**	⇓P	**P**	**05 55 12.3**	**+0.3**
	baz=28						
X33A	**Lawton**	**27.85**	**310**	⇓P	**P**	**05 55 12.6**	**+0.2**
	baz=28						
431A	**Sonora**	**27.91**	**301**	⇓P	**P**	**05 55 12.8**	**-0.2**
	baz=28						
331A	**San Angelo**	**27.97**	**303**	⇑P	**P**	**05 55 13.4**	**-0.1**
	baz=28						
Z32A	**Haskell**	**28.02**	**307**	⇓P	**P**	**05 55 13.9**	**0.0**
	baz=28,SNR=8.2						
231A	**Bronte**	**28.11**	**304**	⇓P	**P**	**05 55 14.3**	**-0.4**
	baz=28						
WMOK	**Wichita Mounta**	**28.15**	**310**	P	**P**	**05 55 15.2**	**+0.2**
	5.7nm,1.0s						
Y32A	**R-V Farms, Ver**	**28.30**	**309**	⇑P	**P**	**05 55 16.5**	**+0.2**
	baz=28						
530A	**J-C Ranch, Com**	**28.33**	**300**	⇓P	**P**	**05 55 16.6**	**-0.2**
	baz=28						
X32A	**Elmer**	**28.37**	**309**	⇑P	**P**	**05 55 16.7**	**-0.3**
	baz=28						
Z31A	**Sharp Cattle R**	**28.53**	**307**	⇓P	**P**	**05 55 18.2**	**-0.3**
	baz=28						
330A	**Mertzon**	**28.61**	**302**	⇑P	**P**	**05 55 18.7**	**-0.5**
	baz=29						
230A	**Sterling City**	**28.73**	**303**	⇓P	**P**	**05 55 20.0**	**-0.2**
	baz=29						
SAML	**Samuel**	**28.83**	**160**	*e*P	**P**	**05 55 20.2**	**-0.9**
	2.1nm,0.6s						
Y31A	**Rekieta Farm,**	**28.89**	**308**	⇑P	**P**	**05 55 21.4**	**-0.2**
	baz=29						
429A	**Davenport Ranc**	**28.93**	**300**	⇑P	**P**	**05 55 21.6**	**-0.6**
	baz=29						
X31A	**McDonald Ranch**	**28.98**	**309**	⇑P	**P**	**05 55 22.1**	**-0.3**
	baz=29						
529A	**Stev Forest Ra**	**29.05**	**299**	⇓P	**P**	**05 55 22.5**	**-0.7**
	baz=29						
KSU1	**Kansas State U**	**29.11**	**320**	*e*P	**P**	**05 55 24.2**	**+0.7**
	20nm,1.0s						
W31A	**Holland Ranch,**	**29.20**	**310**	⇑P	**P**	**05 55 24.0**	**-0.4**
	baz=29						
Z30A	**Sanderson Ranc**	**29.27**	**306**	⇑P	**P**	**05 55 24.0**	**-1.1**
	baz=29						
329A	**Wagon Wheel Ra**	**29.28**	**302**	⇓P	**P**	**05 55 24.2**	**-1.0**
	baz=29						
229A	**Bryant Ranch,**	**29.31**	**303**	⇑P	**P**	**05 55 24.7**	**-0.8**
	baz=29						
V31A	**Spring Creek L**	**29.41**	**311**	⇑P	**P**	**05 55 25.7**	**-0.5**
	baz=29						
628A	**Black Gap, Mar**	**29.43**	**298**	⇑P	**P**	**05 55 25.3**	**-1.2**
	baz=29						
R33A	**Olander Ranch,**	**29.50**	**317**	⇓P	**P**	**05 55 26.5**	**-0.5**
	baz=30						
528A	**Cox Ranch, San**	**29.54**	**299**	⇑P	**P**	**05 55 27.0**	**-0.5**
	baz=30						
X30A	**Coker Ranch, T**	**29.55**	**308**	⇑P	**P**	**05 55 27.2**	**-0.4**
	baz=30						
129A	**Stewart Farms,**	**29.59**	**304**	⇓P	**P**	**05 55 27.5**	**-0.5**
	baz=30						
428A	**Kincaid Ranch,**	**29.61**	**300**	⇓P	**P**	**05 55 28.6**	**+0.4**
	baz=30,SNR=12						
Z29A	**Hungry Hill Ra**	**29.70**	**306**	⇓P	**P**	**05 55 28.5**	**-0.5**
	baz=30						
Q33A	**Connelly Farm,**	**29.80**	**319**	⇑P	**P**	**05 55 29.6**	**0.0**
	baz=30						
Y29A	**Porterfield Fa**	**29.91**	**307**	⇓P	**P**	**05 55 30.8**	**0.0**
	baz=30,SNR=7.5						
R32A	**Long Quarter,**	**30.03**	**317**	⇓P	**P**	**05 55 31.6**	**-0.1**
	baz=30						
TXAR	**Lajitas Array**	**30.05**	**297**	P	**P**	**05 55 31.7**	**-0.4**
TXAR				PcP	**PcP**	**05 58 34.2**	**+0.1**
TXAR	**Lajitas Array**	**30.05**	**297**	P	**P**	**05 55 31.7**	**-0.4**
	1.4nm,0.9s,baz=120,slow=7.5,SNR=12						
TXAR				PcP	**PcP**	**05 58 34.2**	**+0.1**
	0.4nm,0.8s,baz=120,slow=5.3,SNR=3.1						
128A	**Castleberry Fa**	**30.07**	**304**	⇑P	**P**	**05 55 32.1**	**-0.2**
	baz=30,SNR=6.5						
X29A	**Tulia**	**30.17**	**308**	⇑P	**P**	**05 55 32.5**	**-0.6**
	baz=30						
527A	**Woodward Ranch**	**30.22**	**299**	⇑P	**P**	**05 55 33.6**	**0.0**
	baz=30,SNR=7.2						
427A	**Hayter Ranch,**	**30.24**	**300**	⇑P	**P**	**05 55 33.2**	**-0.5**
	baz=30						
Z28A	**Tucker Farm, M**	**30.24**	**305**	⇓P	**P**	**05 55 33.7**	**0.0**
	baz=30						
Q32A	**Meitler Ranch,**	**30.26**	**318**	⇑P	**P**	**05 55 33.6**	**-0.1**
	baz=30						
U30A	**WK&E Inc. Balk**	**30.35**	**312**	⇓P	**P**	**05 55 34.2**	**-0.4**
	baz=30						
626A	**Big Bend Ranch**	**30.50**	**297**	⇑P	**P**	**05 55 34.0**	**-2.0**
	baz=30						
526A	**Mary Lane Ranc**	**30.59**	**298**	⇑P	**P**	**05 55 37.1**	**+0.1**
	baz=31,SNR=8.3						
426A	**McDonald Obser**	**30.71**	**299**	⇑P	**P**	**05 55 38.1**	**+0.1**
	baz=31,SNR=8.1						
Z27A	**Tatum**	**30.90**	**305**	⇓P	**P**	**05 55 38.7**	**-0.8**
	baz=31						
126A	**Clayton Basin,**	**31.30**	**303**	⇓P	**P**	**05 55 42.4**	**-0.7**
	baz=31						
X27A	**F and S Farms,**	**31.31**	**307**	⇑P	**P**	**05 55 42.7**	**-0.5**
	baz=31						
O31A	**Woolen Ranch,**	**31.41**	**319**	⇓P	**P**	**05 55 43.6**	**-0.3**
	baz=31						
W27A	**Bowe

U23A	**El Rito**	34.29	308	⇑P		P	05 56 10.0	+0.7
	baz=34							
121A	**Cookes Peak, D**	34.30	301	⇑P		P	05 56 10.2	+0.8
	baz=34,SNR=6.2							
LAZ	**Ladron**	34.34	304	*e*P		P	05 56 10.0	+0.3
	8.2nm,1.3s							
T23A	**Casias Ranch,**	34.45	309	⇑P		P	05 56 10.9	+0.1
	baz=34							
320A	**Kipp Ranch, An**	34.61	299	⇑P		P	05 56 12.5	+0.4
	baz=35							
Q24A	**Divide**	34.64	313	⇑P		P	05 56 12.9	+0.4
	baz=35							
V22A	**San Miguel Ran**	34.67	307	⇓P		P	05 56 13.4	+0.7
	baz=35,SNR=7.8							
R23A	**Moffat**	34.77	311	⇓P		P	05 56 13.5	-0.1
	baz=35							
LPAZ	**La Paz**	34.79	172	P		P	05 56 13.5	-0.7
LPAZ	**La Paz**	34.79	172	P		P	05 56 13.5	-0.7
	2.1nm,0.8s,baz=118,slow=4.3,SNR=3.8							
LPAZ					LR	LR	06 11 49.5	
	comp=Z,343nm,18.7s,baz=4.0,slow=39							
U22A	**Llaves**	34.80	308	⇓P		P	05 56 13.9	+0.1
	baz=35							
I28A	**Midland**	34.83	323	⇓P		P	05 56 13.5	-0.2
	baz=35							
319A	**Douglas**	35.25	299	⇓P		P	05 56 18.4	+0.8
	baz=35,SNR=8.3							
S22A	**4UR Ranch, Cre**	35.31	310	⇑P		P	05 56 19.0	+0.7
	baz=35							
ISCO	**Idaho Springs**	35.34	314	*e*P		P	05 56 22.4	+3.9
	16nm,1.5s							
ISCO	**Idaho Springs**	35.34	314	⇓P		P	05 56 19.8	+1.3
	baz=35							
G28A	**Parade**	35.36	325	⇑P		P	05 56 18.9	+0.6
	baz=35							
M24A	**Cheyenne**	35.62	317	⇑P		P	05 56 20.6	-0.2
	baz=36							
H27A	**Howes**	35.73	323	⇑P		P	05 56 22.1	+0.7
	baz=36							
SMCO	**Snowmass**	36.01	312	*e*P		P	05 56 24.9	+0.5
	10nm,1.1s							
G27A	**Dupree**	36.11	325	⇑P		P	05 56 25.3	+0.6
	baz=36							
SIV	**San Ignacio**	36.12	160	LR		LR	06 12 21.8	
	comp=Z,338nm,19.2s,baz=99,slow=38							
O22A	**Kremmling**	36.14	314	⇑P		P	05 56 25.8	+0.4
	baz=36							
B30A	**Myrvik Farm, E**	36.37	331	⇓P		P	05 56 27.8	+0.9
	baz=36							
N22A	**Wattenberg Ran**	36.38	315	⇑P		P	05 56 27.7	+0.4
	baz=36							
F27A	**Lemmon**	36.47	325	⇑P		P	05 56 28.8	+1.1
	baz=36							
L23A	**Garrett**	36.52	317	⇑P		P	05 56 28.7	+0.2
	baz=36							
H25A	**Fruitdale**	36.59	322	⇑P		P	05 56 29.2	+0.3
	baz=37							
ULM	**Lac du Bonnet**	36.69	335	P		P	05 56 28.5	-1.0
ULM	**Lac du Bonnet**	36.69	335	P		P	05 56 28.5	-1.0
	1.1nm,0.5s,baz=38,slow=4.2,SNR=3.5							
TUC	**Tucson**	36.70	300	*e*P		P	05 56 30.7	+0.7
	49nm,2.8s							
G25A	**Newell**	36.83	323	⇓P		P	05 56 30.6	-0.3
	baz=37							
O20A	**White River Ci**	37.30	313	⇑P		P	05 56 35.4	+0.3
	baz=37							
J22A	**Midwest**	37.67	319	⇑P		P	05 56 38.4	+0.2
	baz=38							
X16A	**Lo Mia Camp, P**	37.74	303	⇓P		P	05 56 39.6	+0.6
	baz=38							
K21A	**Alcova**	37.77	317	⇑P		P	05 56 39.7	+0.6
	baz=38,SNR=6.4							
WUAZ	**Wupatki**	37.99	305	*e*P		P	05 56 42.0	+1.0
WUAZ	**Wupatki**	37.99	305	⇓P		P	05 56 41.4	+0.4
	baz=38							
J21A	**Lysite**	38.25	318	⇑P		P	05 56 43.7	+0.6
	baz=38							
I21A	**Big Trails, Te**	38.38	319	⇓P		P	05 56 44.1	0.0
	baz=38,SNR=5.6							
SRU	**San Rafael**	38.51	310	*e*P		P	05 56 49.2	+3.8
U15A	**North Rim**	38.96	306	⇑P		P	05 56 49.8	+0.6
	baz=39,SNR=5.3							
I20A	**Worland**	38.98	319	⇓P		P	05 56 49.5	+0.4
	baz=39							
D23A	**Lindsay**	39.00	325	⇓P		P	05 56 50.0	+0.7
	baz=39							
J19A	**Crowheart**	39.24	317	⇓P		P	05 56 51.9	+0.5
	baz=39							
PDAR	**Pinedale Array**	39.34	316	P		P	05 56 52.0	-0.2
PDAR					PcP	PcP	05 58 59.9	-1.0
PDAR	**Pinedale Array**	39.34	316	P		P	05 56 52.0	-0.2
	1.0nm,0.8s,baz=122,slow=10,SNR=7.8							
PDAR					PcP	PcP	05 58 59.9	-1.0
	0.7nm,0.8s,baz=106,slow=11,SNR=3.5							
C23A	**Lambert**	39.37	325	⇑P		P	05 56 53.0	+0.8
	baz=39							
D22A	**Cohagen**	39.53	324	⇑P		P	05 56 54.6	+1.0
	baz=40							
I19A	**Meeteetse**	39.56	318	⇓P		P	05 56 54.0	-0.1
	baz=40							
C22A	**Vida**	39.71	325	⇑P		P	05 56 55.8	+0.6
	baz=40							
W13A	**Hualapai Mount**	39.86	303	⇓P		P	05 56 57.4	+0.7
	baz=40							
ARUT	**Antelope Range**	40.23	307	*e*P		P	05 56 59.9	+0.2
	69nm,0.9s							
H18A	**Shoshone NF, C**	40.29	319	⇓P		P	05 57 00.2	0.0
	baz=40							
F19A	**Roth Farm, Mol**	40.43	321	⇑P		P	05 57 01.1	-0.1
	baz=40							
I17A	**Pilgrim Ck.**	40.52	317	⇑P		P	05 57 02.6	+0.5
	baz=40							
DUG	**Dugway**	40.55	311	*e*P		P	05 57 03.1	+0.8
DUG	**Dugway**	40.55	311	⇓P		P	05 57 02.1	-0.2
	baz=40							
D20A	**Manuel Ranch,**	40.60	323	⇑P		P	05 57 03.2	+0.7
	baz=41							
E19A	**Rath Farm, Rou**	40.65	322	⇑P		P	05 57 03.2	+0.2
	baz=41							
IRM	**Iron Mountain**	40.67	301	⇓P		P	05 57 03.7	+0.4
	baz=41,SNR=5.0							
FXWY	**Fox Creek**	40.69	317	*e*P		P	05 57 03.9	+0.4
BC3	**Big Chuckawall**	40.82	300	⇓P		P	05 57 05.1	+0.5
	baz=41							
A21A	**Bergtoll Ranch**	41.01	326	⇓P		P	05 57 06.8	+1.0
	baz=41							
SHPR	**Sheep Range**	41.21	305	*e*P		P	05 57 08.3	+0.5
	12nm,1.4s							
A20A	**Cobblestone Ra**	41.48	325	⇓P		P	05 57 11.2	+1.5
	baz=42							
BDFB	**Brasilia**	41.79	142	P		P	05 57 11.4	-1.3
BDFB	**Brasilia**	41.79	142	P		P	05 57 11.4	-1.3
	23nm,1.0s,baz=310,slow=9.4,SNR=24							
R11A	**Troy Canyon, C**	42.02	307	⇑P		P	05 57 15.6	+1.2
	baz=42							
TPNV	**Topopah Spring**	42.16	305	⇑P		P	05 57 16.4	+0.8
	baz=42							
GSC	**Goldstone**	42.24	303	⇑P		P	05 57 17.0	+0.8
	baz=42							
MCMT	**McKenzie Canyo**	42.38	317	*e*P		P	05 57 17.5	+0.1
	7.1nm,1.3s							
HLID	**Hailey**	42.90	315	⇓P		P	05 57 21.7	+0.1
	baz=43							
NVAR	**Mina Arroy Bea**	44.10	307	P		P	05 57 30.6	-0.8
NVAR	**Mina Arroy Bea**	44.10	307	P		P	05 57 30.6	-0.8
	1.1nm,0.8s,baz=108,slow=5.5,SNR=6.3							
BSMT	**Bassoo Peak**	44.91	320	*e*P		P	05 57 39.5	+1.8
	3.1nm,1.1s							
FRB	**Frobisher Bay**	45.41	3	P		P	05 57 39.4	-1.7
FRB	**Frobisher Bay**	45.41	3	P		P	05 57 39.4	-1.7
	2.0nm,0.9s,baz=210,slow=14,SNR=3.1							
NEW	**Newport**	46.50	320	P		P	05 57 49.8	-0.3
NEW	**Newport**	46.50	320	P		P	05 57 49.8	-0.3
	3.0nm,0.9s,baz=110,slow=10.0,SNR=4.0							
YKA	**Yellowknife Ar**	52.61	337	P		P	05 58 36.2	-0.2
YKA	**Yellowknife Ar**	52.61	337	P		P	05 58 36.2	-0.2
	3.5nm,0.8s,baz=128,slow=7.9,SNR=11							
DLBC	**Dease Lake**	57.44	328	P		P	05 59 11.6	+0.1
DLBC	**Dease Lake**	57.44	328	P		P	05 59 11.6	+0.1
	6.9nm,1.0s,baz=183,slow=9.0,SNR=6.1							
SUMG	**Summit**	57.66	12	*i* P		P	05 59 14.4	+1.3
	9.7nm,1.1s							
SUMG	**Summit**	57.66	12	*e*P		P	05 59 14.1	+1.0
	14nm,1.0s							
PLCA	**Paso Flores**	58.87	178	P		P	05 59 20.9	-0.7
PLCA	**Paso Flores**	58.87	178	P		P	05 59 20.9	-0.7
	3.5nm,1.1s,baz=315,slow=5.7,SNR=2.8							
ESDC	**Sonseca Array**	62.45	54	P		P	05 59 46.4	+0.2
	3.5nm,1.0s,baz=267,slow=6.6,SNR=4.8							
ILAR	**Eielson Array**	66.67	333	P		P	06 00 12.4	-0.9
ILAR	**Eielson Array**	66.67	333	P		P	06 00 12.4	-0.9
	1.6nm,1.0s,baz=112,slow=4.3,SNR=6.7							
TIC	**Toumodi**	67.00	91	*e*P		P	06 00 15.3	-1.0
	6.0nm,0.5s							
COLA	**College**	67.09	333	P		P	06 00 17.3	+1.4
	5.3nm,1.0s							
LIC	**Lamto**	67.12	91	*e*P		P	06 00 16.2	-0.8
	26nm,0.8s							
DBIC	**Dimbokro**	67.15	90	P		P	06 00 15.4	-1.7
DBIC	**Dimbokro**	67.15	90	P		P	06 00 15.4	-1.7
	5.7nm,0.8s,baz=267,slow=8.4,SNR=7.7							
KIC	**Kosan Boka**	67.35	91	*e*P		P	06 00 17.8	-0.7
	17nm,0.7s							
NOA	**NORSAR Array B**	71.26	31	P		P	06 00 40.4	-1.6
NOA	**NORSAR Array B**	71.26	31	P		P	06 00 40.4	-1.6
	1.4nm,0.9s,baz=277,slow=6.6,SNR=2.6							
TORD	**Torodi Ar. Bea**	71.57	82	P		P	06 00 43.1	-1.5
TORD	**Torodi Ar. Bea**	71.57	82	P		P	06 00 43.1	-1.5
	4.1nm,0.8s,baz=284,slow=5.5,SNR=18							
SPITS	**Spitsbergen Ar**	71.98	13	P		P	06 00 44.3	-1.6
SPITS	**Spitsbergen Ar**	71.98	13	P		P	06 00 44.3	-1.6
	7.6nm,1.0s,baz=289,slow=9.0,SNR=2.8							
CLL	**Collm**	73.35	41	*e*P		P	06 00 57.0	+2.4
KEST	**Kesra**	73.37	57	P		P	06 00 53.4	-1.7
KEST	**Kesra**	73.37	57	P		P	06 00 53.4	-1.7
	2.6nm,0.9s,baz=318,slow=0.7,SNR=3.7							
BRG	**Berggiesshubel**	74.01	41	*e*P		P	06 01 02.8	+4.4
	26nm,1.7s							
KHC	**Kasperske Hory**	74.06	43	*e*P		P	06 01 00.0	+1.1
KHC	**Kasperske Hory**	74.06	43	*e*P		P	06 01 00.0	+1.1
	4.9nm,0.9s							
GERES	**GERESS Array B**	74.19	43	P		P	06 00 59.5	-0.2
GERES	**GERESS Array B**	74.19	43	P		P	06 00 59.5	-0.2
	4.2nm,0.9s,baz=272,slow=3.9,SNR=14							
ARCES	**ARCESS Array B**	75.83	21	P		P	06 01 07.3	-1.4
ARCES	**ARCESS Array B**	75.83	21	P		P	06 01 07.3	-1.4
	4.2nm,0.9s,baz=288,slow=5.0,SNR=8.4							
GAMB	**Gambell**	77.48	333	P		P	06 01 20.6	+2.6
	2.2nm,0.9s							
FINES	**FINESS Array B**	78.25	29	P		P	06 01 22.0	-0.4
FINES	**FINESS Array B**	78.25	29	P		P	06 01 22.0	-0.4
	5.9nm,1.1s,baz=238,slow=3.6,SNR=6.1							
KWP	**Kalwaria Pacla**	79.76	41	*e*P		P	06 01 33.7	+2.8
AKASG	**Malin Array Be**	83.40	39	P		P	06 01 50.3	+0.2
AKASG	**Malin Array Be**	83.40	39	P		P	06 01 50.3	+0.2
	0.7nm,0.5s,baz=288,slow=4.3,SNR=7.8							
BRTR	**Keskin Array B**	90.52	48	P		P	06 02 24.4	-0.9
BRTR	**Keskin Array B**	90.52	48	P		P	06 02 24.4	-0.9
	1.8nm,0.9s,baz=316,slow=3.4,SNR=8.3							
MMAI	**Mount Meron Ar**	94.64	53	LR		LR	06 43 37.3	
	comp=Z,88nm,19.1s,baz=235,slow=34							
KSH	**Kashi**	115.47	26	*e*PKP		PKPdf	06 08 08.0	+2.7
KSH				PP		PP	06 09 10.4	+4.7
KSH				*e*SKS		SKSdf	06 15 15.3	-3.1
KSH				LR		LR		
	comp=Z,150nm,4.5s							
WMQ	**Urumqi**	115.59	15	PKP		PKPdf	06 08 06.6	+1.3
WMQ				PP		PP	06 09 12.9	+6.7
HHC	**Hu-ho-hao-te**	120.91	356	*e*PKP		PKPdf	06 08 17.0	+1.3
HHC				PP		PP	06 09 47.8	+4.8
HHC				SKS		SKSdf	06 15 29.9	+1.3
HHC				SKKS		SKKSac	06 16 39.0	-5.9
HHC				SS		SS	06 26 17.0	+2.9
HHC				LR		LR		
	comp=N,210nm,21.1s							
HHC				LR		LR		
	comp=E,250nm,19.1s							
HHC				LR		LR		
	comp=Z,360nm,19.4s							
LZH	**Lanzhou**	125.72	3	*e*PKP		PKPdf	06 08 26.4	+1.2
LZH				sPKP			06 08 31.0	
LZH				LR		LR		
	comp=N,150nm,18.0s							
LZH				LR		LR		
	comp=E,150nm,17.8s							
LZH				LR		LR		
	comp=Z,180nm,20.1s							
STKA	**Stephens Creek**	146.14	240	PKPbc		PKPdf	06 09 01.6	-1.0
STKA	**Stephens Creek**	146.14	240	PKPbc		PKPdf	06 09 01.6	-1.0
	2.0nm,1.0s,baz=99,slow=12,SNR=3.3							
WRA	**Warramunga Arr**	154.20	262	PKP		PKPdf	06 09 14.3	-1.3
WRA				PKPbc		PKPbc	06 09 22.2	-1.6
WRA				PKPab		PKPab	06 09 36.0	-1.6
WRA	**Warramunga Arr**	154.20	262	PKP		PKPdf	06 09 14.3	-1.3
	0.9nm,0.8s,baz=72,slow=1.6,SNR=6.0							
WRA				PKPbc		PKPbc	06 09 22.2	-1.6
	1.5nm,0.8s,baz=81,slow=2.0,SNR=10							
WRA				PKPab		PKPab	06 09 36.0	-1.6
	0.6nm,0.8s,baz=84,slow=4.2,SNR=6.0							
ASAR	**Alice Springs**	154.43	254	PKP		PKPdf	06 09 14.4	-1.4
ASAR				PKPbc		PKPbc	06 09 22.4	-1.8
ASAR				PKPab		PKPab	06 09 38.5	0.0
ASAR	**Alice Springs**	154.43	254	PKP		PKPdf	06 09 14.4	-1.4
	0.3nm,0.8s,baz=90,slow=1.9,SNR=3.3							
ASAR				PKPbc		PKPbc	06 09 22.4	-1.8
	0.5nm,0.7s,baz=125,slow=2.0,SNR=5.8							
ASAR				PKPab		PKPab	06 09 38.5	0.0
	1.3nm,0.8s,baz=109,slow=4.3,SNR=8.2							

UPP ***13*** *05:50:33.3, 56.99N × 10.17E, h12km, ML1.7*
CSEM ***13*** *05:50:33.6 ± 0.3, 57.07N × 10.01E, h20km, ML2.3, Error ellipse: s-maj=6.1km s-min=3.5km az=32.0*
BER ***13*** *05:50:35.0 ± 2.0, 57.10N × 10.03E, h16km ± 13km, MD2.4, ML1.7, ML2.1(NAO)*
NAO ***13*** *05:50:37.1 ± 3.0, 57.47N × 10.02E, ML2.1*

ISC 13 05:50:32.0 ± 1.6, **57.02N** ± 0.03 × **9.94E** ± 0.03, **h27** km ± 17km, **n94, σ18 77**/157, **4C-2D, Denmark**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUD	**Monsted U'grnd**	**0.70**	**217**	⇑*i*P		**Pn**	**05 50 47.5**	**+1.3**
MUD				*i* S		**Sn**	**05 50 57.1**	**+1.0**
TJOU	**Tjoern**	**1.36**	**41**	S		**Sn**	**05 51 13.2**	**+0.8**
TJOU	**Tjoern**	**1.36**	**41**	P		**Pb**	**05 50 57.1**	**+0.3**
TJOU				S		**Sn**	**05 51 13.2**	**+0.8**
HOMB	**Homborsund**	**1.47**	**329**	*e*P		**Pb**	**05 50 58.6**	**-0.1**
HOMB				*e*S		**Sn**	**05 51 15.4**	**+0.3**
HOMB				IAML			05 51 16.9	
	comp=Z,25nm,0.1s							
HOMB	**Homborsund**	**1.47**	**329**	*e*P		**Pb**	**05 50 58.6**	**-0.1**
	SNR=55							
HOMB				*e*S		**Sn**	**05 51 15.4**	**+0.3**
	SNR=55							
FABU	**Falkenberg**	**1.52**	**89**	P		**Pn**	**05 50 58.5**	**+1.1**
FABU				S		**Sn**	**05 51 16.2**	**0.0**
FABU	**Falkenberg**	**1.52**	**89**	P		**Pn**	**05 50 58.5**	**+1.1**
FABU				S		**Sn**	**05 51 16.2**	**-0.1**
BORU	**Boraas**	**1.66**	**67**	⇑P		**Pn**	**05 51 00.9**	**+1.7**
BORU				S		**Sn**	**05 51 20.3**	**+0.7**
BORU	**Boraas**	**1.66**	**67**	P		**Pn**	**05 51 00.9**	**+1.7**
BORU				S		**Sn**	**05 51 20.3**	**+0.8**
BJUU	**Bjuv**	**1.95**	**118**	P		**Pn**	**05 51 03.9**	**+0.6**
BJUU				S		**Sn**	**05 51 25.8**	**-1.1**
BJUU	**Bjuv**	**1.95**	**118**	P		**Pn**	**05 51 03.9**	**+0.6**
BJUU				S		**Sn**	**05 51 25.8**	**-1.1**
SNART	**Snartemo**	**1.98**	**313**	*e*P		**Pb**	**05 51 05.9**	**-1.3**
SNART				*e*S		**Sn**	**05 51 28.1**	**+0.5**
SNART				IAML			05 51 29.2	
	comp=Z,15nm,0.1s							
SNART	**Snartemo**	**1.98**	**313**	*e*P		**Pb**	**05 51 05.9**	**-1.3**
	SNR=55							
SNART				*e*S		**Sn**	**05 51 28.0**	**+0.5**
	SNR=55							
GNOU	**Gnosjoe**	**2.10**	**81**	⇑P		**Pn**	**05 51 06.8**	**+1.5**
GNOU				S		**Sn**	**05 51 31.7**	**+1.2**
GNOU	**Gnosjoe**	**2.10**	**81**	P		**Pn**	**05 51 06.8**	**+1.5**
GNOU				S		**Sn**	**05 51 31.7**	**+1.2**
STRU	**Stroemstad**	**2.13**	**18**	S		**Sn**	**05 51 31.3**	**+0.1**
STRU	**Stroemstad**	**2.13**	**18**	P		**Pn**	**05 51 08.0**	**+2.2**
STRU				S		**Sn**	**05 51 31.3**	**+0.1**
DEL	**Delary**	**2.23**	**103**	P		**Pn**	**05 51 09.2**	**+2.0**
DEL				S		**Sn**	**05 51 34.3**	**+0.5**
DEL	**Delary**	**2.23**	**103**	P		**Pn**	**05 51 09.2**	**+2.0**
DEL				S		**Sn**	**05 51 34.3**	**+0.5**
FKPU	**Falk**	**2.34**	**59**	P		**Pn**	**05 51 10.8**	**+2.2**
FKPU				S		**Sn**	**05 51 37.7**	**+1.3**
FKPU	**Falk**	**2.34**	**59**	P		**Pn**	**05 51 10.8**	**+2.2**
FKPU				S		**Sn**	**05 51 37.7**	**+1.3**
NASU	**Vaermlandsnaes**	**2.58**	**41**	⇓P		**Pn**	**05 51 14.1**	**+2.2**
NASU				S		**Sn**	**05 51 42.3**	**-0.1**
NASU	**Vaermlandsnaes**	**2.58**	**41**	P		**Pn**	**05 51 14.1**	**+2.1**
NASU				S		**Sn**	**05 51 42.3**	**-0.1**
KON	**Kongsberg**	**2.65**	**356**	Pn		**Pn**	**05 51 14.6**	**+1.8**
KON				Sn		**Sn**	**05 51 44.0**	**0.0**
KON				Lg		Lg	05 51 45.9	
KONO	**Kongsberg**	**2.65**	**356**	*e*P		**Pn**	**05 51 14.6**	**+1.8**
KONO				*e*S		**Sn**	**05 51 44.2**	**+0.2**
KONO				IAML			05 51 46.0	
	comp=Z,3.9nm,0.2s							
KONO	**Kongsberg**	**2.65**	**356**	*e*P		**Pn**	**05 51 14.6**	**+1.8**
	SNR=55							
KONO				*e*S		**Sn**	**05 51 44.2**	**+0.2**
	SNR=55							
KONO				Lg		Lg	05 51 45.9	
FINU	**Finntorp**	**2.74**	**28**	⇑P		**Pn**	**05 51 16.4**	**+2.2**
FINU				S		**Sn**	**05 51 45.8**	**-0.6**
FINU	**Finntorp**	**2.74**	**28**	P		**Pn**	**05 51 16.4**	**+2.2**
FINU				S		**Sn**	**05 51 45.8**	**-0.6**
EKSU	**Eksjoe**	**2.96**	**77**	P		**Pn**	**05 51 19.0**	**+1.8**
EKSU	**Eksjoe**	**2.96**	**77**	P		**Pn**	**05 51 19.0**	**+1.8**
BLS5	**Blasjo**	**3.04**	**324**	*e*P		**Pn**	**05 51 20.3**	**+2.1**
BLS5				*e*S		**Sn**	**05 51 53.5**	**-0.2**
BLS5				IAML			05 51 54.8	
	comp=Z,3.3nm,0.2s							
BLS5	**Blasjo**	**3.04**	**324**	*e*P		**Pn**	**05 51 20.3**	**+2.1**
	SNR=55							
BLS5				*e*S		**Sn**	**05 51 53.5**	**-0.2**
	SNR=55							
ASKU	**Askersund**	**3.21**	**52**	P		**Pn**	**05 51 22.9**	**+2.3**
ASKU				S		**Sn**	**05 51 57.8**	**-0.2**
ASKU	**Askersund**	**3.21**	**52**	P		**Pn**	**05 51 22.9**	**+2.3**
ASKU				S		**Sn**	**05 51 57.8**	**-0.2**
LNKU	**Linkoeping**	**3.23**	**66**	⇓P		**Pn**	**05 51 23.1**	**+2.3**
LNKU				S		**Sn**	**05 51 59.8**	**+1.5**
LNKU	**Linkoeping**	**3.23**	**66**	P		**Pn**	**05 51 23.1**	**+2.2**
LNKU				S		**Sn**	**05 51 59.8**	**+1.4**
BLEU	**Blekinge**	**3.32**	**100**	P		**Pn**	**05 51 23.6**	**+1.5**
BLEU				S		**Sn**	**05 51 59.4**	**-1.2**
BLEU	**Blekinge**	**3.32**	**100**	P		**Pn**	**05 51 23.6**	**+1.5**
BLEU				S		**Sn**	**05 51 59.4**	**-1.2**
KMY	**Karmoy**	**3.32**	**313**	*e*P		**Pn**	**05 51 24.3**	**+2.2**
KMY				*e*S		**Sn**	**05 52 00.1**	**-0.5**
OSKU	**Oskarshamn**	**3.37**	**84**	P		**Pn**	**05 51 24.1**	**+1.4**
OSKU	**Oskarshamn**	**3.37**	**84**	P		**Pn**	**05 51 24.1**	**+1.4**
BSD	**Bornholm Skovb**	**3.38**	**122**	*i* P		**Pn**	**05 51 24.3**	**+1.4**
BSD				*i* S		**Sn**	**05 51 59.1**	**-3.0**
BSD	**Bornholm Skovb**	**3.38**	**122**	*e*P		**Pn**	**05 51 24.4**	**+1.5**
	SNR=56							
ODD1	**Odda**	**3.38**	**330**	*e*P		**Pn**	**05 51 25.3**	**+2.3**
ODD1				*e*S		**Sn**	**05 52 01.8**	**-0.5**
ODD1				IAML			05 52 04.8	
	comp=Z,6.9nm,0.3s							
UDD	**Uddeholm**	**3.63**	**30**	P		**Pn**	**05 51 28.5**	**+2.1**
UDD				S		**Sn**	**05 52 06.7**	**-1.6**
UDD	**Uddeholm**	**3.63**	**30**	P		**Pn**	**05 51 28.5**	**+2.1**
UDD				S		**Sn**	**05 52 06.7**	**-1.6**
VSTU	**Vaestervik**	**3.63**	**77**	P		**Pn**	**05 51 28.0**	**+1.6**
VSTU				S		**Sn**	**05 52 08.1**	**-0.2**
VSTU	**Vaestervik**	**3.63**	**77**	P		**Pn**	**05 51 28.0**	**+1.6**
VSTU				S		**Sn**	**05 52 08.1**	**-0.2**
ASPU	**Aespoe**	**3.64**	**81**	P		**Pn**	**05 51 28.1**	**+1.6**
ASPU	**Aespoe**	**3.64**	**81**	P		**Pn**	**05 51 28.1**	**+1.6**
HFS	**Hagfors**	**3.69**	**31**	Pn		**Pn**	**05 51 29.1**	**+1.9**
	baz=211,slow=14							
HFS				Sn		**Sn**	**05 52 08.7**	**-1.1**
	baz=211,slow=28							
HFS	**Hagfors**	**3.69**	**31**	Pn		**Pn**	**05 51 29.1**	**+1.9**
	baz=211,slow=14							
HFS				Sn		**Sn**	**05 52 08.7**	**-1.1**
	baz=211,slow=28							
HFS	**Hagfors**	**3.69**	**31**	Pn		**Pn**	**05 51 29.1**	**+1.9**
	SNR=56							
HFS				Sn		**Sn**	**05 52 08.6**	**-1.1**
	SNR=56							
NRAU	**Nora**	**3.71**	**44**	P		**Pn**	**05 51 29.8**	**+2.3**
NRAU	**Nora**	**3.71**	**44**	P		**Pn**	**05 51 29.8**	**+2.3**
BYXU	**Byxelkrok**	**3.86**	**83**	P		**Pn**	**05 51 31.1**	**+1.6**
BYXU				S		**Sn**	**05 52 13.3**	**-0.6**
BYXU	**Byxelkrok**	**3.86**	**83**	P		**Pn**	**05 51 31.1**	**+1.6**
BYXU				S		**Sn**	**05 52 13.3**	**-0.6**
VIKU	**Vikbolandet**	**3.92**	**65**	P		**

0.3nm,0.4s,baz=334,slow=7.4,SNR=5.8
MKAR Makanchi Array 55.30 325 P P 06 04 37.4 +0.8
0.2nm,0.3s,baz=115,slow=7.3,SNR=7.9
KURBB Kurchatov Arra 59.45 327 P P 06 05 04.8 -0.9
0.6nm,0.6s,baz=125,slow=6.5,SNR=6.3
BVAR Borovoye Array 65.04 327 P P 06 05 43.0 -0.1
0.5nm,0.5s,baz=139,slow=7.9,SNR=4.5

IDC 13 06:02:55.6±1.9, 19°03'N×72°68'W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=45.9km s-min=43.7km az=6.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**14.18**	**187**	Pn	Pn	06 06 17.6	-0.7
	1.0nm,0.3s,baz=101,slow=23,SNR=2.8						
TXAR	**Lajitas Array**	**29.98**	**296**	P	P	06 09 06.8	+0.7
	0.2nm,0.8s,baz=90,slow=7.5,SNR=1.6						
YKA	**Yellowknife Ar**	**52.13**	**337**	P	P	06 12 06.3	-1.1
	0.3nm,0.8s,baz=129,slow=8.1,SNR=2.6						
GERES	**GERESS Array B**	**73.58**	**43**	P	P	06 14 31.1	+0.4
	0.4nm,0.5s,baz=339,slow=7.1,SNR=4.4						

IDC 13 06:06:15.4±2.7, 18°56N×72°42W, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, ML2.6/1, Error ellipse: s-maj=91.7km s-min=40.0km az=82.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**13.75**	**188**	Pn	Pn	06 09 33.8	+1.5
	0.6nm,0.3s,baz=270,slow=21,SNR=1.5						
TXAR	**Lajitas Array**	**30.42**	**297**	P	P	06 12 29.5	-0.2
	0.4nm,0.9s,baz=61,slow=7.3,SNR=2.5						
YKA	**Yellowknife Ar**	**52.66**	**337**	P	P	06 15 31.5	+0.4
	0.3nm,0.8s,baz=123,slow=7.0,SNR=7.9						
WRA	**Warramunga Arr**	**154.71**	**262**	PKPbc	PKPbc	06 26 18.6	-0.8
	0.3nm,0.5s,baz=86,slow=2.5,SNR=5.1						

SJA ***13*** *06:09:35.6±0.3, 24°.03S×66°.67W, h325km±31km, MD3.6, ML3.8*
ISCJB ***13*** *06:09:36.6±0.5, 23°.92S±0°.03×66°.78W±0°.07, h197km±11km, mb3.6/2, Error ellipse: s-maj=11.3km s-min=5.0km az=169.8*
IDC ***13*** *06:09:37.4±1.6, 23°.87S×66°.61W, h182km±17km, mb3.5/2, mb1 3.4/8, mb1mx3.2/21, mbtmp3.3/8, Error ellipse: s-maj=25.9km s-min=14.9km az=97.0*
GUC ***13*** *06:09:40.2±0.4, 23°.77S×67°.44W, h247km±15km, ML4.6*
ISC 13 06:09:36.7±0.8, 23°.97S±0°.05×66°.72W±0°.07, h179km±11km, n28, σ1s98/39, 1C-5D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**2.91**	**295**	⇓*iP*	**Pn**	**06 10 26.6**	**+2.2**
PB06				*i*S	**Sn**	**06 11 01.8**	**+0.4**
PB06				AML	AML	06 11 03.5	
	comp=N,1μm,0.5s						
PB04	**Plate Boundary**	**3.06**	**303**	⇓*iP*	Pn	06 10 33.8	+7.7
PB04				*i*S	Sn	06 11 14.3	+10
PB04				AML	AML	06 11 19.6	
	comp=N,671nm,0.5s						
PB09	**Plate Boundary**	**3.18**	**312**	⇑*iP*	**Pn**	**06 10 30.1**	**+2.4**
PB09				AML	AML	06 11 10.9	
	comp=N,1μm,0.3s						
CEN1	**Los Morros**	**3.24**	**280**	*eP*	Pn	06 10 32.2	+3.8
CEN1				*i*S	**Sn**	**06 11 10.4**	**+1.8**
CEN1				AML	AML	06 11 11.4	
	comp=N,305nm,0.4s						
MACH	**Maria Elena**	**3.31**	**302**	*i*S	**Sn**	**06 11 09.9**	**-0.4**
ANCH	**Antofagasta**	**3.39**	**274**	⇓*iP*	**Pn**	**06 10 31.1**	**+1.0**
ANCH				*i*S	**Sn**	**06 11 10.4**	**-1.3**
ANCH				AML	AML	06 11 13.4	
	comp=E,652nm,0.3s						
PB10	**Plate Boundary**	**3.54**	**277**	⇓*iP*	**Pn**	**06 10 33.8**	**+1.8**
PB10				*i*S	**Sn**	**06 11 13.8**	**-1.4**
PB10				AML	AML	06 11 16.6	
	comp=E,1μm,0.3s						
PB07	**Plate Boundary**	**3.68**	**307**	⇓*iP*	**Pn**	**06 10 35.2**	**+1.4**
PB07				*i*S	**Sn**	**06 11 17.2**	**-1.3**
PB01	**Plate Boundary**	**3.88**	**318**	*eP*	**Pn**	**06 10 37.5**	**+1.2**
PB01				*i*S	**Sn**	**06 11 21.7**	**-1.3**
CYA	**Choya**	**4.53**	**170**	*eP*	Pn	06 10 48.6	+4.0
CYA				*e*P	Pn	06 10 48.6	+4.0
PB11	**Plate Boundary**	**5.00**	**326**	*eP*	**Pn**	**06 10 50.4**	**-0.5**
PB11				*e*S	**Sn**	**06 11 45.9**	**-3.1**
ACLC	**CERRO LA CRUZ**	**5.43**	**182**	*eP*	**Pn**	**06 10 59.2**	**+2.8**
ACLC				*e*S	**Sn**	**06 12 01.4**	**+2.2**
APLL	**PUNTA DE LOS L**	**6.40**	**178**	*eP*	**Pn**	**06 11 11.0**	**+2.0**
AVFE	**Valle Fertil**	**6.69**	**185**	*eP*	**Pn**	**06 11 14.1**	**+1.2**
AVFE				*e*S	**Sn**	**06 12 27.5**	**-1.2**
AVFE				AML	AML	06 12 30.4	
	comp=Z,13nm,0.3s						
AMOG	**MOGNA**	**7.12**	**192**	*eP*	**Pn**	**06 11 19.2**	**+0.9**
AMOG				*e*S	**Sn**	**06 12 35.8**	**-2.9**
ACHE	**Chepes**	**7.17**	**180**	*e*S	**Sn**	**06 12 36.8**	**-3.3**
RTLL	**Cerro Villicun**	**7.49**	**192**	*eP*	**Pn**	**06 11 24.1**	**+0.8**
RTLL				*e*S	**Sn**	**06 12 43.7**	**-3.9**
CFAA	**Coronel Fontan**	**7.72**	**190**	P	**Pn**	**06 11 27.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=0.6,slow=13,SNR=52						
CFAA				S	**Sn**	**06 12 49.5**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=202,slow=14,SNR=18						
CFAA	**Coronel Fontan**	**7.72**	**190**	*eP*	**Pn**	**06 11 26.9**	**+0.5**
CFAA				*e*S	**Sn**	**06 12 48.8**	**-4.3**
LPAZ	**La Paz**	**7.76**	**350**	P	**Pn**	**06 11 28.4**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=157,slow=5.7,SNR=41						
LPAZ				S	**Sn**	**06 12 53.0**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=8.0,slow=11,SNR=5.7						
CPUP	**Villa Florida**	**8.83**	**107**	P	**Pn**	**06 11 41.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=270,slow=11,SNR=4.6						
SIV	**San Ignacio**	**9.55**	**35**	P	**Pn**	**06 11 49.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=229,slow=14,SNR=12						
PLCA	**Paso Flores**	**17.02**	**190**	P	**Pn**	**06 13 24.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=28,slow=9.0,SNR=7.3						
BDFB	**Brasilia**	**19.44**	**68**	P	**P**	**06 13 48.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=202,slow=6.3,SNR=3.4						
QSPA	**South Pole Qui**	**66.23**	**180**		**P**	**06 20 06.9**	**+1.7**
	comp=Z,1.8nm,0.5s,baz=124,slow=0.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**76.32**	**69**	P	**P**	**06 21 05.4**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=236,slow=5.0,SNR=2.7						
WRA	**Warramunga Arr**	**131.77**	**207**	PKP	**PKPdf**	**06 28 29.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=155,slow=1.9,SNR=4.5						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	**PKPdf**	**06 28 55.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=295,slow=2.8,SNR=7.1						

ISCJB ***13*** *06:24:13.4±0.2, 18°.35N±0°.03×72°.86W±0°.02, h6km, mb4.4/54, MS4.3/8, Error ellipse: s-maj=4.5km s-min=2.5km az=12.6*
IDC ***13*** *06:24:13.8±0.5, 18°.41N×72°.86W, h0km, mb4.2/23, mb1 4.4/26, mb1mx4.3/32, mbtmp4.2/26, ML3.7/3, MS4.1/9, Ms1 4.2/9, ms1mx3.8/33, Error ellipse: s-maj=16.2km s-min=11.8km az=67.0*
JSN ***13*** *06:24:15.5±0.6, 19°.91N×73°.03W, h56km±999km, MD5.2*
NEIC ***13*** *06:24:15.9±0.2, 18°.37N×72°.88W, h10km, mb4.6/33, Error ellipse: s-maj=4.3km s-min=3.1km az=16.0*
BJI ***13*** *06:24:16.4, 18°.30N×73°.10W, h10km, Ms7 4.8/1*
ISC 13 06:24:15.1±0.3, 18°36N±0°.04×72°87W±0°.04, h6km, n276, σ1s02/284, mb4.4/54, MS4.2/8, 72C-63D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.62**	**67**	*eP*n	**Pn**	**06 24 43.7**	**-0.5**
SDDR				*e*Sn	**Sn**	**06 25 04.1**	**-1.4**
GTBY	**Guantanamo Bay**	**2.63**	**307**	*eP*n	**Pn**	**06 24 58.2**	**+0.2**
YHJ	**Yallahs**	**3.48**	**263**	*i*P	**Pn**	**06 25 11.3**	**+1.6**
YHJ	**Yallahs**	**3.48**	**263**	*i*P	**Pn**	**06 25 11.3**	**+1.6**
GRTK	**Grand Turk**	**3.53**	**27**	*e*Pn	**Pn**	**06 25 10.8**	**+0.3**
GWJ	**Greenwich**	**3.68**	**266**	*i*P	**Pn**	**06 25 13.1**	**+0.4**
GWJ	**Greenwich**	**3.68**	**266**	*i*P	**Pn**	**06 25 13.1**	**+0.4**
HOJ	**Hope**	**3.71**	**265**	*i*P	**Pn**	**06 25 13.5**	**+0.6**
HOJ	**Hope**	**3.71**	**265**	*i*P	**Pn**	**06 25 13.5**	**+0.6**
STH	**Stony Hill**	**3.76**	**266**	*i*P	**Pn**	**06 25 13.2**	**-0.4**
STH				*i*S	**Sn**	**06 25 57.0**	**-1.1**
STH	**Stony Hill**	**3.76**	**266**	*i*P	**Pn**	**06 25 13.2**	**-0.4**
STH				*i*S	**Sn**	**06 25 57.0**	**-1.1**
PCJ	**Portland Cotta**	**4.13**	**262**	*i*P	**Pn**	**06 25 19.8**	**+1.2**
PCJ	**Portland Cotta**	**4.13**	**262**	*i*P	**Pn**	**06 25 19.8**	**+1.2**
MTDJ	**Mount Denham**	**4.43**	**269**	*e*Pn	**Pn**	**06 25 22.7**	**-0.3**
AGPR	**Aguadilla, PR**	**5.47**	**88**	*e*Pn	**Pn**	**06 25 38.7**	**+1.6**
CRPR	**Cabo Rojo, PR**	**5.49**	**93**	*e*Pn	**Pn**	**06 25 38.2**	**+0.8**
	85nm,0.4s						
LSP	**Las Mesas**	**5.50**	**91**	*e*Pn	**Pn**	**06 25 38.6**	**+1.0**
AOPR	**Arecibo Observ**	**5.81**	**89**	*e*Pn	**Pn**	**06 25 44.7**	**+2.8**
OBIP	**Obispado Ponce**	**5.96**	**92**	*e*Pn	**Pn**	**06 25 44.6**	**+0.7**
	72nm,0.7s						
OBIP				*e*Sn	**Sn**	**06 26 53.3**	**+0.7**
CELP	**Cerrillos**	**5.99**	**92**	*e*Pn	**Pn**	**06 25 45.1**	**+0.9**
CBYP	**Canovanas**	**6.66**	**90**	*e*Pn	**Pn**	**06 25 55.0**	**+1.4**
	71nm,0.8s						
CBYP				*e*Sn	**Sn**	**06 27 10.2**	**+0.3**
HUMP	**Col San Antoni**	**6.67**	**91**	*e*Pn	Pn	06 26 02.0	+8.3
MTP	**Monte Pirata**	**6.96**	**91**	*e*Pn	**Pn**	**06 25 59.5**	**+1.8**
	72nm,0.7s						
MTP				*e*Sn	**Sn**	**06 27 16.7**	**-0.5**
CDVI	**St. Croix**	**7.73**	**93**	*e*Pn	**Pn**	**06 26 08.7**	**+0.5**
SDV	**Santo Domingo**	**9.67**	**167**	*e*Pn	**Pn**	**06 26 35.9**	**+0.9**
MLG	**Mont-d'or**	**10.91**	**100**	*eP*	**Pn**	**06 26 53.2**	**+1.3**
SEG	**Port Louis**	**11.02**	**98**	*eP*	**Pn**	**06 26 55.9**	**+2.5**
BCIP	**Isla Barro Col**	**11.37**	**217**	*e*Pn	**Pn**	**06 26 57.4**	**-0.7**
GRGR	**Grenville**	**12.47**	**118**	Pn	**Pn**	**06 27 12.8**	**-0.3**
ROSC	**El Rosal**	**13.50**	**186**	*e*Pn	**Pn**	**06 27 29.2**	**+1.6**
ROSC				Sn	**Sn**	**06 29 57.2**	**-1.1**
ROSC	**El Rosal**	**13.50**	**186**	Pn	**Pn**	**06 27 29.7**	**+2.0**
	1.9nm,0.3s,baz=123,slow=11,SNR=12						
ROSC				Sn	**Sn**	**06 29 57.2**	**-1.1**
	2.4nm,0.3s,baz=83,slow=23,SNR=2.1						
JTS	**JuntasAbangare**	**14.19**	**237**	*e*Pn	**Pn**	**06 27 36.8**	**+0.1**
JTS	**JuntasAbangare**	**14.19**	**237**	Pn	**P**	**06 27 45.1**	**+0.8**
	1.0nm,0.3s,baz=36,slow=6.5,SNR=8.3						
JTS				LR	LR	06 33 42.0	
	comp=Z,242nm,18.3s,baz=32,slow=40						
TEIG	**Tepich**	**14.66**	**280**	*e*Pn	**Pn**	**06 27 43.5**	**+0.4**
TEIG				Sn	Sn	06 30 17.8	-8.3
TEIG	**Tepich**	**14.66**	**280**	Pn	**Pn**	**06 27 43.8**	**+0.6**
	2.5nm,0.3s,baz=192,slow=1.9,SNR=6.9						
TEIG				Sn	Sn	06 30 17.8	-8.3
	0.5nm,0.3s,baz=62,slow=9.8,SNR=2.4						
APG	**El Apazote**	**17.18**	**261**	P	**P**	**06 28 17.1**	**-0.7**
APG	**El Apazote**	**17.18**	**261**	P	**P**	**06 28 17.1**	**-0.7**
	0.3nm,0.3s,baz=138,slow=13,SNR=5.0						
OTAV	**Otavalo**	**18.83**	**198**	*e*Pn	**Pn**	**06 28 38.6**	**+2.0**
	283nm,2.3s						
TKL	**Tuckaleechee C**	**19.75**	**333**	P	Pn	06 28 52.5	+5.4
TKL				*e*Pn	pP	06 28 53.4	+5.9
TKL	**Tuckaleechee C**	**19.75**	**333**	P	Pn	06 28 52.5	+5.4
	0.2nm,0.3s,baz=150,slow=12,SNR=5.3						
TKL				LR	LR	06 37 07.2	
	comp=Z,602nm,18.3s,baz=308,slow=39						
JSRW	**J. Sargeant Re**	**19.75**	**348**	*eP*	**P**	**06 28 46.4**	**+0.7**
CPCT	**Cooper Cave**	**19.91**	**331**	*e*Pn	Pn	06 28 57.8	+8.7
BLA	**Blacksburg**	**19.91**	**342**	*eP*	**Pn**	**06 28 48.4**	**-0.7**
CBN	**Corbin**	**20.16**	**350**	*eP*	**P**	**06 28 50.9**	**+0.8**
TZTN	**Tazewell**	**20.41**	**335**	*e*Pn	Pn	06 28 55.6	+0.5
	41nm,1.3s						
OXF	**Oxford**	**21.81**	**321**	*eP*	**P**	**06 29 10.3**	**+2.3**
	36nm,1.1s						
PTGA	**Pitinga**	**22.83**	**145**	*eP*	**P**	**06 29 18.6**	**-0.4**
PTGA	**Pitinga**	**22.83**	**145**	P	**P**	**06 29 18.4**	**-0.6**
	9.2nm,0.7s,baz=349,slow=10,SNR=12						
PARMO	**Parma**	**23.52**	**324**	*eP*	P	06 29 31.7	+5.7
HKT	**Hockley**	**23.87**	**303**	*eP*	**P**	**06 29 29.4**	**+0.1**
	28nm,1.6s						
PBMO	**Poplar Bluff**	**23.99**	**323**	*eP*	**P**	**06 29 30.7**	**+0.2**
	226nm,2.5s						
835A	**Beeville**	**24.91**	**298**	⇑P	**P**	**06 29 39.8**	**+0.8**
	baz=25						
735A	**Kenedy**	**25.07**	**299**	⇓P	**P**	**06 29 41.5**	**+1.1**
	baz=25						
535A	**Dale**	**25.29**	**302**	⇑P	**P**	**06 29 43.5**	**+1.1**
	baz=25						
034A	**Hebbronville**	**25.30**	**295**	⇓P	**P**	**06 29 43.6**	**+1.1**
	baz=25						
934A	**Benavides**	**25.30**	**296**	⇑P	**P**	**06 29 43.6**	**+1.1**
	baz=25						
834A	**Tilden**	**25.47**	**297**	⇑P	**P**	**06 29 44.9**	**+0.8**
	baz=26,SNR=6.4						
335A	**Moody**	**25.66**	**305**	⇑P	**P**	**06 29 46.7**	**+0.9**
	baz=26						
734A	**La Parita Cree**	**25.70**	**299**	⇑P	**P**	**06 29 46.7**	**+0.6**
	baz=26						
634A	**China Grove, S**	**25.70**	**300**	⇑P	**P**	**06 29 46.7**	**+0.6**
	baz=26						
ATAH	**Atahualpa**	**25.92**	**193**	P	**P**	**06 29 50.7**	**+2.1**
ATAH	**Atahualpa**	**25.92**	**193**	P	**P**	**06 29 50.7**	**+2.1**
	8.2nm,0.8s,baz=68,slow=6.2,SNR=4.9						
933A	**Laredo**	**25.95**	**296**	⇓P	**P**	**06 29 48.2**	**-0.2**
	baz=26,SNR=5.3						
WHTX	**Lake Whitney**	**25.98**	**306**	*eP*	**P**	**06 29 49.4**	**+0.7**
WHTX	**Lake Whitney**	**25.98**	**306**	⇓P	**P**	**06 29 49.2**	**+0.4**
	baz=26						
534A	**Blanco**	**26.02**	**301**	⇑P	**P**	**06 29 49.2**	**+0.1**
	baz=26						
434A	**Burnet**	**26.14**	**303**	⇑P	**P**	**06 29 50.5**	**+0.3**
	baz=26						
833A	**Chaparral WMA,**	**26.24**	**297**	⇑P	**P**	**06 29 51.1**	**0.0**
	baz=26						
733A	**Divot King Ran**	**26.27**	**298**	⇑P	**P**	**06 29 51.6**	**+0.3**
	baz=26						
334A	**Lometa**	**26.32**	**304**	⇓P	**P**	**06 29 51.9**	**+0.1**
	baz=26						
633A	**Saathoff Ranch**	**26.40**	**300**	⇑P	**P**	**06 29 52.5**	**-0.1**
	baz=26						
234A	**Clairette**	**26.51**	**306**	⇑P	**P**	**06 29 53.4**	**-0.1**
	baz=26						
134A	**White-Moore Ra**	**26.71**	**307**	⇓P	**P**	**06 29 55.1**	**-0.2**
	baz=27						
832A	**Faith Ranch, C**	**26.72**	**297**	⇓P	**P**	**06 29 54.9**	**-0.5**
	baz=27,SNR=9.9						
TUL1	**Tulsa**	**26.75**	**315**	*eP*	**P**	**06 29 57.5**	**+1.8**
	22nm,1.1s						
TUL1	**Tulsa**	**26.75**	**315**	⇓P	**P**	**06 29 55.8**	**+0.2**
	baz=27						
433A	**Art**	**26.78**	**302**	⇑P	**P**	**06 29 55.7**	**-0.2**
	baz=27						
732A	**Laxson Ranch,**	**26.84**	**298**	⇓P	**P**	**06 29 56.1**	**-0.4**
	baz=27						
SADO	**Sadowa**	**26.85**	**350**	LR	LR	06 39 43.5	
	comp=Z,469nm,18.7s,baz=180,slow=35						
333A	**Richland Sprin**	**26.90**	**304**	⇑P	**P**	**06 29 57.0**	**-0.1**
	baz=27						
Y34A	**Reagan Ranch,**	**27.10**	**310**	⇑P	**P**	**06 29 58.4**	**-0.4**
	baz=27						
233A	**Rising Star**	**27.11**	**305**	⇓P	**P**	**06 29 58.4**	**-0.5**
	baz=27						
532A	**Rocksprings**	**27.22**	**301**	⇓P	**P**	**06 29 59.4**	**-0.6**
	baz=27						
432A	**Menard**	**27.38**	**302**	⇑P	**P**	**06 30 02.1**	**+0.7**
	baz=27						
X34A	**Smith Ranch, M**	**27.47**	**311**	⇑P	**P**	**06 30 03.5**	**+1.4**
	baz=28						
631A	**Perdido Creek**	**27.55**	**299**	⇑P	**P**	**06 30 03.4**	**+0.5**
	baz=28						
W34A	**Bridge Creek,**	**27.75**	**312**	⇓P	**P**	**06 30 06.5**	**+1.9**
	baz=28						
V34A	**Guthrie**	**27.88**	**314**	⇑P	**P**	**06 30 07.8**	**+2.0**
	baz=28						
ABTX	**Abilene, Hawle**	**27.93**	**306**	⇓P	**P**	**06 30 07.4**	**+1.1**
	baz=28						
431A	**Sonora**	**27.98**	**301**	⇑P	**P**	**06 30 07.5**	**+0.8**
	baz=28						
331A	**San Angelo**	**28.05**	**303**	⇓P	**P**	**06 30 07.7**	**+0.4**
	baz=28						
Z32A	**Haskell**	**28.09**	**307**	⇓P	**P**	**06 30 08.4**	**+0.7**
	baz=28						
U34A	**Anderson Ranch**	**28.22**	**315**	⇑P	**P**	**06 30 09.4**	**+0.6**
	baz=28						
Y32A	**R-V Farms, Ver**	**28.37**	**309**	⇑P	**P**	**06 30 10.3**	**+0.1**
	baz=28						
530A	**J-C Ranch, Com**	**28.40**	**300**	⇓P	**P**	**06 30 10.2**	**-0.4**
	baz=28						
X32A	**Elmer**	**28.44**	**309**	⇑P	**P**	**06 30 10.1**	**-0.7**
	baz=28						
430A	**Baggett Ranch,**	**28.52**	**301**	⇑P	**P**	**06 30 10.9**	**-0.7**
	baz=28						
JFWS	**Jewell Farm**	**28.56**	**333**	P	**P**	**06 30 10.7**	**-1.1**
Z31A	**Sharp Cattle R**	**28.60**	**307**	⇑P	**P**	**06 30 12.1**	**-0.1**
	baz=29						
330A	**Mertzon**	**28.68**	**302**	⇓P	**P**	**06 30 12.6**	**-0.4**
	baz=29						
W32A	**Sentinel**	**28.74**	**311**	⇑P	**P**	**06 30 13.2**	**-0.3**
	baz=29						
SAML	**Samuel**	**28.77**	**160**	*eP*	**P**	**06 30 12.6**	**-1.2**
	2.4nm,0.9s						
429A	**Davenport Ranc**	**29.01**	**300**	⇑P	**P**	**06 30 15.9**	**0.0**
	baz=29						
529A	**Stev Forest Ra**	**29.12**	**299**	⇓P	**P**	**06 30 16.2**	**-0.8**
	baz=29						
KSU1	**Kansas State U**	**29.18**	**320**	⇓P	**P**	**06 30 17.4**	**+0.1**
	baz=29						
329A	**Wagon Wheel Ra**	**29.35**	**302**	⇓P	**P**	**06 30 18.9**	**-0.1**
	baz=29						
V31A	**Spring Creek L**	**29.48**	**311**	⇑P	**P**	**06 30 21.0**	**+0.9**
	baz=30						
R33A	**Olander Ranch,**	**29.56**	**317**	⇑P	**P**	**06 30 21.6**	**+0.9**
	baz=30						
528A	**Cox Ranch, San**	**29.61**	**299**	⇓P	**P**	**06 30 21.8**	**+0.5**
	baz=30						
X30A	**Coker Ranch, T**	**29.63**	**308**	⇓P	**P**	**06 30 21.6**	**+0.2**
	baz=30						
428A	**Kincaid Ranch,**	**29.68**	**300**	⇑P	**P**	**06 30 21.8**	**-0.2**
	baz=30,SNR=9.7						
Z29A	**Hungry Hill Ra**	**29.77**	**306**	⇓P	**P**	**06 30 22.9**	**+0.2**
	baz=30						
Q33A	**Connelly Farm,**	**29.87**	**319**	⇑P	**P**	**06 30 23.5**	**+0.1**
	baz=30						
Y29A	**Porterfield Fa**	**29.98**	**307**	⇑P	**P**	**06 30 25.0**	**+0.4**
	baz=30						
TXAR	**Lajitas Array**	**30.12**	**297**	P	**P**	**06 30 25.6**	**-0.2**
TXAR				PcP	**PcP**	**06 33 27.2**	**-0.3**
TXAR	**Lajitas Array**	**30.12**	**297**	P	**P**	**06 30 25.6**	**-0.2**
	1.7nm,1.0s,baz=116,slow=5.7,SNR=9.1						
TXAR				PcP	**PcP**	**06 33 27.2**	**-0.3**
	0.4nm,0.6s,baz=133,slow=3.1,SNR=5.2						
128A	**Castleberry Fa**	**30.15**	**304**	⇓P	**P**	**06 30 25.9**	**-0.2**
	baz=30						
X29A	**Tulia**	**30.24**	**308**	⇑P	**P**	**06 30 26.6**	**-0.3**
	baz=30						
527A	**Woodward Ranch**	**30.29**	**299**	⇑P	**P**	**06 30 26.7**	**-0.7**
	baz=30						
427A	**Hayter Ranch,**	**30.31**	**300**	⇑P	**P**	**06 30 27.0**	**-0.6**
	baz=30						
Y28A	**McKinney Farm,**	**30.44**	**306**	⇓P	**P**	**06 30 28.3**	**-0.3**
	baz=30						
526A	**Mary Lane Ranc**	**30.66**	**298**	⇓P	**P**	**06 30 30.8**	**+0.1**
	baz=31,SNR=6.5						
426A	**McDonald Obser**	**30.78**	**299**	⇑P	**P**	**06 30 31.6**	**-0.2**
	baz=31,SNR=8.6						
MSTX	**Muleshoe**	**30.87**	**306**	*eP*	**P**	**06 30 32.1**	**-0.3**
	13nm,1.1s						
MSTX	**Muleshoe**	**30.87**	**306**	⇓P	**P**	**06 30 32.7**	**+0.3**
	baz=31						
Z27A	**Tatum**	**30.97**	**305**	⇓P	**P**	**06 30 32.8**	**-0.6**
	baz=31						
425A	**Indio Mountain**	**31.60**	**299**	⇑P	**P**	**06 30 39.2**	**+0.2**
	baz=32						
P30A	**Selden**	**31.72**	**317**	⇑P	**P**	**06 30 40.1**	**+0.3**
	baz=32						
325A	**Bean Ranch, Si**	**31.75**	**300**	⇓P	**P**	**06 30 39.9**	**-0.4**
	baz=32,SNR=6.9						
Q29A	**Oakley**	**31.84**	**316**	⇓P	**P**	**06 30 41.1**	**+0.2**
	baz=32						
225A	**Deer Hill, Car**	**31.84**	**302**	⇓P	**P**	**06 30 41.1**	**0.0**
	baz=32						
125A	**Gardner Draw,**	**31.88**	**303**	⇓P	**P**	**06 30 41.4**	**0.0**
	baz=32						
X26A	**CR and CF Fran**	**31.88**	**307**	⇑P	**P**	**06 30 41.0**	**-0.4**
	baz=32						
U27A	**Thompson Grove**	**31.92**	**310**	⇓P	**P**	**06 30 41.3**	**-0.4**
	baz=32						
M31A	**Lambtecht Ranc**	**31.98**	**321**	⇓P	**P**	**06 30 42.2**	**+0.1**
	baz=32						
W26A	**Owens Ranch, T**	**32.06**	**308**	⇓P	**P**	**06 30 42.1**	**-0.9**
	baz=32						
R28A	**Tribune**	**32.12**	**314**	⇓P	**P**	**06 30 43.3**	**0.0**
	baz=32						
Z25A	**Roswell**	**32.13**	**304**	⇑P	**P**	**06 30 43.5**	**-0.1**
	baz=32						
324A	**Moseley Ranch,**	**32.19**	**300**	⇑P	**P**	**06 30 44.1**	**0.0**
	baz=32,SNR=9.8						
224A	**Cornudas Mount**	**32.40**	**301**	⇓P	**P**	**06 30 45.6**	**-0.4**
	baz=32,SNR=9.5						
124A	**Stringfield Ra**	**32.53**	**302**	⇓P	**P**	**06 30 46.7**	**-0.6**
	baz=32						
U26A	**Atchley Ranch,**	**32.58**	**310**	⇓P	**P**	**06 30 47.3**	**-0.2**
	baz=33						
W25A	**X Bar L Ranch,**	**32.63**	**307**	⇑P	**P**	**06 30 47.5**	**-0.5**
	baz=33						
Z24A	**Sheeppen Canyo**	**32.66**	**304**	⇑P	**P**	**06 30 48.5**	**+0.1**
	baz=33

	baz=38								
K21A	**Alcova**	37.84	317	⇓P		P		06 31 33.8	+1.0
	baz=38								
WUAZ	**Wupatki**	38.06	305	*e*P		P		06 31 35.8	+1.1
	6.9nm,1.0s								
J21A	**Lysite**	38.31	318	⇓P		P		06 31 36.9	+0.1
	baz=38								
I21A	**Big Trails, Te**	38.45	319	⇑P		P		06 31 37.7	-0.2
	baz=38,SNR=5.6								
J20A	**Shoshoni**	38.72	318	⇑P		P		06 31 40.5	+0.3
	baz=39								
U15A	**North Rim**	39.03	306	⇑P		P		06 31 43.5	+0.5
	baz=39								
J19A	**Crowheart**	39.30	317	⇓P		P		06 31 44.8	-0.3
	baz=39								
PDAR	**Pinedale Array**	39.41	316	P		P		06 31 45.7	-0.3
PDAR	**Pinedale Array**	39.41	316	P		P		06 31 45.7	-0.3
	1.7nm,1.0s,baz=111,slow=8.1,SNR=6.4								
I19A	**Meeteetse**	39.63	318	⇓P		P		06 31 48.1	+0.2
	baz=40								
MPU	**Maple Canyon**	39.71	311	*e*P		P		06 31 48.7	+0.1
	5.4nm,1.0s								
W13A	**Hualapai Mount**	39.93	303	⇓P		P		06 31 50.8	+0.3
	baz=40								
H19A	**Powell**	39.93	319	⇓P		P		06 31 51.1	+0.8
	baz=40								
F20A	**Billings**	39.99	321	⇓P		P		06 31 51.6	+0.8
	baz=40								
D21A	**La Casta Ranch**	40.01	323	⇑P		P		06 31 51.0	+0.3
	baz=40								
E20A	**Meyer Farm, Mu**	40.35	322	⇑P		P		06 31 53.7	+0.1
	baz=40								
H18A	**Shoshone NF, C**	40.36	319	⇓P		P		06 31 53.9	0.0
	baz=40								
LOHW	**Long Hollow**	40.47	317	*e*P		P		06 31 54.8	0.0
	10nm,1.0s								
F19A	**Roth Farm, Mol**	40.50	321	⇑P		P		06 31 55.1	+0.2
	baz=40								
REDW	**Red Top Meadow**	40.52	316	*e*P		P		06 31 55.3	0.0
	14nm,1.0s								
A22A	**Carney Farms,**	40.54	326	⇑P		P		06 31 55.8	+0.7
	baz=40								
I17A	**Pilgrim Ck.**	40.59	317	⇓P		P		06 31 56.0	+0.1
	baz=41								
DUG	**Dugway**	40.62	311	*e*P		P		06 31 56.4	+0.4
	52nm,2.6s								
DUG	**Dugway**	40.62	311	⇓P		P		06 31 55.9	-0.2
	baz=41								
MOOW	**Moose Ponds**	40.62	317	*e*P		P		06 31 55.9	-0.2
	11nm,1.1s								
TPAW	**Teton Pass**	40.64	316	*e*P		P		06 31 52.9	-3.4
	7.3nm,1.0s								
E19A	**Rath Farm, Rou**	40.72	322	⇑P		P		06 31 56.8	+0.1
	baz=41								
FXWY	**Fox Creek**	40.76	317	*e*P		P		06 31 57.1	-0.1
IMW	**Indian Meadow**	40.81	317	*e*P		P		06 31 57.6	-0.2
	3.9nm,0.8s								
BGU	**Big Grassy Mou**	41.03	312	*e*P		P		06 31 59.5	+0.1
	4.0nm,1.3s								
A21A	**Bergtoll Ranch**	41.07	326	⇓P		P		06 32 00.8	+1.2
	baz=41								
D19A	**Cripps Ranch,**	41.14	322	⇓P		P		06 32 00.7	+0.5
	baz=41								
HVU	**Hansel Valley**	41.17	313	*e*P		P		06 32 01.8	+1.2
	30nm,2.1s								
BDFB	**Brasilia**	41.73	143	P		P		06 32 05.3	0.0
BDFB	**Brasilia**	41.73	143	P		P		06 32 05.3	0.0
	20nm,0.7s,baz=312,slow=10,SNR=30								
R11A	**Troy Canyon, C**	42.09	307	⇑P		P		06 32 08.7	+0.5
	baz=42								
TPNV	**Topopah Spring**	42.23	305	*e*P		P		06 32 11.5	+2.1
	37nm,1.9s								
MCMT	**McKenzie Canyo**	42.45	317	*e*P		P		06 32 11.4	+0.2
	1.4nm,0.8s								
DLMT	**Dillon**	42.52	318	*e*P		P		06 32 12.5	+0.9
	32nm,1.7s								
HLID	**Hailey**	42.97	315	*e*P		P		06 32 15.5	+0.3
HLID	**Hailey**	42.97	315	⇑P		P		06 32 14.8	-0.4
	baz=43								
TPH	**Tonopah**	43.26	306	*e*P		P		06 32 18.6	+0.9
	5.4nm,1.0s								
NVAR	**Mina Array Bea**	44.17	307	P		P		06 32 25.0	-0.1
NVAR	**Mina Array Bea**	44.17	307	P		P		06 32 25.0	-0.1
	0.9nm,0.7s,baz=99,slow=6.5,SNR=6.9								
VES	**Vestal, Richgr**	44.23	303	⇑P		P		06 32 26.3	+0.9
	baz=44								
FRB	**Frobisher Bay**	45.44	3	P		P		06 32 34.0	-0.5
FRB	**Frobisher Bay**	45.44	3	P		P		06 32 34.0	-0.5
	3.2nm,0.9s,baz=199,slow=9.4,SNR=3.2								
WVOR	**Wild Horse Val**	45.50	312	*e*P		P		06 32 35.5	+0.1
	67nm,2.3s								
J08A	**Circle Bar Ran**	45.67	313	*e*P		P		06 32 36.5	-0.2
	45nm,2.2s								
NEW	**Newport**	46.57	320	P		P		06 32 43.0	-0.8
NEW	**Newport**	46.57	320	P		P		06 32 43.0	-0.8
	1.9nm,0.9s,baz=121,slow=12,SNR=3.1								
NEW	**Newport**	46.57	320	⇑P		P		06 32 44.0	+0.3
	baz=46								
CPUP	**Villa Florida**	46.92	161	LR		LR		06 54 09.2	
	comp=Z,230nm,18.8s,baz=182,slow=38								
YKA	**Yellowknife Ar**	52.67	337	P		P		06 33 29.0	-1.0
YKA	**Yellowknife Ar**	52.67	337	P		P		06 33 29.0	-1.0
	1.3nm,0.7s,baz=127,slow=7.6,SNR=23								
RES	**Resolute Bay**	57.60	353	P		P		06 34 04.8	-0.5
RES	**Resolute Bay**	57.60	353	P		P		06 34 04.8	-0.5
	2.5nm,1.0s,baz=161,slow=8.3,SNR=4.0								
SUMG	**Summit**	57.68	12	*i* P		P		06 34 04.6	-1.9
	6.0nm,0.9s								
SUMG	**Summit**	57.68	12	*e*P		P		06 34 06.4	0.0
	47nm,1.6s								
PLCA	**Paso Flores**	58.83	178	P		P		06 34 13.2	-1.3
PLCA	**Paso Flores**	58.83	178	P		P		06 34 13.2	-1.3
	4.3nm,1.1s,baz=357,slow=6.2,SNR=5.4								
INK	**Inuvik**	62.37	339	P		P		06 34 38.8	+0.6
ESDC	**Sonseca Array**	62.42	54	P		P		06 34 40.0	+0.8
ESDC	**Sonseca Array**	62.42	54	P		P		06 34 40.0	+0.8
	0.6nm,0.5s,baz=267,slow=7.6,SNR=4.2								
ILAR	**Eielson Array**	66.73	333	P		P		06 35 06.0	-0.9
ILAR	**Eielson Array**	66.73	333	P		P		06 35 06.0	-0.9
	1.0nm,0.9s,baz=95,slow=4.8,SNR=8.6								
DBIC	**Dimbokro**	67.09	90	P		P		06 35 09.2	-0.7
DBIC	**Dimbokro**	67.09	90	P		P		06 35 09.2	-0.7
	2.0nm,0.8s,baz=270,slow=10,SNR=2.2								
DBIC				LR		LR		06 59 08.1	
	comp=Z,158nm,18.8s,baz=40,slow=31								
NOA	**NORSAR Array B**	71.27	31	P		P		06 35 35.2	+0.1
NOA	**NORSAR Array B**	71.27	31	P		P		06 35 35.2	+0.1
	1.8nm,1.0s,baz=278,slow=6.5,SNR=3.4								
NOA				LR		LR		07 03 07.0	
	comp=Z,100nm,20.0s,baz=265,slow=33								
TORD	**Torodi Ar. Bea**	71.52	82	P		P		06 35 36.4	-1.1
TORD	**Torodi Ar. Bea**	71.52	82	P		P		06 35 36.4	-1.1
	2.1nm,0.8s,baz=286,slow=6.2,SNR=10								
BRG	**Berggiesshubel**	74.00	41	*e*P		P		06 35 53.3	+1.8
	4.8nm,0.9s								
GERES	**GERESS Array B**	74.18	43	P		P		06 35 52.5	-0.3
GERES	**GERESS Array B**	74.18	43	P		P		06 35 52.5	-0.3
	2.5nm,1.0s,baz=268,slow=4.0,SNR=10								
GERES				LR		LR		07 05 34.8	
	comp=Z,219nm,20.9s,baz=271,slow=34								
ARCES	**ARCESS Array B**	75.85	21	P		P		06 36 01.4	-0.6
ARCES	**ARCESS Array B**	75.85	21	P		P		06 36 01.4	-0.6
	4.0nm,0.8s,baz=287,slow=4.9,SNR=9.6								
FINES	**FINESS Array B**	78.25	29	P		P		06 36 15.6	+0.1
FINES	**FINESS Array B**	78.25	29	P		P		06 36 15.6	+0.1
	2.2nm,0.6s,baz=285,slow=3.2,SNR=8.7								
BRTR	**Keskin Array B**	90.50	48	P		P		06 37 18.2	-0.2
BRTR	**Keskin Array B**	90.50	48	P		P		06 37 18.2	-0.2
	0.8nm,0.9s,baz=295,slow=3.7,SNR=3.2								
KSH	**Kashi**	115.48	26	*e*PKP		PKPdf		06 43 01.1	+2.6
KSH				*e*PP		PP		06 44 10.4	+11
KSH				*e*SKS		SKSdf		06 50 08.0	-3.5
KSH				*e*SKKS		SKKSac		06 51 00.6	-1.8
KSH				*e*SS		SS		07 00 06.3	+8.6
WMQ	**Urumqi**	115.61	15	PKP		PKPdf		06 42 59.8	+1.2
HHC	**Hu-ho-hao-te**	120.95	356	*e*PKP		PKPdf		06 43 10.3	+1.3
HHC				PP		PP		06 44 39.8	+3.4
HHC				SKS		SKSdf		06 50 16.5	-5.4
HHC				SKKS		SKKSac		06 51 35.5	-2.9
HHC				SS		SS		07 01 13.4	+5.6
HHC				LR		LR			
	comp=Z,220nm,19.8s								
STKA	**Stephens Creek**	146.17	240	PKPbc		PKPdf		06 43 55.5	-0.3
STKA	**Stephens Creek**	146.17	240	PKPbc		PKPdf		06 43 55.5	-0.3
	3.7nm,0.8s,baz=20,slow=0.4,SNR=5.9								
WRA	**Warramunga Arr**	154.26	262	PKP		PKPdf		06 44 07.7	-1.2
WRA				PKPbc		PKPbc		06 44 15.1	-1.9
WRA	**Warramunga Arr**	154.26	262	PKP		PKPdf		06 44 07.7	-1.2
	1.8nm,0.9s,baz=79,slow=1.4,SNR=8.7								
WRA				PKPbc		PKPbc		06 44 15.1	-1.9
	2.6nm,0.8s,baz=88,slow=3.2,SNR=13								
ASAR	**Alice Springs**	154.48	253	PKPbc		PKPbc		06 44 15.4	-2.1
ASAR	**Alice Springs**	154.48	253	PKPbc		PKPbc		06 44 15.4	-2.1
	1.8nm,0.9s,baz=101,slow=2.0,SNR=6.8								

IDC ***13*** *06:29:22.3±5.0, 36°.28N×70°.77E, h170km±43km, mb3.1/4, mb1 3.2/9, mb1mx3.0/31, mbtmp3.0/9, Error ellipse: s-maj=36.8km s-min=28.9km az=14.0*

ISCJB ***13*** *06:29:24.7±0.5, 36°.48N±0°.04×70°.72E±0°.09, h204km, mb3.1/3, Error ellipse: s-maj=10.5km s-min=5.2km az=177.1*

NNC ***13*** *06:29:29.1±6.8, 36°.83N×70°.46E, h175km±89km, mb3.1, mpv4.0, Error ellipse: s-maj=57.9km s-min=40.1km az=24.0*

ISC 13 06:29:25.4±0.8, 36°.52N±0°.06×70°.7E±0°.1, h204km, n25, σ1°68/32, mb3.3/3, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	2.87	159	⇓P		Pn	06 30 13.9	0.0
CEP				S		S	06 30 49.0	-2.2
THW	**Thamme Wali**	3.82	166	⇓P		Pn	06 30 24.9	-0.3
SARP	**Sargodha**	4.87	160	P		Pn	06 30 36.9	-1.4
AML	**Almayashu**	6.07	22	P		Pn	06 30 54.4	+0.5
	SNR=64							
UCH	**Uchtor**	6.43	26	P		Pn	06 30 59.3	+0.8
	SNR=28							
KK31	**Karatay Array**	6.58	359	⇑P		Pn	06 31 00.7	+0.6
	3.6nm,0.3s,baz=177,slow=12,SNR=4.1							
KK31				⇑S		S	06 32 12.2	-2.9
	7.7nm,0.4s,baz=186,slow=22,SNR=5.2							
EKS2	**Erkin-Say**	6.58	20	P		Pn	06 31 01.0	+0.7
	SNR=9.8							
KZA	**Kyzart**	6.58	31	P		Pn	06 31 03.4	+2.8
	SNR=5.9							
AAK	**Ala-Archa**	6.78	25	⇑P		Pn	06 31 03.6	+0.7
	3.9nm,0.4s							
AAK				⇑S		S	06 32 18.8	-1.3
	23nm,0.8s							
AAK	**Ala-Archa**	6.78	25	P		Pn	06 31 03.8	+1.0
	SNR=13							
AAK	**Ala-Archa**	6.78	25	P		Pn	06 31 03.9	+1.0
	3.2nm,0.3s,baz=178,slow=6.3,SNR=32							
AAK				S		S	06 32 17.9	-2.1
	2.4nm,0.3s,baz=323,slow=21,SNR=32							
KBK	**Karagaybulak**	6.96	27	P		Pn	06 31 06.3	+1.2
	SNR=8.2							
USP	**Ospenovka**	7.35	22	P		Pn	06 31 10.6	+0.5
	SNR=9.6							
TKM2	**Tokmak 2**	7.43	29	⇑P		Pn	06 31 11.7	+0.4
	6.7nm,0.4s							
TKM2				⇑S		S	06 32 32.8	-2.7
	3.1nm,0.6s							
TKM2	**Tokmak 2**	7.43	29	P		Pn	06 31 12.1	+0.8
	SNR=11							
MKAR	**Makanchi Array**	13.43	37	P		Pn	06 32 28.8	+0.8
	0.1nm,0.3s,baz=212,slow=14,SNR=4.7							
AB31	**Akbulak array**	14.94	332	⇓P		P	06 32 47.0	-0.1
	0.9nm,0.5s,baz=151,slow=12,SNR=7.3							
AB31				⇑S		S	06 35 27.6	-4.5
	1.0nm,0.7s,baz=165,slow=24,SNR=4.9							
KURBB	**Kurchatov Arra**	15.19	19	P		Pn	06 32 49.1	-0.4
	0.1nm,0.3s,baz=212,slow=9.8,SNR=3.7							
BVAR	**Bovoye Array**	16.51	359	P		Pn	06 33 06.9	+1.5
	0.5nm,0.3s,baz=162,slow=8.2,SNR=9.7							
AKTO	**Aktyubinsk**	16.64	331	⇓P		Pn	06 33 08.2	+1.3
	5.2nm,1.0s							
AKTO				⇑S		S	06 36 09.8	+0.6
	4.0nm,1.2s							
AKTO	**Aktyubinsk**	16.64	331	P		Pn	06 33 08.7	+1.8
	0.3nm,0.3s,baz=130,slow=11,SNR=11							
ZALV	**Zalesovo Beam**	20.01	25	P		P	06 33 44.4	+2.1
	0.7nm,0.3s,baz=217,slow=11,SNR=5.1							
TORD	**Torodi Ar. Bea**	65.46	268	P		P	06 39 47.1	+0.3
	0.6nm,0.9s,baz=67,slow=5.1,SNR=4.1							
YKA	**Yellowknife Ar**	81.24	2	P		P	06 41 20.2	+2.1
	0.1nm,0.3s,baz=350,slow=5.1,SNR=5.6							
WRA	**Warramunga Arr**	82.22	122	P		P	06 41 23.6	-0.3
	0.4nm,0.7s,baz=325,slow=5.0,SNR=7.0							

ISCJB ***13*** *06:48:01.0±0.3, 18°.42N±0°.04×72°.86W±0°.03, h6km, mb4.1/26, MS4.7/2, Error ellipse: s-maj=6.4km s-min=4.3km az=15.7*

IDC ***13*** *06:48:01.9±0.6, 18°.52N×72°.76W, h0km, mb3.9/16, mb1 4.2/19, mb1mx4.1/28, mbtmp4.0/19, ML3.5/3, Error ellipse: s-maj=22.0km s-min=14.3km az=55.0*

NEIC ***13*** *06:48:03.4±0.2, 18°.42N×72°.87W, h10km, mb4.5/15, Error ellipse: s-maj=5.3km s-min=3.8km az=16.0*

ISC 13 06:48:02.7±0.4, 18°.44N±0°.06×72°.87W±0°.06, h6km, n86, σ1°32/88, mb4.2/27, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	1.59	70	*e*Pn		Pn	06 48 30.5	-1.0
GTBY	**Guantanamo Bay**	2.58	305	*e*Pn		Pn	06 48 43.2	-1.8
GRTK	**Grand Turk**	3.46	28	*e*Pn		Pn	06 48 57.0	-0.2
YHJ	**Yallahs**	3.49	262	*i* P		Pn	06 48 59.8	+2.2
YHJ	**Yallahs**	3.49	262	*i* P		Pn	06 48 59.8	+2.2
GWJ	**Greenwich**	3.69	265	*i* P		Pn	06 49 00.6	+0.2
GWJ	**Greenwich**	3.69	265	*i* P		Pn	06 49 00.6	+0.2
HOJ	**Hope**	3.71	264	*i* P		Pn	06 49 01.2	+0.5
HOJ	**Hope**	3.71	264	*i* P		Pn	06 49 01.2	+0.5
STH	**Stony Hill**	3.76	265	*i* P		Pn	06 49 00.9	-0.4
STH	**Stony Hill**	3.76	265	*i* P		Pn	06 49 00.9	-0.4
MTDJ	**Mount Denham**	4.44	268	*e*Pn		Pn	06 49 10.4	-0.3
CRPR	**Cabo Rojo, PR**	5.49	94	*e*Pn		Pn	06 49 25.3	+0.2
	56nm,0.6s							
LSP	**Las Mesas**	5.50	92	*e*Pn		Pn	06 49 25.5	+0.2
AOPR	**Arecibo Observ**	5.81	90	*e*Pn		Pn	06 49 31.0	+1.5
OBIP	**Obispado Ponce**	5.96	93	*e*Pn		Pn	06 49 31.6	+0.1
	66nm,0.9s							
CELP	**Cerrillos**	5.99	92	*e*Pn		Pn	06 49 31.4	-0.5
CBYP	**Canovanas**	6.66	90	*e*Pn		Pn	06 49 42.2	+1.0
	28nm,0.6s							
HUMP	**Col San Antoni**	6.67	91	*e*Pn		Pn	06 49 46.2	+4.9
MTP	**Monte Pirata**	6.96	92	*e*Pn		Pn	06 49 47.3	+2.1
	69nm,1.1s							
SDV	**Santo Domingo**	9.74	167	*e*Pn		Pn	06 50 23.3	-0.3
BCIP	**Isla Barro Col**	11.43	217	Pn		Pn	06 50 44.6	-2.0
ROSC	**El Rosal**	13.57	186	*e*Pn		Pn	06 51 16.4	+0.1
ROSC	**El Rosal**	13.57	186	Pn		Pn	06 51 17.1	+0.8
	1.2nm,0.3s,baz=100,slow=16,SNR=14							
TEIG	**Tepich**	14.65	279	Pn		Pn	06 51 30.5	-0.1
TEIG	**Tepich**	14.65	279	Pn		Pn	06 51 30.5	-0.1
	0.8nm,0.3s,baz=131,slow=22,SNR=1.5							
KMSC	**Kings Mountain**	18.26	337	*e*Pn		Pn	06 52 16.1	-0.6
OTAV	**Otavalo**	18.90	197	*e*Pn		P	06 52 24.9	+0.2
	12nm,1.0s							
TKL	**Tuckaleechee C**	19.68	333	P		P	06 52 32.6	0.0
TKL	**Tuckaleechee C**	19.68	333	P		P	06 52 32.6	0.0
	0.2nm,0.3s,baz=159,slow=12,SNR=3.8							
CPCT	**Cooper Cave**	19.85	331	*e*Pn		Pn	06 52 38.6	+2.7
CBN	**Corbin**	20.08	350	*e*P		Pn	06 52 37.9	-0.8
	30nm,0.5s							
TZTN	**Tazewell**	20.34	335	*e*Pn		Pn	06 52 42.8	+1.0
	46nm,1.4s							
PTGA	**Pitinga**	22.89	145	*e*P		P	06 53 06.7	-0.6
	9.4nm,1.0s							
PTGA	**Pitinga**	22.89	145	P		P	06 53 06.3	-1.0
	5.0nm,0.9s,baz=331,slow=14,SNR=6.9							
HKT	**Hockley**	23.83	303	*e*P		P	06 53 17.7	+1.1
	36nm,2.1s							
PBMO	**Poplar Bluff**	23.93	323	*e*P		P	06 53 17.5	0.0
	259nm,3.0s							
TUL1	**Tulsa**	26.70	315	*e*P		P	06 53 43.5	+0.7
	12nm,1.0s							
WMOK	**Wichita Mounta**	28.17	310	*e*P		P	06 53 56.5	+0.5
	6.9nm,1.0s							
SAML	**Samuel**	28.84	160	*e*P		P	06 54 00.6	-1.5
	3.1nm,0.7s							
TXAR	**Lajitas Array**	30.09	297	P		P	06 54 13.7	+0.5
TXAR	**Lajitas Array**	30.09	297	P		P	06 54 13.7	+0.5
	0.8nm,1.0s,baz=129,slow=10.0,SNR=5.1							
GDL2	**Guadalupe Moun**	31.46	302	*e*P		P	06 54 26.0	+0.7
LPM	**Los Pinos Moun**	33.94	305	*e*P		P	06 54 46.9	-0.2
	4.6nm,0.9s							
LPAZ	**La Paz**	34.82	172	P		P	06 54 56.1	+0.9
LPAZ	**La Paz**	34.82	172	P		P	06 54 56.1	+0.9
	1.0nm,0.6s,baz=291,slow=6.8,SNR=4.4							
ULM	**Lac du Bonnet**	36.68	335	P		P	06 55 09.8	-0.4
ULM	**Lac du Bonnet**	36.68	335	P		P	06 55 09.8	-0.4
	3.4nm,1.1s,baz=19,slow=10,SNR=3.5							
PDAR	**Pinedale Array**	39.35	316	P		P	06 55 32.4	-0.9
PDAR	**Pinedale Array**	39.35	316	P		P	06 55 32.4	-0.9
	0.6nm,0.7s,baz=125,slow=10.0,SNR=5.7							
LOHW	**Long Hollow**	40.41	317	*e*P		P	06 55 42.3	+0.3
	5.5nm,0.9s							
REDW	**Red Top Meadow**	40.47	316	*e*P		P	06 55 41.8	-0.7
	111nm,2.8s							
MOOW	**Moose Ponds**	40.57	317	*e*P		P	06 55 43.4	+0.2
	3.9nm,0.8s							
FXWY	**Fox Creek**	40.70	317	*e*P		P	06 55 44.4	0.0
	20nm,1.9s							
BDFB	**Brasilia**	41.78	143	P		P	06 55 53.0	-0.4
BDFB	**Brasilia**	41.78	143	P		P	06 55 53.0	-0.4
	6.4nm,0.8s,baz=311,slow=10,SNR=11							
HLID	**Hailey**	42.92	315	*e*P		P	06 56 03.1	+0.6
	34nm,2.5s							
NVAR	**Mina Array Bea**	44.13	307	P		P	06 56 13.5	+1.1
NVAR	**Mina Array Bea**	44.13	307	P		P	06 56 13.5	+1.1
	0.6nm,0.7s,baz=87,slow=6.8,SNR=3.9							
YKA	**Yellowknife Ar**	52.60	337	P		P	06 57 16.2	-0.9
YKA	**Yellowknife Ar**	52.60	337	P		P	06 57 16.2	-0.9
	2.2nm,0.8s,baz=124,slow=7.4,SNR=38							
ESDC	**Sonseca Array**	62.38	54	P		P	06 58 26.9	+0.4
ESDC	**Sonseca Array**	62.38	54	P		P	06 58 26.9	+0.4
	0.2nm,0.3s,baz=302,slow=7.4,SNR=2.7							
ILAR	**Eielson Array**	66.67	333	P		P	06 58 53.4	-0.7
ILAR	**Eielson Array**	66.67	333	P		P	06 58 53.4	-0.7
	0.6nm,0.9s,baz=100,slow=4.8,SNR=5.9							
NOA	**NORSAR Array B**	71.20	31	P		P	06 59 22.4	+0.1
NOA	**NORSAR Array B**	71.20	31	P		P	06 59 22.4	+0.1
	1.1nm,0.9s,baz=328,slow=5.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	71.51	82	P		P	06 59 24.0	-1.0
TORD	**Torodi Ar. Bea**	71.51	82	P		P	06 59 24.0	-1.0
	0.6nm,0.9s,baz=306,slow=5.4,SNR=2.8							
CLL	**Collm**	73.28	41	*e*(sP)		sP	06 59 40.0	+2.4
GERES	**GERESS Array B**	74.12	43	P		P	06 59 39.5	-0.6
GERES	**GERESS Array B**	74.12	43	P		P	06 59 39.5	-0.6
	1.9nm,0.8s,baz=279,slow=5.3,SNR=9.1							
ARCES	**ARCESS Array B**	75.78	21	P		P	06 59 48.8	-0.4
ARCES	**ARCESS Array B**	75.78	21	P		P	06 59 48.8	-0.4
	7.2nm,1.1s,baz=282,slow=6.4,SNR=2.1							
FINES	**FINESS Array B**	78.18	29	P		P	07 00 02.5	-0.3
FINES	**FINESS Array B**	78.18	29	P		P	07 00 02.5	-0.3
	1.7nm,1.0s,baz=305,slow=2.9,SNR=1.8							
BRTR	**Keskin Array B**	90.45	48	P		P	07 01 05.9	+0.1
BRTR	**Keskin Array B**	90.45	48	P		P	07 01 05.9	+0.1
	0.7nm,0.8s,baz=144,slow=48,SNR=2.9							
KSH	**Kashi**	115.41	26	*e*PKP		PKPdf	07 06 47.1	+1.1
KSH				*e*PP		PP	07 07 52.3	+6.2
KSH				*e*SKS		SKSdf	07 13 54.3	-4.7
KSH				*e*SKKS		SKKSac	07 14 42.1	-7.4
KSH				*e*SS		SS	07 23 45.0	+0.5
WMQ	**Urumqi**	115.53	15	PKP		PKPdf	07 06 45.6	-0.4
HHC	**Hu-ho-hao-te**	120.87	356	*e*PKP		PKPdf	07 06 56.3	-0.2
HHC				PP		PP	07 08 26.4	+2.9
HHC				SKS		SKSdf	07 14 09.8	+0.4
HHC				SKKS		SKKSac	07 15 19.3	-6.2
HHC				SS		SS	07 24 57.4	+2.9
HHC				LR		LR		
	comp=Z,160nm,20.5s							
LZH	**Lanzhou**	125.68	3	*e*PKP		PKPdf	07 07 04.0	-1.9
LZH				sPKP			07 07 08.5	
LZH				LR		LR		
	comp=Z,150nm,20.2s							
STKA	**Stephens Creek**

KBK				⇓S		Sb	06 58 01.0	+0.5	
	43nm,0.2s								
KBK	**Karagaybulak**	**1.73**	**55**	⇑*i*P		Pn	06 57 37.8	+0.9	
	baz=53								
KBK				⇑*i*S		Sn	06 58 00.4	+0.8	
	baz=53								
CHMS	**Chumysh**	**1.84**	**43**	⇑P		Pn	06 57 39.9	+1.6	
	6.0nm,0.2s,SNR=5.9								
CHMS	**Chumysh**	**1.84**	**43**	⇑*i*P		Pn	06 57 39.8	+1.6	
	baz=41								
CHMS				⇑*i*S		Sb	06 58 04.0	+0.5	
	baz=41								
NRN	**Naryn**	**2.25**	**95**	*e*P		Pn	06 57 46.4	+2.3	
	baz=94								
NRN				*e*S		Sb	06 58 16.4	+1.0	
	baz=94								
TKM2	**Tokmak 2**	**2.28**	**56**	⇓Pn		Pn	06 57 46.3	+1.9	
	5.0nm,0.4s								
TKM2				Sn		Sb	06 58 16.8	+0.5	
	19nm,0.6s								
TKM2	**Tokmak 2**	**2.28**	**56**	⇓P		Pn	06 57 46.4	+2.0	
	11nm,0.3s,SNR=21								
TKM2	**Tokmak 2**	**2.28**	**56**	⇑*i*P		Pn	06 57 46.1	+1.7	
	baz=54								
TKM2				⇑*i*S		Sb	06 58 16.0	-0.3	
	baz=54								
BOOM	**Boomskoye usch**	**2.32**	**68**	*e*P		Pn	06 57 46.0	+1.1	
	baz=67								
BOOM				*e*S		Sb	06 58 17.8	+0.4	
	baz=67								
KK31	**Karatay Array**	**2.35**	**308**	⇑Pn		Pb	06 57 48.9	+0.2	
	1.0nm,0.3s,baz=124,slow=16,SNR=29								
KK31				⇑Lg		Lg	06 58 21.9		
	3.3nm,0.3s,baz=122,slow=29,SNR=12								
ULHL	**Ulahol**	**2.47**	**76**	⇑*i*P		Pn	06 57 48.5	+1.5	
	baz=74								
ULHL				⇑*i*S		Sn	06 58 20.8	+3.1	
	baz=74								

ISCJB ***13*** *06:58:23.7±0.2, 18°.39N±0°.04×72°.92W±0°.02, h6km, mb4.3/29, MS4.1/12, Error ellipse: s-maj=5.5km s-min=2.9km az=11.8*

IDC ***13*** *06:58:24.1±0.5, 18°.41N×72°.88W, h0km, mb4.2/20, mb1 4.4/24, mb1mx4.4/30, mbtmp4.3/24, ML3.6/4, MS4.0/13, Ms1 4.0/13, ms1mx3.8/33, Error ellipse: s-maj=15.7km s-min=12.4km az=65.0*

JSN ***13*** *06:58:24.8±0.9, 18°.72N×72°.76W, h15km±999km, MD5.1*

NEIC ***13*** *06:58:25.9±0.2, 18°.42N×72°.90W, h10km, mb4.6/8, Error ellipse: s-maj=5.5km s-min=3.7km az=10.0*

ISC 13 06:58:25.3±0.3, 18°.34N±0°.05×72°.93W±0°.04, h6km, n255, σ0.97/265, mb4.4/29, MS4.0/12, 74C-77D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.68**	**68**	*e*Pn		**Pn**	**06 58 53.7**	**-1.5**
SDDR				*e*Sn		**Sn**	**06 59 17.1**	**-0.1**
YHJ	**Yallahs**	**3.42**	**263**	*i* P		**Pn**	**06 59 19.8**	**+0.6**
YHJ	**Yallahs**	**3.42**	**263**	*i* P		**Pn**	**06 59 19.8**	**+0.6**
GRTK	**Grand Turk**	**3.58**	**28**	*e*Pn		**Pn**	**06 59 19.4**	**-1.8**
GWJ	**Greenwich**	**3.62**	**266**	*i* P		**Pn**	**06 59 21.7**	**-0.4**
GWJ	**Greenwich**	**3.62**	**266**	*i* P		**Pn**	**06 59 21.7**	**-0.4**
HOJ	**Hope**	**3.65**	**265**	*i* P		**Pn**	**06 59 23.0**	**+0.7**
HOJ	**Hope**	**3.65**	**265**	*i* P		**Pn**	**06 59 23.0**	**+0.7**
STH	**Stony Hill**	**3.70**	**266**	*i* P		**Pn**	**06 59 22.9**	**-0.1**
STH				*i* S		**Sn**	**07 00 07.0**	**0.0**
STH	**Stony Hill**	**3.70**	**266**	*i* P		**Pn**	**06 59 22.9**	**-0.1**
STH				*i* S		**Sn**	**07 00 07.0**	**0.0**
MTDJ	**Mount Denham**	**4.38**	**269**	*e*Pn		**Pn**	**06 59 32.2**	**-0.2**
MCJ	**Malvern**	**4.54**	**265**	*i* P		**Pn**	**06 59 35.4**	**+0.7**
MCJ	**Malvern**	**4.54**	**265**	*i* P		**Pn**	**06 59 35.4**	**+0.7**
AGPR	**Aguadilla, PR**	**5.52**	**88**	Pn		**Pn**	**06 59 46.0**	**-2.1**
	221nm,0.9s							
CRPR	**Cabo Rojo, PR**	**5.54**	**93**	*e*Pn		**Pn**	**06 59 48.1**	**-0.2**
	157nm,0.6s							
LSP	**Las Mesas**	**5.55**	**91**	*e*Pn		**Pn**	**06 59 50.2**	**+1.6**
AOPR	**Arecibo Observ**	**5.86**	**89**	*e*Pn		**Pn**	**06 59 55.6**	**+2.8**
OBIP	**Obispado Ponce**	**6.02**	**92**	*e*Pn		**Pn**	**06 59 55.4**	**+0.5**
	88nm,0.6s							
CELP	**Cerrillos**	**6.04**	**92**	*e*Pn		**Pn**	**06 59 54.8**	**-0.4**
CBYP	**Canovanas**	**6.72**	**90**	*e*Pn		**Pn**	**07 00 05.5**	**+1.0**
	86nm,0.8s							
HUMP	**Col San Antoni**	**6.73**	**91**	*e*Pn		Pn	07 00 10.1	+5.5
MTP	**Monte Pirata**	**7.01**	**91**	*e*Pn		**Pn**	**07 00 09.1**	**+0.5**
	83nm,0.9s							
CDVI	**St. Croix**	**7.79**	**93**	*e*Pn		**Pn**	**07 00 21.0**	**+1.8**
SDV	**Santo Domingo**	**9.66**	**166**	*e*Pn		**Pn**	**07 00 46.4**	**+1.2**
MLG	**Mont-d'or**	**10.96**	**100**	*e*P		**Pn**	**07 01 04.2**	**+1.5**
GRGR	**Grenville**	**12.51**	**118**	Pn		**Pn**	**07 01 23.6**	**-0.3**
ROSC	**El Rosal**	**13.47**	**186**	Pn		**Pn**	**07 01 39.8**	**+2.3**
ROSC				Sn		**Sn**	**07 04 04.7**	**-3.2**
ROSC	**El Rosal**	**13.47**	**186**	Pn		**Pn**	**07 01 39.8**	**+2.3**
	1.4nm,0.3s,baz=68,slow=3.5,SNR=30							
ROSC				Sn		**Sn**	**07 04 04.7**	**-3.2**
	0.2nm,0.3s,baz=85,slow=24,SNR=1.5							
ROSC				LR		LR	07 07 41.9	
	comp=Z,186nm,19.0s,baz=259,slow=41							
JTS	**JuntasAbangare**	**14.13**	**237**	LR		LR	07 07 12.4	
	comp=Z,168nm,18.5s,baz=57,slow=37							
TEIG	**Tepich**	**14.61**	**280**	Pn		**Pn**	**07 01 52.7**	**+0.1**
TEIG				Sn		Sn	07 04 26.9	-8.2
TEIG	**Tepich**	**14.61**	**280**	Pn		**Pn**	**07 01 52.7**	**+0.1**
	1.9nm,0.3s,baz=98,slow=7.1,SNR=2.7							
TEIG				Sn		Sn	07 04 26.9	-8.2
	0.6nm,0.3s,baz=21,slow=22,SNR=1.0							
APG	**El Apazote**	**17.12**	**261**	P		**P**	**07 02 27.3**	**0.0**
APG	**El Apazote**	**17.12**	**261**	P		**P**	**07 02 27.3**	**0.0**
	0.2nm,0.3s,baz=122,slow=15,SNR=3.5							
TKL	**Tuckaleechee C**	**19.74**	**333**	P		**P**	**07 02 55.8**	**0.0**
TKL	**Tuckaleechee C**	**19.74**	**333**	P		**P**	**07 02 55.8**	**0.0**
	0.2nm,0.3s,baz=149,slow=15,SNR=3.0							
TKL				LR		LR	07 10 42.3	
	comp=Z,599nm,20.9s,baz=151,slow=38							
JSRW	**J. Sargeant Re**	**19.76**	**348**	*e*P		**P**	**07 02 54.9**	**-1.0**
BLA	**Blacksburg**	**19.92**	**342**	*e*P		**P**	**07 02 56.4**	**-1.4**
	16nm,0.8s							
CBN	**Corbin**	**20.17**	**350**	*e*P		**P**	**07 02 59.4**	**-1.0**
	34nm,0.5s							
OXF	**Oxford**	**21.79**	**321**	*e*P		P	07 03 23.4	+5.4
	57nm,1.2s							
PTGA	**Pitinga**	**22.84**	**145**	P		**P**	**07 03 29.6**	**+0.3**
PTGA	**Pitinga**	**22.84**	**145**	P		**P**	**07 03 29.6**	**+0.3**
	12nm,0.9s,baz=343,slow=11,SNR=13							
PTGA				LR		LR	07 12 02.3	
	comp=Z,226nm,20.8s,baz=328,slow=36							
035Z	**Hargill**	**24.57**	**294**	⇑P		**P**	**07 03 46.7**	**+0.5**
	baz=25							
835A	**Beeville**	**24.87**	**298**	⇑P		**P**	**07 03 49.4**	**+0.5**
	baz=25							
735A	**Kenedy**	**25.04**	**299**	⇑P		**P**	**07 03 50.7**	**+0.4**
	baz=25							
635A	**Leesville**	**25.19**	**300**	⇑P		**P**	**07 03 51.9**	**+0.2**
	baz=25							
535A	**Dale**	**25.25**	**302**	⇓P		**P**	**07 03 53.4**	**+1.1**
	baz=25							
034A	**Hebbronville**	**25.26**	**295**	⇓P		**P**	**07 03 53.0**	**+0.7**
	baz=25							
934A	**Benavides**	**25.26**	**296**	⇓P		**P**	**07 03 53.3**	**+1.0**
	baz=25							
834A	**Tilden**	**25.43**	**297**	⇑P		**P**	**07 03 55.2**	**+1.2**
	baz=25							
335A	**Moody**	**25.63**	**305**	⇓P		**P**	**07 03 56.1**	**+0.4**
	baz=26							
734A	**La Parita Cree**	**25.66**	**299**	⇓P		**P**	**07 03 56.6**	**+0.7**
	baz=26							
634A	**China Grove, S**	**25.66**	**300**	⇑P		**P**	**07 03 56.5**	**+0.6**
	baz=26							
ATAH	**Atahualpa**	**25.89**	**193**	P		**P**	**07 04 00.5**	**+1.9**
ATAH	**Atahualpa**	**25.89**	**193**	P		**P**	**07 04 00.5**	**+1.9**
	9.0nm,0.8s,baz=7.1,slow=8.3,SNR=5.3							
ATAH				LR		LR	07 14 35.9	
	comp=Z,225nm,20.5s,baz=354,slow=37							
933A	**Laredo**	**25.91**	**296**	⇓P		**P**	**07 03 58.2**	**-0.1**
	baz=26							
WHTX	**Lake Whitney**	**25.95**	**306**	⇑P		**P**	**07 03 58.6**	**0.0**
	baz=26							
534A	**Blanco**	**25.98**	**301**	⇓P		**P**	**07 03 58.6**	**-0.3**
	baz=26,SNR=8.4							
434A	**Burnet**	**26.11**	**303**	⇓P		**P**	**07 03 59.7**	**-0.4**
	baz=26							
833A	**Chaparral WMA,**	**26.20**	**297**	⇓P		**P**	**07 04 00.0**	**-0.9**
	baz=26,SNR=8.0							
733A	**Divot King Ran**	**26.23**	**298**	⇑P		**P**	**07 04 00.7**	**-0.5**
	baz=26							
334A	**Lometa**	**26.28**	**304**	⇑P		**P**	**07 04 01.2**	**-0.5**
	baz=26							
633A	**Saathoff Ranch**	**26.36**	**300**	⇑P		**P**	**07 04 02.0**	**-0.4**
	baz=26							
134A	**White-Moore Ra**	**26.68**	**307**	⇓P		**P**	**07 04 04.7**	**-0.5**
	baz=27							
832A	**Faith Ranch, C**	**26.68**	**297**	⇑P		**P**	**07 04 04.5**	**-0.8**
	baz=27,SNR=7.5							
TUL1	**Tulsa**	**26.73**	**315**	⇓P		**P**	**07 04 05.8**	**+0.1**
	baz=27							
433A	**Art**	**26.74**	**302**	⇑P		**P**	**07 04 05.5**	**-0.3**
	baz=27							
732A	**Laxson Ranch,**	**26.80**	**298**	⇑P		**P**	**07 04 05.8**	**-0.5**
	baz=27							
SADO	**Sadowa**	**26.86**	**350**	LR		LR	07 13 58.1	
	comp=Z,383nm,20.1s,baz=182,slow=35							
333A	**Richland Sprin**	**26.87**	**304**	⇑P		**P**	**07 04 06.7**	**-0.3**
	baz=27,SNR=6.9							
632A	**Uvalde**	**26.88**	**299**	⇓P		**P**	**07 04 06.7**	**-0.4**
	baz=27							
Z34A	**Collier Ranch,**	**26.91**	**309**	⇓P		**P**	**07 04 07.0**	**-0.3**
	baz=27							
Y34A	**Reagan Ranch,**	**27.07**	**310**	⇓P		**P**	**07 04 09.3**	**+0.6**
	baz=27							
532A	**Rocksprings**	**27.18**	**301**	⇑P		**P**	**07 04 09.5**	**-0.3**
	baz=27,SNR=7.4							
133A	**Hamilton Ranch**	**27.33**	**306**	⇑P		**P**	**07 04 11.8**	**+0.7**
	baz=27							
432A	**Menard**	**27.35**	**302**	⇑P		**P**	**07 04 11.2**	**-0.1**
	baz=27							
X34A	**Smith Ranch, M**	**27.44**	**311**	⇓P		**P**	**07 04 12.7**	**+0.6**
	baz=27							
332A	**Millersview**	**27.49**	**303**	⇑P		**P**	**07 04 12.6**	**+0.1**
	baz=28							
631A	**Perdido Creek**	**27.51**	**299**	⇑P		**P**	**07 04 12.4**	**-0.3**
	baz=28							
Z33A	**Whitaker Ranch**	**27.51**	**308**	⇓P		**P**	**07 04 12.5**	**-0.1**
	baz=28							
X33A	**Lawton**	**27.89**	**310**	⇓P		**P**	**07 04 15.8**	**-0.3**
	baz=28							
ABTX	**Abilene, Hawle**	**27.90**	**306**	⇓P		**P**	**07 04 15.9**	**-0.2**
	baz=28							
431A	**Sonora**	**27.94**	**301**	⇓P		**P**	**07 04 15.8**	**-0.8**
	baz=28							
331A	**San Angelo**	**28.01**	**303**	⇓P		**P**	**07 04 16.9**	**-0.3**
	baz=28							
Z32A	**Haskell**	**28.06**	**307**	⇓P		**P**	**07 04 17.4**	**-0.2**
	baz=28							
W33A	**Caddo, Fort Co**	**28.17**	**312**	⇓P		**P**	**07 04 19.0**	**+0.5**
	baz=28							
Y32A	**R-V Farms, Ver**	**28.33**	**309**	⇓P		**P**	**07 04 19.7**	**-0.4**
	baz=28							
530A	**J-C Ranch, Com**	**28.36**	**300**	⇑P		**P**	**07 04 19.8**	**-0.5**
	baz=28							
X32A	**Elmer**	**28.41**	**310**	⇓P		**P**	**07 04 20.6**	**-0.1**
	baz=28							
430A	**Baggett Ranch,**	**28.48**	**301**	⇓P		**P**	**07 04 21.1**	**-0.4**
	baz=28							
Z31A	**Sharp Cattle R**	**28.57**	**307**	⇑P		**P**	**07 04 21.2**	**-0.9**
	baz=28							
330A	**Mertzon**	**28.64**	**302**	⇑P		**P**	**07 04 22.0**	**-0.9**
	baz=29							
W32A	**Sentinel**	**28.71**	**311**	⇑P		**P**	**07 04 22.6**	**-0.8**
	baz=29							
SAML	**Samuel**	**28.77**	**160**	*e*P		**P**	**07 04 22.4**	**-1.6**
	2.3nm,0.9s							
Y31A	**Rekieta Farm,**	**28.93**	**308**	⇓P		**P**	**07 04 24.3**	**-1.0**
	baz=29							
429A	**Davenport Ranc**	**28.97**	**300**	⇑P		**P**	**07 04 25.0**	**-0.8**
	baz=29							
X31A	**McDonald Ranch**	**29.01**	**309**	⇓P		**P**	**07 04 25.4**	**-0.7**
	baz=29							
329A	**Wagon Wheel Ra**	**29.32**	**302**	⇓P		**P**	**07 04 28.4**	**-0.5**
	baz=29							
V31A	**Spring Creek L**	**29.45**	**312**	⇑P		**P**	**07 04 30.4**	**+0.4**
	baz=29							
628A	**Black Gap, Mar**	**29.46**	**298**	⇑P		**P**	**07 04 30.1**	**-0.1**
	baz=29							
528A	**Cox Ranch, San**	**29.57**	**299**	⇑P		**P**	**07 04 31.4**	**+0.2**
	baz=30							
X30A	**Coker Ranch, T**	**29.59**	**308**	⇓P		**P**	**07 04 30.9**	**-0.4**
	baz=30							
428A	**Kincaid Ranch,**	**29.65**	**300**	⇓P		**P**	**07 04 31.7**	**-0.1**
	baz=30,SNR=13							
Z29A	**Hungry Hill Ra**	**29.74**	**306**	⇓P		**P**	**07 04 32.4**	**-0.2**
	baz=30							
Y29A	**Porterfield Fa**	**29.95**	**307**	⇓P		**P**	**07 04 34.3**	**-0.2**
	baz=30							
R32A	**Long Quarter,**	**30.07**	**317**	⇑P		**P**	**07 04 35.9**	**+0.4**
	baz=30							
TXAR	**Lajitas Array**	**30.08**	**297**	P		**P**	**07 04 35.7**	**0.0**
TXAR				PcP		**PcP**	**07 07 37.4**	**-0.2**
TXAR	**Lajitas Array**	**30.08**	**297**	P		**P**	**07 04 35.7**	**0.0**
	1.4nm,0.9s,baz=108,slow=8.0,SNR=11							
TXAR				PcP		**PcP**	**07 07 37.4**	**-0.2**
	0.6nm,0.8s,baz=134,slow=5.4,SNR=3.5							
TXAR				LR		LR	07 19 55.6	
	comp=Z,155nm,18.4s,baz=295,slow=43							
128A	**Castleberry Fa**	**30.11**	**304**	⇓P		**P**	**07 04 35.7**	**-0.2**
	baz=30							
527A	**Woodward Ranch**	**30.25**	**299**	⇑P		**P**	**07 04 36.8**	**-0.5**
	baz=30,SNR=9.3							
427A	**Hayter Ranch,**	**30.27**	**300**	⇓P		**P**	**07 04 37.0**	**-0.4**
	baz=30							
Z28A	**Tucker Farm, M**	**30.28**	**305**	⇓P		**P**	**07 04 37.2**	**-0.2**
	baz=30							
Y28A	**McKinney Farm,**	**30.41**	**306**	⇓P		**P**	**07 04 37.9**	**-0.7**
	baz=30							
626A	**Big Bend Ranch**	**30.53**	**297**	⇓P		**P**	**07 04 39.6**	**-0.1**
	baz=30							
526A	**Mary Lane Ranc**	**30.62**	**298**	⇓P		**P**	**07 04 40.0**	**-0.6**
	baz=31,SNR=11							
426A	**McDonald Obser**	**30.74**	**299**	⇑P		**P**	**07 04 41.2**	**-0.4**
	baz=31,SNR=7.8							
MSTX	**Muleshoe**	**30.83**	**306**	⇓P		**P**	**07 04 42.4**	**0.0**
	baz=31							
Z27A	**Tatum**	**30.93**	**305**	⇑P		**P**	**07 04 42.8**	**-0.4**
	baz=31							
Y27A	**Causey**	**31.10**	**306**	⇓P		**P**	**07 04 45.2**	**+0.5**
	baz=31							
O31A	**Woolen Ranch,**	**31.46**	**319**	⇑P		**P**	**07 04 47.6**	**-0.1**
	baz=31							
Z26A	**Caprock**	**31.52**	**304**	⇑P		**P**	**07 04 47.7**	**-0.7**
	baz=32							
425A	**Indio Mountain**	**31.56**	**299**	⇓P		**P**	**07 04 48.9**	**0.0**
	baz=32							
P30A	**Selden**	**31.69**	**318**	⇑P		**P**	**07 04 50.6**	**+0.8**
	baz=32							
T28A	**Walsh**	**31.70**	**312**	⇑P		**P**	**07 04 50.5**	**+0.6**
	baz=32							
325A	**Bean Ranch, Si**	**31.71**	**300**	⇑P		**P**	**07 04 50.2**	**0.0**
	baz=32,SNR=11							
225A	**Deer Hill, Car**	**31.81**	**302**	⇑P		**P**	**07 04 51.2**	**+0.2**
	baz=32							
Q29A	**Oakley**	**31.81**	**316**	⇑P		**P**	**07 04 51.3**	**+0.4**
	baz=32							
125A	**Gardner Draw,**	**31.85**	**303**	⇑P		**P**	**07 04 51.3**	**0.0**
	baz=32,SNR=10.0							
X26A	**CR and CF Fran**	**31.85**	**307**	⇑P		**P**	**07 04 51.2**	**-0.1**
	baz=32							
U27A	**Thompson Grove**	**31.89**	**310**	⇑P		**P**	**07 04 51.6**	**0.0**
	baz=32							
O30A	**MW Ranch, Wils**	**31.93**	**319**	⇑P		**P**	**07 04 52.7**	**+0.9**
	baz=32							
W26A	**Owens Ranch, T**	**32.03**	**308**	⇑P		**P**	**07 04 53.1**	**+0.3**
	baz=32							
R28A	**Tribune**	**32.09**	**314**	⇑P		**P**	**07 04 53.5**	**+0.2**
	baz=32							
Z25A	**Roswell**	**32.10**	**304**	⇑P		**P**	**07 04 53.5**	**0.0**
	baz=32							
324A	**Moseley Ranch,**	**32.15**	**300**	⇓P		**P**	**07 04 53.4**	**-0.6**
	baz=32,SNR=10.0							
ECSD	**EROS Data Cent**	**32.22**	**327**	⇓P		**P**	**07 04 54.9**	**+0.6**
	baz=32							
Y25A	**Mesa, Roswell**	**32.30**	**305**	⇓P		**P**	**07 04 55.2**	**-0.1**
	baz=32							
V26A	**Tequesquite Ra**	**32.33**	**309**	⇑P		**P**	**07 04 55.7**	**+0.2**
	baz=32							
224A	**Cornudas Mount**	**32.36**	**301**	⇑P		**P**	**07 04 55.9**	**0.0**
	baz=32,SNR=10							
124A	**Stringfield Ra**	**32.50**	**302**	⇑P		**P**	**07 04 57.2**	**+0.1**
	baz=32,SNR=9.4							
U26A	**Atchley Ranch,**	**32.55**	**310**	⇑P		**P**	**07 04 57.5**	**0.0**
	baz=32							
W25A	**X Bar L Ranch,**	**32.60**	**307**	⇑P		**P**	**07 04 58.0**	**+0.1**
	baz=33							
Z24A	**Sheeppen Canyo**	**32.63**	**304**	⇑P		**P**	**07 04 58.0**	**-0.2**
	baz=33,SNR=9.6							
L30A	**Spencer Herefo**	**32.77**	**322**	⇑P		**P**	**07 04 59.8**	**+0.6**
	baz=33							
T26A	**Comanche Natio**	**32.78**	**311**	⇓P		**P**	**07 04 59.7**	**+0.2**
	baz=33							
Y24A	**Capitan**	**32.88**	**305**	⇑P		**P**	**07 05 00.0**	**-0.4**
	baz=33,SNR=8.1							
V25A	**Rancho No Teng**	**32.96**	**308**	⇓P		**P**	**07 05 00.9**	**-0.2**
	baz=33,SNR=10.0							
U25A	**Circle Dot Ran**	**33.03**	**309**	⇓P		**P**	**07 05 01.9**	**+0.1**
	baz=33							
Z23A	**Rita Site, Whi**	**33.29**	**303**	⇓P		**P**	**07 05 03.8**	**-0.2**
	baz=33							
W24A	**Lazy 6 Ranch,**	**33.31**	**307**	⇓P		**P**	**07 05 04.5**	**+0.2**
	baz=33,SNR=7.6							
T25A	**Trinidad**	**33.35**	**311**	⇓P		**P**	**07 05 04.6**	**+0.1**
	baz=33							
Y23A	**Lovelace Mesa,**	**33.37**	**304**	⇑P		**P**	**07 05 05.0**	**+0.3**
	baz=33,SNR=10.0							
J30A	**Dallas**	**33.50**	**324**	⇓P		**P**	**07 05 06.4**	**+0.8**
	baz=34							
Q26A	**Hugo**	**33.54**	**314**	⇑P		**P**	**07 05 06.4**	**+0.3**
	baz=34							
Z22A	**Elephant Butte**	**33.88**	**303**	⇑P		**P**	**07 05 09.4**	**+0.3**
	baz=34							
BNM	**Barren Site**	**33.89**	**304**	*e*P		**P**	**07 05 09.7**	**+0.4**
	7.2nm,0.9s							
T24B	**San Luis**	**34.02**	**310**	⇓P		**P**	**07 05 10.2**	**-0.3**
	baz=34							
V23A	**Ortiz Mt. (NFS**	**34.10**	**307**	⇓P		**P**	**07 05 11.9**	**+0.8**
	baz=34							
S24A	**Houchin Ranch,**	**34.14**	**311**	⇑P		**P**	**07 05 12.2**	**+0.7**
	baz=34							
R24A	**Sanders Place,**	**34.32**	**312**	⇓P		**P**	**07 05 13.6**	**+0.6**
	baz=34							
U23A	**El Rito**	**34.33**	**308**	⇓P		**P**	**07 05 14.0**	**+1.0**
	baz=34							
121A	**Cookes Peak, D**	**34.33**	**301**	⇑P		**P**	**07 05 13.6**	**+0.6**
	baz=34							
LAZ	**Ladron**	**34.37**	**305**	*e*P		**P**	**07 05 13.8**	**+0.3**
	8.3nm,1.2s							
320A	**Kipp Ranch, An**	**34.64**	**299**	⇑P		**P**	**07 05 16.3**	**+0.5**
	baz=35							
V22A	**San Miguel Ran**	**34.71**	**307**	⇑P		**P**	**07 05 17.3**	**+0.9**
	baz=35							
LPAZ	**La Paz**	**34.74**	**172**	P		**P**	**07 05 17.1**	**0.0**
LPAZ	**La Paz**	**34.74**	**172**	P		**P**	**07 05 17.1**	**0.0**
	3.0nm,0.9s,baz=331,slow=6.7,SNR=9.2							
LPAZ				LR		LR	07 20 32.4	
	comp=Z,390nm,21.2s,baz=190,slow=38							
R23A	**Moffat**	**34.81**	**311**	⇓P		**P**	**07 05 17.5**	**+0.1**
	baz=35							
U22A	**Llaves**	**34.84**	**308**	⇓P		**P**	**07 05 18.0**	**+0.5**
	baz=35							
M25A	**Palm-Egli Farm**	**35.16**	**318**	⇓P		**P**	**07 05 19.8**	**-0.2**
	baz=35							
319A	**Douglas**	**35.28**	**299**	⇓P		**P**	**07 05 21.3**	**+0.1**
	baz=35,SNR=7.9							
S22A	**4UR Ranch, Cre**	**35.35**	**310**	⇓P		**P**	**07 05 21.9**	**-0.1**
	baz=35							
MVCO	**Mesa Verde**	**36.37**	**308**	⇑P		**P**	**07 05 30.6**	**-0.1**
	baz=36							
N22A	**Wattenberg Ran**	**36.42**	**315**	⇓P		**P**	**07 05 31.3**	**+0.3**
	baz=36							
F27A	**Lemmon**	**36.52**	**325**	⇓P		**P**	**07 05 31.3**	**-0.2**
	baz=36							
L23A	**Garrett**	**36.56**	**317**	⇓P		**P**	**07 05 32.0**	**-0.2**
	baz=36							
SCHQ	**Schefferville**	**36.72**	**6**	LR		LR	07 20 30.9	
	comp=Z,474nm,18.4s,baz=183,slow=36							
ULM	**Lac du Bonnet**	**36.74**	**335**	P		**P**	**07 05 35.3**	**+2.0**
ULM	**Lac du Bonnet**	**36.74**	**335**	P		**P**	**07 05 35.3**	**+2.0**
	3.4nm,0.8s,baz=155,slow=12,SNR=4.7							
ULM				LR		LR	07 21 15.0	
	comp=Z,200nm,19.1s,baz=43,slow=37							
PV01	**Paradox Valley**	**36.77**	**310**	*e*P		**P**	**07 05 34.6**	**+0.6**
O20A	**White River Ci**	**37.34**	**313**	⇑P		**P**	**07 05 39.7**	**+0.9**
	baz=37							
J22A	**Midwest**	**37.72**	**319**	⇓P		**P**	**07 05 41.9**	**0.0**
	baz=38							
X16A	**Lo Mia Camp, P**	**37.78**	**303**	⇓P		**P**	**07 05 42.6**	**0.0**
	baz=38							
K21A	**Alcova**	**37.82**	**317**	⇑P		**P**	**07 05 43.6**	**+0.8**
	baz=38							
WUAZ	**Wupatki**	**38.02**	**305**	⇑P		**P**	**07 05 44.9**	**+0.2**
	baz=38							
J21A	**Lysite**	**38.29**	**318**	⇓P		**P**	**07 05 47.0**	**+0.2

NOA	**NORSAR Array B**	**71.31**	**31**	P		**P**	**07 09 45.8**	**+0.2**
NOA	**NORSAR Array B**	**71.31**	**31**	P		**P**	**07 09 45.8**	**+0.2**
	0.7nm,0.8s,baz=275,slow=6.2,SNR=2.4							
TORD	**Torodi Ar. Bea**	**71.58**	**82**	P		**P**	**07 09 46.1**	**-1.8**
TORD	**Torodi Ar. Bea**	**71.58**	**82**	P		**P**	**07 09 46.1**	**-1.8**
	3.0nm,0.8s,baz=290,slow=5.6,SNR=14							
BRG	**Berggiesshubel**	**74.05**	**41**	*e*P		**P**	**07 10 04.7**	**+2.6**
	6.0nm,1.0s							
BRG				*e*			07 10 07.9	
	12nm,1.2s							
KHC	**Kasperske Hory**	**74.10**	**43**	*e*P		**P**	**07 10 02.0**	**-0.5**
GERES	**GERESS Array B**	**74.23**	**43**	P		**P**	**07 10 03.4**	**+0.1**
GERES	**GERESS Array B**	**74.23**	**43**	P		**P**	**07 10 03.4**	**+0.1**
	3.4nm,0.8s,baz=284,slow=5.4,SNR=14							
ARCES	**ARCESS Array B**	**75.89**	**21**	P		**P**	**07 10 12.4**	**+0.1**
ARCES	**ARCESS Array B**	**75.89**	**21**	P		**P**	**07 10 12.4**	**+0.1**
	3.7nm,0.9s,baz=45,slow=7.2,SNR=5.2							
FINES	**FINESS Array B**	**78.29**	**29**	P		**P**	**07 10 25.7**	**-0.2**
FINES	**FINESS Array B**	**78.29**	**29**	P		**P**	**07 10 25.7**	**-0.2**
	1.9nm,0.8s,baz=276,slow=3.5,SNR=4.9							
AKASG	**Malin Array Be**	**83.44**	**39**	P		**P**	**07 10 53.0**	**-0.7**
AKASG	**Malin Array Be**	**83.44**	**39**	P		**P**	**07 10 53.0**	**-0.7**
	1.5nm,0.9s,baz=288,slow=4.2,SNR=7.1							
BRTR	**Keskin Array B**	**90.56**	**48**	P		**P**	**07 11 28.4**	**-0.4**
BRTR	**Keskin Array B**	**90.56**	**48**	P		**P**	**07 11 28.4**	**-0.4**
	1.8nm,0.9s,baz=289,slow=3.8,SNR=7.2							
KSH	**Kashi**	**115.52**	**26**	*e*PKP		**PKPdf**	**07 17 11.1**	**+2.3**
KSH				*e*PP		**PP**	**07 18 13.0**	**+3.6**
KSH				*e*SKS		**SKSdf**	**07 24 17.9**	**-3.9**
WMQ	**Urumqi**	**115.64**	**15**	PKP		**PKPdf**	**07 17 09.8**	**+1.0**
HHC	**Hu-ho-hao-te**	**120.96**	**356**	*e*PKP		**PKPdf**	**07 17 20.8**	**+1.6**
HHC				SKS		**SKSdf**	**07 24 31.4**	**-0.7**
HHC				SKKS		**SKKSac**	**07 25 43.3**	**-5.4**
HHC				SS		**SS**	**07 35 22.3**	**+4.1**
HHC				LR	LR			
	comp=Z,210nm,19.3s							
LZH	**Lanzhou**	**125.78**	**3**	*e*PKP		**PKPdf**	**07 17 29.5**	**+0.8**
LZH				sPKP			07 17 34.0	
LZH				LR	LR			
	comp=Z,150nm,20.1s							
STKA	**Stephens Creek**	**146.12**	**240**	PKPbc		**PKPdf**	**07 18 05.6**	**-0.3**
STKA	**Stephens Creek**	**146.12**	**240**	PKPbc		**PKPdf**	**07 18 05.6**	**-0.3**
	2.5nm,0.7s,baz=77,slow=6.8,SNR=5.6							
WRA	**Warramunga Arr**	**154.20**	**262**	PKP		**PKPdf**	**07 18 17.6**	**-1.3**
WRA				PKPbc		**PKPbc**	**07 18 25.1**	**-2.1**
WRA	**Warramunga Arr**	**154.20**	**262**	PKP		**PKPdf**	**07 18 17.6**	**-1.3**
	1.4nm,0.8s,baz=85,slow=1.4,SNR=10.0							
WRA				PKPbc		**PKPbc**	**07 18 25.1**	**-2.1**
	1.9nm,0.8s,baz=87,slow=2.4,SNR=12							
ASAR	**Alice Springs**	**154.42**	**253**	PKP		**PKPdf**	**07 18 18.7**	**-0.5**
ASAR				PKPab		**PKPab**	**07 18 40.8**	**-1.0**
ASAR	**Alice Springs**	**154.42**	**253**	PKP		**PKPdf**	**07 18 18.7**	**-0.5**
	0.7nm,0.8s,baz=30,slow=3.7,SNR=5.1							
ASAR				PKPab		**PKPab**	**07 18 40.8**	**-1.0**
	1.1nm,0.9s,baz=96,slow=3.0,SNR=5.1							

JSN ***13*** *07:10:11.3±0.6, 18°.69N×72°.14W, h15km, MD4.9*
ISCJB ***13*** *07:10:18.3±0.4, 18°.50N±0°.06×72°.95W±0°.04, h6km, mb3.6/6, MS3.7/1, Error ellipse: s-maj=8.1km s-min=5.3km az=175.5*
NEIC ***13*** *07:10:20.1±0.4, 18°.47N×72°.94W, h10km, mb4.2/2, Error ellipse: s-maj=10.6km s-min=5.7km az=5.0*
IDC ***13*** *07:10:20.8±1.6, 18°.81N×72°.96W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.6/5, ML2.6/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/28, Error ellipse: s-maj=43.2km s-min=37.2km az=62.0*

ISC 13 07:10:19.6±0.6, 18°.42N±0°.08×72°.95W±0°.05, h6km, n31, σ1§79/33, mb3.6/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.67**	**70**	*e*Pn	**Pn**	**07 10 47.7**	**-1.8**
SDDR				*e*Sn	**Sn**	**07 11 10.5**	**-0.8**
GTBY	**Guantanamo Bay**	**2.53**	**307**	*e*Pn	**Pn**	**07 11 00.0**	**-1.2**
GRTK	**Grand Turk**	**3.52**	**29**	*e*Pn	**Pn**	**07 11 14.4**	**-0.4**
GWJ	**Greenwich**	**3.61**	**265**	*i* P	**Pn**	**07 11 17.0**	**+0.8**
GWJ	**Greenwich**	**3.61**	**265**	*i* P	**Pn**	**07 11 17.0**	**+0.8**
HOJ	**Hope**	**3.63**	**264**	*i* P	**Pn**	**07 11 17.0**	**+0.5**
HOJ	**Hope**	**3.63**	**264**	*i* P	**Pn**	**07 11 17.0**	**+0.5**
STH	**Stony Hill**	**3.68**	**265**	*i* P	**Pn**	**07 11 17.2**	**+0.1**
STH				*i* S	**Sb**	**07 12 07.1**	**-2.9**
STH	**Stony Hill**	**3.68**	**265**	*i* P	**Pn**	**07 11 17.2**	**+0.1**
STH				*i* S	**Sb**	**07 12 07.1**	**-2.9**
MTDJ	**Mount Denham**	**4.36**	**268**	*e*Pn	**Pn**	**07 11 26.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**5.57**	**93**	*e*Pn	**Pn**	**07 11 42.7**	**-0.3**
LSP	**Las Mesas**	**5.58**	**92**	*e*Pn	**Pn**	**07 11 45.5**	**+2.3**
CELP	**Cerrillos**	**6.07**	**92**	Pn	**Pn**	**07 11 48.9**	**-1.0**
SDV	**Santo Domingo**	**9.74**	**166**	Pn	**Pn**	**07 12 40.2**	**-0.4**
ROSC	**El Rosal**	**13.55**	**186**	Pn	Pn	07 13 38.4	+5.5
ROSC				Sn	**Sn**	**07 16 08.1**	**+3.9**
ROSC	**El Rosal**	**13.55**	**186**	Pn	Pn	07 13 38.4	+5.5
	0.6nm,0.3s,baz=67,slow=17,SNR=5.4						
ROSC				Sn	**Sn**	**07 16 08.1**	**+3.9**
	0.4nm,0.3s,baz=100,slow=23,SNR=1.7						
TEIG	**Tepich**	**14.58**	**280**	*e*Pn	**Pn**	**07 13 45.6**	**-0.9**
PTGA	**Pitinga**	**22.92**	**145**	P	**P**	**07 15 25.1**	**+0.5**
	6.1nm,0.9s						
KVTX	**Kingsville**	**24.65**	**296**	*e*P	**P**	**07 15 40.9**	**-0.3**
SADO	**Sadowa**	**26.77**	**350**	LR	LR	07 26 35.1	
	comp=Z,183nm,18.5s,baz=358,slow=37						
TXAR	**Lajitas Array**	**30.03**	**297**	P	**P**	**07 16 30.8**	**+1.3**
TXAR	**Lajitas Array**	**30.03**	**297**	P	**P**	**07 16 30.8**	**+1.3**
	0.3nm,0.8s,baz=121,slow=12,SNR=3.4						
MNTX	**Cornudas Mount**	**32.08**	**301**	*e*P	**P**	**07 16 48.1**	**+0.5**
	7.2nm,1.7s						
PDAR	**Pinedale Array**	**39.31**	**316**	P	**P**	**07 17 48.3**	**-1.5**
PDAR	**Pinedale Array**	**39.31**	**316**	P	**P**	**07 17 48.3**	**-1.5**
	0.3nm,0.6s,baz=116,slow=8.2,SNR=1.9						
YKA	**Yellowknife Ar**	**52.59**	**337**	P	**P**	**07 19 33.1**	**-0.7**
YKA	**Yellowknife Ar**	**52.59**	**337**	P	**P**	**07 19 33.1**	**-0.7**
	0.5nm,0.7s,baz=125,slow=7.6,SNR=9.5						
GERES	**GERESS Array B**	**74.19**	**43**	P	**P**	**07 21 58.0**	**+0.6**
GERES	**GERESS Array B**	**74.19**	**43**	P	**P**	**07 21 58.0**	**+0.6**
	0.5nm,0.6s,baz=270,slow=8.8,SNR=3.2						
WRA	**Warramunga Arr**	**154.19**	**262**	PKPbc	**PKPbc**	**07 30 24.8**	**+3.4**
WRA	**Warramunga Arr**	**154.19**	**262**	PKPbc	**PKPbc**	**07 30 24.8**	**+3.4**
	0.8nm,0.9s,baz=85,slow=3.3,SNR=3.8						

JSN ***13*** *07:22:56.9±0.8, 19°.57N×72°.61W, h1km±999km, MD5.3*
ISCJB ***13*** *07:23:01.4±0.2, 18°.37N±0°.03×72°.82W±0°.02, h6km, mb4.6/67, MS4.3/29, Error ellipse: s-maj=4.6km s-min=2.5km az=17.0*
IDC ***13*** *07:23:01.5±0.5, 18°.40N×72°.81W, h0km, mb4.2/20, mb1 4.4/23, mb1mx4.4/30, mbtmp4.3/23, ML3.7/3, MS4.2/28, Ms1 4.2/28, ms1mx4.1/41, Error ellipse: s-maj=16.8km s-min=12.2km az=71.0*
NEIC ***13*** *07:23:03.8±0.2, 18°.38N×72°.84W, h10km, mb4.9/50, Error ellipse: s-maj=4.5km s-min=2.9km az=21.0*

ISC 13 07:23:03.0±0.3, 18°.40N±0°.05×72°.85W±0°.04, h6km, n349, σ1§16/358, mb4.7/68, MS4.4/29, 94C-82D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.59**	**68**	*e*Pn	**Pn**	**07 23 30.1**	**-1.6**
GTBY	**Guantanamo Bay**	**2.63**	**306**	*e*Pn	**Pn**	**07 23 44.0**	**-1.9**
GRTK	**Grand Turk**	**3.49**	**27**	*e*Pn	**Pn**	**07 23 56.6**	**-1.2**
YHJ	**Yallahs**	**3.50**	**262**	*i* P	**Pn**	**07 23 59.1**	**+1.0**
YHJ	**Yallahs**	**3.50**	**262**	*i* P	**Pn**	**07 23 59.1**	**+1.0**
GWJ	**Greenwich**	**3.70**	**266**	*i* P	**Pn**	**07 24 00.5**	**-0.4**
GWJ	**Greenwich**	**3.70**	**266**	*i* P	**Pn**	**07 24 00.5**	**-0.4**
HOJ	**Hope**	**3.73**	**265**	*i* P	**Pn**	**07 24 01.8**	**+0.7**
HOJ	**Hope**	**3.73**	**265**	*i* P	**Pn**	**07 24 01.8**	**+0.7**
STH	**Stony Hill**	**3.78**	**266**	*i* P	**Pn**	**07 24 01.5**	**-0.3**
STH				*i* S	**Sn**	**07 24 50.0**	**+3.3**
STH	**Stony Hill**	**3.78**	**266**	*i* P	**Pn**	**07 24 01.5**	**-0.3**
STH				*i* S	**Sn**	**07 24 50.0**	**+3.3**
PCJ	**Portland Cotta**	**4.15**	**262**	*i* P	**Pn**	**07 24 07.0**	**+0.1**
PCJ	**Portland Cotta**	**4.15**	**262**	*i* P	**Pn**	**07 24 07.0**	**+0.1**
MTDJ	**Mount Denham**	**4.46**	**269**	*e*Pn	**Pn**	**07 24 11.3**	**+0.1**
AGPR	**Aguadilla, PR**	**5.45**	**88**	*e*Pn	**Pn**	**07 24 26.6**	**+1.8**
	942nm,1.2s						
CRPR	**Cabo Rojo, PR**	**5.47**	**93**	*e*Pn	**Pn**	**07 24 24.8**	**-0.2**
	216nm,0.9s						
LSP	**Las Mesas**	**5.48**	**91**	*e*Pn	**Pn**	**07 24 27.3**	**+2.1**
AOPR	**Arecibo Observ**	**5.79**	**90**	*e*Pn	**Pn**	**07 24 30.4**	**+0.9**
OBIP	**Obispado Ponce**	**5.94**	**92**	*e*Pn	**Pn**	**07 24 31.0**	**-0.6**
	216nm,0.8s						
CELP	**Cerrillos**	**5.96**	**92**	*e*Pn	**Pn**	**07 24 31.7**	**-0.2**
CELP				*e*Sn	**Sn**	**07 25 41.1**	**+0.6**
CBYP	**Canovanas**	**6.64**	**90**	*e*Pn	**Pn**	**07 24 41.6**	**+0.4**
	106nm,0.8s						
HUMP	**Col San Antoni**	**6.65**	**91**	*e*Pn	**Pn**	**07 24 43.1**	**+1.8**
MTP	**Monte Pirata**	**6.94**	**91**	*e*Pn	**Pn**	**07 24 44.7**	**-0.5**
	162nm,1.0s						
MTP				*e*Sn	**Sn**	**07 26 05.6**	**+1.0**
CDVI	**St. Croix**	**7.71**	**94**	*e*Pn	**Pn**	**07 24 57.8**	**+1.9**
SABA	**Saba**	**9.17**	**93**	*e*Pn	Pn	07 25 19.2	+3.3
SDV	**Santo Domingo**	**9.70**	**167**	*e*Pn	**Pn**	**07 25 23.2**	**-0.1**
MLG	**Mont-d'or**	**10.89**	**101**	*e*P	**Pn**	**07 25 39.7**	**+0.2**
SCG	**Saint Claude**	**10.93**	**101**	*e*P	**Pn**	**07 25 40.9**	**+0.9**
FDF	**Fort de France**	**11.79**	**106**	*e*Pn	**Pn**	**07 25 52.7**	**+0.9**
	210nm,1.0s						
ROSC	**El Rosal**	**13.54**	**186**	*e*Pn	**Pn**	**07 26 16.3**	**+0.2**
ROSC				Sn	**Sn**	**07 28 48.0**	**+0.9**
ROSC	**El Rosal**	**13.54**	**186**	Pn	**Pn**	**07 26 16.7**	**+0.7**
	2.2nm,0.3s,baz=94,slow=6.3,SNR=28						
ROSC				Sn	**Sn**	**07 28 48.0**	**+0.9**
	1.1nm,0.3s,baz=280,slow=23,SNR=2.5						
ROSC				LR	LR	07 31 44.5	
	comp=Z,234nm,21.2s,baz=255,slow=39						
JTS	**JuntasAbangare**	**14.22**	**237**	Pn	P	07 26 29.2	-3.4
JTS	**JuntasAbangare**	**14.22**	**237**	Pn	P	07 26 29.2	-3.4
	0.6nm,0.3s,baz=30,slow=20,SNR=2.3						
JTS				LR	LR	07 32 00.1	
	comp=Z,549nm,18.7s,baz=20,slow=38						
TEIG	**Tepich**	**14.68**	**280**	Pn	**Pn**	**07 26 31.2**	**-0.1**
TEIG				Sn	**Sn**	**07 29 10.0**	**-4.4**
TEIG	**Tepich**	**14.68**	**280**	Pn	**Pn**	**07 26 31.2**	**-0.1**
	2.3nm,0.3s,baz=52,slow=5.1,SNR=16						
TEIG				Sn	**Sn**	**07 29 10.0**	**-4.4**
	0.5nm,0.3s,baz=50,slow=18,SNR=2.1						
TIGA	**Tifton**	**16.22**	**325**	*e*P	**P**	**07 26 55.9**	**+1.2**
	178nm,1.5s						
JSC	**Jenkinsville**	**17.51**	**336**	*e*P	**P**	**07 27 10.1**	**+1.1**
OTAV	**Otavalo**	**18.87**	**198**	*e*Pn	**Pn**	**07 27 26.9**	**+1.9**
	578nm,2.5s						
LRAL	**Lakeview Retre**	**19.33**	**322**	*e*P	**Pn**	**07 27 30.6**	**+0.5**
	40nm,1.4s						
JSRW	**J. Sargeant Re**	**19.73**	**348**	*e*Pn	**Pn**	**07 27 34.4**	**-0.4**
TKL	**Tuckaleechee C**	**19.73**	**333**	P	**P**	**07 27 33.3**	**-0.1**
TKL				*e*Pn	**pP**	**07 27 36.3**	**+1.2**
TKL	**Tuckaleechee C**	**19.73**	**333**	P	**P**	**07 27 33.3**	**-0.1**
	0.2nm,0.3s,baz=140,slow=14,SNR=3.7						
TKL				LR	LR	07 35 18.5	
	comp=Z,631nm,19.4s,baz=141,slow=37						
BLA	**Blacksburg**	**19.89**	**342**	*e*P	**P**	**07 27 35.2**	**0.0**
	44nm,1.1s						
CPCT	**Cooper Cave**	**19.89**	**331**	*e*Pn	**Pn**	**07 27 37.5**	**+0.7**
SWET	**Sewanee**	**20.39**	**328**	*e*Pn	Pn	07 27 43.4	+0.8
	92nm,1.7s						
TZTN	**Tazewell**	**20.39**	**335**	*e*P	Pn	07 27 41.7	-1.0
	12nm,1.5s						
VBMS	**Vicksburg**	**21.04**	**314**	*e*Pn	**P**	**07 27 50.0**	**+2.3**
	73nm,1.3s						
SDMD	**Soldier's Deli**	**21.22**	**351**	*e*Pn	**P**	**07 27 52.7**	**+3.1**
	58nm,1.2s						
OXF	**Oxford**	**21.80**	**321**	*e*P	**P**	**07 27 59.4**	**+3.6**
	85nm,1.3s						
ODNJ	**Ogdensburg**	**22.66**	**357**	*e*P	**P**	**07 28 05.3**	**+0.3**
	44nm,1.4s						
HALT	**Halls**	**22.74**	**323**	*e*P	**P**	**07 28 07.2**	**+1.4**
PTGA	**Pitinga**	**22.84**	**145**	*e*P	**P**	**07 28 06.5**	**-0.5**
	33nm,1.1s						
PTGA	**Pitinga**	**22.84**	**145**	P	**P**	**07 28 06.8**	**-0.3**
	22nm,1.0s,baz=337,slow=11,SNR=18						
PTGA				LR	LR	07 37 24.1	
	comp=Z,339nm,20.5s,baz=66,slow=38						
USIN	**University of**	**23.41**	**329**	*e*P	**P**	**07 28 13.6**	**+0.9**
	66nm,1.5s						
ACSO	**Alum Creek Sta**	**23.45**	**340**	*e*P	**P**	**07 28 16.1**	**+2.9**
	86nm,1.6s						
BLO	**Bloomington**	**23.86**	**333**	*e*P	**P**	**07 28 18.1**	**+0.9**
	212nm,2.0s						
HKT	**Hockley**	**23.87**	**303**	*e*P	**P**	**07 28 18.2**	**+1.0**
	197nm,2.5s						
PBMO	**Poplar Bluff**	**23.97**	**323**	*e*P	**P**	**07 28 18.8**	**+0.5**
	55nm,1.7s						
SIUC	**Southern Illin**	**24.00**	**327**	*e*P	**P**	**07 28 18.6**	**+0.2**
	441nm,2.9s						
MMNY	**Mt. Morris Dam**	**24.64**	**351**	*e*P	**P**	**07 28 26.3**	**+2.0**
	211nm,1.6s						
735A	**Kenedy**	**25.08**	**299**	⇓P	**P**	**07 28 29.6**	**+1.2**
	baz=25						
SFIN	**Scholer Farm**	**25.11**	**334**	⇑P	**P**	**07 28 29.8**	**+1.2**
	baz=25						
635A	**Leesville**	**25.23**	**300**	⇓P	**P**	**07 28 30.4**	**+0.7**
	baz=25						
535A	**Dale**	**25.29**	**302**	⇑P	**P**	**07 28 31.3**	**+1.0**
	baz=25						
AAM	**Ann Arbor**	**25.54**	**341**	*e*P	**P**	**07 28 34.0**	**+1.5**
	92nm,1.5s						
335A	**Moody**	**25.66**	**305**	⇓P	**P**	**07 28 34.6**	**+0.9**
	baz=26,SNR=7.2						
933A	**Laredo**	**25.95**	**296**	⇑P	**P**	**07 28 37.8**	**+1.4**
	baz=26						
ATAH	**Atahualpa**	**25.95**	**193**	P	**P**	**07 28 37.8**	**+0.9**
ATAH	**Atahualpa**	**25.95**	**193**	P	**P**	**07 28 37.8**	**+0.9**
	20nm,1.0s,baz=53,slow=2.9,SNR=7.7						
ATAH				LR	LR	07 39 59.5	
	comp=Z,393nm,20.3s,baz=359,slow=39						
WHTX	**Lake Whitney**	**25.98**	**306**	⇑P	**P**	**07 28 37.0**	**+0.4**
	baz=26,SNR=6.5						
534A	**Blanco**	**26.02**	**301**	⇑P	**P**	**07 28 38.0**	**+1.0**
	baz=26,SNR=16						
434A	**Burnet**	**26.14**	**303**	⇓P	**P**	**07 28 38.3**	**+0.2**
	baz=26						
833A	**Chaparral WMA,**	**26.25**	**297**	⇑P	**P**	**07 28 39.6**	**+0.6**
	baz=26,SNR=8.2						
334A	**Lometa**	**26.32**	**304**	⇑P	**P**	**07 28 39.7**	**0.0**
	baz=26,SNR=7.7						
633A	**Saathoff Ranch**	**26.41**	**300**	⇑P	**P**	**07 28 40.6**	**+0.1**
	baz=26						
Z35A	**Perchaven, San**	**26.43**	**309**	⇓P	**P**	**07 28 41.1**	**+0.4**
	baz=26						
234A	**Clairette**	**26.51**	**306**	⇓P	**P**	**07 28 41.3**	**-0.1**
	baz=26						
134A	**White-Moore Ra**	**26.71**	**307**	⇓P	**P**	**07 28 43.2**	**+0.1**
	baz=27						
832A	**Faith Ranch, C**	**26.73**	**297**	⇑P	**P**	**07 28 43.2**	**-0.2**
	baz=27						
TUL1	**Tulsa**	**26.75**	**315**	*e*P	**P**	**07 28 43.8**	**+0.3**
	73nm,1.7s						
TUL1	**Tulsa**	**26.75**	**315**	⇓P	**P**	**07 28 43.8**	**+0.3**
	baz=27						
433A	**Art**	**26.78**	**302**	⇓P	**P**	**07 28 43.8**	**-0.1**
	baz=27						
SADO	**Sadowa**	**26.82**	**350**	LR	LR	07 39 05.3	
	comp=Z,684nm,19.7s,baz=181,slow=36						
333A	**Richland Sprin**	**26.90**	**304**	⇓P	**P**	**07 28 45.0**	**+0.1**
	baz=27,SNR=6.2						
632A	**Uvalde**	**26.92**	**299**	⇓P	**P**	**07 28 45.1**	**0.0**
	baz=27						
Z34A	**Collier Ranch,**	**26.94**	**309**	⇓P	**P**	**07 28 45.6**	**+0.4**
	baz=27						
Y34A	**Reagan Ranch,**	**27.10**	**310**	⇑P	**P**	**07 28 46.8**	**+0.2**
	baz=27						
233A	**Rising Star**	**27.11**	**305**	⇑P	**P**	**07 28 46.9**	**+0.1**
	baz=27						
532A	**Rocksprings**	**27.22**	**301**	⇑P	**P**	**07 28 47.6**	**-0.3**
	baz=27						
JCT	**Junction City**	**27.25**	**301**	*e*P	**P**	**07 28 49.8**	**+1.6**
	18nm,1.3s						
133A	**Hamilton Ranch**	**27.36**	**306**	⇓P	**P**	**07 28 50.4**	**+1.3**
	baz=27						
432A	**Menard**	**27.38**	**302**	⇑P	**P**	**07 28 49.8**	**+0.5**
	baz=27						
X34A	**Smith Ranch, M**	**27.47**	**311**	⇑P	**P**	**07 28 50.6**	**+0.7**
	baz=28						
332A	**Millersview**	**27.53**	**303**	⇑P	**P**	**07 28 50.9**	**+0.3**
	baz=28						
232A	**Coleman**	**27.64**	**304**	⇓P	**P**	**07 28 52.3**	**+0.7**
	baz=28						
431A	**Sonora**	**27.98**	**301**	⇓P	**P**	**07 28 54.0**	**-0.7**
	baz=28						
331A	**San Angelo**	**28.05**	**303**	⇓P	**P**	**07 28 54.4**	**-0.9**
	baz=28						
Z32A	**Haskell**	**28.09**	**307**	⇑P	**P**	**07 28 56.0**	**+0.4**
	baz=28						
231A	**Bronte**	**28.18**	**304**	⇓P	**P**	**07 28 57.0**	**+0.5**
	baz=28						
W33A	**Caddo, Fort Co**	**28.19**	**311**	⇑P	**P**	**07 28 56.9**	**+0.4**
	baz=28						
Y32A	**R-V Farms, Ver**	**28.36**	**308**	⇓P	**P**	**07 28 57.7**	**-0.3**
	baz=28						
V33A	**Lossen Ranch,**	**28.40**	**313**	⇓P	**P**	**07 28 58.0**	**-0.3**
	baz=28						
530A	**J-C Ranch, Com**	**28.40**	**300**	⇓P	**P**	**07 28 58.9**	**+0.4**
	baz=28						
X32A	**Elmer**	**28.43**	**309**	⇑P	**P**	**07 28 59.0**	**+0.4**
	baz=28						
430A	**Baggett Ranch,**	**28.52**	**301**	⇑P	**P**	**07 29 00.2**	**+0.7**
	baz=28						
Z31A	**Sharp Cattle R**	**28.60**	**307**	⇑P	**P**	**07 28 59.5**	**-0.6**
	baz=29						
330A	**Mertzon**	**28.68**	**302**	⇑P	**P**	**07 28 59.8**	**-1.1**
	baz=29						
W32A	**Sentinel**	**28.73**	**311**	⇓P	**P**	**07 28 60.0**	**-1.4**
	baz=29						
SAML	**Samuel**	**28.80**	**160**	*e*P	**P**	**07 29 00.1**	**-1.8**
	6.5nm,0.7s						
Y31A	**Rekieta Farm,**	**28.96**	**308**	⇓P	**P**	**07 29 03.6**	**+0.3**
	baz=29						
429A	**Davenport Ranc**	**29.01**	**300**	⇓P	**P**	**07 29 03.8**	**-0.1**
	baz=29						
X31A	**McDonald Ranch**	**29.04**	**309**	⇑P	**P**	**07 29 04.0**	**0.0**
	baz=29						
529A	**Stev Forest Ra**	**29.13**	**299**	⇑P	**P**	**07 29 04.7**	**-0.2**
	baz=29						
Z30A	**Sanderson Ranc**	**29.34**	**306**	⇑P	**P**	**07 29 06.9**	**+0.2**
	baz=29						
329A	**Wagon Wheel Ra**	**29.35**	**302**	⇑P	**P**	**07 29 07.0**	**+0.1**
	baz=29						
V31A	**Spring Creek L**	**29.47**	**311**	⇑P	**P**	**07 29 08.3**	**+0.4**
	baz=30						
R33A	**Olander Ranch,**	**29.55**	**317**	⇑P	**P**	**07 29 09.0**	**+0.4**
	baz=30						
X30A	**Coker Ranch, T**	**29.62**	**308**	⇑P	**P**	**07 29 09.9**	**+0.6**
	baz=30						
428A	**Kincaid Ranch,**	**29.69**	**300**	⇑P	**P**	**07 29 09.7**	**-0.3**
	baz=30,SNR=8.6						
Z29A	**Hungry Hill Ra**	**29.77**	**305**	⇑P	**P**	**07 29 11.0**	**+0.4**
	baz=30						
Q33A	**Connelly Farm,**	**29.86**	**319**	⇑P	**P**	**07 29 11.7**	**+0.5**
	baz=30						
Y29A	**Porterfield Fa**	**29.98**	**307**	⇓P	**P**	**07 29 12.8**	**+0.3**
	baz=30						
R32A	**Long Quarter,**	**30.09**	**317**	⇑P	**P**	**07 29 13.6**	**+0.3**
	baz=30						
TXAR	**Lajitas Array**	**30.13**	**297**	P	**P**	**07 29 14.3**	**+0.5**
TXAR				PcP	**PcP**	**07 32 14.2**	**-1.2**
TXAR	**Lajitas Array**	**30.13**	**297**	P	**P**	**07 29 14.3**	**+0.5**
	1.3nm,0.9s,baz=120,slow=6.9,SNR=10						
TXAR				PcP	**PcP**	**07 32 14.2**	**-1.2**
	0.6nm,0.7s,baz=116,slow=3.5,SNR=5.9						
128A	**Castleberry Fa**	**30.14**	**304**	⇑P	**P**	**07 29 14.2**	**+0.2**
	baz=30						
S31A	**Mullinville**	**30.16**	**315**	⇓P	**P**	**07 29 14.6**	**+0.6**
	baz=30						
527A	**Woodward Ranch**	**30.29**	**299**	⇓P	**P**	**07 29 15.3**	**0.0**
	baz=30,SNR=5.3						
Z28A	**Tucker Farm, M**	**30.31**	**305**	⇓P	**P**	**07 29 15.4**	**0.0**
	baz=30						
427A	**Hayter Ranch,**	**30.31**	**300**	⇓P	**P**	**07 29 15.5**	**+0.1**
	baz=30						
U30A	**WK&E Inc. Balk**	**30.41**	**312**	⇑P	**P**	**07 29 16.5**	**+0.2**
	baz=30						
R31A	**Burdett**	**30.55**	**316**	⇓P	**P**	**07 29 18.0**	**+0.6**
	baz=31						
526A	**Mary Lane Ranc**	**30.67**	**298**	⇓P	**P**	**07 29 18.6**	**0.0**
	baz=31,SNR=9.4						
P32A	**Huiting Farm,**	**30.71**	**319**	⇑P	**P**	**07 29 19.5**	**+0.7**
	baz=31						
426A	**McDonald Obser**	**30.78**	**299**	⇑P	**P**	**07 29 19.3**	**-0.5**
	baz=31,SNR=8.1				

baz=34
ANMO Albuquerque 34.05 306 eP P 07 29 49.1 +0.7
61nm,2.8s
V23A Ortiz Mt. (NFS 34.13 307 ⇓P P 07 29 50.2 +1.1
baz=34
S24A Houchin Ranch, 34.16 311 ⇓P P 07 29 49.7 +0.3
baz=34
R24A Sanders Place, 34.34 312 ⇑P P 07 29 51.7 +0.8
baz=34,SNR=6.0
U23A El Rito 34.35 308 ⇑P P 07 29 52.4 +1.4
baz=34,SNR=8.5
121A Cookes Peak, D 34.37 301 ⇑P P 07 29 52.3 +1.1
baz=34
LAZ Ladron 34.40 304 eP P 07 29 52.4 +1.0
13nm,1.6s
T23A Casias Ranch, 34.52 309 ⇓P P 07 29 53.4 +1.0
baz=34
K27A Flueckinger Fa 34.73 321 ⇑P P 07 29 54.5 +0.4
baz=35
V22A San Miguel Ran 34.74 307 ⇓P P 07 29 55.6 +1.2
baz=35,SNR=6.9
LPAZ La Paz 34.78 172 eP P 07 29 54.5 -0.7
LPAZ La Paz 34.78 172 P P 07 29 53.9 -1.3
6.6nm,1.1s,baz=353,slow=7.9,SNR=9.2
LPAZ LR LR 07 45 09.2
comp=Z,747nm,20.3s,baz=16,slow=38
R23A Moffat 34.84 311 ⇑P P 07 29 55.5 +0.3
baz=35,SNR=6.5
U22A Llaves 34.87 308 ⇓P P 07 29 56.6 +1.1
baz=35,SNR=6.8
I28A Midland 34.88 323 ⇓P P 07 29 55.9 +0.7
baz=35
AGMN Agassiz Nation 35.21 333 eP P 07 29 59.2 +1.3
119nm,2.4s
AGMN Agassiz Nation 35.21 333 ⇓P P 07 29 59.2 +1.3
baz=35
K26A Motz Farm, Whi 35.30 320 ⇓P P 07 29 59.9 +0.9
baz=35
319A Douglas 35.32 299 ⇓P P 07 30 00.8 +1.5
baz=35,SNR=7.0
S22A 4UR Ranch, Cre 35.38 310 ⇑P P 07 30 00.2 +0.4
baz=35
ISCO Idaho Springs 35.40 314 eP P 07 30 00.7 +0.6
102nm,2.8s
ISCO Idaho Springs 35.40 314 ⇑P P 07 30 00.2 +0.1
baz=35
SMCO Snowmass 36.07 312 eP P 07 30 06.5 +0.5
7.6nm,1.0s
G27A Dupree 36.16 325 ⇑P P 07 30 07.5 +1.3
baz=36
O22A Kremmling 36.20 314 ⇓P P 07 30 07.8 +0.8
baz=36
F27A Lemmon 36.52 325 ⇓P P 07 30 10.1 +0.8
baz=37
L23A Garrett 36.58 317 ⇑P P 07 30 10.3 +0.3
baz=37
W18A Petrified Fore 36.66 304 ⇓P P 07 30 11.3 +0.5
baz=37
SCHQ Schefferville 36.66 6 P P 07 30 10.0 -0.3
SCHQ Schefferville 36.66 6 P P 07 30 10.0 -0.3
2.2nm,0.6s,baz=215,slow=16,SNR=5.5
SCHQ LR LR 07 43 22.4
comp=Z,547nm,18.8s,baz=51,slow=33
ULM Lac du Bonnet 36.73 335 eP P 07 30 10.6 -0.3
ULM Lac du Bonnet 36.73 335 P P 07 30 10.1 -0.8
2.2nm,0.7s,baz=120,slow=7.6,SNR=3.2
ULM LR LR 07 46 30.4
comp=Z,303nm,18.1s,baz=53,slow=38
A30A Hoffart Farm, 36.76 332 ⇑P P 07 30 12.3 +1.1
baz=37
PV01 Paradox Valley 36.80 310 eP P 07 30 12.7 +0.7
284nm,1.2s
G25A Newell 36.88 323 ⇑P P 07 30 12.4 0.0
baz=37,SNR=5.3
O20A White River Ci 37.36 313 eP P 07 30 18.4 +1.6
144nm,2.6s
O20A White River Ci 37.36 313 ⇓P P 07 30 17.3 +0.6
baz=37
B28A Dugan Ranch, T 37.37 330 ⇑P P 07 30 17.4 +1.0
baz=37
K22A Casper 37.37 318 ⇑P P 07 30 16.7 -0.1
baz=37
J22A Midwest 37.73 319 ⇑P P 07 30 19.7 0.0
baz=38
K21A Alcova 37.83 317 ⇑P P 07 30 20.5 -0.1
baz=38,SNR=8.8
I22A 9 Mile Ranch, 37.98 319 ⇑P P 07 30 21.6 -0.2
baz=38
G23A Biddle 38.02 322 ⇓P P 07 30 22.8 +0.7
baz=38
WUAZ Wupatki 38.06 304 eP P 07 30 23.3 +0.7
16nm,1.5s
J21A Lysite 38.30 318 ⇓P P 07 30 24.4 -0.2
baz=38,SNR=6.5
I21A Big Trails, Te 38.44 319 ⇑P P 07 30 25.3 -0.4
baz=38
A26A Wade Farm, Ken 38.49 329 ⇑P P 07 30 26.1 +0.2
baz=38
J20A Shoshoni 38.71 318 ⇑P P 07 30 28.7 +0.7
baz=39
Y14A Wickenburg 38.95 301 ⇑P P 07 30 30.9 +0.8
baz=39
U15A North Rim 39.03 306 ⇑P P 07 30 31.6 +0.6
baz=39
D23A Lindsay 39.05 325 ⇓P P 07 30 31.7 +1.0
baz=39
J19A Crowheart 39.29 317 ⇓P P 07 30 32.3 -0.6
baz=39,SNR=5.2
PDAR Pinedale Array 39.40 316 P P 07 30 33.5 -0.4
PDAR PcP PcP 07 32 42.0 -0.1
PDAR Pinedale Array 39.40 316 P P 07 30 33.5 -0.4
1.0nm,0.6s,baz=119,slow=9.6,SNR=9.6
PDAR PcP PcP 07 32 42.0 -0.1
0.9nm,0.7s,baz=114,slow=5.7,SNR=3.8
PDAR LR LR 07 47 20.0
comp=Z,309nm,19.4s,baz=121,slow=37
C23A Lambert 39.42 325 ⇓P P 07 30 34.4 +0.7
baz=40
A24A Westby 39.49 328 ⇓P P 07 30 35.2 +0.9
baz=40
D22A Cohagen 39.58 324 ⇓P P 07 30 35.7 +0.6
baz=40
I19A Meeteetse 39.62 318 ⇓P P 07 30 35.5 -0.1
baz=40
H19A Powell 39.92 319 ⇓P P 07 30 38.2 +0.1
baz=40
W13A Hualapai Mount 39.93 303 ⇑P P 07 30 38.9 +0.5
baz=40,SNR=5.1
F20A Billings 39.98 321 ⇓P P 07 30 38.5 -0.1
baz=40
D21A La Casta Ranch 39.99 323 ⇓P P 07 30 39.1 +0.6
baz=40
NLU North Lily Min 40.00 311 eP P 07 30 39.6 +0.7
70nm,2.4s
ARUT Antelope Range 40.30 307 eP P 07 30 41.7 +0.3
174nm,1.3s
E20A Meyer Farm, Mu 40.34 322 ⇑P P 07 30 41.0 -0.5
baz=40,SNR=5.7
H18A Shoshone NF, C 40.35 319 ⇑P P 07 30 40.7 -1.0
baz=40,SNR=5.6
LOHW Long Hollow 40.46 317 eP P 07 30 42.5 -0.2
REDW Red Top Meadow 40.51 316 eP P 07 30 43.5 +0.3
I17A Pilgrim Ck. 40.58 317 ⇓P P 07 30 44.0 +0.4
baz=41
MOOW Moose Ponds 40.61 317 eP P 07 30 43.5 -0.4
DUG Dugway 40.62 311 eP P 07 30 44.0 +0.1
13nm,1.5s
DUG Dugway 40.62 311 ⇑P P 07 30 43.7 -0.2
baz=41
TPAW Teton Pass 40.63 316 eP P 07 30 44.1 -0.1
128nm,3.0s
D20A Manuel Ranch, 40.66 323 ⇓P P 07 30 45.1 +1.0
baz=41
E19A Rath Farm, Rou 40.70 322 ⇑P P 07 30 44.2 -0.3
baz=41,SNR=5.3
FXWY Fox Creek 40.74 317 eP P 07 30 44.8 -0.2
5.7nm,0.9s
H17A Grant Village 40.79 318 eP P 07 30 50.4 +4.9
78nm,2.8s
IMW Indian Meadow 40.80 317 eP P 07 30 45.7 +0.1
96nm,2.9s
BC3 Big Chuckawall 40.89 300 ⇓P P 07 30 46.4 +0.2
baz=41
BGU Big Grassy Mou 41.03 312 eP P 07 30 47.8 +0.5
5.0nm,1.3s
A21A Bergtoll Ranch 41.06 326 ⇑P P 07 30 48.4 +1.1
baz=41
D19A Cripps Ranch, 41.13 322 ⇑P P 07 30 48.2 +0.2
baz=41
SHPR Sheep Range 41.28 305 eP P 07 30 50.5 +1.0
9.1nm,1.3s
B20A Solberg Farm, 41.33 324 ⇑P P 07 30 51.2 +1.6
baz=41
A20A Cobblestone Ra 41.53 325 ⇑P P 07 30 52.2 +1.0
baz=42
BDFB Brasilia 41.74 143 P P 07 30 53.0 -0.3
BDFB Brasilia 41.74 143 P P 07 30 53.0 -0.3
19nm,0.9s,baz=312,slow=9.1,SNR=23
BDFB LR LR 07 49 16.0
comp=Z,342nm,19.4s,baz=206,slow=38
R11A Troy Canyon, C 42.08 307 ⇓P P 07 30 56.9 +0.9
baz=42
TPNV Topopah Spring 42.23 305 eP P 07 30 59.5 +2.2
70nm,2.5s
MCMT McKenzie Canyo 42.44 317 eP P 07 30 59.2 +0.3
6.6nm,1.4s
DLMT Dillon 42.51 318 eP P 07 31 00.1 +0.7
ELK Elko 42.54 311 eP P 07 31 00.2 +0.4
HLID Hailey 42.96 315 eP P 07 31 03.6 +0.6
53nm,2.2s
HLID Hailey 42.96 315 ⇓P P 07 31 03.7 +0.6
baz=43
TPH Tonopah 43.26 306 eP P 07 31 06.8 +1.2
17nm,1.4s
NV11 Mina Array Sit 44.06 307 eP P 07 31 12.9 +0.9
NVAR Mina Array Bea 44.17 307 P P 07 31 13.6 +0.6
NVAR Mina Array Bea 44.17 307 P P 07 31 13.6 +0.6
1.8nm,0.8s,baz=86,slow=5.9,SNR=3.8
PTRM Twissleman Ran 45.10 302 eP P 07 31 20.4 +0.1
FRB Frobisher Bay 45.41 3 P P 07 31 22.0 -0.2
FRB Frobisher Bay 45.41 3 P P 07 31 22.0 -0.2
8.5nm,1.0s,baz=190,slow=9.8,SNR=6.4
WVOR Wild Horse Val 45.49 312 eP P 07 31 23.7 +0.4
14nm,1.3s
J08A Circle Bar Ran 45.66 313 eP P 07 31 24.4 -0.3
12nm,1.4s
NEW Newport 46.56 320 eP P 07 31 32.1 +0.5
54nm,2.3s
NEW Newport 46.56 320 ⇑P P 07 31 32.0 +0.5
baz=47
EDM Edmonton 46.78 328 eP P 07 31 33.2 0.0
CPUP Villa Florida 46.95 161 LR LR 07 52 11.3
comp=Z,374nm,20.4s,baz=333,slow=37
YKA Yellowknife Ar 52.65 337 P P 07 32 16.8 -0.9
YKA Yellowknife Ar 52.65 337 P P 07 32 16.8 -0.9
2.0nm,0.8s,baz=125,slow=7.3,SNR=27
BBB Bella Bella 54.53 322 LR LR 07 56 01.3
comp=Z,280nm,18.4s,baz=274,slow=36
DLBC Dease Lake 57.49 328 LR LR 07 59 03.9
comp=Z,300nm,20.3s,baz=129,slow=38
SUMG Summit 57.64 12 i P P 07 32 59.1 +5.0
8.9nm,1.0s
PLCA Paso Flores 58.86 178 LR LR 07 57 17.9
comp=Z,192nm,19.1s,baz=267,slow=35
ESDC Sonseca Array 62.39 54 P P 07 33 26.6 -0.2
ESDC Sonseca Array 62.39 54 P P 07 33 26.6 -0.2
0.7nm,0.5s,baz=277,slow=7.5,SNR=6.0
ILAR Eielson Array 66.71 333 P P 07 33 53.8 -0.9
ILAR Eielson Array 66.71 333 P P 07 33 53.8 -0.9
1.2nm,0.9s,baz=105,slow=3.9,SNR=11
ILAR LR LR 08 04 59.4
comp=Z,246nm,21.5s,baz=305,slow=38
DBIC Dimbokro 67.07 90 LR LR 07 58 33.1
comp=Z,122nm,19.8s,baz=214,slow=32
COLD Coldfoot 68.29 336 eP P 07 34 04.2 -0.4
5.9nm,1.0s
IM04 Indian Mountai 69.67 334 eP P 07 34 13.1 -0.1
NOA NORSAR Array B 71.22 31 P P 07 34 22.7 -0.1
NOA NORSAR Array B 71.22 31 P P 07 34 22.7 -0.1
0.8nm,0.8s,baz=275,slow=6.3,SNR=2.2
NOA LR LR 08 00 57.6
comp=Z,156nm,20.9s,baz=285,slow=32
TORD Torodi Ar. Bea 71.49 82 P P 07 34 23.6 -1.5
TORD Torodi Ar. Bea 71.49 82 P P 07 34 23.6 -1.5
2.2nm,0.8s,baz=288,slow=6.0,SNR=9.4
FETA Feichten 72.45 45 ⇓i P P 07 34 31.3 +0.7
14nm,1.4s
TAM Tamanrasset 72.69 71 eP P 07 34 31.8 -0.7
KEST Kesra 73.30 57 LR LR 07 59 56.5
comp=Z,87nm,21.5s,baz=206,slow=30
BRG Berggiesshubel 73.95 41 eP P 07 34 39.4 +0.2
5.1nm,0.9s
KHC Kasperske Hory 74.01 43 eP P 07 34 39.7 +0.1
9.4nm,1.2s
GERES GERESS Array B 74.14 43 P P 07 34 39.7 -0.8
GERES GERESS Array B 74.14 43 P P 07 34 39.7 -0.8
4.3nm,0.8s,baz=291,slow=3.7,SNR=19
GERES LR LR 08 01 07.4
comp=Z,372nm,21.6s,baz=277,slow=31
MOA Molln 74.69 44 ⇑i P P 07 34 42.0 -1.6
6.6nm,1.1s
ARCES ARCESS Array B 75.81 21 P P 07 34 48.2 -1.4
ARCES ARCESS Array B 75.81 21 P P 07 34 48.2 -1.4
5.7nm,0.8s,baz=319,slow=3.5,SNR=7.7
ARCES LR LR 08 01 43.0
comp=Z,204nm,20.2s,baz=220,slow=31
FINES FINESS Array B 78.21 29 P P 07 35 03.4 +0.2
FINES FINESS Array B 78.21 29 P P 07 35 03.4 +0.2
2.8nm,0.8s,baz=270,slow=1.9,SNR=6.4
FINES LR LR 08 05 18.1
comp=Z,250nm,19.5s,baz=111,slow=32
PSZ Piszkesteto 78.37 43 P P 07 35 05.9 +1.4
8.0nm,1.2s
AKASG Malin Array Be 83.35 39 P P 07 35 30.8 -0.2
AKASG Malin Array Be 83.35 39 P P 07 35 30.8 -0.2
1.0nm,0.8s,baz=295,slow=3.9,SNR=6.5
AKASG LR LR 08 09 17.7
comp=Z,231nm,20.5s,baz=285,slow=33
PPT Papeete 83.47 249 LR LR 08 03 58.0
comp=Z,182nm,19.9s,baz=181,slow=29
PPT2 Papeete2 83.47 249 eLR LR 08 01 45.9
303nm,29.2s
TBI Tubuai 85.50 244 eLR LR 08 02 42.6
160nm,24.5s
FX1 Attu Island--F 89.11 326 LR LR 08 17 46.7
comp=Z,88nm,19.1s,baz=316,slow=37
BRTR Keskin Array B 90.47 48 P P 07 36 05.8 -0.3
BRTR Keskin Array B 90.47 48 P P 07 36 05.8 -0.3
1.0nm,0.8s,baz=198,slow=3.5,SNR=4.0
BRTR LR LR 08 13 58.9
comp=Z,52nm,19.6s,baz=140,slow=34
RAR Rarotonga 93.75 249 LR LR 08 10 51.3
comp=Z,144nm,18.7s,baz=106,slow=31
PETK Petropavlovsk- 96.52 332 LR LR 08 19 28.8
comp=Z,94nm,20.0s,baz=143,slow=35
KSH Kashi 115.44 26 ePKP PKPdf 07 41 48.1 +1.8
KSH ePP PP 07 42 51.5 +4.9
KSH eSKS SKSdf 07 48 55.4 -4.0
KSH LR LR
comp=N,42nm,3.9s
KSH LR LR
comp=E,55nm,3.6s
WMQ Urumqi 115.57 16 PKP PKPdf 07 41 46.6 +0.2
WMQ PP PP 07 42 52.9 +5.8
WMQ SKS SKSdf 07 48 53.8 -5.5
WMQ SKKS SKKSac 07 49 43.0 -7.5
WMQ SS SS 07 58 47.6 +1.4
WMQ AMB AMB
comp=Z,39nm,9.1s
WMQ LR LR
comp=N,110nm,26.0s
WMQ LR LR
comp=E,71nm,20.6s
WMQ LR LR
comp=Z,140nm,25.0s
HHC Hu-ho-hao-te 120.92 356 ePKP PKPdf 07 41 58.1 +1.3
HHC PP PP 07 43 24.5 +0.4
HHC SKS SKSdf 07 49 10.6 +0.9
HHC SKKS SKKSac 07 50 21.4 -4.7
HHC SS SS 08 00 01.0 +5.7
HHC LR LR
comp=N,370nm,22.0s
HHC LR LR
comp=E,320nm,19.8s
HHC LR LR
comp=Z,250nm,20.0s
BJI Beijing 121.26 352 PKP PKPdf 07 41 57.3 0.0
GTA Gaotai 122.09 7 ePKP PKPdf 07 42 03.3 +4.2
LZH Lanzhou 125.72 3 ePKP PKPdf 07 42 05.8 -0.5
LZH sPKP 07 42 10.3
LZH LR LR
comp=N,180nm,18.0s
LZH LR LR
comp=E,170nm,18.1s
LZH LR LR
comp=Z,200nm,20.3s
NJ2 Nanjing 128.60 347 ePKP PKPdf 07 42 11.3 -0.3
CD2 Chengdu 130.87 4 ePKP PKPdf 07 42 15.1 -0.9
GYA Guiyang 135.41 1 ePdif Pdif 07 39 25.3 -2.0
GYA PKP PKPdf 07 42 24.0 -0.8
GYA PP PP 07 45 01.8 +2.4
GYA PKS PKSdf 07 45 58.4 -3.0
GYA SKKS 07 51 52.3
GYA SS SS 08 02 55.8 +0.6
GYA AMB AMB
comp=Z,120nm,7.7s
GYA LR LR
comp=N,130nm,19.5s
GYA LR LR
comp=E,120nm,20.4s
GYA LR LR
comp=Z,140nm,19.8s
STKA Stephens Creek 146.21 240 PKPbc PKPdf 07 42 43.2 -0.6
STKA Stephens Creek 146.21 240 PKPbc PKPdf 07 42 43.2 -0.6
3.2nm,0.8s,baz=317,slow=3.3,SNR=5.5
WRA Warramunga Arr 154.28 262 PKP PKPdf 07 42 56.5 -0.3
WRA PKPbc PKPbc 07 43 02.8 -2.2
WRA Warramunga Arr 154.28 262 PKP PKPdf 07 42 56.5 -0.3
1.7nm,1.0s,baz=74,slow=1.4,SNR=8.3
WRA PKPbc PKPbc 07 43 02.8 -2.2
2.1nm,0.8s,baz=86,slow=1.8,SNR=5.4
ASAR Alice Springs 154.51 254 PKP PKPdf 07 42 56.6 -0.4
ASAR PKPab PKPab 07 43 17.2 -2.7
ASAR Alice Springs 154.51 254 PKP PKPdf 07 42 56.6 -0.4
0.6nm,0.9s,baz=96,slow=2.8,SNR=3.8
ASAR PKPab PKPab 07 43 17.2 -2.7
0.6nm,0.7s,baz=90,slow=3.1,SNR=5.0
SOEI Soe 161.32 295 ePKPdf PKPdf 07 43 05.6 -0.1

IDC 13 07:33:18.6±1.2, 60.10S±25.38W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.8/15, mbtmp4.1/2, Error ellipse: s-maj=90.6km s-min=31.6km az=102.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	42.56	182	P		P	P	07 41 15.8	+0.5
	1.7nm,1.0s,baz=108,slow=6.4,SNR=4.4								
TORD	Torodi Ar. Bea	76.18	27	P		P	P	07 45 09.0	+0.7
	1.9nm,0.5s,baz=201,slow=6.5,SNR=18								
YKA	Yellowknife Ar	139.76	314	PKhKP		PKPpre		07 52 41.3	
	0.3nm,1.0s,baz=120,slow=3.9,SNR=3.8								
YKA				PKP		PKiKP		07 52 48.3	-0.8
	0.4nm,0.6s,baz=127,slow=2.4,SNR=15								
SONM	Songino Array	149.82	92	PKPbc		PKPbc		07 53 07.9	-1.7
	1.4nm,0.7s,baz=131,slow=2.7,SNR=11								
ILAR	Eielson Array	153.40	305	PKPbc		PKPbc		07 53 16.3	-0.7
	0.7nm,1.0s,baz=131,slow=4.3,SNR=3.3								

*ISCJB **13** 07:46:39.1±0.3, 10.88N±0.03×62.18W±0.03, h89km±4km, mb3.5/6, Error ellipse: s-maj=5.2km s-min=3.9km az=39.2*
*IDC **13** 07:46:39.7±2.5, 10.83N×62.33W, h87km±21km, mb3.3/6, mb1 3.7/7, mb1mx3.4/25, mbtmp3.4/7, Error ellipse: s-maj=27.6km s-min=22.6km az=39.0*
*FUNV **13** 07:46:40.9, 10.81N×62.16W, h18km, MW2.9*
*TRN **13** 07:46:41.7, 10.95N×62.14W, h70km, MD3.5*
TRN Felt (III) Glenco, Trinidad.

ISC 13 07:46:39.4±0.8, 10.86N±0.04×62.19W±0.04, h86km±8km, n43, σ1s55/58, mb3.5/6, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TCE	Chacachacare	0.46	110	eP		Pn	Pn	07 46 54.2	+0.7
TCE	Chacachacare	0.46	110	e		Pn	Pn	07 46 58.1	+4.6
TCE				eS		Sn	Sn	07 47 03.4	-0.6
TRN	Trinidad (W)	0.80	105	eP		Pn	Pn	07 46 57.9	+1.3
TRN	Trinidad (W)	0.80	105	e		Pn	Pn	07 47 02.6	+6.0
TRN				eS		Sn	Sn	07 47 08.9	-0.6
TPP	Pointe-a-Pierr	0.90	126	eP		Pn	Pn	07 47 00.4	+2.6
TPP				eS		Sn	Sn	07 47 11.8	+0.3
CRUV	Carupano	1.04	260	⇓P		Pn	Pn	07 46 59.8	+0.4
CRUV				eS		Sn	Sn	07 47 14.0	-0.4
TBH	Brigand Hill	1.17	108	eP		Pn	Pn	07 47 02.6	+1.8
TBH				eS		Sn	Sn	07 47 17.6	+0.6
GRW	Mount Saint Ca	1.40	22	eP		Pn	Pn	07 47 04.7	+0.9
GRW				eS		Sn	Sn	07 47 20.1	-2.0
TPR	Prospect	1.43	77	eP		Pn	Pn	07 47 05.7	+1.6
TPR				eS		Sn	Sn	07 47 22.3	-0.4
GRHS	Sauteurs	1.46	22	eS		Sn	Sn	07 47 22.7	-0.8
BOT	Bacolet	1.48	78	⇓iP		Pn	Pn	07 47 06.3	+1.6
BOT				eS		Sn	Sn	07 47 23.4	-0.4
GRSS	Sisters	1.54	22	eP		Pn	Pn	07 47 06.8	+1.3
GRSS				eS		Sn	Sn	07 47 24.3	-1.0
TOSP	Speyside	1.68	75	eP		Pn	Pn	07 47 07.7	+0.4
TOSP				eS		Sn	Sn	07 47 27.9	-0.7
PCRV	Puerto La Cruz	2.50	255	eP		Pn	Pn	07 47 20.1	+1.9
SVB	Belmont	2.57	21	eP		Pn	Pn	07 47 19.5	+0.3
SVB				eS		Sn	Sn	07 47 48.6	-1.0
RIOV	Rio Grande	2.79	172	eP		Pn	Pn	07 47 23.5	+1.3
RIOV				eS		Sn	Sn	07 47 54.8	-0.2
MCLT	Moule a Chique	3.09	23	eP		Pn	Pn	07 47 26.4	+0.3
MCLT				eS		Sn	Sn	07 48 00.5	-1.5
CUPV	Cœpira	3.63	258	eP		Pn	Pn	07 47 35.8	+2.3
CUPV				eS		Sn	Sn	07 48 16.3	+1.1
H05S1	Guadeloupe/Mar	3.78	20	P		Pn	Pn	07 47 37.1	+1.6
H05S1				S		Sn	Sn	07 48 18.0	-0.9
TRMF	Trois Ilets	3.82	17	eP		Pn	Pn	07 47 36.9	+0.8
ZAM	Aeronautique	3.86	17	eP		Pn	Pn	07 47 37.3	+0.7
LPMF	Morne Lapointe	3.88	18	eP		Pn	Pn	07 47 38.7	+1.8
MVM	Montagne Vaucl	3.89	19	eP		Pn	Pn	07 47 38.1	+1.2
FDF	Fort de France	3.98	15	eP		Pn	Pn	07 47 39.3	+1.0
BVM	Bellevue	4.01	16	eP		Pn	Pn	07 47 39.5	+0.8
HMG	Houelmont	5.12	5	eP		Pn	Pn	07 47 54.6	+0.9
PHG	Guadaloupe-2	5.15	6	eP		Pn	Pn	07 47 56.0	+1.8
SCG	Saint Claude	5.17	5	eP		Pn	Pn	07 47 55.8	+1.5
MLG	Mont-d'or	5.19	5	eP		Pn	Pn	07 47 56.2	+1.4
H05N1	Guadeloupe/Mar	5.54	11	P		Pn	Pn	07 48 00.3	+0.9
	SNR=21								
H05N1				S		Sn	Sn	07 48 56.5	-5.2
SEG	Port Louis	5.55	7	eP		Pn	Pn	07 48 02.1	+2.6
BAUV	El Baul	6.07	252	eP		Pn	Pn	07 48 07.1	+0.4
BAUV				eS		Sn	Sn	07 49 12.2	-2.6
JACV	Jacura	6.52	273	eP		Pn	Pn	07 48 14.1	+1.2
SANV	Sanarito	7.36	260	eP		Pn	Pn	07 48 25.2	+0.9
SIQV	Siquisique	7.49	269	eP		Pn	Pn	07 48 27.9	+1.8
CURV	Curarigua	7.69	264	eP		Pn	Pn	07 48 30.2	+1.4
PTGA	Pitinga	11.72	169	P		Pn	Pn	07 49 23.6	-0.2
	2.8nm,0.3s,baz=2.8,slow=22,SNR=37								
PTGA				S		Sn	Sn	07 51 26.8	-6.0
	3.0nm,0.3s,baz=264,slow=23,SNR=9.0								
TXAR	Lajitas Array	42.79	302	P		P	P	07 54 29.6	+0.7
	0.1nm,0.5s,baz=90,slow=9.9,SNR=3.2								
PDAR	Pinedale Array	51.94	317	P		P	P	07 55 38.7	-1.2
	0.5nm,0.6s,baz=119,slow=5.6,SNR=3.9								
TORD	Torodi Ar. Bea	62.39	81	P		P	P	07 56 54.6	+0.8
	0.1nm,0.3s,baz=296,slow=7.9,SNR=3.0								
YKA	Yellowknife Ar	63.64	336	P		P	P	07 56 59.5	-1.7
	0.1nm,0.5s,baz=105,slow=7.3,SNR=5.1								
ARCES	ARCESS Array B	79.10	21	P		P	P	07 58 34.2	+0.1
	7.3nm,1.0s,baz=61,slow=10,SNR=5.2								
FINES	FINESS Array B	79.72	29	P		P	P	07 58 39.6	+2.0
	2.0nm,0.6s,baz=248,slow=4.6,SNR=10.0								

*BJI **13** 07:54:51.8, 4.49N×127.72E, h118km, mB5.2/17, mb4.8/26*
*MAN **13** 07:54:55, 5.46N×127.45E, h172km, mb5.0, ML3.9, MS4.0*
*ISCJB **13** 07:54:56.8±0.2, 5.18N±0.02×127.35E±0.03, h108km, mb4.8/51, Error ellipse: s-maj=4.2km s-min=2.7km az=165.7*
*IDC **13** 07:54:56.8±2.4, 5.13N×127.15E, h93km±20km, mb4.4/23, mb1 4.4/23, mb1mx4.4/29, mbtmp4.7/23, MS3.6/6, Ms1 3.6/6, ms1mx3.3/33, Error ellipse: s-maj=21.1km s-min=9.4km az=82.0*
*NEIC **13** 07:55:00.2±0.8, 5.16N×127.29E, h124km±7km, mb4.9/20, Error ellipse: s-maj=8.4km s-min=4.9km az=78.0*
*KLM **13** 07:55:00.1, 5.19N×127.29E, h75km, mb5.0, ML4.7, MS5.9*
*DJA **13** 07:55:11.5±1.2, 4.7N±9.1×12.7E±1, h10km, M5.1/9, mb5.4/9, mB5.5/6, MLv5.1/5, Mw(mB)5.0/6*

ISC 13 07:54:59.0±0.3, 5.17N±0.04×127.38E±0.05, h108km, n183, σ1s46/212, mb4.8/51, 19C-20D, Philippine Islands region

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

MATI	**Mati**	**2.08**	**328**	*e*P		**Pn**	07 55 32.0	**-1.0**
MATI				*e*S		Sn	07 55 46.8	-12
SGSI	**Sangihe**	**2.37**	**231**	P		Pn	07 55 33.3	-3.3
DAV	**Davao City (W)**	**2.60**	**317**	*e*Pn		**Pn**	**07 55 39.2**	**-0.4**
DMPH	**Davao City--Mi**	**2.66**	**316**⇑	*e*P		**Pn**	**07 55 38.2**	**-2.2**
DMPH				*e*S		**Sn**	**07 56 11.2**	**-1.1**
BIPH	**Bislig**	**3.16**	**341**⇓	*e*P		Pn	07 55 43.4	-3.7
BIPH				*i* S		Sn	07 56 15.4	-8.7
BUKP	**Musuan**	**3.54**	**320**	*e*P		**Pn**	**07 55 50.7**	**-1.5**
CTBH	**Cotabato--PC H**	**3.72**	**303**⇑	*i*P		**Pn**	**07 55 51.8**	**-2.8**
BUTP	**Butuan**	**4.16**	**335**	*e*P		**Pn**	**07 56 00.1**	**-0.4**
CGP	**Cagayan de Oro**	**4.21**	**321**⇓	*e*P		Pn	07 55 57.2	-3.9
CGP				*e*S		**Sn**	**07 56 46.2**	**-3.2**
TNTI	**Ternate**	**4.37**	**180**	P		**Pn**	**07 56 03.5**	**+0.1**
TNTI	**Ternate**	**4.37**	**180**	*e*Pn		**Pn**	**07 56 04.1**	**+0.7**
TNTI				*e*Sn		**Sn**	**07 56 54.5**	**+1.2**
PAGZ	**Pagadian**	**4.78**	**304**	*e*P		**Pn**	**07 56 06.1**	**-2.7**
SCPH	**Surigao**	**4.95**	**338**⇑	*e*P		**Pn**	**07 56 09.1**	**-2.0**
KMSI	**Cibinong**	**5.69**	**217**	P		**Pn**	**07 56 19.3**	**-1.9**
LBMI	**Labuha**	**5.77**	**179**	P		**Pn**	**07 56 22.3**	**0.0**
LBMI				S		**Sn**	**07 57 28.5**	**+1.2**
GTOI	**Gorontalo**	**6.27**	**224**	P		**Pn**	**07 56 26.2**	**-2.9**
	678nm,0.9s,6μm2.1nm							
MRSI	**Marisa**	**7.16**	**230**	P		**Pn**	**07 56 38.9**	**-2.2**
	610nm,0.6s,6μm							
SANI	**Sanana**	**7.31**	**191**	P		Pn	07 56 38.8	-4.3
	48nm,0.7s,1μm							
SANI				S		Sn	07 57 53.6	-11
	48nm,0.7s,1μm							
PALU	**Palau**	**7.37**	**73**	⇓P		**Pn**	**07 56 42.5**	**-1.4**
	baz=7.4,SNR=7.1							
LUWI	**Luwuk**	**7.70**	**217**	P		**Pn**	**07 56 49.2**	**+0.8**
	525nm,1.2s,5μm							
LUWI	**Luwuk**	**7.70**	**217**	*e*Pn		**Pn**	**07 56 49.2**	**+0.8**
LUWI				*e*Sn		**Sn**	**07 58 15.3**	**+1.1**
LUWI	**Luwuk**	**7.70**	**217**	⇓P		**Pn**	**07 56 48.7**	**+0.2**
	baz=7.7,SNR=7.4							
APSI	**Ampana**	**8.33**	**224**	P		**Pn**	**07 56 57.0**	**+0.1**
	214nm,1.0s,2μm							
NLAI	**Namlea**	**8.36**	**182**	P		**Pn**	**07 56 55.8**	**-1.6**
	77nm,0.5s							
MYLDM	**Lahad Datu**	**8.85**	**270**	*e*Pn		**Pn**	**07 57 03.8**	**-0.2**
MYLDM	**Lahad Datu**	**8.85**	**270**	⇑S		**Sn**	**07 58 41.3**	**-0.6**
MYLDM	**Lahad Datu**	**8.85**	**270**	⇓P		**Pn**	**07 57 04.2**	**+0.2**
FAKI	**Fak Fak**	**9.40**	**149**	⇓P		**Pn**	**07 57 11.3**	**-0.1**
	baz=9.4,SNR=3.3							
TSM	**Tawau**	**9.52**	**265**	⇓P		**Pn**	**07 57 13.9**	**+0.8**
SDKM	**Sandakan**	**10.15**	**273**	⇓P		**Pn**	**07 57 20.7**	**-1.1**
TTSI	**Tana Toraja**	**11.12**	**223**	P		**Pn**	**07 57 33.0**	**-1.9**
	56nm,1.0s							
MMSI	**Mamuju**	**11.52**	**227**	P		x	07 57 38.5	
	175nm,0.7s,2μm							
BKB	**Balikpapan**	**12.27**	**239**	P		**Pn**	**07 57 50.0**	**-0.1**
SOEI	**Soe**	**15.15**	**192**	*e*Pn		**P**	**07 58 29.9**	**-0.2**
SBUM	**Sibu**	**15.37**	**260**	*e*P		**P**	**07 58 31.8**	**-0.6**
	58nm,0.9s							
SBUM	**Sibu**	**15.37**	**260**	⇑P		**P**	**07 58 32.0**	**-0.3**
KSM	**Kuching**	**17.43**	**258**	*e*P		**P**	**07 58 54.1**	**-1.1**
	35nm,0.6s							
KSM	**Kuching**	**17.43**	**258**	⇑P		**P**	**07 58 54.3**	**-0.9**
	baz=18							
KSM	**Kuching**	**17.43**	**258**	⇑P		**P**	**07 58 54.7**	**-0.5**
MTN	**Manton Dam**	**18.28**	**168**	⇑P		**P**	**07 59 03.0**	**-1.5**
	baz=18,SNR=20							
KDU	**Kakadu**	**18.45**	**164**	⇓P		**P**	**07 59 05.6**	**-0.7**
	baz=18,SNR=20							
KNRA	**Kununurra**	**20.76**	**176**	⇓P		**P**	**07 59 31.6**	**+0.2**
	baz=21,SNR=103							
QIZ	**Qiongzhong**	**21.96**	**310**	P		**P**	**07 59 44.8**	**+0.6**
QIZ				S		**S**	**08 03 41.0**	**+0.9**
PMG	**Port Moresby**	**24.46**	**126**	LR		LR	08 08 31.0	
	comp=Z,140nm,21.6s,baz=299,slow=33							
COEN	**Coen**	**24.64**	**141**	⇑P		**P**	**08 00 08.3**	**-1.3**
	baz=25,SNR=5.5							
FRIM	**Kepong**	**25.76**	**267**	⇓P		**P**	**08 00 24.2**	**+4.4**
WRAB	**Tennant Creek**	**25.87**	**165**	P		**P**	**08 00 19.9**	**-1.0**
	330nm,0.5s,SNR=81							
WRAB	**Tennant Creek**	**25.87**	**165**	*e*P		**P**	**08 00 19.8**	**-1.0**
	38nm,0.5s							
WRA	**Warramunga Arr**	**25.88**	**165**	P		**P**	**08 00 19.2**	**-1.7**
WRA				PcP		**PcP**	**08 03 46.6**	**-0.9**
WRA				ScP		**ScP**	**08 07 19.1**	**+1.8**
WRA	**Warramunga Arr**	**25.88**	**165**	P		**P**	**08 00 19.2**	**-1.7**
	32nm,0.5s,baz=343,slow=10,SNR=53							
WRA				PcP		**PcP**	**08 03 46.6**	**-0.9**
	0.5nm,0.5s,baz=336,slow=2.1,SNR=3.6							
WRA				ScP		**ScP**	**08 07 19.1**	**+1.8**
	1.3nm,0.6s,baz=340,slow=3.0,SNR=7.5							
JCJ	**Chichijima**	**25.97**	**31**	P		**P**	**08 00 21.7**	**+0.1**
	101nm,0.5s,baz=278,slow=23,SNR=4.7							
CBIJ	**Chichi jima**	**25.97**	**31**	P		**P**	**08 00 21.7**	**+0.1**
NJ2	**Nanjing**	**27.91**	**344**	*e*P		**P**	**08 00 40.1**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
QIS	**Mount Isa**	**28.25**	**155**	⇑P		**P**	**08 00 41.1**	**-1.0**
	baz=28,SNR=20							
MTSU	**Mount Surprise**	**28.56**	**145**	⇓P		**P**	**08 00 44.1**	**-0.8**
	baz=29							
GYA	**Guiyang**	**28.98**	**319**	*e*P		**P**	**08 00 50.3**	**+1.6**
GYA				pP		**pP**	**08 01 16.5**	**+3.9**
GYA				sP		sP	08 01 30.4	+5.3
GYA				PP		**PnPn**	**08 01 49.3**	**+3.2**
GYA				S		**S**	**08 05 30.8**	**-1.2**
GYA				ScS		**ScS**	**08 11 17.8**	**-3.3**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.2s							
AS31	**Alice Springs**	**29.36**	**168**	*e*P		**P**	**08 00 51.0**	**-1.0**
ASAR	**Alice Springs**	**29.36**	**168**	P		**P**	**08 00 51.1**	**-0.8**
ASAR				PcP		**PcP**	**08 03 55.0**	**-0.8**
ASAR				ScP		**ScP**	**08 07 29.0**	**+1.1**
ASAR	**Alice Springs**	**29.36**	**168**	P		**P**	**08 00 51.1**	**-0.8**
	1.8nm,0.3s,baz=346,slow=7.0,SNR=49							
ASAR				PcP		**PcP**	**08 03 55.0**	**-0.8**
	1.2nm,0.3s,baz=351,slow=2.3,SNR=7.0							
ASAR				ScP		**ScP**	**08 07 29.0**	**+1.1**
	0.7nm,0.6s,baz=344,slow=3.1,SNR=4.9							
WRKA	**Warakurna**	**30.04**	**178**	⇑P		**P**	**08 00 57.7**	**-0.3**
	baz=30,SNR=59							
LHMI	**Lhok Sumawe**	**30.31**	**272**	S		S	08 05 45.8	-7.1
	baz=30,SNR=3.3							
CMAR	**Chiang Mai Arr**	**30.74**	**298**	LR		LR	08 14 22.1	
	comp=Z,61nm,20.8s,baz=243,slow=38							
KMI	**Kunming**	**30.86**	**313**	P		P	08 01 09.1	+3.7
KMI				pP		pP	08 01 35.3	+5.9
KMI				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CTA	**Charters Tower**	**31.22**	**144**	P		**P**	**08 01 08.2**	**-0.1**
CTA	**Charters Tower**	**31.22**	**144**	P		**P**	**08 01 08.2**	**-0.1**
	2.1nm,0.5s,baz=297,slow=10,SNR=4.0							
CTA				LR		LR	08 14 04.8	
	comp=Z,230nm,18.8s,baz=50,slow=37							
KSAR	**Wonju Array Be**	**32.12**	**1**	P		**P**	**08 01 16.8**	**+0.7**
KSRS	**Korea Array**	**32.13**	**1**	P		**P**	**08 01 16.7**	**+0.6**
	1.5nm,0.4s,baz=177,slow=10,SNR=4.9							
MEEK	**Meekatharra**	**32.74**	**195**	⇑P		**P**	**08 01 20.9**	**-0.8**
	baz=33,SNR=21							
MJAR	**Matsushiro Arr**	**32.76**	**16**	LR		LR	08 15 48.4	
	comp=Z,32nm,18.1s,baz=340,slow=38							
CD2	**Chengdu**	**33.89**	**322**	*e*P		**P**	**08 01 31.4**	**-0.3**
CD2				sP		**sP**	**08 02 12.3**	**+4.0**
CD2				PP		**PnPn**	**08 02 49.1**	**+0.7**
CD2				S		**S**	**08 06 46.5**	**-1.9**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				pmax		pmax		
	comp=Z,200nm,6.0s							
QLP	**Quilpie**	**35.54**	**153**	P		**P**	**08 01 44.6**	**-1.2**
	baz=36,SNR=7.6							
MORW	**Morawa**	**35.75**	**197**	⇓P		**P**	**08 01 46.8**	**-0.8**
	baz=36,SNR=15							
FORT	**Forrest**	**35.76**	**179**	*e*P		**P**	**08 01 47.0**	**-0.6**
	73nm,0.6s							
FORT	**Forrest**	**35.76**	**179**	⇑P		**P**	**08 01 47.3**	**-0.3**
	baz=36,SNR=9.4							
BJI	**Beijing**	**36.15**	**345**	P		**P**	**08 01 53.4**	**+2.6**
BJI				pmax		pmax		
	comp=Z,16nm,0.5s							
BJI				LR		LR		
	comp=Z,110nm,29.7s							
KMBL	**Kambalda**	**36.71**	**188**	⇑P		**P**	**08 01 55.4**	**-0.3**
	baz=37,SNR=10							
BLDU	**Ballidu**	**37.02**	**195**	⇑P		**P**	**08 01 57.6**	**-0.8**
	baz=37,SNR=44							

LZH	**Lanzhou**	**37.61**	**328**	*e*P		**P**	**08 02 02.4**	**-1.1**
LZH				pP		**pP**	**08 02 29.5**	**+1.5**
LZH				sP		**sP**	**08 02 44.3**	**+3.9**
LZH				PP		**PnPn**	**08 03 37.1**	**+3.4**
LZH				*e*S		**S**	**08 07 43.3**	**-2.1**
LZH				sS		**sS**	**08 08 31.0**	**+3.2**
LZH				pmax		pmax		
	comp=Z,29nm,1.0s							
LZH				pmax		pmax		
	comp=Z,220nm,5.5s							
KLBR	**Kellerberrin**	**37.70**	**193**	⇑P		**P**	**08 02 03.7**	**-0.4**
	baz=38,SNR=10.0							
EIDS	**Eidsvold**	**38.11**	**144**	⇓P		**P**	**08 02 07.1**	**-0.5**
	baz=38							
HHC	**Hu-ho-hao-te**	**38.25**	**340**	*e*P		**P**	**08 02 07.5**	**-1.3**
HHC				pP		**pP**	**08 02 37.1**	**+3.8**
HHC				sP		**sP**	**08 02 48.1**	**+2.4**
HHC				PP		**PnPn**	**08 03 43.6**	**+2.4**
HHC				S		**S**	**08 07 53.5**	**-1.3**
HHC				pmax		pmax		
	comp=Z,38nm,1.0s							
HHC				pmax		pmax		
	comp=Z,280nm,5.5s							
HHC				LR		LR		
	comp=N,340nm,5.4s							
BBOO	**Buckleboo**	**38.66**	**168**	*e*P		**P**	**08 02 11.7**	**-0.5**
	2μm,2.5s							
BBOO	**Buckleboo**	**38.66**	**168**	⇑P		**P**	**08 02 11.7**	**-0.5**
	baz=39,SNR=29							
NWAO	**Narrogin (SRO)**	**39.10**	**194**	P		**P**	**08 02 15.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**39.10**	**194**	P		**P**	**08 02 15.7**	**-0.1**
	24nm,0.8s,baz=22,slow=9.2,SNR=10							
STKA	**Stephens Creek**	**39.26**	**161**	*e*P		**P**	**08 02 16.5**	**-0.6**
	5.0nm,1.0s							
STKA	**Stephens Creek**	**39.26**	**161**	P		**P**	**08 02 16.4**	**-0.6**
	9.5nm,0.4s,baz=339,slow=7.8,SNR=49							
STKA	**Stephens Creek**	**39.26**	**161**	P		**P**	**08 02 16.5**	**-0.6**
	baz=39,SNR=48							
SHL	**Shillong**	**39.57**	**305**	*ex*		**P**	**08 02 19.0**	**-1.1**
HTT	**Hallett**	**39.92**	**165**	⇓P		**P**	**08 02 22.6**	**-0.1**
	baz=40,SNR=6.3							
CMSA	**Cobar Meteorol**	**40.47**	**156**	⇓P		**P**	**08 02 26.5**	**-0.7**
	baz=41							
RKGY	**Rocky Gully**	**40.77**	**193**	⇓P		**P**	**08 02 30.8**	**+1.3**
	baz=41,SNR=26							
ASAJ	**Asahikawa**	**41.03**	**17**	P		**P**	**08 02 32.5**	**+0.9**
ASAJ	**Asahikawa**	**41.03**	**17**	P		**P**	**08 02 32.5**	**+0.9**
	9.6nm,0.6s,baz=345,slow=20,SNR=5.2							
ASAJ				LR		LR	08 16 54.1	
	comp=Z,73nm,20.4s,baz=344,slow=32							
GTA	**Gaotai**	**42.21**	**328**	*e*P		**P**	**08 02 41.4**	**-0.1**
GTA				pP		**pP**	**08 03 06.8**	**+0.4**
GTA				sP		**sP**	**08 03 19.6**	**+0.9**
GTA				PcP		**PcP**	**08 04 33.5**	**-0.3**
GTA				S		**S**	**08 08 52.5**	**-1.4**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,59nm,4.5s							
GTA				LR		LR		
	comp=N,130nm,15.2s							
GTA				LR		LR		
	comp=E,97nm,14.7s							
GTA				LR		LR		
	comp=Z,160nm,16.9s							
ARMA	**Armidale**	**42.33**	**148**	⇓P		**P**	**08 02 42.3**	**-0.2**
	baz=42,SNR=5.6							
TAPN	**Taplejung**	**43.71**	**305**	*e*P		**P**	**08 02 52.3**	**-1.7**
	8.8nm,0.3s							
ARPS	**Mount Arapiles**	**43.86**	**163**	P		**P**	**08 02 54.5**	**-0.1**
	baz=44,SNR=5.3							
YNG	**Young**	**43.99**	**155**	⇓P		**P**	**08 02 55.6**	**-0.2**
	baz=44							
RAMN	**Ramite**	**44.47**	**304**	*e*P		**P**	**08 02 59.2**	**-0.8**
	15nm,0.6s							
JIRN	**Jiri**	**45.08**	**304**	*e*P		**P**	**08 03 03.3**	**-1.6**
	17nm,0.4s							
GUN	**Gumba**	**45.42**	**305**	*e*P		**P**	**08 03 06.0**	**-1.7**
	19nm,0.4s							
PKI	**Pulchoki**	**45.69**	**304**	*e*P		**P**	**08 03 07.9**	**-1.8**
	8.8nm,0.5s							
PKIN	**Phulchoki**	**45.70**	**304**	*e*P		**P**	**08 03 08.1**	**-1.6**
	5.6nm,0.3s							
DMN	**Daman**	**45.95**	**304**	*e*P		**P**	**08 03 10.5**	**-1.2**
	8.0nm,0.4s							
ULN	**Ulaanbaatar**	**45.96**	**341**	*e*P		**P**	**08 03 11.7**	**+0.4**
	4.1nm,0.7s							
SONM	**Songino Array**	**46.15**	**340**	P		**P**	**08 03 12.8**	**0.0**
SONM	**Songino Array**	**46.15**	**340**	P		**P**	**08 03 12.8**	**0.0**
	1.5nm,0.6s,baz=156,slow=8.8,SNR=14							
GKN	**Gorkha**	**46.48**	**304**	*e*P		**P**	**08 03 13.6**	**-2.1**
	6.4nm,0.3s							
KOLN	**Koldanda**	**47.26**	**303**	*e*P		**P**	**08 03 20.2**	**-1.6**
	23nm,0.2s							
DANN	**Dangsing**	**47.33**	**304**	*e*P		**P**	**08 03 20.6**	**-1.9**
	31nm,0.4s							
WMQ	**Urumqi**	**51.93**	**324**	P		**P**	**08 03 58.3**	**+1.4**
WMQ				pP		**pP**	**08 04 24.6**	**+1.9**
WMQ				sP		**sP**	**08 04 37.3**	**+2.6**
WMQ				PP		**PP**	**08 05 58.5**	**+2.6**
WMQ				pmax		pmax		
	comp=Z,14nm,0.6s							
WMQ				LR		LR		
	comp=N,110nm,26.9s							
WMQ				LR		LR		
	comp=E,62nm,33.7s							
WMQ				LR		LR		
	comp=Z,140nm,24.2s							
PETK	**Petropavlovsk-**	**53.86**	**22**	P		**P**	**08 04 11.8**	**+1.0**
PETK	**Petropavlovsk-**	**53.86**	**22**	P		**P**	**08 04 11.8**	**+1.0**
	19nm,0.7s,baz=193,slow=6.5,SNR=24							
PET	**Petropavlovsk**	**54.15**	**23**	*e*P		**P**	**08 04 13.5**	**+0.6**
	35nm,1.3s							
MK31	**Makanchi Array**	**56.76**	**324**	*e*P		**P**	**08 04 30.9**	**-0.8**
MKAR	**Makanchi Array**	**56.76**	**324**	*e*P		**P**	**08 04 31.3**	**-0.5**
MKAR	**Makanchi Array**	**56.76**	**324**	P		**P**	**08 04 31.2**	**-0.5**
	11nm,0.5s,baz=122,slow=8.0,SNR=164							
MKAR	**Makanchi Array**	**56.76**	**324**	⇑P		**P**	**08 04 31.6**	**-0.1**
	baz=57							
YAK	**Yakutsk**	**56.76**	**1**	*e*P		**P**	**08 04 31.3**	**-0.1**
	23nm,0.6s							
KSH	**Kashi**	**57.50**	**314**	*e*P		**P**	**08 04 37.8**	**+0.6**
KSH				*es*P		sP	08 05 21.1	+5.7
KSH				*e*PP		**PP**	**08 06 49.1**	**+3.2**
KSH				*e*S		**S**	**08 12 22.8**	**-3.8**
KSH				pmax		pmax		
	comp=Z,7.0nm,1.3s							
KSH				pmax		pmax		
	comp=Z,84nm,3.3s							
KSH				LR		LR		
	comp=N,160nm,5.5s							
KSH				LR		LR		
	comp=E,170nm,6.3s							
KSH				LR		LR		
	comp=Z,140nm,6.3s							
TKM2	**Tokmak 2**	**59.11**	**318**	*e*P		**P**	**08 04 48.0**	**-0.6**
	3.7nm,0.6s							
ZAA0	**Zalesovo Array**	**59.61**	**332**	*e*P		**P**	**08 04 49.7**	**-1.7**
ZALV	**Zalesovo Beam**	**59.61**	**332**	P		**P**	**08 04 49.9**	**-1.6**
ZALV	**Zalesovo Beam**	**59.61**	**332**	P		**P**	**08 04 49.9**	**-1.6**
	3.5nm,0.4s,baz=118,slow=6.6,SNR=18							
AAK	**Ala-Archa**	**59.74**	**317**	*e*P		**P**	**08 04 51.7**	**-1.1**
EKS2	**Erkin-Say**	**60.24**	**317**	*e*P		**P**	**08 04 56.2**	**+0.1**
SEY	**Seymchan**	**60.49**	**13**	P		**P**	**08 04 58.0**	**+0.7**
SEY	**Seymchan**	**60.49**	**13**	P		**P**	**08 04 58.0**	**+0.7**
	5.2nm,0.8s,baz=359,slow=22,SNR=13							
FX1	**Attu Island--F**	**60.52**	**30**	P		**P**	**08 04 58.3**	**+0.7**
FX1	**Attu Island--F**	**60.52**	**30**	P		**P**	**08 04 58.3**	**+0.7**
	24nm,0.7s,baz=242,slow=4.0,SNR=6.3							
KURK	**Kurchatov**	**60.89**	**327**	P		**P**	**08 04 59.8**	**-0.4**
	237nm,0.5s,SNR=42							
KURK	**Kurchatov**	**60.89**	**327**	*e*P		**P**	**08 04 59.4**	**-0.7**
	21nm,0.6s							
TIXI	**Tiksi**	**66.40**	**1**	*e*P		**P**	**08 05 34.3**	**-1.7**
	8.3nm,0.7s							
BRVK	**Borovoye**	**66.55**	**326**	P		**P**	**08 05 36.0**	**-1.3**
	199nm,0.7s,SNR=11							
BRVK	**Borovoye**	**66.55**	**326**	*e*P		**P**	**08 05 36.1**	**-1.3**
	22nm,0.7s							
ABKAR	**Akbulak array**	**71.45**	**320**	⇓P		**P**	**08 06 07.1**	**-0.7**
	baz=72							
IBAF	**Bafgh**	**71.82**	**301**	*e*P		P	08 06 03.6	-7.0
GAMB	**Gambell**	**72.82**	**24**	*e*P		**P**	**08 06 15.9**	**+0.3**
	6.9nm,0.7s							
ISRV	**Sarvestan**	**73.77**	**299**	*e*P		**P**	**08 06 24.7**	**+2.4**
IPAR	**Pars**	**73.86**	**299**	*e*P		**P**	**08 06 22.0**	**-0.8**

ARU	**Arti**	**74.07**	**327**	*e*P		**P**	**08 06 21.6**	**-1.5**
OHAK	**Old Harbor**	**79.89**	**33**	*e*P		**P**	**08 06 55.5**	**-0.1**
KDAK	**Kodiak Island**	**80.33**	**32**	P		**P**	**08 06 58.6**	**+0.6**
	215nm,0.5s,SNR=11							
KDAK	**Kodiak Island**	**80.33**	**32**	*e*P		**P**	**08 06 58.3**	**+0.3**
	322nm,2.1s							
KTH	**Kantishna Hill**	**81.69**	**27**	*e*P		**P**	**08 07 06.1**	**+0.8**
	104nm,2.2s							
TRF	**Thorofare Moun**	**81.97**	**27**	*e*P		**P**	**08 07 06.7**	**-0.1**
	24nm,1.3s							
RC01	**Rabbit Creek A**	**82.05**	**29**	*e*P		**P**	**08 07 06.8**	**-0.3**
COLD	**Coldfoot**	**82.32**	**23**	*e*P		**P**	**08 07 09.3**	**+0.9**
	11nm,0.6s							
KBZ	**Khabaz**	**82.47**	**313**	P		**P**	**08 07 07.8**	**-1.8**
KBZ	**Khabaz**	**82.47**	**313**	P		**P**	**08 07 07.8**	**-1.8**
	3.1nm,0.7s,baz=165,slow=8.7,SNR=7.3							
MCK	**McKinley**	**82.59**	**26**	*e*P		**P**	**08 07 09.3**	**-0.6**
	22nm,0.9s							
COLA	**College**	**83.12**	**25**	*e*P		**P**	**08 07 11.3**	**-1.2**
	30nm,2.5s							
ILAR	**Eielson Array**	**83.53**	**25**	P		**P**	**08 07 13.3**	**-1.4**
ILAR	**Eielson Array**	**83.53**	**25**	P		**P**	**08 07 13.3**	**-1.4**
	5.5nm,0.6s,baz=246,slow=5.3,SNR=64							
DIV	**Divide**	**83.98**	**29**	*e*P		**P**	**08 07 17.6**	**+0.5**
BMRM	**Bremner River**	**84.55**	**29**	*e*P		**P**	**08 07 19.6**	**-0.4**
VNDA	**Vanda**	**84.77**	**173**	P		**P**	**08 07 20.4**	**-0.2**
VNDA	**Vanda**	**84.77**	**173**	P		**P**	**08 07 20.4**	**-0.2**
	1.6nm,0.6s,baz=309,slow=7.3,SNR=7.8							
MAW	**Mawson**	**85.33**	**200**	P		**P**	**08 07 23.5**	**0.0**
MAW	**Mawson**	**85.33**	**200**	P		**P**	**08 07 23.5**	**0.0**
	8.9nm,1.0s,baz=61,slow=12,SNR=3.6							
INK	**Inuvik**	**86.59**	**22**	*e*P		**P**	**08 07 38.7**	**-0.7**
ARCES	**ARCESS Array B**	**89.33**	**340**	P		**P**	**08 07 41.2**	**-1.7**
ARCES	**ARCESS Array B**	**89.33**	**340**	P		**P**	**08 07 41.2**	**-1.7**
	3.8nm,0.8s,baz=85,slow=6.5,SNR=22							
BR131	**Keskin Array S**	**89.61**	**310**	*e*P		**P**	**08 07 42.9**	**-2.2**
	4.5nm,1.0s							
BRTR	**Keskin Array B**	**89.61**	**310**	P		**P**	**08 07 43.2**	**-1.8**
BRTR	**Keskin Array B**	**89.61**	**310**	P		**P**	**08 07 43.2**	**-1.8**
	3.2nm,0.9s,baz=109,slow=4.2,SNR=15							
FINES	**FINESS Array B**	**90.87**	**332**	P		**P**	**08 07 48.9**	**-1.3**
FINES	**FINESS Array B**	**90.87**	**332**	P		**P**	**08 07 48.9**	**-1.3**
	0.8nm,0.4s,baz=46,slow=4.8,SNR=7.5							
AKASG	**Malin Array Be**	**91.19**	**321**	P		**P**	**08 07 49.6**	**-2.3**
AKASG	**Malin Array Be**	**91.19**	**321**	P		**P**	**08 07 49.6**	**-2.3**
	1.4nm,0.6s,baz=68,slow=4.6,SNR=8.7							
SYO	**Syowa Base**	**94.00**	**201**⇑	*e*P		**P**	**08 08 03.0**	**-1.4**
HFS	**Hagfors**	**97.05**	**332**	P		**P**	**08 08 17.1**	**-1.4**
HFS	**Hagfors**	**97.05**	**332**	P		**P**	**08 08 17.1**	**-1.4**
	1.0nm,0.5s,baz=150,slow=3.3,SNR=8.2							
NOA	**NORSAR Array B**	**97.79**	**334**	LR		LR	08 53 37.9	
	comp=Z,48nm,19.2s,baz=245,slow=36							
YKA	**Yellowknife Ar**	**97.92**	**24**	P		**P**	**08 08 21.6**	**-0.9**
YKA	**Yellowknife Ar**	**97.92**	**24**	P		**P**	**08 08 21.6**	**-0.9**
	0.9nm,0.6s,baz=297,slow=4.3,SNR=24							
TXAR	**Lajitas Array**	**120.20**	**52**	PKP		**PKPdf**	**08 13 37.9**	**-0.3**
TXAR	**Lajitas Array**	**120.20**	**52**	PKP		**PKPdf**	**08 13 37.9**	**-0.3**
	0.4nm,0.7s,baz=273,slow=0.7,SNR=7.2							
TORD	**Torodi Ar. Bea**	**123.07**	**289**	PKP		**PKPdf**	**08 13 42.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**123.07**	**289**	PKP		**PKPdf**	**08 13 42.8**	**-1.1**
	2.0nm,0.6s,baz=42,slow=2.0,SNR=13							
LPAZ	**La Paz**	**161.20**	**127**	PKP		**PKPdf**	**08 14 49.5**	**+0.9**
LPAZ				PKPab		**PKPab**	**08 15 33.1**	**+0.6**
LPAZ	**La Paz**	**161.20**	**127**	PKP		**PKPdf**	**08 14 49.5**	**+0.9**
	2.4nm,1.1s,baz=27,slow=3.5,SNR=4.9							

ASAR	**Alice Springs**	**73.62**	**201**	P	**P**	**08 14 49.3**	**+1.0**
	0.2nm,0.6s,baz=22,slow=5.1,SNR=4.0						
H03N2	**Juan Fernandez**	**137.13**	**91**	T	T	10 56 01.8	
	baz=307,slow=75,SNR=12						
H03N1	**Juan Fernandez**	**137.15**	**91**	T	T	10 56 04.3	
	baz=307,slow=75,SNR=10						
H03N3	**Juan Fernandez**	**137.15**	**91**	T	T	10 55 59.4	
	baz=307,slow=75,SNR=9.5						

MEX 13 08:05:38.7±0.6,**16°51N**×**94°63W**,**h144**km±21km,**MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.58**	**120**	*eP*	Pn	08 06 05.7	-3.0
PCIG				*i* S	Sn	08 06 28.5	-3.1
HUIG	**Huatulco**	**1.60**	**243**	*eP*	Pn	08 06 07.5	-1.5
HUIG				*i* S	Sn	08 06 30.8	-1.2
PANG	**Puerto Angel**	**1.96**	**245**	*i* P	Pn	08 06 11.3	-1.6
PANG				*e*S	Sn	08 06 37.6	-1.7
VHO	**Vista Hermosa**	**2.09**	**286**	*i* P	Pn	08 06 13.6	-1.3
VHO				*e*S	Sn	08 06 40.2	-2.3
TLIG	**Tlapa**	**3.91**	**286**	*eP*	Pn	08 06 37.0	-0.8
TLIG				*i* S	Sn	08 07 22.2	-1.4

*ISCJB **13** 08:14:45.9±1.5, 12°.39N±0°.03×69°.94W±0°.04, h22km±12km, mb3.9/12, Error ellipse: s-maj=6.4km s-min=4.4km az=2.3*
*IDC **13** 08:14:45.0±0.8, 12°.47N×70°.04W, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, ML3.3/2, Error ellipse: s-maj=26.7km s-min=16.6km az=83.0*
*FUNV **13** 08:14:49.1, 12°.21N×70°.02W, h12km, MW4.2*
*NEIC **13** 08:14:49.1, 12°.21N×70°.02W, h12km, mb4.1/1, MW4.2(CAR), After CAR.*

ISC 13 08:14:46.8±2.9,**12°.33N**±0°.04×**70°.01W**±0°.05,**h17**km±18km, **n65,σ1°74/83,mb4.0**/12,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIQV	**Siquisique**	**1.68**	**173**	*eP*	**Pn**	**08 15 16.1**	**+0.5**
SIQV				*e*S	**Sn**	**08 15 36.6**	**-0.2**
SIQV	**Siquisique**	**1.68**	**173**	*eP*	**Pn**	**08 15 16.1**	**+0.5**
SIQV				*e*S	**Sn**	**08 15 36.6**	**-0.2**
JACV	**Jacura**	**1.69**	**137**	*eP*	**Pb**	**08 15 17.3**	**-0.3**
JACV	**Jacura**	**1.69**	**137**	*eP*	**Pb**	**08 15 17.3**	**-0.3**
CURV	**Curarigua**	**2.31**	**179**	*eP*	**Pn**	**08 15 23.9**	**-0.3**
CURV	**Curarigua**	**2.31**	**179**	*eP*	**Pn**	**08 15 23.9**	**-0.3**
TURV	**Turiamo**	**2.83**	**131**	*eP*	**Pn**	**08 15 31.8**	**+0.4**
TURV				*e*S	**Sn**	**08 16 03.6**	**-1.5**
TURV	**Turiamo**	**2.83**	**131**	*eP*	**Pn**	**08 15 31.8**	**+0.4**
TURV				*e*S	**Sn**	**08 16 03.6**	**-1.5**
SANV	**Sanarito**	**2.85**	**171**	*eP*	**Pn**	**08 15 32.5**	**+0.7**
SANV				*e*S	**Sn**	**08 16 04.7**	**-1.1**
SANV	**Sanarito**	**2.85**	**171**	*eP*	**Pn**	**08 15 32.5**	**+0.7**
SANV				*e*S	**Sn**	**08 16 03.6**	**-2.2**
MAPV	**Macapo**	**2.92**	**148**	*eP*	**Pn**	**08 15 33.0**	**+0.5**
SDV	**Santo Domingo**	**3.48**	**190**	*e*Pn	**Pn**	**08 15 40.3**	**-0.1**
FUNV	**FUNVISIS**	**3.64**	**120**	*eP*	**Pn**	**08 15 43.4**	**+0.8**
FUNV				*e*S	**Sn**	**08 16 23.8**	**-1.5**
LLAV	**El Llanito**	**3.64**	**120**	*eP*	**Pn**	**08 15 43.4**	**+0.9**
LLAV				*e*S	**Sn**	**08 16 23.8**	**-1.5**
BAUV	**El Baul**	**3.88**	**150**	*eP*	**Pn**	**08 15 45.7**	**-0.1**
BAUV				*e*S	**Sn**	**08 16 27.7**	**-3.3**
BAUV	**El Baul**	**3.88**	**150**	*eP*	**Pn**	**08 15 45.7**	**-0.1**
BAUV				*e*S	**Sn**	**08 16 27.7**	**-3.3**
SOCV	**Socops**	**4.11**	**192**	*eP*	**Pn**	**08 15 49.1**	**+0.2**
SOCV				*e*S	**Sn**	**08 16 33.2**	**-3.4**
SOCV	**Socops**	**4.11**	**192**	*eP*	**Pn**	**08 15 49.1**	**+0.2**
SOCV				*e*S	**Sn**	**08 16 33.2**	**-3.4**
CUPV	**Cœpira**	**4.72**	**118**	*eP*	**Pn**	**08 15 59.0**	**+1.6**
CUPV				*e*S	**Sn**	**08 16 49.5**	**-2.3**
CUPV	**Cœpira**	**4.72**	**118**	*eP*	**Pn**	**08 15 59.0**	**+1.6**
CUPV				*e*S	**Sn**	**08 16 49.5**	**-2.3**
CAPV	**Capacho**	**4.98**	**207**	*eP*	**Pn**	**08 16 00.5**	**-0.6**
CAPV				*e*S	**Sn**	**08 16 53.8**	**-4.8**
CAPV	**Capacho**	**4.98**	**207**	*eP*	**Pn**	**08 16 00.5**	**-0.6**
CAPV				*e*S	**Sn**	**08 16 53.8**	**-4.8**
ELOV	**Elorza**	**5.32**	**174**	*eP*	**Pn**	**08 16 05.9**	**+0.3**
ELOV	**Elorza**	**5.32**	**174**	*eP*	**Pn**	**08 16 05.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**6.30**	**26**	*e*Pn	**Pn**	**08 16 18.7**	**-0.3**
LSP	**Las Mesas**	**6.46**	**26**	*e*Pn	**Pn**	**08 16 20.8**	**-0.4**
LSP				*e*Sn	**Sn**	**08 17 31.8**	**-2.9**
CELP	**Cerrillos**	**6.60**	**30**	*e*Pn	**Pn**	**08 16 22.7**	**-0.4**
CBYP	**Canovanas**	**7.14**	**34**	*e*Pn	**Pn**	**08 16 29.8**	**-0.8**
MTP	**Monte Pirata**	**7.17**	**36**	*e*Pn	**Pn**	**08 16 31.1**	**+0.2**
CDVI	**St. Croix**	**7.39**	**43**	*e*Pn	**Pn**	**08 16 33.7**	**-0.3**
ROSC	**El Rosal**	**8.57**	**210**	Pn	**Pn**	**08 16 52.3**	**+1.7**
ROSC				Sn	**Sn**	**08 18 31.9**	**+4.8**
ROSC	**El Rosal**	**8.57**	**210**	Pn	**Pn**	**08 16 52.3**	**+1.7**
	4.1nm,0.3s,baz=92,slow=22,SNR=12						
ROSC				Sn	**Sn**	**08 18 31.9**	**+4.8**
	5.2nm,0.3s,baz=267,slow=23,SNR=2.1						
H05S1	**Guadeloupe/Mar**	**9.17**	**76**	T	T	08 26 13.7	
	SNR=38						
BCIP	**Isla Barro Col**	**10.15**	**253**	*e*Pn	**Pn**	**08 17 09.9**	**-2.1**
OTAV	**Otavalo**	**14.65**	**215**	*e*Pn	**Pn**	**08 18 14.0**	**+0.2**
	15nm,0.8s						
PTGA	**Pitinga**	**16.36**	**142**	Pn	**P**	**08 18 39.0**	**+0.3**
PTGA	**Pitinga**	**16.36**	**142**	Pn	**P**	**08 18 39.0**	**+0.3**
	0.2nm,0.3s,baz=328,slow=19,SNR=1.8						
SAML	**Samuel**	**22.20**	**162**	*eP*	**P**	**08 19 43.0**	**+0.4**
	4.9nm,0.6s						
LPAZ	**La Paz**	**28.50**	**176**	P	**P**	**08 20 43.9**	**+1.7**
LPAZ	**La Paz**	**28.50**	**176**	P	**P**	**08 20 43.9**	**+1.7**
	1.1nm,0.5s,baz=80,slow=1.2,SNR=5.6						
TXAR	**Lajitas Array**	**35.54**	**304**	P	**P**	**08 21 43.3**	**-0.1**
TXAR	**Lajitas Array**	**35.54**	**304**	P	**P**	**08 21 43.3**	**-0.1**
	0.2nm,0.5s,baz=140,slow=6.6,SNR=5.1						
SCHQ	**Schefferville**	**42.47**	**3**	P	**P**	**08 22 41.0**	**+0.1**
SCHQ	**Schefferville**	**42.47**	**3**	P	**P**	**08 22 41.0**	**+0.1**
	4.0nm,0.6s,baz=156,slow=6.3,SNR=8.4						
ULM	**Lac du Bonnet**	**43.35**	**336**	P	**P**	**08 22 47.7**	**-0.4**
ULM	**Lac du Bonnet**	**43.35**	**336**	P	**P**	**08 22 47.7**	**-0.4**
	1.8nm,0.6s,baz=132,slow=8.6,SNR=4.9						
PDAR	**Pinedale Array**	**45.70**	**319**	P	**P**	**08 23 07.0**	**-0.3**
PDAR	**Pinedale Array**	**45.70**	**319**	P	**P**	**08 23 07.0**	**-0.3**
	0.3nm,0.6s,baz=124,slow=9.9,SNR=5.2						
PLCA	**Paso Flores**	**52.80**	**181**	P	**P**	**08 24 03.1**	**+1.9**
PLCA	**Paso Flores**	**52.80**	**181**	P	**P**	**08 24 03.1**	**+1.9**
	1.5nm,0.7s,baz=320,slow=9.5,SNR=4.4						
YKA	**Yellowknife Ar**	**59.27**	**338**	P	**P**	**08 24 46.6**	**-0.6**
YKA	**Yellowknife Ar**	**59.27**	**338**	P	**P**	**08 24 46.6**	**-0.6**
	1.3nm,0.6s,baz=121,slow=7.0,SNR=39						
SUMG	**Summit**	**63.05**	**10**	*i* P	**P**	**08 25 14.5**	**+1.3**
	6.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**69.71**	**80**	P	**P**	**08 25 56.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**69.71**	**80**	P	**P**	**08 25 56.6**	**+0.2**
	0.3nm,0.5s,baz=293,slow=7.4,SNR=1.8						
GERES	**GERESS Array B**	**76.70**	**42**	P	**P**	**08 26 37.8**	**+0.5**
GERES	**GERESS Array B**	**76.70**	**42**	P	**P**	**08 26 37.8**	**+0.5**
	0.4nm,0.6s,baz=261,slow=2.6,SNR=2.9						
FINES	**FINESS Array B**	**82.17**	**29**	P	**P**	**08 27 07.4**	**+0.8**
FINES	**FINESS Array B**	**82.17**	**29**	P	**P**	**08 27 07.4**	**+0.8**
	1.0nm,0.7s,baz=289,slow=4.3,SNR=1.7						
CMAR	**Chiang Mai Arr**	**147.52**	**20**	PKPbc	**PKPbc**	**08 34 31.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**147.52**	**20**	PKPbc	**PKPbc**	**08 34 31.5**	**+0.5**
	1.2nm,0.3s,baz=348,slow=4.0,SNR=1.7						
ASAR	**Alice Springs**	**154.66**	**240**	PKPab	**PKPab**	**08 34 58.9**	**-3.7**
ASAR	**Alice Springs**	**154.66**	**240**	PKPab	**PKPab**	**08 34 58.9**	**-3.7**
	0.3nm,0.5s,baz=112,slow=3.2,SNR=8.1						
WRA	**Warramunga Arr**	**155.44**	**249**	PKP	**PKPdf**	**08 34 41.3**	**+0.9**
WRA	**Warramunga Arr**	**155.44**	**249**	PKP	**PKPdf**	**08 34 41.3**	**+0.9**
	0.3nm,0.9s,baz=98,slow=1.3,SNR=1.8						

*KLM **13** 08:35:07.7, 0°.72N×124°.01E, h269km, mb4.8, ML4.7*
*ISCJB **13** 08:35:07.6±0.3, 0°.75N±0°.03×123°.95E±0°.03, h272km±2km, mb4.3/46, Error ellipse: s-maj=6.3km s-min=3.7km az=142.6*
*BJI **13** 08:35:08.0, 0°.80N×123°.90E, h269km, mB4.7/20, mb4.4/27*
*NEIC **13** 08:35:08.8±0.5, 0°.80N×123°.91E, h273km±5km, mb4.4/17, Error ellipse: s-maj=9.2km s-min=5.2km az=57.0*
*DJA **13** 08:35:10.4±0.4, 1°.N±4°×12°.4E±°, h248km±5km, M4.7/9, mb4.8/6, mB4.9/3, MLv4.8/9, Mw(mB)4.2/3*
*IDC **13** 08:35:10.4±1.6, 0°.74N×123°.82E, h289km±16km, mb3.9/20, mb1 4.0/20, mb1mx4.0/23, mbtmp4.5/20, Error ellipse: s-maj=15.5km s-min=6.8km az=74.0*
ISC 13 08:35:09.4±0.4,**0°.68N**±0°.04×**123°.96E**±0°.05,**h276**km±3km, **h277**km:**pP-P,n143,σ1°68**/179,**mb4.3**/46,**6C-2D,**

2010 JAN

Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.10**	**171**	P	**Pn**	**08 35 43.0**	**-1.6**
KMSI				S	**S**	**08 36 10.0**	**-2.5**
GTOI	**Gorontalo**	**0.95**	**268**	P	**Pn**	**08 35 45.6**	**-1.3**
MRSI	**Marisa**	**2.03**	**264**	P	**Pn**	**08 35 52.0**	**-2.3**
LUWI	**Luwuk**	**2.08**	**215**	P	**Pn**	**08 35 52.7**	**-2.0**
LUWI				S	**S**	**08 36 25.6**	**-5.2**
LUWI	**Luwuk**	**2.08**	**215**	*e*Pn	**Pn**	**08 35 52.8**	**-2.0**
APSI	**Ampana**	**2.80**	**236**	P	**Pn**	**08 36 00.0**	**-1.5**
TOLI	**Toli-Toli**	**3.20**	**278**	P	x	08 36 03.7	
TOLI	**Toli-Toli**	**3.20**	**278**	*e*Pn	**Pn**	**08 36 03.2**	**-2.4**
SANI	**Sanana**	**3.38**	**143**	P	**Pn**	**08 36 05.5**	**-2.0**
SANI				S	**S**	**08 36 48.4**	**-5.5**
TNTI	**Ternate**	**3.40**	**88**	P	**Pn**	**08 36 07.0**	**-0.8**
TNTI				S	**S**	**08 36 51.3**	**-3.0**
TNTI	**Ternate**	**3.40**	**88**	*e*Pn	**Pn**	**08 36 06.8**	**-0.9**
LBMI	**Labuha**	**3.77**	**110**	P	**Pn**	**08 36 11.2**	**-0.6**
LBMI				S	**S**	**08 36 59.1**	**-2.5**
NLAI	**Namlea**	**5.00**	**141**	P	**Pn**	**08 36 25.1**	**-0.9**
TTSI	**Tana Toraja**	**5.55**	**228**	P	**Pn**	**08 36 32.6**	**-0.1**
	246nm,0.7s,2μm						
MMSI	**Mamuju**	**6.06**	**236**	P	x	08 36 38.1	
	201nm,0.6s,2μm						
SPSI	**Sidrap Palu**	**6.23**	**222**	P	**Pn**	**08 36 40.6**	**-0.3**
	46nm,0.7s						
MYLDM	**Lahad Datu**	**7.05**	**309**	P	x	08 36 51.4	
	92nm,1.3s						
MYLDM	**Lahad Datu**	**7.05**	**309**	*e*Pn	**Pn**	**08 36 51.6**	**+0.5**
TSM	**Tawau**	**7.07**	**301**	⇑P	**Pn**	**08 36 50.0**	**-1.3**
SDKM	**Sandakan**	**8.37**	**306**	⇑P	**Pn**	**08 37 05.4**	**-2.0**
FAKI	**Fak Fak**	**9.02**	**113**	P	**Pn**	**08 37 16.1**	**+0.5**
FAKI	**Fak Fak**	**9.02**	**113**	P	**Pn**	**08 37 16.3**	**+0.8**
	baz=9.0,SNR=7.5						
KKM	**Kota Kinabalu**	**9.39**	**305**	*e*Pn	**Pn**	**08 37 18.4**	**-1.9**
KKM	**Kota Kinabalu**	**9.39**	**305**	⇑P	**Pn**	**08 37 19.0**	**-1.3**
SOEI	**Soe**	**10.37**	**178**	*e*Pn	**P**	**08 37 35.4**	**-1.1**
SOEI	**Soe**	**10.37**	**178**	P	**P**	**08 37 36.0**	**-0.6**
	baz=11,SNR=11						
SOEI				S	S	08 39 44.1	+15
	baz=11,SNR=4.7						
SBUM	**Sibu**	**11.87**	**279**	*e*Pn	**Pn**	**08 37 49.8**	**-1.1**
SBUM	**Sibu**	**11.87**	**279**	⇑P	**Pn**	**08 37 48.8**	**-2.1**
JAGI	**Jajag, Banyuwa**	**13.35**	**227**	P	**P**	**08 38 12.2**	**+2.6**
	baz=14,SNR=3.7						
KSM	**Kuching**	**13.68**	**273**	*e*Pn	**Pn**	**08 38 12.5**	**-0.4**
KSM	**Kuching**	**13.68**	**273**	P	**P**	**08 38 15.0**	**+1.8**
	baz=14,SNR=9.6						
KSM	**Kuching**	**13.68**	**273**	⇓P	**Pn**	**08 38 12.8**	**-0.1**
MTN	**Manton Dam**	**15.20**	**152**	P	**Pn**	**08 38 31.4**	**+0.3**
	baz=15,SNR=29						
MTN				S	**S**	**08 41 13.1**	**-3.8**
	baz=15,SNR=5.6						
KDU	**Kakadu**	**15.73**	**148**	P	**Pn**	**08 38 37.1**	**-0.2**
	baz=16,SNR=16						
KDU				S	**S**	**08 41 23.9**	**-3.6**
	baz=16,SNR=6.1						
KNRA	**Kununurra**	**16.93**	**164**	P	**P**	**08 38 49.9**	**+1.0**
	baz=17,SNR=25						
KNRA				S	**S**	**08 41 54.0**	**+2.7**
	baz=17,SNR=6.9						
MNAI	**Manna**	**21.58**	**256**	P	**P**	**08 39 39.5**	**+1.8**
	baz=22,SNR=3.7						
FRIM	**Kepong**	**22.47**	**277**	⇑P	**P**	**08 39 44.6**	**-1.1**
TPUB	**Ta-pu**	**22.72**	**352**	*e*P	**P**	**08 39 47.0**	**-0.9**
	76nm,1.0s						
WRAB	**Tennant Creek**	**22.87**	**154**	*e*P	**P**	**08 39 50.0**	**+0.6**
	102nm,0.7s						
WRA	**Warramunga Arr**	**22.88**	**154**	P	**P**	**08 39 49.6**	**+0.3**
WRA				S	**S**	**08 43 36.6**	**-1.6**
WRA	**Warramunga Arr**	**22.88**	**154**	P	**P**	**08 39 49.6**	**+0.3**
	73nm,0.7s,baz=336,slow=9.9,SNR=823						
WRA				S	**S**	**08 43 36.6**	**-1.6**
	5.5nm,0.7s,baz=333,slow=17,SNR=6.9						
QIZ	**Qiongzhong**	**22.90**	**324**	P	**P**	**08 39 50.1**	**+0.5**
QIZ				S	**S**	**08 43 41.3**	**+2.8**
QIZ				pmax	pmax		
	comp=Z,27nm,1.4s						
IPM	**Ipoh**	**23.22**	**280**	*e*P	**P**	**08 39 52.1**	**-0.5**
	28nm,0.7s						
IPM	**Ipoh**	**23.22**	**280**	⇓P	**P**	**08 39 51.5**	**-1.1**
KULM	**Kulim**	**23.72**	**282**	P	**P**	**08 39 56.3**	**-0.9**
COEN	**Coen**	**23.95**	**128**	*e*P	**P**	**08 40 00.4**	**+1.3**
	145nm,1.0s						
COEN	**Coen**	**23.95**	**128**	P	**P**	**08 40 00.2**	**+1.0**
	baz=24,SNR=9.3						
PSI	**Prapat**	**25.12**	**275**	P	**P**	**08 40 08.2**	**-1.7**
PSI	**Prapat**	**25.12**	**275**	P	**P**	**08 40 08.2**	**-1.7**
	16nm,1.0s,baz=128,slow=8.1,SNR=7.6						
PSI	**Prapat**	**25.12**	**275**	P	**P**	**08 40 09.7**	**-0.2**
	baz=25,SNR=6.3						
WRKA	**Waraburra**	**25.91**	**171**	P	**P**	**08 40 17.9**	**+1.3**
	baz=26,SNR=63						
AS31	**Alice Springs**	**26.05**	**159**	*e*P	**P**	**08 40 18.5**	**+0.5**
ASAR	**Alice Springs**	**26.05**	**159**	P	**P**	**08 40 18.9**	**+0.8**
ASAR				PcP	**PcP**	**08 43 38.6**	**+0.5**
ASAR				S	**S**	**08 44 28.0**	**-0.4**
ASAR				ScP	**ScP**	**08 46 52.2**	**+0.8**
ASAR	**Alice Springs**	**26.05**	**159**	P	**P**	**08 40 18.9**	**+0.8**
	6.5nm,0.5s,baz=341,slow=7.3,SNR=102						
ASAR				PcP	**PcP**	**08 43 38.6**	**+0.5**
	2.9nm,0.4s,baz=345,slow=2.2,SNR=8.6						
ASAR				S	**S**	**08 44 28.0**	**-0.4**
	5.2nm,0.9s,baz=345,slow=18,SNR=13						
ASAR				ScP	**ScP**	**08 46 52.2**	**+0.8**
	1.9nm,0.8s,baz=343,slow=2.9,SNR=7.7						
QIS	**Mount Isa**	**26.07**	**145**	P	**P**	**08 40 19.5**	**+1.3**
	baz=26,SNR=59						
MEEK	**Meekatharra**	**27.64**	**190**	P	**P**	**08 40 32.2**	**+0.1**
	baz=28,SNR=52						
CMAR	**Chiang Mai Arr**	**30.26**	**307**	P	**P**	**08 40 54.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.26**	**307**	P	**P**	**08 40 54.9**	**-0.4**
	2.7nm,0.3s,baz=131,slow=7.4,SNR=18						
CHTO	**Chiang Mai**	**30.45**	**308**	*e*P	**P**	**08 40 56.7**	**-0.3**
	4.6nm,0.8s						
MORW	**Morawa**	**30.53**	**194**	P	**P**	**08 40 57.7**	**+0.2**
	baz=31,SNR=10						
GYA	**Guiyang**	**30.57**	**328**	*e*P	**P**	**08 40 59.8**	**+1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FORT	**Forrest**	**31.52**	**173**	*e*P	**P**	**08 41 06.9**	**+0.7**
	132nm,0.6s						
FORT	**Forrest**	**31.52**	**173**	P	**P**	**08 41 07.1**	**+0.9**
	baz=32,SNR=90						
BLDU	**Ballidu**	**31.88**	**192**	P	**P**	**08 41 09.3**	**+0.1**
	baz=32,SNR=44						
KMBL	**Kambalda**	**31.93**	**183**	P	**P**	**08 41 10.2**	**+0.5**
	baz=32,SNR=21						
ENH	**Enshi**	**32.49**	**336**	*e*P	**P**	**08 41 14.3**	**-0.3**
KLBR	**Kellerberrin**	**32.63**	**190**	P	**P**	**08 41 15.9**	**+0.1**
	baz=33,SNR=16						
QLP	**Quilpie**	**33.41**	**146**	P	**P**	**08 41 23.9**	**+1.3**
	baz=34,SNR=4.0						
NWAO	**Narrogin (SRO)**	**34.02**	**190**	P	**P**	**08 41 28.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**34.02**	**190**	P	**P**	**08 41 28.3**	**+0.5**
	10.0nm,0.3s,baz=16,slow=7.4,SNR=19						
BBOO	**Buckleboo**	**35.21**	**162**	*e*P	**P**	**08 41 38.6**	**+0.7**
	344nm,0.8s						
BBOO	**Buckleboo**	**35.21**	**162**	P	**P**	**08 41 38.6**	**+0.7**
	baz=36,SNR=20						
CD2	**Chengdu**	**35.66**	**329**	*e*P	**P**	**08 41 42.5**	**+0.8**
RKGY	**Rocky Gully**	**35.71**	**190**	P	**P**	**08 41 43.9**	**+1.8**
	baz=36,SNR=10						
STKA	**Stephens Creek**	**36.43**	**154**	*e*P	**P**	**08 41 49.6**	**+1.3**
	5.9nm,0.7s						
STKA	**Stephens Creek**	**36.43**	**154**	P	**P**	**08 41 49.5**	**+1.3**
	26nm,0.5s,baz=327,slow=8.5,SNR=120						
STKA	**Stephens Creek**	**36.43**	**154**	P	**P**	**08 41 49.5**	**+1.3**
	baz=37,SNR=80						
HTT	**Hallett**	**36.73**	**159**	P	**P**	**08 41 52.2**	**+1.4**
	baz=37,SNR=16						
KSAR	**Wonju Array Be**	**36.76**	**5**	P	**P**	**08 41 50.4**	**-0.5**
KSRS	**Korea Array**	**36.78**	**5**	P	**P**	**08 41 50.4**	**-0.6**
	1.2nm,0.5s,baz=181,slow=9.7,SNR=3.3						
MJAR	**Matsushiro Arr**	**38.05**	**19**	P	**P**	**08 41 59.9**	**-1.8**
MJAR	**Matsushiro Arr**	**38.05**	**19**	P	**P**	**08 41 59.9**	**-1.8**
	1.4nm,0.6s,baz=192,slow=9.6,SNR=4.7						
CMSA	**Cobar Meteorol**	**38.09**	**149**	P	**P**	**08 42 04.1**	**+2.0**
	baz=38,SNR=35						
LZH	**Lanzhou**	**39.88**	**334**	⇑P	**P**	**08 42 17.0**	**0.0**
LZH				pP	**pP**	**08 43 12.8**	**-0.3**
LZH				sP	**sP**	**08 43 45.5**	**-1.1**
LZH				PP	**PP**	**08 43 57.6**	**+2.4**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,5.3s						
ARMA	**Armidale**	**40.62**	**142**	P	**P**	**08 42 25.6**	**+2.6**
	baz=41,SNR=12						
ARPS	**Mount Arapiles**	**40.79**	**158**	P	**P**	**08 42 25.9**	**+1.7**
	baz=41,SNR=12						
HHC	**Hu-ho-hao-te**	**41.54**	**346**	*e*P	**P**	**08 42 29.5**	**-0.9**
HHC				pP	**pP**	**08 43 25.6**	**-1.3**
HHC				sP	**sP**	**08 43 59.1**	**+0.8**
HHC				PP	**PP**	**08 44 15.3**	**+2.4**
HHC				S	**S**	**08 48 25.3**	**+0.2**
HHC				SS	SS	08 51 30.4	-12
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,240nm,4.9s						
YNG	**Young**	**41.66**	**149**	P	**P**	**08 42 33.9**	**+2.5**
	baz=42,SNR=8.8						
MGCD	**Mangrove Creek**	**42.31**	**145**	P	P	08 42 39.8	+3.3
	baz=42,SNR=11						
LSA	**Lhasa**	**42.53**	**316**	*e*P	**P**	**08 42 38.0**	**-0.9**
	12nm,1.0s						
CAN	**Canberra**	**42.77**	**149**	*e*P	**P**	**08 42 41.9**	**+1.6**
	56nm,0.6s						
CNB	**Canberra Magne**	**42.95**	**149**	P	**P**	**08 42 44.3**	**+2.6**
	baz=43,SNR=13						
TOO	**Toolangi**	**42.95**	**155**	P	**P**	**08 42 44.4**	**+2.7**
	baz=43,SNR=8.8						
USRK	**Ussuriysk Arra**	**43.92**	**8**	P	**P**	**08 42 48.6**	**-0.6**
	2.4nm,0.4s,baz=192,slow=6.1,SNR=21						
MDJ	**Mudanjiang**	**44.04**	**6**	P	**P**	**08 42 51.6**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,13nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,180nm,3.9s						
GTA	**Gaotai**	**44.42**	**333**	P	**P**	**08 42 53.6**	**+0.2**
GTA				pP	**pP**	**08 43 54.1**	**+3.4**
GTA				ScP	**ScP**	**08 47 58.3**	**+0.9**
GTA				S	**S**	**08 49 06.1**	**-0.8**
GTA				sS	**sS**	**08 50 50.9**	**+2.0**
GTA				SS	**ScS**	**08 52 24.8**	**+3.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,130nm,4.8s						
GTA				LR	LR		
	comp=N,120nm,15.0s						
GTA				LR	LR		
	comp=E,83nm,12.1s						
GTA				LR	LR		
	comp=Z,120nm,14.7s						
ULN	**Ulaanbaatar**	**49.24**	**345**	*e*P	**P**	**08 43 30.3**	**-0.1**
	7.6nm,1.0s						
SONM	**Songino Array**	**49.39**	**344**	P	**P**	**08 43 30.2**	**-1.3**
SONM	**Songino Array**	**49.39**	**344**	P	**P**	**08 43 30.2**	**-1.3**
	4.9nm,0.9s,baz=157,slow=6.4,SNR=32						
WMQ	**Urumqi**	**53.73**	**328**	P	**P**	**08 44 04.9**	**+1.4**
KSH	**Kashi**	**58.33**	**318**	P	**P**	**08 44 37.0**	**+0.9**
KSH				*e*PP	**PP**	**08 46 50.0**	**+1.3**
KSH				*e*PcS	**PcS**	**08 49 26.8**	**+0.9**
KSH				*e*S	**S**	**08 52 14.0**	**-2.6**
KSH				*e*SS	**SS**	**08 56 10.1**	**-3.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,75nm,4.8s						
KSH				LR	LR		
	comp=N,100nm,5.4s						
KSH				LR	LR		
	comp=E,95nm,5.4s						
KSH				LR	LR		
	comp=Z,150nm,5.5s						
MK31	**Makanchi Array**	**58.55**	**328**	*e*P	**P**	**08 44 35.7**	**-1.7**
MKAR	**Makanchi Array**	**58.55**	**328**	P	**P**	**08 44 35.8**	**-1.6**
MKAR				PcP	**PcP**	**08 45 23.4**	**-1.1**
MKAR				pP	**pP**	**08 45 42.1**	**+3.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.15**	**89**	P	**Pg**	**08 44 45.9**	**+0.1**
KTH				S	**Sg**	**08 44 49.1**	**+0.8**
CAST	**Castle Rocks**	**0.39**	**250**	P	**Pg**	**08 44 49.8**	**-0.1**
CAST				S	**Sg**	**08 44 54.6**	**-0.4**
TRF	**Thorofare Moun**	**0.45**	**103**	P	**Pg**	**08 44 50.8**	**-0.3**
TRF				S	**Sg**	**08 44 56.6**	**-0.4**
CHUM	**Lake Minchumin**	**0.57**	**306**	P	**Pb**	**08 44 53.9**	**-0.3**
PPLA	**Purkeypile**	**0.78**	**213**	P	**Pg**	**08 44 55.8**	**-1.4**
HUR	**Hurricane**	**0.94**	**127**	P	**Pg**	**08 44 58.7**	**-1.4**
BWN	**Browne**	**1.01**	**51**	P	**Pn**	**08 45 02.8**	**+0.6**
BWN				S	**Sn**	**08 45 18.4**	**+2.0**
MCK	**McKinley**	**1.06**	**79**	P	**Pb**	**08 45 01.6**	**-0.7**
MCK				S	**Sg**	**08 45 16.6**	**+0.4**
RND	**Reindeer**	**1.09**	**97**	P	**Pb**	**08 45 01.8**	**-1.2**
MLY	**Manley**	**1.50**	**9**	P	**Pn**	**08 45 09.1**	**+0.1**
SKT	**Skwentna**	**1.58**	**185**	P	**Pn**	**08 45 09.9**	**-0.2**
SKT				S	**Sn**	**08 45 30.1**	**-0.4**
WRH	**Wood River Hil**	**1.68**	**55**	P	**Pn**	**08 45 10.3**	**-1.0**
WRH				S	**Sg**	**08 45 35.9**	**-0.1**
DHY	**Denali Highway**	**1.82**	**103**	P	**Pn**	**08 45 13.4**	**-0.1**
DHY				S	**Sb**	**08 45 38.2**	**-0.1**
CCB	**Clear Creek Bu**	**1.88**	**53**	P	**Pn**	**08 45 13.0**	**-1.0**
CCB				S	**Sb**	**08 45 40.7**	**+1.0**
MDM	**Murphy Dome**	**1.94**	**42**	P	**Pn**	**08 45 14.1**	**-0.8**
MDM				S	**Sb**	**08 45 42.7**	**+1.2**
COLA	**College**	**2.00**	**47**	P	**Pn**	**08 45 14.9**	**-0.8**
COLA				S	**Sb**	**08 45 43.3**	**+0.1**
STLK	**Strandline Lak**	**2.08**	**188**	P	**Pn**	**08 45 15.9**	**-1.0**
STLK				S	**Sn**	**08 45 42.1**	**-0.6**
HDA	**Harding Lake**	**2.08**	**64**	P	**Pn**	**08 45 15.9**	**-1.1**
SUA	**Susitna One**	**2.11**	**173**	P	**Pn**	**08 45 16.7**	**-0.7**
PS08	**TAPS Pump Stn8**	**2.19**	**61**	P	**Pn**	**08 45 16.8**	**-1.6**
PMR	**Palmer**	**2.20**	**152**	P	**Pn**	**08 45 18.0**	**-0.5**
TT01	**Tatalina**	**2.25**	**255**	P	**Pn**	**08 45 17.8**	**-1.4**
IL1	**Eielson Array**	**2.28**	**55**	P	**Pn**	**08 45 18.6**	**-1.0**
ILAR	**Eielson Array**	**2.28**	**55**	Pn	**Pn**	**08 45 18.5**	**-1.1**
ILAR				Pg	**Pg**	**08 45 24.6**	**-1.1**
ILAR				Lg	Lg	08 45 53.3	
ILAR	**Eielson Array** 0.9nm,0.3s,baz=235,slow=14,SNR=78	**2.28**	**55**	Pn	**Pn**	**08 45 18.5**	**-1.1**
ILAR	6.4nm,0.3s,baz=237,slow=16,SNR=69			Pg	**Pg**	**08 45 24.6**	**-1.1**
ILAR	43nm,0.3s,baz=243,slow=30,SNR=25			Lg	Lg	08 45 53.3	
CGLM	**Capps Glacier**	**2.28**	**189**	P	**Pn**	**08 45 19.9**	**+0.3**
BGL	**Barrier Glacie**	**2.36**	**193**	P	**Pn**	**08 45 21.3**	**+0.6**
PS06	**TAPS Pump Stn6**	**2.41**	**15**	P	**Pn**	**08 45 22.4**	**+1.0**
FIB	**Fire Island**	**2.45**	**168**	P	**Pn**	**08 45 23.4**	**+1.5**
PS10	**TAPS Pump St10**	**2.47**	**91**	P	**Pn**	**08 45 24.1**	**+1.8**
RC01	**Rabbit Creek A**	**2.57**	**163**	P	**Pn**	**08 45 23.9**	**+0.3**
IM3	**Indian Mountai**	**2.66**	**338**	P	**Pn**	**08 45 25.4**	**+0.6**
PAX	**Paxson**	**2.69**	**100**	P	**Pn**	**08 45 25.7**	**+0.5**
PTE	**Portage**	**2.89**	**158**	P	**Pn**	**08 45 28.9**	**+0.9**
PWL	**Port Wells**	**3.03**	**152**	P	**Pn**	**08 45 30.4**	**+0.4**
PS11	**TAPS Pump St11**	**3.04**	**116**	P	**Pn**	**08 45 31.9**	**+1.9**
DFR	**Drift River**	**3.04**	**193**	P	**Pn**	**08 45 31.8**	**+1.6**
SLKM	**Skilak Lake**	**3.09**	**170**	P	**Pn**	**08 45 31.6**	**+0.7**
NCT	**North Crescent**	**3.10**	**195**	P	**Pn**	**08 45 31.5**	**+0.5**
RDWB	**Redoubt West**	**3.16**	**194**	P	**Pn**	**08 45 32.5**	**+0.6**
SCRK	**Sand Creek**	**3.26**	**79**	P	**Pn**	**08 45 33.4**	**+0.2**
GLI	**Glacier Island**	**3.32**	**142**	P	**Pn**	**08 45 34.6**	**+0.8**
JPK	**Jack Peak**	**3.32**	**137**	P	**Pn**	**08 45 35.0**	**+1.1**
VLZ	**Valdez**	**3.34**	**134**	P	**Pn**	**08 45 35.3**	**+1.1**
DIV	**Divide**	**3.53**	**131**	P	**Pn**	**08 45 37.4**	**+0.5**
COLD	**Coldfoot**	**3.72**	**6**	P	**Pn**	**08 45 40.1**	**+0.8**
BRLK	**Bradley Lake**	**3.81**	**177**	P	**Pn**	**08 45 42.1**	**+1.6**
BMRM	**Bremner River**	**4.05**	**127**	P	**Pn**	**08 45 44.6**	**+0.6**
GLB	**Gilahina Butte**	**4.05**	**118**	P	**Pn**	**08 45 45.3**	**+1.3**
BM3	**Burnt Mountain**	**4.77**	**33**	P	**Pn**	**08 45 53.4**	**-0.4**
TNA	**Tin City** 1.9nm,0.4s	**7.45**	**293**	*e*Pn	**Pn**	**08 46 31.2**	**+0.7**
TNA				*e*Sn	**Sn**	**08 47 54.1**	**-0.7**
YKA	**Yellowknife Ar**	**16.52**	**77**	Pn	**Pn**	**08 48 31.9**	**-1.5**
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=293,slow=11,SNR=3.0	**16.52**	**77**	Pn	**Pn**	**08 48 31.9**	**-1.5**
TXAR	**Lajitas Array**	**45.62**	**116**	P	**P**	**08 53 03.0**	**+0.8**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=328,slow=6.6,SNR=9.2	**45.62**	**116**	P	**P**	**08 53 03.0**	**+0.8**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=97,slow=8.4,SNR=4.5	**62.17**	**321**	P	P	08 54 58.0	-4.9

IDC ***13*** *08:46:10.2±5.0, 13°.37°N×125°.14E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.2/3, Error ellipse: s-maj=403.1km s-min=28.2km az=64.0*

MAN ***13*** *08:46:45, 7°.82N×126°.80E, h80km, mb4.6, ML3.5, MS3.4*

ISCJB ***13*** *08:46:56.3±0.9, 8°.44N±0°.09×125°.96E±0°.06, h34km, mb3.2/2, Error ellipse: s-maj=13.8km s-min=6.8km az=22.5*

ISC 13 08:46:56.9±1.1, 8°.49N±0°.06×126°.09E±0°.07, h34km, n10, σ1s88/11, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.41**	**138**↑	*e*P	**Pb**	**08 47 04.8**	**-1.4**
BIPH				*e*S	**Sb**	**08 47 15.2**	**+2.6**
BUTP	**Butuan**	**0.66**	**316**	*e*P	**Pn**	**08 47 08.5**	**-1.3**
BUKP	**Musuan**	**1.18**	**239**	*e*P	Pn	08 47 13.5	-3.6
BUKP				*e*S	**Sb**	**08 47 36.5**	**+2.5**
CGP	**Cagayan de Oro**	**1.38**	**269**↑	*i*P	Pn	08 47 15.8	-3.9
CGP				*i* S	**Sn**	**08 47 34.0**	**-2.7**
SCPH	**Surigao**	**1.41**	**335**↑	*e*P	**Pb**	**08 47 23.1**	**+0.4**
DMPH	**Davao City--Mi**	**1.51**	**202**	*e*P	**Pn**	**08 47 20.6**	**-1.0**
CTBH	**Cotabato--PC H**	**2.22**	**235**↓	*i*P	**Pn**	**08 47 30.3**	**-1.0**
PAGZ	**Pagadian**	**2.75**	**257**	*e*P	**Pn**	**08 47 39.0**	**+0.4**
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=346,slow=9.0,SNR=3.0	**29.40**	**164**	P	**P**	**08 52 58.0**	**+0.7**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=342,slow=6.7,SNR=5.8	**32.86**	**167**	P	**P**	**08 53 28.9**	**+1.0**

NIED ***13*** *08:54:00, 36°.70N×141°.40E, h35km, Mw4.1 Best double couple: M0 1.42000×10^15 NP1:φs76.00000°, δ15.00000°, λ-31.00000°. NP2:φs196.00000°, δ83.00000°, λ-103.00000°.*

NEIC ***13*** *08:54:37.9±0.5, 36°.58N×141°.45E, h10km, mb4.2/1, MW4.0(NIED), Error ellipse: s-maj=11.9km s-min=8.9km az=156.0*

NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Fukushima and Tochigi.

ISCJB ***13*** *08:54:38.8±0.5, 36°.62N±0°.04×141°.45E±0°.04, h26km, mb4.0/17, MS3.2/2, Error ellipse: s-maj=5.8km s-min=4.9km az=163.8*

JMA ***13*** *08:54:41.6±0.1, 36°.65N×141°.25E, h45km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φs357.00000°, δ78.00000°, λ99.00000°. NP2: φs141.00000°, δ14.00000°, λ54.00000°. Principal axes: T Plg56.0000°, Azm278.0000°; N Plg8.0000°, Azm175.0000°; P Plg33.0000°, Azm80.0000°;*

JMA Felt II J1.

IDC ***13*** *08:54:43.9±3.2, 36°.57N×141°.31E, h56km±29km, mb3.7/14, mb1 3.8/15, mb1mx3.7/29, mbtmp3.7/15, ML4.1/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/43 Error ellipse: s-maj=19.9km s-min=16.6km az=100.0*

ISC 13 08:54:40.6±0.6, 36°.67N±0°.05×141°.40E±0°.05, h26km, n63, σ1s20/61, mb3.9/17, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.65**	**312**	↓P	**Pb**	**08 54 53.3**	**-0.1**
ONAJ				S	**Sb**	**08 55 01.7**	**-0.4**
JHO	**Hitachi**	**0.67**	**266**	↓P	**Pb**	**08 54 53.1**	**-0.6**
JHO				S	**Sb**	**08 55 01.5**	**-1.1**
JFK	**Kawauchi**	**0.81**	**329**	↓P	**Pb**	**08 54 55.9**	**-0.3**
JFK				S	**Sb**	**08 55 05.7**	**-1.2**
JYT	**Yasato**	**1.06**	**246**	P	**Pn**	**08 54 58.7**	**-1.1**
JYT				S	**Sb**	**08 55 11.4**	**-2.4**
JFT	**Otama**	**1.20**	**315**	↓P	**Pn**	**08 55 02.3**	**+0.5**
JFT				S	**Sn**	**08 55 16.8**	**-0.4**
JMM	**Marumori**	**1.29**	**338**	↑P	**Pn**	**08 55 02.9**	**-0.1**
JMM				S	**Sn**	**08 55 18.6**	**-0.8**
JFY	**Yanaizu**	**1.54**	**299**	P	**Pn**	**08 55 07.0**	**+0.5**
JAG	**Ashikaga**	**1.58**	**262**	P	**Pn**	**08 55 06.5**	**-0.5**
JKT	**Katashina**	**1.73**	**274**	P	**Pn**	**08 55 09.1**	**0.0**
JKT				*e*S	**Sn**	**08 55 29.7**	**-0.7**

2010 JAN

MJAR	**Matsushiro Arr**	**2.57**	**268**	P	**Pn**	**08 55 21.1**	**+0.5**
MJAR				S	**Sn**	**08 55 51.6**	**+0.7**
MJAR	**Matsushiro Arr** 41nm,0.3s,baz=114,slow=9.8,SNR=171	**2.57**	**268**	P	**Pn**	**08 55 21.1**	**+0.5**
MJAR	40nm,0.3s,baz=102,slow=18,SNR=3.5			S	**Sn**	**08 55 51.7**	**+0.7**
MAJO	**Matsushiro**	**2.57**	**268**	*e*Pn	**Pn**	**08 55 21.0**	**+0.4**
MAT	**Matsushiro**	**2.57**	**268**	P	**Pn**	**08 55 21.4**	**+0.8**
MAT				*e*S	**Sn**	**08 55 47.9**	**-3.1**
ASAJ	**Asahikawa**	**7.50**	**7**	P	**Pn**	**08 56 27.6**	**-0.7**
ASAJ				S	**Sn**	**08 57 49.0**	**-3.5**
ASAJ	**Asahikawa** 1.6nm,0.3s,baz=211,slow=7.7,SNR=1.9	**7.50**	**7**	P	**Pn**	**08 56 27.6**	**-0.7**
ASAJ	0.9nm,0.3s,baz=294,slow=24,SNR=1.5			S	**Sn**	**08 57 49.0**	**-3.5**
JNU	**Nakatsue** comp=Z,113nm,19.4s,baz=41,slow=38	**9.33**	**251**	LR	LR	09 00 34.5	
USRK	**Ussuriysk Arra** 0.9nm,0.3s,baz=130,slow=13,SNR=24	**10.39**	**319**	P	Pn	08 57 13.5	+5.6
USRK	comp=Z,103nm,21.3s,baz=130,slow=36			LR	LR	09 00 58.7	
KSRS	**Korea Array** 0.4nm,0.3s,baz=90,slow=12,SNR=5.6	**10.80**	**278**	P	Pn	08 57 18.9	+5.4
KSRS	comp=Z,106nm,21.7s,baz=156,slow=36			LR	LR	09 01 12.9	
KSAR	**Wonju Array Be**	**10.83**	**278**	P	Pn	08 57 18.9	+5.0
SEY	**Seymchan**	**27.15**	**11**	P	**P**	**09 00 23.8**	**+2.3**
SEY	**Seymchan** 1.1nm,0.6s,baz=6.1,slow=22,SNR=3.9	**27.15**	**11**	P	**P**	**09 00 23.8**	**+2.3**
H11N2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=36	**27.97**	**120**	T	T	09 29 45.3	
SONM	**Songino Array**	**27.98**	**305**	P	**P**	**09 00 29.5**	**+0.3**
SONM	**Songino Array** 6.0nm,0.7s,baz=99,slow=7.9,SNR=18	**27.98**	**305**	P	**P**	**09 00 29.5**	**+0.3**
H11N1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=48	**27.98**	**120**	T	T	09 29 49.3	
H11N3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=36	**27.99**	**120**	T	T	09 29 48.5	
H11S1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=54	**28.67**	**122**	T	T	09 31 23.7	
H11S3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=46	**28.67**	**122**	T	T	09 31 25.3	
H11S2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=32	**28.69**	**122**	T	T	09 31 25.1	
CMAR	**Chiang Mai Arr** comp=Z,40nm,19.2s,baz=220,slow=39	**41.39**	**256**	LR	LR	09 21 47.0	
ZALV	**Zalesovo Beam**	**42.15**	**313**	P	**P**	**09 02 30.4**	**-0.3**
ZALV	**Zalesovo Beam** 2.0nm,0.5s,baz=87,slow=7.0,SNR=8.7	**42.15**	**313**	P	**P**	**09 02 30.4**	**-0.3**
ZALV	comp=Z,31nm,21.3s,baz=257,slow=37			LR	LR	09 20 56.5	
MK31	**Makanchi Array**	**44.30**	**302**	*e*P	**P**	**09 02 48.6**	**+0.4**
MKAR	**Makanchi Array**	**44.30**	**302**	P	**P**	**09 02 47.9**	**-0.4**
MKAR	**Makanchi Array** 1.1nm,0.6s,baz=86,slow=9.0,SNR=17	**44.30**	**302**	P	**P**	**09 02 47.9**	**-0.4**
KURK	**Kurchatov**	**46.15**	**308**	*e*P	**P**	**09 03 02.9**	**+0.1**
KURBB	**Kurchatov Arra** 3.3nm,0.7s,baz=83,slow=8.2,SNR=23	**46.22**	**308**	P	**P**	**09 03 02.6**	**-0.7**
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**09 03 31.4**	**+0.5**
ILAR	**Eielson Array** 1.3nm,0.7s,baz=269,slow=9.1,SNR=15	**49.81**	**32**	P	**P**	**09 03 31.4**	**+0.5**
BVAR	**Borovoye Array**	**50.81**	**313**	P	**P**	**09 03 38.4**	**-0.2**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=76,slow=5.0,SNR=3.1	**50.81**	**313**	P	**P**	**09 03 38.4**	**-0.2**
INK	**Inuvik**	**54.72**	**27**	P	**P**	**09 04 07.6**	**+0.4**
INK	**Inuvik** 1.5nm,0.8s,baz=260,slow=4.5,SNR=3.4	**54.72**	**27**	P	**P**	**09 04 07.6**	**+0.4**
WRA	**Warramunga Arr**	**56.69**	**188**	P	**P**	**09 04 20.6**	**-1.3**
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=6.5,slow=7.5,SNR=29	**56.69**	**188**	P	**P**	**09 04 20.6**	**-1.3**
ABKAR	**Akbulak array** 1.1nm,0.4s	**58.17**	**310**	*e*P	**P**	**09 04 31.4**	**-0.7**
ASAR	**Alice Springs**	**60.42**	**188**	P	**P**	**09 04 47.0**	**-0.8**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=8.1,slow=5.5,SNR=7.8	**60.42**	**188**	P	**P**	**09 04 47.0**	**-0.8**
KBS	**Kingsbay** 9.0nm,0.7s	**61.02**	**350**	*e*P	P	09 04 57.4	+6.2
YKA	**Yellowknife Ar**	**64.13**	**30**	P	**P**	**09 05 12.0**	**-0.3**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=300,slow=6.3,SNR=9.9	**64.13**	**30**	P	**P**	**09 05 12.0**	**-0.3**
FINES	**FINESS Array B**	**69.13**	**332**	P	**P**	**09 05 46.4**	**+2.2**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=35,slow=7.2,SNR=4.8	**69.13**	**332**	P	**P**	**09 05 46.4**	**+2.2**
AKASG	**Malin Array Be**	**74.58**	**322**	P	**P**	**09 06 16.8**	**-0.3**
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=46,slow=6.7,SNR=5.1	**74.58**	**322**	P	**P**	**09 06 16.8**	**-0.3**
PDAR	**Pinedale Array**	**77.94**	**45**	P	**P**	**09 06 36.7**	**+0.1**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=20,slow=1.1,SNR=3.8	**77.94**	**45**	P	**P**	**09 06 36.7**	**+0.1**
TXAR	**Lajitas Array**	**90.36**	**52**	P	**P**	**09 07 40.0**	**+0.1**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=288,slow=0.4,SNR=5.1	**90.36**	**52**	P	**P**	**09 07 40.0**	**+0.1**
LPAZ	**La Paz**	**146.89**	**60**	PKPbc	**PKPdf**	**09 14 21.6**	**+1.6**
LPAZ	**La Paz** 1.7nm,0.7s,baz=354,slow=3.1,SNR=7.8	**146.89**	**60**	PKPbc	**PKPdf**	**09 14 21.6**	**+1.6**
H03N2	**Juan Fernandez** SNR=6.0	**147.00**	**97**	T	T	11 59 20.1	
H03N1	**Juan Fernandez** SNR=4.7	**147.01**	**97**	T	T	11 58 47.2	

CASC 13 09:03:08.8±3.5, 10°.48N×83°.02W, h18km±12km, MD3.9, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**1.15**	**242**↑	*e*P	Pn	09 03 29.4	-0.8
SJS				*e*S	Sb	09 03 44.2	-0.9
CNI	**Changuinola**	**1.17**	**155**	*e*P	Pg	09 03 31.4	0.0
BUS	**Buena Vista**	**1.17**	**219**↓	*e*P	Pn	09 03 30.0	-0.8
BUS				*e*S	Sb	09 03 45.7	-0.6
CGA2	**Cerro Gallo 2**	**1.50**	**252**	*e*P	Pn	09 03 34.8	-0.2
CGA2				*e*S	Sn	09 03 52.9	-1.2
QCR	**Quepos**	**1.54**	**227**↓	*i*P	Pb	09 03 36.1	-0.7
QCR				*e*S	Sb	09 03 56.0	0.0
CEDE	**Laguna Cede¯–o**	**1.66**	**270**	*i*P	Pn	09 03 37.3	+0.3
CASO	**Castillo**	**1.69**	**269**	*i*P	Pn	09 03 37.5	+0.1
CASO				*i* S	Sn	09 03 58.0	-0.7
BRU2	**Volcan**	**1.70**	**169**	*e*P	Pn	09 03 38.2	+0.4
BRU2				*e*S	Sn	09 03 59.7	+0.5
BRU	**Baru**	**1.72**	**165**	*e*P	Pn	09 03 38.9	+0.5
BANL	**Banca Lucia**	**1.79**	**271**	*i*P	Pn	09 03 39.2	+0.4
ACR	**Cerro Adams**	**1.82**	**185**	*e*P	Pn	09 03 40.1	+0.9
ACR				*e*S	Sb	09 04 03.7	-0.4
PTEN	**Parque Tenorio**	**1.95**	**277**	*i*P	Pn	09 03 40.1	-1.0
JCR	**Jicaral**	**2.15**	**253**	*e*P	Pn	09 03 44.9	+1.0
JCR				*e*S	Sb	09 04 12.3	-1.5
CAO	**Cobano**	**2.19**	**250**	*i*P	Pb	09 03 46.6	-1.4
NY14	**Universidad de**	**2.48**	**274**	*i*P	Pn	09 03 48.0	-0.3
BCIP	**Isla Barro Col**	**3.40**	**112**	*e*P	Pn	09 04 00.3	-0.6
BCIP				*e*S	Sn	09 04 36.0	-4.7
ZANG	**Zanguenga, Cho**	**3.46**	**116**	*e*P	Pn	09 04 01.4	-0.3
ZANG				*e*S	Sn	09 04 38.3	-3.9
UPA	**Univ. de Panam**	**3.74**	**113**	*e*P	Pn	09 04 05.2	-0.4
UPA				*e*S	Sn	09 04 46.0	-3.2
PTP	**Ponta Puerca**	**18.53**	**63**	*e*P	x	09 03 45.9	

IDC ***13*** *09:05:04.8±1.8, 18°.39N×72°.80W, h0km, mb3.5/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.5/7, MS3.3/2, Ms1 3.4/2, ms1mx2.8/33, Error ellipse: s-maj=65.2km s-min=25.2km az=18.0*

ISCJB ***13*** *09:05:05.1±2.3, 18°.6N±0°.5×72°.7W±0°.2, h6km, mb3.5/7, MS3.3/1, Error ellipse: s-maj=78.2km s-min=22.0km az=13.7*

ISC 13 09:05:05.9±1.8, 18°.4N±0°.4×72°.8W±0°.2, h6km, n10, σ0s66/8, mb3.4/7, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare** comp=Z,114nm,21.6s,baz=61,slow=32	**14.28**	**237**	LR	LR	09 12 41.1	
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=134,slow=7.2,SNR=4.6	**30.16**	**297**	P	**P**	**09 11 17.7**	**+0.6**
LPAZ	**La Paz** comp=Z,49nm,19.4s,baz=54,slow=40	**34.80**	**172**	LR	LR	09 28 02.5	
PDAR	**Pinedale Array** 0.5nm,1.0s,baz=143,slow=7.7,SNR=3.2	**39.41**	**316**	P	**P**	**09 12 36.8**	**-0.1**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=130,slow=8.4,SNR=2.2	**44.20**	**307**	P	**P**	**09 13 16.5**	**+0.4**
YKA	**Yellowknife Ar** 0.9nm,0.8s,baz=126,slow=7.3,SNR=10	**52.64**	**337**	P	**P**	**09 14 20.1**	**-0.5**
ILAR	**Eielson Array** 0.2nm,0.9s,baz=117,slow=5.2,SNR=2.8	**66.71**	**333**	P	**P**	**09 15 57.1**	**-0.4**
TORD	**Torodi Ar. Bea** 1.2nm,1.1s,baz=293,slow=3.7,SNR=3.5	**71.44**	**82**	P	**P**	**09 16 27.9**	**+0.1**
GERES	**GERESS Array B** 0.7nm,0.8s,baz=269,slow=7.4,SNR=2.8	**74.08**	**43**	P	**P**	**09 16 43.5**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=79,slow=2.2,SNR=3.0	**154.34**	**262**	PKPbc	**PKPbc**	**09 25 07.1**	**-1.0**

MOS ***13*** *09:12:54.0±1.4, 52°.94N×158°.36E, h133km, mb4.0/7, Error ellipse: s-maj=18.9km s-min=7.7km az=70.9*

IDC ***13*** *09:12:56.6±0.7, 53°.15N×158°.16E, h129km±5km, mb3.6/15, mb1 3.8/15, mb1mx3.6/31, mbtmp3.6/15, Error ellipse: s-maj=26.6km s-min=14.8km az=166.0*

KRSC ***13*** *09:12:57.9±1.8, 52°.96N×158°.90E, h100km±10km, ML4.2*

ISC 13 09:12:56.1±0.6, 52°.96N±0°.04×158°.64E±0°.05, h132km±4km, n80, σ1s27/111, mb3.9/15, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.07**	**8**	↓*i*PN	**Pn**	**09 13 13.2**	**-0.7**
PET				*e*S	**Sn**	**09 13 25.9**	**-1.5**
PET	comp=Z,847nm,0.4s			pmax	pmax		
PET	comp=N,500nm,1.5s			smax	smax		
PET	comp=N,4μm,0.8s			smax	smax		
PET	comp=E,3μm,0.5s			smax	smax		
PET	**Petropavlovsk**	**0.07**	**8**	*i* P	**Pn**	**09 13 13.6**	**-0.3**
PET				*i* S	**Sn**	**09 13 26.7**	**-0.7**
UGLR	**Uglovaya**	**0.28**	**24**	*i* P	**Pn**	**09 13 14.5**	**0.0**
UGLR				*i* S	**Sn**	**09 13 28.4**	**0.0**
AVH	**Avacha**	**0.31**	**11**	*i* P	**Pn**	**09 13 14.7**	**+0.1**
AVH				*i* S	**Sn**	**09 13 28.8**	**+0.2**
SMAR	**Somma**	**0.32**	**18**	*i* P	**Pn**	**09 13 14.8**	**0.0**
SMAR				*e*S	**Sn**	**09 13 28.7**	**-0.3**
KOK	**Koryaka**	**0.33**	**360**	*i* P	**Pn**	**09 13 14.9**	**+0.2**
KOK				*i* S	**Sn**	**09 13 28.8**	**0.0**
KRER	**Koryakskii**	**0.35**	**11**	*i* P	**Pn**	**09 13 15.0**	**+0.1**
KRER				*i* S	**Sn**	**09 13 29.3**	**+0.1**
SDLR	**Sedlovina**	**0.35**	**25**	*i* P	**Pn**	**09 13 14.6**	**-0.2**
SDLR				*e*S	**Sn**	**09 13 28.1**	**-0.9**
KRX	**Arik**	**0.40**	**1**	*i* P	**Pn**	**09 13 14.9**	**-0.1**
KRX				*i* S	**Sn**	**09 13 28.7**	**-0.7**
NLC	**Nalytchevo**	**0.48**	**63**	PN	**Pn**	**09 13 14.7**	**-0.4**
NLC				S	**Sn**	**09 13 29.1**	**-0.5**
NLC	**Nalytchevo**	**0.48**	**63**	*i* P	**Pn**	**09 13 14.7**	**-0.4**
NLC				*i* S	**Sn**	**09 13 29.1**	**-0.5**
GRL	**Gorelyy**	**0.53**	**220**	*i* P	**Pn**	**09 13 16.0**	**+0.3**
GRL				*e*S	**Sn**	**09 13 31.8**	**+1.3**
RUS	**Russkaya**	**0.53**	**188**	PN	**Pn**	**09 13 14.9**	**-0.6**
RUS				S	**Sn**	**09 13 29.2**	**-1.0**
RUS	**Russkaya**	**0.53**	**188**	*i* P	**Pn**	**09 13 14.9**	**-0.6**
RUS				*i* S	**Sn**	**09 13 29.2**	**-1.0**
MTVR	**Mutnovka**	**0.55**	**210**	*i* P	**Pn**	**09 13 15.8**	**0.0**
MTVR				*i* S	**Sn**	**09 13 31.8**	**+1.1**
PETK	**Petropavlovsk-**	**0.59**	**285**	PN	**Pn**	**09 13 15.5**	**-0.3**
PETK				S	**Sn**	**09 13 29.3**	**-1.6**
PETK	comp=Z,304nm,0.3s			pmax	pmax		
PETK	comp=N,36nm,0.3s			smax	smax		
PETK	**Petropavlovsk-** comp=N,304nm,0.3s,baz=94,slow=8.3,SNR=1989	**0.59**	**285**	P	**Pn**	**09 13 15.5**	**-0.3**
PETK	comp=N,36nm,0.3s,baz=248,slow=42,SNR=6.0			S	**Sn**	**09 13 29.3**	**-1.6**
ASAK	**Asacha**	**0.73**	**218**	*i* P	**Pn**	**09 13 17.2**	**+0.2**
ASAK				*i* S	**Sn**	**09 13 32.0**	**-0.7**
GNL	**Ganaly**	**0.85**	**331**	*i* P	**Pn**	**09 13 17.5**	**-0.4**
GNL				*e*S	**Sn**	**09 13 33.7**	**-0.8**
SPN	**Mys Shipunski**	**0.85**	**80**	PN	**Pn**	**09 13 17.7**	**0.0**
SPN				S	**Sn**	**09 13 33.7**	**-0.5**
SPN	**Mys Shipunski**	**0.85**	**80**	*i* P	**Pn**	**09 13 17.7**	**0.0**
SPN				*i* S	**Sn**	**09 13 33.7**	**-0.5**
APC	**Apacha**	**0.90**	**268**	*i* P	**Pn**	**09 13 18.3**	**+0.2**
APC				*e*S	**Sn**	**09 13 34.6**	**-0.3**
KII	**Karymskiy**	**1.18**	**24**	*i* P	**Pn**	**09 13 21.4**	**+0.4**
KII				*e*S	**Sn**	**09 13 40.0**	**+0.1**
MIPR	**Malaya Ipel'ka**	**1.33**	**240**	*i* P	**Pn**	**09 13 22.7**	**+0.2**
PAU	**Pauzhetka**	**1.87**	**218**	PN	**Pn**	**09 13 28.9**	**+0.4**
PAU				S	**Sn**	**09 13 53.6**	**+0.3**
PAU	**Pauzhetka**	**1.87**	**218**	*i* P	**Pn**	**09 13 28.9**	**+0.4**
PAU				*i* S	**Sn**	**09 13 53.6**	**+0.3**
KZV	**Kizimen**	**2.37**	**24**	*e*P	**Pn**	**09 13 36.0**	**+1.2**
MKZ	**Mys Kozlova**	**2.44**	**48**	PN	**Pn**	**09 13 35.5**	**+0.1**
MKZ				S	**Sn**	**09 14 04.7**	**-

MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.42**	**295**	P	**P**	**09 21 15.4**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=52,slow=9.3,SNR=5.7						
BVAR	**Borovoye Array**	**49.78**	**308**	P	**P**	**09 21 33.0**	**-1.8**
BVAR						09 22 53.2	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**49.78**	**308**	P	**P**	**09 21 33.0**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=58,slow=7.0,SNR=9.6						
BVAR				PcP	**PcP**	**09 22 53.2**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=41,slow=4.4,SNR=5.5						
ARCES	**ARCESS Array B**	**53.14**	**341**	P	**P**	**09 21 57.9**	**-1.6**
	comp=Z,4.5nm,0.9s,baz=45,slow=9.5,SNR=1.5						
FRB	**Frobisher Bay**	**57.97**	**23**	P	**P**	**09 22 33.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=245,slow=6.8,SNR=6.6						
PDAR	**Pinedale Array**	**58.35**	**60**	P	**P**	**09 22 39.5**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=307,slow=1.8,SNR=5.4						
NB2	**NORSAR Subarra**	**63.42**	**343**	P	**P**	**09 23 10.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=23,slow=6.5						
NOA	**NORSAR Array B**	**63.42**	**343**	P	**P**	**09 23 10.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=22,slow=6.6,SNR=5.4						
SCHQ	**Schefferville**	**66.17**	**27**	P	**P**	**09 23 29.2**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=315,slow=11,SNR=1.7						
TXAR	**Lajitas Array**	**71.50**	**66**	P	**P**	**09 24 04.7**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=295,slow=4.5,SNR=9.8						
WRA	**Warramunga Arr**	**75.60**	**204**	P	**P**	**09 24 27.3**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=24,slow=6.3,SNR=2.4						
ESDC	**Sonseca Array**	**86.52**	**347**	P	**P**	**09 25 22.1**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=25,slow=3.4,SNR=8.0						

*ISCJB **13** 09:21:24.0±1.4, 11°.77N±0°.08×43°.39E±0°.08, h12km±8km, Error ellipse: s-maj=17.4km s-min=5.3km az=44.2*
*DHMR **13** 09:21:25.2±1.7, 11°.81N×43°.44E, h45km±10km, ML3.7*
*ARO **13** 09:21:25.8, 12°N±4°×4°3E±°, h5km±11km, ML3.6*

ISC 13 09:21:24.9±1.3, 11°.83N±0°.06×43°.30E±0°.08, h20km±6km, n10, σ0°81/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.16**	**356**	*i* P		**Pg**	**09 21 29.2**	**-0.2**
ATA	**Atar**	**0.39**	**194**	*e*P		**Pb**	**09 21 33.2**	**+0.1**
TDD	**Tadjoura Ara**	**0.39**	**266**	*e*P		**Pb**	**09 21 33.4**	**+0.2**
ATD	**Arta Tunnel**	**0.54**	**236**	*i* P		**Pg**	**09 21 35.7**	**0.0**
ATD				*i* S		**Sg**	**09 21 43.4**	**+0.4**
SGH	**Sud-Ghoubbet**	**0.77**	**239**	*e*P		**Pb**	**09 21 39.6**	**0.0**
GBR	**Grand-Bara**	**1.06**	**231**	*e*P		**Pb**	**09 21 43.5**	**-1.2**
TRBA	**At Turbah**	**1.60**	**30**	*i* P		**Pn**	**09 21 52.2**	**-0.1**
TRBA				*i* S		**Sb**	**09 22 13.7**	**-0.3**
TRBA				AML	AML	09 22 14.2	
	comp=E,3μm,0.3s						
UDYN	**Al 'Udayn**	**2.22**	**17**	*i* P		**Pn**	**09 22 01.9**	**+1.1**
UDYN				*i* S		**Sb**	**09 22 30.4**	**-1.3**
UDYN				AML	AML	09 22 41.0	
	comp=E,358nm,0.5s						
LBOS		**2.78**	**43**	*i* P		**Pn**	**09 22 07.9**	**-0.7**
LBOS				*i* S		**Sn**	**09 22 41.9**	**+0.2**
BDHA	**Al Bayda'**	**3.07**	**46**	*i* P		**Pn**	**09 22 13.3**	**+0.7**
BDHA				*i* S		**Sn**	**09 22 50.0**	**+1.1**
BDHA				AML	AML	09 23 09.7	
	comp=E,247nm,0.4s						

IDC 13 09:23:14.9±7.1, 12°.69N×91°.15W, h0km, mb3.0/3, mb1 3.6/5, mb1mx3.5/24, mbtmp3.3/5, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/16, Error ellipse: s-maj=130.1km s-min=50.0km az=143.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.40**	**16**	Pn		Pn	09 23 54.2	-1.5
	16nm,0.3s,baz=173,slow=7.2,SNR=157							
APG				Sn		Sn	09 24 22.1	-3.9
	7.5nm,0.3s,baz=351,slow=18,SNR=6.4							
APG				LR		LR	09 24 28.2	
	comp=Z,292nm,21.1s,baz=297,slow=31							
TEIG	**Tepich**	**7.99**	**20**	Pn		Pn	09 25 14.4	+2.2
	1.5nm,0.3s,baz=8.3,slow=22,SNR=10							
TEIG				LR		LR	09 27 37.2	
	comp=Z,58nm,21.2s,baz=117,slow=33							
TXAR	**Lajitas Array**	**20.24**	**327**	P		P	09 27 52.2	+0.3
	0.6nm,1.0s,baz=151,slow=16,SNR=4.7							
YKA	**Yellowknife Ar**	**52.49**	**347**	P		P	09 32 28.9	-0.5
	0.1nm,0.3s,baz=149,slow=7.7,SNR=3.7							
ILAR	**Eielson Array**	**64.37**	**337**	P		P	09 33 52.5	+0.1
	0.3nm,0.9s,baz=113,slow=6.9,SNR=2.3							

*IDC **13** 09:32:22.8±2.1, 30°.44S×177°.43W, h0km, mb4.3/3, mb1 4.4/4, mb1mx4.0/19, mbtmp4.3/4, ML3.4/1, Error ellipse: s-maj=58.5km s-min=31.3km az=127.0*
*ISCJB **13** 09:32:26.7±2.5, 30°.56S±0°.09×177°.6W±0°.4, h33km, mb4.3/3, Error ellipse: s-maj=47.9km s-min=10.7km az=7.7*

ISC 13 09:32:27.9±2.1, 30°.5S±0°.1×177°.5W±0°.3, h33km, n10, σ0°78/14, mb4.5/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**8.77**	**203**	PN		**Pn**	**09 34 32.9**	**+0.6**
MWZ	**Matawai**	**8.88**	**206**	PN		**Pn**	**09 34 34.5**	**+0.6**
MWZ				SN		**Sn**	**09 36 13.3**	**+0.5**
URZ	**Urewera**	**8.98**	**209**	Pn		**Pn**	**09 34 34.1**	**-1.1**
	0.4nm,0.3s,baz=26,slow=7.1,SNR=9.8							
URZ				Sn		**Sn**	**09 36 15.0**	**-0.2**
	1.3nm,0.3s,baz=165,slow=13,SNR=10							
URZ	**Urewera**	**8.98**	**209**	PN		**Pn**	**09 34 34.5**	**-0.7**
URZ				SN		**Sn**	**09 36 15.2**	**+0.1**
SNGZ	**Shannon Statio**	**9.34**	**206**	*e*PN		**Pn**	**09 34 40.2**	**0.0**
SNGZ				SN		**Sn**	**09 36 23.2**	**-0.9**
SNGZ				SN			09 36 24.3	
STKA	**Stephens Creek**	**34.92**	**257**	P		**P**	**09 39 18.0**	**+1.4**
	4.1nm,0.7s,baz=98,slow=8.5,SNR=11							
ASAR	**Alice Springs**	**43.57**	**267**	P		**P**	**09 40 28.1**	**-0.8**
	1.5nm,0.5s,baz=104,slow=7.3,SNR=27							
WRA	**Warramunga Arr**	**44.57**	**272**	P		**P**	**09 40 36.5**	**-0.4**
	2.7nm,0.3s,baz=110,slow=8.2,SNR=90							
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc		**PKPbc**	**09 52 01.1**	**-0.3**
	2.4nm,0.5s,baz=56,slow=4.4,SNR=16							
AKASG	**Malin Array Be**	**151.63**	**323**	PKPbc		**PKPbc**	**09 52 18.2**	**-0.2**
	0.5nm,0.4s,baz=47,slow=2.3,SNR=6.0							

*IDC **13** 09:43:05.0±2.0, 9°.41S×119°.16E, h0km, mb3.7/4, mb1 3.5/6, mb1mx3.4/19, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=96.1km s-min=24.4km az=54.0*
*ISCJB **13** 09:43:07.3±1.1, 10°.02S±0°.09×118°.74E±0°.08, h46km, mb3.8/4, Error ellipse: s-maj=12.7km s-min=11.3km az=170.8*
*DJA **13** 09:43:13.2±1.4, 10°S±7°×11°9E±°, h17km±23km, M4.2/4, MLv4.2/4*

ISC 13 09:43:09.0±1.4, 10°.0S±0°.1×118°.8E±0°.1, h46km, n10, σ1°84/9, mb3.8/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.51**	**78**	P		**Pn**	**09 43 34.4**	**+0.8**
WSI				S		**Sn**	**09 43 51.2**	**-0.9**
LBFI	**Labuhan Bajo,**	**1.85**	**36**	P		x	09 43 39.7	
LBFI				S		x	09 44 00.3	
MTNI	**Mataram**	**2.93**	**297**	P		x	09 44 01.3	
BKSI	**Bulukumba**	**4.82**	**16**	P		**Pn**	**09 44 21.7**	**+2.6**
WRA	**Warramunga Arr**	**17.96**	**125**	P		**Pn**	**09 47 15.6**	**+0.1**
	0.1nm,0.3s,baz=299,slow=13,SNR=3.7							
WRA				S		Sn	09 50 20.8	-14
	0.1nm,0.3s,baz=116,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**19.82**	**135**	P		**Pn**	**09 47 40.2**	**+2.4**
	0.1nm,0.3s,baz=315,slow=12,SNR=6.7							
USRK	**Ussuriysk Arra**	**55.25**	**12**	P		**P**	**09 52 35.4**	**-2.1**
	0.6nm,0.5s,baz=182,slow=6.0,SNR=4.6							
SONM	**Songino Array**	**58.62**	**350**	P		**P**	**09 53 00.2**	**-1.2**
	0.2nm,0.3s,baz=171,slow=9.0,SNR=2.6							
MKAR	**Makanchi Array**	**65.25**	**333**	P		**P**	**09 53 45.5**	**-0.5**
	0.4nm,0.5s,baz=155,slow=7.3,SNR=6.7							
ZALV	**Zalesovo Beam**	**69.90**	**339**	P		**P**	**09 54 15.8**	**+0.8**
	0.7nm,0.5s,baz=116,slow=6.6,SNR=2.9							

IDC 13 10:03:24.5±1.5, 18°.77N×72°.22W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/24, mbtmp3.8/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/43, Error ellipse: s-maj=81.6km s-min=27.3km az=48.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**13.99**	**189**	LR		LR	10 12 32.9	
	comp=Z,48nm,19.5s,baz=356,slow=39							
JTS	**JuntasAbangare**	**14.93**	**237**	LR		LR	10 12 05.4	
	comp=Z,169nm,19.8s,baz=29,slow=35							
PTGA	**Pitinga**	**22.82**	**147**	LR		LR	10 17 41.1	
	comp=Z,54nm,18.9s,baz=165,slow=38							
TXAR	**Lajitas Array**	**30.50**	**296**	P		P	10 09 38.5	-1.1
	0.8nm,1.0s,baz=123,slow=9.2,SNR=5.5							
LPAZ	**La Paz**	**35.07**	**173**	LR		LR	10 25 33.1	
	comp=Z,91nm,20.9s,baz=256,slow=38							
BDFB	**Brasilia**	**41.68**	**144**	P		P	10 11 15.2	-0.1
	3.5nm,0.6s,baz=284,slow=7.0,SNR=4.1							
NVAR	**Mina Array Bea**	**44.43**	**306**	P		P	10 11 39.3	+1.7
	0.3nm,0.5s,baz=96,slow=9.4,SNR=2.4							
CPUP	**Villa Florida**	**47.11**	**162**	LR		LR	10 31 10.1	
	comp=Z,71nm,18.1s,baz=208,slow=35							
SFJD	**Kangerlussuaq**	**50.18**	**11**	LR		LR	10 31 29.2	
	comp=Z,115nm,21.7s,baz=208,slow=34							
YKA	**Yellowknife Ar**	**52.54**	**337**	P		P	10 12 38.8	-0.6
	0.7nm,0.8s,baz=124,slow=7.4,SNR=9.9							
DAVOX	**Davos/Dischmat**	**71.22**	**46**	LR		LR	10 38 36.2	
	comp=Z,44nm,21.9s,baz=333,slow=30							

*ISCJB **13** 10:08:17.3±0.6, 76°.93N±0°.02×18°.01E±0°.09, h4km±3km, mb4.6/109, MS3.9/19, Error ellipse: s-maj=4.1km s-min=2.2km az=144.0*
*KOLA **13** 10:08:17.8, 77°.24N×19°.63E, h0km*
*BJI **13** 10:08:17.4, 76°.90N×18°.30E, h10km, mB5.1/25, mb4.8/33, Ms4.8/17, Ms7 4.6/15*
*MOS **13** 10:08:18.8±1.1, 76°.88N×18°.30E, h10km, mb4.8/31, Error ellipse: s-maj=25.3km s-min=4.5km az=94.5*
*CSEM **13** 10:08:18.8±0.1, 76°.95N×18°.45E, h2km, mb4.8/56, Error ellipse: s-maj=4.8km s-min=2.7km az=62.0*
*IDC **13** 10:08:19.1±0.4, 76°.97N×18°.28E, h0km, mb4.3/30, mb1 4.5/32, mb1mx4.4/38, mbtmp4.3/32, ML3.7/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/50, Error ellipse: s-maj=11.1km s-min=6.6km az=65.0*
*NAO **13** 10:08:19.6±1.2, 76°.97N×18°.41E, h11km±11km, ML4.6*
*NEIC **13** 10:08:20.8±0.2, 76°.94N×18°.43E, h10km, mb4.8/46, Error ellipse: s-maj=6.0km s-min=3.6km az=56.0*
*HEL **13** 10:08:21.1±0.3, 77°.03N×18°.41E, h10km, ML4.2, MD3.1(BER), ML4.1(BER)*
*BER **13** 10:08:22.6±1.9, 77°.03N×18°.43E, h15km, MD3.1, ML4.1, ML4.6(NAO)*

ISC 13 10:08:21.5±0.4, 76°.92N±0°.02×18°.23E±0°.02, h16km±2km, n698, σ1°35/752, mb4.6/111, MS3.7/19, 108C-119D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.62**	**280**	Pg		**Pg**	**10 08 32.5**	**-1.0**
HSP	**Hornsund**	**0.62**	**280**	*e*P		**Pg**	**10 08 32.6**	**-1.0**
HSP				*e*S		**Sg**	**10 08 40.5**	**-1.3**
HSP	**Hornsund**	**0.62**	**280**	Pg		**Pg**	**10 08 32.5**	**-1.0**
HSP	**Hornsund**	**0.62**	**280**	*i* P		**Pg**	**10 08 32.5**	**-1.0**
HSP	**Hornsund**	**0.62**	**280**	P		**Pg**	**10 08 32.5**	**-1.0**
SPA0	**Spitsbergen Ar**	**1.33**	**343**	Pn		**Pn**	**10 08 43.1**	**-2.2**
	baz=154,slow=18							
SPA0				Lg		Lg	10 08 60.0	
	baz=159,slow=37							
SPA0	**Spitsbergen Ar**	**1.33**	**343**	Pn		**Pn**	**10 08 43.1**	**-2.2**
	baz=154,slow=18							
SPA0				Lg		Lg	10 08 60.0	
	baz=159,slow=37							
SPA0	**Spitsbergen Ar**	**1.33**	**343**	*e*PG		**Pn**	**10 08 43.1**	**-2.2**
SPA0				*e*SG		**Sn**	**10 08 60.0**	**-2.7**
SPA0	**Spitsbergen Ar**	**1.33**	**343**	Pg		**Pn**	**10 08 43.1**	**-2.2**
SPA0				Sg		**Sn**	**10 08 59.9**	**-2.7**
SPA0				Lg		Lg	10 09 00.0	
	SNR=55							
SPITS	**Spitsbergen Ar**	**1.33**	**343**	Pn		**Pn**	**10 08 43.7**	**-1.6**
SPITS				Sn		**Sn**	**10 09 01.3**	**-1.4**
SPITS	**Spitsbergen Ar**	**1.33**	**343**	Pn		**Pn**	**10 08 43.7**	**-1.6**
	baz=152,slow=20							
SPITS				Sn		**Sn**	**10 09 01.3**	**-1.4**
	baz=160,slow=26,SNR=7.0							
SPITS	**Spitsbergen Ar**	**1.33**	**343**	P		**Pn**	**10 08 43.7**	**-1.6**
SPITS				Sn		**Sn**	**10 09 01.3**	**-1.4**
HOPEN	**Hopen**	**1.62**	**101**	Pn		**Pn**	**10 08 47.9**	**-1.3**
HOPEN				Lg		Lg	10 09 10.3	
HOPEN	**Hopen**	**1.62**	**101**	*e*P		**Pn**	**10 08 47.8**	**-1.5**
HOPEN				*e*Pg		**Pg**	**10 08 51.7**	**-0.9**
HOPEN				*e*Sg		**Sb**	**10 09 10.2**	**-0.8**
HOPEN				IAML			10 09 16.3	
	comp=Z,5μm,0.3s							
HOPEN	**Hopen**	**1.62**	**101**	*e*P		**Pn**	**10 08 47.8**	**-1.5**
HOPEN				*e*PG		**Pg**	**10 08 51.7**	**-0.9**
HOPEN				*e*SN		**Sb**	**10 09 10.2**	**-0.8**
HOPEN				IAML			10 09 16.3	
	comp=Z,5μm,0.3s							
HOPEN	**Hopen**	**1.62**	**101**	*e*P		**Pn**	**10 08 47.8**	**-1.5**
	SNR=55							
KBS	**Kingsbay**	**2.41**	**330**	Pn		**Pn**	**10 08 58.0**	**-2.2**
KBS				Pg		**Pb**	**10 09 03.6**	**-0.8**
KBS				Lg		Lg	10 09 33.6	
KBS	**Kingsbay**	**2.41**	**330**	*e*P		**Pn**	**10 08 57.8**	**-2.4**
KBS				pmax	pmax			
	comp=Z,342nm,1.0s							
KBS	**Kingsbay**	**2.41**	**330**	*e*P		**Pn**	**10 08 57.8**	**-2.4**
KBS				*e*Pg		**Pb**	**10 09 03.4**	**-1.0**
KBS				*e*Sg		**Sb**	**10 09 33.5**	**-0.3**
KBS				IAML			10 09 41.7	
	comp=Z,6μm,0.4s							
KBS	**Kingsbay**	**2.41**	**330**	*e*P		**Pn**	**10 08 57.8**	**-2.4**
KBS				*e*PG		**Pb**	**10 09 03.4**	**-1.0**
KBS				*e*SG		**Sb**	**10 09 33.5**	**-0.3**
KBS				IAML			10 09 41.7	
	comp=Z,6μm,0.4s							
KBS	**Kingsbay**	**2.41**	**330**	*e*Pn		**Pn**	**10 08 57.9**	**-2.2**
KBS				*e*Sn		**Sb**	**10 09 32.3**	**-1.6**
KBS	**Kingsbay**	**2.41**	**330**	Pn		**Pn**	**10 08 58.0**	**-2.2**
KBS	**Kingsbay**	**2.41**	**330**	*i* P		**Pn**	**10 09 00.1**	**-0.1**
	SNR=49							
KBS	**Kingsbay**	**2.41**	**330**	Pg		**Pb**	**10 09 03.6**	**-0.8**
KBS				*i* S		**Sn**	**10 09 32.0**	**+2.7**
	SNR=49							
KBS				*e*Sg		**Sb**	**10 09 33.5**	**-0.3**
	SNR=91							
BJO	**Bjornoya**	**2.44**	**174**	*e*Pg		**Pb**	**10 09 05.9**	**+1.1**
BJO				*e*Sg		**Sg**	**10 09 38.0**	**-1.7**
BJO				IAML			10 09 45.0	
	comp=Z,4μm,0.8s							
BJO	**Bjornoya**	**2.44**	**174**	*e*Pg		**Pb**	**10 09 05.9**	**+1.1**
	SNR=91							
BJO				*e*Sg		**Sg**	**10 09 38.0**	**-1.7**
	SNR=91							
BJO1	**Bjornoya**	**2.44**	**175**	*e*PG		**Pb**	**10 09 05.9**	**+1.0**
BJO1				*e*SB		**Sg**	**10 09 38.0**	**-1.7**
BJO1				IAML			10 09 45.0	
	comp=Z,4μm,0.8s							
BJO1	**Bjornoya**	**2.44**	**175**	Pg		**Pb**	**10 09 05.8**	**+1.0**
BJO1				Sb		**Sg**	**10 09 37.9**	**-1.7**
TRO	**Tromso**	**7.33**	**178**	*e*Pn9		Pn	10 10 11.9	+4.4
TRO				*e*Sn		**Sn**	**10 11 29.8**	**-0.4**
TRO				IAML			10 11 33.5	
	comp=Z,67nm,0.7s							
TRO	**Tromso**	**7.33**	**178**	*e*P		Pn	10 10 11.9	+4.4
TRO				*e*S		**Sn**	**10 11 29.8**	**-0.4**
TRO				IAML			10 11 33.5	
	comp=Z,67nm,0.7s							
KEV	**Kevo**	**7.61**	**156**	*e*P		**Pn**	**10 10 12.6**	**+1.1**
KEV				*e*			10 11 31.8	
KEV	**Kevo**	**7.61**	**156**	*e*P		**Pn**	**10 10 10.8**	**-0.7**
KEV				*e*S		**Sn**	**10 11 32.6**	**-4.7**
KEV	**Kevo**	**7.61**	**156**	*e*P		**Pn**	**10 10 10.7**	**-0.8**
KEV				MSN			10 11 38.2	
	comp=Z,116nm,0.2s							
KEV	**Kevo**	**7.61**	**156**	*e*Pn		**Pn**	**10 10 12.6**	**+1.1**
KEV				*e*Sn		**Sn**	**10 11 31.8**	**-5.5**
KEV	**Kevo**	**7.61**	**156**	*e*P		**Pn**	**10 10 10.8**	**-0.7**
	SNR=51							
KEV	**Kevo**	**7.61**	**156**	*e*Pn		**Pn**	**10 10 12.6**	**+1.1**
ARA0	**ARCESS Array S**	**7.70**	**161**	Pn		**Pn**	**10 10 11.3**	**-1.5**
	baz=357,slow=11							
ARA0				Sn		**Sn**	**10 11 34.2**	**-5.3**
	baz=355,slow=22							
ARA0	**ARCESS Array S**	**7.70**	**161**	*e*P		**Pn**	**10 10 11.3**	**-1.5**
ARA0				*e*			10 11 34.2	
ARA0	**ARCESS Array S**	**7.70**	**161**	Pn		**Pn**	**10 10 11.3**	**-1.5**
	SNR=705							
ARCES	**ARCESS Array B**	**7.70**	**161**	Pn		**Pn**	**10 10 10.8**	**-1.9**
ARCES				Sn		**Sn**	**10 11 34.4**	**-5.1**
ARCES	**ARCESS Array B**	**7.70**	**161**	Pn		**Pn**	**10 10 10.8**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=355,slow=12,SNR=72							
ARCES				Sn		**Sn**	**10 11 34.4**	**-5.1**
	comp=Z,51nm,0.3s,baz=357,slow=21,SNR=11							
ARCES				LR		LR	10 13 26.7	
	comp=Z,371nm,18.8s,baz=349,slow=40							
ARCES	**ARCESS Array B**	**7.70**	**161**	P		**Pn**	**10 10 10.9**	**-1.9**
ARE0	**ARCESS Array S**	**7.70**	**161**	*e*P		**Pn**	**10 10 12.9**	**+0.2**
ARE0	**ARCESS Array S**	**7.70**	**161**	*e*P		**Pn**	**10 10 12.9**	**+0.2**
ARE0	**ARCESS Array S**	**7.70**	**161**	*e*Pn		**Pn**	**10 10 12.6**	**-0.2**
ARE0				*e*Sn		Sn	10 11 32.8	-6.7
ARE0	**ARCESS Array S**	**7.70**	**161**	*e*Pn		**Pn**	**10 10 12.6**	**-0.2**
ARE0	**ARCESS Array S**	**7.70**	**161**	*e*P		**Pn**	**10 10 12.9**	**+0.2**
	SNR=51							
KIF	**Kilpisjarvi**	**7.99**	**173**	*e*P		**Pn**	**10 10 15.8**	**-0.8**
KIF				*e*S		**Sn**	**10 11 44.2**	**-2.3**
KIF	**Kilpisjarvi**	**7.99**	**173**	MSN			10 11 46.5	
	comp=Z,78nm,0.2s							
KIF	**Kilpisjarvi**	**7.99**	**173**	*e*P		**Pn**	**10 10 15.8**	**-0.8**
	SNR=51							
KTK1	**Kautokeino**	**8.08**	**167**	*e*Pn		**Pn**	**10 10 19.3**	**+1.4**
KTK1				*e*Sn		**Sn**	**10 11 46.0**	**-2.7**
KTK1	**Kautokeino**	**8.08**	**167**	*e*P		**Pn**	**10 10 19.1**	**+1.4**
KTK1				*e*S		**Sn**	**10 11 46.0**	**-2.7**
KTK1	**Kautokeino**	**8.08**	**167**	P		**Pn**	**10 10 19.2**	**+1.4**
HEF	**Hetta**	**8.70**	**167**	MSN			10 12 04.9	
	comp=Z,36nm,0.2s							
LOF	**Lofoten**	**8.94**	**191**	*e*Pn9		Px	10 10 48.0	
LOF				*e*Sn		Sx	10 12 23.6	
LOF	**Lofoten**	**8.94**	**191**	*e*		Px	10 10 48.0	
LOF				*e*		Sx	10 12 23.6	
STEI	**Steigen**	**9.08**	**187**	*e*Pn		**Pn**	**10 10 32.8**	**+1.2**
STEI	**Steigen**	**9.08**	**187**	*e*P		**Pn**	**10 10 32.8**	**+1.2**
STEI	**Steigen**	**9.08**	**187**	P		**Pn**	**10 10 32.7**	**+1.2**
JMIC	**Jan Mayen**	**9.39**	**245**	Pn		**Pn**	**10 10 37.2**	**+1.4**
JMIC	**Jan Mayen**	**9.39**	**245**	Pn		**Pn**	**10 10 37.2**	**+1.4**
	comp=Z,38nm,0.3s,baz=337,slow=3.7,SNR=13							
JMIC	**Jan Mayen**	**9.39**	**245**	Pn		**Pn**	**10 10 37.2**	**+1.4**
VRF	**Varrio**	**9.81**	**154**	MSN			10 12 29.3	
	comp=Z,72nm,0.2s							
LVZ	**Lovozero**	**10.27**	**143**	*e*P		**Pn**	**10 10 47.2**	**-0.7**
LVZ	**Lovozero**	**10.27**	**143**	*e*Pn		**Pn**	**10 10 47.2**	**-0.7**
LVZ	**Lovozero**	**10.27**	**143**	*e*P		**Pn**	**10 10 47.2**	**-0.7**
APA0	**Apatity Array**	**10.33**	**147**	Pn		Pn	10 10 45.5	-3.1
	baz=339,slow=9.3							
APA0				Sn		Sn	10 12 37.1	-6.7
	baz=337,slow=28							
APA0	**Apatity Array**	**10.33**	**147**	Pn4		Pn	10 10 45.5	-3.1
	baz=339,slow=9.3							
APA0				Sn3		Sn	10 12 37.1	-6.7
	baz=337,slow=28							
APA0	**Apatity Array**	**10.33**	**147**	*e*S		Sn	10 12 37.1	-6.7
APA0	**Apatity Array**	**10.33**	**147**	P		Pn	10 10 45.2	-3.4
APA0				S		Sn	10 12 36.3	-7.5
APA0	**Apatity Array**	**10.33**	**147**	Pn		Pn	10 10 45.5	-3.1
	SNR=8.2							
APA	**Apatity**	**10.41**	**146**	*i* P		**Pn**	**10 10 47.2**	**-2.6**
APA				*i*			10 12 40.0	
APA				pmax	pmax			
	comp=Z,72nm,0.7s							
APA	**Apatity**	**10.41**	**146**	P		Pn	10 10 46.1	-3.7
APA				S		Sn	10 12 38.3	-7.6
APA	**Apatity**	**10.41**	**146**	*i* P		**Pn**	**10 10 47.2**	**-2.6**
	comp=Z,72nm,0.7s							
KONS	**Konsvik**	**10.59**	**191**	*e*Pn		**Pn**	**10 10 54.3**	**+2.1**
KONS				*e*Sn		**Sn**	**10 12 46.3**	**-3.9**
KONS				IAML4			10 12 54.0	
	comp=Z,27nm,0.3s							
KONS	**Konsvik**	**10.59**	**191**	*e*P		**Pn**	**10 10 54.3**	**+2.1**
KONS				*e*S		**Sn**	**10 12 46.3**	**-3.9**
KONS				IAML			10 12 54.0	
	comp=Z,27nm,0.3s							
KONS	**Konsvik**	**10.59**	**191**	P		**Pn**	**10 10 54.2**	**+2.1**
FLOS	**Flostrand**	**10.74**	**191**	*e*Pn		**Pn**	**10 10 56.6**	**+2.3**
FLOS				*e*Sn		**Sn**	**10 12 50.8**	**-3.1**
FLOS	**Flostrand**	**10.74**	**191**	*e*P		**Pn**	**10 10 56.6**	**+2.3**
FLOS				*e*S		**Sn**	**10 12 50.8**	**-3.1**
FLOS	**Flostrand**	**10.74**	**191**	P		**Pn**

VSU Vasula 18.78 166⇓ *e*P **Pn** **10 12 40.5 +0.5**
VSU pmax pmax
comp=Z,95nm,1.0s
VSU Vasula 18.78 166 *e*P **Pn** **10 12 40.5 +0.5**
comp=Z,95nm,1.0s
ISAL Salakas 21.63 168 *e*P **P** **10 13 09.0 -1.5**
ISAL AMB AMB 10 13 14.5
comp=Z,19nm,1.2s
ISAL Salakas 21.63 168 *e*P **P** **10 13 09.0 -1.5**
comp=Z,19nm,1.2s
SOKR Solikamsk 21.73 121 *e*P **P** **10 13 11.3 -0.1**
SOKR pmax pmax
comp=Z,20nm,0.9s
IIGN Ignalina 21.86 168 *e*P **P** **10 13 11.4 -1.5**
IIGN AMB AMB 10 13 16.4
comp=Z,20nm,1.0s
IIGN Ignalina 21.86 168 *e*P **P** **10 13 11.4 -1.5**
comp=Z,20nm,1.0s
SFJD Kangerlussuaq 21.93 281 P **P** **10 13 15.7 +2.2**
SFJD Kangerlussuaq 21.93 281 P **P** **10 13 15.7 +2.2**
comp=Z,18nm,1.0s,baz=25,slow=7.7,SNR=5.0
SFJD Kangerlussuaq 21.93 281 P **P** **10 13 15.7 +2.2**
NACGM Naroch 22.33 167 *e*P **P** **10 13 17.0 -1.0**
NACGM Naroch 22.33 167 *e*P **P** **10 13 17.0 -1.0**
MOS Moscow 22.40 150 *e*P **P** **10 13 17.5 -1.2**
MOS *e*S **S** **10 17 19.4 -4.3**
MOS pmax pmax
comp=Z,36nm,1.0s
MOS MLR MLR
comp=Z,400nm,10.0s
MOS Moscow 22.40 150 *e*P **P** **10 13 17.5 -1.2**
comp=Z,36nm,1.0s
MNK Minsk 22.79 165 *e*P **P** **10 13 22.0 -0.9**
MNK *e*S **S** **10 17 27.0 -3.9**
MNK *e*SS **SnSn** **10 18 03.0 +1.7**
MNK Minsk 22.79 165 *e*P **P** **10 13 22.0 -0.9**
MICGM Minsk 22.79 165 *e*P **P** **10 13 22.0 -0.9**
OBN Obninsk 22.90 152⇓ *e*P **P** **10 13 22.7 -1.2**
OBN *i* S **S** **10 17 27.8 -4.9**
OBN pmax pmax
comp=Z,47nm,1.4s
OBN MLR MLR
comp=Z,200nm,13.0s
OBN Obninsk 22.90 152 *e*P **P** **10 13 22.8 -1.2**
comp=Z,584nm,2.4s
OBN Obninsk 22.90 152 P **P** **10 13 26.4 +2.5**
comp=Z,26nm,0.4s,baz=116,slow=4.7,SNR=6.8
OBN LR LR 10 22 28.9
comp=Z,182nm,19.4s,baz=281,slow=37
OBN Obninsk 22.90 152 *e*P **P** **10 13 22.8 -1.2**
comp=Z,584nm,2.4s
EKA Eskdalemuir Ar 23.03 212 P **P** **10 13 28.4 +3.0**
EKA Eskdalemuir Ar 23.03 212 P **P** **10 13 28.4 +3.0**
comp=Z,3.7nm,0.8s,baz=28,slow=11,SNR=4.3
EKA Eskdalemuir Ar 23.03 212 P **P** **10 13 28.4 +3.0**
SUW Suwalki 23.08 173 *e*P **P** **10 13 26.7 +0.9**
SUW Suwalki 23.08 173 *e*P **P** **10 13 26.7 +0.9**
SUW Suwalki 23.08 173 *e*P **P** **10 13 26.6 +0.9**
SUW Suwalki 23.08 173 *e*P **P** **10 13 26.6 +0.8**
ARU Arti 25.03 122 *d i*P **P** **10 13 45.7 +1.5**
ARU 10 14 18.9
ARU S **S** **10 18 14.1 +6.9**
ARU SS SnSn 10 19 06.0 +10
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 25.03 122 *e*P **P** **10 13 45.4 +1.2**
comp=Z,88nm,1.2s
ARU Arti 25.03 122 *e*P **P** **10 13 45.4 +1.2**
comp=Z,88nm,1.2s
SVE Sverdlovsk 25.06 119 *e*P **P** **10 13 43.3 -1.2**
SVE pmax pmax
comp=Z,30nm,1.3s
SVE Sverdlovsk 25.06 119 *e*P **P** **10 13 43.3 -1.2**
comp=Z,30nm,1.3s
LPSR Galich'ya Gora 25.63 150 *e*P **P** **10 13 49.0 -0.7**
CLL Collm 25.79 188 *e*P P 10 13 56.0 +4.8
CLL Collm 25.79 188 *e*(P) P 10 13 56.0 +4.8
CLL *e* 10 14 14.0
CLL *e*S S 10 18 35.0 +16
TIXI Tiksi 26.09 42⇑ *i*P **P** **10 13 53.7 +0.1**
TIXI pmax pmax
comp=Z,14nm,1.2s
TIXI Tiksi 26.09 42 *e*P **P** **10 13 53.4 -0.2**
comp=Z,8.7nm,0.9s
TIXI Tiksi 26.09 42 *e*P **P** **10 13 53.4 -0.2**
comp=Z,8.7nm,0.9s
AKASG Malin Array Be 26.66 164 P **P** **10 13 58.1 -0.9**
AKASG Malin Array Be 26.66 164 P **P** **10 13 58.1 -0.9**
AKASG Malin Array Be 26.66 164 P **P** **10 13 58.1 -0.9**
comp=Z,3.6nm,0.5s,baz=351,slow=9.3,SNR=16
AKASG Malin Array Be 26.66 164 P **P** **10 13 58.1 -0.9**
KIEV Kiev 26.67 164⇓ *i*P **P** **10 13 59.4 +0.3**
KIEV Kiev 26.67 164 *e*P **P** **10 13 58.4 -0.7**
comp=Z,14nm,0.8s
KIEV Kiev 26.67 164 *i*P **P** **10 13 59.4 +0.3**
VORD Divnogorie 27.28 150 *e*P **P** **10 14 02.6 -2.0**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 27.28 150 *e*P **P** **10 14 02.6 -2.0**
VRHR Novokhopersk 27.43 147 *e*P **P** **10 14 03.2 -2.7**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
KWP Kalwaria Pacla 27.45 174 *e*P **P** **10 14 06.9 +0.8**
KWP Kalwaria Pacla 27.45 174 *e*P **P** **10 14 06.9 +0.8**
KWP Kalwaria Pacla 27.45 174 *e*P **P** **10 14 06.9 +0.8**
STHS Stebnicka Huta 27.63 176 *e*P **P** **10 14 08.5 +0.7**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 27.63 176 *e*P **P** **10 14 08.5 +0.7**
STHS Stebnicka Huta 27.63 176 *e*P **P** **10 14 08.5 +0.7**
comp=Z,7.0nm,1.0s
VRAC Vranov 27.72 182 P **P** **10 14 09.5 +0.9**
VRAC Vranov 27.72 182 P **P** **10 14 09.5 +0.9**
comp=Z,3.6nm,0.6s,baz=0.0,slow=13,SNR=2.9
VRAC LR LR 10 25 00.1
comp=Z,163nm,20.9s,baz=345,slow=36
VRAC Vranov 27.72 182 P **P** **10 14 09.5 +0.9**
KOLS Kolonicke sedl 28.14 174 *e*P **P** **10 14 12.6 +0.3**
KOLS pmax pmax
comp=Z,17nm,1.7s
KOLS Kolonicke sedl 28.14 174 *e*P **P** **10 14 12.5 +0.3**
KOLS Kolonicke sedl 28.14 174 *e*P **P** **10 14 12.6 +0.3**
comp=Z,17nm,1.7s
CRVS Cervenica-Dubn 28.15 175 *e*P **P** **10 14 13.2 +0.8**
CRVS pmax pmax
comp=Z,40nm,2.2s
CRVS Cervenica-Dubn 28.15 175 *e*P **P** **10 14 13.2 +0.8**
CRVS Cervenica-Dubn 28.15 175 *e*P **P** **10 14 13.2 +0.8**
comp=Z,40nm,2.2s
GERES GERESS Array B 28.23 186 P **P** **10 14 15.0 +1.7**
GERES GERESS Array B 28.23 186 P **P** **10 14 15.0 +1.7**
comp=Z,1.0nm,0.8s,baz=32,slow=7.8,SNR=4.9
GERES LR LR 10 25 41.7
comp=Z,113nm,19.6s,baz=66,slow=37
GERES GERESS Array B 28.23 186 P **P** **10 14 15.0 +1.7**
UZH Uzhgorod 28.44 174 *e*P **P** **10 14 15.2 +0.3**
UZH *e* 10 14 23.2
UZH Uzhgorod 28.44 174 *e*P **P** **10 14 15.2 +0.3**
FRB Frobisher Bay 28.62 292 P **P** **10 14 17.8 +1.4**
FRB PcP **PcP** **10 17 28.2 +1.5**
FRB Frobisher Bay 28.62 292 P **P** **10 14 17.8 +1.4**
comp=Z,3.5nm,0.8s,baz=26,slow=12,SNR=8.1
FRB PcP **PcP** **10 17 28.2 +1.5**
comp=Z,1.7nm,0.8s,baz=209,slow=6.1,SNR=3.7
FRB Frobisher Bay 28.62 292 P **P** **10 14 17.8 +1.4**
BUR08 Bucovina Ar. S 29.51 170 *e*P **P** **10 14 24.8 +0.1**
BUR08 Bucovina Ar. S 29.51 170 *e*P **P** **10 14 24.8 +0.1**
DAVOX Davos/Dischmat 30.43 191 LR LR 10 29 38.2
comp=Z,134nm,19.9s,baz=68,slow=42
BRVK Borovoye 30.58 111⇓ *i*P **P** **10 14 34.2 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 30.58 111 *i*P **P** **10 14 34.2 +0.3**
comp=Z,7.0nm,1.7s
AKTK Aktyubinsk 30.62 127 P **P** **10 14 33.9 -0.4**
AKTO Aktyubinsk 30.62 127 P **P** **10 14 33.9 -0.4**
AKTO Aktyubinsk 30.62 127 P **P** **10 14 33.9 -0.4**
AKTO Aktyubinsk 30.62 127 P **P** **10 14 33.9 -0.4**
comp=Z,1.6nm,0.4s,baz=340,slow=9.5,SNR=11
AKTO Aktyubinsk 30.62 127 P **P** **10 14 33.8 -0.5**
BVAR Borovoye Array 30.64 111 P **P** **10 14 35.1 +0.7**
BVAR Borovoye Array 30.64 111 P **P** **10 14 35.1 +0.7**
BVAR Borovoye Array 30.64 111 P **P** **10 14 35.1 +0.7**
comp=Z,2.2nm,0.6s,baz=330,slow=11,SNR=12
BVAR LR LR 10 28 23.3
comp=Z,84nm,21.7s,baz=329,slow=39
BVAR Borovoye Array 30.64 111 P **P** **10 14 35.1 +0.7**
MLR Muntele Rosu 31.69 170 LR LR 10 28 05.8
comp=Z,35nm,19.8s,baz=21,slow=37
NVS Novosibirsk 31.79 96 *e*P **P** **10 14 43.7 -0.8**
NVS Novosibirsk 31.79 96 *e*P **P** **10 14 43.7 -0.8**
ABKAR Akbulak array 32.11 125 *e*P **P** **10 14 47.3 -0.1**
ABKAR Akbulak array 32.11 125 *e*P **P** **10 14 47.3 -0.1**
ZAA0 Zalesovo Array 32.98 95 *e*P **P** **10 14 54.4 -0.5**
ZAA0 Zalesovo Array 32.98 95 *e*P **P** **10 14 54.4 -0.5**
ZALV Zalesovo Beam 32.98 95 P **P** **10 14 53.8 -1.1**
ZALV 10 17 38.9
ZALV Zalesovo Beam 32.98 95 P **P** **10 14 53.8 -1.1**
ZALV PcP **PcP** **10 17 38.9 +0.6**
ZALV Zalesovo Beam 32.98 95 P **P** **10 14 53.8 -1.1**
comp=Z,7.2nm,1.2s,baz=330,slow=8.6,SNR=10.0
ZALV PcP **PcP** **10 17 38.9 +0.6**
comp=Z,3.1nm,0.8s,baz=285,slow=4.6,SNR=6.0
ZALV Zalesovo Beam 32.98 95 P **P** **10 14 53.8 -1.1**
ANN Anapa 33.18 155 *e*P P 10 15 01.6 +4.8
ANN *e**PP pP 10 15 04.7 +3.0
ANN *e* 10 16 12.0
ANN *e*SS SS 10 22 36.8 -1.3
ANN pmax pmax
comp=Z,98nm,1.1s
INK Inuvik 33.97 342 P **P** **10 15 04.3 +0.9**
INK Inuvik 33.97 342 P **P** **10 15 04.3 +0.9**
comp=Z,3.4nm,0.8s,baz=17,slow=12,SNR=8.9
INK Inuvik 33.97 342 P **P** **10 15 04.3 +0.9**
KURK Kurchatov 34.59 103 *d i*P **P** **10 15 09.1 +0.1**
KURK pmax pmax
comp=Z,13nm,1.7s
KURK Kurchatov 34.59 103 *e*P **P** **10 15 09.3 +0.3**
comp=Z,6.8nm,0.9s
KURK Kurchatov 34.59 103 *i* P **P** **10 15 09.1 +0.1**
comp=Z,13nm,1.7s
KURBB Kurchatov Arra 34.66 103 P **P** **10 15 09.5 -0.1**
comp=Z,7.4nm,0.8s,baz=336,slow=7.8,SNR=38
ZEI Tsey 35.89 147 *e*P **P** **10 15 20.3 -0.2**
ZEI pmax pmax
comp=Z,11nm,1.0s
COLD Coldfoot 35.90 352 *e*P **P** **10 15 19.3 -0.8**
comp=Z,9.3nm,1.0s
COLD Coldfoot 35.90 352 *e*P **P** **10 15 19.3 -0.8**
comp=Z,9.3nm,1.0s
SCHQ Schefferville 36.34 283 P **P** **10 15 24.5 +0.5**
SCHQ Schefferville 36.34 283 P **P** **10 15 24.5 +0.5**
comp=Z,5.4nm,0.7s,baz=37,slow=12,SNR=6.6
SCHQ Schefferville 36.34 283 P **P** **10 15 24.5 +0.5**
IM04 Indian Mountai 37.25 355 P **P** **10 15 30.7 -0.9**
IM04 Indian Mountai 37.25 355 P **P** **10 15 30.7 -0.9**
SEY Seymchan 37.51 33⇑ *e*P **P** **10 15 34.9 +1.1**
SEY Seymchan 37.51 33 P **P** **10 15 34.5 +0.7**
SEY Seymchan 37.51 33 P **P** **10 15 34.5 +0.7**
comp=Z,3.1nm,0.5s,baz=346,slow=8.8,SNR=11
SEY Seymchan 37.51 33 P **P** **10 15 34.5 +0.7**
HVS Khovu-Aksy 37.61 88⇓ *i*P **P** **10 15 35.5 +0.6**
HVS pmax pmax
comp=Z,96nm,1.6s
HVS Khovu-Aksy 37.61 88 *i*P **P** **10 15 35.5 +0.6**
comp=Z,96nm,1.6s
YKA Yellowknife Ar 37.77 326 P **P** **10 15 34.9 -1.1**
YKA PcP **PcP** **10 17 51.3 -1.0**
YKA Yellowknife Ar 37.77 326 P **P** **10 15 34.9 -1.1**
comp=Z,2.4nm,0.9s,baz=11,slow=8.1,SNR=24
YKA PcP **PcP** **10 17 51.3 -1.0**
comp=Z,0.4nm,0.5s,baz=10.0,slow=3.2,SNR=15
YKA Yellowknife Ar 37.77 326 P **P** **10 15 34.9 -1.1**
YKA Yellowknife Ar 37.77 326 PcP **PcP** **10 17 51.3 -1.0**
BRTR Keskin Array B 37.89 161 P **P** **10 15 38.0 +0.6**
BRTR Keskin Array B 37.89 161 P **P** **10 15 38.0 +0.6**
comp=Z,1.5nm,0.7s,baz=353,slow=5.7,SNR=5.7
BRTR Keskin Array B 37.89 161 *e*P **P** **10 15 38.0 +0.6**
comp=Z,3.0nm,1.0s
COLA College 38.18 350⇑ *e*P **P** **10 15 39.6 +0.2**
COLA pmax pmax
comp=Z,31nm,1.0s
COLA College 38.18 350 *e*P **P** **10 15 42.5 +3.1**
comp=Z,22nm,2.3s
COLA College 38.18 350 *e*P **P** **10 15 39.6 +0.2**
comp=Z,31nm,1.0s
FCC Fort Churchill 38.19 309 *e*P **P** **10 15 40.3 +0.7**
FCC Fort Churchill 38.19 309 *e*P **P** **10 15 40.3 +0.7**
comp=Z,0.4nm,1.3s
FCC Fort Churchill 38.19 309 *e*P **P** **10 15 40.3 +0.7**
ILAR Eielson Array 38.24 350 P **P** **10 15 39.6 -0.3**
ILAR PcP **PcP** **10 17 52.5 -1.3**
ILAR Eielson Array 38.24 350 P **P** **10 15 39.6 -0.3**
comp=Z,3.5nm,0.9s,baz=0.6,slow=6.7,SNR=22
ILAR PcP **PcP** **10 17 52.5 -1.3**
comp=Z,1.4nm,0.7s,baz=335,slow=4.1,SNR=8.6
ILAR LR LR 10 28 43.4
comp=Z,106nm,21.0s,baz=105,slow=32
ILAR Eielson Array 38.24 350 P **P** **10 15 39.7 -0.3**
ILAR Eielson Array 38.24 350 PcP **PcP** **10 17 52.5 -1.3**
ESDC Sonseca Array 38.56 208 P **P** **10 15 44.3 +1.3**
ESDC Sonseca Array 38.56 208 P **P** **10 15 44.3 +1.3**
comp=Z,1.3nm,0.6s,baz=8.4,slow=8.5,SNR=5.7
ESDC Sonseca Array 38.56 208 P **P** **10 15 44.3 +1.3**
MOY Mondy 38.77 81 *e*P **P** **10 15 46.2 +1.5**
MOY pmax pmax
comp=Z,24nm,1.4s
MOY Mondy 38.77 81 *e*P **P** **10 15 46.2 +1.5**
comp=Z,24nm,1.4s
CLNS Chul'man 38.96 57 *e*P **P** **10 15 45.8 -0.4**
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS Chul'man 38.96 57 *e*P **P** **10 15 45.8 -0.4**
comp=E,11nm,0.7s
MK31 Makanchi Array 39.11 102 *e*P **P** **10 15 47.5 0.0**
MK31 *e* 10 17 56.0
MK31 Makanchi Array 39.11 102 *e*P **P** **10 15 47.5 0.0**
MK31 *e*PcP **PcP** **10 17 56.0 -0.8**
MK31 Makanchi Array 39.11 102 *e*P **P** **10 15 47.5 0.0**
MK31 Makanchi Array 39.11 102 *e*PcP **PcP** **10 17 56.0 -0.8**
MKAR Makanchi Array 39.11 102 P **P** **10 15 47.5 0.0**
MKAR Makanchi Array 39.11 102 P **P** **10 15 47.5 0.0**
MKAR Makanchi Array 39.11 102 P **P** **10 15 47.5 0.0**
comp=E,9.1nm,0.8s,baz=344,slow=7.2,SNR=58
MKAR Makanchi Array 39.11 102 P **P** **10 15 47.5 0.0**
TLY Talaya 39.35 78 *e*P **P** **10 15 49.7 +0.3**
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,81nm,13.0s
TLY Talaya 39.35 78 *e*P **P** **10 15 49.8 +0.4**
comp=Z,5.1nm,0.9s
TLY Talaya 39.35 78 *e*P **P** **10 15 49.7 +0.3**
comp=Z,81nm,13.0s
MCK McKinley 39.36 351 *e*P **P** **10 15 50.0 +0.6**
MCK *e* 10 17 56.2
MCK McKinley 39.36 351 *e*P **P** **10 15 50.0 +0.6**
MCK *e*PcP **PcP** **10 17 56.2 -1.1**
MCK McKinley 39.36 351 *e*P **P** **10 15 50.0 +0.6**
GAMB Gambell 39.41 7 *e*P **P** **10 15 51.5 +1.8**
comp=Z,55nm,2.8s
GAMB Gambell 39.41 7 *e*P **P** **10 15 51.5 +1.8**
comp=Z,55nm,2.8s
KTH Kantishna Hill 39.60 352 *e*P **P** **10 15 53.5 +2.0**
comp=Z,72nm,1.0s
KTH Kantishna Hill 39.60 352 *e*P **P** **10 15 53.5 +2.0**
comp=Z,72nm,1.0s
APE Apeiranthos 40.08 171 P **P** **10 15 55.6 -0.1**
APE pmax pmax
comp=Z,28nm,1.3s
APE Apeiranthos 40.08 171 P **P** **10 15 55.6 -0.1**
comp=Z,28nm,1.3s
PPLA Purkeypile 40.30 353 P **P** **10 15 58.1 +0.7**
comp=Z,8.7nm,0.7s
PPLA *e*PcP **PcP** **10 17 59.1 -1.3**
PPLA Purkeypile 40.30 353 P **P** **10 15 58.1 +0.7**
comp=Z,8.7nm,0.7s
ZAK Zakamensk 40.48 79 *e*P **P** **10 15 58.9 -0.1**
ZAK *e* 10 17 39.5
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK Zakamensk 40.48 79 *e*P **P** **10 15 58.9 -0.1**
comp=Z,2.0nm,1.7s
EKS2 Erkin-Say 41.19 113 *e*P **P** **10 16 05.9 +1.0**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 41.19 113 *e*P **P** **10 16 05.9 +1.0**
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 41.19 113 *e*P **P** **10 16 05.9 +1.0**
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 41.33 110 *e*P **P** **10 16 07.5 +1.4**
TKM2 pmax pmax
comp=Z,33nm,2.0s
TKM2 Tokmak 2 41.33 110 *e*P **P** **10 16 07.5 +1.4**
comp=Z,33nm,2.0s
TKM2 Tokmak 2 41.33 110 *e*P **P** **10 16 07.5 +1.4**
comp=Z,33nm,2.0s
AAK Ala-Archa 41.37 112⇓ *e*P **P** **10 16 07.4 +1.0**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 41.37 112 *e*P **P** **10 16 07.9 +1.5**
comp=Z,4.0nm,0.8s
AAK Ala-Archa 41.37 112 P **P** **10 16 07.8 +1.5**
comp=Z,3.4nm,0.8s,baz=165,slow=0.7,SNR=9.6
AAK Ala-Archa 41.37 112 *e*P **P** **10 16 07.4 +1.0**
comp=Z,12nm,1.0s
IDI Anoyia 41.83 172 LR LR 10 35 27.5
comp=Z,59nm,21.0s,baz=19,slow=39
RC01 Rabbit Creek A 42.03 351 *e*P **P** **10 16 10.6 -0.8**
comp=Z,6.0nm,0.7s
RC01 Rabbit Creek A 42.03 351 *e*P **P** **10 16 10.6 -0.8**
comp=Z,6.0nm,0.7s
WMQ Urumqi 43.14 98 P **P** **10 16 20.5 -0.2**
WMQ pP **pP** **10 16 25.0 -0.8**
WMQ sP **sP** **10 16 27.5 -0.3**
WMQ PP **PP** **10 18 03.1 +2.4**
WMQ PcP **PcP** **10 18 10.8 +0.8**
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ LR LR
comp=Z,110nm,19.2s
WMQ LR LR
comp=Z,210nm,17.5s
SONM Songino Array 43.58 78 P **P** **10 16 24.1 -0.2**
SONM Songino Array 43.58 78 P **P** **10 16 24.1 -0.2**
comp=Z,1.5nm,0.6s,baz=335,slow=6.7,SNR=12
SONM Songino Array 43.58 78 P **P** **10 16 24.1 -0.2**
ULN Ulaanbaatar 43.69 77 *e*P **P** **10 16 25.8 +0.6**
comp=Z,5.6nm,0.9s
ULN Ulaanbaatar 43.69 77 *i*P **P** **10 16 25.7 +0.5**
comp=Z,7.0nm,1.0s
KSH Kashi 44.67 112 P P 10 16 36.6 +3.5
KSH *e*PP PP 10 18 22.3 +5.1
KSH *e*PcS **PcS** **10 22 09.1 +0.2**
KSH *e*S **S** **10 23 13.3 +4.8**
KSH *e*sS sS 10 23 20.3 +3.4
KSH *e*SS **SS** **10 26 25.1 -3.3**
KSH pmax pmax
comp=Z,6.0nm,1.1s
KSH pmax pmax
comp=Z,120nm,4.6s
KSH LR LR
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,150nm,4.6s
KSH LR LR
comp=Z,170nm,5.3s
HIA Hailar 45.09 65 *e*P **P** **10 16 35.6 -0.6**
comp=Z,8.0nm,1.1s
KDAK Kodiak Island 45.43 353 *e*P **P** **10 16 40.6 +1.9**
ULM Lac du Bonnet 46.62 306 P **P** **10 16 47.7 -0.5**
ULM Lac du Bonnet 46.62 306 P **P** **10 16 47.7 -0.5**
comp=Z,4.3nm,0.7s,baz=14,slow=10,SNR=6.2
ULM Lac du Bonnet 46.62 306 P **P** **10 16 47.7 -0.5**
PETK Petropavlovsk- 47.74 32 P **P** **10 16 57.8 +0.9**
PETK Petropavlovsk- 47.74 32 P **P** **10 16 57.8 +0.9**
PETK Petropavlovsk- 47.74 32 P **P** **10 16 57.8 +0.9**
comp=Z,3.0nm,0.9s,baz=49,slow=4.7,SNR=5.0
PETK LR LR 10 39 28.5
comp=Z,30nm,19.0s,baz=218,slow=39
PETK Petropavlovsk- 47.74 32 P **P** **10 16 57.8 +0.9**
MDV Middlebury 47.94 284 *e*P **P** **10 16 58.9 +0.4**
MDV Middlebury 47.94 284 *e*P **P** **10 16 58.9 +0.4**
AGMN Agassiz Nation 48.49 306 *e*P **P** **10 17 01.9 -0.9**
comp=Z,177nm,3.0s
AGMN Agassiz Nation 48.49 306 ⇓P **P** **10 17 02.5 -0.3**
baz=48
AGMN Agassiz Nation 48.49 306 *e*P **P** **10 17 01.9 -0.9**
comp=Z,177nm,3.0s
B30A Myrvik Farm, E 48.80 308 ⇑P **P** **10 17 04.3 -0.8**
baz=49
A24A Westby 49.33 313 ⇑P **P** **10 17 08.8 -0.4**
baz=49
A22A Carney Farms, 49.58 314 ⇑P **P** **10 17 10.7 -0.4**
baz=49
MDND Maddock 49.61 309 ⇓P **P** **10 17 10.3 -1.1**
baz=49
A21A Bergtoll Ranch 49.74 315 ⇑P **P** **10 17 11.2 -1.2**
baz=50
B23A Brockton 49.94 313 ⇑P **P** **10 17 12.9 -1.0**
baz=50
A20A Cobblestone Ra 50.01 316 ⇓P **P** **10 17 13.4 -1.1**
baz=50
C26A Wahner Farm, P 50.07 311 ⇓P **P** **10 17 14.3 -0.6**
baz=50
A19A Klindworth Far 50.09 317 ⇓P **P** **10 17 14.3 -0.8**
baz=50,SNR=7.1
GTA Gaotai 50.09 87 P **P** **10 17 16.1 +0.8**
GTA pP **pP** **10 17 20.6 +0.2**
GTA sP **sP** **10 17 23.1 +0.7**
GTA S **S** **10 24 28.9 +3.3**
GTA sS **sS** **10 24 36.5 +2.4**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,180nm,4.3s
GTA LR LR
comp=Z,170nm,13.8s
GTA LR LR
comp=Z,160nm,13.8s
GTA LR LR
comp=Z,89nm,15.2s
D30A Buchanan 50.17 308 ⇓P **P** **10 17 13.8 -1.8**
baz=50,SNR=5.3
B19A Brinkman Farms 50.58 317 ⇓P **P** **10 17 18.2 -0.5**
baz=50
C23A Lambert 50.61 313 ⇓P **P** **10 17 18.1 -0.9**
baz=50
C22A Vida 50.78 314 ⇑P **P** **10 17 18.8 -1.5**
baz=50
SPMN St. Paul 50.87 302 *e*P **P** **10 17 23.1 +2.1**
comp=Z,17nm,1.1s
SPMN St. Paul 50.87 302 ⇑P **P** **10 17 20.6 -0.3**
baz=51
SPMN St. Paul 50.87 302 *e*P **P** **10 17 23.0 +2.1**
comp=Z,17nm,1.1s
D26A Manning 50.89 311 ⇑P **P** **10 17 20.7 -0.5**
baz=51
EGMT Eagleton 51.13 317 ⇓P **P** **10 17 22.7 -0.2**
baz=51
D24A Glendive 51.13 312 ⇑P **P** **10 17 22.2 -0.7**
baz=51
C20A Veseth Ranch, 51.16 316 ⇑P **P** **10 17 22.0 -1.1**
baz=51
D23A Lindsay 51.23 313 ⇑P **P** **10 17 22.6 -1.0**
baz=51
C19A Slack Wire Ran 51.30 317 ⇑P **P** **10 17 23.0 -1.2**
baz=51,SNR=5.2
E27A Carson 51.32 310 ⇑P **P** **10 17 23.8 -0.6**
baz=51
HHC Hu-ho-hao-te 51.36 76 *e*P **P** **10 17 24.8 0.0**
HHC sP **sP** **10 17 32.3 +0.4**
HHC PP **PP** **10 19 22.8 +1.3**
HHC S **S** **10 24 41.0 -2.2**
HHC SS **SS** **10 28 16.6 -1.6**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.5s
HHC LR LR
comp=Z,300nm,15.5s
HHC LR LR
comp=Z,320nm,14.1s
HHC LR LR

comp=Z,150nm,14.1s
D22A Cohagen 51.41 314 ⇑P P 10 17 24.5 -0.5
baz=51
E26A Carlson Angus 51.44 311 ⇓P P 10 17 24.9 -0.4
baz=51
F30A Leola 51.45 307 ⇑P P 10 17 24.4 -0.9
baz=51
CN2 Changchun 51.48 62 eP P 10 17 28.0 +2.5
CN2 pmax pmax
comp=Z,10.0nm,0.8s
E25A Miller Ranch, 51.57 311 ⇑P P 10 17 24.9 -1.4
baz=51
D21A La Casta Ranch 51.62 315 ⇓P P 10 17 25.6 -1.0
baz=51
F28A McLaughlin 51.75 309 ⇑P P 10 17 26.9 -0.7
baz=52
D20A Manuel Ranch, 51.78 316 ⇑P P 10 17 26.9 -0.9
baz=52
D19A Cripps Ranch, 51.83 316 ⇓P P 10 17 27.5 -0.7
baz=52,SNR=6.8
F27A Lemmon 51.94 310 ⇓P P 10 17 28.4 -0.6
baz=52,SNR=5.2
NEW Newport 51.97 323 eP P 10 17 29.4 +0.3
NEW Newport 51.97 323 P P 10 17 29.0 -0.2
comp=Z,5.2nm,0.9s,baz=0.3,slow=5.9,SNR=8.6
NEW Newport 51.97 323 ⇓P P 10 17 27.7 -1.4
baz=52
NEW Newport 51.97 323 eP P 10 17 29.4 +0.3
BSMT Bassoo Peak 52.05 321 eP P 10 17 29.6 -0.3
BSMT Bassoo Peak 52.05 321 eP P 10 17 29.6 -0.3
JTMT Jette 52.08 321 eP P 10 17 29.7 -0.4
JTMT Jette 52.08 321 eP P 10 17 29.7 -0.4
F26A Lodgepole 52.08 311 ⇓P P 10 17 29.4 -0.6
baz=52,SNR=5.4
G30A Faulkton 52.15 307 ⇑P P 10 17 29.6 -0.9
baz=52
SWMT Swartz Lake 52.27 321 eP P 10 17 30.9 -0.6
SWMT Swartz Lake 52.27 321 eP P 10 17 30.9 -0.6
E20A Meyer Farm, Mu 52.35 315 ⇓P P 10 17 31.0 -1.0
baz=52
USRK Ussuriysk Arra 52.38 56 P P 10 17 31.2 -0.9
comp=Z,7.3nm,0.7s,baz=346,slow=6.2,SNR=17
USRK PcP PcP 10 18 45.1 +2.2
comp=Z,2.1nm,0.6s,baz=357,slow=3.2,SNR=7.8
F24A Ekalaka 52.39 312 ⇑P P 10 17 31.3 -1.0
baz=52
G27A Dupree 52.41 310 ⇓P P 10 17 31.7 -0.7
baz=52
SLMT Seeley Lake 52.45 320 eP P 10 17 32.2 -0.8
SLMT Seeley Lake 52.45 320 eP P 10 17 32.2 -0.8
E19A Rath Farm, Rou 52.50 316 ⇓P P 10 17 32.2 -0.9
baz=52
G28A Parade 52.52 309 ⇑P P 10 17 32.7 -0.6
baz=52
F23A Volborg 52.67 313 ⇓P P 10 17 33.4 -1.0
baz=52
HRY Holter Researc 52.73 319 eP P 10 17 33.6 -1.3
HRY Holter Researc 52.73 319 eP P 10 17 33.6 -1.3
CHMT Chamberlain Mo 52.74 320 eP P 10 17 34.1 -1.0
CHMT Chamberlain Mo 52.74 320 eP P 10 17 34.1 -1.0
G25A Newell 52.84 311 ⇓P P 10 17 34.9 -0.8
baz=53
G24A Alzada 52.88 312 ⇓P P 10 17 35.0 -1.0
baz=53
MSO Missoula 52.92 320 eP P 10 17 35.6 -0.7
comp=Z,26nm,1.1s
MSO Missoula 52.92 320 ⇓P P 10 17 35.3 -1.0
baz=53,SNR=23
MSO Missoula 52.92 320 eP P 10 17 35.6 -0.7
comp=Z,26nm,1.1s
H28A Mission Ridge 52.93 309 ⇓P P 10 17 35.4 -0.9
baz=53
ECSD EROS Data Cent 53.03 305 eP P 10 17 36.5 -0.6
comp=Z,13nm,0.7s
ECSD EROS Data Cent 53.03 305 ⇓P P 10 17 36.2 -0.8
baz=53,SNR=6.1
ECSD EROS Data Cent 53.03 305 eP P 10 17 36.5 -0.6
comp=Z,13nm,0.7s
F20A Billings 53.04 315 ⇑P P 10 17 36.1 -1.1
baz=53
F19A Roth Farm, Mol 53.12 316 ⇑P P 10 17 36.4 -1.3
baz=53
BJI Beijing 53.15 72 P P 10 17 36.3 -1.6
BJI pmax pmax
comp=Z,13nm,2.1s
BJI LR LR
comp=Z,390nm,20.5s
BJI LR LR
comp=Z,580nm,18.6s
H27A Howes 53.15 310 ⇓P P 10 17 36.6 -1.4
baz=53
G23A Biddle 53.17 313 ⇓P P 10 17 36.0 -2.1
baz=53
GCMT Greycliff 53.29 316 eP P 10 17 31.2 -7.9
H25A Fruitdale 53.43 311 ⇓P P 10 17 39.1 -1.0
baz=53,SNR=6.0
I29A Vivian Onida 53.43 308 ⇓P P 10 17 39.1 -0.9
baz=53
G21A Lodge Grass 53.45 314 ⇑P P 10 17 38.7 -1.5
baz=53
H24A Dirks Ranch, A 53.47 312 ⇑P P 10 17 39.1 -1.3
baz=53
I28A Midland 53.61 309 ⇓P P 10 17 40.3 -1.0
baz=53,SNR=13
LRM Limekiln Ridge 53.69 319 eP P 10 17 41.7 -0.4
LRM Limekiln Ridge 53.69 319 eP P 10 17 41.7 -0.4
I27A Quinn 53.70 309 ⇓P P 10 17 40.7 -1.3
baz=54
I26A New Underwood 53.87 310 ⇑P P 10 17 42.0 -1.3
baz=54
H22A Clearmont 53.92 313 ⇑P P 10 17 42.2 -1.5
baz=54
J30A Dallas 53.96 307 ⇓P P 10 17 42.5 -1.4
baz=54
RSSD Black Hills 53.99 311 eP P 10 17 43.8 -0.5
RSSD Black Hills 53.99 311 eP P 10 17 43.8 -0.5
RSSD Black Hills 53.99 311 eP P 10 17 43.8 -0.5
H21A Big Horn, Sher 54.00 314 ⇑P P 10 17 42.9 -1.4
baz=54
J29A Okreek 54.03 308 ⇓P P 10 17 43.3 -1.1
baz=54
HAWA Hanford 54.12 325 eP P 10 17 45.1 +0.2
comp=Z,10nm,1.0s
HAWA Hanford 54.12 325 eP P 10 17 45.2 +0.2
comp=Z,10nm,1.0s
DLMT Dillon 54.16 319 eP P 10 17 47.3 +1.9
DLMT Dillon 54.16 319 eP P 10 17 47.3 +1.9
J28A Allard Ranch, 54.18 309 ⇓P P 10 17 44.3 -1.2
baz=54
LZH Lanzhou 54.19 85 eP P 10 17 45.4 -0.4
LZH pP pP 10 17 48.8 -2.2
LZH sP sP 10 18 00.3 +7.3
LZH PP PP 10 19 48.5 +1.3
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,77nm,7.5s
LZH LR LR
comp=Z,430nm,15.0s
LZH LR LR
comp=Z,420nm,16.0s
LZH LR LR
comp=Z,580nm,18.6s
F10A Beach Ranch, E 54.23 323 eP P 10 17 48.1 +2.2
comp=Z,8.9nm,1.2s
F10A Beach Ranch, E 54.23 323 eP P 10 17 48.1 +2.2
comp=Z,8.9nm,1.2s
H19A Powell 54.27 316 ⇑P P 10 17 45.8 -0.5
baz=54
H20A Greybull 54.30 315 ⇑P P 10 17 45.4 -1.0
baz=54
H18A Shoshone NF, C 54.38 316 ⇑P P 10 17 46.2 -1.0
baz=54
QLMT Earthquake Lak 54.50 318 eP P 10 17 48.1 0.0
QLMT Earthquake Lak 54.50 318 eP P 10 17 48.1 0.0
J26A Sides Ranch, S 54.61 310 ⇑P P 10 17 48.0 -0.7
baz=54
K30A Basset 54.61 307 ⇓P P 10 17 47.8 -0.9
baz=54
I22A 9 Mile Ranch, 54.63 313 ⇓P P 10 17 47.9 -0.9
baz=54
K29A Lazy Trails An 54.65 308 ⇑P P 10 17 48.1 -0.9
baz=54
J25A Sunshine Ranch 54.66 311 ⇓P P 10 17 48.2 -0.9
baz=54,SNR=6.0
MCMT McKenzie Canyo 54.72 319 eP P 10 17 49.4 -0.2
comp=Z,5.0nm,0.7s
MCMT McKenzie Canyo 54.72 319 eP P 10 17 49.4 -0.2
comp=Z,5.0nm,0.7s
H17A Grant Village 54.79 317 eP P 10 17 51.3 +1.1
comp=Z,7.3nm,0.9s
H17A Grant Village 54.79 317 ⇑P P 10 17 49.4 -0.9
baz=55
H17A Grant Village 54.79 317 eP P 10 17 51.3 +1.1
comp=Z,7.3nm,0.9s
I21A Big Trails, Te 54.84 314 ⇑P P 10 17 49.3 -1.1
baz=55,SNR=7.8
I20A Worland 54.84 315 ⇓P P 10 17 49.1 -1.3
baz=55
J24A Dixon Ranch, L 54.87 311 ⇑P P 10 17 49.6 -1.0
baz=55
I19A Meeteetse 54.90 315 ⇓P P 10 17 49.5 -1.4
baz=55
L31A Butterfield Fa 54.95 306 ⇓P P 10 17 50.4 -0.7
baz=55
J22A Midwest 55.09 313 ⇑P P 10 17 51.2 -1.1
baz=55,SNR=6.1
FLWY Flagg Ranch 55.12 317 eP P 10 17 55.6 +3.1
comp=Z,50nm,2.2s
J21A Lysite 55.32 314 ⇓P P 10 17 52.9 -1.0
baz=55
IMW Indian Meadow 55.34 317 eP P 10 17 54.5 +0.3
IMW Indian Meadow 55.34 317 eP P 10 17 54.5 +0.3
J20A Shoshoni 55.41 314 ⇑P P 10 17 54.1 -0.4
baz=55,SNR=18
BLO Bloomington 55.43 294 eP P 10 17 56.1 +1.5
BLO pmax pmax
comp=Z,14nm,0.6s
BLO Bloomington 55.43 294 eP P 10 17 56.0 +1.5
comp=Z,14nm,0.6s
BLO Bloomington 55.43 294 eP P 10 17 56.0 +1.5
comp=Z,14nm,0.6s
MOOW Moose Ponds 55.45 317 eP P 10 17 54.8 -0.1
comp=Z,58nm,2.6s
MOOW Moose Ponds 55.45 317 eP P 10 17 54.8 -0.1
comp=Z,58nm,2.6s
LOHW Long Hollow 55.56 317 eP P 10 17 58.0 +2.2
FXWY Fox Creek 55.60 317 eP P 10 17 55.9 -0.2
comp=Z,8.5nm,1.1s
FXWY Fox Creek 55.60 317 eP P 10 17 55.9 -0.2
comp=Z,8.5nm,1.1s
J19A Crowheart 55.66 315 ⇓P P 10 17 55.9 -0.5
baz=55,SNR=15
TPAW Teton Pass 55.74 317 eP P 10 17 57.5 +0.4
comp=Z,112nm,3.0s
TPAW Teton Pass 55.74 317 eP P 10 17 57.5 +0.4
comp=Z,112nm,3.0s
K22A Casper 55.84 313 eP P 10 17 56.0 -1.7
K22A Casper 55.84 313 ⇓P P 10 17 56.1 -1.6
baz=56,SNR=5.3
K22A Casper 55.84 313 eP P 10 17 56.0 -1.7
REDW Red Top Meadow 55.85 317 eP P 10 17 57.6 -0.2
comp=Z,11nm,1.4s
REDW Red Top Meadow 55.85 317 eP P 10 17 57.6 -0.2
comp=Z,11nm,1.4s
K21A Alcova 55.98 314 ⇓P P 10 17 58.0 -0.7
baz=56
HLID Hailey 56.19 320 eP P 10 18 02.0 +1.9
comp=Z,52nm,2.8s
HLID Hailey 56.19 320 ⇓P P 10 17 58.3 -1.9
baz=56
HLID Hailey 56.19 320 eP P 10 18 02.0 +1.9
comp=Z,52nm,2.8s
PDAR Pinedale Array 56.22 316 P P 10 17 59.9 -0.7
PDAR Pinedale Array 56.22 316 P P 10 17 59.9 -0.7
comp=Z,2.2nm,0.8s,baz=33,slow=5.3,SNR=15
PDAR LR LR 10 43 12.7
comp=Z,117nm,18.9s,baz=230,slow=37
PDAR Pinedale Array 56.22 316 P P 10 17 59.8 -0.7
L22A Ellis Ranch, M 56.43 313 ⇑P P 10 18 01.2 -0.7
baz=56
O32A Brockman Farm, 56.70 305 ⇓P P 10 18 02.4 -1.3
baz=56
M23A Laramie 56.86 312 ⇓P P 10 18 04.4 -0.6
baz=57
N28A Pribbeno Ranch 56.89 308 ⇓P P 10 18 04.3 -0.8
baz=57
M22A Cedar Creek Ra 57.07 313 ⇓P P 10 18 05.1 -1.4
baz=57
DANN Dangsing 57.10 107 eP P 10 18 06.8 -0.2
comp=Z,44nm,0.6s
N24A Carr 57.34 311 ⇑P P 10 18 07.5 -0.9
baz=57
P32A Huiting Farm, 57.38 305 ⇑P P 10 18 07.3 -1.1
baz=57,SNR=5.0
J05D Fort Rock, OR 57.40 326 ⇑P P 10 18 07.6 -1.1
baz=57
LSA Lhasa 57.44 99 eP P 10 18 11.1 +1.6
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 57.44 99 eP P 10 18 11.1 +1.6
comp=Z,12nm,0.8s
LSA Lhasa 57.44 99 eP P 10 18 11.1 +1.6
comp=Z,11nm,0.8s
N23A Red Feather La 57.45 312 ⇑P P 10 18 08.0 -1.3
baz=57
P31A Stockton 57.62 306 ⇑P P 10 18 09.7 -0.5
baz=57
KOLN Koldanda 57.63 108 eP P 10 18 09.9 -0.7
comp=Z,9.2nm,0.7s
GKN Gorkha 57.63 106 eP P 10 18 10.1 -0.4
comp=Z,27nm,0.6s
N22A Wattenberg Ran 57.63 312 ⇓P P 10 18 09.9 -0.6
baz=57
P30A Selden 57.76 307 ⇑P P 10 18 10.9 -0.3
baz=58
Q33A Connelly Farm, 57.84 304 ⇑P P 10 18 10.6 -1.1
baz=58
N20A Spence Gulch, 57.90 314 ⇑P P 10 18 11.5 -0.9
baz=58,SNR=6.4
O25A Wiggins 57.90 310 ⇑P P 10 18 11.6 -0.7
baz=58
KKN Kakani 57.97 106 eP P 10 18 12.9 -0.1
comp=Z,75nm,0.6s
Q32A Meitler Ranch, 57.98 305 ⇑P P 10 18 12.5 -0.2
baz=58
GUN Gumba 57.99 105 eP P 10 18 13.4 +0.1
comp=Z,37nm,1.1s
P28A Saint Francis 58.01 308 ⇓P P 10 18 12.6 -0.4
baz=58
O24A Longmont 58.06 311 ⇑P P 10 18 12.8 -0.6
baz=58
KSRS Korea Array 58.09 62 LR LR 10 44 47.5
comp=Z,57nm,19.9s,baz=356,slow=38
DMN Daman 58.11 106 eP P 10 18 14.0 0.0
comp=Z,21nm,0.8s
O23A Lake Granby, G 58.11 312 ⇑P P 10 18 12.9 -1.0
baz=58,SNR=5.1
PKIN Pulchoki 58.20 106 eP P 10 18 14.6 -0.1
comp=Z,11nm,0.5s
PKI Pulchoki 58.21 106 eP P 10 18 14.3 -0.5
comp=Z,11nm,0.5s
TKL Tuckaleechee C 58.23 290 P P 10 18 13.5 -0.9
TKL Tuckaleechee C 58.23 290 P P 10 18 13.5 -0.9
comp=Z,7.8nm,0.8s,baz=60,slow=7.0,SNR=7.7
TKL Tuckaleechee C 58.23 290 P P 10 18 13.5 -0.9
O22A Kremmling 58.27 312 ⇑P P 10 18 14.5 -0.5
baz=58
JIRN Jiri 58.30 105 eP P 10 18 15.7 +0.2
comp=Z,27nm,0.7s
P26A Davis Ranch, A 58.30 309 ⇓P P 10 18 14.0 -1.1
baz=58
ISCO Idaho Springs 58.46 311 ⇓P P 10 18 15.4 -1.0
baz=58
P25A Willow Gulch B 58.49 310 ⇓P P 10 18 15.5 -1.0
baz=58
Q28A Sharon Springs 58.52 308 ⇓P P 10 18 15.6 -1.0
baz=58
Q29A Oakley 58.53 307 ⇓P P 10 18 15.7 -0.9
baz=58
PBMO Poplar Bluff 58.54 297 eP P 10 18 15.2 -1.3
comp=Z,156nm,2.5s
PBMO Poplar Bluff 58.54 297 eP P 10 18 15.2 -1.3
comp=Z,156nm,2.5s
R33A Olander Ranch, 58.54 304 ⇑P P 10 18 15.6 -1.0
baz=58
BGU Big Grassy Mou 58.56 318 eP P 10 18 19.3 +2.3
comp=Z,20nm,2.6s
R32A Long Quarter, 58.56 305 ⇑P P 10 18 15.7 -1.1
baz=58
O20A White River Ci 58.58 314 eP P 10 18 16.7 -0.4
O20A White River Ci 58.58 314 ⇓P P 10 18 16.0 -1.0
baz=58,SNR=5.6
O20A White River Ci 58.58 314 eP P 10 18 16.7 -0.4
R31A Burdett 58.85 306 ⇓P P 10 18 18.0 -0.7
baz=59
P22A Eagle 58.86 312 ⇓P P 10 18 18.4 -0.7
baz=59
TAPN Taplejung 58.93 103 eP P 10 18 20.4 +0.6
comp=Z,23nm,1.1s
R30A Dighton 58.99 306 ⇓P P 10 18 19.1 -0.6
baz=59
ELK Elko 59.07 320 eP P 10 18 21.1 +0.6
ELK Elko 59.07 320 eP P 10 18 21.1 +0.6
RAMN Ramite 59.08 105 eP P 10 18 20.4 -0.3
comp=Z,27nm,0.7s
Q25A Bedland, Calha 59.09 310 ⇑P P 10 18 19.7 -1.0
baz=59
CD2 Chengdu 59.14 87 eP P 10 18 21.3 +0.4
CD2 pmax pmax
comp=Z,20nm,1.1s
Q24A Divide 59.20 311 ⇑P P 10 18 20.1 -1.4
baz=59
MPU Maple Canyon 59.24 317 eP P 10 18 22.7 +1.1
comp=Z,4.7nm,1.0s
MPU Maple Canyon 59.24 317 eP P 10 18 22.7 +1.1
comp=Z,4.7nm,1.0s
DUG Dugway 59.24 318 eP P 10 18 23.9 +2.3
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway 59.24 318 eP P 10 18 23.9 +2.3
comp=Z,3.1nm,0.9s
DUG Dugway 59.24 318 ⇓P P 10 18 21.0 -0.6
baz=59
SMCO Snowmass 59.30 312 eP P 10 18 22.3 0.0
SMCO Snowmass 59.30 312 eP P 10 18 22.3 0.0
ODAN Odare 59.34 104 eP P 10 18 22.8 +0.3
comp=Z,39nm,0.6s
R27A Eads 59.44 308 ⇑P P 10 18 22.0 -1.0
baz=59
TMUT Trail Mountain 59.88 316 eP P 10 18 28.4 +2.2
comp=Z,9.0nm,0.9s
TMUT Trail Mountain 59.88 316 eP P 10 18 28.4 +2.2
comp=Z,9.0nm,0.9s
R24A Sanders Place, 59.90 310 ⇓P P 10 18 25.1 -1.2
baz=60
SRU San Rafael 59.95 316 eP P 10 18 28.7 +2.2
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael 59.95 316 eP P 10 18 28.7 +2.2
comp=Z,3.2nm,0.8s
SRU San Rafael 59.95 316 eP P 10 18 28.7 +2.2
comp=Z,3.0nm,0.8s
S25A Robets Cordova 60.34 310 ⇑P P 10 18 28.6 -0.7
baz=60
TUL1 Tulsa 60.44 302 ⇑P P 10 18 29.6 -0.1
baz=60
PV01 Paradox Valley 60.58 314 eP P 10 18 30.1 -0.8
comp=Z,556nm,0.8s
PV01 Paradox Valley 60.58 314 eP P 10 18 30.1 -0.8
comp=Z,556nm,0.8s
T26A Comanche Natio 60.67 309 ⇓P P 10 18 30.3 -1.2
baz=60
S22A 4UR Ranch, Cre 60.67 312 ⇑P P 10 18 30.7 -1.0
baz=60
MVU Marysvale 60.81 317 eP P 10 18 33.0 +0.5
comp=Z,6.9nm,1.0s
MVU Marysvale 60.81 317 eP P 10 18 33.0 +0.5
comp=Z,6.9nm,1.0s
V34A Guthrie 60.85 303 ⇑P P 10 18 31.7 -0.9
baz=61
MJAR Matsushiro Arr 60.95 53 P P 10 18 32.8 -0.4
MJAR Matsushiro Arr 60.95 53 P P 10 18 32.8 -0.4
comp=Z,5.1nm,0.8s,baz=342,slow=6.9,SNR=10.0
MJAR Matsushiro Arr 60.95 53 P P 10 18 32.8 -0.4
V33A Lossen Ranch, 61.01 304 ⇓P P 10 18 33.1 -0.5
baz=61
U27A Thompson Grove 61.26 308 ⇓P P 10 18 34.8 -0.7
baz=61
MIAR Mount Ida 61.33 299 eP P 10 18 35.0 -0.8
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR Mount Ida 61.33 299 eP P 10 18 35.0 -0.8
comp=Z,9.6nm,0.9s
MIAR Mount Ida 61.33 299 eP P 10 18 35.0 -0.8
comp=Z,10.0nm,0.9s
R11A Troy Canyon, C 61.47 320 eP P 10 18 36.6 -0.3
R11A Troy Canyon, C 61.47 320 ⇓P P 10 18 36.5 -0.3
baz=61
R11A Troy Canyon, C 61.47 320 eP P 10 18 36.6 -0.3
NVAR Mina Array Bea 61.78 322 P P 10 18 38.6 -0.5
NVAR Mina Array Bea 61.78 322 P P 10 18 38.6 -0.5
comp=Z,1.4nm,0.8s,baz=29,slow=4.6,SNR=6.3
NVAR Mina Array Bea 61.78 322 P P 10 18 38.6 -0.5
CCUT Cedar City 61.92 318 eP P 10 18 42.4 +2.4
comp=Z,50nm,2.9s
U23A El Rito 61.95 311 ⇓P P 10 18 39.1 -1.1
baz=62
U22A Llaves 62.01 312 ⇑P P 10 18 40.2 -0.5
baz=62
V26A Tequesquite Ra 62.04 309 ⇑P P 10 18 40.2 -0.6
baz=62
X34A Smith Ranch, M 62.11 303 ⇓P P 10 18 40.5 -0.6
baz=62
V25A Rancho No Teng 62.15 309 ⇓P P 10 18 40.8 -0.8
baz=62
WMOK Wichita Mounta 62.15 304 eP P 10 18 43.7 +2.4
WMOK pmax pmax
comp=Z,6.0nm,0.8s
WMOK Wichita Mounta 62.15 304 eP P 10 18 43.7 +2.4
comp=Z,6.1nm,0.8s
V24A Rampart Ranch, 62.37 310 ⇓P P 10 18 42.3 -0.8
baz=62
V22A San Miguel Ran 62.47 312 ⇑P P 10 18 42.8 -0.9
baz=62,SNR=5.8
X31A McDonald Ranch 62.48 305 ⇑P P 10 18 43.2 -0.4
baz=62
V23A Ortiz Mt. (NFS 62.51 311 ⇓P P 10 18 43.3 -0.7
baz=62
X32A Elmer 62.56 304 ⇓P P 10 18 43.1 -0.9
baz=62
W27A Bowe Ranch, En 62.63 308 ⇑P P 10 18 44.1 -0.5
baz=62
X30A Coker Ranch, T 62.83 306 ⇑P P 10 18 45.1 -0.8
baz=63,SNR=6.3
Y33A Hilltop Ranch, 62.83 304 ⇓P P 10 18 45.5 -0.4
baz=63
U15A North Rim 62.85 316 ⇑P P 10 18 45.5 -0.8
baz=63
W24A Lazy 6 Ranch, 62.90 310 ⇑P P 10 18 46.3 -0.3
baz=63
TPNV Topopah Spring 62.94 320 ⇑P P 10 18 46.2 -0.6
baz=63
Y32A R-V Farms, Ver 62.99 304 ⇑P P 10 18 46.8 -0.2
baz=63
X28A Dimmitt 63.00 307 ⇑P P 10 18 46.3 -0.8
baz=63
Y31A Rekieta Farm, 63.19 305 ⇑P P 10 18 47.9 -0.3
baz=63
Z34A Collier Ranch, 63.32 303 ⇓P P 10 18 48.6 -0.5
baz=63
ANMO Albuquerque 63.34 311 *i* P P 10 18 49.1 -0.4
comp=Z,5.0nm,1.1s
Y29A Porterfield Fa 63.55 306 ⇓P P 10 18 50.2 -0.5
baz=63
Z33A Whitaker Ranch 63.56 304 ⇑P P 10 18 50.6 -0.2
baz=63
WUAZ Wupatki 63.60 315 eP P 10 18 53.8 +2.7
comp=Z,3.8nm,0.8s
MSTX Muleshoe 63.64 307 eP P 10 18 50.9 -0.5
MSTX Muleshoe 63.64 307 ⇑P P 10 18 50.2 -1.2
baz=63,SNR=5.4
MSTX Muleshoe 63.64 307 eP P 10 18 50.9 -0.5
Z32A Haskell 63.67 304 ⇑P P 10 18 50.7 -0.8
baz=64
Z31A Sharp Cattle R 63.79 305 ⇓P P 10 18 51.9 -0.3
baz=64
Y27A Causey 63.79 308 ⇓P P 10 18 51.8 -0.6
baz=64
Z30A Sanderson Ranc 64.00 306 ⇑P P 10 18 53.0 -0.7
baz=64
Y25A Mesa, Roswell 64.03 309 ⇓P P 10 18 53.3 -0.6
baz=64
GYA Guiyang 64.08 85 P P 10 18 55.8 +1.4
GYA PP PP 10 21 18.8 +3.9
GYA ScP 10 23 32.6
GYA S S 10 27 30.0 -0.1
GYA SKS SKSac 10 28 45.6 -1.7
GYA SS SS 10 31 40.8 +2.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax

comp=Z,90nm,5.2s
GYA LR LR
comp=Z,470nm,18.5s
GYA LR LR
comp=Z,450nm,19.4s
GYA LR LR
comp=Z,480nm,18.8s
134A White-Moore Ra 64.12 303 ⇓P P 10 18 53.9 -0.5
baz=64
Z29A Hungry Hill Ra 64.14 306 ⇓P P 10 18 54.0 -0.6
baz=64,SNR=6.2
Y24A Capitan 64.16 310 ⇓P P 10 18 53.9 -0.9
baz=64
Z28A Tucker Farm, M 64.23 307 ⇓P P 10 18 54.8 -0.4
baz=64
133A Hamilton Ranch 64.25 304 ⇑P P 10 18 55.0 -0.3
baz=64
Y23A Lovelace Mesa, 64.26 310 ⇑P P 10 18 55.3 -0.2
baz=64
TOA0 Torodi Ar. Sit 64.35 198 *e*P P 10 18 56.2 +0.1
TOA0 *e*PcP **PcP** 10 19 30.1 -0.4
TOA0 Torodi Ar. Sit 64.35 198 *e*P P 10 18 56.2 +0.1
TORD Torodi Ar. Bea 64.35 198 P P 10 18 56.1 0.0
TORD Torodi Ar. Bea 64.35 198 P P 10 18 56.1 0.0
comp=Z,4.1nm,0.8s,baz=6.8,slow=5.9,SNR=19
TORD Torodi Ar. Bea 64.35 198 P P 10 18 56.1 0.0
Z27A Tatum 64.36 308 ⇓P P 10 18 55.7 -0.4
baz=64
WHTX Lake Whitney 64.57 302 ⇓P P 10 18 57.1 -0.2
baz=64
GSC Goldstone 64.64 320 ⇑P P 10 18 57.6 -0.3
baz=64
Z25A Roswell 64.66 309 ⇑P P 10 18 57.5 -0.6
baz=64
X16A Lo Mia Camp, P 64.68 315 ⇑P P 10 18 58.0 -0.4
baz=64
Z24A Sheeppen Canyo 64.72 310 ⇑P P 10 18 58.3 -0.3
baz=64
233A Rising Star 64.82 303 ⇑P P 10 18 58.3 -0.8
baz=65
GMRC Granite Mounta 64.98 319 ⇓P P 10 18 59.7 -0.5
baz=65
127A Arkansas Junct 65.00 308 ⇑P P 10 18 59.9 -0.4
baz=65
HEC Hector,Ludlow 65.03 320 ⇑P P 10 18 59.9 -0.5
baz=65
232A Coleman 65.09 304 ⇓P P 10 19 00.2 -0.5
baz=65
231A Bronte 65.17 305 ⇑P P 10 19 00.9 -0.4
baz=65
PDMCI Parker Dam,Lak 65.22 318 ⇓P P 10 19 01.1 -0.5
baz=65
EDW2 Edwards Air Fo 65.22 321 ⇑P P 10 19 01.5 -0.1
baz=65
125A Gardner Draw, 65.25 309 ⇓P P 10 19 01.4 -0.5
baz=65
334A Lometa 65.36 303 ⇑P P 10 19 02.9 +0.4
baz=65
230A Sterling City 65.36 305 ⇑P P 10 19 02.1 -0.4
baz=65
229A Bryant Ranch, 65.41 306 ⇓P P 10 19 02.8 -0.1
baz=65
332A Millersview 65.59 304 ⇓P P 10 19 03.4 -0.6
baz=65
GDL2 Guadalupe Moun 65.65 308 *e*P P 10 19 00.1 -4.5
331A San Angelo 65.80 305 ⇓P P 10 19 04.7 -0.6
baz=66
BFSC Mount Baldy Ra 65.81 321 ⇓P P 10 19 04.3 -1.2
baz=66
225A Deer Hill, Car 65.82 309 ⇓P P 10 19 05.2 -0.5
baz=66
329A Wagon Wheel Ra 65.91 306 ⇓P P 10 19 05.3 -0.8
baz=66
433A Art 66.08 303 ⇓P P 10 19 06.6 -0.6
baz=66
432A Menard 66.10 304 ⇓P P 10 19 06.7 -0.6
baz=66
328A Wristen Ranch, 66.17 307 ⇓P P 10 19 07.4 -0.4
baz=66
HKT Hockley 66.23 300⇑ *e*P P 10 19 08.0 0.0
HKT pmax pmax
comp=Z,5.0nm,1.9s
HKT Hockley 66.23 300 *e*P P 10 19 08.0 0.0
comp=Z,5.0nm,1.9s
431A Sonora 66.44 305 ⇑P P 10 19 08.9 -0.6
baz=66
326A Caldwell Ranch 66.44 308 ⇓P P 10 19 09.0 -0.6
baz=66
430A Baggett Ranch, 66.45 305 ⇑P P 10 19 09.2 -0.4
baz=66
JCT Junction City 66.48 304 *e*P P 10 19 09.3 -0.5
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 66.48 304 *e*P P 10 19 09.3 -0.5
comp=Z,8.2nm,0.8s
JCT Junction City 66.48 304 ⇓P P 10 19 09.7 -0.1
baz=66
JCT Junction City 66.48 304 *e*P P 10 19 09.3 -0.5
comp=Z,8.0nm,0.8s
324A Moseley Ranch, 66.59 309 ⇑P P 10 19 09.3 -1.3
baz=66
TUC Tucson 66.64 314 *e*P P 10 19 11.2 +0.4
TUC Tucson 66.64 314 *e*P P 10 19 11.2 +0.4
TUC Tucson 66.64 314 *e*P P 10 19 11.2 +0.4
534A Blanco 66.67 302 ⇓P P 10 19 10.2 -0.8
baz=66
429A Davenport Ranc 66.73 306 ⇑P P 10 19 10.9 -0.5
baz=66
428A Kincaid Ranch, 66.78 306 ⇑P P 10 19 11.4 -0.3
baz=67,SNR=7.6
427A Hayter Ranch, 66.79 307 ⇑P P 10 19 11.3 -0.6
baz=67
532A Rocksprings 66.85 304 ⇓P P 10 19 11.3 -0.8
baz=67
426A McDonald Obser 67.08 308 ⇑P P 10 19 12.5 -1.3
baz=67
530A J-C Ranch, Com 67.09 305 ⇑P P 10 19 12.8 -0.8
baz=67
425A Indio Mountain 67.14 309 ⇓P P 10 19 13.1 -1.0
baz=67
528A Cox Ranch, San 67.35 306 ⇓P P 10 19 14.3 -1.1
baz=67
633A Seathoff Ranch 67.36 303 ⇑P P 10 19 14.4 -0.9
baz=67
527A Woodward Ranch 67.52 307 ⇓P P 10 19 15.4 -1.1
baz=67,SNR=5.4
526A Mary Lane Ranc 67.69 308 ⇓P P 10 19 16.7 -0.9
baz=68
628A Black Gap, Mar 68.03 306 ⇓P P 10 19 19.0 -0.6
baz=68
733A Divot King Ran 68.10 303 ⇑P P 10 19 19.8 -0.2
baz=68
626A Big Bend Ranch 68.19 308 ⇓P P 10 19 20.0 -0.6
baz=68
732A Laxson Ranch, 68.22 304 ⇓P P 10 19 20.1 -0.6
baz=68
TXAR Lajitas Array 68.32 307 P P 10 19 20.2 -1.2
TXAR Lajitas Array 68.32 307 P P 10 19 20.2 -1.2
comp=Z,2.3nm,0.8s,baz=56,slow=4.7,SNR=17
TXAR Lajitas Array 68.32 307 P P 10 19 20.2 -1.2
SLVN Son La 68.39 89 *e*P P 10 19 21.8 -0.2
comp=Z,12nm,0.8s
SLVN Son La 68.39 89 *e*P P 10 19 21.8 -0.2
comp=Z,12nm,0.8s
833A Chaparral WMA, 68.50 303 ⇑P P 10 19 22.2 -0.3
baz=68
834A Tilden 68.53 302 ⇓P P 10 19 22.5 -0.2
baz=68
934A Benavides 69.04 302 ⇓P P 10 19 25.9 +0.1
baz=69
034A Hebbronville 69.59 302 ⇑P P 10 19 28.9 -0.4
baz=69
CMAR Chiang Mai Arr 70.04 95 P P 10 19 31.8 -0.3
CMAR Chiang Mai Arr 70.04 95 P P 10 19 31.8 -0.3
comp=Z,3.2nm,0.9s,baz=336,slow=7.3,SNR=13
CMAR Chiang Mai Arr 70.04 95 P P 10 19 31.8 -0.3
DBIC Dimbokro 71.31 204 P P 10 19 40.0 +0.2
DBIC Dimbokro 71.31 204 P P 10 19 40.0 +0.2
comp=Z,3.1nm,0.7s,baz=321,slow=9.3,SNR=4.0
DBIC Dimbokro 71.31 204 P P 10 19 40.0 +0.2
TIC Toumodi 71.35 204 *e*PKP1 P 10 19 41.1 +1.0
comp=Z,4.7nm,0.3s
KIC Kosan Boka 71.60 204 *e*PKP1 P 10 19 41.5 -0.1
comp=Z,37nm,0.9s
LIC Lamto 71.76 204 *e*PKP1 P 10 19 42.4 -0.2
comp=Z,34nm,0.9s
QIZ Qiongzhong 71.97 84 P P 10 19 43.5 -0.3
QIZ S **S** 10 29 05.3 +1.1
WRA Warramunga Arr 115.11 69 PKP **PKPdf** 10 27 01.1 -0.1
WRA Warramunga Arr 115.11 69 PKP **PKPdf** 10 27 01.1 -0.1
comp=Z,0.5nm,0.8s,baz=330,slow=2.6,SNR=5.2
ASAR Alice Springs 118.63 70 PKP **PKPdf** 10 27 06.0 -1.8
ASAR Alice Springs 118.63 70 PKP **PKPdf** 10 27 06.0 -1.8
comp=Z,1.9nm,0.6s,baz=355,slow=1.7,SNR=21

IDC ***13*** *10:09:19.6±1.5, 33°.92N×25°.61E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/26, mbtmp3.5/6, ML3.8/3, Error ellipse: s-maj=32.0km s-min=24.1km az=128.0*
ATH ***13*** *10:09:23.7, 33°.93N×25°.24E, h45km, MD3.7/8*
DDA ***13*** *10:09:24.7, 34°.04N×25°.36E, h36km, MD3.6*
CSEM ***13*** *10:09:24.9±0.5, 33°.94N×25°.40E, h40km, ML3.3, Error ellipse: s-maj=11.9km s-min=4.6km az=9.0*
THE ***13*** *10:09:26.6, 33°.99N×25°.43E, h49km±10km, ML3.3/2, Error ellipse: s-maj=10.9km s-min=1.4km az=15.0*
ISC 13 10:09:28.5±1.6, 34°.2N±0°.1×25°.43E±0°.03, h77km±12km, n53, σ1°58/73, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.98**	**2**	P	**Pn**	**10 09 45.7**	**-1.6**
LAST				S	**Sn**	**10 10 01.2**	**0.0**
LAST	**Lasithi**	**0.98**	**2**	*e*P	**Pn**	**10 09 45.7**	**-1.6**
LAST	**Lasithi**	**0.98**	**2**	P	**Pn**	**10 09 45.7**	**-1.6**
LAST				S	**Sn**	**10 10 01.2**	**0.0**
NPS	**Neapolis**	**1.09**	**8**	P	**Pn**	**10 09 47.0**	**-1.6**
NPS				S	**Sn**	**10 10 03.7**	**+0.2**
NPS	**Neapolis**	**1.09**	**8**	*e*P	**Pn**	**10 09 47.6**	**-1.0**
NPS	**Neapolis**	**1.09**	**8**	*e*P	**Pn**	**10 09 47.6**	**-1.0**
NPS				S	**Sn**	**10 10 03.7**	**+0.2**
ZKR	**Zakros**	**1.14**	**35**	P	**Pn**	**10 09 47.7**	**-1.4**
ZKR				S	**Sn**	**10 10 04.2**	**-0.3**
ZKR	**Zakros**	**1.14**	**35**	*e*P	**Pn**	**10 09 47.6**	**-1.5**
ZKR				*e*S	**Sn**	**10 10 06.6**	**+2.1**
ZKR	**Zakros**	**1.14**	**35**	*e*P	**Pn**	**10 09 47.6**	**-1.5**
ZKR				S	**Sn**	**10 10 04.2**	**-0.3**
IDI	**Anoyia**	**1.19**	**338**	Pn	**Pn**	**10 09 48.9**	**-1.0**
	11nm,0.3s,baz=166,slow=15,SNR=28						
IDI				Sn	**Sn**	**10 10 05.7**	**-0.1**
	20nm,0.3s,baz=187,slow=20,SNR=9.5						
VAM	**Vamos**	**1.59**	**321**	P	**Pn**	**10 09 54.4**	**-0.5**
VAM				S	**Sn**	**10 10 15.3**	**+0.5**
VAM	**Vamos**	**1.59**	**321**	P	**Pn**	**10 09 54.4**	**-0.5**
VAM				S	**Sn**	**10 10 15.3**	**+0.5**
KARP	**Karpathos**	**1.97**	**46**	P	**Pn**	**10 09 59.4**	**-0.6**
KARP				S	**Sn**	**10 10 25.0**	**+1.0**
KARP	**Karpathos**	**1.97**	**46**	P	**Pn**	**10 09 59.4**	**-0.6**
KARP				S	**Sn**	**10 10 25.0**	**+1.0**
ANKY	**Antikythira Is**	**2.42**	**315**	P	**Pn**	**10 10 05.4**	**-0.6**
ANKY				S	**Sn**	**10 10 35.8**	**+1.0**
ANKY	**Antikythira Is**	**2.42**	**315**	*e*P	**Pn**	**10 10 04.3**	**-1.7**
ANKY	**Antikythira Is**	**2.42**	**315**	*e*P	**Pn**	**10 10 04.3**	**-1.7**
ANKY				S	**Sn**	**10 10 35.8**	**+1.0**
KYTH	**Kithira**	**2.87**	**318**	P	**Pn**	**10 10 11.7**	**-0.4**
KYTH	**Kithira**	**2.87**	**318**	*e*P	**Pn**	**10 10 10.2**	**-1.9**
KYTH	**Kithira**	**2.87**	**318**	*e*P	**Pn**	**10 10 10.2**	**-1.9**
VLI	**Veliai**	**3.25**	**322**	*e*P	**Pn**	**10 10 16.3**	**-0.9**
VLI				*e*S	**Sn**	**10 10 52.7**	**-2.0**
VLI	**Veliai**	**3.25**	**322**	*e*P	**Pn**	**10 10 16.3**	**-0.9**
TURN	**Turunc**	**3.73**	**43**	*i* P	Pn	10 10 18.7	-5.0
TURN				*i* S	Sn	10 10 54.1	-12
TURN	**Turunc**	**3.73**	**43**	*i* P	Pn	10 10 18.7	-5.0
DID	**Didima**	**3.77**	**332**	P	**Pn**	**10 10 23.4**	**-0.9**
DID	**Didima**	**3.77**	**332**	*e*P	**Pn**	**10 10 23.3**	**-1.0**
DID				*e*S	**Sn**	**10 11 06.3**	**-1.1**
DID	**Didima**	**3.77**	**332**	*e*P	**Pn**	**10 10 23.3**	**-1.0**
DID				*e*S	**Sn**	**10 11 06.3**	**-1.1**
AKAS	**Kas**	**3.99**	**58**	*i* P	**Pn**	**10 10 25.2**	**-2.2**
AKAS				*i* S	Sn	10 11 02.4	-11
AKAS	**Kas**	**3.99**	**58**	*i* P	**Pn**	**10 10 25.2**	**-2.2**
PYL	**PYLOS**	**4.05**	**313**	*e*P	**Pn**	**10 10 25.8**	**-2.2**
PYL				*e*S	**Sn**	**10 11 11.2**	**-3.0**
PYL	**PYLOS**	**4.05**	**313**	*e*P	**Pn**	**10 10 25.8**	**-2.2**
PYL				*e*S	**Sn**	**10 11 11.2**	**-3.0**
ITM	**Ithomi**	**4.13**	**317**	*e*P	**Pn**	**10 10 27.6**	**-1.6**
ITM				*e*S	**Sn**	**10 11 14.5**	**-1.8**
ITM	**Ithomi**	**4.13**	**317**	*e*P	**Pn**	**10 10 27.6**	**-1.6**
ITM				*e*S	**Sn**	**10 11 14.5**	**-1.8**
GUR	**Goura**	**4.50**	**327**	P	**Pn**	**10 10 33.5**	**-0.9**
GUR	**Goura**	**4.50**	**327**	P	**Pn**	**10 10 33.5**	**-0.9**
GOLH	**Golhisar**	**4.54**	**47**	*i* P	**Pn**	**10 10 33.7**	**-1.2**
GOLH				*i* S	Sn	10 11 20.3	-6.1
GOLH	**Golhisar**	**4.54**	**47**	*i* P	**Pn**	**10 10 33.7**	**-1.2**
KLV	**Kalavryta, Ach**	**4.68**	**326**	*e*P	**Pn**	**10 10 36.1**	**-0.6**
KLV	**Kalavryta, Ach**	**4.68**	**326**	*e*P	**Pn**	**10 10 36.1**	**-0.6**
KORT	**Korkueli**	**4.90**	**54**	*i* P	**Pn**	**10 10 38.7**	**-1.1**
KORT				*i* S	**Sn**	**10 11 29.9**	**-5.4**
KORT	**Korkueli**	**4.90**	**54**	*i* P	**Pn**	**10 10 38.7**	**-1.1**
KHAL	**Karahalli**	**5.32**	**37**	*i* P	**Pn**	**10 10 43.1**	**-2.4**
KHAL				*i* S	Sn	10 11 36.6	-8.9
KHAL	**Karahalli**	**5.32**	**37**	*i* P	**Pn**	**10 10 43.1**	**-2.4**
ERMK	**Ermenek**	**6.59**	**66**	*i* P	**Pn**	**10 11 01.0**	**-1.9**
ERMK				*i* S	Sn	10 12 07.8	-8.9
ERMK	**Ermenek**	**6.59**	**66**	*i* P	**Pn**	**10 11 01.0**	**-1.9**
GULE	**Gulek**	**8.21**	**65**	*i* P	**Pn**	**10 11 23.5**	**-1.5**
GULE				*i* S	Sn	10 12 48.6	-7.6
GULE	**Gulek**	**8.21**	**65**	*i* P	**Pn**	**10 11 23.5**	**-1.5**
KBZ	**Khabaz**	**16.57**	**50**	Pn	**P**	**10 13 19.1**	**+1.9**
	0.1nm,0.3s,baz=240,slow=14,SNR=3.5						
AKASG	**Malin Array Be**	**16.74**	**8**	Pn	**Pn**	**10 13 19.0**	**+1.0**
	0.4nm,0.3s,baz=202,slow=11,SNR=4.0						
GERES	**GERESS Array B**	**17.05**	**333**	P	**Pn**	**10 13 21.8**	**-0.1**
	0.2nm,0.3s,baz=150,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**30.04**	**232**	P	**P**	**10 15 30.7**	**+0.4**
	0.3nm,0.3s,baz=35,slow=8.1,SNR=8.7						
MKAR	**Makanchi Array**	**44.14**	**56**	P	**P**	**10 17 29.7**	**+0.3**
	1.0nm,0.7s,baz=268,slow=7.5,SNR=3.2						
YKA	**Yellowknife Ar**	**78.45**	**342**	P	**P**	**10 21 22.4**	**+1.9**
	0.1nm,0.6s,baz=30,slow=5.5,SNR=5.8						

NIED ***13*** *10:14:00, 24°.00N×121°.60E, h26km, Mw4.2 Best double couple: M0 2.13000×10^15 NP1:φs=210.00000°, δ=25.00000°, λ=38.00000°. NP2:φs=84.00000°, δ=75.00000°, λ=110.00000°.*
BJI ***13*** *10:14:46.8, 24°.10N×121°.54E, h20km, mb3.7/4, ML3.9/4*
JMA ***13*** *10:14:46.4±0.1, 24°.02N×121°.57E, h18km±2km, M3.9*
NEIC ***13*** *10:14:46.9±0.8, 24°.00N×121°.61E, h14km±9km, ML4.7(TAP), Error ellipse: s-maj=14.6km s-min=6.3km az=117.0*
NEIC Recorded [4 TAP] in Hua-lien and [3 TAP] in I-lan and Nan-t'ou.
ISCJB ***13*** *10:14:47.9±0.2, 24°.04N±0°.01×121°.61E±0°.02, h22km±2km, mb3.9/14, MS3.8/1, Error ellipse: s-maj=2.8km s-min=1.6km az=35.2*
TAP ***13*** *10:14:47.7, 24°.06N×121°.54E, h20km, ML4.4, B*
IDC ***13*** *10:14:53.0±5.3, 24°.03N×121°.70E, h75km±51km, mb3.7/13, mb1 3.8/14, mb1mx3.7/28, mbtmp3.7/14, ML3.4/1, MS3.1/3, Ms1 3.2/3, ms1mx2.9/45, Error ellipse: s-maj=22.5km s-min=13.6km az=73.0*
ISC 13 10:14:48.0±0.6, 24°.03N±0°.02×121°.58E±0°.02, h23km±3km, n106, σ0°.99/155, mb4.0/14, 15C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.05**	**12**	⇓*i*P	**Pb**	**10 14 51.5**	**-0.5**
	baz=69						
HWA	**Hwalien**	**0.06**	**161**	⇑*i*P	**Pb**	**10 14 52.1**	**+0.1**
	baz=142						
NACB	**Ninganchiao**	**0.14**	**4**	*e*Pg	**Pb**	**10 14 51.7**	**-1.0**
NACB				*e*Sg	**Sb**	**10 14 54.4**	**-1.5**
ESF	**Shoufeng Towns**	**0.17**	**204**	*e*P	**Pb**	**10 14 53.3**	**+0.2**
	baz=196						
ESF				S	**Sb**	**10 14 56.9**	**+0.4**
	baz=196						
ESL	**Shilin**	**0.26**	**213**	⇓*i*P	**Pb**	**10 14 53.5**	**-0.7**
	baz=206						
ESL				S	**Sb**	**10 14 57.8**	**-0.6**
	baz=206						
EHP	**Heping Village**	**0.31**	**27**	P	**Pb**	**10 14 54.5**	**-0.6**
	baz=37						
EHP				*i* S	**Sb**	**10 14 59.5**	**-0.3**
	baz=37						
WHF	**Hehuan Shan**	**0.31**	**291**	⇓*i*P	**Pb**	**10 14 54.1**	**-1.2**
	baz=283						
TEGC	**Jichi Village**	**0.32**	**187**	*e*P	**Pn**	**10 14 56.6**	**-0.7**
	baz=190						
TEGC				*e*S	**Sn**	**10 15 02.2**	**-1.0**
	baz=190						
ENA	**Nanau**	**0.42**	**20**	⇓*i*P	**Pb**	**10 14 56.3**	**-0.5**
	baz=27						
TWT	**Tachien**	**0.43**	**301**	⇑*i*P	**Pb**	**10 14 56.6**	**-0.5**
	baz=298						
TWT				*i* S	**Sb**	**10 15 02.2**	**-1.1**
	baz=298						
NNS	**Nan Shan**	**0.45**	**335**	⇑*i*P	**Pb**	**10 14 56.6**	**-0.7**
	baz=339						
NNS				*i* S	**Sb**	**10 15 02.2**	**-1.5**
	baz=339						
EHY	**Hungye**	**0.58**	**205**	⇑P	**Pb**	**10 14 58.0**	**-1.4**
	baz=192						
EHY				S	**Sb**	**10 15 06.3**	**-0.9**
	baz=192						
ENTT	**Nioudou**	**0.61**	**358**	⇓*i*P	**Pb**	**10 14 59.4**	**-0.5**
	baz=3.0						
TWC	**Suao**	**0.62**	**23**	⇓P	**Pb**	**10 14 59.7**	**-0.5**
	baz=23						
TWC				S	**Sb**	**10 15 08.2**	**-0.4**
	baz=23						
SSLB	**Suanglung**	**0.63**	**247**	*e*Pg	**Pb**	**10 14 59.4**	**-0.8**
SSLB				*e*Sg	**Sb**	**10 15 07.0**	**-1.6**
SMLT	**Sun Moon Lake**	**0.64**	**257**	⇑*i*P	**Pb**	**10 15 00.1**	**-0.5**
	baz=253						
SMLT				*i* S	**Sb**	**10 15 07.9**	**-1.4**
	baz=253						
YHNB	**Yeheng**	**0.66**	**343**	*e*Pg	**Pb**	**10 15 00.2**	**-0.8**
YHNB				*e*Sg	**Sb**	**10 15 08.3**	**-1.5**
NSK	**Sanguang**	**0.67**	**342**	⇑*i*P	**Pb**	**10 15 00.4**	**-0.7**
	baz=345						
NSK				*i* S	**Sb**	**10 15 08.5**	**-1.5**
	baz=345						
TYC	**Yuchr**	**0.68**	**259**	⇑*i*P	**Pb**	**10 15 00.5**	**-0.6**
	baz=256						
TYC				*e*S	**Sb**	**10 15 08.0**	**-2.1**
	baz=256						
YULB	**Yu-li**	**0.69**	**203**	*e*Pg	**Pb**	**10 14 59.6**	**-1.7**
YULB				*e*S	**Sb**	**10 15 10.1**	**-0.4**
TWF1	**Yuli**	**0.73**	**201**	*e*P	**Pb**	**10 15 01.4**	**-0.6**
	baz=197						
TWF1				*e*S	**Sb**	**10 15 12.0**	**+0.5**
	baz=197						
ILA	**Ilan**	**0.75**	**11**	*e*P	**Pb**	**10 15 01.6**	**-0.7**
	baz=15						
ILA				*e*S	**Sb**	**10 15 11.6**	**-0.5**
	baz=15						
YUS	**Yu-Shan**	**0.79**	**227**	⇓*i*P	**Pb**	**10 15 03.3**	**-0.1**
	baz=214						
YUS				S	**Sn**	**10 15 14.4**	**-1.2**
	baz=214						
NSTT	**Nanjuang**	**0.80**	**318**	⇑*i*P	**Pb**	**10 15 03.0**	**-0.2**
	baz=319						
NSTT				*e*S	**Sb**	**10 15 12.9**	**-0.7**
	baz=319						
TWQ1	**Liyutan**	**0.81**	**293**	⇑*i*P	**Pb**	**10 15 03.5**	**+0.2**
	baz=292						
TCU	**Taichung**	**0.84**	**278**	⇑*i*P	**Pn**	**10 15 04.5**	**+0.1**
	baz=276						
TCU				*e*S	**Sn**	**10 15 16.1**	**+0.1**
	baz=276						
WNT	**Mingjian**	**0.84**	**260**	*e*P	**Pn**	**10 15 04.2**	**-0.2**
	baz=257						
WNT				*e*S	**Sn**	**10 15 15.8**	**-0.2**
	baz=257						
NSY	**Sanyi**	**0.84**	**297**	⇑*i*P	**Pn**	**10 15 04.5**	**+0.1**
	baz=296						
EGS		**0.87**	**21**	P	**Pb**	**10 15 04.3**	**-0.1**
	baz=25						
ALS	**Alishan**	**0.88**	**234**	⇓*i*P	**Pb**	**10 15 04.9**	**+0.1**
	baz=217						
CHN5	**Tsauling**	**0.94**	**243**	⇓P	**Pn**	**10 15 06.0**	**+0.1**
	baz=239						
CHN5				S	**Sn**	**10 15 18.7**	**+0.1**
	baz=239						
TATO	**Taipei**	**0.94**	**355**	*e*Pg	**Pb**	**10 15 05.1**	**-0.5**
TATO				*e*Sg	**Sn**	**10 15 18.5**	**-0.2**
TWA	**Mucha**	**0.94**	**360**	⇓P	**Pb**	**10 15 05.4**	**-0.3**
	baz=356						
TWA				S	**Sb**	**10 15 18.2**	**+0.4**
	baz=356						
CHKT	**Chengkung**	**0.95**	**192**	*e*P	**Pb**	**10 15 04.7**	**-1.0**
	baz=189						
HSN	**Hsinchu**	**0.95**	**324**	*e*P	**Pn**	**10 15 06.2**	**+0.3**
	baz=334						
HSN				*e*S	**Sn**	**10 15 19.2**	**+0.4**
	baz=334						
ELDTW	**Lidau**	**0.99**	**212**	*e*P	**Pb**	**10 15 05.2**	**-1.2**
	baz=209						
ELDTW				*e*S	**Sb**	**10 15 18.4**	**-0.7**
	baz=209						
WGK	**Gukeng**	**1.00**	**250**	*e*P	**Pb**	**10 15 07.0**	**+0.5**
	baz=247						
WGK				*e*S	**Sn**	**10 15 21.0**	**+1.1**
	baz=247						
NCU	**National Centr**	**1.00**	**339**	*e*P	**Pb**	**10 15 07.2**	**+0.6**
	baz=341						
NCU				*e*S	**Sn**	**10 15 21.6**	**+1.5**
	baz=341						
TAP1	**Taipei**	**1.00**	**357**	*e*P	**Pb**	**10 15 06.8**	**+0.2**
	baz=358						
TAP1				S	**Sb**	**10 15 19.3**	**-0.2**
	baz=358						
TAP	**Taipei**	**1.01**	**356**	*e*P	**Pb**	**10 15 07.0**	**+0.3**
	baz=358						
TAP				*e*S	**Sb**	**10 15 19.7**	**+0.2**
	baz=358						
TWB1	**Santiao Chiao**	**1.04**	**21**	*e*P	**Pn**	**10 15 07.0**	**-0.2**
	baz=24						
TWB1				*e*S	**Sb**	**10 15 20.5**	**0.0**
	baz=24						
NWF	**Wu-fen Shan**	**1.05**	**10**	*e*P	**Pn**	**10 15 07.1**	**-0.3**
	baz=12						
NWF				*e*S	**Sb**	**10 15 20.8**	**-0.1**
	baz=12						
TWS1	**Kuangyinshan**	**1.07**	**352**	*e*P	**Pb**	**10 15 08.1**	**+0.2**
	baz=7.0						
TWS1				*e*S	**Sn**	**10 15 23.5**	**+1.6**
	baz=7.0						
CHN2	**Minshiung**	**1.13**	**244**	*e*P	**Pb**	**10 15 09.8**	**+1.0**
	baz=241						
CHN2				*e*S	**Sn**	**10 15 25.0**	**+1.8**
	baz=241						
CHN4	**Tsaushan**	**1.13**	**233**	⇑*e*P	**Pb**	**10 15 09.3**	**+0.4**
	baz=231						
CHN4				S	**Sn**	**10 15 25.4**	**+2.1**
	baz=231						
TPUB	**Ta-pu**	**1.14**	**230**	*e*Pn	**Pb**	**10 15 09.1**	**+0.1**
TPUB				*e*Sn	**Sn**	**10 15 24.9**	**+1.5**
STYT	**Tauyuan**	**1.15**	**221**	⇓*e*P	**Pb**	**10 15 09.0**	**-0.2**
	baz=209						
STYT				S	**Sn**	**10 15 23.9**	**0.0**
	baz=209						
WTP	**Ta-pu**	**1.19**	**229**	⇑*e*P	**Pb**	**10 15 10.1**	**+0.3**
	baz=216						
WTP				*e*S	**Sb**	**10 15 26.2**	**+1.5**
	baz=216						
CHY	**Chiayi**	**1.19**	**244**	*e*P	**Pb**	**10 15 10.2**	**+0.4**
	baz=241						
CHY				*e*S	**Sb**	**10 15 26.0**	**+1.2**
	baz=241						
WTCT	**Ta-ch'eng**	**1.20**	**262**	*e*P	**Pb**	**10 15 09.7**	**-0.3**
	baz=259						
WTCT				*e*S	**Sb**	**10 15 26.5**	**+1.3**
	baz=259						
TWY	**Chenhua**	**1.24**	**1**	*e*P	**Pb**	**10 15 10.3**	**-0.3**
	baz=353						
TWY				*e*S	**Sb**	**10 15 26.9**	**+0.7**
	baz=353						
TWK	**Hsinying**	**1.26**	**233**	⇑*i*P	**Pb**	**10 15 11.9**	**+0.8**
	baz=230						
TWK				*e*S	**Sb**	**10 15 28.4**	**+1.5**
	baz=230						
CHN1	**Nanshi**	**1.28**	**229**	⇑P	**Pb**	**10 15 11.8**	**+0.3**
	baz=226						
CHN1				*e*S	**Sb**	**10 15 30.0**	**+2.4**
	baz=226						
TWG	**Pinlang**	**1.29**	**201**	Pn	**Pn**	**10 15 09.8**	**-0.8**
TWG	**Pinlang**	**1.29**	**201**	*e*P	**Pn**	**10 15 08.3**	**-2.4**
	baz=183						
WSF	**Szhu**	**1.31**	**253**	*e*P	**Pb**	**10 15 11.9**	**+0.1**
	baz=250						
WSF				*e*S	**Sb**	**10 15 29.8**	**+1.6**
	baz=250						
SGST	**Jiashian**	**1.32**	**224**	*e*P	**Pb**	**10 15 12.3**	**+0.3**
	baz=207						
YOJ	**Yonaguni jima**	**1.37**	**72**	P	**Pn**	**10 15

YOJ				S		Sn	10 15 28.0	-1.2		
YOJ	**Yonaguni jima**	**1.37**	**72**	*e*Pn		**Pn**	**10 15 11.8**	**+0.1**		
YOJ				*e*Sn		Sn	10 15 27.4	-1.7		
YOJ	**Yonaguni jima**	**1.37**	**72**	*e*P		**Pn**	**10 15 11.8**	**+0.1**		
	baz=86									
YOJ				*e*S		Sb	10 15 30.5	+0.5		
	baz=86									
CHN8	**Yiju**	**1.43**	**242**	*e*P		**Pb**	**10 15 14.4**	**+0.4**		
	baz=239									
CHN3	**Shinhua**	**1.47**	**230**	*e*P		**Pb**	**10 15 14.5**	**-0.1**		
	baz=227									
SCLT	**Jiali**	**1.53**	**237**	*e*P		**Pb**	**10 15 15.7**	**0.0**		
	baz=233									
SCLT				*e*S		Sb	10 15 36.6	+1.9		
	baz=233									
ECL	**Taimali**	**1.54**	**202**	*e*P		**Pn**	**10 15 13.5**	**-0.6**		
	baz=187									
SSD	**Sandimen**	**1.55**	**215**	*e*P		**Pb**	**10 15 15.1**	**-0.9**		
	baz=211									
TWM1	**Shoushan**	**1.61**	**222**	*e*P		**Pb**	**10 15 17.8**	**+0.8**		
	baz=219									
SGLT	**Jiouru**	**1.64**	**218**	*e*P		**Pb**	**10 15 16.9**	**-0.7**		
	baz=215									
EAST	**Anshuo**	**1.77**	**203**	*e*P		**Pn**	**10 15 18.0**	**+0.7**		
	baz=190									
TAW	**Tawu**	**1.78**	**201**	*e*P		**Pb**	**10 15 19.3**	**-0.6**		
	baz=189									
PNG	**Penghu**	**1.92**	**256**	*e*P		**Pn**	**10 15 19.1**	**-0.1**		
	baz=253									
PNG				*e*S		Sn	10 15 42.7	+0.1		
	baz=253									
WDGT	**Dungji**	**1.93**	**247**	*e*P		**Pn**	**10 15 19.5**	**+0.2**		
	baz=227									
WDGT				*e*S		Sb	10 15 44.4	-1.5		
	baz=227									
IRIF	**Iriomote-Funau**	**1.98**	**81**	P		**Pn**	**10 15 20.4**	**+0.3**		
IRIF				S		Sn	10 15 45.3	+1.0		
LAY	**Lan-yu**	**1.98**	**181**	*e*P		**Pn**	**10 15 20.9**	**+0.8**		
	baz=171									
TWP	**Hsiaoliuchiu**	**2.02**	**214**	*e*P		**Pb**	**10 15 24.8**	**+0.8**		
	baz=227									
HATJ	**Hateruma jima**	**2.03**	**89**	P		**Pn**	**10 15 21.6**	**+0.8**		
HATJ				*e*S		Sn	10 15 45.4	-0.1		
TWK1	**Hengchun**	**2.20**	**199**	*e*P		**Pn**	**10 15 24.2**	**+1.1**		
	baz=184									
JKRS	**Kuro-shima**	**2.23**	**84**	P		**Pn**	**10 15 24.2**	**+0.7**		
JKRS				S		Sn	**10 15 52.1**	**+1.9**		
JIJ	**Ishigaki jima**	**2.36**	**81**	P		**Pn**	**10 15 25.3**	**0.0**		
JIJ				S		Sn	**10 15 53.7**	**+0.1**		
QZH	**Quanzhou**	**2.87**	**289**	⇓*i*Pn		Pn	10 15 28.3	-4.1		
QZH				Sn		Sn	10 16 00.1	-6.2		
QZH				smax		smax				
	comp=N,600nm,1.1s									
QZH				smax		smax				
	comp=E,360nm,0.6s									
KNM	**Kinmen**	**2.90**	**278**	*e*P		**Pn**	**10 15 33.0**	**+0.2**		
	baz=275									
JTJ	**Tarama**	**2.91**	**77**	P		**Pn**	**10 15 33.2**	**+0.3**		
JTJ				*e*S		Sn	**10 16 09.3**	**+2.2**		
JMJ	**Miyako jima 2**	**3.47**	**76**	*e*S		Sn	**10 16 22.5**	**+1.5**		
JOGS	**Gusukube**	**3.56**	**77**	P		**Pn**	**10 15 44.2**	**+2.4**		
JOGS				*e*S		Sn	**10 16 25.3**	**+2.1**		
TGY	**Tagaytay City**	**9.90**	**184**	LR		LR	10 20 39.3			
	comp=Z,54nm,18.3s,baz=121,slow=35									
KSRS	**Korea Array**	**14.44**	**21**	P		**Pn**	**10 18 13.3**	**+2.4**		
	0.2nm,0.3s,baz=350,slow=6.9,SNR=3.0									
KSRS				LR		LR	10 24 13.1			
	comp=Z,41nm,22.0s,baz=210,slow=39									
CMAR	**Chiang Mai Arr**	**21.81**	**260**	P		**P**	**10 19 40.7**	**+2.0**		
	2.2nm,0.9s,baz=55,slow=6.5,SNR=8.8									
USRK	**Ussuriysk Arra**	**21.85**	**20**	P		**P**	**10 19 39.1**	**+0.2**		
	1.8nm,0.7s,baz=228,slow=8.0,SNR=5.2									
GTA	**Gaotai**	**23.95**	**315**	*e*P		**P**	**10 20 02.4**	**+1.7**		
GTA				pP		**pP**	**10 20 07.8**	**+0.4**		
GTA				sP		**sP**	**10 20 10.9**	**+0.6**		
GTA				pmax		pmax				
	comp=Z,4.0nm,1.1s									
SONM	**Songino Array**	**26.65**	**337**	P		**P**	**10 20 24.8**	**-0.3**		
	2.0nm,0.9s,baz=160,slow=9.8,SNR=10.0									
MKAR	**Makanchi Array**	**38.70**	**316**	P		**P**	**10 22 10.1**	**-0.1**		
	2.5nm,0.7s,baz=102,slow=10,SNR=15									
ZALV	**Zalesovo Beam**	**40.57**	**327**	P		**P**	**10 22 24.1**	**-1.5**		
	2.3nm,0.6s,baz=108,slow=8.4,SNR=8.7									
H11N1	**WAKE ISLAND Hy**	**42.13**	**87**	T		T	11 07 57.3			
	SNR=4.4									
H11N2	**WAKE ISLAND Hy**	**42.13**	**87**	T		T	11 07 57.4			
H11N3	**WAKE ISLAND Hy**	**42.15**	**87**	T		T	11 07 58.5			
H11S3	**WAKE ISLAND Hy**	**42.26**	**89**	T		T	11 07 49.2			
	baz=278									
H11S1	**WAKE ISLAND Hy**	**42.27**	**89**	T		T	11 07 49.9			
	baz=278,SNR=8.7									
H11S2	**WAKE ISLAND Hy**	**42.27**	**89**	T		T	11 07 50.5			
	baz=278									
KURBB	**Kurchatov Arra**	**42.46**	**320**	P		**P**	**10 22 42.2**	**+1.1**		
	0.9nm,0.4s,baz=110,slow=8.8,SNR=8.8									
WRA	**Warramunga Arr**	**45.44**	**163**	P		**P**	**10 23 03.6**	**-1.7**		
	1.4nm,0.6s,baz=344,slow=8.6,SNR=9.0									
BVAR	**Borovoye Array**	**48.02**	**321**	P		**P**	**10 23 24.9**	**-0.4**		
	1.5nm,0.5s,baz=103,slow=8.2,SNR=8.3									
ASAR	**Alice Springs**	**48.90**	**165**	P		**P**	**10 23 31.4**	**-0.9**		
	0.7nm,0.3s,baz=340,slow=6.9,SNR=20									
STKA	**Stephens Creek**	**58.80**	**160**	P		**P**	**10 24 43.4**	**-1.1**		
	0.9nm,0.7s,baz=5.9,slow=0.3,SNR=4.9									
ILAR	**Eielson Array**	**69.18**	**27**	P		**P**	**10 25 51.3**	**-1.1**		
	0.7nm,0.5s,baz=270,slow=5.2,SNR=22									
FINES	**FINESS Array B**	**71.76**	**330**	P		**P**	**10 26 07.2**	**-1.0**		
	1.3nm,0.8s,baz=57,slow=5.1,SNR=2.2									
NOA	**NORSAR Array B**	**78.53**	**332**	LR		LR	11 04 42.8			
	comp=Z,52nm,21.5s,baz=230,slow=38									
YKA	**Yellowknife Ar**	**82.97**	**23**	P		**P**	**10 27 09.5**	**-1.4**		
	0.6nm,0.6s,baz=312,slow=4.7,SNR=21									

IDC ***13*** *10:14:47.5±1.7,7˚.58S×116˚.38E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/21, mbtmp4.2/7, Error ellipse: s-maj=84.1km s-min=17.5km az=58.0*
ISCJB ***13*** *10:15:18.2±0.4, 7˚.62S±0˚.08×117˚.13E±0˚.03, h302km, mb3.8/6, Error ellipse: s-maj=10.5km s-min=4.4km az=9.1*
DJA ***13*** *10:15:20.7±0.6, 8˚S±8˚×11˚7E±˚, h282km±7km, M4.4/11, mb4.8/3, mB5.4/1, MLv4.2/11, Mw(mB)4.8/1*

ISC 13 10:15:19.2±0.6, 7.67S±0.10×117.08E±0.05, h302km, n33, σ2§09/30, mb3.8/6, 1C, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.31**	**223**	P	x	10 16 01.6	
MTNI				S	x	10 16 33.3	
KHKI	**Kahang-Kahang**	**1.61**	**245**	P	x	10 16 03.3	
KHKI				S	x	10 16 35.7	
LBFI	**Labuhan Bajo,**	**2.90**	**106**	S	x	10 16 55.7	
JAGI	**Jajag, Banyuwa**	**3.00**	**254**	P	**Pn**	**10 16 15.3**	**+0.1**
JAGI				S	**S**	**10 16 56.2**	**-3.6**
JAGI	**Jajag, Banyuwa**	**3.00**	**254**	P	**Pn**	**10 16 15.2**	**0.0**
	baz=3.0,SNR=13						
JAGI				S	**S**	**10 16 56.2**	**-3.6**
	baz=3.0,SNR=6.2						
GMJI	**Gumukmas**	**3.65**	**260**	P	**Pn**	**10 16 22.2**	**+0.4**
GMJI				S	**S**	**10 17 10.5**	**-1.3**
WSI	**Waingapu**	**3.75**	**122**	S	**S**	**10 17 10.0**	**-3.8**
WSI	**Waingapu**	**3.75**	**122**	S	**S**	**10 17 11.8**	**-2.0**
	baz=3.8,SNR=3.7						
BKSI	**Bulukumba**	**3.82**	**53**	P	**Pn**	**10 16 25.0**	**+1.4**
BNSI	**Bone**	**4.43**	**43**	P	**Pn**	**10 16 32.4**	**+2.1**
KRKI	**Karangkates**	**4.61**	**264**	P	x	10 16 33.5	
PWJI	**Pagerwojo**	**5.24**	**266**	P	**Pn**	**10 16 40.2**	**+0.6**
	122nm,0.6s,0.5nm						
PCJI	**Pacitan**	**5.87**	**265**	P	**Pn**	**10 16 47.8**	**+0.8**
	428nm,0.7s,7μm2.0nm						
UGM	**Wanagama**	**6.50**	**267**	P	**Pn**	**10 16 55.1**	**+0.4**
	baz=6.4,SNR=12						
BJII	**Banjamegara**	**7.31**	**272**	P	x	10 17 06.2	
SOEI	**Soe**	**7.40**	**107**	S	**S**	**10 18 26.8**	**-5.1**
	baz=7.5,SNR=3.5						
PMBI	**Palembang**	**13.12**	**290**	P	Pn	10 18 11.6	-3.8
	baz=13,SNR=3.3						
PMBI				S	S	10 20 10.4	-30
	baz=13,SNR=5.8						
KNRA	**Kununurra**	**13.93**	**126**	P	**Pn**	**10 18 25.7**	**+0.7**
	baz=14,SNR=8.7						
KNRA				S	**S**	**10 21 02.2**	**+4.0**
	baz=14,SNR=4.8						
MTN	**Manton Dam**	**14.75**	**112**	P	**Pn**	**10 18 34.9**	**+0.1**
	baz=15,SNR=9.0						
MTN				S	**S**	**10 21 11.4**	**-3.5**
	baz=15,SNR=7.9						
FAKI	**Fak Fak**	**15.82**	**73**	P	**P**	**10 18 45.5**	**+0.1**
	baz=16,SNR=3.6						
KDU	**Kakadu**	**15.95**	**109**	P	**P**	**10 18 47.4**	**+0.7**
	baz=16,SNR=4.9						
MEEK	**Meekatharra**	**18.92**	**176**	S	S	10 23 01.7	+24
	baz=19,SNR=6.7						
WRKA	**Warakurna**	**20.33**	**149**	P	**P**	**10 19 34.4**	**+0.9**
	baz=20,SNR=18						
WRKA				S	S	10 23 33.1	+30
	baz=20,SNR=4.5						
WRA	**Warramunga Arr**	**20.70**	**128**	P	**P**	**10 19 37.4**	**+0.2**
	4.5nm,0.5s,baz=300,slow=13,SNR=64						
WRA				S	S	10 23 40.9	+32
	1.2nm,0.7s,baz=307,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**22.66**	**136**	P	**P**	**10 19 56.5**	**+1.2**
	2.3nm,0.4s,baz=314,slow=9.4,SNR=85						
COEN	**Coen**	**26.37**	**106**	P	**P**	**10 20 28.9**	**+0.2**
	baz=26,SNR=6.6						
HTT	**Hallett**	**32.64**	**145**	P	**P**	**10 21 25.4**	**+1.8**
	baz=33,SNR=4.0						
STKA	**Stephens Creek**	**33.19**	**140**	P	**P**	**10 21 29.4**	**+1.1**
	1.2nm,0.5s,baz=328,slow=8.1,SNR=6.3						
USRK	**Ussuriysk Arra**	**53.36**	**13**	P	**P**	**10 24 08.4**	**+0.3**
	2.4nm,0.7s,baz=185,slow=7.2,SNR=6.5						
SONM	**Songino Array**	**56.06**	**351**	P	**P**	**10 24 27.7**	**+0.2**
	3.0nm,0.6s,baz=170,slow=8.2,SNR=21						
MKAR	**Makanchi Array**	**62.42**	**334**	P	**P**	**10 25 10.3**	**-0.3**
	0.7nm,0.4s,baz=149,slow=6.5,SNR=15						
ZALV	**Zalesovo Beam**	**67.14**	**340**	P	**P**	**10 25 39.8**	**-1.0**
	0.7nm,0.3s,baz=142,slow=4.9,SNR=2.8						
PSN	**Preselentsi**	**94.44**	**313**	⇑*i*P	P	10 28 09.5	+4.2

ISN ***13*** *10:22:04.9±2.0, 22˚.78N×49˚.93E, h1km±769km, ML4.1*
TEH ***13*** *10:22:09.2, 26˚.52N×53˚.34E, h24km, ML4.6*
BJI ***13*** *10:22:10.5, 26˚.90N×53˚.50E, h10km, mB5.1/22, mb4.6/34, Ms4.6/16, Ms7 4.4/14*
IDC ***13*** *10:22:11.5±0.6, 26˚.70N×53˚.61E, h0km, mb4.5/34, mb1 4.6/38, mb1mx4.5/44, mbtmp4.5/38, ML4.0/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/44, Error ellipse: s-maj=17.4km s-min=10.7km az=3.0*
THR ***13*** *10:22:13.0±0.4, 26˚.67N×53˚.41E, h40km±5km, ML4.5*
ISCJB ***13*** *10:22:13.6±0.8, 26˚.82N±0˚.02×53˚.50E±0˚.02, h20km±5km, mb4.6/105, MS3.9/10, Error ellipse: s-maj=4.5km s-min=3.1km az=33.3*
NEIC ***13*** *10:22:13.2±0.3, 26˚.74N×53˚.57E, h10km, mb4.8/15, MN4.6(TEH), Error ellipse: s-maj=7.8km s-min=4.4km az=171.0*
OMAN ***13*** *10:22:13.0±99.0, 26˚.88N×53˚.47E, h0km±5km, Error ellipse: s-maj=6.6km s-min=4.8km az=298.0*
DSN ***13*** *10:22:15.0±0.0, 26˚.99N×53˚.75E, h7km, mb4.0/9, ML4.9/6, Ms4.1/3, Error ellipse: s-maj=7.0km s-min=1.8km az=236.0*
MOS ***13*** *10:22:15.1±1.0, 26˚.78N×53˚.50E, h33km, mb5.0/43, Error ellipse: s-maj=6.3km s-min=4.3km az=108.8*
CSEM ***13*** *10:22:16.5±0.1, 26˚.82N×53˚.52E, h30km, mb4.7/58, Ms3.8, Error ellipse: s-maj=3.6km s-min=2.6km az=35.0*

ISC 13 10:22:15.1±0.5, 26.87N±0.04×53.57E±0.03, h19km±1km, n534, σ1§20/585, mb4.7/105, MS3.9/10, 29C-26D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.50**	**340**	*e*Pg	**Pb**	**10 22 43.1**	**+0.5**
	5μm,0.7s						
GHIR	**Ghir-Karzin**	**1.50**	**340**	*e*Pg	**Pb**	**10 22 43.1**	**+0.5**
GHIR				AML	AML	10 23 13.3	
	comp=E,5μm,0.7s						
ISRV	**Sarvestan**	**2.54**	**351**	*e*Pn	**Pn**	**10 22 56.9**	**+1.2**
ISRV				*e*Sg	Sg	10 23 44.8	+8.0
ISRV				*e*		10 23 57.3	
	comp=Z,39μm,0.5s						
ISRV	**Sarvestan**	**2.54**	**351**	*e*Pn	**Pn**	**10 22 56.9**	**+1.2**
BANOM	**Banah**	**2.63**	**110**	⇑P	**Pn**	**10 22 56.5**	**-0.2**
	SNR=31						
BANOM	**Banah**	**2.63**	**110**	⇑*e*P	**Pn**	**10 22 56.4**	**-0.2**
	SNR=112						
BANOM				⇓S	**Sn**	**10 23 28.4**	**+0.4**
BANOM	**Banah**	**2.63**	**110**	P	**Pn**	**10 22 56.4**	**-0.2**
	SNR=112						
BANOM				S	**Sn**	**10 23 28.4**	**+0.4**
NAZ	**Nazwa, Dubai**	**2.66**	**134**	⇑*e*P	**Pn**	**10 22 58.5**	**+1.5**
NAZ	**Nazwa, Dubai**	**2.66**	**134**	P	**Pn**	**10 22 58.5**	**+1.5**
IBND	**Bandar-abas**	**2.71**	**77**	*e*Pn	**Pn**	**10 22 58.5**	**+0.7**
IBND				*e*Sg	**Sg**	**10 23 48.0**	**+5.6**
IBND				*e*		10 23 57.2	
	comp=Z,25μm,0.3s						
IBND	**Bandar-abas**	**2.71**	**77**	*e*Pn	**Pn**	**10 22 58.5**	**+0.7**
ASUD	**Al Ashush, Dub**	**2.74**	**144**	⇑*e*P	**Pn**	**10 22 59.8**	**+1.7**
ASUD	**Al Ashush, Dub**	**2.74**	**144**	P	**Pn**	**10 22 59.8**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.79**	**139**	⇑*e*P	**Pn**	**10 22 59.9**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.79**	**139**	P	**Pn**	**10 22 59.9**	**+1.0**
IPAR	**Pars**	**3.00**	**351**	*e*Pn	**Pn**	**10 23 03.1**	**+1.1**
IPAR				*e*		10 24 05.6	
	comp=Z,9μm,0.4s						
IPAR	**Pars**	**3.00**	**351**	*e*Pn	**Pn**	**10 23 03.1**	**+1.1**
HATD	**Hatta, Dubai**	**3.08**	**131**	⇑*i*P	**Pn**	**10 23 03.4**	**+0.6**
HATD	**Hatta, Dubai**	**3.08**	**131**	P	**Pn**	**10 23 03.4**	**+0.6**
ASHO	**Ashiyiah**	**3.13**	**133**	⇑P	**Pn**	**10 23 04.2**	**+0.7**
	SNR=183						
ASHO				⇑S	**Sn**	**10 23 40.5**	**+0.1**
ASHO	**Ashiyiah**	**3.13**	**133**	⇑*e*P	**Pn**	**10 23 04.2**	**+0.7**
	SNR=183						
ASHO	**Ashiyiah**	**3.13**	**133**	P	**Pn**	**10 23 04.2**	**+0.7**
	SNR=183						
ASHO				S	**Sn**	**10 23 40.5**	**+0.1**
KRBR	**Kerman**	**4.19**	**41**	*e*Pn	**Pn**	**10 23 20.0**	**+1.7**
	comp=Z,343nm,0.5s						
KRBR	**Kerman**	**4.19**	**41**	*e*Pn	**Pn**	**10 23 20.1**	**+1.7**
KRBR				AML	AML	10 24 21.7	
	comp=N,342nm,0.5s						
ARQ	**Araqi**	**4.42**	**142**	⇓P	**Pn**	**10 23 21.6**	**+0.3**
	SNR=13						
ARQ	**Araqi**	**4.42**	**142**	P	**Pn**	**10 23 21.6**	**+0.3**
	SNR=13						
IMEH	**Mehriz**	**4.60**	**11**	*e*Pn	**Pn**	**10 23 25.9**	**+1.9**
IMEH				*e*		10 24 23.2	
	comp=Z,3μm,0.3s						
IMEH	**Mehriz**	**4.60**	**11**	*e*Pn	**Pn**	**10 23 25.9**	**+1.9**
HOQ	**Hoqain**	**4.71**	**133**	⇑P	**Pn**	**10 23 24.4**	**-0.9**
	SNR=13						
HOQ	**Hoqain**	**4.71**	**133**	P	**Pn**	**10 23 24.4**	**-0.9**
	SNR=13						
IBAF	**Bafgh**	**5.02**	**20**	*e*Pn	**Pn**	**10 23 30.8**	**+1.1**
IBAF				*e*		10 23 52.1	
	comp=Z,2μm,0.3s						
IBAF	**Bafgh**	**5.02**	**20**	*e*Pn	**Pn**	**10 23 30.8**	**+1.1**
ISAD	**Sadrabad**	**5.03**	**1**	*e*Pn	**Pn**	**10 23 31.6**	**+1.7**
ISAD				*e*		10 23 38.2	
	comp=Z,3μm,0.2s						
ISAD	**Sadrabad**	**5.03**	**1**	*e*Pn	**Pn**	**10 23 31.6**	**+1.7**
ICHK	**Chekchek**	**5.41**	**8**	*e*Pn	**Pn**	**10 23 36.6**	**+1.5**
ICHK				*e*		10 23 46.2	
	comp=Z,5μm,0.4s						
ICHK	**Chekchek**	**5.41**	**8**	*e*Pn	**Pn**	**10 23 36.6**	**+1.5**
SMDO	**Samad**	**5.56**	**132**	⇓P	**Pn**	**10 23 37.4**	**+0.4**
	SNR=49						
SMDO	**Samad**	**5.56**	**132**	P	**Pn**	**10 23 37.4**	**+0.4**
	SNR=49						
IGAR	**Gharneh**	**5.68**	**347**	*e*Pn	**Pn**	**10 23 39.2**	**+0.4**
IGAR				*e*		10 24 50.2	
	comp=E,106nm,0.2s						
NASN	**Na'in**	**5.95**	**354**	*e*Pn	**Pn**	**10 23 43.6**	**+1.0**
	comp=E,151nm,0.7s						
NASN	**Na'in**	**5.95**	**354**	*e*Pn	**Pn**	**10 23 43.6**	**+1.0**
NASN				AML	AML	10 24 54.0	
	comp=N,133nm,0.5s						
NASN				AML	AML	10 24 54.1	
	comp=E,151nm,0.7s						
JMDO	**Jabal Madar**	**6.09**	**136**	⇓P	**Pn**	**10 23 43.7**	**-0.6**
	SNR=39						
JMDO	**Jabal Madar**	**6.09**	**136**	P	**Pn**	**10 23 43.7**	**-0.6**
	SNR=39						
IZEF	**Zefreh**	**6.10**	**350**	*e*Pn	**Pn**	**10 23 45.0**	**+0.4**
IZEF				*e*		10 23 47.5	
	comp=Z,689nm,0.2s						
IZEF	**Zefreh**	**6.10**	**350**	*e*Pn	**Pn**	**10 23 45.0**	**+0.4**
IPIR	**Pirpir**	**6.25**	**339**	*e*Pn	**Pn**	**10 23 46.6**	**0.0**
IPIR				*e*		10 25 02.5	
	comp=Z,1μm,0.3s						
IPIR	**Pirpir**	**6.25**	**339**	*e*Pn	**Pn**	**10 23 46.6**	**0.0**
CHBR	**Chabahar**	**6.34**	**100**	*e*Pn	**Pn**	**10 23 47.5**	**-0.1**
CHBR	**Chabahar**	**6.34**	**100**	*e*Pn	**Pn**	**10 23 47.5**	**-0.1**
WBK	**Wadi Bani Khal**	**6.49**	**130**	P	**Pn**	**10 23 49.5**	**-0.2**
	SNR=15						
WBK				P	**Pn**	**10 23 49.6**	**-0.1**
	SNR=16						
WBK	**Wadi Bani Khal**	**6.49**	**130**	P	**Pn**	**10 23 49.6**	**-0.1**
	SNR=16						
IKLH	**Kolahrood**	**6.66**	**346**	*e*Pn	**Pn**	**10 23 52.7**	**+0.4**
IKLH				*e*		10 25 31.8	
	comp=Z,919nm,0.3s						
IKLH	**Kolahrood**	**6.66**	**346**	*e*Pn	**Pn**	**10 23 52.7**	**+0.4**
ZHSF	**Zahedan**	**6.92**	**65**	*e*Pn	**Pn**	**10 23 57.0**	**+1.2**
ZHSF	**Zahedan**	**6.92**	**65**	*e*Pn	**Pn**	**10 23 57.0**	**+1.2**
QAM	**Ghamsar**	**7.11**	**346**	*e*Pn	**Pn**	**10 23 59.5**	**+1.1**
QAM				*e*		10 24 04.1	
	comp=Z,1μm,0.1s						
IKOO	**Kooshah**	**7.28**	**39**	*e*Pn	**Pn**	**10 24 02.3**	**+1.5**
IKOO				*e*		10 25 16.0	
	comp=Z,437nm,0.4s						
IKOO	**Kooshah**	**7.28**	**39**	*e*Pn	**Pn**	**10 24 02.3**	**+1.5**
TABS	**Tabas**	**7.42**	**24**	*e*Pn	**Pn**	**10 24 04.0**	**+1.3**
TABS	**Tabas**	**7.42**	**24**	*e*Pn	**Pn**	**10 24 04.0**	**+1.3**
NSR	**Nassriya**	**7.70**	**304**	*e*PN4	Pn	10 24 17.1	+11
NSR				*e*SN4	Sb	10 25 49.2	-10
GHVR	**GHOM**	**7.84**	**346**	*e*Pn	**Pn**	**10 24 09.4**	**+1.1**
GHVR	**GHOM**	**7.84**	**346**	*e*Pn	**Pn**	**10 24 09.4**	**+1.1**
IKMR	**Kamar-syah**	**8.00**	**327**	*e*Pn	**Pn**	**10 24 08.9**	**-1.5**
IKMR				*e*Sg	**Sn**	**10 25 37.6**	**-2.8**
IKMR	**Kamar-syah**	**8.00**	**327**	*e*Pn	**Pn**	**10 24 09.0**	**-1.5**
IDAH	**Dahanechah**	**8.01**	**42**	*e*Pn	**Pn**	**10 24 13.1**	**+2.2**
IDAH				*e*		10 24 40.9	
	comp=Z,226nm,0.2s						
IDAH	**Dahanechah**	**8.01**	**42**	*e*Pn	**Pn**	**10 24 13.1**	**+2.2**
RAYN	**Ar Rayn**	**8.02**	**247**	*e*Pn	**Pn**	**10 24 10.5**	**-0.3**
RAYN	**Ar Rayn**	**8.02**	**247**	*e*Pn	**Pn**	**10 24 10.5**	**-0.3**
ASAO	**Ashtian**	**8.24**	**339**	*e*Pn	**Pn**	**10 24 14.4**	**+0.4**
ASAO	**Ashtian**	**8.24**	**339**	*e*Pn	**Pn**	**10 24 14.4**	**+0.4**
IVRN	**Varamin**	**8.26**	**349**	*e*Pn	**Pn**	**10 24 14.6**	**+0.6**
IVRN				*e*		10 24 15.3	
	comp=Z,732nm,0.1s						
IVRN	**Varamin**	**8.26**	**349**	*e*Pn	**Pn**	**10 24 14.6**	**+0.6**
IANJ	**Anjilo**	**8.58**	**2**	*e*Pn	**Pn**	**10 24 19.4**	**+0.8**
IANJ				*e*		10 24 23.0	
	comp=Z,872nm,0.3s						
IANJ	**Anjilo**	**8.58**	**2**	*e*Pn	**Pn**	**10 24 19.4**	**+0.8**
IFIR	**Firoozkooh**	**8.78**	**356**	*e*Pn	**Pn**	**10 24 22.5**	**+1.2**
IFIR	**Firoozkooh**	**8.78**	**356**	*e*Pn	**Pn**	**10 24 22.5**	**+1.2**
IDMV	**Damavand**	**8.78**	**352**	*e*Pn	**Pn**	**10 24 22.2**	**+0.8**
IDMV				*e*		10 24 50.0	
	comp=Z,407nm,0.5s						
IDMV	**Damavand**	**8.78**	**352**	*e*Pn	**Pn**	**10 24 22.2**	**+0.8**
DAMV	**Damavand**	**8.84**	**352**	*e*Pn	**Pn**	**10 24 23.1**	**+0.9**
DAMV	**Damavand**	**8.84**	**352**	*e*Pn	**Pn**	**10 24 23.1**	**+0.9**
IR3	**Iran Long-Peri**	**8.85**	**346**	*e*Pn	**Pn**	**10 24 22.1**	**-0.1**
IR3	**Iran Long-Peri**	**8.85**	**346**	*e*Pn	**Pn**	**10 24 22.1**	**-0.1**
SHRT	**Shahrakht**	**8.91**	**39**	*e*Pn	**Pn**	**10 24 24.9**	**+1.9**
SHRT	**Shahrakht**	**8.91**	**39**	*e*Pn	**Pn**	**10 24 24.9**	**+1.9**
ISHM	**Shahmirzad**	**8.92**	**359**	*e*Pn	**Pn**	**10 24 24.6**	**+1.4**
ISHM				*e*		10 24 25.8	
	comp=Z,575nm,0.3s						
ISHM	**Shahmirzad**	**8.92**	**359**	*e*Pn	**Pn**	**10 24 24.6**	**+1.4**
IRAZ	**Razeghan**	**9.06**	**341**	*e*Pn	**Pn**	**10 24 24.5**	**-0.7**
IRAZ				*e*		10 24 26.8	
	comp=Z,749nm,0.2s						
IRAZ	**Razeghan**	**9.06**	**341**	*e*Pn	**Pn**	**10 24 24.5**	**-0.7**
IBDR	**Badra**	**9.08**	**315**	*e*Pn	Px	10 24 43.5	
IBDR				*e*Sn	Sx	10 26 35.6	
ABTO	**Aybut**	**9.47**	**182**	P	**Pn**	**10 24 29.9**	**-0.8**
	SNR=14						
ABTO	**Aybut**	**9.47**	**182**	P	**Pn

ANN eS **S** **10 31 10.4 -1.5**
AML Almayashu 22.44 42 *i* P **P** **10 27 12.8 -0.6**
AML Almayashu 22.44 42 P **P** **10 27 12.8 -0.6**
SNR=47
AML Almayashu 22.44 42 P **P** **10 27 13.4 0.0**
SNR=50
KSH Kashi 22.53 50 *e*P P 10 27 07.0 -7.1
KSH *e*PP **PnPn** **10 27 32.3 -5.2**
KSH eS S 10 31 00.9 -20
KSH *e*PcP **PcP** **10 31 10.0 +2.5**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,180nm,4.6s
KSH LR LR
comp=Z,200nm,9.8s
KSH LR LR
comp=Z,230nm,9.5s
KSH LR LR
comp=Z,180nm,6.3s
EKS2 Erkin-Say 22.80 41 *i* P **P** **10 27 18.2 +1.3**
EKS2 Erkin-Say 22.80 41 P **P** **10 27 18.3 +1.3**
SNR=8.8
EKS2 Erkin-Say 22.80 41 *e*P **P** **10 27 18.4 +1.5**
comp=Z,15nm,0.9s
EKS2 Erkin-Say 22.80 41 *i* P **P** **10 27 18.2 +1.3**
AB31 Akbulak array 22.89 11 *ce*P **P** **10 27 17.5 -0.1**
AB31 pmax pmax
comp=Z,11nm,0.6s
AB31 Akbulak array 22.89 11 *e*P **P** **10 27 17.5 -0.1**
comp=Z,11nm,0.6s
ABKAR Akbulak array 22.89 11 *e*P **P** **10 27 17.9 +0.3**
ABKAR Akbulak array 22.89 11 *e*P **P** **10 27 17.9 +0.3**
UCH Uchtor 22.99 43 *i* P **P** **10 27 19.6 +0.4**
UCH Uchtor 22.99 43 P **P** **10 27 19.6 +0.4**
SNR=14
UCH Uchtor 22.99 43 *i* P **P** **10 27 19.6 +0.4**
AAK Ala-Archa 23.21 42 P **P** **10 27 22.4 +1.2**
AAK 10 31 09.1
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK MLR MLR
comp=Z,57nm,19.5s
AAK Ala-Archa 23.21 42 P **P** **10 27 22.6 +1.4**
SNR=5.8
AAK Ala-Archa 23.21 42 P **P** **10 27 22.6 +1.4**
SNR=7.6
AAK Ala-Archa 23.21 42 *e*P **P** **10 27 22.4 +1.2**
comp=Z,9.9nm,0.7s
AAK PcP **PcP** **10 31 09.1 +0.1**
AAK Ala-Archa 23.21 42 P **P** **10 27 22.4 +1.2**
comp=Z,6.3nm,0.7s,baz=189,slow=6.3,SNR=12
AAK PcP **PcP** **10 31 09.1 +0.1**
comp=Z,2.6nm,0.7s,baz=198,slow=6.4,SNR=3.9
AAK LR LR 10 38 19.4
comp=Z,57nm,19.5s,baz=39,slow=42
AAK Ala-Archa 23.21 42 P **P** **10 27 22.4 +1.2**
comp=Z,6.0nm,0.7s
AAK Ala-Archa 23.21 42 PcP **PcP** **10 31 09.1 +0.1**
comp=Z,57nm,19.5s
KZA Kyzart 23.36 44 *i* P **P** **10 27 24.4 +1.5**
KZA Kyzart 23.36 44 P **P** **10 27 24.5 +1.5**
SNR=8.7
KZA Kyzart 23.36 44 *i* P **P** **10 27 24.4 +1.5**
USP Ospenovka 23.59 41 *i* P **P** **10 27 26.0 +1.2**
USP Ospenovka 23.59 41 P **P** **10 27 26.1 +1.2**
SNR=7.9
USP Ospenovka 23.59 41 *i* P **P** **10 27 26.0 +1.2**
AKTK Aktyubinsk 23.78 7 P **P** **10 27 28.0 +1.5**
AKTO Aktyubinsk 23.78 7 P **P** **10 27 28.0 +1.5**
AKTO Aktyubinsk 23.78 7 P **P** **10 27 28.0 +1.5**
AKTO Aktyubinsk 23.78 7 P **P** **10 27 28.0 +1.5**
comp=Z,7.8nm,0.7s,baz=189,slow=9.3,SNR=12
AKTO Aktyubinsk 23.78 7 P **P** **10 27 28.0 +1.5**
SIM Simferopol' **23.85 324** P **P** **10 27 29.9 +2.7**
SIM pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 24.04 43 *e*P **P** **10 27 30.1 +0.8**
TKM2 pmax pmax
comp=Z,7.0nm,0.7s
TKM2 Tokmak 2 24.04 43 P **P** **10 27 30.2 +0.8**
SNR=7.8
TKM2 Tokmak 2 24.04 43 *e*P **P** **10 27 30.1 +0.8**
comp=Z,6.6nm,0.7s
TKM2 Tokmak 2 24.04 43 *e*P **P** **10 27 30.1 +0.8**
comp=Z,6.6nm,0.7s
ULHL Ulahol 24.07 45 *i* P **P** **10 27 30.9 +1.4**
ULHL Ulahol 24.07 45 P **P** **10 27 30.9 +1.4**
SNR=6.0
ULHL Ulahol 24.07 45 *i* P **P** **10 27 30.9 +1.4**
APE Apeiranthos 25.78 300⇑*i*P **P** **10 27 45.6 +0.6**
VRHR Novokhopersk 25.85 343 *e*P **P** **10 27 45.2 -0.1**
VRHR pmax pmax
comp=Z,40nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR Novokhopersk 25.85 343 *e*P **P** **10 27 45.2 -0.1**
comp=E,10.0nm,0.6s
IDI Anoyia 25.89 296 P **P** **10 27 47.2 +1.2**
IDI Anoyia 25.89 296 P **P** **10 27 47.2 +1.2**
comp=E,17nm,0.6s,baz=97,slow=7.8,SNR=9.0
IDI Anoyia 25.89 296 P **P** **10 27 47.2 +1.2**
VORD Divnogorie 26.41 339 *e*P **P** **10 27 49.0 -1.4**
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,70nm,0.7s
VORD pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 26.41 339 *e*P **P** **10 27 49.0 -1.4**
LPSR Galich'ya Gora 27.95 341 *e*P **P** **10 28 03.3 -0.9**
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 28.81 317⇓*i*P **P** **10 28 14.4 +2.2**
MLR Muntele Rosu 28.81 317 P **P** **10 28 14.4 +2.2**
MLR Muntele Rosu 28.81 317 P **P** **10 28 14.4 +2.2**
comp=Z,1.1nm,0.8s,baz=342,slow=19,SNR=6.2
MLR Muntele Rosu 28.81 317 P **P** **10 28 14.4 +2.2**
BRVK Borovoye 28.98 21⇑*i*P **P** **10 28 14.3 +0.8**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 28.98 21 P **P** **10 28 14.2 +0.8**
SNR=11
BRVK Borovoye 28.98 21 *e*P **P** **10 28 13.8 +0.3**
comp=Z,9.5nm,0.6s
BRVK Borovoye 28.98 21 *e*P **P** **10 28 13.8 +0.3**
comp=Z,9.5nm,0.6s
BVA0 Borovoye Array 28.99 21 *i* P **P** **10 28 13.9 +0.4**
BVA0 pmax pmax
comp=Z,14nm,0.8s
BVA0 Borovoye Array 28.99 21 *i* P **P** **10 28 13.9 +0.4**
comp=Z,14nm,0.8s
BVAR Borovoye Array 28.99 21 P **P** **10 28 14.2 +0.7**
BVAR 10 31 22.0
BVAR Borovoye Array 28.99 21 P **P** **10 28 14.2 +0.7**
BVAR PcP **PcP** **10 31 22.0 +0.1**
BVAR ScP **ScP** **10 35 06.7 +4.2**
BVAR Borovoye Array 28.99 21 P **P** **10 28 14.2 +0.7**
comp=Z,12nm,0.7s,baz=214,slow=7.8,SNR=64
BVAR PcP **PcP** **10 31 22.0 +0.1**
comp=Z,4.9nm,0.8s,baz=233,slow=2.5,SNR=9.1
BVAR ScP **ScP** **10 35 06.7 +4.2**
comp=Z,1.3nm,0.7s,baz=197,slow=3.1,SNR=6.2
BVAR LR LR 10 41 08.8
comp=Z,68nm,19.9s,baz=281,slow=39
BVAR Borovoye Array 28.99 21 P **P** **10 28 14.2 +0.7**
BVAR Borovoye Array 28.99 21 PcP **PcP** **10 31 22.0 +0.1**
VOIR 29.33 317⇓P **P** **10 28 18.0 +1.3**
VOIR 29.33 317⇓*i*P **P** **10 28 18.0 +1.3**
VOIR 29.33 317 P **P** **10 28 18.0 +1.3**
DOPR Dopca 29.39 318⇓*i*P **P** **10 28 18.1 +0.9**
ARU Arti 29.76 6*d i*P **P** **10 28 20.6 +0.3**
ARU 10 29 12.8
ARU S **S** **10 33 16.8 +1.2**
ARU SS **SnSn** **10 34 47.8 +2.1**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 29.76 6 *i* P **P** **10 28 20.6 +0.3**
comp=Z,9.0nm,1.2s
ARU S **S** **10 33 16.8 +1.2**
MKAR Makanchi Array 30.14 41 P **P** **10 28 24.5 +0.7**
MKAR 10 31 24.4
MKAR 10 35 10.3
MKAR Makanchi Array 30.14 41 P **P** **10 28 24.5 +0.7**
MKAR PcP **PcP** **10 31 24.4 -0.5**
MKAR ScP **ScP** **10 35 10.3 +3.9**
MKAR Makanchi Array 30.14 41 P **P** **10 28 24.5 +0.7**
comp=Z,9.8nm,0.7s,baz=227,slow=8.7,SNR=105
MKAR PcP **PcP** **10 31 24.4 -0.5**
comp=Z,1.2nm,0.6s,baz=227,slow=2.3,SNR=5.3
MKAR ScP **ScP** **10 35 10.3 +3.9**
comp=Z,0.5nm,0.6s,baz=206,slow=1.5,SNR=4.6
MKAR Makanchi Array 30.14 41 P **P** **10 28 24.5 +0.7**
MKAR Makanchi Array 30.14 41 PcP **PcP** **10 31 24.4 -0.5**
MK31 Makanchi Array 30.14 41 *ce*P **P** **10 28 24.4 +0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.2s
MK31 Makanchi Array 30.14 41 *e*P **P** **10 28 24.4 +0.6**
MK31 Makanchi Array 30.14 41 *e*P **P** **10 28 24.4 +0.6**
comp=Z,2.0nm,0.2s
AKASG Malin Array Be 30.18 329 P **P** **10 28 23.6 -0.5**
AKASG 10 31 24.7
AKASG Malin Array Be 30.18 329 P **P** **10 28 23.6 -0.5**
AKASG PcP **PcP** **10 31 24.7 -0.2**
AKASG Malin Array Be 30.18 329 P **P** **10 28 23.6 -0.5**
comp=Z,6.6nm,0.6s,baz=134,slow=8.0,SNR=44
AKASG PcP **PcP** **10 31 24.7 -0.2**
comp=Z,0.6nm,0.6s,baz=110,slow=1.8,SNR=5.8
AKASG Malin Array Be 30.18 329 P **P** **10 28 23.6 -0.5**
KIEV Kiev 30.18 329*d i*P **P** **10 28 23.8 -0.3**
KIEV Kiev 30.18 329 *e*P **P** **10 28 23.6 -0.5**
comp=Z,15nm,0.7s
KIEV Kiev 30.18 329 *i* P **P** **10 28 23.8 -0.3**
BURAR Bucovina Array 30.36 321⇑P **P** **10 28 26.7 +0.9**
BURAR Bucovina Array 30.36 321⇑*i*P **P** **10 28 26.7 +0.9**
BUR08 Bucovina Ar. S 30.38 321 *e*P **P** **10 28 26.8 +0.7**
BUR08 Bucovina Ar. S 30.38 321 *e*P **P** **10 28 26.8 +0.7**
KURBB Kurchatov Arra 30.42 32 P **P** **10 28 27.1 +0.9**
comp=Z,3.9nm,0.7s,baz=233,slow=8.7,SNR=29
KURBB PcP **PcP** **10 31 25.4 -0.1**
comp=Z,1.6nm,0.6s,baz=229,slow=3.2,SNR=8.8
KURK Kurchatov 30.52 32 P **P** **10 28 27.1 0.0**
KURK 10 31 25.4
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 30.52 32 *e*P **P** **10 28 27.7 +0.6**
KURK PcP **PcP** **10 31 25.4 -0.4**
KURK Kurchatov 30.52 32 *e*P **P** **10 28 27.7 +0.6**
KURK Kurchatov 30.52 32 PcP **PcP** **10 31 25.4 -0.4**
comp=Z,2.0nm,0.6s
GZR Gura Zlata 30.72 315⇓P **P** **10 28 29.8 +0.8**
GZR Gura Zlata 30.72 315⇓*i*P **P** **10 28 29.8 +0.8**
GZR Gura Zlata 30.72 315 P **P** **10 28 29.8 +0.8**
OBN Obninsk 30.83 341⇓*e*P **P** **10 28 29.7 0.0**
OBN *e* 10 29 33.9
OBN *e*S **S** **10 33 28.0 -4.3**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN Obninsk 30.83 341 *e*P **P** **10 28 29.7 0.0**
comp=Z,26nm,1.2s
BZS Buzias 31.55 315⇓P **P** **10 28 36.9 +0.6**
BZS Buzias 31.55 315⇓*i*P **P** **10 28 36.8 +0.5**
BZS Buzias 31.55 315 P **P** **10 28 36.9 +0.6**
WMQ Urumqi 32.29 49 P **P** **10 28 45.5 +2.6**
WMQ pP **pP** **10 28 49.9 +1.3**
WMQ sP **sP** **10 28 52.5 +1.6**
WMQ PP **PP** **10 29 54.4 -1.5**
WMQ PcP **PcP** **10 31 34.1 +3.3**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ LR LR
comp=Z,110nm,18.4s
WMQ LR LR
comp=Z,210nm,23.0s
KOLS Kolonicke sedl 32.72 321 *e*P **P** **10 28 48.1 +1.6**
KOLS pmax pmax
comp=Z,15nm,1.2s
KOLS Kolonicke sedl 32.72 321 *e*P **P** **10 28 48.1 +1.6**
KOLS Kolonicke sedl 32.72 321 *e*P **P** **10 28 48.1 +1.6**
comp=Z,15nm,1.2s
KWP Kalwaria Pacla 32.85 322⇓P **P** **10 28 48.1 +0.5**
KWP Kalwaria Pacla 32.85 322 *e*P **P** **10 28 48.4 +0.8**
KWP Kalwaria Pacla 32.85 322⇓*i*P **P** **10 28 48.1 +0.5**
KWP Kalwaria Pacla 32.85 322 *e*P **P** **10 28 48.2 +0.5**
comp=Z,8.6nm,0.6s
KWP Kalwaria Pacla 32.85 322 P **P** **10 28 48.1 +0.5**
CRVS Cervenica-Dubn 33.17 320 *e*P **P** **10 28 51.2 +0.7**
CRVS pmax pmax
comp=Z,7.0nm,1.2s
CRVS Cervenica-Dubn 33.17 320 *e*P **P** **10 28 51.2 +0.7**
CRVS Cervenica-Dubn 33.17 320 *e*P **P** **10 28 51.2 +0.7**
comp=Z,7.0nm,1.2s
STHS Stebnicka Huta 33.55 321 *e*P **P** **10 28 53.5 -0.3**
STHS pmax pmax
comp=Z,1.0nm,0.4s
STHS Stebnicka Huta 33.55 321 *e*P **P** **10 28 53.5 -0.3**
STHS Stebnicka Huta 33.55 321 *e*P **P** **10 28 53.5 -0.3**
comp=Z,1.0nm,0.4s
PKSM Moragy 33.69 314⇓P **P** **10 28 55.6 +0.6**
PKSM Moragy 33.69 314⇓*i*P **P** **10 28 55.6 +0.6**
PKSM Moragy 33.69 314 P **P** **10 28 55.6 +0.6**
KLMR Klimovskoe 35.30 348 *e*P **P** **10 29 06.2 -2.5**
KLMR pmax pmax
comp=Z,29nm,1.6s
NVS Novosibirsk 35.35 30 *e*P **P** **10 29 07.2 -2.0**
ZAA0 Zalesovo Array 35.52 32 *e*P **P** **10 29 10.7 0.0**
ZAA0 Zalesovo Array 35.52 32 *e*P **P** **10 29 10.7 0.0**
ZALV Zalesovo Beam 35.52 32 P **P** **10 29 10.8 +0.1**
ZALV 10 31 39.0
ZALV Zalesovo Beam 35.52 32 P **P** **10 29 10.8 +0.1**
ZALV PcP **PcP** **10 31 39.0 -0.6**
ZALV Zalesovo Beam 35.52 32 P **P** **10 29 10.8 +0.1**
comp=Z,20nm,0.5s,baz=239,slow=9.2,SNR=100
ZALV PcP **PcP** **10 31 39.0 -0.6**
comp=Z,1.4nm,0.5s,baz=258,slow=3.3,SNR=3.6
ZALV LR LR 10 45 14.6
comp=Z,92nm,18.1s,baz=251,slow=39
ZALV Zalesovo Beam 35.52 32 P **P** **10 29 10.8 +0.1**
ZALV Zalesovo Beam 35.52 32 PcP **PcP** **10 31 39.0 -0.6**
LJU Ljubljana 36.31 312 *i* P **P** **10 29 18.6 +0.9**
LJU Ljubljana 36.31 312 *i* P **P** **10 29 18.6 +0.9**
CRNS Crni Vrh 36.50 312 *i* P **P** **10 29 19.9 +0.6**
JAVS Javornik 36.57 312 *i* P **P** **10 29 20.1 0.0**
JAVS Javornik 36.57 312 *i* P **P** **10 29 20.0 0.0**
VSU Vasula 36.74 337⇓*e*P **P** **10 29 21.7 +0.7**
VSU pmax pmax
comp=Z,24nm,1.0s
VSU Vasula 36.74 337 *e*P **P** **10 29 21.7 +0.7**
comp=Z,24nm,1.0s
KBA Koelnbreinsper 37.41 313⇑*i*P **P** **10 29 27.1 -0.1**
comp=Z,8.0nm,0.8s
KBA Koelnbreinsper 37.41 313 P **P** **10 29 27.1 -0.1**
comp=Z,8.0nm,0.8s
GERES GERESS Array B 37.78 316 P **P** **10 29 29.8 -0.4**
GERES PcP **PcP** **10 31 46.8 +0.1**
GERES GERESS Array B 37.78 316 P **P** **10 29 29.8 -0.4**
comp=Z,0.7nm,0.6s,baz=111,slow=7.3,SNR=3.6
GERES PcP **PcP** **10 31 46.8 +0.1**
comp=Z,0.6nm,0.6s,baz=124,slow=2.4,SNR=4.3
GERES GERESS Array B 37.78 316 P **P** **10 29 29.8 -0.4**
GERES GERESS Array B 37.78 316 PcP **PcP** **10 31 46.8 +0.1**
KHC Kasperske Hory 37.95 317⇓*i*P **P** **10 29 31.8 +0.2**
KHC pmax pmax
comp=Z,55nm,2.5s
KHC Kasperske Hory 37.95 317 *i* P **P** **10 29 31.8 +0.2**
comp=Z,55nm,2.5s
WATA Walderalm 38.64 313⇑*i*P **P** **10 29 37.0 -0.5**
comp=Z,14nm,0.6s
WATA Walderalm 38.64 313 P **P** **10 29 37.0 -0.5**
comp=Z,14nm,0.6s
HVS Khovu-Aksy 38.80 40⇑*i*P **P** **10 29 39.7 +1.0**
HVS pmax pmax
comp=Z,26nm,0.7s
HVS Khovu-Aksy 38.80 40 *i* P **P** **10 29 39.7 +1.0**
comp=Z,26nm,0.7s
JOF Joensuu 38.92 344 *e*P **P** **10 29 40.0 +0.6**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 38.92 344 *ep* **P** **10 29 40.0 +0.6**
comp=Z,6.2nm,0.7s
JOF Joensuu 38.92 344 *e*P **P** **10 29 40.0 +0.6**
comp=Z,6.0nm,0.7s
MOTA Moosalm 38.95 313⇑*i*P **P** **10 29 39.4 -0.7**
comp=Z,13nm,0.8s
MOTA Moosalm 38.95 313 P **P** **10 29 39.4 -0.7**
comp=Z,13nm,0.8s
FETA Feichten 39.10 312⇑*i*P **P** **10 29 41.4 0.0**
comp=Z,19nm,1.0s
FETA Feichten 39.10 312 P **P** **10 29 41.4 0.0**
comp=Z,19nm,1.0s
CLL Collm 39.12 320 *e*P **P** **10 29 42.0 +0.8**
CLL Collm 39.12 320 *e*P **P** **10 29 42.0 +0.8**
CLL Collm 39.12 320 *e*P **P** **10 29 42.0 +0.8**
FINES FINESS Array B 39.20 339 P **P** **10 29 41.5 -0.3**
FINES FINESS Array B 39.20 339 P **P** **10 29 41.5 -0.3**
comp=Z,8.6nm,0.8s,baz=140,slow=10,SNR=22
FINES FINESS Array B 39.20 339 P **P** **10 29 41.5 -0.3**
RETA Reutte 39.21 313⇑*i*P **P** **10 29 41.3 -0.9**
comp=Z,9.4nm,0.6s
RETA Reutte 39.21 313 P **P** **10 29 41.3 -0.9**
comp=Z,9.4nm,0.6s
DAVOX Davos/Dischmat 39.60 312 P **P** **10 29 45.7 0.0**
DAVOX Davos/Dischmat 39.60 312 P **P** **10 29 45.7 0.0**
comp=Z,6.8nm,0.8s,baz=129,slow=17,SNR=6.1
DAVOX Davos/Dischmat 39.60 312 P **P** **10 29 45.7 0.0**
DAVA Damuels 39.73 313⇑*i*P **P** **10 29 46.3 -0.4**
comp=Z,36nm,0.6s
DAVA Damuels 39.73 313 P **P** **10 29 46.3 -0.4**
comp=Z,36nm,0.6s
TUE Stuetta 39.88 311 *e*P **P** **10 29 48.5 +0.5**
comp=Z,437nm,0.5s
TUE Stuetta 39.88 311 *e*P **P** **10 29 48.5 +0.5**
comp=Z,437nm,0.5s
GTA Gaotai 40.29 60 P **P** **10 29 52.3 +0.9**
GTA pP **pP** **10 29 56.8 -0.3**
GTA sP **sP** **10 29 59.3 -0.1**
GTA S **S** **10 35 58.6 +0.5**
GTA sS **sS** **10 36 05.5 -2.2**
GTA SS **SS** **10 38 50.8 -5.9**
GTA pmax pmax
comp=Z,14nm,1.1s
GTA pmax pmax
comp=Z,280nm,4.3s
GTA LR LR
comp=Z,88nm,15.9s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,84nm,15.7s
MBDF Montbardon 41.31 308 *e*P **P** **10 29 59.5 -0.2**
comp=Z,17nm,0.6s
MBDF Montbardon 41.31 308 *e*P **P** **10 29 59.5 -0.2**
MBDF pmax pmax
comp=Z,17nm,0.6s
MBDF Montbardon 41.31 308 *e*P **P** **10 29 59.5 -0.2**
comp=Z,17nm,0.6s
MBDF Montbardon 41.31 308 *e*P **P** **10 29 59.5 -0.2**
comp=Z,8.6nm,0.6s
LPG La Plagne 41.45 309 *e*P **P** **10 30 00.6 -0.5**
comp=Z,17nm,0.7s
LPG La Plagne 41.45 309 *e*P **P** **10 30 00.6 -0.5**
LPG pmax pmax
comp=Z,17nm,0.7s
LPG La Plagne 41.45 309 *e*P **P** **10 30 00.6 -0.5**
comp=Z,17nm,0.7s
LPG La Plagne 41.45 309 *e*P **P** **10 30 00.6 -0.5**
comp=Z,8.4nm,0.7s
LPL La Plagne 41.47 309 *e*P **P** **10 30 00.6 -0.5**
comp=Z,14nm,0.7s
LPL La Plagne 41.47 309 *e*P **P** **10 30 00.6 -0.5**
LPL pmax pmax
comp=Z,14nm,0.7s
LPL La Plagne 41.47 309 *e*P **P** **10 30 00.6 -0.5**
comp=Z,14nm,0.7s
LPL La Plagne 41.47 309 *e*P **P** **10 30 00.6 -0.5**
comp=Z,7.2nm,0.7s
CDF Champ du Feu 41.72 314 *e*P **P** **10 30 01.4 -1.5**
CDF Champ du Feu 41.72 314 *e*P **P** **10 30 01.4 -1.5**
CDF Champ du Feu 41.72 314 *e*P **P** **10 30 01.4 -1.5**
CDF Champ du Feu 41.72 314 *e*P **P** **10 30 01.4 -1.5**
HINF Hinteralfeld 41.85 313 *e*P **P** **10 30 02.9 -1.1**
comp=Z,15nm,0.9s
HINF Hinteralfeld 41.85 313 *e*P **P** **10 30 02.9 -1.1**
HINF pmax pmax
comp=Z,15nm,0.9s
HINF Hinteralfeld 41.85 313 *e*P **P** **10 30 02.9 -1.1**
comp=Z,15nm,0.9s
HINF Hinteralfeld 41.85 313 *e*P **P** **10 30 02.9 -1.1**
comp=Z,7.4nm,0.9s
CABF La Chapelle 42.11 311 *e*P **P** **10 30 05.5 -0.7**
comp=Z,13nm,0.6s
CABF La Chapelle 42.11 311 *e*P **P** **10 30 05.5 -0.7**
CABF pmax pmax
comp=Z,13nm,0.6s
CABF La Chapelle 42.11 311 *e*P **P** **10 30 05.5 -0.7**
comp=Z,13nm,0.6s
CABF La Chapelle 42.11 311 *e*P **P** **10 30 05.5 -0.7**
comp=Z,6.5nm,0.6s
CMAR Chiang Mai Arr 42.52 92 P **P** **10 30 09.7 -0.1**
CMAR Chiang Mai Arr 42.52 92 P **P** **10 30 09.7 -0.1**
comp=Z,1.7nm,0.6s,baz=285,slow=9.3,SNR=11
CMAR Chiang Mai Arr 42.52 92 P **P** **10 30 09.6 -0.1**
APA Apatity 42.53 349⇓*i*P **P** **10 30 12.0 +2.8**
APA MLR MLR
comp=Z,2μm,19.0s
APA Apatity 42.53 349 *i* P **P** **10 30 12.0 +2.8**
comp=Z,2μm,19.0s
VIVF Saint-Julien-l 42.80 308 *e*P **P** **10 30 10.7 -1.1**
VIVF Saint-Julien-l 42.80 308 *e*P **P** **10 30 10.7 -1.1**
VIVF Saint-Julien-l 42.80 308 *e*P **P** **10 30 10.7 -1.1**
VIVF Saint-Julien-l 42.80 308 *e*P **P** **10 30 10.7 -1.1**
HFS Hagfors 42.92 332 P **P** **10 30 12.0 -0.4**
HFS Hagfors 42.92 332 P **P** **10 30 12.0 -0.4**
comp=Z,3.9nm,0.7s,baz=113,slow=11,SNR=11
HFS Hagfors 42.92 332 P **P** **10 30 12.0 -0.4**
MOY Mondy 43.28 42 *e*P **P** **10 30 17.1 +1.5**
MOY pmax pmax
comp=Z,16nm,1.6s
MOY Mondy 43.28 42 *e*P **P** **10 30 17.1 +1.5**
comp=Z,16nm,1.6s
LASF Ste Croix 43.29 307 *e*P **P** **10 30 15.2 -0.5**
comp=Z,22nm,0.9s
LASF Ste Croix 43.29 307 *e*P **P** **10 30 15.2 -0.5**
comp=Z,22nm,0.9s
LASF Ste Croix 43.29 307 *e*P **P** **10 30 15.2 -0.5**
comp=Z,11nm,0.9s
LZH Lanzhou 43.45 65 *e*P **P** **10 30 17.5 +0.2**
LZH pP **pP** **10 30 20.8 -2.3**
LZH sP **sP** **10 30 22.3 -3.1**
LZH PP **PP** **10 32 00.6 +2.3**
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,120nm,6.0s
LZH LR LR
comp=Z,410nm,13.5s
LZH LR LR
comp=Z,400nm,13.2s
LZH LR LR
comp=Z,490nm,17.8s
BCLA Clavier 43.46 316 P **P** **10 30 17.4 +0.4**
BCLA Clavier 43.46 316 P **P** **10 30 17.3 +0.4**
TAM Tamanrasset 43.59 276 *e*P **P** **10 30 19.1 +0.5**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 43.59 276 *e*P **P** **10 30 19.1 +0.5**
comp=Z,4.5nm,0.8s
TAM Tamanrasset 43.59 276 *e*P **P** **10 30 19.0 +0.5**
comp=Z,4.5nm,0.8s
SMF Signal de Mont 43.64 310 *e*P **P** **10 30 18.2 -0.3**
comp=Z,22nm,0.8s
SMF Signal de Mont 43.64 310 *e*P **P** **10 30 18.2 -0.3**
SMF pmax pmax
comp=Z,22nm,0.8s
SMF Signal de Mont 43.64 310 *e*P **P** **10 30 18.2 -0.3**
comp=Z,22nm,0.8s
SMF Signal de Mont 43.64 310 *e*P **P** **10 30 18.2 -0.3**
comp=Z,11nm,0.8s
DOU Dourbes 43.82 315 P **P** **10 30 19.5 -0.3**
DOU Dourbes 43.82 315 P **P** **10 30 19.5 -0.3**
CD2 Chengdu 43.84 72 *e*P **P** **10 30 21.9 +1.5**
CD2 sP **sP** **10 30 28.8 +0.3**
CD2 PP **PcP** **10 32 05.4 -1.2**
CD2 S **S** **10 36 51.8 +1.2**
CD2 SS **SS** **10 40 00.1 -6.7**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 LR LR
comp=Z,210nm,15.6s
CD2 LR LR

	comp=Z,220nm,14.2s								
SSF	**Saint Saulge**	**43.94**	**311**	*eP*		**P**	**10 30 20.1**	**-0.8**	
	comp=Z,14nm,0.9s								
SSF	**Saint Saulge**	**43.94**	**311**	*eP*		**P**	**10 30 20.1**	**-0.8**	
SSF					pmax	pmax			
	comp=Z,14nm,0.9s								
SSF	**Saint Saulge**	**43.94**	**311**	*eP*		**P**	**10 30 20.1**	**-0.8**	
	comp=Z,14nm,0.9s								
SSF	**Saint Saulge**	**43.94**	**311**	*eP*		**P**	**10 30 20.1**	**-0.8**	
	comp=Z,6.8nm,0.9s								
AVF	**Avril sur Loir**	**44.00**	**311**	*eP*		**P**	**10 30 20.3**	**-1.0**	
AVF	**Avril sur Loir**	**44.00**	**311**	*eP*		**P**	**10 30 20.3**	**-1.0**	
AVF	**Avril sur Loir**	**44.00**	**311**	*eP*		**P**	**10 30 20.3**	**-1.0**	
AVF	**Avril sur Loir**	**44.00**	**311**	*eP*		**P**	**10 30 20.3**	**-1.0**	
KMI	**Kunming**	**44.01**	**81**	P		**P**	**10 30 22.3**	**+0.3**	
KMI					pmax	pmax			
	comp=Z,9.0nm,1.1s								
BAIF	**Baives**	**44.05**	**315**	*eP*		**P**	**10 30 22.0**	**+0.3**	
	comp=Z,24nm,0.7s								
BAIF	**Baives**	**44.05**	**315**	*eP*		**P**	**10 30 22.0**	**+0.3**	
BAIF					pmax	pmax			
	comp=Z,24nm,0.7s								
BAIF	**Baives**	**44.05**	**315**	*eP*		**P**	**10 30 22.0**	**+0.3**	
	comp=Z,24nm,0.7s								
BAIF	**Baives**	**44.05**	**315**	*eP*		**P**	**10 30 22.0**	**+0.3**	
	comp=Z,12nm,0.7s								
BGF	**Bois d'Agland**	**44.31**	**310**	*eP*		**P**	**10 30 23.0**	**-0.8**	
BGF	**Bois d'Agland**	**44.31**	**310**	*eP*		**P**	**10 30 23.0**	**-0.8**	
BGF	**Bois d'Agland**	**44.31**	**310**	*eP*		**P**	**10 30 23.0**	**-0.8**	
BGF	**Bois d'Agland**	**44.31**	**310**	*eP*		**P**	**10 30 23.0**	**-0.8**	
ZAK	**Zakamensk**	**44.35**	**44**	⇑*iP*		**P**	**10 30 24.8**	**+0.6**	
ZAK				*e*			10 32 07.6		
ZAK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ZAK	**Zakamensk**	**44.35**	**44**	*i* P		**P**	**10 30 24.8**	**+0.6**	
	comp=Z,3.0nm,0.8s								
ZAK	**Zakamensk**	**44.35**	**44**	*e*PcP		**PcP**	**10 32 07.6**	**-0.5**	
NB2	**NORSAR Subarra**	**44.44**	**332**	P		**P**	**10 30 23.9**	**-0.8**	
	comp=Z,5.1nm,0.9s,baz=120,slow=8.6								
NB2	**NORSAR Subarra**	**44.44**	**332**	P		**P**	**10 30 23.9**	**-0.8**	
	comp=Z,5.1nm,0.9s,baz=120,slow=8.1,SNR=1.1								
NOA	**NORSAR Array B**	**44.44**	**332**	P		**P**	**10 30 24.1**	**-0.7**	
NOA	**NORSAR Array B**	**44.44**	**332**	P		**P**	**10 30 24.1**	**-0.7**	
	comp=Z,3.1nm,0.8s,baz=121,slow=8.2,SNR=11								
NOA	**NORSAR Array B**	**44.44**	**332**	P		**P**	**10 30 24.1**	**-0.7**	
CAF	**Calviac**	**44.65**	**308**	*eP*		**P**	**10 30 26.4**	**-0.3**	
	comp=Z,21nm,0.8s								
CAF	**Calviac**	**44.65**	**308**	*eP*		**P**	**10 30 26.4**	**-0.3**	
CAF					pmax	pmax			
	comp=Z,21nm,0.8s								
CAF	**Calviac**	**44.65**	**308**	*eP*		**P**	**10 30 26.4**	**-0.3**	
	comp=Z,21nm,0.8s								
CAF	**Calviac**	**44.65**	**308**	*eP*		**P**	**10 30 26.4**	**-0.3**	
	comp=Z,10nm,0.8s								
TCF	**Toulx Ste Croi**	**44.71**	**310**	*eP*		**P**	**10 30 26.5**	**-0.6**	
	comp=Z,17nm,0.8s								
TCF	**Toulx Ste Croi**	**44.71**	**310**	*eP*		**P**	**10 30 26.5**	**-0.6**	
TCF					pmax	pmax			
	comp=Z,17nm,0.8s								
TCF	**Toulx Ste Croi**	**44.71**	**310**	*eP*		**P**	**10 30 26.5**	**-0.6**	
	comp=Z,17nm,0.8s								
TCF	**Toulx Ste Croi**	**44.71**	**310**	*eP*		**P**	**10 30 26.5**	**-0.6**	
	comp=Z,8.6nm,0.8s								
RJF	**Les Rejaudoux**	**45.08**	**308**	*eP*		**P**	**10 30 29.9**	**-0.1**	
	comp=Z,59nm,1.1s								
RJF	**Les Rejaudoux**	**45.08**	**308**	*eP*		**P**	**10 30 29.9**	**-0.1**	
RJF					pmax	pmax			
	comp=Z,59nm,1.1s								
RJF	**Les Rejaudoux**	**45.08**	**308**	*eP*		**P**	**10 30 29.9**	**-0.1**	
	comp=Z,59nm,1.1s								
RJF	**Les Rejaudoux**	**45.08**	**308**	*eP*		**P**	**10 30 29.9**	**-0.1**	
	comp=Z,30nm,1.1s								
LFF	**La Frestale**	**45.59**	**308**	*eP*		**P**	**10 30 34.0**	**0.0**	
LFF	**La Frestale**	**45.59**	**308**	*eP*		**P**	**10 30 34.0**	**0.0**	
LFF	**La Frestale**	**45.59**	**308**	*eP*		**P**	**10 30 34.0**	**0.0**	
LFF	**La Frestale**	**45.59**	**308**	*eP*		**P**	**10 30 34.0**	**0.0**	
ARCES	**ARCESS Array B**	**45.73**	**347**	P		**P**	**10 30 34.8**	**-0.1**	
ARCES	**ARCESS Array B**	**45.73**	**347**	P		**P**	**10 30 34.8**	**-0.1**	
	comp=Z,3.2nm,0.7s,baz=141,slow=7.8,SNR=11								
ARCES	**ARCESS Array B**	**45.73**	**347**	P		**P**	**10 30 34.8**	**-0.1**	
SONM	**Songino Array**	**45.91**	**48**	P		**P**	**10 30 37.3**	**+0.6**	
SONM	**Songino Array**	**45.91**	**48**	P		**P**	**10 30 37.3**	**+0.6**	
	comp=Z,7.0nm,0.8s,baz=270,slow=9.2,SNR=50								
SONM					LR	LR	10 50 49.9		
	comp=Z,79nm,19.7s,baz=356,slow=37								
SONM	**Songino Array**	**45.91**	**48**	P		**P**	**10 30 37.3**	**+0.6**	
ULN	**Ulaanbaatar**	**46.35**	**48**	P		**P**	**10 30 40.7**	**+0.5**	
	SNR=9.5								
ULN	**Ulaanbaatar**	**46.35**	**48**	*eP*		**P**	**10 30 40.7**	**+0.5**	
	comp=Z,8.3nm,0.8s								
ULN	**Ulaanbaatar**	**46.35**	**48**	*eP*		**P**	**10 30 40.7**	**+0.5**	
	comp=Z,8.3nm,0.8s								
ETSF	**Etsaut**	**46.41**	**305**	*eP*		**P**	**10 30 40.2**	**-0.4**	
	comp=Z,18nm,0.7s								
ETSF	**Etsaut**	**46.41**	**305**	*eP*		**P**	**10 30 40.2**	**-0.4**	
ETSF					pmax	pmax			
	comp=Z,18nm,0.7s								
ETSF	**Etsaut**	**46.41**	**305**	*eP*		**P**	**10 30 40.2**	**-0.4**	
	comp=Z,18nm,0.7s								
ETSF	**Etsaut**	**46.41**	**305**	*eP*		**P**	**10 30 40.2**	**-0.4**	
	comp=Z,8.9nm,0.7s								
LDF	**La Druitiere**	**46.58**	**313**	*eP*		**P**	**10 30 40.4**	**-1.4**	
	comp=Z,6.1nm,0.4s								
LDF	**La Druitiere**	**46.58**	**313**	*eP*		**P**	**10 30 40.4**	**-1.4**	
LDF					pmax	pmax			
	comp=Z,6.0nm,0.4s								
LDF	**La Druitiere**	**46.58**	**313**	*eP*		**P**	**10 30 40.4**	**-1.4**	
	comp=Z,6.1nm,0.4s								
LDF	**La Druitiere**	**46.58**	**313**	*eP*		**P**	**10 30 40.4**	**-1.4**	
	comp=Z,3.0nm,0.4s								
FLN	**La Foliniere**	**46.84**	**313**	*eP*		**P**	**10 30 42.1**	**-1.7**	
FLN	**La Foliniere**	**46.84**	**313**	*eP*		**P**	**10 30 42.1**	**-1.7**	
FLN	**La Foliniere**	**46.84**	**313**	*eP*		**P**	**10 30 42.1**	**-1.7**	
FLN	**La Foliniere**	**46.84**	**313**	*eP*		**P**	**10 30 42.1**	**-1.7**	
SJPF	**Ste Jean**	**46.90**	**305**	*eP*		**P**	**10 30 44.7**	**+0.3**	
	comp=Z,21nm,0.7s								
SJPF	**Ste Jean**	**46.90**	**305**	*eP*		**P**	**10 30 44.7**	**+0.3**	
SJPF					pmax	pmax			
	comp=Z,21nm,0.7s								
SJPF	**Ste Jean**	**46.90**	**305**	*eP*		**P**	**10 30 44.7**	**+0.3**	
	comp=Z,21nm,0.7s								
SJPF	**Ste Jean**	**46.90**	**305**	*eP*		**P**	**10 30 44.7**	**+0.3**	
	comp=Z,11nm,0.7s								
GYA	**Guiyang**	**47.16**	**78**	*eP*		**P**	**10 30 49.4**	**+2.6**	
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
SGMF	**Saint Gilles**	**48.15**	**312**	*eP*		**P**	**10 30 53.2**	**-0.8**	
SGMF	**Saint Gilles**	**48.15**	**312**	*eP*		**P**	**10 30 53.2**	**-0.8**	
SGMF	**Saint Gilles**	**48.15**	**312**	*eP*		**P**	**10 30 53.2**	**-0.8**	
SGMF	**Saint Gilles**	**48.15**	**312**	*eP*		**P**	**10 30 53.2**	**-0.8**	
QUIF	**Quistinic**	**48.53**	**311**	*eP*		**P**	**10 30 56.6**	**-0.3**	
	comp=Z,84nm,1.2s								
QUIF	**Quistinic**	**48.53**	**311**	*eP*		**P**	**10 30 56.6**	**-0.3**	
QUIF					pmax	pmax			
	comp=Z,85nm,1.2s								
QUIF	**Quistinic**	**48.53**	**311**	*eP*		**P**	**10 30 56.6**	**-0.3**	
	comp=Z,84nm,1.2s								
QUIF	**Quistinic**	**48.53**	**311**	*eP*		**P**	**10 30 56.6**	**-0.3**	
	comp=Z,42nm,1.2s								
LSZ	**Lusaka**	**48.61**	**213**	*eP*		**P**	**10 30 58.2**	**+0.3**	
	comp=Z,6.9nm,1.1s								
LSZ	**Lusaka**	**48.61**	**213**	*eP*		**P**	**10 30 58.2**	**+0.3**	
	comp=Z,6.9nm,1.1s								
ROSF	**Rostrenen**	**48.64**	**312**	*eP*		**P**	**10 30 57.6**	**-0.2**	
ROSF	**Rostrenen**	**48.64**	**312**	*eP*		**P**	**10 30 57.6**	**-0.2**	
ROSF	**Rostrenen**	**48.64**	**312**	*eP*		**P**	**10 30 57.6**	**-0.2**	
ROSF	**Rostrenen**	**48.64**	**312**	*eP*		**P**	**10 30 57.6**	**-0.2**	
ESDC	**Sonseca Array**	**49.01**	**300**	P		**P**	**10 31 00.5**	**-0.3**	
ESDC	**Sonseca Array**	**49.01**	**300**	P		**P**	**10 31 00.5**	**-0.3**	
	comp=Z,6.5nm,1.1s,baz=82,slow=7.7,SNR=7.9								
ESDC	**Sonseca Array**	**49.01**	**300**	P		**P**	**10 31 00.5**	**-0.3**	
HHC	**Hu-ho-hao-te**	**49.31**	**58**	*eP*		**P**	**10 31 04.6**	**+1.4**	
HHC					sP	**sP**	**10 31 11.4**	**0.0**	
HHC					S	**S**	**10 38 08.8**	**0.0**	
HHC					sS	**sS**	**10 38 19.5**	**+1.0**	
HHC					SS	**SS**	**10 41 36.3**	**-4.0**	
HHC					pmax	pmax			
	comp=Z,27nm,1.2s								
HHC					pmax	pmax			
	comp=Z,270nm,4.7s								
HHC					LR	LR			
	comp=Z,300nm,13.7s								
HHC					LR	LR			
	comp=Z,340nm,15.2s								
HHC					LR	LR			
	comp=Z,260nm,14.9s								

EKA	**Eskdalemuir Ar**	**49.54**	**321**	P		**P**	**10 31 04.2**	**-0.4**	
EKA	**Eskdalemuir Ar**	**49.54**	**321**	P		**P**	**10 31 04.2**	**-0.4**	
	comp=Z,1.5nm,0.4s,baz=103,slow=7.8,SNR=11								
EKA	**Eskdalemuir Ar**	**49.54**	**321**	P		**P**	**10 31 04.2**	**-0.4**	
MDT	**Midelt**	**50.28**	**292**	P		**P**	**10 31 11.5**	**+0.8**	
MDT	**Midelt**	**50.28**	**292**	P		**P**	**10 31 11.5**	**+0.8**	
	comp=Z,6.1nm,0.8s,baz=88,slow=10.0,SNR=6.6								
MDT	**Midelt**	**50.28**	**292**	P		**P**	**10 31 11.5**	**+0.8**	
TOA0	**Torodi Ar. Sit**	**50.29**	**265**	*eP*		**P**	**10 31 09.9**	**-0.9**	
TOA0	**Torodi Ar. Sit**	**50.29**	**265**	*eP*		**P**	**10 31 09.9**	**-0.9**	
TORD	**Torodi Ar. Bea**	**50.29**	**265**	P		**P**	**10 31 09.9**	**-0.9**	
TORD	**Torodi Ar. Bea**	**50.29**	**265**	P		**P**	**10 31 09.9**	**-0.9**	
	comp=Z,6.7nm,1.0s,baz=61,slow=7.6,SNR=18								
TORD	**Torodi Ar. Bea**	**50.29**	**265**	P		**P**	**10 31 09.9**	**-0.9**	
QIZ	**Qiongzhong**	**52.06**	**86**	P		**P**	**10 31 24.5**	**+0.4**	
QIZ					S	**S**	**10 38 49.3**	**+2.0**	
BJI	**Beijing**	**52.88**	**59**	P		**P**	**10 31 30.3**	**+0.4**	
BJI					pmax	pmax			
	comp=Z,12nm,1.1s								
HIA	**Hailar**	**54.83**	**47**	*eP*		**P**	**10 31 44.7**	**+0.6**	
	comp=Z,6.0nm,1.0s								
LBTB	**Lobatse**	**58.21**	**210**	*eP*		**P**	**10 32 11.2**	**+2.8**	
	comp=Z,21nm,1.2s								
DBIC	**Dimbokro**	**58.90**	**261**	*eP*		**P**	**10 32 12.9**	**-0.4**	
	comp=Z,18nm,0.8s								
DBIC	**Dimbokro**	**58.90**	**261**	P		**P**	**10 32 13.0**	**-0.4**	
	comp=Z,14nm,0.6s,baz=47,slow=6.4,SNR=21								
DBIC	**Dimbokro**	**58.90**	**261**	*eP*		**P**	**10 32 12.9**	**-0.4**	
	comp=Z,18nm,0.8s								
KIC	**Kosan Boka**	**58.94**	**261**	*eP*		**P**	**10 32 12.9**	**-0.8**	
	comp=Z,40nm,1.0s								
TIC	**Toumodi**	**59.06**	**261**	*eP*		**P**	**10 32 14.0**	**-0.5**	
	comp=Z,34nm,0.7s								
LIC	**Lamto**	**59.26**	**261**	⇑*iP*		**P**	**10 32 15.3**	**-0.6**	
	comp=Z,30nm,0.6s								
LIC	**Lamto**	**59.26**	**261**	*eP*		**P**	**10 32 15.3**	**-0.6**	
	comp=Z,51nm,0.6s								
LIC	**Lamto**	**59.26**	**261**	⇑*iP*		**P**	**10 32 15.3**	**-0.6**	
	comp=Z,30nm,0.6s								
LIC	**Lamto**	**59.26**	**261**	⇑*iP*		**P**	**10 32 15.3**	**-0.6**	
	comp=Z,15nm,0.6s								
SCO	**Scoresbysund**	**60.10**	**338**	*i* P		**P**	**10 32 22.3**	**+1.5**	
SCO					pmax	pmax			
	comp=Z,2.0nm,0.9s								
SCO	**Scoresbysund**	**60.10**	**338**	*i* P		**P**	**10 32 22.3**	**+1.5**	
	comp=Z,1.7nm,0.9s								
SCO	**Scoresbysund**	**60.10**	**338**	*i* P		**P**	**10 32 22.3**	**+1.5**	
	comp=Z,2.0nm,0.9s								
TIXI	**Tiksi**	**60.12**	**21**	⇓*iP*		**P**	**10 32 21.3**	**+0.4**	
TIXI					pmax	pmax			
	comp=Z,5.0nm,1.7s								
TIXI	**Tiksi**	**60.12**	**21**	P		**P**	**10 32 21.3**	**+0.4**	
	comp=Z,5.0nm,1.7s								
KSAR	**Wonju Array Be**	**62.34**	**60**	P		**P**	**10 32 35.5**	**-1.0**	
KSAR	**Wonju Array Be**	**62.34**	**60**	P		**P**	**10 32 35.5**	**-1.0**	
KSRS	**Korea Array**	**62.36**	**60**	P		**P**	**10 32 35.5**	**-1.2**	
	comp=Z,2.3nm,0.7s,baz=284,slow=6.5,SNR=6.3								
KSRS	**Korea Array**	**62.36**	**60**	P		**P**	**10 32 35.5**	**-1.2**	
	comp=Z,2.0nm,0.7s								
USRK	**Ussuriysk Arra**	**63.82**	**52**	P		**P**	**10 32 45.0**	**-1.2**	
	comp=Z,2.2nm,0.8s,baz=309,slow=6.9,SNR=6.9								
SUMG	**Summit**	**65.22**	**341**	*eP*		**P**	**10 32 55.5**	**+0.1**	
SUMG					pmax	pmax			
	comp=Z,14nm,1.0s								
SUMG	**Summit**	**65.22**	**341**	*i* P		**P**	**10 32 55.9**	**+0.5**	
	comp=Z,8.8nm,1.0s								
SUMG	**Summit**	**65.22**	**341**	*eP*		**P**	**10 32 55.5**	**+0.1**	
	comp=Z,14nm,1.0s								
SUMG	**Summit**	**65.22**	**341**	*eP*		**P**	**10 32 55.5**	**+0.1**	
	comp=Z,14nm,1.0s								
SEY	**Seymchan**	**70.30**	**29**	⇓*iP*		**P**	**10 33 28.1**	**+1.0**	
SEY	**Seymchan**	**70.30**	**29**	P		**P**	**10 33 27.5**	**+0.4**	
SEY	**Seymchan**	**70.30**	**29**	P		**P**	**10 33 27.5**	**+0.4**	
	comp=Z,6.7nm,0.7s,baz=271,slow=7.2,SNR=19								
SEY	**Seymchan**	**70.30**	**29**	P		**P**	**10 33 27.5**	**+0.4**	
YSS	**Yuzh-Sakhalins**	**70.36**	**47**	⇑*eP*		**P**	**10 33 26.3**	**-1.4**	
YSS					pmax	pmax			
	comp=Z,30nm,0.9s								
YSS	**Yuzh-Sakhalins**	**70.36**	**47**	*eP*		**P**	**10 33 26.3**	**-1.4**	
	comp=Z,30nm,0.9s								
PETK	**Petropavlovsk-**	**76.87**	**37**	P		**P**	**10 34 05.0**	**-1.0**	
PETK	**Petropavlovsk-**	**76.87**	**37**	P		**P**	**10 34 05.0**	**-1.0**	
PETK	**Petropavlovsk-**	**76.87**	**37**	P		**P**	**10 34 05.0**	**-1.0**	
	comp=Z,5.6nm,1.0s,baz=33,slow=9.4,SNR=4.2								
PETK	**Petropavlovsk-**	**76.87**	**37**	P		**P**	**10 34 05.0**	**-1.0**	
FRB	**Frobisher Bay**	**78.97**	**337**	P		**P**	**10 34 17.4**	**+0.1**	
FRB	**Frobisher Bay**	**78.97**	**337**	P		**P**	**10 34 17.4**	**+0.1**	
	comp=Z,6.8nm,0.9s,baz=38,slow=6.9,SNR=8.3								
FRB	**Frobisher Bay**	**78.97**	**337**	P		**P**	**10 34 17.4**	**+0.1**	
SCHQ	**Schefferville**	**83.97**	**330**	P		**P**	**10 34 44.0**	**-0.1**	
SCHQ	**Schefferville**	**83.97**	**330**	P		**P**	**10 34 44.0**	**-0.1**	
	comp=Z,7.4nm,1.0s,baz=40,slow=6.4,SNR=2.7								
SCHQ	**Schefferville**	**83.97**	**330**	P		**P**	**10 34 44.0**	**-0.1**	
ATTU	**Attu Island--F**	**84.83**	**32**	P		**P**	**10 34 47.9**	**-0.6**	
FX1	**Attu Island--F**	**84.83**	**32**	P		**P**	**10 34 47.9**	**-0.6**	
FX1	**Attu Island--F**	**84.83**	**32**	P		**P**	**10 34 47.9**	**-0.6**	
	comp=Z,10nm,0.8s,baz=270,slow=10,SNR=2.1								
FX1	**Attu Island--F**	**84.83**	**32**	P		**P**	**10 34 47.8**	**-0.6**	
ILAR	**Eielson Array**	**87.28**	**9**	P		**P**	**10 34 59.5**	**-0.8**	
ILAR	**Eielson Array**	**87.28**	**9**	P		**P**	**10 34 59.5**	**-0.8**	
	comp=Z,0.9nm,0.7s,baz=328,slow=4.0,SNR=12								
ILAR	**Eielson Array**	**87.28**	**9**	P		**P**	**10 34 59.6**	**-0.8**	
YKA	**Yellowknife Ar**	**90.45**	**355**	P		**P**	**10 35 15.2**	**-0.1**	
YKA	**Yellowknife Ar**	**90.45**	**355**	P		**P**	**10 35 15.1**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=5.1,slow=5.0,SNR=40								
YKA	**Yellowknife Ar**	**90.45**	**355**	P		**P**	**10 35 15.1**	**-0.1**	
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**91.01**	**112**	P		**P**	**10 35 16.2**	**-2.4**	
WRA	**Warramunga Arr**	**91.01**	**112**	P		**P**	**10 35 16.2**	**-2.4**	
	comp=Z,1.3nm,0.7s,baz=314,slow=4.1,SNR=13								
WRA	**Warramunga Arr**	**91.01**	**112**	P		**P**	**10 35 16.2**	**-2.4**	
ASAR	**Alice Springs**	**92.41**	**115**	P		**P**	**10 35 23.8**	**-1.2**	
ASAR	**Alice Springs**	**92.41**	**115**	P		**P**	**10 35 23.8**	**-1.2**	
	comp=Z,1.2nm,0.7s,baz=306,slow=4.9,SNR=21								
ASAR	**Alice Springs**	**92.41**	**115**	P		**P**	**10 35 23.8**	**-1.2**	
TXAR	**Lajitas Array**	**120.01**	**337**	PKP		**PKPdf**	**10 41 04.6**	**-0.6**	
TXAR	**Lajitas Array**	**120.01**	**337**	PKP		**PKPdf**	**10 41 04.6**	**-0.6**	
	comp=Z,0.4nm,0.8s,baz=96,slow=1.3,SNR=4.8								
TXAR	**Lajitas Array**	**120.01**	**337**	PKIKP		**PKPdf**	**10 41 04.6**	**-0.6**	

IDC ***13*** *10:50:45.7±13.0, 13.°63N×88.°34W, h0km, mb3.7/3, mb1 4.2/3, mb1mx3.7/22, mbtmp3.7/3, Error ellipse: s-maj=279.7km s-min=93.1km az=2.0*

CASC ***13*** *10:50:48.2±1.3, 12.°85N×89.°65W, h10km±7km, MD4.0, ML4.1*

ISCJB ***13*** *10:50:49.9±1.1, 12.°87N±0.°09×89.°61W±0.°06, h43km, mb3.7/2, Error ellipse: s-maj=12.6km s-min=8.7km az=176.6*

ISC 13 10:50:52.0±1.5, 13.°0N±0.°1×89.°59W±0.°06, h43km, n18, σ1s49/21, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.79**	**26**	*eP*		**Pn**	**10 51 05.3**	**-1.5**
SNET				*eS*		**Sn**	**10 51 18.6**	**+1.0**
SNET				AML		AML	10 51 22.9	
	comp=Z,5μm,0.3s							
BOQS	**Boqueron**	**0.81**	**22**	*eP*		**Pn**	**10 51 06.0**	**-1.3**
BOQS				*eS*		**Sn**	**10 51 19.3**	**+0.9**
LFRS	**El Faro**	**0.82**	**38**	*eP*		**Pn**	**10 51 06.1**	**-1.3**
SBLS	**San Blas**	**0.86**	**358**	⇓*iP*		**Pn**	**10 51 06.4**	**-1.5**
LFU	**La Fuente**	**0.90**	**31**	*eP*		**Pn**	**10 51 07.3**	**-1.0**
RTR	**El Retiro**	**0.92**	**357**	*eP*		**Pn**	**10 51 07.2**	**-1.5**
LBRS	**Las Brisas**	**0.93**	**35**	*eP*		**Pn**	**10 51 07.7**	**-1.0**
SNVI	**San Vicente**	**0.97**	**49**	*eP*		**Pn**	**10 51 08.0**	**-1.3**
RBDL	**Robledal**	**1.14**	**355**	*eP*		**Pn**	**10 51 10.4**	**-1.2**
VSM	**San Miguel**	**1.36**	**70**	*eP*		**Pn**	**10 51 13.8**	**-0.9**
CAHU	**Cacaquatique**	**1.56**	**59**	*eP*		**Pn**	**10 51 17.4**	**0.0**
CNCH	**Conchagua**	**1.74**	**80**	*eP*		**Pn**	**10 51 18.7**	**-1.1**
CNCH				*eS*		**Sn**	**10 51 44.2**	**+3.4**
NBG	**Las Nubes**	**1.77**	**335**	*eP*		**Pn**	**10 51 21.1**	**+0.7**
MRL	**Marmol**	**2.08**	**357**	*eP*		**Pn**	**10 51 24.8**	**+0.1**
MRL				*eP*		**Pn**	**10 51 25.9**	**+1.3**
JAT	**Jato**	**2.40**	**304**	*eP*		**Pn**	**10 51 28.1**	**-0.7**
TXAR	**Lajitas Array**	**20.88**	**323**	P		Pn	10 55 32.1	-1.5
	comp=Z,2.4nm,0.6s,baz=143,slow=11,SNR=37							
NVAR	**Mina Array Bea**	**35.95**	**320**	P		**P**	**10 57 50.3**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=133,slow=9.2,SNR=3.5							
YKA	**Yellowknife Ar**	**52.58**	**346**	P		**P**	**10 59 58.9**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=132,slow=7.5,SNR=25							

IDC ***13*** *10:52:10.7±2.5, 17.°42S×173.°70W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/21, mbtmp4.1/5, ML1.6/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/41, Error ellipse: s-maj=128.9km s-min=23.2km az=142.0*

ISCJB ***13*** *10:52:19.1±3.8, 16.°7S±0.°7×173.°6W±0.°8, h111km, mb4.1/4, Error ellipse: s-maj=147.8km s-min=9.8km az=42.5*

ISC 13 10:52:23.4±5.6, 17.°S±1.°×174.°W±.°, h111km, n13, σ2s90/6, mb4.0/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.17**	**35**	Pn		**Pn**	**10 53 11.3**	**-0.5**
	2.1nm,0.3s,baz=204,slow=15,SNR=7.1							
AFI				Sn		**Sn**	**10 53 48.1**	**-1.1**
	7.4nm,0.3s,baz=37,slow=22,SNR=4.2							
RAR	**Rarotonga**	**13.96**	**112**	LR		LR	10 59 03.1	
	comp=Z,47nm,18.1s,baz=295,slow=30							
DZM	**Mont Dzumac**	**19.56**	**250**	*e*LR		LR	11 01 39.7	
	129nm,25.1s							
PPT2	**Papeete2**	**23.06**	**96**	*e*LR		LR	11 02 21.3	
	77nm,26.8s							
TBI	**Tubuai**	**23.73**	**111**	*e*LR		LR	11 02 58.1	
	122nm,30.8s							
STKA	**Stephens Creek**	**43.26**	**241**	P		P	11 00 09.8	-4.3
	1.8nm,0.8s,baz=170,slow=18,SNR=3.5							
WRA	**Warramunga Arr**	**49.34**	**258**	P		**P**	**11 01 00.2**	**-1.7**
	0.9nm,0.4s,baz=98,slow=6.5,SNR=20							
ASAR	**Alice Springs**	**49.52**	**253**	P		**P**	**11 01 01.2**	**-2.0**
	9.7nm,0.7s,baz=89,slow=8.4,SNR=156							
FX1	**Attu Island--F**	**70.04**	**352**	LR		LR	11 27 00.8	
	comp=Z,40nm,20.4s,baz=231,slow=30							
NVAR	**Mina Array Bea**	**75.33**	**42**	P		P	11 03 59.7	+4.7
	0.3nm,0.3s,baz=235,slow=10,SNR=3.7							
ANMO	**Albuquerque**	**81.72**	**50**	LR		LR	11 34 02.8	
	comp=Z,60nm,21.3s,baz=227,slow=30							
BRTR	**Keskin Array B**	**146.84**	**320**	PKPbc		**PKPab**	**11 11 57.6**	**+2.9**
	0.9nm,0.8s,baz=90,slow=4.1,SNR=4.8							
GERES	**GERESS Array B**	**147.20**	**351**	PKPbc		**PKPab**	**11 11 58.6**	**+2.9**
	0.3nm,0.7s,baz=28,slow=6.0,SNR=3.6							

ISCJB ***13*** *10:57:03.6±0.6, 22.°03S±0.°09×178.°1W±0.°1, h373km, mb3.6/11, Error ellipse: s-

CURV					*e*S		**Sn**	11 10 08.1	**-2.2**
DABV	**Dabajuro**	**4.67**	**29**		*e*P		**Pn**	11 09 24.5	**+0.6**
DABV					*e*S		**Sn**	11 10 15.6	**-2.7**
BAUV	**El Baul**	**5.28**	**66**		*e*P		**Pn**	11 09 31.6	**-0.3**
BAUV					*e*S		**Sn**	11 10 29.2	**-3.4**
TURV	**Turiamo**	**6.19**	**54**		*e*P		**Pn**	11 09 43.4	**-0.6**
LPAZ	**La Paz**	**23.44**	**168**	P			**P**	11 13 09.3	**-0.2**
	1.9nm,0.9s,baz=320,slow=14,SNR=4.1								
TXAR	**Lajitas Array**	**36.62**	**312**	P			**P**	11 15 05.2	**+0.3**
	0.3nm,0.5s,baz=130,slow=10.0,SNR=9.2								
ULM	**Lac du Bonnet**	**47.36**	**340**	P			**P**	11 16 31.3	**-0.1**
	1.6nm,0.4s,baz=130,slow=5.2,SNR=4.9								
SCHQ	**Schefferville**	**48.13**	**5**	P			**P**	11 16 38.7	**+1.4**
	3.2nm,0.8s,baz=217,slow=9.8,SNR=4.0								
PDAR	**Pinedale Array**	**48.20**	**324**	P			**P**	11 16 38.7	**+0.3**
	0.4nm,0.7s,baz=129,slow=12,SNR=4.9								
YKA	**Yellowknife Ar**	**63.34**	**340**	P			**P**	11 18 25.7	**+0.3**
	0.8nm,0.5s,baz=133,slow=6.7,SNR=44								
ASAR	**Alice Springs**	**149.26**	**234**	PKP			**PKPdf**	11 27 39.4	**-0.4**
	1.7nm,0.7s,baz=117,slow=1.4,SNR=5.9								
ASAR				PKPbc			**PKPbc**	11 27 43.6	**-0.6**
	2.1nm,0.7s,baz=117,slow=3.7,SNR=17								
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc			**PKPbc**	11 27 46.8	**-0.4**
	1.3nm,0.4s,baz=109,slow=2.6,SNR=49								

IDC ***13*** *11:17:53.2±0.7, 47.˚63N×113.˚28W, h0km, mb3.7/2, mb1 3.8/8, mb1mx3.6/32, mbtmp3.5/8, ML3.4/6, MS3.2/1, Ms1 3.1/1, ms1mx2.7/52, Error ellipse: s-maj=12.3km s-min=10.1km az=45.0*

NEIC ***13*** *11:17:55.0, 47.˚43N×113.˚17W, h21km, MW3.7, MD3.9(BUT), Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁴Nm; Mrr=4.65; Mθθ=0.45; Mϕϕ=5.10; Mrθ=1.48; Mθϕ=-0.16; Mrϕ=-0.40; Best double couple: M=5.10000×10¹⁴ NP1=195.00000°, δ=45.00000°, λ=-65.00000°. NP2=342.00000°, δ=50.00000°, λ=-113.00000°. Principal axes: T 5.1300, Plg2.0000°, Azm87.0000°; N 0.0000, Plg17.0000°, Azm356.0000°; P -5.1300, Plg72.0000°, Azm186.0000°; After BUT.*

NEIC Felt [II] at Augusta, Bigfork, Corvallis, Great Falls, Helena, Missoula, Polson, Ronan, Seeley Lake and Stevensville. Also felt at Arlee, Bozeman, Clancy, Condon, Deer Lodge, Hamilton, Kalispell, Kila, Lincoln, Lolo, Marion, Ovando, Saint Ignatius, Whitefish and Wolf Creek.

ISC 13 11:17:54.6±1.0, 47.˚46N±0.˚02×113.˚19W±0.˚03, h18km±5km, n175, σ1§40/193, 53C-54D, Montana

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLMT	**Seeley Lake**	**0.30**	**223**	*e*Pg		**Pb**	11 18 01.9	**+0.4**
SLMT				*e*Sg		**Sb**	11 18 07.9	**+1.8**
CHMT	**Chamberlain Mo**	**0.55**	**184**	*e*Pg		**Pg**	11 18 05.7	**0.0**
SWMT	**Swartz Lake**	**0.55**	**275**	*e*Pg		**Pb**	11 18 06.2	**+0.5**
YBMT	**Yellow Bay**	**0.69**	**306**	*e*Pg		**Pg**	11 18 08.8	**+0.6**
YBMT				*e*S		**Sg**	11 18 17.9	**+0.6**
JTMT	**Jette**	**0.79**	**291**	*e*Pg		**Pg**	11 18 10.6	**+0.4**
MSO	**Missoula**	**0.81**	**219**	⇑P		**Pb**	11 18 10.3	**0.0**
	baz=0.8							
MSO				⇑S		**Sg**	11 18 22.2	**+0.9**
	baz=0.8							
BLMT	**Blacktail Moun**	**0.96**	**305**	*e*Pg		**Pg**	11 18 13.6	**+0.2**
BLMT				*e*Sg		**Sn**	11 18 27.3	**+0.5**
BSMT	**Bassoo Peak**	**1.15**	**290**	*e*Pn		**Pg**	11 18 16.8	**0.0**
BSMT				*e*S		**Sg**	11 18 33.1	**+1.2**
HRY	**Holter Researc**	**1.20**	**128**	*e*P		**Pn**	11 18 16.4	**-0.1**
WALA	**Waterton Lakes**	**1.67**	**343**	*e*Pn		**Pb**	11 18 25.3	**+0.4**
WALA				*e*Sn		**Sg**	11 18 49.0	**+0.5**
LRM	**Limekiln Ridge**	**1.72**	**162**	*e*Pn		**Pn**	11 18 24.0	**+0.2**
BOZ	**Bozeman (W)**	**2.11**	**149**	*e*Pn		**Pn**	11 18 29.4	**+0.2**
BOZ				*e*Sn		**Sn**	11 18 55.9	**+0.9**
EGMT	**Eagleton**	**2.39**	**75**	*e*Pn		**Pn**	11 18 34.1	**+1.3**
EGMT				*e*Sn		**Sb**	11 19 08.2	**+2.1**
EGMT	**Eagleton**	**2.39**	**75**	⇓P		**Pn**	11 18 34.7	**+1.8**
	baz=2.4							
MCMT	**McKenzie Canyo**	**2.65**	**175**	*e*Pn		**Pn**	11 18 37.2	**+0.6**
MCMT				*e*Sg		**Sg**	11 19 19.0	**-0.7**
NEW	**Newport**	**2.77**	**288**	*e*Pn		**Pn**	11 18 38.4	**+0.4**
NEW				Pg		**Pg**	11 18 47.5	**-0.1**
NEW				*e*Sn		**Sn**	11 19 12.0	**+1.0**
NEW				Lg		Lg	11 19 21.2	
NEW	**Newport**	**2.77**	**288**	Pn		**Pn**	11 18 38.5	**+0.4**
	8.9nm,0.3s,baz=103,slow=12,SNR=102							
NEW				Pg		**Pg**	11 18 47.5	**-0.1**
	51nm,0.3s,baz=98,slow=15,SNR=95							
NEW				Lg		Lg	11 19 21.2	
	75nm,0.3s,baz=22,slow=22,SNR=3.1							
NEW	**Newport**	**2.77**	**288**	⇓P		**Pn**	11 18 38.4	**+0.4**
	baz=2.8							
C19A	**Slack Wire Ran**	**2.82**	**83**	⇑P		**Pn**	11 18 40.1	**+1.4**
	baz=2.8,SNR=662							
QLMT	**Earthquake Lak**	**2.90**	**154**	*e*Pn		**Pn**	11 18 41.0	**+0.9**
QLMT				*e*Sn		**Sn**	11 19 14.1	**-0.5**
D19A	**Cripps Ranch,**	**2.95**	**94**	⇓P		**Pn**	11 18 42.5	**+1.9**
	baz=2.9							
B19A	**Brinkman Farms**	**3.02**	**69**	⇑P		**Pn**	11 18 43.6	**+2.0**
	baz=3.0							
F10A	**Beach Ranch, E**	**3.15**	**243**	P		**Pn**	11 18 44.3	**+0.9**
E19A	**Rath Farm, Rou**	**3.18**	**107**	⇓P		**Pn**	11 18 45.4	**+1.6**
	baz=3.1							
YMR	**Madison River**	**3.19**	**150**	*e*Pn		**Pn**	11 18 45.1	**+1.0**
A19A	**Klindworth Far**	**3.32**	**62**	⇑P		**Pn**	11 18 47.4	**+1.7**
	baz=3.3							
F19A	**Roth Farm, Mol**	**3.34**	**117**	⇓P		**Pn**	11 18 47.5	**+1.5**
	baz=3.3							
DPW	**Davenport**	**3.41**	**279**	P		**Pn**	11 18 47.0	**0.0**
YFT	**Old Faithful**	**3.43**	**151**	Pn		**Pn**	11 18 46.8	**-0.5**
C09A	**Chrisman Ranch**	**3.45**	**277**	P		**Pn**	11 18 47.6	**+0.2**
D20A	**Manuel Ranch,**	**3.46**	**94**	⇑P		**Pn**	11 18 48.9	**+1.3**
	baz=3.4,SNR=64							
C20A	**Veseth Ranch,**	**3.52**	**84**	⇓P		**Pn**	11 18 50.3	**+1.9**
	baz=3.5							
E09A	**Wood Farm, Sta**	**3.52**	**256**	P		**Pn**	11 18 49.5	**+1.1**
H17A	**Grant Village**	**3.57**	**148**	*e*Pn		**Pn**	11 18 51.6	**+2.3**
H17A	**Grant Village**	**3.57**	**148**	⇓P		**Pn**	11 18 51.4	**+2.2**
	baz=3.5							
RLMT	**Red Lodge**	**3.59**	**129**	*e*Pn		**Pn**	11 18 51.7	**+2.2**
RLMT				*e*Sn		**Sn**	11 19 29.9	**-1.7**
E20A	**Meyer Farm, Mu**	**3.59**	**104**	⇑P		**Pn**	11 18 50.7	**+1.3**
	baz=3.6,SNR=83							
B20A	**Solberg Farm,**	**3.61**	**72**	⇓P		**Pn**	11 18 51.5	**+1.8**
	baz=3.6,SNR=38							
H18A	**Shoshone NF, C**	**3.71**	**137**	⇓P		**Pn**	11 18 52.1	**+0.9**
	baz=3.7							
H18A				⇓S		**Sn**	11 19 34.1	**-0.5**
	baz=3.7							
OD2	**Odessa Site #2**	**3.75**	**271**	P		**Pn**	11 18 51.3	**-0.3**
A20A	**Cobblestone Ra**	**3.80**	**66**	⇓P		**Pn**	11 18 54.5	**+2.3**
	baz=3.8							
A20A				⇓S		**Sn**	11 19 38.5	**+2.1**
	baz=3.8							
F20A	**Billings**	**3.85**	**114**	⇓P		**Pn**	11 18 54.4	**+1.4**
	baz=3.8,SNR=51							
LNOR	**Lincton Mounta**	**3.85**	**247**	P		**Pn**	11 18 54.8	**+1.9**
I17A	**Pilgrim Ck.**	**3.99**	**152**	⇑P		**Pn**	11 18 57.0	**+2.0**
	baz=4.0							
HLID	**Hailey**	**3.99**	**193**	*e*Pn		**Pn**	11 18 55.6	**+0.6**
HLID				*e*Sn		**Sn**	11 19 42.4	**+0.9**
HLID	**Hailey**	**3.99**	**193**	⇑P		**Pn**	11 18 55.9	**+0.9**
	baz=4.0							
HLID				⇓S		**Sn**	11 19 43.4	**+1.9**
	baz=4.0							
H19A	**Powell**	**4.04**	**132**	⇑P		**Pn**	11 18 57.5	**+1.8**
	baz=4.0							
G20A	**Bridger**	**4.11**	**121**	⇓P		**Pn**	11 18 58.4	**+1.7**
	baz=4.1							
WRD	**Warden**	**4.12**	**263**	P		**Pn**	11 18 55.8	**-0.7**
SAW	**Saint Andrews**	**4.21**	**276**	P		**Pn**	11 18 57.6	**-0.3**
D21A	**La Casta Ranch**	**4.24**	**93**	⇓P		**Pn**	11 19 00.1	**+1.9**
	baz=4.2,SNR=27							
B21A	**Ellsworth Farm**	**4.26**	**75**	⇑P		**Pn**	11 18 59.5	**+0.9**
	baz=4.2,SNR=13							
E21A	**Keefer Ranch,**	**4.28**	**100**	⇑P		**Pn**	11 19 00.8	**+1.8**
	baz=4.2,SNR=34							
FHE	**Frenchman Hill**	**4.33**	**266**	P		**Pn**	11 18 59.5	**0.0**
MFID	**Camas Ranch**	**4.45**	**206**	*e*Pn		**Pn**	11 19 01.6	**+0.3**
A21A	**Bergtoll Ranch**	**4.46**	**68**	⇓P		**Pn**	11 19 02.8	**+1.5**
	baz=4.4							
A21A				⇑S		**Sn**	11 19 54.6	**+1.9**
	baz=4.4							
HAWA	**Hanford**	**4.47**	**258**	*e*Pn		**Pn**	11 19 01.6	**+0.1**
HAWA				*e*Sn		**Sn**	11 19 51.9	**-1.2**
GBB	**Gable Butte**	**4.48**	**261**	P		**Pn**	11 19 02.6	**+1.1**
F21A	**Absaloka Mine,**	**4.49**	**109**	⇓P		**Pn**	11 19 03.2	**+1.5**
	baz=4.4,SNR=37							
I19A	**Meeteetse**	**4.51**	**138**	⇑P		**Pn**	11 19 04.1	**+1.9**
	baz=4.5							
I19A				⇓S		**Sn**	11 19 54.3	**0.0**
	baz=4.5							
MDW	**Midway**	**4.57**	**262**	P		**Pn**	11 19 03.7	**+0.9**
CBSW	**Chelan Butte S**	**4.64**	**277**	P		**Pn**	11 19 03.6	**-0.3**
H20A	**Greybull**	**4.69**	**128**	⇑P		**Pn**	11 19 06.4	**+1.9**
	baz=4.6							
G21A	**Lodge Grass**	**4.71**	**116**	⇑P		**Pn**	11 19 06.2	**+1.4**
	baz=4.7,SNR=12							
D22A	**Cohagen**	**4.78**	**91**	⇓P		**Pn**	11 19 07.1	**+1.4**
	baz=4.7,SNR=74							
LAO	**LASA Array**	**4.82**	**97**	*e*Pn		**Pn**	11 19 09.1	**+2.7**
LAO				*e*Sn		**Sn**	11 20 00.1	**-1.6**
ETW	**Entiat**	**4.84**	**274**	P		**Pn**	11 19 06.2	**-0.4**
NLW	**Nelson Butte**	**4.86**	**280**	P		**Pn**	11 19 06.4	**-0.4**
B22A	**Reddig Ranch S**	**4.91**	**78**	⇓P		**Pn**	11 19 09.5	**+1.9**
	baz=4.9							
C22A	**Vida**	**4.95**	**84**	⇓P		**Pn**	11 19 09.2	**+1.1**
	baz=4.9,SNR=124							
I20A	**Worland**	**4.99**	**133**	⇑P		**Pn**	11 19 10.4	**+1.7**
	baz=5.0							
E22A	**Miles City**	**5.06**	**99**	⇑P		**Pn**	11 19 11.8	**+2.2**
	baz=5.0							
F22A	**Rosebud**	**5.07**	**107**	P		**Pn**	11 19 10.2	**+0.5**
	baz=5.0,SNR=81							
A22A	**Carney Farms,**	**5.10**	**70**	⇑P		**Pn**	11 19 12.3	**+2.3**
	baz=5.1							
H21A	**Big Horn, Sher**	**5.13**	**121**	⇓P		**Pn**	11 19 12.3	**+1.6**
	baz=5.1							
G22A	**Birney**	**5.28**	**113**	⇓P		**Pn**	11 19 13.4	**+0.8**
	baz=5.2,SNR=11							
BW06	**Boulder Array**	**5.35**	**150**	Pn			11 19 19.5	+5.7
	6.6nm,0.6s							
PDAR	**Pinedale Array**	**5.35**	**150**	Pn			11 19 19.7	+5.9
PDAR				Lg			11 20 45.0	
PDAR	**Pinedale Array**	**5.35**	**150**	Pn			11 19 19.7	+5.9
	0.3nm,0.3s,baz=347,slow=12,SNR=18							
PDAR				Lg			11 20 45.0	
	1.4nm,0.3s,baz=343,slow=30,SNR=7.7							
C23A	**Lambert**	**5.42**	**83**	P		**Pn**	11 19 15.6	**+1.0**
	baz=5.4,SNR=64							
C23A				⇓S		**Sn**	11 20 16.5	**0.0**
	baz=5.4							
D23A	**Lindsay**	**5.44**	**90**	⇑P		**Pn**	11 19 16.9	**+2.2**
	baz=5.4							
J20A	**Shoshoni**	**5.46**	**137**	⇑S		**Sn**	11 20 18.0	**+0.5**
	baz=5.4							
I21A	**Big Trails, Te**	**5.52**	**129**	⇑P		**Pn**	11 19 17.3	**+1.4**
	baz=5.5							
H22A	**Clearmont**	**5.56**	**119**	⇑P		**Pn**	11 19 18.5	**+2.0**
	baz=5.5							
H22A				⇓S		**Sn**	11 20 19.2	**-0.7**
	baz=5.5							
B23A	**Brockton**	**5.60**	**77**	⇓P		**Pn**	11 19 18.3	**+1.3**
	baz=5.6,SNR=42							
F23A	**Volborg**	**5.64**	**105**	⇓P		**Pn**	11 19 18.0	**+0.5**
	baz=5.6							
A23A	**Redstone**	**5.75**	**72**	⇑P		**Pn**	11 19 20.3	**+1.2**
	baz=5.7,SNR=12							
EDM	**Edmonton**	**5.77**	**359**	*e*Pn		**Pn**	11 19 20.1	**+0.9**
G23A	**Biddle**	**5.86**	**110**	⇓P		**Pn**	11 19 20.2	**-0.3**
	baz=5.8,SNR=25							
I22A	**9 Mile Ranch,**	**5.90**	**125**	⇑P		**Pn**	11 19 23.5	**+2.3**
	baz=5.9							
LON	**Longmire**	**5.93**	**266**	*e*Pn		**Pn**	11 19 21.9	**+0.4**
	18nm,0.6s							
LON				*e*Sn		**Sn**	11 20 27.8	**-1.2**
C24A	**Savage**	**5.94**	**86**	⇓P		**Pn**	11 19 22.6	**+0.9**
	baz=5.9							
D24A	**Glendive**	**6.04**	**90**	⇑P		**Pn**	11 19 25.1	**+2.1**
	baz=6.0							
G05D	**Wamic, OR**	**6.05**	**251**	⇑P		**Pn**	11 19 24.3	**+1.2**
	baz=6.0							
DGMT	**Dagmar**	**6.12**	**77**	*e*Pn		**Pn**	11 19 24.8	**+0.6**
	308nm,0.8s							
DGMT	**Dagmar**	**6.12**	**77**	⇑P		**Pn**	11 19 25.2	**+1.0**
	baz=6.1,SNR=62							
E24A	**Baker**	**6.14**	**95**	⇓P		**Pn**	11 19 25.9	**+1.4**
	baz=6.1,SNR=13							
H23A	**Clabaugh Cattl**	**6.15**	**115**	⇓P		**Pn**	11 19 25.2	**+0.6**
	baz=6.1							
SPUT	**South Promonto**	**6.18**	**175**	Pn		Pn	11 19 21.7	-3.3
	7.1nm,0.6s							
J22A	**Minnest**	**6.22**	**128**	⇑P		**Pn**	11 19 27.3	**+1.7**
	baz=6.2							
F24A	**Ekalaka**	**6.23**	**102**	⇑P		**Pn**	11 19 26.3	**+0.6**
	baz=6.2,SNR=18							
A24A	**Westby**	**6.32**	**73**	⇓P		**Pn**	11 19 28.1	**+1.3**
	baz=6.3,SNR=62							
WVOR	**Wild Horse Val**	**6.34**	**220**	*e*Pn		**Pn**	11 19 24.9	**-2.3**
	27nm,1.1s							
WVOR				*e*Sn		**Sn**	11 20 38.4	**-0.8**
G24A	**Alzada**	**6.43**	**106**	⇓P		**Pn**	11 19 28.9	**+0.4**
	baz=6.4,SNR=29							
TCUT	**Toone Canyon**	**6.47**	**168**	Pn		**Pn**	11 19 29.6	**+0.4**
	17nm,0.8s							
I05D	**Terrebonne, OR**	**6.49**	**244**	⇑P		**Pn**	11 19 31.1	**+1.9**
	baz=6.5							
H24A	**Dirks Ranch, A**	**6.59**	**111**	⇑P		**Pn**	11 19 30.8	**+0.2**
	baz=6.5,SNR=36							
D25A	**Fairfield**	**6.72**	**89**	⇓P		**Pn**	11 19 34.6	**+2.3**
	baz=6.7							
C25A	**Freed Ranch, W**	**6.72**	**84**	⇑P		**Pn**	11 19 34.6	**+2.2**
	baz=6.7							
BKCOR	**Black Crater**	**6.73**	**245**	P		**Pn**	11 19 34.7	**+2.2**
K22A	**Casper**	**6.74**	**133**	*e*Pn		**Pn**	11 19 32.5	**-0.3**
	28nm,0.7s							
E25A	**Miller Ranch,**	**6.77**	**95**	⇑P		**Pn**	11 19 35.2	**+2.2**
	baz=6.7							
B25A	**Knox Farm, Ray**	**6.80**	**79**	⇓P		**Pn**	11 19 34.3	**+1.0**
	baz=6.8,SNR=22							
F25A	**Bowman**	**6.87**	**99**	⇑P		**Pn**	11 19 35.3	**+0.9**
	baz=6.8							
A25A	**Svangstu Ranch**	**6.90**	**74**	⇓P		**Pn**	11 19 36.8	**+2.1**
	baz=6.9							
I24A	**Kuemmerle Ranc**	**7.00**	**118**	⇓P		**Pn**	11 19 36.9	**+0.6**
	baz=7.0,SNR=26							
J05D	**Fort Rock, OR**	**7.04**	**237**	⇑P		**Pn**	11 19 39.7	**+2.9**
	baz=7.0							
G25A	**Newell**	**7.14**	**105**	⇓P		**Pn**	11 19 38.2	**+0.1**
	baz=7.1,SNR=18							
DAU	**Daniels Canyon**	**7.18**	**168**	*e*Pn		**Pn**	11 19 44.5	+5.5
	11nm,0.8s							
RSSD	**Black Hills**	**7.22**	**114**	*e*Pn		**Pn**	11 19 39.2	**-0.1**
	16nm,0.6s							
H25A	**Fruitdale**	**7.25**	**110**	⇑P		**Pn**	11 19 40.2	**+0.5**
	baz=7.2,SNR=8.5							
DUG	**Dugway**	**7.27**	**178**	Pn		**Pn**	11 19 42.5	**+2.4**
D26A	**Manning**	**7.33**	**89**	⇑P		**Pn**	11 19 42.0	**+1.3**
	baz=7.3,SNR=5.5							
E26A	**Carlson Angus**	**7.41**	**94**	⇑P		**Pn**	11 19 42.7	**+0.9**
	baz=7.4							
F26A	**Lodgepole**	**7.42**	**99**	⇑P		**Pn**	11 19 42.4	**+0.4**
	baz=7.4,SNR=21							
C26A	**Wahner Farm, P**	**7.50**	**83**	⇑P		**Pn**	11 19 43.9	**+0.8**
	baz=7.5,SNR=12							
A26A	**Wade Farm, Ken**	**7.59**	**75**	⇑P		**Pn**	11 19 45.3	**+1.0**
	baz=7.6,SNR=23							
F27A	**Lemmon**	**7.85**	**98**	⇓P		**Pn**	11 19 48.4	**+0.6**
	baz=7.8							
C27A	**Sayler Ranch,**	**7.91**	**84**	⇓P		**Pn**	11 19 49.5	**+0.9**
	baz=7.9,SNR=5.5							
D27A	**Center**	**7.94**	**88**	⇓P		**Pn**	11 19 50.8	**+1.7**
	baz=7.9							
I26A	**New Underwood**	**8.00**	**112**	⇑P		**Pn**	11 19 51.6	**+1.7**
	baz=7.9							
G27A	**Dupree**	**8.05**	**101**	⇓P		**Pn**	11 19 50.4	**-0.3**
	baz=8.0,SNR=11							
I03D	**Drain, OR**	**8.06**	**246**	⇑P		Pn	11 19 54.3	+3.6
	baz=8.0							
B27A	**Peters Farms,**	**8.07**	**79**	⇓P		**Pn**	11 19 51.2	**+0.4**
	baz=8.0							
H27A	**Howes**	**8.23**	**106**	⇑P		**Pn**	11 19 53.5	**+0.4**
	baz=8.2							
J26A	**Sides Ranch, S**	**8.24**	**117**	⇑P		**Pn**	11 19 54.5	**+1.3**
	baz=8.2							
K26A	**Motz Farm, Whi**	**8.53**	**120**	⇓P		**Pn**	11 19 58.3	**+1.1**
	baz=8.5							
D28A	**Regan**	**8.58**	**87**	⇑P		**Pn**	11 19 59.1	**+1.3**
	baz=8.5							
E28A	**Huff**	**8.59**	**91**	⇓P		**Pn**	11 19 58.5	**+0.6**
	baz=8.5,SNR=8.6							
C28A	**Hausauer Farms**	**8.66**	**84**	⇑P		**Pn**	11 20 00.4	**+1.5**
	baz=8.6							
B28A	**Dugan Ranch, T**	**8.67**	**79**	⇓P		**Pn**	11 20 00.1	**+1.0**
	baz=8.6							
F28A	**McLaughlin**	**8.68**	**96**	⇓P		**Pn**	11 19 59.8	**+0.6**
	baz=8.6							
A28A	**Rude Farm, Bot**	**8.76**	**76**	⇓P		**Pn**	11 20 01.3	**+1.1**
	baz=8.7							
G28A	**Parade**	**8.83**	**101**	⇑P		**Pn**	11 20 01.6	**+0.3**
	baz=8.8							
YBH	**Yreka Blue Hor**	**8.88**	**233**	Pn		Pn	11 20 06.6	+4.5
YBH	**Yreka Blue Hor**	**8.88**	**233**	Pn		Pn	11 20 06.6	+4.5
	0.2nm,0.3s,baz=73,slow=11,SNR=4.1							
H28A	**Mission Ridge**	**8.91**	**104**	⇓P		**Pn**	11 20 02.3	**-0.1**
	baz=8.9,SNR=8.9							
K27A	**Flueckinger Fa**	**9.09**	**118**	⇑P		**Pn**	11 20 05.3	**+0.4**
	baz=9.0							
I28A	**Midland**	**9.09**	**108**	⇓P		**Pn**	11 20 04.7	**-0.2**
	baz=9.0,SNR=11							
D29A	**Pettibone, Tap**	**9.26**	**87**	⇑P		**Pn**	11 20 07.1	**0.0**
	baz=9.2							
F29A	**Eureka**	**9.34**	**95**	⇓P		**Pn**	11 20 08.2	**0.0**
	baz=9.3							
A29A	**Manning Farm,**	**9.44**	**76**	⇓P		**Pn**	11 20 09.8	**+0.2**
	baz=9.4,SNR=16							
NVAR	**Mina Array Bea**	**9.77**	**204**	Pn		Pn	11 20 18.6	+4.3
NVAR				Lg		Lg	11 23 05.0	
NVAR	**Mina Array Bea**	**9.77**	**204**	Pn		Pn	11 20 18.6	+4.3
	0.2nm,0.3s,baz=20,slow=14,SNR=4.3							
NVAR				Lg		Lg	11 23 05.0	
	0.3nm,0.3s,baz=30,slow=24,SNR=3.9							
L29A	**Maesberg Ranch**	**10.52**	**116**	⇓P		**Pn**	11 20 25.3	**+0.8**
	baz=10							
O27A	**Beecher Island**	**10.61**	**129**	⇑P		**Pn**	11 20 27.2	**+1.5**
	baz=11							
AGMN	**Agassiz Nation**	**11.67**	**80**	*e*Pn		**Pn**	11 20 39.5	**-0.6**
	32nm,0.6s							
ULM	**Lac du Bonnet**	**11.74**	**70**	Pn		**Pn**	11 20 38.4	**-2.6**
ULM	**Lac du Bonnet**	**11.74**	**70**	Pn		**Pn**	11 20 38.4	**-2.6**
	0.6nm,0.3s,baz=274,slow=11,SNR=8.1							
ULM				LR		LR	11 25 03.6	
	comp=Z,115nm,18.3s,baz=30,slow=37							
ECSD	**EROS Data Cent**	**12.19**	**102**	*e*Pn		**Pn**	11 20 46.0	**-1.3**
	7.3nm,0.6s							
ECSD	**EROS Data Cent**	**12.19**	**102**	⇑P		**Pn**	11 20 46.1	**-1.3**
	baz=12,SNR=10							
SPMN	**St. Paul**	**14.26**	**92**	*e*Pn		**Pn**	11 21 13.5	**-2.0**
	8.8nm,0.4s							
YKA	**Yellowknife Ar**	**15.09**	**357**	Pn		**Pn**	11 21 23.4	**-3.1**
YKA				Sn		**Sn**	11 24 09.2	**-3.8**
YKA				Lg		Lg	11 25 42.2	
YKA	**Yellowknife Ar**	**15.09**	**357**	Pn		**Pn**	11 21 23.4	**-3.1**
	0.2nm,0.3s,baz=175,slow=13,SNR=21							
YKA				Sn		**Sn**	11 24 09.2	**-3.8**
	0.3nm,0.3s,baz=170,slow=23,SNR=5.2							
YKA				Lg		Lg	11 25 42.2	
	0.2nm,0.3s,baz=174,slow=25,SNR=2.9							
FCC	**Fort Churchill**	**16.04**	**38**	*e*Pn		**Pn**	11 21 35.3	**-3.7**
	0.1nm,0.5s							
TXAR	**Lajitas Array**	**19.55**	**154**	P		**Pn**	11 22 23.5	**+0.8**
TXAR	**Lajitas Array**	**19.55**	**154**	P		**Pn**	11 22 23.5	**+0.8**
	0.0nm,0.3s,baz=330,slow=8.7,SNR=6.0							
ILAR	**Eielson Array**	**25.09**	**326**	P		**P**	11 23 19.4	**+1.7**
**ILAR

MHGZ	Mahia Peninsul	1.90	135	PN	Pn	11 39 50.3	+0.1
CKHZ	Cape Kidnapper	1.98	160	PN	Pn	11 39 50.9	0.0
KAHZ	Kahuranaki	2.06	165	PN	Pn	11 39 51.6	-0.2
PNHZ	Pukenui	2.10	180	PN	Pn	11 39 51.5	-0.7
TSZ	Takapari Road	2.25	184	⇑PN	Pn	11 39 52.8	-1.0
TSZ				AML	AML	11 40 34.0	
TSZ				AML	AML	11 40 34.1	
WPHZ	Waipukurau	2.26	175	PN	Pn	11 39 53.2	-0.7
PXZ	Pawanui	2.28	167	⇑PN	Pn	11 39 53.3	-0.7
PXZ				AML	AML	11 40 27.3	
PXZ				AML	AML	11 40 27.3	
PRHZ	Porangahau	2.48	172	PN	Pn	11 39 55.3	-0.9
DVHZ	Dannevirke	2.49	180	⇑PN	Pn	11 39 55.0	-1.3
POWZ	Post Office Ro	2.60	187	PN	Pn	11 39 56.2	-1.4
ANWZ	Angora Road	2.66	175	⇑PN	Pn	11 39 57.1	-1.0
PRWZ	Pori Road	2.75	183	PN	Pn	11 39 58.0	-1.2
BFZ	Birch Farm	2.87	179	PN	Pn	11 39 58.9	-1.7
MRZ	Mangatainoka R	2.89	189	⇑PN	Pn	11 39 59.0	-1.9
MRZ				AML	AML	11 40 37.3	
MRZ				AML	AML	11 40 38.4	
TIWZ	Tintock	2.97	184	PN	Pn	11 40 00.1	-1.8
TIWZ				AML	AML	11 40 39.6	
TIWZ				AML	AML	11 40 40.1	
CPWZ	Castlepoint	3.10	180	PN	Pn	11 40 02.3	-0.9
OGWZ	Otaki Gorge	3.11	194	PN	Pn	11 40 01.6	-1.8
HOWZ	Holdsworth Sta	3.13	189	⇓PN	Pn	11 40 01.5	-2.2
KIW	Kapiti Island	3.21	198	PN	Pn	11 40 02.3	-2.3
TMWZ	Te Maipa	3.30	184	PN	Pn	11 40 03.8	-1.9
MTW	Mount Morrison	3.39	189	PN	Pn	11 40 04.2	-2.5
MTW				AML	AML	11 40 47.0	
MTW				AML	AML	11 40 47.1	
CAW	Cannon Point	3.41	194	PN	Pn	11 40 04.7	-2.3
CAW				AML	AML	11 40 47.8	
CAW				AML	AML	11 40 47.8	
DUWZ	D'Urville Isla	3.47	210	PN	Pn	11 40 05.5	-2.3
TRWZ	Traveller	3.61	186	PN	Pn	11 40 07.1	-2.2
TRWZ				AML	AML	11 40 52.3	
TRWZ				AML	AML	11 40 53.2	
PAWZ	Paruwai Farm	3.62	189	PN	Pn	11 40 07.0	-2.5
PAWZ				AML	AML	11 40 52.2	
WEL	Wellington	3.64	197	PN	Pn	11 40 07.2	-2.5
MSWZ	Moikau Station	3.67	191	PN	Pn	11 40 07.5	-2.7
MSWZ				AML	AML	11 40 51.2	
MSWZ				AML	AML	11 40 51.2	
SNZO	South Karori	3.68	198	PN	Pn	11 40 07.5	-2.7
TCW	Tory Channel	3.71	203	PN	Pn	11 40 08.2	-2.4
TCW				AML	AML	11 40 54.0	
TCW				AML	AML	11 40 54.6	
PLWZ	Palliser	3.83	191	PN	Pn	11 40 09.2	-2.9
TUWZ	Tuamarina	4.01	205	PN	Pn	11 40 11.5	-2.8
TUWZ				AML	AML	11 40 59.8	
TUWZ				AML	AML	11 41 02.1	
NNZ	Nelson	4.04	212	PN	Pn	11 40 12.0	-2.7
QRZ	Quartz Range	4.14	222	PN	Pn	11 40 13.0	-2.9
BSWZ	Blackbirch Sta	4.29	204	PN	Pn	11 40 15.3	-2.5
THZ	Tophouse	4.69	212	PN	Pn	11 40 20.1	-2.8
KHZ	Kahutara	5.03	203	⇑PN	Pn	11 40 24.1	-3.0
DSZ	Denniston Nort	5.18	219	PN	Pn	11 40 25.3	-3.9
LTZ	Lake Taylor	5.80	210	PN	Pn	11 40 33.1	-3.9
OXZ	Oxford	6.35	209	PN	Pn	11 40 39.7	-4.3
CRLZ	Canterbury Las	6.37	204	PN	Pn	11 40 40.0	-4.2
MQZ	McQueen's Vall	6.47	203	PN	Pn	11 40 40.5	-5.1

*BJI **13** 11:44:48.3, 42°.81N×81°.95E, h8km, ML3.8/10*
*ISCJB **13** 11:44:50.2±0.7, 43°.14N±0°.05×81°.93E±0°.09, h10km, mb4.0/5, Error ellipse: s-maj=9.1km s-min=7.2km az=5.7*
*IDC **13** 11:44:50.6±1.0, 43°.01N×81°.71E, h0km, mb3.5/3, mb1 3.6/9, mb1mx3.5/31, mbtmp3.5/9, ML3.5/6, Error ellipse: s-maj=17.0km s-min=14.0km az=93.0*
*NNC **13** 11:44:53.6±7.7, 43°.12N×81°.79E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=77.4km s-min=36.9km az=136.0*
*MOS **13** 11:44:54.2±1.4, 43°.16N×81°.80E, h33km, mb4.0/1, Error ellipse: s-maj=14.9km s-min=10.1km az=96.9*
ISC 13 11:44:52.1±0.8**, 43°.06N**±0°.07×**81°.83E**±0°.05**, h10km, n38, σ1ˢ59**/39**, mb3.4**/5**, 13C-9D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDC	Almaty	3.57	274	⇑Pn	Pb	11 45 52.8	-2.6
KNDC				⇓Lg	Lg	11 46 44.5	
AAA	Alma-Ata	3.58	275	iPN	Pb	11 45 57.0	+1.4
AAA				iS	Sg	11 46 45.9	-1.2
AAA				pmax	pmax		
	comp=Z,196nm,0.4s						
AAA				smax	smax		
	comp=E,884nm,0.5s						
MK31	Makanchi Array	3.75	5	⇓Pn	Pn	11 45 52.4	+2.3
	comp=E,1.5nm,0.2s,baz=181,slow=12,SNR=591						
MK31				⇑Pg	Pg	11 46 01.9	-2.1
	comp=E,4.8nm,0.3s,baz=192,slow=15,SNR=33						
MK31				Lg	Lg	11 46 52.1	
	comp=E,154nm,0.6s,baz=186,slow=27,SNR=19						
MK31	Makanchi Array	3.75	5	PN	Pn	11 45 52.3	+2.3
MK31						11 46 01.4	
MK31				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MK31				pmax	pmax		
	comp=Z,26nm,0.4s						
MK31				pmax	pmax		
	comp=N,96nm,0.3s						
MKAR	Makanchi Array	3.75	5	PN	Pn	11 45 52.3	+2.2
MKAR						11 46 02.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,11nm,0.3s						
MKAR	Makanchi Array	3.75	5	Pn	Pn	11 45 52.2	+2.2
	comp=Z,1.3nm,0.3s,baz=185,slow=12,SNR=77						
MKAR				Pg	Pg	11 46 02.7	-1.2
	comp=Z,10nm,0.3s,baz=192,slow=15,SNR=28						
MKAR				Lg	Lg	11 46 51.7	
	comp=Z,30nm,0.3s,baz=187,slow=32,SNR=8.5						
WMQ	Urumqi	4.34	78	Sn	Sn	11 46 50.4	+1.6
WMQ				smax	smax		
	comp=N,120nm,1.0s						
WMQ				smax	smax		
	comp=E,250nm,0.7s						
TKM2	Tokmak 2	4.58	270	⇑Pn	Pn	11 46 02.2	+0.6
	comp=E,4.4nm,0.6s						
TKM2				⇓Pg	Pb	11 46 14.4	+1.7
	comp=E,29nm,0.5s						
TKM2				⇓Lg	Lg	11 47 13.7	
	comp=E,113nm,0.4s						
TKM2	Tokmak 2	4.58	270	PN	Pn	11 46 02.5	+0.9
TKM2						11 46 14.3	
TKM2						11 47 13.7	
TKM2				pmax	pmax		
	comp=Z,29nm,0.5s						
TKM2				pmax	pmax		
	comp=N,186nm,0.7s						
AAK	Ala-Archa	5.41	268	⇑Pn	Pn	11 46 15.8	+2.7
	comp=N,0.9nm,0.3s						
AAK				⇑Pg	Pb	11 46 29.5	+2.6
	comp=N,20nm,0.5s						
AAK				⇓Lg	Lg	11 47 40.9	
	comp=N,118nm,0.6s						
AAK	Ala-Archa	5.41	268	PN	Pn	11 46 15.7	+2.7
AAK						11 46 29.0	
AAK						11 47 40.9	
AAK				pmax	pmax		
	comp=Z,20nm,0.5s						
AAK				pmax	pmax		
	comp=N,119nm,0.6s						
AAK	Ala-Archa	5.41	268	Pn	Pn	11 46 12.9	-0.1
	comp=N,0.8nm,0.3s,baz=85,slow=13,SNR=7.0						
AAK				Lg	Lg	11 47 42.3	
	comp=N,5.9nm,0.3s,baz=8.7,slow=23,SNR=4.4						
KSH	Kashi	5.66	233	Pn	Pn	11 46 15.3	-1.0
KSH				smax	smax		
	comp=N,57nm,0.6s						
KSH				smax	smax		
	comp=N,90nm,0.8s						
KURBB	Kurchatov Arra	7.90	345	⇑Pn	Pn	11 46 50.2	+3.3
	comp=N,0.6nm,0.3s,baz=97,slow=15						
KURBB				⇑Sn	Sn	11 48 18.0	+1.7
	comp=N,7.2nm,0.3s						
KURBB				⇑Lg	Lg	11 49 06.9	
	comp=N,94nm,0.7s						
KURBB	Kurchatov Arra	7.90	345	Pn	Pn	11 46 47.6	+0.7
	comp=N,0.8nm,0.3s,baz=160,slow=12,SNR=9.0						
KURBB				Lg	Lg	11 49 05.2	
	comp=N,2.7nm,0.3s,baz=164,slow=31,SNR=5.4						
KURK	Kurchatov	7.97	345	⇑Pn	Pn	11 46 48.3	+0.3
	comp=N,1.8nm,0.5s						
KURK				⇑Sn	Sn	11 48 18.1	0.0
	comp=N,7.1nm,0.6s						
KURK				⇓Lg	Lg	11 49 06.8	
	comp=N,38nm,0.8s						
KURK	Kurchatov	7.97	345	P	Pn	11 46 48.2	+0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK				pmax	pmax		
	comp=N,59nm,1.2s						
KK31	Karatay Array	8.29	274	⇑Pg	Pg	11 47 25.4	-5.3
	comp=N,0.6nm,0.3s,baz=85,slow=16,SNR=5.5						
KK31				⇑Lg	Lg	11 49 16.4	
	comp=N,7.8nm,0.5s,baz=88,slow=28,SNR=7.6						
ZALV	Zalesovo Beam	11.08	9	P	Pn	11 47 30.7	+0.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	11.08	9	Pn	Pn	11 47 30.7	+0.2
	comp=Z,0.5nm,0.3s,baz=190,slow=14,SNR=8.7						
ZALV				Lg	Lg	11 50 43.3	
	comp=Z,0.5nm,0.3s,baz=185,slow=31,SNR=4.0						
NVS	Novosibirsk	11.83	4	eP	Pn	11 47 34.8	-5.9
NVS				e		11 49 48.9	
BVA0	Borovoye Array	12.56	327	⇓Pn	Pn	11 47 57.5	+6.8
	comp=Z,0.7nm,0.4s,baz=0.0,slow=0.1,SNR=5.4						
BVAR	Borovoye Array	12.56	327	P	Pn	11 47 50.1	-0.7
BVAR	Borovoye Array	12.56	327	Pn	Pn	11 47 50.1	-0.7
	comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=4.8						
BVAR				Lg	Lg	11 51 27.8	
	comp=Z,0.6nm,0.3s,baz=124,slow=22,SNR=4.8						
BRVK	Borovoye	12.62	326	P	Pn	11 47 57.8	+6.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA	Gaotai	14.01	99	P	Pn	11 48 06.3	-4.5
GTA				pP	P	11 48 10.1	-8.7
GTA				sP		11 48 12.3	
GTA				S	Sn	11 50 40.0	-6.4
GTA				sS	sS	11 50 45.8	
GTA				SS	SnSn	11 50 56.6	-1.9
AB31	Akbulak array	16.36	300	⇓P	P	11 48 45.4	+0.8
	comp=Z,0.3nm,0.4s,baz=103,slow=11,SNR=4.3						
AB31	Akbulak array	16.36	300	P	Pn	11 48 40.8	-0.9
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	17.85	66	P	Pn	11 48 57.4	-3.2
	comp=Z,0.2nm,0.3s,baz=258,slow=12,SNR=7.2						
AKTO	Aktyubinsk	17.86	303	⇑P	P	11 49 01.7	+0.5
	comp=Z,3.9nm,1.2s						
AKTO	Aktyubinsk	17.86	303	P	Pn	11 48 59.7	-0.9
AKTO	Aktyubinsk	17.86	303	P	Pn	11 48 59.6	-0.9
	comp=Z,0.1nm,0.3s,baz=80,slow=18,SNR=4.0						
ARU	Arti	20.00	320	d iP	Pn	11 49 31.8	+5.5
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
ILAR	Eielson Array	65.96	21	P	P	11 55 38.7	+0.7
	comp=Z,843nm,0.4s,baz=314,slow=5.0,SNR=1.9						
YKA	Yellowknife Ar	73.97	8	P	P	11 56 26.7	-0.5
	comp=Z,0.2nm,0.7s,baz=337,slow=4.8,SNR=3.0						
TORD	Torodi Ar. Bea	73.98	273	P	P	11 56 27.8	-0.2
	comp=Z,0.2nm,0.5s,baz=54,slow=5.0,SNR=1.8						
WRA	Warramunga Arr	79.10	131	P	P	11 56 57.0	+0.2
	comp=Z,1.0nm,1.2s,baz=327,slow=4.7,SNR=2.7						
ASAR	Alice Springs	81.86	133	P	P	11 57 13.6	+2.0
	comp=Z,0.1nm,0.5s,baz=323,slow=5.2,SNR=1.0						

*IDC **13** 11:58:25.2±0.8, 6°.42N×124°.21E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/23, mbtmp4.1/8, Error ellipse: s-maj=39.7km s-min=15.9km az=68.0*
*ISCJB **13** 11:58:26.8±1.8, 6°.27N±0°.07×123°.86E±0°.05, h17km±13km, mb4.0/9, Error ellipse: s-maj=11.9km s-min=7.0km az=17.3*
*MAN **13** 11:58:28, 6°.23N×123°.89E, h33km, mb4.8, ML3.7, MS3.7*
ISC 13 11:58:26.0±2.5**, 6°.37N**±0°.07×**123°.86E**±0°.04**, h4km**±16km**, n17, σ1ˢ27**/23**, mb4.1**/9**, 3C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.93	24	⇓iP	Pb	11 58 44.3	-0.3
CTBH				iS	Sg	11 58 56.4	+0.6
GSPH	General Santos	1.12	105	⇑eP	Pn	11 58 50.4	+1.9
GSPH				iS	Sn	11 59 07.2	+2.7
DMPH	Davao City--Mi	1.78	67	⇓eP	Pb	11 58 58.6	-0.6
DMPH				eS	Sg	11 59 22.2	-1.0
ZMPH	Zamboanga City	1.88	288	⇓iP	Pb	11 59 00.4	-0.5
ZMPH				iS	Sn	11 59 22.9	-0.2
IPIL	Ipil	1.90	318	⇑eP	Pb	11 59 01.6	+0.3
IPIL				eS	Sn	11 59 24.3	+0.6
BUKP	Musuan	1.91	38	eP	Pb	11 59 01.1	-0.4
CGP	Cagayan de Oro	2.23	22	⇑iP	Pb	11 59 05.7	-1.1
CGP				iS	Sg	11 59 38.1	+0.5
MATI	Mati	2.45	76	eP	Pn	11 59 07.3	+0.5
CMAR	Chiang Mai Arr	27.09	299	P	P	12 04 12.2	+2.0
	0.6nm,0.4s,baz=106,slow=6.7,SNR=5.8						
WRA	Warramunga Arr	28.11	159	P	P	12 04 17.9	-1.3
	1.3nm,0.8s,baz=340,slow=9.4,SNR=12						
ASAR	Alice Springs	31.43	162	P	P	12 04 47.9	-0.8
	0.9nm,0.8s,baz=336,slow=7.0,SNR=19						
STKA	Stephens Creek	41.63	157	P	P	12 06 15.1	-0.5
	5.6nm,0.7s,baz=331,slow=6.1,SNR=14						
SONM	Songino Array	43.93	343	P	P	12 06 35.1	+1.0
	2.2nm,1.1s,baz=160,slow=7.6,SNR=9.1						
MKAR	Makanchi Array	53.77	326	P	P	12 07 51.2	+1.5
	3.0nm,0.7s,baz=129,slow=8.2,SNR=27						
PETK	Petropavlovsk-	54.15	24	P	P	12 07 50.9	-1.4
	4.3nm,0.9s,baz=201,slow=7.5,SNR=3.7						
ILAR	Eielson Array	83.96	26	P	P	12 10 55.7	-1.6
	0.9nm,0.7s,baz=238,slow=5.2,SNR=13						
FINES	FINESS Array B	88.17	332	P	P	12 11 17.1	-0.9
	0.6nm,0.5s,baz=92,slow=5.7,SNR=4.3						

*CSEM **13** 12:05:57.1±1.3, 50°.24N×18°.76E, h2km, Error ellipse: s-maj=19.6km s-min=19.1km az=104.0*
PRU 13 12:05:55.5, 50°.19N×18°.92E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	Chorzow	0.11	25	ePg	Pg	12 05 56.0	-1.7
CHZP				eSg	Sg	12 05 56.9	-2.3
OJC	Ojcow	0.56	87	ePg	Pg	12 06 05.6	-0.8
OJC				eSg	Sg	12 06 13.2	-0.5
OKC	Ostrava-Krasne	0.61	235	eSG	Sg	12 06 15.3	+0.1
	comp=Z,5.6nm,0.4s						
OKC	Ostrava-Krasne	0.61	235	Sg	Sg	12 06 15.3	+0.1
	5.6nm,0.4s						
MORC	Moravsky Berou	0.98	246	ePg	Pg	12 06 13.7	-0.7
MORC				eSg	Sg	12 06 27.1	-0.1
DPC	Dobruska-Polom	1.68	276	ePG	Pn	12 06 26.4	+0.2
DPC				eSG	Sn	12 06 48.3	-0.1
DPC	Dobruska-Polom	1.68	276	Pg	Pn	12 06 26.4	+0.2
DPC				Sg	Sn	12 06 48.3	-0.1
VRAC	Vranov	1.75	241	ePn	Pg	12 06 28.9	-0.2
VRAC				eSg	Sn	12 06 49.9	-0.2
PRU	Pruhonice	2.83	268	eSG	Sg	12 07 26.3	-0.1
PRU	Pruhonice	2.83	268	Sg	Sg	12 07 26.3	-0.1
KHC	Kasperske Hory	3.63	255	eSG	Sg	12 07 51.3	-0.9
KHC	Kasperske Hory	3.63	255	Sg	Sg	12 07 51.3	-0.9

IDC 13 12:06:28.4±5.7**, 3°.97S**×**145°.10E, h0km, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.3**/17**, mbtmp3.3**/3**, ML3.2**/1**, Error ellipse: s-maj=124.4km s-min=36.5km az=84.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.03	213	P	P	12 10 52.3	+0.1
	0.1nm,0.3s,baz=34,slow=11,SNR=5.8						
ASAR	Alice Springs	22.37	208	P	P	12 11 28.1	-0.3
	0.2nm,0.6s,baz=34,slow=7.7,SNR=5.8						
CMAR	Chiang Mai Arr	50.63	298	P	P	12 15 29.8	0.0
	0.6nm,0.5s,baz=119,slow=6.4,SNR=4.9						

*CSEM **13** 12:06:46.7±1.0, 50°.26N×19°.16E, h2km, Error ellipse: s-maj=16.6km s-min=11.7km az=20.0*
PRU 13 12:06:49.0, 50°.10N×19°.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.47	75	ePg	Pg	12 06 54.9	-3.2
OJC				eSg	Sg	12 07 00.7	-3.5
OKC	Ostrava-Krasne	0.66	247	ePG	Pb	12 07 02.7	-0.8
OKC				eSG	Sg	12 07 11.6	+1.3
	comp=Z,8.2nm,0.2s						
OKC	Ostrava-Krasne	0.66	247	Pg	Pb	12 07 02.7	-0.8
OKC				Sg	Sg	12 07 11.6	+1.3
	8.2nm,0.2s						
NIE	Niedzica	1.05	130	ePg	Pg	12 07 06.6	-2.5
NIE				eSg	Sg	12 07 22.2	-0.5
MORC	Moravsky Berou	1.05	253	ePg	Pg	12 07 08.3	-0.9
MORC				eSg	Sg	12 07 23.2	+0.3
KRLC	Kraliky	1.49	270	eSG	Sg	12 07 36.0	-1.0
KRLC	Kraliky	1.49	270	Sg	Sg	12 07 36.0	-1.0
DPC	Dobruska-Polom	1.79	279	ePG	Pn	12 07 21.1	-0.2
DPC				eSG	Sb	12 07 46.2	+0.2
	comp=Z,38nm,0.5s						
DPC	Dobruska-Polom	1.79	279	Pg	Pn	12 07 21.1	-0.2
DPC				Sg	Sb	12 07 46.2	+0.2
	38nm,0.5s						
VRAC	Vranov	1.80	245	ePn	Pn	12 07 20.4	-1.0
VRAC				eSg	Sn	12 07 43.7	-1.3
UPC	Upice	2.02	283	eSG	Sg	12 07 53.8	0.0
UPC	Upice	2.02	283	Sg	Sg	12 07 53.8	0.0
PRU	Pruhonice	2.93	270	eSG	Sg	12 08 22.7	-0.6
PRU	Pruhonice	2.93	270	Sg	Sg	12 08 22.7	-0.6
KHC	Kasperske Hory	3.71	257	eSG	Sg	12 08 47.3	-1.1
KHC	Kasperske Hory	3.71	257	Sg	Sg	12 08 47.3	-1.1

*ISCJB **13** 12:28:22.9±0.2, 18°.34N±0°.04×72°.77W±0°.02, h6km, mb4.0/18, MS3.8/5, Error ellipse: s-maj=5.6km s-min=3.3km az=4.8*
*IDC **13** 12:28:23.0±0.6, 18°.38N×72°.84W, h0km, mb4.0/16, mb1 4.3/20, mb1mx4.2/29, mbtmp4.1/20, ML3.8/4, MS3.3/5, Ms1 3.3/5, ms1mx3.0/34, Error ellipse: s-maj=20.1km s-min=14.4km az=49.0*
*NEIC **13** 12:28:24.7±0.2, 18°.41N×72°.81W, h10km, mb4.5/1, Error ellipse: s-maj=5.8km s-min=4.1km az=178.0*
*BJI **13** 12:28:24.1, 18°.40N×72°.80W, h10km, Ms7 4.6/2*
*JSN **13** 12:29:09.4±0.5, 18°.29N×76°.06W, h0km±130km, MD4.3*
ISC 13 12:28:23.9±0.4**, 18°.38N**±0°.06×**72°.79W**±0°.04**, h6km, n186, σ1ˢ33**/200**, mb4.0**/18**, MS3.4**/5**, 58C-60D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.54	67	ePn	Pn	12 28 52.1	0.0
SDDR				eSn	Sg	12 29 14.2	+0.6
GTBY	Guantanamo Bay	2.68	305	ePn	Pn	12 29 05.9	-1.8
GRTK	Grand Turk	3.48	26	ePn	Pn	12 29 18.0	-0.7
GRTK				eSn	Sn	12 29 59.7	-0.6
YHJ	Yallahs	3.56	263	iP	Pn	12 29 20.4	+0.7
GWJ	Greenwich	3.76	266	iP	Pn	12 29 22.2	-0.4
HOJ	Hope	3.78	265	iP	Pn	12 29 23.0	+0.2
HOJ	Hope	3.78	265	iP	Pn	12 29 23.0	+0.2
STH	Stony Hill	3.83	266	iP	Pn	12 29 22.9	-0.6
STH	Stony Hill	3.83	266	iP	Pn	12 29 22.9	-0.6
MTDJ	Mount Denham	4.51	269	ePn	Pn	12 29 32.1	-0.8
MCJ	Malvern	4.68	265	eP	Pn	12 29 37.3	+2.0
MCJ	Malvern	4.68	265	eP	Pn	12 29 37.3	+2.0
CRPR	Cabo Rojo, PR	5.41	93	ePn	Pn	12 29 45.2	0.0
	36nm,0.6s						
CRPR				eSg	Sg	12 31 15.6	-2.2
LSP	Las Mesas	5.42	91	Pn	Pn	12 29 46.4	+1.0
OBIP	Obispado Ponce	5.89	92	Pn	Pn	12 29 52.1	+0.4
OBIP				eSn	Sn	12 31 01.1	+1.5
CELP	Cerrillos	5.91	92	ePn	Pn	12 29 53.0	+1.0
CELP				eSn	Sn	12 30 59.9	-0.3
BCIP	Isla Barro Col	11.43	218	ePn	Pn	12 31 07.5	-0.4
ROSC	El Rosal	13.52	187	Pn	Pn	12 31 36.8	-0.1
ROSC	El Rosal	13.52	187	Pn	Pn	12 31 36.8	-0.1
	2.1nm,0.3s,baz=102,slow=16,SNR=7.1						
ROSC				LR	LR	12 37 08.6	
	comp=Z,48nm,19.4s,baz=12,slow=39						
JTS	JuntasAbangare	14.26	237	Pn	Pn	12 31 47.7	+1.1
JTS	JuntasAbangare	14.26	237	Pn	Pn	12 31 47.7	+1.1
	1.0nm,0.3s,baz=348,slow=20,SNR=2.6						
TEIG	Tepich	14.74	280	ePn	Pn	12 31 52.8	-0.3
TEIG	Tepich	14.74	280	Pn	Pn	12 31 52.9	-0.1
	1.8nm,0.3s,baz=77,slow=14,SNR=5.9						
OTAV	Otavalo	18.87	198	eP	Pn	12 32 46.9	+0.9
	8.0nm,0.8s						
TKL	Tuckaleechee C	19.77	333	P	P	12 32 54.6	-0.2
TKL	Tuckaleechee C	19.77	333	P	P	12 32 54.6	-0.2
	0.2nm,0.3s,baz=138,slow=12,SNR=2.9						
TKL				LR	LR	12 40 29.0	
	comp=Z,114nm,20.9s,baz=172,slow=37						
PTGA	Pitinga	22.80	145	P	P	12 33 28.2	+0.7
PTGA	Pitinga	22.80	145	P	P	12 33 28.2	+0.7
	4.4nm,0.9s,baz=336,slow=12,SNR=5.3						
PTGA				LR	LR	12 42 46.7	
	comp=Z,57nm,18.5s,baz=27,slow=38						
735A	Kenedy	25.13	299	⇑P	P	12 33 52.3	+2.4
	baz=25						
034A	Hebbronville	25.36	295	⇑P	P	12 33 54.1	+2.1
	baz=25						
834A	Tilden	25.53	297	⇓P	P	12 33 55.9	+2.4
	baz=26						
335A	Moody	25.72	305	⇑P	P	12 33 56.7	+1.6
	baz=26						
ATAH	Atahualpa	25.95	193	LR	LR	12 46 04.4	
	comp=Z,100nm,19.8s,baz=0.6,slow=41						
933A	Laredo	26.01	296	⇑P	P	12 33 59.7	+1.8
	baz=26						
WHTX	Lake Whitney	26.04	306	⇑P	P	12 33 59.3	+1.2
	baz=26						
534A	Blanco	26.08	301	⇓P	P	12 34 00.2	+1.7
	baz=26,SNR=6.1						
434A	Burnet	26.20	303	⇑P	P	12 34 01.2	+1.6
	baz=26						
833A	Chaparral WMA,	26.30	297	⇓P	P	12 34 01.1	+0.6
	baz=26						
334A	Lometa	26.37	304	⇑P	P	12 34 01.9	+0.8
	baz=26						
633A	Saathoff Ranch	26.46	300	⇑P	P	12 34 02.9	+1.0
	baz=26						
533A	Kerrville	26.55	301	⇓P	P	12 34 04.4	+1.6
	baz=26						
832A	Faith Ranch, C	26.78	297	⇓P	P	12 34 06.0	+1.1
	baz=27						
TUL1	Tulsa	26.80	315	⇑P	P	12 34 06.9	+2.0
	baz=27						
433A	Art	26.83	302	⇑P	P	12 34 06.4	+1.1
	baz=27						
SADO	Sadowa	26.84	350	LR	LR	12 43 43.1	
	comp=Z,110nm,21.4s,baz=173,slow=34						
732A	Laxson Ranch,	26.90	298	⇓P	P	12 34 07.0	+1.1
	baz=27						
333A	Richland Sprin	26.96	304	⇓P	P	12 34 07.6	+1.1
	baz=27,SNR=7.8						
532A	Rocksprings	27.28	300	⇑P	P	12 34 11.2	+1.8
	baz=27,SNR=6.3						
133A	Hamilton Ranch	27.42	306	⇓P	P	12 34 11.8	+1.3
	baz=27						
432A	Menard	27.44	302	⇑P	P	12 34 12.3	+1.4
	baz=27						
X34A	Smith Ranch, M	27.52	311	⇓P	P	12 34 12.5	+1.1
	baz=28						
332A	Millersview	27.58	303	⇓P	P	12 34 13.0	+1.0
	baz=28						
Z33A	Whitaker Ranch	27.59	308	⇓P	P	12 34 13.0	+0.9
	baz=28						
631A	Perdido Creek	27.61	299	⇑P	P	12 34 13.1	+0.8
	baz=28						
431A	Sonora	28.03	301	⇑P	P	12 34 16.9	+0.8
	baz=28						
331A	San Angelo	28.10	303	⇓P	P	12 34 17.4	+0.7
	baz=28						
Z32A	Haskell	28.14	307	⇓P	P	12 34 17.8	+0.8
	baz=28						
530A	J-C Ranch, Com	28.46	300	⇓P	P	12 34 20.7	+0.8
	baz=28						
Z31A	Sharp Cattle R	28.65	307	⇓P	P	12 34 22.3	+0.7
	baz=29						
330A	Mertzon	28.73	302	⇑P	P	12 34 22.6	+0.2
	baz=29						
W32A	Sentinel	28.79	311	⇓P	P	12 34 23.2	+0.4
	baz=29						
429A	Davenport Ranc	29.06	300	⇓P	P	12 34 26.7	+1.4
	baz=29						
529A	Stev Forest Ra	29.18	299	⇑P	P	12 34 26.4	0.0
	baz=29						
329A	Wagon Wheel Ra	29.41	302	⇓P	P	12 34 29.9	+1.5
	baz=29						
229A	Bryant Ranch,	29.44	303	⇑P	P	12 34 30.0	+1.4
	baz=29						

V31A	Spring Creek L	29.53 311	⇑P		P	12 34 31.1	+1.8		
	baz=30								
628A	Black Gap, Mar	29.57 298	⇓P		P	12 34 32.1	+2.4		
	baz=30								
528A	Cox Ranch, San	29.66 299	⇓P		P	12 34 32.6	+1.9		
	baz=30								
X30A	Coker Ranch, T	29.68 308	⇓P		P	12 34 31.9	+1.2		
	baz=30								
428A	Kincaid Ranch,	29.74 300	⇑P		P	12 34 32.5	+1.1		
	baz=30,SNR=12								
Z29A	Hungry Hill Ra	29.83 305	⇓P		P	12 34 33.6	+1.5		
	baz=30								
Q33A	Connelly Farm,	29.91 319	⇑P		P	12 34 34.0	+1.4		
	baz=30								
Y29A	Porterfield Fa	30.04 307	⇑P		P	12 34 35.2	+1.3		
	baz=30								
TXAR	Lajitas Array	30.18 297	P		P	12 34 35.5	+0.2		
TXAR			PcP		PcP	12 37 36.2	-0.4		
TXAR	Lajitas Array	30.18 297	P		P	12 34 35.5	+0.2		
	1.6nm,0.9s,baz=108,slow=8.0,SNR=12								
TXAR			PcP		PcP	12 37 36.2	-0.4		
	0.5nm,1.0s,baz=119,slow=3.2,SNR=3.8								
128A	Castleberry Fa	30.20 304	⇓P		P	12 34 36.8	+1.4		
	baz=30								
X29A	Tulia	30.30 308	⇓P		P	12 34 38.0	+1.8		
	baz=30								
527A	Woodward Ranch	30.35 299	⇓P		P	12 34 38.4	+1.6		
	baz=30								
Q32A	Meitler Ranch,	30.36 318	⇑P		P	12 34 38.2	+1.5		
	baz=30								
427A	Hayter Ranch,	30.37 300	⇓P		P	12 34 38.0	+1.1		
	baz=30								
Y28A	McKinney Farm,	30.50 306	⇓P		P	12 34 39.5	+1.5		
	baz=30								
626A	Big Bend Ranch	30.63 297	⇓P		P	12 34 40.7	+1.4		
	baz=31								
526A	Mary Lane Ranc	30.72 298	⇑P		P	12 34 41.2	+1.1		
	baz=31,SNR=6.4								
426A	McDonald Obser	30.84 299	⇓P		P	12 34 42.1	+0.9		
	baz=31,SNR=7.1								
Z27A	Tatum	31.02 305	⇑P		P	12 34 43.4	+0.7		
	baz=31								
P31A	Stockton	31.19 318	⇓P		P	12 34 45.4	+1.5		
	baz=31								
Q30A	Quinter	31.43 316	⇑P		P	12 34 48.2	+2.0		
	baz=31								
425A	Indio Mountain	31.66 299	⇑P		P	12 34 50.1	+1.7		
	baz=32								
P30A	Selden	31.76 317	⇑P		P	12 34 50.4	+1.4		
	baz=32								
325A	Bean Ranch, Si	31.81 300	⇑P		P	12 34 50.5	+0.8		
	baz=32,SNR=6.7								
Q29A	Oakley	31.88 316	⇑P		P	12 34 51.5	+1.4		
	baz=32								
225A	Deer Hill, Car	31.90 302	⇑P		P	12 34 51.2	+0.7		
	baz=32,SNR=7.1								
X26A	CR and CF Fran	31.94 306	⇓P		P	12 34 51.9	+1.2		
	baz=32								
125A	Gardner Draw,	31.94 303	⇓P		P	12 34 51.9	+1.1		
	baz=32								
R28A	Tribune	32.16 314	⇓P		P	12 34 53.7	+1.1		
	baz=32								
Z25A	Roswell	32.19 304	⇓P		P	12 34 54.0	+1.0		
	baz=32								
324A	Moseley Ranch,	32.25 300	⇑P		P	12 34 54.5	+0.9		
	baz=32								
V26A	Tequesquite Ra	32.41 309	⇑P		P	12 34 56.2	+1.3		
	baz=32								
224A	Cornudas Mount	32.46 301	⇑P		P	12 34 55.9	+0.4		
	baz=32,SNR=12								
X25A	Clemmons Ranch	32.58 306	⇓P		P	12 34 57.8	+1.4		
	baz=32								
124A	Stringfield Ra	32.59 302	⇓P		P	12 34 57.2	+0.6		
	baz=33,SNR=7.3								
U26A	Atchley Ranch,	32.62 310	⇑P		P	12 34 57.3	+0.5		
	baz=33								
W25A	X Bar L Ranch,	32.68 307	⇑P		P	12 34 58.5	+1.1		
	baz=33								
Z24A	Sheeppen Canyo	32.72 303	⇓P		P	12 34 58.2	+0.5		
	baz=33,SNR=6.4								
R27A	Eads	32.81 313	⇑P		P	12 34 59.7	+1.4		
	baz=33								
L30A	Spencer Herefo	32.83 321	⇑P		P	12 34 59.3	+0.9		
	baz=33								
Y24A	Capitan	32.97 304	⇓P		P	12 35 00.8	+0.9		
	baz=33,SNR=6.5								
V25A	Rancho No Teng	33.04 308	⇑P		P	12 35 01.2	+0.7		
	baz=33								
O28A	Krutsinger Ran	33.06 317	⇑P		P	12 35 01.2	+0.7		
	baz=33								
U25A	Circle Dot Ran	33.11 309	⇓P		P	12 35 02.2	+1.1		
	baz=33								
R26A	Arlington	33.26 313	⇑P		P	12 35 03.9	+1.6		
	baz=33								
Z23A	Rita Site, Whi	33.38 303	⇓P		P	12 35 04.9	+1.5		
	baz=33								
W24A	Lazy 6 Ranch,	33.40 307	⇓P		P	12 35 04.9	+1.3		
	baz=33								
T25A	Trinidad	33.43 310	⇑P		P	12 35 05.2	+1.3		
	baz=33								
Y23A	Lovelace Mesa,	33.46 304	⇑P		P	12 35 05.5	+1.4		
	baz=33								
S25A	Robets Cordova	33.67 311	⇓P		P	12 35 07.4	+1.5		
	baz=34								
Z22A	Elephant Butte	33.97 303	⇑P		P	12 35 10.2	+1.6		
	baz=34								
BNM	Barren Site	33.98 304	eP		P	12 35 10.2	+1.5		
	7.7nm,1.1s								
V23A	Ortiz Mt. (NFS	34.19 307	⇓P		P	12 35 12.0	+1.5		
	baz=34								
S24A	Houchin Ranch,	34.22 311	⇓P		P	12 35 12.8	+1.9		
	baz=34								
R24A	Sanders Place,	34.40 312	⇑P		P	12 35 13.4	+1.1		
	baz=34								
U23A	El Rito	34.41 308	⇓P		P	12 35 14.2	+1.7		
	baz=34								
121A	Cookes Peak, D	34.43 301	⇑P		P	12 35 14.2	+1.6		
	baz=34								
320A	Kipp Ranch, An	34.74 299	⇑P		P	12 35 16.9	+1.6		
	baz=35								
LPAZ	La Paz	34.75 172	P		P	12 35 15.4	-0.5		
LPAZ	La Paz	34.75 172	P		P	12 35 15.4	-0.5		
	1.1nm,0.6s,baz=349,slow=5.2,SNR=3.9								
V22A	San Miguel Ran	34.80 307	⇓P		P	12 35 17.8	+1.9		
	baz=35								
R23A	Moffat	34.89 311	⇓P		P	12 35 17.8	+1.2		
	baz=35								
319A	Douglas	35.38 299	⇓P		P	12 35 22.0	+1.2		
	baz=35,SNR=5.9								
G27A	Dupree	36.21 324	⇑P		P	12 35 29.3	+1.8		
	baz=36								
O22A	Kremmling	36.26 314	⇓P		P	12 35 30.4	+2.0		
	baz=36								
F27A	Lemmon	36.56 325	⇑P		P	12 35 31.9	+1.3		
	baz=37								
L23A	Garrett	36.63 317	⇑P		P	12 35 32.9	+1.4		
	baz=37								
ULM	Lac du Bonnet	36.76 335	P		P	12 35 31.3	-0.9		
ULM	Lac du Bonnet	36.76 335	P		P	12 35 31.3	-0.9		
	2.3nm,0.9s,baz=174,slow=5.3,SNR=3.0								
A30A	Hoffart Farm,	36.80 332	⇑P		P	12 35 34.2	+1.6		
	baz=37								
G25A	Newell	36.93 323	⇓P		P	12 35 35.1	+1.3		
	baz=37								
A29A	Manning Farm,	37.21 331	⇓P		P	12 35 38.4	+2.4		
	baz=37								
X16A	Lo Mia Camp, P	37.87 303	⇓P		P	12 35 43.4	+1.4		
	baz=38								
K21A	Alcova	37.88 317	⇑P		P	12 35 43.0	+0.9		
	baz=38,SNR=5.8								
J21A	Lysite	38.35 318	⇑P		P	12 35 46.7	+0.7		
	baz=38								
I21A	Big Trails, Te	38.49 319	⇑P		P	12 35 47.7	+0.6		
	baz=38								
F22A	Rosebud	38.90 322	⇓P		P	12 35 51.3	+0.9		
	baz=39								
Y14A	Wickenburg	39.01 301	⇑P		P	12 35 52.0	+0.5		
	baz=39								
E22A	Miles City	39.09 323	⇓P		P	12 35 53.0	+1.0		
	baz=39								
J19A	Crowheart	39.34 317	⇑P		P	12 35 54.7	+0.4		
	baz=39								
PDAR	Pinedale Array	39.45 316	P		P	12 35 54.4	-0.9		
PDAR			PcP		PcP	12 38 02.7	-0.6		
PDAR	Pinedale Array	39.45 316	P		P	12 35 54.4	-0.9		
	0.8nm,0.9s,baz=114,slow=9.0,SNR=5.5								
PDAR			PcP		PcP	12 38 02.7	-0.6		
	1.0nm,1.0s,baz=130,slow=5.1,SNR=4.2								
C23A	Lambert	39.46 325	⇓P		P	12 35 56.3	+1.2		
	baz=40								
D22A	Cohagen	39.63 324	⇓P		P	12 35 58.2	+1.8		
	baz=40								
I19A	Meeteetse	39.67 318	⇓P		P	12 35 57.7	+0.6		
	baz=40								
C22A	Vida	39.81 325	⇓P		P	12 35 59.3	+1.3		
	baz=40								
H19A	Powell	39.97 319	⇓P		P	12 36 00.9	+1.5		
	baz=40								
DUG	Dugway	40.67 311	⇑P		P	12 36 06.5	+1.2		
	baz=41								
E19A	Rath Farm, Rou	40.75 322	⇑P		P	12 36 07.0	+1.2		
	baz=41								
D19A	Cripps Ranch,	41.17 322	⇓P		P	12 36 10.5	+1.2		
	baz=41								
A20A	Cobblestone Ra	41.58 325	⇑P		P	12 36 13.7	+1.1		
	baz=42								
BDFB	Brasilia	41.69 143	P		P	12 36 14.5	+0.6		
BDFB	Brasilia	41.69 143	P		P	12 36 14.5	+0.6		
	5.9nm,0.7s,baz=320,slow=8.2,SNR=6.2								
MCMT	McKenzie Canyo	42.49 317	eP		P	12 36 21.9	+1.6		
	1.6nm,1.1s								
NVAR	Mina Array Bea	44.22 307	P		P	12 36 34.5	+0.1		
NVAR	Mina Array Bea	44.22 307	P		P	12 36 34.5	+0.1		
	1.1nm,0.9s,baz=99,slow=5.8,SNR=5.3								
YKA	Yellowknife Ar	52.69 337	P		P	12 37 38.5	-0.5		
YKA	Yellowknife Ar	52.69 337	P		P	12 37 38.5	-0.5		
	1.1nm,0.8s,baz=126,slow=7.9,SNR=17								
ESDC	Sonseca Array	62.35 54	P		P	12 38 48.3	+0.7		
ESDC	Sonseca Array	62.35 54	P		P	12 38 48.3	+0.7		
	0.4nm,0.3s,baz=274,slow=7.1,SNR=3.7								
ILAR	Eielson Array	66.75 333	P		P	12 39 15.6	-0.3		
ILAR	Eielson Array	66.75 333	P		P	12 39 15.6	-0.3		
	1.3nm,1.0s,baz=106,slow=5.7,SNR=6.1								
TORD	Torodi Ar. Bea	71.44 82	P		P	12 39 45.4	-0.5		
TORD	Torodi Ar. Bea	71.44 82	P		P	12 39 45.3	-0.5		
	1.4nm,1.0s,baz=275,slow=4.2,SNR=5.7								
GERES	GERESS Array B	74.12 43	P		P	12 40 01.9	+0.7		
GERES	GERESS Array B	74.12 43	P		P	12 40 01.9	+0.7		
	2.4nm,0.8s,baz=276,slow=3.8,SNR=14								
ARCES	ARCESS Array B	75.81 21	P		P	12 40 11.7	+1.1		
ARCES	ARCESS Array B	75.81 21	P		P	12 40 11.7	+1.1		
	3.4nm,0.9s,baz=282,slow=6.3,SNR=3.7								
FINES	FINESS Array B	78.20 29	P		P	12 40 24.5	+0.4		
FINES	FINESS Array B	78.20 29	P		P	12 40 24.5	+0.4		
	2.1nm,0.8s,baz=285,slow=5.3,SNR=3.2								
AKASG	Malin Array Be	83.33 39	P		P	12 40 52.0	+0.2		
AKASG	Malin Array Be	83.33 39	P		P	12 40 52.0	+0.2		
	0.2nm,0.3s,baz=305,slow=3.4,SNR=3.0								
BRTR	Keskin Array B	90.44 48	P		P	12 41 27.2	+0.3		
BRTR	Keskin Array B	90.44 48	P		P	12 41 27.2	+0.3		
	1.3nm,0.9s,baz=306,slow=6.2,SNR=4.4								
KSH	Kashi	115.43 26	ePKP		PKPdf	12 47 08.6	+1.3		
KSH			eSKS		SKSdf	12 54 15.8	-4.5		
KSH			eSKKS		SKKSac	12 55 05.3	-5.6		
WMQ	Urumqi	115.57 16	PKP		PKPdf	12 47 07.3	-0.1		
HHC	Hu-ho-hao-te	120.94 356	ePKP		PKPdf	12 47 18.8	+1.0		
HHC			PP		PP	12 48 47.3	+2.1		
HHC			SKS		SKSdf	12 54 29.3	-1.4		
HHC			SKKS		SKKSac	12 55 42.0	-5.2		
HHC			LR	LR					
	comp=Z,150nm,21.8s								
LZH	Lanzhou	125.74 3	ePKP		PKPdf	12 47 25.8	-1.5		
LZH			sPKP			12 47 30.3			
LZH			LR	LR					
	comp=Z,160nm,20.2s								
WRA	Warramunga Arr	154.34 262	PKP		PKPdf	12 48 17.3	-0.5		
WRA			PKPbc		PKPbc	12 48 24.7	-1.4		
WRA	Warramunga Arr	154.34 262	PKP		PKPdf	12 48 17.3	-0.5		
	2.2nm,1.2s,baz=92,slow=1.6,SNR=5.3								
WRA			PKPbc		PKPbc	12 48 24.7	-1.4		
	1.6nm,0.9s,baz=87,slow=2.5,SNR=7.6								

NOU ***13*** *12:40:45.0±1.1,20°.18S×168°.42E,h10km±999km,MD3.3, ML3.2*
IDC ***13*** *12:40:45.9±2.9,20°.33S×168°.38E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.8/18,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=92.4km s-min=28.6km az=132.0*

ISC 13 12:40:49.4±2.2,20°.6S±0°.4×168°.5E±0°.4,h26km,n8, σ1s57/12,mb3.8/4,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	2.43	232	Pn	Pn	12 41 27.8	+0.3
	7.2nm,0.3s,baz=59,slow=18,SNR=224						
DZM				Sn	Sn	12 41 59.0	+2.6
	20nm,0.3s,baz=140,slow=22,SNR=8.9						
DZM	Mont Dzumac	2.43	232	eP	Pn	12 41 27.5	0.0
DZM				eS	Sn	12 41 58.4	+2.0
DZM				AMP		12 42 02.0	
	comp=Z,854nm,0.9s						
NORM	Noumea	2.50	229	eP	Pn	12 41 28.7	+0.4
NORM				eS	Sb	12 42 01.5	-2.4
NOUC	Port Laguerre	2.55	233	eP	Pn	12 41 29.9	+0.8
NOUC				eS	Sb	12 42 03.3	-2.1
NOUC				AMP		12 42 17.0	
	comp=Z,72nm,4.0s						
STKA	Stephens Creek	26.56	239	P	P	12 46 25.0	-0.4
	comp=Z,1.9nm,0.9s,baz=74,slow=7.4,SNR=3.2						
WRA	Warramunga Arr	32.02	265	P	P	12 47 13.8	-0.3
	comp=Z,0.4nm,0.6s,baz=91,slow=8.5,SNR=3.6						
ASAR	Alice Springs	32.15	258	P	P	12 47 15.6	+0.4
	comp=Z,1.2nm,0.7s,baz=85,slow=9.0,SNR=24						
ILAR	Eielson Array	91.71	18	P	P	12 53 53.7	-0.4
	comp=Z,0.4nm,0.9s,baz=230,slow=5.1,SNR=3.3						

JSN ***13*** *12:41:34.7±1.0,17°.12N×72°.17W,h16km,MD5.0*
ISCJB ***13*** *12:41:41.9±0.2,18°.34N±0°.03×72°.83W±0°.02,h6km, mb4.4/44,MS3.9/16,Error ellipse: s-maj=5.1km s-min=2.6km az=13.4*
IDC ***13*** *12:41:42.2±0.5,18°.37N×72°.82W,h0km,mb4.1/19, mb1 4.3/22,mb1mx4.3/29,mbtmp4.2/22,ML3.7/3,MS3.7/16, Ms1 3.7/16,ms1mx3.5/36,Error ellipse: s-maj=17.9km s-min=13.0km az=54.0*
NEIC ***13*** *12:41:44.1±0.2,18°.34N×72°.85W,h10km,mb4.6/28,Error ellipse: s-maj=4.9km s-min=3.1km az=15.0*

ISC 13 12:41:43.5±0.3,18°.35N±0°.05×72°.82W±0°.03,h6km,n299, σ1s03/308,mb4.4/44,MS3.9/16,77C-90D,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.58	66	ePn	Pn	12 42 09.9	-2.3
SDDR				eSn	Sn	12 42 33.3	+0.4
GTBY	Guantanamo Bay	2.68	306	ePn	Pn	12 42 24.4	-2.8
GTBY				eSn	Sn	12 42 58.7	-1.3
GRTK	Grand Turk	3.52	26	ePn	Pn	12 42 37.6	-1.2
GRTK				eSn	Sn	12 43 18.3	-2.5
YHJ	Yallahs	3.53	263	*i* P	Pn	12 42 36.8	-2.1
YHJ	Yallahs	3.53	263	*i* P	Pn	12 42 36.8	-2.1
GWJ	Greenwich	3.73	266	*i* P	Pn	12 42 40.5	-1.4
GWJ	Greenwich	3.73	266	*i* P	Pn	12 42 40.5	-1.4
HOJ	Hope	3.76	265	*i* P	Pn	12 42 41.6	-0.4
HOJ	Hope	3.76	265	*i* P	Pn	12 42 41.6	-0.4
STH	Stony Hill	3.81	267	*i* P	Pn	12 42 41.2	-1.6
STH				*i* S	Sn	12 43 31.7	+3.8
STH	Stony Hill	3.81	267	*i* P	Pn	12 42 41.2	-1.6
STH				*i* S	Sn	12 43 31.7	+3.8
MTDJ	Mount Denham	4.49	269	ePn	Pn	12 42 51.7	-0.5
MPR	Mayaguez	5.39	91	ePn	Pn	12 43 07.9	+3.3
AGPR	Aguadilla, PR	5.42	88	ePn	Pn	12 43 06.2	+1.3
AGPR				eSg	Sg	12 44 38.6	+1.0
CRPR	Cabo Rojo, PR	5.43	93	ePn	Pn	12 43 05.7	+0.5
CRPR				eSn	Sn	12 44 04.2	-3.9
LSP	Las Mesas	5.45	91	ePn	Pn	12 43 06.4	+1.1
LRS	Lares	5.67	90	ePn	Pn	12 43 09.4	+1.0
AOPR	Arecibo Observ	5.76	89	ePn	Pn	12 43 11.3	+1.7
OBIP	Obispado Ponce	5.91	92	ePn	Pn	12 43 11.5	-0.2
CELP	Cerrillos	5.93	92	ePn	Pn	12 43 12.3	+0.3
CELP				eSn	Sn	12 44 22.3	+2.0
CPD	Cerro la Pandu	6.57	92	ePn	Pn	12 43 21.2	+0.5
CBYP	Canovanas	6.61	90	ePn	Pn	12 43 21.9	+0.5
HUMP	Col San Antoni	6.62	91	ePn	Pn	12 43 23.6	+2.1
MTP	Monte Pirata	6.91	91	ePn	Pn	12 43 27.1	+1.7
MTP				eSn	Sn	12 44 45.3	+0.9
CDVI	St. Croix	7.68	93	ePn	Pn	12 43 26.8	-9.2
SDV	Santo Domingo	9.64	167	ePn	Pn	12 44 03.1	0.0
SDV				eSn	Sn	12 45 47.1	-4.9
BCIP	Isla Barro Col	11.39	218	ePn	Pn	12 44 25.4	-1.5
ROSC	El Rosal	13.49	186	ePn	Pn	12 44 57.6	+1.6
ROSC	El Rosal	13.49	186	Pn	Pn	12 44 56.6	+0.6
	3.7nm,0.3s,baz=61,slow=10,SNR=7.7						
ROSC				LR	LR	12 50 59.1	
	comp=Z,115nm,18.0s,baz=38,slow=41						
JTS	JuntasAbangare	14.22	237	eP	P	12 45 12.7	-0.5
TEIG	Tepich	14.72	280	Pn	Pn	12 45 11.6	-0.8
TEIG	Tepich	14.72	280	Pn	Pn	12 45 11.6	-0.8
	1.7nm,0.3s,baz=81,slow=4.5,SNR=8.6						
APG	El Apazote	17.23	262	LR	LR	12 53 28.4	
	comp=Z,137nm,20.3s,baz=96,slow=41						
OTAV	Otavalo	18.83	198	eP	P	12 46 04.8	+0.1
	191nm,2.2s						
TKL	Tuckaleechee C	19.79	333	P	P	12 46 15.1	+0.5
TKL	Tuckaleechee C	19.79	333	P	P	12 46 15.1	+0.5
	0.2nm,0.3s,baz=173,slow=11,SNR=4.4						
TKL				LR	LR	12 54 18.5	
	comp=Z,186nm,19.1s,baz=162,slow=38						
CPCT	Cooper Cave	19.95	331	eP	P	12 46 16.2	-0.1
SWET	Sewanee	20.44	328	eP	Pn	12 46 23.4	-0.5
	90nm,2.0s						
TZTN	Tazewell	20.45	335	eP	P	12 46 22.4	+0.7
	56nm,1.4s						
PTGA	Pitinga	22.79	145	eP	P	12 46 47.4	+0.3
	26nm,1.3s						
PTGA	Pitinga	22.79	145	P	P	12 46 47.0	-0.1
	9.2nm,1.0s,baz=329,slow=11,SNR=7.4						
HKT	Hockley	23.92	303	eP	P	12 46 58.7	+0.4
	90nm,2.3s						
735A	Kenedy	25.13	299	⇑P	P	12 47 11.0	+1.6
	baz=25						
834A	Tilden	25.52	297	⇓P	P	12 47 14.3	+1.2
	baz=26						
335A	Moody	25.71	305	⇓P	P	12 47 15.9	+1.1
	baz=26						
ATAH	Atahualpa	25.91	193	P	P	12 47 16.6	-0.5
ATAH	Atahualpa	25.91	193	P	P	12 47 16.6	-0.5
	5.4nm,0.8s,baz=26,slow=7.9,SNR=4.1						
ATAH				LR	LR	12 59 23.3	
	comp=Z,144nm,20.8s,baz=5.1,slow=41						
WHTX	Lake Whitney	26.03	306	eP	P	12 47 17.8	+0.2
	10nm,0.6s						
WHTX	Lake Whitney	26.03	306	⇓P	P	12 47 18.2	+0.5
	baz=26						
534A	Blanco	26.07	301	⇑P	P	12 47 19.0	+0.9
	baz=26,SNR=7.3						
434A	Burnet	26.19	303	⇑P	P	12 47 19.6	+0.4
	baz=26						
833A	Chaparral WMA,	26.29	297	⇑P	P	12 47 20.5	+0.4
	baz=26						
733A	Divot King Ran	26.32	298	⇑P	P	12 47 21.1	+0.8
	baz=26						
334A	Lometa	26.37	304	⇑P	P	12 47 21.3	+0.6
	baz=26						
832A	Faith Ranch, C	26.77	297	⇓P	P	12 47 23.8	-0.6
	baz=27						
TUL1	Tulsa	26.80	315	eP	P	12 47 24.9	+0.3
	11nm,0.8s						
TUL1	Tulsa	26.80	315	⇓P	P	12 47 24.4	-0.1
	baz=27						
433A	Art	26.83	302	⇑P	P	12 47 24.8	-0.1
	baz=27						
SADO	Sadowa	26.87	350	LR	LR	12 58 21.5	
	comp=Z,173nm,18.3s,baz=178,slow=37						
732A	Laxson Ranch,	26.89	298	⇑P	P	12 47 25.6	+0.2
	baz=27						
333A	Richland Sprin	26.95	304	⇓P	P	12 47 26.1	+0.1
	baz=27						
Y34A	Reagan Ranch,	27.15	310	⇑P	P	12 47 28.1	+0.4
	baz=27						
532A	Rocksprings	27.27	301	⇓P	P	12 47 28.9	0.0
	baz=27						
432A	Menard	27.43	302	⇑P	P	12 47 30.0	-0.4
	baz=27						
X34A	Smith Ranch, M	27.52	311	⇓P	P	12 47 31.0	-0.1
	baz=28						
631A	Perdido Creek	27.60	299	⇑P	P	12 47 31.3	-0.5
	baz=28						
232A	Coleman	27.69	304	⇓P	P	12 47 31.8	-0.8
	baz=28						
431A	Sonora	28.03	301	⇑P	P	12 47 35.2	-0.5
	baz=28						
Z32A	Haskell	28.14	307	⇓P	P	12 47 36.2	-0.4
	baz=28						
231A	Bronte	28.24	304	⇓P	P	12 47 37.2	-0.3
	baz=28						
U34A	Anderson Ranch	28.27	315	⇓P	P	12 47 37.3	-0.4
	baz=28						
530A	J-C Ranch, Com	28.45	300	⇓P	P	12 47 39.6	+0.1
	baz=28						
V33A	Lossen Ranch,	28.45	313	⇑P	P	12 47 39.7	+0.3
	baz=28						
X32A	Elmer	28.49	309	⇑P	P	12 47 39.1	-0.6
	baz=28						
Z31A	Sharp Cattle R	28.65	307	⇑P	P	12 47 41.3	+0.2
	baz=29						
330A	Mertzon	28.73	302	⇓P	P	12 47 42.2	+0.2
	baz=29						
SAML	Samuel	28.74	160	eP	P	12 47 40.7	-1.4
	5.5nm,0.8s						
W32A	Sentinel	28.79	311	⇓P	P	12 47 42.8	+0.4
	baz=29						
230A	Sterling City	28.85	303	⇑P	P	12 47 43.0	0.0
	baz=29						
Y31A	Rekieta Farm,	29.01	308	⇑P	P	12 47 44.3	0.0
	baz=29						
429A	Davenport Ranc	29.06	300	⇑P	P	12 47 44.7	-0.2
	baz=29						
X31A	McDonald Ranch	29.09	309	⇓P	P	12 47 45.0	-0.1
	baz=29						
529A	Stev Forest Ra	29.18	299	⇓P	P	12 47 45.9	-0.1
	baz=29						
KSU1	Kansas State U	29.22	320	⇓P	P	12 47 45.9	-0.2
	baz=29						
329A	Wagon

R30A	**Dighton** baz=31	31.10	315	⇓P		P	12 48 02.8	0.0
P31A	**Stockton** baz=31	31.19	318	⇓P		P	12 48 03.6	-0.1
226B	**Tecolote Peak,** baz=31	31.36	302	⇓P		P	12 48 05.2	0.0
126A	**Clayton Basin,** baz=31	31.42	303	⇑P		P	12 48 05.7	-0.1
X27A	**F and S Farms,** baz=31	31.43	307	⇑P		P	12 48 06.2	+0.3
Q30A	**Quinter** baz=31	31.43	317	⇓P		P	12 48 06.0	+0.3
O31A	**Woolen Ranch,** baz=32	31.53	319	⇓P		P	12 48 07.0	+0.4
SPMN	**St. Paul** 16nm,0.2s	31.55	333	Pn		P	12 48 05.5	-1.2
GDL2	**Guadalupe Moun** 0.8nm,0.2s	31.55	302	*e*P		P	12 48 07.8	+0.7
Z26A	**Caprock** baz=32	31.60	304	⇓P		P	12 48 07.0	-0.4
P30A	**Selden** baz=32	31.76	317	⇓P		P	12 48 09.2	+0.5
T28A	**Walsh** baz=32	31.78	312	⇓P		P	12 48 08.6	-0.3
325A	**Bean Ranch, Si** baz=32	31.80	300	⇑P		P	12 48 08.8	-0.5
S28A	**Manter** baz=32	31.85	313	⇑P		P	12 48 09.7	+0.1
Q29A	**Oakley** baz=32	31.89	316	⇑P		P	12 48 09.7	0.0
225A	**Deer Hill, Car** baz=32	31.90	302	⇓P		P	12 48 10.0	-0.1
125A	**Gardner Draw,** baz=32	31.93	303	⇓P		P	12 48 10.2	-0.1
X26A	**CR and CF Fran** baz=32	31.93	307	⇑P		P	12 48 10.6	+0.2
U27A	**Thompson Grove** baz=32	31.97	310	⇓P		P	12 48 10.9	+0.3
O30A	**MW Ranch, Wils** baz=32	32.00	319	⇑P		P	12 48 11.1	+0.4
M31A	**Lambtecht Ranc** baz=32	32.03	321	⇑P		P	12 48 11.3	+0.3
R28A	**Tribune** baz=32,SNR=5.3	32.16	314	⇓P		P	12 48 11.9	-0.3
T27A	**Campo** baz=32	32.18	312	⇑P		P	12 48 12.9	+0.4
Z25A	**Roswell** baz=32	32.18	304	⇑P		P	12 48 12.8	+0.2
MNTX	**Cornudas Mount** 72nm,2.8s	32.23	301	*e*P		P	12 48 12.3	-0.5
324A	**Moseley Ranch,** baz=32,SNR=6.0	32.24	300	⇑P		P	12 48 12.7	-0.3
Y25A	**Mesa, Roswell** baz=32	32.38	305	⇓P		P	12 48 14.5	+0.2
V26A	**Tequesquite Ra** baz=32	32.41	309	⇑P		P	12 48 14.6	+0.1
224A	**Cornudas Mount** baz=32,SNR=8.4	32.45	301	⇑P		P	12 48 15.1	+0.1
124A	**Stringfield Ra** baz=32,SNR=6.8	32.59	302	⇑P		P	12 48 16.6	+0.4
U26A	**Atchley Ranch,** baz=33	32.62	310	⇓P		P	12 48 16.8	+0.3
W25A	**X Bar L Ranch,** baz=33	32.68	307	⇑P		P	12 48 17.0	+0.1
Z24A	**Sheeppen Canyo** baz=33,SNR=7.4	32.71	304	⇑P		P	12 48 17.6	+0.4
N29A	**Votaw Ranch, W** baz=33	32.72	319	⇓P		P	12 48 17.6	+0.5
P28A	**Saint Francis** baz=33	32.76	316	⇑P		P	12 48 17.9	+0.4
L30A	**Spencer Herefo** baz=33	32.84	322	⇑P		P	12 48 18.3	+0.2
T26A	**Comanche Natio** baz=33	32.85	311	⇓P		P	12 48 18.7	+0.2
Y24A	**Capitan** baz=33	32.97	305	⇑P		P	12 48 19.6	+0.1
V25A	**Rancho No Teng** baz=33,SNR=5.4	33.04	308	⇑P		P	12 48 20.5	+0.4
U25A	**Circle Dot Ran** baz=33	33.11	309	⇓P		P	12 48 21.3	+0.6
R26A	**Arlington** baz=33	33.27	313	⇑P		P	12 48 22.1	+0.2
L29A	**Maesberg Ranch** baz=33	33.36	321	⇓P		P	12 48 23.3	+0.6
Z23A	**Rita Site, Whi** baz=33	33.38	303	⇓P		P	12 48 23.3	+0.3
W24A	**Lazy 6 Ranch,** baz=33	33.40	307	⇑P		P	12 48 23.6	+0.4
T25A	**Trinidad** baz=33	33.43	311	⇓P		P	12 48 24.3	+0.8
Y23A	**Lovelace Mesa,** baz=33,SNR=6.1	33.45	304	⇑P		P	12 48 24.0	+0.2
Q26A	**Hugo** baz=34	33.61	314	⇑P		P	12 48 25.7	+0.7
S25A	**Robets Cordova** baz=34	33.67	311	⇓P		P	12 48 26.0	+0.4
R25A	**Fountain Ranch** baz=34	33.78	312	⇑P		P	12 48 27.3	+0.9
P26A	**Davis Ranch, A** baz=34	33.81	315	⇑P		P	12 48 27.5	+0.8
W23A	**Werner Place,** baz=34	33.95	306	⇓P		P	12 48 29.1	+1.1
Z22A	**Elephant Butte** baz=34	33.96	303	⇓P		P	12 48 29.1	+1.0
BNM	**Barren Site**	33.97	304	*e*P		P	12 48 28.2	-0.1
LPM	**Los Pinos Moun**	34.03	305	*e*P		P	12 48 30.0	+1.3
T24B	**San Luis** baz=34	34.10	310	⇓P		P	12 48 30.5	+1.0
V23A	**Ortiz Mt. (NFS** baz=34	34.18	307	⇑P		P	12 48 30.9	+0.8
M27A	**Reverse DX Ran** baz=34	34.22	319	⇓P		P	12 48 30.9	+0.8
S24A	**Houchin Ranch,** baz=34	34.22	311	⇑P		P	12 48 30.9	+0.4
R24A	**Sanders Place,** baz=34,SNR=5.6	34.40	312	⇓P		P	12 48 31.9	0.0
U23A	**El Rito** baz=34	34.41	308	⇓P		P	12 48 32.4	+0.3
121A	**Cookes Peak, D** baz=34	34.42	301	⇓P		P	12 48 32.4	+0.3
LAZ	**Ladron** 2.7nm,1.1s	34.46	305	*e*P		P	12 48 33.6	+1.2
SDCO	**Great Sand Dun** 46nm,2.8s	34.47	311	*e*P		P	12 48 32.5	-0.1
T23A	**Casias Ranch,** baz=34	34.57	309	⇓P		P	12 48 34.3	+0.8
LPAZ	**La Paz** 19nm,1.8s	34.73	172	*e*P		P	12 48 35.9	+0.6
LPAZ					*e*PP	PP	12 49 57.6	+3.5
LPAZ	**La Paz** 1.3nm,0.6s,baz=356,slow=6.8,SNR=4.6	34.73	172	P		P	12 48 35.9	+0.6
LPAZ	comp=Z,215nm,20.6s,baz=4.5,slow=38				LR	LR	13 03 50.1	
V22A	**San Miguel Ran** baz=35	34.79	307	⇑P		P	12 48 36.6	+1.2
R23A	**Moffat** baz=35	34.89	311	⇓P		P	12 48 36.2	-0.1
I28A	**Midland** baz=35	34.94	323	⇓P		P	12 48 36.6	+0.3
M25A	**Palm-Egli Farm** baz=35	35.23	317	⇓P		P	12 48 40.0	+1.0
AGMN	**Agassiz Nation** baz=35	35.26	333	⇓P		P	12 48 40.2	+1.3
K26A	**Motz Farm, Whi** baz=35	35.36	320	⇓P		P	12 48 40.4	+0.4
319A	**Douglas** baz=35,SNR=6.3	35.37	299	⇑P		P	12 48 41.2	+0.9
S22A	**4UR Ranch, Cre** baz=35	35.43	310	⇑P		P	12 48 41.4	+0.5
ISCO	**Idaho Springs** baz=35	35.46	314	⇑P		P	12 48 41.1	-0.1
M24A	**Cheyenne** baz=36	35.74	317	⇓P		P	12 48 43.4	0.0
H27A	**Howes** baz=36	35.84	323	⇓P		P	12 48 44.4	+0.4
SIV	**San Ignacio** comp=Z,244nm,18.1s,baz=112,slow=39	36.03	161	LR		LR	13 04 57.0	
SMCO	**Snowmass** 79nm,2.8s	36.12	312	*e*P		P	12 48 47.2	+0.2
G27A	**Dupree** baz=36	36.22	325	⇓P		P	12 48 48.8	+1.5
O22A	**Kremmling** baz=36	36.26	314	⇑P		P	12 48 49.0	+1.0
B30A	**Myrvik Farm, E** baz=36	36.47	331	⇓P		P	12 48 50.0	+0.7
L23A	**Garrett** baz=37	36.63	317	⇓P		P	12 48 51.6	+0.5
SCHQ	**Schefferville**	36.70	6	LR		LR	13 04 13.9	
	comp=Z,111nm,18.8s,baz=227,slow=37							
X18A	**Snowflake** baz=37	36.71	304	⇓P		P	12 48 52.0	+0.3
ULM	**Lac du Bonnet**	36.78	335	P		P	12 48 50.4	-1.6
ULM	**Lac du Bonnet** 2.5nm,0.8s,baz=129,slow=6.0,SNR=3.8	36.78	335	P		P	12 48 50.4	-1.6
ULM	comp=Z,87nm,18.3s,baz=22,slow=38				LR	LR	13 04 49.6	
A30A	**Hoffart Farm,** baz=37	36.82	332	⇓P		P	12 48 52.6	+0.3
PV01	**Paradox Valley** 143nm,0.7s	36.85	310	*e*P		P	12 48 53.7	+0.7
F26A	**Lodgepole** baz=37	36.91	325	⇓P		P	12 48 52.9	-0.4
G25A	**Newell** baz=37	36.94	323	⇓P		P	12 48 52.9	-0.5
A29A	**Manning Farm,** baz=37	37.23	331	⇑P		P	12 48 56.2	+0.4
O20A	**White River Ci** baz=37	37.41	313	⇓P		P	12 48 58.0	+0.2
K22A	**Casper** 5.6nm,0.8s	37.43	318	*e*P		P	12 48 57.9	+0.2
K22A	**Casper** baz=37	37.43	318	⇑P		P	12 48 58.0	+0.2
J22A	**Midwest** baz=38	37.78	319	⇑P		P	12 49 00.3	-0.5
K21A	**Alcova** baz=38,SNR=7.7	37.88	317	⇓P		P	12 49 00.9	-0.8
I22A	**9 Mile Ranch,** baz=38	38.03	319	⇓P		P	12 49 03.0	+0.2
J21A	**Lysite** baz=38,SNR=7.1	38.36	318	⇑P		P	12 49 05.0	-0.7
F23A	**Volborg** baz=38	38.38	323	⇓P		P	12 49 05.3	-0.3
I21A	**Big Trails, Te** baz=38,SNR=5.1	38.49	319	⇓P		P	12 49 05.6	-1.1
J20A	**Shoshoni** baz=39	38.77	318	⇑P		P	12 49 09.5	+0.5
F22A	**Rosebud** baz=39,SNR=7.3	38.91	322	⇓P		P	12 49 09.6	-0.5
Y14A	**Wickenburg** baz=39	39.01	302	⇓P		P	12 49 10.9	-0.2
U15A	**North Rim** baz=39	39.08	306	⇓P		P	12 49 12.0	+0.1
I20A	**Worland** baz=39	39.09	319	⇓P		P	12 49 12.1	+0.4
J19A	**Crowheart** baz=39	39.35	317	⇑P		P	12 49 13.6	-0.3
PDAR	**Pinedale Array**	39.45	316	P		P	12 49 14.2	-0.6
PDAR					PcP	PcP	12 51 22.1	-0.8
PDAR	**Pinedale Array** 1.0nm,0.7s,baz=120,slow=10,SNR=10.0	39.45	316	P		P	12 49 14.2	-0.6
PDAR	0.6nm,0.8s,baz=120,slow=5.3,SNR=3.7				PcP	PcP	12 51 22.1	-0.8
PDAR	comp=Z,92nm,20.1s,baz=113,slow=38				LR	LR	13 06 42.4	
C23A	**Lambert** baz=40	39.47	325	⇑P		P	12 49 15.1	+0.4
A24A	**Westby** baz=40	39.55	328	⇓P		P	12 49 15.7	+0.4
D22A	**Cohagen** baz=40	39.64	324	⇓P		P	12 49 16.0	-0.2
I19A	**Meeteetse** baz=40	39.67	318	⇓P		P	12 49 16.7	0.0
G20A	**Bridger** baz=40	39.78	320	⇓P		P	12 49 16.3	-1.1
C22A	**Vida** baz=40	39.82	325	⇑P		P	12 49 18.2	+0.6
H19A	**Powell** baz=40	39.98	319	⇑P		P	12 49 18.9	-0.3
F20A	**Billings** baz=40	40.04	321	⇑P		P	12 49 19.5	-0.1
D21A	**La Casta Ranch** baz=40	40.05	323	⇑P		P	12 49 19.5	-0.1
ARUT	**Antelope Range**	40.35	307	*e*P		P	12 49 22.4	0.0
RLMT	**Red Lodge** 17nm,1.6s	40.37	320	*e*P		P	12 49 22.5	0.0
E20A	**Meyer Farm, Mu** baz=40	40.40	322	⇑P		P	12 49 22.2	-0.3
H18A	**Shoshone NF, C** baz=40	40.40	319	⇑P		P	12 49 22.0	-0.8
LOHW	**Long Hollow** 6.6nm,0.9s	40.51	317	*e*P		P	12 49 24.0	+0.3
F19A	**Roth Farm, Mol** baz=40	40.54	321	⇑P		P	12 49 23.2	-0.6
REDW	**Red Top Meadow** 8.6nm,0.9s	40.57	316	*e*P		P	12 49 23.9	-0.2
MOOW	**Moose Ponds** 5.3nm,0.8s	40.67	317	*e*P		P	12 49 25.0	+0.1
DUG	**Dugway** 31nm,2.4s	40.67	311	*e*P		P	12 49 25.6	+0.7
DUG	**Dugway** baz=41	40.67	311	⇓P		P	12 49 24.9	0.0
TPAW	**Teton Pass** 3.7nm,0.8s	40.69	316	*e*P		P	12 49 25.5	+0.3
E19A	**Rath Farm, Rou** baz=41	40.76	322	⇑P		P	12 49 25.7	+0.2
FXWY	**Fox Creek** 3.2nm,0.8s	40.80	317	*e*P		P	12 49 25.2	-0.9
A21A	**Bergtoll Ranch** baz=41	41.11	326	⇑P		P	12 49 28.8	+0.4
A20A	**Cobblestone Ra** baz=42	41.59	325	⇑P		P	12 49 32.4	+0.2
BDFB	**Brasilia**	41.68	143	*e*P		P	12 49 33.5	+0.1
BDFB	**Brasilia** 16nm,1.0s,baz=304,slow=7.3,SNR=11	41.68	143	P		P	12 49 32.8	-0.6
R11A	**Troy Canyon, C** baz=42	42.14	307	⇓P		P	12 49 37.5	+0.4
MCMT	**McKenzie Canyo**	42.50	317	*e*P		P	12 49 40.5	+0.5
HLID	**Hailey** 30nm,2.3s	43.01	315	*e*P		P	12 49 45.0	+0.8
TPH	**Tonopah** 8.8nm,1.4s	43.31	306	*e*P		P	12 49 46.9	+0.3
NV01	**Mina Array Sit**	44.22	307	*e*P		P	12 49 54.6	+0.7
NVAR	**Mina Array Bea**	44.22	307	P		P	12 49 54.5	+0.5
NVAR	**Mina Array Bea** 1.7nm,0.8s,baz=108,slow=5.8,SNR=8.1	44.22	307	P		P	12 49 54.5	+0.5
EDM	**Edmonton**	46.84	328	*e*P		P	12 50 13.8	-0.4
CPUP	**Villa Florida** comp=Z,123nm,18.9s,baz=325,slow=38	46.89	161	LR		LR	13 11 12.5	
YKA	**Yellowknife Ar**	52.70	337	P		P	12 50 57.1	-1.6
YKA	**Yellowknife Ar** 2.4nm,0.8s,baz=124,slow=7.3,SNR=38	52.70	337	P		P	12 50 57.1	-1.6
YKB5	**Yellowknife Ar**	52.70	337	*e*P		P	12 50 57.0	-1.6
DLBC	**Dease Lake**	57.54	328	*e*P		P	12 51 34.5	+0.6
BORG	**Borgarnes** comp=Z,95nm,18.6s,baz=163,slow=33	57.56	23	LR		LR	13 13 02.1	
SUMG	**Summit** 167nm,2.7s	57.69	12	*e*P		P	12 51 34.5	-0.5
PLCA	**Paso Flores** comp=Z,48nm,18.9s,baz=92,slow=38	58.81	178	LR		LR	13 19 02.1	
ESDC	**Sonseca Array**	62.39	54	P		P	12 52 07.6	+0.1
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=279,slow=8.2,SNR=5.3	62.39	54	P		P	12 52 07.6	+0.1
INK	**Inuvik** comp=Z,102nm,21.1s,baz=142,slow=36	62.40	339	LR		LR	13 19 11.2	
ES19	**SONSECA Array**	62.44	54	*e*P		P	12 52 07.9	+0.1
ILAR	**Eielson Array**	66.77	333	P		P	12 52 35.1	-0.5
ILAR	**Eielson Array** 1.4nm,0.9s,baz=111,slow=4.9,SNR=8.2	66.77	333	P		P	12 52 35.1	-0.5
DBIC	**Dimbokro**	67.04	90	P		P	12 52 38.5	+0.4
DBIC	**Dimbokro** 2.1nm,0.7s,baz=164,slow=18,SNR=4.0	67.04	90	P		P	12 52 38.5	+0.4
DBIC	comp=Z,25nm,18.6s,baz=80,slow=35				LR	LR	13 20 48.9	
COLD	**Coldfoot** 43nm,2.2s	68.35	336	*e*P		P	12 52 46.3	+0.8
NOA	**NORSAR Array B**	71.25	31	P		P	12 53 04.2	+0.7
NOA	**NORSAR Array B** 1.3nm,0.9s,baz=277,slow=6.6,SNR=2.7	71.25	31	P		P	12 53 04.2	+0.7
TOA0	**Torodi Ar. Sit**	71.47	82	*e*P		P	12 53 05.5	-0.1
TORD	**Torodi Ar. Bea**	71.47	82	P		P	12 53 04.1	-1.5
TORD	**Torodi Ar. Bea** 1.8nm,0.9s,baz=285,slow=5.8,SNR=8.5	71.47	82	P		P	12 53 04.1	-1.5
GERES	**GERESS Array B**	74.16	43	P		P	12 53 21.3	+0.2
GERES	**GERESS Array B** 3.0nm,0.8s,baz=270,slow=4.0,SNR=19	74.16	43	P		P	12 53 21.3	+0.2
GERES	comp=Z,70nm,18.0s,baz=287,slow=35				LR	LR	13 25 00.1	
DPC	**Dobruska-Polom** 368nm,2.5s	75.56	41	*e*P		P	12 53 29.0	-0.2
ARCES	**ARCESS Array B**	75.84	21	P		P	12 53 30.4	0.0
ARCES	**ARCESS Array B** 4.6nm,0.9s,baz=302,slow=5.2,SNR=3.9	75.84	21	P		P	12 53 30.4	0.0
FINES	**FINESS Array B**	78.24	29	P		P	12 53 42.8	-1.2
FINES	**FINESS Array B** 1.2nm,0.8s,baz=289,slow=4.3,SNR=5.4	78.24	29	P		P	12 53 42.8	-1.2
BUR04	**Bucovina Ar. S**	81.91	43	*e*P		P	12 54 05.4	+1.1
AKASG	**Malin Array Be**	83.37	39	P		P	12 54 10.6	-1.0
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=299,slow=3.6,SNR=5.1	83.37	39	P		P	12 54 10.6	-1.0
BR231	**Keskin MP Arra**	89.82	48	*e*P		P	12 54 46.8	+3.2
BRTR	**Keskin Array B**	90.48	48	P		P	12 54 47.1	+0.4
BRTR	**Keskin Array B** 1.2nm,0.8s,baz=291,slow=4.0,SNR=4.8	90.48	48	P		P	12 54 47.1	+0.4
KSH	**Kashi**	115.47	26	*e*PKP		PKPdf	13 00 28.1	+1.1
KSH				*e*PP		PP	13 01 35.3	+8.0
KSH				*e*SKS		SKSdf	13 07 35.3	-4.7
KSH				*e*SS		SS	13 17 29.3	+3.2
WMQ	**Urumqi**	115.61	16	PKP		PKPdf	13 00 26.3	-0.7
WMQ	comp=N,25nm,21.8s			LR		LR		
WMQ	comp=Z,38nm,19.5s			LR		LR		
HHC	**Hu-ho-hao-te**	120.97	356	*e*PKP		PKPdf	13 00 37.9	+0.4
HHC				PP		PP	13 02 08.4	+3.4
HHC				SKS		SKSdf	13 07 49.3	-1.1
HHC				SKKS		SKKSac	13 09 03.3	-3.7
HHC				SS		SS	13 18 39.5	+3.0
HHC	comp=N,360nm,22.1s			LR		LR		
HHC	comp=E,450nm,22.1s			LR		LR		
HHC	comp=Z,260nm,21.4s			LR		LR		
LZH	**Lanzhou**	125.77	3	*e*PKP		PKPdf	13 00 44.8	-2.1
LZH				sPKP			13 00 49.3	
LZH	comp=N,130nm,18.0s			LR		LR		
LZH	comp=E,130nm,18.0s			LR		LR		
LZH	comp=Z,160nm,20.1s			LR		LR		
STKA	**Stephens Creek**	146.21	240	PKPbc		PKPdf	13 01 24.6	+0.2
STKA	**Stephens Creek** 3.9nm,0.9s,baz=94,slow=4.2,SNR=2.8	146.21	240	PKPbc		PKPdf	13 01 24.6	+0.2
WRA	**Warramunga Arr**	154.31	262	PKP		PKPdf	13 01 36.3	-1.1
WRA	**Warramunga Arr** 2.0nm,0.9s,baz=70,slow=0.6,SNR=6.2	154.31	262	PKP		PKPdf	13 01 36.3	-1.1
ASAR	**Alice Springs**	154.52	253	PKPbc		PKPbc	13 01 44.2	-1.8
ASAR	**Alice Springs** 1.2nm,0.9s,baz=82,slow=1.3,SNR=4.7	154.52	253	PKPbc		PKPbc	13 01 44.2	-1.8

IDC ***13*** *12:42:35.4±0.5, 6.51°N×124.48°E, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.4/30, mbtmp4.3/24, MS3.9/18, Ms1 3.9/18, ms1mx3.8/31, Error ellipse: s-maj=19.7km s-min=11.2km az=65.0*

ISCJB ***13*** *12:42:36.2±0.7, 6.58°N±0.02°×124.35°E±0.02, h5km±4km, mb4.8/88, MS4.1/31, Error ellipse: s-maj=3.8km s-min=2.7km az=164.4*

MAN ***13*** *12:42:36, 6.58°N×124.31°E, h7km, mb5.7, ML4.7, MS5.1*

MAN INTENSITY III - KORONADAL CITY; COLUMBIO SULTAN KUDARAT; COTABATO CITY; UPI MAGUINDANAO; INTENSITY II - GENERAL SANTOS CITY.

NEIC ***13*** *12:42:38.1±0.2, 6.61°N×124.40°E, h10km, mb5.2/27, Error ellipse: s-maj=6.6km s-min=4.8km az=73.0*

NEIC Felt [IV PIVS] at Isulan; [III PIVS] at Columbio, Cotabato, Koronadal, Norala, Surallah, Tacurong and Upi; [II PIVS] at General Santos and Matalam. Also felt at Tupi.

GCMT ***13*** *12:42:38.1±0.2, 6.69°N×124.36°E, h22km±1km, MW5.0/69, Moment Tensor Solution. s23,c30; s69,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.05±.21; Mθθ2.44±.15; Mφφ-1.39±.16; Mrθ1.81±.25; Mrφ3.27±.12; Mθφ-0.27±.25; Best double couple: M=4.23400×10^16 NP1:φ=282.00000°, δ83.00000°, λ-28.00000°. NP2: φ=16.00000°, δ62.00000°, λ-172.00000°. Principal axes: T 4.6850, Plg14.0000°, Azm332.0000°; N -0.9010, Plg61.0000°, Azm90.0000°; P -3.7840, Plg25.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***13*** *12:42:38.3, 6.77°N×124.09°E, h5km, mB5.1/36, mb4.7/45, Ms4.7/35, Ms7 4.3/34*

KLM ***13*** *12:42:39.8, 6.70°N×124.40°E, h10km, mb5.2, MS6.1*

MOS ***13*** *12:42:39.5±1.8, 6.52°N×124.45°E, h33km, mb5.1/32, Error ellipse: s-maj=13.4km s-min=6.0km az=113.7*

DJA ***13*** *12:42:43.3±0.6, 6.7°N±7.2°×124.4°E±1.4°, h10km, M5.3/28, mb5.4/28, mB5.7/16, MLv5.7/9, Mw(mB)5.2/16*

ISC 13 12:42:39.1±0.4, 6.63N±0.03×124.39E±0.03, h14km±1km, n277, σ1$47/301, mb4.9/88, MS4.1/32, 29C-31D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
CTBH	**Cotabato--PC H**	0.61	346	⇑*i*P		Pg 12 42 49.1	-2.1
CTBH				*i* S		Sg 12 42 57.4	-1.8
GSPH	**General Santos**	0.77	134	⇓*i*P		Pn 12 42 55.9	+0.2
DMPH	**Davao City--Mi**	1.20	68	⇓*e*P		Pn 12 43 00.0	-1.4
DMPH				*e*S		Sg 12 43 19.3	+1.5
DAV	**Davao City (W)**	1.26	69	*e*Pn		Pn 12 43 01.7	-0.6
DAV				*e*S		Sg 12 43 20.9	+1.1
BUKP	**Musuan**	1.41	28	*e*P		Pn 12 43 03.0	-1.4
BUKP				*e*S		Sn 12 43 19.1	-3.8
PAGZ	**Pagadian**	1.57	320	*e*P		Pn 12 43 04.0	-2.7
CGP	**Cagayan de Oro**	1.84	9	⇑*i*P		Pn 12 43 10.2	-0.1
CGP				*i* S		Sn 12 43 34.0	+0.6
MATI	**Mati**	1.88	80	*e*P		Pn 12 43 09.3	-1.5
IPIL	**Ipil**	2.15	303	⇓*e*P		Pn 12 43 13.5	-1.0
IPIL				*i* S		Sn 12 43 39.7	-1.2
ZMPH	**Zamboanga City**	2.34	278	⇓*i*P		Pn 12 43 15.0	-2.1
ZMPH				*i* S		Sn 12 43 43.4	-2.2
BIPH	**Bislig**	2.49	51	⇑*e*P		Pn 12 43 18.8	-0.5
BIPH				*i* S		Sb 12 43 54.4	+0.1
SGSI	**Sangihe**	3.13	159	P		Pn 12 43 27.9	-0.2
SCPH	**Surigao**	3.32	19	⇑*e*P		Pn 12 43 32.7	+2.1
MSLP	**Maasin**	3.52	7	*e*P		Pn 12 43 36.2	+2.8
LLP	**Lapu-Lapu**	3.69	353	⇓*e*P		Pn 12 43 35.5	-0.4
LLP				*e*S		Sb 12 44 24.5	-4.4
GUIM	**Jordan**	4.36	336	*e*P		Pn 12 43 45.3	+0.4
PLP	**Palo**	4.55	7	⇓*e*P		Pn 12 43 47.2	-0.4
RCP	**Roxas**	5.17	342	⇑*e*P		Pn 12 43 58.0	+1.9
KMSI	**Cibinong** 1μm,0.8s,11μm10.0nm	6.03	184	P		Pn 12 44 06.9	-1.0
MYLDM	**Lahad Datu** 375nm,1.0s,4μm1.3nm	6.04	257	P		x 12 44 08.7	
MYLDM	**Lahad Datu**	6.04	257	*e*Pn		Pn 12 44 08.2	+0.2
MYLDM	**Lahad Datu**	6.04	257	⇑P		Pn 12 44 09.1	+1.0
GTOI	**Gorontalo** 920nm,0.7s,8μm3.5nm	6.11	193	P		Pn 12 44 06.4	-2.6
PPR	**Puerto Princes**	6.42	300	⇓*i*P		Pn 12 44 11.9	-1.4
TNTI	**Ternate** 768nm,0.7s,7μm2.4nm	6.53	153	P		Pn 12 44 16.5	+1.7
TNTI	**Ternate**	6.53	153	*e*Pn		Pn 12 44 15.3	+0.5
TNTI				*e*Sn		Sn 12 45 28.9	-0.2
MRSI	**Marisa** 400nm,0.7s,4μm2.6nm	6.58	202	P		Pn 12 44 14.0	-1.5
ENPP	**El Nido**	6.69	313	*e*P		Pn 12 44 15.9	-1.2
TSM	**Tawau**	6.89	251	⇑P		Pn 12 44 18.9	-1.0
SDKM	**Sandakan**	7.22	263	⇑P		Pn 12 44 22.9	-1.5
KDM	**Kudat**	7.51	273	⇑P		Pn 12 44 29.9	+1.5
LUWI	**Luwuk** 951nm,0.7s,10μm8.1nm	7.79	192	P		Pn 12 44 33.1	+1.0
LUWI	**Luwuk**	7.79	192	*e*Pn		Pn 12 44 32.5	+0.4
LUWI				*e*Sn		Sn 12 45 59.3	-0.8
LUWI	**Luwuk** baz=7.7,SNR=80	7.79	192	⇓P		Pn 12 44 32.7	+0.6
LBMI	**Labuha** 281nm,0.8s,3μm1.0nm	7.85	157	P		Pn 12 44 34.1	+1.1
APSI	**Ampana** 305nm,0.8s,3μm2.5nm	7.97	200	P		Pn 12 44 36.5	+1.9
KKM	**Kota Kinabalu** baz=8.1,SNR=3.5	8.15	266	⇓P		Pn 12 44 38.8	+1.6
KKM	**Kota Kinabalu**	8.15	266	⇑P		Pn 12 44 37.8	+0.6
TGY	**Tagaytay City** comp=Z,48nm,18.9s,baz=127,slow=44	8.17

MSAI	**Masohi**	**10.89**	**155**	P		**Pn**	**12 45 16.0**	**+1.3**
	38nm,0.8s								
BTM	**Bintulu**	**11.77**	**254**	⇑P		**Pn**	**12 45 26.0**	**-0.7**
MWPI	**Manokwari, Pap**	**12.21**	**128**	P		x	12 45 36.1		
	332nm,1.2s								
FAKI	**Fak Fak**	**12.30**	**140**	P		**Pn**	**12 45 35.4**	**+1.3**
	126nm,1.2s,1μm								
FAKI	**Fak Fak**	**12.30**	**140**	*e*Pn		**Pn**	**12 45 35.0**	**+0.9**
FAKI	**Fak Fak**	**12.30**	**140**	⇓P		**Pn**	**12 45 35.1**	**+1.1**
	baz=12,SNR=5.8								
SBUM	**Sibu**	**12.82**	**252**	P		x	12 45 41.3		
	37nm,1.3s								
SBUM	**Sibu**	**12.82**	**252**	*e*Pn		**Pn**	**12 45 41.2**	**+0.1**
SBUM	**Sibu**	**12.82**	**252**	⇓P		Pn	12 45 44.8	+3.6
KSM	**Kuching**	**14.95**	**251**	P		x	12 46 10.9		
	94nm,1.5s,1μm								
KSM	**Kuching**	**14.95**	**251**	*e*Pn		**Pn**	**12 46 10.8**	**+0.6**
KSM	**Kuching**	**14.95**	**251**	⇓P		**Pn**	**12 46 12.1**	**+1.9**
	baz=15,SNR=5.8								
KSM	**Kuching**	**14.95**	**251**	⇓P		**P**	**12 46 13.2**	**-2.6**
MMRI	**Maumere**	**15.31**	**188**	P		P	12 46 33.2	+13
SOEI	**Soe**	**16.27**	**180**	P		**P**	**12 46 29.6**	**-1.0**
	219nm,1.2s,3μm								
SOEI	**Soe**	**16.27**	**180**	*e*Pn		**Pn**	**12 46 26.3**	**-1.3**
SOEI				*e*PcP		PcP	12 51 15.1	-6.7
SOEI	**Soe**	**16.27**	**180**	⇑P		**P**	**12 46 29.4**	**-1.2**
	baz=16,SNR=4.9								
TPUB	**Ta-pu**	**16.97**	**348**	*e*P		**Pn**	**12 46 36.2**	**0.0**
	176nm,1.5s								
SSLB	**Suanglung**	**17.38**	**349**	*e*P		**P**	**12 46 42.8**	**+0.1**
	55nm,1.0s								
GENI	**Genyem**	**18.22**	**120**	P		**P**	**12 46 53.9**	**+1.9**
	259nm,0.9s,6μm								
GMJI	**Gumukmas**	**18.39**	**217**	P		**P**	**12 46 52.8**	**-1.1**
	134nm,1.5s								
JAY	**Jayapura**	**18.64**	**119**	⇓P		**P**	**12 46 56.5**	**-0.2**
	baz=19,SNR=6.2								
QIZ	**Qiongzhong**	**18.77**	**312**	P		**P**	**12 46 57.6**	**-0.5**
QIZ				S		**Sn**	**12 50 28.3**	**-0.2**
QIZ				pmax		pmax			
	comp=Z,46nm,1.7s								
QIZ				LR		LR			
	comp=N,630nm,18.2s								
QIZ				LR		LR			
	comp=E,200nm,14.2s								
QIZ				LR		LR			
	comp=Z,910nm,17.1s								
KRKI	**Karangkates**	**18.91**	**219**	P		x	12 47 04.9		
NGJI	**Ngawi**	**18.96**	**223**	P		**Pn**	**12 47 04.9**	**+4.0**
QZH	**Quanzhou**	**19.04**	**344**	P		**P**	**12 47 00.8**	**-0.1**
QZH				S		**Sn**	**12 50 32.8**	**-2.1**
QZH				LR		LR			
	comp=Z,1μm,17.0s								
TPI	**Tanjungpandan**	**19.14**	**241**	P		**Pn**	**12 47 04.4**	**+1.5**
	82nm,1.4s								
BJII	**Banjamegara**	**20.17**	**227**	P		x	12 47 14.2		
	164nm,1.3s								
MTN	**Manton Dam**	**20.47**	**161**	⇓P		Pn	12 47 17.7	-1.1
	baz=20,SNR=3.9								
KDU	**Kakadu**	**20.80**	**157**	⇑P		**P**	**12 47 18.9**	**-1.2**
	baz=21,SNR=21								
MYKOM	**Kota Tinggi**	**21.04**	**258**	⇓P		**P**	**12 47 25.0**	**+2.2**
KTGM	**Kuala Trenggan**	**21.18**	**268**	⇑P		**P**	**12 47 26.2**	**+1.9**
KGM	**Kluang**	**21.50**	**259**	⇑P		**P**	**12 47 29.5**	**+1.7**
CISI	**Cisompet, Garu**	**21.72**	**230**	P		**P**	**12 47 30.1**	**-0.1**
	135nm,1.2s,4μm								
CISI	**Cisompet, Garu**	**21.72**	**230**	*e*P		**P**	**12 47 29.6**	**-0.7**
	146nm,1.1s								
CBJI	**Citeko**	**21.78**	**234**	P		P	12 47 43.0	+12
DBJI	**Dramaga**	**21.94**	**234**	P		P	12 47 50.5	+18
KNRA	**Kununurra**	**22.58**	**169**	⇑P		**P**	**12 47 38.8**	**-0.4**
	baz=23,SNR=14								
KLI	**Kotabumi**	**22.60**	**240**	P		P	12 47 44.4	+4.9
MDSI	**Maura Dua**	**23.00**	**242**	P		**P**	**12 47 45.0**	**+1.2**
	41nm,1.2s								
IPM	**Ipoh**	**23.35**	**266**	*e*P		**P**	**12 47 46.1**	**-1.4**
	96nm,1.6s								
LWLI	**Liwa**	**23.36**	**241**	P		P	12 47 56.7	+9.1
KULM	**Kulim**	**23.65**	**268**	*e*P		**P**	**12 47 48.9**	**-1.5**
	138nm,1.4s								
KULM				*e*S		**S**	**12 52 04.7**	**-0.2**
KULM	**Kulim**	**23.65**	**268**	⇑P		**P**	**12 47 50.1**	**-0.3**
BKNI	**Bangkinang**	**24.12**	**256**	P		**P**	**12 47 56.5**	**+1.6**
BKNI	**Bangkinang**	**24.12**	**256**	*e*P		**P**	**12 47 55.0**	**+0.2**
	122nm,1.0s								
BKNI	**Bangkinang**	**24.12**	**256**	⇓P		**P**	**12 47 55.0**	**+0.2**
	baz=24								
SLVN	**Son La**	**24.63**	**308**	*e*P		**P**	**12 47 59.3**	**-0.1**
	22nm,1.0s								
XMIS	**Christmas Isla**	**25.24**	**228**	*e*P		**P**	**12 48 04.2**	**-0.7**
	576nm,1.1s								
XMIS	**Christmas Isla**	**25.24**	**228**	⇑P		**P**	**12 48 04.9**	**0.0**
	baz=25,SNR=3.3								
WHN	**Wuhan**	**25.59**	**340**	P		**P**	**12 48 08.6**	**+0.6**
WHN				S		**S**	**12 52 36.3**	**+0.7**
WHN				LR		LR			
	comp=Z,1μm,15.3s								
PSI	**Prapat**	**25.66**	**263**	P		**P**	**12 48 08.1**	**-0.9**
PSI	**Prapat**	**25.66**	**263**	P		**P**	**12 48 08.1**	**-0.9**
	41nm,1.1s,baz=64,slow=2.3,SNR=13								
PSI	**Prapat**	**25.66**	**263**	⇑P		**P**	**12 48 08.7**	**-0.2**
	baz=26,SNR=11								
NJ2	**Nanjing**	**25.82**	**349**	*e*P		**P**	**12 48 11.0**	**+1.0**
NJ2				pP		**pP**	**12 48 14.1**	**-0.3**
NJ2				sP		**sP**	**12 48 15.3**	**-0.8**
NJ2				S		**S**	**12 52 40.5**	**+1.3**
NJ2				sS		**sS**	**12 52 48.0**	**+1.7**
NJ2				pmax		pmax			
	comp=Z,40nm,1.3s								
NJ2				LR		LR			
	comp=N,2μm,26.1s								
NJ2				LR		LR			
	comp=E,1μm,24.0s								
NJ2				LR		LR			
	comp=Z,530nm,21.4s								
GYA	**Guiyang**	**25.97**	**321**	P		**P**	**12 48 12.8**	**+1.2**
GYA				PP		**PnPn**	**12 48 54.3**	**+4.9**
GYA				S		**S**	**12 52 41.8**	**-0.1**
GYA				ScP		**ScP**	**12 55 20.8**	**+1.2**
GYA				pmax		pmax			
	comp=Z,30nm,0.8s								
GYA				pmax		pmax			
	comp=Z,130nm,5.0s								
GYA				LR		LR			
	comp=N,770nm,14.5s								
GYA				LR		LR			
	comp=E,650nm,15.4s								
GYA				LR		LR			
	comp=Z,680nm,14.8s								
JCJ	**Chichijima**	**26.47**	**38**	LR		LR	12 58 46.8		
	comp=Z,189nm,20.4s,baz=68,slow=37								
JNU	**Nakatsue**	**27.04**	**12**	LR		LR	12 57 50.1		
	comp=Z,199nm,21.3s,baz=204,slow=34								
GSI	**Gunungsitoli**	**27.26**	**260**	*e*P		**P**	**12 48 22.4**	**-1.0**
	83nm,0.9s								
GSI	**Gunungsitoli**	**27.26**	**260**	⇑P		**P**	**12 48 22.3**	**-1.0**
	baz=27								
ENH	**Enshi**	**27.38**	**331**	*e*P		**P**	**12 48 23.7**	**-0.5**
	13nm,0.9s								
CMAR	**Chiang Mai Arr**	**27.44**	**298**	P		**P**	**12 48 25.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**27.44**	**298**	P		**P**	**12 48 25.9**	**+1.1**
	1.3nm,0.7s,baz=120,slow=6.8,SNR=9.9								
CMAR				LR		LR	13 01 02.2		
	comp=Z,258nm,18.7s,baz=115,slow=40								
CHTO	**Chiang Mai**	**27.57**	**298**	*e*P		**P**	**12 48 25.9**	**-0.1**
CHTO				pmax		pmax			
	comp=Z,3.0nm,1.2s								
CHTO	**Chiang Mai**	**27.57**	**298**	*e*P		**P**	**12 48 25.9**	**-0.1**
	comp=Z,2.6nm,1.2s								
COEN	**Coen**	**27.67**	**138**	*e*P		**P**	**12 48 25.7**	**-1.2**
	comp=Z,772nm,1.6s								
KMI	**Kunming**	**27.70**	**314**	P		**P**	**12 48 27.5**	**+0.1**
KMI				S		**S**	**12 53 13.8**	**+4.2**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.6s								
KMI				pmax		pmax			
	comp=Z,170nm,3.9s								
KMI				LR		LR			
	comp=Z,390nm,17.8s								
KMI				LR		LR			
	comp=Z,350nm,13.5s								
KMI				LR		LR			
	comp=Z,360nm,17.8s								
PMG	**Port Moresby**	**27.72**	**125**	P		**P**	**12 48 23.5**	**-3.8**
PMG	**Port Moresby**	**27.72**	**125**	P		**P**	**12 48 23.5**	**-3.8**
	comp=Z,9.6nm,0.8s,baz=279,slow=8.4,SNR=3.2								
WRAB	**Tennant Creek**	**28.15**	**160**	P		**P**	**12 48 31.9**	**+0.7**
	comp=Z,113nm,0.7s,SNR=5.8								
WRAB	**Tennant Creek**	**28.15**	**160**	⇓*e*P		**P**	**12 48 33.0**	**+1.8**
WRAB				pmax		pmax			
	comp=Z,31nm,1.2s								
WRAB	**Tennant Creek**	**28.15**	**160**	*e*P		**P**	**12 48 30.6**	**-0.6**
	comp=Z,38nm,0.9s								
WRA	**Warramunga Arr**	**28.16**	**160**	P		**P**	**12 48 28.7**	**-2.5**
WRA	**Warramunga Arr**	**28.16**	**160**	P		**P**	**12 48 28.7**	**-2.5**
	comp=Z,1.3nm,0.8s,baz=333,slow=10,SNR=7.2								
KSAR	**Wonju Array Be**	**30.84**	**5**	P		**P**	**12 48 54.5**	**-0.2**
KSRS	**Korea Array**	**30.86**	**5**	P		**P**	**12 48 54.5**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=180,slow=9.8,SNR=6.0								
QIS	**Mount Isa**	**30.88**	**151**	⇑P		**P**	**12 48 57.2**	**+1.9**
	baz=31,SNR=5.3								
CD2	**Chengdu**	**30.95**	**324**	P		**P**	**12 48 55.6**	**-0.3**
CD2				pP		**pP**	**12 49 00.3**	**0.0**
CD2				sP		**sP**	**12 49 02.9**	**+0.8**
CD2				PP		**PnPn**	**12 49 57.3**	**+0.5**
CD2				PcP		**PcP**	**12 51 51.8**	**-0.5**
CD2				S		**S**	**12 53 59.3**	**-0.8**
CD2				ScS		**ScS**	**12 59 29.0**	**-2.9**
CD2				pmax		pmax			
	comp=Z,30nm,0.9s								
CD2				pmax		pmax			
	comp=Z,110nm,4.8s								
CD2				LR		LR			
	comp=Z,950nm,16.7s								
CD2				LR		LR			
	comp=Z,590nm,17.8s								
CD2				LR		LR			
	comp=Z,510nm,15.5s								
AS31	**Alice Springs**	**31.51**	**163**	*e*P		**P**	**12 48 58.5**	**-2.4**
ASAR	**Alice Springs**	**31.51**	**163**	P		**P**	**12 48 58.8**	**-2.1**
ASAR	**Alice Springs**	**31.51**	**163**	P		**P**	**12 48 58.8**	**-2.1**
	comp=Z,1.4nm,0.6s,baz=340,slow=7.2,SNR=28								
ASAR				LR		LR	13 03 42.8		
	comp=Z,134nm,20.3s,baz=18,slow=40								
WRKA	**Warakurna**	**31.70**	**173**	⇑P		**P**	**12 49 04.0**	**+1.4**
	baz=32,SNR=9.7								
MJAR	**Matsushiro Arr**	**32.35**	**21**	P		**P**	**12 49 05.3**	**-2.8**
MJAR	**Matsushiro Arr**	**32.35**	**21**	P		**P**	**12 49 05.3**	**-2.8**
	comp=Z,4.2nm,1.0s,baz=194,slow=9.6,SNR=5.3								
MJAR				LR		LR	13 01 33.1		
	comp=Z,439nm,20.4s,baz=200,slow=35								
MEEK	**Meekatharra**	**33.54**	**189**	⇓P		**P**	**12 49 17.3**	**-1.3**
	baz=34								
BJT	**Baijiatuau**	**34.06**	**349**	*e*P		**P**	**12 49 22.6**	**-0.3**
	comp=Z,58nm,1.1s								
BJI	**Beijing**	**34.08**	**349**	P		**P**	**12 49 22.6**	**-0.5**
BJI				S		**S**	**12 54 53.8**	**+5.3**
BJI				pmax		pmax			
	comp=Z,16nm,1.4s								
BJI				LR		LR			
	comp=Z,250nm,19.8s								
BJI				LR		LR			
	comp=Z,530nm,22.0s								
CTA	**Charters Tower**	**34.16**	**141**	P		P	12 49 19.7	-4.5
CTA	**Charters Tower**	**34.16**	**141**	P		P	12 49 19.7	-4.5
	comp=Z,1.3nm,0.3s,baz=330,slow=9.7,SNR=1.6								
CTA	**Charters Tower**	**34.16**	**141**	⇓P		**P**	**12 49 23.5**	**-0.7**
	baz=34								
LZH	**Lanzhou**	**34.85**	**330**	*e*P		**P**	**12 49 30.8**	**+0.7**
LZH				pP		**pP**	**12 49 34.1**	**-0.4**
LZH				sP		**sP**	**12 49 35.5**	**-0.8**
LZH				PP		**PP**	**12 50 49.0**	**-0.2**
LZH				*e*S		**S**	**12 55 00.3**	**-0.6**
LZH				sS		**sS**	**12 55 07.9**	**-0.2**
LZH				pmax		pmax			
	comp=Z,45nm,1.1s								
LZH				pmax		pmax			
	comp=Z,170nm,4.3s								
LZH				LR		LR			
	comp=Z,650nm,13.3s								
LZH				LR		LR			
	comp=Z,570nm,14.0s								
LZH				LR		LR			
	comp=Z,910nm,16.0s								
HHC	**Hu-ho-hao-te**	**35.96**	**343**	*e*P		**P**	**12 49 39.8**	**+0.3**
HHC				sP		**sP**	**12 49 45.6**	**-0.1**
HHC				PP		**PnPn**	**12 51 00.4**	**+0.2**
HHC				S		**S**	**12 55 20.4**	**+2.7**
HHC				sS		**sS**	**12 55 25.3**	**+0.4**
HHC				SS		**SnSn**	**12 57 39.9**	**-1.9**
HHC				pmax		pmax			
	comp=Z,34nm,0.9s								
HHC				pmax		pmax			
	comp=Z,250nm,5.7s								
HHC				LR		LR			
	comp=Z,590nm,15.3s								
HHC				LR		LR			
	comp=Z,450nm,15.9s								
HHC				LR		LR			
	comp=Z,570nm,15.1s								
SHL	**Shillong**	**36.31**	**305**	*e*P		**P**	**12 49 45.0**	**+2.2**
MORW	**Morawa**	**36.39**	**192**	⇓P		**P**	**12 49 43.8**	**+0.6**
	baz=36,SNR=4.1								
VLA	**Vladivostok**	**36.94**	**9**	⇓*e*P		**P**	**12 49 49.0**	**+1.3**
VLA				pmax		pmax			
	comp=Z,11nm,1.1s								
CN2	**Changchun**	**37.04**	**1**	*e*P		P	12 49 53.4	+4.8
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
FORT	**Forrest**	**37.36**	**175**	*e*P		**P**	**12 49 52.1**	**+0.7**
	comp=Z,32nm,0.7s								
FORT	**Forrest**	**37.36**	**175**	⇑P		**P**	**12 49 52.7**	**+1.3**
	baz=37,SNR=9.3								
USRK	**Ussuriysk Arra**	**38.01**	**9**	P		**P**	**12 49 56.3**	**-0.5**
	comp=Z,12nm,1.1s,baz=190,slow=7.6,SNR=11								
USRK				LR		LR	13 04 57.7		
	comp=Z,149nm,21.6s,baz=174,slow=35								
MDJ	**Mudanjiang**	**38.11**	**6**	P		**P**	**12 49 59.1**	**+1.4**
MDJ				pP		**pP**	**12 50 02.3**	**+0.2**
MDJ				sP		**sP**	**12 50 03.6**	**-0.2**
MDJ				PcP		**PcP**	**12 52 13.1**	**+0.6**
MDJ				S		**S**	**12 55 53.8**	**+3.6**
MDJ				ScP		**ScP**	**12 56 00.9**	**+0.8**
MDJ				PcS		**PcS**	**12 56 02.3**	**+1.0**
MDJ				ScS		**ScS**	**13 00 10.8**	**+1.5**
MDJ				pmax		pmax			
	comp=Z,13nm,2.2s								
MDJ				pmax		pmax			
	comp=Z,170nm,4.7s								
MDJ				LR		LR			
	comp=Z,67nm,39.9s								
MDJ				LR		LR			
	comp=Z,450nm,30.8s								
MDJ	**Mudanjiang**	**38.11**	**6**	*e*P		**P**	**12 49 59.2**	**+1.6**
	comp=Z,26nm,1.1s								
QLP	**Quilpie**	**38.21**	**151**	⇓P		**P**	**12 49 59.5**	**+0.8**
	baz=38,SNR=4.9								
LSA	**Lhasa**	**38.80**	**310**	*e*P		**P**	**12 50 04.3**	**+0.1**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
LSA	**Lhasa**	**38.80**	**310**	*e*P		**P**	**12 50 04.2**	**+0.1**
	comp=Z,6.9nm,0.7s								
HNR	**Honiara**	**38.85**	**114**	LR		LR	13 05 25.4		
	comp=Z,97nm,20.5s,baz=302,slow=35								
GTA	**Gaotai**	**39.44**	**330**	*e*P		**P**	**12 50 09.3**	**+0.3**
GTA				pP		**pP**	**12 50 13.8**	**+0.4**
GTA				sP		**sP**	**12 50 16.4**	**+1.2**
GTA				PP		**PnPn**	**12 51 44.8**	**+2.3**
GTA				PcP		**PcP**	**12 52 18.3**	**+1.3**
GTA				S		**S**	**12 56 11.4**	**+0.8**
GTA				sS		**sS**	**12 56 18.8**	**+0.9**
GTA				ScS		**ScS**	**13 00 17.9**	**+0.3**
GTA				pmax		pmax			
	comp=Z,14nm,1.1s								
GTA				pmax		pmax			
	comp=Z,110nm,4.3s								
GTA				LR		LR			
	comp=Z,220nm,17.6s								
GTA				LR		LR			
	comp=Z,270nm,16.9s								
GTA				LR		LR			
	comp=Z,400nm,16.4s								
NWAO	**Narrogin (SRO)**	**39.92**	**189**	P		**P**	**12 50 10.2**	**-2.7**
NWAO	**Narrogin (SRO)**	**39.92**	**189**	P		**P**	**12 50 10.2**	**-2.7**
	comp=Z,4.1nm,0.8s,baz=7.9,slow=9.2,SNR=2.5								
TAPN	**Taplejung**	**40.45**	**305**	*e*P		**P**	**12 50 19.3**	**+1.5**
	comp=Z,68nm,1.2s								
ODAN	**Odare**	**40.52**	**304**	*e*P		**P**	**12 50 18.6**	**+0.3**
	comp=Z,42nm,1.1s								
ASAJ	**Asahikawa**	**40.60**	**20**	LR		LR	13 05 25.1		
	comp=Z,158nm,21.4s,baz=212,slow=34								
BBOO	**Buckleboo**	**40.76**	**165**	*e*P		**P**	**12 50 18.4**	**-1.4**
	comp=Z,442nm,0.7s								
EIDS	**Eidsvold**	**41.05**	**142**	*e*P		**P**	**12 50 23.2**	**+0.8**
	comp=Z,28nm,1.4s								
RAMN	**Ramite**	**41.20**	**304**	*e*P		**P**	**12 50 24.3**	**+0.3**
	comp=Z,66nm,1.2s								
STKA	**Stephens Creek**	**41.66**	**158**	*e*P		**P**	**12 50 27.3**	**0.0**
STKA	**Stephens Creek**	**41.66**	**158**	P		**P**	**12 50 25.2**	**-2.1**
	comp=Z,10nm,0.7s,baz=301,slow=5.0,SNR=9.4								
STKA	**Stephens Creek**	**41.66**	**158**	⇓P		**P**	**12 50 25.9**	**-1.3**
	baz=42,SNR=7.0								
JIRN	**Jiri**	**41.81**	**305**	*e*P		**P**	**12 50 29.5**	**+0.4**
	comp=Z,65nm,1.0s								
HTT	**Hallett**	**42.16**	**162**	⇓P		**P**	**12 50 32.8**	**+1.4**
	baz=42,SNR=16								
GUN	**Gumba**	**42.16**	**305**	*e*P		**P**	**12 50 32.4**	**+0.5**
	comp=Z,100nm,0.8s								
PKI	**Pulchoki**	**42.42**	**304**	*e*P		**P**	**12 50 35.1**	**+1.1**
	comp=Z,29nm,0.9s								
PKIN	**Phulchoki**	**42.43**	**304**	*e*P		**P**	**12 50 35.3**	**+1.3**
	comp=Z,31nm,1.3s								
KKN	**Kakani**	**42.60**	**304**	*e*P		**P**	**12 50 36.5**	**+1.1**
	comp=Z,37nm,1.0s								
HIA	**Hailar**	**42.68**	**356**	*e*P		**P**	**12 50 35.5**	**+0.1**
	comp=Z,31nm,1.3s								
DMN	**Daman**	**42.68**	**304**	*e*P		**P**	**12 50 36.8**	**+0.7**
	comp=Z,42nm,1.0s								
KLR	**Kul'dur**	**42.91**	**7**	*e*P		**P**	**12 50 36.0**	**-1.3**
KLR				pmax		pmax			
	comp=Z,56nm,1.8s								
GKN	**Gorkha**	**43.21**	**304**	*e*P		**P**	**12 50 40.2**	**-0.1**
	comp=Z,32nm,1.0s								
ULN	**Ulaanbaatar**	**43.68**	**343**	*e*P		**P**	**12 50 43.6**	**-0.1**
	comp=Z,70nm,1.8s								
SONM	**Songino Array**	**43.84**	**343**	P		**P**	**12 50 44.1**	**-0.9**
SONM	**Songino Array**	**43.84**	**343**	P		**P**	**12 50 44.1**	**-0.9**
	comp=Z,6.6nm,1.1s,baz=156,slow=6.5,SNR=18								
SONM				LR		LR	13 12 10.1		
	comp=Z,222nm,18.1s,baz=192,slow=40								
KOLN	**Koldanda**	**43.98**	**304**	*e*P		**P**	**12 50 46.4**	**-0.1**
	comp=Z,67nm,1.0s								
DANN	**Dangsing**	**44.06**	**304**	*e*P		**P**	**12 50 47.0**	**-0.3**
	comp=Z,53nm,1.0s								
ARMA	**Armidale**	**45.15**	**146**	*e*P		**P**	**12 50 57.2**	**+1.5**
	comp=Z,14nm,0.8s								
ARMA	**Armidale**	**45.15**	**146**	⇓P		**P**	**12 50 57.1**	**+1.5**
	baz=45,SNR=6.3								
HYB	**Hyderabad**	**45.99**	**288**	*i* P		**P**	**12 51 01.0**	**-1.4**
ARPS	**Mount Arapiles**	**46.16**	**161**	⇑P		**P**	**12 51 05.3**	**+1.9**
	baz=46,SNR=7.1								
ZAK	**Zakamensk**	**47.05**	**342**	*e*P		**P**	**12 51 09.6**	**-0.8**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.5s								
CAN	**Canberra**	**47.73**	**153**	*e*P		**P**	**12 51 16.1**	**+0.3**
CAN				pmax		pmax			
	comp=Z,13nm,0.7s								
CAN	**Canberra**	**47.73**	**153**	*e*P		**P**	**12 51 16.1**	**+0.3**
	comp=Z,13nm,0.7s								
TLY	**Talaya**	**48.08**	**343**	*e*P		**P**	**12 51 18.9**	**+0.7**
TLY				pmax		pmax			
	comp=Z,11nm,0.8s								
TLY				MLR		MLR			
	comp=Z,130nm,15.0s								
TLY	**Talaya**	**48.08**	**343**	*e*P		**P**	**12 51 18.2**	**0.0**
	comp=Z,12nm,0.9s								
IRK	**Irkutsk**	**48.40**	**344**	*e*P		P	12 51 25.7	+5.0
IRK				*e*			12 53 14.9		
IRK				pmax		pmax			
	comp=Z,35nm,2.3s								
MOY	**Mondy**	**48.89**	**341**	*e*P		P	12 51 28.4	+3.8
WMQ	**Urumqi**	**49.03**	**325**	P		**P**	**12 51 26.1**	**+0.3**
WMQ				pP		**pP**	**12 51 30.6**	**+0.3**
WMQ				sP		**sP**	**12 51 33.1**	**+1.1**
WMQ				PcP		**PcP**	**12 52 50.3**	**+0.7**
WMQ				PP		**PP**	**12 53 19.8**	**+0.4**
WMQ				S		**S**	**12 58 29.0**	**-1.1**
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.4s								
WMQ				LR		LR			
	comp=Z,230nm,23.3s								
WMQ				LR		LR			
	comp=Z,170nm,24.4s								
CLNS	**Chul'man**	**50.08**	**0**	*e*P		P	12 51 37.3	+3.8
CLNS				pmax		pmax			
	comp=N,4.0nm,0.9s								
CLNS				pmax		pmax			
	comp=E,3.0nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,15nm,1.1s								
DZM	**Mont Dzumac**	**50.10**	**126**	P		**P**	**12 51 31.9**	**-2.4**
DZM	**Mont Dzumac**	**50.10**	**126**	P		**P**	**12 51 31.9**	**-2.4**
	comp=Z,15nm,1.1s,baz=298,slow=14								
HVS	**Khovu-Aksy**	**51.16**	**336**	⇓*i*P		**P**	**12 51 42.1**	**+0.3**
HVS				pmax		pmax			
	comp=Z,26nm,1.0s								
PETK	**Petropavlovsk-**	**53.70**	**24**	P		**P**	**12 52 01.4**	**+0.9**
PETK	**Petropavlovsk-**	**53.70**	**24**	P		**P**	**12 52 01.4**	**+0.9**
PETK	**Petropavlovsk-**	**53.70**	**24**	P		**P**	**12 52 01.4**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=203,slow=7.1,SNR=11								
PETK				LR		LR	13 13 56.8		
	comp=Z,144nm,20.6s,baz=221,slow=35								
MK31	**Makanchi Array**	**53.87**	**325**	*e*P		**P**	**12 52 02.0**	**+0.1**
MK31	**Makanchi Array**	**53.87**	**325**	*e*P		**P**	**12 52 02.0**	**+0.1**
MKAR	**Makanchi Array**	**53.87**	**325**	*ce*P		**P**	**12 52 01.7**	**-0.2**
MKAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MKAR	**Makanchi

comp=Z,3.4nm,0.9s,baz=115,slow=7.0,SNR=9.2
ZALV LR LR 13 19 47.1
comp=Z,142nm,18.5s,baz=76,slow=39
EKS2 Erkin-Say 57.16 317 *eP* **P** 12 52 29.4 +3.6
EKS2 Erkin-Say 57.16 317 *eP* **P** 12 52 29.4 +3.6
KBL Kabul 57.93 307 *eP* **P** **12 52 33.6 +2.1**
KBL pmax pmax
comp=Z,31nm,1.5s
KBL Kabul 57.93 307 *eP* **P** **12 52 33.5 +2.1**
comp=Z,31nm,1.5s
KURBB Kurchatov Arra 58.06 327 P **P** **12 52 31.0 -0.8**
comp=Z,4.0nm,0.7s,baz=124,slow=6.7,SNR=26
KURK Kurchatov 58.06 328 P **P** **12 52 31.4 -0.4**
comp=Z,84nm,1.0s,SNR=8.0
KURK Kurchatov 58.06 328⇓ *iP* **P** **12 52 31.6 -0.2**
KURK pmax pmax
comp=Z,14nm,1.5s
KURK Kurchatov 58.06 328 *eP* **P** **12 52 31.4 -0.4**
NVS Novosibirsk 58.26 333 *eP* **P** **12 52 30.0 -3.1**
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS pmax pmax
comp=Z,23nm,1.4s
KKAR Karatay Array 59.54 317 *eP* **P** **12 52 42.6 +0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 59.54 317 *eP* **P** **12 52 42.6 +0.3**
comp=Z,2.3nm,0.4s
SEY Seymchan 59.79 14⇑ *iP* **P** **12 52 44.3 +0.7**
FX1 Attu Island--F 60.79 31 LR LR 13 16 28.8
comp=Z,51nm,19.7s,baz=230,slow=33
BVAR Borovoye Array 63.64 327 P **P** **12 53 09.9 +0.1**
BVAR Borovoye Array 63.64 327 P **P** **12 53 09.9 +0.1**
BVAR Borovoye Array 63.64 327 P **P** **12 53 09.9 +0.1**
comp=Z,13nm,1.0s,baz=125,slow=7.8,SNR=18
BRVK Borovoye 63.71 327 P **P** **12 53 10.4 +0.2**
comp=Z,143nm,1.2s,SNR=7.2
BRVK Borovoye 63.71 327 *eP* **P** **12 53 10.5 +0.2**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 63.71 327 *eP* **P** **12 53 10.5 +0.2**
comp=Z,35nm,1.2s
TIXI Tiksi 65.01 2⇑ *iP* **P** **12 53 20.1 +1.7**
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 65.01 2 *eP* **P** **12 53 16.8 -1.6**
comp=Z,17nm,1.3s
BKZ Black Stump Fm 66.28 138 *eP* P 12 53 31.2 +4.0
comp=Z,26nm,0.8s
ABKAR Akbulak array 68.45 321 *eP* **P** **12 53 39.6 -1.1**
SVE Sverdlovsk 70.29 328 *eP* **P** **12 53 51.5 -0.5**
SVE pmax pmax
comp=Z,32nm,1.5s
ARU Arti 71.26 328 *iP* **P** **12 53 57.5 -0.4**
ARU 12 56 33.5
ARU S **S** **13 03 15.2 +0.3**
ARU pmax pmax
comp=Z,24nm,1.7s
ARU Arti 71.26 328 *eP* **P** **12 53 56.9 -1.0**
comp=Z,47nm,1.6s
GAMB Gambell 72.73 25 *eP* P 12 54 11.1 +4.6
comp=Z,7.4nm,1.0s
ZEI Tsey 78.56 312 *eP* **P** **12 54 39.0 -1.7**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
GOF Gofitskoye 79.24 314 *eP* **P** **12 54 47.1 +3.0**
KBZ Khabaz 79.31 313 P **P** **12 54 43.7 -0.8**
KBZ Khabaz 79.31 313 P **P** **12 54 43.7 -0.8**
KBZ Khabaz 79.31 313 P **P** **12 54 43.7 -0.8**
comp=Z,1.7nm,1.0s,baz=207,slow=2.3,SNR=4.0
VRHR Novokhopersk 80.34 321 *eP* **P** **12 54 49.5 -0.4**
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,4.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
IM04 Indian Mountai 80.65 24 *eP* **P** **12 54 51.6 +0.2**
KLMR Klimovskoe 81.76 330 *eP* **P** **12 54 55.6 -1.7**
KLMR pmax pmax
comp=Z,35nm,1.5s
VORD Divnogorie 81.81 320 *eP* **P** **12 54 55.4 -2.3**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,6.0nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 81.89 321 *eP* **P** **12 54 55.9 -2.3**
VSR pmax pmax
comp=N,4.0nm,1.0s
VSR pmax pmax
comp=E,5.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
TRF Thorofare Moun 82.02 27 *eP* **P** **12 54 58.6 -0.2**
comp=Z,16nm,1.0s
COLD Coldfoot 82.15 23 P **P** **12 54 59.2 -0.1**
comp=Z,2.6nm,0.4s
SEW Seward 82.38 30 *eP* **P** **12 54 59.9 -0.7**
MCK McKinley 82.63 27 P P 12 54 55.1 -6.8
MCK pmax pmax
comp=Z,23nm,1.2s
MCK McKinley 82.63 27 P P 12 54 55.1 -6.8
comp=Z,23nm,1.2s
COLA College 83.09 25⇑ *iP* **P** **12 55 06.9 +2.8**
COLA pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 83.37 325⇓ *eP* **P** **12 55 07.3 +1.5**
OBN pmax pmax
comp=Z,18nm,1.9s
OBN MLR MLR
comp=Z,100nm,15.0s
ILAR Eielson Array 83.51 26 P **P** **12 55 06.1 -0.2**
ILAR Eielson Array 83.51 26 P **P** **12 55 06.1 -0.2**
comp=Z,2.3nm,1.1s,baz=260,slow=5.2,SNR=3.4
ILAR LR LR 13 30 40.0
comp=Z,52nm,21.8s,baz=270,slow=34
EGAK Eagle 85.95 25 P **P** **12 55 20.2 +1.5**
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 86.39 309 P **P** **12 55 23.5 +1.9**
BRTR Keskin Array B 86.39 309 P **P** **12 55 23.5 +1.9**
comp=Z,1.1nm,0.9s,baz=141,slow=4.8,SNR=4.3
BRTR LR LR 13 39 07.0
comp=Z,31nm,18.5s,baz=102,slow=39
VNDA Vanda 86.58 172 P **P** **12 55 23.1 +1.7**
VNDA Vanda 86.58 172 P **P** **12 55 23.1 +1.7**
comp=Z,1.7nm,1.0s,baz=317,slow=5.5,SNR=2.6
ARCES ARCESS Array B 86.94 340 LR LR 13 39 16.0
comp=Z,78nm,18.9s,baz=42,slow=39
AKASG Malin Array Be 88.19 321 P **P** **12 55 27.4 -2.4**
AKASG Malin Array Be 88.19 321 P **P** **12 55 27.4 -2.4**
AKASG Malin Array Be 88.19 321 P **P** **12 55 27.4 -2.4**
comp=Z,0.1nm,0.2s,baz=69,slow=3.7,SNR=7.1
AKASG LR LR 13 39 55.4
comp=Z,81nm,18.0s,baz=290,slow=39
FINES FINESS Array B 88.20 332 P **P** **12 55 27.6 -2.0**
FINES FINESS Array B 88.20 332 P **P** **12 55 27.6 -2.0**
comp=Z,1.0nm,0.8s,baz=60,slow=8.2,SNR=2.8
NOA NORSAR Array B 95.17 333 LR LR 13 42 28.3
comp=Z,150nm,21.2s,baz=80,slow=38
YKA Yellowknife Ar 97.82 24 P **P** **12 56 12.9 -1.0**
YKA Yellowknife Ar 97.82 24 P **P** **12 56 12.9 -1.0**
comp=Z,0.4nm,0.8s,baz=294,slow=4.5,SNR=2.7
TORD Torodi Ar. Bea 119.79 289 PKP **PKPdf** **13 01 28.7 -1.3**
TORD Torodi Ar. Bea 119.79 289 PKP **PKPdf** **13 01 28.7 -1.3**
comp=Z,0.7nm,0.7s,baz=69,slow=0.4,SNR=3.7

MEX 13 12:51:57.4±0.5, 16.45N×96.22W, h4km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.68**	**171**	*eP*		Pg	12 52 09.6	-1.0
HUIG				*i* S		Sg	12 52 19.4	-0.1
VHO	**Vista Hermosa**	**0.80**	**322**	*i* P		Pg	12 52 11.4	-1.6
VHO				*eS*		Sg	12 52 22.3	-1.2
PCIG		**2.97**	**104**	*i* P		Pn	12 52 42.0	-3.3
PCIG				*i* S		Sn	12 53 17.9	-3.6

IDC ***13*** *12:53:24.0±0.8, 9.15S×157.99E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML3.4/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/26, Error ellipse: s-maj=23.6km s-min=18.0km az=135.0*
ISCJB ***13*** *12:53:25.7±0.5, 9.16S±0.09×157.99E±0.06, h23km, mb4.0/12, MS3.5/7, Error ellipse: s-maj=13.6km s-min=8.2km az=11.2*

ISC 13 12:53:27.4±0.7, 9.2S±0.1×158.10E±0.08, h23km, n28, σ1°06/16, mb4.1/12, MS3.5/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**98**	Pn		**Pn**	**12 53 57.5**	**-0.2**
	59nm,0.3s,baz=216,slow=5.0,SNR=17							
HNR				Lg		Lg	12 54 38.4	
	232nm,0.3s,baz=240,slow=20,SNR=4.4							
HNR				LR		LR	12 54 41.1	
	comp=Z,334nm,19.6s,baz=282,slow=40							
HNR	**Honiara**	**1.84**	**98**	*eP*		**Pn**	**12 53 57.0**	**-0.6**
HNR				*i* S		**Sb**	**12 54 22.0**	**-1.0**
DZM	**Mont Dzumac**	**15.12**	**149**	Pn		**Pn**	**12 57 00.9**	**+1.1**
	0.2nm,0.3s,baz=356,slow=17,SNR=4.1							
WRA	**Warramunga Arr**	**25.33**	**242**	P		**P**	**12 58 51.9**	**-1.0**
	4.2nm,0.7s,baz=68,slow=9.4,SNR=24							
ASAR	**Alice Springs**	**27.25**	**235**	P		**P**	**12 59 08.7**	**-1.6**
	1.5nm,0.8s,baz=66,slow=9.2,SNR=13							
STKA	**Stephens Creek**	**27.30**	**212**	P		**P**	**12 59 11.0**	**+0.5**
	2.7nm,0.7s,baz=27,slow=11,SNR=7.0							
H11S3	**WAKE ISLAND Hy**	**28.77**	**17**	T		T	13 28 01.9	
	baz=199,slow=77,SNR=8.5							
H11S2	**WAKE ISLAND Hy**	**28.77**	**17**	T		T	13 27 53.5	
	baz=199,slow=77,SNR=9.8							
H11S1	**WAKE ISLAND Hy**	**28.79**	**17**	T		T	13 28 03.1	
	baz=199,slow=77,SNR=5.6							
H11N1	**WAKE ISLAND Hy**	**29.98**	**17**	T		T	13 29 49.4	
	baz=197							
H11N3	**WAKE ISLAND Hy**	**29.99**	**17**	T		T	13 29 53.9	
	baz=197							
H11N2	**WAKE ISLAND Hy**	**30.00**	**17**	T		T	13 29 46.0	
	baz=197							
URZ	**Urewera**	**33.64**	**152**	LR		LR	13 12 01.0	
	comp=Z,120nm,18.8s,baz=318,slow=33							
MJAR	**Matsushiro Arr**	**49.17**	**339**	LR		LR	13 20 28.0	
	comp=Z,30nm,21.6s,baz=65,slow=33							
JNU	**Nakatsue**	**49.41**	**330**	LR		LR	13 21 34.0	
	comp=Z,31nm,19.3s,baz=176,slow=34							
KSRS	**Korea Array**	**54.31**	**330**	LR		LR	13 22 45.7	
	comp=Z,19nm,21.8s,baz=200,slow=32							
ASAJ	**Asahikawa**	**54.87**	**346**	LR		LR	13 25 01.1	
	comp=Z,46nm,20.4s,baz=186,slow=35							
USRK	**Ussuriysk Arra**	**58.15**	**338**	P				
	0.9nm,0.5s,baz=108,slow=4.7,SNR=2.6							
PETK	**Petropavlovsk-**	**62.04**	**360**	P		**P**	**13 03 46.0**	**+0.1**
	5.7nm,0.9s,baz=169,slow=7.1,SNR=14							
FX1	**Attu Island--F**	**63.14**	**10**	LR		LR	13 26 07.7	
	comp=Z,46nm,20.8s,baz=179,slow=31							
CMAR	**Chiang Mai Arr**	**64.49**	**295**	P		**P**	**13 04 03.2**	**+0.3**
	1.0nm,0.7s,baz=118,slow=4.5,SNR=4.6							
VNDA	**Vanda**	**68.35**	**179**	LR		LR	13 30 38.9	
	comp=Z,39nm,18.9s,baz=338,slow=33							
SONM	**Songjin Array**	**72.83**	**326**	P		**P**	**13 04 55.0**	**+0.5**
	0.7nm,0.8s,baz=125,slow=4.3,SNR=3.9							
ILAR	**Eielson Array**	**84.29**	**21**	P		**P**	**13 05 56.5**	**-0.6**
	0.6nm,0.7s,baz=260,slow=4.9,SNR=5.2							
MKAR	**Makanchi Array**	**87.06**	**318**	P		**P**	**13 06 10.8**	**-0.5**
	0.8nm,0.7s,baz=96,slow=6.4,SNR=11							
ZALV	**Zalesovo Beam**	**87.70**	**325**	P		**P**	**13 06 12.7**	**-1.4**
	0.4nm,0.3s,baz=112,slow=6.9,SNR=3.5							
NVAR	**Mina Array Bea**	**90.66**	**51**	P		**P**	**13 06 31.0**	**+2.2**
	2.3nm,0.8s,baz=258,slow=4.5,SNR=5.7							
YKA	**Yellowknife Ar**	**96.81**	**28**	P		**P**	**13 06 56.4**	**+0.3**
	0.2nm,0.7s,baz=263,slow=4.0,SNR=3.9							

JSN ***13*** *12:53:43.0±0.9, 19.28N×72.41W, h47km±999km, MD5.0*
ISCJB ***13*** *12:53:44.7±0.3, 18.29N±0.04×72.75W±0.02, h6km, mb3.9/19, MS3.4/1, Error ellipse: s-maj=6.2km s-min=3.2km az=0.0*
IDC ***13*** *12:53:45.6±0.7, 18.34N×72.83W, h0km, mb3.9/14, mb1 4.2/15, mb1mx4.1/27, mbtmp4.0/15, ML3.1/1, MS3.3/2, Ms1 3.2/2, ms1mx2.8/31, Error ellipse: s-maj=24.3km s-min=16.0km az=42.0*
NEIC ***13*** *12:53:47.2±0.3, 18.40N×72.82W, h10km, mb4.2/6, Error ellipse: s-maj=7.3km s-min=4.9km az=8.0*

ISC 13 12:53:46.6±0.4, 18.35N±0.06×72.78W±0.04, h6km, n58, σ1°11/74, mb4.1/19, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.55**	**66**	*eP*	n	**Pn**	**12 54 14.2**	**-0.7**
SDDR				*eP*	g	**Pg**	**12 54 17.1**	**+0.6**
SDDR				*eS*	g	**Sg**	**12 54 37.5**	**+1.0**
GTBY	**Guantanamo Bay**	**2.70**	**306**	*eP*	n	**Pn**	**12 54 28.4**	**-2.3**
GTBY				*eS*	n	**Sn**	**12 55 03.7**	**0.0**
YHJ	**Yallahs**	**3.56**	**263**	*eP*		**Pn**	**12 54 42.5**	**+0.1**
YHJ	**Yallahs**	**3.56**	**263**	*eP*		**Pn**	**12 54 42.5**	**+0.1**
GWJ	**Greenwich**	**3.76**	**266**	*eP*		**Pn**	**12 54 44.0**	**-1.3**
GWJ	**Greenwich**	**3.76**	**266**	*eP*		**Pn**	**12 54 44.0**	**-1.3**
HOJ	**Hope**	**3.79**	**265**	*eP*		**Pn**	**12 54 45.6**	**+0.1**
HOJ	**Hope**	**3.79**	**265**	*eP*		**Pn**	**12 54 45.6**	**+0.1**
STH	**Stony Hill**	**3.83**	**267**	*eP*		**Pn**	**12 54 45.7**	**-0.5**
STH				*i* S		**Sn**	**12 55 32.3**	**+0.6**
STH	**Stony Hill**	**3.83**	**267**	*eP*		**Pn**	**12 54 45.7**	**-0.5**
STH				*eS*		**Sn**	**12 55 32.3**	**+0.6**
MTDJ	**Mount Denham**	**4.51**	**269**	*eP*	n	**Pn**	**12 54 55.4**	**-0.3**
MTDJ				*eS*	n	**Sn**	**12 55 51.0**	**+2.4**
CRPR	**Cabo Rojo, PR**	**5.41**	**93**	*eP*	n	**Pn**	**12 55 05.0**	**-2.8**
CRPR				*eS*	g	**Sg**	**12 56 41.3**	**+1.0**
LSP	**Las Mesas**	**5.42**	**91**	*eP*	n	**Pn**	**12 55 06.7**	**-1.3**
LSP				*eS*	n	**Sn**	**12 56 09.4**	**-1.4**
OBIP	**Obispado Ponce**	**5.88**	**92**	*eP*	n	**Pn**	**12 55 13.7**	**-0.6**
OBIP				*eS*	g	**Sg**	**12 56 53.5**	**-2.0**
CELP	**Cerrillos**	**5.90**	**92**	*eP*	n	**Pn**	**12 55 16.3**	**+1.6**
CELP				*eS*	g	**Sg**	**12 56 55.4**	**-0.9**
MTP	**Monte Pirata**	**6.88**	**91**	*eP*	n	**Pn**	**12 55 29.5**	**+1.4**
SDV	**Santo Domingo**	**9.63**	**167**	*eP*	n	**Pn**	**12 56 07.3**	**+1.2**
SDV				*eS*	n	**Sn**	**12 57 52.5**	**-2.3**
BCIP	**Isla Barro Col**	**11.41**	**218**	*eP*	n	**Pn**	**12 56 29.4**	**-0.8**
ROSC	**El Rosal**	**13.49**	**187**	Pn		**Pn**	**12 57 00.6**	**+1.5**
ROSC	**El Rosal**	**13.49**	**187**	Pn		**Pn**	**12 57 00.6**	**+1.5**
	1.8nm,0.3s,baz=87,slow=17,SNR=2.7							
APG	**El Apazote**	**17.26**	**262**	LR		LR	13 03 33.6	
	comp=Z,67nm,20.5s,baz=114,slow=34							
PTGA	**Pitinga**	**22.77**	**145**	P		**P**	**12 58 52.8**	**+2.9**
	6.3nm,1.0s							
PTGA	**Pitinga**	**22.77**	**145**	P		**P**	**12 58 50.3**	**+0.4**
	3.1nm,0.7s,baz=301,slow=23,SNR=5.4							
HKT	**Hockley**	**23.95**	**303**	*eP*		**P**	**12 59 02.6**	**+1.0**
	4.2nm,0.9s							
TUL1	**Tulsa**	**26.82**	**315**	*eP*		**P**	**12 59 28.0**	**+0.2**
	4.2nm,0.5s							
SAML	**Samuel**	**28.73**	**160**	*eP*		**P**	**12 59 44.1**	**-0.8**
	0.9nm,0.6s							
TXAR	**Lajitas Array**	**30.20**	**297**	P		**P**	**12 59 57.1**	**-1.1**
TXAR				PcP		**PcP**	**13 03 00.1**	**+0.8**
TXAR	**Lajitas Array**	**30.20**	**297**	P		**P**	**12 59 57.1**	**-1.1**
	0.5nm,0.8s,baz=116,slow=8.5,SNR=5.6							
TXAR				PcP		**PcP**	**13 03 00.1**	**+0.8**
	0.4nm,0.8s,baz=134,slow=2.6,SNR=2.9							
NNA	**Nana**	**30.41**	**188**	*eP*		**P**	**13 00 00.7**	**+0.8**
	5.1nm,0.6s							
LPM	**Los Pinos Moun**	**34.06**	**305**	P		**P**	**13 00 32.5**	**+0.5**
	4.8nm,0.8s							
PDAR	**Pinedale Array**	**39.47**	**316**	P		**P**	**13 01 17.7**	**-0.5**
PDAR	**Pinedale Array**	**39.47**	**316**	P		**P**	**13 01 17.7**	**-0.5**
	0.7nm,0.7s,baz=128,slow=9.4,SNR=6.2							
BDFB	**Brasilia**	**41.66**	**143**	P		**P**	**13 01 36.3**	**0.0**
BDFB	**Brasilia**	**41.66**	**143**	P		**P**	**13 01 36.3**	**0.0**
	5.0nm,0.8s,baz=310,slow=7.9,SNR=6.2							
BDFB				LR		LR	13 19 20.5	
	comp=Z,53nm,19.7s,baz=312,slow=37							
NVAR	**Mina Array Bea**	**44.25**	**307**	P		**P**	**13 01 57.7**	**+0.5**
NVAR	**Mina Array Bea**	**44.25**	**307**	P		**P**	**13 01 57.7**	**+0.5**
	0.8nm,0.8s,baz=88,slow=7.3,SNR=4.0							
YKA	**Yellowknife Ar**	**52.72**	**337**	P		**P**	**13 03 01.5**	**-0.3**
YKA	**Yellowknife Ar**	**52.72**	**337**	P		**P**	**13 03 01.5**	**-0.3**
	1.9nm,0.8s,baz=124,slow=7.3,SNR=34							
DLBC	**Dease Lake**	**57.56**	**328**	P		**P**	**13 03 37.8**	**+0.7**
DLBC	**Dease Lake**	**57.56**	**328**	P		**P**	**13 03 37.8**	**+0.7**
	4.4nm,0.8s,baz=112,slow=5.4,SNR=8.5							
ESDC	**Sonseca Array**	**62.37**	**54**	P		**P**	**13 04 10.2**	**-0.2**
ESDC	**Sonseca Array**	**62.37**	**54**	P		**P**	**13 04 10.2**	**-0.2**
	0.2nm,0.3s,baz=266,slow=6.9,SNR=4.1							
ILAR	**Eielson Array**	**66.78**	**333**	P		**P**	**13 04 37.5**	**-1.2**
ILAR	**Eielson Array**	**66.78**	**333**	P		**P**	**13 04 37.5**	**-1.2**
	1.2nm,0.9s,baz=108,slow=5.8,SNR=6.3							
TORD	**Torodi Ar. Bea**	**71.44**	**82**	P		**P**	**13 05 08.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**71.44**	**82**	P		**P**	**13 05 08.1**	**-0.4**
	1.9nm,0.9s,baz=287,slow=8.2,SNR=7.7							
GERES	**GERESS Array B**	**74.14**	**43**	P		**P**	**13 05 25.1**	**+1.1**
GERES	**GERESS Array B**	**74.14**	**43**	P		**P**	**13 05 25.1**	**+1.1**
	1.8nm,0.8s,baz=284,slow=4.0,SNR=12							
FINES	**FINESS Array B**	**78.22**	**29**	P		**P**	**13 05 47.8**	**+0.9**
FINES	**FINESS Array B**	**78.22**	**29**	P		**P**	**13 05 47.8**	**+0.9**
	1.2nm,0.7s,baz=282,slow=6.7,SNR=4.1							
AKASG	**Malin Array Be**	**83.35**	**39**	P		**P**	**13 06 13.5**	**-1.0**
AKASG	**Malin Array Be**	**83.35**	**39**	P		**P**	**13 06 13.5**	**-1.0**
	0.1nm,0.3s,baz=282,slow=4.6,SNR=3.2							
BRTR	**Keskin Array B**	**90.45**	**48**	P		**P**	**13 06 50.1**	**+0.4**
BRTR	**Keskin Array B**	**90.45**	**48**	P		**P**	**13 06 50.1**	**+0.4**
	0.9nm,0.9s,baz=305,slow=5.1,SNR=3.2							
WRA	**Warramunga Arr**	**154.34**	**262**	PKP		**PKPdf**	**13 13 39.2**	**-1.2**
WRA				PKPbc		**PKPbc**	**13 13 47.4**	**-1.4**
WRA	**Warramunga Arr**	**154.34**	**262**	PKP		**PKPdf**	**13 13 39.2**	**-1.2**
	0.8nm,0.8s,baz=97,slow=1.4,SNR=6.2							
WRA				PKPbc		**PKPbc**	**13 13 47.4**	**-1.4**
	1.5nm,0.9s,baz=86,slow=1.4,SNR=7.8							
ASAR	**Alice Springs**	**154.55**	**253**	PKP		**PKPdf**	**13 13 41.1**	**+0.4**
ASAR				PKPbc		**PKPbc**	**13 13 47.9**	**-1.3**
ASAR	**Alice Springs**	**154.55**	**253**	PKP		**PKPdf**	**13 13 41.1**	**+0.4**
	0.3nm,0.8s,baz=93,slow=3.7,SNR=3.1							
ASAR				PKPbc		**PKPbc**	**13 13 47.9**	**-1.3**
	0.5nm,0.8s,baz=52,slow=2.9,SNR=4.2							

IDC 13 13:01:02.3±3.2, 5.69S×147.39E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/18, mbtmp4.0/4, ML3.5/2, Error ellipse: s-maj=78.7km s-min=32.0km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**184**	Pn		Pn	13 02 02.8	+1.9
	5.5nm,0.3s,baz=2.5,slow=9.1,SNR=20							
PMG				Pg		Pb	13 02 08.3	-0.4
	21nm,0.3s,baz=23,slow=10,SNR=47							
PMG				Sn		Sn	13 02 47.1	+1.9
	32nm,0.3s,baz=195,slow=20,SNR=13							
WRA	**Warramunga Arr**	**19.02**	**221**	P		Pn	13 05 26.4	-0.3
	0.5nm,0.3s,baz=41,slow=12,SNR=19							
ASAR	**Alice Springs**	**22.09**	**215**	P		P	13 05 59.5	+0.1
	2.6nm,0.6s,baz=40,slow=11,SNR=22							
ASAR				S		S	13 09 56.9	-7.2
	0.5nm,1.0s,baz=26,slow=20,SNR=3.5							
STKA	**Stephens Creek**	**26.61**	**191**	P		P	13 06 41.9	-0.7
	2.3nm,0.8s,baz=15,slow=8.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**145.39**	**285**	PKPbc		PKPbc	13 20 42.4	-0.9
	0.3nm,0.6s,baz=69,slow=3.6,SNR=3.2							

ISCJB ***13*** *13:23:39.6±0.3, 45.54N±0.02×26.41E±0.04, h132km, Error ellipse: s-maj=3.6km s-min=3.4km az=35.7*
SIGU ***13*** *13:23:39.0, 45.57N×26.41E, h137km, mb2.5*
BUC ***13*** *13:23:39.6±0.7, 45.52N×26.38E, h140km±6km, MD3.7/2, Error ellipse: s-maj=5.2km s-min=3.9km az=349.0*
CSEM ***13*** *13:23:39.5, 45.54N×26.38E, h141km, MD3.4/7, After BUC*

ISC 13 13:23:40.0±1.2, 45.53N±0.03×26.40E±0.03, h132km, n92, σ0°73/134, 55C-15D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.32**	**264**⇑	*iP*		**Pn**	**13 23 59.0**	**+0.4**
MLR	**Muntele Rosu**	**0.32**	**264**⇑	*iP*		**Pn**	**13 23 59.0**	**+0.4**
MLR				*i* S		**Sn**	**13 24 13.3**	**+0.6**
MLR	**Muntele Rosu**	**0.32**	**264**⇑	*iP*		**Pn**	**13 23 59.0**	**+0.4**
MLR				*i* S		**Sn**	**13 24 13.3**	**+0.6**
PLOR	**Plostina**	**0.37**	**28**⇑	*iP*		**Pn**	**13 23 59.0**	**+0.3**
PLOR	**Plostina**	**0.37**	**28**⇑	*iP*		**Pn**	**13 23 59.0**	**+0.3**
PLOR				*i* S		**Sn**	**13 24 13.0**	**+0.1**
PLOR	**Plostina**	**0.37**	**28**⇑	*iP*		**Pn**	**13 23 59.0**	**+0.3**
PLOR				*i* S		**Sn**	**13 24 13.0**	**+0.1**
VRI	**Vrincioaia**	**0.41**	**34**⇑	*iP*		**Pn**	**13 23 59.4**	**+0.5**
VRI	**Vrincioaia**	**0.41**	**34**⇑	*iP*		**Pn**	**13 23 59.4**	**+0.5**
VRI				*i* S		**Sn**	**13 24 13.5**	**+0.3**
VRI	**Vrincioaia**	**0.41**	**34**⇑	*iP*		**Pn**	**13 23 59.4**	**+0.5**
VRI				*i* S		**Sn**	**13 24 13.0**	**-0.2**
ISR	**Istrita**	**0.42**	**166**⇓	*iP*		**Pn**	**13 23 59.7**	**+0.7**
ISR	**Istrita**	**0.42**	**166**⇓	*iP*		**Pn**	**13 23 59.7**	**+0.7**
ISR				*i* S		**Sn**	**13 24 13.8**	**+0.5**
ISR	**Istrita**	**0.42**	**166**⇓	*iP*		**Pn**	**13 23 59.7**	**+0.7**
ISR				*i* S		**Sn**	**13 24 13.8**	**+0.5**
SECR		**0.54**	**206**⇑	*iP*		**Pn**	**13 24 00.3**	**+0.7**
SECR		**0.54**	**206**⇑	*iP*		**Pn**	**13 24 00.3**	**+0.7**
SECR				*i* S		**Sn**	**13 24 15.3**	**+0.9**
SECR		**0.54**	**206**⇑	*iP*		**Pn**	**13 24 00.3**	**+0.7**
SECR				*i* S		**Sn**	**13 24 15.3**	**+0.9**
PETR	**Petresti**	**0.61**	**71**⇑	*iP*		**Pn**	**13 24 00.9**	**+0.9**
PETR	**Petresti**	**0.61**	**71**⇑	*iP*		**Pn**	**13 24 00.9**	**+0.9**
PETR				*i* S		**Sn**	**13 24 15.9**	**+0.8**
PETR	**Petresti**	**0.61**	**71**⇑	*iP*		**Pn**	**13 24 00.9**	**+0.9**
PETR				*i* S		**Sn**	**13 24 15.9**	**+0.8**
PLAR	**PLOIESTI**	**0.67**	**203**⇑	*iP*		**Pn**	**13 24 01.1**	**+0.8**
PLAR	**PLOIESTI**	**0.67**	**203**⇑	*iP*		**Pn**	**13 24 01.1**	**+0.8**
PLAR				*i* S		**Sn**	**13 24 17.0**	**+1.3**
PLAR	**PLOIESTI**	**0.67**	**203**⇑	*iP*		**Pn**	**13 24 01.1**	**+0.8**
PLAR				*i* S		**Sn**	**13 24 17.0**	**+1.3**
PGOR	**Pogoanele**	**0.74**	**146**	S		**Sn**	**13 24 17.6**	**+0.9**
PGOR	**Pogoanele**	**0.74**	**146**	*i* S		**Sn**	**13 24 17.6**	**+0.9**
PGOR	**Pogoanele**	**0.74**	**146**	*i* S		**Sn**	**13 24 17.6**	**+0.9**
DOPR	**Dopca**	**0.83**	**302**⇑	*iP*		**Pn**	**13 24 01.9**	**+0.2**
DOPR	**Dopca**	**0.83**	**302**⇑	*iP*		**Pn**	**13 24 01.9**	**+0.2

HUMR	Humele	1.42	226	⇑	*i*	P	Pn	13 24 07.3	0.0		
HUMR					*i*	S	Sn	13 24 27.4	-0.7		
LEOM	Leova	1.60	53		*i*	S	Sn	13 24 31.7	0.0		
LEOM	Leova	1.60	53		*i*	S	Sn	13 24 31.7	0.0		
LEOM	Leova	1.60	53		*i*	S	Sn	13 24 31.7	0.0		
CVD	Cernavoda	1.68	136			S	Sn	13 24 31.8	-1.5		
CVD	Cernavoda	1.68	136		*i*	S	Sn	13 24 31.8	-1.5		
CVD	Cernavoda	1.68	136		*i*	S	Sn	13 24 31.8	-1.5		
TLCR		1.74	100	⇓	*i*	P	Pn	13 24 11.4	+0.5		
TLCR		1.74	100	⇓	*i*	P	Pn	13 24 11.4	+0.5		
TLCR					*i*	S	Sn	13 24 34.5	0.0		
TLCR		1.74	100	⇓	*i*	P	Pn	13 24 11.4	+0.5		
TLCR					*i*	S	Sn	13 24 34.5	0.0		
TIRR	Tirgusor	1.78	126	⇓	*i*	P	Pn	13 24 11.6	+0.2		
TIRR	Tirgusor	1.78	126	⇓	*i*	P	Pn	13 24 11.6	+0.2		
TIRR					*i*	S	Sn	13 24 34.5	-1.0		
TIRR	Tirgusor	1.78	126	⇓	*i*	P	Sn	13 24 11.6	+0.2		
TIRR					*i*	S	Sn	13 24 34.5	-1.0		
LOT	Lotru	1.85	269	⇑	*i*	P	Pn	13 24 12.9	+0.5		
LOT	Lotru	1.85	269	⇑	*i*	P	Pn	13 24 12.9	+0.5		
LOT					*i*	S	Sn	13 24 36.5	-0.7		
LOT	Lotru	1.85	269	⇑	*i*	P	Pn	13 24 12.9	+0.5		
LOT					*i*	S	Sn	13 24 36.5	-0.7		
ZIMR		2.01	202	⇑	*i*	P	Pn	13 24 14.0	-0.2		
ZIMR						S	Sn	13 24 38.9	-1.4		
ZIMR		2.01	202	⇑	*i*	P	Pn	13 24 14.0	-0.2		
ZIMR					*i*	S	Sn	13 24 38.9	-1.4		
BURAR	Bucovina Array	2.24	339	⇑	*i*	P	Pn	13 24 19.0	+1.9		
BURAR	Bucovina Array	2.24	339	⇑	*i*	P	Pn	13 24 19.0	+1.9		
MANR	Mangalia	2.31	137			S	Sn	13 24 46.2	-0.8		
MANR	Mangalia	2.31	137		*i*	S	Sn	13 24 46.2	-0.8		
SRE	Strehaia	2.42	250			S	Sn	13 24 48.3	-1.2		
SRE	Strehaia	2.42	250		*i*	S	Sn	13 24 48.3	-1.2		
GZR	Gura Zlata	2.55	268	⇑	*i*	P	Pn	13 24 22.0	+1.0		
GZR	Gura Zlata	2.55	268	⇑	*i*	P	Pn	13 24 22.0	+1.0		
GZR	Gura Zlata	2.55	268	⇑	*i*	P	Pn	13 24 22.0	+1.0		
KMPD	K-Podol'skiy	3.04	1		*e*	P	Pn	13 24 23.8	-3.3		
KMPD						eS	Sn	13 25 01.3	-2.2		
NDNU	Novodnistrovsk	3.14	12		*e*	P	Pn	13 24 26.9	-1.5		
NDNU						Pm		13 24 29.7			
NDNU					*i*	S	Sn	13 25 04.5	-1.4		
NDNU						Sm		13 25 04.7			
HORU	Horodok	3.69	0		*e*	P	Pn	13 24 36.2	+0.6		
HORU						eS	Sn	13 25 18.8	0.0		

ISCJB ***13*** *13:28:58.0±1.5,3.44S±0.09×129.13E±0.08,h18km±14km, mb3.6/2,MS2.9/1,Error ellipse: s-maj=16.3km s-min=13.4km az=29.7*

IDC ***13*** *13:28:58.9±1.4,3.66S×128.69E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/21,mbtmp3.5/4,ML3.0/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/21,Error ellipse: s-maj=73.4km s-min=27.0km az=72.0*

DJA ***13*** *13:28:59.6±0.5,3.7S±7.2×129.9E±°,h10km,M3.1/3,MLv3.1/3*

ISC 13 13:28:58.8±1.5,3.4S±0.1×129.07E±0.07,h14km±11km, n10,σ1908/9,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	Masohi	0.17	304	P			Pg	13 29 03.2	+0.3
NLAI	Namlea	1.98	276	P			Pg	13 29 35.1	-1.7
LBMI	Labuha	3.19	331	P			Pn	13 29 48.5	-0.2
FAKI	Fak Fak	3.22	81	P			Pn	13 29 49.1	0.0
SWI	Sorong	3.37	41	P			Pn	13 29 50.0	-1.1
SANI	Sanana	3.37	294	P			Pn	13 29 51.7	+0.5
WRA	Warramunga Arr	17.19	163	P			Pn	13 32 58.7	-0.1
	0.1nm,0.3s,baz=345,slow=12,SNR=3.7								
ASAR	Alice Springs	20.64	167	P			P	13 33 38.6	+0.3
	0.9nm,0.5s,baz=348,slow=11,SNR=17								
ASAR				LR			LR	13 42 04.2	
	comp=Z,57nm,20.4s,baz=2.0,slow=38								
MKAR	Makanchi Array	64.76	326	P			P	13 39 38.1	+1.1
	0.1nm,0.5s,baz=126,slow=5.2,SNR=2.1								
ILAR	Eielson Array	90.54	25	P			P	13 42 05.9	+5.5
	0.9nm,0.9s,baz=248,slow=6.4,SNR=6.9								

MAN 13 13:45:28,6.61N×124.30E,h8km,mb4.5,ML3.4,MS3.3, 3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.61	355	⇑	*i*	P	Pb	13 45 40.4	-0.5
CTBH					*i*	S	Sg	13 45 48.4	+0.7
GSPH	General Santos	0.83	129	⇑	*e*	P	Pn	13 45 48.2	+2.0
GSPH					*i*	S	Sn	13 46 03.3	+4.6
BUKP	Musuan	1.47	31		*e*	P	Pn	13 45 54.5	-0.3
BUKP						eS	Sn	13 46 10.2	-4.1
PAGZ	Pagadian	1.53	323		*e*	P	Pn	13 45 55.4	-0.3
PAGZ						eS	Sn	13 46 15.4	-0.3
CGP	Cagayan de Oro	1.87	12	⇑	*e*	P	Pn	13 46 01.1	+0.8
CGP						eS	Sb	13 46 25.2	-0.8
MATI	Mati	1.97	80		*e*	P	Pn	13 46 02.3	+0.5

MAN 13 14:19:49,6.47N×124.18E,h34km,mb4.4,ML3.3,MS3.1, 3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.75	5	⇑	*i*	P	Pn	14 20 01.4	-1.8
CTBH					*i*	S	Sn	14 20 09.3	-4.0
GSPH	General Santos	0.85	117	⇑	*i*	P	Pb	14 20 07.5	+1.9
DMPH	Davao City--Mi	1.45	65		*e*	P	Pb	14 20 14.4	-1.1
PAGZ	Pagadian	1.58	330		*e*	P	Pb	14 20 16.3	-1.4
PAGZ						eS	Sn	14 20 34.1	+0.1
BUKP	Musuan	1.65	32		*e*	P	Pn	14 20 15.4	-0.2
BUKP						eS	Sn	14 20 28.4	-7.3
CGP	Cagayan de Oro	2.04	14	⇑	*i*	P	Pn	14 20 22.2	+1.3
CGP					*i*	S	Sn	14 20 46.3	+1.2
MATI	Mati	2.11	77		*e*	P	Pn	14 20 23.2	+1.2

RSPR ***13*** *14:43:33.4,21.71N×73.01W,h25km±31km,MD5.5/8*

ISCJB ***13*** *14:43:42.5±1.1,18.45N±0.03×72.93W±0.01,h4km±7km, mb5.2/249,MS4.5/45,Error ellipse: s-maj=5.1km s-min=2.0km az=11.8*

BJI ***13*** *14:43:43.7,18.50N×72.90W,h10km,mB5.7/9,Ms5.4/14, Ms7 5.0/14*

IDC ***13*** *14:43:43.0±0.3,18.44N×72.86W,h0km,mb4.8/35, mb1 4.9/38,mb1mx4.9/40,mbtmp4.8/38,ML4.5/3,MS4.4/40, Ms1 4.4/40,ms1mx4.4/43,Error ellipse: s-maj=12.1km s-min=9.0km az=63.0*

JSN ***13*** *14:43:43.2±1.3,19.11N×72.89W,h0km±999km,MD5.5*

MOS ***13*** *14:43:43.3±1.1,18.45N×72.97W,h10km,mb5.8/61,Error ellipse: s-maj=5.4km s-min=4.4km az=67.1*

GCMT ***13*** *14:43:44.8±0.2,18.71N×72.95W,h12km,MW5.1/94, Moment Tensor Solution. s38,c59; s94,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.87±.09; $M_{\theta\theta}$-5.62±.08; $M_{\phi\phi}$-0.25±.08; $M_{r\theta}$0.62±.33; $M_{\theta\phi}$0.21±.08; $M_{\phi r}$0.07±.38; Best double couple: M_o5.78300×10^{16} NP1:ϕ_s91.00000°,δ48.00000°,λ89.00000°. NP2: ϕ_s273.00000°,δ42.00000°,λ91.00000°. Principal axes: T 5.9050, Plg87.0000°, Azm347.0000°; N -0.2520, Plg1.0000°, Azm92.0000°; P -5.6620, Plg3.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

NEIC ***13*** *14:43:44.7±0.1,18.44N×72.93W,h10km,mb5.2/119 Error ellipse: s-maj=3.6km s-min=2.3km az=14.0*

NEIC Felt at Vieux Bourg d'Aquin. Also felt at Santo Domingo, Dominican Republic.

SZGRF ***13*** *14:43:49.1,18.62N×72.36W,h17km,mb5.5,Haiti region*

ISC 13 14:43:45.2±0.6,18.47N±0.04×72.96W±0.03,h13km±3km, h13km:pP-P,n1027,σ1916/1044,mb5.4/251,MS4.6/45, 201C-192D,Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.67	72		*e*	Pn	Pn	14 44 12.3	-1.9
GTBY	Guantanamo Bay	2.49	306		*e*	Pn	Pn	14 44 23.3	-2.2
DR12	Loma Pena Alta	3.41	84	⇑	*e*	P	Pn	14 44 38.9	+0.6
GRTK	Grand Turk	3.48	29		*e*	Pn	Pn	14 44 37.7	-1.4
GWJ	Greenwich	3.60	264		*e*	P	Pn	14 44 41.7	+0.8
GWJ					*i*	PA		14 44 42.6	
GWJ	Greenwich	3.60	264		*e*	P	Pn	14 44 41.7	+0.8
HOJ	Hope	3.63	263		*i*	P	Pn	14 44 41.8	+0.7
HOJ	Hope	3.63	263		*i*	P	Pn	14 44 41.8	+0.7
HOJ	Hope	3.63	263		*i*	P	Pn	14 44 41.8	+0.7
STH	Stony Hill	3.68	264		*i*	P	Pn	14 44 41.8	0.0
STH					*i*	S	Sn	14 45 27.3	+2.2
STH	Stony Hill	3.68	264		*i*	P	Pn	14 44 41.8	0.0
STH					*i*	S	Sn	14 45 27.3	+2.2
STH	Stony Hill	3.68	264		*i*	P	Pn	14 44 41.8	0.0
STH					*i*	S	Sn	14 45 27.3	+2.2
PCJ	Portland Cotta	4.05	260		*i*	P	Pn	14 44 48.8	+1.8
PCJ	Portland Cotta	4.05	260		*i*	P	Pn	14 44 48.8	+1.8
PCDR	Punta Cana, DR	4.35	89		*e*	S	Sb	14 45 56.7	+2.8
CVJ	Coleyville	4.35	268		*i*	P	Pn	14 44 51.4	+0.2
CVJ	Coleyville	4.35	268		*i*	P	Pn	14 44 51.4	+0.2
MTDJ	Mount Denham	4.35	268		*e*	Pn	Pn	14 44 50.9	-0.2
MCJ	Malvern	4.52	264		*i*	P	Pn	14 44 54.6	+1.1
MCJ	Malvern	4.52	264		*i*	P	Pn	14 44 54.6	+1.1
IDE	Isla Desecheo	5.21	90	⇑	*e*	P	Pn	14 45 04.9	+2.0
IDE	Isla Desecheo	5.21	90		*e*	S	Sb	14 46 15.9	-2.9
AGPR	Aguadilla, PR	5.55	89		*e*	P	Pn	14 45 08.3	+0.7
CRPR	Cabo Rojo, PR	5.58	94		*e*	Pn	Pn	14 45 07.5	-0.5
CRPR	Cabo Rojo, PR	5.58	94	⇑	*e*	P	Pn	14 45 07.8	-0.2
CRPR	Cabo Rojo, PR	5.58	94		*e*	S	Sg	14 46 36.8	-7.7
LSP	Las Mesas	5.59	92		*e*	P	Pn	14 45 08.0	-0.2
AOPR	Arecibo Observ	5.90	90	⇑	*e*	P	Pn	14 45 14.8	+2.4
AOPR	Arecibo Observ	5.90	90		*e*	S	Sb	14 46 29.1	-9.4
OBIP	Obispado Ponce	6.05	93		*e*	P	Pn	14 45 14.0	-0.6
OBIP	Obispado Ponce	6.05	93	⇑	*e*	P	Pn	14 45 17.1	+2.6
OBIP	Obispado Ponce	6.05	93		*e*	S	Sb	14 46 48.6	+5.6
CELP	Cerrillos	6.08	93		*e*	P	Pn	14 45 14.4	-0.5
CELP	Cerrillos	6.08	93	⇑	*e*	P	Pn	14 45 14.7	-0.1
CELP						eS	Sn	14 46 24.1	-0.2
SJG	San Juan	6.48	92	⇑	*e*	P	Pn	14 45 22.6	+2.2
SJG						eS	Sn	14 46 39.1	+4.8
CBYP	Canovanas	6.75	91		*e*	P	Pn	14 45 32.6	-1.0
CBYP	Canovanas	6.75	91	⇑	*e*	P	Pn	14 45 25.2	+1.0
CBYP	Canovanas	6.75	91		*e*	S	Sn	14 46 51.3	+10
HUMP	Col San Antoni	6.76	92	⇑	*e*	P	Pn	14 45 25.9	+1.6
HUMP	Col San Antoni	6.76	92		*e*	S	Sb	14 47 07.7	+4.2
MTP	Monte Pirata	7.05	92		*e*	P	Pn	14 45 28.5	+0.3
MTP	Monte Pirata	7.05	92	⇑	*e*	P	Pn	14 45 25.2	-3.0
MTP	Monte Pirata	7.05	92		*e*	S	Sb	14 47 14.4	+2.7
CDVI	St. Croix	7.83	94		*e*	P	Pn	14 45 37.6	-1.2
CDVI	St. Croix	7.83	94	⇓	*e*	P	Pn	14 45 38.1	-0.8
CDVI	St. Croix	7.83	94		*e*	S	Sb	14 47 20.6	-13
ABV	Anegada	8.19	87		*e*	S	Sb	14 47 30.1	-14
SDV	Santo Domingo	9.79	166		*e*	P	Pn	14 46 05.5	-0.5
MLG	Mont-d'or	11.01	101		*e*	P	Pn	14 46 21.4	-1.2
FNG	Fond-Bernard	11.04	101		*e*	P	Pn	14 46 23.0	+0.1
ECG	Echelle	11.07	101		*e*	P	Pn	14 46 24.3	+0.8
SEG	Port Louis	11.13	99		*e*	P	Pn	14 46 22.4	-1.7
BCIP	Isla Barro Col	11.40	217		*e*	P	Pn	14 46 27.6	-0.3
FDF	Fort de France	11.92	106		*e*	P	Pn	14 46 34.5	-0.5
FDF	Fort de France	11.92	106		*e*	P	Pn	14 46 34.5	-0.5
GRGR	Grenville	12.60	118		*e*	P	Pn	14 46 44.1	-0.1
ROSC	El Rosal	13.60	186			LR	LR	14 52 30.2	
	comp=Z,626nm,21.6s,baz=2.5,slow=39								
TRN	Trinidad (W)	13.62	123		*e*		Pn	14 46 59.8	+1.5
TPP	Pointe-a-Pierr	13.78	124		*e*		P	14 47 10.0	+1.1
BOT	Bacolet	13.88	120		*e*		P	14 47 06.2	-3.8
TBH	Brigand Hill	13.98	123		*e*		Pn	14 47 06.7	+3.4
JTS	JuntasAbangare	14.17	237		P		P	14 47 12.5	-0.8
	688nm,0.7s,SNR=5.4								
JTS	JuntasAbangare	14.17	237		P		Pn	14 47 08.8	+3.0
JTS	JuntasAbangare	14.17	237		LR		LR	14 52 42.8	
	comp=Z,2μm,18.8s,baz=55,slow=38								
TGUH	Tegucigalpa,Un	14.42	254		P		Pn	14 47 10.9	+1.7
TEIG	Tepich	14.56	279		*e*	P	Pn	14 47 11.2	+0.2
	24nm,0.6s								
TEIG						Sn	Sn	14 49 47.3	-5.1
TEIG	Tepich	14.56	279			Pn	Pn	14 47 11.5	+0.4
	2.1nm,0.3s,baz=101,slow=10,SNR=13								
TEIG						Sn	Sn	14 49 47.3	-5.1
	0.3nm,0.3s,baz=17,slow=20,SNR=2.8								
TIGA	Tifton	16.10	325		P		P	14 47 33.4	-1.2
	114nm,0.8s								
APG	El Apazote	17.11	261		P		Pn	14 47 45.5	+0.9
APG	El Apazote	17.11	261		P		Pn	14 47 45.5	+0.9
	0.6nm,0.3s,baz=72,slow=9.6,SNR=5.6								
APG						LR	LR	14 54 47.3	
	comp=Z,985nm,19.2s,baz=97,slow=39								
GOGA	Godfrey	17.61	330		P		Pn	14 47 48.7	-1.6
GOGA					pmax		pmax		
	comp=Z,244nm,2.1s								
GOGA	Godfrey	17.61	330		P		Pn	14 47 48.7	-1.6
	comp=Z,244nm,2.1s								
BRAL	Brewton	17.86	317		*e*	P	P	14 47 55.7	+1.6
	comp=Z,558nm,1.4s								
KMSC	Kings Mountain	18.19	338		*e*	P	Pn	14 47 55.4	-2.2
	comp=Z,71nm,1.1s								
KMSC	Kings Mountain	18.19	338		P		Pn	14 47 55.9	-1.7
	baz=18								
OTAV	Otavalo	18.90	197		*e*	P	P	14 48 06.6	+0.4
	comp=Z,695nm,2.1s								
TKL	Tuckaleechee C	19.61	333		*e*	P	P	14 48 13.6	+0.2
TKL						S	S	14 51 40.2	-14
TKL	Tuckaleechee C	19.61	333			P	P	14 48 14.0	+0.6
	comp=Z,3.2nm,0.3s,baz=147,slow=12,SNR=13								
TKL						S	S	14 51 40.2	-14
	comp=Z,0.6nm,0.3s,baz=68,slow=19,SNR=3.3								
TKL						LR	LR	14 55 57.9	
	comp=Z,2μm,20.9s,baz=140,slow=37								
JSRW	J. Sargeant Re	19.63	348		*e*	P	P	14 48 13.2	-0.3
BLA	Blacksburg	19.79	342		*e*	P	Pn	14 48 16.3	-0.5
BLA					pmax		pmax		
	comp=Z,109nm,1.0s								
BLA	Blacksburg	19.79	342		*e*	P	Pn	14 48 16.3	-0.5
	comp=Z,109nm,1.0s								
CBN	Corbin	20.04	350		P		Pn	14 48 19.2	-0.5
	comp=Z,94nm,0.5s								
SDMD	Soldier's Deli	21.14	352		P		P	14 48 30.6	+0.7
	comp=Z,782nm,2.2s								
BRNJ	Basking Ridge	22.18	357		*e*	P	P	14 48 40.8	-0.3
	comp=Z,217nm,1.3s								
CPNY	Central Park	22.26	358		*e*	P	P	14 48 44.4	+2.5
	comp=Z,143nm,1.4s								
WCI	Wyandotte Cave	22.87	332		P		P	14 48 48.4	-0.1
WCI					pmax		pmax		
	comp=Z,70nm,1.4s								
WCI	Wyandotte Cave	22.87	332		P		P	14 48 48.4	-0.1
	comp=Z,70nm,1.4s								
PTGA	Pitinga	22.96	145		*e*	P	P	14 48 49.3	-0.3
	comp=Z,176nm,1.3s								
PTGA	Pitinga	22.96	145		P		P	14 48 49.3	-0.3
	comp=Z,113nm,1.2s,baz=335,slow=11,SNR=42								
PTGA						LR	LR	14 58 18.1	
	comp=Z,664nm,19.0s,baz=332,slow=38								
USIN	University of	23.29	330		*e*	P	P	14 48 53.7	+0.9
	comp=Z,88nm,1.1s								
ACSO	Alum Creek Sta	23.34	340		*e*	P	P	14 48 53.4	+0.1
	comp=Z,172nm,1.5s								
NATX	Nacogdoches	23.63	308		*e*	P	P	14 48 57.1	+0.9
	comp=Z,423nm,1.5s								
UALR	University of	23.68	317		*e*	P	P	14 48 58.8	+2.2
	comp=Z,423nm,2.2s								
HKT	Hockley	23.73	303	⇓	*i*	P	P	14 48 59.2	+2.0
HKT					pmax		pmax		
	comp=Z,36nm,1.3s								
HKT	Hockley	23.73	303		*e*	P	P	14 48 56.8	-0.3
	comp=Z,196nm,1.8s								
BLO	Bloomington	23.75	333		*e*	P	P	14 48 57.5	+0.2
BLO					pmax		pmax		
	comp=Z,509nm,2.0s								
BLO	Bloomington	23.75	333		*e*	P	P	14 48 57.5	+0.2
	comp=Z,509nm,2.0s								
BINY	Binghamton	23.79	354		P		P	14 48 58.7	+1.0
	comp=Z,963nm,2.3s								
SIUC	Southern Illin	23.87	327		*e*	P	P	14 48 58.8	+0.4
	comp=Z,263nm,1.6s								
HRV	Adam Dziewonsk	23.99	3		*e*	P	P	14 48 59.2	-0.3
HRV	Adam Dziewonsk	23.99	3		*e*	P	P	14 48 59.2	-0.3
MIAR	Mount Ida	24.35	315		*e*	P	P	14 49 03.9	+1.0
MIAR					pmax		pmax		
	comp=Z,50nm,1.3s								
MIAR	Mount Ida	24.35	315		*e*	P	P	14 49 03.9	+1.0
	comp=Z,50nm,1.3s								
035Z	Hargill	24.49	293	⇓	P		P	14 49 05.8	+1.5
	baz=24								
035A	Encino	24.64	295		P		P	14 49 07.3	+1.7
	baz=25								
835A	Beeville	24.79	298	⇑	P		P	14 49 08.8	+1.8
	baz=25								
ACCN	Adirondack Com	24.84	359		*e*	P	P	14 49 06.5	-0.9
	comp=Z,223nm,1.9s								
735A	Kenedy	24.95	299	⇓	P		P	14 49 10.4	+2.0
	baz=25								
SFIN	Scholer Farm	25.00	334		*e*	P	P	14 49 09.8	+1.1
	comp=Z,77nm,1.1s								
SFIN	Scholer Farm	25.00	334	⇓	P		P	14 49 10.8	+2.1
	baz=25,SNR=10								
635A	Leesville	25.09	300	⇓	P		P	14 49 11.1	+1.4
	baz=25								
535A	Dale	25.16	302	⇓	P		P	14 49 11.6	+1.3
	baz=25								
934A	Benavides	25.17	296	⇑	P		P	14 49 11.8	+1.3
	baz=25,SNR=14								
034A	Hebbronville	25.17	295	⇓	P		P	14 49 11.5	+1.0
	baz=25,SNR=17								
834A	Tilden	25.34	297	⇑	P		P	14 49 12.9	+0.8
	baz=25,SNR=20								
AAM	Ann Arbor	25.44	341		P		P	14 49 13.0	+0.3
AAM	Ann Arbor	25.44	341		P		P	14 49 13.0	+0.3
335A	Moody	25.53	305	⇓	P		P	14 49 14.7	+1.0
	baz=26,SNR=6.7								
734A	La Parita Cree	25.57	299	⇓	P		P	14 49 14.5	+0.5
	baz=26								
LBNH	Lisbon	25.71	2		*e*	P	P	14 49 18.2	+3.1
LBNH					pmax		pmax		
	comp=Z,34nm,1.1s								
LBNH	Lisbon	25.71	2		*e*	P	P	14 49 18.2	+3.1
	comp=Z,34nm,1.1s								
933A	Laredo	25.82	295	⇓	P		P	14 49 17.8	+1.4
	baz=26,SNR=5.3								
WHTX	Lake Whitney	25.85	306		*e*	P	P	14 49 16.7	+0.1
	comp=Z,125nm,1.3s								
WHTX	Lake Whitney	25.85	306	⇑	P		P	14 49 17.5	+0.9
	baz=26,SNR=7.1								
534A	Blanco	25.89	301	⇓	P		P	14 49 17.2	+0.2
	baz=26,SNR=25								
ATAH	Atahualpa	26.00	192		P		P	14 49 19.0	+0.5
ATAH	Atahualpa	26.00	192		P		P	14 49 19.0	+0.5
	comp=Z,18nm,0.9s,baz=5.5,slow=9.5,SNR=7.8								
434A	Burnet	26.01	303	⇓	P		P	14 49 18.5	+0.4
	baz=26,SNR=5.1								
135A	Vickery Place,	26.06	307	⇑	P		P	14 49 18.7	+0.1
	baz=26								
LONY	Lake Ozonia	26.11	357		P		P	14 49 19.6	+0.8
	comp=Z,104nm,1.8s								
833A	Chaparral WMA,	26.11	297	⇓	P		P	14 49 19.2	+0.2
	baz=26,SNR=18								
733A	Divot King Ran	26.14	298	⇑	P		P	14 49 19.1	-0.2
	baz=26								
334A	Lometa	26.18	304	⇓	P		P	14 49 19.8	+0.2
	baz=26,SNR=22								
633A	Saathoff Ranch	26.27	300	⇑	P		P	14 49 20.9	+0.5
	baz=26,SNR=22								
Z35A	Perchaven, San	26.30	309	⇑	P		P	14 49 21.2	+0.6
	baz=26								
533A	Kerrville	26.36	301	⇑	P		P	14 49 21.4	+0.1
	baz=26								
234A	Clairette	26.38	306	⇑	P		P	14 49 22.0	+0.6
	baz=26								
134A	White-Moore Ra	26.58	307	⇓	P		P	14 49 23.8	+0.6
	baz=27,SNR=6.0								
832A	Faith Ranch, C	26.59	297	⇓	P		P	14 49 23.5	+0.1
	baz=27,SNR=36								
TUL1	Tulsa	26.62	315		*e*	P	P	14 49 24.5	+1.0
	comp=Z,153nm,1.3s								
TUL1	Tulsa	26.62	315	⇓	P		P	14 49 23.9	+0.4
	baz=27,SNR=14								
433A	Art	26.64	302	⇑	P		P	14 49 24.1	+0.2
	baz=27,SNR=51								
732A	Laxson Ranch,	26.71	297	⇑	P		P	14 49 24.7	+0.3
	baz=27,SNR=11								
SADO	Sadowa	26.73	350			LR	LR	14 59 23.5	
	comp=Z,2μm,21.2s,baz=178,slow=35								
333A	Richland Sprin	26.77	304	⇑	P		P	14 49 25.6	+0.6
	baz=27,SNR=34								
632A	Uvalde	26.79	299		P		P	14 49 26.0	+0.8
	baz=27								
Z34A	Collier Ranch,	26.81	308	⇑	P		P	14 49 25.7	+0.4
	baz=27								
Y34A	Reagan Ranch,	26.97	310	⇑	P		P	14 49 27.6	+0.9
	baz=27,SNR=8.2								
233A	Rising Star	26.98	305	⇑	P		P	14 49 27.3	+0.

Z30A	Sanderson Ranc	29.20 306	⇑P		P	14 49 46.5	-0.3	
	baz=29,SNR=7.5							
329A	Wagon Wheel Ra	29.22 302	⇓P		P	14 49 46.7	-0.2	
	baz=29							
229A	Bryant Ranch,	29.25 303	⇑P		P	14 49 46.8	-0.3	
	baz=29							
V31A	Spring Creek L	29.34 311	⇓P		P	14 49 49.5	+1.6	
	baz=29,SNR=5.4							
628A	Black Gap, Mar	29.38 298	⇑P		P	14 49 47.7	-0.6	
	baz=29,SNR=9.5							
T32A	Huddler Ranch,	29.42 315	⇓P		P	14 49 49.4	+0.8	
	baz=30,SNR=5.8							
R33A	Olander Ranch,	29.42 317	⇓P		P	14 49 48.9	+0.3	
	baz=30							
528A	Cox Ranch, San	29.48 299	⇓P		P	14 49 50.3	+1.0	
	baz=30,SNR=29							
X30A	Coker Ranch, T	29.49 308	⇓P		P	14 49 49.1	-0.2	
	baz=30							
428A	Kincaid Ranch,	29.55 300	⇑P		P	14 49 50.8	+0.9	
	baz=30,SNR=40							
Z29A	Hungry Hill Ra	29.64 305	⇑P		P	14 49 51.2	+0.6	
	baz=30,SNR=6.6							
Q33A	Connelly Farm,	29.73 319	⇑P		P	14 49 52.0	+0.7	
	baz=30,SNR=7.8							
627A	Terlingua Ranc	29.79 297	P		P	14 49 52.9	+0.9	
	baz=30							
Y29A	Porterfield Fa	29.85 307	⇓P		P	14 49 53.1	+0.6	
	baz=30,SNR=7.0							
328A	Wristen Ranch,	29.86 301	⇑P		P	14 49 52.2	-0.4	
	baz=30							
T31A	Randall Ranch,	29.89 314	⇓P		P	14 49 53.5	+0.8	
	baz=30,SNR=6.7							
228A	UT Block 9, Go	29.92 303	⇑P		P	14 49 52.9	-0.3	
	baz=30							
R32A	Long Quarter,	29.96 317	⇑P		P	14 49 54.2	+0.9	
	baz=30,SNR=5.2							
TXAR	Lajitas Array	30.00 297	P		P	14 49 54.8	+0.9	
TXAR			PcP		PcP	14 52 56.6	+0.5	
TXAR	Lajitas Array	30.00 297	P		P	14 49 54.8	+0.9	
	comp=Z,6.0nm,1.0s,baz=112,slow=7.2,SNR=21							
TXAR			PcP		PcP	14 52 56.6	+0.5	
	comp=Z,1.3nm,0.6s,baz=121,slow=2.6,SNR=6.8							
TXAR			LR		LR	15 04 11.2		
	comp=Z,210nm,19.1s,baz=0.0,slow=41							
128A	Castleberry Fa	30.01 304	⇓P		P	14 49 54.3	+0.4	
	baz=30,SNR=24							
S31A	Mullinville	30.03 315	⇑P		P	14 49 54.7	+0.7	
	baz=30,SNR=6.6							
X29A	Tulia	30.11 308	⇑P		P	14 49 54.8	0.0	
	baz=30							
527A	Woodward Ranch	30.16 298	⇑P		P	14 49 56.3	+0.9	
	baz=30,SNR=30							
Z28A	Tucker Farm, M	30.18 305	⇓P		P	14 49 55.4	0.0	
	baz=30							
427A	Hayter Ranch,	30.18 300	⇓P		P	14 49 55.9	+0.4	
	baz=30,SNR=26							
Q32A	Meitler Ranch,	30.19 318	⇓P		P	14 49 55.6	+0.3	
	baz=30,SNR=6.2							
AMTX	Amarillo	30.28 308	⇑P		P	14 49 56.1	-0.1	
	baz=30							
U30A	WK&E Inc. Balk	30.28 312	⇓P		P	14 49 56.4	+0.1	
	baz=30							
Y28A	McKinney Farm,	30.31 306	⇓P		P	14 49 56.9	+0.3	
	baz=30,SNR=5.3							
W29A	Amraillo	30.36 309	⇑P		P	14 49 57.3	+0.4	
	baz=30							
R31A	Burdett	30.42 316	⇑P		P	14 49 58.4	+1.0	
	baz=30,SNR=8.1							
626A	Big Bend Ranch	30.44 297	⇑P		P	14 49 58.3	+0.5	
	baz=30,SNR=10							
227A	Bennet, Jal	30.45 302	P		P	14 49 58.5	+0.7	
	baz=30							
526A	Mary Lane Ranc	30.54 298	⇓P		P	14 49 59.6	+0.9	
	baz=31,SNR=33							
V29A	Stinnett	30.59 310	⇓P		P	14 50 00.2	+1.2	
	baz=31							
426A	McDonald Obser	30.65 299	⇓P		P	14 50 00.5	+0.7	
	baz=31,SNR=32							
127A	Arkansas Junct	30.72 303	⇓P		P	14 50 00.3	+0.1	
	baz=31							
Q31A	Ellis	30.73 317	⇑P		P	14 50 00.8	+0.6	
	baz=31,SNR=5.7							
MSTX	Muleshoe	30.73 306	eP		P	14 49 59.8	-0.5	
	comp=Z,33nm,1.1s							
MSTX	Muleshoe	30.73 306	P		P	14 50 00.9	+0.6	
	baz=31							
326A	Caldwell Ranch	30.79 301	⇑P		P	14 50 00.6	-0.2	
	baz=31							
Z27A	Tatum	30.83 305	⇑P		P	14 50 01.2	0.0	
	baz=31,SNR=16							
R30A	Dighton	30.91 315	⇑P		P	14 50 03.1	+1.3	
	baz=31,SNR=10							
Y27A	Causey	31.00 306	⇓P		P	14 50 03.5	+0.7	
	baz=31							
P31A	Stockton	31.01 318	⇓P		P	14 50 03.8	+1.1	
	baz=31,SNR=7.5							
S29A	Ulysses	31.14 314	⇓P		P	14 50 05.2	+1.4	
	baz=31,SNR=7.8							
226B	Tecolote Peak,	31.17 302	P		P	14 50 05.2	+1.0	
	baz=31							
126A	Clayton Basin,	31.24 303	⇑P		P	14 50 04.9	+0.1	
	baz=31							
X27A	F and S Farms,	31.24 307	P		P	14 50 05.5	+0.6	
	baz=31							
U28A	Mallet	31.33 311	P		P	14 50 06.4	+0.8	
	baz=31							
O31A	Woolen Ranch,	31.34 319	⇑P		P	14 50 06.7	+1.2	
	baz=31							
GDL2	Guadalupe Moun	31.37 302	P		P	14 50 07.2	+1.2	
	comp=Z,3.5nm,0.6s							
W27A	Bowe Ranch, En	31.38 308	⇑P		P	14 50 06.2	+0.2	
	baz=31							
Z26A	Caprock	31.42 304	⇓P		P	14 50 06.7	+0.3	
	baz=32							
425A	Indio Mountain	31.47 299	⇓P		P	14 50 07.8	+0.9	
	baz=32,SNR=18							
P30A	Selden	31.58 317	⇑P		P	14 50 08.6	+1.0	
	baz=32,SNR=13							
T28A	Walsh	31.59 312	⇓P		P	14 50 08.3	+0.4	
	baz=32							
325A	Bean Ranch, Si	31.62 300	⇓P		P	14 50 08.9	+0.7	
	baz=32,SNR=38							
S28A	Manter	31.67 313	⇓P		P	14 50 09.0	+0.6	
	baz=32							
Q29A	Oakley	31.70 316	⇓P		P	14 50 09.5	+0.8	
	baz=32,SNR=12							
225A	Deer Hill, Car	31.71 302	⇑P		P	14 50 09.8	+0.8	
	baz=32							
X26A	CR and CF Fran	31.75 306	⇓P		P	14 50 09.9	+0.6	
	baz=32,SNR=6.1							
125A	Gardner Draw,	31.75 303	⇓P		P	14 50 09.7	+0.4	
	baz=32,SNR=22							
U27A	Thompson Grove	31.78 310	⇑P		P	14 50 10.2	+0.6	
	baz=32,SNR=7.1							
O30A	MW Ranch, Wils	31.82 319	⇓P		P	14 50 10.6	+0.9	
	baz=32,SNR=5.4							
M31A	Lambtecht Ranc	31.84 321	⇑P		P	14 50 10.8	+0.8	
	baz=32							
W26A	Owens Ranch, T	31.92 307	⇑P		P	14 50 11.9	+1.1	
	baz=32,SNR=7.8							
R28A	Tribune	31.98 314	⇑P		P	14 50 12.3	+1.1	
	baz=32,SNR=14							
T27A	Campo	32.00 311	⇑P		P	14 50 11.8	+0.3	
	baz=32							
Z25A	Roswell	32.00 304	⇓P		P	14 50 12.3	+0.8	
	baz=32,SNR=40							
MNTX	Cornudas Mount	32.05 301	eP		P	14 50 12.7	+0.9	
	comp=Z,110nm,1.5s							
324A	Moseley Ranch,	32.06 300	⇓P		P	14 50 13.0	+0.9	
	baz=32,SNR=53							
ECSD	EROS Data Cent	32.10 327	eP		P	14 50 10.5	-1.6	
	comp=Z,18nm,1.3s							
ECSD	EROS Data Cent	32.10 327	⇑P		P	14 50 12.7	+0.6	
	baz=32							
N30A	Hueftle Ranch,	32.20 319	⇓P		P	14 50 13.2	+0.1	
	baz=32							
Y25A	Mesa, Roswell	32.20 305	⇓P		P	14 50 12.6	-0.7	
	baz=32							
V26A	Tequesquite Ra	32.22 309	⇓P		P	14 50 13.6	+0.1	
	baz=32							
O29A	4D Ranch, Culb	32.25 318	⇓P		P	14 50 14.1	+0.5	
	baz=32,SNR=7.2							
224A	Cornudas Mount	32.27 301	⇑P		P	14 50 14.8	+0.8	
	baz=32,SNR=63							
L31A	Butterfield Fa	32.28 323	⇓P		P	14 50 14.6	+0.8	
	baz=32							
Q28A	Sharon Springs	32.36 315	⇑P		P	14 50 14.9	+0.3	
	baz=32							
124A	Stringfield Ra	32.40 302	⇓P		P	14 50 16.7	+1.5	
	baz=32,SNR=60							
U26A	Atchley Ranch,	32.44 310	⇑P		P	14 50 16.0	+0.6	
	baz=32,SNR=23							
W25A	X Bar L Ranch,	32.50 307	⇓P		P	14 50 16.7	+0.8	
	baz=32,SNR=38							
Z24A	Sheeppen Canyo	32.53 303	⇑P		P	14 50 17.2	+0.9	
	baz=33,SNR=55							
P28A	Saint Francis	32.57 316	⇓P		P	14 50 16.7	+0.2	
	baz=33							
R27A	Eads	32.62 313	⇑P		P	14 50 17.6	+0.6	
	baz=33,SNR=6.2							
L30A	Spencer Herefo	32.66 322	⇑P		P	14 50 18.5	+1.4	
	baz=33,SNR=6.9							
T26A	Comanche Natio	32.67 311	⇑P		P	14 50 18.4	+1.0	
	baz=33,SNR=6.6							
Y24A	Capitan	32.78 304	⇓P		P	14 50 19.6	+1.2	
	baz=33,SNR=28							
S26A	Kim	32.78 312	⇓P		P	14 50 19.4	+1.1	
	baz=33							
V25A	Rancho No Teng	32.86 308	⇑P		P	14 50 20.1	+1.0	
	baz=33,SNR=50							
U25A	Circle Dot Ran	32.93 309	⇑P		P	14 50 20.6	+0.9	
	baz=33,SNR=17							
M29A	Burnside Ranch	32.94 320	⇓P		P	14 50 20.3	+0.7	
	baz=33							
X24A	Lazy VL Ranch,	33.00 306	⇓P		P	14 50 21.6	+1.2	
	baz=33,SNR=6.0							
123A	Bell Site, Whi	33.03 302	⇑P		P	14 50 20.5	0.0	
	baz=33							
N28A	Pribbeno Ranch	33.04 318	⇑P		P	14 50 21.4	+0.9	
	baz=33							
K30A	Basset	33.04 323	⇓P		P	14 50 21.2	+0.8	
	baz=33							
EYMN	Ely	33.06 337	eP		P	14 50 21.6	+1.2	
	comp=Z,28nm,1.1s							
R26A	Arlington	33.08 313	⇓P		P	14 50 22.0	+1.1	
	baz=33,SNR=5.9							
P27A	Ficken Ranch,	33.11 316	⇓P		P	14 50 22.4	+1.3	
	baz=33							
Z23A	Rita Site, Whi	33.20 303	⇓P		P	14 50 23.2	+1.2	
	baz=33,SNR=23							
W24A	Lazy 6 Ranch,	33.21 307	⇓P		P	14 50 24.1	+1.8	
	baz=33,SNR=36							
T25A	Trinidad	33.24 310	⇑P		P	14 50 24.0	+1.5	
	baz=33,SNR=28							
Y23A	Lovelace Mesa,	33.27 304	⇓P		P	14 50 24.1	+1.4	
	baz=33,SNR=48							
V24A	Rampart Ranch,	33.30 308	⇑P		P	14 50 24.6	+1.6	
	baz=33,SNR=7.0							
Q26A	Hugo	33.43 314	⇓P		P	14 50 24.9	+0.9	
	baz=34,SNR=9.6							
S25A	Robets Cordova	33.48 311	⇑P		P	14 50 25.2	+0.7	
	baz=34,SNR=18							
OGNE	Ogalla	33.49 318	P		P	14 50 27.0	+2.6	
	comp=Z,78nm,1.5s							
222A	Williams Famil	33.56 301	⇓P		P	14 50 26.5	+1.3	
	baz=34,SNR=12							
X23A	Hourglass Bar	33.59 305	⇑P		P	14 50 26.7	+1.1	
	baz=34							
R25A	Fountain Ranch	33.59 312	⇑P		P	14 50 26.7	+1.3	
	baz=34,SNR=6.1							
P26A	Davis Ranch, A	33.62 315	⇑P		P	14 50 26.8	+1.1	
	baz=34							
W23A	Werner Place,	33.76 306	⇑P		P	14 50 28.6	+1.5	
	baz=34,SNR=18							
Z22A	Elephant Butte	33.78 303	⇓P		P	14 50 28.8	+1.6	
	baz=34,SNR=33							
BNM	Barren Site	33.79 304	eP		P	14 50 28.3	+1.0	
	comp=Z,69nm,1.2s							
LPM	Los Pinos Moun	33.85 305	eP		P	14 50 28.9	+1.2	
	comp=Z,103nm,1.4s							
J29A	Okreek	33.91 323	P		P	14 50 30.4	+2.5	
	baz=34							
T24B	San Luis	33.91 310	⇓P		P	14 50 30.4	+2.0	
	baz=34,SNR=27							
Q25A	Bedland, Calha	33.92 313	⇑P		P	14 50 29.7	+1.3	
	baz=34							
ANMO	Albuquerque	33.92 306	eP		P	14 50 28.1	-0.3	
	comp=Z,51nm,1.4s							
ANMO	Albuquerque	33.92 306	P		P	14 50 29.7	+1.3	
	comp=Z,8.9nm,1.2s,baz=121,slow=12,SNR=13							
O26A	Horse Wrangler	33.94 316	⇓P		P	14 50 29.7	+1.2	
	baz=34							
V23A	Ortiz Mt. (NFS	34.00 307	⇓P		P	14 50 30.6	+1.5	
	baz=34,SNR=17							
S24A	Houchin Ranch,	34.03 311	⇓P		P	14 50 30.9	+1.4	
	baz=34,SNR=6.1							
M27A	Reverse DX Ran	34.03 319	⇓P		P	14 50 30.8	+1.6	
	baz=34							
LENM	Lemitar	34.07 304	eP		P	14 50 29.8	+0.1	
	comp=Z,80nm,1.7s							
221A	Mesquite Ranch	34.09 300	⇑P		P	14 50 31.2	+1.4	
	baz=34							
P25A	Willow Gulch B	34.15 314	⇓P		P	14 50 32.1	+1.8	
	baz=34							
R24A	Sanders Place,	34.21 312	⇑P		P	14 50 32.6	+1.7	
	baz=34,SNR=12							
121A	Cookes Peak, D	34.24 301	eP		P	14 50 32.0	+0.8	
	comp=Z,113nm,1.5s							
121A	Cookes Peak, D	34.24 301	⇓P		P	14 50 32.6	+1.4	
	baz=34,SNR=10.0							
LAZ	Ladron	34.27 304	eP		P	14 50 32.6	+1.1	
	comp=Z,48nm,1.3s							
SDCO	Great Sand Dun	34.28 311	eP		P	14 50 32.1	+0.5	
	comp=Z,31nm,1.3s							
L27A	T5 Ranch, Ells	34.30 320	⇑P		P	14 50 32.8	+1.3	
	baz=34							
G30A	Faulkton	34.38 326	⇓P		P	14 50 33.6	+1.6	
	baz=34							
T23A	Casias Ranch,	34.38 309	⇓P		P	14 50 33.6	+1.1	
	baz=34,SNR=6.0							
M26A	McRoberts Ranc	34.48 318	⇑P		P	14 50 34.9	+1.9	
	baz=34							
320A	Kipp Ranch, An	34.55 299	⇓P		P	14 50 35.5	+1.7	
	baz=35,SNR=11							
Q24A	Divide	34.57 313	⇓P		P	14 50 35.5	+1.4	
	baz=35							
K27A	Flueckinger Fa	34.60 321	⇑P		P	14 50 36.2	+2.1	
	baz=35							
V22A	San Miguel Ran	34.61 307	⇓P		P	14 50 35.9	+1.5	
	baz=35,SNR=30							
S23A	Nye Farm, Mont	34.63 310	⇓P		P	14 50 36.4	+1.8	
	baz=35							
R23A	Moffat	34.71 311	⇓P		P	14 50 36.6	+1.3	
	baz=35,SNR=32							
U22A	Llaves	34.74 308	⇓P		P	14 50 37.4	+1.9	
	baz=35,SNR=29							
I28A	Midland	34.75 323	⇑P		P	14 50 37.3	+2.0	
	baz=35							
J27A	Elkhorn Farm,	34.79 322	⇑P		P	14 50 37.6	+1.9	
	baz=35							
LPAZ	La Paz	34.87 172	P		P	14 50 36.5	-0.5	
	comp=Z,37nm,1.5s							
LPAZ	La Paz	34.87 172	P		P	14 50 36.8	-0.3	
	comp=Z,3.5nm,0.6s,baz=347,slow=11,SNR=11							
LPAZ			LR		LR	15 05 44.8		
	comp=Z,2µm,21.9s,baz=359,slow=38							
O24A	Longmont	35.06 315	⇑P		P	14 50 40.5	+2.4	
	baz=35							
LPIG	La Paz	35.17 286	P		P	14 50 40.5	+1.5	
LPIG	La Paz	35.17 286	P		P	14 50 40.5	+1.5	
	comp=Z,21nm,0.3s,baz=96,slow=11,SNR=7.5							
LPIG			LR		LR	15 07 39.2		
	comp=Z,199nm,18.1s,baz=110,slow=41							
K26A	Motz Farm, Whi	35.18 320	⇓P		P	14 50 40.9	+1.8	
	baz=35							
319A	Douglas	35.19 298	⇑P		P	14 50 41.0	+1.7	
	baz=35,SNR=34							
P23A	Jefferson	35.23 313	⇓P		P	14 50 40.6	+0.8	
	baz=35							
S22A	4UR Ranch, Cre	35.24 310	⇑P		P	14 50 40.8	+0.9	
	baz=35,SNR=22							
ISCO	Idaho Springs	35.27 314	⇑P		P	14 50 41.0	+0.8	
	baz=35,SNR=9.3							
N24A	Carr	35.27 316	⇑P		P	14 50 41.0	+1.0	
	baz=35							
I27A	Quinn	35.30 323	⇓P		P	14 50 41.5	+1.4	
	baz=35							
L25A	Engebretsen Ra	35.37 319	⇑P		P	14 50 42.1	+1.4	
	baz=35							
J26A	Sides Ranch, S	35.46 321	⇑P		P	14 50 42.7	+1.2	
	baz=36							
M24A	Cheyenne	35.55 317	⇓P		P	14 50 43.4	+1.0	
	baz=36,SNR=8.6							
H27A	Howes	35.66 323	⇑P		P	14 50 43.9	+0.8	
	baz=36							
O23A	Lake Granby, G	35.67 314	⇓P		P	14 50 44.0	+0.5	
	baz=36							
C30A	Mose, Pekin	35.83 330	⇓P		P	14 50 46.1	+1.6	
	baz=36,SNR=8.0							
L24A	Wheatland	35.92 318	⇓P		P	14 50 46.7	+1.2	
	baz=36,SNR=5.2							
J25A	Sunshine Ranch	35.94 320	⇓P		P	14 50 46.4	+0.8	
	baz=36,SNR=5.3							
P22A	Eagle	35.97 313	⇑P		P	14 50 46.3	+0.2	
	baz=36							
N23A	Red Feather La	36.01 315	⇓P		P	14 50 46.5	+0.1	
	baz=36							
H26A	Fairpoint	36.04 323	⇑P		P	14 50 47.7	+1.3	
	baz=36,SNR=5.7							
O22A	Kremmling	36.07 314	⇑P		P	14 50 48.3	+1.3	
	baz=36,SNR=10							
SIV	San Ignacio	36.19 160	P		P	14 50 46.8	-1.1	
SIV	San Ignacio	36.19 160	P		P	14 50 46.8	-1.1	
	comp=Z,4.6nm,0.8s,baz=346,slow=9.9,SNR=8.8							
SIV			LR		LR	15 06 18.1		
	comp=Z,2µm,20.1s,baz=0.5,slow=38							
MVCO	Mesa Verde	36.27 308	⇑P		P	14 50 49.1	+0.5	
	baz=36							
B30A	Myrvik Farm, E	36.30 331	⇓P		P	14 50 49.2	+0.8	
	baz=36							
N22A	Wattenberg Ran	36.31 315	⇑P		P	14 50 49.1	+0.1	
	baz=36							
F27A	Lemmon	36.39 325	⇑P		P	14 50 49.7	+0.4	
	baz=36							
J24A	Dixon Ranch, L	36.43 320	⇓P		P	14 50 50.0	+0.1	
	baz=36							
L23A	Garrett	36.45 317	⇑P		P	14 50 51.0	+0.9	
	baz=36,SNR=9.8							
X18A	Snowflake	36.52 303	⇓P		P	14 50 51.5	+0.7	
	baz=37							
SCHQ	Schefferville	36.60 6	P		P	14 50 51.1	+0.2	
SCHQ	Schefferville	36.60 6	P		P	14 50 51.1	+0.2	
	comp=Z,12nm,0.7s,baz=192,slow=8.9,SNR=17							
SCHQ			LR		LR	15 04 57.1		
	comp=Z,968nm,20.4s,baz=212,slow=35							
ULM	Lac du Bonnet	36.61 335	eP		P	14 50 49.2	-1.8	
	comp=Z,20nm,1.0s							
ULM	Lac du Bonnet	36.61 335	P		P	14 50 51.0	-0.1	
	comp=Z,17nm,1.0s,baz=138,slow=9.2,SNR=16							
ULM			LR		LR	15 06 57.3		
	comp=Z,761nm,18.2s,baz=148,slow=38							
TUC	Tucson	36.64 300	eP		P	14 50 53.0	+1.3	
TUC			pmax		pmax			
	comp=Z,28nm,1.4s							
TUC	Tucson	36.64 300	eP		P	14 50 53.0	+1.3	
	comp=Z,28nm,1.4s							
A30A	Hoffart Farm,	36.64 332	⇓P		P	14 50 52.9	+1.5	
	baz=37,SNR=11							
PV01	Paradox Valley	36.66 310	eP		P	14 50 53.1	+1.1	
	comp=Z,2µm,1.2s							
I24A	Kuemmerle Ranc	36.70 321	⇓P		P	14 50 52.7	+0.7	
	baz=37							
G25A	Newell	36.76 323	⇑P		P	14 50 53.5	+1.0	
	baz=37,SNR=9.1							
L22A	Ellis Ranch, M	36.88 317	P		P	14 50 55.0	+1.2	
	baz=37							
A29A	Manning Farm,	37.05 331	⇓P		P	14 50 56.3	+1.4	
	baz=37,SNR=12							
H24A	Dirks Ranch, A	37.15 322	⇓P		P	14 50 57.3	+1.4	
	baz=37,SNR=6.5							
O20A	White River Ci	37.23 313	eP		P	14 50 57.4	+0.6	
	comp=Z,64nm,1.5s							
O20A	White River Ci	37.23 313	⇑P		P	14 50 58.0	+1.2	
	baz=37,SNR=6.6							
K22A	Casper	37.24 318	eP		P	14 50 56.3	-0.5	
	comp=Z,42nm,1.3s							
K22A	Casper	37.24 318	⇓P		P	14 50 57.6	+0.8	
	baz=37,SNR=7.5							
N20A	Spence Gulch,	37.55 314	⇑P		P	14 50 59.8	+0.3	
	baz=38							
J22A	Midwest	37.60 319	⇑P		P	14 51 00.5	+0.7	
	baz=38,SNR=13							
X16A	Lo Mia Camp, P	37.68 303	⇑P		P	14 51 02.0	+1.4	
	baz=38,SNR=23							
C26A	Wahner Farm, P	37.69 328	⇓P		P	14 51 01.5	+1.1	
	baz=38							
K21A	Alcova	37.70 317	⇑P		P	14 51 01.9	+1.2	
	baz=38,SNR=45							
I22A	9 Mile Ranch,	37.85 319	⇑P		P	14 51 03.1	+1.2	
	baz=38,SNR=5.4							
G23A	Biddle	37.90 322	⇓P		P	14 51 03.4	+1.2	
	baz=38							
WUAZ	Wupatki	37.92 304	eP		P	14 51 04.1	+1.4	
	comp=Z,54nm,1.4s							
WUAZ	Wupatki	37.92 304	⇓P		P	14 51 03.3	+0.7	
	baz=38,SNR=17							
J21A	Lysite	38.17 318	⇑P		P	14 51 05.0	+0.3	
	baz=38,SNR=5.4							
F23A	Volborg	38.20 323	⇓P		P	14 51 05.1	+0.3	
	baz=38							
214A	Organ Pipe Nat	38.25 298	eP		P	14 51 05.2	-0.1	
	comp=Z,42nm,1.5s							
214A	Organ Pipe Nat	38.25 298	⇑P		P	14 51 05.6	+0.3	
	baz=38,SNR=8.3							
I21A	Big Trails, Te	38.31 319	⇓P		P	14 51 06.0	+0.1	
	baz=38,SNR=14							
A26A	Wade Farm, Ken	38.37 329	⇑P		P	14 51 06.3	+0.3	
	baz=38							
SRU	San Rafael	38.45 310	eP		P	14 51 06.3	-0.7	
SRU			pmax		pmax			
	comp=Z,24nm,1.3s							
SRU	San Rafael	38.45 310	eP		P	14 51 06.3	-0.7	
	comp=Z,24nm,1.3s							
J20A	Shoshoni	38.58 318	⇓P		P	14 51 08.8	+0.8	
	baz=39,SNR=5.8							
F22A	Rosebud	38.73 322	⇓P		P	14 51 10.1	+1.0	
	baz=39,SNR=10.0							
Y14A	Wickenburg	38.82 301	⇑P		P	14 51 11.0	+0.8	
	baz=39,SNR=12							
U15A	North Rim	38.90 306	⇑P		P	14 51 11.5	+0.5	
	baz=39,SNR=24							
I20A	Worland	38.90 319	⇑P		P	14 51 10.9	+0.2	
	baz=39,SNR=6.4							
G21A	Lodge Grass	38.99 321	⇓P		P	14 51 11.4	0.0	
	baz=39							
TMUT	Trail Mountain	39.01 310	eP		P	14 51 13.2	+1.3	
	comp=Z,44nm,1.3s							
J19A	Crowheart	39.16 317	⇑P		P	14 51 13.3	+0.3	
	baz=39,SNR=13							
PDAR	Pinedale Array	39.27 316	P		P	14 51 14.1	+0.1	
PDAR			PcP		PcP	14 53 22.4	-0.3	
PDAR	Pinedale Array	39.27 316	P		P	14 51 14.1

comp=Z,17nm,1.5s
GLA Glamis 40.13 300 *e*P **P 14 51 21.3 +0.3**
comp=Z,17nm,1.5s
GLA Glamis 40.13 300 ⇓P **P 14 51 20.1 -1.0**
baz=40
ARUT Antelope Range 40.17 307 *e*P **P 14 51 21.8 +0.4**
ARUT pmax pmax
comp=Z,589nm,1.2s
ARUT Antelope Range 40.17 307 *e*P **P 14 51 21.8 +0.4**
comp=Z,589nm,1.2s
RLMT Red Lodge 40.19 319 *e*P **P 14 51 20.6 -1.0**
comp=Z,35nm,1.2s
E20A Meyer Farm, Mu 40.21 322 ⇓P **P 14 51 21.1 -0.5**
baz=40,SNR=7.4
H18A Shoshone NF, C 40.22 319 ⇓P **P 14 51 21.3 -0.5**
baz=40,SNR=10
F19A Roth Farm, Mol 40.36 321 ⇓P **P 14 51 22.9 +0.1**
baz=40,SNR=6.9
A22A Carney Farms, 40.40 326 ⇑P **P 14 51 23.8 +0.8**
baz=40
I17A Pilgrim Ck. 40.45 317 ⇓P **P 14 51 24.5 +0.7**
baz=40,SNR=10.0
DUG Dugway 40.48 311 *e*P **P 14 51 24.5 +0.5**
DUG pmax pmax
comp=Z,41nm,1.3s
DUG Dugway 40.48 311 *e*P **P 14 51 24.4 +0.5**
comp=Z,41nm,1.3s
DUG Dugway 40.48 311 ⇓P **P 14 51 24.6 +0.7**
baz=40,SNR=21
D20A Manuel Ranch, 40.53 323 ⇓P **P 14 51 25.1 +0.9**
baz=41,SNR=5.8
E19A Rath Farm, Rou 40.58 322 ⇓P **P 14 51 24.8 +0.2**
baz=41,SNR=9.6
IRM Iron Mountain 40.61 301 ⇑P **P 14 51 26.1 +1.1**
baz=41,SNR=33
SPUT South Promonto 40.63 313 *e*P **P 14 51 25.3 +0.1**
comp=Z,29nm,1.2s
H17A Grant Village 40.66 318 *e*P **P 14 51 27.1 +1.5**
comp=Z,23nm,1.3s
BC3 Big Chuckawall 40.76 300 ⇑P **P 14 51 26.5 +0.2**
baz=41,SNR=10
BGU Big Grassy Mou 40.90 312 *e*P **P 14 51 27.7 +0.3**
comp=Z,25nm,1.4s
SWSC Sam W. Stewart 40.91 299 ⇑P **P 14 51 27.4 -0.1**
baz=41
A21A Bergtoll Ranch 40.93 326 ⇓P **P 14 51 27.7 +0.2**
baz=41,SNR=7.1
D19A Cripps Ranch, 41.00 322 ⇑P **P 14 51 28.4 +0.4**
baz=41,SNR=5.8
SHPR Sheep Range 41.14 305 *e*P **P 14 51 30.5 +1.0**
comp=Z,53nm,1.4s
GMRC Granite Mounta 41.15 302 ⇓P **P 14 51 30.2 +0.7**
baz=41
B20A Solberg Farm, 41.21 325 ⇑P **P 14 51 30.7 +0.9**
baz=41,SNR=5.0
BELC Belle Mtn. Jos 41.27 301 ⇑P **P 14 51 31.1 +0.5**
baz=41
C19A Slack Wire Ran 41.40 323 ⇑P **P 14 51 32.5 +1.1**
baz=42
QLMT Earthquake Lak 41.41 318 *e*P **P 14 51 33.1 +1.5**
comp=Z,7.8nm,1.4s
A20A Cobblestone Ra 41.41 325 ⇓P **P 14 51 33.2 +1.8**
baz=42,SNR=6.3
MONP Monument Peak 41.42 299 ⇓P **P 14 51 32.7 +0.8**
baz=41
TUQ Turquoise Moun 41.50 303 ⇓P **P 14 51 33.9 +1.4**
baz=42,SNR=16
PFO Pinyon Flat Ob 41.57 300 *e*P **P 14 51 33.2 +0.2**
comp=Z,43nm,1.6s
PFO Pinyon Flat Ob 41.57 300 P **P 14 51 33.9 +0.9**
comp=Z,0.7nm,0.3s,baz=87,slow=7.1,SNR=4.0
PFO Pinyon Flat Ob 41.57 300 ⇓P **P 14 51 33.4 +0.4**
baz=42
HEC Hector,Ludlow 41.70 302 ⇓P **P 14 51 35.1 +1.1**
baz=42
B19A Brinkman Farms 41.73 324 ⇓P **P 14 51 35.7 +1.7**
baz=42
BDFB Brasilia 41.87 142 P **P 14 51 35.0 -0.5**
BDFB Brasilia 41.87 142 P **P 14 51 35.0 -0.5**
comp=Z,38nm,1.1s,baz=322,slow=11,SNR=15
BDFB LR LR 15 09 36.9
comp=Z,980nm,18.2s,baz=317,slow=37
A19A Klindworth Far 41.88 325 ⇓P **P 14 51 37.3 +2.0**
baz=42,SNR=5.3
BOZ Bozeman (W) 41.90 319 *e*P **P 14 51 35.5 -0.1**
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 41.90 319 *e*P **P 14 51 35.5 -0.1**
comp=Z,21nm,1.4s
R11A Troy Canyon, C 41.95 307 ⇓P **P 14 51 37.1 +1.0**
baz=42,SNR=18
EGMT Eagleton 41.96 323 ⇓P **P 14 51 36.9 +1.0**
baz=42,SNR=5.6
TPNV Topopah Spring 42.10 305 ⇓P **P 14 51 39.2 +1.8**
baz=42,SNR=15
GSC Goldstone 42.18 302 *e*P **P 14 51 39.0 +1.1**
GSC pmax pmax
comp=Z,62nm,1.5s
GSC Goldstone 42.18 302 *e*P **P 14 51 39.0 +1.1**
comp=Z,62nm,1.5s
GSC Goldstone 42.18 302 ⇑P **P 14 51 39.5 +1.6**
baz=42,SNR=14
MURC Murrieta 42.18 300 ⇓P **P 14 51 39.2 +1.3**
baz=42
MCMT McKenzie Canyo 42.31 317 *e*P **P 14 51 40.0 +0.9**
comp=Z,17nm,1.3s
ELK Elko 42.41 311 P P 14 51 35.0 -5.0
ELK Elko 42.41 311 P P 14 51 35.0 -5.0
comp=Z,6.0nm,0.8s,baz=344,slow=0.9,SNR=7.7
FURC Furnace Creek, 42.47 304 ⇓P **P 14 51 41.9 +1.8**
baz=42,SNR=14
LRM Limekiln Ridge 42.49 319 *e*P **P 14 51 40.7 +0.2**
comp=Z,94nm,1.4s
HRY Holter Researc 42.52 320 P **P 14 51 40.9 +0.3**
comp=Z,15nm,1.0s
BFSC Mount Baldy Ra 42.67 301 ⇑P **P 14 51 43.0 +1.0**
baz=43
HLID Hailey 42.83 315 ⇑P **P 14 51 44.2 +1.0**
baz=43,SNR=18
LRMC Laurel Mountai 42.92 302 ⇓P **P 14 51 44.6 +0.6**
baz=43
GRAC Grapevine Rang 42.99 305 ⇓P **P 14 51 45.6 +1.2**
baz=43
EDW2 Edwards Air Fo 43.05 302 ⇑P **P 14 51 46.1 +1.1**
baz=43,SNR=12
FCC Fort Churchill 43.10 344 *e*P **P 14 51 43.4 -1.5**
FCC pmax pmax
comp=Z,1.0nm,1.2s
FCC Fort Churchill 43.10 344 *e*P **P 14 51 43.4 -1.5**
comp=Z,0.9nm,1.2s
TPH Tonopah 43.13 306 *e*P **P 14 51 47.1 +1.4**
TPH pmax pmax
comp=Z,54nm,1.3s
TPH Tonopah 43.13 306 *e*P **P 14 51 47.1 +1.4**
comp=Z,54nm,1.3s
CWC Cottonwood Cre 43.42 304 ⇓P **P 14 51 49.2 +1.1**
baz=43,SNR=7.4
CHMT Chamberlain Mo 43.48 320 P P 14 51 44.8 -3.6
comp=Z,13nm,1.4s
ISA Isabella 43.58 303 *e*P **P 14 51 48.9 -0.4**
ISA pmax pmax
comp=Z,13nm,1.6s
ISA Isabella 43.58 303 *e*P **P 14 51 48.9 -0.4**
comp=Z,13nm,1.6s
ISA Isabella 43.58 303 ⇓P **P 14 51 50.7 +1.5**
baz=44,SNR=5.8
OSI Osito Adit 43.60 301 ⇓P **P 14 51 50.3 +1.0**
baz=44
TIN Tinemaha 43.67 305 ⇓P **P 14 51 51.0 +1.0**
baz=44
ARVC Arvin 43.77 302 ⇑P **P 14 51 51.9 +1.2**
baz=44
SLMT Seeley Lake 43.78 320 P **P 14 51 49.3 -1.5**
comp=Z,53nm,1.9s
RCBR Riachuelo 43.80 120 P **P 14 51 49.1 -2.1**
RCBR Riachuelo 43.80 120 P **P 14 51 49.1 -2.1**
comp=Z,16nm,1.1s,baz=298,slow=7.3,SNR=4.0
MSO Missoula 43.87 319 ⇑P **P 14 51 52.5 +1.1**
baz=44
NV11 Mina Array Sit 43.92 307 *e*P **P 14 51 53.4 +1.3**
NVAR Mina Array Bea 44.04 307 P **P 14 51 54.3 +1.2**
NVAR Mina Array Bea 44.04 307 P **P 14 51 54.3 +1.2**
comp=Z,3.3nm,0.7s,baz=101,slow=8.6,SNR=13
NVAR LR LR 15 12 03.5
comp=Z,193nm,19.4s,baz=264,slow=39
VES Vestal, Richgr 44.10 303 ⇓P **P 14 51 54.8 +1.4**
baz=44,SNR=28
SWMT Swartz Lake 44.21 320 *e*P **P 14 51 54.1 -0.1**
comp=Z,19nm,1.5s
JTMT Jette 44.48 321 *e*P **P 14 51 56.4 0.0**
comp=Z,12nm,1.2s
BLMT Blacktail Moun 44.65 321 *e*P **P 14 51 58.3 +0.5**
comp=Z,26nm,1.4s
BSMT Bassoo Peak 44.84 320 *e*P **P 14 51 59.0 -0.3**
comp=Z,20nm,1.5s
FRB Frobisher Bay 45.34 3 P **P 14 52 02.5 -0.3**
FRB Frobisher Bay 45.34 3 P **P 14 52 02.5 -0.3**
comp=Z,11nm,0.6s,baz=194,slow=8.3,SNR=16
WVOR Wild Horse Val 45.36 312 *e*P **P 14 52 03.6 +0.2**
WVOR pmax pmax
comp=Z,36nm,1.2s
WVOR Wild Horse Val 45.36 312 *e*P **P 14 52 03.6 +0.2**
comp=Z,36nm,1.2s
NEW Newport 46.43 320 *e*P **P 14 52 11.3 -0.4**
comp=Z,28nm,1.3s
NEW Newport 46.43 320 P **P 14 52 12.0 +0.2**
comp=Z,9.2nm,1.0s,baz=122,slow=7.4,SNR=9.6
NEW Newport 46.43 320 ⇓P **P 14 52 11.9 +0.2**
baz=46,SNR=5.4
EDM Edmonton 46.66 328 *e*P **P 14 52 13.4 0.0**
EDM Edmonton 46.66 328 *e*P **P 14 52 13.4 0.0**
CPUP Villa Florida 47.05 161 *e*P **P 14 52 14.6 -2.0**
comp=Z,2.7nm,1.3s
CPUP Villa Florida 47.05 161 P **P 14 52 15.0 -1.6**
comp=Z,2.7nm,0.6s,baz=344,slow=7.4,SNR=2.9
CPUP LR LR 15 13 18.9
comp=Z,1µm,20.1s,baz=325,slow=38
YBH Yreka Blue Hor 48.10 310 P **P 14 52 24.8 -0.1**
YBH Yreka Blue Hor 48.10 310 P **P 14 52 24.8 -0.1**
comp=Z,5.2nm,0.8s,baz=47,slow=4.6,SNR=4.4
CFAA Coronel Fontan 49.99 175 P **P 14 52 39.0 -0.3**
CFAA Coronel Fontan 49.99 175 P **P 14 52 39.0 -0.3**
comp=Z,0.9nm,0.7s,baz=340,slow=7.4,SNR=13
CFAA LR LR 15 18 16.7
comp=Z,54nm,18.1s,baz=33,slow=42
SFJD Kangerlussuaq 50.61 11 P **P 14 52 43.8 +0.3**
SFJD Kangerlussuaq 50.61 11 P **P 14 52 43.8 +0.3**
comp=Z,11nm,0.6s,baz=189,slow=8.4,SNR=6.4
YKA Yellowknife Ar 52.54 337 P **P 14 52 58.0 0.0**
YKA Yellowknife Ar 52.54 337 P **P 14 52 58.0 0.0**
comp=Z,17nm,1.0s,baz=124,slow=6.9,SNR=43
YKW3 Yellowknife Ar 52.58 337 *e*P **P 14 52 57.5 -0.9**
comp=Z,0.9nm,1.2s
BBB Bella Bella 54.40 322 LR LR 15 17 43.3
comp=Z,877nm,18.8s,baz=111,slow=37
DLBC Dease Lake 57.37 328 *e*P **P 14 53 33.6 +0.5**
RES Resolute Bay 57.48 353 P **P 14 53 33.2 -0.4**
RES Resolute Bay 57.48 353 P **P 14 53 33.2 -0.4**
comp=Z,17nm,1.1s,baz=175,slow=10,SNR=20
SUMG Summit 57.59 12 *i* P **P 14 53 34.7 -0.2**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 57.59 12 *i* P **P 14 53 34.7 -0.2**
comp=Z,23nm,0.9s
SUMG Summit 57.59 12 *e*P **P 14 53 34.5 -0.4**
comp=Z,64nm,1.1s
MORF Marmelete 58.80 57 *e*P **P 14 53 44.9 +1.4**
comp=Z,85nm,1.2s
PNCL Nicolau / Gran 58.89 56 *e*P **P 14 53 44.5 +0.4**
comp=Z,96nm,1.3s
PLCA Paso Flores 58.94 178 *e*P **P 14 53 44.2 -0.1**
comp=Z,85nm,1.5s
PLCA Paso Flores 58.94 178 P **P 14 53 44.2 -0.1**
comp=Z,13nm,0.8s,baz=354,slow=7.6,SNR=29
PLCA LR LR 15 20 58.2
comp=Z,191nm,20.8s,baz=40,slow=38
PTOM Tomar 59.00 54 *e*P **P 14 53 46.2 +1.4**
comp=Z,123nm,1.3s
MESJ Messejana 59.14 57 *e*P **P 14 53 46.4 +0.6**
MESJ Messejana 59.14 57 *e*P **P 14 53 46.4 +0.6**
PMTG Montargil 59.14 55 *e*P **P 14 53 46.7 +0.9**
comp=Z,86nm,1.2s
PGAV Gavieira, Arco 59.18 52 *e*P **P 14 53 46.6 +0.5**
comp=Z,181nm,1.3s
EVOP Sao Brissos 59.21 56 *e*P **P 14 53 45.5 -0.8**
EVOP pmax pmax
comp=Z,136nm,1.2s
EVOP Sao Brissos 59.21 56 *e*P **P 14 53 45.5 -0.8**
comp=Z,136nm,1.2s
PCVE Castro Verde 59.28 57 *e*P **P 14 53 48.2 +1.4**
comp=Z,67nm,2.1s
EVO Evora 59.30 56 *e*P **P 14 53 45.5 -1.4**
comp=Z,136nm,1.2s
EVO *e*R
comp=Z,623nm,21.0s
EVO Evora 59.30 56 *e*P P 14 53 51.1 +4.2
comp=Z,54nm,1.6s
PBDV Barranco-do-Ve 59.37 57 *e*P **P 14 53 48.8 +1.3**
comp=Z,138nm,1.3s
PBEJ Beja 59.41 56 *e*P **P 14 53 48.9 +1.2**
comp=Z,49nm,1.2s
PVIS Viseu 59.42 53 *e*P P 14 53 52.5 +4.7
comp=Z,78nm,1.6s
POLO Lamas de Olo 59.51 52 *e*P **P 14 53 48.8 +0.3**
comp=Z,65nm,1.2s
PVAQ Vaqueiros 59.54 57 *e*P P 14 53 52.7 +4.1
comp=Z,119nm,1.4s
PVRL Vila Real 59.57 53 *e*P **P 14 53 49.6 +0.8**
comp=Z,125nm,1.3s
PESTR Estremoz 59.63 55 *e*P **P 14 53 50.4 +1.2**
comp=Z,101nm,1.2s
MTE Manteigas 59.68 54 *e*P **P 14 53 50.5 +0.9**
comp=Z,102nm,1.5s
MTE Manteigas 59.68 54 P **P 14 53 49.7 +0.1**
comp=Z,43nm,0.9s
PCBR Castelo Branco 59.72 54 *e*P **P 14 53 50.3 +0.5**
comp=Z,94nm,1.1s
PMRV Marv??o 59.79 55 *e*P **P 14 53 51.1 +0.8**
comp=Z,100nm,1.1s
MVO Moncorvo 60.09 53 *e*P **P 14 53 53.3 +0.9**
comp=Z,99nm,1.2s
SCO Scoresbysund 60.18 18 *i* P P 14 53 56.0 +3.6
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 60.18 18 *i* P P 14 53 56.0 +3.6
comp=Z,3.5nm,0.9s
PBRG Braganca 60.31 52 *e*P P 14 53 57.5 +3.6
comp=Z,74nm,1.9s
PAB San Pablo 62.14 55 *e*P **P 14 54 06.5 +0.1**
PAB pmax pmax
comp=Z,61nm,1.3s
PAB San Pablo 62.14 55 *e*P **P 14 54 06.5 +0.1**
comp=Z,61nm,1.3s
INK Inuvik 62.24 339 P **P 14 54 06.3 0.0**
INK Inuvik 62.24 339 P **P 14 54 06.3 0.0**
comp=Z,4.1nm,1.1s,baz=107,slow=7.0,SNR=13
ESDC Sonseca Array 62.44 54 P **P 14 54 08.2 -0.1**
ESDC Sonseca Array 62.44 54 P **P 14 54 08.2 -0.1**
comp=Z,35nm,0.9s,baz=274,slow=6.3,SNR=24
ESDC LR LR 15 18 15.3
comp=Z,340nm,18.6s,baz=285,slow=33
ROSF Rostrenen 62.98 45 *e*P **P 14 54 12.1 +0.4**
comp=Z,154nm,1.3s
ROSF Rostrenen 62.98 45 *e*P **P 14 54 12.1 +0.4**
ROSF pmax pmax
comp=Z,154nm,1.3s
ROSF Rostrenen 62.98 45 *e*P **P 14 54 12.1 +0.4**
comp=Z,154nm,1.3s
QUIF Quistinic 63.03 45 *e*P **P 14 54 11.5 -0.5**
comp=Z,133nm,1.4s
QUIF Quistinic 63.03 45 *e*P **P 14 54 11.5 -0.5**
QUIF pmax pmax
comp=Z,133nm,1.4s
QUIF Quistinic 63.03 45 *e*P **P 14 54 11.5 -0.5**
comp=Z,133nm,1.4s
DAWY Dawson 63.27 333 *e*P **P 14 54 12.9 -0.5**
SGMF Saint Gilles 63.45 45 *e*P **P 14 54 15.3 +0.5**
SGMF Saint Gilles 63.45 45 *e*P **P 14 54 15.3 +0.5**
SGMF Saint Gilles 63.45 45 *e*P **P 14 54 15.3 +0.5**
EKA Eskdalemuir Ar 63.53 37 LR LR 15 16 00.2
comp=Z,389nm,21.8s,baz=280,slow=30
EGAK Eagle 64.18 334 *e*P **P 14 54 18.0 -1.3**
comp=Z,14nm,1.1s
SJPF Ste Jean 64.39 50 *e*P **P 14 54 22.1 +1.0**
comp=Z,210nm,1.1s
SJPF Ste Jean 64.39 50 *e*P **P 14 54 22.1 +1.0**
SJPF pmax pmax
comp=Z,210nm,1.1s
SJPF Ste Jean 64.39 50 *e*P **P 14 54 22.1 +1.0**
comp=Z,210nm,1.1s
JMIC Jan Mayen 64.43 19 LR LR 15 17 42.8
comp=Z,249nm,21.7s,baz=212,slow=32
GRR Gorron 64.59 45 *e*P **P 14 54 22.6 +0.3**
comp=Z,132nm,1.2s
GRR Gorron 64.59 45 *e*P **P 14 54 22.6 +0.3**
GRR pmax pmax
comp=Z,132nm,1.2s
GRR Gorron 64.59 45 *e*P **P 14 54 22.6 +0.3**
comp=Z,132nm,1.2s
FLN La Foliniere 64.84 44 *e*P **P 14 54 24.4 +0.5**
comp=Z,122nm,1.3s
FLN *e*R
comp=Z,1µm,22.8s
FLN La Foliniere 64.84 44 *e*P **P 14 54 24.4 +0.5**
FLN pmax pmax
comp=Z,122nm,1.3s
FLN La Foliniere 64.84 44 *e*P **P 14 54 24.4 +0.5**
comp=Z,122nm,1.3s
ETSF Etsaut 64.89 51 *e*P **P 14 54 25.3 +0.8**
comp=Z,187nm,1.6s
ETSF Etsaut 64.89 51 *e*P **P 14 54 25.3 +0.8**
ETSF pmax pmax
comp=Z,187nm,1.6s
ETSF Etsaut 64.89 51 *e*P **P 14 54 25.3 +0.8**
comp=Z,187nm,1.6s
MENT Mentasta 64.97 332 *e*P **P 14 54 25.5 +1.0**
MFF Saint Martin d 65.08 47 *e*P **P 14 54 26.1 +0.6**
comp=Z,183nm,1.1s
MFF Saint Martin d 65.08 47 *e*P **P 14 54 26.1 +0.6**
MFF pmax pmax
comp=Z,183nm,1.1s
MFF Saint Martin d 65.08 47 *e*P **P 14 54 26.1 +0.6**
comp=Z,183nm,1.1s
LDF La Druitiere 65.08 44 *e*P **P 14 54 25.9 +0.4**
comp=Z,107nm,1.1s
LDF La Druitiere 65.08 44 *e*P **P 14 54 25.9 +0.4**
LDF pmax pmax
comp=Z,107nm,1.1s
LDF La Druitiere 65.08 44 *e*P **P 14 54 25.9 +0.4**
comp=Z,107nm,1.1s
BMRM Bremner River 65.12 329 *e*P **P 14 54 27.4 +1.8**
comp=Z,198nm,1.4s
EPF Esparros 65.54 50 *e*P **P 14 54 29.5 +0.8**
comp=Z,148nm,1.2s
EPF Esparros 65.54 50 *e*P **P 14 54 29.5 +0.8**
EPF pmax pmax
comp=Z,148nm,1.2s
EPF Esparros 65.54 50 *e*P **P 14 54 29.5 +0.8**
comp=Z,148nm,1.2s
DIV Divide 65.70 329 *e*P **P 14 54 30.2 +0.8**
comp=Z,88nm,1.2s
LFF La Frestale 65.74 48 *e*P **P 14 54 30.2 +0.3**
comp=Z,146nm,1.0s
LFF La Frestale 65.74 48 *e*P **P 14 54 30.2 +0.3**
LFF pmax pmax
comp=Z,147nm,1.0s
LFF La Frestale 65.74 48 *e*P **P 14 54 30.2 +0.3**
comp=Z,146nm,1.0s
PAX Paxson 65.77 331 *e*P **P 14 54 29.2 -0.6**
PAX pmax pmax
comp=Z,57nm,1.2s
PAX Paxson 65.77 331 *e*P **P 14 54 29.2 -0.6**
comp=Z,57nm,1.2s
RJF Les Rejaudoux 66.28 48 *e*P **P 14 54 33.5 +0.2**
comp=Z,119nm,1.1s
RJF *e*R
comp=Z,556nm,19.8s
RJF Les Rejaudoux 66.28 48 *e*P **P 14 54 33.5 +0.2**
RJF pmax pmax
comp=Z,119nm,1.1s
RJF Les Rejaudoux 66.28 48 *e*P **P 14 54 33.5 +0.2**
comp=Z,119nm,1.1s
MENF Mencas 66.55 42 *e*P **P 14 54 37.5 +2.6**
ILAR Eielson Array 66.60 333 P **P 14 54 35.2 +0.2**
ILAR Eielson Array 66.60 333 P **P 14 54 35.2 +0.2**
comp=Z,11nm,1.0s,baz=105,slow=5.3,SNR=20
ILAR LR LR 15 25 38.9
comp=Z,480nm,19.2s,baz=103,slow=38
CAF Calviac 66.68 48 *e*P **P 14 54 36.3 +0.3**
comp=Z,148nm,1.2s
CAF Calviac 66.68 48 *e*P **P 14 54 36.3 +0.3**
CAF pmax pmax
comp=Z,148nm,1.2s
CAF Calviac 66.68 48 *e*P **P 14 54 36.3 +0.3**
comp=Z,148nm,1.2s
TCF Toulx Ste Croi 66.71 47 *e*P **P 14 54 36.3 +0.2**
comp=Z,118nm,1.1s
TCF Toulx Ste Croi 66.71 47 *e*P **P 14 54 36.3 +0.2**
TCF pmax pmax
comp=Z,119nm,1.1s
TCF Toulx Ste Croi 66.71 47 *e*P **P 14 54 36.3 +0.2**
comp=Z,118nm,1.1s
HYF Humbligny 66.96 46 *e*P **P 14 54 38.1 +0.4**
HYF Humbligny 66.96 46 *e*P **P 14 54 38.1 +0.4**
COLA College 67.02 333 ⇓*i*P **P 14 54 38.9 +1.3**
COLA pmax pmax
comp=Z,57nm,1.0s
COLA College 67.02 333 *e*P **P 14 54 36.7 -0.9**
comp=Z,23nm,1.1s
TIC Toumodi 67.03 91 *e*P **P 14 54 37.3 -1.3**
comp=Z,25nm,0.9s
BGF Bois d'Agland 67.14 47 *e*P **P 14 54 38.8 0.0**
comp=Z,83nm,1.1s
BGF Bois d'Agland 67.14 47 *e*P **P 14 54 38.8 0.0**
BGF pmax pmax
comp=Z,83nm,1.1s
BGF Bois d'Agland 67.14 47 *e*P **P 14 54 38.8 0.0**
comp=Z,83nm,1.1s
LIC Lamto 67.15 91 *e*P **P 14 54 37.1 -2.3**
comp=Z,54nm,1.1s,baz=269
LIC *e*R
comp=Z,354nm,22.2s
LIC Lamto 67.15 91 *e*P **P 14 54 37.3 -2.1**
comp=Z,62nm,1.1s
LIC Lamto 67.15 91 *e*P **P 14 54 37.1 -2.3**
comp=Z,54nm,1.1s
DBIC Dimbokro 67.18 90 *e*P **P 14 54 36.5 -3.0**
comp=Z,9.9nm,0.9s
DBIC Dimbokro 67.18 90 P **P 14 54 38.5 -1.1**
comp=Z,8.5nm,1.1s,baz=273,slow=4.9,SNR=6.0
DBIC LR LR 15 23 48.6
comp=Z,100nm,18.1s,baz=264,slow=36
KIC Kosan Boka 67.38 91 *e*P **P 14 54 39.7 -1.1**
comp=Z,58nm,1.1s
MCK McKinley 67.39 332 *e*P **P 14 54 39.7 -0.4**
MCK pmax pmax
comp=Z,48nm,1.2s
MCK McKinley 67.39 332 *e*P **P 14 54 39.7 -0.4**
comp=Z,48nm,1.2s
AVF Avril sur Loir 67.47 46 *e*P **P 14 54 40.9 0.0**
comp=Z,105nm,1.2s
AVF Avril sur Loir 67.47 46 *e*P **P 14 54 40.9 0.0**
AVF pmax pmax
comp=Z,105nm,1.2s
AVF Avril sur Loir 67.47 46 *e*P **P 14 54 40.9 0.0**
comp=Z,105nm,1.2s
LBL Lubilhac 67.50 48 *e*P **P 14 54 42.7 +1.5**
SSF Saint Saulge 67.56 46 *e*P **P 14 54 41.4 -0.1**
comp=Z,150nm,1.4s
SSF Saint Saulge 67.56 46 *e*P **P 14 54 41.4 -0.1**
SSF pmax pmax
comp=Z,150nm,1.4s
SSF Saint Saulge 67.56 46 *e*P **P 14 54 41.4 -0.1**
comp=Z,150nm,1.4s
RC01 Rabbit Creek A 67.62 329 *e*P **P 14 54 40.8 -0.8**
comp=Z,86nm,1.4s
PLDF La Plantade 67.71 47 *e*P **P 14 54 44.7 +2.2**
LOR Lormes 67.79 46 *e*P **P 14 54 42.9 0.0**
comp=Z,126nm,1.1s
LOR *e*R
comp=Z,908nm,22.8s
LOR Lormes 67.79 46 *e*P **P 14 54 42.9 0.0**
comp=Z,126nm,1.1s
SMF Signal de Mont 67.82 46 *e*P **P 14 54 43.0 -0.1**
comp=Z,122nm,1.2s
SMF Signal de Mont 67.82 46 *e*P **P 14 54 43.0 -0.1**
SMF pmax pmax
comp=Z,122nm,1.2s
SMF Signal de Mont 67.82 46 *e*P **P 14 54 43.0 -0.1**
comp=Z,122nm,1.2s
BAIF Baives 67.88 43 *e*P **P 14 54 43.5 +0.1**
comp=Z,88nm,1.4s
BAIF Baives 67.88 43 *e*P **P 14 54 43.5 +0.1**
BAIF pmax pmax
comp=Z,88nm,1.4s
BAIF Baives 67.88 43 *e*P **P 14 54 43.5 +0.1**
comp=Z,88nm,1.4s
SNF Seneffe 67.91 42 P **P 14 54 43.1 -0.4**
TRF Thorofare Moun 67.98 332 *e*P **P 14 54 43.8 -0.2**
comp=Z,77nm,1.2s
LASF Ste Croix 68.02 49 *e*P **P 14 54 45.2 +0.8**
comp=Z,106nm,1.1s

LASF	**Ste Croix**	68.02	49	*e*P		P	14 54 45.2	+0.8	
	comp=Z,106nm,1.1s								
DOU	**Dourbes**	68.12	43	P		P	14 54 47.5	+2.6	
COLD	**Coldfoot**	68.18	336	*e*P		P	14 54 45.3	+0.3	
	comp=Z,38nm,1.1s								
GIVF	**Givet**	68.27	43	*e*P		P	14 54 46.0	+0.2	
	comp=Z,119nm,1.2s								
GIVF	**Givet**	68.27	43	*e*P		P	14 54 46.0	+0.2	
GIVF				pmax	pmax				
	comp=Z,119nm,1.2s								
GIVF	**Givet**	68.27	43	*e*P		P	14 54 46.0	+0.2	
	comp=Z,119nm,1.2s								
KTH	**Kantishna Hill**	68.27	332	*e*P		P	14 54 45.2	-0.5	
	comp=Z,85nm,1.2s								
SFTF	**Sexfontaines**	68.53	45	*e*P		P	14 54 47.6	+0.1	
	comp=Z,128nm,1.2s								
SFTF	**Sexfontaines**	68.53	45	*e*P		P	14 54 47.6	+0.1	
	comp=Z,128nm,1.2s								
VIVF	**Saint-Julien-l**	68.54	48	*e*P		P	14 54 48.7	+1.0	
	comp=Z,152nm,1.1s								
VIVF	**Saint-Julien-l**	68.54	48	*e*P		P	14 54 48.7	+1.0	
VIVF				pmax	pmax				
	comp=Z,152nm,1.1s								
VIVF	**Saint-Julien-l**	68.54	48	*e*P		P	14 54 48.7	+1.0	
	comp=Z,152nm,1.1s								
BCLA	**Clavier**	68.56	42	P		P	14 54 47.5	-0.1	
	comp=Z,27nm,2.5s								
HGN	**Heimansgroeve**	68.94	42	*e*P		P	14 54 50.3	+0.3	
	comp=Z,77nm,1.3s								
PAGF	**Fort de Pagny**	68.96	44	*e*P		P	14 54 50.5	+0.3	
	comp=Z,35nm,1.1s								
PAGF	**Fort de Pagny**	68.96	44	*e*P		P	14 54 50.5	+0.3	
	comp=Z,35nm,1.1s								
MEM	**Membach**	69.00	42	P		P	14 54 51.6	+1.2	
	comp=Z,20nm,1.2s								
RSO	**Redoubt South**	69.09	329	*e*P		P	14 54 49.3	-1.7	
	comp=Z,125nm,1.2s								
WLF	**Walferdange**	69.16	43	XP		sP	14 54 56.2	-1.0	
	comp=Z,26nm,1.3s								
WLF	**Walferdange**	69.16	43	*e*P		P	14 54 51.2	-0.2	
	comp=Z,51nm,1.2s								
WLF				*e*pP		pP	14 54 56.1	+0.5	
THEF	**They Montfort**	69.16	45	*e*P		P	14 54 51.6	+0.2	
SMRF	**Simiane la Rot**	69.26	49	*e*P		P	14 54 53.4	+1.2	
	comp=Z,89nm,1.4s								
SMRF	**Simiane la Rot**	69.26	49	*e*P		P	14 54 53.4	+1.2	
	comp=Z,89nm,1.4s								
CABF	**La Chapelle**	69.37	46	*e*P		P	14 54 53.0	+0.1	
	comp=Z,70nm,1.2s								
CABF	**La Chapelle**	69.37	46	*e*P		P	14 54 53.0	+0.1	
CABF				pmax	pmax				
	comp=Z,70nm,1.2s								
CABF	**La Chapelle**	69.37	46	*e*P		P	14 54 53.0	+0.1	
	comp=Z,70nm,1.2s								
ORIF	**Oris-en-Rattie**	69.39	48	*e*P		P	14 54 54.0	+1.0	
	comp=Z,89nm,1.2s								
ORIF				*e*R					
	comp=Z,398nm,20.0s								
ORIF	**Oris-en-Rattie**	69.39	48	*e*P		P	14 54 54.0	+1.0	
ORIF				pmax	pmax				
	comp=Z,89nm,1.2s								
ORIF	**Oris-en-Rattie**	69.39	48	*e*P		P	14 54 54.0	+1.0	
	comp=Z,89nm,1.2s								
WTSB	**Winterswijk**	69.40	41	*e*P		P	14 54 53.3	+0.5	
	comp=Z,62nm,1.0s								
HAU	**Haudompre**	69.42	45	*e*P		P	14 54 53.1	0.0	
	comp=Z,96nm,1.4s								
HAU				*e*R					
	comp=Z,912nm,22.0s								
HAU	**Haudompre**	69.42	45	*e*P		P	14 54 53.1	0.0	
HAU				pmax	pmax				
	comp=Z,96nm,1.4s								
HAU	**Haudompre**	69.42	45	*e*P		P	14 54 53.1	0.0	
	comp=Z,96nm,1.4s								
OHAK	**Old Harbor**	69.45	325	P		P	14 54 54.0	+1.0	
	comp=Z,106nm,1.4s								
IM04	**Indian Mountai**	69.56	334	*e*P		P	14 54 53.0	-0.6	
BUG	**Bochum--Univer**	69.73	41	*e*P		P	14 54 54.5	-0.4	
	comp=Z,74nm,1.5s								
BUG				*e*pP		pP	14 54 59.4	+0.3	
HINF	**Hinteralfeld**	69.77	45	*e*P		P	14 54 55.0	-0.3	
	comp=Z,64nm,1.2s								
HINF	**Hinteralfeld**	69.77	45	*e*P		P	14 54 55.0	-0.3	
HINF				pmax	pmax				
	comp=Z,64nm,1.2s								
HINF	**Hinteralfeld**	69.77	45	*e*P		P	14 54 55.0	-0.3	
	comp=Z,64nm,1.2s								
LOMF	**Lomont**	69.80	45	*e*P		P	14 54 55.5	0.0	
OG01	**Vacheresse**	69.80	47	*e*P		P	14 54 56.8	+1.2	
RSL	**Roselend**	69.83	47	*e*P		P	14 54 56.1	+0.3	
LPL	**La Plagne**	69.92	47⇑	*i*P		P	14 54 57.2	+0.7	
	comp=Z,71nm,1.0s								
LPL	**La Plagne**	69.92	47⇑	*i*P		P	14 54 57.2	+0.7	
LPL				pmax	pmax				
	comp=Z,71nm,1.0s								
LPL	**La Plagne**	69.92	47⇑	*i*P		P	14 54 57.2	+0.7	
	comp=Z,71nm,1.0s								
BNI	**Bardonecchia**	69.93	48	*e*P		P	14 54 56.1	-0.3	
BNI				pmax	pmax				
	comp=Z,50nm,1.2s								
BNI	**Bardonecchia**	69.93	48	*e*P		P	14 54 56.1	-0.3	
	comp=Z,50nm,1.2s								
LPG	**La Plagne**	69.94	47	*e*P		P	14 54 57.5	+0.8	
	comp=Z,86nm,1.1s								
LPG	**La Plagne**	69.94	47	*e*P		P	14 54 57.5	+0.8	
LPG				pmax	pmax				
	comp=Z,86nm,1.1s								
LPG	**La Plagne**	69.94	47	*e*P		P	14 54 57.5	+0.8	
	comp=Z,86nm,1.1s								
ECH	**Echery**	69.94	45	*e*P		P	14 54 54.6	-1.7	
ECH				pmax	pmax				
	comp=Z,54nm,1.1s								
ECH	**Echery**	69.94	45	*e*P		P	14 54 56.4	+0.1	
ECH	**Echery**	69.94	45	*e*P		P	14 54 54.6	-1.7	
	comp=Z,54nm,1.1s								
MOF	**Molkenrain**	69.96	45	*e*P		P	14 54 57.5	+1.0	
IBBN	**Ibbenburen**	69.97	40	*e*P		P	14 54 56.0	-0.3	
	comp=Z,60nm,1.1s								
IBBN				*e*pP		pP	14 55 00.9	+0.3	
CDF	**Champ du Feu**	70.00	44	*e*P		P	14 54 56.8	+0.1	
	comp=Z,80nm,1.2s								
CDF	**Champ du Feu**	70.00	44	*e*P		P	14 54 56.8	+0.1	
CDF				pmax	pmax				
	comp=Z,80nm,1.2s								
CDF	**Champ du Feu**	70.00	44	*e*P		P	14 54 56.8	+0.1	
	comp=Z,80nm,1.2s								
LMR	**La Mourre**	70.01	50	*e*P		P	14 54 57.0	+0.2	
	comp=Z,68nm,1.1s								
LMR	**La Mourre**	70.01	50	*e*P		P	14 54 57.0	+0.2	
LMR				pmax	pmax				
	comp=Z,68nm,1.1s								
LMR	**La Mourre**	70.01	50	*e*P		P	14 54 57.0	+0.2	
	comp=Z,68nm,1.1s								
MBDF	**Montbardon**	70.04	48	*e*P		P	14 54 58.0	+0.9	
	comp=Z,93nm,1.1s								
MBDF	**Montbardon**	70.04	48	*e*P		P	14 54 58.0	+0.9	
MBDF				pmax	pmax				
	comp=Z,93nm,1.1s								
MBDF	**Montbardon**	70.04	48	*e*P		P	14 54 58.0	+0.9	
	comp=Z,93nm,1.1s								
FRF	**La Foret Royal**	70.08	50	*e*P		P	14 54 57.4	+0.2	
	comp=Z,86nm,1.2s								
FRF	**La Foret Royal**	70.08	50	*e*P		P	14 54 57.4	+0.2	
FRF				pmax	pmax				
	comp=Z,86nm,1.2s								
FRF	**La Foret Royal**	70.08	50	*e*P		P	14 54 57.4	+0.2	
	comp=Z,86nm,1.2s								
LANF	**Langenberg**	70.29	44	*e*P		P	14 54 59.2	+0.8	
MVIF	**Mont Vial**	70.41	49	*e*P		P	14 54 59.9	+0.5	
TOUF	**Mont Tournerai**	70.46	49	*e*P		P	14 55 01.4	+1.6	
LUCF	**Luceram**	70.55	49	*e*P		P	14 54 59.6	-0.6	
TNS	**Taunus Mts**	70.58	42	*e*P		P	14 55 00.1	-0.1	
	comp=Z,56nm,1.2s								
TNS				*e*pP		pP	14 55 05.0	+0.5	
AUTN	**L'Aution**	70.59	49	*e*P		P	14 55 01.9	+1.3	
SBF	**Sospel**	70.61	49	*e*P		P	14 55 00.8	+0.3	
	comp=Z,210nm,1.4s								
SBF	**Sospel**	70.61	49	*e*P		P	14 55 00.8	+0.3	
SBF				pmax	pmax				
	comp=Z,210nm,1.4s								
SBF	**Sospel**	70.61	49	*e*P		P	14 55 00.8	+0.3	
	comp=Z,210nm,1.4s								
BFO	**Black Forest**	70.71	44	*ce*P		P	14 55 02.0	+1.0	
BFO	**Black Forest**	70.71	44	*e*P		P	14 55 00.1	-0.9	
	comp=Z,46nm,1.6s								
BFO				*e*pP		pP	14 55 05.1	-0.2	

BFO	**Black Forest**	70.71	44	*e*P		P	14 55 00.7	-0.3	
	comp=Z,33nm,1.4s								
NB2	**NORSAR Subarra**	71.22	31	P		P	14 55 04.8	+0.9	
	comp=Z,25nm,1.1s,baz=275,slow=6.5								
NB2	**NORSAR Subarra**	71.22	31	P		P	14 55 04.8	+0.9	
	baz=275,slow=6.5								
NOA	**NORSAR Array B**	71.22	31	P		P	14 55 03.8	-0.1	
NOA	**NORSAR Array B**	71.22	31	P		P	14 55 03.8	-0.1	
	comp=Z,12nm,0.9s,baz=275,slow=6.4,SNR=18								
NOA				LR		LR	15 21 38.2		
	comp=Z,268nm,21.5s,baz=270,slow=32								
STU	**Stuttgart**	71.23	44	*e*P		P	14 55 03.6	-0.5	
	comp=Z,64nm,1.6s								
STU				*e*pP		pP	14 55 08.3	-0.1	
BSEG	**Bad Segeberg**	71.36	38	*e*P		P	14 55 04.7	0.0	
	comp=Z,53nm,1.5s								
BSEG				*e*pP		pP	14 55 09.5	+0.5	
NRDL	**Niedersach Rie**	71.39	40	*e*P		P	14 55 05.0	+0.1	
	comp=Z,63nm,1.5s								
NRDL				*e*pP		pP	14 55 09.9	+0.8	
UBBA	**Unterbreizbach**	71.51	42	*e*P		P	14 55 05.5	-0.1	
	comp=Z,64nm,1.8s								
UBBA				*e*pP		pP	14 55 10.3	+0.4	
TOA0	**Torodi Ar. Sit**	71.59	82	*e*P		P	14 55 05.2	-1.7	
TORD	**Torodi Ar. Bea**	71.59	82	P		P	14 55 05.8	-1.1	
TORD	**Torodi Ar. Bea**	71.59	82	P		P	14 55 05.8	-1.1	
	comp=Z,8.9nm,0.9s,baz=284,slow=5.6,SNR=27								
TORD				LR		LR	15 24 08.8		
	comp=Z,256nm,20.3s,baz=270,slow=34								
CLZ	**Clausthal**	71.62	40	*e*P		P	14 55 06.4	-0.1	
	comp=Z,44nm,1.2s								
CLZ				*e*pP		pP	14 55 11.3	+0.6	
PGF	**Pioggiola**	71.93	50	*e*P		P	14 55 08.7	+0.1	
	comp=Z,117nm,1.2s								
PGF	**Pioggiola**	71.93	50	*e*P		P	14 55 08.7	+0.1	
PGF				pmax	pmax				
	comp=Z,117nm,1.2s								
PGF	**Pioggiola**	71.93	50	*e*P		P	14 55 08.7	+0.1	
	comp=Z,117nm,1.2s								
DAVOX	**Davos/Dischmat**	71.94	46	LR		LR	15 20 52.7		
	comp=Z,438nm,21.7s,baz=273,slow=31								
CHGN	**Chignik**	72.34	324	P		P	14 55 10.0	-0.6	
GRF	**Grafenberg Arr**	72.43	43	*e*P		P	14 55 11.0	-0.3	
	comp=Z,32nm,1.4s								
GRF				*e*pP		pP	14 55 15.9	+0.3	
RETA	**Reutte**	72.44	45⇑	*i*P		P	14 55 12.1	+0.6	
	comp=Z,79nm,1.0s,SNR=9.2								
FETA	**Feichten**	72.48	45⇑	*i*pP		P	14 55 12.6	+0.7	
	comp=Z,61nm,1.0s,SNR=20								
HFS	**Hagfors**	72.52	32	LR		LR	15 24 19.8		
	comp=Z,151nm,19.0s,baz=266,slow=34								
FUR	**Furstenfeldbru**	72.68	44	*e*P		P	14 55 12.6	-0.3	
	comp=Z,105nm,1.1s								
FUR				*e*pP		pP	14 55 17.5	+0.3	
MOTA	**Moosalm**	72.69	45⇑	*i*P		P	14 55 13.3	+0.2	
	comp=Z,44nm,1.0s,SNR=7.7								
TAM	**Tamanrasset**	72.78	71	*e*P		P	14 55 14.3	+0.3	
TAM	**Tamanrasset**	72.78	71	*e*P		P	14 55 14.3	+0.3	
ROTZ	**Rotzenmuhle**	73.05	42	*e*P		P	14 55 15.2	+0.2	
	comp=Z,51nm,1.2s								
ROTZ				*e*pP		pP	14 55 20.0	+0.7	
TANN	**Tannenbergstha**	73.11	42	*e*P		P	14 55 15.2	-0.2	
	comp=Z,45nm,1.1s								
TANN				*e*pP		pP	14 55 20.1	+0.4	
NKC	**Novy Kostel**	73.13	42	*e*P		P	14 55 16.0	+0.5	
NKC				*e*			14 55 20.0		
NKC	**Novy Kostel**	73.13	42	*e*P		P	14 55 16.0	+0.5	
NKC				*e*pP		pP	14 55 20.0	+0.2	
CLL	**Collm**	73.32	41	*i*P		P	14 55 16.7	+0.2	
CLL				*i*			14 55 21.1		
CLL				pmax	pmax				
	comp=Z,19nm,1.5s								
CLL				MLR	MLR				
	comp=Z,200nm,21.9s								
CLL	**Collm**	73.32	41	*e*P		P	14 55 16.3	-0.2	
	comp=Z,30nm,1.2s								
CLL				*e*pP		pP	14 55 21.2	+0.4	
CLL	**Collm**	73.32	41	*i*P		P	14 55 16.7	+0.2	
	comp=Z,19nm,1.5s								
CLL				*i* (sP)		sP	14 55 21.1	-1.3	
	comp=Z,30nm,1.2s								
CLL				*e*			14 55 26.0		
CLL				*e*PP		PP	14 57 55.0	-4.6	
CLL				*e*S		SKiKP	15 04 54.0	+6.1	
CLL				LmV			15 23 00.0		
	comp=Z,200nm,21.9s								
KEST	**Kesra**	73.36	57	P		P	14 55 17.4	+0.2	
KEST	**Kesra**	73.36	57	P		P	14 55 17.1	-0.1	
	comp=Z,5.8nm,0.9s,baz=304,slow=5.3,SNR=4.1								
KEST				LR		LR	15 22 58.2		
	comp=Z,80nm,21.6s,baz=264,slow=32								
RUE	**Ruedersdorf**	73.61	40	P		P	14 55 19.0	+0.8	
ABTA	**Abfaltersbach**	73.73	46⇑	*i*P		P	14 55 19.5	+0.3	
	comp=Z,35nm,1.0s,SNR=7.8								
BRG	**Berggiesshubel**	73.97	41	*e*P		P	14 55 20.9	+0.5	
	comp=Z,20nm,1.3s								
BRG				*i*			14 55 25.1		
	comp=Z,41nm,1.1s								
BRG	**Berggiesshubel**	73.97	41	*e*P		P	14 55 20.9	+0.5	
BRG				*i*			14 55 25.1		
BRG				pmax	pmax				
	comp=Z,20nm,1.3s								
BRG				pmax	pmax				
	comp=Z,41nm,1.1s								
BRG	**Berggiesshubel**	73.97	41	*e*P		P	14 55 20.3	-0.1	
	comp=Z,42nm,1.1s								
BRG				*e*pP		pP	14 55 25.2	+0.5	
KHC	**Kasperske Hory**	74.03	43	*e*P		P	14 55 21.5	+0.6	
KHC				*e*			14 55 25.5		
KHC	**Kasperske Hory**	74.03	43	*e*P		P	14 55 21.5	+0.6	
KHC				*e*pP		pP	14 55 25.5	+0.4	
GEC2	**GERESS Array S**	74.16	43	*e*P		P	14 55 21.5	-0.2	
	comp=Z,60nm,1.1s								
GEC2				*e*pP		pP	14 55 26.3	+0.3	
GERES	**GERESS Array B**	74.16	43	P		P	14 55 22.2	+0.5	
GERES	**GERESS Array B**	74.16	43	P		P	14 55 22.2	+0.5	
	comp=Z,33nm,1.0s,baz=264,slow=4.0,SNR=40								
GERES				LR		LR	15 22 45.5		
	comp=Z,592nm,21.6s,baz=264,slow=32								
KBA	**Koelnbreinsper**	74.24	45⇑	*i*P		P	14 55 22.2	0.0	
	comp=Z,46nm,1.1s,SNR=6.3								
PRA	**Prague**	74.42	42	P		P	14 55 25.0	+2.0	
PRU	**Pruhonice**	74.50	42	*e*P		P	14 55 24.5	+1.0	
PRU				*e*			14 55 28.3		
PRU	**Pruhonice**	74.50	42	*e*P		P	14 55 24.5	+1.0	
PRU				*e*pP		pP	14 55 28.3	+0.5	
MYKA	**Terra Mystica**	74.52	46⇑	*i*P		P	14 55 23.9	+0.1	
	comp=Z,34nm,1.4s,SNR=5.2								
CADS	**Cadrg**	74.66	46	*i* P		P	14 55 24.8	+0.3	
MOA	**Molln**	74.71	44	*i* P		P	14 55 25.1	+0.3	
	comp=Z,65nm,1.1s,SNR=22								
TRI	**Trieste**	74.77	46	*e*P		P	14 55 26.3	+1.1	
TRI				pmax	pmax				
	comp=Z,66nm,1.0s								
TRI	**Trieste**	74.77	46	*e*P		P	14 55 26.3	+1.1	
	comp=Z,66nm,1.0s								
OBKA	**Obir**	75.16	46⇑	*i*pP		P	14 55 28.7	+1.2	
	comp=Z,52nm,1.2s,SNR=6.1								
CEY	**Cerknica**	75.22	46	*i* P		P	14 55 28.6	+0.8	
LJU	**Ljubljana**	75.23	46	*e*P		P	14 55 26.5	-1.3	
UPC	**Upice**	75.33	41	*e*P		P	14 55 29.6	+1.3	
UPC				*e*			14 55 33.1		
UPC	**Upice**	75.33	41	*e*P		P	14 55 29.6	+1.3	
UPC				*e*pP		pP	14 55 33.1	+0.5	
TNA	**Tin City**	75.39	335	*e*P		P	14 55 26.9	-1.4	
	comp=Z,45nm,1.2s								
KSP	**Ksiaz**	75.44	41⇑	*e*P		P	14 55 29.7	+0.8	
KSP				*e**PP		pP	14 55 33.9	+0.7	
KSP	**Ksiaz**	75.44	41	*e*P		P	14 55 30.0	+1.1	
SOKA	**Soboth**	75.45	45⇑	*i*P		P	14 55 28.9	-0.2	
	comp=Z,42nm,1.4s,SNR=7.7								
GKP	**Gorka Klasztor**	75.53	38	*e*P		P	14 55 31.6	+2.2	
GKP	**Gorka Klasztor**	75.53	38	*e*P		P	14 55 31.6	+2.2	
DPC	**Dobruska-Polom**	75.56	41	*e*P		P	14 55 30.1	+0.4	
DPC	**Dobruska-Polom**	75.56	41	*e*P		P	14 55 30.1	+0.4	
ARSA	**Arzberg**	75.66	45⇑	*i*P		P	14 55 30.2	-0.1	
	comp=Z,45nm,1.1s,SNR=8.9								
CONA	**Conrad Observa**	75.75	44	*i* P		P	14 55 31.3	+0.4	
	comp=Z,43nm,1.2s,SNR=17								
ARCES	**ARCESS Array B**	75.78	21	P		P	14 55 30.5	0.0	
ARCES	**ARCESS Array B**	75.78	21	P		P	14 55 30.5	0.0	
	comp=Z,7.6nm,0.6s,baz=318,slow=1.6,SNR=15								
ARCES				LR		LR	15 23 54.3		
	comp=Z,398nm,21.6s,baz=309,slow=32								
ARE0	**ARCESS Array S**	75.78	21	*e*P		P	14 55 31.6	+1.1	

LEGS	**Legarje**	75.79	46	*e*P		P	14 55 31.6	+0.6	
KRLC	**Kraliky**	75.90	42	*e*P		P	14 55 32.9	+1.2	
KRLC	**Kraliky**	75.90	42	*e*P		P	14 55 32.9	+1.2	
VRAC	**Vranov**	75.94	42⇑	*i*P		P	14 55 31.8	0.0	
VRAC	**Vranov**	75.94	42	LR		LR	15 24 03.7		
	comp=Z,956nm,21.6s,baz=279,slow=32								
SOP	**Sopron**	76.26	44⇑	*e*P		P	14 55 34.4	+0.7	
KOGS	**Kog**	76.32	45	*e*P		P	14 55 34.4	+0.3	
MORC	**Moravsky Berou**	76.45	42	⇑P		P	14 55 36.0	+1.2	
MORC	**Moravsky Berou**	76.45	42⇑	*i*P		P	14 55 36.0	+1.2	
MORC	**Moravsky Berou**	76.45	42	*e*P		P	14 55 35.4	+0.7	
	comp=Z,46nm,1.1s								
BEHE	**Becsehely**	76.67	45⇑	*e*P		P	14 55 36.6	+0.6	
OKC	**Ostrava-Krasne**	76.82	42	*e*P		P	14 55 37.0	+0.2	
OKC				*e*			14 55 37.2		
OKC				*e*			14 55 42.0		
OKC	**Ostrava-Krasne**	76.82	42	*e*P		P	14 55 37.0	+0.2	
OKC				*e*pP		pP	14 55 42.0	+0.9	
PKST	**T˜˜s**	77.33	44⇓	*e*P		P	14 55 40.9	+1.2	
GAMB	**Gambell**	77.40	333	*e*P		P	14 55 40.7	+1.0	
	comp=Z,30nm,1.2s								
CSKK	**Cs˘‡kako**	77.46	44⇓	*e*P		P	14 55 41.3	+0.9	
CUC	**Castrocucco**	77.46	52	*e*P		P	14 55 40.5	-0.1	
	comp=Z,30nm,1.1s								
PKSG		77.54	44⇓	*e*P		P	14 55 41.9	+1.1	
PKS9	**Tamasi**	77.65	45⇓	*e*		P	14 55 47.1	+5.6	
OJC	**Ojcow**	77.76	41	*e*P		P	14 55 43.1	+1.0	
BEL	**Belsk**	77.97	39	*e*P		P	14 55 46.5	+3.3	
BEL	**Belsk**	77.97	39	*e*P		P	14 55 46.5	+3.3	
PKSM	**Moragy**	77.99	45	⇓P		P	14 55 44.0	+0.6	
PKSM	**Moragy**	77.99	45⇓	*i*P		P	14 55 44.0	+0.6	
PKSM	**Moragy**	77.99	45⇑	*e*P		P	14 55 43.5	+0.1	
KAF	**Kangasniemi**	78.11	28	*e*P		P	14 55 45.0	+1.3	
KAF				pmax	pmax				
	comp=Z,15nm,1.1s								
KAF	**Kangasniemi**	78.11	28	*e*p		P	14 55 45.0	+1.3	
	comp=Z,15nm,1.1s								
PKS7	**Kunszentmiklos**	78.13	44⇓	*e*P		P	14 55 45.3	+1.2	
FINES	**FINESS Array B**	78.20	29	P		P	14 55 44.5	+0.3	
FINES	**FINESS Array B**	78.20	29	P		P	14 55 44.5	+0.3	
	comp=Z,20nm,1.0s,baz=300,slow=3.8,SNR=23								
FINES				LR		LR	15 25 37.4		
	comp=Z,359nm,22.0s,baz=276,slow=32								
FIA1	**FINESS Array S**	78.20	29	*e*P		P	14 55 44.2	0.0	
PSZ	**Piszkesteto**	78.39	43	⇑P		P	14 55 47.9	+2.2	
PSZ	**Piszkesteto**	78.39	43⇑	*i*P		P	14 55 47.9	+2.2	
PSZ	**Piszkesteto**	78.39	43	*e*P		P	14 55 46.1	+0.4	
	comp=Z,101nm,1.4s								
PSZ	**Piszkesteto**	78.39	43⇑	*e*P		P	14 55 47.3	+1.6	
PKSN	**Nyarlorinc**	78.64	44⇑	*e*P		P	14 55 43.6	-3.3	
SUW	**Suwalki**	78.80	37	*e*P		P	14 55 48.5	+0.8	
SUW	**Suwalki**	78.80	37	*e*P		P	14 55 48.4	+0.8	
SUW	**Suwalki**	78.80	37	*e*P		P	14 55 46.7	-1.0	
	comp=Z,63nm,1.0s								
STHS	**Stebnicka Huta**	78.87	42	*e*P		P	14 55 50.2	+1.9	
STHS				pmax	pmax				
	comp=Z,8.0nm,1.3s								
STHS	**Stebnicka Huta**	78.87	42	*e*P		P	14 55 50.2	+1.9	
STHS				*e*PCP		pP	14 55 54.4	+1.8	
CRVS	**Cervenica-Dubn**	79.15	42	*e*P		P	14 55 51.5	+1.7	
CRVS				pmax	pmax				
	comp=Z,40nm,1.8s								
CRVS	**Cervenica-Dubn**	79.15	42	*e*P		P	14 55 51.5	+1.7	
CRVS				*e*PCP		pP	14 55 55.6	+1.5	
VSU	**Vasula**	79.41	32⇑	*i*P		P	14 55 50.5	-0.4	
VSU				pmax	pmax				
	comp=Z,71nm,1.4s								
DIVS	**Divibare**	79.45	47	P		P	14 55 52.6	+1.0	
KOLS	**Kolonicke sedl**	79.65	42	*e*P		P	14 55 54.0	+1.5	
KOLS				pmax	pmax				
	comp=Z,27nm,1.8s								
KOLS	**Kolonicke sedl**	79.65	42	*e*P		P	14 55 54.0	+1.5	

comp=Z,9.0nm,1.1s,baz=284,slow=4.2,SNR=16
AKASG LR LR 15 29 48.5
comp=Z,444nm,20.4s,baz=290,slow=33
AK02 Malin Array Si 83.36 39 *e*P **P 14 56 11.1 -1.0**
PPT Papeete 83.39 249 LR LR 15 25 05.2
comp=Z,115nm,20.6s,baz=45,slow=30
PPT2 Papeete2 83.40 249 *e*S **S 15 06 36.4 +2.1**
comp=Z,41nm,24.2s
PPT2 *e*SS **SS 15 12 06.8 +6.6**
comp=Z,168nm,26.8s
PPT2 Papeete2 83.40 249 *e*LR LR 15 22 28.5
comp=Z,565nm,28.5s
PLOR Plostina 83.43 44 ⇑P **P 14 56 14.7 +2.1**
PLOR Plostina 83.43 44 ⇑*i*P **P 14 56 14.7 +2.1**
RZN Rozhen 83.47 48 *e*P **P 14 56 14.0 +0.9**
VRI Vrincioaia 83.47 44 ⇑P **P 14 56 14.2 +1.4**
VRI Vrincioaia 83.47 44 ⇑*i*P **P 14 56 14.2 +1.4**
ISR Istrita 83.60 45 ⇑P P 14 56 07.4 -6.1
ISR Istrita 83.60 45 ⇑*i*P P 14 56 07.4 -6.1
SZH Strazhica 83.81 47 *e*P P 14 56 09.1 -5.5
KDZ Kurdzhali 83.98 48 ⇑P **P 14 56 14.4 +0.9**
KDZ Kurdzhali 83.98 48 ⇑*i*P **P 14 56 16.4 +0.9**
RDO Rodhopi 84.23 49 P **P 14 56 16.4 -0.3**
RDO Rodhopi 84.23 49 P **P 14 56 16.4 -0.3**
KIS Kishinev 84.44 42 *e*P **P 14 56 18.0 +0.3**
KIS *e* 14 56 22.0
KIS *e*S **S 15 06 39.0 -4.8**
KIS Kishinev 84.44 42 *e*P **P 14 56 18.0 +0.3**
KIS *e*S **S 15 06 39.0 -4.8**
KIS *e*L L 15 25 06.0
KIS LRM MLR 15 30 06.0
comp=Z,500nm,20.0s
KLMR Klimovskoe 84.44 27 *e*P **P 14 56 16.1 -1.3**
KLMR pmax pmax
comp=Z,174nm,1.6s
JMB Yambol 84.53 47 ⇑P P 14 56 13.1 -5.1
JMB Yambol 84.53 47 ⇑*i*P P 14 56 13.1 -5.1
CFR Carcaliu 84.64 44 ⇑P **P 14 56 18.1 -0.6**
CFR Carcaliu 84.64 44 ⇑*i*P **P 14 56 18.1 -0.6**
PRD Provadia 84.84 46 ⇑P **P 14 56 17.0 -2.8**
TBI Tubuai 85.44 244 *e*SS SS 15 12 37.7 +7.7
comp=Z,130nm,28.2s
TBI Tubuai 85.44 244 *e*LR LR 15 23 23.9
comp=Z,342nm,23.5s
OBN Obninsk 85.67 33 ⇓*i*P **P 14 56 23.4 -0.2**
OBN *e*S **S 15 06 58.9 +3.3**
OBN *e*SS **SS 15 12 33.0 +1.9**
OBN pmax pmax
comp=Z,38nm,1.6s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 85.67 33 *e*P **P 14 56 23.4 -0.2**
comp=Z,166nm,1.4s
MOS Moscow 85.93 32 *e*P **P 14 56 25.0 +0.1**
MOS *e* 14 59 53.7
MOS pmax pmax
comp=Z,114nm,1.4s
PRGR Permogore 86.57 25 ⇓*i*P **P 14 56 29.2 +1.2**
PRGR 14 56 31.2
PRGR pmax pmax
comp=Z,41nm,0.8s
SIM Simferopol' 88.64 43 *e*P **P 14 56 39.9 +1.6**
SIM pmax pmax
comp=Z,25nm,1.0s
VSR Storozhevoye 88.86 36 *e*P **P 14 56 38.4 -0.8**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,5.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.4s
TIXI Tiksi 88.88 353 ⇑*i*P **P 14 56 38.9 +0.1**
TIXI pmax pmax
comp=Z,12nm,1.4s
TIXI Tiksi 88.88 353 *e*P **P 14 56 38.0 -0.9**
comp=Z,46nm,1.3s
FX1 Attu Island--F 88.99 326 LR LR 15 38 34.5
comp=Z,217nm,18.0s,baz=83,slow=37
VORD Divnogorie 89.05 36 *e*P **P 14 56 38.7 -1.3**
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD pmax pmax
comp=E,10.0nm,1.3s
VORD pmax pmax
comp=Z,20nm,1.3s
ANTO Ankara 89.84 48 ⇑P **P 14 56 45.0 +0.8**
ANTO Ankara 89.84 48 ⇑*i*P **P 14 56 45.0 +0.8**
ANTO Ankara 89.84 48 *e*P **P 14 56 44.5 +0.3**
comp=Z,40nm,1.3s
VRHR Novokhopersk 90.26 35 *e*P **P 14 56 45.1 -0.6**
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,1.1s
BR131 Keskin Array S 90.50 48 *e*P **P 14 56 47.2 -0.1**
comp=E,11nm,1.1s
BRTR Keskin Array B 90.50 48 P **P 14 56 47.5 +0.1**
BRTR Keskin Array B 90.50 48 P **P 14 56 47.5 +0.1**
comp=E,7.1nm,1.0s,baz=276,slow=4.2,SNR=18
SEY Seymchan 91.44 341 ⇑*i*P **P 14 56 52.3 +1.3**
SOKR Solikamsk 92.15 23 *e*P P 14 57 00.0 +5.7
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,160nm,29.0s
KBZ Khabaz 94.77 41 P **P 14 57 07.1 +0.3**
KBZ Khabaz 94.77 41 P **P 14 57 07.0 +0.3**
KBZ Khabaz 94.77 41 P **P 14 57 07.0 +0.3**
comp=Z,2.3nm,0.9s,baz=232,slow=12,SNR=4.6
KBZ LR LR 15 36 20.8
comp=Z,284nm,21.8s,baz=282,slow=33
NEY Neytrino 94.91 41 P **P 14 57 07.8 +0.2**
ARU Arti 95.03 25*c i*P **P 14 57 07.2 -0.5**
ARU 15 00 54.5
ARU S **SKSac 15 07 42.2 -0.9**
ARU SS **SP 15 09 35.5 -2.0**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 95.03 25 *e*P **P 14 57 07.6 -0.1**
comp=Z,34nm,1.4s
ZEI Tsey 95.89 41 *e*P **P 14 57 10.2 -2.0**
ZEI pmax pmax
comp=Z,6.0nm,1.1s
PETK Petropavlovsk- 96.40 332 LR LR 15 43 57.0
comp=Z,136nm,20.0s,baz=54,slow=38
GNI Garni 97.81 43 LR LR 15 39 34.9
comp=Z,181nm,20.7s,baz=304,slow=34
ABKAR Akbulak array 100.69 29 *e*Pdif **Pdif 14 57 33.7 +0.4**
comp=Z,5.1nm,1.2s
SYO Syowa Base 115.15 158 ⇓*e*PP **PP 15 03 22.4 -3.3**
KSH Kashi 115.42 26 *e*PKP **PKPdf 15 02 28.1 +0.7**
KSH *e*PP **PP 15 03 30.3 +2.7**
KSH *e*SKS **SKSdf 15 09 35.3 -4.3**
KSH *e*SKKS SKKSac 15 10 18.9 -11
KSH LR LR
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,170nm,8.6s
KSH LR LR
comp=Z,150nm,8.6s
WMQ Urumqi 115.53 15 PKP **PKPdf 15 02 27.6 +0.2**
WMQ PP PP 15 03 33.9 +6.0
WMQ PKS **PKSdf 15 06 03.0 -1.1**
WMQ SKKS 15 10 24.0
WMQ SS **SS 15 19 28.6 +2.6**
WMQ LR LR
comp=Z,260nm,30.0s
WMQ LR LR
comp=Z,140nm,31.4s
WMQ LR LR
comp=Z,280nm,27.1s
CN2 Changchun 115.78 345 *e*Pdif **Pdif 14 58 40.1 -0.4**
CN2 PP PP 15 03 36.3 +6.7
CN2 LR LR
comp=Z,420nm,16.0s
CN2 LR LR
comp=Z,380nm,16.0s
CN2 LR LR
comp=Z,310nm,16.0s
HHC Hu-ho-hao-te 120.84 356 *e*PKP **PKPdf 15 02 39.0 +1.3**
HHC PP **PP 15 04 08.3 +3.6**
HHC SKS **SKSdf 15 09 47.8 -2.0**
HHC SKKS **SKKSac 15 11 05.1 -0.7**
HHC SS **SS 15 20 38.3 +3.6**
HHC AMB AMB
comp=Z,83nm,8.2s
HHC LR LR
comp=Z,560nm,21.6s
HHC LR LR
comp=Z,370nm,20.1s
HHC LR LR
comp=Z,510nm,22.2s
KSRS Korea Array 121.00 341 PKP **PKPdf 15 02 36.8 -1.1**
comp=Z,0.9nm,0.7s,baz=29,slow=1.1,SNR=4.1
KSAR Wonju Array Be 121.02 341 PKP **PKPdf 15 02 36.8 -1.1**
BJI Beijing 121.17 352 PKP **PKPdf 15 02 37.3 -0.9**
BJI SS SS 15 20 45.1 +6.3
BJI LR LR
comp=Z,370nm,24.5s
BJI LR LR
comp=Z,280nm,25.6s
BJI LR LR
comp=Z,320nm,28.3s
GTA Gaotai 122.03 7 PKP **PKPdf 15 02 41.4 +1.3**
GTA sPKP 15 02 48.5
GTA PP PP 15 04 20.6 +7.8
GTA SKS **SKSdf 15 09 52.3 +0.1**
GTA SKKS **SKKSac 15 11 12.4 -1.3**
GTA AMB AMB
comp=Z,160nm,6.5s
GTA LR LR
comp=Z,220nm,21.4s
GTA LR LR
comp=Z,180nm,20.0s
GTA LR LR
comp=Z,370nm,22.3s
DZM Mont Dzumac 124.45 256 *e*LR LR 15 41 39.8
comp=Z,216nm,27.0s
NJ2 Nanjing 128.50 347 *e*PKP **PKPdf 15 02 51.0 -1.5**
LSA Lhasa 129.72 18 PKIKP **PKPdf 15 02 55.8 +0.3**
LSA Lhasa 129.72 18 PKPdf **PKPdf 15 02 55.8 +0.3**
CD2 Chengdu 130.80 4 *e*PKP **PKPdf 15 02 58.3 +1.3**
GYA Guiyang 135.34 0 *e*Pdif **Pdif 15 00 05.4 -2.7**
GYA PKP **PKPdf 15 03 04.8 -0.9**
GYA PP **PP 15 05 42.8 +2.7**
GYA PKS **PKSdf 15 06 39.4 -2.9**
GYA SKKS 15 12 33.0
GYA SS **SS 15 23 32.9 -1.8**
GYA AMB AMB
comp=Z,140nm,7.9s
GYA LR LR
comp=Z,150nm,19.6s
GYA LR LR
comp=Z,130nm,20.3s
GYA LR LR
comp=Z,140nm,19.9s
CMAR Chiang Mai Arr 142.45 13 PKPpre PKPpre 15 03 15.4
CMAR Chiang Mai Arr 142.45 13 PKhKP PKPpre 15 03 15.4
comp=Z,0.8nm,0.6s,baz=309,slow=3.8,SNR=4.3
CTA Charters Tower 143.00 261 PKPpre PKPpre 15 03 16.8
CTA Charters Tower 143.00 261 PKhKP PKPpre 15 03 16.8
comp=Z,10nm,1.2s,baz=104,slow=1.4,SNR=6.3
STKA Stephens Creek 146.15 240 PKPbc **PKPdf 15 03 25.0 +0.2**
STKA Stephens Creek 146.15 240 PKPbc **PKPdf 15 03 25.0 +0.2**
comp=Z,5.0nm,0.9s,baz=100,slow=4.6,SNR=11
WRAB Tennant Creek 154.18 262 *e*PKIKP **PKPbc 15 03 44.2 -1.6**
WRAB Tennant Creek 154.18 262 *e*PKPbc **PKPbc 15 03 44.2 -1.6**
WRA Warramunga Arr 154.19 262 PKP **PKPdf 15 03 37.1 -0.6**
WRA PKPbc **PKPbc 15 03 44.2 -1.7**
WRA PKPab **PKPab 15 03 59.4 -0.2**
comp=Z,4.7nm,0.8s,baz=86,slow=1.6,SNR=12
WRA Warramunga Arr 154.19 262 PKP **PKPdf 15 03 37.1 -0.6**
comp=Z,4.4nm,1.1s,baz=78,slow=1.4,SNR=17
WRA PKPbc **PKPbc 15 03 44.2 -1.7**
comp=Z,4.7nm,0.8s,baz=86,slow=1.6,SNR=12
WRA PKPab **PKPab 15 03 59.4 -0.2**
comp=Z,4.6nm,0.9s,baz=85,slow=2.2,SNR=5.4
ASAR Alice Springs 154.42 254 PKP **PKPdf 15 03 37.1 -0.9**
ASAR PKPbc **PKPbc 15 03 45.0 -1.4**
ASAR PKPab **PKPab 15 04 01.1 +0.5**
ASAR Alice Springs 154.42 254 PKP **PKPdf 15 03 37.1 -0.9**
comp=Z,1.0nm,0.9s,baz=96,slow=1.6,SNR=9.1
ASAR PKPbc **PKPbc 15 03 44.9 -1.4**
comp=Z,2.2nm,0.8s,baz=88,slow=2.0,SNR=14
ASAR PKPab **PKPab 15 04 01.1 +0.5**
comp=Z,1.3nm,0.7s,baz=107,slow=3.9,SNR=8.3
PSI Prapat 157.40 22 PKPab **PKPab 15 04 12.7 -0.7**
PSI Prapat 157.40 22 PKPab **PKPab 15 04 12.7 -0.7**
comp=Z,35nm,1.0s,baz=327,slow=6.3,SNR=9.3

IDC 13 14:47:10.3±30.0, 27°.87N×53°.60E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/27, mbtmp3.5/4, MS3.9/2, Ms1 3.9/2, ms1mx3.0/32, Error ellipse: s-maj=616.2km s-min=35.5km az=2.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**20.32**	**311**	P	P	14 51 48.8	+0.7
	1.0nm,0.7s,baz=123,slow=11,SNR=6.0						
AKASG	**Malin Array Be**	**29.35**	**328**	P	P	14 53 14.1	-0.6
	0.2nm,0.3s,baz=138,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**29.38**	**42**	P	P	14 53 14.9	-0.1
	0.2nm,0.6s,baz=235,slow=8.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**34.66**	**33**	P	P	14 54 01.4	+0.2
	0.9nm,0.6s,baz=245,slow=8.6,SNR=5.0						
SONM	**Songino Array**	**45.23**	**49**	LR	LR	15 14 47.2	
	comp=Z,92nm,18.4s,baz=204,slow=37						
JCJ	**Chichijima**	**76.69**	**66**	LR	LR	15 34 28.9	
	comp=Z,127nm,21.0s,baz=76,slow=37						

*IDC **13** 15:19:38.0±0.9, 8°.27S×130°.01E, h0km, mb4.0/8, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, ML4.2/2, Error ellipse: s-maj=75.7km s-min=19.3km az=71.0*
ISC 13 15:19:42.6±0.8, 8°.4S±0°.1×130°.1E±0°.3, h35km, n17, σ1°64/15, mb4.0/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**4.54**	**167**	P	Pn	15 20 54.7	+5.7
	baz=1.8,SNR=40						
KDU	**Kakadu**	**4.87**	**152**	P	Pn	15 20 56.4	+3.0
	baz=2.2,SNR=142						
KNRA	**Kununurra**	**7.36**	**190**	P	Pn	15 21 33.6	+5.9
	baz=5.1,SNR=12						
WRA	**Warramunga Arr**	**12.20**	**161**	Pn	**Pn**	**15 22 33.5**	**-0.5**
	1.5nm,0.3s,baz=344,slow=13,SNR=34						
WRA				Sn	**Sn**	**15 24 46.5**	**-2.3**
	1.7nm,0.3s,baz=347,slow=23,SNR=7.2						
QIS	**Mount Isa**	**15.19**	**144**	P	**Pn**	**15 23 13.0**	**-1.7**
	baz=13,SNR=4.8						
ASAR	**Alice Springs**	**15.62**	**167**	Pn	**Pn**	**15 23 20.2**	**-0.1**
	0.7nm,0.3s,baz=2.2,slow=13,SNR=39						
ASAR				Sn	**Sn**	**15 26 11.8**	**-0.7**
	0.4nm,0.3s,baz=352,slow=27,SNR=4.9						
WRKA	**Warakurna**	**16.64**	**186**	P	**P**	**15 23 35.5**	**+0.1**
	baz=14,SNR=4.8						
QLP	**Quilpie**	**22.52**	**145**	P	**P**	**15 24 43.4**	**+3.9**
	baz=20,SNR=6.2						
STKA	**Stephens Creek**	**25.70**	**157**	P	**P**	**15 25 12.2**	**+2.6**
	1.0nm,0.4s,baz=320,slow=9.6,SNR=6.4						
STKA	**Stephens Creek**	**25.70**	**157**	P	P	15 25 15.1	+5.4
	baz=23,SNR=4.7						
KSRS	**Korea Array**	**45.65**	**358**	P	**P**	**15 27 59.3**	**-0.5**
	0.5nm,0.5s,baz=176,slow=9.1,SNR=3.5						
USRK	**Ussuriysk Arra**	**52.37**	**2**	P	**P**	**15 28 50.7**	**-0.5**
	1.1nm,0.6s,baz=165,slow=7.4,SNR=4.5						
SONM	**Songino Array**	**59.78**	**342**	P	**P**	**15 29 43.8**	**-0.5**
	0.5nm,0.7s,baz=152,slow=6.5,SNR=3.5						
MKAR	**Makanchi Array**	**69.44**	**327**	P	**P**	**15 30 47.7**	**+0.4**
	2.4nm,0.6s,baz=119,slow=7.8,SNR=44						
ZALV	**Zalesovo Beam**	**72.86**	**334**	P	**P**	**15 31 07.4**	**-0.4**
	1.3nm,0.7s,baz=132,slow=4.3,SNR=7.5						
KURBB	**Kurchatov Arra**	**73.74**	**329**	P	**P**	**15 31 13.1**	**0.0**
	0.7nm,0.4s,baz=126,slow=5.5,SNR=9.0						
BVAR	**Borovoye Array**	**79.28**	**328**	P	**P**	**15 31 44.4**	**0.0**
	1.1nm,0.8s,baz=126,slow=7.3,SNR=5.4						

IDC 13 15:44:05.0±5.4, 29°.58S×177°.60W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.5/17, mbtmp3.3/2, Error ellipse: s-maj=299.7km s-min=79.6km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.51**	**266**	P	P	15 52 10.8	+0.3
	0.2nm,0.6s,baz=105,slow=7.4,SNR=2.5						
WRA	**Warramunga Arr**	**44.42**	**271**	P	P	15 52 17.4	-0.5
	0.2nm,0.3s,baz=110,slow=8.1,SNR=6.6						
FINES	**FINESS Array B**	**144.50**	**341**	PKP	PKPdf	16 03 42.0	-0.6
	0.6nm,0.6s,baz=44,slow=4.2,SNR=3.7						

*IDC **13** 15:52:24.1±0.9, 28°.16N×56°.28E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.0/32, mbtmp4.0/19, ML3.6/1, Error ellipse: s-maj=22.9km s-min=16.7km az=3.0*
*ISCJB **13** 15:52:25.3±0.3, 28°.33N±0°.03×56°.19E±0°.04, h10km, mb4.1/20, Error ellipse: s-maj=5.6km s-min=3.5km az=16.8*
*THR **13** 15:52:26.3±0.3, 28°.25N×56°.37E, h14km±5km, ML3.8*
*CSEM **13** 15:52:30.9±0.2, 28°.20N×56°.26E, h30km, ML3.8, Error ellipse: s-maj=7.3km s-min=4.9km az=93.0*
*TEH **13** 15:52:31.6, 28°.07N×56°.31E, h34km, ML3.8*
*DSN **13** 15:52:32.2±4.1, 28°.09N×56°.73E, h30km±40km, mb3.6/7, ML4.2/5, Ms4.1/1, Error ellipse: s-maj=34.5km s-min=10.5km az=112.0*
*OMAN **13** 15:53:00.4±0.1, 26°.11N×56°.35E, h30km, Error ellipse: s-maj=27.6km s-min=11.2km az=283.0*
ISC 13 15:52:26.8±0.5, 28°.23N±0°.03×56°.30E±0°.04, h10km, n86, σ1°88/77, mb4.0/20, 7C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.81**	**165**	*e*Pg	**Pg**	**15 52 44.6**	**+2.2**
IBND	**Bandar-abas**	**0.81**	**165**	*e*Pg	**Pg**	**15 52 44.6**	**+2.2**
KRBR	**Kerman**	**1.79**	**13**	*e*Pg	**Pn**	**15 52 58.7**	**+0.6**
KRBR				*e*Sg	**Sn**	**15 53 22.3**	**+1.3**
	924nm,0.5s						
KRBR	**Kerman**	**1.79**	**13**	*e*Pg	**Pn**	**15 52 58.7**	**+0.6**
KRBR				*e*Sg	**Sn**	**15 53 22.3**	**+1.3**
KRBR				AML	AML	15 53 28.8	
	comp=N,1μm,0.7s						
KRBR				AML	AML	15 53 30.8	
	comp=E,924nm,0.5s						
BANOM	**Banah**	**2.30**	**180**	⇑P	**Pn**	**15 53 06.6**	**+1.7**
	SNR=79						
BANOM				⇑S	**Pg**	**15 53 11.0**	**0.0**
BANOM	**Banah**	**2.30**	**180**	*e*Pn	**Pn**	**15 53 06.6**	**+1.7**
	SNR=79						
BANOM				⇑Sn	**Sn**	**15 53 33.6**	**+0.3**
BANOM	**Banah**	**2.30**	**180**	P	**Pn**	**15 53 06.6**	**+1.7**
	SNR=79						
BANOM				Sn	**Sn**	**15 53 33.6**	**+0.3**
GHIR	**Ghir-Karzin**	**2.93**	**272**	*e*Pn	**Pn**	**15 53 15.3**	**+1.7**
	comp=E,214nm,0.5s						
GHIR	**Ghir-Karzin**	**2.93**	**272**	*e*Pn	**Pn**	**15 53 15.3**	**+1.7**
GHIR				AML	AML	15 54 25.5	
	comp=N,214nm,0.5s						
ISRV	**Sarvestan**	**3.02**	**293**	*e*Pn	**Pn**	**15 53 17.9**	**+2.8**
ISRV				*e*Sg	**Sg**	**15 54 08.8**	**+4.7**
ISRV				*e*		15 54 28.4	
	comp=Z,3μm,0.3s						
ISRV	**Sarvestan**	**3.02**	**293**	*e*Pn	**Pn**	**15 53 17.9**	**+2.8**
IPAR	**Pars**	**3.27**	**300**	*e*Pn	**Pn**	**15 53 21.3**	**+2.9**
IPAR				*e*		15 54 29.5	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**3.27**	**300**	*e*Pn	**Pn**	**15 53 21.3**	**+2.9**
NAZ	**Nazwa, Dubai**	**3.28**	**190**	⇓*i*Pn	**Pn**	**15 53 21.4**	**+3.0**
NAZ	**Nazwa, Dubai**	**3.28**	**190**	Pn	**Pn**	**15 53 21.4**	**+3.0**
HATD	**Hatta, Dubai**	**3.40**	**183**	⇓*e*Pn	**Pn**	**15 53 21.8**	**+1.9**
HATD	**Hatta, Dubai**	**3.40**	**183**	Pn	**Pn**	**15 53 21.8**	**+1.9**
IBAF	**Bafgh**	**3.41**	**349**	*e*Pn	**Pn**	**15 53 22.2**	**+2.0**
IBAF				*e*		15 54 31.6	
	comp=Z,1μm,0.3s						
IBAF	**Bafgh**	**3.41**	**349**	*e*Pn	**Pn**	**15 53 22.2**	**+2.0**
IMEH	**Mehriz**	**3.47**	**335**	*e*Pn	**Pn**	**15 53 24.1**	**+2.9**
IMEH				*e*		15 54 26.6	
	comp=Z,2μm,0.3s						
IMEH	**Mehriz**	**3.47**	**335**	*e*Pn	**Pn**	**15 53 24.1**	**+2.9**
FAQ	**Al Faqa, Dubai**	**3.53**	**191**	⇓*i*Pn	**Pn**	**15 53 24.1**	**+2.3**
FAQ	**Al Faqa, Dubai**	**3.53**	**191**	Pn	**Pn**	**15 53 24.1**	**+2.3**
ASHO	**Ashiyiah**	**3.54**	**184**	⇑P	**Pn**	**15 53 24.5**	**+2.5**
	SNR=71						
ASHO	**Ashiyiah**	**3.54**	**184**	⇑*i*Pn	**Pn**	**15 53 24.3**	**+2.3**
	SNR=39						
ASHO	**Ashiyiah**	**3.54**	**184**	Pn	**Pn**	**15 53 24.3**	**+2.3**
	SNR=39						
ASUD	**Al Ashush, Dub**	**3.70**	**194**	⇑*i*Pn	**Pn**	**15 53 27.0**	**+3.0**
ASUD	**Al Ashush, Dub**	**3.70**	**194**	Pn	**Pn**	**15 53 27.0**	**+3.0**
ISAD	**Sadrabad**	**4.31**	**329**	*e*Pn	Pn	15 53 36.3	+3.5
ISAD				*e*		15 55 02.9	
	comp=Z,710nm,0.3s						
ISAD	**Sadrabad**	**4.31**	**329**	*e*Pn	Pn	15 53 36.3	+3.5
ICHK	**Chekchek**	**4.32**	**338**	*e*Pn	**Pn**	**15 53 35.5**	**+2.7**
ICHK				*e*		15 55 05.0	
	comp=Z,549nm,0.3s						
ICHK	**Chekchek**	**4.32**	**338**	*e*Pn	**Pn**	**15 53 35.5**	**+2.7**
CHBR	**Chabahar**	**4.56**	**124**	*e*Pn	**Pn**	**15 53 36.4**	**+0.5**
	comp=Z,107nm,0.4s						
CHBR	**Chabahar**	**4.56**	**124**	*e*Pn	**Pn**	**15 53 36.4**	**+0.5**
CHBR				AML	AML	15 54 29.0	
	comp=E,70nm,0.4s						
CHBR				AML	AML	15 54 29.4	
	comp=N,106nm,0.4s						
HOQ	**Hoqain**	**4.72**	**169**	⇑P	**Pn**	**15 53 39.0**	**+0.9**
HOQ	**Hoqain**	**4.72**	**169**	P	**Pn**	**15 53 39.0**	**+0.9**
IKOO	**Kooshah**	**4.78**	**29**	*e*Pn	Pn	15 53 42.5	+3.3
IKOO				*e*		15 55 07.9	
	comp=Z,767nm,0.3s						
IKOO	**Kooshah**	**4.78**	**29**	*e*Pn	Pn	15 53 42.5	+3.3
ARQ	**Araqi**	**4.88**	**178**	P	**Pn**	**15 53 43.0**	**+2.7**
	SNR=6.9						
ARQ	**Araqi**	**4.88**	**178**	P	**Pn**	**15 53 43.0**	**+2.7**
	SNR=6.9						
ITEG	**Tejag**	**5.10**	**24**	*e*Pn	Pn	15 53 47.0	+3.5
ITEG				*e*		15 54 36.5	
	comp=Z,533nm,0.1s						
ITEG	**Tejag**	**5.10**	**24**	*e*Pn	Pn	15 53 47.1	+3.5
IDAH	**Dahanechah**	**5.44**	**34**	*e*Pn	**Pn**	**15 53 51.5**	**+3.2**
IDAH				*e*		15 55 49.4	
	comp=Z,232nm,0.3s						
IDAH	**Dahanechah**	**5.44**	**34**	*e*Pn	**Pn**	**15 53 51.4**	**+3.2**
TABS	**Tabas**	**5.44**	**7**	*e*Pn	**Pn**	**15 53 49.0**	**+0.8**
NASN	**Na'in**	**5.46**	**327**	*e*Pn	**Pn**	**15 53 50.1**	**+1.5**
NASN	**Na'in**	**5.46**	**327**	*e*Pn	**Pn**	**15 53 50.1**	**+1.5**
IGAR	**Gharneh**	**5.55**	**319**	*e*Pn	**Pn**	**15 53 52.1**	**+2.3**
SLWS		**6.12**	**237**	S	**Sn**	**15 55 06.8**	**-0.5**
	baz=238						
SLWS		**6.12**	**237**	P	**Pn**	**15 53 57.4**	**+0.1**
	baz=238						
SLWS		**6.12**	**237**	P	**Pn**	**15 53 57.0**	**-0.3**
SLWS				S	**Sn**	**15 55 07.0**	**-0.4**
BTHS		**6.44**	**231**	S	**Sn**	**15 55 13.4**	**-1.9**
	baz=232						
BTHS		**6.44**	**231**	P	**Pn**	**15 54 02.0**	**+0.3**
	baz=232						
BTHS		**6.44**	**231**	P	**Pn**	**15 54 02.0**	**+0.3**
BTHS				S	**Sn**	**15 55 13.0**	**-2.3**
IKLH	**Kolahrood**	**6.50**	**322**	*e*	Pg	15 54 48.1	+17
	comp=Z,137nm,0.3s						
BOQSS		**6.61**	**251**	S	**Sn**	**15 55 18.1**	**-1.4**
	baz=251						
BOQSS		**6.61**	**251**	P	**Pn**	**15 54 03.7**	**-0.4**
	baz=251						
BOQSS		**6.61**	**251**	P	**Pn**	**15 54 04.0**	**-0.1**
BOQSS				S	**Sn**	**15 55 18.0**	**-1.6**
KFJS		**7.38**	**272**	P	**Pn**	**15 54 15.0**	**+0.4**
ASYS		**10.61**	**269**	S	Sn	15 56 50.4	-7.6
	baz=269						
ASYS		**10.61**	**269**	P	Pn	15 54 56.5	-2.5
	baz=269						
ASYS		**10.61**	**269**	P	Pn	15 54 56.0	-3.0
ASYS				S	Sn	15 56 50.0	-8.0
BHD	**Baghdad**	**11.42**	**299**	*e*P	Pn	15 55 05.9	-4.1
	baz=44						
BHD				*e*S	Sn	15 57 08.7	-8.9
KBZ	**Khabaz**	**18.85**	**329**	P	**P**	**15 56 46.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=1.7						
AML	**Almayashu**	**19.80**	**41**	P	**P**	**15 56 59.2**	**+1.4**
	SNR=6.3						
AAK	**Ala-Archa**	**20.58**	**41**	P	**P**	**15 57 05.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=214,slow=11,SNR=4.4						
BRTR	**Keskin Array B**	**21.95**	**307**	P	**P**	**15 57 20.8**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=122,slow=12,SNR=16						
AKTO	**Aktyubinsk**	**22.21**	**3**	P	**P**	**15 57 23.5**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=184,slow=12,SNR=17						
BVAR	**Borovoye Array**	**26.87**	**19**	P	**P**	**15 58 06.9**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=203,slow=8.5,SNR=25						
BVAR				PcP	**PcP**	**16 01 28.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=209,slow=2.4,SNR=9.0						
MKAR	**Makanchi Array**	**27.52**	**41**	P	**P**	**15 58 13.1**	**-0.4**

comp=Z,1.5nm,0.4s,baz=222,slow=9.7,SNR=41
AKASG **Malin Array Be 30.37 325** P P 15 58 37.3 -1.5
comp=Z,0.6nm,0.4s,baz=132,slow=8.3,SNR=7.2
ZALV **Zalesovo Beam 33.08 31** P **P 15 59 01.6 -1.0**
comp=Z,2.2nm,0.4s,baz=236,slow=10,SNR=14
MOA **Molln 37.89 313** ⇓*iP* **P 15 59 43.0 -1.0**
comp=Z,2.2nm,0.5s
GERES **GERESS Array B 38.52 314** P P 15 59 48.0 -1.5
comp=Z,0.5nm,0.6s,baz=121,slow=9.2,SNR=6.4
FINES **FINESS Array B 38.83 337** P **P 15 59 51.7 0.0**
comp=Z,0.6nm,0.4s,baz=137,slow=10.0,SNR=9.6
FETA **Feichten 40.02 311** ⇓*iP* P 16 00 00.7 -1.4
comp=Z,3.2nm,0.5s
DAVA **Damuels 40.64 311** ⇓*iP* P 16 00 05.6 -1.6
comp=Z,8.7nm,0.5s
SONM **Songino Array 43.18 49** P **P 16 00 27.9 -0.1**
comp=Z,1.3nm,0.7s,baz=263,slow=8.4,SNR=5.2
TORD **Torodi Ar. Bea 52.83 265** P P 16 01 41.4 -1.5
comp=Z,5.4nm,0.5s,baz=61,slow=7.2,SNR=74
KSRS **Korea Array 59.58 61** P P 16 02 29.2 -1.6
comp=Z,2.0nm,0.5s,baz=280,slow=6.7,SNR=10
SEY **Seymchan 67.93 29** P **P 16 03 24.7 -0.8**
comp=Z,1.5nm,0.5s,baz=209,slow=13,SNR=5.6
SCHQ **Schefferville 83.98 331** P P 16 04 55.7 -1.5
comp=Z,3.1nm,0.8s,baz=76,slow=4.2,SNR=3.5
ILAR **Eielson Array 85.55 10** P P 16 05 03.0 -1.9
comp=Z,0.4nm,0.6s,baz=325,slow=5.3,SNR=8.5
WRA **Warramunga Arr 89.28 113** P **P 16 05 22.9 -0.7**
comp=Z,0.6nm,0.8s,baz=315,slow=4.1,SNR=7.0
YKA **Yellowknife Ar 89.30 356** P **P 16 05 22.4 -0.6**
comp=Z,0.4nm,0.5s,baz=2.8,slow=5.4,SNR=13
ASAR **Alice Springs 90.81 116** P **P 16 05 29.9 -0.8**
comp=Z,0.4nm,0.5s,baz=306,slow=4.8,SNR=8.0

NIED ***13*** *15:53:00,36˚.40N×141˚.20E,h44km,Mw4.0 Best double couple: M₀1.01000×10¹⁵ NP1:φ₀215.00000°,δ13.00000°, λ98.00000°. NP2:φ₀27.00000°,δ78.00000°,λ88.00000°.*
IDC ***13*** *15:53:21.4±0.9,36˚.32N×141˚.22E,h0km,mb3.9/12, mb1 3.9/16,mb1mx3.8/31,mbtmp3.8/16,ML3.5/3, Error ellipse: s-maj=21.0km s-min=19.2km az=67.0*
ISCJB ***13*** *15:53:25.7±0.8,36˚.39N±0˚.04×141˚.24E±0˚.07,h44km±6km, mb3.8/12,Error ellipse: s-maj=10.0km s-min=5.8km az=14.6*
JMA ***13*** *15:53:26.9±0.1,36˚.37N×141˚.11E,h48km±2km,M3.7*
JMA Felt I J1.

ISC 13 15:53:26.8±1.2,36˚.40N±0˚.04×141˚.03E±0˚.06,h32km±9km, n37,σ0.94/35,mb3.9/12,7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.43**	**300**	⇓P	**Pn**	**15 53 37.8**	**+1.0**
JYT	**Yasato**	**0.70**	**256**	⇓P	**Pb**	**15 53 41.3**	**+0.8**
JYT				S	**Sn**	**15 53 50.8**	**+0.6**
CHOJ	**Chosi**	**0.71**	**191**	P	**Pb**	**15 53 40.6**	**-0.1**
CHOJ				S	**Sb**	**15 53 50.0**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.72**	**345**	S	**Sb**	**15 53 50.8**	**0.0**
JFK	**Kawauchi**	**0.97**	**353**	⇓P	**Pn**	**15 53 44.2**	**-0.1**
JFT	**Otama**	**1.25**	**334**	⇓P	**Pb**	**15 53 49.8**	**0.0**
JFT				S	**Sb**	**15 54 05.3**	**-0.2**
JAG	**Ashikaga**	**1.27**	**272**	⇓P	**Pb**	**15 53 49.7**	**-0.5**
JFY	**Yanaizu**	**1.46**	**314**	⇓P	**Pb**	**15 53 52.8**	**-0.6**
JMM	**Marumori**	**1.48**	**353**	P	**Pn**	**15 53 51.8**	**+0.6**
JMM				S	**Sn**	**15 54 09.8**	**+0.4**
JKT	**Katashina**	**1.48**	**285**	⇓P	**Pb**	**15 53 53.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.28**	**274**	Pn	**Pn**	**15 54 04.0**	**+1.7**
	21nm,0.3s,baz=104,slow=9.0,SNR=218						
MJAR				Sn	**Sb**	**15 54 32.6**	**-2.4**
	14nm,0.3s,baz=83,slow=17,SNR=6.3						
MAT	**Matsushiro**	**2.28**	**274**	P	**Pb**	**15 54 04.9**	**-2.4**
MAT				*e*S	**Sb**	**15 54 34.2**	**-0.9**
ASAJ	**Asahikawa**	**7.80**	**8**	Pn	**Pn**	**15 55 17.1**	**-0.9**
	1.1nm,0.3s,baz=191,slow=5.3,SNR=12						
ASAJ				Sn	**Sn**	**15 56 44.4**	**-0.8**
	0.6nm,0.3s,baz=253,slow=19,SNR=2.5						
USRK	**Ussuriysk Arra**	**10.40**	**321**	Pn	**Pn**	**15 55 55.4**	**+1.7**
	0.1nm,0.3s,baz=134,slow=10,SNR=2.2						
KSRS	**Korea Array**	**10.55**	**280**	Pn	**Pn**	**15 55 56.6**	**+0.9**
	0.1nm,0.3s,baz=91,slow=14,SNR=3.0						
SONM	**Songino Array**	**27.89**	**305**	P	**P**	**15 59 13.9**	**+0.1**
	0.9nm,0.6s,baz=98,slow=7.4,SNR=3.1						
H11N2	**WAKE ISLAND Hy 28.10**	**119**		T	T	16 28 47.7	
	baz=315,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy 28.11**	**119**		T	T	16 28 45.2	
	baz=315,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy 28.11**	**119**		T	T	16 28 37.9	
	baz=315,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy 28.78**	**121**		T	T	16 29 32.4	
	baz=318,slow=75,SNR=78						
H11S3	**WAKE ISLAND Hy 28.78**	**121**		T	T	16 29 36.0	
	baz=318,slow=75,SNR=58						
H11S2	**WAKE ISLAND Hy 28.80**	**121**		T	T	16 29 37.1	
	baz=318,slow=75,SNR=58						
ZALV	**Zalesovo Beam**	**42.12**	**313**	P	**P**	**16 01 16.6**	**+0.8**
	2.8nm,0.6s,baz=92,slow=7.6,SNR=9.6						
MKAR	**Makanchi Array**	**44.20**	**303**	P	**P**	**16 01 33.4**	**+0.7**
	0.8nm,0.7s,baz=88,slow=9.9,SNR=5.0						
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	**P**	**16 01 48.3**	**+0.1**
	3.9nm,0.4s,baz=81,slow=7.6,SNR=29						
ILAR	**Eielson Array**	**50.19**	**32**	P	**P**	**16 02 18.9**	**-0.3**
	0.8nm,0.9s,baz=267,slow=5.8,SNR=4.7						
BVAR	**Borovoye Array**	**50.77**	**313**	P	**P**	**16 02 24.2**	**+0.4**
	1.2nm,0.8s,baz=92,slow=7.2,SNR=6.8						
WRA	**Warramunga Arr**	**56.39**	**188**	P	**P**	**16 03 04.1**	**-1.0**
	0.9nm,0.8s,baz=5.0,slow=7.4,SNR=7.3						
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**16 03 30.2**	**-1.0**
	0.5nm,0.8s,baz=6.4,slow=6.1,SNR=4.8						
YKA	**Yellowknife Ar**	**64.51**	**30**	P	**P**	**16 03 60.0**	**-0.2**
	0.2nm,0.7s,baz=297,slow=6.5,SNR=3.8						
FINES	**FINESS Array B**	**69.23**	**332**	P	**P**	**16 04 30.2**	**0.0**
	1.8nm,0.9s,baz=101,slow=7.2,SNR=5.0						
AKASG	**Malin Array Be**	**74.61**	**322**	P	**P**	**16 05 02.5**	**-0.1**
	1.1nm,0.6s,baz=49,slow=7.5,SNR=4.4						
NB2	**NORSAR Subarra**	**74.65**	**337**	P	**P**	**16 05 02.7**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**74.65**	**337**	P	**P**	**16 05 03.0**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=38,slow=5.7,SNR=4.0						
H03N2	**Juan Fernandez**	**147.26**	**97**	T	T	18 57 45.2	
	baz=288,slow=75,SNR=8.0						
H03N3	**Juan Fernandez**	**147.27**	**97**	T	T	18 57 40.1	
	baz=288,slow=75,SNR=8.1						
H03N1	**Juan Fernandez**	**147.28**	**97**	T	T	18 57 46.4	
	baz=288,slow=75,SNR=9.5						

MAN 13 16:11:01,17˚.88N×120˚.74E,h32km,mb4.4,ML3.2,MS3.0, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.23**	**187**	*e*P	Pn	16 11 09.4	+1.2
ABRA				*e*S	Sn	16 11 14.7	+2.0
PIP	**Pasuquin**	**0.46**	**345**	⇓*i*P	Pn	16 11 12.3	+0.9
PIP				*e*S	Sn	16 11 20.3	+1.8
APYP	**Conner**	**0.48**	**92**	*e*P	Pb	16 11 09.9	-1.3
CVP	**Callao Caves**	**1.04**	**99**	⇑*i*P	Pn	16 11 18.8	-0.6
CVP				*i* S	Sn	16 11 32.0	-0.9
SGCP	**Mt. Cagua**	**1.29**	**74**	*e*P	Pn	16 11 23.0	+0.1
CAUP	**Cauayan**	**1.39**	**132**	*e*P	Pb	16 11 26.4	+0.1

IDC ***13*** *16:21:21.6±0.5,15˚.58S×174˚.96W,h0km,mb4.5/15, mb1 4.7/15,mb1mx4.6/21,mbtmp4.5/15,MS5.1/30, Ms1 5.1/30,ms1mx5.0/35,Error ellipse: s-maj=23.7km s-min=15.1km az=125.0*
ISCJB ***13*** *16:21:22.1±0.2,15˚.74S±0˚.06×174˚.75W±0˚.04,h10km, mb5.0/72,MS5.3/181,Error ellipse: s-maj=9.6km s-min=4.8km az=154.5*
BJI ***13*** *16:21:22.2,15˚.58S×174˚.56W,h12km,mB5.6/29, mb5.0/36,Ms5.5/27,Ms7 5.2/29*
GCMT ***13*** *16:21:23.1±0.1,15˚.44S×174˚.74W,h13km,MW5.5/118, Moment Tensor Solution. s85,c152; s118,c223; Duration: 1s4 Moment tensor: Scale 10¹⁷Nm; Mrr0.17±.03; Mθθ0.25±.03; Mϕϕ-0.42±.03; Mrθ-0.03±.06; Mθϕ2.30±.03; Mϕr-0.27±.06; Best double couple: M₀2.34100×10¹⁷ NP1:φ₀184.00000°,δ89.00000°, λ173.00000°. NP2:φ₀274.00000°,δ83.00000°,λ1.00000°. Principal axes: T 2.2570, Plg6.0000°, Azm139.0000°; N 0.1660, Plg83.0000°, Azm355.0000°; P -2.4240, Plg4.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *16:21:23.1±0.2,15˚.66S×174˚.80W,h10km,mb5.2/44, MS5.3/142 Error ellipse: s-maj=12.1km s-min=5.9km az=141.0*
MOS ***13*** *16:21:26.2±1.5,15˚.66S×174˚.82W,h33km,mb5.3/13, MS5.4/9,Error ellipse: s-maj=14.4km s-min=10.6km az=140.6*

ISC 13 16:21:24.4±0.5,15˚.77S±0˚.07×174˚.62W±0˚.05,h17km±2km, h17km:pP-P,n530,σ1⅛23/396,mb5.1/72,MS5.3/181, 100C-98D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.31**	**57**	*e*P	Pn	16 22 08.4	-7.2
AFI				Sn	Sn	16 22 45.6	-9.1
AFI				TT		16 25 27.1	
AFI	**Afiamalu**	**3.31**	**57**	Pn	Pn	16 22 09.8	-5.9
	62nm,0.3s,baz=17,slow=1.5,SNR=123						
AFI				Sn	Sn	16 22 45.6	-9.1
	13nm,0.3s,baz=0.0,slow=20,SNR=2.3						
AFI				LR	LR	16 23 21.3	
	comp=Z,29μm,19.7s,baz=247,slow=34						
AFI				T	T	16 25 27.1	
	76nm,0.3s,baz=298,slow=22,SNR=6.0						
NIUE	**Niue**	**5.56**	**127**	⇓P	**Pn**	**16 22 46.8**	**+0.3**
	baz=5.1,SNR=6.1						
MSVF	**Nonsavu**	**7.29**	**253**	Pn	**Pn**	**16 23 11.5**	**+1.2**
	127nm,0.7s,SNR=5.5						
MSVF	**Nonsavu**	**7.29**	**253**	*e*P	**Pn**	**16 23 11.7**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,91nm,1.4s						
MSVF	**Nonsavu**	**7.29**	**253**	*e*P	**Pn**	**16 23 11.7**	**+1.4**
	comp=Z,91nm,1.4s						
RAR	**Rarotonga**	**15.09**	**113**	LR	LR	16 29 09.4	
	comp=Z,5μm,19.9s,baz=297,slow=30						
DZM	**Mont Dzumac**	**18.97**	**248**	*e*P	**Pn**	**16 25 46.1**	**+0.2**
	comp=Z,178nm,1.4s						
DZM				*e*LR	LR	16 30 17.7	
	comp=Z,21μm,25.8s						
DZM	**Mont Dzumac**	**18.97**	**248**	*e*P	**Pn**	**16 25 45.8**	**-0.1**
	comp=Z,145nm,1.4s						
DZM				S	**S**	**16 29 22.1**	**+1.9**
DZM	**Mont Dzumac**	**18.97**	**248**	P	**Pn**	**16 25 46.2**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=80,slow=18,SNR=11						
DZM				S	**S**	**16 29 22.1**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=120,slow=20,SNR=2.7						
TARA	**Tarawa**	**21.00**	**323**	PFAKE		16 26 20.0	+10
TARA				LR	LR		
	comp=Z,8μm,21.0s						
URZ	**Urewera**	**23.56**	**196**	*e*P	**P**	**16 26 34.2**	**+0.1**
	comp=Z,30nm,1.0s						
URZ				S	Sn	16 31 00.1	-7.8
URZ	**Urewera**	**23.56**	**196**	P	**P**	**16 26 33.8**	**-0.3**
	comp=Z,12nm,0.8s,baz=45,slow=2.9,SNR=4.0						
URZ				S	Sn	16 31 00.2	-7.8
	comp=Z,5.7nm,1.1s,baz=49,slow=20,SNR=1.7						
URZ				LR	LR	16 35 11.2	
	comp=Z,8μm,19.3s,baz=23,slow=35						
PAE	**Paea**	**24.05**	**98**	*e*T	T	16 51 33.1	
	comp=Z,9.5nm,0.3s						
PPT2	**Papeete2**	**24.06**	**98**	*e*LR	LR	16 30 57.5	
	comp=Z,3μm,20.7s						
PPT2				*e*LQ	LQ	16 31 28.8	
	comp=Z,20μm,25.5s						
PPT2				*e*LR	LR	16 32 36.4	
	comp=Z,1μm,23.8s						
PPT2	**Papeete2**	**24.06**	**98**	*e*T	T	16 51 34.3	
	comp=Z,20nm,0.4s						
TIAR	**Tiarei**	**24.28**	**98**	*e*T	T	16 51 49.8	
	comp=Z,8.9nm,0.3s						
TVO	**Taravao**	**24.37**	**98**	*e*T	T	16 51 57.2	
	comp=Z,6.7nm,0.3s						
XMAS	**Kiritimati**	**24.53**	**45**	PFAKE		16 26 50.0	+6.6
XMAS				LR	LR		
	comp=Z,7μm,20.0s						
TBI	**Tubuai**	**24.86**	**112**	*e*LQ	LQ	16 31 53.6	
	comp=Z,15μm,27.5s						
TBI				*e*LR	LR	16 33 00.9	
	comp=Z,5μm,25.8s,baz=290						
TBI	**Tubuai**	**24.86**	**112**	*e*T	T	16 52 40.4	
	comp=Z,52nm,0.3s						
MEH	**Mehetia**	**25.50**	**99**	*e*T	T	16 53 21.8	
	comp=Z,16nm,0.3s						
HNR	**Honiara**	**25.59**	**281**	LR	LR	16 35 08.1	
	comp=Z,9μm,21.2s,baz=119,slow=33						
VAH	**Vaihoa**	**26.01**	**93**	*e*T	T	16 53 56.6	
	comp=Z,12nm,0.2s						
SNZO	**South Karori**	**27.08**	**198**	PFAKE		16 27 20.0	+14
SNZO				LR	LR		
	comp=Z,3μm,20.0s						
RPZ	**Rata Peaks**	**30.41**	**201**	LR	LR	16 39 05.1	
	comp=Z,6μm,18.5s,baz=193,slow=35						
TAOE	**Nuku Hiva Isla**	**34.34**	**83**	*e*T	T	17 04 15.1	
	comp=Z,391nm,0.3s						
RMQ	**Roma**	**35.67**	**246**	⇑P	**P**	**16 28 21.9**	**-0.1**
	baz=35,SNR=5.0						
CTA	**Charters Tower**	**37.41**	**257**	LR	LR	16 42 25.1	
	comp=Z,2μm,18.1s,baz=80,slow=34						
CTAO	**Charters Tower**	**37.41**	**257**	PFAKE		16 28 50.0	+13
CTAO				LR	LR		
	comp=Z,2μm,19.0s						
PMG	**Port Moresby**	**37.79**	**275**	LR	LR	16 41 42.0	
	comp=Z,3μm,19.4s,baz=301,slow=33						
CAN	**Canberra**	**37.87**	**232**	PFAKE		16 28 50.0	+9.3
CAN				LR	LR		
	comp=Z,2μm,20.0s						
RKT	**Rikitea**	**38.01**	**107**	*e*S	**S**	**16 34 30.7**	**-3.0**
	comp=Z,783nm,28.5s						
RKT				*e*LQ	LQ	16 37 29.7	
	comp=Z,3μm,26.0s						
RKT				*e*LR	LR	16 39 05.6	
	comp=Z,2μm,22.5s,baz=281						
RKT	**Rikitea**	**38.01**	**107**	*e*T	T	17 09 03.8	
	comp=Z,14nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.69**	**331**	T	T	17 09 19.9	
	baz=153,slow=76,SNR=802						
H11S3	**WAKE ISLAND Hy**	**38.70**	**331**	T	T	17 09 19.1	
	baz=153,slow=76,SNR=110						
H11S1	**WAKE ISLAND Hy**	**38.71**	**331**	T	T	17 09 21.4	
	baz=153,slow=76,SNR=463						
MTSU	**Mount Surprise**	**39.29**	**261**	⇓P	**P**	**16 28 53.3**	**+0.5**
	baz=39						
CMSA	**Cobar Meteorol**	**39.35**	**239**	P	**P**	**16 28 51.8**	**-1.3**
	baz=39,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**39.66**	**332**	T	T	17 10 34.9	
	baz=154,slow=77,SNR=1637						
H11N1	**WAKE ISLAND Hy**	**39.67**	**332**	T	T	17 10 32.6	
	baz=154,slow=77,SNR=2238						
H11N2	**WAKE ISLAND Hy**	**39.68**	**332**	T	T	17 10 36.3	
	baz=154,slow=77,SNR=2035						
QLP	**Quilpie**	**39.69**	**247**	⇓P	**P**	**16 28 56.3**	**+0.3**
	baz=39,SNR=4.4						
KIP	**Kipapa**	**40.39**	**24**	⇑*e*P	**P**	**16 29 02.6**	**+0.9**
KIP				pmax	pmax		
	comp=Z,54nm,1.2s						
TOO	**Toolangi**	**41.32**	**231**	⇑P	**P**	**16 29 06.7**	**-2.7**
	baz=41,SNR=5.1						
TAU	**Tasmania Unive**	**42.25**	**222**	PFAKE		16 29 30.0	+13
TAU				LR	LR		
	comp=Z,5μm,19.0s						
STKA	**Stephens Creek**	**42.83**	**240**	*e*P	**P**	**16 29 20.6**	**-1.2**
	comp=Z,6.0nm,1.3s						
STKA	**Stephens Creek**	**42.83**	**240**	P	**P**	**16 29 20.3**	**-1.5**
	comp=Z,4.3nm,0.7s,baz=80,slow=8.7,SNR=9.0						
STKA				LR	LR	16 45 12.2	
	comp=Z,4μm,20.6s,baz=79,slow=34						
STKA	**Stephens Creek**	**42.83**	**240**	⇓P	**P**	**16 29 21.1**	**-0.7**
	baz=42,SNR=6.8						
MIDW	**Midway**	**43.80**	**356**	PFAKE		16 29 40.0	+11
MIDW				LR	LR		
	comp=Z,2μm,19.0s						
HTT	**Hallett**	**45.35**	**238**	⇓P	**P**	**16 29 40.3**	**-1.7**
	baz=45,SNR=3.7						
BBOO	**Buckleboo**	**47.61**	**240**	⇓P	**P**	**16 29 57.2**	**-2.5**
	baz=47						
WRAB	**Tennant Creek**	**48.60**	**257**	⇑*e*P	**P**	**16 30 09.1**	**+1.5**
WRAB				pmax	pmax		
	comp=Z,19nm,1.7s						
WRAB	**Tennant Creek**	**48.60**	**257**	PFAKE		16 30 20.0	+12
WRAB				LR	LR		
	comp=Z,2μm,21.0s						
WRA	**Warramunga Arr**	**48.61**	**257**	P	**P**	**16 30 04.6**	**-3.1**
WRA	**Warramunga Ar**	**48.61**	**257**	P	**P**	**16 30 04.6**	**-3.1**
	comp=Z,1.1nm,0.7s,baz=90,slow=6.7,SNR=8.8						
WRA				LR	LR	16 47 43.3	
	comp=Z,2μm,20.7s,baz=95,slow=33						
AS31	**Alice Springs**	**48.88**	**252**	*e*P	**P**	**16 30 07.7**	**-2.0**
ASAR	**Alice Springs**	**48.88**	**252**	P	**P**	**16 30 06.8**	**-2.9**
ASAR	**Alice Springs**	**48.88**	**252**	P	**P**	**16 30 06.8**	**-2.9**
	comp=Z,9.2nm,0.8s,baz=87,slow=7.9,SNR=88						
ASAR				LR	LR	16 48 40.8	
	comp=Z,5μm,22.0s,baz=89,slow=34						
GUMO	**Guam**	**49.55**	**304**	PFAKE		16 30 20.0	+5.2
GUMO				LR	LR		
	comp=Z,2μm,19.0s						
JCJ	**Chichijima**	**59.77**	**315**	LR	LR	16 53 00.4	
	comp=Z,3μm,18.7s,baz=151,slow=32						
MBWA	**Marble Bar**	**62.13**	**254**	PFAKE		16 32 00.0	+15
MBWA				LR	LR		
	comp=Z,3μm,20.0s						
SBA	**Scott Base**	**62.79**	**184**	PFAKE		16 32 00.0	+11
SBA				LR	LR		
	comp=Z,1μm,22.0s						
VNDA	**Vanda**	**62.90**	**186**	P	**P**	**16 31 50.8**	**+1.6**
VNDA	**Vanda**	**62.90**	**186**	P	**P**	**16 31 50.8**	**+1.6**
	comp=Z,5.8nm,1.0s,baz=21,slow=5.6,SNR=8.3						
VNDA				LR	LR	16 53 19.0	
	comp=Z,514nm,18.8s,baz=29,slow=30						
DAV	**Davao City (W)**	**63.40**	**286**	PFAKE		16 32 00.0	+6.4
DAV				LR	LR		
	comp=Z,2μm,20.0s						
KAPI	**Kappang**	**65.21**	**272**	PFAKE		16 32 20.0	+15
KAPI				LR	LR		
	comp=Z,682nm,21.0s						
MJAR	**Matsushiro Arr**	**68.47**	**321**	LR	LR	16 56 45.1	
	comp=Z,1μm,21.7s,baz=140,slow=31						
MAJO	**Matsushiro**	**68.47**	**321**	PFAKE		16 32 40.0	+14
MAJO				LR	LR		
	comp=Z,2μm,22.0s						
FX1	**Attu Island--F**	**69.18**	**352**	LR	LR	16 55 49.3	
	comp=Z,1μm,20.9s,baz=181,slow=30						
ERM	**Erimo**	**69.43**	**328**	PFAKE		16 32 40.0	+8.4
ERM				LR	LR		
	comp=Z,2μm,20.0s						
CASY	**Casey**	**69.58**	**205**	PFAKE		16 32 40.0	+7.7
CASY				LR	LR		
	comp=Z,2μm,22.0s						
JNU	**Nakatsue**	**71.19**	**314**	LR	LR	17 00 45.9	
	comp=Z,1μm,19.1s,baz=129,slow=33						
ASAJ	**Asahikawa**	**71.24**	**329**	LR	LR	16 59 11.8	
	comp=Z,2μm,20.4s,baz=159,slow=32						
KKM	**Kota Kinabalu**	**71.80**	**282**	PFAKE		16 33 00.0	+13
KKM				LR	LR		
	comp=Z,629nm,22.0s						
PET	**Petropavlovsk**	**72.28**	**343**	PFAKE		16 33 00.0	+11
PET				LR	LR		
	comp=Z,1μm,21.0s						
PETK	**Petropavlovsk-**	**72.63**	**343**	P	**P**	**16 32 49.9**	**-0.9**
PETK	**Petropavlovsk-**	**72.63**	**343**	P	**P**	**16 32 49.9**	**-0.9**
PETK	**Petropavlovsk-**	**72.63**	**343**	P	**P**	**16 32 49.9**	**-0.9**
	comp=Z,6.4nm,0.8s,baz=121,slow=7.1,SNR=6.4						
PETK				LR	LR	17 03 40.2	
	comp=Z,485nm,18.5s,baz=160,slow=35						
YSS	**Yuzh-Sakhalins**	**73.22**	**331**	⇑*eP*	**P**	**16 32 56.2**	**+1.7**
YSS				*e*		16 33 02.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,19.0s						
YSS	**Yuzh-Sakhalins**	**73.22**	**331**	PFAKE		16 33 10.0	+16
YSS				LR	LR		
	comp=Z,325nm,19.0s						
EDW2	**Edwards Air Fo**	**73.64**	**46**	⇓P	**P**	**16 32 58.5**	**+1.2**
	baz=74						
MONP	**Monument Peak**	**73.69**	**48**	⇓P	**P**	**16 32 58.2**	**+0.4**
	baz=74						
ISA	**Isabella**	**73.74**	**45**	*eP*	**P**	**16 32 58.8**	**+0.9**
ISA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ISA	**Isabella**	**73.74**	**45**	*eP*	**P**	**16 32 58.8**	**+0.9**
	comp=Z,7.9nm,1.4s						
ISA	**Isabella**	**73.74**	**45**	⇓P	**P**	**16 32 59.0**	**+1.1**
	baz=74						
PFO	**Pinyon Flat Ob**	**74.04**	**48**	LR	LR	17 00 03.6	
	comp=Z,2μm,18.2s,baz=181,slow=31						
PFO	**Pinyon Flat Ob**	**74.04**	**48**	⇑P	**P**	**16 33 00.4**	**+0.7**
	baz=74						
YHNB	**Yeheng**	**74.22**	**302**	PFAKE		16 33 10.0	+9.1
YHNB				LR	LR		
	comp=Z,1μm,22.0s						
TATO	**Taipei**	**74.26**	**302**	PFAKE		16 33 10.0	+8.9
TATO				LR	LR		
	comp=Z,1μm,19.0s						
QSPA	**South Pole Qui**	**74.28**	**180**	*eP*	**P**	**16 33 00.9**	**+0.3**
	comp=Z,17nm,1.0s						
QSPA				LR	LR		
	comp=Z,1μm,20.0s						
QSPA	**South Pole Qui**	**74.28**	**180**	P	**P**	**16 33 01.8**	**+1.1**
	comp=Z,11nm,0.9s,baz=41,slow=2.1,SNR=17						
BELC	**Belle Mtn. Jos**	**74.56**	**47**	⇓P	**P**	**16 33 04.3**	**+1.5**
	baz=75						
GSC	**Goldstone**	**74.69**	**46**	*eP*	**P**	**16 33 03.4**	**-0.1**
GSC				pmax	pmax		
	comp=Z,22nm,1.3s						
GSC	**Goldstone**	**74.69**	**46**	*eP*	**P**	**16 33 03.4**	**-0.1**
	comp=Z,22nm,1.3s						
GSC	**Goldstone**	**74.69**	**46**	⇓P	**P**	**16 33 04.6**	**+1.1**
	baz=75						
HEC	**Hector,Ludlow**	**74.77**	**46**	P	**P**	**16 33 04.1**	**+0.2**
	baz=75						
BC3	**Big Chuckawall**	**74.77**	**48**	⇓P	**P**	**16 33 05.3**	**+1.3**
	baz=75						
M04C	**Macdoel**	**75.15**	**38**	⇓P	**P**	**16 33 07.2**	**+1.2**
	baz=75						
GMRC	**Granite Mounta**	**75.21**	**47**	⇑P	**P**	**16 33 06.7**	**+0.2**
	baz=75						
GRAC	**Grapevine Rang**	**75.22**	**44**	P	**P**	**16 33 06.6**	**+0.2**
	baz=75						
IRM	**Iron Mountain**	**75.25**	**48**	⇑P	**P**	**16 33 07.7**	**+1.0**
	baz=76						
FURC	**Furnace Creek,**	**75.28

comp=Z,34nm,0.7s
SSE pmax pmax
comp=Z,79nm,3.6s
SSE LR LR
comp=Z,360nm,24.8s
SSE LR LR
comp=Z,790nm,25.1s
SSE LR LR
comp=Z,1µm,25.3s
WVOR Wild Horse Val 77.46 39 PFAKE 16 33 30.0 +11
WVOR LR LR
comp=Z,2µm,19.0s
TUC Tucson 77.54 51 *eP* **P 16 33 20.9 +1.2**
TUC pmax pmax
comp=Z,16nm,1.6s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 77.54 51 *eP* **P 16 33 20.9 +1.2**
comp=Z,16nm,1.6s
TUC LR LR
comp=Z,2µm,20.0s
NLWA Neilton Lookou 77.54 33 PFAKE 16 33 30.0 +11
NLWA LR LR
comp=Z,2µm,20.0s
RSO Redoubt South 77.98 11 *eP* **P 16 33 21.4 -0.3**
comp=Z,50nm,0.8s
X16A Lo Mia Camp, P 78.04 49 ⇓P **P 16 33 23.5 +0.9**
baz=78
319A Douglas 78.25 53 ⇓P **P 16 33 24.5 +0.7**
baz=78
ARUT Antelope Range 78.29 45 *eP* **P 16 33 24.0 +0.1**
ARUT pmax pmax
comp=Z,222nm,1.1s
ARUT Antelope Range 78.29 45 *eP* **P 16 33 24.0 +0.1**
comp=Z,222nm,1.1s
U15A North Rim 78.41 47 ⇑P **P 16 33 25.3 +0.6**
baz=79
MDJ Mudanjiang 78.60 323 PFAKE 16 33 40.0 +15
MDJ LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 78.62 48 *eP* **P 16 33 25.6 -0.2**
comp=Z,25nm,1.4s
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 78.62 48 ⇑P **P 16 33 26.4 +0.7**
baz=79
320A Kipp Ranch, An 78.81 53 ⇓P **P 16 33 27.4 +0.5**
baz=79
X18A Snowflake 79.18 49 ⇓P **P 16 33 29.4 +0.5**
baz=79
HAWA Hanford 79.25 35 PFAKE 16 33 40.0 +11
HAWA LR LR
comp=Z,2µm,20.0s
GAMB Gambell 79.32 1 *eP* **P 16 33 28.5 -0.2**
comp=Z,84nm,2.0s
NJ2 Nanjing 79.45 308 *eP* **P 16 33 30.1 -0.1**
NJ2 pP **pP 16 33 33.4 -2.4**
NJ2 S **S 16 43 33.0 +2.1**
NJ2 sS **sS 16 43 39.5 -0.7**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 LR LR
comp=Z,960nm,23.8s
NJ2 LR LR
comp=Z,1µm,24.3s
NJ2 LR LR
comp=Z,1µm,27.0s
121A Cookes Peak, D 79.90 52 ⇑P **P 16 33 33.4 +0.5**
baz=80
DUG Dugway 79.93 43 PFAKE 16 33 40.0 +7.2
DUG LR LR
comp=Z,1µm,19.0s
DUG Dugway 79.93 43 ⇓P **P 16 33 33.7 +0.8**
baz=80
DIV Divide 80.03 14 *eP* **P 16 33 32.8 0.0**
comp=Z,31nm,0.9s
WRAK Wrangell Islan 80.13 22 PFAKE 16 33 40.0 +6.7
WRAK LR LR
comp=Z,2µm,22.0s
BMRM Bremner River 80.16 14 *eP* **P 16 33 32.9 -0.5**
comp=Z,35nm,1.0s
KLR Kul'dur 80.19 328 *eP* **P 16 33 33.6 -0.2**
CN2 Changchun 80.61 321 *eP* **P 16 33 35.3 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HLID Hailey 80.66 40 P **P 16 33 35.0 -1.7**
comp=Z,25nm,1.4s
HLID LR LR
comp=Z,902nm,22.0s
HLID Hailey 80.66 40 ⇓P **P 16 33 37.2 +0.5**
baz=81,SNR=9.1
SPUT South Promonto 80.73 42 *eP* **P 16 33 38.2 +1.0**
comp=Z,44nm,1.6s
HVU Hansel Valley 80.76 42 *eP* P 16 33 33.1 -4.2
HVU pmax pmax
comp=Z,37nm,1.6s
HVU Hansel Valley 80.76 42 *eP* P 16 33 33.1 -4.2
comp=Z,37nm,1.6s
Z22A Elephant Butte 80.83 52 ⇓P **P 16 33 38.5 +0.6**
baz=81
CTU Camp Tracy 80.88 43 P **P 16 33 37.8 -0.2**
comp=Z,11nm,1.3s
KTH Kantishna Hill 81.18 10 *eP* **P 16 33 37.7 -1.2**
comp=Z,22nm,1.2s
TRF Thorofare Moun 81.20 11 *eP* **P 16 33 37.2 -1.9**
comp=Z,103nm,1.6s
324A Moseley Ranch, 81.21 54 ⇓P **P 16 33 40.4 +0.6**
baz=81
TNA Tin City 81.24 3 *eP* **P 16 33 39.4 +0.4**
comp=Z,52nm,1.3s
TCUT Toone Canyon 81.32 43 *eP* **P 16 33 41.9 +1.5**
comp=Z,74nm,1.5s
425A Indio Mountain 81.33 55 ⇑P **P 16 33 40.8 +0.3**
baz=82,SNR=6.5
MNTX Cornudas Mount 81.39 54 PFAKE 16 33 50.0 +9.3
MNTX LR LR
comp=Z,1µm,20.0s
224A Cornudas Mount 81.44 53 ⇓P **P 16 33 41.8 +0.7**
baz=82,SNR=6.5
MVCO Mesa Verde 81.46 48 PFAKE 16 33 50.0 +8.8
MVCO LR LR
comp=Z,2µm,20.0s
BNM Barren Site 81.47 51 *eP* **P 16 33 41.5 +0.1**
comp=Z,13nm,1.3s
626A Big Bend Ranch 81.51 56 ⇑P **P 16 33 41.9 +0.4**
baz=82
LPM Los Pinos Moun 81.54 51 *eP* **P 16 33 41.5 -0.1**
comp=Z,18nm,1.4s
325A Bean Ranch, Si 81.58 54 ⇓P **P 16 33 42.5 +0.6**
baz=82
NEW Newport 81.68 35 PFAKE 16 33 50.0 +8.2
NEW LR LR
comp=Z,1µm,21.0s
NEW Newport 81.68 35 ⇑P **P 16 33 42.6 +0.8**
baz=82
MCK McKinley 81.71 11 *eP* **P 16 33 40.0 -1.6**
MCK pmax pmax
comp=Z,31nm,1.0s
MCK McKinley 81.71 11 *eP* **P 16 33 40.0 -1.6**
comp=Z,31nm,1.0s
526A Mary Lane Ranc 81.75 56 ⇑P **P 16 33 42.9 +0.1**
baz=82
124A Stringfield Ra 81.75 53 ⇓P **P 16 33 43.4 +0.6**
baz=82
TXAR Lajitas Array 81.80 57 P **P 16 33 43.5 +0.5**
TXAR Lajitas Array 81.80 57 P **P 16 33 43.5 +0.5**
comp=Z,2.8nm,1.2s,baz=194,slow=4.6,SNR=13
TXAR LR LR 17 01 52.0
comp=Z,1µm,21.2s,baz=110,slow=30
Y23A Lovelace Mesa, 81.81 51 ⇓P **P 16 33 43.5 +0.5**
baz=82
PV01 Paradox Valley 81.83 47 *eP* **P 16 33 43.3 +0.1**
comp=Z,1µm,1.3s
ANMO Albuquerque 81.94 50 PFAKE 16 34 00.0 +16
ANMO LR LR
comp=Z,2µm,21.0s
QIZ Qiongzhong 81.95 292 P **P 16 33 41.8 -2.1**
QIZ S **S 16 43 57.9 +0.3**
QIZ LR LR
comp=Z,1µm,23.3s
QIZ Qiongzhong 81.95 292 PFAKE 16 33 50.0 +6.1
QIZ LR LR
comp=Z,985nm,21.0s
X23A Hourglass Bar 81.99 51 ⇓P **P 16 33 44.7 +0.7**
baz=82
225A Deer Hill, Car 81.99 54 ⇑P **P 16 33 44.5 +0.4**
baz=82

V22A San Miguel Ran 82.03 49 ⇓P **P 16 33 44.9 +0.7**
baz=82
426A McDonald Obser 82.03 55 ⇓P **P 16 33 44.4 +0.1**
baz=82,SNR=8.3
627A Terlingua Ranc 82.07 56 ⇑P **P 16 33 45.2 +0.8**
baz=82
527A Woodward Ranch 82.16 56 ⇑P **P 16 33 45.5 +0.6**
baz=82
W23A Werner Place, 82.26 50 ⇑P **P 16 33 46.1 +0.7**
baz=82
U22A Llaves 82.27 49 ⇑P **P 16 33 46.0 +0.5**
baz=82
Y24A Capitan 82.27 52 ⇓P **P 16 33 46.4 +0.9**
baz=82
MCMT McKenzie Canyo 82.28 39 *eP* **P 16 33 45.2 -0.2**
comp=Z,7.6nm,1.3s
326A Caldwell Ranch 82.33 55 ⇑P **P 16 33 46.6 +0.8**
baz=82
125A Gardner Draw, 82.34 53 ⇓P **P 16 33 46.8 +1.0**
baz=82
628A Black Gap, Mar 82.48 57 ⇓P **P 16 33 47.2 +0.7**
baz=83
V23A Ortiz Mt. (NFS 82.49 50 ⇑P **P 16 33 47.3 +0.7**
baz=83
226B Tecolote Peak, 82.49 54 ⇑P **P 16 33 47.5 +1.0**
baz=83
Z25A Roswell 82.55 53 ⇓P **P 16 33 48.0 +1.1**
baz=83
SEY Seymchan 82.57 345 ⇑*iP* **P 16 33 45.5 -0.6**
427A Hayter Ranch, 82.60 55 ⇓P **P 16 33 48.0 +0.8**
baz=83
MSO Missoula 82.68 37 ⇑P **P 16 33 48.3 +1.1**
baz=83
U23A El Rito 82.73 49 ⇓P **P 16 33 48.5 +0.6**
baz=83
BSMT Bassoo Peak 82.75 36 *eP* **P 16 33 47.2 -0.5**
comp=Z,9.1nm,1.2s
528A Cox Ranch, San 82.82 56 ⇑P **P 16 33 49.0 +0.6**
baz=83
126A Clayton Basin, 82.83 53 ⇑P **P 16 33 48.6 +0.3**
baz=83
W24A Lazy 6 Ranch, 82.83 50 ⇓P **P 16 33 48.0 -0.4**
baz=83,SNR=6.5
Y25A Mesa, Roswell 82.83 52 ⇓P **P 16 33 47.9 -0.5**
baz=83,SNR=12
S22A 4UR Ranch, Cre 82.89 48 ⇓P **P 16 33 48.5 -0.2**
baz=83,SNR=17
COLA College 82.94 11 ⇓*eP* **P 16 33 48.7 +0.7**
COLA pmax pmax
comp=Z,54nm,0.9s
COLA College 82.94 11 *eP* **P 16 33 46.7 -1.3**
comp=Z,30nm,1.1s
COLA LR LR
comp=Z,593nm,21.0s
O20A White River Ci 82.97 45 ⇑P **P 16 33 49.8 +0.8**
baz=83
IM04 Indian Mountai 82.99 8 *eP* **P 16 33 48.5 +0.2**
LRM Limekiln Ridge 83.03 39 *eP* **P 16 33 48.2 -1.0**
comp=Z,215nm,1.6s
ILAR Eielson Array 83.04 12 P **P 16 33 47.9 -0.7**
ILAR Eielson Array 83.04 12 P **P 16 33 47.9 -0.7**
comp=Z,2.6nm,0.4s,baz=216,slow=5.8,SNR=44
ILAR LR LR 17 10 47.8
comp=Z,251nm,18.0s,baz=31,slow=36
Z26A Caprock 83.11 53 ⇑P **P 16 33 49.5 -0.3**
baz=83,SNR=8.0
428A Kincaid Ranch, 83.12 56 ⇓P **P 16 33 49.9 +0.1**
baz=83
CHMT Chamberlain Mo 83.13 37 *eP* **P 16 33 48.7 -1.0**
comp=Z,9.1nm,1.3s
V24A Rampart Ranch, 83.15 50 ⇓P **P 16 33 50.6 +0.5**
baz=83
QLMT Earthquake Lak 83.15 40 *eP* **P 16 33 50.3 +0.4**
comp=Z,0.5nm,0.4s
I17A Pilgrim Ck. 83.23 41 ⇑P **P 16 33 50.9 +0.6**
baz=83
529A Stev Forest Ra 83.26 56 ⇑P **P 16 33 51.2 +0.7**
baz=84
328A Wristen Ranch, 83.28 55 ⇓P **P 16 33 51.0 +0.4**
baz=84
N20A Spence Gulch, 83.28 44 ⇑P **P 16 33 51.0 +0.3**
baz=84
BW06 Boulder Array 83.33 42 *eP* **P 16 33 49.6 -1.2**
comp=Z,12nm,1.1s
BW06 LR LR
comp=Z,1µm,19.0s
PDAR Pinedale Array 83.33 42 P **P 16 33 50.1 -0.7**
PDAR Pinedale Array 83.33 42 P **P 16 33 50.1 -0.7**
comp=Z,6.0nm,1.0s,baz=220,slow=3.4,SNR=20
PDAR LR LR 17 04 22.8
comp=Z,975nm,19.4s,baz=249,slow=31
BOZ Bozeman (W) 83.44 39 PFAKE 16 34 00.0 +8.8
BOZ LR LR
comp=Z,2µm,20.0s
H17A Grant Village 83.47 40 *eP* **P 16 33 52.5 +1.0**
comp=Z,20nm,1.3s
H17A Grant Village 83.47 40 ⇑P **P 16 33 52.1 +0.6**
baz=84
Y26A Elida 83.49 52 ⇑P **P 16 33 52.4 +0.6**
baz=84
W25A X Bar L Ranch, 83.54 51 ⇑P **P 16 33 51.6 -0.4**
baz=84,SNR=12
T24B San Luis 83.63 49 ⇓P **P 16 33 53.2 +0.6**
baz=84
V25A Rancho No Teng 83.68 50 ⇓P **P 16 33 52.7 0.0**
baz=84,SNR=8.2
429A Davenport Ranc 83.71 56 ⇑P **P 16 33 53.3 +0.4**
baz=84
Z27A Tatum 83.72 53 ⇓P **P 16 33 53.4 +0.5**
baz=84
P22A Eagle 83.75 46 ⇓P **P 16 33 53.7 +0.7**
baz=84
X26A CR and CF Fran 83.76 52 ⇓P **P 16 33 53.5 +0.3**
baz=84
R23A Moffat 83.79 48 ⇑P **P 16 33 53.7 +0.3**
baz=84
SDCO Great Sand Dun 83.83 48 PFAKE 16 34 00.0 +6.4
SDCO LR LR
comp=Z,1µm,19.0s
HRY Holter Researc 83.86 38 P **P 16 33 53.0 -0.3**
comp=Z,18nm,1.1s
J19A Cresheart 83.89 42 ⇑P **P 16 33 53.0 -0.6**
baz=84,SNR=7.6
530A J-C Ranch, Com 83.98 57 ⇓P **P 16 33 54.5 +0.3**
baz=84
Y27A Causey 83.98 52 ⇓P **P 16 33 54.6 +0.3**
baz=84
S24A Houchin Ranch, 84.00 48 ⇑P **P 16 33 54.3 -0.1**
baz=84,SNR=6.5
128A Castleberry Fa 84.01 54 ⇓P **P 16 33 55.2 +0.8**
baz=84
U25A Circle Dot Ran 84.07 50 ⇓P **P 16 33 54.4 -0.3**
baz=84
DAWY Dawson 84.07 15 *eP* **P 16 33 53.1 -0.8**
O22A Kremmling 84.14 46 ⇑P **P 16 33 54.6 -0.6**
baz=84,SNR=7.6
H18A Shoshone NF, C 84.17 41 ⇑P **P 16 33 55.8 +0.7**
baz=84
EGAK Eagle 84.25 14 *eP* **P 16 33 54.9 +0.2**
comp=Z,10nm,0.3s
EGAK LR LR
comp=Z,471nm,19.0s
V26A Tequesquite Ra 84.28 51 ⇓P **P 16 33 55.9 +0.1**
baz=84
I19A Meeteetse 84.29 41 ⇓P **P 16 33 56.5 +0.8**
baz=84
MSTX Muleshoe 84.31 53 *eP* **P 16 33 56.5 +0.5**
comp=Z,28nm,1.2s
MSTX Muleshoe 84.31 53 ⇑P **P 16 33 56.7 +0.7**
baz=84
PMSA Palmer Station 84.32 156 LR LR 17 03 44.5
comp=Z,658nm,19.6s,baz=310,slow=30
631A Perdido Creek 84.32 57 ⇑P **P 16 33 56.6 +0.7**
baz=84
R24A Sanders Place, 84.32 48 ⇓P **P 16 33 56.7 +0.7**
baz=84
832A Faith Ranch, C 84.41 59 ⇓P **P 16 33 57.2 +0.8**
baz=85
N22A Wattenberg Ran 84.49 45 ⇓P **P 16 33 57.9 +1.0**
baz=85
W27A Bowe Ranch, En 84.53 51 ⇓P **P 16 33 57.7 +0.7**
baz=85
U26A Atchley Ranch, 84.55 50 ⇓P **P 16 33 58.1 +0.9**
baz=85
J20A Shoshoni 84.56 42 ⇑P **P 16 33 58.1 +1.1**
baz=85
732A Laxson Ranch, 84.57 58 ⇓P **P 16 33 58.0 +0.8**
baz=85

S25A Robets Cordova 84.57 49 ⇑P **P 16 33 58.0 +0.7**
baz=85
330A Mertzon 84.58 55 ⇑P **P 16 33 57.8 +0.6**
baz=85
H19A Powell 84.59 41 ⇑P **P 16 33 58.4 +1.3**
baz=85
O23A Lake Granby, G 84.60 46 ⇓P **P 16 33 57.9 +0.4**
baz=85
Q24A Divide 84.60 47 ⇑P **P 16 33 58.3 +0.7**
baz=85
531A Rocksprings 84.62 57 ⇓P **P 16 33 57.9 +0.4**
baz=85
ISCO Idaho Springs 84.63 46 PFAKE 16 34 10.0 +12
ISCO LR LR
comp=Z,1µm,19.0s
ISCO Idaho Springs 84.63 46 ⇓P **P 16 33 58.4 +0.8**
baz=85
RLMT Red Lodge 84.63 40 PFAKE 16 34 10.0 +13
RLMT LR LR
comp=Z,826nm,21.0s
M22A Cedar Creek Ra 84.66 44 ⇑P **P 16 33 58.2 +0.5**
baz=85
COLD Coldfoot 84.69 9 *eP* **P 16 33 55.9 -1.1**
comp=Z,41nm,1.4s
K21A Alcova 84.77 43 ⇑P **P 16 33 58.8 +0.6**
baz=85
I20A Worland 84.80 42 ⇑P **P 16 33 59.0 +0.8**
baz=85
BJT Baijiatuau 84.86 314 PFAKE 16 34 10.0 +12
BJT LR LR
comp=Z,696nm,20.0s
BJI Beijing 84.87 314 P **P 16 33 58.3 -0.1**
BJI S **S 16 44 32.0 +5.8**
BJI pmax pmax
comp=Z,22nm,2.0s
BJI pmax pmax
comp=Z,330nm,5.6s
BJI LR LR
comp=Z,460nm,19.9s
BJI LR LR
comp=Z,720nm,22.6s
BJI LR LR
comp=Z,760nm,24.3s
J21A Lysite 84.97 42 ⇑P **P 16 33 59.1 0.0**
baz=85
632A Uvalde 85.00 58 ⇑P **P 16 33 59.8 +0.4**
baz=85
L22A Ellis Ranch, M 85.05 44 ⇓P **P 16 34 00.1 +0.6**
baz=85
Y29A Porterfield Fa 85.12 53 ⇓P **P 16 34 00.7 +0.7**
baz=85
532A Rocksprings 85.12 57 ⇓P **P 16 34 00.7 +0.6**
baz=85
F19A Roth Farm, Mol 85.18 40 ⇓P **P 16 34 00.6 +0.6**
baz=85
I21A Big Trails, Te 85.28 42 ⇓P **P 16 34 01.1 +0.5**
baz=86
Z30A Sanderson Ranc 85.32 54 ⇓P **P 16 34 01.3 +0.4**
baz=86
JCT Junction City 85.33 57 PFAKE 16 34 10.0 +8.9
JCT LR LR
comp=Z,1µm,21.0s
COCO West Island 85.38 259 PFAKE 16 34 10.0 +8.5
COCO LR LR
comp=Z,973nm,19.0s
231A Bronte 85.45 55 ⇓P **P 16 34 02.2 +0.6**
baz=86
633A Saathoff Ranch 85.48 58 ⇑P **P 16 34 02.2 +0.4**
baz=86
432A Menard 85.48 56 ⇑P **P 16 34 02.1 +0.3**
baz=86
R26A Arlington 85.54 48 ⇓P **P 16 34 03.1 +1.1**
baz=86
E19A Rath Farm, Rou 85.57 39 ⇓P **P 16 34 02.8 +0.9**
baz=86
L23A Garrett 85.57 44 ⇑P **P 16 34 02.8 +0.5**
baz=86
W29A Amraillo 85.62 52 ⇑P **P 16 34 03.2 +0.7**
baz=86
J22A Midwest 85.63 43 ⇓P **P 16 34 03.3 +0.9**
baz=86
332A Millersview 85.71 56 ⇑P **P 16 34 03.6 +0.7**
baz=86
EGMT Eagleton 85.74 38 P **P 16 34 02.5 -0.2**
comp=Z,9.1nm,0.2s
EGMT LR LR
comp=Z,941nm,22.0s
EGMT Eagleton 85.74 38 ⇓P **P 16 34 03.7 +1.1**
baz=86
I22A 9 Mile Ranch, 85.84 42 ⇓P **P 16 34 04.2 +0.8**
baz=86
D19A Cripps Ranch, 85.84 39 ⇑P **P 16 34 04.3 +1.0**
baz=86
KVTX Kingsville 85.87 60 PFAKE 16 34 20.0 +16
KVTX LR LR
comp=Z,985nm,22.0s
232A Coleman 85.97 55 ⇓P **P 16 34 04.5 +0.3**
baz=86
G21A Lodge Grass 85.97 41 ⇓P **P 16 34 05.3 +1.3**
baz=86
E20A Meyer Farm, Mu 85.99 39 ⇑P **P 16 34 05.3 +1.4**
baz=86
433A Art 86.00 57 ⇑P **P 16 34 05.0 +0.7**
baz=86
C19A Slack Wire Ran 86.01 38 ⇓P **P 16 34 05.4 +1.3**
baz=86
H03N2 Juan Fernandez 86.08 123 T T 18 09 27.7
baz=254,slow=74,SNR=50
H03N3 Juan Fernandez 86.09 124 T T 18 09 28.2
baz=254,slow=74,SNR=46
Z31A Sharp Cattle R 86.10 54 ⇑P **P 16 34 05.3 +0.5**
baz=86
H03N1 Juan Fernandez 86.10 123 T T 18 09 33.2
baz=254,slow=74,SNR=51
ENH Enshi 86.12 303 *eP* **P 16 34 07.4 +2.5**
comp=Z,45nm,1.6s
H22A Clearmont 86.23 42 ⇓P **P 16 34 06.4 +1.1**
baz=86
ABTX Abilene, Hawle 86.23 55 *eP* **P 16 34 05.6 +0.1**
comp=Z,46nm,1.3s
ABTX Abilene, Hawle 86.23 55 ⇑P **P 16 34 06.1 +0.6**
baz=86
Y31A Rekieta Farm, 86.24 53 ⇑P **P 16 34 06.1 +0.6**
baz=86
534A Blanco 86.25 58 ⇓P **P 16 34 06.3 +0.8**
baz=86
D20A Manuel Ranch, 86.26 39 ⇑P **P 16 34 06.4 +1.1**
baz=86
333A Richland Sprin 86.29 56 ⇓P **P 16 34 06.7 +0.9**
baz=86
KULM Kulim 86.37 276 PFAKE 16 34 20.0 +14
KULM LR LR
comp=Z,997nm,20.0s
B19A Brinkman Farms 86.42 37 ⇑P **P 16 34 07.2 +1.2**
baz=87
233A Rising Star 86.61 56 ⇓P **P 16 34 08.1 +0.8**
baz=87
Z32A Haskell 86.61 54 ⇓P **P 16 34 08.1 +0.9**
baz=87
C20A Veseth Ranch, 86.63 38 ⇑P **P 16 34 08.1 +1.0**
baz=87
434A Burnet 86.69 57 ⇑P **P 16 34 08.5 +0.8**
baz=87
A19A Klindworth Far 86.76 37 ⇓P **P 16 34 08.1 +0.4**
baz=87
HIA Hailar 86.78 323 PFAKE 16 34 20.0 +12
HIA LR LR
comp=Z,2µm,20.0s
D21A La Casta Ranch 86.94 39 ⇓P **P 16 34 09.0 +0.4**
baz=87
B20A Solberg Farm, 86.95 38 ⇑P **P 16 34 09.9 +1.3**
baz=87
MAW Mawson 87.07 199 LR LR 17 10 54.7
comp=Z,2µm,18.3s,baz=115,slow=34
GYA Guiyang 87.18 298 *eP* **P 16 34 11.0 +0.7**
GYA PP **PP 16 37 36.8 +2.4**
GYA SKS **SKSac 16 44 33.6 -3.9**
GYA S **S 16 44 48.3 -1.4**
GYA SS **SS 16 50 36.0 +2.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,620nm,18.4s
GYA LR LR
comp=Z,530nm,19.3s
GYA LR LR

comp=Z,590nm,18.8s
A20A Cobblestone Ra 87.22 37 ⇑P **P** **16 34 10.6 +0.7**
baz=87
LAO LASA Array 87.24 40 PFAKE 16 34 20.0 +10
LAO LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 87.60 46 PFAKE 16 34 20.0 +8.0
OGNE LR LR
comp=Z,1μm,21.0s
WMOK Wichita Mounta 87.66 53 PFAKE 16 34 20.0 +7.6
WMOK LR LR
comp=Z,2μm,19.0s
A21A Bergtoll Ranch 87.85 38 ⇓P **P** **16 34 14.1 +1.1**
baz=88
XAN Xi'an 87.89 306 P **P** **16 34 12.6 -0.9**
XAN pP **pP** **16 34 17.8 -1.4**
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,39nm,8.4s
SLVN Son La 87.97 293 *e*P **P** **16 34 14.4 +0.3**
comp=Z,32nm,1.5s
C23A Lambert 88.37 39 ⇑P **P** **16 34 16.4 +1.0**
baz=88
HHC Hu-ho-hao-te 88.41 313 *e*P **P** **16 34 17.8 +1.9**
HHC sP **sP** **16 34 25.3 +1.7**
HHC PP **PP** **16 37 42.8 -1.2**
HHC S **S** **16 45 02.4 +1.5**
HHC sS **sS** **16 45 11.3 +1.0**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,380nm,5.2s
HHC LR LR
comp=Z,850nm,16.2s
HHC LR LR
comp=Z,810nm,16.2s
HHC LR LR
comp=Z,900nm,17.1s
B23A Brockton 88.77 39 ⇓P **P** **16 34 18.6 +1.3**
baz=89
YAK Yakutsk 88.99 337 PFAKE 16 34 30.0 +12
YAK LR LR
comp=Z,445nm,21.0s
DGMT Dagmar 89.25 39 *e*P **P** **16 34 19.6 0.0**
comp=Z,29nm,0.9s
DGMT LR LR
comp=Z,2μm,20.0s
A24A Westby 89.56 38 ⇑P **P** **16 34 22.9 +2.0**
baz=90
KMI Kunming 90.12 296 P **P** **16 34 24.3 -0.1**
KMI S **S** **16 45 19.8 +2.0**
KMI pmax pmax
comp=Z,12nm,1.1s
KMI LR LR
comp=Z,380nm,19.6s
KMI LR LR
comp=Z,440nm,26.3s
KMI LR LR
comp=Z,910nm,24.3s
PLCA Paso Flores 90.14 133 LR LR 17 05 27.5
comp=Z,1μm,21.9s,baz=268,slow=29
KSU1 Kansas State U 90.81 50 PFAKE 16 34 40.0 +13
KSU1 LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 90.90 24 P **P** **16 34 26.7 -0.2**
YKA Yellowknife Ar 90.90 24 P **P** **16 34 26.7 -0.2**
comp=Z,1.2nm,0.9s,baz=239,slow=4.6,SNR=14
CD2 Chengdu 91.00 302 *e*P **P** **16 34 28.8 +0.6**
CD2 sP **sP** **16 34 35.8 -0.1**
CD2 PP **PP** **16 38 06.5 +1.7**
CD2 SKS **SKSac** **16 44 58.8 -1.0**
CD2 S **S** **16 45 23.8 -1.5**
CD2 sS **sS** **16 45 31.5 -3.2**
CD2 SS **SS** **16 51 31.1 +1.8**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,340nm,6.0s
CD2 LR LR
comp=Z,580nm,15.5s
CD2 LR LR
comp=Z,550nm,17.8s
CD2 LR LR
comp=Z,770nm,21.4s
TGUH Tegucigalpa,Un 91.26 76 PFAKE 16 34 40.0 +10
TGUH LR LR
comp=Z,966nm,21.0s
CMAR Chiang Mai Arr 91.61 289 P **P** **16 34 30.5 -0.7**
CMAR Chiang Mai Arr 91.61 289 P **P** **16 34 30.5 -0.7**
comp=Z,1.8nm,1.0s,baz=99,slow=3.3,SNR=8.2
MIAR Mount Ida 91.65 55 PFAKE 16 34 40.0 +9.0
MIAR LR LR
comp=Z,1μm,22.0s
CHTO Chiang Mai 91.71 289 P **P** **16 34 31.9 +0.3**
CHTO pmax pmax
comp=Z,12nm,1.5s
CHTO MLR MLR
comp=Z,714nm,20.0s
CHTO Chiang Mai 91.71 289 P **P** **16 34 31.9 +0.3**
comp=Z,12nm,1.5s
CHTO LR LR
comp=Z,714nm,20.0s
SYO Syowa Base 92.00 192⇓ *e*P **P** **16 34 33.2 +1.2**
TEIG Tepich 92.02 70 PFAKE 16 34 40.0 +7.0
TEIG LR LR
comp=Z,585nm,22.0s
ECSD EROS Data Cent 92.35 45 PFAKE 16 34 50.0 +16
ECSD LR LR
comp=Z,3μm,21.0s
JTS JuntasAbangare 92.44 80 PFAKE 16 34 50.0 +15
JTS LR LR
comp=Z,1μm,20.0s
A29A Manning Farm, 92.45 40 ⇑P **P** **16 34 34.8 +0.4**
baz=93
LZH Lanzhou 92.50 307 *e*P **P** **16 34 33.0 -2.1**
LZH sP **sP** **16 34 41.3 -1.5**
LZH *e*PP **PP** **16 38 17.3 +0.7**
LZH SKS **SKSac** **16 45 04.5 -3.8**
LZH *e*S **S** **16 45 35.1 -3.7**
LZH *e*SS **SS** **16 51 50.3 -0.6**
LZH pmax pmax
comp=Z,29nm,1.5s
LZH pmax pmax
comp=Z,140nm,9.2s
LZH LR LR
comp=Z,240nm,14.7s
LZH LR LR
comp=Z,190nm,15.0s
LZH LR LR
comp=Z,340nm,19.6s
SNAA Sanae 92.60 177 LR LR 17 11 09.1
comp=Z,380nm,21.1s,baz=209,slow=32
FFC Flin Flon 93.06 34 PFAKE 16 34 50.0 +13
FFC LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 93.92 319 PFAKE 16 34 50.0 +8.6
ULN LR LR
comp=Z,798nm,22.0s
NNA Nana 94.12 104 PFAKE 16 34 50.0 +7.0
NNA LR LR
comp=Z,268nm,20.0s
SCIA State Center 94.15 48 PFAKE 16 34 50.0 +7.6
SCIA LR LR
comp=Z,2μm,20.0s
SONM Songino Array 94.33 318 P **P** **16 34 42.4 -0.9**
SONM Songino Array 94.33 318 P **P** **16 34 42.4 -0.9**
comp=Z,1.5nm,0.9s,baz=126,slow=6.1,SNR=3.3
SONM LR LR 17 11 15.5
comp=Z,762nm,21.6s,baz=349,slow=32
AGMN Agassiz Nation 94.34 41 PFAKE 16 34 50.0 +6.9
AGMN LR LR
comp=Z,2μm,19.0s
ULM Lac du Bonnet 94.96 39 P **P** **16 34 46.3 +0.4**
ULM Lac du Bonnet 94.96 39 P **P** **16 34 46.3 +0.4**
comp=Z,0.9nm,0.5s,baz=207,slow=6.8,SNR=2.2
ULM LR LR 17 11 09.5
comp=Z,1μm,19.9s,baz=241,slow=31
TIXI Tiksi 95.04 345⇓ *e*P **P** **16 34 46.0 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 95.04 345 *e*P **P** **16 34 44.5 -1.3**
comp=Z,5.8nm,0.9s
TIXI LR LR
comp=Z,425nm,20.0s
BRAL Brewton 95.93 60 PFAKE 16 35 00.0 +9.2
BRAL LR LR
comp=Z,698nm,20.0s
OTAV Otavalo 96.01 91 PFAKE 16 35 00.0 +7.9
OTAV LR LR
comp=Z,559nm,19.0s
GTA Gaotai 96.49 309 *e*P **P** **16 34 55.3 +2.0**
GTA pP **pP** **16 34 59.9 +0.9**
GTA sP **sP** **16 35 02.3 +1.3**
GTA SKS **SKSac** **16 45 31.9 +2.2**
GTA S **ScS** **16 46 17.3 +3.2**
GTA sS **sS** **16 46 25.4 +2.4**
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,77nm,5.0s
GTA LR LR
comp=Z,490nm,19.9s
GTA LR LR
comp=Z,950nm,23.3s
GTA LR LR
comp=Z,2μm,22.3s
JFWS Jewell Farm 96.54 47 PFAKE 16 35 00.0 +6.7
JFWS LR LR
comp=Z,2μm,20.0s
HDIL Hopedale 96.61 50 PFAKE 16 35 00.0 +6.3
HDIL LR LR
comp=Z,2μm,20.0s
EYMN Ely 97.03 42 PFAKE 16 35 10.0 +14
EYMN LR LR
comp=Z,1μm,21.0s
TLY Talaya 97.19 322 PFAKE 16 35 10.0 +14
TLY LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 97.29 133 PFAKE 16 35 10.0 +13
TRQA LR LR
comp=Z,590nm,19.0s
LVC Limon Verde 97.91 116 PFAKE 16 35 10.0 +10
LVC LR LR
comp=Z,956nm,21.0s
COWI Conover 98.12 44 PFAKE 16 35 10.0 +10
COWI LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 99.45 58 PFAKE 16 35 20.0 +13
GOGA LR LR
comp=Z,876nm,20.0s
AAM Ann Arbor 101.14 49 PFAKE 16 35 30.0 +16
AAM LR LR
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 101.24 51 PFAKE 16 35 30.0 +16
ACSO LR LR
comp=Z,2μm,22.0s
LSA Lhasa 101.24 298 PFAKE 16 35 30.0 +15
LSA LR LR
comp=Z,563nm,20.0s
MTDJ Mount Denham 101.36 74 PFAKE 16 35 30.0 +14
MTDJ LR LR
comp=Z,711nm,22.0s
NHSC New Hope 102.09 59 PFAKE 16 35 30.0 +12
NHSC LR LR
comp=Z,753nm,19.0s
BLA Blacksburg 102.65 55 PFAKE 16 35 30.0 +9.2
BLA LR LR
comp=Z,1μm,19.0s
ERPA Erie 103.79 50 PFAKE 16 35 40.0 +14
ERPA LR LR
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 103.96 73 PFAKE 16 35 40.0 +13
GTBY LR LR
comp=Z,524nm,20.0s
CBN Corbin 105.19 54 PFAKE 16 40 00.0
CBN LR LR
comp=Z,2μm,21.0s
SDV Santo Domingo 105.75 85 PFAKE 16 40 00.0
SDV LR LR
comp=Z,123nm,19.0s
WMQ Urumqi 106.23 312 Pdif **Pdif** **16 35 38.9 +2.3**
WMQ PP **PP** **16 40 05.6 +4.6**
WMQ SS SS 16 55 05.6 +3.1
WMQ LR LR
comp=Z,300nm,21.0s
WMQ LR LR
comp=Z,410nm,26.0s
WMQ LR LR
comp=Z,480nm,23.5s
BINY Binghamton 106.75 50 PFAKE 16 40 00.0
BINY LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 107.31 75 PFAKE 16 40 00.0
SDDR LR LR
comp=Z,1μm,21.0s
SAML Samuel 107.82 105 PFAKE 16 40 00.0
SAML LR LR
comp=Z,436nm,21.0s
GRTK Grand Turk 107.92 72 PFAKE 16 40 00.0
GRTK LR LR
comp=Z,765nm,21.0s
LONY Lake Ozonia 107.99 48 PFAKE 16 40 00.0
LONY LR LR
comp=Z,1μm,20.0s
DGAR Diego Garcia 109.72 256 PFAKE 16 40 10.0
DGAR LR LR
comp=Z,1μm,19.0s
LBNH Lisbon 109.87 48 PFAKE 16 40 10.0
LBNH LR LR
comp=Z,2μm,20.0s
MKAR Makanchi Array 110.24 314 PKiKP **PKiKP** **16 39 53.7 -1.9**
MKAR Makanchi Array 110.24 314 PKiKP **PKiKP** **16 39 53.7 -1.9**
comp=Z,0.5nm,0.7s,baz=89,slow=0.3,SNR=5.9
PKME Peaks-Kenny Pk 111.78 47 PFAKE 16 40 10.0
PKME LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 112.64 319 PFAKE 16 40 10.0
KURK LR LR
comp=Z,579nm,20.0s
PTGA Pitinga 113.47 98 PFAKE 16 40 10.0
PTGA LR LR
comp=Z,450nm,20.0s
KSH Kashi 114.75 307 *e*PKP PKPdf 16 40 06.3 +1.8
KSH *e*SKS **SKSdf** **16 47 12.9 -3.3**
KSH *e*SKKS **SKKSac** **16 48 02.5 -1.2**
KSH AMB AMB
comp=Z,14nm,3.6s
KSH LR LR
comp=Z,110nm,4.6s
KSH LR LR
comp=Z,120nm,4.6s
KSH LR LR
comp=Z,140nm,4.5s
BBSR BB Station 114.94 61 PFAKE 16 40 20.0 +15
BBSR LR LR
comp=Z,668nm,20.0s
TKM2 Tokmak 2 115.00 310 PFAKE 16 40 20.0 +15
TKM2 LR LR
comp=Z,847nm,22.0s
GRGR Grenville 115.08 84 PFAKE 16 40 20.0 +14
GRGR LR LR
comp=Z,347nm,19.0s
AAK Ala-Archa 115.82 310 PFAKE 16 40 20.0 +13
AAK LR LR
comp=Z,768nm,21.0s
FDF Fort de France 116.06 81 PFAKE 16 40 20.0 +12
FDF LR LR
comp=Z,440nm,22.0s
EKS2 Erkin-Say 116.35 310 PFAKE 16 40 20.0 +13
EKS2 LR LR
comp=Z,492nm,20.0s
BRVK Borovoye 117.50 322⇑ *i*PKIKP **PKPdf** **16 40 09.7 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BRVK Borovoye 117.50 322 PFAKE 16 40 20.0 +11
BRVK LR LR
comp=Z,1μm,20.0s
ARU Arti 123.03 328 PFAKE 16 40 30.0 +10
ARU LR LR
comp=Z,1μm,21.0s
ABPO Ambohimpanom 126.23 231 PFAKE 16 40 40.0 +13
ABPO LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 126.42 252 PFAKE 16 40 40.0 +12
MSEY LR LR
comp=Z,2μm,20.0s
KLMR Klimovskoe 128.73 339 *e*PKIKP **PKPdf** **16 40 28.8 -1.7**
KLMR pmax pmax
comp=Z,54nm,1.8s
RCBR Riachuelo 133.84 114 PFAKE 16 40 50.0 +8.3
RCBR LR LR
comp=Z,946nm,21.0s
OBN Obninsk 133.97 336 PFAKE 16 40 50.0 +9.5
OBN LR LR
comp=Z,615nm,19.0s
KONO Kongsberg 136.08 357 PFAKE 16 41 00.0 +16
KONO LR LR
comp=Z,798nm,20.0s
KIV Kislovodsk 137.72 319 PFAKE 16 41 00.0 +12
KIV LR LR
comp=Z,734nm,22.0s
GNI Garni 138.07 313 PFAKE 16 41 00.0 +11
GNI LR LR
comp=Z,599nm,22.0s
AKASG Malin Array Be 140.21 336 PKPpre PKPpre 16 40 48.5
AKASG Malin Array Be 140.21 336 PKhKP PKPpre 16 40 48.5
comp=Z,0.8nm,0.7s,baz=42,slow=4.3,SNR=4.8
KIEV Kiev 140.22 336 PFAKE 16 41 00.0 +7.7
KIEV LR LR
comp=Z,838nm,22.0s
LSZ Lusaka 141.80 217 PFAKE 16 41 10.0 +14
LSZ LR LR
comp=Z,1μm,21.0s
TSUM Tsumeb 143.23 200 PFAKE 16 41 10.0 +11
TSUM LR LR
comp=Z,868nm,20.0s
KWP Kalwaria Pacla 143.40 341 PFAKE 16 41 10.0 +12
KWP LR LR
comp=Z,1μm,21.0s
KSP Ksiaz 143.92 348 *e*PKIKP **PKPdf** **16 40 59.1 +0.2**
KSP MLR MLR
comp=Z,3μm,24.6s
CLL Collm 144.02 352 *e*PKIKP **PKPdf** **16 41 00.0 +1.0**
CLL *e* 16 41 05.0
CLL MLR MLR
comp=Z,600nm,21.2s
CLL Collm 144.02 352 *e*PKPdf **PKPdf** **16 41 00.0 +1.0**
CLL *ep*PKiKP **pPKiKP** **16 41 05.0 -3.4**
CLL *e*SSS SSS 17 08 13.0
CLL Lm MLR 17 42 00.0
comp=N,400nm,21.1s
CLL Lm MLR 17 42 00.0
comp=E,200nm,19.9s
CLL Lm MLR 17 42 00.0
comp=Z,600nm,21.2s
STHS Stebnicka Huta 144.03 342 *e*PKIKP **PKPdf** **16 40 58.4 -0.8**
STHS Stebnicka Huta 144.03 342 *e*PKP **PKPdf** **16 40 58.4 -0.8**
KOLS Kolonicke sedl 144.15 341 *e*PKIKP **PKPdf** **16 41 00.4 +1.0**
KOLS Kolonicke sedl 144.15 341 *e*PKP **PKPdf** **16 41 00.4 +1.0**
BRG Berggiesshubel 144.31 351 *e*PKP **PKPdf** **16 40 59.5 0.0**
comp=Z,9.6nm,1.4s
BRG Berggiesshubel 144.31 351 *e*PKIKP **PKPdf** **16 40 59.5 0.0**
BRG pmax pmax
comp=Z,10.0nm,1.5s
KMBO Kilima Mbogo 144.31 245 *e*PKPpre PKPbc 16 40 58.8 -0.6
KMBO LR LR
comp=Z,859nm,21.0s
KMBO Kilima Mbogo 144.31 245 PKP **PKPab** **16 40 58.9 -0.1**
comp=Z,0.9nm,0.5s,baz=108,slow=6.4,SNR=3.6
DPC Dobruska-Polom 144.39 348 *e*PKIKP **PKPdf** **16 41 00.8 +1.0**
DPC Dobruska-Polom 144.39 348 *e*PKP **PKPdf** **16 41 00.8 +1.0**
UZH Uzhgorod 144.41 341 *i* PKIKP **PKPab** **16 40 56.6 -1.3**
UZH *e* 16 41 02.0
UZH *e* 16 41 07.2
UZH *e* 16 48 01.6
CRVS Cervenica-Dubn 144.43 342 *e*PKIKP **PKPdf** **16 40 59.9 0.0**
CRVS Cervenica-Dubn 144.43 342 *e*PKP **PKPdf** **16 40 59.9 0.0**
OKC Ostrava-Krasne 144.47 346 *e*PKIKP **PKPab** **16 40 58.1 0.0**
OKC Ostrava-Krasne 144.47 346 *e*PKP **PKPab** **16 40 58.1 0.0**
MORC Moravsky Berou 144.67 346⇑ PKIKP **PKPab** **16 40 58.3 -0.6**
MORC Moravsky Berou 144.67 346⇑ *i*P **PKPab** **16 40 58.3 -0.6**
MORC Moravsky Berou 144.67 346 *e*PKPpre **PKPab** **16 40 58.0 -0.9**
TRPA Tarpa 144.77 340⇑ *i*P PKPbc 16 40 59.3 -0.1
TANN Tannenbergstha 144.97 352 *e*PKPbc **PKPdf** **16 41 01.4 +0.6**
CFR Carcaliu 144.97 332⇑ PKIKP PKPdf 16 41 07.9 +7.0
CFR Carcaliu 144.97 332⇑ *i*P PKPdf 16 41 07.9 +7.0
PRU Pruhonice 145.07 350 *e*PKIKP **PKPdf** **16 41 02.7 +1.8**
PRU Pruhonice 145.07 350 *e*PKP **PKPdf** **16 41 02.7 +1.8**
MEM Membach 145.24 359 PKP **PKPdf** **16 41 03.2 +2.0**
VRAC Vranov 145.32 347⇑ *i*P **PKPbc** **16 41 00.6 -0.6**
SNF Seneffe 145.34 1 PKP **PKPdf** **16 41 04.2 +2.9**
BCLA Clavier 145.44 0 PKP **PKPab** **16 41 04.3 +2.7**
DOPR Dopca 145.54 335⇑ *i*P **PKPab** **16 41 03.0 +0.8**
TNS Taunus Mts 145.54 357 *e*PKPbc **PKPdf** **16 41 01.4 -0.4**
ROTZ Rotzenmuhle 145.64 352 *e*PKPbc **PKPdf** **16 41 02.0 +0.1**
BR131 Keskin Array S 145.69 320 *e*PKP **PKPdf** **16 41 01.6 -1.0**
BRTR Keskin Array B 145.69 320 PKPbc **PKPdf** **16 41 01.2 -1.3**
BRTR Keskin Array B 145.69 320 PKPbc **PKPdf** **16 41 01.2 -1.3**
comp=Z,5.2nm,0.8s,baz=102,slow=1.9,SNR=24
MLR Muntele Rosu 145.69 334⇓ *i*P **PKPbc** **16 41 02.6 0.0**
ISR Istrita 145.73 333⇑ PKP2 **PKPdf** **16 41 01.7 -0.6**
ISR Istrita 145.73 333⇑ *i*P **PKPdf** **16 41 01.7 -0.6**
PSZ Piszkesteto 145.77 343 PKP2 **PKPbc** **16 41 02.8 +0.1**
PSZ MLR MLR
comp=Z,798nm,22.0s
PSZ Piszkesteto 145.77 343 PKP **PKPbc** **16 41 02.8 +0.1**
PSZ LR LR
comp=Z,798nm,22.0s
PSZ Piszkesteto 145.77 343⇓ *e* **PKPab** **16 41 03.6 +0.5**
GRF Grafenberg Arr 145.83 353 *e*PKPbc **PKPbc** **16 41 02.6 -0.2**
DRGR 145.87 339⇑ PKIKP **PKPdf** **16 41 01.2 -1.3**
DRGR 145.87 339⇑ *i*P **PKPdf** **16 41 01.1 -1.4**
KHC Kasperske Hory 146.06 350 *e*PKP **PKPdf** **16 41 03.0 +0.3**
KHC *ep*PKP **PKiKP** **16 41 06.0 -0.9**
VOIR 146.11 335⇑ PKP2 **PKPbc** **16 41 03.7 -0.2**
VOIR 146.11 335⇑ *i*P **PKPbc** **16 41 03.7 -0.2**
ANTO Ankara 146.12 321 *e*PKP2 **PKPbc** **16 41 03.7 -0.4**
ANTO MLR MLR
comp=Z,466nm,19.0s
ANTO Ankara 146.12 321 *e*PKPbc **PKPbc** **16 41 03.7 -0.4**
ANTO LR LR
comp=Z,466nm,19.0s
WLF Walferdange 146.19 359 PKP **PKPab** **16 41 04.7 +0.2**
WLF Walferdange 146.19 359 *e*PKP2 **PKPab** **16 41 04.7 +0.2**
WLF MLR MLR
comp=Z,1μm,22.0s
WLF Walferdange 146.19 359 *e*PKPbc **PKPbc** **16 41 04.0 +0.2**
WLF Walferdange 146.19 359 *e*PKPbc **PKPab** **16 41 04.7 +0.2**
WLF LR LR
comp=Z,1μm,22.0s
GEC2 GERESS Array S 146.31 350 *e*PKPbc **PKPbc** **16 41 03.8 -0.6**
GERES GERESS Array B 146.31 350 PKPbc **PKPdf** **16 41 03.4 +0.1**
GERES GERESS Array B 146.31 350 PKPbc **PKPdf** **16 41 03.4 +0.1**
comp=Z,4.6nm,0.9s,baz=31,slow=3.1,SNR=21
ARR Arges 146.34 335⇓ *i*P **PKPab** **16 41 05.9 +0.6**
SIRR Siria 146.68 339⇑ *i*P **PKPdf** **16 41 02.1 -1.7**
CONA Conrad Observa 146.78 347⇑ *i*PKPdf **PKPab** **16 41 06.6 -0.3**
comp=Z,38nm,1.4s
STU Stuttgart 146.94 355 *e*PKPbc **PKPbc** **16 41 05.8 -0.3**
GZR Gura Zlata 147.04 337⇑ PKP2 **PKPbc** **16 41 07.0 +0.5**
GZR Gura Zlata 147.04 337⇑ *i*P **PKPbc** **16 41 07.0 +0.5**
BZS Buzias 147.26 339⇑ PKP2 **PKPbc** **16 41 06.2 -0.9**
BZS Buzias 147.26 339⇑ *i*P **PKPbc** **16 41 06.2 -0.9**
FUR Furstenfeldbru 147.33 353 *e*PKPbc **PKPbc** **16 41 07.5 +0.3**
BFO Black Forest 147.44 356 *e*PKP2 **PKPbc** **16 41 07.5 0.0**
BFO MLR MLR
comp=Z,619nm,20.0s
BFO Black Forest 147.44 356 *e*PKPbc **PKPbc** **16 41 07.5 0.0**
BFO Black Forest 147.44 356 *e*PKPbc **PKPbc** **16 41 07.5 0.0**
BFO LR LR
comp=Z,619nm,20.0s
ECH Echery 147.61 358 PFAKE 16 41 20.0 +10
ECH LR LR
comp=Z,477nm,20.0s
PKSM Moragy 147.68 343⇑ PKHKP PKPpre 16 40 53.3
PKSM Moragy 147.68 343⇑ *i*P PKPpre 16 40 53.3
PKSM Moragy 147.68 343⇓ *e* **PKPab** **16 41 09.8 -0.6**
CSS Prodhromos 148.50 313 PFAKE 16 41 20.0 +5.9
CSS LR LR
comp=Z,112nm,21.0s
ABTA Abfaltersbach 148.54 351⇓ *i*PKPdf **PKPbc** **16 41 09.0 -1.6**
comp=Z,23nm,1.1s
ISP Isparta 148.77 320 PFAKE 16 41 20.0 +4.7
ISP LR LR
comp=Z,542nm,21.0s
TUE Stuetta 149.21 355 *e*PKPbc **PKPbc** **16 41 11.9 -0.5**
TUE LR LR
comp=Z,1μm,22.0s
ASCN Ascension 149.40 139 PFAKE 16 41 20.0 +1.8
ASCN LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 150.57 1 PFAKE 16 41 20.0 -2.2
SSB LR LR

comp=Z,1μm,19.0s
BNI Bardonecchia 150.79 358 PFAKE 16 41 20.0 -3.2
BNI LR LR
comp=Z,1μm,20.0s
VLC Villacollemand 151.38 352 PFAKE 16 41 20.0 +2.5
VLC LR LR
comp=Z,823nm,20.0s
AQU L'Aquila 152.62 347 PFAKE 16 41 20.0 -0.4
AQU LR LR
comp=Z,1μm,21.0s
SANT Santorini 152.79 323 PFAKE 16 41 20.0 -1.0
SANT LR LR
comp=Z,429nm,21.0s
MTE Manteigas 153.00 22 PFAKE 16 41 20.0 -1.3
MTE LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 154.20 341 PFAKE 16 41 30.0 +6.1
CUC LR LR
comp=Z,654nm,22.0s
TIP Timpagrande 154.63 339 PFAKE 16 41 30.0 +5.1
TIP LR LR
comp=Z,755nm,21.0s
PAB San Pablo 154.83 18 PFAKE 16 41 30.0 +4.7
PAB LR LR
comp=Z,691nm,22.0s
CEL Celeste 155.75 340 PFAKE 16 41 30.0 +12
CEL LR LR
comp=Z,1μm,22.0s
VSL Villasalto 156.10 352 PFAKE 16 41 30.0 +12
VSL LR LR
comp=Z,1μm,19.0s
WDD Wield Dalam 158.38 339 PFAKE 16 41 30.0 +8.7
WDD LR LR
comp=Z,934nm,21.0s
TAM Tamanrasset 173.01 359 PFAKE 16 41 40.0 +6.2
TAM LR LR
comp=Z,741nm,20.0s
TORD Torodi Ar. Bea 175.58 126 PKP **PKPdf 16 41 33.9 -0.7**
TORD PKPab **PKPab 16 43 15.2 +3.1**
TORD Torodi Ar. Bea 175.58 126 PKP **PKPdf 16 41 33.9 -0.7**
comp=Z,1.5nm,1.1s,baz=318,slow=3.9,SNR=3.8
TORD PKPab **PKPab 16 43 15.2 +3.1**
comp=Z,0.8nm,0.9s,baz=254,slow=4.8,SNR=2.8

DJA 13 16:25:18.5±1.0, 1°S±6°×12°7E±°, h10km, M3.7/3, mb4.4/1, mB5.0/1, MLv3.3/3, Mw(mB)4.3/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.49**	**18**	P	Pg	16 25 24.2	-3.9
SANI	**Sanana**	**1.65**	**236**	P	Pn	16 25 45.6	-2.0
SANI				S	Sn	16 26 09.3	+0.4
NLAI	**Namlea**	**2.13**	**187**	P	Pn	16 25 54.3	+0.1
NLAI				S	Sn	16 26 21.0	+0.3
APSI	**Ampana**	**5.70**	**272**	P	Pn	16 26 43.5	+0.2

*ISK **13** 16:30:02.7, 35°.72N×30°.65E, h11km, MD3.5*
*ISCJB **13** 16:30:03.2±1.7, 35°.70N±0°.09×30°.64E±0°.06, h13km±18km, Error ellipse: s-maj=16.3km s-min=6.5km az=23.4*
*CSEM **13** 16:30:03.4±0.5, 35°.69N×30°.63E, h10km, MD2.9, Error ellipse: s-maj=12.0km s-min=5.8km az=16.0*
*DDA **13** 16:30:09.4, 36°.09N×31°.14E, h8km, MD2.9*
ISC 13 16:30:02.2±1.8, 35°.71N±0°.06×30°.64E±0°.04, h4km±14km, n42, σ1§11/46, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**1.19**	**1**	*e*PN	**Pg**	**16 30 25.7**	**+0.7**
ANTB				*e*SN	**Sn**	**16 30 42.4**	**+0.2**
ANTB	**Antalya**	**1.19**	**1**	*e*Pn	**Pg**	**16 30 25.7**	**+0.7**
ELL	**Elmali**	**1.20**	**331**	*e*PN	**Pg**	**16 30 25.7**	**+0.6**
ELL	**Elmali**	**1.20**	**331**	*e*Pn	**Pg**	**16 30 25.7**	**+0.6**
KORT	**Korkueli**	**1.31**	**350**	*i* P	Pg	16 30 30.5	+3.1
KORT				*i* S	Sg	16 30 50.5	+6.1
KORT	**Korkueli**	**1.31**	**350**	*i* P	Pg	16 30 30.5	+3.1
GAZI	**Gazipasa**	**1.46**	**68**	*i* P	**Pn**	**16 30 28.4**	**-0.9**
GAZI				*i* S	Sn	16 30 41.4	-7.5
GAZI	**Gazipasa**	**1.46**	**68**	*i* P	**Pn**	**16 30 28.4**	**-0.9**
FETY	**Fethiye**	**1.56**	**307**	*e*PN	**Pb**	**16 30 31.1**	**-0.6**
FETY	**Fethiye**	**1.56**	**307**	*e*Pn	**Pb**	**16 30 31.1**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.71**	**328**	*e*PN	**Pb**	**16 30 33.3**	**-1.1**
GLHS	**Glhisar (BURDU**	**1.71**	**328**	*e*Pn	**Pb**	**16 30 33.3**	**-1.1**
BCK	**Bucak**	**1.75**	**359**	*e*PN	**Pb**	**16 30 33.5**	**-1.4**
BCK				*e*SN	**Sb**	**16 30 56.0**	**-1.3**
BCK	**Bucak**	**1.75**	**359**	*e*Pn	**Pb**	**16 30 33.5**	**-1.4**
BCK				*e*Sn	**Sb**	**16 30 56.0**	**-1.3**
SUTC	**Sutluce-Ispart**	**1.79**	**9**	*e*PN	**Pb**	**16 30 34.6**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.79**	**9**	*e*Pn	**Pb**	**16 30 34.7**	**-1.0**
LEF	**Lefka**	**1.93**	**107**	*e*PN	**Pn**	**16 30 35.7**	**-0.1**
LEF	**Lefka**	**1.93**	**107**	*e*Pn	**Pn**	**16 30 35.7**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.95**	**305**	*e*PN	**Pb**	**16 30 36.6**	**-1.7**
DALY	**Dalyan (Mu˘la**	**1.95**	**305**	*e*Pn	**Pb**	**16 30 36.6**	**-1.7**
KONT	**Konya--Tatoy**	**2.63**	**31**	*e*PN	**Pn**	**16 30 45.9**	**+0.5**
KONT	**Konya--Tatoy**	**2.63**	**31**	*e*Pn	**Pn**	**16 30 45.9**	**+0.5**
LADK	**Ladik-KONYA**	**2.85**	**29**	*e*PN	**Pn**	**16 30 49.0**	**+0.5**
LADK	**Ladik-KONYA**	**2.85**	**29**	*e*Pn	**Pn**	**16 30 49.0**	**+0.5**
BDRM	**Kayabasi**	**2.91**	**299**	*i* P	**Pn**	**16 30 50.3**	**+1.0**
BDRM				*i* S	Sg	16 31 49.9	+14
BDRM	**Kayabasi**	**2.91**	**299**	*i* P	**Pn**	**16 30 50.3**	**+1.0**
KIZK	**Mersin**	**2.94**	**74**	*i* P	**Pn**	**16 30 51.1**	**+1.4**
KIZK				*i* S	**Sn**	**16 31 25.4**	**0.0**
KIZK	**Mersin**	**2.94**	**74**	*i* P	**Pn**	**16 30 51.1**	**+1.4**
KIZK				*i* S	**Sn**	**16 31 25.4**	**0.0**
KDHN	**Kadinhani**	**3.05**	**22**	*i* P	**Pn**	**16 30 52.3**	**+1.1**
KDHN				*i* S	**Sn**	**16 31 28.0**	**-0.2**
KDHN	**Kadinhani**	**3.05**	**22**	*i* P	**Pn**	**16 30 52.3**	**+1.1**
KDHN				*i* S	**Sn**	**16 31 28.0**	**-0.2**
KULA	**Kula-Manisa**	**3.22**	**331**	*e*PN	**Pn**	**16 30 54.5**	**+0.9**
KULA	**Kula-Manisa**	**3.22**	**331**	*e*Pn	**Pn**	**16 30 54.5**	**+0.9**
KIZT	**Kizilcal**	**3.32**	**17**	*e*PN	**Pn**	**16 30 56.0**	**+1.0**
KIZT	**Kizilcal**	**3.32**	**17**	*e*Pn	**Pn**	**16 30 56.0**	**+1.0**
MERS	**Mersin**	**3.34**	**69**	*e*PN	**Pn**	**16 30 56.3**	**+1.0**
MERS	**Mersin**	**3.34**	**69**	*e*Pn	**Pn**	**16 30 56.3**	**+1.0**
ALT	**Altintas**	**3.37**	**353**	*e*PN	**Pn**	**16 30 56.7**	**+1.0**
ALT	**Altintas**	**3.37**	**353**	*e*Pn	**Pn**	**16 30 56.7**	**+1.0**
GULE	**Gulek**	**3.69**	**64**	*i* P	Pn	16 31 02.6	+2.5
GULE				*i* S	**Sn**	**16 31 47.1**	**+3.0**
GULE	**Gulek**	**3.69**	**64**	*i* P	Pn	16 31 02.6	+2.5
KARA	**Karaisali**	**3.88**	**65**	*e*PN	**Pn**	**16 31 04.2**	**+1.6**
KARA	**Karaisali**	**3.88**	**65**	*e*Pn	**Pn**	**16 31 04.2**	**+1.6**

IDC 13 16:35:50.2±4.0, 17°.35S×177°.50W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=175.4km s-min=32.9km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.66**	**241**	P	P	16 43 24.6	+0.5
	1.6nm,0.9s,baz=56,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**45.59**	**259**	P	P	16 44 12.2	-0.3
	0.2nm,0.4s,baz=97,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**45.78**	**254**	P	P	16 44 13.4	-0.5
	1.4nm,0.6s,baz=87,slow=9.0,SNR=33						
ILAR	**Eielson Array**	**85.15**	**13**	P	P	16 48 27.8	0.0
	1.3nm,1.2s,baz=219,slow=4.5,SNR=6.8						

IDC 13 16:47:27.5±3.1, 8°.59S×119°.10E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, ML3.2/1, MS4.2/1, Ms1 4.4/1, ms1mx3.6/13, Error ellipse: s-maj=280.8km s-min=28.1km az=51.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.57**	**129**	P	Pn	16 51 46.7	+0.3
	0.1nm,0.3s,baz=302,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**20.63**	**138**	P	P	16 52 08.5	-0.3
	0.6nm,0.6s,baz=325,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	**33.43**	**324**	LR	LR	17 10 37.8	
	comp=Z,430nm,20.6s,baz=100,slow=42						
MKAR	**Makanchi Array**	**64.14**	**333**	P	P	16 58 03.7	-0.1
	0.2nm,0.5s,baz=158,slow=6.3,SNR=4.3						

*ISCJB **13** 16:49:06.1±0.3, 15°.47S±0°.09×175°.07W±0°.06, h10km, mb4.9/52, MS5.2/6, Error ellipse: s-maj=13.4km s-min=7.8km az=163.4*
*BJI **13** 16:49:06.2, 15°.12S×174°.98W, h5km, mB5.5/15, mb5.0/24, Ms5.4/12, Ms7 5.1/17*
*IDC **13** 16:49:06.1±0.7, 15°.33S×175°.06W, h0km, mb4.5/10, mb1 4.8/10, mb1mx4.5/19, mbtmp4.5/10, Error ellipse: s-maj=32.9km s-min=19.1km az=138.0*
*GCMT **13** 16:49:07.2±0.3, 15°.42S×174°.70W, h12km, MW5.2/92, Moment Tensor Solution. s30,c49; s92,c137; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_r0.82±.31; $M_{\theta\theta}$2.14±.39; $M_{\phi\phi}$-2.97±.31; $M_{r\theta}$-0.30±.85; $M_{\theta\phi}$8.90±.23; $M_{\phi r}$-0.15±.71; Best double couple: M_o9.26600×10^{16} NP1:ϕ278.00000°, δ89.00000°, λ2.00000°. NP2: ϕ188.00000°, δ88.00000°, λ179.00000°. Principal axes: T 8.8580, Plg2.0000°, Azm143.0000°; N 0.8120, Plg88.0000°, Azm315.0000°; P -9.6750, Plg0.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 16:49:07.2±0.2, 15°.43S×175°.05W, h10km, mb5.0/34 Error ellipse: s-maj=11.5km s-min=6.1km az=143.0*
ISC 13 16:49:07.3±0.4, 15°.50S±0°.10×174°.92W±0°.08, h10km, n252, σ1§11/245, mb5.0/52, MS5.2/6, 6C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.43**	**63**	*e*P	Pn	16 49 54.2	-6.7
AFI	**Afiamalu**	**3.43**	**63**	Pn	Pn	16 49 54.2	-6.7
	59nm,0.3s,baz=240,slow=5.1,SNR=129						
MSVF	**Nonsavu**	**7.09**	**251**	Pn	Pn	16 50 58.7	+7.4
	278nm,1.3s,SNR=9.1						
MSVF	**Nonsavu**	**7.09**	**251**	*e*P	Pn	16 50 57.2	+5.8
	96nm,1.3s						
DZM	**Mont Dzumac**	**18.80**	**247**	*e*P	**Pn**	**16 53 30.3**	**+2.6**
	142nm,1.3s						
DZM				*e*LR	LR	16 57 49.8	
	7μm,25.5s						
DZM	**Mont Dzumac**	**18.80**	**247**	*e*P	**P**	**16 53 25.9**	**-1.3**
	66nm,1.2s						
DZM	**Mont Dzumac**	**18.80**	**247**	P	**Pn**	**16 53 30.9**	**+3.2**
	0.4nm,0.3s,baz=66,slow=19,SNR=8.3						
PAE	**Paea**	**24.38**	**99**	*e*T	T	17 19 27.8	
	5.7nm,0.3s						
PPT2	**Papeete2**	**24.38**	**98**	*e*LQ	LQ	16 59 12.5	
	7μm,25.2s						
PPT2				*e*LR	LR	17 00 18.4	
	1μm,24.8s						
PPT2	**Papeete2**	**24.38**	**98**	*e*T	T	17 19 29.0	
	12nm,0.3s						
TIAR	**Tiarei**	**24.60**	**98**	*e*T	T	17 19 44.6	
	7.5nm,0.4s						
TVO	**Taravo**	**24.70**	**99**	*e*T	T	17 19 52.0	
	4.3nm,0.3s						
TBI	**Tubuai**	**25.22**	**112**	*e*LQ	LQ	16 59 37.6	
	5μm,27.2s						
TBI				*e*LR	LR	17 00 43.0	
	993nm,25.8s						
TBI	**Tubuai**	**25.22**	**112**	*e*T	T	17 20 34.4	
	28nm,0.3s						
VAH	**Vaihoa**	**26.32**	**93**	*e*T	T	17 21 51.5	
	14nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.32**	**331**	T	T	17 37 01.2	
	baz=146,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**38.33**	**331**	T	T	17 37 07.8	
	baz=146,slow=75,SNR=99						
H11S1	**WAKE ISLAND Hy**	**38.34**	**331**	T	T	17 37 07.8	
	baz=146						
RKT	**Rikitea**	**38.36**	**108**	*e*S	**S**	**17 02 23.1**	**-0.6**
RKT	156nm,29.0s			*e*LR	LR	17 06 54.9	
	986nm,23.0s						
RKT	**Rikitea**	**38.36**	**108**	*e*T	T	17 36 57.9	
	9.2nm,0.3s						
H11N3	**WAKE ISLAND Hy**	**39.29**	**332**	T	T	17 38 18.3	
	baz=141,slow=75,SNR=133						
H11N2	**WAKE ISLAND Hy**	**39.31**	**332**	T	T	17 38 19.7	
	baz=138,slow=75,SNR=157						
WRA	**Warramunga Arr**	**48.39**	**257**	P	**P**	**16 57 49.2**	**-0.7**
WRA	**Warramunga Arr**	**48.39**	**257**	P	**P**	**16 57 49.2**	**-0.7**
	1.9nm,0.9s,baz=89,slow=6.5,SNR=6.6						
AS31	**Alice Springs**	**48.68**	**252**	P	P	16 57 48.6	-3.5
ASAR	**Alice Springs**	**48.68**	**252**	P	**P**	**16 57 50.9**	**-1.3**
ASAR	**Alice Springs**	**48.68**	**252**	P	**P**	**16 57 50.9**	**-1.3**
	4.1nm,0.8s,baz=86,slow=7.7,SNR=33						
VNDA	**Vanda**	**63.13**	**186**	*e*P	**P**	**16 59 36.3**	**+1.4**
	6.7nm,0.9s						
VNDA	**Vanda**	**63.13**	**186**	P	**P**	**16 59 36.7**	**+1.9**
	7.2nm,0.9s,baz=26,slow=6.8,SNR=10						
PETK	**Petropavlovsk-**	**72.29**	**343**	P	**P**	**17 00 32.2**	**-0.6**
PETK	**Petropavlovsk-**	**72.29**	**343**	P	**P**	**17 00 32.2**	**-0.6**
	12nm,0.9s,baz=130,slow=8.3,SNR=8.0						
VES	**Vestal, Richgr**	**73.44**	**45**	P	**P**	**17 00 40.8**	**+0.8**
	baz=74						
BFSC	**Mount Baldy Ra**	**73.55**	**47**	P	**P**	**17 00 40.8**	**-0.1**
	baz=74						
EDW2	**Edwards Air Fo**	**73.66**	**46**	P	**P**	**17 00 42.3**	**+0.8**
	baz=74						
MONP	**Monument Peak**	**73.72**	**48**	P	**P**	**17 00 43.4**	**+1.3**
	baz=74						
ISA	**Isabella**	**73.75**	**45**	P	**P**	**17 00 42.8**	**+0.8**
	baz=74						
LRMC	**Laurel Mountai**	**74.19**	**46**	P	**P**	**17 00 45.7**	**+1.1**
	baz=74						
M02C	**Callahan**	**74.28**	**38**	P	**P**	**17 00 46.2**	**+1.2**
	baz=74						
QSPA	**South Pole Qui**	**74.54**	**180**	*e*P	**P**	**17 00 45.5**	**-0.7**
	16nm,1.1s						
BELC	**Belle Mtn. Jos**	**74.60**	**48**	P	**P**	**17 00 47.7**	**+0.6**
	baz=75						
GSC	**Goldstone**	**74.71**	**46**	P	**P**	**17 00 48.3**	**+0.7**
	baz=75						
HEC	**Hector,Ludlow**	**74.79**	**47**	P	**P**	**17 00 49.3**	**+1.2**
	baz=75						
BC3	**Big Chuckawall**	**74.81**	**48**	P	**P**	**17 00 49.4**	**+1.1**
	baz=75						
GLA	**Glamis**	**74.96**	**49**	P	**P**	**17 00 49.5**	**+0.4**
	baz=75						
M04C	**Maddel**	**75.12**	**38**	P	**P**	**17 00 50.2**	**+0.3**
	baz=75						
GRAC	**Grapevine Rang**	**75.23**	**44**	P	**P**	**17 00 51.9**	**+1.3**
	baz=75						
GMRC	**Granite Mounta**	**75.24**	**47**	P	**P**	**17 00 51.9**	**+1.1**
	baz=75						
IRM	**Iron Mountain**	**75.28**	**48**	P	**P**	**17 00 52.2**	**+1.3**
	baz=76						
FURC	**Furnace Creek,**	**75.29**	**45**	P	**P**	**17 00 51.7**	**+1.0**
	baz=76						
NVAR	**Mina Array Bea**	**75.39**	**43**	P	**P**	**17 00 51.8**	**+0.1**
NVAR	**Mina Array Bea**	**75.39**	**43**	P	**P**	**17 00 51.8**	**+0.1**
	11nm,0.8s,baz=229,slow=9.7,SNR=22						
PAHR	**Pah Rah Range**	**75.41**	**41**	*e*P	**P**	**17 00 51.2**	**-0.4**
	16nm,1.1s						
NV11	**Mina Array Sit**	**75.49**	**43**	*e*P	**P**	**17 00 52.2**	**+0.1**
TPH	**Tonopah**	**75.91**	**43**	*e*P	**P**	**17 00 54.6**	**0.0**
	42nm,1.3s						
214A	**Organ Pipe Nat**	**75.91**	**51**	P	**P**	**17 00 55.8**	**+1.2**
	baz=76						
TPNV	**Topopah Spring**	**75.96**	**45**	P	**P**	**17 00 55.0**	**+0.1**
	baz=76						
PDMCI	**Parker Dam,Lak**	**76.08**	**48**	P	**P**	**17 00 56.8**	**+1.5**
	baz=76						
J05D	**Fort Rock, OR**	**76.38**	**37**	P	**P**	**17 00 58.3**	**+1.2**
	baz=77						
SHPR	**Sheep Range**	**76.47**	**46**	P	**P**	**17 00 58.2**	**+0.4**
	24nm,1.3s						
W13A	**Hualapai Mount**	**76.66**	**48**	P	**P**	**17 00 59.5**	**+0.6**
	baz=77						
I05D	**Terrebonne, OR**	**76.95**	**36**	P	**P**	**17 01 01.4**	**+1.2**
	baz=77						
R11A	**Troy Canyon, C**	**77.14**	**44**	P	**P**	**17 01 02.3**	**+0.7**
	baz=77						
X16A	**Lo Mia Camp, P**	**78.09**	**49**	P	**P**	**17 01 08.2**	**+1.3**
	baz=78						
SEW	**Seward**	**78.10**	**13**	*e*P	**P**	**17 01 06.1**	**0.0**
	44nm,1.1s						
ARUT	**Antelope Range**	**78.31**	**45**	*e*P	**P**	**17 01 09.0**	**+0.9**
	418nm,1.3s						
319A	**Douglas**	**78.32**	**53**	P	**P**	**17 01 09.2**	**+1.0**
	baz=78						
U15A	**North Rim**	**78.44**	**47**	P	**P**	**17 01 10.1**	**+1.1**
	baz=79						
WUAZ	**Wupatki**	**78.65**	**48**	P	**P**	**17 01 10.4**	**+0.4**
	baz=79						
NJ2	**Nanjing**	**79.06**	**308**	*e*P	**P**	**17 01 10.8**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GAMB	**Gambell**	**79.06**	**1**	*e*P	**P**	**17 01 11.2**	**-0.1**
	18nm,1.5s						
DIV	**Divide**	**79.84**	**14**	P	**P**	**17 01 15.3**	**-0.4**
	44nm,1.0s						
DUG	**Dugway**	**79.94**	**43**	P	**P**	**17 01 18.1**	**+1.2**
	baz=80						
121A	**Cookes Peak, D**	**79.96**	**52**	P	**P**	**17 01 19.0**	**+1.7**
	baz=80						
BMRM	**Bremner River**	**79.97**	**14**	*e*P	**P**	**17 01 15.8**	**-0.7**
	60nm,1.3s						
TMUT	**Trail Mountain**	**80.57**	**45**	*e*P	**P**	**17 01 21.0**	**+0.4**
	18nm,1.1s						
HLID	**Hailey**	**80.64**	**40**	P	**P**	**17 01 21.1**	**+0.5**
	baz=81						
HVU	**Hansel Valley**	**80.76**	**42**	*e*P	**P**	**17 01 21.7**	**+0.4**
	29nm,1.6s						
Z22A	**Elephant Butte**	**80.90**	**52**	P	**P**	**17 01 23.4**	**+1.2**
	baz=81						
KTH	**Kantishna Hill**	**80.97**	**11**	*e*P	**P**	**17 01 21.6**	**-0.2**
	57nm,1.6s						
TNA	**Tin City**	**80.99**	**3**	*e*P	**P**	**17 01 22.2**	**+0.5**
	26nm,1.1s						
TRF	**Thorofare Moun**	**80.99**	**11**	*e*P	**P**	**17 01 20.7**	**-1.3**
	14nm,0.9s						
LAZ	**Ladron**	**81.25**	**51**	P	**P**	**17 01 25.2**	**+1.0**
	8.1nm,1.3s						
324A	**Moseley Ranch,**	**81.28**	**54**	P	**P**	**17 01 25.2**	**+0.9**
	baz=82						
TCUT	**Toone Canyon**	**81.32**	**43**	*e*P	**P**	**17 01 24.5**	**+0.1**
	38nm,1.2s						
425A	**Indio Mountain**	**81.41**	**55**	P	**P**	**17 01 25.9**	**+0.9**
	baz=82						
MCK	**McKinley**	**81.50**	**11**	*e*P	**P**	**17 01 24.1**	**-0.5**
	26nm,1.0s						
224A	**Cornudas Mount**	**81.51**	**53**	P	**P**	**17 01 26.4**	**+0.8**
	baz=82						
BNM	**Barren Site**	**81.53**	**51**	P	**P**	**17 01 26.2**	**+0.5**
	10nm,1.3s						
LPM	**Los Pinos Moun**	**81.59**	**51**	*e*P	**P**	**17 01 26.6**	**+0.6**
	23nm,1.4s						
626A	**Big Bend Ranch**	**81.60**	**56**	P	**P**	**17 01 26.5**	**+0.5**
	baz=82						
325A	**Bean Ranch, Si**	**81.66**	**54**	P	**P**	**17 01 26.2**	**-0.1**
	baz=82						
124A	**Stringfield Ra**	**81.82**	**53**	P	**P**	**17 01 26.9**	**-0.3**
	baz=82						
526A	**Mary Lane Ranc**	**81.83**	**56**	P	**P**	**17 01 27.8**	**+0.5**
	baz=82						
PV01	**Paradox Valley**	**81.86**	**47**	*e*P	**P**	**17 01 28.3**	**+1.0**
	1μm,1.3s						
Y23A	**Lovelace Mesa,**	**81.87**	**52**	P	**P**	**17 01 27.9**	**+0.4**
	baz=82						
TXAR	**Lajitas Array**	**81.89**	**57**	P	**P**	**17 01 28.2**	**+0.7**
TXAR	**Lajitas Array**	**81.89**	**57**	P	**P**	**17 01 28.2**	**+0.7**
	2.9nm,1.0s,baz=208,slow=5.0,SNR=10						
MENT	**Mentasta**	**81.89**	**14**	*e*P	**P**	**17 01 26.5**	**-0.2**
225A	**Deer Hill, Car**	**82.07**	**54**	P	**P**	**17 01 29.8**	**+1.2**
	baz=82						
V22A	**San Miguel Ran**	**82.07**	**49**	P	**P**	**17 01 29.9**	**+1.4**
	baz=82						
426A	**McDonald Obser**	**82.12**	**55**	P	**P**	**17 01 29.4**	**+0.5**
	baz=82						
627A	**Terlingua Ranc**	**82.16**	**57**	P	**P**	**17 01 29.8**	**+0.8**
	baz=82						
527A	**Woodward Ranch**	**82.25**	**56**	P	**P**	**17 01 30.0**	**+0.6**
	baz=82						
MCMT	**McKenzie Canyo**	**82.26**	**39**	*e*P	**P**	**17 01 27.9**	**-1.4**
	9.5nm,1.4s						
U22A	**Llaves**	**82.31**	**49**	P	**P**	**17 01 30.7**	**+0.9**
	baz=82						
Y24A	**Capitan**	**82.33**	**52**	P	**P**	**17 01 30.9**	**+1.0**
	baz=82						
326A	**Caldwell Ranch**	**82.41**	**55**	P	**P**	**17 01 31.4**	**+1.2**
	baz=83						
125A	**Gardner Draw,**	**82.42**	**53**	P	**P**	**17 01 31.2**	**+1.0**
	baz=83						
V23A	**Ortiz Mt. (NFS**	**82.53**	**50**	P	**P**	**17 01 32.1**	**+1.2**
	baz=83						
226B	**Tecolote Peak,**	**82.57**	**54**	P	**P**	**17 01 32.3**	**+1.4**
	baz=83						
628A	**Black Gap, Mar**	**82.58**	**57**	P	**P**	**17 01 32.2**	**+1.1**
	baz=83						
427A	**Hayter Ranch,**	**82.69**	**55**	P	**P**	**17 01 32.3**	**+0.6**
	baz=83						
BSMT	**Bassoo Peak**	**82.70**	**36**	P	**P**	**17 01 31.3**	**-0.1**
	17nm,1.4s						
COLA	**College**	**82.74**	**11**	*e*P	**P**	**17 01 29.8**	**-1.1**
	20nm,0.9s						
IM04	**Indian Mountai**	**82.77**	**9**	*e*P	**P**	**17 01 30.5**	**-0.7**
ILAR	**Eielson Array**	**82.83**	**12**	P	**P**	**17 01 30.6**	**-0.9**
ILAR	**Eielson Array**	**82.83**	**12**	P	**P**	**17 01 30.6**	**-0.9**
	1.8nm,0.6s,baz=222,slow=5.9,SNR=22						
W24A	**Lazy 6 Ranch,**	**82.89**	**51**	P	**P**	**17 01 33.8**	**+1.0**
	baz=83						
Y25A	**Mesa, Roswell**	**82.90**	**52**	P	**P**	**17 01 33.7**	**+0.9**
	baz=83						
528A	**Cox Ranch, San**	**82.91**	**56**	P	**P**	**17 01 32.9**	**0.0**
	baz=83						
S22A	**4UR Ranch, Cre**	**82.92**	**48**	P	**P**	**17 01 34.0**	**+1.0**
	baz=83						
LRM	**Limekiln Ridge**	**83.01**	**39**	*e*P	**P**	**17 01 33.4**	**+0.2**
	140nm,1.4s						
CHMT	**Chamberlain Mo**	**83.09**	**37**	*e*P	**P**	**17 01 32.6**	**-0.9**
	6.7nm,1.1s						
QLMT	**Earthquake Lak**	**83.13**	**40**	*e*P	**P**	**17 01 34.7**	**+0.9**
	2.6nm,1.2s						
Z26A	**Caprock**	**83.18**	**53**	P	**P**	**17 01 34.0**	**-0.2**
	baz=83						
V24A	**Rampart Ranch,**	**83.20**	**50**	P	**P**	**17 01 35.5**	**+1.1**
	baz=83						
428A	**Kincaid Ranch,**	**83.21**	**56**	P	**P**	**17 01 35.4**	**+1.0**
	baz=83						
N20A	**Spence Gulch,**	**83.29**	**45**	P	**P**	**17 01 34.9**	**+0.2**
	baz=84						
BW06	**Boulder Array**	**83.32**	**42**	*e*P	**P**	**17 01 33.3**	**-1.5**
	7.0nm,0.9s						
PDAR	**Pinedale Array**	**83.32**	**42**	P	**P**	**17 01 34.4**	**-0.5**
PDAR	**Pinedale Array**	**83.32**	**42**	P	**P**	**17 01 34.4**	**-0.5**
	6.3nm,0.9s,baz=220,slow=3.3,SNR=19						
529A	**Stev Forest Ra**	**83.35**	**56**	P	**P**	**17 01 34.9**	**-0.1**
	baz=84						
H17A	**Grant Village**	**83.45**	**41**	P	**P**	**17 01 36.0**	**+0.5**
	baz=84						
W25A	**X Bar L Ranch,**	**83.60**	**51

comp=Z,17nm,0.8s
BJI LR LR
comp=Z,630nm,21.8s
N22A Wattenberg Ran 84.51 45 P **P 17 01 40.8 -0.2**
baz=85
J20A Shoshoni 84.55 42 P **P 17 01 41.0 0.0**
baz=85
129A Stewart Farms, 84.57 54 P **P 17 01 42.2 +0.9**
baz=85
H19A Powell 84.58 41 P **P 17 01 42.1 +1.0**
baz=85
U26A Atchley Ranch, 84.60 50 P **P 17 01 42.2 +0.7**
baz=85
S25A Robets Cordova 84.61 49 P **P 17 01 41.0 -0.5**
baz=85
Q24A Divide 84.63 47 P **P 17 01 41.4 -0.3**
baz=85
531A Rocksprings 84.72 57 P **P 17 01 42.8 +0.7**
baz=85
K21A Alcova 84.77 43 P **P 17 01 42.3 0.0**
baz=85
N23A Red Feather La 84.89 45 P **P 17 01 42.9 0.0**
baz=85
Z29A Hungry Hill Ra 84.94 54 P **P 17 01 43.5 +0.4**
baz=85
J21A Lysite 84.96 43 P **P 17 01 43.3 +0.2**
baz=85
L22A Ellis Ranch, M 85.05 44 P **P 17 01 44.3 +0.7**
baz=85
F19A Roth Farm, Mol 85.16 40 P **P 17 01 44.2 +0.2**
baz=85
I21A Big Trails, Te 85.27 42 P **P 17 01 43.9 -0.7**
baz=86
Z30A Sanderson Ranc 85.39 54 P **P 17 01 45.8 +0.4**
baz=86
E19A Rath Farm, Rou 85.54 39 P **P 17 01 46.0 +0.1**
baz=86
L23A Garrett 85.58 44 P **P 17 01 46.7 +0.4**
baz=86
J22A Midwest 85.63 43 P **P 17 01 46.6 +0.2**
baz=86
834A Tilden 85.64 59 P **P 17 01 46.5 -0.1**
baz=86
EGMT Eagleton 85.70 38 P **P 17 01 47.4 +0.8**
7.1nm,0.9s
EGMT Eagleton 85.70 38 P **P 17 01 46.9 +0.4**
baz=86
ENH Enshi 85.74 303 *e*P **P 17 01 47.0 -0.1**
4.8nm,1.0s
332A Millersview 85.80 56 P **P 17 01 47.4 0.0**
baz=86
D19A Cripps Ranch, 85.81 39 P **P 17 01 48.7 +1.5**
baz=86
C19A Slack Wire Ran 85.98 38 P **P 17 01 48.7 +0.8**
baz=86
433A Art 86.10 57 P **P 17 01 49.2 +0.4**
baz=86
D20A Manuel Ranch, 86.23 39 P **P 17 01 50.1 +0.9**
baz=86
ABTX Abilene, Hawle 86.32 55 *e*P **P 17 01 50.3 +0.3**
ABTX Abilene, Hawle 86.32 55 P **P 17 01 50.6 +0.7**
baz=86
534A Blanco 86.35 58 P **P 17 01 50.6 +0.5**
baz=86
H03N2 Juan Fernandez 86.47 124 T T 18 37 13.5
baz=254,slow=74,SNR=23
H03N3 Juan Fernandez 86.47 124 T T 18 37 12.8
baz=254,slow=74,SNR=22
H03N1 Juan Fernandez 86.49 124 T T 18 37 14.7
baz=254,slow=74,SNR=21
434A Burnet 86.78 57 P **P 17 01 51.9 -0.4**
baz=87
GYA Guiyang 86.80 298 *e*P **P 17 01 51.4 -1.1**
GYA PP **PP 17 05 15.3 0.0**
GYA SKS **SKSac 17 12 16.8 -3.3**
GYA S **S 17 12 27.5 -3.4**
GYA SS **SS 17 18 11.8 -1.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,520nm,18.6s
GYA LR LR
comp=E,480nm,19.8s
GYA LR LR
comp=Z,590nm,18.9s
D21A La Casta Ranch 86.92 39 P **P 17 01 53.3 +0.8**
baz=87
A20A Cobblestone Ra 87.18 37 P **P 17 01 54.1 +0.4**
baz=87
XAN Xi'an 87.50 306 P **P 17 01 56.3 +0.6**
XAN pP **pP 17 02 01.1 +2.1**
XAN pmax pmax
comp=Z,4.0nm,1.5s
HHC Hu-ho-hao-te 88.02 313 *e*P **P 17 01 58.4 +0.3**
HHC sP sP 17 02 08.1 +5.5
HHC PP PP 17 05 30.3 +5.4
HHC SKS **SKSac 17 12 23.8 -3.1**
HHC S **S 17 12 43.8 +1.8**
HHC SS **SS 17 18 30.9 +0.4**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,310nm,5.0s
HHC LR LR
comp=N,2μm,17.7s
HHC LR LR
comp=E,1μm,16.2s
HHC LR LR
comp=Z,600nm,15.9s
C23A Lambert 88.34 39 P **P 17 01 59.7 +0.3**
baz=88
CD2 Chengdu 90.61 302 *e*P **P 17 02 10.6 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
YKA Yellowknife Ar 90.78 24 P **P 17 02 10.6 +0.3**
YKA Yellowknife Ar 90.78 24 P **P 17 02 10.6 +0.3**
2.1nm,1.0s,baz=239,slow=4.4,SNR=12
CMAR Chiang Mai Arr 91.25 289 P **P 17 02 14.6 +1.0**
CMAR Chiang Mai Arr 91.25 289 P **P 17 02 14.6 +1.0**
1.6nm,1.0s,baz=96,slow=2.8,SNR=9.4
LZH Lanzhou 92.10 307 *e*P **P 17 02 17.8 +0.4**
LZH sP sP 17 02 31.5 +10
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.8s
LZH LR LR
comp=N,370nm,13.5s
LZH LR LR
comp=E,580nm,14.0s
LZH LR LR
comp=Z,990nm,17.0s
SYO Syowa Base 92.21 192⇑ *e*P **P 17 02 16.2 -0.8**
TIXI Tiksi 94.71 345 *e*P **P 17 02 27.8 -0.5**
1.7nm,0.6s
GTA Gaotai 96.10 309 P **P 17 02 36.3 +0.7**
GTA pP **pP 17 02 40.8 +1.8**
GTA sP **sP 17 02 43.3 +3.2**
GTA S **ScS 17 13 55.4 -0.2**
GTA sS **sS 17 14 03.8 +3.2**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,4.3s
GTA LR LR
comp=N,1μm,19.2s
GTA LR LR
comp=E,930nm,19.0s
GTA LR LR
comp=Z,980nm,20.2s
WMQ Urumqi 105.84 312 Pdif **Pdif 17 03 20.6 +1.7**
WMQ PP **PP 17 07 45.8 +3.7**
WMQ AMB AMB
comp=Z,52nm,11.0s
WMQ LR LR
comp=Z,530nm,20.2s
MKAR Makanchi Array 109.85 315 PKiKP **PKiKP 17 07 37.8 -1.2**
MKAR Makanchi Array 109.85 315 PKiKP **PKiKP 17 07 37.8 -1.2**
0.5nm,0.8s,baz=84,slow=2.3,SNR=4.1
KSH Kashi 114.35 307 *e*PKP PKPdf 17 07 49.0 +1.2
KSH *e*PP PP 17 08 51.1 +7.2
KSH *e*SKS **SKSdf 17 14 56.1 -4.2**
KSH *e*SKKS **SKKSac 17 15 40.0 -5.9**
KSH LR LR
comp=N,80nm,9.0s
KSH LR LR
comp=E,75nm,3.7s
KSH LR LR
comp=Z,79nm,4.3s
AKASG Malin Array Be 139.85 336 PKP **PKPdf 17 08 34.7 -1.0**
AKASG Malin Array Be 139.85 336 PKP **PKPdf 17 08 34.7 -1.0**
2.3nm,1.0s,baz=34,slow=2.7,SNR=5.9
STHS Stebnicka Huta 143.69 342 *e*PKP **PKPdf 17 08 42.2 -0.5**
CLL Collm 143.72 352 *e*PKPdf **PKPdf 17 08 45.0 +2.4**
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 143.80 341 *e*PKP **PKPdf 17 08 41.4 -1.5**
KOLS *e* 17 10 51.5
BUR08 Bucovina Ar. S 143.88 337 *e*PKPpre PKPab 17 08 40.7 +0.5
BRG Berggiesshubel 144.00 350 *e*P **PKPdf 17 08 42.7 -0.4**
comp=Z,14nm,1.6s
DPC Dobruska-Polom 144.06 348 *e*PKP **PKPdf 17 08 42.8 -0.5**
CRVS Cervenica-Dubn 144.08 342 *e*PKP **PKPdf 17 08 42.3 -1.1**
CRVS *e* 17 10 52.2
KMBO Kilima Mbogo 144.16 245 *e*PKP **PKPdf 17 08 43.7 -1.2**
KMBO Kilima Mbogo 144.16 245 PKP **PKPdf 17 08 43.7 -1.2**
comp=Z,1.0nm,0.4s,baz=178,slow=3.8,SNR=6.8
KRLC Kralky 144.23 347 *e*PKP **PKPdf 17 08 42.5 -1.1**
PRU Pruhonice 144.75 349 *e*PKP PKPbc 17 08 43.3 -0.1
MEM Membach 144.97 359 PKP **PKPdf 17 08 48.0 +3.2**
BCLA Clavier 145.17 360 PKP **PKPdf 17 08 44.8 -0.4**
TNS Taunus Mts 145.26 356 *e*PKPbc **PKPab 17 08 44.7 -0.5**
BR131 Keskin Array S 145.29 320 *e*PKP **PKPdf 17 08 45.7 -0.2**
BRTR Keskin Array B 145.29 320 PKPbc **PKPab 17 08 45.3 -0.5**
BRTR Keskin Array B 145.29 320 PKPbc **PKPab 17 08 45.3 -0.5**
comp=Z,3.8nm,0.8s,baz=108,slow=2.3,SNR=19
ROTZ Rotzenmuhle 145.33 352 *e*PKPbc **PKPdf 17 08 45.1 -0.4**
PSZ Piszkesteto 145.43 342 *e*PKP **PKPbc 17 08 44.8 -1.0**
DOU Dourbes 145.49 1 PKP **PKPab 17 08 45.6 -0.3**
GRF Grafenberg Arr 145.53 353 *e*PKPbc **PKPab 17 08 46.2 +0.1**
KHC Kasperske Hory 145.75 350 *e*PKP **PKPdf 17 08 46.0 -0.3**
KHC *e*pPKP **PKiKP 17 08 51.0 +0.7**
WLF Walferdange 145.91 359 PKP **PKPab 17 08 47.0 -0.5**
WLF Walferdange 145.91 359 *e*PKPbc **PKPbc 17 08 46.8 -0.3**
WLF Walferdange 145.91 359 *e*PKPdf **PKPab 17 08 46.9 -0.6**
GEC2 GERESS Array S 146.00 350 *e*PKPbc **PKPab 17 08 48.2 +0.2**
GERES GERESS Array B 146.00 350 PKPbc **PKPbc 17 08 47.1 -0.4**
GERES GERESS Array B 146.00 350 PKPbc **PKPbc 17 08 47.1 -0.4**
comp=Z,5.0nm,1.1s,baz=29,slow=3.0,SNR=17
CONA Conrad Observa 146.46 347⇑ *i*PKPab **PKPbc 17 08 48.8 -0.1**
comp=Z,16nm,1.2s
BFO Black Forest 147.15 356 *e*PKPbc **PKPbc 17 08 51.1 +0.3**
BFO Black Forest 147.15 356 *e*PKPbc **PKPbc 17 08 50.3 -0.5**
ARZA Arzberg 147.17 347⇑ *i*PKPab **PKPbc 17 08 51.1 +0.2**
comp=Z,12nm,1.3s
SOKA Soboth 147.82 347⇑ *i*pPKPdf **PKPbc 17 08 51.7 -1.0**
comp=Z,19nm,1.4s
DAVA Damuels 148.06 354⇑ *i*sPKPdf **PKPbc 17 08 53.3 -0.2**
comp=Z,13nm,1.0s
FETA Feichten 148.22 353⇓ *i*PKPbc **PKPbc 17 08 52.2 -1.7**
comp=Z,13nm,1.2s
ABTA Abfaltersbach 148.23 350⇑ *i*PKPdf **PKPdf 17 08 50.1 -0.5**
comp=Z,16nm,0.9s
TUE Stuetta 148.91 354 *e*PKPbc **PKPbc 17 08 55.4 -0.4**
TORD Torodi Ar. Bea 175.97 125 PKP **PKPdf 17 09 18.7 -0.1**
TORD PKPab **PKPab 17 10 58.1 +0.3**
TORD Torodi Ar. Bea 175.97 125 PKP **PKPdf 17 09 18.7 -0.1**
comp=Z,1.3nm,1.0s,baz=283,slow=1.9,SNR=4.8
TORD PKPab **PKPab 17 10 58.1 +0.3**
comp=Z,1.0nm,0.9s,baz=224,slow=4.0,SNR=3.1

IDC ***13*** *16:51:07.6±0.6, 15°.63S×174°.96W, h0ᵏᵐ, mb4.3/11, mb1 4.6/11, mb1mx4.4/21, mbtmp4.3/11, MS5.0/8, Ms1 4.9/8, ms1mx4.5/33, Error ellipse: s-maj=31.0km s-min=18.1km az=124.0*

ISCJB ***13*** *16:51:08.7±0.3, 15°.7S±0°.1×174°.97W±0°.09, h10ᵏᵐ, mb4.7/27, MS5.0/6, Error ellipse: s-maj=17.4km s-min=7.3km az=143.8*

GCMT ***13*** *16:51:09.1±0.2, 15°.38S×174°.70W, h17ᵏᵐ±1ᵏᵐ, MW5.4/94, Moment Tensor Solution. s56,c77; s94,c148; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.04; $M_{\theta\theta}$0.51±.04; $M_{\phi\phi}$-0.41±.04; $M_{r\theta}$-0.20±.10; $M_{\theta\phi}$1.34±.03; $M_{\phi r}$0.11±.09; Best double couple: M_o1.43700×10^{17} NP1:ϕ₉99.00000°,δ86.00000°,λ-9.00000°. NP2: ϕ₉190.00000°,δ81.00000°,λ-176.00000°. Principal axes: T 1.4700, Plg4.0000°, Azm145.0000°; N -0.0650, Plg80.0000°, Azm257.0000°; P -1.4040, Plg9.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *16:51:09.1±0.4, 15°.65S×174°.76W, h10ᵏᵐ, mb5.0/16 Error ellipse: s-maj=20.3km s-min=9.5km az=140.0*

ISC 13 16:51:09.8±0.5, 15°.7S±0°.1×174°.81W±0°.10, h10ᵏᵐ, n131, σ1ᵎ38/103, mb4.7/27, MS5.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.42**	**60**	*e*P		Pn		16 51 55.8	-7.5
AFI						Sn	Sn	16 52 34.5	-9.4
AFI						TT		16 55 19.9	
AFI	**Afiamalu**	**3.42**	**60**			Pn	Pn	16 51 56.9	-6.3
	31nm,0.3s,baz=63,slow=4.0,SNR=5.5								
AFI						Sn	Sn	16 52 34.5	-9.4
	23nm,0.3s,baz=313,slow=19,SNR=2.1								
AFI						T		16 55 19.9	
	37nm,0.3s,baz=129,slow=18,SNR=3.7								
MSVF	**Nonsavu**	**7.14**	**252**	*e*P		**Pn**		**16 52 57.2**	**+2.7**
RAR	**Rarotonga**	**15.29**	**113**	*e*P		**P**		**16 54 52.4**	**+1.7**
RAR	**Rarotonga**	**15.29**	**113**	LR		LR		16 59 16.9	
	comp=Z,2μm,19.9s,baz=291,slow=32								
DZM	**Mont Dzumac**	**18.84**	**247**	*e*P		**Pn**		**16 55 30.4**	**-0.2**
	210nm,1.4s								
DZM				*e*LR		LR		16 59 53.7	
	9μm,25.8s								
DZM	**Mont Dzumac**	**18.84**	**247**	*e*P		**Pn**		**16 55 31.3**	**+0.7**
	132nm,1.4s								
DZM	**Mont Dzumac**	**18.84**	**247**	P		**Pn**		**16 55 31.3**	**+0.7**
	0.3nm,0.3s,baz=80,slow=16,SNR=6.7								
DZM				LR		LR		17 00 43.5	
	comp=Z,1μm,18.8s,baz=92,slow=31								
URZ	**Urewera**	**23.60**	**196**	*e*P		**P**		**16 56 19.2**	**-1.6**
URZ	**Urewera**	**23.60**	**196**	P		**P**		**16 56 19.4**	**-1.5**
	3.6nm,0.6s,baz=64,slow=9.3,SNR=3.2								
URZ				LR		LR		17 04 55.7	
	comp=Z,5μm,18.5s,baz=24,slow=35								
PAE	**Paea**	**24.25**	**98**	*e*T		T		17 21 28.9	
	6.9nm,0.4s								
PPT2	**Papeete2**	**24.25**	**98**	*e*LQ		LQ		17 01 16.2	
	9μm,25.8s								
PPT2				*e*LR		LR		17 02 32.9	
	645nm,23.2s								
PPT2	**Papeete2**	**24.25**	**98**	*e*T		T		17 21 29.9	
	14nm,0.4s								
TIAR	**Tiarei**	**24.47**	**98**	*e*T		T		17 21 45.2	
	5.6nm,0.3s								
TVO	**Taravao**	**24.56**	**99**	*e*T		T		17 21 52.5	
	4.3nm,0.3s								
TBI	**Tubuai**	**25.06**	**112**	*e*LQ		LQ		17 01 40.5	
	7μm,27.2s								
TBI				*e*LR		LR		17 02 47.0	
	2μm,25.0s								
TBI	**Tubuai**	**25.06**	**112**	*e*T		T		17 22 30.0	
	20nm,0.2s								
HNR	**Honiara**	**25.39**	**281**	LR		LR		17 04 51.7	
	comp=Z,4μm,21.2s,baz=119,slow=33								
VAH	**Vaihoa**	**26.20**	**93**	*e*T		T		17 23 54.7	
	8.8nm,0.3s								
RPZ	**Rata Peaks**	**30.43**	**200**	LR		LR		17 08 41.2	
	comp=Z,3μm,20.4s,baz=24,slow=35								
CTA	**Charters Tower**	**37.26**	**257**	P		**P**		**16 58 23.1**	**+1.0**
CTA	**Charters Tower**	**37.26**	**257**	P		**P**		**16 58 23.1**	**+1.0**
	4.5nm,0.9s,baz=78,slow=9.3,SNR=3.2								
CTA				LR		LR		17 10 40.7	
	comp=Z,2μm,21.4s,baz=87,slow=32								
RKT	**Rikitea**	**38.20**	**108**	*e*LQ		LQ		17 07 07.2	
	1μm,26.8s								
RKT				*e*LR		LR		17 09 00.7	
	1μm,22.8s								
RKT	**Rikitea**	**38.20**	**108**	*e*T		T		17 38 55.4	
	5.9nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**38.52**	**331**	T		T		17 39 09.0	
	baz=151,slow=75,SNR=60								
H11S3	**WAKE ISLAND Hy**	**38.53**	**331**	T		T		17 39 14.3	
	baz=151,slow=75,SNR=30								
H11S1	**WAKE ISLAND Hy**	**38.54**	**331**	T		T		17 39 06.1	
	baz=151								
H11N3	**WAKE ISLAND Hy**	**39.50**	**332**	T		T		17 40 18.4	
	baz=154,slow=77,SNR=190								
H11N1	**WAKE ISLAND Hy**	**39.50**	**332**	T		T		17 40 17.7	
	baz=154,slow=77,SNR=270								
H11N2	**WAKE ISLAND Hy**	**39.52**	**332**	T		T		17 40 20.2	
	baz=154,slow=77,SNR=132								
STKA	**Stephens Creek**	**42.72**	**240**	LR		LR		17 13 51.2	
	comp=Z,1μm,19.8s,baz=92,slow=32								
WRAB	**Tennant Creek**	**48.45**	**257**	*e*P		**P**		**16 59 54.2**	**+1.3**
	18nm,1.2s								
WRA	**Warramunga Arr**	**48.46**	**257**	P		**P**		**16 59 50.2**	**-2.8**
WRA	**Warramunga Arr**	**48.46**	**257**	P		**P**		**16 59 50.2**	**-2.8**
	2.8nm,1.0s,baz=90,slow=7.7,SNR=4.9								
AS31	**Alice Springs**	**48.73**	**252**	*e*P		**P**		**16 59 53.5**	**-1.6**
ASAR	**Alice Springs**	**48.73**	**252**	P		**P**		**16 59 53.4**	**-1.7**
ASAR	**Alice Springs**	**48.73**	**252**	P		**P**		**16 59 53.4**	**-1.7**
	4.1nm,0.7s,baz=85,slow=8.0,SNR=7.1								
SBA	**Scott Base**	**62.87**	**184**	P		**P**		**17 01 35.1**	**-0.5**
	39nm,1.4s								
VNDA	**Vanda**	**62.97**	**186**	*e*P		**P**		**17 01 36.2**	**0.0**
	5.8nm,1.1s								
VNDA	**Vanda**	**62.97**	**186**	P		**P**		**17 01 36.4**	**+0.2**
	4.7nm,0.9s,baz=356,slow=7.6,SNR=5.7								
QSPA	**South Pole Qui**	**74.37**	**180**	*e*P		**P**		**17 02 47.4**	**-0.3**
QSPA	**South Pole Qui**	**74.37**	**180**	P		**P**		**17 02 47.4**	**-0.3**
	9.1nm,1.0s,baz=25,slow=4.3,SNR=7.2								
BELC	**Belle Mtn. Jos**	**74.63**	**47**	P		**P**		**17 02 51.1**	**+1.3**
	baz=75								
GSC	**Goldstone**	**74.75**	**46**	P		**P**		**17 02 51.7**	**+1.3**
	baz=75								
GMRC	**Granite Mounta**	**75.28**	**47**	P		**P**		**17 02 54.0**	**+0.6**
	baz=75								
IRM	**Iron Mountain**	**75.32**	**48**	P		**P**		**17 02 55.0**	**+1.4**
	baz=75								
NVAR	**Mina Array Bea**	**75.44**	**43**	P		**P**		**17 02 54.1**	**-0.4**
NVAR	**Mina Array Bea**	**75.44**	**43**	P		**P**		**17 02 54.1**	**-0.4**
	5.3nm,1.0s,baz=229,slow=8.8,SNR=8.0								
NV11	**Mina Array Sit**	**75.54**	**43**	*e*P		**P**		**17 02 52.1**	**-2.8**
TPH	**Tonopah**	**75.96**	**43**	P		**P**		**17 02 56.8**	**-0.6**
	21nm,1.3s								
PDMCI	**Parker Dam,Lak**	**76.11**	**48**	P		**P**		**17 02 59.4**	**+1.4**
	baz=76								
SHPR	**Sheep Range**	**76.52**	**46**	P		**P**		**17 03 00.7**	**+0.2**
	20nm,1.5s								
W13A	**Hualapai Mount**	**76.69**	**47**	P		**P**		**17 03 02.4**	**+0.8**
	baz=77								
R11A	**Troy Canyon, C**	**77.19**	**44**	P		**P**		**17 03 05.4**	**+1.1**
	baz=77								
X16A	**Lo Mia Camp, P**	**78.12**	**49**	P		**P**		**17 03 10.8**	**+1.2**
	baz=78								
U15A	**North Rim**	**78.48**	**47**	P		**P**		**17 03 12.1**	**+0.4**
	baz=79								
TMUT	**Trail Mountain**	**80.62**	**45**	P		**P**		**17 03 23.5**	**+0.2**
	11nm,1.1s								
HLID	**Hailey**	**80.70**	**40**	*e*P		P		17 03 26.9	+3.4
	44nm,1.9s								
HLID	**Hailey**	**80.70**	**40**	P		**P**		**17 03 24.9**	**+1.4**
	baz=81								
Z22A	**Elephant Butte**	**80.92**	**52**	P		**P**		**17 03 26.4**	**+1.5**
	baz=81								
TRF	**Thorofare Moun**	**81.14**	**11**	*e*P		**P**		**17 03 23.1**	**-2.3**
	115nm,2.0s								
TNA	**Tin City**	**81.16**	**3**	*e*P		**P**		**17 03 24.1**	**-1.0**
	28nm,1.4s								
324A	**Moseley Ranch,**	**81.30**	**54**	P		**P**		**17 03 28.7**	**+1.8**
	baz=81								
425A	**Indio Mountain**	**81.42**	**55**	P		**P**		**17 03 29.1**	**+1.5**
	baz=82								
626A	**Big Bend Ranch**	**81.61**	**56**	P		**P**		**17 03 30.4**	**+1.9**
	baz=82								
MCK	**McKinley**	**81.65**	**11**	*e*P		**P**		**17 03 25.3**	**-2.6**
	34nm,1.5s								
325A	**Bean Ranch, Si**	**81.67**	**54**	P		**P**		**17 03 30.8**	**+1.9**
	baz=82								
526A	**Mary Lane Ranc**	**81.84**	**56**	P		**P**		**17 03 31.8**	**+2.0**
	baz=82								
TXAR	**Lajitas Array**	**81.89**	**57**	P		**P**		**17 03 30.9**	**+0.9**
TXAR	**Lajitas Array**	**81.89**	**57**	P		**P**		**17 03 30.9**	**+0.9**
	1.0nm,0.9s,baz=218,slow=5.7,SNR=3.7								
426A	**McDonald Obser**	**82.13**	**55**	P		**P**		**17 03 32.4**	**+1.0**
	baz=82								
627A	**Terlingua Ranc**	**82.16**	**57**	P		**P**		**17 03 32.8**	**+1.4**
	baz=82								
527A	**Woodward Ranch**	**82.25**	**56**	P		**P**		**17 03 33.8**	**+1.8**
	baz=82								
V23A	**Ortiz Mt. (NFS**	**82.56**	**50**	P		**P**		**17 03 34.6**	**+1.0**
	baz=83								
628A	**Black Gap, Mar**	**82.58**	**57**	P		**P**		**17 03 34.8**	**+1.2**
	baz=83								
427A	**Hayter Ranch,**	**82.70**	**55**	P		**P**		**17 03 35.1**	**+0.9**
	baz=83								
BSMT	**Bassoo Peak**	**82.78**	**36**	*e*P		**P**		**17 03 34.2**	**-0.2**
	3.9nm,1.0s								
COLA	**College**	**82.89**	**11**	*e*P		**P**		**17 03 33.5**	**-0.7**
	68nm,1.5s								
W24A	**Lazy 6 Ranch,**	**82.91**	**51**	P		**P**		**17 03 36.1**	**+0.7**
	baz=83								
Y25A	**Mesa, Roswell**	**82.92**	**52**	P		**P**		**17 03 35.6**	**+0.3**
	baz=83								
S22A	**4UR Ranch, Cre**	**82.96**	**48**	P		**P**		**17 03 36.5**	**+0.9**
	baz=83								
ILAR	**Eielson Array**	**82.98**	**12**	P		**P**		**17 03 32.8**	**-2.0**
ILAR	**Eielson Array**	**82.98**	**12**	P		**P**		**17 03 32.8**	**-2.0**
	1.5nm,0.9s,baz=216,slow=5.1,SNR=5.7								
CHMT	**Chamberlain Mo**	**83.16**	**37**	*e*P		**P**		**17 03 38.1**	**+1.7**
	5.5nm,1.3s								
428A	**Kincaid Ranch,**	**83.22**	**56**	P		**P**		**17 03 38.3**	**+1.4**
	baz=83								
N20A	**Spence Gulch,**	**83.34**	**44**	P		**P**		**17 03 38.7**	**+1.2**
	baz=83								
BW06	**Boulder Array**	**83.38**	**42**	*e*P		**P**		**17 03 36.0**	**-1.6**
	54nm,2.0s								
PDAR	**Pinedale Array**	**83.38**	**42**	P		**P**		**17 03 36.4**	**-1.3**
PDAR	**Pinedale Array**	**83.38**	**42**	P		**P**		**17 03 36.4**	**-1.3**
	3.3nm,0.9s,baz=215,slow=3.0,SNR=3.7								
T24B	**San Luis**	**83.70**	**49**	P		**P**		**17 03 40.5**	**+0.9**
	baz=84								
V25A	**Rancho No Teng**	**83.76**	**50**	P		**P**		**17 03 39.8**	**+0.1**
	baz=84								
Z27A	**Tatum**	**83.81**	**53**	P		**P**		**17 03 41.6**	**+1.7**
	baz=84								
P22A	**Eagle**	**83.81**	**46**	P		**P**		**17 03 40.9**	**+0.9**
	baz=84								
SDCO	**Great Sand Dun**	**83.91**	**48**	*e*P		**P**		**17 03 41.1**	**+0.6**
	8.2nm,1.4s								
J19A	**Crowheart**	**83.94**	**42**	P		**P**		**17 03 42.1**	**+1.7**
	baz=84								
DAWY	**Dawson**	**84.03**	**15**	*e*P		**P**		**17 03 39.1**	**-1.1**
Y27A	**Causey**	**84.07**	**53**	P		**P**		**17 03 41.8**	**+0.5**
	baz=84								
S24A	**Houchin Ranch,**	**84.07**	**48**	P		**P**		**17 03 42.7**	**+1.3**
	baz=84								
U25A	**Circle Dot Ran**	**84.14**	**50**	P		**P**		**17 03 42.9**	**+1.2**
	baz=84								
O22A	**Kremmling**	**84.21**	**46**	P		**P**		**17 03 43.1**	**+1.0**
	baz=84								
I19A	**Meeteetse**	**84.34**	**41**	P		**P**		**17 03 43.6**	**+1.1**
	baz=84								
N22A	**Wattenberg Ran**	**84.55**	**45**	P		**P**		**17 03 45.5**	**+1.7**
	baz=85								
J20A	**Shoshoni**	**84.61**	**42**	P		**P**		**17 03 45.1**	**+1.4**
	baz=85								
COLD	**Coldfoot**	**84.63**	**9**	*e*P		**P**		**17 03 42.5**	**-0.7**
	40nm,1.7s								
J21A	**Lysite**	**85.02**	**43**	P		**P**		**17 03 46.6**	**+0.7**
	baz=85								
F19A	**Roth Farm, Mol**	**85.22**	**40**	P		**P**		**17 03 47.7**	**+0.9**
	baz=85								
I21A	**Big Trails, Te**	**85.33**	**42**	P		**P**		**17 03 48.5**	**+1.1**
	baz=85								
J22A	**Midwest**	**85.68**	**43**	P		**P**		**17 03 49.7**	**+0.5**
	baz=86								
332A	**Millersview**	**85.80**	**56**	P		**P**		**17 03 49.2**	**-0.7**
	baz=86								
C19A	**Slack Wire Ran**	**86.05**	**38**	P		**P**		**17 03 51.9**	**+1.1**
	baz=86								
H03N2	**Juan Fernandez**	**86.29**	**124**	T		T		18 39 17.6	
	baz=254,slow=75,SNR=16								
H03N3	**Juan Fernandez**	**86.29**	**124**	T		T		18 39 15.1	
	baz=254,slow=75,SNR=27								
H03N1	**Juan Fernandez**	**86.30**	**124**	T		T		18 39 16.2	
	baz=254,slow=75,SNR=23								
PSI	**Prapat**	**87.16**	**274**	LR		LR		17 44 48.0	
	comp=Z,3μm,19.4s,baz=250,slow=37								
YKA	**Yellowknife Ar**	**90.89**	**24**	P		**P**		**17 04 13.9**	**+0.5**
YKA	**Yellowknife Ar**	**90.89**	**24**	P		**P**		**17 04 13.9**	**+0.5**
	1.6nm,1.0s,baz=235,slow=4.3,SNR=6.1								
CMAR	**Chiang Mai Arr**	**91.41**	**289**	P		**P**		**17 04 17.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**91.41**	**289**	P		**P**		**17 04 17.0**	**+0.2**
	0.7nm,0.9s,baz=73,slow=3.1,SNR=3.7								
STHS	**Stebnicka Huta

CLL	**Collm**	**143.91 352**	*e*PKPdf	**PKPdf**	**17 10 46.0**	**+0.6**	
KMBO	**Kilima Mbogo**	**144.19 245**	*e*PKPdf	PKPbc	17 10 44.8	-0.7	
KMBO			PKP	**PKPdf**	**17 10 46.2**	**-1.2**	
KMBO	**Kilima Mbogo**	**144.19 245**	PKP	**PKPdf**	**17 10 46.2**	**-1.2**	
	3.8nm,0.9s,baz=357,slow=2.3,SNR=3.8						
BR131	**Keskin Array S**	**145.50 320**	*e*PKP	**PKPdf**	**17 10 47.1**	**-1.6**	
BRTR	**Keskin Array B**	**145.50 320**	PKPbc	**PKPdf**	**17 10 47.0**	**-1.8**	
BRTR	**Keskin Array B**	**145.50 320**	PKPbc	**PKPdf**	**17 10 47.0**	**-1.8**	
	1.9nm,0.8s,baz=66,slow=3.6,SNR=5.3						
KHC	**Kasperske Hory**	**145.94 350**	*e*PKP	pPKPdf	17 10 54.0	+1.5	
WLF	**Walferdange**	**146.09 359**	*e*PKPbc	**PKPbc**	**17 10 49.1**	**-1.0**	
GERES	**GERESS Array B**	**146.19 350**	PKPbc	**PKPdf**	**17 10 49.2**	**-0.4**	
GERES	**GERESS Array B**	**146.19 350**	PKPbc	**PKPdf**	**17 10 49.2**	**-0.4**	
	0.8nm,0.8s,baz=35,slow=5.3,SNR=5.5						
BFO	**Black Forest**	**147.33 356**	PKPbc	**PKPbc**	**17 10 52.1**	**-1.7**	
TUE	**Stuetta**	**149.10 354**	*e*PKPbc	**PKPbc**	**17 10 57.8**	**-0.9**	

ISCJB ***13*** *16:52:34.9±0.9, 45˚.35N±0˚.09×142˚.9E±0˚.1, h322km±8km, mb3.0/1, Error ellipse: s-maj=14.7km s-min=12.2km az=40.8*

JMA ***13*** *16:52:35.7±0.4, 45˚.41N×142˚.83E, h316km±4km, M3.0*

IDC ***13*** *16:52:35.4±1.2, 45˚.49N×142˚.74E, h321km±24km, mb3.0/1, mb1 3.2/3, mb1mx2.7/26, mbtmp2.9/3, Error ellipse: s-maj=49.9km s-min=32.6km az=147.0*

ISC 13 16:52:36.5±3.4, 45˚.3N±0˚.1×142˚.8E±0˚.1, h310km±20km, n21, σ1§13/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSE	**Soyaes**	**0.36 208**		P		**Pn**	**16 53 16.2**	**+0.2**
JWK2	**Keihoku**	**0.66 274**		P		**Pn**	**16 53 16.5**	**-0.1**
JWK2				*e*S		**S**	**16 53 47.9**	**-0.7**
JSS	**Shosan**	**1.12 219**		P		**Pn**	**16 53 19.1**	**+0.6**
ASAJ	**Asahikawa**	**1.17 188**		P		**Pn**	**16 53 19.8**	**+0.9**
ASAJ	**Asahikawa**	**1.17 188**		P		**Pn**	**16 53 19.9**	**+1.0**
	8.6nm,0.3s,baz=4.2,slow=4.2,SNR=138							
JYG	**Yagishiri**	**1.31 230**		P		**Pn**	**16 53 19.9**	**+0.4**
JMP	**Maruseppu**	**1.33 163**		P		**Pn**	**16 53 20.5**	**+0.8**
JKK2	**Kamakawa 2**	**1.41 182**		P		**Pn**	**16 53 21.2**	**+1.0**
JTKR	**Abashiri--Toko**	**1.52 149**		P		**Pn**	**16 53 22.0**	**+1.2**
JHR	**Hokuryu**	**1.73 208**		P		**Pn**	**16 53 23.2**	**+1.0**
JAR	**Ashorobuto**	**2.09 161**		P		**Pn**	**16 53 26.4**	**+1.5**
JAR				*e*S		**S**	**16 54 05.4**	**+1.8**
JFR	**Furan**	**2.12 185**		P		**Pn**	**16 53 26.3**	**+1.1**
JEW	**Eniwo**	**2.63 203**		P		**Pn**	**16 53 30.8**	**+1.3**
JAK	**Akkeshi**	**2.65 149**		P		**Pn**	**16 53 29.8**	**+0.1**
JAK				*e*S		**S**	**16 54 11.1**	**-1.1**
JCH	**Churui**	**2.69 172**		P		**Pn**	**16 53 30.0**	**-0.1**
JCH				*e*S		**S**	**16 54 11.5**	**-1.4**
NEM2	**Nemuro 2**	**2.84 131**		P		**Pn**	**16 53 31.5**	**+0.1**
NEM2				*e*S		**S**	**16 54 12.9**	**-2.4**
JNBK	**Urakawa-nobuka**	**3.00 181**		P		**Pn**	**16 53 33.6**	**+0.6**
JKB	**Kayabe**	**3.63 202**		P		**Pn**	**16 53 39.4**	**+0.1**
JKB				*e*S		**S**	**16 54 28.8**	**-0.9**
USRK	**Ussuriysk Arra**	**7.79 266**		P		**Pn**	**16 54 26.1**	**-1.4**
	0.1nm,0.3s,baz=75,slow=13,SNR=4.6							
MJAR	**Matsushiro Arr**	**9.40 203**		P		**Pn**	**16 54 48.3**	**+1.0**
	1.1nm,0.3s,baz=9.9,slow=13,SNR=13							
YKA	**Yellowknife Ar**	**56.23 33**		P		P	17 01 41.3	-3.1
	0.6nm,0.7s,baz=305,slow=6.9,SNR=13							

IDC 13 16:57:55.9±3.4, 2˚.23S×137˚.71E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=127.9km s-min=17.3km az=91.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**17.91 190**		P		P	17 02 08.2	+0.8
	0.2nm,0.3s,baz=16,slow=12,SNR=11							
WRA				S		Sn	17 05 27.4	+0.2
	0.1nm,0.3s,baz=12,slow=22,SNR=4.5							
ASAR	**Alice Springs**	**21.63 190**		P		P	17 02 49.5	+1.6
	0.8nm,0.6s,baz=17,slow=11,SNR=15							
MKAR	**Makanchi Array**	**68.80 323**		P		P	17 09 01.4	-0.8
	0.4nm,1.0s,baz=111,slow=8.6,SNR=4.0							

IDC ***13*** *16:58:57.1±0.9, 48˚.23S×32˚.17E, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/22, mbtmp4.1/7, ML3.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.3/38, Error ellipse: s-maj=57.2km s-min=18.7km az=63.0*

ISC 13 16:58:58.9±1.0, 48˚.0S±0˚.2×32˚.6E±0˚.4, h10km, n10, σ1§76/8, mb4.2/6, 1C-1D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUR	**Sutherland**	**17.97 326**		P		**Pn**	**17 03 09.3**	**+0.3**
	0.4nm,0.3s,baz=141,slow=14,SNR=4.9							
SUR				S		Sn	17 06 14.7	-15
	0.3nm,0.3s,baz=94,slow=19,SNR=3.8							
SUR				LR		LR	17 08 10.6	
	comp=Z,172nm,20.7s,baz=347,slow=31							
SYO	**Syowa Base**	**21.38 173**		*e*P		**P**	**17 03 45.0**	**-1.1**
SYO	**Syowa Base**	**21.38 173**		*e*P		**P**	**17 03 49.4**	**+3.3**
MAW	**Mawson**	**24.97 153**		P		**P**	**17 04 22.9**	**+0.7**
	8.0nm,0.9s,baz=322,slow=12,SNR=5.0							
TSUM	**Tsumeb**	**31.20 332**		LR		LR	17 17 09.6	
	comp=Z,113nm,20.3s,baz=132,slow=35							
QSPA	**South Pole Qui**	**42.24 180**		P		P	17 06 48.8	-3.2
	9.0nm,0.8s,baz=255,slow=3.3,SNR=32							
VNDA	**Vanda**	**50.91 167**		P		**P**	**17 07 58.2**	**-1.4**
	0.8nm,0.5s,baz=238,slow=9.5,SNR=3.7							
DBIC	**Dimbokro**	**63.63 318**		P		**P**	**17 09 29.4**	**-0.7**
	3.6nm,0.8s,baz=151,slow=11,SNR=4.7							
TORD	**Torodi Ar. Bea**	**66.80 327**		P		**P**	**17 09 51.3**	**+0.7**
	0.8nm,0.7s,baz=165,slow=8.3,SNR=3.6							
ASAR	**Alice Springs**	**79.91 114**		P		**P**	**17 11 08.2**	**+0.1**
	0.4nm,0.9s,baz=234,slow=6.3,SNR=3.4							

IDC 13 17:10:23.4±5.7, 19˚.55S×175˚.47W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, Error ellipse: s-maj=248.1km s-min=93.5km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**35.96 263**		P		P	17 17 27.9	+1.7
	1.1nm,0.3s,baz=99,slow=13,SNR=3.0							
ASAR	**Alice Springs**	**47.05 256**		P		P	17 18 56.5	-0.7
	0.5nm,0.5s,baz=87,slow=8.3,SNR=15							
WRA	**Warramunga Arr**	**47.09 261**		P		P	17 18 56.3	-1.2
	0.5nm,0.3s,baz=97,slow=7.3,SNR=48							
AKASG	**Malin Array Be**	**143.28 334**		PKP		PKPdf	17 29 59.7	+0.2
	0.4nm,0.5s,baz=45,slow=4.2,SNR=5.3							

BJI ***13*** *17:18:00.4, 1˚.23S×133˚.67E, h5km, mB5.7/46, mb5.3/64, Ms5.3/66, Ms7 5.0/60*

IDC ***13*** *17:18:06.6±0.3, 0˚.68S×133˚.26E, h0km, mb5.3/31, mb1 5.3/32, mb1mx5.3/33, mbtmp5.2/32, ML3.6/1, MS5.2/18, Ms1 5.2/18, ms1mx5.0/33, Error ellipse: s-maj=16.2km s-min=9.0km az=67.0*

ISCJB ***13*** *17:18:06.2±0.1, 0˚.68S±0˚.02×133˚.37E±0˚.02, h10km, mb5.5/163, MS5.3/186, Error ellipse: s-maj=2.7km s-min=2.4km az=164.3*

NEIC ***13*** *17:18:08.0±0.1, 0˚.69S×133˚.33E, h10km, mb5.7/67, MS5.5/141, MW5.6, MW5.6, Error ellipse: s-maj=4.3km s-min=3.5km az=66.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}1.82; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$0.50; $M_{r\theta}$-1.49; $M_{\theta\phi}$0.26; $M_{\phi r}$2.00; Best double couple: M_o3.30000×10^{17} NP1:ϕ_s70.00000°, δ31.00000°, λ36.00000°. NP2:ϕ_s308.00000°, δ72.00000°, λ116.00000°. Principal axes: T 3.4700, Plg55.0000°, Azm250.0000°; N -0.4100, Plg24.0000°, Azm118.0000°; P -3.0500, Plg22.0000°, Azm17.0000°;*

NEIC Felt [V] at Manokwari.

GCMT ***13*** *17:18:08.0±0.1, 0˚.64S×133˚.30E, h27km, MW5.8/120, Moment Tensor Solution. s105,c195; s120,c273; Duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}2.61±.06; $M_{\theta\theta}$-2.85±.05; $M_{\phi\phi}$0.24±.04; $M_{r\theta}$-3.35±.12; $M_{\theta\phi}$1.67±.03; $M_{\phi r}$4.23±.15; Best double couple: M_o6.27400×10^{17} NP1:ϕ_s318.00000°, δ77.00000°, λ106.00000°. NP2:ϕ_s86.00000°, δ21.00000°, λ40.00000°. Principal axes: T 6.1720, Plg55.0000°, Azm249.0000°; N 0.2070, Plg16.0000°, Azm134.0000°; P -6.3770, Plg30.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***13*** *17:18:10.7±1.2, 0˚.60S×133˚.25E, h37km, mb5.7/42, MS5.2/19 Error ellipse: s-maj=9.6km s-min=5.1km az=115.5*

DJA ***13*** *17:18:12.6±0.3, 1˚.S±.3˚×13˚.3E±.˚, h44km±3km, M6.0/82, mb5.9/82, mB6.3/72, MLv6.2/14, Mw(mB)6.0/72, Mwp5.9/3*

NEIC ***13*** *17:18:20.3±0.0, 1˚.11S×133˚.23E, h10km, Moment Tensor Solution. s130 Moment tensor: Scale 10^{17}Nm; M_{rr}1.80; $M_{\theta\theta}$-2.14; $M_{\phi\phi}$0.33; $M_{r\theta}$-0.44; $M_{\theta\phi}$1.37; $M_{\phi r}$1.57; Best double couple: M_o2.90000×10^{17} NP1:ϕ_s323.00000°, δ65.00000°, λ125.00000°. NP2:ϕ_s84.00000°, δ42.00000°, λ39.00000°. Principal axes: T 2.8300, Plg55.0000°, Azm278.0000°; N 0.1600, Plg31.0000°, Azm126.0000°; P -2.9900, Plg13.0000°, Azm28.0000°;*

ISC 13 17:18:09.4±0.3, 0.71S±0.03×133.32E±0.03, h20km±2km, h20km:pP-P, n744, σ1§52/702, mb5.6/158, MS5.4/185, 74C-50D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MWPI	**Manokwari, Pap**	**0.76 107**		P		x	17 18 25.9	
MWPI				S		x	17 18 38.0	
SWI	**Sorong**	**2.06 266**		P		**Pn**	**17 18 44.5**	**+1.6**
SWI				S		**Sb**	**17 19 10.8**	**-0.6**
SWI	**Sorong**	**2.06 266**		⇑P		**Pb**	**17 18 44.8**	**-1.4**
	baz=2.1							
FAKI	**Fak Fak**	**2.44 206**		P		**Pn**	**17 18 49.3**	**+1.1**
FAKI				S		**Sb**	**17 19 20.3**	**-1.9**
FAKI	**Fak Fak**	**2.44 206**		*e*Pn		**Pn**	**17 18 49.2**	**+1.1**
FAKI	**Fak Fak**	**2.44 206**		⇑P		**Pn**	**17 18 50.2**	**+2.0**
	baz=2.4,SNR=1000							
BAKI	**Biak**	**2.83 100**		P		**Pn**	**17 18 53.7**	**+0.2**
BAKI				S		**Sn**	**17 19 28.0**	**+1.0**
SRPI	**Serui, Papua**	**3.14 111**		P		**Pn**	**17 18 58.6**	**+0.8**
BNDI	**Bandanaira**	**5.09 222**		P		**Pn**	**17 19 26.3**	**+1.7**
	13μm,1.3s,153μm115μm96nm							
MSAI	**Masohi**	**5.11 239**		P		Pn	17 19 28.3	+3.5
	2μm,0.7s,18μm8.3nm							
SMPI	**Sarmi**	**5.54 103**		P		**Pn**	**17 19 31.3**	**+0.5**
	560nm,1.4s,11μm4.3nm							
LBMI	**Labuha**	**5.82 271**		P		**Pn**	**17 19 36.8**	**+2.2**
	4μm,1.0s,48μm15nm							
TNTI	**Ternate**	**6.13 284**		P		**Pn**	**17 19 41.4**	**+2.5**
	2μm,1.0s,20μm32μm10nm							
TNTI	**Ternate**	**6.13 284**		*e*Pn		**Pn**	**17 19 41.1**	**+2.3**
NLAI	**Namlea**	**6.70 248**		P		**Pn**	**17 19 48.8**	**+2.1**
	3μm,0.8s,29μm12nm							
GENI	**Genyem**	**7.10 105**		P		Pn	17 19 57.6	+5.4
SANI	**Sanana**	**7.45 260**		P		**Pn**	**17 19 57.1**	**+0.1**
	676nm,0.9s,9μm2.3nm							
SAUI	**Saumlaki**	**7.50 195**		P		**Pn**	**17 19 59.2**	**+1.5**
	2μm,1.1s,26μm16nm							
SAUI	**Saumlaki**	**7.50 195**		*e*Pn		**Pn**	**17 19 58.8**	**+1.1**
JAY	**Jayapura**	**7.60 104**		⇑P		**Pn**	**17 20 01.6**	**+2.4**
	baz=7.6,SNR=4.5							
SGSI	**Sangihe**	**8.93 299**		P		Pn	17 20 22.3	+5.0
KMSI	**Cibinong**	**9.42 278**		P		Pn	17 20 27.6	+3.5
	3μm,0.9s,32μm							
MATI	**Mati**	**10.37 317**		*e*P		Pn	17 20 40.5	+3.5
GTOI	**Gorontalo**	**10.39 277**		P		Pn	17 20 42.4	+5.0
	2μm,0.7s,23μm							
LUWI	**Luwuk**	**10.55 268**		P		**Pn**	**17 20 41.1**	**+1.5**
	4μm,1.5s,49μm							
LUWI	**Luwuk**	**10.55 268**		*e*Pn		**Pn**	**17 20 40.9**	**+1.3**
LUWI	**Luwuk**	**10.55 268**		⇓P		**Pn**	**17 20 41.4**	**+1.8**
	baz=11,SNR=156							
GSPH	**General Santos**	**10.74 309**		⇑*e*P		**Pn**	**17 20 44.0**	**+1.7**
DAV	**Davao City (W)**	**10.93 315**		⇓*e*P		**Pn**	**17 20 47.8**	**+3.1**
DAV	**Davao City (W)**	**10.93 315**		⇑P		Pn	17 20 50.0	+5.3
	SNR=33							
DAV	**Davao City (W)**	**10.93 315**		Pn		**Pn**	**17 20 45.9**	**+1.2**
MRSI	**Marisa**	**11.44 276**		P		**Pn**	**17 20 53.8**	**+2.1**
	751nm,0.8s,6μm							
APSI	**Ampana**	**11.67 269**		P		Pn	**17 20 56.7**	**+1.8**
	5μm,0.8s,56μm							
KDU	**Kakadu**	**11.93 184**		⇓P		**Pn**	**17 20 57.5**	**-0.9**
	baz=12,SNR=212							
CTBH	**Cotabato--PC H**	**12.00 311**		⇑*i*P		**Pn**	**17 21 01.3**	**+1.9**
KKSI	**Kolaka, Sulawe**	**12.15 253**		P		x	17 21 04.5	
	240nm,1.8s,5μm							
MTN	**Manton Dam**	**12.24 190**		⇑P		**Pn**	**17 21 01.5**	**-1.3**
	baz=12,SNR=411							
BUTP	**Butuan**	**12.30 322**		*e*P		Pn	17 21 08.6	+5.1
TOLI	**Toli-Toli**	**12.65 278**		P		x	17 21 12.7	
TOLI	**Toli-Toli**	**12.65 278**		Pn		**Pn**	**17 21 07.7**	**-0.7**
	312nm,0.8s							
SOEI	**Soe**	**12.72 225**		P		**Pn**	**17 21 11.1**	**+1.7**
	2μm,1.2s,24μm							
SOEI	**Soe**	**12.72 225**		*e*Pn		**Pn**	**17 21 10.8**	**+1.4**
SOEI	**Soe**	**12.72 225**		P		**Pn**	**17 21 11.3**	**+1.9**
	baz=13,SNR=43							
SCPH	**Surigao**	**13.02 323**		⇓*e*P		Pn	17 21 18.4	+5.1
MMRI	**Maumere**	**13.55 234**		P		**P**	**17 21 27.1**	**-2.5**
MMRI	**Maumere**	**13.55 234**		*e*Pn		P	17 21 26.2	-3.4
MSLP	**Maasin**	**13.67 322**		*e*P		**Pn**	**17 21 24.8**	**+2.5**
TTSI	**Tana Toraja**	**13.69 260**		P		**Pn**	**17 21 24.5**	**+2.0**
	552nm,1.1s,8μm							
BNSI	**Bone**	**13.69 254**		P		**Pn**	**17 21 25.2**	**+2.6**
	819nm,1.1s,10μm							
SPSI	**Sidrap Palu**	**13.91 256**		P		**Pn**	**17 21 28.4**	**+2.8**
	454nm,1.4s,10μm							
BKSI	**Bulukumba**	**13.95 251**		P		**Pn**	**17 21 28.5**	**+2.5**
	979nm,1.6s,13μm							
KAPI	**Kappang**	**14.20 252**		⇑P		**Pn**	**17 21 31.9**	**+2.3**
	SNR=33							
KAPI	**Kappang**	**14.20 252**		*e*Pn		**Pn**	**17 21 32.5**	**+2.9**
LLP	**Lapu-Lapu**	**14.37 320**		⇑*e*P		**Pn**	**17 21 34.5**	**+2.6**
PLP	**Palo**	**14.42 325**		⇓*e*P		**Pn**	**17 21 34.6**	**+2.0**
MMSI	**Mamuju**	**14.53 262**		P		x	17 21 36.3	
	530nm,1.1s,6μm							
OCLP	**Ormoc**	**14.54 324**		*e*P		**Pn**	**17 21 34.3**	**+0.1**
MJSI	**Majene**	**14.60 259**		P		x	17 21 41.0	
LBFI	**Labuhan Bajo,**	**15.44 240**		P		x	17 21 48.7	
	2μm,0.8s,24μm							
GUIM	**Jordan**	**15.52 317**		*e*P		**P**	**17 21 53.9**	**+2.5**
KNRA	**Kununurra**	**15.53 197**		⇓P		**Pn**	**17 21 44.7**	**-2.7**
	baz=16,SNR=208							
WSI	**Waingapu**	**15.71 235**		P		**P**	**17 21 55.0**	**+1.3**
MYLDM	**Lahad Datu**	**15.91 292**		P		x	17 21 57.5	
MYLDM	**Lahad Datu**	**15.91 292**		*e*P		**P**	**17 21 57.1**	**+1.2**
	1μm,1.3s							
MYLDM	**Lahad Datu**	**15.91 292**		⇑P		**P**	**17 21 57.3**	**+1.4**
RCP	**Roxas**	**16.09 320**		⇑*e*P		**P**	**17 21 59.1**	**+1.2**
PMG	**Port Moresby**	**16.26 123**		P		x	17 22 00.5	
PMG	**Port Moresby**	**16.26 123**		*e*P		**P**	**17 21 60.0**	**+0.3**
	4μm,2.5s							
PMG					Sn	**S**	**17 25 03.9**	**-5.4**
PMG	**Port Moresby**	**16.26 123**		Pn		**P**	**17 21 58.4**	**-1.4**
	0.8nm,0.3s,baz=346,slow=8.8,SNR=9.6							
PMG					Sn	**S**	**17 25 03.9**	**-5.4**
	0.4nm,0.3s,baz=343,slow=19,SNR=1.8							
COEN	**Coen**	**16.38 144**		*e*Pn		**Pn**	**17 21 58.6**	**+0.2**
	689nm,1.0s							
COEN	**Coen**	**16.38 144**		⇑P		**Pn**	**17 21 58.4**	**+0.1**
	baz=16,SNR=47							
BKB	**Balikpapan**	**16.43 268**		P		**P**	**17 22 02.0**	**+0.4**
PVCP	**Virac**	**16.87 328**		⇓*e*P		**Pn**	**17 22 03.7**	**-0.8**
PVCP	**Virac**	**16.87 328**		*e*P		**P**	**17 22 05.6**	**-0.9**
SDKM	**Sandakan**	**17.29 292**		⇓P		**P**	**17 22 12.9**	**+1.6**
BOAC	**Boac**	**18.10 321**		*e*P		**P**	**17 22 24.4**	**+4.3**
KDM	**Kudat**	**18.11 295**		⇓P		**P**	**17 22 23.9**	**+3.7**
GUMO	**Guam**	**18.25 38**		*e*P		**P**	**17 22 23.0**	**+1.3**
	3μm,1.4s							
KKM	**Kota Kinabalu**	**18.34 292**		P		x	17 22 25.4	
KKM	**Kota Kinabalu**	**18.34 292**		*e*Pn		**Pn**	**17 22 25.2**	**+2.3**
	728nm,1.2s							
KKM	**Kota Kinabalu**	**18.34 292**		⇑P		**Pn**	**17 22 24.4**	**+1.4**
	baz=18,SNR=8.5							
KKM	**Kota Kinabalu**	**18.34 292**		⇓P		**Pn**	**17 22 25.7**	**+2.7**
MTKI	**Muara Teweh, K**	**18.42 269**		P		**Pn**	**17 22 27.5**	**+3.7**
LQP	**Lukban**	**18.79 322**		⇑*e*P		Pn	17 22 40.0	+12
WRAB	**Tennant Creek**	**19.13 177**		*c i*P		**P**	**17 22 30.6**	**-0.8**
WRAB					pmax	pmax		
	comp=Z,455nm,1.0s							
WRAB	**Tennant Creek**	**19.13 177**		*e*P		**P**	**17 22 30.4**	**-0.9**
	comp=Z,1μm,1.6s							
WRA	**Warramunga Arr**	**19.14 177**		P		**P**	**17 22 29.0**	**-2.5**
WRA				S		Sn	17 25 53.3	-13
WRA	**Warramunga Arr**	**19.14 177**		P		**P**	**17 22 29.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=355,slow=8.0,SNR=75							
WRA				S		Sn	17 25 53.3	-13
	comp=Z,4.8nm,0.3s,baz=0.2,slow=20,SNR=6.7							
TGY	**Tagaytay City**	**19.16 321**		P		**Pn**	**17 22 36.8**	**+4.1**
TGY	**Tagaytay City**	**19.16 321**		P		**Pn**	**17 22 36.8**	**+4.1**
	comp=Z,52nm,0.3s,baz=114,slow=8.4,SNR=6.5							
KHKI	**Kahang-Kahang**	**19.21 246**		P		x	17 22 33.8	
	comp=Z,1μm,0.9s,comp=Z,21μm							
SRBI	**Singaraja**	**19.47 247**		P		**Pn**	**17 22 37.3**	**+0.9**
	comp=Z,844nm,1.2s,comp=Z,23μm							
DNP	**Denpasar**	**19.69 246**		P		**Pn**	**17 22 41.6**	**+2.5**
PCPH	**Palayan**	**20.18 324**		⇓*e*P		Pn	17 22 44.8	0.0
ABJI	**Asern Bagus**	**20.28 249**		P		Pn	17 22 47.1	+1.1
	comp=Z,3μm,1.2s,comp=Z,42μm							
KMMI	**Kalianget**	**20.30 251**		P		Pn	17 22 47.6	+1.4
	comp=Z,1μm,1.2s,comp=Z,24μm							
MTSU	**Mount Surprise**	**20.41 149**		⇓P		**P**	**17 22 46.3**	**+0.9**
	baz=20							
JAGI	**Jajag, Banyuwa**	**20.59 247**		P		**P**	**17 22 46.7**	**-0.6**
	comp=Z,933nm,1.7s,comp=Z,17μm							
JAGI	**Jajag, Banyuwa**	**20.59 247**		*e*P		**P**	**17 22 46.3**	**-1.0**
	comp=Z,2μm,1.5s							
JAGI	**Jajag, Banyuwa**	**20.59 247**		⇓P		**P**	**17 22 46.7**	**-0.6**
	baz=21,SNR=18							
BTM	**Bintulu**	**20.59 281**		⇓P		Pn	17 22 51.0	+1.3
QIS	**Mount Isa**	**20.66 163**		⇑P		**P**	**17 22 47.4**	**-0.7**
	baz=21,SNR=36							
CAUP	**Cauayan**	**20.89 328**		*e*P		Pn	17 22 53.5	+0.4
BCPH	**Baguio City Da**	**21.13 324**		⇓*i*P		**P**	**17 22 54.7**	**+1.3**
GMJI	**Gumukmas**	**21.17 249**		P		**P**	**17 22 54.1**	**+0.4**
	comp=Z,551nm,1.3s,comp=Z,10μm							
SBUM	**Sibu**	**21.32 279**		P		x	17 22 57.8	
	comp=Z,670nm,1.7s,comp=Z,11μm							
SBUM	**Sibu**	**21.32 279**		*e*P		**P**	**17 22 57.0**	**+1.6**
	comp=Z,2μm,1.6s							
CVP	**Callao Caves**	**21.52 329**		⇑*e*P		**P**	**17 22 59.0**	**+1.7**
GRJI	**Gresik**	**21.68 253**		P		**P**	**17 23 03.1**	**+4.0**
APYP	**Conner**	**21.95 328**		*e*P		**P**	**17 23 03.5**	**+1.5**
KRKI	**Karangkates**	**22.06 250**		P		x	17 23 06.3	
	comp=Z,1μm,1.9s,comp=Z,23μm							
ABRA	**Dolores**	**22.07 326**		*e*P		**P**	**17 23 04.0**	**+0.7**
PWJI	**Pagerwojo**	**22.63 251**		P		**P**	**17 23 08.9**	**-0.4**
	comp=Z,412nm,1.6s,comp=Z,8μm							
NGJI	**Ngawi**	**22.77 253**		P		**P**	**17 23 14.4**	**+3.6**
AS31	**Alice Springs**	**22.82 179**		*e*P		**P**	**17 23 10.6**	**-0.8**
ASAR	**Alice Springs**	**22.82 179**		P		**P**	**17 23 10.8**	**-0.6**
ASAR				S		**S**	**17 27 16.1**	**-3.7**
ASAR	**Alice Springs**	**22.82 179**		P		**P**	**17 23 10.8**	**-0.6**
	comp=Z,200nm,0.7s,baz=4.2,slow=12,SNR=832							
ASAR				S		**S**	**17 27 16.1**	**-3.7**
	comp=Z,16nm,0.9s,baz=3.5,slow=17,SNR=5.3							
CTA	**Charters Tower**	**23.05 147**		P		**P**	**17 23 14.8**	**+1.1**
CTA				S		**S**	**17 27 24.3**	**+0.7**
CTA	**Charters Tower**	**23.05 147**		P		**P**	**17 23 14.8**	**+1.1**
	comp=Z,65nm,0.8s,baz=325,slow=12,SNR=51							
CTA				S		**S**	**17 27 24.3**	**+0.7**
	comp=Z,10nm,0.9s,baz=3.8,slow=18,SNR=2.2							
CTA	**Charters Tower**	**23.05 147**		⇓P		**P**	**17 23 14.6**	**+1.0**
	baz=23							
CTAO	**Charters Tower**	**23.05 147**		*e*P		**P**	**17 23 14.2**	**+0.6**
CTAO				pmax		pmax		
	comp=Z,346nm,1.5s							
CTAO				MLR		MLR		
	comp=Z,16μm,20.0s							
CTAO	**Charters Tower**	**23.05 147**		*e*P		**P**	**17 23 14.2**	**+0.6**
	comp=Z,346nm,1.5s							
CTAO				LR		LR		
	comp=Z,16μm,20.0s							
KSM	**Kuching**	**23.11 275**		P		x	17 23 15.9

EIDS **Eidsvold** **29.92 146** *e*P **P** **17 24 16.4 +0.3**
comp=Z,63nm,1.3s
EIDS **Eidsvold** **29.92 146** P **P** **17 24 16.4 +0.3**
baz=30,SNR=13
LHSI **Lahat** **29.93 264** P **P** **17 24 17.7 +1.3**
comp=Z,433nm,1.4s,comp=Z,6µm
KGM **Kluang** **30.11 275** ⇑P **P** **17 24 19.5 +1.4**
QIZ **Qiongzhong** **30.27 312** P **P** **17 24 19.9 +0.5**
QIZ S **S** **17 29 19.9 +1.5**
QIZ LR LR
comp=Z,3µm,15.5s
QIZ LR LR
comp=Z,1µm,19.6s
QIZ LR LR
comp=Z,3µm,18.3s
QIZ **Qiongzhong** **30.27 312** PFAKE 17 24 30.0 +11
QIZ LR LR
comp=Z,3µm,19.0s
FORT **Forrest** **30.32 189** *e*P **P** **17 24 19.1 -0.5**
comp=Z,275nm,0.7s
FORT **Forrest** **30.32 189** ⇑P **P** **17 24 20.0 +0.4**
baz=30,SNR=81
MNAI **Manna** **30.54 263** *e*P **P** **17 24 21.1 -0.8**
comp=Z,1µm,1.4s
MNAI **Manna** **30.54 263** ⇓P **P** **17 24 21.8 -0.1**
baz=31,SNR=7.2
KTGM **Kuala Trenggan** **30.73 282** ⇑P **P** **17 24 24.6 +1.0**
FRIM **Kepong** **31.92 277** ⇑P **P** **17 24 35.0 +1.0**
STKA **Stephens Creek** **31.97 167** *e*P **P** **17 24 33.2 -1.0**
comp=Z,17nm,0.8s
STKA **Stephens Creek** **31.97 167** P **P** **17 24 33.5 -0.7**
comp=Z,78nm,0.7s,baz=340,slow=8.2,SNR=163
STKA LR LR 17 38 56.6
comp=Z,15µm,18.6s,baz=340,slow=39
STKA **Stephens Creek** **31.97 167** ⇓P **P** **17 24 33.5 -0.7**
baz=32,SNR=155
BBOO **Buckleboo** **32.03 176** *e*P **P** **17 24 34.0 -0.7**
comp=Z,2µm,0.9s
BKNI **Bangkinang** **32.29 272** P **P** **17 24 38.9 +1.6**
comp=Z,179nm,1.2s,comp=Z,3µm
BKNI **Bangkinang** **32.29 272** *e*P **P** **17 24 37.8 +0.5**
KMBL **Kambalda** **32.35 198** ⇑P **P** **17 24 38.2 +0.6**
baz=32,SNR=172
MORW **Morawa** **32.66 209** ⇓P **P** **17 24 40.6 +0.3**
baz=33,SNR=17
IPM **Ipoh** **32.67 279** P x 17 24 40.5
comp=Z,103nm,1.4s,comp=Z,2µm
IPM **Ipoh** **32.67 279** *e*P **P** **17 24 40.0 -0.6**
comp=Z,198nm,1.4s
CMSA **Cobar Meteorol** **32.82 160** ⇓P **P** **17 24 40.8 -0.8**
baz=33,SNR=16
PDSI **Padang** **32.85 269** P **P** **17 24 41.5 -0.7**
comp=Z,87nm,1.5s,comp=Z,2µm
PPI **Padang Panjang** **32.92 270** P **P** **17 24 42.3 -0.5**
comp=Z,109nm,1.1s,comp=Z,2µm
PPI **Padang Panjang** **32.92 270** ⇓P **P** **17 24 43.2 +0.4**
baz=33,SNR=5.6
HTT **Hallett** **32.97 171** ⇓P **P** **17 24 43.1 +0.1**
baz=33,SNR=21
KULM **Kulim** **33.17 281** P x 17 24 44.0
comp=Z,79nm,1.4s,comp=Z,2µm
KULM **Kulim** **33.17 281** *e*P **P** **17 24 44.5 -0.4**
comp=Z,112nm,1.2s
KULM LR LR
comp=Z,4µm,22.0s
BLDU **Ballidu** **33.66 206** ⇓P **P** **17 24 49.4 +0.4**
baz=34,SNR=269
SSE **Sheshan** **33.67 341** P **P** **17 24 50.4 +1.4**
SSE sP **sP** **17 24 58.3 +0.5**
SSE S **S** **17 30 11.9 +0.9**
SSE sS **sS** **17 30 23.4 +2.1**
SSE pmax pmax
comp=Z,59nm,1.1s
SSE pmax pmax
comp=Z,650nm,4.0s
SSE LR LR
comp=Z,830nm,16.0s
SSE LR LR
comp=Z,3µm,16.0s
SSE LR LR
comp=Z,2µm,17.2s
JNU **Nakatsue** **33.73 356** *e*P **P** **17 24 49.3 -0.3**
comp=Z,40nm,1.1s
JNU **Nakatsue** **33.73 356** P **P** **17 24 49.0 -0.6**
comp=Z,52nm,1.0s,baz=183,slow=4.2,SNR=7.1
JNU LR LR 17 36 12.7
comp=Z,2µm,19.0s,baz=321,slow=32
MNSI **Mandailing Nat** **33.77 272** P **P** **17 24 49.6 -0.6**
comp=Z,62nm,0.8s,comp=Z,1µm
KLBR **Kellerberrin** **34.06 204** ⇑P **P** **17 24 52.7 +0.3**
baz=34,SNR=99
ARMA **Armidale** **34.28 151** *e*P **P** **17 24 55.0 +0.4**
comp=Z,518nm,2.5s
ARMA **Armidale** **34.28 151** ⇓P **P** **17 24 54.8 +0.2**
baz=34,SNR=37
PSI **Prapat** **34.56 276** P x 17 24 56.2
comp=Z,182nm,1.4s,comp=Z,3µm
PSI **Prapat** **34.56 276** P **P** **17 24 56.5 -0.7**
PSI **Prapat** **34.56 276** P **P** **17 24 56.5 -0.7**
comp=Z,72nm,0.8s,baz=105,slow=4.7,SNR=59
PSI **Prapat** **34.56 276** ⇑P **P** **17 24 56.7 -0.5**
baz=35,SNR=26
TSI **Tuntungan** **34.98 277** P **P** **17 25 00.2 -0.5**
comp=Z,245nm,1.3s,comp=Z,3µm
JIE **Ise** **35.06 5** P **P** **17 25 01.2 +0.1**
NJ2 **Nanjing** **35.35 338** *e*P **P** **17 25 05.1 +1.5**
NJ2 pP **pP** **17 25 08.3 -1.5**
NJ2 PP **PP** **17 26 25.3 +1.3**
NJ2 S **S** **17 30 38.0 +1.0**
NJ2 sS **sS** **17 30 46.5 -0.8**
NJ2 pmax pmax
comp=Z,80nm,1.5s
NJ2 pmax pmax
comp=Z,490nm,10.0s
NJ2 LR LR
comp=Z,3µm,16.5s
NJ2 LR LR
comp=Z,4µm,19.6s
NJ2 LR LR
comp=Z,3µm,15.9s
NWAO **Narrogin (SRO)** **35.44 204** P **P** **17 25 04.9 +0.6**
NWAO **Narrogin (SRO)** **35.44 204** P **P** **17 25 04.9 +0.6**
comp=Z,114nm,0.9s,baz=32,slow=9.2,SNR=52
NWAO LR LR 17 41 12.6
comp=Z,3µm,18.8s,baz=192,slow=39
LASI **Langsa, Aceh** **35.69 279** P x 17 25 07.7
comp=Z,329nm,1.2s,comp=Z,5µm
KCSI **Kotacane, Aceh** **35.77 277** P **P** **17 25 05.9 -1.7**
comp=Z,133nm,1.6s,comp=Z,2µm
GSI **Gunungsitoli** **35.80 273** P **P** **17 25 05.9 -1.8**
comp=Z,175nm,1.2s,comp=Z,3µm
GSI **Gunungsitoli** **35.80 273** *e*P **P** **17 25 05.8 -1.9**
GSI **Gunungsitoli** **35.80 273** ⇑P **P** **17 25 06.3 -1.4**
baz=36
JWT **Wachi** **35.86 3** P **P** **17 25 07.7 -0.2**
WHN **Wuhan** **35.95 331** ⇑P **P** **17 25 10.6 +1.9**
WHN S **S** **17 30 46.4 +0.2**
WHN pmax pmax
comp=Z,80nm,0.9s
WHN LR LR
comp=Z,5µm,16.2s
WHN LR LR
comp=Z,3µm,9.0s
WHN LR LR
comp=Z,4µm,16.7s
SLVN **Son La** **36.14 309** *e*P **P** **17 25 11.1 +0.4**
YNG **Young** **36.27 159** ⇓P **P** **17 25 11.9 +0.4**
baz=36,SNR=5.5
JGF **Kuroka** **36.32 6** P **P** **17 25 11.3 -0.7**
TPTI **36.34 276** P **P** **17 25 11.1 -1.2**
comp=Z,37nm,1.3s,comp=Z,28µm
MGCD **Mangrove Creek** **36.40 154** ⇑P **P** **17 25 13.4 +0.8**
baz=36
LHMI **Lhok Sumawe** **36.80 280** P **P** **17 25 16.4 +0.1**
comp=Z,282nm,1.7s,comp=Z,5µm
LHMI **Lhok Sumawe** **36.80 280** *e*P **P** **17 25 16.8 +0.5**
LHMI **Lhok Sumawe** **36.80 280** ⇓P **P** **17 25 16.9 +0.6**
baz=37,SNR=5.0
JRY **Ryogami san** **36.91 8** P **P** **17 25 15.6 -1.3**
RKGY **Rocky Gully** **37.02 203** ⇓P **P** **17 25 19.4 +1.5**
baz=37,SNR=62
SNSI **Sinabang, Aceh** **37.11 275** P **P** **17 25 18.4 -0.5**
comp=Z,297nm,1.4s,comp=Z,5µm
GYA **Guiyang** **37.28 318** ⇑*i*P **P** **17 25 20.6 +0.2**
GYA PP **PnPn** **17 26 49.8 +3.6**
GYA PcP **PcP** **17 27 41.3 +1.5**
GYA S **S** **17 31 10.8 +3.8**
GYA ScP **ScP** **17 31 28.0 +2.0**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,470nm,7.1s
GYA LR LR
comp=Z,2µm,17.4s
GYA LR LR
comp=Z,2µm,20.5s
GYA LR LR
comp=Z,1µm,20.2s
MJAR **Matsushiro Arr** **37.34 7** P **P** **17 25 18.8 -1.8**
MJAR **Matsushiro Arr** **37.34 7** P **P** **17 25 18.8 -1.8**
comp=Z,14nm,1.0s,baz=186,slow=9.1,SNR=11
MJAR LR LR 17 37 46.6
comp=Z,5µm,20.1s,baz=175,slow=32
MAJO **Matsushiro** **37.34 6** ⇓*i*P **P** **17 25 19.3 -1.3**
MAJO pmax pmax
comp=Z,111nm,1.0s
MAJO **Matsushiro** **37.34 6** *e*P **P** **17 25 19.0 -1.6**
comp=Z,220nm,2.2s
MAJO LR LR
comp=Z,5µm,20.0s
MAT **Matsushiro** **37.34 6** P **P** **17 25 18.8 -1.8**
MAT **Matsushiro** **37.34 6** P **P** **17 25 18.4 -2.2**
MAT S S 17 30 59.6 -7.9
CAN **Canberra** **37.41 159** *e*P **P** **17 25 20.7 -0.5**
CAN pmax pmax
comp=Z,43nm,1.1s
CAN MLR MLR
comp=Z,15µm,19.0s
CAN **Canberra** **37.41 159** *e*P **P** **17 25 20.7 -0.5**
comp=Z,43nm,1.1s
CAN LR LR
comp=Z,15µm,19.0s
CAN **Canberra** **37.41 159** ⇓P **P** **17 25 22.1 +0.9**
baz=38
CNB **Canberra Magne** **37.53 158** ⇑P **P** **17 25 22.3 0.0**
baz=38,SNR=6.6
COCO **West Island** **37.94 251** PFAKE
COCO LR LR 17 25 40.0 +14
comp=Z,1µm,20.0s
H11S3 **WAKE ISLAND Hy** **37.95 58** T T 18 06 08.7
baz=257
H11S2 **WAKE ISLAND Hy** **37.96 58** T T 18 06 09.7
baz=257
H11S1 **WAKE ISLAND Hy** **37.97 58** T T 18 06 08.5
baz=257
ENH **Enshi** **38.27 326** *e*P **P** **17 25 29.0 +0.5**
comp=Z,48nm,1.4s
ENH LR LR
comp=Z,69nm,20.0s
KSAR **Wonju Array Be** **38.30 353** P **P** **17 25 28.8 +0.2**
KSRS **Korea Array** **38.30 353** P **P** **17 25 28.8 +0.2**
comp=Z,11nm,1.0s,baz=174,slow=10,SNR=15
KSRS LR LR 17 40 32.0
comp=Z,3µm,18.7s,baz=172,slow=35
TOO **Toolangi** **38.36 164** ⇑P **P** **17 25 29.9 +0.7**
baz=38,SNR=12
INCN **Inchon** **38.51 351** PFAKE
INCN LR LR 17 25 40.0 +10
comp=Z,3µm,20.0s
DZM **Mont Dzumac** **38.61 126** *e*S **S** **17 31 28.2 +0.9**
comp=Z,2µm,27.1s
DZM *e*LR LR 17 36 05.8
comp=Z,5µm,24.5s
DZM **Mont Dzumac** **38.61 126** P **P** **17 25 32.9 +1.2**
comp=Z,22nm,1.0s
DZM **Mont Dzumac** **38.61 126** P **P** **17 25 33.4 +1.8**
comp=Z,6.5nm,0.8s,baz=323,slow=20,SNR=3.0
H11N1 **WAKE ISLAND Hy** **38.67 56** T T 18 06 37.1
baz=246,slow=75,SNR=213
H11N2 **WAKE ISLAND Hy** **38.69 56** T T 18 06 37.6
baz=246,slow=75,SNR=286
H11N3 **WAKE ISLAND Hy** **38.69 56** T T 18 06 38.1
baz=246,slow=75,SNR=400
CM31 **Chiang Mai Arr** **38.79 301** *e*P **P** **17 25 33.2 +0.2**
comp=Z,40nm,1.0s
CMAR **Chiang Mai Arr** **38.79 301** P **P** **17 25 33.1 +0.1**
CMAR ScP **ScP** **17 31 31.6 -0.2**
CMAR **Chiang Mai Arr** **38.79 301** P **P** **17 25 33.1 +0.1**
comp=Z,12nm,0.8s,baz=116,slow=6.4,SNR=64
CMAR ScP **ScP** **17 31 31.6 -0.2**
comp=Z,3.5nm,1.2s,baz=146,slow=2.5,SNR=4.4
CHTO **Chiang Mai** **38.94 302** *e*P **P** **17 25 34.2 -0.1**
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO MLR MLR
comp=Z,2µm,22.0s
CHTO **Chiang Mai** **38.94 302** ⇓P **P** **17 25 33.5 -0.9**
SNR=14
CHTO **Chiang Mai** **38.94 302** *e*P **P** **17 25 34.2 -0.1**
comp=Z,12nm,1.1s
CHTO LR LR
comp=Z,2µm,22.0s
JMM **Marumori** **39.00 9** P **P** **17 25 34.2 -0.3**
MILA **Mila** **39.02 160** ⇓P **P** **17 25 35.1 +0.3**
baz=39,SNR=5.7
KMI **Kunming** **39.18 313** P **P** **17 25 37.0 +0.5**
KMI pP **pP** **17 25 45.4 +2.6**
KMI sP **sP** **17 25 49.3 +4.0**
KMI PP **PnPn** **17 27 08.0 -1.2**
KMI S **ScP** **17 31 33.4 0.0**
KMI SS **SS** **17 34 24.8 -4.5**
KMI pmax pmax
comp=Z,25nm,1.5s
KMI pmax pmax
comp=Z,510nm,3.4s
KMI LR LR
comp=Z,1µm,16.9s
KMI LR LR
comp=Z,980nm,19.1s
KMI LR LR
comp=Z,2µm,19.9s
JYA **Atsumi** **39.55 8** P **P** **17 25 39.7 +0.6**
TIA **Tai'an** **39.71 339** ⇑P **P** **17 25 41.3 +0.8**
TIA S **S** **17 31 46.3 +3.1**
TIA pmax pmax
comp=Z,50nm,1.0s
TIA LR LR
comp=Z,2µm,15.3s
TIA LR LR
comp=Z,1µm,17.2s
TIA LR LR
comp=Z,2µm,17.9s
JOM **Ohasama** **40.66 9** P **P** **17 25 48.5 +0.2**
DL2 **Dalian** **40.86 346** P **P** **17 25 51.1 +1.1**
DL2 pP **pP** **17 26 00.3 +4.0**
DL2 S **S** **17 32 01.0 +0.7**
DL2 pmax pmax
comp=Z,62nm,1.2s
DL2 pmax pmax
comp=Z,210nm,4.0s
DL2 LR LR
comp=Z,2µm,16.6s
DL2 LR LR
comp=Z,2µm,18.6s
XAN **Xi'an** **41.47 329** P **P** **17 25 54.8 -0.3**
XAN sP **sP** **17 26 01.5 -2.5**
XAN PP **PP** **17 27 31.6 +0.4**
XAN S **S** **17 32 06.6 -3.0**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN LR LR
comp=Z,1µm,17.7s
XAN LR LR
comp=Z,470nm,19.9s
JTM **Tenmabayashi** **41.90 9** P P 17 26 05.1 +6.6
CD2 **Chengdu** **42.16 321** ⇑*i*P **P** **17 26 00.9 0.0**
CD2 sP **sP** **17 26 09.8 +0.1**
CD2 PP PP 17 27 44.3 +5.6
CD2 PcP **PcP** **17 27 53.9 -1.2**
CD2 S **S** **17 32 16.8 -3.2**
CD2 sS **sS** **17 32 30.4 0.0**
CD2 SS **SS** **17 35 24.1 -4.1**
CD2 ScS **ScS** **17 36 03.4 +0.8**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,790nm,8.2s
CD2 LR LR
comp=Z,2µm,17.8s
CD2 LR LR
comp=Z,2µm,17.8s
CD2 LR LR
comp=Z,2µm,19.0s
DGPR **DIGLIPUR** **42.35 290** *e*P **P** **17 26 02.2 -0.4**
ERM **Erimo** **43.45 11** PFAKE 17 26 20.0 +9.0
ERM LR LR
comp=Z,4µm,20.0s
BJT **Baijiatuau** **43.46 341** *e*P **P** **17 26 11.9 +0.7**
comp=Z,218nm,0.8s
BJT LR LR
comp=Z,2µm,19.0s
BJI **Beijing** **43.48 341** P **P** **17 26 12.0 +0.7**
BJI sP **sP** **17 26 16.8 -3.3**
BJI S **S** **17 32 38.8 -0.1**
BJI sS **sS** **17 32 49.1 -0.2**
BJI SS **SS** **17 35 51.3 -2.4**
BJI pmax pmax
comp=Z,280nm,1.0s
BJI LR LR
comp=Z,1µm,23.2s
BJI LR LR
comp=Z,3µm,19.6s
BJI LR LR
comp=Z,1µm,20.4s
JSH **Shimam** **43.58 7** P **P** **17 26 10.7 -1.4**
VLA **Vladivostok** **43.66 358** ⇑*e*P **P** **17 26 10.3 -2.3**
VLA *e* 17 27 52.5
VLA *e* 17 27 58.3
VLA *e*S **S** **17 32 40.6 -0.8**
VLA pmax pmax
comp=Z,25nm,1.2s
TAU **Tasmania Unive** **43.85 165** PFAKE 17 26 30.0 +16
TAU LR LR
comp=Z,8µm,20.0s
JEW **Eniwo** **43.97 9** P P 17 26 25.5 +10
USRK **Ussuriysk Arra** **44.73 359** P **P** **17 26 21.4 +0.1**
comp=Z,18nm,0.9s,baz=176,slow=7.5,SNR=16
CN2 **Changchun** **44.87 352** *e*P **P** **17 26 21.9 -0.5**
CN2 PcP **PcP** **17 28 04.3 +0.4**
CN2 PP **PP** **17 28 08.8 +1.3**
CN2 *e*S **S** **17 32 59.6 +0.5**
CN2 SS **ScS** **17 36 18.0 -0.9**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,990nm,16.0s
CN2 LR LR
comp=Z,2µm,20.0s
MDJ **Mudanjiang** **45.25 356** P **P** **17 26 25.8 +0.4**
MDJ pP **pP** **17 26 28.8 -3.0**
MDJ sP **sP** **17 26 30.4 -3.9**
MDJ PcP **PcP** **17 28 05.3 +0.1**
MDJ PP **PP** **17 28 10.6 -0.9**
MDJ ScP **ScP** **17 31 57.9 +0.9**
MDJ PcS **PcS** **17 31 59.3 +0.4**
MDJ S **S** **17 33 08.0 +3.4**
MDJ ScS **ScS** **17 36 22.8 +1.5**
MDJ SS **SS** **17 36 29.4 +1.6**
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,530nm,7.8s
MDJ LR LR
comp=Z,630nm,26.5s
MDJ LR LR
comp=Z,710nm,20.6s
MDJ LR LR
comp=Z,960nm,23.5s
MDJ **Mudanjiang** **45.25 356** *e*P **P** **17 26 25.1 -0.3**
comp=Z,74nm,1.3s
MDJ LR LR
comp=Z,2µm,22.0s
ASAJ **Asahikawa** **45.40 9** P **P** **17 26 27.3 +0.7**
ASAJ **Asahikawa** **45.40 9** P **P** **17 26 27.3 +0.7**
comp=Z,31nm,1.1s,baz=256,slow=16,SNR=4.7
ASAJ LR LR 17 45 24.4
comp=Z,3µm,19.6s,baz=200,slow=36
JMP **Maruseppu** **45.42 10** P **P** **17 26 27.1 +0.3**
LZH **Lanzhou** **45.74 326** ⇑P **P** **17 26 30.8 +1.1**
LZH pP **pP** **17 26 34.0 -2.1**
LZH sP **sP** **17 26 35.5 -3.1**
LZH PP **PP** **17 28 19.0 +2.0**
LZH S **S** **17 33 12.1 -0.2**
LZH ScS **ScS** **17 36 23.5 -1.7**
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,830nm,5.2s
LZH LR LR
comp=Z,1µm,14.5s
LZH LR LR
comp=Z,1µm,14.4s
LZH LR LR
comp=Z,2µm,16.5s
HHC **Hu-ho-hao-te** **45.85 337** *e*P **P** **17 26 31.8 +1.4**
HHC sP **sP** **17 26 41.5 +2.2**
HHC PP PP 17 28 23.5 +5.4
HHC S **S** **17 33 15.9 +2.2**
HHC pmax pmax
comp=Z,160nm,1.1s
HHC pmax pmax
comp=Z,2µm,5.3s
HHC LR LR
comp=Z,2µm,16.9s
HHC LR LR
comp=Z,2µm,15.1s
HHC LR LR
comp=Z,2µm,16.7s
YUK **Yuzh-Kuril'sk** **45.94 13** P P 17 26 38.2 +7.4
YUK *i*S **S** **17 33 12.7 -1.8**
YUK *e*SS **SS** **17 36 34.4 -5.2**
MSVF **Nonsavu** **47.10 114** *e*P **P** **17 26 42.7 +2.2**
MSVF pmax pmax
comp=Z,105nm,1.2s
MSVF MLR MLR
comp=Z,4µm,20.0s
MSVF **Nonsavu** **47.10 114** *e*P **P** **17 26 42.7 +2.2**
comp=Z,105nm,1.2s
MSVF LR LR
comp=Z,4µm,20.0s
SHL **Shillong** **47.79 306** *e*P **P** **17 26 46.5 +0.6**
SHL *ex* x 17 33 40.0
YSS **Yuzh-Sakhalins** **48.19 9** ⇑*e*P **P** **17 26 47.3 -1.1**
YSS *e**SP **sP** **17 26 54.3 -2.9**
YSS *e* 17 28 15.2
YSS *e*S **S** **17 33 43.0 -3.5**
YSS *e* 17 33 53.0
YSS *e* 17 36 42.0
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=N,2µm,17.0s
YSS MLR MLR
comp=Z,3µm,17.0s
YSS **Yuzh-Sakhalins** **48.19 9** *e*P **P** **17 26 47.7 -0.6**
YSS LR LR
comp=Z,936nm,20.0s
HABR **Khabarovsk** **49.01 2** *ce*P **P** **17 26 52.6 -2.1**
HABR *e* 17 28 16.1
HABR *e* 17 28 46.1
HABR *e*S **S** **17 33 57.5 -0.6**
HABR *e**SS sS 17 34 02.8 -5.8
HABR *e* 17 36 44.5
HABR *e*SSS SSS 17 38 44.5
HABR pmax pmax
comp=N,19nm,1.3s
HABR pmax pmax
comp=E,21nm,1.3s
HABR pmax pmax
comp=Z,12nm,1.3s
HABR pmax pmax
comp=Z,75nm,1.3s
HABR MLR MLR
comp=Z,2µm,19.0s
KLR **Kul'dur** **49.77 359** *e*P P 17 26 56.2 -4.3
KLR *e*S S 17 33 57.5 -11
KLR *e*SS **SS** **17 37 41.5 0.0**
KLR pmax pmax
comp=E,82nm,2.2s
KLR pmax pmax
comp=Z,180nm,2.2s
KLR MLR MLR
comp=E,800nm,11.5s
KLR MLR MLR

comp=Z,2µm,11.5s
LSA Lhasa 50.30 311 *e*P **P 17 27 06.1 +0.6**
LSA pmax pmax
comp=Z,149nm,1.3s
LSA MLR MLR
comp=Z,818nm,21.0s
LSA Lhasa 50.30 311 *e*P **P 17 27 06.1 +0.6**
comp=Z,149nm,1.3s
LSA LR LR
comp=Z,818nm,21.0s
GTA Gaotai 50.35 326 ⇑P **P 17 27 06.0 +0.8**
GTA pP **pP 17 27 10.6 -1.1**
GTA sP **sP 17 27 13.1 -1.0**
GTA PcP **PcP 17 28 24.8 +1.0**
GTA ScP **ScP 17 32 17.4 -1.4**
GTA S **S 17 34 16.5 -0.9**
GTA ScS **ScS 17 36 53.8 -1.8**
GTA SS **SS 17 37 48.9 -2.5**
GTA pmax pmax
comp=Z,14nm,1.5s
GTA pmax pmax
comp=Z,280nm,4.5s
GTA LR LR
comp=Z,1µm,20.4s
GTA LR LR
comp=Z,960nm,17.1s
GTA LR LR
comp=Z,980nm,18.5s
OUZ Omahuta 50.83 137 *e*P **P 17 27 11.2 +2.5**
comp=Z,45nm,1.0s
HIA Hailar 51.14 349 *e*P **P 17 27 11.2 +0.3**
comp=Z,51nm,1.4s
HIA LR LR
comp=Z,2µm,20.0s
TAPN Taplejung 51.93 306 *e*P **P 17 27 17.2 -0.4**
comp=Z,341nm,1.3s
ODAN Odare 51.99 305 *e*P **P 17 27 17.6 -0.3**
comp=Z,123nm,0.7s
BOK Bokaro 52.07 301 *e*P **P 17 27 16.6 -1.7**
VIS Vishakhapatnam 52.48 293 *e*P **P 17 27 21.2 -0.2**
RAMN Ramite 52.67 305 *e*P **P 17 27 22.9 -0.1**
comp=Z,192nm,0.8s
PALK Pallekele 53.08 280 ⇑P **P 17 27 25.0 -1.0**
SNR=9.4
PALK Pallekele 53.08 280 *e*P **P 17 27 24.9 -1.0**
comp=Z,327nm,1.3s
PALK Pallekele 53.08 280⇑ *e*P **P 17 27 25.1 -0.9**
SNR=7.6
JIRN Jiri 53.29 306 *e*P **P 17 27 27.5 -0.2**
comp=Z,174nm,1.1s
ULN Ulaanbaatar 53.51 338 ⇑P **P 17 27 30.1 +1.4**
SNR=28
ULN Ulaanbaatar 53.51 338 *e*P **P 17 27 29.8 +1.1**
ULN LR LR
comp=Z,1µm,19.0s
DCZ Deep Cove 53.62 151 *e*P **P 17 27 30.5 +1.2**
comp=Z,60nm,0.9s
GUN Gumba 53.64 306 *e*P **P 17 27 30.1 -0.2**
comp=Z,179nm,0.8s
SONM Songino Array 53.73 338 P **P 17 27 31.4 +1.1**
SONM Songino Array 53.73 338 P **P 17 27 31.4 +1.1**
comp=Z,22nm,1.1s,baz=148,slow=6.5,SNR=56
PKI Pulchoki 53.89 305 *e*P **P 17 27 31.3 -0.8**
comp=Z,58nm,0.8s
PKIN Phulchoki 53.90 305 *e*P **P 17 27 31.3 -0.8**
comp=Z,78nm,1.2s
KKN Kakani 54.08 306 *e*P **P 17 27 32.9 -0.4**
comp=Z,95nm,0.9s
DMN Daman 54.15 305 *e*P **P 17 27 33.6 -0.3**
comp=Z,104nm,0.9s
WHZ Wether Hill Ro 54.31 151 *e*P **P 17 27 34.9 +0.6**
comp=Z,39nm,0.8s
RPZ Rata Peaks 54.42 147 *e*P **P 17 27 36.4 +1.1**
comp=Z,89nm,0.9s
RPZ Rata Peaks 54.42 147 P **P 17 27 35.9 +0.7**
comp=Z,106nm,1.0s,baz=286,slow=1.2,SNR=28
GKN Gorkha 54.69 306 *e*P **P 17 27 37.1 -0.6**
comp=Z,162nm,1.1s
URZ Urewera 54.84 138 *e*P **P 17 27 39.7 +1.3**
comp=Z,34nm,0.9s
URZ Urewera 54.84 138 P **P 17 27 39.2 +0.8**
comp=Z,30nm,0.8s,baz=256,slow=4.5,SNR=16
BKZ Black Stump Fm 54.93 139 *e*P **P 17 27 39.9 +0.9**
comp=Z,55nm,0.8s
KHZ Kahutara 54.99 144 *e*P **P 17 27 39.9 +0.5**
comp=Z,57nm,0.8s
SNZO South Karori 55.02 143 PFAKE 17 27 50.0 +10
SNZO LR LR
comp=Z,5µm,20.0s
CIT Chita 55.13 345 *e*P **P 17 27 41.6 +1.4**
CIT *e* 17 35 24.2
CIT pmax pmax
comp=Z,394nm,2.2s
MIDW Midway 55.29 54 PFAKE 17 27 50.0 +8.2
MIDW LR LR
comp=Z,3µm,20.0s
KOLN Koldanda 55.45 305 *e*P **P 17 27 43.1 -0.1**
comp=Z,172nm,0.7s
DANN Dangsing 55.54 306 *e*P **P 17 27 43.7 -0.3**
comp=Z,180nm,0.7s
BFZ Birch Farm 55.61 141 *e*P **P 17 27 44.4 +0.5**
comp=Z,51nm,0.8s
AFI Afiamalu 55.86 106 PFAKE 17 28 00.0 +14
AFI LR LR
comp=Z,3µm,19.0s
HYB Hyderabad 56.83 291⇑ *i*P **P 17 27 51.0 -2.1**
HYB *e*PcP **PcP 17 28 47.0 -1.7**
HYB *e*S **S 17 35 42.0 -3.8**
HYB Hyderabad 56.83 291 *e*P **P 17 27 51.8 -1.3**
TRD Trivandrum 56.90 281 *e*P **P 17 27 52.2 -1.4**
TRD AMB AMB 17 27 52.4
comp=Z,91nm,6.0s
ZAK Zakamensk 57.00 338⇓ *i*P **P 17 27 54.6 +0.9**
ZAK *e* 17 35 41.8
ZAK pmax pmax
comp=Z,32nm,1.6s
PEA0B Petropavlovsk- 57.37 17 *e*P **P 17 27 56.8 +0.6**
PETK Petropavlovsk- 57.37 17 P **P 17 27 56.7 +0.5**
PETK Petropavlovsk- 57.37 17 P **P 17 27 56.7 +0.5**
PETK Petropavlovsk- 57.37 17 P **P 17 27 56.7 +0.5**
comp=Z,25nm,0.9s,baz=192,slow=5.3,SNR=11
PETK LR LR 17 49 30.2
comp=Z,944nm,20.6s,baz=212,slow=33
PET Petropavlovsk 57.58 18 *e*P **P 17 27 58.2 +0.5**
PET MLR MLR
comp=Z,2µm,19.0s
PET Petropavlovsk 57.58 18 *e*P **P 17 27 58.1 +0.5**
PET LR LR
comp=Z,2µm,19.0s
MCQ Macquarie Isla 57.60 163 ⇓P **P 17 27 59.4 +1.7**
baz=58
CLNS Chul'man 57.77 355 *e*P **P 17 27 58.8 -0.2**
CLNS *e**PP **pP 17 28 09.8 +4.3**
CLNS *e* 17 28 48.6
CLNS *e* 17 30 06.2
CLNS *e*PPP PPP 17 31 24.9
CLNS *e*S **S 17 35 53.6 -3.3**
CLNS *e*SS **SS 17 39 50.9 +3.1**
CLNS pmax pmax
comp=Z,20nm,1.0s
CLNS pmax pmax
comp=N,16nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.4s
CLNS pmax pmax
comp=Z,8.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS smax smax
comp=E,202nm,10.7s
CLNS smax smax
comp=N,451nm,13.5s
CLNS MLR MLR
comp=N,669nm,18.0s
CLNS MLR MLR
comp=Z,1µm,20.0s
CLNS MLR MLR
comp=E,1µm,17.0s
TLY Talaya 57.91 339 P **P 17 28 01.3 +1.3**
comp=E,126nm,1.4s,SNR=8.8
TLY Talaya 57.91 339 *e*P **P 17 28 01.3 +1.3**
TLY *e* 17 28 50.9
TLY *e* 17 30 08.8
TLY *e*S **S 17 35 58.8 -0.1**
TLY *e* 17 37 40.7
TLY pmax pmax
comp=Z,50nm,1.4s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY Talaya 57.91 339 P **P 17 28 01.8 +1.7**
SNR=20
TLY Talaya 57.91 339 *e*P **P 17 28 01.4 +1.4**
comp=Z,103nm,1.7s
TLY LR LR
comp=Z,2µm,19.0s
IRK Irkutsk 58.15 339 *e*P **P 17 28 02.7 +1.0**
IRK pmax pmax
comp=Z,176nm,3.1s
MOY Mondy 58.90 337 *e*P **P 17 28 08.5 +1.4**
MOY pmax pmax
comp=Z,275nm,3.1s
BHPL Bhopal 59.28 298 *e*P **P 17 28 07.1 -3.1**
WMQ Urumqi 60.15 323 P **P 17 28 16.8 +1.0**
WMQ pP **pP 17 28 21.4 -1.0**
WMQ sP **sP 17 28 23.8 -1.0**
WMQ PcP **PcP 17 29 01.9 +0.5**
WMQ PP **PP 17 30 31.3 +2.6**
WMQ ScP **ScP 17 33 01.4 -0.2**
WMQ S **S 17 36 27.8 -0.6**
WMQ ScS SKKSac 17 38 03.1 -2.3
WMQ pmax pmax
comp=Z,110nm,0.8s
WMQ pmax pmax
comp=Z,530nm,4.0s
WMQ LR LR
comp=Z,2µm,15.7s
WMQ LR LR
comp=Z,1µm,17.2s
WMQ LR LR
comp=Z,530nm,20.0s
KAAM Kaadhehdhoo 60.33 271 P x 17 28 18.1
comp=Z,93nm,1.3s
DDI Dehra Dun 60.89 306⇑ *e*P **P 17 28 20.6 -0.5**
DDI AMB AMB 17 28 54.1
comp=Z,149nm,0.7s
DGAR Diego Garcia 61.03 262⇓ P **P 17 28 21.9 -0.3**
DGAR Diego Garcia 61.03 262 PFAKE 17 28 30.0 +7.8
DGAR LR LR
comp=Z,2µm,22.0s
NDI New Delhi 61.05 304 *e*P **P 17 28 19.5 -2.6**
POO Poona 61.44 291 *e*P **P 17 28 23.4 -1.6**
HVS Khovu-Aksy 61.59 333⇑ *i*P **P 17 28 26.2 +0.7**
HVS pmax pmax
comp=Z,211nm,1.1s
SMLA Simla 61.88 306 *e*P **P 17 28 26.7 -1.0**
SMLA *e*P pP 17 28 28.1 -6.1
SMLA AMB AMB 17 28 28.2
comp=Z,108nm,3.1s
BHK Bhakra 62.58 306 *e*P **P 17 28 33.2 +0.7**
YAK Yakutsk 62.64 358 *e*P **P 17 28 31.6 -0.6**
YAK *e**PP **pP 17 28 40.8 +2.1**
YAK *e* 17 29 11.8
YAK *e*PPP PPP 17 32 17.2
YAK *e*S **S 17 36 57.4 -1.7**
YAK *e**SS sS 17 37 30.3 +20
YAK *e* 17 38 20.9
YAK pmax pmax
comp=Z,104nm,1.3s
YAK pmax pmax
comp=N,55nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,328nm,5.4s
YAK pmax pmax
comp=N,288nm,4.8s
YAK pmax pmax
comp=E,261nm,5.8s
YAK smax smax
comp=N,179nm,4.0s
YAK smax smax
comp=E,281nm,4.4s
YAK MLR MLR
comp=Z,869nm,21.0s
YAK MLR MLR
comp=N,1µm,25.0s
YAK MLR MLR
comp=E,315nm,17.0s
YAK Yakutsk 62.64 358 *e*P **P 17 28 32.4 +0.2**
comp=E,81nm,0.7s
YAK LR LR
comp=Z,1µm,20.0s
FX1 Attu Island--F 62.91 26 *e*P **P 17 28 35.3 +1.1**
FX1 Attu Island--F 62.91 26 P **P 17 28 36.9 +2.7**
comp=Z,22nm,0.8s,baz=81,slow=16,SNR=5.5
FX1 LR LR 17 54 55.0
comp=Z,882nm,19.1s,baz=232,slow=35
DHRM DHARAMSHALA 62.95 307 *e*P **P 17 28 34.5 -0.7**
DHRM AMB AMB 17 28 35.6
comp=Z,129nm,0.8s
MK31 Makanchi Array 64.97 324 *i*P **P 17 28 48.3 +0.4**
MK31 pmax pmax
comp=Z,63nm,0.7s
MK31 Makanchi Array 64.97 324 *e*P **P 17 28 48.4 +0.5**
MKAR Makanchi Array 64.97 324*ce*P **P 17 28 48.5 +0.6**
MKAR pmax pmax
comp=Z,66nm,0.6s
MKAR Makanchi Array 64.97 324 *e*P **P 17 28 48.7 +0.8**
MKAR P'P' 17 57 24.9
MKAR Makanchi Array 64.97 324 P **P 17 28 48.5 +0.6**
comp=Z,66nm,0.6s,baz=115,slow=8.1,SNR=631
MKAR PKPPKP P'P'df 17 57 24.9 -7.6
comp=Z,0.4nm,0.8s,baz=270,slow=3.2,SNR=3.6
MKAR Makanchi Array 64.97 324 ⇓P **P 17 28 48.9 +1.0**
baz=65
SEY Seymchan 65.08 9*d i*P **P 17 28 49.2 +1.0**
KSH Kashi 65.82 314⇑ *i*P **P 17 28 55.4 +1.7**
KSH PP **PP 17 31 22.3 +3.5**
KSH PcS 17 33 27.5
KSH *i*S **S 17 37 40.1 +0.4**
KSH pmax pmax
comp=Z,45nm,1.0s
KSH pmax pmax
comp=Z,250nm,5.9s
KSH LR LR
comp=Z,790nm,15.7s
KSH LR LR
comp=Z,620nm,14.6s
KSH LR LR
comp=Z,580nm,11.8s
BHJ Bhuj 66.22 296 *e*P **P 17 28 55.0 -1.4**
ULHL Ulahol 66.72 317 *i*P **P 17 29 00.2 +0.7**
ULHL Ulahol 66.72 317 P **P 17 29 00.3 +0.7**
SNR=12
KZA Kyzart 67.33 317 *i*P **P 17 29 05.0 +1.4**
KZA Kyzart 67.33 317 P **P 17 29 05.0 +1.4**
SNR=25
TKM2 Tokmak 2 67.42 318 *e*P **P 17 29 04.1 +0.1**
TKM2 MLR MLR
comp=Z,906nm,21.0s
TKM2 Tokmak 2 67.42 318 P **P 17 29 04.8 +0.8**
SNR=82
TKM2 Tokmak 2 67.42 318 *e*P **P 17 29 04.1 +0.1**
TKM2 LR LR
comp=Z,906nm,21.0s
ZAA0 Zalesovo Array 67.56 331 *e*P **P 17 29 03.5 -0.8**
ZALV Zalesovo Beam 67.56 331 *i*P **P 17 29 04.0 -0.3**
ZALV pmax pmax
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 67.56 331 P **P 17 29 04.1 -0.2**
ZALV P'P'ab **P'P'ab 17 57 31.1 0.0**
ZALV Zalesovo Beam 67.56 331 P **P 17 29 04.1 -0.2**
comp=Z,26nm,0.9s,baz=106,slow=5.3,SNR=87
ZALV PKP2ab 17 57 31.1
comp=Z,1.8nm,0.9s,baz=336,slow=3.3,SNR=6.6
KBK Karagaybulak 67.76 317 *i*P **P 17 29 06.9 +0.9**
KBK Karagaybulak 67.76 317 P **P 17 29 07.0 +0.9**
SNR=29
UCH Uchtor 67.89 317 *i*P **P 17 29 08.4 +1.2**
UCH Uchtor 67.89 317 P **P 17 29 08.5 +1.2**
SNR=70
CHMS Chumysh 68.03 318 *i*P **P 17 29 07.9 +0.4**
CHMS Chumysh 68.03 318 P **P 17 29 07.9 +0.4**
SNR=29
FRU Bishkek 68.05 317 *e*P **P 17 29 08.0 +0.3**
FRU *e* 17 29 16.0
FRU *e* 17 29 34.0
FRU *e* 17 38 06.0
FRU pmax pmax
comp=Z,150nm,2.0s
AAK Ala-Archa 68.06 317⇑ *i*P **P 17 29 08.0 +0.1**
AAK pmax pmax
comp=Z,148nm,2.5s
AAK Ala-Archa 68.06 317 P **P 17 29 08.8 +0.9**
SNR=21
AAK Ala-Archa 68.06 317 ⇓P **P 17 29 08.6 +0.6**
SNR=24
AAK Ala-Archa 68.06 317 *e*P **P 17 29 07.8 -0.2**
comp=Z,39nm,1.1s
AAK LR LR
comp=Z,1µm,21.0s
AAK Ala-Archa 68.06 317 P **P 17 29 08.7 +0.9**
comp=Z,14nm,0.8s,baz=108,slow=5.9,SNR=31
RAR Rarotonga 68.26 112 LR LR 17 55 41.8
comp=Z,1µm,18.4s,baz=270,slow=33
USP Ospenovka 68.30 318 *i*P **P 17 29 09.9 +0.6**
USP Ospenovka 68.30 318 P **P 17 29 09.9 +0.6**
SNR=119
AML Almayashu 68.42 316 *i*P **P 17 29 11.6 +1.1**
AML Almayashu 68.42 316 P **P 17 29 11.6 +1.1**
SNR=81
EKS2 Erkin-Say 68.56 317 *e*P **P 17 29 12.1 +1.1**
EKS2 MLR MLR
comp=Z,881nm,19.0s
EKS2 Erkin-Say 68.56 317 P **P 17 29 12.1 +1.1**
SNR=80
EKS2 Erkin-Say 68.56 317 *e*P **P 17 29 12.1 +1.1**
EKS2 LR LR
comp=Z,881nm,19.0s
NVS Novosibirsk 68.83 332⇑ *i*P **P 17 29 10.7 -1.6**
NVS *i*S **S 17 38 12.7 -2.3**
NVS pmax pmax
comp=Z,274nm,1.9s
NVS pmax pmax
comp=N,114nm,1.8s
NVS pmax pmax
comp=E,112nm,1.8s
NVS smax smax
comp=E,416nm,3.2s
NVS smax smax
comp=N,77nm,2.6s
KURK Kurchatov 69.03 326*c i*P **P 17 29 13.9 +0.3**
KURK pmax pmax
comp=Z,124nm,1.5s
KURK Kurchatov 69.03 326 ⇑P **P 17 29 13.8 +0.2**
SNR=68
KURK Kurchatov 69.03 326 P **P 17 29 13.9 +0.3**
KURK LR LR
comp=Z,504nm,19.0s
KURBB Kurchatov Arra 69.04 326 P **P 17 29 13.9 +0.3**
comp=Z,92nm,0.9s,baz=119,slow=5.7,SNR=521
XMAS Kiritimati 69.28 88 PFAKE 17 29 30.0 +14
XMAS LR LR
comp=Z,6µm,20.0s
KBL Kabul 69.43 307 *e*P **P 17 29 16.6 -0.1**
KBL Kabul 69.43 307 *e*P **P 17 29 16.6 -0.1**
KBL Kabul 69.43 307⇑P **P 17 29 16.9 +0.2**
baz=70,SNR=11
KK31 Karatay Array 70.96 316 *i*P **P 17 29 25.9 +0.3**
KK31 pmax pmax
comp=Z,138nm,1.1s
KKAR Karatay Array 70.96 316 *e*P **P 17 29 26.1 +0.5**
KKAR Karatay Array 70.96 316 *e*P **P 17 29 26.1 +0.5**
TIXI Tiksi 72.30 359⇓ *i*P **P 17 29 33.4 +0.3**
TIXI pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 72.30 359 *e*P **P 17 29 32.1 -1.0**
comp=Z,27nm,0.9s
TIXI LR LR
comp=Z,2µm,19.0s
BVA0 Borovoye Array 74.63 326 P **P 17 29 47.0 -0.2**
BVA0 pmax pmax
comp=Z,151nm,1.2s
BVAR Borovoye Array 74.63 326 P **P 17 29 47.4 +0.1**
BVAR Borovoye Array 74.63 326 P **P 17 29 47.4 +0.1**
BVAR Borovoye Array 74.63 326 P **P 17 29 47.4 +0.1**
comp=Z,35nm,0.8s,baz=119,slow=6.4,SNR=193
BRVK Borovoye 74.70 326*c i*P **P 17 29 47.7 +0.1**
BRVK pmax pmax
comp=Z,49nm,0.8s
BRVK Borovoye 74.70 326 ⇑P **P 17 29 47.9 +0.2**
SNR=46
BRVK Borovoye 74.70 326 *e*P **P 17 29 47.8 +0.2**
BRVK LR LR
comp=Z,1µm,22.0s
WBK Wadi Bani Khal 75.84 293 ⇑P **P 17 29 54.3 -0.5**
SNR=11
GAMB Gambell 75.89 22 *e*P **P 17 29 52.0 -2.2**
JMDO Jabal Madar 76.61 293 ⇑P **P 17 29 59.2 -0.1**
SNR=14
SMDO Samad 76.74 294 ⇓P **P 17 29 59.8 -0.3**
SNR=16
HOQ Hoqain 77.47 294 ⇑P **P 17 30 04.2 +0.2**
SNR=48
PPT Papeete 77.49 108 LR LR 17 59 07.0
comp=Z,1µm,20.1s,baz=272,slow=32
PPT2 Papeete2 77.50 108 *e*S **S 17 39 51.4 -3.5**
comp=Z,2µm,27.8s
PPT2 *e*SS **SS 17 44 53.6 -0.7**
comp=Z,657nm,24.2s
PPT2 *e*LQ LQ 17 50 52.5
comp=Z,4µm,31.0s
PPT2 *e*LR LR 17 54 06.9
comp=Z,2µm,22.5s
MSEY Mahe Island 77.82 265 PFAKE 17 30 20.0 +14
MSEY LR LR
comp=Z,1µm,22.0s
TBI Tubuai 77.99 114 *e*S **S 17 39 58.6 -1.3**
comp=Z,2µm,30.5s
TBI *e*SS **SS 17 44 59.0 -2.4**
comp=Z,361nm,33.0s
TBI *e*LQ LQ 17 51 04.7
comp=Z,1µm,35.8s
TBI *e*LR LR 17 54 27.8
comp=Z,3µm,31.8s
ARQ Araqi 78.17 294 P **P 17 30 08.4 +0.5**
SNR=31
TNA Tin City 78.20 21 *e*P **P 17 30 07.5 +0.3**
comp=Z,38nm,1.4s
VNDA Vanda 78.28 174 P **P 17 30 07.8 +0.3**
comp=Z,30nm,0.9s,baz=318,slow=6.1,SNR=66
VNDA LR LR 18 05 12.8
comp=Z,5µm,18.1s,baz=351,slow=36
BANOM Banah 78.64 296 ⇑P **P 17 30 10.3 -0.3**
SNR=32
BANOM Banah 78.64 296⇑ *e*P **P 17 30 10.5 0.0**
SNR=30
HATD Hatta, Dubai 78.67 295⇑ *e*P **P 17 30 10.6 -0.1**
ASHO Ashiyiah 78.73 295 P **P 17 30 10.9 -0.1**
SNR=39
ASHO Ashiyiah 78.73 295⇑ *e*P **P 17 30 10.7 -0.3**
SNR=19
ABKT Ailbek 78.79 309 P **P 17 30 11.7 +0.6**
comp=Z,427nm,1.3s,SNR=23
NAZ Nazwa, Dubai 79.12 295⇑ *e*P **P 17 30 13.0 -0.1**
SBA Scott Base 79.12 173 *e*P **P 17 30 14.0 +2.0**
SBA pmax pmax
comp=Z,282nm,1.8s
SBA MLR MLR
comp=Z,3µm,20.0s
SBA Scott Base 79.12 173 *e*P **P 17 30 14.0 +2.0**
comp=Z,282nm,1.8s
SBA LR LR
comp=Z,3µm,20.0s
FAQ Al Faqa, Dubai 79.15 295⇑ *e*P **P 17 30 13.1 -0.3**
ASUD Al Ashush, Dub 79.38 295⇑ *e*P **P 17 30 14.5 0.0**
AB31 Akbulak array 79.74 320 *i*P **P 17 30 15.4 -0.6**
AB31 pmax pmax
comp=Z,67nm,1.1s
ABKAR Akbulak array 79.74 320 *e*P **P 17 30 15.5 -0.5**
ABKAR Akbulak array 79.74 320 ⇓P **P 17 30 15.9 -0.1**
baz=80
ABTO Aybut 80.69 288 ⇓P **P 17 30 21.7 -0.1**
SNR=6.7
SVE Sverdlovsk 81.18 328⇑ *i*P **P 17 30 23.9 +0.3**
SVE *e*S **S 17 40 30.3 -2.2**
SVE pmax pmax
comp=Z,100nm,1.5s
AKTO Aktyubinsk 81.21 321 P **P 17 30 23.6 -0.3**
AKTO Aktyubinsk 81.21 321 P **P 17 30 23.6 -0.3**
AKTO Aktyubinsk 81.21 321 P **P 17 30 23.6 -0.3**
comp=Z,22nm,1.1s,baz=105,slow=5.8,SNR=33
OHAK Old Harbor 81.66 32 *e*P **P 17 30 26.8 +0.8**
MAW Mawson 81.97 201 P **P 17 30 28.2 +0.7**
MAW Mawson 81.97 201 P **P 17 30 28.2 +0.7**

comp=Z,50nm,0.9s,baz=66,slow=5.8,SNR=30
MAW LR LR 18 04 17.8
comp=Z,2µm,21.2s,baz=71,slow=34
MAW Mawson 81.97 201 ⇑P **P 17 30 28.6 +1.1**
baz=82,SNR=15
KDAK Kodiak Island 82.17 31 *e*P **P 17 30 29.5 +0.8**
comp=Z,63nm,0.9s
KDAK LR LR
comp=Z,3µm,20.0s
ARU Arti 82.20 327 P **P 17 30 28.7 -0.2**
comp=Z,224nm,0.9s,SNR=16
ARU Arti 82.20 327 *c i*P **P 17 30 28.4 -0.5**
ARU 17 33 41.0
ARU S **S 17 40 43.7 +0.7**
ARU SS **SS 17 46 03.2 +0.3**
ARU pmax pmax
comp=Z,33nm,0.8s
ARU Arti 82.20 327 *e*P **P 17 30 28.3 -0.6**
ARU LR LR
comp=Z,1µm,20.0s
RSO Redoubt South 82.74 29 *e*P **P 17 30 32.4 +0.4**
PPLA Purkeypile 83.60 26 *e*P **P 17 30 36.5 +0.3**
comp=Z,231nm,1.9s
IM04 Indian Mountai 83.74 23 *e*P **P 17 30 36.8 +0.1**
SOKR Solikamsk 83.81 330 *d i*P **P 17 30 38.4 +1.3**
SOKR S **S 17 40 55.4 -3.7**
SOKR pmax pmax
comp=Z,50nm,0.9s
SOKR MLR MLR
comp=Z,570nm,15.0s
SEW Seward 84.26 29 *e*P **P 17 30 39.5 +0.1**
KTH Kantishna Hill 84.31 26 *e*P **P 17 30 39.6 -0.2**
comp=Z,87nm,1.3s
RC01 Rabbit Creek A 84.32 28 *e*P **P 17 30 39.3 -0.5**
comp=Z,58nm,1.0s
TRF Thorofare Moun 84.57 26 *e*P **P 17 30 40.7 -0.6**
comp=Z,30nm,1.0s
PMR Palmer 84.71 28 *e*P **P 17 30 41.6 -0.1**
PMR Palmer 84.71 28 *e*P **P 17 30 41.6 -0.1**
MCK McKinley 85.22 26 *e*P **P 17 30 43.9 -0.4**
MCK pmax pmax
comp=Z,170nm,1.4s
MCK McKinley 85.22 26 *e*P **P 17 30 43.9 -0.4**
comp=Z,170nm,1.4s
COLD Coldfoot 85.43 22 *e*P **P 17 30 46.1 +0.9**
comp=Z,19nm,1.2s
COLA College 85.90 25 ⇓ *i*P **P 17 30 48.0 +0.4**
COLA pmax pmax
comp=Z,53nm,1.0s
COLA College 85.90 25 *e*P **P 17 30 46.6 -0.9**
comp=Z,41nm,1.3s
COLA LR LR
comp=Z,1µm,20.0s
ABPO Ambohimpanom 86.07 251 *e*P **P 17 30 49.4 -0.3**
ABPO pmax pmax
comp=Z,14nm,0.8s
ABPO MLR MLR
comp=Z,1µm,21.0s
ABPO Ambohimpanom 86.07 251 *e*P **P 17 30 49.4 -0.3**
comp=Z,14nm,0.8s
ABPO LR LR
comp=Z,1µm,21.0s
DIV Divide 86.22 29 *e*P **P 17 30 50.1 +0.6**
comp=Z,155nm,1.1s
ILAR Eielson Array 86.29 25 P **P 17 30 48.5 -1.1**
ILAR Eielson Array 86.29 25 P **P 17 30 48.5 -1.1**
comp=Z,14nm,0.9s,baz=255,slow=4.4,SNR=98
ILAR LR LR 18 03 38.1
comp=Z,962nm,21.5s,baz=284,slow=32
PAX Paxson 86.63 27 *e*P **P 17 30 51.6 +0.2**
PAX pmax pmax
comp=Z,109nm,1.4s
PAX Paxson 86.63 27 *e*P **P 17 30 51.6 +0.2**
comp=Z,109nm,1.4s
BMRM Bremner River 86.77 29 *e*P **P 17 30 52.1 0.0**
comp=Z,108nm,1.1s
MAK Makhachkala 87.41 313 *e*P P 17 31 07.3 +12
MAK *e*S S 17 41 26.0 -9.3
MAK *e*SSS SSS 17 50 47.2
MENT Mentasta 87.42 27 *e*P **P 17 30 55.8 +0.6**
EGAK Eagle 88.72 25 *e*P **P 17 31 01.2 -0.1**
comp=Z,13nm,1.0s
EGAK LR LR
comp=Z,1µm,20.0s
QSPA South Pole Qui 89.22 180 *e*P **P 17 31 03.4 -0.4**
comp=Z,179nm,1.4s
QSPA LR LR
comp=Z,5µm,20.0s
GNI Garni 89.36 310 PFAKE 17 31 20.0 +15
GNI LR LR
comp=Z,599nm,22.0s
DAWY Dawson 89.45 26 *e*P **P 17 31 04.2 -0.6**
PRGR Permogore 89.52 331 *e*P P 17 31 00.6 -4.4
PRGR pmax pmax
comp=Z,17nm,0.8s
ZEI Tsey 90.05 313 *e*P **P 17 31 06.3 -2.0**
ZEI pmax pmax
comp=Z,13nm,0.9s
SYO Syowa Base 90.68 201 ⇓ *e*P P 17 31 04.3 -6.0
SYO Syowa Base 90.68 201 ⇑ *e*P **P 17 31 09.4 -0.9**
GOF Gofitskoye 90.69 315 *e*P P 17 31 21.5 +11
KBZ Khabaz 90.79 314 P **P 17 31 13.0 +1.6**
KBZ Khabaz 90.79 314 P **P 17 31 12.9 +1.6**
KBZ Khabaz 90.79 314 P **P 17 31 12.9 +1.6**
comp=Z,2.3nm,0.9s,baz=219,slow=4.4,SNR=5.8
KIV Kislovodsk 90.94 314 PFAKE 17 31 20.0 +7.7
KIV LR LR
comp=Z,619nm,21.0s
RKT Rikitea 91.30 113 *e*LR LR 18 00 28.8
comp=Z,2µm,30.0s
VRHR Novokhopersk 91.62 321 *e*P **P 17 31 12.2 -2.9**
VRHR pmax pmax
comp=N,6.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 91.83 22 *e*P **P 17 31 14.2 -1.5**
comp=Z,18nm,1.2s
INK Inuvik 91.83 22 LR LR 18 09 10.9
comp=Z,448nm,21.7s,baz=251,slow=33
KLMR Klimovskoe 92.48 331 *e*P **P 17 31 16.3 -2.5**
KLMR pmax pmax
comp=Z,31nm,1.3s
WRAK Wrangell Islan 93.00 34 PFAKE 17 31 30.0 +8.7
WRAK LR LR
comp=Z,1µm,21.0s
VORD Divnogorie 93.09 321 *e*P **P 17 31 19.2 -2.7**
VORD pmax pmax
comp=N,7.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 93.16 321 *e*P **P 17 31 19.6 -2.6**
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.9s
MOS Moscow 93.80 326 *e*P **P 17 31 23.4 -1.6**
MOS *e* 17 35 13.1
MOS pmax pmax
comp=Z,42nm,0.7s
DLBC Dease Lake 94.10 32 LR LR 18 07 02.4
comp=Z,1µm,21.8s,baz=79,slow=31
APA Apatity 94.44 338 ⇑ *i*P **P 17 31 29.0 +1.3**
APA *i*S **S 17 42 40.0 +1.3**
APA *i*PS **PS 17 43 49.0 -7.5**
APA MLR MLR
comp=Z,2µm,15.0s
OBN Obninsk 94.45 325 ⇑ *e*P **P 17 31 25.3 -2.7**
OBN *e* 17 35 14.7
OBN *e*S S 17 42 30.8 -8.4
OBN *e*PS **PS 17 43 54.4 -2.6**
OBN *e*SS **SS 17 49 06.9 +5.6**
OBN pmax pmax
comp=Z,16nm,1.2s
OBN Obninsk 94.45 325 PFAKE 17 31 40.0 +12
OBN LR LR
comp=Z,955nm,20.0s
ANN Anapa 94.68 315 *e*P P 17 31 24.3 -5.0
KMBO Kilima Mbogo 96.05 269 *e*P **P 17 31 36.7 +0.1**
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 96.05 269 P **P 17 31 36.2 -0.4**
comp=Z,1.7nm,0.7s,baz=42,slow=12,SNR=4.8
KMBO LR LR 18 09 58.0
comp=Z,871nm,21.3s,baz=94,slow=32
JOF Joensuu 96.09 333 *e*P **P 17 31 32.9 -2.5**
JOF pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 96.09 333 *e*p **P 17 31 32.9 -2.5**
comp=Z,6.7nm,0.8s
KEV Kevo 96.28 340 PFAKE 17 31 50.0 +14
KEV LR LR
comp=Z,1µm,22.0s
KBS Kingsbay 96.47 350 PFAKE 17 31 50.0 +13
KBS LR LR
comp=Z,963nm,20.0s
ARCES ARCESS Array B 96.84 340 P **P 17 31 37.6 -1.1**
ARCES ARCESS Array B 96.84 340 P **P 17 31 37.6 -1.1**
comp=Z,23nm,0.8s,baz=73,slow=4.2,SNR=25
ARCES LR LR 18 24 37.9
comp=Z,1µm,18.5s,baz=84,slow=41
ARE0 ARCESS Array S 96.84 340 *e*P **P 17 31 37.6 -1.1**
BRTR Keskin Array B 97.90 310 P **P 17 31 43.2 -1.1**
BRTR Keskin Array B 97.90 310 P **P 17 31 43.2 -1.1**
comp=Z,1.2nm,1.0s,baz=132,slow=1.8,SNR=4.2
ANTO Ankara 98.54 310 PFAKE 17 32 00.0 +13
ANTO LR LR
comp=Z,497nm,21.0s
KAF Kangasniemi 98.54 333 *e*P **P 17 31 44.5 -1.9**
KAF Kangasniemi 98.54 333 *e*p **P 17 31 44.5 -1.9**
CSS Prodhromos 98.60 305 PFAKE 17 32 00.0 +13
CSS LR LR
comp=Z,130nm,21.0s
FINES FINESS Array B 98.81 332 P **P 17 31 46.3 -1.3**
FINES FINESS Array B 98.81 332 P **P 17 31 46.3 -1.3**
comp=Z,9.1nm,0.9s,baz=87,slow=6.7,SNR=19
FINES LR LR 18 20 40.0
comp=Z,1µm,18.1s,baz=71,slow=38
NLWA Neilton Lookou 99.19 42 PFAKE 17 32 00.0 +10
NLWA LR LR
comp=Z,2µm,21.0s
AKASG Malin Array Be 99.46 321 P **Pdif 17 31 48.1 -2.7**
AKASG Malin Array Be 99.46 321 P **Pdif 17 31 48.0 -2.7**
AKASG Malin Array Be 99.46 321 P **Pdif 17 31 48.0 -2.7**
comp=Z,2.8nm,1.0s,baz=68,slow=4.1,SNR=12
KIEV Kiev 99.47 321 PFAKE 17 32 00.0 +9.2
KIEV LR LR
comp=Z,838nm,20.0s
KIS Kishinev 100.39 318 *e*L L 17 32 44.0
KIS LRM MLR 17 43 28.0
comp=Z,900nm,20.0s
ISP Isparta 100.54 308 PFAKE 17 32 10.0 +14
ISP LR LR
comp=Z,464nm,21.0s
YKA Yellowknife Ar 100.69 26 P **Pdif 17 31 55.5 -0.5**
YKA PKiKP **PKiKP 17 36 24.5 +2.5**
YKA PKKPbc **PKKPbc 17 48 09.0 -3.4**
YKA Yellowknife Ar 100.69 26 P **Pdif 17 31 55.5 -0.5**
comp=Z,2.2nm,0.8s,baz=293,slow=4.6,SNR=29
YKA PKiKP **PKiKP 17 36 24.5 +2.5**
comp=Z,0.5nm,0.8s,baz=292,slow=1.6,SNR=3.3
YKA PKKPbc **PKKPbc 17 48 09.0 -3.4**
comp=Z,0.5nm,0.8s,baz=109,slow=2.6,SNR=6.0
HAWA Hanford 102.30 43 PFAKE 17 32 20.0 +16
HAWA LR LR
comp=Z,3µm,22.0s
BUR08 Bucovina Ar. S 102.67 319 *e*Pdif **Pdif 17 32 04.4 -1.0**
LVV L'vov 102.91 321 *e*P **Pdif 17 32 01.0 -5.2**
NEW Newport 103.47 40 PFAKE 17 32 20.0 +11
NEW LR LR
comp=Z,2µm,22.0s
WVOR Wild Horse Val 103.75 46 PFAKE 17 32 20.0 +10
WVOR LR LR
comp=Z,2µm,19.0s
KWP Kalwaria Pacla 103.78 321 PFAKE 17 32 20.0 +10
KWP LR LR
comp=Z,1µm,20.0s
UZH Uzhgorod 104.31 320 *e*P **Pdif 17 32 10.8 -1.6**
LSZ Lusaka 104.40 254 PFAKE 17 32 30.0 +16
LSZ LR LR
comp=Z,1µm,20.0s
SANT Santorini 104.76 307 PFAKE 17 32 30.0 +15
SANT LR LR
comp=Z,429nm,21.0s
NVAR Mina Array Bea 104.79 50 Pdif **Pdif 17 32 16.2 +1.1**
NVAR PKKP **PKKPab 17 48 16.3 -1.0**
NVAR Mina Array Bea 104.79 50 Pdiff **Pdif 17 32 16.2 +1.1**
comp=Z,1.4nm,1.0s,baz=268,slow=6.4,SNR=4.8
NVAR PKKP **PKKPab 17 48 16.3 -1.0**
comp=Z,1.0nm,0.8s,baz=111,slow=4.9,SNR=4.8
NB2 NORSAR Subarra 105.63 335 P **Pdif 17 32 16.0 -2.1**
comp=Z,5.3nm,1.1s,baz=64,slow=4.6
NOA NORSAR Array B 105.63 335 Pdif **Pdif 17 32 15.8 -2.3**
NOA NORSAR Array B 105.63 335 Pdiff **Pdif 17 32 15.8 -2.3**
comp=Z,2.7nm,0.8s,baz=63,slow=4.5,SNR=8.6
PSZ Piszkesteto 106.05 320 PFAKE 17 36 40.0
PSZ LR LR
comp=Z,784nm,20.0s
HLID Hailey 106.50 45 PFAKE 17 36 50.0
HLID LR LR
comp=Z,2µm,21.0s
KONO Kongsberg 107.01 334 PFAKE 17 36 50.0
KONO LR LR
comp=Z,1µm,21.0s
PFO Pinyon Flat Ob 107.18 55 PFAKE 17 36 50.0
PFO LR LR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 107.81 42 PFAKE 17 36 50.0
BOZ LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 108.25 39 PFAKE 17 36 50.0
EGMT LR LR
comp=Z,1µm,21.0s
SUR Sutherland 108.50 236 PFAKE 17 36 50.0
SUR LR LR
comp=Z,2µm,22.0s
DUG Dugway 108.54 48 PFAKE 17 36 50.0
DUG LR LR
comp=Z,1µm,19.0s
CLL Collm 109.05 325 *e*PKiKP **PKiKP 17 36 37.0 -0.7**
CLL *e*P **PP 17 37 06.0 +0.6**
CLL *e*PPS PPS 17 47 30.0
CLL *e*SS SS 17 52 24.0 +0.4
CLL LmH 18 18 00.0
comp=N,900nm,19.1s
CLL LmH 18 18 00.0
comp=E,900nm,19.3s
CLL LmV 18 27 00.0
comp=Z,1µm,20.4s
RLMT Red Lodge 109.55 42 PFAKE 17 36 50.0
RLMT LR LR
comp=Z,2µm,21.0s
GERES GERESS Array B 109.61 322 PKiKP **PKiKP 17 36 38.7 -0.3**
GERES GERESS Array B 109.61 322 PKiKP **PKiKP 17 36 38.7 -0.3**
comp=Z,0.9nm,0.8s,baz=61,slow=2.5,SNR=2.9
FFC Flin Flon 109.90 30 PFAKE 17 36 50.0
FFC LR LR
comp=Z,2µm,20.0s
BW06 Boulder Array 110.13 44 PFAKE 17 36 50.0
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 110.13 44 PKiKP **PKiKP 17 36 41.4 +1.0**
PDAR PKKPab **PKKPab 17 47 52.9 -0.7**
PDAR Pinedale Array 110.13 44 PKiKP **PKiKP 17 36 41.4 +1.0**
comp=Z,0.4nm,0.8s,baz=290,slow=5.7,SNR=3.0
PDAR PKKPab **PKKPab 17 47 52.9 -0.7**
comp=Z,2.8nm,0.9s,baz=128,slow=5.8,SNR=5.4
TIP Timpagrande 110.81 312 PFAKE 17 36 50.0
TIP LR LR
comp=Z,491nm,21.0s
WUAZ Wupatki 110.85 52 PFAKE 17 36 50.0
WUAZ LR LR
comp=Z,2µm,20.0s
LAO LASA Array 110.97 39 PFAKE 17 36 50.0
LAO LR LR
comp=Z,1µm,20.0s
CUC Castrocucco 111.26 313 PFAKE 17 36 50.0
CUC LR LR
comp=Z,472nm,22.0s
DGMT Dagmar 111.51 37 PFAKE 17 36 50.0
DGMT LR LR
comp=Z,1µm,21.0s
CEL Celeste 111.72 311 PFAKE 17 37 00.0
CEL LR LR
comp=Z,629nm,19.0s
MOTA Moosalm 111.81 322 ⇑ *i*PKiKP **PKiKP 17 36 39.8 -3.5**
comp=Z,4.6nm,0.8s
J22A Midwest 112.03 43 P **PKiKP 17 36 43.8 -0.1**
baz=112
TUC Tucson 112.11 55 PFAKE 17 37 00.0
TUC LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 112.21 316 PFAKE 17 37 00.0
AQU LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 112.61 50 PFAKE 17 37 00.0
MVCO LR LR
comp=Z,1µm,20.0s
BFO Black Forest 113.07 324 PFAKE 17 37 00.0
BFO LR LR
comp=Z,917nm,22.0s
TUE Stuetta 113.27 321 PFAKE 17 37 00.0
TUE LR LR
comp=Z,1µm,22.0s
RSSD Black Hills 113.39 41 *e*PKiKP **PKiKP 17 36 46.5 -0.1**
PMSA Palmer Station 113.44 172 PFAKE 17 37 00.0
PMSA LR LR
comp=Z,1µm,22.0s
VLC Villacollemand 113.57 319 PFAKE 17 37 00.0
VLC LR LR
comp=Z,1µm,19.0s
I25A Rochford 113.64 41 P **PKiKP 17 36 47.3 +0.3**
baz=114
WLF Walferdange 113.70 326 PFAKE 17 37 00.0
WLF LR LR
comp=Z,1µm,21.0s
ECH Echery 113.81 324 PFAKE 17 37 00.0
ECH LR LR
comp=Z,790nm,19.0s
ISCO Idaho Springs 113.92 46 PFAKE 17 37 00.0
ISCO LR LR
comp=Z,2µm,22.0s
TSUM Tsumeb 113.97 249 PFAKE 17 37 00.0
TSUM LR LR
comp=Z,1µm,21.0s
SDCO Great Sand Dun 114.70 48 PFAKE 17 37 00.0 +11
SDCO LR LR
comp=Z,2µm,19.0s
ANMO Albuquerque 114.87 51 PFAKE 17 37 00.0 +10
ANMO LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 115.14 334 PFAKE 17 37 00.0 +11
ESK LR LR
comp=Z,2µm,22.0s
LPG La Plagne 115.33 321 *e*PKIKP **PKPdf 17 36 50.0 -0.3**
comp=Z,12nm,0.9s
LPG La Plagne 115.33 321 *e*PKIKP **PKPdf 17 36 50.0 -0.3**
LPG La Plagne 115.33 321 *e*PKPdf **PKPdf 17 36 50.0 -0.3**
LPL La Plagne 115.33 321 *e*PKIKP **PKPdf 17 36 49.7 -0.5**
comp=Z,7.9nm,0.8s
LPL La Plagne 115.33 321 *e*PKIKP **PKPdf 17 36 49.7 -0.5**
LPL La Plagne 115.33 321 *e*PKPdf **PKPdf 17 36 49.7 -0.5**
ULM Lac du Bonnet 115.40 33 PKP **PKPdf 17 36 49.0 -0.8**
ULM PKKPbc **PKKPab 17 47 28.4 -1.4**
ULM Lac du Bonnet 115.40 33 PKP **PKPdf 17 36 49.0 -0.8**
comp=Z,1.2nm,0.6s,baz=287,slow=6.4,SNR=2.4
ULM PKKPbc **PKKPab 17 47 28.4 -1.4**
comp=Z,9.9nm,0.8s,baz=116,slow=3.2,SNR=19
S25A Robets Cordova 115.53 48 P **PKPdf 17 36 51.5 +0.7**
baz=115
J28A Allard Ranch, 115.53 41 P **PKPdf 17 36 51.2 +0.8**
baz=115
BNI Bardonecchia 115.58 321 PFAKE 17 37 00.0 +9.4
BNI LR LR
comp=Z,2µm,21.0s
MBDF Montbardon 115.66 321 *e*PKIKP **PKPdf 17 36 50.4 -0.4**
MBDF Montbardon 115.66 321 *e*PKIKP **PKPdf 17 36 50.4 -0.4**
MBDF Montbardon 115.66 321 *e*PKPdf **PKPdf 17 36 50.4 -0.4**
Y24A Capitan 115.99 52 P **PKPdf 17 36 52.1 +0.3**
baz=116
OGNE Ogallala 116.02 44 PFAKE 17 37 00.0 +8.5
OGNE LR LR
comp=Z,2µm,21.0s
R26A Arlington 116.03 47 P **PKPdf 17 36 52.2 +0.6**
baz=116
G30A Faulkton 116.11 39 P **PKPdf 17 36 52.3 +0.9**
baz=116
LOR Lormes 116.22 324 *e*PKIKP **PKPdf 17 36 51.1 -0.5**
LOR Lormes 116.22 324 *e*PKPdf **PKPdf 17 36 51.1 -0.5**
S26A Kim 116.26 48 P **PKPdf 17 36 52.6 +0.5**
baz=116
T26A Comanche Natio 116.33 48 P **PKPdf 17 36 53.1 +0.8**
baz=116
AGMN Agassiz Nation 116.47 34 PFAKE 17 37 00.0 +8.0
AGMN LR LR
comp=Z,2µm,20.0s
224A Cornudas Mount 116.47 54 P **PKPdf 17 36 53.7 +1.0**
baz=116
R27A Eads 116.51 47 P **PKPdf 17 36 53.0 +0.5**
baz=116
SSF Saint Saulge 116.53 324 *e*PKIKP **PKPdf 17 36 53.2 +1.0**
comp=Z,17nm,1.1s
SSF Saint Saulge 116.53 324 *e*PKIKP **PKPdf 17 36 53.2 +1.0**
SSF Saint Saulge 116.53 324 *e*PKPdf **PKPdf 17 36 53.2 +1.0**
Y25A Mesa, Roswell 116.57 52 P **PKPdf 17 36 53.8 +0.9**
baz=116
324A Moseley Ranch, 116.69 55 P **PKPdf 17 36 54.0 +0.9**
baz=117
MNTX Cornudas Mount 116.70 55 PFAKE 17 37 00.0 +7.0
MNTX LR LR
comp=Z,1µm,21.0s
J30A Dallas 116.72 41 P **PKPdf 17 36 53.1 +0.5**
baz=117
SSB Saint Sauveur 116.80 322 PFAKE 17 37 00.0 +7.2
SSB LR LR
comp=Z,745nm,21.0s
TCF Toulx Ste Croi 117.70 324 *e*PKIKP **PKPdf 17 36 56.6 +2.1**
comp=Z,35nm,1.2s
TCF Toulx Ste Croi 117.70 324 *e*PKIKP **PKPdf 17 36 56.6 +2.1**
TCF Toulx Ste Croi 117.70 324 *e*PKPdf **PKPdf 17 36 56.6 +2.1**
Y27A Causey 117.79 52 P **PKPdf 17 36 55.0 -0.1**
baz=118
LASF Ste Croix 117.81 321 *e*PKIKP **PKPdf 17 36 54.5 -0.2**
LASF Ste Croix 117.81 321 *e*PKPdf **PKPdf 17 36 54.5 -0.2**
MSTX Muleshoe 118.07 51 *e*PKPdf **PKPdf 17 36 56.0 +0.4**
526A Mary Lane Ranc 118.24 56 P **PKPdf 17 36 55.9 -0.3**
baz=118
ECSD EROS Data Cent 118.36 39 *e*PKPdf **PKPdf 17 36 54.4 -1.4**
ECSD LR LR
comp=Z,2µm,20.0s
ECSD EROS Data Cent 118.36 39 P **PKPdf 17 36 55.4 -0.4**
baz=118
TXAR Lajitas Array 118.80 57 PKP **PKPdf 17 36 57.7 +0.6**
TXAR PKKPbc **PKKPbc 17 47 13.9 +0.9**
TXAR Lajitas Array 118.80 57 PKP **PKPdf 17 36 57.7 +0.6**
comp=Z,0.8nm,0.8s,baz=186,slow=2.0,SNR=7.3
TXAR PKKPbc **PKKPbc 17 47 13.9 +0.9**
comp=Z,1.4nm,0.8s,baz=127,slow=4.8,SNR=12
627A Terlingua Ranc 119.00 56 P **PKPdf 17 36 58.3 +0.7**
baz=119
EYMN Ely 119.08 33 PFAKE 17 37 10.0 +13
EYMN LR LR
comp=Z,2µm,20.0s
MSKU Masuku 119.67 268 PFAKE 17 37 10.0 +11
MSKU LR LR
comp=Z,3.0nm,22.0s
529A Stev Forest Ra 119.76 55 P **PKPdf 17 36 59.5 +0.5**
baz=120
Q33A Connelly Farm, 119.77 44 P **PKPdf 17 36 59.3 +0.7**
baz=120
429A Davenport Ranc 119.87 55 P **PKPdf 17 36 59.3 +0.2**
baz=120
KSU1 Kansas State U 120.57 44 PFAKE 17 37 10.0 +10
KSU1 LR LR
comp=Z,2µm,21.0s
WMOK Wichita Mounta 120.86 49 PFAKE 17 37 10.0 +9.1
WMOK LR LR
comp=Z,2µm,20.0s
232A Coleman 121.25 53 P **PKPdf 17 37 01.7 -0.1**
baz=121
SCIA State Center 121.45 39 PFAKE 17 37 10.0 +8.2
SCIA LR LR
comp=Z,1µm,21.0s
COWI Conover 121.48 33 PFAKE 17 37 10.0 +8.3
COWI LR LR
comp=Z,2µm,19.0s
432A Menard 121.49 54 P **PKPdf 17 37 02.8 +0.5**
baz=121
JCT Junction City 121.62 54 *e*PKIKP **PKPdf 17 37 03.0 +0.5**
JCT MLR MLR
comp=Z,2µm,20.0s
JCT Junction City 121.62 54 *e*PKPdf **PKPdf 17 37 03.0 +0.5**
JCT LR LR

comp=Z,2µm,20.0s
532A Rocksprings 121.66 55 P PKPdf 17 37 02.7 +0.1
baz=122
333A Richland Sprin 121.98 53 P PKPdf 17 37 02.8 -0.3
baz=122
732A Laxson Ranch, 122.07 56 P PKPdf 17 37 03.9 +0.5
baz=122
832A Faith Ranch, C 122.21 57 P PKPdf 17 37 03.9 +0.3
baz=122
334A Lometa 122.58 53 P PKPdf 17 37 04.3 0.0
baz=122
833A Chaparral WMA, 122.68 56 P PKPdf 17 37 04.6 +0.1
baz=123
JFWS Jewell Farm 122.73 37 PFAKE 17 37 20.0 +16
JFWS LR LR
comp=Z,2µm,22.0s
534A Blanco 122.86 54 P PKPdf 17 37 04.5 -0.3
baz=123
KVTX Kingsville 124.19 57 PFAKE 17 37 20.0 +13
KVTX LR LR
comp=Z,1µm,19.0s
HOPE Hope Point 124.54 187 PFAKE 17 37 20.0 +13
HOPE LR LR
comp=Z,1.0nm,19.0s
HDIL Hopedale 124.66 39 PFAKE 17 37 20.0 +12
HDIL LR LR
comp=Z,1µm,20.0s
TAM Tamanrasset 124.77 297 PFAKE 17 37 20.0 +11
TAM LR LR
comp=Z,806nm,22.0s
MIAR Mount Ida 124.82 47 *e*PKIKP **PKPdf** 17 37 09.2 +0.7
MIAR MLR MLR
comp=Z,3µm,19.0s
MIAR Mount Ida 124.82 47 *e*PKPdf **PKPdf** 17 37 09.2 +0.7
MIAR LR LR
comp=Z,3µm,19.0s
ESDC Sonseca Array 125.09 320 PP PP 17 38 56.5 -1.0
ESDC Sonseca Array 125.09 320 PP PP 17 38 56.5 -1.0
comp=Z,0.2nm,0.3s,baz=53,slow=8.3,SNR=4.8
NATX Nacogdoches 125.22 51 PFAKE 17 37 20.0 +11
NATX LR LR
comp=Z,1µm,21.0s
PAB San Pablo 125.41 320 PFAKE 17 37 20.0 +10
PAB LR LR
comp=Z,965nm,20.0s
MTE Manteigas 126.89 323 PFAKE 17 37 20.0 +7.7
MTE LR LR
comp=Z,833nm,19.0s
AAM Ann Arbor 126.94 34 PFAKE 17 37 20.0 +7.7
AAM LR LR
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 128.68 35 PFAKE 17 37 30.0 +14
ACSO LR LR
comp=Z,2µm,20.0s
ERPA Erie 129.05 32 PFAKE 17 37 30.0 +14
ERPA LR LR
comp=Z,2µm,20.0s
LONY Lake Ozonia 129.77 26 PFAKE 17 37 30.0 +12
LONY LR LR
comp=Z,2µm,21.0s
TOA0 Torodi Ar. Sit 130.52 287 *e*PKPdf **PKPdf** 17 37 18.3 -1.5
TORD Torodi Ar. Bea 130.52 287 PKPpre PKPpre 17 37 10.2
TORD PKP **PKPdf** 17 37 19.5 -0.3
TORD Torodi Ar. Bea 130.52 287 PKhKP PKPpre 17 37 10.2
comp=Z,0.8nm,0.9s,baz=90,slow=2.3,SNR=2.8
TORD PKP **PKPdf** 17 37 19.5 -0.3
comp=Z,3.2nm,0.7s,baz=51,slow=1.9,SNR=18
BINY Binghamton 131.01 29 PFAKE 17 37 30.0 +10
BINY LR LR
comp=Z,2µm,22.0s
TKL Tuckaleechee C 131.05 41 *e*PKPdf **PKPdf** 17 37 22.1 +1.7
LBNH Lisbon 131.20 24 PFAKE 17 37 30.0 +10
LBNH LR LR
comp=Z,2µm,22.0s
BRAL Brewton 131.33 48 PFAKE 17 37 30.0 +9.1
BRAL LR LR
comp=Z,2µm,21.0s
PKME Peaks-Kenny Pk 131.35 21 PFAKE 17 37 30.0 +9.4
PKME LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 132.17 37 PFAKE 17 37 30.0 +7.6
BLA LR LR
comp=Z,1µm,19.0s
GOGA Godfrey 132.58 43 PFAKE 17 37 40.0 +17
GOGA LR LR
comp=Z,2µm,20.0s
CBN Corbin 133.24 34 PFAKE 17 37 40.0 +16
CBN LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 133.38 155 PKP **PKPdf** 17 37 26.2 +1.5
PLCA Paso Flores 133.38 155 PKP **PKPdf** 17 37 26.2 +1.5
comp=Z,3.5nm,0.8s,baz=188,slow=2.1,SNR=5.3
TEIG Tepich 134.95 62 PFAKE 17 37 40.0 +12
TEIG LR LR
comp=Z,997nm,20.0s
NHSC New Hope 134.96 41 PFAKE 17 37 40.0 +12
NHSC LR LR
comp=Z,1µm,20.0s
CNNC Cliffs of the 135.00 37 PFAKE 17 37 40.0 +12
CNNC LR LR
comp=Z,673nm,20.0s
SHEL Horse Pasture 136.32 246 PFAKE 17 37 40.0 +9.2
SHEL LR LR
comp=Z,713nm,20.0s
TGUH Tegucigalpa,Un 137.72 70 PFAKE 17 37 50.0 +17
TGUH LR LR
comp=Z,1µm,20.0s
DBIC Dimbokro 137.86 279 PKPpre PKPpre 17 37 22.8
DBIC Dimbokro 137.86 279 PKhKP PKPpre 17 37 22.8
comp=Z,5.5nm,1.0s,baz=95,slow=2.0,SNR=4.8
TRQA Tornquist 138.92 162 PFAKE 17 37 50.0 +15
TRQA LR LR
comp=Z,1µm,20.0s
JTS JuntasAbangare 140.78 75 PFAKE 17 37 50.0 +11
JTS LR LR
comp=Z,1µm,20.0s
CFAA Coronel Fontan 141.91 149 PKP **PKPdf** 17 37 40.5 -0.1
CFAA Coronel Fontan 141.91 149 PKP **PKPdf** 17 37 40.5 -0.1
comp=Z,0.5nm,0.6s,baz=265,slow=3.5,SNR=1.9
BBSR BB Station 144.22 27 PFAKE 17 38 00.0 +15
BBSR LR LR
comp=Z,1µm,21.0s
MTDJ Mount Denham 145.06 58 PFAKE 17 38 00.0 +13
MTDJ LR LR
comp=Z,1µm,22.0s
BCIP Isla Barro Col 145.95 75 PFAKE 17 38 00.0 +11
BCIP LR LR
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 146.26 54 PFAKE 17 38 00.0 +10
GTBY LR LR
comp=Z,959nm,20.0s
ASCN Ascension 146.65 254 PFAKE 17 38 00.0 +8.1
ASCN LR LR
comp=Z,786nm,19.0s
BBTS Babate 147.14 296 PKPbc **PKPbc** 17 37 51.4 -0.7
BBTS Babate 147.14 296 PKPbc **PKPbc** 17 37 51.4 -0.7
baz=65,slow=3.7
NNA Nana 147.50 114 *e*PKPdf **PKPdf** 17 37 50.7 0.0
NNA LR LR
comp=Z,2µm,21.0s
OTAV Otavalo 148.23 91 *e*PKPbc **PKPbc** 17 37 55.0 -0.8
OTAV LR LR
comp=Z,2µm,20.0s
LVC Limon Verde 148.28 138 *e*P **PKPdf** 17 37 53.7 +1.6
LVC LR LR
comp=Z,733nm,22.0s
GRTK Grand Turk 148.44 47 PFAKE 17 38 00.0 +1.3
GRTK LR LR
comp=Z,1µm,19.0s
SDDR Presa de Saban 149.80 52 PFAKE 17 38 10.0 +5.6
SDDR LR LR
comp=Z,1µm,20.0s
CPUP Villa Florida 151.22 160 PKP **PKPdf** 17 37 57.5 +1.3
CPUP *e*PKPbc **PKPbc** 17 38 02.2 +0.1
CPUP PKPbc **PKiKP** 17 38 02.5 -0.2
CPUP Villa Florida 151.22 160 PKP **PKPdf** 17 37 57.5 +1.3
comp=Z,4.7nm,0.8s,baz=0.0,slow=0.0,SNR=3.2
CPUP PKPbc **PKiKP** 17 38 02.5 -0.2
comp=Z,13nm,0.8s,baz=215,slow=2.2,SNR=18
ROSC El Rosal 152.09 81 *e*PKPdf **PKPdf** 17 37 59.4 +0.9
ROSC PKPbc **PKPbc** 17 38 06.2 +1.2
ROSC El Rosal 152.09 81 PKPbc **PKPbc** 17 38 06.2 +1.2
comp=Z,13nm,0.6s,baz=94,slow=18,SNR=7.6
LPAZ La Paz 152.92 130 *e*PKPdf **PKPdf** 17 38 00.4 +0.5
LPAZ PKP **PKPdf** 17 38 01.4 +1.6
LPAZ PKPbc **PKiKP** 17 38 08.7 +1.5
LPAZ La Paz 152.92 130 PKP **PKPdf** 17 38 01.4 +1.6
comp=Z,3.1nm,0.8s,baz=24,slow=2.2,SNR=14
LPAZ PKPbc **PKiKP** 17 38 08.7 +1.5
comp=Z,12nm,1.0s,baz=302,slow=1.0,SNR=15
SACV Santiago Islan 153.16 303 PFAKE 17 38 10.0 +3.1
SACV LR LR
comp=Z,638nm,19.0s
SDV Santo Domingo 154.81 70 *e*PKPdf **PKPdf** 17 38 02.3 +0.2
SDV LR LR
comp=Z,186nm,21.0s
ANWB Willy Bob 157.54 41 PFAKE 17 38 20.0 +15
ANWB LR LR
comp=Z,2µm,22.0s
SIV San Ignacio 158.15 140 PKP **PKPdf** 17 38 07.5 +1.4
SIV San Ignacio 158.15 140 PKP **PKPdf** 17 38 07.5 +1.4
comp=Z,2.6nm,1.0s,baz=246,slow=5.7,SNR=4.8
FDF Fort de France 160.04 45 PFAKE 17 38 20.0 +12
FDF LR LR
comp=Z,1µm,21.0s
SAML Samuel 160.97 121 *e*PKPdf **PKPdf** 17 38 09.6 +0.2
SAML LR LR
comp=Z,890nm,19.0s
GRGR Grenville 161.31 52 PFAKE 17 38 20.0 +10
GRGR LR LR
comp=Z,1µm,22.0s
BBGH Gun Hill 162.25 45 PFAKE 17 38 20.0 +9.3
BBGH LR LR
comp=Z,2µm,21.0s
BDFB Brasilia 163.70 175 PKP **PKPdf** 17 38 14.9 +2.7
BDFB Brasilia 163.70 175 PKP **PKPdf** 17 38 14.9 +2.7
comp=Z,1.7nm,0.4s,baz=162,slow=3.2,SNR=2.4
PTGA Pitinga 166.64 96 *e*PKPdf **PKPdf** 17 38 14.4 -0.2
PTGA PKP 17 38 14.6
PTGA LR LR
comp=Z,1µm,20.0s
PTGA Pitinga 166.64 96 PKP **PKPdf** 17 38 14.6 0.0
comp=Z,2.7nm,0.7s,baz=195,slow=2.1,SNR=5.3
RCBR Riachuelo 167.43 239 PKPab **PKPab** 17 39 21.4 +0.8
RCBR LR LR
comp=Z,1µm,19.0s
RCBR Riachuelo 167.43 239 PKPab **PKPab** 17 39 21.4 +0.8
comp=Z,12nm,0.8s,baz=117,slow=6.6,SNR=5.4

IDC ***13*** *17:40:19.6±3.1,21°.01S×68°.35W,h98km±27km,mb3.8/5, mb1 4.0/7,mb1mx3.7/19,mbtmp4.3/7,Error ellipse: s-maj=36.5km s-min=19.2km az=117.0*
ISCJB ***13*** *17:40:20.8±0.9,21°.20S±0°.09×68°.1W±0°.2,h121km, mb3.9/4,Error ellipse: s-maj=23.1km s-min=11.2km az=13.5*
ISC 13 17:40:21.7±0.8,**21°.30S**±0°.08×**68°.1W**±0°.1,**h121**km,**n12,**
σ1§**65**/**13**,**mb4.0**/**4**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.99**	**359**	P	**Pn**	**17 41 35.0**	**-0.2**
	2.0nm,0.3s,baz=100,slow=6.2,SNR=45						
SIV	**San Ignacio**	**8.48**	**53**	P	**Pn**	**17 42 21.4**	**-0.4**
	13nm,0.3s,baz=262,slow=11,SNR=105						
CFAA	**Coronel Fontan**	**10.26**	**181**	P	**Pn**	**17 42 47.0**	**+1.2**
	0.1nm,0.3s,baz=335,slow=13,SNR=6.3						
CFAA				S	**Sn**	**17 44 35.7**	**-3.3**
	0.1nm,0.3s,baz=126,slow=17,SNR=4.3						
PLCA	**Paso Flores**	**19.48**	**186**	P	**Pn**	**17 44 42.0**	**+0.3**
	0.2nm,0.3s,baz=3.4,slow=6.9,SNR=4.8						
BDFB	**Brasilia**	**19.84**	**77**	P	**Pn**	**17 44 45.9**	**-0.2**
	4.5nm,0.4s,baz=254,slow=10,SNR=8.0						
PTGA	**Pitinga**	**21.92**	**22**	P	**P**	**17 45 02.7**	**-2.9**
	6.3nm,0.3s,baz=319,slow=23,SNR=26						
DBIC	**Dimbokro**	**67.93**	**73**	P	**P**	**17 51 09.3**	**+1.4**
	1.7nm,0.5s,baz=187,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.56**	**70**	P	**P**	**17 52 00.1**	**+0.9**
	0.7nm,0.5s,baz=258,slow=5.5,SNR=11						
YKA	**Yellowknife Ar**	**91.26**	**340**	P	**P**	**17 53 12.0**	**-0.9**
	0.2nm,0.6s,baz=134,slow=4.4,SNR=8.3						
YKA				pP	pP	17 53 33.8	-10
	0.3nm,0.7s,baz=125,slow=4.4,SNR=3.2						
YKA				sP	sP	17 53 45.5	-11
	0.3nm,0.7s,baz=128,slow=4.8,SNR=5.4						
ASAR	**Alice Springs**	**130.44**	**207**	PKP	**PKPdf**	**17 59 19.4**	**+0.6**
	0.2nm,0.5s,baz=111,slow=2.1,SNR=3.1						
WRA	**Warramunga Arr**	**133.51**	**210**	PKP	**PKPdf**	**17 59 26.3**	**+1.6**
	0.4nm,0.7s,baz=150,slow=1.6,SNR=3.5						
MKAR	**Makanchi Array**	**145.01**	**36**	PKP	**PKPdf**	**17 59 45.4**	**+0.7**
	0.6nm,0.7s,baz=315,slow=3.1,SNR=5.5						

IDC 13 17:50:57.5±2.9,**0°.79S×133°.05E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/21,mbtmp3.4/3,ML3.4/1,MS4.3/1, Ms1 4.3/1,ms1mx3.2/24,Error ellipse: s-maj=156.8km s-min=25.8km az=75.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**176**	P	P	17 55 22.1	+0.3
	0.1nm,0.3s,baz=355,slow=11,SNR=8.8						
WRA				S	Sn	17 58 47.2	-10
	0.1nm,0.3s,baz=354,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**22.76**	**178**	P	P	17 56 01.4	-0.2
	1.5nm,0.6s,baz=357,slow=10,SNR=29						
USRK	**Ussuriysk Arra**	**44.80**	**359**	LR	LR	18 14 54.4	
	comp=Z,361nm,19.3s,baz=333,slow=32						
MKAR	**Makanchi Array**	**64.87**	**324**	P	P	18 01 38.5	0.0
	0.1nm,0.5s,baz=120,slow=8.2,SNR=4.3						

IDC 13 17:55:48.8±46.0,**16°.01S×176°.26W,h0km,mb3.7**/3, **mb1 3.9**/3,**mb1mx3.6**/19,**mbtmp3.7**/3,**MS3.4**/1,**Ms1 3.4**/1, **ms1mx3.2**/38,**Error ellipse: s-maj=867.0km s-min=174.9km az=78.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.81**	**65**	LR	LR	17 58 36.9	
	comp=Z,357nm,19.2s,baz=320,slow=35						
STKA	**Stephens Creek**	**41.35**	**240**	P	P	18 03 37.4	+0.6
	0.5nm,0.3s,baz=101,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**47.03**	**258**	P	P	18 04 21.8	-0.7
	0.2nm,0.6s,baz=95,slow=7.7,SNR=4.3						
ASAR	**Alice Springs**	**47.31**	**252**	P	P	18 04 24.4	-0.2
	1.4nm,0.4s,baz=89,slow=8.1,SNR=13						

ISCJB ***13*** *18:02:48.4±0.3,67°.10N±0°.02×20°.87E±0°.06,h0km,Error ellipse: s-maj=3.4km s-min=3.0km az=152.0*
UPP ***13*** *18:02:48.5,67°.07N×20°.91E,h0km,ML2.1,Mining explosion.*
CSEM ***13*** *18:02:49.5±0.2,67°.09N×20°.88E,h2km,ML2.1,Error ellipse: s-maj=5.2km s-min=4.9km az=46.0,Mining explosion.*
IDC ***13*** *18:02:49.0±1.0,67°.07N×20°.96E,h0km,mb1 2.8/3, mb1mx2.8/28,mbtmp2.7/3,ML2.4/3,Error ellipse: s-maj=18.2km s-min=8.7km az=115.0*
HEL ***13*** *18:02:49.4±0.2,67°.07N×20°.83E,h0km,ML2.0, ML2.1(UPP),Explosion*
BER ***13*** *18:02:52.8±1.6,67°.18N×20°.81E,h0km,ML1.7,Suspected explosion*
ISC 13 18:02:48.5±0.7,**67°.07N**±0°.02×**20°.85E**±0°.02,**h0**km,**n61,**
σ1§**10**/**94**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.60**	**48**	*i* P	**Pg**	**18 02 59.4**	**-0.5**
MASU				*i* S	**Sg**	**18 03 08.0**	**+0.4**
MASU	**Masugnsbyn**	**0.60**	**48**	P	**Pg**	**18 02 59.4**	**-0.5**
MASU				S	**Sg**	**18 03 08.0**	**+0.4**
MASU	**Masugnsbyn**	**0.60**	**48**	P	**Pg**	**18 02 59.4**	**-0.5**
MASU				S	**Sg**	**18 03 08.0**	**+0.4**
ERTU	**Ertsjaerv**	**0.74**	**133**	*i* P	**Pg**	**18 03 02.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.74**	**133**	P	**Pg**	**18 03 02.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.74**	**133**	P	**Pg**	**18 03 02.1**	**-0.5**
HARU	**Harads**	**0.91**	**177**	*e*P	**Pg**	**18 03 05.6**	**-0.2**
HARU	**Harads**	**0.91**	**177**	P	**Pg**	**18 03 05.6**	**-0.2**
HARU	**Harads**	**0.91**	**177**	P	**Pg**	**18 03 05.6**	**-0.2**
KUA	**Kurravaara**	**0.92**	**348**	*e*P	**Pg**	**18 03 05.7**	**-0.3**
KUA				*e*S	**Sg**	**18 03 18.2**	**+0.3**
KUA	**Kurravaara**	**0.92**	**348**	P	**Pg**	**18 03 05.7**	**-0.3**
KUA				S	**Sg**	**18 03 18.2**	**+0.3**
KUA	**Kurravaara**	**0.92**	**348**	P	**Pg**	**18 03 05.7**	**-0.4**
KUA				S	**Sg**	**18 03 18.2**	**+0.3**
SALU	**Saltoluokta**	**0.96**	**290**	*e*P	**Pg**	**18 03 07.1**	**+0.1**
SALU	**Saltoluokta**	**0.96**	**290**	P	**Pg**	**18 03 07.0**	**+0.1**
SALU	**Saltoluokta**	**0.96**	**290**	P	**Pg**	**18 03 07.1**	**+0.1**
NIKU	**Nikkaluokta**	**1.07**	**320**	*e*P	**Pg**	**18 03 08.4**	**-0.5**
NIKU	**Nikkaluokta**	**1.07**	**320**	P	**Pg**	**18 03 08.4**	**-0.5**
NIKU	**Nikkaluokta**	**1.07**	**320**	P	**Pg**	**18 03 08.4**	**-0.5**
	baz=121						
KALU	**Kalix**	**1.57**	**139**	*e*P	**Pn**	**18 03 17.0**	**-0.6**
KALU				*e*S	**Sg**	**18 03 39.6**	**+0.6**
KALU	**Kalix**	**1.57**	**139**	P	**Pn**	**18 03 17.0**	**-0.6**
KALU				S	**Sg**	**18 03 39.6**	**+0.6**
KALU	**Kalix**	**1.57**	**139**	P	**Pn**	**18 03 17.0**	**-0.6**
KALU				S	**Sg**	**18 03 39.6**	**+0.6**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P	**Pn**	**18 03 17.7**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**18 03 17.7**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**18 03 17.7**	**-0.2**
HEF	**Hetta**	**1.72**	**37**	*e*P	**Pn**	**18 03 19.2**	**-0.5**
HEF				*e*S	**Sn**	**18 03 42.0**	**-0.4**
HEF				MSG		18 03 45.2	
	comp=Z,8.9nm,0.1s						
HEF	**Hetta**	**1.72**	**37**	P	**Pn**	**18 03 19.2**	**-0.5**
HEF				S	**Sn**	**18 03 42.0**	**-0.4**
LILU	**Lilltraesk**	**1.83**	**193**	*e*P	**Pn**	**18 03 21.9**	**+0.7**
LILU	**Lilltraesk**	**1.83**	**193**	P	**Pn**	**18 03 21.9**	**+0.7**
LILU	**Lilltraesk**	**1.83**	**193**	P	**Pn**	**18 03 21.9**	**+0.7**
KIF	**Kilpisjarvi**	**1.95**	**360**	*e*P	**Pb**	**18 03 24.5**	**-0.3**
KIF				*e*S	**Sb**	**18 03 49.1**	**-0.6**
KIF	**Kilpisjarvi**	**1.95**	**360**	P	**Pb**	**18 03 24.5**	**-0.3**
KIF				S	**Sb**	**18 03 49.0**	**-0.6**
RNF	**Rovaniemi**	**2.09**	**100**	*e*P	**Pb**	**18 03 26.1**	**-1.2**
RNF				*e*S	**Sb**	**18 03 54.3**	**+0.5**
RNF	**Rovaniemi**	**2.09**	**100**	P	**Pb**	**18 03 26.0**	**-1.2**
RNF				S	**Sb**	**18 03 54.3**	**+0.5**
KTK1	**Kautokeino**	**2.15**	**24**	*e*P	**Pn**	**18 03 26.6**	**+1.0**
KTK1				*e*Sg	**Sb**	**18 03 56.1**	**+0.6**
KTK1				IAML		18 03 58.9	
	comp=N,17nm,0.2s						
KTK1	**Kautokeino**	**2.15**	**24**	*e*P	**Pn**	**18 03 26.6**	**+1.0**
	SNR=50						
KTK1				*e*Sg	**Sb**	**18 03 56.1**	**+0.6**
	SNR=90						
STEI	**Steigen**	**2.33**	**295**	*e*Sg	**Sg**	**18 04 03.9**	**+0.7**
STEI				IAML		18 04 07.9	
	comp=Z,7.0nm,0.2s						
STEI	**Steigen**	**2.33**	**295**	*e*Sg	**Sg**	**18 04 03.8**	**+0.7**
	SNR=90						
MOR8	**Moi Rana**	**2.71**	**254**	*e*P	**Pn**	**18 03 34.3**	**+1.1**
MOR8				*e*Sg	**Sb**	**18 04 11.6**	**+0.1**
MOR8				IAML		18 04 14.7	
	comp=Z,7.3nm,0.1s						
MOR8	**Moi Rana**	**2.71**	**254**	*e*P	**Pn**	**18 03 34.3**	**+1.1**
	SNR=50						
MOR8				*e*Sg	**Sb**	**18 04 11.6**	**+0.1**
	SNR=90						
OUL	**Oulu**	**2.86**	**132**	*e*P	**Pb**	**18 03 38.6**	**-1.8**
OUL				*e*S	**Sn**	**18 04 13.1**	**+2.7**
OUL	**Oulu**	**2.86**	**132**	P	**Pb**	**18 03 38.5**	**-1.8**
OUL				S	**Sn**	**18 04 13.0**	**+2.7**
LOF	**Lofoten**	**3.00**	**294**	*e*Sg9		18 04 42.4	
ARA0	**ARCESS Array S**	**3.02**	**33**	*e*P	**Pn**	**18 03 38.2**	**+0.6**
ARA0				*e*S	**Sn**	**18 04 14.1**	**-0.4**
ARA0	**ARCESS Array S**	**3.02**	**33**	P	**Pn**	**18 03 38.1**	**+0.6**
ARA0				S	**Sn**	**18 04 14.0**	**-0.4**
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn	**Pn**	**18 03 37.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=63						
ARCES				Sn	**Sn**	**18 04 15.4**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=214,slow=23,SNR=7.7						
FLOS	**Flostrand**	**3.06**	**260**	*e*P	**Pn**	**18 03 40.3**	**+2.3**
FLOS	**Flostrand**	**3.06**	**260**	*e*P	**Pn**	**18 03 40.3**	**+2.3**
	SNR=50						
KONS	**Konsvik**	**3.12**	**263**	*e*P	**Pn**	**18 03 41.1**	**+2.3**
KONS	**Konsvik**	**3.12**	**263**	*e*P	**Pn**	**18 03 41.1**	**+2.3**
	SNR=50						
STOK	**Stokkvaagen**	**3.20**	**260**	*e*P	**Pb**	**18 03 43.4**	**-2.7**
STOK				IAML		18 04 40.1	
	comp=N,7.4nm,0.5s						
STOK	**Stokkvaagen**	**3.20**	**260**	*e*P	**Pb**	**18 03 43.4**	**-2.7**
	SNR=50						
VRF	**Varrio**	**3.45**	**75**	*e*P	**Pn**	**18 03 44.6**	**+1.2**
VRF				*e*S	**Sn**	**18 04 25.5**	**+0.5**
VRF				MSG		18 04 38.7	
	comp=Z,4.3nm,0.1s						
VRF	**Varrio**	**3.45**	**75**	P	**Pn**	**18 03 44.6**	**+1.2**
VRF				S	**Sn**	**18 04 25.4**	**+0.5**
MSF	**Maaselka**	**3.48**	**106**	*e*P	**Pn**	**18 03 46.1**	**+2.2**
MSF				*e*S	**Sn**	**18 04 27.0**	**+1.2**
MSF	**Maaselka**	**3.48**	**106**	P	**Pn**	**18 03 46.0**	**+2.2**
MSF				S	**Sn**	**18 04 26.9**	**+1.2**
KEV	**Kevo**	**3.53**	**37**	*e*P	**Pn**	**18 03 44.9**	**+0.3**
KEV				*e*S	**Sn**	**18 04 26.4**	**-0.5**
KEV				MSG		18 04 40.0	
	comp=Z,4.2nm,0.2s						
KEV	**Kevo**	**3.53**	**37**	P	**Pn**	**18 03 44.8**	**+0.3**
KEV				S	**Sn**	**18 04 26.4**	**-0.5**
KU6	**Riekki**	**3.76**	**102**	*e*P	**Pn**	**18 03 49.6**	**+1.9**
KU6				*e*S	**Sn**	**18 04 33.9**	**+1.2**
KU6	**Riekki**	**3.76**	**102**	P	**Pn**	**18 03 49.6**	**+1.9**
KU6				S	**Sn**	**18 04 33.8**	**+1.2**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 04 20.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=339,slow=11,SNR=7.9						
FINES				Sn	**Sn**	**18 05 29.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=342,slow=22,SNR=5.7						
NOA	**NORSAR Array B**	**7.37**	**219**	Pn	**Pn**	**18 04 36.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=54,slow=7.7,SNR=3.4						
NOA				Sn	**Sn**	**18 05 59.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=187,slow=11,SNR=3.1						

BJI ***13*** *18:07:18.3,32°.20N×137°.90E,h357km,mB4.9/12, mb4.5/26*
JMA ***13*** *18:07:19.5±0.3,32°.33N×138°.13E,h385km±4km,M3.8*
ISCJB ***13*** *18:07:20.6±0.4,32°.27N±0°.05×137°.99E±0°.05, h370km±2km,mb4.0/49,Error ellipse: s-maj=7.7km s-min=6.0km az=154.6*
MOS ***13*** *18:07:20.4±0.9,32°.23N×137°.90E,h366km,mb4.2/36, Error ellipse: s-maj=10.6km s-min=5.9km az=112.8*
IDC ***13*** *18:07:21.6±0.7,32°.26N×137°.88E,h360km±6km,mb3.6/23, mb1 3.7/28,mb1mx3.7/33,mbtmp4.3/28,Error ellipse: s-maj=11.1km s-min=8.9km az=117.0*
ISC 13 18:07:21.9±0.6,**32°.33N**±0°.06×**137°.99E**±0°.05,**h366**km±4km, **n118,**σ1§**17**/**143**,**mb4.1**/**49**,**7C-7D**,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**1.48**	**347**	*e*S	**S**	**18 08 51.3**	**+0.6**
TTO3	**TONANKAI O.B.S**	**1.61**	**342**	P	**Pn**	**18 08 12.8**	**+0.8**
TTO3				*e*S	**S**	**18 08 53.7**	**+1.3**
TTO2	**TONANKAI O.B.S**	**1.62**	**330**	P	**Pn**	**18 08 12.5**	**+0.6**
TTO2				*e*S	**S**	**18 08 54.3**	**+2.1**
TK02	**Tokai 2**	**1.63**	**353**	P	**Pn**	**18 08 12.5**	**+0.5**
TTO1	**TONANKAI O.B.S**	**1.64**	**322**	P	**Pn**	**18 08 12.5**	**+0.5**
JHCJ	**Hachijojimakas**	**1.70**	**63**	P	**Pn**	**18 08 12.0**	**-0.7**
JHCJ				*e*S	**S**	**18 08 52.6**	**-1.1**
TTO4	**TONANKAI O.B.S**	**1.72**	**347**	P	**Pn**	**18 08 13.1**	**+0.6**
TTO4				S	**S**	**18 08 54.3**	**+1.0**
JHJ2	**Mitsune**	**1.73**	**63**	P	**Pn**	**18 08 12.2**	**-0.7**
TK03	**Tokai 3**	**1.83**	**359**	*e*S	**S**	**18 08 56.8**	**+1.9**
JWZ	**Kozaga**	**2.26**	**303**	P	**Pn**	**18 08 15.9**	**-0.6**
JWZ				*e*S	**S**	**18 08 59.1**	**-1.3**
JIE	**Ise**	**2.32**	**333**	P	**Pn**	**18 08 17.0**	**+0.1**
JIE				*e*S	**S**	**18 09 00.4**	**-0.8**
JWY	**Kouya**	**2.75**	**314**	P	**Pn**	**18 08 20.5**	**+0.1**
JWY				*e*S	**S**	**18 09 06.7**	**-0.9**
JOD2	**Odawara 2**	**3.07**	**17**	P	**Pn**	**18 08 22.2**	**-0.8**
JOD2				*e*S	**S**	**18 09 10.1**	**-2.3**
JYN	**Shimob**	**3.20**	**8**	P	**Pn**	**18 08 24.2**	**-0.0**
JAI	**Aioi**	**3.31**	**297**	P	**Pn**	**18 08 24.9**	**-0.3**
BSO1	**Boso 1**	**3.41**	**46**	P	**Pn**	**18 08 23.4**	**-2.1**
BSO1				*e*S	**S**	**18 09 11.6**	**-5.3**
JGM	**Miyama**	**3.53**	**343**	P	**Pn**	**18 08 27.6**	**+0.4**
JGM				*e*S	**S**	**18 09 21.3**	**+1.3**
JWT	**Wachi**	**3.65**	**325**	P	**Pn**	**18 08 28.5**	**+0.1**
JWT				*e*S	**S**	**18 09 21.7**	**-0.4**
JMN	**Monobe**	**3.72**	**293**	P	**Pn**	**18 08

MJAR				S	S	18 09 30.5	-1.7		
	comp=Z,2.4nm,0.3s,baz=113,slow=22,SNR=6.8								
JTO	**Tosashimizu**	**4.41**	**278**	P	**Pn**	**18 08 35.8**	**-0.2**		
JHS	**Saijyo**	**4.86**	**305**	P	**Pn**	**18 08 41.0**	**+0.3**		
JHS				*eS*	**S**	**18 09 44.3**	**-0.3**		
JNU	**Nakatsue**	**6.04**	**279**	P	**Pn**	**18 08 52.8**	**-1.0**		
	comp=Z,2.6nm,0.3s,baz=119,slow=7.5,SNR=23								
JCJ	**Chichijima**	**6.36**	**144**	S	S	18 10 04.8	-10		
	comp=Z,129nm,0.3s,baz=295,slow=22,SNR=9.9								
JMK	**Ichinoseki**	**7.12**	**21**	P	**Pn**	**18 09 03.9**	**-2.0**		
JMK				*eS*	S	18 10 23.4	-7.2		
TJN	**Taejon**	**9.67**	**298**	*eP*	**Pn**	**18 09 35.9**	**+0.1**		
KSRS	**Korea Array**	**9.72**	**305**	P	**P**	**18 09 37.3**	**-0.1**		
	comp=Z,0.6nm,0.3s,baz=119,slow=12,SNR=26								
VLA	**Vladivostok**	**11.80**	**338**	⇑*iP*	**P**	**18 10 00.4**	**0.0**		
VLA				pmax	pmax				
	comp=Z,52nm,0.8s								
ASAJ	**Asahikawa**	**12.31**	**16**	P	**Pn**	**18 10 07.0**	**0.0**		
	comp=Z,2.7nm,0.3s,baz=186,slow=10,SNR=20								
USRK	**Ussuriysk Arra**	**12.75**	**340**	P	**P**	**18 10 10.9**	**-0.1**		
	comp=Z,0.3nm,0.3s,baz=158,slow=11,SNR=18								
YSS	**Yuzh-Sakhalins**	**15.06**	**13**	⇑*iP*	**Pn**	**18 10 40.3**	**+1.6**		
YSS				pmax	pmax				
	comp=N,50nm,0.8s								
YSS				pmax	pmax				
	comp=Z,60nm,0.8s								
HABR	**Khabarovsk**	**16.28**	**353**	P	**P**	**18 10 48.9**	**-0.5**		
HABR				*eS*	**S**	**18 13 40.7**	**-0.7**		
HABR				pmax	pmax				
	comp=Z,27nm,2.1s								
HABR				MLR	MLR				
	comp=Z,170nm,16.0s								
KLR	**Kul'dur**	**17.52**	**346**	*eP*	**P**	**18 10 58.2**	**-4.5**		
XAN	**Xi'an**	**24.36**	**282**	P	**P**	**18 12 07.1**	**-1.2**		
XAN				pP	P	18 12 13.8	+5.5		
XAN				pmax	pmax				
	comp=Z,9.0nm,1.1s								
PETK	**Petropavlovsk-**	**25.16**	**29**	P	**P**	**18 12 16.8**	**+1.6**		
PETK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PETK	**Petropavlovsk-**	**25.16**	**29**	P	**P**	**18 12 16.8**	**+1.6**		
	comp=Z,5.4nm,0.9s,baz=218,slow=4.6,SNR=7.5								
SONM	**Songino Array**	**28.46**	**312**	P	**P**	**18 12 45.2**	**+0.6**		
	comp=Z,9.0nm,0.8s,baz=105,slow=7.9,SNR=48								
ZAK	**Zakamensk**	**31.31**	**315**	*eP*	**P**	**18 13 09.9**	**+0.5**		
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.1s								
GTA	**Gaotai**	**31.56**	**294**	*eP*	**P**	**18 13 11.0**	**-0.8**		
GTA				pmax	pmax				
	comp=Z,14nm,1.0s								
TLY	**Talaya**	**31.61**	**318**	*eP*	**P**	**18 13 12.6**	**+0.7**		
TLY				pmax	pmax				
	comp=Z,10.0nm,0.9s								
SEY	**Seymchan**	**31.97**	**12**	P	**P**	**18 13 15.9**	**+1.1**		
SEY				pmax	pmax				
	comp=Z,1.0nm,0.3s								
SEY	**Seymchan**	**31.97**	**12**	P	**P**	**18 13 15.9**	**+1.1**		
	comp=Z,0.9nm,0.3s,baz=20,slow=22,SNR=4.2								
FX1	**Attu Island--F**	**32.57**	**40**	P	**P**	**18 13 22.5**	**+2.3**		
	comp=Z,17nm,0.8s,baz=299,slow=22,SNR=8.7								
HVS	**Khovu-Aksy**	**37.33**	**314**	⇓*iP*	**P**	**18 14 01.3**	**+0.7**		
HVS				pmax	pmax				
	comp=Z,229nm,1.2s								
CMAR	**Chiang Mai Arr**	**37.66**	**258**	P	**P**	**18 14 03.0**	**-0.6**		
	comp=Z,1.3nm,0.7s,baz=50,slow=7.5,SNR=18								
CMAR				ScP	**S**	**18 19 25.9**	**-0.2**		
	comp=Z,0.8nm,0.9s,baz=23,slow=4.7,SNR=5.7								
TIXI	**Tiksi**	**39.69**	**355**	⇓*iP*	**P**	**18 14 19.8**	**+0.3**		
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ZALV	**Zalesovo Beam**	**43.18**	**316**	P	**P**	**18 14 47.5**	**-0.3**		
ZALV						18 16 30.1			
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**43.18**	**316**	P	**P**	**18 14 47.5**	**-0.3**		
	comp=Z,1.5nm,0.3s,baz=88,slow=8.3,SNR=12								
ZALV				PcP	**PcP**	**18 16 30.1**	**+0.5**		
	comp=Z,1.3nm,0.6s,baz=72,slow=4.8,SNR=3.9								
TAPN	**Taplejung**	**43.58**	**277**	*eP*	**P**	**18 14 51.3**	**-0.4**		
	comp=Z,39nm,1.0s								
ODAN	**Odare**	**44.01**	**277**	*eP*	**P**	**18 14 54.4**	**-0.6**		
	comp=Z,49nm,0.7s								
NVS	**Novosibirsk**	**44.22**	**317**	*eP*	**P**	**18 14 54.4**	**-1.5**		
NVS				*eS*	**S**	**18 20 58.2**	**-2.8**		
NVS				pmax	pmax				
	comp=Z,14nm,1.2s								
NVS				pmax	pmax				
	comp=E,9.0nm,1.1s								
NVS				smax	smax				
	comp=E,42nm,3.0s								
MK31	**Makanchi Array**	**44.40**	**306**	P	**P**	**18 14 57.5**	**-0.1**		
MK31				pmax	pmax				
	comp=Z,5.0nm,0.5s								
MKAR	**Makanchi Array**	**44.40**	**306**	P	**P**	**18 14 57.6**	**0.0**		
MKAR				*PP	**pP**	**18 16 09.1**	**-1.2**		
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MKAR				pmax	pmax				
	comp=N,1.0nm,0.7s								
MKAR	**Makanchi Array**	**44.40**	**306**	P	**P**	**18 14 57.6**	**0.0**		
	comp=N,9.7nm,0.8s,baz=90,slow=9.6,SNR=94								
MKAR				pP	**pP**	**18 16 09.1**	**-1.2**		
	comp=N,1.8nm,0.9s,baz=91,slow=11,SNR=2.8								
MKAR				ScP	**ScP**	**18 19 51.3**	**+0.9**		
	comp=N,0.9nm,0.7s,baz=78,slow=5.4,SNR=7.4								
RAMN	**Ramite**	**44.64**	**277**	*eP*	**P**	**18 14 59.5**	**-0.5**		
	comp=N,103nm,0.8s								
JIRN	**Jiri**	**44.75**	**278**	*eP*	**P**	**18 15 01.0**	**0.0**		
	comp=N,137nm,0.7s								
GUN	**Gumba**	**44.93**	**279**	*eP*	**P**	**18 15 02.3**	**-0.1**		
	comp=N,104nm,0.8s								
PKI	**Pulchoki**	**45.44**	**278**	*eP*	**P**	**18 15 05.5**	**-0.8**		
	comp=N,42nm,0.8s								
PKIN	**Phulchoki**	**45.44**	**278**	*eP*	**P**	**18 15 05.4**	**-0.9**		
	comp=N,29nm,0.8s								
KKN	**Kakani**	**45.47**	**279**	*eP*	**P**	**18 15 06.0**	**-0.4**		
	comp=N,77nm,0.9s								
DMN	**Daman**	**45.68**	**278**	*eP*	**P**	**18 15 07.5**	**-0.6**		
	comp=N,42nm,0.9s								
GKN	**Gorkha**	**45.94**	**279**	*eP*	**P**	**18 15 09.5**	**-0.5**		
	comp=N,71nm,0.8s								
DANN	**Dangsing**	**46.56**	**280**	*eP*	**P**	**18 15 15.0**	**+0.1**		
	comp=N,92nm,0.9s								
KURK	**Kurchatov**	**46.76**	**311**	*dP*	**P**	**18 15 15.3**	**-0.4**		
KURK				pmax	pmax				
	comp=Z,14nm,0.9s								
KOLN	**Koldanda**	**46.88**	**279**	*eP*	**P**	**18 15 17.0**	**-0.3**		
	comp=Z,70nm,1.0s								
PSI	**Prapat**	**46.97**	**239**	P	**P**	**18 15 16.6**	**-1.3**		
	comp=Z,2.4nm,0.4s,baz=346,slow=8.2,SNR=4.8								
TKM2	**Tokmak 2**	**49.51**	**301**	*iP*	**P**	**18 15 37.4**	**+0.5**		
TKM2	**Tokmak 2**	**49.51**	**301**	P	**P**	**18 15 37.4**	**+0.5**		
	SNR=7.9								
KSH	**Kashi**	**49.87**	**297**	*iP*	P	18 15 42.8	+3.3		
KSH				*ePP*	PP	18 17 43.8	+5.4		
KSH				*eS*	**S**	**18 22 23.1**	**+2.2**		
KSH				*es*	sS	18 24 40.4	+5.7		
KSH				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KSH				pmax	pmax				
	comp=Z,250nm,3.9s								
KSH				LR	LR				
	comp=Z,52nm,5.0s								
KSH				LR	LR				
	comp=Z,23nm,3.1s								
KSH				LR	LR				
	comp=Z,34nm,3.3s								
KBK	**Karagaybulak**	**50.03**	**301**	*iP*	**P**	**18 15 41.0**	**+0.3**		
KBK	**Karagaybulak**	**50.03**	**301**	P	**P**	**18 15 41.1**	**+0.3**		
	SNR=10								
USP	**Ospenovka**	**50.25**	**302**	*iP*	**P**	**18 15 42.1**	**-0.1**		
USP	**Ospenovka**	**50.25**	**302**	P	**P**	**18 15 42.2**	**-0.1**		
	SNR=5.9								
AAK	**Ala-Archa**	**50.36**	**301**	⇓*iP*	**P**	**18 15 43.1**	**-0.1**		
AAK				pmax	pmax				
	comp=Z,20nm,1.5s								
UCH	**Uchtor**	**50.42**	**300**	*iP*	**P**	**18 15 45.0**	**+1.0**		
UCH	**Uchtor**	**50.42**	**300**	P	**P**	**18 15 45.1**	**+1.0**		
	SNR=6.8								
AML	**Almayashu**	**51.04**	**300**	*iP*	**P**	**18 15 49.2**	**+0.7**		
AML	**Almayashu**	**51.04**	**300**	P	**P**	**18 15 49.2**	**+0.7**		
	SNR=12								
BRVK	**Borovoye**	**51.82**	**315**	*dP*	**P**	**18 15 53.4**	**-0.1**		
BRVK				pmax	pmax				
	comp=Z,13nm,1.5s								
WRA	**Warramunga Arr**	**52.09**	**184**	P	**P**	**18 15 54.0**	**-1.9**		
	comp=Z,1.4nm,0.7s,baz=1.6,slow=8.0,SNR=6.1								
WRA				pP	**pP**	**18 17 11.4**	**0.0**		
	comp=Z,1.5nm,0.9s,baz=4.7,slow=7.9,SNR=3.5								
KK31	**Karatay Array**	**53.14**	**302**	*iP*	**P**	**18 16 03.3**	**0.0**		
KK31				pmax	pmax				
	comp=Z,8.0nm,0.7s								
COLA	**College**	**54.56**	**30**	⇑*iP*	**P**	**18 16 14.7**	**+1.7**		
COLA				pmax	pmax				
	comp=Z,34nm,0.8s								
ILAR	**Eielson Array**	**54.97**	**30**	P	**P**	**18 16 16.4**	**+0.3**		
	comp=Z,5.2nm,0.9s,baz=270,slow=5.3,SNR=40								
ASAR	**Alice Springs**	**55.81**	**185**	P	**P**	**18 16 22.8**	**+0.4**		
	comp=Z,1.2nm,0.8s,baz=21,slow=8.0,SNR=2.5								
SVE	**Sverdlovsk**	**56.88**	**320**	*eP*	**P**	**18 16 29.1**	**-0.4**		
SVE				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ARU	**Arti**	**58.08**	**320**	*cP*	**P**	**18 16 37.8**	**0.0**		
ARU						18 18 31.6			
ARU				S	**S**	**18 24 09.0**	**-0.1**		
ARU				SS	**SS**	**18 28 04.1**	**-2.7**		
ARU				pmax	pmax				
	comp=Z,14nm,1.0s								
AB31	**Akbulak array**	**58.87**	**312**	*iP*	**P**	**18 16 43.1**	**-0.2**		
AB31				pmax	pmax				
	comp=Z,6.0nm,0.5s								
STKA	**Stephens Creek**	**63.95**	**177**	P	**P**	**18 17 16.0**	**-1.0**		
	comp=Z,2.4nm,0.7s,baz=335,slow=12,SNR=3.9								
ARCES	**ARCESS Array B**	**67.40**	**339**	P	**P**	**18 17 39.1**	**+0.6**		
	comp=Z,4.3nm,0.9s,baz=64,slow=8.8,SNR=16								
JOF	**Joensuu**	**68.78**	**332**	*eP*	**P**	**18 17 47.5**	**+0.5**		
JOF				pmax	pmax				
	comp=Z,1.0nm,0.3s								
JOF	**Joensuu**	**68.78**	**332**	*ep*	**P**	**18 17 47.5**	**+0.5**		
	comp=Z,1.1nm,0.3s								
VRHR	**Novokhopersk**	**69.28**	**318**	*eP*	**P**	**18 17 49.1**	**-1.2**		
VRHR				pmax	pmax				
	comp=N,9.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,6.0nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
YKA	**Yellowknife Ar**	**69.28**	**28**	P	**P**	**18 17 50.7**	**+0.6**		
	comp=Z,2.5nm,0.7s,baz=300,slow=6.3,SNR=44								
OBN	**Obninsk**	**70.17**	**323**	⇑*eP*	**P**	**18 17 55.5**	**0.0**		
OBN				*e*		18 20 36.7			
OBN				pmax	pmax				
	comp=Z,18nm,2.1s								
OBN				MLR	MLR				
	comp=Z,200nm,20.0s								
VSR	**Storozhevoye**	**70.61**	**319**	*eP*	**P**	**18 17 57.7**	**-0.6**		
VSR				pmax	pmax				
	comp=N,4.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,6.0nm,0.8s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VORD	**Divnogorie**	**70.65**	**319**	*eP*	**P**	**18 17 57.0**	**-1.5**		
VORD				pmax	pmax				
	comp=Z,7.0nm,1.0s								
VORD				pmax	pmax				
	comp=N,5.0nm,0.8s								
VORD				pmax	pmax				
	comp=E,10.0nm,1.0s								
KAF	**Kangasniemi**	**71.18**	**333**	*eP*	**P**	**18 18 01.7**	**+0.2**		
KAF				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KAF	**Kangasniemi**	**71.18**	**333**	*ep*	**P**	**18 18 01.7**	**+0.2**		
	comp=Z,1.1nm,0.4s								
ZEI	**Tsey**	**71.59**	**309**	*eP*	**P**	**18 18 01.5**	**-3.1**		
ZEI				pmax	pmax				
	comp=Z,6.0nm,1.0s								
FINES	**FINESS Array B**	**71.65**	**332**	P	**P**	**18 18 04.5**	**+0.2**		
	comp=Z,2.2nm,0.4s,baz=64,slow=5.7,SNR=38								
VSU	**Vasula**	**73.06**	**329**	⇓*eP*	**P**	**18 18 13.8**	**+1.3**		
VSU				pmax	pmax				
	comp=Z,10.0nm,1.0s								
AKASG	**Malin Array Be**	**76.26**	**322**	*cP*	**P**	**18 18 30.7**	**-0.2**		
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**76.26**	**322**	P	**P**	**18 18 30.8**	**-0.2**		
	comp=Z,1.7nm,0.4s,baz=50,slow=5.7,SNR=37								
KIEV	**Kiev**	**76.27**	**322**	⇑*eP*	**P**	**18 18 31.3**	**+0.3**		
HFS	**Hagfors**	**77.18**	**335**	P	**P**	**18 18 35.7**	**-0.2**		
	comp=Z,0.7nm,0.4s,baz=65,slow=5.2,SNR=8.3								
NB2	**NORSAR Subarra**	**77.40**	**336**	P	**P**	**18 18 37.0**	**-0.1**		
	comp=Z,0.7nm,0.6s,baz=45,slow=5.3								
NOA	**NORSAR Array B**	**77.40**	**336**	P	**P**	**18 18 36.9**	**-0.1**		
	comp=Z,1.0nm,0.6s,baz=45,slow=5.7,SNR=4.6								
BRTR	**Keskin Array B**	**79.81**	**311**	P	**P**	**18 18 51.0**	**+0.3**		
	comp=Z,4.3nm,0.9s,baz=110,slow=4.5,SNR=19								
NVAR	**Mina Array Bea**	**80.11**	**51**	P	**P**	**18 18 53.7**	**+1.3**		
	comp=Z,2.5nm,0.7s,baz=297,slow=5.3,SNR=16								
PDAR	**Pinedale Array**	**83.00**	**43**	P	**P**	**18 19 08.3**	**+1.0**		
	comp=Z,2.6nm,0.9s,baz=302,slow=2.4,SNR=17								
ULM	**Lac du Bonnet**	**84.98**	**31**	P	**P**	**18 19 16.8**	**+0.1**		
	comp=Z,1.4nm,0.5s,baz=312,slow=6.8,SNR=3.4								
GERES	**GERESS Array B**	**85.16**	**327**	P	**P**	**18 19 18.3**	**+0.5**		
	comp=Z,0.3nm,0.4s,baz=57,slow=6.0,SNR=3.8								
TXAR	**Lajitas Array**	**95.26**	**51**	P	**P**	**18 20 06.7**	**+1.5**		
	comp=Z,2.0nm,0.7s,baz=292,slow=2.9,SNR=23								
TXAR				pP	**pP**	**18 21 31.7**	**+0.9**		
	comp=Z,0.7nm,0.9s,baz=292,slow=5.7,SNR=2.8								
TORD	**Torodi Ar. Bea**	**118.42**	**310**	PKP	**PKPdf**	**18 25 26.8**	**-0.3**		
	comp=Z,0.3nm,0.5s,baz=14,slow=1.6,SNR=3.9								
LPAZ	**La Paz**	**151.45**	**62**	PKPbc	**PKPbc**	**18 26 33.9**	**-0.4**		
	comp=Z,2.0nm,0.7s,baz=344,slow=5.0,SNR=7.2								

JMA 13 18:07:50.3, 34.82N×139.15E, h8km±2km, M1.7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.13**	**326**	P	Pg	18 07 53.3	+0.2
KTJJ				S	Sg	18 07 55.7	+0.6
JIZS	**Izushimoda**	**0.25**	**246**	P	Pg	18 07 55.4	+0.2
JIZS				S	Sg	18 07 59.2	+0.7
JOD2	**Odawara 2**	**0.45**	**353**	P	Pg	18 07 59.2	+0.2
SHZ3	**Shizuoka 3**	**0.81**	**288**	P	Pg	18 08 05.8	-0.2
JYN	**Shimob**	**0.84**	**324**	P	Pg	18 08 06.0	-0.6

*IDC **13** 18:10:06.5±1.2, 6.18S×147.84E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.7/2, Error ellipse: s-maj=53.0km s-min=16.5km az=102.0*
*ISCJB **13** 18:10:14.4±0.6, 6.33S±0.06×147.18E±0.1, h77km, mb3.7/6, Error ellipse: s-maj=15.0km s-min=7.7km az=22.0*
ISC 13 18:10:16.5±0.7, 6.27S±0.07×147.6E±0.1, h77km, n21, σ1s59/22, mb3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.16**	**189**	Pn	**Pn**	**18 11 01.1**	**-2.8**
	16nm,0.3s,baz=65,slow=5.9,SNR=46						
PMG				Sn	**Sn**	**18 11 38.4**	**-2.1**
	17nm,0.3s,baz=204,slow=18,SNR=3.2						
RABL	**Rabaul**	**4.95**	**66**	P	**Pn**	**18 11 26.2**	**-2.2**
	baz=4.9,SNR=6.2						
COEN	**Coen**	**8.82**	**210**	P	**Pn**	**18 12 20.8**	**-0.4**
	baz=8.8,SNR=8.4						
QIS	**Mount Isa**	**16.21**	**208**	P	**Pn**	**18 14 00.2**	**+0.6**
	baz=16,SNR=4.4						
KDU	**Kakadu**	**16.26**	**246**	P	**P**	**18 14 01.4**	**-0.5**
	baz=16,SNR=3.5						
WRA	**Warramunga Arr**	**18.76**	**222**	P	**P**	**18 14 29.3**	**-0.2**
	0.7nm,0.3s,baz=51,slow=10,SNR=31						
RMQ	**Roma**	**20.14**	**177**	P	**P**	**18 14 44.6**	**+0.2**
	baz=20,SNR=15						
QLP	**Quilpie**	**20.46**	**189**	P	**P**	**18 14 47.9**	**0.0**
	baz=20,SNR=24						
KNRA	**Kununurra**	**20.74**	**242**	P	Pn	18 14 54.0	-0.2
	baz=21,SNR=8.5						
ASAR	**Alice Springs**	**21.77**	**216**	P	**P**	**18 15 02.3**	**+0.2**
	5.2nm,0.4s,baz=53,slow=8.7,SNR=138						
STKA	**Stephens Creek**	**26.10**	**192**	P	**P**	**18 15 42.9**	**-0.3**
	3.2nm,0.5s,baz=358,slow=7.9,SNR=13						
STKA	**Stephens Creek**	**26.10**	**192**	P	**P**	**18 15 43.2**	**+0.1**
	baz=26,SNR=12						
WRKA	**Warakurna**	**26.30**	**223**	P	**P**	**18 15 45.5**	**+0.4**
	baz=26,SNR=108						
LHI	**Lord Howe Isla**	**27.30**	**158**	P	**P**	**18 15 57.3**	**+3.3**
	baz=27,SNR=3.2						
LHI				S	**S**	**18 20 31.4**	**+3.4**
	baz=27,SNR=5.6						
HTT	**Hallett**	**28.22**	**196**	P	**P**	**18 16 02.5**	**+0.4**
	baz=28,SNR=5.8						
MEEK	**Meekatharra**	**34.28**	**230**	P	**P**	**18 16 56.8**	**+1.3**
	baz=34,SNR=7.7						
PETK	**Petropavlovsk-**	**59.76**	**7**	P	**P**	**18 20 14.1**	**+0.9**
	1.1nm,0.7s,baz=168,slow=8.4,SNR=6.0						
SONM	**Songino Array**	**64.95**	**331**	P	**P**	**18 20 48.7**	**+0.6**
	0.4nm,0.7s,baz=152,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**78.11**	**320**	P	**P**	**18 22 06.4**	**-0.8**
	0.1nm,0.4s,baz=94,slow=9.7,SNR=4.8						
ILAR	**Eielson Array**	**85.47**	**23**	P	**P**	**18 22 43.7**	**-1.8**
	0.6nm,1.0s,baz=233,slow=8.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**145.78**	**284**	PKPbc	**PKPab**	**18 29 48.7**	**+0.4**
	0.6nm,0.5s,baz=68,slow=3.6,SNR=7.9						

WEL 13 18:15:42.5±0.7, 44.35S×167.03E, h5km, ML3.6/11, 2C-1D, Error ellipse: s-maj=5.9km s-min=4.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.72**	**117**	⇑P*	Pg	18 15 56.5	+0.2
MSZ				S*	Sg	18 16 05.3	-0.3
MSZ				AML	AML	18 16 05.9	
MSZ				AML	AML	18 16 06.4	
MSZ				AML	AML	18 16 06.6	
DCZ	**Deep Cove**	**1.13**	**176**	P*	Pg	18 16 02.4	-1.7
DCZ				AML	AML	18 16 18.3	
DCZ				AML	AML	18 16 18.9	
DCZ				AML	AML	18 16 24.0	
JCZ	**Jackson Bay**	**1.27**	**78**	P*	Pg	18 16 05.1	-1.9
JCZ				AML	AML	18 16 25.5	
JCZ				AML	AML	18 16 26.7	
MLZ	**Mavora Lakes**	**1.29**	**141**	⇑P*	Pn	18 16 06.3	-0.9
MLZ				S*	Sg	18 16 23.3	-0.7
MLZ				AML	AML	18 16 24.2	
WKZ	**Wanaka**	**1.50**	**109**	⇓PN	Pn	18 16 09.8	-0.2
WKZ				SN	Sn	18 16 29.6	-0.4
WKZ				AML	AML	18 16 30.4	
WKZ				AML	AML	18 16 31.2	
WKZ				AML	AML	18 16 31.2	
WHZ	**Wether Hill Ro**	**1.67**	**158**	PN	Pn	18 16 11.9	-0.6
WHZ				AML	AML	18 16 34.7	
WHZ				AML	AML	18 16 36.3	
EAZ	**Earnscleugh**	**1.85**	**119**	PN	Pn	18 16 15.7	+0.9
EAZ				AML	AML	18 16 41.8	
EAZ				AML	AML	18 16 41.8	
EAZ				AML	AML	18 16 43.1	
EAZ				AML	AML	18 16 43.1	
FOZ	**Fox Glacier**	**2.07**	**69**	PN	Pn	18 16 16.4	-1.4
FOZ				AML	AML	18 16 50.7	
FOZ				AML	AML	18 16 51.0	
FOZ				AML	AML	18 16 54.1	
FOZ				AML	AML	18 16 54.1	
LBZ	**Lake Benmore**	**2.26**	**92**	PN	Pn	18 16 21.0	+0.5
LBZ				AML	AML	18 16 55.3	
LBZ				AML	AML	18 16 56.8	
TUZ	**Tuapeka**	**2.44**	**132**	PN	Pb	18 16 25.7	-1.1
TUZ				AML	AML	18 16 57.3	
TUZ				AML	AML	18 16 57.4	
APZ	**The Paps**	**2.57**	**165**	PN	Pn	18 16 24.8	0.0
SYZ	**Scrubby Hill**	**2.64**	**147**	PN	Pn	18 16 25.7	0.0
ODZ	**Otahua Downs**	**2.67**	**106**	PN	Pn	18 16 26.3	+0.2
RPZ	**Rata Peaks**	**2.97**	**79**	PN	Pn	18 16 28.7	-1.6
RPZ				AML	AML	18 17 18.0	
DSZ	**Denniston Nort**	**4.36**	**55**	PN	Pn	18 16 46.9	-2.5
THZ	**Tophouse**	**5.02**	**61**	PN	Pn	18 16 56.7	-1.8

*ISCJB **13** 18:46:45.7±0.4, 14.30N±0.05×91.29W±0.03, h107km±4km, mb4.1/7, Error ellipse: s-maj=9.8km s-min=3.9km az=24.8*
*IDC **13** 18:46:46.9±2.0, 14.25N×90.90W, h99km, 10km, mb3.8/7, mb1 4.0/9, mb1mx3.7/25, mbtmp3.8/9, MS3.7/3, Ms1 3.7/3, ms1mx3.4/37, Error ellipse: s-maj=32.5km s-min=30.7km az=169.0*
*CASC **13** 18:46:46.4±1.4, 14.12N×91.31W, h87km±10km, MD4.1, ML4.1*
*MEX **13** 18:46:47.2±0.4, 14.25N×91.25W, h100km±6km, MD4.0*
ISC 13 18:46:47.0±0.8, 14.29N±0.07×91.28W±0.04, h98km±6km, n38, σ1s07/52, mb4.1/7, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.35**	**275**	*eP*	**Pn**	**18 47 00.6**	**-1.0**
PCG	**Pacaya**	**0.66**	**81**	*eP*	**Pn**	**18 47 03.5**	**-0.6**
PCG				*eS*	**Sn**	**18 47 18.3**	**+1.2**
GCG	**Guatemala City**	**0.78**	**67**	*eP*	**Pn**	**18 47 05.1**	**-0.2**
GCG				*eS*	**Sn**	**18 47 19.7**	**+0.8**
IXG	**Ixpaco**	**0.81**	**98**	*eP*	**Pn**	**18 47 04.9**	**-0.6**
NBG	**Las Nubes**	**0.95**	**71**	*eS*	**Sn**	**18 47 23.

comp=Z,0.4nm,0.8s,baz=83,slow=2.3,SNR=3.7
CMAR Chiang Mai Arr 145.94 342 PKPbc **PKPbc 19 06 16.2 0.0**
comp=Z,3.6nm,0.9s,baz=356,slow=2.7,SNR=17

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*IDC **13** 18:54:14.8±0.5, 18°.36N×72°.59W, h0km, mb4.1/23, mb1 4.3/26, mb1mx4.3/30, mbtmp4.1/26, ML4.3/2, Error ellipse: s-maj=15.9km s-min=11.4km az=63.0*
*ISCJB **13** 18:54:15.3±0.2, 18°.37N±0'.03×72°.56W±0'.02, h13km, mb4.2/44, MS4.8/2, Error ellipse: s-maj=4.7km s-min=2.5km az=19.4*
*NEIC **13** 18:54:16.6±0.2, 18°.41N×72°.58W, h10km, mb4.5/23, Error ellipse: s-maj=4.1km s-min=2.9km az=23.0*
*JSN **13** 18:54:22.5±0.3, 20°.05N×73°.47W, h15km≤999km, MD5.0*
ISC 13 18:54:16.9±0.3, **18°.40N**±0'.04×**72°.61W**±0'.04, **h13km, n248, σ1§09/261, mb4.4/45, 57C-59D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.38**	**65**	*e*Pn	**Pn**	**18 54 39.8**	**-2.2**
SDDR				*e*Sn	**Sn**	**18 54 59.5**	**-0.6**
GTBY	**Guantanamo Bay**	**2.81**	**303**	*e*Pn	**Pn**	**18 55 00.4**	**-1.2**
GRTK	**Grand Turk**	**3.39**	**24**	*e*Pn	**Pn**	**18 55 08.0**	**-1.6**
GWJ	**Greenwich**	**3.93**	**266**	*e*P	**Pn**	**18 55 17.7**	**+0.5**
GWJ	**Greenwich**	**3.93**	**266**	*e*P	**Pn**	**18 55 17.7**	**+0.5**
HOJ	**Hope**	**3.96**	**265**	*i* P	**Pn**	**18 55 18.6**	**+1.2**
HOJ	**Hope**	**3.96**	**265**	*i* P	**Pn**	**18 55 18.6**	**+1.2**
STH	**Stony Hill**	**4.01**	**266**	*i* P	**Pn**	**18 55 18.5**	**+0.4**
STH				*i* S	**Sn**	**18 56 00.4**	**-4.5**
STH	**Stony Hill**	**4.01**	**266**	*i* P	**Pn**	**18 55 18.5**	**+0.4**
STH				*i* S	**Sn**	**18 56 00.4**	**-4.5**
PCJ	**Portland Cotta**	**4.38**	**262**	*e*P	**Pn**	**18 55 24.9**	**+1.7**
PCJ	**Portland Cotta**	**4.38**	**262**	*e*P	**Pn**	**18 55 24.9**	**+1.7**
MTDJ	**Mount Denham**	**4.68**	**269**	*e*Pn	**Pn**	**18 55 27.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**5.24**	**93**	*e*Pn	**Pn**	**18 55 34.6**	**-0.4**
LSP	**Las Mesas**	**5.25**	**92**	*e*Pn	**Pn**	**18 55 35.3**	**+0.1**
AOPR	**Arecibo Observ**	**5.56**	**90**	*e*Pn	**Pn**	**18 55 39.9**	**+0.5**
OBIP	**Obispado Ponce**	**5.71**	**93**	*e*Pn	**Pn**	**18 55 41.0**	**-0.6**
CELP	**Cerrillos**	**5.74**	**92**	*e*Pn	**Pn**	**18 55 42.1**	**+0.2**
CBYP	**Canovanas**	**6.41**	**90**	*e*Pn	**Pn**	**18 55 51.1**	**-0.1**
HUMP	**Col San Antoni**	**6.43**	**91**	*e*Pn	**Pn**	**18 55 51.9**	**+0.5**
MTP	**Monte Pirata**	**6.71**	**91**	*e*Pn	**Pn**	**18 55 55.6**	**+0.3**
MTP				*e*S	**Sn**	**18 57 12.6**	**+1.0**
CDVI	**St. Croix**	**7.49**	**94**	*e*P	**Pn**	**18 56 05.3**	**-0.6**
SABA	**Saba**	**8.95**	**94**	*e*Pn	**Pn**	**18 56 27.5**	**+1.6**
SDV	**Santo Domingo**	**9.65**	**168**	*e*Pn	**Pn**	**18 56 35.5**	**-0.3**
SDV				*e*Sn	**Sn**	**18 58 19.0**	**-5.3**
LZG	**Guadaloupe-1**	**10.59**	**101**	*e*P	**Pn**	**18 56 49.9**	**+1.4**
MLG	**Mont-d'or**	**10.67**	**101**	*e*P	**Pn**	**18 56 49.5**	**-0.1**
SSG	**Sans Toucher**	**10.69**	**101**	*e*P	**Pn**	**18 56 49.6**	**-0.5**
ECG	**Echelle**	**10.73**	**101**	*e*P	**Pn**	**18 56 50.9**	**+0.4**
PHG	**Guadaloupe-2**	**10.74**	**101**	*e*P	**Pn**	**18 56 51.0**	**+0.3**
DOG	**Dongo Capester**	**10.76**	**101**	*e*P	**Pn**	**18 56 52.4**	**+1.5**
SEG	**Port Louis**	**10.78**	**99**	*e*P	**Pn**	**18 56 51.1**	**0.0**
BBL	**Barber's Block**	**11.03**	**103**	*e*P	**Pn**	**18 56 55.1**	**+0.5**
H05N1	**Guadeloupe/Mar**	**11.22**	**99**	Pn	**Pn**	**18 56 56.6**	**-0.6**
BCIP	**Isla Barro Col**	**11.55**	**218**	*e*Pn	**Pn**	**18 57 01.5**	**-0.2**
FDF	**Fort de France**	**11.57**	**107**	Pn	**Pn**	**18 57 02.2**	**+0.2**
GRGR	**Grenville**	**12.27**	**119**	*e*P	**Pn**	**18 57 11.9**	**+0.5**
ROSC	**El Rosal**	**13.57**	**187**	*e*Pn	**Pn**	**18 57 28.7**	**-0.9**
ROSC					**Sn**	**19 00 04.1**	**+3.6**
ROSC	**El Rosal**	**13.57**	**187**	Pn	**Pn**	**18 57 28.9**	**-0.7**
	baz=84,slow=16,SNR=1.9						
ROSC					**Sn**	**19 00 04.1**	**+3.6**
	4.3nm,0.3s,baz=269,slow=23,SNR=3.5						
TEIG	**Tepich**	**14.90**	**280**	Pn	**Pn**	**18 57 47.7**	**+0.3**
TEIG	**Tepich**	**14.90**	**280**	Pn	**Pn**	**18 57 47.7**	**+0.3**
	1.5nm,0.3s,baz=60,slow=11,SNR=6.3						
TIGA	**Tifton**	**16.35**	**325**	*e*Pn	**Pn**	**18 58 05.8**	**-0.4**
APG	**El Apazote**	**17.43**	**261**	P	**P**	**18 58 22.2**	**+0.8**
APG	**El Apazote**	**17.43**	**261**	P	**P**	**18 58 22.2**	**+0.8**
	0.3nm,0.3s,baz=212,slow=19,SNR=3.0						
OTAV	**Otavalo**	**18.94**	**198**	*e*Pn	**Pn**	**18 58 40.9**	**+1.9**
	12nm,1.1s						
JSRW	**J. Sargeant Re**	**19.77**	**348**	*e*Pn	**P**	**18 58 47.2**	**+0.5**
TKL	**Tuckaleechee C**	**19.83**	**332**	P	**Pn**	**18 58 48.4**	**-0.7**
TKL	**Tuckaleechee C**	**19.83**	**332**	P	**Pn**	**18 58 48.4**	**-0.7**
	0.7nm,0.3s,baz=137,slow=12,SNR=5.9						
BLA	**Blacksburg**	**19.96**	**341**	*e*P	**P**	**18 58 48.8**	**-0.1**
	39nm,0.8s						
CPCT	**Cooper Cave**	**20.00**	**330**	*e*Pn	Pn	18 58 51.3	+0.2
TZTN	**Tazewell**	**20.49**	**334**	*e*Pn	**P**	**18 58 55.7**	**+1.1**
	48nm,1.2s						
SWET	**Sewanee**	**20.50**	**327**	*e*Pn	Pn	18 58 57.7	+0.7
	23nm,1.1s						
SDMD	**Soldier's Deli**	**21.25**	**351**	*e*P	**P**	**18 59 02.9**	**0.0**
	20nm,0.8s						
ODNJ	**Ogdensburg**	**22.67**	**356**	*e*P	**P**	**18 59 18.7**	**+0.7**
	15nm,0.6s						
PTGA	**Pitinga**	**22.71**	**145**	*e*P	**P**	**18 59 18.6**	**-0.2**
	15nm,0.7s						
PTGA	**Pitinga**	**22.71**	**145**	P	**P**	**18 59 18.9**	**+0.2**
	21nm,0.9s,baz=340,slow=15,SNR=23						
SFIN	**Scholer Farm**	**25.21**	**333**	*e*P	**P**	**18 59 42.2**	**-0.1**
	15nm,0.8s						
833A	**Chaparral WMA,**	**26.45**	**297**	⇑P	**P**	**18 59 54.6**	**+0.9**
	baz=26						
TUL1	**Tulsa**	**26.90**	**315**	⇓P	**P**	**18 59 58.2**	**+0.4**
	baz=27						
832A	**Faith Ranch, C**	**26.93**	**296**	⇑P	**P**	**18 59 58.6**	**+0.5**
	baz=27						
433A	**Art**	**26.97**	**302**	⇑P	**P**	**18 59 59.0**	**+0.5**
	baz=27						
333A	**Richland Sprin**	**27.09**	**303**	⇑P	**P**	**19 00 00.2**	**+0.7**
	baz=27						
631A	**Perdido Creek**	**27.75**	**298**	⇑P	**P**	**19 00 05.7**	**+0.3**
	baz=28						
JFWS	**Jewell Farm**	**28.64**	**332**	*e*P	**P**	**19 00 13.0**	**-0.3**
	22nm,0.8s						
SAML	**Samuel**	**28.72**	**160**	*e*P	**P**	**19 00 12.6**	**-1.6**
	5.8nm,0.7s						
529A	**Stev Forest Ra**	**29.32**	**299**	⇓P	**P**	**19 00 19.7**	**+0.2**
	baz=29						
V31A	**Spring Creek L**	**29.64**	**311**	⇑P	**P**	**19 00 23.5**	**+1.2**
	baz=30						
X30A	**Coker Ranch, T**	**29.80**	**308**	⇑P	**P**	**19 00 24.0**	**+0.3**
	baz=30						
528A	**Cox Ranch, San**	**29.80**	**299**	⇓P	**P**	**19 00 24.2**	**+0.4**
	baz=30						
428A	**Kincaid Ranch,**	**29.88**	**300**	⇑P	**P**	**19 00 25.1**	**+0.5**
	baz=30,SNR=9.2						
Z29A	**Hungry Hill Ra**	**29.95**	**305**	⇑P	**P**	**19 00 26.0**	**+0.8**
	baz=30						
S32A	**Newby Ranch, P**	**29.99**	**315**	⇓P	**P**	**19 00 26.3**	**+0.9**
	baz=30						
Q33A	**Connelly Farm,**	**30.01**	**318**	⇓P	**P**	**19 00 26.5**	**+1.0**
	baz=30						
627A	**Terlingua Ranc**	**30.12**	**297**	⇓P	**P**	**19 00 27.2**	**+0.5**
	baz=30						
Y29A	**Porterfield Fa**	**30.16**	**306**	⇓P	**P**	**19 00 28.1**	**+1.1**
	baz=30						
TXAR	**Lajitas Array**	**30.33**	**297**	P	**P**	**19 00 29.2**	**+0.7**
TXAR	**Lajitas Array**	**30.33**	**297**	P	**P**	**19 00 29.2**	**+0.7**
	0.5nm,0.6s,baz=109,slow=11,SNR=6.3						
128A	**Castleberry Fa**	**30.33**	**304**	⇓P	**P**	**19 00 28.7**	**+0.2**
	baz=30						
X29A	**Tulia**	**30.42**	**307**	⇓P	**P**	**19 00 29.4**	**+0.1**
	baz=30						
Q32A	**Meitler Ranch,**	**30.46**	**318**	⇓P	**P**	**19 00 30.0**	**+0.5**
	baz=30						
527A	**Woodward Ranch**	**30.49**	**298**	⇑P	**P**	**19 00 30.6**	**+0.7**
	baz=30						
427A	**Hayter Ranch,**	**30.51**	**300**	⇑P	**P**	**19 00 30.5**	**+0.4**
	baz=30						
P32A	**Huiting Farm,**	**30.85**	**319**	⇑P	**P**	**19 00 33.7**	**+0.8**
	baz=31						
526A	**Mary Lane Ranc**	**30.86**	**298**	⇓P	**P**	**19 00 34.1**	**+0.8**
	baz=31						
V29A	**Stinnett**	**30.90**	**310**	⇑P	**P**	**19 00 34.2**	**+0.8**
	baz=31						
426A	**McDonald Obser**	**30.98**	**299**	⇓P	**P**	**19 00 35.1**	**+0.7**
	baz=31						
Z27A	**Tatum**	**31.15**	**304**	⇓P	**P**	**19 00 36.0**	**+0.3**
	baz=31						
R30A	**Dighton**	**31.20**	**315**	⇑P	**P**	**19 00 36.9**	**+0.9**
	baz=31						
P31A	**Stockton**	**31.29**	**318**	⇓P	**P**	**19 00 37.9**	**+1.1**
	baz=31						
S29A	**Ulysses**	**31.43**	**313**	⇑P	**P**	**19 00 38.7**	**+0.6**
	baz=32						
Q30A	**Quinter**	**31.53**	**316**	⇓P	**P**	**19 00 39.6**	**+0.7**
	baz=32						
425A	**Indio Mountain**	**31.80**	**299**	⇑P	**P**	**19 00 42.2**	**+0.7**
	baz=32						
P30A	**Selden**	**31.86**	**317**	⇑P	**P**	**19 00 42.6**	**+0.8**
	baz=32						
325A	**Bean Ranch, Si**	**31.95**	**300**	⇓P	**P**	**19 00 43.8**	**+1.0**
	baz=32						
S28A	**Manter**	**31.96**	**313**	⇑P	**P**	**19 00 43.5**	**+0.7**
	baz=32						
Q29A	**Oakley**	**31.98**	**316**	⇓P	**P**	**19 00 44.0**	**+1.0**
	baz=32						
225A	**Deer Hill, Car**	**32.04**	**301**	⇑P	**P**	**19 00 44.6**	**+1.0**
	baz=32						
X26A	**CR and CF Fran**	**32.06**	**306**	⇑P	**P**	**19 00 44.5**	**+0.7**
	baz=32						
125A	**Gardner Draw,**	**32.07**	**303**	⇑P	**P**	**19 00 44.3**	**+0.5**
	baz=32						
O30A	**MW Ranch, Wils**	**32.09**	**318**	⇓P	**P**	**19 00 44.8**	**+0.9**
	baz=32						
M31A	**Lambtecht Ranc**	**32.11**	**321**	⇑P	**P**	**19 00 45.0**	**+1.0**
	baz=32						
R28A	**Tribune**	**32.27**	**314**	⇑P	**P**	**19 00 46.3**	**+0.8**
	baz=32						
324A	**Moseley Ranch,**	**32.39**	**300**	⇓P	**P**	**19 00 47.6**	**+0.9**
	baz=32						
224A	**Cornudas Mount**	**32.59**	**301**	⇓P	**P**	**19 00 49.3**	**+0.8**
	baz=33						
124A	**Stringfield Ra**	**32.72**	**302**	⇓P	**P**	**19 00 50.7**	**+0.9**
	baz=33						
U26A	**Atchley Ranch,**	**32.74**	**310**	⇓P	**P**	**19 00 50.8**	**+1.0**
	baz=33						
M30A	**Dale-Ortello V**	**32.76**	**321**	⇑P	**P**	**19 00 51.0**	**+1.2**
	baz=33						
W25A	**X Bar L Ranch,**	**32.81**	**307**	⇑P	**P**	**19 00 51.3**	**+1.0**
	baz=33						
Z24A	**Sheeppen Canyo**	**32.85**	**303**	⇓P	**P**	**19 00 51.9**	**+1.1**
	baz=33						
R27A	**Eads**	**32.92**	**313**	⇑P	**P**	**19 00 52.1**	**+0.9**
	baz=33						
L30A	**Spencer Herefo**	**32.92**	**321**	⇑P	**P**	**19 00 52.3**	**+1.2**
	baz=33						
T26A	**Comanche Natio**	**32.97**	**311**	⇑P	**P**	**19 00 52.5**	**+0.7**
	baz=33						
Y24A	**Capitan**	**33.10**	**304**	⇓P	**P**	**19 00 53.6**	**+0.6**
	baz=33						
V25A	**Rancho No Teng**	**33.16**	**308**	⇑P	**P**	**19 00 54.5**	**+1.0**
	baz=33						
U25A	**Circle Dot Ran**	**33.23**	**309**	⇑P	**P**	**19 00 55.0**	**+0.9**
	baz=33						
L29A	**Maesberg Ranch**	**33.44**	**321**	⇓P	**P**	**19 00 56.5**	**+0.8**
	baz=34						
Z23A	**Rita Site, Whi**	**33.52**	**303**	⇑P	**P**	**19 00 57.7**	**+1.2**
	baz=34						
T25A	**Trinidad**	**33.54**	**310**	⇓P	**P**	**19 00 57.7**	**+0.9**
	baz=34						
Y23A	**Lovelace Mesa,**	**33.59**	**304**	⇓P	**P**	**19 00 58.1**	**+0.8**
	baz=34,SNR=5.9						
Q26A	**Hugo**	**33.72**	**314**	⇑P	**P**	**19 00 59.4**	**+1.2**
	baz=34						
X23A	**Hourglass Bar**	**33.91**	**305**	⇓P	**P**	**19 01 01.1**	**+1.1**
	baz=34						
LPM	**Los Pinos Moun**	**34.16**	**304**	*e*P	**P**	**19 01 03.8**	**+1.6**
T24B	**San Luis**	**34.22**	**310**	⇓P	**P**	**19 01 04.1**	**+1.3**
	baz=34						
ANMO	**Albuquerque**	**34.24**	**306**	P	**P**	**19 01 04.0**	**+1.1**
ANMO	**Albuquerque**	**34.24**	**306**	P	**P**	**19 01 04.0**	**+1.1**
	0.7nm,0.4s,baz=130,slow=7.6,SNR=3.5						
SDCO	**Great Sand Dun**	**34.59**	**311**	*e*P	**P**	**19 01 06.2**	**+0.3**
	2.6nm,1.0s						
LPAZ	**La Paz**	**34.75**	**172**	P	**P**	**19 01 08.8**	**+0.9**
LPAZ	**La Paz**	**34.75**	**172**	P	**P**	**19 01 08.8**	**+0.9**
	0.7nm,0.5s,baz=347,slow=8.8,SNR=3.7						
319A	**Douglas**	**35.52**	**298**	⇑P	**P**	**19 01 14.9**	**+1.1**
	baz=36						
SIV	**San Ignacio**	**36.01**	**161**	P	**P**	**19 01 17.5**	**-0.6**
SIV	**San Ignacio**	**36.01**	**161**	P	**P**	**19 01 17.5**	**-0.6**
	1.5nm,0.6s,baz=360,slow=10,SNR=4.5						
C30A	**Mose, Pekin**	**36.06**	**330**	⇑P	**P**	**19 01 19.0**	**+0.8**
	baz=36						
I25A	**Rochford**	**36.52**	**321**	⇓P	**P**	**19 01 22.9**	**+0.6**
	baz=36						
B30A	**Myrvik Farm, E**	**36.52**	**331**	⇓P	**P**	**19 01 23.1**	**+1.0**
	baz=37						
SCHQ	**Schefferville**	**36.63**	**6**	P	**P**	**19 01 23.6**	**+0.6**
SCHQ	**Schefferville**	**36.63**	**6**	P	**P**	**19 01 23.6**	**+0.6**
	4.7nm,0.6s,baz=205,slow=8.5,SNR=9.1						
J24A	**Dion Ranch, L**	**36.70**	**320**	⇑P	**P**	**19 01 24.3**	**+0.5**
	baz=37						
L23A	**Garrett**	**36.73**	**317**	⇑P	**P**	**19 01 24.3**	**+0.1**
	baz=37,SNR=6.0						
ULM	**Lac du Bonnet**	**36.82**	**335**	P	**P**	**19 01 24.0**	**-0.5**
ULM	**Lac du Bonnet**	**36.82**	**335**	P	**P**	**19 01 24.0**	**-0.5**
	3.8nm,0.9s,baz=128,slow=12,SNR=3.6						
A30A	**Hoffart Farm,**	**36.87**	**332**	⇓P	**P**	**19 01 26.0**	**+1.0**
	baz=37						
G25A	**Newell**	**37.01**	**323**	⇑P	**P**	**19 01 27.2**	**+0.8**
	baz=37						
A29A	**Manning Farm,**	**37.28**	**331**	⇑P	**P**	**19 01 29.1**	**+0.6**
	baz=37						
H24A	**Dirks Ranch, A**	**37.41**	**322**	⇓P	**P**	**19 01 29.9**	**+0.1**
	baz=37						
F25A	**Bowman**	**37.47**	**324**	⇓P	**P**	**19 01 30.4**	**+0.1**
	baz=38						
B28A	**Dugan Ranch, T**	**37.48**	**329**	⇓P	**P**	**19 01 30.8**	**+0.6**
	baz=38						
K22A	**Casper**	**37.52**	**317**	⇓P	**P**	**19 01 31.4**	**+0.5**
	baz=38						
N20A	**Spence Gulch,**	**37.84**	**314**	⇓P	**P**	**19 01 33.0**	**-0.6**
	baz=38						
K21A	**Alcova**	**37.98**	**317**	⇑P	**P**	**19 01 35.4**	**+0.6**
	baz=38,SNR=11						
I22A	**9 Mile Ranch,**	**38.12**	**319**	⇓P	**P**	**19 01 36.1**	**+0.2**
	baz=38						
G23A	**Biddle**	**38.16**	**322**	⇓P	**P**	**19 01 36.3**	**+0.2**
	baz=38						
F23A	**Volborg**	**38.46**	**322**	⇑P	**P**	**19 01 39.0**	**+0.3**
	baz=38						
I21A	**Big Trails, Te**	**38.59**	**319**	⇑P	**P**	**19 01 39.0**	**-0.8**
	baz=39,SNR=6.1						
D24A	**Glendive**	**38.66**	**325**	⇓P	**P**	**19 01 40.8**	**+0.5**
	baz=39						
G22A	**Birney**	**38.70**	**321**	⇓P	**P**	**19 01 41.1**	**+0.4**
	baz=39						
J20A	**Shoshoni**	**38.86**	**318**	⇓P	**P**	**19 01 42.9**	**+0.8**
	baz=39						
F22A	**Rosebud**	**38.99**	**322**	⇓P	**P**	**19 01 43.3**	**+0.2**
	baz=39						
E22A	**Miles City**	**39.18**	**323**	⇓P	**P**	**19 01 44.5**	**-0.1**
	baz=39						
G21A	**Lodge Grass**	**39.26**	**321**	⇓P	**P**	**19 01 45.6**	**+0.2**
	baz=39						
J19A	**Crowheart**	**39.45**	**317**	⇓P	**P**	**19 01 47.4**	**+0.3**
	baz=40						
PDAR	**Pinedale Array**	**39.55**	**316**	P	**P**	**19 01 48.0**	**0.0**
PDAR	**Pinedale Array**	**39.55**	**316**	P	**P**	**19 01 48.0**	**0.0**
	0.9nm,0.8s,baz=107,slow=5.1,SNR=6.5						
A24A	**Westby**	**39.61**	**327**	⇓P	**P**	**19 01 49.6**	**+1.4**
	baz=40						
D22A	**Cohagen**	**39.71**	**324**	⇑P	**P**	**19 01 49.9**	**+0.9**
	baz=40						
I19A	**Meeteetse**	**39.77**	**318**	⇑P	**P**	**19 01 50.1**	**+0.3**
	baz=40						
C22A	**Vida**	**39.89**	**325**	⇓P	**P**	**19 01 51.1**	**+0.5**
	baz=40						
H19A	**Powell**	**40.07**	**319**	⇑P	**P**	**19 01 52.9**	**+0.8**
	baz=40						
F20A	**Billings**	**40.12**	**321**	⇓P	**P**	**19 01 52.9**	**+0.4**
	baz=40						
RLMT	**Red Lodge**	**40.46**	**319**	*e*P	**P**	**19 01 55.6**	**+0.1**
	14nm,1.3s						
E20A	**Meyer Farm, Mu**	**40.48**	**322**	⇑P	**P**	**19 01 55.6**	**+0.2**
	baz=40						
H18A	**Shoshone NF, C**	**40.49**	**319**	⇑P	**P**	**19 01 55.0**	**-0.8**
	baz=40,SNR=6.0						
LOHW	**Long Hollow**	**40.61**	**317**	*e*P	**P**	**19 01 57.1**	**+0.3**
	6.5nm,0.9s						
F19A	**Roth Farm, Mol**	**40.62**	**321**	⇑P	**P**	**19 01 56.7**	**0.0**
	baz=41						
A22A	**Carney Farms,**	**40.65**	**326**	⇓P	**P**	**19 01 57.8**	**+1.0**
	baz=41						
REDW	**Red Top Meadow**	**40.66**	**316**	*e*P	**P**	**19 01 57.6**	**+0.4**
	12nm,1.0s						
I17A	**Pilgrim Ck.**	**40.73**	**317**	⇑P	**P**	**19 01 58.1**	**+0.4**
	baz=41,SNR=5.5						
MOOW	**Moose Ponds**	**40.76**	**317**	*e*P	**P**	**19 01 58.1**	**0.0**
	6.7nm,0.9s						
DUG	**Dugway**	**40.78**	**311**	⇓P	**P**	**19 01 58.5**	**+0.4**
	baz=41						
TPAW	**Teton Pass**	**40.78**	**316**	*e*P	**P**	**19 01 58.3**	**0.0**
	4.4nm,0.8s						
D20A	**Manuel Ranch,**	**40.79**	**323**	⇓P	**P**	**19 01 58.7**	**+0.7**
	baz=41						
E19A	**Rath Farm, Rou**	**40.84**	**321**	⇑P	**P**	**19 01 59.1**	**+0.6**
	baz=41						
FXWY	**Fox Creek**	**40.90**	**316**	*e*P	**P**	**19 01 59.3**	**+0.1**
	11nm,1.3s						
H17A	**Grant Village**	**40.94**	**318**	⇑P	**P**	**19 02 00.5**	**+1.0**
	baz=41						
IMW	**Indian Meadow**	**40.95**	**317**	*e*P	**P**	**19 02 00.4**	**+0.7**
	44nm,2.5s						
A21A	**Bergtoll Ranch**	**41.18**	**326**	⇑P	**P**	**19 02 02.7**	**+1.5**
	baz=41						
BGU	**Big Grassy Mou**	**41.20**	**312**	*e*P	**P**	**19 02 02.3**	**+0.7**
	7.9nm,1.8s						
BELC	**Belle Mtn. Jos**	**41.59**	**301**	⇓P	**P**	**19 02 05.1**	**+0.2**
	baz=42						
BDFB	**Brasilia**	**41.61**	**143**	P	**P**	**19 02 04.2**	**-0.8**
BDFB	**Brasilia**	**41.61**	**143**	P	**P**	**19 02 04.2**	**-0.8**
	3.6nm,0.6s,baz=352,slow=7.1,SNR=5.0						
A20A	**Cobblestone Ra**	**41.66**	**325**	⇓P	**P**	**19 02 05.8**	**+0.7**
	baz=42,SNR=5.2						
C19A	**Slack Wire Ran**	**41.66**	**323**	⇑P	**P**	**19 02 06.1**	**+0.9**
	baz=42						
B19A	**Brinkman Farms**	**41.99**	**324**	⇑P	**P**	**19 02 08.9**	**+1.1**
	baz=42						
A19A	**Klindworth Far**	**42.13**	**325**	⇑P	**P**	**19 02 09.8**	**+0.8**
	baz=42						
EGMT	**Eagleton**	**42.22**	**323**	⇓P	**P**	**19 02 10.9**	**+1.1**
	baz=42						
R11A	**Troy Canyon, C**	**42.26**	**307**	⇑P	**P**	**19 02 11.4**	**+1.0**
	baz=42						
MCMT	**McKenzie Canyo**	**42.59**	**317**	*e*P	**P**	**19 02 14.0**	**+0.9**
	2.0nm,0.8s						
DLMT	**Dillon**	**42.66**	**318**	*e*P	**P**	**19 02 14.6**	**+1.1**
	13nm,1.4s						
HLID	**Hailey**	**43.12**	**315**	*e*P	**P**	**19 02 17.1**	**-0.1**
	54nm,2.6s						
HLID	**Hailey**	**43.12**	**315**	⇓P	**P**	**19 02 18.2**	**+1.0**
	baz=43						
MPMC	**Manual Prospec**	**43.20**	**303**	⇑P	**P**	**19 02 19.0**	**+1.0**
	baz=43						
MSO	**Missoula**	**44.14**	**319**	⇓P	**P**	**19 02 26.1**	**+0.7**
	baz=44						
NVAR	**Mina Array Bea**	**44.35**	**306**	P	**P**	**19 02 28.1**	**+0.8**
NVAR	**Mina Array Bea**	**44.35**	**306**	P	**P**	**19 02 28.1**	**+0.8**
	0.4nm,0.5s,baz=79,slow=7.7,SNR=5.2						
NEW	**Newport**	**46.70**	**320**	*e*P	**P**	**19 02 45.6**	**+0.1**
	7.8nm,1.1s						
NEW	**Newport**	**46.70**	**320**	⇓P	**P**	**19 02 45.7**	**+0.1**
	baz=47						
CPUP	**Villa Florida**	**46.88**	**161**	P	**P**	**19 02 46.4**	**-0.6**
CPUP	**Villa Florida**	**46.88**	**161**	P	**P**	**19 02 46.4**	**-0.6**
	2.7nm,0.6s,baz=332,slow=10,SNR=5.6						
EDM	**Edmonton**	**46.90**	**327**	*e*P	**P**	**19 02 47.4**	**+0.3**
YKA	**Yellowknife Ar**	**52.73**	**337**	P	**P**	**19 03 30.8**	**-0.3**
YKA	**Yellowknife Ar**	**52.73**	**337**	P	**P**	**19 03 30.8**	**-0.3**
	1.3nm,0.8s,baz=123,slow=7.1,SNR=22						
SUMG	**Summit**	**57.59**	**12**	*e*P	**P**	**19 04 06.4**	**-0.3**
	207nm,3.0s						
PLCA	**Paso Flores**	**58.86**	**178**	P	**P**	**19 04 14.6**	**-0.8**
PLCA	**Paso Flores**	**58.86**	**178**	P	**P**	**19 04 14.6**	**-0.8**
	3.0nm,0.9s,baz=12,slow=12,SNR=6.4						
ESDC	**Sonseca Array**	**62.20**	**54**	P	**P**	**19 04 39.4**	**+0.9**
ESDC	**Sonseca Array**	**62.20**	**54**	P	**P**	**19 04 39.4**	**+0.9**
	3.5nm,0.8s,baz=271,slow=6.5,SNR=13						
ILAR	**Eielson Array**	**66.81**	**333**	P	**P**	**19 05 07.8**	**-0.3**
ILAR	**Eielson Array**	**66.81**	**333**	P	**P**	**19 05 07.8**	**-0.3**
	0.6nm,0.8s,baz=112,slow=4.4,SNR=7.6						
NOA	**NORSAR Array B**	**71.11**	**31**	P	**P**	**19 05 36.0**	**+1.1**
NOA	**NORSAR Array B**	**71.11**	**31**	P	**P**	**19 05 36.0**	**+1.1**
	0.8nm,0.8s,baz=277,slow=6.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**71.27**	**82**	P	**P**	**19 05 34.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**71.27**	**82**	P	**P**	**19 05 34.9**	**-1.7**
	1.0nm,0.8s,baz=271,slow=3.6,SNR=5.2						
FETA	**Feichten**	**72.29**	**46**	⇓*i*P	**

CMAR	Chiang Mai Arr	61.25	295	P	P	19 06 08.9	+1.1	
	2.3nm,0.7s,baz=122,slow=5.2,SNR=32							
SONM	Songino Array	69.61	327	P	P	19 07 02.1	+0.7	
	0.8nm,0.6s,baz=117,slow=4.2,SNR=5.2							
ILAR	Eielson Array	83.17	21	P	P	19 08 17.5	-0.4	
	0.6nm,0.7s,baz=258,slow=5.6,SNR=8.8							
MKAR	Makanchi Array	83.74	319	P	P	19 08 21.0	-0.3	
	0.9nm,0.6s,baz=99,slow=5.8,SNR=8.2							
ZALV	Zalesovo Beam	84.46	326	P	P	19 08 23.6	-1.2	
	0.3nm,0.3s,baz=108,slow=9.3,SNR=1.9							
YKA	Yellowknife Ar	96.08	28	P	P	19 09 19.8	+0.4	
	0.4nm,0.7s,baz=265,slow=4.5,SNR=7.4							
BDFB	Brasilia	147.62	134	PKPbc	PKPab	19 15 38.2	-1.7	
	2.9nm,0.5s,baz=230,slow=5.1,SNR=5.3							
TORD	Torodi Ar. Bea	153.53	285	PKPbc	PKPbc	19 15 51.0	-0.8	
	0.4nm,0.5s,baz=75,slow=2.3,SNR=5.7							

KRSC 13 19:00:46.4±0.8, 53°.16N×159°.80E, h36km±9km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SPN	Mys Shipunski	0.15	115	eP			Pn	19 00 54.0	-2.3
SPN				eS			Sn	19 00 58.4	-7.2
NLC	Nalytchevo	0.28	273	iP			Pn	19 00 54.3	-0.1
SDLR	Sedlovina	0.56	283	iP			Pn	19 00 58.5	+0.3
SDLR				iS			Sn	19 01 06.3	-0.1
UGLR	Uglovaya	0.59	275	iP			Pn	19 00 59.1	+0.6
UGLR				eS			Sn	19 01 07.0	0.0
SMAR	Somma	0.61	280	iP			Pn	19 00 59.0	+0.1
SMAR				eS			Sn	19 01 06.9	-0.8
AVH	Avacha	0.65	280	iP			Pn	19 01 00.0	+0.8
AVH				iS			Sn	19 01 08.7	+0.4
KRER	Koryakskii	0.65	283	iP			Pn	19 01 00.0	+0.6
KRER				eS			Sn	19 01 08.7	+0.1
PET	Petropavlovsk	0.71	259	iP			Pn	19 01 00.3	+0.5
PET				iS			Sn	19 01 09.1	-0.3
KOK	Koryaka	0.71	281	iP			Pn	19 01 00.7	+0.6
KOK				eS			Sn	19 01 09.2	-0.7
KRX	Arik	0.72	287	iP			Pn	19 01 00.5	+0.3
KRX				eS			Sn	19 01 09.2	-1.0
KII	Karymskiy	0.90	347	iP			Pn	19 01 03.8	+1.2
KII				eS			Sn	19 01 15.2	+0.6
RUS	Russkaya	1.07	228	iP			Pn	19 01 05.8	+1.1
RUS				iS			Sn	19 01 19.1	+0.8
MTVR	Mutnovka	1.19	236	iP			Pn	19 01 08.3	+1.6
MTVR				iS			Sn	19 01 23.2	+1.4
GRL	Gorelyy	1.21	241	iP			Pn	19 01 08.9	+2.0
GRL				eS			Sn	19 01 23.9	+1.7
GNL	Ganaly	1.23	296	iP			Pn	19 01 09.2	+2.0
GNL				iS			Sn	19 01 24.7	+1.9
ASAK	Asacha	1.39	237	iP			Pn	19 01 11.8	+2.5
ASAK				eS			Sn	19 01 29.5	+2.9
APC	Apacha	1.61	263	iP			Pn	19 01 15.6	+3.4
APC				iS			Sn	19 01 35.7	+3.9
MKZ	Mys Kozlova	1.81	38	iP			Pn	19 01 16.9	+2.0
MKZ				iS			Sn	19 01 38.1	+1.6
KZV	Kizimen	1.98	8	iP			Pn	19 01 21.1	+3.6
KZV				eS			Sn	19 01 45.4	+4.2
MIPR	Malaya Ipel'ka	2.05	246	eP			Pn	19 01 22.6	+4.3
MIPR				eS			Sn	19 01 46.8	+4.1
TUMR	Tumrok	2.14	5	iP			Pn	19 01 23.8	+4.2
TUMR				eS			Sn	19 01 49.8	+4.8
PAU	Pauzhetka	2.50	228	eP			Pn	19 01 28.6	+4.2
PAU				eS			Sn	19 01 58.2	+4.6
KMNR	Kamenistaya	2.61	5	eP			Pn	19 01 30.3	+4.1
KMNR				eS			Sn	19 02 01.8	+5.1
ESO	Esso	2.84	347	eP			Pn	19 01 32.6	+3.4
ESO				eS			Sn	19 02 05.2	+3.0
KOZ	Kozyrevsk	2.91	1	eP			Pn	19 01 33.7	+3.7
SRDR	Sredinnyy	3.17	359	eP			Pn	19 01 36.8	+3.1
SRDR				eS			Sn	19 02 13.0	+2.8
KLY	Klyuchi	3.20	9	eP			Pn	19 01 39.7	+5.7
KLY				eS			Sn	19 02 17.5	+6.7
SKR	Severo-Kuril's	3.37	224	eP			Pn	19 01 40.0	+3.6
SKR				eS			Sn	19 02 17.4	+2.4
BDR	Baidarnaya	3.51	13	iP			Pn	19 01 42.7	+4.2
BDR				eS			Sn	19 02 23.2	+4.4
KBTR	Krutoberegovo	3.52	29	eP			Pn	19 01 41.8	+3.3
KBTR				eS			Sn	19 02 22.7	+3.9
KBG	Krutoberegovo	3.53	27	eP			Pn	19 01 43.9	+5.4
KBG				eS			Sn	19 02 24.5	+5.5
SMKR	Semkarok	3.56	15	eP			Pn	19 01 43.9	+4.8
SRKR	Sorokina	3.59	12	eP			Pn	19 01 44.4	+4.9
SRKR				eS			Sn	19 02 25.3	+4.6
BKI	Bering	4.16	58	eP			Pn	19 01 50.8	+3.6
BKI				eS			Sn	19 02 34.5	-0.1

IDC ***13*** *19:15:14.0±9.6, 14°.21N×91°.27W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=213.4km s-min=97.4km az=13.0*

ISCJB ***13*** *19:15:19.1±1.7, 13°.8N±0°.2×92°.21W±0°.07, h37km, mb3.7/3, Error ellipse: s-maj=32.4km s-min=7.5km az=11.4*

CASC ***13*** *19:15:23.9±1.0, 13°.82N×91°.88W, h25km±18km, MD3.8*

ISC 13 19:15:18.8±1.7, 13°.6N±0°.2×92°.26W±0°.08, h37km, n11, σ1s75/15, mb3.6/3, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JAT	Jato	0.92	41	⇓eP			Pn	19 15 34.7	-0.5
IXG	Ixpaco	1.83	72	eP			Pn	19 15 47.6	-0.3
IXG				eS			Sn	19 16 07.5	-2.5
NBG	Las Nubes	2.09	62	eP			Pn	19 15 52.8	+1.4
NBG				eS			Sn	19 16 20.1	+3.8
RBDL	Robledal	2.54	79	eP			Pn	19 15 58.4	+0.8
RBDL				eS			Sn	19 16 25.6	-1.8
RTR	El Retiro	2.55	84	eP			Pn	19 15 58.7	+0.9
SBLS	San Blas	2.57	85	eP			Pn	19 15 59.4	+1.3
SBLS				eS			Sn	19 16 27.4	-0.8
MRL	Marmol	2.87	60	eP			Pn	19 16 02.7	+0.5
TXAR	Lajitas Array	18.88	328	P			Pn	19 19 36.8	0.0
	0.1nm,0.3s,baz=152,slow=10.0,SNR=3.4								
NVAR	Mina Array Bea	33.81	322	P			P	19 21 59.3	+1.6
	0.6nm,0.7s,baz=134,slow=8.9,SNR=4.1								
YKA	Yellowknife Ar	51.33	347	P			P	19 24 17.1	-2.1
	0.8nm,0.7s,baz=151,slow=7.4,SNR=17								
ILAR	Eielson Array	63.09	337	P			P	19 25 42.1	0.0
	0.4nm,0.8s,baz=123,slow=3.3,SNR=4.5								

WEL 13 19:22:47.9±0.7, 44°.32S×167°.02E, h5km, ML3.5/10, 1D, Error ellipse: s-maj=6.5km s-min=3.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MSZ	Milford Sound	0.74	118	P*			Pg	19 23 02.5	+0.3
MSZ				S*			Sg	19 23 11.1	-0.6
MSZ				AML			AML	19 23 12.0	
MSZ				AML			AML	19 23 12.0	
MSZ				AML			AML	19 23 12.1	
DCZ	Deep Cove	1.16	175	P*			Pg	19 23 08.3	-1.8
DCZ				AML			AML	19 23 29.0	
DCZ				AML			AML	19 23 29.8	
DCZ				AML			AML	19 23 29.9	
JCZ	Jackson Bay	1.28	79	P*			Pn	19 23 11.2	-1.4
JCZ				AML			AML	19 23 31.9	
JCZ				AML			AML	19 23 38.7	
MLZ	Mavora Lakes	1.31	142	P*			Pn	19 23 12.3	-0.7
MLZ				S*			Sg	19 23 28.5	-1.8
MLZ				AML			AML	19 23 30.1	
WKZ	Wanaka	1.52	110	⇓PN			Pn	19 23 15.8	0.0
WKZ				SN			Sn	19 23 35.1	-0.8
WKZ				AML			AML	19 23 36.3	
WKZ				AML			AML	19 23 36.4	
WKZ				AML			AML	19 23 37.1	
WHZ	Wether Hill Ro	1.70	158	PN			Pn	19 23 17.8	-0.4
WHZ				SN			Sn	19 23 40.0	-0.5
EAZ	Earnscleugh	1.87	120	PN			Pb	19 23 21.5	-1.0
EAZ				SN			Sn	19 23 44.0	-0.5
EAZ				AML			AML	19 23 47.7	
EAZ				AML			AML	19 23 49.0	
EAZ				AML			AML	19 23 49.1	
FOZ	Fox Glacier	2.07	69	PN			Pn	19 23 22.4	-0.9
FOZ				AML			AML	19 23 56.6	
FOZ				AML			AML	19 23 57.0	
FOZ				AML			AML	19 23 59.5	
LBZ	Lake Benmore	2.27	93	PN			Pn	19 23 26.8	+0.7
LBZ				SN			Sb	19 23 58.3	+0.4
LBZ				AML			AML	19 23 58.4	
TUZ	Tuapeka	2.47	132	PN			Pb	19 23 33.5	+0.8
TUZ				AML			AML	19 24 03.3	
TUZ				AML			AML	19 24 03.6	
SYZ	Scrubby Hill	2.67	147	PN			Pn	19 23 31.8	+0.2

ISCJB ***13*** *19:23:15.5±0.3, 53°.25N±0°.04×169°.33W±0°.03, h110km±2km, mb4.2/43, Error ellipse: s-maj=7.3km s-min=3.0km az=167.6*

IDC ***13*** *19:23:17.9±0.7, 53°.27N×169°.35W, h118km±5km, mb3.8/24, mb1 4.0/26, mb1mx3.9/35, mbtmp3.8/26, Error ellipse: s-maj=16.6km s-min=8.1km az=178.0*

NEIC ***13*** *19:23:17.3, 52°.99N×169°.15W, h98km, mb4.5/25, After AEIC.*

NEIC Felt at Nikolski.

ISC 13 19:23:16.6±0.5, 53°.11N±0°.07×169°.24W±0°.04, h110km±3km, n385, σ0s97/412, mb4.3/43, 119C-116D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NIKH	Nikolski High	0.27	121	P			Pn	19 23 30.4	-1.7
NIKH				S			Sn	19 23 41.2	-2.6
OKFG	Magazine Ridge	0.85	69	P			Pn	19 23 34.9	-1.3
OKFG				S			Sn	19 23 49.7	-1.3
MCIR	Makushin Cirqu	1.63	58	P			Pn	19 23 44.0	-0.9
MREP	Makushin Rep't	1.65	64	P			Pn	19 23 44.8	-0.4
MSW	Makushin Switc	1.67	60	P			Pn	19 23 44.5	-1.0
UNV	Unalaska Valle	1.79	65	P			Pn	19 23 45.9	-0.9
UNV				S			Sn	19 24 09.0	-1.0
AKRB	Akutan Reef Bi	2.14	60	P			Pn	19 23 51.1	-0.3
AKRB				S			Sn	19 24 17.7	-0.3
ZRO	Akutan Zero	2.17	62	P			Pn	19 23 51.3	-0.4
AKGG	Akutan Green G	2.22	59	P			Pn	19 23 52.0	-0.3
AKGG				S			Sn	19 24 19.6	0.0
AKUT	Akutan	2.30	62	P			Pn	19 23 53.1	-0.2
AKUT				S			Sn	19 24 22.1	+0.5
WESE	West Dahl East	3.08	62	P			Pn	19 24 03.5	-0.1
WESN	West Dahl Nort	3.12	60	P			Pn	19 24 03.8	-0.3
SSBA	Shishaldin	3.45	59	P			Pn	19 24 07.8	-0.7
SSBA				S			Sn	19 24 48.9	+0.3
SSLW	Shishaldin Wes	3.45	59	P			Pn	19 24 07.8	-0.7
SSLN	Shishaldin Nor	3.53	59	P			Pn	19 24 09.6	0.0
FALS	False Pass	3.85	61	P			Pn	19 24 13.6	-0.3
SPIA	Saint Paul Isl	4.11	352	P			Pn	19 24 17.6	+0.3
GSTR	Great Sitkin T	4.28	259	eP			Pn	19 24 20.6	+0.9
GSMY	Great Sitkin M	4.30	258	P			Pn	19 24 19.9	+0.1
GSTD	Great Sitkin T	4.34	259	P			Pn	19 24 20.6	+0.1
GSCK	Great Sitkin C	4.37	258	P			Pn	19 24 20.4	-0.3
DRIA	Deer Island	4.51	63	P			Pn	19 24 22.0	-0.7
ETKA	Kagalaska Isla	4.56	257	P			Pn	19 24 23.9	+0.5
DTNA	Dutton South F	4.59	61	P			Pn	19 24 23.4	-0.3
ADAG	Mount Adagdak	4.64	259	P			Pn	19 24 24.3	-0.1
DOL	Dolgoi Island	4.79	62	P			Pn	19 24 26.1	-0.4
PS4A	Pavlof South-4	4.87	60	P			Pn	19 24 28.0	+0.4
PVV	Pavlof Volcano	4.92	60	P			Pn	19 24 27.8	-0.4
KIRH	Kanaga Island	4.95	259	P			Pn	19 24 29.1	+0.4
TAFP	Tanaga Falls P	5.48	261	P			Pn	19 24 35.5	-0.2
TASE	Tanaga Southea	5.53	260	P			Pn	19 24 37.2	+0.7
TANO	Tanaga North	5.56	261	P			Pn	19 24 37.2	+0.4
SDPT	Sand Point	5.61	63	P			Pn	19 24 36.5	-0.9
GAEA	Gareloi East	5.97	261	P			Pn	19 24 42.8	+0.5
VNHG	Veniaminof 1	6.62	58	P			Pn	19 24 51.5	+0.2
VNSG	Veniaminof 6	6.62	59	P			Pn	19 24 51.2	-0.1
CHGN	Chignik	7.04	59	eP			Pn	19 24 54.8	-2.0
OHAK	Old Harbor	10.00	59	eP			Pn	19 25 32.5	-4.4
	42nm,0.5s								
KDAK	Kodiak Island	10.54	57	eP			Pn	19 25 39.7	-4.6
	30nm,0.3s								
FX1	Attu Island--F	10.61	276	P			Pn	19 25 43.9	-1.4
FX1				S			Sn	19 27 42.9	+0.8
FX1	Attu Island--F	10.61	276	P			Pn	19 25 43.9	-1.4
	11nm,0.3s,baz=68,slow=13,SNR=90								
FX1				S			Sn	19 27 42.9	+0.8
	baz=108,slow=20,SNR=1.9								
RSO	Redoubt South	11.63	44	eP			Pn	19 25 58.4	-0.6
	119nm,0.7s								
SEW	Seward	12.92	49	eP			Pn	19 26 11.9	-3.8
	43nm,0.3s								
RC01	Rabbit Creek A	13.23	45	eP			Pn	19 26 16.8	-3.0
	17nm,0.3s								
PPLA	Purkeypile	13.29	36	eP			Pn	19 26 21.9	+1.1
	122nm,1.4s								
KTH	Kantishna Hill	14.15	35	eP			Pn	19 26 32.9	+1.1
	24nm,0.6s								
TRF	Thorofare Moun	14.31	36	eP			Pn	19 26 34.2	+0.3
	14nm,0.5s								
MCK	McKinley	14.96	37	eP			Pn	19 26 41.1	-1.0
	14nm,0.7s								
DIV	Divide	14.99	48	eP			Pn	19 26 38.6	-3.9
	16nm,0.4s								
BMRM	Bremner River	15.46	50	eP			Pn	19 26 44.5	-3.9
	24nm,0.5s								
PAX	Paxson	15.89	42	eP			Pn	19 26 51.5	-2.2
	16nm,0.7s								
COLA	College	16.02	34	eP			Pn	19 26 53.4	-1.8
	8.8nm,0.6s								
ILAR	Eielson Array	16.29	36	P			Pn	19 26 56.0	-2.7
ILAR				S			Sn	19 29 59.5	+0.4
ILAR				PcP			PcP	19 31 45.3	+0.2
ILAR				ScP			ScP	19 35 09.4	+0.2
ILAR	Eielson Array	16.29	36	P			Pn	19 26 56.0	-2.7
	1.5nm,0.3s,baz=238,slow=11,SNR=72								
ILAR				S			Sn	19 29 59.5	+0.4
	0.1nm,0.3s,baz=219,slow=17,SNR=4.8								
ILAR				PcP			PcP	19 31 45.3	+0.2
	0.1nm,0.3s,baz=259,slow=3.1,SNR=5.8								
ILAR				ScP			ScP	19 35 09.4	+0.2
	0.1nm,0.3s,baz=294,slow=3.0,SNR=8.8								
MENT	Mentasta	16.59	44	eP			Pn	19 27 01.4	-1.0
COLD	Coldfoot	16.91	26	eP			P	19 27 07.5	+1.2
	24nm,1.0s								
EGAK	Eagle	18.41	40	eP			P	19 27 21.9	-1.0
	17nm,0.5s								
DAWY	Dawson	18.82	43	eP			P	19 27 25.8	-1.7
SKAG	Skagway	19.70	58	eP			P	19 27 34.5	-2.4
	17nm,0.6s								
PETK	Petropavlovsk-	19.75	283	P			P	19 27 37.3	-0.3
PETK	Petropavlovsk-	19.75	283	P			P	19 27 37.3	-0.3
	2.7nm,0.3s,baz=92,slow=13,SNR=44								
SEY	Seymchan	22.23	311	P			P	19 28 03.8	0.0
SEY				PcP			PcP	19 31 56.1	+0.5
SEY				ScP			ScP	19 35 23.1	+0.5
SEY	Seymchan	22.23	311	P			P	19 28 03.8	0.0
	7.8nm,0.7s,baz=95,slow=9.6,SNR=21								
SEY				PcP			PcP	19 31 56.1	+0.5
	0.7nm,0.5s,baz=38,slow=9.7,SNR=4.5								
SEY				ScP			ScP	19 35 23.1	+0.5
	4.7nm,0.7s,baz=145,slow=3.5,SNR=18								
DLBC	Dease Lake	22.44	61	P			P	19 28 08.3	+2.1
DLBC	Dease Lake	22.44	61	P			P	19 28 08.3	+2.1
	3.7nm,0.7s,baz=261,slow=9.1,SNR=7.6								
INK	Inuvik	22.68	34	P			P	19 28 06.9	-1.5
INK				PcP			PcP	19 31 57.1	+0.7
INK				ScP			ScP	19 35 24.3	+0.6
INK	Inuvik	22.68	34	P			P	19 28 06.9	-1.5
	7.0nm,0.4s,baz=258,slow=11,SNR=30								
INK				PcP			PcP	19 31 57.1	+0.7
	2.6nm,0.6s,baz=234,slow=5.8,SNR=4.8								
INK				ScP			ScP	19 35 24.3	+0.6
	0.5nm,0.4s,baz=259,slow=1.0,SNR=4.2								
BBB	Bella Bella	24.73	75	P			P	19 28 26.6	-0.8
BBB	Bella Bella	24.73	75	P			P	19 28 26.6	-0.8
	18nm,0.9s,baz=280,slow=8.0,SNR=4.7								
YKA	Yellowknife Ar	29.70	50	P			P	19 29 10.6	-1.1
YKA				pP			pP	19 29 37.0	+1.2
YKA				PcP			PcP	19 32 13.2	+0.3
YKA				ScP			ScP	19 35 45.2	+0.8
YKA	Yellowknife Ar	29.70	50	P			P	19 29 10.5	-1.1
	0.3nm,0.5s,baz=270,slow=7.9,SNR=12								
YKA				pP			pP	19 29 37.0	+1.2
	0.6nm,0.5s,baz=274,slow=8.0,SNR=5.0								
YKA				PcP			PcP	19 32 13.1	+0.3
	1.2nm,0.6s,baz=286,slow=2.4,SNR=13								
YKA				ScP			ScP	19 35 45.2	+0.8
	1.3nm,0.7s,baz=286,slow=3.3,SNR=20								
HAWA	Hanford	32.25	82	eP			P	19 29 35.7	+1.4
	2.4nm,0.5s								
NEW	Newport	32.76	77	P			P	19 29 39.7	+0.9
NEW	Newport	32.76	77	P			P	19 29 39.7	+0.9
	15nm,0.8s,baz=297,slow=7.0,SNR=26								
NEW	Newport	32.76	77	⇓P			P	19 29 39.7	+0.9
	baz=33,SNR=12								
EDM	Edmonton	32.77	67	eP			P	19 29 39.3	+0.5
WALA	Waterton Lakes	34.25	74	eP			P	19 29 52.3	+0.4
	0.2nm,0.6s								
BSMT	Bassoo Peak	34.33	76	eP			P	19 29 53.3	+0.7
	9.7nm,0.7s								
BLMT	Blacktail Moun	34.50	76	eP			P	19 29 54.6	+0.6
	17nm,0.7s								
JTMT	Jette	34.67	76	eP			P	19 29 56.1	+0.6
	4.0nm,0.5s								
MSO	Missoula	35.34	77	⇑P			P	19 30 01.4	+0.2
	baz=35,SNR=5.1								
HRY	Holter Researc	36.64	76	eP			P	19 30 12.8	+0.5
	5.1nm,0.5s								
HLID	Hailey	36.84	82	⇓P			P	19 30 14.7	+0.7
	baz=37								
WAKR	Walker	36.87	93	eP			P	19 30 16.1	+1.7
	10nm,1.1s								
MCMT	McKenzie Canyo	37.06	80	eP			P	19 30 16.4	+0.4
	4.4nm,0.6s								
EGMT	Eagleton	37.17	73	eP			P	19 30 16.7	+0.1
	12nm,0.8s								
EGMT	Eagleton	37.17	73	⇑P			P	19 30 17.0	+0.4
	baz=37,SNR=9.4								
B19A	Brinkman Farms	37.41	72	⇑P			P	19 30 19.2	+0.5
	baz=37,SNR=7.9								
NVAR	Mina Array Bea	37.60	92	P			P	19 30 22.4	+1.7
NVAR				PcP			PcP	19 32 37.1	+1.2
NVAR	Mina Array Bea	37.60	92	P			P	19 30 22.4	+1.7
	4.2nm,0.7s,baz=298,slow=8.2,SNR=23								
NVAR				PcP			PcP	19 32 37.1	+1.2
	1.1nm,0.5s,baz=278,slow=3.2,SNR=4.9								
C19A	Slack Wire Ran	37.72	73	⇑P			P	19 30 22.5	+1.1
	baz=38,SNR=21								
A20A	Cobblestone Ra	37.78	71	⇓P			P	19 30 22.3	+0.5
	baz=38,SNR=7.7								
B20A	Solberg Farm,	37.95	72	⇓P			P	19 30 24.0	+0.7
	baz=38								
H11N2	WAKE ISLAND Hy	38.09	218	T			T	20 11 39.8	
	baz=26,slow=76,SNR=18								
H11N3	WAKE ISLAND Hy	38.09	218	T			T	20 11 53.7	
	baz=26,slow=76,SNR=20								
H11N1	WAKE ISLAND Hy	38.11	218	T			T	20 11 45.6	
	baz=26,slow=76,SNR=18								
D19A	Cripps Ranch,	38.12	74	⇑P			P	19 30 25.4	+0.7
	baz=38								
YMR	Madison River	38.26	79	eP			P	19 30 26.5	+0.4
	11nm,0.8s								
A21A	Bergtoll Ranch	38.29	70	⇑P			P	19 30 26.8	+0.7
	baz=38								
E19A	Rath Farm, Rou	38.55	75	⇑P			P	19 30 29.4	+1.1
	baz=38,SNR=5.9								
D20A	Manuel Ranch,	38.59	74	⇓P			P	19 30 29.7	+1.1
	baz=38,SNR=5.2								
H17A	Grant Village	38.64	79	eP			P	19 30 31.1	+1.8
	8.8nm,1.0s								
H17A	Grant Village	38.64	79	⇓P			P	19 30 31.5	+2.2
	baz=38,SNR=6.4								
F19A	Roth Farm, Mol	38.79	76	⇑P			P	19 30 31.1	+0.7
	baz=39								
VES	Vestal, Richgr	38.84	96	⇓P			P	19 30 32.3	+1.6
	baz=39								
A22A	Carney Farms,	38.87	70	⇑P			P	19 30 31.4	+0.6
	baz=39,SNR=5.4								
E20A	Meyer Farm, Mu	38.91	74	⇓P			P	19 30 32.3	+1.0
	baz=39								
I17A	Pilgrim Ck.	38.91	79	⇓P			P	19 30 33.2	+1.6
	baz=39								
H18A	Shoshone NF, C	39.02	78	⇑P			P	19 30 33.1	+0.6
	baz=39,SNR=5.4								
PKM	Peak Mountain	39.04	98	⇑P			P	19 30 35.0	+2.3
	baz=39								
B22A	Reddig Ranch S	39.18	71	⇑P			P	19 30 34.3	+0.8
	baz=39								
D21A	La Casta Ranch	39.26	73	⇑P			P	19 30 34.8	+0.6
	baz=39,SNR=5.9								
H11S1	WAKE ISLAND Hy	39.28	218	T			T	20 13 10.0	
	baz=24,slow=77,SNR=37								
F20A	Billings	39.28	75	⇓P			P	19 30 35.1	+0.6
	baz=39								
R11A	Troy Canyon, C	39.29	90	⇑P			P	19 30 35.8	+1.1
	baz=39								
H11S2	WAKE ISLAND Hy	39.29	218	T			T	20 13 02.6	
	baz=24,slow=77,SNR=25								
H11S3	WAKE ISLAND Hy	39.30	218	T			T	20 13 07.0	
	baz=24,slow=77,SNR=33								
ISA	Isabella	39.32	96	⇑P			P	19 30 36.4	+1.6
	baz=39								
H19A	Powell	39.43	77	⇓P			P	19 30 37.0	+1.3
	baz=39,SNR=6.5								
E21A	Keefer Ranch,	39.50	74	⇑P			P	19 30 37.2	+1.0
	baz=39								
C22A	Vida	39.53	71	⇓P			P	19 30 37.4	+1.0
	baz=39								
G20A	Bridger	39.57	76	⇓

	baz=41						
G23A	**Biddle**	41.23	74	⇑P	P	19 30 50.4	0.0
	baz=41,SNR=5.6						
I22A	**9 Mile Ranch,**	41.34	77	⇑P	P	19 30 52.3	+0.8
	baz=41						
F24A	**Ekalaka**	41.41	73	⇓P	P	19 30 52.5	+0.6
	baz=41						
GMRC	**Granite Mounta**	41.61	94	⇓P	P	19 30 54.7	+1.0
	baz=41,SNR=6.5						
J22A	**Midwest**	41.63	77	⇓P	P	19 30 54.3	+0.4
	baz=41,SNR=13						
E25A	**Miller Ranch,**	41.64	72	⇓P	P	19 30 54.5	+0.7
	baz=42						
K21A	**Alcova**	41.64	79	⇓P	P	19 30 54.1	+0.2
	baz=42,SNR=8.2						
G24A	**Alzada**	41.72	74	⇓P	P	19 30 54.5	+0.1
	baz=42						
F25A	**Bowman**	41.93	72	⇑P	P	19 30 56.6	+0.5
	baz=42						
PFO	**Pinyon Flat Ob**	41.94	96	P	P	19 30 57.2	+0.7
PFO	**Pinyon Flat Ob**	41.94	96	P	P	19 30 57.2	+0.7
	3.8nm,0.7s,baz=346,slow=12,SNR=4.0						
BELC	**Belle Mtn. Jos**	41.94	95	⇑P	P	19 30 57.8	+1.3
	baz=42						
H24A	**Dirks Ranch, A**	41.97	74	⇑P	P	19 30 58.3	+1.7
	baz=42						
K22A	**Casper**	42.05	78	eP	P	19 30 56.9	-0.4
	5.5nm,0.8s						
K22A	**Casper**	42.05	78	⇓P	P	19 30 57.7	+0.3
	baz=42						
A28A	**Rude Farm, Bot**	42.07	67	⇓P	P	19 30 57.6	+0.4
	baz=42						
N20A	**Spence Gulch,**	42.13	82	⇓P	P	19 30 59.0	+0.9
	baz=42						
E26A	**Carlson Angus**	42.19	71	⇑P	P	19 30 58.8	+0.6
	baz=42						
B28A	**Dugan Ranch, T**	42.27	67	⇑P	P	19 30 59.4	+0.6
	baz=42						
IRM	**Iron Mountain**	42.34	94	⇑P	P	19 31 00.6	+1.1
	baz=42,SNR=5.6						
G25A	**Newell**	42.37	73	⇑P	P	19 31 00.2	+0.5
	baz=42						
F26A	**Lodgepole**	42.42	72	⇑P	P	19 31 00.5	+0.3
	baz=42						
I24A	**Kuemmerle Ranc**	42.45	76	⇓P	P	19 31 00.4	0.0
	baz=42						
MONP	**Monument Peak**	42.46	97	⇓P	P	19 31 02.6	+1.8
	baz=42						
W13A	**Hualapai Mount**	42.46	92	⇑P	P	19 31 01.6	+0.9
	baz=42,SNR=6.3						
L22A	**Ellis Ranch, M**	42.48	79	⇑P	P	19 31 01.6	+0.8
	baz=42						
K23A	**Bowen Ranch, D**	42.52	77	⇑P	P	19 31 01.8	+0.7
	baz=42						
U15A	**North Rim**	42.53	90	⇑P	P	19 31 02.1	+0.7
	baz=42						
O20A	**White River Ci**	42.58	82	⇓P	P	19 31 02.1	+0.5
	baz=42,SNR=6.1						
H25A	**Fruitdale**	42.60	74	⇓P	P	19 31 02.2	+0.6
	baz=42						
A29A	**Manning Farm,**	42.64	66	⇓P	P	19 31 02.0	+0.2
	baz=42						
RSSD	**Black Hills**	42.64	75	eP	P	19 31 01.8	-0.3
	2.3nm,0.6s						
E27A	**Carson**	42.72	71	⇓P	P	19 31 03.0	+0.5
	baz=42						
J24A	**Dixon Ranch, L**	42.74	76	⇑P	P	19 31 03.1	+0.2
	baz=43						
M22A	**Cedar Creek Ra**	42.77	80	⇓P	P	19 31 03.7	+0.5
	baz=43						
F27A	**Lemmon**	42.78	72	⇓P	P	19 31 03.6	+0.6
	baz=43						
SWSC	**Sam W. Stewart**	42.80	96	⇑P	P	19 31 04.4	+1.1
	baz=43						
PDMC	**Parker Dam,Lak**	42.85	93	⇓P	P	19 31 04.7	+1.0
	baz=43						
L23A	**Garrett**	42.86	78	⇓P	P	19 31 04.2	+0.3
	baz=43,SNR=16						
I25A	**Rochford**	42.88	75	⇓P	P	19 31 03.8	-0.1
	baz=43						
Y12C	**Blythe**	43.00	94	⇓P	P	19 31 06.3	+1.5
	baz=43						
MDND	**Maddock**	43.03	68	⇓P	P	19 31 05.4	+0.5
	baz=43						
J25A	**Sunshine Ranch**	43.21	76	⇓P	P	19 31 06.4	-0.1
	baz=43						
N22A	**Wattenberg Ran**	43.23	80	⇑P	P	19 31 07.3	+0.4
	baz=43,SNR=5.6						
M23A	**Laramie**	43.25	79	⇑P	P	19 31 07.2	+0.1
	baz=43						
B30A	**Myrvik Farm, E**	43.40	66	⇓P	P	19 31 08.2	+0.3
	baz=43						
H27A	**Howes**	43.47	73	⇑P	P	19 31 08.5	-0.1
	baz=43						
N23A	**Red Feather La**	43.47	80	⇓P	P	19 31 09.5	+0.6
	baz=43						
F28A	**McLaughlin**	43.49	71	⇓P	P	19 31 09.1	+0.4
	baz=43						
O22A	**Kremmling**	43.57	81	⇑P	P	19 31 10.4	+0.6
	baz=43						
PV01	**Paradox Valley**	43.65	85	eP	P	19 31 09.1	-1.2
	416nm,0.8s						
WUAZ	**Wupatki**	43.69	90	eP	P	19 31 11.7	+1.1
	3.7nm,0.6s						
WUAZ	**Wupatki**	43.69	90	⇓P	P	19 31 12.2	+1.6
	baz=44						
ULM	**Lac du Bonnet**	43.73	63	P	P	19 31 10.2	-0.3
ULM	**Lac du Bonnet**	43.73	63	P	P	19 31 10.2	-0.3
	1.4nm,0.6s,baz=306,slow=7.0,SNR=5.0						
O23A	**Lake Granby, G**	43.91	81	⇓P	P	19 31 13.3	+0.9
	baz=44,SNR=10						
K26A	**Motz Farm, Whi**	43.99	76	⇑P	P	19 31 12.9	+0.1
	baz=44						
H28A	**Mission Ridge**	44.05	72	⇑P	P	19 31 13.7	+0.5
	baz=44						
N24A	**Carr**	44.14	79	⇑P	P	19 31 15.3	+1.1
	baz=44						
M25A	**Palm-Egli Farm**	44.25	78	⇓P	P	19 31 16.2	+1.2
	baz=44						
MVCO	**Mesa Verde**	44.30	86	⇑P	P	19 31 16.5	+0.9
	baz=44						
J27A	**Elkhorn Farm,**	44.34	75	⇓P	P	19 31 16.7	+1.1
	baz=44						
ISCO	**Idaho Springs**	44.35	81	⇓P	P	19 31 17.6	+1.6
	baz=44						
I28A	**Midland**	44.37	73	⇑P	P	19 31 16.3	+0.5
	baz=44						
P23A	**Jefferson**	44.49	81	⇑P	P	19 31 18.2	+1.1
	baz=44						
J28A	**Allard Ranch,**	44.68	74	⇓P	P	19 31 18.7	+0.4
	baz=44						
J29A	**Okreek**	45.22	73	⇓P	P	19 31 22.7	+0.2
	baz=45,SNR=6.9						
R23A	**Moffat**	45.26	83	⇓P	P	19 31 24.1	+0.9
	baz=45						
214A	**Organ Pipe Nat**	45.28	95	⇑P	P	19 31 24.2	+1.1
	baz=45,SNR=6.4						
P25A	**Willow Gulch B**	45.40	80	⇑P	P	19 31 25.1	+1.0
	baz=45						
KSRS	**Korea Array**	45.40	276	P	P	19 31 23.3	-0.6
	2.4nm,1.0s,baz=49,slow=6.5,SNR=3.6						
KSAR	**Wonju Array Be**	45.43	276	P	P	19 31 23.3	-0.9
K29A	**Lazy Trails An**	45.62	74	⇑P	P	19 31 26.1	+0.4
	baz=45						
R24A	**Sanders Place,**	45.66	82	⇑P	P	19 31 27.2	+0.9
	baz=46						
Q25A	**Bedland, Calha**	45.73	81	⇓P	P	19 31 27.6	+0.7
	baz=46						
OGNE	**Ogallala**	45.75	77	⇑P	P	19 31 27.6	+0.8
	baz=46						
M28A	**Bar X Bar Ranc**	45.85	76	⇓P	P	19 31 28.4	+0.8
	baz=46						
P26A	**Davis Ranch, A**	45.85	80	⇓P	P	19 31 28.5	+0.8
	baz=46,SNR=9.5						
S24A	**Houchin Ranch,**	45.99	83	⇑P	P	19 31 30.1	+1.2
	baz=46						
V22A	**San Miguel Ran**	46.12	86	⇑P	P	19 31 31.2	+1.3
	baz=46						
R25A	**Fountain Ranch**	46.21	82	⇓P	P	19 31 31.5	+1.0
	baz=46						
T24B	**San Luis**	46.27	84	⇑P	P	19 31 32.2	+1.1
	baz=46						
U23A	**El Rito**	46.27	85	⇓P	P	19 31 31.6	+0.6
	baz=46,SNR=5.1						
O28A	**Krutsinger Ran**	46.42	78	⇑P	P	19 31 32.7	+0.7
	baz=46						
S25A	**Robets Cordova**	46.44	82	⇑P	P	19 31 32.9	+0.6
	baz=46,SNR=5.9						
R26A	**Arlington**	46.61	81	⇑P	P	19 31 34.6	+1.0
	baz=46						
T25A	**Trinidad**	46.80	83	⇓P	P	19 31 36.2	+1.0
	baz=47,SNR=6.8						
R27A	**Eads**	47.01	80	⇓P	P	19 31 37.5	+0.9
	baz=47						
S26A	**Kim**	47.04	82	⇓P	P	19 31 37.3	+0.4
	baz=47,SNR=9.8						
Q28A	**Sharon Springs**	47.07	79	⇑P	P	19 31 38.2	+1.1
	baz=47						
ECSD	**EROS Data Cent**	47.15	71	⇓P	P	19 31 36.7	-0.8
	baz=47,SNR=6.7						
V24A	**Rampart Ranch,**	47.23	85	⇑P	P	19 31 39.6	+1.1
	baz=47						
P29A	**Atwood**	47.26	78	⇑P	P	19 31 39.5	+1.0
	baz=47						
T26A	**Comanche Natio**	47.26	82	⇑P	P	19 31 39.1	+0.3
	baz=47						
U25A	**Circle Dot Ran**	47.29	84	⇑P	P	19 31 39.8	+0.8
	baz=47,SNR=7.9						
V25A	**Rancho No Teng**	47.54	84	⇑P	P	19 31 41.8	+0.9
	baz=47						
R28A	**Tribune**	47.55	80	⇑P	P	19 31 41.5	+0.6
	baz=47						
Q29A	**Oakley**	47.69	79	⇑P	P	19 31 42.5	+0.6
	baz=48						
U26A	**Atchley Ranch,**	47.69	83	⇓P	P	19 31 42.9	+0.8
	baz=48,SNR=7.0						
P30A	**Selden**	47.70	77	⇑P	P	19 31 42.7	+0.7
	baz=48						
O31A	**Woolen Ranch,**	47.84	76	⇓P	P	19 31 43.4	+0.4
	baz=48						
121A	**Cookes Peak, D**	47.90	90	⇑P	P	19 31 45.2	+1.4
	baz=48						
Y23A	**Lovelace Mesa,**	47.98	87	⇓P	P	19 31 45.4	+1.1
	baz=48						
S28A	**Manter**	48.00	81	⇑P	P	19 31 45.2	+0.9
	baz=48						
W25A	**X Bar L Ranch,**	48.06	85	⇓P	P	19 31 45.8	+0.9
	baz=48,SNR=6.6						
V26A	**Tequesquite Ra**	48.07	84	⇓P	P	19 31 45.7	+0.8
	baz=48,SNR=7.5						
Q30A	**Quinter**	48.08	78	⇓P	P	19 31 45.8	+0.9
	baz=48						
T28A	**Walsh**	48.18	81	⇓P	P	19 31 46.9	+1.2
	baz=48						
P31A	**Stockton**	48.22	77	⇓P	P	19 31 46.7	+0.8
	baz=48						
U27A	**Thompson Grove**	48.22	82	⇓P	P	19 31 46.6	+0.5
	baz=48						
320A	**Kipp Ranch, An**	48.30	92	⇑P	P	19 31 48.3	+1.5
	baz=48						
X25A	**Clemmons Ranch**	48.41	86	⇓P	P	19 31 48.4	+0.8
	baz=48						
R30A	**Dighton**	48.50	79	⇓P	P	19 31 48.5	+0.4
	baz=48,SNR=5.8						
Y25A	**Mesa, Roswell**	48.80	86	⇑P	P	19 31 51.5	+0.9
	baz=49						
Z24A	**Sheeppen Canyo**	48.81	87	⇑P	P	19 31 51.8	+1.1
	baz=49						
S30A	**Montezuma**	48.82	79	⇑P	P	19 31 51.0	+0.4
	baz=49						
R31A	**Burdett**	48.94	78	⇑P	P	19 31 52.0	+0.5
	baz=49						
W27A	**Bowe Ranch, En**	49.00	84	⇓P	P	19 31 52.8	+0.7
	baz=49						
Q32A	**Meitler Ranch,**	49.05	77	⇓P	P	19 31 52.3	0.0
	baz=49,SNR=5.8						
U29A	**Oasis Ranch, S**	49.13	81	⇓P	P	19 31 53.7	+0.7
	baz=49						
124A	**Stringfield Ra**	49.19	88	⇓P	P	19 31 54.9	+1.2
	baz=49						
Z25A	**Roswell**	49.23	87	⇓P	P	19 31 55.0	+1.2
	baz=49						
U30A	**WK&E Inc. Balk**	49.45	81	⇓P	P	19 31 55.6	+0.2
	baz=49						
Q33A	**Connelly Farm,**	49.47	76	⇑P	P	19 31 55.7	+0.3
	baz=49						
224A	**Cornudas Mount**	49.59	89	⇑P	P	19 31 57.8	+1.2
	baz=49,SNR=5.8						
T31A	**Randall Ranch,**	49.65	79	⇑P	P	19 31 57.3	+0.5
	baz=50						
Z26A	**Caprock**	49.68	86	⇓P	P	19 31 58.2	+0.9
	baz=50						
125A	**Gardner Draw,**	49.70	87	⇓P	P	19 31 58.6	+1.2
	baz=50						
Y27A	**Causey**	49.75	85	⇑P	P	19 31 58.9	+1.1
	baz=50						
225A	**Deer Hill, Car**	49.98	88	⇑P	P	19 32 01.0	+1.4
	baz=50						
324A	**Mosley Ranch,**	50.06	89	⇑P	P	19 32 00.6	+0.5
	baz=50						
Z27A	**Tatum**	50.11	86	⇑P	P	19 32 01.2	+0.7
	baz=50						
226B	**Tecolote Peak,**	50.40	88	⇑P	P	19 32 03.4	+0.8
	baz=50						
325A	**Bean Ranch, Si**	50.42	89	⇓P	P	19 32 03.8	+0.9
	baz=50,SNR=9.0						
V31A	**Spring Creek L**	50.44	81	⇑P	P	19 32 03.4	+0.5
	baz=50						
425A	**Indio Mountain**	50.82	89	⇓P	P	19 32 06.9	+1.0
	baz=51,SNR=8.7						
SONM	**Songino Array**	50.99	300	P	P	19 32 06.0	-0.9
SONM				pP	pP	19 32 35.3	+2.5
SONM	**Songino Array**	50.99	300	P	P	19 32 06.0	-0.9
	0.6nm,0.5s,baz=64,slow=6.2,SNR=6.6						
SONM				pP	pP	19 32 35.3	+2.5
	3.1nm,0.6s,baz=60,slow=7.2,SNR=15						
128A	**Castleberry Fa**	51.03	86	⇓P	P	19 32 07.8	+0.4
	baz=51						
Z29A	**Hungry Hill Ra**	51.06	85	⇓P	P	19 32 08.1	+0.6
	baz=51						
U34A	**Anderson Ranch**	51.36	79	⇑P	P	19 32 09.6	-0.1
	baz=51						
Z30A	**Sanderson Ranc**	51.38	84	⇓P	P	19 32 10.5	+0.5
	baz=51						
426A	**McDonald Obser**	51.48	89	⇑P	P	19 32 11.8	+0.9
	baz=51						
X32A	**Elmer**	51.70	82	⇓P	P	19 32 12.7	+0.5
	baz=52						
328A	**Wristen Ranch,**	51.71	87	⇑P	P	19 32 13.0	+0.6
	baz=52						
427A	**Hayter Ranch,**	51.73	88	⇑P	P	19 32 13.2	+0.6
	baz=52						
526A	**Mary Lane Ranc**	51.88	89	⇑P	P	19 32 14.7	+0.9
	baz=52						
Y32A	**R-V Farms, Ver**	51.89	82	⇑P	P	19 32 14.1	+0.4
	baz=52						
527A	**Woodward Ranch**	52.11	89	⇑P	P	19 32 16.0	+0.5
	baz=52						
626A	**Big Bend Ranch**	52.22	90	⇑P	P	19 32 17.0	+0.8
	baz=52,SNR=7.2						
428A	**Kincaid Ranch,**	52.25	88	⇓P	P	19 32 17.4	+0.9
	baz=52,SNR=7.1						
Z32A	**Haskell**	52.36	83	⇑P	P	19 32 17.5	+0.4
	baz=52						
230A	**Sterling City**	52.37	85	⇑P	P	19 32 18.0	+0.7
	baz=52						
528A	**Cox Ranch, San**	52.59	88	⇑P	P	19 32 19.7	+0.7
	baz=52,SNR=5.7						
TXAR	**Lajitas Array**	52.66	90	P	P	19 32 20.1	+0.6
TXAR	**Lajitas Array**	52.66	90	P	P	19 32 20.1	+0.6
	4.5nm,0.7s,baz=301,slow=5.2,SNR=43						
330A	**Mertzon**	52.68	86	⇓P	P	19 32 19.9	+0.3
	baz=52						
ABTX	**Abilene, Hawle**	52.74	84	⇓P	P	19 32 20.5	+0.5
	baz=53						
627A	**Terlingua Ranc**	52.74	89	⇑P	P	19 32 20.5	+0.4
	baz=53						
Z33A	**Whitaker Ranch**	52.80	82	⇓P	P	19 32 20.7	+0.3
	baz=53						
429A	**Davenport Ranc**	52.80	87	⇑P	P	19 32 20.7	+0.2
	baz=53						
Y34A	**Reagan Ranch,**	52.93	81	⇓P	P	19 32 21.8	+0.5
	baz=53						
529A	**Stev Forest Ra**	52.96	88	⇑P	P	19 32 22.4	+0.7
	baz=53						
628A	**Black Gap, Mar**	53.02	89	⇓P	P	19 32 22.5	+0.4
	baz=53,SNR=12						
430A	**Baggett Ranch,**	53.08	86	⇑P	P	19 32 22.9	+0.3
	baz=53,SNR=5.3						
133A	**Hamilton Ranch**	53.18	83	⇓P	P	19 32 23.6	+0.4
	baz=53						
331A	**San Angelo**	53.20	85	⇑P	P	19 32 23.9	+0.6
	baz=53						
232A	**Coleman**	53.25	84	⇓P	P	19 32 24.4	+0.7
	baz=53						
530A	**J-C Ranch, Com**	53.48	87	⇓P	P	19 32 25.9	+0.5
	baz=53,SNR=11						
431A	**Sonora**	53.53	86	⇓P	P	19 32 25.9	+0.1
	baz=53,SNR=8.9						
332A	**Millersview**	53.55	85	⇓P	P	19 32 26.3	+0.3
	baz=53						
233A	**Rising Star**	53.61	84	⇓P	P	19 32 26.8	+0.4
	baz=53						
432A	**Menard**	53.88	85	⇓P	P	19 32 28.6	+0.2
	baz=54						
531A	**Rocksprings**	53.94	86	⇓P	P	19 32 29.1	+0.2
	baz=54						
333A	**Richland Sprin**	54.05	84	⇑P	P	19 32 29.9	+0.3
	baz=54						
234A	**Clairette**	54.08	83	⇑P	P	19 32 30.3	+0.6
	baz=54						
JCT	**Junction City**	54.16	86	⇑P	P	19 32 30.8	+0.4
	baz=54						
532A	**Rocksprings**	54.35	86	⇑P	P	19 32 31.8	0.0
	baz=54						
433A	**Art**	54.39	85	⇑P	P	19 32 31.9	-0.1
	baz=54						
631A	**Perdido Creek**	54.46	87	⇓P	P	19 32 32.4	-0.2
	baz=54						
334A	**Lometa**	54.49	84	⇓P	P	19 32 33.1	+0.3
	baz=54,SNR=6.5						
SFIN	**Scholer Farm**	54.70	68	⇓P	P	19 32 33.6	-0.5
	baz=54						
434A	**Burnet**	54.84	84	⇓P	P	19 32 35.3	0.0
	baz=55,SNR=6.9						
534A	**Blanco**	55.28	85	⇑P	P	19 32 38.5	0.0
	baz=55						
732A	**Laxson Ranch,**	55.32	87	⇑P	P	19 32 39.0	+0.3
	baz=55						
832A	**Faith Ranch, C**	55.64	88	⇑P	P	19 32 41.2	+0.1
	baz=56,SNR=5.5						
733A	**Divot King Ran**	55.74	87	⇓P	P	19 32 42.3	+0.6
	baz=56						
535A	**Dale**	55.83	84	⇓P	P	19 32 43.1	+0.8
	baz=56						
833A	**Chaparral WMA,**	55.96	87	⇓P	P	19 32 43.8	+0.5
	baz=56,SNR=5.4						
635A	**Leesville**	56.17	85	⇓P	P	19 32 45.7	+1.0
	baz=56						
ZALV	**Zalesovo Beam**	56.93	317	P	P	19 32 49.0	-0.8
ZALV				pP	pP	19 33 18.9	+2.7
ZALV	**Zalesovo Beam**	56.93	317	P	P	19 32 49.0	-0.8
	0.3nm,0.3s,baz=40,slow=7.6,SNR=2.7						
ZALV				pP	pP	19 33 18.9	+2.7
	1.4nm,0.6s,baz=43,slow=6.7,SNR=5.5						
ARCES	**ARCESS Array B**	57.19	354	P	P	19 32 51.5	+0.1
ARCES	**ARCESS Array B**	57.19	354	P	P	19 32 51.5	+0.1
	2.9nm,1.0s,baz=356,slow=6.3,SNR=2.9						
034A	**Hebbronville**	57.31	88	⇓P	P	19 32 54.4	+1.6
	baz=57						
KURK	**Kurchatov**	61.87	318	eP	P	19 33 21.3	-2.5
	1.9nm,0.8s						
KURK				epP	pP	19 33 48.3	-2.2
MK31	**Makanchi Array**	63.35	313	epP	pP	19 34 02.4	+1.8
MKAR	**Makanchi Array**	63.35	313	P	P	19 33 31.9	-1.9
MKAR				pP	pP	19 34 02.5	+1.8
MKAR	**Makanchi Array**	63.35	313	P	P	19 33 31.9	-1.9
	0.1nm,0.3s,baz=44,slow=6.7,SNR=7.6						
MKAR				pP	pP	19 34 02.5	+1.8
	1.7nm,0.7s,baz=50,slow=7.0,SNR=12						
FINES	**FINESS Array B**	65.14	352	P	P	19 33 43.8	-1.3
FINES	**FINESS Array B**	65.14	352	P	P	19 33 43.8	-1.3
	0.6nm,0.5s,baz=1.9,slow=8.3,SNR=5.1						
ABKAR	**Akbulak array**	69.84	328	eP	P	19 34 13.7	-1.2
ABKAR				epP	pP	19 34 43.2	+1.0
AKASG	**Malin Array Be**	75.39	348	P	P	19 34 46.8	-0.9
AKASG				pP	pP	19 35 15.6	+0.2
AKASG	**Malin Array Be**	75.39	348	P	P	19 34 46.8	-0.9
	0.2nm,0.3s,baz=9.1,slow=4.6,SNR=2.8						
AKASG				pP	pP	19 35 15.6	+0.2
	2.9nm,0.4s,baz=15,slow=5.9,SNR=11						
CMAR	**Chiang Mai Arr**	76.53	283	P	P	19 34 54.5	-0.2
CMAR	**Chiang Mai Arr**	76.53	283	P	P	19 34 54.5	-0.2
	2.0nm,0.9s,baz=27,slow=6.8,SNR=15						
GERES	**GERESS Array B**	78.39	358	P	P	19 35 04.3	-0.3
GERES	**GERESS Array B**	78.39	358	P	P	19 35 04.3	-0.3
	0.4nm,0.7s,baz=308,slow=4.8,SNR=3.8						
CTA	**Charters Tower**	82.44	222	P	P	19 35 26.8	+0.3
CTA	**Charters Tower**	82.44	222	P	P	19 35 26.8	+0.3
	3.6nm,0.6s,baz=29,slow=7.3,SNR=6.9						
BRTR	**Keskin Array B**	85.44	342	pP	pP	19 36 10.0	-0.1
BRTR	**Keskin Array B**	85.44	342	pP	pP	19 36 10.0	-0.1
	1.1nm,0.6s,baz=13,slow=3.2,SNR=5.2						
WRA	**Warramunga Arr**	87.53	232	P	P	19 35 51.8	-0.2
WRA	**Warramunga Arr**	87.53	232	P	P	19 35 51.8	-0.2
	1.0nm,0.5s,baz=38,slow=6.1,SNR=22						
ASAR	**Alice Springs**	90.94	230	P	P	19 36 08.2	+0.4
ASAR	**Alice Springs**	90.94	230	P	P	19 36 08.2	+0.4
	1.4nm,0.6s,baz=29,slow=4.4,SNR=28						
TORD	**Torodi Ar. Bea**	113.55	10	PKiKP	PKiKP	19 41 41.3	-0.6
TORD	**Torodi Ar. Bea**	113.55	10	PKiKP	PKiKP	19 41 41.3	-0.6
	0.5nm,0.5s,baz=339,slow=3.1,SNR=3.6						
H03N2	**Juan Fernandez**	116.12	111	T	T	21 47 35.9	
	baz=320,slow=75,SNR=12						
H03N1	**Juan Fernandez**	116.14	111	T	T	21 47 36.2	
	baz=320,slow=75,SNR=14						
H03N3	**Juan Fernandez**	116.14	111	T	T	21 47 41.7	
	baz=320,slow=75,SNR=12						
DBIC	**Dimbokro**	118.99	18	PKP	PKPdf	19 41 51.4	-1.0
DBIC	**Dimbokro**	118.99	18	PKP	PKPdf	19 41 51.4	-1.0
	0.8nm,0.4s,baz=40,slow=1.2,SNR=5.2						
PLCA	**Paso Flores**	126.00	112	PKP	PKPdf	19 42 05.2	+0.1
PLCA	**Paso Flores**	126.00	112	PKP	PKPdf	19 42 05.2	+0.1
	2.6nm,0.7s,baz=243,slow=4.5,SNR=5.2						
BOSA	**Boshof**	153.29	331	PKPbc	PKPbc	19 43 01.9	+0.4
BOSA	**Boshof**	153.29	331	PKPbc	PKPbc	19 43 01.9	+0.4
	0.8nm,0.4s,baz=15,slow=2.9,SNR=4.2						

TRN 13 19:35:11.8,14.47N×60.34W,h52km,MD3.4,M3.1(FDF), **M3.5**(FDF),**2C-1D,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	0.55	278	eP	Pn	19 35 25.0	+1.3
LPMF	**Morne Lapointe**	0.62

σ1$95/9, **mb3.7/5, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**125**	P	**Pn**	**19 40 37.3**	**+1.7**
SGSI	**Sangihe**	**2.23**	**341**	P	Pn	19 41 00.8	+13
LBMI	**Labuha**	**2.52**	**150**	P	**Pn**	**19 40 53.6**	**+2.1**
LBMI				S	**Sn**	**19 41 19.5**	**-1.5**
SANI	**Sanana**	**3.60**	**184**	P	Pn	19 41 09.6	+3.2
SANI				S	**Sn**	**19 41 47.6**	**-0.1**
NLAI	**Namlea**	**4.85**	**170**	P	**Pn**	**19 41 25.2**	**+1.7**
WRA	**Warramunga Arr**	**22.80**	**160**	P	P	19 45 05.6	-6.3
	0.8nm,0.3s,baz=340,slow=11,SNR=26						
ASAR	**Alice Springs**	**26.16**	**164**	P	**P**	**19 45 40.2**	**-3.0**
	0.3nm,0.3s,baz=341,slow=10,SNR=19						
SONM	**Songino Array**	**49.20**	**342**	P	**P**	**19 48 55.9**	**-0.7**
	0.6nm,0.8s,baz=160,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**59.07**	**326**	P	**P**	**19 50 09.5**	**+1.0**
	0.8nm,0.4s,baz=118,slow=7.9,SNR=22						
KURBB	**Kurchatov Arra**	**63.30**	**328**	P	**P**	**19 50 37.3**	**+0.2**
	0.6nm,0.4s,baz=130,slow=6.5,SNR=23						

IDC ***13*** *19:49:53.4±0.8, 39.˝24S×75.˝15W, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=26.2km s-min=19.5km az=79.0*

ISCJB ***13*** *19:49:54.5±0.6, 38.˝96S±0.˝06×75.˝02W±0.˝08, h17km, mb4.0/8, MS3.8/2, Error ellipse: s-maj=10.4km s-min=7.1km az=137.6*

ISC 13 19:49:55.9±0.7, 38.˝99S±0.˝07×75.˝15W±0.˝08, h17km, n24,
σ1$78/30, mb4.2/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.94**	**118**	Pn	**Pn**	**19 50 54.3**	**-1.4**
	4.7nm,0.3s,baz=288,slow=12,SNR=42						
PLCA				Sn	**Sn**	**19 51 40.4**	**-1.2**
	14nm,0.3s,baz=351,slow=16,SNR=6.9						
PLCA				LR	LR	19 52 01.6	
	comp=Z,183nm,20.3s,baz=140,slow=33						
H03N3	**Juan Fernandez**	**6.31**	**330**	Pn	**Pn**	**19 51 28.9**	**+1.0**
H03N3				Sn	**Sn**	**19 52 35.5**	**-4.0**
H03N1	**Juan Fernandez**	**6.32**	**330**	Pn	**Pn**	**19 51 29.3**	**+1.2**
H03N1				Sn	**Sn**	**19 52 35.5**	**-4.1**
H03N2	**Juan Fernandez**	**6.33**	**330**	Pn	**Pn**	**19 51 29.1**	**+0.9**
H03N2				Sn	**Sn**	**19 52 36.3**	**-3.6**
CFAA	**Coronel Fontan**	**9.28**	**40**	Pn	**Pn**	**19 52 07.9**	**-1.1**
	0.2nm,0.3s,baz=227,slow=7.6,SNR=15						
CFAA				Sn	**Sn**	**19 53 52.5**	**-0.5**
	0.1nm,0.3s,baz=105,slow=20,SNR=5.0						
CPUP	**Villa Florida**	**19.56**	**55**	P	**Pn**	**19 54 25.4**	**+1.1**
	0.8nm,0.3s,baz=221,slow=9.1,SNR=6.2						
CPUP				LR	LR	20 02 58.9	
	comp=Z,139nm,18.6s,baz=211,slow=40						
LPAZ	**La Paz**	**23.44**	**17**	P	**P**	**19 55 08.6**	**+3.6**
	0.9nm,0.5s,baz=233,slow=5.1,SNR=5.1						
SIV	**San Ignacio**	**26.03**	**32**	P	**P**	**19 55 29.6**	**+1.4**
	0.7nm,0.4s,baz=220,slow=16,SNR=2.5						
BDFB	**Brasilia**	**33.27**	**53**	LR	LR	20 11 17.5	
	comp=Z,94nm,19.6s,baz=269,slow=38						
QSPA	**South Pole Qui**	**51.25**	**180**	P	**P**	**19 58 57.1**	**-1.4**
	1.5nm,0.2s,baz=188,slow=1.3,SNR=5.7						
MAW	**Mawson**	**69.09**	**164**	P	**P**	**20 01 00.3**	**-0.1**
	3.0nm,0.9s,baz=214,slow=3.6,SNR=3.8						
TXAR	**Lajitas Array**	**72.99**	**334**	P	**P**	**20 01 26.8**	**+2.2**
	1.2nm,0.6s,baz=155,slow=8.8,SNR=4.5						
DBIC	**Dimbokro**	**79.12**	**72**	P	**P**	**20 02 00.2**	**+0.4**
	1.4nm,0.5s,baz=164,slow=7.4,SNR=4.1						
BOSA	**Boshof**	**79.93**	**119**	P	**P**	**20 02 03.8**	**-0.5**
	3.8nm,0.8s,baz=240,slow=7.4,SNR=6.5						
PDAR	**Pinedale Array**	**87.16**	**335**	P	**P**	**20 02 42.4**	**+1.4**
	1.1nm,0.9s,baz=140,slow=5.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**88.21**	**72**	LR	LR	20 44 09.8	
	comp=Z,69nm,18.4s,baz=140,slow=37						
GERES	**GERESS Array B**	**117.39**	**48**	PKP	**PKPdf**	**20 08 38.8**	**-1.2**
	0.4nm,0.6s,baz=242,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**117.48**	**333**	PKP	**PKPdf**	**20 08 39.6**	**0.0**
	0.3nm,0.7s,baz=170,slow=1.9,SNR=4.5						
BRTR	**Keskin Array B**	**126.33**	**65**	PKP	**PKPdf**	**20 08 57.9**	**+0.3**
	0.7nm,0.7s,baz=270,slow=1.3,SNR=4.5						
AKASG	**Malin Array Be**	**127.35**	**51**	PKP	**PKPdf**	**20 08 58.0**	**-1.0**
	0.1nm,0.3s,baz=259,slow=2.0,SNR=5.6						
AAK	**Ala-Archa**	**156.80**	**71**	PKPab	**PKPab**	**20 10 20.5**	**+0.6**
	0.6nm,0.4s,baz=164,slow=7.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**158.12**	**49**	PKP	**PKPdf**	**20 09 51.7**	**+0.4**
	0.7nm,0.9s,baz=293,slow=1.9,SNR=5.0						
KURBB				PKPab	**PKPab**	**20 10 25.7**	**+0.6**
	0.6nm,0.9s,baz=292,slow=4.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**159.76**	**36**	PKP	**PKPdf**	**20 09 53.3**	**+0.2**
	0.4nm,0.4s,baz=331,slow=5.3,SNR=3.4						
ZALV				PKPab	**PKPab**	**20 10 33.2**	**+1.2**
	0.5nm,0.5s,baz=316,slow=6.0,SNR=2.8						
MKAR	**Makanchi Array**	**161.76**	**57**	PKP	**PKPdf**	**20 09 55.5**	**-0.1**
	0.5nm,0.9s,baz=70,slow=4.0,SNR=4.2						
MKAR				PKPab	**PKPab**	**20 10 42.3**	**+1.2**
	0.4nm,0.7s,baz=292,slow=3.8,SNR=4.8						

IDC 13 20:20:03.8±5.5, 18.˝53N×72.˝87W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.4/3, MS3.6/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=156.8km s-min=39.8km az=2.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**30.05**	**297**	P	P	20 26 15.0	+0.1
	0.4nm,0.9s,baz=125,slow=8.9,SNR=4.4						
ANMO	**Albuquerque**	**33.96**	**306**	LR	LR	20 42 52.3	
	comp=Z,86nm,20.2s,baz=24,slow=40						
SIV	**San Ignacio**	**36.22**	**161**	LR	LR	20 43 03.5	
	comp=Z,54nm,19.6s,slow=38						
SCHQ	**Schefferville**	**36.53**	**6**	LR	LR	20 40 26.2	
	comp=Z,131nm,21.2s,baz=17,slow=34						
YKA	**Yellowknife Ar**	**52.52**	**337**	P	P	20 29 18.3	-0.2
	0.2nm,0.6s,baz=126,slow=7.8,SNR=5.5						
GERES	**GERESS Array B**	**74.06**	**43**	P	P	20 31 41.9	+0.1
	0.5nm,0.8s,baz=307,slow=7.1,SNR=2.6						

ISCJB ***13*** *20:27:53.0±0.7, 38.˝13N±0.˝03×20.˝03E±0.˝04, h6km±4km, Error ellipse: s-maj=6.7km s-min=3.1km az=39.8*

ATH ***13*** *20:27:53.1, 37.˝96N×20.˝09E, h5km±3km, MD3.3/12*

THE ***13*** *20:27:55.8, 38.˝03N×20.˝22E, h0km±1km, ML3.0/6, Error ellipse: s-maj=1.2km s-min=0.5km az=217.0*

CSEM ***13*** *20:27:56.2±0.3, 38.˝09N×20.˝14E, h20km, ML3.0, Error ellipse: s-maj=9.0km s-min=3.5km az=43.0*

PDG ***13*** *20:27:56.2±0.4, 38.˝28N×20.˝23E, h12km±2km, ML3.7/11, Error ellipse: s-maj=2.6km s-min=1.5km az=90.0*

ISC 13 20:27:53.6±1.3, 38.˝01N±0.˝03×20.˝08E±0.˝04, h8km±9km, n102, σ1$34/149, 14D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.44**	**67**	P	**Pg**	**20 28 02.5**	**+0.4**
VLS				S	**Sg**	**20 28 06.8**	**-1.0**
VLS	**Valsamata**	**0.44**	**67**	*e*PB	**Pg**	**20 28 02.3**	**+0.2**
VLS				*e*SB	**Sb**	**20 28 09.1**	**-1.2**
VLS	**Valsamata**	**0.44**	**67**	P	**Pg**	**20 28 02.5**	**+0.4**
VLS				*e*Sb	**Sb**	**20 28 09.1**	**-1.2**
KFL	**Anninata**	**0.57**	**80**	P	**Pg**	**20 28 04.7**	**+0.1**
KFL				S	**Sg**	**20 28 11.3**	**-0.7**
KFL	**Anninata**	**0.57**	**80**	P	**Pg**	**20 28 04.7**	**+0.1**
KFL				S	**Sg**	**20 28 11.3**	**-0.7**
VTN	**Vitineika**	**0.88**	**96**	P	**Pb**	**20 28 10.6**	**-0.5**
VTN	**Vitineika**	**0.88**	**96**	P	**Pb**	**20 28 10.6**	**-0.5**
LKD2	**Lefkada island**	**0.90**	**30**	P	**Pg**	**20 28 11.6**	**+0.7**
LKD2				S	**Sb**	**20 28 23.9**	**+0.2**
LKD2	**Lefkada island**	**0.90**	**30**	*e*PB	**Pg**	**20 28 11.3**	**+0.4**
LKD2	**Lefkada island**	**0.90**	**30**	*e*Pb	**Pg**	**20 28 11.3**	**+0.4**
LKD2	**Lefkada island**	**0.90**	**30**	P	**Pg**	**20 28 11.6**	**+0.7**
PDO	**Prodromos**	**1.05**	**56**	P	**Pg**	**20 28 13.7**	**0.0**
PDO	**Prodromos**	**1.05**	**56**	*e*PB	**Pg**	**20 28 13.6**	**-0.1**
PDO				*e*SB	**Sn**	**20 28 29.2**	**-0.2**
PDO	**Prodromos**	**1.05**	**56**	P	**Pg**	**20 28 13.7**	**0.0**
PDO				*e*Sb	**Sn**	**20 28 29.2**	**-0.2**
RLS	**Riolos of Patr**	**1.10**	**87**	P	**Pg**	**20 28 14.2**	**-0.5**
RLS	**Riolos of Patr**	**1.10**	**87**	*e*PB	**Pg**	**20 28 14.1**	**-0.6**
RLS	**Riolos of Patr**	**1.10**	**87**	P	**Pg**	**20 28 14.2**	**-0.5**
DRO	**Drossia**	**1.29**	**92**	P	**Pg**	**20 28 17.7**	**-0.7**
DRO	**Drossia**	**1.29**	**92**	*e*PB	**Pg**	**20 28 17.3**	**-1.1**
DRO	**Drossia**	**1.29**	**92**	*e*Pb	**Pg**	**20 28 17.3**	**-1.1**
DRO	**Drossia**	**1.29**	**92**	P	**Pg**	**20 28 17.7**	**-0.7**
AMT	**Artemida-Makis**	**1.38**	**110**	P	**Pg**	**20 28 19.3**	**-0.7**
AMT				S	**Sn**	**20 28 38.6**	**+1.0**
AMT	**Artemida-Makis**	**1.38**	**110**	*e*PB	**Pg**	**20 28 19.4**	**-0.6**
AMT				*e*SB	**Sb**	**20 28 37.4**	**0.0**
AMT	**Artemida-Makis**	**1.38**	**110**	P	**Pg**	**20 28 19.3**	**-0.7**
AMT				*e*Sb	**Sb**	**20 28 37.4**	**0.0**
AMT				S	**Sn**	**20 28 38.6**	**+1.0**
EFP	**Efpalio**	**1.50**	**73**	P	**Pg**	**20 28 21.3**	**-1.0**
EFP				S	**Sn**	**20 28 41.5**	**+1.0**
EFP	**Efpalio**	**1.50**	**73**	*e*PG	**Pg**	**20 28 21.1**	**-1.2**
EFP				*e*SB	**Sn**	**20 28 42.0**	**+1.5**
EFP	**Efpalio**	**1.50**	**73**	P	**Pg**	**20 28 21.3**	**-1.0**
EFP				S	**Sn**	**20 28 41.5**	**+1.0**
EFP				*e*Sb	**Sn**	**20 28 42.0**	**+1.5**
LAKA	**Lakka**	**1.52**	**81**	P	**Pn**	**20 28 21.4**	**+0.4**
LAKA	**Lakka**	**1.52**	**81**	*e*PG	**Pn**	**20 28 21.4**	**+0.4**
LAKA	**Lakka**	**1.52**	**81**	P	**Pn**	**20 28 21.4**	**+0.4**
IGT	**Igoumenitsa**	**1.53**	**7**	P	**Pn**	**20 28 23.2**	**+2.0**
IGT				S	**Sn**	**20 28 44.5**	**+3.1**
IGT	**Igoumenitsa**	**1.53**	**7**	P	**Pn**	**20 28 23.2**	**+2.0**
IGT				S	**Sn**	**20 28 44.5**	**+3.1**
EVR	**Evrytania**	**1.63**	**56**	P	**Pn**	**20 28 23.6**	**+0.9**
EVR				S	**Sn**	**20 28 45.3**	**+1.3**
EVR	**Evrytania**	**1.63**	**56**	*e*PB	**Pg**	**20 28 25.0**	**+0.1**
EVR	**Evrytania**	**1.63**	**56**	P	**Pn**	**20 28 23.6**	**+0.9**
EVR	**Evrytania**	**1.63**	**56**	*e*Pb	**Pg**	**20 28 25.0**	**+0.1**
EVR				S	**Sn**	**20 28 45.3**	**+1.3**
KLV	**Kalavryta, Ach**	**1.64**	**88**	P	**Pn**	**20 28 23.3**	**+0.6**
KLV	**Kalavryta, Ach**	**1.64**	**88**	*e*PG	**Pn**	**20 28 23.5**	**+0.8**
KLV	**Kalavryta, Ach**	**1.64**	**88**	P	**Pn**	**20 28 23.3**	**+0.6**
KALE	**Kalithea**	**1.67**	**76**	P	**Pn**	**20 28 24.0**	**+0.8**
KALE				S	**Sg**	**20 28 46.0**	**-1.2**
KALE	**Kalithea**	**1.67**	**76**	*e*PG	**Pn**	**20 28 24.3**	**+1.1**
KALE	**Kalithea**	**1.67**	**76**	P	**Pn**	**20 28 24.0**	**+0.8**
KALE	**Kalithea**	**1.67**	**76**	*e*Pg	**Pn**	**20 28 24.3**	**+1.1**
KALE				S	**Sg**	**20 28 46.0**	**-1.2**
ITM	**Ithomi**	**1.69**	**119**	P	**Pn**	**20 28 24.6**	**+1.2**
ITM	**Ithomi**	**1.69**	**119**	*e*PB	**Pn**	**20 28 24.8**	**+1.4**
ITM				*e*SB	**Sg**	**20 28 46.7**	**-1.1**
ITM	**Ithomi**	**1.69**	**119**	P	**Pn**	**20 28 24.6**	**+1.2**
ITM				*e*Sb	**Sg**	**20 28 46.7**	**-1.1**
KEK	**Kerkira**	**1.71**	**353**	P	**Pn**	**20 28 25.9**	**+2.2**
KEK				S	**Sg**	**20 28 49.9**	**+1.2**
KEK	**Kerkira**	**1.71**	**353**	*e*PG	**Pn**	**20 28 26.1**	**+2.4**
KEK	**Kerkira**	**1.71**	**353**	P	**Pn**	**20 28 25.9**	**+2.2**
KEK				S	**Sg**	**20 28 49.9**	**+1.2**
PYL	**PYLOS**	**1.73**	**130**	P	**Pn**	**20 28 25.4**	**+1.5**
PYL	**PYLOS**	**1.73**	**130**	*e*PB	**Pn**	**20 28 25.7**	**+1.8**
PYL	**PYLOS**	**1.73**	**130**	P	**Pn**	**20 28 25.4**	**+1.5**
PYL	**PYLOS**	**1.73**	**130**	*e*Pb	**Pn**	**20 28 25.7**	**+1.8**
JAN	**Janina**	**1.75**	**20**	*e*PN	**Pb**	**20 28 27.1**	**+1.1**
JAN	**Janina**	**1.75**	**20**	*e*Pn	**Pb**	**20 28 27.1**	**+1.1**
GUR	**Goura**	**1.79**	**92**	P	**Pn**	**20 28 26.1**	**+1.2**
GUR	**Goura**	**1.79**	**92**	*e*PG	**Pb**	**20 28 26.5**	**-0.2**
GUR	**Goura**	**1.79**	**92**	P	**Pn**	**20 28 26.1**	**+1.2**
GUR	**Goura**	**1.79**	**92**	*e*Pg	**Pb**	**20 28 26.5**	**-0.2**
VLX	**Vlachokerasia**	**1.94**	**109**	*e*PN	**Pb**	**20 28 29.3**	**+0.2**
VLX	**Vlachokerasia**	**1.94**	**109**	*e*Pn	**Pb**	**20 28 29.3**	**+0.2**
DSF	**Desfina**	**1.97**	**78**	*e*PG	**Pb**	**20 28 29.7**	**0.0**
DSF	**Desfina**	**1.97**	**78**	*e*Pg	**Pb**	**20 28 29.7**	**0.0**
THL	**Klokotos Trika**	**2.17**	**44**	*e*PN	**Pb**	**20 28 33.2**	**+0.2**
THL	**Klokotos Trika**	**2.17**	**44**	*e*Pn	**Pb**	**20 28 33.2**	**+0.2**
LTK	**Loutraki**	**2.28**	**89**	P	**Pn**	**20 28 33.1**	**+1.5**
LTK	**Loutraki**	**2.28**	**89**	*e*PN	**Pb**	**20 28 33.8**	**-1.2**
LTK	**Loutraki**	**2.28**	**89**	P	**Pn**	**20 28 33.1**	**+1.5**
LTK	**Loutraki**	**2.28**	**89**	*e*Pn	**Pb**	**20 28 33.8**	**-1.2**
DID	**Didima**	**2.55**	**100**	P	**Pn**	**20 28 36.5**	**+1.2**
DID	**Didima**	**2.55**	**100**	*e*PN	**Pb**	**20 28 38.8**	**-0.9**
DID	**Didima**	**2.55**	**100**	P	**Pn**	**20 28 36.5**	**+1.2**
DID	**Didima**	**2.55**	**100**	*e*Pn	**Pb**	**20 28 38.8**	**-0.9**
ULC	**Ulcinj**	**4.00**	**351**	↓*i*Pn	**Pn**	**20 28 55.3**	**+0.1**
ULC				*e*Sn	**Sn**	**20 29 39.7**	**-2.5**
ULC	**Ulcinj**	**4.00**	**351**	↓*i*Pn	**Pn**	**20 28 55.3**	**+0.1**
ULC				*e*Sn	**Sn**	**20 29 39.7**	**-2.5**
DRME	**Dracevica, Mon**	**4.23**	**351**	*e*Pn	**Pn**	**20 28 59.1**	**+0.8**
DRME				*e*Sn	**Sn**	**20 29 45.5**	**-2.3**
DRME	**Dracevica, Mon**	**4.23**	**351**	*e*Pn	**Pn**	**20 28 59.1**	**+0.8**
DRME				*e*Sn	**Sn**	**20 29 45.5**	**-2.3**
CDT	**Castel del Mon**	**4.25**	**317**	*e*Pn	**Pn**	**20 28 59.5**	**+0.9**
CDT				*e*Sn	**Sn**	**20 29 47.6**	**-0.8**
BUM	**Brajici-Budva**	**4.38**	**348**	↓*i*Pn	**Pn**	**20 29 00.9**	**+0.5**
BUM				*e*Sn	**Sn**	**20 29 49.5**	**-2.2**
BUM	**Brajici-Budva**	**4.38**	**348**	↓*i*Pn	**Pn**	**20 29 00.9**	**+0.5**
BUM				*e*Sn	**Sn**	**20 29 49.5**	**-2.2**
PDG	**Podgorica**	**4.46**	**352**	↓*i*Pn	**Pn**	**20 29 00.9**	**-0.5**
PDG				*e*Sn	**Sn**	**20 29 51.7**	**-1.8**
TTG	**Podgorica**	**4.46**	**352**	↓*i*Pn	**Pn**	**20 29 00.9**	**-0.5**
TTG				*e*Sn	**Sn**	**20 29 51.7**	**-1.8**
PVY	**Plav**	**4.58**	**359**	↓*i*Pn	**Pn**	**20 29 03.6**	**+0.4**
PVY				*e*Sn	Sn	20 29 52.8	-3.9
PVY	**Plav**	**4.58**	**359**	↓*i*Pn	**Pn**	**20 29 03.6**	**+0.4**
PVY				*e*Sn	Sn	20 29 52.8	-3.9
HCY	**Herceg Novi**	**4.59**	**345**	*e*Pn	**Pn**	**20 29 03.4**	**+0.1**
HCY				*e*Sn	**Sn**	**20 29 54.2**	**-2.7**
HCY	**Herceg Novi**	**4.59**	**345**	*e*Pn	**Pn**	**20 29 03.4**	**+0.1**
HCY				*e*Sn	**Sn**	**20 29 54.2**	**-2.7**
NKME	**Niksic**	**4.83**	**350**	*e*Pn	**Pn**	**20 29 07.5**	**+0.9**
NKME				*e*Sn	**Sn**	**20 29 59.7**	**-3.0**
NKME	**Niksic**	**4.83**	**350**	*e*Pn	**Pn**	**20 29 07.5**	**+0.9**
NKME				*e*Sn	**Sn**	**20 29 59.7**	**-3.0**
BEY	**Berane**	**4.86**	**358**	↓*i*Pn	**Pn**	**20 29 07.7**	**+0.7**
BEY				*e*Sn	Sn	20 29 59.9	-3.6
IVA	**Berane**	**4.86**	**358**	↓*i*Pn	**Pn**	**20 29 07.7**	**+0.7**
IVA				*e*Sn	Sn	20 29 59.9	-3.6
NKY	**Niksic**	**4.87**	**351**	↓*i*Pn	**Pn**	**20 29 07.0**	**-0.2**
NKY				*e*Sn	**Sn**	**20 30 00.9**	**-2.9**
NKY	**Niksic**	**4.87**	**351**	↓*i*Pn	**Pn**	**20 29 07.0**	**-0.2**
NKY				*e*Sn	**Sn**	**20 30 00.9**	**-2.9**
BRY	**Bratogost**	**5.02**	**347**	*e*Pn	**Pn**	**20 29 09.5**	**+0.1**
BRY				*e*Sn	**Sn**	**20 30 05.0**	**-2.7**
BRY	**Bratogost**	**5.02**	**347**	*e*Pn	**Pn**	**20 29 09.5**	**+0.1**
BRY				*e*Sn	**Sn**	**20 30 05.0**	**-2.7**
STON	**Ston**	**5.18**	**340**	*e*Pn	**Pn**	**20 29 13.1**	**+1.7**
STON				Sn	**Sn**	**20 30 09.7**	**-1.7**
STON	**Ston**	**5.18**	**340**	*e*Pn	**Pn**	**20 29 13.0**	**+1.7**
STON				Sn	**Sn**	**20 30 09.6**	**-1.7**
UPM	**Unac-Piva**	**5.26**	**351**	↓*i*Pn	**Pn**	**20 29 13.0**	**+0.3**
UPM				*e*Sn	Sn	20 30 09.8	-3.8
UPM	**Unac-Piva**	**5.26**	**351**	↓*i*Pn	**Pn**	**20 29 13.0**	**+0.3**
UPM				*e*Sn	Sn	20 30 09.8	-3.8
PLE	**Pljevlja**	**5.34**	**355**	*e*Pn	**Pn**	**20 29 13.0**	**-0.1**
PLE				*e*Sn	Sn	20 30 11.3	-4.1
PLE	**Pljevlja**	**5.34**	**355**	*e*Pn	**Pn**	**20 29 13.6**	**-0.1**
PLE				*e*Sn	Sn	20 30 11.3	-4.1
NVLJ	**Novalja**	**7.63**	**331**	*e*Pn	**Pn**	**20 29 47.4**	**+2.4**
NVLJ				Sn	**Sn**	**20 31 09.6**	**-1.9**
NVLJ	**Novalja**	**7.63**	**331**	*e*Pn	**Pn**	**20 29 47.3**	**+2.4**
NVLJ				Sn	**Sn**	**20 31 09.6**	**-1.9**

ISCJB ***13*** *20:31:59.9±0.5, 15.˝70N±0.˝07×95.˝01W±0.˝03, h41km±12km, mb3.6/3, MS3.5/2, Error ellipse: s-maj=12.3km s-min=4.3km az=14.5*

MEX ***13*** *20:32:02.7±0.5, 15.˝64N×95.˝04W, h39km, MD4.1*

IDC ***13*** *20:32:06.5±4.3, 15.˝91N×94.˝52W, h78km±44km, mb3.3/3, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, ML4.1/3, MS3.2/4, Ms1 3.3/4, ms1mx2.9/31, Error ellipse: s-maj=38.6km s-min=35.4km az=65.0*

ISC 13 20:32:01.8±4.7, 15.˝63N±0.˝08×95.˝04W±0.˝04, h35km±36km, n17, σ1$38/22, mb3.8/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.04**	**278**	*e*P	**Pn**	**20 32 19.1**	**-0.8**
HUIG				*i* S	Sn	**20 32 31.9**	**-1.2**
PANG	**Puerto Angel**	**1.38**	**272**	*i* P	**Pn**	**20 32 23.8**	**-0.8**
PANG				*i* S	Sn	**20 32 40.1**	**-1.5**
PCIG		**1.76**	**87**	*e*P	**Pn**	**20 32 29.1**	**-0.7**
PCIG				*i* S	Sn	**20 32 49.4**	**-1.5**
VHO	**Vista Hermosa**	**2.17**	**312**	*e*P	**Pn**	**20 32 35.4**	**-0.3**
VHO				*i* S	Sn	**20 32 59.5**	**-1.9**
THIG		**2.77**	**105**	*e*P	**Pn**	**20 32 43.5**	**-0.3**
THIG				*i* S	Sn	**20 33 15.0**	**-1.1**
PNIG	**Pinotepa**	**3.06**	**285**	*e*P	**Pn**	**20 32 47.3**	**-0.5**
PNIG				*i* S	Sn	**20 33 21.6**	**-1.6**
TLIG	**Tlapa**	**3.89**	**300**	*e*P	**Pn**	**20 33 00.6**	**+1.4**
TLIG				*e*S	Sn	**20 33 42.1**	**-1.7**
LVIG	**Laguna Verde**	**4.28**	**342**	*e*P	**Pn**	**20 33 03.8**	**-0.7**
LVIG				*e*S	Sn	**20 33 51.5**	**-1.7**
APG	**El Apazote**	**4.46**	**97**	P	Pn	20 33 05.5	-1.7
	6.2nm,0.3s,baz=266,slow=8.3,SNR=16						
APG				S	**Sn**	**20 33 56.5**	**-1.5**
	8.3nm,0.3s,baz=66,slow=21,SNR=5.9						
APG				LR	LR	20 35 04.3	
	comp=Z,104nm,18.8s,baz=205,slow=44						
TEIG	**Tepich**	**7.90**	**54**	P	Pn	20 33 51.6	-2.6
	17nm,0.3s,baz=260,slow=3.3,SNR=39						
TEIG				S	Sn	20 35 13.0	-9.4
	5.3nm,0.3s,baz=12,slow=20,SNR=3.7						
JTS	**JuntasAbangare**	**11.17**	**117**	LR	LR	20 37 49.8	
	comp=Z,50nm,20.9s,baz=346,slow=32						
TXAR	**Lajitas Array**	**15.79**	**331**	P	**Pn**	**20 35 43.2**	**+1.6**
	0.1nm,0.3s,baz=152,slow=11,SNR=7.9						
NVAR	**Mina Array Bea**	**30.58**	**322**	P	**P**	**20 38 14.5**	**+2.0**
	1.0nm,0.7s,baz=132,slow=9.0,SNR=5.8						
NVAR				LR	LR	20 51 03.8	
	comp=Z,156nm,21.1s,baz=182,slow=37						
LPAZ	**La Paz**	**41.37**	**139**	LR	LR	20 56 06.3	
	comp=Z,51nm,20.2s,baz=326,slow=35						
YKA	**Yellowknife Ar**	**48.80**	**348**	P	**P**	**20 40 41.9**	**-1.3**
	0.7nm,0.8s,baz=154,slow=7.3,SNR=12						
ILAR	**Eielson Array**	**60.20**	**337**	P	**P**	**20 42 05.2**	**-0.7**
	0.2nm,0.5s,baz=129,slow=6.5,SNR=5.2						
WRA	**Warramunga Arr**	**132.91**	**257**	PKP	**PKPdf**	**20 51 14.4**	**+0.2**
	0.1nm,0.5s,baz=84,slow=2.5,SNR=4.4						

CASC 13 20:43:28.9±2.6, 9.˝66N×82.˝70W, h13km±19km, MD3.6, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.30**	**144**	*e*S	Sg	20 43 39.4	+0.3
BRU	**Baru**	**0.85**	**171**	*e*P	Pb	20 43 46.5	+0.3
BRU				*e*S	Sg	20 43 57.2	-0.5
BRU2	**Volcan**	**0.86**	**180**	*e*P	Pb	20 43 46.0	+0.1
BRU2				*e*S	Sb	20 43 57.9	+0.4
BUS	**Buena Vista**	**1.05**	**265**	↓*e*P	Pb	20 43 47.8	-1.8
BUS				*e*S	Sb	20 44 02.5	-1.3
ACR	**Cerro Adams**	**1.10**	**205**	*e*P	Pb	20 43 49.3	-0.6
ACR				*e*S	Sn	20 44 05.0	-0.3
QCR	**Quepos**	**1.47**	**261**	↑*e*P	Pn	20 43 54.7	-0.4
QCR				*e*S	Sn	20 44 14.4	+0.2
CGA2	**Cerro Gallo 2**	**1.78**	**282**	*e*P	Pn	20 43 59.3	-0.3
CGA2				*e*S	Sn	20 44 23.0	+0.7

**IDC 13 20:55:59.4±4.2, 18.˝14N×72.˝93W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/25, mbtmp3.9/4, ML4.2/1, MS3.3/1, Ms1 3.4/1, ms1mx2.7/40, Error ellipse: s-maj

GTBY	**Guantanamo Bay**	**2.92**	**301**	*e*Pn		Pn	21 26 59.8	-3.7
GTBY				*e*Sn		**Sn**	**21 27 35.4**	**-2.3**
GRTK	**Grand Turk**	**3.30**	**22**	*e*Pn		**Pn**	**21 27 07.4**	**-1.4**
GRTK				*e*Sn		**Sn**	**21 27 44.5**	**-2.7**
YHJ	**Yallahs**	**3.88**	**263**	*e*P		**Pn**	**21 27 14.8**	**-2.0**
YHJ				*i* S		**Sn**	**21 28 06.9**	**+5.2**
YHJ	**Yallahs**	**3.88**	**263**	*e*P		**Pn**	**21 27 14.8**	**-2.0**
YHJ				*i* S		**Sn**	**21 28 06.9**	**+5.2**
HOJ	**Hope**	**4.11**	**265**	*e*P		**Pn**	**21 27 19.2**	**-0.8**
HOJ	**Hope**	**4.11**	**265**	*e*P		**Pn**	**21 27 19.2**	**-0.8**
STH	**Stony Hill**	**4.16**	**266**	*e*P		**Pn**	**21 27 18.6**	**-2.0**
STH	**Stony Hill**	**4.16**	**266**	*e*P		**Pn**	**21 27 18.6**	**-2.0**
MTDJ	**Mount Denham**	**4.83**	**268**	*e*Pn		**Pn**	**21 27 28.4**	**-1.6**
MTDJ				*e*Sn		**Sn**	**21 28 25.2**	**0.0**
CVJ	**Coleyville**	**4.83**	**268**	*e*P		**Pn**	**21 27 29.5**	**-0.6**
CVJ	**Coleyville**	**4.83**	**268**	*e*P		**Pn**	**21 27 29.5**	**-0.6**
MCJ	**Malvern**	**5.00**	**265**	*e*P		**Pn**	**21 27 33.4**	**+1.1**
MCJ	**Malvern**	**5.00**	**265**	*e*P		**Pn**	**21 27 33.4**	**+1.1**
AGPR	**Aguadilla, PR**	**5.07**	**89**	*e*Pn		**Pn**	**21 27 33.5**	**+0.3**
AGPR				*e*Sn		**Sn**	**21 28 31.9**	**+0.9**
CRPR	**Cabo Rojo, PR**	**5.10**	**94**	*e*Pn		**Pn**	**21 27 33.8**	**+0.3**
CRPR				*e*Sn		**Sn**	**21 28 31.7**	**+0.1**
LSP	**Las Mesas**	**5.11**	**92**	*e*Pn		**Pn**	**21 27 34.5**	**+0.8**
LSP				*e*Sn		**Sn**	**21 28 32.4**	**+0.6**
OBIP	**Obispado Ponce**	**5.57**	**93**	*e*Pn		**Pn**	**21 27 40.5**	**+0.4**
OBIP				*e*Sn		**Sn**	**21 28 44.1**	**+0.8**
CELP	**Cerrillos**	**5.59**	**93**	*e*Pn		**Pn**	**21 27 40.5**	**+0.1**
CELP				*e*Sn		**Sn**	**21 28 44.6**	**+0.8**
CBYP	**Canovanas**	**6.27**	**90**	*e*Pn		**Pn**	**21 27 50.1**	**+0.4**
CBYP				*e*Sn		**Sn**	**21 29 02.0**	**+1.4**
MTP	**Monte Pirata**	**6.56**	**92**	*e*Pn		**Pn**	**21 27 54.4**	**+0.7**
MTP				*e*Sn		**Sn**	**21 29 08.5**	**+0.7**
CDVI	**St. Croix**	**7.34**	**94**	*e*Pn		**Pn**	**21 28 03.0**	**-1.4**
CDVI				*e*Sn		**Sn**	**21 29 26.9**	**-0.1**
SDV	**Santo Domingo**	**9.66**	**169**	*e*Pn		**Pn**	**21 28 35.8**	**-0.6**
SDV				*e*Sn		**Sn**	**21 30 20.4**	**-3.9**
LZG	**Guadaloupe-1**	**10.45**	**101**	*e*P		**Pn**	**21 28 47.2**	**+0.1**
MLG	**Mont-d'or**	**10.53**	**101**	*e*P		**Pn**	**21 28 48.7**	**+0.5**
FNG	**Fond-Bernard**	**10.55**	**101**	*e*P		**Pn**	**21 28 48.9**	**+0.3**
SSG	**Sans Toucher**	**10.55**	**101**	*e*P		**Pn**	**21 28 49.0**	**+0.4**
LKG	**Breislack**	**10.58**	**101**	*e*P		**Pn**	**21 28 49.5**	**+0.5**
PHG	**Guadaloupe-2**	**10.61**	**101**	*e*P		**Pn**	**21 28 49.7**	**+0.4**
SEG	**Port Louis**	**10.64**	**99**	*e*P		**Pn**	**21 28 51.0**	**+1.3**
BBL	**Barber's Block**	**10.90**	**104**	*e*P		**Pn**	**21 28 53.2**	**-0.1**
H05N1	**Guadeloupe/Mar**	**11.08**	**99**	Pn		**Pn**	**21 28 57.5**	**+1.7**
FDF	**Fort de France**	**11.44**	**107**	*e*Pn		**Pn**	**21 28 59.6**	**-1.1**
FDF				*e*Sn		**Sn**	**21 31 05.8**	**-2.0**
H05S1	**Guadeloupe/Mar**	**11.84**	**108**	Pn		**Pn**	**21 29 04.2**	**-1.8**
ROSC	**El Rosal**	**13.62**	**188**	*e*Pn		**Pn**	**21 29 31.0**	**+0.2**
ROSC	**El Rosal**	**13.62**	**188**	Pn		**Pn**	**21 29 31.4**	**+0.6**
	2.6nm,0.3s,baz=87,slow=8.3,SNR=16							
ROSC					Sn	**Sn**	**21 31 57.5**	**-4.1**
	1.7nm,0.3s,baz=105,slow=20,SNR=2.0							
ROSC					LR	LR	21 35 44.1	
	comp=Z,624nm,18.2s,baz=6.9,slow=42							
JTS	**JuntasAbangare**	**14.56**	**238**	*e*Pn		**Pn**	**21 29 43.2**	**-0.1**
JTS	**JuntasAbangare**	**14.56**	**238**	Pn		**Pn**	**21 29 45.5**	**+2.2**
	1.9nm,0.3s,baz=16,slow=23,SNR=4.3							
JTS					LR	LR	21 35 12.6	
	comp=Z,580nm,19.9s,baz=78,slow=37							
TEIG	**Tepich**	**15.04**	**279**	*e*Pn		**Pn**	**21 29 48.5**	**-1.2**
	78nm,1.0s							
TEIG				*e*Sn		**Sn**	**21 32 36.4**	**+0.7**
TEIG	**Tepich**	**15.04**	**279**	Pn		**Pn**	**21 29 48.6**	**-1.2**
	1.6nm,0.3s,baz=76,slow=14,SNR=8.6							
TEIG					LR	LR	21 35 23.8	
	comp=Z,346nm,20.0s,baz=90,slow=37							
TIGA	**Tifton**	**16.40**	**324**	*e*Pn		**Pn**	**21 30 06.4**	**-0.8**
	323nm,1.3s							
TIGA	**Tifton**	**16.40**	**324**	⇓P		**Pn**	**21 30 08.0**	**+0.7**
	baz=16							
APG	**El Apazote**	**17.59**	**261**	P		**Pn**	**21 30 20.6**	**-1.9**
APG	**El Apazote**	**17.59**	**261**	P		**Pn**	**21 30 20.6**	**-1.9**
	0.1nm,0.3s,baz=90,slow=18,SNR=5.1							
APG					LR	LR	21 37 17.0	
	comp=Z,539nm,20.1s,baz=244,slow=38							
KMSC	**Kings Mountain**	**18.41**	**336**	⇓P		**Pn**	**21 30 32.6**	**+0.3**
	baz=18							
OTAV	**Otavalo**	**19.02**	**199**	*e*P		**P**	**21 30 39.4**	**0.0**
	58nm,1.2s							
LRAL	**Lakeview Retre**	**19.54**	**321**	*e*P		**Pn**	**21 30 45.1**	**-0.7**
	45nm,1.3s							
JSRW	**J. Sargeant Re**	**19.76**	**347**	*e*P		**P**	**21 30 45.2**	**-1.6**
TKL	**Tuckaleechee C**	**19.87**	**332**	LR		LR	21 38 23.1	
	comp=Z,1µm,21.1s,baz=148,slow=37							
VWCC	**Virginia Weste**	**19.87**	**342**	*e*P		**P**	**21 30 47.8**	**-0.3**
BLA	**Blacksburg**	**19.97**	**341**	*e*P		**P**	**21 30 48.8**	**-0.3**
	50nm,0.8s							
SWET	**Sewanee**	**20.55**	**327**	*e*P		**P**	**21 30 54.8**	**-0.8**
	245nm,1.7s							
SDMD	**Soldier's Deli**	**21.24**	**351**	*e*P		**P**	**21 31 01.7**	**-1.2**
OXF	**Oxford**	**22.01**	**320**	*e*P		**P**	**21 31 09.8**	**-1.4**
	114nm,1.1s							
PAL	**Palisades**	**22.53**	**357**	*e*P		**P**	**21 31 15.8**	**-0.8**
PTGA	**Pitinga**	**22.66**	**146**	*e*P		**P**	**21 31 19.0**	**+0.6**
	44nm,1.1s							
PTGA	**Pitinga**	**22.66**	**146**	P		**P**	**21 31 19.3**	**+1.0**
	28nm,1.0s,baz=331,slow=12,SNR=15							
PTGA					LR	LR	21 39 58.8	
	comp=Z,512nm,21.6s,baz=329,slow=36							
WCI	**Wyandotte Cave**	**23.12**	**331**	*e*P		**P**	**21 31 22.1**	**-0.8**
	18nm,0.8s							
GLAT	**Glass**	**23.15**	**323**	*e*P		**P**	**21 31 22.4**	**-0.9**
USIN	**University of**	**23.57**	**329**	*e*P		**P**	**21 31 26.1**	**-1.2**
	99nm,1.1s							
HKT	**Hockley**	**24.16**	**303**	*e*P		**P**	**21 31 32.6**	**-0.3**
	20nm,1.3s							
SIUC	**Southern Illin**	**24.17**	**326**	*e*P		**P**	**21 31 32.3**	**-0.7**
	144nm,1.3s							
ACCN	**Adirondack Com**	**24.89**	**358**	*e*P		**P**	**21 31 39.8**	**+0.3**
	36nm,1.1s							
035Z	**Hargill**	**24.95**	**293**	⇑P		**P**	**21 31 40.8**	**+0.6**
	baz=25							
835A	**Beeville**	**25.23**	**298**	⇓P		**P**	**21 31 43.6**	**+0.9**
	baz=25							
SFIN	**Scholer Farm**	**25.24**	**333**	*e*P		**P**	**21 31 42.6**	**-0.1**
	107nm,1.3s							
SFIN	**Scholer Farm**	**25.24**	**333**	⇓P		**P**	**21 31 43.6**	**+0.9**
	baz=25							
735A	**Kenedy**	**25.39**	**299**	⇑P		**P**	**21 31 44.4**	**+0.2**
	baz=25							
635A	**Leesville**	**25.53**	**300**	⇑P		**P**	**21 31 45.8**	**+0.4**
	baz=26							
535A	**Dale**	**25.59**	**302**	⇑P		**P**	**21 31 46.3**	**+0.4**
	baz=26							
934A	**Benavides**	**25.62**	**296**	⇓P		**P**	**21 31 46.6**	**+0.3**
	baz=26							
034A	**Hebbronville**	**25.63**	**294**	⇓P		**P**	**21 31 46.8**	**+0.4**
	baz=26,SNR=11							
335A	**Moody**	**25.95**	**304**	⇓P		**P**	**21 31 49.1**	**-0.1**
	baz=26							
634A	**China Grove, S**	**26.00**	**300**	⇑P		**P**	**21 31 49.6**	**-0.2**
	baz=26							
734A	**La Parita Cree**	**26.01**	**298**	⇑P		**P**	**21 31 49.3**	**-0.5**
	baz=26							
ATAH	**Atahualpa**	**26.08**	**194**	P		**P**	**21 31 54.8**	**+3.9**
ATAH	**Atahualpa**	**26.08**	**194**	P		**P**	**21 31 54.8**	**+3.9**
	7.8nm,0.7s,baz=0.0,slow=1.0,SNR=4.9							
ATAH					LR	LR	21 43 08.2	
	comp=Z,564nm,21.6s,baz=198,slow=39							
WHTX	**Lake Whitney**	**26.26**	**306**	*e*P		**P**	**21 31 52.1**	**+0.1**
	45nm,1.3s							
WHTX	**Lake Whitney**	**26.26**	**306**	⇓P		**P**	**21 31 52.2**	**+0.1**
	baz=26							
933A	**Laredo**	**26.27**	**295**	⇑P		**P**	**21 31 52.3**	**+0.1**
	baz=26							
534A	**Blanco**	**26.32**	**301**	⇓P		**P**	**21 31 52.2**	**-0.5**
	baz=26,SNR=7.3							
FRNY	**Flat Rock**	**26.34**	**358**	*e*P		**P**	**21 31 51.8**	**-0.7**
	38nm,1.3s							
434A	**Burnet**	**26.43**	**303**	⇓P		**P**	**21 31 53.1**	**-0.6**
	baz=26							
135A	**Vickery Place,**	**26.47**	**307**	⇓P		**P**	**21 31 53.8**	**-0.1**
	baz=26							
833A	**Chaparral WMA,**	**26.56**	**297**	⇓P		**P**	**21 31 54.6**	**-0.2**
	baz=26,SNR=7.9							
733A	**Divot King Ran**	**26.59**	**298**	⇓P		**P**	**21 31 54.5**	**-0.6**
	baz=26							
334A	**Lometa**	**26.61**	**304**	⇑P		**P**	**21 31 54.7**	**-0.5**
	baz=26							
Z35A	**Perchaven, San**	**26.70**	**309**	⇑P		**P**	**21 31 55.6**	**-0.3**
	baz=27							
633A	**Saathoff Ranch**	**26.71**	**299**	⇑P		**P**	**21 31 56.0**	**-0.2**
	baz=27,SNR=5.8							
234A	**Clairette**	**26.79**	**305**	⇑P		**P**	**21 31 56.2**	**-0.6**
	baz=27							
533A	**Kerrville**	**26.79**	**301**	⇑P		**P**	**21 31 56.2**	**-0.7**
	baz=27							
SADO	**Sadowa**	**26.84**	**349**	LR		LR	21 41 35.5	
	comp=Z,959nm,22.0s,baz=175,slow=34							
TUL1	**Tulsa**	**26.98**	**315**	*e*P		**P**	**21 31 58.3**	**-0.3**
	37nm,1.1s							
TUL1	**Tulsa**	**26.98**	**315**	⇑P		**P**	**21 31 57.9**	**-0.6**
	baz=27							
134A	**White-Moore Ra**	**26.98**	**306**	⇑P		**P**	**21 31 58.1**	**-0.5**
	baz=27							
832A	**Faith Ranch, C**	**27.04**	**296**	⇓P		**P**	**21 31 58.5**	**-0.7**
	baz=27							
433A	**Art**	**27.07**	**302**	⇑P		**P**	**21 31 59.1**	**-0.3**
	baz=27							
732A	**Laxson Ranch,**	**27.16**	**297**	⇑P		**P**	**21 31 59.5**	**-0.7**
	baz=27							
333A	**Richland Sprin**	**27.19**	**303**	⇑P		**P**	**21 32 00.1**	**-0.4**
	baz=27,SNR=7.4							
632A	**Uvalde**	**27.23**	**299**	⇓P		**P**	**21 32 00.4**	**-0.5**
	baz=27							
Y34A	**Reagan Ranch,**	**27.36**	**309**	⇑P		**P**	**21 32 01.7**	**-0.2**
	baz=27							
233A	**Rising Star**	**27.39**	**305**	⇑P		**P**	**21 32 01.5**	**-0.8**
	baz=27							
532A	**Rocksprings**	**27.52**	**300**	⇓P		**P**	**21 32 03.3**	**-0.3**
	baz=28,SNR=10							
JCT	**Junction City**	**27.55**	**301**	*e*P		**P**	**21 32 03.2**	**-0.6**
	70nm,1.4s							
JCT	**Junction City**	**27.55**	**301**	⇑P		**P**	**21 32 03.9**	**+0.1**
	baz=28							
133A	**Hamilton Ranch**	**27.64**	**306**	⇑P		**P**	**21 32 04.6**	**+0.1**
	baz=28							
432A	**Menard**	**27.68**	**302**	⇓P		**P**	**21 32 04.9**	**0.0**
	baz=28							
X34A	**Smith Ranch, M**	**27.72**	**311**	⇓P		**P**	**21 32 05.1**	**-0.1**
	baz=28							
Z33A	**Whitaker Ranch**	**27.81**	**307**	⇑P		**P**	**21 32 05.7**	**-0.3**
	baz=28							
332A	**Millersview**	**27.82**	**303**	⇓P		**P**	**21 32 05.4**	**-0.7**
	baz=28							
631A	**Perdido Creek**	**27.86**	**298**	⇑P		**P**	**21 32 05.8**	**-0.7**
	baz=28							
232A	**Coleman**	**27.93**	**304**	⇑P		**P**	**21 32 06.8**	**-0.3**
	baz=28							
V34A	**Guthrie**	**28.12**	**313**	⇓P		**P**	**21 32 07.8**	**-0.9**
	baz=28							
ABTX	**Abilene, Hawle**	**28.21**	**305**	⇑P		**P**	**21 32 08.7**	**-0.9**
	baz=28							
431A	**Sonora**	**28.27**	**301**	⇓P		**P**	**21 32 09.1**	**-1.1**
	baz=28							
331A	**San Angelo**	**28.34**	**302**	⇓P		**P**	**21 32 10.2**	**-0.6**
	baz=28							
Z32A	**Haskell**	**28.36**	**307**	⇑P		**P**	**21 32 10.0**	**-0.9**
	baz=28							
W33A	**Caddo, Fort Co**	**28.45**	**311**	⇑P		**P**	**21 32 10.8**	**-0.8**
	baz=28							
U34A	**Anderson Ranch**	**28.45**	**314**	⇑P		**P**	**21 32 10.9**	**-0.8**
	baz=28							
Y32A	**R-V Farms, Ver**	**28.63**	**308**	⇓P		**P**	**21 32 12.2**	**-1.1**
	baz=29							
V33A	**Lossen Ranch,**	**28.65**	**312**	⇓P		**P**	**21 32 12.4**	**-1.1**
	baz=29							
JFWS	**Jewell Farm**	**28.68**	**332**	*e*P		**P**	**21 32 12.2**	**-1.5**
	27nm,0.7s							
X32A	**Elmer**	**28.70**	**309**	⇓P		**P**	**21 32 12.4**	**-1.5**
	baz=29							
530A	**J-C Ranch, Com**	**28.71**	**299**	⇑P		**P**	**21 32 12.7**	**-1.4**
	baz=29							
SAML	**Samuel**	**28.71**	**161**	*e*P		**P**	**21 32 14.6**	**+0.5**
	14nm,0.9s							
SAML				*e*PcP		**PcP**	**21 35 23.7**	**-0.6**
330A	**Mertzon**	**28.97**	**302**	⇓P		**P**	**21 32 15.1**	**-1.4**
	baz=29							
W32A	**Sentinel**	**28.99**	**310**	⇓P		**P**	**21 32 15.3**	**-1.2**
	baz=29							
V32A	**Arapaho**	**29.13**	**312**	⇑P		**P**	**21 32 16.6**	**-1.2**
	baz=29							
Y31A	**Rekieta Farm,**	**29.23**	**307**	⇑P		**P**	**21 32 17.2**	**-1.4**
	baz=29							
X31A	**McDonald Ranch**	**29.30**	**309**	⇑P		**P**	**21 32 18.1**	**-1.3**
	baz=29							
429A	**Davenport Ranc**	**29.31**	**300**	⇓P		**P**	**21 32 18.1**	**-1.4**
	baz=29							
KSU1	**Kansas State U**	**29.37**	**320**	*e*P		**P**	**21 32 18.3**	**-1.5**
	22nm,0.8s							
KSU1	**Kansas State U**	**29.37**	**320**	⇑P		**P**	**21 32 18.5**	**-1.3**
	baz=29							
U32A	**Winter Ranch,**	**29.43**	**313**	⇑P		**P**	**21 32 19.8**	**-0.6**
	baz=29							
529A	**Stev Forest Ra**	**29.43**	**299**	⇓P		**P**	**21 32 18.9**	**-1.6**
	baz=29							
W31A	**Holland Ranch,**	**29.53**	**310**	⇑P		**P**	**21 32 20.4**	**-0.9**
	baz=30							
Z30A	**Sanderson Ranc**	**29.62**	**306**	⇑P		**P**	**21 32 21.3**	**-0.8**
	baz=30							
329A	**Wagon Wheel Ra**	**29.65**	**302**	⇑P		**P**	**21 32 21.5**	**-1.0**
	baz=30							
Y30A	**Stafford Cattl**	**29.67**	**307**	⇑P		**P**	**21 32 22.1**	**-0.6**
	baz=30							
V31A	**Spring Creek L**	**29.73**	**311**	⇑P		**P**	**21 32 22.4**	**-0.6**
	baz=30							
R33A	**Olander Ranch,**	**29.78**	**317**	⇓P		**P**	**21 32 23.0**	**-0.4**
	baz=30							
T32A	**Huddler Ranch,**	**29.79**	**314**	⇓P		**P**	**21 32 23.2**	**-0.3**
	baz=30							
628A	**Black Gap, Mar**	**29.82**	**297**	⇑P		**P**	**21 32 23.3**	**-0.7**
	baz=30							
X30A	**Coker Ranch, T**	**29.89**	**308**	⇑P		**P**	**21 32 23.7**	**-0.8**
	baz=30							
528A	**Cox Ranch, San**	**29.92**	**299**	⇑P		**P**	**21 32 24.8**	**-0.1**
	baz=30,SNR=7.9							
428A	**Kincaid Ranch,**	**29.99**	**300**	⇑P		**P**	**21 32 25.5**	**-0.1**
	baz=30,SNR=14							
Z29A	**Hungry Hill Ra**	**30.05**	**305**	⇓P		**P**	**21 32 25.5**	**-0.5**
	baz=30							
Q33A	**Connelly Farm,**	**30.08**	**318**	⇑P		**P**	**21 32 26.0**	**-0.1**
	baz=30,SNR=7.3							
627A	**Terlingua Ranc**	**30.24**	**297**	⇓P		**P**	**21 32 27.5**	**-0.2**
	baz=30,SNR=11							
P33A	**Williams Farm,**	**30.25**	**319**	⇓P		**P**	**21 32 27.5**	**-0.1**
	baz=30							
Y29A	**Porterfield Fa**	**30.26**	**306**	⇑P		**P**	**21 32 27.1**	**-0.8**
	baz=30							
T31A	**Randall Ranch,**	**30.26**	**313**	⇓P		**P**	**21 32 27.4**	**-0.3**
	baz=30							
328A	**Wristen Ranch,**	**30.29**	**301**	⇑P		**P**	**21 32 27.2**	**-0.9**
	baz=30							
R32A	**Long Quarter,**	**30.31**	**316**	⇑P		**P**	**21 32 27.3**	**-0.9**
	baz=30							
S31A	**Mullinville**	**30.40**	**315**	⇑P		**P**	**21 32 28.7**	**-0.2**
	baz=30							
128A	**Castleberry Fa**	**30.43**	**304**	⇓P		**P**	**21 32 29.0**	**-0.4**
	baz=30							
TXAR	**Lajitas Array**	**30.44**	**297**	P		**P**	**21 32 28.9**	**-0.7**
TXAR				PcP		**PcP**	**21 35 29.3**	**+0.5**
TXAR	**Lajitas Array**	**30.44**	**297**	P		**P**	**21 32 28.9**	**-0.7**
	3.9nm,0.9s,baz=120,slow=7.4,SNR=18							
TXAR				PcP		**PcP**	**21 35 29.3**	**+0.5**
	1.9nm,0.9s,baz=118,slow=4.8,SNR=5.5							
TXAR				LR		LR	21 47 35.2	
	comp=Z,257nm,19.3s,baz=205,slow=42							
X29A	**Tulia**	**30.51**	**307**	⇑P		**P**	**21 32 29.7**	**-0.4**
	baz=30							
Q32A	**Meitler Ranch,**	**30.54**	**318**	⇑P		**P**	**21 32 29.7**	**-0.4**
	baz=30,SNR=6.5							
527A	**Woodward Ranch**	**30.60**	**298**	⇓P		**P**	**21 32 30.2**	**-0.8**
	baz=30							
427A	**Hayter Ranch,**	**30.62**	**300**	⇑P		**P**	**21 32 30.7**	**-0.3**
	baz=30,SNR=7.7							
U30A	**WK&E Inc. Balk**	**30.66**	**312**	⇓P		**P**	**21 32 31.2**	**-0.2**
	baz=31							
R31A	**Burdett**	**30.78**	**316**	⇑P		**P**	**21 32 31.9**	**-0.5**
	baz=31							
626A	**Big Bend Ranch**	**30.89**	**297**	⇑P		**P**	**21 32 33.3**	**-0.2**
	baz=31							
P32A	**Huiting Farm,**	**30.92**	**319**	⇓P		**P**	**21 32 33.9**	**+0.3**
	baz=31							
526A	**Mary Lane Ranc**	**30.98**	**298**	⇓P		**P**	**21 32 33.9**	**-0.4**
	baz=31,SNR=11							
V29A	**Stinnett**	**30.99**	**310**	⇑P		**P**	**21 32 34.5**	**+0.3**
	baz=31							
S30A	**Montezuma**	**31.07**	**314**	⇑P		**P**	**21 32 35.1**	**+0.1**
	baz=31							
Q31A	**Ellis**	**31.08**	**317**	⇓P		**P**	**21 32 34.7**	**-0.3**
	baz=31							
426A	**McDonald Obser**	**31.09**	**299**	⇑P		**P**	**21 32 34.7**	**-0.6**
	baz=31,SNR=12							
O32A	**Brockman Farm,**	**31.10**	**320**	⇓P		**P**	**21 32 34.7**	**-0.4**
	baz=31							
127A	**Arkansas Junct**	**31.14**	**303**	⇑P		**P**	**21 32 35.1**	**-0.6**
	baz=31							
MSTX	**Muleshoe**	**31.14**	**306**	*e*P		**P**	**21 32 34.7**	**-1.0**
	15nm,0.9s							
MSTX	**Muleshoe**	**31.14**	**306**	⇑P		**P**	**21 32 35.4**	**-0.3**
	baz=31							
Z27A	**Tatum**	**31.25**	**304**	⇑P		**P**	**21 32 35.2**	**-1.4**
	baz=31,SNR=7.0							
R30A	**Dighton**	**31.28**	**315**	⇑P		**P**	**21 32 36.4**	**-0.4**
	baz=31,SNR=6.5							
P31A	**Stockton**	**31.36**	**318**	⇑P		**P**	**21 32 37.2**	**-0.2**
	baz=31,SNR=8.4							
T29A	**Hugoton**	**31.41**	**312**	⇑P		**P**	**21 32 37.8**	**-0.2**
	baz=31							
Y27A	**Causey**	**31.41**	**305**	⇑P		**P**	**21 32 37.8**	**-0.3**
	baz=31							
Q30A	**Quinter**	**31.61**	**316**	⇓P		**P**	**21 32 39.4**	**-0.2**
	baz=32							
X27A	**F and S Farms,**	**31.65**	**307**	⇑P		**P**	**21 32 39.1**	**-1.1**
	baz=32							
126A	**Clayton Basin,**	**31.66**	**303**	⇑P		**P**	**21 32 39.6**	**-0.7**
	baz=32							
O31A	**Woolen Ranch,**	**31.68**	**319**	⇑P		**P**	**21 32 40.0**	**-0.3**
	baz=32							
U28A	**Mallet**	**31.72**	**310**	⇓P		**P**	**21 32 40.2**	**-0.5**
	baz=32							
BGNE	**Belgrade**	**31.72**	**322**	⇓P		**P**	**21 32 40.4**	**-0.2**
	baz=32							
W27A	**Bowe Ranch, En**	**31.79**	**308**	⇑P		**P**	**21 32 40.8**	**-0.6**
	baz=32							
Z26A	**Caprock**	**31.84**	**304**	⇑P		**P**	**21 32 41.2**	**-0.6**
	baz=32							
425A	**Indio Mountain**	**31.91**	**299**	⇓P		**P**	**21 32 42.1**	**-0.4**
	baz=32,SNR=8.1							
P30A	**Selden**	**31.93**	**317**	⇑P		**P**	**21 32 42.1**	**-0.4**
	baz=32,SNR=9.6							
T28A	**Walsh**	**31.98**	**312**	⇑P		**P**	**21 32 42.5**	**-0.5**
	baz=32							
S28A	**Manter**	**32.04**	**313**	⇑P		**P**	**21 32 43.4**	**-0.1**
	baz=32							
325A	**Bean Ranch, Si**	**32.05**	**300**	⇑P		**P**	**21 32 43.4**	**-0.5**
	baz=32,SNR=14							
Q29A	**Oakley**	**32.06**	**315**	⇑P		**P**	**21 32 43.0**	**-0.6**
	baz=32,SNR=12							
225A	**Deer Hill, Car**	**32.14**	**301**	⇑P		**P**	**21 32 44.0**	**-0.6**
	baz=32,SNR=7.5							
X26A	**CR and CF Fran**	**32.16**	**306**	⇓P		**P**	**21 32 44.5**	**-0.1**
	baz=32							
O30A	**MW Ranch, Wils**	**32.16**	**318**	⇑P		**P**	**21 32 44.8**	**+0.3**
	baz=32							
U27A	**Thompson Grove**	**32.17**	**310**	⇓P		**P**	**21 32 43.8**	**-0.9**
	baz=32							
M31A	**Lambtecht Ranc**	**32.17**	**321**	⇓P		**P**	**21 32 44.4**	**-0.2**
	baz=32							
125A	**Gardner Draw,**	**32.18**	**302**	⇓P		**P**	**21 32 43.6**	**-1.2**
	baz=32,SNR=7.9							
W26A	**Owens Ranch, T**	**32.33**	**307**	⇑P		**P**	**21 32 45.7**	**-0.5**
	baz=32							
R28A	**Tribune**	**32.35**	**314**	⇓P		**P**	**21 32 45.6**	**-0.6**
	baz=32,SNR=14							
T27A	**Campo**	**32.38**	**311**	⇑P		**P**	**21 32 46.0**	**-0.5**
	baz=32							
ECSD	**EROS Data Cent**	**32.39**	**326**	*e*P		**P**	**21 32 44.7**	**-1.8**
	16nm,1.1s							
ECSD				*e*PcP		**PcP**	**21 35 32.6**	**-1.0**
ECSD	**EROS Data Cent**	**32.39**	**326**	⇑P		**P**	**21 32 45.6**	**-0.8**
	baz=32,SNR=9.1							
P29A	**Atwood**	**32.41**	**317**	⇑P		**P**	**21 32 46.0**	**-0.6**
	baz=32							
Z25A	**Roswell**	**32.42**	**303**	⇑P		**P**	**21 32 46.1**	**-0.9**
	baz=32,SNR=7.0							
**MN

baz=35
G30A Faulkton 34.67 326 ⇓P P 21 33 05.9 -0.4
baz=35
SDCO Great Sand Dun 34.67 311 eP P 21 33 06.6 -0.1
12nm,1.0s
LAZ Ladron 34.69 304 eP P 21 33 06.8 0.0
11nm,1.2s
J28A Allard Ranch, 34.76 322 ⇑P P 21 33 07.0 -0.1
baz=35
LPAZ La Paz 34.77 173 eP P 21 33 08.8 +0.8
11nm,1.1s
LPAZ ePP PP 21 34 26.7 -0.4
LPAZ PcP PcP 21 35 41.2 -0.2
LPAZ ePcP PcP 21 35 41.6 +0.2
LPAZ La Paz 34.77 173 P P 21 33 09.1 +1.1
2.7nm,0.5s,baz=32,slow=5.6,SNR=8.3
LPAZ PcP PcP 21 35 41.2 -0.2
5.7nm,0.9s,baz=42,slow=4.8,SNR=5.4
LPAZ LR LR 21 48 12.8
comp=Z,820nm,21.2s,baz=193,slow=38
T23A Casias Ranch, 34.78 309 ⇑P P 21 33 07.6 -0.1
baz=35
Q24A Divide 34.95 313 ⇑P P 21 33 09.1 +0.1
baz=35
V22A San Miguel Ran 35.02 307 ⇓P P 21 33 10.1 +0.4
baz=35,SNR=11
R23A Moffat 35.09 311 ⇓P P 21 33 09.8 -0.5
baz=35
U22A Llaves 35.14 308 ⇓P P 21 33 11.3 +0.6
baz=35,SNR=18
AGMN Agassiz Nation 35.34 333 eP P 21 33 11.0 -1.0
18nm,1.1s
AGMN ePP PnPn 21 34 30.9 +0.3
AGMN Agassiz Nation 35.34 333 ⇑P P 21 33 12.0 0.0
baz=35
M25A Palm-Egli Farm 35.39 317 ⇓P P 21 33 12.3 -0.4
baz=35
H28A Mission Ridge 35.40 324 ⇑P P 21 33 11.8 -0.8
baz=35
E30A Jud 35.47 328 ⇑P P 21 33 12.7 -0.5
baz=35
K26A Motz Farm, Whi 35.51 320 ⇑P P 21 33 13.3 -0.3
baz=36
G28A Parade 35.59 325 ⇓P P 21 33 13.9 -0.3
baz=36
I27A Quinn 35.62 322 ⇑P P 21 33 14.7 +0.1
baz=36
S22A 4UR Ranch, Cre 35.64 310 ⇓P P 21 33 14.8 -0.2
baz=36,SNR=9.2
ISCO Idaho Springs 35.64 314 ⇓P P 21 33 14.9 -0.2
baz=36,SNR=6.1
D30A Buchanan 35.82 329 ⇑P P 21 33 15.8 -0.3
baz=36
E29A Napoleon 35.89 327 ⇓P P 21 33 16.4 -0.4
baz=36
K25A Mack Ranch, Ha 35.89 319 ⇑P P 21 33 16.5 -0.5
baz=36
M24A Cheyenne 35.91 317 ⇓P P 21 33 16.6 -0.6
baz=36
H27A Howes 35.97 323 ⇑P P 21 33 17.3 -0.2
baz=36
I26A New Underwood 36.07 322 ⇓P P 21 33 18.0 -0.4
baz=36
C30A Mose, Pekin 36.10 330 ⇑P P 21 33 18.3 -0.2
baz=36,SNR=14
D29A Pettibone, Tap 36.20 328 ⇑P P 21 33 19.3 -0.1
baz=36
L24A Wheatland 36.27 317 ⇑P P 21 33 19.4 -0.8
baz=36
J25A Sunshine Ranch 36.27 320 ⇑P P 21 33 19.3 -0.8
baz=36
G27A Dupree 36.34 324 ⇑P P 21 33 20.4 -0.3
baz=36
P22A Eagle 36.34 313 ⇑P P 21 33 20.1 -0.9
baz=36
H26A Fairpoint 36.36 323 ⇑P P 21 33 20.1 -0.7
baz=36
E28A Huff 36.44 327 ⇓P P 21 33 21.5 +0.1
baz=36,SNR=6.6
O22A Kremmling 36.45 314 ⇑P P 21 33 21.2 -0.7
baz=36
B30A Myrvik Farm, E 36.56 331 ⇑P P 21 33 22.1 -0.3
baz=36
SCHQ Schefferville 36.58 5 P P 21 33 22.2 -0.3
SCHQ Schefferville 36.58 5 P P 21 33 22.2 -0.3
11nm,1.0s,baz=150,slow=3.9,SNR=6.5
SCHQ LR LR 21 47 55.9
comp=Z,725nm,18.1s,baz=40,slow=36
F27A Lemmon 36.70 325 ⇑P P 21 33 23.5 -0.2
baz=37,SNR=6.2
MDND Maddock 36.74 329 eP P 21 33 23.5 -0.5
87nm,1.3s
MDND ePP PnPn 21 34 47.3 -0.5
MDND Maddock 36.74 329 ⇑P P 21 33 24.0 0.0
baz=37
D28A Regan 36.78 328 ⇓P P 21 33 24.1 -0.3
baz=37
E27A Carson 36.80 326 ⇓P P 21 33 24.8 +0.2
baz=37
ULM Lac du Bonnet 36.85 335 eP P 21 33 22.9 -1.9
16nm,1.1s
ULM Lac du Bonnet 36.85 335 P P 21 33 23.2 -1.6
14nm,1.0s,baz=142,slow=7.3,SNR=12
ULM LR LR 21 49 33.4
comp=Z,397nm,18.1s,baz=309,slow=38
A30A Hoffart Farm, 36.90 331 ⇑P P 21 33 25.3 0.0
baz=37,SNR=18
W18A Petrified Fore 36.94 304 ⇑P P 21 33 26.3 +0.2
baz=37
X18A Snowflake 36.95 303 ⇓P P 21 33 26.2 +0.1
baz=37
C28A Hausauer Farms 37.04 328 ⇓P P 21 33 26.7 +0.1
baz=37
B29A Wagenman Farm, 37.05 330 ⇓P P 21 33 26.8 +0.2
baz=37
G25A Newell 37.07 323 ⇓P P 21 33 26.4 -0.5
baz=37,SNR=9.2
TUC Tucson 37.08 299 eP P 21 33 27.2 0.0
50nm,2.3s
D27A Center 37.22 327 ⇑P P 21 33 27.9 -0.2
baz=37
E26A Carlson Angus 37.31 325 ⇓P P 21 33 28.8 -0.1
baz=37
A29A Manning Farm, 37.32 331 ⇑P P 21 33 28.7 -0.2
baz=37,SNR=25
H24A Dirks Ranch, A 37.48 322 ⇑P P 21 33 29.7 -0.7
baz=37
B28A Dugan Ranch, T 37.52 329 ⇑P P 21 33 30.5 -0.1
baz=38,SNR=9.2
K22A Casper 37.59 317 eP P 21 33 31.1 -0.4
K22A Casper 37.59 317 ⇑P P 21 33 31.4 -0.1
baz=38,SNR=6.3
O20A White River Ci 37.61 313 eP P 21 33 31.7 +0.1
15nm,0.9s
D26A Manning 37.65 326 ⇑P P 21 33 32.5 +0.8
baz=38
A28A Rude Farm, Bot 37.80 330 ⇑P P 21 33 33.8 +0.9
baz=38,SNR=5.1
E25A Miller Ranch, 37.84 325 ⇓P P 21 33 33.9 +0.5
baz=38
C26A Wahner Farm, P 37.98 327 ⇓P P 21 33 35.0 +0.5
baz=38
K21A Alcova 38.05 317 ⇑P P 21 33 35.4 0.0
baz=38,SNR=16
WUAZ Wupatki 38.34 304 eP P 21 33 37.7 -0.2
22nm,1.3s
WUAZ Wupatki 38.34 304 ⇑P P 21 33 38.0 +0.1
baz=38,SNR=11
F23A Volborg 38.52 322 ⇓P P 21 33 38.6 -0.5
baz=38
J21A Lysite 38.52 318 ⇓P P 21 33 39.5 +0.1
baz=38
A26A Wade Farm, Ken 38.65 329 ⇓P P 21 33 40.1 0.0
baz=39
I21A Big Trails, Te 38.65 319 ⇑P P 21 33 40.4 0.0
baz=39,SNR=5.4
214A Organ Pipe Nat 38.70 298 ⇓P P 21 33 40.8 +0.1
baz=39
D24A Glendive 38.72 325 ⇑P P 21 33 40.7 -0.1
baz=39
G22A Birney 38.77 321 ⇑P P 21 33 41.8 +0.5
baz=39
B25A Knox Farm, Ray 38.81 327 ⇓P P 21 33 42.2 +0.7
baz=39
J20A Shoshoni 38.94 317 ⇑P P 21 33 42.5 -0.2
baz=39,SNR=6.7
F22A Rosebud 39.05 322 ⇑P P 21 33 43.0 -0.5
baz=39,SNR=12
A25A Svangstu Ranch 39.21 328 ⇑P P 21 33 44.7 -0.1
baz=39
E22A Miles City 39.24 323 ⇑P P 21 33 44.7 -0.4
baz=39
I20A Worland 39.25 318 ⇑P P 21 33 45.5 +0.2
baz=39,SNR=6.1
Y14A Wickenburg 39.25 301 ⇑P P 21 33 45.0 -0.5
baz=39
U15A North Rim 39.31 305 ⇓P P 21 33 46.1 -0.1
baz=39,SNR=11
G21A Lodge Grass 39.32 321 ⇑P P 21 33 44.6 -1.2
baz=39
TMUT Trail Mountain 39.40 310 eP P 21 33 46.0 -0.8
16nm,1.1s
H20A Greybull 39.43 319 ⇑P P 21 33 46.2 -0.7
baz=39
DGMT Dagmar 39.47 327 eP P 21 33 46.6 -0.4
49nm,1.3s
DGMT Dagmar 39.47 327 ⇑P P 21 33 46.9 -0.2
baz=39
J19A Crowheart 39.52 317 ⇓P P 21 33 46.6 -1.0
baz=40,SNR=12
C23A Lambert 39.60 325 ⇑P P 21 33 48.1 0.0
baz=40
BW06 Boulder Array 39.63 316 eP P 21 33 47.5 -1.1
27nm,1.4s
PDAR Pinedale Array 39.63 316 P P 21 33 47.6 -1.0
PDAR Pinedale Array 39.63 316 P P 21 33 47.6 -1.0
4.1nm,0.9s,baz=116,slow=10,SNR=12
PDAR LR LR 21 51 30.6
comp=Z,488nm,19.1s,baz=118,slow=38
113A Mohawk Valley, 39.64 299 ⇑P P 21 33 48.7 +0.1
baz=40
A24A Westby 39.66 327 ⇑P P 21 33 48.6 +0.1
baz=40,SNR=13
D22A Cohagen 39.77 324 ⇑P P 21 33 49.5 0.0
baz=40,SNR=9.5
I19A Meeteetse 39.84 318 ⇓P P 21 33 49.4 -0.9
baz=40,SNR=14
B23A Brockton 39.89 326 ⇑P P 21 33 50.0 -0.5
baz=40
G20A Bridger 39.93 320 ⇑P P 21 33 50.3 -0.7
baz=40
C22A Vida 39.95 325 ⇑P P 21 33 50.5 -0.5
baz=40
A23A Redstone 40.13 327 ⇑P P 21 33 52.2 -0.3
baz=40,SNR=9.4
H19A Powell 40.14 319 ⇓P P 21 33 52.5 -0.2
baz=40
D21A La Casta Ranch 40.18 323 ⇑P P 21 33 52.7 -0.3
baz=40
F20A Billings 40.19 321 ⇓P P 21 33 52.8 -0.3
baz=40
W13A Hualapai Mount 40.22 303 ⇓P P 21 33 54.0 +0.3
baz=40,SNR=8.9
PDMCI Parker Dam,Lak 40.25 302 ⇑P P 21 33 53.9 +0.3
baz=40
NLU North Lily Min 40.26 311 eP P 21 33 52.3 -1.6
17nm,1.2s
RLMT Red Lodge 40.53 319 eP P 21 33 54.9 -1.2
96nm,1.6s
E20A Meyer Farm, Mu 40.54 322 ⇓P P 21 33 55.9 -0.1
baz=40,SNR=9.1
H18A Shoshone NF, C 40.56 318 ⇑P P 21 33 55.7 -0.7
baz=40
ARUT Antelope Range 40.58 307 eP P 21 33 55.8 -0.7
207nm,1.0s
F19A Roth Farm, Mol 40.69 320 ⇓P P 21 33 56.6 -0.6
baz=41
A22A Carney Farms, 40.70 326 ⇓P P 21 33 57.2 0.0
baz=41,SNR=13
I17A Pilgrim Ck. 40.80 317 ⇓P P 21 33 58.5 +0.1
baz=41,SNR=14
D20A Manuel Ranch, 40.85 322 ⇑P P 21 33 58.5 -0.1
baz=41
DUG Dugway 40.87 311 eP P 21 33 58.3 -0.6
14nm,1.1s
DUG Dugway 40.87 311 ⇓P P 21 33 58.8 -0.1
baz=41,SNR=10
E19A Rath Farm, Rou 40.90 321 ⇑P P 21 33 59.1 +0.1
baz=41
LKWY Lake 40.98 318 eP P 21 33 58.9 -1.0
38nm,1.6s
SPUT South Promonto 41.01 312 eP P 21 33 59.6 -0.4
16nm,1.1s
H17A Grant Village 41.01 318 eP P 21 33 59.1 -1.0
15nm,1.0s
H17A Grant Village 41.01 318 ⇓P P 21 34 01.1 +1.0
baz=41,SNR=9.2
IRM Iron Mountain 41.04 301 ⇑P P 21 34 00.2 0.0
baz=41,SNR=7.9
GCMT Greycliff 41.10 320 eP P 21 33 59.3 -1.4
3.4nm,0.2s
C20A Veseth Ranch, 41.11 323 ⇓P P 21 34 01.0 +0.3
baz=41
BC3 Big Chuckawall 41.19 300 ⇑P P 21 34 01.5 -0.1
baz=41
A21A Bergtoll Ranch 41.23 326 ⇑P P 21 34 02.1 +0.5
baz=41,SNR=16
D19A Cripps Ranch, 41.32 322 ⇓P P 21 34 02.9 +0.5
baz=41
HVU Hansel Valley 41.41 313 eP P 21 34 02.1 -1.3
111nm,2.3s
B20A Solberg Farm, 41.52 324 ⇑P P 21 34 04.2 +0.2
baz=42,SNR=6.9
BDFB Brasilia 41.55 143 P P 21 34 04.7 +0.1
BDFB PcP PcP 21 36 02.4 +0.6
BDFB Brasilia 41.55 143 P P 21 34 04.7 +0.1
18nm,0.9s,baz=316,slow=8.8,SNR=21
BDFB PcP PcP 21 36 02.4 +0.6
4.8nm,1.0s,baz=277,slow=4.6,SNR=3.3
BDFB LR LR 21 51 49.7
comp=Z,815nm,18.4s,baz=320,slow=37
SHPR Sheep Range 41.56 305 eP P 21 34 04.7 +0.1
20nm,1.3s
GMRC Granite Mounta 41.58 302 ⇑P P 21 34 04.8 +0.1
baz=42
A20A Cobblestone Ra 41.71 325 ⇑P P 21 34 05.8 +0.2
baz=42,SNR=16
C19A Slack Wire Ran 41.72 323 ⇑P P 21 34 05.4 -0.2
baz=42
QLMT Earthquake Lak 41.75 318 eP P 21 34 06.6 +0.4
18nm,1.9s
PFO Pinyon Flat Ob 42.01 300 LR LR 21 54 05.6
comp=Z,173nm,21.8s,baz=124,slow=40
B19A Brinkman Farms 42.04 324 ⇑P P 21 34 08.2 0.0
baz=42,SNR=7.4
A19A Klindworth Far 42.19 324 ⇓P P 21 34 09.7 +0.2
baz=42,SNR=19
BOZ Bozeman (W) 42.25 319 eP P 21 34 09.5 -0.5
23nm,1.3s
EGMT Eagleton 42.27 323 eP P 21 34 08.8 -1.4
33nm,1.3s
EGMT Eagleton 42.27 323 ⇑P P 21 34 10.5 +0.3
baz=42
R11A Troy Canyon, C 42.36 307 ⇓P P 21 34 11.4 +0.3
baz=42
TPNV Topah Spring 42.52 305 ⇓P P 21 34 12.7 +0.3
baz=42,SNR=9.5
GSC Goldstone 42.60 302 ⇓P P 21 34 13.8 +0.7
baz=42
MURC Murrieta 42.62 300 ⇑P P 21 34 13.6 +0.5
baz=42
MCMT McKenzie Canyo 42.66 317 eP P 21 34 12.9 -0.7
8.1nm,1.0s
FFC Flin Flon 42.67 335 eP P 21 34 12.1 -1.1
9.9nm,1.1s
ELK Elko 42.80 311 LR LR 21 54 11.5
comp=Z,514nm,18.2s,baz=180,slow=39
LRM Limekiln Ridge 42.84 319 eP P 21 34 15.2 +0.1
628nm,2.1s
HRY Holter Researc 42.86 320 eP P 21 34 14.4 -0.6
15nm,1.0s
HLID Hailey 43.20 315 ⇑P P 21 34 17.9 0.0
baz=43,SNR=8.9
FCC Fort Churchill 43.27 344 eP P 21 34 16.2 -1.7
0.3nm,0.9s
MPMC Manual Prospec 43.30 303 ⇓P P 21 34 19.3 +0.5
baz=43
GRAC Grapevine Rang 43.40 305 ⇑P P 21 34 20.5 +1.0
baz=43
EDW2 Edwards Air Fo 43.48 301 ⇓P P 21 34 20.5 +0.4
baz=43
TPH Tonopah 43.53 306 eP P 21 34 19.9 -0.8
14nm,1.0s
CHMT Chamberlain Mo 43.82 320 eP P 21 34 22.4 -0.5
15nm,1.4s
CHMT ePP PP 21 36 05.6 +0.6
MFID Camas Ranch 44.10 314 eP P 21 34 24.1 -1.0
14nm,1.1s
SLMT Seeley Lake 44.11 320 eP P 21 34 24.9 -0.3
20nm,1.2s
NVAR Mina Array Bea 44.45 306 P P 21 34 28.7 +0.6
NVAR PcP PP 21 36 12.8 +0.9
NVAR Mina Array Bea 44.45 306 P P 21 34 28.7 +0.6
2.9nm,0.8s,baz=94,slow=6.4,SNR=12
NVAR PcP PP 21 36 12.8 +0.9
0.7nm,0.4s,baz=132,slow=2.6,SNR=3.3
NVAR LR LR 21 54 58.6
comp=Z,277nm,19.5s,baz=93,slow=39
VES Vestal, Richgr 44.53 303 ⇑P P 21 34 29.1 +0.7
baz=44,SNR=7.5
SWMT Swartz Lake 44.54 320 eP P 21 34 28.1 -0.4
12nm,1.1s
YBMT Yellow Bay 44.70 321 eP P 21 34 29.8 -0.1
12nm,1.1s
WAKR Walker 45.33 306 P P 21 34 35.1 +0.1
7.7nm,1.0s
WVOR Wild Horse Val 45.74 312 eP P 21 34 37.3 -0.8
22nm,1.2s
NEW Newport 46.77 320 eP P 21 34 45.0 -1.0
32nm,1.1s
NEW Newport 46.77 320 LR LR 21 55 39.4
comp=Z,861nm,19.4s,baz=108,slow=38
NEW Newport 46.77 320 ⇑P P 21 34 45.4 -0.7
baz=47,SNR=21
CPUP Villa Florida 46.86 161 P P 21 34 48.4 +1.5
CPUP Villa Florida 46.86 161 P P 21 34 48.4 +1.5
1.1nm,0.5s,baz=325,slow=12,SNR=3.8
CPUP LR LR 21 56 02.4
comp=Z,604nm,18.5s,baz=324,slow=38
EDM Edmonton 46.95 327 eP P 21 34 46.3 -1.0
YBH Yreka Blue Hor 48.49 310 LR LR 21 57 23.3
comp=Z,341nm,18.2s,baz=95,slow=39
YKA Yellowknife Ar 52.76 337 P P 21 35 30.2 -1.1
YKA Yellowknife Ar 52.76 337 P P 21 35 30.2 -1.1
10.0nm,1.0s,baz=123,slow=7.3,SNR=63
SUMG Summit 57.53 12 iP P 21 36 06.1 0.0
45nm,1.0s
SUMG Summit 57.53 12 eP P 21 36 06.1 0.0
67nm,1.0s
DLBC Dease Lake 57.65 328 eP P 21 36 07.3 +0.6
EVOP Sao Brissos 58.83 56 eP P 21 36 16.8 +1.5
44nm,1.1s
PLCA Paso Flores 58.89 178 P P 21 36 15.8 +0.3
PLCA Paso Flores 58.89 178 P P 21 36 15.8 +0.3
10nm,0.8s,baz=342,slow=7.9,SNR=14
EVO Evora 58.92 56 eP P 21 36 16.8 +0.9
44nm,1.1s
EVO eR
422nm,22.8s
ESDC Sonseca Array 62.06 54 P P 21 36 38.4 +0.9
ESDC Sonseca Array 62.06 54 P P 21 36 38.4 +0.9
6.5nm,0.9s,baz=282,slow=6.0,SNR=16
ESDC LR LR 21 58 09.0
comp=Z,277nm,20.1s,baz=270,slow=31
INK Inuvik 62.45 338 eP P 21 36 36.7 -2.7
32nm,1.5s
SJPF Ste Jean 64.04 50 eP P 21 36 51.3 +0.9
86nm,1.2s
SJPF Ste Jean 64.04 50 eP P 21 36 51.3 +0.9
86nm,1.2s
GRR Gorron 64.27 45 eP P 21 36 52.2 +0.4
70nm,1.3s
GRR Gorron 64.27 45 eP P 21 36 52.2 +0.4
70nm,1.3s
FLN La Foliniere 64.53 44 eP P 21 36 53.9 +0.4
FLN eR
582nm,21.8s
FLN La Foliniere 64.53 44 eP P 21 36 53.9 +0.4
ETSF Etsaut 64.53 51 eP P 21 36 54.6 +0.8
8.9nm,0.8s
ETSF Etsaut 64.53 51 eP P 21 36 54.6 +0.8
8.9nm,0.8s
MFF Saint Martin d 64.75 47 eP P 21 36 55.4 +0.4
74nm,1.2s
MFF Saint Martin d 64.75 47 eP P 21 36 55.4 +0.4
74nm,1.2s
LDF La Druitiere 64.76 44 eP P 21 36 55.3 +0.3
32nm,1.0s
LDF La Druitiere 64.76 44 eP P 21 36 55.3 +0.3
32nm,1.0s
EPF Esparros 65.19 51 eP P 21 36 58.8 +0.8
50nm,1.2s
EPF Esparros 65.19 51 eP P 21 36 58.8 +0.8
50nm,1.2s
LFF La Frestale 65.40 48 eP P 21 36 59.6 +0.3
63nm,1.2s
LFF La Frestale 65.40 48 eP P 21 36 59.6 +0.3
63nm,1.2s
RJF Les Rejaudoux 65.94 48 eP P 21 37 02.8 +0.1
RJF eR
250nm,20.5s
RJF Les Rejaudoux 65.94 48 eP P 21 37 02.8 +0.1
CAF Calviac 66.34 48 eP P 21 37 05.6 +0.2
37nm,1.0s
CAF Calviac 66.34 48 eP P 21 37 05.6 +0.2
37nm,1.0s
TCF Toulx Ste Croi 66.38 47 eP P 21 37 05.5 -0.1
32nm,1.0s
TCF Toulx Ste Croi 66.38 47 eP P 21 37 05.5 -0.1
32nm,1.0s
HYF Humbligny 66.64 46 eP P 21 37 07.5 +0.3
HYF Humbligny 66.64 46 eP P 21 37 07.5 +0.3
LIC Lamto 66.66 91 eP P 21 37 06.5 -1.4
LIC eR
229nm,22.6s
LIC Lamto 66.66 91 eP P 21 37 06.5 -1.4
DBIC Dimbokro 66.69 91 P P 21 37 06.7 -1.4
DBIC Dimbokro 66.69 91 P P 21 37 06.7 -1.4
4.7nm,0.9s,baz=275,slow=4.6,SNR=5.1
DBIC LR LR 22 01 00.2
comp=Z,173nm,20.7s,baz=286,slow=31
BGF Bois d'Agland 66.81 47 eP P 21 37 08.2 -0.1
31nm,0.9s
BGF Bois d'Agland 66.81 47 eP P 21 37 08.2 -0.1
31nm,0.9s
ILAR Eielson Array 66.84 333 P P 21 37 07.2 -1.0
ILAR Eielson Array 66.84 333 P P 21 37 07.2 -1.0
3.0nm,1.0s,baz=104,slow=4.6,SNR=23
ILAR LR LR 22 07 25.0
comp=Z,380nm,19.1s,baz=122,slow=37
AVF Avril sur Loir 67.15 46 eP P 21 37 10.2 -0.2
26nm,1.1s
AVF Avril sur Loir 67.15 46 eP P 21 37 10.2 -0.2
26nm,1.1s
SSF Saint Saulge 67.24 46 eP P 21 37 10.7 -0.3
SSF Saint Saulge 67.24 46 eP P 21 37 10.7 -0.3
COLA College 67.27 333 eP P 21 37 09.6 -1.2
22nm,1.3s
LOR Lormes 67.47 46 ⇑iP P 21 37 12.3 -0.2
21nm,0.9s,baz=262
LOR eR
494nm,22.2s
LOR Lormes 67.47 46 ⇑iP P 21 37 12.3 -0.2
21nm,0.9s
SMF Signal de Mont 67.49 46 eP P 21 37 12.4 -0.2
55nm,1.3s
SMF Signal de Mont 67.49 46 eP P 21 37 12.4 -0.2
55nm,1.3s
BAIF Baives 67.57 43 eP P 21 37 13.0 0.0
BAIF Baives 67.57 43 eP P 21 37 13.0 0.0
LASF Ste Croix 67.67 49 ⇑iP P 21 37 14.5 +0.6
58nm,1.3s
LASF Ste Croix 67.67 49 ⇑iP P 21 37 14.5 +0.6
58nm,1.3s
GIVF Givet 67.97 43 eP P 21 37 15.6 +0.1
GIVF Givet 67.97 43 eP P 21 37 15.6 +0.1
VIVF Saint-Julien-l 68.20 48 ⇑iP P 21 37 18.0 +0.9
67nm,1.2s
VIVF Saint-Julien-l 68.20 48 ⇑iP P 21 37 18.0 +0.9
67nm,1.2s
SFTF Sexfontaines 68.21 45 eP P 21 37 17.0 -0.1
SFTF Sexfontaines 68.21 45 eP P 21 37 17.0 -0.1
TRF Thorofare Moun 68.24 332 eP P 21 37 16.5 -0.8
98nm,1.8s
COLD Coldfoot 68.41 336 eP P 21 37 17.8 -0.2
23nm,1.2s
PAGF Fort de Pagny 68.64 44 eP P 21 37 20.0 +0.2
PAGF Fort de Pagny 68.64 44 eP P 21 37 20.0 +0.2
SMRF Simiane la Rot 68.92 49 eP P 21 37 22.6 +0.9
46nm,1.2s
SMRF Simiane la Rot 68.92 49 eP P 21 37 22.6 +0.9
46nm,1.3s
CABF La Chapelle 69.04 46 eP P 21 37 22.5 +0.1

CABF	La Chapelle	69.04	46	eP		P	21 37 22.5	+0.1
ORIF	Oris-en-Rattie	69.05	48	eP		P	21 37 23.4	+0.9
	39nm,1.2s							
ORIF				eR				
	255nm,22.8s							
ORIF	Oris-en-Rattie	69.05	48	eP		P	21 37 23.4	+0.9
	39nm,1.2s							
HINF	Hinteralfeld	69.45	45	eP		P	21 37 24.5	-0.4
HINF	Hinteralfeld	69.45	45	eP		P	21 37 24.5	-0.4
LPL	La Plagne	69.59	47	eP		P	21 37 26.6	+0.6
	17nm,0.7s							
LPL	La Plagne	69.59	47	eP		P	21 37 26.6	+0.6
	17nm,0.7s							
LPG	La Plagne	69.60	47	eP		P	21 37 26.8	+0.6
	28nm,1.1s							
LPG	La Plagne	69.60	47	eP		P	21 37 26.8	+0.6
	28nm,1.1s							
LMR	La Mourre	69.66	50	eP		P	21 37 26.4	+0.2
	38nm,1.2s							
LMR	La Mourre	69.66	50	eP		P	21 37 26.4	+0.2
	38nm,1.2s							
CDF	Champ du Feu	69.68	44	eP		P	21 37 26.3	-0.1
CDF	Champ du Feu	69.68	44	eP		P	21 37 26.3	-0.1
MBDF	Montbardon	69.70	48	eP		P	21 37 27.4	+0.8
	37nm,1.1s							
MBDF	Montbardon	69.70	48	eP		P	21 37 27.4	+0.8
	37nm,1.1s							
IM04	Indian Mountai	69.79	334	eP		P	21 37 25.7	-1.0
SBF	Sospel	70.27	49	eP		P	21 37 30.1	+0.1
	69nm,1.2s							
SBF	Sospel	70.27	49	eP		P	21 37 30.1	+0.1
	69nm,1.2s							
NB2	NORSAR Subarra	71.00	31	P		P	21 37 34.5	+0.3
	comp=Z,21nm,1.4s,baz=275,slow=6.5							
NOA	NORSAR Array B	71.00	31	P		P	21 37 34.4	+0.3
NOA	NORSAR Array B	71.00	31	P		P	21 37 34.4	+0.3
	comp=Z,5.5nm,0.9s,baz=274,slow=6.3,SNR=8.8							
NOA				LR		LR	22 03 51.4	
	comp=Z,164nm,21.0s,baz=265,slow=32							
TORD	Torodi Ar. Bea	71.12	82	P		P	21 37 34.5	-1.1
TORD	Torodi Ar. Bea	71.12	82	P		P	21 37 34.5	-1.1
	comp=Z,2.3nm,0.9s,baz=294,slow=5.6,SNR=6.5							
TORD				LR		LR	22 05 48.6	
	comp=Z,171nm,18.6s,baz=290,slow=33							
PGF	Pioggiola	71.57	50	eP		P	21 37 38.0	0.0
	comp=Z,70nm,1.3s							
PGF	Pioggiola	71.57	50	eP		P	21 37 38.0	0.0
	comp=Z,70nm,1.3s							
DAVOX	Davos/Dischmat	71.61	46	LR		LR	22 04 16.9	
	comp=Z,296nm,18.3s,baz=355,slow=32							
GRF	Grafenberg Arr	72.12	43	eP		P	21 37 41.2	+0.1
	comp=Z,27nm,1.5s							
FETA	Feichten	72.16	46	⇓iP		P	21 37 41.8	+0.3
	comp=Z,21nm,1.1s							
HFS	Hagfors	72.30	32	LR		LR	22 02 47.5	
	comp=Z,148nm,20.3s,baz=269,slow=30							
TAM	Tamanrasset	72.33	71	eP		P	21 37 43.0	0.0
	comp=Z,8.5nm,1.2s							
MOTA	Moosalm	72.37	45	⇓iP		P	21 37 43.2	+0.4
	comp=Z,12nm,0.9s							
NKC	Novy Kostel	72.83	42	eP		P	21 37 45.9	+0.6
KEST	Kesra	72.97	57	P		P	21 37 47.6	+1.2
KEST	Kesra	72.97	57	P		P	21 37 47.6	+1.2
	comp=Z,7.0nm,0.8s,baz=171,slow=4.2,SNR=7.1							
KEST				LR		LR	22 04 00.1	
	comp=Z,117nm,19.1s,baz=270,slow=31							
CLL	Collm	73.03	41	eP		P	21 37 46.0	-0.4
ABTA	Abfaltersbach	73.41	46	⇓iP		P	21 37 47.8	-1.1
	comp=Z,11nm,1.1s							
BRG	Berggiesshubel	73.68	41	eP		P	21 37 50.8	+0.5
	comp=Z,9.2nm,1.2s							
BRG				e			21 37 52.3	
	comp=Z,25nm,1.4s							
RKT	Rikitea	73.71	238	eLR		LR	22 00 28.5	
	comp=Z,135nm,30.2s							
KHC	Kasperske Hory	73.73	43	eP		P	21 37 50.5	-0.1
GERES	GERESS Array B	73.86	43	P		P	21 37 52.0	+0.5
GERES	GERESS Array B	73.86	43	P		P	21 37 52.0	+0.5
	comp=Z,6.9nm,0.8s,baz=276,slow=3.9,SNR=27							
GERES				LR		LR	22 04 12.2	
	comp=Z,387nm,20.4s,baz=279,slow=31							
PRU	Pruhonice	74.20	42	eP		P	21 37 55.4	+2.1
CADS	Cadrg	74.33	46	eP		P	21 37 54.5	+0.2
TREC	Trest	74.93	43	eP		P	21 37 58.4	+0.8
UPC	Upice	75.04	41	eP		P	21 38 01.0	+2.8
SOKA	Soboth	75.13	45	⇓iP		P	21 37 58.8	-0.1
	comp=Z,13nm,1.3s							
KSP	Ksiaz	75.15	41	eP		P	21 37 59.4	+0.6
DPC	Dobruska-Polom	75.26	41	eP		P	21 38 00.4	+0.9
ARSA	Arzberg	75.35	45	⇑iP		P	21 38 00.2	+0.2
	comp=Z,13nm,1.1s							
CONA	Conrad Observa	75.44	44	⇓iP		P	21 38 01.1	+0.5
	comp=Z,11nm,1.4s							
KRLC	Kraliky	75.61	42	eP		P	21 38 03.0	+1.5
ARCES	ARCESS Array B	75.64	21	P		P	21 38 00.8	-0.5
ARCES	ARCESS Array B	75.64	21	P		P	21 38 00.8	-0.5
	comp=Z,7.9nm,1.1s,baz=292,slow=6.4,SNR=8.8							
ARCES				LR		LR	22 06 09.3	
	comp=Z,285nm,20.7s,baz=345,slow=32							
VRAC	Vranov	75.64	42	⇑iP		P	21 38 02.8	+1.1
MORC	Moravsky Berou	76.15	42	⇓iP		P	21 38 05.5	+0.9
MORC	Moravsky Berou	76.15	42	eP		P	21 38 05.1	+0.5
	comp=Z,12nm,1.1s							
SMOL	Smolenice	76.34	43	eP		P	21 38 07.5	+1.8
OKC	Ostrava-Krasne	76.52	42	eP		P	21 38 09.4	+2.8
OJC	Ojcow	77.47	41	eP		P	21 38 13.0	+1.0
PKSM	Moragy	77.67	45	⇑iP		P	21 38 14.4	+1.2
FINES	FINESS Array B	77.99	29	P		P	21 38 15.2	+0.6
FINES	FINESS Array B	77.99	29	P		P	21 38 15.2	+0.6
	comp=Z,3.2nm,0.8s,baz=317,slow=5.9,SNR=9.9							
FINES				LR		LR	22 08 53.1	
	comp=Z,288nm,18.5s,baz=102,slow=33							
PSZ	Piszkesteto	78.08	43	⇑iP		P	21 38 14.4	-1.2
PSZ	Piszkesteto	78.08	43	eP		P	21 38 09.4	-6.1
	comp=Z,96nm,1.9s							
SUW	Suwalki	78.53	37	eP		P	21 38 20.3	+2.5
STHS	Stebnicka Huta	78.57	42	eP		P	21 38 20.1	+1.9
CRVS	Cervenica-Dubn	78.84	42	eP		P	21 38 21.2	+1.5
KOLS	Kolonicke sedl	79.35	42	eP		P	21 38 23.8	+1.3
KWP	Kalwaria Pacla	79.44	41	eP		P	21 38 24.5	+1.6
KWP	Kalwaria Pacla	79.44	41	⇑iP		P	21 38 25.2	+2.3
KWP	Kalwaria Pacla	79.44	41	eP		P	21 38 22.7	-0.2
	comp=Z,39nm,1.0s							
SIRR	Siria	79.68	45	⇑iP		P	21 38 25.5	+1.2
TRPA	Tarpa	79.74	43	⇑iP		P	21 38 26.3	+1.8
BZS	Buzias	79.83	45	⇑iP		P	21 38 26.2	+1.1
JOF	Joensuu	79.86	27	ep		P	21 38 25.2	+0.3
	comp=Z,9.1nm,0.9s							
NACGM	Naroch	80.29	35	e		P	21 38 26.0	-1.4
BMR	Baia Mare	80.49	43	⇑iP		P	21 38 29.7	+1.1
GZR	Gura Zlata	80.67	45	⇓iP		P	21 38 31.2	+1.5
MICGM	Minsk	81.02	36	eP		P	21 38 31.0	-0.3
BUR08	Bucovina Ar. S	81.60	43	eP		P	21 38 33.8	-0.8
BURAR	Bucovina Array	81.62	43	⇑iP		P	21 38 35.8	+1.0
VTS	Vitosha	81.79	48	⇑iP		P	21 38 37.0	+1.2
ARR	Arges	81.93	45	⇑iP		P	21 38 37.8	+1.4
DOPR	Dopca	82.24	44	⇓iP		P	21 38 39.1	+1.1
MLR	Muntele Rosu	82.77	45	⇓iP		P	21 38 42.5	+1.6
MLR	Muntele Rosu	82.77	45	P		P	21 38 42.1	+1.3
MLR	Muntele Rosu	82.77	45	P		P	21 38 42.1	+1.3
	comp=Z,5.2nm,0.9s,baz=278,slow=2.6							
KIEV	Kiev	83.08	39	eP		P	21 38 41.7	-0.5
	comp=Z,5.8nm,1.0s							
AKASG	Malin Array Be	83.08	39	P		P	21 38 42.0	-0.2
AKASG	Malin Array Be	83.08	39	P		P	21 38 42.0	-0.2
	comp=Z,2.8nm,0.7s,baz=283,slow=4.4,SNR=18							
AKASG				LR		LR	22 12 32.2	
	comp=Z,269nm,18.9s,baz=295,slow=33							
AK02	Malin Array Si	83.09	39	eP		P	21 38 41.5	-0.8
PLOR	Plostina	83.11	44	⇑iP		P	21 38 44.3	+1.8
VRI	Vrincioaia	83.16	44	⇑iP		P	21 38 45.2	+2.4
KDZ	Kurdzhali	83.64	48	⇑iP		P	21 38 46.6	+1.3
PPT	Papeete	83.83	249	P		P	21 38 47.8	+1.2
PPT	Papeete	83.83	249	P		P	21 38 47.8	+1.2
	comp=Z,34nm,0.8s,baz=155,slow=13,SNR=4.4							
PPT				LR		LR	22 09 06.3	
	comp=Z,121nm,19.3s,baz=357,slow=31							
PPT2	Papeete2	83.84	249	eLR		LR	22 05 09.7	
	comp=Z,313nm,28.5s							
CFR	Carcaliu	84.33	44	⇑iP		P	21 38 48.8	+0.1
IDI	Anoyia	85.32	54	P		P	21 38 54.7	+0.7
IDI	Anoyia	85.32	54	P		P	21 38 54.7	+0.7
	comp=Z,15nm,0.9s,baz=55,slow=1.8,SNR=9.8							
TBI	Tubuai	85.86	244	eLR		LR	22 06 06.3	
	comp=Z,176nm,24.2s							
TIXI	Tiksi	88.96	353	eP		P	21 39 10.6	-0.2
	comp=Z,12nm,1.0s							
FX1	Attu Island--F	89.28	326	LR		LR	22 17 37.6	
	comp=Z,203nm,21.0s,baz=197,slow=35							
ANTO	Ankara	89.51	48	⇑iP		P	21 39 14.4	+0.3
BR131	Keskin Array S	90.16	48	eP		P	21 39 17.0	-0.3
	comp=Z,4.5nm,1.0s							
BRTR	Keskin Array B	90.16	48	P		P	21 39 17.9	+0.7
BRTR	Keskin Array B	90.16	48	P		P	21 39 17.9	+0.7
	comp=Z,5.8nm,1.1s,baz=290,slow=3.4,SNR=12							
BRTR				LR		LR	22 19 27.4	
	comp=Z,63nm,18.5s,baz=140,slow=35							
SEY	Seymchan	91.63	341	P		P	21 39 24.0	+0.6
SEY	Seymchan	91.63	341	P		P	21 39 24.0	+0.6
	comp=Z,7.8nm,1.0s,baz=44,slow=21,SNR=8.8							
KBZ	Khabaz	94.48	41	P		P	21 39 35.6	-1.3
KBZ	Khabaz	94.48	41	P		P	21 39 35.6	-1.3
	comp=Z,2.7nm,1.0s,baz=261,slow=2.6,SNR=5.9							
ARU	Arti	94.86	25	eP		P	21 39 37.7	-0.7
	comp=Z,7.2nm,1.0s							
PETK	Petropavlovsk-	96.66	332	LR		LR	22 25 59.3	
	comp=Z,127nm,18.7s,baz=255,slow=37							
KSH	Kashi	115.24	27	ePKP		PKPdf	21 45 00.5	+2.0
KSH				ePP		PP	21 46 07.1	+9.2
KSH				eSKS		SKSdf	21 52 07.4	-1.8
KSH				eSKKS		SKKSac	21 52 56.8	-2.2
KSH				eSS		SS	22 02 01.1	+7.9
KSH				LR		LR		
	comp=Z,70nm,3.4s							
KSH				LR		LR		
	comp=Z,45nm,3.9s							
KSH				LR		LR		
	comp=Z,45nm,3.9s							
WMQ	Urumqi	115.43	16	PKP		PKPdf	21 44 59.3	+0.7
WMQ				PP		PP	21 46 05.5	+6.6
WMQ				PKS		PKSdf	21 48 34.6	-0.8
WMQ				SKS		SKSdf	21 52 06.4	-2.9
WMQ				SS		SS	22 01 57.9	+2.8
WMQ				LR		LR		
	comp=Z,150nm,23.7s							
WMQ				LR		LR		
	comp=Z,99nm,20.7s							
WMQ				LR		LR		
	comp=Z,160nm,22.2s							
HHC	Hu-ho-hao-te	120.90	356	ePKP		PKPdf	21 45 10.6	+1.3
HHC				PP		PP	21 46 40.3	+3.6
HHC				SKS		SKSdf	21 52 18.9	-1.0
HHC				SKKS		SKKSac	21 53 29.3	-7.0
HHC				SS		SS	22 03 12.8	+7.0
HHC				LR		LR		
	comp=Z,410nm,21.8s							
BJI	Beijing	121.27	352	PKP		PKPdf	21 45 07.3	-2.6
GTA	Gaotai	122.00	7	ePKP		PKPdf	21 45 11.6	+0.1
GTA				sPKP			21 45 17.6	
LZH	Lanzhou	125.66	4	ePKP		PKPdf	21 45 18.3	-0.4
LZH				sPKP			21 45 22.8	
LZH				LR		LR		
	comp=Z,160nm,18.5s							
LZH				LR		LR		
	comp=Z,150nm,17.9s							
LZH				LR		LR		
	comp=Z,180nm,20.0s							
LSA	Lhasa	129.60	19	ePKPdf		PKPdf	21 45 26.1	-0.7
GYA	Guiyang	135.36	1	ePdif		Pdif	21 42 37.8	-1.9
GYA				PKP		PKPdf	21 45 36.0	-1.2
GYA				PP		PP	21 48 14.3	+2.5
GYA				AMB		AMB		
	comp=Z,90nm,7.8s							
CMAR	Chiang Mai Arr	142.37	13	PKPpre		PKPpre	21 45 44.5	
CMAR	Chiang Mai Arr	142.37	13	PKhKP		PKPpre	21 45 44.5	
	comp=Z,1.7nm,0.9s,baz=332,slow=4.4,SNR=11							
STKA	Stephens Creek	146.55	240	ePKPdf		PKPdf	21 45 54.8	-2.1
STKA				PKPbc		PKPdf	21 45 57.4	+0.4
STKA	Stephens Creek	146.55	240	PKPbc		PKPdf	21 45 57.4	+0.4
	comp=Z,9.2nm,0.9s,baz=88,slow=4.6,SNR=12							
BBOO	Buckleboo	150.69	235	ePKPdf		PKPdf	21 46 04.1	+0.5
WRA	Warramunga Arr	154.66	262	PKP		PKPdf	21 46 09.2	-0.6
WRA				PKPbc		PKPbc	21 46 17.2	-1.1
WRA				PKPab		PKPab	21 46 35.5	+2.3
WRA	Warramunga Arr	154.66	262	PKP		PKPdf	21 46 09.2	-0.6
	comp=Z,4.8nm,0.9s,baz=79,slow=1.2,SNR=25							
WRA				PKPbc		PKPbc	21 46 17.2	-1.1
	comp=Z,4.6nm,0.9s,baz=87,slow=2.5,SNR=11							
WRA				PKPab		PKPab	21 46 35.5	+2.3
	comp=Z,1.9nm,0.9s,baz=88,slow=3.8,SNR=6.1							
ASAR	Alice Springs	154.88	253	PKP		PKPdf	21 46 09.2	-0.9
ASAR				PKPab		PKPab	21 46 34.2	+0.1
ASAR	Alice Springs	154.88	253	PKP		PKPdf	21 46 09.2	-0.9
	comp=Z,1.6nm,0.9s,baz=116,slow=1.6,SNR=13							
ASAR				PKPab		PKPab	21 46 34.2	+0.1
	comp=Z,3.8nm,0.9s,baz=112,slow=4.3,SNR=12							
PSI	Prapat	157.25	23	PKPab		PKPab	21 46 44.7	+0.4
PSI	Prapat	157.25	23	PKPab		PKPab	21 46 44.7	+0.4
	comp=Z,5.2nm,0.5s,baz=162,slow=5.7,SNR=5.6							

*IDC **13** 21:31:43.0±8.5,35°.93N×70°.51E,h86km±73km,mb3.4/2, mb1 3.2/7,mb1mx3.0/32,mbtmp3.2/7,ML3.4/5,Error ellipse: s-maj=87.6km s-min=44.3km az=152.0*
*ISCJB **13** 21:31:43.8±0.7,36°.12N±0°.05×70°.7E±0°.1,h110km, mb3.0/1,Error ellipse: s-maj=12.2km s-min=5.4km az=158.3*
*NNC **13** 21:31:47.5±3.7,36°.43N×70°.43E,h85km±79km,mb3.4, mpv3.5,Error ellipse: s-maj=32.6km s-min=26.0km az=135.0*

ISC 13 21:31:44.7±1.0,36°.17N±0°.08×70°.7E±0°.1,h110km,n28, σ1s49/31,5C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	Almayashu	6.40	21	P		Pn	21 33 17.9	+1.1
	SNR=15							
UCH	Uchtor	6.75	25	P		Pn	21 33 23.2	+1.6
	SNR=7.7							
EKS2	Erkin-Say	6.92	20	P		Pn	21 33 26.2	+2.7
	SNR=13							
KK31	Karatay Array	6.92	359	⇑P		Pn	21 33 23.1	-0.4
	2.0nm,0.3s,baz=183,slow=13,SNR=98							
KK31				⇑S		Sn	21 34 38.2	-2.6
	0.7nm,0.3s,baz=189,slow=24,SNR=4.3							
AAK	Ala-Archa	7.11	24	⇓P		Pn	21 33 27.2	+1.0
	1.5nm,0.3s							
AAK				⇑S		Sn	21 34 45.2	-0.2
	2.3nm,0.5s							
AAK	Ala-Archa	7.11	24	P		Pn	21 33 27.4	+1.2
	SNR=6.3							
AAK	Ala-Archa	7.11	24	P		Pn	21 33 27.5	+1.4
	1.4nm,0.3s,baz=152,slow=3.9,SNR=21							
AAK				S		Sn	21 34 42.5	-2.8
	0.6nm,0.3s,baz=342,slow=19,SNR=3.9							
USP	Ospenovka	7.68	22	P		Pn	21 33 35.7	+1.9
	SNR=6.5							
TKM2	Tokmak 2	7.75	28	⇑P		Pn	21 33 35.1	+0.3
	1.0nm,0.5s							
TKM2				⇓S		Sn	21 35 00.4	-0.6
	2.0nm,0.8s							
DANN	Dangsing	13.55	121	eP		Pn	21 34 51.3	-1.4
	2.7nm,0.3s							
MKAR	Makanchi Array	13.72	36	P		P	21 34 58.8	-0.6
	0.0nm,0.3s,baz=220,slow=16,SNR=4.9							
KOLN	Koldanda	13.81	124	eP		Pn	21 34 53.4	-2.6
	1.9nm,0.2s							
GKN	Gorkha	14.37	121	eP		Pn	21 35 01.6	-1.5
	2.8nm,0.3s							
DMN	Daman	14.94	121	eP		Pn	21 35 09.7	-0.8
	5.4nm,0.5s							
KKN	Kakani	14.95	120	eP		Pn	21 35 10.5	-0.1
PKIN	Phulchoki	15.16	120	eP		Pn	21 35 12.5	-0.8
	3.4nm,0.4s							
PKI	Pulchoki	15.18	120	eP		Pn	21 35 12.7	-0.8
	2.9nm,0.3s							
AB31	Akbulak array	15.24	332	⇓P		Pn	21 35 12.5	-1.3
	1.4nm,0.4s,baz=156,slow=12,SNR=51							
GUN	Gumba	15.30	118	eP		Pn	21 35 15.2	+0.1
KURBB	Kurchatov Arra	15.52	19	P		P	21 35 19.8	+0.5
	0.1nm,0.3s,baz=210,slow=10,SNR=4.4							
JIRN	Jiri	15.67	118	eP		Pn	21 35 19.9	+0.1
	6.0nm,0.4s							
RAMN	Ramite	16.39	120	eP		Pn	21 35 28.5	0.0
	2.6nm,0.3s							
BVAR	Borovoye Array	16.85	359	P		P	21 35 36.7	+2.7
	0.1nm,0.3s,baz=161,slow=9.2,SNR=3.5							
AKTO	Aktyubinsk	16.93	331	⇑P		P	21 35 36.4	+1.5
	0.9nm,0.7s							
AKTO	Aktyubinsk	16.93	331	P		P	21 35 36.4	+1.5
	0.2nm,0.3s,baz=143,slow=14,SNR=5.7							
TAPN	Taplejung	16.95	116	eP		P	21 35 36.4	+0.8
	2.9nm,0.4s							
ZALV	Zalesovo Beam	20.33	25	P		Pn	21 36 14.4	-0.5
	4.1nm,0.5s,baz=215,slow=12,SNR=30							
TORD	Torodi Ar. Bea	65.43	269	P		P	21 42 16.2	+0.2
	0.1nm,0.5s,baz=60,slow=6.0,SNR=4.3							

JMA 13 21:33:47.4±0.3,37°.19N×134°.89E,h407km,M3.5,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKY	Yasaka	1.57	174	P		P	21 34 41.6	-0.1
JWT	Wachi	1.95	168	P		P	21 34 43.9	+0.1
JNG	Nsakai	2.69	106	P		P	21 34 49.8	+1.0
JNG				eS		S	21 35 37.4	-1.2
MAT	Matsushiro	2.74	103	P		P	21 34 49.9	+0.9
JFT	Otama	4.35	84	P		P	21 35 03.9	+0.8
JMM	Marumori	4.74	80	P		P	21 35 07.0	+0.2

*IDC **13** 21:48:20.1±1.0,0°.49S×123°.62E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/23,mbtmp3.6/6,Error ellipse: s-maj=73.2km s-min=18.6km az=68.0*
*ISCJB **13** 21:48:27.1±0.4,0°.39S±0°.04×124°.24E±0°.03,h73km±7km, mb3.5/6,Error ellipse: s-maj=7.4km s-min=5.5km az=179.9*
*DJA **13** 21:48:27.0±0.8,0°.S±3°×12°4E±°,h19km±11km,M4.3/8, mb4.4/6,mB4.8/1,MLv4.3/8,Mw(mB)4.1/1*

ISC 13 21:48:28.4±1.0,0°.40S±0°.06×124°.27E±0°.04,h64km±12km, n24,σ1s55/24,mb3.6/6,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	Cibinong	1.00	344	P		Pn	21 48 46.5	-0.2
KMSI				S		Sn	21 48 58.4	-1.9
LUWI	Luwuk	1.62	247	P		Pn	21 48 54.8	-0.1
LUWI				S		Sn	21 49 16.3	+1.4
SANI	Sanana	2.38	134	P		Pn	21 49 03.8	-1.4
SANI				S		Sn	21 49 32.3	-1.0
MRSI	Marisa	2.48	290	P		Pn	21 49 03.4	-3.1
MRSI				S		Sn	21 49 39.2	+3.5
APSI	Ampana	2.67	259	P		Pn	21 49 09.2	+0.2
LBMI	Labuha	3.25	94	P		Pn	21 49 16.7	-0.3
LBMI				S		Sn	21 49 56.5	+2.1
TNTI	Ternate	3.31	70	P		Pn	21 49 17.2	-0.7
TNTI				S		Sn	21 49 59.2	+3.2
TOLI	Toli-Toli	3.78	293	P		x	21 49 27.1	
NLAI	Namlea	4.00	135	P		Pn	21 49 28.1	+0.8
TTSI	Tana Toraja	5.17	239	P		Pn	21 49 42.7	-0.5
	27nm,1.0s,943nm0.2nm							
MSAI	Masohi	5.51	122	P		Pn	21 49 43.8	-4.1
SPSI	Sidrap Palu	5.72	232	P		Pn	21 49 50.9	0.0
BNSI	Bone	5.75	226	P		Pn	21 49 50.3	-1.0
	40nm,0.7s,0.2nm							
MMSI	Mamuju	5.82	247	P		x	21 49 52.6	
	24nm,1.3s,0.2nm							
MJSI	Majene	6.14	239	P		x	21 49 57.3	
	75nm,1.5s,0.4nm							
BKSI	Bulukumba	6.41	220	P		Pn	21 49 59.5	-0.8
	22nm,1.5s,0.1nm							
BNDI	Bandanaira	6.97	126	P		Pn	21 50 03.1	-4.8
SOEI	Soe	9.30	180	P		Pn	21 50 39.1	-0.9
WRA	Warramunga Arr	21.79	154	P		P	21 53 15.3	+0.1
	2.0nm,0.7s,baz=331,slow=12,SNR=20							
ASAR	Alice Springs	24.95	159	P		P	21 53 47.5	+1.4
	0.8nm,0.7s,baz=344,slow=16,SNR=13							
USRK	Ussuriysk Arra	44.93	8	P		P	21 56 38.0	+1.1
	1.4nm,0.8s,baz=196,slow=7.9,SNR=5.1							
SONM	Songino Array	50.49	344	P		P	21 57 19.7	-0.4
	0.5nm,0.8s,baz=155,slow=7.9,SNR=3.9							
MKAR	Makanchi Array	59.62	328	P		P	21 58 24.1	-1.7
	0.2nm,0.4s,baz=113,slow=8.9,SNR=5.5							
KURBB	Kurchatov Arra	63.94	329	P		P	21 58 53.0	-1.8
	0.2nm,0.5s,baz=125,slow=6.6,SNR=6.5							

IDC 13 22:00:30.3±2.3,1°.57S×81°.83W,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.7/22,mbtmp3.7/5,ML3.5/2,MS3.1/2, Ms1 3.2/2,ms1mx2.8/33,Error ellipse: s-maj=152.2km s-min=14.7km az=56.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	Atahualpa	6.50	148	Pn		Pn	22 02 07.9	+0.1
	0.9nm,0.3s,baz=327,slow=16,SNR=4.6							
ATAH				Sn		Sn	22 03 21.9	-1.2
	1.3nm,0.3s,baz=299,slow=19,SNR=2.5							
ATAH				LR		LR	22 05 06.6	
	comp=Z,148nm,19.1s,baz=0.6,slow=42							
LPAZ	La Paz	19.90	138	P		P	22 05 04.3	0.0
	0.1nm,0.3s,baz=329,slow=11,SNR=2.4							
LPAZ				S		Sn	22 08 50.6	-0.

JSN 13 22:21:13.0±2.6, 19.05N×72.33W, h50km±999km, MD5.3
NEIC 13 22:21:13.3±0.1, 18.36N×72.58W, h10km, mb4.9/114,
Error ellipse: s-maj=3.8km s-min=2.3km az=19.0
ISC 13 22:21:13.6±0.6, 18°37'N±0.0'×72°55'W±0.0', h14km±3km, n576, σ1.321/602, mb4.9/173, MS4.3/35, 142C-55D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.34**	**63**	*eP*n	**Pn**	**22 21 37.1**	**-0.9**
SDDR				*eS*n	**Sb**	**22 21 56.5**	**+0.8**
GTBY	**Guantanamo Bay**	**2.87**	**303**	*eP*n	**Pn**	**22 21 56.4**	**-2.6**
GTBY				*eS*n	**Sn**	**22 22 34.3**	**+1.0**
GRTK	**Grand Turk**	**3.40**	**23**	*eP*n	**Pn**	**22 22 05.8**	**-0.4**
YHJ	**Yallahs**	**3.78**	**263**	*eP*	**Pn**	**22 22 10.7**	**-0.8**
YHJ	**Yallahs**	**3.78**	**263**	*eP*	**Pn**	**22 22 10.7**	**-0.8**
GWJ	**Greenwich**	**3.98**	**266**	*eP*	**Pn**	**22 22 14.9**	**+0.5**
GWJ	**Greenwich**	**3.98**	**266**	*eP*	**Pn**	**22 22 14.9**	**+0.5**
HOJ	**Hope**	**4.01**	**265**	*eP*	**Pn**	**22 22 15.7**	**+1.1**
HOJ	**Hope**	**4.01**	**265**	*eP*	**Pn**	**22 22 15.7**	**+1.1**
STH	**Stony Hill**	**4.06**	**266**	*eP*	**Pn**	**22 22 15.7**	**+0.4**
STH				*i* S	**Sn**	**22 23 02.7**	**+0.1**
STH	**Stony Hill**	**4.06**	**266**	*eP*	**Pn**	**22 22 15.7**	**+0.4**
STH				*i* S	**Sn**	**22 23 02.7**	**+0.1**
PCJ	**Portland Cotta**	**4.43**	**263**	*eP*	**Pn**	**22 22 23.2**	**+2.8**
PCJ	**Portland Cotta**	**4.43**	**263**	*eP*	**Pn**	**22 22 23.2**	**+2.8**
MTDJ	**Mount Denham**	**4.74**	**269**	*eP*n	**Pn**	**22 22 24.1**	**-0.6**
MTDJ				*eS*n	**Sn**	**22 23 20.0**	**+0.5**
CVJ	**Coleyville**	**4.74**	**269**	*i* P	**Pn**	**22 22 24.3**	**-0.4**
CVJ	**Coleyville**	**4.74**	**269**	*i* P	**Pn**	**22 22 24.3**	**-0.4**
AGP	**Aguadilla**	**5.14**	**89**	*eP*n	**Pn**	**22 22 30.5**	**+0.4**
AGP				*eS*n	**Sn**	**22 23 31.7**	**+2.4**
MPR	**Mayaguez**	**5.14**	**91**	*eP*n	**Pn**	**22 22 33.0**	**+2.8**
MPR				*eS*n	**Sb**	**22 23 40.1**	**-4.9**
AGPR	**Aguadilla, PR**	**5.17**	**88**	*eP*n	**Pn**	**22 22 32.6**	**+2.1**
AGPR				*eS*n	**Sn**	**22 23 30.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**5.19**	**93**	*eP*n	**Pn**	**22 22 32.0**	**+1.3**
CRPR				*eS*n	**Sn**	**22 23 31.2**	**+0.8**
LSP	**Las Mesas**	**5.20**	**91**	*eP*n	**Pn**	**22 22 33.0**	**+2.1**
LSP				*eS*n	**Sn**	**22 23 31.8**	**+1.1**
LRS	**Lares**	**5.42**	**90**	*eP*n	**Pn**	**22 22 32.3**	**-1.8**
LRS				*eS*n	Sn	22 23 30.0	-6.3
AOPR	**Arecibo Observ**	**5.51**	**89**	*eP*n	**Pn**	**22 22 37.3**	**+2.1**
AOPR				*eS*n	**Sn**	**22 23 38.7**	**+0.3**
OBIP	**Obispado Ponce**	**5.66**	**92**	*eP*n	**Pn**	**22 22 38.1**	**+0.7**
OBIP				*eS*n	**Sn**	**22 23 43.0**	**+0.8**
CELP	**Cerrillos**	**5.68**	**92**	*eP*n	**Pn**	**22 22 38.9**	**+1.2**
CELP				*eS*n	**Sn**	**22 23 43.5**	**+0.8**
CPD	**Cerro la Pandu**	**6.32**	**92**	*eP*n	**Pn**	**22 22 47.6**	**+1.2**
CPD				*eS*n	**Sn**	**22 23 57.7**	**-0.7**
CBYP	**Canovanas**	**6.36**	**90**	*eP*n	**Pn**	**22 22 47.8**	**+0.8**
CBYP				*eS*n	**Sn**	**22 24 00.3**	**+0.8**
HUMP	**Col San Antoni**	**6.37**	**91**	*eP*n	**Pn**	**22 22 49.1**	**+2.0**
HUMP				*eS*n	**Sn**	**22 23 56.1**	**-3.5**
MTP	**Monte Pirata**	**6.66**	**91**	*eP*n	**Pn**	**22 22 52.9**	**+1.9**
MTP				*eS*n	**Sn**	**22 24 06.7**	**0.0**
CDVI	**St. Croix**	**7.43**	**94**	*eP*n	**Pn**	**22 23 02.4**	**+0.8**
CDVI				*eS*n	**Sn**	**22 24 21.0**	**-4.8**
CDVI				*eS*n	**Sn**	**22 24 26.6**	**+0.9**
SABA	**Saba**	**8.89**	**93**	*eP*n	**Pn**	**22 23 23.4**	**+1.7**
SABA				*eS*n	**Sn**	**22 25 00.7**	**-1.0**
SDV	**Santo Domingo**	**9.61**	**169**	*eP*n	**Pn**	**22 23 33.2**	**+1.4**
SDV				*eS*n	**Sn**	**22 25 18.9**	**-0.9**
ANWB	**Willy Bob** 91nm,0.7s	**10.27**	**92**	*eP*n	**Pn**	**22 23 40.7**	**+0.1**
ANWB				*eS*n	**Sn**	**22 25 35.0**	**-0.5**
LZG	**Guadaloupe-1**	**10.53**	**101**	*eP*	**Pn**	**22 23 46.5**	**+2.3**
MLG	**Mont-d'or**	**10.61**	**101**	*eP*	**Pn**	**22 23 45.9**	**+0.6**
FNG	**Fond-Bernard**	**10.63**	**101**	*eP*	**Pn**	**22 23 45.8**	**+0.1**
SSG	**Sans Toucher**	**10.63**	**101**	*eP*	**Pn**	**22 23 47.2**	**+1.4**
ECG	**Echelle**	**10.67**	**101**	*eP*	**Pn**	**22 23 48.1**	**+1.9**
PHG	**Guadaloupe-2**	**10.69**	**101**	*eP*	**Pn**	**22 23 47.4**	**+0.9**
BCG	**Bois Riant Cap**	**10.69**	**101**	*eP*	**Pn**	**22 23 48.4**	**+2.0**
FDF	**Fort de France** 286nm,0.8s	**11.52**	**107**	*eP*n	**Pn**	**22 23 58.1**	**+0.4**
FDF				*eS*n	**Sn**	**22 26 05.2**	**-1.0**
BCIP	**Isla Barro Col**	**11.56**	**219**	*eP*n	**Pn**	**22 23 57.2**	**-1.2**
BCIP				*eS*n	Sn	22 25 58.0	-9.4
SLB	**Belfond**	**11.95**	**111**	*eP*	**Pn**	**22 24 06.6**	**+3.0**
SVV	**Soufriere Volc**	**12.01**	**113**	*eP*	**Pn**	**22 24 05.4**	**+1.0**
SSV	**Crater Summit**	**12.02**	**113**	*eP*	Pn	22 24 08.3	+3.6
GRGR	**Grenville** 172nm,0.7s	**12.21**	**119**	*eP*n	**Pn**	**22 24 07.7**	**+0.5**
GRGR				*eS*n	Sn	22 26 15.0	-8.1
BBGH	**Gun Hill**	**13.54**	**111**	*eP*n	**Pn**	**22 24 26.0**	**+0.6**
ROSC	**El Rosal**	**13.55**	**188**	*eP*n	**Pn**	**22 24 26.3**	**+0.4**
ROSC				*eS*n	**Sn**	**22 26 56.6**	**+0.2**
ROSC	**El Rosal** 2.2nm,0.3s,baz=88,slow=11,SNR=11	**13.55**	**188**	Pn	**Pn**	**22 24 27.2**	**+1.4**
ROSC	0.9nm,0.3s,baz=66,slow=20,SNR=2.7			Sn	**Sn**	**22 26 58.1**	**+1.7**
ROSC	comp=Z,277nm,18.0s,baz=356,slow=40			LR	LR	22 30 14.8	
JTS	**JuntasAbangare**	**14.45**	**238**	*eP*n	**Pn**	**22 24 38.2**	**+0.4**
JTS	**JuntasAbangare** 1.1nm,0.3s,baz=33,slow=10,SNR=2.8	**14.45**	**238**	Pn	**Pn**	**22 24 38.5**	**+0.6**
TEIG	**Tepich**	**14.96**	**280**	*eP*n	**Pn**	**22 24 43.0**	**-1.7**
TEIG	**Tepich** 3.0nm,0.3s,baz=58,slow=4.4,SNR=12	**14.96**	**280**	Pn	**Pn**	**22 24 43.6**	**-1.2**
BBSR	**BB Station** 48nm,0.6s	**15.63**	**25**	*eP*n	**Pn**	**22 24 51.5**	**-1.9**
NHSC	**New Hope** 80nm,1.0s	**16.19**	**336**	*eP*n	**Pn**	**22 25 01.9**	**+1.2**
TIGA	**Tifton**	**16.40**	**325**	*eP*n	**Pn**	**22 25 01.4**	**-2.0**
APG	**El Apazote**	**17.48**	**262**	P	**Pn**	**22 25 17.8**	**+0.4**
APG	**El Apazote** 0.3nm,0.3s,baz=99,slow=11,SNR=3.5	**17.48**	**262**	P	**Pn**	**22 25 17.8**	**+0.4**
JSC	**Jenkinsville**	**17.65**	**336**	*eP*n	**Pn**	**22 25 16.5**	**-2.5**
GOGA	**Godfrey** 266nm,3.0s	**17.89**	**329**	*eP*n	**Pn**	**22 25 19.6**	**-2.4**
KMSC	**Kings Mountain** 19nm,0.5s	**18.43**	**337**	*eP*	**P**	**22 25 25.2**	**-3.4**
KMSC				*eS*n	Sn	22 28 39.0	-16
KMSC	**Kings Mountain** baz=18,SNR=9.3	**18.43**	**337**	⇑P	**P**	**22 25 25.6**	**-3.0**
OTAV	**Otavalo** 51nm,1.3s	**18.93**	**198**	*eP*	**P**	**22 25 34.6**	**-0.1**
LRAL	**Lakeview Retre** 41nm,1.2s	**19.53**	**321**	*eP*	**Pn**	**22 25 42.1**	**+0.1**
URVA	**University of**	**19.62**	**348**	*eP*	**P**	**22 25 42.2**	**+0.6**
JSRW	**J. Sargeant Re**	**19.81**	**347**	*eP*	**P**	**22 25 43.9**	**+0.2**
JSRW				*eS*	S	22 29 18.4	-8.0
TKL	**Tuckaleechee C**	**19.88**	**332**	*eP*	**Pn**	**22 25 46.4**	**+0.2**
TKL	**Tuckaleechee C** 0.5nm,0.3s,baz=147,slow=15,SNR=8.7	**19.88**	**332**	P	**P**	**22 25 45.1**	**+0.6**
TKL	comp=Z,577nm,20.1s,baz=162,slow=38			LR	LR	22 33 36.9	
VWCC	**Virginia Weste**	**19.90**	**342**	*eP*	**Pn**	**22 25 46.3**	**0.0**
VWCC				*eS*	**Sn**	**22 29 29.3**	**-0.6**
BLA	**Blacksburg** 151nm,1.2s	**20.00**	**341**	*eP*	**P**	**22 25 46.1**	**+0.3**
CPCT	**Cooper Cave**	**20.05**	**330**	*eP*	Pn	22 25 48.5	+0.3
CBN	**Corbin** 122nm,0.4s	**20.20**	**349**	*eP*	Pn	22 25 49.1	-0.8
TZTN	**Tazewell**	**20.53**	**334**	*eP*	**P**	**22 25 52.7**	**+1.1**
SWET	**Sewanee** 64nm,1.3s	**20.56**	**327**	*eP*	**P**	**22 25 52.8**	**+0.9**
SWET	comp=Z,900nm,18.3s			LR	LR		
VBMS	**Vicksburg** comp=Z,42nm,0.9s	**21.26**	**314**	*eP*	**P**	**22 25 56.9**	**-2.5**
SDMD	**Soldier's Deli** comp=Z,54nm,0.9s	**21.29**	**351**	*eP*	**P**	**22 26 00.3**	**+0.6**
MVL	**Millersville** comp=Z,34nm,0.8s	**21.80**	**352**	*eP*	**P**	**22 26 09.0**	**+3.8**
OXF	**Oxford** comp=Z,88nm,1.1s	**22.00**	**320**	*eP*	**P**	**22 26 08.3**	**+1.0**
LUPA	**Lehigh Univers** comp=Z,4.4nm,0.7s	**22.28**	**354**	*eP*	**P**	**22 26 14.3**	**+3.9**
BRNJ	**Basking Ridge** comp=Z,46nm,0.9s	**22.30**	**356**	*eP*	**P**	**22 26 10.4**	**-0.2**
CPNY	**Central Park** comp=Z,35nm,0.8s	**22.38**	**357**	*eP*	**P**	**22 26 12.3**	**+1.0**
PAL	**Palisades** comp=Z,83nm,1.4s	**22.59**	**357**	*eP*	**P**	**22 26 14.4**	**+0.8**
PTGA	**Pitinga** comp=Z,29nm,0.8s	**22.66**	**146**	*eP*	**P**	**22 26 15.4**	**+0.8**
PTGA	**Pitinga** comp=Z,29nm,0.6s,baz=333,slow=12,SNR=34	**22.66**	**146**	P	**P**	**22 26 16.1**	**+1.4**
PTGA	comp=Z,211nm,18.9s,baz=338,slow=39			LR	LR	22 35 46.2	
ODNJ	**Ogdensburg** comp=Z,70nm,1.1s	**22.70**	**356**	*eP*	**P**	**22 26 15.9**	**+1.1**
HALT	**Halls**	**22.92**	**323**	*eP*	**P**	**22 26 15.9**	**-1.3**
HALT				S	**S**	**22 30 28.9**	**+2.1**
UTMT	**University of**	**22.97**	**324**	*eP*	**P**	**22 26 18.8**	**+1.2**
WCI	**Wyandotte Cave**	**23.14**	**332**	*eP*	**P**	**22 26 21.3**	**+1.9**
GLAT	**Glass**	**23.15**	**324**	*eP*	**P**	**22 26 19.8**	**+0.3**
HBAR	**Harrisburg**	**23.45**	**320**	*eP*	**P**	**22 26 24.1**	**+1.5**
BRYW	**Bryant College** comp=Z,437nm,2.3s	**23.48**	**2**	*eP*	**P**	**22 26 22.1**	**-0.8**
ACSO	**Alum Creek Sta** comp=Z,46nm,0.8s	**23.57**	**340**	*eP*	**P**	**22 26 24.9**	**+1.2**
USIN	**University of** comp=Z,69nm,1.0s	**23.57**	**329**	*eP*	**P**	**22 26 25.1**	**+1.3**
PARMO	**Parma**	**23.69**	**324**	*eP*	**P**	**22 26 26.4**	**+1.5**
QUA2	**Belchertown** comp=Z,167nm,1.8s	**23.83**	**0**	*eP*	P	22 26 32.9	+6.7
BINY	**Binghamton** comp=Z,121nm,1.8s	**23.93**	**354**	*eP*	**P**	**22 26 28.1**	**+0.9**
WES	**Weston** comp=Z,78nm,1.2s	**23.96**	**2**	*eP*	P	22 26 33.4	+6.1
BLO	**Bloomington** comp=Z,67nm,0.9s	**24.01**	**333**	*eP*	**P**	**22 26 29.1**	**+1.2**
UALR	**University of** comp=Z,40nm,1.4s	**24.01**	**317**	*eP*	**P**	**22 26 31.1**	**+3.1**
ALLY	**Alegheny Colle**	**24.09**	**346**	*eP*	**P**	**22 26 29.7**	**+1.0**
HKT	**Hockley** comp=Z,18nm,1.2s	**24.11**	**303**	*eP*	**P**	**22 26 29.4**	**+0.4**
PBMO	**Poplar Bluff** comp=Z,24nm,0.9s	**24.16**	**323**	*eP*	**P**	**22 26 32.5**	**+3.2**
SIUC	**Southern Illin** comp=Z,65nm,1.0s	**24.17**	**326**	*eP*	**P**	**22 26 30.8**	**+1.4**
ERPA	**Erie** comp=Z,57nm,1.1s	**24.50**	**347**	*eP*	**P**	**22 26 33.8**	**+1.3**
MIAR	**Mount Ida** comp=Z,15nm,1.0s	**24.69**	**315**	*eP*	**P**	**22 26 35.2**	**+1.0**
MMNY	**Mt. Morris Dam** comp=Z,138nm,1.4s	**24.70**	**351**	*eP*	**P**	**22 26 38.3**	**+4.1**
ACCN	**Adirondack Com** comp=Z,22nm,0.8s	**24.95**	**358**	*eP*	**P**	**22 26 37.5**	**+1.0**
SFIN	**Scholer Farm**	**25.26**	**333**	*eP*	**P**	**22 26 40.5**	**+1.2**
SFIN	**Scholer Farm** baz=25,SNR=14	**25.26**	**333**	⇓P	**P**	**22 26 40.4**	**+1.2**
SLM	**Saint Louis** comp=Z,25nm,0.6s	**25.39**	**326**	*eP*	**P**	**22 26 39.0**	**-1.5**
MDV	**Middlebury** comp=Z,78μm,0.6s	**25.55**	**359**	*eP*	**P**	**22 26 42.8**	**+0.9**
934A	**Benavides** baz=26	**25.57**	**296**	⇓P	**P**	**22 26 43.0**	**+0.7**
034A	**Hebbronville** baz=26	**25.57**	**294**	⇑P	**P**	**22 26 42.5**	**+0.2**
AAM	**Ann Arbor** comp=Z,44nm,0.5s	**25.66**	**341**	*eP*	**P**	**22 26 44.1**	**+1.3**
834A	**Tilden** baz=26	**25.74**	**297**	⇑P	**P**	**22 26 44.5**	**+0.7**
LBNH	**Lisbon** comp=Z,44nm,1.1s	**25.79**	**1**	*eP*	P	22 26 50.4	+6.3
335A	**Moody** baz=26	**25.91**	**304**	⇓P	**P**	**22 26 46.5**	**+1.2**
ATAH	**Atahualpa**	**25.99**	**193**	P	**P**	**22 26 46.2**	**-0.4**
ATAH	**Atahualpa** comp=Z,6.2nm,0.7s,baz=13,slow=9.1,SNR=2.9	**25.99**	**193**	P	**P**	**22 26 46.2**	**-0.4**
PTN	**Potsdam (NY)** comp=Z,288nm,2.3s	**26.20**	**356**	*eP*	**P**	**22 26 49.8**	**+2.0**
PTN	comp=Z,2μm,21.3s			LR	LR		
WHTX	**Lake Whitney** comp=Z,16nm,0.8s	**26.22**	**306**	*eP*	**P**	**22 26 47.7**	**-0.5**
LONY	**Lake Ozonia**	**26.22**	**357**	*eP*	**P**	**22 26 49.1**	**+1.1**
534A	**Blanco** baz=26,SNR=8.0	**26.27**	**301**	⇑P	**P**	**22 26 49.7**	**+1.0**
HDIL	**Hopedale** comp=Z,33nm,0.7s	**26.39**	**330**	*eP*	**P**	**22 26 48.0**	**-1.6**
434A	**Burnet** baz=26	**26.39**	**303**	⇑P	**P**	**22 26 50.2**	**+0.5**
FRNY	**Flat Rock** comp=Z,41nm,1.3s	**26.40**	**358**	*eP*	**P**	**22 26 50.3**	**+0.8**
FRNY				*eP*cP	**PcP**	**22 30 14.9**	**-0.1**
833A	**Chaparral WMA,** baz=26	**26.51**	**297**	⇓P	**P**	**22 26 51.3**	**+0.6**
334A	**Lometa** baz=26	**26.56**	**304**	⇑P	**P**	**22 26 51.7**	**+0.4**
633A	**Saathoff Ranch** baz=27	**26.66**	**299**	⇑P	**P**	**22 26 53.0**	**+0.9**
SADO	**Sadowa** comp=Z,331nm,18.1s,baz=172,slow=37	**26.89**	**350**	LR	LR	22 37 50.8	
PKME	**Peaks-Kenny Pk**	**26.95**	**5**	*eP*	**P**	**22 26 56.0**	**+1.5**
TUL1	**Tulsa**	**26.96**	**315**	*eP*	**P**	**22 26 56.8**	**+2.1**
832A	**Faith Ranch, C** baz=27,SNR=5.4	**26.99**	**296**	⇓P	**P**	**22 26 54.6**	**-0.5**
333A	**Richland Sprin** baz=27	**27.15**	**303**	⇑P	**P**	**22 26 56.0**	**-0.6**
632A	**Uvalde** baz=27	**27.18**	**299**	⇓P	**P**	**22 26 57.1**	**+0.2**
Y34A	**Reagan Ranch,** baz=27	**27.33**	**310**	⇑P	**P**	**22 26 59.0**	**+0.9**
532A	**Rocksprings** baz=28	**27.47**	**300**	⇑P	**P**	**22 27 00.5**	**+0.9**
JCT	**Junction City** comp=Z,14nm,1.0s	**27.51**	**301**	*eP*	**P**	**22 27 00.4**	**+0.6**
631A	**Perdido Creek** baz=28	**27.81**	**299**	⇓P	**P**	**22 27 02.6**	**+0.1**
WMOK	**Wichita Mounta** comp=Z,9.3nm,1.0s	**28.44**	**310**	*eP*	**P**	**22 27 07.0**	**-1.1**
WMOK				*eP*cP	**PcP**	**22 30 16.9**	**-3.2**
530A	**J-C Ranch, Com** baz=29	**28.66**	**300**	⇑P	**P**	**22 27 10.9**	**+0.8**
SAML	**Samuel** comp=Z,16nm,1.0s	**28.68**	**160**	*eP*	**P**	**22 27 09.7**	**-0.6**
SAML	comp=Z,200nm,18.0s			LR	LR		
JFWS	**Jewell Farm** comp=Z,79nm,0.7s	**28.69**	**332**	*eP*	**P**	**22 27 10.9**	**+0.7**
Z31A	**Sharp Cattle R** baz=29	**28.83**	**306**	⇓P	**P**	**22 27 11.9**	**+0.3**
W32A	**Sentinel** baz=29	**28.96**	**310**	⇑P	**P**	**22 27 13.5**	**+0.8**
T33A	**Patterson Ranc** baz=29	**29.25**	**315**	⇑P	**P**	**22 27 16.5**	**+1.2**
429A	**Davenport Ranc** baz=29	**29.26**	**300**	⇑P	**P**	**22 27 16.4**	**+0.9**
SCIA	**State Center** comp=Z,17nm,0.8s	**29.34**	**327**	*eP*	**P**	**22 27 14.4**	**-1.6**
KSU1	**Kansas State U** comp=Z,23nm,1.0s	**29.36**	**320**	*eP*	**P**	**22 27 17.6**	**+1.5**
528A	**Cox Ranch, San** baz=30	**29.86**	**299**	⇓P	**P**	**22 27 21.6**	**+0.7**
428A	**Kincaid Ranch,** baz=30,SNR=7.2	**29.94**	**300**	⇑P	**P**	**22 27 21.3**	**-0.3**
Q33A	**Connelly Farm,** baz=30	**30.06**	**318**	⇓P	**P**	**22 27 22.8**	**+0.4**
627A	**Terlingua Ranc** baz=30,SNR=6.3	**30.18**	**297**	⇓P	**P**	**22 27 23.4**	**-0.3**
LTX	**Lajitas**	**30.39**	**297**	*eP*	**P**	**22 27 25.7**	**+0.2**
LTX				*eP*cP	**PcP**	**22 30 25.1**	**-0.3**
LTX				*e*		22 41 21.2	
TXAR	**Lajitas Array**	**30.39**	**297**	P	**P**	**22 27 25.7**	**+0.2**
TXAR				PcP	**PcP**	**22 30 25.1**	**-0.3**
TXAR	**Lajitas Array** comp=Z,1.5nm,0.6s,baz=109,slow=8.0,SNR=12	**30.39**	**297**	P	**P**	**22 27 25.7**	**+0.2**
TXAR	comp=Z,1.9nm,0.8s,baz=123,slow=4.6,SNR=5.5			PcP	**PcP**	**22 30 25.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**30.39**	**297**	*eP*	**P**	**22 27 24.3**	**-1.3**
TX31				*eP*cP	**PcP**	**22 30 22.5**	**-2.8**
128A	**Castleberry Fa** baz=30,SNR=5.4	**30.39**	**304**	⇓P	**P**	**22 27 25.0**	**-0.4**
Q32A	**Meitler Ranch,** baz=30	**30.52**	**318**	⇓P	**P**	**22 27 26.7**	**+0.3**
527A	**Wedward Ranch** baz=30,SNR=7.0	**30.55**	**298**	⇓P	**P**	**22 27 26.7**	**-0.2**
427A	**Hayter Ranch,** baz=30,SNR=6.0	**30.57**	**300**	⇓P	**P**	**22 27 27.1**	**0.0**
626A	**Big Bend Ranch** baz=31,SNR=5.6	**30.84**	**297**	⇓P	**P**	**22 27 30.3**	**+0.8**
COWI	**Conover** comp=Z,23nm,0.8s	**30.87**	**337**	*eP*	**P**	**22 27 32.5**	**+3.0**
526A	**Mary Lane Ranc** baz=31,SNR=8.1	**30.93**	**298**	⇓P	**P**	**22 27 30.4**	**+0.1**
426A	**McDonald Obser** baz=31,SNR=7.4	**31.04**	**299**	⇓P	**P**	**22 27 31.4**	**+0.1**
MSTX	**Muleshoe**	**31.11**	**306**	*eP*	**P**	**22 27 32.6**	**+0.7**
MSTX				*eP*cP	**PcP**	**22 30 23.4**	**-3.7**
Z27A	**Tatum** baz=31	**31.21**	**304**	⇑P	**P**	**22 27 32.9**	**+0.1**
R30A	**Dighton** baz=31	**31.26**	**315**	⇓P	**P**	**22 27 33.4**	**+0.4**
SPMN	**St. Paul**	**31.65**	**332**	*eP*	**P**	**22 27 37.0**	**+0.7**
425A	**Indio Mountain** baz=32,SNR=7.0	**31.86**	**299**	⇑P	**P**	**22 27 38.9**	**+0.4**
P30A	**Selden** baz=32	**31.91**	**317**	⇑P	**P**	**22 27 39.2**	**+0.4**
325A	**Bean Ranch, Si** baz=32,SNR=7.9	**32.01**	**300**	⇓P	**P**	**22 27 39.4**	**-0.4**
Q29A	**Oakley** baz=32	**32.04**	**316**	⇑P	**P**	**22 27 40.3**	**+0.4**
225A	**Deer Hill, Car** baz=32	**32.10**	**301**	⇑P	**P**	**22 27 40.7**	**+0.1**
125A	**Gardner Draw,** baz=32	**32.13**	**303**	⇓P	**P**	**22 27 41.5**	**+0.7**
M31A	**Lambtecht Ranc** baz=32	**32.16**	**321**	⇑P	**P**	**22 27 41.8**	**+0.9**
R28A	**Tribune** baz=32	**32.32**	**314**	⇓P	**P**	**22 27 43.4**	**+0.9**
Z25A	**Roswell** baz=32,SNR=5.5	**32.38**	**304**	⇓P	**P**	**22 27 43.2**	**+0.2**
ECSD	**EROS Data Cent** comp=Z,7.2nm,0.9s	**32.39**	**327**	*eP*	**P**	**22 27 44.4**	**+1.5**
ECSD	**EROS Data Cent** baz=32	**32.39**	**327**	⇑P	**P**	**22 27 43.3**	**+0.4**
MNTX	**Cornudas Mount** comp=Z,15nm,1.2s	**32.43**	**300**	*eP*	**P**	**22 27 44.0**	**+0.6**
324A	**Moseley Ranch,** baz=32,SNR=17	**32.45**	**300**	⇑P	**P**	**22 27 43.5**	**-0.1**
224A	**Cornudas Mount** baz=33,SNR=19	**32.66**	**301**	⇑P	**P**	**22 27 46.0**	**+0.5**
124A	**Stringfield Ra** baz=33,SNR=8.0	**32.78**	**302**	⇑P	**P**	**22 27 47.1**	**+0.4**
U26A	**Atchley Ranch,** baz=33	**32.80**	**310**	⇑P	**P**	**22 27 46.9**	**+0.1**
W25A	**X Bar L Ranch,** baz=33	**32.87**	**307**	⇓P	**P**	**22 27 47.8**	**+0.4**
Z24A	**Sheeppen Canyo** baz=33,SNR=6.1	**32.91**	**303**	⇑P	**P**	**22 27 47.9**	**+0.1**
L30A	**Spencer Herefo** baz=33,SNR=7.3	**32.98**	**321**	⇓P	**P**	**22 27 48.7**	**+0.6**
T26A	**Comanche Natio** baz=33	**33.03**	**311**	⇑P	**P**	**22 27 48.6**	**-0.2**
Y24A	**Capitan** baz=33,SNR=7.0	**33.16**	**304**	⇓P	**P**	**22 27 50.7**	**+0.7**
V25A	**Rancho No Teng** baz=33,SNR=8.4	**33.22**	**308**	⇑P	**P**	**22 27 51.0**	**+0.5**
U25A	**Circle Dot Ran** baz=33	**33.29**	**309**	⇓P	**P**	**22 27 51.7**	**+0.7**
EYMN	**Ely** comp=Z,31nm,1.0s	**33.30**	**337**	*eP*	**P**	**22 27 51.0**	**+0.3**
Z23A	**Rita Site, Whi** baz=34	**33.58**	**303**	⇑P	**P**	**22 27 54.0**	**+0.5**
W24A	**Lazy 6 Ranch,** baz=34	**33.58**	**307**	⇓P	**P**	**22 27 54.5**	**+0.8**
T25A	**Trinidad** baz=34	**33.60**	**310**	⇓P	**P**	**22 27 54.6**	**+0.8**
Y23A	**Lovelace Mesa,** baz=34,SNR=7.7	**33.65**	**304**	⇑P	**P**	**22 27 54.7**	**+0.5**
Q26A	**Hugo** baz=34	**33.77**	**314**	⇑P	**P**	**22 27 56.2**	**+1.0**
S25A	**Robets Cordova** baz=34	**33.84**	**311**	⇑P	**P**	**22 27 56.7**	**+0.8**
R25A	**Fountain Ranch** baz=34	**33.95**	**312**	⇑P	**P**	**22 27 57.1**	**+0.4**
Z22A	**Elephant Butte** baz=34	**34.16**	**303**	⇑P	**P**	**22 27 59.2**	**+0.6**
BNM	**Barren Site** comp=Z,13nm,0.9s	**34.17**	**304**	*eP*	**P**	**22 27 59.8**	**+1.1**
LPM	**Los Pinos Moun**	**34.22**	**304**	*eP*	**P**	**22 28 00.3**	**+1.1**
ANMO	**Albuquerque**	**34.30**	**306**	*eP*	**P**	**22 28 01.9**	**+2.0**
ANMO	**Albuquerque** comp=Z,119nm,19.9s,baz=132,slow=39	**34.30**	**306**	LR	LR	22 43 27.3	
S24A	**Houchin Ranch,** baz=34	**34.39**	**311**	⇑P	**P**	**22 28 01.0**	**+0.3**
LENM	**Lemitar**	**34.44**	**304**	*eP*	**P**	**22 28 02.1**	**+1.0**
121A	**Cookes Peak, D** baz=35	**34.62**	**301**	⇑P	**P**	**22 28 03.6**	**+1.0**
SDCO	**Great Sand Dun** comp=Z,21nm,1.7s	**34.64**	**311**	*eP*	**P**	**22 28 04.4**	**+1.5**
LAZ	**Ladron** comp=Z,9.8nm,1.3s	**34.65**	**304**	*eP*	**P**	**22 28 03.5**	**+0.6**
LPAZ	**La Paz**	**34.72**	**173**	*eP*	**P**	**22 28 05.5**	**+1.5**
LPAZ	**La Paz** comp=Z,1.7nm,0.5s,baz=341,slow=6.2,SNR=3.9	**34.72**	**173**	P	**P**	**22 28 02.8**	**-1.2**
LPAZ	comp=Z,400nm,18.6s,baz=350,slow=39			LR	LR	22 43 53.1	
V22A	**San Miguel Ran** baz=35	**34.98**	**307**	⇓P	**P**	**22 28 05.9**	**+0.1**
AGMN	**Agassiz Nation** comp=Z,22nm,1.0s	**35.35**	**333**	*eP*	**P**	**22 28 09.3**	**+0.8**
AGMN	**Agassiz Nation** baz=35,SNR=9.0	**35.35**	**333**	⇓P	**P**	**22 28 09.5**	**+1.0**
319A	**Douglas** baz=36,SNR=6.4	**35.58**	**298**	⇑P	**P**	**22 28 12.0**	**+1.1**
P23A	**Jefferson** baz=36	**35.58**	**313**	⇑P	**P**	**22 28 11.7**	**+0.6**
S22A	**4UR Ranch, Cre** baz=36	**35.60**	**310**	⇓P	**P**	**22 28 11.7**	**+0.5**
I27A	**Quinn** baz=36	**35.62**	**322**	⇓P	**P**	**22 28 12.1**	**+1.1**
ISCO	**Idaho Springs** comp=Z,22nm,1.8s	**35.62**	**314**	*eP*	**P**	**22 28 09.3**	**-2.0**
ISCO	**Idaho Springs** baz=36	**35.62**	**314**	⇑P	**P**	**22 28 12.3**	**+0.9**
L25A	**Engebretsen Ra** baz=36	**35.70**	**318**	⇓P	**P**	**22 28 12.7**	**+1.0**
J26A	**Sides Ranch, S** baz

K22A Casper 37.58 317 ⇑P P 22 28 28.4 +0.6
baz=38
O20A White River Ci 37.58 313 *e*P P 22 28 23.1 -4.8
comp=Z,76nm,2.3s
C26A Wahner Farm, P 37.98 327 ⇑P P 22 28 32.2 +1.2
baz=38,SNR=6.7
K21A Alcova 38.04 317 ⇑P P 22 28 32.8 +1.1
baz=38,SNR=17
I22A 9 Mile Ranch, 38.18 319 ⇑P P 22 28 33.5 +0.7
baz=38
WUAZ Wupatki 38.30 304 *e*P P 22 28 35.0 +1.0
WUAZ *e*PcP PcP 22 30 48.8 +0.8
J21A Lysite 38.51 318 ⇓P P 22 28 35.7 0.0
baz=38,SNR=13
I21A Big Trails, Te 38.64 319 ⇑P P 22 28 36.2 -0.6
baz=39,SNR=8.1
G22A Birney 38.76 321 ⇓P P 22 28 37.8 +0.1
baz=39
B25A Knox Farm, Ray 38.81 327 ⇑P P 22 28 38.7 +0.7
baz=39
J20A Shoshoni 38.92 318 ⇑P P 22 28 39.5 +0.4
baz=39,SNR=11
F22A Rosebud 39.04 322 ⇓P P 22 28 40.1 +0.1
baz=39
E22A Miles City 39.23 323 ⇑P P 22 28 42.1 +0.6
baz=39
I20A Worland 39.23 318 ⇓P P 22 28 42.0 +0.3
baz=39
DGMT Dagmar 39.48 327 *e*P P 22 28 43.1 -0.4
comp=Z,12nm,0.6s
J19A Crowheart 39.50 317 ⇑P P 22 28 44.1 0.0
baz=40
C23A Lambert 39.60 325 ⇓P P 22 28 45.3 +0.8
baz=40,SNR=7.5
BW06 Boulder Array 39.61 316 *e*P P 22 28 44.2 -0.7
PD31 Pinedale Array 39.61 316 *e*P P 22 28 45.2 +0.3
PD31 *e*PcP PcP 22 30 51.3 -0.7
PDAR Pinedale Array 39.61 316 P P 22 28 45.2 +0.3
PDAR PcP PcP 22 30 51.3 -0.7
PDAR Pinedale Array 39.61 316 P P 22 28 45.2 +0.3
comp=Z,5.7nm,1.2s,baz=139,slow=7.0,SNR=8.9
PDAR PcP PcP 22 30 51.3 -0.7
comp=Z,1.7nm,0.9s,baz=122,slow=5.4,SNR=4.6
PDAR LR LR 22 46 34.6
comp=Z,552nm,18.4s,baz=124,slow=38
A24A Westby 39.66 327 ⇓P P 22 28 46.3 +1.2
baz=40,SNR=9.4
I19A Meeteetse 39.82 318 ⇑P P 22 28 46.7 -0.1
baz=40,SNR=11
MVU Marysvale 39.84 309 *e*P P 22 28 47.2 +0.2
comp=Z,6.7nm,1.3s
KNB Kanab 39.84 306 *e*P P 22 28 52.5 +5.6
comp=Z,17nm,1.4s
G20A Bridger 39.92 320 ⇑P P 22 28 47.7 +0.3
baz=40
H19A Powell 40.12 319 ⇓P P 22 28 49.6 +0.5
baz=40
F20A Billings 40.17 321 ⇑P P 22 28 50.3 +0.8
baz=40
D21A La Casta Ranch 40.18 323 ⇓P P 22 28 50.2 +0.8
baz=40
W13A Hualapai Mount 40.18 303 ⇑P P 22 28 50.0 +0.2
baz=40
RLMT Red Lodge 40.52 319 *e*P P 22 28 53.2 +0.7
comp=Z,15nm,1.2s
E20A Meyer Farm, Mu 40.53 322 ⇑P P 22 28 52.5 +0.1
baz=40
ARUT Antelope Range 40.54 307 *e*P P 22 28 53.2 +0.5
comp=Z,81nm,0.8s
H18A Shoshone NF, C 40.55 319 ⇑P P 22 28 51.7 -1.1
baz=40,SNR=16
LOHW Long Hollow 40.67 317 *e*P P 22 28 54.0 +0.3
comp=Z,12nm,0.9s
F19A Roth Farm, Mol 40.68 320 ⇓P P 22 28 53.7 +0.1
baz=41
A22A Carney Farms, 40.70 326 ⇑P P 22 28 53.3 -0.4
baz=41,SNR=6.6
REDW Red Top Meadow 40.72 316 *e*P P 22 28 55.5 +1.3
REDW *e*ScP ScP 22 34 43.3 -1.5
I17A Pilgrim Ck. 40.78 317 ⇓P P 22 28 54.9 +0.2
baz=41
MOOW Moose Ponds 40.82 317 *e*P P 22 28 55.0 0.0
TPAW Teton Pass 40.84 316 *e*P P 22 28 56.5 +1.3
DUG Dugway 40.84 311 *e*P P 22 28 56.7 +1.6
D20A Manuel Ranch, 40.85 323 ⇑P P 22 28 55.6 +0.7
baz=41
E19A Rath Farm, Rou 40.90 321 ⇑P P 22 28 56.0 +0.6
baz=41
FLWY Flagg Ranch 40.94 317 *e*P P 22 28 57.4 +1.4
comp=Z,38nm,1.6s
FXWY Fox Creek 40.95 316 *e*P P 22 28 56.6 +0.5
LKWY Lake 40.96 318 *e*P P 22 28 52.4 -3.9
comp=Z,42nm,2.0s
IRM Iron Mountain 40.99 301 ⇑P P 22 28 56.8 +0.5
baz=41
H17A Grant Village 41.00 318 *e*P P 22 28 59.9 +3.4
comp=Z,6.5nm,1.0s
H17A Grant Village 41.00 318 ⇑P P 22 28 57.1 +0.6
baz=41
IMW Indian Meadow 41.01 317 *e*P P 22 28 57.8 +1.1
GCMT Greycliff 41.09 320 *e*P P 22 28 55.1 -2.0
YFT Old Faithful 41.19 318 *e*P P 22 28 57.1 -0.9
comp=Z,75nm,2.3s
A21A Bergtoll Ranch 41.23 326 ⇑P P 22 28 59.0 +0.8
baz=41
BGU Big Grassy Mou 41.25 312 *e*P P 22 28 59.7 +1.2
D19A Cripps Ranch, 41.32 322 ⇑P P 22 28 59.7 +0.9
baz=41
HVU Hansel Valley 41.38 313 *e*P P 22 28 58.1 -1.5
comp=Z,4.9nm,0.7s
SHPR Sheep Range 41.52 305 *e*P P 22 29 01.8 +1.0
SHPR *e*sP sP 22 29 06.9 -0.2
BDFB Brasilia 41.55 143 P P 22 29 01.9 +0.8
BDFB Brasilia 41.55 143 P P 22 29 01.9 +0.8
comp=Z,7.2nm,0.5s,baz=300,slow=9.6,SNR=15
BDFB LR LR 22 48 19.4
comp=Z,178nm,18.1s,baz=264,slow=39
A20A Cobblestone Ra 41.71 325 ⇓P P 22 29 02.6 +0.6
baz=42
C19A Slack Wire Ran 41.71 323 ⇑P P 22 29 02.8 +0.8
baz=42
QLMT Earthquake Lak 41.74 318 *e*P P 22 29 04.2 +1.7
SNDA J Saunders Pla 42.08 300 *e*P P 22 29 09.5 +4.1
BOZ Bozeman (W) 42.23 319 *e*P P 22 29 03.4 -3.1
EGMT Eagleton 42.27 323 *e*P P 22 29 07.8 +1.2
TPNV Topopah Spring 42.48 305 *e*P P 22 29 06.4 -2.2
GSC Goldstone 42.56 302 *e*P P 22 29 08.9 -0.3
comp=Z,9.3nm,1.1s
MCMT McKenzie Canyo 42.65 317 *e*P P 22 29 11.2 +1.2
comp=Z,3.9nm,0.8s
FFC Flin Flon 42.69 335 *e*P P 22 29 10.5 +0.6
comp=Z,12nm,1.0s
DLMT Dillon 42.72 318 *e*P P 22 29 12.3 +1.9
comp=Z,8.6nm,0.9s
DLMT *e*PP PP 22 30 49.2 -0.2
ELK Elko 42.77 311 *e*P P 22 29 16.2 +5.1
comp=Z,65nm,2.8s
ELK *e*PP PP 22 30 54.4 +4.2
LRM Limekiln Ridge 42.83 319 *e*P P 22 29 12.2 +0.8
HRY Holter Researc 42.85 320 *e*P P 22 29 13.6 +2.2
HLID Hailey 43.17 315 *e*P P 22 29 15.7 +1.5
comp=Z,46nm,2.2s
FCC Fort Churchill 43.30 344 *e*P P 22 29 15.1 +0.4
comp=Z,0.5nm,1.0s
TPH Tonopah 43.50 306 *e*P P 22 29 18.1 +1.2
comp=Z,21nm,1.5s
CHMT Chamberlain Mo 43.81 320 *e*P P 22 29 20.6 +1.3
comp=Z,2.3nm,0.9s
MFID Camas Ranch 44.08 314 *e*P P 22 29 21.2 -0.2
comp=Z,27nm,1.8s
SLMT Seeley Lake 44.10 320 *e*P P 22 29 19.6 -2.0
BMN Battle Mountai 44.12 310 *e*P P 22 29 20.9 -0.9
comp=Z,5.8nm,1.0s
BMN LR LR
comp=Z,600nm,22.0s
NV01 Mina Array Sit 44.41 306 *e*P P 22 29 25.0 +0.8
NV01 *e*PP PcP 22 31 08.7 +0.7
NVAR Mina Array Bea 44.41 306 P P 22 29 25.0 +0.8
NVAR PcP PcP 22 31 08.7 +0.7
NVAR Mina Array Bea 44.41 306 P P 22 29 25.0 +0.8
comp=Z,1.3nm,0.7s,baz=87,slow=7.2,SNR=5.8
NVAR PcP PcP 22 31 08.7 +0.7
comp=Z,2.8nm,0.8s,baz=139,slow=5.2,SNR=3.6
SWMT Swartz Lake 44.53 320 *e*P P 22 29 23.6 -1.3
YBMT Yellow Bay 44.70 321 *e*P P 22 29 26.8 +0.5
comp=Z,5.1nm,0.8s

JTMT Jette 44.81 320 *e*P P 22 29 28.1 +1.0
comp=Z,4.8nm,0.8s
BLMT Blacktail Moun 44.97 321 *e*P P 22 29 32.1 +3.6
WALA Waterton Lakes 45.18 322 *e*P P 22 29 29.8 -0.3
J08A Circle Bar Ran 45.88 313 *e*P P 22 29 37.2 +1.4
comp=Z,17nm,1.2s
F10A Beach Ranch, E 45.93 317 *e*P P 22 29 39.7 +3.6
comp=Z,158nm,2.8s
NEW Newport 46.75 320 *e*P P 22 29 42.2 -0.3
comp=Z,9.5nm,0.8s
NEW Newport 46.75 320 ⇑P P 22 29 42.5 +0.1
baz=47
G08A Pilot Rock 46.83 315 *e*P P 22 29 47.4 +4.2
comp=Z,19nm,1.4s
CPUP Villa Florida 46.83 161 *e*P P 22 29 41.8 -1.3
comp=Z,0.5nm,0.6s
CPUP *e*PcP PcP 22 31 16.3 +0.2
CPUP Villa Florida 46.83 161 P P 22 29 43.3 +0.2
comp=Z,4.2nm,0.5s,baz=340,slow=7.5,SNR=12
CPUP LR LR 22 50 55.7
comp=Z,236nm,18.4s,baz=334,slow=38
EDM Edmonton 46.95 327 *e*P P 22 29 43.0 -0.9
C09A Chrisman Ranch 47.28 319 *e*P P 22 29 49.8 +3.3
comp=Z,79nm,2.3s
K05A Summer Lake 47.40 312 *e*P P 22 29 44.3 -3.4
comp=Z,280nm,2.5s
KIPM Iron Peak 48.63 307 *e*P P 22 29 55.1 -2.2
KMRM Mail Ridge 48.88 308 *e*P P 22 29 57.5 -1.6
comp=Z,98nm,1.4s
A05A Maple Falls 50.08 319 *e*P P 22 30 05.0 -3.1
comp=Z,55nm,1.7s
SFJD Kangerlussuaq 50.63 11 P P 22 30 11.9 +0.1
SFJD Kangerlussuaq 50.63 11 P P 22 30 11.9 +0.1
comp=Z,27nm,1.1s,baz=319,slow=11,SNR=2.8
YKA Yellowknife Ar 52.78 337 P P 22 30 27.2 -0.8
YKA Yellowknife Ar 52.78 337 P P 22 30 27.2 -0.8
comp=Z,6.6nm,0.9s,baz=123,slow=7.0,SNR=32
YKB5 Yellowknife Ar 52.78 337 *e*P P 22 30 27.2 -0.8
BBTS Babate 53.66 85 LR LR 22 49 30.2
comp=Z,80nm,20.3s,baz=302,slow=32
BBB Bella Bella 54.72 322 LR LR 22 56 43.8
comp=Z,129nm,19.2s,baz=112,slow=39
SUMG Summit 57.61 12 *i* P P 22 31 03.0 -0.2
comp=Z,32nm,1.0s
SUMG Summit 57.61 12 *e*P P 22 31 02.9 -0.3
comp=Z,44nm,0.9s
RES Resolute Bay 57.62 353 *e*P P 22 31 01.8 -1.0
comp=Z,10nm,1.0s
RES *e*ScS ScS 22 40 45.8 -5.6
DLBC Dease Lake 57.65 328 *e*P P 22 31 04.9 +1.5
DLBC Dease Lake 57.65 328 LR LR 22 56 53.2
comp=Z,255nm,19.0s,baz=112,slow=37
PLCA Paso Flores 58.83 178 P P 22 31 11.7 0.0
PLCA Paso Flores 58.83 178 P P 22 31 11.7 0.0
comp=Z,4.3nm,0.6s,baz=346,slow=6.6,SNR=12
SCO Scoresbysund 60.16 17 *i* P P 22 31 24.5 +4.1
comp=Z,3.1nm,0.8s
MDT Midelt 62.01 62 P P 22 31 34.2 +0.4
MDT Midelt 62.01 62 P P 22 31 34.2 +0.4
comp=Z,6.7nm,1.0s,baz=292,slow=7.5,SNR=3.7
ESDC Sonseca Array 62.17 54 P P 22 31 35.4 +0.7
ESDC Sonseca Array 62.17 54 P P 22 31 35.4 +0.7
comp=Z,8.9nm,1.0s,baz=272,slow=6.7,SNR=16
ES19 SONSECA Array 62.22 54 *e*P P 22 31 32.9 -2.2
INK Inuvik 62.47 338 *e*P P 22 31 36.4 +0.3
comp=Z,12nm,1.4s
INK Inuvik 62.47 338 LR LR 22 58 59.6
comp=Z,299nm,19.7s,baz=134,slow=36
QUIF Quistinic 62.82 45 ⇑P P 22 31 39.4 +0.6
QUIF Quistinic 62.82 45 ⇑*i*P P 22 31 39.4 +0.6
SGMF Saint Gilles 63.24 45 ⇑*i*P P 22 31 42.0 +0.4
SGMF Saint Gilles 63.24 45 ⇑*i*P P 22 31 42.0 +0.4
EKA Eskdalemuir Ar 63.38 37 P P 22 31 42.2 -0.1
EKA Eskdalemuir Ar 63.38 37 P P 22 31 42.2 -0.1
comp=Z,1.7nm,0.7s,baz=273,slow=5.5,SNR=6.7
DAWY Dawson 63.54 333 *e*P P 22 31 47.4 +4.1
SJPF Ste Jean 64.15 50 ⇑*i*P P 22 31 48.9 +1.2
comp=Z,34nm,0.7s
SJPF Ste Jean 64.15 50 ⇑*i*P P 22 31 48.9 +1.2
comp=Z,34nm,0.7s
GRR Gorron 64.38 45 ⇑*i*P P 22 31 49.6 +0.5
comp=Z,18nm,0.7s
GRR Gorron 64.38 45 ⇑*i*P P 22 31 49.6 +0.5
comp=Z,18nm,0.7s
JMIC Jan Mayen 64.39 19 LR LR 22 59 57.2
comp=Z,103nm,18.2s,baz=242,slow=36
FLN La Foliniere 64.64 44 ⇑*i*P P 22 31 51.4 +0.6
comp=Z,20nm,0.7s
FLN *e*R
comp=Z,199nm,18.8s
FLN La Foliniere 64.64 44 ⇑*i*P P 22 31 51.4 +0.6
comp=Z,20nm,0.7s
ETSF Etsaut 64.64 51 ⇑*i*P P 22 31 52.1 +1.0
comp=Z,9.8nm,0.6s
ETSF Etsaut 64.64 51 ⇑*i*P P 22 31 52.1 +1.0
comp=Z,9.8nm,0.6s
MFF Saint Martin d 64.86 47 ⇑*i*P P 22 31 53.0 +0.7
comp=Z,31nm,0.6s
MFF Saint Martin d 64.86 47 ⇑*i*P P 22 31 53.0 +0.7
comp=Z,31nm,0.6s
LDF La Druitiere 64.87 44 ⇑*i*P P 22 31 52.9 +0.6
comp=Z,16nm,0.6s
LDF La Druitiere 64.87 44 ⇑*i*P P 22 31 52.9 +0.6
comp=Z,16nm,0.6s
MENT Mentasta 65.24 332 *e*P P 22 31 55.6 +1.1
EPF Esparros 65.30 50 ⇑*i*P P 22 31 56.4 +1.1
comp=Z,19nm,0.7s
EPF Esparros 65.30 50 ⇑*i*P P 22 31 56.4 +1.1
comp=Z,19nm,0.7s
BMRM Bremner River 65.40 329 *e*P P 22 31 56.6 +1.0
comp=Z,79nm,1.7s
DOT Dot Lake 65.49 332 PFAKE
DOT LR LR
comp=Z,700nm,19.1s
LFF La Frestale 65.51 48 ⇑*i*P P 22 31 57.2 +0.6
comp=Z,23nm,0.7s
LFF La Frestale 65.51 48 ⇑*i*P P 22 31 57.2 +0.6
comp=Z,23nm,0.7s
PAX Paxson 66.04 331 *e*P P 22 32 00.4 +0.7
comp=Z,14nm,1.1s
RJF Les Rejaudoux 66.05 48 ⇑*i*P P 22 32 00.4 +0.4
comp=Z,26nm,1.0s
RJF *e*R
comp=Z,173nm,17.5s
RJF Les Rejaudoux 66.05 48 ⇑*i*P P 22 32 00.4 +0.4
comp=Z,26nm,1.0s
CAF Calviac 66.45 48 *e*P P 22 32 03.1 +0.4
CAF Calviac 66.45 48 *e*P P 22 32 03.1 +0.4
TCF Toulx Ste Croi 66.50 47 ⇑*i*P P 22 32 03.1 +0.2
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 66.50 47 ⇑*i*P P 22 32 03.1 +0.2
comp=Z,18nm,0.9s
TIC Toumodi 66.64 91 *e*P P 22 32 03.7 -0.6
comp=Z,4.5nm,0.2s
HYF Humbligny 66.75 46 *e*P P 22 32 05.1 +0.6
HYF Humbligny 66.75 46 *e*P P 22 32 05.1 +0.6
LIC Lamto 66.75 91 *e*P P 22 32 04.1 -0.9
baz=271
LIC Lamto 66.75 91 *e*P P 22 32 04.5 -0.5
comp=Z,31nm,1.3s
LIC Lamto 66.75 91 *e*P P 22 32 04.1 -0.9
DBIC Dimbokro 66.79 91 P P 22 32 04.4 -0.8
DBIC Dimbokro 66.79 91 P P 22 32 04.4 -0.8
comp=Z,5.1nm,0.9s,baz=267,slow=8.0,SNR=5.0
ILAR Eielson Array 66.86 333 P P 22 32 04.0 -0.8
ILAR Eielson Array 66.86 333 P P 22 32 04.0 -0.8
comp=Z,2.5nm,0.8s,baz=105,slow=4.4,SNR=13
ILAR LR LR 23 03 08.7
comp=Z,207nm,18.4s,baz=126,slow=38
ILB Eielson Array 66.86 333 *e*P P 22 32 04.0 -0.8
BGF Bois d'Agland 66.92 47 *e*P P 22 32 05.7 +0.1
comp=Z,16nm,0.7s
BGF Bois d'Agland 66.92 47 *e*P P 22 32 05.7 +0.1
comp=Z,18nm,0.7s
KIC Kosan Boka 66.99 91 *e*P P 22 32 06.1 -0.4
comp=Z,56nm,1.8s
AVF Avril sur Loir 67.26 46 ⇑*i*P P 22 32 07.7 0.0
AVF Avril sur Loir 67.26 46 ⇑*i*P P 22 32 07.7 0.0
SSF Saint Saulge 67.35 46 *e*P P 22 32 08.3 0.0
comp=Z,8.1nm,0.7s
SSF Saint Saulge 67.35 46 *e*P P 22 32 08.3 0.0
comp=Z,8.1nm,0.7s
LOR Lormes 67.58 46 ⇑*i*P P 22 32 09.8 0.0
comp=Z,16nm,0.7s,baz=268
LOR *e*R
comp=Z,209nm,19.8s
LOR Lormes 67.58 46 ⇑*i*P P 22 32 09.8 0.0
comp=Z,16nm,0.7s
SMF Signal de Mont 67.60 46 ⇑*i*P P 22 32 10.0 +0.1
comp=Z,7.6nm,0.6s
SMF Signal de Mont 67.60 46 ⇑*i*P P 22 32 10.0 +0.1
comp=Z,7.6nm,0.6s
LASF Ste Croix 67.79 49 *e*P P 22 32 12.1 +0.9
comp=Z,19nm,0.8s
LASF Ste Croix 67.79 49 *e*P P 22 32 12.1 +0.9
comp=Z,19nm,0.8s
GIVF Givet 68.08 43 ⇑*i*P P 22 32 13.0 +0.2
GIVF Givet 68.08 43 ⇑*i*P P 22 32 13.0 +0.2
VIVF Saint-Julien-l 68.31 48 ⇑*i*P P 22 32 15.5 +1.1
comp=Z,20nm,0.7s
VIVF Saint-Julien-l 68.31 48 ⇑*i*P P 22 32 15.5 +1.1
comp=Z,20nm,0.7s
SFTF Sexfontaines 68.32 45 ⇑*i*P P 22 32 14.6 +0.2
SFTF Sexfontaines 68.32 45 ⇑*i*P P 22 32 14.6 +0.2
COLD Coldfoot 68.43 336 *e*P P 22 32 12.6 -2.1
comp=Z,13nm,1.2s
KTH Kantishna Hill 68.54 332 *e*P P 22 32 15.5 0.0
comp=Z,19nm,1.2s
PAGF Fort de Pagny 68.75 44 *e*P P 22 32 17.4 +0.3
PAGF Fort de Pagny 68.75 44 *e*P P 22 32 17.4 +0.3
CABF La Chapelle 69.15 46 ⇑*i*P P 22 32 19.9 +0.2
CABF La Chapelle 69.15 46 ⇑*i*P P 22 32 19.9 +0.2
ORIF Oris-en-Rattie 69.16 48 ⇑*i*P P 22 32 20.9 +1.1
comp=Z,12nm,0.9s
ORIF *e*R
comp=Z,164nm,21.5s
ORIF Oris-en-Rattie 69.16 48 ⇑*i*P P 22 32 20.9 +1.1
comp=Z,12nm,0.9s
HINF Hinteralfeld 69.56 45 ⇑*i*P P 22 32 22.0 -0.2
comp=Z,6.2nm,0.7s
HINF Hinteralfeld 69.56 45 ⇑*i*P P 22 32 22.0 -0.2
comp=Z,6.2nm,0.7s
LPL La Plagne 69.70 47 ⇑*i*P P 22 32 24.1 +0.8
comp=Z,14nm,0.6s
LPL La Plagne 69.70 47 ⇑*i*P P 22 32 24.1 +0.8
comp=Z,14nm,0.6s
BNI Bardonecchia 69.71 48 *e*P P 22 32 22.6 -0.7
comp=Z,36nm,1.5s
LPG La Plagne 69.71 47 ⇑*i*P P 22 32 24.4 +0.9
comp=Z,14nm,0.8s
LPG La Plagne 69.71 47 ⇑*i*P P 22 32 24.4 +0.9
comp=Z,14nm,0.8s
ECH Echery 69.73 45 *e*P P 22 32 23.2 0.0
comp=Z,83nm,1.9s
MBDF Montbardon 69.81 48 ⇑*i*P P 22 32 24.9 +1.0
comp=Z,24nm,1.0s
MBDF Montbardon 69.81 48 ⇑*i*P P 22 32 24.9 +1.0
comp=Z,24nm,1.0s
IM04 Indian Mountai 69.81 334 *e*P P 22 32 23.1 -0.2
SENIN Lac Senin/Sane 70.01 47 *e*P P 22 32 26.4 +1.3
comp=Z,107nm,2.0s
NB2 NORSAR Subarra 71.10 31 P P 22 32 32.0 +0.6
comp=Z,6.4nm,0.9s,baz=275,slow=6.2
NB200 NORSAR Array S 71.10 31 *e*P P 22 32 32.0 +0.6
NOA NORSAR Array B 71.10 31 P P 22 32 32.0 +0.6
NOA NORSAR Array B 71.10 31 P P 22 32 32.0 +0.6
comp=Z,2.3nm,0.9s,baz=276,slow=6.0,SNR=4.7
TOA0 Torodi Ar. Sit 71.22 82 *e*P P 22 32 32.0 -0.8
TORD Torodi Ar. Bea 71.22 82 P P 22 32 32.0 -0.8
TORD Torodi Ar. Bea 71.22 82 P P 22 32 32.0 -0.8
comp=Z,6.0nm,1.0s,baz=288,slow=4.9,SNR=21
TUE Stuetta 71.40 46 *e*P P 22 32 33.6 0.0
comp=Z,6.4nm,0.8s
DAVA Damuels 71.66 45 ⇑*i*P P 22 32 35.9 +0.8
comp=Z,9.0nm,0.8s
DAVOX Davos/Dischmat 71.73 46 P P 22 32 36.6 +1.0
DAVOX Davos/Dischmat 71.73 46 P P 22 32 36.6 +1.0
comp=Z,3.8nm,0.7s,baz=230,slow=6.7,SNR=6.1
SPITS Spitsbergen Ar 71.92 13 LR LR 23 02 56.5
comp=Z,83nm,20.9s,baz=345,slow=35
FUORN Ofenpass-Fuorn 72.01 46 *e*P P 22 32 38.8 +1.4
comp=Z,50nm,1.5s
RETA Reutte 72.23 45 ⇑*i*P P 22 32 39.2 +0.7
comp=Z,12nm,0.8s
GRF Grafenberg Arr 72.23 43 *e*P P 22 32 38.0 -0.3
comp=Z,51nm,2.3s
FETA Feichten 72.27 46 ⇑*i*P P 22 32 39.6 +0.8
comp=Z,18nm,1.2s
HFS Hagfors 72.40 32 P P 22 32 38.9 -0.2
HFS Hagfors 72.40 32 P P 22 32 38.9 -0.2
comp=Z,2.0nm,0.8s,baz=253,slow=13,SNR=2.9
TAM Tamanrasset 72.44 71 *e*P P 22 32 41.2 +1.0
comp=Z,5.9nm,0.9s
MOTA Moosalm 72.48 45 ⇑*i*P P 22 32 40.5 +0.5
comp=Z,5.2nm,0.8s
KEST Kesra 73.08 57 *e*P P 22 32 44.8 +1.0
KEST Kesra 73.08 57 P P 22 32 44.0 +0.3
comp=Z,12nm,1.0s,baz=272,slow=7.2,SNR=16
CLL Collm 73.14 41 *e*P P 22 32 44.0 +0.4
comp=Z,8.0nm,1.1s
CLL *e*(sP) sP 22 32 49.0 -1.1
CLL *e* 22 32 52.0
ABTA Abfaltersbach 73.52 46 ⇑*i*P P 22 32 46.2 +0.1
comp=Z,14nm,1.2s
BRG Berggiesshubel 73.79 41 *e*P P 22 32 48.2 +0.7
comp=Z,10.0nm,0.8s
KHC Kasperske Hory 73.84 43 *e*P P 22 32 48.0 +0.1
KHC *e*pP pP 22 32 53.0 +0.4
GEC2 GERESS Array S 73.97 43 *e*P P 22 32 49.1 +0.4
GERES GERESS Array B 73.97 43 P P 22 32 49.5 +0.8
GERES GERESS Array B 73.97 43 P P 22 32 49.5 +0.8
comp=Z,6.2nm,0.8s,baz=275,slow=4.8,SNR=57
PRU Pruhonice 74.31 42 *e*P P 22 32 51.4 +0.8
MOA Molln 74.51 44 ⇑*i*P P 22 32 52.2 +0.4
comp=Z,11nm,1.0s
UPC Upice 75.15 41 *e*P P 22 32 56.6 +1.2
KSP Ksiaz 75.26 41 *e*P P 22 32 57.3 +1.2
DPC Dobruska-Polom 75.37 41 *e*P P 22 32 57.8 +1.0
DPC Dobruska-Polom 75.37 41 *e*P P 22 32 57.8 +1.0
comp=Z,47nm,0.8s
CSNA Conrad Observa 75.55 44 ⇑*i*P P 22 32 58.5 +0.6
comp=Z,8.0nm,1.2s
TNA Tin City 75.65 335 *e*P P 22 32 58.7 +0.8
comp=Z,97nm,2.7s
KRLC Kraliky 75.72 42 *e*P P 22 33 00.2 +1.4
ARA0 ARCESS Array S 75.73 21 *e*P P 22 32 57.5 -0.9
ARCES ARCESS Array B 75.73 21 P P 22 32 57.5 -0.9
ARCES ARCESS Array B 75.73 21 P P 22 32 57.5 -0.9
comp=Z,3.1nm,0.7s,baz=268,slow=4.6,SNR=9.3
VRAC Vranov 75.75 42 ⇑*i*P P 22 32 59.7 +0.7
VRAC Vranov 75.75 42 P P 22 32 59.6 +0.7
VRAC Vranov 75.75 42 P P 22 32 59.6 +0.7
comp=Z,3.0nm,0.5s,baz=304,slow=1.5,SNR=6.6
MORC Moravsky Berou 76.26 42 ⇑*i*P P 22 33 03.1 +1.2
MORC Moravsky Berou 76.26 42 *e*P P 22 33 02.0 +0.2
comp=Z,3.1nm,0.6s
OKC Ostrava-Krasne 76.63 42 *e*P P 22 33 05.0 +1.1
OJC Ojcow 77.58 41 *e*P P 22 33 10.8 +1.6
comp=Z,18nm,1.1s
PKSM Moragy 77.78 45 ⇑*i*P P 22 33 11.0 +0.6
KAF Kangasniemi 78.01 28 *ep* P 22 33 11.6 +0.2
comp=Z,1.3nm,0.4s
FIA0 FINESS Array S 78.09 29 *e*P P 22 33 12.0 +0.1
FINES FINESS Array B 78.09 29 P P 22 33 12.0 +0.1
FINES FINESS Array B 78.09 29 P P 22 33 12.0 +0.1
comp=Z,3.5nm,0.7s,baz=274,slow=2.7,SNR=15
TIP Timpagrande 78.11 53 PFAKE 22 33 20.0 +7.5
TIP LR LR
comp=Z,100nm,20.0s
PSZ Piszkesteto 78.19 43 *e*P P 22 33 13.9 +1.1
comp=Z,36nm,1.6s
STHS Stebnicka Huta 78.68 42 *e*P P 22 33 17.2 +1.8
STHS *e*PCP PcP 22 33 23.0 -1.3
STHS *e* 22 33 28.0
CRVS Cervenica-Dubn 78.96 42 *e*P P 22 33 18.5 +1.6
CRVS *e* 22 33 28.8
KOLS Kolonicke sedl 79.46 42 *e* P 22 33 17.8 -1.9
KWP Kalwaria Pacla 79.55 41 *e*P P 22 33 22.0 +1.9
KWP Kalwaria Pacla 79.55 41 ⇑*i*P P 22 33 21.8 +1.7
KWP Kalwaria Pacla 79.55 41 *e*P P 22 33 20.7 +0.6
comp=Z,15nm,0.9s
SIRR Siria 79.79 45 ⇑*i*P P 22 33 22.2 +0.7
TRPA Tarpa 79.85 43 ⇓*i*P P 22 33 23.3 +1.6
BZS Buzias 79.94 45 ⇓*i*P P 22 33 23.4 +1.1
JOF Joensuu 79.95 27 *ep* P 22 33 22.4 +0.4
comp=Z,8.0nm,0.7s
DRGR 80.34 44 ⇑*i*P P 22 33 25.3 +0.8
MICGM Minsk 81.13 35 *e* P 22 33 27.0 -1.5
BUR08 Bucovina Ar. S 81.71 43 *e*P P 22 33 32.5 +0.7
BURAR Bucovina Array 81.73 43 ⇑*i*P P 22 33 33.2 +1.2
VTS Vitosha 81.90 48 ⇓*i*P P 22 33 34.6 +1.6
ARR Arges 82.04 45 ⇑*i*P P 22 33 34.4 +0.8

VOIR		**82.30**	**45**	⇑*i*P		**P**		**22 33 35.9**	**+0.9**
HUMR	**Humele**	**82.53**	**46**	⇑*i*P		**P**		**22 33 36.9**	**+0.8**
MLR	**Muntele Rosu**	**82.88**	**45**	⇑*i*P		**P**		**22 33 39.5**	**+1.4**
MLR	**Muntele Rosu**	**82.88**	**45**	P		**P**		**22 33 38.9**	**+0.8**
MLR	**Muntele Rosu**	**82.88**	**45**	P		**P**		**22 33 38.9**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=250,slow=2.2,SNR=44								
AKASG	**Malin Array Be**	**83.19**	**39**	P		**P**		**22 33 39.4**	**0.0**
AKASG	**Malin Array Be**	**83.19**	**39**	P		**P**		**22 33 39.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=284,slow=4.4,SNR=10								
AKBB	**Malin Array Si**	**83.19**	**39**	*e*P		**P**		**22 33 39.4**	**0.0**
IDI	**Anoyia**	**85.44**	**54**	P		**P**		**22 33 52.4**	**+1.2**
IDI	**Anoyia**	**85.44**	**54**	P		**P**		**22 33 52.4**	**+1.2**
	comp=Z,11nm,0.7s,baz=290,slow=6.3,SNR=21								
MSKU	**Masuku**	**86.87**	**93**	PFAKE				22 34 10.0	+11
MSKU				LR	LR				
	comp=Z,300nm,18.0s								
TIXI	**Tiksi**	**89.02**	**353**	*e*P		**P**		**22 34 06.9**	**-0.8**
	comp=Z,11nm,1.1s								
FX1	**Attu Island--F**	**89.28**	**326**	LR		LR		23 15 29.4	
	comp=Z,43nm,18.7s,baz=59,slow=36								
BR231	**Keskin MP Arra**	**89.62**	**48**	*e*P		P		22 34 05.9	-5.5
BR101	**Keskin Array S**	**90.27**	**48**	*e*P		**P**		**22 34 14.9**	**+0.5**
BR131	**Keskin Array S**	**90.27**	**48**	*e*P		**P**		**22 34 14.8**	**+0.4**
	comp=Z,2.9nm,0.8s								
BRTR	**Keskin Array B**	**90.27**	**48**	P		**P**		**22 34 14.9**	**+0.5**
BRTR	**Keskin Array B**	**90.27**	**48**	P		**P**		**22 34 14.9**	**+0.5**
	comp=Z,3.7nm,1.0s,baz=276,slow=4.8,SNR=8.3								
KSH	**Kashi**	**115.34**	**27**	*e*PKP		**PKPdf**		**22 39 57.3**	**+1.9**
KSH				*e*PP		PP		22 41 06.1	+11
KSH				*e*SKS		**SKSdf**		**22 47 04.3**	**-3.1**
KSH				*e*SKKS		**SKKSac**		**22 47 55.3**	**-2.3**
KSH				*e*SS		SS		22 57 02.6	+10
KSH				LR	LR				
	comp=Z,37nm,4.5s								
KSH				LR	LR				
	comp=Z,43nm,4.0s								
WMQ	**Urumqi**	**115.52**	**16**	PKP		**PKPdf**		**22 39 56.3**	**+0.8**
WMQ				LR	LR				
	comp=Z,39nm,34.4s								
WMQ				LR	LR				
	comp=Z,47nm,19.8s								
BKZ	**Black Stump Fm**	**117.46**	**235**	PFAKE				22 40 10.0	+11
BKZ				LR	LR				
	comp=Z,300nm,20.0s								
KHZ	**Kahutara**	**119.71**	**231**	PFAKE				22 40 20.0	+17
KHZ				LR	LR				
	comp=Z,900nm,18.0s								
JHJ2	**Mitsune**	**120.19**	**329**	PFAKE				22 40 20.0	+15
JHJ2				LR	LR				
	comp=Z,3µm,21.6s								
HHC	**Hu-ho-hao-te**	**120.96**	**356**	*e*PKP		**PKPdf**		**22 40 08.1**	**+2.0**
HHC				PP		**PP**		**22 41 38.0**	**+4.3**
HHC				SKS		**SKSdf**		**22 47 18.1**	**+0.1**
HHC				SKKS		**SKKSac**		**22 48 29.9**	**-4.7**
HHC				SS		**SS**		**22 58 09.8**	**+5.5**
HHC				LR	LR				
	comp=Z,260nm,19.4s								
HHC				LR	LR				
	comp=Z,300nm,21.4s								
HHC				LR	LR				
	comp=Z,190nm,22.5s								
GTA	**Gaotai**	**122.08**	**7**	*e*PKP		**PKPdf**		**22 40 07.5**	**-0.8**
GTA				sPKP				22 40 14.5	
LZH	**Lanzhou**	**125.73**	**4**	*e*PKP		**PKPdf**		**22 40 15.5**	**0.0**
LZH				sPKP				22 40 20.1	
LZH				LR	LR				
	comp=Z,170nm,18.0s								
LZH				LR	LR				
	comp=Z,170nm,18.0s								
LZH				LR	LR				
	comp=Z,190nm,20.5s								
HNR	**Honiara**	**128.42**	**272**	PFAKE				22 40 30.0	+9.1
HNR				LR	LR				
	comp=Z,700nm,21.0s								
CD2	**Chengdu**	**130.87**	**4**	*e*PKP		**PKPdf**		**22 40 25.3**	**0.0**
GYA	**Guiyang**	**135.43**	**1**	*e*Pdif		**Pdif**		**22 37 34.8**	**-1.8**
GYA				PKP		**PKPdf**		**22 40 33.6**	**-0.4**
GYA				PP		**PP**		**22 43 12.0**	**+3.2**
GYA				AMB		AMB			
	comp=Z,110nm,7.6s								
CHTO	**Chiang Mai**	**142.11**	**13**	PFAKE				22 41 00.0	+14
CHTO				LR	LR				
	comp=Z,100nm,18.0s								
CM31	**Chiang Mai Arr**	**142.46**	**13**	*e*PKPpre		PKPpre		22 40 40.3	
CM31				*e*PKPdf		**PKPdf**		**22 40 46.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**142.46**	**13**	PKPpre		PKPpre		22 40 40.3	
CMAR				PKP		**PKPdf**		**22 40 46.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**142.46**	**13**	PKhKP		PKPpre		22 40 40.3	
	comp=Z,1.0nm,0.4s,baz=350,slow=4.8,SNR=3.4								
CMAR				PKP		**PKPdf**		**22 40 46.8**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=324,slow=3.7,SNR=7.3								
CTAO	**Charters Tower**	**143.37**	**261**	*e*PKPpre		PKPpre		22 40 44.5	
STKA	**Stephens Creek**	**146.44**	**240**	PKPbc		**PKPdf**		**22 40 53.4**	**0.0**
STKA				*e*PKPdf		**PKPbc**		**22 40 53.5**	**-1.2**
STKA	**Stephens Creek**	**146.44**	**240**	PKPbc		**PKPdf**		**22 40 53.4**	**0.0**
	comp=Z,9.5nm,0.8s,baz=89,slow=5.1,SNR=16								
WRA	**Warramunga Arr**	**154.56**	**262**	PKP		**PKPdf**		**22 41 05.8**	**-0.6**
WRA				PKPbc		**PKPbc**		**22 41 13.4**	**-1.4**
WRA				PKPab		**PKPab**		**22 41 28.9**	**-0.5**
WRA	**Warramunga Arr**	**154.56**	**262**	PKP		**PKPdf**		**22 41 05.8**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=85,slow=1.3,SNR=22								
WRA				PKPbc		**PKPbc**		**22 41 13.4**	**-1.4**
	comp=Z,7.8nm,1.2s,baz=13,slow=0.9,SNR=24								
WRA				PKPab		**PKPab**		**22 41 28.9**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=89,slow=1.5,SNR=3.8								
AS12	**Alice Springs**	**154.77**	**253**	*e*PKPdf		**PKPdf**		**22 41 05.8**	**-0.7**
AS12				*e*PKPab		**PKPab**		**22 41 29.9**	**-0.3**
ASAR	**Alice Springs**	**154.77**	**253**	PKP		**PKPdf**		**22 41 05.8**	**-0.7**
ASAR				PKPbc		**PKPbc**		**22 41 13.8**	**-1.4**
ASAR				PKPab		**PKPab**		**22 41 29.9**	**-0.3**
ASAR	**Alice Springs**	**154.77**	**253**	PKP		**PKPdf**		**22 41 05.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=104,slow=1.3,SNR=13								
ASAR				PKPbc		**PKPbc**		**22 41 13.8**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=99,slow=2.0,SNR=13								
ASAR				PKPab		**PKPab**		**22 41 29.9**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=111,slow=4.0,SNR=12								
KULM	**Kulim**	**155.55**	**17**	PFAKE				22 41 20.0	+12
KULM				LR	LR				
	comp=Z,200nm,20.0s								
FORT	**Forrest**	**157.60**	**233**	PFAKE				22 41 20.0	+10
FORT				LR	LR				
	comp=Z,300nm,20.4s								

ISCJB ***13*** *22:24:40.0±0.4,36°.74N±0°.02×0°.83E±0°.03,h16km, Error ellipse: s-maj=3.8km s-min=3.1km az=157.4*
CRAAG ***13*** *22:24:40.7,36°.51N×0°.95E, Ml4.0*
MDD ***13*** *22:24:42.0±0.7,36°.62N×0°.92E,h18km±11km, mbLg2.9/13, Error ellipse: s-maj=9.0km s-min=5.5km az=144.0, PRXIMO*
CSEM ***13*** *22:24:41.3±0.2,36°.61N×0°.83E,h20km, ML4.0, Error ellipse: s-maj=5.6km s-min=3.9km az=50.0*
SFS ***13*** *22:24:42.0,36°.62N×0°.91E,h18km, ML4.1*
ISC 13 22:24:40.1±0.8,36°.65N±0°.03×0°.87E±0°.03,h16km,n77,
σ1§86/121,1C-3D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ECHF	**Ech Chlef**	**0.62**	**142**	P		**Pg**	**22 24 52.4**	**+0.1**
ECHF	**Ech Chlef**	**0.62**	**142**	P		**Pg**	**22 24 52.4**	**+0.1**
OKGL	**Djebel Kef Gue**	**0.64**	**197**	P		**Pb**	**22 24 54.0**	**+1.1**
OKGL	**Djebel Kef Gue**	**0.64**	**197**	⇑P		**Pb**	**22 24 53.5**	**+0.6**
	97nm,0.2s,SNR=18							
OKGL				S		**Sb**	**22 25 02.7**	**+1.1**
	3µm,0.3s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**0.64**	**197**	P		**Pb**	**22 24 53.5**	**+0.6**
	97nm,0.2s,SNR=18							
OKGL				S		**Sb**	**22 25 02.7**	**+1.1**
	3µm,0.3s,SNR=7.9							
ECHA	**Ech Chlef**	**0.64**	**141**	P		**Pg**	**22 24 52.4**	**-0.2**
ECHA	**Ech Chlef**	**0.64**	**141**	P		**Pg**	**22 24 52.4**	**-0.2**
EBNR	**Beni Rached**	**0.64**	**124**	P		**Pb**	**22 24 53.2**	**+0.3**
EBNR	**Beni Rached**	**0.64**	**124**	P		**Pb**	**22 24 53.2**	**+0.3**
EANR	**'Ain N'Sour**	**0.72**	**165**	P		**Pg**	**22 24 54.4**	**+0.2**
EANR	**'Ain N'Sour**	**0.72**	**165**	P		**Pg**	**22 24 54.4**	**+0.2**
EANR	**'Ain N'Sour**	**0.72**	**165**	P		**Pg**	**22 24 54.4**	**+0.2**
OJGS	**Djebel Guires**	**1.15**	**185**	P		Pb	22 24 55.0	-6.6
OJGS	**Djebel Guires**	**1.15**	**185**	P		Pb	22 24 55.0	-6.6
OJGS	**Djebel Guires**	**1.15**	**185**	P		Pb	22 24 55.0	-6.6
ETRT	**Tiaret**	**1.30**	**164**	P		**Pn**	**22 25 04.0**	**+0.2**
ETRT	**Tiaret**	**1.30**	**164**	P		**Pn**	**22 25 04.0**	**+0.2**
ETRT	**Tiaret**	**1.30**	**164**	P		**Pn**	**22 25 04.0**	**+0.2**
EMHD	**Djebel Mahouad**	**1.74**	**104**	P		**Pb**	**22 25 12.4**	**+0.7**
EMHD	**Djebel Mahouad**	**1.74**	**104**	P		**Pb**	**22 25 12.4**	**+0.7**
CART	**Cartagena**	**1.76**	**303**	P		**Pn**	**22 25 09.2**	**-0.7**
CART				S		**Sn**	**22 25 28.6**	**-3.5**
CART	**Cartagena**	**1.76**	**303**	*i*P		**Pn**	**22 25 09.2**	**-0.7**
CART				*i*S		**Sn**	**22 25 28.6**	**-3.5**
EBEN	**Beniarda**	**2.23**	**337**	⇓P		**Pn**	**22 25 17.1**	**+0.7**
	4.0nm,0.1s,SNR=18							
EBEN				S		**Sn**	**22 25 41.7**	**-1.9**
	292nm,3.2s,SNR=8.0							
EBEN	**Beniarda**	**2.23**	**337**	P		**Pn**	**22 25 17.1**	**+0.7**
	4.0nm,0.1s,SNR=18							
EBEN				S		**Sn**	**22 25 41.7**	**-1.9**
	292nm,3.2s,SNR=8.0							
EIBI	**Ibiza**	**2.40**	**9**	⇓P		**Pn**	**22 25 19.6**	**+0.9**
	15nm,0.1s,SNR=18							
EIBI				S		**Sn**	**22 25 45.9**	**-1.9**
	12nm,0.2s,SNR=8.5							
EIBI	**Ibiza**	**2.40**	**9**	P		**Pn**	**22 25 19.6**	**+0.9**
	15nm,0.1s,SNR=18							
EIBI				S		**Sn**	**22 25 45.9**	**-1.9**
	12nm,0.2s,SNR=8.5							
ETOB	**Tobarra**	**2.77**	**317**	⇓P		**Pn**	**22 25 25.1**	**+1.3**
	13nm,0.1s,SNR=18							
ETOB				S		**Sn**	**22 25 56.0**	**-0.9**
	11nm,0.1s,SNR=14							
ETOB	**Tobarra**	**2.77**	**317**	P		**Pn**	**22 25 25.1**	**+1.3**
	13nm,0.1s,SNR=18							
ETOB				S		**Sn**	**22 25 56.0**	**-0.9**
	11nm,0.1s,SNR=14							
EHUE	**Huescar**	**3.00**	**294**	P		**Pn**	**22 25 28.4**	**+1.4**
	3.2nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**22 26 02.5**	**-0.2**
	12nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**3.00**	**294**	P		**Pn**	**22 25 28.4**	**+1.4**
	3.2nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**22 26 02.5**	**-0.2**
	12nm,0.1s,SNR=7.9							
EBER	**Berja**	**3.03**	**276**	P		**Pn**	**22 25 28.5**	**+1.0**
	4.4nm,0.2s,SNR=13							
EBER				S		**Sn**	**22 26 03.1**	**-0.4**
	3.5nm,0.2s,SNR=5.7							
EBER	**Berja**	**3.03**	**276**	P		**Pn**	**22 25 28.5**	**+1.0**
	4.4nm,0.2s,SNR=13							
EBER				S		**Sn**	**22 26 03.1**	**-0.4**
	3.5nm,0.2s,SNR=5.7							
GORA	**Gorafe**	**3.24**	**286**	P		**Pn**	**22 25 32.8**	**+2.5**
	4.9nm,0.2s,SNR=7.9							
GORA				S		**Sn**	**22 26 08.5**	**0.0**
	12nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**3.24**	**286**	P		**Pn**	**22 25 32.8**	**+2.5**
	4.9nm,0.2s,SNR=7.9							
GORA				S		**Sn**	**22 26 08.5**	**0.0**
	12nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**3.33**	**308**	P		**Pn**	**22 25 32.9**	**+1.2**
	11nm,0.1s,SNR=7.9							
EVIA				S		**Sn**	**22 26 10.5**	**-0.5**
	31nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**3.33**	**308**	P		**Pn**	**22 25 32.8**	**+1.2**
	11nm,0.1s,SNR=7.9							
EVIA				S		**Sn**	**22 26 10.5**	**-0.5**
	31nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.35**	**291**	P		**Pn**	**22 25 33.7**	**+1.8**
	4.8nm,0.1s,SNR=83							
EQES				S		**Sn**	**22 26 11.6**	**+0.2**
	12nm,0.2s,SNR=9.9							
EQES	**Quesada**	**3.35**	**291**	P		**Pn**	**22 25 33.7**	**+1.8**
	4.8nm,0.1s,SNR=83							
EQES				S		**Sn**	**22 26 11.6**	**+0.2**
	12nm,0.2s,SNR=9.9							
ETOS	**Mallorca**	**3.47**	**26**	P		**Pn**	**22 25 33.7**	**+0.3**
	0.3nm,0.2s,SNR=11							
ETOS				S		**Sn**	**22 26 12.0**	**-2.2**
	0.9nm,0.2s,SNR=4.7							
ETOS	**Mallorca**	**3.47**	**26**	P		**Pn**	**22 25 33.7**	**+0.3**
	0.3nm,0.2s,SNR=11							
ETOS				S		**Sn**	**22 26 12.0**	**-2.2**
	0.9nm,0.2s,SNR=4.7							
EMOS	**Mosqueruela**	**3.85**	**345**	P		**Pn**	**22 25 41.0**	**+2.1**
	6.9nm,0.1s,SNR=7.9							
EMOS				S		**Sn**	**22 26 23.3**	**-0.6**
	37nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**3.85**	**345**	P		**Pn**	**22 25 41.0**	**+2.1**
	6.9nm,0.1s,SNR=7.9							
EMOS				S		**Sn**	**22 26 23.3**	**-0.6**
	37nm,0.4s,SNR=7.9							
ERTA	**Horta de San J**	**4.32**	**355**	P		**Pn**	**22 25 46.7**	**+1.6**
	3.2nm,0.1s,SNR=37							
ERTA				S		**Sn**	**22 26 33.8**	**-1.4**
	3.0nm,0.1s,SNR=11							
ERTA	**Horta de San J**	**4.32**	**355**	P		**Pn**	**22 25 46.7**	**+1.6**
	3.2nm,0.1s,SNR=37							
ERTA				S		**Sn**	**22 26 33.8**	**-1.4**
	3.0nm,0.1s,SNR=11							
EMIJ	**Mijas**	**4.54**	**271**	P		**Pn**	**22 25 47.8**	**-0.3**
	0.8nm,0.1s,SNR=9.3							
EMIJ				S		**Sn**	**22 26 38.7**	**-1.9**
	0.7nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**4.54**	**271**	P		**Pn**	**22 25 47.8**	**-0.3**
	0.8nm,0.1s,SNR=9.3							
EMIJ				S		**Sn**	**22 26 38.7**	**-1.9**
	0.7nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.86**	**310**	P		**Pn**	**22 25 53.3**	**+0.7**
	3.0nm,0.1s,baz=126,slow=13,SNR=19							
ESDC				S		**Sn**	**22 26 46.4**	**-2.1**
	SNR=7.9							
ESDC	**Sonseca Array**	**4.86**	**310**	P		**Pn**	**22 25 53.3**	**+0.7**
	3.0nm,0.1s,SNR=19							
ESDC				S		**Sn**	**22 26 46.4**	**-2.1**
	SNR=7.9							
ECAB	**El Cabril**	**5.21**	**288**	P		**Pn**	**22 25 57.5**	**+0.2**
	1.0nm,0.1s,SNR=8.4							
ECAB				S		**Sn**	**22 26 54.2**	**-2.9**
	0.2nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.21**	**288**	P		**Pn**	**22 25 57.5**	**+0.2**
	1.0nm,0.1s,SNR=8.4							
ECAB				S		**Sn**	**22 26 54.2**	**-2.9**
	0.2nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.25**	**13**	P		**Pn**	**22 25 59.3**	**+1.4**
	3.0nm,0.1s,SNR=14							
CFON				S		**Sn**	**22 26 55.0**	**-3.1**
	2.4nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.25**	**13**	P		**Pn**	**22 25 59.3**	**+1.4**
	3.0nm,0.1s,SNR=14							
CFON				S		**Sn**	**22 26 55.0**	**-3.1**
	2.4nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**5.28**	**5**	P		**Pn**	**22 26 00.5**	**+2.1**
	3.0nm,0.1s,SNR=19							
EMIR				S		**Sn**	**22 26 56.6**	**-2.3**
	SNR=7.9							
EMIR	**Miracle**	**5.28**	**5**	P		**Pn**	**22 26 00.5**	**+2.1**
	3.0nm,0.1s,SNR=19							
EMIR				S		**Sn**	**22 26 56.6**	**-2.3**
	SNR=7.9							
GUD	**Guadarrama**	**5.60**	**317**	P		**Pn**	**22 26 04.0**	**+1.2**
	0.3nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**22 27 05.5**	**-1.4**
	1.0nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.60**	**317**	P		**Pn**	**22 26 04.0**	**+1.2**
	0.3nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**22 27 05.5**	**-1.4**
	1.0nm,0.2s,SNR=7.9							
CSOR	**Sort**	**5.72**	**2**	P		**Pn**	**22 26 06.5**	**+2.0**
	0.6nm,0.1s,SNR=14							
CSOR				S		**Sn**	**22 27 07.7**	**-2.2**
	0.2nm,0.3s,SNR=7.9							
CSOR	**Sort**	**5.72**	**2**	P		**Pn**	**22 26 06.5**	**+2.0**
	0.6nm,0.1s,SNR=14							
CSOR				S		**Sn**	**22 27 07.7**	**-2.2**
	0.2nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**5.88**	**8**	P		**Pn**	**22 26 09.0**	**+2.3**
	0.6nm,0.1s,SNR=19							
CLLI				S		**Sn**	**22 27 11.7**	**-2.1**
	0.5nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**5.88**	**8**	P		**Pn**	**22 26 09.0**	**+2.3**
	0.6nm,0.1s,SNR=19							
CLLI				S		**Sn**	**22 27 11.7**	**-2.1**
	0.5nm,0.2s,SNR=7.9							
ATE	**Arette**	**6.54**	**350**	P		**Pn**	**22 26 18.1**	**+2.5**
	SNR=7.9							
ATE				S		**Sn**	**22 27 26.7**	**-3.2**
	0.3nm,0.2s,SNR=7.9							
ATE	**Arette**	**6.54**	**350**	P		**Pn**	**22 26 18.1**	**+2.5**
	SNR=7.9							
ATE				S		**Sn**	**22 27 26.7**	**-3.2**
	0.3nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**6.91**	**279**	*e*Pn		**Pn**	**22 26 21.0**	**+0.3**
PVAQ				*e*Sn		**Sn**	**22 27 35.4**	**-3.6**
PVAQ				A		A	22 27 43.7	
	4.7nm,0.8s							
PVAQ	**Vaqueiros**	**6.91**	**279**	P		**Pn**	**22 26 21.0**	**+0.3**
PVAQ				S		**Sn**	**22 27 35.4**	**-3.6**
	4.7nm,0.8s							
PVAQ	**Vaqueiros**	**6.91**	**279**	P		**Pn**	**22 26 21.0**	**+0.3**
PVAQ				S		**Sn**	**22 27 35.4**	**-3.6**
	4.7nm,0.8s							
PESTR	**Estremoz**	**7.06**	**291**	*e*Sn		**Sn**	**22 27 38.7**	**-3.9**
PMRV	**Marv??o**	**7.08**	**296**	*e*Sn		**Sn**	**22 27 39.9**	**-3.4**
PMRV	**Marv??o**	**7.08**	**296**	S		**Sn**	**22 27 39.9**	**-3.4**
PMRV	**Marv??o**	**7.08**	**296**	S		**Sn**	**22 27 39.9**	**-3.4**
PCBR	**Castelo Branco**	**7.30**	**298**	*e*Sn		**Sn**	**22 27 45.4**	**-3.1**
PCBR				A		A	22 27 47.2	
	8.1nm,0.6s							
PCBR	**Castelo Branco**	**7.30**	**298**	S		**Sn**	**22 27 45.4**	**-3.1**
	4.1nm,0.6s							
PCBR	**Castelo Branco**	**7.30**	**298**	S		**Sn**	**22 27 45.4**	**-3.1**
	4.1nm,0.6s							
ELAN	**Lanestosa**	**7.36**	**335**	P		**Pn**	**22 26 29.3**	**+2.5**
	3.6nm,0.4s,SNR=20							
ELAN	**Lanestosa**	**7.36**	**335**	P		**Pn**	**22 26 29.3**	**+2.5**
	3.6nm,0.4s,SNR=20							
MVO	**Moncorvo**	**7.63**	**309**	*e*Sn		**Sn**	**22 27 54.5**	**-2.3**
MVO				A		A	22 27 55.6	
	3.3nm,0.1s							
MVO	**Moncorvo**	**7.63**	**309**	*e*Sn		**Sn**	**22 27 54.5**	**-2.3**
	3.3nm,0.1s							

IDC ***13*** *22:30:39.8±0.7, 14°.98N×94°.04W, h0km, mb4.5/27, mb1 4.6/31, mb1mx4.6/36, mbtmp4.5/31, ML4.3/4, MS3.9/16, Ms1 3.9/16, ms1mx3.8/31, Error ellipse: s-maj=20.9km s-min=12.1km az=51.0*
NEIC ***13*** *22:30:42.8, 14°.72N×94°.39W, h16km, mb4.7/36, MD4.5(MEX), After MEX.*
MEX ***13*** *22:30:43.1±0.8, 14°.73N×94°.39W, h16km±13km, MD4.5*
ISCJB ***13*** *22:30:43.8±1.1, 14°.89N±0°.04×94°.08W±0°.03, h33km±7km, mb4.9/89, MS4.1/16, Error ellipse: s-maj=8.2km s-min=3.3km az=31.9*
CASC ***13*** *22:30:47.8±1.4, 14°.48N×93°.98W, h35km±999km, MD4.6*
SZGRF ***13*** *22:30:51.3, 15°.36N×92°.61W, h33km, mb5.5, Mexico-Guatemala border region*
ISC 13 22:30:44.3±1.6,14°.84N±0°.05×94°.27W±0°.03,h33km±10km,
n517,σ1§42/506,mb4.9/89,MS4.1/16,116C-122D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.33**	**49**	*i*P		**Pn**	**22 31 05.5**	**-1.1**
PCIG				*i*S		**Sb**	**22 31 23.3**	**-2.2**
PCIG		**1.33**	**49**	*i*P		**Pn**	**22 31 05.5**	**-1.1**
PCIG				*i*S		**Sb**	**22 31 23.3**	**-2.2**
THIG		**1.94**	**88**	*e*P		**Pn**	**22 31 13.6**	**-1.4**
THIG				*i*S		**Sn**	**22 31 37.5**	**-0.7**
THIG		**1.94**	**88**	*e*P		**Pn**	**22 31 13.6**	**-1.4**
THIG				*i*S		**Sn**	**22 31 37.5**	**-0.7**
HUIG	**Huatulco**	**2.00**	**298**	*e*P		Pn	22 31 12.3	-3.5
HUIG				*i*S		**Sn**	**22 31 34.5**	**-5.3**
HUIG	**Huatulco**	**2.00**	**298**	*e*P		Pn	22 31 12.3	-3.5
HUIG				*i*S		**Sn**	**22 31 34.5**	**-5.3**
PANG	**Puerto Angel**	**2.28**	**292**	*e*P		Pn	22 31 16.2	-3.5
PANG				*e*S		Sn	22 31 40.7	-6.0
VHO	**Vista Hermosa**	**3.25**	**314**	*i*P		**Pn**	**22 31 31.1**	**-2.1**
VHO				*e*S		**Sn**	**22 32 07.8**	**-3.1**
APG	**El Apazote**	**3.68**	**87**	Pn		Pn	22 31 35.8	-3.4
APG				Sn		**Sn**	**22 32 22.3**	**+0.7**
APG	**El Apazote**	**3.68**	**87**	Pn		Pn	22 31 35.8	-3.4
	15nm,0.3s,baz=297,slow=13,SNR=73							
APG				Sn		**Sn**	**22 32 22.3**	**+0.7**
	27nm,0.3s,baz=139,slow=19,SNR=6.9							
IXG	**Ixpaco**	**3.75**	**100**	*i*P		**Pn**	**22 31 39.4**	**-0.7**
IXG				*e*S		**Sn**	**22 32 19.7**	**-3.6**
NBG	**Las Nubes**	**3.80**	**93**	*e*P		**Pn**	**22 31 42.6**	**+1.7**
PNIG	**Pinotepa**	**4.03**	**293**	*e*P		**Pn**	**22 31 41.8**	**-2.0**
PNIG				*i*S		**Sn**	**22 32 25.2**	**-4.6**
PNIG	**Pinotepa**	**4.03**	**293**	*e*P		**Pn**	**22 31 41.8**	**-2.0**
PNIG				*e*S		**Sn**	**22 32 25.2**

baz=17
429A Davenport Ranc 17.21 337 ⇓P P 22 34 43.3 -0.3
baz=17,SNR=11
332A Millersview 17.22 344 ⇑P P 22 34 43.3 -0.3
baz=17
626A Big Bend Ranch 17.25 330 ⇓P P 22 34 44.8 +0.7
baz=17,SNR=11
WHTX Lake Whitney 17.32 351 ePn P 22 34 44.0 -0.8
331A San Angelo 17.34 342 ⇓P P 22 34 44.6 -0.4
baz=18
527A Woodward Ranch 17.50 332 P P 22 34 48.5 +1.6
baz=18,SNR=22
428A Kincaid Ranch, 17.60 335 ⇓P P 22 34 48.9 +0.9
baz=18
233A Rising Star 17.62 347 ⇑P P 22 34 47.9 -0.2
baz=18,SNR=7.9
526A Mary Lane Ranc 17.65 331 ⇑P P 22 34 50.3 +1.8
baz=18,SNR=10
330A Mertzon 17.66 340 ⇑P P 22 34 49.0 +0.4
baz=18
232A Coleman 17.67 345 ⇑P P 22 34 49.0 +0.3
baz=18,SNR=10.0
LPIG La Paz 17.70 304 LR LR 22 41 24.6
comp=Z,250nm,19.1s,baz=91,slow=36
231A Bronte 17.90 343 ⇑P P 22 34 52.1 +0.9
baz=18
134A White-Moore Ra 18.00 350 ⇓P P 22 34 53.2 +1.0
baz=18,SNR=5.9
427A Hayter Ranch, 18.01 334 ⇓P P 22 34 55.2 +2.7
baz=18,SNR=5.8
230A Sterling City 18.09 341 ⇑P P 22 34 54.7 +1.4
baz=18
426A McDonald Obser 18.13 332 ⇓P P 22 34 56.5 +2.6
baz=18,SNR=18
133A Hamilton Ranch 18.19 347 ⇓P P 22 34 55.7 +1.3
baz=18,SNR=6.9
328A Wristen Ranch, 18.23 336 ⇑P P 22 34 56.7 +1.8
baz=18
ABTX Abilene, Hawle 18.37 345 ePn Pn 22 34 57.3 +0.7
ABTX Abilene, Hawle 18.37 345 ⇓P Pn 22 34 57.5 +0.9
baz=18,SNR=7.0
229A Bryant Ranch, 18.39 339 ⇓P Pn 22 34 57.3 +0.4
baz=18
425A Indio Mountain 18.68 330 ⇓P Pn 22 35 02.6 +2.2
baz=19,SNR=14
130A Snyder 18.70 342 ⇑P Pn 22 35 01.1 +0.5
baz=19
Z34A Collier Ranch, 18.75 350 ⇑P Pn 22 35 01.2 +0.1
baz=19
228A UT Block 9, Go 18.81 338 ⇓P Pn 22 35 03.7 +1.8
baz=19
Z33A Whitaker Ranch 18.82 348 ⇑P Pn 22 35 02.7 +0.8
baz=19,SNR=7.6
Z32A Haskell 18.99 346 P Pn 22 35 04.5 +0.5
baz=19,SNR=18
129A Stewart Farms, 19.02 340 ⇑P Pn 22 35 05.2 +0.8
baz=19
325A Bean Ranch, Si 19.16 331 ⇑P Pn 22 35 07.7 +1.5
baz=19
Z31A Sharp Cattle R 19.16 345 ⇑P Pn 22 35 06.5 +0.5
baz=19
128A Castleberry Fa 19.22 339 ⇑P Pn 22 35 07.7 +0.8
baz=19,SNR=7.7
Y34A Reagan Ranch, 19.30 351 ⇑P Pn 22 35 07.0 -0.8
baz=20,SNR=5.5
Z30A Sanderson Ranc 19.39 342 ⇓P Pn 22 35 08.2 -0.7
baz=20,SNR=11
226B Tecolote Peak, 19.40 334 ⇑P Pn 22 35 10.9 +1.9
baz=20,SNR=6.2
324A Moseley Ranch, 19.46 330 ⇑P Pn 22 35 10.6 +0.8
baz=20,SNR=11
Y33A Hilltop Ranch, 19.49 349 ⇓P Pn 22 35 09.2 -0.9
baz=20
Z29A Hungry Hill Ra 19.55 341 ⇑P Pn 22 35 10.5 -0.3
baz=20
MNTX Cornudas Mount 19.62 331 eP Pn 22 35 13.0 +1.4
6.4nm,0.9s
MIAR Mount Ida 19.64 2 eP P 22 35 09.6 -0.5
29nm,0.9s
Y32A R-V Farms, Ver 19.65 347 ⇑P Pn 22 35 11.2 -0.7
baz=20,SNR=9.7
225A Deer Hill, Car 19.71 333 ⇑P Pn 22 35 13.4 +0.6
baz=20
Z28A Tucker Farm, M 19.79 340 ⇑P Pn 22 35 13.6 -0.1
baz=20
Y31A Rekieta Farm, 19.80 345 ⇑P Pn 22 35 13.3 -0.4
baz=20,SNR=15
UALR University of 19.93 5 eP P 22 35 13.0 -0.4
33nm,0.8s
X34A Smith Ranch, M 19.94 351 ⇓P Pn 22 35 14.3 -1.0
baz=20
224A Cornudas Mount 20.00 331 ⇑P Pn 22 35 16.1 -0.2
baz=20
X32A Elmer 20.02 348 ⇑P Pn 22 35 15.5 -0.8
baz=20,SNR=21
Y29A Porterfield Fa 20.09 342 ⇓P Pn 22 35 16.4 -0.9
baz=20
125A Gardner Draw, 20.11 334 ⇑P Pn 22 35 16.9 -0.6
baz=20
Z27A Tatum 20.11 338 ⇓P Pn 22 35 16.8 -0.7
baz=20,SNR=18
WMOK Wichita Mounta 20.23 349 eP P 22 35 17.1 +0.4
65nm,1.8s
Y28A McKinney Farm, 20.32 341 ⇓P Pn 22 35 18.6 -1.4
baz=20
Z26A Caprock 20.36 336 ⇑P Pn 22 35 19.6 -0.9
baz=20
X31A McDonald Ranch 20.37 346 ⇑P Pn 22 35 18.9 -1.6
baz=20,SNR=24
X30A Coker Ranch, T 20.42 344 ⇑P Pn 22 35 19.8 -1.2
baz=21,SNR=14
124A Stringfield Ra 20.49 332 ⇑P Pn 22 35 21.8 -0.4
baz=21,SNR=7.4
MSTX Muleshoe 20.55 340 eP Pn 22 35 21.3 -1.4
MSTX Muleshoe 20.55 340 ⇓P Pn 22 35 21.0 -1.6
baz=21
W34A Bridge Creek, 20.56 352 ⇓P Pn 22 35 21.0 -1.6
baz=21,SNR=5.9
W33A Caddo, Fort Co 20.58 350 ⇑P Pn 22 35 21.6 -1.2
baz=21,SNR=7.8
Y27A Causey 20.60 339 ⇓P Pn 22 35 21.8 -1.4
baz=21,SNR=8.2
X29A Tulia 20.64 342 ⇓P Pn 22 35 22.3 -1.4
baz=21,SNR=6.9
Z25A Roswell 20.67 335 ⇑P Pn 22 35 22.9 -1.2
baz=21
W32A Sentinel 20.69 348 ⇓P P 22 35 21.7 -0.1
baz=21,SNR=10
Y26A Elida 20.88 337 ⇓P Pn 22 35 24.8 -1.7
baz=21
W31A Holland Ranch, 20.90 347 ⇓P P 22 35 24.1 +0.2
baz=21,SNR=7.4
GOGA Godfrey 20.93 26 eP P 22 35 21.9 -2.3
18nm,0.8s
320A Kipp Ranch, An 20.98 324 ⇑P Pn 22 35 27.2 -0.6
baz=21
Z24A Sheeppen Canyo 20.98 333 ⇓P Pn 22 35 26.9 -0.9
baz=21
TUL1 Tulsa 21.03 357 eP P 22 35 25.6 +0.3
TUL1 Tulsa 21.03 357 ⇑P P 22 35 24.4 -1.0
baz=21
W30A Crocket Farms 21.04 345 ⇑P P 22 35 26.4 +0.9
baz=21
AMTX Amarillo 21.05 343 eP P 22 35 26.8 +1.2
55nm,0.6s
AMTX Amarillo 21.05 343 ⇑P P 22 35 26.3 +0.6
baz=21
V34A Guthrie 21.11 353 ⇓P P 22 35 25.6 -0.6
baz=21,SNR=12
V33A Lossen Ranch, 21.21 351 ⇓P P 22 35 26.7 -0.5
baz=21,SNR=14
Y25A Mesa, Roswell 21.22 335 ⇑P P 22 35 30.3 +2.8
baz=21,SNR=9.9
V32A Arapaho 21.23 349 ⇑P P 22 35 27.7 +0.1
baz=21
W29A Amarillo 21.26 343 ⇑P P 22 35 29.0 +1.1
baz=21,SNR=8.5
X27A F and S Farms, 21.27 340 ⇓P P 22 35 29.5 +1.4
baz=21
Z23A Rita Site, Whi 21.32 331 ⇓P P 22 35 31.1 +2.5
baz=21,SNR=11
X26A CR and CF Fran 21.43 338 P P 22 35 31.5 +1.7
baz=22,SNR=15
319A Douglas 21.45 323 ⇑P P 22 35 32.8 +2.8
baz=22,SNR=8.4
121A Cookes Peak, D 21.49 327 eP P 22 35 33.1 +2.6
33nm,0.9s
121A Cookes Peak, D 21.49 327 ⇓P P 22 35 33.0 +2.6
baz=22,SNR=16
Y24A Capitan 21.52 334 ⇓P P 22 35 33.0 +2.1
baz=22,SNR=16
W28A Vega 21.55 342 ⇑P P 22 35 32.1 +1.1
baz=22
V30A Spur Ranch, Mi 21.62 346 ⇑P P 22 35 32.8 +1.0
baz=22
SWET Sewnee 21.64 19 eP P 22 35 30.5 -1.3
14nm,0.8s
W27A Bowe Ranch, En 21.64 340 ⇑P P 22 35 33.0 +1.0
baz=22,SNR=8.6
Z22A Elephant Butte 21.66 330 ⇑P P 22 35 34.5 +2.2
baz=22
U34A Anderson Ranch 21.71 353 ⇓P P 22 35 32.5 -0.1
baz=22,SNR=8.5
Y23A Lovelace Mesa, 21.80 333 ⇑P P 22 35 36.7 +2.9
baz=22,SNR=11
U32A Winter Ranch, 21.87 350 ⇑P P 22 35 34.7 +0.3
baz=22
W26A Owens Ranch, T 21.90 339 ⇑P P 22 35 36.2 +1.3
baz=22
V29A Stinnett 21.93 344 ⇑P P 22 35 36.6 +1.5
baz=22
ROSC El Rosal 21.98 115 P P 22 35 36.3 +0.2
ROSC El Rosal 21.98 115 P P 22 35 36.3 +0.2
10nm,0.5s,baz=302,slow=13,SNR=11
V28A Channing 22.02 343 ⇑P P 22 35 37.1 +1.1
baz=22
U31A Nine Bar Ranch 22.02 348 ⇓P P 22 35 36.8 +0.8
baz=22
PBMO Poplar Bluff 22.12 8 eP P 22 35 35.4 -1.6
15nm,0.6s
V27A Dan Oppiter Fa 22.20 341 ⇓P P 22 35 39.4 +1.3
baz=22
BNM Barren Site 22.24 332 eP P 22 35 41.2 +2.6
21nm,1.2s
W25A X Bar L Ranch, 22.27 338 P P 22 35 40.6 +1.9
baz=22,SNR=21
CPCT Cooper Cave 22.32 21 eP P 22 35 38.7 -0.5
U30A WK&E Inc. Balk 22.34 346 ⇓P P 22 35 40.5 +1.0
baz=22
LPM Los Pinos Moun 22.38 332 eP P 22 35 42.7 +2.7
X23A Hourglass Bar 22.41 333 ⇓P P 22 35 42.7 +2.3
baz=22,SNR=9.7
LENM Lemitar 22.41 331 eP P 22 35 42.1 +1.8
T33A Patterson Ranc 22.44 352 ⇓P P 22 35 39.9 -0.5
baz=23,SNR=11
W24A Lazy 6 Ranch, 22.62 336 ⇑P P 22 35 44.3 +1.6
baz=23
T32A Huddler Ranch, 22.64 350 ⇓P P 22 35 42.5 -0.1
baz=23
LAZ Ladron 22.68 331 eP P 22 35 45.6 +2.3
4.1nm,0.9s
T31A Randall Ranch, 22.69 349 ⇓P P 22 35 43.1 0.0
baz=23
TKL Tuckaleechee C 22.77 23 eP P 22 35 42.8 -1.2
TKL Tuckaleechee C 22.77 23 P P 22 35 42.5 -1.5
13nm,0.7s,baz=193,slow=12,SNR=12
TKL LR LR 22 46 15.3
comp=Z,322nm,19.2s,baz=210,slow=42
U27A Thompson Grove 22.82 342 ⇑P P 22 35 44.1 -0.5
baz=23
ANMO Albuquerque 22.83 333 eP P 22 35 46.5 +1.7
54nm,2.2s
ANMO Albuquerque 22.83 333 P P 22 35 46.4 +1.5
4.3nm,0.7s,baz=157,slow=12,SNR=8.0
V25A Rancho No Teng 22.88 338 ⇑P P 22 35 46.9 +1.6
baz=23,SNR=22
TUC Tucson 23.00 322 eP P 22 35 50.7 +4.2
V24A Rampart Ranch, 23.02 337 ⇑P P 22 35 48.8 +2.0
baz=23,SNR=7.6
U26A Atchley Ranch, 23.08 340 ⇓P P 22 35 48.5 +1.1
baz=23,SNR=6.0
S31A Mullinville 23.16 349 ⇓P P 22 35 47.5 -0.5
baz=23,SNR=7.3
SIUC Southern Illin 23.23 10 eP P 22 35 47.2 -1.3
U25A Circle Dot Ran 23.31 339 ⇓P P 22 35 50.6 +0.9
baz=24,SNR=9.7
KMSC Kings Mountain 23.33 28 eP P 22 35 48.8 -0.9
KMSC Kings Mountain 23.33 28 ⇓P P 22 35 46.2 -3.5
baz=24
S30A Montezuma 23.37 348 ⇑P P 22 35 50.3 +0.2
baz=24,SNR=12
T27A Campo 23.38 343 ⇑P P 22 35 51.1 +0.8
baz=24
V23A Ortiz Mt. (NFS 23.40 335 ⇓P P 22 35 52.8 +2.2
baz=24,SNR=7.6
S29A Ulysses 23.49 346 ⇓P P 22 35 52.3 +1.0
baz=24,SNR=7.8
R33A Olander Ranch, 23.61 353 ⇓P P 22 35 51.9 -0.5
baz=24,SNR=8.8
U24A Moreno Valley 23.63 337 ⇓P P 22 35 54.1 +1.2
baz=24
TZTN Tazewell 23.64 22 eP P 22 35 51.9 -0.8
48nm,1.2s
T26A Comanche Natio 23.75 341 ⇓P P 22 35 55.3 +1.4
baz=24,SNR=5.4
USIN University of 23.77 13 eP P 22 35 53.3 -0.5
R31A Burdett 23.82 350 P P 22 35 54.9 +0.5
baz=24,SNR=18
R32A Long Quarter, 23.82 351 P P 22 35 54.3 0.0
baz=24,SNR=16
V22A San Miguel Ran 23.85 334 ⇑P P 22 35 56.5 +1.6
baz=24,SNR=7.6
U23A El Rito 23.91 336 P P 22 35 57.7 +2.2
baz=24,SNR=8.5
R30A Dighton 23.95 348 P P 22 35 56.7 +1.0
baz=24,SNR=11
T25A Trinidad 23.98 340 ⇑P P 22 35 58.1 +2.0
baz=24,SNR=8.5
S27A Las Animas 24.01 343 ⇓P P 22 35 57.3 +1.0
baz=24
S26A Kim 24.12 342 ⇑P P 22 35 58.6 +1.3
baz=24,SNR=6.6
T24B San Luis 24.25 338 ⇓P P 22 35 59.7 +1.1
baz=24
KSU1 Kansas State U 24.26 356 eP P 22 35 51.9 -6.5
R29A Marienthal 24.27 347 ⇓P P 22 35 59.6 +1.0
baz=24,SNR=10.0
Q33A Connelly Farm, 24.27 353 ⇑P P 22 35 58.6 +0.1
baz=24
R28A Tribune 24.34 346 ⇑P P 22 35 59.8 +0.5
baz=24
WCI Wyandotte Cave 24.35 15 eP P 22 35 57.2 -2.0
Q32A Meitler Ranch, 24.36 352 P P 22 35 59.5 +0.2
baz=25,SNR=31
S25A Robets Cordova 24.46 340 ⇑P P 22 36 02.0 +1.5
baz=25
Q31A Ellis 24.50 350 ⇑P P 22 36 00.9 +0.3
baz=25,SNR=7.9
R27A Eads 24.55 344 ⇓P P 22 36 01.8 +0.6
baz=25,SNR=8.4
Q30A Quinter 24.61 349 ⇑P P 22 36 02.7 +1.0
baz=25,SNR=8.7
Q29A Oakley 24.68 347 ⇓P P 22 36 03.1 +0.7
baz=25,SNR=15
S24A Houchin Ranch, 24.70 339 ⇓P P 22 36 03.4 +0.6
baz=25
R26A Arlington 24.74 343 ⇑P P 22 36 04.6 +1.7
baz=25,SNR=12
R25A Fountain Ranch 24.85 341 ⇓P P 22 36 05.8 +1.8
baz=25,SNR=14
SDCO Great Sand Dun 24.90 338 eP P 22 36 06.0 +1.4
6.1nm,1.0s
X16A Lo Mia Camp, P 24.90 325 ⇑P P 22 36 06.9 +2.4
baz=25
P32A Huiting Farm, 24.98 352 ⇓P P 22 36 05.6 +0.6
baz=25,SNR=9.7
P31A Stockton 25.00 351 ⇓P P 22 36 06.1 +0.9
baz=25,SNR=18
Q28A Shon Springs 25.04 346 ⇑P P 22 36 07.7 +2.1
baz=25,SNR=5.8
113A Mohawk Valley, 25.16 319 ⇑P P 22 36 09.5 +2.8
baz=25
P30A Selden 25.17 349 ⇑P P 22 36 08.2 +1.5
baz=25,SNR=18
BLO Bloomington 25.18 14 eP P 22 36 05.8 -0.9
22nm,0.6s
R24A Sanders Place, 25.20 340 ⇑P P 22 36 08.4 +1.2
baz=25
Q26A Hugo 25.34 343 ⇓P P 22 36 09.5 +1.1
baz=26
P29A Atwood 25.36 348 P P 22 36 10.8 +2.4
baz=26,SNR=7.8
S22A 4UR Ranch, Cre 25.39 336 ⇓P P 22 36 10.4 +1.3
baz=26
R23A Moffat 25.41 338 ⇓P P 22 36 10.3 +1.1
baz=26
Q25A Bedland, Calha 25.55 342 ⇓P P 22 36 11.6 +1.3
baz=26
O32A Brockman Farm, 25.57 353 ⇑P P 22 36 11.1 +0.7
baz=26,SNR=5.9
O31A Woolen Ranch, 25.61 351 ⇓P P 22 36 11.4 +0.8
baz=26,SNR=16
MVCO Mesa Verde 25.63 333 eP P 22 36 13.3 +2.2
MVCO Mesa Verde 25.63 333 ⇓P P 22 36 13.3 +2.2
baz=26
P27A Ficken Ranch, 25.68 345 ⇓P P 22 36 13.0 +1.5
baz=26
WUAZ Wupatki 25.68 326 eP P 22 36 13.5 +2.0
WUAZ Wupatki 25.68 326 ⇑P P 22 36 14.4 +2.8
baz=26,SNR=7.4
O30A MW Ranch, Wils 25.75 350 ⇓P P 22 36 14.0 +2.0
baz=26,SNR=14
O29A 4D Ranch, Culb 25.84 348 ⇓P P 22 36 14.3 +1.6
baz=26,SNR=8.2
P26A Davis Ranch, A 25.89 344 ⇑P P 22 36 15.2 +1.8
baz=26,SNR=5.5
HDIL Hopedale 25.99 9 eP P 22 36 13.0 -1.1
O28A Krutsinger Ran 26.04 347 ⇓P P 22 36 16.9 +2.3
baz=26
P25A Willow Gulch B 26.07 342 ⇑P P 22 36 16.7 +1.6
baz=26
SFIN Scholer Farm 26.21 12 ⇓P P 22 36 14.3 -1.7
baz=26
O27A Beecher Island 26.26 346 ⇑P P 22 36 20.3 +3.6
baz=26
N30A Hueftle Ranch, 26.36 350 ⇑P P 22 36 20.2 +2.7
baz=26
PV01 Paradox Valley 26.43 334 eP P 22 36 19.4 +0.9
898nm,0.9s
N29A Votaw Ranch, W 26.47 349 ⇓P P 22 36 19.7 +1.1
baz=27,SNR=6.6
P23A Jefferson 26.48 340 ⇓P P 22 36 19.8 +0.9
baz=27
SMCO Snowmass 26.70 338 eP P 22 36 23.1 +2.1
M31A Lambtecht Ranc 26.73 352 ⇓P P 22 36 21.7 +0.9
baz=27
ISCO Idaho Springs 26.78 340 eP P 22 36 23.4 +1.7
ISCO Idaho Springs 26.78 340 ⇑P P 22 36 22.7 +1.0
baz=27,SNR=7.2
PV04 Paradox Valley 26.79 334 eP P 22 36 23.9 +2.3
BC3 Big Chuckawall 26.81 318 ⇓P P 22 36 24.0 +2.3
baz=27
ATAH Atahualpa 26.91 143 P P 22 36 24.3 +1.2
ATAH Atahualpa 26.91 143 P P 22 36 24.3 +1.2
7.9nm,0.7s,baz=276,slow=9.9,SNR=3.8
SCIA State Center 26.99 2 eP P 22 36 22.3 -0.8
ACSO Alum Creek Sta 27.16 19 eP P 22 36 22.9 -1.7
O22A Kremmling 27.42 339 ⇓P P 22 36 29.3 +1.9
baz=28
GMRC Granite Mounta 27.66 320 ⇓P P 22 36 32.1 +2.7
baz=28
N23A Red Feather La 27.88 341 ⇓P P 22 36 33.2 +1.7
baz=28
N22A Wattenberg Ran 27.96 340 ⇑P P 22 36 34.1 +1.9
baz=28
JFWS Jewell Farm 28.20 6 eP P 22 36 32.7 -1.2
M22A Cedar Creek Ra 28.55 340 ⇓P P 22 36 38.9 +1.5
baz=29
TMUT Trail Mountain 28.55 332 eP P 22 36 39.1 +1.6
5.9nm,0.8s
N20A Spence Gulch, 28.63 337 ⇓P P 22 36 39.9 +1.9
baz=29
ECSD EROS Data Cent 28.87 356 eP P 22 36 38.0 -1.9
12nm,0.6s
ECSD EROS Data Cent 28.87 356 P P 22 36 39.2 -0.7
baz=29,SNR=14
L23A Garrett 28.92 342 ⇓P P 22 36 42.3 +1.7
baz=29,SNR=6.8
L22A Ellis Ranch, M 29.07 341 ⇑P P 22 36 43.8 +1.9
baz=29
DAU Daniels Canyon 29.48 333 eP P 22 36 47.7 +2.0
9.3nm,1.1s
TCUT Toone Canyon 30.13 334 eP P 22 36 53.0 +1.7
16nm,0.9s
SPMN St. Paul 30.32 2 eP P 22 36 51.4 -1.3
44nm,0.5s
SPMN St. Paul 30.32 2 ⇓P P 22 36 51.7 -1.0
baz=30,SNR=7.9
J22A Midwest 30.34 342 ⇓P P 22 36 54.4 +1.3
baz=30
H27A Howes 30.43 349 ⇓P P 22 36 54.8 +1.0
baz=31
J21A Lysite 30.57 341 ⇓P P 22 36 57.2 +1.9
baz=31,SNR=5.3
I22A 9 Mile Ranch, 30.78 343 ⇓P P 22 36 58.7 +1.8
baz=31
PDAR Pinedale Array 30.78 338 P P 22 36 58.1 +1.0
PDAR PcP PcP 22 39 56.2 +2.2
PDAR Pinedale Array 30.78 338 P P 22 36 58.1 +1.0
1.7nm,0.8s,baz=147,slow=8.4,SNR=12
PDAR PcP PcP 22 39 56.2 +2.2
0.5nm,0.8s,baz=146,slow=6.6,SNR=2.5
J20A Shoshoni 30.79 340 ⇑P P 22 36 58.8 +1.8
baz=31
I21A Big Trails, Te 30.95 342 ⇓P P 22 37 00.0 +1.6
baz=31
H24A Dirks Ranch, A 31.07 346 ⇓P P 22 37 00.7 +1.3
baz=31
HVU Hansel Valley 31.26 333 eP P 22 37 02.6 +1.3
10nm,0.9s
I20A Worland 31.34 341 ⇑P P 22 37 03.2 +1.4
baz=32,SNR=5.4
H22A Clearmont 31.39 343 ⇓P P 22 37 03.6 +1.4
baz=32
NV11 Mina Array Sit 31.57 323 eP P 22 37 07.0 +3.0
NVAR Mina Array Bea 31.66 322 P P 22 37 04.5 -0.4
NVAR PcP PcP 22 39 58.2 +1.7
NVAR Mina Array Bea 31.66 322 P P 22 37 04.5 -0.4
3.5nm,0.9s,baz=148,slow=8.1,SNR=13
NVAR PcP PcP 22 39 58.2 +1.7
0.4nm,0.3s,baz=185,slow=4.4,SNR=2.6
I19A Meeteetse 31.70 340 ⇑P P 22 37 07.0 +1.9
baz=32
H20A Greybull 31.78 341 ⇓P P 22 37 06.8 +1.1
baz=32,SNR=5.3
G22A Birney 31.95 344 ⇓P P 22 37 08.1 +0.9
baz=32
E28A Huff 32.10 352 ⇓P P 22 37 08.8 +0.4
baz=32
F23A Volborg 32.19 345 ⇑P P 22 37 10.1 +0.9
baz=32
G21A Lodge Grass 32.21 343 ⇑P P 22 37 10.4 +0.9
baz=32
H19A Powell 32.26 340 ⇓P P 22 37 12.1 +2.1
baz=32,SNR=6.9
E26A Carlson Angus 32.28 349 ⇓P P 22 37 11.0 +1.0
baz=32,SNR=7.3
D30A Buchanan 32.39 354 ⇓P P 22 37 11.6 +0.6
baz=33
SADO Sadowa 32.48 20 P P 22 37 09.4 -2.3
SADO Sadowa 32.48 20 P P 22 37 09.4 -2.3
12nm,0.8s,baz=255,slow=5.8,SNR=5.4
SADO LR LR 22 51 47.9
comp=Z,277nm,20.7s,baz=186,slow=39
H18A Shoshone NF, C 32.49 339 P P 22 37 13.7 +1.6
baz=33,SNR=13
G20A Bridger 32.50 342 ⇓P P 22 37 13.0 +0.9
baz=33
D26A Manning 32.81 350 ⇑P P 22 37 15.2 +0.6
baz=33,SNR=5.9
C30A Mose, Pekin 32.96 355 ⇓P P 22 37 16.1 +0.2
baz=33
E22A Miles City 32.99 345 ⇑P P 22 37 17.1 +0.9
baz=33
F20A Billings 33.01 342 ⇑P P 22 37 17.2 +0.8
baz=33,SNR=5.1
D25A Fairfield 33.09 349 ⇑P P 22 37 18.2 +1.1
baz=33
EYMN Ely 33.09 3 eP P 22 37 14.6 -2.5
MDND Maddock 33.21 353 eP P 22 37 17.5 -0.6
66nm,1.1s
MDND Maddock 33.21 353 ⇓P P 22 37 18.4 +0.3
baz=33
F19A Roth Farm, Mol 33.30 341 ⇑P P 22 37 20.2 +1.2
baz=34
AGMN Agassiz Nation 33.39 358 eP P 22 37 18.4 -1.3
30nm,1.0s
AGMN Agassiz Nation 33.39 358 P P 22 37 18.6 -1.1
baz=34,SNR=10
HLID Hailey 33.41 333 eP P 22 37 21.4 +1.4
5.3nm,0.9s
HLID Hailey 33.41 333 ⇑P P 22 37 21.5 +1.4
baz=34,SNR=6.9

C26A	Wahner Farm, P	33.53	350	⇑P		P		22 37 21.4	+0.5
	baz=34								
B30A	Myrvik Farm, E	33.69	355	⇓P		P		22 37 22.1	-0.1
	baz=34								
D22A	Cohagen	33.71	345	⇑P		P		22 37 23.3	+0.7
	baz=34,SNR=11								
MCMT	McKenzie Canyo	33.79	336	*e*P		P		22 37 24.6	+1.1
	4.5nm,1.0s								
E19A	Rath Farm, Rou	33.79	342	⇑P		P		22 37 24.0	+0.7
	baz=34,SNR=5.6								
B29A	Wagenman Farm,	33.80	354	⇑P		P		22 37 23.7	+0.5
	baz=34								
D21A	La Casta Ranch	33.84	344	⇓P		P		22 37 25.4	+1.8
	baz=34								
B28A	Dugan Ranch, T	33.89	353	⇓P		P		22 37 24.9	+0.8
	baz=34								
C23A	Lambert	34.09	347	⇓P		P		22 37 26.6	+0.7
	baz=34,SNR=5.3								
A30A	Hoffart Farm,	34.17	355	⇑P		P		22 37 26.3	-0.1
	baz=34,SNR=7.1								
D20A	Manuel Ranch,	34.17	343	⇓P		P		22 37 27.3	+0.7
	baz=34,SNR=5.4								
C22A	Vida	34.20	346	⇑P		P		22 37 27.9	+1.2
	baz=34,SNR=8.4								
A29A	Manning Farm,	34.24	354	⇑P		P		22 37 26.7	-0.3
	baz=34,SNR=9.7								
D19A	Cripps Ranch,	34.46	342	⇑P		P		22 37 30.3	+1.2
	baz=35								
LRM	Limekiln Ridge	34.47	337	*e*P		P		22 37 30.6	+1.3
	61nm,1.0s								
DGMT	Dagmar	34.52	348	⇑P		P		22 37 30.4	+0.9
	baz=35								
A26A	Wade Farm, Ken	34.56	351	⇓P		P		22 37 30.6	+0.8
	baz=35								
B23A	Brockton	34.68	347	⇓P		P		22 37 31.9	+1.0
	baz=35								
A25A	Svangstu Ranch	34.78	350	⇑P		P		22 37 32.8	+1.1
	baz=35								
A24A	Westby	34.92	349	⇓P		P		22 37 34.5	+1.6
	baz=35								
C19A	Slack Wire Ran	35.02	343	⇑P		P		22 37 35.2	+1.3
	baz=35								
A23A	Redstone	35.13	348	⇓P		P		22 37 36.2	+1.5
	baz=35								
ULM	Lac du Bonnet	35.34	358	*e*P		P		22 37 34.2	-2.3
	6.5nm,0.6s								
ULM	Lac du Bonnet	35.34	358	P		P		22 37 34.5	-2.0
	8.0nm,0.5s,baz=174,slow=11,SNR=17								
A22A	Carney Farms,	35.38	347	⇓P		P		22 37 38.0	+1.1
	baz=36								
EGMT	Eagleton	35.49	342	*e*P		P		22 37 36.0	-1.9
	11nm,1.2s								
EGMT	Eagleton	35.49	342	⇑P		P		22 37 39.1	+1.2
	baz=36								
A21A	Bergtoll Ranch	35.61	346	⇓P		P		22 37 40.1	+1.1
	baz=36,SNR=5.9								
B19A	Brinkman Farms	35.64	343	⇓P		P		22 37 40.4	+1.2
	baz=36,SNR=7.8								
A20A	Cobblestone Ra	35.76	345	⇑P		P		22 37 41.5	+1.3
	baz=36								
MSO	Missoula	35.88	337	⇓P		P		22 37 43.2	+1.9
	baz=36								
A19A	Klindworth Far	36.02	344	⇑P		P		22 37 43.2	+0.7
	baz=36,SNR=5.3								
YBH	Yreka Blue Hor	36.37	323	LR		LR		22 53 39.2	
	comp=Z,587nm,18.6s,baz=146,slow=38								
JTMT	Jette	36.77	337	*e*P		P		22 37 49.7	+0.7
	3.9nm,1.0s								
PTGA	Pitinga	37.29	112	*e*P		P		22 37 52.2	-1.4
	11nm,1.1s								
PTGA	Pitinga	37.29	112	P		P		22 37 52.6	-1.0
	6.0nm,1.0s,baz=296,slow=7.2,SNR=4.9								
NEW	Newport	38.30	335	⇓P		P		22 38 03.4	+1.6
	baz=38								
SAML	Samuel	38.84	126	*e*P		P		22 38 03.4	-3.2
	9.4nm,1.0s								
LPAZ	La Paz	40.28	139	P		P		22 38 17.9	-1.5
LPAZ	La Paz	40.28	139	P		P		22 38 17.9	-1.5
	1.2nm,0.7s,baz=329,slow=12,SNR=3.0								
EDM	Edmonton	41.16	343	*e*P		P		22 38 25.4	-0.1
FCC	Fort Churchill	43.85	0	*e*P		P		22 38 46.6	-0.5
SCHQ	Schefferville	45.24	22	P		P		22 38 56.0	-2.4
SCHQ	Schefferville	45.24	22	P		P		22 38 56.0	-2.4
	5.0nm,0.9s,baz=233,slow=7.1,SNR=5.7								
SCHQ				LR		LR		22 58 42.4	
	comp=Z,442nm,19.4s,baz=234,slow=37								
YKA	Yellowknife Ar	49.73	348	P		P		22 39 33.3	+0.2
YKA				PcP		PcP		22 40 52.2	-1.5
YKA	Yellowknife Ar	49.73	348	P		P		22 39 33.3	+0.2
	5.0nm,0.7s,baz=154,slow=7.4,SNR=99								
YKA				PcP		PcP		22 40 52.2	-1.5
	0.8nm,0.8s,baz=147,slow=4.6,SNR=4.5								
BDFB	Brasilia	54.83	122	P		P		22 40 10.6	-1.1
BDFB	Brasilia	54.83	122	P		P		22 40 10.6	-1.1
	6.2nm,0.9s,baz=271,slow=13,SNR=5.8								
RKT	Rikitea	54.86	227	*e*LR		LR		22 56 21.1	
	269nm,27.5s								
RKT	Rikitea	54.86	227	*e*T		T		23 39 25.9	
	1.6nm,0.2s								
INK	Inuvik	59.03	344	*e*P		P		22 40 40.8	+0.2
	5.7nm,0.8s								
SFJD	Kangerlussuaq	59.40	18	*i* P		P		22 40 40.9	-2.3
	11nm,0.8s								
SFJD	Kangerlussuaq	59.40	18	P		P		22 40 41.9	-1.3
SFJD	Kangerlussuaq	59.40	18	P		P		22 40 41.9	-1.3
	14nm,0.9s,baz=118,slow=1.5,SNR=4.3								
PLCA	Paso Flores	59.51	159	LR		LR		23 00 39.3	
	comp=Z,76nm,20.8s,baz=290,slow=30								
ILAR	Eielson Array	61.21	337	P		P		22 40 55.9	+0.1
ILAR	Eielson Array	61.21	337	P		P		22 40 55.9	+0.1
	6.7nm,1.0s,baz=145,slow=3.9,SNR=50								
COLA	College	61.63	337	*e*P		P		22 40 58.8	+0.4
	5.2nm,0.8s								
TRF	Thorofare Moun	61.95	335	*e*P		P		22 41 01.3	+0.3
	55nm,1.7s								
PPT	Papeete	63.34	241	LR		LR		23 00 07.1	
	comp=Z,78nm,21.3s,baz=354,slow=28								
PPT2	Papeete2	63.35	241	*e*LR		LR		22 59 35.6	
	146nm,29.0s								
SUMG	Summit	66.03	16	*i* P		P		22 41 28.1	+0.3
	8.2nm,0.9s								
SCO	Scoresbysund	70.22	20	*i* P		P		22 41 53.0	-0.6
DAG	Danmarks Havn	72.37	14	*i* P		P		22 42 06.5	0.0
	11nm,0.7s								
EVOP	Sao Brissos	77.95	53	*e*P		P		22 42 37.2	-2.2
	148nm,1.7s								
EVO	Evora	78.03	53	*e*P		P		22 42 37.2	-2.7
	148nm,1.7s								
EVO				*e*R					
	207nm,17.5s								
EKA	Eskdalemuir Ar	78.57	36	P		P		22 42 41.6	-0.9
EKA	Eskdalemuir Ar	78.57	36	P		P		22 42 41.6	-0.9
	16nm,0.8s,baz=287,slow=4.9,SNR=32								
QUIF	Quistinic	79.88	43	*e*P		P		22 42 49.1	-0.7
QUIF	Quistinic	79.88	43	*e*P		P		22 42 49.1	-0.7
SGMF	Saint Gilles	80.21	43	*e*P		P		22 42 50.6	-1.0
SGMF	Saint Gilles	80.21	43	*e*P		P		22 42 50.6	-1.0
ESDC	Sonseca Array	80.92	51	P		P		22 42 54.1	-1.5
ESDC	Sonseca Array	80.92	51	P		P		22 42 54.1	-1.5
	4.5nm,0.8s,baz=289,slow=5.4,SNR=12								
ESDC				LR		LR		23 16 56.5	
	comp=Z,56nm,18.7s,baz=0.0,slow=34								
GRR	Gorron	81.30	42	*e*P		P		22 42 56.9	-0.5
	46nm,0.9s								
GRR	Gorron	81.30	42	*e*P		P		22 42 56.9	-0.5
	46nm,0.9s								
FLN	La Foliniere	81.46	42	*e*P		P		22 42 57.9	-0.3
	41nm,0.8s								
FLN				*e*R					
	165nm,17.5s								
FLN	La Foliniere	81.46	42	*e*P		P		22 42 57.9	-0.3
	41nm,0.8s								
LDF	La Druitiere	81.73	42	*e*P		P		22 42 59.2	-0.5
	42nm,1.1s								
LDF	La Druitiere	81.73	42	*e*P		P		22 42 59.2	-0.5
	42nm,1.1s								
MDT	Midelt	81.83	58	P		P		22 43 00.1	-0.6
MDT	Midelt	81.83	58	P		P		22 43 00.1	-0.6
	4.4nm,0.8s,baz=286,slow=7.4,SNR=3.3								
MFF	Saint Martin d	82.16	44	*e*P		P		22 43 01.4	-0.6
MFF	Saint Martin d	82.16	44	*e*P		P		22 43 01.4	-0.6
SJPF	Ste Jean	82.20	48	*e*P		P		22 43 01.9	-0.4
SJPF	Ste Jean	82.20	48	*e*P		P		22 43 01.9	-0.4
ETSF	Etsaut	82.73	48	*e*P		P		22 43 04.9	-0.2
	22nm,1.0s								
ETSF	Etsaut	82.73	48	*e*P		P		22 43 04.9	-0.2
	22nm,1.0s								
LFF	La Frestale	83.16	45	*e*P		P		22 43 06.0	-1.2
	16nm,0.7s								
LFF	La Frestale	83.16	45	*e*P		P		22 43 06.0	-1.2
	16nm,0.7s								
EPF	Esparros	83.34	47	*e*P		P		22 43 07.8	-0.5
EPF	Esparros	83.34	47	*e*P		P		22 43 07.8	-0.5
RJF	Les Rejaudoux	83.60	45	*e*P		P		22 43 08.9	-0.6
	42nm,1.0s								
RJF				*e*R					
	159nm,21.2s								
RJF	Les Rejaudoux	83.60	45	*e*P		P		22 43 08.9	-0.6
	42nm,1.0s								
TCF	Toulx Ste Croi	83.82	44	*e*P		P		22 43 09.8	-0.8
	19nm,0.8s								
TCF	Toulx Ste Croi	83.82	44	*e*P		P		22 43 09.8	-0.8
	19nm,0.8s								
HYF	Humbligny	83.85	43	*e*P		P		22 43 10.3	-0.5
HYF	Humbligny	83.85	43	*e*P		P		22 43 10.3	-0.5
SNF	Seneffe	84.03	39	P		P		22 43 12.6	+1.1
CAF	Calviac	84.07	45	*e*P		P		22 43 11.3	-0.7
CAF	Calviac	84.07	45	*e*P		P		22 43 11.3	-0.7
BAIF	Baives	84.11	40	*e*P		P		22 43 11.6	-0.4
BAIF	Baives	84.11	40	*e*P		P		22 43 11.6	-0.4
BGF	Bois d'Agland	84.17	43	*e*P		P		22 43 11.6	-0.8
	33nm,0.8s								
BGF	Bois d'Agland	84.17	43	*e*P		P		22 43 11.6	-0.8
	33nm,0.8s								
DOU	Dourbes	84.34	40	P		P		22 43 13.4	+0.3
AVF	Avril sur Loir	84.45	43	*e*P		P		22 43 12.7	-1.1
	25nm,1.0s								
AVF	Avril sur Loir	84.45	43	*e*P		P		22 43 12.7	-1.1
	25nm,1.0s								
NB2	NORSAR Subarra	84.45	28	P		P		22 43 14.1	+0.5
	comp=Z,3.8nm,0.7s,baz=290,slow=5.1								
NOA	NORSAR Array B	84.45	28	P		P		22 43 14.2	+0.6
NOA	NORSAR Array B	84.45	28	P		P		22 43 14.2	+0.6
	comp=Z,5.4nm,0.8s,baz=291,slow=5.0,SNR=26								
NOA				LR		LR		23 20 04.6	
	comp=Z,22nm,18.1s,baz=285,slow=35								
SSF	Saint Saulge	84.48	43	*e*P		P		22 43 13.0	-0.9
	comp=Z,20nm,0.9s								
SSF	Saint Saulge	84.48	43	*e*P		P		22 43 13.0	-0.9
	comp=Z,20nm,0.9s								
LOR	Lormes	84.65	43	*e*P		P		22 43 14.1	-0.7
	comp=Z,14nm,0.8s								
LOR				*e*R					
	comp=Z,155nm,18.8s								
LOR	Lormes	84.65	43	*e*P		P		22 43 14.1	-0.7
	comp=Z,14nm,0.8s								
BCLA	Clavier	84.68	39	P		P		22 43 14.3	-0.5
SMF	Signal de Mont	84.81	43	*e*P		P		22 43 14.5	-1.1
SMF	Signal de Mont	84.81	43	*e*P		P		22 43 14.5	-1.1
WTSB	Winterswijk	85.12	38	*e*P		P		22 43 17.5	+0.4
	comp=Z,31nm,1.0s								
SFTF	Sexfontaines	85.15	41	*e*P		P		22 43 16.9	-0.4
SFTF	Sexfontaines	85.15	41	*e*P		P		22 43 16.9	-0.4
WLF	Walferdange	85.43	40	P		P		22 43 19.4	+0.7
WLF	Walferdange	85.43	40	*e*P		P		22 43 19.0	+0.4
	comp=Z,82nm,1.8s								
PAGF	Fort de Pagny	85.49	41	*e*P		P		22 43 17.9	-1.1
PAGF	Fort de Pagny	85.49	41	*e*P		P		22 43 17.9	-1.1
LASF	Ste Croix	85.53	46	*e*P		P		22 43 19.4	+0.1
	comp=Z,46nm,1.2s								
LASF	Ste Croix	85.53	46	*e*P		P		22 43 19.4	+0.1
	comp=Z,46nm,1.2s								
BUG	Bochum--Univer	85.56	38	*e*P		P		22 43 19.3	+0.1
	comp=Z,66nm,1.5s								
IBBN	Ibbenburen	85.58	37	*e*P		P		22 43 19.6	+0.3
	comp=Z,27nm,1.2s								
VIVF	Saint-Julien-l	85.87	45	*e*P		P		22 43 20.9	-0.1
VIVF	Saint-Julien-l	85.87	45	*e*P		P		22 43 20.9	-0.1
HFS	Hagfors	85.93	29	P		P		22 43 21.5	+0.6
HFS	Hagfors	85.93	29	P		P		22 43 21.5	+0.6
	comp=Z,10.0nm,0.7s,baz=300,slow=3.2,SNR=5.9								
ARCES	ARCESS Array B	86.03	18	P		P		22 43 20.9	-0.3
ARCES	ARCESS Array B	86.03	18	P		P		22 43 20.9	-0.3
	comp=Z,3.6nm,0.7s,baz=292,slow=4.9,SNR=5.3								
ARCES				LR		LR		23 22 38.1	
	comp=Z,96nm,18.8s,baz=266,slow=36								
HAU	Haudompre	86.05	41	*e*P		P		22 43 21.3	-0.5
	comp=Z,34nm,0.8s								
HAU				*e*R					
	comp=Z,165nm,19.2s								
HAU	Haudompre	86.05	41	*e*P		P		22 43 21.3	-0.5
	comp=Z,34nm,0.8s								
CABF	La Chapelle	86.30	43	*e*P		P		22 43 22.9	-0.3
	comp=Z,27nm,1.0s								
CABF	La Chapelle	86.30	43	*e*P		P		22 43 22.9	-0.3
	comp=Z,27nm,1.0s								
HINF	Hinteralfeld	86.43	41	*e*P		P		22 43 23.0	-0.7
	comp=Z,16nm,0.9s								
HINF	Hinteralfeld	86.43	41	*e*P		P		22 43 23.0	-0.7
	comp=Z,16nm,0.9s								
BSEG	Bad Segeberg	86.49	35	*e*P		P		22 43 24.6	+0.8
	comp=Z,123nm,2.0s								
CDF	Champ du Feu	86.52	41	*e*P		P		22 43 23.7	-0.5
	comp=Z,28nm,1.1s								
CDF	Champ du Feu	86.52	41	*e*P		P		22 43 23.7	-0.5
	comp=Z,28nm,1.1s								
TNS	Taunus Mts	86.66	39	*e*P		P		22 43 24.8	0.0
	comp=Z,26nm,0.9s								
ORIF	Oris-en-Rattie	86.68	44	*e*P		P		22 43 24.8	-0.2
ORIF				*e*R					
	comp=Z,155nm,18.2s								
ORIF	Oris-en-Rattie	86.68	44	*e*P		P		22 43 24.8	-0.2
SMRF	Simiane la Rot	86.75	45	*e*P		P		22 43 25.6	+0.2
	comp=Z,63nm,1.1s								
SMRF	Simiane la Rot	86.75	45	*e*P		P		22 43 25.6	+0.2
	comp=Z,63nm,1.1s								
LPL	La Plagne	87.07	44	*e*P		P		22 43 26.2	-0.9
LPL	La Plagne	87.07	44	*e*P		P		22 43 26.2	-0.9
LPG	La Plagne	87.08	44	*e*P		P		22 43 27.5	+0.2
	comp=Z,57nm,1.4s								
LPG	La Plagne	87.08	44	*e*P		P		22 43 27.5	+0.2
	comp=Z,57nm,1.4s								
CLZ	Clausthal	87.25	37	*e*P		P		22 43 28.3	+0.7
	comp=Z,26nm,1.4s								
MBDF	Montbardon	87.34	44	*e*P		P		22 43 28.2	-0.1
	comp=Z,20nm,0.9s								
MBDF	Montbardon	87.34	44	*e*P		P		22 43 28.2	-0.1
	comp=Z,20nm,0.9s								
LMR	La Mourre	87.59	46	*e*P		P		22 43 28.9	-0.5
	comp=Z,28nm,1.0s								
LMR	La Mourre	87.59	46	*e*P		P		22 43 28.9	-0.5
	comp=Z,28nm,1.0s								
TIC	Toumodi	87.60	84	*e*P		P		22 43 28.7	-1.3
	comp=Z,4.4nm,0.2s								
LIC	Lamto	87.70	84	*e*P		P		22 43 29.5	-1.0
	comp=Z,21nm,0.8s,baz=261								
LIC	Lamto	87.70	84	*e*P		P		22 43 30.1	-0.4
	comp=Z,44nm,1.0s								
LIC	Lamto	87.70	84	*e*P		P		22 43 29.5	-1.0
	comp=Z,21nm,0.8s								
DBIC	Dimbokro	87.75	84	P		P		22 43 30.1	-0.6
DBIC	Dimbokro	87.75	84	P		P		22 43 30.1	-0.6
	comp=Z,4.0nm,0.8s,baz=354,slow=1.8,SNR=4.9								
DBIC				LR		LR		23 24 44.0	
	comp=Z,31nm,18.1s,baz=274,slow=37								
KIC	Kosan Boka	87.94	84	*e*P		P		22 43 30.8	-0.8
	comp=Z,49nm,1.3s								
SBF	Sospel	88.06	45	*e*P		P		22 43 30.4	-1.3
SBF	Sospel	88.06	45	*e*P		P		22 43 30.4	-1.3
DAVOX	Davos/Dischmat	88.72	42	P		P		22 43 34.2	-0.7
DAVOX	Davos/Dischmat	88.72	42	P		P		22 43 34.2	-0.7
	comp=Z,1.9nm,0.7s,baz=290,slow=13,SNR=3.4								
PGF	Pioggiola	89.58	46	*e*P		P		22 43 38.2	-0.7
	comp=Z,14nm,0.9s								
PGF	Pioggiola	89.58	46	*e*P		P		22 43 38.2	-0.7
	comp=Z,14nm,0.9s								
GERES	GERESS Array B	90.35	39	P		P		22 43 42.4	0.0
GERES	GERESS Array B	90.35	39	P		P		22 43 42.4	0.0
	comp=Z,1.2nm,0.7s,baz=318,slow=5.4,SNR=9.0								
GERES				LR		LR		23 21 18.9	
	comp=Z,67nm,19.3s,baz=282,slow=34								
FINES	FINESS Array B	90.67	24	P		P		22 43 42.9	-0.6
FINES	FINESS Array B	90.67	24	P		P		22 43 42.8	-0.6
	comp=Z,0.9nm,0.6s,baz=336,slow=4.2,SNR=5.3								
FINES				LR		LR		23 25 12.9	
	comp=Z,68nm,19.3s,baz=309,slow=36								
TORD	Torodi Ar. Bea	92.31	76	P		P		22 43 50.3	-1.7
TORD	Torodi Ar. Bea	92.31	76	P		P		22 43 50.3	-1.7
	comp=Z,0.5nm,0.5s,baz=293,slow=4.5,SNR=11								
TORD				LR		LR		23 21 57.3	
	comp=Z,77nm,21.8s,baz=310,slow=33								
BUR08	Bucovina Ar. S	97.72	36	*e*P		P		22 44 12.6	-3.6
AKASG	Malin Array Be	98.22	32	P		P		22 44 17.2	-1.1
	comp=Z,0.2nm,0.3s,baz=297,slow=10,SNR=3.4								
MKAR	Makanchi Array	118.58	3	PKP		PKPdf		22 49 27.8	-1.2
MKAR	Makanchi Array	118.58	3	PKP		PKPdf		22 49 27.8	-1.2
	comp=Z,0.4nm,0.7s,baz=315,slow=2.3,SNR=4.1								
HHC	Hu-ho-hao-te	119.64	338	*e*PKP		PKPdf		22 49 30.6	-0.8
HHC				PP		PP		22 50 59.5	+6.6
HHC				SKS		SKSdf		22 56 39.3	-2.0
HHC				SKKS		SKKSac		22 57 44.0	-7.9
HHC				SS		SS		23 07 17.8	+3.7
HHC				LR		LR			
	comp=Z,170nm,21.0s								
WMQ	Urumqi	121.60	358	PKP		PKPdf		22 49 34.4	-0.6
WMQ				LR		LR			
	comp=Z,120nm,22.5s								
WMQ				LR		LR			
	comp=Z,69nm,17.5s								
WMQ				LR		LR			
	comp=Z,82nm,23.0s								
KSH	Kashi	125.17	9	*e*PKP		PKPdf		22 49 45.3	+3.3
KSH				*es*PKP				22 49 59.3	
KSH				*e*PP		PP		22 51 33.1	+2.9
KSH				*e*SKKS				22 58 21.3	
LZH	Lanzhou	126.53	342	*e*PKP		PKPdf		22 49 46.4	+1.6
LZH				LR		LR			
	comp=Z,140nm,18.2s								
LZH				LR		LR			
	comp=Z,130nm,17.9s								
LZH				LR		LR			
	comp=Z,160nm,20.3s								
STKA	Stephens Creek	126.54	241	PKP		PKPdf		22 49 46.9	+2.3
STKA	Stephens Creek	126.54	241	PKP		PKPdf		22 49 46.9	+2.3
	comp=Z,1.6nm,0.7s,baz=183,slow=6.4,SNR=3.8								
WRA	Warramunga Arr	133.46	256	PKP		PKPdf		22 49 58.3	+0.2
WRA	Warramunga Arr	133.46	256	PKP		PKPdf		22 49 58.3	+0.2
	comp=Z,0.6nm,0.9s,baz=88,slow=2.4,SNR=4.0								
ASAR	Alice Springs	133.86	251	PKP		PKPdf		22 50 01.1	+2.3
ASAR	Alice Springs	133.86	251	PKP		PKPdf		22 50 01.1	+2.3
	comp=Z,0.9nm,1.0s,baz=84,slow=1.9,SNR=6.1								
LSA	Lhasa	135.42	353	*e*PKPdf		PKPdf		22 50 02.0	-0.2
QIZ	Qiongzhong	138.81	324	PKP		PKPdf		22 50 08.0	-0.1
QIZ				PP		PP		22 53 00.3	+1.7
QIZ				SS		SS		23 11 17.4	+5.9
CMAR	Chiang Mai Arr	144.45	338	PKP		PKPbc		22 50 16.4	-0.3
CMAR	Chiang Mai Arr	144.45	338	PKP		PKPbc		22 50 16.4	-0.3
	comp=Z,2.4nm,0.7s,baz=349,slow=3.3,SNR=15								
HYB	Hyderabad	147.18	13	*i* PKP		PKPdf		22 50 22.5	-0.4

ISCJB ***13*** *23:29:50.0±0.7, 40.°04N±0.°02, 24.°00E±0.°05, h3km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=3.2*
ATH ***13*** *23:29:50.8, 40.°12N, 23.°99E, h13km±2km, MD2.7/10*
CSEM ***13*** *23:29:50.1±0.1, 40.°09N, 24.°03E, h5km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.0km az=93.0*
THE ***13*** *23:29:51.4, 40.°11N, 23.°95E, h2km, ML1.8/4, Error ellipse: s-maj=0.9km s-min=0.5km az=112.0*

ISC 13 23:29:50.8±1.0, 40.°11N±0.°02, 24.°01E±0.°03, h7km±9km, n40, σ0°43/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	Ouranopolis	0.23	355	P	Pg	23 29 55.4	+0.1
OUR				S	Sg	23 29 58.9	+0.5
OUR	Ouranopolis	0.23	355	*e*PG	Pg	23 29 55.4	+0.1
OUR				*e*SG	Sg	23 29 58.8	+0.4
OUR	Ouranopolis	0.23	355	P	Pg	23 29 55.4	+0.1
OUR				S	Sg	23 29 58.9	+0.5
PAIG	Paliouri	0.31	234	P	Pg	23 29 56.7	-0.2
PAIG				S	Sg	23 30 00.5	-0.5
PAIG	Paliouri	0.31	234	*e*PG	Pg	23 29 56.7	-0.2
PAIG				*e*SB	Sg	23 30 01.3	+0.3
PAIG	Paliouri	0.31	234	P	Pg	23 29 56.7	-0.2
PAIG				S	Sg	23 30 00.5	-0.5
PAIG				*e*Sb	Sg	23 30 01.3	+0.3
PLG	Polygyros	0.50	302	P	Pg	23 30 00.2	-0.3
PLG				S	Sg	23 30 07.0	-0.2
PLG	Polygyros	0.50	302	*e*PG	Pg	23 30 00.3	-0.3
PLG				*e*SB	Sg	23 30 06.8	-0.4
PLG	Polygyros	0.50	302	*e*Pg	Pg	23 30 00.3	-0.3
PLG				S	Sg	23 30 07.0	-0.2
HORT	Hortiatis	0.85	305	P	Pg	23 30 06.5	-0.7
HORT				S	Sg	23 30 18.3	+0.2
HORT	Hortiatis	0.85	305	*e*PG	Pg	23 30 06.4	-

0.6nm,0.6s,baz=174,slow=1.4,SNR=3.9
SONM PKPab **PKPab 23 53 21.6 -0.6**
1.7nm,0.9s,baz=225,slow=1.9,SNR=4.1

ISK ***13*** *23:45:31.8, 38.44N×25.44E, h5km, MD3.6*
DDA ***13*** *23:45:34.4, 38.48N×25.59E, h20km, MD3.2*
ISCJB ***13*** *23:45:35.6±0.7, 38.53N±0.02×25.61E±0.02, h11km±5km, Error ellipse: s-maj=2.8km s-min=2.6km az=10.2*
ATH ***13*** *23:45:35.6, 38.53N×25.75E, h30km±1km, MD3.1/10, ML2.9*
CSEM ***13*** *23:45:35.9±0.1, 38.50N×25.62E, h10km, MD3.1, Error ellipse: s-maj=2.9km s-min=2.5km az=173.0*
THE ***13*** *23:45:36.8, 38.52N×25.71E, h18km, ML3.0/11, Error ellipse: s-maj=0.8km s-min=0.3km az=112.0*

ISC 13 23:45:35.4±0.9, 38.51N±0.02×25.61E±0.02, h13km±8km, n166, σ1§06/205, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.37**	**109**	P	**Pg**	**23 45 43.2**	**+0.4**
CHOS				S	**Sg**	**23 45 48.4**	**+0.6**
CHOS	**Chios island**	**0.37**	**109**	*e*PB	**Pg**	**23 45 43.2**	**+0.4**
CHOS				*e*SB	**Sg**	**23 45 48.0**	**+0.2**
CHOS	**Chios island**	**0.37**	**109**	P	**Pg**	**23 45 43.2**	**+0.4**
CHOS				*e*Sb	**Sg**	**23 45 48.0**	**+0.2**
SIGR	**SIGRI**	**0.73**	**15**	P	**Pg**	**23 45 49.6**	**+0.1**
SIGR				S	**Sb**	**23 46 00.2**	**+0.3**
SIGR	**SIGRI**	**0.73**	**15**	*e*PN	**Pg**	**23 45 49.6**	**+0.1**
SIGR				*e*SN	**Sb**	**23 45 59.6**	**-0.3**
SIGR	**SIGRI**	**0.73**	**15**	P	**Pg**	**23 45 49.6**	**+0.1**
SIGR				*e*Sn	**Sb**	**23 45 59.6**	**-0.3**
SIGR				S	**Sb**	**23 46 00.2**	**+0.3**
URLA	**Izmir**	**0.79**	**100**	*i* P	**Pb**	**23 45 51.1**	**+0.1**
URLA				*i* S	**Sb**	**23 46 02.4**	**+0.8**
URLA	**Izmir**	**0.79**	**100**	*i* P	**Pb**	**23 45 51.1**	**+0.1**
URLA				*i* S	**Sb**	**23 46 02.4**	**+0.8**
PRK	**Paraskevi**	**0.90**	**35**	P	**Pg**	**23 45 52.2**	**-0.6**
PRK				S	**Sg**	**23 46 04.4**	**-0.1**
PRK	**Paraskevi**	**0.90**	**35**	*e*PN	**Pg**	**23 45 52.2**	**-0.6**
PRK	**Paraskevi**	**0.90**	**35**	P	**Pg**	**23 45 52.2**	**-0.6**
PRK				S	**Sg**	**23 46 04.4**	**-0.1**
BLCB	**Balcova**	**1.13**	**96**	*e*PN	**Pb**	**23 45 56.6**	**-0.2**
BLCB	**Balcova**	**1.13**	**96**	*e*Pn	**Pb**	**23 45 56.6**	**-0.2**
AYVA	**Ayvalik**	**1.16**	**46**	*i* P	**Pb**	**23 45 56.6**	**-0.8**
AYVA				*i* S	**Sn**	**23 46 13.7**	**+0.6**
AYVA	**Ayvalik**	**1.16**	**46**	*i* P	**Pb**	**23 45 56.6**	**-0.8**
AYVA				*i* S	**Sn**	**23 46 13.7**	**+0.6**
SMG	**Samos**	**1.25**	**129**	P	**Pn**	**23 45 58.1**	**-0.6**
SMG				S	**Sb**	**23 46 14.2**	**-0.8**
SMG	**Samos**	**1.25**	**129**	*e*PN	**Pn**	**23 45 58.4**	**-0.3**
SMG	**Samos**	**1.25**	**129**	P	**Pn**	**23 45 58.1**	**-0.6**
SMG	**Samos**	**1.25**	**129**	*e*Pn	**Pn**	**23 45 58.4**	**-0.3**
SMG				S	**Sb**	**23 46 14.2**	**-0.8**
IZM	**Izmir**	**1.30**	**94**	*e*PN	**Pn**	**23 45 59.4**	**0.0**
IZM	**Izmir**	**1.30**	**94**	*e*Pn	**Pn**	**23 45 59.4**	**0.0**
ERET	**Eretria**	**1.42**	**268**	P	**Pb**	**23 46 01.9**	**+0.2**
ERET	**Eretria**	**1.42**	**268**	P	**Pb**	**23 46 01.9**	**+0.2**
LIA	**Limnos Island**	**1.43**	**347**	P	**Pn**	**23 46 01.2**	**+0.2**
LIA				S	**Sn**	**23 46 19.5**	**-0.2**
LIA	**Limnos Island**	**1.43**	**347**	*e*PN	**Pn**	**23 46 01.2**	**+0.2**
LIA	**Limnos Island**	**1.43**	**347**	P	**Pn**	**23 46 01.2**	**+0.2**
LIA				S	**Sn**	**23 46 19.5**	**-0.2**
EZN	**Ezine**	**1.43**	**23**	*e*PN	**Pb**	**23 46 01.6**	**-0.3**
EZN	**Ezine**	**1.43**	**23**	*e*Pn	**Pb**	**23 46 01.6**	**-0.3**
APE	**Apeiranthos**	**1.44**	**183**	P	**Pn**	**23 46 01.1**	**-0.1**
APE				S	**Sb**	**23 46 20.3**	**0.0**
APE	**Apeiranthos**	**1.44**	**183**	*e*PN	**Pn**	**23 45 59.0**	**-2.2**
APE				*e*SN	**Sn**	**23 46 18.9**	**-1.1**
APE	**Apeiranthos**	**1.44**	**183**	*e*PN	**Pb**	**23 46 01.9**	**-0.2**
APE	**Apeiranthos**	**1.44**	**183**	P	**Pn**	**23 46 01.1**	**-0.1**
APE	**Apeiranthos**	**1.44**	**183**	*e*Pn	**Pb**	**23 46 01.9**	**-0.2**
APE				*e*Sn	**Sn**	**23 46 18.9**	**-1.1**
APE				S	**Sb**	**23 46 20.3**	**0.0**
PTL	**Penteli**	**1.45**	**252**	P	**Pb**	**23 46 02.1**	**-0.1**
PTL	**Penteli**	**1.45**	**252**	P	**Pb**	**23 46 02.1**	**-0.1**
AOS	**Alonnisos**	**1.50**	**297**	P	**Pb**	**23 46 03.0**	**-0.2**
AOS				S	**Sg**	**23 46 23.3**	**-0.5**
AOS	**Alonnisos**	**1.50**	**297**	*e*PB	**Pb**	**23 46 03.4**	**+0.2**
AOS	**Alonnisos**	**1.50**	**297**	P	**Pb**	**23 46 03.0**	**-0.2**
AOS	**Alonnisos**	**1.50**	**297**	*e*Pb	**Pb**	**23 46 03.4**	**+0.2**
AOS				S	**Sg**	**23 46 23.3**	**-0.5**
GCAM	**G?zelcaml?**	**1.51**	**122**	*i* P	**Pn**	**23 46 02.1**	**-0.1**
GCAM				*i* S	**Sg**	**23 46 23.2**	**-0.9**
GCAM	**G?zelcaml?**	**1.51**	**122**	*i* P	**Pn**	**23 46 02.1**	**-0.1**
GCAM				*i* S	**Sg**	**23 46 23.2**	**-0.9**
ATHU	**Athens Univers**	**1.54**	**250**	P	**Pb**	**23 46 03.5**	**-0.2**
ATHU				S	**Sg**	**23 46 23.9**	**-0.9**
ATHU	**Athens Univers**	**1.54**	**250**	P	**Pb**	**23 46 03.5**	**-0.2**
ATHU				S	**Sg**	**23 46 23.9**	**-0.9**
ATH	**Athens Observa**	**1.58**	**251**	*e*PN	**Pg**	**23 46 05.6**	**-0.2**
ATH	**Athens Observa**	**1.58**	**251**	*e*Pn	**Pg**	**23 46 05.6**	**-0.2**
MRKA	**Markates**	**1.60**	**278**	P	**Pb**	**23 46 04.1**	**-0.7**
MRKA	**Markates**	**1.60**	**278**	P	**Pb**	**23 46 04.1**	**-0.7**
AKS	**Akhisar**	**1.76**	**77**	*e*PN	**Pb**	**23 46 06.9**	**-0.7**
AKS	**Akhisar**	**1.76**	**77**	*e*Pn	**Pb**	**23 46 06.9**	**-0.7**
AKHS	**Akhisar**	**1.76**	**77**	*i* P	**Pg**	**23 46 08.5**	**-0.7**
AKHS				*i* S	**Sg**	**23 46 31.9**	**-0.2**
AKHS	**Akhisar**	**1.76**	**77**	*i* P	**Pg**	**23 46 08.5**	**-0.7**
AKHS				*i* S	**Sg**	**23 46 31.9**	**-0.2**
SKIA	**Skiathos**	**1.80**	**292**	P	**Pn**	**23 46 07.2**	**+1.0**
SKIA	**Skiathos**	**1.80**	**292**	P	**Pn**	**23 46 07.2**	**+1.0**
NAIG	**Nisos Aigina**	**1.83**	**247**	*e*PB	**Pb**	**23 46 09.3**	**+0.5**
NAIG	**Nisos Aigina**	**1.83**	**247**	*e*Pb	**Pb**	**23 46 09.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.88**	**107**	*e*PN	**Pn**	**23 46 08.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.88**	**107**	*e*Pn	**Pn**	**23 46 08.0**	**+0.6**
SMIA	**Simia**	**1.92**	**282**	P	**Pb**	**23 46 09.1**	**-1.1**
SMIA	**Simia**	**1.92**	**282**	P	**Pb**	**23 46 09.1**	**-1.1**
SMTH	**Samothraki Isl**	**1.96**	**358**	P	**Pn**	**23 46 08.1**	**-0.3**
SMTH				S	**Sn**	**23 46 32.3**	**-0.6**
SMTH	**Samothraki Isl**	**1.96**	**358**	*e*PN	**Pn**	**23 46 08.3**	**-0.1**
SMTH	**Samothraki Isl**	**1.96**	**358**	*e*Pn	**Pn**	**23 46 08.3**	**-0.1**
SMTH				S	**Sn**	**23 46 32.3**	**-0.6**
BODT	**Bodrum**	**1.97**	**136**	*e*PN	**Pn**	**23 46 08.7**	**+0.1**
BODT	**Bodrum**	**1.97**	**136**	*e*Pn	**Pn**	**23 46 08.7**	**+0.1**
AYDN	**Tasoluk**	**1.98**	**115**	*i* P	Pg	23 46 20.3	+7.0
AYDN				*i* S	Sg	23 46 51.2	+12
BALY	**Balya**	**1.99**	**51**	*i* P	**Pn**	**23 46 07.9**	**-0.9**
BALY				*i* S	**Sg**	**23 46 40.7**	**+1.4**
BALY	**Balya**	**1.99**	**51**	*i* P	**Pn**	**23 46 07.9**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.00**	**19**	*e*PN	**Pn**	**23 46 09.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.00**	**19**	*e*Pn	**Pn**	**23 46 09.1**	**+0.1**
BDRM	**Kayabasi**	**2.05**	**134**	*i* P	**Pn**	**23 46 10.8**	**+1.2**
BDRM				*i* S	**Sb**	**23 46 39.0**	**+1.2**
BDRM	**Kayabasi**	**2.05**	**134**	*i* P	**Pn**	**23 46 10.8**	**+1.2**
BDRM				*i* S	**Sb**	**23 46 39.0**	**+1.2**
LKR	**Lokris**	**2.05**	**275**	P	**Pn**	**23 46 10.5**	**+0.9**
LKR	**Lokris**	**2.05**	**275**	*e*PN	**Pb**	**23 46 11.2**	**-1.3**
LKR	**Lokris**	**2.05**	**275**	P	**Pn**	**23 46 10.5**	**+0.9**
LKR	**Lokris**	**2.05**	**275**	*e*Pn	**Pb**	**23 46 11.2**	**-1.3**
PAIG	**Paliouri**	**2.06**	**314**	*e*PB	**Pb**	**23 46 11.7**	**-1.0**
LPK	**Lapseki**	**2.06**	**25**	*e*PN	**Pn**	**23 46 11.2**	**+1.4**
LPK	**Lapseki**	**2.06**	**25**	*e*Pn	**Pn**	**23 46 11.2**	**+1.4**
BALB	**Balikesir**	**2.10**	**57**	*e*PN	**Pb**	**23 46 12.2**	**-1.1**
BALB	**Balikesir**	**2.10**	**57**	*e*Pn	**Pb**	**23 46 12.2**	**-1.1**
DID	**Didima**	**2.12**	**243**	P	**Pn**	**23 46 11.8**	**+1.1**
DID				S	**Sb**	**23 46 38.9**	**-1.2**
DID	**Didima**	**2.12**	**243**	P	**Pn**	**23 46 11.8**	**+1.1**
DID				S	**Sb**	**23 46 38.9**	**-1.2**
SANT	**Santorini**	**2.14**	**183**	P	**Pn**	**23 46 10.7**	**-0.1**
SANT	**Santorini**	**2.14**	**183**	P	**Pn**	**23 46 10.7**	**-0.1**
OUR	**Ouranopolis**	**2.22**	**326**	*e*PN	**Pn**	**23 46 12.7**	**+0.8**
OUR	**Ouranopolis**	**2.22**	**326**	*e*Pn	**Pn**	**23 46 12.7**	**+0.8**
GONE	**Gonen-Balikesi**	**2.23**	**46**	*e*PN	**Pn**	**23 46 13.6**	**+1.6**
GONE	**Gonen-Balikesi**	**2.23**	**46**	*e*Pn	**Pn**	**23 46 13.6**	**+1.6**
ENEZ	**Enez**	**2.27**	**10**	*e*PN	**Pn**	**23 46 12.6**	**+0.1**
ENEZ	**Enez**	**2.27**	**10**	*e*Pn	**Pn**	**23 46 12.6**	**+0.1**
ERIK	**Erikli-Kesan**	**2.27**	**18**	*e*PN	**Pn**	**23 46 12.7**	**+0.1**
ERIK	**Erikli-Kesan**	**2.27**	**18**	*e*Pn	**Pn**	**23 46 12.7**	**+0.1**
KRBG	**Karabiga-Canak**	**2.29**	**34**	*e*PN	**Pn**	**23 46 13.4**	**+0.5**
KRBG	**Karabiga-Canak**	**2.29**	**34**	*e*Pn	**Pn**	**23 46 13.4**	**+0.5**
KULA	**Kula-Manisa**	**2.39**	**89**	*e*PN	**Pn**	**23 46 15.9**	**+1.5**
KULA	**Kula-Manisa**	**2.39**	**89**	*e*Pn	**Pn**	**23 46 15.9**	**+1.5**
ALN	**Alexandroupoli**	**2.41**	**8**	P	**Pn**	**23 46 14.2**	**-0.3**
ALN				S	**Sn**	**23 46 43.1**	**-0.8**
ALN	**Alexandroupoli**	**2.41**	**8**	*e*PN	**Pn**	**23 46 14.5**	**0.0**
ALN	**Alexandroupoli**	**2.41**	**8**	P	**Pn**	**23 46 14.2**	**-0.3**
ALN	**Alexandroupoli**	**2.41**	**8**	*e*Pn	**Pn**	**23 46 14.5**	**0.0**
ALN				S	**Sn**	**23 46 43.1**	**-0.8**
DSF	**Desfina**	**2.42**	**269**	P	**Pn**	**23 46 15.5**	**+0.7**
DSF				S	**Sn**	**23 46 46.3**	**+2.0**
DSF	**Desfina**	**2.42**	**269**	P	**Pn**	**23 46 15.5**	**+0.7**
DSF				S	**Sn**	**23 46 46.3**	**+2.0**
RKY	**Sarkoy-Tekirda**	**2.49**	**29**	*e*PN	**Pn**	**23 46 17.1**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.49**	**29**	*e*Pn	**Pn**	**23 46 17.1**	**+1.4**
PLG	**Polygyros**	**2.51**	**319**	*e*PN	**Pn**	**23 46 16.1**	**+0.2**
PLG	**Polygyros**	**2.51**	**319**	*e*Pn	**Pn**	**23 46 16.1**	**+0.2**
EDC	**Edincik**	**2.53**	**43**	*e*PN	**Pn**	**23 46 18.3**	**+2.1**
EDC	**Edincik**	**2.53**	**43**	*e*Pn	**Pn**	**23 46 18.3**	**+2.1**
BNT	**Bandirma**	**2.57**	**43**	*e*PN	**Pn**	**23 46 18.4**	**+1.6**
BNT	**Bandirma**	**2.57**	**43**	*e*Pn	**Pn**	**23 46 18.4**	**+1.6**
MRMT	**Marmara Adasi**	**2.59**	**36**	*e*PN	**Pn**	**23 46 18.6**	**+1.4**
MRMT	**Marmara Adasi**	**2.59**	**36**	*e*Pn	**Pn**	**23 46 18.6**	**+1.4**
GUR	**Goura**	**2.64**	**259**	P	**Pn**	**23 46 19.3**	**+1.5**
GUR	**Goura**	**2.64**	**259**	P	**Pn**	**23 46 19.3**	**+1.5**
RDO	**Rodhopi**	**2.64**	**359**	P	**Pn**	**23 46 17.6**	**0.0**
RDO	**Rodhopi**	**2.64**	**359**	*e*PN	**Pn**	**23 46 17.7**	**+0.1**
RDO	**Rodhopi**	**2.64**	**359**	*e*Pn	**Pn**	**23 46 17.7**	**+0.1**
KCTX	**Karacabey (Bur**	**2.76**	**50**	*e*PN	**Pn**	**23 46 20.9**	**+1.5**
KCTX	**Karacabey (Bur**	**2.76**	**50**	*e*Pn	**Pn**	**23 46 20.9**	**+1.5**
VLI	**Veliai**	**2.77**	**231**	*e*PN	**Pn**	**23 46 21.5**	**+1.9**
VLI	**Veliai**	**2.77**	**231**	*e*Pn	**Pn**	**23 46 21.5**	**+1.9**
ORLT	**Orhaneli**	**2.98**	**58**	*e*PN	**Pn**	**23 46 24.4**	**+2.0**
ORLT	**Orhaneli**	**2.98**	**58**	*e*Pn	**Pn**	**23 46 24.4**	**+2.0**
THL	**Klokotos Trika**	**2.99**	**292**	*e*PN	**Pn**	**23 46 25.4**	**+2.9**
THL	**Klokotos Trika**	**2.99**	**292**	*e*Pn	**Pn**	**23 46 25.4**	**+2.9**
KHAL	**Karahalli**	**3.05**	**91**	*i* P	**Pn**	**23 46 22.2**	**-1.3**
KHAL				*i* S	**Sg**	**23 47 11.9**	**-1.4**
KHAL	**Karahalli**	**3.05**	**91**	*i* P	**Pn**	**23 46 22.2**	**-1.3**
KHL	**Karahalli**	**3.08**	**92**	*e*PN	**Pn**	**23 46 24.7**	**+0.9**
KHL	**Karahalli**	**3.08**	**92**	*e*Pn	**Pn**	**23 46 24.7**	**+0.9**
NVR	**Nevrokopi**	**3.14**	**335**	*e*PN	**Pn**	**23 46 26.0**	**+1.4**
NVR	**Nevrokopi**	**3.14**	**335**	*e*Pn	**Pn**	**23 46 26.0**	**+1.4**
KDZ	**Kurdzhali**	**3.14**	**357**	*e*P	**Pn**	**23 46 24.2**	**-0.4**
KDZ	**Kurdzhali**	**3.14**	**357**	*e*P	**Pn**	**23 46 24.2**	**-0.4**
MDNY	**Mudanya-Bursa**	**3.14**	**53**	*e*PN	**Pn**	**23 46 26.8**	**+2.2**
MDNY	**Mudanya-Bursa**	**3.14**	**53**	*e*Pn	**Pn**	**23 46 26.8**	**+2.2**
TVSB	**Tavsanli**	**3.15**	**71**	*e*PN	**Pn**	**23 46 26.9**	**+2.1**
TVSB	**Tavsanli**	**3.15**	**71**	*e*Pn	**Pn**	**23 46 26.9**	**+2.1**
NPS	**Neapolis**	**3.24**	**180**	*e*PN	**Pn**	**23 46 26.2**	**+0.2**
NPS	**Neapolis**	**3.24**	**180**	*e*Pn	**Pn**	**23 46 26.2**	**+0.2**
ARMT	**Armutlu**	**3.25**	**50**	*e*PN	**Pn**	**23 46 28.3**	**+2.2**
ARMT	**Armutlu**	**3.25**	**50**	*e*Pn	**Pn**	**23 46 28.3**	**+2.2**
RZN	**Rozhen**	**3.25**	**348**	*e*P	**Pn**	**23 46 26.6**	**+0.3**
RZN	**Rozhen**	**3.25**	**348**	*e*P	**Pn**	**23 46 26.6**	**+0.3**
SLVT	**Silivri**	**3.38**	**36**	*e*PN	**Pn**	**23 46 29.8**	**+2.0**
SLVT	**Silivri**	**3.38**	**36**	*e*Pn	**Pn**	**23 46 29.8**	**+2.0**
MMB	**Musomiste**	**3.40**	**335**	*e*P	**Pn**	**23 46 27.7**	**-0.5**
MMB	**Musomiste**	**3.40**	**335**	*e*P	**Pn**	**23 46 27.7**	**-0.5**
CTKS	**Kestanelik-??a**	**3.52**	**38**	*e*PN	**Pn**	**23 46 31.8**	**+2.9**
CTKS	**Kestanelik-??a**	**3.52**	**38**	*e*Pn	**Pn**	**23 46 31.8**	**+2.0**
ALT	**Altintas**	**3.56**	**80**	*e*PN	**Pn**	**23 46 31.1**	**+0.7**
ALT	**Altintas**	**3.56**	**80**	*e*Pn	**Pn**	**23 46 31.1**	**+0.7**
BGKT	**Bogazkoy**	**3.61**	**41**	*e*PN	**Pn**	**23 46 33.1**	**+2.1**
BGKT	**Bogazkoy**	**3.61**	**41**	*e*Pn	**Pn**	**23 46 33.2**	**+2.1**
PLD	**Plovdiv**	**3.66**	**349**	*e*Pn	**Pn**	**23 46 33.0**	**+1.3**
ISK	**Istanbul-Kandi**	**3.69**	**45**	*e*PN	**Pn**	**23 46 34.1**	**+2.0**
ISK	**Istanbul-Kandi**	**3.69**	**45**	*e*Pn	**Pn**	**23 46 34.1**	**+2.0**
ELL	**Elmali**	**3.84**	**116**	*e*PN	**Pn**	**23 46 35.6**	**+1.4**
ELL	**Elmali**	**3.84**	**116**	*e*Pn	**Pn**	**23 46 35.7**	**+1.4**
VTS	**Vitosha**	**4.47**	**337**	*e*PN	**Pn**	**23 46 43.3**	**+0.3**
VTS	**Vitosha**	**4.47**	**337**	*e*Pn	**Pn**	**23 46 43.3**	**+0.3**
PVL	**Pavlikeni**	**4.71**	**358**	*e*P	**Pn**	**23 46 45.3**	**-0.8**
PVL	**Pavlikeni**	**4.71**	**358**	*e*P	**Pn**	**23 46 45.3**	**-0.8**
ROIA	**ROIAK**	**4.77**	**16**	*e*P	**Pn**	**23 46 47.2**	**+0.2**
ROIA	**ROIAK**	**4.77**	**16**	*e*P	**Pn**	**23 46 47.2**	**+0.2**
PRD	**Provadia**	**4.88**	**16**	*e*P	Pn	23 46 40.6	-4.9
MPEP	**Malo Peshtene**	**5.05**	**344**	*e*P	**Pn**	**23 46 52.7**	**+1.9**

ISK ***13*** *23:57:01.6, 39.99N×24.08E, h9km, MD3.5*
ISCJB ***13*** *23:57:02.7±0.5, 40.12N±0.01×24.05E±0.02, h8km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=11.5*
CSEM ***13*** *23:57:03.2±0.1, 40.12N×24.04E, h10km, MD2.9, Error ellipse: s-maj=2.5km s-min=2.4km az=124.0*
THE ***13*** *23:57:03.6, 40.11N×24.02E, h3km, ML2.6/12, Error ellipse: s-maj=0.7km s-min=0.3km az=335.0*
ATH ***13*** *23:57:03.1, 40.13N×24.01E, h22km, MD2.9/21*
BEO ***13*** *23:57:05.0±1.1, 40.24N×24.09E, h9km±4km, ML2.2/4*

ISC 13 23:57:03.7±0.8, 40.11N±0.01×24.02E±0.02, h13km±6km, n142, σ0§69/196, 1C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.22**	**352**	P	**Pg**	**23 57 08.5**	**0.0**
OUR				S	**Sg**	**23 57 11.7**	**-0.1**
OUR	**Ouranopolis**	**0.22**	**352**	*e*PB	**Pg**	**23 57 08.5**	**0.0**
OUR				*e*SB	**Sg**	**23 57 12.1**	**+0.3**
OUR	**Ouranopolis**	**0.22**	**352**	P	**Pg**	**23 57 08.5**	**0.0**
OUR				S	**Sg**	**23 57 11.7**	**-0.1**
OUR				*e*Sb	**Sg**	**23 57 12.1**	**+0.3**
PAIG	**Paliouri**	**0.32**	**235**	P	**Pg**	**23 57 09.8**	**-0.5**
PAIG				S	**Sg**	**23 57 14.3**	**-0.4**
PAIG	**Paliouri**	**0.32**	**235**	*e*PB	**Pg**	**23 57 09.7**	**-0.5**
PAIG				*e*SB	**Sg**	**23 57 15.2**	**+0.5**
PAIG	**Paliouri**	**0.32**	**235**	*e*Pb	**Pg**	**23 57 09.7**	**-0.5**
PAIG				S	**Sg**	**23 57 14.3**	**-0.4**
PAIG				*e*Sb	**Sg**	**23 57 15.2**	**+0.5**
PLG	**Polygyros**	**0.51**	**301**	P	**Pg**	**23 57 13.3**	**-0.5**
PLG				S	**Sg**	**23 57 20.3**	**-0.3**
PLG	**Polygyros**	**0.51**	**301**	*e*PB	**Pg**	**23 57 13.3**	**-0.5**
PLG				*e*SB	**Sg**	**23 57 20.0**	**-0.6**
PLG	**Polygyros**	**0.51**	**301**	P	**Pg**	**23 57 13.3**	**-0.5**
PLG				S	**Sg**	**23 57 20.3**	**-0.3**
HORT	**Hortiatis**	**0.85**	**305**	P	**Pg**	**23 57 19.3**	**-1.0**
HORT				S	**Sg**	**23 57 31.9**	**+0.4**
HORT	**Hortiatis**	**0.85**	**305**	*e*PN	**Pg**	**23 57 19.2**	**-1.0**
HORT	**Hortiatis**	**0.85**	**305**	P	**Pg**	**23 57 19.3**	**-1.0**
HORT				S	**Sg**	**23 57 31.9**	**+0.4**
SOH	**Sokhos**	**0.87**	**324**	P	**Pg**	**23 57 20.1**	**-0.5**
SOH				S	**Sb**	**23 57 32.6**	**+0.3**
SOH	**Sokhos**	**0.87**	**324**	*e*PN	**Pg**	**23 57 20.0**	**-0.5**
SOH	**Sokhos**	**0.87**	**324**	P	**Pg**	**23 57 20.1**	**-0.5**
SOH				S	**Sb**	**23 57 32.6**	**+0.3**
LIA	**Limnos Island**	**0.92**	**103**	*e*PN	**Pg**	**23 57 21.5**	**+0.1**
LIA				*e*SN	**Sb**	**23 57 34.3**	**+0.8**
LIA	**Limnos Island**	**0.92**	**103**	*e*Pn	**Pg**	**23 57 21.5**	**+0.1**
LIA				*e*Sn	**Sb**	**23 57 34.3**	**+0.8**
AOS	**Alonnisos**	**0.95**	**187**	P	**Pg**	**23 57 21.3**	**-0.7**
AOS				S	**Sb**	**23 57 35.5**	**+1.1**
AOS	**Alonnisos**	**0.95**	**187**	*e*PN	**Pg**	**23 57 21.2**	**-0.7**
AOS	**Alonnisos**	**0.95**	**187**	P	**Pg**	**23 57 21.3**	**-0.7**
AOS				S	**Sb**	**23 57 35.5**	**+1.1**
KAVA	**Kavala**	**0.96**	**23**	P	**Pg**	**23 57 21.7**	**-0.5**
KAVA				S	**Sb**	**23 57 35.7**	**+1.0**
KAVA	**Kavala**	**0.96**	**23**	*e*PN	**Pg**	**23 57 21.7**	**-0.5**
KAVA				*e*SN	**Sg**	**23 57 34.6**	**-0.1**
KAVA	**Kavala**	**0.96**	**23**	P	**Pg**	**23 57 21.7**	**-0.5**
KAVA				*e*Sn	**Sg**	**23 57 34.6**	**-0.1**
KAVA				S	**Sb**	**23 57 35.7**	**+1.0**
THE	**Thessaloniki**	**0.96**	**303**	P	**Pg**	**23 57 21.3**	**-0.9**
THE				S	**Sb**	**23 57 35.8**	**+1.1**
THE	**Thessaloniki**	**0.96**	**303**	*e*PN	**Pg**	**23 57 21.0**	**-1.2**
THE	**Thessaloniki**	**0.96**	**303**	*e*Pn	**Pg**	**23 57 21.0**	**-1.2**
THE	**Thessaloniki**	**0.96**	**303**	P	**Pg**	**23 57 21.3**	**-0.9**
THE				S	**Sb**	**23 57 35.8**	**+1.1**
XOR	**Xorichti**	**0.98**	**221**	P	**Pg**	**23 57 22.4**	**-0.3**
XOR				S	**Sb**	**23 57 36.2**	**+0.8**
XOR	**Xorichti**	**0.98**	**221**	*e*PN	**Pg**	**23 57 22.4**	**-0.3**
XOR				*e*SN	**Sg**	**23 57 35.9**	**+0.4**
XOR	**Xorichti**	**0.98**	**221**	P	**Pg**	**23 57 22.4**	**-0.3**
XOR				*e*Sn	**Sg**	**23 57 35.9**	**+0.4**
XOR				S	**Sb**	**23 57 36.2**	**+0.8**
NEO	**Neokhori**	**1.01**	**218**	P	**Pg**	**23 57 22.9**	**-0.3**
NEO	**Neokhori**	**1.01**	**218**	*e*PN	**Pg**	**23 57 22.8**	**-0.4**
NEO				*e*SN	**Sg**	**23 57 36.3**	**-0.2**
NEO	**Neokhori**	**1.01**	**218**	P	**Pg**	**23 57 22.9**	**-0.3**
NEO				*e*Sn	**Sg**	**23 57 36.3**	**-0.2**
SKIA	**Skiathos**	**1.04**	**205**	*e*PN	**Pg**	**23 57 23.1**	**-0.6**
SKIA				*e*SN	**Sg**	**23 57 37.1**	**-0.1**
SKIA	**Skiathos**	**1.04**	**205**	*e*Pn	**Pg**	**23 57 23.1**	**-0.6**
SKIA				*e*Sn	**Sg**	**23 57 37.1**	**-0.1**
SRS	**Serrai**	**1.05**	**342**	P	**Pg**	**23 57 23.5**	**-0.5**
SRS				S	**Sb**	**23 57 38.3**	**+0.8**
SRS	**Serrai**	**1.05**	**342**	*e*PN	**Pg**	**23 57 23.2**	**-0.8**
SRS	**Serrai**	**1.05**	**342**	*e*Pn	**Pg**	**23 57 23.2**	**-0.8**
SRS	**Serrai**	**1.05**	**342**	P	**Pg**	**23 57 23.5**	**-0.5**
SRS				S	**Sb**	**23 57 38.3**	**+0.8**
FYTO	**Fytoko, Volos**	**1.09**	**230**	P	**Pn**	**23 57 24.1**	**-0.3**
FYTO	**Fytoko, Volos**	**1.09**	**230**	P	**Pb**	**23 57 24.1**	**-0.3**
LIT	**Litokhoron**	**1.17**	**270**	P	**Pn**	**23 57 25.3**	**-0.5**
LIT	**Litokhoron**	**1.17**	**270**	*e*PN	**Pb**	**23 57 25.1**	**-0.7**
LIT	**Litokhoron**	**1.17**	**270**	P	**Pb**	**23 57 25.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.21**	**72**	P	**Pn**	**23 57 25.6**	**-0.7**
SMTH				S	**Sn**	**23 57 44.0**	**+1.5**
SMTH	**Samothraki Isl**	**1.21**	**72**	*e*PN	**Pn**	**23 57 26.0**	**-0.3**
SMTH	**Samothraki Isl**	**1.21**	**72**	P	**Pn**	**23 57 25.6**	**-0.7**
SMTH	**Samothraki Isl**	**1.21**	**72**	*e*Pn	**Pn**	**23 57 26.0**	**-0.3**
SMTH				S	**Sn**	**23 57 44.0**	**+1.5**
NVR	**Nevrokopi**	**1.24**	**354**	P	**Pn**	**23 57 26.7**	**-0.1**
NVR	**Nevrokopi**	**1.24**	**354**	*e*PN	**Pn**	**23 57 26.6**	**-0.2**
NVR	**Nevrokopi**	**1.24**	**354**	*e*Pn	**Pn**	**23 57 26.6**	**-0.2**
KNT	**Kendrikon**	**1.35**	**321**	P	**Pn**	**23 57 28.6**	**+0.3**
KNT				S	**Sg**	**23 57 48.0**	**

MKAR	**Makanchi Array**	**86.22**	**318**	P		**P**	**00 25 23.9**	**-0.8**
	0.5nm,0.6s,baz=104,slow=5.7,SNR=7.0							
YKA	**Yellowknife Ar**	**96.82**	**28**	P		**P**	**00 26 15.0**	**+1.4**
	0.2nm,0.7s,baz=263,slow=4.7,SNR=4.3							

ISK ***14*** *00:15:18.9, 38.63N×26.47E, h5km, MD3.6*
ISCJB ***14*** *00:15:19.8±0.6, 38.63N±0.02×26.47E±0.03, h9km±4km, Error ellipse: s-maj=3.8km s-min=2.7km az=161.5*
DDA ***14*** *00:15:19.0, 38.64N×26.48E, h7km, MD2.9*
THE ***14*** *00:15:20.7, 38.62N×26.48E, h8km, ML2.7/8, Error ellipse: s-maj=1.3km s-min=0.5km az=260.0*
CSEM ***14*** *00:15:20.1±0.1, 38.62N×26.48E, h9km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.0km az=64.0*
ATH ***14*** *00:15:20.1, 38.61N×26.47E, h26km±1km, MD2.9/7*

ISC 14 00:15:19.7±1.1, 38.62N±0.02×26.48E±0.02, h7km±10km, n103, σ0.58/136, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.41**	**235**	P	**Pb**	**00 15 29.1**	**-0.1**
CHOS				S	**Sb**	**00 15 34.9**	**-0.7**
CHOS	**Chios island**	**0.41**	**235**	*e*PB	**Pb**	**00 15 29.1**	**-0.1**
CHOS	**Chios island**	**0.41**	**235**	P	**Pb**	**00 15 29.1**	**-0.1**
CHOS				S	**Sb**	**00 15 34.9**	**-0.7**
BLCB	**Balcova**	**0.50**	**118**	PG	**Pg**	**00 15 29.2**	**-0.1**
BLCB	**Balcova**	**0.50**	**118**	*i* Pg	**Pg**	**00 15 29.2**	**-0.1**
PRK	**Paraskevi**	**0.65**	**346**	P	**Pb**	**00 15 32.9**	**-0.4**
PRK				S	**Sb**	**00 15 42.7**	**+0.2**
PRK	**Paraskevi**	**0.65**	**346**	*e*PN	**Pg**	**00 15 32.6**	**+0.4**
PRK				*e*SN	**Sb**	**00 15 42.3**	**-0.2**
PRK	**Paraskevi**	**0.65**	**346**	*e*Pn	**Pg**	**00 15 32.6**	**+0.4**
PRK	**Paraskevi**	**0.65**	**346**	P	**Pb**	**00 15 32.9**	**-0.4**
PRK				*e*Sn	**Sb**	**00 15 42.3**	**-0.2**
IZM	**Izmir**	**0.65**	**109**	*e*PG	**Pg**	**00 15 32.2**	**-0.1**
IZM				*e*SG	**Sb**	**00 15 41.8**	**-1.0**
IZM	**Izmir**	**0.65**	**109**	*e*Pg	**Pg**	**00 15 32.2**	**-0.1**
IZM				*e*Sg	**Sb**	**00 15 41.8**	**-1.0**
AYVA	**Ayvalik**	**0.71**	**13**	*i* P	**Pg**	**00 15 33.2**	**-0.1**
AYVA				*i* S	**Sb**	**00 15 44.0**	**-0.3**
AYVA	**Ayvalik**	**0.71**	**13**	*i* P	**Pg**	**00 15 33.2**	**-0.1**
SIGR	**SIGRI**	**0.77**	**321**	P	**Pb**	**00 15 35.6**	**+0.3**
SIGR				S	**Sb**	**00 15 46.3**	**+0.4**
SIGR	**SIGRI**	**0.77**	**321**	*e*PN	**Pb**	**00 15 35.3**	**0.0**
SIGR	**SIGRI**	**0.77**	**321**	*e*Pn	**Pb**	**00 15 35.3**	**0.0**
SIGR	**SIGRI**	**0.77**	**321**	P	**Pb**	**00 15 35.6**	**+0.3**
SIGR				S	**Sb**	**00 15 46.3**	**+0.4**
SMG	**Samos**	**0.95**	**163**	P	**Pb**	**00 15 38.3**	**-0.2**
SMG				S	**Sn**	**00 15 52.2**	**-1.1**
SMG	**Samos**	**0.95**	**163**	*e*PN	**Pb**	**00 15 38.2**	**-0.2**
SMG				*e*SN	**Sb**	**00 15 52.1**	**+0.8**
SMG	**Samos**	**0.95**	**163**	P	**Pb**	**00 15 38.3**	**-0.2**
SMG				*e*Sn	**Sb**	**00 15 52.1**	**+0.8**
AKHS	**Akhisar**	**1.08**	**76**	*i* P	**Pb**	**00 15 40.5**	**-0.1**
AKHS				*i* S	**Sb**	**00 15 55.1**	**+0.2**
AKHS	**Akhisar**	**1.08**	**76**	*i* P	**Pb**	**00 15 40.5**	**-0.1**
AKHS				*i* S	**Sb**	**00 15 55.1**	**+0.2**
AKS	**Akhisar**	**1.08**	**76**	*e*PG	**Pg**	**00 15 40.1**	**-0.2**
AKS	**Akhisar**	**1.08**	**76**	*e*Pg	**Pg**	**00 15 40.1**	**-0.2**
GCAM	**G?zelcaml?**	**1.09**	**147**	*i* P	**Pg**	**00 15 40.6**	**-0.1**
GCAM				*i* S	**Sn**	**00 15 56.1**	**-0.6**
GCAM	**G?zelcaml?**	**1.09**	**147**	*i* P	**Pg**	**00 15 40.6**	**-0.1**
GCAM				*i* S	**Sn**	**00 15 56.1**	**-0.6**
EZN	**Ezine**	**1.21**	**354**	*e*PN	**Pb**	**00 15 42.1**	**-0.8**
EZN				*e*SN	**Sb**	**00 15 58.9**	**+0.1**
EZN	**Ezine**	**1.21**	**354**	*e*Pn	**Pb**	**00 15 42.1**	**-0.8**
EZN				*e*Sn	**Sb**	**00 15 58.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**121**	*e*PN	**Pn**	**00 15 44.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**121**	*e*Pn	**Pn**	**00 15 44.2**	**-0.2**
BALY	**Balya**	**1.43**	**38**	*i* P	**Pn**	**00 15 45.3**	**-0.8**
BALY				*i* S	**Sg**	**00 16 05.6**	**-0.1**
BALY	**Balya**	**1.43**	**38**	*i* P	**Pn**	**00 15 45.3**	**-0.8**
BALY				*i* S	**Sg**	**00 16 05.6**	**-0.1**
AYDN	**Tasoluk**	**1.46**	**130**	*i* P	Pg	00 15 57.5	+10
AYDN				*i* S	Sg	00 16 16.4	+10
BALB	**Balikesir**	**1.49**	**46**	*e*PN	**Pn**	**00 15 46.9**	**0.0**
BALB	**Balikesir**	**1.49**	**46**	*e*Pn	**Pn**	**00 15 46.9**	**0.0**
LIA	**Limnos Island**	**1.63**	**322**	P	**Pn**	**00 15 48.9**	**+0.2**
LIA				S	**Sn**	**00 16 09.6**	**-0.3**
LIA	**Limnos Island**	**1.63**	**322**	*e*PN	**Pn**	**00 15 48.9**	**+0.2**
LIA	**Limnos Island**	**1.63**	**322**	P	**Pn**	**00 15 48.9**	**+0.2**
LIA				S	**Sn**	**00 16 09.6**	**-0.3**
BODT	**Bodrum**	**1.69**	**157**	*e*PN	**Pn**	**00 15 50.0**	**+0.4**
BODT	**Bodrum**	**1.69**	**157**	*e*Pn	**Pn**	**00 15 50.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.71**	**33**	*e*PN	**Pn**	**00 15 49.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.71**	**33**	*e*Pn	**Pn**	**00 15 49.6**	**-0.2**
KULA	**Kula-Manisa**	**1.71**	**93**	*e*PN	**Pn**	**00 15 50.0**	**0.0**
KULA	**Kula-Manisa**	**1.71**	**93**	*e*Pn	**Pn**	**00 15 50.0**	**0.0**
APE	**Apeiranthos**	**1.72**	**206**	P	**Pb**	**00 15 49.2**	**-0.9**
APE				S	**Sn**	**00 16 12.7**	**+0.4**
APE	**Apeiranthos**	**1.72**	**206**	*e*PN	**Pn**	**00 15 50.4**	**+0.3**
APE	**Apeiranthos**	**1.72**	**206**	*e*PB	**Pn**	**00 15 50.0**	**-0.1**
APE				*e*SN	**Sn**	**00 16 12.5**	**+0.2**
APE	**Apeiranthos**	**1.72**	**206**	P	**Pn**	**00 15 49.2**	**-0.9**
APE	**Apeiranthos**	**1.72**	**206**	*e*Pn	**Pn**	**00 15 50.4**	**+0.3**
APE				*e*Sn	**Sn**	**00 16 12.5**	**+0.2**
BDRM	**Kayabasi**	**1.73**	**153**	*i* P	**Pb**	**00 15 51.1**	**-0.7**
BDRM				*i* S	**Sg**	**00 16 16.8**	**+1.6**
BDRM	**Kayabasi**	**1.73**	**153**	*i* P	**Pb**	**00 15 51.1**	**-0.7**
LPK	**Lapseki**	**1.77**	**7**	*e*PN	**Pn**	**00 15 50.7**	**+0.1**
LPK	**Lapseki**	**1.77**	**7**	*e*Pn	**Pn**	**00 15 50.7**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.78**	**360**	*e*PN	**Pn**	**00 15 50.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.78**	**360**	*e*Pn	**Pn**	**00 15 50.7**	**-0.1**
DEMI	**Demirci**	**1.80**	**76**	*i* P	**Pn**	**00 15 51.9**	**+0.7**
DEMI				*i* S	**Sb**	**00 16 15.1**	**-0.6**
DEMI	**Demirci**	**1.80**	**76**	*i* P	**Pn**	**00 15 51.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.88**	**19**	*e*PN	**Pn**	**00 15 51.5**	**-0.8**
KRBG	**Karabiga-Canak**	**1.88**	**19**	*e*Pn	**Pn**	**00 15 51.5**	**-0.8**
SMTH	**Samothraki Isl**	**1.99**	**339**	P	**Pn**	**00 15 53.6**	**-0.2**
SMTH				S	**Sn**	**00 16 18.6**	**-0.3**
SMTH	**Samothraki Isl**	**1.99**	**339**	*e*PN	**Pn**	**00 15 53.9**	**+0.1**
SMTH	**Samothraki Isl**	**1.99**	**339**	P	**Pn**	**00 15 53.6**	**-0.2**
SMTH	**Samothraki Isl**	**1.99**	**339**	*e*Pn	**Pn**	**00 15 53.9**	**+0.1**
SMTH				S	**Sn**	**00 16 18.6**	**-0.3**
EDC	**Edincik**	**2.03**	**31**	*e*PN	**Pn**	**00 15 55.0**	**+0.7**
EDC	**Edincik**	**2.03**	**31**	*e*Pn	**Pn**	**00 15 55.0**	**+0.7**
ERIK	**Erikli-Kesan**	**2.05**	**1**	*e*PN	**Pn**	**00 15 54.5**	**0.0**
ERIK	**Erikli-Kesan**	**2.05**	**1**	*e*Pn	**Pn**	**00 15 54.5**	**0.0**
ENEZ	**Enez**	**2.13**	**353**	*e*PN	**Pn**	**00 15 56.6**	**+0.9**
ENEZ	**Enez**	**2.13**	**353**	*e*Pn	**Pn**	**00 15 56.6**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.14**	**14**	*e*PN	**Pn**	**00 15 55.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.14**	**14**	*e*Pn	**Pn**	**00 15 55.8**	**0.0**
MRMT	**Marmara Adasi**	**2.16**	**23**	*e*PN	**Pn**	**00 15 56.2**	**0.0**
MRMT	**Marmara Adasi**	**2.16**	**23**	*e*Pn	**Pn**	**00 15 56.2**	**0.0**
KCTX	**Karacabey (Bur**	**2.20**	**41**	*e*PN	**Pn**	**00 15 57.0**	**+0.4**
KCTX	**Karacabey (Bur**	**2.20**	**41**	*e*Pn	**Pn**	**00 15 57.0**	**+0.4**
ALN	**Alexandroupoli**	**2.30**	**352**	P	**Pn**	**00 15 58.0**	**0.0**
ALN				S	**Sn**	**00 16 26.7**	**+0.2**
ALN	**Alexandroupoli**	**2.30**	**352**	*e*PN	**Pn**	**00 15 58.8**	**+0.8**
ALN	**Alexandroupoli**	**2.30**	**352**	P	**Pn**	**00 15 58.0**	**0.0**
ALN	**Alexandroupoli**	**2.30**	**352**	*e*Pn	**Pn**	**00 15 58.8**	**+0.8**
ALN				S	**Sn**	**00 16 26.7**	**+0.2**
ORLT	**Orhaneli**	**2.36**	**52**	*e*PN	**Pn**	**00 15 59.7**	**+0.9**
ORLT	**Orhaneli**	**2.36**	**52**	*e*Pn	**Pn**	**00 15 59.7**	**+0.9**
KHL	**Karahalli**	**2.41**	**96**	*e*PN	**Pn**	**00 16 00.5**	**+0.9**
KHL	**Karahalli**	**2.41**	**96**	*e*Pn	**Pn**	**00 16 00.5**	**+0.9**
TVSB	**Tavsanli**	**2.47**	**69**	*e*PN	**Pn**	**00 16 01.2**	**+0.8**
TVSB	**Tavsanli**	**2.47**	**69**	*e*Pn	**Pn**	**00 16 01.2**	**+0.8**
DALY	**Dalyan (Mu˘la**	**2.49**	**136**	*e*PN	**Pn**	**00 16 01.6**	**+1.0**
DALY	**Dalyan (Mu˘la**	**2.49**	**136**	*e*Pn	**Pn**	**00 16 01.6**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.55**	**46**	*e*PN	**Pn**	**00 16 02.4**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.55**	**46**	*e*Pn	**Pn**	**00 16 02.4**	**+0.9**
RDO	**Rodhopi**	**2.63**	**344**	P	**Pn**	**00 16 02.8**	**+0.3**
RDO				S	**Sn**	**00 16 35.3**	**+0.7**
RDO	**Rodhopi**	**2.63**	**344**	*e*PN	**Pn**	**00 16 03.0**	**+0.5**
RDO	**Rodhopi**	**2.63**	**344**	P	**Pn**	**00 16 02.8**	**+0.3**
RDO				S	**Sn**	**00 16 35.3**	**+0.7**
ARMT	**Armutlu**	**2.68**	**43**	*e*PN	**Pn**	**00 16 04.0**	**+0.8**
ARMT	**Armutlu**	**2.68**	**43**	*e*Pn	**Pn**	**00 16 04.0**	**+0.8**
ALT	**Altintas**	**2.87**	**80**	*e*PN	**Pn**	**00 16 06.3**	**+0.4**
ALT	**Altintas**	**2.87**	**80**	*e*Pn	**Pn**	**00 16 06.3**	**+0.4**
EDRB	**Edirne**	**3.23**	**4**	*e*PN	**Pn**	**00 16 11.0**	**+0.2**
EDRB	**Edirne**	**3.23**	**4**	*e*Pn	**Pn**	**00 16 11.0**	**+0.2**
ELL	**Elmali**	**3.30**	**123**	*e*PN	**Pn**	**00 16 13.0**	**+1.1**
ELL	**Elmali**	**3.30**	**123**	*e*Pn	**Pn**	**00 16 13.0**	**+1.1**
MDUB	**Mudurnu**	**4.09**	**62**	*e*PN	**Pn**	**00 16 24.2**	**+1.5**
MDUB	**Mudurnu**	**4.09**	**62**	*e*Pn	**Pn**	**00 16 24.2**	**+1.5**
STON	**Ston**	**7.90**	**305**	Sg	**Sg**	**00 19 31.7**	**-1.5**

PRU 14 00:42:09.8, 50.08N×18.42E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.30**	**216**	*e*PG	Pg	00 42 15.7	+0.1
OKC				*e*SG	Sg	00 42 19.3	-0.2
	comp=Z,5.3nm,0.5s						
CHZP	**Chorzow**	**0.42**	**60**	*e*Pg	Pn	00 42 23.6	+0.4
CHZP				*e*Sg	Sg	00 42 24.7	+1.2
OJC	**Ojcow**	**0.90**	**81**	*e*Pg	Pn	00 42 32.0	+2.3
OJC				*e*Sg	Sg	00 42 39.3	+0.6
KRLC	**Kraliky**	**1.06**	**270**	*e*PG	Pg	00 42 29.3	-0.8
KRLC				*e*SG	Sg	00 42 43.8	-0.1
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*PG	Pg	00 42 35.2	-1.1
DPC				*e*SG	Sg	00 42 53.9	-0.2

PRU 14 00:42:22.2, 50.22N×18.98E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.66**	**235**	*e*SG	Sg	00 42 43.7	+0.3
KRLC	**Kraliky**	**1.42**	**265**	*e*SG	Sg	00 43 07.7	-0.4
DPC	**Dobruska-Polom**	**1.71**	**275**	*e*SG	Sb	00 43 16.9	+0.2

IGQ 14 00:44:20±0.3, 1.77S×77.28W, h3km±77km, Mb4.0, 6C-8D, Error ellipse: s-maj=1.7km s-min=1.2km az=12.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BULB	**Ulba Tungurahu**	**1.18**	**286**	⇓S	Sg	00 44 57.1	-1.7
BULB	**Ulba Tungurahu**	**1.18**	**286**	⇓P	Pg	00 44 42.0	-1.1
BPAT	**Tungurahua Vol**	**1.18**	**283**	S	Sg	00 44 58.1	-1.1
BPAT	**Tungurahua Vol**	**1.18**	**283**	P	Pg	00 44 42.3	-1.1
BRUN	**Tungurahua Vol**	**1.18**	**287**	⇑S	Sg	00 44 58.5	-0.4
BRUN	**Tungurahua Vol**	**1.18**	**287**	⇑P	Pb	00 44 43.5	-0.1
JUI6	**Juive**	**1.24**	**286**	⇑P	Pg	00 44 44.0	-0.2
PISA	**Pisayambo**	**1.31**	**302**	⇑P	Pg	00 44 45.9	0.0
IGUA	**Igualata**	**1.39**	**281**	⇓P	Pn	00 44 46.3	-0.7
TAMB	**Tambo**	**1.52**	**314**	P	Pb	00 44 49.5	-0.1
COV1	**Cotopaxi Volc**	**1.53**	**316**	P	Pg	00 44 51.0	+0.8
COV1	**Cotopaxi Volc**	**1.53**	**316**	S	Sg	00 45 12.2	+1.5
BTAM	**Cotopaxi Volca**	**1.56**	**314**	⇓S	Sg	00 45 11.8	+0.4
BTAM	**Cotopaxi Volca**	**1.56**	**314**	⇓P	Pn	00 44 49.3	-0.1
MOV1	**Cotopaxi Vol s**	**1.56**	**312**	P	Pn	00 44 49.2	-0.3
BMOR	**Cotopaxi Volca**	**1.57**	**311**	⇓P	Pn	00 44 49.4	-0.1
BMOR	**Cotopaxi Volca**	**1.57**	**311**	⇓S	Sg	00 45 12.0	+0.3
ANTI	**Antisana**	**1.58**	**326**	P	Pn	00 44 49.9	+0.1
BVC2	**Cotopaxi Volca**	**1.58**	**314**	S	Sg	00 45 12.0	-0.1
BVC2	**Cotopaxi Volca**	**1.58**	**314**	P	Pb	00 44 50.7	0.0
VC1	**Cotopaxi 1**	**1.59**	**315**	⇓P	Pb	00 44 50.8	+0.1
BREF	**Cotopaxi Volca**	**1.59**	**313**	S	Sg	00 45 12.9	+0.2
BREF	**Cotopaxi Volca**	**1.59**	**313**	P	Pn	00 44 50.0	+0.1
NAS2	**Nasa**	**1.63**	**313**	P	Pg	00 44 51.8	-0.2
CAMI	**Rancho Maria**	**1.64**	**311**	P	Pb	00 44 51.7	+0.2
LAV4	**Lava4-Reventad**	**1.70**	**348**	P	Pn	00 44 51.0	0.0
LAV4	**Lava4-Reventad**	**1.70**	**348**	S	Sg	00 45 16.7	+1.3
CHAR	**Charly**	**1.71**	**347**	P	Pb	00 44 52.6	-0.2
CONE	**Cono NE Rev Vo**	**1.73**	**348**	S	Sg	00 45 17.0	+0.7
CONE	**Cono NE Rev Vo**	**1.73**	**348**	P	Pb	00 44 52.5	-0.3
PAST	**Pastocalle**	**1.73**	**308**	P	Pg	00 44 53.7	-0.1
PAST	**Pastocalle**	**1.73**	**308**	S	Sg	00 45 17.4	+0.7
CAYR	**Refugio Cayamb**	**1.92**	**338**	P	Pb	00 44 56.0	-0.5
CAYR	**Refugio Cayamb**	**1.92**	**338**	S	Sb	00 45 21.1	-0.2
ANGU	**Angureal**	**1.94**	**338**	P	Pb	00 44 56.8	-0.1
ANGU	**Angureal**	**1.94**	**338**	S	Sb	00 45 22.4	+0.2
CAYA	**Cayambe**	**1.96**	**339**	P	Pb	00 44 56.7	-0.4
JUA2	**San Juan 2**	**2.04**	**319**	P	Pb	00 44 57.5	-0.8
JUA2	**San Juan 2**	**2.04**	**319**	S	Sb	00 45 25.4	+0.9
GGP	**Refugio Guagua**	**2.06**	**320**	⇑P	Pb	00 44 58.0	-0.8
GGP	**Refugio Guagua**	**2.06**	**320**	⇑S	Sb	00 45 26.4	+1.0
TERV	**Terraza Guagua**	**2.06**	**320**	P	Pb	00 44 58.3	-0.6
PINO	**Pino**	**2.08**	**320**	P	Pb	00 44 58.3	-0.9

IDC ***14*** *00:51:58.2±1.9, 29.93N×50.25E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.6/33, mbtmp3.6/14, ML3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/44, Error ellipse: s-maj=41.7km s-min=17.7km az=164.0*
ISCJB ***14*** *00:51:58.8±0.4, 29.65N±0.03×50.28E±0.04, h25km, mb3.5/11, Error ellipse: s-maj=6.1km s-min=4.3km az=142.4*
THR ***14*** *00:51:59.3±0.5, 29.73N×50.46E, h15km, ML3.8*
CSEM ***14*** *00:52:00.9±0.2, 29.74N×50.53E, h10km, ML3.6, Error ellipse: s-maj=5.5km s-min=3.8km az=76.0*
TEH ***14*** *00:52:01.3, 29.78N×50.50E, h5km, ML3.6*
DSN ***14*** *00:52:07.4±8.3, 29.64N×51.27E, h10km, mb3.7/6, Ms4.2/6, Error ellipse: s-maj=89.9km s-min=28.0km az=134.0*

ISC 14 00:51:60.0±0.6, 29.67N±0.05×50.41E±0.04, h25km, n87, σ1.65/81, mb3.6/11, 2C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**1.83**	**90**	*e*Sg	**Sb**	**00 52 56.2**	**+0.6**
IPAR	**Pars**	**2.30**	**85**	*e*Pn	**Pn**	**00 52 39.0**	**+2.3**
IPAR				*e*		00 53 27.7	
	comp=Z,5μm,0.6s						
IPAR	**Pars**	**2.30**	**85**	*e*Pn	**Pn**	**00 52 39.0**	**+2.3**
ISRV	**Sarvestan**	**2.38**	**96**	*e*Pn	**Pn**	**00 52 40.1**	**+2.4**
ISRV				*e*		00 53 39.3	
	comp=Z,10μm,0.7s						
ISRV	**Sarvestan**	**2.38**	**96**	*e*Pn	**Pn**	**00 52 40.1**	**+2.4**
KFJS		**2.62**	**236**	S	**Sb**	**00 53 18.7**	**+0.8**
	baz=236						
KFJS		**2.62**	**236**	P	**Pb**	**00 52 44.9**	**-1.2**
	baz=236						
KFJS		**2.62**	**236**	P	**Pb**	**00 52 45.0**	**-1.2**
KFJS				S	**Sb**	**00 53 19.0**	**+1.1**
GHIR	**Ghir-Karzin**	**2.65**	**121**	*e*Pn	**Pn**	**00 52 43.5**	**+2.2**
	comp=Z,499nm,0.6s						
GHIR	**Ghir-Karzin**	**2.65**	**121**	*e*Pn	**Pn**	**00 52 43.5**	**+2.2**
GHIR				AML	AML	00 53 34.7	
	comp=N,321nm,0.4s						
GHIR				AML	AML	00 53 39.2	
	comp=E,499nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.79**	**331**	*e*Pn	**Pn**	**00 52 45.0**	**+1.9**
	comp=E,475nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.79**	**331**	*e*Pn	**Pn**	**00 52 45.0**	**+1.9**
SHGR				AML	AML	00 53 42.8	
	comp=N,480nm,0.5s						
SHGR				AML	AML	00 53 52.6	
	comp=E,475nm,0.6s						
IPIR	**Pirpir**	**3.03**	**8**	*e*Pn	**Pn**	**00 52 48.5**	**+1.8**
IPIR				*e*		00 53 39.7	
	comp=Z,1μm,0.3s						
IPIR	**Pirpir**	**3.03**	**8**	*e*Pn	**Pn**	**00 52 48.5**	**+1.8**
ISAD	**Sadrabad**	**3.60**	**51**	*e*Pn	**Pn**	**00 52 56.0**	**+1.5**
ISAD				*e*		00 52 57.7	
	comp=Z,1μm,0.1s						
ISAD	**Sadrabad**	**3.60**	**51**	*e*Pn	**Pn**	**00 52 56.0**	**+1.5**
IZEF	**Zefreh**	**3.61**	**27**	*e*Pn	**Pn**	**00 52 56.3**	**+1.7**
IZEF				*e*		00 53 48.2	
	comp=Z,413nm,0.2s						
IZEF	**Zefreh**	**3.61**	**27**	*e*Pn	**Pn**	**00 52 56.3**	**+1.7**
NASN	**Na'in**	**3.74**	**33**	*e*Pn	**Pn**	**00 52 57.7**	**+1.3**
NASN	**Na'in**	**3.74**	**33**	*e*Pn	**Pn**	**00 52 57.7**	**+1.3**
IKLH	**Kolahrood**	**3.77**	**15**	*e*Pn	**Pn**	**00 52 58.4**	**+1.6**
IKLH				*e*		00 53 44.4	
	comp=Z,660nm,0.1s						
IKLH	**Kolahrood**	**3.77**	**15**	*e*Pn	**Pn**	**00 52 58.4**	**+1.6**
BOQSS		**3.90**	**194**	P	Pn	00 53 02.7	+4.4
	baz=197						
BOQSS		**3.90**	**194**	P	Pb	00 53 03.0	-5.0
IMEH	**Mehriz**	**4.01**	**64**	*e*	Pn	00 53 04.1	+4.0
	comp=Z,833nm,0.1s						
IMEH				*e*Pn	**Pn**	**00 52 02.1**	**+2.0**
QAM	**Ghamsar**	**4.17**	**12**	*e*		00 53 56.9	
	comp=Z,1μm,0.2s						
QAM				*e*Pn	Pn	00 53 06.0	+3.8
ICHK	**Chekchek**	**4.29**	**52**	*e*		00 53 07.9	
	comp=Z,710nm,0.1s						
ICHK				*e*Pn	**Pn**	**00 53 04.8**	**+0.9**
IBAF	**Bafgh**	**4.84**	**65**	*e*Pn	**Pn**	**00 53 12.3**	**+0.9**
IBAF				*e*		00 53 13.6	
	comp=Z,473nm,0.1s						
IBAF	**Bafgh**	**4.84**	**65**	*e*Pn	**Pn**	**00 53 12.3**	**+0.9**
SLWS		**4.86**	**177**	P	Pn	00 53 15.6	+4.1
	baz=181						
SLWS		**4.86**	**177**	P	Pn	00 53 16.0	+4.5

ASAO	**Ashtian**	**4.87**	**356**	*e*Pn		**Pn**	**00 53 14.1**	**+2.1**
	comp=Z,37nm,0.5s							
ASAO	**Ashtian**	**4.87**	**356**	*e*Pn		**Pn**	**00 53 14.1**	**+2.1**
ASAO				AML		AML	00 54 12.5	
	comp=N,37nm,0.5s							
IBDR	**Badra**	**5.14**	**313**	*e*PN4		**Pb**	**00 53 28.1**	**-1.0**
IBDR				*e*SN4		Sb	00 54 24.8	-5.7
IVRN	**Varamin**	**5.43**	**12**	*e*Pn		**Pn**	**00 53 20.6**	**+1.2**
IVRN				*e*			00 53 46.5	
	comp=Z,354nm,0.2s							
IVRN	**Varamin**	**5.43**	**12**	*e*Pn		**Pn**	**00 53 20.6**	**+1.2**
KRBR	**Kerman**	**5.53**	**85**	*e*Pn		**Pn**	**00 53 23.0**	**+2.0**
	comp=Z,41nm,0.6s							
KRBR	**Kerman**	**5.53**	**85**	*e*Pn		**Pn**	**00 53 23.0**	**+2.0**
KRBR				AML		AML	00 54 29.4	
	comp=E,29nm,0.8s							
KRBR				AML		AML	00 54 30.3	
	comp=N,41nm,0.6s							
BTHS		**5.62**	**176**	P		Pn	00 53 25.3	+3.4
	baz=178							
BTHS		**5.62**	**176**	P		Pn	00 53 25.0	+3.1
IRAZ	**Razeghan**	**5.73**	**356**	*e*Pn		**Pn**	**00 53 25.4**	**+1.7**
IRAZ				*e*			00 54 53.2	
	comp=Z,283nm,0.3s							
IRAZ	**Razeghan**	**5.73**	**356**	*e*Pn		**Pn**	**00 53 25.4**	**+1.7**
IDMV	**Damavand**	**6.05**	**13**	*e*Pn		**Pn**	**00 53 29.1**	**+1.0**
IDMV				*e*			00 53 44.7	
	comp=Z,253nm,0.2s							
IDMV	**Damavand**	**6.05**	**13**	*e*Pn		**Pn**	**00 53 29.1**	**+1.0**
IDHR	**Dehrash**	**6.06**	**327**	*e*Pn		**Pn**	**00 53 30.1**	**+1.9**
IDHR				*e*			00 54 43.9	
	comp=Z,1μm,0.2s							
IDHR	**Dehrash**	**6.06**	**327**	*e*Pn		**Pn**	**00 53 30.1**	**+1.9**
ILAS	**Lasjerd**	**6.09**	**20**	*e*Pn		**Pn**	**00 53 29.7**	**+1.1**
ILAS	**Lasjerd**	**6.09**	**20**	*e*Pn		**Pn**	**00 53 29.7**	**+1.1**
IFIR	**Firoozkooh**	**6.27**	**18**	*e*Pn		**Pn**	**00 53 32.2**	**+1.0**
IFIR				*e*			00 54 04.3	
	comp=Z,126nm,0.2s							
IFIR	**Firoozkooh**	**6.27**	**18**	*e*Pn		**Pn**	**00 53 32.2**	**+1.0**
BHD	**Baghdad**	**6.28**	**306**	*e*PN4		Pn	00 53 40.6	+10
BHD				*e*SN4		Sn	00 54 49.6	+7.7
BANOM	**Banah**	**6.42**	**124**	P

SKR					AMB	AMB	01 19 31.3		
	comp=E,19nm,0.5s								
SKR					*e*S	**Sn**	**01 20 12.5**	**-3.7**	
SKR					A	A	01 20 32.0		
	comp=E,100nm,0.3s								
SKR					A	A	01 20 32.0		
	comp=E,160nm,0.3s								
KUR	**Kuril'sk**	**4.02**	**240**		PN	**Pn**	**01 19 31.5**	**-0.1**	
KUR					S	**Sn**	**01 20 18.0**	**+0.6**	
KUR					pmax	pmax			
	comp=Z,170nm,0.9s								
KUR					smax	smax			
	comp=N,190nm,0.5s								
KUR					smax	smax			
	comp=E,370nm,1.0s								
KUR	**Kuril'sk**	**4.02**	**240**	*e*P		**Pn**	**01 19 32.0**	**+0.4**	
KUR					AMB	AMB	01 19 38.0		
	comp=E,170nm,0.9s								
KUR					*e*S	**Sn**	**01 20 16.0**	**-1.4**	
KUR					A	A	01 20 27.0		
	comp=E,190nm,0.5s								
KUR					A	A	01 20 27.0		
	comp=E,370nm,0.5s								
PAU	**Pauzhetka**	**4.87**	**31**	*e*P		Pn	01 19 48.1	+4.9	
PETK	**Petropavlovsk-**	**6.55**	**27**	PN		Pn	01 20 10.5	+4.2	
PETK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**6.55**	**27**	P		Pn	01 20 10.4	+4.2	
	comp=Z,0.6nm,0.3s,baz=194,slow=16,SNR=3.9								
YSS	**Yuzh-Sakhalins**	**6.85**	**270**	*e*PN		**Pn**	**01 20 13.0**	**+2.7**	
YSS	**Yuzh-Sakhalins**	**6.85**	**270**	*e*P		**Pn**	**01 20 13.0**	**+2.7**	
TYV	**Tymovskoe**	**7.50**	**301**	*e*P		Pn	01 20 23.0	+3.7	
TYV					AMB	AMB	01 20 24.2		
	comp=Z,13nm,0.8s								
TYV					AMB	AMB	01 20 24.2		
	comp=Z,11nm,0.8s								
ASAJ	**Asahikawa**	**7.83**	**249**	P		**Pn**	**01 20 23.9**	**+0.1**	
	comp=Z,0.3nm,0.3s,baz=101,slow=16,SNR=2.3								
MYR	**Moyori**	**8.44**	**236**	*e*P		**Pn**	**01 20 29.2**	**-3.0**	
EKMR	**Ekimchan**	**13.90**	**302**	*e*P		**Pn**	**01 21 45.5**	**-1.0**	
EKMR					AMB	AMB	01 21 54.5		
	comp=Z,4.0nm,0.5s								
FX1	**Attu Island--F**	**14.17**	**60**	P		**Pn**	**01 21 51.5**	**+1.3**	
	comp=Z,1.6nm,0.3s,baz=270,slow=20,SNR=3.3								
FX1					S	Sn	01 24 16.4	-9.2	
	comp=Z,1.0nm,0.3s,baz=327,slow=16,SNR=2.7								
USRK	**Ussuriysk Arra**	**14.84**	**265**	P		**Pn**	**01 21 58.9**	**-0.1**	
	comp=Z,0.4nm,0.3s,baz=70,slow=13,SNR=6.8								
MJAR	**Matsushiro Arr**	**15.29**	**230**	P		**Pn**	**01 22 06.2**	**+1.4**	
	comp=Z,0.6nm,0.3s,baz=45,slow=8.7,SNR=4.9								
BMKR	**Bomnak**	**16.69**	**305**	*e*P		**Pn**	**01 22 21.5**	**-1.0**	
BMKR					AMB	AMB	01 22 24.5		
	comp=Z,1.0nm,0.5s								
KROS	**Kirovskiy**	**17.68**	**303**	*e*P		**Pn**	**01 22 34.0**	**-0.6**	
KROS					AMB	AMB	01 22 34.5		
	comp=Z,3.0nm,0.5s								
KSRS	**Korea Array**	**20.78**	**251**	P		**P**	**01 23 07.8**	**-1.0**	
	comp=Z,1.9nm,0.5s,baz=53,slow=11,SNR=6.0								
H11N2	**WAKE ISLAND Hy**	**29.88**	**153**	T		T	01 56 10.3		
	baz=343,slow=76,SNR=327								
H11N1	**WAKE ISLAND Hy**	**29.89**	**153**	T		T	01 56 13.5		
	baz=343,slow=76,SNR=312								
H11N3	**WAKE ISLAND Hy**	**29.89**	**153**	T		T	01 56 13.0		
	baz=343,slow=76,SNR=261								
SONM	**Songino Array**	**30.92**	**288**	P		**P**	**01 24 44.7**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=92,slow=7.4,SNR=5.3								
H11S1	**WAKE ISLAND Hy**	**30.97**	**154**	T		T	01 57 32.1		
	baz=345,SNR=593								
H11S3	**WAKE ISLAND Hy**	**30.97**	**154**	T		T	01 57 31.5		
	baz=345,SNR=483								
H11S2	**WAKE ISLAND Hy**	**30.98**	**154**	T		T	01 57 30.9		
	baz=345,SNR=438								
ILAR	**Eielson Array**	**36.21**	**39**	P		**P**	**01 25 31.0**	**+1.5**	
	comp=Z,1.7nm,1.1s,baz=268,slow=5.7,SNR=12								
INK	**Inuvik**	**41.25**	**33**	P		**P**	**01 26 12.9**	**+1.3**	
	comp=Z,1.8nm,0.6s,baz=276,slow=6.6,SNR=8.2								
ZALV	**Zalesovo Beam**	**42.06**	**305**	PcP		**PcP**	**01 28 11.6**	**-0.7**	
	comp=Z,0.8nm,0.3s,baz=66,slow=3.6,SNR=7.4								
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**01 26 53.1**	**-0.6**	
MKAR							01 28 26.2		
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MKAR					MLR	MLR			
	comp=Z,15nm,28.6s								
MKAR	**Makanchi Array**	**46.45**	**297**	P		**P**	**01 26 53.1**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=56,slow=6.6,SNR=6.7								
MKAR					PcP	**PcP**	**01 28 26.2**	**-1.3**	
	comp=Z,0.7nm,0.5s,baz=66,slow=3.3,SNR=13								
MKAR					LR	LR	01 47 40.9		
	comp=Z,22nm,18.6s,baz=64,slow=38								
KURK	**Kurchatov**	**46.83**	**303**	P		**P**	**01 26 56.0**	**-0.5**	
KURK							01 28 27.7		
KURK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**46.92**	**303**	P		**P**	**01 26 56.0**	**-1.3**	
	comp=Z,0.5nm,0.7s,baz=67,slow=8.5,SNR=6.0								
KURBB					PcP	**PcP**	**01 28 27.7**	**-1.3**	
	comp=Z,0.3nm,0.5s,baz=69,slow=3.7,SNR=6.0								
YKA	**Yellowknife Ar**	**50.56**	**37**	P		**P**	**01 27 26.2**	**+1.3**	
	comp=Z,0.5nm,0.6s,baz=298,slow=7.1,SNR=12								
YKA					PcP	**PcP**	**01 28 41.6**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=303,slow=3.6,SNR=7.5								
ARCES	**ARCESS Array B**	**57.19**	**341**	P		**P**	**01 28 13.5**	**+0.2**	
	comp=Z,2.8nm,0.8s,baz=26,slow=7.1,SNR=3.3								
ARCES					PcP	**PcP**	**01 29 06.9**	**-0.2**	
	comp=Z,4.0nm,1.1s,baz=58,slow=2.2,SNR=5.0								
SUMG	**Summit**	**60.10**	**4**	*i* P		**P**	**01 28 34.8**	**+1.0**	
SUMG					pmax	pmax			
	comp=Z,5.0nm,0.9s								
SUMG	**Summit**	**60.10**	**4**	*i* P		**P**	**01 28 34.8**	**+1.0**	
	comp=Z,5.4nm,0.9s								
NVAR	**Mina Array Bea**	**62.35**	**62**	P		**P**	**01 28 49.9**	**+0.4**	
	comp=Z,0.9nm,0.7s,baz=296,slow=6.9,SNR=6.0								
NVAR					LR	LR	01 54 04.6		
	comp=Z,35nm,19.5s,baz=226,slow=34								
FINES	**FINESS Array B**	**63.38**	**334**	P		**P**	**01 28 54.6**	**-0.9**	
	comp=Z,1.4nm,0.3s,baz=37,slow=6.5,SNR=31								
PDAR	**Pinedale Array**	**64.56**	**54**	P		**P**	**01 29 04.3**	**+0.4**	
	comp=Z,1.0nm,0.7s,baz=304,slow=1.4,SNR=8.2								
PDAR					LR	LR	01 57 29.5		
	comp=Z,49nm,20.0s,baz=112,slow=36								
NB2	**NORSAR Subarra**	**67.57**	**341**	P		**P**	**01 29 22.8**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**67.57**	**341**	P		**P**	**01 29 22.4**	**-0.3**	
	comp=Z,0.9nm,0.5s,baz=28,slow=6.2,SNR=13								
WRA	**Warramunga Arr**	**69.03**	**199**	P		P	01 29 28.5	-3.7	
	comp=Z,0.6nm,0.9s,baz=14,slow=6.9,SNR=4.1								
AKASG	**Malin Array Be**	**70.90**	**326**	P		**P**	**01 29 42.9**	**-0.5**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	**70.90**	**326**	P		**P**	**01 29 42.9**	**-0.5**	
	comp=Z,0.9nm,0.3s,baz=34,slow=6.1,SNR=6.8								
ASAR	**Alice Springs**	**72.73**	**198**	P		**P**	**01 29 52.9**	**-1.7**	
	comp=Z,0.5nm,0.4s,baz=20,slow=6.5,SNR=6.9								
SCHQ	**Schefferville**	**72.82**	**23**	P		**P**	**01 29 55.2**	**+0.4**	
	comp=Z,1.4nm,0.4s,baz=302,slow=9.5,SNR=5.3								
VRAC	**Vranov**	**76.49**	**332**	LR		LR	02 07 00.9		
	comp=Z,40nm,18.5s,baz=317,slow=38								
TXAR	**Lajitas Array**	**77.39**	**60**	P		**P**	**01 30 21.9**	**+0.2**	
	comp=Z,2.6nm,0.5s,baz=297,slow=4.8,SNR=61								
BRTR	**Keskin Array B**	**77.78**	**316**	P		**P**	**01 30 25.0**	**+1.2**	
	comp=Z,0.3nm,0.7s,baz=85,slow=6.2,SNR=2.7								
TORD	**Torodi Ar. Bea**	**114.44**	**329**	PKP		PKPdf	01 37 04.2	-2.3	
	comp=Z,0.5nm,0.9s,baz=23,slow=1.7,SNR=7.6								
H03N2	**Juan Fernandez**	**138.98**	**89**	T		T	04 12 53.9		
	baz=306,slow=75,SNR=37								
H03N1	**Juan Fernandez**	**138.99**	**89**	T		T	04 12 58.0		
	baz=306,slow=75,SNR=32								
H03N3	**Juan Fernandez**	**138.99**	**89**	T		T	04 12 54.6		
	baz=306,slow=75,SNR=42								

JMA 14 01:19:18.2±0.2, 39.25N×138.35E, h0km, M3.5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JTB	**Tobi-shima**	**0.94**	**93**	P		Pg	01 19 36.4		+0.2
JTB				*e*S		Sg	01 19 49.2		+0.8
JAW	**Awa shima**	**1.06**	**138**	P		Pg	01 19 38.8		+0.3
JAW				*e*S		Sb	01 19 53.6		-0.2
JSD	**Sado**	**1.21**	**183**	P		Pb	01 19 42.0		0.0
JSD				*e*S		Sb	01 19 58.3		+0.1
JYA	**Atsumi**	**1.25**	**121**	*e*S		Sb	01 19 59.3		0.0
JOG2	**Oga 2**	**1.30**	**59**	P		Pg	01 19 43.1		0.0
JOG2				*e*S		Sb	01 20 01.0		+0.3
JYK	**Kaneyama**	**1.60**	**101**	P		Pn	01 19 45.4		-2.3
JYK				*e*S		Sb	01 20 09.3		-0.1
JNS	**Sasagawa**	**1.62**	**152**	*e*S		Sg	01 20 10.4		+0.2
JYS	**Shirataka**	**1.69**	**127**	*e*S		Sn	01 20 10.8		-0.6
JRG	**Rokugo**	**1.78**	**85**	P		Pn	01 19 48.4		-1.8
JIW	**Iwasaki**	**1.85**	**43**	P		Pn	01 19 50.8		-0.4
JIW				*e*S		Sn	01 20 15.6		+0.3

*ISCJB **14** 01:32:13.8±0.6, 18.62N±0.10×72.48W±0.09, h13km, mb3.2/6, MS3.3/3, Error ellipse: s-maj=15.9km s-min=9.6km az=33.4*
*IDC **14** 01:32:13.2±1.1, 18.67N×72.29W, h0km, mb3.3/6, mb1 3.8/9, mb1mx3.7/28, mbtmp3.6/9, ML3.3/3, MS3.3/5, Ms1 3.4/5, ms1mx3.1/21, Error ellipse: s-maj=34.9km s-min=21.9km az=49.0*
ISC 14 01:32:15.7±0.7, 18.6N±0.1×72.5W±0.1, h13km, n14, σ1s16/11, mb3.3/6, MS3.3/3, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MLG	**Mont-d'or**	**10.61**	**102**	*e*P		**Pn**	**01 34 48.5**	**+0.9**	
FNG	**Fond-Bernard**	**10.64**	**102**	*e*P		**Pn**	**01 34 49.2**	**+1.3**	
ROSC	**El Rosal**	**13.80**	**188**	Pn		**Pn**	**01 35 31.3**	**-0.2**	
	1.9nm,0.3s,baz=90,slow=19,SNR=2.9								
TEIG	**Tepich**	**14.97**	**279**	Pn		**Pn**	**01 35 47.2**	**+0.2**	
	0.3nm,0.3s,baz=124,slow=3.6,SNR=2.3								
APG	**El Apazote**	**17.57**	**261**	LR		LR	01 43 01.4		
	comp=Z,83nm,18.9s,baz=98,slow=36								
TKL	**Tuckaleechee C**	**19.68**	**332**	P		**Pn**	**01 36 46.5**	**+0.5**	
	0.1nm,0.3s,baz=172,slow=19,SNR=2.1								
TKL				LR		LR	01 45 09.7		
	comp=Z,70nm,18.9s,baz=188,slow=39								
PTGA	**Pitinga**	**22.84**	**146**	P		**P**	**01 37 18.5**	**-0.3**	
	2.4nm,0.7s,baz=315,slow=20,SNR=4.3								
PTGA				LR		LR	01 45 35.3		
	comp=Z,65nm,20.5s,baz=328,slow=35								
TXAR	**Lajitas Array**	**30.32**	**296**	P		**P**	**01 38 26.9**	**-0.2**	
	0.1nm,0.7s,baz=99,slow=9.0,SNR=2.6								
LPAZ	**La Paz**	**34.96**	**173**	LR		LR	01 55 10.3		
	comp=Z,48nm,18.9s,baz=58,slow=39								
SCHQ	**Schefferville**	**36.40**	**6**	LR		LR	01 52 24.3		
	comp=Z,98nm,18.6s,baz=10,slow=33								
PDAR	**Pinedale Array**	**39.46**	**316**	P		**P**	**01 39 46.9**	**+0.8**	
	0.3nm,0.8s,baz=112,slow=9.8,SNR=2.2								
YKA	**Yellowknife Ar**	**52.57**	**337**	P		**P**	**01 41 27.8**	**-0.9**	
	0.3nm,0.8s,baz=117,slow=6.9,SNR=6.2								
ILAR	**Eielson Array**	**66.66**	**333**	P		**P**	**01 43 07.0**	**+1.1**	
	0.4nm,1.0s,baz=90,slow=5.4,SNR=2.8								
GERES	**GERESS Array B**	**73.75**	**43**	P		**P**	**01 43 47.5**	**-2.3**	
	0.3nm,0.8s,baz=282,slow=4.9,SNR=2.7								

IDC 14 01:34:50.5±1.9, 3.58S×139.92E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.5/16, mbtmp3.6/3, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=200.9km s-min=31.2km az=109.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
WRA	**Warramunga Arr**	**17.15**	**198**	P		P	01 38 53.1		-0.4
	0.3nm,0.3s,baz=18,slow=12,SNR=14								
ASAR	**Alice Springs**	**20.79**	**196**	P		P	01 39 32.8		-0.8
	0.8nm,0.8s,baz=32,slow=10,SNR=6.4								
ASAJ	**Asahikawa**	**47.55**	**3**	LR		LR	02 02 57.4		
	comp=Z,30nm,19.4s,baz=30,slow=36								
ILAR	**Eielson Array**	**86.13**	**24**	P		P	01 47 33.3		0.0
	0.5nm,0.6s,baz=250,slow=4.9,SNR=8.0								

*BYKL **14** 01:52:15.3±0.6, 50.02N×119.42E*
MOS 14 01:52:14.2±1.8, 50.04N×119.39E, h10km, mb4.4/1, 7C-2D, Error ellipse: s-maj=24.8km s-min=9.6km az=108.6, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
HIA	**Hailar**	**0.81**	**163**	⇑*i* Pg		Pg	01 52 29.6		-0.2
HIA				*e*			01 52 37.4		
HIA				*i* Sg		Sg	01 52 40.0		-0.4
CIT	**Chita**	**4.18**	**301**	*e*PN		Pn	01 53 19.0		+0.9
CIT				*e*			01 53 30.8		
CIT				*e*			01 54 22.8		
CIT				pmax	pmax				
	comp=Z,74nm,0.2s								
CIT				smax	smax				
	comp=E,256nm,0.4s								
CIT	**Chita**	**4.18**	**301**	*e*Pg		Pb	01 53 29.5		+1.5
CIT				Pmax			01 53 31.5		
	comp=E,54nm,0.3s								
CIT				*e*			01 53 34.7		
CIT				*e*Sg		Sb	01 54 23.6		+5.0
CIT				Smax			01 54 30.1		
	comp=E,258nm,0.3s								
TUP	**Tupik**	**4.41**	**4**	*e*PN		Pn	01 53 21.5		+0.4
TUP				*e*			01 53 33.4		
TUP				*e*S		Sn	01 54 13.3		+0.8
TUP				*e*			01 54 32.9		
TUP				pmax	pmax				
	comp=Z,14nm,0.5s								
TUP				smax	smax				
	comp=E,333nm,0.9s								
TUP	**Tupik**	**4.41**	**4**	⇑*i* Pn		Pn	01 53 21.5		+0.4
TUP				*e*			01 53 27.5		
TUP				*e*Pg		Pb	01 53 34.7		+3.0
TUP				Pmax			01 53 40.9		
	comp=E,10.0nm,0.4s								
TUP				*e*Sn		Sn	01 54 13.1		+0.6
TUP				*e*Sg		Sg	01 54 33.1		-2.6
TUP				Smax			01 54 35.0		
	comp=E,331nm,0.9s								
KPC	**Khapcheranga**	**4.55**	**268**	*e*PN		Pn	01 53 23.9		+0.7
KPC				*e*			01 53 36.2		
KPC				*e*			01 54 34.1		
KPC				pmax	pmax				
	comp=Z,31nm,0.4s								
KPC				smax	smax				
	comp=N,121nm,0.8s								
KPC	**Khapcheranga**	**4.55**	**268**	⇑*i* Pn		Pn	01 53 23.9		+0.7
KPC				max			01 53 24.2		
	comp=N,31nm,0.4s								
KPC				*e*Pg		Pb	01 53 36.3		+2.1
KPC				*e*Sg		Sb	01 54 34.5		+5.4
KPC				*e*			01 54 40.2		
KPC				max			01 54 40.5		
	comp=N,121nm,1.1s								
TNDR	**Tynda**	**6.06**	**30**	Sg		Sg	01 55 22.8		-5.9
TNDR				*e*			01 55 27.8		
TNDR				*e*			01 55 30.7		
ZEA	**Zeya**	**6.11**	**50**	*e*Pg		Pg	01 54 08.2		-3.0
ZEA				*e*Sg		Sg	01 55 29.8		-0.6
KROS	**Kirovskiy**	**6.40**	**44**	*e*Pg		Pb	01 54 08.5		+2.8
KROS				*e*Sg		Sg	01 55 33.6		-6.1
UKT	**Uakit**	**6.48**	**330**	*e*PN		Pb	01 54 08.7		+1.6
UKT				*e*			01 55 33.4		
UKT				pmax	pmax				
	comp=Z,2.0nm,0.7s								
UKT				smax	smax				
	comp=E,54nm,0.9s								
UKT	**Uakit**	**6.48**	**330**	⇓*i* Pn		Pn	01 53 49.5		-0.2
UKT				*e*Pg		Pb	01 54 10.9		+3.8
UKT				Pmax			01 54 25.2		
	comp=E,3.0nm,0.9s								
UKT				*e*Sn		Sn	01 55 02.5		-1.2
UKT				*e*			01 55 19.8		
UKT				*i* Sg		Sg	01 55 35.1		-7.3
UKT				Smax			01 55 50.6		
	comp=E,137nm,1.3s								
YKLR	**Yuktali**	**6.70**	**11**	*e*		Sb	01 55 25.1		-5.7
YKLR				*e*Sg		Sg	01 55 44.2		-5.0
NLYR	**Nelyaty**	**6.83**	**343**	*e*PN		Pb	01 54 14.4		+1.4
NLYR				*e*S		Sn	01 55 08.4		-3.8
NLYR	**Nelyaty**	**6.83**	**343**	*e*Pn		Pn	01 53 54.6		+0.2
NLYR				*e*Pg		Pb	01 54 17.6		+4.6
NLYR				Pmax			01 54 30.4		
	comp=E,3.0nm,0.4s								
NLYR				*e*Sn		Sn	01 55 09.2		-3.0
NLYR				*e*Sg		Sg	01 55 46.3		-7.1
NLYR				Smax			01 56 03.6		
	comp=E,223nm,0.9s								
SYVR	**Suvo**	**6.85**	**306**	*e*PN		Pn	01 53 54.2		-0.5
SYVR				*e*			01 54 16.3		
SYVR				*e*			01 55 44.9		
SYVR				pmax	pmax				
	comp=Z,6.0nm,0.4s								
SYVR				smax	smax				
	comp=E,93nm,0.8s								
SYVR	**Suvo**	**6.85**	**306**	⇑*i* Pn		Pn	01 53 55.4		+0.7
SYVR				*e*			01 54 05.4		
SYVR				*e*Pg		Pb	01 54 18.6		+5.3
SYVR				Pmax			01 54 24.1		
	comp=E,6.0nm,0.4s								
SYVR				*e*Sn		Sn	01 55 09.7		-3.0
SYVR				*e*Sg		Sg	01 55 47.9		-6.2
SYVR				*e*			01 55 49.6		
SYVR				max			01 55 55.5		
	comp=E,92nm,0.9s								
KHNR	**Khani**	**6.90**	**3**	*e*		Pg	01 54 27.9		+1.5
KHNR				*e*			01 55 13.1		
KHNR				*e*Sg		Sg	01 55 50.7		-5.1
CRS	**Chara**	**6.91**	**355**	*e*Pg		Pb	01 54 18.3		+4.0
CRS				*e*Sn		Sn	01 55 11.5		-2.6
CRS				*e*Sg		Sg	01 55 49.5		-6.3
CRS				Smax			01 56 03.7		
	comp=E,170nm,1.6s								
YLYR	**Ulyunkhan**	**6.98**	**317**	*e*PN		Pn	01 53 56.8		+0.4
YLYR				*e*			01 54 19.2		
YLYR				*e*			01 55 50.3		
YLYR				pmax	pmax				
	comp=Z,21nm,1.1s								
YLYR				smax	smax				
	comp=N,128nm,1.5s								
YLYR	**Ulyunkhan**	**6.98**	**317**	⇑*i* Pn		Pn	01 53 55.4		-1.0
YLYR				*e*			01 54 05.5		
YLYR				*e*Pg		Pb	01 54 18.8		+3.3
YLYR				Pmax			01 54 20.2		
	comp=N,4.0nm,1.0s								
YLYR				*e*Sn		Sn	01 55 13.1		-2.7
YLYR				*i* Sg		Sg	01 55 50.5		-7.7
YLYR				Smax			01 56 02.8		
	comp=N,128nm,1.7s								
IENR	**Iengra**	**7.01**	**26**	*e*Pn		Pn	01 53 58.7		+1.8
IENR				*e*			01 54 06.3		
IENR				*e*Pg		Pb	01 54 20.7		+4.6
IENR				*e*			01 55 11.1		
IENR				*e*			01 55 32.5		
IENR				*e*Sg		Sg	01 55 52.7		-6.6
IENR				*e*			01 56 11.3		
SVKR	**Severomuysk**	**7.03**	**332**	*e*Pg		Pg	01 54 24.4		-4.3
SVKR				*e*Sg		Sg	01 55 56.9		-2.8
SVKR				Smax			01 56 14.4		
	comp=N,245nm,1.3s								
MXMB	**Maximikha**	**7.37**	**300**	*e*		Pn	01 53 59.1		-2.6
MXMB				*e*Pg		Pb	01 54 26.6		+4.5
MXMB				*e*			01 55 26.2		
MXMB				*e*			01 55 43.0		
MXMB				*e*Sg		Sg	01 56 01.8		-8.8
MXMB				Smax			01 56 18.3		
	comp=N,164nm,0.8s								
CLNS	**Chul'man**	**7.56**	**24**	*e*PG		Pb	01 54 29.3		+3.9
CLNS				*e*S		Sg	01 56 06.7		-10
CLNS	**Chul'man**	**7.56**	**24**	*e*		Sb	01 55 52.5		-3.0
CLNS				*e*Sg		Sg	01 56 12.5		-4.2
UUDB	**Ulan-Yde**	**7.63**	**288**	*e*		Sn	01 55 33.8		+1.9
UUDB				*e*Sg		Sg	01 56 13.3		-5.8
UUDB				Smax			01 56 31.4		
	comp=N,132nm,1.5s								
YOA	**Uoyan**	**7.65**	**326**	*e*Sg		Sg	01 56 14.0		-5.6
YOA				Smax			01 56 28.5		
	comp=N,258nm,1.1s								
KMO	**Kumora**	**7.66**	**323**	*e*		Pb	01 54 25.8		-1.3
KMO				*e*			01 54 47.9		
KMO				*e*			01 55 33.6		
KMO				*e*Sg		Sg	01 56 14.4		-5.6
KMO				*e*			01 56 23.9		
KMO				max			01 56 38.3		
	comp=N,153nm,1.3s								
HRMR	**Khuramsha**	**8.03**	**286**	⇑*i* Pn		Pn	01 54 10.7		-0.2
HRMR				max			01 54 12.6		
	comp=N,21nm,0.5s								
HRMR				*e*			01 54 15.1		
HRMR				*e*Pg		Pb	01 54 39.5		+6.0
HRMR				*e*Sn		Sn	01 55 36.8		-5.0
HRMR				*e*Sg		Sg	01 56 23.8		-8.2
HRMR				*e*			01 56 36.0		
HRMR				max			01 56 36.4		
	comp=N,194nm,1.0s								
ZRHB	**Zarechye**	**8.07**	**293**	*e*		Pn	01 54 05.8		-5.7
ZRHB				*e*			01 54 15.6		
ZRHB				*e*Pg		Pb	01 54 41.3		+7.2
ZRHB				Pmax			01 54 47.6		
	comp=N,14nm,0.4s								
ZRHB				*e*			01 55 11.6		
ZRHB				*e*			01 56 00.2		
ZRHB				*e*Sg		Sg	01 56 26.8		-6.4
ZRHB				Smax			01 56 41.0		
	comp=N,317nm,1.4s								
OGRR	**Ongureny**	**8.15**	**301**	*e*PN		Pn	01 54 12.7		+0.3
OGRR				*e*			01 54 40.8		
OGRR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
OGRR	**Ongureny**	**8.15**	**301**	⇑*i* Pn		Pn	01 54 12.3		-0.1
O

PNIG	**Pinotepa**	**0.77**	**307**	*e*P	Pg	01 54 40.5	-2.4
PNIG				*e*S	Sg	01 54 50.1	-3.0
HUIG	**Huatulco**	**1.34**	**96**	*e*P	Pn	01 54 48.8	-3.4
HUIG				*i* S	Sb	01 55 05.0	-4.8
VHO	**Vista Hermosa**	**1.35**	**32**	*i* P	Pn	01 54 48.5	-4.3
VHO				*i* S	Sn	01 55 04.9	-5.9
TLIG	**Tlapa**	**1.93**	**328**	*e*P	Pn	01 54 58.4	-2.2
TLIG				*e*S	Sn	01 55 20.1	-4.9

IDC 14 02:13:28.5±3.0, 31°.01S×178°.15W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/19, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=69.4km s-min=45.1km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.22**	**207**	Pn	Pn	02 15 28.7	-0.3
	0.5nm,0.3s,baz=30,slow=14,SNR=3.3						
URZ				Sn	Sn	02 16 48.7	-14
	0.4nm,0.3s,baz=12,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**42.95**	**268**	P	P	02 21 29.0	-0.5
	0.5nm,0.4s,baz=104,slow=7.0,SNR=7.2						
WRA	**Warramunga Arr**	**43.99**	**273**	P	P	02 21 38.1	+0.2
	1.6nm,0.4s,baz=111,slow=8.1,SNR=53						
FINES	**FINESS Array B**	**145.67**	**340**	PKPbc	PKPdf	02 33 07.6	-0.6
	0.4nm,0.5s,baz=68,slow=0.7,SNR=2.2						

*ISCJB **14** 02:16:12.0±0.8, 52°.28N±0°.04×171°.03E±0°.02, h21km±5km, mb4.6/122, MS3.9/29, Error ellipse: s-maj=6.7km s-min=2.4km az=2.3*

*BJI **14** 02:16:13.0, 52°.39N×171°.43E, h41km, mB5.1/21, mb4.8/34, Ms4.7/19, Ms7 4.5/19*

*MOS **14** 02:16:13.4±1.0, 52°.21N×171°.02E, h33km, mb5.0/33, Error ellipse: s-maj=8.2km s-min=6.1km az=113.7*

*IDC **14** 02:16:14.4±2.2, 52°.16N×171°.19E, h28km±15km, mb4.1/30, mb1 4.3/32, mb1mx4.3/36, mbtmp4.3/32, ML4.1/2, MS3.6/21, Ms1 3.6/21, ms1mx3.5/43, Error ellipse: s-maj=15.3km s-min=7.3km az=159.0*

*NEIC **14** 02:16:15.6±0.3, 52°.21N×171°.15E, h35km, mb4.9/63, ML4.7(AEIC), Error ellipse: s-maj=9.4km s-min=4.0km az=179.0*

*KRSC **14** 02:16:16.8±1.8, 52°.23N±0°.06×170°.96E±0°.03, h47km±2km, ML4.8*

ISC 14 02:16:17.1±0.4, 52°.27N±0°.06×170°.96E±0°.03, h47km±2km, h47km:pP-P,n563,σ1$30/622, mb4.8/123, MS3.8/30, 121C-143D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.48**	**65**	*e*Pn	Pn	02 16 36.0	-5.2
FX1				S	Sn	02 16 52.7	-6.7
FX1				*e*S	**Sn**	**02 16 54.4**	**-5.0**
FX1	**Attu Island--F**	**1.48**	**65**	Pn	Pn	02 16 36.0	-5.2
	928nm,0.3s,baz=248,slow=4.8,SNR=1521						
FX1				Sn	**Sn**	**02 16 53.5**	**-5.9**
	2μm,0.3s,baz=291,slow=23,SNR=43						
FX1				LR	LR	02 17 17.6	
	comp=Z,3μm,20.6s,baz=184,slow=45						
SMY	**Shemya**	**1.98**	**75**	*e*P	Pn	02 16 42.7	-5.3
SMY				*e*S	Sn	02 17 05.0	-6.5
SMY	**Shemya**	**1.98**	**75**	*e*Pn	Pn	02 16 42.7	-5.3
SMY				*e*S	Sn	02 17 05.0	-6.5
BKI	**Bering**	**4.17**	**317**	P	**Pn**	**02 17 16.7**	**-1.4**
BKI				S	**Sn**	**02 18 02.8**	**-2.6**
BKI	**Bering**	**4.17**	**317**	*e*P	**Pn**	**02 17 16.7**	**-1.4**
BKI				*e*S	**Sn**	**02 18 02.8**	**-2.6**
MKZ	**Mys Kozlova**	**5.97**	**296**	P	**Pn**	**02 17 41.5**	**-1.3**
MKZ				S	**Sn**	**02 18 45.0**	**-4.8**
MKZ	**Mys Kozlova**	**5.97**	**296**	*e*P	**Pn**	**02 17 41.5**	**-1.3**
MKZ				*e*S	**Sn**	**02 18 45.0**	**-4.8**
KBTR	**Krutoberegovo**	**6.19**	**313**	P	**Pn**	**02 17 46.3**	**+0.6**
KBTR				S	**Sn**	**02 18 53.2**	**-1.9**
KBTR	**Krutoberegovo**	**6.19**	**313**	*e*P	**Pn**	**02 17 46.3**	**+0.6**
KBTR				*e*S	**Sn**	**02 18 53.2**	**-1.9**
GANE	**Gareloi Northe**	**6.35**	**90**	P	Pn	02 17 42.0	-6.1
TASE	**Tanaga Southea**	**6.80**	**89**	P	Pn	02 17 48.0	-6.3
KZV	**Kizimen**	**6.94**	**298**	*e*P	**Pn**	**02 17 55.6**	**-0.6**
KZV				*e*S	**Sn**	**02 19 09.1**	**-4.7**
TAPA	**Tanaga Point A**	**6.95**	**89**	P	Pn	02 17 50.3	-5.9
SMKR	**Semkarok**	**7.02**	**312**	*e*P	**Pn**	**02 17 58.2**	**+1.0**
SMKR				*e*S	**Sn**	**02 19 13.3**	**-2.3**
TUMR	**Tumrok**	**7.08**	**299**	*e*P	**Pn**	**02 17 58.3**	**+0.2**
TUMR				*e*S	**Sn**	**02 19 13.4**	**-3.8**
NLC	**Nalytchevo**	**7.11**	**282**	P	**Pn**	**02 17 57.0**	**-1.4**
NLC				S	Sn	02 19 11.5	-6.3
NLC	**Nalytchevo**	**7.11**	**282**	*e*P	**Pn**	**02 17 57.0**	**-1.4**
NLC				*e*S	Sn	02 19 11.4	-6.3
BDR	**Baidarnaya**	**7.13**	**311**	*e*P	**Pn**	**02 18 00.0**	**+1.3**
BDR				*e*S	**Sn**	**02 19 16.4**	**-2.0**
SRKR	**Sorokina**	**7.20**	**311**	*e*P	**Pn**	**02 18 00.3**	**+0.7**
SRKR				*e*S	**Sn**	**02 19 17.9**	**-2.0**
KMNR	**Kamenistaya**	**7.21**	**303**	P	**Pn**	**02 17 59.6**	**-0.3**
KMNR				S	**Sn**	**02 19 16.2**	**-4.3**
KLY	**Klyuchi**	**7.26**	**308**	P	**Pn**	**02 17 59.9**	**-0.5**
KLY				S	**Sn**	**02 19 16.4**	**-5.0**
KLY	**Klyuchi**	**7.26**	**308**	*e*P	**Pn**	**02 17 59.9**	**-0.5**
KLY				*e*S	**Sn**	**02 19 16.4**	**-5.0**
SDLR	**Sedlovina**	**7.39**	**283**	*e*P	**Pn**	**02 18 01.7**	**-0.7**
SDLR				*e*S	**Sn**	**02 19 20.0**	**-4.9**
UGLR	**Uglovaya**	**7.43**	**282**	*e*P	**Pn**	**02 18 02.5**	**-0.3**
UGLR				S	**Sn**	**02 19 20.9**	**-4.8**
SMAR	**Somma**	**7.44**	**282**	*e*P	**Pn**	**02 18 02.4**	**-0.8**
KRER	**Koryakskii**	**7.48**	**283**	*e*P	**Pn**	**02 18 03.3**	**-0.3**
KRER				*e*S	Sn	02 19 21.5	-5.6
AVH	**Avacha**	**7.48**	**282**	*e*P	**Pn**	**02 18 03.3**	**-0.3**
AVH				*e*S	**Sn**	**02 19 22.7**	**-4.3**
PET	**Petropavlovsk**	**7.52**	**281**	*e*P	Pn	02 17 59.6	-4.5
PET				*e*S	Sn	02 19 22.0	-5.9
PET				pmax	pmax		
	comp=Z,59nm,0.6s						
PET				smax	smax		
	comp=E,110nm,0.6s						
PET				MLR	MLR		
	comp=Z,300nm,12.0s						
PET	**Petropavlovsk**	**7.52**	**281**	P	**Pn**	**02 18 03.6**	**-0.5**
PET	**Petropavlovsk**	**7.52**	**281**	*e*Pn	**Pn**	**02 18 04.5**	**+0.5**
PET				*e*S	**Sn**	**02 19 26.0**	**-1.9**
KRX	**Arik**	**7.54**	**283**	*e*P	**Pn**	**02 18 03.6**	**-0.8**
KRX				S	Sn	02 19 22.4	-6.1
KOK	**Koryaka**	**7.54**	**283**	*e*P	**Pn**	**02 18 03.8**	**-0.6**
KOK				S	Sn	02 19 23.0	-5.6
RUS	**Russkaya**	**7.62**	**276**	P	**Pn**	**02 18 04.5**	**-0.9**
RUS				S	Sn	02 19 23.2	-7.2
RUS	**Russkaya**	**7.62**	**276**	*e*P	**Pn**	**02 18 04.5**	**-0.9**
RUS				*e*S	Sn	02 19 23.2	-7.2
ADK	**Adak**	**7.63**	**88**	P	Pn	02 18 00.2	-5.3
ADK	**Adak**	**7.63**	**88**	P	Pn	02 18 00.2	-5.3
SRDR	**Sredinnyy**	**7.72**	**306**	*e*P	**Pn**	**02 18 07.8**	**+1.0**
SRDR				*e*S	**Sn**	**02 19 29.8**	**-3.1**
MTVR	**Mutnovka**	**7.82**	**277**	*e*S	**Sn**	**02 19 30.0**	**-5.5**
GRL	**Gorelyy**	**7.89**	**277**	P	**Pn**	**02 18 09.6**	**+0.4**
GSCK	**Great Sitkin C**	**7.93**	**87**	P	Pn	02 18 04.3	-5.4
GNL	**Ganaly**	**7.99**	**285**	*e*P	**Pn**	**02 18 10.7**	**+0.2**
GNL				*e*S	**Sn**	**02 19 35.4**	**-4.0**
ASAK	**Asacha**	**8.00**	**276**	*e*P	**Pn**	**02 18 10.1**	**-0.6**
ASAK				*e*S	Sn	02 19 33.6	-6.2
ESO	**Esso**	**8.08**	**302**	P	**Pn**	**02 18 11.6**	**-0.1**
ESO				S	**Sn**	**02 19 37.1**	**-4.5**
ESO	**Esso**	**8.08**	**302**	*e*P	**Pn**	**02 18 11.6**	**-0.1**
ESO				*e*S	**Sn**	**02 19 37.1**	**-4.5**
PEA0B	**Petropavlovsk-**	**8.10**	**281**	*e*Pn	**Pn**	**02 18 12.1**	**+0.1**
PEA0B				*e*S	**Sn**	**02 19 37.9**	**-4.2**
PETK	**Petropavlovsk-**	**8.10**	**281**	P	**Pn**	**02 18 12.0**	**0.0**
PETK						02 19 38.5	
PETK	**Petropavlovsk-**	**8.10**	**281**	Pn	**Pn**	**02 18 12.0**	**0.0**
PETK				Sn	**Sn**	**02 19 38.5**	**-3.6**
PETK	**Petropavlovsk-**	**8.10**	**281**	Pn	**Pn**	**02 18 12.0**	**0.0**
	comp=Z,12nm,0.3s,baz=93,slow=19,SNR=73						
PETK				Sn	**Sn**	**02 19 38.5**	**-3.6**
	comp=Z,3.3nm,0.3s,baz=82,slow=10,SNR=3.6						
PETK				LR	LR	02 21 56.9	
	comp=Z,108nm,18.7s,baz=96,slow=41						
OSSR	**Ossora**	**8.29**	**331**	P	**Pn**	**02 18 15.2**	**+0.8**
APC	**Apacha**	**8.43**	**280**	*e*P	**Pn**	**02 18 16.3**	**-0.1**
APC				*e*S	Sn	02 19 44.5	-5.6
MIPR	**Malaya Ipel'ka**	**8.71**	**276**	P	**Pn**	**02 18 20.1**	**-0.2**
PAU	**Pauzhetka**	**8.79**	**270**	P	**Pn**	**02 18 20.3**	**-1.1**
PAU	**Pauzhetka**	**8.79**	**270**	P	**Pn**	**02 18 20.3**	**-1.1**
PAU				S	Sn	02 19 51.0	-8.1
SKR	**Severo-Kuril's**	**9.40**	**266**	*e*P	Pn	02 18 21.1	-8.6
SKR				pmax	pmax		
	comp=Z,120nm,0.8s						
SKR	**Severo-Kuril's**	**9.40**	**266**	P	**Pn**	**02 18 27.5**	**-2.2**
SKR				S	Sn	02 20 04.7	-9.2
SEY	**Seymchan**	**14.53**	**325**	⇓*e*P	Pn	02 19 36.3	-3.3
SEY	**Seymchan**	**14.53**	**325**	Pn	**Pn**	**02 19 39.9**	**+0.3**
SEY	**Seymchan**	**14.53**	**325**	Pn	**Pn**	**02 19 39.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=73,slow=19,SNR=3.1						
GAMB	**Gambell**	**14.67**	**32**	*e*Pn	**Pn**	**02 19 40.4**	**-1.0**
TNA	**Tin City**	**17.08**	**31**	*e*Pn	**Pn**	**02 20 11.7**	**-0.4**
	comp=Z,2nm,1.2s						
CHGN	**Chignik**	**18.24**	**65**	*e*Pn	**P**	**02 20 24.8**	**-1.4**
ASAJ	**Asahikawa**	**20.49**	**258**	LR	LR	02 29 33.9	
	comp=Z,134nm,18.1s,baz=14,slow=39						
OHAK	**Old Harbor**	**21.05**	**62**	*e*P	**P**	**02 20 53.6**	**-3.1**
	comp=Z,189nm,1.4s						
ERM	**Erimo**	**21.38**	**252**	⇓P	**P**	**02 21 04.7**	**+4.3**
ERM				pmax	pmax		
	comp=Z,31nm,1.2s						
KDAK	**Kodiak Island**	**21.42**	**61**	*e*P	**P**	**02 20 57.5**	**-3.1**
	comp=Z,102nm,1.2s						
KDAK				*e*S	**S**	**02 24 53.4**	**-2.1**
RSO	**Redoubt South**	**21.46**	**53**	*e*P	**P**	**02 21 00.1**	**-1.2**
PPLA	**Purkeypile**	**22.10**	**47**	*e*P	**P**	**02 21 06.8**	**-1.3**
	comp=Z,105nm,1.6s						
IM04	**Indian Mountai**	**22.30**	**39**	*e*P	**P**	**02 21 07.7**	**-2.5**
KTH	**Kantishna Hill**	**22.80**	**46**	*e*P	**P**	**02 21 14.2**	**-1.3**
	comp=Z,136nm,1.1s						
RC01	**Rabbit Creek A**	**22.99**	**52**	*e*P	**P**	**02 21 16.1**	**-1.3**
	comp=Z,32nm,1.3s						
TRF	**Thorofare Moun**	**23.06**	**46**	*e*P	**P**	**02 21 16.7**	**-1.5**
	comp=Z,15nm,0.7s						
SEW	**Seward**	**23.07**	**55**	*e*P	**P**	**02 21 16.4**	**-1.8**
	comp=Z,24nm,1.0s						
MCK	**McKinley**	**23.70**	**45**	*e*P	**P**	**02 21 22.5**	**-1.7**
MCK				pmax	pmax		
	comp=Z,26nm,0.8s						
MCK	**McKinley**	**23.70**	**45**	*e*P	**P**	**02 21 22.5**	**-1.7**
	comp=Z,26nm,0.8s						
YAK	**Yakutsk**	**24.01**	**310**	*e*P	**P**	**02 21 26.6**	**-0.4**
YAK				*e*		02 21 40.0	
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK	**Yakutsk**	**24.01**	**310**	*e*P	**P**	**02 21 27.1**	**+0.1**
COLD	**Coldfoot**	**24.07**	**37**	*e*P	**P**	**02 21 26.2**	**-1.4**
	comp=E,6.1nm,0.9s						
COLA	**College**	**24.38**	**43**	⇓*i*P	**P**	**02 21 30.3**	**-0.1**
COLA				pmax	pmax		
	comp=Z,222nm,1.0s						
COLA	**College**	**24.38**	**43**	*e*P	**P**	**02 21 29.6**	**-0.8**
	comp=Z,20nm,1.1s						
ILAR	**Eielson Array**	**24.77**	**43**	P	**P**	**02 21 32.0**	**-1.9**
ILAR				PcP	**PcP**	**02 25 08.1**	**-1.1**
ILAR				S	**S**	**02 25 52.0**	**-0.6**
ILAR	**Eielson Array**	**24.77**	**43**	P	**P**	**02 21 32.0**	**-1.9**
	comp=Z,17nm,0.9s,baz=248,slow=7.3,SNR=149						
ILAR				PcP	**PcP**	**02 25 08.1**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=264,slow=3.8,SNR=4.6						
ILAR				S	**S**	**02 25 52.0**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=243,slow=1.4,SNR=5.3						
ILAR				LR	LR	02 32 20.8	
	comp=Z,117nm,18.5s,baz=283,slow=39						
KLR	**Kul'dur**	**24.78**	**279**	*e*P	**P**	**02 21 31.8**	**-2.4**
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
KLR				MLR	MLR		
	comp=N,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
PAX	**Paxson**	**25.15**	**48**	*e*P	**P**	**02 21 36.5**	**-1.1**
PAX				pmax	pmax		
	comp=Z,27nm,1.0s						
PAX	**Paxson**	**25.15**	**48**	*e*P	**P**	**02 21 36.5**	**-1.1**
	comp=Z,27nm,1.0s						
RAGM	**Ragged Mountai**	**25.46**	**54**	*e*P	**P**	**02 21 40.5**	**+0.3**
	comp=Z,88nm,0.8s						
BMRM	**Bremner River**	**25.48**	**53**	*e*P	**P**	**02 21 40.1**	**-0.4**
	comp=Z,28nm,0.9s						
TIXI	**Tiksi**	**26.78**	**332**	⇓*i*P	**P**	**02 21 52.9**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,13nm,2.5s						
TIXI	**Tiksi**	**26.78**	**332**	P	**P**	**02 21 53.0**	**+0.9**
	comp=Z,4.9nm,0.9s						
USRK	**Ussuriysk Arra**	**26.91**	**268**	PcP	**PcP**	**02 25 13.8**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=202,slow=4.1,SNR=4.4						
EGAK	**Eagle**	**27.20**	**44**	*e*P	**P**	**02 21 54.1**	**-1.8**
	comp=Z,28nm,0.8s						
EGAK				*e*		02 22 05.5	
MJAR	**Matsushiro Arr**	**27.88**	**249**	LR	LR	02 32 00.8	
	comp=Z,46nm,21.6s,baz=80,slow=34						
DAWY	**Dawson**	**27.93**	**46**	*e*P	**P**	**02 22 01.9**	**-0.6**
DAWY				*e*		02 22 13.1	
INK	**Inuvik**	**30.49**	**37**	*e*P	**P**	**02 22 24.7**	**-0.4**
INK				*e*PcP	**PcP**	**02 25 23.1**	**+0.2**
INK				S	**S**	**02 27 25.2**	**+2.5**
INK	**Inuvik**	**30.49**	**37**	P	**P**	**02 22 24.3**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=275,slow=6.5,SNR=22						
INK				PcP	**PcP**	**02 25 21.6**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=234,slow=2.6,SNR=4.7						
INK				S	**S**	**02 27 25.2**	**+2.5**
	comp=Z,2.9nm,1.0s,baz=119,slow=29,SNR=8.7						
INK				LR	LR	02 36 33.0	
	comp=Z,121nm,18.9s,baz=278,slow=40						
CN2	**Changchun**	**31.13**	**273**	*e*P	P	02 22 34.8	+3.8
CN2				*es*P	sP	02 22 50.5	+1.6
CN2				*e*S	**S**	**02 27 35.8**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
H11N2	**WAKE ISLAND Hy**	**32.63**	**187**	T	T	02 56 56.0	
	baz=8.7						
H11N3	**WAKE ISLAND Hy**	**32.64**	**187**	T	T	02 56 57.6	
	baz=8.7						
H11N1	**WAKE ISLAND Hy**	**32.65**	**187**	T	T	02 57 01.8	
	baz=8.7						
KSRS	**Korea Array**	**33.37**	**261**	P	**P**	**02 22 51.0**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=46,slow=9.1,SNR=3.4						
KSAR	**Wonju Array Be**	**33.40**	**261**	P	**P**	**02 22 51.0**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**33.86**	**187**	T	T	02 58 32.7	
	baz=6.4,slow=78,SNR=10						
H11S3	**WAKE ISLAND Hy**	**33.87**	**187**	T	T	02 58 34.9	
	baz=6.4,slow=78,SNR=11						
H11S2	**WAKE ISLAND Hy**	**33.88**	**187**	T	T	02 58 36.7	
	baz=6.4,slow=78,SNR=10						
JNU	**Nakatsue**	**34.55**	**252**	LR	LR	02 36 38.5	
	comp=Z,76nm,21.0s,baz=340,slow=35						
BJI	**Beijing**	**38.96**	**274**	P	**P**	**02 23 36.8**	**-1.5**
BJI				S	**S**	**02 29 32.4**	**-1.0**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				LR	LR		
	comp=Z,260nm,24.2s						
BJI				LR	LR		
	comp=Z,200nm,15.6s						
YKW3	**Yellowknife Ar**	**39.14**	**45**	*e*P	**P**	**02 23 39.5**	**-0.1**
	comp=Z,0.1nm,0.9s						
YKA	**Yellowknife Ar**	**39.17**	**45**	P	**P**	**02 23 39.5**	**-0.3**
YKA				PcP	**PcP**	**02 25 47.9**	**-0.4**
YKA	**Yellowknife Ar**	**39.17**	**45**	P	**P**	**02 23 39.5**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=290,slow=8.0,SNR=69						
YKA				PcP	**PcP**	**02 25 47.8**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=295,slow=3.4,SNR=11						
ULN	**Ulaanbaatar**	**40.07**	**290**	*e*P	**P**	**02 23 48.2**	**+0.6**
	comp=Z,12nm,1.4s						
TLY	**Talaya**	**40.10**	**297**	*e*P	**P**	**02 23 46.6**	**-1.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,94nm,19.0s						
SONM	**Songino Array**	**40.46**	**290**	P	**P**	**02 23 52.2**	**+1.3**
SONM				PcP	**PcP**	**02 25 52.8**	**0.0**
SONM	**Songino Array**	**40.46**	**290**	P	**P**	**02 23 52.2**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=61,slow=7.5,SNR=34						
SONM				PcP	**PcP**	**02 25 52.8**	**0.0**
	comp=Z,2.4nm,0.9s,baz=65,slow=1.5,SNR=8.0						
SONM				LR	LR	02 41 49.3	
	comp=Z,70nm,19.3s,baz=258,slow=38						
ZAK	**Zakamensk**	**40.93**	**295**	*e*P	**P**	**02 23 55.7**	**+1.0**
ZAK				*e*		02 25 55.0	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**41.29**	**278**	*e*P	**P**	**02 23 57.0**	**-0.8**
HHC				pP	**pP**	**02 24 11.1**	**+0.7**
HHC				S	S	02 30 02.9	-5.6
HHC				ScS	**ScS**	**02 33 55.4**	**-2.0**
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,8.8s						
HHC				LR	LR		
	comp=Z,510nm,15.5s						
HHC				LR	LR		
	comp=Z,420nm,13.3s						
HHC				LR	LR		
	comp=Z,360nm,14.7s						
RES	**Resolute Bay**	**41.52**	**24**	P	**P**	**02 23 59.6**	**+0.6**
RES				PcP	**PcP**	**02 25 55.6**	**0.0**
RES	**Resolute Bay**	**41.52**	**24**	P	**P**	**02 23 59.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=282,slow=9.3,SNR=7.6						
RES				PcP	**PcP**	**02 25 55.6**	**0.0**
	comp=Z,2.5nm,0.8s,baz=358,slow=6.0,SNR=4.5						
NJ2	**Nanjing**	**42.51**	**263**	*e*P	**P**	**02 24 07.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				LR	LR		
	comp=Z,2μm,13.9s						
EDM	**Edmonton**	**43.81**	**57**	*e*P	**P**	**02 24 17.4**	**-0.5**
EDM	**Edmonton**	**43.81**	**57**	*e*P	**P**	**02 24 17.4**	**-0.5**
NEW	**Newport**	**44.41**	**65**	⇑P	**P**	**02 24 22.3**	**-0.5**
	baz=44						
J05D	**Fort Rock, OR**	**44.89**	**73**	⇓P	**P**	**02 24 26.5**	**-0.4**
	baz=45						
YBH	**Yreka Blue Hor**	**44.94**	**76**	LR	LR	02 40 56.0	
	comp=Z,115nm,18.5s,baz=306,slow=33						
M04C	**Macdoel**	**45.43**	**75**	⇓P	**P**	**02 24 30.8**	**-0.3**
	baz=45						
HVS	**Khovu-Aksy**	**45.73**	**301**	⇑*e*P	**P**	**02 24 34.4**	**+1.1**
HVS				pmax	pmax		
	comp=Z,17nm,1.3s						
WALA	**Waterton Lakes**	**45.74**	**63**	*e*P	**P**	**02 24 32.6**	**-0.9**
	comp=Z,1.2nm,1.4s						
BSMT	**Bassoo Peak**	**45.94**	**64**	*e*P	**P**	**02 24 35.0**	**-0.2**
BLMT	**Blacktail Moun**	**46.08**	**64**	*e*P	**P**	**02 24 37.7**	**+1.4**
	comp=Z,3.4nm,0.2s						
BLMT				*e*		02 24 47.6	
JTMT	**Jette**	**46.28**	**64**	*e*P	**P**	**02 24 35.8**	**-1.9**
YBMT	**Yellow Bay**	**46.36**	**64**	*e*P	**P**	**02 24 38.3**	**0.0**
SWMT	**Swartz Lake**	**46.57**	**64**	*e*P	**P**	**02 24 39.7**	**-0.3**
MSO	**Missoula**	**47.00**	**65**	*e*P	**P**	**02 24 45.8**	**+2.4**
	comp=Z,25nm,1.5s						
MSO				*e*pP	**pP**	**02 24 54.6**	**-1.6**
MSO	**Missoula**	**47.00**	**65**	⇓P	**P**	**02 24 42.9**	**-0.5**
	baz=47						
SLMT	**Seeley Lake**	**47.01**	**64**	*e*P	**P**	**02 24 42.2**	**-1.3**
MFID	**Camas Ranch**	**47.96**	**70**	*e*P	**P**	**02 24 50.9**	**0.0**
	comp=Z,5.2nm,1.0s						
PAHR	**Pah Rah Range**	**48.18**	**76**	*e*P	**P**	**02 24 53.2**	**+0.5**
	comp=Z,17nm,1.2s						
EGMT	**Eagleton**	**48.59**	**62**	*e*P	**P**	**02 24 54.8**	**-0.8**
	comp=Z,62nm,2.3s						
EGMT	**Eagleton**	**48.59**	**62**	⇓P	**P**	**02 24 55.3**	**-0.4**
	baz=48						
A19A	**Klindworth Far**	**48.60**	**60**	⇓P	**P**	**02 24 54.8**	**-0.9**
	baz=48						
ZALV	**Zalesovo Beam**	**48.64**	**308**	PcP	**PcP**	**02 26 21.0**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=24,slow=4.0,SNR=7.9						
HLID	**Hailey**	**48.69**	**69**	*e*P	**P**	**02 24 58.2**	**+1.6**
	comp=Z,7.7nm,1.2s						
HLID	**Hailey**	**48.69**	**69**	⇑P	**P**	**02 24 56.0**	**-0.5**
	baz=48						
B19A	**Brinkman Farms**	**48.77**	**61**	⇑P	**P**	**02 24 56.8**	**-0.2**
	baz=48						
MCMT	**McKenzie Canyo**	**48.80**	**67**	*e*P	**P**	**02 24 56.3**	**-1.2**
	comp=Z,2.0nm,1.1s						
MCMT				*e*PcP	**PcP**	**02 26 22.1**	**+0.5**
NVS	**Novosibirsk**	**48.88**	**310**	*e*P	**P**	**02 24 56.5**	**-1.1**
NVS				pmax	pmax		
	comp=Z,19nm,1.6s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
LZH	**Lanzhou**	**48.99**	**279**	*e*P	**P**	**02 25 00.8**	**+1.9**
LZH				pP	**pP**	**02 25 11.6**	**-0.2**
LZH				sP	**sP**	**02 25 16.6**	**-0.7**
LZH				pmax	pmax		
	comp=E,30nm,1.0s						
LZH				pmax	pmax		
	comp=E,160nm,5.2s						
LZH				LR	LR		
	comp=E,390nm,15.9s						
LZH				LR	LR		
	comp=E,370nm,14.0s						
LZH				LR	LR		
	comp=E,470nm,16.4s						
A20A	**Cobblestone Ra**	**49.06**	**60**	⇓P	**P**	**02 24 59.0**	**-0.3**
	baz=49						
C19A	**Slack Wire Ran**	**49.15**	**62**	⇓P	**P**	**02 24 58.9**	**-1.0**
	baz=49,SNR=6.8						
GTA	**Gaotai**	**49.25**	**285**	P	**P**	**02 25

baz=51
B23A Brockton 50.86 59 ⇑P P 02 25 12.5 -0.4
baz=51
VES Vestal, Richgr 50.88 80 ⇓P P 02 25 12.5 -0.5
baz=51
D22A Cohagen 51.05 61 ⇑P P 02 25 13.3 -1.0
baz=51
H19A Powell 51.06 65 ⇓P P 02 25 13.8 -0.7
baz=51
A24A Westby 51.09 58 ⇑P P 02 25 13.8 -0.8
baz=51
GRAC Grapevine Rang 51.14 77 ⇓P P 02 25 14.4 -0.7
baz=51
G20A Bridger 51.15 64 ⇑P P 02 25 14.1 -1.0
baz=51
C23A Lambert 51.17 59 ⇑P P 02 25 14.4 -0.7
baz=51
LAO LASA Array 51.31 61 *e*P P 02 25 19.2 +3.0
comp=Z,38nm,1.5s
R11A Troy Canyon, C 51.32 75 *e*P P 02 25 15.8 -0.8
comp=Z,7.1nm,1.1s
R11A Troy Canyon, C 51.32 75 ⇑P P 02 25 16.6 +0.1
baz=51
I19A Meeteetse 51.46 65 ⇑P P 02 25 17.2 -0.4
baz=51
A25A Svangstu Ranch 51.55 57 ⇓P P 02 25 17.6 -0.4
baz=51
E22A Miles City 51.61 61 ⇑P P 02 25 17.9 -0.6
baz=51
MPMC Manual Prospec 51.69 78 ⇑P P 02 25 19.2 -0.2
baz=51
DUG Dugway 51.74 71 *e*P P 02 25 20.4 +0.7
DUG pmax pmax
comp=Z,13nm,1.3s
DUG Dugway 51.74 71 *e*P P 02 25 20.4 +0.7
comp=Z,13nm,1.3s
DUG Dugway 51.74 71 ⇓P P 02 25 19.4 -0.3
baz=52
FURC Furnace Creek, 51.80 78 ⇑P P 02 25 19.6 -0.3
baz=52
TPNV Topopah Spring 51.84 77 ⇓P P 02 25 20.3 -0.2
baz=52
J19A Crowheart 51.92 66 ⇑P P 02 25 20.5 -0.5
baz=52
PDAR Pinedale Array 51.95 67 P P 02 25 20.6 -0.7
PDAR Pinedale Array 51.95 67 P P 02 25 20.6 -0.7
comp=Z,2.4nm,0.9s,baz=297,slow=2.2,SNR=14
PDAR LR LR 02 46 28.7
comp=Z,82nm,18.5s,baz=340,slow=35
I20A Worland 52.00 65 ⇑P P 02 25 20.8 -0.7
baz=52
G22A Birney 52.20 63 ⇓P P 02 25 22.1 -0.8
baz=52
F23A Volborg 52.36 62 ⇓P P 02 25 23.3 -0.8
baz=52
J20A Shoshoni 52.40 65 ⇓P P 02 25 24.7 +0.2
baz=52
DAU Daniels Canyon 52.50 70 P P 02 25 27.0 +1.5
DAU pmax pmax
comp=Z,12nm,1.3s
DAU Daniels Canyon 52.50 70 P P 02 25 27.0 +1.5
comp=Z,12nm,1.3s
I21A Big Trails, Te 52.55 64 ⇓P P 02 25 25.4 -0.2
baz=52
CD2 Chengdu 52.56 274 P P 02 25 27.0 +1.3
CD2 sP **sP** 02 25 44.1 -0.1
CD2 PP **PP** 02 27 27.3 +2.5
CD2 S **S** 02 32 48.8 -0.4
CD2 SS **SS** 02 36 25.1 -2.3
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,160nm,16.2s
GSC Goldstone 52.61 79 ⇑P P 02 25 26.1 0.0
baz=52
G23A Biddle 52.70 62 ⇓P P 02 25 25.8 -0.8
baz=52
J21A Lysite 52.76 65 ⇑P P 02 25 26.6 -0.6
baz=52
C26A Wahner Farm, P 52.77 58 ⇓P P 02 25 26.6 -0.5
baz=52
J22A Midwest 53.26 64 ⇑P P 02 25 30.1 -0.7
baz=53
TMUT Trail Mountain 53.27 71 *e*P P 02 25 31.4 +0.2
comp=Z,12nm,1.0s
WMQ Urumqi 53.38 296 P P 02 25 33.3 +1.7
WMQ pP **pP** 02 25 45.9 +1.2
WMQ sP **sP** 02 25 51.3 +1.2
WMQ PcP **PcP** 02 26 40.5 +2.1
WMQ PP **PP** 02 27 35.3 +3.4
WMQ S **S** 02 32 59.9 -0.2
WMQ ScS **ScS** 02 35 15.4 -1.4
WMQ SS **SS** 02 36 39.3 -0.6
WMQ pmax pmax
comp=Z,9.0nm,1.6s
WMQ pmax pmax
comp=Z,120nm,5.1s
WMQ LR LR
comp=Z,72nm,19.6s
WMQ LR LR
comp=Z,72nm,22.1s
WMQ LR LR
comp=Z,84nm,16.0s
A29A Manning Farm, 53.54 55 ⇑P P 02 25 32.4 -0.3
baz=53
KURK Kurchatov 53.62 308 *e*P P 02 25 33.5 +0.3
KURK *e* 02 26 39.2
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 53.62 308 *e*P P 02 25 33.5 +0.3
comp=Z,8.6nm,1.0s
KURK *e*PcP **PcP** 02 26 39.2 +0.1
KURBB Kurchatov Arra 53.73 308 P P 02 25 34.2 +0.2
comp=Z,3.4nm,0.6s,baz=53,slow=7.5,SNR=32
KURBB PcP **PcP** 02 26 40.2 +0.7
comp=Z,3.4nm,1.0s,baz=50,slow=3.5,SNR=8.3
SUMG Summit 53.77 11 *e*P P 02 25 34.6 +0.1
SUMG pmax pmax
comp=Z,19nm,1.2s
SUMG Summit 53.77 11 *i*P P 02 25 33.8 -0.7
comp=Z,6.9nm,0.9s
SUMG Summit 53.77 11 *e*P P 02 25 34.6 +0.1
comp=Z,19nm,1.2s
SRU San Rafael 53.78 71 *e*P P 02 25 34.4 -0.4
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael 53.78 71 *e*P P 02 25 34.4 -0.4
comp=Z,10nm,0.9s
GYA Guiyang 53.94 268 *e*P P 02 25 38.9 +2.9
GYA pP **pP** 02 25 51.0 +1.9
GYA sP **sP** 02 25 58.4 +3.9
GYA PP **PP** 02 27 41.4 +3.9
GYA S **S** 02 33 08.6 +0.4
GYA sS **sS** 02 33 30.3 +0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
GYA LR LR
comp=Z,380nm,18.8s
GYA LR LR
comp=Z,270nm,19.5s
GYA LR LR
comp=Z,320nm,18.2s
N20A Spence Gulch, 53.95 68 ⇑P P 02 25 36.1 0.0
baz=54
K23A Bowen Ranch, D 54.16 64 ⇑P P 02 25 37.3 -0.2
baz=54
L22A Ellis Ranch, M 54.19 66 ⇑P P 02 25 37.3 -0.5
baz=54
ULM Lac du Bonnet 54.33 52 P P 02 25 37.7 -0.7
ULM Lac du Bonnet 54.33 52 P P 02 25 37.7 -0.7
comp=Z,1.6nm,0.6s,baz=351,slow=5.9,SNR=4.9
MK31 Makanchi Array 54.33 302 *e*P P 02 25 38.3 -0.2
MK31 Makanchi Array 54.33 302 *e*P P 02 25 38.3 -0.2
MKAR Makanchi Array 54.33 302 *e*P P 02 25 38.5 0.0
MKAR *e*'PP **pP** 02 25 47.9 -3.7
MKAR Makanchi Array 54.33 302 *e*P P 02 25 38.5 0.0
MKAR *e*pP **pP** 02 25 47.9 -3.7
MKAR Makanchi Array 54.33 302 P P 02 25 38.1 -0.4
comp=Z,0.7nm,0.6s,baz=52,slow=6.2,SNR=16
O20A White River Ci 54.42 69 ⇓P P 02 25 38.8 -0.6
baz=54
G27A Dupree 54.45 60 ⇓P P 02 25 39.2 -0.2
baz=54
W13A Hualapai Mount 54.50 77 ⇑P P 02 25 40.6 +0.5
baz=54
M22A Cedar Creek Ra 54.51 66 ⇓P P 02 25 39.8 -0.4
baz=54
L23A Garrett 54.54 65 ⇓P P 02 25 39.6 -0.8
baz=54,SNR=6.0
U15A North Rim 54.55 75 ⇑P P 02 25 40.0 -0.5
baz=54
D30A Buchanan 54.96 57 ⇑P P 02 25 42.5 -0.6
baz=55
N22A Wattenberg Ran 54.99 67 ⇓P P 02 25 43.9 +0.2
baz=55
N23A Red Feather La 55.22 66 ⇑P P 02 25 44.9 -0.4
baz=55
I27A Quinn 55.24 61 ⇑P P 02 25 45.2 0.0
baz=55
O22A Kremmling 55.37 67 ⇓P P 02 25 46.4 0.0
baz=55
FRB Frobisher Bay 55.39 28 P P 02 25 44.7 -1.1
FRB Frobisher Bay 55.39 28 P P 02 25 44.7 -1.1
comp=Z,4.9nm,0.9s,baz=331,slow=7.1,SNR=9.9
FRB LR LR 02 52 20.0
comp=Z,120nm,18.1s,baz=340,slow=39
H28A Mission Ridge 55.39 60 ⇑P P 02 25 46.3 +0.1
baz=55
M24A Cheyenne 55.46 65 ⇓P P 02 25 46.6 -0.3
baz=55
P22A Eagle 55.63 68 ⇑P P 02 25 47.6 -0.7
baz=55
AGMN Agassiz Nation 55.63 54 ⇓P P 02 25 47.8 0.0
baz=55
O23A Lake Granby, G 55.69 67 ⇓P P 02 25 48.0 -0.8
baz=55,SNR=5.5
WUAZ Wupatki 55.71 75 *e*P P 02 25 49.5 +0.7
comp=Z,10nm,1.2s
WUAZ Wupatki 55.71 75 ⇓P P 02 25 49.1 +0.3
baz=55
H29A Onida 55.86 60 ⇓P P 02 25 49.6 +0.1
baz=56
BVAR Borovoye Array 55.90 314 P P 02 25 50.6 +1.0
BVAR 02 26 48.2
BVAR Borovoye Array 55.90 314 P P 02 25 50.6 +1.0
BVAR PcP **PcP** 02 26 48.2 +0.4
BVAR Borovoye Array 55.90 314 P P 02 25 50.6 +1.0
comp=Z,2.8nm,0.3s,baz=53,slow=7.1,SNR=26
BVAR PcP **PcP** 02 26 48.2 +0.4
comp=Z,2.1nm,0.5s,baz=58,slow=3.6,SNR=5.0
ARCES ARCESS Array B 55.91 346 P P 02 25 49.6 +0.1
ARCES ARCESS Array B 55.91 346 P P 02 25 49.6 +0.1
comp=Z,1.3nm,0.7s,baz=44,slow=8.7,SNR=6.3
BRVK Borovoye 55.92 314 ⇓*i*P P 02 25 50.7 +0.9
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 55.92 314 *e*P P 02 25 50.4 +0.6
comp=Z,30nm,1.4s
J28A Allard Ranch, 56.12 61 ⇓P P 02 25 50.7 -0.8
baz=56,SNR=8.5
ISCO Idaho Springs 56.14 67 *e*P P 02 25 52.5 +0.5
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO Idaho Springs 56.14 67 *e*P P 02 25 52.5 +0.5
comp=Z,11nm,1.1s
ISCO Idaho Springs 56.14 67 ⇓P P 02 25 51.7 -0.3
baz=56
MVCO Mesa Verde 56.24 71 *e*P P 02 25 53.3 +0.6
comp=Z,28nm,1.8s
MVCO Mesa Verde 56.24 71 ⇓P P 02 25 52.6 0.0
baz=56
X16A Lo Mia Camp, P 56.43 76 ⇑P P 02 25 54.1 +0.2
baz=56
J29A Okreek 56.62 61 ⇑P P 02 25 54.2 -0.7
baz=56,SNR=9.4
S22A 4UR Ranch, Cre 56.84 70 ⇑P P 02 25 57.1 +0.1
baz=57
Q24A Divide 56.97 68 ⇓P P 02 25 58.0 +0.1
baz=57
SFJD Kangerlussuaq 56.99 18 P P 02 25 56.8 -0.4
SFJD Kangerlussuaq 56.99 18 P P 02 25 56.8 -0.4
comp=Z,10nm,0.8s,baz=27,slow=7.7,SNR=4.1
JMIC Jan Mayen 57.05 360 LR LR 02 47 16.1
comp=Z,40nm,21.7s,baz=264,slow=33
K29A Lazy Trails An 57.06 61 ⇓P P 02 25 58.3 +0.1
baz=57
R23A Moffat 57.12 69 ⇑P P 02 25 58.7 -0.2
baz=57
J30A Dass 57.12 60 ⇑P P 02 25 58.7 +0.1
baz=57
P25A Willow Gulch B 57.15 67 ⇑P P 02 25 59.4 +0.4
baz=57
N27A Anderson Farm, 57.18 64 ⇑P P 02 25 59.1 0.0
baz=57
X18A Snowflake 57.24 75 ⇓P P 02 26 00.1 +0.4
baz=57
214A Organ Pipe Nat 57.33 79 ⇑P P 02 26 00.3 +0.1
baz=57
OGNE Ogallala 57.36 64 ⇓P P 02 26 00.4 +0.1
baz=57
K30A Basset 57.50 61 ⇓P P 02 26 00.8 -0.5
baz=57,SNR=5.9
R24A Sanders Place, 57.50 68 ⇑P P 02 26 00.7 -0.8
baz=57
Q25A Bedland, Calha 57.52 67 ⇓P P 02 26 01.6 0.0
baz=57
QIZ Qiongzhong 57.55 259 P P 02 26 00.4 -1.4
QIZ S **S** 02 33 59.3 +3.2
QIZ pmax pmax
comp=Z,46nm,2.1s
P26A Davis Ranch, A 57.58 66 ⇑P P 02 26 01.9 -0.1
baz=57
SDCO Great Sand Dun 57.61 69 *e*P P 02 26 02.4 +0.1
comp=Z,12nm,1.2s
SDCO *e* 02 26 16.4
O27A Beecher Island 57.63 65 ⇑P P 02 26 02.1 -0.2
baz=57
M29A Burnside Ranch 57.76 63 ⇑P P 02 26 02.9 -0.2
baz=58
U22A Llaves 57.77 71 ⇓P P 02 26 03.8 +0.4
baz=58
T23A Casias Ranch, 57.79 70 ⇓P P 02 26 04.3 +0.6
baz=58
N28A Pribbeno Ranch 57.81 64 ⇓P P 02 26 03.7 +0.2
baz=58
S24A Houchin Ranch, 57.85 69 ⇓P P 02 26 04.3 +0.2
baz=58
Q26A Hugo 57.92 67 ⇑P P 02 26 04.5 +0.1
baz=58
EYMN Ely 58.01 52 *e*P P 02 26 05.3 +0.6
comp=Z,71nm,1.9s
P27A Ficken Ranch, 58.02 65 ⇓P P 02 26 04.9 -0.1
baz=58
V22A San Miguel Ran 58.06 71 ⇓P P 02 26 05.4 -0.1
baz=58
O28A Kutsinger Ran 58.07 64 ⇓P P 02 26 05.5 +0.2
baz=58
T24B San Luis 58.15 69 ⇓P P 02 26 06.0 -0.1
baz=58
U23A El Rito 58.19 71 ⇑P P 02 26 06.3 -0.1
baz=58,SNR=5.9
L31A Butterfield Fa 58.26 61 ⇓P P 02 26 05.8 -0.7
baz=58,SNR=5.9
ARU Arti 58.27 323 *d*/*i*P P 02 26 08.1 +1.8
ARU 02 28 16.2
ARU S **S** 02 34 06.2 +1.6
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 58.27 323 *e*P P 02 26 06.7 +0.4
comp=Z,69nm,2.2s
S25A Robets Cordova 58.28 68 ⇑P P 02 26 06.1 -0.8
baz=58
TUC Tucson 58.30 77 *e*P P 02 26 07.2 +0.2
TUC *e* 02 26 20.7
TUC pmax pmax
comp=Z,12nm,1.2s
TUC Tucson 58.30 77 *e*P P 02 26 07.2 +0.2
comp=Z,12nm,1.2s
TUC *e* 02 26 20.7
ECSD EROS Data Cent 58.36 58 *e*P P 02 26 07.4 +0.2
comp=Z,129nm,3.0s
ECSD EROS Data Cent 58.36 58 ⇑P P 02 26 06.7 -0.5
baz=58,SNR=5.6
KSCO Kaye Shedlock' 58.36 66 ⇑P P 02 26 07.4 0.0
baz=58
R26A Arlington 58.39 67 ⇑P P 02 26 08.0 +0.4
baz=58
PRGR Permogore 58.43 333 P P 02 26 05.8 -1.6
PRGR pmax pmax
comp=Z,97nm,1.7s
P28A Saint Francis 58.46 65 ⇓P P 02 26 08.4 +0.3
baz=58
V23A Ortiz Mt. (NFS 58.60 71 ⇑P P 02 26 09.7 +0.4
baz=58,SNR=8.3
O29A 4D Ranch, Culb 58.61 64 ⇓P P 02 26 09.3 +0.2
baz=58
T25A Trinidad 58.65 69 ⇓P P 02 26 09.3 -0.3
baz=58
M31A Lambtecht Ranc 58.76 62 ⇓P P 02 26 10.0 -0.1
baz=58
R27A Eads 58.77 67 ⇑P P 02 26 10.8 +0.5
baz=58
Q28A Sharon Springs 58.77 65 ⇑P P 02 26 10.3 0.0
baz=58
S26A Kim 58.85 68 ⇑P P 02 26 10.4 -0.5
baz=59
P29A Atwood 58.90 64 ⇑P P 02 26 11.1 0.0
baz=59
O30A MW Ranch, Wils 58.98 63 ⇑P P 02 26 11.4 -0.3
baz=59
LAZ Ladron 58.99 73 *e*P P 02 26 12.8 +0.9
comp=Z,2.8nm,1.2s
LAZ *e* 02 26 26.4
ANMO Albuquerque 59.00 72 *e*P P 02 26 12.2 +0.2
ANMO *e* 02 26 25.7
ANMO Albuquerque 59.00 72 P P 02 26 11.5 -0.5
comp=Z,2.2nm,1.0s,baz=308,slow=6.2,SNR=6.1
W23A Werner Place, 59.03 71 ⇓P P 02 26 12.0 -0.2
baz=59
T26A Comanche Natio 59.10 68 ⇓P P 02 26 12.3 -0.3
baz=59
V24A Rampart Ranch, 59.15 70 ⇓P P 02 26 12.8 -0.3
baz=59
BGNE Belgrade 59.16 61 ⇓P P 02 26 12.6 -0.2
baz=59
U25A Circle Dot Ran 59.17 69 ⇓P P 02 26 13.0 -0.1
baz=59
LENM Lemitar 59.25 73 *e*P P 02 26 13.9 +0.1
comp=Z,13nm,1.3s
LENM *e* 02 26 28.0
SPMN St. Paul 59.27 55 *e*P P 02 26 14.2 +0.7
comp=Z,7.9nm,0.8s
SPMN St. Paul 59.27 55 ⇑P P 02 26 13.4 0.0
baz=59
P30A Selden 59.32 64 ⇓P P 02 26 14.2 +0.3
baz=59
LPM Los Pinos Moun 59.35 73 *e*P P 02 26 12.9 -1.5
comp=Z,16nm,1.5s
LPM *e* 02 26 27.2
Q29A Oakley 59.37 65 ⇑P P 02 26 14.9 +0.5
baz=59
O31A Woolen Ranch, 59.40 63 ⇓P P 02 26 14.6 +0.1
baz=59
X23A Hourglass Bar 59.42 72 ⇑P P 02 26 15.1 +0.2
baz=59
W24A Lazy 6 Ranch, 59.43 71 ⇓P P 02 26 15.3 +0.3
baz=59
V25A Rancho No Teng 59.45 70 ⇓P P 02 26 15.3 +0.3
baz=59
BNM Barren Site 59.46 73 *e*P P 02 26 14.5 -0.7
comp=Z,1.1nm,0.9s
BNM *e* 02 26 29.4
U26A Atchley Ranch, 59.56 69 ⇓P P 02 26 15.9 +0.1
baz=59
R29A Marienthal 59.61 66 ⇓P P 02 26 15.9 -0.1
baz=59
T27A Campo 59.67 68 ⇓P P 02 26 16.4 -0.1
baz=59
Q30A Quinter 59.73 64 ⇑P P 02 26 16.5 -0.3
baz=59
S28A Manter 59.77 67 ⇓P P 02 26 17.1 -0.1
baz=60
P31A Stockton 59.81 63 ⇑P P 02 26 17.4 0.0
baz=60
319A Douglas 59.86 77 ⇓P P 02 26 18.0 +0.1
baz=60
121A Cookes Peak, D 59.92 75 ⇓P P 02 26 18.8 +0.4
baz=60
V26A Tequesquite Ra 59.95 69 ⇑P P 02 26 18.8 +0.4
baz=60
Y23A Lovelace Mesa, 59.95 72 ⇓P P 02 26 18.5 -0.1
baz=60,SNR=6.3
W25A X Bar L Ranch, 59.97 70 ⇓P P 02 26 18.8 +0.1
baz=60
T28A Walsh 59.98 67 ⇑P P 02 26 18.6 +0.1
baz=60
U27A Thompson Grove 60.06 68 ⇓P P 02 26 19.2 -0.1
baz=60,SNR=6.1
P32A Huiting Farm, 60.17 63 ⇑P P 02 26 18.9 -0.8
baz=60
R30A Dighton 60.19 65 ⇑P P 02 26 19.9 -0.1
baz=60,SNR=5.3
Y24A Capitan 60.32 72 ⇓P P 02 26 21.2 +0.1
baz=60,SNR=5.4
Z23A Rita Site, Whi 60.32 73 ⇓P P 02 26 21.3 +0.3
baz=60
320A Kipp Ranch, An 60.34 76 ⇓P P 02 26 21.6 +0.5
baz=60
TKM2 Tokmak 2 60.45 303 *e*P P 02 26 22.2 +0.3
TKM2 pmax pmax
comp=Z,9.0nm,1.3s
TKM2 Tokmak 2 60.45 303 P P 02 26 22.4 +0.5
SNR=5.9
TKM2 Tokmak 2 60.45 303 *e*P P 02 26 22.2 +0.3
comp=Z,9.3nm,1.3s
S30A Montezuma 60.54 66 ⇑P P 02 26 21.9 -0.4
baz=60
R31A Burdett 60.60 65 ⇑P P 02 26 21.7 -1.0
baz=60
222A Williams Famil 60.63 75 ⇓P P 02 26 23.6 +0.4
baz=60,SNR=5.1
Q32A Meitler Ranch, 60.64 63 ⇓P P 02 26 22.4 -0.6
baz=60
Y25A Mesa, Roswell 60.76 72 ⇑P P 02 26 24.2 +0.2
baz=60,SNR=6.3
USP Ospenovka 60.77 304 *i*P P 02 26 25.1 +1.3
USP Ospenovka 60.77 304 P P 02 26 25.1 +1.3
SNR=6.9
Z24A Sheeppen Canyo 60.78 72 ⇑P P 02 26 24.7 +0.4
baz=60
V28A Channing 60.88 68 ⇑P P 02 26 24.7 -0.1
baz=61
R32A Long Quarter, 60.96 64 ⇑P P 02 26 24.4 -0.8
baz=61
KBK Karagaybulak 60.98 303 *i*P P 02 26 26.5 +1.1
KBK Karagaybulak 60.98 303 P P 02 26 26.5 +1.1
SNR=6.4
Q33A Connelly Farm, 61.03 63 ⇑P P 02 26 25.1 -0.5
baz=61
X27A F and S Farms, 61.16 70 ⇓P P 02 26 27.2 +0.4
baz=61
124A Stringfield Ra 61.18 73 ⇓P P 02 26 27.2 +0.1
baz=61
Z25A Roswell 61.20 72 ⇓P P 02 26 27.2 +0.3
baz=61
AAK Ala-Archa 61.23 303 *i*P P 02 26 27.9 +0.8
AAK Ala-Archa 61.23 303 P P 02 26 28.0 +0.8
SNR=7.0
AAK Ala-Archa 61.23 303 *e*P P 02 26 27.6 +0.5
comp=Z,13nm,1.2s
AAK Ala-Archa 61.23 303 P P 02 26 27.7 +0.7
comp=Z,5.4nm,0.9s,baz=60,slow=2.1,SNR=14
W28A Vega 61.24 69 ⇑P P 02 26 27.4 +0.2
baz=61
T31A Randall Ranch, 61.36 66 ⇓P P 02 26 27.6 -0.3
baz=61
R33A Olander Ranch, 61.44 64 ⇑P P 02 26 27.9 -0.5
baz=61
EKS2 Erkin-Say 61.57 304 *i*P P 02 26 30.7 +1.3
EKS2 Erkin-Say 61.57 304 P P 02 26 30.7 +1.3
SNR=12
EKS2 Erkin-Say 61.57 304 *e*P P 02 26 29.7 +0.3
comp=Z,18nm,1.3s
224A Cornudas Mount 61.59 74 ⇓P P 02 26 29.9 +0.3
baz=61,SNR=5.3
KSU1 Kansas State U 61.62 62 ⇑P P 02 26 29.2 -0.4
baz=61
Z26A Caprock 61.64 72 ⇑P P 02 26 29.9 0.0
baz=61
Y27A Causey 61.67 70 ⇑P P 02 26 30.3 +0.1
baz=61,SNR=7.4
125A Gardner Draw, 61.68 72 ⇑P P 02 26 30.4 +0.2
baz=61,SNR=5.2
X28A Dimmitt 61.77 69 ⇑P P 02 26 30.9 +0.1
baz=62
AMTX Amarillo 61.81 69 ⇓P P 02 26 31.0 -0.1
baz=62
MSTX Muleshoe 61.84 70 *e*P P 02 26 31.8 +0.5

	comp=Z,15nm,1.1s								
MSTX					*e*pP		**pP**		
MSTX	**Muleshoe**	**61.84**	**70**	⇑P			**P**	02 26 45.2	**+0.6**
	baz=62							02 26 31.4	**+0.1**
MNTX	**Cornudas Mount**	**61.94**	**74**	*e*P			**P**	02 26 31.8	**-0.1**
	comp=Z,12nm,1.0s								
MNTX				*e*				02 26 46.0	
225A	**Deer Hill, Car**	**61.98**	**73**	⇓P			**P**	02 26 32.7	**+0.4**
	baz=62								
AML	**Almayashu**	**62.00**	**303**	*i* P			**P**	02 26 34.1	**+1.5**
AML	**Almayashu**	**62.00**	**303**	P			**P**	02 26 34.1	**+1.5**
	SNR=5.8								
Z27A	**Tatum**	**62.05**	**71**	⇓P			**P**	02 26 32.6	**-0.1**
	baz=62								
126A	**Clayton Basin,**	**62.06**	**72**	⇑P			**P**	02 26 32.8	**+0.1**
	baz=62								
324A	**Moseley Ranch,**	**62.07**	**74**	⇑P			**P**	02 26 32.8	**-0.1**
	baz=62								
X29A	**Tulia**	**62.11**	**69**	⇓P			**P**	02 26 33.2	**+0.1**
	baz=62								
226B	**Tecolote Peak,**	**62.38**	**73**	⇑P			**P**	02 26 34.5	**-0.4**
	baz=62,SNR=6.4								
325A	**Bean Ranch, Si**	**62.42**	**74**	⇑P			**P**	02 26 35.4	**+0.2**
	baz=62								
127A	**Arkansas Junct**	**62.43**	**72**	⇓P			**P**	02 26 35.0	**-0.2**
	baz=62								
Z28A	**Tucker Farm, M**	**62.55**	**70**	⇓P			**P**	02 26 35.9	**-0.1**
	baz=62								
Y29A	**Porterfield Fa**	**62.55**	**70**	⇓P			**P**	02 26 36.1	**+0.1**
	baz=62,SNR=7.6								
W31A	**Holland Ranch,**	**62.58**	**67**	⇓P			**P**	02 26 36.3	**+0.1**
	baz=62								
X30A	**Coker Ranch, T**	**62.59**	**69**	⇓P			**P**	02 26 35.8	**-0.4**
	baz=62								
KSH	**Kashi**	**62.70**	**300**	*i* P			P	02 26 41.3	+4.3
KSH				*e*PP			PP	02 29 01.0	+6.2
KSH				*e*PcS			**PcS**	**02 31 16.0**	**-2.8**
KSH				*e*S			**S**	**02 35 04.8**	**+2.8**
KSH				*e*sS			sS	02 35 27.1	+2.9
KSH				*e*SS			**SS**	**02 39 12.4**	**+6.0**
KSH					pmax		pmax		
	comp=Z,8.0nm,1.0s								
KSH					pmax		pmax		
	comp=Z,62nm,3.3s								
KSH					LR		LR		
	comp=Z,140nm,5.7s								
KSH					LR		LR		
	comp=Z,49nm,3.2s								
KSH					LR		LR		
	comp=Z,57nm,5.4s								
425A	**Indio Mountain**	**62.84**	**74**	⇑P			**P**	02 26 38.1	**+0.1**
	baz=63,SNR=7.2								
KKAR	**Karatay Array**	**62.90**	**306**	*e*P			**P**	02 26 38.5	**+0.4**
KKAR	**Karatay Array**	**62.90**	**306**	*e*P			**P**	02 26 38.5	**+0.4**
X31A	**McDonald Ranch**	**62.96**	**68**	⇑P			**P**	02 26 38.3	**-0.3**
	baz=63								
Z29A	**Hungry Hill Ra**	**62.96**	**70**	⇓P			**P**	02 26 39.0	**+0.3**
	baz=63,SNR=5.1								
128A	**Castleberry Fa**	**62.97**	**71**	⇑P			**P**	02 26 38.2	**-0.7**
	baz=63								
SCHQ	**Schefferville**	**63.00**	**33**	P			**P**	02 26 38.3	**-0.3**
SCHQ	**Schefferville**	**63.00**	**33**	P			**P**	02 26 38.3	**-0.3**
	comp=Z,11nm,0.9s,baz=306,slow=4.8,SNR=7.8								
SCHQ					LR		LR	02 55 24.7	
	comp=Z,83nm,18.4s,baz=310,slow=37								
W32A	**Sentinel**	**63.02**	**67**	⇓P			**P**	02 26 39.2	**+0.1**
	baz=63								
326A	**Caldwell Ranch**	**63.05**	**73**	⇑P			**P**	02 26 39.5	**+0.1**
	baz=63,SNR=5.2								
V33A	**Lossen Ranch,**	**63.06**	**66**	⇑P			**P**	02 26 39.6	**+0.3**
	baz=63								
ABKAR	**Akbulak array**	**63.15**	**317**	*e*P			**P**	02 26 40.2	**+0.6**
ABKAR				*e*PcP			**PcP**	02 27 17.6	**+0.8**
FINES	**FINESS Array B**	**63.23**	**342**	P			**P**	02 26 39.9	**-0.1**
FINES	**FINESS Array B**	**63.23**	**342**	P			**P**	02 26 39.9	**-0.1**
	comp=Z,3.0nm,1.1s,baz=15,slow=8.3,SNR=4.2								
228A	**UT Block 9, Go**	**63.28**	**71**	⇓P			**P**	02 26 40.8	**0.0**
	baz=63								
Z30A	**Sanderson Ranc**	**63.28**	**70**	⇑P			**P**	02 26 40.6	**-0.2**
	baz=63								
W33A	**Caddo, Fort Co**	**63.44**	**66**	⇑P			**P**	02 26 42.1	**+0.3**
	baz=63								
426A	**McDonald Obser**	**63.48**	**74**	⇑P			**P**	02 26 42.2	**-0.2**
	baz=63,SNR=5.1								
X32A	**Elmer**	**63.51**	**67**	⇑P			**P**	02 26 41.9	**-0.3**
	baz=63								
328A	**Wristen Ranch,**	**63.68**	**72**	⇑P			**P**	02 26 43.2	**-0.3**
	baz=63,SNR=7.2								
427A	**Hayter Ranch,**	**63.72**	**73**	⇑P			**P**	02 26 44.0	**+0.1**
	baz=63								
Y32A	**R-V Farms, Ver**	**63.72**	**68**	⇑P			**P**	02 26 43.6	**-0.1**
	baz=63								
W34A	**Bridge Creek,**	**63.77**	**66**	⇓P			**P**	02 26 44.0	**0.0**
	baz=64								
Z31A	**Sharp Cattle R**	**63.82**	**69**	⇓P			**P**	02 26 44.6	**+0.2**
	baz=64								
526A	**Mary Lane Ranc**	**63.89**	**74**	⇑P			**P**	02 26 44.7	**-0.4**
	baz=64,SNR=6.5								
329A	**Wagon Wheel Ra**	**64.09**	**72**	⇑P			**P**	02 26 46.0	**-0.2**
	baz=64,SNR=5.3								
527A	**Woodward Ranch**	**64.11**	**74**	⇑P			**P**	02 26 46.0	**-0.5**
	baz=64								
131A	**Roby**	**64.15**	**70**	⇓P			**P**	02 26 46.6	**+0.1**
	baz=64								
X34A	**Smith Ranch, M**	**64.20**	**66**	⇑P			**P**	02 26 45.7	**-1.1**
	baz=64								
Z32A	**Haskell**	**64.21**	**68**	⇓P			**P**	02 26 46.9	**0.0**
	baz=64								
428A	**Kincaid Ranch,**	**64.23**	**73**	⇓P			**P**	02 26 47.2	**0.0**
	baz=64,SNR=9.3								
626A	**Big Bend Ranch**	**64.24**	**75**	⇓P			**P**	02 26 46.9	**-0.3**
	baz=64,SNR=8.2								
230A	**Sterling City**	**64.30**	**71**	⇓P			**P**	02 26 47.3	**-0.2**
	baz=64								
CHTO	**Chiang Mai**	**64.36**	**268**	*e*P			**P**	02 26 48.3	**+0.3**
CHTO					pmax		pmax		
	comp=Z,11nm,1.0s								
CHTO	**Chiang Mai**	**64.36**	**268**	*e*P			**P**	02 26 48.3	**+0.3**
	comp=Z,11nm,1.0s								
TUL1	**Tulsa**	**64.38**	**64**	⇑P			**P**	02 26 47.6	**-0.4**
	baz=64								
528A	**Cox Ranch, San**	**64.59**	**73**	⇓P			**P**	02 26 49.4	**-0.1**
	baz=64,SNR=7.9								
ABTX	**Abilene, Hawle**	**64.61**	**69**	*e*P			**P**	02 26 50.2	**+0.7**
	comp=Z,19nm,1.0s								
ABTX				*e*pP			**pP**	02 27 03.9	**+0.9**
ABTX	**Abilene, Hawle**	**64.61**	**69**	⇑P			**P**	02 26 49.5	**0.0**
	baz=64								
330A	**Mertzon**	**64.62**	**71**	⇑P			**P**	02 26 49.3	**-0.4**
	baz=64								
Z33A	**Whitaker Ranch**	**64.63**	**68**	⇑P			**P**	02 26 49.2	**-0.4**
	baz=64								
CMAR	**Chiang Mai Arr**	**64.64**	**268**	P			**P**	02 26 50.4	**+0.5**
CMAR	**Chiang Mai Arr**	**64.64**	**268**	P			**P**	02 26 50.4	**+0.5**
	comp=Z,3.6nm,0.6s,baz=20,slow=6.9,SNR=16								
CMAR					LR		LR	02 57 49.1	
	comp=Z,45nm,18.1s,baz=32,slow=38								
TXAR	**Lajitas Array**	**64.67**	**74**	P			**P**	02 26 49.8	**-0.3**
TXAR	**Lajitas Array**	**64.67**	**74**	P			**P**	02 26 49.8	**-0.3**
	comp=Z,5.9nm,0.8s,baz=300,slow=3.8,SNR=74								
TXAR					LR		LR	02 53 46.2	
	comp=Z,54nm,18.4s,baz=0.0,slow=35								
Y34A	**Reagan Ranch,**	**64.71**	**67**	⇓P			**P**	02 26 50.2	**+0.1**
	baz=64								
231A	**Bronte**	**64.73**	**70**	⇓P			**P**	02 26 50.4	**0.0**
	baz=64								
429A	**Davenport Ranc**	**64.77**	**72**	⇓P			**P**	02 26 50.2	**-0.4**
	baz=64								
TAPN	**Taplejung**	**64.86**	**283**	*e*P			**P**	02 26 52.2	**+0.6**
	comp=Z,82nm,1.4s								
529A	**Stev Forest Ra**	**64.95**	**73**	⇓P			**P**	02 26 51.5	**-0.3**
	baz=65,SNR=5.2								
628A	**Black Gap, Mar**	**65.02**	**74**	⇓P			**P**	02 26 52.2	**-0.1**
	baz=65								
430A	**Baggett Ranch,**	**65.04**	**72**	⇑P			**P**	02 26 52.2	**-0.2**
	baz=65,SNR=7.8								
133A	**Hamilton Ranch**	**65.04**	**69**	⇑P			**P**	02 26 52.2	**-0.1**
	baz=65								
Z34A	**Collier Ranch,**	**65.05**	**67**	⇓P			**P**	02 26 51.6	**-0.8**
	baz=65								
331A	**San Angelo**	**65.12**	**71**	⇓P			**P**	02 26 53.0	**0.0**
	baz=65								
232A	**Coleman**	**65.15**	**70**	⇑P			**P**	02 26 53.1	**0.0**
	baz=65,SNR=6.2								
ODAN	**Odare**	**65.41**	**283**	*e*P			**P**	02 26 55.6	**+0.5**
	comp=Z,8.5nm,0.4s								
530A	**J-C Ranch, Com**	**65.45**	**72**	⇓P			**P**	02 26 54.9	**-0.1**
	baz=65,SNR=13								
332A	**Millersview**	**65.47**	**70**	⇑P			**P**	02 26 55.0	**-0.1**
	baz=65,SNR=7.4								
431A	**Sonora**	**65.48**	**71**	⇓P			**P**	02 26 54.7	**-0.6**
	baz=65,SNR=5.7								
233A	**Rising Star**	**65.48**	**69**	⇓P			**P**	02 26 55.2	**0.0**
	baz=65								
JIRN	**Jiri**	**65.54**	**284**	*e*P			**P**	02 26 56.7	**+0.6**
	comp=Z,51nm,1.2s								
GUN	**Gumba**	**65.54**	**284**	*e*P			**P**	02 26 56.7	**+0.7**
	comp=Z,65nm,1.1s								
134A	**White-Moore Ra**	**65.55**	**68**	⇑P			**P**	02 26 54.8	**-0.7**
	baz=65								
SFIN	**Scholer Farm**	**65.67**	**55**	⇑P			**P**	02 26 55.5	**-0.7**
	baz=65								
432A	**Menard**	**65.81**	**70**	⇑P			**P**	02 26 57.5	**+0.2**
	baz=66								
RAMN	**Ramite**	**65.82**	**283**	*e*P			**P**	02 26 58.1	**+0.4**
	comp=Z,84nm,1.1s								
NB2	**NORSAR Subarra**	**65.88**	**349**	P			**P**	02 26 58.4	**+1.1**
	comp=Z,0.7nm,0.7s,baz=13,slow=6.5								
NOA	**NORSAR Array B**	**65.88**	**349**	P			**P**	02 26 57.2	**-0.2**
NOA	**NORSAR Array B**	**65.88**	**349**	P			**P**	02 26 57.2	**-0.2**
	comp=Z,1.1nm,0.8s,baz=14,slow=6.6,SNR=4.6								
NOA					LR		LR	02 56 33.6	
	comp=Z,19nm,18.1s,baz=15,slow=37								
531A	**Rocksprings**	**65.90**	**72**	⇓P			**P**	02 26 57.3	**-0.7**
	baz=66,SNR=5.2								
333A	**Richland Sprin**	**65.95**	**70**	⇓P			**P**	02 26 57.6	**-0.6**
	baz=66,SNR=6.5								
KKN	**Kakani**	**65.99**	**285**	*e*P			**P**	02 26 59.4	**+0.7**
PKI	**Pulchoki**	**66.07**	**284**	*e*P			**P**	02 26 59.9	**+0.5**
PKIN	**Phulchoki**	**66.08**	**284**	*e*P			**P**	02 26 59.8	**+0.4**
	comp=Z,14nm,0.5s								
JCT	**Junction City**	**66.10**	**71**	*e*P			**P**	02 26 58.7	**-0.5**
JCT				*e*				02 27 12.7	
JCT					pmax		pmax		
	comp=Z,17nm,1.0s								
JCT	**Junction City**	**66.10**	**71**	*e*P			**P**	02 26 58.7	**-0.5**
	comp=Z,17nm,1.0s								
JCT				*e*				02 27 12.7	
JCT	**Junction City**	**66.10**	**71**	⇓P			**P**	02 26 58.9	**-0.3**
	baz=66,SNR=5.8								
GKN	**Gorkha**	**66.21**	**285**	*e*P			**P**	02 27 00.6	**+0.5**
	comp=Z,46nm,1.0s								
DMN	**Daman**	**66.22**	**285**	*e*P			**P**	02 27 01.0	**+0.7**
	comp=Z,5.9nm,0.4s								
532A	**Rocksprings**	**66.30**	**71**	⇑P			**P**	02 26 59.6	**-0.9**
	baz=66,SNR=5.5								
433A	**Art**	**66.31**	**70**	⇓P			**P**	02 26 60.0	**-0.5**
	baz=66,SNR=9.2								
334A	**Lometa**	**66.37**	**69**	⇑P			**P**	02 27 01.3	**+0.4**
	baz=66								
HFS	**Hagfors**	**66.46**	**348**	P			**P**	02 27 01.1	**+0.1**
HFS	**Hagfors**	**66.46**	**348**	P			**P**	02 27 01.1	**+0.1**
	comp=Z,1.4nm,0.7s,baz=60,slow=8.9,SNR=4.5								
HFS					LR		LR	02 58 06.9	
	comp=Z,78nm,19.8s,baz=13,slow=38								
DANN	**Dangsing**	**66.47**	**286**	*e*P			**P**	02 27 02.5	**+0.6**
	comp=Z,36nm,1.1s								
OBN	**Obninsk**	**66.50**	**333**	⇑*i*P			**P**	02 27 01.6	**+0.3**
OBN				*e*				02 27 31.4	
OBN					pmax		pmax		
	comp=Z,18nm,1.6s								
OBN	**Obninsk**	**66.50**	**333**	LR			LR	02 58 06.7	
	comp=Z,74nm,18.0s,baz=296,slow=38								
MIAR	**Mount Ida**	**66.61**	**64**	*e*P			**P**	02 27 01.9	**-0.5**
MIAR				*e*PP			**pP**	02 27 16.1	**+0.3**
MIAR					pmax		pmax		
	comp=Z,11nm,1.1s								
MIAR	**Mount Ida**	**66.61**	**64**	*e*P			**P**	02 27 01.9	**-0.5**
	comp=Z,11nm,1.1s								
MIAR				*e*pP			**pP**	02 27 16.1	**+0.3**
434A	**Burnet**	**66.73**	**69**	⇓P			**P**	02 27 03.0	**-0.3**
	baz=66,SNR=5.5								
632A	**Uvalde**	**66.83**	**71**	⇑P			**P**	02 27 04.1	**+0.3**
	baz=66								
533A	**Kerrville**	**66.84**	**71**	⇓P			**P**	02 27 03.6	**-0.4**
	baz=67,SNR=5.0								
335A	**Moody**	**66.87**	**69**	⇓P			**P**	02 27 04.3	**+0.2**
	baz=67								
KOLN	**Koldanda**	**67.00**	**286**	*e*P			**P**	02 27 05.5	**+0.3**
	comp=Z,21nm,1.0s								
534A	**Blanco**	**67.20**	**70**	⇑P			**P**	02 27 05.9	**-0.3**
	baz=67,SNR=8.3								
633A	**Saathoff Ranch**	**67.22**	**71**	⇓P			**P**	02 27 06.5	**+0.2**
	baz=67								
732A	**Laxson Ranch,**	**67.30**	**72**	⇑P			**P**	02 27 07.3	**+0.5**
	baz=67								
832A	**Faith Ranch, C**	**67.62**	**72**	⇑P			**P**	02 27 08.5	**-0.4**
	baz=67,SNR=5.8								
733A	**Divot King Ran**	**67.70**	**72**	⇓P			**P**	02 27 09.8	**+0.5**
	baz=67								
535A	**Dale**	**67.72**	**70**	⇑P			**P**	02 27 10.0	**+0.5**
	baz=67								
833A	**Chaparral WMA,**	**67.93**	**72**	⇑P			**P**	02 27 11.3	**+0.5**
	baz=68								
635A	**Leesville**	**68.08**	**70**	⇓P			**P**	02 27 11.8	**+0.1**
	baz=68								
735A	**Kenedy**	**68.46**	**71**	⇓P			**P**	02 27 14.6	**+0.5**
	baz=68								
VRHR	**Novokhopersk**	**68.49**	**328**	*e*P			**P**	02 27 12.5	**-1.4**
VRHR					pmax		pmax		
	comp=Z,20nm,1.3s								
VRHR					pmax		pmax		
	comp=N,10.0nm,1.5s								
VRHR					pmax		pmax		
	comp=E,10.0nm,1.1s								
933A	**Laredo**	**68.53**	**72**	⇓P			**P**	02 27 15.1	**+0.5**
	baz=68								
834A	**Tilden**	**68.57**	**72**	⇓P			**P**	02 27 15.7	**+0.9**
	baz=68,SNR=5.7								
934A	**Benavides**	**68.98**	**72**	⇓P			**P**	02 27 18.0	**+0.6**
	baz=69,SNR=5.2								
VSR	**Storozhevoye**	**69.16**	**330**	*e*P			**P**	02 27 17.7	**-0.4**
VSR					pmax		pmax		
	comp=N,10.0nm,1.1s								
VSR					pmax		pmax		
	comp=Z,10.0nm,1.1s								
VSR					pmax		pmax		
	comp=E,8.0nm,0.9s								
034A	**Hebbronville**	**69.29**	**72**	⇑P			**P**	02 27 19.1	**-0.2**
	baz=69								
VORD	**Divnogorie**	**69.33**	**330**	*e*P			**P**	02 27 19.2	**0.0**
VORD					pmax		pmax		
	comp=Z,10.0nm,0.8s								
VORD					pmax		pmax		
	comp=N,20nm,1.5s								
VORD					pmax		pmax		
	comp=E,50nm,1.7s								
KBL	**Kabul**	**70.09**	**301**	*e*P			**P**	02 27 23.9	**-0.5**
KBL					pmax		pmax		
	comp=Z,16nm,1.1s								
KBL	**Kabul**	**70.09**	**301**	*e*P			**P**	02 27 23.9	**-0.5**
	comp=Z,16nm,1.1s								
AKASG	**Malin Array Be**	**72.42**	**336**	P			**P**	02 27 38.4	**+0.5**
AKASG	**Malin Array Be**	**72.42**	**336**	P			**P**	02 27 38.4	**+0.5**
AKASG	**Malin Array Be**	**72.42**	**336**	P			**P**	02 27 38.4	**+0.5**
	comp=Z,0.7nm,0.3s,baz=24,slow=5.9,SNR=12								
KIEV	**Kiev**	**72.43**	**336**	⇓*e*P			**P**	02 27 38.4	**+0.5**
KMSC	**Kings Mountain**	**72.61**	**55**	⇓P			**P**	02 27 38.0	**-1.3**
	baz=72								
GOF	**Gofitskoye**	**73.20**	**324**	*e*P			**P**	02 27 43.8	**+1.1**
GOF					pmax		pmax		
	comp=Z,39nm,1.3s								
KIV	**Kislovodsk**	**74.29**	**324**	*e*P			**P**	02 27 51.3	**+2.1**
KIV					pmax		pmax		
	comp=Z,6.0nm,1.1s								
KBZ	**Khabaz**	**74.41**	**324**	P			**P**	02 27 52.1	**+2.4**
KBZ	**Khabaz**	**74.41**	**324**	P			**P**	02 27 52.1	**+2.4**
KBZ	**Khabaz**	**74.41**	**324**	P			**P**	02 27 52.1	**+2.4**
	comp=Z,6.1nm,0.9s,baz=30,slow=2.8,SNR=11								
ZEI	**Tsey**	**74.85**	**323**	*e*P			**P**	02 27 52.3	**-0.3**
ZEI					pmax		pmax		
	comp=Z,17nm,1.5s								
KWP	**Kalwaria Pacla**	**74.95**	**339**	*e*P			**P**	02 27 54.0	**+1.2**
KWP					pmax		pmax		
	comp=Z,44nm,1.8s								
KWP	**Kalwaria Pacla**	**74.95**	**339**	*e*P			**P**	02 27 54.0	**+1.2**
	comp=Z,44nm,1.8s								
ANN	**Anapa**	**75.36**	**328**	*e*P			P	02 27 51.6	-3.6
ANN					pmax		pmax		
	comp=Z,75nm,1.2s								
DPC	**Dobruska-Polom**	**75.52**	**344**	*e*P			**P**	02 27 57.4	**+1.3**
DPC	**Dobruska-Polom**	**75.52**	**344**	*e*P			**P**	02 27 57.4	**+1.3**
OKC	**Ostrava-Krasne**	**75.68**	**342**	*e*P			**P**	02 27 58.7	**+1.8**
OKC	**Ostrava-Krasne**	**75.68**	**342**	*e*P			**P**	02 27 58.7	**+1.8**
KRLC	**Kraliky**	**75.70**	**343**	*e*P			**P**	02 27 58.2	**+1.1**
KRLC	**Kraliky**	**75.70**	**343**	*e*P			**P**	02 27 58.2	**+1.1**
BUR08	**Bucovina Ar. S**	**76.25**	**337**	*e*P			**P**	02 28 01.6	**+1.3**
PSI	**Prapat**	**76.84**	**257**	LR			LR	03 02 09.5	
	comp=Z,25nm,19.1s,slow=36								
GERES	**GERESS Array B**	**77.41**	**345**	P			**P**	02 28 08.0	**+1.1**
GERES	**GERESS Array B**	**77.41**	**345**	P			**P**	02 28 08.0	**+1.1**
	comp=Z,0.6nm,0.5s,baz=27,slow=5.8,SNR=10								
WRA	**Warramunga Arr**	**78.67**	**215**	P			**P**	02 28 12.2	**-1.8**
WRA	**Warramunga Arr**	**78.67**	**215**	P			**P**	02 28 12.2	**-1.8**
	comp=Z,2.6nm,0.7s,baz=30,slow=6.3,SNR=10								
WRA					LR		LR	03 03 01.0	
	comp=Z,11nm,18.9s,baz=50,slow=36								
KBA	**Koelnbreinsper**	**79.19**	**345**	⇓*i*P			**P**	02 28 18.9	**+2.1**
	comp=Z,16nm,1.4s								
BRTR	**Keskin Array B**	**81.15**	**328**	P			**P**	02 28 28.7	**+1.2**
BRTR	**Keskin Array B**	**81.15**	**328**	P			**P**	02 28 28.7	**+1.2**
	comp=Z,2.6nm,0.9s,baz=64,slow=3.7,SNR=9.7								
BRTR					LR		LR	03 10 39.3	
	comp=Z,29nm,18.2s,baz=342,slow=40								
ASAR	**Alice Springs**	**82.26**	**214**	P			**P**	02 28 32.2	**-0.9**
ASAR	**Alice Springs**	**82.26**	**214**	P			**P**	02 28 32.2	**-0.9**
	comp=Z,1.0nm,0.8s,baz=29,slow=5.4,SNR=7.4								
ASAR					LR		LR	03 00 23.5	
	comp=Z,62nm,20.6s,baz=78,slow=32								
TGUH	**Tegucigalpa,Un**	**86.06**	**72**	*e*P			**P**	02 28 52.8	**0.0**
	comp=Z,57nm,1.1s								
STKA	**Stephens Creek**	**87.65**	**205**	P			**P**	02 28 59.0	**-0.9**
STKA	**Stephens Creek**	**87.65**	**205**	P			**P**	02 28 59.0	**-0.9**
	comp=Z,4.2nm,1.0s,baz=348,slow=6.7,SNR=4.8								
H03N2	**Juan Fernandez**	**127.55**	**98**	T			T	04 55 53.3	
	baz=312,slow=75,SNR=6.1								
H03N1	**Juan Fernandez**	**127.56**	**98**	T			T	04 55 50.9	
	baz=312,slow=75,SNR=7.1								
H03N3	**Juan Fernandez**	**127.56**	**98**	T			T	04 55 51.6	
	baz=312,slow=75,SNR=7.0								
BOSA	**Boshof**	**145.30**	**299**	PKPbc			**PKPdf**	**02 35 49.4**	**0.0**
BOSA	**Boshof**	**145.30**	**299**	PKPbc			**PKPdf**	**02 35 49.4**	**0.0**
	comp=Z,8.3nm,0.9s,baz=20,slow=4.4,SNR=9.1								
SYO	**Syowa Base**	**151.92**	**215**	⇓*i*P			**PKPbc**	**02 36 02.6**	**-2.5**

TRN 14 02:20:05.1, 15°.81N×60°.76W, h21km, MD3.7, M3.3(FDF), M3.1(FDF), 5C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.55**	**282**		*e*P	Pn	02 20 18.7	+1.1
DEG	**La Desirade**	**0.58**	**330**		*e*P	Pn	02 20 17.9	-0.4
BBL	**Barber's Block**	**0.74**	**248**		*e*P	Pn	02 20 21.3	+1.0
DBCT	**Belle View Cho**	**0.78**	**227**		*e*P	Pn	02 20 22.9	+2.0
DBCT					*e*S	Sn	02 20 34.6	+2.7
MDN	**Morne-Daniel**	**0.78**	**232**		*e*P	Pn	02 20 23.0	+2.2
MDN					*e*S	Sn	02 20 34.6	+2.8
DSHT	**Scott's Head**	**0.83**	**225**		*e*P	Pn	02 20 23.9	+2.2
DSHT					*e*S	Sn	02 20 35.8	+2.5
TBG	**Guadaloupe-3**	**0.85**	**273**		*e*P	Pn	02 20 23.4	+1.6
DOG	**Dongo Capester**	**0.86**	**285**		*e*P	Pn	02 20 23.6	+1.6
BCG	**Bois Riant Cap**	**0.87**	**289**		*e*P	Pn	02 20 23.8	+1.5
PHG	**Guadaloupe-2**	**0.87**	**284**		*e*P	Pn	02 20 23.9	+1.6
ECG	**Echelle**	**0.89**	**285**		*e*P	Pn	02 20 24.2	+1.5
LKG	**Breislack**	**0.90**	**286**		*e*P	Pn	02 20 23.8	+1.1
LKG					*e*S	Sn	02 20 37.1	+1.9
CRG	**Carmichael**	**0.90**	**286**		*e*P	Pn	02 20 24.2	+1.4
TAG	**Tarade**	**0.90**	**285**		*e*P	Pn	02 20 24.3	+1.6
SCG	**Saint Claude**	**0.91**	**284**		*e*P	Pn	02 20 24.4	+1.6
HMG	**Houelmont**	**0.92**	**281**		*e*P	Pn	02 20 24.5	+1.6
FNG	**Fond-Bernard**	**0.93**	**286**		*e*P	Pn	02 20 24.5	+1.5
SSG	**Sans Toucher**	**0.93**	**288**	⇑*i*P		Pn	02 20 24.5	+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.44**	**120**	Pn	**Pn**	**02 33 42.6**	**+0.9**
KBS				Sn	**Sn**	**02 34 20.4**	**-2.0**
KBS	**Kingsbay**	**3.44**	**120**	Pn	**Pn**	**02 33 42.6**	**+0.9**
KBS				Sn	**Sn**	**02 34 20.4**	**-2.0**
KBS				IAML		02 34 22.9	
	comp=Z,40nm,0.3s						
KBS	**Kingsbay**	**3.44**	**120**	Pn	**Pn**	**02 33 42.6**	**+0.9**
	SNR=50						
KBS				*i* S	**Sn**	**02 34 20.1**	**-2.3**
	comp=Z,27nm,0.3s,SNR=71						
KBS				Sn	**Sn**	**02 34 20.4**	**-2.0**
	SNR=50						
SPA0	**Spitsbergen Ar**	**4.59**	**118**	Pn	**Pn**	**02 33 58.3**	**+0.7**
	baz=329,slow=11						
SPA0				Sn	**Sn**	**02 34 49.0**	**-1.9**
	baz=337,slow=22						
SPA0	**Spitsbergen Ar**	**4.59**	**118**	Pn	**Pn**	**02 33 58.3**	**+0.7**
	baz=329,slow=11						
SPA0				Sn	**Sn**	**02 34 49.0**	**-1.9**
	baz=337,slow=22						
SPA0	**Spitsbergen Ar**	**4.59**	**118**	Pn	**Pn**	**02 33 58.3**	**+0.7**
	SNR=50						
SPA0				Sn	**Sn**	**02 34 49.0**	**-1.9**
	SNR=50						
SPITS	**Spitsbergen Ar**	**4.59**	**118**	Pn	**Pn**	**02 33 58.8**	**+1.2**
	baz=329,slow=10,SNR=382						
SPITS				Sn	**Sn**	**02 34 50.9**	**0.0**
	baz=315,slow=18,SNR=3.1						
SPITS				LR	LR	02 35 51.2	
	comp=Z,378nm,18.2s,baz=310,slow=38						
DAG	**Danmarks Havn**	**5.13**	**222**	*i* P	**Pn**	**02 34 06.9**	**+2.0**
DAG				*i* S	**Sn**	**02 35 02.5**	**-1.6**
DAG	**Danmarks Havn**	**5.13**	**222**	*i* P	**Pn**	**02 34 07.0**	**+2.0**
	SNR=71						
DAG				*i* S	**Sn**	**02 35 02.5**	**-1.6**
	comp=Z,26nm,0.2s,SNR=71						
HOPEN	**Hopen**	**7.10**	**114**	*e*P	**Pn**	**02 34 32.1**	**+0.2**
HOPEN				*e*S	**Sn**	**02 35 48.2**	**-4.3**
HOPEN				IAML		02 35 52.7	
	comp=Z,10nm,0.4s						
HOPEN	**Hopen**	**7.10**	**114**	*e*P	**Pn**	**02 34 32.1**	**+0.2**
	SNR=47						
SUMG	**Summit**	**11.31**	**241**	*i* P	**Pn**	**02 35 28.8**	**-1.1**
SUMG				*i* S	Sn	02 37 27.0	-9.3
SUMG	**Summit**	**11.31**	**241**	*i* P	**Pn**	**02 35 28.8**	**-1.1**
	SNR=71						
ARA0	**ARCESS Array S**	**13.41**	**132**	Pn	**Pn**	**02 36 00.5**	**+2.3**
	baz=352,slow=14						
ARA0				Sn	**Sn**	**02 38 22.6**	**-4.5**
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**13.41**	**132**	Pn	**Pn**	**02 36 00.5**	**+2.3**
	baz=352,slow=14						
ARA0				Sn	**Sn**	**02 38 22.6**	**-4.5**
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**13.41**	**132**	Pn	**Pn**	**02 36 00.5**	**+2.3**
	SNR=50						
ARCES	**ARCESS Array B**	**13.41**	**132**	Pn	**Pn**	**02 36 00.4**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=7.4						
ARCES				Sn	**Sn**	**02 38 22.9**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=3.2,slow=21,SNR=2.4						
ARCES				LR	LR	02 40 51.8	
	comp=Z,68nm,18.7s,baz=345,slow=36						
RES	**Resolute Bay**	**17.98**	**301**	LR	LR	02 43 57.3	
	comp=Z,146nm,18.4s,baz=32,slow=38						
SFJD	**Kangerlussuaq**	**18.14**	**247**	LR	LR	02 44 17.4	
	comp=Z,280nm,18.0s,baz=3.5,slow=38						
FINES	**FINESS Array B**	**21.31**	**139**	P	**P**	**02 37 35.6**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=7.0,slow=13,SNR=3.0						
FINES				LR	LR	02 45 39.7	
	comp=Z,33nm,20.1s,baz=12,slow=36						
FRB	**Frobisher Bay**	**23.90**	**264**	P	**P**	**02 38 01.9**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=7.0,slow=9.6,SNR=4.7						
INK	**Inuvik**	**28.43**	**323**	LR	LR	02 53 34.4	
	comp=Z,47nm,18.0s,baz=352,slow=44						
YKA	**Yellowknife Ar**	**31.94**	**305**	P	**P**	**02 39 12.3**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=14,slow=9.1,SNR=8.2						
YKA				PcP	**PcP**	**02 42 02.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=6.5,slow=2.6,SNR=6.5						
AKASG	**Malin Array Be**	**32.21**	**140**	P	**P**	**02 39 18.0**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=348,slow=9.6,SNR=4.0						
ILAR	**Eielson Array**	**33.03**	**332**	P	**P**	**02 39 21.5**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=1.5,slow=7.5,SNR=8.6						
KURBB	**Kurchatov Arra**	**39.21**	**87**	P	**P**	**02 40 19.0**	**+3.1**
	comp=Z,0.3nm,0.8s,baz=331,slow=9.0,SNR=3.9						
ULM	**Lac du Bonnet**	**41.12**	**283**	P	**P**	**02 40 30.2**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=354,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**43.52**	**84**	P	**P**	**02 40 54.1**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=349,slow=7.8,SNR=3.3						
MKAR				LR	LR	03 00 53.2	
	comp=Z,37nm,21.1s,baz=359,slow=39						
PDAR	**Pinedale Array**	**50.47**	**293**	LR	LR	03 04 18.8	
	comp=Z,79nm,21.7s,baz=4.0,slow=38						
TXAR	**Lajitas Array**	**62.77**	**285**	P	**P**	**02 43 12.7**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=19,slow=5.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**67.94**	**174**	P	**P**	**02 43 48.6**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=352,slow=5.2,SNR=2.9						

CASC 14 02:38:30.9±1.3, 13°32N×90°97W, h6km±14km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.98**	**31**	*e*P	Pg	02 38 49.4	-0.7
IXG				*e*S	Sb	02 39 04.3	+0.3
PCG	**Pacaya**	**1.12**	**18**	*e*P	Pg	02 38 52.6	-0.2
NBG	**Las Nubes**	**1.40**	**26**	*e*P	Pn	02 38 56.5	-0.9
SBLS	**San Blas**	**1.41**	**68**	*e*P	Pn	02 38 56.6	-0.8
RTR	**El Retiro**	**1.41**	**66**	*e*P	Pn	02 38 56.0	-1.4
RBDL	**Robledal**	**1.48**	**58**	*e*P	Pn	02 38 57.0	-1.3
BOQS	**Boqueron**	**1.69**	**76**	*e*P	Pn	02 39 01.0	-0.3
LFRS	**El Faro**	**1.88**	**81**	*e*P	Pn	02 39 03.2	-0.6
LBRS	**Las Brisas**	**1.92**	**77**	*e*P	Pn	02 39 04.4	+0.2
SNVI	**San Vicente**	**2.09**	**82**	*e*P	Pn	02 39 06.3	-0.4
MRL	**Marmol**	**2.13**	**35**	*e*P	Pn	02 39 07.9	+0.6

*DHMR **14** 02:59:21.7±1.3, 11°.78N×43°.33E, h5km±12km, ML4.2*
*ISCJB **14** 02:59:25.3±0.7, 11°.81N±0°.05×43°.32E±0°.06, h10km, Error ellipse: s-maj=10.6km s-min=3.5km az=135.1*
*ARO **14** 02:59:26.8, 12°N±2°×4°.3E±°, h4km±4km, ML3.8*

ISC 14 02:59:25.5±0.9, 11°.84N±0°.05×43°.32E±0°.06, h10km, n16, σ1§32/25, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.15**	**348**	*i* P	**Pg**	**02 59 29.9**	**+1.1**
ATA	**Atar**	**0.40**	**197**	*i* P	**Pg**	**02 59 34.3**	**+0.9**
TDD	**Tadjoura Ara**	**0.41**	**265**	*i* P	**Pg**	**02 59 34.0**	**+0.4**
ATD	**Arta Tunnel**	**0.56**	**237**	*i* P	**Pg**	**02 59 36.5**	**+0.1**
ATD				S	**Sg**	**02 59 44.2**	**+0.4**
SGH	**Sud-Ghoubbet**	**0.79**	**239**	*e*P	**Pg**	**02 59 40.2**	**-0.5**
LARD	**Lac Aux requin**	**0.84**	**252**	*e*P	**Pg**	**02 59 41.0**	**-0.7**
LARD				*e*S	**Sg**	**02 59 52.5**	**-0.3**
LDLD	**Lac de Lave**	**0.85**	**253**	*e*P	**Pg**	**02 59 41.3**	**-0.6**
GBR	**Grand-Bara**	**1.09**	**231**	*e*P	**Pb**	**02 59 45.0**	**-1.4**
MAOD	**Malaho**	**1.10**	**283**	*e*P	**Pb**	**02 59 44.9**	**-1.8**
TRBA	**At Turbah**	**1.58**	**29**	*i* P	**Pn**	**02 59 52.2**	**-1.7**
TRBA				*i* S	**Sn**	**03 00 14.4**	**-0.1**
TRBA				AML	AML	03 00 15.0	
	comp=Z,5μm,0.5s						
UDYN	**Al 'Udayn**	**2.21**	**16**	⇓*i* P	**Pn**	**03 00 01.6**	**-0.7**
UDYN				*i* S	**Sb**	**03 00 32.9**	**-0.1**
UDYN				AML	AML	03 00 41.0	
	comp=E,1μm,0.5s						
LBOS		**2.76**	**43**	*i* P	**Pn**	**03 00 10.0**	**-0.1**
LBOS				*i* S	**Sb**	**03 00 48.6**	**-0.3**
DHBB	**Dhamar BB**	**2.91**	**21**	*i* P	**Pn**	**03 00 12.6**	**+0.5**
DHBB				*i* S	**Sb**	**03 00 52.9**	**-0.5**
BDHA	**Al Bayda'**	**3.05**	**46**	⇑*i* P	**Pn**	**03 00 13.6**	**-0.4**
BDHA				*i* S	**Sb**	**03 00 54.7**	**-2.7**
BDHA				AML	AML	03 01 05.3	
	comp=E,1μm,0.5s						
HAJJ	**Hajjah**	**3.84**	**4**	*i* P	**Pn**	**03 00 25.1**	**+0.2**
HAJJ				*i* S	**Sn**	**03 01 13.9**	**+3.5**
HAJJ				AML	AML	03 01 29.7	
	comp=Z,1μm,0.5s						
FURI	**Furi**	**5.43**	**238**	P	**Pb**	**03 01 02.2**	**+1.6**
FURI				S	**Pg**	**03 01 11.2**	**+1.7**

*ISCJB **14** 03:03:16.4±0.4, 18°.25N±0°.05×72°.84W±0°.03, h6km, mb3.8/13, MS3.2/3, Error ellipse: s-maj=6.7km s-min=4.3km az=0.6*
*IDC **14** 03:03:17.3±0.8, 18°.43N×72°.78W, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.8/25, mbtmp3.7/10, ML4.1/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/49, Error ellipse: s-maj=31.1km s-min=19.8km az=33.0*
*NEIC **14** 03:03:18.8±0.3, 18°.43N×72°.81W, h10km, mb4.1/4, Error ellipse: s-maj=8.3km s-min=6.0km az=11.0*

ISC 14 03:03:17.9±0.5, 18°.32N±0°.05×72°.89W±0°.04, h6km, n46, σ1§86/58, mb3.8/13, MS3.2/3, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.66**	**66**	Pn	**Pn**	**03 03 46.4**	**-1.2**
SDDR				*e*S	**Sn**	**03 04 07.4**	**-1.9**
GTBY	**Guantanamo Bay**	**2.64**	**308**	*e*Pn	**Pn**	**03 03 59.7**	**-1.4**
GTBY				*e*S	**Sb**	**03 04 36.7**	**-1.7**
GRTK	**Grand Turk**	**3.58**	**27**	*e*Pn	**Pn**	**03 04 12.8**	**-1.2**
GRTK				*e*S	**Sn**	**03 04 58.7**	**+2.0**
MTDJ	**Mount Denham**	**4.41**	**270**	*e*Pn	**Pn**	**03 04 26.6**	**+1.0**
MTDJ				*e*S	**Sn**	**03 05 22.3**	**+5.0**
CRPR	**Cabo Rojo, PR**	**5.50**	**92**	*e*Pn	**Pn**	**03 04 40.5**	**0.0**
CRPR				*e*S	**Sb**	**03 06 00.2**	**-0.6**
CELP	**Cerrillos**	**6.00**	**91**	*e*Pn	**Pn**	**03 04 46.7**	**-0.6**
CELP				*e*S	**Sn**	**03 05 60.0**	**+3.5**
CBYP	**Canovanas**	**6.68**	**89**	*e*Pn	**Pn**	**03 04 54.9**	**-1.9**
MTP	**Monte Pirata**	**6.98**	**91**	*e*Pn	**Pn**	**03 05 01.0**	**+0.3**
	26nm,0.9s						
MTP				*e*S	**Sn**	**03 06 22.1**	**+1.6**
SDV	**Santo Domingo**	**9.62**	**167**	*e*Pn	**Pn**	**03 05 38.7**	**+1.4**
	4.1nm,0.7s						
SDV				*e*S	**Sn**	**03 07 22.1**	**-3.8**
BCIP	**Isla Barro Col**	**11.32**	**217**	*e*Pn	**Pn**	**03 06 01.6**	**+1.3**
ROSC	**El Rosal**	**13.45**	**186**	Pn	P	03 06 34.7	-4.7
ROSC				Sn	**Sn**	**03 08 56.2**	**-3.7**
ROSC	**El Rosal**	**13.45**	**186**	Pn	P	03 06 35.2	-4.2
	0.3nm,0.3s,baz=85,slow=16,SNR=5.0						
ROSC				Sn	**Sn**	**03 08 56.2**	**-3.7**
	0.7nm,0.3s,baz=90,slow=20,SNR=2.6						
ROSC				LR	LR	03 12 30.9	
	comp=Z,51nm,19.4s,baz=11,slow=41						
TEIG	**Tepich**	**14.65**	**280**	*e*Pn	**Pn**	**03 06 47.1**	**+1.3**
TEIG				Sn	**Sn**	**03 09 23.7**	**-4.9**
TEIG	**Tepich**	**14.65**	**280**	Pn	**Pn**	**03 06 46.8**	**+0.9**
	0.8nm,0.3s,baz=72,slow=20,SNR=5.7						
TEIG				Sn	**Sn**	**03 09 23.7**	**-4.9**
	0.1nm,0.3s,baz=45,slow=20,SNR=2.5						
TKL	**Tuckaleechee C**	**19.79**	**333**	LR	LR	03 15 16.0	
	comp=Z,60nm,20.0s,baz=161,slow=36						
ATAH	**Atahualpa**	**25.86**	**193**	LR	LR	03 19 52.5	
	comp=Z,70nm,19.9s,baz=9.6,slow=38						
SADO	**Sadowa**	**26.89**	**350**	LR	LR	03 20 20.9	
	comp=Z,44nm,18.2s,baz=176,slow=38						
SAML	**Samuel**	**28.73**	**160**	*e*P	**P**	**03 09 16.0**	**-0.3**
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**30.13**	**297**	P	**P**	**03 09 29.4**	**+0.7**
TXAR				PcP	**PcP**	**03 12 30.9**	**+0.6**
TXAR	**Lajitas Array**	**30.13**	**297**	P	**P**	**03 09 29.4**	**+0.7**
	0.7nm,0.9s,baz=108,slow=8.0,SNR=6.8						
TXAR				PcP	**PcP**	**03 12 30.9**	**+0.6**
	0.2nm,0.7s,baz=76,slow=3.8,SNR=2.7						
BNM	**Barren Site**	**33.93**	**304**	*e*P	**P**	**03 10 04.2**	**+1.9**
	3.3nm,1.0s						
LPM	**Los Pinos Moun**	**33.99**	**305**	*e*P	**P**	**03 10 04.7**	**+1.9**
	4.6nm,0.8s						
LAZ	**Ladron**	**34.42**	**305**	*e*P	**P**	**03 10 08.1**	**+1.7**
	2.6nm,1.2s						
PDAR	**Pinedale Array**	**39.43**	**316**	P	**P**	**03 10 49.2**	**+0.2**
PDAR	**Pinedale Array**	**39.43**	**316**	P	**P**	**03 10 49.2**	**+0.2**
	0.5nm,0.6s,baz=120,slow=9.0,SNR=4.9						
BDFB	**Brasilia**	**41.70**	**142**	P	**P**	**03 11 08.1**	**+0.2**
BDFB	**Brasilia**	**41.70**	**142**	P	**P**	**03 11 08.1**	**+0.2**
	4.2nm,0.8s,baz=324,slow=6.1,SNR=6.5						
NVAR	**Mina Array Bea**	**44.19**	**307**	P	**P**	**03 11 28.1**	**0.0**
NVAR	**Mina Array Bea**	**44.19**	**307**	P	**P**	**03 11 28.1**	**0.0**
	0.3nm,0.6s,baz=86,slow=5.8,SNR=2.9						
CPUP	**Villa Florida**	**46.88**	**161**	LR	LR	03 33 33.7	
	comp=Z,43nm,18.3s,baz=328,slow=39						
YKA	**Yellowknife Ar**	**52.71**	**337**	P	**P**	**03 12 33.0**	**0.0**
YKA	**Yellowknife Ar**	**52.71**	**337**	P	**P**	**03 12 33.0**	**0.0**
	0.8nm,0.7s,baz=125,slow=7.3,SNR=10						
ILAR	**Eielson Array**	**66.77**	**333**	P	**P**	**03 14 08.4**	**-1.5**
ILAR	**Eielson Array**	**66.77**	**333**	P	**P**	**03 14 08.4**	**-1.5**
	0.2nm,0.7s,baz=91,slow=3.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**03 14 38.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**03 14 38.8**	**-1.7**
	0.9nm,0.8s,baz=298,slow=5.2,SNR=4.3						
GERES	**GERESS Array B**	**74.23**	**43**	P	**P**	**03 14 56.6**	**+0.7**
GERES	**GERESS Array B**	**74.23**	**43**	P	**P**	**03 14 56.6**	**+0.7**
	0.8nm,0.8s,baz=284,slow=5.4,SNR=5.8						
FINES	**FINESS Array B**	**78.30**	**29**	P	**P**	**03 15 18.7**	**+0.1**
FINES	**FINESS Array B**	**78.30**	**29**	P	**P**	**03 15 18.7**	**+0.1**
	2.0nm,1.0s,baz=311,slow=7.2,SNR=3.0						
STKA	**Stephens Creek**	**146.13**	**240**	PKPbc	**PKPdf**	**03 22 59.0**	**+0.4**
STKA	**Stephens Creek**	**146.13**	**240**	PKPbc	**PKPdf**	**03 22 59.0**	**+0.4**
	1.9nm,0.8s,baz=80,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**	**03 23 11.7**	**+0.1**
WRA				PKPbc	**PKiKP**	**03 23 21.3**	**+1.4**
WRA	**Warramunga Arr**	**154.23**	**262**	PKP	**PKPdf**	**03 23 11.7**	**+0.1**
	0.9nm,0.9s,baz=89,slow=0.7,SNR=4.9						
WRA				PKPbc	**PKiKP**	**03 23 21.3**	**+1.4**
	1.3nm,0.7s,baz=85,slow=2.3,SNR=7.1						
ASAR	**Alice Springs**	**154.44**	**253**	PKP	**PKPdf**	**03 23 12.3**	**+0.4**
ASAR				PKPbc	**PKiKP**	**03 23 22.0**	**+1.8**
ASAR	**Alice Springs**	**154.44**	**253**	PKP	**PKPdf**	**03 23 12.3**	**+0.4**
	0.3nm,0.7s,baz=116,slow=2.2,SNR=3.0						
ASAR				PKPbc	**PKiKP**	**03 23 22.0**	**+1.8**
	0.3nm,0.6s,baz=102,slow=2.1,SNR=4.6						

*MOS **14** 03:19:20.6±1.1, 51°.82N×175°.80W, h33km, mb4.9/38, Error ellipse: s-maj=8.0km s-min=7.2km az=59.6*
*ISCJB **14** 03:19:23.8±0.3, 51°.74N±0°.04×175°.88W±0°.02, h66km±2km, mb4.7/167, Error ellipse: s-maj=7.1km s-min=2.4km az=177.3*
*BJI **14** 03:19:23.4, 51°.99N×175°.99W, h61km, mB5.2/25, mb4.9/39, Ms4.8/21, Ms7 4.4/21*
*NEIC **14** 03:19:25.1±0.2, 51°.75N×175°.94W, h62km±2km, mb4.8/121, ML4.7(AEIC), Error ellipse: s-maj=5.4km s-min=2.2km az=172.0*
*IDC **14** 03:19:26.2±0.7, 51°.80N×175°.86W, h69km±5km, mb4.1/33, mb1 4.3/36, mb1mx4.2/42, mbtmp4.4/36, MS3.9/28, Ms1 3.8/28, ms1mx3.7/58, Error ellipse: s-maj=13.4km s-min=7.5km az=169.0*

ISC 14 03:19:25.2±0.4, 51°.71N±0°.07×175°.95W±0°.03, h61km±2km, h60km:pP-P, n705, σ0§99/751, mb4.8/167, 146C-166D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.32**	**298**	P	**Pn**	**03 19 34.0**	**-1.5**
GSCK	**Great Sitkin C**	**0.33**	**336**	P	**Pn**	**03 19 34.2**	**-1.4**
GSMY	**Great Sitkin M**	**0.34**	**349**	P	**Pn**	**03 19 34.2**	**-1.5**
GSTD	**Great Sitkin T**	**0.36**	**341**	P	**Pn**	**03 19 34.8**	**-1.2**
GSTR	**Great Sitkin T**	**0.39**	**350**	*e*Pn	**Pn**	**03 19 35.1**	**-1.0**
ADAG	**Mount Adagdak**	**0.48**	**304**	P	**Pn**	**03 19 37.0**	**0.0**
ADK	**Adak**	**0.48**	**291**	P	**Pn**	**03 19 35.7**	**-1.3**
ADK				S	**Sn**	**03 19 44.8**	**-0.8**
ADK	**Adak**	**0.48**	**291**	P	**Pn**	**03 19 35.7**	**-1.3**
ADK				S	**Sn**	**03 19 44.8**	**-0.8**
KIRH	**Kanaga Island**	**0.73**	**285**	P	**Pn**	**03 19 39.4**	**-0.5**
KINC	**Kanaga Island**	**0.76**	**287**	P	**Pn**	**03 19 39.7**	**-0.5**
KIKV	**Kanaga Island**	**0.78**	**283**	P	**Pn**	**03 19 39.8**	**-0.6**
TAFL	**Tanaga Flats**	**1.21**	**273**	P	**Pn**	**03 19 45.8**	**-0.1**
TAFP	**Tanaga Falls P**	**1.27**	**279**	P	**Pn**	**03 19 47.1**	**+0.2**
TASE	**Tanaga Southea**	**1.30**	**276**	P	**Pn**	**03 19 47.5**	**+0.3**
TANO	**Tanaga North**	**1.36**	**279**	P	**Pn**	**03 19 48.6**	**+0.6**
GAEA	**Gareloi East**	**1.74**	**273**	P	**Pn**	**03 19 53.6**	**+0.5**
GANE	**Gareloi Northe**	**1.76**	**275**	P	**Pn**	**03 19 53.6**	**+0.3**
AMKA	**Amchitka**	**2.98**	**265**	*e*Pn	Pn	03 20 00.6	-9.3
NIKH	**Nikolski High**	**4.53**	**71**	P	**Pn**	**03 20 29.8**	**-1.3**
NIKH				S	**Sn**	**03 21 20.1**	**-2.3**
OKSP	**Okmok Steeple**	**4.93**	**69**	P	**Pn**	**03 20 36.8**	**+0.1**
OKFG	**Magazine Ridge**	**5.19**	**68**	P	**Pn**	**03 20 40.6**	**+0.4**
MCIR	**Makushin Cirqu**	**5.93**	**64**	P	**Pn**	**03 20 51.2**	**+0.9**
MREP	**Makushin Rep't**	**5.97**	**66**	P	**Pn**	**03 20 51.0**	**+0.1**
MSW	**Makushin Switc**	**5.98**	**65**	P	**Pn**	**03 20 50.7**	**-0.3**
UNV	**Unalaska Valle**	**6.12**	**66**	*e*Pn	**Pn**	**03 20 52.8**	**0.0**
UNV				*e*S	**Sn**	**03 22 04.7**	**+3.3**
SMY	**Shemya**	**6.20**	**283**	*e*P	**Pn**	**03 20 53.9**	**0.0**
SMY	**Shemya**	**6.20**	**283**	*e*Pn	**Pn**	**03 20 53.9**	**0.0**
SPIA	**Saint Paul Isl**	**6.41**	**29**	P	**Pn**	**03 20 58.2**	**+1.5**
ZRO	**Akutan Zero**	**6.49**	**65**	P	**Pn**	**03 20 58.1**	**+0.2**
AKGG	**Akutan Green G**	**6.51**	**64**	P	**Pn**	**03 20 58.4**	**+0.2**
AKUT	**Akutan**	**6.62**	**65**	*e*Pn	**Pn**	**03 20 59.1**	**-0.5**
AKUT				*e*S	Sn	03 22 25.6	+12
FX1	**Attu Island--F**	**6.78**	**284**	*e*Pn	**Pn**	**03 21 02.9**	**+1.0**
FX1				*e*S	**Sn**	**03 22 21.7**	**+4.2**
FX1	**Attu Island--F**	**6.78**	**284**	P	**Pn**	**03 21 03.4**	**+1.5**
	17nm,0.3s,baz=134,slow=5.9,SNR=23						
FX1				S	**Sn**	**03 22 22.0**	**+4.4**
	8.2nm,0.3s,baz=36,slow=19,SNR=3.6						
FALS	**False Pass**	**8.14**	**62**	*e*Pn	**Pn**	**03 21 21.3**	**+0.7**
FALS				*e*S	**Sn**	**03 22 54.9**	**+3.9**
SDPT	**Sand Point**	**9.90**	**62**	*e*Pn	**Pn**	**03 21 43.1**	**-1.4**
CHGN	**Chignik**	**11.29**	**59**	*e*Pn	**Pn**	**03 22 02.8**	**-0.6**
GAMB	**Gambell**	**12.30**	**9**	*e*Pn	**Pn**	**03 22 17.9**	**+0.6**
OHAK	**Old Harbor**	**14.25**	**58**	*e*Pn	Pn	03 22 39.4	-4.1
TNA	**Tin City**	**14.48**	**13**	*e*Pn	**Pn**	**03 22 45.9**	**-0.5**
TNA				*e*PcP	**PcP**	**03 27 58.4**	**+1.4**
SVW2	**Sparrevohn**	**14.61**	**42**	*e*Pn	**Pn**	**03 22 49.4**	**+1.1**
KDAK	**Kodiak Island**	**14.75**	**57**	*e*Pn	**Pn**	**03 22 47.1**	**-2.9**
RSO	**Redoubt South**	**15.55**	**47**	*e*Pn	**Pn**	**03 23 00.4**	**-0.1**
PETK	**Petropavlovsk-**	**16.11**	**285**	P	**P**	**03 23 09.1**	**-0.7**
PETK	**Petropavlovsk-**	**16.11**	**285**	P	**P**	**03 23 09.1**	**-0.7**
PETK	**Petropavlovsk-**	**16.11**	**285**	P	**P**	**03 23 09.1**	**-0.7**
	0.3nm,0.3s,baz=72,slow=18,SNR=3.7						
PETK				LR	LR	03 28 59.4	
	comp=Z,221nm,21.5s,baz=93,slow=36						
PPLA	**Purkeypile**	**16.91**	**39**	*e*Pn	**P**	**03 23 19.9**	**+1.2**
	325nm,2.2s						
SEW	**Seward**	**16.96**	**50**	*e*Pn	**Pn**	**03 23 14.9**	**-3.1**
	37nm,0.8s						
RC01	**Rabbit Creek A**	**17.16**	**47**	*e*Pn	**Pn**	**03 23 20.1**	**-0.4**
	48nm,1.5s						
CAST	**Castle Rocks**	**17.23**	**38**	*e*P	**P**	**03 23 23.5**	**+1.5**
	19nm,0.7s						
PMR	**Palmer**	**17.62**	**45**	*e*P	**Pn**	**03 23 26.0**	**-0.1**
PMR				pmax	pmax		
	comp=Z,13nm,0.9s						
PMR	**Palmer**	**17.62**	**45**	*e*Pn	**Pn**	**03 23 26.0**	**-0.1**
	comp=Z,13nm,0.9s						
KTH	**Kantishna Hill**	**17.74**	**38**	*e*Pn	**P**	**03 23 28.3**	**+0.5**
	comp=Z,520nm,1.0s						
TRF	**Thorofare Moun**	**17.94**	**39**	*e*Pn	**Pn**	**03 23 30.2**	**0.0**
	comp=Z,90nm,1.5s						
TRF				*e*PcP	**PcP**	**03 28 02.6**	**+0.1**
MCK	**McKinley**	**18.60**	**39**	*e*P	**P**	**03 23 37.2**	**0.0**
MCK				pmax	pmax		
	comp=Z,26nm,0.7s						
MCK	**McKinley**	**18.60**	**39**	*e*P	**P**	**03 23 37.2**	**0.0**
	comp=Z,26nm,0.7s						
DIV	**Divide**	**19.00**	**49**	*e*P	**P**	**03 23 40.7**	**-0.9**
	comp=Z,38nm,1.2s						
BMRM	**Bremner River**	**19.50**	**49**	*e*P	**P**	**03 23 46.6**	**-0.5**
	comp=Z,23nm,0.9s						
PAX	**Paxson**	**19.72**	**43**	*e*P	**P**	**03 23 49.0**	**-0.4**
PAX				pmax	pmax		
	comp=Z,20nm,0.7s						
PAX	**Paxson**	**19.72**	**43**	*e*P	**P**	**03 23 49.0**	**-0.4**
	comp=Z,20nm,0.7s						
ILAR	**Eielson Array**	**19.88**	**38**	P	**P**	**03 23 50.3**	**-0.8**
ILAR				S	**S**	**03 27 30.4**	**-0.8**
ILAR				ScP	**ScP**	**03 31 37.0**	**+0.6**
ILAR	**Eielson Array**	**19.88**	**38**	P	**P**	**03 23 50.3**	**-0.8**
	comp=Z,3.6nm,0.3s,baz=

G08A Pilot Rock 37.46 77 *eP* P 03 26 32.6 0.0
comp=Z,12nm,1.3s
I07A Izee 37.76 79 *eP* P 03 26 35.7 +0.6
comp=Z,9.4nm,0.8s
F10A Beach Ranch, E 38.16 75 *eP* P 03 26 38.4 0.0
comp=Z,10nm,0.8s
WALA Waterton Lakes 38.60 69 *eP* P 03 26 41.9 -0.2
comp=Z,0.9nm,1.1s
WALA *ePcP* **PcP** 03 28 53.2 -0.1
BSMT Bassoo Peak 38.67 71 *eP* P 03 26 42.7 -0.1
RES Resolute Bay 38.70 25 PcP **PcP** 03 28 53.0 +0.1
RES Resolute Bay 38.70 25 PcP **PcP** 03 28 53.0 +0.1
comp=Z,3.7nm,0.8s,baz=118,slow=3.4,SNR=3.8
J08A Circle Bar Ran 38.78 79 *eP* P 03 26 44.2 +0.5
comp=Z,11nm,0.6s
BLMT Blacktail Moun 38.84 70 *eP* P 03 26 44.8 +0.6
JTMT Jette 39.02 71 *eP* P 03 26 45.7 +0.1
YBMT Yellow Bay 39.12 70 *eP* P 03 26 47.1 +0.7
CN2 Changchun 39.22 282 *eP* P 03 26 47.8 +0.6
CN2 *epP* **pP** 03 27 03.3 +0.8
CN2 *eS* S 03 32 42.0 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,500nm,14.0s
SWMT Swartz Lake 39.30 71 *eP* P 03 26 47.5 -0.5
MSO Missoula 39.68 72 *eP* P 03 26 51.0 -0.1
comp=Z,11nm,0.8s
MSO Missoula 39.68 72 ⇓P P 03 26 50.6 -0.5
baz=40,SNR=11
SLMT Seeley Lake 39.73 71 *eP* P 03 26 51.3 -0.4
SLMT *ePcP* **PcP** 03 28 57.6 +0.7
CHMT Chamberlain Mo 40.04 71 *eP* P 03 26 53.6 -0.7
PAHR Pah Rah Range 40.31 84 *eP* P 03 26 56.8 +0.3
comp=Z,6.7nm,0.7s
WCN Washoe City 40.32 85 *ePcP* **PcP** 03 29 02.1 +3.2
MFID Camas Ranch 40.36 77 *eP* P 03 26 56.4 -0.4
comp=Z,5.3nm,0.7s
HRY Holter Researc 40.98 71 *eP* P 03 27 01.2 -0.7
WAKR Walker 41.00 86 *eP* P 03 27 03.0 +0.8
comp=Z,4.1nm,0.7s
WAKR *ePcP* **PcP** 03 29 02.0 +0.8
LRM Limekiln Ridge 41.08 72 *eP* P 03 27 02.6 -0.3
HLID Hailey 41.13 76 *eP* P 03 27 03.2 -0.1
comp=Z,7.1nm,0.8s
HLID Hailey 41.13 76 ⇓P P 03 27 03.0 -0.3
baz=41,SNR=11
MCMT McKenzie Canyo 41.38 74 *eP* P 03 27 04.9 -0.4
comp=Z,9.8nm,0.6s
KSRS Korea Array 41.41 273 P P 03 27 06.4 +1.1
comp=Z,6.3nm,0.8s,baz=54,slow=7.9,SNR=14
KSRS LR LR 03 42 36.3
comp=Z,31nm,20.3s,baz=48,slow=34
KSAR Wonju Array Be 41.44 273 P P 03 27 06.4 +0.8
EGMT Eagleton 41.51 68 *eP* P 03 27 05.9 -0.4
comp=Z,38nm,1.2s
EGMT Eagleton 41.51 68 ⇑P P 03 27 05.8 -0.4
baz=41,SNR=14
A19A Klindworth Far 41.63 66 ⇓P P 03 27 06.5 -0.6
baz=41,SNR=24
BOZ Bozeman (W) 41.66 72 *eP* P 03 27 07.6 +0.1
BOZ pmax pmax
comp=Z,16nm,0.7s
BOZ Bozeman (W) 41.66 72 *eP* P 03 27 07.6 +0.1
comp=Z,16nm,0.7s
NVAR Mina Array Bea 41.75 85 P P 03 27 08.0 -0.4
NVAR PcP **PcP** 03 29 03.8 +0.1
NVAR ScP **ScP** 03 32 49.5 +1.1
NVAR Mina Array Bea 41.75 85 P P 03 27 08.0 -0.4
comp=Z,1.2nm,0.7s,baz=309,slow=7.7,SNR=7.4
NVAR PcP **PcP** 03 29 03.8 +0.1
comp=Z,2.0nm,0.7s,baz=318,slow=2.9,SNR=4.9
NVAR ScP **ScP** 03 32 49.5 +1.1
comp=Z,0.5nm,0.7s,baz=323,slow=0.8,SNR=4.0
NVAR LR LR 03 40 52.3
comp=Z,143nm,20.2s,baz=30,slow=31
B19A Brinkman Farms 41.76 67 ⇑P P 03 27 07.5 -0.6
baz=42,SNR=15
C19A Slack Wire Ran 42.07 68 ⇓P P 03 27 10.6 -0.1
baz=42,SNR=62
A20A Cobblestone Ra 42.12 66 ⇓P P 03 27 10.5 -0.6
baz=42,SNR=36
QLMT Earthquake Lak 42.22 73 *eP* P 03 27 11.9 -0.3
comp=Z,0.7nm,0.6s
ELK Elko 42.25 80 *eP* P 03 27 12.8 +0.4
comp=Z,5.3nm,0.8s
B20A Solberg Farm, 42.29 67 ⇓P P 03 27 11.9 -0.6
baz=42,SNR=13
JNU Nakatsue 42.38 265 P P 03 27 14.1 +0.7
JNU Nakatsue 42.38 265 P P 03 27 14.1 +0.7
comp=Z,12nm,1.0s,baz=315,slow=7.1,SNR=5.0
D19A Cripps Ranch, 42.46 69 ⇓P P 03 27 14.0 +0.1
baz=42,SNR=20
FFC Flin Flon 42.49 56 *eP* P 03 27 13.0 -1.0
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 42.49 56 *eP* P 03 27 13.0 -1.0
comp=Z,6.1nm,0.9s
YMR Madison River 42.59 73 *eP* P 03 27 15.0 -0.2
comp=Z,26nm,1.2s
A21A Bergtoll Ranch 42.63 65 ⇓P P 03 27 14.6 -0.6
baz=42,SNR=20
TPH Tonopah 42.64 85 *eP* P 03 27 14.9 -0.7
TPH pmax pmax
comp=Z,5.0nm,0.8s
TPH Tonopah 42.64 85 *eP* P 03 27 14.9 -0.7
comp=Z,4.9nm,0.8s
C20A Veseth Ranch, 42.68 67 ⇑P P 03 27 15.3 -0.4
baz=42,SNR=26
GCMT Greycliff 42.74 71 *eP* P 03 27 16.6 +0.3
comp=Z,9.9nm,1.1s
YFT Old Faithful 42.79 73 *eP* P 03 27 17.0 +0.2
comp=Z,7.3nm,0.7s
B21A Ellsworth Farm 42.87 66 ⇓P P 03 27 16.9 -0.2
baz=43,SNR=7.6
E19A Rath Farm, Rou 42.89 69 ⇑P P 03 27 17.3 -0.2
baz=43,SNR=6.6
D20A Manuel Ranch, 42.93 68 ⇑P P 03 27 17.6 -0.1
baz=43,SNR=16
H17A Grant Village 42.97 73 *eP* P 03 27 18.9 +0.5
comp=Z,6.5nm,0.8s
H17A Grant Village 42.97 73 ⇓P P 03 27 19.0 +0.7
baz=43,SNR=9.9
LKWY Lake 42.98 73 *eP* P 03 27 19.4 +1.0
LKWY pmax pmax
comp=Z,17nm,0.7s
LKWY Lake 42.98 73 *eP* P 03 27 19.4 +1.0
comp=Z,17nm,0.7s
IMW Indian Meadow 43.04 74 *eP* P 03 27 19.2 +0.3
comp=Z,6.8nm,0.7s
FLWY Flagg Ranch 43.08 73 *eP* P 03 27 19.7 +0.6
comp=Z,22nm,1.3s
FXWY Fox Creek 43.13 74 *eP* P 03 27 19.8 +0.3
comp=Z,18nm,1.8s
F19A Roth Farm, Mol 43.13 70 ⇑P P 03 27 19.0 -0.4
baz=43,SNR=6.3
HVU Hansel Valley 43.14 77 *eP* P 03 27 19.1 -0.5
HVU *e* 03 29 08.7
HVU pmax pmax
comp=Z,10.0nm,0.7s
HVU Hansel Valley 43.14 77 *eP* P 03 27 19.1 -0.5
comp=Z,10nm,0.7s
HVU *ePcP* **PcP** 03 29 08.7 +0.5
A22A Carney Farms, 43.20 65 ⇓P P 03 27 19.3 -0.5
baz=43,SNR=26
MOOW Moose Ponds 43.24 74 *eP* P 03 27 20.6 +0.1
comp=Z,4.6nm,1.0s
I17A Pilgrim Ck. 43.24 74 ⇑P P 03 27 20.0 -0.4
baz=43
E20A Meyer Farm, Mu 43.25 69 ⇑P P 03 27 20.3 0.0
baz=43,SNR=6.1
TPAW Teton Pass 43.26 74 *eP* P 03 27 20.9 +0.2
comp=Z,5.0nm,0.6s
RLMT Red Lodge 43.34 71 *eP* P 03 27 21.1 -0.1
comp=Z,28nm,0.8s
H18A Shoshone NF, C 43.36 72 ⇑P P 03 27 21.0 -0.4
baz=43
REDW Red Top Meadow 43.39 74 *eP* P 03 27 22.1 +0.4
comp=Z,18nm,1.4s
LOHW Long Hollow 43.40 74 *eP* P 03 27 21.8 +0.1
comp=Z,4.9nm,0.8s

R11A Troy Canyon, C 43.48 83 *eP* P 03 27 21.8 -0.5
comp=Z,2.6nm,0.8s
R11A Troy Canyon, C 43.48 83 ⇓P P 03 27 22.1 -0.3
baz=43
BGU Big Grassy Mou 43.49 79 *eP* P 03 27 22.3 -0.1
comp=Z,15nm,1.9s
BGU *ePcP* **PcP** 03 29 09.7 +0.3
B22A Reddig Ranch S 43.52 66 ⇓P P 03 27 22.0 -0.4
baz=43,SNR=7.6
D21A La Casta Ranch 43.60 68 ⇓P P 03 27 23.0 -0.2
baz=43,SNR=12
F20A Billings 43.62 70 ⇑P P 03 27 22.9 -0.4
baz=43
H19A Powell 43.76 72 ⇑P P 03 27 24.5 -0.1
baz=44,SNR=8.3
A23A Redstone 43.80 64 ⇓P P 03 27 24.1 -0.5
baz=44,SNR=14
E21A Keefer Ranch, 43.84 68 ⇓P P 03 27 24.9 -0.1
baz=44,SNR=5.9
C22A Vida 43.88 66 ⇑P P 03 27 25.0 -0.3
baz=44,SNR=19
G20A Bridger 43.91 71 ⇑P P 03 27 25.2 -0.5
baz=44,SNR=15
TPNV Topopah Spring 43.94 85 *eP* P 03 27 26.6 +0.5
TPNV pmax pmax
comp=Z,13nm,1.0s
TPNV Topopah Spring 43.94 85 *eP* P 03 27 26.6 +0.5
comp=Z,13nm,1.0s
B23A Brockton 44.00 65 ⇓P P 03 27 25.9 -0.3
baz=44,SNR=41
D22A Cohagen 44.03 67 ⇓P P 03 27 26.6 +0.1
baz=44,SNR=40
DUG Dugway 44.06 79 ⇓P P 03 27 26.9 -0.1
baz=44,SNR=15
I19A Meeteetse 44.12 72 ⇓P P 03 27 26.7 -0.8
baz=44
C23A Lambert 44.24 66 ⇓P P 03 27 28.2 0.0
baz=44,SNR=48
LAO LASA Array 44.25 68 *eP* P 03 27 28.3 -0.1
comp=Z,25nm,0.9s
A24A Westby 44.31 64 ⇑P P 03 27 28.2 -0.5
baz=44,SNR=38
TCUT Toone Canyon 44.36 77 *eP* P 03 27 29.5 0.0
comp=Z,12nm,0.7s
FCC Fort Churchill 44.43 47 *eP* P 03 27 28.0 -1.5
FCC pmax pmax
comp=Z,1.0nm,1.2s
FCC Fort Churchill 44.43 47 *eP* P 03 27 28.0 -1.5
comp=Z,0.5nm,1.2s
DGMT Dagmar 44.44 65 *eP* P 03 27 28.6 -1.1
comp=Z,75nm,1.3s
DGMT Dagmar 44.44 65 ⇑P P 03 27 29.2 -0.5
baz=44,SNR=12
H20A Greybull 44.45 71 ⇓P P 03 27 29.1 -0.9
baz=44
G21A Lodge Grass 44.50 70 ⇑P P 03 27 29.5 -0.8
baz=44
BW06 Boulder Array 44.51 74 *eP* P 03 27 30.2 -0.4
comp=Z,22nm,0.7s
PDAR Pinedale Array 44.51 74 P P 03 27 30.2 -0.4
PDAR Pinedale Array 44.51 74 P P 03 27 30.2 -0.4
comp=Z,12nm,0.7s,baz=303,slow=4.2,SNR=99
PDAR LR LR 03 45 56.0
comp=Z,73nm,20.2s,baz=340,slow=36
J19A Crowheart 44.52 73 ⇑P P 03 27 30.6 -0.1
baz=44
E22A Miles City 44.55 68 ⇓P P 03 27 30.4 -0.3
baz=44,SNR=17
D23A Lindsay 44.57 67 ⇓P P 03 27 30.7 -0.2
baz=44,SNR=15
SHOC Shoshone 44.59 87 ⇓P P 03 27 31.1 0.0
baz=44
GSC Goldstone 44.65 88 *eP* P 03 27 31.7 0.0
GSC pmax pmax
comp=Z,10.0nm,0.8s
GSC Goldstone 44.65 88 *eP* P 03 27 31.7 0.0
comp=Z,10nm,0.8s
NLU North Lily Min 44.66 79 *eP* P 03 27 32.0 +0.2
comp=Z,18nm,1.6s
I20A Worland 44.68 72 ⇑P P 03 27 31.3 -0.6
baz=44
F22A Rosebud 44.74 69 ⇓P P 03 27 31.6 -0.7
baz=44,SNR=6.7
A25A Svangstu Ranch 44.79 63 ⇑P P 03 27 32.2 -0.4
baz=45,SNR=23
C24A Savage 44.82 66 ⇑P P 03 27 32.8 0.0
baz=45,SNR=14
DAU Daniels Canyon 44.88 78 *eP* P 03 27 34.3 +0.6
DAU Daniels Canyon 44.88 78 *eP* P 03 27 34.3 +0.6
MPU Maple Canyon 44.89 79 *eP* P 03 27 33.6 -0.1
comp=Z,7.5nm,1.1s
H21A Big Horn, Sher 44.93 71 ⇑P P 03 27 33.4 -0.5
baz=45
G22A Birney 45.03 69 ⇓P P 03 27 33.9 -0.7
baz=45
J20A Shoshoni 45.05 73 ⇑P P 03 27 34.6 -0.2
baz=45
D24A Glendive 45.10 66 ⇓P P 03 27 35.4 +0.3
baz=45,SNR=35
B25A Knox Farm, Ray 45.13 64 ⇓P P 03 27 34.8 -0.4
baz=45,SNR=15
ARUT Antelope Range 45.15 82 *eP* P 03 27 36.1 +0.4
ARUT pmax pmax
comp=Z,80nm,0.7s
ARUT Antelope Range 45.15 82 *eP* P 03 27 36.1 +0.4
comp=Z,80nm,0.7s
I21A Big Trails, Te 45.25 72 ⇓P P 03 27 35.8 -0.6
baz=45,SNR=6.3
F23A Volborg 45.26 68 ⇑P P 03 27 36.0 -0.4
baz=45,SNR=13
CCUT Cedar City 45.35 83 *eP* P 03 27 38.1 +0.7
comp=Z,64nm,2.8s
H22A Clermont 45.35 70 ⇑P P 03 27 36.1 -1.1
baz=45
C25A Freed Ranch, W 45.38 65 ⇑P P 03 27 37.1 -0.2
baz=45,SNR=7.8
A26A Wade Farm, Ken 45.41 63 ⇑P P 03 27 36.7 -0.8
baz=45,SNR=9.7
E24A Baker 45.42 67 ⇓P P 03 27 37.3 -0.3
baz=45,SNR=17
J21A Lysite 45.43 72 ⇑P P 03 27 37.0 -0.9
baz=45
MVU Marysvale 45.46 81 *eP* P 03 27 38.6 +0.3
comp=Z,8.1nm,1.1s
TMUT Trail Mountain 45.59 79 P P 03 27 38.6 -0.7
comp=Z,12nm,1.0s
B26A Jensen Ranch, 45.59 64 ⇓P P 03 27 38.3 -0.6
baz=45,SNR=10
D25A Fairfield 45.66 66 ⇓P P 03 27 39.0 -0.5
baz=46,SNR=5.0
I22A 9 Mile Ranch, 45.68 71 ⇓P P 03 27 39.6 -0.2
baz=46,SNR=7.3
F24A Ekalaka 45.75 68 ⇓P P 03 27 39.7 -0.6
baz=46,SNR=14
J22A Midwest 45.96 72 ⇓P P 03 27 41.7 -0.4
baz=46,SNR=9.5
K21A Alcova 45.97 73 ⇑P P 03 27 41.2 -0.9
baz=46
C26A Wahner Farm, P 45.97 64 ⇓P P 03 27 41.5 -0.4
baz=46,SNR=23
E25A Miller Ranch, 45.98 66 ⇓P P 03 27 41.8 -0.2
baz=46,SNR=17
G24A Alzada 46.06 68 ⇓P P 03 27 42.0 -0.7
baz=46,SNR=8.8
B27A Peters Farms, 46.12 63 ⇑P P 03 27 42.7 -0.3
baz=46,SNR=8.1
SRU San Rafael 46.12 79 *eP* P 03 27 42.8 -0.6
SRU pmax pmax
comp=Z,9.0nm,0.6s
SRU San Rafael 46.12 79 *eP* P 03 27 42.8 -0.6
comp=Z,6.6nm,0.6s
D26A Manning 46.23 65 ⇓P P 03 27 43.4 -0.6
baz=46,SNR=9.0
F25A Bowman 46.27 67 ⇓P P 03 27 44.0 -0.3
baz=46,SNR=8.5
H24A Dirks Ranch, A 46.32 69 ⇓P P 03 27 43.4 -1.3
baz=46
C27A Sayler Ranch, 46.37 64 ⇓P P 03 27 44.4 -0.6
baz=46,SNR=15
A28A Rude Farm, Bot 46.38 62 ⇓P P 03 27 44.5 -0.6
baz=46,SNR=9.3
K22A Casper 46.39 73 ⇑P P 03 27 44.5 -0.9
baz=46
N20A Spence Gulch, 46.44 76 ⇓P P 03 27 45.5 -0.4
baz=46
E26A Carlson Angus 46.53 66 ⇓P P 03 27 45.9 -0.5
baz=46,SNR=34
B28A Dugan Ranch, T 46.59 63 ⇑P P 03 27 46.0 -0.7
baz=46,SNR=12
W13A Hualapai Mount 46.60 86 ⇑P P 03 27 46.3 -0.9
baz=46
D27A Center 46.69 65 ⇓P P 03 27 46.6 -0.9
baz=46,SNR=5.3
G25A Newell 46.71 68 ⇑P P 03 27 47.1 -0.7
baz=46,SNR=5.9
U15A North Rim 46.73 83 ⇑P P 03 27 48.2 -0.1
baz=47,SNR=7.2
F26A Lodgepole 46.76 67 ⇓P P 03 27 47.7 -0.5
baz=47,SNR=18
L22A Ellis Ranch, M 46.81 73 ⇓P P 03 27 47.9 -0.9
baz=47
O20A White River Ci 46.88 76 *eP* P 03 27 48.6 -0.6
comp=Z,12nm,0.5s
O20A White River Ci 46.88 76 ⇑P P 03 27 48.5 -0.8
baz=47,SNR=13
H25A Fruitdale 46.94 69 ⇑P P 03 27 48.7 -0.9
baz=47,SNR=14
A29A Manning Farm, 46.94 61 ⇑P P 03 27 48.5 -1.0
baz=47,SNR=14
RSSD Black Hills 46.98 69 *eP* P 03 27 49.0 -1.1
RSSD pmax pmax
comp=Z,3.0nm,1.2s
RSSD Black Hills 46.98 69 *eP* P 03 27 49.0 -1.1
comp=Z,2.5nm,1.2s
BJI Beijing 47.03 284 P P 03 27 50.8 +0.6
BJI pmax pmax
comp=Z,22nm,0.9s
BJI pmax pmax
comp=Z,96nm,3.7s
BJI LR LR
comp=Z,280nm,26.0s
BJI LR LR
comp=Z,240nm,28.5s
BJI LR LR
comp=Z,240nm,26.0s
E27A Carson 47.06 66 ⇑P P 03 27 49.9 -0.6
baz=47,SNR=18
M22A Cedar Creek Ra 47.09 74 ⇓P P 03 27 50.2 -0.8
baz=47,SNR=5.5
F27A Lemmon 47.12 66 ⇑P P 03 27 50.5 -0.4
baz=47,SNR=24
D28A Regan 47.18 64 ⇑P P 03 27 51.1 -0.3
baz=47,SNR=16
L23A Garrett 47.20 73 ⇓P P 03 27 51.0 -0.8
baz=47,SNR=11
I25A Rochford 47.22 69 ⇑P P 03 27 51.1 -0.8
baz=47
MDND Maddock 47.35 63 *eP* P 03 27 52.1 -0.5
comp=Z,105nm,0.9s
MDND Maddock 47.35 63 ⇓P P 03 27 52.1 -0.5
baz=47,SNR=12
TLY Talaya 47.37 303 *eP* P 03 27 51.4 -1.4
TLY *eS* S 03 34 42.5 +0.5
TLY pmax pmax
comp=Z,5.0nm,1.4s
TLY MLR MLR
comp=Z,79nm,14.0s
A30A Hoffart Farm, 47.44 61 ⇑P P 03 27 52.3 -1.1
baz=47,SNR=6.2
G27A Dupree 47.46 67 ⇑P P 03 27 52.9 -0.7
baz=47,SNR=24
E28A Huff 47.47 65 ⇑P P 03 27 52.9 -0.7
baz=47
N22A Wattenberg Ran 47.54 75 ⇑P P 03 27 54.1 -0.5
baz=47,SNR=5.5
J25A Sunshine Ranch 47.55 70 ⇓P P 03 27 53.7 -0.7
baz=47
PV04 Paradox Valley 47.56 79 *eP* P 03 27 53.9 -0.7
B30A Myrvik Farm, E 47.70 62 ⇑P P 03 27 54.6 -0.8
baz=48,SNR=10
N23A Red Feather La 47.79 74 ⇓P P 03 27 55.8 -0.7
baz=48
D29A Pettibone, Tap 47.80 64 ⇑P P 03 27 55.4 -0.8
baz=48
H27A Howes 47.81 68 ⇑P P 03 27 55.8 -0.6
baz=48
F28A McLaughlin 47.83 66 ⇓P P 03 27 55.9 -0.6
baz=48,SNR=18
WUAZ Wupatki 47.88 83 *eP* P 03 27 56.9 -0.3
comp=Z,8.5nm,0.8s
WUAZ Wupatki 47.88 83 ⇓P P 03 27 56.8 -0.3
baz=48
O22A Kremmling 47.88 75 ⇑P P 03 27 56.6 -0.6
baz=48
Y14A Wickenburg 47.91 86 ⇑P P 03 27 57.1 -0.1
baz=48
PV01 Paradox Valley 47.92 79 *eP* P 03 27 56.7 -0.8
comp=Z,662nm,0.6s
ULM Lac du Bonnet 48.00 58 P P 03 27 56.0 -1.7
ULM Lac du Bonnet 48.00 58 P P 03 27 56.0 -1.7
comp=Z,1.4nm,0.3s,baz=310,slow=7.4,SNR=6.9
C30A Mose, Pekin 48.05 62 ⇓P P 03 27 57.0 -1.1
baz=48,SNR=6.4
E29A Napoleon 48.06 64 ⇓P P 03 27 57.4 -0.8
baz=48
SONM Songino Array 48.08 298 P P 03 27 58.6 +0.2
SONM PcP **PcP** 03 29 25.8 +0.5
SONM ScP **ScP** 03 33 14.6 +0.4
SONM Songino Array 48.08 298 P P 03 27 58.6 +0.2
comp=Z,1.3nm,0.8s,baz=44,slow=8.7,SNR=10
SONM PcP **PcP** 03 29 25.8 +0.5
comp=Z,6.1nm,1.0s,baz=64,slow=2.4,SNR=13
SONM ScP **ScP** 03 33 14.6 +0.4
comp=Z,1.1nm,1.0s,baz=65,slow=4.0,SNR=4.4
SONM LR LR 03 49 13.8
comp=Z,111nm,18.4s,baz=26,slow=37
I27A Quinn 48.16 68 ⇑P P 03 27 58.5 -0.6
baz=48,SNR=15
G28A Parade 48.22 67 ⇑P P 03 27 58.9 -0.6
baz=48,SNR=16
O23A Lake Granby, G 48.23 75 ⇓P P 03 27 59.8 -0.1
baz=48,SNR=10
SMCO Snowmass 48.24 77 *eP* P 03 27 59.6 -0.5
comp=Z,4.1nm,0.7s
D30A Buchanan 48.24 63 ⇑P P 03 27 58.7 -0.8
baz=48,SNR=19
ZAK Zakamensk 48.29 302 *eP* P 03 28 00.8 +0.8
ZAK *i* 03 29 26.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s
F29A Eureka 48.39 65 ⇓P P 03 28 00.2 -0.6
baz=48
H28A Mission Ridge 48.40 67 ⇓P P 03 28 00.4 -0.4
baz=48,SNR=25
E30A Jud 48.51 64 ⇑P P 03 28 00.7 -0.9
baz=48,SNR=5.0
MVCO Mesa Verde 48.56 80 *eP* P 03 28 01.1 -1.2
comp=Z,15nm,1.4s
MVCO Mesa Verde 48.56 80 ⇑P P 03 28 01.5 -0.8
baz=48
X16A Lo Mia Camp, P 48.56 85 ⇑P P 03 28 02.1 -0.3
baz=48
ISCO Idaho Springs 48.67 75 *eP* P 03 28 03.0 -0.3
ISCO *e*PP **pP** 03 28 19.0 0.0
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 48.67 75 *eP* P 03 28 03.0 -0.3
comp=Z,5.9nm,0.9s
ISCO *epP* **pP** 03 28 19.0 0.0
J27A Elkhorn Farm, 48.68 69 ⇑P P 03 28 03.0 -0.1
baz=48
G29A Hoven 48.71 66 ⇓P P 03 28 02.3 -0.9
baz=48,SNR=7.0
I28A Midland 48.72 68 ⇓P P 03 28 03.1 -0.2
baz=48,SNR=34
P23A Jefferson 48.80 76 ⇑P P 03 28 04.4 +0.1
baz=49
H29A Onida 48.89 67 ⇓P P 03 28 04.3 -0.3
baz=49,SNR=18
J28A Allard Ranch, 49.02 69 ⇓P P 03 28 05.4 -0.3
baz=49,SNR=20
AGMN Agassiz Nation 49.13 60 *eP* P 03 28 05.1 -1.3
comp=Z,18nm,1.1s
AGMN Agassiz Nation 49.13 60 ⇑P P 03 28 05.0 -1.3
baz=49,SNR=7.2
G30A Faulkton 49.19 66 ⇓P P 03 28 06.1 -0.8
baz=49,SNR=16
I29A Vivian Onida 49.20 67 ⇑P P 03 28 06.4 -0.5
baz=49,SNR=7.7
S22A 4UR Ranch, Cre 49.23 78 ⇓P P 03 28 07.8 +0.2
baz=49,SNR=7.8
HHC Hu-ho-hao-te 49.30 287 *eP* P 03 28 06.0 -1.8
HHC PP PP 03 29 56.1 -5.8
HHC S S 03 35 02.8 -6.8
HHC sS **sS** 03 35 32.4 -3.8

HHC ScS **ScS** 03 37 49.3 -4.6
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,140nm,7.2s
HHC LR LR
comp=Z,140nm,11.0s
HHC LR LR
comp=Z,290nm,10.8s
HHC LR LR
comp=Z,240nm,18.6s
214A Organ Pipe Nat 49.36 **88** ⇑P **P** 03 28 08.1 -0.3
baz=49
K28A Ten Mile Ranch 49.38 **69** ⇑P **P** 03 28 07.9 -0.6
baz=49
R23A Moffat 49.56 **77** ⇑P **P** 03 28 09.5 -0.6
baz=49
J29A Okreek 49.56 **68** ⇓P **P** 03 28 09.6 -0.2
baz=49,SNR=34
BRSD Miller 49.72 **66** *e*P **P** 03 28 10.2 -0.7
comp=Z,95nm,0.9s
BRSD Miller 49.72 **66** ⇓P **P** 03 28 10.2 -0.7
baz=50
P25A Willow Gulch B 49.72 **74** ⇓P **P** 03 28 11.5 +0.4
baz=50,SNR=9.1
K29A Lazy Trails An 49.96 **69** ⇓P **P** 03 28 12.7 -0.1
baz=50,SNR=6.4
R24A Sanders Place, 49.97 **76** ⇓P **P** 03 28 12.7 -0.4
baz=50
SDCO Great Sand Dun 50.04 **77** *e*P **P** 03 28 13.5 -0.3
comp=Z,11nm,1.3s
Q25A Bedland, Calha 50.05 **75** ⇑P **P** 03 28 13.4 -0.3
baz=50,SNR=5.3
OGNE Ogallala 50.09 **72** *e*P **P** 03 28 13.6 -0.2
comp=Z,16nm,1.0s
OGNE Ogallala 50.09 **72** ⇓P **P** 03 28 13.5 -0.3
baz=50
J30A Dallas 50.09 **68** ⇑P **P** 03 28 13.5 -0.3
baz=50,SNR=19
U22A Llaves 50.10 **79** ⇑P **P** 03 28 14.1 -0.1
baz=50
SPITS Spitsbergen Ar 50.15 **357** P **P** 03 28 14.5 +0.8
SPITS Spitsbergen Ar 50.15 **357** P **P** 03 28 14.5 +0.8
comp=Z,26nm,1.2s,baz=30,slow=15,SNR=11
SPITS LR LR 03 49 34.9
comp=Z,220nm,20.1s,baz=325,slow=36
T23A Casias Ranch, 50.17 **78** ⇓P **P** 03 28 14.6 -0.2
baz=50
P26A Davis Ranch, A 50.18 **74** ⇑P **P** 03 28 14.5 -0.1
baz=50,SNR=8.7
S24A Houchin Ranch, 50.28 **77** ⇓P **P** 03 28 15.5 -0.1
baz=50,SNR=7.0
O27A Beecher Island 50.30 **73** ⇓P **P** 03 28 14.9 -0.6
baz=50
L29A Maesberg Ranch 50.30 **70** ⇓P **P** 03 28 14.7 -0.7
baz=50
V22A San Miguel Ran 50.37 **80** ⇓P **P** 03 28 15.6 -0.6
baz=50
TUC Tucson 50.38 **86** *e*P **P** 03 28 16.0 -0.1
TUC *e* 03 29 34.0
TUC pmax pmax
comp=Z,5.0nm,0.7s
TUC Tucson 50.38 **86** *e*P **P** 03 28 16.0 -0.1
comp=Z,5.2nm,0.7s
TUC *e*PcP **PcP** 03 29 34.0 +0.2
K30A Basset 50.42 **68** ⇑P **P** 03 28 16.1 -0.2
baz=50,SNR=15
Q26A Hugo 50.48 **75** ⇑P **P** 03 28 16.9 0.0
baz=50
R25A Fountain Ranch 50.52 **76** ⇓P **P** 03 28 17.2 +0.1
baz=50
U23A El Rito 50.54 **79** ⇑P **P** 03 28 17.5 0.0
baz=50,SNR=9.0
N28A Pribbeno Ranch 50.54 **72** ⇑P **P** 03 28 17.3 +0.1
baz=50
T24B San Luis 50.55 **78** ⇓P **P** 03 28 17.4 -0.2
baz=50
M29A Burnside Ranch 50.56 **70** ⇑P **P** 03 28 17.3 -0.1
baz=50
NJ2 Nanjing 50.57 **274** *e*P **P** 03 28 18.4 +1.0
NJ2 pmax pmax
comp=Z,20nm,1.1s
S25A Robets Cordova 50.74 **76** ⇓P **P** 03 28 18.6 -0.3
baz=51,SNR=7.9
O28A Krutsinger Ran 50.76 **72** ⇓P **P** 03 28 18.3 -0.5
baz=51
L30A Spencer Herefo 50.81 **69** ⇓P **P** 03 28 18.9 -0.3
baz=51
R26A Arlington 50.92 **75** ⇑P **P** 03 28 19.9 -0.3
baz=51,SNR=7.8
V23A Ortiz Mt. (NFS 50.92 **79** ⇑P **P** 03 28 20.2 -0.2
baz=51
KSCO Kaye Shedlock' 50.96 **74** *e*P **P** 03 28 20.5 0.0
comp=Z,11nm,0.6s
KSCO Kaye Shedlock' 50.96 **74** ⇓P **P** 03 28 20.4 0.0
baz=51,SNR=6.3
T25A Trinidad 51.09 **77** ⇓P **P** 03 28 21.9 +0.3
baz=51,SNR=9.3
P28A Saint Francis 51.12 **73** ⇑P **P** 03 28 21.1 -0.5
baz=51
L31A Butterfield Fa 51.18 **68** ⇓P **P** 03 28 22.1 +0.1
baz=51,SNR=14
LAZ Ladron 51.23 **81** *e*P **P** 03 28 22.1 -0.5
comp=Z,5.6nm,1.0s
ANMO Albuquerque 51.28 **80** *e*P **P** 03 28 22.1 -1.0
comp=Z,7.2nm,1.3s
ANMO Albuquerque 51.28 **80** LR LR 03 49 17.2
comp=Z,98nm,18.8s,baz=354,slow=35
R27A Eads 51.32 **75** ⇑P **P** 03 28 23.0 -0.1
baz=51,SNR=6.3
W23A Werner Place, 51.33 **80** ⇑P **P** 03 28 22.6 -0.8
baz=51
O29A 4D Ranch, Culb 51.33 **72** ⇓P **P** 03 28 22.8 -0.4
baz=51
S26A Kim 51.35 **76** ⇑P **P** 03 28 22.5 -0.9
baz=51,SNR=9.0
ECSD EROS Data Cent 51.48 **66** *e*P **P** 03 28 22.4 -1.7
comp=Z,27nm,1.1s
ECSD EROS Data Cent 51.48 **66** ⇓P **P** 03 28 22.6 -1.6
baz=51,SNR=24
LENM Lemitar 51.49 **82** *e*P **P** 03 28 25.0 +0.5
comp=Z,4.7nm,1.0s
V24A Rampart Ranch, 51.49 **79** ⇓P **P** 03 28 24.8 +0.2
baz=51,SNR=10
T26A Comanche Natio 51.56 **76** ⇑P **P** 03 28 24.4 -0.7
baz=51
U25A Circle Dot Ran 51.58 **78** ⇑P **P** 03 28 24.8 -0.4
baz=51,SNR=7.4
P29A Atwood 51.59 **72** ⇑P **P** 03 28 25.1 0.0
baz=51
LPM Los Pinos Moun 51.60 **81** *e*P **P** 03 28 25.5 +0.1
comp=Z,2.8nm,0.7s
EYMN Ely 51.69 **59** *e*P **P** 03 28 24.5 -1.1
comp=Z,17nm,1.1s
BNM Barren Site 51.71 **81** *e*P **P** 03 28 26.0 -0.3
comp=Z,3.5nm,0.7s
W24A Lazy 6 Ranch, 51.75 **79** ⇓P **P** 03 28 25.9 -0.7
baz=52,SNR=5.3
V25A Rancho No Teng 51.82 **78** ⇑P **P** 03 28 26.7 -0.3
baz=52,SNR=7.6
R28A Tribune 51.88 **74** ⇑P **P** 03 28 26.9 -0.4
baz=52
319A Douglas 51.95 **86** ⇓P **P** 03 28 27.7 -0.3
baz=52
U26A Atchley Ranch, 51.98 **77** ⇑P **P** 03 28 28.0 -0.2
baz=52,SNR=7.6
Q29A Oakley 52.02 **73** ⇑P **P** 03 28 27.9 -0.4
baz=52
P30A Selden 52.03 **72** ⇓P **P** 03 28 28.0 -0.4
baz=52
BGNE Belgrade 52.07 **69** *e*P **P** 03 28 28.9 +0.4
comp=Z,34nm,0.8s
BGNE Belgrade 52.07 **69** ⇑P **P** 03 28 28.2 -0.4
baz=52
121A Cookes Peak, D 52.09 **84** ⇑P **P** 03 28 28.9 -0.1
baz=52
Z22A Elephant Butte 52.10 **82** ⇓P **P** 03 28 28.8 -0.3
baz=52
T27A Campo 52.16 **76** ⇓P **P** 03 28 28.8 -0.6
baz=52
X24A Lazy VL Ranch, 52.16 **80** ⇓P **P** 03 28 29.1 -0.5
baz=52
O31A Woolen Ranch, 52.18 **71** ⇑P **P** 03 28 29.0 -0.5
baz=52
Y23A Lovelace Mesa, 52.21 **81** ⇓P **P** 03 28 29.9 0.0
baz=52,SNR=8.1
R29A Marienthal 52.23 **74** ⇓P **P** 03 28 29.7 -0.1
baz=52

S28A Manter 52.31 **75** ⇑P **P** 03 28 30.5 0.0
baz=52,SNR=12
W25A X Bar L Ranch, 52.33 **79** ⇑P **P** 03 28 30.4 -0.3
baz=52,SNR=12
V26A Tequesquite Ra 52.35 **78** ⇓P **P** 03 28 30.4 -0.5
baz=52,SNR=11
Q30A Quinter 52.41 **72** ⇑P **P** 03 28 30.7 -0.5
baz=52
320A Kipp Ranch, An 52.44 **85** ⇑P **P** 03 28 31.2 -0.4
baz=52
T28A Walsh 52.49 **75** ⇓P **P** 03 28 31.5 -0.4
baz=52
U27A Thompson Grove 52.52 **77** ⇓P **P** 03 28 31.6 -0.5
baz=52,SNR=6.2
SUMG Summit 52.53 **15** *e*P **P** 03 28 32.0 0.0
SUMG pmax pmax
comp=Z,336nm,3.0s
SUMG Summit 52.53 **15** *i* P **P** 03 28 31.9 0.0
comp=Z,9.1nm,1.0s
SUMG Summit 52.53 **15** *e*P **P** 03 28 32.0 0.0
comp=Z,336nm,3.0s
Z23A Rita Site, Whi 52.55 **82** ⇑P **P** 03 28 32.5 +0.1
baz=52
P31A Stockton 52.56 **71** ⇓P **P** 03 28 32.1 -0.1
baz=52
Y24A Capitan 52.59 **81** ⇑P **P** 03 28 32.9 +0.1
baz=52,SNR=9.4
SPMN St. Paul 52.67 **62** *e*P **P** 03 28 31.8 -1.2
comp=Z,5.2nm,0.4s
SPMN St. Paul 52.67 **62** ⇓P **P** 03 28 31.8 -1.2
baz=52,SNR=6.5
HVS Khovu-Aksy 52.73 **308** *e*P **P** 03 28 33.6 +0.2
HVS pmax pmax
comp=Z,9.0nm,0.6s
R30A Dighton 52.83 **73** ⇑P **P** 03 28 34.1 -0.2
baz=53,SNR=8.5
W26A Owens Ranch, T 52.84 **78** ⇓P **P** 03 28 34.3 -0.2
baz=53
U28A Mallet 52.91 **76** ⇓P **P** 03 28 34.1 -0.9
baz=53,SNR=6.0
V27A Dan Oppiter Fa 52.96 **77** ⇓P **P** 03 28 34.5 -0.8
baz=53
Z24A Sheeppen Canyo 53.04 **81** ⇑P **P** 03 28 35.6 -0.5
baz=53,SNR=7.1
Y25A Mesa, Roswell 53.05 **80** ⇓P **P** 03 28 35.8 -0.3
baz=53,SNR=7.6
S30A Montezuma 53.14 **74** ⇑P **P** 03 28 35.9 -0.7
baz=53
X26A CR and CF Fran 53.17 **79** ⇓P **P** 03 28 36.6 -0.3
baz=53
R31A Burdett 53.27 **73** ⇓P **P** 03 28 37.2 -0.4
baz=53
Q32A Meitler Ranch, 53.38 **71** ⇓P **P** 03 28 37.7 -0.6
baz=53
124A Stringfield Ra 53.41 **82** ⇓P **P** 03 28 38.4 -0.5
baz=53,SNR=6.0
U29A Oasis Ranch, S 53.44 **75** ⇓P **P** 03 28 38.3 -0.6
baz=53
Z25A Roswell 53.47 **81** ⇓P **P** 03 28 38.6 -0.5
baz=53
R32A Long Quarter, 53.67 **72** ⇑P **P** 03 28 39.6 -0.8
baz=54
U30A WK&E Inc. Balk 53.76 **75** ⇓P **P** 03 28 40.5 -0.7
baz=54
224A Cornudas Mount 53.80 **82** ⇓P **P** 03 28 41.3 -0.3
baz=54,SNR=7.2
Q33A Connelly Farm, 53.81 **71** ⇑P **P** 03 28 40.7 -0.7
baz=54
Z26A Caprock 53.93 **80** ⇓P **P** 03 28 42.0 -0.5
baz=54
125A Gardner Draw, 53.93 **81** ⇑P **P** 03 28 42.3 -0.2
baz=54,SNR=7.7
Y27A Causey 54.01 **79** ⇑P **P** 03 28 42.4 -0.7
baz=54,SNR=16
MNTX Cornudas Mount 54.14 **83** *e*P **P** 03 28 43.6 -0.3
comp=Z,5.7nm,0.9s
X28A Dimmitt 54.17 **78** ⇓P **P** 03 28 43.6 -0.7
baz=54
MSTX Muleshoe 54.19 **79** *e*P **P** 03 28 43.7 -0.7
comp=Z,5.5nm,0.5s
MSTX Muleshoe 54.19 **79** ⇑P **P** 03 28 43.9 -0.5
baz=54,SNR=5.2
225A Deer Hill, Car 54.20 **82** ⇓P **P** 03 28 44.2 -0.4
baz=54,SNR=7.2
324A Moseley Ranch, 54.26 **83** ⇓P **P** 03 28 44.4 -0.5
baz=54
126A Clayton Basin, 54.33 **81** ⇓P **P** 03 28 44.5 -0.8
baz=54
Z27A Tatum 54.37 **80** ⇓P **P** 03 28 44.8 -0.9
baz=54
X29A Tulia 54.52 **78** ⇓P **P** 03 28 46.4 -0.4
baz=54
Y28A McKinney Farm, 54.55 **78** ⇑P **P** 03 28 46.2 -0.8
baz=54,SNR=6.0
325A Bean Ranch, Si 54.62 **83** ⇑P **P** 03 28 47.2 -0.4
baz=54,SNR=11
226B Tecolote Peak, 54.63 **81** ⇑P **P** 03 28 47.4 -0.2
baz=54,SNR=8.6
SFJD Kangerlussuaq 54.66 **23** LR LR 03 53 42.0
comp=Z,103nm,20.3s,baz=327,slow=38
Z28A Tucker Farm, M 54.89 **79** ⇑P **P** 03 28 48.6 -0.9
baz=55
Y29A Porterfield Fa 54.94 **78** ⇑P **P** 03 28 49.5 -0.3
baz=55,SNR=6.2
425A Indio Mountain 55.02 **83** ⇓P **P** 03 28 49.7 -0.7
baz=55
ZALV Zalesovo Beam 55.08 **315** P **P** 03 28 49.2 -1.1
ZALV 03 29 52.1
ZALV Zalesovo Beam 55.08 **315** P **P** 03 28 49.2 -1.1
ZALV PcP **PcP** 03 29 52.1 +1.1
ZALV Zalesovo Beam 55.08 **315** P **P** 03 28 49.2 -1.1
comp=Z,0.7nm,0.3s,baz=32,slow=6.8,SNR=3.9
ZALV PcP **PcP** 03 29 52.1 +1.1
comp=Z,2.7nm,0.9s,baz=36,slow=3.8,SNR=7.3
ZALV LR LR 03 54 18.1
comp=Z,227nm,19.0s,baz=66,slow=38
326A Caldwell Ranch 55.27 **82** ⇑P **P** 03 28 51.1 -1.1
baz=55,SNR=5.2
128A Castleberry Fa 55.29 **80** ⇑P **P** 03 28 51.3 -1.0
baz=55,SNR=9.4
Z29A Hungry Hill Ra 55.33 **79** ⇓P **P** 03 28 51.8 -0.8
baz=55
Y30A Stafford Cattl 55.40 **78** ⇓P **P** 03 28 52.3 -0.8
baz=55
X31A McDonald Ranch 55.44 **76** ⇑P **P** 03 28 52.7 -0.6
baz=55,SNR=5.4
W32A Sentinel 55.55 **75** ⇑P **P** 03 28 53.5 -0.6
baz=55
228A UT Block 9, Go 55.57 **80** ⇓P **P** 03 28 53.5 -0.8
baz=55
JFWS Jewell Farm 55.57 **63** *e*P **P** 03 28 52.1 -2.0
JFWS pmax pmax
comp=Z,41nm,1.1s
JFWS Jewell Farm 55.57 **63** *e*P **P** 03 28 52.1 -2.0
comp=Z,41nm,1.1s
129A Stewart Farms, 55.66 **79** ⇓P **P** 03 28 54.2 -0.7
baz=56
Z30A Sanderson Ranc 55.66 **78** ⇑P **P** 03 28 54.2 -0.7
baz=56,SNR=5.2
U34A Anderson Ranch 55.69 **73** ⇓P **P** 03 28 54.2 -0.8
baz=56
426A McDonald Obser 55.69 **83** ⇓P **P** 03 28 54.5 -0.8
baz=56,SNR=6.4
328A Wristen Ranch, 55.94 **81** ⇑P **P** 03 28 55.8 -1.2
baz=56,SNR=8.0
427A Hayter Ranch, 55.95 **82** ⇑P **P** 03 28 56.3 -0.8
baz=56,SNR=5.7
X32A Elmer 56.00 **76** ⇑P **P** 03 28 56.7 -0.6
baz=56
526A Mary Lane Ranc 56.08 **83** ⇑P **P** 03 28 57.5 -0.6
baz=56,SNR=8.6
WMOK Wichita Mounta 56.09 **75** *e*P **P** 03 28 57.2 -0.8
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 56.09 **75** *e*P **P** 03 28 57.2 -0.8
comp=Z,9.7nm,0.8s
229A Bryant Ranch, 56.15 **80** ⇑P **P** 03 28 58.0 -0.4
baz=56
Y32A R-V Farms, Ver 56.19 **76** ⇓P **P** 03 28 58.1 -0.6
baz=56,SNR=13
130A Snyder 56.23 **79** ⇓P **P** 03 28 58.3 -0.7
baz=56
Z31A Sharp Cattle R 56.24 **78** ⇓P **P** 03 28 58.2 -0.8
baz=56
527A Woodward Ranch 56.31 **83** ⇓P **P** 03 28 59.0 -0.7
baz=56,SNR=6.5
329A Wagon Wheel Ra 56.38 **80** ⇓P **P** 03 28 59.3 -0.8
baz=56,SNR=5.4

626A Big Bend Ranch 56.40 **84** ⇓P **P** 03 28 59.7 -0.6
baz=56,SNR=12
LPIG La Paz 56.47 **93** LR LR 03 50 51.8
comp=Z,70nm,18.1s,baz=334,slow=33
428A Kincaid Ranch, 56.48 **82** ⇓P **P** 03 29 00.4 -0.4
baz=56,SNR=8.7
131A Roby 56.53 **78** ⇓P **P** 03 29 00.2 -0.9
baz=56
230A Sterling City 56.63 **79** ⇑P **P** 03 29 01.3 -0.6
baz=56,SNR=9.8
Z32A Haskell 56.65 **77** ⇓P **P** 03 29 01.2 -0.7
baz=56,SNR=8.2
SCO Scoresbysund 56.67 **10** *e*P P 03 29 11.9 +10
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 56.67 **10** *i* P P 03 29 11.9 +10
comp=Z,3.9nm,0.9s
Y33A Hilltop Ranch, 56.68 **76** ⇑P **P** 03 29 01.1 -1.1
baz=56
528A Cox Ranch, San 56.81 **82** ⇑P **P** 03 29 02.7 -0.6
baz=57,SNR=8.7
TXAR Lajitas Array 56.85 **83** P **P** 03 29 02.6 -0.9
TXAR pP **pP** 03 29 20.9 +1.4
TXAR ScP **ScP** 03 33 53.0 +0.5
TXAR Lajitas Array 56.85 **83** P **P** 03 29 02.6 -0.9
comp=Z,3.9nm,0.9s,baz=300,slow=6.0,SNR=32
TXAR pP **pP** 03 29 20.9 +1.4
comp=Z,5.9nm,0.7s,baz=299,slow=4.0,SNR=14
TXAR ScP **ScP** 03 33 53.0 +0.5
comp=Z,0.7nm,0.9s,baz=258,slow=2.5,SNR=4.3
TXAR LR LR 03 51 32.5
comp=Z,63nm,20.6s,baz=0.0,slow=34
330A Mertzon 56.93 **80** ⇓P **P** 03 29 02.5 -1.5
baz=57
LZH Lanzhou 56.99 **288** *e*P **P** 03 29 05.8 +1.3
LZH pP **pP** 03 29 20.0 -0.5
LZH sP **sP** 03 29 29.0 +1.6
LZH PcP **PcP** 03 30 00.3 +1.3
LZH pmax pmax
comp=Z,16nm,1.0s
ABTX Abilene, Hawle 57.02 **78** *e*P **P** 03 29 04.3 -0.3
comp=Z,20nm,1.3s
ABTX Abilene, Hawle 57.02 **78** ⇑P **P** 03 29 03.7 -0.9
baz=57
429A Davenport Ranc 57.03 **81** ⇑P **P** 03 29 03.5 -1.3
baz=57,SNR=5.5
TUL1 Tulsa 57.08 **72** *e*P **P** 03 29 04.1 -0.8
comp=Z,17nm,1.0s
GTA Gaotai 57.08 **293** *e*P **P** 03 29 05.3 +0.3
GTA pP **pP** 03 29 22.1 +1.0
GTA sP **sP** 03 29 29.3 +1.3
GTA PcP **PcP** 03 29 59.9 +0.6
GTA S **S** 03 36 53.5 -1.8
GTA sS **sS** 03 37 19.4 -3.0
GTA SS **SS** 03 40 41.3 -2.9
GTA pmax pmax
comp=Z,4.0nm,1.9s
GTA pmax pmax
comp=Z,140nm,6.2s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,200nm,16.6s
GTA LR LR
comp=Z,200nm,17.3s
Z33A Whitaker Ranch 57.10 **77** ⇓P **P** 03 29 04.0 -1.1
baz=57
529A Stev Forest Ra 57.18 **82** ⇑P **P** 03 29 04.9 -0.9
baz=57,SNR=7.6
628A Black Gap, Mar 57.22 **83** ⇑P **P** 03 29 05.4 -0.7
baz=57,SNR=8.9
Y34A Reagan Ranch, 57.24 **75** ⇑P **P** 03 29 05.6 -0.5
baz=57,SNR=5.7
430A Baggett Ranch, 57.33 **80** ⇓P **P** 03 29 05.8 -1.0
baz=57,SNR=13
331A San Angelo 57.46 **79** ⇑P **P** 03 29 06.5 -1.2
baz=57,SNR=6.6
133A Hamilton Ranch 57.47 **77** ⇓P **P** 03 29 07.2 -0.6
baz=57,SNR=7.4
232A Coleman 57.53 **78** ⇓P **P** 03 29 07.3 -0.9
baz=57,SNR=5.4
Z34A Collier Ranch, 57.55 **76** ⇓P **P** 03 29 07.1 -1.2
baz=57
530A J-C Ranch, Com 57.71 **81** ⇓P **P** 03 29 08.6 -0.9
baz=58,SNR=17
431A Sonora 57.78 **80** ⇑P **P** 03 29 08.9 -1.1
baz=58,SNR=11
332A Millersview 57.82 **79** ⇓P **P** 03 29 09.2 -1.0
baz=58,SNR=5.7
233A Rising Star 57.89 **78** ⇑P **P** 03 29 09.8 -0.9
baz=58,SNR=6.2
ARCES ARCESS Array B 58.05 **351** P **P** 03 29 09.3 -1.9
ARCES ARCESS Array B 58.05 **351** P **P** 03 29 09.3 -1.9
comp=Z,2.7nm,0.9s,baz=14,slow=6.9,SNR=5.6
ARCES LR LR 03 54 45.6
comp=Z,70nm,21.0s,baz=18,slow=37
432A Menard 58.15 **79** ⇓P **P** 03 29 11.5 -1.0
baz=58
531A Rocksprings 58.18 **81** ⇑P **P** 03 29 11.8 -1.0
baz=58
333A Richland Sprin 58.33 **78** ⇑P **P** 03 29 12.7 -1.0
baz=58,SNR=6.4
234A Clairette 58.37 **77** ⇑P **P** 03 29 13.0 -1.0
baz=58,SNR=5.0
JCT Junction City 58.42 **80** *e*P **P** 03 29 13.2 -1.2
JCT pmax pmax
comp=Z,15nm,1.2s
JCT Junction City 58.42 **80** *e*P **P** 03 29 13.2 -1.2
comp=Z,15nm,1.2s
JCT Junction City 58.42 **80** ⇑P **P** 03 29 13.2 -1.2
baz=58
SLM Saint Louis 58.45 **66** *e*P **P** 03 29 12.9 -1.6
SLM pmax pmax
comp=Z,27nm,1.2s
SLM Saint Louis 58.45 **66** *e*P **P** 03 29 12.9 -1.6
comp=Z,27nm,1.2s
532A Rocksprings 58.60 **80** ⇓P **P** 03 29 14.4 -1.4
baz=58
SCHQ Schefferville 58.62 **40** P **P** 03 29 14.4 -1.0
SCHQ Schefferville 58.62 **40** P **P** 03 29 14.4 -1.0
comp=Z,4.3nm,0.9s,baz=209,slow=19,SNR=3.4
SCHQ LR LR 03 55 54.9
comp=Z,185nm,18.1s,baz=336,slow=37
433A Art 58.66 **79** ⇑P **P** 03 29 15.0 -1.1
baz=58,SNR=7.1
631A Perdido Creek 58.70 **81** ⇓P **P** 03 29 14.8 -1.6
baz=58,SNR=5.8
334A Lometa 58.77 **78** ⇑P **P** 03 29 16.3 -0.5
baz=59,SNR=7.4
WHTX Lake Whitney 58.79 **77** *e*P **P** 03 29 16.6 -0.4
comp=Z,6.7nm,0.5s
WHTX Lake Whitney 58.79 **77** ⇓P **P** 03 29 15.8 -1.1
baz=59
SFIN Scholer Farm 59.02 **63** *e*P **P** 03 29 17.3 -1.1
comp=Z,44nm,0.9s
SFIN Scholer Farm 59.02 **63** ⇑P **P** 03 29 17.6 -0.8
baz=59,SNR=12
632A Uvalde 59.11 **80** ⇓P **P** 03 29 18.2 -1.1
baz=59
434A Burnet 59.12 **78** ⇓P **P** 03 29 18.1 -1.1
baz=59,SNR=9.8
533A Kerrville 59.17 **79** ⇓P **P** 03 29 18.4 -1.2
baz=59
MIAR Mount Ida 59.33 **72** *e*P **P** 03 29 19.6 -1.0
MIAR pmax pmax
comp=Z,29nm,1.1s
MIAR Mount Ida 59.33 **72** *e*P **P** 03 29 19.6 -1.0
comp=Z,28nm,1.1s
534A Blanco 59.55 **79** ⇓P **P** 03 29 20.9 -1.4
baz=59
732A Laxson Ranch, 59.55 **81** ⇓P **P** 03 29 21.2 -1.0
baz=59,SNR=6.8
PBMO Poplar Bluff 59.62 **68** *e*P **P** 03 29 21.2 -1.4
comp=Z,21nm,1.1s
832A Faith Ranch, C 59.87 **82** ⇑P **P** 03 29 23.9 -0.5
baz=60,SNR=15
733A Divot King Ran 59.98 **81** ⇑P **P** 03 29 24.1 -1.0
baz=60
KURK Kurchatov 60.06 **315** ⇑*i*P **P** 03 29 25.7 +0.3
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 60.06 **315** *e*P **P** 03 29 25.3 -0.1
comp=Z,3.3nm,0.6s
PARMO Parma 60.09 **68** *e*P **P** 03 29 24.7 -1.1
535A Dale 60.10 **78** ⇑P **P** 03 29 25.4 -0.6
baz=60
BLO Bloomington 60.18 **64** *e*P **P** 03 29 25.6 -0.8

BLO pmax pmax
comp=Z,32nm,1.0s
BLO Bloomington 60.18 64 *e*P **P 03 29 25.6 -0.8**
comp=Z,32nm,1.0s
833A Chaparral WMA, 60.20 81 ⇓P **P 03 29 26.2 -0.5**
baz=60,SNR=8.0
SADO Sadowa 60.20 55 P **P 03 29 25.6 -0.9**
SADO pP **pP 03 29 45.4 +2.8**
SADO Sadowa 60.20 55 P **P 03 29 25.6 -0.9**
comp=Z,12nm,1.0s,baz=290,slow=3.1,SNR=4.4
SADO pP **pP 03 29 45.4 +2.8**
comp=Z,10.0nm,0.7s,baz=299,slow=4.3,SNR=5.4
734A La Parita Cree 60.34 80 ⇓P **P 03 29 26.8 -0.8**
baz=60
USIN University of 60.38 65 *e*P **P 03 29 27.0 -0.7**
comp=Z,105nm,1.3s
635A Leesville 60.43 79 ⇓P **P 03 29 27.7 -0.5**
baz=60
CD2 Chengdu 60.63 284 P **P 03 29 30.4 +0.7**
CD2 sP **sP 03 29 53.3 +0.6**
CD2 PP **PP 03 31 45.4 +1.8**
CD2 S **S 03 37 38.6 -2.8**
CD2 SS **SS 03 41 38.4 -1.8**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,370nm,5.4s
CD2 LR LR
comp=Z,210nm,14.2s
CD2 LR LR
comp=Z,360nm,22.8s
WMQ Urumqi 60.64 304 P **P 03 29 30.4 +0.8**
WMQ pP **pP 03 29 46.5 +0.7**
WMQ sP **sP 03 29 53.5 +0.9**
WMQ PcP **PcP 03 30 13.4 +0.1**
WMQ PP **PP 03 31 46.9 +3.6**
WMQ ScP **ScP 03 34 08.5 -0.5**
WMQ ScS SKKSac 03 39 12.0 -2.7
WMQ SS **SS 03 41 40.5 +0.9**
WMQ pmax pmax
comp=Z,5.0nm,0.7s
WMQ LR LR
comp=Z,170nm,27.8s
WMQ LR LR
comp=Z,78nm,25.0s
WMQ LR LR
comp=Z,170nm,24.5s
933A Laredo 60.78 82 ⇑P **P 03 29 30.0 -0.6**
baz=61
834A Tilden 60.86 81 ⇓P **P 03 29 31.3 +0.1**
baz=61
WCI Wyandotte Cave 60.96 64 *e*P **P 03 29 30.7 -1.1**
WCI pmax pmax
comp=Z,20nm,0.9s
WCI Wyandotte Cave 60.96 64 *e*P **P 03 29 30.7 -1.1**
comp=Z,20nm,0.9s
MK31 Makanchi Array 61.20 310 *e*P **P 03 29 32.3 -1.0**
MK31 Makanchi Array 61.20 310 *e*P **P 03 29 32.3 -1.0**
MKAR Makanchi Array 61.20 310 P **P 03 29 32.4 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 61.20 310 *e*P **P 03 29 32.3 -0.9**
MKAR Makanchi Array 61.20 310 P **P 03 29 32.4 -0.9**
comp=Z,1.4nm,0.4s,baz=46,slow=6.9,SNR=40
MKAR LR LR 03 56 43.1
comp=Z,105nm,21.5s,baz=20,slow=37
HKT Hockley 61.21 77⇑*i*P **P 03 29 33.0 -0.5**
HKT pmax pmax
comp=Z,5.0nm,1.0s
934A Benavides 61.25 81 ⇓P **P 03 29 34.1 +0.3**
baz=61
ACSO Alum Creek Sta 61.38 61 *e*P **P 03 29 33.5 -1.1**
comp=Z,19nm,0.9s
034A Hebbronville 61.54 82 ⇓P **P 03 29 35.9 +0.2**
baz=61
BVAR Borovoye Array 61.76 321 P **P 03 29 36.7 -0.2**
BVAR Borovoye Array 61.76 321 P **P 03 29 36.7 -0.2**
BVAR Borovoye Array 61.76 321 P **P 03 29 36.7 -0.2**
comp=Z,3.8nm,0.4s,baz=52,slow=6.6,SNR=26
BVAR LR LR 03 58 58.5
comp=Z,432nm,19.4s,baz=48,slow=38
BRVK Borovoye 61.78 321⇑*i*P **P 03 29 37.6 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
OXF Oxford 61.80 69 *e*P **P 03 29 36.4 -1.1**
OXF pmax pmax
comp=Z,38nm,0.7s
OXF Oxford 61.80 69 *e*P **P 03 29 36.4 -1.1**
comp=Z,38nm,0.7s
GYA Guiyang 62.05 278 *e*P **P 03 29 40.0 +0.6**
GYA pP **pP 03 29 56.4 +0.8**
GYA sP **sP 03 30 02.6 +0.1**
GYA PP **PP 03 31 58.0 +1.8**
GYA S **S 03 37 55.4 -4.2**
GYA sS **sS 03 38 25.3 -1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.8s
GYA LR LR
comp=Z,360nm,19.6s
GYA LR LR
comp=Z,250nm,20.0s
GYA LR LR
comp=Z,340nm,19.4s
ARU Arti 63.23 330*d i*P P 03 29 41.8 -4.9
ARU 03 30 20.3
ARU S S 03 38 06.1 -7.3
ARU pmax pmax
comp=Z,11nm,2.5s
SWET Sewanee 63.30 66 *e*P **P 03 29 46.4 -1.1**
comp=Z,52nm,2.0s
TZTN Tazewell 63.70 64 *e*P **P 03 29 49.8 -0.2**
comp=Z,28nm,1.1s
CPCT Cooper Cave 63.94 65 *e*P **P 03 29 51.4 -0.2**
TKL Tuckaleechee C 64.21 65 *e*P **P 03 29 52.9 -0.5**
LRAL Lakeview Retre 64.26 69 *e*P **P 03 29 52.8 -1.0**
comp=Z,3.1nm,0.6s
BLA Blacksburg 64.94 61 *e*P **P 03 29 57.9 -0.3**
BLA pmax pmax
comp=Z,54nm,1.1s
BLA Blacksburg 64.94 61 *e*P **P 03 29 57.9 -0.3**
comp=Z,54nm,1.1s
SDMD Soldier's Deli 65.25 57 *e*P **P 03 29 59.6 -0.5**
comp=Z,28nm,1.2s
KMI Kunming 65.43 280 P **P 03 30 02.9 +1.1**
KMI pmax pmax
comp=Z,37nm,1.1s
KMI LR LR
comp=Z,89nm,35.8s
QIZ Qiongzhong 65.55 270 P **P 03 30 01.1 -1.2**
QIZ S **S 03 38 41.8 -1.1**
FINES FINESS Array B 65.83 349 P **P 03 30 03.5 0.0**
FINES FINESS Array B 65.83 349 P **P 03 30 03.5 0.0**
comp=Z,2.1nm,0.9s,baz=7.0,slow=6.7,SNR=6.6
FINES LR LR 04 02 24.8
comp=Z,112nm,19.1s,baz=30,slow=39
KMSC Kings Mountain 65.95 63 ⇓P **P 03 30 04.2 -0.5**
baz=66,SNR=17
JSRW J. Sargeant Re 65.96 59 *e*P **P 03 30 04.6 -0.1**
GOGA Godfrey 66.01 66 *e*P **P 03 30 03.8 -1.4**
GOGA pmax pmax
comp=Z,10.0nm,0.8s
GOGA Godfrey 66.01 66 *e*P **P 03 30 03.8 -1.4**
comp=Z,10nm,0.8s
JSC Jenkinsville 66.62 64 *e*P **P 03 30 08.9 -0.1**
JSC Jenkinsville 66.62 64 *e*P **P 03 30 08.9 -0.1**
TKM2 Tokmak 2 67.26 311 *e*P **P 03 30 13.1 -0.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 67.26 311 *e*P **P 03 30 13.1 -0.1**
comp=Z,3.2nm,0.8s
NB2 NORSAR Subarra 67.45 356 P **P 03 30 13.8 -0.1**
comp=Z,2.4nm,1.1s,baz=7.5,slow=6.5
NOA NORSAR Array B 67.45 356 P **P 03 30 13.7 -0.2**
NOA NORSAR Array B 67.45 356 P **P 03 30 13.7 -0.2**
comp=Z,1.3nm,1.0s,baz=171,slow=15,SNR=3.8
NOA LR LR 04 01 46.1
comp=Z,57nm,18.2s,baz=0.0,slow=38
SLVN Son La 67.51 276 *e*P **P 03 30 16.0 +1.1**
comp=Z,15nm,0.9s
TAOE Nuku Hiva Isla 67.73 141 *e*T T 04 44 05.4
comp=Z,196nm,0.2s
AAK Ala-Archa 68.00 311⇓*e*P **P 03 30 19.0 +1.2**
AAK pmax pmax
comp=Z,17nm,1.2s
AAK Ala-Archa 68.00 311 *e*P **P 03 30 17.9 +0.1**
comp=Z,4.7nm,0.6s
NHSC New Hope 68.09 64 *e*P **P 03 30 18.3 0.0**
comp=Z,104nm,1.0s
HFS Hagfors 68.23 355 P **P 03 30 17.7 -1.1**
HFS Hagfors 68.23 355 P **P 03 30 17.7 -1.1**
comp=Z,1.3nm,0.4s,baz=50,slow=2.3,SNR=18
AKTO Aktyubinsk 68.42 326 P **P 03 30 19.7 -0.4**
AKTO Aktyubinsk 68.42 326 P **P 03 30 19.7 -0.4**
AKTO Aktyubinsk 68.42 326 P **P 03 30 19.7 -0.4**
comp=Z,4.3nm,0.8s,baz=46,slow=6.5,SNR=14
PMG Port Moresby 68.66 219 LR LR 03 57 26.1
comp=Z,43nm,19.1s,baz=34,slow=33
ABKAR Akbulak array 68.72 324 *e*P **P 03 30 21.8 -0.2**
comp=Z,0.5nm,0.3s
KKAR Karatay Array 69.45 314 *e*P **P 03 30 26.4 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 69.45 314 *e*P **P 03 30 26.4 -0.2**
comp=Z,3.3nm,0.6s
KSH Kashi 69.70 308 *i* P P 03 30 32.0 +3.6
KSH *e*PP PP 03 33 09.0 +6.4
KSH *e*S **S 03 39 35.3 +2.9**
KSH *e*sS sS 03 40 03.3 +2.9
KSH *e*SS **SS 03 44 07.6 +6.9**
KSH pmax pmax
comp=Z,2.0nm,0.2s
KSH pmax pmax
comp=Z,90nm,5.0s
KSH LR LR
comp=Z,110nm,4.1s
KSH LR LR
comp=Z,72nm,4.7s
KSH LR LR
comp=Z,120nm,5.2s
PMOR Pomariorio Ree 70.78 151 *e*T T 04 47 52.4
comp=Z,14nm,0.2s
SHL Shillong 71.65 288 *e*P **P 03 30 40.5 0.0**
CHTO Chiang Mai 72.47 278 *e*P **P 03 30 46.1 +0.9**
CHTO pmax pmax
comp=Z,17nm,1.2s
CHTO Chiang Mai 72.47 278 *e*P **P 03 30 46.1 +0.9**
comp=Z,17nm,1.2s
PPT Papeete 72.73 154 LR LR 03 55 43.9
comp=Z,113nm,20.5s,baz=356,slow=30
CMAR Chiang Mai Arr 72.74 278 P **P 03 30 47.6 +0.8**
CMAR Chiang Mai Arr 72.74 278 P **P 03 30 47.6 +0.8**
comp=Z,8.1nm,0.9s,baz=26,slow=7.1,SNR=31
TAPN Taplejung 72.74 292 *e*P **P 03 30 47.6 +0.5**
PPT2 Papeete2 72.75 154 *e*LR LR 03 53 10.5
comp=Z,190nm,23.2s
PPT2 Papeete2 72.75 154 *e*T T 04 50 20.0
comp=Z,30nm,0.4s
TIAR Tiarei 72.79 153 *e*T T 04 50 22.2
comp=Z,4.3nm,0.3s
PAE Paea 72.82 154 *e*T T 04 50 24.8
comp=Z,8.4nm,0.4s
TVO Taravao 73.03 153 *e*T T 04 50 40.1
comp=Z,1.4nm,0.3s
ODAN Odare 73.30 292 *e*P **P 03 30 50.6 +0.2**
GUN Gumba 73.36 294 *e*P **P 03 30 51.3 +0.4**
JIRN Jiri 73.38 294 *e*P **P 03 30 51.5 +0.5**
comp=Z,63nm,1.0s
RAMN Ramite 73.68 293 *e*P **P 03 30 52.9 +0.3**
comp=Z,41nm,0.7s
KKN Kakani 73.80 294 *e*P **P 03 30 53.8 +0.6**
comp=Z,6.4nm,0.3s
PKI Pulchoki 73.89 294 *e*P **P 03 30 54.2 +0.3**
PKIN Phulchoki 73.89 294 *e*P **P 03 30 53.9 0.0**
comp=Z,28nm,0.9s
GKN Gorkha 74.00 295 *e*P **P 03 30 54.4 +0.1**
DMN Daman 74.03 294 *e*P **P 03 30 55.1 +0.4**
comp=Z,21nm,0.8s
DANN Dangsing 74.22 296 *e*P **P 03 30 56.1 +0.3**
comp=Z,41nm,0.8s
KOLN Koldanda 74.76 295 *e*P **P 03 30 58.8 0.0**
comp=Z,39nm,1.0s
DZM Mont Dzumac 75.07 197 *e*LR LR 03 54 08.8
comp=Z,177nm,27.6s
AKASG Malin Array Be 75.75 344 P **P 03 31 02.9 -1.0**
AKASG Malin Array Be 75.75 344 P **P 03 31 02.9 -1.0**
AKASG Malin Array Be 75.75 344 P **P 03 31 02.9 -1.0**
comp=Z,0.3nm,0.3s,baz=15,slow=5.0,SNR=4.0
AKASG LR LR 04 07 57.6
comp=Z,131nm,19.6s,baz=350,slow=38
KIEV Kiev 75.76 344‖*e*P **P 03 31 04.1 +0.2**
KBL Kabul 77.01 310 *e*P **P 03 31 10.9 -0.7**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 77.01 310 *e*P **P 03 31 10.8 -0.7**
comp=Z,6.6nm,0.8s
TBI Tubuai 78.27 155 *e*LR LR 03 55 32.5
comp=Z,205nm,26.8s
TBI Tubuai 78.27 155 *e*T T 04 57 13.0
comp=Z,12nm,0.3s
BAIF Baives 78.60 360 *e*P **P 03 31 17.6 -2.3**
BAIF Baives 78.60 360 *e*P **P 03 31 17.6 -2.3**
BAIF Baives 78.60 360 *e*P **P 03 31 17.6 -2.3**
KBZ Khabaz 79.16 332 LR LR 04 10 06.0
comp=Z,107nm,21.8s,baz=2.0,slow=38
BUR08 Buovina Ar. S 79.37 346 *e*P **P 03 31 24.4 +0.2**
FLN La Foliniere 79.83 3 *e*P **P 03 31 25.0 -1.6**
FLN La Foliniere 79.83 3 *e*P **P 03 31 25.0 -1.6**
FLN La Foliniere 79.83 3 *e*P **P 03 31 25.0 -1.6**
LDF La Druitiere 80.01 3 *e*P **P 03 31 25.7 -1.8**
LDF La Druitiere 80.01 3 *e*P **P 03 31 25.7 -1.8**
LDF La Druitiere 80.01 3 *e*P **P 03 31 25.7 -1.8**
PAGF Fort de Pagny 80.10 359 *e*P **P 03 31 26.1 -2.0**
comp=Z,32nm,1.6s
PAGF Fort de Pagny 80.10 359 *e*P **P 03 31 26.1 -2.0**
comp=Z,32nm,1.6s
SFTF Sexfontaines 80.46 359 *e*P **P 03 31 27.6 -2.4**
comp=Z,25nm,1.1s
SFTF Sexfontaines 80.46 359 *e*P **P 03 31 27.6 -2.4**
comp=Z,25nm,1.1s
AVF Avril sur Loir 81.87 0 *e*P **P 03 31 35.9 -1.6**
comp=Z,34nm,1.4s
AVF Avril sur Loir 81.87 0 *e*P **P 03 31 35.9 -1.6**
AVF pmax pmax
comp=Z,34nm,1.4s
AVF Avril sur Loir 81.87 0 *e*P **P 03 31 35.9 -1.6**
comp=Z,34nm,1.4s
SMF Signal de Mont 82.02 0 *e*P **P 03 31 36.8 -1.5**
SMF Signal de Mont 82.02 0 *e*P **P 03 31 36.8 -1.5**
SMF Signal de Mont 82.02 0 *e*P **P 03 31 36.8 -1.5**
RKT Rikitea 82.72 143 *e*LR LR 03 57 43.4
comp=Z,210nm,32.5s,baz=336
RKT Rikitea 82.72 143 *e*T T 05 02 48.1
comp=Z,3.4nm,0.2s
WRAB Tennant Creek 83.50 226⇑*i*P **P 03 31 45.9 -0.2**
WRAB pmax pmax
comp=Z,31nm,1.2s
WRAB Tennant Creek 83.50 226 *e*P **P 03 31 44.9 -1.3**
comp=Z,17nm,1.3s
WRA Warramunga Arr 83.51 226 P **P 03 31 45.7 -0.5**
WRA Warramunga Arr 83.51 226 P **P 03 31 45.7 -0.5**
comp=Z,5.2nm,0.7s,baz=32,slow=5.5,SNR=37
BRTR Keskin Array B 85.35 338 P **P 03 31 53.7 -1.9**
BRTR Keskin Array B 85.35 338 P **P 03 31 53.7 -1.9**
comp=Z,1.0nm,0.8s,baz=166,slow=0.4,SNR=4.2
BRTR LR LR 04 15 36.2
comp=Z,26nm,19.8s,baz=7.5,slow=40
HYB Hyderabad 85.74 293 *i* P **P 03 31 57.0 -0.8**
AS31 Alice Springs 86.96 225 *e*P **P 03 32 03.6 +0.2**
ASAR Alice Springs 86.96 225 P **P 03 32 03.6 +0.2**
ASAR Alice Springs 86.96 225 P **P 03 32 03.6 +0.2**
comp=Z,10nm,1.0s,baz=31,slow=4.6,SNR=55
STKA Stephens Creek 91.20 215 *e*P **P 03 32 23.6 +0.4**
STKA Stephens Creek 91.20 215 P **P 03 32 22.9 -0.2**
comp=Z,6.3nm,0.8s,baz=352,slow=6.9,SNR=17
STKA LR LR 04 08 30.5
comp=Z,63nm,20.3s,baz=27,slow=32
TORD Torodi Ar. Bea 115.38 3 PKP **PKPdf 03 37 59.5 -0.5**
TORD pPKP **pPKiKP 03 38 19.2 +1.4**
TORD Torodi Ar. Bea 115.38 3 PKP **PKPdf 03 37 59.5 -0.5**
comp=Z,2.5nm,0.8s,baz=356,slow=1.9,SNR=24
TORD pPKP **pPKiKP 03 38 19.2 +1.4**
comp=Z,1.4nm,0.5s,baz=346,slow=2.4,SNR=5.3
H03N2 Juan Fernandez 119.54 107 T T 05 49 06.6
baz=315,slow=75,SNR=237
H03N1 Juan Fernandez 119.55 107 T T 05 49 07.7
baz=315,slow=75,SNR=233
H03N3 Juan Fernandez 119.55 107 T T 05 49 07.8
baz=315,slow=75,SNR=247
DBIC Dimbokro 121.35 10 PKP **PKPdf 03 38 10.0 -1.6**
DBIC Dimbokro 121.35 10 PKP **PKPdf 03 38 10.0 -1.6**
comp=Z,6.2nm,1.0s,baz=1.2,slow=3.3,SNR=6.4
KMBO Kilima Mbogo 122.39 320 PKP **PKPdf 03 38 13.9 0.0**
KMBO Kilima Mbogo 122.39 320 PKP **PKPdf 03 38 13.9 0.0**
comp=Z,2.8nm,0.8s,baz=0.2,slow=5.8,SNR=6.1
PLCA Paso Flores 129.38 109 PKP **PKPdf 03 38 25.1 -1.1**
PLCA Paso Flores 129.38 109 PKP **PKPdf 03 38 25.1 -1.1**
comp=Z,3.1nm,0.9s,baz=359,slow=5.6,SNR=4.9
TSUM Tsumeb 145.85 337 *e*PKPdf **PKPdf 03 38 56.8 -0.2**
MAW Mawson 147.84 218 PKPbc **PKPbc 03 39 02.0 +0.4**
MAW Mawson 147.84 218 PKPbc **PKPbc 03 39 02.0 +0.4**
comp=Z,18nm,1.1s,baz=151,slow=5.1,SNR=5.4
LBTB Lobatse 148.68 320 *e*PKPbc **PKPbc 03 39 05.7 +0.3**
BOSA Boshof 152.00 317 PKP **PKPdf 03 39 07.6 +0.9**
BOSA *e*PKPbc **PKPbc 03 39 13.3 +0.1**
BOSA Boshof 152.00 317 PKP **PKPdf 03 39 07.6 +0.9**
comp=Z,2.3nm,0.8s,baz=305,slow=20,SNR=3.9
BOSA PKPbc **PKPbc 03 39 13.3 +0.1**
comp=Z,24nm,0.8s,baz=64,slow=1.5,SNR=40

IDC 14 03:38:08.4±5.1, 19°05'N×72°97'W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.5/24, mbtmp3.5/3, Error ellipse: s-maj=142.7km s-min=37.8km az=1.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**29.73**	**296**	P	P	03 44 16.7	0.0
	0.5nm,1.0s,baz=110,slow=7.8,SNR=2.8						
YKA	**Yellowknife Ar**	**52.00**	**337**	P	P	03 47 19.0	-0.2
	0.5nm,0.8s,baz=122,slow=6.8,SNR=8.4						
GERES	**GERESS Array B**	**73.75**	**43**	P	P	03 49 44.7	+0.1
	0.6nm,0.8s,baz=290,slow=7.0,SNR=5.9						

*DHMR **14** 03:54:24.0±1.6, 11°.76N×43°.36E, h30km±11km, ML3.8*
*ISCJB **14** 03:54:25.5±1.0, 11°.79N±0°.07×43°.33E±0°.08, h12km±7km, Error ellipse: s-maj=15.8km s-min=6.1km az=42.0*
*ARO **14** 03:54:26.8, 11°.9N±0°.9×43°.3E±0°.5, h6km±2km, ML3.5*

ISC 14 03:54:25.7±1.3, 11°.84N±0°.06×43°.26E±0°.07, h14km±9km, n12, σ1°91°/17, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.15**	**14**	*i* P	**Pg**	**03 54 29.9**	**+0.3**
TDD	**Tadjoura Ara**	**0.34**	**265**	*i* P	**Pb**	**03 54 33.9**	**+0.3**
ATA	**Atar**	**0.38**	**187**	*i* P	**Pb**	**03 54 34.3**	**0.0**
ATD	**Arta Tunnel**	**0.50**	**233**	*i* P	**Pb**	**03 54 36.5**	**+0.1**
ATD				S	**Sb**	**03 54 44.2**	**+0.6**
SGH	**Sud-Ghoubbet**	**0.73**	**237**	*e*P	**Pb**	**03 54 40.1**	**-0.1**
LDLD	**Lac de Lave**	**0.78**	**251**	*e*P	**Pb**	**03 54 40.8**	**-0.4**
GBR	**Grand-Bara**	**1.03**	**229**	*i* P	**Pb**	**03 54 44.8**	**-0.6**
TRBA	**At Turbah**	**1.62**	**31**⇑	*i*P	**Pn**	**03 54 52.3**	**-1.9**
TRBA				*i* S	**Sn**	**03 55 14.4**	**-0.6**
TRBA				AML	AML	03 55 15.0	
	comp=N,2μm,0.2s						
UDYN	**Al 'Udayn**	**2.23**	**18**⇓	*i*P	**Pn**	**03 55 01.5**	**-1.0**
UDYN				*i* S	**Sb**	**03 55 33.2**	**-0.3**
UDYN				AML	AML	03 55 35.6	
	comp=E,499nm,0.3s						
LBOS		**2.81**	**44**	*i* P	**Pn**	**03 55 10.2**	**-0.3**
LBOS				*i* S	**Sn**	**03 55 45.3**	**+1.0**
DHBB	**Dhamar BB**	**2.94**	**22**	*i* S	**Sn**	**03 55 49.9**	**+2.4**
BDHA	**Al Bayda'**	**3.10**	**46**	*i* P	**Pn**	**03 55 14.5**	**0.0**
BDHA				*i* S	**Sn**	**03 55 52.3**	**+0.8**
BDHA				AML	AML	03 56 05.4	
	comp=E,530nm,0.4s						

IDC 14 03:57:10.3±0.8, 13°.67N×144°.88E, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.8/28, mbtmp3.7/12, MS3.9/1, Ms1 3.9/1, ms1mx2.8/39, Error ellipse: s-maj=26.9km s-min=19.4km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.97**	**197**	P	P	04 04 03.4	-1.0
	0.2nm,0.5s,baz=18,slow=9.6,SNR=4.1						
ASAR	**Alice Springs**	**38.62**	**196**	P	P	04 04 35.8	+0.3
	0.2nm,0.6s,baz=25,slow=13,SNR=2.7						
CMAR	**Chiang Mai Arr**	**44.31**	**282**	P	P	04 05 23.1	+0.6
	0.8nm,0.3s,baz=80,slow=6.8,SNR=3.4						
SONM	**Songino Array**	**46.68**	**325**	P	P	04 05 40.1	-0.8
	0.2nm,0.7s,baz=123,slow=7.5,SNR=2.3						
URZ	**Urewera**	**59.83**	**151**	LR	LR	04 28 48.5	
	comp=Z,84nm,18.8s,baz=290,slow=32						
MKAR	**Makanchi Array**	**61.44**	**316**	P	P	04 07 28.9	+0.3
	0.4nm,0.4s,baz=92,slow=8.5,SNR=6.6						
KURBB	**Kurchatov Arra**	**64.57**	**320**	P	P	04 07 49.5	+0.2
	0.5nm,0.2s,baz=104,slow=6.7,SNR=4.9						
ILAR	**Eielson Array**	**68.49**	**25**	P	P	04 08 13.1	-1.2
	0.4nm,0.4s,baz=250,slow=5.5,SNR=12						
BVAR	**Borovoye Array**	**69.87**	**322**	P	P	04 08 23.0	0.0
	0.4nm,0.5s,baz=112,slow=11,SNR=2.5						
INK	**Inuvik**	**74.29**	**22**	P	P	04 08 50.1	+1.0
	0.6nm,0.7s,baz=291,slow=5.9,SNR=2.7						
YKA	**Yellowknife Ar**	**82.79**	**27**	P	P	04 09 36.3	+0.2
	0.3nm,0.5s,baz=285,slow=5.0,SNR=13						
NVAR	**Mina Array Bea**	**86.86**	**51**	P	P	04 09 58.8	+1.3
	0.4nm,0.5s,baz=258,slow=7.4,SNR=3.5						
FINES	**FINESS Array B**	**91.10**	**335**	P	P	04 10 14.9	-1.8
	1.0nm,0.9s,baz=47,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**134.83**	**305**	PKP	PKPdf	04 16 32.2	0.0
	0.2nm,0.4s,baz=44,slow=2.5,SNR=5.2						

*ISCJB **14** 04:17:49.2±0.5, 14°.26N±0°.05×120°.36E±0°.08, h120km, mb3.8/8, Error ellipse: s-maj=10.5km s-min=7.0km az=167.3*
*IDC **14** 04:17:49.4±0.5, 14°.23N×120°.78E, h136km±4km, mb3.5/9, mb1 3.6/9, mb1mx3.4/27, mbtmp3.5/9, Error ellipse: s-maj=29.8km s-min=13.3km az=66.0*
*MAN **14** 04:17:50, 14°.21N×120°.34E, h75km, mb4.4, ML3.2, MS3.1*

ISC 14 04:17:49.5±0.8, 14°.22N±0°.05×120°.42E±0°.08, h120km, n22, σ1°63°/24, mb3.8/9, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.51**	**199**	*e*P	**Pn**	**04 18 08.9**	**+1.4**
LUBP				*e*S	**Sn**	**04 18 17.2**	**-3.8**
TGY	**Tagaytay City**	**0.51**	**103**	P	**Pn**	**04 18 09.1**	**+1.5**
	297nm,0.3s,baz=12,slow=1.9,SNR=11						
TGY				S	**Sn**	**04 18 23.2**	**+2.0**
	352nm,0.3s,baz=323,slow=20,SNR=17						
TGY	**Tagaytay City**	**0.51**	**103**‖	*e*P	**Pn**	**04 18 06.3**	**-1.3**
TGY				*e*S	**Sn**	**04 18 22.9**	**+1.6**
LQP	**Lukban**	**1.09**	**95**⇓	*e*P	**Pn**	**04 18 13.4**	**+0.8**
PCPH	**Palayan**	**1.49**	**26**	*i*P	**Pn**	**04 18 16.4**	**-0.4**
SCZP	**Santa Cruz**	**1.63**	**342**	*e*P	**Pn**	**04 18 18.0**	**-0.4**
SJMP	**San Jose**	**1.87**	**159**	*e*P	**Pn**	**04 18 22.3**	**+0.9**
BALP	**Baler**	**1.88**	**36**	*e*P	**Pn**	**04 18 22.4**	**+0.9**
BOLP	**Bolinao**	**2.21**	**347**	*e*P	**Pn**	**04 18 26.4**	**+0.8**
BUSP	**Coron**	**2.21**	**186**	*e*P	**Pn**	**04 18 26.0**	**+0.4**
OTRP	**Odiongan**	**2.41**	**140**	*e*P	**Pn**	**04 18 29.2**	**+1.0**
ENPP	**El Nido**	**3.15**	**198**	*e*P	**Pn**	**04 18 39.1**	**+1.4**
CUYO	**Cuyo Island**	**3.40**	**170**	*e*P	**Pn**	**04 18 41.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.03**	**284**	P	**P**	**04 22 26.6**	**+2.7**
	1.1nm,0.3s,baz=95,slow=8.8,SNR=5.7						
PSI	**Prapat**	**24.06**	**244**	P	**P**	**04 22 55.2**	**+1.2**
	3.2nm,0.4s,baz=350,slow=4.0,SNR=4.2						
SONM	**Songino Array**	**35.49**	**344**	P	**P**	**04 24 34.6**	**0.0**
	3.2nm,0.7s,baz=162,slow=10,SNR=24						
WRA	**Warramunga Arr**	**36.60**	**158**	P	**P**	**04 24 41.3**	**-3.0**
	0.5nm,0.6s,baz=334,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**39.89**	**161**	P	**P**	**04 25 09.8**	**-2.0**
	1.0nm,0.4s,baz=334,slow=6.6,SNR=32						
MKAR	**Makanchi Array**	**45.46**	**323**	P	**P**	**04 25 56.8**	**+0.2**
	0.1nm,0.3s,baz=122,slow=8.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**48.48**	**333**	P	**P**	**04 26 19.0**	**-0.8**
	0.5nm,0.4s,baz=138,slow=5.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**49.61**	**326**	P	**P**	**04 26 28.6**	**0.0**
	0.5nm,0.3s,baz=116,slow=9.1,SNR=4.7						
ARCES	**ARCESS Array B**	**78.51**	**339**	P	P	04 29 33.9	-3.2
	0.7nm,0.6s,baz=83,slow=7.4,SNR=3.1						

*IDC **14** 04:21:53.5±4.2, 28°.82S×175°.73W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.8/19, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=86.9km s-min=58.0km az=105.0*
*ISCJB **14** 04:21:57.9±2.4, 29°.1S±0°.1×175°.9W±0°.4, h33km, mb3.7/2, Error ellipse: s-maj=51.0km s-min=11.3km az=12.1*

ISC 14 04:21:59.2±2.5, 29°.0S±0°.2×175°.9W±0°.4, h35km, n10,

σ0§72/13, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**10.33**	**207**	*e*PN	**Pn**	**04 24 24.7**	**-0.1**
PUZ				*e*SN	**Sn**	**04 26 19.3**	**-0.1**
CNGZ	**Carnagh Statio**	**10.71**	**206**	*e*PN	**Pn**	**04 24 30.2**	**+0.2**
MWZ	**Matawai**	**10.85**	**209**	*e*PN	**Pn**	**04 24 32.4**	**+0.4**
MWZ				SN	**Sn**	**04 26 32.2**	**0.0**
URZ	**Urewera**	**10.97**	**210**	Pn	**Pn**	**04 24 33.4**	**-0.1**
	1.0nm,0.3s,baz=106,slow=16,SNR=10						
URZ				Sn	**Sn**	**04 26 34.2**	**-0.9**
	2.4nm,0.3s,baz=352,slow=18,SNR=6.9						
URZ	**Urewera**	**10.97**	**210**	*e*PN	**Pn**	**04 24 32.2**	**-1.4**
KNZ	**Kokohu**	**11.38**	**206**	*e*SN	**Sn**	**04 26 46.0**	**+1.0**
THZ	**Tophouse**	**15.71**	**213**	*e*PN	**Pn**	**04 25 37.4**	**-0.4**
THZ				*e*SN	Sn	04 28 22.3	-8.4
ASAR	**Alice Springs**	**45.08**	**265**	P	**P**	**04 30 13.1**	**+0.9**
	0.3nm,0.5s,baz=99,slow=6.7,SNR=6.5						
WRA	**Warramunga Arr**	**45.95**	**270**	P	**P**	**04 30 18.8**	**-0.2**
	1.0nm,0.5s,baz=110,slow=7.6,SNR=13						
FINES	**FINESS Array B**	**144.40**	**342**	PKP	**PKPdf**	**04 41 30.6**	**-0.4**
	0.9nm,0.8s,baz=25,slow=6.3,SNR=4.5						

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*MOS **14** 04:24:58.7±2.2, 38.°42N×21.°83E, h33km, mb4.8/6, Error ellipse: s-maj=8.9km s-min=4.8km az=82.7*

*SOF **14** 04:25:05.3, 39.°01N×22.°06E, h124km, MD3.5*

*IDC **14** 04:25:08.9±1.2, 39.°22N×22.°21E, h79km±12km, mb3.8/15, mb1 3.8/22, mb1mx3.6/38, mbtmp3.7/22, MS2.8/1, Ms1 2.8/1, ms1mx2.1/54, Error ellipse: s-maj=12.8km s-min=10.2km az=67.0*

*BJI **14** 04:25:08.3, 39.°20N×22.°20E, h87km, mb4.5/4*

*PDG **14** 04:25:09.5±0.7, 39.°25N×22.°20E, h87km±2km, MD4.0/1, ML3.9/12, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*

*ISCJB **14** 04:25:09.1±0.1, 39.°27N±0.°01×22.°20E±0.°01, h101km±1km, mb4.1/23, Error ellipse: s-maj=2.0km s-min=1.6km az=148.1*

*CSEM **14** 04:25:10.3±0.1, 39.°26N×22.°21E, h92km±1km, mb4.3/10, Ms3.6, Error ellipse: s-maj=2.2km s-min=1.9km az=48.0*

*ATH **14** 04:25:10.1, 39.°24N×22.°27E, h88km±1km, ML4.5*

*NEIC **14** 04:25:10.1, 39.°24N×22.°27E, h88km, mb4.5/6, After ATH.*

*VIE **14** 04:25:11.3±0.9, 39.°52N×21.°99E, h40km, mb3.2/5, Ms3.6/3, Error ellipse: s-maj=7.8km s-min=6.7km az=23.0*

*THE **14** 04:25:11.1, 39.°25N×22.°26E, h84km±1km, ML4.2/34, Error ellipse: s-maj=1.3km s-min=0.4km az=204.0*

*BEO **14** 04:25:12.0±0.7, 39.°58N×21.°93E, h0km, ML3.9/8*

*HLW **14** 04:25:19.1, 38.°52N×23.°11E, h31km±72km, Ml4.0*

ISC 14 04:25:09.8±0.3, **39.°25N**±0.°02×**22.°22E**±0.°02, **h90**km±2km, **n619**, σ1§**46**/823, **mb4.3**/23, **38C-36D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.24**	**159**	P	**Pn**	**04 25 23.7**	**+0.6**
AGG	**Agios Georgios**	**0.24**	**159**	P	**Pn**	**04 25 23.7**	**+0.6**
AGG				S	**Sn**	**04 25 33.4**	**+0.5**
AGG	**Agios Georgios**	**0.24**	**159**	*e*P	**Pn**	**04 25 23.7**	**+0.6**
AGG				*e*S	**Sn**	**04 25 33.3**	**+0.4**
AGG	**Agios Georgios**	**0.24**	**159**	P	**Pn**	**04 25 23.7**	**+0.6**
AGG				S	**Sn**	**04 25 33.4**	**+0.5**
AGG	**Agios Georgios**	**0.24**	**159**	*e*P	**Pn**	**04 25 23.7**	**+0.6**
AGG				S	**Sn**	**04 25 33.4**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.25**	**196**	P	**Pn**	**04 25 24.0**	**+0.9**
MAKR				S	**Sn**	**04 25 33.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.25**	**196**	*e*P	**Pn**	**04 25 24.0**	**+0.9**
MAKR				*e*S	**Sn**	**04 25 33.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.25**	**196**	P	**Pn**	**04 25 24.0**	**+0.9**
MAKR				S	**Sn**	**04 25 33.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.25**	**196**	*e*P	**Pn**	**04 25 24.0**	**+0.9**
MAKR				*e*S	**Sn**	**04 25 33.7**	**+0.8**
THL	**Klokotos Trika**	**0.35**	**334**	P	**Pn**	**04 25 24.2**	**+0.6**
THL				S	**Sn**	**04 25 34.1**	**+0.3**
THL	**Klokotos Trika**	**0.35**	**334**	*e*P	**Pn**	**04 25 24.0**	**+0.4**
THL				*e*S	**Sn**	**04 25 34.0**	**+0.3**
THL	**Klokotos Trika**	**0.35**	**334**	P	**Pn**	**04 25 24.2**	**+0.6**
THL				S	**Sn**	**04 25 34.1**	**+0.3**
EVR	**Evrytania**	**0.46**	**224**	P	**Pn**	**04 25 25.3**	**+0.9**
EVR				S	**Sn**	**04 25 35.6**	**+0.3**
EVR	**Evrytania**	**0.46**	**224**	*e*P	**Pn**	**04 25 25.3**	**+0.9**
EVR				*e*S	**Sn**	**04 25 35.6**	**+0.3**
EVR	**Evrytania**	**0.46**	**224**	P	**Pn**	**04 25 25.3**	**+0.9**
EVR				S	**Sn**	**04 25 35.6**	**+0.3**
EVR	**Evrytania**	**0.46**	**224**	*e*P	**Pn**	**04 25 25.3**	**+0.9**
EVR				*e*S	**Sn**	**04 25 35.6**	**+0.3**
FYTO	**Fytoko, Volos**	**0.58**	**74**	P	**Pn**	**04 25 25.9**	**+0.6**
FYTO				S	**Sn**	**04 25 35.8**	**-1.0**
AXAR	**Agios Charalam**	**0.59**	**144**	P	**Pn**	**04 25 26.5**	**+1.1**
AXAR				S	**Sn**	**04 25 38.0**	**+1.0**
AXAR	**Agios Charalam**	**0.59**	**144**	P	**Pn**	**04 25 26.5**	**+1.1**
AXAR				S	**Sn**	**04 25 38.0**	**+1.0**
AXAR	**Agios Charalam**	**0.59**	**144**	P	**Pn**	**04 25 26.5**	**+1.1**
AXAR				S	**Sn**	**04 25 38.0**	**+1.0**
XOR	**Xorichti**	**0.77**	**81**	P	**Pn**	**04 25 28.1**	**+1.1**
XOR				S	**Sn**	**04 25 40.4**	**+0.5**
XOR	**Xorichti**	**0.77**	**81**	P	**Pn**	**04 25 28.1**	**+1.1**
XOR				S	**Sn**	**04 25 40.4**	**+0.5**
XOR	**Xorichti**	**0.77**	**81**	P	**Pn**	**04 25 27.8**	**+0.8**
XOR				S	**Sn**	**04 25 40.4**	**+0.5**
NEO	**Neokhori**	**0.78**	**86**	P	**Pn**	**04 25 28.1**	**+0.9**
NEO				S	**Sn**	**04 25 40.5**	**+0.3**
NEO	**Neokhori**	**0.78**	**86**	*e*P	**Pn**	**04 25 28.2**	**+1.0**
NEO				*e*S	**Sn**	**04 25 40.5**	**+0.3**
NEO	**Neokhori**	**0.78**	**86**	P	**Pn**	**04 25 28.1**	**+0.9**
NEO				S	**Sn**	**04 25 40.5**	**+0.3**
NEO	**Neokhori**	**0.78**	**86**	P	**Pn**	**04 25 28.1**	**+0.9**
NEO				*e*S	**Sn**	**04 25 40.5**	**+0.3**
PVO	**Paravola**	**0.83**	**221**	P	**Pn**	**04 25 29.4**	**+1.7**
PVO	**Paravola**	**0.83**	**221**	P	**Pn**	**04 25 29.4**	**+1.7**
PVO				S	**Sn**	**04 25 42.7**	**+1.7**
LKR	**Lokris**	**0.85**	**134**	P	**Pn**	**04 25 28.9**	**+1.0**
LKR				S	**Sn**	**04 25 41.8**	**+0.3**
LKR	**Lokris**	**0.85**	**134**	*e*P	**Pn**	**04 25 28.8**	**+0.9**
LKR				*e*S	**Sn**	**04 25 41.7**	**+0.3**
LKR	**Lokris**	**0.85**	**134**	P	**Pn**	**04 25 28.9**	**+1.0**
LKR				S	**Sn**	**04 25 41.8**	**+0.3**
LKR	**Lokris**	**0.85**	**134**	*e*P	**Pn**	**04 25 28.8**	**+0.9**
LKR				S	**Sn**	**04 25 41.8**	**+0.3**
EFP	**Efpalio**	**0.86**	**197**	P	**Pn**	**04 25 29.0**	**+1.0**
EFP				S	**Sn**	**04 25 42.3**	**+0.8**
EFP	**Efpalio**	**0.86**	**197**	*e*P	**Pn**	**04 25 28.9**	**+1.0**
EFP				*e*S	**Sn**	**04 25 42.0**	**+0.5**
EFP	**Efpalio**	**0.86**	**197**	*e*P	**Pn**	**04 25 28.9**	**+1.0**
EFP				S	**Sn**	**04 25 42.3**	**+0.8**
SMIA	**Simia**	**0.86**	**115**	P	**Pn**	**04 25 29.0**	**+1.0**
SMIA				S	**Sn**	**04 25 42.1**	**+0.5**
SMIA	**Simia**	**0.86**	**115**	*e*P	**Pn**	**04 25 29.0**	**+1.0**
SMIA				*e*S	**Sn**	**04 25 41.2**	**-0.4**
SMIA	**Simia**	**0.86**	**115**	*e*P	**Pn**	**04 25 29.0**	**+1.0**
SMIA				S	**Sn**	**04 25 42.1**	**+0.5**
KALE	**Kalithea**	**0.86**	**184**	P	**Pn**	**04 25 28.9**	**+0.8**
KALE				S	**Sn**	**04 25 42.1**	**+0.4**
KALE	**Kalithea**	**0.86**	**184**	*e*P	**Pn**	**04 25 28.8**	**+0.7**
KALE				*e*S	**Sn**	**04 25 42.1**	**+0.4**
KALE	**Kalithea**	**0.86**	**184**	P	**Pn**	**04 25 28.9**	**+0.8**
KALE				S	**Sn**	**04 25 42.1**	**+0.4**
KALE	**Kalithea**	**0.86**	**184**	P	**Pn**	**04 25 28.9**	**+0.8**
KALE				*e*S	**Sn**	**04 25 42.1**	**+0.4**
DSF	**Desfina**	**0.87**	**164**	P	**Pn**	**04 25 28.9**	**+0.7**
DSF				S	**Sn**	**04 25 42.2**	**+0.3**
DSF	**Desfina**	**0.87**	**164**	*e*P	**Pn**	**04 25 28.8**	**+0.6**
DSF				*e*S	**Sn**	**04 25 42.2**	**+0.3**
DSF	**Desfina**	**0.87**	**164**	P	**Pn**	**04 25 28.9**	**+0.7**
DSF				S	**Sn**	**04 25 42.2**	**+0.3**
DSF	**Desfina**	**0.87**	**164**	P	**Pn**	**04 25 28.9**	**+0.7**
DSF				*e*S	**Sn**	**04 25 42.2**	**+0.3**
LIT	**Litokhoron**	**0.88**	**14**	P	**Pn**	**04 25 29.1**	**+0.9**
LIT				S	**Sn**	**04 25 43.1**	**+1.2**
LIT	**Litokhoron**	**0.88**	**14**	P	**Pn**	**04 25 29.1**	**+0.9**
LIT				S	**Sn**	**04 25 43.1**	**+1.2**
LIT	**Litokhoron**	**0.88**	**14**	*e*P	**Pn**	**04 25 29.1**	**+0.9**
LIT				*e*S	**Sn**	**04 25 42.5**	**+0.6**
LIT	**Litokhoron**	**0.88**	**14**	P	**Pn**	**04 25 29.1**	**+0.9**
LIT				S	**Sn**	**04 25 43.1**	**+1.2**
LIT	**Litokhoron**	**0.88**	**14**	*e*P	**Pn**	**04 25 29.1**	**+0.9**
LIT				S	**Sn**	**04 25 42.8**	**+0.9**
MEV	**Metsovon**	**0.93**	**305**	P	**Pn**	**04 25 30.4**	**+1.5**
MEV	**Metsovon**	**0.93**	**305**	P	**Pn**	**04 25 30.4**	**+1.5**
MEV	**Metsovon**	**0.93**	**305**	P	**Pn**	**04 25 30.2**	**+1.3**
SKIA	**Skiathos**	**0.97**	**95**	P	**Pn**	**04 25 30.3**	**+1.1**
SKIA				S	**Sn**	**04 25 44.0**	**+0.2**
SKIA	**Skiathos**	**0.97**	**95**	*e*P	**Pn**	**04 25 30.3**	**+1.1**
SKIA				*e*S	**Sn**	**04 25 44.3**	**+0.5**
SKIA	**Skiathos**	**0.97**	**95**	*e*P	**Pn**	**04 25 30.3**	**+1.1**
SKIA				*e*S	**Sn**	**04 25 44.3**	**+0.5**
LAKA	**Lakka**	**1.03**	**191**	P	**Pn**	**04 25 30.9**	**+1.0**
LAKA	**Lakka**	**1.03**	**191**	*e*P	**Pn**	**04 25 30.9**	**+1.0**
LAKA	**Lakka**	**1.03**	**191**	P	**Pn**	**04 25 30.9**	**+1.0**
LAKA	**Lakka**	**1.03**	**191**	*e*P	**Pn**	**04 25 30.9**	**+1.0**
PDO	**Prodromos**	**1.04**	**231**	P	**Pn**	**04 25 31.2**	**+1.3**
PDO				S	**Sn**	**04 25 46.8**	**+1.8**
PDO	**Prodromos**	**1.04**	**231**	*e*P	**Pn**	**04 25 31.2**	**+1.3**
PDO				*e*S	**Sn**	**04 25 46.0**	**+1.0**
PDO	**Prodromos**	**1.04**	**231**	*e*P	**Pn**	**04 25 31.2**	**+1.3**
PDO				*e*S	**Sn**	**04 25 46.0**	**+1.0**
KZN	**Kozani**	**1.11**	**342**	P	**Pn**	**04 25 32.3**	**+1.4**
KZN				S	**Sn**	**04 25 48.4**	**+1.7**
KZN	**Kozani**	**1.11**	**342**	P	**Pn**	**04 25 32.3**	**+1.4**
KZN				S	**Sn**	**04 25 48.4**	**+1.7**
KZN	**Kozani**	**1.11**	**342**	*e*P	**Pn**	**04 25 32.2**	**+1.4**
KZN				*e*S	**Sn**	**04 25 48.2**	**+1.5**
KZN	**Kozani**	**1.11**	**342**	P	**Pn**	**04 25 32.3**	**+1.4**
KZN				S	**Sn**	**04 25 48.4**	**+1.7**
KZN	**Kozani**	**1.11**	**342**	*e*P	**Pn**	**04 25 32.2**	**+1.4**
KZN				S	**Sn**	**04 25 48.0**	**+1.3**
JAN	**Janina**	**1.13**	**291**	*e*P	**Pn**	**04 25 33.1**	**+2.0**
JAN				*e*S	**Sn**	**04 25 49.3**	**+2.2**
JAN	**Janina**	**1.13**	**291**	*e*P	**Pn**	**04 25 33.1**	**+2.0**
JAN				S	**Sn**	**04 25 49.0**	**+1.9**
MRKA	**Markates**	**1.20**	**117**	P	**Pn**	**04 25 33.1**	**+1.2**
MRKA	**Markates**	**1.20**	**117**	*e*P	**Pn**	**04 25 33.1**	**+1.2**
MRKA				*e*S	**Sn**	**04 25 48.5**	**0.0**
MRKA	**Markates**	**1.20**	**117**	*e*P	**Pn**	**04 25 33.1**	**+1.2**
MRKA				*e*S	**Sn**	**04 25 48.5**	**0.0**
KLV	**Kalavryta, Ach**	**1.21**	**182**	P	**Pn**	**04 25 32.7**	**+0.7**
KLV				S	**Sn**	**04 25 49.6**	**+0.9**
KLV	**Kalavryta, Ach**	**1.21**	**182**	*e*P	**Pn**	**04 25 32.7**	**+0.7**
KLV				*e*S	**Sn**	**04 25 49.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.21**	**182**	P	**Pn**	**04 25 32.7**	**+0.7**
KLV				S	**Sn**	**04 25 49.6**	**+0.9**
KLV	**Kalavryta, Ach**	**1.21**	**182**	*e*P	**Pn**	**04 25 32.7**	**+0.7**
KLV				S	**Sn**	**04 25 49.6**	**+0.9**
AOS	**Alonnisos**	**1.29**	**93**	P	**Pn**	**04 25 33.9**	**+0.9**
AOS				S	**Sn**	**04 25 51.8**	**+1.3**
AOS	**Alonnisos**	**1.29**	**93**	*e*P	**Pn**	**04 25 33.9**	**+0.9**
AOS				*e*S	**Sn**	**04 25 50.2**	**-0.3**
AOS	**Alonnisos**	**1.29**	**93**	P	**Pn**	**04 25 33.9**	**+0.9**
AOS				S	**Sn**	**04 25 51.8**	**+1.3**
AOS	**Alonnisos**	**1.29**	**93**	*e*P	**Pn**	**04 25 33.9**	**+0.9**
AOS				S	**Sn**	**04 25 51.8**	**+1.3**
LKD2	**Lefkada island**	**1.30**	**250**	P	**Pn**	**04 25 34.0**	**+0.9**
LKD2				S	**Sn**	**04 25 51.7**	**+1.0**
LKD2	**Lefkada island**	**1.30**	**250**	*e*P	**Pn**	**04 25 33.9**	**+0.9**
LKD2	**Lefkada island**	**1.30**	**250**	P	**Pn**	**04 25 34.0**	**+0.9**
LKD2				S	**Sn**	**04 25 51.7**	**+1.0**
LKD2	**Lefkada island**	**1.30**	**250**	P	**Pn**	**04 25 34.0**	**+0.9**
LKD2				S	**Sn**	**04 25 51.7**	**+1.0**
PAIG	**Paliouri**	**1.32**	**59**	P	**Pn**	**04 25 34.1**	**+0.8**
PAIG				S	**Sn**	**04 25 51.2**	**+0.2**
PAIG	**Paliouri**	**1.32**	**59**	P	**Pn**	**04 25 34.1**	**+0.8**
PAIG				S	**Sn**	**04 25 51.2**	**+0.2**
PAIG	**Paliouri**	**1.32**	**59**	*e*P	**Pn**	**04 25 34.0**	**+0.8**
PAIG				*e*S	**Sn**	**04 25 51.2**	**+0.2**
PAIG	**Paliouri**	**1.32**	**59**	P	**Pn**	**04 25 34.1**	**+0.8**
PAIG				S	**Sn**	**04 25 51.2**	**+0.2**
PAIG	**Paliouri**	**1.32**	**59**	*e*P	**Pn**	**04 25 34.0**	**+0.8**
PAIG				*e*S	**Sn**	**04 25 51.2**	**+0.2**
RLS	**Riolos of Patr**	**1.33**	**206**	P	**Pn**	**04 25 34.8**	**+1.3**
RLS	**Riolos of Patr**	**1.33**	**206**	*e*P	**Pn**	**04 25 34.7**	**+1.3**
RLS				*e*S	**Sn**	**04 25 53.2**	**+2.0**
RLS	**Riolos of Patr**	**1.33**	**206**	P	**Pn**	**04 25 34.8**	**+1.3**
RLS	**Riolos of Patr**	**1.33**	**206**	*e*P	**Pn**	**04 25 34.7**	**+1.3**
RLS				*e*S	**Sn**	**04 25 53.2**	**+2.0**
DRO	**Drossia**	**1.36**	**197**	P	**Pn**	**04 25 35.3**	**+1.4**
DRO				S	**Sn**	**04 25 53.9**	**+2.0**
DRO	**Drossia**	**1.36**	**197**	*e*P	**Pn**	**04 25 35.2**	**+1.4**
DRO				*e*S	**Sn**	**04 25 53.6**	**+1.7**
DRO	**Drossia**	**1.36**	**197**	*e*P	**Pn**	**04 25 35.2**	**+1.4**
DRO				*e*S	**Sn**	**04 25 53.6**	**+1.7**
LTK	**Loutraki**	**1.36**	**154**	P	**Pn**	**04 25 34.7**	**+0.9**
LTK				S	**Sn**	**04 25 52.5**	**+0.5**
LTK	**Loutraki**	**1.36**	**154**	*e*P	**Pn**	**04 25 34.6**	**+0.8**
LTK				*e*S	**Sn**	**04 25 51.8**	**-0.2**
LTK	**Loutraki**	**1.36**	**154**	P	**Pn**	**04 25 34.7**	**+0.9**
LTK				S	**Sn**	**04 25 52.5**	**+0.5**
LTK	**Loutraki**	**1.36**	**154**	*e*P	**Pn**	**04 25 34.6**	**+0.8**
LTK				S	**Sn**	**04 25 52.5**	**+0.5**
PLG	**Polygyros**	**1.47**	**40**	P	**Pn**	**04 25 35.9**	**+0.7**
PLG				S	**Sn**	**04 25 55.1**	**+0.7**
PLG	**Polygyros**	**1.47**	**40**	P	**Pn**	**04 25 35.9**	**+0.7**
PLG				S	**Sn**	**04 25 55.1**	**+0.7**
PLG	**Polygyros**	**1.47**	**40**	*e*P	**Pn**	**04 25 35.8**	**+0.6**
PLG				*e*S	**Sn**	**04 25 53.9**	**-0.5**
PLG	**Polygyros**	**1.47**	**40**	P	**Pn**	**04 25 35.9**	**+0.7**
PLG				S	**Sn**	**04 25 55.1**	**+0.7**
PLG	**Polygyros**	**1.47**	**40**	P	**Pn**	**04 25 35.9**	**+0.7**
PLG				S	**Sn**	**04 25 55.1**	**+0.7**
NEST	**Nestorio**	**1.47**	**323**	*e*P	**Pn**	**04 25 37.4**	**+2.1**
NEST				*e*S	**Sn**	**04 25 57.1**	**+2.5**
NEST	**Nestorio**	**1.47**	**323**	*e*P	**Pn**	**04 25 37.4**	**+2.1**
NEST				*e*S	**Sn**	**04 25 57.1**	**+2.5**
ERET	**Eretria**	**1.48**	**123**	P	**Pn**	**04 25 36.7**	**+1.3**
ERET				S	**Sn**	**04 25 55.3**	**+0.6**
ERET	**Eretria**	**1.48**	**123**	P	**Pn**	**04 25 36.7**	**+1.3**
ERET				S	**Sn**	**04 25 55.3**	**+0.6**
IGT	**Igoumenitsa**	**1.49**	**282**	P	**Pn**	**04 25 36.6**	**+1.2**
IGT	**Igoumenitsa**	**1.49**	**282**	P	**Pn**	**04 25 36.6**	**+1.2**
IGT	**Igoumenitsa**	**1.49**	**282**	*e*P	**Pn**	**04 25 36.2**	**+0.8**
IGT	**Igoumenitsa**	**1.49**	**282**	P	**Pn**	**04 25 36.6**	**+1.2**
IGT	**Igoumenitsa**	**1.49**	**282**	*e*P	**Pn**	**04 25 36.2**	**+0.8**
THE	**Thessaloniki**	**1.50**	**22**	P	**Pn**	**04 25 36.1**	**+0.6**
THE				S	**Sn**	**04 25 55.5**	**+0.6**
THE	**Thessaloniki**	**1.50**	**22**	P	**Pn**	**04 25 36.1**	**+0.6**
THE				S	**Sn**	**04 25 55.5**	**+0.6**
THE	**Thessaloniki**	**1.50**	**22**	P	**Pn**	**04 25 36.1**	**+0.6**
THE				S	**Sn**	**04 25 55.5**	**+0.6**
THE	**Thessaloniki**	**1.50**	**22**	P	**Pn**	**04 25 36.1**	**+0.6**
THE				S	**Sn**	**04 25 55.5**	**+0.6**
HORT	**Hortiatis**	**1.51**	**26**	P	**Pn**	**04 25 36.3**	**+0.5**
HORT				S	**Sn**	**04 25 55.4**	**+0.1**
HORT	**Hortiatis**	**1.51**	**26**	*e*P	**Pn**	**04 25 36.2**	**+0.5**
HORT				*e*S	**Sn**	**04 25 55.5**	**+0.1**
HORT	**Hortiatis**	**1.51**	**26**	P	**Pn**	**04 25 36.3**	**+0.5**
HORT				S	**Sn**	**04 25 55.4**	**+0.1**
HORT	**Hortiatis**	**1.51**	**26**	P	**Pn**	**04 25 36.3**	**+0.5**
HORT				*e*S	**Sn**	**04 25 55.5**	**+0.1**
KFL	**Anninata**	**1.60**	**225**	P	**Pn**	**04 25 37.6**	**+0.8**
KFL	**Anninata**	**1.60**	**225**	P	**Pn**	**04 25 37.6**	**+0.8**
FNA	**Florina**	**1.66**	**337**	P	**Pn**	**04 25 39.4**	**+1.7**
FNA				S	**Sn**	**04 26 00.3**	**+1.5**
FNA	**Florina**	**1.66**	**337**	P	**Pn**	**04 25 39.4**	**+1.7**
FNA	**Florina**	**1.66**	**337**	*e*P	**Pn**	**04 25 39.0**	**+1.3**
FNA	**Florina**	**1.66**	**337**	P	**Pn**	**04 25 39.4**	**+1.7**
FNA	**Florina**	**1.66**	**337**	*e*P	**Pn**	**04 25 39.0**	**+1.3**
FNA				S	**Sn**	**04 26 00.3**	**+1.5**
VLS	**Valsamata**	**1.66**	**230**	*e*P	**Pn**	**04 25 38.2**	**+0.5**
VLS	**Valsamata**	**1.66**	**230**	*e*P	**Pn**	**04 25 38.2**	**+0.5**
GRG	**Griva**	**1.71**	**5**	P	**Pn**	**04 25 39.5**	**+1.2**
GRG				S	**Sn**	**04 26 01.2**	**+1.3**
GRG	**Griva**	**1.71**	**5**	P	**Pn**	**04 25 39.5**	**+1.2**
GRG	**Griva**	**1.71**	**5**	*e*P	**Pn**	**04 25 39.5**	**+1.2**
GRG	**Griva**	**1.71**	**5**	P	**Pn**	**04 25 39.5**	**+1.2**
GRG	**Griva**	**1.71**	**5**	*e*P	**Pn**	**04 25 39.5**	**+1.2**
GRG				S	**Sn**	**04 26 01.2**	**+1.3**
ATH	**Athens Observa**	**1.73**	**137**	P	**Pn**	**04 25 40.0**	**+1.4**
ATH				S	**Sn**	**04 26 00.8**	**+0.4**
ATH	**Athens Observa**	**1.73**	**137**	*e*P	**Pn**	**04 25 40.0**	**+1.4**
ATH				*e*S	**Sn**	**04 26 00.3**	**-0.1**
ATH	**Athens Observa**	**1.73**	**137**	*e*P	**Pn**	**04 25 40.0**	**+1.4**
ATH				S	**Sn**	**04 26 00.8**	**+0.4**
OUR	**Ouranopolis**	**1.74**	**51**	P	**Pn**	**04 25 39.8**	**+1.2**
OUR				S	**Sn**	**04 26 01.3**	**+0.9**
OUR	**Ouranopolis**	**1.74**	**51**	*e*P	**Pn**	**04 25 39.8**	**+1.2**
OUR	**Ouranopolis**	**1.74**	**51**	*e*P	**Pn**	**04 25 39.8**	**+1.2**
OUR				S	**Sn**	**04 26 01.3**	**+0.9**
AMT	**Artemida-Makis**	**1.76**	**193**	P	**Pn**	**04 25 40.5**	**+1.5**
AMT				S	**Sn**	**04 26 03.4**	**+2.3**
AMT	**Artemida-Makis**	**1.76**	**193**	*e*P	**Pn**	**04 25 40.4**	**+1.5**
AMT	**Artemida-Makis**	**1.76**	**193**	*e*P	**Pn**	**04 25 40.4**	**+1.5**
AMT				S	**Sn**	**04 26 03.4**	**+2.3**
PTL	**Penteli**	**1.76**	**132**	P	**Pn**	**04 25 40.4**	**+1.4**
PTL				S	**Sn**	**04 26 01.4**	**+0.3**
PTL	**Penteli**	**1.76**	**132**	*e*P	**Pn**	**04 25 40.4**	**+1.4**
PTL				*e*S	**Sn**	**04 26 01.0**	**-0.1**
PTL	**Penteli**	**1.76**	**132**	*e*P	**Pn**	**04 25 40.4**	**+1.4**
PTL				S	**Sn**	**04 26 01.4**	**+0.3**
ATHU	**Athens Univers**	**1.77**	**136**	P	**Pn**	**04 25 40.5**	**+1.4**
ATHU				S	**Sn**	**04 26 01.8**	**+0.4**
ATHU	**Athens Univers**	**1.77**	**136**	P	**Pn**	**04 25 40.5**	**+1.4**
ATHU				S	**Sn**	**04 26 01.8**	**+0.4**
NAIG	**Nisos Aigina**	**1.79**	**146**	*e*P	**Pn**	**04 25 40.4**	**+1.1**
NAIG	**Nisos Aigina**	**1.79**	**146**	*e*P	**Pn**	**04 25 40.4**	**+1.1**
SOH	**Sokhos**	**1.80**	**29**	P	**Pn**	**04 25 40.8**	**+1.4**
SOH				S	**Sn**	**04 26 03.5**	**+1.6**
SOH	**Sokhos**	**1.80**	**29**	*e*P	**Pn**	**04 25 40.8**	**+1.4**
SOH	**Sokhos**	**1.80**	**29**	*e*P	**Pn**	**04 25 40.8**	**+1.4**
SOH				S	**Sn**	**04 26 03.5**	**+1.6**
VLX	**Vlachokerasia**	**1.88**	**176**	P	**Pn**	**04 25 41.7**	**+1.1**
VLX				S	**Sn**	**04 26 05.2**	**+1.2**
VLX	**Vlachokerasia**	**1.88**	**176**	*e*P	**Pn**	**04 25 41.4**	**+0.8**
VLX	**Vlachokerasia**	**1.88**	**176**	*e*P	**Pn**	**04 25 41.4**	**+0.8**
VLX				S	**Sn**	**04 26 05.2**	**+1.2**
BIA	**Bitola**	**1.90**	**339**	P	**Pn**	**04 25 42.2**	**+1.5**
BIA				S	**Sn**	**04 26 06.0**	**+1.8**
BIA	**Bitola**	**1.90**	**339**	P	**Pn**	**04 25 42.2**	**+1.5**
BIA				S	**Sn**	**04 26 06.0**	**+1.8**
DID	**Didima**	**1.92**	**155**	P	**Pn**	**04 25 41.8**	**+0.8**
DID				S	**Sn**	**04 26 05.4**	**+0.7**
DID	**Didima**	**1.92**	**155**	*e*P	**Pn**	**04 25 41.6**	**+0.6**
DID	**Didima**	**1.92**	**155**	*e*P	**Pn**	**04 25 41.6**	**+0.6**
DID				S	**Sn**	**04 26 05.4**	**+0.7**
KEK	**Kerkira**	**1.93**	**285**	*e*P	**Pn**	**04 25 41.8**	**+0.7**
KEK	**Kerkira**	**1.93**	**285**	*e*P	**Pn**	**04 25 41.8**	**+0.7**
KNT	**Kendrikon**	**1.98**	**15**	P	**Pn**	**04 25 43.3**	**+1.5**
KNT				S	**Sn**	**04 26 08.1**	**+2.0**
KNT	**Kendrikon**	**1.98**	**15**	*e*P	**Pn**	**04 25 43.3**	**+1.5**
KNT	**Kendrikon**	**1.98**	**15**	*e*P	**Pn**	**04 25 43.3**	**+1.5**
KNT				S	**Sn**	**04 26 08.1**	**+2.0**
ITM	**Ithomi**	**2.08**	**186**	P	**Pn**	**04 25 44.5**	**+1.4**
ITM				S	**Sn**	**04 26 10.8**	**+2.3**
ITM	**Ithomi**	**2.08**	**186**	*e*P	**Pn**	**04 25 44.2**	**+1.1**
ITM	**Ithomi**	**2.08**	**186**	*e*P	**Pn**	**04 25 44.2**	**+1.1**
ITM				S	**Sn**	**04 26 10.8**	**+2.3**
VAY	**Valandovo**	**2.09**	**7**	P	**Pn**	**04 25 44.2**	**+1.1**
VAY				S	**Sn**	**04 26 10.0**	**+1.4**
VAY	**Valandovo**	**2.09**	**7**	⇓*i*Pn	**Pn**	**04 25 44.1**	**+1.0**
VAY				*i* Sn	**Sn**	**04 26 08.6**	**0.0**
VAY	**Valandovo**	**2.09**	**7**	P	**Pn**	**04 25 44.2**	**+1.1**
VAY				S	**Sn**	**04 26 09.2**	**+0.6**
VAY	**Valandovo**	**2.09**	**7**	⇓*i*Pn	**Pn**	**04 25 44.1**	**+1.0**
VAY				*i* Sn	**Sn**	**04 26 08.6**	**0.0**
VAY				S	**Sn**	**04 26 09.2**	**+0.6**
SRS	**Serrai**	**2.14**	**29**	P	**Pn**	**04 25 44.9**	**+1.0**
SRS				S	**Sn**	**04 26 11.7**	**+1.8**
SRS	**Serrai**	**2.14**	**29**	P	**Pn**	**04 25 44.9**	**+1.0**
SRS				S	**Sn**	**04 26 11.7**	**+1.8**
PYL	**PYLOS**	**2.38**	**189**	*e*P	**Pn**	**04 25 47.7**	**+0.6**
PYL	**PYLOS**	**2.38**	**189**	*e*P	**Pn**	**04 25 47.7**	**+0.6**
LIA	**Limnos Island**	**2.38**	**73**	P	**Pn**	**04 25 48.4**	**+1.4**
LIA				S	**Sn**	**04 26 15.8**	**+0.2**
LIA	**Limnos Island**	**2.38**	**73**	P	**Pn**	**04 25 48.4**	**+1.4**
LIA				S	**Sn**	**04 26 15.8**	**+0.2**
NVR	**Nevrokopi**	**2.45**	**30**	P	**Pn**	**04 25 49.2**	**+1.3**
NVR				S	**Sn**	**04 26 18.3**	**+1.1**
NVR	**Nevrokopi**	**2.45**	**30**	P	**Pn**	**04 25 49.2**	**+1.3**
NVR				S	**Sn**	**04 26 18.3**	**+1.1**
KAVA	**Kavala**	**2.48**	**45**	P	**Pn**	**04 25 49.2**	**+0.9**
KAVA				S	**Sn**	**04 26 18.6**	**+0.7**
KAVA	**Kavala**	**2.48**	**45**	*e*P	**Pn**	**04 25 49.2**	**+0.9**
KAVA	**Kavala**	**2.48**	**45**	*e*P	**Pn**	**04 25 49.2**	**+0.9**
KAVA				S	**Sn**	**04 26 18.6**	**+0.7**
VLI	**Veliai**	**2.59**	**167**	P	**Pn**	**04 25 50.9**	**+1.0**
VLI	**Veliai**	**2.59**	**167**	P	**Pn**	**04 25 50.9**	**+1.0**
MMB	**Musomiste**	**2.60**	**26**	*i* P	**Pn**	**04 25 51.2**	**+1.1**
MMB				S	**Sn**	**04 26 21.2**	**+0.2**
MMB	**Musomiste**	**2.60**	**26**	⇑*i*P	**Pn**	**04 25 51.1**	**+1.0**
MMB	**Musomiste**	**2.60**	**26**	*i* P	**Pn**	**04 25 51.2**	**+1.1**
MMB				S	**Sn**	**04 26 21.2**	**+0.2**
KKB	**Krupnik**	**2.70**	**14**	*i* P	**Pn**	**04 25 52.5**	**+1.2**
KKB				S	**Sn**	**04 26 23.7**	**+0.6**
KKB	**Krupnik**	**2.70**	**14**	*i* P	**Pn**	**04 25 52.5**	**+1.2**
KKB				S	**Sn**	**04 26 23.7**	**+0.6**
SKO	**Skopje**	**2.78**	**348**	⇓*i*Pn	**Pn**	**04 25 53.4**	**+1.0**
SKO				*e*Sn	**Sn**	**04 26 22.8**	**-2.4**
SKO	**Skopje**	**2.78**	**348**	⇓*i*Pn	**Pn**	**04 25 53.4**	**+1.0**
SKO				*e*Sn	**Sn**	**04 26 22.8**	**-2.4**
SIGR	**SIGRI**	**2.83**	**90**	P	**Pn**	**04 25 54.9**	**+1.9**
SIGR	**SIGRI**	**2.83**	**90**	*e*P	**Pn**	**04 25 54.8**	**+1.8**
SIGR	**SIGRI**	**2.83**	**90**	*e*P	**Pn**	**04 25 54.8**	**+1.8**
SMTH	**Samothraki Isl**	**2.83**	**63**	*e*P	**Pn**	**04 25 53.5**	**+0.5**
SMTH	**Samothraki Isl**	**2.83**	**63**	*e*P	**Pn**	**04 25 53.5**	**+0.5**
KYTH	**Kithira**	**3.04**	**167**	P	**Pn**	**04 25 57.8**	**+2.0**
KYTH	**Kithira**	**3.04**	**167**	*e*P	**Pn**	**04 25 57.4**	**+1.6**
KYTH	**Kithira**	**3.04**	**167**	*e*P	**Pn**	**04 25 57.4**	**+1.6**
RZN	**Rozhen**	**3.09**	**37**	*i* P	**Pn**	**04 25 58.7**	**+2.0**
RZN				S	**Sn**	**04 26 33.9**	**+1.0**
RZN	**Rozhen**	**3.09**	**37**	*i* P	**Pn**	**04 25 58.7**	**+2.0**
RZN				S	**Sn**	**04 26 33.9**	**+1.0**
CHOS	**Chios island**	**3.12**	**105**	*e*P	**Pn**	**04 25 59.0**	**+2.0**
CHOS	**Chios island**	**3.12**	**105**	*e*P	**Pn**	**04 25 59.0**	**+2.0**
RDO	**Rodhopi**	**3.17**	**52**	P	**Pn**	**04 25 58.9**	**+1.3**
RDO				S	**Sn**	**04 26 35.1**	**+0.6**
RDO	**Rodhopi**	**3.17**	**52**	P	**Pn**	**04 25 58.9**	**+1.3**
RDO				S	**Sn**	**04 26 35.1**	**+0.6**
EZN	**Ezine**	**3.23**	**78**	*e*P	**Pn**	**04 25 56.4**	**-1.9**
EZN	**Ezine**	**3.23**	**78**	*e*P	**Pn**	**04 25 56.4**	**-1.9**
ALN	**Alexandroupoli**	**3.37**	**60**	P	**Pn**	**04 26 01.5**	**+1.3**
ALN				S	**Sn**	**04 26 39.9**	**+0.7**
ALN	**Alexandroupoli**	**3.37**	**60**	*e*P	**Pn**	**04 26 01.5**	**+1.3**
ALN	**Alexandroupoli**	**3.37**	**60**	*e*P	**Pn**	**04 26 01.5**	**+1.3**
ALN				S	**Sn**	**04 26 39.9**	**+0.7**
ENEZ	**Enez**	**3.37**	**63**	*e*P	**Pn**	**04 25 58.0**	**-2.2**
ENEZ	**Enez**	**3.37**	**63**	*e*P	**Pn**	**04 25 58.0**	**-2.2**
APE	**Apeiranthos**	**3.40**	**129**	P	**Pn**	**04 26 02.5**	**+1.7**
APE				S	**Sn**	**04 26 39.2**	**-1.0**
APE	**Apeiranthos**	**3.40**	**129**	*d i*P	**Pn**	**04 26 02.6**	**+1.7**
APE	**Apeiranthos**	**3.40**	**129**	*e*P	**Pn**	**04 26 02.0**	**+1.3**
APE	**Apeiranthos**	**3.40**	**129**	⇑*i*P	**Pn**	**04 26 02.5**	**+1.7**
APE	**Apeiranthos**	**3.40**	**129**	S	**Sn**	**04 26 38.7**	**-1.5**
APE	**Apeiranthos**	**3.40**	**129**	P	**Pn**	**04 26 02.5**	**+1.7**
APE				S	**Sn**	**04 26 39.2**	**-1.0**
KDZ	**Kurdzhali**	**3.42**	**45**	*i* P	**Pn**	**04 26 01.9**	**+0.9**
KDZ				S	**Sn**	**04 26 39.8**	**-0.8**
KDZ	**Kurdzhali**	**3.42**	**45**	⇓*i*P	**Pn**	**04 26 01.9**	**+0.9**
KDZ	**Kurdzhali**	**3.42**	**45**	*i* P	**Pn**	**04 26 01.9**	**+0.9**
KDZ				S	**Sn**	**04 26 39.8**	**-0.8**
VTS	**Vitosha**	**3.42**	**12**	P	**Pn**	**04 26 03.2**	**+2.1**
VTS				S	**Sn**	**04 26 41.8**	**+1.0**
VTS	**Vitosha**	**3.42**	**12**	S	**Sn**	**04 26 41.8**	**+1.0**
VTS				P	**Pn**	**04 26 03.3**	**+2.1**
VTS	**Vitosha**	**3.42**	**12**	P	**Pn**	**04 26 03.2**	**+2.1**
VTS				*e*Sn	**Sn**	**04 26 40.3**	**-0.5**
VTS				S	**Sn**	**04 26 41.8**	**+1.0**
GELI	**Tayfur-Gelibol**	**3.47**	**69**	*e*P	**Pn**	**04 25 60.0**	**-1.7**
GELI	**Tayfur-Gelibol**	**3.47**	**69**	*e*P	**Pn**	**04 26 00.0**	**-1.7**
ULC	**Ulcinj**	**3.53**	**321**	⇓*i*Pn	**Pn**	**04 26 02.8**	**+0.3**
ULC				*e*Sn	**Sn**	**04 26 42.4**	**-0.8**
ULC	**Ulcinj**	**3.53**	**321**	⇓*i*Pn	**Pn**	**04 26 02.8**	**+0.3**
ULC				*e*Sn	**Sn**	**04 26 42.4**	**-0.8**
ERIK	**Erikli-Kesan**	**3.59**	**65**	*e*P	**Pn**	**04 26 01.6**	**-1.7**
ERIK	**Erikli-Kesan**	**3.59**	**65**	*e*P	**Pn**	**04 26 01.6**	**-1.7**
PGB	**Panagyurishte**	**3.61**	**24**	P	**Pn**	**04 26 04.8**	**+1.2**
PGB	**Panagyurishte**	**3.61**	**24**	P	**Pn**	**04 26 04.8**	**+1.2**
LPK	**Lapseki**	**3.67**	**71**	*e*P	**Pn**	**04 26 03.6**	**-0.8**
LPK	**Lapseki**	**3.67**	**71**	*e*P	**Pn**	**04 26 03.6**	**-0.8**
DRME	**Dracevica, Mon**	**3.73**	**323**	⇓*i*Pn	**Pn**	**04 26 05.5**	**+0.3**
DRME				*e*Sn	**Sn**	**04 26 47.6**	**-0.4**
DRME	**Dracevica, Mon**	**3.73**	**323**	⇓*i*Pn	**Pn**	**04 26 05.5**	**+0.3**
DRME				*e*Sn	**Sn**	**04 26 47.6**	**-0.4**
PVY	**Plav**	**3.75**	**334**	⇑*i*Pn	**Pn**	**04 26 06.8**	**+1.2**
PVY				*e*Sn	**Sn**	**04 26 48.5**	**-0.3**
PVY	**Plav**	**3.75**	**334**	⇑*i*Pn	**Pn**	**04 26 06.8**	**+1.2**
PVY				*e*Sn	**Sn**	**04 26 48.5**	**-0.3**
DIM	**Dimitrovgrad**	**3.77**	**41**	P	**Pn**	**04 26 07.6**	**+2.0**
DIM				S	**Sn**	**04 26 50.4**	**+1.5**
DIM	**Dimitrovgrad**	**3.77**	**41**	P	**Pn**	**04 26 07.6**	**+2.0**
DIM				S	**Sn**	**04 26 50.4**	**+1.5**
SANT	**Santorini**	**3.85**	**137**	*e*Pn	**Pn**	**04 26 08.1**	**+1.2**

SANT eS Sn 04 26 47.5 -3.6
SANT Santorini 3.85 137 ePn Pn 04 26 08.1 +1.2
SANT eS Sn 04 26 47.5 -3.6
BLCB Balcova 3.87 101 eP Pn 04 26 06.3 -0.7
BLCB Balcova 3.87 101 eP Pn 04 26 06.3 -0.7
PDG Podgorica 3.89 326 ⇓iPn Pn 04 26 07.8 +0.5
PDG eSn Sn 04 26 49.9 -2.0
PDG Podgorica 3.89 326 ⇓iPn Pn 04 26 07.8 +0.5
PDG eSn Sn 04 26 51.6 -0.3
TTG Podgorica 3.89 326 ⇑iPn Pn 04 26 07.8 +0.5
TTG eSn Sn 04 26 51.6 -0.3
BUM Brajici-Budva 3.96 321 ⇓iPn Pn 04 26 08.3 0.0
BUM eSn Sn 04 26 53.0 -0.6
BUM Brajici-Budva 3.96 321 ⇓iPn Pn 04 26 08.3 0.0
BUM eSn Sn 04 26 53.0 -0.6
PE1 Pezze di Greco 3.99 294 ePn Pn 04 26 08.6 -0.1
TAR1 Taranto 4.00 290 ePn Pn 04 26 08.3 -0.5
BEY Berane 4.02 335 ⇓iPn Pn 04 26 09.4 +0.2
BEY eSn Sn 04 26 55.0 -0.2
IVA Berane 4.02 335 ⇓iPn Pn 04 26 09.4 +0.2
IVA eSn Sn 04 26 55.0 -0.2
IZM Izmir 4.03 101 eP Pn 04 26 09.5 +0.2
IZM Izmir 4.03 101 eP Pn 04 26 09.5 +0.2
ZAPS Zavoj 4.03 4 ePn Pn 04 26 11.6 +2.3
ZAPS eSn Sn 04 26 55.1 -0.3
SELS Selova 4.05 349 ePn Pn 04 26 09.9 +0.4
RKY Sarkoy-Tekirda 4.07 68 eP Pn 04 26 08.7 -1.1
RKY Sarkoy-Tekirda 4.07 68 eP Pn 04 26 08.7 -1.1
KRBG Karabiga-Canak 4.08 72 eP Pn 04 26 08.3 -1.5
KRBG Karabiga-Canak 4.08 72 eP Pn 04 26 08.3 -1.5
BALY Balya 4.21 82 iP Pn 04 26 14.0 +2.3
BALY iS Sn 04 26 56.9 -2.8
BALY Balya 4.21 82 iP Pn 04 26 14.0 +2.3
BALY iS Sn 04 26 56.9 -2.8
TIP Timpagrande 4.24 271 ePn Pn 04 26 12.0 -0.2
TIP eS Sn 04 26 57.3 -3.3
TIP Timpagrande 4.24 271 ePn Pn 04 26 12.0 -0.2
TIP eS Sn 04 26 57.3 -3.3
MPEP Malo Peshtene 4.26 15 P Pn 04 26 14.7 +2.4
MPEP Malo Peshtene 4.26 15 P Pn 04 26 14.7 +2.4
HCY Herceg Novi 4.26 320 ⇓iPn Pn 04 26 11.9 -0.5
HCY eSn Sn 04 26 59.9 -1.0
HCY Herceg Novi 4.26 320 ⇓iPn Pn 04 26 11.9 -0.5
HCY eSn Sn 04 26 59.9 -1.0
NKME Niksic 4.29 326 ⇑iPn Pn 04 26 13.0 +0.2
NKME eSn Sn 04 27 01.0 -0.8
NKME Niksic 4.29 326 ⇑iPn Pn 04 26 13.0 +0.2
NKME eSn Sn 04 27 01.0 -0.8
GONE Gonen-Balikesi 4.30 78 eP Pn 04 26 11.1 -1.7
GONE Gonen-Balikesi 4.30 78 eP Pn 04 26 11.1 -1.7
NKY Niksic 4.31 327 ⇑iPn Pn 04 26 14.0 +0.8
NKY eSn Sn 04 27 01.6 -0.7
NKY Niksic 4.31 327 ⇑iPn Pn 04 26 14.0 +0.8
NKY eSn Sn 04 27 01.6 -0.7
EDRB Edirne 4.32 52 eP Pn 04 26 12.3 -0.8
EDRB Edirne 4.32 52 eP Pn 04 26 12.3 -0.8
SJES Sjenica 4.35 338 ePn Pn 04 26 13.0 -0.7
SJES eSn Sn 04 27 00.1 -3.1
AKS Akhisar 4.37 93 eP Pn 04 26 13.2 -0.7
AKS Akhisar 4.37 93 eP Pn 04 26 13.2 -0.7
BALB Balikesir 4.40 83 eP Pn 04 26 13.5 -0.8
BALB Balikesir 4.40 83 eP Pn 04 26 13.5 -0.8
EDC Edincik 4.49 74 eP Pn 04 26 14.1 -1.3
EDC Edincik 4.49 74 eP Pn 04 26 14.1 -1.3
BAI Bari 4.49 296 ePn Pn 04 26 14.8 -0.6
IDI Anoyia 4.49 151 P Pn 04 26 14.5 -1.1
IDI S Sn 04 27 03.6 -3.1
IDI Anoyia 4.49 151 P Pn 04 26 14.5 -1.1
3.3nm,0.3s,baz=316,slow=18,SNR=59
IDI S Sn 04 27 03.6 -3.1
23nm,0.3s,baz=310,slow=20,SNR=10
IDI Anoyia 4.49 151 P Pn 04 26 14.5 -1.1
IDI S Sn 04 27 03.6 -3.1
BODT Bodrum 4.57 117 eP Pn 04 26 17.8 +1.2
BODT Bodrum 4.57 117 eP Pn 04 26 17.8 +1.2
BOLS Boljevac 4.58 358 ePn Pn 04 26 16.6 -0.1
BOLS Boljevac 4.58 358 ePn Pn 04 26 16.6 -0.1
BRY Bratogost 4.59 324 ⇑iPn Pn 04 26 16.8 -0.1
BRY eSn Sn 04 27 08.8 -0.2
BRY Bratogost 4.59 324 ⇑iPn Pn 04 26 16.8 -0.1
BRY eSn Sn 04 27 08.8 -0.2
IVAS Ivanjica 4.59 341 ⇓iPn Pn 04 26 17.2 +0.3
IVAS Ivanjica 4.59 341 ⇓iPn Pn 04 26 17.2 +0.3
PLE Pljevlja 4.60 333 ⇑iPn Pn 04 26 17.9 +0.9
PLE eSn Sn 04 27 08.9 -0.4
PLE Pljevlja 4.60 333 ⇑iPn Pn 04 26 17.9 +0.9
PLE eSn Sn 04 27 08.9 -0.4
PVL Pavlikeni 4.61 30 P Pn 04 26 17.5 +0.5
PVL Pavlikeni 4.61 30 P Pn 04 26 17.5 +0.5
JMB Yambol 4.61 44 ⇑iP Pn 04 26 14.6 -2.5
CRLT Corlu 4.62 64 eP Pn 04 26 16.2 -1.1
CRLT Corlu 4.62 64 eP Pn 04 26 16.2 -1.1
AYDB Zeytinkoy-Aydi 4.63 105 eP Pn 04 26 17.5 0.0
AYDB Zeytinkoy-Aydi 4.63 105 eP Pn 04 26 17.5 0.0
BDRM Kayabasi 4.66 116 iP Pn 04 26 18.7 +0.9
BDRM Kayabasi 4.66 116 iP Pn 04 26 18.7 +0.9
UPM Unac-Piva 4.67 329 ⇑iPn Pn 04 26 18.8 +0.7
UPM eSn Sn 04 27 10.4 -0.8
UPM Unac-Piva 4.67 329 ⇑iPn Pn 04 26 18.8 +0.7
UPM eSn Sn 04 27 10.4 -0.8
PHSR Pinarhisar 4.70 58 eP Pn 04 26 17.7 -0.6
PHSR Pinarhisar 4.70 58 eP Pn 04 26 17.7 -0.6
GRUS Gruza 4.77 347 ePn Pn 04 26 19.6 +0.4
GRUS eSn Sn 04 27 10.4 -2.8
GRUS Gruza 4.77 347 ePn Pn 04 26 19.6 +0.4
GRUS eSn Sn 04 27 10.4 -2.8
KCTX Karacabey (Bur 4.84 76 eP Pn 04 26 19.2 -1.0
KCTX Karacabey (Bur 4.84 76 eP Pn 04 26 19.2 -1.0
CDT Castel del Mon 4.91 294 ePn Pn 04 26 20.7 -0.4
STON Ston 4.97 318 ePn Pn 04 26 20.6 -1.4
STON Sn Sn 04 27 13.2 -5.0
STON Ston 4.97 318 ePn Pn 04 26 20.6 -1.4
SLVT Silivri 4.99 65 eP Pn 04 26 21.4 -0.9
SLVT Silivri 4.99 65 eP Pn 04 26 21.4 -0.9
CUC Castrocucco 5.00 281 ePn Pn 04 26 23.3 +0.9
105nm,0.6s
CUC eS Sn 04 27 09.3 -10
CUC Castrocucco 5.00 281 ePn Pn 04 26 23.3 +0.9
105nm,0.6s
CEL Celeste 5.04 261 ePn Pn 04 26 22.6 -0.4
164nm,0.5s
CEL eS Sn 04 27 13.1 -6.9
CEL Celeste 5.04 261 ePn Pn 04 26 22.6 -0.4
164nm,0.5s
SVIS Svilajnac 5.07 352 ePn Pn 04 26 23.9 +0.6
BBLS Lazići 5.07 336 ePn Pn 04 26 23.2 -0.2
BBLS eSn Sn 04 27 17.5 -3.2
BBLS Lazići 5.07 336 ePn Pn 04 26 23.2 -0.2
BBLS eSn Sn 04 27 17.5 -3.2
KULA Kula-Manisa 5.08 96 eP Pn 04 26 23.4 -0.2
KULA Kula-Manisa 5.08 96 eP Pn 04 26 23.4 -0.2
DIVS Divibare 5.12 342 ePn Pn 04 26 23.9 -0.2
DIVS eSn Sn 04 27 17.7 -4.3
DIVS Divibare 5.12 342 ePn Pn 04 26 23.9 -0.2
CTYL Yal??k??y-??at 5.14 62 eP Pn 04 26 23.8 -0.5
CTYL Yal??k??y-??at 5.14 62 eP Pn 04 26 23.8 -0.5
TRUS Trudelj 5.15 345 ⇑iPn Pn 04 26 23.5 -0.9
TRUS Trudelj 5.15 345 ⇑iPn Pn 04 26 23.5 -0.9
CTKS Kestanelik-??a 5.21 66 eP Pn 04 26 25.0 -0.2
CTKS Kestanelik-??a 5.21 66 eP Pn 04 26 25.0 -0.2
MDNY Mudanya-Bursa 5.25 76 eP Pn 04 26 25.8 -0.1
MDNY Mudanya-Bursa 5.25 76 eP Pn 04 26 25.8 -0.1
ARMT Armutlu 5.28 73 eP Pn 04 26 25.4 -0.8
ARMT Armutlu 5.28 73 eP Pn 04 26 25.4 -0.8
BGKT Bogazkoy 5.38 67 eP Pn 04 26 26.9 -0.5
BGKT Bogazkoy 5.38 67 eP Pn 04 26 27.0 -0.5
MS1 Monte Sant'Ang 5.38 299 ePn Pn 04 26 26.7 -0.9
ROIA ROIAK 5.47 44 P Pn 04 26 31.6 +2.9
ROIA S Sn 04 27 31.6 +1.3
ROIA ROIAK 5.47 44 P Pn 04 26 31.6 +2.9
ROIA S Sn 04 27 31.6 +1.3
ISK Istanbul-Kandi 5.55 69 eP Pn 04 26 29.7 -0.1
PRD Provadia 5.55 43 P Pn 04 26 32.0 +2.1
PRD S Sn 04 27 32.3 0.0
PRD Provadia 5.55 43 P Pn 04 26 32.0 +2.1
PRD S Sn 04 27 32.3 0.0
TVSB Tavsanli 5.62 86 eP Pn 04 26 30.1 -0.8
DALY Dalyan (Mu¨la 5.63 114 eP Pn 04 26 31.7 +0.7
AVR AVREN 5.64 45 P Pn 04 26 33.2 +2.1
AVR AVREN 5.64 45 P Pn 04 26 33.2 +2.1

TEKS Tekeris 5.66 340 ePn Pn 04 26 31.7 +0.3
TEKS Tekeris 5.66 340 ePn Pn 04 26 31.7 +0.3
KHL Karahalli 5.78 97 eP Pn 04 26 33.3 +0.1
GLHS Glhisar (BURDU 6.10 108 eP Pn 04 26 38.7 +1.2
ALT Altintas 6.14 89 eP Pn 04 26 38.0 +0.1
GZR Gura Zlata 6.15 4 ⇑iP Pn 04 26 40.0 +1.9
FGSL Fruska Gora 6.17 344 ePn Pn 04 26 37.6 -0.7
FRGS Fruska Gora 6.17 344 ePn Pn 04 26 37.6 -0.7
LOT Lotru 6.30 10 ⇓iP Pn 04 26 42.6 +2.4
PSN Preselentsi 6.30 43 P Pn 04 26 42.2 +2.2
PSN S Sn 04 27 48.7 -1.8
PSN Preselentsi 6.30 43 ⇓iP Pn 04 26 41.8 +1.8
PSN Preselentsi 6.30 43 P Pn 04 26 42.2 +2.2
GPA Golpazari 6.32 78 eP Pn 04 26 40.8 +0.4
ARR Arges 6.37 16 ⇓iP Pn 04 26 43.5 +2.4
BZS Buzias 6.38 356 ePn Pn 04 26 43.5 +2.4
BZS Buzias 6.38 356 ⇑iP Pn 04 26 43.9 +2.8
BZS Buzias 6.38 356 ePn Pn 04 26 43.5 +2.4
VOIR 6.53 18 ⇑iP Pn 04 26 45.9 +2.7
SHUT Suhut-Afyon 6.54 93 eP Pn 04 26 44.0 +0.5
ELL Elmali 6.57 110 eP Pn 04 26 45.6 +1.7
AKAS Kas 6.58 115 iP Pn 04 26 49.9 +5.8
ISP Isparta 6.67 100 ⇓iP Pn 04 26 49.2 +4.0
ISP Isparta 6.67 100 eP Pn 04 26 45.5 +0.3
ISP Isparta 6.67 100 ⇑iP Pn 04 26 48.0 +2.8
ISP Isparta 6.67 100 ePn Pn 04 26 44.6 -0.6
81nm,0.8s
ISP Isparta 6.67 100 ePn Pn 04 26 44.6 -0.6
81nm,0.8s
ISP Isparta 6.67 100 eP Pn 04 26 45.5 +0.3
ISR Istrita 6.69 27 ⇓iP Pn 04 26 48.9 +3.5
BCK Bucak 6.82 103 eP Pn 04 26 48.0 +0.7
MLR Muntele Rosu 6.82 23 ⇑iP Pn 04 26 50.7 +3.4
MLR Muntele Rosu 6.82 23 P Pn 04 26 50.1 +2.9
MLR Muntele Rosu 6.82 23 P Pn 04 26 50.1 +2.9
baz=236,slow=11
MLR Muntele Rosu 6.82 23 P Pn 04 26 50.1 +2.9
TLB Topalu 6.88 37 ⇑iP Pn 04 26 49.6 +1.7
TIRR Tirgusor 6.96 40 eP Pn 04 26 50.0 +1.0
TIRR Tirgusor 6.96 40 ⇓iP Pn 04 26 50.8 +1.8
TIRR Tirgusor 6.96 40 ePn Pn 04 26 50.0 +1.0
TIRR Tirgusor 6.96 40 eP Pn 04 26 50.0 +1.0
MDUB Mudurnu 7.02 77 eP Pn 04 26 49.9 0.0
SIRR Siria 7.03 357 ⇑iP Pn 04 26 52.0 +2.1
DOPR Dopca 7.11 18 ⇑iP Pn 04 26 54.3 +3.2
SUTC Sutluce-Ispart 7.12 102 eP Pn 04 26 52.3 +0.9
UDBI Udbina 7.14 320 *i* Pn Pn 04 26 51.2 -0.4
UDBI Sn Sn 04 28 06.9 -4.2
UDBI Udbina 7.14 320 *i* Pn Pn 04 26 51.1 -0.4
PLOR Plostina 7.36 25 ⇑iP Pn 04 26 57.8 +3.2
CFR Carcaliu 7.37 35 ⇓iP Pn 04 27 12.0 +17
VRI Vrincioaia 7.40 25 ⇓iP Pn 04 26 58.5 +3.4
PKSM Moragy 7.44 340 ⇑iP Pn 04 26 56.1 +0.6
PKSM Moragy 7.44 340 ⇓ePn Pn 04 26 54.4 -1.1
PKSM eSn Sn 04 28 14.1 -4.1
NVLJ Novalja 7.63 316 ePn Pn 04 26 56.6 -1.5
NVLJ Sn Sn 04 28 15.6 -7.3
BOJS Bojanci 8.10 323 *i* Pn Pn 04 27 03.3 -1.2
BOJS *i* Sn Sn 04 28 28.1 -6.3
SLUM 8.12 162 P Pn 04 27 01.9 -3.0
baz=165
SLUM AMP 04 28 00.0
comp=N,110µm,0.3s,logA/T=5.5,baz=165
SLUM 8.12 162 P Pn 04 27 01.9 -3.0
GCIS Gornji Cirnik 8.21 326 *i* Pn Pn 04 27 04.8 -1.2
GCIS *i* Sn Sn 04 28 31.5 -5.5
BEHE Becsehely 8.25 333 ⇓ePn Pn 04 27 05.7 -0.9
BEHE eSn Sn 04 28 37.1 -0.9
BEHE Becsehely 8.25 333 ⇓eP Pn 04 27 05.7 -0.9
BEHE eS Sn 04 28 37.1 -0.9
VISS Visnje 8.51 323 *i* Pn Pn 04 27 09.2 -1.0
VISS *i* Sn Sn 04 28 37.1 -7.4
BUD Budapest 8.55 345 epPn Pn 04 27 21.2 +11
BUD eSn Sn 04 28 47.3 +1.9
BUD Budapest 8.55 345 eS Sn 04 28 47.3 +1.9
BURAR Bucovina Array 8.64 14 ⇑iP Pn 04 27 15.6 +3.6
BUR08 Bucovina Ar. S 8.66 14 ePn Pn 04 27 14.5 +2.1
BUR08 Bucovina Ar. S 8.66 14 ePn Pn 04 27 14.5 +2.1
PSZ Piszkesteto 8.83 350 eP Pn 04 27 17.3 +2.8
PSZ pmax pmax
comp=Z,15nm,0.8s
PSZ Piszkesteto 8.83 350 ⇓iP Pn 04 27 16.9 +2.4
PSZ Piszkesteto 8.83 350 ePn Pn 04 27 17.3 +2.8
comp=Z,15nm,0.8s
PSZ eS Sn 04 28 52.5 +0.3
PSZ Piszkesteto 8.83 350 ⇑ePn Pn 04 27 17.5 +3.0
PSZ eSn Sn 04 28 55.1 +2.9
PSZ Piszkesteto 8.83 350 eP Pn 04 27 17.3 +2.8
comp=Z,15nm,0.8s
PSZ eS Sn 04 28 52.5 +0.3
BR131 Keskin Array S 8.85 83 ePn Pn 04 27 18.1 +3.2
comp=Z,2.4nm,0.6s
BR131 Keskin Array S 8.85 83 ePn Pn 04 27 18.1 +3.2
comp=Z,2.4nm,0.6s
BRTR Keskin Array B 8.85 83 P Pn 04 27 18.6 +3.7
BRTR Keskin Array B 8.85 83 P Pn 04 27 18.6 +3.7
comp=Z,0.5nm,0.3s,baz=263,slow=12,SNR=26
TRPA Tarpa 8.88 1 ⇑iP Pn 04 27 16.9 +1.7
MATC Matruh 8.89 151 P Pn 04 27 11.8 -3.6
baz=153
JAVS Javornik 8.95 320 *i* Pn Pn 04 27 14.6 -1.7
JAVS *i* Sn Sn 04 28 48.8 -6.5
TRI Trieste 8.98 319 eP Pn 04 27 14.8 -1.7
TRI Trieste 8.98 319 ePn Pn 04 27 14.8 -1.7
TRI eS Sn 04 28 48.7 -7.1
PERS Pernice 9.03 327 *i* Pn Pn 04 27 15.7 -1.6
PERS *i* Sn Sn 04 28 50.4 -6.7
HMAT Matruh 9.06 152 P Pn 04 27 14.0 -3.8
baz=155
HMAT AMP 04 28 00.0
comp=E,110µm,0.5s,logA/T=5.4,baz=155
HMAT Matruh 9.06 152 P Pn 04 27 14.0 -3.8
SOKA Soboth 9.10 327 ⇑iPn Pn 04 27 16.8 -1.4
SOKA ⇑*i* Sn Sn 04 28 54.3 -4.6
SOKA Soboth 9.10 327 Pn Pn 04 27 16.8 -1.4
SOKA Sn Sn 04 28 54.3 -4.6
ARSA Arzberg 9.37 331 ⇑iPn Pn 04 27 21.1 -0.7
ARSA ⇑*i* Sn Sn 04 29 00.0 -5.3
ARSA Arzberg 9.37 331 Pn Pn 04 27 21.1 -0.7
ARSA Sn Sn 04 29 00.0 -5.3
KOLS Kolonicke sedl 9.68 0 eP Pn 04 27 31.6 +5.5
KOLS Kolonicke sedl 9.68 0 *e* Pn 04 27 31.6 +5.5
KBA Koelnbreinsper 10.15 323 ⇓iPn Pn 04 27 31.9 -0.8
KBA ⇑*i* Sn Sn 04 29 18.4 -6.3
KBA Koelnbreinsper 10.15 323 Pn Pn 04 27 31.9 -0.8
KBA Sn Sn 04 29 18.4 -6.3
ABTA Abfaltersbach 10.32 320 ⇑iPn Pn 04 27 33.5 -1.4
ABTA ⇓*i* Sn Sn 04 29 24.0 -4.7
ABTA Abfaltersbach 10.32 320 Pn Pn 04 27 33.5 -1.4
ABTA Sn Sn 04 29 24.0 -4.7
SWA2 10.34 164 P Pn 04 27 30.7 -4.4
baz=167
SWA2 S Sn 04 29 13.4 -16
baz=167
SWA2 10.34 164 P Pn 04 27 30.7 -4.4
SWA2 S Sn 04 29 13.4 -16
MOA Molln 10.35 329 ⇓iPn Pn 04 27 32.2 -3.0
MOA ⇑*i* Sn Sn 04 29 25.4 -3.8
MOA Molln 10.35 329 Pn Pn 04 27 32.2 -3.0
MOA Sn Sn 04 29 25.4 -3.8
PGF Pioggiola 10.53 292 eP Pn 04 27 39.7 +1.9
comp=E,12nm,0.6s
PGF Pioggiola 10.53 292 eP Pn 04 27 39.7 +1.9
PGF pmax pmax
comp=Z,12nm,0.6s
PGF Pioggiola 10.53 292 eP Pn 04 27 39.7 +1.9
comp=Z,12nm,0.6s
PGF Pioggiola 10.53 292 eP Pn 04 27 39.7 +1.9
comp=Z,12nm,0.6s
KEST Kesra 10.81 255 P Pn 04 27 40.9 -0.7
KEST S Sn 04 29 34.9 -5.9
KEST Kesra 10.81 255 P Pn 04 27 40.9 -0.7
comp=Z,0.2nm,0.3s,baz=32,slow=2.9,SNR=7.4
KEST S Sn 04 29 34.9 -5.9
comp=Z,0.1nm,0.3s,baz=61,slow=19,SNR=3.4
KEST Kesra 10.81 255 P Pn 04 27 40.9 -0.7
GERES GERESS Array B 11.37 330 P Pn 04 27 48.6 -0.6
GERES S Sn 04 29 50.8 -3.5
GERES GERESS Array B 11.37 330 P Pn 04 27 48.6 -0.6
comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=7.3
GERES S Sn 04 29 50.8 -3.5
comp=Z,0.4nm,0.3s,baz=154,slow=24,SNR=5.9

GERES GERESS Array B 11.37 330 P Pn 04 27 48.6 -0.6
KHC Kasperske Hory 11.65 331 eP Pn 04 27 52.0 -0.9
KHC Kasperske Hory 11.65 331 eP Pn 04 27 52.0 -0.9
KHC eS Sn 04 29 58.5 -2.5
KHC Kasperske Hory 11.65 331 eP Pn 04 27 52.0 -0.9
DAVOX Davos/Dischmat 11.74 314 P Pn 04 27 53.1 -1.2
DAVOX S Sn 04 29 58.9 -4.5
DAVOX Davos/Dischmat 11.74 314 P Pn 04 27 53.1 -1.2
comp=Z,0.6nm,0.3s,baz=110,slow=16,SNR=8.4
DAVOX S Sn 04 29 58.9 -4.5
comp=Z,1.0nm,0.3s,baz=48,slow=12,SNR=8.9
DAVOX Davos/Dischmat 11.74 314 P Pn 04 27 53.1 -1.2
KOT Kottamia 12.21 137 P Pn 04 27 55.5 -4.9
baz=137
KOT Kottamia 12.21 137 P Pn 04 27 55.6 -4.9
AWBH 12.23 151 P Pn 04 27 55.3 -5.5
baz=153
AWBH 12.23 151 P Pn 04 27 55.3 -5.5
HSAF As Saff 12.31 138 P Pn 04 27 58.7 -3.1
baz=139
HSAF As Saff 12.31 138 P Pn 04 27 58.7 -3.1
MMAI Mount Meron Ar 12.34 116 P Pn 04 28 02.2 0.0
MMAI S Sn 04 30 12.3 -5.5
MMAI Mount Meron Ar 12.34 116 P Pn 04 28 02.2 0.0
comp=Z,1.2nm,0.3s,baz=312,slow=12,SNR=5.8
MMAI S Sn 04 30 12.3 -5.5
comp=Z,1.9nm,0.3s,baz=303,slow=29,SNR=3.5
MMAI Mount Meron Ar 12.34 116 P Pn 04 28 02.2 0.0
GLL Jalalah 12.42 138 P Pn 04 27 59.4 -4.0
baz=139
GLL Jalalah 12.42 138 P Pn 04 27 59.4 -4.0
AMAG Maghara 12.44 130 P Pn 04 27 59.4 -4.2
baz=130
AMAG Maghara 12.44 130 P Pn 04 27 59.4 -4.2
KIEV Kiev 12.46 21 ⇓eP Pn 04 28 07.8 +4.2
AKASG Malin Array Be 12.47 21 P Pn 04 28 03.7 -0.1
AKASG Malin Array Be 12.47 21 P Pn 04 28 03.7 -0.1
AKASG ScP ScP 04 37 00.2 -0.5
AKASG Malin Array Be 12.47 21 P Pn 04 28 03.7 -0.1
comp=Z,0.4nm,0.3s,baz=206,slow=12,SNR=4.2
AKASG ScP ScP 04 37 00.2 -0.5
comp=Z,0.2nm,0.3s,baz=246,slow=0.9,SNR=5.2
AKASG Malin Array Be 12.47 21 P Pn 04 28 03.7 -0.1
AKASG ScP ScP 04 37 00.2 -0.5
RSH 12.53 128 P Pn 04 28 01.4 -3.3
baz=127
RSH 12.53 128 P Pn 04 28 01.4 -3.3
SUZ 12.82 134 P Pn 04 28 05.5 -3.2
baz=134
SUZ 12.82 134 P Pn 04 28 05.5 -3.2
BNI Bardonecchia 12.90 302 eP Pn 04 28 11.1 +1.4
BNI Bardonecchia 12.90 302 ePn Pn 04 28 11.1 +1.4
BNI Bardonecchia 12.90 302 eP Pn 04 28 11.1 +1.4
LPG La Plagne 13.02 304 eP Pn 04 28 09.5 -1.9
comp=Z,1.7nm,0.4s
LPG La Plagne 13.02 304 eP Pn 04 28 09.5 -1.9
LPG pmax pmax
comp=Z,2.0nm,0.4s
LPG La Plagne 13.02 304 eP Pn 04 28 09.5 -1.9
comp=Z,1.7nm,0.4s
LPL La Plagne 13.04 304 eP Pn 04 28 10.0 -1.6
comp=Z,2.1nm,0.3s
LPL La Plagne 13.04 304 eP Pn 04 28 10.0 -1.6
LPL pmax pmax
comp=Z,2.0nm,0.3s
LPL La Plagne 13.04 304 eP Pn 04 28 10.0 -1.6
comp=Z,2.1nm,0.3s
HNKL Nakhl 13.42 130 P Pn 04 28 13.4 -3.1
baz=130
HNKL Nakhl 13.42 130 P Pn 04 28 13.4 -3.1
ASF Jabal al Asfar 13.85 116 S Sn 04 30 54.6 0.0
comp=Z,0.1nm,0.3s,baz=270,slow=4.0,SNR=2.7
EIL Elat 14.19 128 P Pn 04 28 25.7 -0.8
EIL S Sn 04 30 51.2 -11
EIL Elat 14.19 128 P Pn 04 28 25.7 -0.8
comp=Z,0.3nm,0.3s,baz=349,slow=19,SNR=4.5
EIL S Sn 04 30 51.2 -11
comp=Z,4.0nm,0.3s,baz=10,slow=8.7,SNR=12
EIL LR LR 04 36 17.5
comp=Z,35nm,19.0s,baz=245,slow=47
TR2 14.44 135 P Pn 04 28 26.1 -3.7
baz=135
TR2 14.44 135 P Pn 04 28 26.1 -3.7
HKAT Jabal Katrina 14.48 134 P Pn 04 28 27.0 -3.5
baz=134
HKAT Jabal Katrina 14.48 134 P Pn 04 28 27.0 -3.5
SUW Suwalki 14.78 2 eP P 04 28 38.3 +0.7
SUW Suwalki 14.78 2 eP P 04 28 38.2 +0.7
SUW Suwalki 14.78 2 ePn Pn 04 28 35.1 +1.2
comp=Z,23nm,0.5s
SUW Suwalki 14.78 2 ePn Pn 04 28 35.1 +1.2
comp=Z,23nm,0.5s
SUW Suwalki 14.78 2 eP P 04 28 38.3 +0.7
SMF Signal de Mont 15.33 305 eP Pn 04 28 38.0 -3.0
SMF Signal de Mont 15.33 305 eP Pn 04 28 38.0 -3.0
SMF Signal de Mont 15.33 305 eP Pn 04 28 38.0 -3.0
KIV Kislovodsk 16.01 66 eP P 04 28 54.5 +3.1
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 16.01 66 eP P 04 28 54.5 +3.1
comp=Z,13nm,1.1s
KBZ Khabaz 16.12 67 P P 04 28 55.3 +2.8
KBZ Khabaz 16.12 67 P P 04 28 55.2 +2.8
KBZ Khabaz 16.12 67 P P 04 28 55.2 +2.8
comp=Z,0.3nm,0.3s,baz=275,slow=8.4,SNR=17
KBZ Khabaz 16.12 67 P P 04 28 55.2 +2.8
ZEI Tsey 16.73 71 eP P 04 29 02.3 +2.7
ZEI pmax pmax
comp=Z,6.0nm,0.5s
ZEI Tsey 16.73 71 eP P 04 29 02.3 +2.7
comp=Z,6.0nm,0.5s
OBN Obninsk 18.57 27 eP Pn 04 29 27.4 +6.8
OBN pmax pmax
comp=Z,4.0nm,1.1s
HFS Hagfors 21.58 348 P P 04 29 51.5 -0.4
HFS Hagfors 21.58 348 P P 04 29 51.5 -0.4
comp=Z,2.0nm,0.5s,baz=149,slow=12,SNR=23
HFS Hagfors 21.58 348 P P 04 29 51.5 -0.4
FINES FINESS Array B 22.35 5 P P 04 29 59.1 -0.9
FINES ScP ScP 04 37 20.5 -0.4
FINES FINESS Array B 22.35 5 P P 04 29 59.1 -0.9
comp=Z,0.8nm,0.3s,baz=180,slow=9.4,SNR=13
FINES ScP ScP 04 37 20.5 -0.4
comp=Z,1.0nm,0.6s,baz=140,slow=3.1,SNR=8.5
FINES FINESS Array B 22.35 5 P P 04 29 59.1 -0.9
FINES ScP ScP 04 37 20.5 -0.4
NB2 NORSAR Subarra 22.86 346 P P 04 30 04.8 -0.5
comp=Z,1.0nm,0.5s,baz=159,slow=11
NB2 NORSAR Subarra 22.86 346 P P 04 30 04.8 -0.5
comp=Z,1.0nm,0.5s,SNR=5.0
NOA NORSAR Array B 22.86 346 P P 04 30 05.0 -0.4
NOA NORSAR Array B 22.86 346 P P 04 30 05.0 -0.4
comp=Z,0.6nm,0.5s,baz=155,slow=8.4,SNR=12
NOA NORSAR Array B 22.86 346 P P 04 30 05.0 -0.4
KAF Kangasniemi 23.03 5 eP P 04 30 06.8 -0.1
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 23.03 5 ep P 04 30 06.8 -0.1
comp=Z,1.6nm,0.3s
KAF Kangasniemi 23.03 5 eP P 04 30 06.8 -0.1
comp=Z,2.0nm,0.3s
EKA Eskdalemuir Ar 23.36 322 P P 04 30 10.1 0.0
EKA Eskdalemuir Ar 23.36 322 P P 04 30 10.1 0.0
comp=Z,1.8nm,0.6s,baz=115,slow=10,SNR=9.1
EKA Eskdalemuir Ar 23.36 322 P P 04 30 10.1 0.0
KLMR Klimovskoe 24.16 21 eP P 04 30 17.4 +0.2
KLMR pmax pmax
comp=Z,13nm,1.1s
KLMR Klimovskoe 24.16 21 eP P 04 30 17.4 +0.2
comp=Z,13nm,1.1s
AKTK Aktyubinsk 27.48 54 P P 04 30 48.0 +0.7
AKTO Aktyubinsk 27.48 54 P P 04 30 48.0 +0.7
AKTO Aktyubinsk 27.48 54 P P 04 30 48.0 +0.7
AKTO Aktyubinsk 27.48 54 P P 04 30 48.0 +0.7
comp=Z,0.9nm,0.5s,baz=253,slow=10,SNR=7.5
AKTO Aktyubinsk 27.48 54 P P 04 30 48.0 +0.7
ABKAR Akbulak array 28.55 57 eP P 04 30 57.6 +0.8
comp=Z,0.7nm,0.4s
ABKAR Akbulak array 28.55 57 eP P 04 30 57.6 +0.8
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 30.40 2 P P 04 31 13.1 +0.1
ARCES ARCESS Array B 30.40 2 P P 04 31 13.1 +0.1
comp=Z,2.6nm,0.9s,baz=190,slow=9.5,SNR=14
ARCES ARCESS Array B 30.40 2 P P 04 31 13.1 +0.1
TOA0 Torodi Ar. Sit 31.70 221 eP P 04 31 25.6 +0.7

TOA0	**Torodi Ar. Sit**	**31.70**	**221**	*e*P		**P**	**04 31 25.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**31.70**	**221**	P		**P**	**04 31 25.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**31.70**	**221**	P		**P**	**04 31 25.8**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=33,slow=9.2,SNR=95							
TORD	**Torodi Ar. Bea**	**31.70**	**221**	P		**P**	**04 31 25.8**	**+0.9**
KKAR	**Karatay Array**	**36.16**	**68**	*e*P		**P**	**04 32 04.5**	**+1.2**
KKAR				pmax	pmax			
	comp=Z,13nm,0.7s							
KKAR	**Karatay Array**	**36.16**	**68**	*e*P		**P**	**04 32 04.5**	**+1.2**
	comp=Z,13nm,0.7s							
KKAR	**Karatay Array**	**36.16**	**68**	*e*P		**P**	**04 32 04.5**	**+1.2**
	comp=Z,13nm,0.7s							
EKS2	**Erkin-Say**	**38.60**	**68**	*e*P		**P**	**04 32 25.9**	**+1.8**
EKS2				pmax	pmax			
	comp=Z,13nm,0.8s							
EKS2	**Erkin-Say**	**38.60**	**68**	*e*P		**P**	**04 32 25.9**	**+1.8**
	comp=Z,13nm,0.8s							
EKS2	**Erkin-Say**	**38.60**	**68**	*e*P		**P**	**04 32 25.9**	**+1.8**
	comp=Z,13nm,0.8s							
AAK	**Ala-Archa**	**39.12**	**68**	*e*P		**P**	**04 32 30.6**	**+2.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AAK	**Ala-Archa**	**39.12**	**68**	*e*P		**P**	**04 32 30.6**	**+2.1**
	comp=Z,2.3nm,0.5s							
AAK	**Ala-Archa**	**39.12**	**68**	P		**P**	**04 32 30.6**	**+2.1**
	comp=Z,2.4nm,0.4s,baz=266,slow=2.4,SNR=12							
AAK	**Ala-Archa**	**39.12**	**68**	*e*P		**P**	**04 32 30.6**	**+2.1**
	comp=Z,2.3nm,0.5s							
TKM2	**Tokmak 2**	**39.84**	**67**	*e*P		**P**	**04 32 35.9**	**+1.3**
TKM2				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TKM2	**Tokmak 2**	**39.84**	**67**	*e*P		**P**	**04 32 35.9**	**+1.3**
	comp=Z,1.4nm,0.5s							
TKM2	**Tokmak 2**	**39.84**	**67**	*e*P		**P**	**04 32 35.9**	**+1.3**
	comp=Z,1.4nm,0.5s							
KURBB	**Kurchatov Arra**	**40.53**	**55**	P		**P**	**04 32 40.4**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=284,slow=9.1,SNR=8.1							
KURK	**Kurchatov**	**40.57**	**55**	P		**P**	**04 32 40.4**	**+0.2**
KURK	**Kurchatov**	**40.57**	**55**	P		**P**	**04 32 40.4**	**+0.2**
KURK	**Kurchatov**	**40.57**	**55**	P		**P**	**04 32 40.4**	**+0.2**
DBIC	**Dimbokro**	**40.58**	**224**	P		**P**	**04 32 41.5**	**+0.9**
DBIC	**Dimbokro**	**40.58**	**224**	P		**P**	**04 32 41.5**	**+0.9**
	comp=Z,4.1nm,0.6s,baz=9.6,slow=7.4,SNR=8.4							
DBIC	**Dimbokro**	**40.58**	**224**	P		**P**	**04 32 41.5**	**+0.9**
LIC	**Lamto**	**41.05**	**224**	*e*P		**P**	**04 32 45.1**	**+0.7**
	comp=Z,5.8nm,0.5s							
LIC	**Lamto**	**41.05**	**224**	*e*P		**P**	**04 32 45.1**	**+0.7**
	comp=Z,5.8nm,0.5s							
LIC	**Lamto**	**41.05**	**224**	*e*P		**P**	**04 32 45.1**	**+0.7**
	comp=Z,5.8nm,0.5s							
NVS	**Novosibirsk**	**42.97**	**48**	*e*P		**P**	**04 32 59.7**	**0.0**
NVS				pmax	pmax			
	comp=Z,20nm,1.2s							
NVS				pmax	pmax			
	comp=E,8.0nm,1.0s							
NVS	**Novosibirsk**	**42.97**	**48**	*e*P		**P**	**04 32 59.7**	**0.0**
	comp=E,20nm,1.2s							
MK31	**Makanchi Array**	**43.61**	**60**	*e*P		**P**	**04 33 05.7**	**+0.7**
MK31	**Makanchi Array**	**43.61**	**60**	*e*P		**P**	**04 33 05.7**	**+0.7**
MK31	**Makanchi Array**	**43.61**	**60**	*e*P		**P**	**04 33 05.7**	**+0.7**
MKAR	**Makanchi Array**	**43.61**	**60**	P		**P**	**04 33 05.8**	**+0.8**
MKAR	**Makanchi Array**	**43.61**	**60**	P		**P**	**04 33 05.8**	**+0.8**
MKAR	**Makanchi Array**	**43.61**	**60**	P		**P**	**04 33 05.8**	**+0.8**
	comp=E,4.5nm,0.4s,baz=280,slow=7.6,SNR=142							
MKAR	**Makanchi Array**	**43.61**	**60**	P		**P**	**04 33 05.8**	**+0.8**
ZALV	**Zalesovo Beam**	**43.99**	**49**	P		**P**	**04 33 08.6**	**+0.8**
ZALV	**Zalesovo Beam**	**43.99**	**49**	P		**P**	**04 33 08.6**	**+0.8**
ZALV	**Zalesovo Beam**	**43.99**	**49**	P		**P**	**04 33 08.6**	**+0.8**
	comp=E,6.2nm,0.5s,baz=276,slow=8.7,SNR=39							
ZALV	**Zalesovo Beam**	**43.99**	**49**	P		**P**	**04 33 08.6**	**+0.8**
DANN	**Dangsing**	**51.41**	**82**	*e*P		**P**	**04 34 06.3**	**+0.4**
	comp=E,28nm,0.5s							
KOLN	**Koldanda**	**51.57**	**83**	*e*P		**P**	**04 34 07.1**	**+0.1**
	comp=E,14nm,0.5s							
GKN	**Gorkha**	**52.25**	**82**	*e*P		**P**	**04 34 11.8**	**-0.2**
	comp=E,19nm,0.5s							
DMN	**Daman**	**52.81**	**83**	*e*P		**P**	**04 34 16.4**	**+0.1**
	comp=E,23nm,0.6s							
KKN	**Kakani**	**52.85**	**82**	*e*P		**P**	**04 34 16.8**	**+0.3**
	comp=E,6.8nm,0.2s							
PKI	**Pulchoki**	**53.06**	**82**	*e*P		**P**	**04 34 17.8**	**-0.4**
	comp=E,7.5nm,0.5s							
GUN	**Gumba**	**53.25**	**82**	*e*P		**P**	**04 34 19.5**	**-0.1**
JIRN	**Jiri**	**53.62**	**82**	*e*P		**P**	**04 34 22.1**	**-0.2**
	comp=E,8.3nm,0.4s							
RAMN	**Ramite**	**54.29**	**82**	*e*P		**P**	**04 34 26.7**	**-0.4**
	comp=E,22nm,0.6s							
TAPN	**Taplejung**	**54.94**	**81**	*e*P		**P**	**04 34 31.8**	**-0.1**
	comp=E,18nm,0.7s							
ODAN	**Odare**	**54.94**	**82**	*e*P		**P**	**04 34 32.0**	**+0.2**
	comp=E,5.1nm,0.4s							
SONM	**Songino Array**	**58.75**	**52**	P		**P**	**04 34 59.0**	**+0.7**
SONM	**Songino Array**	**58.75**	**52**	P		**P**	**04 34 59.0**	**+0.7**
	comp=E,0.5nm,0.5s,baz=283,slow=7.1,SNR=7.8							
SONM	**Songino Array**	**58.75**	**52**	P		**P**	**04 34 59.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**68.44**	**83**	P		**P**	**04 36 02.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**68.44**	**83**	P		**P**	**04 36 02.1**	**-0.2**
	comp=E,1.3nm,0.3s,baz=305,slow=9.5,SNR=6.6							
CMAR	**Chiang Mai Arr**	**68.44**	**83**	P		**P**	**04 36 02.1**	**-0.2**
YKA	**Yellowknife Ar**	**72.83**	**341**	P		**P**	**04 36 29.2**	**+1.0**
YKA	**Yellowknife Ar**	**72.83**	**341**	P		**P**	**04 36 29.2**	**+1.0**
	comp=E,0.2nm,0.5s,baz=37,slow=5.5,SNR=6.2							
YKA	**Yellowknife Ar**	**72.83**	**341**	P		**P**	**04 36 29.2**	**+1.0**
ASAR	**Alice Springs**	**120.97**	**96**	PKP		**PKPdf**	**04 43 51.2**	**-0.8**
ASAR	**Alice Springs**	**120.97**	**96**	PKP		**PKPdf**	**04 43 51.2**	**-0.8**
	comp=E,0.3nm,0.4s,baz=314,slow=1.9,SNR=6.3							
ASAR	**Alice Springs**	**120.97**	**96**	PKIKP		**PKPdf**	**04 43 51.2**	**-0.8**

MEX 14 04:32:35.0±0.4, 15°64'N×94°00'W, h81km±12km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.75**	**85**	*e*P	Pn	04 32 49.8	-1.4
PCIG				*i* S	Sn	04 33 02.0	-1.4
HUIG	**Huatulco**	**2.04**	**274**	*e*P	Pn	04 33 06.3	-1.1
HUIG				*i* S	Sn	04 33 30.1	-2.0
VHO	**Vista Hermosa**	**2.99**	**299**	*i* P	Pn	04 33 19.8	-0.6
VHO				*i* S	Sn	04 33 54.2	-1.3
PNIG	**Pinotepa**	**4.04**	**281**	*e*P	Pn	04 33 34.2	-0.3
PNIG				*i* S	Sn	04 34 20.2	-0.5
TLIG	**Tlapa**	**4.78**	**294**	*e*P	Pn	04 33 44.6	-0.2
TLIG				*e*S	Sn	04 34 37.1	-1.9

WEL 14 04:58:54.5±0.3, 38°53S×175°93E, h144km±2km, ML3.9/17, 11C-17D, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.36**	**199**	⇓PN	Pn	04 59 14.6	0.0
TLZ	**Tolley Road**	**0.36**	**303**	PN	Pn	04 59 14.7	+0.1
PRRZ	**Plateau Road**	**0.37**	**86**	PN	Pn	04 59 14.5	-0.1
RITZ	**Rihia Road**	**0.45**	**187**	⇑PN	Pn	04 59 15.5	+0.4
TARZ	**Mount Tarawera**	**0.54**	**58**	PN	Pn	04 59 15.5	-0.1
KRVZ	**Karewarewa**	**0.61**	**201**	PN	Pn	04 59 16.0	0.0
WTVZ	**West Tongariro**	**0.64**	**204**	PN	Pn	04 59 16.2	0.0
TWVZ	**Taurewa**	**0.66**	**215**	PN	Pn	04 59 16.2	-0.1
OTVZ	**Oturere**	**0.67**	**198**	PN	Pn	04 59 16.5	+0.1
OTVZ				*e*SN	Sn	04 59 33.6	+0.5
NGZ	**Ngauruhoe**	**0.70**	**201**	PN	Pn	04 59 16.7	+0.2
WPVZ	**Whakapapa**	**0.74**	**204**	⇓PN	Pn	04 59 16.8	0.0
TUVZ	**Tukino**	**0.77**	**196**	PN	Pn	04 59 17.1	+0.1
BKZ	**Black Stump Fm**	**0.78**	**145**	PN	Pn	04 59 16.7	-0.3
BKZ				SN	Sn	04 59 33.9	-0.3
BKZ				AML	AML	04 59 36.3	
FWVZ	**Far West T-bar**	**0.78**	**202**	PN	Pn	04 59 16.9	-0.4
WHVZ	**Whangaehu Hut**	**0.80**	**199**	PN	Pn	04 59 17.0	-0.4
TRVZ	**Turoa**	**0.82**	**201**	PN	Pn	04 59 17.5	-0.1
HIZ	**Hauiti**	**0.84**	**271**	⇓PN	Pn	04 59 17.1	-0.3
HIZ				*e*SN	Sn	04 59 34.0	-0.8
WNVZ	**Wahianoa**	**0.84**	**198**	⇓PN	Pn	04 59 17.6	-0.1
PKVZ	**Pokaka**	**0.89**	**210**	⇑PN	Pn	04 59 17.8	-0.1
MOVZ	**Moawhango**	**0.89**	**189**	⇓PN	Pn	04 59 17.6	-0.3
NMHZ	**Naumai**	**0.89**	**130**	⇓PN	Pn	04 59 18.8	+0.8
BHHZ	**Black Hill Sta**	**0.97**	**174**	⇓PN	Pn	04 59 18.3	-0.2
URZ	**Urewera**	**0.97**	**74**	⇓PN	Pn	04 59 17.8	-0.6
URZ				SN	Sn	04 59 35.7	-0.9
URZ				AML	AML	04 59 37.2	
RAHZ	**Arahi**	**0.99**	**114**	PN	Pn	04 59 19.1	+0.5
MCHZ	**McNeill Hill**	**1.09**	**147**	⇓PN	Pn	04 59 20.4	+0.8
SNGZ	**Shannon Statio**	**1.14**	**103**	⇓PN	Pn	04 59 20.3	+0.3
WHHZ	**Waihua**	**1.16**	**119**	⇓PN	Pn	04 59 20.6	+0.4
MWZ	**Matawai**	**1.27**	**82**	⇓PN	Pn	04 59 20.9	-0.5
MWZ				SN	Sn	04 59 40.9	-0.9
MWZ				AML	AML	04 59 42.1	
MWZ				AML	AML	04 59 42.1	
MWZ				AML	AML	04 59 42.1	
PNHZ	**Pukenui**	**1.40**	**171**	PN	Pn	04 59 22.2	-0.4
CKHZ	**Cape Kidnapper**	**1.44**	**142**	⇓PN	Pn	04 59 23.3	+0.3
RIGZ	**Rimuhau**	**1.45**	**98**	PN	Pn	04 59 23.2	+0.1
KNZ	**Kokohu**	**1.45**	**110**	⇑PN	Pn	04 59 23.2	+0.1
KAHZ	**Kahuranaki**	**1.47**	**150**	⇓PN	Pn	04 59 23.5	+0.2
DREZ	**Durham Road**	**1.50**	**243**	⇓PN	Pn	04 59 23.4	-0.2
TSZ	**Takapari Road**	**1.53**	**179**	⇓PN	Pn	04 59 23.4	-0.5
TSZ				AML	AML	04 59 50.6	
TSZ				AML	AML	04 59 52.0	
PRGZ	**Paritu Road**	**1.58**	**105**	PN	Pn	04 59 24.5	0.0
WPHZ	**Waipukurau**	**1.59**	**166**	PN	Pn	04 59 24.2	-0.4
NEZ	**North Egmont**	**1.61**	**242**	⇑PN	Pn	04 59 24.8	-0.1
PKE	**Pukeiti**	**1.65**	**246**	PN	Pn	04 59 24.7	-0.6
MHGZ	**Mahia Peninsul**	**1.67**	**113**	PN	Pn	04 59 25.6	+0.1
PXZ	**Pawanui**	**1.67**	**154**	PN	Pn	04 59 25.2	-0.2
PXZ				SN	Sn	04 59 47.4	-1.8
PXZ				AML	AML	04 59 50.8	
PXZ				AML	AML	04 59 51.7	
PXZ				AML	AML	04 59 51.7	
KHEZ	**Kahui Hut**	**1.68**	**242**	PN	Pn	04 59 25.1	-0.5
NWEZ	**Newall Road**	**1.77**	**244**	PN	Pn	04 59 25.9	-0.7
DVHZ	**Dannevirke**	**1.78**	**174**	PN	Pn	04 59 25.8	-1.0
DVHZ				SN	Sn	04 59 48.9	-2.6
KUZ	**Kuaotunu**	**1.79**	**355**	PN	Pn	04 59 25.8	-1.0
CNGZ	**Carnagh Statio**	**1.79**	**89**	PN	Pn	04 59 27.0	+0.2
PRHZ	**Porangahau**	**1.80**	**163**	PN	Pn	04 59 26.6	-0.6
POWZ	**Post Office Ro**	**1.87**	**184**	PN	Pn	04 59 26.5	-1.2
PUZ	**Puketiti**	**1.89**	**77**	⇑PN	Pn	04 59 27.0	-1.0
PUZ				SN	Sn	04 59 51.6	-2.1
PUZ				AML	AML	04 59 53.0	
ANWZ	**Angora Road**	**1.98**	**168**	⇑PN	Pn	04 59 28.4	-0.6
PRWZ	**Pori Road**	**2.03**	**179**	PN	Pn	04 59 28.6	-0.9
PRWZ				SN	Sn	04 59 54.2	-2.4
MXZ	**Matakaoa Point**	**2.11**	**64**	⇑PN	Pn	04 59 29.8	-0.8
MXZ				SN	Sn	04 59 57.1	-1.2
MXZ				AML	AML	04 59 58.1	
MXZ				AML	AML	04 59 58.2	
MXZ				AML	AML	04 59 58.7	
MRZ	**Mangatainoka R**	**2.15**	**187**	⇑PN	Pn	04 59 29.4	-1.7
MRZ				AML	AML	04 59 58.7	
MRZ				AML	AML	04 59 58.7	
BFZ	**Birch Farm**	**2.17**	**174**	PN	Pn	04 59 30.2	-1.0
TIWZ	**Tintock**	**2.25**	**181**	AML	AML	05 00 00.5	
TIWZ				AML	AML	05 00 00.9	
OGWZ	**Otaki Gorge**	**2.36**	**194**	⇑PN	Pn	04 59 31.7	-1.8
CPWZ	**Castlepoint**	**2.39**	**175**	PN	Pn	04 59 32.8	-1.1
HOWZ	**Holdsworth Sta**	**2.39**	**187**	PN	Pn	04 59 31.9	-2.1
KIW	**Kapiti Island**	**2.46**	**198**	PN	Pn	04 59 32.5	-2.3
KIW				SN	Sn	05 00 01.9	-4.0
TMWZ	**Te Maipa**	**2.58**	**181**	PN	Pn	04 59 34.1	-2.2
MTW	**Mount Morrison**	**2.65**	**187**	PN	Pn	04 59 34.6	-2.6
MTW				AML	AML	05 00 00.8	
MTW				AML	AML	05 00 08.6	
CAW	**Cannon Point**	**2.66**	**194**	PN	Pn	04 59 34.9	-2.4
CAW				AML	AML	05 00 08.6	
CAW				AML	AML	05 00 10.1	
DUWZ	**D'Urville Isla**	**2.75**	**214**	⇑PN	Pn	04 59 35.8	-2.6
TRWZ	**Traveller**	**2.87**	**184**	PN	Pn	04 59 37.4	-2.6
TRWZ				AML	AML	05 00 13.8	
TRWZ				AML	AML	05 00 13.9	
PAWZ	**Paruwai Farm**	**2.88**	**188**	PN	Pn	04 59 37.8	-2.7
PAWZ				AML	AML	05 00 13.6	
MSWZ	**Moikau Station**	**2.93**	**190**	⇑PN	Pn	04 59 37.8	-3.0
MSWZ				AML	AML	05 00 14.0	
MSWZ				AML	AML	05 00 14.1	
SNZO	**South Karori**	**2.93**	**198**	PN	Pn	04 59 37.7	-3.0
TCW	**Tory Channel**	**2.97**	**205**	PN	Pn	04 59 38.3	-2.9
TCW				AML	AML	05 00 14.7	
TCW				AML	AML	05 00 14.9	
BHW	**Baring Head**	**2.99**	**195**	PN	Pn	04 59 38.3	-3.1
PLWZ	**Palliser**	**3.08**	**189**	PN	Pn	04 59 39.5	-3.2
TUWZ	**Tuamarina**	**3.27**	**207**	PN	Pn	04 59 41.7	-3.4
TUWZ				AML	AML	05 00 20.5	
TUWZ				AML	AML	05 00 21.5	
NNZ	**Nelson**	**3.33**	**215**	PN	Pn	04 59 42.0	-3.7
QRZ	**Quartz Range**	**3.48**	**228**	⇓PN	Pn	04 59 43.7	-4.1
BSWZ	**Blackbirch Sta**	**3.55**	**206**	PN	Pn	04 59 45.5	-3.2
THZ	**Tophouse**	**3.98**	**215**	PN	Pn	04 59 50.2	-4.1
OXZ	**Oxford**	**5.62**	**210**	PN	Pn	04 59 09.8	-6.2
MQZ	**McQueen's Vall**	**5.73**	**204**	PN	Pn	05 00 11.7	-5.8
ODZ	**Otahua Downs**	**7.61**	**210**	PN	Pn	05 00 36.7	-5.9

*ISCJB **14** 05:03:04.5±0.3, 18°48N±0°04×72°87W±0°03, h6km, mb4.1/29, MS3.7/18, Error ellipse: s-maj=5.2km s-min=3.5km az=6.4*
*BJI **14** 05:03:04.7, 18°50N×72°90W, h10km, Ms7 4.8/1*
*IDC **14** 05:03:04.9±0.6, 18°54N×72°89W, h0km, mb4.0/17, mb1 4.3/18, mb1mx4.2/26, mbtmp4.1/18, ML3.9/1, MS3.6/22, Ms1 3.6/22, ms1mx3.5/33, Error ellipse: s-maj=20.1km s-min=15.4km az=55.0*
*JSN **14** 05:03:05.2±0.5, 19°26N×72°85W, h8km, MD4.9*
*NEIC **14** 05:03:06.5±0.2, 18°51N×72°87W, h10km, mb4.2/13, Error ellipse: s-maj=4.6km s-min=3.3km az=14.0*
ISC 14 05:03:05.8±0.4, 18°50N±0°05×72°88W±0°04, h6km, n96, σ1§23/98, mb4.2/29, MS3.6/18, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.59**	**72**	*e*Pn	**Pn**	**05 03 33.4**	**-1.1**
SDDR				*e*S	**Sb**	**05 03 55.7**	**-0.2**
GTBY	**Guantanamo Bay**	**2.54**	**304**	*e*Pn	**Pn**	**05 03 46.0**	**-1.4**
GTBY				*e*Sn	**Sn**	**05 04 20.4**	**+1.6**
GRTK	**Grand Turk**	**3.42**	**29**	*e*Pn	**Pn**	**05 03 59.5**	**-0.1**
GWJ	**Greenwich**	**3.68**	**264**	*i* P	**Pn**	**05 04 03.6**	**+0.3**
GWJ	**Greenwich**	**3.68**	**264**	*i* P	**Pn**	**05 04 03.6**	**+0.3**
HOJ	**Hope**	**3.71**	**263**	*i* P	**Pn**	**05 04 04.7**	**+1.1**
HOJ	**Hope**	**3.71**	**263**	*i* P	**Pn**	**05 04 04.7**	**+1.1**
STH	**Stony Hill**	**3.75**	**264**	*e*P	**Pn**	**05 04 04.4**	**+0.1**
STH				*i* S	**Sn**	**05 04 49.3**	**+0.4**
STH	**Stony Hill**	**3.75**	**264**	*e*P	**Pn**	**05 04 04.4**	**+0.1**
STH				*i* S	**Sn**	**05 04 49.3**	**+0.4**
MTDJ	**Mount Denham**	**4.42**	**267**	*e*Pn	**Pn**	**05 04 13.8**	**+0.3**
MCJ	**Malvern**	**4.60**	**264**	*e*P	**Pn**	**05 04 16.4**	**+0.5**
MCJ	**Malvern**	**4.60**	**264**	*e*P	**Pn**	**05 04 16.4**	**+0.5**
CRPR	**Cabo Rojo, PR**	**5.51**	**94**	*e*Pn	**Pn**	**05 04 29.0**	**+0.6**
LSP	**Las Mesas**	**5.52**	**92**	*e*Pn	**Pn**	**05 04 29.0**	**+0.5**
AOPR	**Arecibo Observ**	**5.82**	**91**	*e*Pn	**Pn**	**05 04 34.8**	**+2.1**
OBIP	**Obispado Ponce**	**5.98**	**93**	*e*Pn	**Pn**	**05 04 35.2**	**+0.4**
CELP	**Cerrillos**	**6.00**	**93**	*e*Pn	**Pn**	**05 04 35.9**	**+0.7**
MTP	**Monte Pirata**	**6.98**	**92**	*e*Pn	**Pn**	**05 04 48.8**	**+0.2**
	78nm,1.1s						
MTP				*e*Sn	**Sn**	**05 06 09.4**	**+1.1**
SDV	**Santo Domingo**	**9.81**	**167**	*e*Pn	**Pn**	**05 05 28.6**	**+1.0**
SDV				*e*Sn	**Sn**	**05 07 16.2**	**-2.0**
ROSC	**El Rosal**	**13.64**	**186**	*e*Pn	**Pn**	**05 06 20.3**	**+0.1**
ROSC				Sn	**Sn**	**05 08 53.8**	**+1.4**
ROSC	**El Rosal**	**13.64**	**186**	Pn	Pn	05 06 23.9	+3.7
	0.7nm,0.3s,baz=74,slow=20,SNR=9.4						
ROSC				Sn	**Sn**	**05 08 53.8**	**+1.4**
	baz=98,slow=22,SNR=1.9						
ROSC				LR	LR	05 11 40.6	
	comp=Z,117nm,21.7s,baz=7.5,slow=38						
JTS	**JuntasAbangare**	**14.25**	**237**	*e*Pn	**P**	**05 06 34.2**	**-1.5**
JTS	**JuntasAbangare**	**14.25**	**237**	LR	LR	05 11 48.2	
	comp=Z,207nm,20.3s,baz=76,slow=37						
TEIG	**Tepich**	**14.63**	**279**	*e*Pn	**Pn**	**05 06 33.8**	**+0.4**
TEIG	**Tepich**	**14.63**	**279**	Pn	**Pn**	**05 06 33.5**	**+0.1**
	0.5nm,0.3s,baz=117,slow=18,SNR=5.1						
TEIG				LR	LR	05 11 54.6	
	comp=Z,74nm,20.0s,baz=200,slow=36						
TIGA	**Tifton**	**16.11**	**325**	*e*Pn	**Pn**	**05 06 53.6**	**+0.7**
APG	**El Apazote**	**17.19**	**261**	LR	LR	05 14 08.1	
	comp=Z,132nm,18.0s,baz=102,slow=39						
OTAV	**Otavalo**	**18.96**	**197**	*e*P	**P**	**05 07 28.7**	**+0.4**
	9.4nm,1.0s						
JSRW	**J. Sargeant Re**	**19.61**	**348**	*e*P	**Pn**	**05 07 35.6**	**-0.6**
TKL	**Tuckaleechee C**	**19.62**	**333**	LR	LR	05 15 17.5	
	comp=Z,163nm,20.7s,baz=148,slow=37						
BLA	**Blacksburg**	**19.78**	**342**	P	**Pn**	**05 07 37.5**	**-0.8**
	11nm,0.9s						
CPCT	**Cooper Cave**	**19.78**	**331**	*e*Pn	Pn	05 07 43.4	+5.1
SWET	**Sewanee**	**20.28**	**328**	*e*Pn	Pn	05 07 45.7	+1.5
	109nm,2.4s						
PTGA	**Pitinga**	**22.95**	**145**	*e*P	**P**	**05 08 11.1**	**+0.1**
	6.1nm,1.2s						
PTGA	**Pitinga**	**22.95**	**145**	P	**P**	**05 08 12.1**	**+1.1**
	18nm,1.1s,baz=333,slow=11,SNR=14						
PTGA				LR	LR	05 18 16.6	
	comp=Z,81nm,18.3s,baz=332,slow=40						
HKT	**Hockley**	**23.78**	**303**	*e*P	**P**	**05 08 19.8**	**+0.6**
	5.8nm,1.0s						
ATAH	**Atahualpa**	**26.05**	**193**	LR	LR	05 20 51.5	
	comp=Z,131nm,20.6s,baz=10,slow=41						
SADO	**Sadowa**	**26.71**	**350**	LR	LR	05 19 13.0	
	comp=Z,151nm,19.1s,baz=178,slow=36						
SAML	**Samuel**	**28.91**	**160**	*e*P	**P**	**05 09 04.5**	**-1.3**
	3.1nm,0.9s						
TXAR	**Lajitas Array**	**30.05**	**297**	P	**P**	**05 09 17.1**	**+1.1**
TXAR				PcP	**PcP**	**05 12 17.9**	**-0.2**
TXAR	**Lajitas Array**	**30.05**	**297**	P	**P**	**05 09 17.1**	**+1.1**
	1.4nm,0.9s,baz=111,slow=7.1,SNR=11						
TXAR				PcP	**PcP**	**05 12 17.9**	**-0.2**
	0.3nm,0.8s,baz=145,slow=3.3,SNR=3.7						
BNM	**Barren Site**	**33.83**	**304**	*e*P	**P**	**05 09 50.2**	**+0.9**
	6.8nm,1.1s						
LPM	**Los Pinos Moun**	**33.89**	**304**	*e*P	**P**	**05 09 51.1**	**+1.4**
LAZ	**Ladron**	**34.32**	**304**	*e*P	**P**	**05 09 52.8**	**-0.6**
	4.4nm,1.3s						
LPAZ	**La Paz**	**34.89**	**172**	P	**P**	**05 10 00.5**	**+1.6**
LPAZ	**La Paz**	**34.89**	**172**	P	**P**	**05 10 00.5**	**+1.6**
	0.9nm,0.8s,baz=28,slow=17,SNR=4.0						
LPAZ				LR	LR	05 25 18.1	
	comp=Z,155nm,21.0s,baz=28,slow=38						
SCHQ	**Schefferville**	**36.56**	**6**	P	**P**	**05 10 12.0**	**-0.3**
SCHQ	**Schefferville**	**36.56**	**6**	P	**P**	**05 10 12.0**	**-0.3**
	3.8nm,0.9s,baz=272,slow=6.0,SNR=5.8						
SCHQ				LR	LR	05 24 56.6	
	comp=Z,102nm,19.1s,baz=174,slow=36						
ULM	**Lac du Bonnet**	**36.62**	**335**	P	**P**	**05 10 12.3**	**-0.5**
ULM	**Lac du Bonnet**	**36.62**	**335**	P	**P**	**05 10 12.3**	**-0.5**
	4.3nm,0.9s,baz=138,slow=6.6,SNR=4.8						
ULM				LR	LR	05 25 26.1	
	comp=Z,46nm,19.9s,baz=272,slow=37						
PDAR	**Pinedale Array**	**39.30**	**316**	P	**P**	**05 10 34.8**	**-1.0**
PDAR				PcP	**PcP**	**05 12 44.4**	**-0.3**
PDAR	**Pinedale Array**	**39.30**	**316**	P	**P**	**05 10 34.8**	**-1.0**
	0.4nm,0.6s,baz=121,slow=9.7,SNR=3.7						
PDAR				PcP	**PcP**	**05 12 44.4**	**-0.3**
	1.0nm,1.0s,baz=110,slow=5.2,SNR=4.2						
PDAR				LR	LR	05 28 02.7	
	comp=Z,94nm,18.9s,baz=108,slow=38						
MVU	**Marysvale**	**39.51**	**309**	*e*P	P	05 10 42.8	+5.1
	8.4nm,1.6s						
LOHW	**Long Hollow**	**40.36**	**317**	*e*P	**P**	**05 10 45.5**	**+0.9**
	9.3nm,1.4s						
MOOW	**Moose Ponds**	**

baz=353
ECL Taimali 0.51 229 *e*P **Pb 05 12 58.9 -1.0**
baz=216
ECL *e*S **Sb 05 13 05.8 -1.4**
baz=216
EHY Hungye 0.57 355⇓ *i*P **Pb 05 13 00.4 -0.6**
baz=355
EHY *e*S **Sb 05 13 07.3 -1.6**
baz=355
STYT Tauyuan 0.61 292⇑ *i*P **Pb 05 13 01.4 -0.3**
baz=293
STYT S **Sb 05 13 09.7 -0.4**
baz=293
YUS Yu-Shan 0.68 325⇓ *i*P **Pn 05 13 03.0 -0.3**
baz=332
YUS S **Sb 05 13 11.3 -1.1**
baz=332
SSD Sandimen 0.71 255⇑ *i*P **Pb 05 13 02.5 -0.7**
baz=251
SSD *e*S **Sb 05 13 10.8 -1.9**
baz=251
TAW Tawu 0.72 218 *e*P **Pb 05 13 02.2 -1.2**
baz=211
EAST Anshuo 0.73 222⇓ *i*P **Pb 05 13 02.4 -1.2**
baz=211
SGST Jiashian 0.74 282⇑ *i*P **Pn 05 13 04.0 +0.2**
baz=288
SGST *i* S **Sn 05 13 14.3 +0.3**
baz=288
WTP Ta-pu 0.77 294⇑ *i*P **Pn 05 13 04.3 +0.2**
baz=295
WTP *e*S **Sn 05 13 14.8 +0.1**
baz=295
ALS Alishan 0.78 318⇓ P **Pn 05 13 04.7 +0.2**
baz=326
ALS S **Sn 05 13 15.2 -0.1**
baz=326
TEGC Jichi Village 0.79 11 *e*P **Pn 05 13 05.1 +0.7**
baz=5.0
TEGC *e*S **Sn 05 13 16.5 +1.3**
baz=5.0
CHN1 Nanshi 0.82 288⇑ *i*P **Pn 05 13 05.3 +0.5**
baz=288
CHN1 *i* S **Sn 05 13 16.4 +0.5**
baz=288
SGLT Jiouru 0.84 256 *e*P **Pn 05 13 05.8 +0.7**
baz=253
ESL Shilin 0.88 4⇓ P **Pb 05 13 04.3 -1.8**
baz=17
ESL *e*S **Sb 05 13 14.2 -3.3**
baz=17
TWK Hsinying 0.88 292 P **Pn 05 13 06.0 +0.3**
baz=302
TWK *e*S **Sn 05 13 17.9 +0.4**
baz=302
TWM1 Shoushan 0.88 263⇓ P **Pn 05 13 07.3 +1.6**
baz=261
TWM1 *e*S **Sn 05 13 20.5 +3.0**
baz=261
SCZT Fangliau 0.89 232 *e*P **Pn 05 13 05.6 -0.2**
baz=226
LAY Lan-yu 0.90 170 P **Pb 05 13 05.7 -0.7**
baz=165
LAY *e*S **Sb 05 13 18.0 -0.2**
baz=165
CHN5 Tsauling 0.92 316⇓ *i*P **Pn 05 13 06.8 +0.6**
baz=319
CHN5 *i* S **Sn 05 13 20.3 +1.7**
baz=319
CHN3 Shinhua 0.94 279 *e*P **Pn 05 13 08.2 +1.7**
baz=278
CHN3 *e*S **Sn 05 13 22.0 +3.1**
baz=278
CHN2 Minshiung 1.02 306 *e*P **Pb 05 13 08.6 +0.1**
baz=308
CHN2 *e*S **Sn 05 13 22.8 +1.9**
baz=308
CHY Chiayi 1.04 303 *e*P **Pb 05 13 08.3 -0.4**
baz=305
CHY *e*S **Sn 05 13 21.4 +0.1**
baz=305
SMLT Sun Moon Lake 1.04 335⇓ *i*P **Pb 05 13 08.7 -0.2**
baz=342
SMLT *e*S **Sb 05 13 21.6 -0.7**
baz=342
WGK Gukeng 1.06 315 *e*P **Pn 05 13 08.0 -0.1**
baz=306
WGK *e*S **Sn 05 13 22.4 +0.6**
baz=306
HWA Hwalien 1.06 11 *e*P **Pn 05 13 08.3 +0.2**
baz=16
TYC Yuchr 1.08 334⇓ *i*P **Pb 05 13 09.3 -0.1**
baz=339
TYC S **Sn 05 13 22.9 +0.7**
baz=339
HEN Hengchun 1.09 213 *e*P **Pb 05 13 09.2 -0.5**
baz=197
TWP Hsiaoliuchiu 1.10 238 *e*P **Pb 05 13 11.5 +1.7**
baz=234
TWK1 Hengchun 1.11 208 *e*P **Pn 05 13 08.6 -0.2**
baz=193
TSEB Hengchuen, Pin 1.12 203 *e*P **Pb 05 13 09.3 -0.7**
baz=192
TSEB *e*S **Sb 05 13 23.2 -1.0**
baz=192
WNT Mingjian 1.14 326 *e*P **Pb 05 13 10.3 -0.1**
baz=330
WNT *e*S **Sn 05 13 25.4 +1.7**
baz=330
TWD Chiawan 1.16 10 *e*P **Pn 05 13 08.1 -1.4**
baz=15
WHF Hehuan Shan 1.21 355⇓ *e*P **Pn 05 13 09.9 -0.7**
baz=9.0
WHF *e*S **Sn 05 13 24.6 -1.7**
baz=9.0
TWT Tachien 1.33 352⇓ P **Pn 05 13 12.2 +0.2**
baz=5.0
TCU Taichung 1.37 332 *e*P **Pn 05 13 12.8 +0.4**
baz=337
NNS Nan Shan 1.50 360 *e*P **Pb 05 13 15.8 -0.8**
baz=15
TWQ1 Liyutan 1.51 339⇓ P **Pb 05 13 16.1 -0.7**
baz=343
TWQ1 *e*S **Sb 05 13 35.3 -0.3**
baz=343
ENA Nanau 1.53 13 *e*P **Pn 05 13 13.6 -1.0**
baz=16
NSY Sanyi 1.58 339 *e*P **Pb 05 13 17.0 -1.0**
baz=344
NSY *e*S **Sb 05 13 38.0 +0.5**
baz=344
ENTT Nioudou 1.71 6 *e*P **Pn 05 13 16.9 -0.2**
baz=19
NSTT Nanjuang 1.73 349 *e*P **Pn 05 13 18.6 +1.3**
baz=354
NSTT *i* S **Sb 05 13 40.4 -1.3**
baz=354
TWC Suao 1.73 15 *e*P **Pn 05 13 17.1 -0.1**
baz=9.0
TWC *e*S **Sn 05 13 39.4 +1.2**
baz=9.0
NSK Sanguang 1.74 360⇓ P **Pn 05 13 17.9 +0.4**
baz=14
NSK S **Sn 05 13 38.7 +0.1**
baz=14
PNG Penghu 1.79 291 *e*P **Pn 05 13 17.8 -0.3**
baz=279
TWE Neicheng 1.80 9 *e*P **Pn 05 13 18.3 0.0**
baz=11
TWE *e*S **Sb 05 13 42.5 -1.3**
baz=11
EGS 1.97 15 *e*P **Pn 05 13 22.3 +1.7**
baz=18
TWA Mucha 2.05 5 *e*P **Pn 05 13 21.9 +0.1**
baz=18
YOJ Yonaguni jima 2.14 44 P **Pn 05 13 24.6 +1.7**
YOJ *e*S **Sn 05 13 49.6 +1.2**
YOJ Yonaguni jima 2.14 44 *e*P **Pb 05 13 25.7 -1.6**
baz=44
YOJ *e*S **Sn 05 13 49.8 +1.3**
baz=44
TWB1 Santiao Chiao 2.14 15 *e*P **Pn 05 13 24.1 +1.1**
baz=18
NWF Wu-fen Shan 2.16 10 *e*P **Pn 05 13 23.5 +0.1**
baz=12
NWF *e*S **Sn 05 13 50.3 +1.1**
baz=12
HATJ Hateruma jima 2.50 63 P **Pn 05 13 28.9 +1.0**
HATJ *e*S **Sn 05 13 57.6 +0.3**
IRIF Iriomote-Funau 2.57 57 P **Pn 05 13 31.7 +2.8**
IRIF *e*S **Sn 05 14 01.4 +2.2**
JKRS Kuro-shima 2.75 61 P **Pn 05 13 31.9 +0.6**
JKRS *e*S **Sn 05 14 04.2 +0.8**
JIJ Ishigaki jima 2.91 60 P **Pn 05 13 34.6 +1.0**
JIJ *e*S **Sn 05 14 06.8 -0.7**
KNM Kinmen 3.08 299 *e*P **Pn 05 13 36.1 +0.3**
baz=297
JTJ Tarama 3.49 60 P **Pn 05 13 43.0 +1.5**
JTJ *e*S **Sn 05 14 22.6 +0.8**

IDC 14 05:14:55.8±3.3, 30°21S×138°47E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=80.2km s-min=15.9km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.15**	**123**	Pn	Pn	05 15 47.4	+0.6
	0.3nm,0.3s,baz=300,slow=13,SNR=7.0						
STKA				Sn	Sn	05 16 25.2	+0.1
	1.5nm,0.3s,baz=288,slow=15,SNR=5.9						
STKA				Lg	Lg	05 16 35.6	
	1.5nm,0.3s,baz=16,slow=19,SNR=8.3						
ASAR	**Alice Springs**	**7.69**	**327**	Pn	Pn	05 16 48.6	-0.6
	0.1nm,0.3s,baz=147,slow=12,SNR=6.9						
ASAR				Sn	Sn	05 18 17.3	+0.2
	0.1nm,0.3s,baz=150,slow=21,SNR=3.4						
WRA	**Warramunga Arr**	**10.89**	**339**	Pn	Pn	05 17 34.4	+1.4
	0.1nm,0.3s,baz=163,slow=12,SNR=5.4						
WRA				Sn	Sn	05 19 34.6	-1.0
	0.0nm,0.3s,baz=159,slow=22,SNR=2.6						

IDC 14 05:41:37.0±2.2, 7°12S×148°02E, h92km±19km, mb3.6/5, mb1 3.9/7, mb1mx3.7/18, mbtmp4.0/7, Error ellipse: s-maj=45.3km s-min=16.1km az=112.0

ISC 14 05:41:36.3±1.5, 6°96S×147°5E±0°2, h65km, n8, σ1s55/10, mb3.9/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.46**	**189**	P	Pn	**05 42 13.7**	**-0.3**
	76nm,0.3s,baz=32,slow=5.6,SNR=94						
PMG				S	Sn	05 42 45.2	+2.2
	54nm,0.3s,baz=342,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**18.17**	**223**	P	Pn	05 45 44.0	-0.3
	0.6nm,0.3s,baz=52,slow=11,SNR=25						
WRA				S	Sn	05 49 04.9	-1.7
	0.1nm,0.3s,baz=46,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**21.14**	**217**	P	P	05 46 17.1	+0.9
	6.3nm,0.6s,baz=52,slow=9.3,SNR=115						
ASAR				S	S	05 50 08.3	+0.4
	0.2nm,0.6s,baz=34,slow=22,SNR=2.7						
STKA	**Stephens Creek**	**25.40**	**192**	P	P	05 46 55.5	-2.2
	2.7nm,0.7s,baz=7.9,slow=8.4,SNR=9.0						
CMAR	**Chiang Mai Arr**	**54.16**	**299**	P	P	05 50 56.9	+1.5
	0.8nm,0.3s,baz=137,slow=7.0,SNR=2.2						
MKAR	**Makanchi Array**	**78.57**	**320**	P	P	05 53 30.6	-0.4
	0.4nm,0.5s,baz=97,slow=7.6,SNR=8.7						
ILAR	**Eielson Array**	**86.16**	**23**	P	P	05 54 06.1	-4.0
	0.3nm,0.8s,baz=263,slow=5.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.83**	**283**	PKPbc	**PKPab**	**06 01 09.4**	**-0.4**
	0.4nm,0.4s,baz=66,slow=3.7,SNR=12						

IDC 14 06:02:03.7±0.7, 18°37N×73°30W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.8/25, mbtmp3.8/10, ML4.2/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/36, Error ellipse: s-maj=27.7km s-min=18.9km az=47.0

ISCJB 14 06:02:04.2±1.6, 18°47N±0°04×73°34W±0°03, h10km±11km, mb3.7/13, MS3.3/1, Error ellipse: s-maj=6.7km s-min=4.6km az=176.3

JSN 14 06:02:04.9±1.8, 18°71N×73°18W, h15km, MD4.6

NEIC 14 06:02:05.7±0.3, 18°48N×73°37W, h10km, mb4.0/4, Error ellipse: s-maj=7.3km s-min=5.0km az=184.0

ISC 14 06:02:04.6±2.5, 18°48N±0°05×73°34W±0°04, h3km±16km, n52, σ1s31/63, mb4.0/13, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**2.00**	**75**	*e*Pn	Pn	06 02 40.1	+0.6
SDDR				*e*Sn	Sn	06 03 05.9	+0.8
GTBY	**Guantanamo Bay**	**2.21**	**311**	*e*Pn	Pn	06 02 39.5	-2.7
GTBY				*e*Sn	Sn	06 03 07.7	-2.3
GWJ	**Greenwich**	**3.25**	**263**	*e*P	Pn	06 02 55.9	-0.7
GWJ	**Greenwich**	**3.25**	**263**	*e*P	Pn	06 02 55.9	-0.7
HOJ	**Hope**	**3.28**	**262**	*i* P	Pn	06 02 57.9	+1.0
HOJ	**Hope**	**3.28**	**262**	*i* P	Pn	06 02 57.9	+1.0
STH	**Stony Hill**	**3.32**	**264**	*e*P	Pn	06 02 57.1	-0.4
STH				*i* S	Sn	06 03 37.6	0.0
STH	**Stony Hill**	**3.32**	**264**	*e*P	Pn	06 02 57.1	-0.4
STH				*e*S	Sn	06 03 37.6	0.0
GRTK	**Grand Turk**	**3.66**	**34**	*e*Pn	Pn	06 03 01.9	-0.2
GRTK				*e*Sn	Sn	06 03 45.9	+0.1
MTDJ	**Mount Denham**	**3.99**	**267**	*e*Pn	Pn	06 03 07.5	+0.6
MTDJ				*e*Sn	Sn	06 03 56.5	+2.2
MCJ	**Malvern**	**4.17**	**263**	*e*P	Pn	06 03 11.0	+1.7
MCJ	**Malvern**	**4.17**	**263**	*e*P	Pn	06 03 11.0	+1.7
CRPR	**Cabo Rojo, PR**	**5.94**	**94**	*e*Pn	Pn	06 03 34.2	+0.8
LSP	**Las Mesas**	**5.95**	**92**	*e*Pn	Pn	06 03 33.2	-0.4
LSP				*e*Sg	Sg	06 05 13.1	-2.7
OBIP	**Obispado Ponce**	**6.41**	**93**	*e*Pn	Pn	06 03 40.7	+0.7
CELP	**Cerrillos**	**6.43**	**93**	*e*Pn	Pn	06 03 41.3	+0.9
CBYP	**Canovanas**	**7.11**	**91**	Pn	Pn	06 03 51.6	+2.0
MTP	**Monte Pirata**	**7.41**	**92**	*e*Pn	Pn	06 03 55.7	+2.0
SDV	**Santo Domingo**	**9.89**	**164**	*e*Pn	Pn	06 04 28.4	+0.4
	3.3nm,0.6s						
SDV				*e*Sn	Sn	06 06 13.7	-6.1
BCIP	**Isla Barro Col**	**11.20**	**215**	*e*Pn	Pn	06 04 43.9	-1.8
ROSC	**El Rosal**	**13.58**	**184**	*e*Pn	Pn	06 05 18.9	+0.3
ROSC				*e*Sn	Sn	06 07 47.6	-2.7
ROSC				Sn	Sn	06 07 49.4	-0.9
ROSC	**El Rosal**	**13.58**	**184**	Pn	Pn	06 05 20.8	+2.2
	0.9nm,0.3s,baz=26,slow=14,SNR=4.9						
ROSC				Sn	Sn	06 07 49.4	-0.9
	0.8nm,0.3s,baz=15,slow=5.5,SNR=3.6						
TEIG	**Tepich**	**14.21**	**279**	*e*Pn	Pn	06 05 26.9	+0.1
	11nm,0.6s						
TEIG	**Tepich**	**14.21**	**279**	Pn	Pn	06 05 27.2	+0.4
	1.2nm,0.3s,baz=54,slow=5.8,SNR=8.8						
JSRW	**J. Sargeant Re**	**19.55**	**349**	*e*P	P	06 06 33.5	0.0
PTGA	**Pitinga**	**23.18**	**144**	*e*P	P	06 07 13.7	+1.0
	4.7nm,1.0s						
SAML	**Samuel**	**29.04**	**159**	P	P	06 08 05.3	-0.9
	1.9nm,0.8s						
TXAR	**Lajitas Array**	**29.67**	**297**	P	P	06 08 13.0	+1.1
TXAR	**Lajitas Array**	**29.67**	**297**	P	P	06 08 13.0	+1.1
	0.6nm,1.0s,baz=110,slow=7.3,SNR=4.9						
LPAZ	**La Paz**	**34.93**	**171**	*e*P	P	06 08 58.2	-0.4
	2.6nm,1.2s						
LPAZ	**La Paz**	**34.93**	**171**	LR	LR	06 23 40.3	
	comp=Z,55nm,20.7s,baz=113,slow=37						
PDAR	**Pinedale Array**	**39.01**	**316**	P	P	06 09 34.2	+1.5
PDAR	**Pinedale Array**	**39.01**	**316**	P	P	06 09 34.2	+1.5
	0.3nm,0.7s,baz=115,slow=8.1,SNR=2.7						
BDFB	**Brasilia**	**42.09**	**142**	P	P	06 09 58.0	-0.3
BDFB	**Brasilia**	**42.09**	**142**	P	P	06 09 58.0	-0.3
	4.0nm,0.7s,baz=329,slow=10,SNR=5.1						
CPUP	**Villa Florida**	**47.18**	**160**	*e*P	P	06 10 40.2	+1.6
	1.5nm,1.3s						
YKA	**Yellowknife Ar**	**52.39**	**337**	P	P	06 11 17.1	-0.8
YKA	**Yellowknife Ar**	**52.39**	**337**	P	P	06 11 17.1	-0.8
	0.4nm,0.7s,baz=127,slow=7.6,SNR=8.7						
PLCA	**Paso Flores**	**58.97**	**178**	P	P	06 12 04.6	-0.9
PLCA	**Paso Flores**	**58.97**	**178**	P	P	06 12 04.6	-0.9
	2.3nm,0.7s,baz=332,slow=8.7,SNR=6.0						
ILAR	**Eielson Array**	**66.43**	**333**	P	P	06 12 56.2	+1.2
ILAR	**Eielson Array**	**66.43**	**333**	P	P	06 12 56.2	+1.2
	0.2nm,0.5s,baz=106,slow=5.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**71.94**	**82**	P	P	06 13 29.3	-0.7
TORD	**Torodi Ar. Bea**	**71.94**	**82**	P	P	06 13 29.3	-0.7
	0.5nm,0.8s,baz=293,slow=5.5,SNR=2.5						
GERES	**GERESS Array B**	**74.40**	**43**	P	P	06 13 44.6	+0.5
GERES	**GERESS Array B**	**74.40**	**43**	P	P	06 13 44.6	+0.5
	0.8nm,0.8s,baz=276,slow=5.2,SNR=5.7						
ARCES	**ARCESS Array B**	**75.90**	**21**	P	P	06 13 52.0	-0.3
ARCES	**ARCESS Array B**	**75.90**	**21**	P	P	06 13 52.0	-0.3
	2.3nm,0.8s,baz=313,slow=3.3,SNR=4.1						
WRA	**Warramunga Arr**	**153.83**	**262**	PKP	**PKPdf**	**06 21 57.4**	**-0.9**
WRA				PKPbc	**PKPbc**	**06 22 04.2**	**-2.0**
WRA	**Warramunga Arr**	**153.83**	**262**	PKP	**PKPdf**	**06 21 57.4**	**-0.9**
	0.3nm,0.7s,baz=86,slow=1.4,SNR=2.9						
WRA				PKPbc	**PKPbc**	**06 22 04.2**	**-2.0**
	0.7nm,0.6s,baz=87,slow=2.8,SNR=16						
ASAR	**Alice Springs**	**154.08**	**254**	PKPbc	**PKPbc**	**06 22 04.5**	**-2.2**
ASAR	**Alice Springs**	**154.08**	**254**	PKPbc	**PKPbc**	**06 22 04.5**	**-2.2**
	0.2nm,0.5s,baz=98,slow=2.3,SNR=4.2						

IDC 14 06:31:06.9±5.7, 13°07N×90°96W, h0km, mb3.2/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.5/4, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/14, Error ellipse: s-maj=96.5km s-min=36.7km az=137.0

CASC 14 06:31:12.4±1.4, 13°27N×91°37W, h20km±37km, MD3.7

ISC 14 06:31:12.9±1.7, 13°2N±0°1×91°20W±0°08, h33km, n15, σ1s73/16, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.65**	**68**	*e*P	**Pb**	**06 31 42.0**	**-0.8**
SBLS				*e*S	**Sb**	**06 32 05.6**	**+2.2**
RTR	**El Retiro**	**1.65**	**66**	*e*P	**Pb**	**06 31 41.8**	**-1.0**
RBDL	**Robledal**	**1.71**	**59**	*e*P	**Pb**	**06 31 43.0**	**-0.9**
APG	**El Apazote**	**1.90**	**22**	Pn	**Pn**	**06 31 42.1**	**-1.2**
	34nm,0.3s,baz=196,slow=7.4,SNR=304						
APG				Sn	**Sn**	**06 32 07.6**	**+1.5**
	6.5nm,0.3s,baz=280,slow=7.1,SNR=14						
BOQS	**Boqueron**	**1.93**	**75**	*e*P	**Pb**	**06 31 46.5**	**-1.2**
LFU	**La Fuente**	**2.09**	**76**	*e*P	**Pb**	**06 31 48.7**	**-1.6**
LFRS	**El Faro**	**2.11**	**79**	*e*P	**Pb**	**06 31 49.1**	**-1.6**
LBRS	**Las Brisas**	**2.15**	**76**	*e*P	**Pb**	**06 31 49.5**	**-1.9**
SNVI	**San Vicente**	**2.33**	**80**	*e*P	**Pb**	**06 31 52.2**	**-2.1**
MRL	**Marmol**	**2.33**	**39**	*e*P	**Pb**	**06 31 51.5**	**-3.0**
MRL				*e*P	Pn	06 31 52.7	+3.5
TEIG	**Tepich**	**7.49**	**22**	Pn	**Pn**	**06 33 00.4**	**+0.5**
	1.5nm,0.3s,baz=165,slow=17,SNR=10.0						
TEIG				LR	LR	06 35 47.5	
	comp=Z,74nm,20.4s,baz=86,slow=37						
H06E1	**SOCORRO T-PHASE**	**9.74**	**289**	T	T	06 55 46.3	
	SNR=7.8						
TXAR	**Lajitas Array**	**19.76**	**326**	P	**Pn**	**06 35 41.8**	**-0.3**
	0.4nm,0.6s,baz=141,slow=12,SNR=6.1						
NVAR	**Mina Array Bea**	**34.75**	**321**	P	**P**	**06 38 02.4**	**+1.9**
	0.7nm,0.7s,baz=128,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**51.95**	**346**	P	**P**	**06 40 17.9**	**-0.5**
	0.2nm,0.6s,baz=149,slow=7.9,SNR=7.5						

SZGRF 14 06:40:19.5, 51°98N×159°35E, h52km, mb4.9, Off east coast of Kamchatka Peninsula, Russia

MOS 14 06:40:19.0±1.2, 52°53N×158°85E, h45km, mb5.2/23, Error ellipse: s-maj=10.1km s-min=5.4km az=84.6

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

BJI 14 06:40:20.2, 52°73N×159°19E, h76km, mB4.9/12, mb4.5/18, Ms4.5/5, Ms7 4.4/3

KRSC 14 06:40:20.9±2.2, 52°57N×159°11E, h61km±19km, ML4.6, FELT [II-III] at Petropavlovsk, Institute.

ISCJB 14 06:40:22.3±0.3, 52°59N±0°02×158°94E±0°04, h75km±1km, mb4.5/104, Error ellipse: s-maj=5.3km s-min=2.7km az=43.6

NEIC 14 06:40:23.2±0.5, 52°60N×158°93E, h69km±4km, mb4.8/34, Error ellipse: s-maj=6.4km s-min=3.9km az=167.0

NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

IDC 14 06:40:24.8±0.8, 52°69N×158°79E, h84km±5km, mb3.9/27, mb1 4.1/29, mb1mx4.1/32, mbtmp4.2/29, MS3.4/22, Ms1 3.5/22, ms1mx3.3/47, Error ellipse: s-maj=14.2km s-min=9.8km az=151.0

ISC 14 06:40:22.9±0.4, 52°54N±0°03×159°03E±0°04, h72km±3km, h72km:pP-P, n368, σ1s35/410, mb4.7/104, 45C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.33**	**252**	PN	**Pn**	**06 40 32.9**	**-1.6**
RUS	**Russkaya**	**0.33**	**252**	*i* P	**Pn**	**06 40 32.9**	**-1.6**
MTVR	**Mutnovka**	**0.52**	**264**	*i* P	**Pn**	**06 40 35.5**	**-0.8**
PET	**Petropavlovsk**	**0.54**	**335**	*i* PN	**Pn**	**06 40 34.7**	**-1.6**
PET				*e*S	**Sn**	**06 40 44.0**	**-2.1**
PET				pmax	pmax		
	comp=Z,6μm,0.4s						
PET				pmax	pmax		
	comp=Z,5μm,0.4s						
PET				smax	smax		
	comp=E,5μm,1.8s						
PET				smax	smax		
	comp=E,23μm,0.6s						
PET				smax	smax		
	comp=N,31μm,0.7s						
PET				smax	smax		
	comp=N,21μm,0.8s						
PET	**Petropavlovsk**	**0.54**	**335**	*i* P	**Pn**	**06 40 35.2**	**-1.1**
PET	**Petropavlovsk**	**0.54**	**335**	*e*Pn	**Pn**	**06 40 35.4**	**-0.9**
PET				*e*Sn	**Sn**	**06 40 44.3**	**-1.8**
GRL	**Gorelyy**	**0.58**	**272**	*i* P	**Pn**	**06 40 37.0**	**+0.1**
GRL				*e*S	**Sn**	**06 40 44.4**	**-2.8**
INSR	**Institute**	**0.59**	**334**	*e*P	**Pn**	**06 40 35.8**	**-1.0**
INSR				*e*S	**Sn**	**06 40 42.5**	**-4.5**
NLC	**Nalytchevo**	**0.66**	**17**	PN	**Pn**	**06 40 35.6**	**-1.9**
NLC				S	Sn	06 40 41.8	-6.5
NLC	**Nalytchevo**	**0.66**	**17**	*i* P	**Pn**	**06 40 35.6**	**-1.9**
NLC				S	Sn	06 40 41.8	-6.5
UGLR	**Uglovaya**	**0.68**	**350**	*i* P	**Pn**	**06 40 37.3**	**-0.6**
ASAK	**Asacha**	**0.71**	**258**	*i* P	**Pn**	**06 40 38.1**	**0.0**
ASAK				S	**Sn**	**06 40 46.7**	**-2.7**
SMAR	**Somma**	**0.74**	**349**	*i* P	**Pn**	**06 40 37.8**	**-0.8**
SMAR				S	**Sn**	**06 40 45.3**	**-5.0**
SDLR	**Sedlovina**	**0.75**	**353**	*i* P	**Pn**	**06 40 37.7**	**-0.9**
AVH	**Avacha**	**0.75**	**347**	*i* P	**Pn**	**06 40 38.4**	**-0.2**
AVH				S	**Sn**	**06 40 47.1**	**-3.1**
KRER	**Koryakskii**	**0.79**	**348**	*i* P	**Pn**	**06 40 38.8**	**-0.4**
KRER				S	**Sn**	**06 40 47.8**	**-3.4**
KOK	**Koryaka**	**0.79**	**343**	*i* P	**Pn**	**06 40 39.0**	**-0.1**
KOK				S	**Sn**	**06 40 48.5**	**-2.6**
SPN	**Mys Shipunski**	**0.82**	**47**	PN	**Pn**	**06 40 37.3**	**-2.1**
SPN	**Mys Shipunski**	**0.82**	**47**	*e*P	**Pn**	**06 40 37.3**	**-2.1**
KRX	**Arik**	**0.85**	**345**	*i* P	**Pn**	**06 40 39.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**0.99**	**306**	*e*Pn	**Pn**	**06 40 41.9**	**+0.5**
PEA0B				*e*Sn	**Sn**	**06 40 56.8**	**+1.7**
PETK	**Petropavlovsk-**	**0.99**	**306**	PN	**Pn**	**06 40 41.9**	**+0.5**
PETK	**Petropavlovsk-**	**0.99**	**306**	P	**Pn**	**06 40 41.9**	**+0.5**
PETK				S	**Sn**	**06 40 55.5**	**+0.3**
PETK	**Petropavlovsk-**	**0.99**	**306**	P	**Pn**	**06 40 41.9**	**+0.5**
	comp=N,1μm,0.3s,baz=106,slow=19,SNR=9075						
PETK				S	**Sn**	**06 40 55.5**	**+0.3**
	comp=N,550nm,0.3s,baz=118,slow=22,SNR=15						
PETK				LR	LR	06 41 05.1	
	comp=N,330nm,20.0s,baz=46,slow=51						
APC	**Apacha**	**1.20**	**290**	*i* P	**Pn**	**06 40 45.1**	**+1.1**
APC				*e*S	**Sn**	**06 40 58.6**	**-1.2**
GNL	**Ganaly**	**1.33**	**331**	*i* P	**Pn**	**06 40 46.6**	**+0.8**
GNL				S	**Sn**	**06 41 00.8**	**-2.2**
MIPR	**Malaya Ipel'ka**	**1.42**	**260**	*i* P	**Pn**	**06 40 47.8**	**+1.0**
MIPR				S	**Sn**	**06 41 03.1**	**-1.7**
KII	**Karymskiy**	**1.52**	**9**	*i* P	**Pn**	**06 40 49.0**	**+0.7**
KII				S	**Sn**	**06 41 05.7**	**-1.7**
PAU	**Pauzhetka**	**1.74**	**233**	PN	**Pn**	**06 40 51.4**	**+0.3**
PAU				S	**Sn**	**06 41 09.2**	**-3.2**
PAU	**Pauzhetka**	**1.74**	**233**	*i* P	**Pn**	**06 40 51.4**	**+0.3**
PAU				*e*S	**Sn**	**06 41 09.2**	**-3.2**
MKZ	**Mys Kozlova**	**2.59**	**37**	PN	**Pn**	**06 41 03.5**	**+1.1**
MKZ				S	**Sn**	**06 41 30.0**	**-2.8**
MKZ	**Mys Kozlova**	**2.59**	**37**	*e*P	**Pn**	**06 41 03.5**	**+1.1**
MKZ				*e*S	**Sn**	**06 41 30.0**	**-2.8**
SKR	**Severo-Kuril's**	**2.60**	**226**	*e*PN	Pn	06 40 56.5	-6.1
SKR				*i* S	Sn	06 41 25.5	-7.5
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.4s						
SKR				smax	smax		
	comp=E,1μm,0.4s						
SKR	**Severo-Kuril's**	**2.60**	**226**	*e*P	**Pn**	**06 41 03.2**	**+0.6**
SKR				*e*S	**Sn**	**06 41 31.3**	**-1.7**
KZV	**Kizimen**	**2.69**	**16**	*i* P	**Pn**	**06 41 05.6**	**+1.6**
KZV				S	**Sn**	**06 41 34.0**	**-1.5**
TUMR	**Tumrok**	**2.83**	**13**	*i* P	**Pn**	**06 41 08.1**	**+2.3**
TUMR				S	**Sn**	**06 41 38.5**	**-0.4**
**KMNR

ESO S **Sn** 06 41 50.4 -2.2
ESO Esso 3.40 357 *e*P **Pn** 06 41 15.0 +1.5
ESO S **Sn** 06 41 50.4 -2.2
KPT Kopyto 3.51 11 *e*P **Pn** 06 41 17.1 +2.1
KPT S **Sn** 06 41 53.8 -1.5
KIRR Kirishev 3.51 12 P **Pn** 06 41 17.3 +2.2
BZMR Bezymyannaya 3.51 14 *e*P **Pn** 06 41 17.6 +2.5
BZMR S **Sn** 06 41 54.8 -0.7
BZGR Bezymyannyi-Gr 3.55 15 *e*P **Pn** 06 41 18.1 +2.5
BZGR S **Sn** 06 41 56.2 -0.2
KOZ Kozyrevsk 3.56 8 *e*P **Pn** 06 41 17.7 +2.0
KOZ S **Sn** 06 41 55.0 -1.6
KOZR Kozyr 3.57 8 PN **Pn** 06 41 17.7 +1.8
KOZR S **Sn** 06 41 55.0 -1.8
SRDR Sredinnyy 3.81 6 *e*P **Pn** 06 41 21.2 +2.1
KLY Klyuchi 3.90 13 PN Pn 06 41 23.4 +3.1
KLY S **Sn** 06 42 04.8 0.0
KLY Klyuchi 3.90 13 *e*P Pn 06 41 23.4 +3.1
KLY *e*S **Sn** 06 42 04.8 0.0
BDR Baidarnaya 4.23 17 *e*P Pn 06 41 28.1 +3.2
BDR *e*S **Sn** 06 42 12.8 -0.3
KBTR Krutoberegovo 4.29 30 PN **Pn** 06 41 27.1 +1.5
KBTR Krutoberegovo 4.29 30 *e*P **Pn** 06 41 27.1 +1.5
KBTR *e*S **Sn** 06 42 10.8 -3.6
SMKR Semkarok 4.29 18 *e*P **Pn** 06 41 27.5 +1.8
SMKR *e*S **Sn** 06 42 11.4 -3.2
KBG Krutoberegovo 4.30 29 PN **Pn** 06 41 26.6 +0.9
KBG Krutoberegovo 4.30 29 P **Pn** 06 41 26.6 +0.9
KBG *e*S **Sn** 06 42 09.9 -4.6
SRKR Sorokina 4.31 16 *e*P **Pn** 06 41 28.7 +2.8
SRKR S **Sn** 06 42 14.6 -0.3
BKI Bering 4.90 54 PN **Pn** 06 41 32.4 -1.5
BKI Bering 4.90 54 *e*P **Pn** 06 41 32.3 -1.6
BKI *e*S Sn 06 42 20.9 -8.3
PALN Palana 6.59 4 P Pn 06 42 01.4 +4.5
OSSR Ossora 7.10 17 P **Pn** 06 42 05.1 +1.2
FX1 Attu Island--F 8.59 82 *e*Pn **Pn** 06 42 22.7 -1.7
FX1 *e*Sn Sn 06 43 48.5 -11
FX1 S Sn 06 43 50.1 -9.5
FX1 Attu Island--F 8.59 82 P **Pn** 06 42 21.8 -2.5
comp=E,24nm,0.3s,baz=316,slow=2.9,SNR=40
FX1 S Sn 06 43 50.1 -9.5
comp=E,51nm,0.3s,baz=292,slow=14,SNR=12
FX1 LR LR 06 46 21.8
comp=E,36nm,19.5s,baz=246,slow=41
TILK Tilichiki 8.85 24 P **Pn** 06 42 30.4 +2.7
SEY Seymchan 11.00 344 i*P*N **Pn** 06 42 57.5 +0.3
SEY Seymchan 11.00 344 P Pn 06 43 00.7 +3.6
SEY Seymchan 11.00 344 P Pn 06 43 00.7 +3.6
comp=E,0.1nm,0.3s,baz=162,slow=18,SNR=11
YSS Yuzh-Sakhalins 11.91 248 *e*PN Pn 06 43 13.0 +3.4
ASAJ Asahikawa 13.78 239 P **Pn** 06 43 34.7 0.0
ASAJ Asahikawa 13.78 239 P **Pn** 06 43 34.7 0.0
comp=E,1.7nm,0.3s,baz=64,slow=10,SNR=12
ASAJ LR LR 06 48 58.1
comp=E,83nm,18.1s,baz=144,slow=37
ERM Erimo 15.03 232 *e*P **P** 06 43 53.6 -1.1
YAK Yakutsk 18.33 313 *e*P **P** 06 44 30.2 -0.8
YAK pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 18.33 313 *e*P **P** 06 44 29.9 -1.1
comp=Z,22nm,0.4s
GAMB Gambell 18.90 42 *e*P **P** 06 44 36.9 -0.3
comp=Z,125nm,3.0s
USRK Ussuriysk Arra 19.71 256 P **P** 06 44 45.6 -0.7
comp=Z,0.2nm,0.3s,baz=36,slow=10.0,SNR=4.9
USRK LR LR 06 52 14.5
comp=Z,109nm,20.6s,baz=55,slow=36
MDJ Mudanjiang 20.91 260 P **P** 06 44 59.3 +0.1
MDJ pmax pmax
comp=Z,170nm,4.2s
TNA Tin City 21.09 39 *e*Pn **P** 06 45 01.5 +0.6
comp=Z,12nm,0.9s
MAJO Matsushiro 21.69 231 *e*P **P** 06 45 08.7 +1.1
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MAJO Matsushiro 21.69 231 *e*P **P** 06 45 08.7 +1.1
comp=Z,4.0nm,0.8s
MAT Matsushiro 21.69 231 P **P** 06 45 08.1 +0.5
MJAR Matsushiro Arr 21.69 231 P **P** 06 45 08.4 +0.8
MJAR Matsushiro Arr 21.69 231 P **P** 06 45 08.4 +0.8
comp=Z,12nm,0.9s,baz=24,slow=9.6,SNR=15
TIXI Tiksi 23.32 336 ⇓*i*P **P** 06 45 24.7 +0.5
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 23.32 336 *e*P **P** 06 45 22.2 -2.0
comp=Z,6.3nm,0.8s
CN2 Changchun 23.86 262 *e*P **P** 06 45 29.5 +0.2
CN2 *e*pP **pP** 06 45 47.5 +1.7
CN2 *e*S **S** 06 49 35.8 -4.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
HIA Hailar 24.78 278 *e*P **P** 06 45 37.3 -0.3
comp=Z,4.0nm,0.5s
KSRS Korea Array 26.41 248 P **P** 06 45 53.3 +0.9
comp=Z,2.1nm,0.6s,baz=47,slow=9.0,SNR=5.8
KSRS LR LR 06 55 17.8
comp=Z,50nm,21.4s,baz=64,slow=34
KSAR Wonju Array Be 26.44 248 P **P** 06 45 53.3 +0.6
IM04 Indian Mountai 26.83 42 *e*P **P** 06 45 56.2 +0.2
IM04 *e*PcP **PcP** 06 49 18.1 +1.5
MCK McKinley 28.80 47 *e*P **P** 06 46 13.4 -0.2
MCK pmax pmax
comp=Z,2.0nm,0.6s
MCK McKinley 28.80 47 *e*P **P** 06 46 13.4 -0.2
comp=Z,2.0nm,0.6s
COLA College 29.25 44 *e*P **P** 06 46 19.0 +1.5
COLA pmax pmax
comp=Z,19nm,1.0s
COLA College 29.25 44 *e*P **P** 06 46 17.6 +0.1
comp=Z,8.2nm,1.1s
ILAR Eielson Array 29.67 45 P **P** 06 46 20.8 -0.4
ILAR Eielson Array 29.67 45 P **P** 06 46 20.8 -0.4
comp=Z,3.6nm,0.9s,baz=264,slow=7.9,SNR=32
ILAR LR LR 06 58 10.4
comp=Z,30nm,21.1s,baz=264,slow=36
BJI Beijing 31.66 264 P **P** 06 46 38.4 -0.6
BJI pmax pmax
comp=Z,7.0nm,0.4s
EGAK Eagle 32.11 44 *e*P **P** 06 46 41.6 -1.2
comp=Z,52nm,1.9s
H11N2 WAKE ISLAND Hy 33.31 166 T T 07 21 58.6
baz=354,slow=77,SNR=212
H11N3 WAKE ISLAND Hy 33.33 166 T T 07 21 59.7
baz=354,slow=77,SNR=416
H11N1 WAKE ISLAND Hy 33.33 166 T T 07 21 59.8
baz=354,slow=77,SNR=182
SONM Songino Array 33.40 283 P **P** 06 46 54.5 +0.2
SONM PcP **PcP** 06 49 34.9 +0.8
SONM Songino Array 33.40 283 P **P** 06 46 54.5 +0.2
comp=Z,0.3nm,0.3s,baz=57,slow=8.8,SNR=4.3
SONM PcP **PcP** 06 49 34.9 +0.8
comp=Z,1.8nm,0.8s,baz=88,slow=2.0,SNR=12
SONM LR LR 07 01 44.8
comp=Z,150nm,18.8s,baz=24,slow=38
HHC Hu-ho-hao-te 33.99 269 *e*P **P** 06 46 58.1 -1.4
HHC pP **pP** 06 47 17.8 +1.0
HHC S **S** 06 52 17.6 -1.7
HHC ScS **ScS** 06 57 16.6 +0.4
HHC pmax pmax
comp=Z,180nm,3.6s
HHC LR LR
comp=Z,210nm,12.8s
HHC LR LR
comp=Z,280nm,14.9s
H11S1 WAKE ISLAND Hy 34.49 167 T T 07 23 30.9
baz=353,SNR=144
H11S3 WAKE ISLAND Hy 34.50 167 T T 07 23 31.8
baz=353,SNR=191
H11S2 WAKE ISLAND Hy 34.51 167 T T 07 23 30.1
baz=353,SNR=96
INK Inuvik 34.70 37 P **P** 06 47 05.6 +0.4
comp=Z,1.8nm,0.8s
INK *e*PcP **PcP** 06 49 38.5 +1.3
INK Inuvik 34.70 37 P **P** 06 47 05.6 +0.4
comp=Z,3.7nm,0.8s,baz=290,slow=6.2,SNR=13
LZH Lanzhou 41.69 269 *e*P **P** 06 48 05.5 +1.1
LZH pP **pP** 06 48 24.1 +2.0
LZH *e*P **sP** 06 48 32.4 +2.0
GTA Gaotai 42.02 276 *e*P **P** 06 48 07.3 +0.2
GTA pP **pP** 06 48 25.6 +0.8
GTA sP **sP** 06 48 34.6 +1.5

GTA pmax pmax
comp=Z,2.0nm,1.0s
ZALV Zalesovo Beam 42.53 303 P **P** 06 48 10.2 -0.7
ZALV 06 50 02.0
ZALV Zalesovo Beam 42.53 303 P **P** 06 48 10.2 -0.7
ZALV PcP **PcP** 06 50 01.9 -0.1
ZALV Zalesovo Beam 42.53 303 P **P** 06 48 10.2 -0.7
comp=Z,0.5nm,0.4s,baz=53,slow=7.4,SNR=3.0
ZALV PcP **PcP** 06 50 01.9 -0.1
comp=Z,0.7nm,0.5s,baz=77,slow=1.8,SNR=4.3
NVS Novosibirsk 42.90 305 *e*P **P** 06 48 11.8 -2.0
YKA Yellowknife Ar 44.01 42 P **P** 06 48 23.1 +0.5
YKA Yellowknife Ar 44.01 42 P **P** 06 48 23.1 +0.5
comp=Z,2.0nm,0.8s,baz=297,slow=7.9,SNR=26
CD2 Chengdu 45.27 264 *e*P **P** 06 48 32.5 -0.6
CD2 PP **PP** 06 50 19.3 -0.7
CD2 S **S** 06 55 05.3 -2.7
CD2 SS **ScS** 06 58 19.3 -3.4
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,80nm,5.2s
WMQ Urumqi 46.54 289 P **P** 06 48 43.9 +0.9
WMQ S **S** 06 55 24.4 -1.7
GYA Guiyang 46.75 257 *e*P **P** 06 48 45.5 +0.7
GYA pP **pP** 06 49 04.8 +1.9
GYA sP **sP** 06 49 15.0 +3.9
GYA PP **PP** 06 50 34.5 -1.0
GYA S **S** 06 55 27.5 -1.9
GYA SS SS 06 58 47.4 -8.9
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA LR LR
comp=Z,480nm,18.2s
GYA LR LR
comp=Z,370nm,19.4s
GYA LR LR
comp=Z,420nm,18.8s
KURK Kurchatov 47.48 302 P **P** 06 48 49.6 -0.5
KURK 06 50 19.4
KURK Kurchatov 47.48 302 P **P** 06 48 49.6 -0.5
comp=Z,0.3nm,0.6s
KURK PcP **PcP** 06 50 19.4 +0.2
KURBB Kurchatov Arra 47.58 302 P **P** 06 48 49.6 -1.3
comp=Z,2.3nm,0.8s,baz=60,slow=7.6,SNR=17
KURBB PcP **PcP** 06 50 19.4 -0.2
comp=Z,1.3nm,0.8s,baz=58,slow=3.3,SNR=5.9
MK31 Makanchi Array 47.81 296 *e*P **P** 06 48 51.2 -1.6
MK31 *e**PP **pP** 06 49 11.0 +0.1
MK31 Makanchi Array 47.81 296 *e*P **P** 06 48 51.2 -1.6
MK31 *e*pP **pP** 06 49 11.0 +0.1
MKAR Makanchi Array 47.81 296 *e*P **P** 06 48 51.4 -1.4
MKAR Makanchi Array 47.81 296 *e*P **P** 06 48 51.4 -1.4
MKAR Makanchi Array 47.81 296 P **P** 06 48 51.0 -1.7
comp=Z,0.8nm,0.6s,baz=57,slow=6.4,SNR=22
MKAR LR LR 07 09 43.1
comp=Z,72nm,18.4s,baz=16,slow=37
EDM Edmonton 49.62 52 *e*P **P** 06 49 07.1 +0.6
EDM Edmonton 49.62 52 *e*P **P** 06 49 07.1 +0.6
BVAR Borovoye Array 50.23 308 LR LR 07 12 48.5
comp=Z,74nm,18.5s,baz=67,slow=39
BRVK Borovoye 50.26 308 *e*P **P** 06 49 10.0 -1.3
BRVK *e**PP **pP** 06 49 27.5 -2.0
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 50.26 308 *e*P **P** 06 49 10.0 -1.3
comp=Z,1.8nm,0.5s
BRVK *e*pP **pP** 06 49 27.5 -2.0
QIZ Qiongzhong 50.63 248 P **P** 06 49 14.1 -0.4
QIZ S **S** 06 56 25.3 +1.4
QIZ pmax pmax
comp=Z,36nm,2.2s
QIZ pmax pmax
comp=Z,150nm,3.6s
BSMT Bassoo Peak 52.22 58 *e*P **P** 06 49 27.5 +1.2
JTMT Jette 52.55 58 *e*P **P** 06 49 29.6 +0.8
SLMT Seeley Lake 53.28 58 *e*P **P** 06 49 34.9 +0.8
ARCES ARCESS Array B 53.61 342 P **P** 06 49 34.7 -1.3
ARCES PcP **PcP** 06 50 41.2 -0.3
ARCES ARCESS Array B 53.61 342 P **P** 06 49 34.7 -1.3
comp=Z,1.3nm,0.6s,baz=45,slow=7.7,SNR=11
ARCES PcP **PcP** 06 50 41.3 -0.3
comp=Z,1.3nm,0.7s,baz=34,slow=3.1,SNR=3.7
ARCES LR LR 07 15 59.0
comp=Z,32nm,18.9s,baz=332,slow=40
HRY Holter Researc 54.49 58 *e*P **P** 06 49 43.4 +0.5
SUMG Summit 54.59 6 *i*P **P** 06 49 44.2 +0.7
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 54.59 6 *i*P **P** 06 49 44.2 +0.7
comp=Z,9.9nm,0.8s
SUMG Summit 54.59 6 *e*P **P** 06 49 44.0 +0.4
comp=Z,21nm,1.2s
AAK Ala-Archa 54.74 296 *ce*P **P** 06 49 44.8 0.0
AAK pmax pmax
comp=Z,5.0nm,1.2s
AAK Ala-Archa 54.74 296 *e*P **P** 06 49 44.0 -0.9
comp=Z,0.6nm,0.5s
EKS2 Erkin-Say 55.12 296 *e*P **P** 06 49 46.1 -1.4
EKS2 *e* 06 50 49.1
EKS2 pmax pmax
comp=Z,1.0nm,0.8s
EKS2 Erkin-Say 55.12 296 *e*P **P** 06 49 46.1 -1.4
comp=Z,1.4nm,0.8s
EKS2 *e*PcP **PcP** 06 50 49.1 +1.2
WAKR Walker 55.84 70 *e*P **P** 06 49 54.1 +1.3
comp=Z,9.4nm,1.3s
NVAR Mina Array Bea 56.54 69 P **P** 06 49 59.2 +1.4
NVAR Mina Array Bea 56.54 69 P **P** 06 49 59.2 +1.4
comp=Z,1.5nm,0.6s,baz=296,slow=7.8,SNR=9.8
H17A Grant Village 56.70 59 *e*P **P** 06 49 59.5 +0.5
comp=Z,4.6nm,0.9s
IMW Indian Meadow 56.85 60 *e*P **P** 06 50 01.9 +1.9
comp=Z,43nm,2.5s
FXWY Fox Creek 56.98 60 *e*P **P** 06 50 02.6 +1.7
comp=Z,59nm,2.9s
MOOW Moose Ponds 57.05 60 *e*P **P** 06 50 02.6 +1.2
comp=Z,25nm,2.5s
LOHW Long Hollow 57.22 60 *e*P **P** 06 50 04.4 +1.9
comp=Z,3.7nm,1.0s
SCO Scoresbysund 57.28 0 *e*P P 06 50 05.9 +3.6
SCO pmax pmax
comp=Z,2.0nm,0.9s
SCO Scoresbysund 57.28 0 *i*P P 06 50 05.9 +3.6
comp=Z,2.4nm,0.9s
LAO LASA Array 57.35 55 *e*P **P** 06 50 04.0 +0.8
comp=Z,48nm,2.0s
CMAR Chiang Mai Arr 57.43 257 P **P** 06 50 03.4 -0.6
CMAR Chiang Mai Arr 57.43 257 P **P** 06 50 03.4 -0.6
comp=Z,1.3nm,0.3s,baz=36,slow=6.3,SNR=4.1
CMAR LR LR 07 18 28.0
comp=Z,18nm,18.5s,baz=30,slow=40
ABKAR Akbulak array 57.66 310 *e*P **P** 06 50 03.9 -1.3
comp=Z,0.7nm,0.5s
ABKAR *e*PcP **PcP** 06 50 57.3 -0.3
AKTO Aktyubinsk 57.72 312 P **P** 06 50 03.7 -2.0
AKTO Aktyubinsk 57.72 312 P **P** 06 50 03.6 -2.0
AKTO Aktyubinsk 57.72 312 P **P** 06 50 03.6 -2.0
comp=Z,0.8nm,0.5s,baz=72,slow=15,SNR=4.1
AKTO LR LR 07 18 03.8
comp=Z,66nm,19.3s,baz=50,slow=39
JOF Joensuu 57.80 335 *e*P **P** 06 50 05.1 -0.9
JOF Joensuu 57.80 335 *ep* **P** 06 50 05.1 -0.9
PDAR Pinedale Array 58.36 60 P **P** 06 50 11.9 +1.3
PDAR Pinedale Array 58.36 60 P **P** 06 50 11.9 +1.3
comp=Z,5.6nm,0.9s,baz=318,slow=2.5,SNR=37
MWC Mount Wilson 59.62 72 *e*P **P** 06 50 21.8 +2.4
MWC pmax pmax
comp=Z,57nm,1.3s
MWC Mount Wilson 59.62 72 *e*P **P** 06 50 21.8 +2.4
comp=Z,57nm,1.3s
ULM Lac du Bonnet 59.67 46 P **P** 06 50 19.3 +0.1
ULM Lac du Bonnet 59.67 46 P **P** 06 50 19.3 +0.1
comp=Z,1.2nm,0.3s,baz=317,slow=6.4,SNR=4.7
TMUT Trail Mountain 59.91 64 *e*P **P** 06 50 22.9 +1.5
comp=Z,382nm,1.2s
RSSD Black Hills 60.25 55 *e*P **P** 06 50 24.6 +1.0
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 60.25 55 *e*P **P** 06 50 24.6 +1.0
comp=Z,3.4nm,0.6s
FINES FINESS Array B 60.37 336 P **P** 06 50 23.2 -0.5
FINES FINESS Array B 60.37 336 P **P** 06 50 23.2 -0.5
comp=Z,1.3nm,0.5s,baz=41,slow=7.4,SNR=13
SRU San Rafael 60.41 63 *e*P **P** 06 50 26.6 +1.9

SRU pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael 60.41 63 *e*P **P** 06 50 26.6 +1.9
comp=Z,6.6nm,1.0s
HNR Honiara 61.73 179 LR LR 07 13 38.7
comp=Z,26nm,19.6s,baz=5.5,slow=32
PV04 Paradox Valley 61.81 63 *e*P **P** 06 50 35.8 +1.6
SMCO Snowmass 62.29 61 *e*P **P** 06 50 38.8 +1.2
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 62.56 60 *e*P **P** 06 50 41.2 +1.9
ISCO pmax pmax
comp=Z,68nm,2.7s
ISCO Idaho Springs 62.56 60 *e*P **P** 06 50 41.2 +1.9
comp=Z,68nm,2.7s
NB2 NORSAR Subarra 63.89 343 P **P** 06 50 47.0 -0.4
comp=Z,1.0nm,0.6s,baz=25,slow=6.9
NOA NORSAR Array B 63.89 343 P **P** 06 50 47.1 -0.3
NOA NORSAR Array B 63.89 343 P **P** 06 50 47.1 -0.3
comp=Z,1.2nm,0.5s,baz=24,slow=6.8,SNR=11
NOA LR LR 07 20 53.8
comp=Z,18nm,18.3s,baz=20,slow=38
ECSD EROS Data Cent 64.17 51 *e*P **P** 06 50 49.8 +0.3
comp=Z,7.6nm,0.9s
ANMO Albuquerque 65.67 64 *e*P **P** 06 51 00.9 +1.3
comp=Z,37nm,2.8s
ANMO Albuquerque 65.67 64 P **P** 06 51 01.1 +1.5
comp=Z,2.1nm,0.9s,baz=317,slow=6.1,SNR=11
SCIA State Center 67.18 50 *e*P **P** 06 51 09.2 +0.3
comp=Z,29nm,0.6s
MSTX Muleshoe 68.41 62 *e*P **P** 06 51 17.2 +0.3
comp=Z,11nm,1.1s
AKASG Malin Array Be 68.75 328 P **P** 06 51 17.8 -0.8
AKASG Malin Array Be 68.75 328 P **P** 06 51 17.8 -0.8
AKASG Malin Array Be 68.75 328 P **P** 06 51 17.8 -0.8
comp=Z,3.4nm,0.6s,baz=32,slow=6.1,SNR=13
AKASG LR LR 07 24 44.5
comp=Z,65nm,18.3s,baz=320,slow=39
AK01 Malin Array Si 68.77 328 *e*P **P** 06 51 17.8 -0.8
AK02 Malin Array Si 68.80 328 *e*P **P** 06 51 17.9 -1.0
GDL2 Guadalupe Moun 68.88 65 *e*P **P** 06 51 20.0 +0.2
comp=Z,0.9nm,0.2s
KBZ Khabaz 69.49 316 LR LR 07 26 46.9
comp=Z,47nm,18.2s,baz=354,slow=40
WMOK Wichita Mounta 69.95 59 *e*P **P** 06 51 26.9 +0.6
WMOK pmax pmax
comp=Z,30nm,1.8s
WMOK Wichita Mounta 69.95 59 *e*P **P** 06 51 26.9 +0.6
comp=Z,30nm,1.8s
PSI Prapat 69.97 247 LR LR 07 23 52.9
comp=Z,37nm,18.3s,baz=12,slow=37
TXAR Lajitas Array 71.45 66 P **P** 06 51 36.8 +1.2
TXAR Lajitas Array 71.45 66 P **P** 06 51 36.8 +1.2
comp=Z,3.6nm,0.6s,baz=298,slow=4.4,SNR=60
GNI Garni 71.58 313 LR LR 07 26 12.6
comp=Z,27nm,18.3s,baz=280,slow=38
NRDL Niedersach Rie 72.14 341 *e*P **P** 06 51 39.7 +0.6
comp=Z,9.0nm,1.0s
CLL Collm 72.64 338 ⇓*i*P **P** 06 51 42.5 +0.3
CLL *e* 06 51 52.0
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 72.64 338 *e*P **P** 06 51 42.2 0.0
comp=Z,11nm,1.1s
CLL Collm 72.64 338 ⇓*i*P **P** 06 51 42.5 +0.3
comp=Z,11nm,1.1s
CLL *e*sP **sP** 06 52 10.0 +0.6
CLZ Clausthal 72.70 340 *e*P **P** 06 51 43.5 +0.9
comp=Z,11nm,0.9s
BUR08 Bucovina Ar. S 72.71 329 *e*P **P** 06 51 42.8 0.0
BURAR Bucovina Array 72.73 329 ⇓*i*P **P** 06 51 43.0 +0.1
DPC Dobruska-Polom 72.74 336 *e*P **P** 06 51 43.3 +0.4
DPC Dobruska-Polom 72.74 336 *e*P **P** 06 51 43.3 +0.4
IBBN Ibbenburen 72.78 342 *e*P **P** 06 51 43.9 +0.9
comp=Z,19nm,0.6s
MORC Moravsky Berou 72.96 335 ⇓*i*P **P** 06 51 41.8 -2.4
TRPA Tarpa 73.08 331 ⇓*i*P **P** 06 51 45.1 +0.3
WTSB Winterswijk 73.28 342 *e*P **P** 06 51 46.6 +0.7
comp=Z,12nm,0.6s
PRU Pruhonice 73.51 337 *e*P **P** 06 51 47.2 -0.1
PRU Pruhonice 73.51 337 *e*P **P** 06 51 47.2 -0.1
NKC Novy Kostel 73.77 338 *e*P **P** 06 51 49.4 +0.5
NKC Novy Kostel 73.77 338 *e*P **P** 06 51 49.4 +0.5
CFR Cerkasiu 73.92 326 ⇑*i*P **P** 06 51 49.8 0.0
TREC Trest 73.93 336 *e*P **P** 06 51 46.8 -3.0
PSZ Piszkesteto 74.03 333 ⇑*i*P **P** 06 51 49.5 -1.0
ROTZ Rotzenmuhle 74.26 338 *e*P **P** 06 51 52.7 +1.0
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 74.38 328 ⇓*i*P **P** 06 51 53.5 +0.8
KHC Kasperske Hory 74.54 337 *e*P **P** 06 51 54.0 +0.6
KHC Kasperske Hory 74.54 337 *e*P **P** 06 51 54.0 +0.6
GRF Grafenberg Arr 74.55 339 *e*P **P** 06 51 54.2 +0.8
comp=Z,15nm,1.0s
HGN Heimansgroeve 74.59 343 *e*P **P** 06 51 54.0 +0.4
comp=Z,11nm,0.9s
TNS Taunus Mts 74.63 341 *e*P **P** 06 51 55.0 +1.1
comp=Z,7.0nm,0.7s
MEM Membach 74.73 343 P **P** 06 51 55.4 +1.0
comp=Z,18nm,1.1s
MEM Membach 74.73 343 *e*P **P** 06 51 54.7 +0.3
MEM pmax pmax
comp=Z,26nm,0.8s
MEM Membach 74.73 343 *e*P **P** 06 51 54.7 +0.3
comp=Z,26nm,0.8s
GERES GERESS Array B 74.78 337 P **P** 06 51 55.1 +0.3
GERES GERESS Array B 74.78 337 P **P** 06 51 55.1 +0.3
comp=Z,1.6nm,0.6s,baz=37,slow=5.4,SNR=14
GERES LR LR 07 29 58.1
comp=Z,47nm,18.6s,baz=38,slow=40
ARR Arges 74.91 329 ⇑*i*P **P** 06 51 56.2 +0.5
BCLA Clavier 75.04 343 P **P** 06 51 56.9 +0.7
WRAB Tennant Creek 75.30 204 *ce*P **P** 06 51 59.7 +1.8
WRAB pmax pmax
comp=Z,37nm,2.5s
WRAB Tennant Creek 75.30 204 *e*P **P** 06 51 58.7 +0.8
comp=Z,4.2nm,0.7s
WRA Warramunga Arr 75.31 204 P **P** 06 51 58.7 +0.7
WRA Warramunga Arr 75.31 204 P **P** 06 51 58.7 +0.7
comp=Z,5.2nm,0.8s,baz=18,slow=5.9,SNR=29
GIVF Givet 75.43 343 *e*P **P** 06 51 58.9 +0.5
GIVF Givet 75.43 343 *e*P **P** 06 51 58.9 +0.5
GIVF Givet 75.43 343 *e*P **P** 06 51 58.9 +0.5
DOU Dourbes 75.47 343 P **P** 06 51 59.2 +0.5
BAIF Baives 75.58 344 *e*P **P** 06 52 00.0 +0.7
comp=Z,25nm,1.0s
BAIF Baives 75.58 344 *e*P **P** 06 52 00.0 +0.7
BAIF pmax pmax
comp=Z,25nm,1.0s
BAIF Baives 75.58 344 *e*P **P** 06 52 00.0 +0.7
comp=Z,25nm,1.0s
BZS Buzias 75.62 331 ⇓*i*P **P** 06 51 59.2 -0.4
SWET Sewanee 75.94 50 *e*P **P** 06 52 01.8 +0.1
comp=Z,6.0nm,0.7s
SDMD Soldier's Deli 76.40 41 *e*P **P** 06 52 03.4 -0.7
comp=Z,17nm,0.4s
BFO Black Forest 76.45 340 *ce*P **P** 06 52 05.7 +1.3
KBA Koelnbreinsper 76.52 337 ⇑*i*P **P** 06 52 06.1 +1.2
comp=Z,27nm,0.9s
TKL Tuckaleechee C 76.58 48 LR LR 07 26 44.9
comp=Z,30nm,20.7s,baz=354,slow=36
CDF Champ du Feu 76.59 341 ⇑*i*P **P** 06 52 05.7 +0.5
comp=Z,22nm,0.8s
CDF Champ du Feu 76.59 341 ⇑*i*P **P** 06 52 05.7 +0.5
CDF pmax pmax
comp=Z,22nm,0.8s
CDF Champ du Feu 76.59 341 ⇑*i*P **P** 06 52 05.7 +0.5
comp=Z,22nm,0.8s
BRTR Keskin Array B 76.63 320 P **P** 06 52 05.5 -0.1
BRTR Keskin Array B 76.63 320 P **P** 06 52 05.5 -0.1
comp=Z,0.9nm,0.6s,baz=26,slow=2.7,SNR=4.6
BRTR LR LR 07 32 26.3
comp=Z,20nm,18.7s,baz=264,slow=41
PAGF Fort de Pagny 76.75 342 ⇑*i*P **P** 06 52 07.0 +1.0
comp=Z,7.8nm,0.6s
PAGF Fort de Pagny 76.75 342 ⇑*i*P **P** 06 52 07.0 +1.0
comp=Z,7.8nm,0.6s
MOTA Moosalm 76.79 338 ⇑*i*P **P** 06 52 07.3 +0.9
comp=Z,9.2nm,0.9s
ECH Echery 76.80 341 *e*P **P** 06 52 05.2 -1.1
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 76.80 341 *e*P **P** 06 52 05.1 -1.2
ECH Echery 76.80 341 *e*P **P** 06 52 05.2 -1.2
comp=Z,5.6nm,0.8s
THEF They Montfort 77.02 342 *e*P **P** 06 52 07.6 +0.1
DAVA Damuels 77.12 339 ⇑*i*P **P** 06 52 08.6 +0.3
comp=Z,8.4nm,0.8s

MOF	Molkenrain	77.15 341	eP	P	06 52 08.5	+0.1
HAU	Haudompre	77.16 342⇑	iP	P	06 52 08.8	+0.5
	comp=Z,13nm,0.6s					
HAU	Haudompre	77.16 342⇑	iP	P	06 52 08.8	+0.5
HAU			pmax	pmax		
	comp=Z,13nm,0.6s					
HAU	Haudompre	77.16 342⇑	iP	P	06 52 08.8	+0.5
	comp=Z,13nm,0.6s					
PALK	Pallekele	77.16 265	eP	P	06 52 09.1	+0.3
	comp=Z,7.7nm,0.7s					
FETA	Feichten	77.18 338⇑	iP	P	06 52 09.6	+1.0
	comp=Z,7.3nm,0.7s					
SFTF	Sexfontaines	77.22 342⇑	iP	P	06 52 09.3	+0.7
	comp=Z,32nm,0.5s					
SFTF	Sexfontaines	77.22 342⇑	iP	P	06 52 09.3	+0.7
	comp=Z,32nm,0.5s					
HINF	Hinteralfeld	77.24 341⇑	iP	P	06 52 09.0	+0.2
	comp=Z,5.1nm,0.5s					
HINF	Hinteralfeld	77.24 341⇑	iP	P	06 52 09.0	+0.2
HINF			pmax	pmax		
	comp=Z,5.0nm,0.5s					
HINF	Hinteralfeld	77.24 341⇑	iP	P	06 52 09.0	+0.2
	comp=Z,5.1nm,0.5s					
FLN	La Foliniere	77.58 346	eP	P	06 52 11.5	+0.9
FLN	La Foliniere	77.58 346	eP	P	06 52 11.5	+0.9
FLN	La Foliniere	77.58 346	eP	P	06 52 11.5	+0.9
FUORN	Ofenpass-Fuorn	77.66 339	eP	P	06 52 12.6	+1.1
	comp=Z,6.6nm,0.8s					
LDF	La Druitiere	77.69 346	eP	P	06 52 12.5	+1.2
LDF	La Druitiere	77.69 346	eP	P	06 52 12.5	+1.2
LDF	La Druitiere	77.69 346	eP	P	06 52 12.5	+1.2
VTS	Vitosha	77.85 328⇑	iP	P	06 52 12.5	0.0
TUE	Stuetta	78.01 339	eP	P	06 52 14.3	+1.0
	comp=Z,12nm,0.8s					
LOR	Lormes	78.33 343⇑	iP	P	06 52 15.4	+0.6
	comp=Z,14nm,0.7s					
LOR	Lormes	78.33 343⇑	iP	P	06 52 15.4	+0.6
	comp=Z,14nm,0.7s					
SGMF	Saint Gilles	78.37 348	eP	P	06 52 16.4	+1.4
SGMF	Saint Gilles	78.37 348	eP	P	06 52 16.4	+1.4
SGMF	Saint Gilles	78.37 348	eP	P	06 52 16.4	+1.4
ROSF	Rostrenen	78.38 348	eP	P	06 52 16.5	+1.5
ROSF	Rostrenen	78.38 348	eP	P	06 52 16.5	+1.5
ROSF	Rostrenen	78.38 348	eP	P	06 52 16.5	+1.5
HYF	Humbligny	78.54 344	eP	P	06 52 17.1	+1.1
HYF	Humbligny	78.54 344	eP	P	06 52 17.1	+1.1
CABF	La Chapelle	78.55 341⇑	iP	P	06 52 17.0	+0.9
	comp=Z,17nm,0.8s					
CABF	La Chapelle	78.55 341⇑	iP	P	06 52 17.0	+0.9
CABF			pmax	pmax		
	comp=Z,17nm,0.8s					
CABF	La Chapelle	78.55 341⇑	iP	P	06 52 17.0	+0.9
	comp=Z,17nm,0.8s					
SSF	Saint Saulge	78.59 343⇑	iP	P	06 52 16.9	+0.6
	comp=Z,12nm,0.8s					
SSF	Saint Saulge	78.59 343⇑	iP	P	06 52 16.9	+0.6
SSF			pmax	pmax		
	comp=Z,13nm,0.8s					
SSF	Saint Saulge	78.59 343⇑	iP	P	06 52 16.9	+0.6
	comp=Z,12nm,0.8s					
AVF	Avril sur Loir	78.88 343	eP	P	06 52 18.6	+0.8
	comp=Z,13nm,0.6s					
AVF	Avril sur Loir	78.88 343	eP	P	06 52 18.6	+0.8
AVF			pmax	pmax		
	comp=Z,13nm,0.6s					
AVF	Avril sur Loir	78.88 343	eP	P	06 52 18.6	+0.8
	comp=Z,13nm,0.6s					
SMF	Signal de Mont	78.94 343⇑	iP	P	06 52 18.8	+0.6
	comp=Z,15nm,0.8s					
SMF	Signal de Mont	78.94 343⇑	iP	P	06 52 18.8	+0.6
SMF			pmax	pmax		
	comp=Z,15nm,0.8s					
SMF	Signal de Mont	78.94 343⇑	iP	P	06 52 18.8	+0.6
	comp=Z,15nm,0.8s					
AS31	Alice Springs	78.99 203	eP	P	06 52 19.9	+1.3
ASAR	Alice Springs	78.99 203	P	P	06 52 19.9	+1.4
ASAR	Alice Springs	78.99 203	P	P	06 52 19.9	+1.4
	comp=Z,3.4nm,0.6s,baz=13,slow=5.5,SNR=60					
BGF	Bois d'Agland	79.20 344	eP	P	06 52 21.4	+1.8
BGF	Bois d'Agland	79.20 344	eP	P	06 52 21.4	+1.8
BGF	Bois d'Agland	79.20 344	eP	P	06 52 21.4	+1.8
LPL	La Plagne	79.47 341⇑	iP	P	06 52 22.7	+1.3
	comp=Z,19nm,0.7s					
LPL	La Plagne	79.47 341⇑	iP	P	06 52 22.7	+1.3
LPL			pmax	pmax		
	comp=Z,19nm,0.7s					
LPL	La Plagne	79.47 341⇑	iP	P	06 52 22.7	+1.3
	comp=Z,19nm,0.7s					
LPG	La Plagne	79.48 341⇑	iP	P	06 52 23.0	+1.5
	comp=Z,26nm,0.9s					
LPG	La Plagne	79.48 341⇑	iP	P	06 52 23.0	+1.5
LPG			pmax	pmax		
	comp=Z,26nm,0.9s					
LPG	La Plagne	79.48 341⇑	iP	P	06 52 23.0	+1.5
	comp=Z,26nm,0.9s					
TCF	Toulx Ste Croi	79.57 344	eP	P	06 52 22.6	+1.0
	comp=Z,32nm,1.1s					
TCF	Toulx Ste Croi	79.57 344	eP	P	06 52 22.6	+1.0
TCF			pmax	pmax		
	comp=Z,32nm,1.1s					
TCF	Toulx Ste Croi	79.57 344	eP	P	06 52 22.6	+1.0
	comp=Z,32nm,1.1s					
PLDF	La Plantade	79.63 343	eP	P	06 52 14.1	-7.9
AGO	Saint Agoulin	79.64 343	eP	P	06 52 14.1	-7.9
MFF	Saint Martin d	79.64 346	eP	P	06 52 23.1	+1.1
MFF	Saint Martin d	79.64 346	eP	P	06 52 23.1	+1.1
MFF	Saint Martin d	79.64 346	eP	P	06 52 23.1	+1.1
PYM	Petit Puy Mans	79.95 343	eP	P	06 52 16.6	-7.2
ORIF	Oris-en-Rattie	80.21 341⇑	iP	P	06 52 26.7	+1.5
	comp=Z,17nm,0.8s					
ORIF	Oris-en-Rattie	80.21 341⇑	iP	P	06 52 26.7	+1.5
ORIF			pmax	pmax		
	comp=Z,17nm,0.8s					
ORIF	Oris-en-Rattie	80.21 341⇑	iP	P	06 52 26.7	+1.5
	comp=Z,17nm,0.8s					
LBL	Lubilhac	80.41 343	eP	P	06 52 17.1	-9.2
VIVF	Saint-Julien-l	80.51 342	eP	P	06 52 28.0	+1.3
	comp=Z,22nm,0.8s					
VIVF	Saint-Julien-l	80.51 342	eP	P	06 52 28.0	+1.3
VIVF			pmax	pmax		
	comp=Z,22nm,0.8s					
VIVF	Saint-Julien-l	80.51 342	eP	P	06 52 28.0	+1.3
	comp=Z,22nm,0.8s					
CAF	Calviac	80.91 344	eP	P	06 52 30.4	+1.5
CAF	Calviac	80.91 344	eP	P	06 52 30.4	+1.5
CAF	Calviac	80.91 344	eP	P	06 52 30.4	+1.5
MBWA	Marble Bar	80.96 217	eP	P	06 52 29.9	+0.7
	comp=Z,26nm,1.4s					
LFF	La Frestale	81.12 345	eP	P	06 52 31.4	+1.5
LFF	La Frestale	81.12 345	eP	P	06 52 31.4	+1.5
LFF	La Frestale	81.12 345	eP	P	06 52 31.4	+1.5
PGF	Pioggiola	81.81 338	eP	P	06 52 34.7	+0.9
PGF	Pioggiola	81.81 338	eP	P	06 52 34.7	+0.9
PGF	Pioggiola	81.81 338	eP	P	06 52 34.7	+0.9
PPT	Papeete	82.76 131	LR	LR	07 20 20.4	
	comp=Z,45nm,21.4s,baz=14,slow=29					
SJPF	Ste Jean	83.21 346	eP	P	06 52 42.6	+1.7
SJPF	Ste Jean	83.21 346	eP	P	06 52 42.6	+1.7
SJPF	Ste Jean	83.21 346	eP	P	06 52 42.6	+1.7
ETSF	Etsaut	83.32 345	eP	P	06 52 43.1	+1.5
	comp=Z,4.1nm,0.5s					
ETSF	Etsaut	83.32 345	eP	P	06 52 43.1	+1.5
ETSF			pmax	pmax		
	comp=Z,4.0nm,0.5s					
ETSF	Etsaut	83.32 345	eP	P	06 52 43.1	+1.5
	comp=Z,4.1nm,0.5s					
STKA	Stephens Creek	85.43 195	P	P	06 52 52.7	+0.8
STKA	Stephens Creek	85.43 195	P	P	06 52 52.7	+0.8
	comp=Z,1.2nm,0.7s,baz=345,slow=11,SNR=3.6					
ESDC	Sonseca Array	86.98 347	P	P	06 52 58.8	-1.1
ESDC	Sonseca Array	86.98 347	P	P	06 52 58.8	-1.1
	comp=Z,0.3nm,0.3s,baz=358,slow=4.4,SNR=3.4					
ESDC			LR	LR	07 37 11.8	
	comp=Z,23nm,18.0s,baz=205,slow=39					
KEST	Kesra	88.20 336	P	P	06 53 06.3	+0.5
KEST	Kesra	88.20 336	P	P	06 53 06.3	+0.5
	comp=Z,3.0nm,1.1s,baz=313,slow=1.1,SNR=3.2					
TORD	Torodi Ar. Bea	111.72 336	PKiKP	PKiKP	06 58 49.6	+0.3
TORD	Torodi Ar. Bea	111.72 336	PKiKP	PKiKP	06 58 49.6	+0.3
	comp=Z,0.7nm,0.8s,baz=9.6,slow=1.8,SNR=4.8					
DBIC	Dimbokro	119.44 342	PKP	PKPdf	06 59 04.2	0.0
DBIC	Dimbokro	119.44 342	PKP	PKPdf	06 59 04.2	0.0
	comp=Z,3.6nm,0.8s,baz=348,slow=1.2,SNR=5.5					
H03N2	Juan Fernandez	134.85 89	T	T	09 29 46.1	
	baz=312,slow=75,SNR=115					
H03N1	Juan Fernandez	134.86 89	T	T	09 29 47.3	
	baz=312,slow=75,SNR=105					
H03N3	Juan Fernandez	134.86 89	T	T	09 29 43.1	
	baz=312,slow=75,SNR=124					
PLCA	Paso Flores	144.65 91	PKP	PKPdf	06 59 50.1	-0.4
PLCA	Paso Flores	144.65 91	PKP	PKPdf	06 59 50.1	-0.4
	comp=Z,5.1nm,0.8s,baz=306,slow=4.7,SNR=15					

IDC 14 06:53:27.3±1.6, 4°.49N×125°.20E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=194.9km s-min=19.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.89	160	P	P	06 59 01.1	-0.1
	0.4nm,0.3s,baz=339,slow=9.8,SNR=14						
ASAR	Alice Springs	29.25	164	P	P	06 59 31.1	-0.2
	0.2nm,0.6s,baz=347,slow=6.9,SNR=3.4						
STKA	Stephens Creek	39.39	158	P	P	07 00 59.1	+0.1
	0.8nm,0.3s,baz=346,slow=8.3,SNR=5.4						
MKAR	Makanchi Array	56.07	326	P	P	07 03 08.8	+0.5
	0.4nm,0.4s,baz=121,slow=7.8,SNR=19						
KURBB	Kurchatov Arra	60.28	328	P	P	07 03 36.8	-0.9
	0.4nm,0.6s,baz=130,slow=6.0,SNR=4.9						

IDC 14 07:08:06.0±0.7, 18°.66N×72°.42W, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.8/27, mbtmp3.8/12, ML3.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/28, Error ellipse: s-maj=22.4km s-min=16.9km az=65.0

ISCJB 14 07:08:06.2±0.5, 18°.67N±0°.08×72°.45W±0°.07, h13km, mb3.7/11, MS3.2/2, Error ellipse: s-maj=12.7km s-min=8.2km az=22.3

ISC 14 07:08:08.1±0.6, 18°.66N±0°.09×72°.50W±0°.09, h13km, n20, σ0s92/18, mb3.8/11, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZG	Guadaloupe-1	10.54	102	eP	Pn	07 10 39.8	+0.8
FNG	Fond-Bernard	10.64	102	eP	Pn	07 10 40.0	-0.4
SSG	Sans Toucher	10.64	102	eP	Pn	07 10 40.4	-0.1
ECG	Echelle	10.68	102	eP	Pn	07 10 41.9	+0.9
PHG	Guadaloupe-2	10.69	103	eP	Pn	07 10 41.7	+0.5
ROSC	El Rosal	13.84	188	Pn	Pn	07 11 25.7	+1.2
	1.1nm,0.3s,baz=90,slow=19,SNR=3.1						
TEIG	Tepich	14.97	279	Pn	Pn	07 11 38.6	-0.9
	0.4nm,0.3s,baz=99,slow=17,SNR=3.3						
APG	El Apazote	17.58	261	LR	LR	07 18 31.8	
	comp=Z,70nm,20.2s,baz=243,slow=36						
PTGA	Pitinga	22.87	146	P	P	07 13 11.0	-0.6
	8.3nm,0.9s,baz=341,slow=12,SNR=12						
ATAH	Atahualpa	26.29	193	LR	LR	07 23 06.4	
	comp=Z,78nm,21.9s,baz=218,slow=34						
TXAR	Lajitas Array	30.31	296	P	P	07 14 20.8	+1.2
	0.1nm,0.5s,baz=112,slow=9.8,SNR=2.3						
LPAZ	La Paz	34.99	173	P	P	07 15 01.8	+0.6
	1.0nm,1.0s,baz=320,slow=8.1,SNR=3.2						
LPAZ				LR	LR	07 30 26.3	
	comp=Z,46nm,21.2s,baz=342,slow=38						
PDAR	Pinedale Array	39.44	316	P	P	07 15 38.7	+0.4
	0.5nm,0.8s,baz=124,slow=13,SNR=2.4						
YKA	Yellowknife Ar	52.54	337	P	P	07 17 20.3	-0.6
	0.3nm,0.7s,baz=124,slow=7.2,SNR=9.2						
SUMG	Summit	57.32	12	iP	P	07 17 56.9	+1.0
	5.1nm,0.8s						
PLCA	Paso Flores	59.12	178	P	P	07 18 06.5	-1.9
	2.8nm,0.8s,baz=27,slow=7.5,SNR=5.1						
ESDC	Sonseca Array	61.96	54	P	P	07 18 28.2	+0.2
	0.2nm,0.3s,baz=286,slow=9.2,SNR=3.0						
TORD	Torodi Ar. Bea	71.13	82	P	P	07 19 26.2	-0.8
	0.5nm,0.9s,baz=269,slow=4.9,SNR=3.0						
GERES	GERESS Array B	73.72	43	P	P	07 19 41.3	-0.7
	0.8nm,0.8s,baz=263,slow=5.7,SNR=4.6						
FINES	FINESS Array B	77.82	29	P	P	07 20 05.2	+0.1
	0.6nm,0.6s,baz=270,slow=2.8,SNR=2.6						

IDC 14 07:08:38.0±8.7, 2°.12S×137°.87E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/18, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=387.8km s-min=29.1km az=84.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.04	191	P	Pn	07 12 49.5	-0.9
	0.1nm,0.3s,baz=13,slow=13,SNR=3.9						
WRA				S	Sn	07 16 00.8	-12
	0.1nm,0.3s,baz=15,slow=22,SNR=5.0						
ASAR	Alice Springs	21.76	190	P	P	07 13 32.0	+0.6
	0.3nm,0.4s,baz=14,slow=10,SNR=6.0						
MKAR	Makanchi Array	68.81	323	P	P	07 19 44.3	0.0
	0.1nm,0.4s,baz=103,slow=7.9,SNR=2.6						

IDC 14 07:16:04.3±3.5, 6°.29S×152°.55E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, ML2.4/1, Error ellipse: s-maj=139.0km s-min=50.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.17	240	Pn	Pn	07 17 38.6	+1.8
	0.6nm,0.3s,baz=49,slow=14,SNR=3.0						
PMG				Sn	Sn	07 18 46.8	-1.4
	1.2nm,0.3s,baz=270,slow=20,SNR=1.4						
WRA	Warramunga Arr	22.30	231	P	P	07 21 02.3	-1.2
	0.4nm,0.7s,baz=54,slow=9.6,SNR=2.1						
ASAR	Alice Springs	24.90	224	P	P	07 21 29.1	-0.1
	0.7nm,0.8s,baz=55,slow=9.4,SNR=5.6						
TORD	Torodi Ar. Bea	150.50	286	PKPbc	PKPbc	07 35 59.1	0.0
	0.4nm,0.8s,baz=94,slow=1.0,SNR=2.1						

IDC 14 07:19:12.6±66.0, 13°.51S×166°.98E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=1112.0km s-min=120.9km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	29.58	228	P	P	07 25 18.8	-0.6
	1.0nm,0.8s,baz=69,slow=14,SNR=3.7						
WRA	Warramunga Arr	31.87	254	P	P	07 25 40.4	+0.6
	0.1nm,0.4s,baz=84,slow=9.3,SNR=4.8						
ASAR	Alice Springs	32.86	247	P	P	07 25 48.4	-0.2
	0.2nm,0.4s,baz=70,slow=9.2,SNR=5.8						

KRSC 14 07:30:01.8±1.8, 52°.46N×159°.27E, h60km±16km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.47	266	iP	Pn	07 30 14.7	+1.4
RUS				iS	Sn	07 30 22.3	+0.6
MTVR	Mutnovka	0.67	272	iP	Pn	07 30 17.4	+1.6
MTVR				eS	Sn	07 30 26.2	+0.2
PET	Petropavlovsk	0.68	326	iP	Pn	07 30 17.3	+1.6
PET				iS	Sn	07 30 26.2	+0.4
NLC	Nalytchevo	0.71	4	iP	Pn	07 30 17.4	+1.3
NLC				eS	Sn	07 30 26.8	+0.3
GRL	Gorelyy	0.74	277	iP	Pn	07 30 18.8	+2.2
GRL				eS	Sn	07 30 28.6	+1.1
SPN	Mys Shipunski	0.78	35	eS	Sn	07 30 31.9	+3.7
UGLR	Uglovaya	0.79	340	iP	Pn	07 30 19.2	+1.9
UGLR				eS	Sn	07 30 28.8	+0.1
ASAK	Asacha	0.84	265	iP	Pn	07 30 20.0	+2.1
ASAK				eS	Sn	07 30 30.5	+0.7
SDLR	Sedlovina	0.85	344	iP	Pn	07 30 19.6	+1.6
SDLR				eS	Sn	07 30 29.8	-0.2
SMAR	Somma	0.85	341	iP	Pn	07 30 19.7	+1.6
SMAR				eS	Sn	07 30 30.0	-0.2
AVH	Avacha	0.86	338	iP	Pn	07 30 20.3	+2.1
AVH				eS	Sn	07 30 30.9	+0.7
KRER	Koryakskii	0.90	340	iP	Pn	07 30 20.7	+1.9
KRER				eS	Sn	07 30 31.9	+0.6
KOK	Koryaka	0.92	335	iP	Pn	07 30 21.0	+2.2
KOK				eS	Sn	07 30 32.5	+1.1
KRX	Arik	0.97	337	iP	Pn	07 30 21.5	+1.9
KRX				eS	Sn	07 30 33.4	+0.6
APC	Apacha	1.37	291	iP	Pn	07 30 27.0	+2.4
APC				eS	Sn	07 30 42.8	+1.0
GNL	Ganaly	1.47	327	iP	Pn	07 30 28.5	+2.3
GNL				eS	Sn	07 30 45.1	+0.5
MIPR	Malaya Ipel'ka	1.55	264	eP	Pn	07 30 29.7	+2.5
KII	Karymskiy	1.58	4	eP	Pn	07 30 31.0	+3.4
KII				eS	Sn	07 30 49.8	+2.7
PAU	Pauzhetka	1.82	238	iP	Pn	07 30 33.4	+2.7
MKZ	Mys Kozlova	2.56	34	P	Pn	07 30 45.1	+4.4
MKZ				eS	Sn	07 31 13.5	+2.8
SKR	Severo-Kuril's	2.66	229	eP	Pn	07 30 44.9	+2.8
SKR				eS	Sn	07 31 13.2	+0.1
KZV	Kizimen	2.72	12	eP	Pn	07 30 47.6	+4.4
KZV				S	Sn	07 31 18.4	+3.3
TUMR	Tumrok	2.87	10	eP	Pn	07 30 50.0	+4.8
TUMR				eS	Sn	07 31 22.0	+3.3
KMNR	Kamenistaya	3.35	9	P	Pn	07 30 57.1	+5.4
ESO	Esso	3.48	355	eP	Pn	07 30 58.0	+4.5
KBTR	Krutoberegovo	4.29	28	eP	Pn	07 31 08.3	+3.9
KBTR				eS	Sn	07 31 53.8	+0.7
BKI	Bering	4.82	53	eP	Pn	07 31 13.5	+1.8
BKI				eS	Sn	07 32 02.7	-3.5

KRSC 14 07:38:19.3±1.0, 49°.77N×157°.16E, h16km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.13	324	P	Pn	07 38 39.8	-0.6
SKR				S	Sb	07 38 54.1	-0.8
PAU	Pauzhetka	1.72	353	P	Pb	07 38 49.9	-0.5
PAU				S	Sb	07 39 11.9	+0.2
ASAK	Asacha	2.66	10	P	Pb	07 39 04.6	-2.0
ASAK				S	Sb	07 39 36.5	-2.6
MTVR	Mutnovka	2.79	13	P	Pn	07 39 06.0	+2.5
MTVR				S	Sn	07 39 39.5	+2.5
RUS	Russkaya	2.80	17	S	Sn	07 39 39.2	+2.4
AVH	Avacha	3.64	15	P	Pn	07 39 18.7	+3.7
AVH				S	Sn	07 40 02.1	+4.5
KOK	Koryaka	3.65	14	P	Pn	07 39 18.8	+3.7
SDLR	Sedlovina	3.68	16	P	Pn	07 39 18.2	+2.6
KRER	Koryakskii	3.68	15	P	Pn	07 39 19.0	+3.3
KRER				S	Sn	07 40 02.2	+3.3
KRX	Arik	3.71	14	P	Pn	07 39 19.1	+3.0
KRX				S	Sn	07 40 02.7	+3.1
GNL	Ganaly	3.96	7	P	Pn	07 39 23.1	+3.6

ISCJB 14 07:44:15.8±0.8, 32°.47S±0°.03×70°.41W±0°.04, h104km±7km, Error ellipse: s-maj=7.0km s-min=3.9km az=37.7

SJA 14 07:44:16.7±0.9, 32°.44S×70°.30W, h94km±8km, MD2.9, ML3.0

GUC 14 07:44:16.2±0.4, 32°.50S×70°.51W, h104km±2km, MD3.5, ML3.5

ISC 14 07:44:16.0±1.7, 32°.47S±0°.04×70°.42W±0°.04, h104km±13km, n25, σ0s56/46, 10C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	Jahuel	0.26	215⇑	iP	Pn	07 44 31.0	-0.1
JACH				iS	Sn	07 44 42.7	+0.3
PEL	Peldehue	0.71	198⇑	iP	Pn	07 44 33.7	-0.3
PEL				iS	Sn	07 44 47.1	-0.4
PEL				AML	AML	07 44 48.1	
	comp=E,2μm,0.2s						
AUSP	Uspallata	0.91	75	iP	Pn	07 44 36.3	+0.2
AUSP				iS	Sn	07 44 49.8	-1.3
CLCH	Cerro Calan	0.93	186⇓	iP	Pn	07 44 36.1	-0.1
CLCH				iS	Sn	07 44 51.3	0.0
CLCH				AML	AML	07 44 52.9	
	comp=E,2μm,0.5s						
LACH	Col Las Americ	0.99	186⇑	iP	Pn	07 44 36.8	+0.1
LACH				iS	Sn	07 44 52.3	+0.1
SAN	Santiago	1.00	192⇑	iP	Pn	07 44 36.8	0.0
SAN				iS	Sn	07 44 52.3	-0.2
FSR	Penalolen	1.01	185⇑	iP	Pn	07 44 38.1	+1.2
FSR				iS	Sn	07 44 54.0	+1.2
ANTU	Antumapu	1.11	189⇑	iP	Pn	07 44 38.0	0.0
ANTU				iS	Sn	07 44 54.6	0.0
ANTU				AML	AML	07 44 55.6	
	comp=E,1μm,0.3s						
PCH	Pirque	1.15	184⇓	iP	Pn	07 44 38.7	+0.2
PCH				iS	Sn	07 44 55.6	+0.1
RTLS	Leoncito	1.16	55	iP	Pn	07 44 39.3	+0.5
RTLS				iS	Sn	07 44 56.2	+0.3
IHA	Instituto Hidr	1.17	241⇑	iP	Pn	07 44 38.1	-0.5
IHA				iS	Sn	07 44 54.7	-1.0
TACH	Talagante	1.26	200⇑	iP	Pn	07 44 39.4	-0.3
TACH				iS	Sn	07 44 57.1	-0.5
ARCO	CERRO ARCO	1.31	107	iP	Pn	07 44 40.6	+0.2
ARCO				iS	Sn	07 44 58.2	-0.6
ARCO				AML	AML	07 45 00.9	
	comp=Z,525nm,0.5s						
ASAL	Salagasta	1.34	96	iP	Pn	07 44 41.3	+0.6
ASAL				iS	Sn	07 44 58.8	-0.6
CMCH	Combarbala	1.38	339⇓	iP	Pn	07 44 41.6	+0.4
CMCH				iS	Sn	07 45 01.3	+1.1
LMEL	Las Melosas	1.39	173⇑	iP	Pn	07 44 41.9	+0.5
LMEL				iS	Sn	07 45 01.3	+0.8
LMEL				AML	AML	07 45 04.6	
	comp=N,846nm,0.4s						
AAGR	Agrelo	1.47	115	iP	Pn	07 44 42.5	+0.3
AAGR				iS	Sn	07 45 01.7	-0.4
CHCH	Chadas Angostu	1.48	188	eP	Pn	07 44 42.1	-0.1
CHCH				iS	Sn	07 45 01.8	-0.3
CACH	El Canelo	1.65	185⇑	iP	Pn	07 44 45.0	+0.5
CACH				iS	Sn	07 45 06.8	+0.7
LNV	Longovilo	1.70	209	eP	Pn	07 44 44.3	-0.6
RTCV	Cerro Valdivia	1.70	70	eP	Pn	07 44 44.8	-0.2
RTLL	Cerro Villicun	2.00	56	iP	Pn	07 44 49.1	+0.2
RTLL				iS	Sn	07 45 13.1	-0.9
CFAA	Coronel Fontan	2.04	66	iP	Pn	07 44 49.1	-0.2
CFAA				iP	Pn	07 44 49.1	-0.2
AMOG	MOGNA	2.24	48	iP	Pn	07 44 52.4	+0.5
AMOG				eS	Sn	07 45 18.9	-0.4
AVFE	Valle Fertil	3.10	55	AML	AML	07 45 40.4	
	comp=Z,18nm,0.7s						

ISCJB 14 08:02:14.9±0.7, 18°.60N±0°.07×72°.7W±0°.1, h13km, mb3.5/7, Error ellipse: s-maj=17.2km s-min=9.2km az=172.5

*IDC 14 08

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**13.61**	**186**	Pn	Pn	08 11 23.6	+2.0
	0.3nm,0.3s,baz=32,slow=18,SNR=3.4						
ROSC				Sn	Sn	08 13 50.6	-3.4
	0.1nm,0.3s,baz=268,slow=22,SNR=1.2						
TKL	**Tuckaleechee C**	**19.67**	**333**	LR	LR	08 20 17.6	
	comp=Z,84nm,18.2s,baz=352,slow=37						
TXAR	**Lajitas Array**	**30.11**	**297**	P	P	08 14 18.9	+0.7
	0.1nm,0.4s,baz=115,slow=8.1,SNR=3.3						
YKA	**Yellowknife Ar**	**52.59**	**337**	P	P	08 17 21.9	+0.1
	0.3nm,0.8s,baz=123,slow=7.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**71.47**	**82**	P	P	08 19 30.0	+0.4
	0.8nm,0.8s,baz=296,slow=5.3,SNR=3.3						
WRA	**Warramunga Arr**	**154.31**	**262**	PKPbc	PKPbc	08 28 07.9	-1.8
	0.6nm,0.8s,baz=89,slow=1.9,SNR=4.4						

IDC ***14*** *08:15:06.7±3.6,24°.82N×127°.78E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, Error ellipse: s-maj=220.0km s-min=27.1km az=66.0*

ISCJB ***14*** *08:15:07.6±0.8,25°.12N±0°.05×128°.30E±0°.05, h29km, mb3.3/4, Error ellipse: s-maj=6.9km s-min=6.3km az=22.5*

JMA ***14*** *08:15:09.0±0.4,25°.13N×128°.11E, h76km, M3.0*

ISC 14 08:15:08.4±1.0,**25°.06N**±0°.06×**128°.17E**±0°.05,**h29**km,**n14,** σ1§**89**/22,**mb3.2**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.14**	**340**	P	**Pb**	**08 15 28.7**	**-0.8**
JJT2				*eS*	**Sb**	08 15 43.6	-0.3
JAGN	**Aguni-jima**	**1.74**	**331**	P	**Pn**	**08 15 36.9**	**+0.3**
JAGN				S	**Sn**	08 15 56.9	-0.9
JOW	**Kunigami**	**1.77**	**3**	P	**Pn**	**08 15 37.0**	**0.0**
JOW				*eS*	**Sn**	08 15 56.9	-1.6
JKE	**Kume jima 2**	**1.77**	**315**	P	**Pn**	**08 15 36.9**	**-0.2**
JKE				*eS*	**Sn**	08 15 57.5	-1.2
JIH	**Iheya**	**1.97**	**355**	P	**Pn**	**08 15 40.5**	**+0.6**
JIH				*eS*	**Sn**	**08 16 02.0**	**-1.6**
JTK	**Tokunoshima**	**2.80**	**14**	P	**Pn**	**08 15 51.5**	**+0.2**
JTK				*eS*	**Sn**	**08 16 22.0**	**-2.1**
JMZ	**Minamidaito 2**	**2.86**	**74**	P	Pn	08 15 49.7	-2.3
JMZ				*eS*	**Sn**	**08 16 21.6**	**-3.9**
JTJ	**Tarama**	**3.18**	**263**	P	**Pn**	**08 15 55.7**	**-0.8**
JTJ				*eS*	**Sn**	**08 16 29.8**	**-3.6**
JAMN	**Amaminishikomi**	**3.29**	**16**	P	**Pn**	**08 15 59.2**	**+1.2**
JAMN				*eS*	**Sn**	**08 16 33.7**	**-2.5**
JAM	**Amami Oshima**	**3.57**	**21**	P	**Pn**	**08 16 02.6**	**+0.7**
JAM				*eS*	**Sn**	**08 16 39.9**	**-3.2**
SONM	**Songino Array**	**28.51**	**328**	P	P	08 21 05.1	+3.7
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.0						
MKAR	**Makanchi Array**	**42.28**	**313**	P	**P**	**08 23 00.3**	**+0.9**
	0.2nm,0.5s,baz=99,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**45.13**	**172**	P	**P**	**08 23 23.6**	**+1.2**
	0.4nm,1.0s,baz=356,slow=8.5,SNR=4.5						
BVAR	**Borovoye Array**	**51.11**	**319**	P	**P**	**08 24 10.5**	**+2.1**
	0.6nm,0.7s,baz=108,slow=9.3,SNR=3.1						

JSN ***14*** *08:15:25.0±1.9,20°.70N×71°.90W, h50km±999km*

ISCJB ***14*** *08:15:39.7±0.2, 18°.28N±0°.03×72°.75W±0°.02, h6km, mb4.1/27, MS4.0/12, Error ellipse: s-maj=4.6km s-min=2.7km az=177.5*

IDC ***14*** *08:15:40.2±0.5, 18°.26N×72°.72W, h0km, mb4.1/21, mb1 4.3/22, mb1mx4.2/30, mbtmp4.1/22, ML4.3/1, MS3.8/15, Ms1 3.9/15, ms1mx3.6/42, Error ellipse: s-maj=16.3km s-min=12.4km az=52.0*

NEIC ***14*** *08:15:42.1±0.2, 18°.34N×72°.75W, h10km, mb4.4/7, Error ellipse: s-maj=6.3km s-min=4.2km az=181.0*

ISC 14 08:15:41.4±0.3,**18°.28N**±0°.05×**72°.77W**±0°.04,**h6**km,**n111,** σ1§**39**/129,**mb4.3**/27,**MS3.9**/13,**2C,Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.56**	**63**	*e*Pn	Pn	08 16 07.0	-2.8
SDDR				*e*Sn	**Sn**	**08 16 29.8**	**-0.7**
GTBY	**Guantanamo Bay**	**2.75**	**307**	*e*Pn	Pn	08 16 23.3	-2.8
GTBY				*e*Sn	**Sn**	**08 16 59.6**	**-0.2**
YHJ	**Yallahs**	**3.57**	**264**	*e*P	**Pn**	**08 16 38.5**	**+1.1**
YHJ	**Yallahs**	**3.57**	**264**	*e*P	**Pn**	**08 16 38.5**	**+1.1**
GWJ	**Greenwich**	**3.77**	**267**	*e*P	**Pn**	**08 16 38.3**	**-2.0**
GWJ	**Greenwich**	**3.77**	**267**	*e*P	**Pn**	**08 16 38.3**	**-2.0**
HOJ	**Hope**	**3.80**	**266**	*e*P	**Pn**	**08 16 41.1**	**+0.6**
HOJ	**Hope**	**3.80**	**266**	*e*P	**Pn**	**08 16 41.1**	**+0.6**
STH	**Stony Hill**	**3.85**	**268**	*e*P	**Pn**	**08 16 41.2**	**0.0**
STH				*i* S	**Sb**	**08 17 37.4**	**+0.7**
STH	**Stony Hill**	**3.85**	**268**	*e*P	**Pn**	**08 16 41.2**	**0.0**
STH				*e*S	**Sb**	**08 17 37.4**	**+0.7**
PCJ	**Portland Cotta**	**4.21**	**263**	*e*P	**Pn**	**08 16 47.6**	**+1.4**
PCJ	**Portland Cotta**	**4.21**	**263**	*e*P	**Pn**	**08 16 47.6**	**+1.4**
MTDJ	**Mount Denham**	**4.53**	**270**	*e*Pn	**Pn**	**08 16 50.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**5.39**	**92**	*e*Pn	**Pn**	**08 17 01.9**	**-0.4**
CRPR				*e*Sn	**Sn**	**08 17 49.7**	**+3.9**
LSP	**Las Mesas**	**5.40**	**90**	*e*Pn	**Pn**	**08 17 03.3**	**+0.7**
LSP				*e*Sn	**Sn**	**08 18 06.4**	**+1.3**
AOPR	**Arecibo Observ**	**5.71**	**88**	*e*Pn	**Pn**	**08 17 07.7**	**+0.8**
OBIP	**Obispado Ponce**	**5.86**	**91**	*e*Pn	**Pn**	**08 17 08.6**	**-0.3**
	170nm,0.9s						
OBIP				*e*Sn	**Sn**	**08 18 15.9**	**-0.6**
CELP	**Cerrillos**	**5.89**	**91**	*e*Pn	**Pn**	**08 17 08.8**	**-0.4**
CELP				*e*Sn	**Sn**	**08 18 18.4**	**+1.3**
CBYP	**Canovanas**	**6.57**	**89**	*e*Pn	**Pn**	**08 17 19.0**	**+0.4**
	84nm,0.7s						
CBYP				*e*Sn	**Sn**	**08 18 34.1**	**+0.2**
HUMP	**Col San Antoni**	**6.58**	**90**	*e*Pn	Pn	08 17 23.0	+4.3
MTP	**Monte Pirata**	**6.86**	**90**	*e*Pn	**Pn**	**08 17 24.1**	**+1.4**
	73nm,0.7s						
MTP				*e*Sn	**Sn**	**08 18 44.5**	**+3.4**
CDVI	**St. Croix**	**7.63**	**93**	*e*Pn	**Pn**	**08 17 33.4**	**+0.2**
CDVI				*e*Sn	**Sn**	**08 19 00.8**	**+0.8**
SABA	**Saba**	**9.09**	**93**	*e*Pn	**Pn**	**08 17 55.5**	**+2.2**
SDV	**Santo Domingo**	**9.57**	**167**	*e*Pn	**Pn**	**08 18 00.8**	**+0.8**
SDV				*e*Sn	**Sn**	**08 19 44.8**	**-3.2**
LZG	**Guadaloupe-1**	**10.72**	**100**	*e*P	**Pn**	**08 18 16.6**	**+1.0**
SSG	**Sans Toucher**	**10.82**	**100**	*e*P	**Pn**	**08 18 17.5**	**+0.4**
ECG	**Echelle**	**10.85**	**100**	*e*P	**Pn**	**08 18 18.1**	**+0.5**
H05N1	**Guadeloupe/Mar**	**11.35**	**98**	Pn	**Pn**	**08 18 23.8**	**-0.6**
	SNR=14						
BCIP	**Isla Barro Col**	**11.37**	**218**	*e*Pn	**Pn**	**08 18 24.6**	**+0.1**
BCIP				*e*Sn	**Sn**	**08 20 32.4**	**+0.4**
ROSC	**El Rosal**	**13.43**	**187**	*e*Pn	Pn	08 18 56.5	+3.4
ROSC				*e*Sn	**Sn**	**08 21 24.4**	**+1.4**
ROSC	**El Rosal**	**13.43**	**187**	Pn	Pn	08 18 56.6	+3.5
	3.9nm,0.3s,baz=292,slow=4.3,SNR=17						
ROSC				Sn	**Sn**	**08 21 23.4**	**+0.4**
	1.5nm,0.3s,baz=60,slow=20,SNR=2.5						
ROSC				LR	LR	08 24 22.9	
	comp=Z,124nm,20.7s,baz=87,slow=39						
JTS	**JuntasAbangare**	**14.23**	**238**	*e*Pn	**Pn**	**08 19 05.2**	**+1.6**
JTS				*e*Sn	**Sn**	**08 21 44.4**	**+2.5**
JTS	**JuntasAbangare**	**14.23**	**238**	LR	LR	08 24 49.4	
	comp=Z,283nm,19.7s,baz=2.6,slow=39						
TGUH	**Tegucigalpa,Un**	**14.55**	**255**	*e*Pn	**Pn**	**08 19 09.4**	**+1.4**
TGUH				*e*Sn	**Sn**	**08 21 47.1**	**-2.7**
TEIG	**Tepich**	**14.77**	**280**	*e*Pn	**Pn**	**08 19 12.2**	**+1.2**
TEIG	**Tepich**	**14.77**	**280**	Pn	**Pn**	**08 19 11.5**	**+0.5**
	1.3nm,0.3s,baz=96,slow=13,SNR=8.9						
APG	**El Apazote**	**17.27**	**262**	Pn	**P**	**08 19 46.8**	**+1.7**
APG	**El Apazote**	**17.27**	**262**	Pn	**P**	**08 19 46.8**	**+1.7**
	0.3nm,0.3s,baz=235,slow=21,SNR=4.5						
OTAV	**Otavalo**	**18.78**	**198**	*e*P	**P**	**08 20 01.4**	**-0.7**
	13nm,0.8s						
JSRW	**J. Sargeant Re**	**19.85**	**348**	*e*P	**P**	**08 20 13.5**	**+0.4**
TKL	**Tuckaleechee C**	**19.86**	**333**	P	**Pn**	**08 20 17.2**	**+2.3**
TKL	**Tuckaleechee C**	**19.86**	**333**	P	**Pn**	**08 20 17.2**	**+2.3**
	0.1nm,0.3s,baz=126,slow=17,SNR=2.6						
TKL				LR	LR	08 29 38.4	
	comp=Z,158nm,19.2s,baz=325,slow=42						
BLA	**Blacksburg**	**20.02**	**342**	*e*P	**P**	**08 20 15.9**	**+0.8**
	34nm,1.3s						
BLA				*e*S	S	08 23 52.2	-8.3
PTGA	**Pitinga**	**22.71**	**145**	*e*P	**P**	**08 20 43.8**	**-0.3**
	39nm,1.2s						
PTGA	**Pitinga**	**22.71**	**145**	P	**P**	**08 20 42.4**	**-1.7**
	21nm,1.0s,baz=346,slow=15,SNR=17						
PTGA				LR	LR	08 29 50.7	
	comp=Z,255nm,18.3s,baz=329,slow=38						
ATAH	**Atahualpa**	**25.86**	**193**	P	**P**	**08 21 14.7**	**+0.2**
ATAH	**Atahualpa**	**25.86**	**193**	P	**P**	**08 21 14.7**	**+0.2**
	4.7nm,0.8s,baz=27,slow=11,SNR=2.8						
SADO	**Sadowa**	**26.94**	**350**	LR	LR	08 30 52.4	
	comp=Z,158nm,19.5s,baz=183,slow=34						
SAML	**Samuel**	**28.67**	**160**	*e*P	**P**	**08 21 38.5**	**-0.7**
	5.0nm,0.8s						
TXAR	**Lajitas Array**	**30.25**	**297**	P	**P**	**08 21 53.7**	**+0.3**
TXAR				PcP	**PcP**	**08 24 54.4**	**+0.2**
TXAR	**Lajitas Array**	**30.25**	**297**	P	**P**	**08 21 53.7**	**+0.3**
	0.6nm,0.9s,baz=120,slow=7.4,SNR=7.1						
TXAR				PcP	**PcP**	**08 24 54.4**	**+0.2**
	1.2nm,0.8s,baz=140,slow=4.7,SNR=7.9						
LPM	**Los Pinos Moun**	**34.10**	**305**	*e*P	**P**	**08 22 27.8**	**+0.5**
	5.0nm,0.7s						
ANMO	**Albuquerque**	**34.18**	**306**	P	**P**	**08 22 29.9**	**+2.0**
ANMO	**Albuquerque**	**34.18**	**306**	P	**P**	**08 22 29.9**	**+2.0**
	0.7nm,0.8s,baz=97,slow=17,SNR=3.0						
LPAZ	**La Paz**	**34.66**	**172**	P	**P**	**08 22 33.3**	**+0.7**
LPAZ	**La Paz**	**34.66**	**172**	P	**P**	**08 22 33.3**	**+0.7**
	1.3nm,0.5s,baz=172,slow=1.6,SNR=5.8						
LPAZ				LR	LR	08 37 26.0	
	comp=Z,203nm,20.2s,baz=164,slow=38						
SCHQ	**Schefferville**	**36.76**	**6**	*e*P	**P**	**08 22 49.2**	**-0.4**
SCHQ	**Schefferville**	**36.76**	**6**	LR	LR	08 37 06.2	
	comp=Z,196nm,18.3s,baz=125,slow=35						
PDAR	**Pinedale Array**	**39.53**	**316**	P	**P**	**08 23 12.4**	**-1.0**
PDAR				PcP	**PcP**	**08 25 20.1**	**-1.0**
PDAR	**Pinedale Array**	**39.53**	**316**	P	**P**	**08 23 12.4**	**-1.0**
	0.6nm,0.8s,baz=115,slow=10,SNR=4.7						
PDAR				PcP	**PcP**	**08 25 20.1**	**-1.0**
	1.2nm,0.7s,baz=122,slow=6.2,SNR=7.4						
BDFB	**Brasilia**	**41.60**	**143**	P	**P**	**08 23 30.7**	**0.0**
BDFB	**Brasilia**	**41.60**	**143**	P	**P**	**08 23 30.7**	**0.0**
	12nm,0.9s,baz=322,slow=12,SNR=12						
NVAR	**Mina Array Bea**	**44.30**	**307**	P	**P**	**08 23 52.5**	**0.0**
NVAR	**Mina Array Bea**	**44.30**	**307**	P	**P**	**08 23 52.5**	**0.0**
	0.6nm,0.7s,baz=79,slow=7.7,SNR=4.7						
YKA	**Yellowknife Ar**	**52.78**	**337**	P	**P**	**08 24 55.7**	**-1.5**
YKA	**Yellowknife Ar**	**52.78**	**337**	P	**P**	**08 24 55.7**	**-1.5**
	1.0nm,0.8s,baz=124,slow=7.3,SNR=16						
DLBC	**Dease Lake**	**57.62**	**328**	*e*P	**P**	**08 25 32.9**	**+0.6**
DLBC	**Dease Lake**	**57.62**	**328**	P	**P**	**08 25 32.7**	**+0.5**
	2.8nm,0.7s,baz=100,slow=3.6						
RES	**Resolute Bay**	**57.69**	**353**	*e*P	**P**	**08 25 32.4**	**0.0**
	0.8nm,0.6s						
RES	**Relolute Bay**	**57.69**	**353**	LR	LR	08 50 37.4	
	comp=Z,126nm,18.0s,baz=87,slow=36						
SUMG	**Summit**	**57.74**	**12**	*i* P	**P**	**08 25 33.0**	**-0.2**
	6.5nm,1.1s						
PLCA	**Paso Flores**	**58.75**	**178**	*e*P	**P**	**08 25 39.9**	**-0.4**
PLCA	**Paso Flores**	**58.75**	**178**	P	**P**	**08 25 38.6**	**-1.7**
	2.3nm,0.9s,baz=359,slow=6.6,SNR=3.2						
ESDC	**Sonseca Array**	**62.39**	**54**	P	**P**	**08 26 05.6**	**+0.2**
ESDC	**Sonseca Array**	**62.39**	**54**	P	**P**	**08 26 05.6**	**+0.2**
	0.6nm,0.3s,baz=275,slow=2.7,SNR=9.5						
INK	**Inuvik**	**62.48**	**339**	*e*P	**P**	**08 26 05.3**	**0.0**
	2.9nm,1.2s						
INK	**Inuvik**	**62.48**	**339**	P	**P**	**08 26 06.4**	**+1.1**
	0.5nm,0.6s,baz=156,slow=10.0,SNR=2.8						
ILAR	**Eielson Array**	**66.85**	**333**	P	**P**	**08 26 33.0**	**-0.9**
ILAR	**Eielson Array**	**66.85**	**333**	P	**P**	**08 26 33.0**	**-0.9**
	0.5nm,0.8s,baz=116,slow=5.0,SNR=5.3						
NOA	**NORSAR Array B**	**71.28**	**31**	LR	LR	08 56 44.5	
	comp=Z,52nm,18.1s,baz=285,slow=35						
TORD	**Torodi Ar. Bea**	**71.43**	**82**	P	**P**	**08 27 01.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**71.43**	**82**	P	**P**	**08 27 01.7**	**-1.5**
	3.1nm,1.0s,baz=283,slow=5.2,SNR=11						
FETA	**Feichten**	**72.48**	**45**	*i* P	**P**	**08 27 09.6**	**+0.4**
	9.3nm,1.4s						
KEST	**Kesra**	**73.30**	**57**	*e*P	**P**	**08 27 14.4**	**+0.2**
KEST	**Kesra**	**73.30**	**57**	P	**P**	**08 27 14.4**	**+0.2**
	3.3nm,0.8s,baz=260,slow=9.0,SNR=5.3						
KEST				LR	LR	08 53 57.9	
	comp=Z,60nm,20.4s,baz=59,slow=31						
GERES	**GERESS Array B**	**74.17**	**43**	P	**P**	**08 27 18.9**	**-0.2**
GERES	**GERESS Array B**	**74.17**	**43**	P	**P**	**08 27 18.9**	**-0.2**
	2.3nm,0.8s,baz=284,slow=5.4,SNR=14						
GERES				LR	LR	08 57 51.9	
	comp=Z,144nm,18.1s,baz=37,slow=34						
KBA	**Koelnbreinsper**	**74.24**	**45**	*i* P	**P**	**08 27 19.6**	**0.0**
	5.9nm,1.2s						
PRU	**Pruhonice**	**74.52**	**42**	*e*P	**P**	**08 27 23.6**	**+2.7**
PRU				*e*pP	**pP**	**08 27 27.0**	**+4.1**
DPC	**Dobruska-Polom**	**75.58**	**41**	*e*P	**P**	**08 27 26.0**	**-1.1**
DPC				*e*pP	**pP**	**08 27 33.2**	**+4.1**
ARCES	**ARCESS Array B**	**75.89**	**21**	P	**P**	**08 27 29.2**	**+0.7**
ARCES	**ARCESS Array B**	**75.89**	**21**	P	**P**	**08 27 29.2**	**+0.7**
	2.2nm,0.8s,baz=287,slow=3.5,SNR=5.6						
ARCES				LR	LR	08 54 54.7	
	comp=Z,96nm,21.0s,baz=101,slow=31						
FINES	**FINESS Array B**	**78.27**	**29**	P	**P**	**08 27 42.0**	**0.0**
FINES	**FINESS Array B**	**78.27**	**29**	P	**P**	**08 27 41.9**	**0.0**
	1.0nm,0.7s,baz=242,slow=3.0,SNR=3.6						
FINES				LR	LR	09 00 50.1	
	comp=Z,101nm,18.6s,baz=237,slow=35						
AKASG	**Malin Array Be**	**83.39**	**39**	P	**P**	**08 28 08.9**	**-0.7**
AKASG	**Malin Array Be**	**83.39**	**39**	P	**P**	**08 28 08.9**	**-0.7**
	0.9nm,0.7s,baz=282,slow=4.3,SNR=6.2						
BRTR	**Keskin Array B**	**90.48**	**48**	P	**P**	**08 28 44.3**	**-0.3**
BRTR	**Keskin Array B**	**90.48**	**48**	P	**P**	**08 28 44.3**	**-0.3**
	2.2nm,0.9s,baz=297,slow=3.8,SNR=6.2						
BRTR				LR	LR	09 04 17.9	
	comp=Z,34nm,18.1s,baz=74,slow=32						
RAR	**Rarotonga**	**93.78**	**249**	LR	LR	09 02 53.6	
	comp=Z,81nm,21.7s,baz=1.7,slow=30						
KSH	**Kashi**	**115.51**	**26**	*e*PKP	**PKPdf**	**08 34 25.0**	**+0.1**
KSH				*e*PP	PP	08 35 32.3	+6.6
KSH				*e*SKS	**SKSdf**	**08 41 32.3**	**-5.7**
KSH				*e*SKKS	SKKSac	08 42 20.3	-8.6
KSH				*e*SS	**SS**	**08 51 24.1**	**-0.3**
KSH				LR	LR		
	comp=N,27nm,4.1s						
KSH				LR	LR		
	comp=E,25nm,3.2s						
KSH				LR	LR		
	comp=Z,41nm,3.3s						
WMQ	**Urumqi**	**115.66**	**16**	PKP	**PKPdf**	**08 34 24.6**	**-0.4**
HHC	**Hu-ho-hao-te**	**121.03**	**356**	*e*PKP	PKPdf	08 34 30.1	-5.4
HHC				SS	SS	08 52 35.5	+0.2
HHC				LR	LR		
	comp=N,260nm,15.3s						
HHC				LR	LR		
	comp=E,390nm,22.4s						
HHC				LR	LR		
	comp=Z,180nm,22.1s						
LZH	**Lanzhou**	**125.83**	**3**	*e*PKP	PKPdf	08 34 40.1	-4.8
LZH				sPKP		08 34 47.3	
NJ2	**Nanjing**	**128.73**	**347**	*e*PKP	**PKPdf**	**08 34 47.9**	**-2.4**
STKA	**Stephens Creek**	**146.22**	**240**	PKPbc	**PKPdf**	**08 35 22.5**	**+0.2**
STKA	**Stephens Creek**	**146.22**	**240**	PKPbc	**PKPdf**	**08 35 22.5**	**+0.2**
	2.3nm,0.7s,baz=174,slow=18,SNR=8.2						
WRAB	**Tennant Creek**	**154.33**	**262**	*e*PKPdf	**PKPdf**	**08 35 35.0**	**-0.3**
WRAB				*e*PKPbc	**PKPbc**	**08 35 42.6**	**-0.9**
WRAB				*e*PKPab	**PKPab**	**08 35 55.5**	**-2.1**
WRA	**Warramunga Arr**	**154.34**	**262**	PKP	**PKPdf**	**08 35 34.4**	**-0.9**
WRA				PKPbc	**PKPbc**	**08 35 42.2**	**-1.3**
WRA	**Warramunga Arr**	**154.34**	**262**	PKP	**PKPdf**	**08 35 34.4**	**-0.9**
	1.9nm,1.0s,baz=75,slow=1.0,SNR=8.8						
WRA				PKPbc	**PKPbc**	**08 35 42.3**	**-1.3**
	3.4nm,1.0s,baz=88,slow=2.6,SNR=14						
ASAR	**Alice Springs**	**154.55**	**253**	PKP	**PKPdf**	**08 35 34.7**	**-0.8**
ASAR				PKPbc	**PKPbc**	**08 35 42.1**	**-1.9**
ASAR	**Alice Springs**	**154.55**	**253**	PKP	**PKPdf**	**08 35 34.7**	**-0.8**
	0.5nm,1.0s,baz=122,slow=1.7,SNR=4.2						
ASAR				PKPbc	**PKPbc**	**08 35 42.1**	**-1.9**
	1.3nm,0.8s,baz=89,slow=2.2,SNR=11						

WEL 14 08:21:50.9±0.2,**37°.78S**×**178°.29E**,**h12**km,**ML3.3**/4,**2C-4D, Error ellipse: s-maj=3.4km s-min=1.2km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.21**	**3**	⇓P*	Pg	08 21 55.6	+0.1
MXZ				SG	Sg	08 21 59.6	+1.0
MXZ				AML	AML	08 22 00.7	
MXZ				AML	AML	08 22 00.9	
MXZ				AML	AML	08 22 00.9	
PUZ	**Puketiti**	**0.30**	**186**	⇑P*	Pg	08 21 57.3	+0.2
PUZ				S*	Sb	08 22 02.6	-0.7
PUZ				AML	AML	08 22 03.4	
CNGZ	**Carnagh Statio**	**0.71**	**185**	P*	Pn	08 22 06.5	-0.3
MWZ	**Matawai**	**0.82**	**227**	⇑P*	Pg	08 22 06.3	-0.7
MWZ				AML	AML	08 22 23.4	
MWZ				AML	AML	08 22 23.4	
RIGZ	**Rimuhau**	**1.02**	**204**	⇓P*	Pg	08 22 10.7	+0.1
URZ	**Urewera**	**1.05**	**242**	P*	Pb	08 22 10.1	-1.0
URZ				S*	Sb	08 22 23.9	-0.9
URZ				AML	AML	08 22 31.4	
SNGZ	**Shannon Statio**	**1.25**	**216**	P*	Pn	08 22 13.9	-0.5
KNZ	**Kokohu**	**1.33**	**201**	⇓PN	Pn	08 22 14.1	-1.3
BKZ	**Black Stump Fm**	**1.98**	**225**	⇓PN	Pn	08 22 24.4	0.0
MCHZ	**McNeill Hill**	**2.08**	**216**	PN	Pn	08 22 25.1	-0.6
MRZ	**Mangatainoka R**	**3.57**	**215**	*e*PN	Pn	08 22 41.9	-4.3

ISCJB ***14*** *08:33:09.0±0.6,35°.42S±0°.04×71°.42W±0°.09, h88km±6km, mb3.1/2, Error ellipse: s-maj=12.4km s-min=4.9km az=21.5*

IDC ***14*** *08:33:10.2±2.5,35°.40S×71°.32W, h86km±25km, mb3.1/2, mb1 3.2/4, mb1mx3.2/16, mbtmp3.0/4, Error ellipse: s-maj=42.4km s-min=12.9km az=104.0*

GUC ***14*** *08:33:10.0±0.4,35°.39S×71°.39W, h84km±2km, ML3.9*

ISC 14 08:33:10.1±1.0,**35°.38S**±0°.07×**71°.45W**±0°.09,**h82**km±8km, **n21,** σ0§**55**/35,**6C-2D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.15**	**263**	⇑*i*P	**Pn**	**08 33 21.7**	**-0.2**
TALC				*i* S	**Sn**	**08 33 30.4**	**-0.4**
CTCH	**Constitucion**	**0.79**	**273**	*e*P	**Pn**	**08 33 26.9**	**+0.1**
CTCH				*i* S	**Sn**	**08 33 40.1**	**+0.8**
CTCH				AML	AML	08 33 44.2	
	comp=E,12μm,0.5s						
LNV	**Longovilo**	**1.42**	**1**	⇓*i*P	**Pn**	**08 33 34.8**	**+0.3**
LNV				*i* S	**Sn**	**08 33 53.1**	**+0.3**
CACH	**El Canelo**	**1.44**	**29**	⇓*i*P	**Pn**	**08 33 35.0**	**+0.1**
CACH				*i* S	**Sn**	**08 33 53.7**	**+0.1**
CHCH	**Chadas Angostu**	**1.58**	**25**	⇑*i*P	**Pn**	**08 33 36.6**	**-0.1**
CHCH				*i* S	**Sn**	**08 33 56.7**	**-0.1**
TACH	**Talagante**	**1.77**	**14**	⇑*i*P	**Pn**	**08 33 38.9**	**-0.2**
TACH				*i* S	**Sn**	**08 34 01.1**	**0.0**
LMEL	**Las Melosas**	**1.84**	**34**	*e*P	**Pn**	**08 33 41.2**	**+1.0**
LMEL				*e*S	**Sn**	**08 34 04.3**	**+1.4**
LMEL				AML	AML	08 34 06.0	
	comp=N,1μm,0.5s						
PCH	**Pirque**	**1.92**	**24**	*e*P	**Pn**	**08 33 41.1**	**0.0**
PCH				*e*S	**Sn**	**08 34 04.8**	**+0.2**
ANTU	**Antumapu**	**1.93**	**21**	⇑*i*P	**Pn**	**08 33 41.2**	**0.0**
ANTU				*i* S	**Sn**	**08 34 05.0**	**+0.2**
ANTU				AML	AML	08 34 06.1	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**2.03**	**19**	*e*P	**Pn**	**08 33 42.5**	**0.0**
SAN				*e*S	**Sn**	**08 34 07.0**	**-0.1**
SAN				AML	AML	08 34 11.9	
	comp=N,580nm,0.3s						
LACH	**Col Las Americ**	**2.07**	**22**	*i* S	**Sn**	**08 34 08.2**	**+0.1**
LACH				AML	AML	08 34 13.9	
	comp=N,462nm,0.3s						
CLCH	**Cerro Calan**	**2.12**	**21**	*e*P	**Pn**	**08 33 43.8**	**+0.1**
CLCH				*i* S	**Sn**	**08 34 09.2**	**-0.1**
CLCH				AML	AML	08 34 11.6	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**2.32**	**16**	⇑*i*P	**Pn**	**08 33 46.7**	**+0.3**
PEL				*i* S	**Sn**	**08 34 14.2**	**+0.1**
PEL				AML	AML	08 34 15.7	
	comp=N,2μm,0.4s						
JACH	**Jahuel**	**2.78**	**15**	⇑*i*P	**Pn**	**08 33 52.9**	**+0.2**
JACH				*i* S	**Sn**	**08 34 25.7**	**+0.3**
CFAA	**Coronel Fontan**	**4.62**	**36**	P	**Pn**	**08

PMSA Palmer Station 25.82 160 LR LR 08 55 30.6
comp=Z,225nm,18.1s,baz=120,slow=32
CPUP Villa Florida 26.72 64 LR LR 08 58 00.8
comp=Z,1μm,18.8s,baz=219,slow=35
LPAZ La Paz 28.73 33 eP P 08 48 05.5 -2.7
comp=Z,7.6nm,1.1s
LPAZ La Paz 28.73 33 P **P 08 48 08.8 +0.5**
LPAZ LR LR 08 57 49.8
comp=Z,97nm,21.9s,baz=237,slow=32
NNA Nana 30.20 14 PFAKE 08 48 30.0 +9.3
NNA LR LR
comp=Z,500nm,18.3s
SIV San Ignacio 32.30 44 P **P 08 48 39.2 +0.1**
SIV San Ignacio 32.30 44 P **P 08 48 39.2 +0.1**
comp=Z,1.1nm,0.6s,baz=242,slow=7.7,SNR=3.5
SAML Samuel 37.39 35 PFAKE 08 49 30.0 +6.9
SAML LR LR
comp=Z,74nm,19.6s
BDFB Brasilia 40.38 61 LR LR 09 06 40.9
comp=Z,915nm,18.5s,baz=220,slow=36
OTAV Otavalo 42.00 8 PFAKE 08 50 10.0 +8.0
OTAV LR LR
comp=Z,300nm,19.5s
PTGA Pitinga 46.14 34 P **P 08 50 33.9 -0.8**
comp=Z,0.7nm,0.4s
PTGA LR LR
comp=Z,200nm,19.0s
RKT Rikitea 46.16 277 eLR LR 09 03 32.5
comp=Z,917nm,26.2s,baz=127
ROSC El Rosal 47.12 13 P **P 08 50 41.3 -1.4**
ROSC El Rosal 47.12 13 LR LR 09 08 49.2
comp=Z,281nm,18.1s,baz=90,slow=34
QSPA South Pole Qui 48.59 180 eP P 08 50 50.0 -3.4
QSPA PcP **PcP 08 52 15.1 -3.8**
QSPA South Pole Qui 48.59 180 P P 08 50 49.6 -3.8
comp=Z,1.0nm,0.4s,baz=131,slow=11,SNR=3.7
QSPA PcP **PcP**
08 52 15.1 -3.8
comp=Z,0.9nm,0.4s,baz=124,slow=1.6,SNR=4.4
SDV Santo Domingo 51.76 17 eP **P 08 51 16.9 -1.1**
comp=Z,1.2nm,1.3s
SDV LR LR
comp=Z,200nm,18.2s
VNDA Vanda 54.59 194 LR LR 09 10 20.7
comp=Z,409nm,18.8s,baz=146,slow=32
TGUH Tegucigalpa,Un 55.51 356 eP **P 08 51 46.2 +1.0**
comp=Z,6.4nm,0.6s
RCBR Riachuelo 55.60 64 eP **P 08 51 47.8 +1.8**
comp=Z,7.7nm,1.1s
RCBR LR LR
comp=Z,600nm,19.9s
TBI Tubuai 56.86 267 eLR LR 09 08 30.3
comp=Z,393nm,33.5s
PPT2 Papeete2 60.39 272 eS **S 09 00 36.0 +1.3**
comp=Z,178nm,29.0s
PPT2 eLR LR 09 10 06.6
comp=Z,622nm,28.8s
PPT Papeete 60.40 272 LR LR 09 12 12.7
comp=Z,168nm,18.1s,baz=157,slow=30
CRPR Cabo Rojo, PR 61.38 18 PFAKE 08 52 40.0 +14
CRPR LR LR
comp=Z,700nm,21.6s
MPR Mayaguez 61.57 18 PFAKE 08 52 40.0 +13
MPR LR LR
comp=Z,300nm,18.3s
AGP Aguadilla 61.76 18 PFAKE 08 52 40.0 +11
AGP LR LR
comp=Z,1μm,20.9s
AOPR Arecibo Observ 61.79 19 PFAKE 08 52 40.0 +11
AOPR LR LR
comp=Z,2μm,21.4s
MTP Monte Pirata 61.85 20 PFAKE 08 52 40.0 +11
MTP LR LR
comp=Z,400nm,19.2s
CBYP Canovanas 61.94 20 PFAKE 08 52 40.0 +10
CBYP LR LR
comp=Z,400nm,21.4s
MAW Mawson 68.21 167 LR LR 09 21 34.6
comp=Z,150nm,19.7s,baz=24,slow=35
ASCN Ascension 69.55 82 PFAKE 08 53 30.0 +11
ASCN LR LR
comp=Z,900nm,18.0s
BFZ Birch Farm 70.54 233 PFAKE 08 53 30.0 +5.0
BFZ LR LR
comp=Z,1μm,21.8s
KHZ Kahutara 71.03 230 PFAKE 08 53 40.0 +12
KHZ LR LR
comp=Z,2μm,20.0s
SNZO South Karori 71.06 231 PFAKE 08 53 40.0 +12
SNZO LR LR
comp=Z,1μm,20.8s
832A Faith Ranch, C 71.14 345 P **P 08 53 28.2 -0.4**
baz=72
BKZ Black Stump Fm 71.34 234 PFAKE 08 53 40.0 +10
BKZ LR LR
comp=Z,600nm,21.0s
URZ Urewera 71.53 235 PFAKE 08 53 40.0 +9.0
URZ LR LR
comp=Z,400nm,19.0s
732A Laxson Ranch, 71.58 345 P **P 08 53 30.8 -0.4**
baz=72
CASY Casey 71.82 186 PFAKE 08 53 40.0 +7.7
CASY LR LR
comp=Z,500nm,18.0s
633A Saathoff Ranch 72.14 346 P **P 08 53 33.5 -1.0**
baz=73
631A Perdido Creek 72.36 345 P **P 08 53 34.7 -1.2**
baz=73
534A Blanco 72.57 347 P **P 08 53 36.3 -0.8**
baz=73
533A Kerrville 72.71 346 P **P 08 53 37.4 -0.6**
baz=73
628A Black Gap, Mar 72.91 343 P **P 08 53 38.6 -0.7**
baz=74
532A Rocksprings 72.92 346 P **P 08 53 39.1 -0.2**
baz=74
TXAR Lajitas Array 72.94 342 P **P 08 53 39.4 -0.1**
TXAR Lajitas Array 72.94 342 P **P 08 53 39.4 -0.1**
comp=Z,2.0nm,1.0s,baz=167,slow=7.6,SNR=12
TXAR LR LR 09 20 32.7
comp=Z,112nm,19.4s,baz=0.0,slow=31
627A Terlingua Ranc 72.99 342 P **P 08 53 39.9 +0.1**
baz=74
531A Rocksprings 73.08 345 P **P 08 53 40.0 -0.3**
baz=74
530A J-C Ranch, Com 73.22 344 P **P 08 53 40.6 -0.4**
baz=74
JCT Junction City 73.25 346 eP **P 08 53 41.1 -0.1**
comp=Z,43nm,1.9s
JCT Junction City 73.25 346 P **P 08 53 41.0 -0.1**
baz=74
626A Big Bend Ranch 73.26 342 P **P 08 53 41.7 +0.4**
baz=74
434A Burnet 73.31 347 P **P 08 53 41.4 -0.1**
baz=74
529A Stev Forest Ra 73.38 344 P **P 08 53 41.8 -0.2**
baz=74
433A Art 73.39 346 P **P 08 53 41.2 -0.8**
baz=74
431A Sonora 73.60 345 P **P 08 53 43.0 -0.2**
baz=74
335A Moody 73.63 348 P **P 08 53 43.3 -0.1**
baz=74
527A Woodward Ranch 73.71 342 P **P 08 53 43.6 -0.4**
baz=74
NATX Nacogdoches 73.71 351 PFAKE 08 54 00.0 +16
NATX LR LR
comp=Z,800nm,20.1s
526A Mary Lane Ranc 73.74 342 P **P 08 53 43.9 -0.3**
baz=74
429A Davenport Ranc 73.80 344 P **P 08 53 44.2 -0.2**
baz=74
430A Baggett Ranch, 73.82 345 P **P 08 53 44.2 -0.4**
baz=74
333A Richland Sprin 73.92 347 P **P 08 53 44.1 -1.0**
baz=75
332A Millersview 74.12 346 P **P 08 53 45.3 -0.9**
baz=75
331A San Angelo 74.17 345 P **P 08 53 45.2 -1.4**
baz=75
427A Hayter Ranch, 74.34 343 P **P 08 53 46.8 -0.8**
baz=75
330A Mertzon 74.41 345 P **P 08 53 47.4 -0.6**
baz=75
234A Clairette 74.45 348 P **P 08 53 47.5 -0.6**
baz=75
232A Coleman 74.59 346 P **P 08 53 48.4 -0.7**
baz=75
425A Indio Mountain 74.64 341 P **P 08 53 48.2 -1.2**
baz=75
329A Wagon Wheel Ra 74.65 344 P **P 08 53 49.3 -0.1**
baz=75
GOGA Godfrey 74.70 0 PFAKE 08 54 00.0 +10
GOGA LR LR
comp=Z,200nm,19.4s
328A Wristen Ranch, 74.72 343 P **P 08 53 49.8 0.0**
baz=75
134A White-Moore Ra 75.00 348 P **P 08 53 50.6 -0.7**
baz=76
133A Hamilton Ranch 75.17 347 P **P 08 53 51.6 -0.7**
baz=76
OUZ Omahuta 75.64 236 PFAKE 08 54 00.0 +4.8
OUZ LR LR
comp=Z,300nm,18.3s
Z33A Whitaker Ranch 75.81 347 P **P 08 53 55.3 -0.6**
baz=76
224A Cornudas Mount 76.01 341 P **P 08 53 56.8 -0.5**
baz=77
Z31A Sharp Cattle R 76.07 346 P **P 08 53 57.2 -0.3**
baz=77
126A Clayton Basin, 76.20 343 P **P 08 53 57.6 -0.7**
baz=77
125A Gardner Draw, 76.36 342 P **P 08 53 58.1 -1.2**
baz=77
SWET Sewanee 76.52 358 eP **P 08 53 58.9 -1.1**
comp=Z,162nm,2.6s
124A Stringfield Ra 76.59 341 P **P 08 54 00.9 +0.2**
baz=77
Z27A Tatum 76.67 344 P **P 08 54 00.9 -0.1**
baz=77
CPCT Cooper Cave 76.73 360 eP **P 08 54 01.3 +0.2**
Z26A Caprock 76.80 343 P **P 08 54 01.2 -0.5**
baz=78
X34A Smith Ranch, M 76.94 348 P **P 08 54 02.3 -0.1**
baz=78
Z25A Roswell 76.97 342 P **P 08 54 02.5 -0.2**
baz=78
X33A Lawton 76.99 348 P **P 08 54 01.9 -0.8**
baz=78
Y28A McKinney Farm, 77.05 344 P **P 08 54 02.4 -0.7**
baz=78
Y27A Causey 77.21 344 P **P 08 54 03.2 -0.8**
baz=78
MSTX Muleshoe 77.21 344 eP **P 08 54 03.8 -0.3**
comp=Z,27nm,1.4s
MSTX Muleshoe 77.21 344 P **P 08 54 03.3 -0.7**
baz=78
X30A Coker Ranch, T 77.30 346 P **P 08 54 03.8 -0.6**
baz=78
GNAR Gosnell 77.44 355 PFAKE 08 54 20.0 +15
GNAR LR LR
comp=Z,18μm,20.5s
W33A Caddo, Fort Co 77.58 348 P **P 08 54 05.9 0.0**
baz=78
Y25A Mesa, Roswell 77.58 342 P **P 08 54 05.2 -0.9**
baz=78
TUC Tucson 77.63 337 eP **P 08 54 07.1 +0.7**
comp=Z,9.8nm,1.5s
W32A Sentinel 77.68 347 P **P 08 54 06.0 -0.5**
baz=78
Y24A Capitan 77.76 342 P **P 08 54 06.4 -0.8**
baz=78
AMTX Amarillo 77.88 345 eP **P 08 54 08.2 +0.5**
comp=Z,26nm,1.4s
AMTX Amarillo 77.88 345 P **P 08 54 07.1 -0.6**
baz=79
TUL1 Tulsa 77.95 350 P **P 08 54 06.1 -1.8**
baz=79
V34A Guthrie 78.11 349 P **P 08 54 07.7 -1.1**
baz=79
V33A Loosen Ranch, 78.21 348 P **P 08 54 09.3 -0.2**
baz=79
V31A Spring Creek L 78.42 347 P **P 08 54 10.4 -0.2**
baz=79
W26A Owens Ranch, T 78.50 344 P **P 08 54 10.4 -0.8**
baz=79
LAZ Ladron 78.62 341 eP **P 08 54 12.5 +0.5**
comp=Z,25nm,2.0s
W25A X Bar L Ranch, 78.78 343 P **P 08 54 12.4 -0.4**
baz=79
W24A Lazy 6 Ranch, 78.98 342 P **P 08 54 13.5 -0.5**
baz=80
V26A Tequesquite Ra 79.19 344 P **P 08 54 14.1 -0.8**
baz=80
AFI Afiamalu 79.28 261 PFAKE 08 54 30.0 +14
AFI LR LR
comp=Z,700nm,21.0s
USIN University of 79.31 357 eP **P 08 54 13.6 -1.7**
comp=Z,45nm,1.4s
USIN LR LR
comp=Z,500nm,19.6s
T33A Patterson Ranc 79.44 348 P **P 08 54 15.7 -0.5**
baz=80
U27A Thompson Grove 79.59 345 P **P 08 54 17.1 0.0**
baz=80
X16A Lo Mia Camp, P 79.80 337 P **P 08 54 18.4 0.0**
baz=80
U25A Circle Dot Ran 79.90 343 P **P 08 54 18.6 -0.3**
baz=81
W18A Petrified Fore 79.97 339 PFAKE 08 54 30.0 +11
W18A LR LR
comp=Z,200nm,19.5s
V22A San Miguel Ran 80.00 341 P **P 08 54 20.1 +0.6**
baz=81
T28A Walsh 80.13 345 P **P 08 54 19.7 -0.3**
baz=81
U23A El Rito 80.23 342 P **P 08 54 21.2 +0.5**
baz=81
U22A Llaves 80.43 341 P **P 08 54 21.0 -0.8**
baz=81
BLO Bloomington 80.48 358 eP **P 08 54 20.6 -1.1**
comp=Z,286nm,3.0s
BLO LR LR
comp=Z,300nm,18.1s
S28A Manter 80.55 346 P **P 08 54 22.0 -0.3**
baz=81
T25A Trinidad 80.61 344 P **P 08 54 23.1 +0.4**
baz=81
T24B San Luis 80.75 343 P **P 08 54 24.0 +0.4**
baz=81
WUAZ Wupatki 80.80 338 P **P 08 54 24.9 +1.2**
baz=82
S26A Kim 80.88 344 P **P 08 54 23.8 -0.3**
baz=82
S25A Robets Cordova 81.12 344 P **P 08 54 25.3 -0.1**
baz=82
R28A Tribune 81.26 346 P **P 08 54 25.7 -0.3**
baz=82
Q32A Meitler Ranch, 81.36 349 P **P 08 54 25.8 -0.6**
baz=82
R27A Eads 81.39 345 P **P 08 54 25.9 -0.8**
baz=82
SDCO Great Sand Dun 81.43 343 eP **P 08 54 27.8 +0.6**
comp=Z,0.5nm,0.7s
ACSO Alum Creek Sta 81.51 1 eP **P 08 54 25.3 -1.9**
comp=Z,2.9nm,0.6s
R26A Arlington 81.53 345 P **P 08 54 26.3 -1.2**
baz=82
R25A Fountain Ranch 81.56 344 P **P 08 54 27.6 -0.1**
baz=82
MVL Millersville 81.57 6 PFAKE 08 54 40.0 +13
MVL LR LR
comp=Z,700nm,19.3s
MVCO Mesa Verde 81.63 340 P **P 08 54 28.4 +0.2**
baz=82
S22A 4UR Ranch, Cre 81.73 342 P **P 08 54 28.5 -0.3**
baz=82
MWC Mount Wilson 81.74 332 PFAKE 08 54 40.0 +11
MWC LR LR
comp=Z,700nm,18.1s
U15A North Rim 81.92 337 P **P 08 54 29.4 -0.4**
baz=83
KSCO Kaye Shedlock' 82.06 345 P **P 08 54 31.2 +0.9**
baz=83
P30A Selden 82.16 347 P **P 08 54 30.9 +0.2**
baz=83
LUPA Lehigh Univers 82.24 7 PFAKE 08 54 40.0 +9.0
LUPA LR LR
comp=Z,300nm,18.2s
PV01 Paradox Valley 82.52 341 eP **P 08 54 33.9 +1.0**
comp=Z,1μm,1.3s
CPNY Central Park 82.56 8 PFAKE 08 54 40.0 +7.4
CPNY LR LR
comp=Z,700nm,20.8s
P25A Willow Gulch B 82.85 344 P **P 08 54 34.0 -0.4**
baz=84
PV04 Paradox Valley 82.85 340 eP **P 08 54 35.6 +1.1**
PV10 Paradox Valley 82.87 340 eP **P 08 54 35.3 +0.6**
SMCO Snowmass 83.13 342 eP **P 08 54 37.4 +1.2**
comp=Z,30nm,1.8s
SMCO LR LR
comp=Z,300nm,20.4s
YLE Yale 83.19 8 PFAKE 08 54 50.0 +14
YLE LR LR
comp=Z,4μm,20.0s
CCUT Cedar City 83.27 337 eP **P 08 54 37.9 +1.1**
comp=Z,10nm,1.5s
ISCO Idaho Springs 83.42 343 eP **P 08 54 39.0 +1.4**
TPNV Topopah Spring 83.61 335 PFAKE 08 54 50.0 +12
TPNV LR LR
comp=Z,600nm,21.5s
MVU Marysvale 83.83 338 PFAKE 08 54 50.0 +10
MVU LR LR
comp=Z,400nm,18.8s
BRYW Bryant College 83.94 9 PFAKE 08 54 50.0 +10
BRYW LR LR
comp=Z,1μm,20.5s
MMNY Mt. Morris Dam 84.18 4 PFAKE 08 54 50.0 +9.0
MMNY LR LR
comp=Z,600nm,21.3s
TMUT Trail Mountain 84.30 339 PFAKE 08 54 50.0 +7.9
TMUT LR LR
comp=Z,1μm,21.3s
O20A White River Ci 84.34 342 P **P 08 54 41.8 -0.3**
baz=85
BOSA Boshof 84.35 123 P P 08 54 36.6 -6.0
BOSA Boshof 84.35 123 P P 08 54 36.6 -6.0
comp=Z,3.6nm,0.8s,baz=227,slow=6.4,SNR=4.5
BOSA LR LR 09 26 56.0
comp=Z,143nm,19.2s,baz=204,slow=32
WES Weston 84.43 9 PFAKE 08 54 50.0 +7.8
WES LR LR
comp=Z,2μm,21.9s
R11A Troy Canyon, C 84.68 336 eP **P 08 54 44.8 +0.9**
comp=Z,81nm,2.9s
R11A Troy Canyon, C 84.68 336 P **P 08 54 44.6 +0.7**
baz=85
TPH Tonopah 84.95 334 PFAKE 08 55 00.0 +15
TPH LR LR
comp=Z,700nm,18.0s
N20A Spence Gulch, 85.01 342 P **P 08 54 46.1 +0.6**
baz=86
MPU Maple Canyon 85.08 339 PFAKE 08 55 00.0 +14
MPU LR LR
comp=Z,800nm,18.9s
K28A Ten Mile Ranch 85.44 347 P **P 08 54 46.7 -0.8**
baz=86
FFD Franklin Falls 85.46 9 PFAKE 08 55 00.0 +13
FFD LR LR
comp=Z,800nm,18.4s
DUG Dugway 85.57 338 eP **P 08 54 50.4 +2.1**
comp=Z,22nm,1.8s
K27A Flueckinger Fa 85.57 347 P **P 08 54 47.3 -0.9**
baz=86
RWWY Rawlins 85.58 343 PFAKE 08 55 00.0 +12
RWWY LR LR
comp=Z,600nm,20.3s
NVAR Mina Array Bea 85.63 334 P **P 08 54 46.9 -1.8**
NVAR Mina Array Bea 85.63 334 P **P 08 54 46.9 -1.8**
comp=Z,1.2nm,1.0s,baz=140,slow=5.9,SNR=6.2
CTU Camp Tracy 85.75 339 PFAKE 08 55 00.0 +11
CTU LR LR
comp=Z,700nm,20.5s
ECSD EROS Data Cent 85.76 351 eP **P 08 54 47.3 -1.6**
comp=Z,26nm,1.8s
ECSD LR LR
comp=Z,200nm,22.0s
ECSD EROS Data Cent 85.76 351 P **P 08 54 46.9 -2.0**
baz=86
J29A Okreek 85.95 348 P **P 08 54 49.5 -0.4**
baz=87
TCUT Toone Canyon 86.06 340 PFAKE 08 55 00.0 +9.2
TCUT LR LR
comp=Z,600nm,19.2s
J27A Elkhorn Farm, 86.07 347 P **P 08 54 50.5 0.0**
baz=87
J28A Allard Ranch, 86.11 347 P **P 08 54 50.2 -0.5**
baz=87
J26A Sides Ranch, S 86.31 346 P **P 08 54 50.8 -0.9**
baz=87
DBIC Dimbokro 86.32 78 LR LR 09 29 23.9
comp=Z,170nm,18.1s,baz=165,slow=33
K22A Casper 86.35 344 eP **P 08 54 52.2 +0.2**
comp=Z,27nm,1.4s
K22A Casper 86.35 344 P **P 08 54 51.3 -0.8**
baz=87
KNTN Kanton 86.49 269 PFAKE 08 55 00.0 +6.7
KNTN LR LR
comp=Z,2μm,21.6s
FRNY Flat Rock 86.61 7 PFAKE 08 55 00.0 +7.0
FRNY LR LR
comp=Z,400nm,19.0s
WVL Waterville 86.79 10 PFAKE 08 55 00.0 +6.1
WVL LR LR
comp=Z,700nm,21.7s
HVU Hansel Valley 87.04 339 eP **P 08 54 55.8 +0.4**
comp=Z,84nm,2.5s
BMN Battle Mountai 87.10 335 PFAKE 08 55 10.0 +14
BMN LR LR
comp=Z,500nm,18.9s
I25A Rochford 87.12 346 P **P 08 54 55.1 -0.7**
baz=88
PAHR Pah Rah Range 87.14 333 PFAKE 08 55 10.0 +14
PAHR LR LR
comp=Z,1μm,19.9s
PDAR Pinedale Array 87.15 341 P **P 08 54 54.4 -1.6**
PDAR Pinedale Array 87.15 341 P **P 08 54 54.4 -1.6**
comp=Z,0.6nm,0.8s,baz=155,slow=8.7,SNR=3.4
PDAR LR LR 09 26 33.8
comp=Z,58nm,18.9s,baz=348,slow=30
RSSD Black Hills 87.27 346 eP **P 08 54 56.6 +0.1**
comp=Z,1.9nm,0.7s
H28A Mission Ridge 87.29 348 P **P 08 54 54.8 -1.6**
baz=88
I23A Meade Ranch, G 87.39 345 P **P 08 54 56.3 -0.8**
baz=88
J19A Crowheart 87.50 342 P **P 08 54 56.5 -1.2**
baz=88
I21A Big Trails, Te 87.63 343 P **P 08 54 57.4 -0.8**
baz=88
H25A Fruitdale 87.67 346 P **P 08 54 57.2 -1.2**
baz=88
REDW Red Top Meadow 88.02 341 eP P 08 54 57.7 -2.5
comp=Z,27nm,1.8s
REDW LR LR
comp=Z,200nm,18.3s
G25A Newell 88.20 346 P **P 08 55 00.3 -0.5**
baz=89
LOHW Long Hollow 88.20 341 eP **P 08 55 01.3 +0.3**
comp=Z,24nm,2.0s
LOHW LR LR
comp=Z,500nm,21.9s
G24A Alzada 88.51 346 P **P 08 55 01.6 -0.7**
baz=89
IMW Indian Meadow 88.55 341 eP **P 08 55 03.4 +0.7**
comp=Z,54nm,2.5s
FLWY Flagg Ranch 88.66 341 eP **P 08 55 03.8 +0.6**
comp=Z,50nm,2.0s
H17A Grant Village 88.93 341 PFAKE 08 55 20.0 +15
H17A LR LR
comp=Z,300nm,19.4s
F24A Ekalaka 89.01 346 P **P 08 55 02.7 -1.9**
baz=90
YFT Old Faithful 89.04 341 PFAKE 08 55 20.0 +15
YFT LR LR
comp=Z,900nm,19.5s
LKWY Lake 89.05 341 PFAKE 08 55 20.0 +15
LKWY LR LR
comp=Z,100nm,18.5s
PQI Presque Isle 89.08 11 PFAKE 08 55 20.0 +15
PQI LR LR
comp=Z,900nm,21.6s
HLID Hailey 89.14 338 eP **P 08 55 06.0 +0.5**
comp=Z,74nm,3.0s
HLID Hailey 89.14 338 P **P 08 55 05.5 +0.1**
baz=90
DZM Mont Dzumac 89.18 241 eLR LR 09 23 38.3
comp=Z,487nm,26.4s
YMR Madison River 89.28 341 eP **P 08 55 07.0 +0.9**
comp=Z,42nm,1.9s
YMR LR LR
comp=Z,1μm,18.8s

MCMT McKenzie Canyo 89.90 340 *e*P **P** **08 55 10.2 +1.1**
comp=Z,8.0nm,1.6s
D24A Glendive 90.22 346 P **P** **08 55 09.0 -1.2**
baz=91
DLMT Dillon 90.33 340 PFAKE 08 55 20.0 +9.1
DLMT LR LR
comp=Z,400nm,19.6s
BOZ Bozeman (W) 90.36 341 PFAKE 08 55 20.0 +8.9
BOZ LR LR
comp=Z,400nm,18.8s
E20A Meyer Farm, Mu 90.37 344 P **P** **08 55 11.3 +0.3**
baz=91
PINOR Pine Mountain 91.31 334 PFAKE 08 55 30.0 +15
PINOR LR LR
comp=Z,400nm,19.5s
MSO Missoula 92.04 340 PFAKE 08 55 30.0 +11
MSO LR LR
comp=Z,200nm,18.4s
F10A Beach Ranch, E 92.15 337 PFAKE 08 55 30.0 +11
F10A LR LR
comp=Z,200nm,19.5s
YBMT Yellow Bay 93.02 340 *e*P P 08 55 17.9 -5.3
NEW Newport 94.21 339 *e*P **P** **08 55 28.7 +0.1**
comp=Z,1.9nm,0.8s
LON Longmire 94.23 335 PFAKE 08 55 40.0 +11
LON LR LR
comp=Z,300nm,19.9s
TORD Torodi Ar. Bea 95.42 77 LR LR 09 34 01.7
comp=Z,120nm,18.3s,baz=260,slow=33
STKA Stephens Creek 95.65 218 LR LR 09 27 22.5
comp=Z,142nm,20.7s,baz=206,slow=29
LSZ Lusaka 95.71 116 PFAKE 08 55 50.0 +13
LSZ LR LR
comp=Z,300nm,20.8s
EIDS Eidsvold 96.10 228 PFAKE 08 55 50.0 +12
EIDS LR LR
comp=Z,100nm,18.5s
SCHQ Schefferville 97.22 10 LR LR 09 35 17.5
comp=Z,117nm,18.6s,baz=74,slow=33
BBOO Buckleboo 97.25 213 PFAKE 08 55 50.0 +6.8
BBOO LR LR
comp=Z,4μm,18.0s
FORT Forrest 102.10 208 PFAKE 08 56 10.0 +5.2
FORT LR LR
comp=Z,500nm,18.6s
CTAO Charters Tower 102.98 228 PFAKE 08 56 20.0 +11
CTAO LR LR
comp=Z,100nm,19.3s
DLBC Dease Lake 106.83 337 *e*PKPdf 09 00 37.0
WRAB Tennant Creek 109.19 218 PFAKE 09 00 50.0
WRAB LR LR
comp=Z,200nm,18.8s
SKAG Skagway 109.29 335 PFAKE 09 00 50.0
SKAG LR LR
comp=Z,200nm,19.6s
KMBO Kilima Mbogo 112.05 113 PFAKE 09 01 00.0
KMBO LR LR
comp=Z,200nm,18.3s
DIV Divide 114.02 332 PFAKE 09 01 00.0 +12
DIV LR LR
comp=Z,200nm,18.1s
EGAK Eagle 115.10 337 PFAKE 09 01 00.0 +10
EGAK LR LR
comp=Z,100nm,18.5s
DOT Dot Lake 115.20 335 PFAKE 09 01 00.0 +10
DOT LR LR
comp=Z,704nm,21.0s
SML Sawmill 115.39 332 PFAKE 09 01 00.0 +9.1
SML LR LR
comp=Z,100nm,20.4s
RC01 Rabbit Creek A 115.42 331 PFAKE 09 01 00.0 +9.1
RC01 LR LR
comp=Z,100nm,18.7s
INK Inuvik 115.71 342 PFAKE 09 01 00.0 +8.8
INK LR LR
comp=Z,300nm,19.2s
RES Resolute Bay 116.28 357 PFAKE 09 01 00.0 +7.8
RES LR LR
comp=Z,300nm,20.1s
H11S2 WAKE ISLAND Hyl 116.36 272 T T 11 07 54.9
baz=130,slow=75,SNR=4.7
H11S1 WAKE ISLAND Hyl 116.38 272 T T 11 07 55.6
baz=130
H11S3 WAKE ISLAND Hyl 116.38 272 T T 11 07 55.3
baz=130,slow=75,SNR=4.7
COLA College 117.25 334 PFAKE 09 01 00.0 +5.7
COLA LR LR
comp=Z,100nm,18.0s
FALS False Pass 117.44 320 PFAKE 09 01 10.0 +15
FALS LR LR
comp=Z,600nm,22.0s
PPLA Purkeypile 117.46 331 PFAKE 09 01 10.0 +15
PPLA LR LR
comp=Z,101nm,18.1s
SVW2 Sparrevohn 117.64 329 PFAKE 09 01 10.0 +15
SVW2 LR LR
comp=Z,300nm,21.8s
CAST Castle Rocks 117.75 332 PFAKE 09 01 10.0 +15
CAST LR LR
comp=Z,200nm,21.4s
COLD Coldfoot 119.49 336 PFAKE 09 01 10.0 +11
COLD LR LR
comp=Z,202nm,20.3s
WLF Walferdange 120.29 49 PFAKE 09 01 10.0 +9.4
WLF LR LR
comp=Z,300nm,19.0s
TUE Stuetta 120.56 53 PFAKE 09 01 10.0 +8.4
TUE LR LR
comp=Z,400nm,20.0s
CEL Celeste 120.62 64 PFAKE 09 01 10.0 +8.2
CEL LR LR
comp=Z,300nm,20.0s
MEM Membach 120.67 48 PFAKE 09 01 10.0 +8.7
MEM LR LR
comp=Z,500nm,19.8s
TIP Timpagrande 121.67 64 PFAKE 09 01 10.0 +6.2
TIP LR LR
comp=Z,300nm,22.0s
SOEI Soe 122.64 214 PFAKE 09 01 20.0 +13
SOEI LR LR
comp=Z,300nm,21.5s
KHC Kasperske Hory 124.33 52 PFAKE 09 01 20.0 +12
KHC LR LR
comp=Z,300nm,20.1s
TNA Tin City 124.70 330 PFAKE 09 01 20.0 +11
TNA LR LR
comp=Z,200nm,21.2s
GAMB Gambell 125.45 327 PFAKE 09 01 20.0 +10
GAMB LR LR
comp=Z,400nm,21.9s
SANT Santorini 126.31 71 PFAKE 09 01 20.0 +7.3
SANT LR LR
comp=Z,100nm,18.2s
DAMY Dhamar 128.02 105 PFAKE 09 01 30.0 +13
DAMY LR LR
comp=Z,200nm,22.0s
CISI Cisompet, Garu 129.85 195 PFAKE 09 01 30.0 +10
CISI LR LR
comp=Z,300nm,20.1s
ISP Isparta 130.57 72 PFAKE 09 01 30.0 +9.1
ISP LR LR
comp=Z,100nm,18.0s
LUWI Luwuk 131.08 217 PFAKE 09 01 30.0 +7.5
LUWI LR LR
comp=Z,300nm,19.3s
ANTO Ankara 133.04 70 PFAKE 09 01 40.0 +15
ANTO LR LR
comp=Z,100nm,19.8s
MDJ Mudanjiang 155.43 288 PKP **PKPdf** **09 02 04.9 +1.7**
MDJ AMB AMB
comp=Z,140nm,3.8s
NJ2 Nanjing 159.42 250 *e*PKP **PKPdf** **09 02 11.8 +3.2**
GYA Guiyang 162.49 213 *e*PKP **PKPdf** **09 02 14.8 +2.5**
GYA PKS **PKSdf** **09 05 47.0 +1.4**
GYA AMB AMB
comp=Z,140nm,8.6s
GYA LR LR
comp=Z,150nm,23.2s
GYA LR LR
comp=Z,130nm,24.4s
GYA LR LR
comp=Z,160nm,25.8s
KSH Kashi 164.61 91 *e*PKP **PKPdf** **09 02 17.9 +4.0**
KSH *es*PKP 09 02 32.3
KSH *e*SKS **SKSdf** **09 09 17.1 -1.1**
KSH AMB AMB
comp=Z,44nm,4.3s
KSH LR LR
comp=Z,48nm,6.4s
KSH LR LR
comp=Z,86nm,5.1s
KSH LR LR
comp=Z,93nm,4.3s
KURBB Kurchatov Arra 164.94 48 PKP **PKPdf** **09 02 09.9 -3.7**
comp=Z,0.2nm,0.4s,baz=310,slow=0.6,SNR=5.1
KURK Kurchatov 164.95 47 PKP **PKPdf** **09 02 09.9 -3.7**
CD2 Chengdu 167.60 213 *e*PKP **PKPdf** **09 02 18.4 +2.0**
HHC Hu-ho-hao-te 168.27 271 *e*PKP **PKPdf** **09 02 14.0 -2.6**
HHC PP PP 09 07 21.5 +6.5
HHC AMB AMB
comp=Z,180nm,11.0s
HHC LR LR
comp=Z,310nm,21.1s
HHC LR LR
comp=Z,390nm,26.5s
HHC LR LR
comp=Z,170nm,16.5s
SONM Songino Array 170.38 313 PKP PKPdf 09 02 12.8 -4.9
SONM PKPab PKPab 09 03 29.0 -5.4
SONM Songino Array 170.38 313 PKP PKPdf 09 02 12.8 -4.9
comp=Z,0.4nm,0.9s,baz=74,slow=5.1,SNR=2.2
SONM PKPab PKPab 09 03 29.0 -5.4
comp=Z,1.0nm,1.0s,baz=67,slow=3.7,SNR=4.5
LZH Lanzhou 171.75 230 *e*PKP **PKPdf** **09 02 18.5 -0.4**
WMQ Urumqi 173.49 68 PKP **PKPdf** **09 02 21.3 +2.1**
WMQ PP **PP** **09 07 42.9 +2.2**
WMQ AMB AMB
comp=Z,23nm,11.7s
GTA Gaotai 176.35 233 *e*PKP PKPdf 09 02 25.8 +5.5

IDC 14 08:51:22.9±8.8, 18°.89S×176°.34W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=387.5km s-min=37.7km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.40**	**260**	P	P	08 59 51.2	-0.4
	0.2nm,0.4s,baz=97,slow=7.5,SNR=3.7						
ASAR	**Alice Springs**	**46.43**	**255**	P	P	08 59 52.0	+0.2
	0.4nm,0.7s,baz=89,slow=8.1,SNR=5.3						
ILAR	**Eielson Array**	**86.41**	**12**	P	P	09 04 06.7	0.0
	0.2nm,0.5s,baz=221,slow=4.6,SNR=7.4						

*ISCJB **14** 09:05:28.4±1.3, 67°.54N±0°.03×33°.9E±0°.2, h0km, Error ellipse: s-maj=10.5km s-min=4.3km az=176.6*
*HEL **14** 09:05:29.9±0.4, 67°.63N×34°.23E, h0km, ML2.0, Explosion*
*NAO **14** 09:05:29.4±1.3, 67°.60N×34°.17E, ML2.6*
*CSEM **14** 09:05:30.3±0.7, 67°.55N×33°.96E, h2km, ML2.6, Error ellipse: s-maj=12.8km s-min=6.1km az=90.0, Mining explosion.*
*IDC **14** 09:05:33.8±2.4, 67°.63N×33°.42E, h0km, mb1 3.1/3, mb1mx2.9/28, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=24.3km s-min=9.3km az=79.0*

ISC 14 09:05:26.9±1.6, 67°.61N±0°.03×34°.42E±0°.08, h0km, n41, σ1s42/64, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.55**	**271**	Pg	**Pg**	**09 05 38.3**	**+0.9**
	baz=90,slow=16						
APA0				Lg	Lg	09 05 44.7	
	baz=81,slow=37						
APA0				Rg	Rg	09 05 46.8	
	baz=78,slow=37						
APA0	**Apatity Array**	**0.55**	**271**	Pg	**Pg**	**09 05 38.3**	**+0.9**
	baz=90,slow=16						
APA0				Lg	Lg	09 05 44.7	
	baz=81,slow=37						
APA0				Rg	Rg	09 05 46.8	
	baz=78,slow=37						
APA0	**Apatity Array**	**0.55**	**271**	Pg	**Pg**	**09 05 38.3**	**+0.9**
	SNR=129						
APA0				Lg	Lg	09 05 44.7	
	SNR=55						
VRF	**Varrio**	**1.84**	**277**	PG	**Pb**	**09 06 01.2**	**-0.3**
	baz=88						
VRF				SN	**Sn**	**09 06 24.1**	**+0.4**
VRF				MSG		09 06 24.1	
	comp=Z,12nm,0.2s						
VRF	**Varrio**	**1.84**	**277**	Pg	**Pb**	**09 06 01.1**	**-0.3**
VRF				Sn	**Sn**	**09 06 24.1**	**+0.4**
KU6	**Riekki**	**2.40**	**231**	PB	**Pb**	**09 06 10.7**	**-0.2**
	baz=44						
KU6				SG	**Sb**	**09 06 42.1**	**+1.2**
KU6	**Riekki**	**2.40**	**231**	Pb	**Pb**	**09 06 10.6**	**-0.2**
KU6				Sg	**Sb**	**09 06 42.1**	**+1.2**
MSF	**Maaselka**	**2.73**	**234**	SG	**Sb**	**09 06 51.1**	**+0.6**
MSF				MSG		09 06 51.1	
	comp=Z,7.0nm,0.3s						
MSF	**Maaselka**	**2.73**	**234**	Sg	**Sb**	**09 06 51.1**	**+0.6**
RNF	**Rovaniemi**	**3.44**	**257**	PN	**Pn**	**09 06 23.9**	**+2.3**
RNF				SN	**Sn**	**09 07 04.5**	**+1.5**
RNF				MSG		09 07 04.5	
	comp=Z,8.3nm,0.3s						
RNF	**Rovaniemi**	**3.44**	**257**	Pn	**Pn**	**09 06 23.9**	**+2.3**
RNF				Sn	**Sn**	**09 07 04.5**	**+1.5**
KEV	**Kevo**	**3.46**	**312**	PN	**Pn**	**09 06 24.1**	**+2.1**
KEV				SN	**Sn**	**09 07 02.9**	**-0.7**
KEV				MSG		09 07 02.9	
	comp=Z,11nm,0.3s						
KEV	**Kevo**	**3.46**	**312**	Pn	**Pn**	**09 06 24.0**	**+2.1**
KEV				Sn	**Sn**	**09 07 02.9**	**-0.7**
ARA0	**ARCESS Array S**	**3.80**	**305**	Pn	**Pn**	**09 06 28.1**	**+1.4**
	baz=121,slow=14						
ARA0				Pg	**Pb**	**09 06 35.0**	**+0.1**
	baz=119,slow=16						
ARA0				Sn	**Sn**	**09 07 10.7**	**-1.4**
	baz=122,slow=28						
ARA0				Lg	Lg	09 07 22.4	
	baz=122,slow=37						
ARA0	**ARCESS Array S**	**3.80**	**305**	Pn	**Pn**	**09 06 28.1**	**+1.4**
	baz=121,slow=14						
ARA0				Pg	**Pb**	**09 06 35.0**	**+0.1**
	baz=119,slow=16						
ARA0				Sn	**Sn**	**09 07 10.7**	**-1.4**
	baz=122,slow=28						
ARA0				Lg	Lg	09 07 22.4	
	baz=122,slow=37						
ARA0	**ARCESS Array S**	**3.80**	**305**	PN	**Pn**	**09 06 27.5**	**+0.8**
	baz=122						
ARA0	**ARCESS Array S**	**3.80**	**305**	Pn	**Pn**	**09 06 28.1**	**+1.4**
	SNR=126						
ARA0				Sn	**Sn**	**09 07 10.6**	**-1.4**
	SNR=7.9						
ARCES	**ARCESS Array B**	**3.80**	**305**	Pn	**Pn**	**09 06 28.1**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=119,slow=14,SNR=92						
ARCES				Pg	**Pb**	**09 06 34.9**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=119,slow=16,SNR=28						
ARCES				Sn	**Sn**	**09 07 10.7**	**-1.4**
	comp=Z,3.1nm,0.3s,baz=121,slow=27,SNR=12						
ARCES				Lg	Lg	09 07 22.6	
	comp=Z,8.8nm,0.3s,baz=124,slow=32,SNR=20						
HEF	**Hetta**	**4.13**	**286**	PN	**Pn**	**09 06 32.6**	**+1.4**
	baz=100						
HEF				SN	**Sn**	**09 07 19.7**	**-0.4**
HEF				MSG		09 07 19.7	
	comp=Z,2.1nm,0.2s						
HEF	**Hetta**	**4.13**	**286**	Pn	**Pn**	**09 06 32.5**	**+1.4**
HEF				Sn	**Sn**	**09 07 19.6**	**-0.4**
OUL	**Oulu**	**4.26**	**238**	SB	**Sb**	**09 07 34.7**	**+0.1**
OUL				MSG		09 07 34.7	
	comp=Z,1.9nm,0.3s						
OUL	**Oulu**	**4.26**	**238**	Sb	**Sb**	**09 07 34.7**	**+0.1**
JOF	**Joensuu**	**4.89**	**197**	SN	**Sn**	**09 07 38.6**	**-0.1**
JOF				MSG		09 07 38.6	
	comp=Z,1.7nm,0.3s						
JOF	**Joensuu**	**4.89**	**197**	Sn	**Sn**	**09 07 38.6**	**-0.1**
KIF	**Kilpisjarvi**	**5.24**	**292**	PN	**Pn**	**09 06 48.5**	**+2.1**
KIF				SN	**Sn**	**09 07 46.4**	**-1.0**
KIF				MSG		09 07 46.4	
	comp=Z,1.8nm,0.2s						
KIF	**Kilpisjarvi**	**5.24**	**292**	Pn	**Pn**	**09 06 48.5**	**+2.1**
KIF				Sn	**Sn**	**09 07 46.4**	**-1.0**
KAF	**Kangasniemi**	**6.50**	**216**	SN	**Sn**	**09 08 20.1**	**+1.6**
KAF				MSG		09 08 20.1	
	comp=Z,0.6nm,0.3s						
KAF	**Kangasniemi**	**6.50**	**216**	Sn	**Sn**	**09 08 20.1**	**+1.6**
VAF	**Ylistaro**	**6.71**	**233**	SG	**Sg**	**09 08 58.7**	**-3.6**
VAF				MSG		09 08 58.7	
	comp=Z,1.2nm,0.3s						
VAF	**Ylistaro**	**6.71**	**233**	Sg	**Sg**	**09 08 58.7**	**-3.6**
KEF	**Keuruu**	**6.80**	**221**	SN	**Sn**	**09 08 25.5**	**-0.3**
KEF				MSG		09 08 25.5	
	comp=Z,0.8nm,0.3s						
KEF	**Keuruu**	**6.80**	**221**	Sn	**Sn**	**09 08 25.5**	**-0.3**
FIA0	**FINESS Array S**	**7.15**	**214**	Pn	**Pn**	**09 07 13.2**	**+0.5**
	baz=20,slow=12						
FIA0				Sn	**Sn**	**09 08 32.6**	**-1.8**
	baz=34,slow=28						
FIA0				Lg	Lg	09 09 08.4	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**7.15**	**214**	Pn	**Pn**	**09 07 13.2**	**+0.5**
	baz=20,slow=12						
FIA0				Sn	**Sn**	**09 08 32.6**	**-1.8**
	baz=34,slow=28						
FIA0				Lg	Lg	09 09 08.4	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**7.15**	**214**	PN	**Pn**	**09 07 14.7**	**+2.1**
	baz=26						
FIA0				SN	**Sn**	**09 08 35.7**	**+1.3**
FIA0				MSG		09 08 35.7	
	comp=Z,0.5nm,0.2s						
FIA0	**FINESS Array S**	**7.15**	**214**	Pn	**Pn**	**09 07 13.1**	**+0.5**
	SNR=6.3						
FIA0				Sn	**Sn**	**09 08 32.7**	**-1.8**
	SNR=2.9						
FINES	**FINESS Array B**	**7.15**	**214**	Pn	**Pn**	**09 07 14.7**	**+2.1**
	comp=Z,2.0nm,0.3s,baz=32,slow=13,SNR=4.7						
FINES				Sn	**Sn**	**09 08 33.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=46,slow=22,SNR=5.0						
FINES				Lg	Lg	09 09 09.4	
	comp=Z,0.6nm,0.3s,baz=32,slow=25,SNR=5.3						
I43RU	**DUBNA INFRASONI 1.00**		**172**	*i*		10 12 10.0	
	baz=0.8,slow=327,SNR=0.9						
SPA0	**Spitsbergen Ar**	**11.78**	**342**	Pn	**Pn**	**09 08 14.1**	**-1.7**
	baz=153,slow=16						
SPA0	**Spitsbergen Ar**	**11.78**	**342**	Pn	**Pn**	**09 08 14.1**	**-1.7**
	baz=153,slow=16						
NOA	**NORSAR Array B**	**11.96**	**248**	Pn	**Pn**	**09 08 17.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=1.7						
NOA				Lg	Lg	09 11 41.0	
	comp=Z,0.1nm,0.3s,baz=220,slow=8.7,SNR=3.6						

*IDC **14** 09:19:50.3±1.1, 7°.24S×130°.65E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=95.8km s-min=19.7km az=66.0*
*ISCJB **14** 09:19:52.5±0.4, 7°.10S±0°.04×131°.23E±0°.09, h36km, mb3.9/7, Error ellipse: s-maj=13.6km s-min=5.2km az=167.7*
*NEIC **14** 09:19:55.1±0.5, 7°.19S×131°.23E, h50km, mb4.1/1, Error ellipse: s-maj=18.5km s-min=7.4km az=69.0*

ISC 14 09:19:54.2±0.6, 7°.16S±0°.05×131°.30E±0°.10, h36km, n40, σ2s43/43, mb4.0/7, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.32**	**13**	*e*Pn	**Pn**	**09 20 56.7**	**-0.7**
FAKI	**Fak Fak**	**4.32**	**13**	P	**Pn**	**09 20 57.5**	**0.0**
	baz=4.1,SNR=22						
FAKI				S	**Sn**	**09 21 43.3**	**-3.3**
	baz=4.1,SNR=5.9						
KDU	**Kakadu**	**5.61**	**168**	P	Pn	09 21 18.8	+3.6
	baz=5.8,SNR=50						
KDU				S	**Sn**	**09 22 21.1**	**+2.7**
	baz=5.8,SNR=7.2						
MTN	**Manton Dam**	**5.65**	**182**	P	Pn	09 21 19.9	+4.3
	baz=5.9,SNR=43						
MTN				S	**Sn**	**09 22 22.8**	**+3.5**
	baz=5.9,SNR=11						
KNRA	**Kununurra**	**8.82**	**196**	P	**Pn**	**09 22 01.8**	**+2.6**
	baz=9.1,SNR=18						
KNRA				S	**Sn**	**09 23 35.7**	**-1.6**
	baz=9.1,SNR=7.1						
WSI	**Waingapu**	**11.16**	**256**	P	Pn	09 22 37.3	+6.0
	baz=12,SNR=3.8						
WRAB	**Tennant Creek**	**13.03**	**167**	*e*Pn	**Pn**	**09 22 56.5**	**-0.5**
	4.0nm,0.6s						
WRA	**Warramunga Arr**	**13.04**	**167**	Pn	**Pn**	**09 22 56.7**	**-0.4**
WRA				Sn	**Sn**	**09 25 15.2**	**-5.7**
WRA	**Warramunga Arr**	**13.04**	**167**	Pn	**Pn**	**09 22 56.7**	**-0.4**
	0.9nm,0.3s,baz=347,slow=13,SNR=34						
WRA				Sn	**Sn**	**09 25 15.2**	**-5.7**
	2.1nm,0.3s,baz=347,slow=21,SNR=12						
COEN	**Coen**	**13.48**	**121**	*e*Pn	**Pn**	**09 23 05.2**	**+2.1**
COEN	**Coen**	**13.48**	**121**	P	**Pn**	**09 23 06.0**	**+2.9**
	baz=13,SNR=4.0						
PALU	**Palau**	**14.76**	**12**	S	**S**	**09 26 24.9**	**+4.5**
	baz=15,SNR=5.3						
QIS	**Mount Isa**	**15.56**	**150**	P	**P**	**09 23 33.3**	**-1.5**
	baz=16,SNR=3.2						
AS31	**Alice Springs**	**16.60**	**172**	*e*Pn	**Pn**	**09 23 44.0**	**-0.3**
ASAR	**Alice Springs**	**16.60**	**172**	Pn	**Pn**	**09 23 44.2**	**0.0**
ASAR				Sn	**Sn**	**09 26 42.1**	**-5.5**
ASAR	**Alice Springs**	**16.60**	**172**	Pn	**Pn**	**09 23 44.2**	**0.0**
	0.8nm,0.3s,baz=6.4,slow=9.6,SNR=53						
ASAR				Sn	**Sn**	**09 26 42.1**	**-5.5**
	0.5nm,0.3s,baz=2.7,slow=26,SNR=9.7						
WRKA	**Warakurna**	**18.00**	**189**	P	**P**	**09 24 02.4**	**+0.4**
	baz=18,SNR=3.9						
WRKA				S	Sn	09 27 12.3	-9.3
	baz=18,SNR=3.9						
CTAO	**Charters Tower**	**19.38**	**133**	P	**Pn**	**09 24 18.3**	**0.0**
	21nm,1.8s						
RABL	**Rabaul**	**20.97**	**83**	S	Sn	09 28 41.4	+8.0
	baz=21,SNR=22						
QLP	**Quilpie**	**22.90**	**149**	S	S	09 28 51.4	-11
	baz=23,SNR=5.2						
STKA	**Stephens Creek**	**26.40**	**160**	P	**P**	**09 25 30.5**	**+3.1**
STKA	**Stephens Creek**	**26.40**	**160**	P	**P**	**09 25 30.5**	**+3.1**
	0.9nm,0.7s,baz=338,slow=11,SNR=1.9						
PSI	**Prapat**	**33.79**	**286**	P	**P**	**09 26 32.5**	**-0.7**
	baz=34,SNR=7.7						
CMAR	**Chiang Mai Arr**	**40.83**	**309**	P	**P**	**09 27 30.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**40.83**	**309**	P	**P**	**09 27 30.9**	**-1.8**
	1.4nm,0.3s,baz=152,slow=8.7,SNR=4.7						
SONM	**Songino Array**	**59.01**	**341**	P	**P**	**09 29 51.0**	**+0.5**
SONM	**Songino Array**	**59.01**	**341**	P	**P**	**09 29 51.0**	**+0.5**
	0.5nm,0.8s,baz=169,slow=6.6,SNR=4.3						
MK31	**Makanchi Array**	**69.07**	**326**	*e*P	**P**	**09 30 56.1**	**-0.4**
MKAR	**Makanchi Array**	**69.07**	**326**	P	**P**	**09 30 56.7**	**+0.2**
MKAR	**Makanchi Array**	**69.07**	**326**	P	**P**	**09 30 56.7**	**+0.2**
	1.7nm,0.5s,baz=114,slow=8.5,SNR=42						
ZALV	**Zalesovo Beam**	**72.30**	**333**	P	**P**	**09 31 15.1**	**-0.8**
ZALV	**Zalesovo Beam**	**72.30**	**333**	P	**P**	**09 31 15.1**	**-0.8**
	0.9nm,0.4s,baz=116,slow=3.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**73.33**	**328**	P	**P**	**09 31 21.9**	**-0.2**
	0.6nm,0.4s,baz=126,slow=4.4,SNR=9.5						
KURK	**Kurchatov**	**73.33**	**328**	P	**P**	**09 31 21.9**	**-0.2**
BVAR	**Borovoye Array**	**78.89**	**327**	P	**P**	**09 31 53.8**	**+0.1**
BVAR	**Borovoye Array**	**78.89**	**327**	P	**P**	**09 31 53.8**	**+0.1**
	0.4nm,0.5s,baz=96,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**130.10**	**281**	PKP	**PKPdf**	**09 39 01.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**130.10**	**281**	PKP	**PKPdf**	**09 39 01.2**	**-0.1**
	0.5nm,0.9s,baz=304,slow=1.1,SNR=2.3						
LPAZ	**La Paz**	**149.79**	**141**	PKPbc	**PKPab**	**09 39 45.9**	**-1.6**
LPAZ	**La Paz**	**149.79**	**141**	PKPbc	**PKPab**	**09 39 45.9**	**-1.6**
	0.4nm,0.4s,baz=326,slow=3.6,SNR=3.3						

IDC 14 09:35:51.6±2.2, 7°.74S×149°.28E, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.3/4, ML3.3/2, MS3.2/1, Ms1 3.4/1, ms1mx2.8/9, Error ellipse: s-maj=117.5km s-min=27.9km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.67**	**232**	Pn	Pn	09 36 35.9	0.0
	24nm,0.3s,baz=46,slow=10,SNR=52						
PMG				Sn	Sn	09 37 00.2	-8.8
	49nm,0.3s,baz=188,slow=22,SNR=20						
WRA	**Warramunga Arr**	**18.88**	**229**	P	P	09 40 13.4	-0.4
	0.1nm,0.3s,baz=55,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**21.64**	**221**	P	P	09 40 44.3	+0.6
	0.2nm,0.3s,baz=50,slow=8.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**56.06**	**298**	LR	LR	10 10 00.8	
	comp=Z,21nm,20.6s,baz=225,slow=37						
ILAR	**Eielson Array**	**86.20**	**23**	P	P	09 48 34.5	-0.2
	0.4nm,0.9s,baz=261,slow=4.5,SNR=4.4						

IDC ***14*** *09:42:58.6±1.9, 9°36S×113°18E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/21, mbtmp3.4/5, Error ellipse: s-maj=113.7km s-min=20.2km az=53.0*

ISCJB ***14*** *09:43:04.9±0.9, 9°60S±0°06×113°27E±0°07, h36km, mb3.5/5, Error ellipse: s-maj=10.6km s-min=7.9km az=144.5*

DJA ***14*** *09:43:08.9±1.1, 9°S±7°×11°3E±°, h20km±13km, M4.0/6, MLv4.0/6*

ISC 14 09:43:04.7±0.9, 9°57S±0°09×113°25E±0°08, h36km, n12, σ1°79/14, mb3.4/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.30**	**9**	P	**Pn**	**09 43 27.5**	**+1.2**
GMJI				S	**Sn**	**09 43 41.9**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.41**	**40**	P	**Pn**	**09 43 30.0**	**+2.1**
JAGI				S	**Sn**	**09 43 46.3**	**+1.1**
KRKI	**Karangkates**	**1.60**	**331**	P	x	09 43 32.6	
NBBI	**Negara**	**1.80**	**49**	P	x	09 43 38.7	
ABJI	**Asem Bagus**	**2.01**	**29**	P	**Pn**	**09 43 38.3**	**+2.2**
PWJI	**Pagerwojo**	**2.09**	**317**	P	**Pn**	**09 43 40.2**	**+2.9**
PWJI				S	**Sn**	**09 44 03.2**	**+1.1**
WRA	**Warramunga Arr**	**22.83**	**119**	P	**P**	**09 48 04.8**	**-0.1**
	0.5nm,0.5s,baz=295,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**24.21**	**128**	P	**P**	**09 48 18.9**	**+0.7**
	1.3nm,0.7s,baz=300,slow=8.6,SNR=21						
ASAR				PcP	**PcP**	**09 51 58.0**	**-0.4**
	0.2nm,0.5s,baz=319,slow=2.1,SNR=3.5						
STKA	**Stephens Creek**	**34.39**	**134**	P	**P**	**09 49 49.9**	**+1.2**
	1.6nm,0.8s,baz=314,slow=11,SNR=4.1						
SONM	**Songino Array**	**57.47**	**355**	P	**P**	**09 52 48.2**	**-2.0**
	0.2nm,0.6s,baz=145,slow=5.3,SNR=3.4						
MKAR	**Makanchi Array**	**62.54**	**337**	P	**P**	**09 53 22.8**	**-2.0**
	0.1nm,0.3s,baz=142,slow=7.3,SNR=2.7						
YKA	**Yellowknife Ar**	**116.97**	**23**	PKP	**PKPdf**	**10 01 43.6**	**-1.7**
	0.1nm,0.7s,baz=304,slow=1.2,SNR=4.7						

ISCJB ***14*** *09:55:51.4±0.5, 16°27N±0°04×61°70W±0°10, h153km±3km, mb3.2/4, Error ellipse: s-maj=16.3km s-min=5.0km az=161.2*

TRN ***14*** *09:55:51.1, 16°26N×61°68W, h150km, MD4.0, M3.3(FDF)*

IDC ***14*** *09:55:51.6±0.8, 16°23N×61°81W, h139km±9km, mb3.0/4, mb1 3.3/4, mb1mx3.0/25, mbtmp3.0/4, Error ellipse: s-maj=28.8km s-min=10.1km az=78.0*

ISC 14 09:55:52.2±0.8, 16°25N±0°05×61°71W±0°10, h150km±6km, n43, σ0°50/55, mb3.4/4, 7C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZG	**Guadaloupe-1**	**0.12**	**209**	*i*P	**Pn**	**09 56 12.4**	**0.0**
SSG	**Sans Toucher**	**0.16**	**168**	*e*P	**Pn**	**09 56 12.7**	**+0.1**
BCG	**Bois Riant Cap**	**0.19**	**151**	*e*P	**Pn**	**09 56 12.7**	**+0.1**
FNG	**Fond-Bernard**	**0.19**	**172**	*e*P	**Pn**	**09 56 12.8**	**+0.1**
CRG	**Carmichael**	**0.20**	**165**	*e*P	**Pn**	**09 56 13.2**	**+0.5**
LKG	**Breislack**	**0.21**	**166**	*e*P	**Pn**	**09 56 12.9**	**+0.1**
TAG	**Tarade**	**0.21**	**167**	*e*P	**Pn**	**09 56 13.0**	**+0.3**
ECG	**Echelle**	**0.21**	**165**	*i*P	**Pn**	**09 56 13.1**	**+0.3**
SCG	**Saint Claude**	**0.22**	**172**	*e*P	**Pn**	**09 56 12.8**	**+0.2**
SCG				*e*S	**Sn**	**09 56 27.9**	**-0.2**
DOG	**Dongo Capester**	**0.23**	**157**	*e*P	**Pn**	**09 56 12.9**	**+0.2**
PHG	**Guadaloupe-2**	**0.24**	**164**	*e*P	**Pn**	**09 56 13.1**	**+0.4**
SEG	**Port Louis**	**0.25**	**52**	*e*P	**Pn**	**09 56 12.8**	**+0.2**
HMG	**Houelmont**	**0.27**	**177**	*e*P	**Pn**	**09 56 12.8**	**+0.1**
HMG				*e*S	**Sn**	**09 56 28.3**	**0.0**
TBG	**Guadaloupe-3**	**0.40**	**171**	*e*P	**Pn**	**09 56 13.3**	**+0.2**
MGG	**Marie-Galante**	**0.50**	**131**	*i*P	**Pn**	**09 56 13.8**	**+0.3**
DEG	**La Desirade**	**0.63**	**84**	*e*P	**Pn**	**09 56 14.2**	**-0.2**
H05N1	**Guadeloupe/Mar**	**0.63**	**84**	P	**Pn**	**09 56 14.3**	**0.0**
H05N1				S	**Sn**	**09 56 30.4**	**-0.7**
BBL	**Barber's Block**	**0.76**	**162**	*e*P	**Pn**	**09 56 15.0**	**-0.1**
BPA	**Boggy Peak**	**0.81**	**350**	*e*P	**Pn**	**09 56 16.4**	**+0.9**
BPA				*e*S	**Sn**	**09 56 32.5**	**-0.7**
MDN	**Morne-Daniel**	**0.97**	**162**	*e*P	**Pn**	**09 56 17.2**	**+0.4**
MDN				*e*S	**Sn**	**09 56 36.0**	**+0.4**
DPMT	**Pointe Michel**	**1.03**	**162**	*e*P	**Pn**	**09 56 17.8**	**+0.5**
DBCT	**Belle View Cho**	**1.03**	**160**	*e*P	**Pn**	**09 56 17.9**	**+0.5**
DBCT				*e*S	**Sn**	**09 56 36.9**	**+0.3**
DSHT	**Scott's Head**	**1.08**	**162**	*e*P	**Pn**	**09 56 17.9**	**+0.2**
DSHT				*e*S	**Sn**	**09 56 36.6**	**-0.5**
ANWB	**Willy Bob**	**1.41**	**357**	*e*P	**Pn**	**09 56 20.8**	**-0.1**
ANWB				*e*S	**Sn**	**09 56 41.5**	**-1.4**
SKI	**Saint Kitts**	**1.46**	**318**	*e*P	**Pn**	**09 56 21.5**	**+0.1**
SKI				*e*S	**Sn**	**09 56 42.9**	**-0.8**
FDF	**Fort de France**	**1.60**	**160**	*i*P	**Pn**	**09 56 22.4**	**-0.5**
FDF				*e*S	**Sn**	**09 56 46.1**	**-0.4**
BVM	**Bellevue**	**1.63**	**157**	*e*P	**Pn**	**09 56 22.9**	**-0.4**
ZAM	**Aeronautique**	**1.79**	**158**	*e*P	**Pn**	**09 56 24.6**	**-0.4**
LPMF	**Morne Lapointe**	**1.81**	**157**	*e*P	**Pn**	**09 56 24.4**	**-0.8**
TRMF	**Trois Ilets**	**1.82**	**159**	*e*P	**Pn**	**09 56 24.9**	**-0.4**
BIM	**Bigot**	**1.83**	**160**	*e*P	**Pn**	**09 56 25.6**	**+0.1**
MVM	**Montagne Vaucl**	**1.86**	**155**	*e*P	**Pn**	**09 56 25.3**	**-0.5**
H05S1	**Guadeloupe/Mar**	**2.00**	**155**	P	**Pn**	**09 56 26.9**	**-0.5**
	SNR=633						
H05S1				S	**Sn**	**09 56 53.3**	**-1.0**
SLB	**Belfond**	**2.49**	**165**	*e*P	**Pn**	**09 56 33.4**	**0.0**
SLB				*e*S	**Sn**	**09 57 04.5**	**-0.5**
MCLT	**Moule a Chique**	**2.63**	**163**	*e*P	**Pn**	**09 56 35.1**	**+0.1**
SSV	**Crater Summit**	**2.95**	**170**	*e*P	**Pn**	**09 56 38.5**	**-0.5**
SVV	**Soufriere Volc**	**2.95**	**171**	*e*P	**Pn**	**09 56 39.7**	**+0.6**
SVB	**Belmont**	**2.99**	**171**	*e*P	**Pn**	**09 56 39.1**	**-0.5**
FCV	**Fort Charlotte**	**3.11**	**172**	*e*P	**Pn**	**09 56 41.1**	**+0.1**
TXAR	**Lajitas Array**	**40.60**	**296**	P	**P**	**10 03 17.1**	**-0.5**
	0.1nm,0.5s,baz=106,slow=6.7,SNR=3.9						
PDAR	**Pinedale Array**	**48.48**	**313**	P	**P**	**10 04 20.1**	**0.0**
	0.5nm,0.5s,baz=117,slow=9.3,SNR=5.0						
YKA	**Yellowknife Ar**	**58.98**	**334**	P	**P**	**10 05 35.8**	**0.0**
	0.2nm,0.5s,baz=106,slow=7.4,SNR=7.0						
TORD	**Torodi Ar. Bea**	**61.20**	**84**	P	**P**	**10 05 52.9**	**+1.2**
	0.5nm,0.7s,baz=286,slow=7.1,SNR=4.2						

ISCJB ***14*** *10:02:28.8±0.9, 52°0N±0°2×30°4W±0°1, h10km, mb3.6/12, MS3.3/9, Error ellipse: s-maj=26.0km s-min=11.9km az=4.5*

IDC ***14*** *10:02:29.2±1.1, 52°00N×30°34W, h0km, mb3.6/12, mb1 3.8/13, mb1mx3.7/36, mbtmp3.6/13, ML4.4/1, MS3.5/10, Ms1 3.4/10, ms1mx3.1/50, Error ellipse: s-maj=34.0km s-min=16.3km az=7.0*

ISC 14 10:02:30.6±1.0, 52°0N±0°2×30°3W±0°1, h10km, n23, σ0°53/16, mb3.8/12, MS3.2/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**16.39**	**68**	Pn	**P**	**10 06 22.5**	**-0.9**
	baz=268,slow=10,SNR=10						
SFJD	**Kangerlussuaq**	**18.09**	**334**	LR	LR	10 13 01.4	
	comp=Z,222nm,20.1s,baz=151,slow=35						
JMIC	**Jan Mayen**	**21.46**	**19**	LR	LR	10 13 38.0	
	comp=Z,84nm,21.9s,baz=71,slow=31						
SCHQ	**Schefferville**	**21.80**	**292**	P	**P**	**10 07 22.1**	**-0.3**
	4.0nm,0.6s,baz=84,slow=12,SNR=11						
NOA	**NORSAR Array B**	**24.23**	**52**	P	**P**	**10 07 47.1**	**-0.2**
	0.5nm,0.6s,baz=254,slow=9.7,SNR=2.6						
NOA				LR	LR	10 15 25.1	
	comp=Z,70nm,20.7s,baz=275,slow=32						
HFS	**Hagfors**	**25.44**	**54**	LR	LR	10 17 33.4	
	comp=Z,113nm,18.2s,baz=249,slow=36						
DAVOX	**Davos/Dischmat**	**26.42**	**85**	LR	LR	10 17 20.5	
	comp=Z,75nm,19.8s,baz=79,slow=34						
GERES	**GERESS Array B**	**27.90**	**79**	LR	LR	10 18 36.3	
	comp=Z,92nm,18.3s,baz=87,slow=35						
VRAC	**Vranov**	**29.46**	**76**	LR	LR	10 19 10.2	
	comp=Z,60nm,18.8s,baz=108,slow=34						
FINES	**FINESS Array B**	**31.38**	**50**	P	**P**	**10 08 51.3**	**+0.1**
	1.7nm,0.9s,baz=287,slow=12,SNR=3.7						
FINES				LR	LR	10 22 12.9	
	comp=Z,54nm,18.9s,baz=245,slow=38						
AKASG	**Malin Array Be**	**36.30**	**68**	P	**P**	**10 09 33.3**	**-0.7**
	0.4nm,0.4s,baz=297,slow=8.3,SNR=3.1						
OBN	**Obninsk**	**38.48**	**58**	LR	LR	10 24 25.0	
	comp=Z,96nm,18.4s,baz=90,slow=34						
YKA	**Yellowknife Ar**	**43.56**	**310**	P	**P**	**10 10 34.1**	**0.0**
	0.3nm,0.7s,baz=58,slow=8.8,SNR=7.2						
YKA				PcP	**PcP**	**10 12 21.2**	**-0.4**
	0.1nm,0.6s,baz=62,slow=3.7,SNR=5.1						
BRTR	**Keskin Array B**	**44.79**	**80**	P	**P**	**10 10 45.8**	**+1.3**
	0.4nm,0.5s,baz=316,slow=6.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**46.50**	**135**	P	**P**	**10 10 57.9**	**-0.1**
	0.5nm,0.5s,baz=338,slow=7.2,SNR=4.9						
KBZ	**Khabaz**	**47.87**	**69**	LR	LR	10 31 34.1	
	comp=Z,49nm,20.1s,baz=13,slow=36						
PDAR	**Pinedale Array**	**51.93**	**293**	P	**P**	**10 11 39.6**	**0.0**
	0.5nm,0.5s,baz=52,slow=5.8,SNR=4.4						
AKTO	**Aktyubinsk**	**51.99**	**54**	P	**P**	**10 11 39.5**	**-0.1**
	1.3nm,0.8s,baz=305,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**53.73**	**332**	P	**P**	**10 11 52.7**	**+0.4**
	0.3nm,0.9s,baz=3,slow=6.8,SNR=2.8						
BVAR	**Borovoye Array**	**56.15**	**46**	P	**P**	**10 12 10.4**	**+0.4**
	0.8nm,0.6s,baz=317,slow=6.1,SNR=5.1						
MKAR	**Makanchi Array**	**65.93**	**44**	P	**P**	**10 13 16.5**	**0.0**
	0.4nm,0.6s,baz=332,slow=4.5,SNR=6.8						
WRA	**Warramunga Arr**	**145.83**	**26**	PKPbc	**PKPbc**	**10 22 10.1**	**+0.1**
	0.5nm,0.8s,baz=343,slow=3.4,SNR=4.9						
ASAR	**Alice Springs**	**149.23**	**29**	PKPbc	**PKPbc**	**10 22 19.2**	**-0.1**
	0.2nm,0.5s,baz=356,slow=2.4,SNR=4.6						

ISCJB ***14*** *10:12:09.9±0.9, 51°5N±0°1×179°25W±0°06, h41km±6km, mb3.7/14, Error ellipse: s-maj=19.4km s-min=6.3km az=179.9*

NEIC ***14*** *10:12:10.3, 51°4N×178°98W, h9km, mb4.0/5, ML3.6(AEIC), After AEIC.*

IDC ***14*** *10:12:12.0±2.7, 51°53N×179°22W, h44km±23km, mb3.4/11, mb1 3.7/12, mb1mx3.5/30, mbtmp3.6/12, ML3.0/1, Error ellipse: s-maj=27.0km s-min=14.9km az=171.0*

ISC 14 10:12:09.8±2.0, 51°4N±0°1×179°17W±0°04, h28km±11km, n43, σ0°99/41, mb3.7/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.44**	**34**	P	**Pb**	**10 12 19.2**	**0.0**
GAEA	**Gareloi East**	**0.46**	**34**	P	**Pb**	**10 12 19.3**	**-0.3**
GANE	**Gareloi Northe**	**0.48**	**30**	P	**Pb**	**10 12 19.6**	**-0.3**
TASE	**Tanaga Southea**	**0.83**	**58**	P	**Pb**	**10 12 24.9**	**-0.8**
TANO	**Tanaga North**	**0.83**	**51**	P	**Pb**	**10 12 25.0**	**-0.7**
TAFL	**Tanaga Flats**	**0.87**	**65**	P	**Pb**	**10 12 25.3**	**-1.0**
TAFP	**Tanaga Falls P**	**0.89**	**55**	P	**Pn**	**10 12 25.5**	**-1.0**
TAFP				S	**Sb**	**10 12 37.4**	**-0.8**
KIKV	**Kanaga Island**	**1.33**	**68**	P	**Pn**	**10 12 32.6**	**0.0**
KINC	**Kanaga Island**	**1.38**	**67**	P	**Pn**	**10 12 33.4**	**+0.2**
KIRH	**Kanaga Island**	**1.39**	**68**	P	**Pn**	**10 12 33.5**	**+0.2**
KIRH				S	**Sn**	**10 12 51.4**	**+0.7**
ADK	**Adak**	**1.62**	**72**	P	**Pn**	**10 12 36.4**	**-0.1**
ADK				S	**Sn**	**10 12 57.3**	**+0.8**
ADAG	**Mount Adagdak**	**1.70**	**69**	P	**Pn**	**10 12 38.7**	**+1.1**
ETKA	**Kagalaska Isla**	**1.78**	**74**	P	**Pn**	**10 12 38.9**	**+0.1**
GSCK	**Great Sitkin C**	**1.97**	**71**	P	**Pn**	**10 12 41.6**	**+0.3**
GSTD	**Great Sitkin T**	**1.99**	**70**	P	**Pn**	**10 12 42.4**	**+0.7**
GSTD				S	**Sn**	**10 13 07.2**	**+1.5**
GSMY	**Great Sitkin M**	**2.04**	**70**	P	**Pn**	**10 12 42.6**	**+0.3**
GSTR	**Great Sitkin T**	**2.05**	**69**	*e*Pn	**Pn**	**10 12 43.5**	**+1.0**
FX1	**Attu Island--F**	**4.95**	**290**	P	**Pn**	**10 13 23.1**	**+0.8**
	2.1nm,0.3s,baz=52,slow=19,SNR=6.6						
FX1				S	**Sn**	**10 14 19.1**	**+0.6**
	3.5nm,0.3s,baz=90,slow=20,SNR=3.1						
PPLA	**Purkeypile**	**18.45**	**41**	*e*Pn	**Pn**	**10 16 26.6**	**+3.3**
	56nm,1.7s						
KTH	**Kantishna Hill**	**19.25**	**40**	*e*P	**Pn**	**10 16 33.3**	**+0.4**
	6.9nm,0.8s						
PAX	**Paxson**	**21.33**	**44**	*e*P	**P**	**10 16 56.6**	**+2.2**
	2.0nm,0.6s						
ILAR	**Eielson Array**	**21.37**	**39**	P	**P**	**10 16 54.5**	**-0.2**
	0.3nm,0.7s,baz=236,slow=9.7,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**33.45**	**204**	T	T	10 54 26.4	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**33.46**	**204**	T	T	10 54 27.3	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**33.47**	**204**	T	T	10 54 27.5	
	baz=21						
H11S1	**WAKE ISLAND Hy**	**34.68**	**204**	T	T	10 55 57.0	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**34.69**	**204**	T	T	10 56 32.6	
	baz=17,slow=75						
H11S3	**WAKE ISLAND Hy**	**34.69**	**204**	T	T	10 56 15.8	
	baz=17,slow=75						
YKA	**Yellowknife Ar**	**35.38**	**46**	P	**P**	**10 19 01.8**	**-0.8**
	0.1nm,0.4s,baz=281,slow=7.2,SNR=7.3						
YKA				PcP	**PcP**	**10 21 32.3**	**+0.3**
	0.1nm,0.4s,baz=284,slow=3.0,SNR=5.7						
YKA				ScP	**ScP**	**10 25 14.6**	**-0.9**
	0.1nm,0.6s,baz=308,slow=2.7,SNR=4.0						
MCMT	**McKenzie Canyo**	**43.39**	**72**	*e*P	**P**	**10 20 10.1**	**+0.2**
	1.1nm,0.7s						
SONM	**Songino Array**	**46.43**	**296**	P	**P**	**10 20 34.6**	**+0.7**
	0.7nm,0.7s,baz=46,slow=6.4,SNR=3.5						
BW06	**Boulder Array**	**46.52**	**72**	P	**P**	**10 20 35.2**	**+0.4**
	2.5nm,0.7s						
PDAR	**Pinedale Array**	**46.52**	**72**	P	**P**	**10 20 35.5**	**+0.7**
	2.9nm,0.8s,baz=303,slow=3.7,SNR=18						
FRB	**Frobisher Bay**	**53.13**	**31**	P	**P**	**10 21 23.6**	**-0.8**
	0.3nm,0.3s,baz=320,slow=7.9,SNR=4.7						
ARCES	**ARCESS Array B**	**58.03**	**350**	P	**P**	**10 21 59.2**	**-0.3**
	6.6nm,1.1s,baz=12,slow=9.2,SNR=3.1						
TXAR	**Lajitas Array**	**58.88**	**81**	P	**P**	**10 22 06.5**	**+0.4**
	0.4nm,0.6s,baz=302,slow=3.7,SNR=6.5						
MKAR	**Makanchi Array**	**59.84**	**308**	P	**P**	**10 22 11.2**	**-1.3**
	0.2nm,0.3s,baz=47,slow=6.9,SNR=9.0						
AKASG	**Malin Array Be**	**75.45**	**342**	P	**P**	**10 23 49.0**	**-1.8**
	0.1nm,0.3s,baz=23,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**81.87**	**224**	P	**P**	**10 24 26.0**	**-0.4**
	0.6nm,0.9s,baz=33,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**85.35**	**222**	P	**P**	**10 24 44.9**	**+0.7**
	0.3nm,0.6s,baz=20,slow=5.2,SNR=5.5						
H03N2	**Juan Fernandez**	**121.37**	**105**	T	T	12 43 13.7	
	baz=318						
H03N1	**Juan Fernandez**	**121.39**	**105**	T	T	12 43 11.5	
	baz=318						
H03N3	**Juan Fernandez**	**121.39**	**105**	T	T	12 44 06.3	
	baz=318						

MAN 14 10:15:21, 17°84N×120°91E, h15km, mb3.8, ML2.6, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.27**	**226**	*e*P	Pb	10 15 27.9	+0.4
ABRA				*e*S	Sn	10 15 37.1	+0.8
APYP	**Conner**	**0.31**	**85**	*e*P	Pb	10 15 28.5	+0.2
PIP	**Pasuquin**	**0.56**	**330**	*i*P	Pb	10 15 32.5	-0.1
CAUP	**Cauayan**	**1.24**	**135**	*e*P	Pn	10 15 43.6	-0.2

JSN ***14*** *10:32:13.0±0.3, 20°60N×72°23W, h15km*

ISCJB ***14*** *10:32:26.8±0.2, 18°37N±0°04×72°75W±0°03, h6km, mb4.1/26, MS3.8/29, Error ellipse: s-maj=5.7km s-min=4.1km az=26.1*

IDC ***14*** *10:32:26.0±0.6, 18°59N×72°67W, h0km, mb3.8/12, mb1 4.1/17, mb1mx4.0/31, mbtmp4.0/17, ML3.5/5, MS3.7/31, Ms1 3.7/31, ms1mx3.6/44, Error ellipse: s-maj=21.9km s-min=14.1km az=56.0*

BJI ***14*** *10:32:28.6, 18°50N×72°60W, h10km, Ms4.9/2, Ms7 4.5/2*

NEIC ***14*** *10:32:28.6±0.3, 18°43N×72°77W, h10km, mb4.5/18, Error ellipse: s-maj=7.5km s-min=5.7km az=21.0*

ISC 14 10:32:27.8±0.5, 18°44N±0°07×72°78W±0°05, h6km, n248, σ1°43/228, mb4.2/26, MS3.8/29, 75C-73D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.51**	**69**	*e*Pn	**Pn**	**10 32 54.9**	**-0.6**
GTBY	**Guantanamo Bay**	**2.66**	**304**	*e*Pn	Pn	10 33 08.6	-2.6
GRTK	**Grand Turk**	**3.43**	**27**	*e*Pn	**Pn**	**10 33 21.7**	**-0.1**
GWJ	**Greenwich**	**3.77**	**265**	*i* P	**Pn**	**10 33 25.6**	**-1.1**
GWJ	**Greenwich**	**3.77**	**265**	*i* P	**Pn**	**10 33 25.6**	**-1.1**
HOJ	**Hope**	**3.80**	**264**	*i* P	**Pn**	**10 33 26.2**	**-0.7**
HOJ	**Hope**	**3.80**	**264**	*i* P	**Pn**	**10 33 26.2**	**-0.7**
STH	**Stony Hill**	**3.85**	**265**	*i* P	**Pn**	**10 33 26.2**	**-1.4**
STH				*i* S	**Sb**	**10 34 21.2**	**-1.8**
STH	**Stony Hill**	**3.85**	**265**	*i* P	**Pn**	**10 33 26.2**	**-1.4**
STH				*i* S	**Sb**	**10 34 21.2**	**-1.8**
MTDJ	**Mount Denham**	**4.52**	**268**	*e*Pn	**Pn**	**10 33 35.4**	**-1.5**
CRPR	**Cabo Rojo, PR**	**5.41**	**94**	*e*Pn	**Pn**	**10 33 49.8**	**+0.8**
	42nm,0.6s						
LSP	**Las Mesas**	**5.41**	**92**	Pn	**Pn**	**10 33 47.8**	**-1.3**
AOPR	**Arecibo Observ**	**5.72**	**90**	*e*Pn	**Pn**	**10 33 55.1**	**+1.8**
OBIP	**Obispado Ponce**	**5.88**	**93**	*e*Pn	**Pn**	**10 33 55.1**	**-0.4**
	44nm,0.7s						
CELP	**Cerrillos**	**5.90**	**93**	*e*Pn	**Pn**	**10 33 56.1**	**+0.3**
SDV	**Santo Domingo**	**9.72**	**167**	*e*Pn	**Pn**	**10 34 49.1**	**+0.7**
BCIP	**Isla Barro Col**	**11.48**	**218**	Pn	**Pn**	**10 35 13.6**	**+1.3**
ROSC	**El Rosal**	**13.58**	**187**	*e*Pn	**Pn**	**10 35 43.5**	**+2.0**
ROSC	**El Rosal**	**13.58**	**187**	Pn	**Pn**	**10 35 43.2**	**+1.7**
	2.6nm,0.3s,baz=8.2,slow=23,SNR=11						
ROSC				LR	LR	10 41 53.9	
	comp=Z,154nm,18.0s,baz=88,slow=41						
JTS	**JuntasAbangare**	**14.30**	**237**	Pn	**Pn**	**10 35 51.5**	**+0.6**
JTS	**JuntasAbangare**	**14.30**	**237**	Pn	**Pn**	**10 35 51.5**	**+0.6**
	0.5nm,0.3s,baz=294,slow=10.0,SNR=2.2						
JTS				LR	LR	10 41 36.2	
	comp=Z,187nm,18.8s,baz=46,slow=38						
TEIG	**Tepich**	**14.74**	**279**	Pn	**Pn**	**10 35 56.9**	**0.0**
TEIG				Sn	Sn	10 38 32.7	-7.9
TEIG	**Tepich**	**14.74**	**279**	Pn	**Pn**	**10 35 56.8**	**0.0**
	1.1nm,0.3s,baz=91,slow=9.9,SNR=8.1						
TEIG				Sn	Sn	10 38 32.7	-7.9
	0.4nm,0.3s,baz=18,slow=20,SNR=4.2						
APG	**El Apazote**	**17.28**	**261**	Pn	**Pn**	**10 36 31.2**	**+1.1**
APG	**El Apazote**	**17.28**	**261**	Pn	**Pn**	**10 36 31.2**	**+1.1**
	0.1nm,0.3s,baz=98,slow=14,SNR=2.4						
APG				LR	LR	10 44 21.3	
	comp=Z,215nm,18.5s,baz=106,slow=41						
KMSC	**Kings Mountain**	**18.29**	**337**	⇑P	**Pn**	**10 36 42.3**	**0.0**
	baz=18						
TKL	**Tuckaleechee C**	**19.72**	**333**	P	**P**	**10 36 56.0**	**-2.1**
TKL	**Tuckaleechee C**	**19.72**	**333**	P	**P**	**10 36 56.0**	**-2.1**
	0.1nm,0.3s,baz=330,slow=16,SNR=2.9						
TKL				LR	LR	10 44 53.3	
	comp=Z,178nm,19.6s,baz=156,slow=38						
BLA	**Blacksburg**	**19.87**	**342**	*e*P	**P**	**10 37 01.5**	**+1.7**
	17nm,1.0s						
CPCT	**Cooper Cave**	**19.89**	**331**	*e*Pn	**Pn**	**10 37 03.0**	**+1.5**
TZTN	**Tazewell**	**20.38**	**334**	*e*P	Pn	10 37 07.3	-0.1
	4nm,1.4s						
SWET	**Sewanee**	**20.39**	**328**	*e*Pn	Pn	10 37 10.3	+2.9
	27nm,1.6s						
PTGA	**Pitinga**	**22.84**	**145**	P	**P**	**10 37 31.8**	**0.0**
	46nm,1.7s						
PTGA	**Pitinga**	**22.84**	**145**	P	**P**	**10 37 31.8**	**0.0**
	6.6nm,1.0s,baz=343,slow=11,SNR=7.0						
PTGA				LR	LR	10 46 15.1	
	comp=Z,86nm,19.2s,baz=323,slow=36						
ACSO	**Alum Creek Sta**	**23.43**	**340**	*e*P	**P**	**10 37 37.2**	**-0.5**
	28nm,1.5s						
HKT	**Hockley**	**23.90**	**303**	*e*P	**P**	**10 37 45.1**	**+2.8**
	40nm,2.0s						
PBMO	**Poplar Bluff**	**23.98**	**323**	*e*P	**P**	**10 37 44.4**	**+1.3**
	9.6nm,0.9s						
835A	**Beeville**	**24.95**	**298**	⇑P	**P**	**10 37 53.9**	**+1.8**
	baz=25						
735A	**Kenedy**	**25.11**	**299**	⇑P	**P**	**10 37 55.6**	**+2.1**
	baz=25						
635A	**Leesville**	**25.26**	**300**	⇓P	**P**	**10 37 57.1**	**+2.2**
	baz=25						
535A	**Dale**	**25.32**	**302**	⇑P	**P**	**10 37 57.7**	**+2.3**
	baz=25						
934A	**Benavides**	**25.34**	**296**	⇓P	**P**	**10 37 58.2**	**+2.6**
	baz=25						
034A	**Hebbronville**	**25.35**	**294**	⇑P	**P**	**10 37 58.0**	**+2.3**
	baz=25						
834A	**Tilden**	**25.52**	**297**	⇓P	**P**	**10 37 58.9**	**+1.7**
	baz=26						
335A	**Moody**	**25.69**	**305**	⇓P	**P**	**10 38 00.6**	**+1.8**
	baz=26						
634A	**China Grove, S**	**25.73**	**300**	⇑P	**P**	**10 38 01.0**	**+1.8**
	baz=26						
734A	**La Parita Cree**	**25.73**	**299**	⇑P	**P**	**10 38 01.4**	**+2.2**
	baz=26						
ATAH	**Atahualpa**	**26.01**	**193**	LR	LR	10 50 09.0	
	comp=Z,175nm,21.2s,baz=2.1,slow=41						
534A	**Blanco**	**26.05**

baz=31,SNR=5.3
Q31A Ellis 30.87 317 ⇓P P 10 38 47.0 +2.0
baz=31
MSTX Muleshoe 30.89 306 ⇑P P 10 38 46.3 +0.9
baz=31
Z27A Tatum 31.00 305 ⇓P P 10 38 47.3 +1.0
baz=31
R30A Dighton 31.06 315 ⇑P P 10 38 47.8 +1.1
baz=31
P31A Stockton 31.15 318 ⇑P P 10 38 48.9 +1.4
baz=31
S29A Ulysses 31.29 313 ⇓P P 10 38 50.5 +1.7
baz=31
226B Tecolote Peak, 31.34 302 ⇑P P 10 38 51.1 +1.8
baz=31
Q30A Quinter 31.39 316 ⇓P P 10 38 51.0 +1.3
baz=31
W27A Bowe Ranch, En 31.54 308 ⇓P P 10 38 52.3 +1.3
baz=32
Z26A Caprock 31.58 304 ⇑P P 10 38 52.3 +0.9
baz=32
425A Indio Mountain 31.64 299 ⇓P P 10 38 53.5 +1.5
baz=32
P30A Selden 31.72 317 ⇑P P 10 38 53.7 +1.2
baz=32
T28A Walsh 31.75 312 ⇑P P 10 38 54.1 +1.3
baz=32
325A Bean Ranch, Si 31.79 300 ⇑P P 10 38 54.9 +1.5
baz=32,SNR=7.0
Q29A Oakley 31.85 316 ⇑P P 10 38 55.0 +1.3
baz=32
225A Deer Hill, Car 31.88 302 ⇑P P 10 38 55.2 +1.0
baz=32,SNR=6.2
X26A CR and CF Fran 31.91 306 ⇓P P 10 38 55.7 +1.3
baz=32
125A Gardner Draw, 31.92 303 ⇓P P 10 38 55.8 +1.4
baz=32
U27A Thompson Grove 31.94 310 ⇑P P 10 38 55.9 +1.4
baz=32
O30A MW Ranch, Wils 31.95 318 ⇓P P 10 38 55.9 +1.3
baz=32
R28A Tribune 32.12 314 ⇓P P 10 38 57.3 +1.1
baz=32
Z25A Roswell 32.16 304 ⇓P P 10 38 56.8 +0.2
baz=32,SNR=6.2
324A Moseley Ranch, 32.23 300 ⇑P P 10 38 57.6 +0.4
baz=32,SNR=5.4
224A Cornudas Mount 32.44 301 ⇑P P 10 38 59.8 +0.8
baz=32,SNR=10.0
124A Stringfield Ra 32.57 302 ⇓P P 10 39 01.2 +1.0
baz=33,SNR=9.0
U26A Atchley Ranch, 32.59 310 ⇓P P 10 39 00.9 +0.5
baz=33
W25A X Bar L Ranch, 32.66 307 ⇑P P 10 39 01.8 +0.9
baz=33
Z24A Sheeppen Canyo 32.69 303 ⇓P P 10 39 02.3 +1.0
baz=33,SNR=6.0
P28A Saint Francis 32.72 316 ⇑P P 10 39 02.5 +1.1
baz=33
R27A Eads 32.77 313 ⇓P P 10 39 03.5 +1.6
baz=33
L30A Spencer Herefo 32.79 321 ⇓P P 10 39 03.1 +1.2
baz=33
T26A Comanche Natio 32.82 311 ⇓P P 10 39 03.5 +1.1
baz=33
Y24A Capitan 32.95 304 ⇑P P 10 39 04.7 +1.2
baz=33
V25A Rancho No Teng 33.01 308 ⇑P P 10 39 05.6 +1.5
baz=33,SNR=5.7
U25A Circle Dot Ran 33.09 309 ⇑P P 10 39 05.9 +1.2
baz=33
W24A Lazy 6 Ranch, 33.37 307 ⇑P P 10 39 08.3 +1.1
baz=33
T25A Trinidad 33.40 310 ⇓P P 10 39 09.0 +1.6
baz=33
Y23A Lovelace Mesa, 33.43 304 ⇑P P 10 39 09.2 +1.5
baz=33,SNR=8.0
Q26A Hugo 33.58 314 ⇑P P 10 39 10.8 +1.9
baz=34
S25A Robets Cordova 33.64 311 ⇑P P 10 39 11.7 +2.2
baz=34
R25A Fountain Ranch 33.75 312 ⇓P P 10 39 11.9 +1.5
baz=34
X23A Hourglass Bar 33.75 305 ⇓P P 10 39 12.4 +1.8
baz=34
W23A Werner Place, 33.92 306 ⇓P P 10 39 13.1 +1.0
baz=34
Z22A Elephant Butte 33.94 303 ⇑P P 10 39 13.5 +1.4
baz=34
BNM Barren Site 33.95 304 eP P 10 39 13.3 +0.9
8.7nm,1.2s
LPM Los Pinos Moun 34.01 304 eP P 10 39 13.9 +1.2
J29A Okreek 34.04 323 ⇑P P 10 39 14.2 +1.5
baz=34
T24B San Luis 34.07 310 ⇑P P 10 39 15.0 +1.6
baz=34
Q25A Bedland, Calha 34.07 313 ⇑P P 10 39 15.0 +1.7
baz=34
ANMO Albuquerque 34.08 306 eP P 10 39 16.1 +2.6
7.3nm,1.4s
V23A Ortiz Mt. (NFS 34.16 307 ⇑P P 10 39 15.9 +1.8
baz=34
S24A Houchin Ranch, 34.19 311 ⇑P P 10 39 16.5 +2.1
baz=34
R24A Sanders Place, 34.37 312 ⇑P P 10 39 17.4 +1.5
baz=34
121A Cookes Peak, D 34.40 301 ⇑P P 10 39 17.9 +1.7
baz=34
LAZ Ladron 34.44 304 eP P 10 39 18.1 +1.6
5.1nm,1.3s
K27A Flueckinger Fa 34.74 320 ⇓P P 10 39 20.3 +1.4
baz=35
V22A San Miguel Ran 34.77 307 ⇓P P 10 39 21.4 +2.0
baz=35
LPAZ La Paz 34.81 172 P P 10 39 21.1 +0.9
LPAZ La Paz 34.81 172 P P 10 39 21.1 +0.9
0.6nm,0.5s,baz=337,slow=8.1,SNR=4.3
LPAZ LR LR 10 54 25.6
comp=Z,265nm,21.1s,baz=5.0,slow=38
R23A Moffat 34.86 311 ⇓P P 10 39 21.8 +1.6
baz=35
U22A Llaves 34.90 308 ⇑P P 10 39 22.0 +1.5
baz=35,SNR=5.8
319A Douglas 35.36 298 ⇑P P 10 39 26.0 +1.6
baz=35,SNR=5.1
ISCO Idaho Springs 35.42 314 ⇑P P 10 39 26.7 +1.6
baz=35
I27A Quinn 35.43 323 ⇓P P 10 39 26.8 +1.9
baz=36
SIV San Ignacio 36.10 161 P P 10 39 31.3 +0.6
SIV San Ignacio 36.10 161 P P 10 39 31.3 +0.6
0.5nm,0.3s,baz=354,slow=9.2,SNR=3.0
G27A Dupree 36.16 324 ⇓P P 10 39 32.5 +1.4
baz=36
L23A Garrett 36.59 317 ⇑P P 10 39 36.9 +2.0
baz=37
SCHQ Schefferville 36.61 6 LR LR 10 54 11.1
comp=Z,124nm,19.4s,baz=177,slow=36
H25A Fruitdale 36.66 322 ⇓P P 10 39 37.1 +1.8
baz=37
ULM Lac du Bonnet 36.72 335 LR LR 10 55 44.9
comp=Z,86nm,18.4s,baz=116,slow=38
A30A Hoffart Farm, 36.76 332 ⇓P P 10 39 38.0 +2.0
baz=37
G25A Newell 36.89 323 ⇓P P 10 39 38.6 +1.4
baz=37
A29A Manning Farm, 37.17 331 ⇑P P 10 39 40.8 +1.3
baz=37,SNR=5.9
J22A Midwest 37.74 319 ⇓P P 10 39 46.0 +1.4
baz=38
C26A Wahner Farm, P 37.81 327 ⇓P P 10 39 46.7 +1.7
baz=38
K21A Alcova 37.84 317 ⇓P P 10 39 47.4 +1.8
baz=38,SNR=5.4
X16A Lo Mia Camp, P 37.84 303 ⇑P P 10 39 47.9 +2.2
baz=38
J21A Lysite 38.32 318 ⇑P P 10 39 50.7 +1.2
baz=38
I21A Big Trails, Te 38.45 319 ⇑P P 10 39 52.1 +1.5
baz=38
A26A Wade Farm, Ken 38.49 329 ⇓P P 10 39 52.5 +1.8
baz=38
F22A Rosebud 38.86 322 ⇑P P 10 39 55.8 +1.9
baz=39
U15A North Rim 39.06 305 ⇓P P 10 39 57.4 +1.4
baz=39
J19A Crowheart 39.31 317 ⇓P P 10 39 59.0 +1.2
baz=39

PDAR Pinedale Array 39.41 316 P P 10 39 56.9 -1.9
PDAR Pinedale Array 39.41 316 P P 10 39 56.9 -1.9
0.3nm,0.5s,baz=78,slow=8.4,SNR=3.4
PDAR LR LR 10 57 37.7
comp=Z,134nm,18.7s,baz=116,slow=38
D22A Cohagen 39.59 324 ⇓P P 10 40 01.2 +1.2
baz=40
DAU Daniels Canyon 39.61 312 P P 10 40 01.2 +0.7
I19A Meeteetse 39.63 318 ⇑P P 10 40 02.0 +1.4
baz=40
C22A Vida 39.77 325 ⇑P P 10 40 02.8 +1.4
baz=40
H19A Powell 39.93 319 ⇓P P 10 40 04.4 +1.5
baz=40
E20A Meyer Farm, Mu 40.35 322 ⇓P P 10 40 07.2 +0.9
baz=40
H18A Shoshone NF, C 40.36 319 ⇑P P 10 40 07.1 +0.5
baz=40
LOHW Long Hollow 40.47 317 eP P 10 40 08.6 +1.1
8.2nm,1.3s
REDW Red Top Meadow 40.53 316 eP P 10 40 09.9 +1.9
4.9nm,0.9s
I17A Pilgrim Ck. 40.59 317 ⇓P P 10 40 09.9 +1.3
baz=41
MOOW Moose Ponds 40.62 317 eP P 10 40 10.7 +1.9
38nm,2.5s
DUG Dugway 40.64 311 eP P 10 40 11.3 +2.4
37nm,2.5s
DUG Dugway 40.64 311 ⇑P P 10 40 10.6 +1.7
baz=41
D20A Manuel Ranch, 40.66 323 ⇑P P 10 40 10.6 +1.7
baz=41
E19A Rath Farm, Rou 40.71 321 ⇓P P 10 40 11.0 +1.6
baz=41
FXWY Fox Creek 40.76 316 eP P 10 40 12.1 +2.1
44nm,2.6s
A21A Bergtoll Ranch 41.06 326 ⇑P P 10 40 14.1 +1.9
baz=41
D19A Cripps Ranch, 41.13 322 ⇑P P 10 40 14.3 +1.5
baz=41
B20A Solberg Farm, 41.34 324 ⇓P P 10 40 16.1 +1.7
baz=41
BDFB Brasilia 41.73 143 P P 10 40 18.2 +0.1
BDFB Brasilia 41.73 143 P P 10 40 18.2 +0.1
8.5nm,0.9s,baz=315,slow=10,SNR=7.0
BDFB LR LR 10 58 34.6
comp=Z,134nm,18.0s,baz=322,slow=38
A19A Klindworth Far 42.01 325 ⇓P P 10 40 21.3 +1.4
baz=42
R11A Troy Canyon, C 42.11 307 ⇑P P 10 40 23.0 +1.9
baz=42
MCMT McKenzie Canyo 42.45 317 eP P 10 40 25.3 +1.4
5.4nm,1.7s
NVAR Mina Array Bea 44.20 306 P P 10 40 37.7 -0.3
NVAR Mina Array Bea 44.20 306 P P 10 40 37.7 -0.3
0.7nm,0.8s,baz=106,slow=6.9,SNR=5.2
NEW Neport 46.57 320 ⇑P P 10 40 57.3 +0.9
baz=47
EDM Edmonton 46.78 328 eP P 10 40 59.6 +1.6
CPUP Villa Florida 46.96 161 LR LR 11 02 08.0
comp=Z,98nm,18.4s,baz=328,slow=38
YKA Yellowknife Ar 52.64 337 P P 10 41 41.8 -0.7
YKA Yellowknife Ar 52.64 337 P P 10 41 41.7 -0.7
1.1nm,0.9s,baz=124,slow=7.2,SNR=13
JMIC Jan Mayen 64.40 19 LR LR 11 06 15.3
comp=Z,48nm,20.7s,baz=253,slow=32
ILAR Eielson Array 66.71 333 P P 10 43 19.2 -0.2
ILAR Eielson Array 66.71 333 P P 10 43 19.2 -0.2
1.3nm,1.1s,baz=108,slow=4.2,SNR=7.1
ILAR LR LR 11 14 24.7
comp=Z,69nm,19.1s,baz=94,slow=38
DBIC Dimbokro 67.00 90 LR LR 11 11 43.8
comp=Z,27nm,18.6s,baz=270,slow=35
NOA NORSAR Array B 71.16 31 P P 10 43 44.1 -3.1
NOA NORSAR Array B 71.16 31 P P 10 43 44.1 -3.1
0.5nm,0.7s,baz=231,slow=6.4,SNR=3.5
NOA LR LR 11 10 32.7
comp=Z,37nm,20.8s,baz=285,slow=32
TORD Torodi Ar. Bea 71.42 82 P P 10 43 47.4 -2.1
TORD Torodi Ar. Bea 71.42 82 P P 10 43 47.4 -2.1
1.2nm,0.9s,baz=316,slow=4.0,SNR=2.9
TORD LR LR 11 12 30.6
comp=Z,30nm,21.3s,baz=270,slow=34
DAVOX Davos/Dischmat 71.84 46 LR LR 11 09 24.1
comp=Z,81nm,20.3s,baz=259,slow=31
HFS Hagfors 72.46 32 LR LR 11 11 55.1
comp=Z,27nm,18.8s,baz=250,slow=33
KEST Kesra 73.23 57 LR LR 11 11 19.2
comp=Z,19nm,21.7s,baz=294,slow=32
GERES GERESS Array B 74.07 43 P P 10 44 03.6 -1.3
GERES GERESS Array B 74.07 43 P P 10 44 03.6 -1.3
1.2nm,0.8s,baz=264,slow=2.9,SNR=7.8
GERES LR LR 11 11 28.8
comp=Z,100nm,21.6s,baz=265,slow=32
ARCES ARCESS Array B 75.75 21 LR LR 11 12 16.3
comp=Z,56nm,21.9s,baz=292,slow=32
VRAC Vranov 75.85 42 LR LR 11 12 36.1
comp=Z,144nm,21.9s,baz=270,slow=32
FINES FINESS Array B 78.14 29 LR LR 11 14 20.8
comp=Z,45nm,20.6s,baz=288,slow=32
MLR Muntele Rosu 82.98 44 LR LR 11 18 24.1
comp=Z,15nm,18.1s,baz=288,slow=33
AKASG Malin Array Be 83.28 39 LR LR 11 18 21.3
comp=Z,69nm,20.5s,baz=310,slow=33
PPT Papeete 83.54 249 LR LR 11 17 13.8
comp=Z,47nm,20.2s,baz=122,slow=32
OBN Obninsk 85.61 33 LR LR 11 19 24.3
comp=Z,46nm,18.3s,baz=269,slow=33
BRTR Keskin Array B 90.39 48 LR LR 11 23 33.8
comp=Z,15nm,19.6s,baz=314,slow=34
AKTO Aktyubinsk 98.91 29 LR LR 11 26 32.8
comp=Z,24nm,21.7s,baz=313,slow=33
WMQ Urumqi 115.51 16 PKP PKPdf 10 51 11.3 +0.2
WMQ LR LR
comp=N,36nm,16.1s
WMQ LR LR
comp=Z,38nm,19.5s
HHC Hu-ho-hao-te 120.88 356 ePKP PKPdf 10 51 16.9 -4.6
HHC SKKS 10 59 47.8
HHC LR LR
comp=N,470nm,20.1s
HHC LR LR
comp=E,500nm,23.0s
HHC LR LR
comp=Z,330nm,18.8s
LZH Lanzhou 125.68 3 ePKP PKPdf 10 51 26.5 -4.5
LZH sPKP 10 51 33.3
STKA Stephens Creek 146.28 240 PKPbc PKPdf 10 52 08.7 0.0
STKA Stephens Creek 146.28 240 PKPbc PKPdf 10 52 08.7 0.0
1.5nm,0.9s,baz=81,slow=7.6,SNR=3.1
WRA Warramunga Arr 154.35 262 PKP PKPdf 10 52 20.2 -1.4
WRA PKPbc PKPbc 10 52 28.4 -1.6
WRA Warramunga Arr 154.35 262 PKP PKPdf 10 52 20.2 -1.4
1.0nm,1.0s,baz=59,slow=1.5,SNR=4.6
WRA PKPbc PKPbc 10 52 28.4 -1.6
1.1nm,0.7s,baz=88,slow=2.5,SNR=6.8
ASAR Alice Springs 154.58 254 PKP PKPdf 10 52 20.0 -1.9
ASAR PKPbc PKPbc 10 52 28.1 -2.3
ASAR Alice Springs 154.58 254 PKP PKPdf 10 52 20.0 -1.9
0.4nm,1.0s,baz=149,slow=2.0,SNR=2.8
ASAR PKPbc PKPbc 10 52 28.1 -2.3
1.1nm,1.1s,baz=94,slow=2.4,SNR=4.9

IDC 14 10:36:02.3±24.0, 12°38S×164°66E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=417.8km s-min=49.1km az=46.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	9.79	170	Pn	Pn	10 38 24.1	-0.5
	0.1nm,0.3s,baz=324,slow=19,SNR=3.6						
STKA	Stephens Creek	28.75	224	P	P	10 42 02.5	+0.8
	1.5nm,0.9s,baz=59,slow=18,SNR=3.0						
WRA	Warramunga Arr	30.05	252	P	P	10 42 13.1	-0.3
	0.8nm,0.8s,baz=85,slow=9.3,SNR=6.3						
ASAR	Alice Springs	31.26	245	P	P	10 42 23.9	-0.2
	0.7nm,0.6s,baz=69,slow=9.5,SNR=17						

IDC 14 10:45:28.0±1.1, 22°84N×142°52E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/24, mbtmp3.5/5, Error ellipse: s-maj=52.4km s-min=23.6km az=91.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N1	WAKE ISLAND Hy	22.91	93	T	T	11 14 07.4	
	baz=285,slow=75,SNR=14						
H11N2	WAKE ISLAND Hy	22.92	93	T	T	11 14 07.3	
	baz=285,slow=75,SNR=30						
H11N3	WAKE ISLAND Hy	22.93	93	T	T	11 14 09.0	
	baz=285,slow=75,SNR=19						
H11S3	WAKE ISLAND Hy	23.01	96	T	T	11 14 14.1	
	baz=284						
H11S1	WAKE ISLAND Hy	23.02	96	T	T	11 14 19.5	
	baz=284						
H11S2	WAKE ISLAND Hy	23.03	96	T	T	11 14 15.8	
	baz=284						
WRA	Warramunga Arr	43.26	191	P	P	10 53 31.5	0.0
	1.0nm,0.9s,baz=11,slow=8.6,SNR=5.3						
ASAR	Alice Springs	46.98	191	P	P	10 54 00.7	-0.3
	0.4nm,0.7s,baz=12,slow=5.5,SNR=13						
MKAR	Makanchi Array	53.48	312	P	P	10 54 50.6	+0.4
	0.2nm,0.7s,baz=98,slow=7.6,SNR=2.5						
YKA	Yellowknife Ar	75.74	28	P	P	10 57 15.5	+0.3
	0.2nm,0.8s,baz=294,slow=5.8,SNR=3.4						
FINES	FINESS Array B	81.89	334	P	P	10 57 48.4	-0.8
	0.8nm,0.6s,baz=76,slow=5.9,SNR=5.2						

*ISCJB **14** 10:52:33.4±0.9, 18°.4N±0°.2×73°.1W±0°.2, h6km, mb3.6/8, MS3.3/5, Error ellipse: s-maj=33.6km s-min=17.4km az=41.2*
*IDC **14** 10:52:34.1±1.0, 18°.41N×72°.98W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/26, mbtmp3.6/8, MS3.2/7, Ms1 3.3/7, ms1mx3.0/34, Error ellipse: s-maj=37.4km s-min=24.0km az=41.0*
ISC 14 10:52:35.0±1.0, 18°.4N±0°.2×73°.0W±0°.2, h6km, n16, σ0°87/10, mb3.8/8, MS3.2/5, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare	14.15	237	LR	LR	11 01 04.3	
	comp=Z,67nm,21.3s,baz=16,slow=36						
APG	El Apazote	17.11	261	LR	LR	11 04 32.4	
	comp=Z,63nm,18.1s,baz=234,slow=42						
PTGA	Pitinga	22.93	145	P	P	10 57 39.7	-0.3
	5.9nm,1.0s,baz=315,slow=20,SNR=5.3						
PTGA				LR	LR	11 06 15.6	
	comp=Z,41nm,18.9s,baz=29,slow=36						
TXAR	Lajitas Array	30.02	297	P	P	10 58 44.3	-0.6
	0.1nm,0.4s,baz=134,slow=7.8,SNR=3.2						
LPAZ	La Paz	34.82	172	LR	LR	11 14 32.8	
	comp=Z,46nm,19.6s,baz=329,slow=38						
PDAR	Pinedale Array	39.30	316	P	P	11 00 05.0	0.0
	0.3nm,0.7s,baz=116,slow=12,SNR=2.2						
NVAR	Mina Array Bea	44.07	307	LR	LR	11 20 51.0	
	comp=Z,62nm,18.4s,baz=214,slow=39						
YKA	Yellowknife Ar	52.58	337	P	P	11 01 49.0	-0.2
	0.8nm,0.9s,baz=124,slow=7.4,SNR=8.0						
ILAR	Eielson Array	66.64	333	P	P	11 03 27.0	+0.8
	0.5nm,0.9s,baz=81,slow=7.4,SNR=4.1						
NOA	NORSAR Array B	71.25	31	LR	LR	11 33 54.5	
	comp=Z,8.8nm,18.1s,baz=255,slow=35						
DAVOX	Davos/Dischmat	71.97	46	LR	LR	11 31 04.5	
	comp=Z,28nm,19.5s,baz=260,slow=32						
GERES	GERESS Array B	74.19	43	P	P	11 04 12.4	-0.4
	1.5nm,0.9s,baz=282,slow=6.9,SNR=7.5						
MLR	Muntele Rosu	83.11	44	P	P	11 05 03.8	+1.8
	0.5nm,0.7s,baz=168,slow=18,SNR=3.5						
AKASG	Malin Array Be	83.39	39	P	P	11 05 03.0	-0.1
	0.2nm,0.3s,baz=272,slow=4.6,SNR=2.6						
WRA	Warramunga Arr	154.18	262	PKPbc	PKPbc	11 12 36.8	0.0
	0.4nm,0.9s,baz=81,slow=2.8,SNR=4.5						
ASAR	Alice Springs	154.41	254	PKPbc	PKPbc	11 12 38.0	+0.8
	0.3nm,0.8s,baz=77,slow=2.0,SNR=2.9						

*CASC **14** 11:11:36.8±2.4, 7°.50N×82°.82W, h16km±8km, MD4.2*
*IDC **14** 11:11:36.9±6.4, 8°.11N×82°.38W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/23, mbtmp3.8/5, ML3.9/2, MS3.2/8, Ms1 3.2/8, ms1mx3.0/29, Error ellipse: s-maj=155.8km s-min=45.0km az=19.0*
ISC 14 11:11:33.2±2.4, 7°.53N±0°.10×82°.64W±0°.05, h2km±12km, n32, σ1°54/33, mb3.8/3, MS3.0/4, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	1.24	335	eP	Pg	11 11 57.6	+0.6
ACR				eS	Sb	11 12 11.5	-2.4
BRU2	Volcan	1.26	358	eP	Pg	11 11 60.0	+2.5
BRU2				eS	Sn	11 12 18.5	+2.8
BRU	Baru	1.27	3	eP	Pg	11 12 00.3	+2.6
CNI	Changuinola	1.88	4	eP	Pg	11 12 09.4	0.0
CNI				eS	Sg	11 12 32.7	-1.1
BUS	Buena Vista	2.30	331	eP	Pb	11 12 14.2	-1.6
BUS				eS	Sb	11 12 43.7	-1.2
QCR	Quepos	2.42	321	⇑iP	Pn	11 12 13.6	-0.2
QCR				eS	Sn	11 12 42.6	-1.5
SJS	Escuela Geolog	2.78	330	⇑eP	Pg	11 12 27.0	+0.5
SJS				eS	Sn	11 12 53.7	+0.5
CGA2	Cerro Gallo 2	3.06	324	eP	Pn	11 12 23.8	+0.9
ZANG	Zanguenga, Cho	3.09	62	eP	Pb	11 12 27.1	-1.9
ZANG				eS	Sb	11 13 07.0	-0.2
BCIP	Isla Barro Col	3.22	59	eP	Pb	11 12 29.3	-1.9
BCIP				eS	Sb	11 13 09.7	-1.1
JCR	Jicaral	3.36	314	eP	Pn	11 12 26.8	-0.1
JCR				eS	Sn	11 13 05.8	-1.8
UPA	Univ. de Panam	3.40	65	eP	Pb	11 12 30.9	-3.3
UPA				eS	Sb	11 13 13.1	-2.9
JTS	JuntasAbangare	3.57	320	Pn	Pn	11 12 30.3	+0.5
	26nm,0.3s,baz=180,slow=8.1,SNR=80						
JTS				Sn	Sn	11 13 11.6	-1.1
	24nm,0.3s,baz=341,slow=22,SNR=13						
CHPA	Chiripa	3.66	322	iS	Sn	11 13 15.9	+0.8
PTEN	Parque Tenorio	3.93	324	iP	Pn	11 12 36.6	+1.9
PTEN				iS	Sn	11 13 22.6	+1.2
MESS	Mesas	4.07	322	iS	Sn	11 13 24.5	-0.6
NY14	Universidad de	4.22	318	iP	Pn	11 12 40.0	+1.3
NY14				iS	Sn	11 13 27.8	-0.8
ROSC	El Rosal	8.68	107	LR	LR	11 16 38.5	
	comp=Z,123nm,18.1s,baz=333,slow=35						
APG	El Apazote	10.68	315	Pn	Pn	11 14 08.8	+1.2
	0.4nm,0.3s,baz=132,slow=16,SNR=4.4						
APG				LR	LR	11 18 27.4	
	comp=Z,75nm,21.3s,baz=118,slow=39						
TEIG	Tepich	13.76	337	LR	LR	11 19 42.2	
	comp=Z,114nm,21.9s,baz=135,slow=36						
ATAH	Atahualpa	15.17	164	LR	LR	11 20 24.1	
	comp=Z,187nm,18.1s,baz=336,slow=34						
PTP	Ponta Puerca	19.69	56	eP	x	11 11 50.7	
PTP				eS	x	11 12 01.0	
PTGA	Pitinga	24.05	109	LR	LR	11 26 32.0	
	comp=Z,39nm,19.4s,baz=274,slow=37						
LPAZ	La Paz	27.68	149	LR	LR	11 28 18.8	
	comp=Z,40nm,18.9s,baz=16,slow=36						
TXAR	Lajitas Array	29.36	320	LR	LR	11 30 28.2	
	comp=Z,35nm,18.4s,baz=0.0,slow=39						
H03N2	Juan Fernandez	40.89	175	T	T	12 02 42.7	
	baz=354,slow=75,SNR=5.9						
H03N1	Juan Fernandez	40.89	175	T	T	12 02 47.6	
	baz=354,slow=75,SNR=6.0						
H03N3	Juan Fernandez	40.91	175	T	T	12 02 42.8	
	baz=354,slow=75,SNR=4.7						
CPUP	Villa Florida	41.67	145	LR	LR	11 39 07.3	
	comp=Z,38nm,18.3s,baz=239,slow=39						
ULM	Lac du Bonnet	44.00	348	P	P	11 19 42.4	+0.3
	1.3nm,0.5s,baz=159,slow=8.1,SNR=4.7						
NVAR	Mina Array Bea	44.50	319	P	P	11 19 48.1	+1.5
	0.2nm,0.4s,baz=128,slow=5.8,SNR=3.8						
YKA	Yellowknife Ar	59.62	343	P	P	11 21 38.7	+0.2
	0.8nm,1.0s,baz=134,slow=7.5,SNR=10						

IDC 14 11:36:08.1±1.5, 2°29N×126°22E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=155.1km s-min=18.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.48	161	P	P	11 41 20.5	+0.8
	2.9nm,0.3s,baz=339,slow=10.0,SNR=65						
ASAR	Alice Springs	26.86	164	P	P	11 41 50.9	+0.2
	1.7nm,0.6s,baz=339,slow=7.1,SNR=59						
STKA	Stephens Creek	36.98	158	P	P	11 43 17.9	-1.5
	1.8nm,0.5s,baz=329,slow=12,SNR=4.9						
MKAR	Makanchi Array	58.45	326	P	P	11 46 05.5	-0.4
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.1						

KURBB	**Kurchatov Arra**	**62.68**	**328**	P		P		11 46 35.1	+0.5
	0.1nm,0.3s,baz=129,slow=5.7,SNR=2.4								

ISCJB ***14*** *11:38:36.9±1.4,53.6°N±0.2°×34.7°W±0.3°,h10km,mb3.5/8, MS3.7/3,Error ellipse: s-maj=38.2km s-min=20.6km az=30.3*

IDC ***14*** *11:38:37.5±1.8,53.58°N×34.67°W,h0km,mb3.5/8, mb1 3.6/8,mb1mx3.4/34,mbtmp3.5/8,MS3.7/3,Ms1 3.7/3, ms1mx2.9/31,Error ellipse: s-maj=48.3km s-min=23.8km az=26.0*

ISC 14 11:38:38.8±1.5,53.5°N±0.3°×34.7°W±0.2°,h10km,n11, σ1§61/8,mb3.6/8,MS3.8/3,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**38.21**	**67**	P	**P**	**11 45 58.1**	**-0.3**
	0.3nm,0.4s,baz=303,slow=8.5,SNR=2.9						
YKA	**Yellowknife Ar**	**40.62**	**315**	P	**P**	**11 46 19.9**	**+1.7**
	0.3nm,0.6s,baz=60,slow=8.7,SNR=6.0						
BRTR	**Keskin Array B**	**47.13**	**78**	P	**P**	**11 47 12.8**	**+1.7**
	0.8nm,1.0s,baz=322,slow=9.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**49.50**	**130**	P	**P**	**11 47 28.7**	**-0.7**
	0.9nm,1.2s,baz=331,slow=8.6,SNR=3.4						
ILAR	**Eielson Array**	**51.09**	**329**	P	**P**	**11 47 39.2**	**-1.7**
	0.6nm,1.1s,baz=41,slow=5.8,SNR=5.7						
NVAR	**Mina Array Bea**	**56.71**	**291**	LR	LR	12 11 12.9	
	comp=Z,77nm,18.3s,baz=226,slow=34						
YBH	**Yreka Blue Hor**	**56.80**	**297**	LR	LR	12 14 01.9	
	comp=Z,103nm,19.9s,baz=22,slow=37						
BVAR	**Borovoye Array**	**56.97**	**44**	P	**P**	**11 48 22.9**	**-1.1**
	0.4nm,0.7s,baz=297,slow=6.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**62.09**	**41**	P	**P**	**11 48 57.6**	**-1.7**
	0.6nm,0.7s,baz=326,slow=7.0,SNR=5.7						
MKAR	**Makanchi Array**	**66.65**	**42**	P	**P**	**11 49 29.8**	**+0.5**
	0.3nm,0.6s,baz=352,slow=6.1,SNR=6.9						
KSRS	**Korea Array**	**88.17**	**14**	LR	LR	12 30 48.8	
	comp=Z,13nm,18.0s,baz=125,slow=36						

IDC ***14*** *11:44:18.9±0.6,19.06°N×121.25°E,h0km,mb4.1/20, mb1 4.2/21,mb1mx4.1/29,mbtmp4.1/21,ML3.8/1,MS3.4/6, Ms1 3.5/6,ms1mx3.1/33,Error ellipse: s-maj=25.0km s-min=13.0km az=69.0*

ISCJB ***14*** *11:44:26.7±0.7,19.11N±0.06°×121.26E±0.06°,h75km±8km, mb4.0/26,Error ellipse: s-maj=10.0km s-min=9.2km az=14.3*

NEIC ***14*** *11:44:26.4±1.1,19.06N×121.32E,h59km±10km,mb4.5/6, Error ellipse: s-maj=11.4km s-min=6.6km az=66.0*

MAN ***14*** *11:44:26,18.94N×121.25E,h1km,mb4.7,ML3.6,MS3.5*

ISC 14 11:44:27.0±1.2,19.11N±0.07°×121.19E±0.06°,h58km±12km, n71,σ1§23/73,mb4.2/26,MS3.4/6,1C-4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.95**	**215**	⇓*i*P	Pn	11 44 40.8	-3.4
PIP				*e*S	**Sn**	**11 44 54.0**	**-3.0**
SGCP	**Mt. Cagua**	**1.18**	**136**	*e*P	**Pn**	**11 44 46.9**	**-0.4**
SGCP				*e*S	**Sn**	**11 45 03.4**	**+0.8**
APYP	**Conner**	**1.24**	**178**	*e*P	**Pn**	**11 44 47.4**	**-0.7**
SIPP	**Brgy, Tapao**	**1.37**	**211**	⇑*e*P	**Pn**	**11 44 50.2**	**+0.4**
SIPP				*e*S	**Sn**	**11 45 10.5**	**+3.6**
ABRA	**Dolores**	**1.52**	**197**	*e*P	**Pn**	**11 44 51.8**	**-0.1**
CVP	**Callao Caves**	**1.52**	**157**	⇓*i*P	**Pn**	**11 44 51.9**	**0.0**
CVP				*i* S	**Sn**	**11 45 12.1**	**+1.4**
SZP	**Santa**	**1.70**	**204**	*e*Pn	**Pn**	**11 44 54.4**	**+0.1**
SZP				*e*Sn	**Sn**	**11 45 16.1**	**+1.2**
CAUP	**Cauayan**	**2.23**	**164**	*e*P	**Pn**	**11 45 04.6**	**+3.0**
PALP	**Palanan**	**2.35**	**150**	*e*P	**Pn**	**11 45 04.4**	**+1.3**
BALP	**Baler**	**3.37**	**174**	*e*P	**Pn**	**11 45 19.4**	**+2.3**
PCPH	**Palayan**	**3.53**	**181**	⇓*e*P	**Pn**	**11 45 21.6**	**+2.3**
ARP	**Angono**	**4.54**	**180**	⇓*e*P	Pn	11 45 44.5	+11
TGY	**Tagaytay City**	**4.98**	**183**	Pn	**Pn**	**11 45 37.7**	**-1.6**
TGY	**Tagaytay City**	**4.98**	**183**	Pn	**Pn**	**11 45 37.7**	**-1.6**
	29nm,0.3s,baz=335,slow=19,SNR=2.6						
KSAR	**Wonju Array Be**	**19.18**	**16**	P	**P**	**11 48 44.5**	**-1.3**
KSRS	**Korea Array**	**19.21**	**16**	P	**P**	**11 48 44.5**	**-1.5**
	0.3nm,0.3s,baz=195,slow=12,SNR=4.6						
CHTO	**Chiang Mai**	**21.04**	**273**	*e*P	**P**	**11 49 06.7**	**+0.5**
	6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.07**	**272**	P	**P**	**11 49 07.4**	**+0.9**
CMAR				PcP	**PcP**	**11 53 12.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**21.07**	**272**	P	**P**	**11 49 07.4**	**+0.9**
	1.7nm,0.7s,baz=72,slow=8.1,SNR=6.4						
CMAR				PcP	**PcP**	**11 53 12.9**	**+1.6**
	1.0nm,0.7s,baz=304,slow=0.3,SNR=6.8						
CMAR				LR	LR	11 58 25.3	
	comp=Z,128nm,18.1s,baz=81,slow=40						
USRK	**Ussuriysk Arra**	**26.60**	**18**	P	**P**	**11 50 00.3**	**+0.6**
	1.5nm,0.8s,baz=201,slow=8.7,SNR=3.8						
USRK				LR	LR	11 59 53.4	
	comp=Z,71nm,21.7s,baz=201,slow=35						
SONM	**Songino Array**	**31.08**	**341**	P	**P**	**11 50 39.8**	**+0.1**
SONM	**Songino Array**	**31.08**	**341**	P	**P**	**11 50 39.8**	**+0.1**
	2.6nm,0.9s,baz=160,slow=8.7,SNR=16						
SONM				LR	LR	12 02 45.3	
	comp=Z,85nm,19.4s,baz=121,slow=36						
WRA	**Warramunga Arr**	**40.89**	**161**	P	**P**	**11 52 01.4**	**-2.2**
WRA				PcP	**PcP**	**11 54 04.7**	**+1.3**
WRA	**Warramunga Arr**	**40.89**	**161**	P	**P**	**11 52 01.4**	**-2.2**
	0.5nm,0.5s,baz=334,slow=10,SNR=13						
WRA				PcP	**PcP**	**11 54 04.7**	**+1.3**
	0.5nm,0.6s,baz=340,slow=3.6,SNR=3.4						
MK31	**Makanchi Array**	**42.09**	**320**	*e*P	**P**	**11 52 14.2**	**+0.9**
MKAR	**Makanchi Array**	**42.09**	**320**	P	**P**	**11 52 14.4**	**+1.2**
MKAR				PcP	**PcP**	**11 54 07.0**	**-0.1**
MKAR	**Makanchi Array**	**42.09**	**320**	P	**P**	**11 52 14.4**	**+1.2**
	3.6nm,0.7s,baz=113,slow=9.9,SNR=36						
MKAR				PcP	**PcP**	**11 54 07.0**	**-0.1**
	1.3nm,0.8s,baz=130,slow=3.0,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**42.98**	**83**	T	T	12 38 11.3	
	baz=280,slow=73,SNR=20						
H11S1	**WAKE ISLAND Hy**	**42.99**	**83**	T	T	12 38 03.0	
	baz=280,slow=73,SNR=13						
H11S2	**WAKE ISLAND Hy**	**43.00**	**83**	T	T	12 38 12.5	
	baz=280,slow=73,SNR=12						
H11N1	**WAKE ISLAND Hy**	**43.01**	**81**	T	T	12 37 58.1	
	baz=280,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hy**	**43.01**	**81**	T	T	12 38 04.5	
	baz=280,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**43.03**	**81**	T	T	12 38 04.5	
	baz=280,slow=75,SNR=37						
PETK	**Petropavlovsk-**	**44.13**	**31**	LR	LR	12 11 49.4	
	comp=Z,31nm,18.1s,baz=158,slow=37						
AS31	**Alice Springs**	**44.29**	**163**	*e*P	**P**	**11 52 29.9**	**-1.2**
ASAR	**Alice Springs**	**44.29**	**163**	P	**P**	**11 52 31.4**	**+0.3**
ASAR	**Alice Springs**	**44.29**	**163**	P	**P**	**11 52 31.4**	**+0.3**
	0.6nm,0.3s,baz=344,slow=7.5,SNR=23						
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**11 52 33.1**	**+0.2**
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**11 52 33.1**	**+0.2**
	3.0nm,0.7s,baz=116,slow=7.6,SNR=14						
CTA	**Charters Tower**	**46.06**	**146**	P	**P**	**11 52 43.8**	**-1.4**
CTA	**Charters Tower**	**46.06**	**146**	P	**P**	**11 52 43.8**	**-1.4**
	2.7nm,0.6s,baz=328,slow=13,SNR=2.6						
KURK	**Kurchatov**	**46.06**	**323**	*e*P	**P**	**11 52 44.9**	**+0.1**
	2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.07**	**323**	P	**P**	**11 52 45.9**	**+0.9**
	5.0nm,0.7s,baz=122,slow=7.8,SNR=46						
KKAR	**Karatay Array**	**48.67**	**311**	*e*P	**P**	**11 53 06.5**	**+1.1**
	2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.66**	**323**	P	**P**	**11 53 27.9**	**+0.1**
BVAR				PcP	**PcP**	**11 54 40.9**	**+0.2**
BVAR	**Borovoye Array**	**51.66**	**323**	P	**P**	**11 53 27.9**	**+0.1**
	1.4nm,0.6s,baz=115,slow=10.0,SNR=11						
BVAR				PcP	**PcP**	**11 54 40.9**	**+0.2**
	1.2nm,0.5s,baz=132,slow=5.4,SNR=5.6						
NWAO	**Narrogin (SRO)**	**51.88**	**184**	P	**P**	**11 53 27.6**	**-1.9**
NWAO	**Narrogin (SRO)**	**51.88**	**184**	P	**P**	**11 53 27.6**	**-1.9**
	7.2nm,0.9s,baz=349,slow=5.2,SNR=2.5						
TIXI	**Tiksi**	**52.74**	**3**	*e*P	**P**	**11 53 34.9**	**-0.5**
	12nm,1.0s						
STKA	**Stephens Creek**	**54.34**	**159**	LR	LR	12 19 05.8	
	comp=Z,45nm,18.2s,baz=24,slow=38						
ABKAR	**Akbulak array**	**57.05**	**317**	*e*P	**P**	**11 54 07.7**	**+0.7**
	8.8nm,0.9s						
ARU	**Arti**	**59.20**	**325**	*e*P	**P**	**11 54 21.6**	**-0.3**
	3.8nm,0.4s						
DZM	**Mont Dzumac**	**60.27**	**131**	LR	LR	12 18 40.7	
	comp=Z,38nm,18.9s,baz=55,slow=34						
KBZ	**Khabaz**	**68.70**	**310**	P	**P**	**11 55 24.9**	**+0.4**
KBZ	**Khabaz**	**68.70**	**310**	P	**P**	**11 55 24.9**	**+0.4**
	2.4nm,0.9s,baz=179,slow=6.4,SNR=3.7						
ILAR	**Eielson Array**	**73.72**	**27**	P	**P**	**11 55 55.2**	**+0.8**
	0.4nm,0.7s,baz=266,slow=5.4,SNR=4.5						
ARCES	**ARCESS Array B**	**74.24**	**339**	P	**P**	**11 55 57.8**	**+0.5**
ARCES	**ARCESS Array B**	**74.24**	**339**	P	**P**	**11 55 57.8**	**+0.5**
	2.2nm,0.6s,baz=64,slow=8.4,SNR=8.6						
FINES	**FINESS Array B**	**75.83**	**330**	P	**P**	**11 56 06.2**	**-0.4**
FINES	**FINESS Array B**	**75.83**	**330**	P	**P**	**11 56 06.2**	**-0.4**
	1.8nm,0.9s,baz=309,slow=3.7,SNR=4.2						
AKASG	**Malin Array Be**	**76.67**	**319**	P	**P**	**11 56 10.5**	**-1.2**
AKASG	**Malin Array Be**	**76.67**	**319**	P	**P**	**11 56 10.5**	**-1.2**
	1.3nm,0.7s,baz=64,slow=5.6,SNR=6.1						
NOA	**NORSAR Array B**	**82.70**	**333**	P	**P**	**11 56 43.9**	**-0.3**
NOA	**NORSAR Array B**	**82.70**	**333**	P	**P**	**11 56 43.9**	**-0.3**
	0.7nm,0.8s,baz=65,slow=5.2,SNR=3.0						
KMBO	**Kilima Mbogo**	**84.63**	**267**	P	**P**	**11 56 55.1**	**-0.1**
KMBO	**Kilima Mbogo**	**84.63**	**267**	P	**P**	**11 56 55.1**	**-0.1**
	2.0nm,0.7s,baz=55,slow=12,SNR=4.2						
GERES	**GERESS Array B**	**86.76**	**321**	P	**P**	**11 57 03.8**	**-1.1**
GERES	**GERESS Array B**	**86.76**	**321**	P	**P**	**11 57 03.8**	**-1.1**
	0.4nm,0.7s,baz=56,slow=11,SNR=3.9						
YKA	**Yellowknife Ar**	**87.63**	**23**	P	**P**	**11 57 08.7**	**0.0**
YKA	**Yellowknife Ar**	**87.63**	**23**	P	**P**	**11 57 08.7**	**0.0**
	2.3nm,0.9s,baz=313,slow=4.6,SNR=43						

IDC 14 12:00:30.7±60.0,19.17S×176.35W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/19,mbtmp3.7/3,Error ellipse: s-maj=1110.0km s-min=164.5km az=82.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.77**	**243**	P	P	12 08 05.5	+0.1
	0.6nm,0.5s,baz=90,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**46.34**	**260**	P	P	12 08 58.4	-0.4
	0.3nm,0.3s,baz=97,slow=8.0,SNR=11						
ASAR	**Alice Springs**	**46.34**	**255**	P	P	12 08 58.9	0.0
	0.8nm,0.5s,baz=93,slow=7.9,SNR=19						

ISCJB ***14*** *12:10:05.9±0.2,36.02N±0.02°×117.80W±0.02,h10km, mb3.8/2,Error ellipse: s-maj=2.7km s-min=2.4km az=168.7*

NEIC ***14*** *12:10:05.3,36.04N×117.84W,h1km,ML3.5(PAS),After PAS.*

IDC ***14*** *12:10:05.8±1.2,35.99N×118.00W,h0km,mb3.0/1, mb1 3.3/4,mb1mx3.2/28,mbtmp2.9/4,ML3.2/3,Error ellipse: s-maj=28.8km s-min=6.0km az=75.0*

ISC 14 12:10:06.1±0.7,36.02N±0.02°×117.85W±0.02,h10km,n63, σ1§18/74,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.30**	**82**	P	**Pg**	**12 10 10.6**	**-1.6**
	baz=0.3						
CWC	**Cottonwood Cre**	**0.46**	**336**	P	**Pg**	**12 10 13.9**	**-1.2**
	baz=0.4						
CWC				S	**Sg**	**12 10 20.5**	**-0.7**
	baz=0.4						
LRMC	**Laurel Mountai**	**0.56**	**166**	P	**Pg**	**12 10 16.2**	**-0.8**
	baz=0.6						
LRMC				S	**Sg**	**12 10 24.2**	**-0.2**
	baz=0.6						
FURC	**Furnace Creek,**	**0.92**	**60**	P	**Pg**	**12 10 22.5**	**-1.3**
	baz=0.9						
FURC				S	**Sg**	**12 10 34.5**	**-1.3**
	baz=0.9						
VES	**Vestal, Richgr**	**1.02**	**260**	P	**Pg**	**12 10 24.8**	**-0.8**
	baz=1.0						
VES				S	**Sb**	**12 10 39.1**	**-0.1**
	baz=1.0						
GRAC	**Grapevine Rang**	**1.05**	**22**	P	**Pg**	**12 10 24.7**	**-1.7**
	baz=1.0						
TIN	**Tinemaha**	**1.08**	**344**	P	**Pg**	**12 10 25.5**	**-1.3**
	baz=1.1						
GSC	**Goldstone**	**1.11**	**130**	*e*Pg	**Pb**	**12 10 26.2**	**-1.3**
GSC				*e*Sg	**Sb**	**12 10 41.5**	**-0.6**
GSC	**Goldstone**	**1.11**	**130**	P	**Pb**	**12 10 26.2**	**-1.3**
	baz=1.1						
GSC				S	**Sb**	**12 10 41.2**	**-1.0**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.14**	**186**	P	**Pb**	**12 10 26.7**	**-1.3**
	baz=1.2						
EDW2				S	**Sb**	**12 10 42.2**	**-0.7**
	baz=1.2						
RCTC	**Rector, Farmer**	**1.16**	**285**	P	**Pb**	**12 10 27.0**	**-1.3**
	baz=1.2						
SHOC	**Shoshone**	**1.28**	**95**	Pb	**Pn**	**12 10 28.8**	**-1.3**
	baz=1.3						
RRX	**Edison Barstow**	**1.33**	**148**	Pg	**Pn**	**12 10 30.6**	**-0.3**
	baz=1.4						
MTUM	**Tungsten Hills**	**1.45**	**337**	*e*Pn	**Pn**	**12 10 32.1**	**-0.5**
OSI	**Osito Adit**	**1.57**	**207**	*e*Pn	**Pb**	**12 10 34.9**	**-0.4**
OSI				*e*Sn	**Sg**	**12 10 57.6**	**+0.9**
OSI	**Osito Adit**	**1.57**	**207**	Sb	**Sg**	**12 10 56.4**	**-0.3**
	baz=1.6						
TPNV	**Topopah Spring**	**1.59**	**54**	*e*Pn	**Pn**	**12 10 34.0**	**-0.5**
TPNV	**Topopah Spring**	**1.59**	**54**	Pb	**Pn**	**12 10 34.0**	**-0.5**
	baz=1.6						
HEC	**Hec,Ludlow**	**1.72**	**133**	P	**Pn**	**12 10 35.0**	**-1.2**
	baz=1.7						
HEC				Sb	**Sb**	**12 10 59.6**	**0.0**
	baz=1.7						
BFSC	**Mount Baldy Ra**	**1.78**	**175**	P	**Pn**	**12 10 36.7**	**-0.4**
	baz=1.8						
MLAC	**Mammoth Lakes**	**1.79**	**334**	Pg	**Pb**	**12 10 38.6**	**-0.6**
	baz=1.8						
MWC	**Mount Wilson**	**1.80**	**185**	*e*Pn	**Pb**	**12 10 38.1**	**-1.2**
MWC				*e*Sn	**Sn**	**12 11 00.2**	**-0.2**
PASC	**Pasadena Art C**	**1.86**	**189**	*e*Pn	**Pn**	**12 10 38.3**	**+0.2**
PASC				*e*Sn	**Sb**	**12 11 03.4**	**-0.2**
SMMC	**Simmler**	**1.89**	**249**	Pb	**Pb**	**12 10 39.6**	**-1.1**
	baz=1.9						
BBRC	**Big Bear Solar**	**1.91**	**156**	Pg	**Pb**	**12 10 41.8**	**+0.5**
	baz=1.9						
PTRM	**Twissleman Ran**	**1.95**	**260**	*e*Pn	**Pb**	**12 10 40.7**	**-1.1**
PTRM				*e*Sn	**Sg**	**12 11 09.0**	**+0.2**
PKM	**Peak Mountain**	**1.96**	**236**	Sb	**Sb**	**12 11 07.3**	**+0.7**
	baz=2.0						
TPH	**Tonopah**	**2.11**	**14**	*e*Pn	**Pb**	**12 10 44.3**	**-0.4**
TPH				*e*Sn	**Sg**	**12 11 13.1**	**-1.0**
GMRC	**Granite Mounta**	**2.18**	**124**	P	**Pn**	**12 10 40.9**	**-1.6**
	baz=2.2						
GMRC				Sb	**Sb**	**12 11 13.2**	**+0.4**
	baz=2.2						
SHPR	**Sheep Range**	**2.23**	**77**	*e*Pn	**Pn**	**12 10 43.1**	**-0.2**
NV11	**Mina Array Sit**	**2.42**	**354**	*e*Pn	**Pn**	**12 10 46.2**	**+0.3**
LDFC	**Landfair**	**2.43**	**112**	*e*Pn	**Pn**	**12 10 44.6**	**-1.3**
LDFC				*e*Sg	**Sg**	**12 11 25.3**	**+1.2**
NVAR	**Mina Array Bea**	**2.43**	**352**	Pn	**Pn**	**12 10 46.9**	**+0.7**
NVAR				Pg	**Pb**	**12 10 50.9**	**+0.8**
NVAR				Lg	Lg	12 11 23.6	
NVAR	**Mina Array Bea**	**2.43**	**352**	Pn	**Pn**	**12 10 46.9**	**+0.7**
	13nm,0.3s,baz=172,slow=14,SNR=40						
NVAR				Pg	**Pb**	**12 10 50.9**	**+0.8**
	14nm,0.3s,baz=171,slow=19,SNR=92						
NVAR				Lg	Lg	12 11 23.6	
	9.2nm,0.3s,baz=118,slow=19,SNR=6.6						
PFO	**Pinyon Flat Ob**	**2.67**	**154**	*e*Pn	**Pn**	**12 10 49.0**	**-0.2**
PFO				Pg	**Pb**	**12 10 55.2**	**+1.2**
PFO				Lg	Lg	12 11 30.7	
PFO	**Pinyon Flat Ob**	**2.67**	**154**	Pn	**Pn**	**12 10 48.7**	**-0.6**
	0.7nm,0.3s,baz=341,slow=15,SNR=8.2						
PFO				Pg	**Pb**	**12 10 55.2**	**+1.2**
	7.5nm,0.3s,baz=341,slow=16,SNR=37						
PFO				Lg	Lg	12 11 30.7	
	12nm,0.3s,baz=248,slow=19,SNR=12						
PFO	**Pinyon Flat Ob**	**2.67**	**154**	P	**Pn**	**12 10 48.7**	**-0.6**
	baz=2.7						
WAKR	**Walker**	**2.78**	**333**	*e*Pn	**Pb**	**12 10 53.6**	**-2.4**
CMB	**Columbia Colle**	**2.86**	**316**	*e*Pn	**Pb**	**12 10 55.3**	**-1.9**
IRM	**Iron Mountain**	**2.89**	**129**	P	**Pn**	**12 10 50.8**	**-1.4**
	baz=2.9						
R11A	**Troy Canyon, C**	**2.95**	**37**	*e*Pn	**Pn**	**12 10 53.8**	**+0.6**
SAO	**San Andreas Ge**	**2.99**	**285**	*e*Pn	**Pn**	**12 10 55.6**	**+2.0**
BAR	**Barrett**	**3.47**	**163**	*e*Pn	**Pn**	**12 11 00.3**	**0.0**
GLA	**Glamis**	**3.87**	**139**	*e*Pn	Pn	12 11 09.1	+3.3
PAHR	**Pah Rah Range**	**3.88**	**342**	*e*Pn	**Pb**	**12 11 12.6**	**-2.0**
CCUT	**Cedar City**	**3.91**	**66**	*e*Pn	**Pn**	**12 11 08.3**	**+1.8**
OHCM	**Honcut**	**4.39**	**320**	*e*Pn	Pb	12 11 19.2	-4.1
BMN	**Battle Mountai**	**4.43**	**6**	*e*Pn	**Pn**	**12 11 16.1**	**+2.6**
ELK	**Elko**	**5.14**	**23**	*e*Pn	**Pn**	**12 11 24.1**	**+0.6**
ELK				Pg	**Pb**	**12 11 36.1**	**-0.3**
ELK				Lg	Lg	12 12 42.5	
ELK	**Elko**	**5.14**	**23**	Pn	Pn	12 11 19.4	-4.1
	0.5nm,0.3s,baz=180,slow=12,SNR=10.0						
ELK				Pg	**Pb**	**12 11 36.1**	**-0.3**
	1.4nm,0.3s,baz=183,slow=12,SNR=16						
ELK				Lg	Lg	12 12 42.5	
	3.4nm,0.3s,baz=355,slow=1.7,SNR=12						
TMUT	**Trail Mountain**	**6.20**	**56**	*e*Pn	Pn	12 11 41.1	+3.1
MPU	**Maple Canyon**	**6.33**	**49**	*e*Pg	**Pg**	**12 12 09.5**	**+2.3**
MPU				*e*Sg	**Sg**	**12 13 27.6**	**-1.5**
SRU	**San Rafael**	**6.59**	**60**	*e*Pn	Pn	12 11 47.1	+3.9
TUC	**Tucson**	**6.93**	**120**	Pn	**Pn**	**12 11 47.9**	**+0.1**
HVU	**Hansel Valley**	**6.98**	**33**	*e*Pn	**Pn**	**12 11 49.6**	**+1.1**
PV04	**Paradox Valley**	**7.52**	**69**	*e*Pn	Pn	12 11 59.0	+2.9
MVCO	**Mesa Verde**	**7.62**	**78**	*e*Pn	Pn	12 12 00.8	+3.5
PDAR	**Pinedale Array**	**9.30**	**41**	Pn	Pn	12 12 25.9	+5.4
PDAR	**Pinedale Array**	**9.30**	**41**	Pn	Pn	12 12 25.9	+5.4
	0.0nm,0.3s,baz=237,slow=15,SNR=3.9						
ANMO	**Albuquerque**	**9.36**	**93**	Pg	Pn	12 12 57.9	+37
	0.1nm,0.3s,baz=282,slow=14,SNR=5.2						
YKA	**Yellowknife Ar**	**26.58**	**3**	P	**P**	**12 15 46.8**	**+2.7**
YKA	**Yellowknife Ar**	**26.58**	**3**	P	**P**	**12 15 46.8**	**+2.7**
	0.1nm,0.4s,baz=186,slow=9.3,SNR=5.1						
SDDR	**Presa de Saban**	**44.21**	**100**	*e*P	P	12 18 10.1	-5.6
	23nm,0.8s						

IDC 14 12:10:29.0±3.1,24.67N×142.38E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/24,mbtmp3.4/3,Error ellipse: s-maj=387.2km s-min=31.7km az=108.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.03**	**191**	P	P	12 18 46.1	-0.5
	0.7nm,0.8s,baz=11,slow=8.7,SNR=4.2						
ASAR	**Alice Springs**	**48.74**	**190**	P	P	12 19 15.8	+0.2
	0.3nm,0.7s,baz=15,slow=9.2,SNR=5.4						
YKA	**Yellowknife Ar**	**74.19**	**28**	P	P	12 22 07.2	0.0
	0.4nm,1.1s,baz=290,slow=5.9,SNR=4.0						

IDC 14 12:11:06.9±3.8,5.86S×150.00E,h0km,mb3.0/2, mb1 3.4/3,mb1mx3.2/18,mbtmp3.2/3,ML1.8/1,Error ellipse: s-maj=148.3km s-min=39.7km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**218**	Pn	Pn	12 12 16.8	+0.2
	0.4nm,0.3s,baz=338,slow=11,SNR=2.1						
PMG				Sn	Sn	12 13 09.4	-0.3
	2.4nm,0.3s,baz=273,slow=19,SNR=5.5						
WRA	**Warramunga Arr**	**20.68**	**226**	P	P	12 15 49.2	+0.5
	0.4nm,0.5s,baz=52,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**23.52**	**220**	P	P	12 16 18.8	-0.2
	0.5nm,0.9s,baz=59,slow=9.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**147.94**	**285**	PKPbc	PKPbc	12 30 54.5	-0.8
	0.5nm,0.7s,baz=90,slow=2.6,SNR=3.3						

IDC ***14*** *12:28:44.3±1.1,12.30N×141.97E,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.0/28,mbtmp4.1/11,MS2.9/4, Ms1 2.9/4,ms1mx2.7/36,Error ellipse: s-maj=35.4km s-min=17.4km az=89.0*

ISCJB ***14*** *12:28:47.3±0.5,12.30N±0.07°×141.94E±0.10°,h33km, mb4.2/16,MS2.8/4,Error ellipse: s-maj=13.6km s-min=10.1km az=3.0*

NEIC ***14*** *12:28:49.4±0.4,12.33N×141.96E,h35km,mb4.5/5,Error ellipse: s-maj=9.4km s-min=7.0km az=91.0*

ISC 14 12:28:49.2±0.8,12.3N±0.1°×142.0E±0.1°,h33km,n38, σ0§56/31,mb4.2/16,MS2.8/4,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.10**	**66**	*e*Pn	**Pn**	**12 29 36.2**	**+0.3**
PMG	**Port Moresby**	**22.20**	**166**	LR	LR	12 43 03.9	
	comp=Z,24nm,18.7s,baz=52,slow=39						
SSLB	**Suanglung**	**22.96**	**303**	*e*P	**P**	**12 33 50.4**	**-0.6**
	51nm,1.1s						
JNU	**Nakatsue**	**23.05**	**336**	*e*P	**P**	**12 33 50.9**	**-1.0**
	5.8nm,1.0s						
JNU	**Nakatsue**	**23.05**	**336**	LR	LR	12 41 04.7	
	comp=Z,24nm,21.3s,baz=64,slow=32						
MJAR	**Matsushiro Arr**	**24.35**	**353**	LR	LR	12 43 30.0	
	comp=Z,32nm,18.7s,baz=55,slow=36						
MAJO	**Matsushiro**	**24.35**	**353**	P	**P**	**12 34 03.8**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**24.60**	**72**	T	T	12 59 49.2	
	baz=260,slow=67,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**24.62**	**72**	T	T	12

MSZ					AML	AML	12 36 01.1		
MSZ					AML	AML	12 36 04.1		
MSZ					AML	AML	12 36 04.2		
MSZ	**Milford Sound**	**0.66**	**209**		Pg	**Pg**	**12 35 46.3**	**-0.2**	
WKZ	**Wanaka**	**0.86**	**148**	⇑	P*	**Pg**	**12 35 49.7**	**-0.8**	
WKZ					AML	AML	12 36 03.1		
WKZ					AML	AML	12 36 03.4		
WKZ					AML	AML	12 36 03.4		
WKZ					AML	AML	12 36 03.6		
WKZ	**Wanaka**	**0.86**	**148**		P*	**Pg**	**12 35 49.7**	**-0.8**	
FOZ	**Fox Glacier**	**1.09**	**61**		P*	**Pn**	**12 35 55.9**	**+0.1**	
FOZ					S*	**Sn**	**12 36 12.5**	**+1.4**	
FOZ					AML	AML	12 36 13.5		
FOZ					AML	AML	12 36 13.5		
FOZ					AML	AML	12 36 14.0		
FOZ	**Fox Glacier**	**1.09**	**61**		P*	**Pn**	**12 35 55.6**	**-0.1**	
FOZ					S*	**Sn**	**12 36 12.5**	**+1.4**	
MLZ	**Mavora Lakes**	**1.26**	**186**	⇓	P*	**Pn**	**12 35 57.2**	**-0.8**	
MLZ					AML	AML	12 36 20.1		
MLZ					AML	AML	12 36 20.1		
MLZ	**Mavora Lakes**	**1.26**	**186**		P*	**Pn**	**12 35 56.9**	**-1.2**	
EAZ	**Earnscleugh**	**1.32**	**150**	⇓	P*	**Pn**	**12 35 57.8**	**-1.0**	
EAZ					AML	AML	12 36 17.7		
EAZ					AML	AML	12 36 17.7		
EAZ					AML	AML	12 36 19.5		
EAZ					AML	AML	12 36 19.5		
EAZ	**Earnscleugh**	**1.32**	**150**		P*	**Pn**	**12 35 57.9**	**-1.0**	
LBZ	**Lake Benmore**	**1.34**	**103**		P*	**Pn**	**12 35 58.7**	**-0.4**	
LBZ					AML	AML	12 36 16.0		
LBZ					AML	AML	12 36 16.0		
LBZ					AML	AML	12 36 16.2		
LBZ					AML	AML	12 36 16.2		
LBZ	**Lake Benmore**	**1.34**	**103**		P*	**Pn**	**12 35 58.7**	**-0.4**	
DCZ	**Deep Cove**	**1.63**	**212**		PN	**Pn**	**12 36 03.0**	**0.0**	
DCZ					AML	AML	12 36 30.0		
DCZ					AML	AML	12 36 30.1		
DCZ					AML	AML	12 36 30.8		
DCZ					AML	AML	12 36 30.8		
DCZ	**Deep Cove**	**1.63**	**212**		Pn	**Pn**	**12 36 03.0**	**0.0**	
WHZ	**Wether Hill Ro**	**1.82**	**189**		PN	**Pn**	**12 36 05.8**	**0.0**	
WHZ					AML	AML	12 36 35.9		
WHZ					AML	AML	12 36 36.8		
WHZ	**Wether Hill Ro**	**1.82**	**189**		Pn	**Pn**	**12 36 05.8**	**0.0**	
ODZ	**Otahua Downs**	**1.88**	**121**	⇑	PN	**Pn**	**12 36 06.8**	**+0.2**	
ODZ	**Otahua Downs**	**1.88**	**121**		Pn	**Pn**	**12 36 06.8**	**+0.2**	
RPZ	**Rata Peaks**	**1.98**	**80**	⇑	PN	**Pn**	**12 36 08.0**	**+0.1**	
RPZ					AML	AML	12 36 39.8		
RPZ					AML	AML	12 36 40.9		
RPZ	**Rata Peaks**	**1.98**	**80**		Pn	**Pn**	**12 36 08.1**	**+0.1**	
RPZ					Pn	**Pn**	**12 36 08.4**	**+0.4**	
RPZ					Sn	**Sb**	**12 36 35.3**	**+0.1**	
RPZ	**Rata Peaks**	**1.98**	**80**		Pn	**Pn**	**12 36 08.4**	**+0.4**	
	91nm,0.3s,baz=248,slow=6.6,SNR=206								
RPZ					Sn	**Sb**	**12 36 35.3**	**+0.1**	
	192nm,0.3s,baz=11,slow=21,SNR=12								
WVZ	**Waitaha Valley**	**2.00**	**60**	⇑	PN	**Pn**	**12 36 06.7**	**-1.5**	
WVZ					AML	AML	12 36 48.7		
WVZ	**Waitaha Valley**	**2.00**	**60**		Pn	**Pn**	**12 36 06.7**	**-1.5**	
TUZ	**Tuapeka**	**2.06**	**155**		PN	**Pn**	**12 36 09.3**	**+0.3**	
TUZ					AML	AML	12 36 39.4		
TUZ					AML	AML	12 36 40.0		
TUZ	**Tuapeka**	**2.06**	**155**		Pn	**Pn**	**12 36 09.3**	**+0.3**	
HHSZ	**Highcliff Hill**	**2.38**	**139**	⇓	PN	**Pn**	**12 36 14.1**	**+0.5**	
SYZ	**Scrubby Hill**	**2.50**	**168**		PN	**Pn**	**12 36 15.2**	**+0.2**	
SYZ					AML	AML	12 37 00.4		
SYZ					AML	AML	12 37 00.4		
SYZ					AML	AML	12 37 00.8		
SYZ					AML	AML	12 37 00.8		
SYZ	**Scrubby Hill**	**2.50**	**168**		Pn	**Pn**	**12 36 15.2**	**+0.2**	
APZ	**The Paps**	**2.75**	**185**	⇓	PN	**Pn**	**12 36 19.3**	**+0.8**	
APZ					AML	AML	12 36 56.3		
APZ					AML	AML	12 36 59.0		
APZ	**The Paps**	**2.75**	**185**		Pn	**Pn**	**12 36 19.3**	**+0.8**	
OXZ	**Oxford**	**2.77**	**75**	⇑	PN	**Pn**	**12 36 17.5**	**-1.3**	
CRLZ	**Canterbury Las**	**3.12**	**82**		PN	**Pn**	**12 36 22.5**	**-1.1**	
CRLZ					AML	AML	12 36 58.5		
CRLZ					AML	AML	12 37 00.9		
CRLZ	**Canterbury Las**	**3.12**	**82**		Pn	**Pn**	**12 36 22.5**	**-1.1**	
MQZ	**McQueen's Vall**	**3.12**	**84**	⇑	PN	**Pn**	**12 36 22.3**	**-1.3**	
MQZ	**McQueen's Vall**	**3.12**	**84**		Pn	**Pn**	**12 36 22.3**	**-1.3**	
LTZ	**Lake Taylor**	**3.13**	**66**	⇑	PN	**Pn**	**12 36 22.8**	**-1.0**	
LTZ					AML	AML	12 37 21.4		
LTZ					AML	AML	12 37 35.6		
LTZ	**Lake Taylor**	**3.13**	**66**		Pn	**Pn**	**12 36 22.8**	**-1.0**	
DSZ	**Denniston Nort**	**3.45**	**48**	⇓	PN	**Pn**	**12 36 26.6**	**-1.5**	
DSZ	**Denniston Nort**	**3.45**	**48**		Pn	**Pn**	**12 36 26.6**	**-1.5**	
THZ	**Tophouse**	**4.07**	**57**		PN	**Pn**	**12 36 36.0**	**-0.7**	
THZ					AML	AML	12 37 27.6		
THZ					AML	AML	12 37 32.4		
THZ	**Tophouse**	**4.07**	**57**		Pn	**Pn**	**12 36 36.0**	**-0.7**	
QRZ	**Quartz Range**	**4.49**	**45**		PN	**Pn**	**12 36 41.3**	**-1.1**	
QRZ	**Quartz Range**	**4.49**	**45**		Pn	**Pn**	**12 36 41.3**	**-1.1**	
NNZ	**Nelson**	**4.68**	**54**		PN	**Pn**	**12 36 44.8**	**-0.3**	
NNZ					AML	AML	12 37 47.4		
NNZ					AML	AML	12 38 26.6		
NNZ	**Nelson**	**4.68**	**54**		Pn	**Pn**	**12 36 44.8**	**-0.3**	
BSWZ	**Blackbirch Sta**	**4.69**	**61**		PN	**Pn**	**12 36 47.5**	**+2.2**	
BSWZ					AML	AML	12 38 25.8		
BSWZ	**Blackbirch Sta**	**4.69**	**61**		Pn	**Pn**	**12 36 47.5**	**+2.2**	
TUWZ	**Tuamarina**	**4.89**	**59**	e	PN	**Pn**	**12 36 48.3**	**+0.3**	
TUWZ					AML	AML	12 37 49.9		
TUWZ					AML	AML	12 37 51.1		
TUWZ	**Tuamarina**	**4.89**	**59**		Pn	**Pn**	**12 36 48.3**	**+0.3**	
TCW	**Tory Channel**	**5.22**	**59**		PN	**Pn**	**12 36 53.6**	**+1.1**	
TCW					AML	AML	12 37 56.0		
TCW					AML	AML	12 37 57.7		
TCW	**Tory Channel**	**5.22**	**59**		Pn	**Pn**	**12 36 53.6**	**+1.1**	
DUWZ	**D'Urville Isla**	**5.26**	**53**		PN	**Pn**	**12 36 53.7**	**+0.6**	
DUWZ					AML	AML	12 37 53.4		
DUWZ	**D'Urville Isla**	**5.26**	**53**		Pn	**Pn**	**12 36 53.7**	**+0.6**	
CAW	**Cannon Point**	**5.78**	**61**		Pn	**Pn**	**12 36 58.4**	**-1.7**	
KIW	**Kapiti Island**	**5.82**	**58**		PN	**Pn**	**12 36 59.9**	**-0.8**	
KIW	**Kapiti Island**	**5.82**	**58**		Pn	**Pn**	**12 36 59.9**	**-0.8**	
OGWZ	**Otaki Gorge**	**6.00**	**59**		PN	**Pn**	**12 37 02.2**	**-1.1**	
OGWZ	**Otaki Gorge**	**6.00**	**59**		Pn	**Pn**	**12 37 02.2**	**-1.1**	
MRZ	**Mangatainoka R**	**6.35**	**60**		PN	**Pn**	**12 37 05.6**	**-2.4**	
MRZ					AML	AML	12 37 13.9		
MRZ					AML	AML	12 38 35.6		
MRZ	**Mangatainoka R**	**6.35**	**60**		Pn	**Pn**	**12 37 05.6**	**-2.4**	
KHEZ	**Kahui Hut**	**6.39**	**43**		PN	**Pn**	**12 37 08.0**	**-0.7**	
DFE	**Dawson Falls**	**6.41**	**44**		PN	**Pn**	**12 37 08.4**	**-0.6**	
DFE	**Dawson Falls**	**6.41**	**44**		Pn	**Pn**	**12 37 08.4**	**-0.6**	
PKE	**Pukeiti**	**6.46**	**43**		PN	**Pn**	**12 37 08.8**	**-0.7**	
PKE	**Pukeiti**	**6.46**	**43**		Pn	**Pn**	**12 37 08.8**	**-0.7**	
WAZ	**Wanganui**	**6.57**	**51**		PN	**Pn**	**12 37 11.4**	**+0.4**	
WAZ	**Wanganui**	**6.57**	**51**		Pn	**Pn**	**12 37 11.4**	**+0.4**	
TSZ	**Takapari Road**	**6.94**	**57**		PN	Pn	12 37 12.8	-3.3	
TSZ	**Takapari Road**	**6.94**	**57**		Pn	Pn	12 37 12.8	-3.3	
PKVZ	**Pokaka**	**7.09**	**50**		PN	Pn	12 37 13.5	-4.7	
PKVZ	**Pokaka**	**7.09**	**50**		Pn	Pn	12 37 13.5	-4.7	
FWVZ	**Far West T-bar**	**7.23**	**50**		PN	**Pn**	**12 37 21.4**	**+1.1**	
FWVZ	**Far West T-bar**	**7.23**	**50**		Pn	**Pn**	**12 37 21.4**	**+1.1**	
HIZ	**Hauiti**	**7.41**	**43**	⇓	PN	**Pn**	**12 37 21.5**	**-1.1**	
HIZ					AML	AML	12 39 18.5		
HIZ					AML	AML	12 39 43.1		
HIZ	**Hauiti**	**7.41**	**43**		Pn	**Pn**	**12 37 21.5**	**-1.1**	
MKAZ	**Moumakai**	**8.68**	**39**		PN	**Pn**	**12 37 39.6**	**-0.4**	
MKAZ	**Moumakai**	**8.68**	**39**		Pn	**Pn**	**12 37 39.6**	**-0.4**	
URZ	**Urewera**	**8.80**	**51**		Pn	**Pn**	**12 37 40.4**	**-1.1**	
URZ					Sn	Sn	12 39 13.8	-7.2	
URZ	**Urewera**	**8.80**	**51**		Pn	**Pn**	**12 37 40.4**	**-1.1**	
	1.6nm,0.3s,baz=228,slow=7.7,SNR=11								
URZ					Sn	Sn	12 39 13.8	-7.2	
	1.5nm,0.3s,baz=43,slow=18,SNR=3.8								
WCZ	**Waipu Caves**	**9.35**	**31**		PN	**Pn**	**12 37 48.6**	**-0.5**	
WCZ	**Waipu Caves**	**9.35**	**31**		Pn	**Pn**	**12 37 48.6**	**-0.5**	
OUZ	**Omahuta**	**9.74**	**26**		PN	**Pn**	**12 37 54.1**	**-0.4**	
OUZ	**Omahuta**	**9.74**	**26**		Pn	**Pn**	**12 37 54.1**	**-0.4**	
STKA	**Stephens Creek**	**24.26**	**291**		LR		12 49 53.0		
	comp=Z,83nm,18.5s,baz=96,slow=35								
ASAR	**Alice Springs**	**34.77**	**295**		P	**P**	**12 42 26.1**	**+0.9**	
ASAR					PcP	**PcP**	**12 44 57.5**	**-1.2**	
ASAR	**Alice Springs**	**34.77**	**295**		P	**P**	**12 42 26.1**	**+0.9**	
	0.5nm,0.5s,baz=129,slow=7.2,SNR=24								
ASAR					PcP	**PcP**	**12 44 57.5**	**-1.2**	
	0.2nm,0.7s,baz=138,slow=4.3,SNR=4.3								
WRA	**Warramunga Arr**	**37.17**	**299**		P	**P**	**12 42 46.6**	**+0.9**	
WRA					PcP	**PcP**	**12 45 04.8**	**-1.0**	
WRA	**Warramunga Arr**	**37.17**	**299**		P	**P**	**12 42 46.6**	**+0.9**	
	1.2nm,0.5s,baz=136,slow=8.0,SNR=24								
WRA					PcP	**PcP**	**12 45 04.8**	**-1.0**	
	0.3nm,0.6s,baz=119,slow=5.7,SNR=4.3								
PMG	**Port Moresby**	**39.16**	**326**		LR	LR	12 54 47.9		
	comp=Z,49nm,20.1s,baz=110,slow=30								
QSPA	**South Pole Qui**	**46.02**	**180**		P	**P**	**12 43 59.7**	**+1.7**	
QSPA	**South Pole Qui**	**46.02**	**180**		P	**P**	**12 43 59.7**	**+1.7**	
	6.7nm,0.9s,baz=27,slow=1.9,SNR=11								
PLCA	**Paso Flores**	**80.32**	**139**		P	**P**	**12 47 46.2**	**+0.4**	
PLCA	**Paso Flores**	**80.32**	**139**		P	**P**	**12 47 46.2**	**+0.4**	
	2.9nm,0.8s,baz=228,slow=6.2,SNR=6.5								
CMAR	**Chiang Mai Arr**	**88.73**	**297**		P	**P**	**12 48 30.1**	**+1.7**	
CMAR	**Chiang Mai Arr**	**88.73**	**297**		P	**P**	**12 48 30.1**	**+1.7**	
	1.6nm,0.7s,baz=155,slow=3.1,SNR=12								
H08S2	**Diego Garcia H**	**88.94**	**260**		T	T	14 26 33.3		
	baz=135,slow=76,SNR=27								
H08S1	**Diego Carcia H**	**88.95**	**260**		T	T	14 26 34.4		
	baz=135,slow=76,SNR=12								
H08S3	**Diego Garcia H**	**88.96**	**260**		T	T	14 26 34.8		
	baz=135,slow=76,SNR=30								
YKA	**Yellowknife Ar**	**122.62**	**32**		PKP	**PKPdf**	**12 54 26.5**	**-2.7**	
YKA	**Yellowknife Ar**	**122.62**	**32**		PKP	**PKPdf**	**12 54 26.5**	**-2.7**	
	0.1nm,0.5s,baz=255,slow=2.0,SNR=4.2								
BRTR	**Keskin Array B**	**146.36**	**279**		PKPbc	**PKPbc**	**12 55 15.1**	**-0.4**	
BRTR	**Keskin Array B**	**146.36**	**279**		PKPbc	**PKPbc**	**12 55 15.1**	**-0.4**	
	1.4nm,0.6s,baz=147,slow=4.4,SNR=7.0								
TORD	**Torodi Ar. Bea**	**147.10**	**204**		PKPbc	**PKPbc**	**12 55 17.4**	**-0.6**	
TORD	**Torodi Ar. Bea**	**147.10**	**204**		PKPbc	**PKPbc**	**12 55 17.4**	**-0.6**	
	0.8nm,0.5s,baz=128,slow=2.5,SNR=6.8								
ARCES	**ARCESS Array B**	**148.34**	**336**		PKPbc	**PKPbc**	**12 55 19.5**	**-0.3**	
ARCES	**ARCESS Array B**	**148.34**	**336**		PKPbc	**PKPbc**	**12 55 19.5**	**-0.3**	
	2.2nm,0.8s,baz=23,slow=4.0,SNR=5.4								
AKASG	**Malin Array Be**	**151.85**	**298**		PKPbc	**PKPbc**	**12 55 28.1**	**-0.7**	
AKASG	**Malin Array Be**	**151.85**	**298**		PKPbc	**PKPbc**	**12 55 28.1**	**-0.7**	
	0.7nm,0.5s,baz=80,slow=2.2,SNR=8.3								
FINES	**FINESS Array B**	**151.89**	**321**		PKPbc	**PKPbc**	**12 55 28.0**	**-0.6**	
FINES	**FINESS Array B**	**151.89**	**321**		PKPbc	**PKPbc**	**12 55 28.0**	**-0.6**	
	1.4nm,0.6s,baz=101,slow=3.9,SNR=5.9								

JSN ***14*** *12:38:58.3±1.4, 17.87N×72.23W, h15km±999km, MD5.3*
ISCJB ***14*** *12:39:00.3±1.4, 18.38N±0.03×72.78W±0.02, h2km±9km, mb4.6/93, MS4.2/32, Error ellipse: s-maj=5.9km s-min=3.0km az=10.7*
IDC ***14*** *12:39:00.9±0.5, 18.43N×72.74W, h0km, mb4.4/23, mb1 4.5/28, mb1mx4.5/32, mbtmp4.4/28, ML3.7/5, MS4.0/34, Ms1 4.0/34, ms1mx4.0/43, Error ellipse: s-maj=14.6km s-min=12.1km az=57.0*
NEIC ***14*** *12:39:03.2±0.2, 18.38N×72.74W, h10km, mb4.8/72, Error ellipse: s-maj=4.8km s-min=3.3km az=20.0*

ISC 14 12:39:03.4±0.6, 18.45N±0.04×72.72W±0.04, h11km±3km, h11km:pP-P, n443, σ1§10/432, mb4.7/96, MS4.1/32, 109C-98D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.46**	**68**	*e*Pn	**Pn**	**12 39 28.3**	**-1.4**
SDDR				*e*Sn	**Sn**	**12 39 49.9**	**+1.1**
GTBY	**Guantanamo Bay**	**2.69**	**303**	*e*Pn	Pn	12 39 43.5	-3.1
GRTK	**Grand Turk**	**3.39**	**26**	*e*Pn	**Pn**	**12 39 56.0**	**-0.2**
YHJ	**Yallahs**	**3.63**	**262**	*i* P	Pn	12 40 02.7	+3.1
HOJ	**Hope**	**3.85**	**264**	*i* P	**Pn**	**12 40 02.7**	**0.0**
STH	**Stony Hill**	**3.90**	**265**	*i* P	**Pn**	**12 40 01.9**	**-1.4**
STH				*i* S	**Sn**	**12 40 51.6**	**+2.4**
STH	**Stony Hill**	**3.90**	**265**	*i* P	**Pn**	**12 40 01.9**	**-1.4**
STH				*e*S	**Sn**	**12 40 51.6**	**+2.4**
CVJ	**Coleyville**	**4.58**	**268**	*i* P	**Pn**	**12 40 13.1**	**+0.4**
CVJ	**Coleyville**	**4.58**	**268**	*i* P	**Pn**	**12 40 13.1**	**+0.4**
MTDJ	**Mount Denham**	**4.58**	**268**	*e*Pn	**Pn**	**12 40 11.0**	**-1.7**
MCJ	**Malvern**	**4.75**	**264**	*i* P	**Pn**	**12 40 14.8**	**-0.3**
MCJ	**Malvern**	**4.75**	**264**	*i* P	**Pn**	**12 40 14.8**	**-0.3**
AGPR	**Aguadilla, PR**	**5.32**	**89**	*e*Pn	**Pn**	**12 40 24.8**	**+2.0**
CRPR	**Cabo Rojo, PR**	**5.35**	**94**	*e*Pn	**Pn**	**12 40 23.7**	**+0.5**
	224nm,0.9s						
LSP	**Las Mesas**	**5.36**	**92**	*e*Pn	**Pn**	**12 40 24.2**	**+0.8**
AOPR	**Arecibo Observ**	**5.67**	**90**	*e*Pn	Pn	12 40 31.1	+3.5
OBIP	**Obispado Ponce**	**5.82**	**93**	*e*Pn	**Pn**	**12 40 29.5**	**-0.2**
	107nm,0.8s						
CELP	**Cerrillos**	**5.85**	**93**	*e*Pn	**Pn**	**12 40 29.9**	**-0.2**
MTP	**Monte Pirata**	**6.82**	**92**	*e*Pn	**Pn**	**12 40 43.6**	**+0.2**
	133nm,1.0s						
CDVI	**St. Croix**	**7.60**	**94**	*e*Pn	**Pn**	**12 40 53.6**	**-0.5**
SDV	**Santo Domingo**	**9.72**	**168**	*e*Pn	**Pn**	**12 41 23.3**	**-0.1**
LZG	**Guadaloupe-1**	**10.70**	**101**	*e*P	**Pn**	**12 41 39.4**	**+2.7**
MLG	**Mont-d'or**	**10.78**	**101**	*e*P	**Pn**	**12 41 40.0**	**+2.1**
SSG	**Sans Toucher**	**10.81**	**101**	*e*P	**Pn**	**12 41 40.6**	**+2.4**
ECG	**Echelle**	**10.84**	**101**	*e*P	**Pn**	**12 41 40.8**	**+2.0**
PHG	**Guadaloupe-2**	**10.86**	**101**	*e*P	**Pn**	**12 41 41.2**	**+2.3**
H05N1	**Guadeloupe/Mar**	**11.34**	**99**	Pn	**Pn**	**12 41 46.3**	**+0.9**
BCIP	**Isla Barro Col**	**11.53**	**218**	*e*Pn	**Pn**	**12 41 46.3**	**-1.7**
FDF	**Fort de France**	**11.69**	**107**	Pn	**Pn**	**12 41 51.9**	**+1.7**
	74nm,0.7s						
ROSC	**El Rosal**	**13.60**	**187**	Pn	**Pn**	**12 42 17.1**	**+0.3**
ROSC				Sn	**Sn**	**12 44 51.9**	**+3.8**
ROSC	**El Rosal**	**13.60**	**187**	Pn	**Pn**	**12 42 17.1**	**+0.3**
	1.6nm,0.3s,baz=180,slow=24,SNR=6.0						
ROSC				Sn	**Sn**	**12 44 51.9**	**+3.8**
	1.6nm,0.3s,baz=90,slow=20,SNR=3.8						
ROSC				LR	LR	12 47 46.9	
	comp=Z,194nm,21.6s,baz=96,slow=39						
JTS	**JuntasAbangare**	**14.35**	**237**	Pn	**Pn**	**12 42 25.6**	**-1.1**
JTS	**JuntasAbangare**	**14.35**	**237**	Pn	**Pn**	**12 42 25.6**	**-1.1**
	0.9nm,0.3s,baz=60,slow=14,SNR=2.4						
JTS				LR	LR	12 48 12.5	
	comp=Z,660nm,19.0s,baz=33,slow=38						
TEIG	**Tepich**	**14.79**	**279**	Pn	**Pn**	**12 42 31.2**	**-1.4**
TEIG	**Tepich**	**14.79**	**279**	Pn	**Pn**	**12 42 31.2**	**-1.4**
	1.6nm,0.3s,baz=45,slow=5.2,SNR=10						
TEIG				LR	LR	12 47 43.1	
	comp=Z,245nm,21.4s,baz=206,slow=35						
NHSC	**New Hope**	**16.06**	**337**	*e*P	**P**	**12 42 52.8**	**+0.2**
	92nm,1.3s						
TIGA	**Tifton**	**16.25**	**325**	Pn	**Pn**	**12 42 52.4**	**+0.8**
APG	**El Apazote**	**17.34**	**261**	Pn	**Pn**	**12 43 05.5**	**-0.2**
APG	**El Apazote**	**17.34**	**261**	Pn	**Pn**	**12 43 05.5**	**-0.2**
	0.4nm,0.3s,baz=92,slow=16,SNR=4.4						
APG				LR	LR	12 50 40.1	
	comp=Z,383nm,18.3s,baz=110,slow=40						
JSC	**Jenkinsville**	**17.51**	**336**	*e*P	**P**	**12 43 12.8**	**+4.1**
KMSC	**Kings Mountain**	**18.30**	**337**	*e*P	**Pn**	**12 43 17.5**	**+0.2**
KMSC	**Kings Mountain**	**18.30**	**337**	⇑ P	**P**	**12 43 18.2**	**+0.8**
	baz=18,SNR=5.6						
OTAV	**Otavalo**	**18.95**	**198**	*e*Pn	**Pn**	**12 43 28.0**	**+2.2**
	588nm,2.6s						
JSRW	**J. Sargeant Re**	**19.70**	**348**	*e*P	**Pn**	**12 43 34.8**	**+0.7**
TKL	**Tuckaleechee C**	**19.74**	**332**	P	**P**	**12 43 33.4**	**+0.2**
TKL				*e*Pn	**pP**	**12 43 36.1**	**-0.4**
TKL	**Tuckaleechee C**	**19.74**	**332**	P	**P**	**12 43 33.4**	**+0.2**
	0.2nm,0.3s,baz=143,slow=14,SNR=6.7						
TKL				LR	LR	12 51 39.7	
	comp=Z,381nm,19.4s,baz=141,slow=38						
BLA	**Blacksburg**	**19.88**	**342**	*e*P	**P**	**12 43 36.1**	**+1.4**
	39nm,0.8s						
CPCT	**Cooper Cave**	**19.91**	**331**	*e*Pn	**Pn**	**12 43 37.9**	**+1.2**
TZTN	**Tazewell**	**20.40**	**334**	*e*Pn	Pn	12 43 45.5	+3.1
	51nm,1.1s						
SWET	**Sewanee**	**20.41**	**328**	*e*Pn	Pn	12 43 43.2	+0.6
	211nm,2.1s						
VBMS	**Vicksburg**	**21.09**	**314**	*e*P	P	12 43 53.5	+5.6
SDMD	**Soldier's Deli**	**21.19**	**351**	*e*P	**P**	**12 43 49.8**	**+0.9**
	32nm,1.0s						
MVL	**Millersville**	**21.70**	**352**	*e*P	P	12 44 00.1	+5.7
	14nm,0.9s						
PAL	**Palisades**	**22.50**	**358**	P	**P**	**12 44 03.8**	**+0.8**
ODNJ	**Ogdensburg**	**22.62**	**356**	*e*P	**P**	**12 44 05.6**	**+1.5**
	157nm,2.4s						
PTGA	**Pitinga**	**22.82**	**145**	*e*P	**P**	**12 44 07.3**	**+0.9**
PTGA	**Pitinga**	**22.82**	**145**	P	**P**	**12 44 06.2**	**-0.3**
	25nm,1.0s,baz=336,slow=12,SNR=25						
PTGA				LR	LR	12 53 25.4	
	comp=Z,405nm,19.2s,baz=330,slow=38						
WCI	**Wyandotte Cave**	**23.00**	**332**	*e*P	**P**	**12 44 09.1**	**+0.9**
USIN	**University of**	**23.43**	**329**	P	**P**	**12 44 13.6**	**+1.0**
ACSO	**Alum Creek Sta**	**23.44**	**340**	*e*P	**P**	**12 44 15.5**	**+2.8**
	28nm,1.0s						
BINY	**Binghamton**	**23.84**	**354**	*e*P	**P**	**12 44 17.3**	**+0.7**
	135nm,1.8s						
HKT	**Hockley**	**23.94**	**303**	*e*P	**P**	**12 44 18.5**	**+0.9**
	40nm,1.4s						
PBMO	**Poplar Bluff**	**24.00**	**323**	*e*P	**P**	**12 44 18.4**	**+0.2**
	15nm,0.8s						
SIUC	**Southern Illin**	**24.02**	**326**	*e*P	**P**	**12 44 19.9**	**+1.6**
	49nm,1.3s						
MIAR	**Mount Ida**	**24.52**	**315**	*e*P	P	12 44 28.2	+5.2
	30nm,1.6s						

ACCN	**Adirondack Com**	**24.87**	**358**	*e*P		**P**	**12 44 28.5**	**+2.5**	
	378nm,2.9s								
835A	**Beeville**	**25.00**	**298**	⇓	P	**P**	**12 44 26.8**	**-0.5**	
	baz=25								
SFIN	**Scholer Farm**	**25.12**	**333**	*e*P		**P**	**12 44 28.8**	**+0.5**	
	32nm,1.0s								
SFIN	**Scholer Farm**	**25.12**	**333**	⇓	P	**P**	**12 44 29.2**	**+0.9**	
	baz=25								
735A	**Kenedy**	**25.16**	**299**	⇓	P	**P**	**12 44 28.7**	**0.0**	
	baz=25								
934A	**Benavides**	**25.39**	**296**	⇑	P	**P**	**12 44 31.3**	**+0.4**	
	baz=25								
034A	**Hebbronville**	**25.39**	**294**	⇑	P	**P**	**12 44 31.4**	**+0.5**	
	baz=25								
AAM	**Ann Arbor**	**25.53**	**341**		P	**P**	**12 44 33.4**	**+1.4**	
834A	**Tilden**	**25.56**	**297**	⇓	P	**P**	**12 44 33.1**	**+0.7**	
	baz=26								
ATAH	**Atahualpa**	**26.03**	**193**		LR	LR	12 56 45.1		
	comp=Z,488nm,21.2s,baz=8.1,slow=41								
WHTX	**Lake Whitney**	**26.05**	**306**	*e*P		**P**	**12 44 37.4**	**+0.6**	
WHTX	**Lake Whitney**	**26.05**	**306**	⇓	P	**P**	**12 44 37.0**	**+0.1**	
	baz=26								
534A	**Blanco**	**26.10**	**301**	⇑	P	**P**	**12 44 37.6**	**+0.2**	
	baz=26,SNR=18								
434A	**Burnet**	**26.21**	**303**	⇑	P	**P**	**12 44 38.0**	**-0.4**	
	baz=26								
135A	**Vickery Place,**	**26.26**	**307**	⇑	P	**P**	**12 44 38.4**	**-0.3**	
	baz=26								
FRNY	**Flat Rock**	**26.32**	**359**	*e*P		**P**	**12 44 41.2**	**+2.1**	
	204nm,2.7s								
833A	**Chaparral WMA,**	**26.33**	**297**	⇑	P	**P**	**12 44 39.3**	**-0.1**	
	baz=26								
733A	**Divot King Ran**	**26.36**	**298**	⇓	P	**P**	**12 44 39.7**	**0.0**	
	baz=26								
334A	**Lometa**	**26.39**	**304**	⇓	P	**P**	**12 44 39.9**	**-0.1**	
	baz=26,SNR=6.3								
633A	**

baz=30
AMTX **Amarillo** 30.47 308 *e*P P 12 45 20.0 +3.5
7.6nm,0.9s
AMTX **Amarillo** 30.47 308 ⇑P P 12 45 16.1 -0.3
baz=30
Y28A **McKinney Farm,** 30.51 306 ⇑P P 12 45 16.6 -0.2
baz=30
R31A **Burdett** 30.59 316 ⇓P P 12 45 17.6 +0.2
baz=31,SNR=5.4
626A **Big Bend Ranch** 30.66 297 ⇑P P 12 45 17.8 -0.4
baz=31
526A **Mary Lane Ranc** 30.75 298 ⇑P P 12 45 19.1 +0.1
baz=31,SNR=19
426A **McDonald Obser** 30.86 299 ⇑P P 12 45 19.6 -0.5
baz=31,SNR=8.8
Q31A **Ellis** 30.90 317 ⇑P P 12 45 20.1 0.0
baz=31
MSTX **Muleshoe** 30.93 306 *e*P P 12 45 20.5 0.0
MSTX **Muleshoe** 30.93 306 ⇑P P 12 45 20.6 0.0
baz=31
Z27A **Tatum** 31.03 304 ⇑P P 12 45 21.2 -0.2
baz=31
R30A **Dighton** 31.09 315 ⇑P P 12 45 22.4 +0.5
baz=31
P31A **Stockton** 31.18 318 ⇓P P 12 45 23.3 +0.8
baz=31
Y27A **Causey** 31.20 306 ⇓P P 12 45 23.1 +0.2
baz=31
S29A **Ulysses** 31.32 313 ⇓P P 12 45 24.5 +0.6
baz=31
226B **Tecolote Peak,** 31.38 302 ⇑P P 12 45 24.8 +0.3
baz=31
Q30A **Quinter** 31.42 316 ⇑P P 12 45 24.8 +0.1
baz=32,SNR=6.2
X27A **F and S Farms,** 31.44 307 ⇓P P 12 45 25.0 -0.1
baz=32
O31A **Woolen Ranch,** 31.51 319 ⇓P P 12 45 25.4 -0.1
baz=32
GDL2 **Guadalupe Moun** 31.58 302 *e*P P 12 45 27.5 +1.3
2.2nm,0.7s
Z26A **Caprock** 31.62 304 ⇑P P 12 45 26.0 -0.6
baz=32
425A **Indio Mountain** 31.68 299 ⇑P P 12 45 26.7 -0.6
baz=32
P30A **Selden** 31.75 317 ⇓P P 12 45 27.7 +0.1
baz=32
T28A **Walsh** 31.78 312 ⇓P P 12 45 27.6 -0.4
baz=32
325A **Bean Ranch, Si** 31.83 300 ⇓P P 12 45 28.6 0.0
baz=32,SNR=16
S28A **Manter** 31.85 313 ⇓P P 12 45 28.3 -0.2
baz=32
Q29A **Oakley** 31.88 316 ⇑P P 12 45 28.5 -0.2
baz=32,SNR=8.3
225A **Deer Hill, Car** 31.92 301 ⇓P P 12 45 29.6 +0.2
baz=32,SNR=13
X26A **CR and CF Fran** 31.95 306 ⇑P P 12 45 29.5 0.0
baz=32
125A **Gardner Draw,** 31.96 303 ⇑P P 12 45 29.4 -0.2
baz=32
U27A **Thompson Grove** 31.97 310 ⇓P P 12 45 29.5 -0.2
baz=32
R28A **Tribune** 32.16 314 ⇓P P 12 45 30.8 -0.4
baz=32,SNR=8.6
Z25A **Roswell** 32.20 304 ⇓P P 12 45 31.0 -0.8
baz=32,SNR=9.7
P29A **Atwood** 32.23 317 ⇓P P 12 45 31.7 -0.1
baz=32
ECSD **EROS Data Cent** 32.24 327 ⇑P P 12 45 32.1 +0.3
baz=32
MNTX **Cornudas Mount** 32.26 300 *e*P P 12 45 31.7 -0.4
8.5nm,0.9s
324A **Moseley Ranch,** 32.27 300 ⇓P P 12 45 31.8 -0.6
baz=32,SNR=17
V26A **Tequesquite Ra** 32.41 309 ⇓P P 12 45 33.2 -0.4
baz=32
224A **Cornudas Mount** 32.48 301 ⇑P P 12 45 33.8 -0.4
baz=32,SNR=22
Q28A **Sharon Springs** 32.53 315 ⇓P P 12 45 34.5 0.0
baz=33
X25A **Clemmons Ranch** 32.59 306 ⇑P P 12 45 35.0 -0.2
baz=33
124A **Stringfield Ra** 32.61 302 ⇓P P 12 45 35.8 +0.4
baz=33,SNR=12
U26A **Atchley Ranch,** 32.63 310 ⇓P P 12 45 35.1 -0.5
baz=33
W25A **X Bar L Ranch,** 32.69 307 ⇑P P 12 45 36.1 0.0
baz=33
N29A **Votaw Ranch, W** 32.70 319 ⇑P P 12 45 36.3 +0.4
baz=33
Z24A **Sheeppen Canyo** 32.73 303 ⇑P P 12 45 36.8 +0.3
baz=33,SNR=15
P28A **Saint Francis** 32.75 316 ⇓P P 12 45 36.4 0.0
baz=33,SNR=7.4
R27A **Eads** 32.81 313 ⇓P P 12 45 37.1 +0.1
baz=33
L30A **Spencer Herefo** 32.82 321 ⇑P P 12 45 37.5 +0.6
baz=33
T26A **Comanche Natio** 32.86 311 ⇑P P 12 45 37.2 -0.3
baz=33
Y24A **Capitan** 32.98 304 ⇓P P 12 45 39.2 +0.5
baz=33,SNR=12
V25A **Rancho No Teng** 33.05 308 ⇑P P 12 45 39.8 +0.6
baz=33,SNR=13
O28A **Krutsinger Ran** 33.05 317 ⇓P P 12 45 39.3 +0.3
baz=33
U25A **Circle Dot Ran** 33.12 309 ⇑P P 12 45 39.7 -0.1
baz=33
N28A **Pribbeno Ranch** 33.21 318 ⇑P P 12 45 40.8 +0.4
baz=33
R26A **Arlington** 33.26 313 ⇑P P 12 45 41.9 +0.9
baz=33
Z23A **Rita Site, Whi** 33.40 303 ⇑P P 12 45 42.5 +0.3
baz=33
W24A **Lazy 6 Ranch,** 33.41 307 ⇑P P 12 45 43.4 +1.0
baz=33,SNR=11
T25A **Trinidad** 33.43 310 ⇓P P 12 45 42.9 +0.4
baz=34
Y23A **Lovelace Mesa,** 33.47 304 ⇑P P 12 45 43.5 +0.6
baz=34,SNR=18
V24A **Rampart Ranch,** 33.50 308 ⇑P P 12 45 43.6 +0.4
baz=34
J30A **Dallas** 33.54 323 ⇓P P 12 45 44.1 +0.9
baz=34
Q26A **Hugo** 33.61 314 ⇓P P 12 45 44.4 +0.4
baz=34
S25A **Robets Cordova** 33.67 311 ⇓P P 12 45 44.8 +0.2
baz=34
U24A **Moreno Valley** 33.77 309 ⇑P P 12 45 45.9 +0.3
baz=34
222A **Williams Famil** 33.77 300 ⇓P P 12 45 45.8 +0.3
baz=34
R25A **Fountain Ranch** 33.78 312 ⇑P P 12 45 45.0 -0.5
baz=34
N27A **Anderson Farm,** 33.91 317 ⇓P P 12 45 47.1 +0.6
baz=34
W23A **Werner Place,** 33.96 306 ⇑P P 12 45 47.7 +0.5
baz=34,SNR=12
Z22A **Elephant Butte** 33.98 302 ⇓P P 12 45 47.6 +0.2
baz=34
BNM **Barren Site** 33.99 304 *e*P P 12 45 47.7 +0.2
16nm,1.1s
LPM **Los Pinos Moun** 34.05 304 *e*P P 12 45 48.8 +0.9
T24B **San Luis** 34.10 310 ⇓P P 12 45 49.0 +0.5
baz=34
ANMO **Albuquerque** 34.12 306 *e*P P 12 45 49.6 +1.0
11nm,1.5s
V23A **Ortiz Mt. (NFS** 34.20 307 ⇓P P 12 45 49.7 +0.5
baz=34
S24A **Houchin Ranch,** 34.22 311 ⇑P P 12 45 49.8 +0.3
baz=34
R24A **Sanders Place,** 34.40 312 ⇓P P 12 45 51.1 +0.1
baz=34
U23A **El Rito** 34.42 308 ⇓P P 12 45 51.8 +0.6
baz=34
121A **Cookes Peak, D** 34.45 301 *e*P P 12 45 52.1 +0.7
6.4nm,0.9s
121A **Cookes Peak, D** 34.45 301 ⇑P P 12 45 51.6 +0.2
baz=34
LAZ **Ladron** 34.47 304 *e*P P 12 45 52.3 +0.7
7.0nm,1.3s
T23A **Casias Ranch,** 34.58 309 ⇓P P 12 45 52.9 +0.4
baz=35
320A **Kipp Ranch, An** 34.77 299 ⇑P P 12 45 55.0 +0.8
baz=35
V22A **San Miguel Ran** 34.81 307 ⇓P P 12 45 55.2 +0.7
baz=35
LPAZ **La Paz** 34.81 172 P P 12 45 55.0 0.0
1.3nm,0.6s,baz=23,slow=4.3,SNR=3.9
LPAZ LR LR 13 01 11.2
comp=Z,638nm,20.5s,baz=354,slow=38
R23A **Moffat** 34.89 311 ⇑P P 12 45 56.0 +0.6
baz=35
U22A **Llaves** 34.93 308 ⇓P P 12 45 57.0 +1.3
baz=35,SNR=12
319A **Douglas** 35.40 298 ⇑P P 12 46 00.2 +0.6
baz=35,SNR=16
S22A **4UR Ranch, Cre** 35.44 310 ⇑P P 12 46 00.1 +0.1
baz=36
G28A **Parade** 35.44 325 ⇓P P 12 46 00.5 +0.9
baz=36
N24A **Carr** 35.45 316 ⇓P P 12 46 00.6 +0.7
baz=36
ISCO **Idaho Springs** 35.45 314 *e*P P 12 46 01.0 +0.8
86nm,3.0s
ISCO **Idaho Springs** 35.45 314 ⇓P P 12 46 00.5 +0.3
baz=36
M24A **Cheyenne** 35.73 317 ⇑P P 12 46 02.9 +0.6
baz=36
H27A **Howes** 35.81 323 ⇓P P 12 46 03.2 +0.3
baz=36
L24A **Wheatland** 36.09 318 ⇓P P 12 46 05.6 +0.2
baz=36
SMCO **Snowmass** 36.12 312 *e*P P 12 46 06.6 +0.6
4.8nm,0.9s
G27A **Dupree** 36.19 324 ⇑P P 12 46 06.8 +0.7
baz=36
O22A **Kremmling** 36.26 314 ⇓P P 12 46 06.2 -0.8
baz=36
E28A **Huff** 36.29 327 ⇑P P 12 46 07.5 +0.6
baz=36
B30A **Myrvik Farm, E** 36.43 331 ⇑P P 12 46 08.8 +0.7
baz=36
MVCO **Mesa Verde** 36.46 308 *e*P P 12 46 12.9 +4.2
3.8nm,0.8s
F27A **Lemmon** 36.54 325 ⇑P P 12 46 09.7 +0.6
baz=37
SCHQ **Schefferville** 36.60 6 P P 12 46 09.3 0.0
SCHQ **Schefferville** 36.60 6 P P 12 46 09.3 0.0
11nm,0.8s,baz=186,slow=6.1,SNR=8.1
SCHQ LR LR 13 00 26.1
comp=Z,280nm,20.3s,baz=222,slow=35
L23A **Garrett** 36.62 317 ⇓P P 12 46 09.9 -0.1
baz=37,SNR=7.8
E27A **Carson** 36.65 326 ⇓P P 12 46 10.6 +0.6
baz=37
H25A **Fruitdale** 36.68 322 ⇓P P 12 46 10.9 +0.6
baz=37
W18A **Petrified Fore** 36.73 304 *e*P P 12 46 14.9 +3.9
6.7nm,0.7s
ULM **Lac du Bonnet** 36.73 335 P P 12 46 10.1 -0.4
ULM **Lac du Bonnet** 36.73 335 P P 12 46 10.1 -0.4
7.0nm,0.9s,baz=158,slow=7.0,SNR=7.5
ULM LR LR 13 02 19.9
comp=Z,206nm,18.1s,baz=166,slow=38
X18A **Snowflake** 36.73 303 ⇓P P 12 46 10.6 -0.4
baz=37
A30A **Hoffart Farm,** 36.77 332 ⇓P P 12 46 10.7 -0.3
baz=37,SNR=6.2
PV01 **Paradox Valley** 36.85 310 *e*P P 12 46 11.1 -0.9
298nm,0.9s
TUC **Tucson** 36.85 299 *e*P P 12 46 13.2 +1.3
3.6nm,0.8s
G25A **Newell** 36.91 323 ⇑P P 12 46 11.8 -0.5
baz=37,SNR=5.4
A29A **Manning Farm,** 37.19 331 ⇑P P 12 46 14.5 +0.1
baz=37,SNR=5.6
H24A **Dirks Ranch, A** 37.31 322 ⇑P P 12 46 15.4 -0.3
baz=37
B28A **Dugan Ranch, T** 37.39 329 ⇑P P 12 46 17.2 +1.0
baz=38
K22A **Casper** 37.41 318 *e*P P 12 46 18.3 +1.6
K22A **Casper** 37.41 318 ⇑P P 12 46 17.0 +0.3
baz=38
N20A **Spence Gulch,** 37.73 314 ⇑P P 12 46 19.5 +0.1
baz=38
J22A **Midwest** 37.77 319 ⇑P P 12 46 18.9 -0.8
baz=38,SNR=5.2
C26A **Wahner Farm, P** 37.83 327 ⇑P P 12 46 20.4 +0.4
baz=38,SNR=5.3
K21A **Alcova** 37.87 317 ⇓P P 12 46 20.6 0.0
baz=38,SNR=7.8
I22A **9 Mile Ranch,** 38.02 319 ⇑P P 12 46 21.5 -0.2
baz=38
WUAZ **Wupatki** 38.13 304 *e*P P 12 46 24.2 +1.4
7.5nm,0.9s
J21A **Lysite** 38.34 318 ⇑P P 12 46 23.7 -0.8
baz=38,SNR=8.5
I21A **Big Trails, Te** 38.48 319 ⇑P P 12 46 24.5 -1.2
baz=38,SNR=5.5
J20A **Shoshoni** 38.76 318 ⇑P P 12 46 27.7 -0.3
baz=39
F22A **Rosebud** 38.88 322 ⇑P P 12 46 28.2 -0.7
baz=39,SNR=6.6
Y14A **Wickenburg** 39.03 301 ⇑P P 12 46 29.8 -0.5
baz=39
U15A **North Rim** 39.10 305 ⇑P P 12 46 31.0 -0.1
baz=39
J19A **Crowheart** 39.34 317 ⇓P P 12 46 32.0 -0.9
baz=39,SNR=8.7
C23A **Lambert** 39.44 325 ⇓P P 12 46 33.5 -0.1
baz=40
PDAR **Pinedale Array** 39.44 316 P P 12 46 33.0 -0.9
PDAR PcP PcP 12 48 41.0 -0.9
PDAR **Pinedale Array** 39.44 316 P P 12 46 33.0 -0.9
1.8nm,0.7s,baz=123,slow=9.8,SNR=10
PDAR PcP PcP 12 48 41.0 -0.9
1.3nm,0.8s,baz=122,slow=4.9,SNR=5.2
PDAR LR LR 13 04 25.7
comp=Z,176nm,18.8s,baz=118,slow=39
A24A **Westby** 39.51 327 ⇓P P 12 46 34.6 +0.5
baz=40
D22A **Cohagen** 39.61 324 ⇑P P 12 46 35.4 +0.5
baz=40
I19A **Meeteetse** 39.66 318 ⇑P P 12 46 34.6 -1.0
baz=40,SNR=11
H19A **Powell** 39.96 319 ⇑P P 12 46 37.5 -0.5
baz=40
W13A **Hualapai Mount** 40.00 303 ⇑P P 12 46 38.7 +0.1
baz=40
ARUT **Antelope Range** 40.37 307 *e*P P 12 46 42.2 +0.6
141nm,0.8s
E20A **Meyer Farm, Mu** 40.37 322 ⇑P P 12 46 41.2 -0.1
baz=40
H18A **Shoshone NF, C** 40.39 319 ⇑P P 12 46 40.5 -1.2
baz=40,SNR=8.4
LOHW **Long Hollow** 40.50 317 *e*P P 12 46 42.0 -0.7
7.7nm,0.8s
REDW **Red Top Meadow** 40.56 316 *e*P P 12 46 42.9 -0.2
9.6nm,0.8s
DUG **Dugway** 40.67 311 *e*P P 12 46 44.8 +0.8
5.8nm,1.0s
DUG **Dugway** 40.67 311 ⇓P P 12 46 43.1 -0.9
baz=41
TPAW **Teton Pass** 40.68 316 *e*P P 12 46 42.2 -2.0
78nm,2.2s
E19A **Rath Farm, Rou** 40.74 321 ⇓P P 12 46 44.0 -0.4
baz=41
FLWY **Flagg Ranch** 40.77 317 *e*P P 12 46 48.8 +4.0
76nm,2.3s
FXWY **Fox Creek** 40.79 316 *e*P P 12 46 45.2 +0.1
6.3nm,0.9s
H17A **Grant Village** 40.84 318 *e*P P 12 46 47.9 +2.5
43nm,2.3s
IMW **Indian Meadow** 40.85 317 *e*P P 12 46 45.8 +0.2
6.2nm,0.9s
A21A **Bergtoll Ranch** 41.08 326 ⇓P P 12 46 47.1 0.0
baz=41
BGU **Big Grassy Mou** 41.08 312 *e*P P 12 46 48.0 +0.6
2.8nm,1.0s
D19A **Cripps Ranch,** 41.16 322 ⇑P P 12 46 47.7 -0.1
baz=41
SHPR **Sheep Range** 41.35 305 *e*P P 12 46 51.3 +1.6
A20A **Cobblestone Ra** 41.56 325 ⇓P P 12 46 51.8 +0.7
baz=42
BDFB **Brasilia** 41.71 143 P P 12 46 52.0 -0.7
BDFB **Brasilia** 41.71 143 P P 12 46 52.0 -0.7
6.3nm,0.8s,baz=328,slow=8.9,SNR=7.1
BDFB LR LR 13 04 59.0
comp=Z,349nm,18.3s,baz=322,slow=37
R11A **Troy Canyon, C** 42.15 307 *e*P P 12 46 57.5 +1.3
8.2nm,1.4s
R11A **Troy Canyon, C** 42.15 307 ⇑P P 12 46 55.9 -0.3
baz=42
GSC **Goldstone** 42.38 302 ⇑P P 12 46 58.2 +0.2
baz=42
MCMT **McKenzie Canyo** 42.48 317 *e*P P 12 46 58.5 -0.4
3.1nm,0.7s
DLMT **Dillon** 42.55 318 *e*P P 12 47 01.6 +2.2
30nm,1.9s
ELK **Elko** 42.60 311 *e*P P 12 47 01.0 +1.1
3.4nm,1.0s
HLID **Hailey** 43.01 315 *e*P P 12 47 03.5 +0.4
HLID **Hailey** 43.01 315 ⇑P P 12 47 03.6 +0.4
baz=43
MPMC **Manual Prospec** 43.08 303 ⇓P P 12 47 03.9 +0.1
baz=43
FCC **Fort Churchill** 43.19 344 *e*P P 12 47 03.1 -0.9
0.1nm,0.7s
MWC **Mount Wilson** 43.20 301 *e*P P 12 47 03.6 -1.2
24nm,0.8s
TPH **Tonopah** 43.32 306 *e*P P 12 47 07.1 +1.3
7.5nm,1.0s
CWC **Cottonwood Cre** 43.62 304 ⇓P P 12 47 09.1 +0.9
baz=44
MFID **Camas Ranch** 43.91 314 P P 12 47 10.2 -0.1
34nm,2.3s
NVAR **Mina Array Bea** 44.23 306 P P 12 47 13.1 0.0
NVAR PcP PP 12 48 56.5 +0.3
NVAR **Mina Array Bea** 44.23 306 P P 12 47 13.1 0.0
2.3nm,0.8s,baz=100,slow=8.3,SNR=10.0
NVAR PcP PP 12 48 56.5 +0.3
0.7nm,0.8s,baz=104,slow=3.8,SNR=2.6
FRB **Frobisher Bay** 45.35 3 LR LR 13 05 14.1
comp=Z,304nm,21.5s,baz=184,slow=35
WVOR **Wild Horse Val** 45.55 312 *e*P P 12 47 23.4 0.0
103nm,3.0s
J08A **Circle Bar Ran** 45.71 313 *e*P P 12 47 24.8 +0.1
120nm,3.0s
NEW **Newport** 46.59 320 *e*P P 12 47 33.9 +2.4
89nm,2.6s
NEW **Newport** 46.59 320 LR LR 13 07 35.0
comp=Z,214nm,18.7s,baz=108,slow=37
NEW **Newport** 46.59 320 ⇓P P 12 47 31.7 +0.2
baz=47
G08A **Pilot Rock** 46.67 315 *e*P P 12 47 32.0 -0.2
7.0nm,0.9s
EDM **Edmonton** 46.80 328 *e*P P 12 47 35.0 +2.0
CPUP **Villa Florida** 46.96 161 LR LR 13 09 28.9
comp=Z,307nm,18.2s,baz=325,slow=39
YBH **Yreka Blue Hor** 48.29 310 LR LR 13 10 05.5
comp=Z,155nm,20.2s,baz=116,slow=39
SFJD **Kangerlussuaq** 50.59 11 LR LR 13 07 23.9
comp=Z,262nm,21.5s,baz=202,slow=34
YKA **Yellowknife Ar** 52.65 337 P P 12 48 16.0 -1.3
YKA **Yellowknife Ar** 52.65 337 P P 12 48 16.0 -1.3
5.4nm,0.8s,baz=124,slow=7.3,SNR=30
BBB **Bella Bella** 54.56 322 LR LR 13 11 57.1
comp=Z,194nm,20.6s,baz=117,slow=36
DLBC **Dease Lake** 57.51 328 *e*P P 12 48 53.0 +0.4
DLBC **Dease Lake** 57.51 328 LR LR 13 14 55.5
comp=Z,144nm,18.4s,baz=118,slow=38
RES **Resolute Bay** 57.53 353 LR LR 13 13 37.2
comp=Z,228nm,19.9s,baz=142,slow=36
SUMG **Summit** 57.57 12 *i* P P 12 48 53.2 0.0
19nm,1.0s
SUMG **Summit** 57.57 12 *e*P P 12 48 53.3 +0.1
24nm,0.9s
PLCA **Paso Flores** 58.91 178 P P 12 49 02.5 -0.1
PLCA **Paso Flores** 58.91 178 P P 12 49 02.5 -0.1
2.5nm,0.7s,baz=313,slow=8.0,SNR=7.0
PLCA LR LR 13 16 24.7
comp=Z,102nm,19.1s,baz=315,slow=38
ESDC **Sonseca Array** 62.26 54 P P 12 49 26.1 +0.5
ESDC **Sonseca Array** 62.26 54 P P 12 49 26.1 +0.5
5.6nm,0.8s,baz=276,slow=6.8,SNR=10.0
ESDC LR LR 13 11 16.2
comp=Z,144nm,21.0s,baz=270,slow=31
INK **Inuvik** 62.34 339 *e*P P 12 49 25.2 -0.3
108nm,2.9s
INK **Inuvik** 62.34 339 LR LR 13 16 21.0
comp=Z,203nm,21.4s,baz=121,slow=36
EGAK **Eagle** 64.30 334 *e*P P 12 49 42.4 +3.8
88nm,2.6s
DOT **Dot Lake** 65.35 332 *e*P P 12 49 49.1 +3.6
11nm,1.1s
DIV **Divide** 65.84 329 *e*P P 12 49 51.2 +2.5
16nm,0.8s
ILAR **Eielson Array** 66.72 333 P P 12 49 52.9 -1.4
ILAR **Eielson Array** 66.72 333 P P 12 49 52.9 -1.4
2.2nm,0.8s,baz=115,slow=3.2,SNR=15
ILAR LR LR 13 20 40.7
comp=Z,154nm,19.1s,baz=101,slow=38
DBIC **Dimbokro** 66.95 91 P P 12 49 54.8 -1.7
DBIC **Dimbokro** 66.95 91 P P 12 49 54.8 -1.7
1.7nm,0.7s,baz=287,slow=5.5,SNR=3.3
COLA **College** 67.14 333 *e*P P 12 49 57.9 +1.0
2.7nm,1.1s
PMR **Palmer** 67.49 330 *e*P P 12 50 02.7 +3.6
10nm,1.0s
TRF **Thorofare Moun** 68.11 332 *e*P P 12 50 03.8 +0.5
101nm,2.3s
COLD **Coldfoot** 68.29 336 *e*P P 12 50 05.0 +0.8
8.7nm,0.9s
KTH **Kantishna Hill** 68.40 332 *e*P P 12 50 05.2 +0.3
SPU **Mount Spurr** 68.88 329 *e*P P 12 50 11.9 +3.9
RSO **Redoubt South** 69.23 329 *e*P P 12 50 12.7 +2.3
IM04 **Indian Mountai** 69.67 334 *e*P P 12 50 12.6 -0.2
SENIN **Lac Senin/Sane** 70.07 47 *e*P P 12 50 17.2 +1.3
SVW2 **Sparrevohn** 70.59 329 *e*P P 12 50 22.2 +3.7
11nm,1.0s
NB2 **NORSAR Subarra** 71.12 31 P P 12 50 22.7 +1.0
comp=Z,8.5nm,1.1s,baz=274,slow=6.5
NOA **NORSAR Array B** 71.12 31 P P 12 50 21.3 -0.4
NOA **NORSAR Array B** 71.12 31 P P 12 50 21.3 -0.4
comp=Z,1.1nm,0.7s,baz=276,slow=5.8,SNR=3.0
NOA LR LR 13 16 55.4
comp=Z,91nm,21.4s,baz=265,slow=32
TOA0 **Torodi Ar. Sit** 71.37 82 *e*P P 12 50 22.6 -1.4
TORD **Torodi Ar. Bea** 71.37 82 P P 12 50 22.0 -2.0
TORD **Torodi Ar. Bea** 71.37 82 P P 12 50 22.0 -2.0
comp=Z,3.7nm,0.8s,baz=293,slow=5.1,SNR=11
TORD LR LR 13 19 16.1
comp=Z,71nm,20.9s,baz=300,slow=34
TUE **Stuetta** 71.47 46 *e*P P 12 50 25.4 +1.1
comp=Z,5.9nm,0.7s
SPITS **Spitsbergen Ar** 71.89 13 P P 12 50 26.2 +0.1
SPITS **Spitsbergen Ar** 71.89 13 P P 12 50 26.2 +0.1
comp=Z,4.8nm,0.9s,baz=265,slow=16,SNR=3.5
GRF **Grafenberg Arr** 72.29 43 *e*P P 12 50 30.5 +1.6
comp=Z,6.0nm,1.1s
RETA **Reute** 72.29 45⇑*i*P P 12 50 29.9 +0.8
comp=Z,14nm,0.9s
FETA **Feichten** 72.33 46⇓*i*P P 12 50 30.2 +0.7
comp=Z,9.7nm,0.8s
HFS **Hagfors** 72.42 32 LR LR 13 18 26.1
comp=Z,43nm,20.2s,baz=258,slow=33
NKC **Novy Kostel** 73.00 42 *e*P P 12 50 36.4 +3.2
KEST **Kesra** 73.17 57 P P 12 50 35.6 +1.1
KEST **Kesra** 73.17 57 P P 12 50 35.6 +1.1
comp=Z,4.0nm,0.7s,baz=82,slow=1.6,SNR=7.2
KEST LR LR 13 17 52.3
comp=Z,48nm,21.5s,baz=322,slow=32
CLL **Collm** 73.18 41 *e*P P 12 50 35.0 +0.8
CLL *e*(sP) sP 12 50 38.0 -1.3
CLL LmV 13 19 00.0
comp=Z,100nm,19.5s
RKT **Rikitea** 73.50 238 *e*LR LR 13 13 11.3
comp=Z,170nm,32.8s
ABTA **Abfaltersbach** 73.58 46⇑*i*sP sP 12 50 40.4 -1.5
comp=Z,6.6nm,0.6s
BRG **Berggiesshubel** 73.84 41 *e*P P 12 50 39.4 +1.3
comp=Z,13nm,1.3s
BRG *e* 12 50 41.2
comp=Z,6.8nm,0.8s
KHC **Kasperske Hory** 73.89 43 *e*P P 12 50 39.0 +0.5
KHC *ep*P pP 12 50 42.5 +0.2
KHC *ex* x 12 50 49.9
KHC **Kasperske Hory** 73.89 43 *e*P P 12 50 38.9 +0.4
comp=Z,133nm,2.6s
GERES **GERESS Array B** 74.02 43 P P 12 50 40.0 +0.6
GERES **GERESS Array B** 74.02 43 P P 12 50 40.0 +0.6
comp=Z,10nm,0.8s,baz=270,slow=4.0,SNR=28
GERES LR LR 13 17 51.6
comp=Z,250nm,21.9s,baz=268,slow=32
PVCC **Panska Ves** 74.29 41 *e*P P 12 50 42.0 +1.3
PVCC *ep*P pP 12 50 44.1 -0.4
PRU **Pruhonice** 74.36 42 *e*P P 12 50 44.2 +3.0
MOA **Molln** 74.57 44⇑*i*P P 12 50 42.4 -0.1
comp=Z,12nm,0.8s
OBKA **Obir** 75.01 46⇑*i*sP sP 12 50 49.1 -1.2
comp=Z,13nm,0.7s

UPC	**Upice**	**75.20**	**41**	*e*P		**P**	**12 50 46.3**	**+0.3**
UPC				*e*pP		**pP**	**12 50 50.7**	**+0.9**
DPC	**Dobruska-Polom**	**75.42**	**41**	*e*P		**P**	**12 50 48.7**	**+1.3**
DPC				*e*pP		**pP**	**12 50 52.2**	**+1.1**
DPC	**Dobruska-Polom**	**75.42**	**41**	*e*P		**P**	**12 50 48.0**	**+0.7**
TNA	**Tin City**	**75.51**	**335**	*e*P		**P**	**12 50 48.5**	**+1.0**
	comp=Z,8.1nm,1.0s							
ARCES	**ARCESS Array B**	**75.72**	**21**	P		**P**	**12 50 48.1**	**-0.6**
ARCES	**ARCESS Array B**	**75.72**	**21**	P		**P**	**12 50 48.1**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=290,slow=3.6,SNR=6.9							
ARCES				LR		LR	13 19 11.5	
	comp=Z,129nm,21.3s,baz=286,slow=32							
MORC	**Moravsky Berou**	**76.31**	**42**	*e*P		**P**	**12 50 52.6**	**+0.2**
	comp=Z,6.5nm,0.8s							
OKC	**Ostrava-Krasne**	**76.68**	**42**	*e*P		**P**	**12 50 56.3**	**+1.9**
OKC				*e*pP		**pP**	**12 50 59.4**	**+1.2**
OKC				AMS		AMS	13 21 00.0	
	comp=Z,300nm,21.1s							
FINES	**FINESS Array B**	**78.11**	**29**	P		**P**	**12 51 00.7**	**-1.5**
FINES	**FINESS Array B**	**78.11**	**29**	P		**P**	**12 51 00.7**	**-1.5**
	comp=Z,5.5nm,0.9s,baz=298,slow=4.1,SNR=9.1							
PSZ	**Piszkesteto**	**78.25**	**43**	*e*P		P	12 51 10.1	+6.7
	comp=Z,7.8nm,0.9s							
STHS	**Stebnicka Huta**	**78.73**	**42**	*e*P		**P**	**12 51 07.4**	**+1.4**
CRVS	**Cervenica-Dubn**	**79.01**	**42**	*e*P		**P**	**12 51 09.2**	**+1.7**
KOLS	**Kolonicke sedl**	**79.52**	**42**	*e*P		**P**	**12 51 12.0**	**+1.8**
NACGM	**Naroch**	**80.43**	**35**	*e*		**P**	**12 51 13.0**	**-2.0**
BUR08	**Bucovina Ar. S**	**81.76**	**43**	P		**P**	**12 51 22.8**	**+0.3**
KIEV	**Kiev**	**83.23**	**39**	*e*P		**P**	**12 51 32.5**	**+2.6**
	comp=Z,4.3nm,0.8s							
PMSA	**Palmer Station**	**83.23**	**176**	LR		LR	13 29 47.1	
	comp=Z,63nm,18.3s,baz=129,slow=37							
AK01	**Malin Array Si**	**83.23**	**39**	*e*P		**P**	**12 51 30.4**	**+0.6**
AKASG	**Malin Array Bi**	**83.23**	**39**	P		**P**	**12 51 29.4**	**-0.5**
AKASG	**Malin Array Be**	**83.23**	**39**	P		**P**	**12 51 29.4**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=289,slow=4.2,SNR=8.2							
AK02	**Malin Array Si**	**83.24**	**39**	P		**P**	**12 51 30.6**	**+0.6**
PPT	**Papeete**	**83.59**	**249**	LR		LR	13 25 03.2	
	comp=Z,66nm,18.1s,baz=112,slow=33							
PPT2	**Papeete2**	**83.60**	**249**	*e*LR		LR	13 17 52.3	
	comp=Z,360nm,27.8s							
TBI	**Tubuai**	**85.63**	**244**	*e*LR		LR	13 18 44.8	
	comp=Z,205nm,30.8s							
TIXI	**Tiksi**	**88.92**	**353**	*e*P		**P**	**12 51 57.1**	**-0.5**
	comp=Z,4.3nm,0.9s							
BR131	**Keskin Array S**	**90.34**	**48**	*e*P		**P**	**12 52 05.4**	**+0.3**
	comp=Z,1.6nm,0.8s							
BRTR	**Keskin Array B**	**90.34**	**48**	P		**P**	**12 52 04.2**	**-0.8**
BRTR	**Keskin Array B**	**90.34**	**48**	P		**P**	**12 52 04.2**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=275,slow=3.7,SNR=8.0							
RAR	**Rarotonga**	**93.88**	**249**	LR		LR	13 27 03.7	
	comp=Z,107nm,18.4s,baz=81,slow=31							
KSH	**Kashi**	**115.34**	**26**	*e*PKP		**PKPdf**	**12 57 48.0**	**+2.3**
KSH				*e*PP		PP	12 58 54.5	+9.1
KSH				*e*SKS		**SKSdf**	**13 04 55.1**	**-3.0**
KSH				*e*SKKS		**SKKSac**	**13 05 43.0**	**-5.3**
KSH				*e*SS		**SS**	**13 14 47.3**	**+4.5**
KSH				AMB		AMB		
	comp=Z,49nm,3.4s							
KSH				LR		LR		
	comp=Z,36nm,5.2s							
KSH				LR		LR		
	comp=Z,25nm,3.9s							
KSH				LR		LR		
	comp=Z,28nm,2.9s							
WMQ	**Urumqi**	**115.49**	**16**	PKP		**PKPdf**	**12 57 46.8**	**+1.0**
WMQ				PP		PP	12 58 53.3	+7.2
WMQ				AMB		AMB		
	comp=Z,16nm,9.2s							
WMQ				LR		LR		
	comp=Z,100nm,23.0s							
WMQ				LR		LR		
	comp=Z,55nm,26.4s							
WMQ				LR		LR		
	comp=Z,89nm,26.4s							
HHC	**Hu-ho-hao-te**	**120.87**	**356**	*e*PKP		**PKPdf**	**12 57 52.0**	**-4.3**
HHC				LR		LR		
	comp=Z,420nm,22.2s							
HHC				LR		LR		
	comp=Z,450nm,20.6s							
HHC				LR		LR		
	comp=Z,300nm,17.8s							
LZH	**Lanzhou**	**125.67**	**3**	*e*PKP		**PKPdf**	**12 58 04.8**	**-0.9**
LZH				sPKP			12 58 12.5	
NJ2	**Nanjing**	**128.58**	**347**	*e*PKP		**PKPdf**	**12 58 11.1**	**0.0**
GYA	**Guiyang**	**135.36**	**1**	*e*Pdif		**Pdif**	**12 59 25.8**	**-0.8**
GYA				PKP		**PKPdf**	**12 58 24.5**	**+0.3**
GYA				PP		**PP**	**13 01 03.0**	**+4.3**
GYA				AMB		AMB		
	comp=Z,90nm,7.8s							
CMAR	**Chiang Mai Arr**	**142.42**	**13**	PKPpre		PKPpre	12 58 32.3	
CMAR	**Chiang Mai Arr**	**142.42**	**13**	PKhKP		PKPpre	12 58 32.3	
	comp=Z,0.5nm,0.6s,baz=345,slow=5.9,SNR=3.7							
STKA	**Stephens Creek**	**146.34**	**240**	PKPbc		**PKPdf**	**12 58 42.0**	**-1.5**
STKA	**Stephens Creek**	**146.34**	**240**	PKPbc		**PKPdf**	**12 58 42.0**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=129,slow=5.6,SNR=5.7							
WRA	**Warramunga Arr**	**154.41**	**262**	PKP		**PKPdf**	**12 58 55.0**	**-1.5**
WRA				PKPbc		**PKPbc**	**12 59 03.2**	**-1.6**
WRA	**Warramunga Arr**	**154.41**	**262**	PKP		**PKPdf**	**12 58 55.0**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=74,slow=1.3,SNR=7.8							
WRA				PKPbc		**PKPbc**	**12 59 03.2**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=87,slow=2.5,SNR=10							
ASAR	**Alice Springs**	**154.64**	**254**	PKP		**PKPdf**	**12 58 54.8**	**-1.9**
ASAR				PKPbc		**PKPbc**	**12 59 02.9**	**-2.3**
ASAR				PKPab		**PKPab**	**12 59 19.7**	**-0.3**
ASAR	**Alice Springs**	**154.64**	**254**	PKP		**PKPdf**	**12 58 54.8**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=103,slow=1.9,SNR=5.0							
ASAR				PKPbc		**PKPbc**	**12 59 02.9**	**-2.3**
	comp=Z,1.3nm,1.0s,baz=96,slow=2.2,SNR=10							
ASAR				PKPab		**PKPab**	**12 59 19.7**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=106,slow=3.0,SNR=5.8							

IDC 14 12:56:07.5±3.3, 4.19S×153.25E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/19, mbtmp4.0/3, ML2.9/1, Error ellipse: s-maj=147.6km s-min=44.0km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.96**	**229**	Pn	Pn	12 58 06.3	+1.6
	0.8nm,0.3s,baz=63,slow=11,SNR=3.2						
PMG				Sn	Sn	12 59 31.5	-4.1
	1.8nm,0.3s,baz=294,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**24.18**	**228**	P	P	13 01 25.9	0.0
	2.4nm,0.4s,baz=53,slow=9.9,SNR=60						
ASAR	**Alice Springs**	**26.90**	**222**	P	P	13 01 50.2	-0.3
	0.4nm,0.3s,baz=55,slow=9.1,SNR=28						
TORD	**Torodi Ar. Bea**	**150.54**	**289**	PKPbc	PKPbc	13 16 02.0	-0.4
	0.6nm,0.4s,baz=88,slow=2.2,SNR=5.4						

CSEM 14 12:58:54.3, 37.49N×25.02W, h0km, ML2.6, After PDA
PDA 14 12:58:54.3±0.7, 37.49N×25.02W, h0km±6km, MD3.5, ML2.6, Error ellipse: s-maj=6.6km s-min=2.4km az=73.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BART	**Pico Bartolome**	**0.31**	**339**	*e*P	Pg	12 59 00.3	-0.2
BART				*e*S	Sg	12 59 04.9	+0.2
BART				A	A	12 59 07.8	
	949nm,0.3s						
BART	**Pico Bartolome**	**0.31**	**339**	*e*P	Pg	12 59 00.3	-0.2
BART				*e*S	Sg	12 59 04.9	+0.2
PSMN	**Pico do Norte,**	**0.48**	**184**	*e*P	Pg	12 59 03.1	-0.5
PSMN				*e*S	Sg	12 59 09.8	0.0
PSMN				A	A	12 59 12.3	
	61nm,0.2s						
PSMN	**Pico do Norte,**	**0.48**	**184**	*e*P	Pg	12 59 03.1	-0.5
PSMN				*e*S	Sg	12 59 09.8	0.0
GRON	**Grota Negra**	**0.49**	**305**	*e*P	Pg	12 59 01.6	-2.3
GRON				*e*S	Sg	12 59 07.7	-2.6
GRON				A	A	12 59 08.7	
	83nm,0.2s						
PSMA	**Santa Maria**	**0.50**	**190**	*e*P	Pg	12 59 03.3	-0.5
PSMA				*e*S	Sg	12 59 10.3	0.0
PSMA				A	A	12 59 11.2	
	350nm,0.2s						
PDA	**Ponta Delgada**	**0.57**	**297**	*e*P	Pg	12 59 04.4	-0.9
PDA				*e*S	Sg	12 59 11.9	-0.8
PDA				A	A	12 59 13.1	
	168nm,0.2s						
PDA	**Ponta Delgada**	**0.57**	**297**	*e*P	Pg	12 59 04.4	-0.9
PDA				*e*S	Sg	12 59 11.9	-0.8

PSET	**Sete Cidades**	**0.65**	**302**	*e*P		Pg	12 59 05.7	-1.1
PSET				*e*S		Sg	12 59 14.6	-0.7
PSET				A		A	12 59 20.2	
	88nm,0.3s							
PSET	**Sete Cidades**	**0.65**	**302**	*e*P		Pg	12 59 05.7	-1.1
PSET				*e*S		Sg	12 59 14.6	-0.7

NNC 14 13:01:10.0±10.0, 38.54N×70.35E, h0km, mb3.5, mpv3.1, 3C-3D, Error ellipse: s-maj=94.2km s-min=68.4km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.40**	**34**	P	Pn	13 02 19.5	+0.9
	SNR=30						
KK31	**Karatay Array**	**4.56**	**1**	⇑Pn	Pn	13 02 21.8	+1.5
	1.1nm,0.5s,baz=176,slow=12,SNR=18						
KK31				⇓Pg	Pb	13 02 34.0	+3.1
	1.0nm,0.5s,baz=177,slow=12,SNR=4.3						
KK31				⇑Lg	Lg	13 03 34.5	
	0.7nm,0.3s,baz=188,slow=23						
UCH	**Uchtor**	**4.86**	**40**	P	Pn	13 02 24.8	-0.2
	SNR=16						
EKS2	**Erkin-Say**	**4.87**	**31**	P	Pn	13 02 25.6	+1.0
	SNR=10						
KZA	**Kyzart**	**5.15**	**45**	P	Pn	13 02 27.4	-1.5
	SNR=5.4						
AAK	**Ala-Archa**	**5.16**	**36**	⇓Pn	Pn	13 02 28.5	-0.2
	2.7nm,0.4s						
AAK				⇑Lg	Lg	13 03 49.6	
	3.7nm,0.7s						
AAK	**Ala-Archa**	**5.16**	**36**	P	Pn	13 02 28.7	0.0
	SNR=11						
KBK	**Karagaybulak**	**5.39**	**39**	P	Pn	13 02 32.0	+0.1
	SNR=6.7						
USP	**Ospenovka**	**5.67**	**32**	P	Pn	13 02 35.4	-0.1
	SNR=5.7						
ULHL	**Ulahol**	**5.82**	**49**	P	Pn	13 02 34.4	-3.4
	SNR=5.3						
TKM2	**Tokmak 2**	**5.91**	**41**	⇓Pn	Pn	13 02 37.0	-2.2
	2.0nm,0.7s						

IDC 14 13:09:52.3±3.1, 23.94S×179.36E, h517km±28km, mb3.7/7, mb1 3.8/9, mb1mx3.4/21, mbtmp4.6/9, Error ellipse: s-maj=31.4km s-min=22.1km az=54.0
ISCJB 14 13:09:54.2±0.6, 24.04S±0.08×179.12E±0.08, h537km, mb4.2/7, Error ellipse: s-maj=10.9km s-min=9.2km az=155.4
ISC 14 13:09:54.0±0.7, 24.14S±0.10×179.27E±0.10, h537km, n36, σ1s24/40, mb4.2/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**11.23**	**65**	S	**S**	**13 14 29.5**	**+1.0**
	baz=11,SNR=4.0						
DZM	**Mont Dzumac**	**11.99**	**277**	P	**P**	**13 12 32.1**	**-0.4**
	0.4nm,0.3s,baz=112,slow=19,SNR=5.4						
URZ	**Urewera**	**14.20**	**187**	P	**P**	**13 12 54.9**	**-0.2**
	7.3nm,0.3s,baz=299,slow=2.5,SNR=55						
URZ				S	**S**	**13 15 23.0**	**-1.5**
	0.2nm,0.3s,baz=218,slow=19,SNR=5.2						
ARMA	**Armidale**	**25.32**	**250**	P	**P**	**13 14 40.6**	**+2.2**
	baz=25,SNR=12						
EIDS	**Eidsvold**	**25.61**	**261**	P	**P**	**13 14 41.8**	**+0.8**
	baz=26,SNR=4.6						
MGCD	**Mangrove Creek**	**26.25**	**243**	P	**P**	**13 14 49.1**	**+2.7**
	baz=26,SNR=5.8						
RMQ	**Roma**	**27.66**	**259**	P	**P**	**13 15 01.1**	**+2.2**
	baz=28,SNR=7.4						
CNB	**Canberra Magne**	**28.16**	**240**	P	**P**	**13 15 05.8**	**+2.5**
	baz=28,SNR=4.7						
CMSA	**Cobar Meteorol**	**30.51**	**248**	P	**P**	**13 15 24.9**	**+1.3**
	baz=30,SNR=42						
CTA	**Charters Tower**	**30.81**	**271**	P	**P**	**13 15 27.1**	**+0.7**
	24nm,0.3s,baz=98,slow=11,SNR=54						
QLP	**Quilpie**	**31.70**	**258**	P	**P**	**13 15 34.5**	**+0.7**
	baz=32,SNR=13						
TOO	**Toolangi**	**31.76**	**237**	P	**P**	**13 15 36.1**	**+1.8**
	baz=32,SNR=7.2						
STKA	**Stephens Creek**	**34.02**	**248**	P	**P**	**13 15 54.5**	**+1.1**
	7.2nm,0.8s,baz=86,slow=8.8,SNR=17						
STKA				PcP	**PcP**	**13 18 16.5**	**+0.7**
	0.9nm,0.5s,baz=90,slow=5.1,SNR=4.2						
STKA	**Stephens Creek**	**34.02**	**248**	P	**P**	**13 15 54.8**	**+1.4**
	baz=34,SNR=8.8						
COEN	**Coen**	**35.50**	**280**	P	**P**	**13 16 06.3**	**+0.4**
	baz=35,SNR=9.7						
HTT	**Hallett**	**36.37**	**246**	P	**P**	**13 16 13.9**	**+0.9**
	baz=36,SNR=3.7						
QIS	**Mount Isa**	**36.78**	**268**	P	**P**	**13 16 16.6**	**0.0**
	baz=37,SNR=3.1						
BBOO	**Buckleboo**	**38.74**	**247**	P	**P**	**13 16 32.2**	**-0.2**
	baz=39,SNR=13						
ASAR	**Alice Springs**	**41.34**	**261**	P	**P**	**13 16 53.4**	**0.0**
	6.5nm,0.8s,baz=96,slow=6.9,SNR=77						
ASAR				PcP	**PcP**	**13 18 39.1**	**+0.1**
	0.7nm,0.6s,baz=102,slow=4.2,SNR=5.0						
WRA	**Warramunga Arr**	**41.73**	**267**	P	**P**	**13 16 55.7**	**-0.7**
	4.3nm,0.3s,baz=96,slow=8.4,SNR=416						
WRA				PcP	**PcP**	**13 18 40.3**	**0.0**
	0.6nm,0.5s,baz=99,slow=3.0,SNR=4.1						
WRA				ScP	**ScP**	**13 21 41.0**	**+1.5**
	0.4nm,0.7s,baz=101,slow=3.5,SNR=4.7						
FORT	**Forrest**	**45.61**	**250**	P	**P**	**13 17 26.1**	**-0.2**
	baz=46,SNR=16						
KDU	**Kakadu**	**45.65**	**276**	P	**P**	**13 17 25.8**	**-1.1**
	baz=46,SNR=12						
WRKA	**Warakurna**	**46.14**	**258**	P	**P**	**13 17 30.3**	**-0.2**
	baz=46,SNR=53						
MTN	**Manton Dam**	**46.81**	**275**	P	**P**	**13 17 34.6**	**-1.1**
	baz=47,SNR=3.5						
KNRA	**Kununurra**	**48.02**	**270**	P	**P**	**13 17 44.4**	**-0.3**
	baz=48,SNR=8.0						
KLBR	**Kellerberrin**	**54.28**	**247**	P	**P**	**13 18 29.7**	**-0.3**
	baz=54,SNR=4.5						
MEEK	**Meekatharra**	**54.41**	**254**	P	**P**	**13 18 30.4**	**-0.6**
	baz=54,SNR=3.6						
QSPA	**South Pole Qui**	**65.95**	**180**	P	**P**	**13 19 48.6**	**+1.8**
	0.8nm,0.3s,baz=29,slow=3.1,SNR=5.4						
MJAR	**Matsushiro Arr**	**71.72**	**326**	P	**P**	**13 20 20.6**	**-1.3**
	1.8nm,0.8s,baz=143,slow=3.7,SNR=3.6						
MAW	**Mawson**	**77.30**	**201**	P	**P**	**13 20 50.7**	**-2.1**
	baz=77,SNR=13						
CMAR	**Chiang Mai Arr**	**88.99**	**291**	P	**P**	**13 21 53.2**	**+1.1**
	0.4nm,0.3s,baz=143,slow=3.6,SNR=4.7						
ARCES	**ARCESS Array B**	**131.98**	**348**	PKP	**PKPdf**	**13 28 04.8**	**-0.9**
	2.4nm,0.8s,baz=32,slow=7.1,SNR=4.5						
FINES	**FINESS Array B**	**138.46**	**341**	PKP	**PKPdf**	**13 28 17.1**	**-0.8**
	1.3nm,0.9s,baz=108,slow=6.2,SNR=4.1						
HFS	**Hagfors**	**142.64**	**348**	PKhKP	PKPpre	13 28 21.3	
	2.9nm,0.4s,baz=64,slow=3.4,SNR=26						
AKASG	**Malin Array Be**	**144.81**	**327**	PKP	**PKPdf**	**13 28 28.9**	**-0.7**
	1.6nm,0.5s,baz=45,slow=4.2,SNR=13						
BRTR	**Keskin Array B**	**147.19**	**307**	PKPbc	**PKPbc**	**13 28 36.5**	**-0.8**
	2.3nm,0.7s,baz=143,slow=5.4,SNR=6.7						

MEX 14 13:23:41.3±1.1, 16.56N×94.17W, h163km±22km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.25**	**133**	*e*P	Pn	13 24 08.5	-1.0
PCIG				*i* S	Sn	13 24 28.6	-2.5
HUIG	**Huatulco**	**2.02**	**247**	*e*P	Pn	13 24 15.3	-2.2
HUIG				*e*S	Sn	13 24 44.4	-1.1
VHO	**Vista Hermosa**	**2.51**	**282**	*i* P	Pn	13 24 22.2	-1.3
VHO				*i* S	Sn	13 24 53.7	-2.3

MAN 14 13:24:47, 9.63N×122.45E, h24km, mb4.6, ML3.5, MS3.4, 4C, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.00**	**8**	*e*P	Pn	13 25 04.7	-0.8
GUIM				*e*S	Sb	13 25 18.2	-0.2
TBP	**Tagbilaran**	**1.40**	**87**	*e*P	Pn	13 25 11.7	+0.6
TBP				*e*S	Sb	13 25 29.8	-0.1
LLP	**Lapu-Lapu**	**1.65**	**65**	⇑*e*P	Pn	13 25 14.8	+0.3
LLP				*e*S	Sn	13 25 34.2	-0.7
IPIL	**Ipil**	**1.83**	**176**	⇑*i*P	Pn	13 25 17.4	+0.4
IPIL				*e*S	Sn	13 25 40.6	+1.1
RCP	**Roxas**	**1.94**	**9**	⇑*e*P	Pb	13 25 20.5	-1.2
RCP				*e*S	Sb	13 25 47.1	+1.5

PAGZ	**Pagadian**	**2.00**	**152**	*e*P		Pn	13 25 20.8	+1.5
PAGZ				*e*S		Sn	13 25 25.3	-18
MSLP	**Maasin**	**2.43**	**78**	*e*P		Pn	13 25 26.8	+1.6
CGP	**Cagayan de Oro**	**2.51**	**118**	⇑*e*P		Pb	13 25 29.9	-1.5
CGP				*e*S		Sn	13 25 58.3	+2.1
OCLP	**Ormoc**	**2.56**	**56**	*e*P		Pn	13 25 27.9	+0.9
BUKP	**Musuan**	**3.12**	**124**	*e*P		Pb	13 25 39.6	-2.3

IDC 14 13:49:18.8±3.2, 18.62N×73.23W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=110.0km s-min=34.2km az=14.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**26.09**	**192**	LR	LR	14 06 54.5	
	comp=Z,59nm,18.7s,baz=11,slow=40						
TXAR	**Lajitas Array**	**29.70**	**297**	P	P	13 55 27.1	+0.3
	0.2nm,0.8s,baz=101,slow=9.4,SNR=2.2						
YKA	**Yellowknife Ar**	**52.30**	**337**	P	P	13 58 31.1	-0.9
	0.2nm,0.8s,baz=121,slow=6.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**71.82**	**82**	P	P	14 00 43.5	-0.5
	0.7nm,1.0s,baz=279,slow=5.7,SNR=3.2						
GERES	**GERESS Array B**	**74.23**	**43**	P	P	14 00 58.7	+0.9
	0.3nm,0.5s,baz=274,slow=5.5,SNR=4.1						

IDC 14 14:03:35.8±0.5, 11.52N×142.24E, h0km, mb4.7/24, mb1 4.8/24, mb1mx4.8/28, mbtmp4.7/24, MS5.6/24, Ms1 5.6/24, ms1mx5.6/29, Error ellipse: s-maj=20.3km s-min=11.7km az=78.0
BJI 14 14:03:35.8, 11.31N×142.51E, h29km, mB5.7/56, mb5.4/18, Ms5.8/74, Ms7 5.7/71
MOS 14 14:03:38.8±0.9, 11.46N×142.12E, h33km, mb5.6/47, MS5.8/40, Error ellipse: s-maj=9.9km s-min=5.3km az=110.5
ISCJB 14 14:03:39.8±0.1, 11.51N±0.02×142.08E±0.03, h36km, mb5.4/169, MS5.8/222, Error ellipse: s-maj=3.6km s-min=2.9km az=177.2
NEIC 14 14:03:40.0±0.0, 11.52N×142.11E, h32km Best double couple: NP1:φs69.0000°, δ73.0000°, λ81.00000°. NP2:φs276.00000°, δ18.00000°, λ115.00000°. Principal axes: T 6.3000, Plg60.0000°, Azm327.0000°; N 0.2600, Plg7.0000°, Azm71.0000°; P -6.5600, Plg28.0000°, Azm166.0000°;
GCMT 14 14:03:41.2±0.1, 11.30N×142.09E, h12km, MW5.8/125, Moment Tensor Solution. s111,c206; s125,c364; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr 5.14±.05; Mθθ-5.27±.04; Mφφ 0.13±.04; Mrθ 2.24±.13; Mθφ-0.41±.04; Mφr-0.46±.13; Best double couple: Ms5.70100×10^17 NP1:φs92.00000°, δ57.00000°, λ97.00000°. NP2:φs259.00000°, δ34.00000°, λ79.00000°. Principal axes: T 5.6530, Plg77.0000°, Azm25.0000°; N 0.0950, Plg6.0000°, Azm268.0000°; P -5.7480, Plg11.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
NEIC 14 14:03:41.1±0.2, 11.51N×142.08E, h37km, mb5.7/88, MS5.8/153, MW5.8, MW5.7 Error ellipse: s-maj=5.4km s-min=4.6km az=95.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^17 Nm; Mrr 5.44; Mθθ-4.52; Mφφ-0.92; Mrθ-0.40; Mθφ-0.16; Mφr 1.61; Best double couple: Ms5.30000×10^17 NP1:φs75.00000°, δ45.00000°, λ71.00000°. NP2:φs281.00000°, δ49.00000°, λ108.00000°. Principal axes: T 5.8400, Plg76.0000°, Azm260.0000°; N -1.3100, Plg13.0000°, Azm88.0000°; P -4.5400, Plg2.0000°, Azm358.0000°;
DJA 14 14:03:42.5±0.6, 11.7N±6.4×14.2E±4, h15km, M5.9/33, mb5.1/33, mB6.2/31, Mw(mB)5.9/31, Mwp6.1/5
ISC 14 14:03:41.8±0.3, 11.55N±0.03×142.10E±0.04, h34km±1km, h35km:pP-P, n561, σ1s90/468, mb5.5/166, MS5.8/223, 25C-19D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.37**	**53**	*e*Pn	**Pn**	**14 04 30.1**	**-2.0**
GUMO				*e*Sn	**Sn**	**14 05 08.2**	**-2.8**
PALU	**Palau**	**8.61**	**242**	⇑P	**Pn**	**14 05 44.6**	**+0.6**
	baz=8.5,SNR=5.3						
SMPI	**Sarmi**	**13.87**	**194**	P	**Pn**	**14 06 56.5**	**+0.4**
	210nm,2.9s						
SMPI				S	**Sn**	**14 09 30.3**	**+1.3**
	210nm,2.9s						
JAY	**Jayapura**	**14.04**	**186**	⇑P	**Pn**	**14 06 58.7**	**+0.2**
	baz=14,SNR=11						
GENI	**Genyem**	**14.19**	**188**	P	**Pn**	**14 06 57.7**	**-2.7**
	266nm,1.9s,14μm62μm						
MWPI	**Manokwari, Pap**	**14.77**	**213**	P	x	14 07 06.7	
	356nm,2.1s,18μm						
MWPI				S	x	14 10 41.5	
	356nm,2.1s,18μm						
WAMI	**Wamena**	**15.70**	**193**	P	**Pn**	**14 07 21.1**	**+0.5**
	193nm,1.6s,16μm56μm						
SWI	**Sorong**	**16.38**	**222**	P	**Pn**	**14 07 27.9**	**-1.3**
	96nm,2.9s,7μm						
PATS	**Pohnpei**	**16.67**	**105**	⇓P	**Pn**	**14 07 33.4**	**+0.5**
	baz=17,SNR=3.1						
GAMI	**Galela, Maluku**	**17.17**	**237**	P	x	14 07 36.9	
	226nm,1.6s						
FAKI	**Fak Fak**	**17.40**	**215**	P	**Pn**	**14 07 39.4**	**-2.7**
	166nm,2.2s,8μm						
FAKI	**Fak Fak**	**17.40**	**215**	*e*Pn	**Pn**	**14 07 40.1**	**-2.0**
FAKI	**Fak Fak**	**17.40**	**215**	⇑P	**Pn**	**14 07 42.2**	**+0.2**
	baz=17,SNR=6.7						
TNTI	**Ternate**

comp=Z,47nm,1.0s
SSLB Suanglung 23.50 304 *e*P **P 14 08 46.8 -2.0**
comp=Z,201nm,1.5s
SSLB LR LR
comp=Z,23μm,20.4s
TPUB Ta-pu 23.55 303 PFAKE 14 09 00.0 +11
TPUB LR LR
comp=Z,25μm,19.9s
TOLI Toli-Toli 23.55 245 PFAKE 14 09 00.0 +11
TOLI LR LR
comp=Z,12μm,19.6s
YHNB Yeheng 23.58 306 *e*P **P 14 08 48.9 -0.8**
comp=Z,378nm,1.6s
YHNB LR LR
comp=Z,35μm,21.0s
TATO Taipei 23.65 307 PFAKE 14 09 00.0 +10
TATO LR LR
comp=Z,31μm,20.2s
APSI Ampana 23.80 240 P **P 14 08 50.1 -1.6**
comp=Z,135nm,2.0s,comp=Z,11μm
JNU Nakatsue 23.81 336 *e*P **P 14 08 51.5 -0.2**
comp=Z,87nm,1.1s
JNU Nakatsue 23.81 336 P **P 14 08 51.7 0.0**
comp=Z,30nm,0.7s,baz=159,slow=3.6,SNR=21
JNU LR LR 14 18 17.4
comp=Z,12μm,18.6s,baz=168,slow=37
MYLDM Lahad Datu 24.18 257 P x 14 09 00.2
comp=Z,277nm,2.2s,comp=Z,16μm
MYLDM Lahad Datu 24.18 257 ⇑P P 14 09 01.2 +6.0
MJAR Matsushiro Arr 25.13 353 P **P 14 09 03.0 -0.6**
MJAR Matsushiro Arr 25.13 353 P **P 14 09 03.0 -0.6**
comp=Z,6.5nm,0.9s,baz=178,slow=9.7,SNR=11
MJAR LR LR 14 18 05.8
comp=Z,15μm,20.0s,baz=165,slow=35
MAJO Matsushiro 25.13 353 *e*P **P 14 09 01.1 -2.5**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAJO MLR MLR
comp=Z,3μm,19.3s
MAJO Matsushiro 25.13 353 *e*P **P 14 09 01.1 -2.5**
comp=Z,9.1nm,1.0s
MAJO LR LR
comp=Z,3μm,19.3s
MAT Matsushiro 25.13 353 P **P 14 09 02.6 -1.0**
MAT S **S 14 13 26.0 -0.3**
KWAJ Kwajalein Atol 25.25 94 PFAKE 14 09 20.0 +15
KWAJ LR LR
comp=Z,10μm,19.6s
KDM Kudat 25.36 262 ⇑P P 14 09 13.6 +7.6
COEN Coen 25.37 178 PFAKE 14 09 20.0 +14
COEN LR LR
comp=Z,97μm,19.7s
COEN Coen 25.37 178 ⇓P **P 14 09 04.7 -1.3**
baz=25,SNR=10
KDU Kakadu 25.91 202 ⇑P **P 14 09 10.1 -0.7**
baz=26,SNR=9.5
QZH Quanzhou 25.94 304 ⇑*i*P **P 14 09 07.8 -3.3**
QZH S **S 14 13 33.0 -6.3**
QZH LR LR
comp=Z,11μm,11.4s
QZH LR LR
comp=Z,10μm,14.6s
QZH LR LR
comp=Z,23μm,18.0s
KKM Kota Kinabalu 26.15 260 PFAKE 14 09 20.0 +6.7
KKM LR LR
comp=Z,23μm,21.1s
TTSI Tana Toraja 26.49 238 P **P 14 09 20.4 +4.3**
comp=Z,62nm,1.6s,comp=Z,5μm
MTN Manton Dam 26.57 205 ⇓P **P 14 09 16.5 -0.4**
baz=27,SNR=7.0
HNR Honiara 27.38 139 P **P 14 09 22.6 -1.5**
HNR LR LR
comp=Z,11μm,20.8s
HNR Honiara 27.38 139 P **P 14 09 22.6 -1.5**
comp=Z,42nm,0.9s,baz=259,slow=8.4,SNR=5.9
SSE Sheshan 27.43 318 P **P 14 09 24.3 -0.2**
SSE S **S 14 14 03.9 +1.1**
SSE sS **sS 14 14 17.3 -1.8**
SSE pmax pmax
comp=Z,57nm,0.7s
SSE pmax pmax
comp=Z,2μm,8.8s
SSE LR LR
comp=Z,8μm,19.9s
SSE LR LR
comp=Z,8μm,19.9s
SSE LR LR
comp=Z,12μm,21.5s
KAPI Kappang 27.66 235 PFAKE 14 09 40.0 +13
KAPI LR LR
comp=Z,18μm,19.5s
TJN Taejon 28.07 334 *e*P **P 14 09 29.8 -0.3**
HKC Hong Kong Obse 28.72 296 P **P 14 09 38.0 +1.9**
KSRS Korea Array 28.76 336 P **P 14 09 35.5 -0.8**
comp=Z,3.0nm,0.8s,baz=147,slow=10,SNR=7.5
KSRS LR LR 14 21 37.9
comp=Z,9μm,18.4s,baz=169,slow=38
KSAR Wonju Array Be 28.77 336 P **P 14 09 35.5 -0.8**
INCN Inchon 29.32 334 PFAKE 14 09 50.0 +8.7
INCN LR LR
comp=Z,24μm,19.2s
NJ2 Nanjing 29.58 317 *e*P **P 14 09 42.6 -1.0**
NJ2 S **S 14 14 37.0 +0.5**
NJ2 sS **sS 14 14 55.0 +2.2**
NJ2 pmax pmax
comp=Z,1μm,3.9s
NJ2 LR LR
comp=Z,10μm,17.6s
NJ2 LR LR
comp=Z,14μm,16.4s
NJ2 LR LR
comp=Z,17μm,18.2s
GZH Guangzhou 29.69 297 P **P 14 09 47.0 +2.3**
GZH S **S 14 14 41.0 +2.5**
GZH LR LR
comp=Z,11μm,16.6s
GZH LR LR
comp=Z,15μm,17.5s
GZH LR LR
comp=Z,20μm,18.2s
BTM Bintulu 29.93 256 ⇓P P 14 09 54.9 +8.0
KNRA Kununurra 30.11 206 ⇓P **P 14 09 47.2 -1.2**
baz=30,SNR=3.8
ERM Erimo 30.36 2 *e*P **P 14 09 51.1 +0.7**
ERM pmax pmax
comp=Z,44nm,1.2s
ERM MLR MLR
comp=Z,12μm,18.0s
ERM Erimo 30.36 2 PFAKE 14 10 00.0 +10
ERM LR LR
comp=Z,10μm,21.0s
CTAO Charters Tower 31.71 173 *e*P **P 14 10 00.3 -2.2**
CTAO pmax pmax
comp=Z,77nm,1.2s
CTAO MLR MLR
comp=Z,19μm,21.0s
CTAO Charters Tower 31.71 173 *e*P **P 14 10 00.3 -2.2**
comp=Z,77nm,1.2s
CTAO LR LR
comp=Z,19μm,21.0s
WHN Wuhan 31.91 311 P **P 14 10 02.9 -1.3**
WHN S **S 14 15 17.8 +4.6**
WHN LR LR
comp=Z,17μm,16.1s
WHN LR LR
comp=Z,21μm,16.2s
WHN LR LR
comp=Z,33μm,19.5s
QIZ Qiongzhong 31.95 287 P **P 14 10 04.4 -0.3**
QIZ S **S 14 15 14.1 +0.1**
QIZ sS **sS 14 15 29.3 -1.1**
QIZ LR LR
comp=Z,5μm,18.6s
QIZ LR LR
comp=Z,14μm,21.6s
QIZ Qiongzhong 31.95 287 PFAKE 14 10 20.0 +15
QIZ LR LR
comp=Z,15μm,21.0s
QIS Mount Isa 32.00 184 ⇓P **P 14 10 03.1 -2.0**
baz=32,SNR=11
WRAB Tennant Creek 32.21 194 *e*P **P 14 10 05.4 -1.5**
WRAB pmax pmax
comp=Z,125nm,1.4s
WRAB MLR MLR
comp=Z,13μm,20.0s
WRAB Tennant Creek 32.21 194 *e*P **P 14 10 05.4 -1.5**
comp=Z,125nm,1.4s
WRAB LR LR
comp=Z,13μm,20.0s
TARA Tarawa 32.22 106 PFAKE 14 10 20.0 +13
TARA LR LR
comp=Z,10μm,21.0s
WRA Warramunga Arr 32.22 194 P **P 14 10 04.9 -2.1**
WRA Warramunga Arr 32.22 194 P **P 14 10 04.9 -2.1**
comp=Z,18nm,1.1s,baz=16,slow=9.8,SNR=40
WRA LR LR 14 23 52.6
comp=Z,14μm,19.1s,baz=5.0,slow=38
ASAJ Asahikawa 32.45 1 LR LR 14 28 31.8
comp=Z,893nm,18.3s,baz=201,slow=46
YUK Yuzh-Kuril'sk 32.53 5*d* *i*P **P 14 10 07.0 -2.4**
YUK *i* 14 11 14.9
YUK *i* 14 12 57.6
YUK *i* S **S 14 15 22.8 +0.5**
YUK *i* SS **SnSn 14 17 15.5 -2.4**
YUK MLR MLR
comp=Z,8μm,19.0s
YUK MLR MLR
comp=N,9μm,19.0s
VLA Vladivostok 32.68 346*d* *i*P **P 14 10 10.8 +0.1**
VLA *i* 14 12 53.9
VLA *e*S **S 14 15 25.7 +1.0**
VLA pmax pmax
comp=Z,20nm,1.4s
DL2 Dalian 32.78 330 P P 14 10 08.3 -3.4
DL2 S **S 14 15 21.9 -4.5**
DL2 pmax pmax
comp=Z,70nm,1.7s
DL2 pmax pmax
comp=Z,670nm,8.8s
DL2 LR LR
comp=N,3μm,19.6s
DL2 LR LR
comp=E,5μm,15.7s
DL2 LR LR
comp=Z,5μm,17.7s
TIA Tai'an 33.34 322 ⇓P **P 14 10 17.9 +1.3**
TIA S S 14 15 41.1 +5.9
TIA sS **sS 14 15 55.4 +3.8**
TIA SS SnSn 14 17 48.3 +11
TIA pmax pmax
comp=Z,1μm,11.8s
TIA LR LR
comp=Z,5μm,16.9s
TIA LR LR
comp=Z,8μm,12.9s
TIA LR LR
comp=Z,8μm,17.3s
USRK Ussuriysk Arra 33.68 347 P **P 14 10 19.5 0.0**
comp=Z,7.2nm,0.7s,baz=174,slow=7.8,SNR=19
USRK LR LR 14 23 03.8
comp=Z,12μm,19.6s,baz=147,slow=35
SNY Shenyang 34.24 335 ⇑P P 14 10 29.4 +5.0
SNY PP **PP 14 11 42.5 +0.2**
SNY S **S 14 15 50.0 +1.0**
SNY LR LR
comp=Z,4μm,19.8s
SNY LR LR
comp=Z,10μm,18.6s
SNY LR LR
comp=Z,14μm,21.0s
MDJ Mudanjiang 34.66 344 PFAKE 14 10 40.0 +12
MDJ LR LR
comp=Z,8μm,21.0s
CN2 Changchun 35.21 339 ⇑P **P 14 10 31.0 -1.7**
CN2 *e*pP **pP 14 10 41.4 -1.3**
CN2 *e*S **S 14 16 02.0 -1.9**
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,13μm,20.0s
CN2 LR LR
comp=Z,6μm,20.0s
CN2 LR LR
comp=Z,13μm,21.0s
YSS Yuzh-Sakhalins 35.29 1 *e*P P 14 10 30.0 -3.4
YSS *e*PPP PPP 14 11 53.0
YSS *e*S S 14 15 55.0 -10
YSS pmax pmax
comp=Z,1μm,5.0s
YSS MLR MLR
comp=N,8μm,17.0s
YSS MLR MLR
comp=Z,9μm,17.0s
YSS MLR MLR
comp=E,5μm,16.0s
ENH Enshi 35.52 307 *e*P **P 14 10 34.8 -0.9**
comp=E,39nm,0.9s
ENH LR LR
comp=Z,279nm,19.0s
AS31 Alice Springs 35.91 193 *e*P **P 14 10 38.3 -0.7**
ASAR Alice Springs 35.91 193 P **P 14 10 38.2 -0.8**
ASAR PcP **PcP 14 13 06.0 +0.2**
ASAR Alice Springs 35.91 193 P **P 14 10 38.2 -0.8**
comp=Z,2.9nm,0.7s,baz=30,slow=7.6,SNR=43
ASAR PcP **PcP 14 13 06.0 +0.2**
comp=Z,1.4nm,0.8s,baz=36,slow=3.1,SNR=1.4
ASAR LR LR 14 25 07.6
comp=Z,11μm,19.3s,baz=4.0,slow=36
BJT Baijiatuan 36.46 326 PFAKE 14 10 50.0 +6.5
BJT LR LR
comp=Z,17μm,22.0s
BJI Beijing 36.47 326 P **P 14 10 43.8 +0.2**
BJI PP **PP 14 12 07.9 +0.9**
BJI PcP **PcP 14 13 06.5 -0.6**
BJI S **S 14 16 22.8 -0.5**
BJI PcS **PcS 14 16 54.8 0.0**
BJI pmax pmax
comp=Z,33nm,0.7s
BJI pmax pmax
comp=Z,1μm,8.2s
BJI LR LR
comp=Z,14μm,17.8s
BJI LR LR
comp=Z,8μm,18.4s
BJI LR LR
comp=Z,14μm,23.0s
GYA Guiyang 36.49 299 ⇑*i*P **P 14 10 45.3 +1.1**
GYA pP **pP 14 10 53.8 -0.4**
GYA PP **PP 14 12 09.4 +1.8**
GYA PcP **PcP 14 13 07.3 -0.3**
GYA S **S 14 16 23.5 -0.8**
GYA sS **sS 14 16 39.4 -1.4**
GYA ScP **ScP 14 16 50.5 -1.3**
GYA pmax pmax
comp=Z,90nm,0.9s
GYA pmax pmax
comp=Z,690nm,8.7s
GYA LR LR
comp=Z,20μm,17.2s
GYA LR LR
comp=Z,10μm,18.4s
GYA LR LR
comp=Z,19μm,17.8s
TIY Taiyuan 37.20 320 *e*P **P 14 10 50.9 +0.9**
TIY S **S 14 16 36.3 +1.6**
TIY pmax pmax
comp=Z,840nm,6.6s
TIY LR LR
comp=Z,4μm,13.8s
TIY LR LR
comp=Z,4μm,11.7s
TIY LR LR
comp=Z,8μm,20.5s
HABR Khabarovsk 37.27 352*ce*P **P 14 10 48.8 -1.5**
HABR *e**PP **pP 14 10 58.4 -1.9**
HABR *e**SP **sP 14 11 02.6 -1.9**
HABR *e* 14 12 14.4
HABR *e*PPP PPP 14 12 32.3
HABR *e* 14 13 06.8
HABR *e*S **S 14 16 35.6 +0.3**
HABR *e**SS **sS 14 16 52.1 +0.3**
HABR *e*SS **SnSn 14 19 15.4 +2.7**
HABR *e*SSS SSS 14 19 32.8
HABR *e* 14 20 59.4
HABR pmax pmax
comp=Z,32nm,1.6s
HABR pmax pmax
comp=N,12nm,0.9s
HABR pmax pmax
comp=E,23nm,1.6s
HABR MLR MLR
comp=N,4μm,18.0s
HABR MLR MLR
comp=Z,9μm,17.0s
HABR MLR MLR
comp=E,4μm,17.0s
XAN Xi'an 37.63 312 P P 14 10 58.8 +5.2
XAN PP **PnPn 14 12 22.4 +1.4**
XAN S **S 14 16 44.0 +2.7**
XAN pmax pmax
comp=E,210nm,10.2s
XAN LR LR
comp=E,5μm,18.4s
XAN LR LR
comp=E,1μm,19.5s
XAN LR LR
comp=E,4μm,18.9s
EIDS Eidsvold 37.73 167 *e*P **P 14 10 56.0 +1.6**
comp=E,200nm,2.0s
SLVN Son La 37.81 290 *e*P **P 14 10 56.2 +0.9**
QLP Quilpie 37.96 177 P **P 14 10 54.5 -1.8**
baz=38,SNR=8.3
KLR Kul'dur 38.53 349 *e*P P 14 10 56.3 -4.7
KLR *e* 14 16 44.7
KLR pmax pmax
comp=E,82nm,2.2s
KLR pmax pmax
comp=Z,140nm,2.2s
WRKA Warakurna 38.78 200 P **P 14 11 02.2 -1.2**
baz=39,SNR=17
CHBT CHBT 38.88 276 P x 14 11 09.8
comp=Z,74nm,2.2s,comp=Z,3μm
MBWA Marble Bar 39.24 214 PFAKE 14 11 20.0 +13
MBWA LR LR
comp=Z,4μm,20.0s
KMI Kunming 39.57 296 P **P 14 11 11.6 +1.3**
KMI pP **pP 14 11 21.8 +1.5**
KMI sP **sP 14 11 27.3 +2.8**
KMI S **S 14 17 14.8 +3.7**
KMI pmax pmax
comp=Z,570nm,8.1s
KMI LR LR
comp=Z,3μm,18.5s
KMI LR LR
comp=Z,4μm,18.2s
KMI LR LR
comp=Z,7μm,17.7s
KGM Kluang 39.61 259 ⇑P **P 14 11 13.2 +2.7**
HHC Hu-ho-hao-te 39.65 323 *e*P **P 14 11 09.9 -0.7**
HHC pP **pP 14 11 23.3 +2.6**
HHC PP **PP 14 12 42.4 +0.4**
HHC S **S 14 17 17.1 +5.4**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,2μm,9.0s
HHC LR LR
comp=Z,14μm,17.5s
HHC LR LR
comp=Z,17μm,18.2s
HHC LR LR
comp=Z,24μm,18.0s
PBKT Sadao Pong 40.16 282 P x 14 11 19.2
comp=Z,45nm,1.0s,comp=Z,2μm
CD2 Chengdu 40.33 305 P **P 14 11 16.3 0.0**
CD2 sP **sP 14 11 29.8 -0.7**
CD2 PP **PnPn 14 12 53.5 +0.1**
CD2 PcP PcP 14 13 12.3 -7.1
CD2 S **S 14 17 23.3 +1.3**
CD2 sS **sS 14 17 36.3 -2.4**
CD2 ScS ScS 14 21 12.8 -7.5
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,990nm,11.2s
CD2 LR LR
comp=Z,11μm,20.2s
CD2 LR LR
comp=Z,8μm,19.0s
CD2 LR LR
comp=Z,10μm,19.0s
DZM Mont Dzumac 41.07 144 *e*P **P 14 11 23.3 +0.8**
comp=Z,344nm,1.6s
DZM *e*S **S 14 17 34.7 +1.5**
comp=Z,5μm,24.5s
DZM *e*LR LR 14 22 44.6
comp=Z,19μm,22.9s
DZM Mont Dzumac 41.07 144 *e*P **P 14 11 21.1 -1.4**
comp=Z,418nm,1.8s
IPM Ipoh 41.24 264 ⇑P P 14 11 29.8 +5.9
MIDW Midway 41.33 60 PFAKE 14 11 40.0 +16
MIDW LR LR
comp=Z,8μm,20.0s
KULM Kulim 41.44 265 PFAKE 14 11 40.0 +14
KULM LR LR
comp=Z,7μm,20.0s
KULM Kulim 41.44 265 ⇑P P 14 11 32.0 +6.4
HIA Hailar 41.92 338 *e*P **P 14 11 28.4 -0.7**
comp=Z,89nm,1.7s
HIA LR LR
comp=Z,10μm,19.0s
CM31 Chiang Mai Arr 42.17 285 *e*P **P 14 11 32.2 +0.7**
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 42.17 285 P **P 14 11 32.8 +1.3**
CMAR Chiang Mai Arr 42.17 285 P **P 14 11 32.8 +1.3**
comp=Z,8.9nm,0.9s,baz=86,slow=6.7,SNR=36
CMAR LR LR 14 27 55.4
comp=Z,8μm,21.1s,baz=100,slow=34
CHTO Chiang Mai 42.19 285 P **P 14 11 30.3 -1.4**
CHTO MLR MLR
comp=Z,9μm,21.0s
CHTO Chiang Mai 42.19 285 P **P 14 11 30.3 -1.4**
CHTO LR LR
comp=Z,9μm,21.0s
LZH Lanzhou 42.27 312 *e*P **P 14 11 32.4 +0.1**
LZH pP **pP 14 11 43.3 +0.9**
LZH sP **sP 14 11 46.5 0.0**
LZH S **S 14 17 49.0 -1.9**
LZH sS **sS 14 18 06.3 -1.3**
LZH SS **SS 14 20 55.3 -4.7**
LZH pmax pmax
comp=Z,140nm,1.4s
LZH pmax pmax
comp=Z,780nm,5.3s
LZH LR LR
comp=Z,9μm,15.7s
LZH LR LR
comp=Z,5μm,12.4s
LZH LR LR
comp=Z,16μm,16.9s
ARMA Armidale 42.72 168 *e*P **P 14 11 34.5 -1.4**
comp=Z,185nm,1.8s
ARMA *e* 14 12 04.6
ARMA Armidale 42.72 168 ⇓P **P 14 11 35.7 -0.2**
baz=43,SNR=4.5
CMSA Cobar Meteorol 42.98 176 ⇑P **P 14 11 36.5 -1.3**
baz=43,SNR=5.6
PPI Padang Panjang 43.11 257 P **P 14 11 40.2 +1.0**
comp=Z,40nm,1.8s,comp=Z,5μm
STKA Stephens Creek 43.19 181 *e*P **P 14 11 37.7 -1.8**
comp=Z,106nm,2.4s
STKA *e* 14 12 05.4
STKA Stephens Creek 43.19 181 P **P 14 11 37.9 -1.5**
comp=Z,13nm,1.0s,baz=360,slow=8.6,SNR=14
STKA LR LR 14 31 20.7
comp=Z,7μm,19.2s,baz=345,slow=39
STKA Stephens Creek 43.19 181 ⇑P **P 14 11 37.7 -1.8**
baz=43,SNR=14
PETK Petropavlovsk- 43.30 14 P **P 14 11 39.3 -0.9**
PETK Petropavlovsk- 43.30 14 P **P 14 11 39.3 -0.9**
PETK Petropavlovsk- 43.30 14 P **P 14 11 39.3 -0.9**
comp=Z,3.4nm,0.9s,baz=174,slow=4.8,SNR=3.2
PETK LR LR 14 32 33.8
comp=Z,3μm,18.1s,baz=195,slow=40
PET Petropavlovsk 43.45 14 *e*P P 14 11 46.4 +5.1
PET *e*S **S 14 18 12.8 +5.5**
PET *e*SS SS 14 21 29.9 +7.7
PET pmax pmax
comp=Z,1μm,10.5s
PET pmax pmax
comp=Z,78nm,1.3s
PET MLR MLR
comp=Z,6μm,19.5s
PET MLR MLR
comp=Z,6μm,19.2s
PET Petropavlovsk 43.45 14 PFAKE 14 11 50.0 +8.7

PET LR LR
comp=Z,6μm,21.0s
PSI Prapat 43.66 262 ⇑P **P 14 11 43.9 +0.2**
baz=44,SNR=6.1
FORT Forrest 44.20 197 *e*P **P 14 11 46.9 -0.8**
comp=Z,245nm,1.3s
FORT Forrest 44.20 197 ⇓P **P 14 11 47.7 +0.1**
baz=44,SNR=7.9
BBOO Buckleboo 44.49 187 *e*P **P 14 11 48.6 -1.3**
comp=Z,2μm,1.4s
BBOO Buckleboo 44.49 187 P **P 14 11 48.8 -1.1**
baz=45,SNR=6.9
HTT Hallett 44.84 184 ⇑P **P 14 11 53.5 +0.8**
baz=45,SNR=3.5
GSI Gunungsitoli 45.33 260 P P 14 12 01.0 +4.0
comp=Z,91nm,1.9s,comp=Z,4μm
GSI Gunungsitoli 45.33 260 *e*P **P 14 11 56.7 -0.3**
MSVF Nonsavu 45.90 129 *e*P **P 14 12 01.7 +0.2**
MSVF pmax pmax
comp=Z,187nm,1.2s
MSVF MLR MLR
comp=Z,21μm,21.0s
MSVF Nonsavu 45.90 129 *e*P **P 14 12 01.7 +0.2**
comp=Z,187nm,1.2s
MSVF LR LR
comp=Z,21μm,21.0s
CIT Chita 46.50 336 *e*P **P 14 12 07.2 +1.5**
CIT *e* 14 12 12.4
CIT *e* 14 12 20.8
GTA Gaotai 46.57 314 *e*P **P 14 12 06.6 0.0**
GTA pP **pP 14 12 16.5 -0.3**
GTA sP **sP 14 12 20.4 -0.5**
GTA PP **PP 14 13 56.1 -0.3**
GTA S **S 14 18 53.0 -0.3**
GTA sS **sS 14 19 08.9 -1.2**
GTA SS SS 14 22 12.0 -7.6
GTA pmax pmax
comp=Z,910nm,7.1s
GTA LR LR
comp=Z,6μm,20.9s
GTA LR LR
comp=Z,7μm,21.4s
GTA LR LR
comp=Z,10μm,20.4s
ULN Ulaanbaatar 46.58 328 P **P 14 12 08.2 +1.7**
SNR=9.0
ULN Ulaanbaatar 46.58 328 *e*P **P 14 12 07.2 +0.6**
comp=Z,60nm,1.4s
KMBL Kambalda 46.88 204 ⇓P **P 14 12 08.4 -0.5**
baz=47,SNR=5.4
SONM Songino Array 46.91 327 P **P 14 12 09.6 +0.5**
SONM PcP **PcP 14 13 41.4 -0.1**
SONM Songino Array 46.91 327 P **P 14 12 09.6 +0.5**
comp=Z,2.2nm,0.5s,baz=140,slow=6.8,SNR=19
SONM PcP **PcP 14 13 41.4 -0.1**
comp=Z,3.5nm,0.8s,baz=145,slow=4.5,SNR=4.6
SONM LR LR 14 33 40.6
comp=Z,5μm,18.3s,baz=130,slow=38
CAN Canberra 47.07 172 *e*P **P 14 12 08.4 -2.0**
CAN pmax pmax
comp=Z,228nm,2.0s
CAN MLR MLR
comp=Z,12μm,22.0s
CAN Canberra 47.07 172 *e*P **P 14 12 08.4 -2.0**
comp=Z,228nm,2.0s
CAN LR LR
comp=Z,12μm,22.0s
CLNS Chul'man 47.10 347 *e*P **P 14 12 11.3 +1.0**
CLNS *e**PP **pP 14 12 22.9 +2.4**
CLNS *e* 14 13 40.8
CLNS *e* 14 13 58.2
CLNS *e*PPP PPP 14 14 45.7
CLNS *e*S **S 14 19 03.5 +3.4**
CLNS *e*SS SS 14 22 20.1 -7.3
CLNS *e*SSS SSS 14 23 38.6
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,1.3s
CLNS pmax pmax
comp=N,7.0nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS smax smax
comp=N,3μm,12.6s
CLNS smax smax
comp=E,918nm,16.6s
CLNS MLR MLR
comp=Z,8μm,18.0s
CLNS MLR MLR
comp=N,7μm,20.0s
CLNS MLR MLR
comp=E,3μm,17.0s
MORW Morawa 47.59 211 ⇑P **P 14 12 14.7 +0.3**
baz=48,SNR=3.5
CMBY CAMPBELL BAY 47.72 269 *ex* **P 14 12 17.0 +1.3**
DGPR DIGLIPUR 48.00 277 *e*P **P 14 12 15.2 -2.7**
ARPS Mount Arapiles 48.06 180 P **P 14 12 17.4 -0.5**
baz=48,SNR=8.0
FX1 Attu Island--F 48.16 25 LR LR 14 31 57.8
comp=E,3μm,19.6s,baz=228,slow=35
PBA Port Blair 48.30 275 *e*P P 14 12 23.8 +3.6
BLDU Ballidu 48.52 210 ⇓P **P 14 12 21.7 +0.1**
baz=49,SNR=4.9
TOO Toolangi 48.97 176 P **P 14 12 25.0 +0.1**
baz=49,SNR=8.3
SHL Shillong 49.33 294 *e*P **P 14 12 27.0 -1.2**
SHL *ex* x 14 19 36.0
ZAK Zakamensk 50.08 328 *e*P **P 14 12 33.1 -0.4**
ZAK *e* 14 19 42.9
ZAK pmax pmax
comp=Z,48nm,1.3s
LSA Lhasa 50.56 299 P **P 14 12 40.0 +2.1**
LSA pP **pP 14 12 53.0 +4.8**
LSA S **S 14 19 49.1 -1.4**
LSA LR LR
comp=Z,3μm,19.0s
LSA LR LR
comp=Z,3μm,21.0s
LSA LR LR
comp=Z,6μm,23.0s
LSA Lhasa 50.56 299 *e*P **P 14 12 36.3 -1.6**
LSA pmax pmax
comp=Z,78nm,1.8s
LSA MLR MLR
comp=Z,7μm,22.0s
LSA Lhasa 50.56 299 *e*P **P 14 12 36.3 -1.6**
comp=Z,78nm,1.8s
LSA LR LR
comp=Z,7μm,22.0s
TLY Talaya 50.69 330*c i*P **P 14 12 38.5 +0.6**
TLY *e* 14 13 47.7
TLY *e*S **S 14 19 51.6 +0.8**
TLY pmax pmax
comp=Z,34nm,1.3s
TLY MLR MLR
comp=Z,9μm,18.0s
TLY Talaya 50.69 330 P **P 14 12 39.6 +1.7**
SNR=9.2
TLY Talaya 50.69 330 *e*P **P 14 12 39.5 +1.5**
comp=Z,34nm,1.3s
TLY LR LR
comp=Z,11μm,21.0s
IRK Irkutsk 50.74 331 *e*P **P 14 12 37.9 -0.4**
IRK *e* 14 12 52.7
IRK *e*S **S 14 19 51.3 -0.1**
IRK pmax pmax
comp=Z,51nm,2.1s
COCO West Island 50.76 244 PFAKE 14 12 50.0 +11
COCO LR LR
comp=Z,2μm,19.0s
YAK Yakutsk 51.19 353 *e*P **P 14 12 42.0 +0.5**
YAK *e**PP **pP 14 12 54.1 +2.3**
YAK *e* 14 13 55.6
YAK *e* 14 14 40.1
YAK *e*PPP PPP 14 15 40.7
YAK *e*S **S 14 19 59.6 +2.3**
YAK *e* 14 22 27.0
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s

YAK pmax pmax
comp=Z,169nm,2.8s
YAK pmax pmax
comp=N,101nm,2.8s
YAK pmax pmax
comp=E,31nm,1.8s
YAK smax smax
comp=N,321nm,3.3s
YAK smax smax
comp=E,101nm,2.2s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,1μm,19.0s
YAK Yakutsk 51.19 353 *e*P **P 14 12 40.7 -0.8**
comp=E,46nm,0.8s
SEY Seymchan 51.83 6 ⇓*i*P **P 14 12 46.7 +0.5**
MOY Mondy 52.01 329 *e*P **P 14 12 49.4 +1.5**
MOY pmax pmax
comp=Z,66nm,2.7s
ADK Adak 52.19 31 PFAKE 14 13 00.0 +11
ADK LR LR
comp=Z,7μm,21.0s
AFI Afiamalu 52.26 118 PFAKE 14 13 00.0 +10
AFI LR LR
comp=Z,10μm,21.0s
TAU Tasmania Unive 54.41 175 PFAKE 14 13 20.0 +15
TAU LR LR
comp=Z,7μm,19.0s
BOK Bokaro 54.62 291 *e*P **P 14 13 05.4 -2.1**
BOK AMB AMB 14 13 41.5
comp=Z,107nm,1.1s
HVS Khovu-Aksy 55.64 325 *e*P **P 14 13 15.0 +0.6**
HVS pmax pmax
comp=Z,184nm,2.5s
WMQ Urumqi 56.62 315 P **P 14 13 22.3 +0.7**
WMQ pP **pP 14 13 32.3 +0.3**
WMQ sP **sP 14 13 36.3 +0.2**
WMQ PcP **PcP 14 14 18.3 +0.6**
WMQ PP **PP 14 15 29.8 +2.0**
WMQ ScP **ScP 14 18 12.6 -2.2**
WMQ S **S 14 21 10.1 -1.4**
WMQ ScS **ScS 14 23 05.3 -3.2**
WMQ pmax pmax
comp=Z,1μm,9.5s
WMQ LR LR
comp=Z,3μm,15.5s
WMQ LR LR
comp=Z,6μm,29.3s
WMQ LR LR
comp=Z,10μm,20.6s
VIS Vishakhapatnam 57.01 284 *e*P **P 14 13 23.0 -1.7**
KIP Kipapa 57.97 72 PFAKE 14 13 40.0 +8.7
KIP LR LR
comp=Z,4μm,20.0s
POHA Pohakuloa 60.33 74 PFAKE 14 14 00.0 +12
POHA LR LR
comp=Z,9μm,19.0s
SNZO South Karori 60.59 152 PFAKE 14 14 00.0 +11
SNZO LR LR
comp=Z,10μm,22.0s
TIXI Tiksi 60.60 355 *e*P **P 14 13 48.6 -0.1**
TIXI pmax pmax
comp=Z,129nm,2.4s
TIXI MLR MLR
comp=Z,3μm,20.0s
TIXI Tiksi 60.60 355 *e*P **P 14 13 48.6 -0.1**
comp=Z,129nm,2.4s
TIXI LR LR
comp=Z,3μm,20.0s
NGP Nagpur 60.93 288 *e*P **P 14 13 50.6 -1.2**
NGP *ex* x 14 22 09.9
RPZ Rata Peaks 61.00 156 *e*P **P 14 13 51.7 -0.1**
comp=Z,111nm,1.2s
RPZ *e*pP **pP 14 14 06.7 +4.4**
MK31 Makanchi Array 61.11 317 *e*P **P 14 13 51.9 -0.8**
MK31 Makanchi Array 61.11 317 *e*P **P 14 13 51.9 -0.8**
MKAR Makanchi Array 61.11 317 P **P 14 13 53.0 +0.3**
MKAR Makanchi Array 61.11 317 P **P 14 13 53.0 +0.3**
MKAR Makanchi Array 61.11 317 P **P 14 13 53.0 +0.3**
comp=Z,2.7nm,0.8s,baz=91,slow=5.8,SNR=17
MKAR LR LR 14 42 60.0
comp=Z,6μm,18.2s,baz=101,slow=39
HYB Hyderabad 61.58 284 *i* P **P 14 13 56.0 -0.3**
HYB *e*PcP **PcP 14 14 40.0 +2.1**
HYB *e*S **S 14 22 14.0 -2.4**
HYB Hyderabad 61.58 284 *e*P **P 14 13 54.1 -2.2**
HYB AMB AMB 14 14 31.3
comp=Z,92nm,1.2s
ZAA0 Zalesovo Array 61.73 326 *e*P **P 14 13 55.5 -1.2**
ZALV Zalesovo Beam 61.73 326 P **P 14 13 55.9 -0.8**
ZALV Zalesovo Beam 61.73 326 P **P 14 13 55.9 -0.8**
ZALV Zalesovo Beam 61.73 326 P **P 14 13 55.9 -0.8**
comp=Z,1.3nm,0.4s,baz=105,slow=6.9,SNR=8.5
ZALV LR LR 14 43 07.0
comp=Z,7μm,18.6s,baz=110,slow=38
DDI Dehra Dun 61.91 298 *e*P **P 14 13 56.4 -2.1**
DDI AMB AMB 14 14 34.4
comp=Z,94nm,8.7s
SDPT Sand Point 62.31 33 *e*P **P 14 14 02.6 +2.1**
comp=Z,220nm,1.0s
BHPL Bhopal 62.38 290 *e*P **P 14 14 01.4 -0.2**
NDI New Delhi 62.58 296 *e*P **P 14 14 04.0 +1.1**
SMLA Simla 62.72 299 *e*P **P 14 14 02.3 -1.4**
NVS Novosibirsk 62.91 326 *e*P **P 14 14 03.0 -1.5**
NVS *e*S **S 14 22 29.1 -2.8**
NVS pmax pmax
comp=Z,86nm,1.7s
NVS pmax pmax
comp=Z,78nm,2.7s
NVS pmax pmax
comp=E,190nm,4.0s
NVS smax smax
comp=E,88nm,2.8s
DHRM DHARAMSHALA 63.51 300 *e*P **P 14 14 07.1 -2.1**
TNA Tin City 63.69 21 *e*P **P 14 14 09.4 -0.1**
comp=E,428nm,2.5s
TRD Trivandrum 64.11 274 *e*P **P 14 14 11.9 -1.2**
TRD ⇓*ex* x 14 14 23.6
AAA Alma-Ata 64.11 313 *i* P **P 14 14 15.8 +3.0**
AAA *i* S **S 14 22 52.4 +4.9**
AAA pmax pmax
comp=Z,800nm,10.3s
AAA smax smax
comp=E,2μm,22.6s
AAA MLR MLR
comp=Z,8μm,24.0s
KSH Kashi 64.35 308 *e*P **P 14 14 15.8 +1.3**
KSH *e*PP **PP 14 16 39.0 +2.8**
KSH *e*PcS 14 18 53.0
KSH *e*S **S 14 22 49.8 -0.9**
KSH *es*S **sS 14 23 06.9 -1.2**
KSH pmax pmax
comp=Z,250nm,5.3s
KSH LR LR
comp=Z,4μm,19.5s
KSH LR LR
comp=Z,3μm,18.9s
KSH LR LR
comp=Z,3μm,18.5s
KURK Kurchatov 64.42 321 *e*P **P 14 14 12.8 -1.8**
KURK pmax pmax
comp=Z,21nm,0.9s
KURK MLR MLR
comp=Z,4μm,19.0s
KURK Kurchatov 64.42 321 P **P 14 14 14.7 +0.1**
SNR=12
KURK Kurchatov 64.42 321 *e*P **P 14 14 12.8 -1.8**
comp=Z,21nm,0.9s
KURK LR LR
comp=Z,4μm,19.0s
TKM2 Tokmak 2 65.04 312 *e*P **P 14 14 19.6 +0.5**
TKM2 pmax pmax
comp=Z,61nm,1.8s
TKM2 MLR MLR
comp=Z,7μm,19.0s
TKM2 Tokmak 2 65.04 312 *e*P **P 14 14 19.6 +0.5**
comp=Z,61nm,1.8s
TKM2 LR LR
comp=Z,7μm,19.0s
RAR Rarotonga 65.71 120 PFAKE 14 14 30.0 +6.6
RAR LR LR
comp=Z,6μm,22.0s

FRU Bishkek 65.74 312 *e*P P 14 14 31.0 +7.6
FRU *e*S S 14 23 15.5 +8.0
FRU *e* 14 23 47.0
FRU *i* 14 24 12.0
FRU pmax pmax
comp=Z,140nm,2.5s
FRU pmax pmax
comp=Z,600nm,5.0s
FRU smax smax
comp=E,1μm,10.0s
FRU MLR MLR
comp=E,8μm,19.0s
FRU MLR MLR
comp=Z,9μm,19.0s
AAK Ala-Archa 65.81 312 *e*P **P 14 14 23.6 -0.4**
AAK pmax pmax
comp=Z,34nm,5.0s
POO Poona 65.96 285 *e*P **P 14 14 24.4 -0.8**
POO AMB AMB 14 14 58.9
comp=Z,87nm,0.3s
GOA Goa 66.27 282 *e*P **P 14 14 25.7 -1.4**
GOA AMB AMB 14 15 00.9
comp=Z,92nm,0.6s
OHAK Old Harbor 66.70 32 *e*P P 14 14 37.8 +8.6
comp=Z,265nm,1.7s
SVW2 Sparrevohn 66.73 28 *e*P **P 14 14 28.3 -1.0**
comp=Z,155nm,1.9s
SVW2 *e*pP pP 14 14 45.6 +5.6
KDAK Kodiak Island 67.21 32 PFAKE 14 14 40.0 +7.6
KDAK LR LR
comp=Z,4μm,20.0s
RSO Redoubt South 67.85 29 *e*P **P 14 14 37.2 +0.5**
KK31 Karatay Array 68.77 312 *i* P **P 14 14 42.9 +0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 68.77 312 *e*P **P 14 14 45.1 +2.6**
KKAR Karatay Array 68.77 312 *e*P **P 14 14 45.1 +2.6**
PPLA Purkeypile 68.81 27 *e*P **P 14 14 42.0 -0.5**
comp=Z,297nm,1.8s
CAST Castle Rocks 69.00 26 *e*P **P 14 14 43.6 0.0**
comp=Z,34nm,1.0s
IM04 Indian Mountai 69.10 23 *e*P **P 14 14 43.7 -0.5**
SEW Seward 69.36 30 *e*P **P 14 14 45.6 -0.1**
comp=Z,330nm,1.8s
RC01 Rabbit Creek A 69.45 29 *e*P **P 14 14 45.2 -1.2**
comp=Z,68nm,1.1s
BHJ Bhuj 69.52 291 *e*P **P 14 14 46.8 -0.7**
BHJ AMB AMB 14 15 22.6
comp=Z,107nm,1.2s
KTH Kantishna Hill 69.54 26 *e*P **P 14 14 46.1 -0.9**
comp=Z,458nm,1.4s
KBL Kabul 69.63 303 *e*P P 14 14 52.8 +4.5
KBL *e**PP pP 14 15 00.8 +1.8
KBL pmax pmax
comp=Z,66nm,1.6s
KBL Kabul 69.63 303 *e*P P 14 14 52.8 +4.5
comp=Z,66nm,1.6s
KBL *e*pP pP 14 15 00.8 +1.8
TRF Thorofare Moun 69.79 26 *e*P **P 14 14 47.2 -1.4**
comp=Z,329nm,2.2s
PMR Palmer 69.85 28 *e*P **P 14 14 47.3 -1.5**
PMR pmax pmax
comp=Z,202nm,1.9s
PMR Palmer 69.85 28 *e*P **P 14 14 47.3 -1.5**
comp=Z,202nm,1.9s
BVA0 Borovoye Array 69.86 322 *i* P **P 14 14 48.8 -0.3**
BVA0 pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 69.93 322*ce*P **P 14 14 49.7 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK MLR MLR
comp=Z,14μm,21.0s
BRVK Borovoye 69.93 322 P **P 14 14 50.2 +0.8**
SNR=9.1
BRVK Borovoye 69.93 322 *e*P **P 14 14 48.0 -1.5**
comp=Z,387nm,2.5s
BRVK LR LR
comp=Z,14μm,21.0s
MCK McKinley 70.44 26 *e*P **P 14 14 51.5 -1.0**
MCK pmax pmax
comp=Z,255nm,1.8s
MCK McKinley 70.44 26 *e*P **P 14 14 51.5 -1.0**
comp=Z,255nm,1.8s
COLD Coldfoot 70.85 22 *e*P **P 14 14 55.2 +0.4**
comp=Z,468nm,2.5s
COLA College 71.17 25 *e*P **P 14 14 55.6 -1.2**
COLA pmax pmax
comp=Z,19nm,1.4s
COLA MLR MLR
comp=Z,11μm,22.0s
COLA College 71.17 25 *e*P **P 14 14 55.6 -1.2**
comp=Z,19nm,1.4s
COLA LR LR
comp=Z,11μm,22.0s
DIV Divide 71.34 29 *e*P **P 14 15 00.8 +2.8**
comp=Z,652nm,2.5s
ILAR Eielson Array 71.55 25 P **P 14 14 57.5 -1.7**
ILAR Eielson Array 71.55 25 P **P 14 14 57.5 -1.7**
comp=Z,15nm,0.6s,baz=249,slow=6.0,SNR=347
ILAR LR LR 14 43 35.1
comp=Z,7μm,21.9s,baz=273,slow=34
DGAR Diego Garcia 71.79 258 PFAKE 14 15 10.0 +8.5
DGAR LR LR
comp=Z,3μm,20.0s
PAX Paxson 71.81 27 *e*P **P 14 15 00.0 -0.8**
PAX pmax pmax
comp=Z,158nm,1.8s
PAX Paxson 71.81 27 *e*P **P 14 15 00.0 -0.8**
comp=Z,158nm,1.8s
BMRM Bremner River 71.87 29 *e*P **P 14 15 01.4 +0.2**
comp=Z,183nm,1.6s
DOT Dot Lake 72.55 27 *e*P **P 14 15 04.8 -0.4**
comp=Z,48nm,1.0s
MENT Mentasta 72.59 27 *e*P **P 14 15 04.8 -0.7**
PPT Papeete 73.40 112 LR LR 14 40 56.1
comp=Z,5μm,21.6s,baz=248,slow=31
PPT2 Papeete2 73.41 112 *e*P **P 14 15 12.6 +1.5**
comp=Z,64nm,1.3s
PPT2 *e*S **S 14 24 38.7 +0.2**
comp=Z,2μm,27.0s
PPT2 Papeete2 73.41 112 *e*LR LR 14 37 46.3
comp=Z,12μm,22.8s,baz=290
PAE Paea 73.43 112 *e*P **P 14 15 12.3 +1.2**
comp=Z,19nm,1.3s
TIAR Tiarei 73.61 112 *e*P **P 14 15 13.3 +1.1**
comp=Z,32nm,1.4s
TVO Taravao 73.76 112 *e*P **P 14 15 14.8 +1.6**
comp=Z,42nm,1.4s
EGAK Eagle 73.97 26 *e*P **P 14 15 13.3 -0.2**
comp=Z,308nm,1.9s
EGAK LR LR
comp=Z,8μm,22.0s
PMOR Pomariorio Ree 74.18 109 *e*P **P 14 15 16.4 +0.9**
comp=Z,127nm,1.4s
VAH Vaihoa 74.49 109 *e*P **P 14 15 17.9 +0.5**
comp=Z,77nm,1.3s
DAWY Dawson 74.66 27 *e*P **P 14 15 15.9 -1.7**
MEH Mehetia 74.87 112 *e*P **P 14 15 20.8 +1.2**
comp=Z,28nm,1.4s
TBI Tubuai 75.37 118 *e*S **S 14 25 00.4 +0.3**
comp=Z,3μm,26.2s
TBI Tubuai 75.37 118 *e*LR LR 14 38 40.1
comp=Z,9μm,22.8s,baz=294
SVE Sverdlovsk 75.75 326 *e*P P 14 15 27.4 +3.5
SVE *e*PPP PPP 14 20 09.3
SVE *e*S **S 14 25 04.3 +1.1**
SVE pmax pmax
comp=Z,73nm,1.9s
SVE MLR MLR
comp=Z,5μm,19.0s
SVE MLR MLR
comp=E,4μm,18.0s
AB31 Akbulak array 76.24 318 *i* P **P 14 15 26.2 -0.7**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 76.24 318 *e*P **P 14 15 26.1 -0.8**
comp=Z,4.4nm,0.6s
IMYA Miami 76.85 305 *e*P P 14 15 34.5 +3.6
ARU Arti 76.90 325*c i*P **P 14 15 29.6 -0.8**
ARU 14 18 18.5
ARU PPP PPP 14 20 15.9
ARU S **S 14 25 16.3 +0.4**
ARU SS **SS 14 30 08.7 -3.7**
ARU pmax pmax
comp=Z,29nm,2.5s

ARU MLR MLR
comp=Z,7μm,18.0s
ARU Arti 76.90 325 *eP* **P 14 15 29.8 -0.6**
comp=Z,171nm,1.9s
ARU LR LR
comp=Z,8μm,19.0s
INK Inuvik 77.27 22 *eP* **P 14 15 31.5 -0.8**
comp=Z,204nm,2.0s
ISRO Mashad 77.36 305 *eP* **P 14 15 34.4 +0.8**
AKTO Aktyubinsk 77.44 319 P P 14 15 30.3 -3.3
AKTO pmax pmax
comp=Z,3.0nm,0.7s
IKRD Kardeh 78.08 305 *eP* **P 14 15 35.5 -2.4**
ITEG Tejag 78.29 301 *eP* **P 14 15 39.9 +0.9**
DLBC Dease Lake 79.14 32 *eP* **P 14 15 42.1 -0.9**
HOQ Hoqain 80.75 292 P **P 14 15 52.7 +0.4**
SNR=9.9
CASY Casey 81.04 192 PFAKE 14 16 00.0 +7.2
CASY LR LR
comp=Z,3μm,21.0s
ASHO Ashiyiah 81.71 293 P P 14 16 03.8 +6.4
SNR=6.5
IANJ Anjilo 81.94 305 *eP* P 14 16 02.3 +3.6
IMEH Mehriz 81.96 300 *eP* P 14 16 07.8 +8.9
ISHM Shahmirzad 82.39 305 *eP* P 14 16 05.0 +3.9
ISAD Sadrabad 82.66 301 *eP* **P 14 16 05.2 +2.6**
ILAS Lasjerd 82.72 305 *eP* **P 14 16 02.1 -0.7**
PRGR Permogore 82.99 331 *eP* **P 14 16 02.8 -0.5**
PRGR *PP **pP** **14 16 13.0 -1.1**
PRGR *eS* **S 14 26 22.4 +2.6**
PRGR pmax pmax
comp=Z,11nm,0.7s
ISRV Sarvestan 83.56 299 *eP* **P 14 16 07.3 0.0**
IZEF Zefreh 83.64 302 *eP* P 14 16 17.0 +9.4
IVRN Varamin 83.78 304 *eP* **P 14 16 10.8 +2.7**
IR3 Iran Long-Peri 84.27 305 *eP* **P 14 16 11.4 +0.9**
IPIR Pirpir 84.87 302 *eP* **P 14 16 15.9 +2.0**
ALE Alert 85.41 3 P **P 14 16 15.0 -0.2**
comp=Z,100nm,0.9s,SNR=5.7
MAK Makhachkala 85.56 313 *eP* **P 14 16 15.6 -1.1**
MAK *e* 14 19 36.2
MAK pmax pmax
comp=Z,197nm,1.2s
D05A Enumclaw 85.60 43 *eP* P 14 16 23.4 +6.6
comp=Z,146nm,1.4s
KBS Kingsbay 85.81 351 PFAKE 14 16 30.0 +13
KBS LR LR
comp=Z,3μm,20.0s
LON Longmire 85.81 43 *eP* **P 14 16 20.7 +2.7**
LON pmax pmax
comp=Z,199nm,2.3s
LON Longmire 85.81 43 *eP* **P 14 16 20.7 +2.7**
comp=Z,199nm,2.3s
LVZ Lovozero 85.81 339 PFAKE 14 16 30.0 +12
LVZ LR LR
comp=Z,4μm,21.0s
YKA Yellowknife Ar 85.89 27 P **P 14 16 17.3 -0.6**
YKA Yellowknife Ar 85.89 27 P **P 14 16 17.3 -0.6**
comp=Z,2.0nm,0.5s,baz=288,slow=5.1,SNR=55
H04A Detroit Lake 85.99 45 *eP* **P 14 16 20.6 +1.7**
comp=Z,133nm,1.5s
KLMR Klimovskoe 86.04 331 *eP* **P 14 16 17.4 -1.3**
KLMR S S 14 26 41.0 -9.3
KLMR pmax pmax
comp=Z,16nm,1.0s
KLMR MLR MLR
comp=Z,6μm,20.0s
YBH Yreka Blue Hor 86.24 48 *eP* **P 14 16 22.7 +2.4**
comp=Z,70nm,1.5s
APA Apatity 86.38 339 || *iP* **P 14 16 23.2 +2.9**
APA *i* PPP PPP 14 21 41.0
APA *i* 14 26 44.0
APA *i* S S 14 27 00.0 +6.6
APA MLR MLR
comp=Z,5μm,21.0s
LTY Liberty 86.46 43 *eP* **P 14 16 20.8 -0.4**
comp=Z,80nm,1.2s
WDC Whiskeytown Da 86.60 49 *eP* P 14 16 28.1 +6.2
WDC *e*PP pP 14 16 39.2 +6.3
WDC pmax pmax
comp=Z,98nm,1.8s
WDC Whiskeytown Da 86.60 49 *eP* P 14 16 28.1 +6.2
comp=Z,98nm,1.8s
WDC *ep*P pP 14 16 39.2 +6.3
I05D Terrebonne, OR 86.66 46 P **P 14 16 21.2 -1.0**
baz=87
G06A Carlson Farm, 86.94 45 *eP* P 14 16 29.4 +5.8
comp=Z,127nm,1.8s
G06A *ep*P pP 14 16 39.1 +4.6
J05D Fort Rock, OR 86.97 47 P **P 14 16 22.8 -1.0**
baz=87
PINOR Pine Mountain 87.11 46 *eP* **P 14 16 22.3 -2.0**
comp=Z,162nm,1.7s
RES Resolute Bay 87.13 13 *eP* **P 14 16 22.6 -1.2**
comp=Z,15nm,0.6s
E07A Sunnyside 87.17 43 *eP* **P 14 16 25.1 +0.5**
comp=Z,128nm,1.4s
HAWA Hanford 87.42 43 *eP* **P 14 16 26.2 +0.4**
comp=Z,169nm,1.6s
HAWA LR LR
comp=Z,4μm,21.0s
DGRG David-gareji 87.43 312 P P 14 16 22.6 -3.4
VRHR Novokhopersk 87.59 322 *eP* **P 14 16 25.7 -0.8**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.9s
VRHR MLR MLR
comp=Z,5μm,17.0s
VRHR MLR MLR
comp=N,3μm,18.0s
VRHR MLR MLR
comp=E,3μm,18.0s
KEV Kevo 87.60 342 *eP* **P 14 16 25.5 -0.6**
KEV Kevo 87.60 342 *ep* **P 14 16 25.5 -0.6**
KEV Kevo 87.60 342 PFAKE 14 16 40.0 +14
KEV LR LR
comp=Z,6μm,20.0s
MSEY Mahe Island 87.63 265 PFAKE 14 16 40.0 +13
MSEY LR LR
comp=Z,1μm,19.0s
C09A Chrisman Ranch 87.91 42 *eP* P 14 16 34.2 +6.0
comp=Z,120nm,1.5s
I07A Izee 88.00 46 *eP* P 14 16 35.5 +6.6
comp=Z,70nm,1.5s
G08A Pilot Rock 88.08 44 *eP* **P 14 16 31.5 +2.3**
comp=Z,108nm,1.7s
RKT Rikitea 88.08 114 *eS* **S 14 27 10.7 -0.6**
comp=Z,1μm,29.8s
RKT *eSS* **SS 14 32 59.1 -1.4**
comp=Z,668nm,26.2s
RKT Rikitea 88.08 114 *eLR* LR 14 44 35.1
comp=Z,6μm,23.8s,baz=287
ARCES ARCESS Array B 88.17 342 P **P 14 16 27.8 -1.1**
ARCES ARCESS Array B 88.17 342 P **P 14 16 27.8 -1.1**
comp=Z,2.5nm,0.5s,baz=69,slow=6.6,SNR=27
ARCES LR LR 15 00 52.5
comp=Z,4μm,18.4s,baz=67,slow=39
ZEI Tsey 88.18 313 *eP* **P 14 16 28.4 -1.4**
ZEI *eS* **SKSac 14 26 57.1 +0.8**
ZEI pmax pmax
comp=Z,26nm,1.9s
GNI Garni 88.19 310 PFAKE 14 16 40.0 +10
GNI LR LR
comp=Z,3μm,19.0s
GOF Gofitskoye 88.22 316 *eP* **P 14 16 29.0 -0.7**
E09A Wood Farm, Sta 88.32 43 *eP* **P 14 16 32.8 +2.7**
comp=Z,230nm,1.7s
BEKR Beckworth 88.39 50 *eP* **P 14 16 30.1 -0.7**
comp=Z,24nm,1.3s
NEW Newport 88.53 41 *eP* **P 14 16 33.9 +2.8**
comp=Z,131nm,1.7s
NEW LR LR
comp=Z,5μm,22.0s
NEW Newport 88.53 41 P **P 14 16 30.4 -0.7**
baz=88
MOS Moscow 88.54 327 *eP* **P 14 16 29.2 -1.7**
MOS *e* 14 16 46.8
MOS *e* 14 26 57.2
MOS *ePS* **PnS 14 28 12.3 -8.4**
ONI Oni 88.55 313 P **P 14 16 31.9 +0.6**
KBZ Khabaz 88.66 314 LR LR 14 58 33.7
comp=Z,4μm,21.8s,baz=54,slow=37

KIV Kislovodsk 88.75 315 *eP* **P 14 16 32.9 +0.6**
KIV *e* 14 26 59.2
KIV *eSS* SS 14 33 11.9 +3.0
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 88.75 315 PFAKE 14 16 40.0 +7.7
KIV LR LR
comp=Z,3μm,19.0s
CMB Columbia Colle 88.80 52 *eP* **P 14 16 35.4 +2.8**
CMB pmax pmax
comp=Z,98nm,1.9s
CMB Columbia Colle 88.80 52 *eP* **P 14 16 35.4 +2.8**
comp=Z,98nm,1.9s
J08A Circle Bar Ran 88.91 46 *eP* **P 14 16 34.7 +1.6**
comp=Z,47nm,1.1s
JOF Joensuu 88.98 335 *eP* **P 14 16 31.8 -1.0**
JOF pmax pmax
comp=Z,30nm,0.9s
JOF Joensuu 88.98 335 *ep* **P 14 16 31.8 -1.0**
comp=Z,30nm,0.9s
VORD Divnogorie 89.04 322 *eP* **P 14 16 31.3 -2.0**
VORD pmax pmax
comp=N,40nm,1.6s
VORD pmax pmax
comp=Z,10.0nm,1.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD MLR MLR
comp=Z,5μm,17.0s
VORD MLR MLR
comp=N,3μm,19.0s
VORD MLR MLR
comp=E,3μm,17.0s
VSR Storozhevoye 89.04 322 *eP* **P 14 16 30.8 -2.6**
VSR pmax pmax
comp=Z,6.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,4.0nm,0.7s
F10A Beach Ranch, E 89.08 43 *eP* P 14 16 37.7 +3.9
comp=E,80nm,1.4s
PAHR Pah Rah Range 89.16 50 *eP* P 14 16 40.2 +5.8
comp=E,82nm,1.6s
OBN Obninsk 89.31 326 *eP* **P 14 16 34.9 +0.4**
OBN *i* 14 16 49.2
OBN *i* S **SKSac 14 27 01.4 -0.5**
OBN *i* PS **PnS 14 28 29.9 0.0**
OBN *i* SS **SS 14 33 12.6 -3.4**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,6μm,19.0s
OBN Obninsk 89.31 326 PFAKE 14 16 40.0 +5.5
OBN LR LR
comp=Z,6μm,21.0s
EDM Edmonton 89.37 36 *eP* **P 14 16 37.5 +2.6**
EDM Edmonton 89.37 36 *eP* **P 14 16 37.5 +2.6**
WAKR Walker 89.41 51 *eP* **P 14 16 36.9 +1.2**
PTRM Twissleman Ran 89.50 54 *eP* **P 14 16 38.6 +2.7**
VNDA Vanda 89.63 176 LR LR 14 55 38.1
comp=Z,6μm,19.7s,baz=352,slow=35
BSMT Basoo Peak 90.15 41 *eP* **P 14 16 39.7 +0.8**
NVAR Mina Array Bea 90.29 51 P **P 14 16 40.0 +0.1**
NVAR Mina Array Bea 90.29 51 P **P 14 16 40.0 +0.1**
comp=Z,3.1nm,0.5s,baz=270,slow=5.6,SNR=28
NVAR LR LR 14 50 46.6
comp=Z,2μm,21.5s,baz=72,slow=31
NV11 Mina Array Sit 90.40 51 *eP* **P 14 16 38.9 -1.3**
MFID Camas Ranch 90.75 45 *eP* **P 14 16 43.8 +2.1**
comp=Z,101nm,1.4s
SOC Sochi 90.92 315 *c iP* **P 14 16 40.0 -2.3**
SOC *e* 14 20 16.0
SOC *ePPP* PPP 14 22 12.4
SOC *eS* **SKSac 14 27 09.5 -2.4**
SOC *e* 14 27 32.8
SOC *eSS* **SS 14 33 39.1 -1.0**
SOC pmax pmax
comp=Z,23nm,0.7s
SOC MLR MLR
comp=Z,5μm,21.0s
SOC MLR MLR
comp=N,1μm,21.0s
SOC MLR MLR
comp=E,2μm,21.0s
TPH Tonopah 91.21 51 *eP* **P 14 16 44.5 +0.4**
TPH pmax pmax
comp=Z,133nm,2.3s
TPH Tonopah 91.21 51 *eP* **P 14 16 44.5 +0.4**
comp=Z,133nm,2.3s
KAF Kangasniemi 91.43 335 *eP* **P 14 16 42.6 -1.6**
KAF pmax pmax
comp=Z,35nm,1.0s
KAF Kangasniemi 91.43 335 *ep* **P 14 16 42.6 -1.6**
comp=Z,35nm,1.0s
HLID Hailey 91.69 45 *eP* **P 14 16 47.8 +1.6**
comp=Z,29nm,1.3s
HLID LR LR
comp=Z,5μm,20.0s
HLID Hailey 91.69 45 P **P 14 16 45.3 -0.8**
baz=92
FIA1 FINESS Array S 91.84 334 *eP* **P 14 16 44.1 -2.0**
FINES FINESS Array B 91.84 334 P **P 14 16 44.3 -1.9**
FINES FINESS Array B 91.84 334 P **P 14 16 44.3 -1.9**
comp=Z,9.6nm,0.6s,baz=71,slow=5.0,SNR=48
FINES LR LR 15 01 39.4
comp=Z,4μm,18.6s,baz=70,slow=38
ELK Elko 91.94 48 *eP* P 14 16 53.7 +6.3
comp=Z,62nm,1.6s
ANN Anapa 92.12 316 *eP* **P 14 16 48.4 +0.6**
ANN *e* 14 20 25.6
ANN *eS* **SKSac 14 27 19.2 +0.6**
ANN pmax pmax
comp=Z,151nm,2.0s
GSC Goldstone 92.28 53 *eP* P 14 16 54.8 +5.9
GSC pmax pmax
comp=Z,13nm,1.4s
GSC Goldstone 92.28 53 *eP* P 14 16 54.8 +5.9
comp=Z,13nm,1.4s
LRM Limekiln Ridge 92.31 42 *eP* **P 14 16 50.3 +1.2**
DLMT Dillon 92.36 43 *eP* P 14 16 56.4 +7.2
comp=Z,36nm,1.4s
R11A Troy Canyon, C 92.37 50 *eP* P 14 16 54.4 +5.0
BOZ Bozeman (W) 92.91 42 PFAKE 14 17 00.0 +8.3
BOZ LR LR
comp=Z,5μm,22.0s
PFO Pinyon Flat Ob 93.02 55 PFAKE 14 17 00.0 +7.6
PFO LR LR
comp=Z,6μm,22.0s
SHPR Sheep Range 93.22 52 *eP* P 14 16 59.9 +6.6
SHPR *epP* pP 14 17 09.1 +4.8
GMRC Granite Mounta 93.32 54 P **P 14 16 52.8 -1.0**
baz=93
HVU Hansel Valley 93.39 46 *eP* P 14 17 01.0 +7.0
HVU pmax pmax
comp=Z,67nm,1.7s
HVU Hansel Valley 93.39 46 *eP* P 14 17 01.0 +7.0
comp=Z,67nm,1.7s
A19A Klindworth Far 93.58 39 P **P 14 16 54.0 -0.6**
baz=94
YMR Madison River 93.68 43 *eP* **P 14 16 57.9 +2.5**
comp=Z,57nm,1.2s
DUG Dugway 93.87 48 *eP* P 14 17 03.7 +7.5
DUG pmax pmax
comp=Z,23nm,1.5s
DUG MLR MLR
comp=Z,4μm,22.0s
DUG Dugway 93.87 48 *eP* P 14 17 03.7 +7.5
comp=Z,23nm,1.5s
DUG LR LR
comp=Z,4μm,22.0s
IMW Indian Meadow 93.97 44 *eP* P 14 17 03.1 +6.3
comp=Z,27nm,1.4s
H17A Grant Village 94.04 43 *eP* P 14 17 04.6 +7.5
LKWY Lake 94.10 43 *eP* **P 14 16 56.3 -1.1**
LKWY pmax pmax
comp=Z,50nm,1.5s
LKWY Lake 94.10 43 *eP* **P 14 16 56.3 -1.1**
comp=Z,50nm,1.5s
A20A Cobblestone Ra 94.10 38 P **P 14 16 56.3 -0.7**
baz=94
MOOW Moose Ponds 94.15 44 *eP* P 14 17 03.0 +5.5
comp=Z,46nm,1.8s
D19A Cripps Ranch, 94.15 40 P **P 14 16 56.9 -0.5**
baz=94
MNK Minsk 94.20 328 *eS* **SKSac 14 27 28.0 -1.7**

MNK *ePS* **PS 14 29 20.0 -4.8**
CCUT Cedar City 94.28 50 *eP* P 14 17 02.9 +4.6
comp=Z,47nm,1.8s
LOHW Long Hollow 94.29 44 *eP* P 14 17 04.8 +6.6
comp=Z,25nm,1.5s
C20A Veseth Ranch, 94.50 40 P **P 14 16 58.6 -0.2**
baz=94
D20A Manuel Ranch, 94.65 40 P **P 14 16 58.8 -0.8**
baz=95
RLMT Red Lodge 94.65 42 *eP* **P 14 16 57.3 -2.5**
comp=Z,100nm,1.8s
RLMT LR LR
comp=Z,4μm,22.0s
A21A Bergtoll Ranch 94.66 38 P **P 14 16 58.1 -1.5**
baz=95
MPU Maple Canyon 94.78 48 *epP* pP 14 17 21.6 +10
E20A Meyer Farm, Mu 94.88 41 P **P 14 17 00.0 -0.6**
baz=95
FFC Flin Flon 94.96 32 *eP* **P 14 16 59.4 -1.3**
FFC pmax pmax
comp=Z,36nm,1.5s
FFC MLR MLR
comp=Z,4μm,22.0s
FFC Flin Flon 94.96 32 *eP* **P 14 16 59.4 -1.3**
comp=Z,36nm,1.5s
FFC LR LR
comp=Z,4μm,22.0s
AKASG Malin Array Be 95.09 324 P **P 14 17 00.0 -1.3**
AKASG Malin Array Be 95.09 324 P **P 14 17 00.0 -1.3**
AKASG Malin Array Be 95.09 324 P **P 14 17 00.0 -1.3**
comp=Z,1.3nm,0.8s,baz=56,slow=4.5,SNR=7.1
AKASG LR LR 15 03 56.9
comp=Z,8μm,18.1s,baz=80,slow=38
KIEV Kiev 95.10 324 *eP* **P 14 17 02.6 +1.2**
KIEV Kiev 95.10 324 PFAKE 14 17 10.0 +8.6
KIEV LR LR
comp=Z,11μm,22.0s
BW06 Boulder Array 95.30 45 PFAKE 14 17 10.0 +7.1
BW06 LR LR
comp=Z,4μm,22.0s
PDAR Pinedale Array 95.30 45 P **P 14 17 00.3 -2.6**
PDAR Pinedale Array 95.30 45 P **P 14 17 00.3 -2.6**
comp=Z,0.3nm,0.6s,baz=290,slow=6.4,SNR=2.9
PDAR LR LR 14 55 05.4
comp=Z,2μm,21.0s,baz=323,slow=32
D21A La Casta Ranch 95.38 40 P **P 14 17 01.9 -1.0**
baz=95
J19A Crowheart 95.47 44 P **P 14 17 02.9 -0.7**
baz=95
LAO LASA Array 96.02 40 *eP* P 14 17 10.0 +4.2
comp=Z,102nm,1.5s
LAO LR LR
comp=Z,3μm,19.0s
BRTR Keskin Array B 96.47 313 P **P 14 17 07.2 -1.0**
BRTR Keskin Array B 96.47 313 P **P 14 17 07.2 -1.0**
comp=Z,0.5nm,0.7s,baz=48,slow=4.3,SNR=3.3
BRTR LR LR 15 06 33.9
comp=Z,2μm,18.9s,baz=44,slow=39
DGMT Dagmar 96.53 38 PFAKE 14 17 20.0 +12
DGMT LR LR
comp=Z,5μm,22.0s
I22A 9 Mile Ranch, 96.96 43 P **P 14 17 08.7 -1.5**
baz=97
ANTO Ankara 97.03 313 PFAKE 14 17 20.0 +9.3
ANTO LR LR
comp=Z,3μm,22.0s
D25A Fairfield 97.63 39 P **P 14 17 11.4 -1.7**
baz=98
NOA NORSAR Array B 97.95 338 P Pdif 14 17 14.9 +0.6
NOA NORSAR Array B 97.95 338 P Pdif 14 17 14.9 +0.6
comp=Z,1.8nm,0.9s,baz=59,slow=4.3,SNR=3.2
NOA LR LR 15 04 51.4
comp=Z,1μm,19.1s,baz=45,slow=38
I24A Kuemmerle Ranc 98.20 42 P **P 14 17 14.2 -1.6**
baz=98
ABPO Ambohimpanom 98.24 252 *i P* **P 14 17 14.0 -2.5**
ABPO Ambohimpanom 98.24 252 PFAKE 14 17 30.0 +13
ABPO LR LR
comp=Z,2μm,21.0s
CSS Prodhromos 98.37 308 PFAKE 14 17 30.0 +13
CSS LR LR
comp=Z,916nm,22.0s
LVV L'vov 98.46 325 *eP* Pdif 14 17 23.3 +6.6
LVV MLR MLR
comp=N,2μm,21.0s
LVV MLR MLR
comp=E,7μm,21.0s
LVV MLR MLR
comp=Z,8μm,21.0s
ISCO Idaho Springs 99.17 46 PFAKE 14 17 30.0 +9.5
ISCO LR LR
comp=Z,5μm,20.0s
KWP Kalwaria Pacla 99.30 325 PFAKE 14 17 30.0 +10
KWP LR LR
comp=Z,10μm,22.0s
ISP Isparta 99.44 312 PFAKE 14 17 30.0 +8.5
ISP LR LR
comp=Z,2μm,20.0s
KONO Kongsberg 99.49 338 PFAKE 14 17 30.0 +9.0
KONO LR LR
comp=Z,8μm,22.0s
UZH Uzhgorod 100.04 324 *eP* **Pdif 14 17 22.3 -1.4**
UZH *i* 14 28 03.0
UZH *eS* **Sdif 14 28 50.5 -5.7**
UZH *e* 14 30 25.0
UZH *eSSS* SSS 14 39 38.0
UZH MLR MLR
comp=N,2μm,22.0s
UZH MLR MLR
comp=E,8μm,22.0s
UZH MLR MLR
comp=Z,1μm,22.0s
SDCO Great Sand Dun 100.06 48 PFAKE 14 17 40.0 +16
SDCO LR LR
comp=Z,3μm,22.0s
CRVS Cervenica-Dubn 100.37 325 *eP* **Pdif 14 17 33.2 +8.0**
CRVS Cervenica-Dubn 100.37 325 *e* **Pdif 14 17 33.2 +8.0**
ANMO Albuquerque 100.42 51 PFAKE 14 17 40.0 +14
ANMO LR LR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 101.11 5 PFAKE 14 17 40.0 +12
SFJD LR LR
comp=Z,2μm,20.0s
OGNE Ogallala 101.18 44 PFAKE 14 17 40.0 +11
OGNE LR LR
comp=Z,3μm,20.0s
QSPA South Pole Qui 101.41 180 PFAKE 14 17 40.0 +11
QSPA LR LR
comp=Z,5μm,19.0s
AGMN Agassiz Nation 101.48 35 PFAKE 14 17 40.0 +10
AGMN LR LR
comp=Z,8μm,21.0s
OKC Ostrava-Krasne 101.70 327 *ePP* PP 14 21 40.9 -0.3
OKC *eSKS* **SKSac 14 28 12.7 +4.6**
OKC *eSP* **SP 14 30 41.9 +0.6**
OKC *eSS* **SS 14 36 14.3 +2.4**
OKC AMS AMS 15 08 20.0
comp=Z,4μm,17.6s
PSZ Piszkesteto 101.78 324 PFAKE 14 17 40.0 +8.4
PSZ LR LR
comp=Z,9μm,21.0s
DPC Dobruska-Polom 102.37 328 *ePP* PP 14 21 47.3 +1.0
DPC *eSKS* **SKSac 14 28 14.5 +3.1**
DPC *eSP* **SP 14 30 50.3 +1.8**
DPC *ex* x 14 31 42.7
DPC *eSS* **SS 14 36 23.4 +2.2**
DPC AMS AMS 15 07 20.0
MNTX Cornudas Mount 102.46 54 PFAKE 14 17 50.0 +15
MNTX LR LR
comp=Z,2μm,20.0s
BSEG Bad Segeberg 103.04 333 *eSP* SP 14 31 00.2 +5.0
PVCC Panska Ves 103.17 329 *ePP* PP 14 21 57.3 +5.1
PVCC *eSP* SP 14 30 50.0 -6.8
PVCC *ex* x 14 31 47.9
PVCC AMS AMS 15 11 30.0
comp=Z,6μm,18.3s
BRG Berggiesshubel 103.28 329 PP PP 14 21 56.0 +3.0
BRG SS SS 14 36 21.0 -13
BRG
comp=N,4μm,28.6s
BRG
comp=E,4μm,23.4s
BRG
comp=Z,6μm,23.0s
BRG Berggiesshubel 103.28 329 *eSP* SP 14 31 00.8 +2.9

ECSD **EROS Data Cent** **103.40 40** PFAKE 14 17 50.0 +11
ECSD LR LR
comp=Z,3µm,21.0s
TREC **Trest** **103.43 327** *e*PP PP 14 21 58.9 +4.7
TREC *e*SP SP 14 31 00.5 +0.8
TREC *ex* x 14 31 56.3
TREC AMS AMS 15 11 00.0
comp=Z,4µm,17.9s
CLL **Collm** **103.48 330** *e*P Pdif 14 17 54.0 +15
CLL *e* 14 28 18.0
CLL MLR MLR
comp=Z,6µm,18.0s
CLL **Collm** **103.48 330** *e*SP SP 14 31 01.5 +1.5
CLL **Collm** **103.48 330** *e*sPdif sPdif 14 17 54.0 +0.1
CLL *e*PP **PP** **14 21 54.0 -0.4**
CLL *e*SKSac **SKSac** **14 28 18.0 +1.6**
CLL *e*PS **PS** **14 31 06.0 +1.2**
CLL *e*PPS PPS 14 31 54.0
CLL *e*SS SS 14 36 48.0 +12
CLL *e*SSS SSS 14 40 36.0
CLL *e* 14 46 30.0
CLL LV 15 10 00.0
comp=Z,6µm,18.0s
CLL LmH 15 11 00.0
comp=N,5µm,18.3s
CLL LmH 15 11 00.0
comp=E,3µm,18.0s
PRU **Pruhonice** **103.51 328** *e*PP PP 14 21 55.5 +0.8
PRU *e*SKS **SKSac** **14 28 20.8 +4.2**
PRU *e*SP **SP** **14 30 59.3 -1.1**
PRU *ex* x 14 31 56.1
PRU *e*SS **SS** **14 36 35.1 -1.7**
PRU AMS AMS 15 07 50.0
comp=E,4µm,19.6s
PRA **Prague** **103.52 328** PP PP 14 21 56.0 +1.2
PRA SKS **SKSac** **14 28 21.0 +4.4**
SANT **Santorini** **103.72 312** PFAKE 14 17 50.0 +10
SANT LR LR
comp=Z,2µm,19.0s
CONA **Conrad Observa** **104.03 326** ⇑ *i*Pdiff **Pdif** **14 17 40.5 -1.1**
comp=Z,4.4nm,1.1s
NRDL **Niedersach Rie** **104.09 332** *e*SP SP 14 31 10.5 +4.3
EYMN **Ely** **104.10 34** PFAKE 14 17 50.0 +8.1
EYMN LR LR
comp=Z,4µm,22.0s
TANN **Tannenbergstha** **104.30 329** *e*SP SP 14 31 11.8 +3.0
KHC **Kasperske Hory** **104.53 328** *e*PP PP 14 21 56.7 -5.7
KHC *e*SKS **SKSac** **14 28 26.1 +4.7**
KHC *e*SP **SP** **14 31 03.3 -7.9**
KHC *ex* x 14 32 08.5
KHC *e*SS **SS** **14 36 48.4 -2.5**
KHC AMS AMS 15 11 00.0
comp=Z,5µm,17.8s
KMBO **Kilima Mbogo** **104.77 272** PFAKE 14 18 00.0 +14
KMBO LR LR
comp=Z,2µm,21.0s
ROTZ **Rotzenmuhle** **104.84 329** *e*SP SP 14 31 17.6 +3.3
GRF **Grafenberg Arr** **105.38 329** *e*SP SP 14 31 20.6 +0.7
GRF *e*L L 15 08 26.4
comp=Z,6µm,21.6s
KSU1 **Kansas State U** **105.72 44** PFAKE 14 22 10.0
KSU1 LR LR
comp=Z,4µm,22.0s
TNS **Taunus Mts** **106.38 331** *e*SP SP 14 31 33.0 +2.7
SCIA **State Center** **106.49 40** PFAKE 14 22 10.0
SCIA LR LR
comp=Z,3µm,21.0s
STU **Stuttgart** **106.99 330** *e*SP SP 14 31 38.8 +2.2
ESK **Eskdalemuir** **107.30 340** PFAKE 14 22 20.0
ESK LR LR
comp=Z,4µm,20.0s
JCT **Junction City** **107.34 53** PFAKE 14 22 20.0
JCT LR LR
comp=Z,3µm,21.0s
BFO **Black Forest** **107.71 330** PFAKE 14 22 20.0
BFO LR LR
comp=Z,4µm,19.0s
JFWS **Jewell Farm** **107.74 38** PFAKE 14 22 20.0
JFWS LR LR
comp=Z,4µm,22.0s
WLF **Walferdange** **107.84 332** PFAKE 14 22 20.0
WLF LR LR
comp=Z,5µm,21.0s
ECH **Echery** **108.36 330** PFAKE 14 22 20.0
ECH LR LR
comp=Z,4µm,20.0s
TIP **Timpagrande** **108.39 318** PFAKE 14 22 20.0
TIP LR LR
comp=Z,2µm,21.0s
TUE **Stuetta** **108.42 328** PFAKE 14 22 20.0
TUE LR LR
comp=Z,6µm,21.0s
CUC **Castrocucco** **108.55 319** PFAKE 14 22 20.0
CUC LR LR
comp=Z,3µm,20.0s
AQU **L'Aquila** **108.70 322** PFAKE 14 22 20.0
AQU LR LR
comp=Z,7µm,19.0s
VLC **Villacollemand** **109.34 325** PFAKE 14 22 20.0
VLC LR LR
comp=Z,6µm,20.0s
CEL **Celeste** **109.45 318** PFAKE 14 22 20.0
CEL LR LR
comp=Z,2µm,20.0s
HDIL **Hopedale** **109.69 39** PFAKE 14 22 20.0
HDIL LR LR
comp=Z,4µm,22.0s
KVTX **Kingsville** **110.10 55** PFAKE 14 22 20.0
KVTX LR LR
comp=Z,3µm,19.0s
MIAR **Mount Ida** **110.11 47** PFAKE 14 22 20.0
MIAR LR LR
comp=Z,5µm,20.0s
NATX **Nacogdoches** **110.69 50** PFAKE 14 22 20.0
NATX LR LR
comp=Z,5µm,20.0s
BNI **Bardonecchia** **110.76 328** PFAKE 14 22 20.0
BNI LR LR
comp=Z,9µm,22.0s
WDD **Wield Dalam** **111.68 316** PFAKE 14 22 20.0
WDD LR LR
comp=Z,2µm,19.0s
SSB **Saint Sauveur** **111.70 329** PFAKE 14 22 20.0
SSB LR LR
comp=Z,4µm,20.0s
AAM **Ann Arbor** **111.95 35** PFAKE 14 22 20.0
AAM LR LR
comp=Z,7µm,21.0s
VSL **Villasalto** **112.86 322** PFAKE 14 22 30.0
VSL LR LR
comp=Z,2µm,19.0s
ACSO **Alum Creek Sta** **113.69 36** PFAKE 14 22 30.0
ACSO LR LR
comp=Z,8µm,21.0s
ERPA **Erie** **114.09 33** PFAKE 14 22 30.0 +12
ERPA LR LR
comp=Z,7µm,22.0s
LONY **Lake Ozonia** **114.96 28** PFAKE 14 22 30.0 +11
LONY LR LR
comp=Z,5µm,22.0s
NCB **Newcomb** **115.62 28** PFAKE 14 22 30.0 +9.3
NCB LR LR
comp=Z,6µm,22.0s
LSZ **Lusaka** **115.82 259** PFAKE 14 22 30.0 +8.1
LSZ LR LR
comp=Z,2µm,20.0s
BINY **Binghamton** **116.10 31** PFAKE 14 22 30.0 +8.3
BINY LR LR
comp=Z,6µm,22.0s
LBNH **Lisbon** **116.45 27** PFAKE 14 22 30.0 +7.7
LBNH LR LR
comp=Z,3µm,20.0s
BRAL **Brewton** **116.63 47** PFAKE 14 22 30.0 +7.0
BRAL LR LR
comp=Z,5µm,20.0s
BLA **Blacksburg** **117.18 37** PFAKE 14 22 30.0 +6.0
BLA LR LR
comp=Z,4µm,22.0s
GOGA **Godfrey** **117.69 42** PFAKE 14 22 40.0 +15
GOGA LR LR
comp=Z,4µm,21.0s
CBN **Corbin** **118.25 35** PFAKE 14 22 40.0 +14
CBN LR LR
comp=Z,5µm,20.0s

NHSC **New Hope** **120.03 41** PFAKE 14 22 40.0 +11
NHSC LR LR
comp=Z,3µm,22.0s
PAB **San Pablo** **120.35 330** PFAKE 14 22 40.0 +10
PAB LR LR
comp=Z,6µm,21.0s
MTE **Manteigas** **121.16 333** PFAKE 14 22 40.0 +8.5
MTE LR LR
comp=Z,3µm,20.0s
TEIG **Tepich** **121.23 58** PFAKE 14 22 40.0 +7.9
TEIG LR LR
comp=Z,1µm,19.0s
SUR **Sutherland** **122.46 239** PFAKE 14 22 40.0 +5.6
SUR LR LR
comp=Z,2µm,21.0s
TGUH **Tegucigalpa,Un** **124.83 64** PFAKE 14 22 50.0 +11
TGUH LR LR
comp=Z,2µm,21.0s
TAM **Tamanrasset** **125.47 309** PFAKE 14 22 50.0 +10
TAM LR LR
comp=Z,1µm,20.0s
RTC **Rabat Centre** **125.94 328** PFAKE 14 22 50.0 +9.2
RTC LR LR
comp=Z,2µm,22.0s
PAYG **Puerto Ayora** **126.90 82** PFAKE 14 22 50.0 +6.8
PAYG LR LR
comp=Z,3µm,19.0s
JTS **JuntasAbangare** **128.44 67** PFAKE 14 23 00.0 +14
JTS LR LR
comp=Z,2µm,19.0s
BBSR **BB Station** **129.36 30** PFAKE 14 23 00.0 +13
BBSR LR LR
comp=Z,3µm,21.0s
MTDJ **Mount Denham** **130.95 53** PFAKE 14 23 00.0 +9.1
MTDJ LR LR
comp=Z,2µm,21.0s
GTBY **Guantanamo Bay** **131.83 50** PFAKE 14 23 00.0 +7.7
GTBY LR LR
comp=Z,2µm,21.0s
BCIP **Isla Barro Col** **133.49 65** PFAKE 14 23 10.0 +14
BCIP LR LR
comp=Z,2µm,20.0s
TORD **Torodi Ar. Bea** **133.68 301** PKP **PKPdf** **14 22 56.6 +0.6**
TORD **Torodi Ar. Bea** **133.68 301** PKP **PKPdf** **14 22 56.6 +0.6**
comp=Z,1.1nm,0.8s,baz=38,slow=2.6,SNR=5.4
GRTK **Grand Turk** **133.69 45** PFAKE 14 23 10.0 +14
GRTK LR LR
comp=Z,3µm,21.0s
SDDR **Presa de Saban** **135.23 48** PFAKE 14 23 10.0 +11
SDDR LR LR
comp=Z,3µm,22.0s
HOPE **Hope Point** **137.36 181** PFAKE 14 23 10.0 +8.4
HOPE LR LR
comp=Z,1.0nm,19.0s
OTAV **Otavalo** **138.05 77** PFAKE 14 23 20.0 +15
OTAV LR LR
comp=Z,2µm,20.0s
SDV **Santo Domingo** **141.63 59** PFAKE 14 23 20.0 +9.1
SDV LR LR
comp=Z,463nm,21.0s
NNA **Nana** **141.89 95** PFAKE 14 23 20.0 +8.9
NNA LR LR
comp=Z,3µm,19.0s
DBIC **Dimbokro** **142.47 297** PKP **PKPdf** **14 23 12.4 +0.3**
DBIC **Dimbokro** **142.47 297** PKP **PKPdf** **14 23 12.4 +0.3**
comp=Z,6.0nm,1.0s,baz=24,slow=3.3,SNR=4.3
KIC **Kosan Boka** **142.52 297** *e*PKP1 **PKPdf** **14 23 09.0 -3.3**
comp=Z,97nm,1.8s
ANWB **Willy Bob** **142.59 39** PFAKE 14 23 20.0 +7.8
ANWB LR LR
comp=Z,4µm,22.0s
TIC **Toumodi** **142.63 297** *e*PKP1 **PKPdf** **14 23 08.0 -4.5**
comp=Z,5.4nm,0.2s
LIC **Lamto** **142.83 297** *e*PKP1 **PKPdf** **14 23 08.9 -3.9**
comp=Z,58nm,1.7s
LCO **Las Campanas** **144.84 125** *e*PKPdf **PKPab** **14 23 15.1 -0.2**
LCO LR LR
comp=Z,2µm,21.0s
FDF **Fort de France** **145.17 42** PFAKE 14 23 30.0 +13
FDF LR LR
comp=Z,4µm,22.0s
GRGR **Grenville** **146.68 46** PFAKE 14 23 30.0 +7.8
GRGR LR LR
comp=Z,3µm,22.0s
BBGH **Gun Hill** **147.38 42** PFAKE 14 23 30.0 +5.1
BBGH LR LR
comp=Z,6µm,22.0s
LVC **Limon Verde** **148.45 115** PFAKE 14 23 30.0 +0.6
LVC LR LR
comp=Z,2µm,20.0s
SHEL **Horse Pasture** **148.49 258** PFAKE 14 23 30.0 +0.6
SHEL LR LR
comp=Z,2µm,21.0s
SACV **Santiago Islan** **150.09 331** PFAKE 14 23 40.0 +4.3
SACV LR LR
comp=Z,2µm,20.0s
LPAZ **La Paz** **150.30 103** *e*PKPbc **PKPbc** **14 23 31.1 -0.2**
LPAZ **La Paz** **150.30 103** PKPbc **PKPbc** **14 23 31.0 -0.2**
comp=Z,7.6nm,1.0s,baz=289,slow=3.7,SNR=15
SAML **Samuel** **154.99 86** PFAKE 14 23 40.0 -1.0
SAML LR LR
comp=Z,3µm,20.0s
PTGA **Pitinga** **155.59 65** PFAKE 14 23 40.0 +6.9
PTGA LR LR
comp=Z,2µm,20.0s
ASCN **Ascension** **156.53 277** PFAKE 14 23 40.0 +5.7
ASCN LR LR
comp=Z,2µm,20.0s
RCBR **Riachuelo** **173.98 341** PFAKE 14 24 00.0 +11
RCBR LR LR
comp=Z,3µm,19.0s

MAN 14 14:07:14, 8°20N×126°59E, **h122**km, **mb4.6, ML3.5, MS3.5, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BUTP	**Butuan**	**1.23**	**309**	*e*P	Pn	14 07 39.4	+0.9
MATI	**Mati**	**1.28**	**195**	*e*P	Pn	14 07 40.1	+0.9
DAV	**Davao City (W)**	**1.50**	**222**	⇓ *i*P	Pn	14 07 45.8	+4.2
BUKP	**Musuan**	**1.54**	**258**	*e*P	Pn	14 07 43.3	+1.2
BUKP				*e*S	Sn	14 08 04.9	+1.4
CTBH	**Cotabato--PC H**	**2.51**	**248**	⇑ *i*P	Pn	14 07 55.6	+1.5
PAGZ	**Pagadian**	**3.19**	**264**	*e*P	Pn	14 08 04.0	+1.1

*ISCJB **14** 14:14:36.8±1.0, 9°04S±0°08×121°66E±0°06, h100km, mb3.5/1, Error ellipse: s-maj=11.3km s-min=8.7km az=15.2*
*IDC **14** 14:14:41.1±5.9, 8°92S×122°10E, h120km±84km, mb3.4/1, mb1 3.4/3, mb1mx3.0/20, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=295.5km s-min=47.5km az=46.0*
ISC 14 14:14:38.2±1.2, **9°16S**±0°10×**121°64E**±0°08, **h100**km, **n11, σ2s51/14, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**7.43**	**275**	P	**Pn**	**14 16 23.9**	**-0.2**
	baz=7.2,SNR=3.8						
JAGI				S	Sn	14 17 38.1	-8.8
	baz=7.2,SNR=4.6						
KNRA	**Kununurra**	**9.50**	**134**	P	**Pn**	**14 16 54.6**	**+2.3**
	baz=9.7,SNR=23						
KNRA				S	**Sn**	**14 18 40.0**	**+2.7**
	baz=9.7,SNR=5.5						
MTN	**Manton Dam**	**10.01**	**112**	P	**Pn**	**14 17 01.1**	**+1.9**
	baz=10,SNR=4.4						
MTN				S	**Sn**	**14 18 46.0**	**-3.7**
	baz=10,SNR=4.8						
KDU	**Kakadu**	**11.20**	**109**	S	**Sn**	**14 19 18.4**	**-0.1**
	baz=11,SNR=4.2						
FAKI	**Fak Fak**	**12.23**	**60**	P	**Pn**	**14 17 28.0**	**-1.1**
	baz=12,SNR=5.1						
GIRL	**Giralia**	**15.18**	**207**	P	Pn	14 18 01.8	-5.5
	baz=15,SNR=6.5						
WRA	**Warramunga Arr**	**16.30**	**133**	P	**Pn**	**14 18 22.3**	**+1.0**
	0.3nm,0.3s,baz=304,slow=13,SNR=16						
WRA				S	**Sn**	**14 21 18.0**	**-4.1**
	0.2nm,0.3s,baz=307,slow=22,SNR=6.7						
WRKA	**Warakurna**	**17.02**	**159**	P	**P**	**14 18 32.7**	**+2.3**
	baz=17,SNR=9.5						
MEEK	**Meekatharra**	**17.62**	**189**	S	**Sn**	**14 21 50.3**	**-3.7**
	baz=18,SNR=8.0						
ASAR	**Alice Springs**	**18.59**	**142**	P	**P**	**14 18 48.9**	**+1.1**
	0.3nm,0.3s,baz=330,slow=14,SNR=13						
ASAR				S	**S**	**14 22 14.6**	**-0.1**
	0.0nm,0.3s,baz=314,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**29.22**	**144**	P	**P**	**14 20 30.2**	**-0.4**
	0.5nm,0.4s,baz=318,slow=14,SNR=3.7						

*IDC **14** 14:29:50.7±0.7, 25°48S×70°03E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/25, mbtmp4.1/12, Error ellipse: s-maj=25.3km s-min=19.0km az=72.0*
*ISCJB **14** 14:29:52.0±0.6, 25°45S±0°1×70°0E±0°1, h21km, mb4.2/17, Error ellipse: s-maj=20.4km s-min=14.2km az=152.2*
*NEIC **14** 14:29:52.3±0.6, 25°40S×70°01E, h10km, mb4.5/5, Error ellipse: s-maj=20.0km s-min=14.0km az=62.0*
ISC 14 14:29:54.2±0.7, **25°4S**±0°1×**70°1E**±0°2, **h21**km, **n45, σ1s06/36, mb4.2/17, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.85**	**8**	T	T	14 52 24.2	
	baz=188,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**17.85**	**8**	T	T	14 52 19.3	
	baz=188,slow=76,SNR=86						
H08S3	**Diego Garcia H**	**17.87**	**8**	T	T	14 52 26.5	
	baz=188,slow=76,SNR=57						
H08N3	**Diego Garcia H**	**19.01**	**3**	T	T	14 53 52.7	
	baz=175,slow=53						
H08N1	**Diego Garcia H**	**19.02**	**3**	T	T	14 54 03.1	
	baz=175,slow=53						
H08N2	**Diego Garcia H**	**19.03**	**3**	T	T	14 53 51.8	
	baz=175,slow=53						
H01W2	**Cape Leeuwin H**	**38.99**	**115**	T	T	15 18 57.2	
	baz=271,slow=75,SNR=7.7						
H01W3	**Cape Leeuwin H**	**38.99**	**115**	T	T	15 19 12.5	
	baz=271,slow=75,SNR=6.9						
H01W1	**Cape Leeuwin H**	**39.01**	**115**	T	T	15 18 56.2	
	baz=271,slow=75,SNR=7.5						
CM31	**Chiang Mai Arr**	**51.91**	**36**	*e*P	**P**	**14 39 02.3**	**+0.8**
	7.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**51.91**	**36**	P	**P**	**14 39 02.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**51.91**	**36**	P	**P**	**14 39 02.8**	**+1.3**
	1.8nm,0.7s,baz=227,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**57.59**	**103**	P	**P**	**14 39 43.2**	**+0.4**
ASAR	**Alice Springs**	**57.59**	**103**	P	**P**	**14 39 43.2**	**+0.4**
	1.5nm,0.6s,baz=249,slow=6.5,SNR=27						
AS31	**Alice Springs**	**57.59**	**103**	*e*P	**P**	**14 39 43.2**	**+0.3**
WRA	**Warramunga Arr**	**59.07**	**99**	P	**P**	**14 39 53.5**	**+0.2**
WRA	**Warramunga Arr**	**59.07**	**99**	P	**P**	**14 39 53.5**	**+0.2**
	1.2nm,0.8s,baz=254,slow=6.8,SNR=6.7						
WRAB	**Tennant Creek**	**59.08**	**99**	*e*P	**P**	**14 39 54.0**	**+0.6**
	5.3nm,1.0s						
QSPA	**South Pole Qui**	**64.69**	**180**	P	**P**	**14 40 30.2**	**-0.3**
QSPA	**South Pole Qui**	**64.69**	**180**	P	**P**	**14 40 30.2**	**-0.3**
	5.9nm,0.9s,baz=288,slow=4.0,SNR=13						
VNDA	**Vanda**	**65.74**	**166**	P	**P**	**14 40 36.4**	**-0.5**
VNDA	**Vanda**	**65.74**	**166**	P	**P**	**14 40 36.4**	**-0.5**
	2.5nm,0.9s,baz=273,slow=4.9,SNR=4.6						
AAK	**Ala-Archa**	**67.86**	**4**	*e*P	**P**	**14 40 50.8**	**-0.2**
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**72.75**	**9**	P	**P**	**14 41 20.2**	**-0.4**
MKAR	**Makanchi Array**	**72.75**	**9**	P	**P**	**14 41 20.2**	**-0.4**
	1.6nm,0.8s,baz=194,slow=6.5,SNR=16						
MK31	**Makanchi Array**	**72.75**	**9**	*e*P	**P**	**14 41 18.2**	**-2.3**
BRTR	**Keskin Array B**	**73.20**	**331**	P	**P**	**14 41 24.5**	**+0.9**
BRTR	**Keskin Array B**	**73.20**	**331**	P	**P**	**14 41 24.5**	**+0.9**
	1.2nm,0.7s,baz=154,slow=5.4,SNR=6.3						
ABKAR	**Akbulak array**	**74.91**	**353**	*e*P	**P**	**14 41 32.2**	**-0.9**
	2.5nm,0.7s						
KURK	**Kurchatov**	**76.20**	**6**	*e*P	**P**	**14 41 38.2**	**-2.3**
	7.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.81**	**292**	P	**P**	**14 41 45.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.81**	**292**	P	**P**	**14 41 45.0**	**+0.1**
	2.7nm,1.0s,baz=126,slow=4.6,SNR=8.5						
SONM	**Songino Array**	**79.92**	**24**	P	**P**	**14 42 01.1**	**-0.3**
SONM	**Songino Array**	**79.92**	**24**	P	**P**	**14 42 01.1**	**-0.3**
	2.4nm,1.2s,baz=207,slow=3.7,SNR=6.7						
ZAA0	**Zalesovo Array**	**80.09**	**9**	*e*P	**P**	**14 42 00.4**	**-1.6**
ZALV	**Zalesovo Beam**	**80.09**	**9**	P	**P**	**14 42 02.1**	**+0.1**
ZALV	**Zalesovo Beam**	**80.09**	**9**	P	**P**	**14 42 02.1**	**+0.1**
	6.0nm,0.9s,baz=186,slow=4.3,SNR=5.4						
KSAR	**Wonju Array Be**	**82.85**	**43**	P	**P**	**14 42 16.3**	**-0.7**
KSRS	**Korea Array**	**82.88**	**43**	P	**P**	**14 42 16.3**	**-0.8**
	0.4nm,0.7s,baz=233,slow=5.9,SNR=2.9						
AKASG	**Malin Array Be**	**83.96**	**335**	P	**P**	**14 42 22.8**	**+0.4**
AKASG	**Malin Array Be**	**83.96**	**335**	P	**P**	**14 42 22.8**	**+0.4**
	1.0nm,0.7s,baz=135,slow=4.3,SNR=3.4						
YKA	**Yellowknife Ar**	**142.83**	**4**	PKP	**PKPdf**	**14 49 24.5**	**-0.9**
YKA	**Yellowknife Ar**	**142.83**	**4**	PKP	**PKPdf**	**14 49 24.5**	**-0.9**
	0.2nm,0.8s,baz=359,slow=2.2,SNR=3.4						
PDAR	**Pinedale Array**	**162.72**	**359**	PKP	**PKPdf**	**14 49 57.5**	**+2.5**
PDAR	**Pinedale Array**	**162.72**	**359**	PKP	**PKPdf**	**14 49 57.5**	**+2.5**
	0.2nm,0.6s,baz=123,slow=4.4,SNR=2.4						

*IDC **14** 14:30:23.1±1.1, 25°39S×69°43E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/26, mbtmp4.0/7, MS4.7/1, Ms1 4.7/1, ms1mx3.8/34, Error ellipse: s-maj=35.7km s-min=30.6km az=94.0*
ISC 14 14:30:28.2±1.7, **25°5S**±0°2×**69°9E**±0°4, **h21**km, **n7, σ0s37/6, mb4.0/7, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**52.03**	**36**	P	**P**	**14 39 36.1**	**-0.4**
	1.2nm,0.9s,baz=228,slow=5.8,SNR=2.1						
ASAR	**Alice Springs**	**57.73**	**103**	P	**P**	**14 40 18.1**	**+0.2**
	0.9nm,0.6s,baz=250,slow=6.4,SNR=2.0						
WRA	**Warramunga Arr**	**59.21**	**99**	P	**P**	**14 40 28.4**	**+0.1**
	1.3nm,0.8s,baz=255,slow=7.0,SNR=2.5						
WRA				LR	LR	15 05 12.0	
	comp=Z,514nm,18.1s,baz=95,slow=35						
QSPA	**South Pole Qui**	**64.64**	**180**	P	**P**	**14 41 04.3**	**+0.1**
	1.1nm,0.3s,baz=291,slow=8.3,SNR=1.8						
VNDA	**Vanda**	**65.73**	**166**	P	**P**	**14 41 10.7**	**-0.3**
	1.9nm,0.9s,baz=238,slow=3.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.69**	**292**	P	P	14 42 12.8	-5.4
	0.8nm,0.8s,baz=93,slow=2.9,SNR=1.5						
SONM	**Songino Array**	**80.03**	**24**	P	**P**	**14 42 36.5**	**+0.4**
	1.3nm,1.0s,baz=198,slow=1.6,SNR=2.6						

*IDC **14** 14:33:59.3±0.7, 25°45S×70°00E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/26, mbtmp4.0/12, Error ellipse: s-maj=26.7km s-min=18.9km az=64.0*
*ISCJB **14** 14:34:00.3±0.6, 25°5S±0°1×70°0E±0°1, h21km, mb4.0/14, Error ellipse: s-maj=17.1km s-min=15.8km az=155.0*
*NEIC **14** 14:34:00.3±0.4, 25°51S×69°93E, h10km, mb4.2/3, Error ellipse: s-maj=13.1km s-min=12.0km az=64.0*
ISC 14 14:34:02.2±0.6, **25°5S**±0°1×**69°9E**±0°1, **h21**km, **n38, σ0s64/29, mb4.1/14, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.91**	**8**	T	T	14 56 31.1	
	baz=188,slow=76,SNR=26						
H08S2	**Diego Garcia H**	**17.91**	**8**	T	T	14 56 29.1	
	baz=188,slow=76,SNR=77						
H08S3	**Diego Garcia H**	**17.93**	**8**	T	T	14 56 32.3	
	baz=188,slow=76,SNR=39						
H08N3	**Diego Garcia H**	**19.07**	**3**	T	T	14 57 58.9	
	baz=175						
H08N1	**Diego Garcia H**	**19.07**	**3**	T	T	14 58 03.6	
	baz=175						
H08N2	**Diego Garcia H**	**19.09**	**3**	T	T	14 57 57.0	
	baz=175						
H01W2	**Cape Leeuwin H**	**39.07**	**115**	T	T	15 23 14.0	
	baz=273						
H01W3	**Cape Leeuwin H**	**39.07**	**115**	T	T	15 23 07.5	
	baz=273						
H01W1	**Cape Leeuwin H**	**39.08**	**115**	T	T	15 23 12.7	
	baz=273						
BOSA	**Boshof**	**39.75**	**255**	*e*P	**P**	**14 41 33.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**52.01**	**36**	P	**P**	**14 43 10.3**	**0.0**
CMAR	**Chiang Mai Arr**	**52.01**	**36**	P	**P**	**14 43 10.4**	**0.0**
	2.0nm,0.8s,baz=225,slow=6.9,SNR=14						
CHTO	**Chiang Mai**	**52.30**	**35**	*e*P	**P**	**14 43 11.9**	**-0.6**
	1.7nm,0.7s						
ASAR	**Alice Springs**	**57.68**	**103**	P	**P**	**14 43 51.5**	**-0.1**
ASAR	**Alice Springs**	**57.68**	**103**	P	**P**	**14 43 51.5**	**-0.1**
	1.7nm,0.7s,baz=248,slow=6.5,SNR=20						
WRA	**Warramunga Arr**	**59.17**	**99**	P	**P**	**14 44 02.2**	**+0.2**
WRA	**Warramunga Arr**	**59.17**	**99**	P	**P**	**14 44 02.2**	**+0.2**
	1.5nm,0.8s,baz=256,slow=6.7,SNR=8.3						
STKA	**Stephens Creek**	**62.16**	**114**	P	**P**	**14 44 22.1**	**-0.1**
STKA	**Stephens Creek**	**62.16**	**114**	P	**P**	**14 44 22.1**	**-0.1**

1.3nm,0.9s,baz=132,slow=23,SNR=3.2
QSPA South Pole Qui 64.64 180 *e*P **P 14 44 36.7 -1.5**
7.7nm,1.1s
QSPA South Pole Qui 64.64 180 P **P 14 44 39.0 +0.8**
3.6nm,0.9s,baz=287,slow=3.2,SNR=7.1
VNDA Vanda 65.72 166 P **P 14 44 45.4 +0.6**
VNDA Vanda 65.72 166 P **P 14 44 45.4 +0.6**
2.8nm,1.0s,baz=293,slow=7.4,SNR=4.2
MKAR Makanchi Array 72.81 9 P **P 14 45 28.8 -0.2**
MKAR Makanchi Array 72.81 9 P **P 14 45 28.8 -0.2**
1.6nm,0.8s,baz=190,slow=6.2,SNR=10
BRTR Keskin Array B 73.19 332 P **P 14 45 32.5 +0.9**
BRTR Keskin Array B 73.19 332 P **P 14 45 32.5 +0.9**
1.4nm,0.8s,baz=148,slow=6.4,SNR=6.3
ABKAR Akbulak array 74.94 353 *e*P **P 14 45 40.4 -1.0**
1.2nm,0.7s
TORD Torodi Ar. Bea 76.73 292 P **P 14 45 53.4 +0.9**
TORD Torodi Ar. Bea 76.73 292 P **P 14 45 53.4 +0.9**
1.3nm,0.9s,baz=120,slow=4.2,SNR=4.8
SONM Songino Array 80.01 24 P **P 14 46 10.6 +0.6**
SONM Songino Array 80.01 24 P **P 14 46 10.6 +0.6**
1.3nm,0.9s,baz=202,slow=5.2,SNR=8.4
ZALV Zalesovo Beam 80.15 9 P **P 14 46 10.2 -0.2**
ZALV Zalesovo Beam 80.15 9 P **P 14 46 10.3 -0.2**
0.4nm,0.3s,baz=217,slow=3.6,SNR=4.0
AKASG Malin Array Be 83.96 335 P **P 14 46 30.1 -0.3**
AKASG Malin Array Be 83.96 335 P **P 14 46 30.1 -0.3**
0.2nm,0.3s,baz=150,slow=4.4,SNR=5.0
YKA Yellowknife Ar 142.88 3 PKP **PKPdf 14 53 33.1 -0.5**
YKA Yellowknife Ar 142.88 3 PKP **PKPdf 14 53 33.1 -0.5**
0.2nm,0.7s,baz=322,slow=3.2,SNR=5.0

IDC ***14*** *14:52:14.8±1.0, 11.5′54N×142.46′E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/24, mbtmp3.6/7, Error ellipse: s-maj=36.6km s-min=22.6km az=102.0*
ISCJB ***14*** *14:52:16.9±0.9, 11.5′54N±0.1′×142.4′E±0.2, h25km, mb3.6/7, Error ellipse: s-maj=34.7km s-min=19.2km az=5.6*
ISC 14 14:52:18.6±1.1, 11.5′54N±0.2′×142.4′E±0.3, h25km, n7, σ1§45/7, mb3.4/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.27**	**194**	P	**P**		**P**	**14 58 46.0**	**+0.5**
1.0nm,1.0s,baz=16,slow=9.6,SNR=4.5									
ASAR	**Alice Springs**	**35.96**	**193**	P	**P**		**P**	**14 59 17.8**	**+0.3**
0.3nm,0.8s,baz=26,slow=11,SNR=4.2									
CMAR	**Chiang Mai Arr**	**42.50**	**285**	P	**P**		**P**	**15 00 11.3**	**-1.0**
0.5nm,0.7s,baz=82,slow=6.6,SNR=3.7									
SONM	**Songino Array**	**47.11**	**327**	P	**P**		**P**	**15 00 50.4**	**+1.7**
0.2nm,0.7s,baz=120,slow=8.5,SNR=2.2									
ILAR	**Eielson Array**	**71.43**	**25**	P	**P**		**P**	**15 03 37.6**	**+1.1**
1.2nm,0.6s,baz=251,slow=5.9,SNR=27									
YKA	**Yellowknife Ar**	**85.77**	**27**	P	**P**		**P**	**15 04 53.8**	**-1.7**
0.1nm,0.4s,baz=280,slow=4.5,SNR=2.5									
FINES	**FINESS Array B**	**92.01**	**334**	P	**P**		**P**	**15 05 24.5**	**-0.6**
0.6nm,0.5s,baz=54,slow=3.7,SNR=4.7									

ISK ***14*** *15:00:29.9, 36.54N×43.38E, h2km, MD3.0*
DDA ***14*** *15:00:32.6, 36.68N×43.28E, h7km, ML3.9*
CSEM ***14*** *15:00:32.2±0.9, 36.61N×43.32E, h2km, MD3.0, Error ellipse: s-maj=17.7km s-min=8.5km az=148.0*
ISC 14 15:00:32.4±2.5, 36.7N±0.1×43.28E±0.05, h1km±13km, n20, σ0§61/33, Iraq

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.65**	**24**	*e*PG	**Pg**		**Sb**	**15 00 44.8**	**0.0**
CUKT				*e*SG	**Sb**		**Sb**	**15 00 55.7**	**-0.5**
CUKT	**Cukurca**	**0.65**	**24**	*e*Pg	**Pg**		**Sb**	**15 00 44.8**	**0.0**
CUKT				*e*Sg	**Sb**		**Sb**	**15 00 55.7**	**-0.5**
HAKT	**HAKKARI**	**0.96**	**21**	*i* P	**Pg**		**Sb**	**15 00 50.9**	**0.0**
HAKT				*i* S	**Sb**		**Sb**	**15 01 05.5**	**0.0**
HAKT	**HAKKARI**	**0.96**	**21**	*i* P	**Pg**		**Sb**	**15 00 50.9**	**0.0**
HAKT				*i* S	**Sb**		**Sb**	**15 01 05.5**	**0.0**
SIRN	**S¨–rnak**	**1.09**	**321**	*i* P	**Pb**		**Sb**	**15 00 53.1**	**-1.1**
SIRN				*i* S	**Sb**		**Sb**	**15 01 08.9**	**-0.1**
SIRN	**S¨–rnak**	**1.09**	**321**	*i* P	**Pb**		**Sb**	**15 00 53.1**	**-1.1**
SIRN				*i* S	**Sb**		**Sb**	**15 01 08.9**	**-0.1**
GEVA	**Gevas**	**1.67**	**354**	*e*P	**Pn**		**Sb**	**15 01 03.2**	**+0.3**
GEVA				*i* S	**Sg**		**Sg**	**15 01 26.7**	**+0.8**
GEVA	**Gevas**	**1.67**	**354**	*e*P	**Pn**		**Sb**	**15 01 03.2**	**+0.3**
GEVA				*e*S	**Sg**		**Sg**	**15 01 26.7**	**+0.8**
TVAN	**Van**	**1.87**	**3**	*e*P	**Pb**		**Sb**	**15 01 07.2**	**-0.4**
TVAN	**Van**	**1.87**	**3**	*e*P	**Pb**		**Sb**	**15 01 07.2**	**-0.4**
BEST	**Besiri**	**2.02**	**308**	*i* P	**Pn**		**Sb**	**15 01 08.5**	**+0.7**
BEST				*i* S	**Sg**		**Sg**	**15 01 37.8**	**+0.3**
BTMT	**Batman**	**2.10**	**318**	*e*PN	**Pn**		**Sb**	**15 01 09.0**	**+0.2**
BTMT				*e*SN	**Sb**		**Sb**	**15 01 37.5**	**-0.4**
BTMT	**Batman**	**2.10**	**318**	*e*Pn	**Pn**		**Sb**	**15 01 09.0**	**+0.2**
BTMT				*e*Sn	**Sb**		**Sb**	**15 01 37.5**	**-0.4**
MARD	**Mardin**	**2.11**	**289**	*i* P	**Pn**		**Sb**	**15 01 08.5**	**-0.5**
MARD				*i* S	**Sn**		**Sb**	**15 01 36.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.23**	**313**	*e*PN	**Pn**		**Sb**	**15 01 11.0**	**+0.3**
MAZI	**Mazidag**	**2.41**	**290**	*e*PN	**Pn**		**Sb**	**15 01 13.1**	**0.0**
MAZI	**Mazidag**	**2.41**	**290**	*e*Pn	**Pn**		**Sb**	**15 01 13.1**	**0.0**
DIY	**Diyarbakir**	**2.73**	**298**	*e*Pn	**Pn**		**Sb**	**15 01 19.2**	**+1.7**
DYBB	**Diyarbakir**	**2.82**	**298**	*e*PN	**Pn**		**Sb**	**15 01 19.2**	**+0.5**
DIYA	**Diyarbakir**	**2.82**	**298**	*i* P	**Pb**		**Sb**	**15 01 24.5**	**+0.9**
DIYA				*i* S	**Sg**		**Sg**	**15 02 02.1**	**-1.0**

IDC 14 15:01:32.3±4.2, 16.78S×176.36W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=183.8km s-min=32.3km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.89**	**241**	P	P		P	15 09 16.6	+0.2
1.5nm,0.7s,baz=98,slow=10,SNR=7.7									
WRA	**Warramunga Arr**	**46.77**	**258**	P	P		P	15 10 03.4	-0.5
0.3nm,0.3s,baz=95,slow=7.4,SNR=8.5									
ASAR	**Alice Springs**	**46.98**	**253**	P	P		P	15 10 05.5	-0.1
3.0nm,0.4s,baz=89,slow=7.8,SNR=85									
ILAR	**Eielson Array**	**84.36**	**12**	P	P		P	15 14 06.0	0.0
0.2nm,0.5s,baz=220,slow=5.7,SNR=8.0									

JMA ***14*** *15:09:44.9±0.1, 24.12N×121.70E, h53km±1km, M3.1*
TAP ***14*** *15:09:45.6, 24.15N×121.72E, h52km, ML3.8, B*
ISCJB ***14*** *15:09:46.0±0.3, 24.14N±0.02×121.77E±0.02, h51km±4km, Error ellipse: s-maj=3.4km s-min=2.2km az=43.4*
ISC 14 15:09:46.5±1.2, 24.15N±0.02×121.76E±0.02, h46km±6km, n71, σ0§90/128, 1C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.16**	**246**	⇓*i*P	**Pn**		**Pn**	**15 09 54.0**	**-0.2**
TWD				*i* S	**Sn**		**Sn**	**15 09 59.9**	**+0.3**
EHP	**Heping Village**	**0.17**	**355**	*e*P	**Pn**		**Pn**	**15 09 54.1**	**-0.2**
baz=9.0									
HWA	**Hwalien**	**0.22**	**220**	*e*P	**Pn**		**Pn**	**15 09 54.6**	**0.0**
baz=202									
HWA				*e*S	**Sn**		**Sn**	**15 10 01.1**	**+0.8**
baz=202									
ENA	**Nanau**	**0.28**	**357**	⇓*i*P	**Pn**		**Pn**	**15 09 55.0**	**-0.2**
baz=2.0									
ENA				*e*S	**Sn**		**Sn**	**15 10 02.3**	**+1.0**
baz=2.0									
ESF	**Shoufeng Towns**	**0.35**	**220**	*e*P	**Pn**		**Pn**	**15 09 56.6**	**+0.7**
baz=225									
ESL	**Shilin**	**0.44**	**222**	⇓*e*P	**Pn**		**Pn**	**15 09 55.7**	**-1.2**
baz=223									
ESL				*e*S	**Sn**		**Sn**	**15 10 03.1**	**-1.1**
baz=223									
WHF	**Hehuan Shan**	**0.45**	**270**	⇓*i*P	**Pn**		**Pn**	**15 09 56.7**	**-0.7**
baz=265									
WHF				S	**Sn**		**Sn**	**15 10 04.2**	**-0.8**
baz=265									
NNS	**Nan Shan**	**0.46**	**310**	⇓*i*P	**Pn**		**Pn**	**15 09 56.5**	**-0.6**
baz=309									
NNS				S	**Sn**		**Sn**	**15 10 04.1**	**-0.7**
baz=309									
TWC	**Suao**	**0.47**	**10**	⇓*i*P	**Pn**		**Pn**	**15 09 57.4**	**+0.1**
baz=21									
TWC				*e*S	**Sn**		**Sn**	**15 10 05.8**	**+1.0**
baz=21									
TEGC	**Jichi Village**	**0.48**	**205**	*e*P	**Pn**		**Pn**	**15 09 58.4**	**+1.1**
baz=191									
ENTT	**Nioudou**	**0.52**	**341**	⇓*i*P	**Pn**		**Pn**	**15 09 57.4**	**-0.5**
baz=339									
ENTT				S	**Sn**		**Sn**	**15 10 05.9**	**-0.1**
baz=339									
TWT	**Tachien**	**0.54**	**282**	⇓P	**Pn**		**Pn**	**15 09 58.1**	**-0.1**
baz=281									
TWT				*i* S	**Sn**		**Sn**	**15 10 06.6**	**-0.1**
baz=281									
TWE	**Neicheng**	**0.58**	**352**	⇓*i*P	**Pn**		**Pn**	**15 09 58.2**	**-0.4**
baz=350									
TWE				*e*S	**Sn**		**Sn**	**15 10 07.7**	**+0.4**
baz=350									
ILA	**Ilan**	**0.62**	**359**	*e*P	**Pn**		**Pn**	**15 09 59.3**	**+0.2**
baz=357									
ILA				*e*S	**Sn**		**Sn**	**15 10 08.9**	**+0.8**
baz=357									
NSK	**Sanguang**	**0.64**	**326**	⇓*i*P	**Pn**		**Pn**	**15 09 58.9**	**-0.6**
baz=328									
NSK				*i* S	**Sn**		**Sn**	**15 10 08.2**	**-0.6**
baz=328									
EGS		**0.71**	**13**	P	**Pn**		**Pn**	**15 10 00.8**	**+0.5**
baz=26									
EGS				*e*S	**Sn**		**Sn**	**15 10 11.0**	**+0.7**
baz=26									
EHY	**Hungye**	**0.75**	**212**	*e*P	**Pn**		**Pn**	**15 09 59.6**	**-1.2**
baz=209									
SMLT	**Sun Moon Lake**	**0.82**	**252**	P	**Pn**		**Pn**	**15 10 01.5**	**-0.4**
baz=244									
SMLT				S	**Sn**		**Sn**	**15 10 12.9**	**-0.3**
baz=244									
NSTT	**Nanjuang**	**0.84**	**305**	P	**Pn**		**Pn**	**15 10 01.9**	**-0.1**
baz=306									
NSTT				S	**Sn**		**Sn**	**15 10 13.3**	**-0.1**
baz=306									
TWA	**Mucha**	**0.85**	**349**	*e*P	**Pn**		**Pn**	**15 10 01.9**	**-0.2**
baz=342									
TWA				*e*S	**Sn**		**Sn**	**15 10 13.3**	**-0.2**
baz=342									
TYC	**Yuchr**	**0.86**	**254**	*e*P	**Pn**		**Pn**	**15 10 01.9**	**-0.3**
baz=248									
TYC				S	**Sn**		**Sn**	**15 10 13.7**	**0.0**
baz=248									
TWB1	**Santiao Chiao**	**0.89**	**14**	*e*P	**Pn**		**Pn**	**15 10 03.3**	**+0.6**
baz=25									
TWB1				*e*S	**Sn**		**Sn**	**15 10 15.6**	**+1.2**
baz=25									
TWF1	**Yuli**	**0.89**	**208**	*e*P	**Pn**		**Pn**	**15 10 01.1**	**-1.6**
baz=213									
TAP1	**Taipei**	**0.92**	**347**	*e*P	**Pn**		**Pn**	**15 10 02.6**	**-0.4**
baz=348									
TAP	**Taipei**	**0.92**	**346**	*e*P	**Pn**		**Pn**	**15 10 02.9**	**-0.2**
baz=348									
TAP				*e*S	**Sn**		**Sn**	**15 10 14.8**	**-0.4**
baz=348									
TWQ1	**Liyutan**	**0.92**	**283**	⇑*i*P	**Pn**		**Pn**	**15 10 02.9**	**-0.2**
baz=292									
TWQ1				*e*S	**Sn**		**Sn**	**15 10 15.7**	**+0.4**
baz=292									
NWF	**Wu-fen Shan**	**0.92**	**1**	*e*P	**Pn**		**Pn**	**15 10 03.0**	**-0.2**
baz=354									
NWF				*e*S	**Sn**		**Sn**	**15 10 16.0**	**+0.5**
baz=354									
NSY	**Sanyi**	**0.95**	**287**	P	**Pn**		**Pn**	**15 10 03.5**	**0.0**
baz=286									
NSY				*e*S	**Sn**		**Sn**	**15 10 16.0**	**0.0**
baz=286									
HSN	**Hsinchu**	**0.97**	**313**	*e*P	**Pn**		**Pn**	**15 10 03.7**	**-0.1**
baz=316									
HSN				*e*S	**Sn**		**Sn**	**15 10 16.5**	**0.0**
baz=316									
NCU	**National Centr**	**0.97**	**328**	*e*P	**Pn**		**Pn**	**15 10 03.6**	**-0.2**
baz=329									
NCU				*e*S	**Sn**		**Sn**	**15 10 16.5**	**0.0**
baz=329									
YUS	**Yu-Shan**	**0.98**	**229**	P	**Pn**		**Pn**	**15 10 04.3**	**-0.1**
baz=217									
YUS				*e*S	**Sn**		**Sn**	**15 10 17.7**	**+0.2**
baz=217									
TCU	**Taichung**	**0.99**	**270**	*e*P	**Pn**		**Pn**	**15 10 03.9**	**-0.1**
baz=269									
TCU				*e*S	**Sn**		**Sn**	**15 10 17.3**	**+0.5**
baz=269									
TWS1	**Kuangyinshan**	**1.00**	**342**	*e*P	**Pn**		**Pn**	**15 10 03.5**	**-0.6**
baz=344									
TWS1				*e*S	**Sn**		**Sn**	**15 10 16.7**	**-0.5**
baz=344									
WNT	**Mingjian**	**1.02**	**255**	*e*P	**Pn**		**Pn**	**15 10 04.9**	**+0.5**
baz=253									
WNT				*e*S	**Sn**		**Sn**	**15 10 18.7**	**+1.2**
baz=253									
ALS	**Alishan**	**1.08**	**234**	*e*P	**Pn**		**Pn**	**15 10 05.7**	**+0.2**
baz=225									
ALS				*e*S	**Sn**		**Sn**	**15 10 20.2**	**+0.8**
baz=225									
CHKT	**Chengkung**	**1.10**	**199**	*e*P	**Pn**		**Pn**	**15 10 05.0**	**-0.5**
baz=186									
CHN5	**Tsauling**	**1.13**	**241**	*e*P	**Pn**		**Pn**	**15 10 06.1**	**+0.1**
baz=230									
CHN5				*e*S	**Sn**		**Sn**	**15 10 21.6**	**+1.2**
baz=230									
TWY	**Chenhua**	**1.14**	**353**	*e*P	**Pn**		**Pn**	**15 10 06.1**	**+0.1**
baz=344									
ELDTW	**Lidau**	**1.17**	**216**	*e*P	**Pn**		**Pn**	**15 10 05.4**	**-1.2**
baz=205									
ELDTW				*e*S	**Sn**		**Sn**	**15 10 20.5**	**-0.9**
baz=205									
WGK	**Gukeng**	**1.18**	**248**	*e*P	**Pn**		**Pn**	**15 10 07.3**	**+0.6**
baz=245									
WGK				*e*S	**Sn**		**Sn**	**15 10 23.2**	**+1.5**
baz=245									
YOJ	**Yonaguni jima**	**1.19**	**74**	P	**Pn**		**Pn**	**15 10 06.4**	**-0.3**
YOJ				S	**Sn**		**Sn**	**15 10 22.3**	**+0.6**
YOJ	**Yonaguni jima**	**1.19**	**74**	⇓*i*P	**Pn**		**Pn**	**15 10 06.3**	**-0.5**
baz=76									
YOJ				S	**Sn**		**Sn**	**15 10 22.1**	**+0.4**
baz=76									
CHN2	**Minshiung**	**1.32**	**243**	*e*P	**Pn**		**Pn**	**15 10 09.4**	**+0.9**
baz=232									
CHN2				*e*S	**Sn**		**Sn**	**15 10 26.6**	**+1.6**
baz=232									
CHN4	**Tsaushan**	**1.33**	**234**	P	**Pn**		**Pn**	**15 10 09.4**	**+0.8**
baz=231									
CHN4				*e*S	**Sn**		**Sn**	**15 10 27.2**	**+2.0**
baz=231									
STYT	**Tauyuan**	**1.34**	**223**	*e*P	**Pn**		**Pn**	**15 10 09.3**	**+0.5**
baz=221									
STYT				*e*S	**Sn**		**Sn**	**15 10 26.7**	**+1.1**
baz=221									
WTCT	**Ta-ch'eng**	**1.38**	**259**	*e*P	**Pn**		**Pn**	**15 10 08.7**	**-0.6**
baz=257									
WTCT				*e*S	**Sn**		**Sn**	**15 10 26.5**	**+0.1**
baz=257									
WTP	**Ta-pu**	**1.38**	**230**	*e*P	**Pn**		**Pn**	**15 10 09.8**	**+0.4**
baz=227									
WTP				*e*S	**Sn**		**Sn**	**15 10 27.3**	**+0.9**
baz=227									
CHY	**Chiayi**	**1.38**	**242**	*e*P	**Pn**		**Pn**	**15 10 10.0**	**+0.7**
baz=230									
CHY				*e*S	**Sn**		**Sn**	**15 10 27.2**	**+0.7**
baz=230									
TWK	**Hsinying**	**1.45**	**233**	*e*P	**Pn**		**Pn**	**15 10 10.9**	**+0.5**
baz=231									
TWK				*e*S	**Sn**		**Sn**	**15 10 29.4**	**+1.0**
baz=231									
TWG	**Pinlang**	**1.46**	**206**	*e*P	**Pn**		**Pn**	**15 10 09.2**	**-1.3**
baz=193									
TWG				*e*S	**Sn**		**Sn**	**15 10 25.9**	**-2.6**
baz=193									
CHN1	**Nanshi**	**1.48**	**230**	*e*P	**Pn**		**Pn**	**15 10 11.2**	**+0.5**
baz=228									
CHN1				*e*S	**Sn**		**Sn**	**15 10 29.8**	**+1.0**
baz=228									
WSF	**Szhu**	**1.49**	**251**	*e*P	**Pn**		**Pn**	**15 10 10.7**	**-0.1**
baz=260									
WSF				*e*S	**Sn**		**Sn**	**15 10 30.1**	**+1.0**
baz=260									
TTN	**Taitung**	**1.49**	**202**	*e*P	**Pn**		**Pn**	**15 10 11.3**	**+0.4**
baz=192									
SGST	**Jiashian**	**1.51**	**226**	*e*P	**Pn**		**Pn**	**15 10 11.8**	**+0.7**
baz=217									
SGST				*e*S	**Sn**		**Sn**	**15 10 30.4**	**+0.8**
baz=217									
CHN8	**Yiju**	**1.62**	**241**	*e*P	**Pn**		**Pn**	**15 10 12.9**	**+0.2**
baz=228									
CHN8				*e*S	**Sn**		**Sn**	**15 10 34.0**	**+1.5**
baz=228									
CHN3	**Shinhua**	**1.66**	**230**	*e*P	**Pn**		**Pn**	**15 10 13.8**	**+0.6**
baz=229									
CHN3				*e*S	**Sn**		**Sn**	**15 10 34.1**	**+0.7**
baz=229									
ECL	**Taimali**	**1.71**	**206**	*e*P	**Pn**		**Pn**	**15 10 12.0**	**-1.9**
baz=197									
SCLT	**Jiali**	**1.73**	**236**	*e*P	**Pn**		**Pn**	**15 10 14.4**	**+0.3**
baz=224									
SCLT				*e*S	**Sn**		**Sn**	**15 10 35.3**	**+0.4**
baz=224									
SSD	**Sandimen**	**1.73**	**217**	*e*P	**Pn**		**Pn**	**15 10 14.9**	**+0.7**
baz=206									
SSD				*e*S	**Sn**		**Sn**	**15 10 36.0**	**+0.9**
baz=206									
TWM1	**Shoushan**	**1.80**	**223**	*e*P	**Pn**		**Pn**	**15 10 15.8**	**+0.7**
baz=221									
IRIF	**Iriomote-Funau**	**1.81**	**84**	P	**Pn**		**Pn**	**15 10 14.7**	**-0.6**
IRIF				S	**Sn**		**Sn**	**15 10 36.7**	**-0.3**
SGLT	**Jiouru**	**1.83**	**220**	*e*P	**Pn**		**Pn**	**15 10 17.0**	**+1.5**
baz=218									
SGLT				*e*S	**Sn**		**Sn**	**15 10 41.0**	**+3.5**
baz=218									
HATJ	**Hateruma jima**	**1.88**	**92**	P	**Pn**		**Pn**	**15 10 16.3**	**+0.2**
HATJ				S	**Sn**		**Sn**	**15 10 39.5**	**+0.9**
EAST	**Anshuo**	**1.94**	**206**	*e*P	**Pn**		**Pn**	**15 10 17.2**	**+0.1**
baz=196									
SCZT	**Fangliau**	**2.05**	**211**	*e*P	**Pn**		**Pn**	**15 10 19.6**	**+1.1**
baz=222									
SCZT				*e*S	**Sn**		**Sn**	**15 10 43.7**	**+0.7**
baz=222									
JKRS	**Kuro-shima**	**2.06**	**87**	P	**Pn**		**Pn**	**15 10 18.9**	**+0.2**
JKRS				S	**Sn**		**Sn**	**15 10 43.9**	**+0.8**
PNG	**Penghu**	**2.10**	**255**	*e*P	**Pn**		**Pn**	**15 10 17.3**	**-1.9**
baz=253									
PNG				*e*S	**Sn**		**Sn**	**15 10 41.4**	**-2.6**
baz=253									
LAY	**Lan-yu**	**2.10**	**185**	*e*P	**Pn**		**Pn**	**15 10 17.9**	**-1.4**
baz=177									
LAY				*e*S	**Sn**		**Sn**	**15 10 42.5**	**-1.8**
baz=177									
JIJ	**Ishigaki jima**	**2.19**	**84**	P	**Pn**		**Pn**	**15 10 19.8**	**-0.7**
JIJ				S	**Sn**		**Sn**	**15 10 45.3**	**-1.1**
JTJ	**Tarama**	**2.73**	**79**	P	**Pn**		**Pn**	**15 10 27.9**	**0.0**
KNM	**Kinmen**	**3.04**	**276**	*e*P	**Pn**		**Pn**	**15 10 31.1**	**-1.1**
baz=273									

IDC ***14*** *15:18:25.3±1.7, 7.82S×118.49E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/22, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=142.3km s-min=19.2km az=57.0*
ISCJB ***14*** *15:18:28.5±1.7, 7.6S±0.5×118.8E±0.8, h33km, mb3.6/5, Error ellipse: s-maj=131.5km s-min=15.3km az=146.2*
ISC 14 15:18:30.8±1.7, 7.7S±0.5×118.7E±0.8, h35km, n6, σ0§59/7, mb3.6/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**130**	P	**P**		**P**	**15 22 53.7**	**-0.4**
0.1nm,0.3s,baz=303,slow=13,SNR=10									
ASAR	**Alice Springs**	**21.53**	**139**	P	**P**		**P**	**15 23 18.1**	**+0.9**
0.6nm,0.5s,baz=314,slow=9.0,SNR=16									
ASAR				PcP	**PcP**		**PcP**	**15 27 18.9**	**-0.1**
0.3nm,0.6s,baz=315,slow=1.1,SNR=6.5									
STKA	**Stephens Creek**	**32.12**	**142**	P	**P**		**P**	**15 24 54.6**	**-0.3**
0.4nm,0.4s,baz=311,slow=11,SNR=3.6									
SONM	**Songino Array**	**56.37**	**350**	P	**P**		**P**	**15 28 09.0**	**+0.4**
0.4nm,0.8s,baz=147,slow=5.8,SNR=3.0									
MKAR	**Makanchi Array**	**63.19**	**333**	P	**P**		**P**	**15 28 55.2**	**-0.3**
0.6nm,0.8s,baz=138,slow=7.5,SNR=6.0									
ZALV	**Zalesovo Beam**	**67.75**	**339**	P	**P**		**P**	**15 29 24.5**	**-0.2**
0.5nm,0.3s,baz=130,slow=5.8,SNR=3.7									

DJA ***14*** *16:02:45.4±1.6, 5.5S×13.4E±1.7, h10km, M4.6/5, mb4.9/5, mB5.0/3, MLv4.4/5, Mw(mB)4.3/3*
IDC ***14*** *16:02:46.4±1.2, 5.02S×133.72E, h0km, mb3.6/4, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.1/3, Error ellipse: s-maj=69.4km s-min=18.4km az=66.0*
ISCJB ***14*** *16:02:47.7±0.6, 4.91S±0.05×133.95E±0.08, h28km, mb3.5/4, Error ellipse: s-maj=11.8km s-min=6.8km az=165.5*
ISC 14 16:02:49.6±0.8, 4.95S±0.08×134.0E±0.1, h28km, n18, σ2§57/19, mb3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.67**	**319**	P	**P**		**Pn**	**16 03 27.8**	**-3.0**
FAKI	**Fak Fak**	**2.67**	**319**	P	**P**		**Pn**	**16 03 27.8**	**-3.0**
baz=2.8,SNR=33									
SRPI	**Serui, Papua**	**3.79**	**36**	P	**P**		**Pn**	**16 03 46.2**	**0.0**
SWI	**Sorong**	**4.90**	**326**	P	**P**		**Pn**	**16 03 58.8**	**-2.6**
NLAI	**Namlea**	**7.09**	**284**	P	**P**		**Pn**	**16 04 34.4**	**+2.9**
41nm,0.5s,612nm0.2nm									
LBMI	**Labuha**	**7.78**	**303**	P	**P**		**Pn**	**16 04 41.6**	**+0.6**
34nm,1.0s,0.2nm									
KDU	**Kakadu**	**7.83**	**191**	P	**P**		**Pn**	**16 04 44.2**	**+2.4**
baz=8.5,SNR=30									
MTN	**Manton Dam**	**8.34**	**200**	P	**P**		**Pn

DZM 104nm,0.4s eSn Sn 16 26 45.5 -2.5
DZM 980nm,1.4s eLR LR 16 27 16.0
DZM 6µm,23.6s **Mont Dzumac 9.95 179** *e*Pn **Pn 16 24 57.2 -0.4**
DZM 58nm,0.6s eSn Sn 16 26 42.4 -5.6
DZM Sn Sn 16 27 03.4 +15
DZM **Mont Dzumac 9.95 179** Pn **Pn 16 24 57.3 -0.4**
4.7nm,0.3s,baz=20,slow=18,SNR=69
DZM Sn Sn 16 27 03.4 +15
2.8nm,0.3s,baz=313,slow=19,SNR=3.5
DZM LR LR 16 27 59.2
comp=Z,2µm,19.7s,baz=16,slow=33
NOUC **Port Laguerre 9.98 180** *e*P **Pn 16 24 58.8 +0.8**
BAYA **Yate Dam 10.05 177** *e*S Sn 16 27 10.6 +20
MSVF **Nonsavu 12.68 118** Pn **P 16 25 42.0 -2.8**
1µm,1.2s,SNR=9.7
MSVF **Nonsavu 12.68 118** *e*P P 16 25 40.4 -4.4
MSVF **Nonsavu 12.68 118** *e*Pn P 16 25 40.4 -4.4
TARA **Tarawa 14.87 27** *e*Pn **Pn 16 26 06.3 +1.9**
PMG **Port Moresby 18.98 276** *e*P **P 16 26 54.6 0.0**
148nm,1.4s
PMG **Port Moresby 18.98 276** P **P 16 26 54.2 -0.3**
0.8nm,0.3s,baz=96,slow=10,SNR=6.0
PMG LR LR 16 33 55.6
comp=Z,4µm,19.7s,baz=106,slow=36
PMG **Port Moresby 18.98 276** ⇓P **P 16 26 54.5 0.0**
baz=19
EIDS **Eidsvold 19.53 225**⇓ *e*P **Pn 16 27 01.6 -0.6**
276nm,1.7s
EIDS **Eidsvold 19.53 225** ⇑P **P 16 27 00.5 0.0**
baz=19,SNR=14
LHI **Lord Howe Isla 20.48 198** ⇓P **P 16 27 11.3 +0.6**
baz=20,SNR=3.2
CTA **Charters Tower 20.83 245** P **P 16 27 13.6 -1.0**
CTA **Charters Tower 20.83 245** P **P 16 27 13.6 -1.0**
40nm,1.0s,baz=75,slow=12,SNR=20
CTA LR LR 16 34 31.6
comp=Z,3µm,19.0s,baz=64,slow=34
CTAO **Charters Tower 20.83 245** *e*P **P 16 27 14.2 -0.4**
CTAO pmax pmax
comp=Z,105nm,1.2s
CTAO **Charters Tower 20.83 245** *e*P **P 16 27 14.2 -0.4**
comp=Z,105nm,1.2s
AFI **Afiamalu 21.45 97** P **P 16 27 22.8 +1.5**
AFI **Afiamalu 21.45 97** LR LR 16 34 20.3
comp=Z,4µm,18.9s,baz=275,slow=33
RMQ **Roma 21.86 226** ⇓P **P 16 27 25.4 -0.2**
baz=22,SNR=39
MTSU **Mount Surprise 22.05 251** ⇑P **P 16 27 27.5 -0.2**
baz=22
COEN **Coen 22.60 263** *e*P **P 16 27 33.0 -0.7**
comp=Z,572nm,1.1s
COEN **Coen 22.60 263** ⇓P **P 16 27 33.8 +0.2**
baz=22,SNR=7.7
ARMA **Armidale 22.76 214** *e*P **P 16 27 36.0 +0.7**
comp=Z,231nm,1.9s
ARMA **Armidale 22.76 214** ⇑P **P 16 27 35.6 +0.3**
baz=23,SNR=22
MGCD **Mangrove Creek 25.22 211** ⇑P **P 16 27 59.5 +1.4**
baz=25
QLP **Quilpie 25.27 232** ⇑P **P 16 27 57.9 -0.8**
baz=25,SNR=5.6
RIV **Riverview 25.69 210** ⇓P **P 16 28 04.9 +2.5**
baz=26
QIS **Mount Isa 26.94 248** ⇑P **P 16 28 14.5 +0.6**
baz=27,SNR=10
CMSA **Cobar Meteorol 27.14 221** ⇓P **P 16 28 17.6 +2.2**
baz=27,SNR=64
YNG **Young 27.48 213** ⇑P **P 16 28 21.7 +3.1**
baz=27
CNB **Canberra Magne 27.77 211** ⇑P **P 16 28 22.2 +1.0**
baz=28
CAN **Canberra 27.96 211** P **P 16 28 24.3 +1.4**
CAN pmax pmax
comp=Z,31nm,1.4s
CAN **Canberra 27.96 211** P **P 16 28 24.3 +1.4**
comp=Z,31nm,1.4s
CAN **Canberra 27.96 211** ⇓P **P 16 28 25.6 +2.7**
baz=28
SMPI **Sarmi 29.11 288** P **P 16 28 32.6 -0.7**
comp=Z,64nm,1.1s
MILA **Mila 29.26 209** ⇑P **P 16 28 36.2 +1.7**
baz=29,SNR=4.7
STKA **Stephens Creek 30.09 225** *e*P **P 16 28 42.9 +1.1**
comp=Z,6.5nm,1.0s
STKA **Stephens Creek 30.09 225** P **P 16 28 42.6 +0.9**
comp=Z,9.6nm,1.0s,baz=31,slow=9.8,SNR=17
STKA LR LR 16 40 08.4
comp=Z,4µm,20.7s,baz=60,slow=35
STKA **Stephens Creek 30.09 225** ⇑P **P 16 28 42.5 +0.7**
baz=30,SNR=16
TOO **Toolangi 31.50 213** ⇑P **P 16 28 55.5 +1.4**
baz=31,SNR=8.5
WRAB **Tennant Creek 31.64 252** P **P 16 28 55.9 +0.3**
comp=Z,98nm,2.0s,SNR=6.7
WRAB **Tennant Creek 31.64 252** *e*P **P 16 28 55.2 -0.4**
WRAB *e* 16 31 45.5
WRAB pmax pmax
comp=Z,123nm,2.0s
WRAB **Tennant Creek 31.64 252** *e*P **P 16 28 55.2 -0.4**
comp=Z,123nm,2.0s
WRAB *e*PcP **PcP 16 31 45.5 -1.4**
WRA **Warramunga Arr 31.65 252** P **P 16 28 55.0 -0.7**
WRA PcP **PcP 16 31 46.8 -0.1**
WRA ScP **ScP 16 35 30.6 +4.6**
WRA **Warramunga Arr 31.65 252** P **P 16 28 55.0 -0.7**
comp=Z,5.5nm,1.0s,baz=84,slow=8.7,SNR=24
WRA PcP **PcP 16 31 46.8 -0.1**
comp=Z,8.5nm,1.0s,baz=80,slow=2.3,SNR=9.9
WRA ScP **ScP 16 35 30.6 +4.6**
comp=Z,2.3nm,1.1s,baz=74,slow=4.0,SNR=8.1
WRA LR LR 16 41 23.8
comp=Z,2µm,18.6s,baz=90,slow=36
RPZ **Rata Peaks 31.80 173** *e*P **P 16 28 57.7 +1.0**
comp=Z,62nm,0.9s
RPZ **Rata Peaks 31.80 173** P **P 16 28 58.0 +1.3**
comp=Z,21nm,0.8s,baz=312,slow=4.0,SNR=8.5
RPZ LR LR 16 41 59.9
comp=Z,2µm,18.3s,baz=343,slow=37
AS17 **Alice Springs 32.75 245** ⇓P **P 16 29 04.3 -1.1**
baz=32
AS01 **Alice Springs 32.79 245** *e*P **P 16 29 04.3 -1.4**
AS01 *e*PcP **PcP 16 31 49.8 -0.2**
HTT **Hallett 32.83 225** ⇑P **P 16 29 07.1 +1.2**
baz=33,SNR=8.2
AS31 **Alice Springs 32.83 245** *e*P **P 16 29 04.2 -1.8**
AS31 *e*PcP **PcP 16 31 48.8 -1.3**
ASAR **Alice Springs 32.83 245** P **P 16 29 04.9 -1.2**
ASAR PcP **PcP 16 31 49.8 -0.3**
ASAR ScP **ScP 16 35 34.6 +4.7**
ASAR **Alice Springs 32.83 245** P **P 16 29 04.9 -1.2**
comp=Z,8.3nm,0.8s,baz=70,slow=9.2,SNR=75
ASAR PcP **PcP 16 31 49.8 -0.3**
comp=Z,10.0nm,1.0s,baz=79,slow=2.5,SNR=9.8
ASAR ScP **ScP 16 35 34.6 +4.7**
comp=Z,1.1nm,1.0s,baz=57,slow=3.4,SNR=2.7
ASAR LR LR 16 41 56.5
comp=Z,2µm,18.1s,baz=84,slow=35
ARPS **Mount Arapiles 32.99 218** ⇑P **P 16 29 09.0 +1.8**
baz=33
KDU **Kakadu 33.03 265** ⇑P **P 16 29 07.2 -0.6**
baz=33,SNR=7.8
ODZ **Otahua Downs 33.08 174** *e*P P 16 29 15.1 +7.3
DCZ **Deep Cove 33.31 179** *e*P **P 16 29 09.4 -0.4**
comp=Z,118nm,1.2s
RAR **Rarotonga 33.70 110** LR LR 16 40 38.0
comp=Z,1µm,19.2s,baz=260,slow=32
MTN **Manton Dam 34.33 265** ⇑P **P 16 29 17.7 -1.4**
baz=34,SNR=12
BBOO **Buckleboo 34.54 228** *e*P **P 16 29 20.9 +0.1**
comp=Z,270nm,0.9s
BBOO **Buckleboo 34.54 228** ⇓P **P 16 29 22.2 +1.4**
baz=34
TAU **Tasmania Unive 34.86 205** P P 16 29 27.9 +4.5
TAU pmax pmax
comp=Z,43nm,1.2s
TAU **Tasmania Unive 34.86 205** P P 16 29 27.9 +4.5
comp=Z,43nm,1.2s
KNRA **Kununurra 36.58 260** ⇓P **P 16 29 38.3 -0.1**
baz=36,SNR=6.1
WRKA **Warakurna 38.12 245** ⇓P **P 16 29 50.6 -0.8**
baz=38,SNR=22
FORT **Forrest 39.91 236** *e*P **P 16 30 07.5 +1.3**
FORT *e* 16 30 19.1
FORT **Forrest 39.91 236** ⇓P **P 16 30 07.7 +1.4**
baz=40
SANI **Sanana 41.16 281** P **P 16 30 17.4 +0.6**
comp=Z,49nm,0.9s,comp=Z,954nm
PPT **Papeete 42.94 103** LR LR 16 45 38.8
comp=Z,2µm,18.3s,baz=264,slow=32
PPT2 **Papeete2 42.94 103** *e*S S 16 37 09.3 +16
comp=Z,1µm,27.0s
PPT2 *e*LQ LQ 16 40 52.0
comp=Z,4µm,27.2s
PPT2 *e*LR LR 16 42 43.3
comp=Z,3µm,25.8s,baz=270
TBI **Tubuai 43.46 111** *e*S S 16 37 13.1 +13
comp=Z,723nm,27.8s
TBI *e*LQ LQ 16 41 05.2
comp=Z,3µm,31.0s
TBI *e*LR LR 16 42 52.5
comp=Z,1µm,26.5s,baz=292
KMSI **Cibinong 43.84 284** P **P 16 30 39.5 +0.9**
comp=Z,293nm,1.3s,comp=Z,4µm
KMBL **Kambalda 45.15 238** ⇑P **P 16 30 49.6 +0.8**
baz=45
APSI **Ampana 45.64 281** P **P 16 30 54.4 +1.5**
comp=Z,101nm,1.2s,comp=Z,1µm
BNSI **Bone 46.28 275** P **P 16 30 59.2 +1.2**
comp=Z,59nm,1.0s
MEEK **Meekatharra 46.99 245** ⇓P **P 16 31 03.1 -0.4**
baz=47,SNR=5.8
KLBR **Kellerberrin 48.62 238** ⇑P **P 16 31 16.2 +0.2**
baz=48
MORW **Morawa 49.61 242** ⇓P **P 16 31 24.1 +0.5**
baz=49,SNR=5.8
KKM **Kota Kinabalu 52.94 287** *e*P **P 16 31 45.8 -3.1**
comp=Z,73nm,1.1s
MJAR **Matsushiro Arr 55.12 332** P **P 16 32 02.2 -1.9**
MJAR **Matsushiro Arr 55.12 332** P **P 16 32 02.3 -1.9**
comp=Z,5.4nm,0.9s,baz=162,slow=7.4,SNR=6.9
MAJO **Matsushiro 55.12 332** P **P 16 32 01.6 -2.6**
MAJO pmax pmax
comp=Z,25nm,1.2s
MAJO **Matsushiro 55.12 332** P **P 16 32 01.6 -2.6**
comp=Z,25nm,1.2s
MAT **Matsushiro 55.12 332** P **P 16 32 02.5 -1.7**
MAT S **S 16 39 39.8 -3.5**
JNU **Nakatsue 56.22 324** *e*P **P 16 32 11.2 -0.9**
comp=Z,32nm,0.9s
JNU **Nakatsue 56.22 324** P **P 16 32 11.4 -0.7**
comp=Z,24nm,0.8s,baz=105,slow=4.9,SNR=9.2
JNU LR LR 16 54 20.3
comp=Z,464nm,20.2s,baz=114,slow=34
RKT **Rikitea 56.74 110** *e*S S 16 40 18.7 +13
comp=Z,610nm,28.5s
RKT *e*SS SS 16 44 09.0 +15
comp=Z,414nm,29.8s
RKT *e*LQ LQ 16 46 38.0
comp=Z,1µm,30.0s
RKT *e*LR LR 16 48 57.1
comp=Z,1µm,23.0s,baz=284
LEM **Lembang 58.03 269** ⇓P **P 16 32 26.9 +1.4**
baz=58
QZH **Quanzhou 59.30 309** P **P 16 32 34.0 +0.1**
QZH S **S 16 40 38.6 0.0**
QZH LR LR
comp=Z,870nm,12.4s
QZH LR LR
comp=Z,710nm,9.8s
QZH LR LR
comp=Z,1µm,18.6s
ASAJ **Asahikawa 59.93 340** LR LR 16 53 57.5
comp=Z,1µm,21.9s,baz=164,slow=32
SSE **Sheshan 60.95 316** P **P 16 32 44.1 -1.0**
SSE sP **sP 16 33 06.6 +0.9**
SSE PP **PP 16 34 58.9 -1.1**
SSE S **S 16 40 59.9 +0.3**
SSE pmax pmax
comp=Z,33nm,0.8s
SSE pmax pmax
comp=Z,280nm,10.4s
SSE LR LR
comp=Z,320nm,19.2s
SSE LR LR
comp=Z,530nm,19.2s
SSE LR LR
comp=Z,680nm,16.5s
KSRS **Korea Array 61.02 326** P **P 16 32 45.4 0.0**
comp=Z,8.9nm,0.7s,baz=137,slow=7.1,SNR=20
KSRS LR LR 16 56 27.2
comp=Z,267nm,21.3s,baz=118,slow=33
KSAR **Wonju Array Be 61.03 326** P **P 16 32 45.4 -0.1**
KS01 **Wonju Array Si 61.05 326** *e*P **P 16 32 44.9 -0.7**
YSS **Yuzh-Sakhalins 62.42 342** *e*P P 16 32 50.0 -4.6
YSS *e*S S 16 41 09.0 -8.5
YSS *e*SSS SSS 16 48 08.0
YSS pmax pmax
comp=Z,1µm,5.0s
NJ2 **Nanjing 63.12 315** *e*P P 16 33 08.1 +8.5
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 LR LR
comp=Z,1µm,17.7s
QIZ **Qiongzhong 63.63 298** P **P 16 33 03.3 0.0**
QIZ pP **pP 16 33 18.1 +0.1**
QIZ S **S 16 41 34.0 +0.2**
QIZ sS **sS 16 41 57.3 -1.2**
QIZ pmax pmax
comp=Z,36nm,2.1s
QIZ LR LR
comp=Z,380nm,30.8s
USRK **Ussuriysk Arra 64.09 333** P **P 16 33 06.3 +0.6**
comp=Z,19nm,1.0s,baz=135,slow=5.7,SNR=17
USRK LR LR 16 58 03.9
comp=Z,420nm,21.8s,baz=127,slow=33
FX1 **Attu Island--F 64.95 5** LR LR 16 55 47.8
comp=Z,552nm,21.9s,baz=214,slow=31
PETK **Petropavlovsk-** **65.33 354** LR LR 16 56 31.0
comp=Z,527nm,19.3s,baz=165,slow=31
WHN **Wuhan 65.47 312** *e*P **P 16 33 17.0 +2.0**
WHN S **S 16 41 55.3 -0.7**
WHN LR LR
comp=Z,580nm,5.0s
WHN LR LR
comp=Z,720nm,4.7s
WHN LR LR
comp=Z,2µm,20.8s
VNDA **Vanda 65.49 181** *e*P **P 16 33 15.4 +1.0**
comp=Z,71nm,1.4s
VNDA **Vanda 65.49 181** P **P 16 33 15.1 +0.6**
comp=Z,25nm,1.2s,baz=356,slow=7.6,SNR=14
VNDA LR LR 16 57 55.5
comp=Z,422nm,21.4s,baz=10.0,slow=32
MDJ **Mudanjiang 65.50 332** P **P 16 33 15.8 +0.9**
MDJ pP **pP 16 33 29.1 -0.6**
MDJ sP **sP 16 33 35.6 -0.1**
MDJ PP **PP 16 35 40.0 +0.2**
MDJ S **S 16 41 58.8 +3.0**
MDJ pmax pmax
comp=Z,26nm,1.4s
MDJ pmax pmax
comp=Z,410nm,4.8s
MDJ LR LR
comp=Z,440nm,9.8s
MDJ LR LR
comp=Z,160nm,4.9s
MDJ LR LR
comp=Z,510nm,6.5s
MDJ **Mudanjiang 65.50 332** *e*P **P 16 33 14.8 -0.1**
comp=Z,50nm,1.3s
SBA **Scott Base 65.78 180** *e*P **P 16 33 18.1 +1.8**
SBA pmax pmax
comp=Z,49nm,0.9s
SBA **Scott Base 65.78 180** *e*P **P 16 33 18.1 +1.8**
comp=Z,49nm,0.9s
BKNI **Bangkinang 65.90 276** *e*P **P 16 33 20.7 +2.5**
comp=Z,136nm,0.9s
HABR **Khabarovsk 66.33 338** *e*P **P 16 33 19.1 -1.0**
HABR *e**PP pP 16 33 29.3 -5.6
HABR *e**SP sP 16 33 33.4 -7.5
HABR 16 33 50.9
HABR *e* 16 35 44.6
HABR S **S 16 42 05.7 0.0**
HABR *e**SS sS 16 42 23.0 -7.6
HABR *e* 16 43 12.5
HABR eSS **SS 16 46 22.9 -0.4**
HABR pmax pmax
comp=N,91nm,2.5s
HABR pmax pmax
comp=E,86nm,2.5s
HABR pmax pmax
comp=Z,101nm,2.5s
HABR MLR MLR
comp=Z,336nm,17.0s
CN2 **Changchun 66.89 329** ⇑P **P 16 33 24.3 +0.5**
CN2 *e*sP **sP 16 33 46.3 +1.7**
CN2 *e*S **S 16 42 11.8 -1.0**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
IPM **Ipoh 66.92 280** *e*P **P 16 33 26.1 +1.4**
comp=Z,53nm,1.0s
KULM **Kulim 67.50 281** *e*P P 16 33 33.7 +5.3
comp=Z,43nm,1.4s
KULM *e*pP pP 16 33 34.2 -9.0
KLR **Kul'dur 68.20 336** *e*P P 16 33 28.2 -3.8
KLR pmax pmax
comp=Z,80nm,2.0s
ENH **Enshi 68.95 309** *e*P **P 16 33 36.5 -0.7**
comp=Z,22nm,0.8s
GYA **Guiyang 69.43 304** *e*P **P 16 33 41.8 +1.5**
GYA pP **pP 16 33 57.6 +2.4**
GYA sP **sP 16 34 04.0 +2.8**
GYA PP **PP 16 36 16.5 +2.0**
GYA S **S 16 42 43.0 -1.0**
GYA sS **sS 16 43 09.4 +0.4**
GYA SS **SS 16 47 12.8 +0.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.9s
GYA LR LR
comp=Z,560nm,19.4s
GYA LR LR
comp=Z,480nm,20.2s
GYA LR LR
comp=Z,540nm,19.8s
GSI **Gunungsitoli 69.50 276** *e*P **P 16 33 40.4 -0.5**
comp=Z,47nm,0.9s
GSI **Gunungsitoli 69.50 276** ⇓P **P 16 33 42.5 +1.7**
baz=69
BJT **Baijiatuan 69.60 321** *e*P **P 16 33 40.7 -0.2**
comp=Z,111nm,1.5s
BJI **Beijing 69.61 321** P **P 16 33 41.1 +0.2**
BJI PcP **PcP 16 34 04.5 +0.9**
BJI S **S 16 42 50.1 +4.8**
BJI ScS **SKSac 16 43 36.8 -0.3**
BJI SS **SS 16 47 11.9 -2.5**
BJI pmax pmax
comp=Z,22nm,1.3s
BJI pmax pmax
comp=Z,270nm,3.7s
BJI LR LR
comp=Z,1µm,22.2s
BJI LR LR
comp=Z,670nm,24.7s
BJI LR LR
comp=Z,820nm,25.6s
SLVN **Son La 69.66 298** P **P 16 33 42.3 +0.6**
comp=Z,13nm,1.3s
XAN **Xi'an 71.20 312** P **P 16 33 53.3 +2.4**
XAN S **S 16 43 07.3 +3.0**
XAN pmax pmax
comp=Z,7.0nm,1.8s
XAN LR LR
comp=Z,330nm,18.7s
XAN LR LR
comp=Z,110nm,21.9s
XAN LR LR
comp=Z,160nm,20.0s
KMI **Kunming 72.11 301** P **P 16 33 57.8 +1.1**
KMI pP **pP 16 34 11.6 -0.1**
KMI sP **sP 16 34 17.8 +0.1**
KMI S S 16 43 21.5 +6.1
KMI pmax pmax
comp=Z,24nm,1.5s
KMI pmax pmax
comp=Z,360nm,6.7s
KMI LR LR
comp=Z,220nm,21.1s
KMI LR LR
comp=Z,470nm,22.0s
KMI LR LR
comp=Z,540nm,19.2s
HHC **Hu-ho-hao-te 72.95 320** *e*P **P 16 34 01.8 +0.5**
HHC S **SKiKP 16 43 29.3 -0.6**
HHC ScS **SKKSac 16 44 03.8 +1.0**
HHC pmax pmax
comp=Z,53nm,1.6s
HHC pmax pmax
comp=Z,510nm,5.2s
HHC LR LR
comp=Z,980nm,22.1s
HHC LR LR
comp=Z,920nm,22.6s
HHC LR LR
comp=Z,2µm,22.9s
CM01 **Chiang Mai Arr 72.98 294** *e*P **P 16 34 02.3 +0.5**
CM31 **Chiang Mai Arr 73.01 294** *e*P **P 16 34 02.3 +0.4**
comp=Z,14nm,0.9s
CMAR **Chiang Mai Arr 73.01 294** P **P 16 34 02.9 +0.9**
CMAR **Chiang Mai Arr 73.01 294** P **P 16 34 02.9 +0.9**
comp=Z,4.4nm,0.8s,baz=125,slow=4.6,SNR=25
CMAR LR LR 17 06 33.3
comp=Z,184nm,19.1s,baz=125,slow=36
CHTO **Chiang Mai 73.12 294** *e*P **P 16 34 02.3 -0.4**
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CHTO **Chiang Mai 73.12 294** *e*P **P 16 34 02.3 -0.4**
comp=Z,5.7nm,1.3s
HIA **Hailar 73.52 330** *e*P **P 16 34 04.5 +0.1**
comp=Z,36nm,0.9s
CD2 **Chengdu 73.64 307** *e*P **P 16 34 06.3 +0.8**
CD2 sP **sP 16 34 28.3 +1.8**
CD2 PP **PP 16 36 52.9 +2.4**
CD2 S **S 16 43 31.8 -0.5**
CD2 sS **sS 16 43 58.0 +0.5**
CD2 ScS **SKSac 16 44 08.1 0.0**
CD2 SS **SS 16 48 15.8 -1.0**
CD2 pmax pmax
comp=Z,30nm,1.5s
CD2 pmax pmax
comp=Z,280nm,7.5s
CD2 LR LR
comp=Z,610nm,15.6s
CD2 LR LR
comp=Z,490nm,21.4s
CD2 LR LR
comp=Z,540nm,15.4s
SEY **Seymchan 75.54 353** *e*P **P 16 34 17.7 +2.0**
LZH **Lanzhou 75.83 312** P **P 16 34 20.3 +2.1**
LZH pP **pP 16 34 35.4 +2.1**
LZH S **S 16 44 00.3 +3.5**
LZH SS **SS 16 48 47.0 -3.2**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,220nm,5.5s
LZH LR LR
comp=Z,500nm,15.9s
LZH LR LR
comp=Z,1µm,17.7s
LZH LR LR
comp=Z,620nm,18.4s
QSPA **South Pole Qui 77.95 180** *e*P **P 16 34 29.4 -0.2**
comp=Z,70nm,1.1s
CIT **Chita 78.31 330** *e*P **P 16 34 32.4 +0.8**
CIT *e* 16 34 40.4
CIT *e* 16 34 46.8
CIT pmax pmax
comp=Z,219nm,1.9s
YAK **Yakutsk 79.22 343** *e*P **P 16 34 38.0 +1.7**
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK **Yakutsk 79.22 343** *e*P **P 16 34 36.3 0.0**
comp=N,27nm,0.9s

ULN	**Ulaanbaatar**	**79.44**	**324**	*e*P		**P**	**16 34 36.8**	**-1.2**
	comp=N,62nm,1.0s								
SONM	**Songino Array**	**79.80**	**324**	P		**P**	**16 34 40.2**	**+0.2**
SONM	**Songino Array**	**79.80**	**324**	P		**P**	**16 34 40.2**	**+0.2**
	comp=N,9.6nm,0.7s,baz=133,slow=5.3,SNR=47								
SONM				LR		LR	17 08 39.1		
	comp=N,397nm,20.9s,baz=127,slow=35								
SONA1	**Songino Array**	**79.80**	**324**	*e*P		**P**	**16 34 40.1**	**+0.1**
GTA	**Gaotai**	**80.15**	**314**	⇑P		**P**	**16 34 43.4**	**+1.3**
GTA				pP		**pP**	**16 34 57.4**	**+0.2**
GTA				sP		**sP**	**16 35 01.8**	**-1.3**
GTA				PP		**PP**	**16 37 47.8**	**+2.7**
GTA				S		**S**	**16 44 44.3**	**+1.2**
GTA				SKS		**SKSac**	**16 44 52.1**	**-3.3**
GTA				sS		**sS**	**16 45 06.8**	**-1.8**
GTA				SS		**SS**	**16 49 57.8**	**+2.9**
GTA				pmax	pmax				
	comp=N,25nm,1.9s								
GTA				pmax	pmax				
	comp=N,280nm,6.2s								
GTA				LR	LR				
	comp=N,350nm,17.6s								
GTA				LR	LR				
	comp=N,540nm,18.5s								
GTA				LR	LR				
	comp=N,540nm,19.5s								
PPLA	**Purkeypile**	**81.33**	**18**	*e*P		**P**	**16 34 45.8**	**-2.0**
	comp=N,111nm,2.3s								
SHL	**Shillong**	**81.47**	**298**	*e*P		P	16 34 53.0	+3.5	
CAST	**Castle Rocks**	**81.75**	**18**	*e*P		**P**	**16 34 51.2**	**+1.3**
	comp=N,5.8nm,0.8s								
CAST				*e*PP		**PP**	**16 38 01.4**	**+3.7**
KTH	**Kantishna Hill**	**82.20**	**18**	*e*P		P	16 34 48.2	-4.1	
	comp=N,55nm,2.3s								
KTH				*e*Pn		**PP**	**16 38 00.9**	**-0.5**
TRF	**Thorofare Moun**	**82.31**	**18**	*e*P		**P**	**16 34 52.4**	**-0.7**
	comp=N,83nm,2.4s								
TRF				*e*Pn		**PP**	**16 38 03.9**	**+1.4**
ZAK	**Zakamensk**	**82.84**	**325**	*e*P		**P**	**16 34 55.7**	**-0.3**
ZAK				pmax	pmax				
	comp=Z,26nm,1.5s								
MCK	**McKinley**	**82.94**	**18**	P		P	16 34 52.3	-3.8	
MCK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MCK	**McKinley**	**82.94**	**18**	P		P	16 34 52.2	-3.8	
	comp=Z,5.7nm,1.0s								
IRK	**Irkutsk**	**83.20**	**327**	*e*P		**P**	**16 34 57.4**	**-0.3**
IRK				*e*			16 38 03.2		
IRK				pmax	pmax				
	comp=Z,75nm,1.8s								
TLY	**Talaya**	**83.26**	**326**	P		**P**	**16 34 58.6**	**+0.5**
	comp=Z,185nm,0.9s,SNR=8.8								
TLY	**Talaya**	**83.26**	**326**	*e*P		**P**	**16 34 58.1**	**0.0**
TLY				*e*			16 35 06.5		
TLY				*e*S		S	16 45 08.4	-6.1	
TLY				pmax	pmax				
	comp=Z,67nm,1.5s								
TLY				MLR	MLR				
	comp=Z,247nm,17.0s								
TLY	**Talaya**	**83.26**	**326**	*e*P		**P**	**16 34 57.0**	**-1.1**
	comp=Z,82nm,1.4s								
LSA	**Lhasa**	**83.35**	**302**	P		**P**	**16 34 59.5**	**-0.1**
LSA				pmax	pmax				
	comp=Z,8.0nm,0.8s								
LSA	**Lhasa**	**83.35**	**302**	P		**P**	**16 34 59.5**	**-0.1**
	comp=Z,8.4nm,0.8s								
MAW	**Mawson**	**83.98**	**202**	*e*P		**P**	**16 35 01.5**	**+0.1**
	comp=Z,12nm,1.5s								
MAW	**Mawson**	**83.98**	**202**	P		**P**	**16 35 02.1**	**+0.6**
	comp=Z,18nm,1.2s,baz=124,slow=8.2,SNR=5.8								
MAW				LR		LR	17 05 25.8		
	comp=Z,388nm,21.9s,baz=98,slow=31								
COLA	**College**	**84.08**	**18**	*e*P		**P**	**16 35 01.8**	**-0.1**
COLA				pmax	pmax				
	comp=Z,18nm,1.4s								
COLA	**College**	**84.08**	**18**	*e*P		**P**	**16 35 01.8**	**-0.1**
	comp=Z,18nm,1.4s								
IL1	**Eielson Array**	**84.31**	**18**	*e*P		**P**	**16 35 01.4**	**-1.7**
ILAR	**Eielson Array**	**84.31**	**18**	P		**P**	**16 35 02.2**	**-0.9**
ILAR	**Eielson Array**	**84.31**	**18**	P		**P**	**16 35 02.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=225,slow=5.0,SNR=12								
ILAR				LR		LR	17 12 47.1		
	comp=Z,498nm,18.0s,baz=221,slow=36								
MOY	**Mondy**	**84.72**	**325**	*e*P		**P**	**16 35 05.5**	**-0.1**
MOY				pmax	pmax				
	comp=Z,60nm,2.8s								
BBB	**Bella Bella**	**85.11**	**34**	LR		LR	17 08 50.0		
	comp=Z,2μm,18.0s,baz=250,slow=33								
WHFM	**Hanning Flat**	**85.38**	**52**	*e*PKiKP		**PKiKP**	**16 40 18.3**	**-1.6**
WLHM	**Little Horse**	**85.55**	**52**	*e*P		P	16 35 15.6	+5.3	
TAPN	**Taplejung**	**85.56**	**299**	*e*P		**P**	**16 35 10.6**	**0.0**
	comp=Z,88nm,1.4s								
ODAN	**Odare**	**85.71**	**298**	*e*P		**P**	**16 35 11.5**	**+0.2**
	comp=Z,70nm,1.1s								
EML	**El Monte Cty P**	**85.71**	**55**	*e*P		**P**	**16 35 12.6**	**+1.8**
BLKC	**Black Mountain**	**86.07**	**53**	*e*P		**P**	**16 35 13.0**	**+0.4**
EGAK	**Eagle**	**86.15**	**20**	*e*P		**P**	**16 35 11.8**	**-0.5**
	comp=Z,6.1nm,0.6s								
CBKC	**Canebrake**	**86.19**	**55**	*e*PKiKP		**PKiKP**	**16 40 20.0**	**-1.2**
NV01	**Mina Array Sit**	**86.27**	**50**	*e*P		**P**	**16 35 14.0**	**+0.2**
NVAR	**Mina Array Bea**	**86.27**	**50**	P		**P**	**16 35 11.5**	**-2.3**
NVAR	**Mina Array Bea**	**86.27**	**50**	P		**P**	**16 35 11.5**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=234,slow=4.3,SNR=2.3								
NVAR				LR		LR	17 08 07.0		
	comp=Z,2μm,19.1s,baz=80,slow=32								
RAMN	**Ramite**	**86.41**	**298**	*e*P		**P**	**16 35 15.3**	**+0.6**
	comp=Z,32nm,1.0s								
JIRN	**Jiri**	**86.95**	**299**	*e*P		**P**	**16 35 17.7**	**+0.2**
	comp=Z,56nm,1.2s								
DLBC	**Dease Lake**	**87.05**	**28**	LR		LR	17 11 09.5		
	comp=Z,684nm,18.0s,baz=246,slow=34								
TIXI	**Tiksi**	**87.19**	**349**	P		**P**	**16 35 17.0**	**-0.2**
TIXI				pmax	pmax				
	comp=Z,15nm,1.3s								
TIXI	**Tiksi**	**87.19**	**349**	P		**P**	**16 35 17.0**	**-0.2**
	comp=Z,15nm,1.3s								
GUN	**Gumba**	**87.28**	**299**	*e*P		**P**	**16 35 18.9**	**-0.2**
	comp=Z,29nm,0.8s								
PKI	**Pulchoki**	**87.59**	**299**	*e*P		**P**	**16 35 20.3**	**-0.3**
	comp=Z,59nm,1.1s								
PKIN	**Phulchoki**	**87.61**	**299**	*e*P		**P**	**16 35 19.7**	**-0.9**
KKN	**Kakani**	**87.76**	**299**	*e*P		**P**	**16 35 20.9**	**-0.3**
	comp=Z,55nm,1.3s								
DMN	**Daman**	**87.86**	**299**	*e*P		**P**	**16 35 21.8**	**0.0**
	comp=Z,106nm,1.0s								
GKN	**Gorkha**	**88.36**	**299**	*e*P		**P**	**16 35 23.4**	**-0.6**
	comp=Z,53nm,1.0s								
HVS	**Khovu-Aksy**	**88.67**	**323**	*d i*P		**P**	**16 35 25.3**	**+0.4**
KOLN	**Koldanda**	**89.20**	**298**	*e*P		**P**	**16 35 26.9**	**-1.1**
	comp=Z,34nm,0.9s								
DANN	**Dangsing**	**89.20**	**299**	*e*P		**P**	**16 35 27.5**	**-0.6**
	comp=Z,36nm,0.7s								
WMQ	**Urumqi**	**90.19**	**315**	P		**P**	**16 35 32.0**	**-0.1**
WMQ				PP		**PP**	**16 39 08.3**	**+1.8**
WMQ				S		**S**	**16 46 18.3**	**-3.7**
WMQ				SS		**SS**	**16 52 21.6**	**-0.8**
WMQ				pmax	pmax				
	comp=Z,44nm,1.2s								
WMQ				pmax	pmax				
	comp=Z,490nm,4.4s								
WMQ				LR	LR				
	comp=Z,100nm,6.2s								
WMQ				LR	LR				
	comp=Z,280nm,11.4s								
WMQ				LR	LR				
	comp=Z,410nm,21.7s								
INK	**Inuvik**	**90.69**	**19**	P		**P**	**16 35 31.6**	**-2.1**
INK	**Inuvik**	**90.69**	**19**	LR		LR	17 15 09.8		
	comp=Z,528nm,18.5s,baz=222,slow=35								
SYO	**Syowa Base**	**90.97**	**197**	⇑*e*P		**P**	**16 35 33.6**	**-1.6**
HVU	**Hansel Valley**	**91.29**	**48**	*e*P		P	16 35 40.6	+3.2	
HVU				*e**PP		pP	16 35 47.1	-5.7	
HVU	**Hansel Valley**	**91.29**	**48**	*e*P		P	16 35 40.6	+3.2	
HVU				*e*pP		pP	16 35 47.1	-5.7	
HYB	**Hyderabad**	**91.43**	**287**	*i* P		**P**	**16 35 39.0**	**+0.6**
PDAR	**Pinedale Array**	**93.85**	**47**	LR		LR	17 13 35.6		
	comp=Z,724nm,19.0s,baz=264,slow=33								
MK01	**Makanchi Array**	**94.61**	**317**	*e*P		**P**	**16 35 52.6**	**+0.1**
MK31	**Makanchi Array**	**94.63**	**317**	*e*P		**P**	**16 35 52.6**	**+0.1**
MK31	**Makanchi Array**	**94.63**	**317**	*e*P		**P**	**16 35 52.6**	**+0.1**
MKAR	**Makanchi Array**	**94.63**	**317**	*ce*P		**P**	**16 35 52.7**	**+0.2**
MKAR				pmax	pmax				
	comp=Z,27nm,0.7s								
MKAR	**Makanchi Array**	**94.63**	**317**	*e*P		**P**	**16 35 52.8**	**+0.3**
MKAR				PP		**PP**	**16 39 37.9**	**-3.4**
MKAR	**Makanchi Array**	**94.63**	**317**	P		**P**	**16 35 52.6**	**+0.2**
	comp=Z,27nm,0.7s,baz=93,slow=6.5,SNR=64								
MKAR				PP		**PP**	**16 39 37.9**	**-3.4**
	comp=Z,0.5nm,0.9s,baz=120,slow=6.0,SNR=2.8								
MKAR				LR		LR	17 17 04.4		
	comp=Z,300nm,21.8s,baz=83,slow=35								
ZAA0	**Zalesovo Array**	**94.69**	**324**	*e*P		**P**	**16 35 51.1**	**-1.4**
ZALV	**Zalesovo Beam**	**94.69**	**324**	*i* P		**P**	**16 35 51.9**	**-0.6**
ZALV				pmax	pmax				
	comp=Z,8.0nm,0.7s								
ZALV	**Zalesovo Beam**	**94.69**	**324**	P		**P**	**16 35 51.6**	**-1.0**
ZALV	**Zalesovo Beam**	**94.69**	**324**	P		**P**	**16 35 51.6**	**-1.0**
	comp=Z,12nm,0.9s,baz=108,slow=4.7,SNR=16								
ZALV				LR		LR	17 16 45.4		
	comp=Z,337nm,21.9s,baz=80,slow=34								
YKA	**Yellowknife Ar**	**95.63**	**27**	P		**P**	**16 35 54.0**	**-2.6**
YKA	**Yellowknife Ar**	**95.63**	**27**	P		**P**	**16 35 54.0**	**-2.6**
	comp=Z,0.1nm,0.5s,baz=259,slow=4.6,SNR=4.7								
NVS	**Novosibirsk**	**95.80**	**325**	*e*P		P	16 35 52.8	-4.8	
NVS				pmax	pmax				
	comp=Z,34nm,1.8s								
NVS				pmax	pmax				
	comp=E,23nm,1.9s								
TXAR	**Lajitas Array**	**95.84**	**61**	LR		LR	17 12 33.4		
	comp=E,831nm,19.7s,baz=0.0,slow=31								
SNAA	**Sanae**	**96.14**	**183**	*e*P		**P**	**16 35 58.4**	**-0.6**
	comp=E,10nm,1.0s								
KURK	**Kurchatov**	**97.76**	**320**	*e*P		**P**	**16 36 05.3**	**-1.3**
KURK				pmax	pmax				
	comp=Z,4.0nm,1.7s								
KSH	**Kashi**	**97.81**	**309**	*e*P		Pdif	16 36 11.5	+4.2	
KSH				*e*PP		PP	16 40 13.1	+6.9	
KSH				*e*SKS		**SKSac**	**16 46 41.3**	**+0.6**
KSH				*e*S		**ScS**	**16 47 30.3**	**+0.8**
KSH				pmax	pmax				
	comp=Z,6.0nm,1.2s								
KSH				pmax	pmax				
	comp=Z,140nm,4.8s								
KSH				LR	LR				
	comp=Z,86nm,5.6s								
KSH				LR	LR				
	comp=Z,120nm,6.3s								
KSH				LR	LR				
	comp=Z,150nm,4.8s								
AAK	**Ala-Archa**	**99.37**	**312**	*e*P		**Pdif**	**16 36 14.2**	**0.0**
AAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AAK	**Ala-Archa**	**99.37**	**312**	LR		LR	17 20 39.6		
	comp=Z,207nm,20.3s,baz=77,slow=35								
ARCES	**ARCESS Array B**	**117.45**	**345**	PKP		**PKPdf**	**16 41 15.9**	**-0.5**
ARCES	**ARCESS Array B**	**117.45**	**345**	PKP		**PKPdf**	**16 41 15.9**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=82,slow=2.0,SNR=39								
ZEI	**Tsey**	**121.76**	**313**	*i* PKIKP		**PKPdf**	**16 41 25.5**	**-0.3**
ZEI				pmax	pmax				
	comp=Z,4.0nm,1.0s								
OBN	**Obninsk**	**121.95**	**329**	*e*PKIKP		**PKPdf**	**16 41 26.4**	**+1.0**
OBN				*e*			16 43 00.5		
OBN				pmax	pmax				
	comp=Z,5.0nm,1.5s								
KBZ	**Khabaz**	**122.23**	**314**	PKIKP		**PKPdf**	**16 41 26.7**	**+0.3**
KBZ	**Khabaz**	**122.23**	**314**	PKP		**PKPdf**	**16 41 26.7**	**+0.3**
KBZ	**Khabaz**	**122.23**	**314**	PKP		**PKPdf**	**16 41 26.7**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=90,slow=7.1,SNR=3.8								
RAYN	**Ar Rayn**	**122.82**	**290**	*e*PKPdf		**PKPdf**	**16 41 28.9**	**+0.7**
FINES	**FINESS Array B**	**122.91**	**339**	PKP		**PKPdf**	**16 41 26.5**	**-0.7**
FINES	**FINESS Array B**	**122.91**	**339**	PKP		**PKPdf**	**16 41 26.5**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=38,slow=3.4,SNR=8.6								
SOC	**Sochi**	**124.49**	**315**	*i* PKIKP		**PKPdf**	**16 41 32.6**	**+1.9**
SOC				*e*			16 43 18.3		
SOC				*e*PS		PS	16 53 07.2	-10	
BOSA	**Boshof**	**124.73**	**222**	PKP		**PKPdf**	**16 41 32.0**	**+0.1**
BOSA	**Boshof**	**124.73**	**222**	PKP		**PKPdf**	**16 41 32.0**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=114,slow=3.5,SNR=5.5								
KMBO	**Kilima Mbogo**	**127.73**	**259**	*e*PKPdf		**PKPdf**	**16 41 39.5**	**+1.4**
KMBO	**Kilima Mbogo**	**127.73**	**259**	PKP		**PKPdf**	**16 41 39.1**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=103,slow=4.7,SNR=9.3								
NOA	**NORSAR Array B**	**127.82**	**345**	PKP		**PKPdf**	**16 41 35.9**	**-0.7**
NOA	**NORSAR Array B**	**127.82**	**345**	PKP		**PKPdf**	**16 41 35.9**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=33,slow=2.1,SNR=2.6								
AKASG	**Malin Array Be**	**128.00**	**327**	PKIKP		**PKPdf**	**16 41 37.2**	**0.0**
AKASG							16 43 39.2		
AKASG	**Malin Array Be**	**128.00**	**327**	PKP		**PKPdf**	**16 41 37.2**	**0.0**
AKASG				PP		**PP**	**16 43 39.1**	**-1.1**
AKASG	**Malin Array Be**	**128.00**	**327**	PKP		**PKPdf**	**16 41 37.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=43,slow=2.0,SNR=10								
AKASG				PP		**PP**	**16 43 39.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=48,slow=7.3,SNR=5.1								
KIEV	**Kiev**	**128.02**	**327**	*e*PKIKP		**PKPdf**	**16 41 37.1**	**-0.1**
AK11	**Malin Array Si**	**128.05**	**327**	*e*PKPdf		**PKPdf**	**16 41 37.2**	**-0.1**
BRTR	**Keskin Array B**	**130.04**	**312**	PKP		**PKPdf**	**16 41 41.0**	**-0.7**
BRTR				SKPbc		**SKiKP**	**16 45 08.0**	**-6.2**
BRTR	**Keskin Array B**	**130.04**	**312**	PKP		**PKPdf**	**16 41 41.0**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=57,slow=2.2,SNR=5.8								
BRTR				SKPbc		**SKiKP**	**16 45 08.0**	**-6.2**
	comp=Z,1.0nm,0.9s,baz=82,slow=2.1,SNR=3.5								
LSZ	**Lusaka**	**130.42**	**238**	*e*PKPdf		**PKPdf**	**16 41 44.3**	**+1.3**
BR231	**Keskin MP Arra**	**130.62**	**313**	*e*PKPdf		**PKPdf**	**16 41 39.2**	**-3.5**
BUR04	**Bucovina Ar. S**	**131.90**	**325**	*e*PKPdf		**PKPdf**	**16 41 46.4**	**+1.5**
DPC	**Dobruska-Polom**	**134.59**	**333**	*e*PKiKP		PKPdf	16 41 56.7	+6.9	
DPC	**Dobruska-Polom**	**134.59**	**333**	*e*PKP		PKPdf	16 41 56.7	+6.9	
DPC				AMS		AMS	17 40 20.0		
BRG	**Berggiesshubel**	**135.21**	**335**	*e*P		PKPdf	16 42 03.8	+13	
	comp=Z,12nm,1.6s								
BRG	**Berggiesshubel**	**135.21**	**335**	*e*PKIKP		PKPdf	16 42 03.8	+13	
BRG				pmax	pmax				
	comp=Z,12nm,1.6s								
CLL	**Collm**	**135.25**	**336**	*e*PKIKP		**PKPdf**	**16 41 50.0**	**-0.9**
CLL				MLR	MLR				
	comp=Z,500nm,21.4s								
CLL	**Collm**	**135.25**	**336**	*e*PKPdf		**PKPdf**	**16 41 50.0**	**-0.9**
CLL				*e*PKiKP		**PKiKP**	**16 41 53.0**	**+0.6**
CLL				*es*PKiKP		sPKiKP	16 42 07.0	-7.1	
CLL				*e*			16 42 12.0		
CLL				*e*SSS		SSS	17 07 18.0		
CLL				Lm		MLR	17 41 00.0		
	comp=Z,500nm,21.4s								
CONA	**Conrad Observa**	**136.54**	**331**	⇑*i* PKPdf		**PKPdf**	**16 41 52.0**	**-1.6**
	comp=Z,7.3nm,1.7s								
KHC	**Kasperske Hory**	**136.69**	**334**	*e*PKIKP		**PKPdf**	**16 41 58.4**	**+4.7**
KHC				*e*			16 42 05.6		
KHC				MLR	MLR				
	comp=Z,600nm,18.8s								
KHC	**Kasperske Hory**	**136.69**	**334**	*e*PKP		**PKPdf**	**16 41 58.4**	**+4.7**
KHC				*ep*PKP		**pPKPdf**	**16 42 05.6**	**-4.1**
KHC				AMS		AMS	17 40 40.0		
	comp=Z,600nm,18.8s								
GERES	**GERESS Array B**	**136.85**	**334**	PKP		**PKPdf**	**16 41 55.5**	**+1.4**
GERES				SKP			16 45 30.7		
GERES	**GERESS Array B**	**136.85**	**334**	PKP		**PKPdf**	**16 41 55.5**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=20,slow=1.1,SNR=5.2								
GERES				SKP			16 45 30.7		
	comp=Z,1.1nm,0.9s,baz=18,slow=3.4,SNR=5.1								
FETA	**Feichten**	**139.53**	**334**	⇑*i* PKPdf		**PKPdf**	**16 41 57.3**	**-1.9**
	comp=Z,8.4nm,1.5s								
KEST	**Kesra**	**148.55**	**322**	*e*PKPdf		**PKPbc**	**16 42 18.6**	**-0.1**
KEST	**Kesra**	**148.55**	**322**	PKPbc		**PKPbc**	**16 42 18.6**	**-0.1**
	comp=Z,10nm,1.0s,baz=71,slow=1.7,SNR=13								
MSKU	**Masuku**	**149.63**	**245**	*e*PKPdf		**PKPdf**	**16 42 17.5**	**0.0**
MSKU				*e*PKPbc		**PKPbc**	**16 42 22.2**	**+0.2**
ESDC	**Sonseca Array**	**151.18**	**344**	PKPbc		**PKPbc**	**16 42 23.8**	**-1.3**
ESDC				PKPab		**PKPab**	**16 42 33.5**	**+0.6**
ESDC	**Sonseca Array**	**151.18**	**344**	PKPbc		**PKPbc**	**16 42 23.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=14,slow=5.7,SNR=4.8								
ESDC				PKPab		**PKPab**	**16 42 33.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=15,slow=4.4,SNR=4.3								
TOC2	**Torodi Ar. Sit**	**164.90**	**276**	⇓P		**PKPdf**	**16 42 36.5**	**+0.1**
baz=165									
TOA0	**Torodi Ar. Sit**	**164.93**	**276**	*e*PKPdf		**PKPdf**	**16 42 35.6**	**-0.8**
TOA0				*e*PKPab		**PKPab**	**16 43 33.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**164.93**	**276**	PKP		**PKPdf**	**16 42 36.5**	**+0.1**
TORD				PKPab		**PKPab**	**16 43 34.3**	**+1.4**
TORD	**Torodi Ar. Bea**	**164.93**	**276**	PKP		**PKPdf**	**16 42 36.5**	**+0.1**
	comp=Z,5.8nm,1.1s,baz=99,slow=1.0,SNR=16								
TORD				PKPab		**PKPab**	**16 43 34.3**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=82,slow=3.1,SNR=5.2								
KIC	**Kosan Boka**	**169.49**	**238**	*e*PKP2		PKPab	16 44 00.8	+7.7	
	comp=Z,30nm,0.9s								
LIC	**Lamto**	**169.65**	**237**	*e*PKP2		PKPab	16 44 01.5	+7.7	
	comp=Z,43nm,1.0s								
DBIC	**Dimbokro**	**169.75**	**239**	PKPab		**PKPab**	**16 43 53.0**	**-1.2**
DBIC	**Dimbokro**	**169.75**	**239**	PKPab		**PKPab**	**16 43 53.0**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=147,slow=2.9,SNR=2.0								
TIC	**Toumodi**	**169.88**	**239**	*e*PKP2		PKPab	16 44 02.4	+7.6	
	comp=Z,6.6nm,0.2s								

DJA 14 16:25:18.2±0.9, 9.9°S±14.7ᵡ, 10.8°E±.5ᵡ, h68km±25km, M4.2/11, mb4.3/3, MLv4.1/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.24**	**16**	P		Pn	16 25 40.0	+0.2
CISI	**Cisompet, Garu**	**1.46**	**348**	P		Pn	16 25 42.4	-0.2
LEM	**Lembang**	**2.20**	**347**	P		Pn	16 25 54.6	+1.8
SKJI	**Sukabumi**	**2.50**	**322**	P		Pn	16 25 55.7	-0.9
UGM	**Wanagama**	**2.62**	**66**	P		Pn	16 25 57.7	-0.5
UGM				S		Sn	16 26 30.6	+1.6
WOJI	**Wonogiri, Jawa**	**3.01**	**68**	P		Pn	16 26 03.7	+0.2
PCJI	**Pacitan**	**3.13**	**76**	S		Sn	16 26 42.4	+0.9
PWJI	**Pagerwojo**	**3.78**	**76**	P		Pn	16 26 14.4	+0.4
KASI	**Kota Agung**	**4.97**	**314**	P		Pn	16 26 30.6	+0.3
GMJI	**Gumukmas**	**5.32**	**83**	P		Pn	16 26 35.5	+0.4
	57nm,1.6s,0.4nm							
MDSI	**Maura Dua**	**5.94**	**319**	P		Pn	16 26 42.3	-1.3
	13nm,1.4s,0.1nm							
JAGI	**Jajag, Banyuwa**	**6.00**	**86**	P		Pn	16 26 43.7	-0.7

IDC 14 16:32:16.0±0.7, 12.°04S×166.°35E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.3/22, mbtmp4.3/15, ML4.4/2, Error ellipse: s-maj=24.5km s-min=17.1km az=104.0
ISCJB 14 16:32:19.5±0.5, 12.°09S±0.°07×166.°06E±0.°09, h30km, mb4.5/20, Error ellipse: s-maj=12.8km s-min=9.0km az=164.9
NEIC 14 16:32:21.0±0.4, 12.°14S×166.°29E, h35km, mb4.7/9, Error ellipse: s-maj=12.6km s-min=9.2km az=94.0

ISC 14 16:32:20.7±0.5, 12.°09S±0.°06×166.°17E±0.°09, h30km, n61, σ1s29/70, mb4.6/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.66**	**293**	Pn		**Pn**	**16 33 57.9**	**+1.4**
HNR				Sn		**Sn**	**16 35 08.7**	**-2.7**
HNR	**Honiara**	**6.66**	**293**	Pn		**Pn**	**16 33 57.9**	**+1.4**
	20nm,0.3s,baz=150,slow=2.8,SNR=16							
HNR				Sn		**Sn**	**16 35 08.7**	**-2.7**
	8.1nm,0.3s,baz=316,slow=23,SNR=6.7							
HNR	**Honiara**	**6.66**	**293**	*e*P		**Pn**	**16 33 57.0**	**+0.5**
DZM	**Mont Dzumac**	**9.93**	**179**	Pn		**Pn**	**16 34 39.3**	**-2.2**
DZM				Sn		**Sn**	**16 36 29.8**	**-2.2**
DZM				*e*S		**Sn**	**16 36 31.1**	**-1.0**
DZM	**Mont Dzumac**	**9.93**	**179**	Pn		**Pn**	**16 34 42.6**	**+1.1**
	1.4nm,0.3s,baz=0.4,slow=18,SNR=17							
DZM				Sn		**Sn**	**16 36 29.8**	**-2.2**
	baz=120,slow=20,SNR=1.9							
CTA	**Charters Tower**	**20.70**	**245**	P		**P**	**16 36 59.4**	**+0.7**
CTA	**Charters Tower**	**20.70**	**245**	P		**P**	**16 36 59.4**	**+0.7**
	5.9nm,0.9s,baz=69,slow=14,SNR=5.0							
CTAO	**Charters Tower**	**20.70**	**245**	*e*P		Pn	16 37 00.1	-1.1
	8.0nm,0.8s							
URZ	**Urewera**	**27.83**	**161**	*e*P		P	16 38 00.7	-6.7	
STKA	**Stephens Creek**	**29.99**	**225**	P		**P**	**16 38 28.4**	**+1.7**
	0.8nm,0.8s							
STKA	**Stephens Creek**	**29.99**	**225**	P		**P**	**16 38 28.8**	**+2.1**
	2.4nm,0.8s,baz=33,slow=9.6,SNR=4.7							
WRAB	**Tennant Creek**	**31.52**	**252**	*e*P		**P**	**16 38 38.3**	**-2

KOZT	**Kozan**	**1.31**	**346**	*e*PN		**Pn**	**17 15 21.7**	**-0.9**
KOZT	**Kozan**	**1.31**	**346**	*e*Pn		**Pn**	**17 15 21.7**	**-0.9**
KMRS	**Kahramanmaras**	**1.40**	**22**	*e*PN		**Pb**	**17 15 23.7**	**-0.7**
KMRS				*e*SN		**Sn**	**17 15 41.9**	**-0.7**
KMRS	**Kahramanmaras**	**1.40**	**22**	*e*Pn		**Pb**	**17 15 23.7**	**-0.7**
KMRS				*e*Sn		**Sn**	**17 15 41.9**	**-0.7**
KARA	**Karaisali**	**1.42**	**318**	*e*PN		**Pn**	**17 15 23.9**	**0.0**
KARA	**Karaisali**	**1.42**	**318**	*e*Pn		**Pn**	**17 15 24.0**	**0.0**
MERS	**Mersin**	**1.53**	**296**	*e*PN		**Pb**	**17 15 26.5**	**0.0**
MERS	**Mersin**	**1.53**	**296**	*e*Pn		**Pb**	**17 15 26.5**	**0.0**
GZT	**Gaziantep**	**1.57**	**43**	*i* P		**Pg**	**17 15 27.8**	**-0.2**
GZT				*i* S		**Sg**	**17 15 48.4**	**+0.1**
GULE	**Gulek**	**1.59**	**313**	*i* P		**Pg**	**17 15 29.3**	**+0.9**
GULE				*i* S		**Sg**	**17 15 53.8**	**+4.8**
GULE	**Gulek**	**1.59**	**313**	*i* P		**Pg**	**17 15 29.3**	**+0.9**
KIZK	**Mersin**	**1.71**	**280**	*i* P		**Pn**	**17 15 27.4**	**-0.6**
KIZK				*i* S		**Sg**	**17 15 52.6**	**-0.3**
KIZK	**Mersin**	**1.71**	**280**	*i* P		**Pn**	**17 15 27.4**	**-0.6**
KIZK				*i* S		**Sg**	**17 15 52.6**	**-0.3**
IKL	**Isikli**	**2.06**	**272**	*e*PN		**Pb**	**17 15 34.8**	**-0.8**
IKL	**Isikli**	**2.06**	**272**	*e*Pn		**Pb**	**17 15 34.8**	**-0.8**
ATAB	**Bozova**	**2.08**	**52**	*i* P		**Pb**	**17 15 36.2**	**+0.3**
ATAB				*i* S		**Sb**	**17 16 02.1**	**+0.1**
ATAB	**Bozova**	**2.08**	**52**	*i* P		**Pb**	**17 15 36.2**	**+0.3**
ATAB				*i* S		**Sb**	**17 16 02.1**	**+0.1**
URFA	**Urfa**	**2.41**	**59**	*e*PN		**Pn**	**17 15 38.9**	**+1.1**
URFA	**Urfa**	**2.41**	**59**	*e*Pn		**Pn**	**17 15 38.9**	**+1.1**
DARE	**Darende-Malaty**	**2.56**	**22**	*e*PN		**Pn**	**17 15 40.1**	**+0.2**
DARE	**Darende-Malaty**	**2.56**	**22**	*e*Pn		**Pn**	**17 15 40.1**	**+0.2**
DYBB	**Diyarbakir**	**3.58**	**60**	*e*PN		**Pn**	**17 15 55.4**	**+1.6**
MAZI	**Mazidag**	**3.60**	**68**	*e*PN		**Pn**	**17 15 56.5**	**+2.3**
MAZI	**Mazidag**	**3.60**	**68**	*e*Pn		**Pn**	**17 15 56.5**	**+2.3**
DIY	**Diyarbakir**	**3.61**	**61**	*e*Pn		**Pn**	**17 15 55.4**	**+1.1**

IDC 14 17:35:37.1±49.0, 18.01°S×175.07°W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/19, mbtmpg3.8/3, Error ellipse: s-maj=931.6km s-min=168.3km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.37**	**242**	P	P	17 43 25.8	+0.6
	1.7nm,0.8s,baz=79,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**47.73**	**259**	P	P	17 44 15.3	-0.9
	0.2nm,0.3s,baz=98,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**47.82**	**254**	P	P	17 44 16.9	+0.1
	1.6nm,0.6s,baz=92,slow=8.3,SNR=28						

WEL 14 17:44:41.1±0.5, 34.91°S×178.32°E, h33km, ML3.9/2, Error ellipse: s-maj=7.9km s-min=3.3km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.65**	**180**	P*	Pn	17 45 22.0	+0.6
MXZ				*e*S*	Sn	17 45 51.7	-0.7
MXZ				S*	Sb	17 45 51.8	-8.1
MWZ	**Matawai**	**3.47**	**190**	P*	Pn	17 45 33.3	+0.4
MWZ				*e*S*	Sn	17 46 11.8	-1.1
MWZ				*e*S*	Sb	17 46 11.9	-12
URZ	**Urewera**	**3.48**	**196**	P*	Pn	17 45 33.3	+0.4
URZ				S*	Sn	17 46 13.0	+0.1
URZ				*e*S*	Sb	17 46 13.4	-10
CNGZ	**Carnagh Statio**	**3.57**	**181**	PN	Pn	17 45 33.3	-0.8
RIGZ	**Rimuhau**	**3.81**	**187**	PN	Pn	17 45 36.5	-1.1

*IDC **14** 17:49:16.9±3.1, 17.55°S×178.74°W, h534km±38km, mb3.2/8, mb1 3.5/8, mb1mx3.3/20, mbtmp4.1/8, Error ellipse: s-maj=76.5km s-min=14.3km az=153.0*
*ISCJB **14** 17:49:19.1±0.9, 17.7°S±0.3×178.7°W±0.2, h579km, mb3.7/8, Error ellipse: s-maj=45.3km s-min=11.8km az=151.6*

ISC 14 17:49:20.2±1.3, 17.7°S±0.4×178.6°W±0.2, h579km, n20, σ1§41/21, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.34**	**101**	P	P	17 51 12.2	-10
	baz=6.9,SNR=14						
RMQ	**Roma**	**31.43**	**248**	P	**P**	**17 54 54.7**	**-0.7**
	baz=32,SNR=4.6						
RMQ				S	**S**	**17 59 27.5**	**+4.3**
	baz=32,SNR=5.2						
CTA	**Charters Tower**	**33.31**	**260**	P	**P**	**17 55 09.9**	**-1.5**
	3.4nm,0.4s,baz=87,slow=12,SNR=10						
CMSA	**Cobar Meteorol**	**35.11**	**240**	P	**P**	**17 55 24.8**	**-1.4**
	baz=36,SNR=9.5						
QLP	**Quilpie**	**35.45**	**249**	P	**P**	**17 55 27.6**	**-1.5**
	baz=36,SNR=6.0						
COEN	**Coen**	**36.93**	**270**	P	**P**	**17 55 41.4**	**-0.1**
	baz=38,SNR=5.0						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 55 53.5**	**-1.1**
	2.3nm,0.5s,baz=95,slow=10,SNR=13						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 55 53.9**	**-0.8**
	baz=39,SNR=9.8						
HTT	**Hallett**	**41.11**	**239**	P	**P**	**17 56 14.3**	**-0.5**
	baz=42,SNR=3.8						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**17 56 39.6**	**-1.8**
	2.3nm,0.6s,baz=97,slow=6.9,SNR=72						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**17 56 41.9**	**-1.0**
	16nm,0.6s,baz=89,slow=8.1,SNR=506						
ASAR				S	**S**	**18 02 39.0**	**+0.8**
	0.5nm,0.9s,baz=85,slow=14,SNR=4.8						
KDU	**Kakadu**	**47.39**	**269**	P	**P**	**17 57 03.0**	**-0.4**
	baz=49,SNR=5.0						
MTN	**Manton Dam**	**48.63**	**268**	P	**P**	**17 57 12.0**	**-0.6**
	baz=50,SNR=3.3						
WRKA	**Warakurna**	**49.75**	**252**	P	**P**	**17 57 20.1**	**-0.7**
	baz=51,SNR=52						
KNRA	**Kununurra**	**50.34**	**264**	P	**P**	**17 57 24.6**	**-0.5**
	baz=52,SNR=5.6						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**18 00 27.7**	**+0.4**
	0.5nm,0.7s,baz=234,slow=5.5,SNR=4.0						
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**18 00 58.0**	**-0.2**
	0.3nm,0.7s,baz=220,slow=5.5,SNR=3.6						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**18 01 01.5**	**+0.9**
	0.8nm,0.9s,baz=236,slow=6.4,SNR=5.1						
PDAR	**Pinedale Array**	**87.31**	**44**	P	**P**	**18 01 06.7**	**+0.2**
	0.4nm,0.7s,baz=257,slow=3.6,SNR=3.3						
GERES	**GERESS Array B**	**147.36**	**345**	PKPbc	**PKPbc**	**18 08 00.6**	**+1.0**
	0.2nm,0.5s,baz=33,slow=3.8,SNR=3.9						

*DJA **14** 17:55:28.4±1.8, 10°S±9°×12°0E±1°0, h10km, M3.5/2, MLv3.5/2*
*IDC **14** 17:55:32.8±2.2, 8.44°S×119.30E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=213.6km s-min=26.4km az=53.0*

ISC 14 17:55:34.3±1.6, 8.4°S±0.3×119.4°E±0.2, h10km, n6, σ0§55/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.47**	**103**	P	x	17 55 49.2	
LBFI				S	x	17 56 03.1	
MMRI	**Maumere**	**2.79**	**96**	P	**Pn**	**17 56 19.0**	**-0.1**
WRA	**Warramunga Arr**	**18.45**	**130**	P	**Pn**	**17 59 50.9**	**+0.5**
	0.3nm,0.3s,baz=307,slow=13,SNR=12						
ASAR	**Alice Springs**	**20.58**	**139**	P	Pn	18 00 14.6	-1.3
	2.4nm,0.5s,baz=314,slow=9.1,SNR=28						
STKA	**Stephens Creek**	**31.17**	**142**	P	**P**	**18 01 53.4**	**-0.3**
	0.8nm,0.6s,baz=343,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**64.10**	**333**	P	**P**	**18 06 08.8**	**+0.1**
	0.3nm,0.6s,baz=144,slow=8.0,SNR=3.6						

*MAN **14** 18:31:31, 11.18°N×126.53E, h1km, mb5.4, ML4.4, MS4.7*
*IDC **14** 18:31:37.8±2.6, 10.98°N×126.21E, h28km±17km, mb4.1/22, mb1 4.2/23, mb1mx4.2/30, mbtmp4.2/23, MS3.8/4, Ms1 3.8/4, ms1mx3.4/29, Error ellipse: s-maj=24.5km s-min=10.0km az=69.0*
*BJI **14** 18:31:37.6, 10.77°N×126.12E, h56km, mB4.9/11, mb4.6/26, Ms4.6/12, Ms7 4.4/10*
*NEIC **14** 18:31:39.8±1.1, 10.98°N×126.17E, h47km±10km, mb4.8/19, Error ellipse: s-maj=11.5km s-min=4.8km az=65.0*
*ISCJB **14** 18:31:39.3±0.8, 10.99°N±0.03×126.19E±0.06, h59km±6km, mb4.5/45, MS3.9/8, Error ellipse: s-maj=9.7km s-min=4.6km az=156.1*
*DJA **14** 18:31:51.0±1.2, 11°N±8°×12°6E±°, h162km±10km, M4.6/5, mb4.6/5*

ISC 14 18:31:38.9±0.4, 11.02°N±0.04×126.28E±0.07, h38km±2km, n146, σ1§42/153, mb4.7/45, MS3.9/8, 5C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.28**	**277**	*i* P	**Pn**	**18 31 59.6**	**-0.7**
PLP				*i* S	**Sn**	**18 32 14.4**	**-1.9**
SCPH	**Surigao**	**1.45**	**212**	*e*P	**Pn**	**18 32 02.3**	**-0.3**
OCLP	**Ormoc**	**1.64**	**271**	*e*P	**Pn**	**18 32 06.2**	**+1.0**
MSLP	**Maasin**	**1.65**	**238**	*e*P	**Pn**	**18 32 06.2**	**+0.8**
MSLP				*e*S	**Sn**	**18 32 24.8**	**-0.5**
BUTP	**Butuan**	**2.14**	**198**	*e*P	**Pn**	**18 32 14.8**	**+2.8**
BUTP				*e*S	Sn	18 32 45.7	+8.3
LLP	**Lapu-Lapu**	**2.38**	**253**	*e*P	**Pn**	**18 32 16.7**	**+1.3**
LLP				*e*S	Sn	18 32 50.0	+6.6
TBP	**Tagbilaran**	**2.72**	**241**	*e*P	**Pn**	**18 32 22.0**	**+1.9**
TBP				*i* S	Sn	18 33 02.4	+11
BIPH	**Bislig**	**2.82**	**178**	*e*P	Pn	18 32 27.6	+6.1
BIPH				*e*S	**Sn**	**18 32 50.2**	**-3.9**
CGP	**Cagayan de Oro**	**2.99**	**212**	*i* P	**Pn**	**18 32 24.4**	**+0.6**
CGP				*i* S	Sn	18 33 06.1	+7.7
PVCP	**Virac**	**3.30**	**321**	*e*P	**Pn**	**18 32 25.7**	**-2.3**
PVCP				*e*S	**Sn**	**18 33 08.1**	**+2.1**
BUKP	**Musuan**	**3.34**	**201**	*e*P	**Pn**	**18 32 30.8**	**+2.1**
SNPH	**Sibulan**	**3.43**	**241**	*e*P	Pn	18 32 20.4	-10
SNPH				*i* S	Sn	18 33 01.4	-7.9
RCP	**Roxas**	**3.51**	**279**	*e*P	**Pn**	**18 32 32.9**	**+2.0**
GUIM	**Jordan**	**3.65**	**264**	*e*P	**Pn**	**18 32 33.8**	**+1.0**
AUQP	**San Andres**	**4.20**	**303**	*e*P	**Pn**	**18 32 42.1**	**+1.6**
CTBH	**Cotabato--PC H**	**4.27**	**208**	*i* P	Pn	18 32 47.3	+5.8
GQP	**Guinayangan**	**4.72**	**308**	*e*P	**Pn**	**18 32 46.7**	**-0.9**
GQP				*e*S	**Sn**	**18 33 41.4**	**+0.4**
BOAC	**Boac**	**4.97**	**300**	*e*P	**Pn**	**18 32 51.1**	**+0.1**
TGY	**Tagaytay City**	**6.05**	**301**	Pn	**Pn**	**18 33 05.9**	**0.0**
TGY	**Tagaytay City**	**6.05**	**301**	Pn	**Pn**	**18 33 05.9**	**0.0**
	baz=138,slow=12,SNR=3.5						
TNTI	**Ternate**	**10.24**	**174**	P	Pn	18 34 17.6	+14
TNTI	**Ternate**	**10.24**	**174**	*e*Pn	**Pn**	**18 34 04.7**	**+1.3**
	52nm,1.0s						
SWI	**Sorong**	**12.80**	**157**	P	P	18 34 51.8	+3.1
	22nm,1.0s						
SANI	**Sanana**	**12.99**	**181**	P	**Pn**	**18 34 40.6**	**-0.4**
NLAI	**Namlea**	**14.19**	**177**	P	P	18 35 09.0	+4.8
	23nm,0.8s						
FAKI	**Fak Fak**	**15.07**	**156**	P	**P**	**18 35 17.3**	**+3.3**
FAKI	**Fak Fak**	**15.07**	**156**	*e*Pn	**Pn**	**18 35 08.0**	**-1.2**
	42nm,1.0s						
TTSI	**Tana Toraja**	**15.38**	**205**	P	P	18 35 24.5	+7.1
SBUM	**Sibu**	**16.34**	**240**	P	x	18 35 32.3	
	39nm,1.2s						
QIZ	**Qiongzhong**	**17.75**	**299**	P	**Pn**	**18 35 42.1**	**-1.1**
QIZ				S	**Sn**	**18 39 00.3**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,36nm,2.4s						
SMPI	**Sarmi**	**17.89**	**136**	P	**P**	**18 35 47.5**	**+2.3**
SSE	**Sheshan**	**20.53**	**347**	P	Pn	18 36 16.8	+0.4
SSE				S	**S**	**18 39 58.0**	**-3.6**
SSE				pmax	pmax		
	comp=Z,52nm,1.0s						
SSE				pmax	pmax		
	comp=Z,130nm,5.5s						
SOEI	**Soe**	**20.73**	**186**	P	Pn	18 36 23.9	+4.8
SOEI	**Soe**	**20.73**	**186**	*e*P	Pn	18 36 19.0	-0.1
	57nm,0.8s						
WHN	**Wuhan**	**22.37**	**332**	P	**P**	**18 36 35.3**	**+1.5**
WHN				S	**S**	**18 40 39.9**	**+2.6**
WHN				LR	LR		
	comp=Z,1μm,15.8s						
JNU	**Nakatsue**	**22.40**	**10**	LR	LR	18 45 18.3	
	comp=Z,293nm,18.1s,baz=1.6,slow=36						
JAGI	**Jajag, Banyuwa**	**22.81**	**212**	P	**P**	**18 36 43.4**	**+4.7**
	86nm,1.2s						
JAGI	**Jajag, Banyuwa**	**22.81**	**212**	*e*P	**P**	**18 36 39.2**	**+0.6**
	123nm,1.3s						
NGJI	**Ngawi**	**23.48**	**220**	P	**P**	**18 36 48.0**	**+2.7**
CHBT	**CHBT**	**23.50**	**277**	P	x	18 36 58.5	
SLVN	**Son La**	**23.78**	**298**	*e*P	**P**	**18 36 46.5**	**-1.7**
	7.4nm,0.8s						
BJII	**Banjamegara**	**24.58**	**223**	P	x	18 36 59.1	
ENH	**Enshi**	**24.72**	**323**	*e*P	**P**	**18 36 56.4**	**-0.3**
	9.4nm,0.9s						
PBKT	**Sadao Pong**	**25.18**	**285**	P	x	18 37 01.6	
KMI	**Kunming**	**26.35**	**305**	P	**P**	**18 37 11.1**	**-0.7**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
KMI				pmax	pmax		
	comp=Z,180nm,6.1s						
KMI				LR	LR		
	comp=N,290nm,10.9s						
KMI				LR	LR		
	comp=E,350nm,14.3s						
KMI				LR	LR		
	comp=Z,380nm,14.3s						
KSAR	**Wonju Array Be**	**26.35**	**3**	P	**P**	**18 37 11.3**	**0.0**
KSRS	**Korea Array**	**26.36**	**3**	P	**P**	**18 37 11.3**	**-0.1**
	2.4nm,0.8s,baz=174,slow=8.4,SNR=6.4						
MDSI	**Maura Dua**	**26.86**	**236**	P	**P**	**18 37 16.7**	**+0.5**
KASI	**Kota Agung**	**27.21**	**234**	P	**P**	**18 37 16.6**	**-2.7**
LWLI	**Liwa**	**27.26**	**235**	P	**P**	**18 37 19.7**	**-0.2**
CM31	**Chiang Mai Arr**	**27.43**	**289**	*e*P	**P**	**18 37 19.2**	**-2.1**
	3.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.43**	**289**	P	**P**	**18 37 20.4**	**-1.0**
CMAR				ScP	**ScP**	**18 44 18.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**27.43**	**289**	P	**P**	**18 37 20.4**	**-1.0**
	3.1nm,0.9s,baz=101,slow=7.2,SNR=20						
CMAR				ScP	**ScP**	**18 44 18.1**	**+0.8**
	0.9nm,0.9s,baz=96,slow=1.8,SNR=5.5						
CMAR				LR	LR	18 49 04.3	
	comp=Z,102nm,18.8s,baz=285,slow=38						
CHTO	**Chiang Mai**	**27.50**	**290**	*e*P	**P**	**18 37 19.3**	**-2.6**
	4.4nm,1.1s						
XAN	**Xi'an**	**27.88**	**328**	P	**P**	**18 37 24.5**	**-0.7**
XAN				pP	pP	18 37 36.0	0.0
XAN				PP	**PnPn**	**18 38 19.9**	**+7.0**
XAN				S	**S**	**18 42 07.3**	**+1.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
XAN				LR	LR		
	comp=N,210nm,14.8s						
XAN				LR	LR		
	comp=E,80nm,11.9s						
PSI	**Prapat**	**28.33**	**255**	LR	LR	18 49 02.8	
	comp=Z,164nm,18.4s,baz=256,slow=37						
WRAB	**Tennant Creek**	**31.77**	**165**	*e*P	**P**	**18 37 59.2**	**-0.5**
WRA	**Warramunga Arr**	**31.77**	**165**	P	**P**	**18 37 58.2**	**-1.5**
WRA				PcP	**PcP**	**18 40 51.6**	**+0.9**
WRA	**Warramunga Arr**	**31.77**	**165**	P	**P**	**18 37 58.2**	**-1.5**
	1.9nm,0.9s,baz=333,slow=11,SNR=14						
WRA				PcP	**PcP**	**18 40 51.6**	**+0.9**
	1.0nm,0.9s,baz=346,slow=3.3,SNR=3.1						
LZH	**Lanzhou**	**32.17**	**325**	*e*P	**P**	**18 38 04.6**	**+1.2**
LZH				pP	pP	18 38 15.5	+1.3
LZH				sP	**sP**	**18 38 20.5**	**+1.7**
LZH				pmax	pmax		
	comp=Z,87nm,1.7s						
USRK	**Ussuriysk Arra**	**33.43**	**7**	P	P	18 38 15.5	+1.5
	2.3nm,0.9s,baz=164,slow=7.7,SNR=4.1						
MDJ	**Mudanjiang**	**33.60**	**4**	*e*P	**P**	**18 38 15.9**	**+0.4**
AS31	**Alice Springs**	**35.27**	**168**	*e*P	**P**	**18 38 29.3**	**-0.9**
ASAR	**Alice Springs**	**35.27**	**168**	P	**P**	**18 38 29.9**	**-0.3**
ASAR				PcP	**PcP**	**18 41 00.7**	**+0.2**
ASAR				S	**S**	**18 44 02.9**	**+1.3**
ASAR	**Alice Springs**	**35.27**	**168**	P	**P**	**18 38 29.9**	**-0.3**
	1.8nm,0.4s,baz=345,slow=7.0,SNR=33						
ASAR				PcP	**PcP**	**18 41 00.7**	**+0.2**
	1.6nm,1.0s,baz=342,slow=3.2,SNR=3.7						
ASAR				S	**S**	**18 44 02.9**	**+1.3**
	1.1nm,1.0s,baz=351,slow=18,SNR=5.5						
SHL	**Shillong**	**35.59**	**299**	*e*P	**P**	**18 38 33.0**	**-0.2**
CTAO	**Charters Tower**	**36.63**	**147**	P	**P**	**18 38 41.5**	**-0.4**
GTA	**Gaotai**	**36.78**	**325**	P	**P**	**18 38 44.0**	**+0.9**
GTA				pP	pP	18 38 54.8	+0.8
GTA				sP	**sP**	**18 38 58.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,23nm,1.0s						
GTA				pmax	pmax		
	comp=Z,130nm,5.2s						
GTA				LR	LR		
	comp=N,260nm,15.7s						
GTA				LR	LR		
	comp=E,440nm,15.2s						
GTA				LR	LR		
	comp=Z,490nm,15.7s						
LSA	**Lhasa**	**37.60**	**305**	*e*P	**P**	**18 38 50.4**	**-0.3**
	12nm,1.0s						
HNR	**Honiara**	**39.17**	**120**	LR	LR	18 53 41.0	
	comp=Z,171nm,20.5s,baz=268,slow=34						
ULN	**Ulaanbaatar**	**40.13**	**340**	*e*P	**P**	**18 39 11.7**	**+0.5**
	39nm,1.6s						
SONM	**Songino Array**	**40.33**	**339**	P	**P**	**18 39 13.5**	**+0.7**
SONM	**Songino Array**	**40.33**	**339**	P	**P**	**18 39 13.5**	**+0.7**
	4.8nm,1.0s,baz=156,slow=8.4,SNR=17						
JIRN	**Jiri**	**41.07**	**300**	*e*P	**P**	**18 39 18.5**	**-1.0**
	35nm,0.6s						
GUN	**Gumba**	**41.40**	**300**	*e*P	**P**	**18 39 21.2**	**-1.0**
	103nm,1.1s						
PKI	**Pulchoki**	**41.71**	**299**	*e*P	**P**	**18 39 23.1**	**-1.6**
	28nm,0.9s						
PKIN	**Phulchoki**	**41.73**	**299**	*e*P	**P**	**18 39 23.4**	**-1.4**
	16nm,0.9s						
KKN	**Kakani**	**41.88**	**299**	*e*P	**P**	**18 39 24.5**	**-1.5**
	47nm,0.9s						
DMN	**Daman**	**41.98**	**299**	*e*P	**P**	**18 39 25.3**	**-1.6**
	20nm,0.8s						
GKN	**Gorkha**	**42.48**	**300**	*e*P	**P**	**18 39 29.2**	**-1.6**
	23nm,0.9s						
KOLN	**Koldanda**	**43.32**	**299**	*e*P	**P**	**18 39 36.3**	**-1.3**
	47nm,0.9s						
DANN	**Dangsing**	**43.32**	**300**	*e*P	**P**	**18 39 36.4**	**-1.4**
	56nm,0.8s						
TLY	**Talaya**	**44.54**	**340**	*e*P	**P**	**18 39 46.5**	**-0.3**
	15nm,1.1s						
NWAO	**Narrogin (SRO)**	**44.54**	**191**	P	**P**	**18 39 46.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**44.54**	**191**	P	**P**	**18 39 46.9**	**-0.1**
	9.3nm,0.8s,baz=26,slow=12,SNR=6.6						
BBOO	**Buckleboo**	**44.57**	**168**	*e*P	**P**	**18 39 47.6**	**+0.3**
	180nm,0.6s						
STKA	**Stephens Creek**	**45.10**	**162**	*e*P	**P**	**18 39 51.5**	**-0.1**
STKA	**Stephens Creek**	**45.10**	**162**	P	**P**	**18 39 51.9**	**+0.3**
	9.4nm,0.8s,baz=339,slow=8.3,SNR=17						
YAK	**Yakutsk**	**50.98**	**2**	*e*P	**P**	**18 40 38.1**	**+1.5**
	27nm,1.5s						
DZM	**Mont Dzumac**	**51.32**	**130**	P	**P**	**18 40 39.1**	**-0.7**
DZM	**Mont Dzumac**	**51.32**	**130**	P	**P**	**18 40 39.1**	**-0.7**
	11nm,1.0s,baz=297,slow=17,SNR=3.6						
MK31	**Makanchi Array**	**51.44**	**322**	*e*P	**P**	**18 40 40.5**	**+0.2**
MKAR	**Makanchi Array**	**51.44**	**322**	P	**P**	**18 40 40.9**	**+0.5**
MKAR				ScP	**ScP**	**18 45 48.5**	**+0.3**
MKAR	**Makanchi Array**	**51.44**	**322**	P	**P**	**18 40 40.9**	**+0.5**
	6.5nm,0.8s,baz=120,slow=8.2,SNR=59						
MKAR				ScP	**ScP**	**18 45 48.5**	**+0.3**
	1.9nm,1.1s,baz=104,slow=5.1,SNR=5.9						
KSH	**Kashi**	**52.74**	**312**	*e*P	**P**	**18 40 51.3**	**+1.0**
KSH				*e*PP	**PP**	**18 42 53.0**	**+3.2**
KSH				*e*PcS	**PcS**	**18 45 57.0**	**-1.3**
KSH				*e*SS	**SS**	**18 51 51.1**	**-3.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,78nm,3.4s						
KSH				LR	LR		
	comp=N,140nm,5.2s						
KSH				LR	LR		
	comp=E,190nm,6.7s						
KSH				LR	LR		
	comp=Z,210nm,5.4s						
ULHL	**Ulahol**	**53.46**	**315**	P	**P**	**18 40 56.0**	**+0.4**
	SNR=10						
ZAA0	**Zalesovo Array**	**53.98**	**331**	*e*P	**P**	**18 40 58.4**	**-0.5**
ZALV	**Zalesovo Beam**	**53.98**	**331**	P	**P**	**18 40 58.4**	**-0.6**
ZALV	**Zalesovo Beam**	**53.98**	**331**	P	**P**	**18 40 58.4**	**-0.6**
	4.9nm,0.7s,baz=116,slow=7.2,SNR=16						
KZA	**Kyzart**	**54.09**	**314**	P	**P**	**18 41 01.1**	**+0.6**
	SNR=9.7						
TKM2	**Tokmak 2**	**54.14**	**315**	P	**P**	**18 41 00.8**	**+0.2**
	SNR=6.1						
TKM2	**Tokmak 2**	**54.14**	**315**	*e*P	**P**	**18 41 00.5**	**-0.1**
	11nm,1.4s						
KBK	**Karagaybulak**	**54.50**	**315**	P	**P**	**18 41 03.7**	**+0.6**
	SNR=9.2						
UCH	**Uchtor**	**54.66**	**314**	P	**P**	**18 41 05.4**	**+0.7**
	SNR=21						
AAK	**Ala-Archa**	**54.81**	**315**	P	**P**	**18 41 04.7**	**-0.6**
AAK	**Ala-Archa**	**54.81**	**315**	P	**P**	**18 41 04.7**	**-0.6**
	1.7nm,0.9s,baz=109,slow=7.8,SNR=4.8						
USP	**Ospenovka**	**55.01**	**316**	P	**P**	**18 41 06.8**	**+0.1**
	SNR=7.6						
AML	**Almayashu**	**55.21**	**314**	P	**P**	**18 41 09.2**	**+0.6**
	SNR=14						
EKS2	**Erkin-Say**	**55.31**	**315**	P	**P**	**18 41 09.4**	**+0.5**
	SNR=8.5						
EKS2	**Erkin-Say**	**55.31**	**315**	*e*P	**P**	**18 41 09.1**	**+0.1**
	12nm,1.0s						
KURK	**Kurchatov**	**55.46**	**325**	*e*P	**P**	**18 41 09.8**	**+0.1**
KURBB	**Kurchatov Arra**	**55.47**	**325**	P	**P**	**18 41 10.3**	**+0.5**
	12nm,0.9s,baz=119,slow=8.3,SNR=35						
KKAR	**Karatay Array**	**57.74**	**314**	*e*P	**P**	**18 41 24.9**	**-1.2**
	13nm,1.0s						
TIXI	**Tiksi**	**60.61**	**1**	*e*P	**P**	**18 41 46.6**	**+1

NIED **14** *18:46:00, 42.˙40N× 143.˙10E, h56km, Mw5.0 Best double couple: M₀3.42000×10¹⁶ NP1:φ₀224.00000°, δ26.00000°, λ109.00000°. NP2:φ₀23.00000°, δ65.00000°, λ81.00000°.*

BJI **14** *18:46:22.8, 42.˙26N× 143.˙03E, h62km, mB5.1/19, mb5.1/34, Ms4.8/25, Ms7 4.6/10*

MOS **14** *18:46:23.9± 0.9, 42.˙36N× 142.˙97E, h61km, mb5.7/72, Error ellipse: s-maj=6.6km s-min=4.1km az=107.9*

ISCJB **14** *18:46:24.0± 0.2, 42.˙31N± 0.˙01× 143.˙00E± 0.˙02, h63km± 1km, mb5.2/279, Error ellipse: s-maj=2.6km s-min=1.8km az=145.4*

GCMT **14** *18:46:25.1± 0.4, 42.˙17N× 143.˙10E, h70km± 2km, MW5.0/72, Moment Tensor Solution. s30,c41; s72,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 2.44±.16; Mθθ -1.03±.12; Mφφ -1.41±.13; Mrθ 0.06±.08; Mθφ -2.26±.10; Mφr 1.44±.08; Best double couple: M₀3.37400×10¹⁶ NP1:φ₀21.00000°, δ60.00000°, λ62.00000°. NP2: φ₀247.00000°, δ40.00000°, λ129.00000°. Principal axes: T 3.0560, Plg64.0000°, Azm243.0000°; N 0.6350, Plg24.0000°, Azm36.0000°; P -3.6920, Plg10.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC **14** *18:46:25.4± 1.4, 42.˙39N× 143.˙05E, h60km± 12km, mb4.8/32, mb1 4.9/36, mb1mx4.9/37, mbtmp5.1/36, MS3.9/20, Ms1 3.9/20, ms1mx3.8/32 Error ellipse: s-maj=11.6km s-min=8.9km az=124.0*

JMA **14** *18:46:25.5± 0.1, 42.˙35N× 143.˙12E, h51km± 1km, M5.0 Broadband fault plane solution: P waves. NP1: φ₀28.00000°, δ70.00000°, λ65.00000°. NP2:φ₀261.00000°, δ31.00000°, λ138.00000°. Principal axes: T Plg58.0000°, Azm264.0000°; N Plg23.0000°, Azm37.0000°; P Plg21.0000°, Azm136.0000°;*

JMA Felt III J1.

NEIC **14** *18:46:25.1± 0.1, 42.˙34N× 142.˙99E, mb5.2/138, MW5.0(NIED) Error ellipse: s-maj=3.8km s-min=2.5km az=141.0*

NEIC Felt [IV] at Obihiro and [III] at Sapporo. Also felt at Date, Furano and Tomakomai. Felt [II] at Misawa, Honshu. Recorded [3 JMA] in southern Hokkaido and [2 JMA] in central, eastern and western Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.

SKHL **14** *18:46:25.0± 0.3, 42.˙24N× 143.˙11E, h67km± 3km, mb6.4/1, Ms4.0/1, msh5.6/2*

SZGRF **14** *18:46:31.2, 43.˙27N× 142.˙04E, h58km, mb5.3, Hokkaido, Japan, region*

ISC 14 18:46:24.7±0.3, 42˚35N±0˙03×143˚08E±0˙03, h58km±2km**, h58**km**:pP-P, n1249, s1501**/1353**, mb5.3**/281**, MS4.2**/28**, 364C-195D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MYR	**Moyori**	**0.16**	**111**	*eP*		**Pn**	**18 46 33.7**	**-0.1**
MYR				*eS*		**Sn**	**18 46 40.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.25**	**254**	⇓P		**Pn**	**18 46 34.4**	**+0.1**
JNBK				*eS*		**Sn**	**18 46 41.5**	**+0.2**
JCH	**Churui**	**0.34**	**38**	⇑P		**Pn**	**18 46 34.9**	**-0.1**
JCH				*eS*		**Sn**	**18 46 42.1**	**-0.3**
ERM	**Erimo**	**0.34**	**170**	Pn		**Pn**	**18 46 35.9**	**+0.9**
	373µm,0.5s							
ERM	**Erimo**	**0.34**	**170**	*d iP*N		**Pn**	**18 46 35.4**	**+0.4**
ERM	**Erimo**	**0.34**	**170**	*e*Pn		**Pn**	**18 46 35.1**	**+0.1**
ERM	**Erimo**	**0.34**	**170**	*eP*		**Pn**	**18 46 35.4**	**+0.4**
JEM	**Erimo**	**0.34**	**170**	⇑P		**Pn**	**18 46 35.3**	**+0.3**
JEM				*eS*		**Sn**	**18 46 43.1**	**+0.7**
JBT2	**Biratori 2**	**0.68**	**309**	⇓P		**Pn**	**18 46 39.5**	**+0.8**
JBT2				*eS*		**Sn**	**18 46 50.2**	**+1.3**
JOB	**Onbets**	**0.79**	**45**	⇑P		**Pn**	**18 46 40.9**	**+1.0**
JOB				*eS*		**Sn**	**18 46 53.0**	**+1.9**
JFR	**Furan**	**0.89**	**336**	⇓P		**Pn**	**18 46 40.9**	**-0.4**
JFR				*eS*		**Sn**	**18 46 53.0**	**-0.5**
JAR	**Ashorobuto**	**1.07**	**28**	⇑P		**Pn**	**18 46 44.0**	**+0.3**
JAR				*eS*		**Sn**	**18 46 57.7**	**-0.1**
HRK	**Horoka**	**1.12**	**2**	*eP*		**Pn**	**18 46 44.9**	**+0.6**
HRK				*eS*		**Sn**	**18 46 59.7**	**+0.8**
JEW	**Eniwo**	**1.30**	**293**	⇓P		**Pn**	**18 46 48.1**	**+1.4**
JEW				*eS*		**Sn**	**18 47 05.0**	**+1.9**
JAB	**Ashibetsu**	**1.32**	**332**	⇓P		**Pn**	**18 46 48.3**	**+1.4**
JAK	**Akkeshi**	**1.35**	**61**	⇑P		**Pn**	**18 46 47.5**	**+0.1**
JAK				*eS*		**Sn**	**18 47 04.9**	**+0.5**
JNB	**Noboribetsu**	**1.52**	**275**	⇓P		**Pn**	**18 46 49.8**	**+0.2**
JKB	**Kayabe**	**1.59**	**254**	⇑P		**Pn**	**18 46 51.2**	**+0.6**
JHR	**Hokuryu**	**1.71**	**325**	⇓P		**Pn**	**18 46 54.2**	**+2.0**
JTKR	**Abashiri--Toko**	**1.73**	**20**	⇓P		**Pn**	**18 46 53.6**	**+1.1**
JOT	**Ohata**	**1.80**	**238**	⇑P		**Pn**	**18 46 53.8**	**+0.4**
ASAJ	**Asahikawa**	**1.80**	**349**	*i* Pn		**Pn**	**18 46 54.9**	**+1.4**
ASAJ				S		**Sn**	**18 47 16.5**	**+1.3**
ASAJ	**Asahikawa**	**1.80**	**349**	P		**Pn**	**18 46 54.9**	**+1.4**
	431nm,0.3s,baz=208,slow=13,SNR=617							
ASAJ				S		**Sn**	**18 47 16.5**	**+1.3**
	429nm,0.3s,baz=10,slow=20,SNR=6.6							
ASAJ				LR		LR	18 47 48.7	
	comp=Z,4µm,21.9s,baz=196,slow=47							
JTM	**Tenmabayashi**	**2.17**	**225**	⇑P		**Pn**	**18 46 58.8**	**+0.3**
JANG	**Nango**	**2.30**	**211**	⇑P		**Pn**	**18 46 59.7**	**-0.6**
JSI2	**Shiura 2**	**2.38**	**238**	⇑P		**Pn**	**18 47 02.2**	**+0.9**
JTH	**Tanohata**	**2.58**	**201**	⇓P		**Pn**	**18 47 02.3**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**2.64**	**49**	*c iP*N		**Pn**	**18 47 05.8**	**+0.9**
YUK				*i* S		**Sn**	**18 47 36.5**	**+0.8**
YUK				pmax	pmax			
	comp=N,807nm,0.2s							
YUK				pmax	pmax			
	comp=Z,2µm,0.2s							
YUK				pmax	pmax			
	comp=E,815nm,0.1s							
YUK				smax	smax			
	comp=N,6µm,0.5s							
YUK				smax	smax			
	comp=E,3µm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.64**	**49**	*eP*		**Pn**	**18 47 05.8**	**+0.9**
YUK				AMB	AMB		18 47 12.0	
	comp=E,810nm,0.2s							
YUK				AMB	AMB		18 47 12.0	
	comp=E,820nm,0.2s							
YUK				AMB	AMB		18 47 12.0	
	comp=E,2µm,0.2s							
YUK				*e*S		**Sn**	**18 47 36.5**	**+0.8**
YUK				A		A	18 47 43.0	
	comp=E,3µm,0.5s							
YUK				A		A	18 47 43.0	
	comp=E,6µm,0.5s							
JKZ	**Kuzumaki**	**2.71**	**210**	⇑P		**Pn**	**18 47 05.7**	**-0.2**
JAH	**Hinai**	**2.84**	**221**	⇑P		**Pn**	**18 47 08.2**	**+0.6**
JIW	**Iwasaki**	**2.90**	**234**	⇑P		**Pn**	**18 47 09.0**	**+0.5**
MIYJ	**Miyakonagasawa**	**2.93**	**199**	P		**Pn**	**18 47 07.4**	**-1.5**
SHO	**Shikotan**	**3.14**	**60**	*eP*		**Pn**	**18 47 12.0**	**+0.3**
SHO				*eS*		**Sn**	**18 47 47.6**	**-0.3**
JOM	**Ohasama**	**3.18**	**206**	⇓P		**Pn**	**18 47 11.8**	**-0.5**
OFUJ	**Ofunato**	**3.44**	**199**	⇓P		**Pn**	**18 47 14.6**	**-1.2**
JRG	**Rokugo**	**3.48**	**213**	⇑P		**Pn**	**18 47 16.6**	**+0.1**
JYW	**Yuwa**	**3.55**	**219**	⇑P		**Pn**	**18 47 18.1**	**+0.8**
JMK	**Ichinoseki**	**3.68**	**203**	⇓P		**Pn**	**18 47 18.2**	**-0.9**
JYK	**Kaneyama**	**4.00**	**212**	⇑P		**Pn**	**18 47 23.6**	**0.0**
JIO	**Ouri**	**4.11**	**199**	P		**Pn**	**18 47 23.5**	**-1.5**
JOU	**Okura**	**4.39**	**206**	P		**Pn**	**18 47 28.4**	**-0.4**
NEVR	**Nevel'sk**	**4.41**	**349**	*eP*		Pn	18 47 33.2	+4.1
KUR	**Kuril'sk**	**4.51**	**49**	*e*PN		**Pn**	**18 47 33.2**	**+2.8**
KUR				*e*S		**Sn**	**18 48 25.0**	**+3.5**
KUR				pmax	pmax			
	comp=Z,2µm,1.0s							
KUR				pmax	pmax			
	comp=Z,8µm,5.0s							
KUR				smax	smax			
	comp=N,15µm,2.0s							
KUR				smax	smax			
	comp=E,5µm,3.0s							
KUR				smax	smax			
	comp=N,5µm,1.3s							
KUR				smax	smax			
	comp=E,2µm,1.0s							
KUR	**Kuril'sk**	**4.51**	**49**	*eP*		**Pn**	**18 47 33.2**	**+2.8**
KUR				AMB	AMB		18 47 35.5	
	comp=E,2µm,1.0s							
KUR				AMB	AMB		18 47 38.0	
	comp=E,8µm,5.0s							
KUR				*e*S		**Sn**	**18 48 24.5**	**+3.0**
KUR				A		A	18 48 30.0	
	comp=E,15µm,2.0s							
KUR				A		A	18 48 30.0	
	comp=E,5µm,2.0s							
KUR				A		A	18 48 32.5	
	comp=E,5µm,1.3s							
KUR				A		A	18 48 32.5	
	comp=E,2µm,1.3s							
YSS	**Yuzh-Sakhalins**	**4.61**	**357**	⇑ *i*PN		**Pn**	**18 47 34.0**	**+2.2**
YSS				*i* S		**Sn**	**18 48 25.0**	**+1.0**
YSS				pmax	pmax			
	comp=Z,290nm,1.0s							
YSS				smax	smax			
	comp=E,1µm,3.0s							
YSS				smax	smax			
	comp=E,540nm,1.2s							
YSS				MLR	MLR			
	comp=Z,1µm,12.0s							
YSS	**Yuzh-Sakhalins**	**4.61**	**357**	*e*Pn		**Pn**	**18 47 33.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.61**	**357**	*eP*		**Pn**	**18 47 34.0**	**+2.2**
YSS				AMB	AMB		18 47 35.2	
	comp=Z,290nm,1.0s							
YSS				*e*S		**Sn**	**18 48 25.0**	**+1.0**
YSS				A	A		18 48 28.0	
	comp=Z,1µm,3.0s							
YSS				A	A		18 48 31.0	
	comp=Z,540nm,1.2s							
YSS				AMS	AMS		18 50 13.0	
	comp=Z,1µm,12.0s							
KHLM	**Kholmsk**	**4.76**	**351**	*eP*		**Pn**	**18 47 37.0**	**+3.1**
JAW	**Awa shima**	**4.87**	**218**	P		**Pn**	**18 47 36.0**	**+0.6**
JNS	**Sasagawa**	**5.37**	**214**	P		**Pn**	**18 47 42.5**	**+0.3**
JFY	**Yanaizu**	**5.58**	**209**	P		**Pn**	**18 47 45.4**	**+0.3**
JSD	**Sado**	**5.67**	**222**	P		**Pn**	**18 47 47.2**	**+0.8**
JHK	**Hiroka**	**5.98**	**213**	P		**Pn**	**18 47 50.7**	**+0.1**
JHK				S		**Sn**	**18 48 57.0**	**-0.7**
JKT	**Katashina**	**6.31**	**209**	P		**Pn**	**18 47 55.7**	**+0.4**
JJN	**Nakama**	**6.47**	**217**	P		**Pn**	**18 47 58.6**	**+1.3**
JAG	**Ashikaga**	**6.55**	**207**	P		**Pn**	**18 47 57.6**	**-0.8**
JSZ	**Suzu**	**6.58**	**224**	P		**Pn**	**18 48 00.0**	**+1.2**
JGK	**Kuni**	**6.72**	**212**	P		**Pn**	**18 48 01.7**	**+0.8**
MAJO	**Matsushiro**	**6.92**	**215**	*e*PN		**Pn**	**18 48 03.6**	**+0.1**
MAJO				pmax	pmax			
	comp=Z,99nm,0.4s							
MAJO	**Matsushiro**	**6.92**	**215**	*e*Pn		**Pn**	**18 48 03.5**	**+0.1**
	comp=Z,99nm,0.4s							
MAJO	**Matsushiro**	**6.92**	**215**	*eP*		**Pn**	**18 48 03.6**	**+0.1**
MAT	**Matsushiro**	**6.92**	**215**	P		**Pn**	**18 48 03.7**	**+0.2**
MAT	**Matsushiro**	**6.92**	**215**	P		**Pn**	**18 48 03.4**	**-0.1**
MAT				S		**Sn**	**18 49 22.1**	**+1.3**
MJAR	**Matsushiro Arr**	**6.92**	**215**	P		**Pn**	**18 48 04.0**	**+0.5**
MJAR				S		**Sn**	**18 49 24.5**	**+3.8**
MJAR	**Matsushiro Arr**	**6.92**	**215**	P		**Pn**	**18 48 04.0**	**+0.5**
	comp=Z,16nm,0.3s,baz=26,slow=14,SNR=113							
MJAR				S		**Sn**	**18 49 24.5**	**+3.8**
	comp=Z,4.1nm,0.3s,baz=27,slow=22,SNR=3.1							
MJAR				LR		LR	18 50 23.4	
	comp=Z,646nm,21.0s,baz=35,slow=34							
JNG	**Nsakai**	**7.08**	**215**	P		**Pn**	**18 48 06.1**	**+0.4**
JRY	**Ryogami san**	**7.11**	**209**	P		**Pn**	**18 48 04.6**	**-1.5**
JGN	**Niukaw**	**7.58**	**218**	P		**Pn**	**18 48 13.5**	**+0.9**
JOD2	**Odawara 2**	**7.73**	**205**	P		**Pn**	**18 48 11.8**	**-2.8**
BSO3	**Boso 3**	**7.80**	**196**	P		**Pn**	**18 48 13.6**	**-1.7**
JGF	**Kuroka**	**8.08**	**215**	P		**Pn**	**18 48 19.8**	**+0.4**
JNY	**Yasuok**	**8.08**	**212**	P		**Pn**	**18 48 19.2**	**-0.3**
VLA	**Vladivostok**	**8.28**	**279**	*e i*PN		**Pn**	**18 48 24.1**	**+2.0**
VLA				*e*S		**Sn**	**18 49 56.1**	**+2.1**
VLA	**Vladivostok**	**8.28**	**279**	*eP*		**Pn**	**18 48 23.3**	**+1.2**
JGM	**Miyama**	**8.28**	**219**	P		**Pn**	**18 48 22.7**	**+0.5**
USRK	**Ussuriysk Arra**	**8.30**	**287**	P		**Pn**	**18 48 24.1**	**+1.8**
	comp=Z,5.2nm,0.3s,baz=96,slow=13,SNR=84							
USRK				S		Sn	18 50 02.0	+7.3
	baz=101,slow=25,SNR=1.9							
HABR	**Khabarovsk**	**8.33**	**320**	*e*PN		**Pn**	**18 48 24.3**	**+1.6**
HABR				*e*S		**Sn**	**18 49 57.6**	**+2.4**
HABR				pmax	pmax			
	comp=N,92nm,2.3s							
HABR				pmax	pmax			
	comp=E,48nm,1.3s							
HABR				pmax	pmax			
	comp=Z,133nm,1.3s							
HABR				MLR	MLR			
	comp=Z,999nm,15.0s							
JYZW	**Yoshizawa**	**8.45**	**211**	P		**Pn**	**18 48 23.3**	**-1.1**
JFM	**Mihama**	**8.77**	**221**	P		**Pn**	**18 48 30.6**	**+1.8**
JKN2	**Miekihoku**	**9.70**	**216**	P		**Pn**	**18 48 39.5**	**-2.1**
MDJ	**Mudanjiang**	**10.06**	**288**	P		**Pn**	**18 48 48.9**	**+2.4**
MDJ	**Mudanjiang**	**10.06**	**288**	*eP*		**Pn**	**18 48 48.9**	**+2.4**
	comp=Z,56nm,0.8s							
JAD	**Aida**	**10.16**	**226**	P		**Pn**	**18 48 48.6**	**+0.8**
KLR	**Kul'dur**	**10.48**	**315**	*e*PN		**Pn**	**18 48 49.8**	**-2.3**
KLR				pmax	pmax			
	comp=N,57nm,1.6s							
KLR				pmax	pmax			
	comp=E,170nm,1.6s							
KLR				pmax	pmax			
	comp=Z,200nm,1.6s							
JHIK	**Hikimi**	**11.71**	**232**	P		**Pn**	**18 49 10.5**	**+1.4**
SKR	**Severo-Kuril's**	**12.24**	**43**	*e*PN		Pn	18 49 11.0	-5.0
KSRS	**Korea Array**	**12.62**	**252**	P		**Pn**	**18 49 22.7**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=64,slow=13,SNR=77							
KSRS				S		Sn	18 51 47.6	+7.3
	comp=Z,2.8nm,0.3s,baz=65,slow=24,SNR=5.9							
KSRS				LR		LR	18 54 07.6	
	comp=Z,276nm,20.5s,baz=74,slow=37							
KSRS				PcP		**PcP**	**18 54 56.7**	**+1.5**
	baz=72,slow=1.1,SNR=7.1							
KSAR	**Wonju Array Be**	**12.65**	**252**	P		**Pn**	**18 49 22.7**	**+0.8**
KSAR				S		Sn	18 51 47.6	+6.5
KSAR				PcP		**PcP**	**18 54 56.7**	**+1.4**
CN2	**Changchun**	**12.98**	**282**	⇓P		**Pn**	**18 49 26.6**	**+0.4**
CN2				*e*sP			18 49 43.5	
CN2				*e*S		**Sn**	**18 51 48.3**	**-0.6**
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
JNU	**Nakatsue**	**13.33**	**230**	*e*Pn		**Pn**	**18 49 30.0**	**-1.2**
	comp=Z,41nm,1.0s							
JNU	**Nakatsue**	**13.33**	**230**	P		**Pn**	**18 49 30.4**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=47,slow=6.6,SNR=38							
JNU				LR		LR	18 54 46.9	
	comp=Z,512nm,19.1s,baz=46,slow=38							
PEA0B	**Petropavlovsk-**	**14.55**	**37**	*e*Pn		**Pn**	**18 49 46.0**	**-1.2**
PETK	**Petropavlovsk-**	**14.55**	**37**	*eP*		**Pn**	**18 49 44.9**	**-2.3**
PETK	**Petropavlovsk-**	**14.55**	**37**	P		**Pn**	**18 49 44.9**	**-2.3**
PETK	**Petropavlovsk-**	**14.55**	**37**	P		**Pn**	**18 49 44.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=212,slow=12,SNR=8.3							
PETK				LR		LR	18 56 22.7	
	comp=Z,275nm,18.6s,baz=209,slow=41							
PET	**Petropavlovsk**	**14.93**	**39**	*eP*		**P**	**18 49 56.9**	**+0.4**
PET				*e*S		**Sn**	**18 52 40.9**	**+4.7**
PET				pmax	pmax			
	comp=Z,20nm,0.6s							
PET				MLR	MLR			
	comp=Z,600nm,18.0s							
DL2	**Dalian**	**16.64**	**265**	P		**Pn**	**18 50 14.1**	**+0.1**
DL2				S		**Sn**	**18 53 17.9**	**+0.1**
HIA	**Hailar**	**17.64**	**301**	*eP*		**Pn**	**18 50 24.7**	**-1.6**
	comp=Z,33nm,0.5s							
JOW	**Kunigami**	**19.66**	**223**	*eP*		**P**	**18 50 46.7**	**-2.0**
	comp=Z,14nm,0.6s							
BJI	**Beijing**	**20.35**	**273**	P		**P**	**18 50 54.3**	**-1.9**
BJI				*s*P		**sP**	**18 51 13.6**	**-2.7**
BJI				S		**S**	**18 54 40.1**	**-0.8**
BJI				pmax	pmax			
	comp=Z,95nm,0.9s							
BJT	**Baijiatuau**	**20.36**	**273**	*eP*		**P**	**18 50 55.0**	**-1.4**
	comp=Z,91nm,0.7s							
SSE	**Sheshan**	**20.77**	**244**	P		**P**	**18 51 01.0**	**+0.2**
SSE				pmax	pmax			
	comp=Z,53nm,1.0s							
SSE				pmax	pmax			
	comp=Z,200nm,5.7s							
TIA	**Tai'an**	**20.96**	**262**	⇑P		**P**	**18 51 00.4**	**-2.5**
TIA				pmax	pmax			
	comp=Z,150nm,0.7s							
YAK	**Yakutsk**	**21.27**	**342**	*eP*		**P**	**18 51 03.3**	**-2.6**
YAK				*e**PP		pP	18 51 25.3	+6.5
YAK				*eS*		**S**	**18 54 53.4**	**-5.4**
YAK				*e*			18 55 05.2	
YAK				*e*			19 02 18.2	
YAK				pmax	pmax			
	comp=N,26nm,0.9s							
YAK				pmax	pmax			
	comp=Z,117nm,0.9s							
YAK				smax	smax			
	comp=N,128nm,1.0s							
YAK				smax	smax			
	comp=E,25nm,0.9s							
YAK	**Yakutsk**	**21.27**	**342**	*eP*		**P**	**18 51 02.6**	**-3.3**
	comp=E,152nm,0.8s							
SEY	**Seymchan**	**21.33**	**12**	⇓ *i*P		**P**	**18 51 04.5**	**-2.0**
SEY	**Seymchan**	**21.33**	**12**	P		**P**	**18 51 04.9**	**-1.7**
SEY				S		**S**	**18 54 56.3**	**-3.7**
SEY	**Seymchan**	**21.33**	**12**	P		**P**	**18 51 04.9**	**-1.7**
	comp=E,43nm,0.7s,baz=188,slow=7.9,SNR=97							
SEY				S		**S**	**18 54 56.3**	**-3.7**
	comp=E,1.5nm,0.7s,baz=73,slow=19,SNR=5.6							
NJ2	**Nanjing**	**21.80**	**250**	*eP*		**P**	**18 51 09.3**	**-2.5**
NJ2				S		**S**	**18 55 11.0**	**+1.4**
NJ2				pmax	pmax			
	comp=E,30nm,0.9s							
NJ2				LR	LR			
	comp=E,1µm,20.8s							
NJ2				LR	LR			
	comp=E,460nm,12.2s							
CIT	**Chita**	**22.14**	**306**	*eP*		**P**	**18 51 17.2**	**+1.8**
CIT				*e*			18 51 33.5	
CIT				*e*			18 51 40.6	
CIT				*e*			18 55 16.8	
CIT				pmax	pmax			
	comp=Z,968nm,1.6s							
FX1	**Attu Island--F**	**22.69**	**52**	*eP*		**P**	**18 51 23.3**	**+2.1**
FX1	**Attu Island--F**	**22.69**	**52**	P		**P**	**18 51 24.2**	**+3.0**
	comp=Z,34nm,0.7s,baz=288,slow=9.2,SNR=5.3							
HHC	**Hu-ho-hao-te**	**23.55**	**277**	*eP*		**P**	**18 51 26.8**	**-3.1**
HHC				pP		**pP**	**18 51 41.8**	**-1.8**
HHC				PP		**PnPn**	**18 52 03.6**	**+4.5**
HHC				S		**S**	**18 55 40.0**	**+0.4**
HHC				sS		sS	18 55 55.9	-7.9
HHC				SS		**SnSn**	**18 56 23.6**	**+2.7**
HHC				pmax	pmax			
	comp=Z,31nm,0.5s							
HHC				pmax	pmax			
	comp=Z,290nm,3.2s							
HHC				LR	LR			
	comp=Z,820nm,14.7s							
HHC				LR	LR			
	comp=Z,930nm,16.7s							
TATO	**Taipei**	**24.85**	**233**	*eP*		**P**	**18 51 40.8**	**-1.0**
	comp=Z,153nm,0.9s							
YHNB	**Yeheng**	**25.15**	**232**	*eP*		**P**	**18 51 42.3**	**-2.2**
	comp=Z,50nm,0.7s							
NACB	**Ninganchiao**	**25.40**	**231**	*eP*		**P**	**18 51 44.5**	**-2.3**
	comp=Z,28nm,0.7s							
WHN	**Wuhan**	**25.82**	**252**	⇓P		**P**	**18 51 49.6**	**-0.8**
WHN				S		**S**	**18 56 20.5**	**+4.8**
WHN				LR	LR			
	comp=Z,1µm,15.8s							
ULN	**Ulaanbaatar**	**25.86**	**295**	P		**P**	**18 51 50.7**	**-0.1**
	SNR=18							
ULN	**Ulaanbaatar**	**25.86**	**295**	*eP*		**P**	**18 51 50.2**	**-0.7**
	comp=Z,60nm,0.9s							
SSLB	**Suanglung**	**26.07**	**232**	*eP*		**P**	**18 51 51.3**	**-1.5**
	comp=Z,12nm,0.4s							
YULB	**Yu-li**	**26.18**	**231**	*eP*		**P**	**18 51 51.9**	**-1.9**
	comp=Z,12nm,0.3s							
SONM	**Songino Array**	**26.30**	**295**	P		**P**	**18 51 54.9**	**+0.1**
SONM				PcP		**PcP**	**18 55 20.2**	**+0.6**
SONM	**Songino Array**	**26.30**	**295**	P		**P**	**18 51 54.9**	**+0.1**
	comp=Z,60nm,0.7s,baz=77,slow=8.6,SNR=408							
SONM				PcP		**PcP**	**18 55 20.2**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=104,slow=4.2,SNR=4.0							
SONM				LR		LR	19 02 51.7	
	comp=Z,684nm,20.1s,baz=70,slow=38							
QZH	**Quanzhou**	**26.63**	**237**	⇑ *i*P		P	18 51 52.6	-5.2
TPUB	**Ta-pu**	**26.64**	**232**	*eP*		**P**	**18 51 56.7**	**-1.2**
	comp=Z,50nm,0.8s							
TWG	**Pinlang**	**26.75**	**230**	*eP*		**P**	**18 51 59.9**	**+0.9**
	comp=Z,116nm,0.6s							
IRK	**Irkutsk**	**27.81**	**304**	*eP*		**P**	**18 52 08.0**	**-0.2**
IRK				*e*			18 52 29.2	
IRK				pmax	pmax			
	comp=Z,76nm,1.1s							
XAN	**Xi'an**	**27.95**	**264**	P		**P**	**18 52 08.8**	**-0.9**
XAN				S		**S**	**18 56 46.4**	**-3.1**
XAN				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TLY	**Talaya**	**28.16**	**303**	P		**P**	**18 52 11.0**	**-0.3**
	comp=Z,449nm,0.6s,SNR=20							
TLY	**Talaya**	**28.16**	**303**	*c iP*		**P**	**18 52 11.5**	**+0.2**
TLY				*e*S		**S**	**18 56 55.8**	**+3.5**
TLY				pmax	pmax			
	comp=Z,54nm,0.7s							
TLY				MLR	MLR			
	comp=Z,636nm,21.0s							
TLY	**Talaya**	**28.16**	**303**	P		**P**	**18 52 12.0**	**+0.7**
	SNR=18							
TLY	**Talaya**	**28.16**	**303**	*eP*		**P**	**18 52 11.0**	**-0.3**
	comp=Z,49nm,0.8s							
ZAK	**Zakamensk**	**28.33**	**300**	*eP*		**P**	**18 52 12.7**	**-0.3**
ZAK				*e*			18 55 20.9	
ZAK				pmax	pmax			
	comp=Z,28nm,1.0s							
ENH	**Enshi**	**29.44**	**257**	*eP*		**P**	**18 52 21.4**	**-1.5**
	comp=Z,55nm,0.6s							
MOY	**Mondy**	**29.80**	**303**	*eP*		**P**	**18 52 26.6**	**+0.6**
MOY				pmax	pmax			
	comp=Z,100nm,3.0s							
TIXI	**Tiksi**	**30.20**	**351**	⇑ *i*P		**P**	**18 52 27.0**	**-2.1**
TIXI	**Tiksi**	**30.20**	**351**	*eP*		**P**	**18 52 26.2**	**-2.9**
	comp=Z,3.1nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**30.22**	**131**	T		T	19 24 06.2	
	baz=318							
H11N1	**WAKE ISLAND Hy**	**30.23**	**131**	T		T

CTBH Cotabato--PC H 38.75 211⇑ *i*P P 18 53 45.2 +1.8
SLVN Son La 38.88 250 *e*P P 18 53 45.0 +0.4
comp=Z,52nm,0.8s
ZAA0 Zalesovo Array 39.48 308 *e*P P 18 53 49.0 -0.1
ZAA0 *e*PcP PcP 18 55 56.0 +0.1
ZALV Zalesovo Beam 39.48 308 P P 18 53 49.2 0.0
ZALV 18 55 56.3
ZALV 18 59 38.6
ZALV Zalesovo Beam 39.48 308 P P 18 53 49.2 0.0
ZALV PcP PcP 18 55 56.3 +0.5
ZALV ScP ScP 18 59 38.6 -0.7
ZALV Zalesovo Beam 39.48 308 P P 18 53 49.2 0.0
comp=Z,131nm,0.8s,baz=87,slow=7.7,SNR=382
ZALV PcP PcP 18 55 56.3 +0.5
comp=Z,33nm,0.7s,baz=86,slow=3.2,SNR=13
ZALV ScP ScP 18 59 38.6 -0.7
comp=Z,1.2nm,0.6s,baz=74,slow=5.4,SNR=4.1
ZALV LR LR 19 11 19.8
comp=Z,331nm,18.9s,baz=97,slow=38
WMQ Urumqi 39.84 292 P P 18 53 52.9 +0.5
WMQ pP pP 18 54 04.9 -2.3
WMQ sP sP 18 54 13.8 -0.2
WMQ PP PnPn 18 55 29.3 +1.0
WMQ PcP PcP 18 55 57.9 +0.6
WMQ S S 18 59 51.8 -0.8
WMQ sS sS 19 00 18.0 +0.3
WMQ SS SS 19 02 43.3 -7.0
WMQ ScS ScS 19 03 52.8 -1.2
WMQ pmax pmax
comp=Z,28nm,8.6s
WMQ LR LR
comp=Z,380nm,7.2s
WMQ LR LR
comp=Z,520nm,14.4s
NVS Novosibirsk 40.28 309⇑ *i*P P 18 53 54.8 -1.0
NVS pmax pmax
comp=Z,113nm,1.7s
IM04 Indian Mountai 41.45 33 *e*P P 18 54 04.8 -0.5
RSO Redoubt South 42.01 42 *e*P P 18 54 11.5 +1.4
comp=Z,42nm,0.8s
PPLA Purkeypile 42.13 38 *e*P P 18 54 12.3 +1.3
comp=Z,33nm,1.2s
MK31 Makanchi Array 42.59 298 *i*P P 18 54 14.9 0.0
MK31 pmax pmax
comp=Z,60nm,0.5s
MK31 Makanchi Array 42.59 298 *e*P P 18 54 14.8 -0.1
MKAR Makanchi Array 42.59 298 P P 18 54 14.9 +0.1
MKAR 18 56 06.5
MKAR Makanchi Array 42.59 298 P P 18 54 14.9 +0.1
MKAR PcP PcP 18 56 06.5 +0.4
MKAR Makanchi Array 42.59 298 P P 18 54 14.9 +0.1
comp=Z,57nm,0.6s,baz=82,slow=10,SNR=712
MKAR PcP PcP 18 56 06.5 +0.4
comp=Z,12nm,0.8s,baz=59,slow=5.8,SNR=4.5
COLD Coldfoot 42.92 32 *e*P P 18 54 16.8 -0.4
comp=Z,5.9nm,0.6s
LSA Lhasa 43.23 270 *e*P P 18 54 22.0 +1.2
LSA pmax pmax
comp=Z,31nm,0.6s
LSA Lhasa 43.23 270 *e*P P 18 54 22.0 +1.2
comp=Z,31nm,0.6s
SEW Seward 43.68 42 *e*P P 18 54 23.6 +0.2
comp=Z,52nm,1.4s
TNTI Ternate 43.74 203 *e*P P 18 54 23.4 -1.0
comp=Z,31nm,0.7s
KURK Kurchatov 43.84 304 P P 18 54 25.5 +0.7
comp=Z,1µm,0.9s
KURK Kurchatov 43.84 304*c* *i*P P 18 54 24.8 -0.1
KURK pmax pmax
comp=Z,93nm,0.7s
KURK Kurchatov 43.84 304 P P 18 54 25.2 +0.4
SNR=44
KURK Kurchatov 43.84 304 *e*P P 18 54 24.7 -0.1
comp=Z,129nm,0.8s
KURK PcP PcP 18 56 10.8 +0.5
KURBB Kurchatov Arra 43.92 304 P P 18 54 25.7 +0.2
comp=Z,172nm,0.7s,baz=76,slow=9.3,SNR=753
KURBB PcP PcP 18 56 10.8 +0.2
comp=Z,12nm,0.8s,baz=84,slow=5.1,SNR=4.6
COLA College 43.95 35*c* *i*P P 18 54 26.0 +0.5
COLA pmax pmax
comp=Z,159nm,0.8s
CHTO Chiang Mai 44.02 252 *e*P P 18 54 27.2 +0.5
CHTO pmax pmax
comp=Z,38nm,0.7s
CHTO Chiang Mai 44.02 252 P P 18 54 27.3 +0.7
SNR=9.7
CHTO Chiang Mai 44.02 252 *e*P P 18 54 27.2 +0.5
comp=Z,38nm,0.7s
PBKT Sadao Pong 44.14 247 P x 18 54 28.3
comp=Z,48nm,1.0s
CMAR Chiang Mai Arr 44.26 251 P P 18 54 29.4 +0.8
CMAR PcP PP 18 56 13.2 +0.5
CMAR ScP ScP 18 59 59.3 +0.3
CMAR Chiang Mai Arr 44.26 251 P P 18 54 29.4 +0.8
comp=Z,17nm,0.7s,baz=43,slow=7.4,SNR=156
CMAR PcP PP 18 56 13.2 +0.5
comp=Z,3.4nm,0.7s,baz=352,slow=1.8,SNR=5.5
CMAR ScP ScP 18 59 59.3 +0.3
comp=Z,0.6nm,0.9s,baz=31,slow=5.4,SNR=4.4
CMAR LR LR 19 12 36.4
comp=Z,223nm,21.4s,baz=48,slow=36
SMPI Sarmi 44.31 186 P P 18 54 30.4 +1.5
comp=Z,54nm,1.0s
SWI Sorong 44.32 197 P P 18 54 29.7 +0.7
comp=Z,45nm,0.7s
ILAR Eielson Array 44.37 35 P P 18 54 29.0 +0.1
ILAR ScP ScP 18 59 57.9 -0.8
ILAR Eielson Array 44.37 35 P P 18 54 29.0 +0.1
comp=Z,22nm,0.9s,baz=265,slow=5.9,SNR=130
ILAR ScP ScP 18 59 57.9 -0.8
comp=Z,0.6nm,0.8s,baz=280,slow=4.1,SNR=4.7
ILAR LR LR 19 16 55.7
comp=Z,64nm,18.4s,baz=288,slow=41
SHL Shillong 44.96 265 *e*P P 18 54 34.0 -0.3
LBMI Labuha 45.04 202 P P 18 54 35.6 +0.9
comp=Z,41nm,1.1s
MRSI Marisa 45.82 210 P P 18 54 41.5 +0.6
comp=Z,109nm,1.0s,comp=Z,900nm
FAKI Fak Fak 46.12 195 P P 18 54 43.7 +0.5
comp=Z,87nm,1.0s
FAKI Fak Fak 46.12 195 *e*P P 18 54 42.7 -0.5
comp=Z,32nm,0.6s
SANI Sanana 46.82 204 P P 18 54 48.2 -0.5
comp=Z,32nm,0.9s
TAPN Taplejung 47.05 270 *e*P P 18 54 51.7 +0.8
comp=Z,132nm,0.6s
APSI Ampana 47.21 210 P P 18 54 51.3 -0.5
comp=Z,70nm,0.9s
ODAN Odare 47.55 270 *e*P P 18 54 55.2 +0.5
comp=Z,50nm,0.5s
JIRN Jiri 48.00 271 *e*P P 18 54 58.9 +0.5
comp=Z,74nm,0.4s
BVA0 Borovoye Array 48.08 309 *i*P P 18 54 58.4 +0.2
BVA0 pmax pmax
comp=Z,77nm,0.5s
RAMN Ramite 48.09 270 *e*P P 18 54 59.2 +0.3
comp=Z,314nm,0.8s
GUN Gumba 48.10 272 *e*P P 18 54 59.4 +0.4
comp=Z,274nm,0.4s
BRVK Borovoye 48.13 309 P P 18 54 58.1 -0.4
comp=Z,605nm,0.6s,SNR=67
BRVK Borovoye 48.13 309 *e*P P 18 54 58.8 +0.3
BRVK *e* 18 56 25.6
BRVK pmax pmax
comp=Z,103nm,0.9s
BRVK Borovoye 48.13 309 P P 18 54 59.3 +0.8
SNR=26
BRVK Borovoye 48.13 309 *e*P P 18 54 58.8 +0.3
comp=Z,103nm,0.9s
BRVK *e*PcP PcP 18 56 25.6 +0.4
ULHL Ulahol 48.24 294 P P 18 55 01.4 +1.6
SNR=9.1
TKM2 Tokmak 2 48.40 295 *e*P P 18 55 01.6 +0.6
TKM2 pmax pmax
comp=Z,77nm,0.6s
TKM2 Tokmak 2 48.40 295 P P 18 55 01.8 +0.7
SNR=153
TKM2 Tokmak 2 48.40 295 *e*P P 18 55 01.6 +0.6
comp=Z,77nm,0.6s
KKN Kakani 48.61 272 *e*P P 18 55 03.1 +0.3
comp=Z,200nm,0.8s
PKI Pulchoki 48.63 272 *e*P P 18 55 03.2 +0.1
comp=Z,112nm,0.6s
PKIN Phulchoki 48.64 272 *e*P P 18 55 03.1 0.0
comp=Z,103nm,0.7s

DMN Daman 48.83 272 *e*P P 18 55 05.0 +0.4
comp=Z,136nm,0.7s
CHMS Chumysh 48.94 295 P P 18 55 05.1 +0.1
SNR=12
KBK Karagaybulak 48.94 295 P P 18 55 05.7 +0.5
SNR=123
GKN Gorkha 48.97 273 *e*P P 18 55 05.7 +0.2
comp=Z,119nm,0.5s
KZA Kyzart 48.98 294 P P 18 55 06.9 +1.2
SNR=31
USP Ospenovka 49.00 296 P P 18 55 05.7 +0.3
SNR=38
FRU Bishkek 49.09 295 *e*P P 18 55 06.5 +0.3
FRU *e* 18 55 22.0
FRU pmax pmax
comp=Z,60nm,2.0s
INK Inuvik 49.10 29 *e*P P 18 55 05.8 0.0
comp=Z,15nm,0.9s
INK Inuvik 49.10 29 P P 18 55 05.9 +0.1
comp=Z,7.1nm,0.6s,baz=305,slow=7.0,SNR=52
AAK Ala-Archa 49.26 295 P P 18 55 07.6 0.0
comp=Z,277nm,0.3s,SNR=41
AAK Ala-Archa 49.26 295*c* *i*P P 18 55 07.5 0.0
AAK pmax pmax
comp=Z,117nm,1.7s
AAK Ala-Archa 49.26 295 P P 18 55 07.8 +0.2
SNR=46
AAK Ala-Archa 49.26 295 P P 18 55 07.9 +0.2
SNR=11
AAK Ala-Archa 49.26 295 *e*P P 18 55 07.4 -0.1
comp=Z,22nm,0.4s
UCH Uchtor 49.41 294 P P 18 55 09.5 +0.4
SNR=16
DANN Dangsing 49.43 274 *e*P P 18 55 10.0 +0.8
comp=Z,743nm,0.7s
KSH Kashi 49.58 291 *i*P P 18 55 13.8 +3.8
KSH *e*PP PP 18 57 09.0 +4.5
KSH *e*PcS PcS 19 00 31.1 +3.4
KSH *e*S S 19 02 15.0 +1.2
KSH sS sS 19 02 42.0 +2.4
KSH *e*SS SS 19 05 42.1 -4.1
KSH pmax pmax
comp=Z,23nm,0.9s
KSH pmax pmax
comp=Z,140nm,4.1s
KSH LR LR
comp=Z,520nm,19.4s
KSH LR LR
comp=Z,440nm,15.8s
KSH LR LR
comp=Z,310nm,8.0s
EKS2 Erkin-Say 49.73 295 *e*P P 18 55 11.2 +0.1
EKS2 pmax pmax
comp=Z,26nm,0.6s
EKS2 Erkin-Say 49.73 295 P P 18 55 11.4 +0.3
SNR=24
EKS2 Erkin-Say 49.73 295 *e*P P 18 55 11.2 +0.1
comp=Z,26nm,0.6s
KOLN Koldanda 49.86 273 *e*P P 18 55 12.9 +0.5
comp=Z,125nm,0.6s
AML Almayashu 50.01 295 P P 18 55 14.1 +0.5
SNR=44
BOK Bokaro 50.42 267 *e*P P 18 55 16.5 +0.1
BOK AMB AMB 18 55 17.5
comp=Z,33nm,0.6s
LGTI Lohaghat 51.43 277 *e*P P 18 55 24.5 +0.6
PMG Port Moresby 51.64 175 LR LR 19 13 57.8
comp=Z,50nm,21.9s,baz=308,slow=32
KK31 Karatay Array 51.71 297 *i*P P 18 55 25.4 -0.5
KK31 pmax pmax
comp=Z,19nm,0.5s
KKAR Karatay Array 51.71 297 *e*P P 18 55 25.5 -0.4
KKAR pmax pmax
comp=Z,22nm,0.5s
KKAR Karatay Array 51.71 297 *e*P P 18 55 25.5 -0.4
comp=Z,22nm,0.5s
DGPR DIGLIPUR 52.07 251 *e*P P 18 55 27.3 -1.5
DGPR AMB AMB 18 55 30.7
comp=Z,58nm,0.6s
SVE Sverdlovsk 52.10 316*de*P P 18 55 29.2 +0.7
SVE pmax pmax
comp=Z,231nm,0.7s
DDI Dehra Dun 52.57 279 *e*P P 18 55 32.7 +0.2
DDI AMB AMB 18 55 33.2
comp=Z,38nm,0.9s
KULM Kulim 52.68 238 P x 18 55 34.5
comp=Z,58nm,0.9s
KULM Kulim 52.68 238 *e*P P 18 55 34.3 +1.0
comp=Z,31nm,0.8s
SMLA Simla 52.79 281 *e*P P 18 55 33.7 -0.3
SMLA *e*P P 18 55 34.2 +0.2
DHRM DHARAMSHALA 52.84 282 *e*P P 18 55 33.9 -0.8
DLH Dalhousie 52.93 283 *e*P P 18 55 35.0 -0.3
SOKR Solikamsk 52.97 321*c* *i*P P 18 55 34.8 0.0
SOKR pmax pmax
comp=Z,90nm,1.0s
IPM Ipoh 53.07 237 P x 18 55 36.6
comp=Z,28nm,1.4s
IPM Ipoh 53.07 237 *e*P P 18 55 36.4 +0.2
comp=Z,12nm,0.7s
ARU Arti 53.32 316 P P 18 55 37.0 -0.5
comp=Z,1µm,0.6s,SNR=75
ARU Arti 53.32 316*c* *i*P P 18 55 37.3 -0.2
ARU *PP pP 18 55 52.8 -0.1
ARU *e* 18 56 43.8
ARU 18 57 38.4
ARU S S 19 03 05.8 +1.3
ARU SS SKiKP 19 06 49.4 +1.1
ARU pmax pmax
comp=Z,190nm,1.0s
ARU MLR MLR
comp=Z,287nm,22.0s
ARU Arti 53.32 316 *e*P P 18 55 37.3 -0.2
comp=Z,130nm,0.7s
ARU *e*PcP PcP 18 56 44.0 -0.3
DLBC Dease Lake 53.70 41 *e*P P 18 55 42.2 +1.8
DLBC Dease Lake 53.70 41 P P 18 55 41.7 +1.3
comp=Z,8.7nm,0.9s,baz=298,slow=7.0,SNR=13
TPRI Tanjung Pinang 53.82 231 P P 18 55 42.3 +0.6
comp=Z,43nm,1.0s
NDI New Delhi 54.07 278 *e*P P 18 55 43.0 -0.4
SOEI Soe 54.64 203 *e*P P 18 55 46.9 -0.8
comp=Z,36nm,0.8s
ALE Alert 54.73 4 P P 18 55 47.0 -0.5
comp=Z,150nm,1.1s,SNR=14
LBFI Labuhan Bajo, 54.85 208 P x 18 55 48.1
comp=Z,112nm,1.1s
HOPEN Hopen 55.21 345 *e*P P 18 55 50.9 -0.1
HOPEN IAmb IAmb 18 55 52.5
comp=Z,50nm,0.8s
AB31 Akbulak array 55.59 308 *i*P P 18 55 54.2 +0.1
AB31 pmax pmax
comp=Z,25nm,0.3s
ABKAR Akbulak array 55.59 308 *e*P P 18 55 54.3 +0.2
comp=Z,51nm,0.4s
KBS Kingsbay 55.65 350*ce*P P 18 55 54.9 +0.8
KBS pmax pmax
comp=Z,53nm,1.7s
PSI Prapat 55.68 237 P x 18 55 55.7
comp=Z,42nm,1.1s
PSI Prapat 55.68 237 P P 18 55 56.1 +0.8
PSI Prapat 55.68 237 P P 18 55 56.1 +0.8
comp=Z,25nm,0.7s,baz=5.7,slow=6.8,SNR=25
VIS Vishakhapatnam 56.02 263 *e*P P 18 55 57.2 -0.3
VIS AMB AMB 18 55 58.7
comp=Z,50nm,0.4s
COEN Coen 56.02 180 *e*P P 18 55 57.4 -0.1
comp=Z,277nm,1.1s
AKTO Aktyubinsk 56.17 310 P P 18 55 58.0 -0.2
AKTO pmax pmax
comp=Z,45nm,0.8s
BKNI Bangkinang 56.34 234 *e*P P 18 56 00.9 +1.0
comp=Z,45nm,0.6s
BHPL Bhopal 57.02 272 *e*P P 18 56 03.7 -1.0
BHPL AMB AMB 18 56 04.8
comp=Z,56nm,0.9s
PRGR Permogore 57.06 326 *e*P P 18 56 01.8 -2.5
PRGR pmax pmax
comp=Z,118nm,0.9s
RES Resolute Bay 57.14 16 P P 18 56 04.2 -0.5
RES Resolute Bay 57.14 16 P P 18 56 04.2 -0.5
comp=Z,35nm,0.6s,baz=307,slow=6.9,SNR=145
GSI Gunungsitoli 57.69 238 *e*P P 18 56 09.6 +0.2
comp=Z,39nm,0.6s
PWJI Pagerwojo 57.70 217 P P 18 56 08.6 -0.8
comp=Z,52nm,3.0s

LHSI Lahat 58.28 228 P P 18 56 14.5 +1.0
comp=Z,107nm,1.0s
APA Apatity 58.40 335⇑ *i*P P 18 56 13.0 -0.7
APA *i* 18 57 08.4
APA *i*S S 19 04 06.0 -5.8
MDSI Maura Dua 58.47 227 P P 18 56 14.8 0.0
YKA Yellowknife Ar 58.60 32 P P 18 56 15.2 +0.1
YKA Yellowknife Ar 58.60 32 P P 18 56 15.2 +0.1
comp=Z,6.8nm,0.8s,baz=304,slow=6.6,SNR=96
KEV Kevo 58.95 339 *e*P P 18 56 17.1 -0.3
KEV Kevo 58.95 339 *e*p P 18 56 17.1 -0.3
ARCES ARCESS Array B 59.50 339 P P 18 56 20.8 -0.5
ARCES ARCESS Array B 59.50 339 P P 18 56 20.8 -0.5
comp=Z,5.1nm,0.6s,baz=47,slow=6.8,SNR=33
ARE0 ARCESS Array S 59.50 339 *e*P P 18 56 19.7 -1.5
HYB Hyderabad 59.73 266 *i*P P 18 56 23.0 -0.7
HYB *e*pP pP 18 56 40.0 +0.7
HYB Hyderabad 59.73 266 *e*P P 18 56 23.1 -0.5
HYB AMB AMB 18 56 24.0
comp=Z,44nm,0.5s
KLMR Klimovskoe 59.99 327 *e*P P 18 56 22.5 -2.2
KLMR pmax pmax
comp=Z,75nm,1.2s
KTK1 Kautokeino 60.45 339 *e*P P 18 56 27.4 -0.3
DAG Danmarks Havn 60.59 355 *i*P P 18 56 27.6 -1.0
DAG pmax pmax
comp=Z,13nm,0.7s
DAG Danmarks Havn 60.59 355 *i*P P 18 56 27.6 -1.0
comp=Z,19nm,0.7s
TRO Tromso 61.12 341 *e*P P 18 56 35.7 +3.4
TRO IAmb IAmb 18 56 37.0
comp=Z,49nm,0.7s
JOF Joensuu 61.91 331 *e*P P 18 56 37.7 0.0
JOF Joensuu 61.91 331 *e*p P 18 56 37.7 0.0
IMYA Miami 62.02 295 *e*P P 18 56 39.8 +0.6
CTA Charters Tower 62.19 177 P P 18 56 40.2 +0.2
CTA Charters Tower 62.19 177 P P 18 56 40.2 +0.2
comp=Z,5.4nm,0.9s,baz=2.7,slow=8.9,SNR=3.6
IEMG Emamgholi 62.40 297 *e*P P 18 56 42.5 +0.7
ABKT Ailbek 62.46 297 P P 18 56 42.9 +1.0
comp=Z,503nm,0.7s,SNR=26
ISRO Mashad 62.46 295 *e*P P 18 56 42.9 +0.9
WRAB Tennant Creek 62.49 189 P P 18 56 40.2 -1.8
comp=Z,56nm,0.6s,SNR=7.9
WRAB Tennant Creek 62.49 189 *e*P P 18 56 40.3 -1.8
WRAB *e*PP pP 18 56 57.2 -0.7
WRAB pmax pmax
comp=Z,22nm,0.9s
WRAB Tennant Creek 62.49 189 *e*P P 18 56 40.2 -1.8
comp=Z,22nm,0.9s
WRAB *e*pP pP 18 56 57.2 -0.7
WRA Warramunga Arr 62.50 189 P P 18 56 41.5 -0.7
WRA ⇑*e* 19 25 51.1
WRA Warramunga Arr 62.50 189 P P 18 56 41.5 -0.7
comp=Z,6.8nm,0.7s,baz=6.8,slow=6.9,SNR=103
WRA PKP2bc 19 25 51.1
comp=Z,1.0nm,0.8s,baz=191,slow=2.2,SNR=7.9
POO Poona 62.52 271 ⇓ *i*P P 18 56 42.0 -0.6
comp=Z,50nm,1.0s
IAKL Akhelmad 62.78 296 *e*P P 18 56 45.0 +0.6
IKRD Kardeh 62.84 296 *e*P P 18 56 41.4 -3.3
ISFR Sfrayin 63.03 297 *e*P P 18 56 46.6 +0.7
MOS Moscow 63.78 323 *e*P P 18 56 49.3 -1.0
MOS pmax pmax
comp=Z,87nm,1.1s
KAF Kangasniemi 64.19 332 *e*P P 18 56 52.1 -0.8
KAF Kangasniemi 64.19 332 *e*p P 18 56 52.1 -0.8
IDAH Dahanechah 64.21 292 *e*P P 18 56 54.3 +0.5
EDM Edmonton 64.42 40 *e*P P 18 56 54.3 -0.3
EDM Edmonton 64.42 40 *e*P P 18 56 54.2 -0.3
OBN Obninsk 64.64 322 P P 18 56 55.4 -0.4
comp=Z,501nm,1.0s,SNR=6.4
OBN Obninsk 64.64 322⇑ *i*P P 18 56 54.7 -1.2
OBN *e* 18 59 19.8
OBN pmax pmax
comp=Z,118nm,1.6s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 64.64 322 *e*P P 18 56 55.5 -0.4
comp=Z,67nm,1.0s
VRHR Novokhopersk 64.66 317 *e*P P 18 56 53.7 -2.4
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,40nm,1.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
FIA1 FINESS Array S 64.73 332 *e*P P 18 56 55.8 -0.5
FINES FINESS Array B 64.73 332 P P 18 56 55.8 -0.5
FINES FINESS Array B 64.73 332 P P 18 56 55.8 -0.5
comp=E,38nm,0.5s,baz=54,slow=6.9,SNR=470
FINES LR LR 19 26 45.0
comp=E,349nm,21.1s,baz=55,slow=37
PALK Pallekele 64.83 256 P P 18 56 58.6 +0.8
comp=E,291nm,0.6s,SNR=9.7
PALK Pallekele 64.83 256 *e*P P 18 56 58.0 +0.2
comp=E,22nm,0.5s
PALK Pallekele 64.83 256 ⇓ *i*P P 18 56 58.0 +0.2
SNR=8.3
MOR8 Moi Rana 64.84 339⇑ *i*P P 18 56 55.2 -1.9
MOR8 IAmb IAmb 18 56 56.9
comp=Z,59nm,0.8s
ITEG Tejag 64.89 292 *e*P P 18 56 58.5 +0.4
G05D Wamic, OR 64.92 51 ⇓P P 18 56 59.0 +1.0
baz=65
IKOO Kooshah 64.99 292 *e*P P 18 56 59.2 +0.4
SUMG Summit 65.37 1 *i*P P 18 57 00.9 0.0
SUMG pmax pmax
comp=Z,57nm,0.9s
SUMG Summit 65.37 1 *i*P P 18 57 00.9 0.0
comp=Z,57nm,0.9s
SUMG Summit 65.37 1 *e*P P 18 57 00.8 -0.1
comp=Z,54nm,0.7s
NEW Newport 65.48 46 *e*P P 18 57 01.7 +0.2
comp=Z,13nm,0.9s
NEW Newport 65.48 46 P P 18 57 02.0 +0.4
comp=Z,11nm,0.9s,baz=318,slow=4.5,SNR=13
NEW Newport 65.48 46 ⇓P P 18 57 02.1 +0.6
baz=65,SNR=8.0
J04D Umpqua Nationa 65.62 53 ⇓P P 18 57 03.6 +0.9
baz=66
VSR Storozhevoye 65.81 318 *e*P P 18 57 02.6 -1.0
VSR pmax pmax
comp=Z,50nm,0.7s
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,40nm,0.9s
VORD Divnogorie 65.91 318 *e*P P 18 57 02.5 -1.6
VORD pmax pmax
comp=Z,40nm,0.8s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,40nm,1.3s
PINOR Pine Mountain 66.02 52 *e*P P 18 57 06.8 +1.8
comp=E,15nm,0.9s
J05D Fort Rock, OR 66.11 53 ⇑P P 18 57 06.6 +0.8
baz=66
AS31 Alice Springs 66.23 189 *e*P P 18 57 06.2 -0.2
ASAR Alice Springs 66.23 189 P P 18 57 07.1 +0.6
ASAR ⇑*e* 19 25 43.5
ASAR Alice Springs 66.23 189 P P 18 57 07.1 +0.6
comp=E,3.5nm,0.7s,baz=8.9,slow=5.5,SNR=31
ASAR PKP2bc 19 25 43.5
comp=E,0.8nm,0.8s,baz=168,slow=2.2,SNR=5.6
MAK Makhachkala 66.24 307 *e*P pP 18 57 20.2 -2.2
MAK MLR MLR
comp=Z,220nm,12.0s
VSU Vasula 66.54 329*c* *i*P P 18 57 07.7 -0.4
VSU pmax pmax
comp=Z,225nm,1.0s
IANJ Anjilo 66.64 297 *e*P P 18 57 10.3 +0.8
M04C Macdoel 66.64 54 ⇓P P 18 57 10.0 +0.7
baz=66
WALA Waterton Lakes 66.69 44 *e*P P 18 57 09.8 +0.4
comp=Z,0.3nm,0.8s
ISHM Shahmirzad 66.85 298 *e*P P 18 57 11.6 +0.7
SCO Scoresbysund 66.95 355 *i*P P 18 57 10.7 +0.2
SCO pmax pmax
comp=Z,8.0nm,1.0s
SCO Scoresbysund 66.95 355 *i*P P 18 57 10.7 +0.2
comp=Z,8.4nm,1.0s
BSMT Bassoo Peak 66.97 46 *e*P P 18 57 11.8 +0.5
comp=Z,4.9nm,0.8s

BLMT **Blacktail Moun** 67.10 45 *e*P P 18 57 13.3 +1.2
comp=Z,21nm,0.8s

JTMT **Jette** 67.30 46 *e*P P 18 57 12.9 -0.4
comp=Z,11nm,0.8s

ILAS **Lasjerd** 67.32 298 *e*P P 18 57 14.6 +0.8

GOF **Gofitskoye** 67.55 311⇑*i*P P 18 57 15.5 +0.8
GOF pmax pmax
comp=Z,143nm,0.8s

SWMT **Swartz Lake** 67.60 46 *e*P P 18 57 15.8 +0.6
comp=Z,17nm,0.9s

DZM **Mont Dzumac** 67.64 157 *e*LR LR 19 17 40.7
comp=Z,188nm,22.9s

IDMV **Damavand** 67.81 298 *e*P P 18 57 17.4 +0.4

IBAF **Bafgh** 67.83 293 *e*P P 18 57 17.1 +0.1

SLMT **Seeley Lake** 68.04 46 *e*P P 18 57 18.5 +0.5
comp=Z,14nm,0.9s

MSO **Missoula** 68.06 46 ⇓P P 18 57 18.2 +0.1
baz=68

ICHK **Chekchek** 68.23 294 *e*P P 18 57 19.4 -0.1

GUDG **Gudauri** 68.32 308 P P 18 57 20.7 +0.8

IVRN **Varamin** 68.36 298 *e*P P 18 57 20.6 +0.5

CHMT **Chamberlain Mo** 68.37 46 *e*P P 18 57 20.3 +0.1
comp=Z,3.6nm,1.0s

DGRG **David-gareji** 68.42 307 P P 18 57 21.0 +0.7

DUS **Dusheti** 68.42 308 P P 18 57 23.8 +3.4

KIV **Kislovodsk** 68.43 310 P P 18 57 21.7 +1.3
comp=Z,1µm,0.8s,SNR=29

KIV **Kislovodsk** 68.43 310 *e*P P 18 57 21.1 +0.7
KIV pmax pmax
comp=Z,148nm,0.9s

KIV MLR MLR
comp=Z,254nm,18.0s

KIV **Kislovodsk** 68.43 310 P P 18 57 21.6 +1.2
SNR=17

KIV **Kislovodsk** 68.43 310 *e*P P 18 57 21.1 +0.7
comp=Z,128nm,0.7s

KIV **Kislovodsk** 68.43 310⇓*i*P P 18 57 21.3 +0.8
SNR=44

KBZ **Khabaz** 68.45 310 P P 18 57 21.3 +0.9

KBZ **Khabaz** 68.45 310 P P 18 57 21.3 +0.9

KBZ **Khabaz** 68.45 310 P P 18 57 21.3 +0.9
comp=Z,49nm,0.8s,baz=32,slow=7.0,SNR=122
KBZ LR LR 19 31 24.9
comp=Z,161nm,20.1s,baz=46,slow=40

ZEI **Tsey** 68.46 309 *e*P P 18 57 18.3 -2.4
ZEI pmax pmax
comp=Z,36nm,0.9s

IGZV **Ghazvin** 68.50 300 *e*P P 18 57 21.7 +0.6

FFC **Flin Flon** 68.57 34 P P 18 57 21.3 +0.3
comp=Z,131nm,0.8s,SNR=11

FFC **Flin Flon** 68.57 34 *e*P P 18 57 21.1 +0.1
FFC pmax pmax
comp=Z,14nm,0.8s

FFC **Flin Flon** 68.57 34 *e*P P 18 57 21.1 +0.1
comp=Z,14nm,0.8s

IMEH **Mehriz** 68.60 293 *e*P P 18 57 21.3 -0.6

TBLG **Delisi** 68.62 307 P P 18 57 22.5 +1.0

IMHD **Mahdasht** 68.63 299 *e*P P 18 57 22.5 +0.6

FCC **Fort Churchill** 68.69 28 *e*P P 18 57 21.5 -0.1

FCC **Fort Churchill** 68.69 28 *e*P P 18 57 21.5 -0.1
comp=Z,0.3nm,0.8s

BEKR **Beckworth** 68.69 55 *e*P P 18 57 23.0 +0.8
comp=Z,4.5nm,0.8s

IDID **Didziasalis** 68.74 327 *e*P P 18 57 22.1 +0.2
IDID AMB AMB 18 57 22.6
comp=Z,18nm,0.8s

ISAL **Salakas** 68.81 327 *e*P P 18 57 22.6 +0.2
ISAL AMB AMB 18 57 23.2
comp=Z,26nm,0.7s

MICGM **Minsk** 68.83 326⇓*e*P P 18 57 21.0 -1.6

ONI **Oni** 68.84 309 P P 18 57 24.3 +1.3

MNK **Minsk** 68.86 326⇓*e*P P 18 57 21.0 -1.7
MNK pmax pmax
comp=Z,320nm,1.0s

ISAD **Sadrabad** 68.92 294 *e*P P 18 57 23.8 -0.1

IIGN **Ignalina** 68.92 327 *e*P P 18 57 22.8 -0.3
IIGN AMB AMB 18 57 23.4
comp=Z,27nm,0.7s

NACGM **Naroch** 69.01 326 *e*P P 18 57 22.0 -1.7

IZEF **Zefreh** 69.23 296 *e*P P 18 57 25.8 0.0

HRY **Holter Researc** 69.25 45 *e*P P 18 57 26.2 +0.7
comp=Z,12nm,0.8s

IRAZ **Razeghan** 69.28 299 *e*P P 18 57 26.2 +0.3

QAM **Ghamsar** 69.30 297 *e*P P 18 57 27.9 +1.8

IHRS **Heris** 69.33 303 *e*P P 18 57 26.8 +0.5

PAHR **Pah Rah Range** 69.39 55 *e*P P 18 57 26.5 0.0
comp=Z,3.9nm,0.7s

A19A **Klindworth Far** 69.39 42 ⇑P P 18 57 27.1 +0.8
baz=69,SNR=18

IKLH **Kolahrood** 69.47 297 *e*P P 18 57 27.7 +0.4

EGMT **Eagleton** 69.47 43 *e*P P 18 57 27.5 +0.7
comp=Z,20nm,0.8s

EGMT **Eagleton** 69.47 43 ⇓P P 18 57 27.3 +0.5
baz=69,SNR=13

LRM **Limekiln Ridge** 69.50 46 *e*P P 18 57 27.8 +0.6
comp=Z,123nm,0.9s

CHVG **Ch'k'valeri** 69.55 309 P P 18 57 28.0 +0.8

AKH **Akhalkalaki** 69.55 308 P P 18 57 29.2 +1.7

GNI **Garni** 69.60 306 P P 18 57 27.3 -0.5
comp=Z,47nm,1.2s

B19A **Brinkman Farms** 69.60 42 ⇑P P 18 57 28.1 +0.5
baz=69,SNR=10

NB2 **NORSAR Subarra** 69.79 337 P P 18 57 27.8 -0.6
comp=Z,71nm,1.2s,baz=34,slow=6.5

NB2 **NORSAR Subarra** 69.79 337 P P 18 57 27.8 -0.6
baz=34,slow=6.5

NOA **NORSAR Array B** 69.79 337 P P 18 57 27.9 -0.5

NOA **NORSAR Array B** 69.79 337 P P 18 57 27.9 -0.5
comp=Z,22nm,0.8s,baz=36,slow=6.1,SNR=81

IBST **Bostanabad** 69.80 303 *e*P P 18 57 28.9 -0.3

CMB **Columbia Colle** 69.81 57 *e*P P 18 57 29.9 +0.9
CMB pmax pmax
comp=Z,6.0nm,0.9s

CMB **Columbia Colle** 69.81 57 *e*P P 18 57 29.9 +0.9
comp=Z,6.1nm,0.9s

A20A **Cobblestone Ra** 69.83 42 ⇓P P 18 57 29.9 +1.0
baz=70

HLID **Hailey** 69.86 49 ⇓P P 18 57 30.2 +0.8
baz=70,SNR=5.8

MCMT **McKenzie Canyo** 69.92 47 *e*P P 18 57 30.1 +0.2
comp=Z,1.8nm,0.8s

ITBZ **Tabriz** 69.93 304 *e*P P 18 57 30.3 +0.4

C19A **Slack Wire Ran** 70.02 43 ⇓P P 18 57 30.9 +0.7
baz=70,SNR=18

NAO01 **NORSAR Array S** 70.04 337 *e*P P 18 57 29.1 -0.9
comp=Z,18nm,0.9s

BOZ **Bozeman (W)** 70.05 46 *e*P P 18 57 31.4 +0.9
BOZ pmax pmax
comp=Z,10.0nm,0.8s

BOZ **Bozeman (W)** 70.05 46 *e*P P 18 57 31.4 +0.9
comp=Z,10nm,0.8s

B20A **Solberg Farm,** 70.07 42 ⇑P P 18 57 31.1 +0.6
baz=70,SNR=6.9

WAKR **Walker** 70.10 56 *e*P P 18 57 31.9 +1.0
comp=Z,8.0nm,0.9s

A21A **Bergtoll Ranch** 70.24 41 ⇓P P 18 57 32.2 +0.7
baz=70,SNR=6.9

DIGO **Kars** 70.25 307 *i*P P 18 57 32.9 +1.0

IPIR **Pirpir** 70.32 296 *e*P P 18 57 32.3 -0.3

SOC **Sochi** 70.33 311*c i*P P 18 57 32.1 +0.1
SOC *e*PPP PPP 19 01 51.2
SOC *e*S **S** **19 06 35.4 -4.3**
SOC *e**SS **SKiKP** **19 07 09.7 -1.5**
SOC *e* 19 07 24.6
SOC *e*SSS SSS 19 14 23.2
SOC pmax pmax
comp=Z,36nm,0.7s

D19A **Cripps Ranch,** 70.49 43 ⇑P P 18 57 33.9 +0.8
baz=70,SNR=11

C20A **Veseth Ranch,** 70.56 43 ⇑P P 18 57 34.3 +0.9
baz=70,SNR=5.1

B21A **Ellsworth Farm** 70.58 42 ⇓P P 18 57 34.1 +0.6
baz=70,SNR=5.2

ARTV **Artvin** 70.61 308 *i*P P 18 57 34.9 +0.8

IPAR **Pars** 70.61 293 *e*P P 18 57 34.5 +0.1

DAGI **Agillar** 70.68 308 *i*P P 18 57 35.1 +0.7

A22A **Carney Farms,** 70.73 41 ⇓P P 18 57 34.9 +0.5
baz=70,SNR=20

BANOM **Banah** 70.77 288 P P 18 57 35.5 +0.4
SNR=15

BANOM **Banah** 70.77 288⇓*i*P P 18 57 35.2 +0.1
SNR=38

NVAR **Mina Array Bea** 70.84 55 P P 18 57 36.4 +0.9

NVAR **Mina Array Bea** 70.84 55 P P 18 57 36.4 +0.9
comp=Z,7.6nm,0.7s,baz=287,slow=6.1,SNR=44

DBAD **Bademkaya** 70.85 308 *i*P P 18 57 36.5 +1.1

ISRV **Sarvestan** 70.85 293 *e*P P 18 57 35.9 +0.1

AKASG **Malin Array Be** 70.89 322*ce*P P 18 57 34.7 -0.5
AKASG pmax pmax
comp=Z,10.0nm,0.4s

AKASG **Malin Array Be** 70.89 322 P P 18 57 34.8 -0.5

AKASG **Malin Array Be** 70.89 322 P P 18 57 34.8 -0.5
comp=Z,9.6nm,0.4s,baz=44,slow=6.0,SNR=258
AKASG LR LR 19 30 50.5
comp=Z,126nm,21.0s,baz=50,slow=38

AKBB **Malin Array Si** 70.89 322 *e*P P 18 57 34.6 -0.7

AKBB **Malin Array Si** 70.89 322 *e*P P 18 57 34.6 -0.7

AK01 **Malin Array Si** 70.91 322 *e*P P 18 57 34.8 -0.6

KIEV **Kiev** 70.91 322*c i*P P 18 57 34.8 -0.6

KIEV **Kiev** 70.91 322 *e*P P 18 57 34.6 -0.8
comp=Z,38nm,0.8s

D20A **Manuel Ranch,** 70.92 43 ⇓P P 18 57 36.5 +0.9
baz=71,SNR=14

WBK **Wadi Bani Khal** 70.92 283 P P 18 57 37.5 +1.5
SNR=13

AK02 **Malin Array Si** 70.93 322 *e*P P 18 57 34.9 -0.6

GCMT **Graycliff** 70.99 45 *e*P P 18 57 37.1 +0.9
comp=Z,4.9nm,0.9s

E19A **Rath Farm, Rou** 71.00 44 ⇓P P 18 57 37.2 +1.0
baz=71,SNR=9.0

SUW **Suwalki** 71.11 327 *e*P P 18 57 36.0 -0.6

SUW **Suwalki** 71.11 327 *e*P P 18 57 35.9 -0.6

B22A **Reddig Ranch S** 71.16 41 ⇑P P 18 57 37.6 +0.5
baz=71

SMDO **Samad** 71.31 284 P P 18 57 40.0 +1.6
SNR=11

FRB **Frobisher Bay** 71.31 14 P P 18 57 37.0 -0.5

FRB **Frobisher Bay** 71.31 14 P P 18 57 37.0 -0.5
comp=Z,27nm,0.7s,baz=340,slow=7.2,SNR=47

E20A **Meyer Farm, Mu** 71.31 44 ⇓P P 18 57 38.8 +0.7
baz=71

F19A **Roth Farm, Mol** 71.33 45 ⇓P P 18 57 39.1 +0.9
baz=71,SNR=11

KONO **Kongsberg** 71.39 337 *e*P P 18 57 38.0 -0.1

KONO **Kongsberg** 71.39 337 *e*P P 18 57 38.0 -0.1

H17A **Grant Village** 71.43 47 *e*P P 18 57 41.6 +2.6
comp=Z,11nm,0.9s

H17A **Grant Village** 71.43 47 ⇑P P 18 57 41.5 +2.4
baz=71,SNR=9.5

UOSS **Wadi Hilu** 71.45 287 P P 18 57 38.3 -0.8
comp=Z,358nm,0.6s,SNR=17

D21A **La Casta Ranch** 71.51 43 ⇑P P 18 57 39.9 +0.7
baz=71,SNR=9.3

HOQ **Hoqain** 71.51 285 P P 18 57 40.0 +0.5
SNR=13

B23A **Brockton** 71.54 41 ⇑P P 18 57 40.3 +1.0
baz=71,SNR=13

HATD **Hatta, Dubai** 71.57 287⇑*i*P P 18 57 40.1 +0.2
SNR=31

C22A **Vida** 71.60 42 ⇑P P 18 57 40.3 +0.6
baz=71

JMDO **Jabal Madar** 71.70 284 P P 18 57 41.3 +0.6
SNR=7.8

ASHO **Ashiyiah** 71.71 287 P P 18 57 41.1 +0.4
SNR=14

ASHO **Asiyiah** 71.71 287⇓*i*P P 18 57 40.8 +0.1
SNR=24

TPH **Tonopah** 71.72 55 *e*P P 18 57 41.8 +1.0
TPH pmax pmax
comp=Z,9.0nm,0.9s

TPH **Tonopah** 71.72 55 *e*P P 18 57 41.8 +1.0
comp=Z,8.5nm,0.9s

H18A **Shoshone NF, C** 71.73 46 ⇑P P 18 57 41.6 +0.8
baz=72

I17A **Pilgrim Ck.** 71.75 47 ⇓P P 18 57 42.9 +2.0
baz=72,SNR=8.8

ERZM **Erzurum** 71.75 308 *i*P P 18 57 43.0 +1.9

IKFM **Kafar-mosalman** 71.79 299 *e*P P 18 57 41.1 +0.1

NAZ **Nazwa, Dubai** 71.81 287⇑*i*P P 18 57 41.4 +0.1
SNR=10

HAKT **HAKKARI** 71.85 304 *i*P P 18 57 42.2 +0.5

D22A **Cohagen** 71.86 42 ⇑P P 18 57 42.2 +0.9
baz=72,SNR=5.6

C23A **Lambert** 71.90 41 ⇓P P 18 57 42.0 +0.5
baz=72,SNR=7.6

DGMT **Dagmar** 71.92 40 *e*P P 18 57 41.9 +0.3
comp=Z,31nm,0.9s

DGMT **Dagmar** 71.92 40 ⇑P P 18 57 42.1 +0.5
baz=72,SNR=5.8

BER **Bergen** 71.94 339 *e*P P 18 57 41.6 +0.2

IDHR **Dehrash** 71.99 301 *e*P P 18 57 42.0 -0.5

ODD1 **Odda** 72.00 339 *e*P P 18 57 42.3 +0.4

FAQ **Al Faqa, Dubai** 72.01 287⇓*i*P P 18 57 42.3 -0.1
SNR=23

H19A **Powell** 72.10 46 ⇑P P 18 57 44.1 +1.2
baz=72

A25A **Svangstu Ranch** 72.10 39 ⇓P P 18 57 43.8 +1.1
baz=72

G20A **Bridger** 72.13 45 ⇑P P 18 57 43.5 +0.4
baz=72

LAO **LASA Array** 72.15 43 *e*P P 18 57 43.9 +0.8
comp=Z,15nm,0.9s

ARQ **Araqi** 72.23 286 P P 18 57 44.4 +0.6
SNR=11

ASUD **Al Ashush, Dub** 72.27 287 *i*P P 18 57 44.3 +0.3
SNR=27

F21A **Absaloka Mine,** 72.29 44 ⇑P P 18 57 44.6 +0.7
baz=72

GRAC **Grapevine Rang** 72.32 56 ⇓P P 18 57 45.8 +1.6
baz=72

D23A **Lindsay** 72.33 42 ⇑P P 18 57 45.3 +1.2
baz=72

SIM **Simferopol'** 72.45 315 *e*P P 18 57 44.7 -0.1
SIM pmax pmax
comp=Z,36nm,0.7s

E22A **Miles City** 72.46 43 ⇑P P 18 57 45.7 +0.7
baz=72

I19A **Meeteetse** 72.52 46 ⇓P P 18 57 46.6 +1.1
baz=72

R11A **Troy Canyon, C** 72.53 54 ⇓P P 18 57 46.7 +1.0
baz=72

A26A **Wade Farm, Ken** 72.64 39 ⇑P P 18 57 46.6 +0.7
baz=72,SNR=6.2

G21A **Lodge Grass** 72.65 44 ⇓P P 18 57 47.1 +0.9
baz=72

F22A **Rosebud** 72.76 43 ⇓P P 18 57 47.2 +0.5
baz=72

D24A **Glendive** 72.80 41 ⇑P P 18 57 47.9 +1.0
baz=73,SNR=6.1

MPMC **Manual Prospec** 72.85 57 ⇓P P 18 57 48.6 +1.1
baz=73,SNR=8.9

GRSN **GIRESUNGRSN** 72.88 310 *i*P P 18 57 47.6 +0.1

DUG **Dugway** 72.96 51 *e*P P 18 57 49.0 +0.9
DUG pmax pmax
comp=Z,4.0nm,0.6s

DUG **Dugway** 72.96 51 *e*P P 18 57 49.0 +0.9
comp=Z,4.3nm,0.6s

DUG **Dugway** 72.96 51 ⇑P P 18 57 48.8 +0.8
baz=73,SNR=7.1

FURC **Furnace Creek,** 72.97 56 ⇑P P 18 57 49.3 +1.3
baz=73,SNR=11

J19A **Crowheart** 73.01 47 ⇓P P 18 57 49.4 +1.0
baz=73,SNR=9.6

TPNV **Topopah Spring** 73.04 55 ⇓P P 18 57 49.6 +0.9
baz=73,SNR=11

BW06 **Boulder Array** 73.07 47 *e*P P 18 57 49.2 +0.4
comp=Z,6.4nm,0.9s

PDAR **Pinedale Array** 73.07 47 P P 18 57 49.3 +0.5

PDAR **Pinedale Array** 73.07 47 P P 18 57 49.3 +0.5
comp=Z,3.6nm,0.6s,baz=257,slow=1.3,SNR=29

G22A **Birney** 73.13 44 ⇓P P 18 57 49.3 +0.3
baz=73

H21A **Big Horn, Sher** 73.15 45 ⇓P P 18 57 49.6 +0.5
baz=73,SNR=7.4

E24A **Baker** 73.19 42 ⇓P P 18 57 49.0 -0.3
baz=73

F23A **Volborg** 73.23 43 ⇓P P 18 57 50.0 +0.5
baz=73,SNR=9.8

D25A **Fairfield** 73.26 41 ⇓P P 18 57 50.0 +0.3
baz=73

EDW2 **Edwards Air Fo** 73.29 58 ⇓P P 18 57 51.0 +1.0
baz=73,SNR=6.0

B27A **Peters Farms,** 73.35 39 ⇓P P 18 57 50.9 +0.9
baz=73

C26A **Wahner Farm, P** 73.37 40 ⇑P P 18 57 50.7 +0.5
baz=73

BSD **Bornholm Skovb** 73.37 332 *i*P P 18 57 48.8 -1.2
BSD pmax pmax
comp=Z,58nm,0.9s

BSD **Bornholm Skovb** 73.37 332 *i*P P 18 57 48.8 -1.2
comp=Z,58nm,0.8s

SUSE **Susehri** 73.39 309 *i*P P 18 57 49.4 -1.3

A28A **Rude Farm, Bot** 73.44 38 ⇑P P 18 57 51.1 +0.4
baz=73,SNR=8.5

J20A **Shoshoni** 73.47 46 ⇑P P 18 57 51.8 +0.8
baz=73,SNR=7.5

NLU **North Lily Min** 73.54 51 *e*P P 18 57 52.7 +1.1
comp=Z,6.8nm,0.9s

I21A **Big Trails, Te** 73.57 45 ⇓P P 18 57 52.6 +0.9
baz=73,SNR=17

G23A **Biddle** 73.60 43 ⇑P P 18 57 52.0 +0.3
baz=73

F24A **Ekalaka** 73.63 42 ⇓P P 18 57 52.5 +0.7
baz=73

E25A **Miller Ranch,** 73.68 41 ⇓P P 18 57 52.8 +0.7
baz=74

BEL **Belsk** 73.70 327 *e*P P 18 57 52.6 +0.6

BEL **Belsk** 73.70 327 *e*P P 18 57 52.6 +0.6

DAU **Daniels Canyon** 73.70 50 *e*P P 18 57 53.5 +0.8
DAU pmax pmax
comp=Z,12nm,1.1s

DAU **Daniels Canyon** 73.70 50 *e*P P 18 57 53.5 +0.8
comp=Z,12nm,1.1s

C27A **Sayler Ranch,** 73.73 39 ⇓P P 18 57 52.8 +0.5
baz=74

B28A **Dugan Ranch, T** 73.73 38 ⇓P P 18 57 52.7 +0.4
baz=74,SNR=7.6

GSC **Goldstone** 73.76 57 ⇑P P 18 57 53.4 +0.6
baz=74

D26A **Manning** 73.78 40 ⇑P P 18 57 53.4 +0.7
baz=74

MARD **Mardin** 73.79 306 *i*P P 18 57 54.0 +1.0

J21A **Lysite** 73.81 46 ⇓P P 18 57 53.8 +0.7
baz=74

LVV **L'vov** 73.85 324 *e*P P 18 57 52.5 -0.4

KEMA **Kemaliye** 73.85 309 *i*P P 18 57 54.6 +1.4

STKA **Stephens Creek** 73.88 181 *e*P P 18 57 53.2 +0.1
comp=Z,2.0nm,1.0s

STKA **Stephens Creek** 73.88 181 P P 18 57 54.1 +1.0
comp=Z,3.5nm,0.8s,baz=343,slow=6.2,SNR=7.5
STKA LR LR 19 32 28.3
comp=Z,30nm,20.8s,baz=21,slow=37

A29A **Manning Farm,** 73.90 37 ⇓P P 18 57 53.9 +0.6
baz=74,SNR=10

BFSC **Mount Baldy Ra** 73.91 58 ⇑P P 18 57 54.7 +0.9
baz=74

I22A **9 Mile Ranch,** 73.94 45 ⇑P P 18 57 54.5 +0.7
baz=74

GKP **Gorka Klasztor** 73.98 330 *e*P P 18 57 53.5 -0.1

GKP **Gorka Klasztor** 73.98 330 *e*P P 18 57 53.5 -0.1

SHPR **Sheep Range** 73.99 55 *e*P P 18 57 55.3 +1.1
comp=Z,9.9nm,0.9s

F25A **Bowman** 74.06 42 ⇑P P 18 57 54.8 +0.5
baz=74

KBSD **Kabsdagh** 74.14 306 *e*P P 18 57 56.0 +1.1

IAS **Iasi** 74.15 320⇑*i*P P 18 57 54.8 +0.1

E26A **Carlson Angus** 74.16 41 ⇑P P 18 57 55.0 +0.1
baz=74

B29A **Wagenman Farm,** 74.18 38 ⇓P P 18 57 55.2 +0.2
baz=74,SNR=5.9

J22A **Midwest** 74.28 45 ⇑P P 18 57 56.1 +0.3
baz=74,SNR=7.6

A30A **Hoffart Farm,** 74.31 37 ⇓P P 18 57 56.1 +0.5
baz=74,SNR=19

LEOM **Leova** 74.34 319⇑*i*P P 18 57 55.9 +0.1

H24A **Dirks Ranch, A** 74.34 43 ⇓P P 18 57 55.9 -0.2
baz=74,SNR=5.2

HEC **Hector,Ludlow** 74.36 57 ⇓P P 18 57 57.1 +0.8
baz=74,SNR=6.1

ULM **Lac du Bonnet** 74.38 35 P P 18 57 56.0 -0.1

ULM **Lac du Bonnet** 74.38 35 P P 18 57 56.0 -0.1
comp=Z,8.8nm,0.5s,baz=310,slow=5.9,SNR=18
ULM LR LR 19 32 33.4
comp=Z,104nm,18.6s,baz=273,slow=37

K21A **Alcova** 74.41 46 ⇑P P 18 57 56.8 +0.2
baz=74,SNR=5.4

BOYT **Boyabat** 74.43 312 *i*P P 18 57 57.9 +1.3

F26A **Lodgepole** 74.50 41 ⇓P P 18 57 57.4 +0.5
baz=74

MDND **Maddock** 74.52 38 *e*P P 18 57 57.1 +0.2
comp=Z,37nm,0.9s

MDND **Maddock** 74.52 38 ⇓P P 18 57 57.5 +0.6
baz=74,SNR=5.2

D28A **Regan** 74.55 39 ⇑P P 18 57 57.8 +0.7
baz=74

KWP **Kalwaria Pacla** 74.56 324 *e*P P 18 57 57.8 +0.6

KWP **Kalwaria Pacla** 74.56 324 *e*P P 18 57 57.8 +0.6

KWP **Kalwaria Pacla** 74.56 324⇑*i*P P 18 57 57.7 +0.6

KWP **Kalwaria Pacla** 74.56 324 *e*P P 18 57 57.4 +0.2

MURC **Murrieta** 74.62 59 ⇑P P 18 57 58.7 +0.9
baz=74

B30A **Myrvik Farm, E** 74.66 37 ⇑P P 18 57 58.4 +0.7
baz=74,SNR=22

PRAR **RASCA** 74.66 321⇓*i*P P 18 57 57.8 +0.1

J23A **Dilts Ranch, B** 74.77 45 ⇓P P 18 57 59.1 +0.5
baz=75

K22A **Casper** 74.78 46 *e*P P 18 57 58.9 +0.2
comp=Z,9.1nm,1.0s

K22A **Casper** 74.78 46 ⇓P P 18 57 59.1 +0.4
baz=75

F27A **Lemmon** 74.80 41 ⇑P P 18 57 59.2 +0.6
baz=75

GMRC **Granite Mounta** 74.81 57 ⇑P P 18 57 60.0 +1.0
baz=75,SNR=8.4

MZRK **Al-Mazaregh** 74.84 305 *e*P P 18 58 00.4 +1.4

BUR08 **Bucovina Ar. S** 74.93 322 *e*P P 18 57 59.5 +0.1

E28A **Huff** 74.93 40 ⇑P P 18 57 59.8 +0.5
baz=75

BURAR **Bucovina Array** 74.94 322⇑*i*P P 18 57 59.6 +0.1

TLCR 74.98 318⇓*i*P P 18 57 59.9 +0.3

SRU **San Rafael** 75.00 51 *e*P P 18 58 00.8 +0.8
SRU pmax pmax
comp=Z,17nm,0.8s

SRU **San Rafael** 75.00 51 *e*P P 18 58 00.8 +0.8
comp=Z,17nm,0.8s

CTKT **Corum** 75.04 312 *i*P P 18 58 01.1 +0.9

RSSD **Black Hills** 75.05 43 *e*P P 18 58 00.3 0.0
RSSD pmax pmax
comp=Z,8.0nm,0.8s

RSSD **Black Hills** 75.05 43 *e*P P 18 58 00.3 0.0
comp=Z,7.9nm,0.8s

TESR **Tescani** 75.08 320⇓*i*P P 18 58 00.3 +0.1

PFO **Pinyon Flat Ob** 75.08 58 ⇓P P 18 58 01.1 +0.5
baz=75

N20A **Spence Gulch,** 75.09 48 ⇑P P 18 58 01.6 +1.0
baz=75,SNR=9.6

D29A **Pettibone, Tap** 75.10 39 ⇓P P 18 58 00.9 +0.6
baz=75

BELC **Belle Mtn. Jos** 75.11 58 ⇑P P 18 58 01.5 +0.8
baz=75

C30A **Mose, Pekin** 75.14 38 ⇑P P 18 58 01.1 +0.6
baz=75,SNR=5.8

K23A **Bowen Ranch, D** 75.19 45 ⇓P P 18 58 01.4 +0.4
baz=75

L22A **Ellis Ranch, M** 75.26 46 ⇑P P 18 58 02.0 +0.5
baz=75

I25A **Rochford** 75.27 43 ⇑P P 18 58 02.0 +0.4
baz=75

KOLS **Kolonicke sedl** 75.28 324 *e*P P 18 58 01.3 0.0
KOLS pmax pmax
comp=Z,10.0nm,0.8s

KOLS **Kolonicke sedl** 75.28 324 *e*P P 18 58 01.3 0.0

KOLS **Kolonicke sedl** 75.28 324 *e*P P 18 58 01.2 0.0

CFR **Carcaliu** 75.33 318⇓*i*P P 18 58 01.1 -0.4

OJC **Ojcow** 75.34 326 *i*P P 18 58 02.0 +0.4

STHS **Stebnicka Huta** 75.35 325 *e*P P 18 58 02.2 +0.5
STHS pmax pmax
comp=Z,13nm,1.5s

STHS **Stebnicka Huta** 75.35 325 *e*P P 18 58 02.2 +0.5

STHS **Stebnicka Huta** 75.35 325 *e*P P 18 58 02.1 +0.4

PETR **Petresti** 75.37 319⇑*i*P P 18 58 03.2 +1.4

D30A **Buchanan** 75.45 38 ⇓P P 18 58 02.9 +0.6
baz=75

PINB **Pinarbasi** 75.45 309 *i*P P 18 58 03.8 +1.0

UZH **Uzhgorod** 75.49 324 *e*P P 18 58 02.0 -0.5
UZH *e* 18 58 15.2

VRI **Vrincioaia** 75.51 320⇓*i*P P 18 58 03.3 +0.6

IRM **Iron Mountain** 75.54 57 ⇓P P 18 58 04.0 +0.9
baz=75

PLOR **Plostina** 75.56 320⇑*i*P P 18 58 03.2 +0.2

MONP **Monument Peak** 75.58 59 ⇑P P 18 58 03.8 +0.3
baz=75

O20A **White River Ci** 75.58 49 ⇑P P 18 58 04.0 +0.5
baz=75

L23A **Garrett** 75.59 46 ⇑P P 18 58 03.5 +0.1
baz=75

M22A **Cedar Creek Ra** 75.61 47 ⇓P P 18 58 03.9 +0.3
baz=75

CRVS Cervenica-Dubn 75.65 325 eP P 18 58 03.3 -0.1
CRVS pmax pmax
comp=Z,11nm,0.7s
CRVS Cervenica-Dubn 75.65 325 eP P 18 58 03.3 -0.1
CRVS Cervenica-Dubn 75.65 325 eP P 18 58 03.7 +0.3
H27A Howes 75.67 42 ⇓P P 18 58 04.1 +0.5
baz=75
GZT Gaziantep 75.67 308 iP P 18 58 05.6 +1.7
BMR Baia Mare 75.68 323 ⇓iP P 18 58 04.6 +1.0
BC3 Big Chuckawall 75.68 58 ⇑P P 18 58 04.5 +0.6
baz=76
W13A Hualapai Mount 75.69 56 ⇓P P 18 58 04.9 +0.8
baz=76
TIRR Tirgusor 75.71 318 ⇑iP P 18 58 04.2 +0.5
NIE Niedzica 75.74 325 iP P 18 58 04.9 +1.0
TRPA Tarpa 75.76 323 ⇑iP P 18 58 05.1 +1.1
TRPA Tarpa 75.76 323 ⇑eP P 18 58 04.7 +0.7
U15A North Rim 75.77 54 ⇓P P 18 58 05.8 +1.1
baz=76,SNR=5.6
HARR Harsova 75.78 318 ⇓iP P 18 58 04.7 +0.6
TLB Topalu 75.80 318 ⇓iP P 18 58 04.8 +0.5
E30A Jud 75.83 39 ⇑P P 18 58 04.8 +0.4
baz=76,SNR=5.5
AGMN Agassiz Nation 75.86 36 eP P 18 58 04.0 -0.6
comp=Z,7.8nm,0.3s
F29A Eureka 75.89 40 ⇓P P 18 58 05.3 +0.5
baz=76
RUE Ruedersdorf 75.89 331 eP P 18 58 04.8 +0.2
comp=Z,39nm,0.8s
BSEG Bad Segeberg 75.90 333 eP P 18 58 05.0 +0.4
comp=Z,33nm,0.8s
PDMCI Parker Dam,Lak 76.07 56 ⇑P P 18 58 06.7 +0.7
baz=76
DOPR Dopca 76.07 320 ⇑iP P 18 58 06.9 +1.0
I27A Quinn 76.08 42 ⇑P P 18 58 06.9 +0.8
baz=76
PGOR Pogoanele 76.08 319 ⇑iP P 18 58 07.2 +1.3
N22A Wattenberg Ran 76.11 47 ⇓P P 18 58 07.1 +0.7
baz=76
J26A Sides Ranch, S 76.11 43 ⇓P P 18 58 06.7 +0.5
baz=76
ISR Istrita 76.14 319 ⇑iP P 18 58 07.5 +1.2
H28A Mission Ridge 76.16 41 ⇓P P 18 58 07.0 +0.6
baz=76,SNR=11
MLR Muntele Rosu 76.16 320 ⇓iP P 18 58 07.1 +0.6
KSP Ksiaz 76.26 328 ⇑iP P 18 58 07.3 +0.5
KSP e 18 58 30.3
KSP Ksiaz 76.26 328 iP P 18 58 07.2 +0.5
MSAB Monastry St. A 76.26 318 ⇓iP P 18 58 07.5 +0.6
BR131 Keskin Array S 76.29 312 eP P 18 58 07.4 0.0
comp=Z,16nm,0.7s
BRTR Keskin Array B 76.29 312 P P 18 58 07.7 +0.2
BRTR PP PP 19 00 53.5 -5.3
BRTR Keskin Array B 76.29 312 P P 18 58 07.7 +0.2
comp=Z,18nm,0.7s,baz=80,slow=3.7,SNR=97
BRTR PP PP 19 00 53.5 -5.3
comp=Z,2.4nm,0.9s,baz=60,slow=7.3,SNR=3.9
BRTR LR LR 19 38 31.8
comp=Z,62nm,18.6s,baz=44,slow=41
OKC Ostrava-Krasne 76.31 327 eP P 18 58 07.4 +0.3
OKC e 18 58 29.7
OKC Ostrava-Krasne 76.31 327 ⇑eP P 18 58 07.4 +0.3
OKC esP sP 18 58 29.7 -0.1
N23A Red Feather La 76.32 47 ⇑P P 18 58 08.7 +1.0
baz=76
CJR Cluj-Napoca 76.35 322 ⇑iP P 18 58 07.8 +0.3
PSN Preselentsi 76.38 317 P P 18 58 08.3 +0.7
PSN Preselentsi 76.38 317 ⇑iP P 18 58 08.8 +1.2
PV04 Paradox Valley 76.41 50 eP P 18 58 09.0 +0.9
O22A Kremmling 76.50 48 ⇑P P 18 58 09.4 +0.6
baz=76,SNR=9.3
M24A Cheyenne 76.51 46 ⇓P P 18 58 09.9 +1.2
baz=76,SNR=8.0
I28A Midland 76.57 42 ⇑P P 18 58 09.1 +0.4
baz=76
H29A Onida 76.59 41 ⇑P P 18 58 09.1 +0.3
baz=76
MORC Moravsky Berou 76.60 327 eP P 18 58 09.2 +0.4
MORC pmax pmax
comp=Z,26nm,0.7s
MORC Moravsky Berou 76.60 327 ⇑iP P 18 58 09.6 +0.8
MORC Moravsky Berou 76.60 327 eP P 18 58 09.2 +0.4
comp=Z,26nm,0.7s
VOIR 76.62 320 ⇓iP P 18 58 09.9 +0.8
UPC Upice 76.63 328 eP P 18 58 09.5 +0.6
UPC e 18 58 32.9
UPC Upice 76.63 328 ⇑eP P 18 58 09.5 +0.6
UPC esP sP 18 58 32.9 +1.2
DPC Dobruska-Polom 76.64 328 eP P 18 58 09.7 +0.7
DPC e 18 58 32.5
DPC Dobruska-Polom 76.64 328 eP P 18 58 09.7 +0.7
DPC esP sP 18 58 32.8 +1.1
ANTO Ankara 76.66 312 eP P 18 58 09.9 +0.5
ANTO pmax pmax
comp=Z,55nm,0.8s
ANTO Ankara 76.66 312 ⇓iP P 18 58 10.0 +0.5
ANTO Ankara 76.66 312 eP P 18 58 09.9 +0.5
comp=Z,55nm,0.8s
KRLC Kraliky 76.67 328 ⇑iP P 18 58 09.7 +0.5
KRLC e 18 58 30.5
KRLC Kraliky 76.67 328 ⇑iP P 18 58 09.7 +0.5
KRLC ex x 18 58 13.1
KRLC esP sP 18 58 30.5 -1.5
DRGR 76.69 322 ⇑iP P 18 58 10.0 +0.6
J27A Elkhorn Farm, 76.70 43 ⇑P P 18 58 10.1 +0.6
baz=76
G30A Faulkton 76.73 40 ⇓P P 18 58 09.9 +0.3
baz=76,SNR=12
MTUR Matau 76.78 320 ⇑iP P 18 58 10.2 +0.3
PV01 Paradox Valley 76.78 50 eP P 18 58 11.3 +1.0
comp=Z,263nm,0.4s
P22A Eagle 76.78 48 ⇓P P 18 58 10.9 +0.6
baz=77,SNR=10
O23A Lake Granby, G 76.81 47 ⇓P P 18 58 11.5 +1.0
baz=77,SNR=5.4
ARR Arges 76.87 320 ⇑iP P 18 58 11.9 +1.4
WUAZ Wupatki 76.93 54 ⇑P P 18 58 12.4 +1.3
baz=77
J28A Allard Ranch, 76.96 42 ⇓P P 18 58 12.0 +1.0
baz=77,SNR=12
I29A Vivian Onida 76.98 41 ⇓P P 18 58 11.3 +0.3
baz=77
Y14A Wickenburg 77.01 56 ⇓P P 18 58 12.5 +1.1
baz=77
PSZ Piszkesteto 77.08 325 eP P 18 58 11.7 +0.1
PSZ pmax pmax
comp=Z,11nm,0.9s
PSZ Piszkesteto 77.08 325 ⇑iP P 18 58 12.5 +0.9
PSZ Piszkesteto 77.08 325 eP P 18 58 11.7 +0.1
comp=Z,11nm,0.9s
PSZ Piszkesteto 77.08 325 ⇑eP P 18 58 12.0 +0.4
CLL Collm 77.12 330 ⇑iP P 18 58 11.5 -0.2
CLL i *SP sP 18 58 33.9 -0.5
CLL pmax pmax
comp=Z,48nm,0.8s
CLL MLR MLR
comp=Z,200nm,20.9s
CLL Collm 77.12 330 eP P 18 58 11.4 -0.2
comp=Z,48nm,0.8s
CLL esP sP 18 58 34.5 +0.1
CLL Collm 77.12 330 ⇑iP P 18 58 11.5 -0.2
comp=Z,48nm,0.8s
CLL i sP sP 18 58 33.9 -0.5
CLL ePP PP 19 01 06.0 +0.8
CLL e 19 09 28.0
CLL esSS 19 13 48.0
CLL Lm MLR 19 34 00.0
comp=N,200nm,20.8s
CLL Lm MLR 19 34 00.0
comp=E,100nm,20.4s
CLL Lm MLR 19 34 00.0
comp=Z,200nm,20.9s
BRG Berggiesshubel 77.13 330 eP P 18 58 11.6 -0.1
comp=Z,13nm,0.8s
BRG Berggiesshubel 77.13 330 eP P 18 58 11.6 -0.1
BRG pmax pmax
comp=Z,13nm,0.8s
BRG Berggiesshubel 77.13 330 eP P 18 58 11.7 0.0
comp=Z,13nm,0.8s
YURE YUREGIR 77.16 308 iP P 18 58 13.4 +1.2
NRDL Niedersach Rie 77.17 333 eP P 18 58 11.8 0.0
comp=Z,15nm,0.9s
NRDL esP sP 18 58 34.9 +0.4
PVCC Panska Ves 77.17 329 eP P 18 58 12.5 +0.6
PVCC e 18 58 36.0
PVCC Panska Ves 77.17 329 ⇑eP P 18 58 12.5 +0.6
PVCC esP sP 18 58 36.0 +1.3
BTCH Batrach 77.22 307 eP P 18 58 12.9 +0.3
LOT Lotru 77.22 321 ⇓iP P 18 58 12.7 +0.2
ISCO Idaho Springs 77.27 47 eP P 18 58 14.1 +1.0
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 77.27 47 eP P 18 58 14.1 +1.0
comp=Z,4.7nm,0.8s
ISCO Idaho Springs 77.27 47 ⇑P P 18 58 13.8 +0.7
baz=77,SNR=6.8
KPL Plockton 77.27 343 eP P 18 58 11.6 -0.7
DEV Deva 77.29 322 ⇑iP P 18 58 13.9 +1.2
113A Mohawk Valley, 77.32 57 ⇓P P 18 58 14.5 +1.4
baz=77
BRSD Miller 77.33 40 ⇓P P 18 58 13.4 +0.4
baz=77
HUMR Humele 77.33 320 ⇓iP P 18 58 12.7 -0.3
GULE Gulek 77.34 309 iP P 18 58 14.2 +0.8
VRAC Vranov 77.35 327 ⇑iP P 18 58 14.0 +1.0
N25A Grover 77.37 46 ⇑P P 18 58 14.6 +1.1
baz=77
J29A Okreek 77.42 42 ⇓P P 18 58 14.1 +0.5
baz=77
P23A Jefferson 77.44 48 ⇑P P 18 58 15.1 +0.9
baz=77
MVCO Mesa Verde 77.46 51 eP P 18 58 15.0 +0.9
comp=Z,13nm,1.1s
MVCO Mesa Verde 77.46 51 ⇓P P 18 58 15.0 +0.9
baz=77,SNR=5.5
SIRR Siria 77.57 323 ⇑iP P 18 58 15.0 +0.7
PRA Prague 77.59 329 ⇑iP P 18 58 15.0 +0.7
PRU Pruhonice 77.61 329 ⇑iP P 18 58 15.0 +0.6
PRU e 18 58 19.1
PRU e 18 58 38.0
PRU Pruhonice 77.61 329 ⇑iP P 18 58 15.0 +0.6
PRU ex x 18 58 19.1
PRU esP sP 18 58 38.0 +0.8
CLZ Clausthal 77.62 332 eP P 18 58 14.8 +0.3
comp=Z,42nm,0.7s
CLZ esP sP 18 58 37.6 +0.4
ARNB Al Arnab 77.63 307 eP P 18 58 15.9 +1.0
X16A Lo Mia Camp, P 77.64 55 ⇓P P 18 58 16.3 +1.2
baz=78,SNR=11
SMOL Smolenice 77.64 326 eP P 18 58 15.9 +1.3
SMOL Smolenice 77.64 326 eP P 18 58 15.9 +1.3
GZR Gura Zlata 77.72 321 ⇑iP P 18 58 15.2 0.0
SZH Strazhica 77.80 318 P P 18 58 15.8 +0.2
TREC Trest 77.80 328 eP P 18 58 16.0 +0.5
TREC e 18 58 39.1
TREC Trest 77.80 328 ⇑eP P 18 58 16.0 +0.5
TREC esP sP 18 58 39.1 +0.8
N26A Koester Ranch, 77.82 45 ⇑P P 18 58 16.7 +0.8
baz=78
O25A Wiggins 77.85 46 ⇑P P 18 58 16.9 +0.8
baz=78
RABH Abou Rabah 77.87 306 eP P 18 58 17.0 +0.8
J30A Dallas 77.90 41 ⇑P P 18 58 16.8 +0.6
baz=78
BORA Eskisehir 77.93 313 iP P 18 58 16.4 -0.1
SEYT Eskypehyr 77.97 313 iP P 18 58 17.1 +0.3
KDHN Kadinhani 77.98 312 iP P 18 58 17.2 +0.4
S22A 4UR Ranch, Cre 78.04 50 ⇑P P 18 58 18.6 +1.2
baz=78,SNR=6.8
TANN Tannenbergstha 78.05 330 eP P 18 58 16.9 0.0
comp=Z,9.0nm,0.9s
PKS7 Kunszentmiklos 78.06 325 ⇑eP P 18 58 17.6 +0.6
JMB Yambol 78.07 317 P P 18 58 17.5 +0.4
JMB Yambol 78.07 317 ⇓iP P 18 58 17.7 +0.6
BZS Buzias 78.08 322 ⇑iP P 18 58 16.9 -0.2
IBBN Ibbenburen 78.11 334 eP P 18 58 17.1 0.0
comp=Z,39nm,0.7s
Q24A Divide 78.11 48 ⇓P P 18 58 18.3 +0.5
baz=78,SNR=7.9
PKSG 78.12 325 ⇑eP P 18 58 18.6 +1.3
O26A Horse Wrangler 78.19 46 ⇓P P 18 58 18.6 +0.6
baz=78
CSKK Cs˘tkako 78.20 325 ⇑eP P 18 58 18.8 +1.1
NKC Novy Kostel 78.20 330 eP P 18 58 18.0 +0.3
NKC e 18 58 40.4
NKC Novy Kostel 78.20 330 ⇑eP P 18 58 18.0 +0.3
NKC esP sP 18 58 40.4 -0.1
P25A Willow Gulch B 78.25 47 ⇓P P 18 58 19.2 +0.8
baz=78,SNR=7.8
R23A Moffat 78.28 49 ⇓P P 18 58 19.4 +0.7
baz=78
K30A Basset 78.32 42 ⇓P P 18 58 19.3 +0.7
baz=78
OGNE Ogallala 78.36 45 ⇓P P 18 58 19.6 +0.7
baz=78
M28A Bar X Bar Ranc 78.37 44 ⇑P P 18 58 19.4 +0.5
baz=78
PKST T˘s 78.38 325 ⇓eP P 18 58 19.2 +0.4
PGBU Glenifferbraes 78.42 342 eP P 18 58 18.6 -0.1
PGBU AMB AMB 18 58 18.8
comp=Z,68nm,1.8s
ULDT Uludag 78.44 314 iP P 18 58 19.8 +0.4
X18A Snowflake 78.46 54 ⇑P P 18 58 20.5 +0.9
baz=78
214A Organ Pipe Nat 78.47 57 ⇓P P 18 58 20.5 +0.9
baz=78
BANR Banloc 78.48 322 ⇓iP P 18 58 12.5 -6.8
BOLV Bolvadin 78.48 312 iP P 18 58 20.0 +0.4
ESK Eskdalemuir 78.57 341 eP P 18 58 19.4 -0.2
ESK AMB AMB 18 58 22.7
comp=Z,101nm,3.1s
UBBA Unterbreizbach 78.60 332 eP P 18 58 20.1 +0.4
comp=Z,10.0nm,0.8s
Q25A Bedland, Calha 78.64 47 ⇑P P 18 58 21.2 +0.6
baz=78,SNR=14
R24A Sanders Place, 78.66 48 ⇑P P 18 58 21.3 +0.6
baz=78,SNR=12
SOP Sopron 78.66 326 ⇑eP P 18 58 21.2 +1.0
P26A Davis Ranch, A 78.66 46 ⇑P P 18 58 21.1 +0.4
baz=78,SNR=5.5
O27A Beecher Island 78.67 45 ⇓P P 18 58 21.2 +0.6
baz=78
ROTZ Rotzenmuhle 78.67 330 eP P 18 58 20.9 +0.6
comp=Z,17nm,0.9s
KHC Kasperske Hory 78.68 329 ⇑iP P 18 58 20.9 +0.5
KHC e 18 58 30.0
KHC e 18 58 43.8
KHC Kasperske Hory 78.68 329 ⇑iP P 18 58 20.9 +0.5
KHC ePCP PcP 18 58 30.0 +0.8
KHC esP sP 18 58 43.8 +0.6
KHC Kasperske Hory 78.68 329 eP P 18 58 20.8 +0.4
comp=Z,30nm,0.6s
WTSB Winterswijk 78.71 334 eP P 18 58 20.3 -0.1
comp=Z,33nm,0.6s
CONA Conrad Observa 78.75 327 ⇑iP P 18 58 21.7 +0.8
comp=Z,12nm,0.7s,SNR=5.4
SDCO Great Sand Dun 78.78 49 eP P 18 58 22.2 +0.7
comp=Z,5.2nm,1.0s
PKS9 Tamasi 78.80 325 ⇓eP P 18 58 21.0 -0.1
GEC2 GERESS Array S 78.86 329 eP P 18 58 21.4 -0.1
comp=Z,12nm,0.7s
GERES GERESS Array B 78.86 329 P P 18 58 21.4 -0.1
GERES PP PP 19 01 10.6 -9.3
GERES GERESS Array B 78.86 329 P P 18 58 21.4 -0.1
comp=Z,7.3nm,0.5s,baz=36,slow=6.1,SNR=64
GERES PP PP 19 01 10.6 -9.3
comp=Z,1.6nm,0.8s,baz=27,slow=6.3,SNR=3.9
GERES LR LR 19 35 16.9
comp=Z,196nm,21.8s,baz=64,slow=37
DIM Dimitrovgrad 78.90 318 P P 18 58 22.2 +0.5
PKSM Moragy 78.94 324 ⇑iP P 18 58 21.8 0.0
PKSM Moragy 78.94 324 ⇑eP P 18 58 21.4 -0.4
ECSD EROS Data Cent 78.98 40 eP P 18 58 22.1 0.0
comp=Z,18nm,0.9s
ECSD EROS Data Cent 78.98 40 ⇓P P 18 58 22.1 0.0
baz=79,SNR=16
T23A Casias Ranch, 78.98 50 ⇑P P 18 58 23.4 +0.8
baz=79
BUG Bochum--Univer 79.00 334 eP P 18 58 21.9 -0.1
comp=Z,29nm,0.7s
S24A Houchin Ranch, 79.02 49 ⇓P P 18 58 23.1 +0.3
baz=79,SNR=5.5
GDZ Gediz 79.02 313 iP P 18 58 22.9 +0.3
Q26A Hugo 79.03 47 ⇑P P 18 58 23.5 +0.8
baz=79,SNR=7.8
L31A Butterfield Fa 79.07 42 ⇓P P 18 58 23.0 +0.4
baz=79,SNR=6.2
P27A Ficken Ranch, 79.08 46 ⇑P P 18 58 23.3 +0.4
baz=79
GRF Grafenberg Arr 79.10 330 eP P 18 58 23.2 +0.5
comp=Z,56nm,0.7s
R25A Fountain Ranch 79.17 48 ⇓P P 18 58 24.0 +0.6
baz=79
N29A Votaw Ranch, W 79.17 44 ⇓P P 18 58 23.5 +0.2
baz=79
DURS Dursunbey 79.19 314 iP P 18 58 23.1 -0.3
KESW Keswick, Cumbr 79.20 341 eP P 18 58 23.2 +0.1
KESW AMB AMB 18 58 28.5
comp=Z,51nm,2.4s
KDZ Kurdzhali 79.26 317 ⇓iP P 18 58 24.6 +0.9
V22A San Miguel Ran 79.28 51 ⇓P P 18 58 25.1 +0.9
baz=79
T24B San Luis 79.33 49 ⇓P P 18 58 26.1 +1.5
baz=79,SNR=12
GAL1 Galloway 79.33 342 eP P 18 58 23.2 -0.6
SALA Sala 79.33 305 eP P 18 58 24.7 +0.3
U23A El Rito 79.40 50 ⇑P P 18 58 26.3 +1.5
baz=79,SNR=8.6
HPK Haverah Park 79.41 340 eP P 18 58 24.2 0.0
HPK AMB AMB 18 58 27.8
comp=Z,80nm,1.7s
ARSA Arzberg 79.43 327 ⇑iP P 18 58 25.0 +0.5
comp=Z,7.5nm,0.7s
S25A Robets Cordova 79.43 48 ⇑P P 18 58 25.5 +0.5
baz=79,SNR=7.4
MOA Molln 79.45 328 ⇑iP P 18 58 24.9 +0.3
comp=Z,8.7nm,0.8s
DEMI Demirci 79.46 314 iP P 18 58 25.2 +0.2
TUC Tucson 79.48 56 eP P 18 58 26.2 +1.1
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 79.48 56 eP P 18 58 26.2 +1.1
comp=Z,3.4nm,0.9s
ALN Alexandroupoli 79.50 317 eP P 18 58 24.4 -0.5
P28A Saint Francis 79.50 45 ⇑P P 18 58 25.5 +0.3
baz=79
R26A Arlington 79.52 47 ⇑P P 18 58 25.6 +0.3
baz=79,SNR=16
KHAL Karahalli 79.53 313 iP P 18 58 24.8 -0.5
BALY Balya 79.53 315 iP P 18 58 25.4 +0.2
RDO Rodhopi 79.57 317 eP P 18 58 26.0 +0.7
RZN Rozhen 79.58 318 P P 18 58 26.4 +0.8
O29A 4D Ranch, Culb 79.59 44 ⇑P P 18 58 25.7 +0.1
baz=79,SNR=5.3
M31A Lambtecht Ranc 79.62 43 ⇓P P 18 58 25.8 +0.1
baz=79
VTS Vitosha 79.64 319 P P 18 58 26.5 +0.6
VTS Vitosha 79.64 319 ⇑iP P 18 58 26.8 +0.9
TNS Taunus Mts 79.64 332 eP P 18 58 25.7 +0.1
comp=Z,15nm,0.8s
TNS esP sP 18 58 49.0 +0.6
V23A Ortiz Mt. (NFS 79.81 51 ⇓P P 18 58 28.5 +1.4
baz=80
T25A Trinidad 79.82 49 ⇑P P 18 58 27.6 +0.5
baz=80,SNR=9.9
RAYN Ar Rayn 79.83 292 P P 18 58 27.0 -0.1
comp=Z,207nm,0.7s,SNR=21
Q28A Sharon Springs 79.83 46 ⇑P P 18 58 27.1 +0.1
baz=80
R27A Eads 79.88 47 ⇑P P 18 58 27.5 +0.2
baz=80,SNR=7.2
SCHQ Schefferville 79.88 17 eP P 18 58 26.6 -0.2
SCHQ Schefferville 79.88 17 P P 18 58 27.1 +0.3
comp=Z,10.0nm,0.8s,baz=339,slow=4.2,SNR=14
O30A MW Ranch, Wils 79.94 44 ⇑P P 18 58 27.3 -0.1
baz=80
MANT Manisa 79.95 314 iP P 18 58 27.6 -0.1
S26A Kim 79.99 48 ⇓P P 18 58 28.0 +0.1
baz=80,SNR=9.9
KBI1 Birley Grange 80.01 339 eP P 18 58 26.9 -0.6
HGN Heimansgroeve 80.02 334 eP P 18 58 27.3 -0.3
comp=Z,18nm,0.7s
N31A Bailey Ranch, 80.02 43 ⇓P P 18 58 28.1 +0.2
baz=80
BEBN Eben Emael 80.07 334 P P 18 58 27.9 0.0
comp=Z,13nm,0.8s
PERS Pernice 80.09 327 iP P 18 58 28.3 +0.2
SOKA Soboth 80.09 327 ⇑iP P 18 58 28.4 +0.2
comp=Z,28nm,0.7s,SNR=17
MEM Membach 80.13 334 P P 18 58 28.0 -0.2
comp=Z,13nm,0.8s
MMB Musomiste 80.14 318 P P 18 58 29.2 +0.7
MMB Musomiste 80.14 318 ⇓iP P 18 58 29.0 +0.5
ANMO Albuquerque 80.22 51 eP P 18 58 30.7 +1.4
comp=Z,4.9nm,0.9s
ANMO epP pP 18 58 46.2 +0.6
KKB Krupnik 80.25 319 P P 18 58 29.8 +0.8
W23A Werner Place, 80.25 51 ⇑P P 18 58 30.6 +1.2
baz=80
T26A Comanche Natio 80.25 48 ⇓P P 18 58 29.5 +0.1
baz=80,SNR=14
NVR Nevrokopi 80.25 318 eP P 18 58 29.5 +0.4
DNZL Cakiroluk 80.27 313 iP P 18 58 29.7 +0.3
P30A Selden 80.31 45 ⇑P P 18 58 29.4 -0.1
baz=80,SNR=6.9
O31A Woolen Ranch, 80.33 44 ⇓P P 18 58 29.2 -0.4
baz=80
FUR Furstenfeldbru 80.34 330 eP P 18 58 29.8 +0.4
comp=Z,52nm,0.8s
V24A Rampart Ranch, 80.35 50 ⇓P P 18 58 31.5 +1.5
baz=80,SNR=5.3
U25A Circle Dot Ran 80.35 49 ⇓P P 18 58 30.7 +0.8
baz=80,SNR=6.7
Q29A Oakley 80.41 45 ⇑P P 18 58 30.4 +0.4
baz=80
OBKA Obir 80.42 327 ⇑iP P 18 58 29.9 -0.1
comp=Z,22nm,0.7s,SNR=8.0
KBA Koelnbreinsper 80.44 328 ⇓iP P 18 58 30.9 +0.8
comp=Z,21nm,0.7s,SNR=9.2
BCLA Clavier 80.52 334 P P 18 58 30.2 -0.1
comp=Z,9.4nm,0.9s
LPM Los Pinos Moun 80.57 52 eP P 18 58 32.4 +1.3
comp=Z,1.7nm,0.6s
LPM epP pP 18 58 49.4 +1.9
STU Stuttgart 80.60 331 eP P 18 58 30.8 0.0
comp=Z,36nm,0.8s
STU esP sP 18 58 54.1 +0.5
WPM1 Penmaenmawr 80.61 341 eP P 18 58 30.6 -0.2
W24A Lazy 6 Ranch, 80.64 51 ⇑P P 18 58 33.2 +1.7
baz=80,SNR=12
V25A Rancho No Teng 80.64 50 ⇑P P 18 58 32.4 +0.9
baz=80
R29A Marienthal 80.67 46 ⇑P P 18 58 31.7 +0.2
baz=80
BNM Barren Site 80.69 52 eP P 18 58 33.1 +1.3
comp=Z,4.6nm,0.8s
MYKA Terra Mystica 80.69 327 iP P 18 58 31.0 -0.3
comp=Z,14nm,0.6s,SNR=8.0
Q30A Quinter 80.74 45 ⇓P P 18 58 31.7 -0.1
baz=80,SNR=6.8
SNF Seneffe 80.77 335 P P 18 58 31.2 -0.3
FOEL Foel Wylfa 80.78 340 eP P 18 58 31.5 -0.1
FOEL AMB AMB 18 58 32.9
comp=Z,51nm,0.9s
P31A Stockton 80.78 44 ⇑P P 18 58 32.0 0.0
baz=81,SNR=9.1
LJU Ljubljana 80.81 327 eP P 18 58 32.0 +0.1
T27A Campo 80.81 48 ⇑P P 18 58 32.4 +0.1
baz=81
PLE Pljevlja 80.86 322 ⇑iP P 18 58 32.7 +0.3
KNT Kendrikon 80.87 319 eP P 18 58 32.5 +0.1
VISS Visnje 80.87 326 iP P 18 58 31.9 -0.4
WLF Walferdange 80.89 333 P P 18 58 33.9 +1.6
comp=Z,15nm,1.9s
WLF Walferdange 80.89 333 eP P 18 58 33.8 +1.5
comp=Z,19nm,1.2s
VAY Valandovo 80.91 319 iP P 18 58 33.0 +0.4
LANF Langenberg 80.91 332 ⇑eP P 18 58 32.4 -0.1
WATA Walderalm 80.92 329 ⇑iP P 18 58 32.9 +0.2
comp=Z,16nm,0.5s,SNR=11
BOJS Bojanci 80.94 326 iP P 18 58 32.4 -0.2
GIVF Givet 80.95 334 ⇑iP P 18 58 32.2 -0.4
comp=Z,31nm,0.9s
GIVF Givet 80.95 334 ⇑iP P 18 58 32.2 -0.4
GIVF pmax pmax
comp=Z,31nm,0.9s
GIVF Givet 80.95 334 ⇑iP P 18 58 32.2 -0.4
comp=Z,31nm,0.9s
WTTA Wattenberg 80.95 329 ⇑iP P 18 58 33.2 +0.3
comp=Z,31nm,0.6s,SNR=11
SKO Skopje 80.96 320 iP P 18 58 33.8 +0.9
OUR Ouranopolis 80.96 317 eP P 18 58 33.0 +0.2
IVA Berane 80.99 321 ⇑iP P 18 58 33.4 +0.3
YRE Yr Eifl 81.00 341 eP P 18 58 32.6 -0.2
DOU Dourbes 81.03 334 P P 18 58 32.6 -0.4
319A Douglas 81.05 56 ⇓P P 18 58 34.6 +1.0

baz=81
VOJS Vojsko 81.08 327 *i* P **P** 18 58 33.0 -0.5
MOTA Moosalm 81.09 329⇑*i*P **P** 18 58 33.8 +0.2
comp=Z,61nm,0.9s,SNR=35
P32A Huiting Farm, 81.10 43 ⇓P **P** 18 58 33.4 -0.2
baz=81,SNR=13
RETA Reutte 81.10 329⇑*i*P **P** 18 58 33.9 +0.3
comp=Z,22nm,0.7s,SNR=7.3
JAVS Javornik 81.12 327 *i* P **P** 18 58 32.9 -0.8
Z22A Elephant Butte 81.12 53 ⇓P **P** 18 58 34.9 +0.9
baz=81
121A Cookes Peak, D 81.14 54 *e*P **P** 18 58 35.7 +1.5
comp=Z,11nm,0.9s
121A Cookes Peak, D 81.14 54 ⇑P **P** 18 58 35.5 +1.3
baz=81,SNR=8.5
PVY Plav 81.17 321⇑*i*P **P** 18 58 33.5 -0.6
W25A X Bar L Ranch, 81.17 50 ⇑P **P** 18 58 35.5 +1.2
baz=81,SNR=14
Y23A Lovelace Mesa, 81.17 52 ⇑P **P** 18 58 35.6 +1.2
baz=81,SNR=14
UPM Unac-Piva 81.18 322 *e*P **P** 18 58 33.2 -1.0
BAIF Baives 81.18 335⇑*i*P **P** 18 58 33.5 -0.3
comp=Z,10nm,0.6s
BAIF Baives 81.18 335⇑*i*P **P** 18 58 33.5 -0.3
BAIF pmax pmax
comp=Z,10.0nm,0.6s
BAIF Baives 81.18 335⇑*i*P **P** 18 58 33.5 -0.3
comp=Z,10nm,0.6s
PLG Polygyros 81.20 318 *e*P **P** 18 58 34.1 -0.1
HORT Hortiatis 81.20 318 *e*P **P** 18 58 33.8 -0.4
U27A Thompson Grove 81.22 48 ⇓P **P** 18 58 34.8 +0.3
baz=81
R30A Dighton 81.23 45 ⇓P **P** 18 58 34.5 +0.1
baz=81,SNR=6.0
GCAM G?zelcaml? 81.24 314 *i* P **P** 18 58 34.6 +0.2
GRG Griva 81.27 319 *e*P **P** 18 58 34.6 +0.1
BFO Black Forest 81.28 331 P **P** 18 58 33.9 -0.5
comp=Z,114nm,0.6s,SNR=6.0
BFO Black Forest 81.28 331 *ce*P **P** 18 58 34.6 +0.2
BFO Black Forest 81.28 331 *e*P **P** 18 58 34.2 -0.2
comp=Z,15nm,0.9s
BFO Black Forest 81.28 331 *e*P **P** 18 58 34.2 -0.2
comp=Z,19nm,0.9s
CHOS Chios island 81.35 315 *e*P **P** 18 58 34.3 -0.8
MENF Mencas 81.38 336⇑*e*P **P** 18 58 37.2 +2.3
SMG Samos 81.44 314 *e*P **P** 18 58 35.3 -0.2
NKY Niksic 81.44 322⇑*i*P **P** 18 58 34.6 -0.9
FETA Feichten 81.50 329⇓*i*P **P** 18 58 36.0 +0.2
comp=Z,19nm,0.8s,SNR=7.1
UDBI Udbina 81.51 325 P **P** 18 58 35.2 -0.5
STRD Stroud 81.52 339 *e*P **P** 18 58 35.5 0.0
STRD AMB AMB 18 58 37.6
comp=Z,91nm,1.0s
MCH1 Michaelchurch 81.53 340 *e*P **P** 18 58 34.7 -1.0
MCH1 AMB AMB 18 58 35.2
comp=Z,49nm,2.3s
Y24A Capitan 81.54 51 ⇓P **P** 18 58 37.0 +0.7
baz=81
Z23A Rita Site, Whi 81.55 52 ⇓P **P** 18 58 37.4 +1.2
baz=81
X25A Clemmons Ranch 81.55 51 ⇑P **P** 18 58 37.2 +0.9
baz=81
CDF Champ du Feu 81.58 332⇑*i*P **P** 18 58 36.0 -0.1
comp=Z,42nm,0.8s
CDF Champ du Feu 81.58 332⇑*i*P **P** 18 58 36.0 -0.1
CDF pmax pmax
comp=Z,42nm,0.8s
CDF Champ du Feu 81.58 332⇑*i*P **P** 18 58 36.0 -0.1
comp=Z,42nm,0.8s
BRY Bratogost 81.58 322 *e*P **P** 18 58 35.2 -1.1
Q32A Meitler Ranch, 81.59 44 ⇓P **P** 18 58 36.2 -0.1
baz=81,SNR=9.7
DAVA Damuels 81.60 330⇑*i*P **P** 18 58 36.4 +0.1
comp=Z,29nm,0.7s,SNR=6.6
R31A Burdett 81.62 45 ⇓P **P** 18 58 36.3 -0.1
baz=81
TTG Podgorica 81.62 322⇑*i*P **P** 18 58 35.8 -0.5
MONM Monmouth 81.63 339 *e*P **P** 18 58 36.1 -0.1
HMNX Herstmonceux 81.64 337 *e*P **P** 18 58 36.7 +0.5
HMNX AMB AMB 18 58 40.0
comp=Z,98nm,1.6s
WOL Wolverton 81.68 338 *e*P **P** 18 58 35.6 -0.8
WOL AMB AMB 18 58 37.1
comp=Z,119nm,2.5s
V27A Dan Oppiter Fa 81.70 49 ⇓P **P** 18 58 37.4 +0.4
baz=82
P33A Williams Farm, 81.70 43 ⇑P **P** 18 58 36.7 -0.1
baz=82
LPW Lampeter 81.70 340 *e*P **P** 18 58 36.2 -0.3
BIA Bitola 81.75 319 *e*P **P** 18 58 36.7 -0.4
ECH Echery 81.79 332 *e*P **P** 18 58 36.6 -0.5
ECH *e**PP **pP** 18 58 53.7 +0.2
ECH pmax pmax
comp=Z,15nm,0.8s
ECH Echery 81.79 332 *e*P **P** 18 58 37.0 -0.1
ECH Echery 81.79 332 *e*P **P** 18 58 36.6 -0.5
comp=Z,15nm,0.8s
ECH *e*pP **pP** 18 58 53.7 +0.2
ARG Arkhangelos 81.84 312 *e*P **P** 18 58 37.0 -0.6
NVLJ Novalja 81.86 325 P **P** 18 58 36.5 -1.0
BUM Brajici-Budva 81.89 322⇑*i*P **P** 18 58 37.7 -0.1
HCY Herceg Novi 81.96 322⇑*i*P **P** 18 58 37.4 -0.7
Q33A Connelly Farm, 81.96 43 ⇓P **P** 18 58 38.1 -0.1
baz=82,SNR=13
Y25A Mesa, Roswell 81.97 51 ⇑P **P** 18 58 38.9 +0.4
baz=82
SCIA State Center 81.98 39 *e*P **P** 18 58 39.1 +1.0
comp=Z,37nm,0.8s
STON Ston 81.98 323 P **P** 18 58 37.0 -1.1
PAGF Fort de Pagny 81.99 333⇑*i*P **P** 18 58 38.3 +0.1
comp=Z,22nm,0.7s
PAGF Fort de Pagny 81.99 333⇑*i*P **P** 18 58 38.3 +0.1
comp=Z,22nm,0.7s
ULC Ulcinj 82.00 321⇑*i*P **P** 18 58 38.1 -0.2
X26A CR and CF Fran 82.02 50 ⇑P **P** 18 58 39.9 +1.1
baz=82,SNR=5.6
W27A Bowe Ranch, En 82.07 49 ⇓P **P** 18 58 40.4 +1.4
baz=82,SNR=7.7
XOR Xorichti 82.09 317 *e*P **P** 18 58 38.5 -0.4
MOF Molkenrain 82.11 332⇑*e*P **P** 18 58 38.6 -0.3
NEO Neokhori 82.12 317 *e*P **P** 18 58 38.6 -0.4
S31A Mullinville 82.14 45 ⇓P **P** 18 58 39.3 +0.1
baz=82
THEF They Montfort 82.19 333⇑*e*P **P** 18 58 39.0 -0.2
HINF Hinteralfeld 82.24 332⇑*i*P **P** 18 58 38.9 -0.6
comp=Z,24nm,0.8s
HINF Hinteralfeld 82.24 332⇑*i*P **P** 18 58 38.9 -0.6
HINF pmax pmax
comp=Z,24nm,0.8s
HINF Hinteralfeld 82.24 332⇑*i*P **P** 18 58 38.9 -0.6
comp=Z,24nm,0.8s
HAU Haudompre 82.25 332⇑*i*P **P** 18 58 39.2 -0.4
comp=Z,19nm,0.7s
HAU *e*R
comp=Z,225nm,20.0s
HAU Haudompre 82.25 332⇑*i*P **P** 18 58 39.2 -0.4
HAU pmax pmax
comp=Z,19nm,0.7s
HAU Haudompre 82.25 332⇑*i*P **P** 18 58 39.2 -0.4
comp=Z,19nm,0.7s
RAR Rarotonga 82.31 128 LR LR 19 32 09.5
comp=Z,51nm,18.8s,baz=184,slow=33
NEST Nestorio 82.34 319 *e*P **P** 18 58 40.1 -0.2
S32A Newby Ranch, P 82.37 45 ⇓P **P** 18 58 39.9 -0.5
baz=82
MRKA Markates 82.39 317 *e*P **P** 18 58 40.3 -0.1
R33A Olander Ranch, 82.40 44 ⇓P **P** 18 58 40.6 0.0
baz=82
124A Stringfield Ra 82.41 52 ⇑P **P** 18 58 41.8 +0.9
baz=82,SNR=5.5
Z25A Roswell 82.42 51 ⇓P **P** 18 58 41.5 +0.7
baz=82
T31A Randall Ranch, 82.43 46 ⇓P **P** 18 58 40.6 -0.1
baz=82
SMIA Simia 82.45 317 *e*P **P** 18 58 40.6 -0.2
Y26A Elida 82.47 50 ⇑P **P** 18 58 41.7 +0.6
baz=82
TUE Stuetta 82.48 330 *e*P **P** 18 58 40.9 -0.1
comp=Z,18nm,0.6s
KSU1 Kansas State U 82.50 43 *e*P **P** 18 58 40.8 -0.2
comp=Z,15nm,0.8s
KSU1 Kansas State U 82.50 43 ⇑P **P** 18 58 40.7 -0.3
baz=82
SFTF Sexfontaines 82.52 333⇑*i*P **P** 18 58 40.8 -0.1
comp=Z,40nm,0.8s
SFTF Sexfontaines 82.52 333⇑*i*P **P** 18 58 40.8 -0.1
comp=Z,40nm,0.8s
THL Klokotos Trika 82.53 318 *e*P **P** 18 58 39.7 -1.4
HEX Exmoor 82.59 340 *e*P **P** 18 58 40.8 -0.4
APE Apeiranthos 82.61 314 *e*P **P** 18 58 40.4 -1.3
LOMF Lomont 82.65 332⇑*e*P **P** 18 58 41.7 0.0
LKR Lokris 82.73 317 *e*P **P** 18 58 41.0 -1.2
PTL Penteli 82.75 316 *e*P **P** 18 58 40.4 -1.9
T32A Huddler Ranch, 82.76 45 ⇑P **P** 18 58 42.9 +0.4
baz=82
AGG Agios Georgios 82.78 318 *e*P **P** 18 58 41.1 -1.4
224A Cornudas Mount 82.81 53 ⇑P **P** 18 58 43.8 +0.9
baz=83,SNR=5.5
Z26A Caprock 82.85 51 ⇑P **P** 18 58 44.1 +1.0
baz=83,SNR=18
KARP Karpathos 82.86 312 *e*P **P** 18 58 42.6 -0.4
Y27A Causey 82.88 50 ⇑P **P** 18 58 43.9 +0.8
baz=83,SNR=5.3
MAKR Makrakomi, Fth 82.89 318 *e*P **P** 18 58 42.2 -0.9
125A Gardner Draw, 82.90 52 ⇑P **P** 18 58 44.1 +0.8
baz=83,SNR=5.3
AMTX Amarillo 82.98 49 ⇑P **P** 18 58 44.6 +0.9
baz=83
MSTX Muleshoe 83.03 50 ⇑P **P** 18 58 44.6 +0.6
baz=83
EVR Evrytania 83.12 318 *e*P **P** 18 58 43.2 -1.2
DSF Desfina 83.15 317 *e*P **P** 18 58 42.9 -1.5
MNTX Cornudas Mount 83.17 53 *e*P **P** 18 58 45.4 +0.8
comp=Z,4.0nm,1.1s
SANT Santorini 83.17 314 *e*P **P** 18 58 42.8 -1.8
225A Deer Hill, Car 83.20 52 ⇑P **P** 18 58 45.7 +0.7
baz=83
LTK Loutraki 83.23 317 *e*P **P** 18 58 42.8 -2.0
Z27A Tatum 83.26 51 ⇓P **P** 18 58 46.2 +1.0
baz=83,SNR=25
126A Clayton Basin, 83.28 51 ⇑P **P** 18 58 46.0 +0.7
baz=83
V31A Spring Creek L 83.33 47 ⇑P **P** 18 58 46.2 +0.8
baz=83
KALE Kalithea 83.36 317 *e*P **P** 18 58 44.5 -1.0
IGT Igoumenitsa 83.38 319 *e*P **P** 18 58 45.2 -0.3
EFP Éfpalio 83.45 317 *e*P **P** 18 58 45.7 -0.2
DID Didima 83.48 316 *e*P **P** 18 58 43.8 -2.3
KEK Kerkira 83.49 320 *e*P **P** 18 58 45.9 -0.2
CABF La Chapelle 83.54 332⇑*i*P **P** 18 58 46.1 -0.2
comp=Z,15nm,0.7s
CABF La Chapelle 83.54 332⇑*i*P **P** 18 58 46.1 -0.2
CABF pmax pmax
comp=Z,15nm,0.7s
CABF La Chapelle 83.54 332⇑*i*P **P** 18 58 46.1 -0.2
comp=Z,15nm,0.7s
LAKA Lakka 83.56 317 *e*P **P** 18 58 46.1 -0.4
226B Tecolote Peak, 83.61 52 ⇓P **P** 18 58 47.9 +1.0
baz=83,SNR=7.6
GUR Goura 83.61 317 *e*P **P** 18 58 45.8 -1.1
KLV Kalavryta, Ach 83.62 317 *e*P **P** 18 58 45.7 -1.2
325A Bean Ranch, Si 83.64 53 ⇓P **P** 18 58 48.0 +0.7
baz=84
PDO Prodromos 83.68 318 *e*P **P** 18 58 46.7 -0.4
ZKR Zakros 83.70 313 *e*P **P** 18 58 47.5 +0.2
W31A Holland Ranch, 83.71 47 ⇑P **P** 18 58 48.3 +0.9
baz=84
LOR Lormes 83.73 333⇑*i*P **P** 18 58 46.9 -0.3
comp=Z,72nm,0.8s
LOR *e*R
comp=Z,275nm,22.0s
LOR Lormes 83.73 333⇑*i*P **P** 18 58 46.9 -0.3
comp=Z,72nm,0.8s
X30A Coker Ranch, T 83.75 48 ⇑P **P** 18 58 48.0 +0.4
baz=84
FLN La Foliniere 83.77 337⇑*i*P **P** 18 58 46.9 -0.4
comp=Z,27nm,0.6s
FLN *e*R
comp=Z,193nm,20.2s
FLN La Foliniere 83.77 337⇑*i*P **P** 18 58 46.9 -0.4
FLN pmax pmax
comp=Z,27nm,0.6s
FLN La Foliniere 83.77 337⇑*i*P **P** 18 58 46.9 -0.4
comp=Z,27nm,0.6s
LKD2 Lefkada island 83.79 318 *e*P **P** 18 58 47.4 -0.3
V32A Arapaho 83.80 46 ⇓P **P** 18 58 48.9 +1.2
baz=84
LDF La Druitiere 83.81 336⇑*i*P **P** 18 58 47.1 -0.4
comp=Z,21nm,0.7s
LDF La Druitiere 83.81 336⇑*i*P **P** 18 58 47.1 -0.4
LDF pmax pmax
comp=Z,21nm,0.7s
LDF La Druitiere 83.81 336⇑*i*P **P** 18 58 47.1 -0.4
comp=Z,21nm,0.7s
DRO Drossia 83.92 317 *e*P **P** 18 58 48.4 +0.1
NPS Neapolis 83.92 313 *e*P **P** 18 58 47.6 -0.8
RLS Riolos of Patr 83.96 317 *e*P **P** 18 58 48.8 +0.3
VLX Vlachokerasia 84.02 316 *e*P **P** 18 58 48.0 -1.0
SSF Saint Saulge 84.03 334⇑*i*P **P** 18 58 48.5 -0.2
comp=Z,40nm,0.8s
SSF Saint Saulge 84.03 334⇑*i*P **P** 18 58 48.5 -0.2
SSF pmax pmax
comp=Z,40nm,0.8s
SSF Saint Saulge 84.03 334⇑*i*P **P** 18 58 48.5 -0.2
comp=Z,40nm,0.8s
U34A Anderson Ranch 84.05 45 ⇓P **P** 18 58 49.7 +0.7
baz=84
425A Indio Mountain 84.06 53 ⇓P **P** 18 58 50.1 +0.8
baz=84,SNR=9.2
LAST Lasithi 84.07 313 *e*P **P** 18 58 49.2 0.0
X31A McDonald Ranch 84.10 48 ⇑P **P** 18 58 50.1 +0.7
baz=84
V33A Lossen Ranch, 84.12 46 ⇓P **P** 18 58 50.2 +0.8
baz=84
HYF Humbligny 84.13 334⇑*i*P **P** 18 58 49.4 +0.2
HYF Humbligny 84.13 334⇑*i*P **P** 18 58 49.4 +0.2
Z29A Hungry Hill Ra 84.16 50 ⇑P **P** 18 58 50.6 +0.9
baz=84,SNR=12
128A Castleberry Fa 84.18 51 ⇑P **P** 18 58 50.4 +0.6
baz=84,SNR=7.4
GRR Gorron 84.21 337⇑*i*P **P** 18 58 49.5 -0.1
comp=Z,74nm,0.8s
GRR Gorron 84.21 337⇑*i*P **P** 18 58 49.5 -0.1
GRR pmax pmax
comp=Z,74nm,0.8s
GRR Gorron 84.21 337⇑*i*P **P** 18 58 49.5 -0.1
comp=Z,74nm,0.8s
VLI Veliai 84.24 316 *e*P **P** 18 58 48.0 -1.9
LPL La Plagne 84.25 331⇑*i*P **P** 18 58 50.3 +0.1
comp=Z,24nm,0.6s
LPL La Plagne 84.25 331⇑*i*P **P** 18 58 50.3 +0.1
LPL pmax pmax
comp=Z,24nm,0.6s
LPL La Plagne 84.25 331⇑*i*P **P** 18 58 50.3 +0.1
comp=Z,24nm,0.6s
LPG La Plagne 84.26 331⇑*i*P **P** 18 58 50.5 +0.2
comp=Z,37nm,0.5s
LPG La Plagne 84.26 331⇑*i*P **P** 18 58 50.5 +0.2
LPG pmax pmax
comp=Z,37nm,0.5s
LPG La Plagne 84.26 331⇑*i*P **P** 18 58 50.5 +0.2
comp=Z,37nm,0.5s
326A Caldwell Ranch 84.27 52 ⇓P **P** 18 58 51.1 +0.7
baz=84,SNR=10
SMF Signal de Mont 84.28 333⇑*i*P **P** 18 58 49.9 -0.1
comp=Z,58nm,0.8s
SMF Signal de Mont 84.28 333⇑*i*P **P** 18 58 49.9 -0.1
SMF pmax pmax
comp=Z,58nm,0.8s
SMF Signal de Mont 84.28 333⇑*i*P **P** 18 58 49.9 -0.1
comp=Z,58nm,0.8s
VLS Valsamata 84.30 318 *e*P **P** 18 58 49.8 -0.5
AVF Avril sur Loir 84.32 333⇑*i*P **P** 18 58 50.2 0.0
comp=Z,107nm,0.7s
AVF Avril sur Loir 84.32 333⇑*i*P **P** 18 58 50.2 0.0
AVF pmax pmax
comp=Z,107nm,0.7s
AVF Avril sur Loir 84.32 333⇑*i*P **P** 18 58 50.2 0.0
comp=Z,107nm,0.7s
ITM Ithomi 84.40 317 *e*P **P** 18 58 50.0 -0.8
Y31A Rekieta Farm, 84.45 48 ⇑P **P** 18 58 51.7 +0.6
baz=84
Z30A Sanderson Ranc 84.46 49 ⇓P **P** 18 58 51.8 +0.6
baz=84,SNR=9.5
228A UT Block 9, Go 84.49 51 ⇓P **P** 18 58 52.3 +0.8
baz=84,SNR=5.4
V34A Guthrie 84.52 45 ⇓P **P** 18 58 52.1 +0.7
baz=84
W33A Caddo, Fort Co 84.53 46 ⇓P **P** 18 58 52.7 +1.2
baz=84
VAM Vamos 84.57 314 *e*P **P** 18 58 51.8 +0.1
X32A Elmer 84.64 47 ⇑P **P** 18 58 52.1 +0.1
baz=84,SNR=6.6
BNI Bardonecchia 84.67 331 *e*P **P** 18 58 52.2 0.0
BNI pmax pmax
comp=Z,13nm,0.8s
BNI Bardonecchia 84.67 331 *e*P **P** 18 58 52.2 0.0
comp=Z,13nm,0.8s
WMOK Wichita Mounta 84.67 47 *e*P **P** 18 58 52.5 +0.3
WMOK pmax pmax
comp=Z,10.0nm,1.0s
WMOK Wichita Mounta 84.67 47 *e*P **P** 18 58 52.5 +0.3
comp=Z,9.6nm,1.0s
BGF Bois d'Agland 84.69 334⇑*i*P **P** 18 58 52.0 -0.1
comp=Z,41nm,0.8s
BGF Bois d'Agland 84.69 334⇑*i*P **P** 18 58 52.0 -0.1
BGF pmax pmax
comp=Z,41nm,0.8s
BGF Bois d'Agland 84.69 334⇑*i*P **P** 18 58 52.0 -0.1
comp=Z,41nm,0.8s
426A McDonald Obser 84.71 53 ⇓P **P** 18 58 53.2 +0.4
baz=84,SNR=9.0
PYL PYLOS 84.71 317 *e*P **P** 18 58 51.5 -0.9
SGMF Saint Gilles 84.82 338⇑*i*P **P** 18 58 52.9 +0.2
comp=Z,29nm,0.6s
SGMF Saint Gilles 84.82 338⇑*i*P **P** 18 58 52.9 +0.2
SGMF pmax pmax
comp=Z,29nm,0.6s
SGMF Saint Gilles 84.82 338⇑*i*P **P** 18 58 52.9 +0.2
comp=Z,29nm,0.6s
Y32A R-V Farms, Ver 84.87 48 ⇓P **P** 18 58 53.9 +0.7
baz=85
328A Wristen Ranch, 84.90 52 ⇓P **P** 18 58 54.5 +1.0
baz=85,SNR=20
MBDF Montbardon 84.92 330⇑*i*P **P** 18 58 53.1 -0.3
comp=Z,26nm,0.5s
MBDF Montbardon 84.92 330⇑*i*P **P** 18 58 53.1 -0.3
MBDF pmax pmax
comp=Z,26nm,0.5s
MBDF Montbardon 84.92 330⇑*i*P **P** 18 58 53.1 -0.3
comp=Z,26nm,0.5s
ROSF Rostrenen 84.94 338⇑*i*P **P** 18 58 53.7 +0.4
comp=Z,83nm,1.0s
ROSF Rostrenen 84.94 338⇑*i*P **P** 18 58 53.7 +0.4
ROSF pmax pmax
comp=Z,83nm,1.0s
ROSF Rostrenen 84.94 338⇑*i*P **P** 18 58 53.7 +0.4
comp=Z,83nm,1.0s
427A Hayter Ranch, 84.95 52 ⇑P **P** 18 58 54.5 +0.7
baz=85,SNR=12
PLDF La Plantade 84.95 333⇑*e*P **P** 18 58 54.9 +1.4
Z31A Sharp Cattle R 84.99 49 ⇓P **P** 18 58 54.5 +0.6
baz=85
229A Bryant Ranch, 85.05 51 ⇓P **P** 18 58 55.4 +1.2
baz=85
ORIF Oris-en-Rattie 85.07 331⇑*i*P **P** 18 58 54.4 +0.3
comp=Z,33nm,0.7s
ORIF *e*R
comp=Z,116nm,22.8s
ORIF Oris-en-Rattie 85.07 331⇑*i*P **P** 18 58 54.4 +0.3
ORIF pmax pmax
comp=Z,33nm,0.7s
ORIF Oris-en-Rattie 85.07 331⇑*i*P **P** 18 58 54.4 +0.3
comp=Z,33nm,0.7s
526A Mary Lane Ranc 85.11 53 ⇑P **P** 18 58 55.6 +0.9
baz=85,SNR=18
CUC Castrocucco 85.14 322 *e*P **P** 18 58 53.2 -1.3
TCF Toulx Ste Croi 85.14 334⇑*i*P **P** 18 58 54.5 +0.2
comp=Z,21nm,0.7s
TCF Toulx Ste Croi 85.14 334⇑*i*P **P** 18 58 54.5 +0.2
TCF pmax pmax
comp=Z,21nm,0.7s
TCF Toulx Ste Croi 85.14 334⇑*i*P **P** 18 58 54.5 +0.2
comp=Z,21nm,0.7s
PMOR Pomariorio Ree 85.19 115 *e*T T 20 32 46.4
comp=Z,23nm,0.2s
X34A Smith Ranch, M 85.29 46 ⇓P **P** 18 58 56.5 +1.2
baz=85
QUIF Quistinic 85.30 338⇑*i*P **P** 18 58 55.1 +0.1
comp=Z,48nm,0.8s
QUIF Quistinic 85.30 338⇑*i*P **P** 18 58 55.1 +0.1
QUIF pmax pmax
comp=Z,48nm,0.8s
QUIF Quistinic 85.30 338⇑*i*P **P** 18 58 55.1 +0.1
comp=Z,48nm,0.8s
AUTN L'Aution 85.30 330⇑*e*P **P** 18 58 55.9 +0.5
329A Wagon Wheel Ra 85.31 51 ⇑P **P** 18 58 56.5 +1.0
baz=85
Y33A Hilltop Ranch, 85.31 47 ⇑P **P** 18 58 55.9 +0.5
baz=85,SNR=5.8
131A Roby 85.33 49 ⇓P **P** 18 58 56.2 +0.6
baz=85
527A Woodward Ranch 85.34 53 ⇑P **P** 18 58 56.2 +0.4
baz=85,SNR=8.9
PYM Petit Puy Mans 85.35 333⇑*e*P **P** 18 58 57.1 +1.6
TIP Timpagrande 85.35 321 *e*P **P** 18 58 54.6 -1.1
comp=Z,8.5nm,0.8s
TUL1 Tulsa 85.36 44 ⇓P **P** 18 58 56.3 +0.7
baz=85
Z32A Haskell 85.37 48 ⇓P **P** 18 58 56.2 +0.5
baz=85,SNR=7.2
SBF Sospel 85.41 330⇑*i*P **P** 18 58 55.1 -0.7
comp=Z,42nm,0.5s
SBF Sospel 85.41 330⇑*i*P **P** 18 58 55.1 -0.7
SBF pmax pmax
comp=Z,42nm,0.5s
SBF Sospel 85.41 330⇑*i*P **P** 18 58 55.1 -0.7
comp=Z,42nm,0.5s
626A Big Bend Ranch 85.46 54 ⇑P **P** 18 58 57.1 +0.7
baz=85,SNR=9.0
428A Kincaid Ranch, 85.46 52 ⇑P **P** 18 58 57.3 +1.0
baz=85,SNR=16
MVIF Mont Vial 85.49 330 *e*P **P** 18 58 55.7 -0.6
230A Sterling City 85.51 50 ⇑P **P** 18 58 57.1 +0.6
baz=85,SNR=12
REVF Revere 85.54 329⇑*e*P **P** 18 58 57.3 +0.9
VIVF Saint-Julien-l 85.56 332⇑*i*P **P** 18 58 56.7 +0.2
comp=Z,46nm,0.7s
VIVF Saint-Julien-l 85.56 332⇑*i*P **P** 18 58 56.7 +0.2
VIVF pmax pmax
comp=Z,46nm,0.7s
VIVF Saint-Julien-l 85.56 332⇑*i*P **P** 18 58 56.7 +0.2
comp=Z,46nm,0.7s
MFF Saint Martin d 85.60 336⇑*i*P **P** 18 58 57.0 +0.4
comp=Z,64nm,0.7s
MFF Saint Martin d 85.60 336⇑*i*P **P** 18 58 57.0 +0.4
MFF pmax pmax
comp=Z,64nm,0.7s
MFF Saint Martin d 85.60 336⇑*i*P **P** 18 58 57.0 +0.4
comp=Z,64nm,0.7s
LBL Lubilhac 85.72 333⇑*e*P **P** 18 58 58.9 +1.6
Z33A Whitaker Ranch 85.78 48 ⇑P **P** 18 58 58.3 +0.6
baz=86
528A Cox Ranch, San 85.81 52 ⇑P **P** 18 58 58.8 +0.7
baz=86,SNR=10
Y34A Reagan Ranch, 85.82 47 ⇓P **P** 18 58 58.4 +0.5
baz=86
330A Mertzon 85.83 51 ⇑P **P** 18 58 58.3 +0.2
baz=86,SNR=7.4
TXAR Lajitas Array 85.89 54 P **P** 18 58 59.6 +1.1
TXAR Lajitas Array 85.89 54 P **P** 18 58 59.6 +1.1
comp=Z,8.0nm,0.6s,baz=292,slow=3.4,SNR=66
231A Bronte 85.92 50 ⇑P **P** 18 58 59.1 +0.6
baz=86
PPT Papeete 85.92 118 LR LR 19 28 58.1
comp=Z,109nm,21.8s,baz=282,slow=30
PPT2 Papeete2 85.94 118 *e*LR LR 19 26 04.5
comp=Z,377nm,25.5s
SFIN Scholer Farm 85.96 36 ⇑P **P** 18 58 58.7 +0.2
baz=86
429A Davenport Ranc 85.99 52 ⇑P **P** 18 58 59.4 +0.5
baz=86
SMRF Simiane la Rot 86.00 331⇑*i*P **P** 18 59 00.6 +1.9
comp=Z,25nm,0.8s
SMRF Simiane la Rot 86.00 331⇑*i*P **P** 18 59 00.6 +1.9
comp=Z,25nm,0.8s
529A Stev Forest Ra 86.17 52 ⇑P **P** 18 59 00.6 +0.7
baz=86,SNR=6.9
Z34A Collier Ranch, 86.18 47 ⇑P **P** 18 58 59.9 +0.2
baz=86
LMR La Mourre 86.21 330⇑*i*P **P** 18 58 59.4 -0.3
comp=Z,43nm,0.5s
LMR La Mourre 86.21 330⇑*i*P **P** 18 58 59.4 -0.3
LMR pmax pmax
comp=Z,43nm,0.5s
LMR La Mourre 86.21 330⇑*i*P **P** 18 58 59.4 -0.3
comp=Z,43nm,0.5s
RJF Les Rejaudoux 86.23 334⇑*i*P **P** 18 59 00.2 +0.4
comp=Z,24nm,0.7s

RJF *eR*
comp=Z,193nm,22.5s
RJF Les Rejaudoux 86.23 334⇑ *iP* P 18 59 00.2 +0.4
RJF pmax pmax
comp=Z,24nm,0.7s
RJF Les Rejaudoux 86.23 334⇑ *iP* P 18 59 00.2 +0.4
comp=Z,24nm,0.7s
628A Black Gap, Mar 86.25 53 ⇑P P 18 59 00.7 +0.5
baz=86
430A Baggett Ranch, 86.25 51 ⇓P P 18 59 00.8 +0.6
baz=86
331A San Angelo 86.33 50 ⇓P P 18 59 00.7 +0.1
baz=86
232A Coleman 86.34 49 ⇓P P 18 59 00.8 +0.2
baz=86,SNR=8.5
CAF Calviac 86.39 333⇑ *iP* P 18 59 01.5 +0.9
comp=Z,80nm,0.7s
CAF Calviac 86.39 333⇑ *iP* P 18 59 01.5 +0.9
CAF pmax pmax
comp=Z,80nm,0.7s
CAF Calviac 86.39 333⇑ *iP* P 18 59 01.5 +0.9
comp=Z,80nm,0.7s
LASF Ste Croix 86.52 332⇑ *iP* P 18 59 01.7 +0.5
comp=Z,39nm,0.9s
LASF Ste Croix 86.52 332⇑ *iP* P 18 59 01.7 +0.5
comp=Z,39nm,0.9s
233A Rising Star 86.66 49 ⇑P P 18 59 02.7 +0.6
baz=86
332A Millersview 86.66 50 ⇑P P 18 59 02.9 +0.7
baz=86,SNR=10
530A J-C Ranch, Com 86.67 52 ⇑P P 18 59 03.1 +0.9
baz=86,SNR=7.2
431A Sonora 86.69 51 ⇓P P 18 59 02.9 +0.6
baz=86
LFF La Frestale 86.81 334⇑ *iP* P 18 59 03.4 +0.8
comp=Z,86nm,0.8s
LFF La Frestale 86.81 334⇑ *iP* P 18 59 03.4 +0.8
LFF pmax pmax
comp=Z,86nm,0.8s
LFF La Frestale 86.81 334⇑ *iP* P 18 59 03.4 +0.8
comp=Z,86nm,0.8s
432A Menard 87.01 50 ⇑P P 18 59 04.5 +0.6
baz=87
531A Rocksprings 87.11 51 ⇓P P 18 59 05.1 +0.7
baz=87
333A Richland Sprin 87.13 49 ⇓P P 18 59 05.5 +1.1
baz=87,SNR=7.0
532A Rocksprings 87.51 51 ⇓P P 18 59 06.7 +0.3
baz=87
631A Perdido Creek 87.66 51 ⇑P P 18 59 07.8 +0.8
baz=88
633A Saathoff Ranch 88.43 51 ⇑P P 18 59 11.4 +0.8
baz=88
732A Laxson Ranch, 88.52 52 ⇑P P 18 59 11.7 +0.7
baz=88
EPF Esparros 88.64 334 *eP* P 18 59 12.4 +0.9
comp=Z,30nm,0.9s
EPF Esparros 88.64 334 *eP* P 18 59 12.4 +0.9
EPF pmax pmax
comp=Z,31nm,0.9s
EPF Esparros 88.64 334 *eP* P 18 59 12.4 +0.9
comp=Z,30nm,0.9s
832A Faith Ranch, C 88.85 52 ⇓P P 18 59 13.4 +0.8
baz=89
ETSF Etsaut 89.05 334⇑ *iP* P 18 59 14.2 +0.8
comp=Z,64nm,0.6s
ETSF Etsaut 89.05 334⇑ *iP* P 18 59 14.2 +0.8
ETSF pmax pmax
comp=Z,64nm,0.6s
ETSF Etsaut 89.05 334⇑ *iP* P 18 59 14.2 +0.8
comp=Z,64nm,0.6s
SJPF Ste Jean 89.07 335 *eP* P 18 59 14.1 +0.7
SJPF Ste Jean 89.07 335 *eP* P 18 59 14.1 +0.7
SJPF Ste Jean 89.07 335 *eP* P 18 59 14.1 +0.7
933A Laredo 89.76 52 ⇓P P 18 59 18.4 +1.6
baz=90
TBI Tubuai 90.19 122 *e*LR LR 19 28 02.3
comp=Z,209nm,27.0s
TBI Tubuai 90.19 122 *e*T T 20 39 05.1
comp=Z,14nm,0.3s
034A Hebbronville 90.51 52 ⇓P P 18 59 22.2 +1.8
baz=90
KEST Kesra 91.53 324 P P 18 59 24.8 -0.3
KEST Kesra 91.53 324 P P 18 59 24.8 -0.3
comp=Z,2.1nm,0.8s,baz=291,slow=11,SNR=11
KEST LR LR 19 45 06.4
comp=Z,66nm,19.2s,baz=323,slow=38
PBRG Braganca 91.91 338 *eP* P 18 59 26.7 0.0
comp=Z,48nm,1.7s
MVO Moncorvo 92.59 338 *eP* P 18 59 29.8 -0.1
comp=Z,60nm,1.7s
POLO Lamas de Olo 92.60 338 *eP* P 18 59 29.7 -0.3
comp=Z,63nm,2.0s
PVRL Vila Real 92.67 338 *eP* P 18 59 30.1 -0.1
comp=Z,81nm,1.7s
ESDC Sonseca Array 93.06 335 P P 18 59 32.1 0.0
ESDC Sonseca Array 93.06 335 P P 18 59 32.1 0.0
comp=Z,4.5nm,0.8s,baz=15,slow=4.3,SNR=17
ESDC LR LR 19 45 17.9
comp=Z,48nm,21.5s,baz=15,slow=38
PVIS Viseu 93.24 338 *eP* P 18 59 32.3 -0.6
comp=Z,103nm,1.7s
RKT Rikitea 99.58 112 *e*LR LR 19 32 31.3
comp=Z,258nm,30.8s
TORD Torodi Ar. Bea 114.36 318 PKiKP PKiKP 19 04 57.6 -0.6
TORD PP PP 19 05 46.6 -7.3
TORD Torodi Ar. Bea 114.36 318 PKiKP PKiKP 19 04 57.6 -0.6
comp=Z,1.2nm,0.5s,baz=16,slow=1.4,SNR=22
TORD PP PP 19 05 46.6 -7.3
comp=Z,8.9nm,1.1s,baz=23,slow=6.7,SNR=7.0
VNDA Vanda 120.16 175 PKP PKPdf 19 05 08.0 +0.5
VNDA Vanda 120.16 175 PKP PKPdf 19 05 08.0 +0.5
comp=Z,1.0nm,0.8s,baz=25,slow=5.9,SNR=3.9
SDV Santo Domingo 120.42 39 *e*PKPdf PKPdf 19 05 10.2 +0.1
DBIC Dimbokro 123.13 321 PKP PKPdf 19 05 14.9 -0.2
DBIC Dimbokro 123.13 321 PKP PKPdf 19 05 14.9 -0.2
comp=Z,4.3nm,0.5s,baz=41,slow=3.2,SNR=8.3
MAW Mawson 124.86 207 PKP PKPdf 19 05 17.8 +1.1
MAW Mawson 124.86 207 PKP PKPdf 19 05 17.8 +1.1
comp=Z,9.0nm,0.8s,baz=55,slow=4.6,SNR=9.9
SYO Syowa Base 133.50 209⇑ *e*PKPdf PKPdf 19 05 32.4 -0.7
NVL N'lazarevskaya 142.68 204 *e*PKIKP PKPdf 19 06 06.6 +17
NVL pmax pmax
comp=Z,8.0nm,0.9s
LPAZ La Paz 142.75 55 PKP PKPdf 19 05 51.8 -0.7
LPAZ La Paz 142.75 55 PKP PKPdf 19 05 51.8 -0.7
comp=Z,2.2nm,0.7s,baz=11,slow=7.7,SNR=7.9
RCBR Riachuelo 143.62 358 PKP PKPdf 19 05 53.8 +0.4
RCBR Riachuelo 143.62 358 PKP PKPdf 19 05 53.8 +0.4
comp=Z,4.4nm,0.7s,baz=58,slow=7.1,SNR=4.6
H03N2 Juan Fernandez 145.96 89 T T 21 49 16.5
baz=297,slow=75,SNR=42
H03N3 Juan Fernandez 145.97 89 T T 21 49 17.4
baz=297,slow=75,SNR=41
H03N1 Juan Fernandez 145.98 89 T T 21 49 18.0
baz=297,slow=75,SNR=50
SNAA Sanae 146.20 199 *e*PKPdf PKPbc 19 05 56.9 -0.4
LVC Limon Verde 146.88 64 *e*PKPdf PKPbc 19 06 01.3 +0.4
BDFB Brasilia 151.72 23 PKPbc PKPbc 19 06 13.5 +0.4
BDFB PKPab PKPab **19 06 22.2 +0.3**
BDFB Brasilia 151.72 23 PKPbc PKPbc 19 06 13.5 +0.4
comp=Z,19nm,0.8s,baz=238,slow=1.6,SNR=22
BDFB PKPab PKPab **19 06 22.2 +0.3**
comp=Z,15nm,0.8s,baz=330,slow=3.6,SNR=8.9
PLCA Paso Flores 154.86 98 PKP PKPdf 19 06 11.8 +1.3
PLCA PKPbc PKiKP **19 06 20.3 +1.1**
PLCA PKPab PKPab **19 06 33.9 -0.9**
PLCA Paso Flores 154.86 98 PKP PKPdf 19 06 11.8 +1.3
comp=Z,0.7nm,0.5s,baz=311,slow=20,SNR=2.3
PLCA PKPbc PKiKP **19 06 20.3 +1.1**
comp=Z,1.4nm,0.8s,baz=259,slow=5.2,SNR=3.8
PLCA PKPab PKPab **19 06 33.9 -0.9**
comp=Z,2.7nm,1.0s,baz=217,slow=15,SNR=3.4
CPUP Villa Florida 156.87 53 PKPab PKPab 19 06 44.6 +1.1
CPUP Villa Florida 156.87 53 PKPab PKPab 19 06 44.6 +1.1
comp=Z,2.7nm,0.8s,baz=311,slow=5.8,SNR=3.4

*IDC **14** 19:03:34.8±2.3, 7.63N×127.19E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=197.3km s-min=26.4km az=66.0*
ISC 14 19:03:37.1±1.3, 7.39N±0.10×127.1E±0.1, h10km, n9, σ1§83/10, mb3.5/3, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.97**	**243**	*eP*	**Pg**		**19 03 55.8**	**0.0**
MATI				*eS*	Sg		19 04 00.5	-8.0
BIPH	**Bislig**	**1.10**	**316⇓**	*eP*	Pn		19 04 04.2	+5.7
BIPH				*eS*	**Sn**		**19 04 16.4**	**+2.7**
BUKP	**Musuan**	**2.11**	**284**	*eP*	**Pg**		**19 04 15.9**	**-1.6**
BUTP	**Butuan**	**2.17**	**317**	*eP*	Pg		19 04 24.0	+5.4
CGP	**Cagayan de Oro**	**2.63**	**294⇓**	*eP*	**Pg**		**19 04 27.7**	**+0.1**
CGP				*eS*	**Sg**		**19 05 03.0**	**+1.2**
CTBH	**Cotabato--PC H**	**2.87**	**267⇓**	*iP*	**Pb**		**19 04 27.2**	**-1.1**
WRA	**Warramunga Arr**	**28.07**	**165**	P	**P**		**19 09 30.1**	**+1.0**
	0.6nm,0.8s,baz=344,slow=11,SNR=6.9							
ASAR	**Alice Springs**	**31.57**	**168**	P	**P**		**19 10 02.3**	**+2.3**
	0.3nm,0.8s,baz=349,slow=7.6,SNR=7.0							
ASAR				PcP	**PcP**		**19 12 51.0**	**-1.6**
	0.3nm,0.9s,baz=342,slow=2.4,SNR=3.6							
MKAR	**Makanchi Array**	**54.83**	**324**	P	**P**		**19 13 06.0**	**-1.5**
	0.2nm,0.4s,baz=124,slow=6.7,SNR=7.2							

KRSC 14 19:05:12.2±1.2, 52.54N×159.73E, h49km±15km, ML3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.58**	**18**	*i* P		Pn	19 05 25.9	+1.5
SPN				S		Sn	19 05 34.3	+1.1
NLC	**Nalytchevo**	**0.67**	**340**	*i* P		Pn	19 05 26.8	+1.3
NLC				S		Sn	19 05 35.9	+0.8
RUS	**Russkaya**	**0.75**	**262**	P		Pn	19 05 27.6	+1.0
RUS				S		Sn	19 05 37.1	+0.1
PET	**Petropavlovsk**	**0.81**	**307**	*i* P		Pn	19 05 28.4	+1.0
PET				S		Sn	19 05 38.5	+0.1
UGLR	**Uglovaya**	**0.86**	**321**	*i* P		Pn	19 05 29.8	+1.6
UGLR				S		Sn	19 05 40.9	+0.9
SDLR	**Sedlovina**	**0.90**	**326**	*i* P		Pn	19 05 30.0	+1.3
SDLR				S		Sn	19 05 41.1	+0.3
SMAR	**Somma**	**0.91**	**322**	*i* P		Pn	19 05 30.2	+1.1
SMAR				S		Sn	19 05 41.8	+0.4
AVH	**Avacha**	**0.94**	**321**	*i* P		Pn	19 05 30.8	+1.6
AVH				S		Sn	19 05 42.8	+1.1
MTVR	**Mutnovka**	**0.95**	**267**	*i* P		Pn	19 05 30.7	+1.3
MTVR				S		Sn	19 05 42.7	+0.7
KRER	**Koryakskii**	**0.97**	**323**	*i* P		Pn	19 05 31.2	+1.5
KRER				S		Sn	19 05 43.6	+1.0
KOK	**Koryaka**	**1.00**	**319**	P		Pn	19 05 31.5	+1.4
KOK				S		Sn	19 05 44.0	+0.8
GRL	**Gorelyy**	**1.01**	**271**	*i* P		Pn	19 05 32.2	+2.0
GRL				S		Sn	19 05 45.1	+1.6
KRX	**Arik**	**1.05**	**322**	*i* P		Pn	19 05 32.1	+1.4
KRX				S		Sn	19 05 45.0	+0.6
ASAK	**Asacha**	**1.13**	**263**	*i* P		Pn	19 05 33.8	+2.0
ASAK				S		Sn	19 05 47.8	+1.5
KII	**Karymskiy**	**1.50**	**354**	P		Pn	19 05 39.4	+2.5
KII				S		Sn	19 05 57.4	+2.0
GNL	**Ganaly**	**1.58**	**318**	*i* P		Pn	19 05 40.1	+2.2
GNL				S		Sn	19 05 58.7	+1.4
APC	**Apacha**	**1.61**	**285**	P		Pn	19 05 40.5	+2.3
APC				S		Sn	19 06 00.2	+2.5
MIPR	**Malaya Ipel'ka**	**1.84**	**263**	*i* P		Pn	19 05 44.3	+2.9
MIPR				S		Sn	19 06 06.3	+2.8
PAU	**Pauzhetka**	**2.10**	**240**	P		Pn	19 05 47.5	+2.6
PAU				S		Sn	19 06 11.9	+2.1
MKZ	**Mys Kozlova**	**2.34**	**30**	P		Pn	19 05 51.2	+3.0
MKZ				S		Sn	19 06 18.0	+2.3
KZV	**Kizimen**	**2.60**	**7**	P		Pn	19 05 55.0	+3.1
KZV				S		Sn	19 06 26.0	+3.6
TUMR	**Tumrok**	**2.76**	**5**	*i* P		Pn	19 05 58.6	+4.5
TUMR				S		Sn	19 06 31.1	+4.9
SKR	**Severo-Kuril's**	**2.92**	**232**	P		Pn	19 05 59.1	+3.0
SKR				S		Sn	19 06 32.1	+2.1
KMNR	**Kamenistaya**	**3.23**	**5**	P		Pn	19 06 04.3	+3.7
ESO	**Esso**	**3.44**	**350**	P		Pn	19 06 06.7	+3.4
ESO				S		Sn	19 06 46.1	+3.2
SRDR	**Sredinnyy**	**3.78**	**360**	P		Pn	19 06 12.9	+4.9
KBTR	**Krutoberegovo**	**4.09**	**25**	P		Pn	19 06 16.1	+3.9
KBTR				S		Sn	19 07 02.3	+3.5
KBG	**Krutoberegovo**	**4.11**	**24**	P		Pn	19 06 18.4	+6.0
KBG				S		Sn	19 07 06.3	+7.3
BKI	**Bering**	**4.56**	**52**	P		Pn	19 06 21.0	+2.5
BKI				S		Sn	19 07 09.3	-0.8

*IDC **14** 19:30:27.6±3.1, 2.19S×68.03E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.4/27, mbtmp3.4/7, Error ellipse: s-maj=87.9km s-min=25.9km az=67.0*
ISC 14 19:30:30.5±3.5, 2.2S±0.3×68.1E±0.6, h15km, n10, σ0§90/7, mb3.6/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.04**	**145**	T	T		19 36 55.3	
	baz=325,slow=75,SNR=52							
H08N3	**Diego Garcia H**	**5.05**	**146**	T	T		19 36 57.6	
	baz=325,slow=75,SNR=470							
H08N1	**Diego Garcia H**	**5.07**	**145**	T	T		19 36 59.2	
	baz=325,slow=75,SNR=50							
CMAR	**Chiang Mai Arr**	**36.60**	**55**	P	**P**		**19 37 36.1**	**-0.3**
	0.1nm,0.4s,baz=243,slow=10.0,SNR=2.4							
MKAR	**Makanchi Array**	**50.31**	**13**	P	**P**		**19 39 25.6**	**-1.0**
	0.3nm,0.9s,baz=192,slow=8.2,SNR=2.8							
KURBB	**Kurchatov Arra**	**53.32**	**8**	P	**P**		**19 39 48.6**	**-0.3**
	0.8nm,1.0s,baz=205,slow=7.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**57.61**	**12**	P	**P**		**19 40 19.6**	**-0.2**
	0.3nm,0.3s,baz=222,slow=1.9,SNR=2.9							
SONM	**Songino Array**	**59.94**	**29**	P	**P**		**19 40 37.4**	**+1.2**
	0.5nm,1.0s,baz=222,slow=5.5,SNR=3.4							
WRA	**Warramunga Arr**	**66.94**	**111**	P	**P**		**19 41 23.5**	**+0.4**
	0.7nm,1.1s,baz=289,slow=5.8,SNR=3.6							
ASAR	**Alice Springs**	**67.00**	**115**	P	**P**		**19 41 22.9**	**-0.5**
	0.5nm,0.9s,baz=245,slow=6.1,SNR=3.8							

*IDC **14** 20:08:33.1±2.5, 43.40N×105.58W, h0km, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, ML2.7/2, Error ellipse: s-maj=59.2km s-min=8.4km az=153.0*
*ISCJB **14** 20:08:35.2±0.2, 43.54N±0.01×105.39W±0.02, h0km, Error ellipse: s-maj=2.3km s-min=2.1km az=2.5*
*NEIC **14** 20:08:35.4±0.5, 43.58N×105.32W, h0km, ML3.1, Error ellipse: s-maj=7.5km s-min=5.9km az=102.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] ENE of Midwest.
ISC 14 20:08:34.9±0.7, 43.52N±0.02×105.40W±0.02, h0km, n113, σ1§14/127, 45C-47D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.16**	**224**	⇓P	**Pg**		**20 08 39.8**	**+1.7**
	baz=0.2							
I23A	**Meade Ranch, G**	**0.44**	**354**	P	**Pg**		**20 08 44.8**	**+1.4**
	baz=0.4,SNR=34							
J24A	**Dixon Ranch, L**	**0.57**	**109**	⇑P	**Pg**		**20 08 46.2**	**+0.4**
	baz=0.5							
I24A	**Kuemmerle Ranc**	**0.65**	**59**	⇓P	**Pg**		**20 08 47.8**	**+0.3**
	baz=0.6							
K23A	**Bowen Ranch, D**	**0.78**	**192**	⇓P	**Pg**		**20 08 50.4**	**+0.5**
	baz=0.9							
J22A	**Midwest**	**0.79**	**262**	⇓P	**Pb**		**20 08 51.0**	**-0.7**
	baz=0.9							
I22A	**9 Mile Ranch,**	**0.87**	**296**	⇓P	**Pb**		**20 08 52.7**	**-0.4**
	baz=0.9							
K24A	**Anderson Ranch**	**0.91**	**152**	⇓P	**Pg**		**20 08 52.5**	**+0.2**
	baz=0.9							
H23A	**Clabaugh Cattl**	**1.04**	**360**	⇓P	**Pg**		**20 08 55.0**	**+0.1**
	baz=1.0,SNR=54							
H23A				⇓S	**Sb**		**20 09 09.9**	**-0.2**
	baz=1.0							
J25A	**Sunshine Ranch**	**1.17**	**96**	⇑P	**Pg**		**20 08 57.0**	**-0.4**
	baz=1.1							
K22A	**Casper**	**1.20**	**224**	⇓P	**Pg**		**20 08 57.9**	**0.0**
	baz=1.3							
H22A	**Clearmont**	**1.27**	**328**	⇑P	**Pb**		**20 08 60.0**	**+0.1**
	baz=1.3,SNR=55							
H22A				⇑S	**Sn**		**20 09 18.4**	**+0.4**
	baz=1.3							
I25A	**Rochford**	**1.31**	**67**	⇑P	**Pg**		**20 08 59.0**	**-1.0**
	baz=1.2							
H24A	**Dirks Ranch, A**	**1.37**	**26**	⇓P	**Pg**		**20 09 00.4**	**-0.8**
	baz=1.3							
I21A	**Big Trails, Te**	**1.40**	**283**	⇓P	**Pn**		**20 09 01.5**	**-0.5**
	baz=1.4							
I21A				⇑S	**Sn**		**20 09 21.2**	**-0.1**
	baz=1.4							
L23A	**Garrett**	**1.42**	**189**	⇑P	**Pn**		**20 09 01.5**	**-0.8**
	baz=1.5							
K25A	**Mack Ranch, Ha**	**1.44**	**129**	⇓P	**Pn**		**20 09 02.9**	**+0.4**
	baz=1.4							
J21A	**Lysite**	**1.50**	**264**	⇑P	**Pn**		**20 09 03.2**	**-0.1**
	baz=1.6,SNR=81							
J21A				⇑S	**Sn**		**20 09 24.5**	**+0.8**
	baz=1.6							
L24A	**Wheatland**	**1.52**	**167**	⇓P	**Pn**		**20 09 03.3**	**-0.2**
	baz=1.6							
H21A	**Big Horn, Sher**	**1.62**	**314**	⇓P	**Pb**		**20 09 05.9**	**+0.1**
	baz=1.6,SNR=84							
K21A	**Alcova**	**1.62**	**237**	⇓P	**Pb**		**20 09 05.5**	**-0.4**
	baz=1.7							
K21A				⇑S	**Sg**		**20 09 28.0**	**+1.0**
	baz=1.7							
L22A	**Ellis Ranch, M**	**1.67**	**207**	P	**Pb**		**20 09 06.2**	**-0.5**
	baz=1.8,SNR=70							
L22A				⇓S	**Sg**		**20 09 29.6**	**+1.0**
	baz=1.8							
G23A	**Biddle**	**1.68**	**0**	⇑P	**Pn**		**20 09 06.2**	**+0.5**
	baz=1.6							
H25A	**Fruitdale**	**1.70**	**49**	⇓P	**Pn**		**20 09 06.6**	**+0.6**
	baz=1.6,SNR=21							
J26A	**Sides Ranch, S**	**1.71**	**96**	⇑P	**Pn**		**20 09 06.5**	**+0.5**
	baz=1.7							
J26A				⇑S	**Sn**		**20 09 28.9**	**+0.4**
	baz=1.7							
L25A	**Engebretsen Ra**	**1.73**	**142**	⇑P	**Pb**		**20 09 07.5**	**-0.1**
	baz=1.7,SNR=23							
G22A	**Birney**	**1.81**	**340**	⇓P	**Pb**		**20 09 08.6**	**-0.5**
	baz=1.8,SNR=53							
K26A	**Motz Farm, Whi**	**1.82**	**116**	⇓P	**Pn**		**20 09 08.7**	**+1.1**
	baz=1.8,SNR=10							
I26A	**New Underwood**	**1.91**	**74**	⇓P	**Pn**		**20 09 09.9**	**+1.1**
	baz=1.8							
G24A	**Alzada**	**1.94**	**21**	⇑P	**Pn**		**20 09 10.5**	**+1.3**
	baz=1.9,SNR=33							
J20A	**Shoshoni**	**1.96**	**266**	⇓P	**Pg**		**20 09 12.4**	**-0.2**
	baz=2.0							
M23A	**Laramie**	**2.07**	**187**	⇓P	**Pn**		**20 09 12.3**	**+1.2**
	baz=2.1,SNR=17							
M24A	**Cheyenne**	**2.10**	**168**	⇑P	**Pb**		**20 09 13.3**	**-0.7**
	baz=2.1,SNR=70							
H20A	**Greybull**	**2.11**	**298**	⇓P	**Pn**		**20 09 12.5**	**+0.9**
	baz=2.1,SNR=102							
G21A	**Lodge Grass**	**2.14**	**323**	⇓P	**Pn**		**20 09 13.2**	**+1.1**
	baz=2.1,SNR=48							
G21A				⇓Sb	**Sg**		**20 09 44.4**	**+0.7**
	baz=2.1							
H26A	**Fairpoint**	**2.19**	**59**	⇓P	**Pn**		**20 09 14.1**	**+1.5**
	baz=2.1,SNR=19							
G25A	**Newell**	**2.19**	**40**	⇑P	**Pn**		**20 09 14.2**	**+1.5**
	baz=2.1,SNR=37							
G25A				⇑Sb	**Sb**		**20 09 44.5**	**+1.2**
	baz=2.1							
F23A	**Volborg**	**2.20**	**360**	P	**Pn**		**20 09 13.5**	**+0.7**
	baz=2.1,SNR=72							
L26A	**Underwood Farm**	**2.26**	**130**	⇑P	**Pb**		**20 09 15.6**	**-1.1**
	baz=2.3,SNR=27							
L26A				⇓S	**Sn**		**20 09 43.1**	**+0.8**
	baz=2.3							
M22A	**Cedar Creek Ra**	**2.29**	**203**	⇑P	**Pb**		**20 09 16.6**	**-0.8**
	baz=2.4							
M22A				⇑Sb	**Sg**		**20 09 48.9**	**+0.2**
	baz=2.4							
M25A	**Palm-Egli Farm**	**2.31**	**154**	⇓P	**Pn**		**20 09 16.0**	**+1.6**
	baz=2.3,SNR=15							
F22A	**Rosebud**	**2.34**	**345**	⇑P	**Pn**		**20 09 15.2**	**+0.5**
	baz=2.3							
F24A	**Ekalaka**	**2.42**	**16**	⇓P	**Pn**		**20 09 17.0**	**+1.1**
	baz=2.4							
K27A	**Flueckinger Fa**	**2.46**	**108**	⇓P	**Pn**		**20 09 18.0**	**+1.7**
	baz=2.4,SNR=50							
I27A	**Quinn**	**2.48**	**76**	⇓P	**Pn**		**20 09 18.2**	**+1.5**
	baz=2.4,SNR=18							
J27A	**Elkhorn Farm,**	**2.49**	**95**	⇑P	**Pn**		**20 09 18.3**	**+1.6**
	baz=2.4,SNR=68							
F21A	**Absaloka Mine,**	**2.61**	**332**	⇓P	**Pn**		**20 09 18.3**	**-0.2**
	baz=2.6,SNR=10.0							
G20A	**Bridger**	**2.64**	**311**	P	**Pn**		**20 09 19.5**	**+0.6**
	baz=2.6,SNR=89							
M26A	**McRoberts Ranc**	**2.65**	**140**	⇑P	**Pn**		**20 09 19.1**	**+0.2**
	baz=2.7,SNR=19							
N23A	**Red Feather La**	**2.66**	**189**	⇓P	**Pn**		**20 09 21.0**	**+1.7**
	baz=2.7,SNR=54							
J19A	**Crowheart**	**2.68**	**266**	⇑P	**Pn**		**20 09 20.1**	**+0.7**
	baz=2.7,SNR=133							
F25A	**Bowman**	**2.77**	**29**	⇑P	**Pn**		**20 09 22.2**	**+1.5**
	baz=2.7,SNR=11							
H19A	**Powell**	**2.83**	**295**	⇓P	**Pn**		**20 09 23.2**	**+1.7**
	baz=2.8							
N22A	**Wattenberg Ran**	**2.83**	**196**	⇑P	**Pn**		**20 09 24.0**	**+2.4**
	baz=2.9,SNR=28							
N25A	**Grover**	**2.88**	**160**	P	**Pn**		**20 09 23.6**	**+1.4**
	baz=2.9,SNR=17							
E22A	**Miles City**	**2.94**	**353**	⇓P	**Pn**		**20 09 23.2**	**+0.2**
	baz=2.9							
J28A	**Allard Ranch,**	**3.03**	**90**	⇑P	**Pn**		**20 09 25.8**	**+1.6**
	baz=3.0,SNR=18							
F26A	**Lodgepole**	**3.04**	**39**	⇓P	**Pn**		**20 09 25.5**	**+1.2**
	baz=3.0,SNR=8.1							
G27A	**Dupree**	**3.10**	**52**	P	**Pn**		**20 09 25.9**	**+0.7**
	baz=3.0,SNR=12							
BW06	**Boulder Array**	**3.14**	**258**	*eP*	**Pn**		**20 09 26.4**	**+0.6**
E24A	**Baker**	**3.14**	**14**	⇑P	**Pn**		**20 09 27.0**	**+1.3**
	baz=3.1,SNR=20							
PDAR	**Pinedale Array**	**3.14**	**258**		Pn		**20 09 26.2**	**+0.4**
PDAR					Pg		**20 09 29.1**	**-2.5**
PDAR					Lg		20 10 06.5	
PDAR	**Pinedale Array**	**3.14**	**258**		Pn		**20 09 26.2**	**+0.4**
	5.1nm,0.3s,baz=73,slow=17,SNR=48							
PDAR					Pg		**20 09 29.1**	**-2.5**
	5.1nm,0.3s,baz=76,slow=18,SNR=57							
PDAR					Lg		20 10 06.5	
	7.2nm,0.3s,baz=64,slow=30,SNR=12							
RLMT	**Red Lodge**	**3.20**	**301**	*eP*	**Pn**		**20 09 27.9**	**+1.2**
LAO	**LASA Array**	**3.22**	**350**	*eP*	**Pn**		**20 09 26.5**	**-0.3**
E21A	**Keefer Ranch,**	**3.25**	**339**	⇓P	**Pn**		**20 09 27.0**	**-0.2**
	baz=3.2,SNR=12							
O23A	**Lake Granby, G**	**3.33**	**187**	⇑P	**Pn**		**20 09 30.4**	**+1.8**
	baz=3.4,SNR=18							
F27A	**Lemmon**	**3.37**	**45**	⇓P	**Pn**		**20 09 29.8**	**+1.0**
	baz=3.3,SNR=10							
N20A	**Spence Gulch,**	**3.43**	**219**	⇑P	**Pn**		**20 09 31.6**	**+1.8**
	baz=3.5,SNR=13							
F19A	**Roth Farm, Mol**	**3.44**	**314**	⇓P	**Pn**		**20 09 31.1**	**+1.2**
	baz=3.4,SNR=13							
O22A	**Kremmling**	**3.46**	**195**	⇓P	**Pn**		**20 09 32.3**	**+1.9**
	baz=3.5,SNR=12							
OGNE	**Ogallala**	**3.59**	**135**	*e*Pn	**Pn**		**20 09 32.3**	**+0.4**
OGNE				*e*Pg	**Pg**		**20 09 42.0**	**-1.6**
OGNE

E28A	**Huff**	**4.52**	**46**	⇑P		**Pn**	**20 09 45.1**	**+0.5**
	baz=4.4,SNR=8.7							
Q26A	**Hugo**	**4.81**	**162**	⇑P		**Pn**	**20 09 49.7**	**+1.0**
	baz=4.8,SNR=9.5							
C19A	**Slack Wire Ran**	**4.93**	**330**	P		**Pn**	**20 09 50.8**	**+0.5**
	baz=4.9,SNR=19							
BOZ	**Bozeman (W)**	**4.93**	**298**	*e*P		**Pn**	**20 09 50.6**	**+0.2**
D28A	**Regan**	**5.00**	**41**	⇑P		**Pn**	**20 09 51.6**	**+0.2**
	baz=4.9,SNR=9.7							
DGMT	**Dagmar**	**5.02**	**9**	*e*Pn		**Pn**	**20 09 52.8**	**+1.3**
B20A	**Solberg Farm,**	**5.25**	**341**	⇑P		**Pn**	**20 09 55.1**	**+0.5**
	baz=5.2,SNR=5.8							
DAU	**Daniels Canyon**	**5.36**	**237**	*e*Pn		**Pn**	**20 09 58.4**	**+1.9**
	9.5nm,0.6s							
EGMT	**Eagleton**	**5.44**	**327**	*e*Pn		**Pn**	**20 09 57.2**	**-0.1**
	12nm,0.5s							
LRM	**Limekiln Ridge**	**5.53**	**297**	*e*Pn		**Pn**	**20 09 59.7**	**+1.0**
	10nm,0.3s							
R27A	**Eads**	**5.59**	**158**	⇑P		**Pn**	**20 09 59.1**	**-0.4**
	baz=5.6,SNR=20							
SPUT	**South Promonto**	**5.67**	**249**	*e*Pn		**Pn**	**20 10 01.7**	**+1.1**
	6.5nm,0.8s							
HVU	**Hansel Valley**	**5.71**	**255**	*e*Pn		**Pn**	**20 10 02.4**	**+1.2**
	7.4nm,0.7s							
PV04	**Paradox Valley**	**5.77**	**209**	*e*Pn		**Pn**	**20 10 04.2**	**+2.2**
SRU	**San Rafael**	**5.86**	**223**	*e*P		**Pn**	**20 10 04.0**	**+0.8**
	11nm,0.6s							
A29A	**Manning Farm,**	**6.89**	**36**	⇓P		**Pn**	**20 10 17.2**	**0.0**
	baz=6.8,SNR=7.0							
ULM	**Lac du Bonnet**	**9.37**	**41**	Pn		**Pn**	**20 10 49.3**	**-1.8**
ULM				Lg		Lg	20 13 28.0	
ULM	**Lac du Bonnet**	**9.37**	**41**	Pn		**Pn**	**20 10 49.3**	**-1.8**
	0.7nm,0.3s,baz=230,slow=13,SNR=8.6							
ULM				Lg		Lg	20 13 28.0	
	0.2nm,0.3s,baz=142,slow=19,SNR=4.9							
YKA	**Yellowknife Ar**	**19.76**	**347**	P		**P**	**20 13 05.1**	**-1.1**
YKA	**Yellowknife Ar**	**19.76**	**347**	P		**P**	**20 13 05.1**	**-1.1**
	0.0nm,0.3s,baz=153,slow=11,SNR=4.3							

IDC **14** *20:14:10.8±1.5, 14°10S×166°47E, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/22, mbtmp4.0/9, ML3.4/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/34, Error ellipse: s-maj=41.1km s-min=21.8km az=112.0*

ISCJB **14** *20:14:15.1±1.1, 14°20S±0°07×166°4E±0°2, h43km, mb3.9/7, MS3.8/4, Error ellipse: s-maj=26.8km s-min=10.0km az=172.2*

ISC 14 20:14:16.7±1.2, 14°14S±0°09×166°5E±0°2, h43km, n14, σ0.96/11, mb4.0/7, MS3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.88**	**180**	Pn	**Pn**	**20 16 07.8**	**-1.1**
	0.5nm,0.3s,baz=2.9,slow=3.2,SNR=5.2						
DZM				Sn	**Sn**	**20 17 38.2**	**+1.3**
	baz=41,slow=19,SNR=2.7						
DZM				LR	LR	20 18 55.9	
	comp=Z,82nm,18.5s,baz=34,slow=36						
HNR	**Honiara**	**7.93**	**306**	LR	LR	20 19 27.1	
	comp=Z,112nm,18.0s,baz=158,slow=40						
PMG	**Port Moresby**	**19.49**	**282**	LR	LR	20 24 49.5	
	comp=Z,58nm,18.6s,baz=356,slow=33						
CTA	**Charters Tower**	**20.21**	**250**	P	**P**	**20 18 48.5**	**+0.4**
	5.2nm,0.8s,baz=74,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**28.80**	**228**	P	**P**	**20 20 11.4**	**+0.6**
	4.0nm,0.7s,baz=66,slow=8.4,SNR=9.1						
STKA				LR	LR	20 31 38.9	
	comp=Z,153nm,18.3s,baz=28,slow=36						
WRA	**Warramunga Arr**	**31.23**	**255**	P	**P**	**20 20 31.7**	**-0.8**
	1.1nm,0.8s,baz=86,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**32.17**	**248**	P	**P**	**20 20 40.4**	**-0.4**
	1.6nm,0.6s,baz=73,slow=9.5,SNR=45						
ASAR				LR	LR	20 33 02.9	
	comp=Z,89nm,21.4s,baz=98,slow=35						
NWAO	**Narrogin (SRO)**	**48.40**	**238**	LR	LR	20 42 53.9	
	comp=Z,61nm,18.1s,slow=36						
CMAR	**Chiang Mai Arr**	**74.01**	**294**	P	**P**	**20 25 49.1**	**+0.6**
	0.9nm,0.9s,baz=112,slow=3.5,SNR=5.2						
SEY	**Seymchan**	**77.61**	**353**	P	**P**	**20 26 09.2**	**+1.1**
	1.0nm,0.5s,baz=197,slow=19,SNR=6.6						
SONM	**Songino Array**	**81.58**	**324**	P	**P**	**20 26 30.1**	**0.0**
	0.4nm,0.6s,baz=123,slow=5.3,SNR=3.4						
LPIG	**La Paz**	**89.65**	**65**	LR	LR	20 58 30.4	
	comp=Z,246nm,19.1s,baz=114,slow=30						
MKAR	**Makanchi Array**	**96.25**	**317**	P	**P**	**20 27 39.4**	**-1.2**
	0.4nm,0.8s,baz=98,slow=4.1,SNR=3.5						
ARCES	**ARCESS Array B**	**119.50**	**345**	PKP	**PKPdf**	**20 33 00.9**	**-0.2**
	4.5nm,1.1s,baz=65,slow=2.3,SNR=8.2						

IDC 14 20:28:01.6±1.2, 22°76N×142°67E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/26, mbtmp3.7/7, Error ellipse: s-maj=50.1km s-min=20.6km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**22.77**	**93**	T	T	20 56 53.6	
	baz=284,slow=75,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**22.77**	**93**	T	T	20 56 51.6	
	baz=284,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**22.79**	**93**	T	T	20 56 52.8	
	baz=284,slow=75,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**22.86**	**96**	T	T	20 57 00.9	
	baz=287,slow=73,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**22.87**	**96**	T	T	20 56 59.5	
	baz=287,slow=73,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**22.88**	**96**	T	T	20 57 01.5	
	baz=287,slow=73,SNR=5.6						
WRA	**Warramunga Arr**	**43.22**	**191**	P	P	20 36 04.4	-0.3
	1.7nm,0.7s,baz=14,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**46.93**	**191**	P	P	20 36 34.2	0.0
	1.4nm,0.6s,baz=12,slow=9.9,SNR=28						
MKAR	**Makanchi Array**	**53.63**	**312**	P	P	20 37 24.7	-0.1
	0.2nm,0.5s,baz=84,slow=10.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**56.43**	**317**	P	P	20 37 45.1	+0.2
	0.5nm,0.7s,baz=94,slow=7.6,SNR=4.5						
BVAR	**Borovoye Array**	**61.56**	**319**	P	P	20 38 20.6	0.0
	0.4nm,0.5s,baz=93,slow=7.7,SNR=6.2						
YKA	**Yellowknife Ar**	**75.74**	**28**	P	P	20 39 49.3	+0.5
	0.2nm,0.5s,baz=290,slow=5.8,SNR=4.0						
FINES	**FINESS Array B**	**82.02**	**334**	P	P	20 40 22.3	-1.0
	1.0nm,0.7s,baz=71,slow=6.0,SNR=4.1						

ISCJB **14** *20:31:37.0±0.4, 18°40N±0°06×72°85W±0°05, h6km, mb3.9/16, MS3.5/9, Error ellipse: s-maj=9.2km s-min=6.0km az=10.4*

IDC **14** *20:31:37.7±1.0, 18°35N×72°86W, h0km, mb3.9/15, mb1 4.2/15, mb1mx4.0/26, mbtmp3.9/15, MS3.5/11, Ms1 3.5/11, ms1mx3.2/48, Error ellipse: s-maj=31.4km s-min=18.7km az=25.0*

NEIC **14** *20:31:39.1±0.3, 18°39N×72°87W, h10km, mb4.1/2, Error ellipse: s-maj=7.9km s-min=5.6km az=4.0*

ISC 14 20:31:38.6±0.5, 18°37N±0°08×72°91W±0°06, h6km, n56, σ0.95/47, mb4.1/16, MS3.5/9, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.65**	**68**	*e*P	**Pn**	**20 32 06.3**	**-1.9**
GTBY	**Guantanamo Bay**	**2.60**	**307**	*e*P	**Pn**	**20 32 19.8**	**-1.4**
GRTK	**Grand Turk**	**3.54**	**28**	*e*P	**Pn**	**20 32 32.0**	**-2.2**
MTDJ	**Mount Denham**	**4.40**	**269**	*e*P	**Pn**	**20 32 46.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**5.52**	**93**	*e*P	**Pn**	**20 33 01.0**	**-0.4**
	58nm,0.6s						
LSP	**Las Mesas**	**5.53**	**91**	*e*P	**Pn**	**20 32 59.8**	**-1.7**
OBIP	**Obispado Ponce**	**6.00**	**92**	*e*P	**Pn**	**20 33 07.4**	**-0.5**
	69nm,1.0s						
CELP	**Cerrillos**	**6.02**	**92**	*e*P	**Pn**	**20 33 08.3**	**0.0**
CBYP	**Canovanas**	**6.70**	**90**	*e*P	**Pn**	**20 33 17.0**	**-0.6**
	34nm,0.8s						
MTP	**Monte Pirata**	**6.99**	**91**	*e*P	**Pn**	**20 33 22.4**	**+0.8**
	29nm,0.7s						
SDV	**Santo Domingo**	**9.68**	**167**	*e*P	**Pn**	**20 33 59.9**	**+1.2**
	3.7nm,0.6s						
BCIP	**Isla Barro Col**	**11.36**	**217**	*e*P	**Pn**	**20 34 19.5**	**-2.0**
JTS	**JuntasAbangare**	**14.16**	**237**	LR	LR	20 40 24.8	
	comp=Z,62nm,19.2s,baz=5.9,slow=37						
TEIG	**Tepich**	**14.63**	**280**	*e*P	**Pn**	**20 35 07.0**	**+0.7**
	20nm,1.2s						
OTAV	**Otavalo**	**18.82**	**197**	P	**Pn**	**20 36 01.0**	**+0.8**
	26nm,1.5s						
TKL	**Tuckaleechee C**	**19.73**	**333**	LR	LR	20 44 22.1	
	comp=Z,115nm,18.1s,baz=174,slow=39						
PTGA	**Pitinga**	**22.85**	**145**	LR	LR	20 45 40.5	
	comp=Z,56nm,21.8s,baz=21,slow=37						
SADO	**Sadowa**	**26.84**	**350**	LR	LR	20 48 39.0	
	comp=Z,92nm,18.2s,baz=352,slow=38						
SAML	**Samuel**	**28.79**	**160**	*e*P	**P**	**20 37 36.8**	**-0.7**
	1.8nm,0.7s						
TXAR	**Lajitas Array**	**30.09**	**297**	P	**P**	**20 37 50.3**	**+1.2**
TXAR	**Lajitas Array**	**30.09**	**297**	P	**P**	**20 37 50.3**	**+1.2**
	0.3nm,0.8s,baz=102,slow=8.4,SNR=2.7						
TXAR				LR	LR	20 53 51.3	
	comp=Z,43nm,19.9s,baz=250,slow=44						
ULM	**Lac du Bonnet**	**36.73**	**335**	LR	LR	20 54 54.1	
	comp=Z,81nm,18.8s,baz=356,slow=38						
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**20 39 09.6**	**+0.3**
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**20 39 09.6**	**+0.3**
	0.3nm,0.6s,baz=123,slow=9.8,SNR=2.5						
BDFB	**Brasilia**	**41.75**	**142**	P	**P**	**20 39 29.8**	**+0.8**
BDFB	**Brasilia**	**41.75**	**142**	P	**P**	**20 39 29.8**	**+0.8**
	3.0nm,0.6s,baz=337,slow=8.7,SNR=5.4						
BDFB				LR	LR	20 58 36.3	
	comp=Z,68nm,18.7s,baz=275,slow=39						
ELK	**Elko**	**42.52**	**311**	LR	LR	20 57 23.5	
	comp=Z,78nm,21.9s,baz=360,slow=36						
NEW	**Newport**	**46.54**	**320**	LR	LR	21 00 45.7	
	comp=Z,145nm,18.8s,baz=271,slow=38						
YBH	**Yreka Blue Hor**	**48.20**	**310**	LR	LR	21 03 33.2	
	comp=Z,113nm,20.6s,baz=4.4,slow=40						
YKA	**Yellowknife Ar**	**52.65**	**337**	P	**P**	**20 40 53.3**	**-0.1**
YKA	**Yellowknife Ar**	**52.65**	**337**	P	**P**	**20 40 53.3**	**-0.1**
	0.9nm,0.8s,baz=124,slow=7.2,SNR=18						
DLBC	**Dease Lake**	**57.48**	**328**	P	**P**	**20 41 30.0**	**+1.5**
DLBC	**Dease Lake**	**57.48**	**328**	P	**P**	**20 41 30.0**	**+1.5**
	2.4nm,0.6s,baz=114,slow=12,SNR=4.6						
ESDC	**Sonseca Array**	**62.45**	**54**	P	**P**	**20 42 03.0**	**+0.1**
ESDC	**Sonseca Array**	**62.45**	**54**	P	**P**	**20 42 03.0**	**+0.1**
	0.7nm,0.6s,baz=279,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**66.71**	**333**	P	**P**	**20 42 30.2**	**-0.1**
ILAR	**Eielson Array**	**66.71**	**333**	P	**P**	**20 42 30.2**	**-0.1**
	1.0nm,1.1s,baz=134,slow=2.6,SNR=4.8						
NOA	**NORSAR Array B**	**71.28**	**31**	P	**P**	**20 42 58.8**	**+0.1**
NOA	**NORSAR Array B**	**71.28**	**31**	P	**P**	**20 42 58.8**	**+0.1**
	1.2nm,0.9s,baz=274,slow=6.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**20 43 00.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**20 43 00.2**	**-1.0**
	1.2nm,0.8s,baz=294,slow=6.4,SNR=5.9						
DAVOX	**Davos/Dischmat**	**71.97**	**46**	P	**P**	**20 43 04.0**	**+0.6**
DAVOX	**Davos/Dischmat**	**71.97**	**46**	P	**P**	**20 43 04.0**	**+0.6**
	2.6nm,0.7s,baz=316,slow=7.4,SNR=3.2						
KEST	**Kesra**	**73.36**	**57**	LR	LR	21 08 46.8	
	comp=Z,27nm,18.6s,baz=238,slow=30						
GERES	**GERESS Array B**	**74.20**	**43**	P	**P**	**20 43 16.8**	**+0.3**
GERES	**GERESS Array B**	**74.20**	**43**	P	**P**	**20 43 16.8**	**+0.3**
	2.2nm,0.8s,baz=266,slow=5.4,SNR=15						
ARCES	**ARCESS Array B**	**75.86**	**21**	P	**P**	**20 43 25.8**	**+0.3**
ARCES	**ARCESS Array B**	**75.86**	**21**	P	**P**	**20 43 25.8**	**+0.3**
	3.9nm,1.0s,baz=270,slow=3.4,SNR=5.3						
FINES	**FINESS Array B**	**78.26**	**29**	P	**P**	**20 43 39.5**	**+0.3**
FINES	**FINESS Array B**	**78.26**	**29**	P	**P**	**20 43 39.5**	**+0.3**
	1.2nm,0.7s,baz=280,slow=4.1,SNR=4.6						
AKASG	**Malin Array Be**	**83.40**	**39**	P	**P**	**20 44 06.3**	**-0.6**
AKASG	**Malin Array Be**	**83.40**	**39**	P	**P**	**20 44 06.3**	**-0.6**
	0.2nm,0.3s,baz=278,slow=5.0,SNR=3.1						
BRTR	**Keskin Array B**	**90.53**	**48**	P	**P**	**20 44 42.1**	**+0.1**
BRTR	**Keskin Array B**	**90.53**	**48**	P	**P**	**20 44 42.1**	**+0.1**
	1.4nm,1.0s,baz=251,slow=4.4,SNR=3.9						
WRA	**Warramunga Arr**	**154.23**	**262**	PKPbc	**PKPbc**	**20 51 39.0**	**-1.6**
WRA	**Warramunga Arr**	**154.23**	**262**	PKPbc	**PKPbc**	**20 51 39.0**	**-1.6**
	0.5nm,1.0s,baz=86,slow=2.7,SNR=4.3						

NEIC **14** *20:35:25.1, 33°16S×70°95W, h76km, MD3.9(GUC), After GUC.*

NEIC Felt [II] at Santiago.

GUC 14 20:35:25.0±0.5, 33°16S×70°95W, h76km±2km, ML3.9, 10C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.22**	**86**	⇓*i*P	Pn	20 35 36.4	-0.1
PEL				*i* S	Sn	20 35 44.5	-0.5
PEL				AML	AML	20 35 45.0	
	comp=E,10μm,0.4s						
SAN	**Santiago**	**0.38**	**141**	⇑*i*P	Pn	20 35 37.3	-0.1
SAN				*i* S	Sn	20 35 46.0	-0.6
SAN	**Santiago**	**0.38**	**141**	⇑*i*P	Pn	20 35 37.3	-0.1
SAN				*i* S	Sn	20 35 46.0	-0.6
CLCH	**Cerro Calan**	**0.42**	**124**	⇑*i*P	Pn	20 35 37.5	-0.3
CLCH				*i* S	Sn	20 35 47.0	-0.2
CLCH				AML	AML	20 35 51.0	
	comp=E,4μm,0.4s						
LACH	**Col Las Americ**	**0.46**	**130**	*i* S	Sn	20 35 47.5	-0.2
FSR	**Penalolen**	**0.47**	**132**	*e*P	Pn	20 35 39.2	+1.0
FSR				*i* S	Sn	20 35 48.9	+0.8
FSR	**Penalolen**	**0.47**	**132**	*e*P	Pn	20 35 39.2	+1.0
FSR				*i* S	Sn	20 35 48.9	+0.8
ANTU	**Antumapu**	**0.48**	**147**	⇑*i*P	Pn	20 35 38.1	-0.2
ANTU				*i* S	Sn	20 35 47.8	-0.3
ANTU				AML	AML	20 35 48.2	
	comp=E,14μm,0.4s						
ANTU	**Antumapu**	**0.48**	**147**	⇑*i*P	Pn	20 35 38.1	-0.2
ANTU				*i* S	Sn	20 35 47.8	-0.3
TACH	**Talagante**	**0.49**	**179**	⇓*i*P	Pn	20 35 37.7	-0.6
TACH	**Talagante**	**0.49**	**179**	⇓*i*P	Pn	20 35 37.7	-0.6
JACH	**Jahuel**	**0.56**	**32**	⇓*i*P	Pn	20 35 38.7	-0.4
JACH	**Jahuel**	**0.56**	**32**	⇓*i*P	Pn	20 35 38.7	-0.4
PCH	**Pirque**	**0.58**	**142**	⇓*i*P	Pn	20 35 39.0	-0.4
PCH	**Pirque**	**0.58**	**142**	⇓*i*P	Pn	20 35 39.0	-0.4
IHA	**Instituto Hidr**	**0.60**	**283**	⇑*i*P	Pn	20 35 39.2	-0.1
IHA				*i* S	Sn	20 35 49.5	-0.3
IHA	**Instituto Hidr**	**0.60**	**283**	⇑*i*P	Pn	20 35 39.2	-0.1
IHA				*i* S	Sn	20 35 49.5	-0.3
CHCH	**Chadas Angostu**	**0.81**	**162**	⇓*i*P	Pn	20 35 41.5	-0.1
CHCH	**Chadas Angostu**	**0.81**	**162**	⇓*i*P	Pn	20 35 41.5	-0.1
LNV	**Longovilo**	**0.88**	**206**	⇓*i*P	Pn	20 35 42.1	-0.3
LNV	**Longovilo**	**0.88**	**206**	⇓*i*P	Pn	20 35 42.1	-0.3
LMEL	**Las Melosas**	**0.93**	**138**	*e*P	Pn	20 35 43.4	+0.3
LMEL				*i* S	Sn	20 35 57.1	+0.4
LMEL				AML	AML	20 35 57.6	
	comp=N,9μm,0.4s						
LMEL	**Las Melosas**	**0.93**	**138**	*e*P	Pn	20 35 43.4	+0.3
LMEL				*i* S	Sn	20 35 57.1	+0.4
CACH	**El Canelo**	**1.00**	**163**	⇑*i*P	Pn	20 35 44.4	+0.4
CACH	**El Canelo**	**1.00**	**163**	⇑*i*P	Pn	20 35 44.4	+0.4
NICH	**Los Niches**	**1.85**	**187**	*e*P	Pn	20 35 55.0	+0.2
NICH				*i* S	Sn	20 36 17.6	+0.2
NICH	**Los Niches**	**1.85**	**187**	⇑*i*P	Pn	20 35 55.4	+0.6
NICH				*i* S	Sn	20 36 17.6	+0.1
CMCH	**Combarbala**	**1.98**	**359**	*e*P	Pn	20 35 56.8	+0.1
CMCH				*i* S	Sn	20 36 21.1	+0.3
CMCH	**Combarbala**	**1.98**	**359**	*e*P	Pn	20 35 56.8	+0.1
CMCH				*i* S	Sn	20 36 21.1	+0.3
TALC	**Talca**	**2.30**	**194**	*e*P	Pn	20 36 00.9	+0.1
TALC				*i* S	Sn	20 36 28.7	+0.4
TALC	**Talca**	**2.30**	**194**	*e*P	Pn	20 36 00.9	+0.1
TALC				*i* S	Sn	20 36 28.7	+0.4
LCO	**Las Campanas**	**4.14**	**3**	*e*P	Pn	20 36 25.9	-0.3

IDC 14 20:37:59.1±3.8, 12°92S×168°04E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=204.9km s-min=29.3km az=142.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.02**	**253**	P	P	20 44 36.5	0.0
	0.1nm,0.3s,baz=85,slow=9.2,SNR=9.9						
ASAR	**Alice Springs**	**34.04**	**247**	P	P	20 44 45.5	+0.1
	0.7nm,0.5s,baz=70,slow=9.3,SNR=13						
ILAR	**Eielson Array**	**84.58**	**18**	P	P	20 50 34.6	+0.6
	1.0nm,0.6s,baz=236,slow=4.9,SNR=21						
ARCES	**ARCESS Array B**	**118.69**	**346**	PKP	PKPdf	20 56 47.1	-1.6
	4.6nm,1.1s,baz=25,slow=2.4,SNR=5.4						

MEX 14 20:52:41.8±0.6, 17°09N×100°22W, h16km±30km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.19**	**354**	*e*P	Pn	20 52 59.8	-4.1
ARIG				*i* S	Sb	20 53 14.3	-5.0
PLIG	**Platanillo**	**1.47**	**28**	*i* P	Pn	20 53 04.3	-3.4
PLIG				*i* S	Sn	20 53 21.5	-5.2

BJI **14** *21:19:26.6, 17°71S×178°00W, h590km, mB5.1/14, mb4.7/28*

ISCJB **14** *21:19:27.1±0.1, 17°97S±0°05×178°33W±0°03, h590km, mb4.6/107, Error ellipse: s-maj=6.8km s-min=3.2km az=158.1*

NEIC **14** *21:19:27.8±0.5, 17°90S×178°30W, h589km±5km, mb4.6/72, Error ellipse: s-maj=7.0km s-min=4.1km az=151.0*

IDC **14** *21:19:27.5±1.2, 17°93S×178°25W, h585km±14km, mb4.0/22, mb1 4.1/25, mb1mx4.1/27, mbtmp4.9/25, Error ellipse: s-maj=12.5km s-min=8.9km az=152.0*

SZGRF **14** *21:19:28.1, 18°74S×179°85W, h600km, Fiji Islands region*

ISC 14 21:19:27.6±0.3, 17°95S±0°07×178°22W±0°05, h590km, n655, σ0.99/699, mb4.6/108, 118C-161D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.56**	**273**	*e*P	**P**	**21 20 50.3**	**+0.8**
MSVF				*e*S	**S**	**21 21 58.8**	**+2.6**
AFI	**Afiamalu**	**7.38**	**58**	*e*P	**P**	**21 21 19.6**	**-1.4**
AFI				S	S	21 22 46.8	-6.9
AFI				*e*S	S	21 22 52.2	-1.4
AFI	**Afiamalu**	**7.38**	**58**	P	**P**	**21 21 19.5**	**-1.4**
	14nm,0.3s,baz=212,slow=13,SNR=9.8						
AFI				S	S	21 22 46.8	-6.9
	3.8nm,0.3s,baz=174,slow=18,SNR=2.7						
NIUE	**Niue**	**7.94**	**99**	P	**P**	**21 21 25.8**	**-0.3**
	baz=8.0,SNR=8.3						
NIUE				S	S	21 23 10.6	+7.5
	baz=8.0,SNR=4.9						
DZM	**Mont Dzumac**	**14.99**	**252**	*e*P	**P**	**21 22 35.2**	**-0.9**
	60nm,0.9s						
DZM	**Mont Dzumac**	**14.99**	**252**	P	**P**	**21 22 35.4**	**-0.7**
DZM	**Mont Dzumac**	**14.99**	**252**	P	**P**	**21 22 35.4**	**-0.7**
	2.6nm,0.3s,baz=67,slow=16,SNR=24						
RAR	**Rarotonga**	**17.68**	**104**	*e*P	**P**	**21 23 01.7**	**+1.0**
	45nm,0.8s						
RAR	**Rarotonga**	**17.68**	**104**	P	**P**	**21 23 01.0**	**+0.2**
	1.2nm,0.3s,baz=46,slow=0.0,SNR=9.5						
URZ	**Urewera**	**20.64**	**190**	*e*P	**P**	**21 23 26.9**	**-0.5**
	73nm,1.9s						
KHZ	**Kahutara**	**25.38**	**194**	*e*P	**P**	**21 24 09.7**	**+0.3**
	56nm,2.6s						
PAE	**Paea**	**27.26**	**94**	*e*P	**P**	**21 24 26.3**	**0.0**
	13nm,1.1s						
PPT2	**Papeete2**	**27.27**	**94**	*e*P	**P**	**21 24 26.9**	**+0.4**
	38nm,0.9s						
PPT	**Papeete**	**27.27**	**94**	*e*P	**P**	**21 24 27.1**	**+0.7**
PPT	**Papeete**	**27.27**	**94**	P	**P**	**21 24 26.7**	**+0.3**
	43nm,0.6s,baz=165,slow=1.1,SNR=9.2						
TIAR	**Tiarei**	**27.49**	**94**	*e*P	**P**	**21 24 28.6**	**+0.3**
	14nm,0.9s						
TVO	**Taravao**	**27.56**	**94**	*e*P	**P**	**21 24 29.2**	**+0.2**
	11nm,0.8s						
PMOR	**Pomariorio Ree**	**29.21**	**89**	*e*P	**P**	**21 24 43.6**	**+0.4**
	88nm,1.2s						
EIDS	**Eidsvold**	**29.42**	**250**	*e*P	**P**	**21 24 44.9**	**-0.1**
	24nm,1.5s						
VAH	**Vaihoa**	**29.42**	**89**	*e*P	**P**	**21 24 45.1**	**0.0**
	37nm,0.9s						
ARMA	**Armidale**	**30.08**	**240**	*e*P	**P**	**21 24 51.2**	**+0.5**
	110nm,2.4s						
ARMA	**Armidale**	**30.08**	**240**	P	**P**	**21 24 52.1**	**+1.4**
	baz=30,SNR=6.2						
WHZ	**Wether Hill Ro**	**30.14**	**199**	*e*P	**P**	**21 24 51.1**	**+0.2**
	481nm,2.6s						
CNB	**Canberra Magne**	**33.55**	**233**	P	**P**	**21 25 21.5**	**+1.5**
	baz=34,SNR=16						
CMSA	**Cobar Meteorol**	**35.29**	**241**	P	**P**	**21 25 35.4**	**+0.9**
	baz=36,SNR=16						
QLP	**Quilpie**	**35.69**	**249**	P	**P**	**21 25 38.1**	**+0.2**
	baz=36,SNR=18						
TOO	**Toolangi**	**37.28**	**231**	P	**P**	**21 25 52.2**	**+1.4**
	baz=38,SNR=3.8						
COEN	**Coen**	**37.29**	**270**	*e*P	**P**	**21 25 51.7**	**+0.6**
	84nm,1.0s						
COEN	**Coen**	**37.29**	**270**	P	**P**	**21 25 52.1**	**+1.0**
	baz=37,SNR=20						
STKA	**Stephens Creek**	**38.77**	**241**	*e*P	**P**	**21 26 04.0**	**+1.1**
	2.9n

FX1	Attu Island--F	70.93	354	P		P		21 29 45.3	-0.8
	25nm,0.6s,baz=288,slow=6.4,SNR=4.6								
ASAJ	Asahikawa	71.40	331	P		P		21 29 50.4	+1.3
ASAJ	Asahikawa	71.40	331	P		P		21 29 50.4	+1.3
	10nm,0.6s,baz=82,slow=7.0,SNR=3.9								
TWG	Pinlang	71.85	302	eP		P		21 29 51.2	-0.9
	426nm,1.8s								
YULB	Yu-li	71.94	303	eP		P		21 29 51.8	-0.9
	27nm,1.3s								
NACB	Ninganchiao	72.09	304	eP		P		21 29 53.0	-0.6
	27nm,0.8s								
SSLB	Suanglung	72.41	303	eP		P		21 29 54.5	-0.9
	19nm,1.0s								
TPUB	Ta-pu	72.44	302	eP		P		21 29 54.6	-1.0
	43nm,0.6s								
PEA0	Petropavlovsk-	73.77	345	eP		P		21 30 02.1	-0.3
PETK	Petropavlovsk-	73.77	345	P		P		21 30 02.2	-0.3
PETK	Petropavlovsk-	73.77	345	P		P		21 30 02.2	-0.3
	21nm,0.7s,baz=122,slow=8.2,SNR=30								
KSRS	Korea Array	74.86	318	P		P		21 30 09.7	+0.8
	3.8nm,0.7s,baz=130,slow=6.3,SNR=14								
KSAR	Wonju Array Be	74.87	318	P		P		21 30 09.7	+0.7
KS01	Wonju Array Si	74.89	318	eP		P		21 30 09.0	-0.1
USRK	Ussuriysk Arra	76.75	326	P		P		21 30 19.8	+0.6
	2.9nm,0.5s,baz=134,slow=4.2,SNR=14								
KMRM	Mail Ridge	76.93	40	eP		P		21 30 21.6	+1.2
	478nm,2.9s								
BFSC	Mount Baldy Ra	77.52	48	⇑P		P		21 30 24.7	+0.9
	baz=78								
EDW2	Edwards Air Fo	77.63	47	⇑P		P		21 30 25.1	+0.8
	baz=78								
MONP	Monument Peak	77.70	49	⇑P		P		21 30 26.0	+1.1
	baz=78								
ISA	Isabella	77.72	46	P		P		21 30 26.2	+1.4
	baz=78								
CMB	Columbia Colle	77.75	43	eP		P		21 30 25.4	+0.6
	8.8nm,0.9s								
PFO	Pinyon Flat Ob	78.05	49	⇓P		P		21 30 27.9	+1.3
	baz=78								
NJ2	Nanjing	78.11	309	eP		P		21 30 26.8	0.0
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
M02C	Callahan	78.15	39	⇓P		P		21 30 28.4	+1.5
	baz=78								
LRMC	Laurel Mountai	78.16	47	⇑P		P		21 30 28.4	+1.2
	baz=78								
MDJ	Mudanjiang	78.33	325	P		P		21 30 28.8	+1.1
MDJ				pmax		pmax			
	comp=Z,34nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,190nm,4.8s								
MDJ	Mudanjiang	78.33	325	eP		P		21 30 28.6	+0.9
	34nm,0.9s								
CWC	Cottonwood Cre	78.40	46	⇓P		P		21 30 29.5	+1.0
	baz=79								
YBH	Yreka Blue Hor	78.44	39	eP		P		21 30 29.8	+1.3
MPMC	Manual Prospec	78.60	46	⇓P		P		21 30 30.7	+1.1
	baz=79								
WAKR	Walker	78.63	43	eP		P		21 30 30.6	+0.9
HEC	Hector,Ludlow	78.77	48	⇓P		P		21 30 31.2	+0.9
	baz=79								
BEKR	Beckworth	78.80	42	eP		P		21 30 31.3	+0.7
	3.6nm,0.5s								
M04C	Macdoel	79.00	39	⇑P		P		21 30 32.5	+1.0
	baz=79								
GMRC	Granite Mounta	79.21	48	⇓P		P		21 30 33.9	+1.1
	baz=79								
FURC	Furnace Creek,	79.25	46	⇓P		P		21 30 34.4	+1.7
	baz=79								
IRM	Iron Mountain	79.26	49	⇓P		P		21 30 34.3	+1.4
	baz=80								
NV01	Mina Array Sit	79.33	44	eP		P		21 30 34.4	+1.0
NVAR	Mina Array Bea	79.33	44	P		P		21 30 34.1	+0.7
NVAR	Mina Array Bea	79.33	44	P		P		21 30 34.1	+0.7
	6.0nm,0.8s,baz=225,slow=8.6,SNR=32								
PAHR	Pah Rah Range	79.33	42	eP		P		21 30 34.3	+1.0
	9.8nm,1.1s								
113A	Mohawk Valley,	79.58	51	⇑P		P		21 30 35.8	+1.3
	baz=80								
J04D	Umpqua Nationa	79.70	38	⇑P		P		21 30 36.0	+0.8
	baz=80								
I04A	Tendick Farm,	79.86	37	⇑P		P		21 30 36.7	+0.9
	baz=80								
K05A	Summer Lake	80.12	39	eP		P		21 30 38.6	+1.2
	25nm,1.0s								
J05D	Fort Rock, OR	80.24	38	⇓P		P		21 30 39.2	+1.2
	baz=80								
Z14A	Wintersburg	80.47	50	⇓P		P		21 30 40.5	+1.3
	baz=81								
Y14A	Wickenburg	80.70	50	⇑P		P		21 30 42.2	+1.7
	baz=81								
PINOR	Pine Mountain	80.76	38	eP		P		21 30 42.2	+1.8
RSO	Redoubt South	80.81	12	eP		P		21 30 39.6	-0.9
R11A	Troy Canyon, C	81.09	45	eP		P		21 30 43.7	+1.1
	6.1nm,1.2s								
R11A	Troy Canyon, C	81.09	45	⇑P		P		21 30 43.7	+1.1
	baz=81								
BMN	Battle Mountai	81.12	43	eP		P		21 30 42.8	+0.2
	11nm,0.9s								
WVOR	Wild Horse Val	81.32	40	eP		P		21 30 44.5	+1.0
	15nm,1.0s								
G05D	Wamic, OR	81.35	37	⇓P		P		21 30 44.5	+1.0
	baz=82								
TUC	Tucson	81.58	52	eP		P		21 30 47.0	+1.9
	8.5nm,1.0s								
GAMB	Gambell	81.62	3	eP		P		21 30 44.5	+0.2
	18nm,0.6s								
I07A	Izee	81.73	38	eP		P		21 30 46.4	+0.8
	12nm,0.8s								
J08A	Circle Bar Ran	81.94	40	eP		P		21 30 47.2	+0.6
	24nm,1.2s								
RC01	Rabbit Creek A	82.02	14	eP		P		21 30 45.9	-0.5
	23nm,1.2s								
X16A	Lo Mia Camp, P	82.07	50	⇑P		P		21 30 49.2	+1.5
	baz=82								
CCUT	Cedar City	82.21	47	eP		P		21 30 49.4	+1.1
	7.7nm,0.9s								
319A	Douglas	82.30	54	⇓P		P		21 30 50.4	+1.6
	baz=82								
KNB	Kanab	82.32	47	eP		P		21 30 49.0	+0.2
	11nm,1.0s								
U15A	North Rim	82.41	48	⇓P		P		21 30 50.7	+1.3
	baz=83								
ELK	Elko	82.56	43	eP		P		21 30 50.5	+0.4
	6.6nm,1.0s								
PMR	Palmer	82.60	14	eP		P		21 30 48.7	-0.6
	51nm,1.5s								
IPM	Ipoh	82.61	277	eP		P		21 30 50.9	+0.3
	28nm,0.8s								
WUAZ	Wupatki	82.63	49	eP		P		21 30 51.2	+0.8
	8.9nm,0.8s								
WUAZ	Wupatki	82.63	49	⇑P		P		21 30 51.8	+1.4
	baz=83								
G08A	Pilot Rock	82.73	38	eP		P		21 30 51.4	+0.8
	26nm,1.4s								
320A	Kipp Ranch, An	82.86	54	⇓P		P		21 30 53.5	+1.8
	baz=83								
DIV	Divide	82.99	15	eP		P		21 30 51.0	-0.5
	17nm,0.8s								
PPLA	Purkeypile	83.14	12	eP		P		21 30 51.0	-1.2
	70nm,2.0s								
BMRM	Bremner River	83.15	16	eP		P		21 30 51.8	-0.4
	19nm,0.7s								
MFID	Camas Ranch	83.59	41	eP		P		21 30 55.4	+0.5
	10nm,1.0s								
TNA	Tin City	83.62	4	eP		P		21 30 54.3	0.0
	13nm,0.9s								
D08A	Wollman Farm,	83.76	36	eP		P		21 30 56.0	+0.5
	9.6nm,0.8s								
SEY	Seymchan	83.86	347	P		P		21 30 55.4	-0.2
SEY	Seymchan	83.86	347	P		P		21 30 55.4	-0.2
	21nm,0.6s,baz=154,slow=5.7,SNR=77								
MAW	Mawson	83.88	200	P		P		21 30 56.3	+0.5
MAW	Mawson	83.88	200	P		P		21 30 56.3	+0.5
	3.1nm,0.7s,baz=153,slow=7.7,SNR=3.8								
BJI	Beijing	83.94	315	P		P		21 30 57.3	+0.7
BJI				pmax		pmax			
	comp=Z,19nm,0.9s								
121A	Cookes Peak, D	83.95	53	⇑P		P		21 30 58.6	+1.6
	baz=84								
KTH	Kantishna Hill	83.98	12	eP		P		21 30 55.1	-1.2
	76nm,0.9s								
TRF	Thorofare Moun	84.02	12	eP		P		21 30 55.4	-1.3
	38nm,0.9s								
PSI	Prapat	84.07	275	P		P		21 30 57.7	-0.3
	baz=84,SNR=12								
ENH	Enshi	84.45	304	eP		P		21 31 00.2	+0.8
	25nm,0.7s								
HLID	Hailey	84.54	41	eP		P		21 31 00.1	+0.5
	5.5nm,0.8s								
HLID	Hailey	84.54	41	⇑P		P		21 31 01.1	+1.4
	baz=85								
MCK	McKinley	84.54	13	eP		P		21 30 58.1	-0.9
	27nm,1.1s								
PAX	Paxson	84.65	14	eP		P		21 30 58.7	-0.9
	6.6nm,0.8s								
Z22A	Elephant Butte	84.89	53	⇑P		P		21 31 03.0	+1.5
	baz=85								
GSI	Gunungsitoli	84.89	273	eP		P		21 31 02.8	+1.0
GYA	Guiyang	85.22	300	eP		P		21 31 04.0	+0.7
GYA				pP		pP		21 33 12.0	+2.5
GYA				sP		sP		21 34 08.9	+0.1
GYA				PP		PP		21 34 35.3	+3.0
GYA				SKS		SKSac		21 40 31.4	-1.4
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
425A	Indio Mountain	85.39	56	⇑P		P		21 31 05.7	+1.7
	baz=86								
NEW	Newport	85.44	36	P		P		21 31 03.8	0.0
NEW	Newport	85.44	36	P		P		21 31 03.8	0.0
	baz=229,slow=5.2								
NEW	Newport	85.44	36	⇑P		P		21 31 04.3	+0.5
	baz=86								
MNTX	Cornudas Mount	85.45	55	eP		P		21 31 05.5	+1.3
	5.5nm,1.3s								
224A	Cornudas Mount	85.50	54	⇓P		P		21 31 06.0	+1.5
	baz=86								
DOT	Dot Lake	85.56	15	eP		P		21 31 04.2	+0.2
	14nm,0.9s								
626A	Big Bend Ranch	85.58	57	⇑P		P		21 31 06.8	+1.9
	baz=86,SNR=6.2								
PV09	Paradox Valley	85.60	47	eP		P		21 31 05.7	+0.7
325A	Bean Ranch, Si	85.64	55	⇑P		P		21 31 06.4	+1.1
	baz=86								
COLA	College	85.78	12	eP		P		21 31 03.9	-0.9
	6.4nm,1.0s								
124A	Stringfield Ra	85.81	54	⇑P		P		21 31 07.2	+1.1
	baz=86								
526A	Mary Lane Ranc	85.81	57	⇓P		P		21 31 07.5	+1.4
	baz=86								
Y23A	Lovelace Mesa,	85.86	53	⇑P		P		21 31 07.5	+1.2
	baz=86								
TX31	Lajitas Ar. Si	85.86	58	eP		P		21 31 08.2	+1.9
TXAR	Lajitas Array	85.86	58	P		P		21 31 07.8	+1.5
TXAR	Lajitas Array	85.86	58	P		P		21 31 07.8	+1.5
	4.9nm,0.8s,baz=221,slow=6.0,SNR=46								
ILAR	Eielson Array	85.89	13	P		P		21 31 04.6	-0.8
ILAR	Eielson Array	85.89	13	P		P		21 31 04.6	-0.8
	4.8nm,0.4s,baz=220,slow=5.1,SNR=153								
IL1	Eielson Array	85.89	13	eP		P		21 31 04.4	-1.0
ANMO	Albuquerque	85.98	51	eP		P		21 31 05.3	-1.5
	3.5nm,0.9s								
225A	Deer Hill, Car	86.05	55	⇑P		P		21 31 08.4	+1.2
	baz=86								
426A	McDonald Obser	86.10	56	⇓P		P		21 31 08.6	+1.1
	baz=86,SNR=6.6								
Z24A	Sheeppen Canyo	86.13	53	⇑P		P		21 31 08.7	+1.1
	baz=86								
627A	Terlingua Ranc	86.13	58	⇓P		P		21 31 09.1	+1.6
	baz=86								
MCMT	McKenzie Canyo	86.15	40	eP		P		21 31 07.3	-0.2
527A	Woodward Ranch	86.23	57	⇓P		P		21 31 09.1	+1.1
	baz=86,SNR=6.7								
Y24A	Capitan	86.32	53	⇓P		P		21 31 09.7	+1.2
	baz=86								
326A	Caldwell Ranch	86.40	56	⇑P		P		21 31 10.3	+1.6
	baz=87								
125A	Gardner Draw,	86.40	54	⇓P		P		21 31 10.0	+1.2
	baz=87								
XAN	Xi'an	86.43	307	P		P		21 31 09.6	+0.8
XAN				pmax		pmax			
	comp=Z,9.0nm,1.1s								
MSO	Missoula	86.50	38	⇑P		P		21 31 09.5	+0.6
	baz=87								
V23A	Ortiz Mt. (NFS	86.52	51	⇑P		P		21 31 10.4	+1.0
	baz=87								
BSMT	Bassano Peak	86.54	37	eP		P		21 31 09.1	0.0
628A	Black Gap, Mar	86.55	58	⇓P		P		21 31 11.0	+1.6
	baz=87,SNR=5.5								
226B	Tecolote Peak,	86.55	55	⇑P		P		21 31 10.5	+1.1
	baz=87								
DLMT	Dillon	86.57	40	eP		P		21 31 10.4	+1.1
	6.7nm,0.8s								
Z25A	Roswell	86.61	54	⇑P		P		21 31 11.2	+1.5
	baz=87								
TPAW	Teton Pass	86.69	42	eP		P		21 31 10.8	+0.7
	7.4nm,1.0s								
REDW	Red Top Meadow	86.70	42	eP		P		21 31 11.3	+1.2
	8.8nm,0.9s								
FXWY	Fox Creek	86.72	42	eP		P		21 31 10.7	+0.6
	4.8nm,0.9s								
SNOW	Snow King Moun	86.81	42	eP		P		21 31 11.8	+1.2
	13nm,1.0s								
W24A	Lazy 6 Ranch,	86.87	52	⇓P		P		21 31 12.1	+1.0
	baz=87								
Y25A	Mesa, Roswell	86.89	53	⇑P		P		21 31 12.2	+1.2
	baz=87								
528A	Cox Ranch, San	86.89	57	⇑P		P		21 31 13.0	+1.8
	baz=87								
126A	Clayton Basin,	86.89	54	⇓P		P		21 31 11.9	+0.9
	baz=87								
IMW	Indian Meadow	86.90	42	eP		P		21 31 11.8	+0.8
	9.5nm,0.8s								
S22A	4UR Ranch, Cre	86.90	49	⇑P		P		21 31 12.3	+1.1
	baz=87								
MOOW	Moose Ponds	86.95	42	eP		P		21 31 12.1	+0.9
	40nm,2.5s								
O20A	White River Ci	86.95	46	eP		P		21 31 11.9	+0.7
O20A	White River Ci	86.95	46	⇓P		P		21 31 12.4	+1.1
	baz=87								
LOHW	Long Hollow	86.97	42	eP		P		21 31 12.3	+1.0
	3.9nm,0.8s								
QLMT	Earthquake Lak	87.03	41	eP		P		21 31 13.1	+1.6
DAWY	Dawson	87.08	16	eP		P		21 31 11.2	+0.1
FLWY	Flagg Ranch	87.14	42	eP		P		21 31 12.9	+0.8
	12nm,1.0s								
I17A	Pilgrim Ck.	87.14	42	⇓P		P		21 31 13.1	+1.0
	baz=87,SNR=6.2								
Z26A	Caprock	87.17	54	⇓P		P		21 31 13.3	+1.0
	baz=87								
V24A	Rampart Ranch,	87.19	51	⇓P		P		21 31 13.5	+1.0
	baz=87								
428A	Kincaid Ranch,	87.19	57	⇑P		P		21 31 14.0	+1.5
	baz=87								
EGAK	Eagle	87.21	15	eP		P		21 31 11.3	-0.3
	9.8nm,0.9s								
YFT	Old Faithful	87.22	41	eP		P		21 31 12.9	+0.4
	9.9nm,0.9s								
N20A	Spence Gulch,	87.25	46	⇓P		P		21 31 13.6	+0.9
	baz=87								
YMR	Madison River	87.25	41	eP		P		21 31 14.1	+1.6
	11nm,0.9s								
BW06	Boulder Array	87.26	43	eP		P		21 31 12.8	+0.2
	4.6nm,0.7s								
PDAR	Pinedale Array	87.26	43	P		P		21 31 12.9	+0.3
PDAR	Pinedale Array	87.26	43	P		P		21 31 13.0	+0.3
	4.3nm,0.6s,baz=219,slow=3.3,SNR=40								
BOZ	Bozeman (W)	87.31	40	eP		P		21 31 12.8	0.0
	19nm,1.6s								
529A	Stev Forest Ra	87.33	57	⇑P		P		21 31 14.2	+1.1
	baz=88,SNR=5.3								
328A	Wristen Ranch,	87.34	56	⇓P		P		21 31 14.3	+1.1
	baz=88								
H17A	Grant Village	87.36	42	eP		P		21 31 15.5	+2.3
H17A	Grant Village	87.36	42	⇓P		P		21 31 15.5	+2.3
	baz=88,SNR=6.7								
W25A	X Bar L Ranch,	87.58	52	⇑P		P		21 31 15.5	+1.2
	baz=88								
V25A	Rancho No Teng	87.72	51	⇓P		P		21 31 15.9	+0.9
	baz=88								
P22A	Eagle	87.74	47	⇑P		P		21 31 15.6	+0.6
	baz=88								
Z27A	Tatum	87.78	54	⇑P		P		21 31 16.3	+1.1
	baz=88								
429A	Davenport Ranc	87.78	57	⇑P		P		21 31 16.2	+1.0
	baz=88,SNR=10								
R23A	Moffat	87.81	49	⇓P		P		21 31 16.9	+1.5
	baz=88								
J19A	Crowheart	87.81	43	⇓P		P		21 31 16.1	+0.9
	baz=88,SNR=6.6								
S24A	Houchin Ranch,	88.02	49	⇓P		P		21 31 17.4	+1.0
	baz=88								
Y27A	Causey	88.04	54	⇓P		P		21 31 17.2	+0.8
	baz=88								
530A	J-C Ranch, Com	88.05	58	⇓P		P		21 31 17.9	+1.4
	baz=88								
W26A	Owens Ranch, T	88.06	52	⇓P		P		21 31 17.6	+1.1
	baz=88								
H18A	Shoshone NF, C	88.07	42	⇓P		P		21 31 17.1	+0.7
	baz=88								
128A	Castleberry Fa	88.07	55	⇓P		P		21 31 17.8	+1.3
	baz=88								
U25A	Circle Dot Ran	88.10	51	⇓P		P		21 31 17.6	+0.9
	baz=88								
O22A	Kremmling	88.13	47	⇓P		P		21 31 17.9	+1.0
	baz=88,SNR=6.0								
I19A	Meeteetse	88.20	42	⇓P		P		21 31 17.8	+0.7
	baz=88								
229A	Bryant Ranch,	88.35	56	⇓P		P		21 31 19.4	+1.6
	baz=88								
430A	Baggett Ranch,	88.36	57	⇓P		P		21 31 19.2	+1.3
	baz=88								
MSTX	Muleshoe	88.37	54	⇑P		P		21 31 18.8	+0.8
	baz=88								
631A	Perdido Creek	88.39	58	⇓P		P		21 31 19.8	+1.8
	baz=88								
T25A	Trinidad	88.40	50	⇓P		P		21 31 19.6	+1.5
	baz=89								
N22A	Wattenberg Ran	88.47	46	⇓P		P		21 31 19.2	+0.7
	baz=89,SNR=5.9								
832A	Faith Ranch, C	88.47	60	⇑P		P		21 31 20.2	+1.8
	baz=89								
J20A	Shoshoni	88.49	43	⇑P		P		21 31 19.3	+1.0
	baz=89,SNR=16								
H19A	Powell	88.50	42	⇓P		P		21 31 19.5	+1.2
	baz=89								
RLMT	Red Lodge	88.53	41	eP		P		21 31 18.2	-0.3
	7.3nm,1.0s								
W27A	Bowe Ranch, En	88.57	52	⇓P		P		21 31 19.8	+0.9
	baz=89								
O23A	Lake Granby, G	88.59	47	⇓P		P		21 31 20.0	+1.0
	baz=89								
Q24A	Divide	88.61	48	⇓P		P		21 31 20.2	+1.0
	baz=89								
M22A	Cedar Creek Ra	88.63	46	⇓P		P		21 31 20.1	+1.0
	baz=89								
330A	Mertzon	88.64	56	⇑P		P		21 31 19.8	+0.6
	baz=89								
531A	Rocksprings	88.69	58	⇓P		P		21 31 20.7	+1.2
	baz=89,SNR=5.9								
K21A	Alcova	88.72	44	⇑P		P		21 31 19.8	+0.3
	baz=89,SNR=5.7								
I20A	Worland	88.72	43	⇑P		P		21 31 20.0	+0.6
	baz=89								
N23A	Red Feather La	88.86	46	⇑P		P		21 31 21.1	+0.9
	baz=89								
J21A	Lysite	88.90	44	⇑P		P		21 31 21.4	+1.1
	baz=89,SNR=12								
L22A	Ellis Ranch, M	89.00	45	⇓P		P		21 31 21.7	+0.8
	baz=89,SNR=5.3								
CM01	Chiang Mai Arr	89.05	290	eP		P		21 31 22.7	+1.4
H20A	Greybull	89.05	42	⇓P		P		21 31 21.8	+1.0
	baz=89								
F19A	Roth Farm, Mol	89.06	41	⇓P		P		21 31 21.7	+0.8
	baz=89								
632A	Uvalde	89.07	59	⇑P		P		21 31 22.7	+1.5
	baz=89								
CMAR	Chiang Mai Arr	89.07	290	P		P		21 31 22.5	+1.1
CMAR				PKKPbc		PKKPbc		21 48 56.1	+0.7
CMAR	Chiang Mai Arr	89.07	290	P		P		21 31 22.5	+1.1
	7.3nm,0.9s,baz=106,slow=2.8,SNR=49								
CMAR				PKKPbc		PKKPbc		21 48 56.1	+0.7
	0.4nm,0.7s,baz=302,slow=5.2,SNR=4.9								
SYO	Syowa Base	89.15	193	⇓eP		P		21 31 19.4	-1.4
Y29A	Porterfield Fa	89.17	54	⇑P		P		21 31 22.6	+1.0
	baz=89								
CHTO	Chiang Mai	89.19	290	eP		P		21 31 22.7	+0.8
	2.7nm,0.8s								
532A	Rocksprings	89.19	58	⇓P		P		21 31 23.5	+1.7
	baz=89								
I21A	Big Trails, Te	89.20	43	⇑P		P		21 31 22.1	+0.4
	baz=89,SNR=9.4								
K22A	Casper	89.21	44	⇑P		P		21 31 22.2	+0.5
	baz=89								
G20A	Bridger	89.23	42	⇓P		P		21 31 22.2	+0.5
	baz=89								
CD2	Chengdu	89.25	303	eP		P		21 31 22.9	+0.9
CD2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
E19A	Rath Farm, Rou	89.44	40	⇓P		P		21 31 23.2	+0.7
	baz=90								
231A	Bronte	89.52	56	⇓P		P		21 31 23.9	+0.6
	baz=90								
P25A	Willow Gulch B	89.53	48	⇓P		P		21 31 24.4	+1.2
	baz=90								
L23A	Garrett	89.53	45	⇓P		P		21 31 23.8	+0.5
	baz=90,SNR=8.1								
633A	Seathoff Ranch	89.55	59	⇓P		P		21 31 24.9	+1.5
	baz=90								
432A	Menard	89.55	57	⇓P		P		21 31 24.8	+1.4
	baz=90								
AMTX	Amarillo	89.55	53	⇓P		P		21 31 24.1	+0.7
	baz=90								
N24A	Carr	89.56	47	⇓P		P		21 31 24.5	+1.1
	baz=90								
R26A	Arlington	89.56	49	⇑P		P		21 31 24.9	+1.5
	baz=90								
J22A	Midwest	89.56	44	⇓P		P		21 31 24.1	+0.8
	baz=90,SNR=5.7								
W29A	Amarillo	89.67	53	⇑P		P		21 31 24.7	+0.8
	baz=90								
D19A	Cripps Ranch,	89.70	40	⇑P		P		21 31 24.9	+1.2
	baz=90								
H21A	Big Horn, Sher	89.72	43	⇓P		P		21 31 25.0	+1.1
	baz=90								
131A	Roby	89.73	56	⇓P		P		21 31 25.4	+1.2
	baz=90								
I22A	9 Mile Ranch,	89.77	43	⇓P		P		21

D21A **La Casta Ranch** 90.81 40 ⇓P P 21 31 30.2 +1.3
baz=91
Y32A **R-V Farms, Ver** 90.95 55 ⇓P P 21 31 30.7 +1.0
baz=91
334A **Lometa** 90.96 57 ⇓P P 21 31 31.2 +1.3
baz=91
W31A **Holland Ranch,** 90.99 53 ⇑P P 21 31 30.9 +1.0
baz=91
M26A **McRoberts Ranc** 91.02 47 ⇑P P 21 31 31.2 +1.2
baz=91
G23A **Biddle** 91.03 42 ⇓P P 21 31 30.5 +0.6
baz=91
A20A **Cobblestone Ra** 91.04 38 ⇑P P 21 31 30.5 +0.6
baz=91
LZH **Lanzhou** 91.06 308 P P 21 31 31.6 +1.2
LZH pP pP 21 33 39.1 +0.7
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.3s
LAO **LASA Array** 91.12 41 *e*P P 21 31 30.7 +0.4
9.4nm,0.8s
X32A **Elmer** 91.22 54 ⇑P P 21 31 32.2 +1.2
baz=91
F23A **Volborg** 91.23 42 ⇓P P 21 31 31.8 +1.0
baz=91
V31A **Spring Creek L** 91.28 53 ⇑P P 21 31 32.7 +1.5
baz=91
D22A **Cohagen** 91.35 40 ⇑P P 21 31 32.6 +1.3
baz=92
H24A **Dirks Ranch, A** 91.38 43 ⇓P P 21 31 32.3 +0.7
baz=92
B21A **Ellsworth Farm** 91.39 39 ⇑P P 21 31 32.5 +1.0
baz=92
RSSD **Black Hills** 91.47 44 *e*P P 21 31 32.4 +0.2
5.5nm,0.9s
K26A **Motz Farm, Whi** 91.48 45 ⇓P P 21 31 33.3 +1.1
baz=92
W32A **Sentinel** 91.50 54 ⇑P P 21 31 33.5 +1.3
baz=92
OGNE **Ogallala** 91.59 47 ⇑P P 21 31 33.0 +0.3
baz=92
I25A **Rochford** 91.63 44 ⇑P P 21 31 33.6 +0.7
baz=92
A21A **Bergtoll Ranch** 91.68 39 ⇓P P 21 31 33.6 +0.7
baz=92
J26A **Sides Ranch, S** 91.79 45 ⇑P P 21 31 34.1 +0.6
baz=92
L27A **T5 Ranch, Ells** 91.83 46 ⇑P P 21 31 35.1 +1.4
baz=92
R30A **Dighton** 91.86 50 ⇑P P 21 31 35.1 +1.2
baz=92
T31A **Randall Ranch,** 91.88 52 ⇓P P 21 31 34.7 +0.7
baz=92
INK **Inuvik** 91.88 15 *e*P P 21 31 32.8 -0.3
9.5nm,0.9s
INK **Inuvik** 91.88 15 P P 21 31 32.7 -0.4
6.2nm,0.7s,baz=225,slow=4.2,SNR=24
F24A **Ekalaka** 91.90 42 ⇓P P 21 31 34.9 +0.9
baz=92
B22A **Reddig Ranch S** 91.95 40 ⇓P P 21 31 35.1 +1.0
baz=92
H25A **Fruitdale** 91.96 44 ⇓P P 21 31 35.2 +1.0
baz=92
K27A **Flueckinger Fa** 92.12 46 ⇓P P 21 31 36.4 +1.4
baz=92
Q30A **Quinter** 92.16 50 ⇓P P 21 31 36.6 +1.3
baz=92
C23A **Lambert** 92.23 40 ⇑P P 21 31 36.3 +0.9
baz=92
G25A **Newell** 92.30 43 ⇑P P 21 31 36.5 +0.7
baz=92
R31A **Burdett** 92.41 51 ⇓P P 21 31 37.3 +0.9
baz=93
T32A **Huddler Ranch,** 92.47 52 ⇓P P 21 31 38.0 +1.3
baz=93
D24A **Glendive** 92.48 41 ⇓P P 21 31 37.8 +1.3
baz=93
J27A **Elkhorn Farm,** 92.49 45 ⇑P P 21 31 37.9 +1.2
baz=93
H26A **Fairpoint** 92.50 44 ⇑P P 21 31 37.7 +1.0
baz=93
F25A **Bowman** 92.56 42 ⇑P P 21 31 37.5 +0.6
baz=93
B23A **Brockton** 92.62 40 ⇓P P 21 31 38.3 +1.1
baz=93
T33A **Patterson Ranc** 92.94 52 ⇓P P 21 31 40.3 +1.4
baz=93
P31A **Stockton** 92.96 49 ⇑P P 21 31 40.2 +1.3
baz=93
R32A **Long Quarter,** 93.06 51 ⇑P P 21 31 40.5 +1.1
baz=93
L29A **Maesberg Ranch** 93.09 47 ⇑P P 21 31 40.8 +1.3
baz=93
DGMT **Dagmar** 93.11 40 *e*P P 21 31 39.9 +0.6
17nm,0.7s
DGMT **Dagmar** 93.11 40 ⇓P P 21 31 40.5 +1.1
baz=93
ULN **Ulaanbaatar** 93.31 319 *e*P P 21 31 40.2 -0.2
4.3nm,0.8s
Q32A **Meitler Ranch,** 93.37 50 ⇓P P 21 31 41.7 +1.0
baz=94
A24A **Westby** 93.41 39 ⇑P P 21 31 41.4 +0.7
baz=94
F27A **Lemmon** 93.47 43 ⇓P P 21 31 41.5 +0.4
baz=94
R33A **Olander Ranch,** 93.56 51 ⇓P P 21 31 42.6 +1.0
baz=94
D26A **Manning** 93.64 42 ⇑P P 21 31 42.6 +0.8
baz=94
B25A **Knox Farm, Ray** 93.67 40 ⇓P P 21 31 43.1 +1.2
baz=94
SONA1 **Songino Array** 93.70 319 *e*P P 21 31 41.9 -0.3
SONM **Songino Array** 93.70 319 P P 21 31 41.9 -0.3
SONM **Songino Array** 93.70 319 P P 21 31 41.9 -0.3
0.8nm,0.4s,baz=118,slow=3.6,SNR=9.7
Q33A **Connelly Farm,** 93.90 50 ⇑P P 21 31 43.9 +0.7
baz=94
C26A **Wahner Farm, P** 94.16 41 ⇑P P 21 31 45.4 +1.2
baz=94
YKB5 **Yellowknife Ar** 94.29 25 *e*P P 21 31 43.7 -0.6
YKA **Yellowknife Ar** 94.30 25 P P 21 31 44.0 -0.3
YKA **Yellowknife Ar** 94.30 25 P P 21 31 44.0 -0.3
1.5nm,0.5s,baz=244,slow=4.4,SNR=34
GTA **Gaotai** 95.20 310 *e*P P 21 31 49.9 +0.7
GTA pmax pmax
comp=Z,4.0nm,0.8s
ECSD **EROS Data Cent** 96.33 46 ⇓Pdiff P 21 31 54.6 +0.5
baz=96
KMSC **Kings Mountain** 105.61 58 ⇓Pdiff PKiKP 21 36 45.9 +1.0
baz=106
ZALV **Zalesovo Beam** 108.38 322 PKiKP PKiKP 21 36 48.4 -1.1
ZALV **Zalesovo Beam** 108.38 322 PKiKP PKiKP 21 36 48.4 -1.1
1.5nm,0.5s,baz=176,slow=1.3,SNR=8.3
MK01 **Makanchi Array** 109.29 314 *e*PKiKP PKiKP 21 36 50.6 -0.8
MKAR **Makanchi Array** 109.30 314 Pdif Pdif 21 32 53.4 +1.7
MKAR *e*PKiKP PKiKP 21 36 50.7 -0.8
MKAR **Makanchi Array** 109.30 314 Pdiff Pdif 21 32 53.4 +1.7
0.2nm,0.5s,baz=89,slow=5.4,SNR=4.3
MKAR PKiKP PKiKP 21 36 50.8 -0.7
2.4nm,0.5s,baz=166,slow=0.5,SNR=74
KURK **Kurchatov** 111.98 318 PKiKP PKiKP 21 36 55.8 -0.6
KURBB **Kurchatov Arra** 112.03 318 PKiKP PKiKP 21 36 55.8 -0.7
2.7nm,0.6s,baz=96,slow=1.8,SNR=21
TKM2 **Tokmak 2** 113.75 310 *e*PKiKP PKiKP 21 36 59.6 -0.7
BVAR **Borovoye Array** 116.99 321 PKP PKPdf 21 37 05.6 -0.4
BVAR **Borovoye Array** 116.99 321 PKP PKPdf 21 37 05.6 -0.4
3.6nm,0.4s,baz=120,slow=2.3,SNR=29
BRVK **Borovoye** 117.05 321 *e*PKPdf PKPdf 21 37 05.6 -0.5
KKAR **Karatay Array** 117.48 310 *e*PKPdf PKPdf 21 37 06.6 -0.7
KBL **Kabul** 118.47 300 *e*PKPdf PKPdf 21 37 09.5 -0.2
SPITS **Spitsbergen Ar** 119.32 357 PKP PKPdf 21 37 09.4 -0.5
SPITS **Spitsbergen Ar** 119.32 357 PKP PKPdf 21 37 09.4 -0.5
2.7nm,0.5s,baz=46,slow=4.2,SNR=15
ABKAR **Akbulak array** 124.09 318 *e*PKPdf PKPdf 21 37 19.1 -0.7
AKTO **Aktyubinsk** 125.02 320 PKP PKPdf 21 37 21.6 +0.1
AKTO **Aktyubinsk** 125.02 320 PKP PKPdf 21 37 21.6 +0.1
4.3nm,0.8s,baz=64,slow=3.4,SNR=21
ARCES **ARCESS Array B** 126.39 350 PKP PKPdf 21 37 23.1 -0.4
ARCES **ARCESS Array B** 126.39 350 PKP PKPdf 21 37 23.1 -0.4
5.6nm,0.7s,baz=29,slow=2.1,SNR=28
BOSA **Boshof** 128.44 207 PKP PKPdf 21 37 29.4 +0.4
BOSA **Boshof** 128.44 207 PKP PKPdf 21 37 29.4 +0.4
4.0nm,0.8s,baz=166,slow=1.8,SNR=4.1
FINES **FINESS Array B** 133.28 344 PKPpre PKPpre 21 37 21.6
FINES PKP PKPdf 21 37 35.9 -0.9
1.7nm,0.8s,baz=96,slow=1.9,SNR=6.2
FINES PKP PKPdf 21 37 35.9 -0.9
2.5nm,0.5s,baz=64,slow=3.2,SNR=13
NB2 **NORSAR Subarra** 136.44 353 PKP PKPpre 21 37 32.5
comp=Z,2.3nm,0.8s,baz=21,slow=3.6
NOA **NORSAR Array B** 136.44 353 PKPpre PKPpre 21 37 23.6
NOA PKP PKPdf 21 37 42.6 -0.2
NOA **NORSAR Array B** 136.44 353 PKPKP PKPpre 21 37 23.6
comp=Z,1.2nm,0.8s,baz=349,slow=2.0,SNR=3.3
NOA PKP PKPdf 21 37 42.6 -0.2
comp=Z,1.1nm,0.6s,baz=13,slow=4.0,SNR=7.6
KBZ **Khabaz** 136.96 316 PKP PKPdf 21 37 45.5 +1.3
KBZ **Khabaz** 136.96 316 PKP PKPdf 21 37 45.5 +1.3
comp=Z,2.6nm,0.8s,baz=109,slow=3.1,SNR=6.3
HFS **Hagfors** 137.00 351 PKPpre PKPpre 21 37 32.5
HFS PKP PKiKP 21 37 44.5 -1.3
HFS **Hagfors** 137.00 351 PKPKP PKPpre 21 37 32.5
comp=Z,2.4nm,0.4s,baz=43,slow=2.6,SNR=23
HFS PKP PKiKP 21 37 44.5 -1.3
comp=Z,4.4nm,0.7s,baz=104,slow=3.1,SNR=5.2
KMBO **Kilima Mbogo** 140.28 245 PKPpre PKPpre 21 37 47.1
KMBO **Kilima Mbogo** 140.28 245 PKPKP PKPpre 21 37 47.1
comp=Z,0.9nm,0.5s,baz=108,slow=6.4,SNR=3.6
AKASG **Malin Array Be** 140.68 332 PKPpre PKPpre 21 37 43.8
AKASG PKP PKiKP 21 37 51.8 -1.7
AKASG SKPbc SKPbc 21 40 32.0 -0.4
AKASG **Malin Array Be** 140.68 332 PKPKP PKPpre 21 37 43.8
comp=Z,0.7nm,0.3s,baz=46,slow=4.2,SNR=14
AKASG PKP PKiKP 21 37 51.8 -1.7
comp=Z,2.4nm,0.5s,baz=44,slow=2.9,SNR=11
AKASG SKPbc SKPbc 21 40 32.0 -0.4
comp=Z,0.4nm,0.5s,baz=54,slow=1.8,SNR=4.1
AK11 **Malin Array Si** 140.72 332 *e*PKPpre PKPpre 21 37 42.9
AK11 *e*PKPdf PKPdf 21 37 50.8 0.0
MZRK **Al-Mazaregh** 141.34 305 *e*P PKPdf 21 37 47.9 -4.5
EKA **Eskdalemuir Ar** 142.50 5 PKPpre PKPpre 21 37 48.6
EKA **Eskdalemuir Ar** 142.50 5 PKPKP PKPpre 21 37 48.6
comp=Z,0.9nm,0.3s,baz=338,slow=2.6,SNR=10
BEL **Belsk** 143.00 340 *e*PKP PKPdf 21 37 53.6 -1.2
BSEG **Bad Segeberg** 143.48 352 *e*PKPbc PKPdf 21 37 54.4 -1.2
HPK **Haverah Park** 143.97 3 *e*P PKPdf 21 37 55.7 -0.8
LEOM **Leova** 144.13 328⇓*i*P PKPab 21 37 56.9 -0.1
KWP **Kalwaria Pacla** 144.18 337 *i* PKPdf PKPab 21 37 57.1 -0.1
KWP **Kalwaria Pacla** 144.18 337⇑*i*P PKPab 21 37 57.0 -0.1
LHO **Holmfirth** 144.37 4 *e*P PKPab 21 37 56.9 -0.9
WLF1 **Llynfaes** 144.41 6 *e*P PKPdf 21 37 56.4 -0.8
YRC **Rhoscolyn** 144.43 7 *e*P PKPbc 21 37 56.7 -0.7
RABH **Abou Rabah** 144.45 305 *e*P PKPab 21 37 58.9 +0.1
PRAR **RASCA** 144.47 331⇑*i*P PKPab 21 37 57.9 -0.4
WPM1 **Penmaenmawr** 144.49 6 *e*P PKPbc 21 37 57.1 -0.5
LMK **Market Rasen** 144.53 2 *e*P PKPbc 21 37 57.1 -0.6
KBI1 **Birley Grange** 144.67 3 *e*P PKPbc 21 37 57.4 -0.8
TLCR 144.71 326⇑*i*P PKPab 21 37 59.0 -0.3
BUR04 **Bucovina Ar. S** 144.74 332 *e*PKPdf PKPab 21 37 59.2 -0.2
BURAR **Bucovina Array** 144.74 332⇑*i*P PKPab 21 37 59.0 -0.5
TESR **Tescani** 144.89 330⇓*i*P PKPab 21 37 59.1 -0.9
STHS **Stebnicka Huta** 144.90 338 *e*PKP PKPab 21 37 59.6 -0.3
NRDL **Niedersach Rie** 144.91 351 *e*PKPbc PKPab 21 37 58.8 -0.9
FOEL **Foel Wylfa** 144.92 5 *e*P PKPab 21 37 58.8 -1.1
KOLS **Kolonicke sedl** 144.92 336 *e*PKP PKPab 21 37 59.5 -0.5
BRTR **Keskin Array B** 144.94 315 PKP PKPbc 21 37 58.7 -0.9
BRTR **Keskin Array B** 144.94 315 PKP PKPbc 21 37 58.7 -0.9
comp=Z,20nm,0.8s,baz=96,slow=2.8,SNR=80
CFR **Carcaliu** 145.07 327⇓*i*P PKPab 21 37 59.5 -1.2
MARH **Ras Al Marh** 145.15 304 *e*P PKPab 21 38 00.8 -1.0
KSP **Ksiaz** 145.20 344 *i* PKPdf PKPab 21 38 00.4 -0.6
NIE **Niedzica** 145.23 339 *e*PKP PKPab 21 38 00.8 -0.4
CRVS **Cervenica-Dubn** 145.25 337 *e*PKP PKPab 21 38 00.4 -0.9
VRI **Vrincioaia** 145.31 329⇓*i*P PKPab 21 38 00.3 -1.4
HLM1 **Long Mynd** 145.31 5 *e*P PKPbc 21 37 59.7 -0.4
SALA **Sala** 145.34 302 *e*P PKPdf 21 37 58.7 -1.1
ASF **Jabal al Asfar** 145.36 301 PKPbc PKPbc 21 38 00.5 -0.4
ASF **Jabal al Asfar** 145.36 301 PKPbc PKPbc 21 38 00.5 -0.4
comp=Z,13nm,0.8s,baz=90,slow=2.7,SNR=14
PLOR **Plostina** 145.36 329⇓*i*P PKPbc 21 37 59.5 -1.0
IBBN **Ibbenburen** 145.40 354 *e*PKPbc PKPab 21 38 00.3 -1.4
TIRR **Tirgusor** 145.41 326⇓*i*P PKPab 21 38 00.3 -0.3
BMR **Baia Mare** 145.43 334⇑*i*P PKPab 21 38 00.8 -1.3
ANTO **Ankara** 145.44 316⇑*i*P PKPbc 21 38 00.8 -0.2
ANTO **Ankara** 145.44 316 *e*PKPdf PKPbc 21 37 59.8 -1.2
BR231 **Keskin MP Arra** 145.46 316 *e*PKPdf PKPbc 21 38 00.6 -0.5
TRPA **Tarpa** 145.46 335⇓*i*P PKPab 21 38 00.8 -1.3
TRPA **Tarpa** 145.46 335⇓*i*e PKPab 21 38 00.8 -1.3
CLZ **Clausthal** 145.51 351 *e*PKPbc PKPbc 21 38 00.6 -0.1
HARR **Harsova** 145.51 326⇓*i*P PKPab 21 38 01.2 -1.2
TLB **Topalu** 145.52 326⇑*i*P PKPab 21 38 01.1 -1.4
GRER 145.53 328⇓*i*P PKPbc 21 38 00.6 -0.3
CLL **Collm** 145.54 348 *e*PKPbc PKPbc 21 38 00.8 0.0
CLL **Collm** 145.54 348⇓*i*PKPbc PKPab 21 38 01.1 -1.2
comp=Z,52nm,0.9s
OKC **Ostrava-Krasne** 145.57 341⇓*e*PKP PKPbc 21 38 00.8 -0.1
OKC *ex* x 21 38 02.9
UPC **Upice** 145.58 344⇓*e*PKP PKPab 21 38 01.6 -1.0
UPC *ex* x 21 38 03.3
LPW **Lampeter** 145.60 6 *e*P PKPbc 21 38 00.6 -0.3
DPC **Dobruska-Polom** 145.64 343⇓*i*PKP PKPab 21 38 01.9 -0.9
DPC *ex* x 21 38 03.6
DPC **Dobruska-Polom** 145.64 343 *e*PKPdf PKPab 21 38 01.7 -1.2
MANR **Mangalia** 145.73 325⇑*i*P PKPab 21 38 02.3 -1.0
BRG **Berggiesshubel** 145.75 346 *e*PKP PKPbc 21 38 00.3 -1.1
comp=Z,7.1nm,1.2s
BRG *i* 21 38 01.7
comp=Z,26nm,0.8s
BRG **Berggiesshubel** 145.75 346 *e*PKPbc PKPbc 21 38 01.5 +0.1
BRG *e*PKPab PKiKP 21 38 03.1 -0.9
KRLC **Kraliky** 145.76 343⇓*i*PKP PKPab 21 38 01.9 -1.4
KRLC *ex* x 21 38 04.0
MORC **Moravsky Berou** 145.81 342⇑*i*P PKPbc 21 38 00.5 -1.2
MORC **Moravsky Berou** 145.81 342 *e*PKPdf PKPdf 21 37 59.9 +0.1
MCH1 **Michaelchurch** 145.82 5 *e*P PKPbc 21 38 00.1 -1.4
WTSB **Winterswijk** 145.83 354 *e*P PKPbc 21 38 01.5 0.0
comp=Z,57nm,0.9s
AMRR **Amara** 145.88 327⇑*i*P PKPab 21 38 02.7 -1.2
DOPR **Dopca** 145.88 330⇑*i*P PKPab 21 38 02.8 -1.1
PVCC **Panska Ves** 145.93 345⇓*e*PKP PKPab 21 38 02.6 -1.3
ISR **Istrita** 145.93 328⇓*i*P PKPab 21 38 02.7 -1.5
MLR **Muntele Rosu** 145.96 329⇓*i*P PKPbc 21 38 01.7 -0.6
MLR **Muntele Rosu** 145.96 329 PKPbc PKPbc 21 38 02.0 -0.3
MLR **Muntele Rosu** 145.96 329 PKPbc PKPbc 21 38 02.0 -0.3
comp=Z,2.7nm,0.5s,baz=350,slow=5.2,SNR=34
MSAB **Monastry St. A** 145.97 326⇓*i*P PKPbc 21 38 02.4 +0.2
MONM **Monmouth** 145.99 5 *e*P PKPbc 21 38 01.7 -0.3
PSN **Preselentsi** 146.04 325⇓*i*P PKPbc 21 38 02.3 -0.1
STRD **Stroud** 146.10 4 *e*P PKPbc 21 38 01.9 -0.4
CJR **Cluj-Napoca** 146.14 333⇑*i*P PKPab 21 38 03.2 -1.8
MDB **Medias** 146.22 331⇑*i*P PKPab 21 38 03.6 -1.7
SECR 146.23 328⇓*i*P PKPbc 21 38 02.2 -0.7
BUG **Bochum--Univer** 146.30 354 *e*PKPbc PKPbc 21 38 03.0 +0.2
BUG *e*PKPab PKPab 21 38 05.2 -0.1
MMAI **Mount Meron Ar** 146.32 303 PKPbc PKPbc 21 38 04.0 +0.4
MMAI **Mount Meron Ar** 146.32 303 PKPbc PKPbc 21 38 04.0 +0.4
comp=Z,36nm,0.6s,baz=70,slow=5.9,SNR=31
PRA **Prague** 146.38 345⇓PKP PKPab 21 38 04.0 -1.7
SULR 146.38 328⇑*i*P PKPab 21 38 03.7 +0.4
PRU **Pruhonice** 146.43 345⇓*e*PKP PKPbc 21 38 03.5 +0.2
PRU *ex* x 21 38 06.3
VOIR 146.44 330⇑*i*P PKPbc 21 38 03.2 -0.4
DRGR 146.46 334⇑*i*P PKPbc 21 38 03.6 0.0
TANN **Tannenbergstha** 146.50 348 *e*PKPbc PKPbc 21 38 03.8 +0.2
TANN *e*PKPab PKPab 21 38 06.2 -0.1
VRAC **Vranov** 146.51 342⇓*i*P PKPab 21 38 03.9 +0.4
VRAC **Vranov** 146.51 342 PKPbc PKPbc 21 38 03.7 +0.1
VRAC **Vranov** 146.51 342 PKPbc PKPbc 21 38 03.7 +0.1
comp=Z,16nm,0.9s,baz=34,slow=2.8,SNR=9.4
UBBA **Unterbreizbach** 146.56 351 *e*PKPbc PKPbc 21 38 03.7 +0.2
UBBA *e*PKPab PKPab 21 38 06.7 +0.4
MTUR **Matau** 146.58 330⇓*i*P PKPab 21 38 03.1 -0.9
WOL **Wolverton** 146.63 3 *e*P PKPbc 21 38 03.4 -0.4
PSZ **Piszkesteto** 146.64 338⇓*i*P PKPbc 21 38 04.2 +0.2
PSZ **Piszkesteto** 146.64 338 *e*PKPdf PKPbc 21 38 04.3 +0.2
PSZ **Piszkesteto** 146.64 338⇓*i*e PKPbc 21 38 04.3 +0.2
HEX **Exmoor** 146.66 6 *e*P PKPbc 21 38 03.5 -0.3
NKC **Novy Kostel** 146.68 348⇓*e*PKP PKPbc 21 38 04.5 +0.5
NKC *ex* x 21 38 07.1
ARR **Arges** 146.69 330⇓*i*P PKPab 21 38 05.1 -2.1
PRD **Provadia** 146.79 325 P PKPbc 21 38 05.3 +0.9
TREC **Trest** 146.83 344⇓*e*PKP PKPbc 21 38 04.8 +0.4
TREC *ex* x 21 38 08.0
ELSH **Elham, Standar** 146.88 1 *e*P PKPbc 21 38 04.6 +0.2
LOT **Lotru** 147.03 331⇑*i*P PKPbc 21 38 03.5 -1.7
BEBN **Eben Emael** 147.08 355 PKP PKPab 21 38 07.2 -1.3

HGN **Heimansgroeve** 147.10 355 *e*P PKPbc 21 38 05.1 +0.1
comp=Z,31nm,1.0s
HUMR **Humele** 147.13 329⇑*i*P PKPbc 21 38 04.0 -1.3
ROTZ **Rotzenmuhle** 147.17 348 *e*PKPbc PKPbc 21 38 05.8 +0.5
MEM **Membach** 147.24 355 PKPbc PKPbc 21 38 05.7 +0.3
MEM **Membach** 147.24 355 *e*PKPbc PKPbc 21 38 05.3 -0.1
DYA **Yadsworthy** 147.27 7 *e*P PKPbc 21 38 05.0 -0.5
SIRR **Siria** 147.32 334⇑*i*P PKPbc 21 38 05.9 +0.1
BUD **Budapest** 147.32 338⇓*i*e PKPbc 21 38 06.6 +0.9
TNS **Taunus Mts** 147.36 352 *e*PKPbc PKPbc 21 38 06.1 +0.3
TNS *e*PKPab PKPab 21 38 09.9 +0.1
GRF **Grafenberg Arr** 147.44 349 *e*PKPbc PKPbc 21 38 06.4 +0.4
GRF *e*PKPab PKPab 21 38 10.3 +0.3
SNF **Seneffe** 147.46 357 PKPbc PKPbc 21 38 05.8 -0.1
SNF PKPab PKPab 21 38 09.9 -0.2
KHC **Kasperske Hory** 147.46 346⇓*i*PKP PKPbc 21 38 06.7 +0.6
KHC *ex* x 21 38 10.7
KHC **Kasperske Hory** 147.46 346 *e*PKPdf PKPdf 21 38 03.0 +0.4
KHC *e*PKPbc PKPbc 21 38 06.7 +0.6
MENF **Mencas** 147.47 360 PKP PKPbc 21 38 06.2 +0.2
BCLA **Clavier** 147.49 356 PKPbc PKPbc 21 38 06.0 -0.1
BCLA PKPab PKPab 21 38 09.6 -0.5
PKSN **Nyarlorinc** 147.51 337⇑*e* PKPbc 21 38 07.2 +1.0
GZR **Gura Zlata** 147.52 332⇓*i*P PKPbc 21 38 05.7 -0.7
SZH **Strazhica** 147.53 326 P PKPbc 21 38 06.6 +0.2
PKSG 147.62 339⇓*e* PKPbc 21 38 06.5 0.0
PKS7 **Kunszentmiklos** 147.65 338⇓*e* PKPab 21 38 08.4 -2.5
CSKK **Cs˛kako** 147.69 339⇓*e* PKPbc 21 38 07.2 +0.5
GEC2 **GERESS Array S** 147.70 345 *e*PKPdf PKPdf 21 38 02.9 -0.1
GEC2 *e*PKPbc PKiKP 21 38 07.0 -1.3
GEC2 *e*PKPbc PKPbc 21 38 07.2 +0.4
GERES **GERESS Array B** 147.70 345 PKP PKPdf 21 38 03.1 0.0
GERES PKPbc PKPbc 21 38 06.7 -0.1
GERES **GERESS Array B** 147.70 345 PKP PKPdf 21 38 03.1 0.0
comp=Z,18nm,0.6s,baz=64,slow=2.3,SNR=43
GERES PKPbc PKPbc 21 38 06.7 -0.1
comp=Z,18nm,0.6s,baz=80,slow=1.5,SNR=104
JMB **Yambol** 147.72 324⇑*i*P PKPbc 21 38 06.6 -0.3
BZS **Buzias** 147.85 333⇑*i*P PKPbc 21 38 07.0 -0.1
DOU **Dourbes** 147.85 357 PKPbc PKPbc 21 38 07.2 +0.2
PKST **T˜s** 147.86 339⇓*e* PKPbc 21 38 07.0 -0.1
CONA **Conrad Observa** 147.96 342 *i* PKiKP PKiKP 21 38 08.1 -0.7
comp=Z,17nm,0.6s,SNR=11
SOP **Sopron** 147.97 341⇓*e* PKPbc 21 38 07.9 +0.5
WLF **Walferdange** 148.17 355 *e*PKPbc PKPbc 21 38 08.7 +0.9
WLF **Walferdange** 148.17 355 *e*PKPbc PKPbc 21 38 08.8 +1.0
PKS9 **Tamasi** 148.36 338⇓*e* PKPbc 21 38 08.4 0.0
MOA **Molln** 148.48 344⇓*i*PKPbc PKPbc 21 38 08.7 0.0
comp=Z,19nm,1.4s,SNR=5.7
PKSM **Moragy** 148.54 337⇓*i*P PKPbc 21 38 06.7 -2.1
PKSM **Moragy** 148.54 337⇓*e* PKPbc 21 38 08.7 -0.1
DIM **Dimitrovgrad** 148.58 325 P PKPbc 21 38 09.6 +0.5
LANF **Langenberg** 148.66 352 PKP PKPbc 21 38 09.6 +0.5
STU **Stuttgart** 148.67 351 *e*PKPbc PKPbc 21 38 09.5 +0.4
STU *e*PKPab PKPab 21 38 15.0 -0.1
FUR **Furstenfeldbru** 148.88 348 *e*PKPbc PKPbc 21 38 09.8 +0.1
FUR *e*PKPab PKPab 21 38 16.0 0.0
KDZ **Kurdzhali** 148.91 324 P PKPbc 21 38 07.0 +0.1
KDZ **Kurdzhali** 148.91 324⇑*i*P PKPbc 21 38 10.0 +0.1
BEHE **Becsehely** 148.97 340⇓*e* PKPbc 21 38 10.0 +0.1
ALN **Alexandroupoli** 149.06 323 *e*P PKPbc 21 38 09.8 -0.4
RDO **Rodhopi** 149.18 324 *e*P PKPbc 21 38 10.5 0.0
BFO **Black Forest** 149.23 351 *e*PKPbc PKPbc 21 38 10.7 +0.2
BFO *e*PKPab PKPab 21 38 17.2 -0.3
RZN **Rozhen** 149.27 325 P PKPbc 21 38 10.7 -0.3
SOKA **Soboth** 149.33 342⇑*i*PKPbc PKPbc 21 38 10.4 -0.5
comp=Z,16nm,1.1s,SNR=8.4
PERS **Pernice** 149.35 342 *i* PKPdf PKPdf 21 38 05.3 -0.4
PERS *i* PKPbc PKPbc 21 38 10.4 -0.4
PERS *i* PKPab PKPab 21 38 17.6 -0.5
VTS **Vitosha** 149.42 328 P PKPbc 21 38 11.3 0.0
VTS **Vitosha** 149.42 328⇓*i*P PKPbc 21 38 09.3 -2.0
KBA **Koelnbreinsper** 149.43 344⇓*i*PKPbc PKPbc 21 38 10.6 -0.6
comp=Z,15nm,0.5s,SNR=7.9
THEF **They Montfort** 149.61 354 PKP PKPbc 21 38 12.0 +0.6
WATA **Walderalm** 149.61 347⇓*i*PKPbc PKPbc 21 38 11.4 -0.1
comp=Z,12nm,0.5s,SNR=12
SMTH **Samothraki Isl** 149.63 323 *e*P PKPbc 21 38 11.2 -0.5
RETA **Reutte** 149.63 348⇓*i*PKiKP PKiKP 21 38 11.6 -0.6
comp=Z,7.8nm,0.5s
WTTA **Wattenberg** 149.66 347⇑*i*PKiKP PKiKP 21 38 11.8 -0.6
comp=Z,41nm,0.6s,SNR=12
MOTA **Moosalm** 149.70 347⇑*i*PKPbc PKPbc 21 38 11.4 -0.4
comp=Z,11nm,0.6s,SNR=10
MYKA **Terra Mystica** 149.77 344⇓*i*PKPbc PKPbc 21 38 11.1 -0.8
comp=Z,18nm,0.5s,SNR=8.7
KAVA **Kavala** 149.86 324 *e*P PKPbc 21 38 12.1 0.0
MOF **Molkenrain** 149.86 353 PKP PKPbc 21 38 12.4 +0.3
MMB **Musomiste** 149.87 326 P PKPbc 21 38 12.1 -0.2
MMB **Musomiste** 149.87 326⇓*i*P PKPbc 21 38 12.0 -0.2
ABTA **Abfaltersbach** 149.95 345 *i* PKPbc PKPbc 21 38 11.8 -0.5
comp=Z,32nm,0.6s,SNR=9.2
PRK **Paraskevi** 149.96 320 *e*P PKPbc 21 38 12.4 -0.1
NVR **Nevrokopi** 149.97 326 *e*P PKPbc 21 38 12.4 -0.1
DAVA **Damuels** 150.00 349⇓*i*PKiKP PKiKP 21 38 12.5 -0.6
comp=Z,39nm,1.2s,SNR=5.9
KKB **Krupnik** 150.01 327 P PKPbc 21 38 12.6 +0.1
LJU **Ljubljana** 150.06 342 *e*PKPbc PKPbc 21 38 12.0 -0.5
LJU *e*PKPab PKPab 21 38 19.0 -2.0
FETA **Feichten** 150.09 348⇓*i*PKiKP PKiKP 21 38 12.8 -0.5
comp=Z,27nm,1.0s,SNR=5.4
VISS **Visnje** 150.18 341 *i* PKPdf PKPdf 21 38 06.3 -0.7
VISS *i* PKPbc PKiKP 21 38 12.7 -0.6
VISS *i* PKPab PKPab 21 38 21.1 -0.4
SRS **Serrai** 150.28 326 *e*P PKPbc 21 38 12.3 -0.9
BOJS **Bojanci** 150.32 341 *i* PKPdf PKPdf 21 38 07.7 +0.5
BOJS *i* PKPbc PKiKP 21 38 13.4 -0.2
BOJS *i* PKPab PKPab 21 38 21.9 -0.2
JAVS **Javornik** 150.33 343 *i* PKPbc PKPbc 21 38 12.8 -0.4
JAVS *i* PKPab PKPab 21 38 21.3 -0.9
LOMF **Lomont** 150.39 353 PKP PKPbc 21 38 13.9 -0.6
ARG **Arkhangelos** 150.47 313 *e*P PKPbc 21 38 13.6 -0.1
DAVOX **Davos/Dischmat** 150.48 349 PKP PKPdf 21 38 07.1 -0.6
DAVOX PKPbc PKiKP 21 38 14.1 0.0
DAVOX **Davos/Dischmat** 150.48 349 PKP PKPdf 21 38 07.1 -0.6
comp=Z,4.7nm,0.9s,baz=58,slow=3.5,SNR=5.6
DAVOX PKPbc PKiKP 21 38 14.1 0.0
comp=Z,39nm,0.6s,baz=238,slow=2.1,SNR=91
SMG **Samos** 150.52 317 *e*P PKPbc 21 38 13.5 -0.3
CHOS **Chios island** 150.62 319 *e*P PKPbc 21 38 13.4 -0.7
HORT **Hortiatis** 150.91 325 *e*P PKPbc 21 38 13.5 -1.2
GRG **Griva** 151.02 327 *e*P PKPbc 21 38 14.2 -0.7
SENIN **Lac Senin/Sane** 151.30 352 *e*PKPbc PKPbc 21 38 16.1 +0.5
KARP **Karpathos** 151.48 313 *e*P PKPbc 21 38 15.6 -0.1
LIT **Litokhoron** 151.59 325 *e*P PKPbc 21 38 15.3 -0.9
FNA **Florina** 151.68 328 *e*P PKPbc 21 38 16.2 -0.2
APE **Apeiranthos** 151.74 317⇑*i*P PKPdf 21 38 00.1 -10
NEST **Nestorio** 152.12 327 *e*P PKPbc 21 38 17.5 0.0
PTL **Penteli** 152.18 321 *e*P PKPbc 21 38 16.8 -0.8
SANT **Santorini** 152.19 316 *e*P PKPbc 21 38 16.5 -1.2
PYM **Petit Puy Mans** 152.26 358 PKP PKPbc 21 38 16.7 -0.9
LKR **Lokris** 152.30 322 *e*P PKPbc 21 38 16.7 -1.1
ZKR **Zakros** 152.37 313 *e*P PKPbc 21 38 18.1 +0.1
AGG **Agios Georgios** 152.43 324 *e*P PKPbc 21 38 17.0 -1.1
MAKR **Makrakomi, Fth** 152.55 324 *e*P PKPbc 21 38 17.8 -0.5
NPS **Neapolis** 152.70 314 *e*P PKPbc 21 38 18.9 +0.1
DSF **Desfina** 152.73 323 *e*P PKPbc 21 38 17.8 -1.0
LTK **Loutraki** 152.74 321 *e*P PKPbc 21 38 17.3 -1.5
LBL **Lubilhac** 152.77 358 PKP PKPbc 21 38 18.6 -0.1
EVR **Evrytania** 152.79 324 *e*P PKPbc 21 38 19.0 0.0
LAST **Lasithi** 152.85 314 *e*P PKPbc 21 38 19.4 +0.2
DID **Didima** 152.91 320 *e*P PKPbc 21 38 17.8 -1.4
KALE **Kalithea** 152.97 323 *e*P PKPbc 21 38 19.3 0.0
EFP **Efpalio** 153.08 323 *e*P PKPbc 21 38 20.0 +0.6
GUR **Goura** 153.16 322 *e*

KEST	**Kesra**	**161.06**	**341**	PKPab	**PKPab**	**21**	**39**	**08.6 -0.2**
	comp=Z,3.1nm,0.9s,baz=31,slow=3.3,SNR=6.0							
DBIC	**Dimbokro**	**167.05**	**149**	PKP	**PKPdf**	**21**	**38**	**26.0 -1.4**
DBIC	**Dimbokro**	**167.05**	**149**	PKP	**PKPdf**	**21**	**38**	**26.0 -1.4**
	comp=Z,2.5nm,0.8s,baz=224,slow=5.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**175.22**	**179**	PKP	**PKPdf**	**21**	**38**	**30.9 -0.5**
TORD				PKPab	**PKPab**	**21**	**40**	**11.6 0.0**
TORD	**Torodi Ar. Bea**	**175.22**	**179**	PKP	**PKPdf**	**21**	**38**	**30.9 -0.5**
	comp=Z,3.4nm,1.0s,baz=219,slow=0.6,SNR=14							
TORD				PKPab	**PKPab**	**21**	**40**	**11.6 0.0**
	comp=Z,0.3nm,0.5s,baz=179,slow=2.8,SNR=6.5							

*IDC **14** 21:24:00.5±4.3, 36°.21N×70°.70E, h170km±39km, mb3.2/9, mb1 3.4/13, mb1mx3.2/31, mbtmp3.3/13, Error ellipse: s-maj=31.3km s-min=14.8km az=38.0*
*ISCJB **14** 21:24:02.4±0.4, 36°.49N±0°.03×70°.74E±0°.07, h188km, mb3.3/8, Error ellipse: s-maj=8.4km s-min=3.5km az=160.2*
*NNC **14** 21:24:10.2±5.7, 37°.03N×70°.75E, h217km±56km, mb3.1, mpv4.2, Error ellipse: s-maj=50.8km s-min=30.4km az=13.0*

ISC 14 21:24:03.8±0.7, 36°.54N±0°.05×70°.90E±0°.09, h188km, n50, σ1§22/57, mb3.4/8, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.83**	**163**	⇓P	**Pn**	**21 24 51.9**	**+0.9**
CEP				S	**Sn**	**21 25 28.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.47**	**145**	⇓P	**Pn**	**21 25 00.0**	**+1.4**
THW	**Thamme Wali**	**3.80**	**169**	P	**Pn**	**21 25 02.9**	**+0.2**
SARP	**Sargodha**	**4.83**	**162**	⇓P	**Pn**	**21 25 15.5**	**-0.3**
DLH	**Dalhousie**	**5.78**	**132**	*e*P	**Pn**	**21 25 28.0**	**-0.2**
DLH				*e*S	**Sn**	**21 26 33.0**	**-1.7**
AML	**Almayashu**	**5.99**	**20**	P	**Pn**	**21 25 32.3**	**+1.3**
	SNR=127						
UCH	**Uchtor**	**6.33**	**25**	P	**Pn**	**21 25 37.3**	**+1.8**
	SNR=57						
KZA	**Kyzart**	**6.48**	**30**	P	**Pn**	**21 25 38.7**	**+1.3**
	SNR=8.7						
EKS2	**Erkin-Say**	**6.50**	**19**	P	**Pn**	**21 25 39.1**	**+1.6**
	SNR=44						
KK31	**Karatay Array**	**6.56**	**358**	P	**Pn**	**21 25 38.9**	**+0.8**
	5.1nm,0.3s,baz=172,slow=13,SNR=351						
KK31				⇓S	**Sn**	**21 26 49.9**	**-2.9**
	29nm,0.4s,baz=184,slow=21,SNR=17						
AAK	**Ala-Archa**	**6.69**	**23**	⇑P	**Pn**	**21 25 41.5**	**+1.6**
	8.2nm,0.4s						
AAK				⇑S	**Sn**	**21 26 56.0**	**+0.1**
	57nm,0.6s						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**21 25 41.8**	**+1.9**
	SNR=38						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**21 25 41.2**	**+1.3**
	8.5nm,0.3s,baz=168,slow=5.8,SNR=130						
AAK				S	**Sn**	**21 26 56.0**	**+0.1**
	8.0nm,0.3s,baz=128,slow=19,SNR=40						
KBK	**Karagaybulak**	**6.86**	**26**	P	**Pn**	**21 25 44.3**	**+2.1**
	SNR=28						
ULHL	**Ulahol**	**7.04**	**34**	P	**Pn**	**21 25 46.1**	**+1.5**
	SNR=5.8						
CHMS	**Chumysh**	**7.10**	**23**	P	**Pn**	**21 25 46.9**	**+1.8**
	SNR=13						
USP	**Ospenovka**	**7.26**	**21**	P	**Pn**	**21 25 48.6**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**7.33**	**28**	⇑P	**Pn**	**21 25 49.9**	**+1.5**
	13nm,0.3s						
TKM2				⇑S	**Sn**	**21 27 08.1**	**-3.0**
	14nm,1.0s						
TKM2	**Tokmak 2**	**7.33**	**28**	P	**Pn**	**21 25 50.0**	**+1.7**
	SNR=37						
MK31	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**21 27 06.5**	**+1.1**
	3.2nm,0.8s,baz=217,slow=12,SNR=17						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**21 27 06.8**	**+1.4**
	0.2nm,0.3s,baz=220,slow=12,SNR=12						
DANN	**Dangsing**	**13.58**	**123**	*e*P	**Pn**	**21 27 09.3**	**+0.1**
	9.2nm,0.4s						
KOLN	**Koldanda**	**13.85**	**126**	*e*P	**Pn**	**21 27 12.0**	**-0.5**
	2.6nm,0.3s						
GKN	**Gorkha**	**14.39**	**122**	*e*P	**Pn**	**21 27 19.1**	**-0.1**
	14nm,0.4s						
DMN	**Daman**	**14.96**	**122**	*e*P	**P**	**21 27 27.3**	**0.0**
	5.5nm,0.4s						
KKN	**Kakani**	**14.97**	**122**	*e*P	**Pn**	**21 27 26.8**	**+0.5**
	11nm,0.6s						
AB31	**Akbulak array**	**15.01**	**331**	P	**Pn**	**21 27 25.3**	**-1.1**
	2.8nm,0.7s,baz=144,slow=11,SNR=46						
AB31				⇑S	Sn	21 30 05.4	-8.7
	1.6nm,0.6s,baz=160,slow=21,SNR=5.4						
KURBB	**Kurchatov Arra**	**15.11**	**19**	P	**Pn**	**21 27 26.9**	**-0.7**
	0.5nm,0.3s,baz=207,slow=11,SNR=7.6						
PKIN	**Phulchoki**	**15.18**	**122**	*e*P	**Pn**	**21 27 29.6**	**+0.6**
	6.2nm,0.3s						
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**Pn**	**21 27 29.4**	**+0.2**
	19nm,0.6s						
KURK	**Kurchatov**	**15.22**	**19**	⇓P	**Pn**	**21 27 27.7**	**-1.2**
	1.9nm,1.3s						
GUN	**Gumba**	**15.31**	**120**	*e*P	**P**	**21 27 31.6**	**+0.4**
	6.1nm,0.3s						
JIRN	**Jiri**	**15.68**	**120**	*e*P	**Pn**	**21 27 35.6**	**+0.5**
	20nm,0.4s						
RAMN	**Ramite**	**16.41**	**121**	*e*P	**P**	**21 27 43.8**	**+0.6**
	9.4nm,0.5s						
BVA0	**Borovoye Array**	**16.49**	**359**	P	**Pn**	**21 27 45.2**	**+0.9**
	2.9nm,0.7s,baz=151,slow=9.1,SNR=41						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**Pn**	**21 27 44.9**	**+0.6**
	1.4nm,0.3s,baz=160,slow=10,SNR=27						
BVAR				S	**S**	**21 30 46.3**	**+0.3**
	0.3nm,0.3s,baz=165,slow=24,SNR=3.6						
BRVK	**Borovoye**	**16.52**	**359**	⇑P	**P**	**21 27 44.1**	**+0.1**
	7.9nm,0.8s						
AKTO	**Aktyubinsk**	**16.71**	**330**	⇓P	**P**	**21 27 46.4**	**+0.3**
	10nm,0.9s						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**P**	**21 27 46.3**	**+0.3**
	1.3nm,0.3s,baz=148,slow=12,SNR=30						
AKTO				S	**S**	**21 30 48.6**	**-1.9**
	0.1nm,0.3s,baz=147,slow=22,SNR=5.6						
TAPN	**Taplejung**	**16.94**	**118**	*e*P	**Pn**	**21 27 50.2**	**0.0**
	3.8nm,0.3s						
ODAN	**Odare**	**17.01**	**120**	*e*P	**P**	**21 27 50.4**	**+0.6**
	5.5nm,0.5s						
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	**P**	**21 28 22.2**	**+1.4**
	5.1nm,0.4s,baz=295,slow=11,SNR=33						
CMAR	**Chiang Mai Arr**	**30.54**	**119**	P	**P**	**21 29 59.0**	**-0.7**
	0.5nm,0.8s,baz=295,slow=8.8,SNR=5.5						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**21 30 58.8**	**+0.5**
	0.3nm,0.3s,baz=110,slow=12,SNR=3.2						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**21 31 29.4**	**+0.8**
	1.2nm,0.7s,baz=119,slow=7.3,SNR=3.9						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**21 31 54.5**	**-0.1**
	0.5nm,0.8s,baz=99,slow=7.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	P	21 34 25.0	-3.0
	0.4nm,0.5s,baz=50,slow=5.5,SNR=7.1						
YKA	**Yellowknife Ar**	**81.21**	**3**	P	**P**	**21 35 58.2**	**+0.1**
	0.1nm,0.3s,baz=348,slow=5.2,SNR=5.9						
WRA	**Warramunga Arr**	**82.08**	**122**	P	**P**	**21 36 01.8**	**-1.6**
	0.9nm,0.8s,baz=324,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**84.34**	**125**	P	**P**	**21 36 12.9**	**-1.9**
	0.4nm,0.6s,baz=315,slow=5.0,SNR=6.3						

IDC 14 21:31:02.9±2.9, 21°.13S×179°.81E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=288.4km s-min=34.2km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.38**	**258**	P	P	21 38 58.1	-1.2
	0.2nm,0.5s,baz=94,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**42.49**	**263**	P	P	21 39 00.8	+0.6
	0.6nm,0.3s,baz=97,slow=8.3,SNR=20						
TXAR	**Lajitas Array**	**89.12**	**58**	P	P	21 44 00.6	0.0
	0.6nm,0.8s,baz=208,slow=4.9,SNR=5.0						

IDC 14 22:28:33.6±3.8, 13°.77N×93°.35W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/24, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=85.0km s-min=36.4km az=173.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**3.05**	**66**	Pn	Pn	22 29 23.6	+0.1
	3.0nm,0.3s,baz=244,slow=8.5,SNR=25						
TEIG	**Tepich**	**8.04**	**36**	Pn	Pn	22 30 31.7	-0.1
	1.8nm,0.3s,baz=195,slow=19,SNR=8.4						
TEIG				Sn	Sn	22 31 57.3	-6.2
	0.7nm,0.3s,baz=233,slow=20,SNR=2.2						
YKA	**Yellowknife Ar**	**50.95**	**347**	P	P	22 37 35.8	-0.8
	0.8nm,0.8s,baz=155,slow=7.3,SNR=13						
ILAR	**Eielson Array**	**62.53**	**337**	P	P	22 38 59.7	+0.8
	0.4nm,0.9s,baz=159,slow=5.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**145.76**	**339**	PKPbc	PKPdf	22 48 14.3	-0.9
	0.7nm,0.5s,baz=347,slow=3.7,SNR=4.2						

IDC 14 22:47:08.7±4.6, 23°.62S×177°.93W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/19, mbtmp4.2/3, Error ellipse: s-maj=216.9km s-min=45.9km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.38**	**269**	P	P	22 53 51.0	+2.0
	3.9nm,0.3s,baz=94,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**43.95**	**260**	P	P	22 55 16.9	-0.9
	1.0nm,0.7s,baz=101,slow=7.0,SNR=10.0						
WRA	**Warramunga Arr**	**44.32**	**265**	P	P	22 55 19.6	-1.2
	1.4nm,0.5s,baz=102,slow=8.3,SNR=85						
AKASG	**Malin Array Be**	**145.74**	**329**	PKPbc	PKPdf	23 06 46.5	-2.4
	0.3nm,0.3s,baz=53,slow=4.4,SNR=4.2						
BRTR	**Keskin Array B**	**148.91**	**309**	PKPbc	PKPbc	23 06 59.9	+1.1
	0.4nm,0.6s,baz=84,slow=4.2,SNR=2.9						

*CSEM **14** 22:48:16.7±0.4, 42°.55N×43°.38E, h2km, MD2.9, Error ellipse: s-maj=8.5km s-min=5.6km az=170.0*
*DDA **14** 22:48:20.9, 42°.51N×43°.01E, h12km, MD2.9*

ISC 14 22:48:15.9±1.2, 42°.54N±0°.05×43°.33E±0°.04, h2km±13km, n19, σ0§59/35, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.11**	**58**	P	**Pg**	**22 48 18.1**	**+0.1**
ONI				S	**Sg**	**22 48 19.8**	**+0.4**
ONI	**Oni**	**0.11**	**58**	P	**Pg**	**22 48 18.1**	**+0.1**
ONI				S	**Sg**	**22 48 19.8**	**+0.4**
DUS	**Dusheti**	**1.11**	**113**	P	**Sg**	**22 48 51.3**	**-0.3**
DUS				S	**Sn**	**22 48 55.4**	**+0.9**
DUS	**Dusheti**	**1.11**	**113**	S	**Sn**	**22 48 55.4**	**+0.9**
AKH	**Akhalkalaki**	**1.13**	**174**	P	**Pg**	**22 48 37.9**	**+0.3**
AKH				S	**Sb**	**22 48 53.8**	**+0.3**
AKH	**Akhalkalaki**	**1.13**	**174**	P	**Pg**	**22 48 37.9**	**+0.3**
AKH				S	**Sb**	**22 48 53.8**	**+0.3**
TBLG	**Delisi**	**1.32**	**127**	P	**Pg**	**22 48 41.3**	**+0.1**
TBLG				S	**Sb**	**22 48 57.9**	**-0.9**
TBLG	**Delisi**	**1.32**	**127**	P	**Pg**	**22 48 41.3**	**+0.1**
TBLG				S	**Sb**	**22 48 57.9**	**-0.9**
ARTV	**Artvin**	**1.71**	**218**	*i* P	**Pb**	**22 48 47.9**	**-0.3**
ARTV				*i* S	**Sg**	**22 49 11.3**	**+0.6**
ARTV	**Artvin**	**1.71**	**218**	*i* P	**Pb**	**22 48 47.9**	**-0.3**
ARTV				*i* S	**Sg**	**22 49 11.3**	**+0.6**
DBOC	**Borcka**	**1.72**	**227**	*i* P	**Pb**	**22 48 47.4**	**-0.8**
DBOC				*i* S	**Sg**	**22 49 11.9**	**+0.8**
DBOC	**Borcka**	**1.72**	**227**	*i* P	**Pb**	**22 48 47.4**	**-0.8**
DBOC				*i* S	**Sg**	**22 49 11.9**	**+0.8**
DAGI	**Agillar**	**1.80**	**216**	*i* P	**Pb**	**22 48 49.5**	**-0.1**
DAGI				*i* S	**Sg**	**22 49 14.0**	**+0.3**
DGRG	**David-gareji**	**1.87**	**125**	P	**Pb**	**22 48 50.4**	**-0.4**
DGRG	**David-gareji**	**1.87**	**125**	P	**Pb**	**22 48 50.4**	**-0.4**
DBAD	**Bademkaya**	**1.95**	**219**	*i* P	**Pb**	**22 48 51.4**	**-0.8**
DBAD				*i* S	**Sg**	**22 49 17.8**	**-0.6**
DBAD	**Bademkaya**	**1.95**	**219**	*i* P	**Pb**	**22 48 51.4**	**-0.8**
DBAD				*i* S	**Sg**	**22 49 17.8**	**-0.6**
DDEM	**Demirkent**	**2.02**	**216**	*i* P	**Pb**	**22 48 52.8**	**-0.6**
DDEM				*i* S	**Sg**	**22 49 20.7**	**-0.2**
DDEM	**Demirkent**	**2.02**	**216**	*i* P	**Pb**	**22 48 52.8**	**-0.6**
DDEM				*i* S	**Sg**	**22 49 20.7**	**-0.2**

IDC 14 23:07:17.6±2.9, 8°.01S×115°.77E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=164.1km s-min=22.1km az=53.0, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.55**	**125**	P	P	23 12 08.8	0.0
	0.5nm,0.5s,baz=301,slow=13,SNR=20						
ASAR	**Alice Springs**	**23.34**	**134**	P	P	23 12 27.8	0.0
	0.6nm,0.3s,baz=310,slow=9.4,SNR=11						
SONM	**Songino Array**	**56.22**	**352**	P	P	23 16 59.7	0.0
	0.5nm,0.6s,baz=167,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**62.16**	**335**	P	P	23 17 40.6	-0.1
	0.1nm,0.3s,baz=148,slow=5.9,SNR=7.6						

IDC 14 23:11:10.4±1.2, 3°.14N×126°.25E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=139.1km s-min=19.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.27**	**161**	P	P	23 16 29.5	-0.1
	0.8nm,0.4s,baz=340,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.67**	**165**	P	P	23 17 00.4	+0.1
	0.2nm,0.3s,baz=347,slow=7.9,SNR=4.7						
STKA	**Stephens Creek**	**37.76**	**158**	P	P	23 18 28.5	+0.2
	1.6nm,0.7s,baz=349,slow=11,SNR=4.8						
SONM	**Songino Array**	**47.70**	**342**	P	P	23 19 48.7	-0.4
	0.5nm,0.7s,baz=150,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**57.77**	**326**	P	P	23 21 03.3	-0.1
	0.4nm,0.5s,baz=127,slow=7.5,SNR=13						

*IDC **14** 23:16:06.1±1.3, 15°.61S×173°.10W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.9/22, mbtmp3.7/9, ML1.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/30, Error ellipse: s-maj=80.9km s-min=16.5km az=143.0*

ISC 14 23:16:10.9±1.4, 15°.45S±0°.4×173°.2W±0°.4, h29km, n11, σ0§71/11, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**44**	Pn	**Pn**	**23 16 42.8**	**-0.3**
	11nm,0.3s,baz=28,slow=16,SNR=5.9						
AFI				Sn	**Sb**	**23 17 11.0**	**-0.8**
	59nm,0.3s,baz=192,slow=21,SNR=11						
RAO	**Raoul Island**	**14.47**	**197**	LR	LR	23 23 28.6	
	comp=Z,163nm,18.9s,baz=175,slow=31						
STKA	**Stephens Creek**	**44.19**	**240**	P	**P**	**23 24 16.7**	**-0.8**
	0.4nm,0.3s,baz=90,slow=7.1,SNR=3.4						
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**23 25 02.8**	**-0.3**
	1.2nm,1.0s,baz=93,slow=6.8,SNR=7.0						
ASAR	**Alice Springs**	**50.28**	**252**	P	**P**	**23 25 05.1**	**0.0**
	3.5nm,0.8s,baz=88,slow=8.3,SNR=40						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	**P**	**23 27 46.6**	**+1.2**
	0.5nm,0.6s,baz=221,slow=10,SNR=4.5						
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**23 28 20.4**	**-0.1**
	0.2nm,0.7s,baz=217,slow=5.5,SNR=3.2						
PDAR	**Pinedale Array**	**82.14**	**42**	P	**P**	**23 28 28.9**	**-0.3**
	0.5nm,0.7s,baz=199,slow=2.1,SNR=4.6						
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**23 28 30.4**	**+0.6**
	0.4nm,0.7s,baz=222,slow=6.2,SNR=6.5						
YKA	**Yellowknife Ar**	**90.01**	**23**	P	**P**	**23 29 07.9**	**+0.6**
	0.2nm,0.7s,baz=231,slow=4.3,SNR=5.1						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	**PKPab**	**23 35 49.6**	**-0.2**
	0.8nm,0.8s,baz=316,slow=4.0,SNR=3.9						

*IDC **14** 23:23:50.8±0.8, 8°.79S×157°.73E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/20, mbtmp4.1/11, ML4.1/2, MS3.6/12, Ms1 3.6/12, ms1mx3.3/31, Error ellipse: s-maj=21.7km s-min=14.3km az=1.0*
*NEIC **14** 23:23:55.7±0.5, 8°.80S×157°.79E, h35km, mb4.5/5, Error ellipse: s-maj=16.4km s-min=10.0km az=140.0*

ISC 14 23:23:53.5±0.6, 9°.0S±0°.1×157°.97E±0°.08, h23km, n40, σ1§02/28, mb4.1/11, MS3.5/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.01**	**104**	Pn	**Pb**	**23 24 30.2**	**+0.8**
HNR				Lg	Lg	23 25 03.6	
HNR	**Honiara**	**2.01**	**104**	Pn	**Pb**	**23 24 30.2**	**+0.8**
	41nm,0.3s,baz=217,slow=9.0,SNR=14						
HNR				Lg	Lg	23 25 03.6	
	185nm,0.3s,baz=252,slow=20,SNR=10						
HNR				LR	LR	23 25 26.6	
	comp=Z,914nm,18.9s,baz=300,slow=42						
HNR	**Honiara**	**2.01**	**104**	*e*P	**Pn**	**23 24 24.0**	**-2.0**
HNR				*i* S	Sb	23 25 11.0	+17
PMG	**Port Moresby**	**10.69**	**267**	LR	LR	23 30 21.3	
	comp=Z,434nm,18.7s,baz=110,slow=37						
DZM	**Mont Dzumac**	**15.38**	**149**	LR	LR	23 32 13.3	
	comp=Z,226nm,19.2s,baz=230,slow=32						
CTA	**Charters Tower**	**15.84**	**224**	Pn	**Pn**	**23 27 36.1**	**+0.8**
CTA	**Charters Tower**	**15.84**	**224**	Pn	**Pn**	**23 27 36.1**	**+0.8**
	0.5nm,0.3s,baz=47,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**15.84**	**224**	*e*P	**P**	**23 27 38.6**	**-0.2**
	9.7nm,0.9s						
WRAB	**Tennant Creek**	**25.31**	**242**	*e*P	**P**	**23 29 18.0**	**-0.7**
	15nm,0.9s						
WRA	**Warramunga Arr**	**25.32**	**242**	P	**P**	**23 29 17.4**	**-1.4**
WRA	**Warramunga Arr**	**25.32**	**242**	P	**P**	**23 29 17.4**	**-1.4**
	12nm,0.8s,baz=66,slow=9.5,SNR=66						
WRA				LR	LR	23 38 39.0	
	comp=Z,121nm,19.5s,baz=45,slow=35						
ASAR	**Alice Springs**	**27.28**	**235**	P	**P**	**23 29 35.1**	**-1.4**
ASAR	**Alice Springs**	**27.28**	**235**	P	**P**	**23 29 35.1**	**-1.4**
	2.4nm,0.8s,baz=63,slow=9.0,SNR=24						
STKA	**Stephens Creek**	**27.42**	**211**	*e*P	**P**	**23 29 37.8**	**+0.2**
	2.5nm,1.0s						
STKA	**Stephens Creek**	**27.42**	**211**	P	**P**	**23 29 39.4**	**+1.8**
	6.5nm,0.7s,baz=38,slow=14,SNR=16						
STKA				LR	LR	23 39 44.8	
	comp=Z,136nm,20.6s,baz=25,slow=35						
H11S3	**WAKE ISLAND Hy**	**28.59**	**17**	T	T	23 58 20.5	
	baz=199,slow=77,SNR=25						
H11S2	**WAKE ISLAND Hy**	**28.59**	**18**	T	T	23 58 20.4	
	baz=199,slow=77,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.61**	**17**	T	T	23 58 22.0	
	baz=199,slow=77,SNR=13						
AFI	**Afiamalu**	**30.04**	**102**	LR	LR	23 39 57.6	
	comp=Z,107nm,18.1s,baz=335,slow=32						
URZ	**Urewera**	**33.89**	**152**	LR	LR	23 43 25.0	
	comp=Z,116nm,18.2s,baz=310,slow=34						
RPZ	**Rata Peaks**	**36.47**	**164**	LR	LR	23 45 54.4	
	comp=Z,146nm,18.4s,baz=319,slow=36						
MJAR	**Matsushiro Arr**	**48.91**	**339**	LR	LR	23 49 54.3	
	comp=Z,37nm,21.4s,baz=195,slow=32						
ASAJ	**Asahikawa**	**54.62**	**346**	LR	LR	23 55 44.5	
	comp=Z,75nm,19.8s,baz=15,slow=35						
PETK	**Petropavlovsk-**	**61.81**	**360**	LR	LR	23 57 13.1	
	comp=Z,40nm,21.8s,baz=118,slow=32						
CMAR	**Chiang Mai Arr**	**64.28**	**295**	P	**P**	**23 34 27.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**64.28**	**295**	P	**P**	**23 34 27.9**	**+0.3**
	1.8nm,0.7s,baz=123,slow=5.5,SNR=9.6						
VNDA	**Vanda**	**68.58**	**179**	LR	LR	23 59 03.8	
	comp=Z,54nm,21.7s,baz=334,slow=31						
SONM	**Songino Array**	**72.57**	**326**	P	**P**	**23 35 19.2**	**+0.1**
SONM	**Songino Array**	**72.57**	**326**	P	**P**	**23 35 19.2**	**+0.1**
	0.3nm,0.8s,baz=137,slow=5.7,SNR=2.1						
MCK	**McKinley**	**82.78**	**21**	*e*P	**P**	**23 36 15.6**	**+0.1**
	14nm,0.9s						
COLA	**College**	**83.85**	**20**	*e*P	**P**	**23 36 19.9**	**-0.9**
	8.0nm,0.8s						
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**23 36 22.2**	**-0.1**
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**23 36 22.2**	**-0.1**
	1.1nm,0.9s,baz=260,slow=5.6,SNR=12						
MK31	**Makanchi Array**	**86.81**	**318**	*e*P	**P**	**23 36 34.7**	**-1.5**
MKAR	**Makanchi Array**	**86.81**	**318**	P	**P**	**23 36 35.7**	**-0.5**
MKAR	**Makanchi Array**	**86.81**	**318**	P	**P**	**23 36 35.7**	**-0.5**
	0.6nm,0.6s,baz=99,slow=6.0,SNR=7.1						
NVAR	**Mina Array Bea**	**90.62**	**51**	P	**P**	**23 36 56.0**	**+1.3**
NVAR	**Mina Array Bea**	**90.62**	**51**	P	**P**	**23 36 56.0**	**+1.3**
	0.4nm,0.5s,baz=260,slow=5.4,SNR=2.3						
YKA	**Yellowknife Ar**	**96.67**	**28**	P	**P**	**23 37 22.1**	**+0.4**
YKA	**Yellowknife Ar**	**96.67**	**28**	P	**P**	**23 37 22.0**	**+0.4**
	0.0nm,0.3s,baz=278,slow=4.3,SNR=2.6						

IDC 14 23:41:45.9±11.0, 17°.80S×177°.71W, h488km±104km, mb3.1/4, mb1 3.3/4, mb1mx3.0/19, mbtmp4.0/4, Error ellipse: s-maj=134.9km s-min=44.7km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.26**	**241**	P	P	23 48 32.1	+0.4
	1.1nm,0.5s,baz=94,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**45.30**	**259**	P	P	23 49 19.2	-0.4
	0.8nm,0.5s,baz=96,slow=7.3,SNR=24						
WRA				PcP	PcP	23 50 48.4	-1.0
	0.1nm,0.3s,baz=88,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**45.46**	**254**	P	P	23 49 20.7	-0.1
	2.5nm,0.6s,baz=88,slow=8.6,SNR=33						
ASAR				PcP	PcP	23 50 49.0	-0.9
	0.4nm,0.6

Duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.90±.03; $M_{\theta\theta}$-0.28±.02; $M_{\phi\phi}$-0.62±.02; $M_{r\theta}$0.33±.02; $M_{\theta\phi}$-0.53±.01; $M_{r\phi}$-0.01±.03; Best double couple: $M_0$1.01100×10^{17} NP1:φ_s52.00000°,δ53.00000°, λ111.00000°. NP2:φ_s200.00000°,δ42.00000°,λ65.00000°. Principal axes: T 0.9980, Plg72.0000°, Azm19.0000°; N 0.0270, Plg17.0000°, Azm219.0000°; P -1.0240, Plg6.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

KLM ***15*** *00:06:50.6, 7.7°N×126.2°E, h68km, mb5.4, MS6.1*

DJA ***15*** *00:06:53.8±0.7, 7.7°N±5.5°×12.6°E±5.7°, h56km±6km, M5.4/48, mb5.4/48, mB5.8/38, MLv5.8/6, Mw(mB)5.3/38, Mwp5.5/1*

ISC 15 00:06:48.3±0.3, 7.18N±0.02×126.02E±0.03, h34km, h35km:pP-P,n502,σ1ŝ59/543, mb5.2/142, MS4.8/56, 37C-36D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.33**	**136**	*e*P	**Pn**	**00 06 58.0**	**+1.3**
MATI				*e*S	**Sb**	**00 07 06.0**	**+3.8**
DAV	**Davao City (W)**	**0.46**	**256**	*e*Pb	**Pb**	**00 06 58.5**	**+0.2**
DMPH	**Davao City--Mi**	**0.52**	**259**	⇓*i*P	**Pn**	**00 07 00.0**	**+0.7**
DMPH				*i* S	**Sn**	**00 07 08.8**	**+1.8**
BIPH	**Bislig**	**1.05**	**19**	⇑*i*P	**Pb**	**00 07 08.7**	**+0.6**
BIPH				*i* S	**Sb**	**00 07 22.2**	**+0.7**
BUKP	**Musuan**	**1.18**	**306**	*e*P	**Pn**	**00 07 09.3**	**+0.8**
BUKP				*e*S	**Sn**	**00 07 24.9**	**+1.6**
GSPH	**General Santos**	**1.53**	**224**	⇓*i*P	**Pn**	**00 07 12.7**	**-0.6**
GSPH				*i* S	**Sn**	**00 07 30.9**	**-1.1**
CTBH	**Cotabato--PC H**	**1.77**	**271**	⇑*i*P	**Pn**	**00 07 17.0**	**+0.5**
BUTP	**Butuan**	**1.82**	**347**	*e*P	**Pb**	**00 07 20.9**	**-0.1**
CGP	**Cagayan de Oro**	**1.82**	**314**	⇑*i*P	**Pb**	**00 07 20.2**	**-0.9**
CGP				*i* S	**Sn**	**00 07 41.3**	**+2.1**
SCPH	**Surigao**	**2.63**	**348**	*e*P	**Pn**	**00 07 30.3**	**+1.9**
SCPH				*e*S	**Sn**	**00 07 58.9**	**-0.4**
PAGZ	**Pagadian**	**2.70**	**284**	*e*P	**Pn**	**00 07 30.5**	**+1.2**
MSLP	**Maasin**	**3.15**	**339**	*e*P	**Pn**	**00 07 37.8**	**+2.2**
TBP	**Tagbilaran**	**3.28**	**320**	*e*P	**Pn**	**00 07 38.8**	**+1.4**
TBP				*e*S	**Sn**	**00 08 14.8**	**-0.4**
IPIL	**Ipil**	**3.48**	**280**	⇑*e*P	Pn	00 07 44.1	+4.1
SNPH	**Sibulan**	**3.50**	**308**	*e*P	Pn	00 07 30.7	-10
SGSI	**Sangihe**	**3.51**	**188**	P	**Pn**	**00 07 42.5**	**+2.0**
LLP	**Lapu-Lapu**	**3.72**	**327**	⇑*e*P	**Pn**	**00 07 45.2**	**+1.8**
LLP				*e*S	**Sn**	**00 08 29.0**	**+3.0**
ZMPH	**Zamboanga City**	**3.94**	**267**	⇓*i*P	**Pn**	**00 07 47.1**	**+0.8**
ZMPH				*i* S	**Sn**	**00 08 30.5**	**-0.9**
PLP	**Palo**	**4.09**	**345**	⇓*e*P	**Pn**	**00 07 50.8**	**+2.4**
OCLP	**Ormoc**	**4.09**	**340**	*e*P	Pn	00 07 52.1	+3.6
GUIM	**Jordan**	**4.82**	**315**	*e*P	**Pn**	**00 08 00.1**	**+1.6**
RCP	**Roxas**	**5.42**	**324**	⇑*e*P	**Pn**	**00 08 09.0**	**+2.3**
GAMI	**Galela, Maluku** 1μm,1.1s,14μm4.5nm	**5.59**	**162**	P	x	00 08 13.6	
TNTI	**Ternate** 1μm,1.2s,12μm14μm4.9nm	**6.51**	**168**	P	Pn	00 08 25.3	+3.6
TNTI	**Ternate**	**6.51**	**168**	*e*Pn	**Pn**	**00 08 23.5**	**+1.8**
TNTI				*e*Sn	**Sn**	**00 09 39.1**	**+4.2**
PVCP	**Virac**	**6.63**	**344**	⇓*e*P	Pn	00 08 28.4	+5.0
KMSI	**Cibinong** 1μm,1.1s,9μm4.9nm	**6.88**	**197**	P	Pn	00 08 31.5	+4.7
GTOI	**Gorontalo** 888nm,0.7s,8μm2.5nm	**7.17**	**205**	P	**Pn**	**00 08 31.2**	**+0.4**
MYLDM	**Lahad Datu**	**7.74**	**256**	P	x	00 08 56.0	
MYLDM	**Lahad Datu**	**7.74**	**256**	*e*Pn	Pn	00 08 42.6	+3.9
MYLDM	**Lahad Datu**	**7.74**	**256**	⇑P	Pn	00 08 42.0	+3.4
MYLDM	**Lahad Datu**	**7.74**	**256**	⇑S	**Sn**	**00 10 04.7**	**-0.5**
MRSI	**Marisa** 379nm,0.8s,5μm1.7nm	**7.81**	**212**	P	**Pn**	**00 08 40.6**	**+1.0**
LBMI	**Labuha** 352nm,0.7s,5μm2.3nm	**7.91**	**169**	P	Pn	00 08 45.8	+4.8
TGY	**Tagaytay City**	**8.50**	**324**	Pn	**Pn**	**00 08 51.9**	**+2.7**
TGY	**Tagaytay City** 72nm,0.3s,baz=199,slow=4.4,SNR=1.9	**8.50**	**324**	Pn	**Pn**	**00 08 51.9**	**+2.7**
TGY				LR	LR	00 13 08.1	
	comp=Z,165nm,18.2s,baz=121,slow=46						
TSM	**Tawau**	**8.60**	**251**	⇑P	Pn	00 08 55.7	+5.2
LUWI	**Luwuk** 613nm,0.9s,11μm	**8.79**	**202**	P	Pn	00 08 58.1	+5.0
LUWI	**Luwuk**	**8.79**	**202**	*e*Pn	Pn	00 08 58.1	+5.0
LUWI				*e*Sn	Sn	00 10 23.9	-7.2
LUWI	**Luwuk** baz=8.8,SNR=15	**8.79**	**202**	⇓P	Pn	00 08 56.4	+3.3
SDKM	**Sandakan**	**8.91**	**261**	⇑P	Pn	00 09 01.5	+6.8
KDM	**Kudat**	**9.13**	**269**	⇑S	**Sn**	**00 10 43.1**	**+3.8**
KDM	**Kudat**	**9.13**	**269**	⇓P	Pn	00 09 02.0	+4.3
APSI	**Ampana** 371nm,0.8s,3μm	**9.15**	**209**	P	Pn	00 09 03.7	+5.7
SANI	**Sanana** 249nm,0.7s,4μm	**9.17**	**180**	P	**Pn**	**00 08 58.0**	**-0.3**
SWI	**Sorong** 218nm,0.9s,4μm	**9.55**	**147**	P	Pn	00 09 07.1	+3.6
SWI	**Sorong** baz=9.5	**9.55**	**147**	⇓P	Pn	00 09 06.8	+3.3
KKM	**Kota Kinabalu**	**9.81**	**264**	P	x	00 09 26.5	
KKM	**Kota Kinabalu**	**9.81**	**264**	*e*Pn	Pn	00 09 11.0	+3.8
KKM	**Kota Kinabalu**	**9.81**	**264**	⇑P	Pn	00 09 12.1	+4.9
NLAI	**Namlea** 258nm,0.8s,3μm	**10.41**	**174**	P	**Pn**	**00 09 15.4**	**+0.1**
MWPI	**Manokwari, Pap** 388nm,1.3s,8μm	**11.36**	**135**	P	x	00 09 35.4	
FAKI	**Fak Fak** 110nm,0.9s,1μm	**11.80**	**148**	P	Pn	00 09 37.8	+3.4
FAKI	**Fak Fak** baz=12,SNR=17	**11.80**	**148**	⇓P	Pn	00 09 37.8	+3.4
TTSI	**Tana Toraja** 132nm,1.0s,3μm	**11.90**	**212**	P	Pn	00 09 44.3	+8.6
BNSI	**Bone** 263nm,1.3s,3μm	**12.94**	**207**	P	P	00 09 56.9	-3.1
BAKI	**Biak** 426nm,1.2s,8μm	**13.05**	**129**	P	P	00 09 57.1	-4.3
BTM	**Bintulu**	**13.48**	**254**	⇓P	Pn	00 10 01.8	+4.5
KAPI	**Kappang**	**13.64**	**207**	*e*Pn	**Pn**	**00 09 59.6**	**+0.1**
SBUM	**Sibu** 170nm,1.2s,2μm	**14.53**	**252**	P	x	00 10 14.4	
SBUM	**Sibu**	**14.53**	**252**	*e*Pn	**Pn**	**00 10 10.3**	**-1.4**
SBUM	**Sibu**	**14.53**	**252**	⇑P	Pn	00 10 15.1	+3.5
SMPI	**Sarmi** 368nm,1.3s,8μm	**15.60**	**125**	P	**P**	**00 10 30.9**	**+1.3**
MMRI	**Maumere**	**16.16**	**194**	*e*Pn	**Pn**	**00 10 32.3**	**-0.7**
TWG	**Pinlang** 356nm,1.6s	**16.26**	**343**	*e*Pn	**Pn**	**00 10 35.5**	**+1.2**
KSM	**Kuching**	**16.66**	**251**	⇓P	**P**	**00 10 42.5**	**+1.1**
YULB	**Yu-li** 38nm,1.3s	**16.74**	**345**	*e*Pn	**Pn**	**00 10 38.2**	**-2.2**
TPUB	**Ta-pu** 55nm,1.0s	**16.84**	**343**	*e*Pn	**Pn**	**00 10 42.2**	**+0.6**
SOEI	**Soe** 141nm,1.3s,3μm	**16.92**	**186**	P	P	00 10 51.6	+7.2
SOEI	**Soe** baz=17,SNR=5.0	**16.92**	**186**	⇑P	**P**	**00 10 45.9**	**+1.5**
GENI	**Genyem** 200nm,1.2s,5μm	**17.13**	**124**	P	P	00 10 52.9	+6.2
SSLB	**Suanglung** 47nm,1.3s	**17.21**	**344**	*e*Pn	**P**	**00 10 49.3**	**+1.8**
WSI	**Waingapu**	**17.69**	**199**	P	P	00 11 06.7	+14
YHNB	**Yeheng** 45nm,1.0s	**17.95**	**346**	*e*Pn	**Pn**	**00 10 55.6**	**+0.2**
QZH	**Quanzhou**	**19.04**	**339**	P	**P**	**00 11 06.5**	**-1.1**
QZH				sP	**sP**	**00 11 18.6**	**-2.3**
QZH				S	**Sn**	**00 14 34.4**	**-6.4**
QZH	comp=N,8μm,19.8s			LR	LR		
QZH	comp=E,2μm,13.8s			LR	LR		
QZH	comp=Z,10μm,20.8s			LR	LR		
BLJI	**Banyuglugur** 153nm,0.4s,24μm	**19.33**	**220**	P	**Pn**	**00 11 15.1**	**+3.0**
JAGI	**Jajag, Banyuwa** 118nm,1.2s	**19.54**	**217**	*e*P	**P**	**00 11 11.1**	**-2.1**
JAGI	**Jajag, Banyuwa** baz=20,SNR=3.8	**19.54**	**217**	⇑P	**Pn**	**00 11 15.8**	**+1.2**
QIZ	**Qiongzhong**	**19.65**	**308**	P	**Pn**	**00 11 15.9**	**0.0**
QIZ				pP	**pP**	**00 11 20.4**	**-3.0**
QIZ				S	**S**	**00 14 55.0**	**+0.7**
QIZ				sS	**sS**	**00 15 05.3**	**-3.4**
QIZ	comp=Z,48nm,1.8s			pmax	pmax		
QIZ	comp=N,3μm,18.9s			LR	LR		
QIZ	comp=E,1μm,19.5s			LR	LR		
QIZ	comp=Z,5μm,19.2s			LR	LR		
QIZ	**Qiongzhong** 491nm,2.2s	**19.65**	**308**	*e*P	**P**	**00 11 15.4**	**+1.1**
JOW	**Kunigami** 252nm,1.1s	**19.66**	**6**	*e*P	**P**	**00 11 13.2**	**-1.2**
GZH	**Guangzhou**	**19.97**	**324**	P	Pn	00 11 22.5	+2.9
GZH				S	Sn	00 15 09.3	+5.9
GZH	comp=N,2μm,22.0s			LR	LR		
GZH	comp=E,4μm,17.8s			LR	LR		
GZH	comp=Z,6μm,20.4s			LR	LR		
KRKI	**Karangkates**	**20.38**	**222**	P	x	00 11 38.6	
NGJI	**Ngawi**	**20.49**	**225**	P	Pn	00 11 39.7	+14
MTN	**Manton Dam** baz=21,SNR=48	**20.53**	**166**	⇓P	Pn	00 11 25.3	-1.0
PWJI	**Pagerwojo**	**20.72**	**223**	P	Pn	00 11 46.9	+18
KDU	**Kakadu** baz=21,SNR=55	**20.75**	**162**	⇓P	Pn	00 11 27.6	-1.2
WOJI	**Wonogiri, Jawa**	**21.20**	**226**	P	P	00 11 50.0	+19
UBPT	**Khong Chiam** 91nm,1.7s,3μm	**21.69**	**294**	P	x	00 11 39.8	
BJII	**Banjamegara** 290nm,1.6s,4μm	**21.74**	**229**	P	x	00 11 40.2	
JCJI	**Jatiwangi** 434nm,1.4s	**22.32**	**233**	P	P	00 11 48.7	+5.5
MYKOM	**Kota Tinggi** 118nm,1.5s	**22.74**	**257**	P	x	00 11 50.6	
MYKOM	**Kota Tinggi**	**22.74**	**257**	*e*P	**P**	**00 11 46.8**	**-0.9**
MYKOM	**Kota Tinggi**	**22.74**	**257**	⇓P	**P**	**00 11 48.8**	**+1.1**
KTGM	**Kuala Trenggan**	**22.83**	**267**	⇑P	**P**	**00 11 50.4**	**+1.8**
KNRA	**Kunununrra** baz=23,SNR=141	**22.88**	**173**	⇑P	**P**	**00 11 49.8**	**+0.8**
BTDF	**Bukit Timah Da** baz=23,SNR=4.2	**22.92**	**256**	⇓P	**P**	**00 11 51.0**	**+1.4**
LEM	**Lembang** 178nm,1.6s,4μm	**23.04**	**233**	P	**P**	**00 11 55.5**	**+4.5**
LEM	**Lembang** baz=23	**23.04**	**233**	⇑P	**P**	**00 11 53.3**	**+2.3**
KGM	**Kluang**	**23.20**	**258**	⇓P	**P**	**00 11 53.0**	**+0.5**
CISI	**Cisompet, Garu**	**23.33**	**231**	P	P	00 12 04.4	+11
CISI	**Cisompet, Garu**	**23.33**	**231**	*e*P	**P**	**00 11 52.7**	**-1.0**
CISI	**Cisompet, Garu** baz=23	**23.33**	**231**	⇓P	**P**	**00 11 53.5**	**-0.2**
SSE	**Sheshan**	**24.22**	**350**	P	**P**	**00 12 02.8**	**+0.9**
SSE				sP	**sP**	**00 12 15.3**	**-0.6**
SSE				S	**S**	**00 16 22.3**	**+4.1**
SSE	comp=Z,17nm,0.9s			pmax	pmax		
SSE	comp=Z,260nm,7.5s			pmax	pmax		
SSE	comp=N,580nm,22.0s			LR	LR		
SSE	comp=E,860nm,22.0s			LR	LR		
SSE	comp=Z,1μm,19.0s			LR	LR		
KLI	**Kotabumi**	**24.28**	**241**	P	P	00 12 21.4	+19
CGJI	**Cibinong**	**24.48**	**236**	P	P	00 12 19.0	+15
FRIM	**Kepong**	**24.61**	**262**	⇑P	**P**	**00 12 07.0**	**+1.3**
MDSI	**Maura Dua** 51nm,1.0s,1μm	**24.69**	**243**	P	**P**	**00 12 08.3**	**+1.9**
KASI	**Kota Agung**	**24.92**	**240**	P	P	00 12 26.1	+18
LHSI	**Lahat** 93nm,1.0s,2μm	**24.98**	**245**	P	**P**	**00 12 11.1**	**+2.1**
IPM	**Ipoh** 90nm,1.5s,1μm	**25.01**	**265**	P	x	00 12 10.6	
IPM	**Ipoh** 87nm,1.0s	**25.01**	**265**	*e*P	**P**	**00 12 08.1**	**-1.3**
IPM	**Ipoh**	**25.01**	**265**	⇓P	**P**	**00 12 10.2**	**+0.8**
LWLI	**Liwa** 204nm,0.9s,7μm	**25.05**	**242**	P	**P**	**00 12 11.1**	**+1.3**
KULM	**Kulim** 91nm,1.4s,2μm	**25.29**	**267**	P	x	00 12 13.9	
KULM	**Kulim** 113nm,1.2s	**25.29**	**267**	*e*P	**P**	**00 12 12.3**	**+0.4**
KULM	**Kulim**	**25.29**	**267**	⇑P	**P**	**00 12 13.8**	**+1.9**
NJ2	**Nanjing**	**25.63**	**346**	*e*P	**P**	**00 12 15.3**	**+0.6**
NJ2				pP	**pP**	**00 12 22.5**	**-2.0**
NJ2				sP	**sP**	**00 12 24.9**	**-3.8**
NJ2				S	**S**	**00 16 45.5**	**+4.7**
NJ2				sS	**sS**	**00 16 52.0**	**-5.0**
NJ2	comp=Z,10.0nm,0.6s			pmax	pmax		
NJ2	comp=Z,270nm,4.9s			pmax	pmax		
NJ2	comp=N,960nm,12.0s			LR	LR		
NJ2	comp=E,960nm,17.8s			LR	LR		
NJ2	comp=Z,2μm,19.7s			LR	LR		
MNAI	**Manna** 487nm,1.4s	**25.72**	**244**	*e*P	**P**	**00 12 16.8**	**+1.0**
BKNI	**Bangkinang** 86nm,1.3s,14μm	**25.83**	**256**	P	P	00 12 21.8	+5.0
BKNI	**Bangkinang**	**25.83**	**256**	*e*P	**P**	**00 12 15.7**	**-1.1**
JNU	**Nakatsue** 50nm,1.0s	**26.20**	**9**	*e*P	**P**	**00 12 18.9**	**-1.0**
JNU	**Nakatsue** 32nm,0.9s,baz=131,slow=2.5,SNR=9.3	**26.20**	**9**	P	**P**	**00 12 18.2**	**-1.8**
JNU	comp=Z,1μm,21.9s,baz=184,slow=34			LR	LR	00 21 30.6	
PBKT	**Sadao Pong** 39nm,1.3s,2μm	**26.20**	**293**	P	x	00 12 21.2	
GYA	**Guiyang**	**26.59**	**318**	⇑*i*P	**P**	**00 12 23.8**	**+0.1**
GYA				pP	**pP**	**00 12 33.0**	**-0.4**
GYA				PP	**PnPn**	**00 13 08.8**	**+3.8**
GYA				PcP	**PcP**	**00 15 49.0**	**+1.4**
GYA				S	**S**	**00 16 55.5**	**-0.9**
GYA				sS	**sS**	**00 17 09.4**	**-3.2**
GYA	comp=Z,30nm,0.8s			pmax	pmax		
GYA	comp=Z,140nm,4.8s			pmax	pmax		
GYA	comp=N,880nm,14.9s			LR	LR		
GYA	comp=E,690nm,15.2s			LR	LR		
GYA	comp=Z,840nm,14.8s			LR	LR		
PPI	**Padang Panjang** 46nm,1.5s	**26.67**	**255**	P	**P**	**00 12 25.1**	**+0.7**
PDSI	**Padang** 40nm,1.3s,1μm	**26.74**	**254**	P	**P**	**00 12 27.6**	**+2.5**
COEN	**Coen** 216nm,1.0s	**27.04**	**141**	*e*P	**P**	**00 12 28.5**	**+0.8**
COEN	**Coen** baz=27,SNR=16	**27.04**	**141**	⇓P	**P**	**00 12 28.8**	**+1.1**
MNSI	**Mandailing Nat** 27nm,1.7s,708nm	**27.12**	**258**	P	**P**	**00 12 29.9**	**+1.5**
PSI	**Prapat** 50nm,1.4s,883nm	**27.34**	**262**	P	x	00 12 32.1	
PSI	**Prapat**	**27.34**	**262**	P	**P**	**00 12 29.1**	**-1.5**
PSI	**Prapat** 17nm,0.8s,baz=64,slow=4.5,SNR=17	**27.34**	**262**	P	**P**	**00 12 29.1**	**-1.5**
PSI	**Prapat** baz=27,SNR=13	**27.34**	**262**	⇓P	**P**	**00 12 31.5**	**+0.9**
ENH	**Enshi** 66nm,0.8s	**27.72**	**328**	*e*P	**P**	**00 12 34.1**	**+0.4**
WRAB	**Tennant Creek** 243nm,0.4s,SNR=33	**28.16**	**163**	P	**P**	**00 12 37.0**	**-0.7**
WRAB	**Tennant Creek**	**28.16**	**163**	*e*P	**P**	**00 12 35.6**	**-2.1**
WRAB				*e*S	**S**	**00 17 18.5**	**-2.6**
WRAB	comp=Z,40nm,0.9s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,40nm,0.9s	**28.16**	**163**	*e*P	**P**	**00 12 35.6**	**-2.1**
WRAB				*e*S	**S**	**00 17 18.4**	**-2.6**
WRA	**Warramunga Arr**	**28.17**	**163**	P	**P**	**00 12 37.1**	**-0.7**
WRA				PcP	**PcP**	**00 15 52.1**	**+0.8**
WRA				S	**S**	**00 17 16.7**	**-4.5**
WRA	**Warramunga Arr** comp=Z,10nm,0.7s,baz=342,slow=9.2,SNR=86	**28.17**	**163**	P	**P**	**00 12 37.1**	**-0.7**
WRA	comp=Z,6.0nm,0.7s,baz=332,slow=2.6,SNR=5.3			PcP	**PcP**	**00 15 52.1**	**+0.8**
WRA	comp=Z,1.0nm,0.6s,baz=350,slow=15,SNR=5.2			S	**S**	**00 17 16.7**	**-4.5**
KCSI	**Kotacane, Aceh** comp=Z,65nm,1.1s,comp=Z,796nm	**28.36**	**264**	P	**P**	**00 12 40.7**	**+1.1**
KMI	**Kunming**	**28.52**	**311**	⇑P	**P**	**00 12 43.1**	**+2.0**
KMI				pP	**pP**	**00 12 50.5**	**-0.4**
KMI				sP	**sP**	**00 12 53.8**	**-1.3**
KMI				PP	**PnPn**	**00 13 34.8**	**+3.4**
KMI				S	**S**	**00 17 27.5**	**+0.5**
KMI				sS	**sS**	**00 17 41.4**	**-1.9**
KMI				SS	**SnSn**	**00 18 53.8**	**+6.1**
KMI	comp=Z,62nm,1.1s			pmax	pmax		
KMI	comp=Z,230nm,3.1s			pmax	pmax		
KMI	comp=Z,2μm,16.8s			LR	LR		
KMI	comp=Z,2μm,19.2s			LR	LR		
KMI	comp=Z,4μm,15.6s			LR	LR		
CMAR	**Chiang Mai Arr**	**28.64**	**296**	P	**P**	**00 12 41.5**	**-0.5**
CMAR	**Chiang Mai Arr** comp=Z,7.9nm,0.8s,baz=130,slow=7.5,SNR=41	**28.64**	**296**	P	**P**	**00 12 41.5**	**-0.5**
CMAR	comp=Z,3μm,18.4s,baz=119,slow=38			LR	LR	00 24 34.2	
CHTO	**Chiang Mai**	**28.76**	**296**	*e*P	**P**	**00 12 42.5**	**-0.5**
CHTO	comp=Z,5.0nm,0.8s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,4.6nm,0.8s	**28.76**	**296**	*e*P	**P**	**00 12 42.5**	**-0.5**
GSI	**Gunungsitoli** comp=Z,131nm,0.8s,comp=Z,2μm	**28.95**	**260**	P	**P**	**00 12 44.1**	**-0.7**
GSI	**Gunungsitoli**	**28.95**	**260**	*e*P	**P**	**00 12 43.4**	**-1.5**
KSAR	**Wonju Array Be**	**30.17**	**3**	P	**P**	**00 12 54.2**	**-1.1**
KSAR				PcP	**PcP**	**00 15 56.8**	**+0.8**
KSRS	**Korea Array** comp=Z,4.0nm,0.8s,baz=181,slow=11,SNR=14	**30.18**	**3**	P	**P**	**00 12 54.2**	**-1.2**
KSRS	comp=Z,4.7nm,0.9s,baz=168,slow=2.5,SNR=8.8			PcP	**PcP**	**00 15 56.8**	**+0.8**
KSRS	comp=Z,650nm,19.4s,baz=191,slow=37			LR	LR	00 25 10.1	
QIS	**Mount Isa** baz=31,SNR=21	**30.63**	**154**	⇑P	**P**	**00 13 00.2**	**+0.6**
XAN	**Xi'an**	**31.05**	**332**	P	**P**	**00 13 03.3**	**+0.1**
XAN				S	**S**	**00 18 07.1**	**+0.9**
XAN				sS	sS	00 18 29.5	+7.0
XAN	comp=Z,41nm,1.0s			pmax	pmax		
XAN	comp=Z,42nm,4.7s			pmax	pmax		
XAN	comp=Z,2μm,18.9s			LR	LR		
XAN	comp=Z,400nm,17.6s			LR	LR		
XAN	comp=Z,850nm,19.3s			LR	LR		
MJAR	**Matsushiro Arr**	**31.27**	**19**	P	**P**	**00 13 03.2**	**-1.9**
MJAR	**Matsushiro Arr** comp=Z,7.6nm,0.8s,baz=193,slow=9.6,SNR=12	**31.27**	**19**	P	**P**	**00 13 03.2**	**-1.9**
MJAR	comp=Z,496nm,18.8s,baz=210,slow=35			LR	LR	00 24 58.8	
MAT	**Matsushiro**	**31.27**	**19**	P	**P**	**00 13 03.8**	**-1.3**
MAT				S	S	00 18 16.4	+6.8
CD2	**Chengdu**	**31.49**	**321**	⇓*i*P	**P**	**00 13 08.6**	**+1.5**
CD2				pP	**pP**	**00 13 20.6**	**+3.6**
CD2				PP	**PnPn**	**00 14 11.3**	**+0.4**
CD2				PcP	**PcP**	**00 15 58.8**	**-1.0**
CD2				S	**S**	**00 18 13.0**	**-0.2**
CD2				sS	**sS**	**00 18 29.8**	**+0.3**
CD2				SS	**SnSn**	**00 20 04.3**	**+4.6**
CD2	comp=Z,60nm,1.0s			pmax	pmax		
CD2	comp=Z,310nm,6.0s			pmax	pmax		
CD2	comp=Z,2μm,19.0s			LR	LR		
CD2	comp=Z,1μm,16.6s			LR	LR		
CD2	comp=Z,3μm,17.8s			LR	LR		
ASAR	**Alice Springs**	**31.61**	**166**	P	**P**	**00 13 08.1**	**-0.1**
ASAR				PcP	**PcP**	**00 16 01.0**	**+0.8**
ASAR	**Alice Springs** comp=Z,9.3nm,0.5s,baz=342,slow=6.9,SNR=118	**31.61**	**166**	P	**P**	**00 13 08.1**	**-0.1**
ASAR	comp=Z,7.8nm,0.7s,baz=349,slow=2.1,SNR=8.0			PcP	**PcP**	**00 16 01.0**	**+0.8**
AS01	**Alice Springs**	**31.62**	**166**	*e*P	**P**	**00 13 08.0**	**-0.4**
WRKA	**Warakurna** baz=32,SNR=70	**32.10**	**176**	⇓P	**P**	**00 13 12.5**	**0.0**
CTA	**Charters Tower**	**33.62**	**144**	P	**P**	**00 13 26.9**	**+1.0**
CTA	**Charters Tower** comp=Z,2.2nm,0.3s,baz=264,slow=7.0,SNR=3.8	**33.62**	**144**	P	**P**	**00 13 26.9**	**+1.0**
CTA	comp=Z,277nm,21.4s,baz=38,slow=33			LR	LR	00 25 29.4	
CTAO	**Charters Tower**	**33.62**	**144**	*e*P	P	00 13 22.5	-3.4
CTAO	comp=Z,59nm,1.5s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,59nm,1.5s	**33.62**	**144**	*e*P	P	00 13 22.5	-3.4
BJT	**Baijiatuao** comp=Z,68nm,0.8s	**33.87**	**346**	*e*P	**P**	**00 13 27.2**	**-0.5**
BJT				*e*PcP	**PcP**	**00 16 06.9**	**+0.9**
BJI	**Beijing**	**33.89**	**346**	P	**P**	**00 13 27.3**	**-0.6**
BJI				PP	**PP**	**00 14 46.4**	**+1.4**
BJI				S	**S**	**00 18 54.0**	**+3.9**
BJI	comp=Z,44nm,1.3s			pmax	pmax		
BJI	comp=Z,180nm,3.0s			pmax	pmax		
BJI	comp=Z,940nm,19.0s			LR	LR		
BJI	comp=Z,650nm,19.8s			LR	LR		
BJI	comp=Z,810nm,21.4s			LR	LR		
SNY	**Shenyang**	**34.57**	**357**	⇑P	**P**	**00 13 33.5**	**-0.3**
SNY				pP	**pP**	**00 13 42.8**	**-0.9**
SNY				sP	**sP**	**00 13 47.1**	**-0.7**
SNY	comp=Z,20nm,1.1s			pmax	pmax		
SNY	comp=Z,290nm,3.5s			pmax	pmax		
SNY	comp=Z,1μm,19.9s			LR	LR		
SNY	comp=Z,380nm,12.8s			LR	LR		
SNY	comp=Z,980nm,20.4s			LR	LR		
LZH	**Lanzhou**	**35.20**	**328**	⇑P	**P**	**00 13 41.8**	**+2.2**
LZH				pP	**pP**	**00 13 51.6**	**+2.1**
LZH				sP	**sP**	**00 13 56.3**	**+2.7**
LZH				S	**S**	**00 19 14.0**	**+3.1**
LZH				sS	**sS**	**00 19 29.0**	**+1.7**
LZH				SS	**SnSn**	**00 21 33.1**	**+3.2**
LZH	comp=Z,280nm,1.2s			pmax	pmax		
LZH	comp=Z,870nm,4.0s			pmax	pmax		
LZH	comp=Z,2μm,15.7s			LR	LR		
LZH	comp=Z,1μm,15.3s			LR	LR		
LZH	comp=Z,3μm,16.4s			LR	LR		
HHC	**Hu-ho-hao-te**	**35.92**	**341**	⇓P	**P**	**00 13 46.8**	**+1.2**
HHC				pP	**pP**	**00 13 58.3**	**+2.8**
HHC				PcP	**PcP**	**00 16 10.3**	**-1.9**
HHC				S	**S**	**00 19 21.6**	**-0.1**
HHC				sS	**sS**	**00 19 41.6**	**+3.5**
HHC				PcS	**PcS**	**00 19 57.8**	**-1.8**
HHC	comp=Z,130nm,1.4s			pmax	pmax		
HHC	comp=Z,460nm,5.0s			pmax	pmax		
HHC	comp=Z,2μm,21.1s			LR	LR		
HHC	comp=Z,2μm,21.1s			LR	LR		
HHC	comp=Z,2μm,22.4s			LR	LR		
CN2	**Changchun**	**36.48**	**359**	*e*P	**P**	**00 13 51.9**	**+1.8**
CN2				PcP	**PcP**	**00 16 15.5**	**+1.9**
CN2				*e*S	**S**	**00 19 30.9**	**+1.0**
CN2	comp=Z,10.0nm,0.6s			pmax	pmax		
CN2	comp=Z,200nm,4.0s			pmax	pmax		
CN2	comp=Z,600nm,13.0s			LR	LR		
CN2	comp=Z,1μm,13.0s			LR	LR		
CN2	comp=Z,800nm,13.0s			LR	LR		
USRK	**Ussuriysk Arra** comp=Z,9.7nm,0.7s,baz=187,slow=8.7,SNR=14	**37.24**	**7**	P	**P**	**00 13

USRK LR LR 00 27 44.7
comp=Z,614nm,21.4s,baz=179,slow=34
SHL Shillong 37.34 303 *e*P **P 00 14 00.0 +2.0**
SHL *e*S **S 00 19 44.0 +0.1**
MDJ Mudanjiang 37.42 4 P **P 00 13 58.8 +0.7**
MDJ pP **pP 00 14 04.8 -3.3**
MDJ sP **sP 00 14 07.8 -4.4**
MDJ PP **PnPn 00 15 26.3 +1.5**
MDJ S **S 00 19 48.8 +4.6**
MDJ sS **ScP 00 20 02.0 +0.7**
MDJ ScS **ScS 00 24 09.3 0.0**
MDJ pmax pmax
comp=Z,29nm,1.4s
MDJ LR LR
comp=Z,700nm,27.7s
MDJ LR LR
comp=Z,300nm,24.9s
MDJ LR LR
comp=Z,850nm,27.0s
MDJ Mudanjiang 37.42 4 *e*P **P 00 13 57.8 -0.3**
comp=Z,98nm,1.6s
FORT Forrest 37.80 177 *e*P **P 00 14 01.2 -0.3**
comp=Z,67nm,0.6s
FORT Forrest 37.80 177 ⇑P **P 00 14 01.7 +0.2**
baz=38,SNR=46
QLP Quilpie 37.93 153 P **P 00 14 02.7 0.0**
baz=38,SNR=8.1
KMBL Kambalda 38.54 186 ⇓P **P 00 14 07.5 -0.3**
baz=39,SNR=11
BLDU Balliduu 38.63 193 P **P 00 14 07.9 -0.6**
baz=39,SNR=30
KLBR Kellerberrin 39.36 191 ⇓P **P 00 14 14.0 -0.6**
baz=40,SNR=50
ASAJ Asahikawa 39.54 19 LR LR 00 31 45.3
comp=Z,706nm,18.8s,baz=131,slow=38
LSA Lhasa 39.69 309 *e*P **P 00 14 19.2 +1.1**
LSA pmax pmax
comp=Z,70nm,1.4s
LSA Lhasa 39.69 309 *e*P **P 00 14 19.1 +1.1**
comp=Z,70nm,1.4s
GTA Gaotai 39.81 328 ⇑P **P 00 14 20.3 +1.8**
GTA pP **pP 00 14 29.4 +0.9**
GTA sP **sP 00 14 33.5 +0.9**
GTA PP **PnPn 00 15 57.0 +3.3**
GTA PcP **PcP 00 16 25.8 +1.6**
GTA S **S 00 20 24.0 +3.3**
GTA sS **sS 00 20 39.9 +2.7**
GTA SS **SS 00 23 14.5 -3.1**
GTA pmax pmax
comp=Z,90nm,1.8s
GTA pmax pmax
comp=Z,600nm,5.7s
GTA LR LR
comp=Z,850nm,18.5s
GTA LR LR
comp=Z,1μm,17.6s
GTA LR LR
comp=Z,2μm,19.5s
EIDS Eidsvold 40.51 144 *e*P **P 00 14 23.8 -0.6**
comp=Z,59nm,1.3s
EIDS Eidsvold 40.51 144 ⇑P **P 00 14 23.9 -0.4**
baz=41
NWAO Narrogin (SRO) 40.76 191 P **P 00 14 26.3 +0.1**
NWAO Narrogin (SRO) 40.76 191 P **P 00 14 26.3 +0.1**
comp=Z,13nm,0.4s,baz=11,slow=6.6,SNR=26
BBOO Buckleboo 40.90 167 *e*P **P 00 14 27.9 +0.5**
comp=Z,561nm,1.0s
BBOO Buckleboo 40.90 167 ⇓P **P 00 14 28.0 +0.5**
baz=41,SNR=210
H11N1 WAKE ISLAND Hy 41.53 68 T T 00 59 08.1
baz=268,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 41.54 68 T T 00 58 51.2
baz=268,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 41.55 68 T T 00 58 52.7
baz=268,slow=75,SNR=24
STKA Stephens Creek 41.59 160 P **P 00 14 33.9 +0.8**
STKA Stephens Creek 41.59 160 P **P 00 14 33.9 +0.8**
comp=Z,26nm,0.8s,baz=336,slow=7.6,SNR=72
STKA Stephens Creek 41.59 160 ⇑P **P 00 14 33.9 +0.8**
baz=42,SNR=21
HABR Khabarovsk 41.85 9 *e*P **P 00 14 32.6 -2.4**
HABR *e**PP **pP 00 14 47.8 +2.8**
HABR *e* 00 16 10.2
HABR *e* 00 16 27.4
HABR *e*PPP PPP 00 16 41.1
HABR S **S 00 20 46.0 -4.5**
HABR *e*SS **SS 00 23 55.8 -1.9**
HABR *e* 00 24 29.4
HABR pmax pmax
comp=Z,41nm,2.0s
HABR MLR MLR
comp=Z,394nm,18.0s
KLR Kul'dur 42.18 6 *e*P P 00 14 32.8 -4.9
KLR pmax pmax
comp=N,35nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s
KLR MLR MLR
comp=N,1μm,11.5s
KLR MLR MLR
comp=Z,2μm,11.5s
HTT Hallett 42.21 164 ⇑P **P 00 14 39.2 +1.0**
baz=42,SNR=15
HIA Hailar 42.27 354 *e*P **P 00 14 37.6 -0.9**
comp=Z,26nm,1.3s
HIA *e*PcP **PcP 00 16 32.4 +0.5**
RKGY Rocky Gully 42.44 191 ⇓P **P 00 14 41.4 +1.5**
baz=43,SNR=5.2
CMSA Cobar Meteorol 42.85 155 ⇓P **P 00 14 44.1 +0.7**
baz=43,SNR=12
ULN Ulaanbaatar 43.64 342 *e*P **P 00 14 50.3 +0.5**
comp=Z,71nm,1.0s
ULN *e*PP **PcP 00 16 37.4 +0.7**
SONM Songino Array 43.82 341 P **P 00 14 52.0 +0.8**
SONM PcP **PcP 00 16 37.7 +0.4**
SONM Songino Array 43.82 341 P **P 00 14 52.0 +0.8**
comp=Z,14nm,0.6s,baz=159,slow=8.4,SNR=52
SONM PcP **PcP 00 16 37.7 +0.4**
comp=Z,12nm,0.7s,baz=159,slow=3.6,SNR=11
SONM LR LR 00 35 43.6
comp=Z,774nm,19.2s,baz=255,slow=40
ARMA Armidale 44.73 148 *e*P **P 00 14 58.4 -0.3**
comp=Z,23nm,0.9s
ARMA Armidale 44.73 148 P **P 00 14 59.8 +1.2**
baz=45,SNR=5.7
ARPS Mount Arapiles 46.17 162 P **P 00 15 10.9 +1.1**
baz=46,SNR=16
ZAK Zakamensk 47.06 340 *e*P **P 00 15 16.5 -0.2**
ZAK *e* 00 16 49.1
ZAK pmax pmax
comp=Z,20nm,1.5s
HYB Hyderabad 47.37 287 *i* P **P 00 15 19.0 -0.6**
HYB *es*P **sP 00 15 38.0 +4.2**
CNB Canberra Magne 47.66 154 ⇓P **P 00 15 23.4 +1.9**
baz=48,SNR=14
TLY Talaya 48.05 341 P **P 00 15 25.1 +0.8**
comp=Z,269nm,0.9s,SNR=12
TLY Talaya 48.05 341 *e*P **P 00 15 25.5 +1.2**
TLY *e* 00 16 55.2
TLY *e*S **S 00 22 16.0 -4.3**
TLY pmax pmax
comp=Z,121nm,1.6s
TLY MLR MLR
comp=Z,742nm,19.0s
TOO Toolangi 48.09 159 P **P 00 15 26.9 +2.0**
baz=48,SNR=9.3
IRK Irkutsk 48.34 342 *e*P **P 00 15 27.0 +0.4**
IRK pmax pmax
comp=Z,159nm,1.7s
MOY Mondy 48.92 340 *e*P **P 00 15 32.2 +1.1**
MOY pmax pmax
comp=Z,189nm,2.6s
DZM Mont Dzumac 49.13 127 *e*S **S 00 22 33.2 -3.3**
comp=Z,354nm,36.0s
DZM *e*LR LR 00 29 28.9
comp=Z,2μm,24.1s
WMQ Urumqi 49.52 324 P **P 00 15 37.4 +1.6**
WMQ pP **pP 00 15 49.8 +3.7**
WMQ PcP **PcP 00 16 59.6 +2.2**
WMQ PP **PP 00 17 32.3 +2.0**
WMQ sS S 00 23 01.0 +20
WMQ ScS **ScS 00 25 22.3 -2.9**
WMQ SS **SS 00 26 07.9 -5.9**
WMQ pmax pmax
comp=Z,18nm,1.9s
WMQ pmax pmax
comp=Z,600nm,6.4s
WMQ LR LR
comp=Z,1μm,18.8s
WMQ LR LR
comp=Z,730nm,16.7s
WMQ LR LR
comp=Z,1μm,28.2s
CLNS Chul'man 49.53 359 *e*P **P 00 15 33.3 -2.3**
CLNS *e* 00 16 58.2
CLNS *e* 00 17 24.3
CLNS *e*S S 00 22 32.5 -8.5
CLNS *e*SS SS 00 26 00.2 -13
CLNS pmax pmax
comp=Z,11nm,1.3s
CLNS pmax pmax
comp=E,30nm,1.1s
CLNS pmax pmax
comp=N,23nm,1.5s
CLNS pmax pmax
comp=Z,6.0nm,1.2s
CLNS pmax pmax
comp=N,2.0nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS smax smax
comp=N,190nm,12.5s
CLNS smax smax
comp=E,489nm,14.7s
CLNS MLR MLR
comp=Z,464nm,19.0s
CLNS MLR MLR
comp=E,483nm,14.0s
CLNS MLR MLR
comp=N,685nm,16.0s
NDI New Delhi 50.69 301 *e*P P 00 15 41.5 -3.4
PETK Petropavlovsk- 52.54 24 P **P 00 15 58.7 +0.5**
PETK Petropavlovsk- 52.54 24 P **P 00 15 58.7 +0.5**
PETK Petropavlovsk- 52.54 24 P **P 00 15 58.7 +0.5**
comp=N,4.6nm,0.6s,baz=206,slow=3.7,SNR=12
PETK LR LR 00 35 35.9
comp=N,286nm,20.8s,baz=212,slow=33
MK31 Makanchi Array 54.35 324 *e*P **P 00 16 11.0 -0.7**
MK31 pmax pmax
comp=Z,22nm,0.7s
MKAR Makanchi Array 54.35 324 *ce*P **P 00 16 11.3 -0.4**
MKAR pmax pmax
comp=Z,21nm,0.7s
MKAR Makanchi Array 54.35 324 *e*P **P 00 16 11.6 -0.1**
MKAR PcP **PcP 00 17 14.8 -0.5**
MKAR Makanchi Array 54.35 324 P **P 00 16 11.3 -0.4**
comp=Z,21nm,0.7s,baz=116,slow=7.4,SNR=66
MKAR PcP **PcP 00 17 14.8 -0.5**
comp=Z,5.9nm,0.6s,baz=115,slow=5.7,SNR=4.6
MKAR LR LR 00 41 37.0
comp=Z,1μm,18.2s,baz=127,slow=39
YAK Yakutsk 54.80 2 *e*P **P 00 16 14.4 -0.2**
YAK pmax pmax
comp=Z,39nm,1.3s
YAK pmax pmax
comp=N,24nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.3s
KSH Kashi 55.14 314 P **P 00 16 18.3 +0.6**
KSH *e*PP **PP 00 18 22.1 +0.8**
KSH *e*PcS **PcS 00 21 18.3 -0.4**
KSH S **S 00 23 56.1 -2.5**
KSH pmax pmax
comp=E,2.0nm,0.8s
KSH pmax pmax
comp=E,130nm,5.2s
KSH LR LR
comp=E,200nm,6.4s
KSH LR LR
comp=E,1μm,18.4s
KSH LR LR
comp=E,1μm,16.2s
KZA Kyzart 56.63 316 *i* P **P 00 16 30.4 +1.8**
KZA Kyzart 56.63 316 P **P 00 16 30.4 +1.8**
SNR=12
TKM2 Tokmak 2 56.73 317 *e*P **P 00 16 28.9 -0.2**
TKM2 pmax pmax
comp=Z,16nm,1.1s
TKM2 Tokmak 2 56.73 317 P **P 00 16 29.2 +0.1**
SNR=9.8
TKM2 Tokmak 2 56.73 317 *e*P **P 00 16 28.9 -0.2**
comp=Z,16nm,1.1s
MSVF Nonsavu 57.02 116 *e*P **P 00 16 33.3 +1.9**
MSVF pmax pmax
comp=Z,36nm,0.9s
MSVF Nonsavu 57.02 116 *e*P **P 00 16 33.3 +1.9**
comp=Z,36nm,0.9s
KBK Karagaybulak 57.06 317 *i* P **P 00 16 31.9 +0.5**
KBK Karagaybulak 57.06 317 P **P 00 16 32.0 +0.5**
SNR=13
UCH Uchtor 57.19 316 *i* P **P 00 16 32.9 +0.2**
UCH Uchtor 57.19 316 P **P 00 16 32.9 +0.2**
SNR=22
ZAA0 Zalesovo Array 57.22 332 *e*P **P 00 16 31.3 -0.7**
ZALV Zalesovo Beam 57.22 332 P **P 00 16 31.3 -0.7**
ZALV 00 17 25.5
ZALV Zalesovo Beam 57.22 332 P **P 00 16 31.3 -0.7**
ZALV PcP **PcP 00 17 25.5 -0.7**
ZALV Zalesovo Beam 57.22 332 P **P 00 16 31.3 -0.7**
comp=Z,15nm,0.6s,baz=123,slow=5.9,SNR=36
ZALV PcP **PcP 00 17 25.5 -0.7**
comp=Z,13nm,0.9s,baz=172,slow=2.7,SNR=3.8
ZALV LR LR 00 42 26.0
comp=Z,1μm,21.0s,baz=140,slow=38
AAK Ala-Archa 57.36 317 P **P 00 16 34.0 +0.5**
comp=Z,33nm,1.4s,SNR=6.6
AAK Ala-Archa 57.36 317 *ce*P **P 00 16 34.2 +0.7**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 57.36 317 *e*P **P 00 16 33.1 -0.4**
comp=Z,25nm,1.4s
AAK Ala-Archa 57.36 317 P **P 00 16 33.0 -0.5**
comp=Z,2.5nm,0.7s,baz=156,slow=11,SNR=14
USP Ospenovka 57.60 317 *i* P **P 00 16 34.6 -0.4**
USP Ospenovka 57.60 317 P **P 00 16 34.6 -0.4**
SNR=15
AML Almayashu 57.72 316 *i* P **P 00 16 37.5 +1.2**
AML Almayashu 57.72 316 P **P 00 16 37.5 +1.2**
SNR=14
EKS2 Erkin-Say 57.86 316 *e*P **P 00 16 36.5 -0.5**
EKS2 pmax pmax
comp=Z,27nm,1.0s
EKS2 Erkin-Say 57.86 316 P **P 00 16 37.0 0.0**
SNR=16
EKS2 Erkin-Say 57.86 316 *e*P **P 00 16 36.5 -0.5**
comp=Z,27nm,1.0s
KURK Kurchatov 58.48 327 P **P 00 16 40.8 -0.2**
comp=Z,113nm,1.1s,SNR=24
KURK Kurchatov 58.48 327 P **P 00 16 40.6 -0.4**
KURK pmax pmax
comp=Z,29nm,1.1s
NVS Novosibirsk 58.50 333 ⇓*i*P **P 00 16 39.8 -1.2**
NVS *e* 00 24 56.6
NVS pmax pmax
comp=Z,56nm,1.4s
NVS pmax pmax
comp=N,30nm,1.7s
NVS pmax pmax
comp=E,30nm,1.5s
SEY Seymchan 58.86 14 *ce*P **P 00 16 44.6 +1.2**
SEY Seymchan 58.86 14 P **P 00 16 44.3 +0.9**
SEY Seymchan 58.86 14 P **P 00 16 44.3 +0.9**
comp=E,5.9nm,0.8s,baz=215,slow=9.7,SNR=10
KBL Kabul 58.91 306 *e*P **P 00 16 43.7 -0.9**
KBL Kabul 58.91 306 *e*P **P 00 16 43.6 -0.9**
KBL Kabul 58.91 306 ⇓P **P 00 16 44.7 +0.2**
baz=59,SNR=6.7
KK31 Karatay Array 60.26 316 P **P 00 16 52.6 -0.9**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 60.26 316 *e*P **P 00 16 52.9 -0.6**
KKAR Karatay Array 60.26 316 *e*P **P 00 16 52.9 -0.6**
BVA0 Borovoye Array 64.07 326 *i* P **P 00 17 18.3 -0.5**
BVA0 pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 64.14 326 P **P 00 17 18.9 -0.3**
comp=Z,212nm,0.7s,SNR=13
BRVK Borovoye 64.14 326 *e*P **P 00 17 18.7 -0.5**
BRVK pmax pmax
comp=Z,24nm,0.7s
BRVK Borovoye 64.14 326 *e*P **P 00 17 18.7 -0.5**
comp=Z,24nm,0.7s
TIXI Tiksi 64.42 1 *ce*P **P 00 17 20.1 -0.6**
TIXI pmax pmax
comp=Z,74nm,1.7s
TIXI MLR MLR
comp=Z,687nm,23.0s
RPZ Rata Peaks 64.98 146 *e*P **P 00 17 24.4 -0.5**
comp=Z,469nm,2.8s
URZ Urewera 65.54 138 *e*P **P 00 17 28.4 -0.1**
comp=Z,36nm,1.2s
ODZ Otahua Downs 65.60 147 *e*P **P 00 17 29.8 +1.0**
comp=Z,416nm,2.9s
BKZ Black Stump Fm 65.62 139 *e*P **P 00 17 29.9 +0.8**
comp=Z,395nm,2.5s
KHZ Kahutara 65.62 143 *e*P **P 00 17 30.0 +1.0**
comp=Z,672nm,2.7s
IDAH Dahanechah 66.11 303 *e*P **P 00 17 32.5 -0.3**
IMYA Miami 66.41 306 *e*P **P 00 17 33.5 -1.0**
IPAY Payeh 67.31 306 *e*P **P 00 17 40.1 -0.3**
IKRD Kardeh 67.74 307 *e*P P 00 17 36.3 -6.8
AB31 Akbulak array 69.06 320 P **P 00 17 49.4 -1.3**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 69.06 320 *e*P **P 00 17 49.8 -1.0**
AKTO Aktyubinsk 70.54 321 P **P 00 17 57.8 -2.1**
AKTO pmax pmax
comp=Z,13nm,1.0s
SVE Sverdlovsk 70.67 328 ⇓*i*P **P 00 18 00.9 +0.4**
SVE pmax pmax
comp=Z,27nm,1.0s
SVE MLR MLR
comp=Z,1μm,24.0s
UNV Unalaska Valle 71.02 35 *e*P **P 00 18 02.5 -0.1**
comp=Z,370nm,2.1s
IANJ Anjilo 71.30 305 *e*P **P 00 18 04.2 -0.9**
IGLO Ghaloghah 71.45 306 *e*P **P 00 18 04.6 -1.4**
ARU Arti 71.67 327 P **P 00 18 06.7 +0.2**
comp=Z,170nm,0.7s,SNR=12
ARU Arti 71.67 327 *d i*P **P 00 18 06.3 -0.2**
ARU *PP **PcP 00 18 22.6 -2.9**
ARU PPP PPP 00 22 24.6
ARU S **S 00 27 22.7 -1.1**
ARU SS **SS 00 31 55.0 -4.6**
ARU pmax pmax
comp=Z,23nm,0.8s
ARU MLR MLR
comp=Z,713nm,19.0s
IPAR Pars 71.70 299 *e*P **P 00 18 05.4 -2.3**
ILAS Lasjerd 72.07 305 *e*P **P 00 18 07.6 -2.2**
IFIR Firoozkooh 72.26 305 *e*P **P 00 18 10.0 -0.9**
IZEF Zefreh 72.45 302 *e*P **P 00 18 09.9 -2.2**
SOKR Solikamsk 73.39 330 *e*P **P 00 18 15.9 -0.7**
SOKR pmax pmax
comp=Z,20nm,1.3s
IPIR Pirpir 73.65 302 *e*P **P 00 18 17.5 -1.8**
CASY Casey 74.14 186 *e*P **P 00 18 20.7 -0.2**
comp=Z,357nm,2.7s
SDPT Sand Point 74.75 35 *e*P **P 00 18 24.4 -0.3**
comp=Z,843nm,2.7s
CHGN Chignik 76.05 34 *e*P **P 00 18 30.8 -1.3**
MAK Makhachkala 76.74 312 *e*P **P 00 18 39.5 +3.1**
MAK MLR MLR
comp=Z,1μm,19.0s
IHRS Heris 76.95 308 *e*P **P 00 18 36.5 -1.5**
RAR Rarotonga 78.03 113 LR LR 00 46 15.5
comp=Z,461nm,21.8s,baz=226,slow=30
SVW2 Sparrevohn 78.14 29 *e*P **P 00 18 43.9 0.0**
comp=Z,138nm,2.9s
DGRG David-gareji 78.28 311 P **P 00 18 43.4 -1.7**
RAYN Ar Rayn 78.50 292 P **P 00 18 45.0 -1.7**
comp=Z,138nm,0.6s,SNR=14
RAYN Ar Rayn 78.50 292 *e*P **P 00 18 44.8 -1.9**
comp=Z,26nm,1.1s
GNI Garni 78.75 309 *e*P P 00 18 44.7 -3.2
comp=Z,105nm,1.6s
TBLG Delisi 78.76 311 P **P 00 18 47.4 -0.3**
DUS Dusheti 78.79 311 P **P 00 18 47.8 -0.2**
PRGR Permogore 79.15 331 ⇓*i*P **P 00 18 48.4 -1.0**
PRGR *e* 00 18 56.3
PRGR pmax pmax
comp=Z,36nm,0.7s
KDAK Kodiak Island 79.37 33 *e*P **P 00 18 50.6 0.0**
comp=Z,83nm,1.5s
ZEI Tsey 79.39 312 *e*P **P 00 18 50.7 -0.7**
ZEI pmax pmax
comp=Z,16nm,1.3s
RSO Redoubt South 79.46 30 *e*P **P 00 18 50.8 -0.6**
ONI Oni 79.72 312 P **P 00 18 51.0 -2.0**
PPLA Purkeypile 79.90 27 *e*P **P 00 18 53.0 -0.7**
comp=Z,75nm,1.8s
CAST Castle Rocks 79.99 27 *e*P **P 00 18 53.0 -1.0**
comp=Z,10nm,0.8s
KBZ Khabaz 80.12 313 LR LR 01 01 26.0
comp=Z,373nm,18.6s,baz=84,slow=41
KIV Kislovodsk 80.27 313 ⇓*e*P **P 00 18 57.5 +1.5**
KIV *e* 00 19 04.6
KIV pmax pmax
comp=Z,27nm,1.5s
KIV MLR MLR
comp=Z,300nm,20.0s
KTH Kantishna Hill 80.51 27 *e*P **P 00 18 56.7 -0.1**
comp=Z,24nm,1.2s
TRF Thorofare Moun 80.79 27 *e*P **P 00 18 58.0 -0.5**
comp=Z,25nm,1.0s
VRHR Novokhopersk 80.94 321 *e*P **P 00 18 59.3 0.0**
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
RC01 Rabbit Creek A 80.97 29 *e*P **P 00 18 58.7 -0.5**
comp=E,13nm,0.8s
COLD Coldfoot 81.01 23 *e*P **P 00 19 00.1 +0.8**
comp=E,28nm,1.4s
SEW Seward 81.09 30 *e*P **P 00 19 00.6 +0.7**
comp=E,34nm,1.2s
PMR Palmer 81.27 29 *e*P **P 00 19 00.2 -0.6**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 81.27 29 *e*P **P 00 19 00.2 -0.6**
comp=Z,17nm,0.8s
MCK McKinley 81.41 27 *e*P **P 00 19 01.6 0.0**
MCK pmax pmax
comp=Z,40nm,1.0s
MCK McKinley 81.41 27 *e*P **P 00 19 01.6 0.0**
comp=Z,40nm,1.0s
COLA College 81.90 25 *e*P **P 00 19 03.9 -0.1**
COLA pmax pmax
comp=Z,4.0nm,0.7s
COLA College 81.90 25 *e*P **P 00 19 03.9 -0.1**
comp=Z,3.7nm,0.7s
KLMR Klimovskoe 82.07 330 *e*P P 00 19 01.5 -3.5
KLMR *e* 00 22 22.0
KLMR pmax pmax
comp=Z,48nm,0.7s
ILAR Eielson Array 82.31 26 P **P 00 19 06.0 -0.3**
ILAR Eielson Array 82.31 26 P **P 00 19 06.0 -0.3**
comp=Z,7.4nm,0.8s,baz=251,slow=4.1,SNR=52
ILAR LR LR 00 53 31.0
comp=Z,232nm,20.9s,baz=50,slow=34
VORD Divnogorie 82.41 320 *e*P **P 00 19 07.3 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
SOC Sochi 82.43 313 *e*P P 00 19 03.5 -3.8
SOC *e*S S 00 29 12.8 -8.6
SOC MLR MLR
comp=Z,288nm,17.0s
VSR Storozhevoye 82.48 321 *e*P **P 00 19 08.2 +0.8**
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
DIV Divide 82.89 29 *e*P **P 00 19 09.6 +0.1**
comp=E,26nm,1.0s
PAX Paxson 82.97 27 *e*P **P 00 19 08.8 -1.1**
PAX pmax pmax
comp=Z,15nm,1.0s
PAX Paxson 82.97 27 *e*P **P 00 19 08.8 -1.1**
comp=Z,15nm,1.0s
BMRM Bremner River 83.47 29 *e*P **P 00 19 12.1 -0.3**

	comp=Z,23nm,1.0s								
DOT	**Dot Lake**	**83.58**	**27**	*e*P		**P**	**00 19 12.2**	**-0.7**
	comp=Z,15nm,1.1s								
OBN	**Obninsk**	**83.85**	**325**⇑	*e*P		**P**	**00 19 13.6**	**-0.8**
OBN				*i*			00 19 26.4	
OBN				*e*			00 22 31.0	
OBN				*e*			00 29 34.2	
OBN				*e*PS		**PnS**	**00 30 28.5**	**-2.5**
OBN				*e*SS		SS	00 35 01.5	-1.5
OBN				pmax		pmax		
	comp=Z,48nm,1.6s								
OBN				MLR		MLR			
	comp=Z,500nm,20.0s								
OBN	**Obninsk**	**83.85**	**325**	P		**P**	**00 19 13.8**	**-0.6**
OBN	**Obninsk**	**83.85**	**325**	P		**P**	**00 19 13.8**	**-0.6**
	comp=Z,6.7nm,0.4s,baz=350,slow=23,SNR=7.5								
LVZ	**Lovozero**	**83.92**	**338**	*e*P		**P**	**00 19 15.3**	**+0.8**
LVZ				pmax		pmax			
	comp=Z,44nm,1.2s								
ANN	**Anapa**	**84.00**	**314**	*e*P		**P**	**00 19 16.2**	**+0.9**
ANN				pmax		pmax			
	comp=Z,185nm,1.7s								
APA	**Apatity**	**84.42**	**337**⇓	*i*P		**P**	**00 19 18.0**	**+1.0**
APA				pmax		pmax			
	comp=Z,39nm,1.0s								
APA				MLR		MLR			
	comp=Z,2μm,17.0s								
EGAK	**Eagle**	**84.76**	**25**	*e*P		**P**	**00 19 18.4**	**-0.4**
	comp=Z,24nm,0.8s								
ASF	**Jabal al Asfar**	**85.49**	**302**	P		**P**	**00 19 22.7**	**-0.6**
ASF	**Jabal al Asfar**	**85.49**	**302**	P		**P**	**00 19 22.7**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=93,slow=13,SNR=3.3								
DAWY	**Dawson**	**85.60**	**26**	*e*P		**P**	**00 19 23.5**	**+0.4**
JOF	**Joensuu**	**85.81**	**333**	*e*P		**P**	**00 19 23.9**	**-0.2**
JOF				pmax		pmax			
	comp=Z,31nm,0.6s								
JOF	**Joensuu**	**85.81**	**333**	*e*p		**P**	**00 19 23.9**	**-0.2**
	comp=Z,31nm,0.6s								
SIM	**Simferopol'**	**86.33**	**315**	*e*P		**P**	**00 19 27.1**	**0.0**
SIM				pmax		pmax			
	comp=Z,16nm,0.6s								
KEV	**Kevo**	**86.43**	**340**	*e*P		**P**	**00 19 24.9**	**-2.1**
KEV				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KEV	**Kevo**	**86.43**	**340**	*e*p		**P**	**00 19 24.9**	**-2.1**
	comp=Z,10nm,0.8s								
MMAI	**Mount Meron Ar**	**86.66**	**303**	P		**P**	**00 19 28.2**	**-0.8**
MMAI	**Mount Meron Ar**	**86.66**	**303**	P		**P**	**00 19 28.2**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=88,slow=10,SNR=7.7								
MAW	**Mawson**	**86.73**	**200**	LR		LR	00 57 31.4		
	comp=Z,295nm,18.8s,baz=231,slow=35								
PPT	**Papeete**	**86.84**	**108**	LR		LR	00 51 05.2		
	comp=Z,313nm,19.5s,baz=65,slow=31								
PPT2	**Papeete2**	**86.84**	**108**	*e*LR		LR	00 46 53.9		
	comp=Z,725nm,23.8s								
VNDA	**Vanda**	**86.92**	**173**	P		**P**	**00 19 28.5**	**-0.7**
VNDA	**Vanda**	**86.92**	**173**	P		**P**	**00 19 28.5**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=306,slow=4.9,SNR=19								
VNDA				LR		LR	00 59 21.3		
	comp=Z,406nm,21.0s,baz=351,slow=36								
ARCES	**ARCESS Array B**	**86.99**	**340**	P		**P**	**00 19 29.1**	**-0.7**
ARCES				PKKPbc		**PKKPbc**	**00 37 23.5**	**-1.8**
ARCES	**ARCESS Array B**	**86.99**	**340**	P		**P**	**00 19 29.1**	**-0.7**
	comp=Z,13nm,0.7s,baz=64,slow=2.8,SNR=52								
ARCES				PKKPbc		**PKKPbc**	**00 37 23.5**	**-1.8**
	comp=Z,2.6nm,1.0s,baz=276,slow=3.5,SNR=7.7								
ARCES				LR		LR	01 03 24.5		
	comp=Z,463nm,18.2s,baz=51,slow=39								
INK	**Inuvik**	**87.23**	**21**	*e*P		**P**	**00 19 30.3**	**-0.7**
	comp=Z,7.4nm,0.8s								
BRTR	**Keskin Array B**	**87.29**	**310**	P		**P**	**00 19 29.9**	**-2.2**
BRTR	**Keskin Array B**	**87.29**	**310**	P		**P**	**00 19 29.9**	**-2.2**
	comp=Z,1.9nm,0.7s,baz=119,slow=5.4,SNR=9.9								
BRTR				LR		LR	01 06 05.0		
	comp=Z,222nm,20.8s,baz=264,slow=41								
EIL	**Elat**	**87.42**	**299**	P		**P**	**00 19 31.0**	**-1.7**
EIL	**Elat**	**87.42**	**299**	P		**P**	**00 19 31.0**	**-1.7**
	comp=Z,5.3nm,0.8s,baz=47,slow=5.1,SNR=5.0								
TBI	**Tubuai**	**87.81**	**114**	*e*LR		LR	00 47 28.4		
	comp=Z,675nm,25.5s								
KAF	**Kangasniemi**	**88.23**	**332**	*e*P		**P**	**00 19 36.2**	**+0.3**
KAF				pmax		pmax			
	comp=Z,15nm,0.5s								
KAF	**Kangasniemi**	**88.23**	**332**	*e*p		**P**	**00 19 36.2**	**+0.3**
	comp=Z,14nm,0.5s								
FINES	**FINESS Array B**	**88.48**	**332**	P		**P**	**00 19 36.1**	**-0.9**
FINES	**FINESS Array B**	**88.48**	**332**	P		**P**	**00 19 36.1**	**-0.9**
	comp=Z,20nm,0.7s,baz=83,slow=6.0,SNR=64								
FINES				LR		LR	01 01 35.9		
	comp=Z,702nm,21.5s,baz=285,slow=37								
VSU	**Vasula**	**88.77**	**329**	*e*P		**P**	**00 19 38.0**	**-0.4**
AKASG	**Malin Array Be**	**88.79**	**321**	P		**P**	**00 19 37.7**	**-1.0**
AKASG	**Malin Array Be**	**88.79**	**321**	P		**P**	**00 19 37.7**	**-1.0**
AKASG	**Malin Array Be**	**88.79**	**321**	P		**P**	**00 19 37.7**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=67,slow=4.9,SNR=25								
AKASG				LR		LR	01 05 04.8		
	comp=Z,372nm,19.6s,baz=90,slow=40								
KIEV	**Kiev**	**88.80**	**321**	*e*P		**P**	**00 19 37.4**	**-1.4**
KIEV				pmax		pmax			
	comp=Z,16nm,1.1s								
KIEV	**Kiev**	**88.80**	**321**	*e*P		**P**	**00 19 37.4**	**-1.4**
	comp=Z,16nm,1.1s								
KMBO	**Kilima Mbogo**	**88.92**	**269**	P		**P**	**00 19 39.6**	**-0.9**
KMBO	**Kilima Mbogo**	**88.92**	**269**	P		**P**	**00 19 39.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=57,slow=7.0,SNR=4.8								
KMBO				LR		LR	00 56 50.4		
	comp=Z,153nm,19.8s,baz=98,slow=34								
SUW	**Suwalki**	**91.71**	**325**	*e*P		**P**	**00 19 51.4**	**-0.9**
SUW				pmax		pmax			
	comp=Z,31nm,0.9s								
SUW	**Suwalki**	**91.71**	**325**	*e*P		**P**	**00 19 51.7**	**-0.6**
SUW	**Suwalki**	**91.71**	**325**	*e*P		**P**	**00 19 51.4**	**-0.9**
	comp=Z,31nm,0.9s								
BUR04	**Bucovina Ar. S**	**91.97**	**318**	*e*P		**P**	**00 19 53.9**	**0.0**
KWP	**Kalwaria Pacla**	**93.11**	**321**	*e*P		**P**	**00 19 58.8**	**-0.1**
KWP	**Kalwaria Pacla**	**93.11**	**321**	*e*P		**P**	**00 19 58.7**	**-0.1**
KOLS	**Kolonicke sedl**	**93.56**	**320**	*e*P		**P**	**00 20 03.8**	**+2.8**
KOLS	**Kolonicke sedl**	**93.56**	**320**	*e*		**P**	**00 20 03.8**	**+2.8**
KOLS	**Kolonicke sedl**	**93.56**	**320**	*e*P		**P**	**00 20 03.8**	**+2.8**
UZH	**Uzhgorod**	**93.63**	**320**	*e*P		**P**	**00 20 01.9**	**+0.6**
UZH				*i*			00 20 09.3		
UZH				*e*			00 20 20.5		
STHS	**Stebnicka Huta**	**94.08**	**321**	*e*P		**P**	**00 20 02.3**	**-1.1**
STHS	**Stebnicka Huta**	**94.08**	**321**	*e*P		**P**	**00 20 02.3**	**-1.1**
CRVS	**Cervenica-Dubn**	**94.09**	**320**	*e*P		**P**	**00 20 04.4**	**+1.0**
CRVS	**Cervenica-Dubn**	**94.09**	**320**	*e*P		**P**	**00 20 04.4**	**+1.0**
RES	**Resolute Bay**	**94.56**	**10**	*e*P		**P**	**00 20 04.2**	**-0.8**
	comp=Z,8.9nm,0.8s								
HFS	**Hagfors**	**94.65**	**332**	P		**P**	**00 20 04.0**	**-1.7**
HFS				PKKPbc		**PKKPdf**	**00 37 03.8**	**-0.8**
HFS	**Hagfors**	**94.65**	**332**	P		**P**	**00 20 04.0**	**-1.7**
	comp=Z,20nm,0.9s,baz=72,slow=4.8,SNR=20								
HFS				PKKPbc		**PKKPdf**	**00 37 03.8**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=195,slow=4.6,SNR=6.4								
NIE	**Niedzica**	**94.67**	**321**	*e*P		**P**	**00 20 08.2**	**+2.1**
SYO	**Syowa Base**	**95.37**	**201**⇑	*e*P		**P**	**00 20 10.0**	**+1.3**
NB2	**NORSAR Subarra**	**95.40**	**334**	P		**P**	**00 20 08.0**	**-1.2**
	comp=Z,12nm,0.8s,baz=66,slow=4.6								
NB2	**NORSAR Subarra**	**95.40**	**334**	P		**P**	**00 20 08.0**	**-1.2**
	baz=66,slow=4.6								
NOA	**NORSAR Array B**	**95.40**	**334**	P		**P**	**00 20 08.4**	**-0.8**
NOA				PKKPbc		**PKKPdf**	**00 37 02.2**	**-1.1**
NOA	**NORSAR Array B**	**95.40**	**334**	P		**P**	**00 20 08.4**	**-0.8**
	comp=Z,11nm,0.8s,baz=64,slow=4.6,SNR=36								
NOA				PKKPbc		**PKKPdf**	**00 37 02.2**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=190,slow=1.8,SNR=3.4								
NOA				LR		LR	01 06 36.5		
	comp=Z,1μm,22.0s,baz=60,slow=38								
OKC	**Ostrava-Krasne**	**95.89**	**322**	*e*P		**P**	**00 20 13.2**	**+1.6**
OKC				MLR		MLR			
	comp=Z,300nm,15.3s								
OKC	**Ostrava-Krasne**	**95.89**	**322**	*e*P		**P**	**00 20 13.2**	**+1.6**
OKC				AMS		AMS	01 07 10.0		
	comp=Z,300nm,15.3s								
GRUS	**Gruza**	**95.95**	**315**	*e*P		**P**	**00 20 11.1**	**-0.9**
DIVS	**Divibare**	**96.39**	**316**	*e*P		**P**	**00 20 12.9**	**-1.2**
IVAS	**Ivanjica**	**96.42**	**315**	*e*P		**P**	**00 20 12.2**	**-2.1**
KRLC	**Kraliky**	**96.64**	**322**	*e*P		**P**	**00 20 16.7**	**+1.6**
KRLC				*e*			00 20 25.8		
KRLC	**Kraliky**	**96.64**	**322**	*e*P		**P**	**00 20 16.7**	**+1.6**
KRLC				*e*pP		**pP**	**00 20 25.8**	**-0.2**
YKA	**Yellowknife Ar**	**96.66**	**24**	P		**P**	**00 20 14.0**	**-0.8**
YKA				PKiKP		**PKiKP**	**00 24 51.5**	**-0.2**
YKA				PKKPbc		**PKKPbc**	**00 36 55.6**	**-4.7**
YKA	**Yellowknife Ar**	**96.66**	**24**	P		**P**	**00 20 14.0**	**-0.8**
	comp=Z,6.2nm,0.7s,baz=300,slow=4.6,SNR=98								
YKA				PKiKP		**PKiKP**	**00 24 51.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=280,slow=1.7,SNR=5.3								
YKA				PKKPbc		**PKKPbc**	**00 36 55.6**	**-4.7**
	comp=Z,0.8nm,0.6s,baz=121,slow=2.5,SNR=17								
YKB5	**Yellowknife Ar**	**96.66**	**24**	*e*P		**P**	**00 20 13.8**	**-1.0**
KSP	**Ksiaz**	**96.68**	**323**	*e*P		**P**	**00 20 15.2**	**0.0**
DPC	**Dobruska-Polom**	**96.83**	**323**	*e*P		**P**	**00 20 15.4**	**-0.5**
DPC				*e*			00 20 27.3		
DPC	**Dobruska-Polom**	**96.83**	**323**	*e*P		**P**	**00 20 15.4**	**-0.5**
DPC				*e*pP		**pP**	**00 20 27.3**	**+0.4**
DPC				AMS		AMS	01 09 20.0		
UPC	**Upice**	**96.96**	**323**	*e*P		**P**	**00 20 18.2**	**+1.7**
UPC	**Upice**	**96.96**	**323**	*e*P		**P**	**00 20 18.2**	**+1.7**
VRAC	**Vranov**	**97.01**	**322**	P		Pdif	00 20 17.5	+0.7
VRAC	**Vranov**	**97.01**	**322**	P		Pdif	00 20 17.5	+0.7
	comp=Z,3.7nm,0.8s,baz=40,slow=4.0,SNR=6.0								
PVCC	**Panska Ves**	**97.82**	**323**	*e*P		Pdif	00 20 21.2	+0.8
PVCC				*e*			00 20 31.3		
PVCC	**Panska Ves**	**97.82**	**323**	*e*P		Pdif	00 20 21.2	+0.8
PVCC				*e*pP		pP	00 20 31.3	+0.1
CONA	**Conrad Observa**	**97.94**	**320**⇑	*i*pP		pP	00 20 34.4	+2.4
	comp=Z,7.1nm,1.5s								
PRU	**Pruhonice**	**98.03**	**323**	*e*P		**P**	**00 20 20.3**	**-1.0**
PRU				*e*			00 20 32.1		
PRU				MLR		MLR			
	comp=Z,400nm,18.0s								
PRU	**Pruhonice**	**98.03**	**323**	*e*P		**P**	**00 20 20.3**	**-1.0**
PRU				*e*pP		**pP**	**00 20 32.1**	**-0.1**
PRU				AMS		AMS	01 07 10.0		
	comp=Z,400nm,18.0s								
BRG	**Berggiesshubel**	**98.06**	**324**	*e*P		**P**	**00 20 21.4**	**0.0**
	comp=Z,10nm,1.2s								
BRG				*e*			00 20 32.4		
	comp=Z,8.0nm,1.1s								
BRG									
	comp=N,425nm,17.9s								
BRG									
	comp=E,383nm,18.6s								
BRG									
	comp=Z,466nm,18.1s								
BRG	**Berggiesshubel**	**98.06**	**324**	*e*P		**P**	**00 20 21.4**	**0.0**
BRG				*e*			00 20 32.4		
BRG				pmax		pmax			
	comp=Z,11nm,1.2s								
BRG				pmax		pmax			
	comp=Z,8.0nm,1.2s								
BRG				MLR		MLR			
	comp=N,425nm,17.9s								
BRG				MLR		MLR			
	comp=E,383nm,18.6s								
BRG				MLR		MLR			
	comp=Z,466nm,18.1s								
PRA	**Prague**	**98.06**	**323**	P		**P**	**00 20 20.0**	**-1.4**
CLL	**Collm**	**98.44**	**324**	*e*P		**P**	**00 20 22.0**	**-1.1**
CLL				MLR		MLR			
	comp=Z,500nm,19.9s								
CLL	**Collm**	**98.44**	**324**	*e*Pdif		**P**	**00 20 22.0**	**-1.1**
CLL				*es*PP			00 24 43.0		
CLL				*e*Sdif		S	00 31 24.0	-25
CLL				*e*PS		PS	00 33 00.0	-18
CLL				*e*PPS		PPS	00 33 48.0	
CLL				*e*SS		SS	00 38 54.0	+21
CLL				*e*SSS		SSS	00 42 36.0	
CLL				*e*			00 46 36.0	
CLL				Lm		MLR	01 10 00.0		
	comp=Z,500nm,19.9s								
KHC	**Kasperske Hory**	**98.93**	**322**	*e*P		Pdif	00 20 26.8	+1.4
KHC				*e*			00 20 37.6		
KHC				MLR		MLR			
	comp=Z,700nm,25.7s								
KHC	**Kasperske Hory**	**98.93**	**322**	*e*P		Pdif	00 20 26.8	+1.4
KHC				*e*pP		pP	00 20 37.6	+1.3
KHC				AMS		AMS	01 06 50.0		
	comp=Z,700nm,25.7s								
GERES	**GERESS Array B**	**98.96**	**322**	P		**P**	**00 20 25.7**	**+0.1**
GERES	**GERESS Array B**	**98.96**	**322**	P		**P**	**00 20 25.7**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=54,slow=3.4,SNR=11								
GERES				LR		LR	01 08 23.8		
	comp=Z,305nm,20.4s,baz=75,slow=37								
RKT	**Rikitea**	**101.04**	**112**	*e*LR		LR	00 53 29.2		
	comp=Z,465nm,25.2s								
NVAR	**Mina Array Bea**	**105.11**	**47**	Pdif		**Pdif**	**00 20 53.9**	**+0.5**
NVAR	**Mina Array Bea**	**105.11**	**47**	Pdiff		**Pdif**	**00 20 53.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=253,slow=6.0,SNR=4.5								
V25A	**Rancho No Teng**	**116.03**	**44**	P		**PKPdf**	**00 25 28.8**	**+0.2**
	baz=116								
W25A	**X Bar L Ranch,**	**116.46**	**45**	P		**PKPdf**	**00 25 29.2**	**-0.1**
	baz=116								
V26A	**Tequesquite Ra**	**116.63**	**44**	P		**PKPdf**	**00 25 29.6**	**0.0**
	baz=117								
Y25A	**Mesa, Roswell**	**116.96**	**46**	P		**PKPdf**	**00 25 30.6**	**+0.2**
	baz=117								
SCHQ	**Schefferville**	**117.28**	**8**	PKP		**PKPdf**	**00 25 30.1**	**-0.1**
SCHQ	**Schefferville**	**117.28**	**8**	PKP		**PKPdf**	**00 25 30.1**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=216,slow=2.2,SNR=11								
226B	**Tecolote Peak,**	**118.27**	**48**	P		**PKPdf**	**00 25 32.9**	**0.0**
	baz=118								
Z27A	**Tatum**	**118.33**	**46**	P		**PKPdf**	**00 25 32.4**	**-0.5**
	baz=118								
427A	**Hayter Ranch,**	**119.45**	**49**	P		**PKPdf**	**00 25 34.4**	**-0.7**
	baz=119								
527A	**Woodward Ranch**	**119.64**	**49**	P		**PKPdf**	**00 25 35.7**	**+0.1**
	baz=120								
TXAR	**Lajitas Array**	**120.00**	**50**	PKP		**PKPdf**	**00 25 36.5**	**+0.2**
TXAR	**Lajitas Array**	**120.00**	**50**	PKP		**PKPdf**	**00 25 36.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=227,slow=1.3,SNR=7.8								
428A	**Kincaid Ranch,**	**120.05**	**48**	P		**PKPdf**	**00 25 36.0**	**-0.3**
	baz=120								
627A	**Terlingua Ranc**	**120.15**	**50**	P		**PKPdf**	**00 25 36.2**	**-0.4**
	baz=120								
628A	**Black Gap, Mar**	**120.51**	**50**	P		**PKPdf**	**00 25 37.6**	**+0.4**
	baz=120								
429A	**Davenport Ranc**	**120.68**	**48**	P		**PKPdf**	**00 25 37.2**	**-0.2**
	baz=121								
529A	**Stev Forest Ra**	**120.69**	**49**	P		**PKPdf**	**00 25 37.7**	**+0.1**
	baz=121								
Z32A	**Haskell**	**120.96**	**44**	P		**PKPdf**	**00 25 38.1**	**+0.2**
	baz=121								
TORD	**Torodi Ar. Bea**	**121.13**	**290**	PKP		**PKPdf**	**00 25 36.7**	**-1.9**
TORD	**Torodi Ar. Bea**	**121.13**	**290**	PKP		**PKPdf**	**00 25 36.7**	**-1.9**
	comp=Z,1.9nm,0.7s,baz=53,slow=2.8,SNR=20								
530A	**J-C Ranch, Com**	**121.34**	**48**	P		**PKPdf**	**00 25 38.7**	**-0.1**
	baz=121								
431A	**Sonora**	**121.60**	**47**	P		**PKPdf**	**00 25 39.5**	**+0.2**
	baz=122								
332A	**Millersview**	**121.84**	**46**	P		**PKPdf**	**00 25 38.9**	**-0.7**
	baz=122								
531A	**Rocksprings**	**121.91**	**48**	P		**PKPdf**	**00 25 38.7**	**-1.2**
	baz=122								
631A	**Perdido Creek**	**122.29**	**49**	P		**PKPdf**	**00 25 39.9**	**-0.7**
	baz=122								
JCT	**Junction City**	**122.29**	**47**	*e*PKIKP		**PKPdf**	**00 25 39.4**	**-1.1**
JCT	**Junction City**	**122.29**	**47**	*e*PKPdf		**PKPdf**	**00 25 39.4**	**-1.1**
134A	**White-Moore Ra**	**122.35**	**44**	P		**PKPdf**	**00 25 41.4**	**+0.8**
	baz=122								
333A	**Richland Sprin**	**122.42**	**46**	P		**PKPdf**	**00 25 40.4**	**-0.4**
	baz=122								
433A	**Art**	**122.66**	**46**	P		**PKPdf**	**00 25 40.1**	**-1.1**
	baz=123								
632A	**Uvalde**	**122.82**	**48**	P		**PKPdf**	**00 25 40.9**	**-0.6**
	baz=123								
434A	**Burnet**	**123.21**	**46**	P		**PKPdf**	**00 25 41.7**	**-0.5**
	baz=123								
832A	**Faith Ranch, C**	**123.32**	**49**	P		**PKPdf**	**00 25 42.8**	**+0.2**
	baz=123								
534A	**Blanco**	**123.50**	**47**	P		**PKPdf**	**00 25 43.7**	**+0.8**
	baz=123								
SADO	**Sadowa**	**123.54**	**21**	PKP		**PKPdf**	**00 25 42.1**	**-0.3**
SADO	**Sadowa**	**123.54**	**21**	PKP		**PKPdf**	**00 25 42.1**	**-0.3**
	comp=Z,7.1nm,0.8s,baz=81,slow=3.3,SNR=5.4								
MIAR	**Mount Ida**	**124.12**	**39**	*e*PKIKP		**PKPdf**	**00 25 43.5**	**-0.4**
MIAR	**Mount Ida**	**124.12**	**39**	*e*PKPdf		**PKPdf**	**00 25 43.5**	**-0.4**
HKT	**Hockley**	**125.43**	**45**	*e*PKIKP		**PKPdf**	**00 25 46.6**	**+0.2**
HKT	**Hockley**	**125.43**	**45**	*e*PKPdf		**PKPdf**	**00 25 46.5**	**+0.2**
ACSO	**Alum Creek Sta**	**125.76**	**27**	*e*PKPdf		**PKPdf**	**00 25 44.4**	**-2.5**
CPCT	**Cooper Cave**	**128.75**	**32**	*e*PKPdf		**PKPdf**	**00 25 50.5**	**-2.3**
TKL	**Tuckaleechee C**	**128.99**	**31**	PKP		**PKPdf**	**00 25 52.9**	**-0.2**
TKL	**Tuckaleechee C**	**128.99**	**31**	PKP		**PKPdf**	**00 25 52.9**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=143,slow=4.2,SNR=7.7								
DBIC	**Dimbokro**	**129.10**	**285**	PKP		**PKPdf**	**00 25 53.8**	**-0.2**
DBIC	**Dimbokro**	**129.10**	**285**	PKP		**PKPdf**	**00 25 53.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=142,slow=15,SNR=4.8								
JSRW	**J. Sargeant Re**	**130.09**	**25**	*e*PKPdf		**PKPdf**	**00 25 56.2**	**+1.1**
KMSC	**Kings Mountain**	**130.62**	**30**	*e*PKPdf		**PKPdf**	**00 25 55.6**	**-0.6**
PLCA	**Paso Flores**	**143.46**	**159**	*e*PKPdf		PKPbc	00 26 18.5	+1.4
PLCA	**Paso Flores**	**143.46**	**159**	PKP		**PKPdf**	**00 26 18.7**	**-1.1**
	comp=Z,5.0nm,0.8s,baz=197,slow=4.1,SNR=9.3								
TRQA	**Tornquist**	**148.42**	**168**	*e*PKPbc		**PKPbc**	**00 26 31.5**	**-0.3**
LCO	**Las Campanas**	**153.16**	**146**	*e*PKPbc		**PKPbc**	**00 26 44.5**	**+0.9**
ROSC	**El Rosal**	**156.43**	**60**	PKP		**PKPdf**	**00 26 42.0**	**+0.7**
ROSC	**El Rosal**	**156.43**	**60**	PKP		**PKPdf**	**00 26 42.0**	**+0.7**
	comp=Z,9.8nm,0.6s,baz=81,slow=22,SNR=5.8								
SDV	**Santo Domingo**	**156.97**	**46**	*e*PKPdf		**PKPdf**	**00 26 41.5**	**-0.2**
CPUP	**Villa Florida**	**160.69**	**171**	PKP		**PKPdf**	**00 26 46.2**	**+0.8**
CPUP				PKPab		**PKPab**	**00 27 26.8**	**-0.3**
CPUP	**Villa Florida**	**160.69**	**171**	PKP		**PKPdf**	**00 26 46.2**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=184,slow=2.5,SNR=3.8								
CPUP				PKPab		**PKPab**	**00 27 26.8**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=186,slow=3.8,SNR=3.5								
LPAZ	**La Paz**	**163.46**	**124**	PKP		**PKPdf**	**00 26 51.0**	**+1.6**
LPAZ				PKPab		**PKPab**	**00 27 42.1**	**+1.6**
LPAZ	**La Paz**	**163.46**	**124**	PKP		**PKPdf**	**00 26 51.0**	**+1.6**
	comp=Z,4.2nm,0.9s,baz=270,slow=2.3,SNR=12								
LPAZ				PKPab		**PKPab**	**00 27 42.1**	**+1.6**
	comp=Z,3.2nm,0.8s,baz=236,slow=2.8,SNR=6.0								
BDFB	**Brasilia**	**169.76**	**214**	PKP		**PKPdf**	**00 26 55.0**	**+1.5**
BDFB	**Brasilia**	**169.76**	**214**	PKP		**PKPdf**	**00 26 55.0**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=37,slow=17,SNR=3.0								
SAML	**Samuel**	**170.72**	**102**	*e*PKPdf		**PKPdf**	**00 26 53.4**	**-0.6**

CSEM ***15*** *00:19:01.3±0.4, 45.69N×26.49E, h154km±3km, MD3.3, Error ellipse: s-maj=7.9km s-min=5.9km az=16.0*

BUC 15 00:19:01.9±0.9, 45.69N×26.50E, h155km±8km, MD3.2/3, 45C-23D, Error ellipse: s-maj=6.4km s-min=5.1km az=14.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.19**	**33**⇓	*i*P	Pn	00 19 22.4	-0.4
PLOR	**Plostina**	**0.19**	**33**⇓	*i*P	Pn	00 19 22.4	-0.4
PLOR				*i* S	Sn	00 19 37.7	-1.1
VRI	**Vrincioaia**	**0.24**	**42**⇓	*i*P	Pn	00 19 22.6	-0.3
VRI	**Vrincioaia**	**0.24**	**42**⇓	*i*P	Pn	00 19 22.6	-0.3
VRI				*i* S	Sn	00 19 38.4	-0.5
VRI	**Vrincioaia**	**0.24**	**42**⇓	*i*P	Pn	00 19 22.6	-0.3
ODBI	**Odobesti**	**0.39**	**79**⇑	*i*P	Pn	00 19 22.7	-0.6
ODBI	**Odobesti**	**0.39**	**79**⇑	*i*P	Pn	00 19 22.7	-0.6
ODBI				*i* S	Sn	00 19 39.7	0.0
ODBI	**Odobesti**	**0.39**	**79**⇑	*i*P	Pn	00 19 22.7	-0.6
ODBI				*i* S	Sn	00 19 39.7	0.0
MLR	**Muntele Rosu**	**0.44**	**243**⇑	*i*P	Pn	00 19 23.3	-0.4
MLR	**Muntele Rosu**	**0.44**	**243**⇑	*i*P	Pn	00 19 23.3	-0.4
MLR				*i* S	Sn	00 19 38.7	-1.6
MLR	**Muntele Rosu**	**0.44**	**243**⇑	*i*P	Pn	00 19 23.3	-0.4
MLR				*i* S	Sn	00 19 38.7	-1

PAU				eS		Sb	00 24 40.0	+0.6
MIPR	**Malaya Ipel'ka**	**2.55**	**3**	P		Pn	00 24 28.4	+1.4
MTVR	**Mutnovka**	**2.93**	**20**	P		Pb	00 24 35.6	-3.0
MTVR				S		Sn	00 25 09.9	+2.7
AVH	**Avacha**	**3.79**	**20**	P		Pn	00 24 47.7	+3.6
KOK	**Koryaka**	**3.79**	**19**	P		Pn	00 24 48.5	+4.4
KRER	**Koryakskii**	**3.83**	**20**	P		Pn	00 24 48.0	+3.2
SDLR	**Sedlovina**	**3.83**	**21**	P		Pn	00 24 47.8	+3.1
KRX	**Arik**	**3.85**	**19**	P		Pn	00 24 48.8	+3.7
GNL	**Ganaly**	**4.06**	**12**	P		Pn	00 24 52.0	+4.2

IDC 15 00:24:44.5±2.1, 18°.26N×73°.19W, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/24, mbtmp3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/20, Error ellipse: s-maj=69.1km s-min=61.9km az=153.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SADO	**Sadowa**	**26.89**	**351**	LR	LR	00 41 14.4	
	comp=Z,88nm,18.4s,baz=180,slow=37						
YKA	**Yellowknife Ar**	**52.65**	**337**	P	P	00 34 00.2	0.0
	0.2nm,0.6s,baz=123,slow=7.7,SNR=5.1						
GERES	**GERESS Array B**	**74.46**	**43**	P	P	00 36 24.7	-0.2
	0.4nm,0.7s,baz=284,slow=4.9,SNR=4.4						
WRA	**Warramunga Arr**	**153.94**	**262**	PKPbc	PKPbc	00 44 46.9	+0.1
	0.2nm,0.6s,baz=90,slow=3.9,SNR=3.6						

IDC 15 00:40:45.8±1.9, 2°.29N×128°.21E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=154.0km s-min=22.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.90**	**165**	P	P	00 45 50.3	-1.2
	0.6nm,0.9s,baz=344,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**26.39**	**168**	P	P	00 46 25.3	+1.1
	0.1nm,0.3s,baz=342,slow=8.8,SNR=2.4						
STKA	**Stephens Creek**	**36.28**	**161**	P	P	00 47 50.2	-0.9
	0.6nm,0.4s,baz=330,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**59.57**	**325**	P	P	00 50 51.5	+0.1
	0.2nm,0.3s,baz=113,slow=7.8,SNR=15						

IDC 15 00:45:51.8±26.0, 24°.29S×174°.70W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, Error ellipse: s-maj=486.5km s-min=144.2km az=81.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.31**	**269**	P	P	00 52 58.5	+1.0
	2.9nm,0.4s,baz=95,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**39.09**	**249**	P	P	00 53 20.0	-0.8
	0.9nm,0.5s,baz=102,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**46.74**	**260**	P	P	00 54 22.6	-0.4
	1.0nm,0.4s,baz=91,slow=7.5,SNR=19						
WRA	**Warramunga Arr**	**47.20**	**265**	P	P	00 54 26.6	-0.1
	1.3nm,0.4s,baz=104,slow=7.9,SNR=37						

ISCJB 15 00:52:44.2±0.9, 36°.00N±0°.06×71°.2E±0°.2, h102km, Error ellipse: s-maj=18.6km s-min=4.6km az=157.3
NNC 15 00:52:53.4±2.5, 36°.67N×71°.24E, h97km±35km, mb3.3, mpv3.8, Error ellipse: s-maj=22.9km s-min=19.8km az=128.0
ISC 15 00:52:45.2±1.2, 35°.96N±0°.09×71°.0E±0°.2, h102km, n18, σ1s77/19, 1C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.35**	**128**	eP	Pn	00 54 08.0	+5.2
DLH				eS	**Sn**	**00 55 07.0**	**+3.7**
AML	**Almayashu**	**6.52**	**18**	P	**Pn**	**00 54 17.6**	**-1.3**
	SNR=30						
UCH	**Uchtor**	**6.84**	**23**	P	**Pn**	**00 54 21.6**	**-1.6**
	SNR=7.3						
EKS2	**Erkin-Say**	**7.04**	**17**	P	**Pn**	**00 54 25.2**	**-0.5**
	SNR=6.1						
SMLA	**Simla**	**7.05**	**131**	eP	Pn	00 54 30.7	+5.0
SMLA				eS	**Sn**	**00 55 45.1**	**+0.7**
KK31	**Karatay Array**	**7.15**	**357**	P	**Pn**	**00 54 26.1**	**-0.9**
	7.9nm,0.4s,baz=180,slow=12,SNR=241						
KK31				S	Sn	00 55 38.8	-7.9
	5.1nm,0.3s,baz=170,slow=20,SNR=9.0						
AAK	**Ala-Archa**	**7.20**	**21**	⇓P	**Pn**	**00 54 26.2**	**-1.7**
	3.0nm,0.5s						
AAK				⇓S	Sn	00 55 38.7	-9.5
	5.7nm,0.7s						
AAK	**Ala-Archa**	**7.20**	**21**	P	**Pn**	**00 54 26.8**	**-1.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**7.81**	**26**	⇓P	**Pn**	**00 54 34.1**	**-2.2**
	1.9nm,0.7s						
TKM2	**Tokmak 2**	**7.81**	**26**	P	**Pn**	**00 54 34.4**	**-1.9**
	SNR=6.0						
KHET	**Khetri**	**8.86**	**151**	eP	**Pn**	**00 54 51.1**	**+0.7**
KHET				eS	**Sn**	**00 56 25.7**	**-2.7**
KHET				AML	AML	00 56 29.2	
	comp=N,78nm,0.1s						
KHET				AML	AML	00 56 29.5	
	comp=E,109nm,0.1s						
KUDL	**Kundal**	**9.08**	**148**	eP	Pn	00 54 57.3	+4.0
KUDL				eS	**Sn**	**00 56 32.3**	**-1.4**
BISR	**Bishrakh**	**9.16**	**142**	eS	**Sn**	**00 56 35.0**	**-0.8**
ASOR	**Ausora**	**9.19**	**139**	eS	**Sn**	**00 56 35.6**	**-0.7**
AB31	**Akbulak array**	**15.56**	**332**	⇓P	**Pn**	**00 56 18.5**	**-0.1**
	comp=E,0.4nm,0.4s,baz=140,slow=12,SNR=32						
KURBB	**Kurchatov Arra**	**15.64**	**18**	⇓P	**Pn**	**00 56 20.7**	**+1.0**
	comp=E,3.3nm,1.2s						
BVA0	**Borovoye Array**	**17.07**	**359**	P	**Pn**	**00 56 36.8**	**-0.5**
	comp=E,1.4nm,0.9s,baz=168,slow=12,SNR=6.0						
AKTO	**Aktyubinsk**	**17.25**	**331**	⇑P	**P**	**00 56 41.9**	**+2.5**
	comp=E,2.9nm,0.8s						

ISCJB 15 01:04:19.5±0.5, 24°.77N±0°.04×122°.93E±0°.03, h112km±5km, Error ellipse: s-maj=7.1km s-min=3.6km az=169.1
JMA 15 01:04:19.8±0.2, 24°.69N×122°.87E, h116km±2km, M3.1
TAP 15 01:04:20.2, 24°.77N×122°.87E, h114km, ML3.6, C
ISC 15 01:04:18.6±1.3, 24°.76N±0°.06×122°.94E±0°.03, h123km±8km, n46, σ1s30/74, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.30**	**168**	P	**Pn**	**01 04 36.2**	**+0.2**
YOJ				S	**Sn**	**01 04 48.7**	**-0.3**
IRIF	**Iriomote-Funau**	**0.83**	**120**	P	**Pn**	**01 04 40.0**	**+0.6**
TWB1	**Santiao Chiao**	**0.90**	**286**	eP	**Pn**	**01 04 40.2**	**+0.3**
	baz=283						
TWB1				eS	**Sn**	**01 04 55.2**	**-0.9**
	baz=283						
EGS		**0.92**	**276**	eP	**Pn**	**01 04 40.9**	**+0.8**
	baz=269						
EGS				eS	**Sn**	**01 04 55.0**	**-1.4**
	baz=269						
TWC	**Suao**	**1.00**	**262**	⇓*i*P	**Pn**	**01 04 41.1**	**+0.2**
	baz=258						
TWC				S	**Sn**	**01 04 56.0**	**-1.8**
	baz=258						
HATJ	**Hateruma jima**	**1.05**	**131**	P	**Pn**	**01 04 42.8**	**+1.4**
HATJ				S	**Sn**	**01 04 59.5**	**+0.8**
NWF	**Wu-fen Shan**	**1.10**	**287**	eP	**Pn**	**01 04 42.5**	**+0.6**
	baz=280						
NWF				eS	**Sn**	**01 04 59.3**	**-0.4**
	baz=280						
JKRS	**Kuro-shima**	**1.10**	**118**	P	**Pn**	**01 04 43.3**	**+1.4**
JKRS				S	**Sn**	**01 04 59.9**	**+0.3**
ENA	**Nanau**	**1.14**	**253**	eP	**Pn**	**01 04 42.6**	**+0.3**
	baz=247						
ENA				eS	**Sn**	**01 04 59.6**	**-0.6**
	baz=247						
JIJ	**Ishigaki jima**	**1.16**	**109**	P	**Pn**	**01 04 43.3**	**+0.8**
JIJ				S	**Sn**	**01 05 00.5**	**-0.2**
TWA	**Mucha**	**1.25**	**280**	eP	**Pn**	**01 04 44.3**	**+0.8**
	baz=272						
ENTT	**Nioudou**	**1.25**	**265**	P	**Pn**	**01 04 44.5**	**+1.0**
	baz=261						
TWD	**Chiawan**	**1.40**	**241**	P	**Pn**	**01 04 45.2**	**+0.2**
	baz=233						
TWD				eS	**Sn**	**01 05 03.2**	**-1.9**
	baz=233						
NSK	**Sanguang**	**1.44**	**267**	eP	**Pn**	**01 04 46.5**	**+0.9**
	baz=271						
NSK				eS	**Sn**	**01 05 05.9**	**-0.2**
	baz=271						
NNS	**Nan Shan**	**1.46**	**258**	eP	**Pn**	**01 04 46.6**	**+0.7**
	baz=250						
JTJ	**Tarama**	**1.61**	**94**	P	**Pn**	**01 04 49.4**	**+1.9**
WHF	**Hehuan Shan**	**1.64**	**249**	eP	**Pn**	**01 04 48.9**	**+0.5**
	baz=247						
WHF				eS	**Sn**	**01 05 09.8**	**-1.1**
	baz=247						
ESL	**Shilin**	**1.67**	**236**	eP	**Pn**	**01 04 48.3**	**+0.1**
	baz=234						
ESL				eS	**Sn**	**01 05 08.8**	**-1.9**
	baz=234						
TWT	**Tachien**	**1.68**	**253**	eP	**Pn**	**01 04 50.5**	**+1.9**
	baz=248						
NSTT	**Nanjuang**	**1.77**	**266**	eP	**Pn**	**01 04 50.2**	**+0.8**
	baz=265						
NSTT				eS	**Sn**	**01 05 12.2**	**-0.6**
	baz=265						
EHY	**Hungye**	**1.93**	**230**	eP	**Pn**	**01 04 51.6**	**+0.1**
	baz=228						
EHY				eS	**Sn**	**01 05 14.2**	**-2.2**
	baz=228						
NSY	**Sanyi**	**2.01**	**261**	eP	**Pn**	**01 04 53.5**	**+1.1**
	baz=259						
TWQ1	**Liyutan**	**2.01**	**259**	eP	**Pn**	**01 04 52.5**	**+0.1**
	baz=257						
TWF1	**Yuli**	**2.05**	**227**	eP	**Pn**	**01 04 53.5**	**+0.6**
	baz=232						
TWF1				eS	**Sn**	**01 05 17.7**	**-1.5**
	baz=232						
SMLT	**Sun Moon Lake**	**2.05**	**245**	eP	**Pn**	**01 04 54.9**	**+1.8**
	baz=239						
SMLT				eS	**Sn**	**01 05 19.8**	**+0.5**
	baz=239						
TYC	**Yuchr**	**2.08**	**246**	eP	**Pn**	**01 04 55.2**	**+1.9**
	baz=240						
TYC				eS	**Sn**	**01 05 21.4**	**+1.7**
	baz=240						
CHKT	**Chengkung**	**2.19**	**221**	eP	**Pn**	**01 04 54.5**	**-0.2**
	baz=215						
YUS	**Yu-Shan**	**2.21**	**236**	eP	**Pn**	**01 04 56.7**	**+1.3**
	baz=230						
YUS				eS	**Sn**	**01 05 23.2**	**-0.2**
	baz=230						
WNT	**Mingjian**	**2.24**	**247**	eP	**Pn**	**01 04 56.8**	**+1.6**
	baz=254						
ALS	**Alishan**	**2.31**	**238**	eP	**Pn**	**01 04 58.2**	**+1.8**
	baz=236						
ALS				eS	**Sn**	**01 05 25.7**	**+0.3**
	baz=236						
ELDTW	**Lidau**	**2.35**	**229**	P	**Pn**	**01 04 57.5**	**+0.7**
	baz=227						
ELDTW				eS	**Sn**	**01 05 25.4**	**-0.6**
	baz=227						
CHN5	**Tsauling**	**2.37**	**241**	eP	**Pn**	**01 04 59.0**	**+2.1**
	baz=234						
CHN5				eS	**Sn**	**01 05 28.2**	**+1.9**
	baz=234						
STYT	**Tauyuan**	**2.55**	**232**	eP	**Pn**	**01 05 01.4**	**+2.1**
	baz=227						
STYT				eS	**Sn**	**01 05 31.4**	**+0.9**
	baz=227						
TWG	**Pinlang**	**2.58**	**222**	eP	**Pn**	**01 04 59.8**	**+0.3**
	baz=220						
TWG				eS	**Sn**	**01 05 29.2**	**-1.8**
	baz=220						
WTP	**Ta-pu**	**2.60**	**235**	eP	**Pn**	**01 05 01.7**	**+1.8**
	baz=228						
WTP				eS	**Sn**	**01 05 32.5**	**+0.8**
	baz=228						
TWK	**Hsinying**	**2.69**	**237**	eP	**Pn**	**01 05 02.8**	**+1.8**
	baz=235						
TWK				eS	**Sn**	**01 05 34.4**	**+0.8**
	baz=235						
CHN1	**Nanshi**	**2.71**	**235**	eP	**Pn**	**01 05 02.7**	**+1.5**
	baz=234						
CHN1				eS	**Sn**	**01 05 34.9**	**+0.9**
	baz=234						
SGST	**Jiashian**	**2.73**	**233**	eP	**Pn**	**01 05 03.4**	**+1.9**
	baz=225						
LAY	**Lan-yu**	**2.99**	**206**	eP	**Pn**	**01 05 04.8**	**-0.2**
	baz=198						
LAY				eS	**Sn**	**01 05 37.8**	**-2.9**
	baz=198						
EAST	**Anshuo**	**3.04**	**219**	eP	**Pn**	**01 05 08.4**	**+2.8**
	baz=217						
JKE	**Kume jima 2**	**3.81**	**65**	P	**Pn**	**01 05 16.6**	**+0.9**
JIH	**Iheya**	**5.06**	**62**	P	**Pn**	**01 05 32.5**	**+0.1**
JOW	**Kunigami**	**5.23**	**66**	P	**Pn**	**01 05 34.3**	**-0.4**
JTK	**Tokunoshima**	**6.18**	**60**	P	**Pn**	**01 05 46.2**	**-1.3**
JAMN	**Amaminishikomi**	**6.58**	**57**	P	**Pn**	**01 05 51.0**	**-1.8**
JAM	**Amami Oshima**	**6.99**	**57**	P	**Pn**	**01 05 56.7**	**-1.7**

IDC 15 01:15:59.0±3.4, 6°.99S×148°.34E, h0km, mb2.9/1, mb1 3.3/2, mb1mx3.1/17, mbtmp3.0/2, ML3.2/1, Error ellipse: s-maj=121.4km s-min=45.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.71**	**225**	P	P	01 20 18.4	-1.0
	0.1nm,0.3s,baz=51,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**21.61**	**218**	P	P	01 20 51.0	+0.1
	0.3nm,0.5s,baz=41,slow=11,SNR=9.4						
TORD	**Torodi Ar. Bea**	**146.61**	**283**	PKPbc	PKPbc	01 35 43.2	-0.5
	0.5nm,0.8s,baz=80,slow=3.3,SNR=4.7						

FUNV 15 01:25:48.5, 8°.83N×73°.88W, h35km, MW3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.83**	**122**	eP	Pn	01 26 16.5	-1.2
CAPV				eS	Sn	01 26 38.4	-1.4
VIRV	**Villa del Rosa**	**2.21**	**41**	eP	Pn	01 26 22.1	-0.6
VIRV				eS	Sn	01 26 46.1	-2.7
SOCV	**Socops**	**3.04**	**100**	eP	Pn	01 26 33.5	-0.7
SOCV				eS	Sn	01 27 06.3	-3.2
DABV	**Dabajuro**	**3.81**	**57**	eP	Pn	01 26 43.7	-1.1
DABV				eS	Sn	01 27 23.4	-5.0
CURV	**Curarigua**	**4.04**	**73**	eP	Pn	01 26 47.0	-1.1
CURV				eS	Sn	01 27 30.2	-4.2
SANV	**Sanarito**	**4.34**	**81**	eP	Pn	01 26 51.2	-1.0
SANV				eS	Sn	01 27 37.0	-4.8
SIQV	**Siquisique**	**4.40**	**65**	eP	Pn	01 26 51.2	-1.7
SIQV				eS	Sn	01 27 38.0	-5.1
ELOV	**Elorza**	**4.72**	**112**	eP	Pn	01 26 54.9	-2.4
ELOV				eS	Sn	01 27 45.3	-5.6
MONV	**Montecano**	**4.94**	**51**	eP	Pn	01 26 59.2	-1.1
MAPV	**Macapo**	**5.45**	**79**	eP	Pn	01 27 06.4	-0.8
JACV	**Jacura**	**5.46**	**65**	eP	Pn	01 27 05.8	-1.7
JACV				eS	Sn	01 28 02.8	-6.3
BAUV	**El Baul**	**5.77**	**88**	eP	Pn	01 27 09.1	-2.6
BAUV				eS	Sn	01 28 10.3	-6.5
TURV	**Turiamo**	**6.17**	**74**	eP	Pn	01 27 15.1	-2.1

IDC 15 01:42:25.7±5.5, 14°.29N×92°.71W, h0km, mb3.5/2, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=103.3km s-min=25.0km az=4.0
ISCJB 15 01:42:30.3±1.2, 14°.50N±0°.10×92°.83W±0°.04, h51km, mb3.6/2, Error ellipse: s-maj=14.1km s-min=6.1km az=2.8
MEX 15 01:42:32.0±0.5, 14°.39N×92°.88W, h20km±41km, MD3.9
ISC 15 01:42:32.4±1.5, 14°.5N±0°.1×92°.79W±0°.05, h51km, n8, σ2s02/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.67**	**49**	eP	**Pn**	**01 42 44.4**	**-1.4**
THIG				eS	**Sn**	**01 42 54.6**	**-1.0**
PCIG		**1.30**	**342**	eP	**Pn**	**01 42 52.8**	**-1.3**
PCIG				eS	**Sn**	**01 43 08.5**	**-1.8**
APG	**El Apazote**	**2.32**	**76**	Pn	**Pn**	**01 43 05.4**	**-2.9**
	13nm,0.3s,baz=354,slow=22,SNR=202						
APG				Sn	**Sn**	**01 43 36.1**	**+0.4**
	30nm,0.3s,baz=335,slow=20,SNR=12						
HUIG	**Huatulco**	**3.45**	**292**	eP	**Pn**	**01 43 21.9**	**-1.7**
HUIG				*i* S	**Sn**	**01 44 00.7**	**-2.7**
TEIG	**Tepich**	**7.17**	**36**	Pn	**Pn**	**01 44 13.4**	**-1.2**
	15nm,0.3s,baz=48,slow=1.2,SNR=54						
TEIG				Sn	**Sn**	**01 45 33.9**	**-0.9**
	2.5nm,0.3s,baz=60,slow=20,SNR=3.3						

TXAR	**Lajitas Array**	**17.89**	**328**	P		**P**	**01 46 40.2**	**+2.4**
	0.0nm,0.3s,baz=152,slow=14,SNR=5.0							
NVAR	**Mina Array Bea**	**32.83**	**321**	P		**P**	**01 49 03.8**	**+2.4**
	0.3nm,0.7s,baz=127,slow=7.6,SNR=3.8							
YKA	**Yellowknife Ar**	**50.40**	**347**	P		**P**	**01 51 24.6**	**+0.3**
	0.7nm,0.7s,baz=150,slow=7.2,SNR=18							

IDC 15 01:50:31.0±1.3, 18°.15N×73°.00W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/24, mbtmp3.7/4, MS3.9/4, Ms1 3.9/4, ms1mx3.2/45, Error ellipse: s-maj=49.6km s-min=30.0km az=53.0
ISCJB 15 01:50:31.8±0.4, 18°.31N±0°.05×72°.97W±0°.04, h10km, mb3.8/10, MS3.9/4, Error ellipse: s-maj=8.0km s-min=5.2km az=22.5
NEIC 15 01:50:33.6±0.4, 18°.33N×72°.94W, h10km, mb4.0/8, Error ellipse: s-maj=9.3km s-min=6.3km az=206.0
ISC 15 01:50:33.3±0.6, 18°.32N±0°.08×72°.94W±0°.06, h10km, n29, σ0s94/28, mb3.9/10, MS4.0/4, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.70**	**67**	ePn	**Pn**	**01 51 02.5**	**-0.7**
SDDR				eSn	**Sn**	**01 51 24.8**	**-0.2**
GTBY	**Guantanamo Bay**	**2.60**	**308**	ePn	**Pn**	**01 51 14.9**	**-0.5**
GTBY				eSg	**Sg**	**01 51 56.4**	**-0.4**
GRTK	**Grand Turk**	**3.60**	**28**	ePn	**Pn**	**01 51 30.2**	**+1.0**
MTDJ	**Mount Denham**	**4.36**	**269**	ePn	**Pn**	**01 51 41.6**	**+1.8**
CRPR	**Cabo Rojo, PR**	**5.56**	**92**	ePn	**Pn**	**01 51 57.1**	**+1.0**
CELP	**Cerrillos**	**6.05**	**91**	ePn	**Pn**	**01 52 03.5**	**+0.5**
MTP	**Monte Pirata**	**7.03**	**91**	ePn	**Pn**	**01 52 17.4**	**+1.1**
SDV	**Santo Domingo**	**9.64**	**166**	ePn	**Pn**	**01 52 54.2**	**+1.7**
	2.0nm,0.5s						
OTAV	**Otavalo**	**18.77**	**197**	eP	**P**	**01 54 53.2**	**0.0**
	12nm,1.3s						
BLA	**Blacksburg**	**19.93**	**342**	eP	**Pn**	**01 55 06.5**	**-0.6**
	8.4nm,0.9s						
PTGA	**Pitinga**	**22.83**	**145**	eP	**P**	**01 55 37.2**	**+0.4**
	2.3nm,0.8s						
HKT	**Hockley**	**23.83**	**303**	eP	**P**	**01 55 47.0**	**+0.3**
	6.2nm,1.1s						
ATAH	**Atahualpa**	**25.86**	**192**	LR	LR	02 05 19.2	
	comp=Z,125nm,19.7s,baz=140,slow=35						
SAML	**Samuel**	**28.76**	**160**	eP	**P**	**01 56 30.9**	**-0.4**
	1.6nm,0.8s						
MNTX	**Cornudas Mount**	**32.14**	**301**	eP	**P**	**01 57 02.2**	**+1.0**
	2.3nm,1.3s						
ULM	**Lac du Bonnet**	**36.75**	**335**	eP	**P**	**01 57 40.6**	**-0.2**
	1.5nm,0.8s						
WUAZ	**Wupatki**	**38.02**	**305**	eP	**P**	**01 57 52.1**	**0.0**
	2.9nm,0.9s						
BDFB	**Brasilia**	**41.74**	**142**	P	**P**	**01 58 21.6**	**-1.5**
BDFB	**Brasilia**	**41.74**	**142**	P	**P**	**01 58 21.6**	**-1.5**
	4.2nm,0.9s,baz=325,slow=10,SNR=5.0						
YBH	**Yreka Blue Hor**	**48.21**	**310**	LR	LR	02 24 00.2	
	comp=Z,167nm,19.1s,baz=153,slow=42						
YKA	**Yellowknife Ar**	**52.68**	**337**	P	**P**	**01 59 47.6**	**0.0**
YKA	**Yellowknife Ar**	**52.68**	**337**	P	**P**	**01 59 47.6**	**0.0**
	0.4nm,0.8s,baz=125,slow=7.5,SNR=8.1						
DBIC	**Dimbokro**	**67.16**	**90**	LR	LR	02 23 52.0	
	comp=Z,114nm,21.5s,baz=294,slow=30						
TORD	**Torodi Ar. Bea**	**71.59**	**82**	P	**P**	**02 01 54.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**71.59**	**82**	P	**P**	**02 01 54.5**	**-1.0**
	0.6nm,1.0s,baz=279,slow=6.7,SNR=2.6						
TORD				LR	LR	02 28 16.8	
	comp=Z,117nm,19.6s,baz=265,slow=32						
GERES	**GERESS Array B**	**74.26**	**43**	P	**P**	**02 02 12.0**	**+1.1**
GERES	**GERESS Array B**	**74.26**	**43**	P	**P**	**02 02 12.0**	**+1.1**
	0.6nm,0.8s,baz=256,slow=4.8,SNR=5.4						
WRA	**Warramunga Arr**	**154.18**	**262**	PKPbc	**PKPbc**	**02 10 33.7**	**-0.8**
WRA	**Warramunga Arr**	**154.18**	**262**	PKPbc	**PKPbc**	**02 10 33.7**	**-0.8**
	0.4nm,0.8s,baz=91,slow=3.2,SNR=2.5						

ISK 15 02:05:05.8, 35°.55N×30°.58E, h19km, MD3.4
DDA 15 02:05:05.3, 35°.38N×30°.71E, h27km, MD3.4
CSEM 15 02:05:07.7±0.4, 35°.59N×30°.64E, h20km, MD3.4, Error ellipse: s-maj=11.6km s-min=6.3km az=29.0
ISCJB 15 02:05:08.4±0.8, 35°.64N±0°.06×30°.65E±0°.06, h65km±26km, Error ellipse: s-maj=10.1km s-min=6.8km az=28.2
ISC 15 02:05:07.8±1.5, 35°.56N±0°.06×30°.67E±0°.04, h50km±45km, n54, σ1s72/63, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.09**	**308**	*i* P	**Pn**	**02 05 28.7**	**+1.8**
AKAS				*i* S	Sn	02 05 48.0	+7.0
AKAS	**Kas**	**1.09**	**308**	*i* P	**Pn**	**02 05 28.7**	**+1.8**
ELL	**Elmali**	**1.33**	**333**	ePN	**Pn**	**02 05 29.5**	**-0.7**
ELL				eSN	**Sn**	**02 05 47.1**	**+0.2**
ELL	**Elmali**	**1.33**	**333**	ePn	**Pn**	**02 05 29.5**	**-0.7**
ELL				eSn	**Sn**	**02 05 47.1**	**+0.2**
ANTB	**Antalya**	**1.33**	**360**	ePN	**Pn**	**02 05 29.8**	**-0.2**
ANTB	**Antalya**	**1.33**	**360**	ePn	**Pn**	**02 05 29.8**	**-0.2**
FETY	**Fethiye**	**1.67**	**310**	ePN	**Pn**	**02 05 33.9**	**-0.8**
FETY	**Fethiye**	**1.67**	**310**	ePn	**Pn**	**02 05 33.9**	**-0.8**
GLHS	**Glhisar (BURDU**	**1.85**	**330**	ePN	**Pn**	**02 05 37.0**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.85**	**330**	ePn	**Pn**	**02 05 37.0**	**-0.2**
LEF	**Lefka**	**1.87**	**103**	ePN	**Pn**	**02 05 38.2**	**+0.8**
LEF	**Lefka**	**1.87**	**103**	ePn	**Pn**	**02 05 38.2**	**+0.8**
BCK	**Bucak**	**1.90**	**358**	ePN	**Pn**	**02 05 38.2**	**+0.4**
BCK	**Bucak**	**1.90**	**358**	ePn	**Pn**	**02 05 38.2**	**+0.4**
SUTC	**Sutluce-Ispart**	**1.93**	**8**	ePN	**Pn**	**02 05 39.3**	**+1.0**
SUTC	**Sutluce-Ispart**	**1.93**	**8**	ePn	**Pn**	**02 05 39.3**	**+1.0**
DALY	**Dalyan (Mu˘la**	**2.05**	**308**	ePN	**Pn**	**02 05 40.1**	**+0.2**
DALY	**Dalyan (Mu˘la**	**2.05**	**308**	ePn	**Pn**	**02 05 40.1**	**+0.2**
TURN	**Turunc**	**2.12**	**309**	*i* P	Pn	02 05 46.0	+5.2
TURN				*i* S	**Sn**	**02 05 59.0**	**+4.5**
LFK	**Lefkose**	**2.36**	**96**	ePN	**Pn**	**02 05 44.8**	**+0.7**
LFK	**Lefkose**	**2.36**	**96**	ePn	**Pn**	**02 05 44.8**	**+0.7**
DNZL	**Cakiroluk**	**2.49**	**329**	*i* P	Pn	02 05 52.1	+6.0
DNZL				*i* S	Sn	02 06 23.4	+8.0
IKL	**Isikli**	**2.54**	**74**	ePN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**1.21**	**111**	*i* P	Pn	02 06 29.1	+0.4
GZT				*i* S	Sn	02 06 46.1	+0.6
KUZU	**Kuzuini**	**1.26**	**143**	*i* P	Pg	02 06 29.6	+0.2
KUZU				*i* S	Sn	02 06 48.0	+1.5
KUZU	**Kuzuini**	**1.26**	**143**	*i* P	Pg	02 06 29.6	+0.2
KUZU				*i* S	Sn	02 06 48.0	+1.5

NEIC ***15*** *02:12:56.9,33˚.18N×115˚.61W,h2km,ML3.4(PAS),After PAS.*
IDC ***15*** *02:12:57.5±1.3,33˚.31N×115˚.63W,h0km,mb1 3.4/3, mb1mx3.2/27,mbtmp2.9/3,ML3.1/3,Error ellipse: s-maj=20.3km s-min=8.4km az=15.0*
ISC 15 02:12:55.1±1.2,33˚.17N±0˚.02×115˚.63W±0˚.02,h1km±11km, n43,σ1$32/71,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart** baz=0.3	**0.27**	**212**	P	**Pb**	**02 13 02.6**	**-0.2**
BC3	**Big Chuckawall** baz=0.5	**0.51**	**16**	P	**Pb**	**02 13 06.3**	**-0.6**
GLA	**Glamis**	**0.68**	**100**	*e*Pg	**Pg**	**02 13 09.2**	**+1.1**
GLA				*e*Sg	**Sg**	**02 13 18.2**	**+1.2**
GLA	**Glamis** baz=0.7	**0.68**	**100**	P	**Pg**	**02 13 09.3**	**+1.2**
GLA				S	**Sg**	**02 13 18.6**	**+1.6**
MONP	**Monument Peak** baz=0.7	**0.72**	**248**	P	**Pb**	**02 13 10.6**	**0.0**
MONP				S	**Sb**	**02 13 20.8**	**-0.3**
PFO	**Pinyon Flat Ob** baz=0.7	**0.82**	**303**	*e*Pg	**Pg**	**02 13 11.3**	**+0.5**
PFO				*e*Sg	**Sb**	**02 13 23.8**	**-0.1**
PFO				Lg	Lg	02 13 23.8	
PFO	**Pinyon Flat Ob** 70nm,0.3s,baz=119,slow=13,SNR=25.3	**0.82**	**303**	Pg	**Pb**	**02 13 12.2**	**0.0**
PFO				Lg	Lg	02 13 23.8	
PFO	**Pinyon Flat Ob** baz=0.8	**0.82**	**303**	S	**Sb**	**02 13 23.7**	**-0.1**
BAR	**Barrett**	**1.01**	**241**	*e*Pg	**Pg**	**02 13 14.9**	**+0.5**
BAR				*e*Sg	**Sb**	**02 13 29.2**	**+0.2**
IRM	**Iron Mountain** baz=1.0	**1.06**	**22**	P	**Pb**	**02 13 16.2**	**-0.1**
Y12C	**Blythe** baz=1.1	**1.09**	**58**	P	**Pn**	**02 13 17.1**	**-0.3**
Y12C				S	**Sn**	**02 13 31.7**	**-1.5**
109C	**Camp Elliot, M** baz=1.3	**1.27**	**258**	P	**Pn**	**02 13 18.9**	**-1.1**
GMRC	**Granite Mounta** baz=1.6	**1.61**	**359**	Sb	**Sg**	**02 13 48.1**	**+1.4**
113A	**Mohawk Valley,** baz=1.6	**1.61**	**104**	Pb	**Pb**	**02 13 25.8**	**+0.2**
113A				S	**Sb**	**02 13 46.0**	**-0.5**
PDMCI	**Parker Dam,Lak** baz=1.7	**1.67**	**47**	Pb	**Pb**	**02 13 27.2**	**+0.5**
PDMCI				Sb	**Sg**	**02 13 49.3**	**+0.4**
NEE2	**Needles Airpor** baz=1.8	**1.80**	**27**	P	**Pn**	**02 13 27.4**	**+0.2**
LDFC	**Landfair**	**1.95**	**13**	*e*Pn	**Pb**	**02 13 31.0**	**-0.5**
LDFC				*e*Pg	**Pg**	**02 13 34.2**	**+1.7**
Z14A	**Wintersburg** baz=2.2	**2.25**	**84**	Sb	**Sg**	**02 14 06.9**	**-0.6**
MWC	**Mount Wilson**	**2.29**	**298**	*e*Pn	**Pn**	**02 13 35.2**	**+1.1**
MWC				*e*Pg	**Pg**	**02 13 40.0**	**+1.1**
MWC				*e*Sg	**Sg**	**02 14 08.3**	**-0.3**
GSC	**Goldstone**	**2.34**	**336**	*e*Pn	**Pb**	**02 13 36.4**	**-1.8**
GSC				*e*Pg	**Pg**	**02 13 40.7**	**+0.7**
GSC				*e*Sg	**Sg**	**02 14 11.4**	**+1.1**
PASC	**Pasadena Art C**	**2.36**	**296**	*e*Pn	**Pn**	**02 13 36.0**	**+1.0**
PASC				*e*Pg	**Pg**	**02 13 40.5**	**+0.3**
PASC				*e*Sg	**Sg**	**02 14 10.8**	**0.0**
214A	**Organ Pipe Nat**	**2.67**	**116**	*e*Pn	**Pn**	**02 13 39.4**	**+0.2**
214A				*e*Pg	**Pg**	**02 13 46.0**	**-0.2**
214A				*e*Sn	**Sn**	**02 14 11.8**	**-0.4**
214A				*e*Sg	**Sb**	**02 14 18.3**	**+1.4**
SHPR	**Sheep Range**	**3.35**	**6**	*e*Pn	**Pn**	**02 13 49.7**	**+1.0**
SHPR				*e*Pg	**Pg**	**02 13 59.8**	**+0.4**
TUC	**Tucson**	**4.17**	**101**	*e*Pn	**Pn**	**02 14 00.6**	**+0.7**
TUC				*e*Pg	**Pg**	**02 14 14.7**	**-0.3**
TUC				*e*Sg	**Sg**	**02 15 08.0**	**-1.0**
WUAZ	**Wupatki**	**4.22**	**55**	*e*Pn	**Pn**	**02 14 02.5**	**+1.8**
WUAZ				*e*Pg	**Pg**	**02 14 14.4**	**-1.6**
WUAZ				*e*Sg	**Sg**	**02 15 08.4**	**-2.5**
CCUT	**Cedar City**	**4.75**	**22**	*e*Pn	**Pn**	**02 14 09.2**	**+1.2**
CCUT				*e*Pg	**Pg**	**02 14 25.1**	**-1.0**
CCUT				*e*Sg	**Sb**	**02 15 21.0**	**+4.0**
ARUT	**Antelope Range**	**4.94**	**21**	*e*Pn	**Pn**	**02 14 13.0**	**+2.4**
ARUT				*e*Pg	**Pg**	**02 14 28.3**	**-1.5**
ARUT				*e*Sg	**Sb**	**02 15 23.9**	**+1.4**
W18A	**Petrified Fore** 26nm,0.8s	**5.26**	**67**	*e*Pn	**Pn**	**02 14 17.1**	**+2.2**
W18A				*e*Pg	**Pg**	**02 14 33.6**	**-2.2**
W18A				*e*Sg	Sb	02 15 37.4	+5.8
NVAR	**Mina Array Bea**	**5.68**	**338**	Pn	**Pn**	**02 14 20.9**	**0.0**
NVAR				Pg	**Pg**	**02 14 41.9**	**-2.1**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=162,slow=15,SNR=2.5	**5.68**	**338**	Pn	**Pn**	**02 14 20.9**	**0.0**
NVAR				Pg	**Pg**	**02 14 41.9**	**-2.1**
MVU	**Marysvale** 0.5nm,0.3s,baz=160,slow=18,SNR=15	**6.00**	**27**	*e*Pn	**Pn**	**02 14 25.7**	**+0.5**
MVU	12nm,0.6s			*e*Pg	Pg	02 14 46.1	-4.0
121A	**Cookes Peak, D** 11nm,0.8s	**6.63**	**93**	*e*Pn	**Pn**	**02 14 33.8**	**0.0**
121A				*e*Pg	Pg	02 14 58.4	-3.7
121A				*e*Sg	**Sg**	**02 16 26.8**	**-1.3**
MVCO	**Mesa Verde** 12nm,0.6s	**7.09**	**53**	*e*Pn	Pn	02 14 43.7	+3.5
MVCO				*e*Pg	**Pg**	**02 15 08.4**	**-2.6**
SRU	**San Rafael** 5.0nm,0.6s	**7.22**	**33**	*e*Pn	**Pn**	**02 14 44.0**	**+2.1**
SRU				*e*Pg	Pg	02 15 08.9	-4.5
DUG	**Dugway** 10nm,1.0s	**7.37**	**17**	*e*Pn	**Pn**	**02 14 44.8**	**+0.9**
DUG				*e*Pg	**Pg**	**02 15 14.7**	**-1.5**
DUG				*e*Sn	**Sn**	**02 16 08.0**	**-0.2**
PV04	**Paradox Valley**	**7.55**	**44**	*e*Pn	**Pn**	**02 14 48.5**	**+2.1**
PV04				*e*Pg	Pg	02 15 14.3	-5.4
PV04				*e*Sg	**Sg**	**02 16 55.5**	**-2.0**
PV01	**Paradox Valley** 673nm,0.6s	**7.58**	**47**	*e*Pn	**Pn**	**02 14 48.6**	**+1.7**
PV01				*e*Pg	Pg	02 15 15.8	-4.6
ANMO	**Albuquerque**	**7.81**	**74**	Pg	Pg	02 15 19.9	-4.8
ANMO	**Albuquerque** 0.1nm,0.3s,baz=266,slow=15,SNR=3.2	**7.81**	**74**	Pg	Pg	02 15 19.9	-4.8
PDAR	**Pinedale Array**	**10.71**	**25**	Pn	Pn	02 15 34.4	+4.6
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=185,slow=8.6,SNR=5.6	**10.71**	**25**	Pn	Pn	02 15 34.4	+4.6
TXAR	**Lajitas Array**	**10.92**	**107**	Pn	Pn	02 15 37.5	+4.9
TXAR				Lg	Lg	02 18 43.1	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=290,slow=14,SNR=5.4	**10.92**	**107**	Pn	Pn	02 15 37.5	+4.9
TXAR				Lg	Lg	02 18 43.1	
	0.0nm,0.3s,baz=291,slow=31,SNR=3.1						

NEIC ***15*** *02:13:52.1,33˚.18N×115˚.61W,h2km,ML3.5(PAS),After PAS.*
NEIC Felt at Brawley, Calipatria and Niland.
IDC ***15*** *02:13:52.2±1.3,33˚.33N×115˚.59W,h0km,mb1 3.5/3, mb1mx3.3/27,mbtmp3.1/3,ML3.4/3,Error ellipse: s-maj=22.4km s-min=8.0km az=15.0*
ISC 15 02:13:50.5±1.2,33˚.15N±0˚.03×115˚.62W±0˚.02,h2km±11km, n40,σ1$46/54,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BC3	**Big Chuckawall** baz=0.5	**0.53**	**15**	P	**Pg**	**02 14 01.5**	**+0.9**
BC3				S	**Sg**	**02 14 08.5**	**+1.0**
GLA	**Glamis**	**0.67**	**98**	*e*Pg	**Pg**	**02 14 04.4**	**+1.0**
GLA				*e*Sg	**Sb**	**02 14 14.0**	**-0.7**
GLA	**Glamis** baz=0.7	**0.67**	**98**	P	**Pg**	**02 14 04.6**	**+1.2**
GLA				S	**Sg**	**02 14 13.2**	**+1.2**
MONP	**Monument Peak** baz=0.7	**0.72**	**250**	S	**Sg**	**02 14 15.6**	**+2.0**
PFO	**Pinyon Flat Ob**	**0.84**	**304**	Pg	**Pg**	**02 14 07.3**	**+0.8**
PFO				Lg	Lg	02 14 19.1	
PFO	**Pinyon Flat Ob** 74nm,0.3s,baz=118,slow=16,SNR=12	**0.84**	**304**	Pg	**Pg**	**02 14 07.3**	**+0.8**
PFO	336nm,0.3s,baz=19,slow=10,SNR=14			Lg	Lg	02 14 19.1	
PFO	**Pinyon Flat Ob** baz=0.8	**0.84**	**304**	P	**Pg**	**02 14 07.2**	**+0.7**
PFO				S	**Sb**	**02 14 18.8**	**-0.8**
BELC	**Belle Mtn. Jos** baz=0.9	**0.91**	**340**	P	**Pg**	**02 14 08.3**	**+0.3**
BAR	**Barrett**	**1.00**	**243**	*e*Pg	**Pb**	**02 14 11.0**	**+0.5**
BAR				*e*Sg	**Sb**	**02 14 24.2**	**+0.1**
IRM	**Iron Mountain** baz=1.1	**1.09**	**21**	P	**Pg**	**02 14 11.5**	**+0.2**
IRM				S	**Sn**	**02 14 26.9**	**-1.4**
Y12C	**Blythe** baz=1.1	**1.10**	**56**	S	**Sn**	**02 14 26.8**	**-1.7**
109C	**Camp Elliot, M** baz=1.3	**1.27**	**259**	P	**Pn**	**02 14 14.2**	**-1.1**
113A	**Mohawk Valley,** baz=1.6	**1.60**	**103**	S	**Sb**	**02 14 40.9**	**-0.5**
GMRC	**Granite Mounta** baz=1.6	**1.63**	**359**	Pg	**Pg**	**02 14 22.1**	**+0.3**
GMRC				Sb	**Sg**	**02 14 43.1**	**+0.2**
PDMCI	**Parker Dam,Lak** baz=1.7	**1.69**	**47**	Pb	**Pb**	**02 14 22.3**	**+0.1**
LDFC	**Landfair**	**1.97**	**12**	*e*Pn	**Pb**	**02 14 26.0**	**-1.2**
LDFC				*e*Pg	**Pg**	**02 14 29.4**	**+1.1**
Z14A	**Wintersburg** baz=2.2	**2.25**	**84**	Sb	**Sg**	**02 15 02.1**	**-0.7**
MWC	**Mount Wilson**	**2.30**	**299**	*e*Pn	**Pb**	**02 14 31.1**	**-1.7**
MWC				*e*Sg	**Sb**	**02 15 03.0**	**+1.3**
Y14A	**Wickenburg** baz=2.3	**2.32**	**69**	Pb	**Pb**	**02 14 33.5**	**+0.4**
Y14A				Sb	**Sg**	**02 15 04.0**	**-1.1**
GSC	**Goldstone**	**2.37**	**336**	*e*Pn	**Pn**	**02 14 31.3**	**+1.0**
214A	**Organ Pipe Nat**	**2.65**	**116**	*e*Pn	**Pn**	**02 14 35.0**	**+0.8**
214A				*e*Sg	**Sg**	**02 15 14.4**	**-1.3**
SHPR	**Sheep Range**	**3.37**	**6**	*e*Pn	**Pn**	**02 14 46.0**	**+1.6**
SHPR				*e*Sn	**Sn**	**02 15 25.4**	**+0.4**
SHPR				*e*Sg	**Sg**	**02 15 38.9**	**0.0**
TUC	**Tucson**	**4.16**	**100**	*e*Pn	**Pn**	**02 14 55.6**	**+0.6**
TUC				*e*Sn	**Sn**	**02 15 45.9**	**+1.7**
TUC				*e*Sg	**Sg**	**02 16 03.7**	**-0.4**
WUAZ	**Wupatki**	**4.24**	**55**	*e*Pn	**Pn**	**02 14 58.1**	**+2.0**
CCUT	**Cedar City**	**4.77**	**22**	*e*Pn	**Pn**	**02 15 04.0**	**+0.5**
CCUT				*e*Sg	**Sg**	**02 16 22.4**	**-1.3**
ARUT	**Antelope Range**	**4.96**	**20**	*e*Pn	**Pn**	**02 15 06.8**	**+0.7**
ARUT				*e*Sg	**Sb**	**02 16 22.9**	**+4.6**
W18A	**Petrified Fore**	**5.26**	**66**	*e*Pn	**Pn**	**02 15 11.2**	**+1.0**
NVAR	**Mina Array Bea**	**5.71**	**338**	Pn	**Pn**	**02 15 15.8**	**-0.6**
NVAR				Pg	**Pg**	**02 15 38.0**	**-1.9**
NVAR	**Mina Array Bea** 0.4nm,0.3s,baz=154,slow=15,SNR=3.2	**5.71**	**338**	Pn	**Pn**	**02 15 15.8**	**-0.6**
NVAR	0.5nm,0.3s,baz=154,slow=16,SNR=5.6			Pg	**Pg**	**02 15 38.0**	**-1.9**
MVU	**Marysvale**	**6.02**	**26**	*e*Pn	**Pn**	**02 15 21.4**	**+0.7**
MVU				*e*Pg	Pb	02 15 41.2	+4.9
MVU				*e*Sg	Sg	02 16 56.6	-7.3
121A	**Cookes Peak, D**	**6.62**	**93**	*e*Pn	**Pn**	**02 15 30.2**	**+1.2**
121A				*e*Pg	Pb	02 15 50.5	+4.0
121A				*e*Sg	**Sg**	**02 17 18.5**	**-4.7**
MVCO	**Mesa Verde**	**7.10**	**53**	*e*Pg	**Pg**	**02 16 04.5**	**-2.1**
PV04	**Paradox Valley**	**7.56**	**44**	*e*Pn	**Pn**	**02 15 42.3**	**+0.4**
PV04				*e*Pg	Pg	02 16 10.0	-5.3
PV01	**Paradox Valley**	**7.60**	**47**	*e*Pn	**Pn**	**02 15 44.5**	**+2.1**
PV01				*e*Pg	Pg	02 16 10.7	-5.3
ANMO	**Albuquerque** 3.1nm,0.7s	**7.81**	**74**	*e*Pg	Pg	02 16 15.0	-5.2
ANMO				Lg	Lg	02 17 58.6	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=266,slow=16,SNR=2.1	**7.81**	**74**	Pg	Pg	02 16 14.4	-5.8
ANMO	0.2nm,0.3s,baz=142,slow=5.4,SNR=4.1			Lg	Lg	02 17 58.6	
PDAR	**Pinedale Array**	**10.73**	**25**	Pn	Pn	02 16 28.7	+3.4
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=201,slow=12,SNR=4.1	**10.73**	**25**	Pn	Pn	02 16 28.7	+3.4
TXAR	**Lajitas Array**	**10.91**	**107**	Pn	Pn	02 16 31.2	+3.5
TXAR				Lg	Lg	02 19 40.2	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=286,slow=13,SNR=2.4	**10.91**	**107**	Pn	Pn	02 16 31.2	+3.5
TXAR	0.1nm,0.3s,baz=290,slow=30,SNR=2.5			Lg	Lg	02 19 40.2	

BJI ***15*** *02:47:10.2,1˚.73N×126˚.42E,h97km,mB5.2/26,mb4.8/41*
DJA ***15*** *02:47:15.9±1.8,2˚.N±4˚×12˚.6E±˚,h20km±24km,M5.3/10, mb5.2/10,mB5.6/3,MLv5.3/10,Mw(mB)5.1/3*
ISCJB ***15*** *02:47:15.2±0.4,2˚.43N±0˚.02×126˚.16E±0˚.03,h89km±3km, mb4.8/76,Error ellipse: s-maj=5.6km s-min=3.4km az=159.8*
NEIC ***15*** *02:47:15.9±0.7,2˚.38N×126˚.06E,h81km±7km,mb4.8/43, Error ellipse: s-maj=6.9km s-min=3.8km az=68.0*
KLM ***15*** *02:47:16.7,2˚.44N×126˚.39E,h91km,mb4.9,ML4.2,MS5.9*
IDC ***15*** *02:47:17.7±2.7,2˚.36N×126˚.02E,h96km±23km,mb4.4/26, mb1 4.5/26,mb1mx4.5/28,mbtmp4.4/26,MS3.4/6, Ms1 3.5/6,ms1mx3.2/36,Error ellipse: s-maj=17.6km s-min=8.5km az=77.0*
ISC 15 02:47:17.8±0.3,2˚.42N±0˚.03×126˚.17E±0˚.04,h98km±2km, n242,σ1$33/279,mb4.7/74,12C-17D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.42**	**333**	P	**Pn**	**02 47 40.0**	**-2.9**
SGSI				S	**Sn**	**02 47 57.6**	**-4.2**
TNTI	**Ternate**	**2.02**	**144**	P	**Pn**	**02 47 47.8**	**-2.8**
TNTI	**Ternate**	**2.02**	**144**	*e*Pn	Pn	02 47 47.6	-2.9
TNTI				*e*Sn	**Sn**	**02 48 14.6**	**-1.0**
KMSI	**Cibinong**	**2.85**	**230**	P	**Pn**	**02 48 00.2**	**-1.3**
KMSI				S	**Sn**	**02 48 31.7**	**-3.5**
LBMI	**Labuha**	**3.31**	**156**	P	**Pn**	**02 48 06.0**	**-1.7**
LBMI				S	**Sn**	**02 48 43.2**	**-3.0**
GSPH	**General Santos**	**3.84**	**342**	*e*P	**Pn**	**02 48 12.2**	**-2.8**
SANI	**Sanana**	**4.44**	**182**	P	Pn	02 48 19.7	-3.2
SANI				S	Sn	02 49 04.9	-6.6
MRSI	**Marisa**	**4.65**	**246**	P	**Pn**	**02 48 24.9**	**-0.8**
LUWI	**Luwuk**	**4.83**	**225**	P	**Pn**	**02 48 28.2**	**0.0**
LUWI				S	**Sn**	**02 49 23.5**	**+0.5**
LUWI	**Luwuk**	**4.83**	**225**	*e*Pn	**Pn**	**02 48 29.5**	**+1.2**
LUWI				*e*Sn	**Sn**	**02 49 24.9**	**+1.9**
LUWI	**Luwuk** baz=5.0,SNR=6.8	**4.83**	**225**	P	**Pn**	**02 48 29.4**	**+1.2**
LUWI	baz=5.0,SNR=4.0			S	Sn	02 49 40.9	+18
CTBH	**Cotabato--PC H**	**5.14**	**338**	*i* P	**Pn**	**02 48 31.4**	**-1.0**
TOLI	**Toli-Toli** 837nm,0.6s,10µm3.4nm	**5.53**	**257**	P	x	02 48 35.9	
BUKP	**Musuan**	**5.54**	**349**	*e*P	**Pn**	**02 48 37.6**	**-0.2**
NLAI	**Namlea** 98nm,0.3s,5µm1.6nm	**5.69**	**171**	P	Pn	02 48 36.9	-3.0
NLAI	98nm,0.3s,5µm1.6nm			S	Sn	02 49 34.8	-9.2
PAGZ	**Pagadian**	**6.07**	**333**	*e*P	**Pn**	**02 48 43.2**	**-1.8**
PAGZ				*e*S	Sn	02 48 54.3	-59
BUTP	**Butuan**	**6.53**	**355**	*e*P	**Pn**	**02 48 53.4**	**+2.1**
FAKI	**Fak Fak** 42nm,0.9s	**8.06**	**131**	P	**Pn**	**02 49 11.1**	**-1.1**
FAKI	**Fak Fak**	**8.06**	**131**	*e*Pn	**Pn**	**02 49 11.7**	**-0.5**
FAKI	**Fak Fak** baz=8.0,SNR=8.8	**8.06**	**131**	P	**Pn**	**02 49 11.3**	**-0.9**
MYLDM	**Lahad Datu** 309nm,1.0s,1.1nm	**8.13**	**290**	P	x	02 49 13.9	
MYLDM	**Lahad Datu**	**8.13**	**290**	*e*Pn	**Pn**	**02 49 13.4**	**+0.3**
TTSI	**Tana Toraja** 220nm,1.1s,2µm	**8.35**	**230**	P	**Pn**	**02 49 15.8**	**-0.3**
SPSI	**Sidrap Palu** 79nm,0.9s	**9.01**	**225**	P	**Pn**	**02 49 25.5**	**+0.5**
KAPI	**Kappang**	**9.78**	**221**	*e*Pn	**Pn**	**02 49 35.6**	**+0.1**
BAKI	**Biak** 185nm,1.1s	**10.56**	**110**	P	**Pn**	**02 49 47.6**	**+1.4**
KKM	**Kota Kinabalu** 206nm,0.8s	**10.56**	**290**	P	x	02 49 47.2	
KKM	**Kota Kinabalu**	**10.56**	**290**	*e*Pn	**Pn**	**02 49 46.9**	**+0.5**
KKM	**Kota Kinabalu** baz=11,SNR=22	**10.56**	**290**	⇓P	**Pn**	**02 49 47.4**	**+1.0**
KKM	**Kota Kinabalu**	**10.56**	**290**	⇓P	**Pn**	**02 49 47.3**	**+1.0**
SOEI	**Soe**	**12.24**	**189**	*e*Pn	**Pn**	**02 50 09.5**	**+0.6**
SOEI	**Soe** baz=12,SNR=4.2	**12.24**	**189**	P	**Pn**	**02 50 10.3**	**+1.4**
BTM	**Bintulu** 60nm,0.9s	**13.10**	**274**	⇑P	**P**	**02 50 24.5**	**-2.1**
SBUM	**Sibu**	**13.94**	**270**	P	x	02 50 33.7	
SBUM	**Sibu**	**13.94**	**270**	*e*Pn	**Pn**	**02 50 33.1**	**+2.0**
SBUM	**Sibu**	**13.94**	**270**	⇓P	**Pn**	**02 50 33.4**	**+2.3**
GENI	**Genyem**	**14.85**	**109**	P	**P**	**02 50 49.0**	**+2.9**
KSM	**Kuching**	**15.88**	**267**	⇓P	**P**	**02 50 57.5**	**0.0**
MTN	**Manton Dam** baz=16,SNR=12	**15.94**	**162**	P	**Pn**	**02 50 53.3**	**-3.2**
KDU	**Kakadu** baz=16,SNR=18	**16.26**	**158**	P	**Pn**	**02 50 56.1**	**-4.3**
KNRA	**Kununurra** baz=18,SNR=8.7	**18.16**	**172**	P	**P**	**02 51 21.7**	**-1.0**
KNRA	baz=18,SNR=4.8			S	Sn	02 55 00.6	+14
DLV	**T Lat** 30nm,0.9s	**19.92**	**299**	*e*P	**P**	**02 51 42.2**	**+0.1**
YULB	**Yu-li** 164nm,2.7s	**21.38**	**348**	*e*P	**P**	**02 51 53.9**	**-3.6**
TPUB	**Ta-pu** 39nm,0.4s	**21.44**	**346**	*e*P	**P**	**02 51 57.4**	**-0.8**
SSLB	**Suanglung** 240nm,2.6s	**21.84**	**347**	*e*P	**P**	**02 52 00.5**	**-1.9**
MYKOM	**Kota Tinggi**	**22.32**	**269**	⇑P	**P**	**02 52 08.4**	**+0.9**
KGM	**Kluang**	**22.84**	**269**	⇓P	**P**	**02 52 14.0**	**+1.1**
QIZ	**Qiongzhong**	**22.98**	**317**	P	**P**	**02 52 12.3**	**-1.9**
QIZ				S	**S**	**02 56 19.8**	**+2.6**
QIZ	comp=Z,23nm,1.7s			pmax	pmax		
QIZ	comp=Z,210nm,4.4s			pmax	pmax		
MDSI	**Maura Dua**	**23.02**	**253**	P	**P**	**02 52 16.9**	**+2.2**
KASI	**Kota Agung**	**23.04**	**250**	P	**P**	**02 52 17.5**	**+2.6**
KTGM	**Kuala Trenggan**	**23.16**	**278**	⇓P	**P**	**02 52 14.8**	**-1.3**
COEN	**Coen**	**23.43**	**134**	*e*P	**P**	**02 52 17.6**	**-0.9**
COEN	**Coen** baz=23,SNR=7.4	**23.43**	**134**	P	**P**	**02 52 17.6**	**-0.9**
WRAB	**Tennant Creek** 25nm,0.8s	**23.62**	**160**	*e*P	**P**	**02 52 19.4**	**-0.7**
WRA	**Warramunga Arr**	**23.62**	**161**	P	**P**	**02 52 19.3**	**-0.9**
WRA				S	**S**	**02 56 26.6**	**-1.0**
WRA	**Warramunga Arr** 14nm,0.7s,baz=336,slow=11,SNR=88	**23.62**	**161**	P	**P**	**02 52 19.3**	**-0.9**
WRA	12nm,1.0s,baz=332,slow=21,SNR=13			S	**S**	**02 56 26.6**	**-1.0**
PMG	**Port Moresby** 51nm,1.2s	**23.98**	**120**	*e*P	**P**	**02 52 23.5**	**0.0**
MBWA	**Marble Bar** 20nm,0.6s	**24.26**	**195**	*e*P	**P**	**02 52 24.8**	**-1.2**
JOW	**Kunigami** 12nm,0.8s	**24.36**	**5**	*e*P	**P**	**02 52 28.0**	**+1.3**
IPM	**Ipoh**	**25.18**	**275**	⇓P	**P**	**02 52 35.7**	**+1.2**
QIS	**Mount Isa** baz=26,SNR=9.5	**26.36**	**151**	P	**P**	**02 52 46.1**	**+1.1**
AS31	**Alice Springs**	**27.00**	**164**	*e*P	**P**	**02 52 50.4**	**-0.2**
ASAR	**Alice Springs**	**27.00**	**164**	P	**P**	**02 52 50.4**	**-0.3**
ASAR				PcP	**PcP**	**02 56 11.7**	**+1.6**
ASAR				S	**S**	**02 57 21.4**	**+0.2**
ASAR	**Alice Springs** 7.7nm,0.5s,baz=341,slow=7.7,SNR=100	**27.00**	**164**	P	**P**	**02 52 50.4**	**-0.3**
ASAR	3.3nm,0.6s,baz=344,slow=2.1,SNR=9.7			PcP	**PcP**	**02 56 11.7**	**+1.6**
ASAR	6.8nm,0.9s,baz=349,slow=20,SNR=20			S	**S**	**02 57 21.4**	**+0.2**
PSI	**Prapat**	**27.22**	**271**	P	**P**	**02 52 51.4**	**-1.5**
PSI	**Prapat** 7.3nm,0.8s,baz=115,slow=7.2,SNR=7.1	**27.22**	**271**	P	**P**	**02 52 51.4**	**-1.5**
PSI	comp=Z,63nm,18.3s,baz=205,slow=39			LR	LR	03 04 57.3	
WRKA	**Warakurna** baz=28,SNR=45	**27.37**	**176**	P	**P**	**02 52 53.9**	**-0.1**
WRKA	baz=28,SNR=6.6			S	S	02 57 57.7	+31
GIRL	**Giralia** baz=28,SNR=3.3	**27.50**	**204**	P	**P**	**02 52 56.4**	**+1.3**
GSI	**Gunungsitoli** 20nm,0.6s	**28.60**	**268**	*e*P	**P**	**02 53 03.9**	**-1.2**
SLVN	**Son La**	**28.70**	**313**	*e*P	**P**	**02 53 06.2**	**+0.3**
MEEK	**Meekatharra** baz=30,SNR=32	**29.79**	**194**	P	**P**	**02 53 15.3**	**-0.2**
CTAO	**Charters Tower** 3.5nm,0.6s	**29.81**	**140**	*e*P	**P**	**02 53 16.5**	**+0.8**
NJ2	**Nanjing**	**30.27**	**348**	*e*P	**P**	**02 53 20.3**	**+0.7**
NJ2	comp=Z,30nm,1.2s			pmax	pmax		
GYA	**Guiyang**	**30.37**	**324**	*e*P	**P**	**02 53 21.0**	**+0.3**
GYA				pP	**pP**	**02 53 44.3**	**+1.6**
GYA				sP	**sP**	**02 53 57.0**	**+3.0**
GYA				PP	**PnPn**	**02 54 24.5**	**+1.2**
GYA				S	**S**	**02 58 14.6**	**+0.3**
GYA				sS	**sS**	**02 58 53.3**	**+0.8**
GYA				ScP	**ScP**	**02 59 51.0**	**-1.4**
GYA				ScS	**ScS**	**03 03 45.4**	**-3.3**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
GYA	comp=Z,90nm,4.8s			pmax	pmax		
GYA	comp=N,460nm,14.4s			LR	LR		
GYA	comp=E,380nm,15.0s			LR	LR		
GYA	comp=Z,420nm,14.7s			LR	LR		
JNU	**Nakatsue** 8.4nm,0.9s	**30.86**	**8**	*e*P	**P**	**02 53 25.1**	**+0.2**
JNU	**Nakatsue** 16nm,0.8s,baz=162,slow=2.2,SNR=7.8	**30.86**	**8**	P	**P**	**02 53 24.3**	**-0.6**
JNU	comp=Z,77nm,21.3s,baz=82,slow=31			LR	LR	03 03 19.1	
CMAR	**Chiang Mai Arr**	**31.08**	**303**	P	**P**	**02 53 26.6**	**-0.3**
CMAR	**Chiang Mai Arr** 1.7nm,0.3s,baz=119,slow=7.0,SNR=13	**31.08**	**303**	P	**P**	**02 53 26.6**	**-0.3**
CMAR	comp=Z,74nm,19.4s,baz=245,slow=34			LR	LR	03 05 07.1	
CHTO	**Chiang Mai** 3.9nm,0.6s	**31.24**	**303**	*e*P	**P**	**02 53 28.7**	**+0.2**
ENH	**Enshi** 13nm,0.8s	**31.90**	**332**	*e*P	**P**	**02 53 33

8.9nm,0.9s,baz=191,slow=10.0,SNR=16
MJAR LR LR 03 09 01.5
comp=Z,68nm,19.0s,baz=205,slow=36
NWAO Narrogin (SRO) 36.16 193 P **P** **02 54 10.4 -0.3**
NWAO Narrogin (SRO) 36.16 193 P **P** **02 54 10.4 -0.3**
9.7nm,0.8s,baz=43,slow=12,SNR=6.4
BBOO Buckleboo 36.26 166 *e*P **P** **02 54 11.7 0.0**
498nm,0.5s
BBOO Buckleboo 36.26 166 P **P** **02 54 11.7 0.0**
baz=36,SNR=104
BBOO S **S** **02 59 50.2 +5.0**
baz=36,SNR=6.6
STKA Stephens Creek 37.12 158 *e*P **P** **02 54 19.5 +0.5**
2.1nm,0.8s
STKA Stephens Creek 37.12 158 P **P** **02 54 19.4 +0.4**
11nm,0.7s,baz=334,slow=8.2,SNR=38
STKA Stephens Creek 37.12 158 P **P** **02 54 19.3 +0.4**
baz=37,SNR=22
HTT Hallett 37.63 162 P **P** **02 54 24.0 +0.6**
baz=38,SNR=13
BJT Baijiatuau 38.51 348 *e*P **P** **02 54 29.8 -0.8**
24nm,0.6s
BJI Beijing 38.53 348 P **P** **02 54 29.9 -0.8**
BJI pmax pmax
comp=Z,29nm,0.6s
BJI pmax pmax
comp=Z,100nm,3.0s
LZH Lanzhou 39.36 331 P **P** **02 54 38.4 +0.5**
LZH pP **pP** **02 54 59.0 -1.6**
LZH sP **sP** **02 55 13.3 +1.6**
LZH *e*S **S** **03 00 34.0 +1.7**
LZH sS **sS** **03 01 12.3 +1.0**
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.0s
SHL Shillong 40.22 308 *e*P **P** **02 54 44.5 -0.8**
HHC Hu-ho-hao-te 40.47 343 *e*P **P** **02 54 47.4 +0.4**
HHC S **S** **03 00 51.0 +2.4**
HHC sS sS 03 01 35.8 +8.0
HHC ScS **ScS** **03 04 38.5 -4.6**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,380nm,5.0s
HHC LR LR
comp=N,400nm,11.2s
HHC LR LR
comp=E,550nm,12.4s
HHC LR LR
comp=Z,330nm,11.2s
ARMA Armidale 40.70 145 P **P** **02 54 50.5 +1.5**
baz=41,SNR=4.4
CN2 Changchun 41.21 359 *e*P **P** **02 54 54.6 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
ARPS Mount Arapiles 41.63 161 P **P** **02 54 57.4 +1.1**
baz=42,SNR=17
USRK Ussuriysk Arra 41.92 6 P **P** **02 54 58.1 -0.6**
7.1nm,0.7s,baz=148,slow=4.8,SNR=4.1
MDJ Mudanjiang 42.13 4 P **P** **02 55 01.3 +1.0**
MDJ pP **pP** **02 55 22.5 -0.7**
MDJ sP **sP** **02 55 33.1 -1.2**
MDJ pmax pmax
comp=Z,16nm,0.9s
MDJ pmax pmax
comp=Z,390nm,5.1s
MDJ Mudanjiang 42.13 4 *e*P **P** **02 55 01.4 +1.0**
6.7nm,0.6s
H11S3 WAKE ISLAND Hy 42.78 65 T T 03 42 28.3
baz=253,slow=73,SNR=23
H11S1 WAKE ISLAND Hy 42.79 65 T T 03 42 17.8
baz=253,slow=73,SNR=5.2
H11S2 WAKE ISLAND Hy 42.79 65 T T 03 42 16.4
baz=253,slow=73,SNR=17
LSA Lhasa 42.90 313 *e*P **P** **02 55 07.6 +0.2**
22nm,0.6s
GTA Gaotai 43.94 330 *e*P **P** **02 55 14.8 -0.5**
GTA pP **pP** **02 55 37.6 -0.6**
GTA sP **sP** **02 55 49.3 0.0**
GTA PcP **PcP** **02 57 01.6 +2.0**
GTA S **S** **03 01 39.3 -0.5**
GTA sS **sS** **03 02 19.4 +0.1**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,4.5s
HIA Hailar 47.00 354 *e*P **P** **02 55 40.0 +1.0**
7.7nm,0.7s
ULN Ulaanbaatar 48.19 343 *e*P **P** **02 55 48.1 -0.4**
11nm,1.2s
ULN *e*PcP **PcP** **02 57 15.1 +0.7**
SONM Songino Array 48.36 342 P **P** **02 55 49.4 -0.4**
SONM PcP **PcP** **02 57 16.0 +1.0**
SONM Songino Array 48.36 342 P **P** **02 55 49.4 -0.4**
3.9nm,0.6s,baz=154,slow=8.4,SNR=24
SONM PcP **PcP** **02 57 16.0 +1.0**
3.3nm,0.8s,baz=158,slow=4.5,SNR=11
TLY Talaya 52.60 343 *e*P **P** **02 56 22.0 +0.5**
4.6nm,0.7s
WMQ Urumqi 53.48 326 P **P** **02 56 29.6 +1.4**
WMQ LR LR
comp=N,57nm,26.5s
WMQ LR LR
comp=E,21nm,17.0s
WMQ LR LR
comp=Z,39nm,24.6s
PETK Petropavlovsk- 56.85 22 P **P** **02 56 53.9 +1.8**
PETK Petropavlovsk- 56.85 22 P **P** **02 56 53.9 +1.8**
8.2nm,0.7s,baz=201,slow=7.9,SNR=7.9
MKAR Makanchi Array 58.32 326 *e*P **P** **02 57 02.0 -0.6**
MKAR PcP **PcP** **02 57 53.6 +1.0**
MKAR Makanchi Array 58.32 326 P **P** **02 57 01.9 -0.6**
7.1nm,0.4s,baz=122,slow=8.1,SNR=135
MKAR PcP **PcP** **02 57 53.6 +1.0**
11nm,0.8s,baz=125,slow=4.9,SNR=18
KSH Kashi 58.58 316 *e*P **P** **02 57 04.9 +0.2**
KSH *e*PP **PP** **02 59 17.3 +2.0**
KSH *e*PcS **PcS** **03 01 55.3 -0.5**
KSH *e*S **S** **03 04 57.3 -4.1**
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,150nm,5.8s
KSH LR LR
comp=N,130nm,6.8s
KSH LR LR
comp=E,160nm,6.3s
KSH LR LR
comp=Z,180nm,6.1s
YAK Yakutsk 59.53 2 *e*P **P** **02 57 11.2 +0.7**
28nm,0.6s
TKM2 Tokmak 2 60.36 319 P **P** **02 57 16.5 -0.5**
SNR=10
TKM2 Tokmak 2 60.36 319 *e*P **P** **02 57 16.4 -0.5**
5.6nm,0.5s
UCH Uchtor 60.77 318 P **P** **02 57 19.9 -0.1**
SNR=13
AAK Ala-Archa 60.96 319 *e*P **P** **02 57 20.6 -0.4**
1.7nm,0.6s
AAK PcP **PcP** **02 58 03.9 +0.5**
AAK Ala-Archa 60.96 319 P **P** **02 57 20.1 -0.8**
1.4nm,0.4s,baz=183,slow=19,SNR=9.2
AAK PcP **PcP** **02 58 03.9 +0.5**
4.1nm,0.7s,baz=123,slow=4.8,SNR=9.4
USP Ospenovka 61.23 319 P **P** **02 57 22.1 -0.5**
SNR=13
AML Almayashu 61.27 318 P **P** **02 57 23.3 -0.1**
SNR=13
EKS2 Erkin-Say 61.44 318 P **P** **02 57 24.2 0.0**
SNR=7.7
EKS2 Erkin-Say 61.44 318 *e*P **P** **02 57 23.8 -0.4**
5.2nm,0.7s
ZALV Zalesovo Beam 61.50 334 P **P** **02 57 22.9 -1.3**
ZALV Zalesovo Beam 61.50 334 P **P** **02 57 22.9 -1.3**
2.8nm,0.5s,baz=129,slow=6.6,SNR=12
KBL Kabul 61.88 308 *e*P **P** **02 57 26.4 -1.0**
9.2nm,0.6s
KBL Kabul 61.88 308 P **P** **02 57 26.3 -1.0**
baz=62,SNR=5.0
KURBB Kurchatov Arra 62.54 328 P **P** **02 57 30.7 -0.5**
8.9nm,0.5s,baz=127,slow=6.3,SNR=75
KURBB PcP **PcP** **02 58 09.6 +0.1**
2.4nm,0.7s,baz=129,slow=4.0,SNR=5.2
KURK Kurchatov 62.55 328 *e*P **P** **02 57 30.1 -1.1**
11nm,0.6s
KURK PcP **PcP** **02 58 09.6 +0.1**
KKAR Karatay Array 63.81 318 *e*P **P** **02 57 39.0 -0.8**
7.0nm,0.8s
BRVK Borovoye 68.19 327 *e*P **P** **02 58 06.9 -0.7**
9.8nm,0.8s
IDAH Dahanechah 68.84 304 *e*P **P** **02 58 11.2 -1.2**
TIXI Tiksi 69.16 1 *e*P **P** **02 58 13.3 +0.1**
IKOO Kooshah 69.50 304 *e*P **P** **02 58 15.5 -1.0**
ITEG Tejag 69.80 304 *e*P **P** **02 58 17.5 -0.7**
IKRD Kardeh 70.73 308 *e*P P 02 58 18.7 -5.2
ISFR Sfrayin 71.19 308 *e*P **P** **02 58 25.9 -0.8**
ABKAR Akbulak array 72.81 321 *e*P **P** **02 58 34.7 -1.1**
ISRV Sarvestan 74.06 300 *e*P **P** **02 58 42.9 -1.1**
IPAR Pars 74.17 300 *e*P **P** **02 58 42.5 -2.0**
ILAS Lasjerd 74.93 306 *e*P **P** **02 58 46.3 -2.5**
ARU Arti 75.74 328 *e*P **P** **02 58 52.0 -0.7**
8.3nm,0.7s
IKLH Kolahrood 75.81 304 *e*P **P** **02 58 53.0 -0.9**
IPIR Pirpir 76.31 303 *e*P **P** **02 58 54.5 -2.4**
VNDA Vanda 82.20 173 *e*P **P** **02 59 27.9 +0.4**
2.7nm,0.8s
VNDA Vanda 82.20 173 P **P** **02 59 27.8 +0.2**
1.8nm,0.6s,baz=307,slow=5.9,SNR=12
MAW Mawson 82.34 200 P **P** **02 59 29.1 +0.7**
MAW Mawson 82.34 200 P **P** **02 59 29.1 +0.7**
9.3nm,0.9s,baz=53,slow=5.0,SNR=5.6
RSO Redoubt South 83.50 30 *e*P **P** **02 59 36.2 +1.3**
KIV Kislovodsk 83.64 314 *e*P **P** **02 59 35.0 -0.8**
COLD Coldfoot 85.31 23 *e*P **P** **02 59 45.6 +2.0**
5.3nm,0.9s
MCK McKinley 85.58 26 *e*P **P** **02 59 45.4 +0.4**
3.2nm,0.8s
ILAR Eielson Array 86.52 25 P **P** **02 59 49.5 -0.1**
ILAR Eielson Array 86.52 25 P **P** **02 59 49.5 -0.1**
0.8nm,0.7s,baz=238,slow=5.2,SNR=12
OBN Obninsk 87.81 325 *e*P **P** **02 59 55.2 -0.7**
26nm,0.6s
KMBO Kilima Mbogo 88.97 269 *e*P **P** **03 00 03.0 +0.3**
8.4nm,1.3s
KMBO Kilima Mbogo 88.97 269 P **P** **03 00 01.7 -0.9**
3.9nm,1.0s,baz=51,slow=7.2,SNR=6.7
JOF Joensuu 90.08 333 *e*p **P** **03 00 06.0 -0.5**
7.3nm,0.6s
BRTR Keskin Array B 90.42 310 P **P** **03 00 07.9 -0.9**
BRTR Keskin Array B 90.42 310 P **P** **03 00 07.9 -0.9**
1.8nm,0.8s,baz=139,slow=6.1,SNR=12
CSS Prodhromos 90.96 305 *e*P **P** **03 00 11.0 -0.3**
5.9nm,1.1s
ARCES ARCESS Array B 91.48 340 P **P** **03 00 12.0 -0.9**
ARCES ARCESS Array B 91.48 340 P **P** **03 00 12.0 -0.9**
8.0nm,0.8s,baz=85,slow=6.5,SNR=18
INK Inuvik 91.58 21 *e*P **P** **03 00 13.6 +0.3**
4.2nm,1.1s
INK Inuvik 91.58 21 P **P** **03 00 13.3 -0.1**
3.0nm,1.0s,baz=245,slow=3.7,SNR=5.6
KAF Kangasniemi 92.49 332 *e*p **P** **03 00 17.0 -0.7**
5.5nm,0.5s
AKASG Malin Array Be 92.55 321 P **P** **03 00 17.3 -0.9**
AKASG Malin Array Be 92.55 321 P **P** **03 00 17.3 -0.9**
7.1nm,0.7s,baz=67,slow=4.8,SNR=48
AKBB Malin Array Si 92.55 321 *e*P **P** **03 00 16.9 -1.3**
KIEV Kiev 92.56 321 *e*P **P** **03 00 16.8 -1.5**
7.6nm,0.9s
FINES FINESS Array B 92.72 332 P **P** **03 00 17.9 -0.8**
FINES FINESS Array B 92.72 332 P **P** **03 00 17.9 -0.8**
6.3nm,0.7s,baz=86,slow=5.9,SNR=25
CFR Carcaliu 93.97 315 ⇓*i*P **P** **03 00 24.4 -0.4**
TESR Tescani 94.81 317 ⇑*i*P **P** **03 00 28.6 -0.1**
VRI Vrincioaia 94.85 316 ⇑*i*P **P** **03 00 29.0 0.0**
PLOR Plostina 94.91 316 ⇓*i*P **P** **03 00 29.1 -0.1**
PRAR RASCA 94.97 318 ⇑*i*P **P** **03 00 28.9 -0.5**
JMB Yambol 95.45 313 ⇑*i*P **P** **03 00 31.5 -0.2**
MLR Muntele Rosu 95.45 316 ⇓*i*P **P** **03 00 31.8 -0.1**
BURAR Bucovina Array 95.60 318 ⇑*i*P **P** **03 00 33.0 +0.6**
BUR08 Bucovina Ar. S 95.61 318 *e*P **P** **03 00 32.7 +0.2**
SUW Suwalki 95.67 325 *e*P **P** **03 00 31.7 -0.7**
DOPR Dopca 95.76 316 ⇑*i*P **P** **03 00 33.1 0.0**
VOIR 96.08 316 ⇑*i*P P 03 00 30.9 -3.8
ARR Arges 96.38 316 ⇓*i*P **P** **03 00 35.6 -0.4**
BMR Baia Mare 96.74 318 ⇓*i*P **P** **03 00 38.2 +0.7**
CJR Cluj-Napoca 96.85 317 ⇓*i*P **P** **03 00 39.2 +1.1**
KWP Kalwaria Pacla 96.86 320 *e*P **P** **03 00 38.4 +0.4**
KWP Kalwaria Pacla 96.86 320 ⇓*i*P **P** **03 00 38.6 +0.6**
KWP Kalwaria Pacla 96.86 320 *e*P **P** **03 00 38.0 0.0**
11nm,0.9s
LOT Lotru 96.97 316 ⇓*i*P **P** **03 00 39.2 +0.5**
TRPA Tarpa 97.28 319 ⇑*i*P Pdif 03 00 40.4 +0.5
KOLS Kolonicke sedl 97.28 320 *e*P Pdif 03 00 40.1 +0.1
CRVS Cervenica-Dubn 97.81 320 *e*P Pdif 03 00 42.9 +0.6
STHS Stebnicka Huta 97.84 320 *e*P **P** **03 00 42.1 -0.3**
VTS Vitosha 97.89 313 ⇓*i*P **P** **03 00 42.6 -0.4**
SIRR Siria 98.25 317 ⇓*i*P **P** **03 00 44.2 -0.1**
LSZ Lusaka 98.33 255 *e*P **P** **03 00 45.0 -0.4**
2.0nm,0.5s
BZS Buzias 98.42 317 ⇑*i*P **P** **03 00 44.7 -0.4**
PSZ Piszkesteto 99.05 319 *e*P **Pdif** **03 00 47.7 -0.3**
4.1nm,0.9s
NB2 NORSAR Subarra 99.70 333 P **Pdif** **03 00 49.1 -1.4**
comp=Z,3.7nm,0.9s,baz=72,slow=4.6
NOA NORSAR Array B 99.70 333 P **Pdif** **03 00 49.5 -1.0**
NOA NORSAR Array B 99.70 333 P **Pdif** **03 00 49.5 -1.0**
comp=Z,2.7nm,0.8s,baz=71,slow=4.6,SNR=9.0
NOA LR LR 03 50 10.9
comp=Z,25nm,18.7s,baz=290,slow=38
MORC Morovsky Berou 100.08 321 *e*P **Pdif** **03 00 52.5 0.0**
comp=Z,2.8nm,1.0s
KSP Ksiaz 100.54 323 *e*P **Pdif** **03 00 55.9 +1.5**
YKA Yellowknife Ar 100.92 24 P **Pdif** **03 00 57.3 +1.5**
YKA PKiKP **PKiKP** **03 05 22.3 +1.5**
YKA PKKPbc **PKKPbc** **03 17 07.4 -3.0**
YKA Yellowknife Ar 100.92 24 P **Pdif** **03 00 57.3 +1.5**
comp=Z,0.5nm,0.7s,baz=302,slow=4.4,SNR=12
YKA PKiKP **PKiKP** **03 05 22.3 +1.5**
comp=Z,0.1nm,0.4s,baz=310,slow=1.8,SNR=7.7
YKA PKKPbc **PKKPbc** **03 17 07.4 -3.0**
comp=Z,0.5nm,0.8s,baz=112,slow=2.2,SNR=6.5
GERES GERESS Array B 102.76 321 P **Pdif** **03 01 04.8 +0.4**
GERES GERESS Array B 102.76 321 P **Pdif** **03 01 04.8 +0.4**
comp=Z,0.8nm,0.8s,baz=57,slow=4.9,SNR=6.4
FCC Fort Churchill 111.20 21 *e*PKP **PKiKP** **03 05 40.6 +0.7**
PDAR Pinedale Array 112.70 41 PKKPbc PKKPbc 03 16 38.7 +5.2
PDAR Pinedale Array 112.70 41 PKKPbc PKKPbc 03 16 38.7 +5.2
comp=Z,0.7nm,0.9s,baz=108,slow=4.8,SNR=4.5
BGNE Belgrade 120.67 38 *e*PKPdf **PKPdf** **03 05 58.3 -0.4**
SCHQ Schefferville 121.94 9 PKP **PKPdf** **03 06 01.3 +0.6**
SCHQ Schefferville 121.94 9 PKP **PKPdf** **03 06 01.3 +0.6**
comp=Z,5.4nm,0.6s,baz=244,slow=7.6,SNR=12
TORD Torodi Ar. Bea 122.78 287 PKP **PKPdf** **03 06 03.1 -0.2**
TORD Torodi Ar. Bea 122.78 287 PKP **PKPdf** **03 06 03.1 -0.2**
comp=Z,2.6nm,0.7s,baz=85,slow=1.7,SNR=25
TXAR Lajitas Array 122.84 53 PKP **PKPdf** **03 06 05.2 +1.9**
TXAR Lajitas Array 122.84 53 PKP **PKPdf** **03 06 05.2 +1.9**
comp=Z,0.5nm,0.8s,baz=270,slow=1.3,SNR=5.2
JCT Junction City 125.33 50 *e*PKPdf **PKPdf** **03 06 08.7 +0.7**
ASCN Ascension 140.33 261 *e*PKPdf **PKPdf** **03 06 35.4 -1.1**
LCO Las Campanas 149.06 150 *e*PKPbc **PKPbc** **03 06 55.3 -0.3**
CPUP Villa Florida 155.99 172 *e*PKPdf **PKPdf** **03 07 00.7 -0.6**
LPAZ La Paz 160.30 135 PKP **PKPdf** **03 07 09.3 +1.7**
LPAZ La Paz 160.30 135 PKP **PKPdf** **03 07 09.3 +1.7**
comp=Z,1.5nm,0.7s,baz=31,slow=2.8,SNR=4.6
SAML Samuel 168.66 125 *e*PKPdf **PKPdf** **03 07 15.3 +1.0**

WEL 15 03:08:30.4±0.6, 39°53'S × 174°35'E, h218km ± 4km, ML3.5/7, 3C-2D, Error ellipse: s-maj=5.6km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.51**	**38**	PN	Pn	03 08 58.9	-0.8
VRZ				*e*SN	S	03 09 20.2	-2.2
WAZ	**Wanganui**	**0.54**	**115**	PN	Pn	03 09 00.3	+0.6
WAZ				SN	S	03 09 22.5	-0.1
TWVZ	**Taurewa**	**0.95**	**62**	PN	Pn	03 09 01.4	-0.5
WNVZ	**Wahianoa**	**0.98**	**79**	⇑PN	Pn	03 09 02.1	-0.1
WTVZ	**West Tongariro**	**1.04**	**67**	⇓PN	Pn	03 09 02.4	-0.1
MOVZ	**Moawhango**	**1.09**	**84**	PN	Pn	03 09 02.3	-0.4
BHHZ	**Black Hill Sta**	**1.32**	**89**	PN	Pn	03 09 04.0	-0.3
TSZ	**Takapari Road**	**1.35**	**114**	PN	Pn	03 09 04.6	+0.1
KIW	**Kapiti Island**	**1.40**	**162**	PN	Pn	03 09 04.7	-0.2
OGWZ	**Otaki Gorge**	**1.43**	**154**	PN	Pn	03 09 05.2	+0.1
MRZ	**Mangatainoka R**	**1.47**	**141**	PN	Pn	03 09 05.3	-0.2
MRZ				SN	S	03 09 31.3	-1.5
PNHZ	**Pukenui**	**1.48**	**106**	PN	Pn	03 09 05.6	+0.1
PRWZ	**Pori Road**	**1.61**	**130**	PN	Pn	03 09 06.9	+0.2
HOWZ	**Holdsworth Sta**	**1.63**	**147**	PN	Pn	03 09 06.5	-0.3
TCW	**Tory Channel**	**1.69**	**182**	AML	AML	03 09 34.3	
TCW				AML	AML	03 09 34.5	
TCW				AML	AML	03 09 35.5	
WPHZ	**Waipukurau**	**1.69**	**109**	PN	Pn	03 09 07.7	+0.3
BKZ	**Black Stump Fm**	**1.70**	**78**	⇑PN	Pn	03 09 07.1	-0.4
BKZ				*e*SN	S	03 09 33.7	-2.5
MCHZ	**McNeill Hill**	**1.81**	**88**	PN	Pn	03 09 09.2	+0.7
NNZ	**Nelson**	**1.85**	**203**	PN	Pn	03 09 08.3	-0.4
MTW	**Mount Morrison**	**1.85**	**152**	PN	Pn	03 09 08.4	-0.4
ANWZ	**Angora Road**	**1.88**	**120**	PN	Pn	03 09 09.4	+0.3
TMWZ	**Te Maipa**	**1.97**	**144**	PN	Pn	03 09 09.7	-0.2
TOZ	**Tahuroa Road**	**2.01**	**27**	PN	Pn	03 09 09.5	-0.9
RAHZ	**Arahi**	**2.21**	**75**	PN	Pn	03 09 12.3	-0.1
THZ	**Tophouse**	**2.49**	**206**	⇑PN	Pn	03 09 14.6	-0.8
URZ	**Urewera**	**2.50**	**60**	PN	Pn	03 09 13.9	-1.5
KHZ	**Kahutara**	**2.95**	**192**	PN	Pn	03 09 20.2	-0.2
HAZ	**Te Kaha**	**3.21**	**58**	⇓PN	Pn	03 09 21.4	-2.0
LTZ	**Lake Taylor**	**3.61**	**205**	PN	Pn	03 09 26.9	-1.2
OXZ	**Oxford**	**4.17**	**204**	PN	Pn	03 09 32.9	-2.1
MQZ	**McQueen's Vall**	**4.37**	**196**	PN	Pn	03 09 34.9	-2.3
MQZ				*e*SN	S	03 10 23.5	-6.4

IDC ***15*** *03:18:49.6±0.9, 15°.84N × 90°.36W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.8/24, mbtmp3.9/7, ML4.4/2, Error ellipse: s-maj=36.6km s-min=8.6km az=95.0*
CASC ***15*** *03:18:54.5±3.3, 15°.89N × 90°.66W, h0km ± 24km, MD3.7*
ISC 15 03:18:51.4±2.0, 15°.99N±0°.05 × 90°.46W±0°.07, h1km±14km, n19, σ0°.91/24, mb3.9/5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**0.98**	**180**	Pg	Pg	03 19 05.5	-4.7
	184nm,0.3s,baz=328,slow=12,SNR=535						
APG				Lg	Lg	03 19 17.8	
	220nm,0.3s,baz=253,slow=20,SNR=34						
MRL	**Marmol**	**1.18**	**141**	*e*P	**Pg**	**03 19 13.5**	**-0.6**
MRL				*e*S	**Sb**	**03 19 31.3**	**+0.7**
NBG	**Las Nubes**	**1.40**	**175**	*e*P	**Pn**	**03 19 17.4**	**-0.8**
NBG				*e*S	**Sn**	**03 19 39.3**	**+1.8**
PCG	**Pacaya**	**1.59**	**185**	*e*P	**Pn**	**03 19 20.8**	**-0.1**
JAT	**Jato**	**2.01**	**214**	*e*P	**Pb**	**03 19 28.8**	**0.0**
RTR	**El Retiro**	**2.23**	**159**	*e*P	**Pb**	**03 19 31.9**	**-0.7**
RTR				*e*S	**Sg**	**03 20 03.7**	**+0.7**
SNJE	**San Jose**	**2.27**	**158**	*i* P	**Pb**	**03 19 32.8**	**-0.4**
SBLS	**San Blas**	**2.29**	**159**	*e*P	**Pb**	**03 19 33.0**	**-0.6**
BOQS	**Boqueron**	**2.52**	**153**	*i* P	**Pb**	**03 19 36.9**	**-0.7**
LFU	**La Fuente**	**2.58**	**149**	*e*P	**Pb**	**03 19 38.8**	**+0.2**
LFU				*e*S	**Sg**	**03 20 15.5**	**+1.0**
LFRS	**El Faro**	**2.72**	**150**	*i* P	**Pb**	**03 19 40.7**	**-0.1**
SNVI	**San Vicente**	**2.84**	**146**	*i* P	**Pb**	**03 19 42.8**	**-0.2**
SNVI				*e*S	**Sg**	**03 20 23.1**	**+0.4**
TEIG	**Tepich**	**4.70**	**26**	Pn	**Pn**	**03 20 04.1**	**+0.8**
	43nm,0.3s,baz=193,slow=0.8,SNR=139						
TEIG				Sn	**Sn**	**03 20 58.9**	**+0.4**
	21nm,0.3s,baz=24,slow=23,SNR=6.4						
TEIG				Lg	Lg	03 21 24.2	
	16nm,0.3s,baz=330,slow=20,SNR=4.5						
TXAR	**Lajitas Array**	**18.00**	**320**	P	**P**	**03 23 05.2**	**+1.6**
	0.2nm,0.3s,baz=141,slow=9.6,SNR=8.7						
NVAR	**Mina Array Bea**	**33.13**	**118**	P	**P**	**03 25 30.5**	**+1.1**
	1.0nm,1.0s,baz=124,slow=7.9,SNR=5.1						
YKA	**Yellowknife Ar**	**49.46**	**346**	P	**P**	**03 27 42.0**	**-0.8**
	0.6nm,0.5s,baz=147,slow=7.9,SNR=28						
INK	**Inuvik**	**58.97**	**343**	P	**P**	**03 28 51.0**	**-1.1**
	1.3nm,0.8s,baz=136,slow=6.4,SNR=5.3						
ILAR	**Eielson Array**	**61.62**	**336**	P	**P**	**03 29 09.1**	**-1.2**
	0.4nm,0.7s,baz=128,slow=5.2,SNR=6.7						
ARCES	**ARCESS Array B**	**83.79**	**19**	P	**P**	**03 31 21.3**	**-0.8**
	0.8nm,0.5s,baz=286,slow=4.5,SNR=7.3						

IDC ***15*** *03:34:50.7±1.1, 20°.57S × 169°.08E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.4/21, mbtmp4.3/14, ML3.7/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/34, Error ellipse: s-maj=40.5km s-min=17.6km az=145.0*
NOU ***15*** *03:34:52.2±1.5, 19°.90S × 168°.63E, h10km, MD3.3, ML3.9*
ISCJB ***15*** *03:34:53.9±0.5, 20°.55S±0°.08 × 168°.95E±0°.08, h31km, mb4.5/24, MS3.9/7, Error ellipse: s-maj=14.1km s-min=5.7km az=135.3*
NEIC ***15*** *03:34:57.0±4.9, 20°.53S × 169°.01E, h43km ± 41km, mb4.8/11, Error ellipse: s-maj=18.2km s-min=11.3km az=85.0*
ISC 15 03:34:55.6±0.5, 20°.57S±0°.10 × 168°.96E±0°.09, h31km, n89, σ1s12/88, mb4.6/24, MS4.0/7, 4C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.50**	**230**	*e*P	**Pn**	**03 35 33.4**	**-0.7**
BAYA				*e*S	**Sn**	**03 36 03.0**	**-0.6**
BAYA				AMP		03 36 06.8	
	comp=Z,53nm,6.2s						
PLUM	**Mont Dore**	**2.75**	**231**	*e*P	**Pn**	**03 35 37.2**	**-0.4**
PLUM				*e*S	**Sn**	**03 36 10.3**	**+0.6**
DZM	**Mont Dzumac**	**2.78**	**237**	*e*Pn	**Pn**	**03 35 35.9**	**-2.2**
	comp=Z,752nm,1.1s						
DZM				*e*Sn	**Sn**	**03 36 08.8**	**-1.9**
	comp=Z,354nm,0.3s						
DZM	**Mont Dzumac**	**2.78**	**237**	Pn	**Pn**	**03 35 36.0**	**-2.2**
DZM				Sn	**Sn**	**03 36 08.2**	**-2.6**
DZM	**Mont Dzumac**	**2.78**	**237**	Pn	**Pn**	**03 35 36.0**	**-2.2**
	comp=Z,10nm,0.3s,baz=61,slow=19,SNR=64						
DZM				Sn	**Sn**	**03 36 08.2**	**-2.6**
	comp=Z,93nm,0.3s,baz=125,slow=21,SNR=12						
DZM	**Mont Dzumac**	**2.78**	**237**	*e*P	**Pn**	**03 35 35.6**	**-2.5**
DZM				AMP		03 36 10.4	
	comp=Z,3μm,0.7s						
NOUC	**Port Laguerre**	**2.91**	**238**	AMP		03 36 18.9	
	comp=Z,266nm,0.7s						
MSVF	**Nonsavu**	**9.04**	**73**	*e*Pn	Pn	03 37 10.0	+5.9
	comp=Z,29nm,0.8s						
URZ	**Urewera**	**18.99**	**160**	LR	LR	03 45 28.8	
	comp=Z,402nm,20.1s,baz=97,slow=34						
RMQ	**Roma**	**19.43**	**248**	P	**Pn**	**03 39 23.0**	**+2.1**
	baz=19,SNR=9.9						
AFI	**Afiamalu**	**19.54**	**73**	LR	LR	03 45 21.0	
	comp=Z,340nm,18.9s,baz=256,slow=32						
CTA	**Charters Tower**	**21.30**	**267**	P	**P**	**03 39 42.2**	**+2.4**
CTA	**Charters Tower**	**21.30**	**267**	P	**P**	**03 39 42.2**	**+2.4**
	comp=Z,9.0nm,1.1s,baz=78,slow=15,SNR=4.7						
CTAO	**Charters Tower**	**21.30**	**267**	*e*P	**P**	**03 39 42.0**	**+2.1**
	comp=Z,22nm,1.2s						
YNG	**Young**	**22.75**	**229**	S	**S**	**03 44 02.2**	**+0.1**
	baz=22,SNR=6.4						
QLP	**Quilpie**	**23.42**	**250**	P	**P**	**03 40 03.5**	**+1.4**
	baz=23,SNR=5.4						
CMSA	**Cobar Meteorol**	**23.54**	**238**	P	**P**	**03 40 05.1**	**+1.8**
	baz=23,SNR=5.8						
PMG	**Port Moresby**	**23.77**	**295**	LR	LR	03 48 33.6	
	comp=Z,261nm,18.1s,baz=105,slow=34						
COEN	**Coen**	**25.46**	**281**	*e*P	**P**	**03 40 21.5**	**+0.4**
STKA	**Stephens Creek**	**26.93**	**240**	P	**P**	**03 40 35.9**	**+1.6**
STKA	**Stephens Creek**	**26.93**	**240**	P	**P**	**03 40 35.9**	**+1.6**
	comp=Z,3.1nm,0.7s,baz=74,slow=6.3,SNR=9.2						
STKA				LR	LR	03 51 26.6	
	comp=Z,222nm,18.9s,baz=21,slow=37						
STKA	**Stephens Creek**	**26.93**	**240**	P	**P**	**03 40 35.9**	**+1.6**
	baz=26,SNR=6.9						
STKA				S	S	03 44 56.1	-13
	baz=26,SNR=3.8						
WRAB	**Tennant Creek**	**32.44**	**265**	*e*P	**P**	**03 41 22.5**	**-0.8**
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**03 41 22.4**	**-0.9**
WRA	**Warramunga Arr**	**32.45**	**265**	P	**P**	**03 41 22.4**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=95,slow=8.7,SNR=7.6						
WRA				LR	LR	03 54 52.0	
	comp=Z,281nm,18.1s,baz=120,slow=37						
AS31	**Alice Springs**	**32.57**	**258**	*e*P	**P**	**03 41 24.0**	**-0.4**
ASAR	**Alice Springs**	**32.57**	**258**	P	**P**	**03 41 24.3**	**-0.1**
ASAR				PcP	**PcP**	**03 44 10.5**	**0.0**
**

PPT	**Papeete**	**39.23**	**93**	LR	LR	03 53 29.4	
	comp=Z,49nm,21.6s,baz=232,slow=29						
MBWA	**Marble Bar**	**45.85**	**260**	*e*P	**P**	**03 43 15.5**	**+0.3**
	comp=Z,14nm,1.1s						
MEEK	**Meekatharra**	**46.29**	**252**	P	**P**	**03 43 19.2**	**+0.5**
	baz=46,SNR=3.2						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	LR	LR	04 04 16.5	
	comp=Z,194nm,19.6s,baz=11,slow=37						
VNDA	**Vanda**	**57.10**	**182**	*e*P	**P**	**03 44 39.4**	**+0.8**
	comp=Z,5.2nm,1.3s						
KKM	**Kota Kinabalu**	**58.16**	**291**	*e*P	**P**	**03 44 46.2**	**-0.8**
	comp=Z,42nm,1.3s						
MJAR	**Matsushiro Arr**	**63.80**	**333**	P	**P**	**03 45 24.9**	**+0.1**
MJAR	**Matsushiro Arr**	**63.80**	**333**	P	**P**	**03 45 24.9**	**+0.1**
	comp=Z,3.5nm,1.1s,baz=175,slow=5.6,SNR=3.2						
MAJO	**Matsushiro**	**63.80**	**333**	*e*P	**P**	**03 45 24.4**	**-0.4**
	comp=Z,6.6nm,0.6s						
QSPA	**South Pole Qui**	**69.50**	**180**	*e*P	**P**	**03 46 00.8**	**-0.2**
	comp=Z,6.1nm,0.9s						
USRK	**Ussuriysk Arra**	**72.79**	**333**	P	**P**	**03 46 21.9**	**+1.0**
	comp=Z,7.2nm,1.0s,baz=159,slow=6.2,SNR=5.5						
PETK	**Petropavlovsk-**	**74.01**	**353**	P	**P**	**03 46 28.6**	**+0.6**
PETK	**Petropavlovsk-**	**74.01**	**353**	P	**P**	**03 46 28.6**	**+0.6**
	comp=Z,6.2nm,0.9s,baz=72,slow=5.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**78.81**	**295**	P	**P**	**03 46 56.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**78.81**	**295**	P	**P**	**03 46 56.9**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=137,slow=5.1,SNR=5.9						
SEY	**Seymchan**	**84.24**	**352**	P	**P**	**03 47 23.3**	**-0.4**
SEY	**Seymchan**	**84.24**	**352**	P	**P**	**03 47 23.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=4.7,slow=23,SNR=3.5						
PMSA	**Palmer Station**	**85.76**	**160**	*e*P	**P**	**03 47 31.0**	**-0.5**
	comp=Z,122nm,1.3s						
ULN	**Ulaanbaatar**	**87.77**	**324**	*e*P	**P**	**03 47 42.1**	**+0.4**
	comp=Z,10nm,1.4s						
SNAA	**Sanae**	**87.83**	**183**	*e*P	**P**	**03 47 41.3**	**-0.3**
	comp=Z,9.6nm,1.3s						
SONM	**Songino Array**	**88.12**	**323**	P	**P**	**03 47 43.2**	**-0.1**
SONM	**Songino Array**	**88.12**	**323**	P	**P**	**03 47 43.2**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=126,slow=5.8,SNR=8.1						
YBH	**Yreka Blue Hor**	**88.43**	**44**	P	**P**	**03 47 44.3**	**-0.5**
YBH	**Yreka Blue Hor**	**88.43**	**44**	P	**P**	**03 47 44.3**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=204,slow=10.0,SNR=3.0						
NVAR	**Mina Array Bea**	**89.87**	**49**	P	**P**	**03 47 51.8**	**-0.1**
NVAR	**Mina Array Bea**	**89.87**	**49**	P	**P**	**03 47 51.8**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=229,slow=7.6,SNR=9.4						
MCK	**McKinley**	**90.19**	**17**	*e*P	**P**	**03 47 50.7**	**-1.8**
	comp=Z,6.1nm,1.2s						
LPIG	**La Paz**	**90.22**	**64**	LR	LR	04 22 02.5	
	comp=Z,103nm,18.6s,baz=10,slow=31						
ILAR	**Eielson Array**	**91.57**	**17**	P	**P**	**03 47 57.1**	**-1.8**
ILAR	**Eielson Array**	**91.57**	**17**	P	**P**	**03 47 57.1**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=236,slow=4.7,SNR=7.9						
ARCES	**ARCESS Array B**	**126.27**	**345**	PKP	**PKPdf**	**03 53 53.7**	**-0.8**
ARCES	**ARCESS Array B**	**126.27**	**345**	PKP	**PKPdf**	**03 53 53.7**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=5.5,slow=2.5,SNR=7.7						
KIEV	**Kiev**	**136.41**	**323**	*e*PKPdf	**PKPdf**	**03 54 13.7**	**-0.4**
MORC	**Moravsky Berou**	**143.06**	**329**	*e*PKPdf	**PKPdf**	**03 54 26.3**	**-0.1**
BRG	**Berggiesshubel**	**143.93**	**333**	*e*PKP	PKPbc	03 54 26.6	+1.0
	comp=Z,14nm,1.4s						
CONA	**Conrad Observa**	**145.13**	**328**	⇑*i*PKPdf	**PKPdf**	**03 54 30.2**	**+0.1**
	comp=Z,7.4nm,0.9s						
KHC	**Kaspersky Hory**	**145.37**	**331**	*e*PKP	**PKPab**	**03 54 30.5**	**+0.1**
KHC				*ep*PKP	**pPKPdf**	**03 54 39.0**	**-1.6**
KHC	**Kasperske Hory**	**145.37**	**331**	*e*PKPbc	**PKPab**	**03 54 30.8**	**+0.3**
GERES	**GERESS Array B**	**145.52**	**331**	PKPbc	**PKPbc**	**03 54 30.9**	**0.0**
GERES	**GERESS Array B**	**145.52**	**331**	PKPbc	**PKPbc**	**03 54 30.9**	**0.0**
	comp=Z,2.6nm,0.8s,baz=31,slow=3.1,SNR=18						
HPK	**Haverah Park**	**145.89**	**350**	*e*P	**PKPdf**	**03 54 31.3**	**+0.3**
HPK				AMB	AMB	03 54 31.4	
	comp=Z,62nm,1.4s						
MOA	**Molln**	**145.96**	**329**	⇓*i*PKPab	**PKPab**	**03 54 32.6**	**-0.1**
	comp=Z,12nm,1.2s						
LHO	**Holmfirth**	**146.33**	**350**	*e*P	**PKPbc**	**03 54 33.0**	**0.0**
KBI1	**Birley Grange**	**146.56**	**350**	*e*P	**PKPbc**	**03 54 33.2**	**-0.5**
WPM1	**Penmaenmawr**	**146.91**	**352**	*e*P	**PKPbc**	**03 54 34.5**	**-0.2**
WLF1	**Llynfaes**	**146.94**	**353**	*e*P	**PKPbc**	**03 54 34.6**	**-0.2**
WLF1				AMB	AMB	03 54 38.5	
	comp=Z,54nm,1.6s						
YRC	**Rhoscolyn**	**146.99**	**353**	*e*P	**PKPbc**	**03 54 34.6**	**-0.3**
FOEL	**Foel Wylfa**	**147.17**	**351**	*e*P	**PKPbc**	**03 54 35.9**	**+0.4**
FOEL				AMB	AMB	03 54 40.3	
	comp=Z,71nm,4.3s						
ABTA	**Abfaltersbach**	**147.59**	**329**	⇑*i*PKPbc	**PKPbc**	**03 54 36.6**	**-0.4**
	comp=Z,9.5nm,1.5s						
MOTA	**Moosalm**	**147.81**	**331**	⇑*i*PKPbc	**PKPbc**	**03 54 36.9**	**-0.7**
	comp=Z,5.1nm,0.8s						
WLF	**Walferdange**	**147.90**	**339**	*e*PKPbc	**PKPbc**	**03 54 38.2**	**+0.6**
BFO	**Black Forest**	**148.21**	**335**	*e*PKPbc	**PKPbc**	**03 54 38.6**	**+0.1**
BFO				*e*PKPab	**PKPab**	**03 54 41.1**	**-0.3**
FETA	**Feichten**	**148.22**	**331**	⇓*i*PKiKP	**PKPbc**	**03 54 38.7**	**0.0**
	comp=Z,9.2nm,1.0s						
DAVA	**Damuels**	**148.39**	**332**	⇑*i*PKiKP	**PKiKP**	**03 54 40.7**	**0.0**
	comp=Z,12nm,1.2s						
TUE	**Stuetta**	**149.25**	**332**	*e*PKPbc	**PKPbc**	**03 54 41.4**	**-0.1**
DBIC	**Dimbokro**	**164.94**	**204**	*e*PKPab	**PKPab**	**03 55 53.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.76**	**241**	PKP	**PKPdf**	**03 55 00.3**	**+2.1**
TORD	**Torodi Ar. Bea**	**165.76**	**241**	PKP	**PKPdf**	**03 55 00.3**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=68,slow=0.1,SNR=2.2						

MEX 15 03:35:57.4±0.5, 16.32N×99.43W, h20km±15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.25**	**86**	*i* P	Pn	03 36 16.3	-3.6
PNIG				*i* S	Sn	03 36 32.2	-4.0
TLIG	**Tlapa**	**1.49**	**34**	*e*P	Pn	03 36 20.2	-3.0
TLIG				*i* S	Sn	03 36 37.6	-4.6
ARIG	**Puente Sto Nin**	**2.14**	**336**	*i* P	Pn	03 36 29.5	-2.5
ARIG				*i* S	Sn	03 36 53.7	-4.4

IDC ***15*** *03:39:11.1±1.5, 20.60S×168.99E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=55.9km s-min=20.2km az=146.0*
ISCJB ***15*** *03:39:12.4±0.8, 20.8S±0.2×169.1E±0.1, h25km, mb4.1/12, Error ellipse: s-maj=31.2km s-min=8.2km az=150.8*
NEIC ***15*** *03:39:15.6±0.7, 20.71S×169.08E, h35km, mb4.5/5, Error ellipse: s-maj=35.6km s-min=10.7km az=159.0*

ISC 15 03:39:14.6±0.8, 20.7S±0.2×169.0E±0.1, h25km, n33, σ0.99/32, mb4.2/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.76**	**241**	Pn	**Pn**	**03 39 56.7**	**-0.6**
DZM				Sn	**Sn**	**03 40 28.9**	**-0.9**
DZM	**Mont Dzumac**	**2.76**	**241**	Pn	**Pn**	**03 39 56.7**	**-0.6**
	22nm,0.3s,baz=56,slow=18,SNR=22						
DZM				Sn	**Sn**	**03 40 28.9**	**-0.9**
	94nm,0.3s,baz=138,slow=20,SNR=5.7						
MSVF	**Nonsavu**	**9.03**	**72**	*e*Pn	**Pn**	**03 41 23.1**	**-0.3**
	12nm,0.8s						
ARMA	**Armidale**	**18.41**	**235**	*e*P	Pn	03 43 34.2	+6.0
	23nm,0.8s						
CTA	**Charters Tower**	**21.36**	**268**	P	**P**	**03 44 01.0**	**+0.8**
CTA	**Charters Tower**	**21.36**	**268**	P	**P**	**03 44 01.0**	**+0.8**
	2.0nm,0.4s,baz=87,slow=18,SNR=3.0						
CTAO	**Charters Tower**	**21.36**	**268**	*e*P	**P**	**03 44 02.6**	**+2.4**
	6.1nm,0.8s						
STKA	**Stephens Creek**	**26.91**	**240**	P	**P**	**03 44 54.4**	**+0.6**
STKA	**Stephens Creek**	**26.91**	**240**	P	**P**	**03 44 54.4**	**+0.6**
	3.0nm,0.6s,baz=71,slow=9.2,SNR=7.5						
WRAB	**Tennant Creek**	**32.49**	**265**	*e*P	**P**	**03 45 43.2**	**-0.3**
	8.0nm,1.2s						
WRA	**Warramunga Arr**	**32.50**	**265**	P	**P**	**03 45 42.4**	**-1.2**
WRA	**Warramunga Arr**	**32.50**	**265**	P	**P**	**03 45 42.4**	**-1.2**
	0.8nm,0.4s,baz=92,slow=8.4,SNR=7.7						
ASAR	**Alice Springs**	**32.61**	**258**	P	**P**	**03 45 44.4**	**-0.1**
ASAR	**Alice Springs**	**32.61**	**258**	P	**P**	**03 45 44.4**	**-0.1**
	3.2nm,0.6s,baz=86,slow=9.2,SNR=21						
MBWA	**Marble Bar**	**45.89**	**260**	*e*P	**P**	**03 47 35.9**	**+0.5**
	5.1nm,0.8s						
USRK	**Ussuriysk Arra**	**72.97**	**333**	P	**P**	**03 50 42.1**	**+0.2**
	3.9nm,1.1s,baz=144,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**78.94**	**295**	P	**P**	**03 51 17.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**78.94**	**295**	P	**P**	**03 51 17.4**	**+0.9**
	0.8nm,0.3s,baz=117,slow=3.1,SNR=2.1						
ULN	**Ulaanbaatar**	**87.94**	**324**	*e*P	**P**	**03 52 01.4**	**-0.9**
	1.1nm,0.3s						
SONM	**Songino Array**	**88.29**	**323**	P	**P**	**03 52 02.5**	**-1.5**
SONM	**Songino Array**	**88.29**	**323**	P	**P**	**03 52 02.5**	**-1.5**
	0.3nm,0.8s,baz=93,slow=2.9,SNR=2.5						
NVAR	**Mina Array Bea**	**89.93**	**49**	P	**P**	**03 52 12.5**	**+0.5**
NVAR	**Mina Array Bea**	**89.93**	**49**	P	**P**	**03 52 12.5**	**+0.5**
	0.3nm,0.6s,baz=221,slow=6.8,SNR=3.0						
ILAR	**Eielson Array**	**91.71**	**17**	P	**P**	**03 52 17.9**	**-1.5**
ILAR	**Eielson Array**	**91.71**	**17**	P	**P**	**03 52 17.9**	**-1.5**
	0.2nm,0.7s,baz=238,slow=5.0,SNR=4.7						
ARCES	**ARCESS Array B**	**126.45**	**345**	PKP	**PKPdf**	**03 58 15.7**	**+1.0**
ARCES	**ARCESS Array B**	**126.45**	**345**	PKP	**PKPdf**	**03 58 15.7**	**+1.0**
	2.1nm,0.9s,baz=56,slow=2.2,SNR=7.5						
TSUM	**Tsumeb**	**131.45**	**217**	*e*PKPdf	**PKPdf**	**03 58 26.8**	**+0.8**
BR131	**Keskin Array S**	**137.56**	**307**	*e*PKPdf	**PKPdf**	**03 58 36.4**	**-0.4**
PSZ	**Piskesteto**	**143.21**	**325**	*e*PKPdf	PKPbc	03 58 43.4	-0.2
MORC	**Moravsky Berou**	**143.24**	**329**	*e*PKPdf	PKPbc	03 58 44.5	+0.9
GERES	**GERESS Array B**	**145.70**	**331**	PKPbc	**PKPdf**	**03 58 51.2**	**+0.3**
GERES	**GERESS Array B**	**145.70**	**331**	PKPbc	**PKPdf**	**03 58 51.2**	**+0.3**
	1.0nm,0.7s,baz=22,slow=1.4,SNR=6.1						

IDC ***15*** *03:40:00.8±1.8, 20.67S×169.00E, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.3/18, mbtmp4.2/9, ML4.2/1, Error ellipse: s-maj=66.8km s-min=22.6km az=144.0*
ISCJB ***15*** *03:40:04.1±1.2, 20.6S±0.2×168.9E±0.2, h31km, mb4.3/14, Error ellipse: s-maj=37.4km s-min=9.7km az=139.1*
NEIC ***15*** *03:40:05.2±7.2, 20.76S×168.96E, h32km±48km, mb4.6/6, Error ellipse: s-maj=29.9km s-min=21.7km az=156.0*

ISC 15 03:40:05.0±1.2, 20.7S±0.2×169.0E±0.2, h31km, n28, σ0.77/30, mb4.4/14, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.71**	**240**	Pn	**Pn**	**03 40 46.3**	**-0.3**
DZM				Sn	**Sn**	**03 41 19.0**	**+0.6**
DZM	**Mont Dzumac**	**2.71**	**240**	Pn	**Pn**	**03 40 46.3**	**-0.3**
	36nm,0.3s,baz=8.3,slow=19,SNR=4.0						
DZM				Sn	**Sn**	**03 41 19.0**	**+0.6**
	58nm,0.3s,baz=118,slow=19,SNR=3.0						
CTAO	**Charters Tower**	**21.31**	**268**	*e*P	**P**	**03 44 47.7**	**-1.8**
	19nm,1.1s						
COEN	**Coen**	**25.52**	**281**	*e*P	**P**	**03 45 31.4**	**+0.4**
STKA	**Stephens Creek**	**26.86**	**240**	P	**P**	**03 45 43.8**	**+0.7**
STKA	**Stephens Creek**	**26.86**	**240**	P	**P**	**03 45 43.8**	**+0.7**
	3.1nm,0.8s,baz=58,slow=11,SNR=4.0						
WRAB	**Tennant Creek**	**32.45**	**265**	*e*P	**P**	**03 46 32.8**	**0.0**
	2.4nm,0.6s						
WRA	**Warramunga Arr**	**32.46**	**265**	P	**P**	**03 46 33.0**	**+0.2**
WRA	**Warramunga Arr**	**32.46**	**265**	P	**P**	**03 46 33.0**	**+0.2**
	1.4nm,0.8s,baz=94,slow=8.3,SNR=8.7						
ASAR	**Alice Springs**	**32.56**	**258**	P	**P**	**03 46 34.1**	**+0.4**
ASAR	**Alice Springs**	**32.56**	**258**	P	**P**	**03 46 34.1**	**+0.4**
	5.0nm,0.8s,baz=80,slow=9.1,SNR=6.0						
FORT	**Forrest**	**38.01**	**246**	*e*P	**P**	**03 47 19.9**	**-0.6**
	15nm,0.9s						
MBWA	**Marble Bar**	**45.84**	**260**	*e*P	**P**	**03 48 24.4**	**-0.2**
	11nm,0.9s						
IPM	**Ipoh**	**71.16**	**282**	*e*P	**P**	**03 51 19.9**	**-1.4**
	6.2nm,0.7s						
USRK	**Ussuriysk Arra**	**72.96**	**333**	P	**P**	**03 51 31.8**	**+0.4**
	3.7nm,0.9s,baz=173,slow=4.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**78.90**	**295**	P	**P**	**03 52 06.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**78.90**	**295**	P	**P**	**03 52 06.7**	**+0.7**
	1.2nm,0.3s,baz=108,slow=2.9,SNR=2.6						
ULN	**Ulaanbaatar**	**87.92**	**324**	*e*P	**P**	**03 52 52.2**	**+0.3**
	1.8nm,0.6s						
SONM	**Songino Array**	**88.27**	**323**	P	**P**	**03 52 54.4**	**+0.9**
SONM	**Songino Array**	**88.27**	**323**	P	**P**	**03 52 54.4**	**+0.9**
	1.0nm,0.8s,baz=134,slow=4.3,SNR=4.6						
NVAR	**Mina Array Bea**	**89.97**	**49**	P	**P**	**03 53 02.7**	**+0.9**
NVAR	**Mina Array Bea**	**89.97**	**49**	P	**P**	**03 53 02.7**	**+0.9**
	1.6nm,0.9s,baz=240,slow=6.2,SNR=5.4						
ILAR	**Eielson Array**	**91.73**	**17**	P	**P**	**03 53 08.0**	**-1.1**
ILAR	**Eielson Array**	**91.73**	**17**	P	**P**	**03 53 08.0**	**-1.1**
	0.5nm,0.9s,baz=259,slow=4.7,SNR=3.7						
TSUM	**Tsumeb**	**131.41**	**217**	*e*PKPdf	**PKPdf**	**03 59 14.5**	**-0.9**
PSZ	**Piszkesteto**	**143.20**	**325**	*e*PKPdf	**PKPdf**	**03 59 35.5**	**-0.6**
GERES	**GERESS Array B**	**145.69**	**331**	PKPbc	**PKPab**	**03 59 41.3**	**+0.2**
GERES	**GERESS Array B**	**145.69**	**331**	PKPbc	**PKPab**	**03 59 41.3**	**+0.2**
	1.6nm,0.8s,baz=36,slow=2.5,SNR=5.0						

ISCJB ***15*** *03:54:39.6±0.7, 20.0S±0.2×177.6W±0.1, h550km, mb4.0/9, Error ellipse: s-maj=22.4km s-min=11.4km az=161.8*
IDC ***15*** *03:54:42.5±5.3, 19.95S×177.78W, h563km±57km, mb3.5/9, mb1 3.7/10, mb1mx3.4/21, mbtmp3.5/10, Error ellipse: s-maj=41.3km s-min=27.6km az=133.0*

ISC 15 03:54:40.7±0.8, 20.1S±0.2×177.6W±0.1, h550km, n29, σ0.88/27, mb4.3/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.28**	**83**	P	**P**	**03 56 30.8**	**-0.6**
	baz=7.4,SNR=7.6						
DZM	**Mont Dzumac**	**15.05**	**260**	P	**P**	**03 57 51.8**	**+0.9**
	0.8nm,0.3s,baz=89,slow=21,SNR=7.6						
LHI	**Lord Howe Isla**	**23.87**	**237**	P	P	03 59 06.1	-5.3
	baz=23,SNR=3.8						
CTA	**Charters Tower**	**33.93**	**264**	P	**P**	**04 00 38.3**	**-0.5**
	12nm,0.4s,baz=86,slow=10,SNR=22						
CMSA	**Cobar Meteorol**	**34.83**	**243**	P	**P**	**04 00 46.8**	**+0.6**
	baz=34,SNR=7.4						
QLP	**Quilpie**	**35.57**	**252**	P	**P**	**04 00 52.5**	**+0.2**
	baz=35,SNR=5.7						
PMG	**Port Moresby**	**35.64**	**282**	P	**P**	**04 00 52.3**	**-0.8**
	27nm,0.9s,baz=300,slow=5.4,SNR=3.7						
COEN	**Coen**	**37.96**	**273**	P	**P**	**04 01 12.1**	**0.0**
	baz=38,SNR=17						
STKA	**Stephens Creek**	**38.33**	**244**	P	**P**	**04 01 14.6**	**-0.4**
	4.5nm,0.5s,baz=91,slow=9.5,SNR=13						
STKA	**Stephens Creek**	**38.33**	**244**	P	**P**	**04 01 15.6**	**+0.6**
	baz=38,SNR=7.0						
MANU	**Manus Island**	**38.64**	**293**	S	**S**	**04 06 36.7**	**+1.3**
	baz=39,SNR=5.6						
QIS	**Mount Isa**	**40.07**	**262**	P	**P**	**04 01 28.6**	**-0.6**
	baz=40,SNR=3.6						
HTT	**Hallett**	**40.78**	**242**	P	**P**	**04 01 35.1**	**+0.5**
	baz=40,SNR=5.7						
BBOO	**Buckleboo**	**43.09**	**243**	P	**P**	**04 01 52.8**	**0.0**
	baz=43,SNR=44						
ASAR	**Alice Springs**	**45.01**	**256**	P	**P**	**04 02 07.5**	**-0.2**
	14nm,0.8s,baz=88,slow=8.5,SNR=140						
ASAR				PcP	**PcP**	**04 03 37.0**	**0.0**
	1.0nm,0.6s,baz=112,slow=3.5,SNR=4.7						
WRA	**Warramunga Arr**	**45.06**	**262**	P	**P**	**04 02 07.3**	**-0.8**
	7.8nm,0.5s,baz=98,slow=8.4,SNR=50						
KDU	**Kakadu**	**48.34**	**271**	P	**P**	**04 02 32.5**	**-0.5**
	baz=48,SNR=4.0						
WRKA	**Warakurna**	**49.97**	**254**	P	**P**	**04 02 44.6**	**-0.3**
	baz=50,SNR=36						
KNRA	**Kununurra**	**51.09**	**266**	P	**P**	**04 02 52.5**	**-0.6**
	baz=51,SNR=3.7						
MEEK	**Meekatharra**	**58.44**	**251**	P	**P**	**04 03 43.7**	**-0.8**
	baz=58,SNR=3.3						
MJAR	**Matsushiro Arr**	**70.11**	**323**	P	**P**	**04 04 57.1**	**-0.9**
	1.5nm,0.6s,baz=165,slow=6.8,SNR=6.0						
USRK	**Ussuriysk Arra**	**78.84**	**326**	P	**P**	**04 05 47.7**	**+0.8**
	2.7nm,0.9s,baz=148,slow=8.3,SNR=4.4						
BTDF	**Bukit Timah Da**	**79.81**	**275**	P	**P**	**04 05 53.3**	**+0.4**
	baz=80,SNR=3.7						
PPI	**Padang Panjang**	**82.35**	**272**	P	P	04 06 15.3	+9.4
	baz=82,SNR=3.0						
TXAR	**Lajitas Array**	**86.49**	**57**	P	**P**	**04 06 27.6**	**+1.7**
	0.3nm,0.7s,baz=236,slow=6.4,SNR=3.0						
ILAR	**Eielson Array**	**87.81**	**13**	P	**P**	**04 06 29.6**	**-1.5**
	0.2nm,0.4s,baz=222,slow=6.1,SNR=8.0						
AKASG	**Malin Array Be**	**142.83**	**332**	PKhKP	PKPpre	04 13 07.7	
	1.1nm,0.4s,baz=43,slow=4.5,SNR=15						
BRTR	**Keskin Array B**	**146.85**	**313**	PKPbc	**PKPdf**	**04 13 21.2**	**+2.2**
	1.5nm,0.8s,baz=142,slow=5.0,SNR=7.4						
GERES	**GERESS Array B**	**149.90**	**345**	PKPbc	**PKPbc**	**04 13 29.1**	**0.0**
	1.1nm,0.8s,baz=17,slow=1.8,SNR=10						

IDC ***15*** *04:04:41.7±3.2, 0.83S×96.83E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.6/25, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=93.5km s-min=66.7km az=89.0*
DJA ***15*** *04:04:50.5±0.9, 0.7S±5.9×97.7E±7.1, h64km±20km, M3.7/7, MLv3.7/7*

ISC 15 04:04:49.6±1.4, 0.4S±0.2×97.0E±0.1, h36km±4km, n16, σ0.71/17, mb4.1/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.80**	**20**	P	**Pn**	**04 05 17.4**	**-0.7**
GSI				S	**Sn**	**04 05 40.0**	**+0.3**
SNSI	**Sinabang, Aceh**	**2.85**	**347**	P	**Pn**	**04 05 32.5**	**-0.1**
SNSI				S	**Sn**	**04 06 05.9**	**+0.2**
MNSI	**Mandailing Nat**	**2.89**	**66**	P	**Pn**	**04 05 32.5**	**-0.6**
MNSI				S	**Sn**	**04 06 06.7**	**+0.2**

PPI	**Padang Panjang**	**3.45**	**91**	P	**Pn**	**04 05 41.0**	**+0.2**
TPTI		**3.64**	**4**	P	**Pn**	**04 05 43.3**	**-0.1**
TPTI				S	**Sn**	**04 06 24.8**	**-0.3**
PSI	**Prapat**	**3.74**	**32**	P	x	04 05 43.6	
KCSI	**Kotacane, Aceh**	**3.98**	**12**	P	**Pn**	**04 05 47.3**	**-0.8**
KCSI				S	**Sn**	**04 06 33.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.84**	**6**	P	**Pn**	**04 09 07.8**	**+0.6**
	0.5nm,0.3s,baz=196,slow=6.4,SNR=3.0						
H08S2	**Diego Garcia H**	**25.42**	**253**	T	T	04 36 32.4	
	baz=74,slow=73,SNR=12						
H08S3	**Diego Garcia H**	**25.42**	**253**	T	T	04 36 18.3	
	baz=74,slow=73,SNR=11						
H08S1	**Diego Carcia H**	**25.44**	**253**	T	T	04 36 34.4	
	baz=74,slow=73,SNR=3.7						
MKAR	**Makanchi Array**	**48.72**	**347**	P	**P**	**04 13 31.4**	**+0.9**
	1.1nm,0.6s,baz=157,slow=8.8,SNR=14						
SONM	**Songino Array**	**48.73**	**8**	P	**P**	**04 13 31.6**	**+0.8**
	0.5nm,0.7s,baz=180,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**55.08**	**351**	P	**P**	**04 14 18.1**	**+0.4**
	1.2nm,0.4s,baz=183,slow=5.5,SNR=7.1						
FINES	**FINESS Array B**	**81.29**	**333**	P	**P**	**04 17 01.1**	**-0.8**
	1.5nm,0.7s,baz=90,slow=6.9,SNR=5.0						
TXAR	**Lajitas Array**	**145.14**	**33**	PKPbc	**PKPbc**	**04 24 22.2**	**-1.4**
	0.7nm,0.8s,baz=302,slow=2.0,SNR=4.7						

NIED ***15*** *04:22:00.41.50N×143.90E, h17km, Mw3.8 Best double couple: M0 5.07000×10^14 NP1:φ=258.00000°, δ=43.00000°, λ=157.00000°. NP2:φ=5.00000°, δ=75.00000°, λ=50.00000°.*
IDC ***15*** *04:22:33.5±3.4, 41.11N×143.94E, h0km, mb3.8/8, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/40, Error ellipse: s-maj=76.1km s-min=28.1km az=166.0*
ISCJB ***15*** *04:22:37.6±1.0, 41.46N±0.08×144.06E±0.09, h27km, mb3.7/8, MS3.1/1, Error ellipse: s-maj=13.6km s-min=4.9km az=141.8*
JMA ***15*** *04:22:39.4±0.3, 41.50N×143.95E, h52km±3km, M3.5*

ISC 15 04:22:37.9±1.1, 41.38N±0.09×143.92E±0.07, h27km, n23, σ1.66/26, mb3.9/8, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.86**	**319**	⇓P	**Pn**	**04 22 54.1**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.26**	**316**	P	**Pn**	**04 23 00.8**	**-0.1**
JCH	**Churui**	**1.31**	**342**	P	**Pn**	**04 22 59.7**	**-0.6**
JOB	**Onbets**	**1.53**	**358**	P	**Pn**	**04 23 03.1**	**-0.3**
JAK	**Akkeshi**	**1.72**	**19**	P	**Pn**	**04 23 05.3**	**-0.7**
JBT2	**Biratori 2**	**1.82**	**321**	P	**Pn**	**04 23 08.4**	**+1.0**
JAR	**Ashorobuto**	**1.92**	**357**	⇑P	**Pn**	**04 23 07.9**	**-0.9**
JANG	**Nango**	**2.

COEN	**Coen**	**25.38**	**281**	*e*P		**P**	**04 56 50.3**	**+1.4**
COEN	**Coen**	**25.38**	**281**	P		**P**	**04 56 50.7**	**+1.8**
	baz=25,SNR=3.8							
STKA	**Stephens Creek**	**26.84**	**240**	P		**P**	**04 57 04.0**	**+2.0**
STKA	**Stephens Creek**	**26.84**	**240**	P		**P**	**04 57 04.0**	**+2.0**
	comp=Z,4.7nm,0.8s,baz=63,slow=9.1,SNR=14							
STKA				LR		LR	05 07 45.1	
	comp=Z,214nm,18.1s,baz=28,slow=37							
HTT	**Hallett**	**29.47**	**238**	P		**P**	**04 57 27.5**	**+2.0**
	baz=29,SNR=4.8							
WRAB	**Tennant Creek**	**32.35**	**265**	*e*P		**P**	**04 57 50.7**	**-0.3**
	comp=Z,7.8nm,1.1s							
WRA	**Warramunga Arr**	**32.36**	**265**	P		**P**	**04 57 50.6**	**-0.5**
WRA	**Warramunga Arr**	**32.36**	**265**	P		**P**	**04 57 50.6**	**-0.5**
	comp=Z,2.2nm,1.1s,baz=90,slow=9.6,SNR=7.0							
WRA				LR		LR	05 11 28.3	
	comp=Z,419nm,18.1s,baz=100,slow=37							
AS31	**Alice Springs**	**32.48**	**258**	*e*P		**P**	**04 57 52.0**	**-0.1**
ASAR	**Alice Springs**	**32.48**	**258**	P		**P**	**04 57 52.4**	**+0.2**
ASAR	**Alice Springs**	**32.48**	**258**	P		**P**	**04 57 52.4**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=82,slow=9.0,SNR=58							
ASAR				LR		LR	05 11 38.5	
	comp=Z,443nm,18.4s,baz=89,slow=37							
WRKA	**Warakurna**	**37.55**	**255**	P		**P**	**04 58 37.0**	**+1.1**
	baz=37,SNR=3.5							
FORT	**Forrest**	**37.96**	**246**	*e*P		**P**	**04 58 40.0**	**+0.7**
	comp=Z,7.4nm,0.6s							
KNRA	**Kununurra**	**38.35**	**271**	P		**P**	**04 58 42.9**	**+0.3**
	baz=38,SNR=4.1							
TBI	**Tubuai**	**38.66**	**102**	*e*LR		LR	05 09 23.2	
	comp=Z,245nm,32.2s							
PPT2	**Papeete2**	**39.32**	**93**	*e*LR		LR	05 09 46.6	
	comp=Z,262nm,24.8s							
PPT	**Papeete**	**39.32**	**93**	LR		LR	05 10 53.4	
	comp=Z,187nm,21.8s,baz=268,slow=30							
MBWA	**Marble Bar**	**45.76**	**260**	*e*P		**P**	**04 59 43.5**	**+0.4**
	comp=Z,9.0nm,0.8s							
MEEK	**Meekatharra**	**46.20**	**252**	P		**P**	**04 59 48.6**	**+2.1**
	baz=46,SNR=3.7							
QSPA	**South Pole Qui**	**69.47**	**180**	*e*P		**P**	**05 02 29.0**	**-0.4**
	comp=Z,7.2nm,1.1s							
QSPA	**South Pole Qui**	**69.47**	**180**	P		**P**	**05 02 29.6**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=342,slow=5.5,SNR=5.5							
KULM	**Kulim**	**71.68**	**283**	*e*P		**P**	**05 02 42.4**	**-1.2**
	comp=Z,26nm,1.4s							
CMAR	**Chiang Mai Arr**	**78.73**	**295**	P		**P**	**05 03 24.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**78.73**	**295**	P		**P**	**05 03 24.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=131,slow=4.2,SNR=3.3							
ULN	**Ulaanbaatar**	**87.73**	**324**	*e*P		**P**	**05 04 10.2**	**+0.1**
	comp=Z,1.6nm,0.8s							
SONM	**Songino Array**	**88.08**	**323**	P		**P**	**05 04 12.2**	**+0.5**
SONM	**Songino Array**	**88.08**	**323**	P		**P**	**05 04 12.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=129,slow=4.9,SNR=8.4							
NVAR	**Mina Array Bea**	**89.96**	**49**	P		**P**	**05 04 20.8**	**-0.1**
NVAR	**Mina Array Bea**	**89.96**	**49**	P		**P**	**05 04 20.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=232,slow=9.7,SNR=6.3							
NVAR				LR		LR	05 41 08.0	
	comp=Z,96nm,18.5s,baz=161,slow=33							
ILAR	**Eielson Array**	**91.62**	**17**	P		**P**	**05 04 25.1**	**-2.5**
ILAR	**Eielson Array**	**91.62**	**17**	P		**P**	**05 04 25.1**	**-2.5**
	comp=Z,0.7nm,1.0s,baz=237,slow=6.8,SNR=4.4							
ILAR				LR		LR	05 42 37.8	
	comp=Z,106nm,18.2s,baz=224,slow=34							
TXAR	**Lajitas Array**	**97.72**	**62**	LR		LR	05 40 10.4	
	comp=Z,115nm,18.8s,baz=75,slow=30							
ARCES	**ARCESS Array B**	**126.27**	**345**	PKP		**PKPdf**	**05 10 22.1**	**-0.9**
ARCES	**ARCESS Array B**	**126.27**	**345**	PKP		**PKPdf**	**05 10 22.1**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=29,slow=2.8,SNR=7.3							
MORC	**Moravsky Berou**	**143.04**	**329**	*e*PKPdf		**PKPdf**	**05 10 53.8**	**-1.1**
BRG	**Berggiesshubel**	**143.91**	**333**	*e*P		**PKPdf**	**05 10 55.5**	**-0.9**
	comp=Z,2.2nm,0.9s							
BRG				*e*			05 11 05.3	
	comp=Z,3.1nm,0.9s							
CONA	**Conrad Observa**	**145.10**	**328**	⇑*i*PKPdf		**PKPdf**	**05 10 58.6**	**0.0**
	comp=Z,8.5nm,1.0s							
KHC	**Kasperske Hory**	**145.35**	**331**	*e*PKPbc		**PKPbc**	**05 10 58.8**	**0.0**
GERES	**GERESS Array B**	**145.50**	**331**	PKPbc		**PKPbc**	**05 10 59.5**	**+0.1**
GERES	**GERESS Array B**	**145.50**	**331**	PKPbc		**PKPbc**	**05 10 59.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=29,slow=3.8,SNR=15							
ABTA	**Abfaltersbach**	**147.56**	**329**	⇑*i*PKPab		**PKPbc**	**05 11 05.3**	**-0.2**
	comp=Z,2.3nm,0.7s							
WLF	**Walferdange**	**147.89**	**339**	*e*PKPdf		**PKPdf**	**05 11 03.1**	**0.0**
WLF				*e*PKPbc		**PKPbc**	**05 11 06.5**	**+0.3**
BFO	**Black Forest**	**148.19**	**335**	*e*PKPdf		**PKPdf**	**05 11 03.1**	**-0.6**
BFO				*e*PKPbc		**PKPbc**	**05 11 07.6**	**+0.6**
FETA	**Feichten**	**148.19**	**331**	⇓*i*PKPbc		**PKPbc**	**05 11 06.3**	**-1.0**
	comp=Z,10nm,1.2s							

*ISCJB **15** 04:55:30.8±0.4,38°.11S±0°.03×71°.07W±0°.09, h129km±6km, mb4.1/14, Error ellipse: s-maj=11.7km s-min=5.1km az=7.6*
*IDC **15** 04:55:32.9±1.9,38°.04S×71°.00W, h129km±15km, mb3.8/10, mb1 3.8/13, mb1mx3.7/23, mbtmp3.7/13, Error ellipse: s-maj=38.6km s-min=11.5km az=100.0*
*GUC **15** 04:55:32.9±0.4,38°.11S×71°.12W, h114km±17km, ML4.5*
*NEIC **15** 04:55:32.2±0.9,38°.02S×71°.19W, h131km±7km, mb4.3/8, Error ellipse: s-maj=15.5km s-min=7.4km az=91.0*

ISC 15 04:55:31.7±0.8,38°.11S±0°.04×71°.09W±0°.07, h125km±8km, n47,σ1°06/53, mb4.3/14, 3C-2D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**2.04**	**308**	⇑*i*P		**Pn**	**04 56 06.7**	**+0.8**
CCSP				*i* S		**Sn**	**04 56 32.2**	**+0.1**
VLCH	**Valdivia**	**2.38**	**224**	⇑*i*P		**Pn**	**04 56 11.3**	**+1.1**
VLCH				*i* S		**Sn**	**04 56 40.0**	**+0.2**
VLCH				AML		AML	04 56 42.8	
	comp=N,3μm,0.4s							
PLCA	**Paso Flores**	**2.65**	**171**	P		**Pn**	**04 56 15.8**	**+2.1**
PLCA				S		**Sn**	**04 56 43.9**	**-2.2**
PLCA	**Paso Flores**	**2.65**	**171**	P		**Pn**	**04 56 15.8**	**+2.1**
	comp=N,16nm,0.3s,baz=340,slow=11,SNR=353							
PLCA				S		**Sn**	**04 56 43.9**	**-2.2**
	comp=N,5.3nm,0.3s,baz=347,slow=14,SNR=14							
TALC	**Talca**	**2.74**	**351**	*i* P		**Pn**	**04 56 15.7**	**+0.9**
TALC				*i* S		**Sn**	**04 56 48.7**	**+0.7**
TALC				AML		AML	04 56 52.3	
	comp=E,2μm,0.2s							
OSCH	**Osorno**	**2.92**	**212**	AML		AML	04 56 51.5	
	comp=E,1μm,0.7s							
PMCH	**Puerto Montt**	**3.65**	**202**	⇓*i*P		**Pn**	**04 56 26.3**	**-0.4**
PMCH				*i* S		**Sn**	**04 57 08.2**	**-1.0**
CACH	**El Canelo**	**4.00**	**6**	⇓*i*P		**Pn**	**04 56 33.1**	**+1.5**
CHCH	**Chadas Angostu**	**4.18**	**5**	⇑*i*P		**Pn**	**04 56 35.5**	**+1.6**
CFAA	**Coronel Fontan**	**6.90**	**21**	P		**Pn**	**04 57 10.6**	**+0.2**
CFAA				S		**Sn**	**04 58 26.1**	**-1.4**
CFAA	**Coronel Fontan**	**6.90**	**21**	P		**Pn**	**04 57 10.6**	**+0.2**
	comp=E,2.9nm,0.3s,baz=198,slow=12,SNR=190							
CFAA				S		**Sn**	**04 58 26.1**	**-1.4**
	comp=E,1.4nm,0.3s,baz=326,slow=20,SNR=12							
LCO	**Las Campanas**	**9.08**	**2**	*e*Pn		**Pn**	**04 57 38.0**	**-2.0**
LCO				*e*Sn		Sn	04 59 14.4	-6.3
LVC	**Limon Verde**	**15.56**	**8**	*e*Pn		**Pn**	**04 59 03.9**	**-0.7**
CPUP	**Villa Florida**	**16.52**	**49**	P		**Pn**	**04 59 16.0**	**0.0**
CPUP	**Villa Florida**	**16.52**	**49**	P		**Pn**	**04 59 16.0**	**0.0**
	comp=E,0.8nm,0.3s,baz=232,slow=4.6,SNR=4.7							
LPAZ	**La Paz**	**21.89**	**8**	*e*P		**P**	**05 00 16.1**	**+0.7**
	comp=E,3.2nm,0.7s							
LPAZ	**La Paz**	**21.89**	**8**	P		**P**	**05 00 16.5**	**+1.0**
	comp=E,1.7nm,0.5s,baz=94,slow=4.3,SNR=13							
SIV	**San Ignacio**	**23.74**	**25**	P		**P**	**05 00 32.1**	**-0.4**
SIV	**San Ignacio**	**23.74**	**25**	P		**P**	**05 00 32.1**	**-0.4**
	comp=E,1.4nm,0.5s,baz=229,slow=7.7,SNR=6.4							
NNA	**Nana**	**26.52**	**347**	*e*P		**P**	**05 00 56.4**	**-1.3**
	comp=E,80nm,1.5s							
SAML	**Samuel**	**29.90**	**16**	*e*P		**P**	**05 01 27.0**	**-0.7**
	comp=E,11nm,1.7s							
BDFB	**Brasilia**	**30.25**	**49**	P		**P**	**05 01 30.2**	**-0.7**
BDFB	**Brasilia**	**30.25**	**49**	P		**P**	**05 01 30.2**	**-0.7**
	comp=E,3.1nm,0.8s,baz=171,slow=5.5,SNR=4.2							
PTGA	**Pitinga**	**38.58**	**18**	P		**P**	**05 02 42.1**	**-0.4**
PTGA	**Pitinga**	**38.58**	**18**	P		**P**	**05 02 42.1**	**-0.4**
	comp=E,3.4nm,0.5s,baz=316,slow=21,SNR=6.1							
RCBR	**Riachuelo**	**45.30**	**54**	*e*P		**P**	**05 03 38.2**	**+1.0**
	comp=E,4.6nm,0.7s							
RCBR	**Riachuelo**	**45.30**	**54**	P		**P**	**05 03 37.7**	**+0.5**
	comp=E,3.8nm,0.6s,baz=201,slow=14,SNR=4.3							
SNAA	**Sanae**	**47.51**	**157**	*e*P		**P**	**05 03 54.6**	**+0.8**
	comp=E,7.6nm,1.3s							
SNAA	**Sanae**	**47.51**	**157**	P		**P**	**05 03 54.3**	**+0.5**
	comp=E,0.3nm,0.3s,baz=154,slow=18,SNR=8.8							
QSPA	**South Pole Qui**	**52.14**	**180**	P		**P**	**05 04 30.6**	**+1.6**
QSPA	**South Pole Qui**	**52.14**	**180**	P		**P**	**05 04 30.6**	**+1.6**
	comp=E,2.0nm,0.4s,baz=162,slow=4.4,SNR=17							
DBIC	**Dimbokro**	**75.83**	**70**	*e*P		**P**	**05 07 04.9**	**+0.6**
	comp=E,3.4nm,0.6s							
DBIC	**Dimbokro**	**75.83**	**70**	P		**P**	**05 07 05.0**	**+0.6**
	comp=E,3.1nm,0.6s,baz=193,slow=7.5,SNR=6.4							
BOSA	**Boshof**	**77.52**	**116**	P		**P**	**05 07 14.3**	**+0.3**
BOSA	**Boshof**	**77.52**	**116**	P		**P**	**05 07 14.3**	**+0.3**
	comp=E,2.4nm,0.4s,baz=164,slow=2.6,SNR=5.5							
TUC	**Tucson**	**79.22**	**327**	*e*P		**P**	**05 07 21.4**	**-1.4**
	comp=E,3.9nm,1.2s							
TOA0	**Torodi Ar. Sit**	**84.92**	**69**	*e*P		**P**	**05 07 53.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**84.92**	**69**	P		**P**	**05 07 53.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**84.92**	**69**	P		**P**	**05 07 53.3**	**+0.3**
	comp=E,0.3nm,0.3s,baz=211,slow=4.9,SNR=11							
DUG	**Dugway**	**86.80**	**329**	*e*P		**P**	**05 08 02.4**	**+0.6**
NEW	**Newport**	**95.24**	**331**	*e*P		**P**	**05 08 40.6**	**-0.2**
	comp=E,3.2nm,1.0s							
WRA	**Warramunga Arr**	**117.50**	**207**	PKP		**PKPdf**	**05 14 03.0**	**-0.2**
WRA	**Warramunga Arr**	**117.50**	**207**	PKP		**PKPdf**	**05 14 03.0**	**-0.2**
	comp=E,0.4nm,0.4s,baz=159,slow=1.8,SNR=9.7							
GNI	**Garni**	**131.16**	**66**	*e*PKPdf		**PKPdf**	**05 14 27.6**	**-1.1**
ABKAR	**Akbulak array**	**143.48**	**56**	*e*PKPdf		PKPbc	05 14 48.2	-0.4
MKAR	**Makanchi Array**	**158.61**	**58**	PKPab		**PKPab**	**05 15 50.0**	**+0.2**
MKAR	**Makanchi Array**	**158.61**	**58**	PKPab		**PKPab**	**05 15 50.0**	**+0.2**
	comp=E,0.4nm,0.4s,baz=352,slow=2.9,SNR=18							

*ISCJB **15** 04:57:06.8±2.6, 42°.60N±0°.10×43°.6E±0°.2, h11km, Error ellipse: s-maj=23.1km s-min=14.3km az=2.6*
*CSEM **15** 04:57:06.7±0.9, 42°.56N×43°.61E, h5km, MD3.0, Error ellipse: s-maj=57.5km s-min=12.0km az=115.0*
*DDA **15** 04:57:13.1, 42°.42N×43°.01E, h11km, MD3.0*

ISC 15 04:57:06.8±3.8, 42°.5N±0°.1×43°.5E±0°.4, h11km, n7, σ0s82/14, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONI	**Oni**	**0.10**	**344**	P		**Pg**	**04 57 09.5**	**-0.1**
ONI				S		**Sg**	**04 57 11.2**	**-0.4**
ONI	**Oni**	**0.10**	**344**	P		**Pg**	**04 57 09.5**	**-0.1**
ONI				S		**Sg**	**04 57 11.2**	**-0.4**
ARTV	**Artvin**	**1.75**	**222**	*i* P		**Pb**	**04 57 39.0**	**-0.1**
ARTV				*i* S		**Sb**	**04 58 02.4**	**+1.2**
ARTV	**Artvin**	**1.75**	**222**	*i* P		**Pb**	**04 57 39.0**	**-0.1**
ARTV				*i* S		**Sb**	**04 58 02.4**	**+1.2**
DAGI	**Agillar**	**1.84**	**220**	*i* P		**Pb**	**04 57 40.1**	**-0.4**
DAGI				*i* S		**Sb**	**04 58 04.8**	**+1.2**
DBAD	**Bademkaya**	**2.00**	**223**	*i* P		**Pb**	**04 57 43.0**	**-0.1**
DBAD				*i* S		**Sg**	**04 58 09.8**	**-1.1**
DBAD	**Bademkaya**	**2.00**	**223**	*i* P		**Pb**	**04 57 43.0**	**-0.1**
DBAD				*i* S		**Sg**	**04 58 09.8**	**-1.1**

CASC 15 05:19:36.9±2.1, 12°.05N×87°.47W, h0km±5km, MD3.7, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNCH	**Conchagua**	**1.27**	**344**	⇓*e*P		Pb	05 20 01.8	-0.1
SNVI	**San Vicente**	**2.05**	**319**	*i* P		Pn	05 20 12.2	-0.7
SNVI				*e*S		Sn	05 20 40.0	+0.7
LFRS	**El Faro**	**2.20**	**315**	*i* P		Pn	05 20 14.3	-0.6
LFRS				*e*S		Sn	05 20 44.1	+1.1
LBRS	**Las Brisas**	**2.27**	**318**	*e*P		Pn	05 20 15.4	-0.5
LFU	**La Fuente**	**2.33**	**317**	*i* P		Pn	05 20 15.7	-0.9
BOQS	**Boqueron**	**2.43**	**314**	*e*P		Pn	05 20 17.6	-0.6
BOQS				*e*S		Sb	05 20 50.9	-1.7
VCR	**Vista de Mar**	**2.63**	**136**	⇓*e*P		Pn	05 20 22.0	+1.2
VCR				*e*S		Sb	05 20 56.0	-2.1
SBLS	**San Blas**	**2.75**	**311**	*e*P		Pn	05 20 21.8	-0.9
SBLS				*e*S		Sn	05 20 58.7	+1.9
JCR	**Jicaral**	**3.19**	**133**	*e*P		Pn	05 20 28.7	+0.3
CGA2	**Cerro Gallo 2**	**3.58**	**124**	*e*P		Pn	05 20 32.9	-1.0
CGA2				*e*S		Sn	05 21 15.7	-1.4
QCR	**Quepos**	**4.17**	**128**	*e*P		Pn	05 20 41.6	-0.2
BUS	**Buena Vista**	**4.41**	**124**	*e*P		Pn	05 20 44.3	-1.4

*ISCJB **15** 05:42:57.1±0.5, 17°.91N±0°.04×100°.94W±0°.03, h67km±6km, mb3.2/3, Error ellipse: s-maj=6.2km s-min=4.3km az=16.1*
*MEX **15** 05:42:59.6±0.8, 17°.95N×100°.95W, h58km±8km, MD4.0*
*IDC **15** 05:43:08.3±5.7, 18°.84N×99°.73W, h114km±48km, mb3.1/3, mb1 3.4/6, mb1mx3.2/25, mbtmp3.1/6, Error ellipse: s-maj=110.9km s-min=31.2km az=45.0*

ISC 15 05:42:58.4±0.9, 17°.93N±0°.04×100°.95W±0°.03, h57km±11km, n23,σ1s16/36, mb3.2/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.59**	**237**	*e*P		**Pn**	**05 43 10.9**	**-0.2**
ZIIG				*i* S		**Sn**	**05 43 20.6**	**+0.2**
ARIG	**Puente Sto Nin**	**0.67**	**58**	*e*P		**Pn**	**05 43 11.6**	**-0.6**
ARIG				*e*S		**Sn**	**05 43 21.4**	**-0.8**
PLIG	**Platanillo**	**1.45**	**71**	*e*P		**Pn**	**05 43 22.4**	**0.0**
PLIG				*i* S		**Sn**	**05 43 39.1**	**-1.4**
ACP2	**Acapulco**	**1.46**	**136**	*i* P		**Pn**	**05 43 22.6**	**+0.1**
ACP2				*i* S		**Sn**	**05 43 39.5**	**-1.1**
MAVM	**Malinalco, Edo**	**1.72**	**53**	*e*P		**Pn**	**05 43 25.8**	**-0.4**
MOIG	**Morelia**	**1.75**	**353**	*i* P		**Pn**	**05 43 26.2**	**-0.6**
MOIG				*e*S		**Sn**	**05 43 47.6**	**-0.6**
TOVM	**TOLUCA**	**1.81**	**42**	*e*P		**Pn**	**05 43 27.3**	**-0.2**
TOVM				*i* S		**Sn**	**05 43 49.7**	**+0.1**
URUA	**Uruapan**	**1.83**	**324**	*i* P		**Pn**	**05 43 27.6**	**-0.1**
URUA				*i* S		**Sn**	**05 43 50.0**	**0.0**
YAIG	**Yautepec**	**2.01**	**62**	*e*P		**Pn**	**05 43 30.1**	**0.0**
YAIG				*e*S		**Sn**	**05 43 53.4**	**-0.9**
MZVM		**2.06**	**52**	*e*P		**Pn**	**05 43 32.4**	**+1.8**
UNM	**Universidad Na**	**2.18**	**50**	*e*P		Pn	05 43 36.1	+3.6
TLIG	**Tlapa**	**2.30**	**99**	*e*P		**Pn**	**05 43 35.2**	**+1.2**
TLIG				*i* S		**Sn**	**05 44 00.5**	**-0.7**
MMIG	**Aquila**	**2.31**	**279**	*i* P		**Pn**	**05 43 33.4**	**-0.6**
MMIG				*i* S		**Sn**	**05 43 59.6**	**-1.8**
DEIG	**Demacu**	**2.97**	**37**	*i* P		**Pn**	**05 43 42.6**	**-0.8**
DEIG				*e*S		**Sn**	**05 44 16.7**	**-1.2**
PNIG	**Pinotepa**	**3.10**	**119**	*e*P		**Pn**	**05 43 45.3**	**+0.4**
PNIG				*i* S		**Sn**	**05 44 20.0**	**-0.7**
TPIG	**Tehuac#an**	**3.44**	**81**	*e*P		**Pn**	**05 43 50.0**	**+0.3**
TPIG				*e*S		**Sn**	**05 44 29.2**	**-0.2**
VHO	**Vista Hermosa**	**4.11**	**101**	*i* P		**Pn**	**05 44 00.9**	**+2.0**
VHO				*e*S		**Sn**	**05 44 44.8**	**-1.1**
APG	**El Apazote**	**10.47**	**105**	P		**Pn**	**05 45 24.4**	**-1.6**
	0.8nm,0.3s,baz=297,slow=16,SNR=11							
TXAR	**Lajitas Array**	**11.62**	**348**	P		**Pn**	**05 45 43.1**	**+1.5**
	0.1nm,0.3s,baz=161,slow=11,SNR=3.5							
ANMO	**Albuquerque**	**17.65**	**345**	P		**Pn**	**05 47 00.5**	**0.0**
	0.1nm,0.3s,baz=156,slow=14,SNR=9.4							
NVAR	**Mina Array Bea**	**25.43**	**327**	P		**P**	**05 48 24.7**	**+3.5**
	1.1nm,0.7s,baz=147,slow=11,SNR=10							
PDAR	**Pinedale Array**	**25.82**	**345**	P		**P**	**05 48 24.4**	**-0.2**
	0.5nm,0.6s,baz=162,slow=10,SNR=3.2							
YKA	**Yellowknife Ar**	**45.53**	**351**	P		**P**	**05 51 10.4**	**-1.7**
	0.2nm,0.6s,baz=157,slow=7.6,SNR=4.1							

IDC 15 06:18:01.4±2.2, 41°.75N×126°.91E, h0km, mb2.9/1, mb1 3.0/3, mb1mx3.0/27, mbtmp2.8/3, ML2.1/2, Error ellipse: s-maj=34.5km s-min=16.7km az=106.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**4.36**	**169**	Pn		Pn	06 19 09.0	+0.1
	0.4nm,0.3s,baz=347,slow=14,SNR=4.0							
KSRS				Pg		Pb	06 19 21.9	+3.0
	1.4nm,0.3s,baz=349,slow=18,SNR=9.7							
KSRS				Lg		Lg	06 20 19.7	
	4.7nm,0.3s,baz=352,slow=30,SNR=16							
I45RU	**USSURIYSK INFR**	**4.45**	**55**	*i*			06 44 20.0	
	baz=234,slow=335,SNR=1.5							
USRK	**Ussuriysk Arra**	**4.46**	**55**	Pn		Pn	06 19 11.8	+1.5
	0.3nm,0.3s,baz=245,slow=13,SNR=5.8							
USRK				Pg		Pb	06 19 22.4	+1.8
	0.8nm,0.3s,baz=242,slow=14,SNR=8.7							
USRK				Lg		Lg	06 20 22.6	
	1.7nm,0.3s,baz=241,slow=27,SNR=7.4							
YKA	**Yellowknife Ar**	**66.05**	**27**	P		P	06 28 42.7	-0.4
	0.1nm,0.6s,baz=311,slow=5.6,SNR=4.2							

MAN 15 06:40:09, 7°.15N×125°.99E, h36km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**0.34**	**128**	*e*P		Pn	06 40 19.2	+1.8
MATI				*e*S		Sn	06 40 26.8	+2.9
DMPH	**Davao City--Mi**	**0.48**	**262**	⇓*i*P		Pn	06 40 21.0	+1.7
DMPH				*i* S		Sn	06 40 29.8	+3.2
BUKP	**Musuan**	**1.17**	**308**	*e*P		Pn	06 40 30.2	+1.4
BUKP				*e*S		Sn	06 40 44.5	+0.9

*IDC **15** 06:49:14.7±3.8, 0°.62S×100°.51E, h87km±34km, mb3.3/6, mb1 3.4/7, mb1mx3.3/25, mbtmp3.3/7, Error ellipse: s-maj=102.4km s-min=16.3km az=56.0*

ISC 15 06:49:15.7±1.1, 0°.5S±0°.3×100°.6E±0°.6, h94km±18km, n17, σ0s78/13, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPI	**Padang Panjang**	**0.19**	**273**	P		**Pn**	**06 49 29.1**	**+0.1**
	baz=1.5,SNR=220							
BKNI	**Bangkinang**	**0.91**	**30**	S		Sn	06 49 40.3	-8.6
	baz=0.8,SNR=7.9							
PSI	**Prapat**	**3.65**	**333**	P		**Pn**	**06 50 09.1**	**-1.0**
	2.4nm,0.3s,baz=157,slow=8.3,SNR=7.7							
PSI	**Prapat**	**3.65**	**333**	P		**Pn**	**06 50 10.3**	**+0.2**
	baz=3.9,SNR=6.7							
MNAI	**Manna**	**4.54**	**149**	P		**Pn**	**06 50 22.5**	**+0.4**
	baz=4.6,SNR=6.9							
MNAI				S		**Sn**	**06 51 13.5**	**-0.2**
	baz=4.6,SNR=5.8							
WSI	**Waingapu**	**21.64**	**116**	S		Sn	06 58 01.4	-6.6
	baz=21,SNR=3.8							
H08S2	**Diego Garcia H**	**28.89**	**255**	T		T	07 23 19.4	
	baz=71,slow=75,SNR=8.3							
H08S3	**Diego Garcia H**	**28.90**	**255**	T		T	07 23 21.6	
	baz=71,slow=75,SNR=12							
H08S1	**Diego Garcia H**	**28.91**	**255**	T		T	07 23 07.7	
	baz=71							
WRA	**Warramunga Arr**	**38.29**	**122**	P		**P**	**06 56 26.7**	**-0.7**
	0.7nm,0.3s,baz=302,slow=9.0,SNR=11							
ASAR	**Alice Springs**	**39.70**	**128**	P		**P**	**06 56 37.8**	**-1.4**
	0.3nm,0.3s,baz=305,slow=7.5,SNR=5.7							
BBOO	**Buckleboo**	**46.36**	**138**	P		**P**	**06 57 32.6**	**0.0**
	baz=46,SNR=5.5							
SONM	**Songino Array**	**48.37**	**5**	P		**P**	**06 57 49.2**	**+1.0**
	0.1nm,0.4s,baz=198,slow=9.3,SNR=3.5							
MKAR	**Makanchi Array**	**49.73**	**344**	P		**P**	**06 57 59.3**	**+0.9**
	0.4nm,0.3s,baz=156,slow=8.6,SNR=15							
STKA	**Stephens Creek**	**49.74**	**133**	P		**P**	**06 57 58.6**	**-0.2**
	0.7nm,0.4s,baz=319,slow=10,SNR=4.5							
STKA	**Stephens Creek**	**49.74**	**133**	P		**P**	**06 57 58.9**	**+0.1**
	baz=49,SNR=5.0							
BVAR	**Borovoye Array**	**58.96**	**339**	P		**P**	**06 59 04.9**	**-0.3**
	0.6nm,0.5s,baz=143,slow=10,SNR=5.6							

IDC 15 06:58:45.7±6.2, 3°.97N×123°.57E, h564km±94km, mb2.5/5, mb1 2.7/5, mb1mx2.5/25, mbtmp2.5/5, Error ellipse: s-maj=115.1km s-min=20.9km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

JKE	**Kume jima 2**	**2.98**	**235**	P	**Pn**	07 14 59.1	**+0.2**
JKE				*e*S	**Sn**	07 15 32.9	**-0.6**
JNU	**Nakatsue**	**5.18**	**13**	*e*Pn	**Pn**	07 15 31.3	**+2.2**
	20nm,0.4s						
JNU	**Nakatsue**	**5.18**	**13**	P	**Pn**	07 15 31.7	**+2.6**
	17nm,0.3s,baz=301,slow=2.3,SNR=91						
JNU				S	**Sn**	07 16 29.3	**+1.6**
	baz=53,slow=10,SNR=1.6						
YHNB	**Yeheng**	**8.04**	**247**	*e*Pn	**Pn**	07 16 11.1	**+2.6**
	29nm,0.8s						
YULB	**Yu-li**	**8.74**	**240**	*e*Pn	**Pn**	07 16 17.6	**-0.5**
SSLB	**Suanglung**	**8.80**	**243**	*e*Pn	**Pn**	07 16 17.8	**-1.1**
	15nm,0.6s						
KSAR	**Wonju Array Be**	**9.45**	**352**	P	Pn	07 16 31.6	+3.9
KSRS	**Korea Array**	**9.46**	**352**	P	Pn	07 16 31.6	+3.8
	0.2nm,0.3s,baz=173,slow=14,SNR=13						
MJAR	**Matsushiro Arr**	**11.20**	**39**	P	Pn	07 16 57.8	+6.1
MJAR	**Matsushiro Arr**	**11.20**	**39**	P	Pn	07 16 57.8	+6.1
	0.4nm,0.3s,baz=236,slow=13,SNR=3.2						
MJAR				LR	LR	07 21 16.9	
	comp=Z,100nm,20.1s,baz=210,slow=38						
ASAJ	**Asahikawa**	**19.16**	**30**	LR	LR	07 27 05.2	
	comp=Z,167nm,19.2s,baz=296,slow=40						
SONM	**Songino Array**	**26.69**	**324**	P	**P**	07 19 51.5	**+1.4**
SONM	**Songino Array**	**26.69**	**324**	P	**P**	07 19 51.5	**+1.4**
	1.0nm,0.8s,baz=137,slow=11,SNR=5.8						
SONM				LR	LR	07 32 26.0	
	comp=Z,96nm,20.1s,baz=14,slow=41						
CMAR	**Chiang Mai Arr**	**29.60**	**258**	P	**P**	07 20 16.8	**+0.7**
CMAR	**Chiang Mai Arr**	**29.60**	**258**	P	**P**	07 20 16.8	**+0.7**
	1.0nm,0.4s,baz=59,slow=6.0,SNR=6.2						
CMAR				LR	LR	07 33 33.7	
	comp=Z,153nm,18.5s,baz=68,slow=39						
PETK	**Petropavlovsk-**	**32.55**	**32**	LR	LR	07 35 39.6	
	comp=Z,112nm,19.3s,baz=216,slow=39						
LSA	**Lhasa**	**33.53**	**282**	*e*P	**P**	07 20 51.5	**+0.3**
	5.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.06**	**95**	T	T	07 58 20.3	
	baz=291,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**35.06**	**95**	T	T	07 58 20.3	
	baz=291,slow=76,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**35.08**	**95**	T	T	07 58 21.4	
	baz=291,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**35.33**	**97**	T	T	07 58 50.0	
	baz=292,slow=73,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**35.34**	**97**	T	T	07 58 43.8	
	baz=292,slow=73,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**35.35**	**97**	T	T	07 58 49.3	
	baz=292,slow=73,SNR=3.9						
MK31	**Makanchi Array**	**41.20**	**310**	*e*P	**P**	07 21 53.9	**-1.6**
MKAR	**Makanchi Array**	**41.20**	**310**	P	**P**	07 21 55.0	**-0.5**
MKAR				PcP	**PcP**	07 23 53.5	**-0.6**
MKAR	**Makanchi Array**	**41.20**	**310**	P	**P**	07 21 55.0	**-0.5**
	0.2nm,0.5s,baz=97,slow=9.4,SNR=3.5						
MKAR				PcP	**PcP**	07 23 53.5	**-0.6**
	1.0nm,0.8s,baz=103,slow=3.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**41.51**	**321**	P	**P**	07 21 56.5	**-1.3**
ZALV	**Zalesovo Beam**	**41.51**	**321**	P	**P**	07 21 56.5	**-1.3**
	1.8nm,0.6s,baz=115,slow=9.2,SNR=7.0						
KURK	**Kurchatov**	**44.31**	**315**	*e*P	**P**	07 22 20.0	**-0.5**
KURBB	**Kurchatov Arra**	**44.34**	**315**	P	**P**	07 22 19.6	**-1.2**
	1.0nm,0.5s,baz=99,slow=9.2,SNR=6.0						
TKM2	**Tokmak 2**	**45.58**	**304**	*e*P	**P**	07 22 31.3	**+0.3**
	3.6nm,0.7s						
WRAB	**Tennant Creek**	**47.94**	**174**	*e*P	**P**	07 22 49.9	**+0.6**
	5.9nm,1.2s						
WRA	**Warramunga Arr**	**47.95**	**174**	P	**P**	07 22 48.4	**-1.0**
WRA	**Warramunga Arr**	**47.95**	**174**	P	**P**	07 22 48.4	**-1.0**
	1.8nm,0.9s,baz=353,slow=8.5,SNR=7.3						
KKAR	**Karatay Array**	**49.31**	**304**	*e*P	**P**	07 23 00.1	**+0.4**
	2.0nm,0.8s						
BVAR	**Borovoye Array**	**49.69**	**317**	P	**P**	07 23 01.4	**-1.1**
BVAR				PcP	**PcP**	07 24 22.6	**-0.8**
BVAR	**Borovoye Array**	**49.69**	**317**	P	**P**	07 23 01.5	**-1.1**
	1.4nm,0.6s,baz=87,slow=9.9,SNR=7.7						
BVAR				PcP	**PcP**	07 24 22.6	**-0.8**
	0.5nm,0.6s,baz=49,slow=4.4,SNR=2.9						
BVAR				LR	LR	07 46 11.9	
	comp=Z,121nm,18.7s,baz=84,slow=39						
BRVK	**Borovoye**	**49.76**	**317**	*e*P	**P**	07 23 02.7	**-0.3**
	3.2nm,0.7s						
ASAR	**Alice Springs**	**51.60**	**175**	P	**P**	07 23 16.8	**-0.4**
ASAR	**Alice Springs**	**51.60**	**175**	P	**P**	07 23 16.8	**-0.4**
	1.1nm,0.9s,baz=5.9,slow=14,SNR=11						
ABKAR	**Akbulak array**	**56.24**	**312**	*e*P	**P**	07 23 50.4	**-0.5**
	0.8nm,0.6s						
STKA	**Stephens Creek**	**60.71**	**168**	P	**P**	07 24 21.7	**-0.3**
STKA	**Stephens Creek**	**60.71**	**168**	P	**P**	07 24 21.7	**-0.3**
	1.3nm,0.8s,baz=345,slow=8.8,SNR=3.7						
ILAR	**Eielson Array**	**62.29**	**29**	P	**P**	07 24 30.6	**-1.8**
ILAR	**Eielson Array**	**62.29**	**29**	P	**P**	07 24 30.6	**-1.8**
	0.8nm,1.1s,baz=273,slow=5.3,SNR=3.0						
INK	**Inuvik**	**66.76**	**24**	P	**P**	07 25 01.4	**-0.1**
	0.8nm,0.8s,baz=285,slow=12,SNR=3.8						
SPITS	**Spitsbergen Ar**	**67.28**	**348**	P	**P**	07 25 04.8	**+0.1**
SPITS	**Spitsbergen Ar**	**67.28**	**348**	P	**P**	07 25 04.8	**+0.1**
	2.9nm,0.7s,baz=123,slow=5.3,SNR=4.5						
ARCES	**ARCESS Array B**	**68.72**	**339**	P	**P**	07 25 13.3	**-0.6**
ARCES	**ARCESS Array B**	**68.72**	**339**	P	**P**	07 25 13.3	**-0.6**
	3.0nm,0.9s,baz=24,slow=9.3,SNR=4.4						
ARCES				LR	LR	08 00 42.9	
	comp=Z,89nm,18.7s,baz=39,slow=41						
KBZ	**Khabaz**	**68.89**	**309**	P	**P**	07 25 15.8	**+0.4**
KBZ	**Khabaz**	**68.89**	**309**	P	**P**	07 25 15.8	**+0.4**
	8.2nm,0.8s,baz=118,slow=2.9,SNR=15						
KBZ				LR	LR	07 58 05.6	
	comp=Z,46nm,19.3s,baz=36,slow=38						
JOF	**Joensuu**	**69.00**	**331**	*e*p	**P**	07 25 15.0	**-0.7**
	3.5nm,0.5s						
FINES	**FINESS Array B**	**71.84**	**331**	P	**P**	07 25 32.8	**-0.3**
FINES	**FINESS Array B**	**71.84**	**331**	P	**P**	07 25 32.8	**-0.3**
	3.4nm,0.5s,baz=72,slow=6.0,SNR=30						
RES	**Resolute Bay**	**73.54**	**11**	*e*P	**P**	07 25 43.4	**+0.5**
	2.5nm,0.7s						
RES	**Resolute Bay**	**73.54**	**11**	P	**P**	07 25 43.2	**+0.3**
	2.7nm,0.8s,baz=293,slow=5.3,SNR=8.5						
AKASG	**Malin Array Be**	**74.88**	**320**	P	**P**	07 25 50.6	**-0.6**
AKASG	**Malin Array Be**	**74.88**	**320**	P	**P**	07 25 50.6	**-0.6**
	2.4nm,0.6s,baz=59,slow=6.1,SNR=12						
YKA	**Yellowknife Ar**	**76.39**	**25**	P	**P**	07 26 00.1	**+0.5**
YKA	**Yellowknife Ar**	**76.39**	**25**	P	**P**	07 26 00.0	**+0.5**
	0.5nm,0.7s,baz=303,slow=5.5,SNR=13						
BRTR	**Keskin Array B**	**76.81**	**308**	P	**P**	07 26 02.6	**-0.1**
BRTR	**Keskin Array B**	**76.81**	**308**	P	**P**	07 26 02.6	**-0.1**
	4.2nm,0.9s,baz=102,slow=5.3,SNR=18						
BRTR				LR	LR	08 05 10.7	
	comp=Z,34nm,18.2s,baz=26,slow=40						
HFS	**Hagfors**	**77.73**	**333**	P	**P**	07 26 07.0	**-0.1**
HFS	**Hagfors**	**77.73**	**333**	P	**P**	07 26 07.1	**-0.1**
	2.6nm,0.8s,baz=69,slow=4.9,SNR=4.9						
NB2	**NORSAR Subarra**	**78.18**	**334**	P	**P**	07 26 08.4	**-1.3**
	comp=Z,2.5nm,0.7s,baz=53,slow=5.9						
NOA	**NORSAR Array B**	**78.18**	**334**	P	**P**	07 26 08.8	**-0.9**
NOA	**NORSAR Array B**	**78.18**	**334**	P	**P**	07 26 08.8	**-0.9**
	comp=Z,2.1nm,0.7s,baz=52,slow=5.7,SNR=10						
BUR08	**Bucovina Ar. S**	**78.64**	**318**	*e*P	**P**	07 26 13.4	**+0.8**
KWP	**Kalwaria Pacla**	**79.08**	**321**	*e*P	**P**	07 26 15.7	**+0.8**
	comp=Z,9.1nm,1.0s						
MLR	**Muntele Rosu**	**79.23**	**316**	P	**P**	07 26 16.0	**+0.1**
MLR	**Muntele Rosu**	**79.23**	**316**	P	**P**	07 26 16.0	**+0.1**
	comp=Z,0.4nm,0.6s,baz=81,slow=16,SNR=3.4						
SUMG	**Summit**	**79.29**	**356**	*e*P	**P**	07 26 16.6	**+0.5**
	comp=Z,4.9nm,0.6s						
CLL	**Collm**	**83.30**	**326**	∥ *i*P	**P**	07 26 37.7	**+0.5**
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**84.43**	**323**	P	**P**	07 26 43.5	**+0.3**
GERES	**GERESS Array B**	**84.43**	**323**	P	**P**	07 26 43.5	**+0.3**
	comp=Z,1.1nm,0.8s,baz=46,slow=5.8,SNR=9.3						
GERES				LR	LR	08 06 42.3	
	comp=Z,53nm,19.4s,baz=48,slow=37						
FCC	**Fort Churchill**	**86.22**	**21**	*e*P	**P**	07 26 52.4	**+0.6**
	comp=Z,0.6nm,1.9s						
CMB	**Columbia Colle**	**87.29**	**48**	*e*P	**P**	07 26 58.5	**+0.9**
	comp=Z,1.4nm,0.9s						
FRB	**Frobisher Bay**	**87.39**	**8**	P	**P**	07 26 56.9	**-0.5**
FRB	**Frobisher Bay**	**87.39**	**8**	P	**P**	07 26 56.9	**-0.5**
	comp=Z,2.6nm,1.1s,baz=345,slow=6.5,SNR=4.1						
DAVOX	**Davos/Dischmat**	**87.73**	**323**	P	**P**	07 27 00.7	**+1.0**
DAVOX	**Davos/Dischmat**	**87.73**	**323**	P	**P**	07 27 00.7	**+1.0**
	comp=Z,3.8nm,0.5s,baz=4.3,slow=3.1,SNR=7.3						
NVAR	**Mina Array Bea**	**88.42**	**47**	P	**P**	07 27 04.8	**+1.7**
NVAR	**Mina Array Bea**	**88.42**	**47**	P	**P**	07 27 04.8	**+1.7**
	comp=Z,0.6nm,0.8s,baz=280,slow=4.4,SNR=3.8						
PDAR	**Pinedale Array**	**91.03**	**39**	P	**P**	07 27 15.8	**+0.5**
PDAR	**Pinedale Array**	**91.03**	**39**	P	**P**	07 27 15.8	**+0.5**
	comp=Z,0.4nm,0.6s,baz=120,slow=2.4,SNR=3.5						
ULM	**Lac du Bonnet**	**92.27**	**27**	P	**P**	07 27 20.6	**0.0**
ULM	**Lac du Bonnet**	**92.27**	**27**	P	**P**	07 27 20.6	**0.0**
	comp=Z,2.0nm,0.8s,baz=322,slow=8.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**114.97**	**302**	PKP	PKPdf	07 32 50.9	-1.3
TORD	**Torodi Ar. Bea**	**114.97**	**302**	PKP	PKPdf	07 32 50.9	-1.3
	comp=Z,0.4nm,0.6s,baz=22,slow=3.6,SNR=2.7						
PTGA	**Pitinga**	**151.35**	**20**	*e*PKPbc	**PKPbc**	07 34 04.9	**-0.1**
PTGA	**Pitinga**	**151.35**	**20**	PKPbc	**PKPbc**	07 34 05.1	**+0.1**
	comp=Z,5.8nm,0.7s,baz=318,slow=6.9,SNR=9.8						

JMA 15 07:15:54.5±0.1, 28°.12N×129°.52E, h37km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.30**	**14**	P	Pn	07 16 02.2	-0.5
JAM				S	Sn	07 16 07.7	-2.1
JAMN	**Amaminishikomi**	**0.33**	**292**	P	Pn	07 16 02.8	0.0
JAMN				S	Sn	07 16 08.8	-0.9
JZK	**Kikaishima**	**0.44**	**64**	P	Pn	07 16 04.4	+0.2
JTK	**Tokunoshima**	**0.60**	**237**	P	Pn	07 16 05.9	-0.8
JTK				S	Sn	07 16 13.9	-1.3
JOW	**Kunigami**	**1.69**	**221**	P	Pn	07 16 22.4	+0.9
JIH	**Iheya**	**1.75**	**232**	P	Pn	07 16 24.1	+1.8
JIH				*e*S	Sn	07 16 45.1	+1.8
JKE	**Kume jima 2**	**3.02**	**234**	P	Pn	07 16 40.6	+0.9
JKE				*e*S	Sn	07 17 16.1	+1.4

MEX 15 07:23:16.6±0.3, 16°.27N×98°.29W, h7km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**53**	*e*P	Pg	07 23 20.2	-0.4
PNIG				*i* S	Sg	07 23 23.3	-0.1
TLIG	**Tlapa**	**1.31**	**348**	*e*P	Pn	07 23 37.6	-3.8
TLIG				*i* S	Sb	07 23 54.0	-4.8
ACX	**Acapulco**	**1.62**	**292**	*i* P	Pn	07 23 42.2	-3.3
ACX				*i* S	Sn	07 24 03.3	-3.4
VHO	**Vista Hermosa**	**1.69**	**62**	*e*P	Pn	07 23 43.2	-3.6
VHO				*e*S	Sn	07 24 04.0	-4.8
HUIG	**Huatulco**	**2.16**	**103**	*i* P	Pn	07 23 49.2	-3.8
HUIG				*i* S	Sn	07 24 15.8	-4.1
PLIG	**Platanillo**	**2.41**	**331**	*i* P	Pn	07 23 53.6	-2.8
PLIG				*i* S	Sn	07 24 22.2	-4.1
ARIG	**Puente Sto Nin**	**2.80**	**316**	*i* P	Pn	07 23 59.7	-2.1
ARIG				*i* S	Sn	07 24 32.5	-3.4

*ISCJB **15** 07:29:30.1±0.5, 22°.52S±0°.05×66°.05W±0°.07, h251km, mb4.0/9, Error ellipse: s-maj=9.1km s-min=7.3km az=17.6*
*IDC **15** 07:29:31.3±1.5, 22°.53S×66°.00W, h243km±13km, mb3.8/5, mb1 3.7/10, mb1mx3.4/27, mbtmp4.3/10, Error ellipse: s-maj=23.2km s-min=15.5km az=116.0*
*NEIC **15** 07:29:31.1±0.6, 22°.53S×66°.09W, h243km±7km, mb4.1/8, Error ellipse: s-maj=12.0km s-min=7.6km az=104.0*

ISC 15 07:29:31.8±0.5, 22°.47S±0°.07×66°.10W±0°.08, h251km, n34, σ1°55/43, mb4.1/9, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.60**	**266**	*e*Pn	**Pn**	07 30 20.6	**+0.2**
LVC				*e*Sn	**S**	07 30 58.5	**-0.3**
LPAZ	**La Paz**	**6.44**	**342**	*e*Pn	**Pn**	07 31 06.8	**+0.7**
	15nm,0.4s						
LPAZ				*e*Sn	**S**	07 32 19.0	**-2.5**
LPAZ	**La Paz**	**6.44**	**342**	P	**Pn**	07 31 07.2	**+1.0**
	4.2nm,0.3s,baz=156,slow=7.8,SNR=103						
LPAZ				S	**S**	07 32 17.7	**-3.8**
	baz=102,slow=19,SNR=2.7						
LCO	**Las Campanas**	**7.72**	**212**	*e*Pn	**Pn**	07 31 19.3	**-2.5**
	9.9nm,0.4s						
LCO				*e*Sn	S	07 32 36.6	-14
ARE	**Arequipa**	**7.84**	**319**	*e*P	**Pn**	07 31 22.0	**-1.5**
ARE				*e*S	S	07 32 46.5	-6.8
SIV	**San Ignacio**	**8.00**	**37**	P	**Pn**	07 31 24.8	**-0.5**
SIV				S	S	07 32 44.8	-12
SIV	**San Ignacio**	**8.00**	**37**	P	**Pn**	07 31 24.8	**-0.5**
	3.1nm,0.3s,baz=237,slow=8.2,SNR=65						
SIV				S	S	07 32 44.8	-12
	baz=249,slow=15,SNR=3.5						
CFAA	**Coronel Fontan**	**9.30**	**191**	P	**Pn**	07 31 39.4	**-2.1**
CFAA				S	S	07 33 16.7	-10
CFAA	**Coronel Fontan**	**9.30**	**191**	P	**Pn**	07 31 39.4	**-2.1**
	0.2nm,0.3s,baz=15,slow=14,SNR=89						
CFAA				S	S	07 33 16.7	-10
	1.1nm,0.3s,baz=284,slow=23,SNR=22						
SAML	**Samuel**	**13.73**	**12**	*e*Pn	**Pn**	07 32 36.9	**+0.1**
	3.4nm,0.7s						
BDFB	**Brasilia**	**18.39**	**71**	P	**P**	07 33 29.5	**+0.7**
BDFB	**Brasilia**	**18.39**	**71**	P	**P**	07 33 29.5	**+0.7**
	1.2nm,0.3s,baz=246,slow=13,SNR=12						
PLCA	**Paso Flores**	**18.59**	**191**	P	**P**	07 33 30.9	**+0.1**
PLCA	**Paso Flores**	**18.59**	**191**	P	**P**	07 33 30.9	**+0.1**
	0.7nm,0.3s,baz=4.0,slow=10,SNR=23						
SDV	**Santo Domingo**	**31.47**	**351**	*e*P	**P**	07 35 32.5	**+1.9**
	0.6nm,0.3s						
RCBR	**Riachuelo**	**33.52**	**65**	*e*P	**P**	07 35 48.2	**0.0**
	11nm,0.8s						
RCBR	**Riachuelo**	**33.52**	**65**	P	**P**	07 35 47.8	**-0.5**
	24nm,1.2s,baz=201,slow=8.9,SNR=4.5						
FDF	**Fort de France**	**37.29**	**8**	*e*P	**P**	07 36 19.5	**-0.7**
	34nm,0.8s						
SWET	**Sewanee**	**60.37**	**341**	*e*P	**P**	07 39 14.5	**-0.2**
	5.8nm,0.8s						
WMOK	**Wichita Mounta**	**64.81**	**331**	*e*P	**P**	07 39 43.9	**0.0**
	2.3nm,1.1s						
DBIC	**Dimbokro**	**66.54**	**72**	P	**P**	07 39 54.8	**-0.5**
DBIC	**Dimbokro**	**66.54**	**72**	P	**P**	07 39 54.8	**-0.5**
	1.7nm,0.4s,baz=203,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	07 40 47.1	**-0.6**
TORD				pP	**pP**	07 41 47.4	**+1.1**
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	07 40 47.1	**-0.6**
	1.4nm,0.3s,baz=261,slow=6.1,SNR=27						
TORD				pP	**pP**	07 41 47.4	**+1.1**
	1.9nm,0.8s,baz=254,slow=5.3,SNR=7.9						
SCHQ	**Schefferville**	**76.98**	**360**	P	**P**	07 40 56.1	**-0.4**
SCHQ	**Schefferville**	**76.98**	**360**	P	**P**	07 40 56.1	**-0.4**
	2.4nm,0.8s,baz=228,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**92.98**	**340**	P	**P**	07 42 17.2	**+1.1**
YKA				pP	**pP**	07 43 21.3	**+4.3**
YKA	**Yellowknife Ar**	**92.98**	**340**	P	**P**	07 42 17.2	**+1.1**
	0.1nm,0.5s,baz=131,slow=4.6,SNR=8.1						
YKA				pP	**pP**	07 43 21.3	**+4.3**
	0.2nm,0.7s,baz=127,slow=4.5,SNR=7.0						
ASAR	**Alice Springs**	**130.19**	**204**	PKP	**PKPdf**	07 48 13.4	**+0.7**
ASAR	**Alice Springs**	**130.19**	**204**	PKP	**PKPdf**	07 48 13.4	**+0.7**
	0.4nm,0.5s,baz=120,slow=1.9,SNR=5.8						
WRA	**Warramunga Arr**	**133.36**	**207**	PKP	**PKPdf**	07 48 19.4	**+0.6**
WRA	**Warramunga Arr**	**133.36**	**207**	PKP	**PKPdf**	07 48 19.4	**+0.6**
	0.4nm,0.3s,baz=160,slow=1.6,SNR=4.1						
MKAR	**Makanchi Array**	**144.82**	**39**	PKP	**PKPdf**	07 48 39.8	**+1.1**
MKAR				SKPbc	**SKiKP**	07 51 55.6	**+1.0**
MKAR	**Makanchi Array**	**144.82**	**39**	PKP	**PKPdf**	07 48 39.8	**+1.1**
	1.7nm,0.6s,baz=309,slow=3.7,SNR=20						
MKAR				SKPbc	**SKiKP**	07 51 55.6	**+1.0**
	0.3nm,0.8s,baz=310,slow=3.2,SNR=3.5						

*NIED **15** 07:35:00, 28°.10N×129°.50E, h35km, Mw4.1 Best double couple: Mo1.40000×10^15 NP1:φ=274.00000°, δ=43.00000°, λ=60.00000°. NP2:φ=132.00000°, δ=54.00000°, λ=116.00000°.*
*ISCJB **15** 07:35:38.6±0.6, 28°.07N±0°.05×129°.51E±0°.07, h41km±4km, mb3.9/22, MS3.3/2, Error ellipse: s-maj=12.3km s-min=4.5km az=37.8*
*JMA **15** 07:35:38.6±0.1, 28°.09N×129°.51E, h37km, M4.1*
JMA Felt II J1.
*IDC **15** 07:35:41.4±3.5, 28°.06N×129°.44E, h52km±29km, mb3.6/21, mb1 3.8/22, mb1mx3.8/30, mbtmp3.9/22, ML4.7/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/38, Error ellipse: s-maj=20.4km s-min=17.6km az=72.0*

ISC 15 07:35:38.5±1.2, 28°.02N±0°.06×129°.53E±0°.06, h29km±7km, n45, σ1°90/44, mb3.9/22, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.38**	**305**	P	**Pb**	07 35 47.0	**0.0**
JAMN				*e*S	**Sb**	07 35 53.2	**+0.4**
JAM	**Amami Oshima**	**0.39**	**10**	P	**Pb**	07 35 46.6	**-0.6**
JAM				S	**Sb**	07 35 52.2	**-0.9**
JZK	**Kikaishima**	**0.49**	**53**	P	**Pb**	07 35 48.8	**+0.1**
JTK	**Tokunoshima**	**0.56**	**245**	P	**Pb**	07 35 49.9	**0.0**
JTK				S	**Sb**	07 35 57.7	**0.0**
JOW	**Kunigami**	**1.63**	**223**	P	**Pn**	07 36 06.0	**+0.7**
JIH	**Iheya**	**1.70**	**235**	P	**Pn**	07 36 07.2	**+1.0**
JIH				*e*S	**Sb**	07 36 29.0	**-1.1**
JNN	**Nakanoshima**	**1.84**	**9**	P	**Pn**	07 36 08.3	**+0.2**
JAGN	**Aguni-jima**	**2.49**	**235**	P	**Pn**	07 36 18.6	**+1.6**
JAGN				S	**Sn**	07 36 47.9	**+1.5**
JKC	**Kuchinoerabu**	**2.50**	**13**	P	**Pn**	07 36 17.9	**+0.7**
JTN	**Tanegashima 3**	**2.91**	**25**	P	**Pn**	07 36 23.7	**+0.8**
JKE	**Kume jima 2**	**2.97**	**236**	P	**Pn**	07 36 24.4	**+0.7**
JKE				*e*S	**Sn**	07 36 59.2	**+0.8**
JNU	**Nakatsue**	**5.21**	**13**	P	**Pn**	07 36 57.2	**+2.6**
	28nm,0.3s,baz=263,slow=1.1,SNR=134						
JNU				S	**Sn**	07 37 56.0	**+2.2**
	baz=165,slow=20,SNR=2.1						
KSRS	**Korea Array**	**9.50**	**352**	P	Pn	07 37 57.6	+4.2
	0.3nm,0.3s,baz=172,slow=13,SNR=6.4						
JCJ	**Chichijima**	**11.27**	**92**	LR	LR	07 41 55.1	
	comp=Z,94nm,21.1s,baz=327,slow=33						
ASAJ	**Asahikawa**	**19.18**	**30**	LR	LR	07 48 07.3	
	comp=Z,84nm,19.1s,baz=1.5,slow=39						
SONM	**Songino Array**	**26.73**	**324**	P	**P**	07 41 16.7	**+1.1**
	0.6nm,0.9s,baz=142,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**29.60**	**258**	LR	LR	07 55 08.5	
	comp=Z,47nm,21.6s,baz=90,slow=40						
H11N2	**WAKE ISLAND Hy**	**35.04**	**95**	T	T	08 19 47.5	
	baz=293,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.06**	**95**	T	T	08 19 48.2	
	baz=293,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**35.06**	**95**	T	T	08 19 48.3	
	baz=293,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**35.31**	**97**	T	T	08 20 09.6	
	baz=305,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**35.32**	**97**	T	T	08 20 09.5	
	baz=305						
H11S2	**WAKE ISLAND Hy**	**35.33**	**97**	T	T	08 20 13.7	
	baz=305						
MKAR	**Makanchi Array**	**41.24**	**310**	P	**P**	07 43 20.4	**-0.5**
	0.6nm,0.6s,baz=92,slow=10,SNR=7.2						
MKAR				PcP	**PcP**	07 45 19.2	**-0.2**
	0.3nm,0.7s,baz=83,slow=4.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.55**	**321**	P	**P**	07 43 22.0	**-1.3**
	1.0nm,0.4s,baz=93,slow=8.9,SNR=4.6						
ZALV				PcP	**PcP**	07 45 19.8	**-0.5**
	0.3nm,0.3s,baz=80,slow=3.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**44.38**	**315**	P	**P**	07 43 44.7	**-1.6**
	0.5nm,0.5s,baz=99,slow=9.1,SNR=9.6						
WRA	**Warramunga Arr**	**47.91**	**174**	P	**P**	07 44 14.9	**+0.6**
	0.4nm,0.8s,baz=354,slow=8.4,SNR=3.4						
BVAR	**Borovoye Array**	**49.73**	**317**	P	**P**	07 44 27.7	**-0.3**
	0.8nm,0.5s,baz=84,slow=9.1,SNR=6.9						
BVAR				LR	LR	08 05 13.6	
	comp=Z,50nm,18.0s,baz=63,slow=36						
ASAR	**Alice Springs**	**51.56**	**175**	P	**P**	07 44 42.2	**+0.1**
	0.4nm,0.6s,baz=5.9,slow=13,SNR=5.8						
ILAR	**Eielson Array**	**62.31**	**29**	P	**P**	07

TPNV				Sb	Sb	08 24 17.5	+0.7	
	baz=1.6							
OSI	**Osito Adit**	**1.58**	**209**	*e*Pn	**Pb**	**08 23 56.4**	**-0.4**	
OSI				*e*Sg	**Sg**	**08 24 18.9**	**+0.8**	
OSI	**Osito Adit**	**1.58**	**209**	Pb	**Pb**	**08 23 56.2**	**-0.6**	
	baz=1.6							
TUQ	**Turquoise Moun**	**1.63**	**110**	P	**Pn**	**08 23 56.4**	**-0.1**	
	baz=1.7							
HEC	**Hector,Ludlow**	**1.68**	**134**	P	**Pn**	**08 23 57.1**	**0.0**	
	baz=1.7							
HEC				Sb	**Sg**	**08 24 21.7**	**+0.3**	
	baz=1.7							
BFSC	**Mount Baldy Ra**	**1.77**	**176**	P	**Pn**	**08 23 58.7**	**+0.3**	
	baz=1.8							
BFSC				Sb	**Sg**	**08 24 23.4**	**-0.7**	
	baz=1.8							
MWC	**Mount Wilson**	**1.79**	**187**	*e*Pn	**Pb**	**08 23 59.5**	**-1.1**	
MWC				*e*Sg	**Sg**	**08 24 25.4**	**+0.5**	
DECC	**Green Verdugo**	**1.81**	**194**	Pb	**Pb**	**08 23 59.4**	**-1.3**	
	baz=1.8							
DECC				Sb	**Sg**	**08 24 24.6**	**-0.7**	
	baz=1.8							
MLAC	**Mammoth Lakes**	**1.82**	**333**	P	**Pb**	**08 24 00.7**	**-0.4**	
	baz=1.8							
MLAC				Sb	**Sb**	**08 24 24.0**	**-0.2**	
	baz=1.8							
PASC	**Pasadena Art C**	**1.86**	**190**	*e*Pn	**Pb**	**08 24 00.2**	**-1.4**	
PASC				*e*Sg	**Sg**	**08 24 28.1**	**+1.1**	
SMMC	**Simmler**	**1.92**	**249**	Pb	**Pb**	**08 24 01.5**	**-1.1**	
	baz=1.9							
SMMC				Sb	**Sb**	**08 24 27.2**	**+0.4**	
	baz=1.9							
PKM	**Peak Mountain**	**1.98**	**237**	Pb	**Pb**	**08 24 02.7**	**-1.1**	
	baz=2.0							
PKM				Sb	**Sb**	**08 24 29.2**	**+0.4**	
	baz=2.0							
TPH	**Tonopah**	**2.12**	**12**	*e*Pn	**Pn**	**08 24 03.9**	**+0.6**	
TPH				*e*Sg	**Sg**	**08 24 36.2**	**+0.8**	
GMRC	**Granite Mounta**	**2.13**	**124**	P	**Pn**	**08 24 02.9**	**-0.6**	
	baz=2.2							
GMRC				Sb	**Sg**	**08 24 35.1**	**-0.8**	
	baz=2.2							
SHPR	**Sheep Range**	**2.19**	**76**	*e*Pn	**Pn**	**08 24 05.2**	**+0.9**	
SHPR				*e*Sg	**Sg**	**08 24 37.7**	**-0.1**	
LDFC	**Landfair**	**2.38**	**112**	*e*Pn	**Pn**	**08 24 05.8**	**-1.0**	
LDFC				*e*Sg	**Sg**	**08 24 44.2**	**+0.3**	
NV11	**Mina Array Sit**	**2.44**	**353**	*e*Pn	**Pn**	**08 24 08.2**	**+0.5**	
NV11				*e*Sg	**Sg**	**08 24 44.4**	**-1.3**	
NVAR	**Mina Array Bea**	**2.45**	**351**	Pn	**Pn**	**08 24 08.7**	**+0.8**	
NVAR				Pg	**Pg**	**08 24 13.8**	**-0.6**	
NVAR				Lg	Lg	08 24 44.4		
NVAR	**Mina Array Bea**	**2.45**	**351**	Pn	**Pn**	**08 24 08.7**	**+0.8**	
	8.2nm,0.3s,baz=173,slow=15,SNR=185							
NVAR				Pg	**Pg**	**08 24 13.8**	**-0.6**	
	60nm,0.3s,baz=170,slow=17,SNR=125							
NVAR				Lg	Lg	08 24 44.4		
	89nm,0.3s,baz=172,slow=34,SNR=9.7							
BELC	**Belle Mtn. Jos**	**2.49**	**143**	P	**Pn**	**08 24 08.6**	**+0.2**	
	baz=2.5							
PFO	**Pinyon Flat Ob**	**2.64**	**155**	*e*Pn	**Pn**	**08 24 10.6**	**+0.2**	
PFO				*e*Pg	**Pg**	**08 24 17.2**	**-0.7**	
PFO				Lg	Lg	08 24 52.1		
PFO				*e*Sg	**Sg**	**08 24 53.1**	**+1.1**	
PFO	**Pinyon Flat Ob**	**2.64**	**155**	Pn	**Pn**	**08 24 10.8**	**+0.5**	
	3.1nm,0.3s,baz=340,slow=16,SNR=58							
PFO				Pg	**Pg**	**08 24 16.7**	**-1.1**	
	28nm,0.3s,baz=337,slow=15,SNR=125							
PFO				Lg	Lg	08 24 52.1		
	99nm,0.3s,baz=238,slow=19,SNR=14							
PFO	**Pinyon Flat Ob**	**2.64**	**155**	P	**Pn**	**08 24 10.6**	**+0.2**	
	baz=2.7							
PFO				Sb	**Sg**	**08 24 51.8**	**-0.3**	
	baz=2.7							
CIS	**Catalina Islan**	**2.64**	**191**	Sb	**Sg**	**08 24 50.6**	**-1.6**	
	baz=2.7							
WAKR	**Walker**	**2.81**	**333**	*e*Pn	**Pn**	**08 24 14.7**	**+1.8**	
WAKR				*e*Sg	**Sg**	**08 24 57.1**	**-0.6**	
IRM	**Iron Mountain**	**2.85**	**129**	P	**Pn**	**08 24 12.7**	**-0.5**	
	baz=2.9							
NEE2	**Needles Airpor**	**2.88**	**114**	P	**Pn**	**08 24 13.4**	**-0.2**	
	baz=2.9							
CMB	**Columbia Colle**	**2.89**	**315**	*e*Pn	**Pn**	**08 24 15.2**	**+1.4**	
CMB				*e*Sg	**Sb**	**08 24 54.3**	**-0.6**	
R11A	**Troy Canyon, C**	**2.93**	**36**	*e*Pn	**Pn**	**08 24 14.7**	**+0.2**	
R11A				*e*Pg	**Pb**	**08 24 20.4**	**+0.4**	
R11A				*e*Sg	**Sg**	**08 25 01.0**	**-0.6**	
R11A	**Troy Canyon, C**	**2.93**	**36**	P	**Pn**	**08 24 14.5**	**0.0**	
	baz=2.9							
R11A				Sb	**Sg**	**08 24 59.4**	**-2.1**	
	baz=2.9							
SAO	**San Andreas Ge**	**3.04**	**285**	*e*Pn	**Pn**	**08 24 15.8**	**+0.1**	
SAO				*e*Pg	**Pg**	**08 24 24.2**	**-1.4**	
SAO				*e*Sg	**Sb**	**08 24 59.7**	**+0.8**	
BC3	**Big Chuckawall**	**3.04**	**140**	P	**Pn**	**08 24 15.5**	**-0.3**	
	baz=3.1							
MONP	**Monument Peak**	**3.31**	**159**	P	**Pn**	**08 24 20.2**	**+0.5**	
	baz=3.4							
W13A	**Hualapai Mount**	**3.32**	**105**	P	**Pn**	**08 24 20.1**	**+0.3**	
	baz=3.4							
BAR	**Barrett**	**3.45**	**164**	*e*Pn	**Pn**	**08 24 21.9**	**+0.5**	
BAR				*e*Sg	**Sb**	**08 25 13.4**	**+2.7**	
PDMCI	**Parker Dam,Lak**	**3.45**	**119**	P	**Pn**	**08 24 21.2**	**-0.2**	
	baz=3.5							
Y12C	**Blythe**	**3.51**	**129**	P	**Pn**	**08 24 21.7**	**-0.5**	
	baz=3.6							
GLA	**Glamis**	**3.84**	**139**	*e*Pn	**Pn**	**08 24 26.2**	**-0.6**	
GLA				*e*Pg	**Pg**	**08 24 40.0**	**-0.9**	
GLA				*e*Sg	**Sg**	**08 25 30.6**	**0.0**	
GLA	**Glamis**	**3.84**	**139**	P	**Pn**	**08 24 26.2**	**-0.6**	
	baz=3.9							
CCUT	**Cedar City**	**3.88**	**65**	*e*Pn	**Pn**	**08 24 29.4**	**+1.8**	
CCUT				*e*Pg	**Pg**	**08 24 41.5**	**-0.3**	
CCUT				*e*Sg	**Sg**	**08 25 31.3**	**-0.8**	
PAHR	**Pah Rah Range**	**3.90**	**342**	*e*Pn	**Pn**	**08 24 29.2**	**+1.5**	
PAHR				*e*Pg	**Pb**	**08 24 39.2**	**+2.7**	
ARUT	**Antelope Range**	**3.92**	**62**	*e*Pn	**Pn**	**08 24 28.9**	**+0.8**	
ARUT				*e*Pg	**Pg**	**08 24 40.5**	**-2.1**	
ARUT				*e*Sg	**Sg**	**08 25 33.5**	**+0.2**	
SAC	**San Andreas**	**4.02**	**294**	*e*Pn	**Pn**	**08 24 29.9**	**+0.7**	
BEKR	**Beckworth**	**4.35**	**333**	*e*Pn	Pn	08 24 37.2	+3.2	
BEKR				*e*Pg	**Pg**	**08 24 47.8**	**-2.9**	
BEKR				*e*Sg	**Sg**	**08 25 43.5**	**-3.6**	
OHCM	**Honcut**	**4.42**	**320**	*e*Pn	Pn	08 24 41.2	-4.1	
BMN	**Battle Mountai**	**4.44**	**6**	*e*Pn	**Pn**	**08 24 36.3**	**+1.1**	
BMN				*e*Pg	**Pg**	**08 24 49.9**	**-2.5**	
BMN				*e*Sg	**Sg**	**08 25 50.8**	**+0.8**	
Y14A	**Wickenburg**	**4.45**	**116**	P	**Pn**	**08 24 35.2**	**+0.1**	
	baz=4.5							
Z14A	**Wintersburg**	**4.79**	**122**	P	**Pn**	**08 24 39.9**	**0.0**	
	baz=4.8							
ELK	**Elko**	**5.14**	**22**	*e*Pn	**Pn**	**08 24 46.2**	**+1.3**	
ELK				*e*Pg	Pg	08 25 02.8	-3.0	
HOPS	**Hopland**	**5.14**	**307**	*e*Pn	Pn	08 24 48.7	+4.0	
	46nm,1.2s							
WUAZ	**Wupatki**	**5.25**	**93**	*e*Pn	Pn	08 24 49.5	+3.1	
WUAZ				*e*Pg	Pg	08 25 04.5	-3.4	
WUAZ				*e*Sg	**Sg**	**08 26 15.6**	**-0.3**	
DUG	**Dugway**	**5.74**	**42**	*e*Pn	Pn	08 24 56.1	+3.1	
DUG				*e*Pg	**Pg**	**08 25 15.7**	**-1.6**	
DUG				*e*Sg	**Sg**	**08 26 30.0**	**-1.6**	
214A	**Organ Pipe Nat**	**5.79**	**133**	*e*Pn	**Pn**	**08 24 54.0**	**+0.4**	
	28nm,0.8s							
214A				*e*Sg	**Sg**	**08 26 31.8**	**-1.5**	
214A	**Organ Pipe Nat**	**5.79**	**133**	P	**Pn**	**08 24 52.6**	**-1.0**	
	baz=5.8							
WDC	**Whiskeytown Da**	**5.89**	**322**	*e*Pn	**Pn**	**08 24 57.2**	**+2.2**	
WDC				*e*Sg	Sg	08 26 29.2	-7.3	
NLU	**North Lily Min**	**6.00**	**47**	*e*Pg	**Pg**	**08 25 21.9**	**-0.4**	
BGU	**Big Grassy Mou**	**6.17**	**36**	*e*Pn	Pn	08 25 02.1	+3.0	
	20nm,1.1s							
BGU				*e*Pg	**Pg**	**08 25 25.4**	**-0.2**	
BGU				*e*Sg	**Sg**	**08 26 47.6**	**+2.0**	
TMUT	**Trail Mountain**	**6.18**	**56**	*e*Pn	Pn	08 25 03.3	+4.1	
TMUT				*e*Pg	**Pg**	**08 25 26.1**	**+0.4**	
MOD	**Modoc**	**6.20**	**342**	*e*Pn	Pn	08 25 02.5	+3.1	
	18nm,0.8s							
MOD				*e*Pg	Pg	08 25 21.6	-4.5	
MOD				*e*Sg	Sg	08 26 53.1	+6.6	
MPU	**Maple Canyon**	**6.30**	**49**	*e*Pn	Pn	08 25 05.1	+4.3	
MPU				*e*Pg	**Pg**	**08 25 29.8**	**+1.8**	
MPU				*e*Sg	**Sg**	**08 26 48.6**	**-1.1**	
WVOR	**Wild Horse Val**	**6.45**	**354**	*e*Pn	**Pn**	**08 25 05.0**	**+2.2**	
WVOR				*e*Pg	**Pg**	**08 25 31.4**	**+0.5**	
SRU	**San Rafael**	**6.56**	**60**	*e*Pn	Pn	08 25 09.0	+4.7	
SRU				*e*Pg	**Pg**	**08 25 32.4**	**-0.5**	
W18A	**Petrified Fore**	**6.63**	**95**	*e*Pg	**Pg**	**08 25 32.5**	**-1.9**	
W18A				*e*Sg	**Sg**	**08 26 57.9**	**-2.4**	
CTU	**Camp Tracy**	**6.67**	**44**	*e*Pn	Pn	08 25 09.4	+3.6	
CTU				*e*Pg	**Pg**	**08 25 34.4**	**-0.6**	
CTU				*e*Sg	**Sg**	**08 26 58.7**	**-2.8**	
SPUT	**South Promonto**	**6.75**	**37**	*e*Pn	Pn	08 25 11.1	+4.2	
	12nm,0.7s							
SPUT				*e*Pg	**Pg**	**08 25 34.7**	**-1.9**	
SPUT				*e*Sg	**Sg**	**08 27 02.7**	**-1.3**	
DAU	**Daniels Canyon**	**6.78**	**48**	*e*Pn	Pn	08 25 10.5	+3.1	
DAU				*e*Pg	**Pg**	**08 25 36.9**	**-0.2**	
DAU				*e*Sg	**Sg**	**08 27 09.1**	**+4.3**	
YBH	**Yreka Blue Hor**	**6.88**	**328**	Pn	**Pn**	**08 25 11.1**	**+2.5**	
YBH				Lg	Lg	08 26 59.2		
YBH	**Yreka Blue Hor**	**6.88**	**328**	Pn	**Pn**	**08 25 11.1**	**+2.5**	
	0.0nm,0.3s,baz=148,slow=13,SNR=2.5							
YBH				Lg	Lg	08 26 59.2		
	0.2nm,0.3s,baz=135,slow=20,SNR=3.5							
YBH				LR	LR	08 27 49.0		
	comp=Z,405nm,19.4s,baz=162,slow=38							
TUC	**Tucson**	**6.89**	**120**	*e*Pn	**Pn**	**08 25 08.8**	**+0.1**	
TUC				*e*Sg	**Sg**	**08 27 03.2**	**-5.3**	
HVU	**Hansel Valley**	**6.97**	**33**	*e*Pn	Pn	08 25 12.9	+3.0	
HVU				*e*Pg	**Pg**	**08 25 38.9**	**-1.9**	
K05A	**Summer Lake**	**7.12**	**341**	*e*Pn	Pn	08 25 18.5	+6.4	
K05A				*e*Pb	**Pb**	**08 25 29.7**	**-1.8**	
TCUT	**Toone Canyon**	**7.15**	**43**	*e*Pn	Pn	08 25 15.4	+3.0	
	31nm,0.8s							
TCUT				*e*Pg	**Pg**	**08 25 46.2**	**+1.9**	
TCUT				*e*Sg	**Sg**	**08 27 18.5**	**+1.7**	
PV04	**Paradox Valley**	**7.49**	**69**	*e*Pn	Pn	08 25 20.7	+3.6	
PV04				*e*Pg	**Pg**	**08 25 49.9**	**-0.9**	
PV04				*e*Sg	**Sg**	**08 27 27.3**	**-0.5**	
MFID	**Camas Ranch**	**7.55**	**11**	*e*Pn	**Pn**	**08 25 18.5**	**+0.6**	
MFID				*e*Pg	**Pg**	**08 25 52.1**	**+0.1**	
MFID				*e*Sg	**Sg**	**08 27 26.7**	**-3.1**	
MVCO	**Mesa Verde**	**7.58**	**78**	*e*Pn	Pn	08 25 22.1	+3.8	
	34nm,0.8s							
MVCO				*e*Pg	Pg	08 25 49.0	-3.4	
PV01	**Paradox Valley**	**7.68**	**71**	*e*Pn	Pn	08 25 23.8	+4.1	
	3μm,1.0s							
PV01				*e*Pg	Pg	08 25 51.4	-3.0	
PV01				*e*Sg	**Sg**	**08 27 30.4**	**-3.5**	
HLID	**Hailey**	**7.98**	**18**	*e*Pn	**Pn**	**08 25 25.2**	**+1.4**	
HLID				*e*Pg	**Pg**	**08 25 57.7**	**-2.5**	
HLID				*e*Sg	**Sg**	**08 27 43.1**	**-0.5**	
HLID	**Hailey**	**7.98**	**18**	P	**Pn**	**08 25 25.9**	**+2.1**	
	baz=8.0							
O20A	**White River Ci**	**8.59**	**58**	*e*Pn	Pn	08 25 36.4	+4.2	
O20A	**White River Ci**	**8.59**	**58**	P	Pn	08 25 36.3	+4.1	
	baz=8.6							
U22A	**Llaves**	**8.86**	**84**	P	Pn	08 25 38.9	+3.0	
	baz=8.9							
N20A	**Spence Gulch,**	**8.90**	**54**	P	Pn	08 25 40.7	+4.2	
	baz=8.9							
121A	**Cookes Peak, D**	**8.98**	**110**	*e*Pn	**Pn**	**08 25 37.5**	**-0.1**	
	13nm,1.1s							
121A				*e*Sn	**Sg**	**08 28 11.7**	**-4.0**	
320A	**Kipp Ranch, An**	**9.02**	**118**	P	**Pn**	**08 25 39.3**	**+1.2**	
	baz=9.1							
REDW	**Red Top Meadow**	**9.09**	**34**	*e*Pn	Pn	08 25 44.0	+4.9	
TPAW	**Teton Pass**	**9.14**	**33**	*e*Pn	Pn	08 25 44.8	+4.9	
FXWY	**Fox Creek**	**9.23**	**32**	*e*Pn	Pn	08 25 45.8	+4.8	
PDAR	**Pinedale Array**	**9.29**	**41**	Pn	Pn	08 25 45.6	+3.9	
PDAR				Lg	Lg	08 28 20.6		
PDAR	**Pinedale Array**	**9.29**	**41**	Pn	Pn	08 25 45.6	+3.9	
	0.1nm,0.3s,baz=218,slow=12,SNR=8.2							
PDAR				Lg	Lg	08 28 20.6		
	0.1nm,0.3s,baz=218,slow=20,SNR=3.2							
ANMO	**Albuquerque**	**9.31**	**93**	*e*Pn	Pn	08 25 46.1	+3.9	
	13nm,1.1s							
ANMO				Pg		08 26 20.8		
ANMO				Lg	Lg	08 28 16.3		
ANMO	**Albuquerque**	**9.31**	**93**	Pn	**Pn**	**08 25 42.3**	**+0.2**	
	0.1nm,0.3s,baz=283,slow=18,SNR=2.1							
ANMO				Pg		08 26 20.8		
	0.2nm,0.3s,baz=281,slow=13,SNR=11							
ANMO				Lg	Lg	08 28 16.3		
	0.1nm,0.3s,baz=109,slow=15,SNR=5.9							
ANMO				LR	LR	08 29 41.4		
	comp=Z,476nm,19.3s,baz=290,slow=40							
U23A	**El Rito**	**9.39**	**85**	P	Pn	08 25 47.0	+3.7	
	baz=9.4							
LOHW	**Long Hollow**	**9.40**	**34**	*e*Pn	Pn	08 25 48.7	+5.4	
MOOW	**Moose Ponds**	**9.44**	**33**	*e*Pn	Pn	08 25 48.6	+4.7	
IMW	**Indian Meadow**	**9.48**	**32**	*e*Pn	Pn	08 25 50.7	+6.2	
MCMT	**McKenzie Canyo**	**9.58**	**22**	*e*Pn	Pn	08 25 50.7	+4.8	
	6.0nm,1.0s							
FLWY	**Flagg Ranch**	**9.73**	**32**	*e*Pn	Pn	08 25 53.0	+5.2	
O22A	**Kremmling**	**9.79**	**62**	P	Pn	08 25 52.7	+3.9	
	baz=9.8							
Y23A	**Lovelace Mesa,**	**9.86**	**99**	P	Pn	08 25 53.7	+4.1	
	baz=9.9							
J19A	**Crowcreart**	**9.90**	**40**	P	Pn	08 25 54.4	+4.3	
	baz=9.9							
K22A	**Casper**	**10.96**	**49**	*e*Pn	Pn	08 26 08.3	+3.7	
MSO	**Missoula**	**11.19**	**14**	*e*Pn	Pn	08 26 14.7	+6.9	
NEW	**Newport**	**12.26**	**2**	LR	LR	08 30 32.2		
	comp=Z,111nm,18.7s,baz=186,slow=35							
MSTX	**Muleshoe**	**12.49**	**95**	*e*Pn	**Pn**	**08 26 26.3**	**+0.8**	
RSSD	**Black Hills**	**13.29**	**48**	*e*Pn	Pn	08 26 39.5	+3.0	
TXAR	**Lajitas Array**	**13.63**	**115**	Pn	Pn	08 26 44.5	+3.4	
TXAR	**Lajitas Array**	**13.63**	**115**	Pn	Pn	08 26 44.5	+3.4	
	0.1nm,0.3s,baz=302,slow=14,SNR=11							
TXAR				LR	LR	08 32 13.6		
	comp=Z,129nm,21.4s,baz=0.0,slow=39							
WHTX	**Lake Whitney**	**17.34**	**97**	*e*P	**P**	**08 27 32.2**	**+1.1**	
	14nm,1.2s							
EDM	**Edmonton**	**17.50**	**9**	*e*P	**P**	**08 27 33.1**	**+0.3**	
BBB	**Bella Bella**	**17.76**	**339**	LR	LR	08 35 04.4		
	comp=Z,233nm,18.3s,baz=114,slow=39							
TUL1	**Tulsa**	**17.82**	**84**	*e*P	**P**	**08 27 39.3**	**+2.9**	
	3.0nm,0.6s							
ECSD	**EROS Data Cent**	**17.97**	**58**	*e*P	**P**	**08 27 42.3**	**+4.1**	
	4.1nm,0.8s							
MIAR	**Mount Ida**	**19.83**	**87**	*e*P	**Pn**	**08 28 00.7**	**+0.6**	
	9.3nm,1.1s							
AGMN	**Agassiz Nation**	**20.30**	**46**	*e*P	Pn	08 28 05.3	-0.2	
	126nm,3.0s							
SPMN	**St. Paul**	**21.02**	**56**	*e*P	**P**	**08 28 13.9**	**+2.5**	
	19nm,1.1s							
ULM	**Lac du Bonnet**	**21.31**	**41**	*e*P	**P**	**08 28 13.8**	**-0.7**	
	12nm,1.2s							
ULM	**Lac du Bonnet**	**21.31**	**41**	P	**P**	**08 28 15.0**	**+0.6**	
	3.8nm,0.7s,baz=230,slow=12,SNR=6.8							
DLBC	**Dease Lake**	**23.85**	**344**	LR	LR	08 39 02.3		
	comp=Z,238nm,18.2s,baz=146,slow=39							
YKA	**Yellowknife Ar**	**26.59**	**3**	P	**P**	**08 29 07.4**	**+1.6**	
YKA				PcP	**PcP**	**08 32 32.0**	**+2.3**	
YKA	**Yellowknife Ar**	**26.59**	**3**	P	**P**	**08 29 07.4**	**+1.6**	
	0.7nm,0.8s,baz=184,slow=7.9,SNR=7.1							
YKA				PcP	**PcP**	**08 32 32.0**	**+2.3**	
	0.2nm,0.8s,baz=169,slow=3.1,SNR=3.9							
TKL	**Tuckaleechee C**	**27.51**	**81**	LR	LR	08 40 34.4		
	comp=Z,156nm,19.4s,baz=336,slow=37							
INK	**Inuvik**	**33.54**	**349**	LR	LR	08 43 44.9		
	comp=Z,69nm,18.1s,baz=232,slow=36							
ILAR	**Eielson Array**	**33.64**	**338**	P	P	08 30 11.3	+3.1	
ILAR	**Eielson Array**	**33.64**	**338**	P	P	08 30 11.3	+3.1	
	0.9nm,1.1s,baz=141,slow=9.0,SNR=5.8							
SIV	**San Ignacio**	**74.48**	**123**	LR	LR	09 10 25.6		
	comp=Z,319nm,19.5s,baz=322,slow=38							
JCJ	**Chichijima**	**81.98**	**298**	LR	LR	09 05 50.7		
	comp=Z,45nm,19.9s,baz=357,slow=31							
BJI	**Beijing**	**89.49**	**322**	P	**P**	**08 36 23.3**	**-1.8**	
BJI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**91.10**	**325**	*e*P	**P**	**08 36 29.9**	**-2.9**	
HHC				sP	**sP**	**08 36 38.1**	**+1.8**	
HHC				PP	**PP**	**08 40 09.6**	**+1.1**	
HHC	**Hu-ho-hao-te**	**91.10**	**325**	SKS	**SKSac**	**08 47 01.9**	**-3.6**	
HHC	**Hu-ho-hao-te**	**91.10**	**325**	S	S	08 47 23.3	-7.8	
HHC	**Hu-ho-hao-te**	**91.10**	**325**	SS	SS	08 53 36.3	+2.8	
HHC				pmax	pmax			
	comp=Z,27nm,1.0s							
HHC				pmax	pmax			
	comp=Z,290nm,5.0s							
HHC				LR	LR			
	comp=N,270nm,16.2s							
HHC				LR	LR			
	comp=E,310nm,14.2s							
HHC				LR	LR			
	comp=Z,340nm,10.0s							
WMQ	**Urumqi**	**97.23**	**342**	*e*P	Pdif	08 37 02.8	+1.9	
WMQ				LR	LR			
	comp=N,48nm,18.4s							
WMQ				LR	LR			
	comp=E,55nm,19.8s							
WMQ				LR	LR			
	comp=Z,36nm,19.8s							

KRSC 15 08:24:42.6±1.8, 51°.82N×159°.42E, h44km±18km, ML3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.83**	**318**	*i* P	Pn	08 24 58.4	+0.5
RUS				S	Sn	08 25 07.8	-1.2
MTVR	**Mutnovka**	**1.01**	**312**	*i* P	Pn	08 25 01.7	+1.1
MTVR				S	Sn	08 25 14.2	+0.4
ASAK	**Asacha**	**1.09**	**302**	*i* P	Pn	08 25 03.3	+1.7
ASAK				S	Sn	08 25 16.5	+0.9
GRL	**Gorelyy**	**1.11**	**312**	P	Pn	08 25 03.7	+1.9
GRL				S	Sn	08 25 19.1	+3.0
PET	**Petropavlovsk**	**1.29**	**339**	*i* P	Pn	08 25 05.3	+1.1
PET				S	Sn	08 25 21.7	+1.4
SPN	**Mys Shipunski**	**1.33**	**16**	S	Sn	08 25 26.1	+4.8
NLC	**Nalytchevo**	**1.35**	**358**	*i* P	Pn	08 25 05.8	+0.8
NLC				S	Sn	08 25 22.6	+0.8
UGLR	**Uglovaya**	**1.44**	**346**	*i* P	Pn	08 25 08.1	+1.7
SMAR	**Somma**	**1.50**	**346**	P	Pn	08 25 09.2	+1.9
SMAR				S	Sn	08 25 27.0	+1.2
SDLR	**Sedlovina**	**1.50**	**348**	*i* P	Pn	08 25 08.6	+1.4
SDLR				S	Sn	08 25 27.6	+2.0
AVH	**Avacha**	**1.51**	**344**	*i* P	Pn	08 25 09.2	+2.0
AVH				S	Sn	08 25 28.0	+2.2
KRER	**Koryakskii**	**1.54**	**345**	P	Pn	08 25 09.3	+1.4
KOK	**Koryaka**	**1.55**	**342**	P	Pn	08 25 09.4	+1.5
KOK				S	Sn	08 25 28.6	+1.7
KRX	**Arik**	**1.61**	**343**	P	Pn	08 25 09.8	+1.0
KRX				S	Sn	08 25 30.6	+2.1
PAU	**Pauzhetka**	**1.66**	**259**	P	Pn	08 25 11.1	+1.9
PAU				S	Sn	08 25 31.8	+2.4
MIPR	**Malaya Ipel'ka**	**1.71**	**287**	P	Pn	08 25 12.4	+2.5
MIPR				S	Sn	08 25 34.3	+3.8
APC	**Apacha**	**1.77**	**310**	P	Pn	08 25 13.4	+2.6
GNL	**Ganaly**	**2.08**	**335**	*i* P	Pn	08 25 17.6	+2.4
GNL				S	Sn	08 25 44.4	+4.4
KII	**Karymskiy**	**2.22**	**0**	P	Pn	08 25 21.4	+4.4
SKR	**Severo-Kuril's**	**2.37**	**243**	P	Pn	08 25 20.9	+2.0
SKR				S	Sn	08 25 48.8	+2.1
MKZ	**Mys Kozlova**	**3.07**	**26**	S	Sn	08 26 05.3	+1.3
KZV	**Kizimen**	**3.34**	**9**	P	Pn	08 25 36.3	+3.8
TUMR	**Tumrok**	**3.50**	**7**	P	Pn	08 25 39.3	+4.7
ESO	**Esso**	**4.14**	**354**	P	Pn	08 25 46.5	+3.3
KBTR	**Krutoberegovo**	**4.83**	**23**	P	Pn	08 25 55.9	+3.2
KBTR				S	Sn	08 26 52.7	+5.4
KBG	**Krutoberegovo**	**4.85**	**22**	S	Sn	08 26 51.7	+4.0
SRKR	**Sorokina**	**4.95**	**11**	P	Pn	08 25 59.5	+5.0

IDC ***15*** *08:24:56.3±1.7, 7°.41S×130°.71E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.6/19, mbtmp3.7/6, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=122.9km s-min=29.0km az=73.0*
ISCJB ***15*** *08:24:59.3±0.7, 7°.37S±0°.05×130°.83E±0°.10, h33km, mb3.8/4, MS3.6/1, Error ellipse: s-maj=14.1km s-min=7.3km az=0.5*

ISC 15 08:25:01.4±1.0, 7°.38S±0°.07×130°.9E±0°.1, h35km, n14,
σ2s00/14, mb3.8/4, Tanimbar Islands region

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

KULA	Kula-Manisa	4.71	25	ePn	Pn	08 30 09.7	+0.5
BCK	Bucak	4.82	47	ePN	Pn	08 30 11.5	+0.7
BCK	Bucak	4.82	47	ePN	Pn	08 30 11.5	+0.7
KHL	Karahalli	4.89	33	ePN	Pn	08 30 11.5	-0.2
KHL	Karahalli	4.89	33	ePn	Pn	08 30 11.5	-0.2
SWA2		5.04	187	P	Pn	08 30 13.6	-0.1
	baz=187						
SWA2				S	Sn	08 31 07.3	-3.5
	baz=187						
SWA2		5.04	187	P	Pn	08 30 13.6	-0.1
SWA2				S	Sn	08 31 07.3	-3.5
SUTC	Sutluce-Ispart	5.09	50	ePN	Pn	08 30 15.4	+1.0
SUTC	Sutluce-Ispart	5.09	50	ePn	Pn	08 30 15.4	+1.0
EZN	Ezine	5.55	2	ePN	Pn	08 30 21.8	+1.1
EZN	Ezine	5.55	2	ePn	Pn	08 30 21.8	+1.1
LEF	Lefka	5.63	79	ePN	Pn	08 30 22.6	+0.8
LEF	Lefka	5.63	79	ePn	Pn	08 30 22.6	+0.8
ALT	Altintas	5.75	33	ePN	Pn	08 30 24.5	+1.0
ALT	Altintas	5.75	33	ePn	Pn	08 30 24.5	+1.0
CSS	Prodhromos	5.97	81	ePn	Pn	08 30 30.4	+3.8
CSS				eSn	Sn	08 31 32.7	-1.2
LFK	Lefkose	6.17	78	ePN	Pn	08 30 30.7	+1.4
LFK	Lefkose	6.17	78	ePn	Pn	08 30 30.7	+1.4
AYT	Al 'Ayyat	6.23	135	P	Pn	08 30 30.4	+0.3
	baz=135						
AYT	Al 'Ayyat	6.23	135	P	Pn	08 30 30.4	+0.3
KONT	Konya--Tatoy	6.24	52	ePN	Pn	08 30 31.5	+1.4
KONT	Konya--Tatoy	6.24	52	ePn	Pn	08 30 31.5	+1.4
AWBH		6.38	157	P	Pn	08 30 32.1	0.0
	baz=157						
AWBH		6.38	157	P	Pn	08 30 32.1	0.0
LADK	Ladik-KONYA	6.38	50	ePN	Pn	08 30 33.1	+0.8
LADK	Ladik-KONYA	6.38	50	ePn	Pn	08 30 33.1	+0.8
IKL	Isikli	6.48	70	ePN	Pn	08 30 34.9	+1.4
IKL	Isikli	6.48	70	ePn	Pn	08 30 34.9	+1.4
KOT	Kottamia	6.48	130	P	Pn	08 30 34.3	+0.7
	baz=130						
KOT	Kottamia	6.48	130	P	Pn	08 30 34.3	+0.7
HSAF	As Saff	6.53	134	P	Pn	08 30 34.0	-0.2
	baz=133						
HSAF	As Saff	6.53	134	P	Pn	08 30 34.0	-0.2
GLL	Jalalah	6.65	133	P	Pn	08 30 36.0	0.0
	baz=133						
GLL	Jalalah	6.65	133	P	Pn	08 30 35.9	0.0
EREN	Erenkoy	6.72	77	ePN	Pn	08 30 37.8	+1.0
EREN	Erenkoy	6.72	77	ePn	Pn	08 30 37.8	+1.0
AMAG	Maghara	6.98	119	P	Pn	08 30 40.2	-0.2
	baz=119						
AMAG	Maghara	6.98	119	P	Pn	08 30 40.2	-0.2
SULT	Sultanhani-AKS	7.14	55	ePN	Pn	08 30 43.3	+0.7
SULT	Sultanhani-AKS	7.14	55	ePn	Pn	08 30 43.3	+0.7
SUZ		7.20	126	P	Pn	08 30 43.2	-0.1
	baz=126						
SUZ		7.20	126	P	Pn	08 30 43.2	-0.1
RSH		7.20	115	P	Pn	08 30 42.5	-0.9
	baz=115						
RSH		7.20	115	P	Pn	08 30 42.4	-0.9
MERS	Mersin	7.31	67	ePN	Pn	08 30 46.1	+1.1
MERS	Mersin	7.31	67	ePn	Pn	08 30 46.1	+1.1
HFRF	Wahat Farafira	7.34	165	P	Pn	08 30 45.0	-0.3
	baz=164						
HFRF	Wahat Farafira	7.34	165	P	Pn	08 30 45.0	-0.3
ZAF		7.38	131	P	Pn	08 30 45.8	0.0
	baz=130						
ZAF		7.38	131	P	Pn	08 30 45.8	0.0
ZNM		7.53	129	P	Pn	08 30 48.2	+0.3
	baz=128						
ZNM		7.53	129	P	Pn	08 30 48.2	+0.3
MMAI	Mount Meron Ar	7.83	97	Pn	Pn	08 30 51.9	-0.2
MMAI				Sn	Sn	08 32 15.4	-4.2
MMAI	Mount Meron Ar	7.83	97	Pn	Pn	08 30 51.9	-0.2
	1.4nm,0.3s,baz=282,slow=10,SNR=3.3						
MMAI				Sn	Sn	08 32 15.4	-4.2
	2.3nm,0.3s,baz=288,slow=24,SNR=2.7						
MMAI	Mount Meron Ar	7.83	97	Pn	Pn	08 30 51.9	-0.2
HNKL	Nakhl	7.94	121	P	Pn	08 30 53.6	+0.1
	baz=121						
HNKL				S	Sn	08 32 18.2	-4.0
	baz=121						
HNKL	Nakhl	7.94	121	P	Pn	08 30 53.6	+0.1
BRTR	Keskin Array B	8.11	46	Pn	Pn	08 30 57.2	+1.3
BRTR	Keskin Array B	8.11	46	Pn	Pn	08 30 57.3	+1.3
	0.1nm,0.3s,baz=216,slow=13,SNR=4.2						
BRTR	Keskin Array B	8.11	46	Pn	Pn	08 30 57.2	+1.3
TR2		8.74	130	P	Pn	08 31 04.1	-0.4
	baz=130						
TR2		8.74	130	P	Pn	08 31 04.1	-0.4
EIL	Elat	8.78	119	Pn	Pn	08 31 04.8	-0.2
EIL				Sn	Sn	08 32 38.4	-4.4
EIL	Elat	8.78	119	Pn	Pn	08 31 04.8	-0.2
	1.7nm,0.3s,baz=325,slow=12,SNR=25						
EIL				Sn	Sn	08 32 38.4	-4.4
	1.7nm,0.3s,baz=72,slow=20,SNR=5.4						
EIL	Elat	8.78	119	Pn	Pn	08 31 04.8	-0.2
TIP	Timpagrande	8.98	306	ePn	Pn	08 31 05.6	-2.3
	15nm,1.0s						
TIP	Timpagrande	8.98	306	ePn	Pn	08 31 05.6	-2.3
	15nm,1.0s						
HQLS		9.07	121	P	Pn	08 31 08.0	-1.0
HQLS				S	Sn	08 32 44.0	-6.0
HDHB	Dhahab	9.11	125	P	Pn	08 31 09.0	-0.5
	baz=125						
HDHB	Dhahab	9.11	125	P	Pn	08 31 09.0	-0.5
HAQS	Haql	9.11	122	P	Pn	08 31 10.0	+0.4
HDK1	Dakhla	9.14	161	P	Pn	08 31 10.2	+0.1
	baz=161						
HDK1	Dakhla	9.14	161	P	Pn	08 31 10.2	+0.1
JLOS		9.70	122	S	Sn	08 32 57.5	-8.3
	baz=107						
JLOS		9.70	122	P	Pn	08 31 16.1	-1.7
	baz=107						
JLOS		9.70	122	P	Pn	08 31 16.0	-1.8
JLOS				S	Sn	08 32 57.0	-8.8
CUC	Castrocucco	10.02	308	ePn	Pn	08 31 21.4	-0.7
	19nm,0.8s						
CUC	Castrocucco	10.02	308	ePn	Pn	08 31 21.4	-0.7
	19nm,0.8s						
HDK2	Wahat Dakhilah	10.21	165	P	Pn	08 31 23.4	-1.3
	baz=165						
HDK2	Wahat Dakhilah	10.21	165	P	Pn	08 31 23.4	-1.3
MLR	Muntele Rosu	11.21	359	Pn	Pn	08 31 38.1	-0.3
MLR	Muntele Rosu	11.21	359	Pn	Pn	08 31 38.1	-0.3
	baz=189,slow=13,SNR=2.5						
MLR				LR	LR	08 36 34.9	
	comp=Z,39nm,20.8s,baz=212,slow=41						
MLR	Muntele Rosu	11.21	359	Pn	Pn	08 31 38.1	-0.3
PGF	Pioggiola	15.75	307	eP	Pn	08 32 35.4	-4.5
PGF	Pioggiola	15.75	307	eP	Pn	08 32 35.4	-4.5
KBZ	Khabaz	16.07	49	Pn	P	08 32 48.6	+1.7
KBZ	Khabaz	16.07	49	Pn	P	08 32 48.6	+1.7
	0.1nm,0.3s,baz=241,slow=17,SNR=2.6						
AKASG	Malin Array Be	16.58	7	Pn	Pn	08 32 48.1	-2.1
AKASG	Malin Array Be	16.58	7	Pn	Pn	08 32 48.1	-2.1
	0.5nm,0.3s,baz=193,slow=11,SNR=3.2						
VRAC	Vranov	16.61	338	LR	LR	08 40 23.2	
	comp=Z,43nm,18.9s,baz=160,slow=42						
GERES	GERESS Array B	17.25	331	P	Pn	08 32 58.6	-0.1
GERES	GERESS Array B	17.25	331	P	Pn	08 32 58.6	-0.1
	0.2nm,0.3s,baz=141,slow=11,SNR=7.3						
GERES				LR	LR	08 41 11.1	
	comp=Z,69nm,18.2s,baz=98,slow=43						
GERES	GERESS Array B	17.25	331	P	Pn	08 32 58.7	-0.1
FETA	Feichten	17.25	322	jPn	P	08 32 59.7	-0.4
	10.0nm,0.9s						
FETA	Feichten	17.25	322	Pn	P	08 32 59.7	-0.4
	10.0nm,0.9s						
SBF	Sospel	17.36	309	eP	Pn	08 32 55.7	-4.5
	139nm,1.2s						
SBF	Sospel	17.36	309	eP	Pn	08 32 55.7	-4.5
	139nm,1.2s						
DAVOX	Davos/Dischmat	17.53	320	LR	LR	08 41 34.2	
	comp=Z,93nm,19.2s,baz=102,slow=44						
MBDF	Montbardon	18.19	311	eP	Pn	08 33 05.1	-5.3
	43nm,1.2s						
MBDF	Montbardon	18.19	311	eP	Pn	08 33 05.1	-5.3
	43nm,1.2s						
LPG	La Plagne	18.58	313	eP	P	08 33 14.8	-0.1
LPG	La Plagne	18.58	313	eP	P	08 33 14.8	-0.1
LPG	La Plagne	18.58	313	eP	P	08 33 14.8	-0.1
CLL	Collm	19.52	335	e(pP)	Pn	08 33 28.0	+1.8
CABF	La Chapelle	19.55	315	eP	P	08 33 25.6	+0.2
CABF	La Chapelle	19.55	315	eP	P	08 33 25.6	+0.2
CABF	La Chapelle	19.55	315	eP	P	08 33 25.6	+0.2
VIVF	Saint-Julien-I	19.58	309	eP	P	08 33 24.7	-0.9
VIVF	Saint-Julien-I	19.58	309	eP	P	08 33 24.7	-0.9
VIVF	Saint-Julien-I	19.58	309	eP	P	08 33 24.7	-0.9
HINF	Hinteralfeld	19.80	319	eP	P	08 33 28.3	+0.3
HINF	Hinteralfeld	19.80	319	eP	P	08 33 28.3	+0.3
HINF	Hinteralfeld	19.80	319	eP	P	08 33 28.3	+0.3
CDF	Champ du Feu	19.93	321	eP	P	08 33 29.9	+0.4
	14nm,0.8s						
CDF	Champ du Feu	19.93	321	eP	P	08 33 29.9	+0.4
	14nm,0.8s						
CDF	Champ du Feu	19.93	321	eP	P	08 33 29.9	+0.4
	7.1nm,0.8s						
HAU	Haudompre	20.18	319	eP	P	08 33 31.8	-0.3
HAU				eR			
	138nm,19.8s						
HAU	Haudompre	20.18	319	eP	P	08 33 31.8	-0.3
HAU	Haudompre	20.18	319	eP	P	08 33 31.8	-0.3
SFTF	Sexfontaines	21.02	318	eP	P	08 33 41.4	+0.3
SFTF	Sexfontaines	21.02	318	eP	P	08 33 41.4	+0.3
SFTF	Sexfontaines	21.02	318	eP	P	08 33 41.4	+0.3
LOR	Lormes	21.20	314	eP	P	08 33 43.1	0.0
LOR				eR			
	140nm,22.0s						
LOR	Lormes	21.20	314	eP	P	08 33 43.1	0.0
LOR	Lormes	21.20	314	eP	P	08 33 43.1	0.0
AVF	Avril sur Loir	21.27	313	eP	P	08 33 43.8	-0.1
AVF	Avril sur Loir	21.27	313	eP	P	08 33 43.8	-0.1
AVF	Avril sur Loir	21.27	313	eP	P	08 33 43.8	-0.1
CAF	Calviac	21.31	307	eP	P	08 33 44.1	-0.3
CAF	Calviac	21.31	307	eP	P	08 33 44.1	-0.3
CAF	Calviac	21.31	307	eP	P	08 33 44.1	-0.3
SSF	Saint Saulge	21.31	314	eP	P	08 33 43.7	-0.6
	17nm,1.0s						
SSF	Saint Saulge	21.31	314	eP	P	08 33 43.7	-0.6
	17nm,1.0s						
SSF	Saint Saulge	21.31	314	eP	P	08 33 43.7	-0.6
	8.4nm,1.0s						
TAM	Tamarrasset	21.37	243	eP	P	08 33 47.8	+2.5
	5.1nm,0.8s						
RJF	Les Rejaudoux	21.81	308	eP	P	08 33 49.0	-0.7
	27nm,0.9s						
RJF				eR			
	105nm,17.5s						
RJF	Les Rejaudoux	21.81	308	eP	P	08 33 49.0	-0.7
	27nm,0.9s						
RJF	Les Rejaudoux	21.81	308	eP	P	08 33 49.0	-0.7
	14nm,0.9s						
EPF	Esparros	21.90	301	eP	P	08 33 49.6	-1.1
	25nm,1.1s						
EPF	Esparros	21.90	301	eP	P	08 33 49.6	-1.1
	25nm,1.1s						
EPF	Esparros	21.90	301	eP	P	08 33 49.6	-1.1
	12nm,1.1s						
GIVF	Givet	22.24	322	eP	P	08 33 53.5	-0.7
GIVF	Givet	22.24	322	eP	P	08 33 53.5	-0.7
GIVF	Givet	22.24	322	eP	P	08 33 53.5	-0.7
ETSF	Etsaut	22.51	300	eP	P	08 33 56.5	-0.8
ETSF	Etsaut	22.51	300	eP	P	08 33 56.5	-0.8
ETSF	Etsaut	22.51	300	eP	P	08 33 56.5	-0.8
BAIF	Baives	22.53	321	eP	P	08 33 56.6	-0.7
	21nm,0.7s						
BAIF	Baives	22.53	321	eP	P	08 33 56.6	-0.7
	21nm,0.7s						
BAIF	Baives	22.53	321	eP	P	08 33 56.6	-0.7
	11nm,0.7s						
LDF	La Druitiere	24.19	314	eP	P	08 34 12.3	-1.4
	50nm,1.2s						
LDF	La Druitiere	24.19	314	eP	P	08 34 12.3	-1.4
	50nm,1.3s						
LDF	La Druitiere	24.19	314	eP	P	08 34 12.3	-1.4
	25nm,1.2s						
FLN	La Foliniere	24.48	314	eP	P	08 34 15.7	-0.6
FLN				eR			
	140nm,19.5s						
FLN	La Foliniere	24.48	314	eP	P	08 34 15.7	-0.6
FLN	La Foliniere	24.48	314	eP	P	08 34 15.7	-0.6
GRR	Gorron	24.54	313	eP	P	08 34 14.8	-2.1
GRR	Gorron	24.54	313	eP	P	08 34 14.8	-2.1
GRR	Gorron	24.54	313	eP	P	08 34 14.8	-2.1
ESDC	Sonseca Array	24.58	291	P	P	08 34 17.6	+0.2
ESDC	Sonseca Array	24.58	291	P	P	08 34 17.6	+0.2
	4.1nm,0.8s,baz=80,slow=9.4,SNR=12						
ESDC	Sonseca Array	24.58	291	P	P	08 34 17.6	+0.2
QUIF	Quistinic	25.77	311	eP	P	08 34 28.1	0.0
QUIF	Quistinic	25.77	311	eP	P	08 34 28.1	0.0
QUIF	Quistinic	25.77	311	eP	P	08 34 28.1	0.0
HFS	Hagfors	27.13	346	P	P	08 34 40.2	0.0
HFS	Hagfors	27.13	346	P	P	08 34 40.2	0.0
	1.2nm,0.7s,baz=138,slow=9.7,SNR=7.1						
HFS				LR	LR	08 47 01.5	
	comp=Z,89nm,19.5s,baz=128,slow=40						
HFS	Hagfors	27.13	346	P	P	08 34 40.2	0.0
FINES	FINESS Array B	27.20	360	P	P	08 34 39.6	-1.1
FINES	FINESS Array B	27.20	360	P	P	08 34 39.6	-1.1
	1.4nm,0.6s,baz=177,slow=9.5,SNR=8.5						
FINES	FINESS Array B	27.20	360	P	P	08 34 39.7	-1.1
NOA	NORSAR Array B	28.47	345	P	P	08 34 50.3	-2.0
NOA	NORSAR Array B	28.47	345	P	P	08 34 50.3	-2.0
	1.1nm,1.0s,baz=145,slow=8.8,SNR=2.8						
NOA				LR	LR	08 47 30.5	
	comp=Z,30nm,19.3s,baz=155,slow=39						
NOA	NORSAR Array B	28.47	345	P	P	08 34 50.3	-2.0
EKA	Eskdalemuir Ar	29.23	325	P	P	08 34 58.0	-1.0
EKA	Eskdalemuir Ar	29.23	325	P	P	08 34 58.0	-1.0
	2.3nm,0.7s,baz=124,slow=9.8,SNR=3.9						
EKA	Eskdalemuir Ar	29.23	325	P	P	08 34 58.0	-1.0
TORD	Torodi Ar. Bea	30.55	232	P	P	08 35 11.4	+0.3
TORD	Torodi Ar. Bea	30.55	232	P	P	08 35 11.4	+0.3
	1.9nm,0.6s,baz=34,slow=8.7,SNR=12						
TORD	Torodi Ar. Bea	30.55	232	P	P	08 35 11.4	+0.3
ARCES	ARCESS Array B	35.32	360	P	P	08 35 51.2	-1.0
ARCES	ARCESS Array B	35.32	360	P	P	08 35 51.2	-1.0
	1.1nm,0.6s,baz=185,slow=8.9,SNR=14						
ARCES	ARCESS Array B	35.32	360	P	P	08 35 51.2	-1.0
BVAR	Borovoye Array	36.39	45	P	P	08 36 03.1	+1.6
BVAR	Borovoye Array	36.39	45	P	P	08 36 03.1	+1.6
	0.7nm,0.7s,baz=274,slow=9.5,SNR=3.8						
BVAR				LR	LR	08 53 43.9	
	comp=Z,33nm,18.4s,baz=72,slow=41						
BVAR	Borovoye Array	36.39	45	P	P	08 36 03.1	+1.6
KURBB	Kurchatov Arra	41.07	50	P	P	08 36 42.2	+1.5
	3.4nm,0.8s,baz=276,slow=8.6,SNR=21						
KURK	Kurchatov	41.13	50	eP	P	08 36 42.5	+1.3
	1.8nm,0.8s						
KURK	Kurchatov	41.13	50	eP	P	08 36 42.5	+1.3
	1.8nm,0.8s						
MKAR	Makanchi Array	43.60	56	P	P	08 37 02.9	+1.4
MKAR	Makanchi Array	43.60	56	P	P	08 37 02.9	+1.4
	3.2nm,0.7s,baz=278,slow=6.3,SNR=24						
MKAR	Makanchi Array	43.60	56	P	P	08 37 02.9	+1.4
ZALV	Zalesovo Beam	45.05	46	P	P	08 37 13.7	+0.8
ZALV	Zalesovo Beam	45.05	46	P	P	08 37 13.7	+0.8
	1.9nm,0.6s,baz=268,slow=8.8,SNR=5.7						
ZALV	Zalesovo Beam	45.05	46	P	P	08 37 13.7	+0.8
SONM	Songino Array	59.43	50	P	P	08 39 01.6	+1.6
SONM	Songino Array	59.43	50	P	P	08 39 01.6	+1.6
	0.7nm,0.6s,baz=284,slow=7.3,SNR=6.0						
SONM	Songino Array	59.43	50	P	P	08 39 01.6	+1.6
SCHQ	Schefferville	64.39	320	P	P	08 39 33.4	+0.4
SCHQ	Schefferville	64.39	320	P	P	08 39 33.4	+0.4
	3.1nm,0.7s,baz=83,slow=9.8,SNR=5.3						
SCHQ	Schefferville	64.39	320	P	P	08 39 33.4	+0.4
CMAR	Chiang Mai Arr	65.88	83	P	P	08 39 45.1	+1.9
CMAR	Chiang Mai Arr	65.88	83	P	P	08 39 45.1	+1.9
	0.9nm,0.3s,baz=335,slow=6.5,SNR=2.9						
CMAR	Chiang Mai Arr	65.88	83	P	P	08 39 45.1	+1.9
USRK	Ussuriysk Arra	76.90	45	P	P	08 40 49.9	+0.5
	1.4nm,0.7s,baz=316,slow=4.0,SNR=3.7						
YKA	Yellowknife Ar	78.54	343	P	P	08 40 59.0	+0.8
YKA	Yellowknife Ar	78.54	343	P	P	08 40 58.9	+0.8
	0.7nm,0.7s,baz=32,slow=5.4,SNR=17						
YKA	Yellowknife Ar	78.54	343	P	P	08 40 59.0	+0.8
NEW	Newport	91.52	336	eP	P	08 42 04.7	+1.0
	5.8nm,1.3s						
NEW	Newport	91.52	336	P	P	08 42 05.1	+1.4
	1.6nm,0.8s,baz=26,slow=8.8,SNR=4.3						
NEW	Newport	91.52	336	eP	P	08 42 04.7	+1.0
	5.8nm,1.3s						

*IDC **15** 08:29:58.7±2.0, 7°.43S×118°.89E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.5/22, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=211.1km s-min=20.1km az=55.0*
*ISCJB **15** 08:30:01.4±0.6, 7°.80S±0°.05×118°.50E±0°.05, h33km, mb3.7/4, Error ellipse: s-maj=7.8km s-min=7.0km az=177.9*
*DJA **15** 08:30:01.3±2.2, 8°.5S±5°×11°.9E±°, h18km±28km, M4.2/4, MLv4.2/4*

ISC 15 08:30:03.4±1.0, 7°.84S±0°.07×118°.51E±0°.08, h35km, n13, σ1s51/11, mb3.8/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	Labuhan Bajo,	1.51	115	P	x	08 30 26.7	
LBFI				S	x	08 30 46.2	
MTNI	Mataram	2.45	251	P	x	08 30 40.2	
MTNI				S	x	08 31 16.3	
WSI	Waingapu	2.54	136	P	Pn	08 30 41.9	-0.2
KHKI	Kahang-Kahang	2.92	260	P	x	08 30 46.9	
BKSI	Bulukumba	2.97	33	P	Pn	08 30 46.4	-1.6
BKSI				S	Sn	08 31 21.0	-1.5
BNSI	Bone	3.77	25	P	Pn	08 30 59.8	+0.8
SPSI	Sidrap Palu	4.05	18	P	Pn	08 31 05.3	+2.4
JAGI	Jajag, Banyuwa	4.36	261	P	Pn	08 31 06.8	-0.3
WRA	Warramunga Arr	19.49	130	P	P	08 34 26.5	-1.1
	0.1nm,0.3s,baz=305,slow=13,SNR=3.4						
ASAR	Alice Springs	21.58	139	P	P	08 34 50.4	+0.2
	0.9nm,0.7s,baz=310,slow=9.7,SNR=5.8						
STKA	Stephens Creek	32.15	141	P	P	08 36 29.8	+2.0
	0.8nm,0.8s,baz=311,slow=11,SNR=2.2						
MKAR	Makanchi Array	63.21	333	P	P	08 40 27.9	-0.2
	0.5nm,0.5s,baz=152,slow=6.6,SNR=7.5						
ZALV	Zalesovo Beam	67.79	339	P	P	08 40 56.3	-1.2
	0.5nm,0.4s,baz=158,slow=6.8,SNR=3.1						

*NEIC **15** 08:45:45.1, 37°.80S×176°.55E, h154km, MG4.0(WEL), After WEL.*

WEL 15 08:45:45.3±0.3, 37°.80S×176°.58E, h152km±3km, ML4.0/17, 16C-4D, Error ellipse: s-maj=2.1km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.05	203	⇓PN	Pn	08 46 05.6	0.0
OPRZ				SN	Sn	08 46 21.4	+0.2
OPRZ	Ohinepanea	0.05	203	Pn	Pn	08 46 05.6	0.0
OPRZ				Sn	Sn	08 46 21.4	+0.2
TGRZ	Tauranga	0.26	286	⇓PN	Pn	08 46 06.0	+0.1
TGRZ	Tauranga	0.26	286	Pn	Pn	08 46 06.0	+0.1
RRRZ	Republican Roa	0.54	185	Pn	Pn	08 46 07.1	0.0
RRRZ	Republican Roa	0.54	185	Pn	Pn	08 46 07.1	0.0
URZ	Urewera	0.62	138	⇓PN	Pn	08 46 06.9	-0.6
URZ				SN	Sn	08 46 24.3	-0.1
URZ				AML	AML	08 46 26.4	
URZ	Urewera	0.62	138	Pn	Pn	08 46 06.9	-0.6
PRRZ	Plateau Road	0.71	192	⇑PN	Pn	08 46 08.1	0.0
PRRZ	Plateau Road	0.71	192	Pn	Pn	08 46 08.1	0.0
TOZ	Tahuroa Road	0.86	274	⇓PN	Pn	08 46 09.3	+0.3
TOZ				SN	Sn	08 46 27.9	+0.7
TOZ	Tahuroa Road	0.86	274	Pn	Pn	08 46 09.3	+0.3
MWZ	Matawai	0.92	126	PN	Pn	08 46 09.3	-0.4
MWZ				AML	AML	08 46 31.0	
MWZ				AML	AML	08 46 31.0	
MWZ				AML	AML	08 46 31.4	
MWZ				AML	AML	08 46 31.4	
MWZ	Matawai	0.92	126	Pn	Pn	08 46 09.3	-0.4
HAZ	Te Kaha	0.95	88	⇑PN	Pn	08 46 09.3	-0.6
TLZ	Tolley Road	0.97	237	Pn	Pn	08 46 10.1	0.0
SNGZ	Shannon Statio	1.15	149	⇑PN	Pn	08 46 11.8	+0.2
SNGZ				SN	Sn	08 46 32.0	+0.3
RAHZ	Arahi	1.18	160	PN	Pn	08 46 12.1	+0.2
RAHZ	Arahi	1.18	160	Pn	Pn	08 46 12.2	+0.2
RIGZ	Rimuhau	1.30	134	PN	Pn	08 46 13.3	+0.3
NMHZ	Naumai	1.31	172	PN	Pn	08 46 13.6	+0.4
NMHZ	Naumai	1.31	172	Pn	Pn	08 46 13.6	+0.4
MKAZ	Moumakai	1.32	301	PN	Pn	08 46 13.4	+0.2
MKAZ	Moumakai	1.32	301	Pn	Pn	08 46 13.4	+0.2
MKAZ				Sn	Pn	08 46 14.8	+1.6
BKZ	Black Stump Fm	1.36	183	⇑PN	Pn	08 46 13.1	-0.6
BKZ				SN	Sn	08 46 34.1	-1.4
BKZ				AML	AML	08 46 37.6	
BKZ	Black Stump Fm	1.36	183	Pn	Pn	08 46 13.2	-0.6
WHHZ	Waihua	1.37	158	PN	Pn	08 46 14.1	+0.3
MXZ	Matakaoa Point	1.39	81	PN	Pn	08 46 14.4	+0.5
MXZ				AML	AML	08 46 37.6	
MXZ				AML	AML	08 46 38.2	
MXZ				AML	AML	08 46 38.2	
MXZ				AML	AML	08 46 43.5	
MXZ	Matakaoa Point	1.39	81	Pn	Pn	08 46 14.4	+0.5
CNGZ	Carnagh Statio	1.45	118	PN	Pn	08 46 15.2	+0.7
CNGZ	Carnagh Statio	1.45	118	Pn	Pn	08 46 15.2	+0.7
KNZ	Kokohu	1.49	145	PN	Pn	08 46 14.8	0.0
KNZ	Kokohu	1.49	145	Pn	Pn	08 46 14.8	0.0
P

CAW	**Cannon Point**	**3.50**	**199**	PN	Pn	08 46 35.9	-3.2
CAW				AML	AML	08 47 18.5	
CAW				AML	AML	08 47 18.7	
CAW	**Cannon Point**	**3.50**	**199**	Pn	Pn	08 46 35.9	-3.2
TRWZ	**Traveller**	**3.66**	**191**	PN	Pn	08 46 38.0	-3.1
TRWZ				AML	AML	08 47 07.9	
TRWZ	**Traveller**	**3.66**	**191**	Pn	Pn	08 46 38.0	-3.1
WEL	**Wellington**	**3.75**	**201**	PN	Pn	08 46 39.0	-3.3
WEL	**Wellington**	**3.75**	**201**	Pn	Pn	08 46 39.0	-3.3
MSWZ	**Moikau Station**	**3.75**	**195**	PN	Pn	08 46 38.8	-3.6
MSWZ				AML	AML	08 47 23.5	
MSWZ				AML	AML	08 47 25.0	
MSWZ	**Moikau Station**	**3.75**	**195**	Pn	Pn	08 46 38.8	-3.6
SNZO	**South Karori**	**3.79**	**202**	PN	Pn	08 46 39.2	-3.6
SNZO				AML	AML	08 47 24.2	
SNZO	**South Karori**	**3.79**	**202**	Pn	Pn	08 46 39.2	-3.6
TCW	**Tory Channel**	**3.84**	**207**	PN	Pn	08 46 40.3	-3.2
TCW				AML	AML	08 47 27.7	
TCW				AML	AML	08 47 28.3	
TCW	**Tory Channel**	**3.84**	**207**	Pn	Pn	08 46 40.3	-3.2
PLWZ	**Palliser**	**3.90**	**195**	PN	Pn	08 46 40.6	-3.7
PLWZ	**Palliser**	**3.90**	**195**	Pn	Pn	08 46 40.6	-3.7
TUWZ	**Tuamarina**	**4.16**	**208**	PN	Pn	08 46 43.9	-3.7
TUWZ				AML	AML	08 47 32.1	
TUWZ				AML	AML	08 47 32.8	
TUWZ	**Tuamarina**	**4.16**	**208**	Pn	Pn	08 46 43.9	-3.7
NNZ	**Nelson**	**4.21**	**215**	PN	Pn	08 46 44.8	-3.6
NNZ	**Nelson**	**4.21**	**215**	Pn	Pn	08 46 44.8	-3.6
QRZ	**Quartz Range**	**4.36**	**225**	PN	Pn	08 46 46.3	-3.9
QRZ	**Quartz Range**	**4.36**	**225**	Pn	Pn	08 46 46.3	-3.9
BSWZ	**Blackbirch Sta**	**4.43**	**207**	PN	Pn	08 46 47.7	-3.4
BSWZ	**Blackbirch Sta**	**4.43**	**207**	Pn	Pn	08 46 47.8	-3.4
THZ	**Tophouse**	**4.86**	**214**	PN	Pn	08 46 53.5	-3.5
THZ	**Tophouse**	**4.86**	**214**	Pn	Pn	08 46 53.5	-3.5
KHZ	**Kahutara**	**5.17**	**206**	PN	Pn	08 46 56.8	-4.0
KHZ				AML	AML	08 49 28.4	
KHZ	**Kahutara**	**5.17**	**206**	Pn	Pn	08 46 56.8	-4.0
LTZ	**Lake Taylor**	**5.97**	**212**	⇑PN	Pn	08 47 07.5	-4.1
LTZ	**Lake Taylor**	**5.97**	**212**	Pn	Pn	08 47 07.5	-4.1
MQZ	**McQueen's Vall**	**6.61**	**206**	PN	Pn	08 47 14.3	-5.8
MQZ	**McQueen's Vall**	**6.61**	**206**	Pn	Pn	08 47 14.3	-5.8

NIED ***15*** *08:46:00,28.′20N×129.′50E,h26km,Mw3.7 Best double couple: M₀4.31000×10¹⁴ NP1:φ=284.00000°,δ35.00000°, λ100.00000°. NP2:φ=92.00000°,δ55.00000°,λ83.00000°.*

JMA 15 08:46:30.1±0.2,28.′09N×129.′52E,h34km±5km,M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.33**	**13**	P	Pb	08 46 37.9	-0.4
JAM				S	Sn	08 46 43.3	-0.2
JAMN	**Amaminishikomi**	**0.34**	**297**	P	Pb	08 46 38.3	-0.2
JAMN				*e*S	Sb	08 46 44.2	0.0
JZK	**Kikaishima**	**0.46**	**61**	P	Pb	08 46 40.1	0.0
JTK	**Tokunoshima**	**0.59**	**239**	P	Pn	08 46 41.3	-0.7
JTK				*e*S	Sn	08 46 49.2	-1.2
JOW	**Kunigami**	**1.67**	**222**	P	Pn	08 46 57.5	+0.5
JIH	**Iheya**	**1.73**	**233**	P	Pn	08 46 58.8	+1.0
JIH				*e*S	Sn	08 47 20.7	+2.0
JNN	**Nakanoshima**	**1.77**	**10**	P	Pn	08 46 59.5	+1.1
JAGN	**Aguni-jima**	**2.52**	**234**	P	Pn	08 47 10.2	+1.6
JAGN				*e*S	Sn	08 47 39.5	+1.4
JTN	**Tanegashima 3**	**2.85**	**26**	P	Pn	08 47 15.1	+1.8
JKE	**Kume jima 2**	**3.00**	**235**	P	Pn	08 47 16.2	+0.9

JSN ***15*** *08:55:56.5±0.9, 18.′36N×71.′95W,h28km±999km*
IDC ***15*** *08:56:02.7±0.5, 18.′46N×72.′81W,h0km,mb4.2/26, mb1 4.4/31,mb1mx4.3/37,mbtmp4.2/31,ML3.6/5,MS3.9/23, Ms1 3.9/23,ms1mx3.8/43,Error ellipse: s-maj=14.5km s-min=11.5km az=50.0*
NEIC ***15*** *08:56:04.9±0.2, 18.′41N×72.′82W,h10km,mb4.6/78,Error ellipse: s-maj=4.4km s-min=3.6km az=18.0*
NEIC Felt at Petionville.
ISCJB ***15*** *08:56:06.2±0.2, 18.′38N±0.′03×72.′84W±0.′02, h33km, mb4.4/96,MS4.0/21,Error ellipse: s-maj=4.0km s-min=2.9km az=9.2*

ISC 15 08:56:06.2±0.4,18.′42N±0.′04×72.′84W±0.′04,h21km±4km, n488,σ1$04/500,mb4.5/98,MS4.1/21,144C-142D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.58**	**69**	*e*Pn	**Pn**	**08 56 30.6**	**-2.5**
SDDR				*e*Sn	**Sb**	**08 56 53.9**	**-0.3**
GTBY	**Guantanamo Bay**	**2.62**	**305**	*e*Pn	**Pn**	**08 56 45.2**	**-2.0**
GTBY				*e*Sg	**Sb**	**08 57 27.6**	**+3.5**
GRTK	**Grand Turk**	**3.47**	**27**	*e*Pn	**Pn**	**08 56 57.8**	**-1.3**
GRTK				*e*Sn	**Sn**	**08 57 40.3**	**+0.7**
YHJ	**Yallahs**	**3.51**	**262**	*e*P	**Pn**	**08 57 00.0**	**+0.4**
YHJ	**Yallahs**	**3.51**	**262**	*e*P	**Pn**	**08 57 00.0**	**+0.4**
GWJ	**Greenwich**	**3.71**	**265**	*i* PA	**Pn**	**08 57 03.1**	**+0.6**
GWJ	**Greenwich**	**3.71**	**265**	*i* P	**Pn**	**08 57 03.1**	**+0.6**
HOJ	**Hope**	**3.74**	**264**	*i* P	**Pn**	**08 57 03.0**	**+0.3**
HOJ	**Hope**	**3.74**	**264**	*i* P	**Pn**	**08 57 03.0**	**+0.3**
STH	**Stony Hill**	**3.79**	**266**	*i* P	**Pn**	**08 57 03.3**	**0.0**
STH				*i* S	**Sb**	**08 57 54.2**	**-3.6**
STH	**Stony Hill**	**3.79**	**266**	*i* P	**Pn**	**08 57 03.3**	**0.0**
STH				*i* S	**Sb**	**08 57 54.2**	**-3.6**
MTDJ	**Mount Denham**	**4.46**	**268**	*e*Pn	**Pn**	**08 57 12.1**	**-0.6**
MTDJ				*e*Sg	Sb	08 58 26.0	+8.7
MCJ	**Malvern**	**4.63**	**265**	*i* P	**Pn**	**08 57 15.9**	**+0.9**
MCJ	**Malvern**	**4.63**	**265**	*i* P	**Pn**	**08 57 15.9**	**+0.9**
CRPR	**Cabo Rojo, PR**	**5.46**	**93**	*e*Pn	**Pn**	**08 57 26.1**	**-0.3**
LSP	**Las Mesas**	**5.47**	**92**	Pn	**Pn**	**08 57 27.5**	**+0.9**
AOPR	**Arecibo Observ**	**5.78**	**90**	*e*Pn	Pn	08 57 35.8	+5.0
OBIP	**Obispado Ponce**	**5.94**	**93**	*e*Pn	**Pn**	**08 57 32.7**	**-0.3**
CELP	**Cerrillos**	**5.96**	**92**	*e*Pn	**Pn**	**08 57 33.0**	**-0.3**
HUMP	**Col San Antoni**	**6.65**	**91**	*e*Pn	Pn	08 57 47.3	+4.6
MTP	**Monte Pirata**	**6.93**	**91**	*e*Pn	**Pn**	**08 57 47.3**	**+0.3**
SDV	**Santo Domingo**	**9.71**	**167**	*e*Pn	**Pn**	**08 58 24.9**	**-0.1**
SDV				*e*Sn	**Sn**	**09 00 10.0**	**-3.6**
LZG	**Guadaloupe-1**	**10.81**	**100**	*e*P	**Pn**	**08 58 41.2**	**+1.4**
FNG	**Fond-Bernard**	**10.91**	**101**	*e*P	**Pn**	**08 58 42.1**	**+0.7**
SSG	**Sans Toucher**	**10.91**	**101**	*e*P	**Pn**	**08 58 43.3**	**+1.9**
BCIP	**Isla Barro Col**	**11.43**	**217**	*e*Pn	**Pn**	**08 58 46.6**	**-1.7**
ROSC	**El Rosal**	**13.55**	**186**	*e*Pn	**Pn**	**08 59 19.1**	**+1.4**
ROSC				Sn	**Sn**	**09 01 49.9**	**+1.8**
ROSC	**El Rosal** 1.6nm,0.3s,baz=95,slow=15,SNR=12	**13.55**	**186**	Pn	**Pn**	**08 59 17.3**	**-0.5**
ROSC	0.4nm,0.3s,baz=308,slow=19,SNR=3.6			Sn	**Sn**	**09 01 49.9**	**+1.8**
JTS	**JuntasAbangare**	**14.24**	**237**	*e*Pn	**Pn**	**08 59 27.6**	**+0.8**
JTS	**JuntasAbangare** 0.3nm,0.3s,baz=31,slow=12,SNR=2.6	**14.24**	**237**	Pn	**Pn**	**08 59 26.2**	**-0.6**
JTS	comp=Z,266nm,19.6s,baz=81,slow=38			LR	LR	09 05 13.3	
TGUH	**Tegucigalpa,Un**	**14.52**	**255**	*e*Pn	**Pn**	**08 59 29.5**	**-1.1**
TEIG	**Tepich**	**14.68**	**280**	*e*Pn	**Pn**	**08 59 32.0**	**-0.8**
TEIG				Sn	Sn	09 02 07.9	-7.0
TEIG	**Tepich** 2.4nm,0.3s,baz=104,slow=5.8,SNR=16	**14.68**	**280**	Pn	**Pn**	**08 59 31.8**	**-0.9**
TEIG	0.3nm,0.3s,baz=150,slow=20,SNR=2.4			Sn	Sn	09 02 07.9	-7.0
BBSR	**BB Station** 40nm,0.9s	**15.71**	**26**	*e*P	**Pn**	**08 59 46.1**	**-0.2**
NHSC	**New Hope** 42nm,1.0s	**16.04**	**337**	*e*P	**P**	**08 59 54.6**	**+0.7**
TIGA	**Tifton**	**16.21**	**325**	*e*P	**Pn**	**08 59 50.7**	**-2.0**
APG	**El Apazote**	**17.22**	**261**	P	**Pn**	**09 00 05.3**	**-0.4**
APG	**El Apazote** 0.2nm,0.3s,baz=116,slow=14,SNR=5.2	**17.22**	**261**	P	**Pn**	**09 00 05.3**	**-0.4**
JSC	**Jenkinsville**	**17.50**	**336**	*e*Pn	**P**	**09 00 10.4**	**+0.4**
KMSC	**Kings Mountain**	**18.29**	**337**	*e*P	**Pn**	**09 00 16.8**	**-1.9**
KMSC	**Kings Mountain** baz=18	**18.29**	**337**	⇑P	**P**	**09 00 20.7**	**+2.0**
OTAV	**Otavalo** 341nm,2.7s	**18.89**	**198**	*e*P	**Pn**	**09 00 28.5**	**+1.9**
JSRW	**J. Sargeant Re**	**19.71**	**348**	*e*P	**P**	**09 00 34.6**	**+0.3**
TKL	**Tuckaleechee C**	**19.72**	**333**	*e*P	**P**	**09 00 34.6**	**+0.2**
TKL				S	S	09 04 02.4	-13
TKL	**Tuckaleechee C** 0.1nm,0.3s,baz=147,slow=14,SNR=3.3	**19.72**	**333**	P	**P**	**09 00 33.4**	**-1.0**
TKL	0.2nm,0.3s,baz=78,slow=19,SNR=2.7			S	S	09 04 02.4	-13
TKL	comp=Z,133nm,19.9s,baz=144,slow=38			LR	LR	09 08 26.3	
BLA	**Blacksburg**	**19.87**	**342**	*e*P	**P**	**09 00 37.0**	**+0.8**
CPCT	**Cooper Cave** 36nm,1.0s	**19.88**	**331**	*e*P	**Pn**	**09 00 37.3**	**-0.6**
CBN	**Corbin** 47nm,0.6s	**20.11**	**350**	*e*P	Pn	09 00 40.4	-0.1
SWET	**Sewanee** 120nm,2.1s	**20.37**	**328**	*e*P	Pn	09 00 42.8	-1.0
TZTN	**Tazewell** 51nm,1.1s	**20.38**	**335**	*e*P	Pn	09 00 42.9	-0.8
SDMD	**Soldier's Deli** 33nm,1.0s	**21.21**	**351**	*e*P	**P**	**09 00 54.0**	**+3.5**
PAL	**Palisades** 25nm,0.9s	**22.53**	**358**	*e*P	**P**	**09 01 07.7**	**+3.0**
ODNJ	**Ogdensburg** 36nm,1.1s	**22.64**	**357**	*e*P	**P**	**09 01 06.7**	**+0.8**
PTGA	**Pitinga** 23nm,1.2s	**22.85**	**145**	*e*P	**P**	**09 01 10.6**	**+2.2**
PTGA	**Pitinga** 15nm,1.1s,baz=334,slow=12,SNR=11	**22.85**	**145**	P	**P**	**09 01 08.7**	**+0.4**
PTGA	comp=Z,199nm,18.1s,baz=326,slow=37			LR	LR	09 10 17.8	
WCI	**Wyandotte Cave** 13nm,0.9s	**22.97**	**332**	*e*P	**P**	**09 01 14.1**	**+4.7**
KSPA	**Keystone Colle**	**23.20**	**354**	*e*P	**P**	**09 01 15.3**	**+3.6**
HBAR	**Harrisburg**	**23.25**	**321**	*e*P	**P**	**09 01 14.8**	**+2.6**
ACSO	**Alum Creek Sta** 33nm,1.1s	**23.43**	**340**	*e*P	**P**	**09 01 15.7**	**+1.7**
BLO	**Bloomington** 18nm,0.9s	**23.85**	**333**	*e*P	**P**	**09 01 20.9**	**+2.9**
HKT	**Hockley** 9.8nm,0.9s	**23.86**	**303**	*e*P	**P**	**09 01 19.4**	**+1.2**
PBMO	**Poplar Bluff** 29nm,1.4s	**23.96**	**323**	*e*P	**P**	**09 01 19.3**	**+0.2**
SIUC	**Southern Illin** 18nm,0.9s	**23.98**	**327**	*e*P	**P**	**09 01 20.5**	**+1.2**
MIAR	**Mount Ida** 11nm,1.3s	**24.47**	**315**	*e*P	**P**	**09 01 24.1**	**+0.3**
ACCN	**Adirondack Com** 13nm,0.7s	**24.90**	**359**	*e*P	**P**	**09 01 29.0**	**+1.4**
735A	**Kenedy** baz=25	**25.07**	**299**	⇓P	**P**	**09 01 30.8**	**+1.5**
SFIN	**Scholer Farm** baz=25	**25.10**	**334**	⇓P	**P**	**09 01 31.5**	**+2.0**
635A	**Leesville** baz=25	**25.22**	**300**	⇑P	**P**	**09 01 31.5**	**+0.8**
535A	**Dale** baz=25	**25.28**	**302**	⇓P	**P**	**09 01 32.1**	**+0.8**
834A	**Tilden** baz=26	**25.47**	**297**	⇓P	**P**	**09 01 33.9**	**+0.9**
335A	**Moody** baz=26,SNR=7.2	**25.66**	**305**	⇑P	**P**	**09 01 35.3**	**+0.6**
634A	**China Grove, S** baz=26	**25.69**	**300**	⇓P	**P**	**09 01 36.2**	**+1.2**
734A	**La Parita Cree** baz=26	**25.69**	**299**	⇑P	**P**	**09 01 35.8**	**+0.8**
933A	**Laredo** baz=26	**25.95**	**295**	⇑P	**P**	**09 01 38.1**	**+0.7**
WHTX	**Lake Whitney** 31nm,1.0s	**25.98**	**306**	*e*P	**P**	**09 01 38.7**	**+1.2**
WHTX	**Lake Whitney** baz=26,SNR=9.2	**25.98**	**306**	⇓P	**P**	**09 01 38.2**	**+0.7**
534A	**Blanco** baz=26	**26.02**	**301**	⇓P	**P**	**09 01 38.4**	**+0.5**
434A	**Burnet** baz=26	**26.14**	**303**	⇓P	**P**	**09 01 39.6**	**+0.5**
135A	**Vickery Place,** baz=26	**26.19**	**307**	⇓P	**P**	**09 01 40.4**	**+0.9**
833A	**Chaparral WMA,** baz=26,SNR=5.7	**26.24**	**297**	⇓P	**P**	**09 01 40.4**	**+0.4**
733A	**Divot King Ran** baz=26	**26.27**	**298**	⇓P	**P**	**09 01 40.7**	**+0.4**
334A	**Lometa** baz=26,SNR=7.8	**26.31**	**304**	⇓P	**P**	**09 01 40.8**	**+0.2**
FRNY	**Flat Rock** 165nm,2.6s	**26.35**	**359**	*e*P	**P**	**09 01 43.9**	**+3.1**
633A	**Saathoff Ranch** baz=26	**26.40**	**300**	⇓P	**P**	**09 01 41.9**	**+0.5**
533A	**Kerrville** baz=26	**26.49**	**301**	⇑P	**P**	**09 01 42.4**	**+0.2**
234A	**Clairette** baz=26	**26.50**	**306**	⇑P	**P**	**09 01 43.0**	**+0.6**
134A	**White-Moore Ra** baz=27,SNR=6.8	**26.70**	**307**	⇑P	**P**	**09 01 44.5**	**+0.4**
832A	**Faith Ranch, C** baz=27	**26.72**	**297**	⇓P	**P**	**09 01 44.9**	**+0.5**
TUL1	**Tulsa** 23nm,1.0s	**26.74**	**315**	*e*P	**P**	**09 01 44.1**	**-0.2**
TUL1	**Tulsa** baz=27,SNR=8.5	**26.74**	**315**	⇑P	**P**	**09 01 45.0**	**+0.6**
433A	**Art** baz=27,SNR=9.3	**26.77**	**302**	⇑P	**P**	**09 01 45.0**	**+0.3**
732A	**Laxson Ranch,** baz=27	**26.84**	**298**	⇓P	**P**	**09 01 45.3**	**-0.1**
333A	**Richland Sprin** baz=27,SNR=13	**26.90**	**304**	⇑P	**P**	**09 01 46.1**	**+0.2**
632A	**Uvalde** baz=27	**26.92**	**299**	⇓P	**P**	**09 01 46.4**	**+0.3**
Z34A	**Collier Ranch,** baz=27	**26.93**	**308**	⇑P	**P**	**09 01 46.8**	**+0.6**
Y34A	**Reagan Ranch,** baz=27	**27.09**	**310**	⇓P	**P**	**09 01 48.1**	**+0.5**
233A	**Rising Star** baz=27	**27.10**	**305**	⇓P	**P**	**09 01 48.1**	**+0.3**
532A	**Rocksprings** baz=27	**27.21**	**300**	⇑P	**P**	**09 01 49.2**	**+0.4**
JCT	**Junction City** 12nm,1.0s	**27.25**	**301**	*e*P	**P**	**09 01 49.4**	**+0.3**
JCT	**Junction City** baz=27	**27.25**	**301**	⇓P	**P**	**09 01 49.3**	**+0.3**
133A	**Hamilton Ranch** baz=27	**27.36**	**306**	⇓P	**P**	**09 01 50.1**	**+0.1**
432A	**Menard** baz=27,SNR=7.6	**27.38**	**302**	⇓P	**P**	**09 01 50.6**	**+0.3**
X34A	**Smith Ranch, M** baz=28	**27.46**	**311**	⇓P	**P**	**09 01 51.3**	**+0.4**
332A	**Millersview** baz=28	**27.52**	**303**	⇑P	**P**	**09 01 51.9**	**+0.4**
Z33A	**Whitaker Ranch** baz=28	**27.53**	**308**	⇑P	**P**	**09 01 51.8**	**+0.2**
631A	**Perdido Creek** baz=28,SNR=8.5	**27.55**	**299**	⇓P	**P**	**09 01 51.8**	**0.0**
232A	**Coleman** baz=28	**27.63**	**304**	⇑P	**P**	**09 01 52.3**	**-0.2**
W34A	**Bridge Creek,** baz=28	**27.73**	**312**	⇓P	**P**	**09 01 53.7**	**+0.3**
Y33A	**Hilltop Ranch,** baz=28	**27.75**	**309**	⇓P	**P**	**09 01 53.5**	**0.0**
531A	**Rocksprings** baz=28	**27.75**	**300**	⇓P	**P**	**09 01 53.2**	**-0.5**
V34A	**Guthrie** baz=28	**27.87**	**313**	⇑P	**P**	**09 01 54.7**	**+0.1**
X33A	**Lawton** baz=28	**27.91**	**310**	⇓P	**P**	**09 01 55.3**	**+0.4**
ABTX	**Abilene, Hawle** 16nm,1.3s	**27.92**	**306**	*e*P	**P**	**09 01 55.8**	**+0.8**
ABTX	**Abilene, Hawle** baz=28	**27.92**	**306**	⇑P	**P**	**09 01 55.2**	**+0.1**
431A	**Sonora** baz=28,SNR=7.0	**27.97**	**301**	⇓P	**P**	**09 01 55.9**	**+0.3**
331A	**San Angelo** baz=28,SNR=6.0	**28.04**	**303**	⇓P	**P**	**09 01 56.4**	**+0.2**
Z32A	**Haskell** baz=28,SNR=9.0	**28.08**	**307**	⇑P	**P**	**09 01 57.0**	**+0.5**
231A	**Bronte** baz=28	**28.18**	**304**	⇓P	**P**	**09 01 57.6**	**+0.2**
W33A	**Caddo, Fort Co** baz=28	**28.18**	**311**	⇑P	**P**	**09 01 58.7**	**+1.3**
U34A	**Anderson Ranch** baz=28	**28.20**	**315**	⇓P	**P**	**09 01 58.2**	**+0.7**
WMOK	**Wichita Mounta** 5.3nm,1.0s	**28.21**	**310**	*e*P	**P**	**09 01 57.4**	**-0.3**
Y32A	**R-V Farms, Ver** baz=28	**28.35**	**308**	⇓P	**P**	**09 01 59.1**	**+0.2**
V33A	**Lossen Ranch,** baz=28	**28.39**	**313**	⇑P	**P**	**09 01 59.6**	**+0.3**
530A	**J-C Ranch, Com** baz=28	**28.40**	**300**	⇓P	**P**	**09 01 59.4**	**0.0**
X32A	**Elmer** baz=28	**28.43**	**309**	⇓P	**P**	**09 01 59.8**	**+0.2**
430A	**Baggett Ranch,** baz=28	**28.52**	**301**	⇓P	**P**	**09 02 00.8**	**+0.3**
131A	**Roby** baz=28	**28.52**	**305**	⇑P	**P**	**09 02 00.9**	**+0.4**
JFWS	**Jewell Farm** 26nm,1.1s	**28.53**	**333**	*e*P	**P**	**09 02 01.4**	**+1.0**
Z31A	**Sharp Cattle R** baz=29	**28.59**	**307**	⇓P	**P**	**09 02 01.3**	**+0.2**
330A	**Mertzon** baz=29	**28.67**	**302**	⇑P	**P**	**09 02 01.9**	**+0.1**
W32A	**Sentinel** baz=29,SNR=8.2	**28.73**	**311**	⇓P	**P**	**09 02 02.8**	**+0.5**
230A	**Sterling City** baz=29,SNR=7.0	**28.79**	**303**	⇓P	**P**	**09 02 03.1**	**+0.2**
SAML	**Samuel** 1.2nm,0.9s	**28.81**	**160**	*e*P	**P**	**09 02 02.3**	**-0.8**
V32A	**Arapaho** baz=29	**28.87**	**312**	⇑P	**P**	**09 02 03.8**	**+0.3**
130A	**Snyder** baz=29	**28.94**	**305**	⇑P	**P**	**09 02 04.8**	**+0.7**
Y31A	**Rekieta Farm,** baz=29	**28.95**	**308**	⇓P	**P**	**09 02 04.8**	**+0.5**
429A	**Davenport Ranc** baz=29	**29.00**	**300**	⇓P	**P**	**09 02 04.7**	**-0.1**
X31A	**McDonald Ranch** baz=29	**29.03**	**309**	⇓P	**P**	**09 02 04.7**	**-0.3**
529A	**Stev Forest Ra** baz=29,SNR=5.2	**29.12**	**299**	⇓P	**P**	**09 02 05.8**	**0.0**
KSU1	**Kansas State U** 9.8nm,0.9s	**29.15**	**320**	*e*P	**P**	**09 02 06.8**	**+0.8**
KSU1	**Kansas State U** baz=29	**29.15**	**320**	⇑P	**P**	**09 02 05.9**	**0.0**
U32A	**Winter Ranch,** baz=29	**29.18**	**313**	⇓P	**P**	**09 02 06.6**	**+0.3**
W31A	**Holland Ranch,** baz=29	**29.26**	**310**	⇑P	**P**	**09 02 06.7**	**-0.3**
Z30A	**Sanderson Ranc** baz=29	**29.33**	**306**	⇑P	**P**	**09 02 07.6**	**-0.1**
329A	**Wagon Wheel Ra** baz=29,SNR=5.2	**29.35**	**302**	⇓P	**P**	**09 02 07.8**	**-0.1**
229A	**Bryant Ranch,** baz=29	**29.38**	**303**	⇓P	**P**	**09 02 08.4**	**+0.3**
Y30A	**Stafford Cattl** baz=29	**29.39**	**307**	⇓P	**P**	**09 02 08.8**	**+0.6**
V31A	**Spring Creek L** baz=30,SNR=5.7	**29.47**	**311**	⇓P	**P**	**09 02 09.3**	**+0.5**
628A	**Black Gap, Mar** baz=30	**29.50**	**298**	⇓P	**P**	**09 02 09.7**	**+0.5**
T32A	**Huddler Ranch,** baz=30	**29.54**	**315**	⇑P	**P**	**09 02 10.2**	**+0.8**
R33A	**Olander Ranch,** baz=30	**29.54**	**317**	⇑P	**P**	**09 02 10.3**	**+0.9**
528A	**Cox Ranch, San** baz=30	**29.60**	**299**	⇓P	**P**	**09 02 10.6**	**+0.4**
X30A	**Coker Ranch, T** baz=30,SNR=5.4	**29.61**	**308**	⇑P	**P**	**09 02 10.4**	**+0.3**
129A	**Stewart Farms,** baz=30	**29.66**	**304**	⇑P	**P**	**09 02 10.7**	**+0.1**
428A	**Kincaid Ranch,** baz=30,SNR=18	**29.68**	**300**	⇑P	**P**	**09 02 12.1**	**+1.2**
Z29A	**Hungry Hill Ra** baz=30,SNR=7.9	**29.77**	**305**	⇑P	**P**	**09 02 11.9**	**+0.4**
Q33A	**Connelly Farm,** baz=30,SNR=6.2	**29.85**	**319**	⇓P	**P**	**09 02 12.8**	**+0.7**
627A	**Terlingua Ranc** baz=30,SNR=7.1	**29.92**	**297**	⇑P	**P**	**09 02 13.5**	**+0.5**
Y29A	**Porterfield Fa** baz=30,SNR=11	**29.97**	**307**	⇓P	**P**	**09 02 13.9**	**+0.5**
328A	**Wristen Ranch,** baz=30	**29.98**	**301**	⇓P	**P**	**09 02 13.4**	**-0.1**
T31A	**Randall Ranch,** baz=30	**30.01**	**314**	⇑P	**P**	**09 02 14.3**	**+0.7**
P33A	**Williams Farm,** baz=30	**30.02**	**319**	⇑P	**P**	**09 02 14.8**	**+1.1**
R32A	**Long Quarter,** baz=30	**30.08**	**317**	⇓P	**P**	**09 02 14.8**	**+0.6**
TXAR	**Lajitas Array**	**30.12**	**297**	P	**P**	**09 02 15.2**	**+0.4**
TXAR				PcP	**PcP**	**09 05 15.6**	**-0.6**
TXAR	**Lajitas Array** 2.4nm,0.8s,baz=112,slow=9.8,SNR=12	**30.12**	**297**	P	**P**	**09 02 15.2**	**+0.4**
TXAR	0.8nm,0.7s,baz=127,slow=5.7,SNR=4.1			PcP	**PcP**	**09 05 15.6**	**-0.6**
128A	**Castleberry Fa** baz=30,SNR=7.8	**30.14**	**304**	⇑P	**P**	**09 02 15.1**	**+0.2**
S31A	**Mullinville** baz=30	**30.15**	**315**	⇑P	**P**	**09 02 15.6**	**+0.7**
X29A	**Tulia** baz=30,SNR=6.3	**30.23**	**308**	⇑P	**P**	**09 02 15.6**	**-0.1**
527A	**Woodward Ranch** baz=30,SNR=7.2	**30.29**	**299**	⇓P	**P**	**09 02 16.7**	**+0.5**
Q32A	**Meitler Ranch,** baz=30	**30.30**	**318**	⇑P	**P**	**09 02 16.9**	**+0.8**
Z28A	**Tucker Farm, M** baz=30	**30.30**	**305**	⇓P	**P**	**09 02 16.6**	**+0.2**
427A	**Hayter Ranch,** baz=30,SNR=5.5	**30.31**	**300**	⇓P	**P**	**09 02 17.0**	**+0.6**
AMTX	**Amarillo** 8.2nm,0.8s	**30.40**	**308**	*e*P	**P**	**09 02 17.6**	**+0.4**
AMTX	**Amarillo** baz=30	**30.40**	**308**	⇑P	**P**	**09 02 17.4**	**+0.2**
U30A	**WK&E Inc. Balk** baz=30	**30.40**	**312**	⇑P	**P**	**09 02 17.6**	**+0.5**
Y28A	**McKinney Farm,** baz=30	**30.43**	**306**	⇓P	**P**	**09 02 17.2**	**-0.2**
W29A	**Amarillo** baz=30	**30.48**	**309**	⇑P	**P**	**09 02 17.8**	**0.0**
R31A	**Burdett** baz=31	**30.54**	**316**	⇑P	**P**	**09 02 19.1**	**+0.8**
227A	**Bennet, Jal** baz=31	**30.58**	**302**	⇓P	**P**	**09 02 18.9**	**+0.2**
526A	**Mary Lane Ranc** baz=31,SNR=12	**30.66**	**298**	⇑P	**P**	**09 02 20.4**	**+0.8**
P32A	**Huiting Farm,** baz=31	**30.70**	**319**	⇑P	**P**	**09 02 20.6**	**+0.9**
426A	**McDonald Obser** baz=31,SNR=12	**30.77**	**299**	⇓P	**P**	**09 02 21.3**	**+0.7**
S30A	**Montezuma** baz=31	**30.82**	**314**	⇓P	**P**	**09 02 21.5**	**+0.7**
127A	**Arkansas Junct** baz=31	**30.85**	**303**	⇑P	**P**	**09 02 21.4**	**+0.3**
MSTX	**Muleshoe** 8.6nm,0.9s	**30.86**	**306**	*e*P	**P**	**09 02 21.5**	**+0.3**
MSTX	**Muleshoe** baz=31	**30.86**	**306**	⇓P	**P**	**09 02 21.5**	**+0.3**
Z27A	**Tatum** baz=31,SNR=6.6	**30.96**	**305**	⇑P	**P**	**09 02 21.6**	**-0.6**
R30A	**Dighton** baz=31	**31.03**	**315**	⇓P	**P**	**09 02 23.2**	**+0.5**
Y27A	**Causey** baz=31	**31.13**	**306**	⇑P	**P**	**09 02 23.5**	**-0.2**
P31A	**Stockton** baz=31	**31.13**	**318**	⇓P	**P**	**09 02 24.1**	**+0.6**
T29A	**Hugoton** baz=31	**31.16**	**313**	⇓P	**P**	**09 02 24.4**	**+0.6**
S29A	**Ulysses** baz=31	**31.26**	**314**	⇓P	**P**	**09 02 25.1**	**+0.4**
226B	**Tecolote Peak,** baz=31	**31.30**	**302**

M31A **Lambtecht Ranc** 31.96 321 ⇓P P 09 02 31.2 +0.5
baz=32
W26A **Owens Ranch, T** 32.05 307 ⇓P P 09 02 31.7 0.0
baz=32
R28A **Tribune** 32.10 314 ⇓P P 09 02 32.3 +0.3
baz=32,SNR=8.3
T27A **Campo** 32.12 311 ⇓P P 09 02 32.4 +0.1
baz=32
Z25A **Roswell** 32.13 304 ⇑P P 09 02 32.7 +0.2
baz=32,SNR=11
P29A **Atwood** 32.17 317 ⇓P P 09 02 33.5 +0.9
baz=32
MNTX **Cornudas Mount** 32.17 301 *e*P P 09 02 33.2 +0.4
18nm,1.4s
Y25A **Mesa, Roswell** 32.33 305 ⇓P P 09 02 34.6 +0.4
baz=32
V26A **Tequesquite Ra** 32.35 309 ⇑P P 09 02 34.6 +0.3
baz=32,SNR=7.1
O29A **4D Ranch, Culb** 32.37 318 ⇑P P 09 02 35.2 +0.8
baz=32
224A **Cornudas Mount** 32.40 301 ⇑P P 09 02 35.5 +0.6
baz=32,SNR=18
124A **Stringfield Ra** 32.53 302 ⇑P P 09 02 37.0 +0.9
baz=32,SNR=11
S27A **Las Animas** 32.53 312 ⇓P P 09 02 36.4 +0.5
baz=33
U26A **Atchley Ranch,** 32.56 310 ⇓P P 09 02 36.5 +0.2
baz=33,SNR=7.6
W25A **X Bar L Ranch,** 32.62 307 ⇑P P 09 02 37.2 +0.4
baz=33,SNR=6.9
N29A **Votaw Ranch, W** 32.65 319 ⇑P P 09 02 37.2 +0.3
baz=33
Z24A **Sheeppen Canyo** 32.66 303 ⇓P P 09 02 38.0 +0.9
baz=33,SNR=14
P28A **Saint Francis** 32.69 316 ⇑P P 09 02 37.6 +0.3
baz=33
R27A **Eads** 32.75 313 ⇓P P 09 02 38.0 +0.2
baz=33
L30A **Spencer Herefo** 32.77 321 ⇓P P 09 02 38.4 +0.6
baz=33
T26A **Comanche Natio** 32.79 311 ⇓P P 09 02 38.3 0.0
baz=33
S26A **Kim** 32.91 312 ⇓P P 09 02 39.3 +0.1
baz=33
Y24A **Capitan** 32.91 304 ⇓P P 09 02 40.1 +0.8
baz=33,SNR=11
V25A **Rancho No Teng** 32.98 308 ⇑P P 09 02 41.0 +1.0
baz=33,SNR=14
KSCO **Kaye Shedlock'** 32.98 315 ⇓P P 09 02 40.3 +0.5
baz=33
U25A **Circle Dot Ran** 33.05 309 ⇓P P 09 02 41.3 +0.7
baz=33,SNR=6.9
N28A **Pribbeno Ranch** 33.15 318 ⇑P P 09 02 41.7 +0.4
baz=33
K30A **Basset** 33.16 323 ⇑P P 09 02 42.1 +0.8
baz=33
Z23A **Rita Site, Whi** 33.32 303 ⇑P P 09 02 43.7 +0.8
baz=33
W24A **Lazy 6 Ranch,** 33.34 307 ⇓P P 09 02 44.6 +1.4
baz=33,SNR=7.8
T25A **Trinidad** 33.36 310 ⇑P P 09 02 44.3 +0.9
baz=33,SNR=8.7
Y23A **Lovelace Mesa,** 33.40 304 ⇑P P 09 02 44.6 +1.0
baz=33,SNR=11
V24A **Rampart Ranch,** 33.43 308 ⇓P P 09 02 45.2 +1.3
baz=33
M28A **Bar X Bar Ranc** 33.45 319 ⇑P P 09 02 44.9 +1.0
baz=34
J30A **Dallas** 33.49 324 ⇑P P 09 02 45.6 +1.4
baz=34
Q26A **Hugo** 33.55 314 ⇑P P 09 02 45.7 +0.9
baz=34
S25A **Robets Cordova** 33.61 311 ⇓P P 09 02 46.0 +0.6
baz=34,SNR=6.8
222A **Williams Famil** 33.69 301 ⇑P P 09 02 47.2 +1.1
baz=34
U24A **Moreno Valley** 33.70 309 ⇑P P 09 02 47.5 +1.2
baz=34
X23A **Hourglass Bar** 33.72 305 ⇑P P 09 02 47.4 +1.0
baz=34
R25A **Fountain Ranch** 33.72 312 ⇓P P 09 02 47.0 +0.7
baz=34,SNR=7.2
W23A **Werner Place,** 33.89 306 ⇓P P 09 02 49.2 +1.3
baz=34,SNR=11
Z22A **Elephant Butte** 33.91 303 ⇓P P 09 02 49.3 +1.2
baz=34,SNR=5.2
BNM **Barren Site** 33.92 304 *e*P P 09 02 49.5 +1.3
13nm,1.0s
LPM **Los Pinos Moun** 33.97 305 *e*P P 09 02 49.9 +1.3
J29A **Okreek** 34.02 323 ⇓P P 09 02 49.5 +0.7
baz=34
T24B **San Luis** 34.04 310 ⇑P P 09 02 50.8 +1.5
baz=34,SNR=6.2
ANMO **Albuquerque** 34.05 306 *e*P P 09 02 49.9 +0.6
12nm,1.4s
ANMO **Albuquerque** 34.05 306 P P 09 02 49.7 +0.4
3.4nm,1.0s,baz=118,slow=9.4,SNR=12
O26A **Horse Wrangler** 34.06 316 ⇑P P 09 02 50.1 +0.8
baz=34
V23A **Ortiz Mt. (NFS** 34.12 307 ⇑P P 09 02 51.6 +1.7
baz=34,SNR=5.7
M27A **Reverse DX Ran** 34.15 319 ⇓P P 09 02 51.0 +1.0
baz=34
S24A **Houchin Ranch,** 34.16 311 ⇑P P 09 02 50.9 +0.6
baz=34
R24A **Sanders Place,** 34.34 312 ⇓P P 09 02 52.6 +0.8
baz=34,SNR=5.4
U23A **El Rito** 34.35 308 ⇓P P 09 02 53.5 +1.6
baz=34,SNR=8.9
121A **Cookes Peak, D** 34.36 301 *e*P P 09 02 53.3 +1.2
19nm,1.2s
121A **Cookes Peak, D** 34.36 301 ⇑P P 09 02 52.5 +0.4
baz=34
I29A **Vivian Onida** 34.39 324 ⇑P P 09 02 52.8 +0.9
baz=34
LAZ **Ladron** 34.40 304 *e*P P 09 02 53.1 +0.8
9.0nm,1.2s
SDCO **Great Sand Dun** 34.41 311 *e*P P 09 02 53.0 +0.5
10nm,1.3s
T23A **Casias Ranch,** 34.51 309 ⇑P P 09 02 54.4 +1.1
baz=34
320A **Kipp Ranch, An** 34.68 299 ⇑P P 09 02 55.8 +1.0
baz=35
Q24A **Divide** 34.69 313 ⇓P P 09 02 55.6 +0.6
baz=35
V22A **San Miguel Ran** 34.73 307 ⇑P P 09 02 56.7 +1.4
baz=35,SNR=7.1
S23A **Nye Farm, Mont** 34.75 310 ⇑P P 09 02 56.3 +0.9
baz=35
LPAZ **La Paz** 34.80 172 *e*P P 09 02 58.0 +1.7
6.6nm,1.3s
LPAZ **La Paz** 34.80 172 P P 09 02 57.6 +1.3
2.9nm,1.1s,baz=336,slow=7.0,SNR=2.7
LPAZ LR LR 09 18 10.7
comp=Z,246nm,19.1s,baz=271,slow=38
R23A **Moffat** 34.83 311 ⇑P P 09 02 57.2 +1.1
baz=35
U22A **Llaves** 34.86 308 ⇑P P 09 02 58.1 +1.8
baz=35,SNR=11
I28A **Midland** 34.87 323 ⇑P P 09 02 56.3 +0.2
baz=35
M25A **Palm-Egli Farm** 35.16 317 ⇓P P 09 02 59.5 +0.7
baz=35
AGMN **Agassiz Nation** 35.19 333 *e*P P 09 03 00.5 +1.7
7.5nm,0.9s
AGMN **Agassiz Nation** 35.19 333 ⇓P P 09 03 00.9 +2.1
baz=35
319A **Douglas** 35.32 298 ⇓P P 09 03 02.1 +1.9
baz=35,SNR=11
P23A **Jefferson** 35.35 313 ⇓P P 09 03 01.5 +0.8
baz=35
S22A **4UR Ranch, Cre** 35.37 310 ⇓P P 09 03 01.2 +0.4
baz=35,SNR=6.6
ISCO **Idaho Springs** 35.39 314 *e*P P 09 03 01.2 +0.2
13nm,1.5s
ISCO **Idaho Springs** 35.39 314 ⇑P P 09 03 01.3 +0.2
baz=35,SNR=5.7
J26A **Sides Ranch, S** 35.57 321 ⇓P P 09 03 02.6 +0.4
baz=36
M24A **Cheyenne** 35.67 317 ⇑P P 09 03 03.8 +0.5
baz=36
SMCO **Snowmass** 36.06 312 *e*P P 09 03 07.6 +0.8
7.8nm,1.0s
P22A **Eagle** 36.09 313 ⇓P P 09 03 07.3 +0.4
baz=36
N23A **Red Feather La** 36.13 315 ⇓P P 09 03 07.5 +0.2
baz=36
G27A **Dupree** 36.15 324 ⇓P P 09 03 07.5 +0.5
baz=36
H26A **Fairpoint** 36.16 323 ⇓P P 09 03 07.3 +0.1
baz=36
O22A **Kremmling** 36.20 314 ⇑P P 09 03 07.6 -0.2
baz=36
M23A **Laramie** 36.26 316 ⇓P P 09 03 08.4 +0.1
baz=36
MVCO **Mesa Verde** 36.39 308 *e*P P 09 03 09.7 +0.2
6.3nm,1.0s
MVCO **Mesa Verde** 36.39 308 ⇓P P 09 03 10.0 +0.5
baz=36
N22A **Wattenberg Ran** 36.43 315 ⇑P P 09 03 10.3 +0.5
baz=36
F27A **Lemmon** 36.51 325 ⇑P P 09 03 10.5 +0.4
baz=36
J24A **Dixon Ranch, L** 36.55 320 ⇑P P 09 03 10.7 +0.1
baz=37
L23A **Garrett** 36.56 317 ⇑P P 09 03 11.1 +0.2
baz=37,SNR=7.2
E27A **Carson** 36.62 326 ⇓P P 09 03 11.3 +0.3
baz=37
H25A **Fruitdale** 36.64 322 ⇑P P 09 03 11.0 -0.3
baz=37
SCHQ **Schefferville** 36.64 6 P P 09 03 10.2 -0.9
SCHQ **Schefferville** 36.64 6 P P 09 03 10.2 -0.9
6.3nm,1.0s,baz=193,slow=10,SNR=6.2
SCHQ LR LR 09 18 21.1
comp=Z,209nm,18.2s,baz=141,slow=37
X18A **Snowflake** 36.65 303 ⇑P P 09 03 11.2 -0.4
baz=37
ULM **Lac du Bonnet** 36.71 335 *e*P P 09 03 11.5 -0.2
11nm,1.1s
ULM **Lac du Bonnet** 36.71 335 P P 09 03 10.7 -1.1
8.4nm,0.9s,baz=146,slow=9.9,SNR=4.0
A30A **Hoffart Farm,** 36.75 332 ⇑P P 09 03 12.7 +0.7
baz=37,SNR=7.4
TUC **Tucson** 36.77 300 *e*P P 09 03 13.2 +0.6
4.6nm,1.0s
PV01 **Paradox Valley** 36.79 310 *e*P P 09 03 13.0 +0.1
M22A **Cedar Creek Ra** 36.80 316 ⇑P P 09 03 12.6 -0.4
baz=37
F26A **Lodgepole** 36.85 325 ⇓P P 09 03 13.1 +0.1
baz=37
G25A **Newell** 36.87 323 ⇑P P 09 03 13.1 -0.1
baz=37,SNR=5.5
A29A **Manning Farm,** 37.16 331 ⇑P P 09 03 16.2 +0.6
baz=37,SNR=5.2
O20A **White River Ci** 37.35 313 *e*P P 09 03 19.1 +1.5
6.6nm,0.8s
O20A **White River Ci** 37.35 313 ⇑P P 09 03 17.9 +0.3
baz=37
K22A **Casper** 37.36 318 *e*P P 09 03 18.1 +0.5
4.4nm,0.6s
K22A **Casper** 37.36 318 ⇑P P 09 03 17.6 0.0
baz=37
C26A **Wahner Farm, P** 37.80 327 ⇑P P 09 03 20.9 -0.2
baz=38
X16A **Lo Mia Camp, P** 37.81 303 ⇓P P 09 03 22.5 +1.0
baz=38
K21A **Alcova** 37.82 317 ⇑P P 09 03 21.9 +0.4
baz=38,SNR=12
F24A **Ekalaka** 37.84 323 ⇑P P 09 03 21.8 +0.3
baz=38
I22A **9 Ranch,** 37.97 319 ⇑P P 09 03 22.6 -0.1
baz=38,SNR=5.9
WUAZ **Wupatki** 38.05 304 *e*P P 09 03 24.6 +1.1
9.5nm,1.0s
WUAZ **Wupatki** 38.05 304 ⇑P P 09 03 24.6 +1.1
baz=38
J21A **Lysite** 38.29 318 ⇓P P 09 03 25.8 +0.3
baz=38,SNR=7.4
F23A **Volborg** 38.31 323 ⇑P P 09 03 24.9 -0.5
baz=38
I21A **Big Trails, Te** 38.43 319 ⇑P P 09 03 26.0 -0.5
baz=38,SNR=6.3
G22A **Birney** 38.55 321 ⇑P P 09 03 27.9 +0.4
baz=39
H21A **Big Horn, Sher** 38.69 320 ⇑P P 09 03 29.2 +0.4
baz=39
J20A **Shoshoni** 38.70 318 ⇑P P 09 03 29.4 +0.6
baz=39
F22A **Rosebud** 38.84 322 ⇑P P 09 03 30.0 +0.1
baz=39
Y14A **Wickenburg** 38.95 301 ⇓P P 09 03 31.8 +0.9
baz=39
I20A **Worland** 39.02 318 ⇓P P 09 03 31.4 -0.1
baz=39
U15A **North Rim** 39.02 306 ⇓P P 09 03 32.9 +1.1
baz=39,SNR=8.1
E22A **Miles City** 39.03 323 ⇓P P 09 03 31.7 +0.2
baz=39
G21A **Lodge Grass** 39.10 321 ⇓P P 09 03 31.8 -0.4
baz=39
H20A **Greybull** 39.21 319 ⇑P P 09 03 32.4 -0.6
baz=39
J19A **Crowheart** 39.28 317 ⇑P P 09 03 33.8 0.0
baz=39,SNR=6.1
PDAR **Pinedale Array** 39.39 316 P P 09 03 34.6 -0.1
PDAR PcP PcP 09 05 42.1 -0.7
PDAR **Pinedale Array** 39.39 316 P P 09 03 34.6 -0.1
2.4nm,1.1s,baz=123,slow=8.8,SNR=11
PDAR PcP PcP 09 05 42.1 -0.7
1.5nm,0.9s,baz=120,slow=5.3,SNR=5.0
C23A **Lambert** 39.41 325 ⇑P P 09 03 35.4 +0.8
baz=39
A24A **Westby** 39.48 328 ⇑P P 09 03 36.2 +1.0
baz=40
D22A **Cohagen** 39.57 324 ⇓P P 09 03 36.7 +0.8
baz=40
DAU **Daniels Canyon** 39.58 312 *e*P P 09 03 37.5 +1.1
I19A **Meeteetse** 39.61 318 ⇑P P 09 03 36.3 -0.3
baz=40,SNR=8.6
MPU **Maple Canyon** 39.70 311 *e*P P 09 03 37.7 +0.4
7.8nm,1.2s
B23A **Brockton** 39.70 326 ⇓P P 09 03 38.4 +1.4
baz=40
H19A **Powell** 39.91 319 ⇑P P 09 03 39.8 +0.8
baz=40
W13A **Hualapai Mount** 39.92 303 ⇑P P 09 03 40.6 +1.3
baz=40
F20A **Billings** 39.97 321 ⇑P P 09 03 39.3 0.0
baz=40
NLU **North Lily Min** 39.99 311 *e*P P 09 03 39.5 -0.3
9.8nm,1.3s
CTU **Camp Tracy** 40.03 312 *e*P P 09 03 40.6 +0.6
12nm,1.4s
CCUT **Cedar City** 40.17 307 *e*P P 09 03 42.1 +0.8
4.7nm,1.0s
ARUT **Antelope Range** 40.29 307 *e*P P 09 03 43.1 +0.8
149nm,0.9s
RLMT **Red Lodge** 40.31 319 *e*P P 09 03 41.9 -0.4
28nm,1.5s
E20A **Meyer Farm, Mu** 40.33 322 ⇓P P 09 03 42.7 +0.4
baz=40
H18A **Shoshone NF, C** 40.34 319 ⇓P P 09 03 42.1 -0.5
baz=40,SNR=7.1
LOHW **Long Hollow** 40.45 317 *e*P P 09 03 44.1 +0.6
9.4nm,0.9s
F19A **Roth Farm, Mol** 40.47 321 ⇑P P 09 03 43.6 +0.1
baz=40
REDW **Red Top Meadow** 40.50 316 *e*P P 09 03 44.1 +0.1
43nm,1.4s
I17A **Pilgrim Ck.** 40.57 317 ⇑P P 09 03 44.9 +0.4
baz=41
MOOW **Moose Ponds** 40.60 317 *e*P P 09 03 45.1 +0.4
8.7nm,0.9s
DUG **Dugway** 40.61 311 *e*P P 09 03 45.4 +0.6
7.6nm,1.1s
DUG **Dugway** 40.61 311 ⇓P P 09 03 45.3 +0.6
baz=41,SNR=6.0
TPAW **Teton Pass** 40.62 316 *e*P P 09 03 45.5 +0.5
10.0nm,1.2s
E19A **Rath Farm, Rou** 40.69 322 ⇑P P 09 03 45.8 +0.5
baz=41
FXWY **Fox Creek** 40.73 317 *e*P P 09 03 46.3 +0.4
11nm,1.2s
IRM **Iron Mountain** 40.74 301 ⇑P P 09 03 46.6 +0.8
baz=41,SNR=5.7
IMW **Indian Meadow** 40.79 317 *e*P P 09 03 46.8 +0.4
7.1nm,1.2s
BC3 **Big Chuckawall** 40.89 300 ⇑P P 09 03 47.9 +0.7
baz=41
BGU **Big Grassy Mou** 41.02 312 *e*P P 09 03 48.3 +0.1
5.1nm,1.2s
A21A **Bergtoll Ranch** 41.04 326 ⇑P P 09 03 49.5 +1.3
baz=41
D19A **Cripps Ranch,** 41.11 322 ⇓P P 09 03 49.2 +0.4
baz=41
SHPR **Sheep Range** 41.27 305 *e*P P 09 03 52.2 +1.9
GMRC **Granite Mounta** 41.28 302 ⇓P P 09 03 50.8 +0.4
baz=41
B20A **Solberg Farm,** 41.32 324 ⇓P P 09 03 51.7 +1.3
baz=41
A20A **Cobblestone Ra** 41.52 325 ⇓P P 09 03 53.3 +1.3
baz=42
QLMT **Earthquake Lak** 41.52 318 *e*P P 09 03 53.9 +1.6
TUQ **Turquoise Moun** 41.63 303 ⇓P P 09 03 54.0 +0.8
baz=42,SNR=5.4
BDFB **Brasilia** 41.75 143 P P 09 03 54.3 0.0
BDFB **Brasilia** 41.75 143 P P 09 03 54.3 0.0
7.6nm,1.0s,baz=333,slow=8.6,SNR=6.3
B19A **Brinkman Farms** 41.84 324 ⇓P P 09 03 55.3 +0.6
baz=42
A19A **Klindworth Far** 41.99 325 ⇑P P 09 03 57.1 +1.1
baz=42
R11A **Troy Canyon, C** 42.08 307 *e*P P 09 03 58.1 +1.2
6.8nm,1.4s
R11A **Troy Canyon, C** 42.08 307 ⇑P P 09 03 57.7 +0.7
baz=42,SNR=5.5
TPNV **Topopah Spring** 42.23 305 *e*P P 09 04 00.3 +2.1
8.3nm,1.0s
TPNV **Topopah Spring** 42.23 305 ⇓P P 09 03 59.7 +1.5
baz=42,SNR=5.7
GSC **Goldstone** 42.30 302 ⇑P P 09 03 59.8 +1.1
baz=42
MURC **Murrieta** 42.31 300 ⇑P P 09 03 59.5 +0.8
baz=42
MCMT **McKenzie Canyo** 42.43 317 *e*P P 09 04 00.7 +0.9
6.6nm,1.3s
ELK **Elko** 42.53 311 *e*P P 09 04 01.4 +0.7
2.8nm,0.8s
FURC **Furnace Creek,** 42.59 304 ⇓P P 09 04 02.3 +1.4
baz=43
HLID **Hailey** 42.95 315 *e*P P 09 04 04.1 +0.2
4.0nm,1.0s
HLID **Hailey** 42.95 315 ⇑P P 09 04 04.9 +1.0
baz=43
MPMC **Manual Prospec** 43.00 303 ⇑P P 09 04 05.2 +0.7
baz=43
LRMC **Laurel Mountai** 43.05 303 ⇑P P 09 04 05.5 +0.7
baz=43
EDW2 **Edwards Air Fo** 43.17 302 ⇑P P 09 04 06.6 +0.8
baz=43
FCC **Fort Churchill** 43.19 344 *e*P P 09 04 04.2 -1.1
0.1nm,0.8s
TPH **Tonopah** 43.25 306 *e*P P 09 04 08.0 +1.5
8.5nm,0.9s
MFID **Camas Ranch** 43.85 314 *e*P P 09 04 11.3 +0.2
5.5nm,1.3s
ARVC **Arvin** 43.90 302 ⇓P P 09 04 12.9 +1.4
baz=44
NV11 **Mina Array Sit** 44.05 307 *e*P P 09 04 13.8 +1.0
NVAR **Mina Array Bea** 44.16 307 P P 09 04 14.8 +0.9
NVAR **Mina Array Bea** 44.16 307 P P 09 04 14.8 +0.9
2.8nm,0.8s,baz=97,slow=7.5,SNR=22
VES **Vestal, Richgr** 44.23 303 ⇑P P 09 04 15.3 +1.2
baz=44
RCTC **Rector, Farmer** 44.44 303 ⇑P P 09 04 17.3 +1.5
baz=44
WVOR **Wild Horse Val** 45.48 312 *e*P P 09 04 24.2 0.0
5.9nm,0.9s
J08A **Circle Bar Ran** 45.65 313 *e*P P 09 04 25.6 +0.1
24nm,1.6s
MOD **Modoc** 46.52 311 *e*P P 09 04 32.1 -0.3
5.4nm,1.0s
NEW **Newport** 46.55 320 *e*P P 09 04 31.7 -0.7
15nm,1.4s
NEW **Newport** 46.55 320 P P 09 04 31.9 -0.5
4.6nm,1.0s,baz=124,slow=5.1,SNR=6.6
NEW LR LR 09 24 17.1
comp=Z,99nm,18.8s,baz=286,slow=36
NEW **Newport** 46.55 320 ⇑P P 09 04 32.2 -0.2
baz=47,SNR=5.1
EDM **Edmonton** 46.77 328 *e*P P 09 04 33.8 -0.3
M04C **Macdoel** 47.60 310 ⇑P P 09 04 41.2 +0.3
baz=48
G06A **Carlson Farm,** 47.71 315 *e*P P 09 04 43.2 +1.7
65nm,1.8s
YBH **Yreka Blue Hor** 48.22 310 P P 09 04 43.3 -2.3
YBH **Yreka Blue Hor** 48.22 310 P P 09 04 43.3 -2.3
3.8nm,0.8s,baz=126,slow=8.0,SNR=7.8
H04A **Detroit Lake** 48.60 314 *e*P P 09 04 49.6 +1.2
39nm,1.3s
YKA **Yellowknife Ar** 52.63 337 P P 09 05 17.8 -0.7
YKA **Yellowknife Ar** 52.63 337 P P 09 05 17.8 -0.7
2.9nm,0.8s,baz=124,slow=7.5,SNR=53
DLBC **Dease Lake** 57.47 328 *e*P P 09 05 54.5 +0.9
DLBC **Dease Lake** 57.47 328 P P 09 05 54.3 +0.6
8.4nm,0.8s,baz=111,slow=4.8,SNR=16
SUMG **Summit** 57.62 12 *e*P P 09 05 55.0 +0.2
14nm,1.1s
PLCA **Paso Flores** 58.88 178 P P 09 06 03.4 -0.2
PLCA **Paso Flores** 58.88 178 P P 09 06 03.4 -0.2
2.3nm,0.9s,baz=20,slow=11,SNR=3.8
PLCA LR LR 09 30 56.9
comp=Z,170nm,19.5s,baz=292,slow=36
INK **Inuvik** 62.33 339 *e*P P 09 06 28.7 +2.0
16nm,1.7s
INK **Inuvik** 62.33 339 P P 09 06 27.4 +0.7
2.6nm,1.1s,baz=113,slow=5.8,SNR=3.5
ESDC **Sonseca Array** 62.37 54 P P 09 06 27.1 -0.5
ESDC **Sonseca Array** 62.37 54 P P 09 06 27.1 -0.5
0.6nm,0.4s,baz=274,slow=8.0,SNR=6.0
ESDC LR LR 09 28 37.8
comp=Z,84nm,19.3s,baz=270,slow=31
EKA **Eskdalemuir Ar** 63.51 37 P P 09 06 34.6 -0.2
EKA **Eskdalemuir Ar** 63.51 37 P P 09 06 34.6 -0.2
1.2nm,0.6s,baz=282,slow=8.3,SNR=3.7
BMRM **Bremner River** 65.22 329 *e*P P 09 06 47.2 +1.2
26nm,1.3s
ILAR **Eielson Array** 66.70 333 P P 09 06 54.8 -0.6
ILAR **Eielson Array** 66.70 333 P P 09 06 54.8 -0.6
1.4nm,0.9s,baz=94,slow=4.9,SNR=17
ILAR LR LR 09 37 50.3
comp=Z,117nm,19.2s,baz=344,slow=38
DBIC **Dimbokro** 67.06 90 LR LR 09 31 03.9
comp=Z,88nm,21.3s,baz=265,slow=31
MCK **McKinley** 67.50 332 *e*P P 09 07 00.4 -0.1
4.5nm,0.8s
COLD **Coldfoot** 68.28 336 *e*P P 09 07 06.1 +0.8
4.5nm,1.0s
NOA **NORSAR Array B** 71.21 31 P P 09 07 21.8 -1.7
NOA **NORSAR Array B** 71.21 31 P P 09 07 21.8 -1.7
1.5nm,1.0s,baz=274,slow=6.0,SNR=2.7
NOA LR LR 09 34 17.7
comp=Z,38nm,19.9s,baz=270,slow=32
TORD **Torodi Ar. Bea** 71.48 82 P P 09 07 25.0 -0.9
TORD **Torodi Ar. Bea** 71.48 82 P P 09 07 25.0 -0.9
2.1nm,1.0s,baz=290,slow=5.7,SNR=8.0
TORD LR LR 09 37 11.1
comp=Z,81nm,18.8s,baz=280,slow=34
DAVOX **Davos/Dischmat** 71.89 46 LR LR 09 32 37.0
comp=Z,121nm,20.6s,baz=70,slow=30
RETA **Reutte** 72.39 45⇓*i*P P P 09 07 32.2 +1.2
7.0nm,1.0s
FETA **Feichten** 72.44 45⇓*i*P P P 09 07 32.8 +1.5
6.2nm,1.2s
MOTA **Moosalm** 72.64 45⇑*i*P P 09 07 33.6 +1.0
7.1nm,1.0s
CLL **Collm** 73.28 41 *i* P P 09 07 36.7 +0.6
comp=Z,9.0nm,1.3s
KEST **Kesra** 73.29 57 P P 09 07 36.9 +0.4
KEST **Kesra** 73.29 57 P P 09 07 36.9 +0.4
comp=Z,3.5nm,1.0s,baz=297,slow=6.8,SNR=3.2
KHC **Kasperske Hory** 74.00 43 *e*P P 09 07 40.7 +0.3
GERES **GERESS Array B** 74.12 43 P P 09 07 41.5 +0.4
GERES **GERESS Array B** 74.12 43 P P 09 07 41.5 +0.4
comp=Z,3.7nm,0.8s,baz=282,slow=4.7,SNR=23
GERES LR LR 09 34 42.9
comp=Z,164nm,18.1s,baz=72,slow=31
PRU **Pruhonice** 74.47 42 *e*P P 09 07 44.2 +1.2
MOA **Molln** 74.67 44⇓*i*P P 09 07 45.1 +0.8
comp=Z,4.6nm,0.8s
DPC **Dobruska-Polom** 75.52 41 *e*P P 09 07 50.3 +1.1
DPC *e*pP pP 09 07 55.3 -0.6
ARCES **ARCESS Array B** 75.79 21 P P 09 07 50.4 +0.1
ARCES **ARCESS Array B** 75.79 21 P P 09 07 50.4 +0.1
comp=Z,1.3nm,0.7s,baz=294,slow=6.1,SNR=3.8
ARCES LR LR 09 35 40.7
comp=Z,84nm,19.3s,baz=32,slow=31
VRAC **Vranov** 75.91 42 LR LR 09 36 00.3
comp=Z,174nm,20.5s,baz=264,slow=32
FINES **FINESS Array B** 78.19 29 P P 09 08 02.5 -1.4
FINES **FINESS Array B** 78.19 29 P P 09 08 02.5 -1.4
comp=Z,1.8nm,0.8s,baz=287,slow=5.7,SNR=4.6

FINES				LR	LR	09 35 28.9		
	comp=Z,107nm,21.8s,baz=274,slow=30							
STHS	**Stebnicka Huta**	**78.84**	**42**	*e*P	**P**	**09 08 09.5**	**+1.7**	
CRVS	**Cervenica-Dubn**	**79.11**	**42**	*e*P	**P**	**09 08 11.7**	**+2.4**	
MLR	**Muntele Rosu**	**83.04**	**44**	P	**P**	**09 08 31.3**	**+0.8**	
MLR	**Muntele Rosu**	**83.04**	**44**	P	**P**	**09 08 31.3**	**+0.8**	
	comp=Z,1.5nm,0.8s,baz=193,slow=3.1,SNR=7.9							
MLR				LR	LR	09 41 59.0		
	comp=Z,25nm,19.9s,baz=62,slow=33							
AKASG	**Malin Array Be**	**83.33**	**39**	LR	LR	09 40 20.4		
	comp=Z,101nm,19.1s,baz=260,slow=32							
OBN	**Obninsk**	**85.66**	**33**	LR	LR	09 45 44.9		
	comp=Z,74nm,19.4s,baz=89,slow=35							
BRTR	**Keskin Array B**	**90.45**	**48**	P	**P**	**09 09 06.1**	**-0.7**	
BRTR	**Keskin Array B**	**90.45**	**48**	P	**P**	**09 09 06.1**	**-0.7**	
	comp=Z,0.6nm,0.8s,baz=299,slow=3.0,SNR=3.3							
BRTR				LR	LR	09 42 23.9		
	comp=Z,31nm,19.5s,baz=100,slow=31							
GNI	**Garni**	**97.78**	**43**	LR	LR	09 50 49.4		
	comp=Z,63nm,21.9s,baz=285,slow=34							
AKTO	**Aktyubinsk**	**98.96**	**29**	LR	LR	09 55 36.7		
	comp=Z,55nm,18.2s,baz=127,slow=36							
KSH	**Kashi**	**115.42**	**26**	*e*PKP	**PKPdf**	**09 14 51.3**	**+4.3**	
KSH				*e*PP	PP	09 15 57.8	+10	
KSH				*e*SKS	**SKSdf**	**09 21 58.1**	**-0.3**	
KSH				*e*SKKS	**SKKSac**	**09 22 46.1**	**-2.9**	
KSH				*e*SS	SS	09 31 52.0	+7.8	
WMQ	**Urumqi**	**115.55**	**16**	PKP	**PKPdf**	**09 14 48.8**	**+1.7**	
HHC	**Hu-ho-hao-te**	**120.90**	**356**	*e*PKP	**PKPdf**	**09 14 53.6**	**-3.9**	
HHC				sPKP		09 15 06.9		
HHC				PP	**PP**	**09 16 26.8**	**+2.0**	
HHC				AMB	AMB			
	comp=Z,19nm,3.3s							
HHC	**Hu-ho-hao-te**	**120.90**	**356**	*e*PKP	**PKPdf**	**09 14 54.8**	**-2.7**	
HHC				PP	**PP**	**09 16 26.3**	**+1.5**	
HHC				SKS	**SKSdf**	**09 22 05.8**	**-2.9**	
HHC				SKKS	**SKKSac**	**09 23 24.0**	**-1.0**	
HHC				SS	**SS**	**09 32 53.0**	**-1.4**	
LZH	**Lanzhou**	**125.70**	**3**	*e*PKP	**PKPdf**	**09 15 05.0**	**-1.9**	
LZH				sPKP		09 15 11.8		
KMI	**Kunming**	**136.51**	**6**	PKP	**PKPdf**	**09 15 28.4**	**+0.7**	
STKA	**Stephens Creek**	**146.22**	**240**	PKPbc	**PKPdf**	**09 15 44.8**	**+0.2**	
STKA	**Stephens Creek**	**146.22**	**240**	PKPbc	**PKPdf**	**09 15 44.8**	**+0.2**	
	comp=Z,3.4nm,0.8s,baz=99,slow=3.9,SNR=7.1							
WRA	**Warramunga Arr**	**154.29**	**262**	PKP	**PKPdf**	**09 15 57.2**	**-0.2**	
WRA				PKPbc	**PKPbc**	**09 16 04.4**	**-1.3**	
WRA	**Warramunga Arr**	**154.29**	**262**	PKP	**PKPdf**	**09 15 57.2**	**-0.2**	
	comp=Z,2.2nm,1.0s,baz=86,slow=1.6,SNR=9.7							
WRA				PKPbc	**PKPbc**	**09 16 04.4**	**-1.3**	
	comp=Z,3.5nm,0.9s,baz=86,slow=1.6,SNR=15							
ASAR	**Alice Springs**	**154.52**	**254**	PKP	**PKPdf**	**09 15 56.8**	**-1.0**	
ASAR				PKPbc	**PKPbc**	**09 16 05.0**	**-1.2**	
ASAR	**Alice Springs**	**154.52**	**254**	PKP	**PKPdf**	**09 15 56.8**	**-1.0**	
	comp=Z,0.4nm,0.8s,baz=90,slow=1.9,SNR=4.1							
ASAR				PKPbc	**PKPbc**	**09 16 05.0**	**-1.2**	
	comp=Z,1.1nm,0.8s,baz=106,slow=1.8,SNR=8.2							

*ISCJB **15** 08:59:10.5±0.9, 53°.32N±0°.07×159°.55W±0°.07, h33km, mb3.3/2, Error ellipse: s-maj=9.6km s-min=5.4km az=166.9*

*IDC **15** 08:59:11.0±3.2, 53°.53N×159°.66W, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/30, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=69.5km s-min=27.3km az=151.0*

*NEIC **15** 08:59:13.3, 53°.41N×159°.67W, h19km, ML3.2(AEIC), After AEIC.*

ISC 15 08:59:13.4±1.5, 53°.37N±0°.10×159°.57W±0°.06, h35km, n24, σ1§16/29, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**2.06**	**345**	P	**Pn**	**08 59 44.5**	**-0.9**
SDPT				S	**Sn**	**09 00 09.8**	**0.0**
DOL	**Dolgoi Island**	**2.23**	**324**	P	**Pn**	**08 59 46.4**	**-1.5**
DOL				S	**Sn**	**09 00 12.9**	**-1.4**
DT1	**Dutton Round H**	**2.36**	**319**	P	**Pn**	**08 59 48.6**	**-1.1**
DTNA	**Dutton South F**	**2.38**	**320**	P	**Pn**	**08 59 49.1**	**-0.8**
HAG	**Hague Volcano**	**2.38**	**326**	P	**Pn**	**08 59 49.4**	**-0.6**
PS4A	**Pavlof South-4**	**2.39**	**327**	P	**Pn**	**08 59 49.3**	**-0.7**
PS4A				S	**Sn**	**09 00 18.8**	**+0.6**
PVV	**Pavlof Volcano**	**2.39**	**328**	P	**Pn**	**08 59 49.1**	**-1.0**
VNHG	**Veniaminof 1**	**2.87**	**5**	P	**Pn**	**08 59 56.4**	**-0.3**
SSLW	**Shishaldin Wes**	**3.03**	**299**	P	**Pn**	**08 59 57.3**	**-1.6**
SSBA	**Shishaldin**	**3.03**	**299**	P	**Pn**	**08 59 58.9**	**0.0**
SSBA				S	**Sn**	**09 00 34.6**	**+0.6**
AKGG	**Akutan Green G**	**3.90**	**285**	P	**Pn**	**09 00 10.1**	**-0.7**
UNV	**Unalaska Valle**	**4.16**	**279**	P	**Pn**	**09 00 13.3**	**-1.0**
UNV				S	**Sn**	**09 01 00.4**	**-1.2**
MREP	**Makushin Rep't**	**4.30**	**279**	P	**Pn**	**09 00 15.7**	**-0.7**
MSW	**Makushin Switc**	**4.33**	**280**	P	**Pn**	**09 00 16.2**	**-0.5**
MSW				S	**Sn**	**09 01 04.2**	**-1.7**
MSOM	**Makushin Julie**	**4.42**	**279**	P	**Pn**	**09 00 16.8**	**-1.1**
OHAK	**Old Harbor**	**5.27**	**40**	P	**Pn**	**09 00 27.4**	**-2.2**
KABR	**Katmai Barrier**	**5.43**	**27**	P	**Pn**	**09 00 30.5**	**-1.4**
KELA	**Mount Kelaz**	**5.52**	**21**	P	**Pn**	**09 00 32.1**	**-1.0**
KVTA	**Katmai Vly 10**	**5.57**	**24**	P	**Pn**	**09 00 32.5**	**-1.2**
KDAK	**Kodiak Island**	**5.94**	**39**	P	**Pn**	**09 00 38.1**	**-0.6**
ILAR	**Eielson Array**	**13.13**	**24**	Pn	Pn	09 02 13.0	-4.1
	0.0nm,0.3s,baz=219,slow=13,SNR=3.0						
ILAR				Sn	Sn	09 04 29.1	-13
	0.0nm,0.3s,baz=213,slow=9.7,SNR=3.1						
INK	**Inuvik**	**19.38**	**29**	P	**Pn**	**09 03 38.3**	**+1.2**
	0.2nm,0.3s,baz=255,slow=5.8,SNR=6.5						
YKA	**Yellowknife Ar**	**25.05**	**51**	P	**P**	**09 04 35.0**	**+1.0**
	0.3nm,0.8s,baz=269,slow=9.9,SNR=3.3						
PETK	**Petropavlovsk-**	**25.30**	**287**	P	**P**	**09 04 37.8**	**+1.5**
	1.9nm,0.7s,baz=84,slow=13,SNR=4.7						

*IDC **15** 09:00:05.5±3.3, 52°.20N×35°.84E, h0km, mb1 3.5/2, mb1mx3.2/25, mbtmp3.4/2, ML2.7/3, Error ellipse: s-maj=37.9km s-min=14.3km az=114.0*

ISC 15 09:00:03.9±2.2, 52°.4N±0°.1×36°.0E±0°.1, h10km, n8, σ2§43/7, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBN	**Obninsk**	**2.79**	**7**	Lg	Lg	09 01 34.6	
	7.5nm,0.3s,baz=173,slow=23,SNR=9.8						
I43RU	**DUBNA INFRASON**	**4.44**	**9**	*i*		09 28 00.0	
	baz=193,slow=334,SNR=0.3						
AKASG	**Malin Array Be**	**4.53**	**251**	Pn	**Pn**	**09 01 12.2**	**-0.2**
	0.4nm,0.3s,baz=64,slow=16,SNR=3.7						
AKASG				Pg	**Pb**	**09 01 22.7**	**-0.6**
	0.9nm,0.3s,baz=62,slow=19,SNR=5.4						
AKASG				Lg	Lg	09 02 24.6	
	3.7nm,0.3s,baz=65,slow=29,SNR=7.0						
MICGM	**Minsk**	**5.29**	**297**	*e*	**Sb**	**09 02 40.0**	**0.0**
NACGM	**Naroch**	**6.03**	**299**	*e*	**Sb**	**09 03 04.0**	**+2.8**
FINES	**FINESS Array B**	**10.58**	**333**	Pn	**Pn**	**09 02 34.6**	**-0.8**
	0.0nm,0.3s,baz=150,slow=14,SNR=4.9						
FINES				Sn	**Sn**	**09 04 31.1**	**-2.7**
	0.1nm,0.3s,baz=157,slow=22,SNR=4.0						
I31KZ	**AKTYUBINSK INF**	**13.91**	**89**	*i*		10 22 10.0	
	baz=286,slow=309,SNR=1.5						
ARCES	**ARCESS Array B**	**17.92**	**348**	P	**P**	**09 04 16.2**	**+2.8**
	0.2nm,0.3s,baz=164,slow=10,SNR=7.0						

*IDC **15** 09:01:00.1±0.8, 43°.72N×86°.73E, h0km, mb3.7/13, mb1 3.9/18, mb1mx3.8/36, mbtmp3.8/18, ML3.6/5, MS2.8/2, Ms1 2.8/2, ms1mx2.5/50, Error ellipse: s-maj=23.4km s-min=13.4km az=38.0*

*ISCJB **15** 09:01:01.4±0.5, 43°.88N±0°.06×86°.60E±0°.05, h10km, mb3.7/12, Error ellipse: s-maj=9.7km s-min=4.1km az=23.2*

*NNC **15** 09:01:02.0±1.7, 43°.84N×86°.85E, h5km±9km, mb4.0, mpv3.8, Error ellipse: s-maj=13.3km s-min=8.3km az=67.0*

*BJI **15** 09:01:04.0, 43°.76N×86°.73E, h6km, mb3.9/3, ML3.9/11, Ms3.5/2, Ms7 3.4/1*

ISC 15 09:01:02.9±0.7, 43°.82N±0°.09×86°.63E±0°.05, h10km, n30, σ1§63/32, mb3.9/12, 9C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.77**	**89**	Pg	**Pb**	**09 01 18.8**	**+0.4**
WMQ				Sg	**Sb**	**09 01 28.6**	**-0.4**
WMQ				smax	smax		
	comp=N,2μm,0.7s						
WMQ				smax	smax		
	comp=E,1μm,0.5s						
MK31	**Makanchi Array**	**4.27**	**316**	⇓Pn	**Pn**	**09 02 10.4**	**+2.4**
	2.9nm,0.2s,baz=133,slow=14,SNR=399						
MK31				⇑Sn	**Sn**	**09 03 01.4**	**+3.6**
	8.6nm,0.3s,baz=130,slow=26,SNR=4.0						
MK31				⇑Lg	Lg	09 03 20.1	
	105nm,0.7s,baz=129,slow=39,SNR=12						
MKAR	**Makanchi Array**	**4.27**	**316**	Pn	**Pn**	**09 02 10.5**	**+2.6**
	5.6nm,0.3s,baz=141,slow=14,SNR=260						
MKAR				Sn	**Sn**	**09 02 58.1**	**+0.2**
	9.1nm,0.3s,baz=132,slow=25,SNR=5.7						
MKAR				Lg	Lg	09 03 17.9	
	20nm,0.3s,baz=138,slow=29,SNR=5.7						
TKM2	**Tokmak 2**	**8.09**	**267**	⇓Pn	**Pn**	**09 03 02.7**	**+2.1**
	2.1nm,0.6s						
TKM2				⇑Lg	Lg	09 05 24.2	
	18nm,0.8s						
KURBB	**Kurchatov Arra**	**8.76**	**324**	Pn	**Pn**	**09 03 09.7**	**+0.3**
	2.4nm,0.3s,baz=132,slow=13,SNR=67						
KURBB				Lg	Lg	09 05 34.2	
	1.8nm,0.3s,baz=140,slow=29,SNR=7.5						
KURK	**Kurchatov**	**8.79**	**325**	⇑Pn	**Pn**	**09 03 10.2**	**+0.3**
	6.0nm,0.6s						
KURK				⇑Sn	**Sn**	**09 04 51.5**	**+2.6**
	8.6nm,0.6s						
KURK				⇑Lg	Lg	09 05 42.7	
	42nm,1.3s						
AAK	**Ala-Archa**	**8.94**	**267**	⇓Pn	**Pn**	**09 03 14.1**	**+2.0**
	3.4nm,1.0s						
AAK				⇓Lg	Lg	09 05 52.0	
	14nm,0.7s						
AAK	**Ala-Archa**	**8.94**	**267**	Pn	**Pn**	**09 03 11.6**	**-0.6**
	0.1nm,0.3s,baz=34,slow=15,SNR=1.6						
AAK				Lg	Lg	09 05 39.9	
	0.2nm,0.3s,baz=127,slow=18,SNR=1.8						
AAK				LR	LR	09 07 09.9	
	comp=Z,34nm,21.4s,baz=72,slow=41						
ZALV	**Zalesovo Beam**	**10.21**	**354**	Pn	**Pn**	**09 03 29.1**	**-0.2**
	1.1nm,0.3s,baz=176,slow=13,SNR=50						
ZALV				Sn	**Sn**	**09 05 22.0**	**-1.8**
	1.4nm,0.3s,baz=170,slow=24,SNR=4.8						
ZALV				Lg	Lg	09 06 30.3	
	0.2nm,0.3s,baz=176,slow=29,SNR=2.7						
GTA	**Gaotai**	**10.81**	**110**	*e*P	Pn	09 03 40.9	+3.2
GTA				pP		09 03 44.3	
GTA				sP		09 03 47.0	
GTA				S	**Sn**	**09 05 42.9**	**+4.2**
GTA				sS		09 05 47.9	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				LR	LR		
	comp=N,190nm,9.3s						
GTA				LR	LR		
	comp=E,160nm,8.3s						
GTA				LR	LR		
	comp=Z,160nm,8.3s						
KK31	**Karatay Array**	**11.74**	**272**	⇓Lg	Lg	09 07 19.7	
	4.5nm,0.8s						
BVA0	**Borovoye Array**	**14.15**	**316**	⇑Pn	**Pn**	**09 04 23.7**	**+0.5**
	2.6nm,0.6s,baz=123,slow=14,SNR=7.5						
BVA0				⇑Lg	Lg	09 08 35.2	
	11nm,1.1s,baz=105,slow=25,SNR=4.5						
BVAR	**Borovoye Array**	**14.15**	**316**	Pn	Pn	09 04 22.3	-1.0
	0.4nm,0.3s,baz=121,slow=15,SNR=7.2						
BVAR				Sn	Sn	09 06 55.0	-5.2
	0.3nm,0.3s,baz=123,slow=23,SNR=4.3						
BVAR				Lg	Lg	09 08 23.9	
	0.3nm,0.3s,baz=123,slow=26,SNR=2.6						
BVAR				LR	LR	09 10 35.6	
	comp=Z,60nm,21.0s,baz=63,slow=40						
BRVK	**Borovoye**	**14.23**	**316**	⇓Pn	**Pn**	**09 04 23.6**	**-0.6**
	6.7nm,0.7s						
BRVK				⇑Lg	Lg	09 08 37.4	
	12nm,0.9s						
SONM	**Songino Array**	**14.35**	**67**	Pn	**Pn**	**09 04 27.0**	**+0.9**
	0.4nm,0.3s,baz=263,slow=12,SNR=5.9						
SONM				Lg	Lg	09 08 27.1	
	baz=263,slow=24,SNR=4.1						
AB31	**Akbulak array**	**19.10**	**296**	Pn	**P**	**09 05 27.0**	**+1.4**
	0.6nm,0.2s,baz=96,slow=12,SNR=19						
AKTO	**Aktyubinsk**	**20.48**	**299**	⇓Pn	Pn	09 05 43.9	+1.1
	1.7nm,0.6s						
AKTO	**Aktyubinsk**	**20.48**	**299**	P	**P**	**09 05 41.4**	**+0.8**
	1.6nm,0.6s,baz=103,slow=13,SNR=7.5						
AKASG	**Malin Array Be**	**38.70**	**301**	P	**P**	**09 08 26.2**	**-0.5**
	0.6nm,0.5s,baz=93,slow=8.1,SNR=3.6						
BRTR	**Keskin Array B**	**39.17**	**283**	P	**P**	**09 08 31.3**	**+0.3**
	0.3nm,0.7s,baz=67,slow=4.8,SNR=2.7						
ARCES	**ARCESS Array B**	**39.76**	**331**	P	**P**	**09 08 35.2**	**0.0**
	1.5nm,0.6s,baz=90,slow=8.1,SNR=7.4						
HFS	**Hagfors**	**45.28**	**318**	P	**P**	**09 09 19.3**	**-1.0**
	1.0nm,0.5s,baz=74,slow=5.1,SNR=5.8						
NOA	**NORSAR Array B**	**46.26**	**319**	P	**P**	**09 09 27.5**	**-0.6**
	0.7nm,0.5s,baz=74,slow=7.9,SNR=4.0						
EKA	**Eskdalemuir Ar**	**55.41**	**315**	P	**P**	**09 10 36.2**	**-0.8**
	0.7nm,0.5s,baz=62,slow=6.0,SNR=4.2						
ILAR	**Eielson Array**	**63.97**	**23**	P	**P**	**09 11 34.7**	**-1.1**
	1.1nm,0.7s,baz=313,slow=5.3,SNR=16						
INK	**Inuvik**	**64.23**	**15**	P	**P**	**09 11 37.2**	**-0.2**
	0.5nm,0.5s,baz=328,slow=5.4,SNR=4.8						
YKA	**Yellowknife Ar**	**72.68**	**10**	P	**P**	**09 12 29.0**	**-1.4**
	0.7nm,0.5s,baz=340,slow=6.0,SNR=26						
WRA	**Warramunga Arr**	**77.04**	**134**	P	**P**	**09 12 54.3**	**-1.8**
	0.5nm,0.8s,baz=328,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.40**	**276**	P	**P**	**09 12 57.2**	**-1.2**
	0.3nm,0.5s,baz=43,slow=4.8,SNR=4.0						
ASAR	**Alice Springs**	**79.92**	**137**	P	**P**	**09 13 10.9**	**-1.1**
	0.2nm,0.4s,baz=331,slow=5.5,SNR=3.7						

*ISCJB **15** 09:07:48.9±0.9, 5°.50N±0°.07×125°.5E±0°.2, h10km, mb3.8/5, Error ellipse: s-maj=30.8km s-min=10.6km az=4.7*

*IDC **15** 09:07:49.4±2.1, 5°.53N×125°.65E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.9/5, Error ellipse: s-maj=244.8km s-min=20.1km az=65.0*

ISC 15 09:07:50.4±1.3, 5°.49N±0°.10×125°.7E±0°.3, h10km, n6, σ0§74/6, mb3.6/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**2.76**	**14**	⇓*e*P	**Pg**	**09 08 43.0**	**-0.4**
BIPH				*e*S	**Sn**	**09 09 08.7**	**+0.6**
WRA	**Warramunga Arr**	**26.67**	**162**	P	**P**	**09 13 30.5**	**+0.8**
	0.5nm,0.5s,baz=344,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**30.07**	**165**	P	**P**	**09 13 59.8**	**-0.4**
	0.5nm,0.7s,baz=344,slow=7.3,SNR=8.8						
STKA	**Stephens Creek**	**40.13**	**159**	P	P	09 15 29.2	+2.5
	0.7nm,0.5s,baz=326,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**55.53**	**325**	P	**P**	**09 17 26.4**	**+0.5**
	0.6nm,0.5s,baz=116,slow=7.9,SNR=8.4						
KURBB	**Kurchatov Arra**	**59.71**	**327**	P	**P**	**09 17 54.8**	**-0.5**
	1.5nm,0.2s,baz=119,slow=7.9,SNR=4.6						

*BJI **15** 09:16:40.9, 35°.63N×115°.37E, h5km, mb4.2/7, ML4.3/18, Ms4.0/3, Ms7 3.9/4*

*IDC **15** 09:16:40.9±0.7, 35°.79N×115°.50E, h0km, mb3.9/15, mb1 4.1/17, mb1mx4.0/26, mbtmp3.9/17, ML3.5/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/58, Error ellipse: s-maj=19.3km s-min=16.0km az=44.0*

*NEIC **15** 09:16:42.6±0.4, 35°.75N×115°.51E, h10km, mb4.0/7, Error ellipse: s-maj=10.8km s-min=7.8km az=192.0*

ISC 15 09:16:41.2±1.4, 35.72N±0°.04×115.47E±0°.04, h1km±9km, n60, σ1§41/67, mb4.0/21, MS3.5/3, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIA	**Tai'an**	**1.43**	**70**	Pg	**Pb**	**09 17 10.0**	**+1.3**
TIA				Sg	**Sn**	**09 17 30.5**	**+2.8**
TIA				smax	smax		
	comp=N,4μm,0.6s						
TIA				smax	smax		
	comp=E,3μm,0.5s						
TIY	**Taiyuan**	**3.15**	**310**	Pn	**Pn**	**09 17 34.8**	**+2.8**
TIY				Pg	**Pg**	**09 17 40.0**	**-1.5**
TIY				Sg	**Sb**	**09 18 19.0**	**+2.1**
TIY				smax	smax		
	comp=N,12μm,0.8s						
TIY				smax	smax		
	comp=E,10μm,0.8s						
BJT	**Baijiatuan**	**4.33**	**7**	*e*Pn	**Pn**	**09 17 48.1**	**0.0**
BJT				*e*Sn	**Sn**	**09 18 39.5**	**+0.3**
BJI	**Beijing**	**4.35**	**7**	Pn	**Pn**	**09 17 48.1**	**-0.3**
BJI				Pg	**Pg**	**09 18 03.9**	**-0.6**
BJI				Sg	**Sg**	**09 19 01.3**	**+0.4**
BJI				smax	smax		
	comp=N,400nm,0.9s						
BJI				smax	smax		

	comp=E,460nm,1.2s							
NJ2	**Nanjing**	**4.62**	**141**	*e*Pn	**Pn**	**09 17 52.8**	**+0.7**	
NJ2				Sn	**Sn**	**09 18 48.3**	**+1.9**	
NJ2				Sg	**Sg**	**09 19 08.3**	**-1.3**	
NJ2				smax	smax			
	comp=N,540nm,0.8s							
NJ2				smax	smax			
	comp=E,430nm,0.9s							
XAN	**Xi'an**	**5.64**	**255**	Pn	**Pn**	**09 18 07.8**	**+1.6**	
XAN				Sg	**Sg**	**09 19 41.6**	**-0.7**	
XAN				smax	smax			
	comp=N,170nm,0.9s							
XAN				smax	smax			
	comp=E,60nm,1.1s							
HHC	**Hu-ho-hao-te**	**5.97**	**330**	*e*Pg	**Pb**	**09 18 28.8**	**+2.7**	
HHC				Sg	Sb	09 19 44.6	+6.5	
HHC				smax	smax			
	comp=N,730nm,0.9s							
HHC				smax	smax			
	comp=E,510nm,1.0s							
LZH	**Lanzhou**	**9.44**	**276**	P	**Pn**	**09 19 01.5**	**+3.0**	
LZH				smax	smax			
	comp=N,80nm,1.1s							
LZH				smax	smax			
	comp=E,68nm,1.0s							
LZH				LR	LR			
	comp=N,310nm,4.2s							
LZH				LR	LR			
	comp=E,540nm,7.8s							
LZH				LR	LR			
	comp=Z,420nm,6.8s							
KSAR	**Wonju Array Be**	**10.13**	**77**	Pn	**Pn**	**09 19 08.1**	**+0.3**	
KSAR				Lg	Lg	09 21 59.7		
KSRS	**Korea Array**	**10.16**	**77**	Pn	**Pn**	**09 19 08.1**	**-0.1**	
	0.5nm,0.3s,baz=271,slow=14,SNR=9.3							
KSRS				Lg	Lg	09 21 59.7		
	0.4nm,0.3s,baz=287,slow=27,SNR=5.4							
GTA	**Gaotai**	**12.95**	**291**	*e*P	**Pn**	**09 19 44.3**	**-2.2**	
GTA				pP		09 19 47.6		
GTA				sP		09 19 50.8		
GTA				S	**Sn**	**09 22 07.5**	**-3.9**	
GTA				SS	**SnSn**	**09 22 22.8**	**-0.6**	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA				LR	LR			
	comp=Z,410nm,10.5s							
JNU	**Nakatsue**	**12.98**	**97**	*e*Pn	**Pn**	**09 19 44.3**	**-2.6**	
JNU				*e*Sn	Sn	09 22 05.8	-6.3	
JNU	**Nakatsue**	**12.98**	**97**	LR	LR	09 25 08.8		
	comp=Z,201nm,18.9s,baz=161,slow=39							
SONM	**Songino Array**	**13.85**	**334**	Pn	**Pn**	**09 19 59.3**	**+0.5**	
SONM				Lg	Lg	09 23 52.3		
SONM	**Songino Array**	**13.85**	**334**	Pn	**Pn**	**09 19 59.3**	**+0.5**	
	0.2nm,0.3s,baz=150,slow=14,SNR=16							
SONM				Lg	Lg	09 23 52.3		
	0.1nm,0.3s,baz=165,slow=22,SNR=3.6							
USRK	**Ussuriysk Arra**	**15.22**	**51**	Lg	Lg	09 24 41.4		
	0.1nm,0.3s,baz=259,slow=36,SNR=2.6							
USRK				LR	LR	09 27 05.5		
	comp=Z,96nm,18.1s,baz=34,slow=41							
MAJO	**Matsushiro**	**18.38**	**81**	*e*Pn	**P**	**09 20 57.7**	**+0.2**	
MJAR	**Matsushiro Arr**	**18.39**	**81**	LR	LR	09 28 30.8		
	comp=Z,72nm,19.0s,baz=40,slow=39							
LSA	**Lhasa**	**21.30**	**261**	*e*P	**P**	**09 21 29.7**	**-0.2**	
	4.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**22.57**	**225**	P	**P**	**09 21 45.2**	**+2.2**	
CMAR	**Chiang Mai Arr**	**22.57**	**225**	P	**P**	**09 21 45.2**	**+2.2**	
	1.2nm,0.3s,baz=28,slow=9.5,SNR=8.1							
CMAR				LR	LR	09 31 40.6		
	comp=Z,163nm,19.0s,baz=40,slow=40							
SHL	**Shillong**	**22.62**	**250**	*e*P	**P**	**09 21 46.0**	**+2.2**	
MK31	**Makanchi Array**	**27.09**	**304**	*e*P	**P**	**09 22 25.8**	**+0.4**	
MKAR	**Makanchi Array**	**27.09**	**304**	P	**P**	**09 22 25.8**	**+0.3**	
MKAR	**Makanchi Array**	**27.09**	**304**	P	**P**	**09 22 25.8**	**+0.3**	
	0.5nm,0.4s,baz=104,slow=9.5,SNR=13							
ZALV	**Zalesovo Beam**	**28.04**	**320**	P	**P**	**09 22 33.6**	**-0.2**	
ZALV	**Zalesovo Beam**	**28.04**	**320**	P	**P**	**09 22 33.6**	**-0.2**	
	0.5nm,0.5s,baz=120,slow=8.8,SNR=3.6							
ZALV				LR	LR	09 33 37.2		
	comp=Z,41nm,21.8s,baz=69,slow=36							
KURK	**Kurchatov**	**30.39**	**311**	*e*P	**P**	**09 22 54.2**	**-0.5**	
	0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**30.42**	**311**	P	**P**	**09 22 54.4**	**-0.5**	
	1.3nm,0.8s,baz=108,slow=10,SNR=2.0							
BVAR	**Borovoye Array**	**35.87**	**313**	PcP	**PcP**	**09 26 12.1**	**+2.3**	
BVAR	**Borovoye Array**	**35.87**	**313**	PcP	**PcP**	**09 26 12.1**	**+2.3**	
	1.0nm,0.6s,baz=116,slow=2.3,SNR=3.7							
PSI	**Prapat**	**36.16**	**209**	LR	LR	09 40 58.7		
	comp=Z,81nm,18.1s,baz=25,slow=40							
ABKAR	**Akbulak array**	**42.19**	**306**	*e*P	**P**	**09 24 35.6**	**+0.2**	
	0.4n

comp=Z,71nm,19.1s,baz=180,slow=37
ASAR Alice Springs 32.39 258 P **P** 09 25 06.2 +1.2
2.5nm,0.9s,baz=84,slow=8.8,SNR=18
SONM Songino Array 87.94 323 P **P** 09 31 25.8 +1.1
0.6nm,0.9s,baz=134,slow=4.2,SNR=3.1
ILAR Eielson Array 91.56 17 P **P** 09 31 39.2 -1.9
0.6nm,0.9s,baz=216,slow=5.6,SNR=4.0
ARCES ARCESS Array B 126.16 345 PKP **PKPdf** 09 37 36.4 -0.1
0.9nm,0.8s,baz=43,slow=4.1,SNR=7.0
EKA Eskdalemuir Ar 144.69 352 PKP **PKPab** 09 38 09.8 -0.1
1.1nm,0.5s,baz=354,slow=2.7,SNR=5.1
GERES GERESS Array B 145.37 331 PKPbc **PKPab** 09 38 13.0 +0.3
0.6nm,0.6s,baz=46,slow=3.9,SNR=5.0

*NEIC **15** 09:28:19.0, 36°.03N×117°.84W, h1km, ML3.5(PAS), After PAS.*

ISC 15 09:28:18.7±1.1, 36°.01N±0°.02×117°.85W±0°.02, h5km±10km, n48, σ1§04/80, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.30**	**80**	P	**Pg**	**09 28 24.5**	**-0.1**
	baz=0.3						
MPMC				S	**Sg**	**09 28 28.6**	**+0.1**
	baz=0.3						
CWC	**Cottonwood Cre**	**0.47**	**337**	P	**Pg**	**09 28 27.7**	**-0.2**
	baz=0.5						
LRMC	**Laurel Mountai**	**0.54**	**166**	P	**Pg**	**09 28 29.7**	**+0.5**
	baz=0.6						
LRMC				S	**Sg**	**09 28 37.6**	**+1.3**
	baz=0.6						
FURC	**Furnace Creek,**	**0.92**	**60**	P	**Pg**	**09 28 36.4**	**-0.1**
	baz=0.9						
FURC				S	**Sg**	**09 28 48.4**	**-0.1**
	baz=0.9						
VES	**Vestal, Richgr**	**1.02**	**261**	P	**Pg**	**09 28 38.5**	**+0.3**
	baz=1.0						
VES				S	**Sb**	**09 28 52.6**	**+0.2**
	baz=1.0						
GRAC	**Grapevine Rang**	**1.06**	**21**	P	**Pg**	**09 28 38.5**	**-0.6**
	baz=1.0						
TIN	**Tinemaha**	**1.09**	**344**	P	**Pg**	**09 28 39.3**	**-0.3**
	baz=1.1						
GSC	**Goldstone**	**1.10**	**129**	P	**Pg**	**09 28 39.7**	**-0.2**
	baz=1.1						
GSC				S	**Sb**	**09 28 54.9**	**-0.1**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.13**	**186**	P	**Pg**	**09 28 40.2**	**-0.2**
	baz=1.1						
RCTC	**Rector, Farmer**	**1.17**	**285**	P	**Pg**	**09 28 40.6**	**-0.5**
	baz=1.2						
RCTC				S	**Sg**	**09 28 56.3**	**+0.1**
	baz=1.2						
ARVC	**Arvin**	**1.19**	**223**	P	**Pb**	**09 28 41.7**	**0.0**
	baz=1.2						
SHOC	**Shoshone**	**1.28**	**94**	P	**Pn**	**09 28 42.4**	**-0.9**
	baz=1.3						
SHOC				S	**Sb**	**09 29 00.2**	**+0.2**
	baz=1.3						
RRX	**Edison Barstow**	**1.32**	**148**	P	**Pb**	**09 28 44.0**	**0.0**
	baz=1.3						
RRX				S	**Sn**	**09 29 02.2**	**+0.3**
	baz=1.3						
OSI	**Osito Adit**	**1.56**	**207**	Pb	**Pb**	**09 28 48.0**	**-0.1**
	baz=1.6						
TPNV	**Topopah Spring**	**1.60**	**53**	P	**Pn**	**09 28 47.7**	**-0.1**
	baz=1.6						
TUQ	**Turquoise Moun**	**1.67**	**109**	P	**Pn**	**09 28 48.1**	**-0.6**
	baz=1.7						
HEC	**Hector,Ludlow**	**1.71**	**133**	P	**Pn**	**09 28 48.8**	**-0.4**
	baz=1.7						
HEC				Sb	**Sg**	**09 29 13.7**	**0.0**
	baz=1.7						
BFSC	**Mount Baldy Ra**	**1.77**	**175**	P	**Pn**	**09 28 50.6**	**+0.5**
	baz=1.8						
BFSC				Sb	**Sg**	**09 29 15.5**	**-0.2**
	baz=1.8						
DECC	**Green Verdugo**	**1.80**	**193**	Pb	**Pb**	**09 28 51.8**	**-0.4**
	baz=1.8						
DECC				Sb	**Sg**	**09 29 16.4**	**0.0**
	baz=1.8						
MLAC	**Mammoth Lakes**	**1.80**	**334**	Sb	**Sg**	**09 29 16.5**	**-0.3**
	baz=1.8						
SMMC	**Simmler**	**1.88**	**249**	Pb	**Pb**	**09 28 53.2**	**-0.4**
	baz=1.9						
SMMC				Sb	**Sg**	**09 29 18.9**	**-0.3**
	baz=1.9						
PKM	**Peak Mountain**	**1.95**	**236**	Pb	**Pb**	**09 28 54.5**	**-0.3**
	baz=2.0						
PKM				Sb	**Sb**	**09 29 20.7**	**+1.1**
	baz=2.0						
TPH	**Tonopah**	**2.12**	**13**	*e*Pn	**Pn**	**09 28 55.4**	**+0.3**
TPH				*e*Sg	**Sb**	**09 29 25.9**	**+1.3**
GMRC	**Granite Mounta**	**2.17**	**124**	P	**Pn**	**09 28 54.5**	**-1.1**
	baz=2.2						
SHPR	**Sheep Range**	**2.23**	**76**	*e*Pn	**Pn**	**09 28 56.8**	**+0.3**
SHPR				*e*Sg	**Sg**	**09 29 30.8**	**+0.3**
NV11	**Mina Array Sit**	**2.43**	**354**	*e*Pn	**Pn**	**09 28 59.5**	**+0.2**
NV11				*e*Sg	**Sg**	**09 29 37.1**	**+0.1**
MURC	**Murrieta**	**2.46**	**167**	Sb	**Sg**	**09 29 36.3**	**-1.5**
	baz=2.5						
PFO	**Pinyon Flat Ob**	**2.65**	**154**	P	**Pn**	**09 29 02.2**	**0.0**
	baz=2.7						
WAKR	**Walker**	**2.80**	**334**	*e*Pg	**Pg**	**09 29 11.8**	**-0.5**
WAKR				*e*Sg	**Sg**	**09 29 47.3**	**-1.3**
CMB	**Columbia Colle**	**2.87**	**316**	*e*Pn	**Pn**	**09 29 07.5**	**+2.4**
CMB				*e*Sg	**Sb**	**09 29 46.6**	**+0.8**
IRM	**Iron Mountain**	**2.88**	**129**	P	**Pn**	**09 29 04.4**	**-0.9**
	baz=2.9						
R11A	**Troy Canyon, C**	**2.96**	**37**	*e*Pn	**Pn**	**09 29 06.0**	**-0.5**
R11A				*e*Sg	**Sg**	**09 29 53.0**	**-0.7**
R11A	**Troy Canyon, C**	**2.96**	**37**	Pb	**Pb**	**09 29 11.8**	**-0.2**
	baz=2.9						
SAO	**San Andreas Ge**	**3.00**	**286**	*e*Pn	**Pn**	**09 29 09.0**	**+2.1**
SAO				*e*Sn	**Sn**	**09 29 42.1**	**-1.1**
PDMCI	**Parker Dam,Lak**	**3.48**	**118**	P	**Pn**	**09 29 12.9**	**-0.7**
	baz=3.5						
Y12C	**Blythe**	**3.54**	**129**	P	**Pn**	**09 29 13.4**	**-0.9**
	baz=3.5						
GLA	**Glamis**	**3.86**	**139**	*e*Pn	**Pn**	**09 29 18.1**	**-0.7**
GLA				*e*Sg	**Sg**	**09 30 24.0**	**+1.2**
PAHR	**Pah Rah Range**	**3.89**	**342**	*e*Pn	**Pn**	**09 29 20.8**	**+1.5**
PAHR				*e*Pg	**Pg**	**09 29 32.9**	**-0.4**
PAHR				*e*Sg	**Sg**	**09 30 24.6**	**+1.0**
BEKR	**Beckworth**	**4.33**	**334**	*e*Pg	**Pg**	**09 29 41.9**	**+0.1**
BEKR				*e*Sg	**Sg**	**09 30 35.5**	**-2.4**
BMN	**Battle Mountai**	**4.45**	**6**	*e*Pg	**Pg**	**09 29 42.6**	**-1.3**
BMN				*e*Sg	**Sg**	**09 30 41.0**	**-0.6**
Z14A	**Wintersburg**	**4.83**	**122**	P	**Pn**	**09 29 31.6**	**-0.5**
	baz=4.8						
TMUT	**Trail Mountain**	**6.21**	**56**	*e*Pg	**Pg**	**09 30 17.7**	**0.0**
WVOR	**Wild Horse Val**	**6.45**	**355**	*e*Pg	**Pg**	**09 30 22.9**	**+0.6**
SRU	**San Rafael**	**6.59**	**60**	*e*Pn	**Pn**	**09 29 57.7**	**+1.2**
SRU				*e*Pg	**Pg**	**09 30 23.4**	**-1.6**
SRU				*e*Sn	**Sn**	**09 31 11.5**	**-0.6**
SRU				*e*Sg	**Sg**	**09 31 49.4**	**-1.0**
TUC	**Tucson**	**6.92**	**120**	*e*Pn	**Pn**	**09 30 00.6**	**-0.2**
	11nm,1.1s						
TUC				*e*Sg	**Sg**	**09 32 00.8**	**-0.2**
HVU	**Hansel Valley**	**6.99**	**33**	*e*Pn	**Pn**	**09 30 03.9**	**+2.0**
	6.7nm,0.8s						
HVU				*e*Pg	**Pg**	**09 30 32.3**	**-0.3**
PV04	**Paradox Valley**	**7.53**	**69**	*e*Pn	Pn	09 30 13.9	+4.6
PV04				*e*Pg	**Pg**	**09 30 42.0**	**-0.8**
PV04				*e*Sg	**Sg**	**09 32 25.1**	**+4.8**
MVCO	**Mesa Verde**	**7.62**	**78**	*e*Pn	**Pn**	**09 30 12.8**	**+2.2**
	7.7nm,0.8s						
MVCO				*e*Pg	**Pg**	**09 30 43.7**	**-0.9**

*IDC **15** 09:37:38.5±0.5, 38°.02N×20°.72E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/28, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=13.6km s-min=7.5km az=62.0*
*ISCJB **15** 09:37:42.7±0.3, 37°.85N±0°.02×21°.13E±0°.03, h26km±2km, mb3.3/4, Error ellipse: s-maj=3.9km s-min=3.0km az=141.2*
*ATH **15** 09:37:42.1, 37°.91N×21°.16E, h22km±1km, MD3.3/25, ML3.2*
*CSEM **15** 09:37:42.5±0.2, 37°.85N×21°.16E, h15km, ML3.4, Error ellipse: s-maj=4.9km s-min=3.3km az=46.0*
*THE **15** 09:37:43.0, 37°.88N×21°.21E, h1km±1km, ML3.4/6, Error ellipse: s-maj=1.7km s-min=0.4km az=281.0*
ISC 15 09:37:42.4±0.8, 37°.87N±0°.02×21°.17E±0°.02, h30km±5km, n129, σ1§25/158, mb3.4/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.05**	**17**	P	**Pb**	**09 37 47.1**	**-0.4**
VTN	**Vitineika**	**0.05**	**17**	P	**Pb**	**09 37 47.2**	**-0.3**
VTN				S	**Sb**	**09 37 51.4**	**+0.4**
RLS	**Riolos of Patr**	**0.30**	**51**	*e*PB	**Pb**	**09 37 49.5**	**-0.5**
RLS	**Riolos of Patr**	**0.30**	**51**	P	**Pb**	**09 37 49.4**	**-0.5**
RLS				S	**Sb**	**09 37 55.5**	**+0.5**
KFL	**Anninata**	**0.38**	**309**	P	**Pb**	**09 37 50.7**	**-0.4**
KFL				S	**Sb**	**09 37 57.0**	**0.0**
KFL	**Anninata**	**0.38**	**309**	P	**Pb**	**09 37 50.4**	**-0.7**
KFL				S	**Sb**	**09 37 57.0**	**0.0**
DRO	**Drossia**	**0.44**	**79**	P	**Pb**	**09 37 50.7**	**-1.2**
DRO				S	**Sb**	**09 37 57.1**	**-1.3**
DRO	**Drossia**	**0.44**	**79**	*e*PB	**Pb**	**09 37 51.3**	**-0.6**
DRO	**Drossia**	**0.44**	**79**	P	**Pb**	**09 37 51.2**	**-0.6**
DRO				S	**Sn**	**09 37 59.5**	**-0.1**
AMT	**Artemida-Makis**	**0.55**	**128**	P	**Pb**	**09 37 53.0**	**-0.5**
AMT				S	**Sb**	**09 38 00.9**	**-0.3**
AMT	**Artemida-Makis**	**0.55**	**128**	*e*PN	**Pb**	**09 37 53.1**	**-0.5**
AMT	**Artemida-Makis**	**0.55**	**128**	*e*Pn	**Pb**	**09 37 53.1**	**-0.5**
AMT				S	**Sb**	**09 38 01.4**	**+0.2**
VLS	**Valsamata**	**0.55**	**304**	*e*PN	**Pb**	**09 37 53.2**	**-0.5**
VLS				*e*SN	**Sb**	**09 38 00.5**	**-0.9**
VLS	**Valsamata**	**0.55**	**304**	P	**Pb**	**09 37 52.9**	**-0.8**
VLS	**Valsamata**	**0.55**	**304**	*e*Pn	**Pb**	**09 37 53.2**	**-0.5**
VLS				*e*Sn	**Sb**	**09 38 00.5**	**-0.9**
VLS				S	**Sn**	**09 38 02.6**	**+0.3**
SFD	**Strofades**	**0.63**	**191**	P	**Pb**	**09 37 55.4**	**+0.5**
SFD				S	**Sn**	**09 38 04.3**	**+0.1**
SFD	**Strofades**	**0.63**	**191**	*e*PN	**Pb**	**09 37 55.3**	**+0.4**
SFD	**Strofades**	**0.63**	**191**	*e*Pn	**Pb**	**09 37 55.3**	**+0.4**
UPR	**University Cam**	**0.64**	**50**	P	**Pb**	**09 37 54.1**	**-1.0**
UPR	**University Cam**	**0.64**	**50**	P	**Pb**	**09 37 54.1**	**-1.0**
PDO	**Prodromos**	**0.73**	**1**	P	**Pb**	**09 37 56.8**	**+0.2**
PDO	**Prodromos**	**0.73**	**1**	*e*PN	**Pb**	**09 37 56.5**	**-0.1**
PDO	**Prodromos**	**0.73**	**1**	*e*Pn	**Pb**	**09 37 56.5**	**-0.1**
PDO	**Prodromos**	**0.73**	**1**	P	**Pb**	**09 37 56.8**	**+0.2**
PDO				S	**Sn**	**09 38 08.5**	**+1.8**
LAKA	**Lakka**	**0.74**	**60**	P	**Pb**	**09 37 56.4**	**-0.4**
LAKA	**Lakka**	**0.74**	**60**	*e*PN	**Pb**	**09 37 56.4**	**-0.4**
LAKA	**Lakka**	**0.74**	**60**	*e*Pn	**Pb**	**09 37 56.4**	**-0.4**
KLV	**Kalavryta, Ach**	**0.80**	**77**	*e*PB	**Pb**	**09 37 57.1**	**-0.7**
KLV	**Kalavryta, Ach**	**0.80**	**77**	*e*Pb	**Pb**	**09 37 57.1**	**-0.7**
KLV				S	**Sn**	**09 38 09.9**	**+1.4**
PVO	**Paravola**	**0.80**	**21**	P	**Pn**	**09 37 58.1**	**+0.5**
PVO	**Paravola**	**0.80**	**21**	P	**Pn**	**09 37 58.1**	**+0.5**
PVO				S	**Sn**	**09 38 11.1**	**+2.7**
EFP	**Efpalio**	**0.81**	**46**	P	**Pb**	**09 37 57.6**	**-0.3**
EFP				S	**Sb**	**09 38 08.5**	**+0.3**
EFP	**Efpalio**	**0.81**	**46**	*e*PN	**Pb**	**09 37 57.5**	**-0.3**
EFP	**Efpalio**	**0.81**	**46**	P	**Pb**	**09 37 57.6**	**-0.3**
EFP				S	**Sn**	**09 38 10.3**	**+1.7**
ITM	**Ithomi**	**0.92**	**138**	*e*PN	**Pn**	**09 37 59.1**	**-0.1**
ITM				*e*SN	**Sn**	**09 38 13.9**	**+2.6**
ITM	**Ithomi**	**0.92**	**138**	P	**Pn**	**09 37 58.8**	**-0.4**
ITM	**Ithomi**	**0.92**	**138**	*e*Pn	**Pn**	**09 37 59.1**	**-0.1**
ITM				S	**Sn**	**09 38 12.4**	**+1.1**
ITM				*e*Sn	**Sn**	**09 38 13.9**	**+2.6**
KALE	**Kalithea**	**0.93**	**56**	P	**Pn**	**09 37 59.5**	**+0.1**
KALE	**Kalithea**	**0.93**	**56**	*e*PN	**Pn**	**09 37 59.5**	**+0.1**
KALE	**Kalithea**	**0.93**	**56**	P	**Pn**	**09 37 59.5**	**+0.1**
KALE				S	**Sn**	**09 38 13.5**	**+1.8**
GUR	**Goura**	**0.93**	**86**	P	**Pn**	**09 37 59.3**	**-0.2**
GUR				S	**Sn**	**09 38 12.7**	**+0.8**
GUR	**Goura**	**0.93**	**86**	*e*PB	**Pn**	**09 37 59.3**	**-0.2**
GUR	**Goura**	**0.93**	**86**	P	**Pn**	**09 37 59.3**	**-0.2**
GUR				S	**Sn**	**09 38 13.6**	**+1.7**
LKD2	**Lefkada island**	**1.00**	**337**	P	**Pb**	**09 38 01.4**	**+0.2**
LKD2				S	**Sb**	**09 38 16.5**	**+2.4**
LKD2	**Lefkada island**	**1.00**	**337**	*e*PN	**Pb**	**09 38 01.2**	**0.0**
LKD2	**Lefkada island**	**1.00**	**337**	P	**Pb**	**09 38 01.4**	**+0.2**
LKD2				S	**Sb**	**09 38 16.5**	**+2.4**
PYL	**PYLOS**	**1.07**	**155**	P	**Pb**	**09 38 03.1**	**+0.7**
PYL	**PYLOS**	**1.07**	**155**	P	**Pb**	**09 38 03.1**	**+0.7**
VLX	**Vlachokerasia**	**1.08**	**117**	P	**Pb**	**09 38 02.9**	**+0.3**
VLX				S	**Sb**	**09 38 17.7**	**+1.2**
VLX	**Vlachokerasia**	**1.08**	**117**	*e*PN	**Pb**	**09 38 02.7**	**+0.1**
VLX	**Vlachokerasia**	**1.08**	**117**	P	**Pb**	**09 38 02.9**	**+0.3**
VLX				S	**Sb**	**09 38 17.7**	**+1.2**
EVR	**Evrytania**	**1.16**	**26**	*e*PN	**Pb**	**09 38 04.1**	**+0.2**
EVR	**Evrytania**	**1.16**	**26**	*e*Pn	**Pb**	**09 38 04.1**	**+0.2**
DSF	**Desfina**	**1.20**	**63**	P	**Pn**	**09 38 04.2**	**+1.0**
DSF	**Desfina**	**1.20**	**63**	*e*PN	**Pn**	**09 38 04.2**	**+1.0**
DSF	**Desfina**	**1.20**	**63**	P	**Pn**	**09 38 04.2**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.37**	**33**	P	**Pb**	**09 38 08.2**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.37**	**33**	*e*PN	**Pb**	**09 38 08.1**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.37**	**33**	*e*Pn	**Pb**	**09 38 08.1**	**+0.7**
LTK	**Loutraki**	**1.43**	**83**	P	**Pb**	**09 38 09.0**	**+0.6**
LTK	**Loutraki**	**1.43**	**83**	*e*PN	**Pb**	**09 38 08.3**	**-0.1**
LTK	**Loutraki**	**1.43**	**83**	*e*Pn	**Pb**	**09 38 08.3**	**-0.1**
LTK	**Loutraki**	**1.43**	**83**	P	**Pb**	**09 38 09.0**	**+0.6**
AGG	**Agios Georgios**	**1.47**	**38**	P	**Pb**	**09 38 09.4**	**+0.3**
AGG	**Agios Georgios**	**1.47**	**38**	*e*PN	**Pb**	**09 38 09.3**	**+0.2**
AGG	**Agios Georgios**	**1.47**	**38**	*e*Pn	**Pb**	**09 38 09.3**	**+0.2**
AXAR	**Agios Charalam**	**1.48**	**52**	P	**Pb**	**09 38 09.1**	**-0.1**
AXAR	**Agios Charalam**	**1.48**	**52**	P	**Pb**	**09 38 09.1**	**-0.1**
LKR	**Lokris**	**1.64**	**61**	*e*PN	**Pb**	**09 38 11.7**	**-0.3**
LKR	**Lokris**	**1.64**	**61**	*e*Pn	**Pb**	**09 38 11.7**	**-0.3**
DID	**Didima**	**1.68**	**102**	P	**Pb**	**09 38 11.7**	**-1.0**
DID	**Didima**	**1.68**	**102**	*e*PB	**Pb**	**09 38 11.8**	**-1.0**
DID	**Didima**	**1.68**	**102**	P	**Pb**	**09 38 11.7**	**-1.0**
IGT	**Igoumenitsa**	**1.79**	**339**	*e*PN	**Pb**	**09 38 13.7**	**-0.7**
IGT	**Igoumenitsa**	**1.79**	**339**	*e*Pn	**Pb**	**09 38 13.7**	**-0.7**
JAN	**Janina**	**1.80**	**352**	*e*PN	**Pb**	**09 38 13.8**	**-0.9**
JAN	**Janina**	**1.80**	**352**	*e*Pn	**Pb**	**09 38 13.8**	**-0.9**
THL	**Klokotos Trika**	**1.82**	**21**	*e*PN	**Pb**	**09 38 13.6**	**-1.4**
THL	**Klokotos Trika**	**1.82**	**21**	*e*Pn	**Pb**	**09 38 13.6**	**-1.4**
VLI	**Veliai**	**1.82**	**129**	*e*PN	**Pb**	**09 38 15.3**	**+0.3**
VLI	**Veliai**	**1.82**	**129**	*e*Pn	**Pb**	**09 38 15.3**	**+0.3**
NAIG	**Nisos Aigina**	**1.84**	**93**	*e*PN	**Pb**	**09 38 14.6**	**-0.8**
NAIG	**Nisos Aigina**	**1.84**	**93**	*e*Pn	**Pb**	**09 38 14.6**	**-0.8**
SMIA	**Simia**	**1.90**	**57**	P	**Pb**	**09 38 15.2**	**-1.1**
SMIA	**Simia**	**1.90**	**57**	*e*PN	**Pb**	**09 38 15.4**	**-0.9**
SMIA				*e*SN	**Sb**	**09 38 39.1**	**-0.5**
SMIA	**Simia**	**1.90**	**57**	P	**Pb**	**09 38 15.2**	**-1.1**
SMIA				*e*Sn	**Sb**	**09 38 39.1**	**-0.5**
ATH	**Athens Observa**	**2.02**	**86**	*e*PN	**Pb**	**09 38 17.0**	**-1.4**
ATH	**Athens Observa**	**2.02**	**86**	*e*Pn	**Pb**	**09 38 17.0**	**-1.4**
MRKA	**Markates**	**2.08**	**66**	*e*PB	**Pn**	**09 38 17.5**	**+2.3**
MRKA				*e*SN	**Sb**	**09 38 44.0**	**-0.9**
MRKA	**Markates**	**2.08**	**66**	*e*Pb	**Pn**	**09 38 17.5**	**+2.3**
MRKA				*e*Sn	**Sb**	**09 38 44.0**	**-0.9**
PTL	**Penteli**	**2.14**	**84**	*e*PB	**Pn**	**09 38 18.6**	**+2.6**
PTL	**Penteli**	**2.14**	**84**	*e*Pb	**Pn**	**09 38 18.6**	**+2.6**
ERET	**Eretria**	**2.16**	**74**	P	**Pb**	**09 38 19.1**	**-1.7**
ERET	**Eretria**	**2.16**	**74**	P	**Pb**	**09 38 19.1**	**-1.7**
NEO	**Neokhori**	**2.16**	**48**	*e*PN	**Pb**	**09 38 19.0**	**-1.8**
NEO	**Neokhori**	**2.16**	**48**	*e*Pn	**Pb**	**09 38 19.0**	**-1.8**
KYTH	**Kithira**	**2.18**	**136**	*e*PB	**Pb**	**09 38 20.3**	**-0.8**
KYTH	**Kithira**	**2.18**	**136**	*e*Pb	**Pb**	**09 38 20.3**	**-0.8**
XOR	**Xorichti**	**2.18**	**46**	*e*PN	**Pb**	**09 38 19.3**	**-1.9**
XOR	**Xorichti**	**2.18**	**46**	*e*Pn	**Pb**	**09 38 19.3**	**-1.9**
SKIA	**Skiathos**	**2.22**	**54**	*e*PN	**Pn**	**09 38 19.5**	**+2.4**
SKIA	**Skiathos**	**2.22**	**54**	*e*Pn	**Pn**	**09 38 19.5**	**+2.4**
AOS	**Alonnisos**	**2.49**	**58**	*e*PN	**Pn**	**09 38 22.9**	**+2.0**
AOS	**Alonnisos**	**2.49**	**58**	*e*Pn	**Pn**	**09 38 22.9**	**+2.0**
NEST	**Nestorio**	**2.54**	**358**	P	**Pb**	**09 38 25.1**	**-2.3**
NEST	**Nestorio**	**2.54**	**358**	*e*PB	**Pn**	**09 38 24.8**	**+3.1**
NEST	**Nestorio**	**2.54**	**358**	*e*Pb	**Pn**	**09 38 24.8**	**+3.1**
NEST	**Nestorio**	**2.54**	**358**	P	**Pb**	**09 38 25.1**	**-2.3**
PAIG	**Paliouri**	**2.84**	**43**	*e*PN	**Pn**	**09 38 27.1**	**+1.5**
PAIG	**Paliouri**	**2.84**	**43**	*e*Pn	**Pn**	**09 38 27.1**	**+1.5**
FNA	**Florina**	**2.92**	**3**	*e*PN	**Pn**	**09 38 28.8**	**+2.1**
FNA	**Florina**	**2.92**	**3**	*e*Pn	**Pn**	**09 38 28.8**	**+2.1**
HORT	**Hortiatis**	**3.11**	**28**	*e*PN	**Pn**	**09 38 31.3**	**+1.9**
HORT	**Hortiatis**	**3.11**	**28**	*e*Pn	**Pn**	**09 38 31.3**	**+1.9**
GRG	**Griva**	**3.23**	**17**	*e*PN	**Pn**	**09 38 33.0**	**+2.0**
GRG	**Griva**	**3.23**	**17**	*e*Pn	**Pn**	**09 38 33.0**	**+2.0**
OUR	**Ouranopolis**	**3.29**	**41**	*e*PN	**Pn**	**09 38 33.6**	**+1.7**
OUR	**Ouranopolis**	**3.29**	**41**	*e*Pn	**Pn**	**09 38 33.6**	**+1.7**
SOH	**Sokhos**	**3.40**	**29**	*e*PN	Pn	09 38 36.7	+3.3
SOH	**Sokhos**	**3.40**	**29**	*e*Pn	Pn	09 38 36.7	+3.3
CHOS	**Chios island**	**3.89**	**81**	*e*PN	**Pn**	**09 38 42.5**	**+2.4**
CHOS	**Chios island**	**3.89**	**81**	*e*Pn	**Pn**	**09 38 42.5**	**+2.4**
IDI	**Anoyia**	**3.95**	**130**	Pn	Pn	09 38 45.7	+4.7
	0.6nm,0.3s,baz=332,slow=15,SNR=2.8						
IDI				S	**Sn**	**09 39 24.9**	**-1.4**
	2.3nm,0.3s,baz=318,slow=24,SNR=8.5						
STON	**Ston**	**5.65**	**333**	*e*Pn	**Pn**	**09 39 03.3**	**-1.0**
STON				S	Sn	09 40 02.7	-5.4
DIVS	**Divibare**	**6.29**	**352**	*e*Pn	**Pn**	**09 39 12.4**	**-0.7**
HFS	**Hagfors**	**22.79**	**350**	P	**P**	**09 42 41.3**	**-0.9**
	1.2nm,0.6s,baz=163,slow=11,SNR=6.4						
FINES	**FINESS Array B**	**23.80**	**6**	P	**P**	**09 42 50.1**	**-2.1**
	0.4nm,0.3s,baz=184,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**30.12**	**220**	P	**P**	**09 43 48.8**	**-0.6**
	0.8nm,0.6s,baz=32,slow=8.9,SNR=6.4						
YKA	**Yellowknife Ar**	**73.85**	**340**	P	**P**	**09 49 13.2**	**-0.5**
	0.1nm,0.6s,baz=36,slow=5.5,SNR=4.0						

*ISCJB **15** 09:44:42.8±0.2, 51°.52N±0°.01×16°.06E±0°.02, h0km, mb3.9/15, MS3.5/1, Error ellipse: s-maj=1.9km s-min=1.6km az=177.0*
*LDG **15** 09:44:43.2±0.1, 51°.59N×16°.13E, h1km, Ml4.1/10, Error ellipse: s-maj=3.4km s-min=2.4km az=176.0, Suspected Mining induced.*
*MOS **15** 09:44:43.2±1.5, 51°.64N×15°.95E, h10km, mb4.2/4, Error ellipse: s-maj=7.1km s-min=4.2km az=81.7*
*BNS **15** 09:44:43.1±0.8, 51°.17N×16°.48E, h5km, ML3.9*
*IPEC **15** 09:44:44.2±0.4, 51°.59N×16°.19E, h1km±2km, ML3.3/3, Error ellipse: s-maj=3.8km s-min=1.8km az=59.0*
*IDC **15** 09:44:44.9±0.5, 51°.56N×16°.05E, h0km, mb3.8/11, mb1 3.9/19, mb1mx3.8/34, mbtmp3.8/19, ML3.6/7, MS3.6/1, Ms1 3.6/1, ms1mx2.2/63, Error ellipse: s-maj=9.4km s-min=5.5km az=107.0*
*CSEM **15** 09:44:44.3±0.1, 51°.56N×16°.10E, h0km, mb4.0/4, ML4.3/18, Ms4.0, Error ellipse: s-maj=2.1km s-min=1.7km az=161.0*
*NEIC **15** 09:44:44.9, 51°.59N×16°.10E, h2km, mb4.2/2, ML4.0(SZGRF), After CSEM.*
*STR **15** 09:44:45.8±0.7, 51°.36N×16°.14E, h5km, Ml4.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **15** 09:44:46.1, 51°.49N×16°.08E, h0km, Ml4.2*
*BGR **15** 09:44:46.0±0.5, 51°.51N×16°.09E, h1km, ML3.6/10, Error ellipse: s-maj=5.6km s-min=3.3km az=30.0*
*VIE **15** 09:44:47.6±0.8, 51°.31N×16°.09E, h0km, 3km, mb3.5/13, ML3.5/12, Ms4.0/3, Error ellipse: s-maj=3.9km s-min=1.9km az=3.0 68 km WNW of Wroclaw Suspected Mining induced.*

ISC 15 09:44:44.3±0.4, 51°.56N±0°.02×16°.06E±0°.02, h0km, n311, σ1§45/413, mb3.9/15, 25C-26D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pb**	**09 44 59.2**	**-0.8**
KSP				*e*Sg	**Sg**	**09 45 08.7**	**+0.9**
KSP	**Ksiaz**	**0.73**	**169**	↓*i*P	**Pb**	**09 44 59.1**	**-0.8**
KSP				*e*		09 45 12.3	
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pb**	**09 44 59.1**	**-0.8**
KSP				*e*Sg	**Sg**	**09 45 08.1**	**+0.3**
KSP	**Ksiaz**	**0.73**	**169**	P	**Pg**	**09 44 58.6**	**+0.3**
KSP	**Ksiaz**	**0.73**	**169**	P	**Pg**	**09 44 58.6**	**+0.3**
KSP	**Ksiaz**	**0.73**	**169**	Pg	**Pb**	**09 44 59.2**	**-0.8**
KSP				Sg	**Sg**	**09 45 08.7**	**+0.9**
KSP				*e*S	**Sn**	**09 45 12.3**	**-1.5**
UPC	**Upice**	**1.06**	**182**	*e*P	**Pb**	**09 45 05.2**	**-0.2**
UPC				*e*

MORC Moravsky Berou 2.02 152 S Sb 09 45 47.4 -0.1
MORC Moravsky Berou 2.02 152 *e*Pn Pn 09 45 19.3 -0.3
MORC *e*Sn Sn 09 45 45.3 -0.3
MORC Moravsky Berou 2.02 152 *e*P Pn 09 45 19.3 -0.3
MORC *e*S Sn 09 45 45.3 -0.3
MORC *e*Sg Sb 09 45 47.2 -0.4
comp=Z,181nm,0.4s,baz=335
OKC Ostrava-Krasne 2.18 142 *e*P Pn 09 45 20.6 -1.1
OKC *e* 09 45 51.7
OKC smax smax
comp=N,271nm,0.5s
OKC Ostrava-Krasne 2.18 142 *e*PN Pn 09 45 20.6 -1.1
OKC *e*PG Pg 09 45 25.1 -0.8
OKC *e*SG Sb 09 45 51.7 -0.3
comp=N,271nm,0.5s
OKC Ostrava-Krasne 2.18 142 Pn Pn 09 45 20.6 -1.1
CHZP Chorzow 2.25 123 *e*Pg Pg 09 45 27.9 +0.6
CHZP *e*Sg Sg 09 45 56.1 -0.3
VRAC Vranov 2.28 171⇑ *i*P Pn 09 45 23.6 +0.4
VRAC Vranov 2.28 171 S Sb 09 45 54.8 -0.2
VRAC Vranov 2.28 171 Pn Pn 09 45 23.6 +0.4
VRAC Pg Pg 09 45 27.5 -0.4
VRAC Lg Lg 09 45 56.3
VRAC Vranov 2.28 171 Pn Pn 09 45 23.6 +0.4
comp=N,12nm,0.3s,baz=348,slow=14,SNR=39
VRAC Pg Pg 09 45 27.5 -0.4
comp=N,22nm,0.3s,baz=354,slow=16,SNR=37
VRAC Lg Lg 09 45 56.3
comp=N,56nm,0.3s,baz=270,slow=20,SNR=12
VRAC Vranov 2.28 171 P Pn 09 45 23.6 +0.4
VRAC Vranov 2.28 171 Pg Pg 09 45 27.5 -0.4
VRAC *e*Sg Sg 09 45 56.4 -1.1
comp=N,268nm,0.5s,baz=354
TREC Trest 2.30 189 *e*P Pn 09 45 24.0 +0.6
TREC *e* 09 45 57.1
TREC smax smax
comp=N,184nm,0.4s
TREC Trest 2.30 189 *e*PN Pn 09 45 24.0 +0.6
TREC *e*PG Pg 09 45 27.9 -0.4
TREC *e*SG Sg 09 45 57.1 -1.0
comp=N,184nm,0.4s
TREC Trest 2.30 189 Pn Pn 09 45 24.0 +0.6
KRUC Moravsky 2.51 175 *e*Pn Pn 09 45 26.5 +0.2
baz=357
KRUC *e*Sg Sg 09 46 03.3 -1.6
comp=N,105nm,0.3s,baz=357
TANN Tannenbergstha 2.55 245 *e*Pn Pn 09 45 27.5 +0.6
TANN Tannenbergstha 2.55 245 Pn Pn 09 45 27.5 +0.6
WERD Werda 2.62 246 *e*Pn Pn 09 45 28.3 +0.4
WERD *e*Pg Pg 09 45 34.8 +0.3
WERD *e*Sg Sg 09 46 08.6 +0.2
WERD Werda 2.62 246 Pn Pn 09 45 28.3 +0.4
NKC Novy Kostel 2.65 241 *e*P Pn 09 45 28.8 +0.6
NKC Novy Kostel 2.65 241 *e*PN Pn 09 45 28.8 +0.6
NKC *e*PG Pg 09 45 35.4 +0.4
NKC *e*SG Sg 09 46 10.5 +1.2
comp=N,386nm,0.5s
NKC Novy Kostel 2.65 241 Pn Pn 09 45 28.8 +0.6
KHC Kasperske Hory 2.91 214 *e*P Pn 09 45 32.0 +0.2
KHC *e* 09 46 07.6
KHC smax smax
comp=N,121nm,0.5s
KHC Kasperske Hory 2.91 214 *e*PN Pn 09 45 32.0 +0.2
KHC *e*PG Pb 09 45 38.4 +1.4
KHC *e*SN Sn 09 46 07.6 +0.1
KHC *e*SG Sg 09 46 16.8 -0.8
comp=N,121nm,0.5s
KHC Kasperske Hory 2.91 214 *e*Pn Pn 09 45 31.9 +0.1
KHC *e*Pg Pg 09 45 40.8 +0.8
KHC *e*Sg Sg 09 46 17.8 +0.2
KHC Kasperske Hory 2.91 214 Pn Pn 09 45 32.0 +0.2
KHC Kasperske Hory 2.91 214 *e*Pg Pg 09 45 40.8 +0.8
KHC Sn Sn 09 46 07.6 +0.1
KHC Sg Sg 09 46 16.8 -0.8
comp=N,121nm,0.5s
MANZ Manzenberg 2.97 239 *e*Pn Pn 09 45 33.5 +0.9
MANZ Manzenberg 2.97 239 Pn Pn 09 45 33.5 +0.9
ROTZ Rotzenmuhle 3.04 235 *e*Pn Pn 09 45 34.4 +0.8
ROTZ *e*Sg Sg 09 46 21.4 -0.5
ROTZ Rotzenmuhle 3.04 235 Pn Pn 09 45 34.4 +0.8
ROTZ Sg Sg 09 46 21.4 -0.5
GEC2 GERESS Array S 3.12 210 *e*Pn Pn 09 45 35.2 +0.5
GEC2 *e*Sg Sg 09 46 22.7 -1.6
GEC2 GERESS Array S 3.12 210 Pn Pn 09 45 35.2 +0.5
GEC2 Sg Sg 09 46 22.7 -1.6
GERES GERESS Array B 3.12 210 Pn Pn 09 45 35.2 +0.5
GERES Pg Pb 09 45 42.0 +1.5
GERES Lg Lg 09 46 23.0
GERES GERESS Array B 3.12 210 Pn Pn 09 45 35.2 +0.5
comp=N,11nm,0.3s,baz=30,slow=12,SNR=231
GERES Pg Pb 09 45 42.0 +1.5
comp=N,20nm,0.3s,baz=30,slow=16,SNR=53
GERES Lg Lg 09 46 23.0
comp=N,42nm,0.3s,baz=30,slow=28,SNR=6.7
GERES GERESS Array B 3.12 210 P Pn 09 45 35.2 +0.5
SMOL Smolenice 3.18 163 *e*P Pg 09 45 45.0 -0.1
SMOL Smolenice 3.18 163 *e* Pg 09 45 45.0 -0.1
SMOL Smolenice 3.18 163 *e*SG Sg 09 46 27.2 +1.0
SMOL Smolenice 3.18 163 *e*Sg Sg 09 46 27.2 +1.0
RGN Rugen 3.42 332 *e*Pn Pn 09 45 38.5 -0.2
RGN *e*Sn Sn 09 46 20.3 +0.4
RGN Rugen 3.42 332 *e*Pn Pn 09 45 38.5 -0.2
RGN *e*Sn Sn 09 46 20.3 +0.4
NIE Niedzica 3.46 127 *e*Pn Pn 09 45 39.3 -0.1
NIE *e*Pg Pg 09 45 51.7 +1.2
NIE *e*Sg Sg 09 46 35.8 +0.5
CLZ Clausthal 3.55 277 *e*Pn Pn 09 45 42.0 +1.3
CLZ Clausthal 3.55 277 Pn Pn 09 45 42.0 +1.3
GRA1 Grafenberg Arr 3.61 241 Pn Pn 09 45 42.4 +1.0
GRA1 Sg Sg 09 46 41.2 +1.1
GRF Grafenberg Arr 3.61 241 *e*Pn Pn 09 45 42.4 +1.0
GRF *e*Sg Sg 09 46 41.2 +1.1
BSD Bornholm Skovb 3.62 349 *i* P Pn 09 45 41.0 -0.6
BSD *i* S Sn 09 46 21.1 -3.9
BSD Bornholm Skovb 3.62 349 *i* P Pn 09 45 41.0 -0.6
BSD *i* S Sn 09 46 21.1 -3.9
BSD Bornholm Skovb 3.62 349 *i* P Pn 09 45 41.0 -0.6
BSD *i* S Sn 09 46 21.1 -3.9
CONA Conrad Observa 3.64 182⇑ *i*Pn Pn 09 45 42.6 +0.7
CONA ⇓ *i*Sg Sg 09 46 40.1 -1.0
comp=N,140nm,0.4s
CONA Conrad Observa 3.64 182 Pn Pn 09 45 42.6 +0.7
CONA Sg Sg 09 46 40.1 -1.0
comp=N,140nm,0.4s
MOA Molln 3.90 198⇓ *i*Pn Pn 09 45 45.9 +0.6
MOA ⇑ *i*Sg Sg 09 46 49.1 -0.2
comp=N,246nm,0.8s
MOA Molln 3.90 198 Pn Pn 09 45 45.9 +0.6
MOA Sg Sg 09 46 49.1 -0.2
comp=N,246nm,0.8s
SOP Sopron 3.90 175⇓ *e*Pn Pn 09 45 45.4 +0.1
STHS Stebnicka Huta 3.94 121 *e*P Pn 09 45 46.4 +0.4
STHS Stebnicka Huta 3.94 121 *e*PN Pn 09 45 46.4 +0.4
STHS *e*PG Pg 09 46 01.0 +1.2
STHS *e* 09 46 54.9
STHS Stebnicka Huta 3.94 121 *e*P Pn 09 45 46.4 +0.4
STHS *e*Sg Sg 09 46 54.9 +4.0
ARSA Arzberg 4.33 185⇑ *i*Pn Pn 09 45 51.2 -0.1
ARSA ⇓ *i*Sg Sg 09 47 02.1 -1.2
comp=N,243nm,0.9s
ARSA Arzberg 4.33 185 Pn Pn 09 45 51.2 -0.1
ARSA Sg Sg 09 47 02.1 -1.2
comp=N,243nm,0.9s
CRVS Cervenica-Dubn 4.37 125 *e*P Pn 09 45 52.1 +0.2
CRVS Cervenica-Dubn 4.37 125 *e*PN Pn 09 45 52.1 +0.2
CRVS *e*PG Pg 09 46 09.4 +1.5
CRVS *e* 09 47 02.6
CRVS Cervenica-Dubn 4.37 125 *e*P Pn 09 45 52.1 +0.2
CRVS *e*Sg Sg 09 47 02.6 -1.9
PSZ Piszkesteto 4.41 144 *e*P Pn 09 45 53.2 +0.7
PSZ Piszkesteto 4.41 144⇑ *i*P Pn 09 45 52.9 +0.4
PSZ Piszkesteto 4.41 144 *e*Pn Pn 09 45 53.1 +0.7
PSZ Piszkesteto 4.41 144⇓ *e*Pn Pn 09 45 53.2 +0.7
PSZ Piszkesteto 4.41 144⇓ *e*P Pn 09 45 53.2 +0.7
CSKK Cs˙‡kako 4.44 160⇑ *e*Pn Pn 09 45 53.0 +0.2
CSKK Cs˙‡kako 4.44 160⇑ *e*P Pn 09 45 53.0 +0.2
PKSG 4.44 159⇑ *e*Pn Pn 09 45 53.1 +0.3
PKSG 4.44 159⇓ *e*P Pn 09 45 53.1 +0.3
PKST T˙s 4.50 163⇓ *e*Pn Pn 09 45 54.0 +0.4
PKST T˙s 4.50 163⇓ *e*P Pn 09 45 54.0 +0.4
KWP Kalwaria Pacla 4.65 112 *e*P Pn 09 45 55.8 0.0
KWP *e* 09 46 53.1
KWP Kalwaria Pacla 4.65 112 *e*Pn Pn 09 45 55.7 0.0
KWP *e*Pg Pg 09 46 14.3 +0.9
KWP *e*Sn Sn 09 46 53.0 +2.6
KWP *e*Sg Sg 09 47 22.3 +8.7
KWP Kalwaria Pacla 4.65 112⇑ *i*P Pn 09 45 55.1 -0.6
KWP Kalwaria Pacla 4.65 112 *e*P Pn 09 45 55.8 0.0
KWP Kalwaria Pacla 4.65 112 *e*Pg Pg 09 46 14.3 +0.9
KWP *e*S Sn 09 46 53.1 +2.6
KOLS Kolonicke sedl 4.77 121 *e*P Pn 09 45 57.0 -0.4
KOLS Kolonicke sedl 4.77 121 *e*PN Pn 09 45 57.0 -0.4
KOLS *e* 09 46 20.0
KOLS Kolonicke sedl 4.77 121 *e*SG Sg 09 47 18.4 +0.9
KOLS Kolonicke sedl 4.77 121 *e*P Pn 09 45 57.0 -0.4
KOLS *e*Sg Sg 09 47 18.4 +0.9
KBA Koelnbreinsper 4.83 203⇓ *i*Pn Pn 09 45 59.4 +1.1
KBA ⇓ *i*Sg Sg 09 47 19.7 +0.4
comp=N,72nm,0.6s
KBA Koelnbreinsper 4.83 203 Pn Pn 09 45 59.4 +1.1
KBA Sg Sg 09 47 19.7 +0.4
comp=N,72nm,0.6s
UZH Uzhgorod 4.97 124 *e*P Pn 09 46 01.9 +1.9
UZH *e*S Sn 09 47 00.1 +2.0
UZH smax smax
comp=N,60nm,0.8s
UZH smax smax
comp=E,80nm,0.8s
UZH Uzhgorod 4.97 124 *e*P Pn 09 46 01.9 +1.9
UZH *e*S Sn 09 47 00.1 +2.0
TOD Tromm 5.02 250 P Pn 09 46 00.8 0.0
TOD S Sn 09 47 03.8 +4.2
BEHE Becsehely 5.12 174⇓ *e*Pn Pn 09 46 03.4 +1.3
BEHE Becsehely 5.12 174⇓ *e*P Pn 09 46 03.4 +1.3
WATA Walderalm 5.14 216⇓ *i*Pn Pn 09 46 03.6 +1.0
WATA Walderalm 5.14 216 Pn Pn 09 46 03.6 +1.0
WTTA Wattenberg 5.18 216⇑ *i*Pn Pn 09 46 03.7 +0.5
WTTA ⇓ *i*Sg Sg 09 47 32.8 +2.2
comp=E,50nm,0.5s
WTTA Wattenberg 5.18 216 Pn Pn 09 46 03.7 +0.5
WTTA Sg Sg 09 47 32.8 +2.2
comp=E,50nm,0.5s
STU Stuttgart 5.22 240 *e*P Pn 09 46 03.3 -0.3
STU Stuttgart 5.22 240 *e*Pn Pn 09 46 03.2 -0.3
STU *e*Sg Sg 09 47 32.8 +0.9
STU Stuttgart 5.22 240 *e*P Pn 09 46 03.3 -0.3
STU *e*Sg Sg 09 47 32.8 +0.9
MOTA Moosalm 5.32 219⇑ *i*Pn Pn 09 46 05.3 +0.3
MOTA ⇓ *i*Sg Sg 09 47 37.4 +2.4
comp=E,78nm,0.8s
MOTA Moosalm 5.32 219 Pn Pn 09 46 05.3 +0.3
MOTA Sg Sg 09 47 37.4 +2.4
comp=E,78nm,0.8s
RETA Reutte 5.34 222⇑ *i*Pn Pn 09 46 05.3 0.0
RETA ⇑ *i*Pg Pg 09 46 26.6 0.0
RETA Reutte 5.34 222 Pn Pn 09 46 05.3 0.0
ABTA Abfaltersbach 5.35 207⇑ *i*Pn Pn 09 46 06.7 +1.2
ABTA Abfaltersbach 5.35 207 Pn Pn 09 46 06.7 +1.2
LVV L'vov 5.36 106 *e*P Pn 09 46 04.0 -1.4
LVV *e*S Sn 09 47 06.0 -1.7
LVV L'vov 5.36 106 *e*P Pn 09 46 04.0 -1.4
LVV *e*S Sn 09 47 06.0 -1.7
KOE Koeppel 5.38 261 *e*Pn Pn 09 46 05.3 -0.5
KOE Koeppel 5.38 261 Pn Pn 09 46 05.3 -0.5
TRPA Tarpa 5.42 127⇑ *i*P Pn 09 46 05.4 -0.7
TRPA Tarpa 5.42 127⇓ *e*Pn Pn 09 46 05.5 -0.7
TRPA Tarpa 5.42 127⇓ *e*P Pn 09 46 05.5 -0.7
KTD Kalmit 5.57 249 P Pn 09 46 09.2 +0.8
PKSM Moragy 5.62 161⇑ *i*P Pn 09 46 10.1 +1.1
PKSM Moragy 5.62 161⇑ *e*Pn Pn 09 46 09.9 +0.9
PKSM Moragy 5.62 161⇑ *e*P Pn 09 46 09.9 +0.9
ABH Alteburg 5.67 256 P Pn 09 46 10.5 +0.8
BGG Burgeitz 5.69 260 *e*Pn Pn 09 46 10.1 +0.2
BGG Burgeitz 5.69 260 Pn Pn 09 46 10.1 +0.2
FETA Feichten 5.73 220⇑ *i*Pn Pn 09 46 11.5 +0.8
FETA Feichten 5.73 220 Pn Pn 09 46 11.5 +0.8
LANF Langenberg 5.89 247 P Pn 09 46 13.4 +0.6
LANF Langenberg 5.89 247 P Pn 09 46 13.4 +0.6
STB Steinbach 5.89 264 *e*Pn Pn 09 46 13.6 +0.8
STB *e*Sn Sn 09 47 21.3 +0.3
comp=E,28nm,0.9s
STB Steinbach 5.89 264 Pn Pn 09 46 13.6 +0.8
STB Sn Sn 09 47 21.3 +0.3
comp=E,28nm,0.9s
BFO Black Forest 5.95 240 *e*P Pn 09 46 11.4 -2.2
BFO pmax pmax
comp=Z,19nm,0.5s
BFO Black Forest 5.95 240 *e*Pn Pn 09 46 11.4 -2.2
comp=Z,19nm,0.5s
BFO *e*Sg Sg 09 47 55.2 -0.1
RUP Ruppelstein 6.03 256 P Pn 09 46 15.0 +0.4
DREG Dreilaegerbach 6.26 266 *e*Pn Pn 09 46 17.9 +0.1
DREG Dreilaegerbach 6.26 266 Pn Pn 09 46 17.9 +0.1
DAVOX Davos/Dischmat 6.27 223 Pn Pn 09 46 18.3 +0.1
DAVOX Lg Lg 09 48 03.0
DAVOX Davos/Dischmat 6.27 223 Pn Pn 09 46 18.3 +0.1
comp=Z,1.7nm,0.3s,baz=42,slow=13,SNR=11
DAVOX Lg Lg 09 48 03.0
comp=Z,2.6nm,0.3s,baz=195,slow=20,SNR=5.8
DAVOX Davos/Dischmat 6.27 223 P Pn 09 46 18.3 +0.1
comp=Z,2.0nm,0.3s
MEM Membach 6.41 265 P Pn 09 46 20.3 +0.4
MEM Membach 6.41 265 P Pn 09 46 20.2 +0.4
DRGR 6.46 135⇓ *i*P Pn 09 46 21.1 +0.4
CDF Champ du Feu 6.48 244 *e*Pn Pn 09 46 19.4 -1.6
CDF *e*Sg Sg 09 48 07.2 -5.2
comp=Z,68nm,0.6s
CDF Champ du Feu 6.48 244 *e*Pn Pn 09 46 19.4 -1.6
CDF Champ du Feu 6.48 244 *e*Pn Pn 09 46 19.4 -1.6
CDF *e*Sg Sg 09 48 07.2 -5.2
CDF Champ du Feu 6.48 244 *e*Pn Pn 09 46 19.4 -1.6
BCLA Clavier 6.89 265 P Pn 09 46 27.2 +0.7
BCLA Clavier 6.89 265 P Pn 09 46 27.1 +0.7
BZS Buzias 7.00 146⇓ *i*P Pn 09 46 28.0 +0.1
HINF Hinteralfeld 7.05 241 *e*Pn Pn 09 46 25.7 -3.0
HINF *e*Sg Sg 09 48 25.3 -5.3
comp=Z,63nm,0.8s
HINF Hinteralfeld 7.05 241 *e*P Pn 09 46 25.7 -3.0
HINF Hinteralfeld 7.05 241 *e*Pn Pn 09 46 25.7 -3.0
HINF *e*Sg Sg 09 48 25.3 -5.3
BUR08 Bucovina Ar. S 7.11 120 *e*Pn Pn 09 46 29.8 +0.2
BUR08 Bucovina Ar. S 7.11 120 *e*Pn Pn 09 46 29.8 +0.2
BURAR Bucovina Array 7.14 120⇑ *i*P Pn 09 46 30.1 +0.1
HAU Haudompre 7.23 244 *e*Pn Pn 09 46 28.8 -2.3
HAU *e*Sg Sg 09 48 31.1 -5.1
comp=Z,59nm,0.7s
HAU Haudompre 7.23 244 *e*P Pn 09 46 28.8 -2.3
HAU Haudompre 7.23 244 *e*Pn Pn 09 46 28.8 -2.3
HAU *e*Sg Sg 09 48 31.1 -5.1
NACGM Naroch 7.25 58 *e*P Pg 09 47 01.0 -2.0
GIVF Givet 7.27 263 *e*Sg Sg 09 48 32.2 -5.3
comp=Z,36nm,0.7s
PAGF Fort de Pagny 7.30 250 *e*Pn Pn 09 46 29.0 -3.1
baz=62
PAGF *e*Sg Sg 09 48 31.6 -7.1
comp=Z,13nm,0.8s
PAGF Fort de Pagny 7.30 250 *e*Pn Pn 09 46 29.0 -3.1
PAGF *e*Sg Sg 09 48 31.6 -7.1
THEF They Montfort 7.32 247 P Pn 09 46 31.9 -0.4
THEF They Montfort 7.32 247 P Pn 09 46 31.9 -0.4
DOU Dourbes 7.41 263 P Pn 09 46 34.6 +0.9
DOU Dourbes 7.41 263 P Pn 09 46 34.5 +0.9
GZR Gura Zlata 7.61 142⇓ *i*P Pn 09 46 37.1 +0.7
BAIF Baives 7.66 263 *e*Sg Sg 09 48 44.9 -5.2
comp=Z,46nm,0.9s
MICGM Minsk 7.71 63 *e* Pg 09 47 08.0 -3.8
CABF La Chapelle 8.21 237 *e*Pn Pn 09 46 41.4 -3.2
CABF *e*Sg Sg 09 49 02.0 -5.7
comp=Z,71nm,0.8s
CABF La Chapelle 8.21 237 *e*P Pn 09 46 41.4 -3.2
CABF La Chapelle 8.21 237 *e*Pn Pn 09 46 41.4 -3.2
CABF *e*Sg Sg 09 49 02.0 -5.7
KIEV Kiev 8.32 91⇓ *e*P Pn 09 46 44.2 -1.8
KIEV Kiev 8.32 91 *e*Pn Pn 09 46 44.1 -1.8
comp=Z,15nm,0.6s
KIEV *e*Sn Sn 09 48 21.4 +0.9
KIEV Kiev 8.32 91 *e*P Pn 09 46 44.2 -1.8
KIEV *e*Sn Sn 09 48 21.4 +0.9
AK01 Malin Array Si 8.32 91 *e*Pn Pn 09 46 44.0 -2.0
AK01 *e*Sn Sn 09 48 17.4 -3.2
AK01 Malin Array Si 8.32 91 *e*Pn Pn 09 46 44.0 -2.0
AK02 Malin Array Si 8.32 91 *e*Pn Pn 09 46 44.0 -2.1
AK02 Malin Array Si 8.32 91 *e*Pn Pn 09 46 44.0 -2.1
AKASG Malin Array Be 8.32 91 P Pn 09 46 44.2 -1.9
AKASG 09 48 14.2
AKASG Malin Array Be 8.32 91 Pn Pn 09 46 44.1 -1.9
AKASG Sn Sn 09 48 14.2 -6.5
AKASG Lg Lg 09 49 14.6
AKASG Malin Array Be 8.32 91 Pn Pn 09 46 44.1 -1.9
comp=Z,3.1nm,0.3s,baz=280,slow=12,SNR=28
AKASG Sn Sn 09 48 14.2 -6.5
comp=Z,1.8nm,0.3s,baz=274,slow=23,SNR=4.7
AKASG Lg Lg 09 49 14.6
comp=Z,0.6nm,0.3s,baz=279,slow=29,SNR=4.7
AKASG Malin Array Be 8.32 91 P Pn 09 46 44.2 -1.9
LPG La Plagne 8.66 229 *e*Sg Sg 09 49 17.3 -4.8
comp=Z,53nm,1.0s
HFS Hagfors 8.69 352 Pn Pn 09 46 49.7 -1.4
HFS Sn Sn 09 48 19.9 -10
HFS Lg Lg 09 49 20.6
HFS Hagfors 8.69 352 Pn Pn 09 46 49.7 -1.4
comp=Z,0.2nm,0.3s,baz=167,slow=13,SNR=6.2
HFS Sn Sn 09 48 19.9 -10
comp=Z,0.1nm,0.3s,baz=170,slow=25,SNR=2.3
HFS Lg Lg 09 49 20.6
comp=Z,0.3nm,0.3s,baz=167,slow=28,SNR=2.6
HFS Hagfors 8.69 352 P Pn 09 46 49.7 -1.4
LOR Lormes 9.04 246 *e*Pn Pn 09 46 54.6 -1.4
baz=68
LOR *e*Sg Sn 09 49 27.2 +49
comp=Z,22nm,0.7s
LOR Lormes 9.04 246 *e*Pn Pn 09 46 54.6 -1.4
LOR *e*Sg Sn 09 49 27.2 +49
LOR Lormes 9.04 246 *e*Pn Pn 09 46 54.6 -1.4
baz=68
LOR *e*Sg Sn 09 49 27.2 +49
comp=Z,11nm,0.7s
VSU Vasula 9.23 37⇑ *e*P Pn 09 46 58.9 +0.4
VSU Vasula 9.23 37 *e*P Pn 09 46 58.9 +0.4
SSF Saint Saulge 9.36 246 *e*Pn Pn 09 46 58.5 -1.7
SSF Saint Saulge 9.36 246 *e*Pn Pn 09 46 58.5 -1.7
SSF Saint Saulge 9.36 246 *e*Pn Pn 09 46 58.5 -1.7
SMF Signal de Mont 9.40 243 *e*Sg Sn 09 49 38.5 +51
comp=Z,39nm,0.8s
SBF Sospel 9.65 220 *e*P Pn 09 47 05.6 +1.3
SBF Sospel 9.65 220 *e*P Pn 09 47 05.6 +1.3
SBF Sospel 9.65 220 *e*P Pn 09 47 05.6 +1.3
SBF Sospel 9.65 220 *e*P Pn 09 47 05.6 +1.3
NOA NORSAR Array B 9.87 346 Pn Pn 09 47 04.0 -3.3
NOA Lg Lg 09 50 00.3
NOA NORSAR Array B 9.87 346 Pn Pn 09 47 04.0 -3.3
comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=4.0
NOA Lg Lg 09 50 00.3
comp=Z,0.5nm,0.3s,baz=123,slow=22,SNR=4.9
FINES FINESS Array B 11.33 25 Pn Pn 09 47 24.8 -2.4
FINES Sn Sn 09 49 23.4 -11
FINES Lg Lg 09 50 50.1
FINES FINESS Array B 11.33 25 Pn Pn 09 47 24.8 -2.4
comp=Z,0.4nm,0.3s,baz=126,slow=12,SNR=12
FINES Sn Sn 09 49 23.4 -11
comp=Z,0.7nm,0.3s,baz=211,slow=21,SNR=6.2
FINES Lg Lg 09 50 50.1
comp=Z,0.3nm,0.3s,baz=213,slow=25,SNR=5.4
KAF Kangasniemi 11.95 24 *e*P Pn 09 47 29.2 -6.5
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 11.95 24 *e*p Pn 09 47 29.2 -6.5
comp=Z,2.9nm,0.6s
EKA Eskdalemuir Ar 12.06 296 Pn Pn 09 47 33.5 -3.7
EKA Sn Sn 09 49 43.6 -8.7
EKA Eskdalemuir Ar 12.06 296 Pn Pn 09 47 33.5 -3.7
baz=105,slow=14,SNR=6.6
EKA Sn Sn 09 49 43.6 -8.7
baz=100,slow=25,SNR=3.7
OBN Obninsk 12.75 66⇓ *e*P Pn 09 47 47.6 +1.0
OBN pmax pmax
comp=Z,2.0nm,0.4s
OBN Obninsk 12.75 66 *e*P Pn 09 47 47.6 +1.0
comp=Z,2.0nm,0.4s
JOF Joensuu 14.01 30 *e*P Pn 09 47 58.5 -5.2
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 14.01 30 *e*p Pn 09 47 58.5 -5.2
comp=Z,1.8nm,0.5s
ANN Anapa 15.74 107 *e*P P 09 48 34.8 +3.5
ANN pmax pmax
comp=Z,68nm,1.3s
ARCES ARCESS Array B 18.58 10 Pn P 09 48 58.7 -3.7
ARCES ARCESS Array B 18.58 10 Pn P 09 48 58.7 -3.7
comp=Z,0.3nm,0.3s,baz=197,slow=11,SNR=12
ASF Jabal al Asfar 24.67 134 LR LR 10 00 54.1
comp=Z,162nm,20.9s,baz=346,slow=39
ARU Arti 25.14 62*d i*P P 09 50 10.9 +0.3
ARU S S 09 54 37.5 +1.3
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 25.14 62 *e*P P 09 50 10.5 -0.1
comp=Z,1.2nm,0.3s
ARU Arti 25.14 62 *i* P P 09 50 10.9 +0.3
comp=Z,8.0nm,1.7s
ARU S S 09 54 37.5 +1.3
AKTK Aktyubinsk 26.17 76 P P 09 50 19.6 -0.5
AKTO Aktyubinsk 26.17 76⇑ P P 09 50 24.2 +4.1
comp=Z,6.7nm,1.2s
AKTO Aktyubinsk 26.17 76 P P 09 50 19.6 -0.5
AKTO Aktyubinsk 26.17 76 P P 09 50 19.6 -0.5
AKTO Aktyubinsk 26.17 76 P P 09 50 19.6 -0.5
comp=Z,1.7nm,0.6s,baz=293,slow=10,SNR=9.7
AKTO Aktyubinsk 26.17 76 P P 09 50 19.6 -0.5
AB31 Akbulak array 27.75 77⇑ P P 09 50 35.0 +0.7
comp=Z,0.5nm,0.3s,baz=348,slow=14,SNR=21
AB31 Rg Rg 09 51 09.9
comp=Z,9.4nm,0.8s,baz=346,slow=35,SNR=9.0
ABKAR Akbulak array 27.75 77 *e*P P 09 50 34.5 +0.2
comp=Z,1.2nm,0.3s
ABKAR Akbulak array 27.75 77 *e*P P 09 50 34.5 +0.2
comp=Z,1.2nm,0.3s
BVAR Borovoye Array 32.59 66 P P 09 51 17.7 +0.6
BVAR Borovoye Array 32.59 66 P P 09 51 17.7 +0.6
BVAR Borovoye Array 32.59 66 P P 09 51 17.7 +0.6
comp=Z,1.1nm,0.6s,baz=302,slow=8.3,SNR=6.9
BVAR Borovoye Array 32.59 66 P P 09 51 17.7 +0.6
KURBB Kurchatov Arra 38.18 66 P P 09 52 04.9 -0.2
comp=Z,0.8nm,0.7s,baz=297,slow=8.7,SNR=5.1
KURK Kurchatov 38.19 66 *e*P P 09 52 05.4 +0.2
KURK Kurchatov 38.19 66 *e*P P 09 52 05.4 +0.2
KURK Kurchatov 38.19 66 *e*P P 09 52 05.4 +0.2
AAK Ala-Archa 39.79 79⇓ *e*P P 09 52 20.2 +1.2
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 39.79 79 P P 09 52 19.8 +0.9
AAK Ala-Archa 39.79 79 P P 09 52 19.8 +0.9
comp=Z,1.0nm,0.4s,baz=273,slow=0.6,SNR=5.9
AAK Ala-Archa 39.79 79 P P 09 52 19.8 +0.9
TORD Torodi Ar. Bea 40.04 202 P P 09 52 21.1 +0.1
TORD Torodi Ar. Bea 40.04 202 P P 09 52 21.1 +0.1
comp=Z,0.9nm,0.8s,baz=9.2,slow=8.7,SNR=4.2
TORD Torodi Ar. Bea 40.04 202 P P 09 52 21.1 +0.1
MKAR Makanchi Array 42.22 69 *i* P P 09 52 39.2 +0.4
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 42.22 69 P P 09 52 37.5 -1.3
MKAR Makanchi Array 42.22 69 P P 09 52 37.5 -1.3
comp=Z,0.5nm,0.8s,baz=295,slow=7.8,SNR=6.3
MKAR Makanchi Array 42.22 69 *i* P P 09 52 39.2 +0.4
comp=Z,1.0nm,0.8s
HVS Khovu-Aksy 46.30 58⇑ *e*P P 09 53 13.2 +1.8
HVS Khovu-Aksy 46.30 58 *e*P P 09 53 13.2 +1.8
TLY Talaya 51.11 53 *e*P P 09 53 49.9 +1.5
TLY Talaya 51.11 53 *e*P P 09 53 49.9 +1.5
SONM Songino Array 54.91 55 P P 09 54 17.4 +0.8
SONM Songino Array 54.91 55 P P 09 54 17.4 +0.8
comp=Z,0.9nm,0.9s,baz=297,slow=6.3,SNR=5.4
SONM Songino Array 54.91 55 P P 09 54 17.4 +0.8
ULN Ulaanbaatar 55.23 55 *e*P P 09 54 18.8 -0.1
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 59.80 336 P P 09 54 51.2 +0.6
YKA Yellowknife Ar 59.80 336 P P 09 54 51.2 +0.6
comp=Z,1.0nm,0.6s,baz=27,slow=6.9,SNR=28
YKA Yellowknife Ar 59.80 336 P P 09 54 51.3 +0.6
ILAR Eielson Array 63.25 352 P P 09 55 14.8 +0.9
ILAR Eielson Array 63.25 352 P P 09 55 14.8 +0.9
comp=Z,0.2nm,0.7s,baz=354,slow=5.4,SNR=4.1
ILAR Eielson Array 63.25 352 P P 09 55 14.8 +0.9
CMAR Chiang Mai Arr 71.38 84 P P 09 56 06.6 +0.5
CMAR Chiang Mai Arr 71.38 84 P P 09 56 06.6 +0.5
comp=Z,0.8nm,0.3s,baz=310,slow=7.0,SNR=3.8
CMAR Chiang Mai Arr 71.38 84 P P 09 56 06.6 +0.5
PDAR Pinedale Array 74.88 322 P P 09 56 27.6 +0.8

PDAR	**Pinedale Array**	**74.88**	**322**	P		**P**		**09 56 27.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=54,slow=5.6,SNR=7.3								
PDAR	**Pinedale Array**	**74.88**	**322**	P		**P**		**09 56 27.6**	**+0.8**
ASAR	**Alice Springs**	**125.39**	**84**	PKP		**PKPdf**		**10 03 46.0**	**-1.0**
ASAR	**Alice Springs**	**125.39**	**84**	PKP		**PKPdf**		**10 03 46.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=323,slow=1.4,SNR=6.1								
ASAR	**Alice Springs**	**125.39**	**84**	PKIKP		**PKPdf**		**10 03 46.0**	**-1.0**

IDC 15 09:51:09.8±2.2, 1°01N×127°24E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=181.4km s-min=26.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.95**	**162**	P		P	09 56 04.4	-0.9
	0.3nm,0.3s,baz=340,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**25.37**	**166**	P		P	09 56 39.5	+0.6
	0.1nm,0.4s,baz=346,slow=12,SNR=3.5							
MKAR	**Makanchi Array**	**60.07**	**326**	P		P	10 01 18.7	-0.1
	0.2nm,0.5s,baz=114,slow=8.5,SNR=6.4							

IDC 15 10:01:30.8±1.8, 18°29N×72°96W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/24, mbtmp3.7/4, Error ellipse: s-maj=56.1km s-min=45.3km az=53.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULM	**Lac du Bonnet**	**36.78**	**335**	P		P	10 08 41.7	+1.6
	2.1nm,0.8s,baz=138,slow=5.7,SNR=3.1							
YKA	**Yellowknife Ar**	**52.71**	**337**	P		P	10 10 46.7	-0.2
	0.5nm,0.7s,baz=125,slow=7.3,SNR=9.3							
ILAR	**Eielson Array**	**66.77**	**333**	P		P	10 12 22.7	-1.1
	0.3nm,0.8s,baz=108,slow=5.8,SNR=3.0							
GERES	**GERESS Array B**	**74.30**	**43**	P		P	10 13 10.2	0.0
	0.8nm,0.7s,baz=295,slow=7.2,SNR=5.9							
WRA	**Warramunga Arr**	**154.16**	**262**	PKP		PKPdf	10 21 26.1	+0.6
	0.3nm,0.7s,baz=101,slow=0.9,SNR=3.0							
WRA				PKPbc		PKPbc	10 21 33.3	-0.3
	0.5nm,0.7s,baz=90,slow=2.7,SNR=6.2							

IDC 15 10:05:28.1±11.0, 17°69N×71°36W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.6/25, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=220.8km s-min=58.3km az=127.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTS	**JuntasAbangare**	**15.09**	**243**	Pn		Pn	10 09 02.4	-0.5
	0.6nm,0.3s,baz=24,slow=19,SNR=4.3							
PDAR	**Pinedale Array**	**40.89**	**316**	P		P	10 13 11.1	-1.2
	0.2nm,0.3s,baz=116,slow=8.2,SNR=4.2							
NVAR	**Mina Array Bea**	**45.73**	**307**	P		P	10 13 52.2	+0.8
	0.5nm,0.9s,baz=95,slow=10.0,SNR=3.3							
YKA	**Yellowknife Ar**	**53.85**	**337**	P		P	10 14 52.7	+0.1
	0.3nm,0.8s,baz=122,slow=7.1,SNR=5.8							

*KRNET **15** 10:09:20.0±0.1, 39°38N×73°59E, h3km, mb3.6*
*ISCJB **15** 10:09:25.0±1.1, 39°29N±0°07×73°34E±0°06, h10km, Error ellipse: s-maj=10.4km s-min=5.9km az=151.7*
*NNC **15** 10:09:30.3±2.6, 39°76N×73°38E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=24.3km s-min=16.8km az=167.0*

ISC 15 10:09:20.6±1.7, 39°38N±0°07×73°58E±0°04, h10km, n24, σ1§29/38, 19C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.64**	**355**	*i* P		**Pg**	**10 09 31.9**	**-1.1**
	baz=354							
SFK				*e*S		**Sg**	**10 09 40.8**	**-0.6**
	baz=354							
OHH	**Osh**	**1.30**	**332**	⇓*i*P		**Pg**	**10 09 46.0**	**+0.5**
	baz=332							
OHH				⇓*e*S		**Sg**	**10 10 04.6**	**+2.3**
	baz=332							
DRK	**Karamyk**	**1.38**	**275**	*e*P		**Pb**	**10 09 46.7**	**0.0**
	baz=275							
DRK				*e*S		**Sg**	**10 10 05.7**	**+0.6**
	baz=275							
ARSB	**Arslanbob**	**2.00**	**347**	*e*P		**Pb**	**10 09 56.4**	**-0.7**
	baz=347							
ARSB				*e*S		**Sb**	**10 10 22.7**	**+0.7**
	baz=347							
BTK	**Batken**	**2.24**	**289**	*e*P		**Pg**	**10 10 02.9**	**-0.6**
	baz=288							
BTK				*e*S		**Sg**	**10 10 32.1**	**-0.3**
	baz=288							
ARLS	**Aral**	**2.54**	**13**	⇓*i*P		**Pg**	**10 10 08.3**	**-1.0**
	baz=12							
ARLS				⇓*i*S		**Sg**	**10 10 43.9**	**+1.6**
	baz=12							
ARK	**Arkit**	**2.71**	**333**	*e*P		**Pb**	**10 10 09.5**	**+0.2**
	baz=333							
AML	**Almayashu**	**2.75**	**2**	P		**Pb**	**10 10 10.8**	**+0.7**
	SNR=27							
AML	**Almayashu**	**2.75**	**2**	⇑*i*P		**Pb**	**10 10 10.6**	**+0.5**
	baz=2.0							
AML				⇑*i*S		**Sg**	**10 10 47.1**	**-1.9**
	baz=2.0							
NRN	**Naryn**	**2.76**	**41**	*e*P		**Pg**	**10 10 12.3**	**-1.2**
	baz=41							
NRN				*e*S		**Sg**	**10 10 50.8**	**+1.5**
	baz=41							
UCH	**Uchtor**	**2.93**	**14**	P		**Pb**	**10 10 13.8**	**+0.6**
	SNR=8.8							
UCH	**Uchtor**	**2.93**	**14**	⇑*i*P		**Pb**	**10 10 13.6**	**+0.4**
	baz=14							
UCH				⇑*i*S		**Sb**	**10 10 51.6**	**+2.3**
	baz=14							
KZA	**Kyzart**	**2.98**	**25**	⇑*i*P		**Pb**	**10 10 15.4**	**+1.4**
	baz=25							
KZA				⇑*i*S		**Sg**	**10 10 58.0**	**+1.7**
	baz=25							
EKS2	**Erkin-Say**	**3.28**	**3**	P		**Pb**	**10 10 18.8**	**-0.2**
	SNR=11							
EKS2	**Erkin-Say**	**3.28**	**3**	⇑*i*P		**Pb**	**10 10 18.5**	**-0.5**
	baz=2.0							
EKS2				⇑*i*S		**Sb**	**10 11 00.0**	**+1.0**
	baz=2.0							
AAK	**Ala-Archa**	**3.32**	**12**	⇑Pn		**Pb**	**10 10 19.6**	**-0.1**
	6.9nm,0.6s							
AAK				⇑Lg		Lg	10 11 03.8	
	18nm,0.9s							
AAK	**Ala-Archa**	**3.32**	**12**	P		**Pb**	**10 10 19.7**	**-0.1**
	SNR=18							
AAK	**Ala-Archa**	**3.32**	**12**	⇑*i*P		**Pb**	**10 10 19.5**	**-0.2**
	baz=12							
AAK				⇑*i*S		**Sb**	**10 11 01.9**	**+1.6**
	baz=12							
KBK	**Karagaybulak**	**3.43**	**17**	P		**Pb**	**10 10 20.8**	**-0.8**
	SNR=7.1							
KBK	**Karagaybulak**	**3.43**	**17**	⇑*i*P		**Pb**	**10 10 22.0**	**+0.4**
	baz=17							
KBK				⇑*i*S		**Sg**	**10 11 07.1**	**-3.7**
	baz=17							
ULHL	**Ulahol**	**3.50**	**34**	P		**Pg**	**10 10 27.2**	**-0.5**
	SNR=11							
ULHL	**Ulahol**	**3.50**	**34**	⇑*i*P		**Pg**	**10 10 26.5**	**-1.2**
	baz=34							
ULHL				⇑*i*S		**Sg**	**10 11 13.1**	**0.0**
	baz=34							
TKM2	**Tokmak 2**	**3.85**	**23**	⇑Pn		**Pb**	**10 10 27.4**	**-1.4**
	3.4nm,0.6s							
TKM2				⇑Lg		Lg	10 11 24.2	
	9.1nm,0.7s							
KK31	**Karatay Array**	**4.38**	**329**	⇓Pn		Pb	10 10 32.0	-5.6
	0.3nm,0.2s,baz=134,slow=13,SNR=17							
KK31				⇑Pg		**Pg**	**10 10 42.2**	**-2.3**
	4.4nm,0.7s,baz=154,slow=14,SNR=12							
KK31				⇓Lg		Lg	10 11 40.0	
	7.2nm,0.7s,baz=155,slow=27,SNR=3.6							

*BJI **15** 10:14:00.3, 31°90S×177°40W, h10km, mB5.9/27, mb5.4/26, Ms5.7/30, Ms7 5.4/29*
*IDC **15** 10:14:01.9±0.4, 31°47S×177°63W, h0km, mb4.8/23, mb1 4.9/25, mb1mx4.9/28, mbtmp4.7/25, ML4.1/2, MS5.7/32, Ms1 5.7/32, ms1mx5.5/46, Error ellipse: s-maj=15.4km s-min=13.6km az=155.0*
*ISCJB **15** 10:14:01.3±0.1, 32°00S±0°03×177°51W±0°04, h10km, mb5.2/74, MS5.8/190, Error ellipse: s-maj=5.8km s-min=2.6km az=38.5*

*NEIC **15** 10:14:03.0±0.2, 31°73S×177°61W, h10km, mb5.4/39, MS5.9/141, Error ellipse: s-maj=9.5km s-min=6.2km az=135.0*
*GCMT **15** 10:14:03.0±0.1, 31°61S×177°16W, h12km, MW5.9/131, Moment Tensor Solution. s96,c199; s131,c390; Duration: 2s1 Moment tensor: Scale 10^17 Nm; Mrr 6.02±.04; Mθθ -0.58±.05; Mϕϕ -5.44±.04; Mrθ 0.69±.14; Mθϕ -1.86±.04; Mϕr 5.03±.13; Best double couple: Mo 7.89400×10^17 NP1:ϕs12.00000°, δ65.00000°, λ84.00000°. NP2:ϕs206.00000°, δ26.00000°, λ103.00000°. Principal axes: T 7.9150, Plg69.0000°, Azm270.0000°; N -0.0390, Plg5.0000°, Azm14.0000°; P -7.8730, Plg20.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **15** 10:14:06.5±1.4, 31°48S×177°71W, h33km, mb5.6/13, MS5.8/30 Error ellipse: s-maj=12.4km s-min=9.1km az=92.1*

ISC 15 10:14:04.2±0.5, 31°79S±0°04×177°43W±0°04, h17km±2km, n619, σ1§65/499, mb5.3/73, MS5.9/190, 55C-68D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.57**	**350**	*e*Pn		Pn	10 14 39.0	-6.0
RAO				*e*Sn		**Sb**	**10 15 21.9**	**+0.9**
RAO	**Raoul Island**	**2.57**	**350**	Pn		Pn	10 14 38.8	-6.2
	453nm,0.3s,baz=248,slow=23,SNR=14							
MXZ	**Matakaoa Point**	**6.74**	**210**	*e*PN		Pn	10 15 39.1	-3.3
MXZ				*e*SN		**Sn**	**10 17 00.3**	**+1.5**
HAZ	**Te Kaha**	**7.13**	**212**	*e*PN		Pn	10 15 44.9	-2.8
HAZ				*e*SN		**Sn**	**10 17 08.1**	**-0.3**
PUZ	**Puketiti**	**7.20**	**208**	*e*PN		Pn	10 15 44.6	-4.0
CNGZ	**Carnagh Statio**	**7.57**	**207**	*e*PN		Pn	10 15 51.1	-2.7
MWZ	**Matawai**	**7.72**	**211**	*e*PN		Pn	10 15 53.2	-2.7
MWZ				*e*SN		**Sn**	**10 17 23.2**	**+0.2**
OPRZ	**Ohinepanea**	**7.80**	**218**	*e*PN		**Pn**	**10 15 55.5**	**-1.4**
URZ	**Urewera**	**7.85**	**213**	*e*Pn		**Pn**	**10 15 55.4**	**-2.2**
URZ				*e*Sn		**Sn**	**10 17 25.5**	**-0.5**
URZ	**Urewera**	**7.85**	**213**	Pn		Pn	10 15 54.8	-2.8
	2.6nm,0.3s,baz=200,slow=4.4,SNR=34							
URZ				Sn		**Sn**	**10 17 26.8**	**+0.8**
	18nm,0.3s,baz=182,slow=15,SNR=19							
URZ				LR		LR	10 19 36.4	
	comp=Z,54µm,18.6s,baz=36,slow=42							
RIGZ	**Rimuhau**	**7.94**	**208**	*e*PN		Pn	10 15 55.9	-2.9
OUZ	**Omahuta**	**8.24**	**243**	*e*Pn		Pn	10 16 07.7	+4.8
OUZ				*e*Sn		Sn	10 17 24.9	-11
OUZ	**Omahuta**	**8.24**	**243**	PN		Pn	10 16 06.4	+3.6
MHGZ	**Mahia Peninsul**	**8.27**	**206**	*e*PN		**Pn**	**10 16 01.0**	**-2.3**
MHGZ				*e*SN		**Sn**	**10 17 36.2**	**-0.1**
RAHZ	**Arahi**	**8.40**	**211**	*e*PN		**Pn**	**10 16 03.0**	**-2.2**
BKZ	**Black Stump Fm**	**8.87**	**212**	*e*Pn		Pn	10 16 06.9	-4.7
BKZ	**Black Stump Fm**	**8.87**	**212**	*e*Pn		Pn	10 16 07.5	-4.1
BKZ				*e*SN		**Sn**	**10 17 50.0**	**-1.1**
HIZ	**Hauiti**	**9.21**	**221**	*e*PN		**Pn**	**10 16 16.8**	**+0.5**
BHHZ	**Black Hill Sta**	**9.33**	**213**	*e*PN		**Pn**	**10 16 17.9**	**+0.1**
TSZ	**Takapari Road**	**9.83**	**211**	*e*PN		Pn	10 16 21.6	-3.2
TSZ				*e*SN		**Sn**	**10 18 09.9**	**-4.9**
TUWZ	**Tuamarina**	**11.85**	**213**	*e*PN		**Pn**	**10 16 50.9**	**-1.4**
NNZ	**Nelson**	**11.96**	**216**	*e*SN		Sn	10 19 00.9	-5.9
QRZ	**Quartz Range**	**12.11**	**219**	*e*PN		Pn	10 16 52.9	-3.0
QRZ				*e*SN		Sn	10 19 04.7	-5.9
THZ	**Tophouse**	**12.60**	**215**	*e*PN		**Pn**	**10 17 00.6**	**-2.1**
KHZ	**Kahutara**	**12.81**	**212**	*e*Pn		Pn	10 17 02.0	-3.5
KHZ	**Kahutara**	**12.81**	**212**	*e*SN		Sn	10 19 17.7	-10
LTZ	**Lake Taylor**	**13.68**	**214**	*e*PN		Pn	10 17 13.6	-3.8
OXZ	**Oxford**	**14.21**	**213**	*e*PN		Pn	10 17 20.2	-4.4
MQZ	**McQueen's Vall**	**14.23**	**211**	*e*PN		Pn	10 17 18.9	-6.0
MQZ				*e*SN		Sn	10 19 49.0	-13
MSVF	**Nonsavu**	**14.59**	**343**	*e*P		**Pn**	**10 17 27.7**	**-2.2**
MSVF				*e*			10 20 10.3	
MSVF				pmax		pmax		
	comp=Z,289nm,1.4s							
MSVF	**Nonsavu**	**14.59**	**343**	*e*Pn		**Pn**	**10 17 27.7**	**-2.2**
	comp=Z,289nm,1.4s							
MSVF				*e*Sn		**Sn**	**10 20 10.3**	**-1.0**
RPZ	**Rata Peaks**	**14.97**	**214**	*e*Pn		Pn	10 17 31.6	-3.4
	comp=Z,71nm,0.8s							
RPZ				Sn		Sn	10 20 09.8	-10
RPZ	**Rata Peaks**	**14.97**	**214**	Pn		Pn	10 17 31.7	-3.3
	comp=Z,3.5nm,0.3s,baz=117,slow=3.0,SNR=17							
RPZ				Sn		Sn	10 20 09.8	-10
	comp=Z,3.6nm,0.3s,baz=313,slow=20,SNR=9.9							
ODZ	**Otahua Downs**	**16.17**	**212**	*e*Pn		**Pn**	**10 17 48.2**	**-2.4**
	comp=Z,72nm,1.0s							
ODZ				*e*Sn		Sn	10 20 38.7	-11
JCZ	**Jackson Bay**	**16.38**	**218**	*e*PN		Pn	10 17 47.8	-5.5
DZM	**Mont Dzumac**	**17.32**	**300**	*e*P		**Pn**	**10 18 01.2**	**-4.1**
	comp=Z,442nm,1.5s							
DZM				*e*LR		LR	10 22 00.0	
	comp=Z,68µm,25.9s							
DZM	**Mont Dzumac**	**17.32**	**300**	*e*Pn		Pn	10 18 00.4	-4.9
	comp=Z,378nm,1.5s							
DZM				*e*Sn		**S**	**10 21 22.0**	**-4.3**
DZM	**Mont Dzumac**	**17.32**	**300**	P		**Pn**	**10 18 03.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=108,slow=14,SNR=10							
DZM				LR		LR	10 23 44.0	
	comp=Z,43µm,19.3s,baz=126,slow=34							
WHZ	**Wether Hill Ro**	**18.07**	**215**	*e*P		**Pn**	**10 18 11.9**	**-2.4**
WHZ				*e*S		**Sn**	**10 21 29.4**	**-6.1**
AFI	**Afiamalu**	**18.54**	**18**	*e*P		**P**	**10 18 17.8**	**-2.3**
	comp=Z,202nm,1.0s							
AFI				*e*S		**S**	**10 21 53.9**	**+2.8**
AFI	**Afiamalu**	**18.54**	**18**	P		**P**	**10 18 18.0**	**-2.1**
	comp=Z,3.8nm,0.3s,baz=252,slow=3.2,SNR=5.1							
AFI				S		Sn	10 21 31.6	-16
	comp=Z,2.2nm,0.3s,baz=197,slow=17,SNR=3.6							
RAR	**Rarotonga**	**18.97**	**61**	*e*P		**P**	**10 18 23.5**	**-1.2**
	comp=Z,91nm,0.8s							
RAR	**Rarotonga**	**18.97**	**61**	P		**P**	**10 18 22.3**	**-2.4**
	comp=Z,3.3nm,0.3s,baz=30,slow=0.0,SNR=5.5							
RAR				LR		LR	10 24 44.3	
	comp=Z,20µm,19.9s,baz=225,slow=34							
LHI	**Lord Howe Isla**	**20.01**	**265**	⇓P		**Pn**	**10 18 37.1**	**-0.8**
	baz=20							
TBI	**Tubuai**	**26.12**	**78**	*e*P		**P**	**10 19 34.0**	**-3.4**
	comp=Z,219nm,1.0s							
TBI				*e*S		**S**	**10 24 03.9**	**-4.4**
	comp=Z,5µm,20.9s							
TBI				*e*LQ		LQ	10 24 39.5	
	comp=Z,21µm,26.8s							
TBI				*e*LR		LR	10 25 59.9	
	comp=Z,25µm,29.8s,baz=250							
TBI	**Tubuai**	**26.12**	**78**	*e*T		T	10 46 31.8	
	comp=Z,18nm,0.3s							
ARMA	**Armidale**	**26.49**	**265**	⇑P		**P**	**10 19 43.9**	**+3.1**
	baz=27,SNR=6.3							
MGCD	**Mangrove Creek**	**26.52**	**258**	⇓P		**P**	**10 19 44.0**	**+3.0**
	baz=27,SNR=7.0							
CNB	**Canberra Magne**	**27.82**	**254**	⇓P		**P**	**10 19 55.6**	**+2.9**
	baz=28,SNR=6.4							
MILA	**Mila**	**27.97**	**250**	⇓P		**P**	**10 19 56.0**	**+2.1**
	baz=28							
CAN	**Canberra**	**28.12**	**254**	*e*P		**P**	**10 19 55.3**	**0.0**
CAN				pmax		pmax		
	comp=Z,45nm,1.1s							
CAN				MLR		MLR		
	comp=Z,18µm,20.0s							
CAN	**Canberra**	**28.12**	**254**	*e*P		**P**	**10 19 55.3**	**0.0**
	comp=Z,46nm,1.1s							
CAN				LR		LR		
	comp=Z,18µm,20.0s							
EIDS	**Eidsvold**	**28.32**	**275**	*e*P		**P**	**10 19 57.9**	**+0.8**
	comp=Z,63nm,1.1s							
EIDS	**Eidsvold**	**28.32**	**275**	⇓P		**P**	**10 19 58.3**	**+1.2**
	baz=29,SNR=7.6							
YNG	**Young**	**28.68**	**256**	⇑P		**P**	**10 20 03.0**	**+2.7**
	baz=29,SNR=10							
PAE	**Paea**	**28.84**	**67**	*e*P		**P**	**10 19 59.4**	**-2.4**
	comp=Z,17nm,1.3s							
PAE	**Paea**	**28.84**	**67**	*e*T		T	10 49 56.9	
	comp=Z,5.5nm,0.3s							
PPT2	**Papeete2**	**28.88**	**67**	*e*P		**P**	**10 20 00.0**	**-2.3**
	comp=Z,39nm,0.9s							
PPT2				*e*S		**S**	**10 24 47.6**	**-4.4**
	comp=Z,3µm,24.8s							
PPT2				*e*LQ		LQ	10 25 54.3	
	comp=Z,14µm,24.5s							
PPT2				*e*LR		LR	10 27 11.6	
	comp=Z,16µm,21.0s,baz=232							
PPT2	**Papeete2**	**28.88**	**67**	*e*T		T	10 49 58.3	
	comp=Z,5.1nm,0.3s							

PPT	**Papeete**	**28.89**	**67**	LR		LR	10 29 32.0		
	comp=Z,16µm,19.5s,baz=242,slow=32								
TVO	**Taravao**	**29.03**	**68**	*e*P		**P**	**10 20 00.9**	**-2.6**	
	comp=Z,12nm,1.0s								
TIAR	**Tiarei**	**29.08**	**68**	*e*P		**P**	**10 20 01.6**	**-2.4**	
	comp=Z,17nm,0.7s								
MEH	**Mehetia**	**29.92**	**69**	*e*P		P	10 20 08.4	-3.0	
	comp=Z,22nm,1.2s								
RMQ	**Roma**	**29.93**	**271**	⇑P		**P**	**10 20 12.4**	**+1.0**	
	baz=30,SNR=6.2								
TAU	**Tasmania Unive**	**29.94**	**238**	PFAKE			10 20 20.0	+8.7	
TAU				LR		LR			
	comp=Z,20µm,19.0s								
TOO	**Toolangi**	**30.89**	**249**	P		**P**	**10 20 20.7**	**+0.9**	
	baz=31,SNR=15								
CMSA	**Cobar Meteorol**	**31.30**	**261**	⇓P		**P**	**10 20 23.9**	**+0.4**	
	baz=32,SNR=50								
VAH	**Vaihoa**	**31.77**	**66**	*e*P		**P**	**10 20 25.4**	**-2.2**	
	comp=Z,51nm,1.1s								
VAH	**Vaihoa**	**31.77**	**66**	*e*T		T	10 53 39.9		
	comp=Z,12nm,0.2s								
QLP	**Quilpie**	**33.75**	**269**	P		**P**	**10 20 44.5**	**-0.4**	
	baz=34,SNR=15								
ARPS	**Mount Arapiles**	**33.84**	**250**	⇑P		**P**	**10 20 45.9**	**+0.3**	
	baz=34,SNR=14								
TARA	**Tarawa**	**34.21**	**343**	PFAKE			10 21 00.0	+11	
TARA				LR		LR			
	comp=Z,17µm,20.0s								
CTA	**Charters Tower**	**34.52**	**281**	P		**P**	**10 20 51.8**	**+0.1**	
CTA				S		**S**	**10 26 15.3**	**-4.6**	
CTA	**Charters Tower**	**34.52**	**281**	P		**P**	**10 20 51.8**	**+0.1**	
	comp=Z,14nm,0.5s,baz=105,slow=11,SNR=12								
CTA				S		**S**	**10 26 15.3**	**-4.6**	
	comp=Z,2.0nm,0.5s,baz=84,slow=10,SNR=2.2								
CTA				LR		LR	10 33 31.1		
	comp=Z,20µm,19.4s,baz=130,slow=34								
CTA	**Charters Tower**	**34.52**	**281**	⇑P		**P**	**10 20 52.3**	**+0.5**	
	baz=35								
CTAO	**Charters Tower**	**34.52**	**281**	*e*P		**P**	**10 20 52.0**	**+0.2**	
CTAO				*e*S		S	10 26 13.5	-6.5	
CTAO				pmax		pmax			
	comp=Z,196nm,1.5s								
CTAO				MLR		MLR			
	comp=Z,21µm,20.0s								
CTAO	**Charters Tower**	**34.52**	**281**	*e*P		**P**	**10 20 52.0**	**+0.2**	
	comp=Z,196nm,1.5s								
CTAO				*e*S		S	10 26 13.4	-6.5	
CTAO				LR		LR			
	comp=Z,21µm,20.0s								
STKA	**Stephens Creek**	**34.66**	**259**	*e*P		**P**	**10 20 52.9**	**0.0**	
	comp=Z,9.6nm,1.2s								
STKA				S		**S**	**10 26 20.4**	**-1.6**	
STKA	**Stephens Creek**	**34.66**	**259**	P		**P**	**10 20 52.9**	**0.0**	
	comp=Z,11nm,0.5s,baz=102,slow=9.9,SNR=37								
STKA				S		**S**	**10 26 20.4**	**-1.6**	
	comp=Z,1.1nm,0.7s,baz=308,slow=12,SNR=1.8								
STKA				LR		LR	10 34 10.7		
	comp=Z,14µm,19.8s,baz=98,slow=35								
STKA	**Stephens Creek**	**34.66**	**259**	P		**P**	**10 20 52.9**	**0.0**	
	baz=35,SNR=32								
RKT	**Rikitea**	**38.45**	**88**	*e*S		**S**	**10 27 15.2**	**-4.7**	
	comp=Z,2µm,28.5s								
RKT				*e*LR		LR	10 31 45.7		
	comp=Z,23µm,30.2s,baz=251								
XMAS	**Kiritimati**	**38.63**	**33**	PFAKE			10 21 40.0	+13	
XMAS				LR		LR			
	comp=Z,8µm,20.0s								
BBOO	**Buckleboo**	**39.08**	**256**	*e*P		**P**	**10 21 28.5**	**-2.0**	
	comp=Z,449nm,0.8s								
BBOO	**Buckleboo**	**39.08**	**256**	⇓P		**P**	**10 21 28.8**	**-1.7**	
	baz=39,SNR=22								
PMG	**Port Moresby**	**39.65**	**296**	LR		LR	10 35 22.3		
	comp=Z,3µm,21.1s,baz=122,slow=32								
PMG	**Port Moresby**	**39.65**	**296**	⇑P		**P**	**10 21 35.8**	**+0.4**	
	baz=40								
QIS	**Mount Isa**	**39.92**	**276**	P		**P**	**10 21 37.7**	**+0.1**	
	baz=40,SNR=8.2								
COEN	**Coen**	**40.14**	**287**	*e*P		**P**	**10 21 39.5**	**+0.1**	
	comp=Z,70nm,0.9s								
COEN	**Coen**	**40.14**	**287**	⇓P		**P**	**10 21 38.6**	**-0.8**	
	baz=40,SNR=8.8								
PTCN	**Pitcairn Islan**	**41.90**	**93**	PFAKE			10 22 10.0	+16	
PTCN				LR		LR			
	comp=Z,12µm,20.0s								
AS31	**Alice Springs**	**43.54**	**268**	*e*P		**P**	**10 22 05.2**	**-2.0**	
ASAR	**Alice Springs**	**43.54**	**268**	P		**P**	**10 22 05.3**	**-1.9**	
ASAR				ScP		**ScP**	**10 27 49.0**	**+3.4**	
ASAR	**Alice Springs**	**43.54**	**268**	P		**P**	**10 22 05.3**	**-1.9**	
	comp=Z,12nm,0.7s,baz=111,slow=7.0,SNR=55								
ASAR				ScP		**ScP**	**10 27 49.0**	**+3.4**	
	comp=Z,1.3nm,0.8s,baz=136,slow=3.5,SNR=4.4								
ASAR				LR		LR	10 39 57.0		
	comp=Z,9µm,19.4s,baz=122,slow=36								
WRAB	**Tennant Creek**	**44.65**	**273**	P		**P**	**10 22 13.3**	**-2.8**	
	comp=Z,309nm,1.1s,SNR=39								
WRAB	**Tennant Creek**	**44.65**	**273**	*e*P		**P**	**10 22 14.0**	**-2.1**	
WRAB				*e*S		**S**	**10 28 50.4**	**-1.4**	
WRAB				pmax		pmax			
	comp=Z,81nm,0.8s								
WRAB			

comp=Z,35nm,1.0s,baz=41,slow=3.6,SNR=30
QSPA LR LR 10 46 04.6
comp=Z,5µm,19.6s,baz=42,slow=33
MIDW Midway 59.68 0 PFAKE 10 24 20.0 +12
MIDW LR LR
comp=Z,10µm,20.0s
KAPI Kappang 64.34 281 PFAKE 10 24 50.0 +11
KAPI LR LR
comp=Z,7µm,20.0s
DAV Davao City (W) 66.65 295 PFAKE 10 25 10.0 +16
DAV LR LR
comp=Z,2µm,19.0s
JCJ Chichijima 70.08 322 LR LR 10 50 27.4
comp=Z,2µm,21.6s,baz=162,slow=31
PMSA Palmer Station 70.80 155 PFAKE 10 25 30.0 +11
PMSA LR LR
comp=Z,8µm,20.0s
MAW Mawson 71.18 201 P **P** **10 25 21.8 +0.2**
comp=Z,10nm,1.3s
MAW Mawson 71.18 201 P **P** **10 25 24.0 +2.5**
comp=Z,14nm,1.1s,baz=136,slow=4.1,SNR=5.6
KKM Kota Kinabalu 73.45 288 PFAKE 10 25 50.0 +14
KKM LR LR
comp=Z,3µm,20.0s
USHA Ushuaia 74.50 145 LR LR 10 51 18.2
comp=Z,4µm,20.1s,baz=211,slow=30
KSM Kuching 75.76 281 PFAKE 10 26 00.0 +11
KSM LR LR
comp=Z,2µm,20.0s
SYO Syowa Base 75.87 193⇑ *e*pP **P** **10 25 49.8 +0.7**
SNAA Sanae 76.75 178 *e*P **P** **10 25 53.7 -0.5**
comp=Z,45nm,1.1s
PAF Port-aux-Franc 79.35 218 PFAKE 10 26 20.0 +11
PAF LR LR
comp=Z,15µm,19.0s
MJAR Matsushiro Arr 79.66 325 P **P** **10 26 10.0 -0.7**
MJAR Matsushiro Arr 79.66 325 P **P** **10 26 10.0 -0.7**
comp=Z,2.7nm,0.7s,baz=246,slow=12,SNR=3.6
MJAR LR LR 10 58 04.1
comp=Z,2µm,20.4s,baz=120,slow=33
MAJO Matsushiro 79.66 325⇓ *e*P **P** **10 26 09.5 -1.2**
MAJO pmax pmax
comp=Z,130nm,1.7s
MAJO Matsushiro 79.66 325 PFAKE 10 26 20.0 +9.3
MAJO LR LR
comp=Z,2µm,20.0s
COCO West Island 80.10 262 PFAKE 10 26 20.0 +6.4
COCO LR LR
comp=Z,7µm,20.0s
JNU Nakatsue 80.92 318 LR LR 10 57 10.5
comp=Z,3µm,21.9s,baz=154,slow=32
YHNB Yeheng 81.05 306 PFAKE 10 26 30.0 +12
YHNB LR LR
comp=Z,3µm,19.0s
TATO Taipei 81.17 306 PFAKE 10 26 30.0 +11
TATO LR LR
comp=Z,10µm,19.0s
PLCA Paso Flores 81.20 133 P **P** **10 26 20.8 +1.6**
PLCA Paso Flores 81.20 133 P **P** **10 26 20.8 +1.6**
comp=Z,4.7nm,1.1s,baz=243,slow=4.9,SNR=5.3
PLCA LR LR 10 54 57.4
comp=Z,8µm,20.1s,baz=242,slow=30
ERM Erimo 81.92 331 PFAKE 10 26 30.0 +7.5
ERM LR LR
comp=Z,6µm,20.0s
YUK Yuzh-Kuril'sk 82.58 334 *d i*P **P** **10 26 28.0 +2.1**
YUK *i* S **S** **10 36 45.9 +3.9**
QZH Quanzhou 83.15 305 P P 10 26 24.4 -5.0
QZH Quanzhou 83.15 305 S **S** **10 36 45.6 -3.1**
QZH Quanzhou 83.15 305 SKS **S** **10 36 52.6 +3.9**
QZH LR LR
comp=N,1µm,11.9s
QZH LR LR
comp=E,1µm,13.8s
QZH LR LR
comp=Z,2µm,23.7s
ASAJ Asahikawa 83.90 332 P **P** **10 26 30.6 -2.2**
ASAJ Asahikawa 83.90 332 P **P** **10 26 30.6 -2.2**
comp=Z,12nm,0.8s,baz=95,slow=12,SNR=2.8
ASAJ LR LR 11 01 06.1
comp=Z,4µm,19.2s,baz=181,slow=34
FX1 Attu Island--F 84.72 354 LR LR 10 58 54.0
comp=Z,4µm,19.9s,baz=185,slow=32
LPIG La Paz 84.86 58 LR LR 10 56 43.0
comp=Z,10µm,19.9s,baz=218,slow=30
SSE Sheshan 85.39 311 P **P** **10 26 39.6 -1.0**
SSE S **S** **10 37 09.0 -1.9**
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,600nm,12.0s
SSE LR LR
comp=Z,780nm,21.0s
SSE LR LR
comp=Z,910nm,21.0s
SSE LR LR
comp=Z,2µm,21.0s
KSRS Korea Array 85.72 319 P **P** **10 26 41.1 -1.0**
comp=Z,1.9nm,0.8s,baz=148,slow=4.6,SNR=6.6
KSAR Wonju Array Be 85.73 319 P **P** **10 26 41.1 -1.1**
KULM Kulim 85.92 279 PFAKE 10 26 50.0 +6.3
KULM LR LR
comp=Z,3µm,20.0s
QIZ Qiongzhong 86.03 295 P **P** **10 26 44.9 +0.8**
QIZ S **S** **10 37 19.9 +2.2**
QIZ pmax pmax
comp=Z,30nm,1.9s
QIZ LR LR
comp=Z,930nm,19.4s
QIZ LR LR
comp=Z,350nm,36.8s
QIZ LR LR
comp=Z,3µm,35.8s
QIZ Qiongzhong 86.03 295 PFAKE 10 26 50.0 +5.9
QIZ LR LR
comp=Z,3µm,21.0s
PSI Prapat 86.06 276 P **P** **10 26 43.8 -0.8**
PSI Prapat 86.06 276 P **P** **10 26 43.8 -0.8**
comp=Z,9.6nm,1.0s,baz=194,slow=8.4,SNR=6.5
PSI LR LR 11 06 04.4
comp=Z,9µm,20.7s,baz=111,slow=36
YSS Yuzh-Sakhalins 86.21 334 *e*P **P** **10 26 44.3 0.0**
YSS *e*S **S** **10 37 14.0 -4.2**
YSS *e*SS SS 10 42 50.0 -8.2
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,4µm,18.0s
YSS MLR MLR
comp=N,3µm,19.0s
YSS MLR MLR
comp=E,1µm,18.0s
YSS Yuzh-Sakhalins 86.21 334 PFAKE 10 26 50.0 +5.7
YSS LR LR
comp=Z,3µm,20.0s
MURC Murrieta 86.32 47 ⇓P **P** **10 26 45.2 -0.1**
baz=87
MONP Monument Peak 86.34 48 ⇓P **P** **10 26 45.5 0.0**
baz=87
ARVC Arvin 86.37 45 ⇑P **P** **10 26 46.0 +0.7**
baz=87
GSI Gunungsitoli 86.42 274 *e*P **P** **10 26 47.9 +1.7**
comp=Z,83nm,1.2s
INCN Inchon 86.46 319 PFAKE 10 27 00.0 +14
INCN LR LR
comp=Z,2µm,19.0s
BFSC Mount Baldy Ra 86.47 46 ⇓P **P** **10 26 46.5 +0.4**
baz=87
EDW2 Edwards Air Fo 86.70 45 ⇑P **P** **10 26 47.4 +0.3**
baz=87
VES Vestal, Richgr 86.70 44 ⇑P **P** **10 26 47.6 +0.6**
baz=87
SWSC Sam W. Stewart 86.76 48 ⇓P **P** **10 26 47.4 0.0**
baz=87
PFO Pinyon Flat Ob 86.79 47 *e*P **P** **10 26 47.3 -0.4**
comp=Z,29nm,1.5s
PFO LR LR
comp=Z,8µm,19.0s
PFO Pinyon Flat Ob 86.79 47 P **P** **10 26 47.4 -0.3**
comp=Z,3.9nm,1.1s,baz=170,slow=9.2,SNR=4.4
PFO Pinyon Flat Ob 86.79 47 ⇓P **P** **10 26 47.7 0.0**
baz=87
PET Petropavlovsk 87.00 346 *e*P **P** **10 26 50.2 +2.2**
PET *e*S **S** **10 37 25.6 0.0**
PET MLR MLR
comp=Z,4µm,21.0s
PET MLR MLR
comp=Z,6µm,21.0s
PET Petropavlovsk 87.00 346 PFAKE 10 27 00.0 +12
PET LR LR
comp=Z,5µm,20.0s
PAYG Puerto Ayora 87.22 89 PFAKE 10 27 00.0 +10
PAYG LR LR
comp=Z,5µm,20.0s
PETK Petropavlovsk- 87.28 345 P **P** **10 26 47.7 -1.7**
PETK Petropavlovsk- 87.28 345 P **P** **10 26 47.7 -1.7**
PETK Petropavlovsk- 87.28 345 P **P** **10 26 47.7 -1.7**
comp=Z,5.3nm,0.8s,baz=125,slow=8.0,SNR=6.9
LRMC Laurel Mountai 87.29 45 ⇑P **P** **10 26 50.3 +0.3**
baz=88,SNR=5.9
BELC Belle Mtn. Jos 87.34 47 ⇓P **P** **10 26 51.0 +0.7**
baz=88
BC3 Big Chuckawall 87.45 47 ⇓P **P** **10 26 50.8 -0.1**
baz=88
GLA Glamis 87.45 48 ⇓P **P** **10 26 52.1 +1.3**
baz=88
CMB Columbia Colle 87.47 42 *e*P **P** **10 26 50.7 -0.1**
CMB pmax pmax
comp=Z,29nm,1.4s
CMB Columbia Colle 87.47 42 *e*P **P** **10 26 50.7 -0.1**
comp=Z,29nm,1.4s
NJ2 Nanjing 87.52 310 *e*P P 10 26 56.3 +5.2
NJ2 pP pP 10 27 00.0 +3.2
NJ2 sP sP 10 27 03.9 +5.1
NJ2 Nanjing 87.52 310 S **S** **10 37 33.0 +1.4**
HEC Hector,Ludlow 87.68 46 ⇑P **P** **10 26 52.3 +0.4**
baz=88
GSC Goldstone 87.70 46 *e*P **P** **10 26 52.5 +0.5**
GSC pmax pmax
comp=Z,56nm,1.6s
GSC Goldstone 87.70 46 *e*P **P** **10 26 52.5 +0.5**
comp=Z,56nm,1.6s
GSC Goldstone 87.70 46 ⇑P **P** **10 26 52.0 0.0**
baz=88,SNR=6.2
MPMC Manual Prospec 87.80 45 ⇓P **P** **10 26 53.0 +0.4**
baz=88,SNR=10.0
LCO Las Campanas 87.81 123 PFAKE 10 27 10.0 +17
LCO LR LR
comp=Z,6µm,20.0s
113A Mohawk Valley, 87.94 49 ⇓P **P** **10 26 54.0 +0.9**
baz=88
IRM Iron Mountain 87.97 47 ⇑P **P** **10 26 53.2 0.0**
baz=88,SNR=11
GMRC Granite Mounta 88.06 47 ⇓P **P** **10 26 53.8 0.0**
baz=88,SNR=6.2
MLAC Mammoth Lakes 88.08 43 ⇓P **P** **10 26 54.0 +0.1**
baz=88
Y12C Blythe 88.10 48 ⇑P **P** **10 26 54.0 +0.2**
baz=88
N02D Trinity Center 88.29 38 ⇓P **P** **10 26 55.4 +0.8**
baz=89
TUQ Turquoise Moun 88.33 46 ⇑P **P** **10 26 55.4 +0.3**
baz=89
WAKR Walker 88.33 42 *e*P **P** **10 26 56.0 +0.9**
comp=Z,46nm,1.5s
FURC Furnace Creek, 88.45 45 ⇓P **P** **10 26 55.9 +0.5**
baz=89
GRAC Grapevine Rang 88.51 44 ⇑P **P** **10 26 56.3 +0.5**
baz=89
M02C Callahan 88.51 38 ⇓P **P** **10 26 56.5 +0.8**
baz=89
USRK Ussuriysk Arra 88.59 326 P **P** **10 26 55.8 -0.1**
comp=Z,4.3nm,0.8s,baz=143,slow=3.8,SNR=11
PDMCI Parker Dam,Lak 88.69 48 ⇑P **P** **10 26 57.0 +0.4**
baz=89
YBH Yreka Blue Hor 88.83 38 P **P** **10 26 57.6 +0.5**
YBH Yreka Blue Hor 88.83 38 P **P** **10 26 57.7 +0.5**
comp=Z,5.0nm,1.0s,baz=151,slow=7.3,SNR=4.5
YBH LR LR 10 59 11.0
comp=Z,4µm,20.3s,baz=229,slow=30
Z14A Wintersburg 88.85 49 ⇓P **P** **10 26 57.7 +0.3**
baz=89
NVAR Mina Array Bea 88.93 42 P **P** **10 26 58.3 +0.4**
NVAR Mina Array Bea 88.93 42 P **P** **10 26 58.3 +0.4**
comp=Z,7.2nm,1.1s,baz=220,slow=6.7,SNR=20
TPNV Topopah Spring 89.14 45 ⇓P **P** **10 26 59.2 +0.4**
baz=89,SNR=6.0
Y14A Wickenburg 89.18 49 ⇓P **P** **10 26 59.3 +0.3**
baz=90,SNR=6.7
PAHR Pah Rah Range 89.19 41 *e*P **P** **10 26 59.8 +0.8**
comp=Z,28nm,1.4s
M04C Macdoel 89.32 38 ⇑P **P** **10 27 00.1 +0.6**
baz=90
W13A Hualapai Mount 89.37 47 ⇑P **P** **10 27 00.6 +0.5**
baz=90,SNR=5.7
SHPR Sheep Range 89.50 45 *e*P **P** **10 27 01.9 +1.3**
comp=Z,26nm,1.5s
WHN Wuhan 89.57 307 ⇑P P 10 26 54.4 -6.4
TUC Tucson 89.60 51 *e*P **P** **10 27 02.1 +1.1**
TUC pmax pmax
comp=Z,33nm,1.5s
TUC MLR MLR
comp=Z,4µm,19.0s
TUC Tucson 89.60 51 *e*P **P** **10 27 02.1 +1.1**
comp=Z,33nm,1.5s
TUC LR LR
comp=Z,4µm,19.0s
319A Douglas 90.03 53 ⇑P **P** **10 27 03.6 +0.5**
baz=90
MDJ Mudanjiang 90.05 325 P **P** **10 27 04.3 +1.6**
MDJ pP **pP** **10 27 07.5 -0.9**
MDJ sP sP 10 27 08.8 -1.7
MDJ PP **PP** **10 30 38.8 +2.4**
MDJ SKS **SKSac** **10 37 32.5 -0.1**
MDJ S **ScS** **10 37 59.8 +0.9**
MDJ SS **SS** **10 43 59.9 +5.6**
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,200nm,6.2s
MDJ LR LR
comp=Z,1µm,22.8s
MDJ LR LR
comp=Z,820nm,21.8s
MDJ LR LR
comp=Z,2µm,23.8s
MDJ Mudanjiang 90.05 325 *e*P **P** **10 27 02.3 -0.4**
comp=Z,30nm,1.2s
MDJ LR LR
comp=Z,4µm,21.0s
R11A Troy Canyon, C 90.46 44 ⇓P **P** **10 27 05.4 +0.4**
baz=91
X16A Lo Mia Camp, P 90.49 49 ⇓P **P** **10 27 06.0 +0.7**
baz=91,SNR=10
HABR Khabarovsk 90.50 331 *e*P **P** **10 27 04.3 -0.3**
HABR *e*S **SKSac** **10 37 34.4 -0.5**
HABR *e* 10 38 02.4
HABR *e*SS **SS** **10 44 01.2 +0.6**
HABR MLR MLR
comp=Z,4µm,20.0s
320A Kipp Ranch, An 90.52 53 ⇓P **P** **10 27 05.4 -0.1**
baz=91
U15A North Rim 91.22 47 ⇑P **P** **10 27 09.8 +1.0**
baz=92,SNR=11
WUAZ Wupatki 91.22 48 *e*P **P** **10 27 09.6 +1.0**
WUAZ comp=Z,31nm,1.4s LR LR
comp=Z,5µm,20.0s
WUAZ Wupatki 91.22 48 ⇑P **P** **10 27 09.1 +0.5**
baz=92,SNR=6.8
TIA Tai'an 91.27 313 ⇓P **P** **10 27 09.8 +1.2**
TIA pmax pmax
comp=Z,30nm,1.3s
ARUT Antelope Range 91.38 45 *e*P **P** **10 27 09.9 +0.6**
ARUT pmax pmax
comp=Z,377nm,1.7s
ARUT Antelope Range 91.38 45 *e*P **P** **10 27 09.9 +0.6**
comp=Z,377nm,1.7s
I05D Terrebonne, OR 91.39 37 ⇑P **P** **10 27 09.9 +0.9**
baz=92
WVOR Wild Horse Val 91.48 39 *e*P **P** **10 27 09.6 0.0**
WVOR pmax pmax
comp=Z,28nm,1.4s
WVOR MLR MLR
comp=Z,6µm,20.0s
WVOR Wild Horse Val 91.48 39 *e*P **P** **10 27 09.6 0.0**
comp=Z,28nm,1.4s
WVOR LR LR
comp=Z,6µm,20.0s
X18A Snowflake 91.52 50 ⇓P **P** **10 27 10.5 +0.4**
baz=92
CN2 Changchun 91.54 323 *e*P **P** **10 27 10.4 +0.7**
CN2 *e*pP **pP** **10 27 15.3 -0.1**
CN2 *e*sP **sP** **10 27 17.4 -0.1**
CN2 *e*S **S** **10 38 09.0 +0.4**
CN2 *e*SS **SS** **10 44 21.0 +5.0**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 91.65 13 PFAKE 10 27 20.0 +10
KDAK LR LR
comp=Z,4µm,21.0s
222A Williams Famil 91.95 53 ⇓P **P** **10 27 11.9 -0.2**
baz=92
W18A Petrified Fore 92.02 49 P **P** **10 27 12.9 +0.5**
comp=Z,18nm,1.2s
W18A Petrified Fore 92.02 49 ⇓P **P** **10 27 12.7 +0.3**
baz=92
G05D Wamic, OR 92.04 36 ⇑P **P** **10 27 13.0 +1.1**
baz=92
ELK Elko 92.24 42 P P 10 27 09.0 -4.3
ELK Elko 92.24 42 P P 10 27 09.0 -4.3
comp=Z,2.2nm,1.0s,baz=185,slow=3.2,SNR=6.5
NLWA Neilton Lookou 92.35 33 PFAKE 10 27 20.0 +6.6
NLWA LR LR
comp=Z,7µm,20.0s
KLR Kul'dur 92.48 329 *e*P P 10 27 10.0 -3.9
KLR *e*S **S** **10 38 16.0 -0.8**
KLR smax smax
comp=N,2µm,12.5s
KLR smax smax
comp=E,1µm,12.5s
626A Big Bend Ranch 92.52 57 ⇓P **P** **10 27 14.8 +0.1**
baz=93
NNA Nana 92.57 106 PFAKE 10 27 30.0 +15
NNA LR LR
comp=Z,4µm,21.0s
425A Indio Mountain 92.63 55 ⇑P **P** **10 27 15.3 +0.1**
baz=93
GYA Guiyang 92.66 299 P **P** **10 27 17.0 +1.5**
GYA PP **PP** **10 31 02.4 +4.7**
GYA SKS **SKSac** **10 37 50.8 +2.2**
GYA S **S** **10 38 19.6 -0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,580nm,20.8s
GYA LR LR
comp=Z,510nm,21.2s
GYA LR LR
comp=Z,540nm,20.9s
TXAR Lajitas Array 92.73 57 P **P** **10 27 15.7 0.0**
TXAR Lajitas Array 92.73 57 P **P** **10 27 15.7 0.0**
comp=Z,1.4nm,1.0s,baz=212,slow=4.4,SNR=4.8
TXAR LR LR 11 01 30.5
comp=Z,6µm,19.8s,baz=0.0,slow=31
ENH Enshi 92.79 304 *e*P **P** **10 27 17.7 +1.8**
comp=Z,31nm,1.2s
ENH LR LR
comp=Z,110nm,20.0s
LVC Limon Verde 92.83 119 PFAKE 10 27 30.0 +13
LVC LR LR
comp=Z,5µm,21.0s
526A Mary Lane Ranc 92.85 56 ⇓P **P** **10 27 16.6 +0.4**
baz=93
MNTX Cornudas Mount 92.89 54 PFAKE 10 27 30.0 +14
MNTX LR LR
comp=Z,2µm,20.0s
325A Bean Ranch, Si 92.98 55 ⇑P **P** **10 27 16.8 -0.1**
baz=93
627A Terlingua Ranc 93.00 57 ⇑P **P** **10 27 16.9 0.0**
baz=93
224A Cornudas Mount 93.01 54 ⇑P **P** **10 27 17.0 0.0**
baz=93
527A Woodward Ranch 93.23 56 ⇑P **P** **10 27 17.6 -0.4**
baz=94
426A McDonald Obser 93.24 56 ⇑P **P** **10 27 17.7 -0.4**
baz=94
LAZ Ladron 93.29 51 *e*P **P** **10 27 19.8 +1.5**
comp=Z,5.5nm,1.4s
DUG Dugway 93.29 44 PFAKE 10 27 30.0 +12
DUG LR LR
comp=Z,5µm,19.0s
DUG Dugway 93.29 44 ⇓P **P** **10 27 18.8 +0.8**
baz=94
628A Black Gap, Mar 93.37 57 ⇑P **P** **10 27 18.8 +0.2**
baz=94
124A Stringfield Ra 93.42 53 ⇓P **P** **10 27 19.2 +0.3**
baz=94
MFID Camas Ranch 93.67 40 *e*P **P** **10 27 18.9 -0.8**
comp=Z,19nm,1.3s
TMUT Trail Mountain 93.69 45 *e*P **P** **10 27 21.9 +1.8**
comp=Z,6.0nm,1.1s
HAWA Hanford 93.74 36 PFAKE 10 27 30.0 +10
HAWA LR LR
comp=Z,5µm,20.0s
Y23A Lovelace Mesa, 93.74 52 ⇑P **P** **10 27 20.2 -0.1**
baz=94
427A Hayter Ranch, 93.78 56 ⇑P **P** **10 27 20.9 +0.4**
baz=94
528A Cox Ranch, San 93.83 57 ⇓P **P** **10 27 21.0 +0.2**
baz=94
Z24A Sheeppen Canyo 93.85 53 ⇑P **P** **10 27 21.1 +0.2**
baz=94
ATAH Atahualpa 93.90 101 LR LR 11 00 22.3
comp=Z,2µm,21.8s,baz=255,slow=30
125A Gardner Draw, 93.95 54 ⇑P **P** **10 27 21.5 +0.3**
baz=94
ANMO Albuquerque 94.06 51 P **P** **10 27 22.1 +0.3**
ANMO LR LR
comp=Z,5µm,20.0s
ANMO Albuquerque 94.06 51 P **P** **10 27 22.1 +0.3**
comp=Z,2.8nm,1.1s,baz=227,slow=5.4,SNR=3.9
MVCO Mesa Verde 94.09 48 PFAKE 10 27 30.0 +8.1
MVCO LR LR
comp=Z,5µm,20.0s
BBB Bella Bella 94.09 28 LR LR 11 03 11.6
comp=Z,3µm,19.5s,baz=224,slow=31
RSO Redoubt South 94.13 12 *e*P **P** **10 27 23.7 +2.3**
Y24A Capitan 94.15 52 ⇓P **P** **10 27 22.7 +0.5**
baz=94
529A Stev Forest Ra 94.21 57 ⇑P **P** **10 27 22.9 +0.4**
baz=94
428A Kincaid Ranch, 94.22 56 ⇑P **P** **10 27 23.3 +0.8**
baz=94
BJT Baijiatuan 94.25 315 PFAKE 10 27 30.0 +7.8
BJT LR LR
comp=Z,3µm,20.0s
BJI Beijing 94.26 315 P **P** **10 27 22.4 +0.1**
BJI PP PP 10 31 14.9 +5.2
BJI SKS **SKSac** **10 37 55.1 -1.3**
BJI S **S** **10 38 36.8 +4.0**
BJI pmax pmax
comp=Z,13nm,1.5s
BJI pmax pmax
comp=Z,80nm,3.9s
BJI LR LR
comp=Z,2µm,20.2s
BJI LR LR
comp=Z,2µm,23.6s
BJI LR LR
comp=Z,2µm,22.5s
Z25A Roswell 94.26 53 ⇓P **P** **10 27 23.0 +0.3**
baz=95
CMAR Chiang Mai Arr 94.32 289 P **P** **10 27 24.1 +1.0**
CMAR Chiang Mai Arr 94.32 289 P **P** **10 27 24.1 +1.0**
comp=Z,2.9nm,0.3s,baz=142,slow=4.5,SNR=4.7
CHTO Chiang Mai 94.50 289 PFAKE 10 27 30.0 +6.0
CHTO LR LR
comp=Z,2µm,19.0s
HLID Hailey 94.54 41 PFAKE 10 27 40.0 +16
HLID LR LR
comp=Z,4µm,19.0s
HLID Hailey 94.54 41 ⇓P **P** **10 27 24.4 +0.6**
baz=95
PV01 Paradox Valley 94.60 48 *e*P **P** **10 27 24.9 +0.6**
Y25A Mesa, Roswell 94.65 53 ⇑P **P** **10 27 24.1 -0.3**
baz=95
429A Davenport Ranc 94.73 57 ⇓P **P** **10 27 24.6 -0.2**
baz=95
KMI Kunming 94.88 296 P **P** **10 27 28.0 +2.2**

KMI pP **pP** **10 27 31.3 -0.3**
KMI sP **sP** **10 27 32.4 -1.2**
KMI PP **PP** **10 31 18.4 +3.2**
KMI SKS **SKSac** **10 38 02.4 +1.4**
KMI S **ScS** **10 38 39.9 -0.6**
KMI pmax pmax
comp=Z,12nm,0.8s
KMI pmax pmax
comp=Z,250nm,3.8s
KMI LR LR
comp=Z,440nm,19.6s
KMI LR LR
comp=Z,810nm,17.5s
KMI LR LR
comp=Z,2µm,27.5s
W24A Lazy 6 Ranch, 94.92 51 ⇓P **P** **10 27 26.2 +0.5**
baz=95
APG El Apazote 95.24 76 LR LR 11 01 37.5
comp=Z,5µm,20.1s,baz=238,slow=30
V24A Rampart Ranch, 95.31 51 ⇑P **P** **10 27 28.6 +1.1**
baz=96
W25A X Bar L Ranch, 95.55 52 ⇓P **P** **10 27 29.2 +0.7**
baz=96
WRAK Wrangell Islan 95.84 23 PFAKE 10 27 40.0 +11
WRAK LR LR
comp=Z,3µm,20.0s
KVTX Kingsville 95.96 61 PFAKE 10 27 40.0 +10
KVTX LR LR
comp=Z,4µm,19.0s
JCT Junction City 96.15 58 PFAKE 10 27 40.0 +8.7
JCT LR LR
comp=Z,8µm,20.0s
NEW Newport 96.21 36 LR LR 11 03 39.0
comp=Z,5µm,20.2s,baz=224,slow=31
MCMT McKenzie Canyo 96.22 40 *e*P **P** **10 27 32.4 +0.9**
comp=Z,4.3nm,1.4s
SDCO Great Sand Dun 96.33 49 PFAKE 10 27 40.0 +7.8
SDCO LR LR
comp=Z,4µm,19.0s
N20A Spence Gulch, 96.41 46 ⇑P **P** **10 27 33.5 +1.1**
baz=97
BW06 Boulder Array 96.81 43 PFAKE 10 27 50.0 +16
BW06 LR LR
comp=Z,5µm,20.0s
PDAR Pinedale Array 96.81 43 P **P** **10 27 34.0 -0.1**
PDAR Pinedale Array 96.81 43 P **P** **10 27 34.0 -0.1**
comp=Z,1.2nm,1.1s,baz=153,slow=1.7,SNR=5.0
PDAR LR LR 11 05 00.7
comp=Z,4µm,19.4s,baz=250,slow=32
QLMT Earthquake Lak 97.00 41 *e*P Pdif 10 27 36.7 +1.6
LPAZ La Paz 97.13 114 LR LR 11 04 24.5
comp=Z,1µm,19.0s,baz=206,slow=31
YMR Madison River 97.16 41 *e*P Pdif 10 27 37.2 +1.3
comp=Z,22nm,1.5s
CD2 Chengdu 97.24 302 *e*P Pdif 10 27 36.8 +0.5
CD2 sP sP 10 27 45.3 +1.3
CD2 PP **PP** **10 31 36.8 +3.7**
CD2 SKS **SKSac** **10 38 12.6 -0.2**
CD2 pmax pmax
comp=Z,20nm,1.4s
CD2 pmax pmax
comp=Z,330nm,9.5s
CD2 LR LR
comp=Z,1µm,19.0s
CD2 LR LR
comp=Z,820nm,17.8s
CD2 LR LR
comp=Z,760nm,19.0s
KTH Kantishna Hill 97.33 12 *e*P **P** **10 27 35.5 -0.3**
comp=Z,43nm,2.0s
TGUH Tegucigalpa,Un 97.40 78 PFAKE 10 27 50.0 +13
TGUH LR LR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 97.40 40 PFAKE 10 27 50.0 +13
BOZ LR LR
comp=Z,4µm,19.0s
JTS JuntasAbangare 97.43 83 LR LR 11 02 37.3
comp=Z,3µm,19.8s,baz=242,slow=30
SEY Seymchan 97.44 347⇓*e*P **P** **10 27 35.9 -0.3**
SEY Seymchan 97.44 347 P **P** **10 27 34.7 -1.5**
SEY Seymchan 97.44 347 P **P** **10 27 34.7 -1.5**
comp=Z,1.5nm,0.7s,baz=175,slow=11,SNR=3.6
ISCO Idaho Springs 97.44 48 PFAKE 10 27 50.0 +13
ISCO LR LR
comp=Z,4µm,20.0s
HHC Hu-ho-hao-te 97.55 314 *e*P **P** **10 27 36.0 -1.4**
HHC sP **sP** **10 27 47.5 +2.3**
HHC SKS **SKSac** **10 38 15.0 +1.0**
HHC S **S** **10 39 01.1 -0.5**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,580nm,6.2s
HHC LR LR
comp=Z,1µm,19.9s
HHC LR LR
comp=Z,2µm,16.2s
HHC LR LR
comp=Z,2µm,21.1s
OTAV Otavalo 97.76 95 PFAKE 10 27 50.0 +10
OTAV LR LR
comp=Z,2µm,21.0s
HIA Hailar 98.13 324 PFAKE 10 27 50.0 +10
HIA LR LR
comp=Z,4µm,19.0s
RLMT Red Lodge 98.40 42 PFAKE 10 27 50.0 +8.7
RLMT LR LR
comp=Z,6µm,20.0s
CPUP Villa Florida 98.74 128 LR LR 11 07 00.9
comp=Z,3µm,19.1s,baz=200,slow=32
COLA College 99.09 12⇑*e*P **Pdif** **10 27 43.7 +0.2**
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 99.09 12 PFAKE 10 27 50.0 +6.5
COLA LR LR
comp=Z,5µm,19.0s
WMOK Wichita Mounta 99.17 55 PFAKE 10 28 00.0 +15
WMOK LR LR
comp=Z,5µm,20.0s
ILAR Eielson Array 99.17 13 P **Pdif** **10 27 42.7 -1.3**
ILAR Eielson Array 99.17 13 P **Pdif** **10 27 42.7 -1.3**
comp=Z,0.8nm,0.8s,baz=224,slow=5.6,SNR=4.7
ILAR LR LR 11 08 15.2
comp=Z,2µm,19.5s,baz=212,slow=33
TEIG Tepich 99.69 72 LR LR 11 04 51.9
comp=Z,2µm,20.1s,baz=222,slow=31
EGMT Eagleton 99.87 39 PFAKE 10 28 00.0 +12
EGMT LR LR
comp=Z,6µm,19.0s
LZH Lanzhou 99.94 306 *e*P **Pdif** **10 27 48.3 0.0**
LZH pP **pP** **10 27 52.0 -2.1**
LZH sP sP 10 27 53.8 -2.4
LZH SKS **SKSac** **10 38 26.1 -0.3**
LZH *e*S **ScS** **10 39 21.0 -1.2**
LZH pmax pmax
comp=Z,38nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.2s
LZH LR LR
comp=Z,1µm,17.8s
LZH LR LR
comp=Z,1µm,19.0s
LZH LR LR
comp=Z,2µm,19.8s
EGAK Eagle 100.34 15 PFAKE 10 28 00.0 +11
EGAK LR LR
comp=Z,4µm,20.0s
OGNE Ogallala 100.35 48 PFAKE 10 28 00.0 +10
OGNE LR LR
comp=Z,7µm,19.0s
NATX Nacogdoches 100.56 59 PFAKE 10 28 00.0 +9.0
NATX LR LR
comp=Z,7µm,21.0s
LAO LASA Array 101.04 42 PFAKE 10 28 00.0 +7.2
LAO LR LR
comp=Z,3µm,19.0s
BCIP Isla Barro Col 101.19 86 PFAKE 10 28 10.0 +16
BCIP LR LR
comp=Z,4µm,20.0s
YAK Yakutsk 102.72 337 PFAKE 10 28 10.0 +10
YAK LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 102.75 57 PFAKE 10 28 10.0 +9.4
MIAR LR LR
comp=Z,4µm,20.0s
DGAR Diego Garcia 102.90 253 PFAKE 10 28 10.0 +8.1
DGAR LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 102.92 52 PFAKE 10 28 10.0 +8.7
KSU1 LR LR
comp=Z,5µm,19.0s
DGMT Dagmar 103.17 41 PFAKE 10 28 10.0 +7.8
DGMT LR LR
comp=Z,3µm,19.0s
ULN Ulaanbaatar 104.14 318 PFAKE 10 28 20.0 +13
ULN LR LR
comp=Z,3µm,20.0s
SONM Songino Array 104.50 317 PP PP 10 32 19.4 -8.5
SONM PKKP **PKKPdf** **10 44 04.8 -0.4**
SONM Songino Array 104.50 317 PP PP 10 32 19.4 -8.5
comp=Z,0.7nm,1.0s,baz=126,slow=7.4,SNR=3.6
SONM PKKP **PKKPdf** **10 44 04.8 -0.4**
comp=Z,0.4nm,0.8s,baz=187,slow=1.2,SNR=2.7
ECSD EROS Data Cent 105.23 48 PFAKE 10 32 40.0
ECSD LR LR
comp=Z,5µm,20.0s
SAML Samuel 105.33 111 PFAKE 10 32 40.0
SAML LR LR
comp=Z,5µm,20.0s
BRAL Brewton 105.87 63 PFAKE 10 32 40.0
BRAL LR LR
comp=Z,2µm,22.0s
LSA Lhasa 106.07 295 PFAKE 10 32 40.0
LSA LR LR
comp=Z,3µm,20.0s
YKA Yellowknife Ar 106.49 26 PKiKP **PKiKP** **10 32 25.4 -1.9**
YKA PKKPbc **PKKPbc** **10 43 47.5 -1.5**
YKA Yellowknife Ar 106.49 26 PKiKP **PKiKP** **10 32 25.4 -1.9**
comp=Z,0.3nm,0.9s,baz=246,slow=1.6,SNR=3.1
YKA PKKPbc **PKKPbc** **10 43 47.5 -1.5**
comp=Z,0.6nm,1.0s,baz=35,slow=2.6,SNR=4.3
SCIA State Center 106.55 51 PFAKE 10 32 40.0
SCIA LR LR
comp=Z,4µm,19.0s
MTDJ Mount Denham 107.58 79 PFAKE 10 32 40.0
MTDJ LR LR
comp=Z,6µm,20.0s
FFC Flin Flon 107.64 36 PFAKE 10 32 40.0
FFC LR LR
comp=Z,3µm,20.0s
AGMN Agassiz Nation 107.87 44 PFAKE 10 32 40.0
AGMN LR LR
comp=Z,4µm,20.0s
TLY Talaya 107.97 320 *e*P **Pdif** **10 28 34.5 +11**
TLY *e* 10 38 57.7
TLY *e*SS SS 10 48 20.1 +15
TLY pmax pmax
comp=Z,2.0nm,1.0s
TLY MLR MLR
comp=Z,2µm,21.0s
TLY Talaya 107.97 320 PFAKE 10 32 40.0
TLY LR LR
comp=Z,3µm,19.0s
SDV Santo Domingo 108.88 91 PFAKE 10 32 50.0
SDV LR LR
comp=Z,1µm,19.0s
JFWS Jewell Farm 108.96 51 PFAKE 10 32 40.0
JFWS LR LR
comp=Z,3µm,20.0s
GOGA Godfrey 109.67 62 PFAKE 10 32 50.0
GOGA LR LR
comp=Z,4µm,20.0s
TIXI Tiksi 109.73 344 PFAKE 10 32 40.0
TIXI LR LR
comp=Z,4µm,19.0s
TRIS Tristan da Cun 110.09 167 PFAKE 10 32 50.0
TRIS LR LR
comp=Z,3µm,19.0s
EYMN Ely 110.34 46 PFAKE 10 32 50.0
EYMN LR LR
comp=Z,4µm,20.0s
GTBY Guantanamo Bay 110.40 79 PFAKE 10 32 50.0
GTBY LR LR
comp=Z,2µm,20.0s
NHSC New Hope 112.04 64 PFAKE 10 32 50.0
NHSC LR LR
comp=Z,2µm,19.0s
PTGA Pitinga 112.71 106 PFAKE 10 32 50.0
PTGA LR LR
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 112.82 56 PFAKE 10 32 50.0
ACSO LR LR
comp=Z,9µm,20.0s
AAM Ann Arbor 113.15 54 PFAKE 10 32 50.0
AAM LR LR
comp=Z,3µm,20.0s
SDDR Presa de Saban 113.17 81 PFAKE 10 32 50.0
SDDR LR LR
comp=Z,2µm,20.0s
BLA Blacksburg 113.49 60 PFAKE 10 32 50.0
BLA LR LR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 113.78 227 PFAKE 10 32 50.0
ABPO LR LR
comp=Z,4µm,19.0s
SUR Sutherland 113.88 197 PFAKE 10 32 50.0
SUR LR LR
comp=Z,7µm,20.0s
GRTK Grand Turk 114.43 79 PFAKE 10 33 00.0 +16
GRTK LR LR
comp=Z,2µm,20.0s
WMQ Urumqi 114.47 308 Pdif **Pdif** **10 28 53.3 +0.7**
WMQ PP **PP** **10 33 44.6 +4.4**
WMQ SKS **SKSdf** **10 39 50.5 -3.9**
WMQ AMB AMB
comp=Z,140nm,12.2s
WMQ LR LR
comp=Z,520nm,23.6s
WMQ LR LR
comp=Z,570nm,27.2s
WMQ LR LR
comp=Z,780nm,25.0s
CNNC Cliffs of the 114.62 63 PFAKE 10 33 00.0 +17
CNNC LR LR
comp=Z,2µm,19.0s
ERPA Erie 115.62 55 PFAKE 10 33 00.0 +15
ERPA LR LR
comp=Z,4µm,20.0s
CBN Corbin 116.11 60 PFAKE 10 33 00.0 +14
CBN LR LR
comp=Z,3µm,19.0s
MSEY Mahe Island 118.00 244 PFAKE 10 33 00.0 +9.2
MSEY LR LR
comp=Z,4µm,19.0s
GRGR Grenville 118.14 93 PFAKE 10 33 00.0 +9.1
GRGR LR LR
comp=Z,1µm,19.0s
RES Resolute Bay 118.43 17 PKP **PKPdf** **10 32 48.5 -1.2**
RES Resolute Bay 118.43 17 PKP **PKPdf** **10 32 48.5 -1.2**
comp=Z,2.5nm,1.0s,baz=280,slow=1.2,SNR=4.8
BINY Binghamton 118.45 56 PFAKE 10 33 00.0 +9.3
BINY LR LR
comp=Z,7µm,20.0s
MKAR Makanchi Array 119.04 309 PKIKP **PKPdf** **10 32 50.4 -1.3**
MKAR Makanchi Array 119.04 309 PKP **PKPdf** **10 32 50.4 -1.3**
MKAR Makanchi Array 119.04 309 PKP **PKPdf** **10 32 50.4 -1.3**
comp=Z,1.2nm,0.9s,baz=48,slow=1.8,SNR=6.7
ZALV Zalesovo Beam 119.39 318 PKIKP **PKPdf** **10 32 50.0 -2.1**
ZALV Zalesovo Beam 119.39 318 PKP **PKPdf** **10 32 50.0 -2.1**
ZALV Zalesovo Beam 119.39 318 PKP **PKPdf** **10 32 50.0 -2.1**
comp=Z,0.5nm,0.4s,baz=163,slow=1.5,SNR=2.9
FDF Fort de France 119.82 91 PFAKE 10 33 10.0 +16
FDF LR LR
comp=Z,976nm,20.0s
LONY Lake Ozonia 120.15 54 PFAKE 10 33 10.0 +16
LONY LR LR
comp=Z,3µm,20.0s
NCB Newcomb 120.21 54 PFAKE 10 33 10.0 +16
NCB LR LR
comp=Z,3µm,20.0s
BBGH Gun Hill 120.41 93 PFAKE 10 33 10.0 +15
BBGH LR LR
comp=Z,2µm,20.0s
NVS Novosibirsk 120.50 319 *e*PKIKP PKPdf 10 32 47.4 -6.8
ANWB Willy Bob 120.63 87 PFAKE 10 33 10.0 +14
ANWB LR LR
comp=Z,2µm,21.0s
KSH Kashi 121.36 300 *e*PKP **PKPdf** **10 32 55.6 -1.0**
KSH *e*SKS **SKSdf** **10 40 03.5 -4.4**
KSH AMB AMB
comp=Z,140nm,5.7s
KSH LR LR
comp=Z,150nm,6.3s
KSH LR LR
comp=Z,56nm,4.1s
KSH LR LR
comp=Z,96nm,5.4s
LBNH Lisbon 121.88 55 PFAKE 10 33 10.0 +13
LBNH LR LR
comp=Z,4µm,20.0s
KURK Kurchatov 122.36 313 *e*PKIKP **PKPdf** **10 32 56.7 -1.2**
KURK MLR MLR
comp=Z,1µm,20.0s
KURK Kurchatov 122.36 313 *e*PKPdf **PKPdf** **10 32 56.7 -1.2**
KURK PKP **PKPdf** **10 32 56.8 -1.2**
KURK LR LR
comp=Z,1µm,20.0s
KURBB Kurchatov Arra 122.40 313 PKP **PKPdf** **10 32 56.8 -1.2**
comp=Z,1.8nm,0.8s,baz=101,slow=1.9,SNR=17
TKM2 Tokmak 2 122.57 304 *e*PKIKP **PKPdf** **10 32 58.8 -0.1**
TKM2 MLR MLR
comp=Z,2µm,20.0s
TKM2 Tokmak 2 122.57 304 *e*PKPdf **PKPdf** **10 32 58.8 -0.1**
TKM2 LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 123.29 303 PKIKP **PKPdf** **10 33 00.0 -0.2**
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa 123.29 303 PKP **PKPdf** **10 32 60.0 -0.2**
AAK *e*PKPdf **PKPdf** **10 33 00.0 -0.2**
AAK LR LR
comp=Z,1µm,20.0s
AAK Ala-Archa 123.29 303 PKP **PKPdf** **10 32 60.0 -0.2**
comp=Z,2.6nm,1.0s,baz=140,slow=1.9,SNR=4.3
EKS2 Erkin-Say 123.81 303 PFAKE 10 33 10.0 +8.9
EKS2 LR LR
comp=Z,2µm,20.0s
BBSR BB Station 123.91 70 PFAKE 10 33 10.0 +8.6
BBSR LR LR
comp=Z,2µm,19.0s
KBL Kabul 125.21 292 *e*PKIKP **PKPdf** **10 33 05.2 +1.0**
KBL Kabul 125.21 292 *e*PKPdf **PKPdf** **10 33 05.2 +1.0**
KKAR Karatay Array 126.24 303 *e*PKIKP **PKPdf** **10 33 06.6 +0.9**
KKAR Karatay Array 126.24 303 *e*PKPdf **PKPdf** **10 33 06.5 +0.9**
SCHQ Schefferville 126.94 43 PKP **PKPdf** **10 33 06.7 +0.1**
SCHQ Schefferville 126.94 43 PKP **PKPdf** **10 33 06.7 +0.1**
comp=Z,12nm,1.1s,baz=222,slow=2.7,SNR=4.1
LSZ Lusaka 127.14 212 PFAKE 10 33 20.0 +12
LSZ LR LR
comp=Z,4µm,19.0s
TSUM Tsumeb 127.29 198 PFAKE 10 33 20.0 +11
TSUM LR LR
comp=Z,4µm,19.0s
RCBR Riachuelo 127.62 129 PFAKE 10 33 20.0 +11
RCBR LR LR
comp=Z,5µm,19.0s
BVAR Borovoye Array 127.74 315 PKIKP **PKPdf** **10 33 08.2 0.0**
BVAR Borovoye Array 127.74 315 PKP **PKPdf** **10 33 08.2 0.0**
BVAR Borovoye Array 127.74 315 PKP **PKPdf** **10 33 08.2 0.0**
comp=Z,2.5nm,0.8s,baz=93,slow=3.0,SNR=9.8
BRVK Borovoye 127.80 315 *e*PKIKP **PKPdf** **10 33 08.4 +0.1**
BRVK MLR MLR
comp=Z,3µm,19.0s
BRVK Borovoye 127.80 315 *e*PKPdf **PKPdf** **10 33 08.4 +0.1**
BRVK LR LR
comp=Z,3µm,19.0s
SHEL Horse Pasture 131.85 169 PFAKE 10 33 30.0 +13
SHEL LR LR
comp=Z,4µm,19.0s
KBS Kingsbay 132.60 358 PFAKE 10 33 30.0 +13
KBS LR LR
comp=Z,1µm,21.0s
SFJD Kangerlussuaq 133.05 26 PFAKE 10 33 30.0 +12
SFJD LR LR
comp=Z,3µm,19.0s
KMBO Kilima Mbogo 133.62 232 PFAKE 10 33 30.0 +9.1
KMBO LR LR
comp=Z,4µm,20.0s
DAG Danmarks Havn 133.87 7 *e*PKIKP PKPdf 10 33 33.8 +15
DAG Danmarks Havn 133.87 7 *i* P PKPdf 10 33 33.8 +15
ABKAR Akbulak array 134.18 310 *e*PKPdf **PKPdf** **10 33 21.4 +0.9**
ARU Arti 134.47 320 *i* PKIKP **PKPdf** **10 33 21.3 +0.5**
ARU 10 35 51.1
ARU SS SS 10 54 03.1 +19
ARU MLR MLR
comp=Z,2µm,20.0s
ARU Arti 134.47 320 PFAKE 10 33 30.0 +9.2
ARU LR LR
comp=Z,3µm,21.0s
ASCN Ascension 137.31 155 PFAKE 10 33 40.0 +13
ASCN LR LR
comp=Z,2µm,20.0s
LVZ Lovozero 139.32 342 PFAKE 10 33 40.0 +11
LVZ LR LR
comp=Z,2µm,21.0s
KEV Kevo 139.59 347 PFAKE 10 33 40.0 +10
KEV LR LR
comp=Z,3µm,20.0s
ARCES ARCESS Array B 140.05 348 PKPpre PKPpre 10 33 26.0
ARCES ARCESS Array B 140.05 348 PKhKP PKPpre 10 33 26.0
comp=Z,2.0nm,0.8s,baz=52,slow=2.0,SNR=6.1
MAK Makhachkala 142.99 301 *e*PKHKP PKPpre 10 33 31.8
MAK *e* 10 36 53.1
MAK *e*PPP PPP 10 39 55.9
MAK *e*SS SS 10 55 52.7 +28
MAK pmax pmax
comp=Z,327nm,1.4s
BORG Borgarnes 143.86 17 PFAKE 10 33 50.0 +12
BORG LR LR
comp=Z,3µm,20.0s
JOF Joensuu 143.89 338 *e*PKIKP PKPbc 10 33 36.2 +0.7
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 143.89 338 *e*p PKPbc 10 33 36.2 +0.7
comp=Z,2.2nm,0.4s
DGRG David-gareji 144.63 298 P PKPab 10 33 29.9 -8.5
TBLG Delisi 145.09 299 P **PKPdf** **10 33 40.4 -0.2**
DUS Dusheti 145.10 299 P **PKPdf** **10 33 41.4 +0.8**
GNI Garni 145.13 296 *e*PKPbc **PKPdf** **10 33 41.1 +0.3**
GNI PKP **PKPdf** **10 33 41.9 +1.0**
GNI LR LR
comp=Z,1µm,20.0s
GNI Garni 145.13 296 PKP **PKPdf** **10 33 41.8 +1.0**
comp=Z,18nm,0.8s,baz=249,slow=1.1,SNR=11
GUDG Gudauri 145.25 300 P **PKPdf** **10 33 44.8 +3.7**
VRHR Novokhopersk 145.48 315 *e*PKP2 **PKPdf** **10 33 39.3 -1.5**
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,30nm,1.3s
ZEI Tsey 145.65 301 *i* PKIKP **PKPbc** **10 33 42.1 +0.1**
ZEI pmax pmax
comp=Z,112nm,1.5s
MOS Moscow 145.75 325 *i* PKIKP **PKPdf** **10 33 40.5 -0.7**
MOS *e* 10 33 53.2
MOS pmax pmax
comp=Z,227nm,1.3s
MOS MLR MLR
comp=E,2µm,21.0s
MOS MLR MLR
comp=Z,2µm,21.0s
MOS MLR MLR
comp=N,1µm,19.0s
CLDR Caldiran 145.77 294 *e*P **PKPab** **10 33 42.8 -0.2**
CUKT Cukurca 145.95 291 *e*P **PKPdf** **10 33 42.4 +0.1**
ONI Oni 145.99 300 P **PKPab** **10 33 43.8 +0.3**
GOF Gofitskoye 146.00 305 *e*PKP2 **PKPdf** **10 33 41.8 -0.2**
GOF pmax pmax
comp=Z,116nm,1.4s
KAF Kangasniemi 146.02 340 *e*PKIKP **PKPdf** **10 33 40.7 -0.7**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 146.02 340 *e*p **PKPdf** **10 33 40.7 -0.7**
comp=Z,11nm,0.6s
KBZ Khabaz 146.28 302 PKP2 **PKPab** **10 33 44.4 0.0**
KBZ Khabaz 146.28 302 PKPbc **PKPab** **10 33 44.4 0.0**
KBZ Khabaz 146.28 302 PKPbc **PKPab** **10 33 44.4 0.0**
comp=Z,22nm,1.1s,baz=104,slow=2.6,SNR=21
KIV Kislovodsk 146.40 303*c* *i* PKP2 **PKPdf** **10 33 42.9 +0.1**
KIV pmax pmax
comp=Z,57nm,1.6s
KIV Kislovodsk 146.40 303 *e*PKPbc **PKPab** **10 33 44.5 -0.5**
KIV *e*PKPab **PKiKP** **10 33 45.9 -1.2**
KIV LR LR

comp=Z,3µm,20.0s
AGRB Hanur-Agry 146.49 295 *e*P **PKPbc 10 33 44.7 0.0**
OBN Obninsk 146.59 324 *d i*PKP2 **PKPbc 10 33 43.8 -0.3**
OBN *i* SS SS 10 56 05.1 +0.1
OBN pmax pmax
comp=Z,155nm,1.2s
OBN Obninsk 146.59 324 *e*PKPbc **PKPab 10 33 44.8 -0.4**
OBN LR LR
comp=Z,3µm,21.0s
OBN Obninsk 146.59 324 PKPbc **PKPbc 10 33 44.6 +0.4**
comp=Z,18nm,0.4s,baz=5.2,slow=1.3,SNR=25
FIA1 FINESS Array S 146.62 340 *e*PKPbc **PKPdf 10 33 42.7 +0.3**
FINES FINESS Array B 146.62 340 PKPbc **PKPdf 10 33 42.0 -0.5**
FINES FINESS Array B 146.62 340 PKPbc **PKPdf 10 33 42.0 -0.5**
comp=Z,17nm,0.7s,baz=64,slow=4.4,SNR=52
VOR Voronezh 146.68 318 *e*PKHKP **PKPdf 10 33 40.0 -2.9**
VOR pmax pmax
comp=Z,300nm,1.6s
VSR Storozhevoye 146.89 317 *e*PKIKP **PKPdf 10 33 42.3 -0.9**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.1s
VORD Divnogorie 146.91 316 *e*PKIKP **PKPdf 10 33 42.8 -0.5**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,80nm,0.8s
CHVG Ch'k'valeri 146.99 301 P **PKPab 10 33 47.4 +0.1**
EZM Erzurum 147.73 295 *e*P **PKPbc 10 33 49.4 +1.1**
BNGB Bing¯ll 148.29 294 *e*P **PKPbc 10 33 49.0 -0.6**
SOC Sochi 148.59 303 *e*PKHKP **PKPdf 10 33 43.4 -2.9**
SOC *i* 10 33 50.3
BAYT Ayd¯–ntepe-Bay 148.64 297 *e*P **PKPbc 10 33 50.5 0.0**
VSU Vasula 148.69 336⇑ *e*PKIKP **PKPbc 10 33 48.0 -1.8**
ERZN Erzincan 149.01 295 *e*P **PKPbc 10 33 50.1 -1.3**
GUMT Gumushane 149.14 297 *e*P **PKPbc 10 33 52.5 +0.8**
PTK Pertek 149.29 294 *e*P **PKPbc 10 33 52.1 -0.2**
ANN Anapa 149.96 306 *i* PKHKP **PKPdf 10 33 50.7 +2.3**
ANN pmax pmax
comp=Z,74nm,1.1s
ANN MLR MLR
comp=E,929nm,22.0s
ANN MLR MLR
comp=Z,993nm,22.0s
ANN MLR MLR
comp=N,1µm,22.0s
NB2 NORSAR Subarra150.20 352 PKP **PKPbc 10 33 52.6 -0.9**
comp=Z,34nm,1.4s,baz=16,slow=4.3
NB2 NORSAR Subarra150.20 352 PKP **PKPbc 10 33 52.6 -0.9**
baz=16,slow=4.3
NOA NORSAR Array B 150.20 352 PKPbc **PKPbc 10 33 53.0 -0.5**
NOA NORSAR Array B 150.20 352 PKPbc **PKPbc 10 33 53.0 -0.5**
comp=Z,7.0nm,1.1s,baz=13,slow=4.1,SNR=6.7
DARE Darende-Malaty 150.80 293 *e*P **PKPbc 10 33 54.4 -1.4**
SACV Santiago Islan 150.83 119 PFAKE 10 34 00.0 -3.5
SACV LR LR
comp=Z,835nm,22.0s
IDID Didziasalis 150.96 331 *e*P **PKPbc 10 33 55.0 -0.4**
IDID AMB AMB 10 34 06.7
comp=Z,15nm,1.3s
ISAL Salakas 151.03 332 *e*P **PKPbc 10 33 54.6 -0.9**
ISAL AMB AMB 10 34 06.8
comp=Z,16nm,1.5s
MICGM Minsk 151.03 329 *e* **PKPbc 10 33 53.0 -2.6**
MNK Minsk 151.05 329 *e*PKIKP **PKPbc 10 33 53.0 -2.7**
SVSK Karacayir 151.08 296 *e*P **PKPbc 10 33 57.1 +0.9**
IIGN Ignalina 151.15 332 *e*P **PKPbc 10 33 55.4 -0.5**
IIGN AMB AMB 10 34 06.7
comp=Z,12nm,1.1s
NACGM Naroch 151.23 331 *e* **PKPdf 10 33 50.0 -0.1**
KMRS Kahramanmaras 151.29 291 *e*P **PKPbc 10 33 55.6 -1.3**
KONO Kongsberg 151.75 352 PFAKE 10 34 00.0 +2.9
KONO LR LR
comp=Z,2µm,20.0s
BNN Bunyan 152.06 294 *e*P **PKPab 10 34 04.5 -3.8**
KOZT Kozan 152.15 291 *e*P **PKPdf 10 33 54.0 +1.9**
SIM Simferopol' 152.19 307 *i* PKIKP **PKPbc 10 34 01.6 +3.0**
SIM *e* 10 37 43.1
SIM pmax pmax
comp=Z,80nm,14.8s
AKASG Malin Array Be 152.70 322 PKIKP **PKPbc 10 33 58.8 -0.8**
AKASG Malin Array Be 152.70 322 PKPbc **PKPbc 10 33 58.8 -0.8**
AKASG Malin Array Be 152.70 322 PKPbc **PKPbc 10 33 58.8 -0.8**
comp=Z,6.2nm,0.9s,baz=48,slow=2.3,SNR=18
AKBB Malin Array Si 152.70 322 *e*PKIKP **PKPdf 10 33 51.2 -1.2**
AKBB *e* 10 33 59.2
AKBB *e* 10 34 10.6
AKBB Malin Array Si 152.70 322 *e*PKPdf **PKPdf 10 33 51.2 -1.2**
AKBB *e*PKPbc **PKPbc 10 33 59.2 -0.3**
AKBB *e*PKPab **PKPab 10 34 10.6 +0.3**
AK01 Malin Array Si 152.71 322 *e*PKPbc **PKPbc 10 33 58.7 -0.8**
AK01 *e*PKPab **PKPab 10 34 10.9 +0.6**
KIEV Kiev 152.71 322 *e*PKIKP **PKPdf 10 33 51.5 -1.0**
KIEV *e* 10 33 58.1
KIEV *e* 10 34 10.0
KIEV MLR MLR
comp=Z,3µm,21.0s
KIEV Kiev 152.71 322 *e*PKPdf **PKPdf 10 33 51.5 -1.0**
KIEV *e*PKPbc **PKPbc 10 33 58.1 -1.5**
KIEV *e*PKPab **PKPab 10 34 10.0 -0.3**
KIEV LR LR
comp=Z,3µm,21.0s
AK02 Malin Array Si 152.73 321 *e*PKPbc **PKPbc 10 33 59.0 -0.6**
AK02 *e*PKPab **PKPab 10 34 10.8 +0.4**
KARA Karaisali 152.77 291 *e*P **PKPbc 10 34 01.4 +1.2**
SUW Suwalki 153.34 332 *e*PKIKP **PKPbc 10 34 01.7 +0.9**
SUW Suwalki 153.34 332 *e*PKP **PKPbc 10 34 01.6 +0.8**
LIC Lamto 153.59 163 *e*P **PKPbc 10 34 04.5 +1.9**
comp=Z,69nm,1.4s
BR131 Keskin Array S 153.67 296 *e*PKPdf **PKPdf 10 33 54.7 +0.3**
BR131 *e*PKPbc **PKiKP 10 34 03.2 +0.8**
BR131 *e*PKPab **PKPab 10 34 16.3 +1.3**
BRTR Keskin Array B 153.67 296 PKP **PKPdf 10 33 54.2 -0.3**
BRTR PKPbc **PKiKP 10 34 02.9 +0.5**
BRTR Keskin Array B 153.67 296 PKP **PKPdf 10 33 54.2 -0.3**
comp=Z,1.7nm,1.1s,baz=46,slow=3.6,SNR=5.2
BRTR PKPbc **PKiKP 10 34 02.9 +0.5**
comp=Z,2.6nm,1.0s,baz=118,slow=3.0,SNR=3.9
KIC Kosan Boka 153.79 163 *e*P **PKPbc 10 34 04.9 +1.8**
comp=Z,89nm,1.4s
TIC Toumodi 153.99 163 *e*P **PKPbc 10 34 02.9 -0.6**
DBIC Dimbokro 154.06 163 PKP **PKPdf 10 33 56.9 +1.3**
DBIC PKPbc **PKiKP 10 34 07.0 +3.3**
DBIC Dimbokro 154.06 163 PKP **PKPdf 10 33 56.9 +1.3**
comp=Z,3.5nm,1.0s,baz=284,slow=4.3,SNR=3.1
DBIC PKPbc **PKiKP 10 34 07.0 +3.3**
comp=Z,4.2nm,0.9s,baz=210,slow=5.7,SNR=3.6
CSS Prodhromos 154.17 285 PFAKE 10 34 10.0 +6.7
CSS LR LR
comp=Z,769nm,20.0s
ANTO Ankara 154.30 297 *e*PKIKP **PKPbc 10 34 05.2 +1.7**
ANTO MLR MLR
comp=Z,2µm,20.0s
ANTO Ankara 154.30 297⇓ *i* P PKPbc 10 34 10.4 +6.9
ANTO Ankara 154.30 297 *e*PKPbc **PKPbc 10 34 05.2 +1.7**
ANTO LR LR
comp=Z,2µm,20.0s
KIS Kishinev 154.82 315 *e*PKIKP PKPdf 10 33 50.0 -5.6
KIS *e* 10 41 34.0
KIS pmax pmax
comp=N,2µm,22.0s
KIS pmax pmax
comp=Z,3µm,22.0s
KIS pmax pmax
comp=Z,2µm,24.0s
KIS Kishinev 154.82 315 *e*PKP PKPdf 10 33 50.0 -5.6
KIS Kishinev 154.82 315 *e*PP PP 10 37 35.0 -20
KIS LRM MLR 11 42 00.0
comp=Z,2µm,24.0s
MUD Monsted U'grnd 154.92 351 *e*PKIKP **PKPdf 10 33 59.4 +4.0**
MUD MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd 154.92 351 *i* P **PKPdf 10 33 59.4 +4.0**
MUD
comp=Z,2µm,15.0s
BSD Bornholm Skovb 155.10 343 *e*PKIKP PKPpre 10 33 45.0
BSD MLR MLR
comp=Z,2µm,19.0s
BSD Bornholm Skovb 155.10 343 *i* P PKPpre 10 33 45.0
BSD
comp=Z,2µm,18.0s
COP Copenhagen 155.13 347 *e*PKIKP PKPpre 10 33 45.0
COP MLR MLR
comp=Z,1µm,24.0s
COP Copenhagen 155.13 347 *i* P PKPpre 10 33 45.0
COP
comp=Z,1µm,23.0s
LLD Lille Linde 155.50 347 *e*PKIKP PKPpre 10 33 41.8
LLD Lille Linde 155.50 347 *i* P PKPpre 10 33 41.8
LLD *i* 10 48 01.8
LVV L'vov 155.89 325 *e*PKP2 **PKPab 10 34 23.0 -0.9**
CFR Carcaliu 156.06 311⇓ *i*P **PKPab 10 34 23.8 -1.0**
ESK Eskdalemuir 156.13 8 PFAKE 10 34 10.0 +13
ESK LR LR
comp=Z,3µm,19.0s
TIRR Tirgusor 156.17 309⇓ *i*P **PKPab 10 34 27.2 +1.9**
ISP Isparta 156.32 292⇓ *i*P PKPab 10 34 20.5 -5.9
ISP Isparta 156.32 292 PFAKE 10 34 10.0 +12
ISP LR LR
comp=Z,2µm,20.0s
TESR Tescani 156.36 315⇓ *i*P **PKPab 10 34 25.7 -0.4**
BUR08 Bucovina Ar. S 156.60 319 *e*PKPab **PKPab 10 34 26.9 -0.3**
BURAR Bucovina Array 156.61 319⇓ *i*P **PKPab 10 34 27.3 +0.1**
VRI Vrincioaia 156.63 314⇓ *i*P **PKPab 10 34 28.7 +1.4**
KWP Kalwaria Pacla 156.66 326 *e*PKP2 **PKPab 10 34 26.4 -0.9**
KWP MLR MLR
comp=Z,3µm,22.0s
KWP Kalwaria Pacla 156.66 326 *e*PKP **PKPab 10 34 26.7 -0.5**
KWP Kalwaria Pacla 156.66 326⇓ *i*P **PKPab 10 34 26.8 -0.5**
KWP Kalwaria Pacla 156.66 326 *e*PKPab **PKPab 10 34 26.4 -0.9**
KWP LR LR
comp=Z,3µm,22.0s
MLR Muntele Rosu 157.29 314⇓ *i*P **PKPab 10 34 30.4 +0.1**
KOLS Kolonicke sedl 157.34 325 *e*PKIKP **PKPdf 10 33 59.8 +0.9**
KOLS Kolonicke sedl 157.34 325 *e*PKP **PKPdf 10 33 59.8 +0.9**
KOLS *e* 10 34 30.4
DOPR Dopca 157.39 315⇓ *i*P **PKPab 10 34 28.5 -2.1**
STHS Stebnicka Huta 157.50 327 *e*PKP2 **PKPab 10 34 31.7 +0.8**
STHS Stebnicka Huta 157.50 327 *e*PKP **PKPab 10 34 31.7 +0.8**
UZH Uzhgorod 157.53 324 *i* PKIKP **PKPdf 10 34 00.5 +1.4**
UZH *i* 10 34 11.7
UZH *i* 10 34 24.9
TRPA Tarpa 157.73 323⇑ *i*P **PKPab 10 34 32.1 +0.2**
CRVS Cervenica-Dubn 157.76 326 *e*PKP2 **PKPab 10 34 31.5 -0.5**
CRVS Cervenica-Dubn 157.76 326 *e*PKP **PKPab 10 34 31.5 -0.5**
VOIR 157.87 314⇑ *i*P PKPab 10 34 38.7 +6.0
NIE Niedzica 157.93 328 *e*PKPab **PKPab 10 34 32.0 -0.7**
ARR Arges 158.16 315⇓ *i*P **PKPab 10 34 33.3 -0.6**
KSP Ksiaz 158.42 336 *e*PKP2 **PKPab 10 34 34.6 -0.2**
KSP *e* 10 38 21.0
KSP eSS SS 10 58 08.0 -6.5
KSP Ksiaz 158.42 336 *e*PKP **PKPab 10 34 34.6 -0.2**
OKC Ostrava-Krasne 158.54 332 *e*PKP2 **PKPab 10 34 35.4 +0.1**
OKC MLR MLR
comp=Z,2µm,19.0s
OKC Ostrava-Krasne 158.54 332 *e*PKPAB **PKPab 10 34 35.4 +0.1**
OKC AMS AMS 11 48 50.0
comp=Z,2µm,19.0s
LOT Lotru 158.63 316⇓ *i*P **PKPab 10 34 36.0 -0.1**
UPC Upice 158.80 336 *e*PKP2 **PKPab 10 34 37.2 +0.8**
UPC Upice 158.80 336 *e*PKPAB **PKPab 10 34 37.2 +0.8**
UPC *ex* x 10 34 47.6
DPC Dobruska-Polom 158.82 335 *e*PKP2 **PKPab 10 34 36.1 -0.5**
DPC Dobruska-Polom 158.82 335 *e*PKPAB **PKPab 10 34 36.1 -0.5**
DPC *ex* x 10 34 47.7
DPC AMS AMS 11 46 10.0
MORC Moravsky Berou 158.83 332⇓ *i*P **PKPab 10 34 34.9 -1.7**
CLL Collm 159.04 341 *e*PKIKP **PKPdf 10 34 03.0 +2.2**
CLL *e* 10 34 37.0
CLL *e* 10 38 22.0
CLL pmax pmax
comp=Z,62nm,2.2s
CLL MLR MLR
comp=Z,2µm,21.7s
CLL Collm 159.04 341 *e*PKPdf **PKPdf 10 34 03.0 +2.2**
CLL *e*PKPab **PKPab 10 34 37.0 -0.4**
comp=Z,62nm,2.2s
CLL *e* 10 34 52.0
CLL *e*PP **PP 10 38 22.0 +4.1**
CLL *e*PPP PPP 10 42 01.0
CLL *e*PPPP 10 44 12.0
CLL *e* 10 46 00.0
CLL *e*PSKS 10 48 43.0
CLL *e*PPS PPS 10 51 35.0
CLL *e*SS SS 10 58 20.0 -0.7
CLL *e*PSS PSS 10 59 25.0
CLL *e*SSS SSS 11 04 18.0
CLL *e*SSSS 11 08 48.0
CLL LmH 11 45 00.0
comp=N,2µm,21.1s
CLL LmH 11 45 00.0
comp=E,1µm,21.3s
CLL LmV 11 50 00.0
comp=Z,2µm,21.7s
BRG Berggiesshubel 159.16 339 *e*PKP **PKPab 10 34 38.1 +0.2**
comp=Z,20nm,1.3s
BRG *e* 10 34 49.1
comp=Z,45nm,1.6s
BRG PP **PP 10 38 19.0 +0.4**
BRG SS SS 10 58 09.0 -13
BRG Berggiesshubel 159.16 339 *e*PKP2 **PKPab 10 34 38.1 +0.2**
BRG 10 38 19.0
BRG pmax pmax
comp=Z,20nm,1.3s
BRG pmax pmax
comp=Z,45nm,1.7s
PSZ Piszkesteto 159.19 326⇓ *i*P **PKPab 10 34 39.0 +0.6**
PSZ Piszkesteto 159.19 326 PFAKE 10 34 10.0 +8.7
PSZ LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 159.19 326 *e* **PKPab 10 34 38.9 +0.6**
PVCC Panska Ves 159.27 338 *e*PKP2 **PKPab 10 34 39.6 +1.2**
PVCC MLR MLR
comp=Z,3µm,19.8s
PVCC Panska Ves 159.27 338 *e*PKPAB **PKPab 10 34 39.6 +1.2**
PVCC AMS AMS 11 52 50.0
comp=Z,3µm,19.8s
PRU Pruhonice 159.74 337 *e*PKP2 **PKPab 10 34 40.5 0.0**
PRU MLR MLR
comp=Z,2µm,19.9s
PRU Pruhonice 159.74 337 *e*PKPAB **PKPab 10 34 40.5 0.0**
PRU *ex* x 10 34 51.5
PRU AMS AMS 11 57 10.0
comp=Z,2µm,19.9s
NKC Novy Kostel 160.16 341 *e*PKP2 **PKPab 10 34 41.1 -1.2**
NKC MLR MLR
comp=Z,2µm,21.7s
NKC Novy Kostel 160.16 341 *e*PKPAB **PKPab 10 34 41.1 -1.2**
NKC AMS AMS 11 57 00.0
comp=Z,2µm,21.7s
MMB Musomiste 160.46 306⇓ *i*P **PKPab 10 34 43.7 -0.4**
SANT Santorini 160.51 290 PFAKE 10 34 10.0 +6.9
SANT LR LR
comp=Z,2µm,20.0s
KHC Kasperske Hory 160.80 338 *e*PKP2 **PKPab 10 34 44.8 -0.4**
KHC MLR MLR
comp=Z,2µm,21.1s
KHC Kasperske Hory 160.80 338 *e*PKPAB **PKPab 10 34 44.8 -0.4**
KHC *ep*PKP pPKPdf 10 34 49.0 +40
KHC *ex* x 10 34 56.5
KHC AMS AMS 11 51 20.0
comp=Z,2µm,21.1s
CONA Conrad Observa 160.97 332⇑ *i*PKPab **PKPab 10 34 45.7 -0.3**
comp=Z,25nm,1.8s
GERES GERESS Array B 161.01 337 PKPab **PKPab 10 34 46.0 -0.2**
GERES GERESS Array B 161.01 337 PKPab **PKPab 10 34 46.0 -0.2**
comp=Z,1.8nm,0.7s,baz=57,slow=4.9,SNR=11
TOA0 Torodi Ar. Sit 161.42 177 *e*PKPdf **PKPdf 10 34 06.0 +1.4**
TOA0 *e*SKPdf **SKPdf 10 37 33.2 -2.7**
TORD Torodi Ar. Bea 161.42 177 PKP **PKPdf 10 34 05.3 +0.7**
TORD PKPab **PKPab 10 34 50.5 +1.9**
TORD PP **PP 10 38 33.1 +2.6**
TORD Torodi Ar. Bea 161.42 177 PKP **PKPdf 10 34 05.3 +0.7**
comp=Z,3.4nm,1.2s,baz=240,slow=1.2,SNR=7.7
TORD PKPab **PKPab 10 34 50.5 +1.9**
comp=Z,6.6nm,1.0s,baz=175,slow=2.6,SNR=8.0
TORD PP **PP 10 38 33.1 +2.6**
comp=Z,1.3nm,1.0s,baz=171,slow=3.4,SNR=2.5
MOA Molln 161.66 334⇑ *i*PKPab **PKPab 10 34 48.9 -0.1**
comp=Z,11nm,0.9s
WLF Walferdange 161.95 352 PFAKE 10 34 10.0 +5.9
WLF LR LR
comp=Z,3µm,20.0s
SOKA Soboth 162.31 331⇓ *i*PKPab **PKPab 10 34 51.9 0.0**
comp=Z,25nm,1.7s
MYKA Terra Mystica 162.91 333⇑ *i*PKPab **PKPab 10 34 54.8 +0.2**
BFO Black Forest 162.91 347 PFAKE 10 34 20.0 +15
BFO LR LR
comp=Z,2µm,22.0s
WATA Walderalm 163.02 339⇓ *i*PKPab **PKPab 10 34 55.1 0.0**
comp=Z,39nm,1.4s
WTTA Wattenberg 163.06 338⇓ *i*pPKPab **PKPab 10 34 56.1 +0.8**
RETA Reutte 163.12 341⇑ *i*PKPab **PKPab 10 34 55.9 +0.5**
MOTA Moosalm 163.15 340⇑ *i*PKPab **PKPab 10 34 55.5 -0.1**
ECH Echery 163.23 349 PFAKE 10 34 20.0 +15
ECH LR LR
comp=Z,2µm,20.0s
DAVA Damuels 163.54 342⇑ *i*PKPab **PKPab 10 34 57.3 -0.1**
FETA Feichten 163.55 340⇑ *i*PKPab **PKPab 10 34 56.9 -0.5**
comp=Z,16nm,1.3s
TUE Stuetta 164.44 342 PFAKE 10 34 20.0 +13
TUE LR LR
comp=Z,3µm,20.0s
VLC Villacollemand 166.21 336 PFAKE 10 34 20.0 +12
VLC LR LR
comp=Z,3µm,19.0s
TIP Timpagrande 166.30 306 PFAKE 10 34 20.0 +12
TIP LR LR
comp=Z,2µm,20.0s
BNI Bardonecchia 166.38 348 PFAKE 10 34 20.0 +12
BNI LR LR
comp=Z,4µm,20.0s
AQU L'Aquila 166.38 324 PFAKE 10 34 20.0 +12
AQU LR LR
comp=Z,4µm,22.0s
SSB Saint Sauveur 166.45 354 PFAKE 10 34 20.0 +12
SSB LR LR
comp=Z,3µm,20.0s
CUC Castrocucco 166.51 311 PFAKE 10 34 20.0 +11
CUC LR LR
comp=Z,2µm,19.0s
CEL Celeste 167.32 304 PFAKE 10 34 20.0 +11
CEL LR LR
comp=Z,3µm,20.0s
MTE Manteigas 168.15 41 PFAKE 10 34 20.0 +10
MTE LR LR
comp=Z,5µm,19.0s
WDD Wield Dalam 169.26 295 PFAKE 10 34 20.0 +9.4
WDD LR LR
comp=Z,4µm,20.0s
PAB San Pablo 170.44 34 PFAKE 10 34 20.0 +8.7
PAB LR LR
comp=Z,4µm,19.0s
ESDC Sonseca Array 170.51 32 PKPab **PKPab 10 35 27.5 -0.8**
ESDC Sonseca Array 170.51 32 PKPab **PKPab 10 35 27.5 -0.8**
comp=Z,2.2nm,0.2s,baz=331,slow=5.0,SNR=2.6
VSL Villasalto 170.53 326 PFAKE 10 34 20.0 +8.8
VSL LR LR
comp=Z,4µm,20.0s
TAM Tamanrasset 170.66 197 PFAKE 10 34 20.0 +8.0
TAM LR LR
comp=Z,3µm,20.0s
RTC Rabat Centre 171.77 72 PFAKE 10 34 20.0 +8.0
RTC LR LR
comp=Z,5µm,20.0s

DDA 15 10:17:16.1, 38.60N×27.25E, h7km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AKHS	**Akhisar**	**0.52**	**58**	*i* P		Pg	10 17 26.1	-0.1
AKHS				*i* S		Sb	10 17 34.8	-0.7
MANT	**Manisa**	**1.03**	**96**	*i* P		Pg	10 17 35.8	-0.5
MANT				*i* S		Sb	10 17 50.6	-0.1

*ISCJB **15** 10:26:11.1±0.7, 10.5N±0.1×93.8E±0.1, h200km, mb3.7/5, Error ellipse: s-maj=22.3km s-min=10.2km az=149.9*
*IDC **15** 10:26:12.1±6.0, 10.43N×93.91E, h186km±58km, mb3.6/5, mb1 3.7/6, mb1mx3.3/27, mbtmp3.6/6, MS3.4/1, Ms1 3.6/1, ms1mx3.2/46, Error ellipse: s-maj=45.0km s-min=18.7km az=49.0*

ISC 15 10:26:13.1±0.9, 10.5N±0.1×93.9E±0.2, h200km, n19, σ0.86/16, mb3.8/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMAR	**Chiang Mai Arr**	**9.27**	**31**	P		Pn	**10 28 23.1**	**+0.2**
CMAR	1.1nm,0.3s,baz=217,slow=15,SNR=6.9			LR		LR	10 32 24.1	
	comp=Z,193nm,18.3s,baz=2.8,slow=40							
ODAN	**Odare**	**17.36**	**340**	*e*P		**P**	**10 30 02.2**	**0.0**
	12nm,0.4s							
TAPN	**Taplejung**	**17.71**	**342**	*e*P		**P**	**10 30 05.9**	**-0.2**
RAMN	**Ramite**	**17.72**	**338**	*e*P		**P**	**10 30 06.1**	**0.0**
	18nm,0.4s							
PKI	**Pulchoki**	**18.73**	**336**	*e*P		**P**	**10 30 16.2**	**-1.1**
GUN	**Gumba**	**18.85**	**338**	*e*P		**P**	**10 30 17.6**	**-1.0**
	16nm,0.7s							
DMN	**Daman**	**18.89**	**335**	*e*P		**P**	**10 30 17.8**	**-1.1**
KKN	**Kakani**	**18.98**	**336**	*e*P		**P**	**10 30 18.6**	**-1.2**
GKN	**Gorkha**	**19.43**	**335**	*e*P		**P**	**10 30 23.6**	**-1.0**
	25nm,0.6s							
KOLN	**Koldanda**	**19.69**	**332**	*e*P		**P**	**10 30 26.6**	**-0.8**
	27nm,0.6s							
DANN	**Dangsing**	**20.11**	**333**	*e*P		**P**	**10 30 30.9**	**-1.1**
	41nm,0.5s							
H08S3	**Diego Garcia H**	**27.93**	**231**	T		T	10 59 02.0	
	baz=56,slow=75,SNR=28							
H08S2	**Diego Garcia H**	**27.93**	**231**	T		T	10 58 50.6	
	baz=56,slow=75,SNR=14							
H08S1	**Diego Carcia H**	**27.95**	**231**	T		T	10 59 01.5	
	baz=56							
WRA	**Warramunga Arr**	**50.03**	**127**	P		**P**	**10 34 47.7**	**0.0**
	1.1nm,0.5s,baz=306,slow=8.5,SNR=40							
ASAR	**Alice Springs**	**51.83**	**131**	P		**P**	**10 35 00.8**	**-0.3**
	0.9nm,0.4s,baz=307,slow=7.4,SNR=18							
STKA	**Stephens Creek**	**62.12**	**135**	P		**P**	**10 36 12.7**	**-0.5**
	1.3nm,0.8s,baz=331,slow=10,SNR=2.9							
ARCES	**ARCESS Array B**	**72.69**	**340**	P		**P**	**10 37 20.0**	**+1.2**
	2.6nm,0.9s,baz=114,slow=9.0,SNR=4.0							
BOSA	**Boshof**	**76.80**	**237**	P		**P**	**10 37 43.6**	**+0.4**
	2.0nm,0.7s,baz=86,slow=4.8,SNR=5.2							

*NEIC **15** 10:29:58.6, 36.03N×117.84W, h2km, ML3.6(PAS), After PAS.*

ISC 15 10:29:58.6±1.1, 36.02N±0.02×117.83W±0.02, h5km±9km, n55, σ0.93/93, 30C-18D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MPMC	**Manual Prospec**	**0.28**	**81**	⇑P		**Pg**	**10 30 04.2**	**+0.2**
	baz=0.3							
MPMC				⇑S		**Sg**	**10 30 08.4**	**+0.7**
	baz=0.3							
CWC	**Cottonwood Cre**	**0.47**	**334**	⇓P		**Pg**	**10 30 07.4**	**-0.2**
	baz=0.5							
CWC				⇓S		**Sg**	**10 30 13.9**	**+0.2**
	baz=0.5							
LRMC	**Laurel Mountai**	**0.55**	**168**	⇑P		**Pg**	**10 30 09.3**	**+0.1**
	baz=0.6							
LRMC				⇑S		**Sg**	**10 30 17.2**	**+0.9**
	baz=0.6							
FURC	**Furnace Creek,**	**0.91**	**60**	⇑P		**Pg**	**10 30 16.0**	**+0.1**
	baz=0.9							
FURC				⇑S		**Sg**	**10 30 28.5**	**+0.9**
	baz=0.9							
VES	**Vestal, Richgr**	**1.03**	**261**	⇑P		**Pg**	**10 30 18.1**	**-0.2**
	baz=1.0							
VES				⇑S		**Sg**	**10 30 31.8**	**+0.1**
	baz=1.0							
GRAC	**Grapevine Rang**	**1.05**	**21**	⇓P		**Pg**	**10 30 18.2**	**-0.5**
	baz=1.0							
GRAC				⇓S		**Sg**	**10 30 32.7**	**+0.5**
	baz=1.0							
TIN	**Tinemaha**	**1.08**	**343**	⇓P		**Pg**	**10 30 18.8**	**-0.5**
	baz=1.1							
TIN				⇑S		**Sg**	**10 30 34.0**	**+0.6**
	baz=1.1							
GSC	**Goldstone**	**1.10**	**130**	⇑P		**Pg**	**10 30 19.3**	**-0.4**
	baz=1.1							
GSC				⇓S		**Sg**	**10 30 34.5**	**+0.6**
	baz=1.1							
EDW2	**Edwards Air Fo**	**1.14**	**187**	⇑P		**Pg**	**10 30 19.8**	**-0.7**
	baz=1.1							
EDW2				⇑S		**Sg**	**10 30 35.3**	**0.0**

	baz=1.1									
RCTC	**Rector, Farmer**	**1.18**	**285**	⇓P		**Pg**	**10 30 20.2**	**-0.9**		
	baz=1.2									
RCTC				⇑S		**Sg**	**10 30 35.9**	**-0.5**		
	baz=1.2									
ARVC	**Arvin**	**1.21**	**223**	⇓P		**Pg**	**10 30 21.3**	**-0.3**		
	baz=1.2									
ARVC				⇓S		**Sg**	**10 30 37.6**	**+0.3**		
	baz=1.2									
SHOC	**Shoshone**	**1.26**	**95**	⇑P		**Pg**	**10 30 22.0**	**-0.8**		
	baz=1.3									
SHOC				⇑S		**Sg**	**10 30 39.9**	**+0.7**		
	baz=1.3									
RRX	**Edison Barstow**	**1.32**	**149**	⇑P		**Pg**	**10 30 23.7**	**-0.2**		
	baz=1.3									
RRX				⇑S		**Sb**	**10 30 42.0**	**+0.9**		
	baz=1.3									
TPNV	**Topopah Spring**	**1.58**	**53**	⇓P		**Pn**	**10 30 27.4**	**0.0**		
	baz=1.6									
TPNV				⇑S		**Sn**	**10 30 48.6**	**+0.3**		
	baz=1.6									
OSI	**Osito Adit**	**1.58**	**208**	*e*Pn		**Pn**	**10 30 28.1**	**+0.8**		
OSI	**Osito Adit**	**1.58**	**208**	⇑P		**Pn**	**10 30 27.2**	**-0.1**		
	baz=1.6									
TUQ	**Turquoise Moun**	**1.66**	**110**	⇓P		**Pn**	**10 30 27.7**	**-0.7**		
	baz=1.7									
HEC	**Hector,Ludlow**	**1.71**	**134**	⇓P		**Pn**	**10 30 28.4**	**-0.6**		
	baz=1.7									
BFSC	**Mount Baldy Ra**	**1.78**	**175**	⇑P		**Pn**	**10 30 30.1**	**0.0**		
	baz=1.8									
BFSC				⇑Sb		**Sb**	**10 30 55.3**	**+0.8**		
	baz=1.8									
MLAC	**Mammoth Lakes**	**1.80**	**334**	⇑Pb		**Pb**	**10 30 31.7**	**-0.5**		
	baz=1.8									
MLAC				⇑Sb		**Sb**	**10 30 56.1**	**+0.9**		
	baz=1.8									
MWC	**Mount Wilson**	**1.80**	**186**	*e*Pn		**Pn**	**10 30 30.8**	**+0.4**		
MWC				*e*Sn		**Sn**	**10 30 54.6**	**+0.8**		
DECC	**Green Verdugo**	**1.81**	**193**	⇓P		**Pn**	**10 30 29.7**	**-0.8**		
	baz=1.8									
PASC	**Pasadena Art C**	**1.86**	**189**	*e*Pn		**Pn**	**10 30 32.1**	**+0.9**		
PASC				*e*Sn		**Sn**	**10 30 55.7**	**+0.6**		
SMMC	**Simmler**	**1.90**	**249**	⇑Pb		**Pn**	**10 30 32.8**	**+1.0**		
	baz=1.9									
GMRC	**Granite Mounta**	**2.16**	**124**	⇑P		**Pn**	**10 30 34.1**	**-1.2**		
	baz=2.2									
GMRC				⇑Sb		**Sb**	**10 31 06.9**	**+1.5**		
	baz=2.2									
NV11	**Mina Array Sit**	**2.42**	**354**	*e*Pn		**Pn**	**10 30 39.8**	**+0.8**		
NV11				*e*Sg		**Sg**	**10 31 18.4**	**+1.9**		
MURC	**Murrieta**	**2.47**	**168**	⇓Sb		**Sb**	**10 31 16.2**	**+2.0**		
	baz=2.5									
BELC	**Belle Mtn. Jos**	**2.51**	**143**	⇑P		**Pn**	**10 30 39.6**	**-0.6**		
	baz=2.5									
PFO	**Pinyon Flat Ob**	**2.66**	**154**	⇓P		**Pn**	**10 30 41.8**	**-0.4**		
	baz=2.7									
WAKR	**Walker**	**2.79**	**333**	*e*Pg		**Pg**	**10 30 51.2**	**-0.9**		
WAKR				*e*Sg		**Sg**	**10 31 27.0**	**-1.3**		
CMB	**Columbia Colle**	**2.87**	**315**	*e*Pg		**Pg**	**10 30 53.7**	**+0.1**		
CMB				*e*Sn		**Sn**	**10 31 18.6**	**-1.5**		
IRM	**Iron Mountain**	**2.88**	**129**	⇑P		**Pn**	**10 30 44.0**	**-1.1**		
	baz=2.9									
R11A	**Troy Canyon, C**	**2.94**	**37**	*e*Pn		**Pn**	**10 30 46.1**	**0.0**		
R11A				*e*Sg		**Sg**	**10 31 32.8**	**-0.1**		
SAO	**San Andreas Ge**	**3.01**	**285**	*e*Pn		**Pn**	**10 30 48.8**	**+1.8**		
SAO				*e*Sn		**Sn**	**10 31 21.9**	**-1.5**		
BAR	**Barrett**	**3.46**	**164**	*e*Pn		**Pn**	**10 30 53.4**	**+0.2**		
BAR				*e*Sn		**Sn**	**10 31 33.8**	**-0.9**		
PDMCI	**Parker Dam,Lak**	**3.48**	**118**	⇓P		**Pn**	**10 30 52.5**	**-0.8**		
	baz=3.5									
Y12C	**Blythe**	**3.54**	**129**	⇓P		**Pn**	**10 30 53.0**	**-1.2**		
	baz=3.5									
GLA	**Glamis**	**3.86**	**139**	*e*Pg		**Pg**	**10 31 11.5**	**-1.0**		
GLA				*e*Sg		**Sg**	**10 32 02.4**	**-0.2**		
PAHR	**Pah Rah Range**	**3.88**	**342**	*e*Pg		**Pg**	**10 31 12.5**	**-0.4**		
PAHR				*e*Sg		**Sg**	**10 32 04.1**	**+0.9**		
CCUT	**Cedar City**	**3.90**	**66**	*e*Pn		**Pn**	**10 31 00.2**	**+0.9**		
CCUT				*e*Pg		**Pg**	**10 31 13.8**	**+0.6**		
CCUT				*e*Sn		**Sn**	**10 31 47.0**	**+1.4**		
CCUT				*e*Sg		**Sg**	**10 32 04.0**	**+0.2**		
ARUT	**Antelope Range**	**3.94**	**62**	*e*Pn		**Pn**	**10 31 00.4**	**+0.6**		
ARUT				*e*Sg		**Sg**	**10 32 05.9**	**+0.9**		
BEKR	**Beckworth**	**4.33**	**333**	*e*Pg		**Pg**	**10 31 21.1**	**-0.5**		
BEKR				*e*Sg		**Sg**	**10 32 15.8**	**-1.9**		
BMN	**Battle Mountai**	**4.43**	**6**	*e*Pg		**Pg**	**10 31 22.1**	**-1.3**		
BMN				*e*Sg		**Sg**	**10 32 21.3**	**+0.4**		
Y14A	**Wickenburg**	**4.47**	**116**	⇓P		**Pn**	**10 31 06.4**	**-0.7**		
	baz=4.5									
Z14A	**Wintersburg**	**4.82**	**122**	⇑P		**Pn**	**10 31 11.1**	**-0.7**		
	baz=4.8									
WUAZ	**Wupatki**	**5.27**	**94**	*e*Pg		**Pg**	**10 31 39.4**	**-0.2**		
	52nm,0.9s									
WUAZ				*e*Sg		**Sg**	**10 32 44.1**	**-3.8**		
DUG	**Dugway**	**5.75**	**42**	*e*Pg		**Pg**	**10 31 47.2**	**-1.4**		
	6.7nm,0.6s									
DUG				*e*Sg		**Sg**	**10 33 01.9**	**-1.2**		
214A	**Organ Pipe Nat**	**5.81**	**133**	⇑S		**Sn**	**10 32 31.3**	**-1.3**		
	baz=5.8									
NLU	**North Lily Min**	**6.01**	**47**	*e*Pg		**Pg**	**10 31 53.8**	**+0.1**		
	10nm,1.0s									
NLU				*e*Sn		**Sn**	**10 32 38.5**	**+0.9**		
MOD	**Modoc**	**6.18**	**343**	*e*Pg		Pg	10 31 53.4	-3.6		
	5.5nm,0.6s									
TMUT	**Trail Mountain**	**6.19**	**56**	*e*Pn		**Pn**	**10 31 31.3**	**+0.4**		
	3.2nm,0.5s									
TMUT				*e*Pg		**Pg**	**10 31 57.2**	**+0.1**		
W18A	**Petrified Fore**	**6.66**	**95**	*e*Pg		**Pg**	**10 32 06.7**	**+0.6**		
	16nm,0.6s									
HVU	**Hansel Valley**	**6.97**	**33**	*e*Pg		**Pg**	**10 32 11.9**	**-0.2**		
	6.0nm,0.8s									
MVCO	**Mesa Verde**	**7.60**	**78**	*e*Pn		Pn	10 31 46.1	-4.1		
	8.6nm,0.6s									
MVCO				*e*Pg		**Pg**	**10 32 23.4**	**-0.7**		
MVCO				*e*Sg		**Sg**	**10 34 03.2**	**+0.7**		
HLID	**Hailey**	**7.98**	**18**	Pn		**Pn**	**10 31 54.5**	**-0.8**		
	4.2nm,0.9s									
HLID				*e*Pg		**Pg**	**10 32 31.2**	**-0.2**		

*CSEM **15** 10:31:30.1, 47°.22N×15°.02E, h0km, ML1.2/4, Mining explosion. After ZAMG*

VIE 15 10:31:30.1±0.3, 47°.22N×15°.02E, h0km±62km, mb1.0/2, ML1.2/4, 6C-2D, Error ellipse: s-maj=2.5km s-min=1.0km az=112.0 12 km SSE of Kraubath a.d. Mur Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.34**	**84**	⇑*i*	*e*Pg		Pg	10 31 36.7	-0.2
	3.3nm,0.1s								
ARSA				⇑*i*	*e*Sg		Sg	10 31 41.8	+0.4
	9.9nm,0.3s								
ARSA	**Arzberg**	**0.34**	**84**		Pg		Pg	10 31 36.7	-0.2
	3.3nm,0.1s								
ARSA					Sg		Sg	10 31 41.8	+0.4
	9.9nm,0.3s								
SOKA	**Soboth**	**0.54**	**179**	⇓*i*	*e*Pg		Pg	10 31 40.7	+0.1
	0.6nm,0.1s								
SOKA				⇓*i*	*e*Sg		Sg	10 31 48.0	+0.3
	1.8nm,0.1s								
SOKA	**Soboth**	**0.54**	**179**		Pg		Pg	10 31 40.7	+0.1
	0.6nm,0.1s								
SOKA					Sg		Sg	10 31 48.0	+0.3
	1.8nm,0.1s								
OBKA	**Obir**	**0.78**	**205**	⇑*i*	*e*Pg		Pg	10 31 45.2	0.0
	1.2nm,0.1s								
OBKA				⇑*i*	*e*Sg		Sg	10 31 56.0	+0.6
	2.6nm,0.3s								
OBKA	**Obir**	**0.78**	**205**		Pg		Pg	10 31 45.2	0.0
	1.2nm,0.1s								
OBKA					Sg		Sg	10 31 56.0	+0.6
	2.6nm,0.3s								
CONA	**Conrad Observa**	**0.91**	**38**	⇑*i*	*e*Pg		Pg	10 31 48.0	+0.1
	1.1nm,0.2s								
CONA				⇑*i*	*e*Sg		Sg	10 32 00.3	+0.5
	1.0nm,0.2s								
CONA	**Conrad Observa**	**0.91**	**38**		Pg		Pg	10 31 48.0	+0.2
	1.1nm,0.2s								
CONA					Sg		Sg	10 32 00.3	+0.5
	1.0nm,0.2s								

*BJI **15** 10:38:32.0, 31°.70S×177°.60W, h10km, mB5.9/16, mb5.3/25, Ms5.7/14, Ms7 5.4/14*
*IDC **15** 10:38:35.6±0.5, 31°.52S×177°.65W, h0km, mb4.8/16, mb1 5.0/17, mb1mx4.8/24, mbtmp4.8/17, ML5.1/1, MS5.1/9, Ms1 5.1/9, ms1mx4.8/31, Error ellipse: s-maj=18.0km s-min=16.6km az=156.0*
*GCMT **15** 10:38:36.6±0.3, 31°.58S×177°.19W, h12km, MW5.3/78, Moment Tensor Solution. s27,c32; s78,c117; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.87±.03; Mθθ -0.13±.03; Mφφ -0.74±.02; Mrθ 0.01±.11; Mθφ -0.34±.02; Mφr 0.61±.08; Best double couple: M0 1.07600×10^17 NP1: φs 216.00000°, δ 30.00000°, λ 112.00000°. NP2: φs 21 6.00000°, δ 62.00000°, λ 78.00000°. Principal axes: T 1.0850, Plg 70.0000°, Azm 256.0000°; N -0.0180, Plg 11.0000°, Azm 17.0000°; P -1.0680, Plg 17.0000°, Azm 110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 10:38:36.6±0.3, 31°.75S×177°.51W, h10km, mb5.2/16 Error ellipse: s-maj=10.5km s-min=6.8km az=123.0*
*ISCJB **15** 10:38:38.0±0.2, 31°.92S±0°.04×177°.58W±0°.05, h26km, mb5.1/40, MS5.3/12, Error ellipse: s-maj=7.1km s-min=3.4km az=42.6*
*MOS **15** 10:38:40.9±1.5, 31°.39S×177°.81W, h33km, mb5.3/7, Error ellipse: s-maj=15.4km s-min=11.3km az=114.5*

ISC 15 10:38:39.2±0.3, 31°.72S±0°.05×177°.52W±0°.06, h26km, n306, σ1§43/321, mb5.2/38, MS5.3/12, 32C-27D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.48**	**352**	*e*	Pn		Pn	10 39 13.9	-4.1
RAO				*e*	Sn		**Sn**	**10 39 45.9**	**-1.5**
RAO	**Raoul Island**	**2.48**	**352**		Pn		Pn	10 39 13.8	-4.2
	456nm,0.3s,baz=236,slow=6.3,SNR=15								
RAO					Sn		Sn	10 39 40.3	-7.1
	352nm,0.3s,baz=277,slow=23,SNR=9.2								
RAO					LR		LR	10 40 00.8	
	comp=Z,11μm,18.8s,baz=190,slow=37								
HAZ	**Te Kaha**	**7.16**	**211**	*e*	PN		**Pn**	**10 40 21.1**	**-1.1**
HAZ				*e*	SN		**Sn**	**10 41 44.5**	**+2.0**
PUZ	**Puketiti**	**7.22**	**207**	*e*	PN		**Pn**	**10 40 20.3**	**-2.9**
MWZ	**Matawai**	**7.75**	**210**	*e*	PN		**Pn**	**10 40 27.7**	**-2.6**
MWZ				*e*	SN		**Sn**	**10 41 57.9**	**+0.6**
URZ	**Urewera**	**7.87**	**213**	*e*	Pn		**Pn**	**10 40 30.0**	**-2.0**
URZ				*e*	Sn		**Sn**	**10 42 00.8**	**+0.6**
URZ	**Urewera**	**7.87**	**213**		Pn		**Pn**	**10 40 30.4**	**-1.6**
	3.2nm,0.3s,baz=33,slow=7.8,SNR=26								
URZ					Sn		**Sn**	**10 42 00.2**	**0.0**
	5.8nm,0.3s,baz=146,slow=3.1,SNR=5.8								
URZ	**Urewera**	**7.87**	**213**	*e*	PN		**Pn**	**10 40 29.6**	**-2.4**
URZ				*e*	SN		**Sn**	**10 41 59.6**	**-0.6**
RIGZ	**Rimuhau**	**7.97**	**208**	*e*	PN		**Pn**	**10 40 31.3**	**-2.1**
RIGZ				*e*	SN		**Sn**	**10 42 02.2**	**-0.4**
OUZ	**Omahuta**	**8.20**	**242**	*e*	Pn		Pn	10 40 42.4	+5.9
OUZ				*e*	Sn		**Sn**	**10 42 07.1**	**-1.2**
BKZ	**Black Stump Fm**	**8.89**	**212**	*e*	Pn		**Pn**	**10 40 43.0**	**-3.0**
PXZ	**Pawanui**	**9.46**	**207**	*e*	PN		**Pn**	**10 40 53.5**	**-0.3**
PXZ				*e*	SN		**Sn**	**10 42 35.1**	**-4.2**
TSZ	**Takapari Road**	**9.86**	**211**	*e*	PN		**Pn**	**10 40 56.4**	**-2.8**
THZ	**Tophouse**	**12.62**	**215**	*e*	PN		Pn	10 41 32.7	-4.4
THZ				*e*	SN		Sn	10 43 48.9	-7.8
LTZ	**Lake Taylor**	**13.70**	**213**	*e*	PN		Pn	10 41 48.6	-3.2
LTZ				*e*	SN		Sn	10 44 12.1	-11
OXZ	**Oxford**	**14.23**	**213**	*e*	PN		Pn	10 41 53.8	-5.2
OXZ				*e*	SN		Sn	10 44 24.1	-12
MQZ	**McQueen's Vall**	**14.26**	**210**	*e*	PN		Pn	10 41 55.4	-3.9
MQZ				*e*	SN		Sn	10 44 24.2	-12
MSVF	**Nonsavu**	**14.49**	**343**	*e*	P		**Pn**	**10 42 00.6**	**-2.1**
MSVF					pmax		pmax		
	comp=Z,182nm,1.6s								
MSVF	**Nonsavu**	**14.49**	**343**	*e*	Pn		**Pn**	**10 42 00.6**	**-2.1**
	comp=Z,182nm,1.6s								
RPZ	**Rata Peaks**	**14.99**	**214**	*e*	Pn		Pn	10 42 05.9	-3.4
RPZ					Sn		Sn	10 44 44.3	-10
RPZ	**Rata Peaks**	**14.99**	**214**		Pn		Pn	10 42 05.8	-3.5
	comp=Z,4.1nm,0.3s,baz=30,slow=1.3,SNR=23								
RPZ					Sn		Sn	10 44 44.3	-10
	comp=Z,1.7nm,0.3s,baz=329,slow=19,SNR=6.8								
RPZ	**Rata Peaks**	**14.99**	**214**	*e*	PN		Pn	10 42 05.6	-3.6
RPZ				*e*	SN		Sn	10 44 40.8	-14
ODZ	**Otahua Downs**	**16.20**	**211**	*e*	Pn		**Pn**	**10 42 25.4**	**+0.5**
	comp=Z,38nm,0.8s								
DZM	**Mont Dzumac**	**17.21**	**300**	*e*	P		**P**	**10 42 41.5**	**+2.1**
	comp=Z,247nm,1.2s								
DZM					eLR		LR	10 46 53.4	
	comp=Z,10μm,25.4s								
DZM	**Mont Dzumac**	**17.21**	**300**	*e*	Pn		**Pn**	**10 42 37.6**	**-0.3**
DZM	**Mont Dzumac**	**17.21**	**300**		Pn		**P**	**10 42 41.4**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=102,slow=15,SNR=11								
DZM					LR		LR	10 46 41.5	
	comp=Z,4μm,18.1s,baz=360,slow=28								
DZM	**Mont Dzumac**	**17.21**	**300**	*e*	P		**P**	**10 42 40.7**	**+1.3**
WHZ	**Wether Hill Ro**	**18.09**	**214**	*e*	Pn		**Pn**	**10 42 47.4**	**-1.2**
	comp=Z,304nm,2.2s								
RAR	**Rarotonga**	**19.00**	**61**	*e*	P		**P**	**10 42 56.2**	**-2.8**
	comp=Z,62nm,0.8s								
RAR					eS		**S**	**10 46 33.8**	**+0.6**
RAR	**Rarotonga**	**19.00**	**61**		LR		LR	10 49 15.3	
	comp=Z,6μm,18.9s,baz=225,slow=34								
LHI	**Lord Howe Isla**	**19.94**	**264**	⇓	P		**Pn**	**10 43 12.4**	**+1.5**
	baz=21,SNR=5.2								
TBI	**Tubuai**	**26.19**	**78**	*e*	LQ		LQ	10 49 10.2	
	comp=Z,3μm,26.0s								
TBI					eLR		LR	10 50 33.1	
	comp=Z,3μm,21.5s								
TBI	**Tubuai**	**26.19**	**78**	*e*	T		T	11 11 02.1	
	comp=Z,17nm,0.4s								
ARMA	**Armidale**	**26.41**	**265**	*e*	P		**P**	**10 44 17.3**	**+3.3**
	comp=Z,55nm,1.4s								
ARMA	**Armidale**	**26.41**	**265**	⇓	P		**P**	**10 44 17.2**	**+3.3**
	baz=28,SNR=7.9								
MGCD	**Mangrove Creek**	**26.46**	**258**	⇑	P		**P**	**10 44 17.7**	**+3.5**
	baz=28,SNR=6.2								
CNB	**Canberra Magne**	**27.77**	**254**	⇑	P		**P**	**10 44 28.5**	**+2.5**
	baz=29,SNR=5.6								
MILA	**Mila**	**27.92**	**250**	⇓	P		**P**	**10 44 28.3**	**+1.0**
	baz=29,SNR=5.5								
CAN	**Canberra**	**28.06**	**253**	⇓	P		**P**	**10 44 30.5**	**+1.8**
	baz=29								
EIDS	**Eidsvold**	**28.23**	**275**	*e*	P		**P**	**10 44 31.8**	**+1.6**
	comp=Z,49nm,1.0s								
EIDS	**Eidsvold**	**28.23**	**275**	⇓	P		**P**	**10 44 31.7**	**+1.6**
	baz=29,SNR=14								
YNG	**Young**	**28.62**	**256**	⇓	P		**P**	**10 44 36.4**	**+2.8**
	baz=30,SNR=12								
PAE	**Paea**	**28.89**	**68**	*e*	T		T	11 14 24.5	
	comp=Z,1.5nm,0.2s								
PPT2	**Papeete2**	**28.93**	**68**	*e*	LR		LR	10 52 06.4	
	comp=Z,3μm,20.8s								
PPT2	**Papeete2**	**28.93**	**68**	*e*	T		T	11 14 28.6	
	comp=Z,6.2nm,0.4s								
PPT	**Papeete**	**28.94**	**67**		LR		LR	10 54 22.6	
	comp=Z,4μm,19.5s,baz=236,slow=33								
RMQ	**Roma**	**29.84**	**271**		P		**P**	**10 44 47.2**	**+2.7**
	baz=31,SNR=52								
TOO	**Toolangi**	**30.84**	**249**	⇑	P		**P**	**10 44 55.3**	**+2.0**
	baz=32,SNR=4.5								
CMSA	**Cobar Meteorol**	**31.23**	**260**		P		**P**	**10 44 58.8**	**+2.2**
	baz=32,SNR=57								
VAH	**Vaihoa**	**31.81**	**66**	*e*	P		**P**	**10 45 01.0**	**-0.8**
	comp=Z,88nm,1.4s								
VAH	**Vaihoa**	**31.81**	**66**	*e*	T		T	11 18 03.1	
	comp=Z,5.8nm,0.3s								
QLP	**Quilpie**	**33.67**	**269**	⇑	P		**P**	**10 45 19.3**	**+1.3**
	baz=35,SNR=17								
CTA	**Charters Tower**	**34.43**	**281**		P		**P**	**10 45 26.8**	**+2.1**
CTA	**Charters Tower**	**34.43**	**281**		P		**P**	**10 45 26.8**	**+2.1**
	comp=Z,30nm,0.9s,baz=102,slow=12,SNR=19								
CTA					LR		LR	10 58 03.7	
	comp=Z,4μm,18.0s,baz=167,slow=34								
CTA	**Charters Tower**	**34.43**	**281**	⇑	P		**P**	**10 45 26.9**	**+2.1**
	baz=36								
CTAO	**Charters Tower**	**34.43**	**281**	*e*	P		**P**	**10 45 24.7**	**-0.1**
CTAO					pmax		pmax		
	comp=Z,39nm,0.9s								
CTAO	**Charters Tower**	**34.43**	**281**	*e*	P		**P**	**10 45 24.7**	**-0.1**
	comp=Z,39nm,0.9s								
STKA	**Stephens Creek**	**34.60**	**259**	*e*	P		**P**	**10 45 27.9**	**+1.8**
STKA	**Stephens Creek**	**34.60**	**259**		P		**P**	**10 45 27.6**	**+1.4**
	comp=Z,26nm,0.9s,baz=94,slow=9.4,SNR=57								
STKA					LR		LR	10 57 52.0	
	comp=Z,2μm,18.2s,baz=108,slow=34								
STKA	**Stephens Creek**	**34.60**	**259**		P		**P**	**10 45 27.9**	**+1.8**
	baz=36,SNR=38								
HTT	**Hallett**	**36.55**	**255**	⇓	P		**P**	**10 45 43.7**	**+0.8**
	baz=38,SNR=9.9								
MTSU	**Mount Surprise**	**36.96**	**282**	⇓	P		**P**	**10 45 47.5**	**+1.0**
	baz=38								
RKT	**Rikitea**	**38.53**	**88**	*e*	LR		LR	10 56 15.6	
	comp=Z,3μm,28.2s								
BBOO	**Buckleboo**	**39.02**	**256**	*e*	P		**P**	**10 46 03.8**	**0.0**
	comp=Z,328nm,0.7s								
BBOO	**Buckleboo**	**39.02**	**256**	⇓	P		**P**	**10 46 04.1**	**+0.3**
	baz=40,SNR=29								
QIS	**Mount Isa**	**39.83**	**276**	⇑	P		**P**	**10 46 11.6**	**+0.9**
	baz=41,SNR=10.0								
COEN	**Coen**	**40.04**	**287**	⇑	P		**P**	**10 46 13.6**	**+1.2**
	baz=41,SNR=4.9								
AS31	**Alice Springs**	**43.46**	**268**	*e*	P		**P**	**10 46 40.2**	**-0.2**
ASAR	**Alice Springs**	**43.46**	**268**		P		**P**	**10 46 40.2**	**-0.2**
ASAR					ScP		**ScP**	**10 52 22.1**	**+4.1**
ASAR	**Alice Springs**	**43.46**	**268**		P		**P**	**10 46 40.2**	**-0.2**
	comp=Z,19nm,0.7s,baz=105,slow=7.4,SNR=110								
ASAR					ScP		**ScP**	**10 52 22.1**	**+4.1**
	comp=Z,1.6nm,0.9s,baz=122,slow=4.8,SNR=5.2								
WRAB	**Tennant Creek**	**44.56**	**273**		P		**P**	**10 46 49.1**	**-0.1**
	comp=Z,309nm,0.8s,SNR=17								
WRAB	**Tennant Creek**	**44.56**	**273**	⇓	*e*P		**P**	**10 46 49.2**	**0.0**
WRAB					pmax		pmax		
	comp=Z,176nm,1.2s								
WRAB	**Tennant Creek**	**44.56**	**273**	*e*	P		**P**	**10 46 49.1**	**-0.1**
	comp=Z,68nm,1.0s								
WRA	**Warramunga Arr**	**44.57**	**273**		P		**P**	**10 46 48.7**	**-0.6**
WRA					ScP		**ScP**	**10 52 26.4**	**+3.8**
WRA					S		**S**	**10 53 23.1**	**-0.5**
WRA	**Warramunga Arr**	**44.57**	**273**		P		**P**	**10 46 48.7**	**-0.6**
	comp=Z,36nm,0.8s,baz=115,slow=7.5,SNR=187								
WRA					ScP		**ScP**	**10 52 26.4**	**+3.8**
	comp=Z,1.5nm,0.8s,baz=100,slow=4.2,SNR=4.8								
WRA					S		**S**	**10 53 23.1**	**-0.5**
	comp=Z,2.3nm,1.1s,baz=119,slow=15,SNR=4.0								
WRA					LR		LR	11 04 44.4	
	comp=Z,3μm,18.2s,baz=90,slow=35								
FORT	**Forrest**	**46.12**	**256**	*e*	P		**P**	**10 47 01.3**	**-0.1**
	comp=Z,62nm,1.1s								
FORT	**Forrest**	**46.12**	**256**		P		**P**	**10 47 01.3**	**-0.1**
	baz=47,SNR=7.6								
KNRA	**Kununurra**	**51.22**	**275**	⇑	P		**P**	**10 47 40.5**	**-0.3**
	baz=52,SNR=5.5								
FITZ	**Fitzroy Crossi**	**52.77**	**271**	⇓	P		**P**	**10 47 52.3**	**0.0**
	baz=54,SNR=7.5								
MEEK	**Meekatharra**	**55.30**	**258**		P		**P**	**10 48 09.9**	**-0.8**
	baz=56,SNR=5.0								
QSPA	**South Pole Qui**	**58.40**	**180**	*e*	P		**P**	**10 48 34.1**	**+1.9**
	comp=Z,78nm,1.1s								
QSPA	**South Pole Qui**	**58.40**	**180**		P		**P**	**10 48 35.0**	**+2.8**
	comp=Z,28nm,1.1s,baz=34,slow=3.6,SNR=17								
JAGI	**Jajag, Banyuwa**	**67.17**	**274**	⇓	P		**P**	**10 49 31.1**	**-0.2**
	baz=68								
SYO	**Syowa Base**	**75.93**	**193**	⇑	*e*P		**P**	**10 50 22.0**	**-1.2**
SYO	**Syowa Base**	**75.93**	**193**	⇑	*e*PcP		**PcP**	**10 50 35.2**	**-0.3**
SNAA	**Sanae**	**76.83**	**178**	*e*	P		**P**	**10 50 29.4**	**+1.0**
	comp=Z,34nm,1.3s								
SNAA	**Sanae**	**76.83**	**178**		P		**P**	**10 50 29.3**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=151,slow=8.6,SNR=8.7								
MJAR	**Matsushiro Arr**	**79.55**	**325**		P		**P**	**10 50 42.8**	**-1.0**
MJAR	**Matsushiro Arr**	**79.55**	**325**		P		**P**	**10 50 42.8**	**-1.0**
	comp=Z,7.2nm,1.1s,baz=167,slow=6.2,SNR=6.3								
PLCA	**Paso Flores**	**81.31**	**133**		LR		LR	11 19 36.7	
	comp=Z,1μm,18.7s,baz=279,slow=30								
ASAJ	**Asahikawa**	**83.79**	**332**		P		**P**	**10 51 07.1**	**+1.2**
ASAJ	**Asahikawa**	**83.79**	**332**		P		**P

CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,1μm,16.0s
KLR Kul'dur 92.38 329 *e*P **P 10 51 44.3 -2.7**
KLR pmax pmax
comp=Z,36nm,1.4s
GYA Guiyang 92.56 300 *e*P **P 10 51 46.0 -2.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
425A Indio Mountain 92.66 55 P **P 10 51 49.6 +0.6**
baz=93
TXAR Lajitas Array 92.76 57 LR LR 11 25 51.8
comp=Z,2μm,18.5s,baz=295,slow=31
627A Terlingua Ranc 93.02 57 P **P 10 51 50.6 -0.1**
baz=93
224A Cornudas Mount 93.03 54 P **P 10 51 50.3 -0.5**
baz=93
Y23A Lovelace Mesa, 93.75 52 P **P 10 51 53.9 -0.2**
baz=94
427A Hayter Ranch, 93.81 56 P **P 10 51 55.5 +1.2**
baz=94
BJI Beijing 94.14 315 P P 10 51 50.3 -5.1
BJI S **S 11 03 08.8 +4.2**
BJI pmax pmax
comp=Z,14nm,0.4s
BJI LR LR
comp=Z,950nm,15.4s
BJI LR LR
comp=Z,1μm,19.0s
BJI LR LR
comp=Z,790nm,18.1s
CMAR Chiang Mai Arr 94.22 289 P **P 10 51 58.0 +1.6**
CMAR Chiang Mai Arr 94.22 289 P **P 10 51 58.0 +1.6**
comp=Z,2.7nm,0.4s,baz=150,slow=3.8,SNR=5.9
HVU Hansel Valley 94.32 43 *e*P **P 10 51 55.7 -0.7**
HVU pmax pmax
comp=Z,5.0nm,1.2s
HVU Hansel Valley 94.32 43 *e*P **P 10 51 55.7 -0.7**
comp=Z,5.2nm,1.2s
DAU Daniels Canyon 94.36 45 *e*P **P 10 51 59.1 +2.2**
DAU Daniels Canyon 94.36 45 *e*P **P 10 51 59.1 +2.2**
HLID Hailey 94.54 41 P **P 10 51 57.7 +0.3**
baz=95
KMI Kunming 94.78 296 P **P 10 51 56.5 -2.5**
KMI pmax pmax
comp=Z,9.0nm,1.8s
PDAR Pinedale Array 96.81 43 P **P 10 52 08.4 +0.5**
PDAR Pinedale Array 96.81 43 P **P 10 52 08.4 +0.5**
comp=Z,0.4nm,0.8s,baz=251,slow=2.8,SNR=3.3
CD2 Chengdu 97.13 302 *e*P **P 10 52 06.5 -2.9**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
SEY Seymchan 97.35 347⇓*e*P **P 10 52 08.8 -0.7**
SEY Seymchan 97.35 347 P Pdif 10 52 09.5 0.0
SEY Seymchan 97.35 347 P Pdif 10 52 09.5 0.0
comp=Z,1.5nm,0.8s,baz=297,slow=4.5,SNR=2.9
HHC Hu-ho-hao-te 97.44 314 *e*P P 10 52 04.8 -5.8
HHC PP **PP 10 56 09.3 +1.0**
HHC SKS **SKSac 11 02 42.8 -3.4**
HHC S **S 11 03 31.3 -2.1**
HHC sS **ScS 11 03 38.8 +5.1**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,290nm,4.8s
HHC LR LR
comp=Z,1μm,17.4s
HHC LR LR
comp=Z,2μm,17.4s
HHC LR LR
comp=Z,2μm,19.9s
ILAR Eielson Array 99.12 13 P **Pdif 10 52 16.4 -0.9**
ILAR Eielson Array 99.12 13 P **Pdif 10 52 16.4 -0.9**
comp=Z,0.6nm,0.9s,baz=224,slow=5.0,SNR=5.7
LZH Lanzhou 99.83 306 *e*P **Pdif 10 52 19.1 -2.4**
LZH pP pP 10 52 23.5 -6.5
LZH SKS **SKSac 11 02 56.0 -2.6**
LZH *e*S **S 11 03 54.0 -0.1**
LZH sS **ScS 11 03 58.1 +4.1**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,230nm,6.6s
LZH LR LR
comp=Z,600nm,18.3s
LZH LR LR
comp=Z,760nm,17.5s
LZH LR LR
comp=Z,1μm,18.6s
YKA Yellowknife Ar 106.45 26 PKiKP **PKiKP 10 57 00.1 -0.7**
YKA PKKPbc **PKKPbc 11 08 22.4 -0.4**
YKA Yellowknife Ar 106.45 26 PKiKP **PKiKP 10 57 00.1 -0.7**
comp=Z,0.1nm,0.6s,baz=244,slow=0.9,SNR=4.5
YKA PKKPbc **PKKPbc 11 08 22.4 -0.4**
comp=Z,0.2nm,0.8s,baz=37,slow=3.0,SNR=4.3
TLY Talaya 107.86 320 *e*P **Pdif 10 53 01.3 +4.7**
TLY pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 114.36 308 PKP PKPdf 10 57 08.8 -7.7
WMQ LR LR
comp=Z,280nm,19.2s
WMQ LR LR
comp=Z,260nm,19.2s
WMQ LR LR
comp=Z,360nm,17.0s
RES Resolute Bay 118.38 17 PKP **PKPdf 10 57 22.2 -0.9**
RES Resolute Bay 118.38 17 PKP **PKPdf 10 57 22.2 -0.9**
comp=Z,2.0nm,1.0s,baz=232,slow=8.7,SNR=3.4
MKAR Makanchi Array 118.93 309 PKiKP **PKPdf 10 57 23.6 -1.5**
MKAR Makanchi Array 118.93 309 PKP **PKPdf 10 57 23.6 -1.5**
MKAR Makanchi Array 118.93 309 PKP **PKPdf 10 57 23.6 -1.5**
comp=Z,0.9nm,0.9s,baz=132,slow=1.8,SNR=5.6
NVS Novosibirsk 120.39 319 *e*PKiKP PKPdf 10 57 37.8 +10
KSH Kashi 121.25 300 *e*PKP PKPdf 10 57 22.3 -7.7
KSH PP **PP 10 58 58.9 -2.4**
KSH AMB AMB
comp=Z,180nm,6.6s
KURK Kurchatov 122.25 313⇓*i*PKiKP **PKPdf 10 57 30.3 -1.0**
KURK Kurchatov 122.25 313 PKP **PKPdf 10 57 30.9 -0.4**
KURBB Kurchatov Arra 122.28 313 PKP **PKPdf 10 57 30.9 -0.5**
comp=Z,1.6nm,0.8s,baz=105,slow=2.1,SNR=11
TKM2 Tokmak 2 122.46 304 *e*PKiKP **PKPdf 10 57 32.0 -0.3**
TKM2 Tokmak 2 122.46 304 *e*PKPdf **PKPdf 10 57 32.0 -0.3**
AAK Ala-Archa 123.18 303⇓*i*PKiKP **PKPdf 10 57 34.1 +0.5**
AAK Ala-Archa 123.18 303 PKP **PKPdf 10 57 33.4 -0.3**
AAK Ala-Archa 123.18 303 PKP **PKPdf 10 57 33.4 -0.3**
comp=Z,0.6nm,0.4s,baz=109,slow=5.0,SNR=2.9
BVAR Borovoye Array 127.63 315 PKiKP **PKPdf 10 57 41.5 -0.1**
BVAR Borovoye Array 127.63 315 PKP **PKPdf 10 57 41.5 -0.1**
BVAR Borovoye Array 127.63 315 PKP **PKPdf 10 57 41.5 -0.1**
comp=Z,1.3nm,0.8s,baz=86,slow=4.8,SNR=7.2
ARU Arti 134.36 320 *i* PKiKP **PKPdf 10 57 54.9 +0.7**
ARU 11 00 24.3
ARCES ARCESS Array B 139.96 348 PKPpre PKPpre 10 58 00.1
ARCES PKP **PKPdf 10 58 03.5 -0.7**
ARCES ARCESS Array B 139.96 348 PKhKP PKPpre 10 58 00.1
comp=Z,4.6nm,1.1s,baz=42,slow=2.8,SNR=4.1
ARCES PKP **PKPdf 10 58 03.5 -0.7**
comp=Z,4.8nm,1.1s,baz=28,slow=4.3,SNR=4.2
DGRG David-gareji 144.52 298 P **PKPdf 10 58 13.1 -0.1**
TBLG Delisi 144.99 299 P **PKPdf 10 58 14.4 +0.4**
DUS Dusheti 145.00 299 P **PKPdf 10 58 15.3 +1.2**
GNI Garni 145.03 296 *e*PKPbc **PKPdf 10 58 14.6 +0.2**
VRHR Novokhopersk 145.37 316 *e*PKiKP **PKPbc 10 58 12.0 -2.2**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,1.4s
ZEI Tsey 145.54 301 *e*PKP2 **PKPdf 10 58 13.4 -1.8**
ZEI pmax pmax
comp=Z,77nm,1.3s
MOS Moscow 145.65 325 *i* PKP2 **PKPdf 10 58 14.1 -0.5**
MOS pmax pmax
comp=Z,179nm,1.2s
ONI Oni 145.88 300 P **PKPab 10 58 17.4 +0.7**
GOF Gofitskoye 145.89 305 *e*PKP2 **PKPab 10 58 16.3 -0.3**
GOF pmax pmax
comp=Z,89nm,1.3s
KAF Kangasniemi 145.92 340 *e*PKiKP **PKPdf 10 58 14.8 -0.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 145.92 340 *e*p **PKPdf 10 58 14.8 -0.1**
comp=Z,2.2nm,0.4s
AKH Akhalkalaki 145.94 298 P **PKPbc 10 58 16.6 0.0**
KBZ Khabaz 146.17 302 PKP2 **PKPab 10 58 17.9 +0.2**
KBZ Khabaz 146.17 302 PKPbc **PKPab 10 58 17.9 +0.2**
KBZ Khabaz 146.17 302 PKPbc **PKPab 10 58 17.9 +0.2**
comp=Z,20nm,1.1s,baz=24,slow=3.8,SNR=21
KIV Kislovodsk 146.29 303⇓*i*PKP2 **PKPbc 10 58 17.2 -0.3**
KIV pmax pmax
comp=Z,43nm,1.3s
KIV Kislovodsk 146.29 303 *e*PKPbc **PKPbc 10 58 17.4 -0.1**
KIV *e*PKPab **PKPab 10 58 18.8 +0.5**
OBN Obninsk 146.48 324⇑*i*PKP2 **PKPbc 10 58 17.1 -0.4**
OBN pmax pmax
comp=Z,125nm,1.6s
OBN Obninsk 146.48 324 *e*PKPbc **PKPbc 10 58 17.7 +0.2**
OBN *e*PKPab **PKiKP 10 58 19.4 -1.0**
OBN Obninsk 146.48 324 PKPbc **PKPbc 10 58 16.8 -0.6**
comp=Z,19nm,0.4s,baz=104,slow=4.2,SNR=16
FIA1 FINESS Array S 146.52 340 *e*PKPbc **PKPbc 10 58 16.9 -0.5**
FINES FINESS Array B 146.52 340 PKPbc **PKPdf 10 58 16.4 +0.5**
FINES FINESS Array B 146.52 340 PKPbc **PKPdf 10 58 16.4 +0.5**
comp=Z,15nm,0.8s,baz=64,slow=4.4,SNR=52
VSR Storozhevoye 146.78 317 *e*PKiKP **PKPdf 10 58 16.3 -0.4**
VSR pmax pmax
comp=Z,40nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 146.79 316 *e*PKiKP **PKPdf 10 58 16.8 +0.1**
VORD pmax pmax
comp=Z,30nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
VSU Vasula 148.59 336*ce*PKPbc **PKPbc 10 58 22.6 -0.5**
ANN Anapa 149.84 306 *i* PKP2 PKPab 10 58 38.8 +6.5
ANN pmax pmax
comp=Z,88nm,1.3s
NB2 NORSAR Subarra150.11 351 PKP **PKPbc 10 58 26.1 -0.8**
comp=Z,52nm,1.7s,baz=15,slow=4.1
NB2 NORSAR Subarra150.11 351 PKP **PKPbc 10 58 26.1 -0.8**
baz=15,slow=4.1
NOA NORSAR Array B150.11 351 PKPbc **PKPbc 10 58 26.1 -0.8**
NOA NORSAR Array B150.11 351 PKPbc **PKPbc 10 58 26.1 -0.8**
comp=Z,5.8nm,1.0s,baz=14,slow=4.2,SNR=5.4
MICGM Minsk 150.93 329 *e* **PKPbc 10 58 27.0 -2.0**
MNK Minsk 150.95 329 *e*PKiKP **PKPbc 10 58 27.0 -2.0**
NACGM Naroch 151.13 331 *e* **PKPbc 10 58 28.0 -1.5**
SIM Simferopol' 152.08 307 *e*PKiKP **PKPab 10 58 42.6 +1.0**
SIM pmax pmax
comp=Z,80nm,14.5s
AKASG Malin Array Be 152.59 322 PKiKP **PKPbc 10 58 32.4 -0.5**
AKASG 10 58 42.5
AKASG Malin Array Be 152.59 322 PKPbc **PKPbc 10 58 32.4 -0.5**
AKASG PKPab **PKPab 10 58 42.5 -1.0**
AKASG Malin Array Be 152.59 322 PKPbc **PKPbc 10 58 32.4 -0.5**
comp=Z,4.0nm,0.7s,baz=51,slow=2.5,SNR=18
AKASG PKPab **PKPab 10 58 42.5 -1.0**
comp=Z,12nm,0.9s,baz=46,slow=4.0,SNR=19
AKBB Malin Array Si 152.59 322 *e*PKiKP **PKPdf 10 58 26.1 +0.2**
AKBB *e* 10 58 32.8
AKBB *e* 10 58 42.2
AKBB Malin Array Si 152.59 322 *e*PKPdf **PKPdf 10 58 26.1 +0.2**
AKBB *e*PKPbc **PKPbc 10 58 32.8 -0.1**
AKBB *e*PKPab **PKPab 10 58 42.2 -1.3**
AK01 Malin Array Si 152.60 322 *e*PKPdf **PKPdf 10 58 27.1 +1.1**
AK01 *e*PKPbc **PKiKP 10 58 33.0 -0.2**
AK01 *e*PKPab **PKPab 10 58 42.1 -1.4**
KIEV Kiev 152.60 322 *e*PKiKP **PKPdf 10 58 25.7 -0.2**
KIEV *e* 10 58 32.7
KIEV *e* 10 58 42.8
KIEV Kiev 152.60 322 *e*PKPdf **PKPdf 10 58 25.7 -0.2**
KIEV *e*PKPbc **PKPbc 10 58 32.7 -0.2**
KIEV *e*PKPab **PKPab 10 58 42.8 -0.8**
AK02 Malin Array Si 152.62 321 *e*PKPdf **PKPdf 10 58 25.0 -1.0**
AK02 *e*PKPbc **PKPbc 10 58 32.7 -0.3**
AK02 *e*PKPab **PKPab 10 58 42.8 -0.9**
SUW Suwalki 153.23 332 *e*PKiKP **PKPbc 10 58 34.8 +0.6**
SUW *e* 10 58 45.4
SUW Suwalki 153.23 332 *e*PKP **PKPab 10 58 45.0 -1.1**
SUW Suwalki 153.23 332 *e*PKPbc **PKPbc 10 58 34.8 +0.6**
SUW *e*PKPab **PKPab 10 58 45.4 -0.7**
BR131 Keskin Array S 153.57 296 *e*PKPdf **PKPdf 10 58 28.6 +0.7**
BR131 *e*PKPbc **PKiKP 10 58 36.2 +0.5**
BR131 *e*PKPab **PKPbc 10 58 48.0 -0.2**
BRTR Keskin Array B 153.57 296 PKPbc **PKPbc 10 58 35.4 -0.3**
BRTR PKPab **PKPab 10 58 47.2 -1.1**
BRTR Keskin Array B 153.57 296 PKPbc **PKPbc 10 58 35.4 -0.3**
comp=Z,7.0nm,1.1s,baz=134,slow=3.6,SNR=15
BRTR PKPab **PKPab 10 58 47.2 -1.1**
comp=Z,5.3nm,0.9s,baz=114,slow=3.2,SNR=8.3
ANTO Ankara 154.19 297 *e*PKiKP **PKPbc 10 58 38.0 +1.1**
ANTO *e* 10 58 50.6
ANTO Ankara 154.19 297 *e*PKPbc **PKPbc 10 58 38.0 +1.1**
ANTO *e*PKPab **PKPab 10 58 50.6 -0.2**
LVV L'vov 155.78 325 *e*PKP2 **PKPab 10 58 56.0 -1.1**
CFR Carcaliu 155.95 311⇓*i*P **PKPab 10 58 58.2 +0.2**
TIRR Tirgusor 156.06 309⇑*i*P **PKPab 10 58 59.1 +0.6**
TESR Tescani 156.25 315⇑*i*P **PKPab 10 58 58.8 -0.5**
BURAR Bucovina Array 156.50 319⇑*i*P **PKPab 10 59 00.2 -0.2**
VRI Vrincioaia 156.52 314⇑*i*P **PKPab 10 59 01.2 +0.7**
KWP Kalwaria Pacla 156.55 326 *e*PKP2 **PKPab 10 59 00.4 0.0**
KWP Kalwaria Pacla 156.55 326 *e*PKP **PKPab 10 59 00.4 0.0**
KWP Kalwaria Pacla 156.55 326⇓*i*P **PKPab 10 59 00.3 -0.1**
KWP Kalwaria Pacla 156.55 326 *e*PKPab **PKPab 10 59 00.4 0.0**
PLOR Plostina 156.57 314⇑*i*P **PKPab 10 59 00.8 +0.1**
MLR Muntele Rosu 157.18 314⇑*i*P **PKPab 10 59 03.1 -0.4**
KOLS Kolonicke sedl 157.23 325 *e*PKP2 **PKPab 10 59 03.0 -0.4**
KOLS Kolonicke sedl 157.23 325 *e*PKP **PKPab 10 59 03.0 -0.4**
DOPR Dopca 157.28 315⇑*i*P **PKPab 10 59 04.1 +0.3**
STHS Stebnicka Huta 157.39 327 *e*PKP2 **PKPab 10 59 04.2 +0.1**
STHS Stebnicka Huta 157.39 327 *e*PKP **PKPab 10 59 04.2 +0.1**
UZH Uzhgorod 157.42 324 *e*PKiKP PKPdf 10 58 24.5 -8.1
UZH *e* 10 58 30.1
UZH *e* 10 58 59.5
TRPA Tarpa 157.62 323⇑*i*P **PKPab 10 59 05.5 +0.4**
TRPA Tarpa 157.62 323⇓*e* **PKPab 10 59 05.7 +0.6**
CRVS Cervenica-Dubn 157.65 326 *e*PKP2 **PKPab 10 59 04.8 -0.4**
CRVS Cervenica-Dubn 157.65 326 *e*PKP **PKPab 10 59 04.8 -0.4**
VOIR 157.76 314⇑*i*P **PKPab 10 59 06.2 +0.3**
NIE Niedzica 157.82 328 *e*PKPab **PKPab 10 59 05.9 0.0**
ARR Arges 158.04 315⇑*i*P **PKPab 10 59 08.1 +1.0**
HUMR Humele 158.24 312⇑*i*P **PKPab 10 59 08.0 +0.1**
KSP Ksiaz 158.32 336 *e*PKP2 **PKPab 10 59 08.1 +0.1**
KSP Ksiaz 158.32 336 *e*PKP **PKPab 10 59 08.2 +0.2**
DRGR 158.36 320⇓*i*P **PKPab 10 59 08.9 +0.5**
OKC Ostrava-Krasne 158.43 332 *e*PKP2 **PKPab 10 59 08.1 -0.4**
OKC Ostrava-Krasne 158.43 332 *e*PKPAB **PKPab 10 59 08.1 -0.4**
UPC Upice 158.70 336 *e*PKP2 **PKPab 10 59 08.3 -1.3**
UPC Upice 158.70 336 *e*PKPAB **PKPab 10 59 08.3 -1.3**
UPC *ex* x 10 59 22.6
DPC Dobruska-Polom 158.72 335 *e*PKP2 **PKPab 10 59 09.9 +0.1**
DPC Dobruska-Polom 158.72 335 *e*PKPAB **PKPab 10 59 09.9 +0.1**
DPC *ex* x 10 59 21.8
CLL Collm 158.94 341 *e*PKP2 **PKPab 10 59 10.0 -0.6**
CLL pmax pmax
comp=Z,12nm,1.3s
CLL Collm 158.94 341 *e*PKPab **PKPab 10 59 10.0 -0.6**
comp=Z,12nm,1.3s
CLL *e*(pPKPab) 10 59 16.0
CLL *e* 10 59 21.0
comp=Z,20nm,1.4s
BRG Berggiesshubel 159.06 339 *e*P **PKPab 10 59 10.6 -0.5**
comp=Z,24nm,1.6s
BRG *e* 10 59 23.2
comp=Z,8.4nm,1.9s
BRG Berggiesshubel 159.06 339 *e*PKP2 **PKPab 10 59 10.6 -0.5**
BRG pmax pmax
comp=Z,24nm,1.6s
BRG pmax pmax
comp=Z,8.0nm,1.9s
PSZ Piszkesteto 159.08 326⇓*i*P **PKPab 10 59 11.8 +0.3**
PVCC Panska Ves 159.17 338 *e*PKP2 **PKPab 10 59 11.7 +0.1**
PVCC Panska Ves 159.17 338 *e*PKPAB **PKPab 10 59 11.7 +0.1**
PVCC *ex* x 10 59 25.2
PRA Prague 159.61 337⇑PKP **PKPab 10 59 14.0 +0.4**
PRU Pruhonice 159.64 337 *e*PKP2 **PKPab 10 59 14.2 +0.5**
PRU Pruhonice 159.64 337 *e*PKPAB **PKPab 10 59 14.2 +0.5**
PRU *ex* x 10 59 25.4
PKSN Nyarlorinc 159.80 324⇓*e* PKPab 10 59 27.8 +13
PKS7 Kunszentmiklos 160.05 325⇑*e* **PKPab 10 59 16.3 +0.7**
NKC Novy Kostel 160.06 341 *e*PKP2 **PKPab 10 59 18.1 +2.5**
NKC Novy Kostel 160.06 341 *e*PKPAB **PKPab 10 59 18.1 +2.5**
NKC *ex* x 10 59 28.4
CSKK Cs^‡kako 160.25 327⇓*e*PKPab **PKPab 10 59 16.3 -0.2**
MMB Musomiste 160.35 306⇓*i*P **PKPab 10 59 17.0 -0.3**
PKS2 Kecel 160.41 324⇓*e*PKPab **PKPab 10 59 16.0 -1.2**
PKST T^'s 160.44 327⇓*e* **PKPab 10 59 16.8 -0.5**
KHC Kasperske Hory 160.70 338 *e*PKP2 **PKPab 10 59 18.5 +0.1**
KHC Kasperske Hory 160.70 338 *e*PKPAB **PKPab 10 59 18.5 +0.1**
KHC *ex* x 10 59 30.5
PKS9 Tamasi 160.80 325⇑*e*PKPab **PKPab 10 59 18.8 -0.1**
CONA Conrad Observa 160.87 332⇑*i*PKPab **PKPab 10 59 19.2 -0.1**
comp=Z,7.7nm,1.0s
GERES GERESS Array B 160.91 337 PKPab **PKPab 10 59 19.5 +0.1**
GERES GERESS Array B 160.91 337 PKPab **PKPab 10 59 19.5 +0.1**
comp=Z,2.3nm,0.9s,baz=35,slow=4.1,SNR=12
TORD Torodi Ar. Bea 161.50 178 PKP **PKPdf 10 58 37.3 -1.1**
TORD PKPab **PKPab 10 59 23.5 +0.8**
TORD Torodi Ar. Bea 161.50 178 PKP **PKPdf 10 58 37.3 -1.1**
comp=Z,1.8nm,1.1s,baz=218,slow=0.3,SNR=3.7
TORD PKPab **PKPab 10 59 23.5 +0.8**
comp=Z,1.2nm,0.6s,baz=190,slow=2.6,SNR=7.2
SOKA Soboth 162.21 331⇑*i*PKPab **PKPab 10 59 23.8 -1.4**
comp=Z,13nm,1.1s
WTTA Wattenberg 162.96 338⇑*i*PKPab **PKPab 10 59 28.0 -0.6**
comp=Z,12nm,1.3s
MOTA Moosalm 163.05 340⇑*i*PKPab **PKPab 10 59 27.0 -1.9**
comp=Z,18nm,1.3s
DAVA Damuels 163.45 342⇑*i*PKPab **PKPab 10 59 29.5 -1.1**
comp=Z,7.5nm,0.8s
FETA Feichten 163.46 340⇑*i*PKPab **PKPab 10 59 29.8 -0.9**
comp=Z,10nm,1.3s

*IDC **15** 10:58:13.3±3.2,55°.61N×86°.05E,h0km,mb1 2.9/2, mb1mx2.9/30,mbtmp2.9/2,ML2.8/2,Error ellipse: s-maj=23.9km s-min=21.4km az=32.0*
*NNC **15** 10:58:14.3±1.1,55°.30N×86°.31E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=11.2km s-min=7.4km az=147.0*
ISC 15 10:58:15.6±4.7,55.6N±0.2×86.4E±0.2,h35km,n7,
σ0s90/11,5C-4b,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**210**	*i*				11 09 21.4	
	baz=21,slow=351,SNR=6.1								
ZALV	**Zalesovo Beam**	**1.85**	**210**	Pg		**Pn**		**10 58 45.0**	**+0.2**
	3.3nm,0.3s,baz=19,slow=16,SNR=29								
ZALV				Lg		Lg		10 59 11.3	
	2.8nm,0.3s,baz=22,slow=29,SNR=16								
KURK	**Kurchatov**	**6.73**	**227**	⇓Pn		**Pn**		**10 59 51.4**	**-0.4**
	1.4nm,1.2s								
KURK				⇑Sn		**Sn**		**11 01 07.7**	**+0.5**
	2.0nm,1.5s								
KURK				⇑Lg		Lg		11 01 40.4	
	2.0nm,0.9s								
KURBB	**Kurchatov Arra**	**6.84**	**227**	⇓Pn		**Pn**		**10 59 52.6**	**-0.7**
	5.2nm,1.4s								
KURBB				⇑Sn		**Sn**		**11 01 10.7**	**+0.8**
	2.0nm,0.6s								
KURBB				⇓Lg		Lg		11 01 44.4	
	5.5nm,0.7s								
KURBB	**Kurchatov Arra**	**6.84**	**227**	Pn		**Pn**		**10 59 53.2**	**-0.1**
	0.3nm,0.3s,baz=43,slow=14,SNR=6.0								
KURBB				Sn		**Sn**		**11 01 09.8**	**0.0**
	0.1nm,0.3s,baz=22,slow=16,SNR=4.1								
KURBB				Lg		Lg		11 01 49.4	
	0.2nm,0.3s,baz=43,slow=32,SNR=5.3								
MK31	**Makanchi Array**	**9.14**	**198**	⇑Pn		**Pn**		**11 00 24.0**	**-0.9**
	0.6nm,0.7s,baz=20,slow=12,SNR=5.1								
MK31				⇑Sn		**Sn**		**11 02 05.5**	**-1.0**
	1.5nm,0.9s								
MK31				⇓Lg		Lg		11 02 57.1	
	1.3nm,0.9s,baz=32,slow=12,SNR=3.6								
MKAR	**Makanchi Array**	**9.14**	**198**	Pn		**Pn**		**11 00 26.6**	**+1.7**
	0.1nm,0.3s,baz=19,slow=13,SNR=5.4								
MKAR				Sn		**Sn**		**11 02 06.2**	**-0.3**
	0.1nm,0.3s,baz=38,slow=24,SNR=5.6								
MKAR				Lg		Lg		11 03 04.1	
	0.1nm,0.3s,baz=20,slow=32,SNR=3.5								

*ISCJB **15** 11:04:55.0±1.1,67°.64N±0°.04×33°.9E±0°.2,h0km,Error ellipse: s-maj=8.6km s-min=6.1km az=178.6*
*HEL **15** 11:04:56.5±0.5,67°.65N×33°.98E,h0km,ML2.2,Explosion*
*KOLA **15** 11:04:57.1,67°.64N×33°.97E,h0km*
*IDC **15** 11:04:58.6±1.9,67°.77N×33°.83E,h0km,mb1 3.5/4, mb1mx3.1/29,mbtmp3.5/4,ML2.8/4,Error ellipse: s-maj=22.7km s-min=12.7km az=70.0*
ISC 15 11:04:54.4±1.8,67°.61N±0°.05×34°.20E±0°.10,h0km,n15,
σ1s27/25,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.31**	**263**	P		**Pg**		**11 05 01.1**	**+0.8**
APA				S		**Sg**		**11 05 04.0**	**-0.2**
APA0	**Apatity Array**	**0.46**	**270**	P		**Pg**		**11 05 03.7**	**+0.5**
APA0				S		**Sg**		**11 05 08.6**	**-0.6**
VRF	**Varrio**	**1.76**	**277**	PG		**Pn**		**11 05 26.4**	**+0.3**
VRF				SG		**Sn**		**11 05 47.8**	**-1.3**
VRF				MSG				11 05 47.8	
	comp=Z,27nm,0.2s								
KU6	**Riekki**	**2.33**	**229**	PB		**Pb**		**11 05 36.5**	**-0.8**
	baz=35								
KU6				SG		**Sb**		**11 06 06.7**	**+0.1**
MSF	**Maaselka**	**2.66**	**233**	PN		**Pn**		**11 05 37.2**	**-1.3**
MSF				SG		**Sb**		**11 06 16.9**	**+0.8**
MSF				MSG				11 06 16.9	
	comp=Z,6.7nm,0.3s								
RNF	**Rovaniemi**	**3.35**	**256**	PN		**Pn**		**11 05 49.1**	**+1.1**
RNF				SB		**Sn**		**11 06 30.1**	**+1.6**
RNF				MSG				11 06 30.1	
	comp=Z,12nm,0.2s								
KEV	**Kevo**	**3.40**	**313**	PN		**Pn**		**11 05 50.3**	**+1.8**
KEV				SN		**Sn**		**11 06 29.2**	**-0.2**
KEV				MSG				11 06 29.2	
	comp=Z,8.6nm,0.2s								
ARA0	**ARCESS Array S**	**3.73**	**305**	PN		**Pn**		**11 05 53.5**	**+0.4**
	baz=123								
ARA0				SN		**Sn**		**11 06 35.6**	**-2.1**
ARA0				MSG				11 06 35.6	
	comp=Z,6.6nm,0.3s								
ARCES	**ARCESS Array B**	**3.73**	**305**	Pn		**Pn**		**11 05 54.1**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=120,slow=15,SNR=374								
ARCES				Sn		**Sn**		**11 06 35.2**	**-2.5**
	comp=Z,2.6nm,0.3s,baz=118,slow=25,SNR=11								
ARCES				Lg		Lg		11 06 49.1	
	comp=Z,9.8nm,0.3s,baz=115,slow=26,SNR=18								
HEF	**Hetta**	**4.04**	**286**	PN		**Pn**		**11 05 58.3**	**+0.8**
	baz=93								
HEF				SN		**Sn**		**11 06 44.6**	**-0.9**
HEF				MSG				11 06 44.6	
	comp=Z,2.8nm,0.2s								
OUL	**Oulu**	**4.20**	**237**	PN		Pn		11 06 03.4	+3.9
	baz=44								
OUL				SB		**Sb**		**11 06 59.7**	**-0.4**
OUL				MSG				11 06 59.7	
	comp=Z,1.9nm,0.3s								
FINES	**FINESS Array B**	**7.11**	**213**	Pn		**Pn**		**11 06 41.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=12,slow=12,SNR=3.3								
FINES				Sn		**Sn**		**11 07 59.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=34,slow=22,SNR=3.2								
FINES				Lg		Lg		11 08 33.5	
	comp=Z,0.7nm,0.3s,baz=21,slow=27,SNR=7.0								
I43RU	**DUBNA INFRASON1.02**	**171**		*i*				12 11 40.0	
	baz=0.8,slow=335,SNR=0.8								
HFS	**Hagfors**	**11.68**	**240**	Pn		**Pn**		**11 07 43.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=3.2								
SPITS	**Spitsbergen Ar**	**11.75**	**342**	Pn		**Pn**		**11 07 41.6**	**-1.4**
	baz=144,slow=18,SNR=6.0								

*CSEM **15** 11:05:57.5,66°.00N×12°.51E,h0km,ML1.2,After BER*
BER 15 11:05:57.5±1.3,66°.00N×12°.51E,h0km±999km,MD2.4,
ML1.2,Northern Norway

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

STOK	**Stokkvaagen**	**0.39**	**31**	*e*P	Pg	11 06 04.6	-0.4
STOK				IAML		11 06 13.6	
	comp=N,17nm,0.2s						
STOK	**Stokkvaagen**	**0.39**	**31**	*e*P	Pg	11 06 04.6	-0.4
	SNR=90						
FLOS	**Flostrand**	**0.48**	**45**	*e*P	Pg	11 06 06.1	-0.7
FLOS				*e*S	Sg	11 06 11.6	-1.4
FLOS				IAML		11 06 13.9	
	comp=Z,17nm,0.2s						
FLOS	**Flostrand**	**0.48**	**45**	*e*P	Pg	11 06 06.1	-0.7
	SNR=90						
FLOS				*e*S	Sg	11 06 11.6	-1.4
	SNR=90						
KONS	**Konsvik**	**0.56**	**26**	*e*P	Pg	11 06 07.8	-0.4
KONS				*e*S	Sg	11 06 15.2	-0.2
KONS				IAML		11 06 16.4	
	comp=Z,9.0nm,0.3s						
KONS	**Konsvik**	**0.56**	**26**	*e*P	Pg	11 06 07.8	-0.4
	SNR=90						
KONS				*e*S	Sg	11 06 15.2	-0.2
	SNR=90						
MOR8	**Moi Rana**	**0.81**	**77**	*e*P	Pb	11 06 13.9	-0.5
MOR8				*e*S	Sn	11 06 27.7	-1.1
MOR8				IAML		11 06 37.5	
	comp=Z,14nm,0.5s						
MOR8	**Moi Rana**	**0.81**	**77**	*e*P	Pb	11 06 13.9	-0.5
	SNR=90						
MOR8				*e*S	Sn	11 06 27.7	-1.1
	SNR=90						

NIED ***15*** *11:08:00,26˚.80N×126˚.30E,h125km,Mw5.7 Best double couple: M0 4.24000×10^17 NP1:φs142.00000°, δ36.00000°,λ-165.00000°. NP2:φs40.00000°,δ81.00000°, λ-55.00000°.*

BJI ***15*** *11:08:29.7,26˚.30N×126˚.87E,h119km,mB5.7/51, mb5.3/63*

KMA ***15*** *11:08:35.8,26˚.28N×126˚.89E,h200km*

ISCJB ***15*** *11:08:35.6±0.2,26˚.70N±0˚.02×126˚.31E±0˚.02, h125km±1km,mb5.3/248,Error ellipse: s-maj=2.9km s-min=1.9km az=142.0*

MOS ***15*** *11:08:36.8±1.0,26˚.99N×126˚.25E,h129km,mb5.3/78, Error ellipse: s-maj=6.4km s-min=4.2km az=105.8*

JMA ***15*** *11:08:36.6±0.2,26˚.72N×126˚.39E,h118km±3km,M5.6 JMA Felt III J1.*

SZGRF ***15*** *11:08:37.6,25˚.83N×125˚.76E,h141km,mb5.7, Southwestern Ryukyu Islands, Japan*

NEIC ***15*** *11:08:38.4±0.1,26˚.75N×126˚.29E,mb5.4/119,MW5.7, MW5.7(NIED),Error ellipse: s-maj=3.7km s-min=3.0km az=135.0*

NEIC Felt [IV] at Urasoe; [III] at Chatan, Ginowan, Gushikawa, Ishikawa, Naha-shi, Okinawa and Yomitan; [II] at Nago, Okinawa. Also felt at Tomigusuku. Recorded [3 JMA] in the Kerama-retto and on Okinawa; [2 JMA] on Aguni-jima and Kume-jima; [1 JMA] on Amami-oshima, Ie-jima, Iheya-shima, Miyako-jima, Okino-erabu-shima, Tokuno-shima and Yoron-jima.

GCMT ***15*** *11:08:38.4±0.1,26˚.64N×126˚.47E,h136km±1km, MW5.8/117,Moment Tensor Solution. s93,c178; s117,c294; Duration: 1⁸8 Moment tensor: Scale 10^17 Nm; Mrr-1.33±.07; Mθθ-2.08±.07; Mφφ3.41±.07; Mrθ-3.08±.05; Mφθ0.39±.07; Mφr-2.81±.05; Best double couple: M0 5.13800×10^17 NP1:φs42.00000°,δ81.00000°, λ-58.00000°. NP2:φs146.00000°,δ33.00000°, λ-164.00000°. Principal axes: T 5.1460, Plg29.0000°, Azm107.0000°; N -0.0170, Plg32.0000°, Azm216.0000°; P -5.1290, Plg45.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***15*** *11:08:38.4±0.4,26˚.83N×126˚.39E,h139km±2km,mb4.8/47, mb1 4.8/51,mb1mx4.8/53,mbtmp4.8/51,MS4.8/11, Ms1 4.8/11,ms1mx4.5/37 Error ellipse: s-maj=8.6km s-min=6.9km az=72.0*

NEIC ***15*** *11:08:51.4±0.0,26˚.68N×126˚.51E,h158km,Moment Tensor Solution. s137 Moment tensor: Scale 10^17Nm; Mrr-1.41; Mθθ-1.62; Mφφ3.03; Mrθ-1.80; Mφθ0.72; Mφr-2.15; Best double couple: M0 3.80000×10^17 NP1:φs150.00000°, δ36.00000°,λ-155.00000°. NP2:φs40.00000°,δ77.00000°, λ-56.00000°. Principal axes: T 4.2300, Plg24.0000°, Azm104.0000°; N -0.7400, Plg32.0000°, Azm211.0000°; P -3.4900, Plg47.0000°, Azm345.0000°;*

ISC 15 11:08:37.4±0.2,26˚.75N±0˚.03×126˚.36E±0˚.02,h131km±1km, h130km:pP-P,n976,σ1⁰46/1215,mb5.3/247,124C-147D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.57**	**138**	⇓P	**Pn**	**11 08 54.8**	**-2.2**
JKE				S	**Sn**	**11 09 08.1**	**-3.7**
JAGN	**Aguni-jima**	**0.81**	**101**	⇓P	**Pn**	**11 08 56.6**	**-2.1**
JAGN				S	**Sn**	**11 09 11.2**	**-3.6**
JJT2	**Tamagusuku 2**	**1.39**	**116**	⇓P	**Pn**	**11 09 02.9**	**-1.4**
JJT2				S	**Sn**	**11 09 21.8**	**-3.0**
JIH	**Iheya**	**1.46**	**79**	⇓P	**Pn**	**11 09 03.7**	**-1.4**
JIH				S	**Sn**	**11 09 22.8**	**-3.4**
JOW	**Kunigami**	**1.71**	**87**	⇓P	**Pn**	**11 09 06.3**	**-1.7**
JOW				S	**Sn**	**11 09 27.5**	**-3.9**
JOW	**Kunigami**	**1.71**	**87**	*e*Pn	**Pn**	**11 09 06.4**	**-1.7**
JOW				*e*Sn	**Sn**	**11 09 26.2**	**-5.2**
JMJ	**Miyako jima 2**	**2.15**	**207**	⇓P	**Pn**	**11 09 11.7**	**-1.6**
JMJ				S	**Sn**	**11 09 37.6**	**-3.3**
JOGS	**Gusukube**	**2.16**	**204**	⇓P	**Pn**	**11 09 11.9**	**-1.5**
JOGS				S	**Sn**	**11 09 38.3**	**-2.7**
JTK	**Tokunoshima**	**2.53**	**65**	⇑P	**Pn**	**11 09 16.2**	**-1.8**
JTK				S	**Sn**	**11 09 45.7**	**-3.5**
JTJ	**Tarama**	**2.58**	**216**	⇓P	**Pn**	**11 09 17.0**	**-1.7**
JTJ				S	**Sn**	**11 09 46.9**	**-3.5**
JAMN	**Amaminishikomi**	**2.91**	**59**	P	**Pn**	**11 09 20.8**	**-2.1**
JAMN				S	**Sn**	**11 09 54.4**	**-3.5**
JIJ	**Ishigaki jima**	**3.11**	**221**	⇓P	**Pn**	**11 09 23.5**	**-2.0**
JIJ				S	**Sn**	**11 09 58.0**	**-4.6**
JKRS	**Kuro-shima**	**3.28**	**221**	P	**Pn**	**11 09 26.0**	**-1.8**
JKRS				S	**Sn**	**11 10 03.4**	**-3.2**
JAM	**Amami Oshima**	**3.32**	**59**	P	**Pn**	**11 09 26.5**	**-1.7**
JAM				S	**Sn**	**11 10 04.1**	**-3.4**
IRIF	**Iriomote-Funau**	**3.38**	**225**	P	**Pn**	**11 09 26.8**	**-2.2**
IRIF				S	**Sn**	**11 10 05.4**	**-3.5**
HATJ	**Hateruma jima**	**3.54**	**221**	P	**Pn**	**11 09 29.6**	**-1.5**
HATJ				S	**Sn**	**11 10 11.3**	**-1.4**
JZK	**Kikaishima**	**3.57**	**63**	P	**Pn**	**11 09 29.6**	**-1.8**
JZK				S	**Sn**	**11 10 10.8**	**-2.5**
YOJ	**Yonaguni jima**	**3.79**	**234**	*e*P	**Pn**	**11 09 33.6**	**-0.8**
YOJ				*e*		11 10 18.6	
YOJ	**Yonaguni jima**	**3.79**	**234**	P	**Pn**	**11 09 33.6**	**-0.8**
YOJ				S	**Sn**	**11 10 18.8**	**+0.3**
YOJ	**Yonaguni jima**	**3.79**	**234**	*e*Pn	**Pn**	**11 09 33.6**	**-0.8**
YOJ				*e*Sn	**Sn**	**11 10 18.6**	**+0.1**
JNN	**Nakanoshima**	**4.37**	**44**	P	**Pn**	**11 09 41.0**	**-1.1**
JMZ	**Minamidaito 2**	**4.46**	**101**	P	Pn	11 09 39.4	-3.9
JMZ				*e*S	Sn	11 10 25.0	-10
TATO	**Taipei**	**4.73**	**249**	*e*Pn	**Pn**	**11 09 47.7**	**+0.7**
TATO				*e*Sn	**Sn**	**11 10 45.7**	**+4.7**
YHNB	**Yeheng**	**4.95**	**246**	*e*Pn	**Pn**	**11 09 50.5**	**+0.6**
YHNB				*e*Sn	**Sn**	**11 10 49.5**	**+3.1**
NACB	**Ninganchiao**	**5.01**	**240**	*e*Pn	**Pn**	**11 09 48.9**	**-1.8**
NACB				*e*Sn	**Sn**	**11 10 46.2**	**-1.5**
YULB	**Yu-li**	**5.68**	**235**	*e*Pn	Pn	11 09 56.1	-3.6
	213nm,0.3s						
YULB				*e*Sn	**Sn**	**11 10 58.6**	**-5.2**
SSLB	**Suanglung**	**5.71**	**240**	*e*Pn	**Pn**	**11 09 58.1**	**-2.0**
SSLB				*e*Sn	**Sn**	**11 11 03.3**	**-1.4**
JSJ	**Shimokoshiki**	**5.72**	**30**	P	**Pn**	**11 10 01.0**	**+0.9**
JSU	**Suzuyama**	**5.94**	**36**	P	**Pn**	**11 10 02.9**	**-0.2**
TWG	**Pinlang**	**6.20**	**232**	*e*Pn	Pn	11 10 01.9	-4.8
	781nm,0.3s						
TWG				*e*Sn	**Sn**	**11 11 12.2**	**-4.1**
TPUB	**Ta-pu**	**6.23**	**238**	*e*Pn	**Pn**	**11 10 04.7**	**-2.4**
	202nm,0.4s						
TPUB				*e*Sn	**Sn**	**11 11 14.3**	**-2.7**
JFU	**Fukue jima 2**	**6.24**	**19**	P	**Pn**	**11 10 09.3**	**+2.2**
SSE	**Sheshan**	**6.26**	**315**	P	**Pn**	**11 10 07.9**	**+0.4**
SSE				pmax	pmax		
	comp=Z,630nm,1.1s						
SSE				pmax	pmax		
	comp=Z,2μm,4.4s						
JNAR	**Kushima--Naru**	**6.41**	**41**	P	**Pn**	**11 10 07.8**	**-1.6**
KSSGP	**Seogwipo**	**6.49**	**1**	P	Pn	11 10 14.2	+3.8
	SNR=5.8						
KSSGP	**Seogwipo**	**6.49**	**1**	P	Pn	11 10 14.2	+3.8
	SNR=5.8						
JZO	**Okuchi**	**6.52**	**34**	P	**Pn**	**11 10 11.1**	**+0.2**
JHD	**Hondo**	**6.57**	**29**	P	**Pn**	**11 10 12.9**	**+1.3**
NGSJ	**Nagasakinomoza**	**6.58**	**26**	P	**Pn**	**11 10 12.8**	**+1.1**
JTZ	**Takazaki**	**6.58**	**38**	P	**Pn**	**11 10 10.7**	**-1.1**
KSSSP	**Seongsanpo**	**6.63**	**4**	P	Pn	11 10 16.0	+3.7
	SNR=19						
KSSSP	**Seongsanpo**	**6.63**	**4**	P	Pn	11 10 16.0	+3.7
	SNR=19						
KSJJU	**Jeju**	**6.66**	**1**	P	Pn	11 10 16.4	+3.6
	SNR=22						
KSJJU	**Jeju**	**6.66**	**1**	P	Pn	11 10 16.4	+3.6
	SNR=22						
JIU2	**Izumi 2**	**6.95**	**33**	P	**Pn**	**11 10 17.0**	**+0.3**
JUR	**Ureshino**	**7.04**	**25**	P	**Pn**	**11 10 20.0**	**+2.0**
JTA	**Tamana**	**7.17**	**29**	P	**Pn**	**11 10 20.9**	**+1.2**
QZH	**Quanzhou**	**7.22**	**257**	*i*P	Pn	11 10 17.1	-3.3
QZH				S	**Sn**	**11 11 37.8**	**-3.2**
QZH				LR	LR		
	comp=N,19μm,4.1s						
QZH				LR	LR		
	comp=E,5μm,3.8s						
QZH				LR	LR		
	comp=Z,15μm,18.0s						
JNU	**Nakatsue**	**7.46**	**31**	P	**Pn**	**11 10 24.1**	**+0.5**
JNU	**Nakatsue**	**7.46**	**31**	*e*Pn	**Pn**	**11 10 23.8**	**+0.2**
JNU				*e*Sn	**Sn**	**11 11 46.2**	**-0.5**
JNU	**Nakatsue**	**7.46**	**31**	P	**Pn**	**11 10 23.0**	**-0.6**
	67nm,0.3s,baz=208,slow=4.7,SNR=156						
JNU				S	**Sn**	**11 11 45.1**	**-1.6**
	baz=38,slow=17,SNR=1.2						
JFI	**Itaya**	**7.51**	**27**	P	**Pn**	**11 10 26.4**	**+2.1**
KSWAN	**Wando**	**7.62**	**2**	P	Pn	11 10 30.0	+4.3
	SNR=12						
KSWAN	**Wando**	**7.62**	**2**	P	Pn	11 10 29.6	+4.0
	SNR=8.6						
KSJDO	**Jindo**	**7.69**	**360**	P	Pn	11 10 30.8	+4.1
	SNR=11						
KSHAN	**Haenam**	**7.80**	**1**	P	Pn	11 10 31.8	+3.7
	SNR=14						
KSHUK	**Heuksando**	**7.94**	**355**	P	Pn	11 10 33.5	+3.5
	SNR=8.9						
KSHUK	**Heuksando**	**7.94**	**355**	P	Pn	11 10 33.5	+3.5
	SNR=8.9						
KSMOK	**Mokpo**	**7.99**	**2**	P	Pn	11 10 35.4	+4.7
	SNR=16						
KSKWJ	**Gwangju**	**8.40**	**4**	P	Pn	11 10 41.0	+4.8
	SNR=10						
NJ2	**Nanjing**	**8.41**	**311**	*e*P	**Pn**	**11 10 38.4**	**+2.1**
NJ2				sP	sP	11 11 09.5	
NJ2				S	Sn	11 12 16.5	+6.9
NJ2				pmax	pmax		
	comp=Z,640nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,2μm,3.5s						
NJ2				smax	smax		
	comp=N,2μm,1.4s						
NJ2				smax	smax		
	comp=E,1μm,1.3s						
NJ2				LR	LR		
	comp=N,12μm,8.5s						
NJ2				LR	LR		
	comp=E,7μm,9.2s						
NJ2				LR	LR		
	comp=Z,11μm,11.9s						
KSJEU	**Jeongeup**	**8.73**	**3**	P	Pn	11 10 44.2	+3.6
	SNR=14						
KSJEO	**Jeonju**	**9.19**	**5**	P	Pn	11 10 51.0	+4.1
	SNR=16						
MRT2	**Murotomisaki 2**	**9.44**	**44**	P	Pn	11 10 45.7	-4.5
JMN	**Monobe**	**9.52**	**41**	P	Pn	11 10 47.1	-4.2
JAI	**Aioi**	**9.90**	**43**	P	Pn	11 10 51.8	-4.6
KSCEA	**Cheonan**	**10.07**	**4**	P	Pn	11 11 01.9	+3.3
	SNR=37						
KSCHJ	**Chungju**	**10.18**	**7**	P	Pn	11 11 03.3	+3.1
	SNR=9.9						
KSSWO	**Suwon**	**10.50**	**3**	P	Pn	11 11 08.0	+3.7
	SNR=33						
KSYOW	**Yeongwol**	**10.54**	**9**	P	**Pn**	**11 11 07.3**	**+2.4**
	SNR=8.8						
KSICN	**Icheon**	**10.54**	**5**	P	Pn	11 11 08.0	+3.1
	SNR=20						
KSTBA	**Taebaek**	**10.57**	**11**	P	**Pn**	**11 11 08.2**	**+2.9**
	SNR=8.4						
SZP	**Santa**	**10.66**	**212**	*e*Pn	**Pn**	**11 11 07.9**	**+1.2**
SZP				*e*Sn	**Sn**	**11 13 01.8**	**-2.5**
INCN	**Inchon**	**10.70**	**1**	*e*Pn	**Pn**	**11 11 09.5**	**+2.4**
KSSEO	**Seoul**	**10.71**	**2**	P	Pn	11 11 11.1	+3.9
	SNR=7.5						
KSWJU	**Wonju**	**10.72**	**7**	P	**Pn**	**11 11 09.9**	**+2.6**
	SNR=12						
KSAR	**Wonju Array Be**	**10.74**	**7**	P	**Pn**	**11 11 09.9**	**+2.4**
KSAR				S	**Sn**	**11 13 08.9**	**+3.1**
KSAR				ScP	**ScP**	**11 20 20.4**	**+2.9**
KSRS	**Korea Array**	**10.75**	**7**	P	**Pn**	**11 11 09.9**	**+2.2**
	7.6nm,0.3s,baz=181,slow=13,SNR=183						
KSRS				S	**Sn**	**11 13 08.9**	**+2.7**
	baz=195,slow=27,SNR=3.0						
KSRS				ScP	**ScP**	**11 20 20.4**	**+2.9**
	0.1nm,0.3s,baz=174,slow=1.6,SNR=3.1						
KSGAH	**Ganghwa**	**10.92**	**0**	P	Pn	11 11 13.7	+3.8
	SNR=9.1						
KSCHC	**Chuncheon**	**11.06**	**6**	P	Pn	11 11 15.0	+3.1
	SNR=8.3						
KSMUS	**Musan**	**11.11**	**2**	P	**Pn**	**11 11 15.1**	**+2.7**
	SNR=35						
KSDDC	**Dongducheon**	**11.13**	**3**	P	P	11 11 17.7	-4.1
	SNR=8.1						
WHN	**Wuhan**	**11.20**	**292**	⇓P	**Pn**	**11 11 16.3**	**+2.5**
WHN				S	Sn	11 13 23.3	+6.1
WHN				pmax	pmax		
	comp=Z,240nm,1.2s						
WHN				LR	LR		
	comp=N,36μm,6.8s						
WHN				LR	LR		
	comp=E,13μm,5.3s						
WHN				LR	LR		
	comp=Z,18μm,5.2s						
YNCB	**YEONCHEON**	**11.27**	**2**	P	**Pn**	**11 11 17.0**	**+2.5**
	SNR=15						
KSBAR	**Backryungdo**	**11.28**	**353**	P	Pn	11 11 18.7	+4.0
	SNR=12						
KSIJA	**INJE**	**11.30**	**7**	P	**Pn**	**11 11 17.5**	**+2.5**
	SNR=16						
KSCWO	**Cheorwon**	**11.34**	**5**	P	**Pn**	**11 11 18.4**	**+2.9**
	SNR=12						
KSSKC	**Sokcho**	**11.65**	**8**	P	**Pn**	**11 11 22.2**	**+2.6**
	SNR=9.0						
TIA	**Tai'an**	**12.28**	**322**	⇓P	Pn	11 11 31.0	+3.1
TIA				S	Sn	11 13 52.4	+9.1
TIA				pmax	pmax		
	comp=Z,4μm,6.0s						
TIA				LR	LR		
	comp=N,6μm,13.1s						
TIA				LR	LR		
	comp=E,7μm,13.7s						
TIA				LR	LR		
	comp=Z,5μm,9.1s						
HMMJ	**Hamamatsu 2**	**12.67**	**48**	P	**Pn**	**11 11 30.3**	**-2.6**
DL2	**Dalian**	**12.75**	**343**	*i*P	**P**	**11 11 37.3**	**-2.6**
DL2				S	S	11 14 05.0	-6.4
DL2				pmax	pmax		
	comp=Z,340nm,0.8s						
DL2				pmax	pmax		
	comp=Z,6μm,4.7s						
JYZW	**Yoshizawa**	**12.76**	**47**	P	**Pn**	**11 11 30.9**	**-3.2**
TGY	**Tagaytay City**	**13.57**	**203**	P	**P**	**11 11 48.1**	**-1.1**
TGY	**Tagaytay City**	**13.57**	**203**	P	**P**	**11 11 48.1**	**-1.1**
	64nm,0.3s,baz=312,slow=14,SNR=3.6						
MAJO	**Matsushiro**	**14.03**	**43**	*e*P	**Pn**	**11 11 48.4**	**-2.0**
MAJO				*e*		11 14 21.4	
MAJO	**Matsushiro**	**14.03**	**43**	*e*Pn	**Pn**	**11 11 48.4**	**-2.0**
MAJO				*e*Sn	**Sn**	**11 14 21.4**	**-4.0**
MAT	**Matsushiro**	**14.03**	**43**	P	Pn	11 11 47.2	-3.2
MAT				S	**Sn**	**11 14 23.6**	**-1.8**
MJAR	**Matsushiro Arr**	**14.03**	**43**	P	Pn	11 11 47.2	-3.3
MJAR	**Matsushiro Arr**	**14.03**	**43**	P	Pn	11 11 47.2	-3.3
	0.8nm,0.3s,baz=238,slow=14,SNR=26						
MJAR				LR	LR	11 17 09.5	
	comp=Z,808nm,20.9s,baz=245,slow=37						
CBIJ	**Chichi jima**	**14.12**	**85**	*e*Pn	**Pn**	**11 11 51.6**	**-0.1**
CBIJ				*e*Sn	**Sn**	**11 14 28.0**	**+0.1**
JCJ	**Chichijima**	**14.12**	**85**	P	**Pn**	**11 11 51.2**	**-0.5**
	31nm,0.3s,baz=247,slow=3.1,SNR=21						
JCJ				LR	LR	11 16 21.2	
	comp=Z,4μm,18.5s,baz=66,slow=33						
SNY	**Shenyang**	**15.21**	**352**	⇓P	**P**	**11 12 07.8**	**+0.6**
SNY				sP	**sP**	**11 12 42.8**	**-4.0**
SNY				S	**Sn**	**11 14 53.1**	**-0.7**
SNY				pmax	pmax		
	comp=Z,190nm,2.4s						
SNY				pmax	pmax		
	comp=Z,9μm,7.9s						
SNY				LR	LR		
	comp=N,2μm,4.3s						
SNY				LR	LR		
	comp=E,4μm,6.4s						
SNY				LR	LR		
	comp=Z,4μm,34.2s						
ENH	**Enshi**	**15.24**	**287**	*e*P	**P**	**11 12 08.5**	**+0.8**
	105nm,1.3s						
JNS	**Sasagawa**	**15.53**	**42**	P	**Pn**	**11 12 09.6**	**+0.3**
JHO	**Hitachi**	**15.57**	**47**	P	**Pn**	**11 12 09.5**	**-0.3**
BJT	**Baijiatuan**	**15.71**	**330**	*e*P	**P**	**11 12 13.7**	**+0.9**
	280nm,0.8s						
BJI	**Beijing**	**15.73**	**330**	P	**P**	**11 12 14.3**	**+1.4**
BJI				S	**S**	**11 15 12.3**	**+2.2**
BJI				pmax	pmax		
	comp=Z,150nm,1.7s						
BJI				pmax	pmax		
	comp=Z,6μm,7.2s						
TIY	**Taiyuan**	**16.05**	**316**	*e*P	**P**	**11 12 19.3**	**+2.7**
TIY				sP	**sP**	**11 12 55.6**	**-0.6**
TIY				S	**S**	**11 15 16.8**	**+0.2**
TIY				pmax	pmax		
	comp=Z,6μm,4.5s						
TIY				LR	LR		
	comp=N,4μm,10.1s						
TIY				LR	LR		
	comp=E,3μm,7.5s						
TIY				LR	LR		
	comp=Z,3μm,16.8s						
XAN	**Xi'an**	**16.69**	**300**	P	**P**	**11 12 24.8**	**+1.1**
XAN				S	**Sn**	**11 15 29.3**	**-0.3**
XAN				pmax	pmax		
	comp=Z,37nm,0.6s						
XAN				pmax	pmax		
	comp=Z,770nm,7.2s						
XAN				LR	LR		
	comp=N,3μm,7.3s						
XAN				LR	LR		
	comp=E,1μm,9.3s						
XAN				LR	LR		
	comp=Z,2μm,9.3s						
VLA	**Vladivostok**	**16.94**	**14***d*	*i*P	**P**	**11 12 24.4**	**-1.8**
VLA				*i* S	**Sn**	**11 15 30.1**	**-5.1**
VLA				pmax	pmax		
	comp=Z,36nm,0.7s						
CN2	**Changchun**	**17.03**	**358**	*e*P	**Pn**	**11 12 28.8**	**+1.3**
CN2				*e*sP	**sP**	**11 13 04.8**	**-2.1**
CN2				*e*S	**Sn**	**11 15 33.0**	**-4.4**
CN2				pmax	pmax		
	comp=Z,230nm,1.0s						
CN2				pmax	pmax		
	comp=Z,5μm,6.0s						
QIZ	**Qiongzhong**	**17.04**	**247**	P	**P**	**11 12 24.1**	**-3.5**
QIZ				S	**Sn**	**11 15 31.5**	**-6.5**
QIZ				pmax	pmax		
	comp=Z,36nm,2.3s						
QIZ	**Qiongzhong**	**17.04**	**247**	*e*P	**P**	**11 12 26.6**	**-1.0**
	comp=Z,135nm,1.1s						
GYA	**Guiyang**	**17.62**	**273**	⇑*i*P	**P**	**11 12 33.8**	**-0.2**
GYA				PP	**pP**	**11 12 53.4**	**-3.8**
GYA				sP	**sP**	**11 13 12.0**	**-1.7**
GYA				S	**S**	**11 15 44.5**	**-6.2**
GYA				PcP	**PcP**	**11 17 07.3**	**+0.6**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,160nm,4.8s						
USRK	**Ussuriysk Arra**	**17.99**	**13**	P	**P**	**11 12 36.9**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=185,slow=8.8,SNR=17						
MDJ	**Mudanjiang**	**18.02**	**7**	P	**Pn**	**11 12 39.1**	**-0.3**
MDJ				sP	**sP**	**11 13 15.9**	**-2.0**
MDJ				S	**Sn**	**11 15 59.6**	**-1.4**
MDJ				PcS	**PcS**	**11 20 38.8**	**-4.4**
MDJ				ScS	**ScS**	**11 24 06.4**	**-4.2**
MDJ				pmax	pmax		
	comp=Z,21nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,2μm,6.2s						
MDJ				LR	LR		
	comp=Z,2μm,24.4s						
MDJ				LR	LR		
	comp=Z,2μm,21.7s						
MDJ				LR	LR		
	comp=Z,3μm,26.7s						
MDJ	**Mudanjiang**	**18.02**	**7**	*e*P	**P**	**11 12 38.5**	**+0.4**
	comp=Z,77nm,1.1s						
MDJ				*e*S	**S**	**11 15 56.2**	**-1.8**
HHC	**Hu-ho-hao-te**	**18.64**	**323**	⇓P	**Pn**	**11 12 46.5**	**-0.4**
HHC				S	**S**	**11 16 09.1**	**-1.6**
HHC				pmax	pmax		
	comp=Z,650nm,1.7s						
HHC				pmax	pmax		
	comp=Z,5μm,6.6s						
HHC				LR	LR		
	comp=Z,5μm,13.9s						
HHC				LR	LR		
	comp=Z,6μm,10.8s						
BTO	**Baotou**	**19.34**	**320**	*e*P	**P**	**11 12 53.4**	**+0.7**
CTBH	**Cotabato--PC H**	**19.53**	**186**	⇓*i*P	**P**	**11 12 55.8**	**+1.0**
CD2	**Chengdu**	**20.22**	**287**	P	**P**	**11 13 02.4**	**+0.2**
CD2				PP	**PnPn**	**11 13 28.1**	**+1.2**
CD2				sP	**sP**	**11 13 41.3**	**-1.0**
CD2				S	**S**	**11 16 36.1**	**-6.0**
CD2				pmax	pmax		
	comp=Z,200nm,1.2s						
CD2				pmax	pmax		
	comp=Z,2μm,9.5s						
ERM	**Erimo**	**20.53**	**38**	P	**P**	**11 13 05.0**	**-0.4**
	comp=Z,367nm,1.0s,SNR=6.1						
ERM	**Erimo**	**20.53**	**38**	*e*P	**P**	**11 13 05.0**	**-0.4**
ERM				pmax	pmax		
	comp=Z,87nm,1.0s						
ERM	**Erimo**	**20.53**	**38**	*e*P	**P**	**11 13 05.0**	**-0.4**
	comp=Z,87nm,1.0s						
SLVN	**Son La**	**21.19**	**260**	*e*P	**P**	**11 13 15.3**	**+2.5**
	comp=Z,304nm,1.5s						
KMI	**Kunming**	**21.30**	**271**	P	**P**	**11 13 15.8**	**+1.8**
KMI				PP	**PnPn**	**11 13 44.5**	**+2.9**
KMI				sP	**sP**	**11 13 56.3**	**+2.1**
KMI				S	**S**	**11 16 57.8**	**-5.5**
KMI				sS	**sS**	**11 17 38.8**	**-4.7**
KMI				SS	**SnSn**	**11 17 43.4**	**+4.7**
KMI				pmax	pmax		
	comp=Z,30nm,1.0s						
KMI				pmax	pmax		
	comp=Z,2μm,14.9s						
KMI				LR	LR		
	comp=Z,6μm,17.4s						
KMI				LR	LR		
	comp=Z,3μm,13.3s						
KMI				LR	LR		
	comp=Z,3μm,22.3s						
LZH	**Lanzhou**	**21.31**	**301**	⇑P	**P**	**11 13 14.9**	**+0.9**
LZH				pP	**pP**	**11 13 37.1**	**-0.7**
LZH				sP	**sP**	**11 13 54.3**	**+0.1**
LZH				S	**S**	**11 17

HABR e*PP **pP** **11 13 51.6 -1.2**
HABR e*SP **sP** **11 14 07.6 -1.4**
HABR e 11 17 12.4
HABR eS **S** **11 17 27.2 +0.6**
HABR e*SS **sS** **11 18 12.5 +1.7**
HABR e 11 24 23.5
HABR pmax pmax
comp=Z,51nm,2.1s
HABR pmax pmax
comp=Z,80nm,1.8s
HABR MLR MLR
comp=Z,2µm,18.0s
MYLDM Lahad Datu 22.73 201 ⇑P **P** **11 13 32.4 +4.0**
SDKM Sandakan 22.74 204 ⇓P P 11 13 34.4 +5.8
KKM Kota Kinabalu 22.75 207 P x 11 13 32.4
comp=Z,97nm,1.4s
KKM Kota Kinabalu 22.75 207 eP **P** **11 13 28.6 -0.2**
comp=Z,133nm,1.2s
KKM Kota Kinabalu 22.75 207 ⇑P **P** **11 13 31.4 +2.6**
KLR Kul'dur 22.83 9 eP P 11 13 24.0 -5.1
KLR e 11 13 54.5
KLR e 11 17 20.0
KLR e 11 18 11.5
HIA Hailar 23.06 349 eP **P** **11 13 30.5 -0.8**
comp=Z,346nm,1.5s
YUK Yuzh-Kuril'sk 23.36 37 c *i*P **P** **11 13 34.4 +0.3**
YUK e*PP **pP** **11 14 00.6 +0.9**
YUK e*SS Sn 11 18 28.2 +19
YUK pmax pmax
comp=N,374nm,1.5s
YUK pmax pmax
comp=E,491nm,1.5s
YUK pmax pmax
comp=Z,470nm,1.5s
YUK pmax pmax
comp=Z,4µm,3.5s
TSM Tawau 23.76 201 ⇓P **P** **11 13 41.5 +3.6**
YSS Yuzh-Sakhalins 23.96 28 ⇓eP **P** **11 13 39.2 -0.3**
YSS Yuzh-Sakhalins 23.96 28 eP **P** **11 13 39.4 -0.1**
comp=Z,167nm,1.1s
GAMI Galela, Maluku 24.81 177 P x 11 13 48.4
CHAI Chaiyaphum 25.09 249 P **P** **11 13 50.8 +0.7**
comp=Z,35nm,0.8s,comp=Z,264nm
GTA Gaotai 25.47 306 ⇓P **P** **11 13 53.1 -0.4**
GTA pP **pP** **11 14 21.6 +0.3**
GTA sP **sP** **11 14 34.3 -2.1**
GTA PcP **PcP** **11 17 23.3 +1.4**
GTA S **S** **11 18 09.3 -1.7**
GTA sS **sS** **11 18 55.1 -4.8**
GTA ScS **ScS** **11 24 38.9 +0.6**
GTA pmax pmax
comp=Z,51nm,0.7s
GTA pmax pmax
comp=Z,890nm,5.7s
GTA LR LR
comp=Z,2µm,14.2s
GTA LR LR
comp=Z,3µm,14.7s
GTA LR LR
comp=Z,4µm,13.8s
PBKT Sadao Pong 25.63 252 P x 11 13 56.3
PBKT Sadao Pong 25.63 252 P **P** **11 13 56.0 +1.1**
comp=Z,68nm,0.7s
TNTI Ternate 25.85 178 P **P** **11 13 58.6 +1.7**
comp=Z,231nm,1.2s,comp=Z,4µm
TNTI Ternate 25.85 178 eP **P** **11 13 55.9 -1.0**
comp=Z,36nm,0.8s
ULN Ulaanbaatar 25.94 329 eP **P** **11 13 57.2 -0.4**
ULN ePcP **PcP** **11 17 24.4 +1.6**
SONM Songino Array 26.22 329 P **P** **11 13 59.6 -0.5**
SONM PcP **PcP** **11 17 24.4 +0.9**
SONM ScP **ScP** **11 20 52.0 +0.8**
SONM Songino Array 26.22 329 P **P** **11 13 59.6 -0.5**
comp=Z,47nm,0.6s,baz=144,slow=9.2,SNR=135
SONM PcP **PcP** **11 17 24.4 +0.9**
comp=Z,3.4nm,0.6s,baz=162,slow=4.0,SNR=4.2
SONM ScP **ScP** **11 20 52.0 +0.8**
comp=Z,21nm,0.9s,baz=152,slow=2.5,SNR=25
CHTO Chiang Mai 26.44 258 eP **P** **11 14 02.7 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 26.44 258 P **P** **11 14 03.5 +1.2**
comp=Z,117nm,0.7s,comp=Z,5µm
CHTO Chiang Mai 26.44 258 eP **P** **11 14 02.7 +0.4**
comp=Z,9.7nm,0.6s
MRSI Marisa 26.47 190 P **P** **11 14 05.9 +3.5**
comp=Z,90nm,1.8s,comp=Z,2µm
CHBT CHBT 26.49 243 P x 11 14 06.1
comp=Z,73nm,2.2s
CHBT CHBT 26.49 243 P **P** **11 14 06.6 +3.9**
comp=Z,35nm,0.7s
CM31 Chiang Mai Arr 26.58 258 eP **P** **11 14 05.8 +2.3**
comp=Z,5.0nm,0.4s
CMAR Chiang Mai Arr 26.58 258 P **P** **11 14 04.2 +0.6**
CMAR pP **pP** **11 14 34.0 +2.7**
CMAR PcP **PcP** **11 17 25.2 +0.6**
CMAR ScP **ScP** **11 20 53.0 +0.4**
CMAR Chiang Mai Arr 26.58 258 P **P** **11 14 04.2 +0.6**
comp=Z,6.0nm,0.8s,baz=57,slow=8.2,SNR=24
CMAR pP **pP** **11 14 34.0 +2.7**
comp=Z,16nm,1.1s,baz=70,slow=8.9,SNR=6.7
CMAR PcP **PcP** **11 17 25.2 +0.6**
comp=Z,4.4nm,0.8s,baz=43,slow=2.1,SNR=6.8
CMAR ScP **ScP** **11 20 53.0 +0.4**
comp=Z,1.0nm,0.4s,baz=20,slow=1.9,SNR=4.4
CMAR LR LR 11 26 27.3
comp=Z,2µm,18.8s,baz=78,slow=40
CIT Chita 27.02 342 eP **P** **11 14 08.9 +1.7**
CIT e 11 14 37.5
CIT e 11 14 50.6
CIT e 11 17 26.4
CIT e 11 24 47.3
CIT pmax pmax
comp=Z,318nm,2.8s
LBMI Labuha 27.25 178 P **P** **11 14 11.5 +2.0**
comp=Z,74nm,1.4s,comp=Z,3µm
MHMT Maesarieng 27.57 258 P **P** **11 14 16.4 +4.0**
comp=Z,18nm,1.2s
SBUM Sibu 27.71 212 P x 11 14 18.0
comp=Z,77nm,1.5s,comp=Z,1µm
SBUM Sibu 27.71 212 ⇓P **P** **11 14 17.7 +4.1**
SWI Sorong 27.86 169 P **P** **11 14 17.3 +2.4**
comp=Z,27nm,1.5s
SRDT SRDT 28.26 250 P **P** **11 14 21.3 +2.8**
comp=Z,187nm,0.7s
KHLT Khaolaem Dam 28.49 251 P P 11 14 23.7 +3.2
comp=Z,28nm,0.9s
SANI Sanana 28.64 181 P **P** **11 14 20.4 -1.4**
ZAK Zakamensk 29.47 329 eP **P** **11 14 27.7 -1.3**
ZAK pmax pmax
comp=Z,23nm,2.2s
KSM Kuching 29.49 214 ⇓P **P** **11 14 32.1 +2.7**
FAKI Fak Fak 30.04 168 P **P** **11 14 33.8 -0.4**
comp=Z,81nm,1.4s
FAKI Fak Fak 30.04 168 eP **P** **11 14 33.5 -0.7**
comp=Z,59nm,0.9s
MMSI Mamuju 30.14 195 P x 11 14 38.5
comp=Z,114nm,1.2s
TLY Talaya 30.24 331 P **P** **11 14 35.1 -0.6**
comp=Z,333nm,0.6s,SNR=25
TLY Talaya 30.24 331 eP **P** **11 14 35.3 -0.4**
TLY e 11 15 06.6
TLY pmax pmax
comp=Z,40nm,0.7s
TLY MLR MLR
comp=Z,2µm,18.0s
TLY Talaya 30.24 331 eP **P** **11 14 35.3 -0.4**
comp=Z,30nm,0.6s
IRK Irkutsk 30.40 333 eP **P** **11 14 36.6 -0.4**
IRK e 11 24 58.4
IRK pmax pmax
comp=Z,87nm,0.7s
SHL Shillong 30.91 276 eP **P** **11 14 41.1 -1.0**
SHL ex x 11 15 14.0
SHL eS **S** **11 19 35.0 -2.0**
SMPI Sarmi 30.96 155 P **P** **11 14 44.4 +2.1**
comp=Z,128nm,1.5s
LSA Lhasa 31.09 284 P **P** **11 14 45.3 +1.4**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 31.09 284 eP **P** **11 14 45.4 +1.5**
LSA pmax pmax
comp=Z,13nm,0.4s
LSA Lhasa 31.09 284 eP **P** **11 14 45.4 +1.5**
comp=Z,13nm,0.4s

MOY Mondy 31.41 329 eP **P** **11 14 46.6 +0.6**
MOY e 11 15 15.0
MOY pmax pmax
comp=Z,57nm,1.8s
IPM Ipoh 32.81 232 P x 11 14 59.0
comp=Z,35nm,0.8s
IPM Ipoh 32.81 232 eP **P** **11 14 58.5 -0.1**
comp=Z,18nm,0.5s
IPM ePcP **PcP** **11 17 40.9 +0.2**
IPM Ipoh 32.81 232 ⇑P **P** **11 14 59.9 +1.3**
MYKOM Kota Tinggi 32.91 225 ⇓P **P** **11 15 01.6 +2.2**
KGM Kluang 33.07 226 ⇓P **P** **11 15 02.5 +1.7**
FRIM Kepong 33.28 230 ⇓P **P** **11 15 04.4 +1.8**
TAPN Taplejung 34.33 280 eP **P** **11 15 12.6 +0.6**
comp=Z,49nm,0.6s
ODAN Odare 34.69 279 eP **P** **11 15 14.8 -0.2**
comp=Z,128nm,0.6s
HVS Khovu-Aksy 34.72 323 c eP **P** **11 15 15.2 +0.4**
HVS pmax pmax
comp=Z,202nm,1.4s
PETK Petropavlovsk- 35.15 33 P **P** **11 15 18.0 -0.4**
PETK Petropavlovsk- 35.15 33 P **P** **11 15 18.0 -0.4**
PETK Petropavlovsk- 35.15 33 P **P** **11 15 18.0 -0.4**
comp=Z,7.7nm,0.5s,baz=185,slow=4.8,SNR=37
PETK LR LR 11 31 53.2
comp=Z,1µm,19.2s,baz=231,slow=40
YAK Yakutsk 35.34 3 eP **P** **11 15 18.0 -1.9**
YAK e*PP **pP** **11 15 49.7 +1.2**
YAK e 11 16 39.6
YAK e 11 17 49.5
YAK eS **S** **11 20 43.8 -0.4**
YAK e*SS **sS** **11 21 29.8 -4.3**
YAK *i* 11 25 22.0
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=Z,146nm,2.8s
YAK smax smax
comp=E,562nm,4.8s
YAK smax smax
comp=N,432nm,4.8s
RAMN Ramite 35.37 280 eP **P** **11 15 20.4 -0.5**
comp=N,37nm,0.5s
PSI Prapat 35.47 232 P x 11 15 28.3
comp=N,45nm,1.4s
PSI Prapat 35.47 232 P **P** **11 15 22.2 +0.5**
PSI PcP **PcP** **11 17 48.2 -0.3**
PSI Prapat 35.47 232 P **P** **11 15 22.2 +0.5**
comp=N,11nm,0.7s,baz=332,slow=7.3,SNR=6.2
PSI PcP **PcP** **11 17 48.2 -0.3**
comp=N,5.5nm,0.6s,baz=184,slow=9.5,SNR=4.1
PSI LR LR 11 30 47.0
comp=N,2µm,19.5s,baz=44,slow=37
WMQ Urumqi 35.48 309 P **P** **11 15 23.3 +1.9**
WMQ pP **pP** **11 15 49.3 -0.8**
WMQ sP **sP** **11 16 07.5 +2.4**
WMQ PP **PnPn** **11 16 47.3 +2.5**
WMQ PcP **PcP** **11 17 50.8 +2.8**
WMQ ScP **ScP** **11 21 23.8 +2.0**
WMQ sS **sS** **11 21 36.4 -0.6**
WMQ ScS **ScS** **11 25 26.9 +0.2**
WMQ pmax pmax
comp=N,64nm,1.3s
WMQ LR LR
comp=N,3µm,12.3s
WMQ LR LR
comp=N,2µm,14.1s
WMQ LR LR
comp=N,2µm,20.5s
PET Petropavlovsk 35.57 34 eP **P** **11 15 21.1 -0.8**
PET e 11 17 50.0
PET pmax pmax
comp=Z,59nm,0.4s
PET Petropavlovsk 35.57 34 eP **P** **11 15 21.1 -0.8**
comp=Z,59nm,0.4s
PET ePcP **PcP** **11 17 50.0 +2.0**
JIRN Jiri 35.63 281 eP **P** **11 15 22.9 -0.3**
comp=Z,59nm,0.5s
GUN Gumba 35.87 281 eP **P** **11 15 25.7 +0.5**
comp=Z,57nm,0.4s
PKI Pulchoki 36.33 281 eP **P** **11 15 28.4 -0.7**
comp=Z,59nm,0.5s
SOEI Soe 36.35 183 eP **P** **11 15 29.1 +0.1**
KKN Kakani 36.41 281 eP **P** **11 15 29.1 -0.6**
comp=Z,64nm,0.5s
MNSI Mandailing Nat 36.45 229 P **P** **11 15 30.2 +0.3**
comp=Z,35nm,0.9s
DMN Daman 36.59 281 eP **P** **11 15 31.4 +0.1**
comp=Z,55nm,0.6s
BOK Bokaro 36.61 274 eP **P** **11 15 31.0 -0.2**
BOK AMB AMB 11 16 04.4
comp=Z,56nm,0.6s
PPI Padang Panjang 36.84 227 P **P** **11 15 34.9 +1.8**
comp=Z,52nm,0.7s
GKN Gorkha 36.94 282 eP **P** **11 15 33.6 -0.6**
comp=Z,64nm,0.4s
DANN Dangsing 37.66 282 eP **P** **11 15 40.3 -0.1**
comp=Z,245nm,0.5s
MDSI Maura Dua 37.75 218 P **P** **11 15 42.9 +2.1**
comp=Z,18nm,1.0s
H11N2 WAKE ISLAND Hy 37.78 92 T T 11 54 19.1
baz=106,slow=75,SNR=6.3
H11N1 WAKE ISLAND Hy 37.78 92 T T 11 54 07.7
baz=294,slow=75,SNR=4.4
KOLN Koldanda 37.88 282 eP **P** **11 15 41.7 -0.5**
comp=Z,72nm,0.6s
H11S3 WAKE ISLAND Hy 37.99 94 T T 11 54 59.0
baz=159,slow=75,SNR=2.2
H11S1 WAKE ISLAND Hy 38.00 94 T T 11 54 45.1
baz=293,slow=75,SNR=1.7
LEM Lembang 38.00 211 P P 11 15 49.9 +6.8
comp=Z,70nm,0.7s
MK31 Makanchi Array 39.94 312 eP **P** **11 15 58.3 -0.5**
MK31 Makanchi Array 39.94 312 eP **P** **11 15 58.3 -0.5**
MK31 eScP **ScP** **11 21 39.8 +1.3**
MKAR Makanchi Array 39.94 312 P **P** **11 15 58.2 -0.6**
MKAR 11 18 01.8
MKAR Makanchi Array 39.94 312 P **P** **11 15 58.2 -0.6**
MKAR PcP **PcP** **11 18 01.8 +0.1**
MKAR ScP **ScP** **11 21 38.6 0.0**
MKAR Makanchi Array 39.94 312 P **P** **11 15 58.2 -0.6**
comp=Z,60nm,0.4s,baz=96,slow=11,SNR=782
MKAR PcP **PcP** **11 18 01.8 +0.1**
comp=Z,35nm,0.6s,baz=80,slow=3.5,SNR=17
MKAR ScP **ScP** **11 21 38.6 0.0**
comp=Z,12nm,0.6s,baz=95,slow=7.9,SNR=32
MKAR LR LR 11 35 46.8
comp=Z,1µm,19.0s,baz=123,slow=41
SEY Seymchan 40.03 18 P **P** **11 15 58.5 -0.7**
SEY 11 18 02.1
SEY Seymchan 40.03 18 P **P** **11 15 58.5 -0.7**
SEY PcP **PcP** **11 18 02.1 +0.5**
SEY ScP **ScP** **11 21 39.3 +0.8**
SEY Seymchan 40.03 18 P **P** **11 15 58.5 -0.7**
comp=Z,16nm,0.5s,baz=215,slow=6.6,SNR=130
SEY PcP **PcP** **11 18 02.1 +0.5**
comp=Z,8.1nm,0.5s,baz=201,slow=7.8,SNR=5.0
SEY ScP **ScP** **11 21 39.3 +0.8**
comp=Z,7.6nm,0.8s,baz=190,slow=14,SNR=6.3
VIS Vishakhapatnam 40.67 266 eP **P** **11 16 04.5 -0.6**
ZAA0 Zalesovo Array 40.82 323 eP **P** **11 16 04.7 -1.2**
ZALV Zalesovo Beam 40.82 323 P **P** **11 16 04.9 -1.0**
ZALV 11 18 02.9
ZALV Zalesovo Beam 40.82 323 P **P** **11 16 04.8 -1.0**
ZALV PcP **PcP** **11 18 02.9 -1.4**
ZALV ScP **ScP** **11 21 41.5 -0.3**
ZALV Zalesovo Beam 40.82 323 P **P** **11 16 04.8 -1.0**
comp=Z,95nm,0.4s,baz=112,slow=8.3,SNR=336
ZALV PcP **PcP** **11 18 02.9 -1.4**
comp=Z,7.8nm,0.5s,baz=110,slow=4.4,SNR=6.4
ZALV ScP **ScP** **11 21 41.5 -0.3**
comp=Z,25nm,0.8s,baz=131,slow=3.6,SNR=26
ZALV LR LR 11 33 15.3
comp=Z,2µm,20.5s,baz=111,slow=36
PMG Port Moresby 41.23 148 eP **P** **11 16 09.1 -0.5**
comp=Z,45nm,0.8s
PMG Port Moresby 41.23 148 P **P** **11 16 09.1 -0.5**
comp=Z,47nm,0.8s,baz=357,slow=8.1,SNR=13
NVS Novosibirsk 42.03 324 ⇑*i*P **P** **11 16 13.6 -2.2**
NVS *i* *PP **pP** **11 16 46.6 +1.5**
NVS *i* 11 17 57.1

NVS eS **S** **11 22 23.9 -1.0**
NVS e*SS **sS** **11 23 19.6 +3.8**
NVS eSSS SSS 11 25 59.7
NVS pmax pmax
comp=N,68nm,2.4s
NVS pmax pmax
comp=Z,173nm,2.4s
NVS pmax pmax
comp=E,79nm,2.1s
NVS pmax pmax
comp=Z,154nm,2.3s
NVS pmax pmax
comp=N,99nm,2.2s
NVS pmax pmax
comp=E,50nm,2.2s
NVS smax smax
comp=E,90nm,3.0s
DDI Dehra Dun 42.34 287 eP **P** **11 16 17.9 -0.8**
SMLA Simla 42.99 288 eP **P** **11 16 23.5 -0.3**
KURK Kurchatov 43.29 317 P **P** **11 16 25.5 -0.5**
comp=E,298nm,0.7s
KURK Kurchatov 43.29 317 P **P** **11 16 25.4 -0.5**
KURK *PP **pP** **11 16 55.6 +0.1**
KURK 11 18 12.5
KURK pmax pmax
comp=Z,32nm,0.5s
KURK pmax pmax
comp=Z,19nm,0.8s
KURK pmax pmax
comp=Z,16nm,0.7s
KURK pmax pmax
comp=N,14nm,0.8s
KURK Kurchatov 43.29 317 eP **P** **11 16 24.8 -1.2**
comp=N,24nm,0.5s
KURK pP **pP** **11 16 55.6 +0.1**
KURK PcP **PcP** **11 18 12.4 -0.1**
KURK ScP **ScP** **11 21 52.6 +0.9**
KURK eScP **ScP** **11 21 54.2 +2.5**
NDI New Delhi 43.30 284 eP **P** **11 16 25.2 -1.2**
NDI ex **S** **11 22 39.0 -5.2**
KURBB Kurchatov Arra 43.32 317 P **P** **11 16 25.4 -0.8**
comp=N,32nm,0.5s,baz=103,slow=8.9,SNR=102
KURBB pP **pP** **11 16 55.6 -0.1**
comp=N,18nm,0.8s,baz=106,slow=8.3,SNR=3.2
KURBB PcP **PcP** **11 18 12.4 -0.2**
comp=N,16nm,0.7s,baz=110,slow=3.7,SNR=12
KURBB ScP **ScP** **11 21 52.6 +0.7**
comp=N,14nm,0.8s,baz=104,slow=3.8,SNR=27
FX1 Attu Island--F 43.36 40 P **P** **11 16 27.0 +0.5**
FX1 PcP **PcP** **11 18 12.0 -0.8**
FX1 Attu Island--F 43.36 40 P **P** **11 16 27.0 +0.5**
comp=N,35nm,0.4s,baz=20,slow=6.3,SNR=5.6
FX1 PcP **PcP** **11 18 12.0 -0.8**
comp=N,42nm,0.5s,baz=280,slow=2.0,SNR=4.5
ULHL Ulahol 43.48 304 P **P** **11 16 29.4 +1.5**
SNR=11
KSH Kashi 43.55 300 *i* P **P** **11 16 31.3 +2.9**
KSH PP **PcP** **11 18 15.8 +1.9**
KSH ePcS **PcS** **11 22 07.1 +0.2**
KSH sS **sS** **11 23 41.8 +2.9**
KSH pmax pmax
comp=N,5.0nm,0.5s
KSH pmax pmax
comp=N,420nm,3.5s
KSH LR LR
comp=N,560nm,8.8s
KSH LR LR
comp=N,1µm,13.4s
KSH LR LR
comp=N,640nm,7.7s
DHRM DHARAMSHALA 43.60 290 eP P 11 16 25.7 -3.3
DHRM AMB AMB 11 17 02.3
comp=Z,46nm,0.3s
COEN Coen 43.64 156 eP **P** **11 16 29.0 -0.1**
comp=Z,1µm,1.1s
COEN epP **pP** **11 17 02.5 +3.8**
COEN ePcP **PcP** **11 18 16.1 +1.8**
TKM2 Tokmak 2 44.01 305 eP **P** **11 16 32.2 +0.1**
TKM2 e*PP **pP** **11 17 04.3 +2.6**
TKM2 e 11 18 15.7
TKM2 pmax pmax
comp=Z,47nm,0.6s
TKM2 Tokmak 2 44.01 305 P **P** **11 16 32.4 +0.3**
SNR=123
TKM2 Tokmak 2 44.01 305 eP **P** **11 16 32.2 +0.1**
comp=Z,47nm,0.6s
TKM2 epP **pP** **11 17 04.3 +2.6**
TKM2 ePcP **PcP** **11 18 15.7 +0.2**
TKM2 eScP **ScP** **11 21 58.9 +3.8**
KZA Kyzart 44.20 304 P **P** **11 16 36.6 +2.7**
SNR=19
BHPL Bhopal 44.28 277 eP **P** **11 16 32.7 -1.6**
KBK Karagaybulak 44.46 305 P **P** **11 16 35.9 +0.2**
SNR=28
FITZ Fitzroy Crossi 44.59 181 eP **P** **11 16 35.8 -0.9**
comp=Z,56nm,1.1s
FITZ epP **pP** **11 17 05.0 -1.3**
FITZ ePcP **PcP** **11 18 17.2 -0.2**
CHMS Chumysh 44.63 305 P **P** **11 16 38.6 +1.8**
SNR=18
FRU Bishkek 44.72 305 eP **P** **11 16 39.0 +1.4**
FRU *i* 11 17 11.0
FRU MLR MLR
comp=Z,2µm,19.0s
UCH Uchtor 44.76 304 P **P** **11 16 39.2 +0.9**
SNR=50
AAK Ala-Archa 44.80 305 P **P** **11 16 38.1 -0.2**
comp=Z,86nm,0.4s,SNR=6.4
AAK Ala-Archa 44.80 305 P **P** **11 16 37.9 -0.4**
AAK 11 18 18.6
AAK Ala-Archa 44.80 305 P **P** **11 16 40.1 +1.8**
SNR=13
AAK Ala-Archa 44.80 305 P **P** **11 16 37.9 -0.4**
AAK PcP **PcP** **11 18 18.6 +0.5**
AAK ScP **ScP** **11 21 59.0 +0.7**
AAK Ala-Archa 44.80 305 P **P** **11 16 37.9 -0.4**
comp=Z,6.3nm,0.4s,baz=106,slow=5.6,SNR=23
AAK PcP **PcP** **11 18 18.6 +0.5**
comp=Z,17nm,0.6s,baz=124,slow=4.9,SNR=8.4
AAK ScP **ScP** **11 21 59.0 +0.7**
comp=Z,14nm,0.8s,baz=133,slow=4.7,SNR=18
USP Ospenovka 44.83 305 P **P** **11 16 38.4 -0.1**
SNR=16
TIXI Tiksi 44.96 1 eP **P** **11 16 38.6 -0.4**
TIXI e*PP **pP** **11 17 11.2 +2.6**
TIXI e 11 18 17.7
TIXI pmax pmax
comp=Z,86nm,1.5s
TIXI Tiksi 44.96 1 eP **P** **11 16 38.6 -0.4**
comp=Z,86nm,1.5s
TIXI epP **pP** **11 17 11.2 +2.6**
TIXI ePcP **PcP** **11 18 17.7 -0.1**
HYB Hyderabad 45.04 268 eP **P** **11 16 39.0 -1.4**
EKS2 Erkin-Say 45.33 305 eP **P** **11 16 42.6 +0.1**
EKS2 e*PP **pP** **11 17 13.8 +1.6**
EKS2 e 11 18 20.8
EKS2 pmax pmax
comp=Z,36nm,1.3s
EKS2 Erkin-Say 45.33 305 P **P** **11 16 42.4 -0.1**
SNR=14
EKS2 Erkin-Say 45.33 305 eP **P** **11 16 42.5 +0.1**
comp=Z,36nm,1.3s
EKS2 epP **pP** **11 17 13.8 +1.6**
EKS2 ePcP **PcP** **11 18 20.8 +0.9**
AML Almayashu 45.36 304 P **P** **11 16 43.6 +0.5**
SNR=16
WRAB Tennant Creek 47.05 170 P **P** **11 16 55.0 -0.9**
comp=Z,300nm,1.1s,SNR=49
WRAB Tennant Creek 47.05 170 eP **P** **11 16 55.1 -0.9**
WRAB e*PP **pP** **11 17 24.4 -1.5**
WRAB e 11 18 28.5
WRAB pmax pmax
comp=Z,74nm,1.1s
WRAB Tennant Creek 47.05 170 eP **P** **11 16 55.1 -0.9**
comp=Z,74nm,1.1s
WRAB epP **pP** **11 17 24.4 -1.5**
WRAB ePcP **PcP** **11 18 28.5 +2.5**
WRAB eScP **ScP** **11 22 11.2 +3.5**
WRA Warramunga Arr 47.06 170 P **P** **11 16 55.1 -0.9**
WRA pP **pP** **11 17 25.4 -0.5**
WRA Warramunga Arr 47.06 170 P **P** **11 16 55.1 -0.9**
comp=Z,30nm,0.8s,baz=347,slow=8.2,SNR=94
WRA pP **pP** **11 17 25.4 -0.5**
comp=Z,39nm,1.0s,baz=352,slow=8.3,SNR=7.9
WRA LR LR 11 34 05.0

comp=Z,839nm,19.8s,baz=320,slow=32
PALK Pallekele 47.44 254 *e*P **P 11 17 00.3 +1.1**
comp=Z,36nm,0.6s
PALK *e*pP **pP 11 17 29.5 +0.3**
KK31 Karatay Array 47.74 305 *i* P **P 11 17 01.7 +0.5**
KK31 pmax pmax
comp=Z,20nm,0.6s
KKAR Karatay Array 47.74 305 *e*P **P 11 17 02.2 +1.0**
KKAR *e* 11 18 28.3
KKAR pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 47.74 305 *e*P **P 11 17 02.2 +1.0**
comp=Z,13nm,0.6s
KKAR *e*PcP **PcP 11 18 28.3 0.0**
HNR Honiara 48.55 133 P **P 11 17 07.0 -0.6**
BVA0 Borovoye Array 48.77 318 *i* P **P 11 17 08.5 -0.4**
BVA0 pmax pmax
comp=Z,110nm,0.9s
BVAR Borovoye Array 48.77 318 P **P 11 17 09.1 +0.2**
BVAR 11 18 31.4
BVAR Borovoye Array 48.77 318 P **P 11 17 09.1 +0.2**
BVAR PcP **PcP 11 18 31.4 -0.4**
BVAR ScP **ScP 11 22 14.1 -0.5**
BVAR Borovoye Array 48.77 318 P **P 11 17 09.1 +0.2**
comp=Z,37nm,0.6s,baz=99,slow=7.9,SNR=116
BVAR PcP **PcP 11 18 31.4 -0.4**
comp=Z,24nm,0.7s,baz=114,slow=3.7,SNR=12
BVAR ScP **ScP 11 22 14.1 -0.5**
comp=Z,33nm,0.7s,baz=96,slow=4.5,SNR=29
BRVK Borovoye 48.84 318 *e*P **P 11 17 08.9 -0.5**
BRVK *e**PP **pP 11 17 40.4 +0.9**
BRVK pmax pmax
comp=Z,127nm,1.3s
BRVK Borovoye 48.84 318 *e*P **P 11 17 08.8 -0.5**
comp=Z,127nm,1.3s
BRVK *e*pP **pP 11 17 40.4 +0.9**
POO Poona 48.87 272 *e*P **P 11 17 09.2 -1.0**
POO *e*P **P 11 17 09.5 -0.7**
KBL Kabul 49.36 294 *e*P **P 11 17 13.8 -0.1**
KBL *e**PP **pP 11 17 44.7 +0.6**
KBL *e* 11 18 35.0
KBL pmax pmax
comp=Z,314nm,1.4s
KBL Kabul 49.36 294 *e*P **P 11 17 13.8 -0.1**
comp=Z,314nm,1.4s
KBL *e*pP **pP 11 17 44.7 +0.6**
KBL *e*PcP **PcP 11 18 35.0 +0.4**
KBL *e*ScP **ScP 11 22 20.5 +2.8**
GOA Goa 49.97 268 *e*P **P 11 17 18.0 -0.4**
CTA Charters Tower 50.40 155 P **P 11 17 22.2 +0.6**
CTA Charters Tower 50.40 155 P **P 11 17 22.2 +0.6**
comp=Z,75nm,1.1s,baz=338,slow=9.9,SNR=24
CTAO Charters Tower 50.40 155 *e*P **P 11 17 21.9 +0.3**
CTAO *e**PP **pP 11 17 52.7 +0.8**
CTAO pmax pmax
comp=Z,174nm,1.3s
CTAO Charters Tower 50.40 155 *e*P **P 11 17 21.9 +0.3**
comp=Z,174nm,1.3s
CTAO *e*pP **pP 11 17 52.7 +0.8**
AS31 Alice Springs 50.65 171 *e*P **P 11 17 23.2 -0.2**
ASAR Alice Springs 50.65 171 P **P 11 17 23.0 -0.4**
ASAR PcP **PcP 11 18 39.0 0.0**
ASAR Alice Springs 50.65 171 P **P 11 17 23.0 -0.4**
comp=Z,13nm,0.4s,baz=359,slow=14,SNR=130
ASAR PcP **PcP 11 18 39.0 0.0**
comp=Z,7.8nm,0.6s,baz=353,slow=2.6,SNR=8.3
ASAR LR LR 11 38 36.6
comp=Z,826nm,18.7s,baz=340,slow=36
BHJ Bhuj 51.15 279 *e*P **P 11 17 26.4 -1.0**
BHJ AMB AMB 11 18 02.1
comp=Z,197nm,1.2s
SVE Sverdlovsk 54.82 322⇓ *e*P **P 11 17 54.2 +0.5**
SVE pmax pmax
comp=Z,41nm,0.7s
ABKAR Akbulak array 55.06 313 *e*P **P 11 17 55.2 -0.4**
comp=Z,31nm,0.6s
ABKAR *e*pP pP 11 18 31.0 +4.7
ABKAR *e*ScP **ScP 11 22 43.1 +1.1**
ARU Arti 55.94 322 P **P 11 18 01.0 -0.7**
comp=Z,207nm,0.5s,SNR=10
ARU Arti 55.94 322*c i*P **P 11 18 00.1 -1.6**
ARU *e**PP **pP 11 18 33.1 +0.5**
ARU *SP **sP 11 18 44.5 -2.5**
ARU 11 18 55.2
ARU S **S 11 25 38.8 -0.5**
ARU SS SS 11 29 19.1 -7.6
ARU pmax pmax
comp=Z,55nm,1.2s
ARU Arti 55.94 322 *e*P **P 11 18 00.4 -1.3**
comp=Z,332nm,1.6s
ARU *e*pP **pP 11 18 33.5 +1.0**
ARU *e*ScP **ScP 11 22 47.0 +1.4**
AKTO Aktyubinsk 56.27 314 P **P 11 18 03.3 -0.9**
AKTO *PP **pP 11 18 35.6 +0.6**
AKTO Aktyubinsk 56.27 314 P **P 11 18 03.3 -0.9**
AKTO pP **pP 11 18 35.6 +0.6**
AKTO ScP **ScP 11 22 47.9 +0.7**
AKTO Aktyubinsk 56.27 314 P **P 11 18 03.3 -0.9**
comp=Z,6.9nm,0.6s,baz=96,slow=7.8,SNR=26
AKTO pP **pP 11 18 35.6 +0.6**
comp=Z,18nm,0.9s,baz=83,slow=9.9,SNR=5.4
AKTO ScP **ScP 11 22 47.9 +0.7**
comp=Z,12nm,0.8s,baz=96,slow=5.2,SNR=14
KAAM Kaadhehdhoo 57.49 252 P x 11 18 20.4
ABKT Ailbek 57.57 300 P **P 11 18 14.3 +0.7**
comp=Z,170nm,1.3s,SNR=6.1
BBOO Buckleboo 59.95 171 *e*P **P 11 18 29.6 -0.3**
comp=Z,5μm,1.8s
NWAO Narrogin (SRO) 59.98 189 P **P 11 18 30.4 +0.3**
NWAO Narrogin (SRO) 59.98 189 P **P 11 18 30.4 +0.3**
comp=Z,10.0nm,0.5s,baz=4.8,slow=6.4,SNR=10
CHGN Chignik 60.08 38 *e*P **P 11 18 29.4 -1.1**
STKA Stephens Creek 60.09 165 *e*P **P 11 18 30.6 -0.3**
STKA *e*pP **pP 11 19 02.5 +0.4**
STKA Stephens Creek 60.09 165 P **P 11 18 30.5 -0.3**
comp=Z,26nm,0.8s,baz=339,slow=6.8,SNR=51
STKA LR LR 11 42 08.3
comp=Z,490nm,19.6s,baz=242,slow=33
WBK Wadi Bani Khal 60.74 282 P **P 11 18 36.5 +0.9**
SNR=7.8
SMDO Samad 61.40 283 P **P 11 18 40.4 +0.3**
SNR=25
ARMA Armidale 61.77 155 *e*P **P 11 18 43.2 +0.8**
comp=Z,73nm,1.4s
ARMA *e*pP **pP 11 19 14.7 +0.9**
IM04 Indian Mountai 61.77 27 *e*P **P 11 18 42.0 +0.2**
HOQ Hogain 61.87 284 P **P 11 18 44.1 +0.8**
SNR=22
BANOM Banah 62.01 287 P **P 11 18 45.0 +0.9**
SNR=13
DZM Mont Dzumac 62.14 137 *e*P **P 11 18 46.6 +1.6**
comp=Z,198nm,1.2s
DZM Mont Dzumac 62.14 137 *e*LR LR 11 37 30.2
comp=Z,2μm,29.4s
DZM Mont Dzumac 62.14 137 *e*P **P 11 18 45.2 +0.3**
comp=Z,74nm,1.1s
DZM Mont Dzumac 62.14 137 *e*P **P 11 18 45.1 +0.1**
UOSS Wadi Hilu 62.40 286 P **P 11 18 46.3 -0.4**
comp=Z,146nm,0.4s,SNR=6.1
PRGR Permogore 62.47 328 *e*P **P 11 18 44.2 -2.3**
PRGR *e**PP **pP 11 19 16.0 -2.0**
PRGR *e* 11 19 21.1
PRGR pmax pmax
comp=Z,42nm,0.9s
HATD Hatta, Dubai 62.49 285⇑ *i*P **P 11 18 48.3 +1.0**
SNR=6.5
RSO Redoubt South 62.67 33 *e*P P 11 18 44.3 -3.9
comp=Z,179nm,0.7s
PPLA Purkeypile 62.69 31 *e*P **P 11 18 48.8 +0.6**
comp=Z,48nm,0.5s
OHAK Old Harbor 62.79 37 *e*P **P 11 18 48.5 -0.2**
comp=Z,171nm,1.2s
NAZ Nazwa, Dubai 62.85 286⇑ *i*P **P 11 18 50.3 +0.7**
SNR=8.8
FAQ Al Faqa, Dubai 62.99 286 *i* P **P 11 18 50.7 +0.1**
SNR=38
KDAK Kodiak Island 63.09 36 P **P 11 18 50.0 -0.7**
comp=Z,844nm,0.6s,SNR=70
KDAK Kodiak Island 63.09 36 *e*P **P 11 18 50.4 -0.3**
comp=Z,80nm,0.6s
COLD Coldfoot 63.12 26 *e*P **P 11 18 51.2 +0.5**
comp=Z,31nm,1.0s
KTH Kantishna Hill 63.19 30 *e*P **P 11 18 51.5 +0.1**
comp=Z,23nm,0.6s
ASUD Al Ashush, Dub 63.25 285 *i* P **P 11 18 52.9 +0.6**
SNR=20
TRF Thorofare Moun 63.48 30 *e*P **P 11 18 53.5 +0.1**
comp=Z,17nm,0.5s
MCK McKinley 64.05 30 *e*P **P 11 18 56.6 -0.4**
MCK pmax pmax
comp=Z,65nm,0.6s
MCK McKinley 64.05 30 *e*P **P 11 18 56.6 -0.4**
comp=Z,65nm,0.6s
RC01 Rabbit Creek A 64.06 33 *e*P **P 11 18 56.1 -0.9**
comp=Z,28nm,0.6s
PMR Palmer 64.27 32 *e*P **P 11 18 57.4 -0.9**
PMR pmax pmax
comp=Z,33nm,0.5s
PMR Palmer 64.27 32 *e*P **P 11 18 57.4 -0.9**
comp=Z,33nm,0.5s
COLA College 64.35 28 *e*P **P 11 18 58.6 -0.2**
COLA pmax pmax
comp=Z,39nm,0.5s
COLA College 64.35 28 *e*P **P 11 18 58.6 -0.2**
comp=Z,39nm,0.5s
SEW Seward 64.35 34 *e*P **P 11 18 58.3 -0.6**
comp=Z,112nm,1.2s
ILAR Eielson Array 64.77 28 P **P 11 19 00.5 -1.1**
ILAR Eielson Array 64.77 28 P **P 11 19 00.5 -1.1**
comp=Z,14nm,0.5s,baz=255,slow=5.4,SNR=198
PAX Paxson 65.71 30 *e*P **P 11 19 07.8 0.0**
PAX Paxson 65.71 30 *e*P **P 11 19 07.8 0.0**
DIV Divide 65.95 32 *e*P **P 11 19 09.3 0.0**
comp=Z,81nm,0.6s
DOT Dot Lake 66.20 29 *e*P **P 11 19 10.3 -0.5**
comp=Z,59nm,0.7s
DGRG David-gareji 66.39 306 P **P 11 19 12.5 +0.1**
VRHR Novokhopersk 66.47 317 *e*P **P 11 19 09.8 -2.9**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,30nm,1.5s
VRHR pmax pmax
comp=E,40nm,1.1s
MENT Mentasta 66.50 30 *e*P **P 11 19 13.4 +0.6**
BMRM Bremner River 66.54 32 *e*P **P 11 19 13.2 +0.1**
comp=E,47nm,0.6s
DUS Dusheti 66.70 307 P P 11 19 20.1 +5.7
TBLG Delisi 66.77 306 P **P 11 19 12.2 -2.7**
MSVF Nonsavu 66.88 126 P **P 11 19 18.0 +2.2**
comp=E,673nm,1.0s,SNR=16
MSVF Nonsavu 66.88 126 *e*P **P 11 19 16.7 +0.9**
MSVF pmax pmax
comp=Z,198nm,1.2s
MSVF Nonsavu 66.88 126 *e*P **P 11 19 16.7 +0.9**
comp=Z,198nm,1.2s
GOF Gofitskoye 67.07 310 *e*P **P 11 19 16.8 +0.1**
GOF *i* 11 19 51.5
GOF pmax pmax
comp=Z,80nm,1.3s
ZEI Tsey 67.08 308 *e*P **P 11 19 14.3 -2.7**
ZEI *e* 11 19 49.5
ZEI pmax pmax
comp=Z,23nm,0.6s
EGAK Eagle 67.17 28 *e*P **P 11 19 16.8 -0.2**
comp=Z,26nm,0.7s
GNI Garni 67.20 305 *e*P **P 11 19 18.4 +0.5**
GNI pP **pP 11 19 51.8 +2.2**
GNI Garni 67.20 305 P **P 11 19 17.0 -0.8**
comp=Z,6.7nm,0.7s,baz=198,slow=2.5,SNR=6.2
GNI pP **pP 11 19 51.8 +2.2**
comp=Z,8.9nm,0.6s,baz=162,slow=18,SNR=3.1
KBZ Khabaz 67.53 309 P **P 11 19 19.0 -0.6**
KBZ *PP **pP 11 19 54.1 +2.6**
KBZ Khabaz 67.53 309 P **P 11 19 19.0 -0.6**
KBZ pP **pP 11 19 54.0 +2.6**
KBZ Khabaz 67.53 309 P **P 11 19 19.0 -0.6**
comp=Z,33nm,0.8s,baz=79,slow=9.1,SNR=38
KBZ pP **pP 11 19 54.0 +2.6**
comp=Z,60nm,1.0s,baz=73,slow=6.2,SNR=10
KIV Kislovodsk 67.61 309 P **P 11 19 20.3 +0.1**
comp=Z,387nm,0.8s,SNR=9.5
KIV Kislovodsk 67.61 309*d i*P **P 11 19 19.3 -0.9**
KIV *i **PP **pP 11 19 54.8 +2.7**
KIV *eS S 11 27 54.9 -12
KIV *i* PPS PPS 11 28 56.2
KIV pmax pmax
comp=Z,116nm,1.2s
KIV MLR MLR
comp=Z,2μm,19.0s
KIV Kislovodsk 67.61 309 *e*P **P 11 19 20.8 +0.5**
comp=Z,140nm,1.2s
MOS Moscow 67.64 322 *e*P **P 11 19 19.0 -1.0**
MOS *e* 11 19 52.3
AKH Akhalkalaki 67.75 306 P **P 11 19 22.4 +1.1**
NEY Neytrino 67.78 308 *i* P **P 11 19 21.8 +0.4**
NEY pmax pmax
comp=Z,10.0nm,2.5s
VORD Divnogorie 67.93 317 *e*P **P 11 19 19.4 -2.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 67.94 317 *e*P **P 11 19 19.9 -2.1**
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,40nm,1.4s
SPITS Spitsbergen Ar 67.97 348 P **P 11 19 20.6 -1.2**
SPITS Spitsbergen Ar 67.97 348 P **P 11 19 20.6 -1.2**
comp=E,4.1nm,0.4s,baz=79,slow=7.5,SNR=35
KEV Kevo 68.34 338 *e*P **P 11 19 23.5 -0.6**
KEV pmax pmax
comp=Z,3.0nm,0.3s
KEV Kevo 68.34 338 *ep* **P 11 19 23.5 -0.6**
comp=Z,2.5nm,0.3s
CHVG Ch'k'valeri 68.38 308 P pP 11 20 00.7 +3.8
OBN Obninsk 68.39 322⇓ *i*P **P 11 19 23.9 -0.8**
OBN *i **PP **pP 11 19 57.6 +1.0**
OBN *eS **S 11 28 15.3 -0.1**
OBN *i* PPS PPS 11 29 13.9
OBN pmax pmax
comp=Z,34nm,0.7s
OBN MLR MLR
comp=Z,3μm,20.0s
OBN Obninsk 68.39 322 *e*P **P 11 19 23.8 -0.8**
OBN Obninsk 68.39 322 P **P 11 19 23.6 -1.1**
comp=Z,34nm,0.4s,baz=93,slow=7.4,SNR=7.4
JOF Joensuu 68.77 331 *e*P **P 11 19 26.0 -0.9**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 68.77 331 *ep* **P 11 19 26.0 -0.9**
comp=Z,11nm,0.6s
ARCES ARCESS Array B 68.91 338 P **P 11 19 27.1 -0.6**
ARCES pP **pP 11 20 02.3 +2.6**
ARCES ARCESS Array B 68.91 338 P **P 11 19 27.1 -0.6**
comp=Z,3.4nm,0.4s,baz=64,slow=8.0,SNR=45
ARCES pP **pP 11 20 02.3 +2.6**
comp=Z,27nm,1.1s,baz=60,slow=7.2,SNR=3.9
INK Inuvik 69.07 23 *e*P **P 11 19 28.8 +0.1**
comp=Z,128nm,1.2s
SOC Sochi 69.78 309 *e*P **P 11 19 32.9 -0.6**
SOC *e**PP **pP 11 20 05.3 -0.3**
SOC *e*PPP PPP 11 23 47.9
SOC *eS SKiKP 11 28 52.0 -16
SOC pmax pmax
comp=Z,36nm,0.9s
ALE Alert 70.87 1 P **P 11 19 39.3 -0.2**
comp=Z,57nm,0.7s,SNR=6.3
ANN Anapa 70.95 311 *e*P **P 11 19 39.5 -1.1**
ANN *e**PP **pP 11 20 14.0 +1.2**
ANN *eS **S 11 28 44.7 -1.1**
ANN pmax pmax
comp=Z,128nm,1.4s
KAF Kangasniemi 71.23 331 *e*P **P 11 19 41.0 -1.0**
KAF pmax pmax
comp=Z,5.0nm,0.4s
KAF Kangasniemi 71.23 331 *ep* **P 11 19 41.0 -1.0**
comp=Z,4.8nm,0.4s
SKAG Skagway 71.40 32 *e*P **P 11 19 43.3 +0.3**
comp=Z,23nm,0.6s
FIA1 FINESS Array S 71.58 330 *e*P **P 11 19 42.9 -1.1**
FIA1 *ep*P **pP 11 20 18.9 +2.6**
FINES FINESS Array B 71.58 330 P **P 11 19 43.0 -1.0**
FINES pP **pP 11 20 18.1 +1.8**
FINES FINESS Array B 71.58 330 P **P 11 19 43.0 -1.0**
comp=Z,9.8nm,0.3s,baz=66,slow=5.8,SNR=108
FINES pP **pP 11 20 18.1 +1.8**
comp=Z,7.3nm,0.5s,baz=74,slow=8.1,SNR=2.5
RAYN Ar Rayn 72.05 288 P **P 11 19 47.0 -0.7**
comp=Z,258nm,0.7s,SNR=28
AFI Afiamalu 72.39 116 LR LR 11 45 05.5
comp=Z,10nm,21.1s,baz=325,slow=30
VSU Vasula 72.40 327*de*P **P 11 19 48.3 -0.7**
VSU pmax pmax
comp=Z,164nm,1.7s
SIM Simferopol' 73.12 312 *e*P **P 11 19 53.4 -0.2**
SIM 11 20 29.0
SIM pmax pmax
comp=Z,29nm,0.7s
MICGM Minsk 73.33 323 *e* **P 11 19 53.0 -1.6**
MNK Minsk 73.36 323 *e*P **P 11 19 53.0 -1.8**
IDID Didziasalis 73.62 324 *e*P **P 11 19 54.9 -1.3**
IDID AMB AMB 11 20 32.6
comp=Z,41nm,1.2s
NACGM Naroch 73.77 324 *e* **P 11 19 56.0 -1.1**
ISAL Salakas 73.84 324 *e*P **P 11 19 56.4 -1.2**
ISAL AMB AMB 11 20 35.0
comp=Z,33nm,1.2s
IIGN Ignalina 73.88 324 *e*P **P 11 19 56.5 -1.3**
IIGN AMB AMB 11 20 33.5
comp=Z,27nm,1.3s
AKASG Malin Array Be 74.04 319 P **P 11 19 58.1 -0.7**
AKASG *PP **pP 11 20 32.3 +1.1**
AKASG Malin Array Be 74.04 319 P **P 11 19 58.1 -0.7**
AKASG pP **pP 11 20 32.3 +1.1**
AKASG Malin Array Be 74.04 319 P **P 11 19 58.1 -0.7**
comp=Z,25nm,0.5s,baz=56,slow=6.1,SNR=15
AKASG pP **pP 11 20 32.3 +1.1**
comp=Z,30nm,0.9s,baz=55,slow=6.0,SNR=3.7
AKBB Malin Array Si 74.04 319 *e*P **P 11 19 58.0 -0.8**
AKBB Malin Array Si 74.04 319 *e*P **P 11 19 58.0 -0.8**
KIEV Kiev 74.05 319*d i*P **P 11 19 57.4 -1.5**
DLBC Dease Lake 74.33 32 *e*P **P 11 20 01.6 +1.2**
RES Resolute Bay 75.34 10 *e*P **P 11 20 05.6 -0.3**
comp=Z,40nm,0.7s
BR131 Keskin Array S 75.39 307 *e*P **P 11 20 06.6 -0.4**
comp=Z,9.8nm,0.5s
BR131 *ep*P **pP 11 20 41.9 +2.4**
BRTR Keskin Array B 75.39 307 P **P 11 20 06.9 -0.1**
BRTR pP **pP 11 20 42.0 +2.4**
BRTR Keskin Array B 75.39 307 P **P 11 20 06.9 -0.1**
comp=Z,11nm,0.7s,baz=101,slow=4.8,SNR=3.9
BRTR pP **pP 11 20 42.0 +2.4**
comp=Z,47nm,1.0s,baz=106,slow=4.4,SNR=12
ASF Jabal al Asfar 75.85 299 P **P 11 20 10.3 +0.5**
ASF pP **pP 11 20 45.5 +3.2**
ASF Jabal al Asfar 75.85 299 P **P 11 20 10.3 +0.5**
comp=Z,12nm,0.7s,baz=17,slow=2.9,SNR=22
ASF pP **pP 11 20 45.5 +3.2**
comp=Z,43nm,1.0s,baz=41,slow=0.9,SNR=12
ANTO Ankara 75.93 308 *e*P **P 11 20 10.1 +0.1**
ANTO pmax pmax
comp=Z,47nm,1.3s
ANTO Ankara 75.93 308 *e*P **P 11 20 10.1 +0.1**
comp=Z,47nm,1.3s
SUW Suwalki 76.05 324 *e*P **P 11 20 10.1 -0.2**
SUW *e**PP **pP 11 20 45.8 +2.9**
SUW Suwalki 76.05 324 *e*P **P 11 20 10.0 -0.2**
SUW *ep*P **pP 11 20 45.7 +2.9**
SUW Suwalki 76.05 324 *e*P **P 11 20 10.1 -0.2**
comp=Z,55nm,0.8s
SUW *ep*P **pP 11 20 45.5 +2.7**
TLCR 76.49 314⇑ *i*P **P 11 20 13.0 +0.1**
DAMY Dhamar 76.53 280 *e*P **P 11 20 15.2 +1.1**
comp=Z,16nm,0.6s
MMAI Mount Meron Ar 76.69 300 P **P 11 20 14.4 +0.1**
MMAI pP **pP 11 20 50.1 +3.1**
MMAI Mount Meron Ar 76.69 300 P **P 11 20 14.4 +0.1**
comp=Z,7.6nm,0.6s,baz=68,slow=9.1,SNR=13
MMAI pP **pP 11 20 50.1 +3.1**
comp=Z,16nm,1.0s,baz=67,slow=11,SNR=3.7
XMAS Kiritimati 76.76 94 *e*P **P 11 20 17.1 +2.2**
comp=Z,134nm,1.0s
CFR Carcaliu 76.93 314⇑ *i*P **P 11 20 15.1 -0.3**
TIRR Tirgusor 77.06 313⇓ *i*P pP 11 20 45.0 -3.8
TESR Tescani 77.31 316⇑ *i*P **P 11 20 17.6 +0.1**
CSS Prodhromos 77.49 303 P **P 11 20 18.3 -0.5**
CSS Prodhromos 77.49 303 *e*P **P 11 20 18.5 -0.3**
comp=Z,9.5nm,0.6s
VRI Vrincioaia 77.54 315⇑ *i*P **P 11 20 19.4 +0.6**
HFS Hagfors 77.57 332 P **P 11 20 18.0 -0.8**
HFS pP **pP 11 20 53.9 +2.5**
HFS Hagfors 77.57 332 P **P 11 20 18.0 -0.8**
comp=Z,11nm,0.5s,baz=90,slow=4.4,SNR=48
HFS pP **pP 11 20 53.8 +2.5**
comp=Z,17nm,0.9s,baz=74,slow=5.3,SNR=3.8
MSAB Monastry St. A 77.59 313⇓ *i*P **P 11 20 19.6 +0.5**
PLOR Plostina 77.59 315⇓ *i*P **P 11 20 19.6 +0.4**
BUR08 Bucovina Ar. S 77.71 317 *e*P **P 11 20 20.2 +0.3**
BURAR Bucovina Array 77.71 317⇓ *i*P **P 11 20 19.8 -0.1**
ISR Istrita 77.98 314⇑ *i*P **P 11 20 22.5 +1.2**
NB2 NORSAR Subarra 78.10 333 P **P 11 20 20.4 -1.3**
comp=Z,8.0nm,0.6s,baz=53,slow=5.3
NOA NORSAR Array B 78.10 333 P **P 11 20 20.6 -1.1**
NOA pP **pP 11 20 56.5 +2.1**
NOA NORSAR Array B 78.10 333 P **P 11 20 20.6 -1.1**
comp=Z,8.3nm,0.8s,baz=56,slow=5.3,SNR=30
NOA pP **pP 11 20 56.5 +2.1**
comp=Z,14nm,0.8s,baz=56,slow=5.6,SNR=6.5
MLR Muntele Rosu 78.20 315⇓ *i*P **P 11 20 22.5 -0.1**
MLR Muntele Rosu 78.20 315 P **P 11 20 22.5 -0.1**
MLR Muntele Rosu 78.20 315 P **P 11 20 22.5 -0.1**
comp=Z,5.1nm,0.7s,baz=20,slow=4.5,SNR=27
PRD Provadia 78.25 312 *i* P **P 11 20 22.1 -0.7**
KWP Kalwaria Pacla 78.29 320 *e*P **P 11 20 23.2 +0.3**
KWP *e**PP **pP 11 20 59.5 +3.9**
KWP Kalwaria Pacla 78.29 320 *e*P **P 11 20 23.2 +0.3**
KWP *epP **pP 11 20 59.5 +3.9**
KWP Kalwaria Pacla 78.29 320⇑ *i*P **P 11 20 23.4 +0.5**
DOPR Dopca 78.34 316⇑ *i*P **P 11 20 24.0 +0.7**
EIL Elat 78.38 297 P **P 11 20 23.9 +0.2**
EIL Elat 78.38 297 P **P 11 20 23.9 +0.2**
comp=Z,3.0nm,0.6s,baz=37,slow=6.2,SNR=6.6
ISP Isparta 78.38 306*d i*P **P 11 20 21.9 -1.9**
ISP pmax pmax
comp=Z,46nm,1.2s
ISP Isparta 78.38 306 *e*P **P 11 20 22.5 -1.2**
comp=Z,66nm,1.2s
YKA Yellowknife Ar 78.75 24 P **P 11 20 25.3 +0.1**
YKA PKKPbc **PKKPbc 11 39 16.6 -3.0**
YKA Yellowknife Ar 78.75 24 P **P 11 20 25.3 +0.1**
comp=Z,37nm,0.6s,baz=298,slow=5.5,SNR=952
YKA PKKPbc **PKKPbc 11 39 16.5 -3.0**
comp=Z,0.7nm,0.5s,baz=127,slow=2.4,SNR=28
VOIR 78.78 315⇑ *i*P **P 11 20 26.4 +0.6**
KOLS Kolonicke sedl 78.87 319 *e*P **P 11 20 26.1 0.0**
KOLS pmax pmax
comp=Z,33nm,1.7s
KOLS Kolonicke sedl 78.87 319 *e*P **P 11 20 26.1 0.0**
KOLS *e* 11 20 50.9
UZH Uzhgorod 79.00 319 *e*P **P 11 20 27.3 +0.5**
UZH *i* 11 20 30.9
UZH *i* 11 21 01.5
ARR Arges 79.08 315⇓ *i*P **P 11 20 27.5 +0.1**
TRPA Tarpa 79.09 319⇑ *i*P **P 11 20 27.7 +0.4**
TRPA Tarpa 79.09 319⇑ *e* **P 11 20 27.6 +0.3**
CJR Cluj-Napoca 79.11 317⇑ *i*P **P 11 20 28.1 +0.6**
JMB Yambol 79.11 312⇓ *i*P **P 11 20 27.7 +0.2**
STHS Stebnicka Huta 79.23 320 *e*P **P 11 20 28.5 +0.4**
STHS pmax pmax
comp=Z,14nm,1.0s
STHS Stebnicka Huta 79.23 320 *e*P **P 11 20 28.5 +0.4**
STHS *e* 11 20 55.4
HUMR Humele 79.24 314⇓ *i*P **P 11 20 28.0 -0.2**
CRVS Cervenica-Dubn 79.35 320 *e*P **P 11 20 28.7 0.0**
CRVS pmax pmax
comp=Z,37nm,1.6s
CRVS Cervenica-Dubn 79.35 320 *e*P **P 11 20 28.7 0.0**
CRVS *e* 11 21 01.6
LOT Lotru 79.58 316⇑ *i*P **P 11 20 30.6 +0.4**
DRGR 79.61 317⇑ *i*P **P 11 20 30.8 +0.5**
NIE Niedzica 79.77 320 *e*PcP **P 11 20 31.5 +0.5**
NIE *eS*P sP 11 21 07.2 -11
NIE L L 11 47 57.0
comp=Z,3μm,22.0s
ALN Alexandroupoli 80.17 311 P **P 11 20 32.9 -0.4**
GZR Gura Zlata 80.23 316⇑ *i*P **P 11 20 33.9 +0.3**
KDZ Kurdzhali 80.26 312⇑ *i*P **P 11 20 34.3 +0.5**
SUMG Summit 80.39 355 *e*P **P 11 20 34.3 -0.1**

SUMG pmax pmax
comp=Z,20nm,0.6s
SUMG Summit 80.39 355 *i* P **P** 11 20 33.9 -0.5
comp=Z,13nm,0.6s
SUMG Summit 80.39 355 *eP* **P** 11 20 34.3 -0.1
comp=Z,20nm,0.6s
SCO Scoresbysund 80.44 350 *i* P **P** 11 20 33.9 -0.3
SCO pmax pmax
comp=Z,9.0nm,0.9s
SCO Scoresbysund 80.44 350 *i* P **P** 11 20 33.9 -0.3
comp=Z,9.3nm,0.9s
SIRR Siria 80.50 317⇑ *iP* **P** 11 20 35.3 +0.3
PSZ Piszkesteto 80.75 319 *eP* **P** 11 20 36.3 0.0
PSZ *e**PP **pP** 11 21 13.1 +3.9
PSZ pmax pmax
comp=Z,29nm,1.2s
PSZ Piszkesteto 80.75 319⇓ *iP* **P** 11 20 36.4 +0.1
PSZ Piszkesteto 80.75 319 *eP* **P** 11 20 36.3 0.0
comp=Z,29nm,1.2s
PSZ *ep*P **pP** 11 21 13.1 +3.9
PSZ Piszkesteto 80.75 319⇑ *e* **P** 11 20 36.5 +0.1
BZS Buzias 80.84 317⇓ *iP* **P** 11 20 36.1 -0.6
MORC Moravsky Berou 81.14 322⇓ *iP* **P** 11 20 37.1 -1.3
RPZ Rata Peaks 81.23 149 P **P** 11 20 39.5 +0.9
RPZ Rata Peaks 81.23 149 P **P** 11 20 39.5 +0.9
comp=Z,65nm,1.0s,baz=345,slow=18,SNR=13
KSP Ksiaz 81.27 323 *eP* **P** 11 20 39.0 +0.1
KSP *e**PP **pP** 11 21 12.7 +0.8
KSP Ksiaz 81.27 323 *eP* **P** 11 20 39.1 +0.1
KSP *ep*P **pP** 11 21 14.6 +2.7
VTS Vitosha 81.28 313 P **P** 11 20 39.8 +0.5
VTS Vitosha 81.28 313 *i* P **P** 11 20 39.6 +0.3
VTS Vitosha 81.28 313⇑ *iP* **P** 11 20 39.9 +0.6
MMB Musomiste 81.41 312⇓ *iP* **P** 11 20 39.6 -0.3
KRLC Kraliky 81.41 322 *eP* **P** 11 20 40.7 +0.9
KRLC Kraliky 81.41 322 *eP* **P** 11 20 40.7 +0.9
UPC Upice 81.60 323 *eP* **P** 11 20 40.8 +0.1
UPC Upice 81.60 323 *eP* **P** 11 20 40.8 +0.1
KKB Krupnik 81.70 313 *i* P **P** 11 20 39.2 -2.2
SMOL Smolenice 81.86 321 *eP* **P** 11 20 43.1 +1.0
SMOL Smolenice 81.86 321 *eP* **P** 11 20 43.1 +1.0
VRAC Vranov 81.92 322 P **P** 11 20 42.4 0.0
VRAC pP **pP** 11 21 17.7 +2.3
VRAC Vranov 81.92 322 P **P** 11 20 42.4 0.0
comp=Z,18nm,0.7s,baz=65,slow=6.4,SNR=14
VRAC pP **pP** 11 21 17.7 +2.3
comp=Z,28nm,1.1s,baz=117,slow=13,SNR=3.0
KNT Kendrikon 82.16 312 P **P** 11 20 43.3 -0.5
PKSM Moragy 82.34 318⇑ *iP* **P** 11 20 44.7 +0.1
PVCC Panska Ves 82.37 323 *eP* **P** 11 20 46.0 +1.3
PVCC Panska Ves 82.37 323 *eP* **P** 11 20 46.0 +1.3
THE Thessaloniki 82.37 312 P **P** 11 20 43.6 -1.3
BRG Berggiesshubel 82.51 324 *eP* **P** 11 20 45.1 -0.3
comp=Z,10nm,0.9s
BRG *e* 11 21 20.2
comp=Z,82nm,2.2s
BRG Berggiesshubel 82.51 324 *eP* **P** 11 20 45.1 -0.3
BRG *e* 11 21 20.2
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,82nm,2.2s
BRG Berggiesshubel 82.51 324 *eP* **P** 11 20 44.9 -0.5
comp=Z,10.0nm,0.9s
GRG Griva 82.59 312 P **P** 11 20 45.3 -0.8
BSEG Bad Segeberg 82.59 328 *eP* **P** 11 20 45.0 -0.7
comp=Z,166nm,2.1s
PRU Pruhonice 82.68 323 *eP* **P** 11 20 46.0 -0.3
PRU *e* 11 21 22.4
PRU Pruhonice 82.68 323 *eP* **P** 11 20 46.0 -0.3
PRU *ep*P **pP** 11 21 22.4 +3.1
PRA Prague 82.69 323 P **P** 11 20 46.0 -0.4
SKO Skopje 82.72 313 P **P** 11 20 46.0 -0.7
CLL Collm 82.76 324⇓ *iP* **P** 11 20 46.6 -0.1
CLL *i* *PP **pP** 11 21 22.0 +2.3
CLL pmax pmax
comp=Z,21nm,0.7s
CLL Collm 82.76 324 *eP* **P** 11 20 45.7 -1.0
comp=Z,28nm,1.0s
CLL *ep*P **pP** 11 21 21.2 +1.5
CLL Collm 82.76 324⇓ *iP* **P** 11 20 46.6 -0.1
comp=Z,21nm,0.7s
CLL *i* (PcP) **PcP** 11 20 49.0 -2.3
comp=Z,28nm,1.0s
CLL *i* pP **pP** 11 21 22.0 +2.3
CLL *es*P sP 11 21 39.0 +5.4
CLL *e*PP **PP** 11 23 58.0 +0.1
CLL *ep*PP 11 24 26.0
CLL *e*PPPP 11 27 09.0
CLL *e*S **SKKSac** 11 31 00.0 -0.1
LIT Litokhoron 82.94 311 P **P** 11 20 47.1 -0.8
FYTO Fytoko, Volos 82.97 311 P P 11 20 44.3 -3.7
CONA Conrad Observa 83.06 321 *i* P **P** 11 20 48.9 +0.4
comp=Z,31nm,1.3s,SNR=13
LAST Lasithi 83.20 306 P **P** 11 20 49.1 -0.3
IVA Berane 83.27 315⇓ *iP* **P** 11 20 49.6 0.0
FNA Florina 83.35 312 P **P** 11 20 49.1 -0.9
PLE Pljevlja 83.36 315 *eP* **P** 11 20 49.8 -0.3
PVY Plav 83.37 315⇓ *iP* **P** 11 20 49.3 -0.9
NRDL Niedersach Rie 83.54 327 *eP* **P** 11 20 50.0 -0.6
comp=Z,135nm,2.1s
TANN Tannenbergstha 83.55 324 *eP* **P** 11 20 50.0 -0.9
comp=Z,54nm,1.6s
IDI Anoyia 83.57 306 P **P** 11 20 49.6 -1.6
IDI Anoyia 83.57 306 P **P** 11 20 49.6 -1.6
comp=Z,17nm,0.5s,baz=20,slow=12,SNR=19
NKC Novy Kostel 83.66 324 *eP* **P** 11 20 51.4 0.0
NKC *e* 11 21 27.5
NKC Novy Kostel 83.66 324 *eP* **P** 11 20 51.4 0.0
NKC *ep*P **pP** 11 21 27.5 +3.0
KHC Kasperske Hory 83.67 322 *eP* **P** 11 20 51.7 +0.2
KHC *e**PP **pP** 11 21 27.9 +3.3
KHC pmax pmax
comp=Z,34nm,1.4s
KHC Kasperske Hory 83.67 322 *eP* **P** 11 20 51.2 -0.3
KHC *ep*P **pP** 11 21 27.6 +3.0
KHC Kasperske Hory 83.67 322 *eP* **P** 11 20 51.7 +0.2
comp=Z,34nm,1.4s
KHC *ep*P **pP** 11 21 27.9 +3.3
DID Didima 83.68 309 P **P** 11 20 49.2 -2.6
RPW Rockport 83.69 38 P **P** 11 20 52.1 +0.5
MAKR Makrakomi, Fth 83.71 311 P **P** 11 20 50.3 -1.6
UPM Unac-Piva 83.72 315⇓ *iP* **P** 11 20 51.1 -1.0
NEST Nestorio 83.75 312 P **P** 11 20 51.0 -1.1
GEC2 GERESS Array S 83.77 322 *eP* **P** 11 20 51.0 -1.1
comp=Z,64nm,1.7s
GERES GERESS Array B 83.77 322 P **P** 11 20 51.9 -0.1
GERES *ep*P **pP** 11 21 27.6 +2.5
GERES PKKPbc **PKKPbc** 11 39 06.9 -1.2
GERES GERESS Array B 83.77 322 P **P** 11 20 51.9 -0.1
comp=Z,7.0nm,0.6s,baz=51,slow=5.2,SNR=76
GERES *ep*P **pP** 11 21 27.6 +2.5
comp=Z,6.9nm,1.0s,baz=57,slow=4.9,SNR=3.7
GERES PKKPbc **PKKPbc** 11 39 06.9 -1.2
comp=Z,0.4nm,0.6s,baz=196,slow=2.9,SNR=4.2
CLZ Clausthal 83.80 326 *eP* **P** 11 20 51.4 -0.7
comp=Z,83nm,1.4s
CLZ *ep*P **pP** 11 21 27.1 +1.9
NKY Niksic 83.87 315⇓ *iP* **P** 11 20 52.6 -0.1
PDG Podgorica 83.90 315 P **P** 11 20 52.4 -0.3
TTG Podgorica 83.90 315⇓ *iP* **P** 11 20 52.3 -0.4
MOA Molln 84.01 321⇑ *iP* **P** 11 20 53.3 +0.1
comp=Z,9.4nm,0.7s
ROTZ Rotzenmuhle 84.05 323 *eP* **P** 11 20 52.8 -0.6
comp=Z,91nm,1.6s
DRME Dracevica, Mon 84.07 314⇓ *iP* **P** 11 20 53.7 +0.1
GUR Goura 84.09 310 P **P** 11 20 51.4 -2.6
BRY Bratogost 84.11 315 *eP* **P** 11 20 53.2 -0.8
F04D Rainier, OR 84.14 41⇑ P **P** 11 20 54.8 +0.9
baz=84
ULC Ulcinj 84.14 314 *eP* **P** 11 20 52.6 -1.4
PERS Pernice 84.19 320 *eP* **P** 11 20 53.8 -0.4
PERS *ep*P **pP** 11 21 29.9 +2.5
BUM Brajici-Budva 84.19 315 *eP* **P** 11 20 53.4 -0.9
LAKA Lakka 84.20 310 P **P** 11 20 52.9 -1.5
SOKA Soboth 84.22 320 *i* P **P** 11 20 54.2 -0.1
comp=Z,19nm,0.6s,SNR=10
ILULI Ilulissat 84.30 359 *i* P **P** 11 20 53.6 -0.6
ILULI pmax pmax
comp=Z,29nm,0.8s
ILULI Ilulissat 84.30 359 *i* P **P** 11 20 53.6 -0.6
comp=Z,29nm,0.8s
VLX Vlachokerasia 84.35 309 P **P** 11 20 53.5 -1.7

HCY Herceg Novi 84.37 315⇓ *iP* **P** 11 20 54.3 -0.8
LON Longmire 84.47 40 *eP* **P** 11 20 56.1 +0.5
LON pmax pmax
comp=Z,24nm,1.1s
LON Longmire 84.47 40 *eP* **P** 11 20 56.0 +0.5
comp=Z,24nm,1.1s
DRO Drossia 84.52 310 P **P** 11 20 55.7 -0.3
NLW Nelson Butte 84.55 38 P **P** 11 20 56.7 +0.6
PDO Prodromos 84.56 311 P **P** 11 20 55.2 -1.0
OBKA Obir 84.59 320⇓ *iP* **P** 11 20 55.8 -0.4
comp=Z,14nm,0.6s
UBBA Unterbreizbach 84.59 325 *eP* **P** 11 20 55.0 -0.9
comp=Z,92nm,1.8s
GRF Grafenberg Arr 84.62 324 *eP* **P** 11 20 55.5 -0.7
comp=Z,209nm,1.7s
COR Corvallis 84.77 42 *eP* **P** 11 20 58.9 +1.9
COR Corvallis 84.77 42 *eP* **P** 11 20 58.9 +1.9
IBBN Ibbenburen 84.80 327 *eP* **P** 11 20 57.0 -0.1
comp=Z,54nm,1.2s
LKD2 Lefkada island 84.82 311 P **P** 11 20 56.5 -1.0
LJU Ljubljana 84.86 320 *eP* **P** 11 20 57.0 -0.5
KBA Koelnbreinsper 84.95 321⇑ *iPcP* **P** 11 20 58.1 -0.1
comp=Z,17nm,1.0s
WTV Waterville 84.98 38 P **P** 11 20 58.4 +0.3
PYL PYLOS 85.02 309 P **P** 11 20 57.1 -1.4
EDM Edmonton 85.03 31 *eP* **P** 11 20 58.8 +0.5
EDM Edmonton 85.03 31 *eP* **P** 11 20 58.8 +0.5
GULW Guler Mountain 85.05 40 P **P** 11 20 59.5 +0.9
EBG Ellensburg 85.08 39 P **P** 11 20 59.6 +0.9
VOJS Vojsko 85.23 320 *eP* **P** 11 20 58.5 -1.0
VOJS *i* pP **pP** 11 21 35.0 +2.2
SAW Saint Andrews 85.29 38 P **P** 11 21 00.0 +0.3
FUR Furstenfeldbru 85.48 323 *eP* **P** 11 20 59.9 -0.7
comp=Z,447nm,2.1s
BUG Bochum–Univer 85.58 327 *eP* **P** 11 21 01.0 +0.1
G05D Wamic, OR 85.59 41⇓ P **P** 11 21 02.1 +0.9
baz=85
ABTA Abfaltersbach 85.61 321⇓ *iP* **P** 11 21 00.1 -1.2
comp=Z,38nm,1.4s,SNR=8.5
I04A Tendick Farm, 85.74 43 P **P** 11 21 02.6 +0.6
baz=86
TNS Taunus Mts 85.74 325 *eP* **P** 11 21 00.9 -1.0
comp=Z,28nm,1.3s
GBB Gable Butte 85.79 39 P **P** 11 21 02.9 +0.9
WATA Walderalm 85.80 322⇑ *iP* **P** 11 21 01.5 -0.8
comp=Z,8.9nm,0.5s
WTTA Wattenberg 85.81 322 *i* P **P** 11 21 01.9 -0.5
comp=Z,58nm,1.3s,SNR=11
OD2 Odessa Site #2 85.85 38 P **P** 11 21 02.8 +0.4
HAWA Hanford 85.97 39 *eP* **P** 11 21 03.7 +0.7
comp=Z,78nm,1.5s
HAWA *ep*P **pP** 11 21 35.9 -0.4
MOTA Moosalm 86.05 322⇑ *iPcP* **P** 11 21 03.3 -0.3
comp=Z,12nm,0.6s,SNR=9.9
HUMO Hull Mountain 86.05 44 *eP* **P** 11 21 04.6 +1.1
comp=Z,18nm,0.6s
I05D Terrebonne, OR 86.08 42⇓ P **P** 11 21 04.6 +0.9
baz=86
RETA Reutte 86.16 322⇓ *iPcP* **P** 11 21 03.8 -0.2
comp=Z,6.1nm,0.6s
NEW Newport 86.20 37 *eP* **P** 11 21 04.7 +0.6
comp=Z,13nm,0.6s
NEW Newport 86.20 37⇓ P **P** 11 21 04.6 +0.5
baz=86
J04D Umpqua Nationa 86.23 43 P **P** 11 21 05.4 +0.8
baz=86
STU Stuttgart 86.23 324 *eP* **P** 11 21 02.9 -1.4
comp=Z,108nm,1.9s
FETA Feichten 86.45 322⇓ *iPcP* **P** 11 21 05.1 -0.5
comp=Z,36nm,1.2s,SNR=6.2
SFJD Kangerlussuaq 86.52 359 *i* P **P** 11 21 04.6 -0.6
comp=Z,30nm,0.6s
SFJD Kangerlussuaq 86.52 359 *eP* **P** 11 21 04.7 -0.6
comp=Z,44nm,0.5s
YBH Yreka Blue Hor 86.69 44 *eP* **P** 11 21 07.8 +1.0
comp=Z,91nm,1.8s
J05D Fort Rock, OR 86.73 43 P **P** 11 21 08.1 +1.1
baz=87
DAVA Damuels 86.76 322⇑ *iP* **P** 11 21 05.7 -1.3
comp=Z,39nm,1.4s
LAMM Antelope Mount 86.81 45 P **P** 11 21 08.1 +0.7
BFO Black Forest 86.96 324 *eP* **P** 11 21 06.4 -1.4
comp=Z,116nm,1.9s
DAVOX Davos/Dischmat 87.06 322 P **P** 11 21 08.7 +0.1
DAVOX pP **pP** 11 21 43.5 +1.6
DAVOX Davos/Dischmat 87.06 322 P **P** 11 21 08.7 +0.1
comp=Z,20nm,0.9s,baz=8.6,slow=4.7,SNR=15
DAVOX pP **pP** 11 21 43.5 +1.6
comp=Z,21nm,0.9s,baz=49,slow=2.9,SNR=6.0
N02D Trinity Center 87.10 45⇑ P **P** 11 21 09.6 +0.8
baz=87
M04C Macdoel 87.20 44⇑ P **P** 11 21 10.1 +0.8
baz=87
TIP Timpagrande 87.22 313 *eP* **P** 11 21 08.8 -0.5
comp=Z,17nm,1.1s
WLF Walferdange 87.25 326 *eP* **P** 11 21 08.6 -0.5
comp=Z,61nm,1.7s
WALA Waterton Lakes 87.39 35 *eP* **P** 11 21 10.8 +0.7
comp=Z,2.0nm,1.2s
WALA *ep*P **pP** 11 21 43.0 -0.4
TUE Stuetta 87.54 322 *eP* **P** 11 21 10.0 -0.9
comp=Z,191nm,0.3s
EKA Eskdalemuir Ar 87.57 334 P **P** 11 21 09.5 -1.1
EKA Eskdalemuir Ar 87.57 334 P **P** 11 21 09.5 -1.1
comp=Z,2.2nm,0.4s,baz=40,slow=3.9,SNR=14
GIVF Givet 87.63 327 *eP* **P** 11 21 10.2 -0.7
GIVF Givet 87.63 327 *eP* **P** 11 21 10.2 -0.7
GIVF Givet 87.63 327 *eP* **P** 11 21 10.2 -0.7
BSMT Bassoo Peak 87.69 36 P **P** 11 21 12.7 +1.1
BLMT Blacktail Moun 87.81 36 *eP* **P** 11 21 13.0 +0.8
comp=Z,11nm,0.5s
BLMT *ep*P **pP** 11 21 41.6 -3.9
BLMT *es*P **sP** 11 21 56.0 -3.4
BAIF Baives 87.96 327 *eP* **P** 11 21 11.6 -0.9
BAIF Baives 87.96 327 *eP* **P** 11 21 11.6 -0.9
BAIF Baives 87.96 327 *eP* **P** 11 21 11.6 -0.9
JTMT Jette 88.02 36 *eP* **P** 11 21 14.0 +0.9
comp=Z,9.0nm,0.5s
JTMT *ep*P **pP** 11 21 46.1 -0.4
HINF Hinteralfeld 88.05 324 *eP* **P** 11 21 11.7 -1.4
comp=Z,10.0nm,0.8s
HINF Hinteralfeld 88.05 324 *eP* **P** 11 21 11.7 -1.4
HINF pmax pmax
comp=Z,10.0nm,0.8s
HINF Hinteralfeld 88.05 324 *eP* **P** 11 21 11.7 -1.4
comp=Z,10.0nm,0.8s
MOD Modoc 88.08 43 *eP* **P** 11 21 14.2 +0.7
comp=Z,45nm,1.0s
YBMT Yellow Bay 88.09 36 *eP* **P** 11 21 14.1 +0.7
comp=Z,6.8nm,0.6s
PAGF Fort de Pagny 88.17 325 *eP* **P** 11 21 12.9 -0.7
PAGF Fort de Pagny 88.17 325 *eP* **P** 11 21 12.9 -0.7
CEL Celeste 88.28 312 *eP* **P** 11 21 14.3 -0.1
comp=Z,48nm,0.9s
SWMT Swartz Lake 88.32 36 *eP* **P** 11 21 15.0 +0.6
comp=Z,18nm,0.5s
SWMT *ep*P **pP** 11 21 50.6 +2.7
FCC Fort Churchill 88.42 20 *eP* **P** 11 21 14.0 -0.5
FCC *e**PP **pP** 11 21 48.0 0.0
FCC pmax pmax
comp=Z,1.0nm,0.7s
FCC Fort Churchill 88.42 20 *eP* **P** 11 21 14.0 -0.5
comp=Z,1.5nm,0.7s
FCC *ep*P **pP** 11 21 48.0 0.0
SFTF Sexfontaines 88.75 325 *eP* **P** 11 21 16.1 -0.2
SFTF Sexfontaines 88.75 325 *eP* **P** 11 21 16.1 -0.2
MSO Missoula 88.78 37⇑ P **P** 11 21 17.2 +0.6
baz=89
WVOR Wild Horse Val 88.79 42 *eP* **P** 11 21 17.3 +0.5
WVOR pmax pmax
comp=Z,84nm,1.8s
WVOR Wild Horse Val 88.79 42 *eP* **P** 11 21 17.3 +0.5
comp=Z,84nm,1.8s
FFC Flin Flon 88.86 26 P **P** 11 21 16.0 -0.7
comp=Z,416nm,0.7s,SNR=36
BEKR Beckworth 89.21 45 *eP* **P** 11 21 18.6 -0.3
comp=Z,7.5nm,0.9s
BEKR *ep*P **pP** 11 21 52.1 -0.2
CABF La Chapelle 89.22 323 *eP* **P** 11 21 18.0 -0.7
CABF La Chapelle 89.22 323 *eP* **P** 11 21 18.0 -0.7
CABF La Chapelle 89.22 323 *eP* **P** 11 21 18.0 -0.7
LPL La Plagne 89.56 322 *eP* **P** 11 21 19.8 -0.7
comp=Z,20nm,0.6s
LPL La Plagne 89.56 322 *eP* **P** 11 21 19.8 -0.7
LPL pmax pmax
comp=Z,21nm,0.6s
LPL La Plagne 89.56 322 *eP* **P** 11 21 19.8 -0.7
comp=Z,20nm,0.6s
LPG La Plagne 89.57 322 *eP* **P** 11 21 19.9 -0.6
comp=Z,22nm,0.7s
LPG La Plagne 89.57 322 *eP* **P** 11 21 19.9 -0.6
LPG pmax pmax
comp=Z,22nm,0.7s
LPG La Plagne 89.57 322 *eP* **P** 11 21 19.9 -0.6
comp=Z,22nm,0.7s
KMBO Kilima Mbogo 89.70 269 *eP* **P** 11 21 22.2 +0.5
comp=Z,7.2nm,0.6s
KMBO Kilima Mbogo 89.70 269 P **P** 11 21 22.4 +0.7
comp=Z,7.1nm,0.6s,baz=52,slow=7.7,SNR=25
MFID Camas Ranch 89.85 40 *eP* **P** 11 21 22.5 +0.8
comp=Z,94nm,1.5s
MFID *ep*P **pP** 11 21 53.2 -2.0
HRY Holter Researc 89.97 36 *eP* **P** 11 21 23.0 +0.8
comp=Z,46nm,0.5s
HRY *ep*P **pP** 11 21 59.0 +3.3
MBDF Montbardon 90.04 322 *eP* **P** 11 21 21.8 -0.8
MBDF Montbardon 90.04 322 *eP* **P** 11 21 21.8 -0.8
MBDF Montbardon 90.04 322 *eP* **P** 11 21 21.8 -0.8
A19A Klindworth Far 90.05 33⇓ P **P** 11 21 22.9 +0.5
baz=90,SNR=17
PGF Pioggiola 90.11 319 *eP* **P** 11 21 22.7 -0.2
comp=Z,85nm,1.0s
PGF Pioggiola 90.11 319 *eP* **P** 11 21 22.7 -0.2
PGF pmax pmax
comp=Z,85nm,1.0s
PGF Pioggiola 90.11 319 *eP* **P** 11 21 22.7 -0.2
comp=Z,85nm,1.0s
EGMT Eagleton 90.16 34 *eP* **P** 11 21 23.3 +0.3
comp=Z,32nm,0.6s
EGMT *ep*P **pP** 11 21 54.5 -2.0
EGMT Eagleton 90.16 34⇑ P **P** 11 21 23.3 +0.3
baz=90,SNR=26
SBF Sospel 90.21 321 *eP* **P** 11 21 22.7 -0.6
comp=Z,66nm,0.7s
SBF Sospel 90.21 321 *eP* **P** 11 21 22.7 -0.6
SBF pmax pmax
comp=Z,66nm,0.7s
SBF Sospel 90.21 321 *eP* **P** 11 21 22.7 -0.6
comp=Z,66nm,0.7s
LRM Limekiln Ridge 90.22 37 *eP* **P** 11 21 24.4 +0.8
comp=Z,258nm,1.1s
LRM *ep*P **pP** 11 21 55.7 -1.3
CMB Columbia Colle 90.23 47 *eP* **P** 11 21 25.9 +2.4
CMB pmax pmax
comp=Z,16nm,1.0s
CMB Columbia Colle 90.23 47 *eP* **P** 11 21 25.9 +2.4
comp=Z,16nm,1.0s
B19A Brinkman Farms 90.27 33⇓ P **P** 11 21 23.7 +0.2
baz=90,SNR=8.3
SMF Signal de Mont 90.38 324 *eP* **P** 11 21 22.5 -1.5
SMF Signal de Mont 90.38 324 *eP* **P** 11 21 22.5 -1.5
SMF Signal de Mont 90.38 324 *eP* **P** 11 21 22.5 -1.5
ORIF Oris-en-Rattie 90.41 322 *eP* **P** 11 21 24.3 +0.1
comp=Z,7.6nm,0.6s
ORIF Oris-en-Rattie 90.41 322 *eP* **P** 11 21 24.3 +0.1
ORIF pmax pmax
comp=Z,8.0nm,0.6s
ORIF Oris-en-Rattie 90.41 322 *eP* **P** 11 21 24.3 +0.1
comp=Z,7.6nm,0.6s
A20A Cobblestone Ra 90.47 32⇑ P **P** 11 21 24.4 0.0
baz=90,SNR=11
AVF Avril sur Loir 90.54 325 *eP* **P** 11 21 23.3 -1.4
AVF Avril sur Loir 90.54 325 *eP* **P** 11 21 23.3 -1.4
AVF Avril sur Loir 90.54 325 *eP* **P** 11 21 23.3 -1.4
HLID Hailey 90.57 39 *eP* **P** 11 21 26.5 +1.4
comp=Z,94nm,1.5s
HLID *ep*P **pP** 11 22 02.0 +3.3
HLID Hailey 90.57 39⇑ P **P** 11 21 26.2 +1.0
baz=90
WAKR Walker 90.58 46 *eP* **P** 11 21 26.1 +0.8
comp=Z,6.6nm,0.6s
WAKR *ep*P **pP** 11 21 59.9 +1.1
MCMT McKenzie Canyo 90.64 38 *eP* **P** 11 21 26.0 +0.5
comp=Z,4.5nm,0.7s
C19A Slack Wire Ran 90.71 34⇓ P **P** 11 21 26.1 +0.6
baz=90,SNR=19
B20A Solberg Farm, 90.73 33⇓ P **P** 11 21 25.9 +0.2
baz=90,SNR=22
BOZ Bozeman (W) 90.77 37 *eP* **P** 11 21 27.2 +1.2
BOZ pmax pmax
comp=Z,14nm,0.6s
BOZ Bozeman (W) 90.77 37 *eP* **P** 11 21 27.2 +1.2
comp=Z,14nm,0.6s
BMN Battle Mountai 90.83 43 *eP* **P** 11 21 27.9 +1.5
BMN *e**PP **pP** 11 22 03.2 +3.3
BMN pmax pmax
comp=Z,15nm,1.0s
BMN Battle Mountai 90.83 43 *eP* **P** 11 21 27.9 +1.5
comp=Z,15nm,1.0s
BMN *ep*P **pP** 11 22 03.2 +3.3
FRF La Foret Royal 90.84 321 *eP* **P** 11 21 25.6 -0.6
comp=Z,22nm,0.7s
FRF La Foret Royal 90.84 321 *eP* **P** 11 21 25.6 -0.6
FRF pmax pmax
comp=Z,22nm,0.7s
FRF La Foret Royal 90.84 321 *eP* **P** 11 21 25.6 -0.6
comp=Z,22nm,0.7s
A21A Bergtoll Ranch 90.87 32⇑ P **P** 11 21 26.5 +0.2
baz=91,SNR=35
LDF La Druitiere 91.04 328 *eP* **P** 11 21 26.8 -0.1
comp=Z,7.5nm,0.7s
LDF La Druitiere 91.04 328 *eP* **P** 11 21 26.8 -0.1
LDF pmax pmax
comp=Z,8.0nm,0.7s
LDF La Druitiere 91.04 328 *eP* **P** 11 21 26.8 -0.1
comp=Z,7.5nm,0.7s
LMR La Mourre 91.06 321 *eP* **P** 11 21 27.0 -0.2
LMR La Mourre 91.06 321 *eP* **P** 11 21 27.0 -0.2
LMR La Mourre 91.06 321 *eP* **P** 11 21 27.0 -0.2
VIVF Saint-Julien-l 91.11 323 *eP* **P** 11 21 25.7 -1.7
comp=Z,15nm,0.8s
VIVF Saint-Julien-l 91.11 323 *eP* **P** 11 21 25.7 -1.7
VIVF pmax pmax
comp=Z,15nm,0.8s
VIVF Saint-Julien-l 91.11 323 *eP* **P** 11 21 25.7 -1.7
comp=Z,15nm,0.8s
D19A Cripps Ranch, 91.18 34⇓ P **P** 11 21 28.3 +0.5
baz=91,SNR=27
B21A Ellsworth Farm 91.22 32⇑ P **P** 11 21 28.0 +0.1
baz=91,SNR=12
C20A Veseth Ranch, 91.24 33⇑ P **P** 11 21 28.7 +0.7
baz=91,SNR=21
NVAR Mina Array Bea 91.34 45 P **P** 11 21 29.6 +0.8
NVAR pP **pP** 11 22 01.9 -0.4
NVAR Mina Array Bea 91.34 45 P **P** 11 21 29.6 +0.8
comp=Z,3.9nm,0.5s,baz=301,slow=5.8,SNR=42
NVAR pP **pP** 11 22 01.9 -0.4
comp=Z,3.4nm,0.9s,baz=283,slow=5.5,SNR=2.0
A22A Carney Farms, 91.35 31⇓ P **P** 11 21 28.6 +0.1
baz=91,SNR=26
QLMT Earthquake Lak 91.41 37 *eP* **P** 11 21 30.2 +1.1
comp=Z,3.0nm,0.6s
QLMT *ep*P **pP** 11 22 00.9 -1.6
D20A Manuel Ranch, 91.60 34⇑ P **P** 11 21 30.4 +0.7
baz=91,SNR=22
E19A Rath Farm, Rou 91.70 35⇓ P **P** 11 21 31.0 +0.8
baz=92,SNR=16
YMR Madison River 91.76 37 *eP* **P** 11 21 32.2 +1.5
comp=Z,29nm,0.7s
YMR *ep*P **pP** 11 22 00.2 -4.0
B22A Reddig Ranch S 91.80 32⇑ P **P** 11 21 30.8 +0.2
baz=92,SNR=7.5
A23A Redstone 91.85 31 P **P** 11 21 31.2 +0.4
baz=92
YFT Old Faithful 91.98 37 *eP* **P** 11 21 34.6 +2.9
comp=Z,80nm,1.2s
E20A Meyer Farm, Mu 92.01 34⇑ P **P** 11 21 32.2 +0.7
baz=92,SNR=17
F19A Roth Farm, Mol 92.04 35⇓ P **P** 11 21 32.2 +0.4
baz=92,SNR=6.2
SMMC Simmler 92.04 49⇑ P **P** 11 21 33.1 +1.2
baz=92
B23A Brockton 92.15 31⇑ P **P** 11 21 32.8 +0.6
baz=92,SNR=12
H17A Grant Village 92.15 37 *eP* **P** 11 21 35.2 +2.7
comp=Z,74nm,1.2s
H17A *ep*P **pP** 11 22 10.2 +4.1
H17A Grant Village 92.15 37⇑ P **P** 11 21 35.2 +2.7
baz=92,SNR=27
D21A La Casta Ranch 92.18 33⇓ P **P** 11 21 32.7 +0.3
baz=92,SNR=26

TIN	Tinemaha	92.20	46	⇓P		P	11 21 33.4	+0.7	
	baz=92								
TPH	Tonopah	92.24	45	*e*P		P	11 21 33.6	+0.6	
TPH				pmax		pmax			
	comp=Z,48nm,1.3s								
TPH	Tonopah	92.24	45	*e*P		P	11 21 33.6	+0.6	
	comp=Z,48nm,1.3s								
C22A	Vida	92.24	32	⇓P		P	11 21 32.7	+0.1	
	baz=92,SNR=9.6								
A24A	Westby	92.28	31	⇑P		P	11 21 33.3	+0.6	
	baz=92,SNR=6.9								
VES	Vestal, Richgr	92.35	48	⇓P		P	11 21 32.6	-0.6	
	baz=92,SNR=5.4								
RLMT	Red Lodge	92.36	36	*e*P		P	11 21 34.3	+0.9	
	comp=Z,87nm,1.5s								
RLMT				*e*pP		pP	11 22 10.0	+3.0	
PKM	Peak Mountain	92.40	49	⇓P		P	11 21 34.5	+0.8	
	baz=92								
SGMF	Saint Gilles	92.43	329	*e*P		P	11 21 33.0	-0.4	
SGMF	Saint Gilles	92.43	329	*e*P		P	11 21 33.0	-0.4	
SGMF	Saint Gilles	92.43	329	*e*P		P	11 21 33.0	-0.4	
H18A	Shoshone NF, C	92.45	36	⇑P		P	11 21 34.8	+0.9	
	baz=92,SNR=21								
I17A	Pilgrim Ck.	92.47	37	P		P	11 21 35.8	+1.8	
	baz=92								
F20A	Billings	92.48	35	⇑P		P	11 21 33.9	+0.1	
	baz=92,SNR=10.0								
E21A	Keefer Ranch,	92.51	34	⇑P		P	11 21 33.9	0.0	
	baz=92								
DGMT	Dagmar	92.52	31	*e*P		P	11 21 34.1	+0.2	
	comp=Z,79nm,1.4s								
DGMT	Dagmar	92.52	31	⇑P		P	11 21 34.1	+0.2	
	baz=92,SNR=9.4								
D22A	Cohagen	92.52	33	⇑P		P	11 21 34.5	+0.6	
	baz=92,SNR=8.0								
C23A	Lambert	92.53	32	⇑P		P	11 21 34.4	+0.4	
	baz=92,SNR=7.5								
HVU	Hansel Valley	92.63	40	*e*P		P	11 21 35.1	+0.4	
HVU				*e**PP		pP	11 22 06.8	-1.4	
HVU				pmax		pmax			
	comp=Z,62nm,1.3s								
HVU	Hansel Valley	92.63	40	*e*P		P	11 21 35.1	+0.4	
	comp=Z,62nm,1.3s								
HVU				*e*pP		pP	11 22 06.8	-1.4	
PPT	Papeete	92.64	108	LR		LR	11 56 43.0		
	comp=Z,627nm,19.8s,baz=122,slow=31								
PPT2	Papeete2	92.65	108	*e*LR		LR	11 51 18.6		
	comp=Z,3μm,34.5s								
A25A	Svangstu Ranch	92.67	30	⇓P		P	11 21 35.0	+0.5	
	baz=92								
ROSF	Rostrenen	92.70	329	*e*P		P	11 21 34.3	-0.3	
	comp=Z,9.9nm,0.5s								
ROSF	Rostrenen	92.70	329	*e*P		P	11 21 34.3	-0.3	
ROSF				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ROSF	Rostrenen	92.70	329	*e*P		P	11 21 34.3	-0.3	
	comp=Z,9.9nm,0.5s								
SBC	Santa Barbara	92.73	49	⇓P		P	11 21 36.2	+1.1	
	baz=93								
H19A	Powell	92.81	36	⇓P		P	11 21 36.4	+0.9	
	baz=93,SNR=12								
LAO	LASA Array	92.83	33	*e*P		P	11 21 35.6	+0.3	
	comp=Z,43nm,1.2s								
G20A	Bridger	92.84	35	⇑P		P	11 21 35.7	+0.2	
	baz=93								
ARVC	Arvin	92.93	48	⇑P		P	11 21 36.3	+0.3	
	baz=93								
BSC	Santa Cruz Isl	93.04	49	⇑P		P	11 21 37.0	+0.4	
	baz=93								
C24A	Savage	93.09	32	⇓P		P	11 21 36.9	+0.4	
	baz=93								
R11A	Troy Canyon, C	93.10	44	⇓P		P	11 21 37.4	+0.5	
	baz=93,SNR=14								
B25A	Knox Farm, Ray	93.13	31	⇑P		P	11 21 37.6	+0.9	
	baz=93,SNR=9.9								
E22A	Miles City	93.14	33	⇓P		P	11 21 37.3	+0.5	
	baz=93								
A26A	Wade Farm, Ken	93.18	30	⇓P		P	11 21 36.9	+0.1	
	baz=93,SNR=5.1								
I19A	Meeteetse	93.24	36	⇓P		P	11 21 37.9	+0.4	
	baz=93								
MPMC	Manual Prospec	93.27	47	⇑P		P	11 21 38.2	+0.4	
	baz=93,SNR=18								
OSI	Osito Adit	93.30	49	*e*P		P	11 21 38.8	+1.1	
	comp=Z,15nm,0.6s								
OSI	Osito Adit	93.30	49	⇓P		P	11 21 38.5	+0.7	
	baz=93								
G21A	Lodge Grass	93.36	35	⇓P		P	11 21 38.1	+0.2	
	baz=93								
FURC	Furnace Creek,	93.43	46	⇓P		P	11 21 38.8	+0.6	
	baz=93,SNR=12								
D24A	Glendive	93.43	32	⇑P		P	11 21 38.5	+0.4	
	baz=93,SNR=8.5								
F22A	Rosebud	93.45	34	⇓P		P	11 21 38.5	+0.2	
	baz=93								
H20A	Greybull	93.46	36	⇓P		P	11 21 38.4	+0.1	
	baz=93,SNR=9.4								
B26A	Jensen Ranch,	93.47	30	⇓P		P	11 21 38.4	+0.2	
	baz=93								
LRMC	Laurel Mountai	93.48	47	⇑P		P	11 21 38.7	0.0	
	baz=93,SNR=11								
C25A	Freed Ranch, W	93.50	31	⇓P		P	11 21 39.1	+0.7	
	baz=93,SNR=7.4								
TPNV	Topopah Spring	93.53	45	⇑P		P	11 21 39.1	+0.2	
	baz=93,SNR=11								
DUG	Dugway	93.62	41	*e*P		P	11 21 39.9	+0.6	
DUG				*e**PP		pP	11 22 16.0	+3.2	
DUG				pmax		pmax			
	comp=Z,57nm,1.6s								
DUG	Dugway	93.62	41	*e*P		P	11 21 39.9	+0.6	
	comp=Z,57nm,1.6s								
DUG				*e*pP		pP	11 22 15.9	+3.2	
DUG	Dugway	93.62	41	⇑P		P	11 21 40.1	+0.9	
	baz=93,SNR=17								
EDW2	Edwards Air Fo	93.63	48	⇓P		P	11 21 39.6	+0.3	
	baz=94,SNR=11								
J19A	Crowheart	93.73	37	⇑P		P	11 21 40.3	+0.6	
	baz=94,SNR=6.9								
I20A	Worland	93.76	36	⇑P		P	11 21 40.3	+0.5	
	baz=94,SNR=7.8								
DECC	Green Verdugo	93.78	49	⇓P		P	11 21 40.3	+0.4	
	baz=94								
PDAR	Pinedale Array	93.79	38	P		P	11 21 40.0	-0.1	
PDAR				pP		pP	11 22 12.5	-1.1	
PDAR	Pinedale Array	93.79	38	P		P	11 21 40.0	-0.1	
	comp=Z,4.0nm,0.7s,baz=202,slow=0.7,SNR=39								
PDAR				pP		pP	11 22 12.5	-1.1	
	comp=Z,7.2nm,1.2s,baz=294,slow=4.4,SNR=3.3								
G22A	Birney	93.82	34	⇑P		P	11 21 40.1	+0.1	
	baz=94,SNR=7.2								
E24A	Baker	93.84	32	⇓P		P	11 21 40.4	+0.4	
	baz=94								
H21A	Big Horn, Sher	93.85	35	⇓P		P	11 21 40.5	+0.3	
	baz=94								
D25A	Fairfield	93.88	31	⇓P		P	11 21 41.1	+0.9	
	baz=94								
F23A	Volborg	93.91	33	⇓P		P	11 21 40.5	+0.1	
	baz=94,SNR=10								
A28A	Rude Farm, Bot	93.94	29	⇓P		P	11 21 40.7	+0.3	
	baz=94								
C26A	Wahner Farm, P	93.95	30	⇑P		P	11 21 40.3	-0.1	
	baz=94,SNR=5.2								
SHOC	Shoshone	94.15	46	⇓P		P	11 21 41.9	+0.3	
	baz=94,SNR=5.5								
GSC	Goldstone	94.16	47	*e*P		P	11 21 42.2	+0.4	
GSC				pmax		pmax			
	comp=Z,27nm,1.1s								
GSC	Goldstone	94.16	47	*e*P		P	11 21 42.1	+0.4	
	comp=Z,28nm,1.1s								
GSC	Goldstone	94.16	47	⇑P		P	11 21 42.1	+0.3	
	baz=94,SNR=11								
J20A	Shoshoni	94.19	37	⇓P		P	11 21 42.1	+0.4	
	baz=94,SNR=8.4								
H22A	Clearmont	94.23	35	⇑P		P	11 21 42.1	+0.2	
	baz=94								
BFSC	Mount Baldy Ra	94.23	48	⇓P		P	11 21 41.9	-0.3	
	baz=94,SNR=5.5								
B28A	Dugan Ranch, T	94.25	29	⇓P		P	11 21 42.2	+0.4	
	baz=94								
G23A	Biddle	94.29	34	⇑P		P	11 21 42.2	+0.1	
	baz=94,SNR=6.9								
I21A	Big Trails, Te	94.29	36	⇓P		P	11 21 42.2	0.0	
	baz=94,SNR=6.8								
F24A	Ekalaka	94.29	33	⇑P		P	11 21 42.1	-0.1	
	baz=94,SNR=7.4								
C27A	Sayler Ranch,	94.30	30	⇑P		P	11 21 42.3	+0.3	
	baz=94								
E25A	Miller Ranch,	94.32	32	⇑P		P	11 21 42.4	+0.2	
	baz=94								
A29A	Manning Farm,	94.37	28	⇑P		P	11 21 42.3	-0.1	
	baz=94								
SCI	San Clemente I	94.37	50	⇑P		P	11 21 42.6	-0.1	
	baz=94								
D26A	Manning	94.38	31	⇑P		P	11 21 43.0	+0.5	
	baz=94								
DAU	Daniels Canyon	94.39	40	*e*P		P	11 21 44.3	+1.3	
DAU				*e**PP		pP	11 22 20.2	+3.6	
DAU				pmax		pmax			
	comp=Z,19nm,1.0s								
DAU	Daniels Canyon	94.39	40	*e*P		P	11 21 44.3	+1.3	
	comp=Z,20nm,1.0s								
DAU				*e*pP		pP	11 22 20.2	+3.6	
SHPR	Sheep Range	94.50	45	*e*P		P	11 21 44.2	+0.8	
	comp=Z,99nm,2.0s								
J21A	Lysite	94.53	36	⇓P		P	11 21 43.8	+0.3	
	baz=94,SNR=11								
I22A	9 Mile Ranch,	94.65	35	⇑P		P	11 21 43.8	-0.1	
	baz=94								
TUQ	Turquoise Moun	94.66	46	⇓P		P	11 21 44.6	+0.5	
	baz=94								
G24A	Alzada	94.68	33	⇑P		P	11 21 44.1	+0.2	
	baz=94								
ULM	Lac du Bonnet	94.69	26	P		P	11 21 43.0	-0.7	
ULM	Lac du Bonnet	94.69	26	P		P	11 21 43.0	-0.7	
	comp=Z,8.8nm,0.6s,baz=329,slow=4.9,SNR=17								
BBRC	Big Bear Solar	94.71	48	⇓P		P	11 21 44.2	-0.3	
	baz=95								
F25A	Bowman	94.71	32	⇓P		P	11 21 44.5	+0.5	
	baz=94								
A30A	Hoffart Farm,	94.75	28	⇑P		P	11 21 43.8	-0.3	
	baz=94								
HEC	Hector,Ludlow	94.76	47	⇓P		P	11 21 45.0	+0.5	
	baz=95,SNR=9.2								
E26A	Carlson Angus	94.78	31	⇑P		P	11 21 44.2	-0.2	
	baz=94,SNR=5.9								
C28A	Hausauer Farms	94.79	30	⇑P		P	11 21 44.6	+0.3	
	baz=94								
MURC	Murrieta	94.92	49	⇑P		P	11 21 45.5	+0.4	
	baz=95								
J22A	Midwest	94.99	36	P		P	11 21 45.3	-0.2	
	baz=95								
H24A	Dirks Ranch, A	95.03	34	⇑P		P	11 21 45.2	-0.4	
	baz=95,SNR=5.2								
MDND	Maddock	95.03	29	⇓P		P	11 21 45.3	-0.1	
	baz=95								
B30A	Myrvik Farm, E	95.11	28	⇓P		P	11 21 45.5	-0.3	
	baz=95								
K21A	Alcova	95.13	37	⇓P		P	11 21 46.2	0.0	
	baz=95,SNR=6.5								
F26A	Lodgepole	95.14	32	⇑P		P	11 21 46.4	+0.4	
	baz=95								
E27A	Carson	95.23	31	⇓P		P	11 21 46.9	+0.6	
	baz=95								
GMRC	Granite Mounta	95.23	47	⇑P		P	11 21 47.0	+0.3	
	baz=95,SNR=8.4								
G25A	Newell	95.26	33	⇓P		P	11 21 46.7	+0.2	
	baz=95								
TBI	Tubuai	95.34	113	*e*LR		LR	11 52 05.5		
	comp=Z,886nm,37.2s								
PFO	Pinyon Flat Ob	95.41	48	*e*P		P	11 21 48.3	+0.7	
	comp=Z,21nm,1.1s								
PFO	Pinyon Flat Ob	95.41	48	⇓P		P	11 21 47.5	-0.1	
	baz=95,SNR=8.5								
F27A	Lemmon	95.43	32	⇓P		P	11 21 47.9	+0.6	
	baz=95								
BELC	Belle Mtn. Jos	95.48	48	⇓P		P	11 21 48.1	+0.2	
	baz=95,SNR=5.6								
E28A	Huff	95.52	30	⇓P		P	11 21 47.7	+0.1	
	baz=95								
H25A	Fruitdale	95.59	33	⇓P		P	11 21 48.0	-0.1	
	baz=95								
SRU	San Rafael	95.67	41	*e*P		P	11 21 49.1	+0.4	
SRU				*e**PP		pP	11 22 24.9	+2.6	
SRU				pmax		pmax			
	comp=Z,8.0nm,0.5s								
SRU	San Rafael	95.67	41	*e*P		P	11 21 49.1	+0.4	
	comp=Z,8.0nm,0.5s								
SRU				*e*pP		pP	11 22 24.9	+2.6	
RSSD	Black Hills	95.73	34	*e*P		P	11 21 49.3	+0.4	
RSSD				*e**PP		pP	11 22 19.8	-2.7	
RSSD				pmax		pmax			
	comp=Z,6.0nm,0.6s								
RSSD	Black Hills	95.73	34	*e*P		P	11 21 49.3	+0.4	
	comp=Z,6.1nm,0.6s								
RSSD				*e*pP		pP	11 22 19.8	-2.7	
N20A	Spence Gulch,	95.81	38	⇑P		P	11 21 49.4	0.0	
	baz=96,SNR=5.5								
G27A	Dupree	95.84	32	⇑P		P	11 21 49.3	+0.2	
	baz=96								
MONP	Monument Peak	95.86	49	⇑P		P	11 21 50.1	+0.3	
	baz=96,SNR=5.2								
IRM	Iron Mountain	95.94	47	⇓P		P	11 21 50.5	+0.7	
	baz=96,SNR=8.2								
I25A	Rochford	95.96	34	P		P	11 21 50.0	+0.1	
	baz=96								
D30A	Buchanan	95.97	29	⇑P		P	11 21 49.4	-0.3	
	baz=96								
L22A	Ellis Ranch, M	95.98	37	⇑P		P	11 21 50.3	+0.2	
	baz=96								
E29A	Napoleon	96.00	30	⇑P		P	11 21 49.9	+0.1	
	baz=96								
BC3	Big Chuckawall	96.05	48	⇑P		P	11 21 51.1	+0.7	
	baz=96,SNR=6.2								
W13A	Hualapai Mount	96.18	46	⇓P		P	11 21 51.4	+0.3	
	baz=96								
O20A	White River Ci	96.30	39	⇓P		P	11 21 51.2	-0.3	
	baz=96								
L23A	Garrett	96.31	36	⇓P		P	11 21 51.4	-0.2	
	baz=96								
H27A	Howes	96.32	33	⇓P		P	11 21 51.4	0.0	
	baz=96								
U15A	North Rim	96.34	44	⇑P		P	11 21 52.8	+0.8	
	baz=96,SNR=7.8								
E30A	Jud	96.37	30	⇑P		P	11 21 51.6	+0.1	
	baz=96								
F29A	Eureka	96.47	31	⇑P		P	11 21 52.3	+0.3	
	baz=96								
PDMCI	Parker Dam,Lak	96.51	46	⇑P		P	11 21 53.1	+0.7	
	baz=96								
G28A	Parade	96.54	32	⇓P		P	11 21 52.5	+0.2	
	baz=96								
Y12C	Blythe	96.60	47	⇑P		P	11 21 53.2	+0.5	
	baz=96								
I27A	Quinn	96.75	33	⇓P		P	11 21 53.7	+0.4	
	baz=96								
J26A	Sides Ranch, S	96.80	34	⇑P		P	11 21 53.8	+0.2	
	baz=97								
N22A	Wattenberg Ran	96.83	38	⇓P		P	11 21 54.8	+0.8	
	baz=97								
N23A	Red Feather La	97.04	37	⇓P		Pdif	11 21 55.4	+0.4	
	baz=97								
L25A	Engebretsen Ra	97.19	35	⇑P		Pdif	11 21 55.9	+0.4	
	baz=97								
O22A	Kremmling	97.22	38	⇓P		P	11 21 55.6	-0.2	
	baz=97								
I28A	Midland	97.23	32	⇑P		Pdif	11 21 55.6	+0.1	
	baz=97								
M24A	Cheyenne	97.23	36	⇑P		P	11 21 55.6	-0.1	
	baz=97								
G30A	Faulkton	97.32	31	⇑P		Pdif	11 21 56.0	+0.1	
	baz=97								
J27A	Elkhorn Farm,	97.37	33	⇑P		Pdif	11 21 56.2	0.0	
	baz=97								
PV01	Paradox Valley	97.46	41	*e*P		Pdif	11 21 57.5	+0.5	
	comp=Z,4μm,1.8s								
PV01				*e*pP		pP	11 22 30.6	+0.1	
Y14A	Wickenburg	97.47	46	⇑P		Pdif	11 21 57.1	+0.3	
	baz=97								
P22A	Eagle	97.50	39	⇓P		Pdif	11 21 57.1	0.0	
	baz=97								
WUAZ	Wupatki	97.50	44	⇑P		Pdif	11 21 57.6	+0.5	
	baz=97								
O23A	Lake Granby, G	97.53	38	⇑P		P	11 21 57.1	-0.1	
	baz=97								
J28A	Allard Ranch,	97.62	33	⇓P		Pdif	11 21 57.4	0.0	
	baz=97								
SCHQ	Schefferville	97.96	8	P		P	11 21 57.9	-0.5	
SCHQ	Schefferville	97.96	8	P		P	11 21 57.9	-0.5	
	comp=Z,5.2nm,0.7s,baz=18,slow=3.8,SNR=12								
J29A	Okreek	98.08	32	⇑P		P	11 21 59.0	-0.3	
	baz=98								
X16A	Lo Mia Camp, P	98.16	45	⇓P		P	11 21 59.8	-0.2	
	baz=98								
K29A	Lazy Trails An	98.57	33	⇓Pdiff		Pdif	11 22 01.8	+0.3	
	baz=98								
S22A	4UR Ranch, Cre	98.73	40	⇓Pdiff		P	11 22 02.6	0.0	
	baz=98								
R23A	Moffat	98.99	39	⇓Pdiff		Pdif	11 22 04.4	+0.6	
	baz=99								
X18A	Snowflake	99.03	44	⇑Pdiff		Pdif	11 22 04.5	+0.6	
	baz=99								
ESDC	Sonseca Array	99.31	323	P		Pdif	11 22 04.1	-0.8	
ESDC	Sonseca Array	99.31	323	P		Pdif	11 22 04.1	-0.8	
	comp=Z,0.5nm,0.4s,baz=42,slow=4.1,SNR=5.1								
Q25A	Bedland, Calha	99.36	38	⇑Pdiff		Pdif	11 22 04.9	-0.5	
	baz=99								
ECSD	EROS Data Cent	99.55	30	⇓Pdiff		Pdif	11 22 04.9	-0.9	
	baz=99								
R26A	Arlington	100.24	38	⇓Pdiff		Pdif	11 22 07.8	-1.4	
	baz=100								
V24A	Rampart Ranch,	101.03	41	⇑Pdiff		Pdif	11 22 12.8	0.0	
	baz=101								
W24A	Lazy 6 Ranch,	101.31	41	⇓Pdiff		Pdif	11 22 13.7	-0.4	
	baz=101								
W25A	X Bar L Ranch,	101.86	40	⇑Pdiff		Pdif	11 22 15.6	-0.8	
	baz=102								
426A	McDonald Obser	105.31	43	⇓PKiKP		PKiKP	11 26 44.4	-1.0	
	baz=105								
328A	Wristen Ranch,	105.55	42	⇓PKiKP		PKiKP	11 26 44.5	-1.0	
	baz=105								
427A	Hayter Ranch,	105.56	43	⇑PKiKP		PKiKP	11 26 44.5	-1.2	
	baz=105								
Z31A	Sharp Cattle R	105.70	39	⇓PKiKP		PKiKP	11 26 45.9	+0.1	
	baz=106								
428A	Kincaid Ranch,	106.09	43	⇓PKiKP		PKiKP	11 26 46.5	-0.1	
	baz=106								
TXAR	Lajitas Array	106.46	44	Pdif		Pdif	11 22 39.3	+2.3	
TXAR				PKiKP		PKiKP	11 26 47.4	0.0	
TXAR	Lajitas Array	106.46	44	Pdiff		Pdif	11 22 39.3	+2.3	
	comp=Z,0.3nm,0.5s,baz=298,slow=1.9,SNR=3.8								
TXAR				PKiKP		PKiKP	11 26 47.4	0.0	
	comp=Z,0.4nm,0.5s,baz=199,slow=2.5,SNR=4.5								
ABTX	Abilene, Hawle	106.49	39	⇓PKiKP		PKiKP	11 26 47.1	-0.1	
	baz=106								
627A	Terlingua Ranc	106.55	44	⇓PKiKP		PKiKP	11 26 47.2	-0.4	
	baz=106								
429A	Davenport Ranc	106.64	42	⇑PKiKP		PKiKP	11 26 46.9	-0.7	
	baz=106								
331A	San Angelo	107.01	41	⇓PKiKP		PKiKP	11 26 48.0	-0.3	
	baz=107								
332A	Millersview	107.35	40	⇑PKiKP		PKiKP	11 26 48.5	-0.4	
	baz=107								
RKT	Rikitea	107.39	108	*e*LR		LR	11 57 53.8		
	comp=Z,1μm,37.0s								
333A	Richland Sprin	107.83	40	⇓PKiKP		PKiKP	11 26 49.8	0.0	
	baz=108								
JCT	Junction City	107.98	41	⇓PKiKP		PKiKP	11 26 49.9	-0.2	
	baz=108								
631A	Perdido Creek	108.30	42	⇑PKiKP		PKiKP	11 26 50.4	-0.3	
	baz=108								
434A	Burnet	108.62	40	⇓PKiKP		PKiKP	11 26 51.2	0.0	
	baz=108								
632A	Uvalde	108.70	42	⇑PKiKP		PKiKP	11 26 51.5	+0.1	
	baz=108								
335A	Moody	108.74	39	⇓PKiKP		PKiKP	11 26 51.6	+0.1	
	baz=108								
633A	Saathoff Ranch	109.10	41	⇓PKiKP		PKiKP	11 26 52.6	+0.5	
	baz=109								
732A	Laxson Ranch,	109.16	42	⇑PKiKP		PKiKP	11 26 52.3	0.0	
	baz=109								
832A	Faith Ranch, C	109.48	43	⇓PKiKP		PKiKP	11 26 53.2	+0.3	
	baz=109								
833A	Chaparral WMA,	109.80	42	⇓PKiKP		PKiKP	11 26 53.5	0.0	
	baz=110								
BOSA	Boshof	111.39	248	PKiKP		PKiKP	11 26 55.6	-0.9	
BOSA	Boshof	111.39	248	PKiKP		PKiKP	11 26 55.6	-0.9	
	comp=Z,1.5nm,0.6s,baz=158,slow=5.4,SNR=4.8								
TKL	Tuckaleechee C	111.71	26	*e*PKPdf		PKiKP	11 26 56.6	-0.4	
TOA0	Torodi Ar. Sit	113.22	299	*e*PKPdf		PKiKP	11 26 59.6	-0.7	
TORD	Torodi Ar. Bea	113.22	299	PKiKP		PKiKP	11 26 59.5	-0.8	
TORD				PKiKPbc		PKKPab	11 37 53.1	-2.1	
TORD	Torodi Ar. Bea	113.22	299	PKiKP		PKiKP	11 26 59.5	-0.8	
	comp=Z,1.8nm,0.5s,baz=67,slow=1.0,SNR=53								
TORD				PKKPbc		PKKPab	11 37 53.1	-2.1	
	comp=Z,1.6nm,1.1s,baz=201,slow=2.8,SNR=4.1								
QSPA	South Pole Qui	116.53	180	PKP		PKPdf	11 27 04.5	-0.6	
QSPA	South Pole Qui	116.53	180	PKP		PKPdf	11 27 04.5	-0.6	
	comp=Z,3.1nm,0.6s,baz=278,slow=1.4,SNR=18								
DBIC	Dimbokro	122.25	298	*e*PKPdf		PKPdf	11 27 16.8	-0.8	
DBIC				PKP		PKPdf	11 27 17.0	-0.7	
DBIC				pPKP		pPKPdf	11 27 53.6	+0.9	
DBIC	Dimbokro	122.25	298	PKP		PKPdf	11 27 17.0	-0.7	
	comp=Z,13nm,0.7s,baz=40,slow=2.2,SNR=26								
DBIC				pPKP		pPKPdf	11 27 53.6	+0.9	
	comp=Z,7.9nm,0.9s,baz=43,slow=4.2,SNR=2.9								
KIC	Kosan Boka	122.34	298	*e*PKiKP		PKPdf	11 27 17.3	-0.6	
	comp=Z,30nm,0.6s								
TIC	Toumodi	122.39	298	*e*PKiKP		PKPdf	11 27 17.4	-0.6	
LIC	Lamto	122.65	298	*e*PKiKP		PKPdf	11 27 17.3	-1.2	
	comp=Z,23nm,0.6s								
LIC	Lamto	122.65	298	*e*P		PKPdf	11 27 17.7	-0.8	
	comp=Z,39nm,0.6s								
LIC	Lamto	122.65	298	*e*PKPd

FIA0	**FINESS Array S** comp=Z,0.3nm,0.1s	**0.92**	**14**	PN	Pg	11 18 44.3	-0.9
FIA0	comp=Z,1.0nm,0.6s			RG	Rg	11 19 02.0	

*ISCJB **15** 11:20:00.7±0.6,50.19N±0.04×18.91E±0.04, h0km, Error ellipse: s-maj=5.7km s-min=4.0km az=1.5*
*PRU **15** 11:20:00.6,50.20N×19.02E, h0km*
ISC 15 11:20:00.8±1.0,50.17N±0.04×19.00E±0.04, h0km, n10, σ0§61/16, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.12**	**357**	*e*Pg	**Pg**	**11 20 03.3**	**+0.2**
CHZP				*e*Sg	**Sg**	**11 20 05.6**	**+0.9**
OKC	**Ostrava-Krasne**	**0.65**	**239**	*e*PG	**Pg**	**11 20 13.8**	**+0.6**
OKC	comp=Z,29nm,0.6s			*e*SG	**Sg**	**11 20 22.4**	**+0.9**
MORC	**Moravsky Berou**	**1.02**	**248**	*e*P	**Pg**	**11 20 20.7**	**+0.3**
MORC	**Moravsky Berou**	**1.02**	**248**	*e*P	**Pg**	**11 20 20.6**	**+0.3**
NIE	**Niedzica**	**1.14**	**131**	*e*Pg	**Pg**	**11 20 23.0**	**+0.4**
NIE				*e*Sg	**Sn**	**11 20 40.1**	**-0.2**
KRLC	**Kraliky**	**1.43**	**267**	*e*PG	**Pn**	**11 20 27.0**	**-1.1**
KRLC				*e*SG	**Sg**	**11 20 46.4**	**-0.4**
DPC	**Dobruska-Polom**	**1.73**	**277**	*e*PG	**Pn**	**11 20 31.6**	**-0.6**
DPC				*e*SG	**Sb**	**11 20 55.9**	**+0.1**
VRAC	**Vranov**	**1.79**	**242**	*i*P	**Pb**	**11 20 34.2**	**-0.2**
KSP	**Ksiaz**	**1.85**	**292**	*e*Pg	**Pb**	**11 20 35.5**	**-0.1**
KSP				*e*Sg	**Sg**	**11 21 00.8**	**+0.4**
UPC	**Upice**	**1.94**	**281**	*e*SG	**Sb**	**11 21 02.6**	**+0.7**

*ISCJB **15** 11:35:24.8±0.4,26.67N±0.06×126.42E±0.06, h129km±5km, mb3.4/8, Error ellipse: s-maj=12.7km s-min=3.9km az=140.0*
*JMA **15** 11:35:26.7±0.2,26.67N×126.45E, h122km±2km, M3.5*
*IDC **15** 11:35:27.1±3.1,26.72N×126.37E, h133km±28km, mb3.3/8, mb1 3.4/10, mb1mx3.3/28, mbtmp3.3/10, Error ellipse: s-maj=24.8km s-min=16.5km az=69.0*
ISC 15 11:35:26.1±0.7,26.62N±0.07×126.46E±0.06, h131km±7km, n26, σ1§37/42, mb3.5/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.41**	**136**	P	**Pn**	**11 35 44.8**	**-0.1**
JKE				S	**Sn**	**11 35 58.0**	**-1.0**
JAGN	**Aguni-jima**	**0.70**	**93**	P	**Pn**	**11 35 46.6**	**+0.1**
JAGN				*e*S	**Sn**	**11 36 01.2**	**-0.8**
JJT2	**Tamagusuku 2**	**1.25**	**112**	P	**Pn**	**11 35 52.2**	**+0.6**
JJT2				S	**Sn**	**11 36 11.5**	**+0.6**
JIH	**Iheya**	**1.40**	**73**	P	**Pn**	**11 35 53.5**	**+0.3**
JIH				*e*S	**Sn**	**11 36 12.6**	**-1.2**
JOW	**Kunigami**	**1.63**	**82**	P	**Pn**	**11 35 56.1**	**+0.3**
JOW				S	**Sn**	**11 36 17.2**	**-1.2**
JOGS	**Gusukube**	**2.09**	**207**	P	**Pn**	**11 36 01.9**	**+0.7**
JOGS				S	**Sn**	**11 36 28.5**	**+0.4**
JMJ	**Miyako jima 2**	**2.09**	**211**	P	**Pn**	**11 36 01.7**	**+0.5**
JMJ				*e*S	**Sn**	**11 36 28.0**	**-0.1**
JTK	**Tokunoshima**	**2.50**	**62**	P	**Pn**	**11 36 06.3**	**0.0**
JTK				S	**Sn**	**11 36 35.4**	**-1.8**
JTJ	**Tarama**	**2.54**	**219**	P	**Pn**	**11 36 06.9**	**+0.1**
JTJ				*e*S	**Sn**	**11 36 36.7**	**-1.4**
JAMN	**Amaminishikomi**	**2.90**	**56**	P	**Pn**	**11 36 11.4**	**0.0**
JIJ	**Ishigaki jima**	**3.08**	**223**	P	**Pn**	**11 36 13.2**	**-0.6**
JIJ				*e*S	**Sn**	**11 36 47.0**	**-3.6**
JKRS	**Kuro-shima**	**3.25**	**224**	P	**Pn**	**11 36 15.7**	**-0.4**
JKRS				*e*S	**Sn**	**11 36 52.8**	**-1.8**
JAM	**Amami Oshima**	**3.31**	**57**	P	**Pn**	**11 36 16.4**	**-0.4**
JAM				*e*S	**Sn**	**11 36 53.8**	**-2.1**
IRIF	**Iriomote-Funau**	**3.36**	**228**	P	**Pn**	**11 36 16.9**	**-0.6**
IRIF				*e*S	**Sn**	**11 36 55.2**	**-2.0**
JZK	**Kikaishima**	**3.54**	**61**	*e*S	**Sn**	**11 37 01.3**	**-0.1**
JMZ	**Minamidaito 2**	**4.35**	**100**	P	**Pn**	**11 36 29.3**	**-1.2**
JMZ				*e*S	**Sn**	**11 37 15.6**	**-4.9**
JNU	**Nakatsue** 1.3nm,0.3s,baz=173,slow=21,SNR=19	**7.52**	**30**	P	**Pn**	**11 37 14.1**	**+0.9**
KSRS	**Korea Array** 0.2nm,0.3s,baz=182,slow=12,SNR=8.7	**10.87**	**6**	P	**Pn**	**11 37 58.0**	**+0.1**
SONM	**Songino Array** 0.8nm,0.6s,baz=144,slow=11,SNR=6.0	**26.38**	**329**	P	**P**	**11 40 49.8**	**-0.4**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=96,slow=10,SNR=14	**40.09**	**312**	P	**P**	**11 42 48.3**	**-0.5**
MKAR				PcP	**PcP**	**11 44 51.9**	**+1.1**
ZALV	**Zalesovo Beam** 1.0nm,0.4s,baz=101,slow=7.5,SNR=5.9	**40.98**	**323**	P	**P**	**11 42 55.4**	**-0.5**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=107,slow=9.0,SNR=4.1	**43.48**	**317**	P	**P**	**11 43 15.8**	**-0.4**
KURBB				PcP	**PcP**	**11 45 01.9**	**+0.1**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=350,slow=8.8,SNR=5.4	**46.92**	**170**	P	**P**	**11 43 44.5**	**+0.9**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=357,slow=7.9,SNR=5.8	**50.51**	**171**	P	**P**	**11 44 13.0**	**+2.0**
ILAR	**Eielson Array** 0.3nm,0.5s,baz=258,slow=5.5,SNR=12	**64.84**	**28**	P	**P**	**11 45 50.6**	**-0.1**
YKA	**Yellowknife Ar** 1.3nm,0.6s,baz=304,slow=5.6,SNR=32	**78.83**	**24**	P	**P**	**11 47 15.2**	**+1.0**

*DDA **15** 11:38:50.6,35.91N×30.53E, h5km, MD3.3*
*ISK **15** 11:38:51.5,35.89N×30.34E, h64km, MD3.3*
*ISCJB **15** 11:38:52.0±0.5,35.92N±0.04×30.35E±0.04, h77km±10km, Error ellipse: s-maj=7.1km s-min=5.6km az=11.3*
*CSEM **15** 11:38:53.0±0.1,35.94N×30.36E, h30km, MD3.3, Error ellipse: s-maj=3.6km s-min=3.1km az=41.0*
*HLW **15** 11:38:56.1,35.54N×30.39E, h20km±18km, Md3.8*
ISC 15 11:38:53.2±1.2,35.89N±0.04×30.31E±0.03, h59km±16km, n57, σ1§29/68, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.67**	**301**	*i*P	**Pn**	**11 39 06.4**	**-0.7**
AKAS				*i*S	**Sn**	**11 39 20.0**	**+2.8**
AKAS	**Kas**	**0.67**	**301**	*i*P	**Pn**	**11 39 06.4**	**-0.7**
ELL	**Elmali**	**0.92**	**339**	*e*PG	**Pn**	**11 39 09.0**	**-1.2**
ELL				*e*SG	**Sn**	**11 39 23.0**	**+0.3**
ELL	**Elmali**	**0.92**	**339**	*e*Pg	**Pn**	**11 39 09.0**	**-1.2**
ELL				*e*Sg	**Sn**	**11 39 23.0**	**+0.3**
ANTB	**Antalya**	**1.04**	**15**	*e*PG	**Pn**	**11 39 10.3**	**-1.4**
ANTB				*e*SG	**Sn**	**11 39 25.0**	**-0.5**
ANTB	**Antalya**	**1.04**	**15**	*e*Pg	**Pn**	**11 39 10.3**	**-1.4**
ANTB				*e*Sg	**Sn**	**11 39 25.0**	**-0.5**
KORT	**Korkueli**	**1.11**	**2**	*i*P	**Pn**	**11 39 12.4**	**-0.3**
KORT				*i*S	**Sn**	**11 39 29.2**	**+2.0**
KORT	**Korkueli**	**1.11**	**2**	*i*P	**Pn**	**11 39 12.4**	**-0.3**
FETY	**Fethiye**	**1.24**	**307**	*e*PN	**Pn**	**11 39 13.9**	**-0.4**
FETY	**Fethiye**	**1.24**	**307**	*e*Pn	**Pn**	**11 39 14.0**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.42**	**333**	*e*PN	**Pn**	**11 39 16.4**	**-0.5**
GLHS	**Glhisar (BURDU**	**1.42**	**333**	*e*Pn	**Pn**	**11 39 16.4**	**-0.5**
BCK	**Bucak**	**1.58**	**8**	*e*PN	**Pn**	**11 39 18.4**	**-0.6**
DALY	**Dalyan (Mu˘la**	**1.63**	**305**	*e*PN	**Pn**	**11 39 19.4**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.63**	**305**	*e*Pn	**Pn**	**11 39 19.4**	**-0.1**
GAZI	**Gazipasa**	**1.66**	**77**	*i*P	**Pn**	**11 39 19.6**	**-0.4**
GAZI				*i*S	**Sn**	**11 39 38.7**	**-1.6**
GAZI	**Gazipasa**	**1.66**	**77**	*i*P	**Pn**	**11 39 19.6**	**-0.4**
GAZI				*i*S	**Sn**	**11 39 38.7**	**-1.6**
SUTC	**Sutluce-Ispart**	**1.68**	**19**	*e*PN	**Pn**	**11 39 19.5**	**-0.8**
SUTC	**Sutluce-Ispart**	**1.68**	**19**	*e*Pn	**Pn**	**11 39 19.5**	**-0.8**
ISP	**Isparta**	**1.94**	**5**	*e*PN	**Pn**	**11 39 23.2**	**-0.7**
ISP	**Isparta**	**1.94**	**5**	*e*Pn	**Pn**	**11 39 23.2**	**-0.7**
DNZL	**Cakiroluk**	**2.06**	**331**	*e*P	Pn	11 39 30.1	+4.5
DNZL				*i*S	Sn	11 39 58.9	+8.6
ERMK	**Ermenek**	**2.23**	**70**	*i*P	**Pn**	**11 39 30.3**	**+2.4**
ERMK				*i*S	**Sn**	**11 39 58.6**	**+4.1**
LEF	**Lefka**	**2.24**	**109**	*e*PN	**Pn**	**11 39 26.9**	**-1.0**
LEF	**Lefka**	**2.24**	**109**	*e*Pn	**Pn**	**11 39 26.9**	**-0.9**
KHL	**Karahalli**	**2.51**	**346**	*e*PN	**Pn**	**11 39 31.2**	**-0.4**
KHL	**Karahalli**	**2.51**	**346**	*e*Pn	**Pn**	**11 39 31.2**	**-0.4**
KHAL	**Karahalli**	**2.56**	**345**	*e*P	Pn	11 39 36.6	+4.3
KHAL				*i*S	**Sn**	**11 40 00.8**	**-1.6**
BDRM	**Kayabasi**	**2.59**	**298**	*e*P	**Pn**	**11 39 33.8**	**+1.1**
BDRM				*i*S	**Sn**	**11 40 02.3**	**-0.7**
BDRM	**Kayabasi**	**2.59**	**298**	*e*P	**Pn**	**11 39 33.8**	**+1.1**
BDRM				*i*S	**Sn**	**11 40 02.3**	**-0.7**
KONT	**Konya--Tatoy**	**2.63**	**38**	*e*PN	**Pn**	**11 39 33.1**	**-0.1**
KONT	**Konya--Tatoy**	**2.63**	**38**	*e*Pn	**Pn**	**11 39 33.1**	**-0.1**
SHUT	**Suhut-Afyon**	**2.67**	**4**	*e*PN	**Pn**	**11 39 33.5**	**-0.3**
SHUT	**Suhut-Afyon**	**2.67**	**4**	*e*Pn	**Pn**	**11 39 33.5**	**-0.3**
BODT	**Bodrum**	**2.69**	**297**	*e*PN	**Pn**	**11 39 33.9**	**-0.1**
BODT	**Bodrum**	**2.69**	**297**	*e*Pn	**Pn**	**11 39 33.9**	**-0.1**
IKL	**Isikli**	**2.76**	**82**	*e*PN	**Pn**	**11 39 34.6**	**-0.3**
IKL	**Isikli**	**2.76**	**82**	*e*Pn	**Pn**	**11 39 34.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**317**	*e*PN	**Pn**	**11 39 36.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**317**	*e*Pn	**Pn**	**11 39 36.2**	**+0.2**
LADK	**Ladik-KONYA**	**2.83**	**35**	*e*PN	**Pn**	**11 39 35.8**	**-0.2**
LADK	**Ladik-KONYA**	**2.83**	**35**	*e*Pn	**Pn**	**11 39 35.8**	**-0.2**
KULA	**Kula-Manisa**	**2.93**	**334**	*e*PN	**Pn**	**11 39 37.5**	**+0.1**
KULA	**Kula-Manisa**	**2.93**	**334**	*e*Pn	**Pn**	**11 39 37.5**	**+0.1**
ALT	**Altintas**	**3.16**	**357**	*e*PN	**Pn**	**11 39 40.7**	**+0.1**
ALT	**Altintas**	**3.16**	**357**	*e*Pn	**Pn**	**11 39 40.7**	**+0.1**
MERS	**Mersin**	**3.54**	**73**	*e*PN	**Pn**	**11 39 46.0**	**+0.4**
MERS	**Mersin**	**3.54**	**73**	*e*Pn	**Pn**	**11 39 46.0**	**+0.4**
GULE	**Gulek**	**3.85**	**68**	*i*P	Pn	11 39 55.7	+5.6
HMAT	**Matruh** baz=213	**5.49**	**210**	P	**Pn**	**11 40 13.4**	**+1.1**
HMAT	baz=213			S	**Sn**	**11 41 10.4**	**-3.6**
HMAT	**Matruh**	**5.49**	**210**	P	**Pn**	**11 40 13.4**	**+1.1**
HMAT				S	**Sn**	**11 41 10.4**	**-3.6**
AMAG	**Maghara** baz=153	**5.77**	**154**	P	**Pn**	**11 40 16.3**	**+0.1**
AMAG	**Maghara**	**5.77**	**154**	P	**Pn**	**11 40 16.3**	**+0.1**
SLUM	baz=229	**6.11**	**226**	P	**Pn**	**11 40 23.6**	**+2.8**
SLUM		**6.11**	**226**	P	**Pn**	**11 40 23.6**	**+2.8**
SUZ	baz=159	**6.39**	**160**	P	**Pn**	**11 40 25.6**	**+0.8**
SUZ		**6.39**	**160**	P	**Pn**	**11 40 25.6**	**+0.8**

IDC 15 11:56:13.7±6.4,20.94S×178.39W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.8/18, mbtmp4.2/2, Error ellipse: s-maj=299.0km s-min=96.9km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 2.7nm,0.8s,baz=100,slow=7.1,SNR=30	**44.07**	**257**	P	P	12 04 23.2	-0.6
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=95,slow=8.5,SNR=82	**44.18**	**263**	P	P	12 04 25.1	+0.3
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=42,slow=3.7,SNR=3.1	**143.22**	**331**	PKP	PKPdf	12 15 49.2	-0.5

*IDC **15** 12:08:45.3±4.7,3.03S×127.81E, h23km±29km, mb3.9/5, mb1 4.2/6, mb1mx3.8/22, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=171.6km s-min=18.2km az=68.0*
*NEIC **15** 12:08:46.6±0.4,3.01S×127.97E, h35km, mb4.0/5, Error ellipse: s-maj=14.0km s-min=6.7km az=67.0*
*DJA **15** 12:08:47.2±0.8,3°S×4°×12°8E±°, h11km±7km, M4.5/10, mb4.9/3, mB5.3/2, MLv4.3/10, Mw(mB)4.8/2*
ISC 15 12:08:46.1±0.8,3.07S±0.05×127.69E±0.04, h25km±5km, n31, σ1§44/42, mb4.1/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.62**	**254**	P	**Pn**	**12 08 59.7**	**+0.4**
NLAI				S	**Sn**	**12 09 10.5**	**+2.1**
MSAI	**Masohi**	**1.26**	**103**	P	**Pb**	**12 09 10.0**	**+0.7**
MSAI				S	**Sb**	**12 09 30.4**	**+5.2**
SANI	**Sanana**	**1.98**	**301**	P	**Pn**	**12 09 17.4**	**-0.7**
SANI				S	**Sn**	**12 09 41.6**	**-0.6**
LBMI	**Labuha**	**2.42**	**355**	P	**Pn**	**12 09 25.3**	**+1.1**
LBMI				S	**Sn**	**12 09 55.0**	**+2.0**
BNDI	**Bandanaira**	**2.64**	**123**	P	**Pb**	**12 09 34.3**	**+1.6**
SWI	**Sorong**	**4.18**	**59**	P	**Pn**	**12 09 48.2**	**-0.2**
SWI				S	**Sn**	**12 10 37.0**	**+0.5**
FAKI	**Fak Fak**	**4.55**	**88**	*e*Pn	Pn	12 09 48.8	-4.7
FAKI				*e*Sn	**Sn**	**12 10 43.0**	**-2.6**
LUWI	**Luwuk** 106nm,1.0s,4µm0.4nm	**5.32**	**292**	P	**Pn**	**12 10 05.8**	**+1.8**
GTOI	**Gorontalo** 56nm,1.0s,0.4nm	**5.95**	**308**	P	Pn	12 10 17.2	+4.4
APSI	**Ampana**	**6.41**	**289**	P	**Pn**	**12 10 21.7**	**+2.7**
FITZ	**Fitzroy Crossi**	**15.08**	**188**	*e*Pn	**Pn**	**12 12 16.9**	**-0.7**
FITZ				*e*Sn	**Sn**	**12 15 05.5**	**+1.5**
WRAB	**Tennant Creek** 6.9nm,0.6s	**17.98**	**159**	*e*Pn	**Pn**	**12 12 54.0**	**-0.6**
WRAB				*e*Sn	**Sn**	**12 16 14.4**	**-0.1**
WRA	**Warramunga Arr**	**17.98**	**159**	P	**Pn**	**12 12 54.2**	**-0.4**
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=342,slow=12,SNR=80	**17.98**	**159**	P	**Pn**	**12 12 54.2**	**-0.4**
AS31	**Alice Springs**	**21.34**	**164**	*e*P	**P**	**12 13 31.2**	**-0.4**
AS31				*e*S	**S**	**12 17 26.8**	**-0.8**
ASAR	**Alice Springs**	**21.34**	**164**	P	**P**	**12 13 31.3**	**-0.3**
ASAR				ScP	**ScP**	**12 21 10.4**	**-0.6**
ASAR	**Alice Springs** 8.0nm,0.8s,baz=333,slow=6.7,SNR=118	**21.34**	**164**	P	**P**	**12 13 31.3**	**-0.3**
ASAR				ScP	**ScP**	**12 21 10.4**	**-0.6**
STKA	**Stephens Creek** 0.3nm,0.7s,baz=341,slow=1.5,SNR=4.1	**31.50**	**157**	*e*P	**P**	**12 15 04.8**	**-1.3**
STKA	**Stephens Creek** 0.2nm,0.5s	**31.50**	**157**	P	**P**	**12 15 05.2**	**-1.0**
LSA	**Lhasa** 1.4nm,0.4s,baz=320,slow=15,SNR=4.3	**47.79**	**316**	*e*P	**P**	**12 17 23.3**	**+1.0**
SONM	**Songino Array** 2.6nm,0.6s	**54.02**	**342**	P	**P**	**12 18 08.4**	**0.0**
SONM	**Songino Array** 1.3nm,1.0s,baz=152,slow=10.0,SNR=6.7	**54.02**	**342**	P	**P**	**12 18 08.4**	**0.0**
MK31	**Makanchi Array**	**63.70**	**327**	*e*P	**P**	**12 19 15.3**	**-0.3**
MKAR	**Makanchi Array**	**63.70**	**327**	P	**P**	**12 19 15.5**	**-0.1**
MKAR	**Makanchi Array** 1.9nm,0.8s,baz=127,slow=7.8,SNR=17	**63.70**	**327**	P	**P**	**12 19 15.5**	**-0.1**
ZALV	**Zalesovo Beam**	**67.06**	**334**	P	**P**	**12 19 35.7**	**-1.5**
ZALV	**Zalesovo Beam** 1.0nm,0.8s,baz=108,slow=4.8,SNR=4.5	**67.06**	**334**	P	**P**	**12 19 35.7**	**-1.5**
KURK	**Kurchatov** 1.7nm,0.9s	**67.99**	**329**	*e*P	**P**	**12 19 42.6**	**-0.5**
KURK				*e*pP	**pP**	**12 19 49.2**	**-1.8**
KURK				*e*sP	**sP**	**12 19 52.4**	**-1.7**
ABKAR	**Akbulak array** 0.2nm,0.2s	**78.02**	**322**	P	**P**	**12 20 41.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**125.72**	**284**	PKP	**PKPdf**	**12 27 46.2**	**-0.5**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=82,slow=3.1,SNR=2.7	**125.72**	**284**	PKP	**PKPdf**	**12 27 46.2**	**-0.5**

*IDC **15** 12:21:09.7±1.9,7.00S×128.88E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML3.2/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/24, Error ellipse: s-maj=99.5km s-min=20.5km az=69.0*
ISC 15 12:21:10.6±2.2,6.8S±0.5×12.9E±°, h10km, n8, σ0§31/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak** baz=4.2,SNR=19	**4.90**	**38**	P	Pn	12 22 20.7	-3.8
KDU	**Kakadu** baz=6.4,SNR=5.6	**6.62**	**152**	P	Pn	12 22 53.1	+5.1
KNRA	**Kununurra** baz=9.2,SNR=7.2	**8.80**	**183**	P	Pn	12 23 24.8	+6.9
KNRA	baz=9.2,SNR=3.2			S	Sn	12 25 05.0	+7.7
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=338,slow=13,SNR=11	**13.93**	**160**	Pn	**Pn**	**12 24 28.2**	**0.0**
WRA	0.3nm,0.3s,baz=334,slow=21,SNR=7.3			Sn	**Sn**	**12 27 03.2**	**+0.2**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=343,slow=9.1,SNR=8.4	**17.32**	**166**	P	**P**	**12 25 13.8**	**-0.3**
ASAR	0.1nm,0.3s,baz=354,slow=25,SNR=4.5			S	**Sn**	**12 28 25.7**	**+0.2**
WRKA	**Warakurna** baz=18,SNR=6.3	**18.12**	**183**	P	P	12 25 27.6	+4.7
RAO	**Raoul Island** comp=Z,217nm,18.2s,baz=46,slow=33	**54.42**	**121**	LR	LR	12 51 31.7	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=116,slow=6.6,SNR=3.5	**67.69**	**327**	P	**P**	**12 32 08.3**	**+0.1**

DDA 15 12:21:42.6,37.41N×38.24E, h6km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.08**	**38**	*i*P	Pg	12 21 42.0	-2.5
ATAB				*i*S	Sg	12 21 47.0	+1.0
AKCD	**Akcadag**	**0.92**	**345**	*i*P	Pg	12 21 60.0	-0.6
AKCD				*i*S	Sn	12 22 16.0	0.0

*IDC **15** 12:39:14.4±0.9,9.13S×158.27E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=31.2km s-min=18.3km az=176.0*
*ISCJB **15** 12:39:17.7±0.7,9.15S±0.2×158.14E±0.07, h29km, mb3.7/7, Error ellipse: s-maj=24.9km s-min=9.2km az=6.4*
ISC 15 12:39:18.5±0.9,9.25S±0.2×158.30E±0.08, h29km, n12, σ1§00/9, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 91nm,0.3s,baz=211,slow=2.9,SNR=25	**1.65**	**99**	Pn	**Pn**	**12 39 44.8**	**-0.7**
HNR	109nm,0.3s,baz=250,slow=15,SNR=7.2			Sn	**Sb**	**12 40 10.1**	**+1.5**
HNR	**Honiara**	**1.65**	**99**	*e*P	**Pb**	**12 39 48.0**	**-0.3**
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=67,slow=10,SNR=8.9	**25.51**	**243**	P	**P**	**12 44 45.2**	**+0.5**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=64,slow=9.4,SNR=3.8	**27.42**	**235**	P	**P**	**12 45 01.4**	**-0.6**
H11S3	**WAKE ISLAND Hy** baz=199,slow=77,SNR=14	**28.71**	**17**	T	T	13 14 02.8	
H11S2	**WAKE ISLAND Hy** baz=199,slow=77,SNR=13	**28.71**	**17**	T	T	13 13 47.9	
H11S1	**WAKE ISLAND Hy** baz=199,slow=77,SNR=5.4	**28.72**	**17**	T	T	13 14 04.1	
CMAR	**Chiang Mai Arr** 0.6nm,0.6s,baz=126,slow=4.3,SNR=4.1	**64.67**	**295**	P	**P**	**12 49 54.8**	**+0.5**
SONM	**Songino Array** 1.1nm,0.8s,baz=142,slow=5.8,SNR=8.0	**72.93**	**326**	P	**P**	**12 50 46.4**	**+1.1**
ILAR	**Eielson Array** 1.2nm,1.2s,baz=243,slow=6.3,SNR=3.3	**84.21**	**21**	P	**P**	**12 51 45.8**	**-1.1**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=98,slow=5.6,SNR=7.9	**87.19**	**318**	P	**P**	**12 52 01.9**	**-0.2**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=223,slow=7.4,SNR=3.1	**97.72**	**48**	P	Pdif	12 52 52.7	+1.3

*ISCJB **15** 12:44:01.9±0.9,4.75S±0.1×144.13E±0.2, h110km, mb3.5/4, Error ellipse: s-maj=24.3km s-min=11.0km az=153.0*
*IDC **15** 12:44:01.9±7.1,4.32S×144.07E, h91km±77km, mb3.4/4, mb1 3.7/6, mb1mx3.4/18, mbtmp3.5/6, ML3.6/2, MS3.6/1, Ms1 3.8/1, ms1mx3.1/20, Error ellipse: s-maj=63.1km s-min=31.9km az=132.0*
ISC 15 12:44:03.3±1.1,4.75S±0.1×144.12E±0.2, h110km, n7, σ1§22/7, mb3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 3.1nm,0.3s,baz=39,slow=6.5,SNR=14	**5.71**	**149**	P	**Pn**	**12 45 27.2**	**+1.4**
PMG	1.1nm,0.3s,baz=299,slow=21,SNR=7.7			S	**Sn**	**12 46 28.6**	**-1.5**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=31,slow=11,SNR=34	**18.15**	**211**	P	**Pn**	**12 48 07.7**	**-0.7**
ASAR	**Alice Springs** 2.3nm,0.7s,baz=33,slow=8.5,SNR=25	**21.53**	**207**	P	**P**	**12 48 44.2**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,60nm,18.8s,baz=90,slow=37	**50.09**	**298**	LR	LR	13 14 42.4	
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=107,slow=7.3,SNR=5.5	**74.57**	**321**	P	**P**	**12 55 31.1**	**+0.7**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=131,slow=4.3,SNR=3.6	**76.26**	**328**	P	**P**	**12 55 39.1**	**-0.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=264,slow=4.6,SNR=5.7	**85.18**	**24**	P	**P**	**12 56 26.6**	**-0.4**

MAN 15 12:44:07,8.67N×125.44E, h21km, mb4.4, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.35**	**31**	*e*P	Pn	12 44 16.4	-0.4
BUTP				*e*S	Sn	12 44 26.7	+3.6
CGP	**Cagayan de Oro**	**0.77**	**254**	*i*P	Pn	12 44 22.7	+0.1
CGP				*i* S	Sn	12 44 34.9	+1.3
BUKP	**Musuan**	**0.87**	**205**	*e*P	Pn	12 44 23.9	-0.3
BUKP				*e*S	Sn	12 44 37.4	+1.2
SCPH	**Surigao**	**1.10**	**3**	*e*P	Pn	12 44 25.2	-2.0
SCPH				*e*S	Sn	12 44 45.0	+3.1
PAGZ	**Pagadian**	**2.19**	**248**	*e*P	Pn	12 44 43.7	+1.5

IDC 15 12:45:03.4±5.5,51.65N×27.95E, h0km, Error ellipse: s-maj=40.5km s-min=26.1km az=140.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be** 1.4nm,0.3s,baz=322,slow=14,SNR=12	**1.24**	**139**	Pg	Pg	12 45 27.1	-0.1
AKASG	3.6nm,0.3s,baz=320,slow=25,SNR=10			Lg	Lg	12 45 44.2	
AKASG	34nm,0.9s,baz=315,slow=36,SNR=36			Rg	Rg	12 45 48.5	
I43RU	**DUBNA INFRASON 7.43** baz=224,slow=325,SNR=1.3	**43**	*i*			13 33 00.0	
I31KZ	**AKTYUBINSK INF** baz=284,slow=291,SNR=0.7	**18.90**	**82**	*i*		14 40 07.4	

*ISCJB **15**

0.3nm,1.0s,baz=286,slow=6.5,SNR=3.4
ARCES ARCESS Array B 68.75 339 P **P** 13 04 57.8 **-0.3**
1.3nm,0.7s,baz=82,slow=7.4,SNR=3.2
KBZ Khabaz 68.92 309 P **P** 13 05 00.1 **+0.7**
4.4nm,0.9s,baz=120,slow=8.1,SNR=6.8
JOF Joensuu 69.03 331 *ep* **P** 13 04 59.1 **-0.7**
1.8nm,0.3s
FINES FINESS Array B 71.87 331 P **P** 13 05 16.9 **-0.3**
2.3nm,0.5s,baz=70,slow=5.9,SNR=21
AKASG Malin Array Be 74.91 320 P **P** 13 05 34.4 **-0.9**
0.5nm,0.4s,baz=55,slow=7.1,SNR=5.6
YKA Yellowknife Ar 76.40 25 P **P** 13 05 43.8 **+0.2**
0.2nm,0.5s,baz=299,slow=5.8,SNR=6.7
BRTR Keskin Array B 76.84 308 P **P** 13 05 46.9 **+0.1**
1.9nm,0.9s,baz=101,slow=6.4,SNR=6.8
NB2 NORSAR Subarra 78.21 334 P **P** 13 05 52.7 **-1.1**
comp=Z,1.4nm,0.7s,baz=53,slow=5.9
NOA NORSAR Array B 78.21 334 P **P** 13 05 53.2 **-0.6**
comp=Z,1.2nm,0.6s,baz=52,slow=5.5,SNR=5.3
GERES GERESS Array B 84.46 323 P **P** 13 06 27.6 **+0.3**
comp=Z,0.6nm,0.8s,baz=46,slow=5.8,SNR=3.8
PDAR Pinedale Array 91.03 39 P **P** 13 06 59.6 **+0.3**
comp=Z,0.2nm,0.5s,baz=316,slow=5.0,SNR=2.9

KRSC 15 13:02:44.0±1.1, 50.72N×157.06E, h127km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.60**	**267**	P	Pn	13 03 04.6	+1.3
SKR				S	Sn	13 03 19.0	+1.1
PAU	**Pauzhetka**	**0.76**	**348**	P	Pn	13 03 05.8	+1.3
PAU				S	Sn	13 03 22.5	+2.4
MIPR	**Malaya Ipel'ka**	**1.57**	**353**	P	Pn	13 03 13.6	+1.0
ASAK	**Asacha**	**1.74**	**17**	P	Pn	13 03 16.5	+1.8
ASAK				S	Sn	13 03 40.1	+1.8
MTVR	**Mutnovka**	**1.90**	**21**	P	Pn	13 03 18.4	+1.8
MTVR				S	Sn	13 03 43.0	+1.3
RUS	**Russkaya**	**1.94**	**27**	S	Sn	13 03 43.1	+0.9
APC	**Apacha**	**2.21**	**1**	P	Pn	13 03 20.9	+0.7
PET	**Petropavlovsk**	**2.51**	**23**	P	Pn	13 03 25.3	+1.3
PET				S	Sn	13 03 55.3	+0.4
UGLR	**Uglovaya**	**2.72**	**23**	P	Pn	13 03 28.9	+2.0
AVH	**Avacha**	**2.75**	**21**	P	Pn	13 03 29.4	+2.2
KOK	**Koryaka**	**2.75**	**20**	P	Pn	13 03 29.7	+2.4
SMAR	**Somma**	**2.76**	**22**	P	Pn	13 03 29.5	+1.9
KRER	**Koryakskii**	**2.79**	**21**	P	Pn	13 03 29.9	+2.0
KRER				S	Sn	13 04 03.2	+1.4
SDLR	**Sedlovina**	**2.80**	**23**	P	Pn	13 03 29.5	+1.6
KRX	**Arik**	**2.82**	**20**	P	Pn	13 03 29.8	+1.6
SPN	**Mys Shipunski**	**3.00**	**36**	S	Sn	13 04 06.9	+0.6
GNL	**Ganaly**	**3.03**	**10**	P	Pn	13 03 31.9	+1.0

JMA 15 13:10:04.7±0.2, 28.09N×129.52E, h35km±5km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.33**	**13**	P	Pn	13 10 12.5	-0.5
JAM				S	Sn	13 10 18.0	-0.7
JAMN	**Amaminishikomi**	**0.34**	**297**	P	Pn	13 10 13.0	-0.1
JAMN				S	Sn	13 10 19.2	+0.3
JZK	**Kikaishima**	**0.46**	**61**	P	Pn	13 10 14.7	-0.1
JTK	**Tokunoshima**	**0.59**	**239**	P	Pn	13 10 16.1	-0.5
JTK				S	Sn	13 10 24.2	-0.8
JOW	**Kunigami**	**1.67**	**222**	P	Pn	13 10 32.0	+0.5
JIH	**Iheya**	**1.73**	**233**	P	Pn	13 10 33.3	+1.0
JNN	**Nakanoshima**	**1.77**	**10**	P	Pn	13 10 34.9	+2.0
JKC	**Kuchinoerabu**	**2.44**	**14**	P	Pn	13 10 43.9	+1.9
JJT2	**Tamagusuku 2**	**2.50**	**219**	P	Pn	13 10 43.3	+0.4
JAGN	**Aguni-jima**	**2.52**	**234**	P	Pn	13 10 44.2	+1.1
JAGN				*e*S	Sn	13 11 14.2	+1.6
JTN	**Tanegashima 3**	**2.85**	**26**	P	Pn	13 10 49.5	+1.7
JKE	**Kume jima 2**	**3.00**	**235**	P	Pn	13 10 50.6	+0.8
JKE				*e*S	Sn	13 11 25.4	+0.8

*ISCJB **15** 13:12:49.4±0.5, 18.39N±0.06×72.85W±0.04, h6km, mb3.7/8, Error ellipse: s-maj=8.4km s-min=4.8km az=12.9*
*IDC **15** 13:12:50.2±1.5, 18.34N×72.87W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/24, mbtmp3.8/7, Error ellipse: s-maj=42.6km s-min=32.9km az=14.0*
*NEIC **15** 13:12:51.9±0.6, 18.43N×72.79W, h10km, mb4.0/1, Error ellipse: s-maj=12.5km s-min=7.7km az=19.0*
ISC 15 13:12:51.3±0.6, 18.40N±0.08×72.86W±0.05, h6km, n26, σ1§06/33, mb3.8/8, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.60**	**69**	*e*Pn	**Pn**	**13 13 18.2**	**-1.9**
SDDR				*e*Sn	**Sn**	**13 13 40.5**	**-0.7**
GTBY	**Guantanamo Bay**	**2.61**	**306**	*e*Pn	**Pn**	**13 13 32.4**	**-1.6**
GTBY				*e*Pg	**Pg**	**13 13 40.4**	**-1.0**
GTBY				*e*Sn	**Sn**	**13 14 05.7**	**-0.4**
GRTK	**Grand Turk**	**3.49**	**27**	*e*Pn	**Pn**	**13 13 46.3**	**+0.1**
GRTK				*e*Sn	**Sn**	**13 14 27.8**	**0.0**
MTDJ	**Mount Denham**	**4.44**	**268**	*e*Pn	**Pn**	**13 14 01.2**	**+1.9**
CRPR	**Cabo Rojo, PR**	**5.48**	**93**	*e*Pn	**Pn**	**13 14 12.9**	**-0.6**
CRPR				*e*Sn	**Sn**	**13 15 18.3**	**+1.4**
LSP	**Las Mesas**	**5.49**	**91**	*e*Pn	**Pn**	**13 14 12.7**	**-1.0**
CELP	**Cerrillos**	**5.98**	**92**	*e*Pn	**Pn**	**13 14 19.3**	**-1.0**
CBYP	**Canovanas**	**6.65**	**90**	Pn	**Pn**	**13 14 29.8**	**+0.1**
SDV	**Santo Domingo**	**9.71**	**167**	*e*Pn	**Pn**	**13 15 13.5**	**+1.8**
PTGA	**Pitinga**	**22.86**	**145**	*e*P	**P**	**13 17 52.8**	**-2.8**
	5.6nm,1.1s						
ULM	**Lac du Bonnet**	**36.71**	**335**	P	**P**	**13 19 59.3**	**+0.2**
ULM	**Lac du Bonnet**	**36.71**	**335**	P	**P**	**13 19 59.3**	**+0.2**
	1.5nm,0.6s,baz=118,slow=2.9,SNR=3.1						
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**13 20 22.6**	**+0.5**
PDAR				PcP	**PcP**	**13 22 30.7**	**+0.3**
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**13 20 22.6**	**+0.5**
	0.3nm,0.6s,baz=108,slow=8.6,SNR=3.4						
PDAR				PcP	**PcP**	**13 22 30.7**	**+0.3**
	0.5nm,0.7s,baz=100,slow=4.5,SNR=4.3						
NVAR	**Mina Array Bea**	**44.15**	**307**	P	**P**	**13 21 02.3**	**+1.1**
NVAR	**Mina Array Bea**	**44.15**	**307**	P	**P**	**13 21 02.3**	**+1.1**
	0.5nm,0.8s,baz=98,slow=5.4,SNR=4.1						
YKA	**Yellowknife Ar**	**52.64**	**337**	P	**P**	**13 22 06.0**	**+0.1**
YKA	**Yellowknife Ar**	**52.64**	**337**	P	**P**	**13 22 06.0**	**+0.1**
	0.7nm,0.8s,baz=124,slow=7.1,SNR=16						
ILAR	**Eielson Array**	**66.70**	**333**	P	**P**	**13 23 41.9**	**-1.0**
ILAR	**Eielson Array**	**66.70**	**333**	P	**P**	**13 23 41.9**	**-1.0**
	0.5nm,0.9s,baz=129,slow=3.9,SNR=4.9						
GERES	**GERESS Array B**	**74.14**	**43**	P	**P**	**13 24 29.6**	**+0.9**
GERES	**GERESS Array B**	**74.14**	**43**	P	**P**	**13 24 29.6**	**+0.9**
	1.2nm,0.8s,baz=272,slow=4.7,SNR=8.1						
ARCES	**ARCESS Array B**	**75.81**	**21**	P	**P**	**13 24 38.2**	**+0.4**
ARCES	**ARCESS Array B**	**75.81**	**21**	P	**P**	**13 24 38.2**	**+0.4**
	4.2nm,1.1s,baz=301,slow=4.0,SNR=3.4						
WRA	**Warramunga Arr**	**154.27**	**262**	PKPbc	**PKPbc**	**13 32 52.9**	**-0.4**
	1.1nm,1.0s,baz=90,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**154.50**	**254**	PKPbc	**PKPbc**	**13 32 53.4**	**-0.3**
	0.5nm,0.9s,baz=77,slow=1.7,SNR=3.6						

IDC 15 13:24:01.3±8.5, 5.31S×151.33E, h104km±58km, mb2.7/2, mb1 2.9/3, mb1mx2.8/18, mbtmp2.8/3, Error ellipse: s-maj=131.2km s-min=55.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.80**	**225**	P	Pn	13 25 24.8	-0.2
	0.6nm,0.3s,baz=10,slow=11,SNR=2.7						
PMG				S	Sn	13 26 31.6	+1.4
	1.3nm,0.3s,baz=183,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**22.02**	**227**	P	P	13 28 47.0	-0.5
	0.2nm,0.6s,baz=51,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**24.80**	**221**	P	P	13 29 13.7	-0.2
	0.4nm,0.6s,baz=58,slow=8.6,SNR=12						
TORD	**Torodi Ar. Bea**	**149.06**	**287**	PKPbc	PKPbc	13 43 38.4	-0.1
	0.4nm,0.6s,baz=63,slow=1.3,SNR=4.9						

*IDC **15** 13:25:24.9±1.1, 51.64S×75.20W, h0km, mb4.0/5, mb1 4.1/7, mb1mx4.0/17, mbtmp4.0/7, ML3.6/2, MS3.8/7, Ms1 3.8/7, ms1mx3.6/26, Error ellipse: s-maj=31.5km s-min=16.5km az=87.0*
*ISCJB **15** 13:25:27.6±1.2, 51.57S±0.09×75.14W±0.3, h33km, mb4.0/6, MS3.8/6, Error ellipse: s-maj=24.7km s-min=9.0km az=155.2*
*NEIC **15** 13:25:29.4±1.0, 51.57S×75.12W, h35km, mb4.3/4, Error ellipse: s-maj=31.5km s-min=13.3km az=88.0*
ISC 15 13:25:29.5±1.0, 51.57S±0.09×75.14W±0.1, h35km, n32, σ1§15/24, mb4.2/6, MS4.0/6, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**5.32**	**131**	Pn	**Pn**	**13 26 44.5**	**-1.8**
USHA				Sn	**Sn**	**13 27 47.9**	**+1.6**
USHA				Lg	Lg	13 28 08.4	
USHA	**Ushuaia**	**5.32**	**131**	Pn	**Pn**	**13 26 44.5**	**-1.8**
	3.2nm,0.3s,baz=272,slow=11,SNR=18						
USHA				Sn	**Sn**	**13 27 47.9**	**+1.6**
	5.7nm,0.3s,baz=284,slow=12,SNR=2.2						
USHA				Lg	Lg	13 28 08.4	
	7.5nm,0.3s,baz=169,slow=5.2,SNR=3.4						
PLCA	**Paso Flores**	**11.35**	**19**	*e*Pn	**Pn**	**13 28 06.8**	**-2.4**
PLCA				Lg	Lg	13 31 23.7	
PLCA	**Paso Flores**	**11.35**	**19**	Pn	**Pn**	**13 28 10.1**	**+0.9**
	0.1nm,0.3s,baz=236,slow=11,SNR=3.1						
PLCA				Lg	Lg	13 31 23.7	
	0.1nm,0.3s,baz=267,slow=19,SNR=3.0						
PLCA				LR	LR	13 32 41.7	
	comp=Z,383nm,20.8s,baz=262,slow=38						
CFAA	**Coronel Fontan**	**20.64**	**18**	P	**P**	**13 30 06.4**	**+0.5**
CFAA	**Coronel Fontan**	**20.64**	**18**	P	**P**	**13 30 06.4**	**+0.5**
	0.2nm,0.5s,baz=201,slow=8.6,SNR=3.7						
CFAA				LR	LR	13 38 44.1	
	comp=Z,42nm,18.0s,baz=188,slow=39						
CPUP	**Villa Florida**	**28.71**	**35**	*e*P	P	13 31 19.6	-3.7
	0.6nm,0.8s						
CPUP	**Villa Florida**	**28.71**	**35**	P	**P**	**13 31 23.6**	**+0.3**
	0.5nm,0.3s,baz=124,slow=3.6,SNR=1.9						
CPUP				LR	LR	13 44 18.1	
	comp=Z,245nm,18.7s,baz=55,slow=40						
LPAZ	**La Paz**	**35.68**	**12**	*e*P	**P**	**13 32 25.0**	**0.0**
	4.2nm,0.8s						
LPAZ	**La Paz**	**35.68**	**12**	P	**P**	**13 32 26.0**	**+1.0**
	2.5nm,0.8s,baz=189,slow=6.5,SNR=9.2						
SIV	**San Ignacio**	**37.30**	**23**	LR	LR	13 50 05.8	
	comp=Z,156nm,20.0s,slow=40						
QSPA	**South Pole Qui**	**38.67**	**180**	*e*P	**P**	**13 32 48.7**	**-0.8**
	11nm,1.0s						
QSPA				*e*		13 32 56.5	
QSPA	**South Pole Qui**	**38.67**	**180**	P	**P**	**13 32 50.0**	**+0.6**
	0.5nm,0.3s,baz=161,slow=9.9,SNR=2.9						
BDFB	**Brasilia**	**42.00**	**42**	P	**P**	**13 33 18.0**	**+0.6**
BDFB	**Brasilia**	**42.00**	**42**	P	**P**	**13 33 18.0**	**+0.6**
	1.3nm,0.3s,baz=204,slow=6.6,SNR=3.2						
BDFB				LR	LR	13 52 22.2	
	comp=Z,262nm,18.4s,baz=311,slow=38						
SAML	**Samuel**	**43.67**	**18**	*e*P	**P**	**13 33 29.8**	**-1.0**
	3.5nm,0.8s						
RCBR	**Riachuelo**	**56.10**	**50**	LR	LR	13 59 56.8	
	comp=Z,181nm,18.8s,baz=198,slow=37						
BOSA	**Boshof**	**74.30**	**116**	LR	LR	14 06 07.5	
	comp=Z,114nm,20.1s,baz=192,slow=33						
TORD	**Torodi Ar. Bea**	**92.35**	**72**	P	**P**	**13 38 36.3**	**0.0**
TORD	**Torodi Ar. Bea**	**92.35**	**72**	P	**P**	**13 38 36.3**	**0.0**
	0.9nm,0.9s,baz=203,slow=2.5,SNR=4.1						
H11S2	**WAKE ISLAND Hyd**	**21.55**	**260**	T	T	15 57 25.6	
	baz=143,slow=76,SNR=3383						
H11S3	**WAKE ISLAND Hyd**	**21.56**	**260**	T	T	15 57 25.3	
	baz=143,slow=76,SNR=2797						
H11S1	**WAKE ISLAND Hyd**	**21.57**	**260**	T	T	15 57 23.0	
	baz=143,slow=76,SNR=2499						
H11N3	**WAKE ISLAND Hyd**	**22.35**	**261**	T	T	15 58 19.1	
	baz=143,slow=76,SNR=621						
H11N1	**WAKE ISLAND Hyd**	**22.36**	**261**	T	T	15 58 28.1	
	baz=143,slow=76,SNR=444						
H11N2	**WAKE ISLAND Hyd**	**22.37**	**261**	T	T	15 58 20.4	
	baz=143,slow=76,SNR=474						
ILAR	**Eielson Array**	**128.39**	**329**	PKP	**PKPdf**	**13 44 32.2**	**+1.3**
ILAR	**Eielson Array**	**128.39**	**329**	PKP	**PKPdf**	**13 44 32.2**	**+1.3**
	0.4nm,0.9s,baz=151,slow=2.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**146.66**	**170**	PKPbc	**PKPdf**	**13 45 06.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**146.66**	**170**	PKPbc	**PKPdf**	**13 45 06.1**	**+0.3**
	0.3nm,0.3s,baz=213,slow=3.0,SNR=4.2						
AKTO	**Aktyubinsk**	**151.06**	**74**	PKPbc	**PKPbc**	**13 45 16.8**	**-0.9**
AKTO	**Aktyubinsk**	**151.06**	**74**	PKPbc	**PKPbc**	**13 45 16.8**	**-0.9**
	1.5nm,0.9s,baz=285,slow=2.1,SNR=4.3						

IDC 15 13:37:48.5±4.3, 3.93S×133.02E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=233.8km s-min=17.5km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.97**	**175**	Pn	Pn	13 41 33.6	-1.3
	0.2nm,0.3s,baz=3.6,slow=13,SNR=20						
WRA				Sn	Sn	13 44 29.2	-3.6
	0.3nm,0.3s,baz=3.2,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**19.65**	**178**	P	Pn	13 42 20.6	+0.2
	0.3nm,0.3s,baz=11,slow=11,SNR=40						
ASAR				S	Sn	13 46 01.9	+0.1
	0.1nm,0.3s,baz=8.0,slow=16,SNR=4.9						
MKAR	**Makanchi Array**	**67.39**	**325**	P	P	13 48 45.6	-0.2
	0.3nm,0.5s,baz=117,slow=6.9,SNR=4.4						

*ISCJB **15** 13:38:39.9±1.0, 21.65N±0.09×91.79E±0.2, h33km, mb3.8/6, MS3.2/1, Error ellipse: s-maj=25.6km s-min=10.1km az=157.7*
*IDC **15** 13:38:50.5±5.5, 22.59N×93.15E, h94km±47km, mb3.4/6, mb1 3.5/7, mb1mx3.2/28, mbtmp3.3/7, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=117.4km s-min=15.6km az=55.0*
ISC 15 13:38:42.5±1.1, 21.7N±0.1×91.9E±0.2, h35km, n9, σ1§90/8, mb3.8/6, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.86**	**360**	*e*PN	Pn	13 39 48.5	+8.9
SHL				*e*SN	**Sn**	**13 40 25.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**7.36**	**115**	P	**Pn**	**13 40 27.8**	**+0.2**
	0.2nm,0.3s,baz=317,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**26.23**	**345**	P	**P**	**13 44 11.4**	**-2.7**
	0.4nm,0.4s,baz=151,slow=9.6,SNR=13						
BVAR	**Borovoye Array**	**35.36**	**337**	P	**P**	**13 45 34.7**	**+0.1**
	0.4nm,0.5s,baz=134,slow=13,SNR=4.6						
USRK	**Ussuriysk Arra**	**39.91**	**46**	LR	LR	14 04 59.3	
	comp=Z,43nm,21.8s,baz=86,slow=41						
AKASG	**Malin Array Be**	**56.29**	**317**	P	**P**	**13 48 21.8**	**+2.3**
	0.3nm,0.3s,baz=78,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**58.59**	**132**	P	**P**	**13 48 35.5**	**-0.7**
	0.6nm,0.6s,baz=323,slow=7.4,SNR=7.0						
ASAR	**Alice Springs**	**60.85**	**135**	P	**P**	**13 48 52.7**	**+0.9**
	0.9nm,0.6s,baz=319,slow=6.7,SNR=12						
ARCES	**ARCESS Array B**	**61.64**	**339**	P	**P**	**13 48 54.9**	**-1.5**
	2.8nm,0.9s,baz=94,slow=6.9,SNR=6.6						

*ISCJB **15** 13:41:39.5±0.9, 18.29N±0.03×72.80W±0.02, h1km±5km, mb4.4/39, MS3.8/13, Error ellipse: s-maj=4.3km s-min=2.6km az=14.4*
*IDC **15** 13:41:40.6±0.4, 18.36N×72.83W, h0km, mb4.3/24, mb1 4.5/27, mb1mx4.5/32, mbtmp4.4/27, ML3.8/3, MS3.8/15, Ms1 3.8/15, ms1mx3.6/33, Error ellipse: s-maj=14.6km s-min=10.6km az=68.0*
*BJI **15** 13:41:40.5, 18.40N×72.80W, h10km*
*JSN **15** 13:41:42.4±2.3, 18.89N×72.75W, h15km±999km, MD5.3*
*NEIC **15** 13:41:42.0±0.2, 18.34N×72.82W, h10km, mb4.6/16, Error ellipse: s-maj=4.2km s-min=3.2km az=11.0*
ISC 15 13:41:43.7±1.2, 18.37N±0.04×72.80W±0.03, h19km±5km, n311, σ1§17/325, mb4.5/39, MS3.9/13, 86C-81D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.56**	**67**	*e*Pn	**Pn**	**13 42 08.7**	**-1.8**
SDDR				*e*Sn	**Sg**	**13 42 33.2**	**-0.9**
GTBY	**Guantanamo Bay**	**2.68**	**306**	*e*Pn	**Pn**	**13 42 23.9**	**-1.9**
GTBY				*e*Sn	**Sn**	**13 42 58.2**	**+0.6**
GRTK	**Grand Turk**	**3.50**	**26**	*e*Pn	**Pn**	**13 42 36.5**	**-0.5**
GRTK				*e*Pg	**Pg**	**13 42 49.5**	**-1.2**
GRTK				*e*Sn	**Sn**	**13 43 18.8**	**+0.9**
GWJ	**Greenwich**	**3.74**	**266**	*e*P	**Pn**	**13 42 39.7**	**-0.9**
GWJ	**Greenwich**	**3.74**	**266**	*e*P	**Pn**	**13 42 39.7**	**-0.9**
HOJ	**Hope**	**3.77**	**265**	*i* P	**Pn**	**13 42 40.2**	**-0.6**
HOJ	**Hope**	**3.77**	**265**	*i* P	**Pn**	**13 42 40.2**	**-0.6**
STH	**Stony Hill**	**3.82**	**266**	*i* P	**Pn**	**13 42 40.6**	**-1.0**
STH				*i* S	**Sn**	**13 43 25.5**	**-0.4**
STH	**Stony Hill**	**3.82**	**266**	*i* P	**Pn**	**13 42 40.6**	**-1.0**
STH				*i* S	**Sn**	**13 43 25.5**	**-0.4**
PCJ	**Portland Cotta**	**4.19**	**262**	*i* P	**Pn**	**13 42 47.5**	**+1.0**
PCJ	**Portland Cotta**	**4.19**	**262**	*i* P	**Pn**	**13 42 47.5**	**+1.0**
MTDJ	**Mount Denham**	**4.50**	**269**	*e*Pn	**Pn**	**13 42 49.9**	**-1.1**
MTDJ				*e*Pg	**Pg**	**13 43 09.1**	**-0.8**
MTDJ				*e*Sn	**Sn**	**13 43 42.8**	**-0.1**
MCJ	**Malvern**	**4.67**	**265**	*e*P	**Pn**	**13 42 54.8**	**+1.5**
MCJ	**Malvern**	**4.67**	**265**	*e*P	**Pn**	**13 42 54.8**	**+1.5**
AGPR	**Aguadilla, PR**	**5.40**	**88**	*e*Pn	**Pn**	**13 43 03.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**5.42**	**93**	*e*Pn	**Pn**	**13 43 01.9**	**-1.6**
CRPR				*e*Sn	**Sn**	**13 44 06.7**	**+1.3**
LSP	**Las Mesas**	**5.43**	**91**	*e*Pn	**Pn**	**13 43 04.2**	**+0.4**
LSP				*e*Sn	**Sn**	**13 44 07.1**	**+1.3**
AOPR	**Arecibo Observ**	**5.74**	**89**	*e*Pn	**Pn**	**13 43 09.5**	**+1.5**
OBIP	**Obispado Ponce**	**5.90**	**92**	*e*Pn	**Pn**	**13 43 09.7**	**-0.4**
	72nm,0.5s						
OBIP				*e*Sn	**Sn**	**13 44 18.3**	**+1.1**
CELP	**Cerrillos**	**5.92**	**92**	*e*Pn	**Pn**	**13 43 10.6**	**+0.3**
CBYP	**Canovanas**	**6.60**	**90**	*e*Pn	**Pn**	**13 43 19.9**	**+0.1**
	52nm,0.6s						
HUMP	**Col San Antoni**	**6.61**	**91**	*e*Pn	Pn	13 43 27.1	+7.3
MTP	**Monte Pirata**	**6.89**	**91**	*e*Pn	**Pn**	**13 43 25.3**	**+1.5**
	88nm,0.8s						
MTP				*e*Sn	**Sn**	**13 44 44.2**	**+2.5**
CDVI	**St. Croix**	**7.67**	**93**	*e*Pn	**Pn**	**13 43 34.6**	**+0.2**
SDV	**Santo Domingo**	**9.66**	**167**	*e*Pn	**Pn**	**13 44 01.9**	**0.0**
SDV				*e*Sn	**Sn**	**13 45 49.9**	**-0.2**
LZG	**Guadaloupe-1**	**10.76**	**100**	*e*P	**Pn**	**13 44 18.1**	**+1.3**
MLG	**Mont-d'or**	**10.84**	**101**	*e*P	**Pn**	**13 44 18.2**	**+0.2**
FNG	**Fond-Bernard**	**10.87**	**101**	*e*P	**Pn**	**13 44 18.7**	**+0.3**
SSG	**Sans Toucher**	**10.87**	**100**	*e*P	Pn	13 44 26.8	+8.4
ECG	**Echelle**	**10.90**	**101**	*e*P	**Pn**	**13 44 19.9**	**+1.0**
H05N1	**Guadeloupe/Mar**	**11.40**	**99**	Pn	**Pn**	**13 44 26.3**	**+0.7**
BCIP	**Isla Barro Col**	**11.42**	**218**	*e*Pn	**Pn**	**13 44 23.9**	**-1.9**
FDF	**Fort de France**	**11.74**	**106**	*e*Pn	**Pn**	**13 44 29.1**	**-1.2**
	54nm,0.6s						
H05S1	**Guadeloupe/Mar**	**12.13**	**107**	Pn	**Pn**	**13 44 37.0**	**+1.5**
ROSC	**El Rosal**	**13.52**	**187**	*e*Pn	**Pn**	**13 44 53.9**	**-0.9**
ROSC				*e*Sn	**Sn**	**13 47 24.7**	**-0.1**
ROSC	**El Rosal**	**13.52**	**187**	Pn	**Pn**	**13 44 56.5**	**+1.6**
	1.7nm,0.3s,baz=116,slow=15,SNR=10.0						
ROSC				Sn	**Sn**	**13 47 23.3**	**-1.5**
	2.0nm,0.3s,baz=253,slow=19,SNR=2.7						
ROSC				LR	LR	13 51 05.4	
	comp=Z,181nm,18.1s,baz=80,slow=42						
JTS	**JuntasAbangare**	**14.25**	**237**	*e*Pn	**Pn**	**13 45 04.3**	**-0.3**
JTS	**JuntasAbangare**	**14.25**	**237**	Pn	**Pn**	**13 45 06.3**	**+1.8**
	1.1nm,0.3s,baz=37,slow=12,SNR=5.1						
JTS				LR	LR	13 50 18.2	
	comp=Z,162nm,19.7s,baz=77,slow=36						
TEIG	**Tepich**	**14.73**	**280**	Pn	**Pn**	**13 45 10.5**	**-0.6**
TEIG	**Tepich**	**14.73**	**280**	Pn	**Pn**	**13 45 10.5**	**-0.6**
	1.5nm,0.3s,baz=141,slow=20,SNR=7.6						
APG	**El Apazote**	**17.25**	**261**	P	**Pn**	**13 45 42.6**	**-1.3**
APG	**El Apazote**	**17.25**	**261**	P	**Pn**	**13 45 42.6**	**-1.3**
	0.2nm,0.3s,baz=93,slow=12,SNR=6.1						
KMSC	**Kings Mountain**	**18.34**	**337**	*e*P	**P**	**13 45 55.4**	**-1.7**
	21nm,1.0s						
OTAV	**Otavalo**	**18.86**	**198**	*e*P	**P**	**13 46 03.1**	**-0.1**
JSRW	**J. Sargeant Re**	**19.76**	**348**	*e*P	**P**	**13 46 12.4**	**0.0**
TKL	**Tuckaleechee C**	**19.77**	**333**	*e*P	**P**	**13 46 12.1**	**-0.6**
TKL	**Tuckaleechee C**	**19.77**	**333**	P	**P**	**13 46 12.5**	**-0.2**
	0.1nm,0.3s,baz=162,slow=9.6,SNR=4.6						
TKL				LR	LR	13 54 00.3	
	comp=Z,162nm,19.8s,baz=64,slow=37						
CPCT	**Cooper Cave**	**19.93**	**331**	*e*Pn	**Pn**	**13 46 17.4**	**+1.2**
SWET	**Sewanee**	**20.43**	**328**	*e*Pn	Pn	13 46 23.4	+1.3
SDMD	**Soldier's Deli**	**21.26**	**351**	P	**P**	**13 46 29.0**	**+0.3**
	35nm,1.1s						
OXF	**Oxford**	**21.85**	**321**	*e*P	**P**	**13 46 34.1**	**-1.0**
	48nm,1.2s						
PTGA	**Pitinga**	**22.80**	**145**	*e*P	**P**	**13 46 43.2

TXAR PcP **PcP** **13 50 55.0 +1.0**
0.3nm,0.6s,baz=99,slow=5.6,SNR=2.9
128A Castleberry Fa 30.20 304 ⇑P **P** **13 47 53.7 +0.6**
baz=30
S31A Mullinville 30.21 315 ⇑P **P** **13 47 54.5 +1.4**
baz=30
X29A Tulia 30.29 308 ⇑P **P** **13 47 55.5 +1.6**
baz=30
527A Woodward Ranch 30.34 299 ⇓P **P** **13 47 55.8 +1.3**
baz=30
Q32A Meitler Ranch, 30.36 318 ⇑P **P** **13 47 55.7 +1.3**
baz=30
427A Hayter Ranch, 30.36 300 ⇑P **P** **13 47 55.9 +1.3**
baz=30
AMTX Amarillo 30.46 308 ⇑P **P** **13 47 56.5 +1.1**
baz=30
R31A Burdett 30.60 316 ⇓P **P** **13 47 57.4 +0.9**
baz=31
526A Mary Lane Ranc 30.72 298 P **P** **13 47 59.4 +1.6**
baz=31
P32A Huiting Farm, 30.76 319 ⇑P **P** **13 47 59.2 +1.4**
baz=31
426A McDonald Obser 30.83 299 ⇓P **P** **13 47 59.9 +1.0**
baz=31
S30A Montezuma 30.88 314 ⇑P **P** **13 48 00.3 +1.2**
baz=31
R30A Dighton 31.09 315 ⇓P **P** **13 48 02.3 +1.4**
baz=31
S29A Ulysses 31.32 314 ⇓P **P** **13 48 04.2 +1.3**
baz=31
Q30A Quinter 31.43 316 ⇓P **P** **13 48 04.8 +1.0**
baz=32
O31A Woolen Ranch, 31.52 319 ⇑P **P** **13 48 05.4 +0.8**
baz=32
W27A Bowe Ranch, En 31.57 308 ⇑P **P** **13 48 05.7 +0.5**
baz=32
P30A Selden 31.75 317 ⇑P **P** **13 48 08.1 +1.4**
baz=32
T28A Walsh 31.77 312 ⇑P **P** **13 48 08.2 +1.2**
baz=32
325A Bean Ranch, Si 31.80 300 ⇓P **P** **13 48 08.2 +0.8**
baz=32
S28A Manter 31.85 313 ⇓P **P** **13 48 08.5 +0.9**
baz=32
Q29A Oakley 31.88 316 ⇑P **P** **13 48 08.8 +1.0**
baz=32,SNR=6.8
X26A CR and CF Fran 31.93 306 ⇓P **P** **13 48 09.4 +0.9**
baz=32
125A Gardner Draw, 31.93 303 ⇑P **P** **13 48 09.5 +1.0**
baz=32
O30A MW Ranch, Wils 31.99 319 ⇓P **P** **13 48 10.1 +1.3**
baz=32
W26A Owens Ranch, T 32.10 307 ⇑P **P** **13 48 10.9 +1.0**
baz=32
R28A Tribune 32.16 314 ⇑P **P** **13 48 10.8 +0.5**
baz=32,SNR=7.5
Z25A Roswell 32.18 304 ⇑P **P** **13 48 11.8 +1.2**
baz=32
Y25A Mesa, Roswell 32.38 305 ⇑P **P** **13 48 13.6 +1.2**
baz=32
V26A Tequesquite Ra 32.40 309 ⇑P **P** **13 48 13.2 +0.6**
baz=32
O29A 4D Ranch, Culb 32.43 318 ⇑P **P** **13 48 13.9 +1.3**
baz=32
224A Cornudas Mount 32.45 301 ⇓P **P** **13 48 13.8 +0.7**
baz=32,SNR=8.9
124A Stringfield Ra 32.59 302 ⇓P **P** **13 48 15.3 +1.0**
baz=33,SNR=6.8
S27A Las Animas 32.59 312 ⇓P **P** **13 48 15.0 +0.8**
baz=33
U26A Atchley Ranch, 32.62 310 ⇑P **P** **13 48 15.2 +0.7**
baz=33
W25A X Bar L Ranch, 32.68 307 ⇓P **P** **13 48 15.7 +0.7**
baz=33,SNR=6.4
Z24A Sheeppen Canyo 32.71 304 ⇓P **P** **13 48 16.7 +1.3**
baz=33,SNR=6.8
R27A Eads 32.80 313 ⇓P **P** **13 48 16.9 +0.8**
baz=33
T26A Comanche Natio 32.85 311 ⇓P **P** **13 48 17.2 +0.7**
baz=33
Y24A Capitan 32.97 305 ⇓P **P** **13 48 18.6 +1.1**
baz=33,SNR=5.7
V25A Rancho No Teng 33.04 308 ⇓P **P** **13 48 19.3 +1.1**
baz=33,SNR=9.9
U25A Circle Dot Ran 33.11 309 ⇓P **P** **13 48 19.5 +0.6**
baz=33
R26A Arlington 33.26 313 ⇓P **P** **13 48 21.6 +1.6**
baz=33
W24A Lazy 6 Ranch, 33.40 307 ⇑P **P** **13 48 22.8 +1.4**
baz=33,SNR=5.8
T25A Trinidad 33.42 310 ⇓P **P** **13 48 22.7 +1.1**
baz=33,SNR=7.7
Y23A Lovelace Mesa, 33.45 304 ⇓P **P** **13 48 22.6 +0.8**
baz=34
V24A Rampart Ranch, 33.49 308 ⇑P **P** **13 48 23.4 +1.3**
baz=34
Q26A Hugo 33.61 314 ⇓P **P** **13 48 24.3 +1.3**
baz=34
S25A Robets Cordova 33.67 311 ⇑P **P** **13 48 24.7 +1.1**
baz=34
R25A Fountain Ranch 33.77 312 ⇓P **P** **13 48 25.6 +1.1**
baz=34
W23A Werner Place, 33.95 306 ⇓P **P** **13 48 27.3 +1.2**
baz=34
T24B San Luis 34.09 310 ⇑P **P** **13 48 28.6 +1.1**
baz=34
V23A Ortiz Mt. (NFS 34.18 307 ⇓P **P** **13 48 29.3 +1.2**
baz=34
S24A Houchin Ranch, 34.21 311 ⇑P **P** **13 48 29.8 +1.3**
baz=34
R24A Sanders Place, 34.39 312 ⇑P **P** **13 48 30.7 +0.8**
baz=34,SNR=5.2
U23A El Rito 34.41 308 ⇓P **P** **13 48 31.5 +1.4**
baz=34
LPAZ La Paz 34.75 172 *eP* **P** **13 48 32.3 -1.3**
3.1nm,0.7s
LPAZ La Paz 34.75 172 P **P** **13 48 34.8 +1.3**
3.3nm,0.6s,baz=326,slow=6.2,SNR=8.1
LPAZ LR LR 14 03 36.3
comp=Z,236nm,21.1s,baz=347,slow=38
Q24A Divide 34.75 313 ⇑P **P** **13 48 34.2 +1.0**
baz=35
V22A San Miguel Ran 34.79 307 ⇑P **P** **13 48 34.9 +1.4**
baz=35
U22A Llaves 34.92 308 ⇓P **P** **13 48 36.0 +1.4**
baz=35,SNR=5.8
AGMN Agassiz Nation 35.25 333 ⇑P **P** **13 48 38.2 +1.2**
baz=35
K26A Motz Farm, Whi 35.35 320 ⇓P **P** **13 48 39.2 +1.2**
baz=35
S22A 4UR Ranch, Cre 35.43 310 ⇑P **P** **13 48 39.3 +0.4**
baz=35
ISCO Idaho Springs 35.45 314 ⇓P **P** **13 48 40.0 +0.8**
baz=36
J26A Sides Ranch, S 35.63 321 ⇑P **P** **13 48 41.2 +0.7**
baz=36
M24A Cheyenne 35.73 317 ⇓P **P** **13 48 42.4 +1.0**
baz=36
C30A Mose, Pekin 35.99 330 ⇓P **P** **13 48 44.9 +1.5**
baz=36
SIV San Ignacio 36.05 161 P **P** **13 48 43.1 -1.0**
SIV San Ignacio 36.05 161 P **P** **13 48 43.1 -1.0**
3.0nm,0.8s,baz=18,slow=10.0,SNR=7.9
J25A Sunshine Ranch 36.11 320 ⇓P **P** **13 48 45.5 +0.9**
baz=36
P22A Eagle 36.15 313 ⇑P **P** **13 48 46.1 +1.0**
baz=36
N23A Red Feather La 36.19 315 ⇓P **P** **13 48 46.3 +0.9**
baz=36
O22A Kremmling 36.25 314 ⇓P **P** **13 48 46.6 +0.5**
baz=36
K24A Anderson Ranch 36.38 319 ⇓P **P** **13 48 48.0 +1.1**
baz=36
MVCO Mesa Verde 36.45 308 ⇓P **P** **13 48 48.1 +0.4**
baz=36
B30A Myrvik Farm, E 36.46 331 ⇑P **P** **13 48 48.5 +1.1**
baz=36
N22A Wattenberg Ran 36.48 315 ⇑P **P** **13 48 48.1 +0.1**
baz=36
J24A Dixon Ranch, L 36.60 320 ⇓P **P** **13 48 49.6 +0.8**
baz=37
L23A Garrett 36.62 317 ⇓P **P** **13 48 49.3 +0.2**
baz=37,SNR=7.3
MDND Maddock 36.63 329 ⇑P **P** **13 48 50.1 +1.2**
baz=37
SCHQ Schefferville 36.68 6 P **P** **13 48 49.5 +0.3**
SCHQ Schefferville 36.68 6 P **P** **13 48 49.5 +0.3**
6.1nm,0.8s,baz=201,slow=11,SNR=4.5
SCHQ LR LR 14 01 37.3
comp=Z,186nm,18.2s,baz=262,slow=33
H25A Fruitdale 36.69 322 ⇑P **P** **13 48 50.6 +1.1**
baz=37
ULM Lac du Bonnet 36.77 335 P **P** **13 48 49.0 -0.9**
ULM Lac du Bonnet 36.77 335 P **P** **13 48 49.0 -0.9**
1.9nm,0.8s,baz=141,slow=6.5,SNR=3.3
A30A Hoffart Farm, 36.80 332 ⇓P **P** **13 48 51.6 +1.3**
baz=37
F26A Lodgepole 36.91 325 ⇑P **P** **13 48 52.2 +0.9**
baz=37
G25A Newell 36.93 323 ⇑P **P** **13 48 52.0 +0.5**
baz=37,SNR=6.6
A29A Manning Farm, 37.22 331 ⇓P **P** **13 48 54.7 +0.9**
baz=37
H24A Dirks Ranch, A 37.32 322 ⇑P **P** **13 48 55.3 +0.4**
baz=37
K22A Casper 37.42 318 ⇑P **P** **13 48 56.6 +0.8**
baz=37
G24A Alzada 37.58 323 ⇑P **P** **13 48 58.0 +1.0**
baz=38
E25A Miller Ranch, 37.71 325 ⇑P **P** **13 48 59.0 +0.9**
baz=38
B27A Peters Farms, 37.82 329 ⇑P **P** **13 49 00.2 +1.3**
baz=38
C26A Wahner Farm, P 37.85 328 ⇑P **P** **13 49 00.1 +0.9**
baz=38
K21A Alcova 37.88 317 ⇓P **P** **13 49 00.3 +0.6**
baz=38,SNR=12
I22A 9 Mile Ranch, 38.02 319 ⇓P **P** **13 49 01.4 +0.6**
baz=38
WUAZ Wupatki 38.11 304 ⇑P **P** **13 49 03.2 +1.5**
baz=38
I21A Big Trails, Te 38.49 319 ⇑P **P** **13 49 04.4 -0.3**
baz=38,SNR=6.9
G22A Birney 38.61 321 ⇓P **P** **13 49 06.7 +0.9**
baz=39
J20A Shoshoni 38.76 318 ⇓P **P** **13 49 08.1 +1.0**
baz=39
F22A Rosebud 38.90 322 ⇓P **P** **13 49 08.1 0.0**
baz=39,SNR=5.3
U15A North Rim 39.08 306 ⇓P **P** **13 49 10.6 +0.6**
baz=39
I20A Worland 39.08 319 ⇑P **P** **13 49 10.4 +0.7**
baz=39
J19A Crowheart 39.34 317 ⇑P **P** **13 49 11.9 -0.1**
baz=39,SNR=6.9
PDAR Pinedale Array 39.45 316 P **P** **13 49 12.7 -0.3**
PDAR Pinedale Array 39.45 316 P **P** **13 49 12.7 -0.3**
1.1nm,0.7s,baz=124,slow=9.2,SNR=9.6
C23A Lambert 39.46 325 ⇑P **P** **13 49 14.2 +1.4**
baz=40
A24A Westby 39.53 328 ⇑P **P** **13 49 14.6 +1.2**
baz=40
D22A Cohagen 39.63 324 ⇓P **P** **13 49 15.1 +1.0**
baz=40
DAU Daniels Canyon 39.63 312 *eP* **P** **13 49 15.6 +0.9**
3.7nm,0.8s
I19A Meeteetse 39.67 318 ⇓P **P** **13 49 14.9 +0.2**
baz=40,SNR=7.2
C22A Vida 39.81 325 ⇓P **P** **13 49 16.7 +1.0**
baz=40
H19A Powell 39.97 319 ⇓P **P** **13 49 17.8 +0.7**
baz=40
W13A Hualapai Mount 39.98 303 ⇓P **P** **13 49 18.1 +0.6**
baz=40
E20A Meyer Farm, Mu 40.39 322 ⇑P **P** **13 49 20.5 0.0**
baz=40
H18A Shoshone NF, C 40.40 319 ⇑P **P** **13 49 20.6 -0.2**
baz=40
F19A Roth Farm, Mol 40.53 321 ⇓P **P** **13 49 22.1 +0.3**
baz=41
A22A Carney Farms, 40.57 326 ⇑P **P** **13 49 23.1 +1.2**
baz=41
I17A Pilgrim Ck. 40.63 317 ⇓P **P** **13 49 23.3 +0.6**
baz=41
DUG Dugway 40.66 311 *eP* **P** **13 49 22.9 -0.1**
7.8nm,1.2s
DUG Dugway 40.66 311 ⇑P **P** **13 49 23.6 +0.6**
baz=41
D20A Manuel Ranch, 40.70 323 ⇑P **P** **13 49 21.2 -1.9**
baz=41
E19A Rath Farm, Rou 40.75 322 ⇓P **P** **13 49 23.8 +0.3**
baz=41
IRM Iron Mountain 40.79 301 ⇑P **P** **13 49 25.7 +1.7**
baz=41
C20A Veseth Ranch, 40.97 324 ⇑P **P** **13 49 26.6 +1.3**
baz=41
A21A Bergtoll Ranch 41.10 326 ⇑P **P** **13 49 27.5 +1.1**
baz=41
D19A Cripps Ranch, 41.17 322 ⇑P **P** **13 49 28.6 +1.6**
baz=41
A20A Cobblestone Ra 41.58 325 ⇑P **P** **13 49 30.9 +0.6**
baz=42,SNR=5.2
QLMT Earthquake Lak 41.58 318 *eP* **P** **13 49 29.3 -1.2**
0.9nm,0.8s
BDFB Brasilia 41.69 143 P **P** **13 49 31.4 -0.2**
BDFB Brasilia 41.69 143 P **P** **13 49 31.4 -0.2**
14nm,0.8s,baz=300,slow=10,SNR=17
BDFB LR LR 14 07 18.4
comp=Z,111nm,20.9s,baz=111,slow=37
A19A Klindworth Far 42.05 325 ⇑P **P** **13 49 35.7 +1.6**
baz=42
EGMT Eagleton 42.13 323 ⇑P **P** **13 49 36.2 +1.4**
baz=42
R11A Troy Canyon, C 42.13 307 ⇓P **P** **13 49 35.8 +0.7**
baz=42
TPNV Topopah Spring 42.28 305 ⇓P **P** **13 49 37.4 +1.0**
baz=42
GSC Goldstone 42.36 303 ⇓P **P** **13 49 38.7 +1.8**
baz=42
MCMT McKenzie Canyo 42.49 317 *eP* **P** **13 49 37.9 -0.1**
4.7nm,1.2s
HLID Hailey 43.01 315 ⇓P **P** **13 49 43.0 +0.8**
baz=43
MPMC Manual Prospec 43.06 303 ⇑P **P** **13 49 42.9 +0.2**
baz=43
LRMC Laurel Mountai 43.10 303 ⇑P **P** **13 49 43.2 +0.2**
baz=43
EDW2 Edwards Air Fo 43.23 302 ⇑P **P** **13 49 45.2 +1.2**
baz=43
NVAR Mina Array Bea 44.22 307 P **P** **13 49 52.2 +0.2**
NVAR Mina Array Bea 44.22 307 P **P** **13 49 52.2 +0.2**
1.5nm,0.9s,baz=94,slow=6.3,SNR=8.7
VES Vestal, Richgr 44.29 303 ⇓P **P** **13 49 53.6 +1.3**
baz=44
FRB Frobisher Bay 45.43 3 P **P** **13 50 01.0 +0.1**
FRB Frobisher Bay 45.43 3 P **P** **13 50 01.0 +0.1**
7.9nm,1.1s,baz=184,slow=10,SNR=7.5
NEW Newport 46.60 320 ⇑P **P** **13 50 11.2 +0.7**
baz=47
EDM Edmonton 46.83 328 *eP* **P** **13 50 12.2 0.0**
CPUP Villa Florida 46.91 161 LR LR 14 11 19.7
comp=Z,162nm,20.0s,baz=182,slow=38
CFAA Coronel Fontan 49.88 175 P **P** **13 50 34.7 -1.3**
CFAA Coronel Fontan 49.88 175 P **P** **13 50 34.7 -1.3**
0.2nm,0.3s,baz=315,slow=8.6,SNR=6.3
CFAA LR LR 14 11 34.9
comp=Z,6.3nm,20.0s,baz=45,slow=36
YKA Yellowknife Ar 52.69 337 P **P** **13 50 56.3 -0.3**
YKA Yellowknife Ar 52.69 337 P **P** **13 50 56.3 -0.3**
3.1nm,0.8s,baz=124,slow=7.4,SNR=39
SUMG Summit 57.66 12 *iP* **P** **13 51 34.5 +1.7**
10nm,1.0s
SUMG Summit 57.66 12 *eP* **P** **13 51 32.5 -0.4**
19nm,1.1s
PLCA Paso Flores 58.84 178 P **P** **13 51 40.0 -1.0**
PLCA Paso Flores 58.84 178 P **P** **13 51 40.0 -1.0**
1.8nm,0.7s,baz=348,slow=9.1,SNR=5.6
ESDC Sonseca Array 62.37 54 P **P** **13 52 05.6 +0.3**
ESDC Sonseca Array 62.37 54 P **P** **13 52 05.6 +0.3**
3.4nm,0.7s,baz=278,slow=8.8,SNR=15
ILAR Eielson Array 66.76 333 P **P** **13 52 32.9 -0.6**
ILAR Eielson Array 66.76 333 P **P** **13 52 32.9 -0.6**
1.7nm,1.0s,baz=106,slow=3.4,SNR=19
NB2 NORSAR Subarra 71.22 31 P **P** **13 53 02.2 +0.8**
comp=Z,4.6nm,1.0s,baz=278,slow=6.5
NOA NORSAR Array B 71.22 31 P **P** **13 53 01.7 +0.3**
NOA NORSAR Array B 71.22 31 P **P** **13 53 01.7 +0.3**
comp=Z,2.1nm,0.9s,baz=275,slow=6.2,SNR=3.6
NOA LR LR 14 19 15.0
comp=Z,60nm,18.4s,baz=270,slow=32
TORD Torodi Ar. Bea 71.45 82 P **P** **13 53 03.1 -0.4**
TORD Torodi Ar. Bea 71.45 82 P **P** **13 53 03.1 -0.4**
comp=Z,3.5nm,0.9s,baz=287,slow=5.2,SNR=14
KEST Kesra 73.28 57 P **P** **13 53 14.7 +0.6**
KEST Kesra 73.28 57 P **P** **13 53 14.7 +0.6**
comp=Z,3.7nm,0.9s,baz=351,slow=3.5,SNR=4.4
CLL Collm 73.29 41 *eP* **P** **13 53 14.0 +0.2**
BRG Berggiesshubel 73.95 41 *eP* **P** **13 53 19.7 +2.0**
comp=Z,21nm,1.5s
KHC Kasperske Hory 74.00 43 *eP* **P** **13 53 19.4 +1.3**
KHC Kasperske Hory 74.00 43 *eP* **P** **13 53 17.5 -0.6**
comp=Z,13nm,1.1s
GERES GERESS Array B 74.13 43 P **P** **13 53 19.4 +0.5**
GERES GERESS Array B 74.13 43 P **P** **13 53 19.4 +0.5**
comp=Z,7.0nm,0.9s,baz=264,slow=4.0,SNR=34
GERES LR LR 14 21 03.2
comp=Z,112nm,18.7s,baz=0.9,slow=32
PRU Pruhonice 74.47 42 *eP* **P** **13 53 22.8 +2.0**
UPC Upice 75.31 41 *eP* **P** **13 53 27.2 +1.6**
DPC Dobruska-Polom 75.53 41 *eP* **P** **13 53 28.3 +1.3**
ARCES ARCESS Array B 75.82 21 P **P** **13 53 28.4 +0.3**
ARCES ARCESS Array B 75.82 21 P **P** **13 53 28.4 +0.3**
comp=Z,6.0nm,0.9s,baz=273,slow=4.5,SNR=9.6
ARCES LR LR 14 21 30.2
comp=Z,103nm,19.7s,baz=185,slow=32
KRLC Kraliky 75.88 42 *eP* **P** **13 53 30.5 +1.6**
MORC Moravsky Berou 76.42 42 *eP* **P** **13 53 32.2 +0.1**
comp=Z,8.1nm,1.0s
OKC Ostrava-Krasne 76.79 42 *eP* **P** **13 53 35.8 +1.8**
FINES FINESS Array B 78.21 29 P **P** **13 53 41.9 +0.2**
FINES FINESS Array B 78.21 29 P **P** **13 53 41.9 +0.2**
comp=Z,6.0nm,1.0s,baz=298,slow=4.1,SNR=8.4
FINES LR LR 14 24 06.3
comp=Z,98nm,18.6s,baz=285,slow=32
STHS Stebnicka Huta 78.84 42 *eP* **P** **13 53 48.2 +2.7**
CRVS Cervenica-Dubn 79.12 42 *eP* **P** **13 53 50.0 +3.0**
KOLS Kolonicke sedl 79.62 42 *eP* **P** **13 53 52.8 +3.0**
KWP Kalwaria Pacla 79.70 41 *eP* **P** **13 53 52.7 +2.5**
KWP Kalwaria Pacla 79.70 41 ⇑*iP* P 13 53 54.0 +3.8
KWP Kalwaria Pacla 79.70 41 *eP* **P** **13 53 51.0 +0.8**
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 81.87 43 *eP* **P** **13 54 03.6 +1.6**
VOIR 82.47 45 ⇑*iP* **P** **13 54 06.2 +1.1**
MLR Muntele Rosu 83.05 44 ⇓*iP* **P** **13 54 10.4 +2.2**
AKASG Malin Array Be 83.34 39 P **P** **13 54 09.1 -0.3**
AKASG Malin Array Be 83.34 39 P **P** **13 54 09.1 -0.3**
comp=Z,4.3nm,0.9s,baz=281,slow=4.1,SNR=12
VRI Vrincioaia 83.44 44 ⇑*iP* **P** **13 54 12.4 +2.3**
BRTR Keskin Array B 90.45 48 P **P** **13 54 45.5 +1.0**
BRTR Keskin Array B 90.45 48 P **P** **13 54 45.5 +1.0**
comp=Z,2.7nm,0.9s,baz=278,slow=4.7,SNR=11
BRTR LR LR 14 32 37.5
comp=Z,35nm,18.3s,baz=137,slow=34
KBZ Khabaz 94.75 41 LR LR 14 38 40.8
comp=Z,76nm,19.0s,baz=11,slow=36
SONM Songino Array 114.10 1 PKKPab PKKPab 14 11 08.4 -3.7
SONM Songino Array 114.10 1 PKKPab PKKPab 14 11 08.4 -3.7
comp=Z,0.7nm,0.9s,baz=174,slow=2.9,SNR=4.2
KSH Kashi 115.44 26 *e*PKP **PKPdf** **14 00 26.0 +1.2**
KSH *e*PP PP 14 01 35.1 +10
KSH *e*SKS **SKSdf** **14 07 33.4 -2.9**
KSH *e*SKKS **SKKSac** **14 08 24.3 -2.7**
WMQ Urumqi 115.58 16 PKP **PKPdf** **14 00 25.6 +0.7**
HHC Hu-ho-hao-te 120.94 356 *e*PKP PKPdf 14 00 29.3 -6.0
HHC SKS SKSdf 14 07 37.9 -8.8
HHC SKKS SKKSac 14 08 54.3 -8.9
HHC SS **SS** **14 18 29.4 -3.5**
LZH Lanzhou 125.75 3 *e*PKP **PKPdf** **14 00 41.0 -3.7**
LZH sPKP 14 00 46.8
KMI Kunming 136.55 6 PKP **PKPdf** **14 01 07.1 +1.6**
STKA Stephens Creek 146.23 240 PKPbc **PKPdf** **14 01 22.8 +0.5**
STKA Stephens Creek 146.23 240 PKPbc **PKPdf** **14 01 22.8 +0.5**
comp=Z,4.4nm,0.8s,baz=91,slow=2.0,SNR=11
WRA Warramunga Arr 154.32 262 PKP **PKPdf** **14 01 34.5 -0.8**
WRA PKPbc **PKPbc** **14 01 42.5 -1.0**
WRA Warramunga Arr 154.32 262 PKP **PKPdf** **14 01 34.5 -0.8**
comp=Z,1.5nm,0.8s,baz=65,slow=1.3,SNR=9.2
WRA PKPbc **PKPbc** **14 01 42.5 -1.0**
comp=Z,3.1nm,0.8s,baz=84,slow=1.8,SNR=16
ASAR Alice Springs 154.54 253 PKP **PKPdf** **14 01 35.1 -0.4**
ASAR PKPbc **PKPbc** **14 01 42.9 -1.1**
ASAR Alice Springs 154.54 253 PKP **PKPdf** **14 01 35.1 -0.4**
comp=Z,0.5nm,0.8s,baz=75,slow=1.6,SNR=6.4
ASAR PKPbc **PKPbc** **14 01 42.9 -1.1**
comp=Z,1.2nm,0.8s,baz=96,slow=2.3,SNR=9.7

IDC 15 14:13:51.8±648.0, 54.22N×8.20E, h0km, Error ellipse: s-maj=279.8km s-min=126.2km az=134.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**6.38**	**145**	*i*		14 57 50.0	
	baz=328,slow=327,SNR=0.3						
I43RU	**DUBNA INFRASON**	**6.58**	**70**	*i*		15 52 50.0	
	baz=273,slow=336,SNR=0.3						
I31KZ	**AKTYUBINSK INF**	**30.19**	**77**	*i*		17 17 00.0	
	baz=292,slow=326,SNR=0.4						

GEN ***15*** *14:20:52.9, 45.70N×14.33E, h5km, ML3.8*
LDG ***15*** *14:20:53.6±0.1, 45.84N×14.23E, h10km, Ml3.9/20, Error ellipse: s-maj=2.9km s-min=2.6km az=178.0*
ROM ***15*** *14:20:53.3±0.3, 45.73N×14.26E, h10km, Ml4.1/22, Error ellipse: s-maj=3.6km s-min=2.8km az=87.0*
LJU ***15*** *14:20:54.0, 45.78N×14.20E, h15km, ML3.7*
ISCJB ***15*** *14:20:54.1±0.2, 45.76N±0.01×14.18E±0.01, h23km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=19.7*
PDG ***15*** *14:20:54.2±0.5, 45.80N×14.18E, h16km, ML3.8/10, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
BEO ***15*** *14:20:54.8±0.3, 45.78N×14.21E, h5km±1km, ML3.7/1*
VIE ***15*** *14:20:54.6±0.2, 45.83N×14.23E, h9km±1km, mb3.4/18, ML4.0/20, Error ellipse: s-maj=1.4km s-min=0.9km az=167.0 25 km SE of Idrija*
CSEM ***15*** *14:20:54.1±0.1, 45.79N×14.18E, h10km, ML3.7, Error ellipse: s-maj=1.7km s-min=1.2km az=18.0*
SZGRF ***15*** *14:20:55.3, 45.80N×14.20E, h10km, mb3.8, Northwestern Balkan Peninsula*
PRU ***15*** *14:20:56.9, 45.92N×14.29E, h16km*
STR ***15*** *14:21:02.1±0.3, 45.81N×13.31E, h10km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 15 14:20:54.3±0.6, 45.78N±0.01×14.187E±0.010, h18km±2km, n409, σ1s50/647, 90C-54D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.14**	**323**	⇑*iPg*	**Pg**	**14 20 58.3**	**-0.3**
JAVS				*i* Sg	**Sg**	**14 21 01.2**	**-0.3**
JAVS							
	comp=Z,17μm,0.2s						
JAVS	**Javornik**	**0.14**	**323**	⇑*iPg*	**Pg**	**14 20 58.3**	**-0.3**
JAVS				*i* Sg	**Sg**	**14 21 01.2**	**-0.3**
	comp=Z,17μm,0.2s						
CEY	**Cerknica**	**0.17**	**103**	⇑*iPg*	**Pb**	**14 20 58.3**	**0.0**
CEY				*i* Sg	**Sg**	**14 21 01.3**	**-0.7**
CEY							
	comp=Z,5μm,0.1s						
CEY	**Cerknica**	**0.17**	**103**	⇑*iPg*	**Pb**	**14 20 58.2**	**0.0**
CEY	**Cerknica**	**0.17**	**103**	⇑*iPg*	**Pb**	**14 20 58.2**	**0.0**
CEY				*i* Sg	**Sg**	**14 21 01.3**	**-0.7**
	comp=Z,5μm,0.1s						
SKDS	**Skadanscina**	**0.26**	**208**	⇓*iPg*	**Pg**	**14 20 59.7**	**-0.5**
SKDS				*i* Sg	**Sb**	**14 21 04.3**	**-0.1**
SKDS							
	comp=Z,3μm,0.1s						
SKDS	**Skadanscina**	**0.26**	**208**	⇓*iPg*	**Pg**	**14 20 59.7**	**-0.5**
SKDS				*i* Sg	**Sb**	**14 21 04.0**	**-0.4**
SKDS	**Skadanscina**	**0.26**	**208**	⇓*iPg*	**Pg**	**14 20 59.7**	**-0.5**
SKDS				*i* Sg	**Sb**	**14 21 04.0**	**-0.4**
KNDS	**Knezji Dol**	**0.28**	**152**	⇑*iPg*	**Pg**	**14 21 00.0**	**-0.6**
KNDS				*i* Sg	**Sg**	**14 21 04.6**	**-0.4**
KNDS							
	comp=Z,5μm,0.2s						
KNDS	**Knezji Dol**	**0.28**	**152**	⇑*iPg*	**Pg**	**14 21 00.0**	**-0.6**
KNDS				*i* Sg	**Sg**	**14 21 04.6**	**-0.4**
	comp=Z,5μm,0.2s						
TRI	**Trieste**	**0.30**	**257**	⇓*ePg*	**Pg**	**14 21 00.6**	**-0.3**
TRI				*e*Sg	**Sg**	**14 21 05.5**	**+0.1**
TRI	**Trieste**	**0.30**	**257**	Pg	**Pg**	**14 21 00.6**	**-0.3**
TRI				Sg	**Sg**	**14 21 05.5**	**+0.1**
	comp=Z,14μm,0.6s						
TRI	**Trieste**	**0.30**	**257**	*eP*	**Pg**	**14 21 00.6**	**-0.3**
TRI				Sg	**Sg**	**14 21 05.5**	**+0.1**
	comp=Z,14μm,0.6s						
CRNS	**Crni Vrh**	**0.31**	**10**	⇓*iPg*	**Pg**	**14 21 00.7**	**-0.3**
CRNS				*i* Sg	**Sg**	**14 21 05.2**	**-0.4**

comp=Z,2µm,0.1s
VOJS Vojsko 0.33 320⇑ *i*Pg Pg 14 21 01.2 -0.2
VOJS *i* Sg **Sg 14 21 06.3 +0.1**
VOJS
comp=Z,3µm,0.1s
VOJS Vojsko 0.33 320⇑ *i*Pg Pg 14 21 01.2 -0.2
VOJS *i* Sg **Sg 14 21 06.3 +0.1**
comp=Z,3µm,0.1s
LJU Ljubljana 0.36 42 *i*Pg Pg 14 21 01.8 0.0
LJU *i* Sg **Sg 14 21 06.9 -0.1**
LJU
comp=Z,3µm,0.1s
LJU Ljubljana 0.36 42⇓ *i*Pg Pg 14 21 01.9 0.0
LJU *i* Sg **Sg 14 21 06.8 -0.1**
LJU Ljubljana 0.36 42 *i*Pg Pg 14 21 01.8 0.0
LJU *i* Sg **Sg 14 21 06.8 -0.1**
SABO M.te Sabotino 0.46 296⇑ *e*Pg Pg 14 21 03.0 -0.6
SABO *e*Sg **Sg 14 21 09.9 +0.1**
SABO M.te Sabotino 0.46 296 *e*P Pg 14 21 03.0 -0.6
SABO *e*Sg **Sg 14 21 09.9 +0.1**
VISS Visnje 0.46 87⇑ *i*Pg Pg 14 21 03.0 -0.6
VISS *e*Sg **Sg 14 21 09.1 -0.8**
VISS
comp=Z,3µm,0.1s
VISS Visnje 0.46 87⇑ *i*Pg Pg 14 21 03.0 -0.6
VISS *e*Sg **Sg 14 21 09.1 -0.8**
comp=Z,3µm,0.1s
VNDS Vrh nad Dolski 0.48 48⇓ *i*Pg Pg 14 21 04.0 0.0
VNDS *i* Sg **Sg 14 21 10.2 -0.4**
VNDS
comp=Z,3µm,0.2s
RIY Rijeka 0.50 155⇑ *i*Pg Pg 14 21 03.5 -0.8
RIY *i* Sg **Sg 14 21 11.3 +0.2**
GBRS Gornja Briga 0.50 119⇑ *i*Pg Pg 14 21 03.7 -0.7
GBRS *i* Sg **Sb 14 21 11.4 -0.1**
comp=Z,4µm,0.2s
MOZS Mozjanca 0.55 19⇓ *i*Pg Pg 14 21 05.4 +0.2
MOZS
comp=Z,1µm,0.1s
MOZS Mozjanca 0.55 19⇓ *i*Pg Pg 14 21 05.4 +0.2
comp=Z,1µm,0.1s
DRE Drenchia 0.55 316⇑ *e*Pg Pb 14 21 04.7 -0.6
DRE *e*Sg **Sg 14 21 13.2 +0.6**
DRE Drenchia 0.55 316 *e*P Pb 14 21 04.7 -0.6
DRE *e*Sg **Sg 14 21 13.2 +0.6**
CADS Cadrg 0.55 325⇑ *i*Pg Pb 14 21 04.7 -0.6
CADS *i* Sg **Sg 14 21 13.5 +0.8**
CADS
comp=Z,2µm,0.2s
CADS Cadrg 0.55 325⇑ *i*Pg Pb 14 21 04.7 -0.6
CADS *i* Sg **Sg 14 21 13.5 +0.8**
comp=Z,2µm,0.2s
GORS Gorjuse 0.56 346 *i*Pg Pb 14 21 05.0 -0.5
GORS *e*Sg **Sb 14 21 12.7 -0.3**
GORS
comp=Z,1µm,0.1s
GORS Gorjuse 0.56 346 *i*Pg Pb 14 21 05.0 -0.5
GORS *e*Sg **Sb 14 21 12.7 -0.3**
comp=Z,1µm,0.1s
PDKS Podkum 0.63 63⇑ *i*Pg Pb 14 21 06.7 0.0
PDKS *e*Sg **Sb 14 21 14.8 -0.4**
PDKS
comp=Z,2µm,0.2s
PDKS Podkum 0.63 63⇑ *i*Pg Pb 14 21 06.7 0.0
PDKS *e*Sg **Sb 14 21 14.8 -0.4**
comp=Z,2µm,0.2s
ROBS Robic 0.66 315⇑ *i*Pg Pb 14 21 06.5 -0.7
ROBS *e*Sg **Sg 14 21 17.0 +0.8**
ROBS
comp=Z,952nm,0.2s
ROBS Robic 0.66 315⇑ *i*Pg Pb 14 21 06.5 -0.7
ROBS *e*Sg **Sg 14 21 17.0 +0.8**
comp=Z,952nm,0.2s
COLI Coloredo 0.67 302⇑ *e*Pg Pb 14 21 06.9 -0.4
COLI *e*Sg **Sg 14 21 17.4 +1.1**
COLI Coloredo 0.67 302 *e*P Pb 14 21 06.9 -0.4
COLI *e*Sg **Sg 14 21 17.4 +1.1**
TLI Talmassons 0.77 281⇑ *e*Pg Pb 14 21 08.8 -0.3
TLI Talmassons 0.77 281⇑ *e*Pg Pb 14 21 08.8 -0.3
OBKA Obir 0.77 19 *e*Pg Pb 14 21 09.3 0.0
OBKA *e*Sg **Sg 14 21 20.1 +0.4**
OBKA Obir 0.77 19⇓ *e*Pg Pb 14 21 09.2 0.0
SNR=115
OBKA ⇓ *i*Sg **Sb 14 21 18.9 -0.5**
comp=Z,3µm,0.3s
OBKA Obir 0.77 19 Pg Pb 14 21 09.2 0.0
SNR=115
OBKA Sg **Sb 14 21 18.9 -0.5**
comp=Z,3µm,0.3s
BOJS Bojanci 0.80 110 *i*Pg Pb 14 21 08.7 -0.8
BOJS *i* Sg **Sb 14 21 19.6 -0.3**
BOJS
comp=Z,981nm,0.1s
BOJS Bojanci 0.80 110 *e*Pg Pb 14 21 09.1 -0.4
BOJS *i* Sg **Sb 14 21 19.4 -0.5**
BOJS Bojanci 0.80 110 *e*Pg Pb 14 21 09.1 -0.4
BOJS *i* Sg **Sb 14 21 19.6 -0.3**
comp=Z,981nm,0.1s
BAD Bernadia 0.80 305⇓ *e*Pg Pb 14 21 09.2 -0.5
BAD *e*Sg **Sn 14 21 22.1 -0.1**
BAD Bernadia 0.80 305 *e*P Pb 14 21 09.2 -0.5
BAD *e*Sg **Sn 14 21 22.1 -0.1**
LEGS Legarje 0.81 77⇑ *i*Pg Pb 14 21 09.4 -0.3
LEGS *e*Sg **Sb 14 21 20.0 -0.3**
LEGS Legarje 0.81 77⇑ *i*Pg Pb 14 21 09.4 -0.3
LEGS *e*Sg **Sb 14 21 20.0 -0.3**
LSR Lussari 0.83 327⇑ *e*Pg Pb 14 21 09.6 -0.7
LSR *e*Sg **Sn 14 21 23.4 +0.2**
LSR Lussari 0.83 327 *e*P Pb 14 21 09.6 -0.7
LSR *e*Sg **Sn 14 21 23.4 +0.2**
PTCC Patocco-Chiusa 0.85 318 Pg Pb 14 21 09.8 -0.8
comp=Z,2µm,0.4s
PTCC Patocco-Chiusa 0.85 318 Pg Pb 14 21 09.8 -0.8
comp=Z,2µm,0.4s
BUA Buia 0.86 301⇓ *e*Pg Pb 14 21 10.6 -0.1
BUA *e*Sg **Sn 14 21 24.8 +1.2**
BUA Buia 0.86 301 *e*P Pb 14 21 10.6 -0.1
BUA *e*Sg **Sn 14 21 24.8 +1.2**
GEPF Gemona 0.88 305 Pg Pb 14 21 10.6 -0.4
GEPF Sg **Sn 14 21 24.5 +0.4**
comp=Z,2µm,0.3s
GEPF Gemona 0.88 305 Pg Pb 14 21 10.6 -0.4
GEPF Sg **Sn 14 21 24.5 +0.4**
comp=Z,2µm,0.3s
CRES Cresnjev 0.89 86⇑ *i*Pg Pb 14 21 10.7 -0.4
CRES
comp=Z,3µm,0.3s
CRES Cresnjev 0.89 86⇑ *i*Pg Pb 14 21 10.7 -0.4
comp=Z,3µm,0.3s
ACOM Acomizza, Ital 0.90 329⇑ *e*Pg Pb 14 21 10.8 -0.6
ACOM *e*Sg **Sb 14 21 23.2 0.0**
ACOM Acomizza, Ital 0.90 329 Pg Pb 14 21 10.9 -0.6
ACOM Sg **Sn 14 21 25.4 +0.6**
comp=Z,8µm,0.4s
ACOM Acomizza, Ital 0.90 329 Pg Pb 14 21 10.9 -0.6
ACOM *e*Sg **Sb 14 21 23.2 0.0**
CESS Cesta pri Krsk 0.91 77 *i*Pg Pb 14 21 11.3 -0.2
CESS *e*Sg **Sb 14 21 23.0 -0.3**
CESS
comp=Z,2µm,0.2s
CESS Cesta pri Krsk 0.91 77 *i*Pg Pb 14 21 11.3 -0.2
CESS *e*Sg **Sb 14 21 23.0 -0.3**
comp=Z,2µm,0.2s
BOO Bordano 0.93 306⇑ *e*Pg Pb 14 21 11.4 -0.5
BOO Bordano 0.93 306⇑ *e*Pg Pb 14 21 11.4 -0.5
MYKA Terra Mystica 0.93 336 *e*Pg Pb 14 21 11.9 0.0
SNR=74
MYKA ⇑ *i*Sg **Sg 14 21 25.2 +0.5**
comp=Z,2µm,0.3s
MYKA Terra Mystica 0.93 336 Pg Pb 14 21 11.9 0.0
SNR=74
MYKA Sg **Sg 14 21 25.2 +0.5**
comp=Z,2µm,0.3s
MPRI Monte Prat 0.95 299⇓ *e*Pg Pb 14 21 12.1 -0.2
MPRI *e*Sg **Sn 14 21 27.3 +1.4**
MPRI Monte Prat 0.95 299 *e*P Pb 14 21 12.1 -0.2
MPRI *e*Sg **Sn 14 21 27.3 +1.4**
DOBS Dobrina 0.97 67⇑ *i*Pg Pb 14 21 12.4 -0.1
DOBS *i* Sg **Sg 14 21 25.3 -0.5**
DOBS
comp=Z,562nm,0.1s
DOBS Dobrina 0.97 67⇑ *i*Pg Pb 14 21 12.4 -0.1
DOBS *i* Sg **Sg 14 21 25.3 -0.5**
comp=Z,562nm,0.1s
GCIS Gornji Cirnik 1.01 84 *e*Pg Pn 14 21 13.4 -0.1
GCIS *i* Sg **Sn 14 21 26.6 -0.7**
GCIS
comp=Z,1µm,0.2s
GCIS Gornji Cirnik 1.01 84 *e*Pg Pn 14 21 13.4 -0.1
GCIS *i* Sg **Sn 14 21 26.6 -0.7**
comp=Z,1µm,0.2s
GOLS Golise 1.03 76⇑ *i*Pg Pb 14 21 13.5 -0.1
GOLS *i* Sg **Sb 14 21 26.8 +0.1**
GOLS
comp=Z,2µm,0.2s
GOLS Golise 1.03 76⇑ *i*Pg Pb 14 21 13.5 -0.1
GOLS *i* Sg **Sb 14 21 26.8 +0.1**
comp=Z,2µm,0.2s
FUSE Fusea 1.04 308⇑ *e*Pg Pb 14 21 13.2 -0.5
FUSE *e*Sg **Sg 14 21 28.7 +0.5**
FUSE Fusea 1.04 308 *e*P Pb 14 21 13.2 -0.5
FUSE *e*Sg **Sg 14 21 28.7 +0.5**
PLRO Paularo 1.06 317⇓ *e*Pg Pb 14 21 13.6 -0.5
PLRO Paularo 1.06 317⇓ *e*Pg Pb 14 21 13.6 -0.5
PERS Pernice 1.07 37⇓ *i*Pg Pb 14 21 14.1 -0.2
PERS *e*Sg **Sn 14 21 28.3 -0.6**
PERS
comp=Z,559nm,0.1s
PERS Pernice 1.07 37⇓ *i*Pg Pb 14 21 14.1 -0.2
PERS *e*Sg **Sn 14 21 28.3 -0.6**
comp=Z,559nm,0.1s
SOKA Soboth 1.07 33⇓ *e*Pg Pb 14 21 14.2 -0.1
SNR=123
SOKA ⇑ *i*Sg **Sb 14 21 28.1 0.0**
comp=Z,788nm,0.4s
SOKA Soboth 1.07 33 Pg Pb 14 21 14.2 -0.1
SNR=123
SOKA Sg **Sb 14 21 28.1 0.0**
comp=Z,788nm,0.4s
BISS Bistriski jare 1.09 37⇓ *i*Pg Pb 14 21 14.4 -0.1
BISS Bistriski jare 1.09 37⇓ *i*Pg Pb 14 21 14.4 -0.1
ZOU Zoufplan 1.15 313⇓ *e*Pg Pn 14 21 15.3 -0.3
MLNI Malnisio 1.16 289⇑ *e*Pg Pg 14 21 17.0 +0.3
MLNI *e*Sg **Sg 14 21 32.6 +0.7**
MLNI Malnisio 1.16 289 *e*P Pg 14 21 17.0 +0.3
MLNI *e*Sg **Sg 14 21 32.6 +0.7**
POLC Polcenigo 1.20 282 Pg Pg 14 21 17.8 +0.3
POLC Sg **Sg 14 21 35.2 +1.9**
comp=Z,8µm,0.3s
POLC Polcenigo 1.20 282 Pg Pg 14 21 17.8 +0.3
POLC *e*Sg **Sg 14 21 35.0 +1.7**
CAE Caneva 1.24 281⇑ *e*Pg Pg 14 21 18.1 -0.2
CAE *e*Sg **Sg 14 21 35.5 +0.9**
CAE Caneva 1.24 281 *e*P Pg 14 21 18.1 -0.2
CAE *e*Sg **Sg 14 21 35.5 +0.9**
FVI Forni Avoltri 1.27 310 Pg Pb 14 21 17.9 +0.1
comp=Z,2µm,0.3s
FVI Forni Avoltri 1.27 310 Pg Pb 14 21 17.9 +0.1
comp=Z,2µm,0.3s
CSMI Casera Mimoias 1.29 305⇑ *e*Pg Pn 14 21 18.0 +0.4
CSMI Casera Mimoias 1.29 305⇑ *e*Pg Pn 14 21 18.0 +0.4
NVLJ Novalja 1.31 158 *e*Pg Pb 14 21 18.9 +0.6
NVLJ Sg **Sg 14 21 37.5 +0.9**
NVLJ Novalja 1.31 158 *e*Pg Pb 14 21 18.8 +0.6
NVLJ Sg **Sg 14 21 37.4 +0.9**
CIMO Cimolais 1.33 294⇑ *e*Pg Pb 14 21 18.9 +0.3
CIMO *e*Sg **Sg 14 21 37.8 +0.5**
CIMO Cimolais 1.33 294 *e*P Pb 14 21 18.9 +0.3
CIMO *e*Sg **Sg 14 21 37.8 +0.5**
CSO Casso 1.39 292⇑ *e*Pg Pb 14 21 19.8 +0.1
CSO *e*Sg **Sg 14 21 38.8 -0.4**
CSO Casso 1.39 292 *e*P Pb 14 21 19.8 +0.1
CSO *e*Sg **Sg 14 21 38.8 -0.4**
KBA Koelnbreinsper 1.43 336 *e*Pn Pb 14 21 21.0 +0.6
KBA *e*Pg **Pg 14 21 21.5 -0.3**
KBA *e*Sg **Sg 14 21 40.6 +0.2**
KBA Koelnbreinsper 1.43 336 *e*Pg Pb 14 21 20.8 +0.5
SNR=78
KBA ⇑ *i*Sn **Sb 14 21 39.6 +1.3**
KBA ⇑ *i*Sg **Sg 14 21 40.6 +0.2**
comp=Z,1µm,0.3s
KBA Koelnbreinsper 1.43 336 *e*Pn Pb 14 21 21.0 +0.6
KBA Koelnbreinsper 1.43 336 *e*Pg Pg 14 21 21.5 -0.3
KBA Sn **Sb 14 21 39.6 +1.3**
KBA Sg **Sg 14 21 40.6 +0.2**
comp=Z,1µm,0.3s
ABTA Abfaltersbach 1.51 310⇑ *i*Pn Pb 14 21 22.2 +0.4
ABTA ⇓ *e*Pg **Pg 14 21 23.4 -0.1**
SNR=366
ABTA ⇑ *i*Sg **Sg 14 21 44.6 +1.4**
comp=Z,695nm,0.2s
ABTA Abfaltersbach 1.51 310 Pn Pb 14 21 22.2 +0.4
SISC Sisak 1.56 101 *e*Pn Pb 14 21 22.6 -0.1
SISC Sn **Sg 14 21 44.3 -0.4**
SISC Sisak 1.56 101 *e*Pn Pb 14 21 22.5 -0.1
SISC Sn **Sg 14 21 44.3 -0.4**
AGOR Agordo 1.57 289⇑ *e*Pg Pb 14 21 22.5 -0.3
AGOR *e*Sg **Sg 14 21 45.2 +0.1**
AGOR Agordo 1.57 289 Pg Pb 14 21 22.4 -0.4
comp=Z,1µm,0.4s
AFL Alpe Faloria 1.58 299⇑ *e*Pg Pb 14 21 23.6 +0.4
AFL Alpe Faloria 1.58 299⇑ *e*Pg Pb 14 21 23.5 +0.4
FAU Forcella Aurin 1.60 287⇑ *e*Pg Pn 14 21 21.1 -0.7
FAU Forcella Aurin 1.60 287 *e*Pg Pn 14 21 21.1 -0.7
CGRP Cima Grappa 1.67 274⇑ *e*Pg Pn 14 21 23.7 +0.9
CGRP *e*Sg **Sg 14 21 47.5 -0.7**
CGRP Cima Grappa 1.67 274 Pg Pn 14 21 23.7 +0.9
comp=Z,2µm,0.4s
CGRP Cima Grappa 1.67 274 *e*P Pn 14 21 23.7 +0.9
CGRP *e*Sg **Sg 14 21 47.5 -0.7**
ARSA Arzberg 1.74 32 *e*Pn Pn 14 21 24.2 +0.7
ARSA *e*Pg **Pg 14 21 26.7 -0.9**
ARSA *e*Sg **Sg 14 21 49.7 -0.6**
ARSA Arzberg 1.74 32⇓ *i*Pn Pn 14 21 24.3 +0.7
ARSA *i* Sn **Sb 14 21 48.3 +1.2**
ARSA Arzberg 1.74 32⇓ *e*Pn Pn 14 21 24.4 +0.8
SNR=73
ARSA ⇓ *i*Pg **Pg 14 21 26.8 -0.9**
ARSA ⇓ *i*Sn **Sb 14 21 46.3 -0.8**
ARSA ⇑ *i*Sg **Sg 14 21 50.1 -0.2**
comp=Z,153nm,0.4s
ARSA Arzberg 1.74 32 Pg Pn 14 21 24.2 +0.7
ARSA Arzberg 1.74 32 *e*Pn Pn 14 21 24.2 +0.7
ARSA Arzberg 1.74 32 Pg Pg 14 21 26.8 -0.9
ARSA Sn **Sb 14 21 46.3 -0.8**
ARSA *e*Sg **Sg 14 21 49.7 -0.6**
TEOL Teolo 1.82 258 Pg Pn 14 21 25.3 +0.7
comp=Z,4µm,0.5s
TEOL Teolo 1.82 258 Pg Pn 14 21 25.3 +0.7
comp=Z,4µm,0.5s
BEHE Becsehely 1.93 68⇓ *e* Pn 14 21 26.3 +0.2
BEHE *e* 14 21 54.8
BEHE Becsehely 1.93 68⇓ *e*Pn Pn 14 21 26.3 +0.2
BEHE *e*Sn **Sg 14 21 54.8 -1.6**
PANI Panarotta 2.03 279⇑ *e*Pn Pn 14 21 28.6 +0.9
PANI *e*Sn **Sb 14 21 55.4 -0.2**
PANI Panarotta 2.03 279 *e*P Pn 14 21 28.6 +0.9
PANI *e*Sn **Sb 14 21 55.4 -0.2**
KOSI Kohlern 2.07 290 Pg Pn 14 21 30.0 +1.8
comp=Z,1µm,0.6s
KOSI Kohlern 2.07 290 Pg Pn 14 21 30.0 +1.8
comp=Z,1µm,0.6s
MOA Molln 2.07 1 *e*Pn Pb 14 21 29.7 -1.6
MOA *e*Pg **Pg 14 21 34.8 +0.7**
MOA *e*Sn **Sb 14 21 55.7 -1.0**
MOA Molln 2.07 1 *e*Pn Pb 14 21 29.8 -1.6
MOA *e*Sn **Sb 14 21 56.6 -0.1**
MOA Molln 2.07 1⇓ *e*Pn Pn 14 21 29.4 +1.3
SNR=21
MOA ⇑ *i*Sn **Sn 14 21 54.9 +1.4**
MOA ⇑ *i*Sg **Sg 14 22 01.6 +0.6**
comp=Z,109nm,0.4s
MOA Molln 2.07 1 Pn Pn 14 21 29.4 +1.3
SNR=21
MOA Molln 2.07 1 *e*Pg Pg 14 21 34.8 +0.7
MOA Sn **Sn 14 21 54.9 +1.4**
MOA Sg **Sg 14 22 01.6 +0.6**
comp=Z,109nm,0.4s
MARN Marana (Italy) 2.09 267⇑ *e*Pn Pn 14 21 29.3 +0.9
MARN Marana (Italy) 2.09 267⇑ *e*Pn Pn 14 21 29.3 +0.9
DDS Dosso del Somm 2.10 274⇑ *e*Pn Pn 14 21 29.6 +1.0
DDS *e*Sn **Sn 14 21 56.4 +2.1**
DDS Dosso del Somm 2.10 274 *e*P Pn 14 21 29.6 +1.0
DDS *e*Sn **Sn 14 21 56.4 +2.1**
ROVR Roverˆ¤ Verone 2.19 268 Pg Pn 14 21 30.7 +0.9
comp=Z,2µm,0.2s
ABSI Aberstueckl 2.20 297 Pg Pn 14 21 31.9 +1.9
comp=Z,2µm,0.6s
ABSI Aberstueckl 2.20 297⇑ *e*Pn Pn 14 21 32.0 +1.9
ROSI Rosskopf 2.24 302 Pg Pb 14 21 32.9 -1.4
ROSI Rosskopf 2.24 302 Pg Pb 14 21 32.9 -1.4
WTTA Wattenberg 2.30 311 *e*Pn Pb 14 21 34.0 -1.4
WTTA *e*Pg **Pg 14 21 37.5 -1.0**
WTTA Wattenberg 2.30 311⇑ *e*Pn Pn 14 21 33.1 +1.6
SNR=104
WTTA ⇓ *i*Sn **Sb 14 22 02.1 -1.4**
WTTA Wattenberg 2.30 311 Pg Pb 14 21 34.0 -1.4
comp=Z,605nm,0.5s
WTTA Wattenberg 2.30 311 Pn Pn 14 21 33.1 +1.6
SNR=104
WTTA Wattenberg 2.30 311 *e*Pg Pg 14 21 37.5 -1.0
WTTA Sn **Sb 14 22 02.1 -1.4**
FSSB Fossombrone 2.31 206 Pg Pn 14 21 32.1 +0.6
comp=Z,940nm,0.4s
BLY Banja Luka 2.35 115 *e*Pn Pn 14 21 33.2 +1.2
BLY *e*Sn **Sb 14 22 02.7 -2.1**
BLY Banja Luka 2.35 115 *e*Pn Pn 14 21 33.2 +1.2
BLY *e*Sn **Sb 14 22 02.7 -2.1**
WATA Walderalm 2.38 312⇓ *e*Pn Pn 14 21 34.2 +1.7
SNR=80
WATA ⇓ *i*Sn **Sb 14 22 04.2 -1.5**
WATA Walderalm 2.38 312 Pn Pn 14 21 34.2 +1.7
SNR=80
WATA Sn **Sb 14 22 04.2 -1.5**
CONA Conrad Observa 2.44 28 *e*Pn Pn 14 21 34.3 +1.1
SNR=80
CONA ⇑ *i*Sn **Sn 14 22 03.7 +1.1**
CONA Conrad Observa 2.44 28 Pn Pn 14 21 34.3 +1.1
SNR=80
CONA Sn **Sn 14 22 03.7 +1.1**
ARVD Arcevia 2.45 202 Pg Pn 14 21 34.4 +1.1
comp=Z,165nm,0.6s
RNI Roncone 2.48 276⇑ *e*Pn Pn 14 21 35.2 +1.3
RNI Roncone 2.48 276⇑ *e*Pn Pn 14 21 35.2 +1.3
MAGA Magasa 2.49 271 Pg Pn 14 21 34.9 +0.9
comp=Z,3µm,0.4s
SFI Santa Sofia 2.51 222 Pg Pn 14 21 34.4 +0.3
comp=Z,451nm,0.6s
SOP Sopron 2.51 40⇑ *e* Pn 14 21 35.0 +0.9
SOP *e* 14 22 16.5
SOP Sopron 2.51 40⇑ *e*Pn Pn 14 21 35.0 +0.9
PIEI Pieia 2.53 208 Pg Pn 14 21 34.8 +0.3
comp=Z,311nm,0.4s
PARC Parchiule 2.54 214 Pg Pn 14 21 34.9 +0.3
comp=Z,288nm,0.7s
SALO Salr 2.57 268 Pg Pn 14 21 35.9 +0.9
comp=Z,2µm,0.7s
MABI Malga Bissina 2.58 277 Pg Pn 14 21 36.5 +1.3
comp=Z,310nm,0.4s
MOTA Moosalm 2.64 307⇑ *e*Pn Pn 14 21 37.6 +1.5
SNR=99
MOTA Moosalm 2.64 307 Pn Pn 14 21 37.6 +1.5
SNR=99
MOSI Grossmontoni 2.66 290⇑ *e*Pn Pn 14 21 37.8 +1.4
FETA Feichten 2.70 299⇓ *e*Pn Pn 14 21 39.3 +2.5
SNR=81
FETA Feichten 2.70 299 Pn Pn 14 21 39.3 +2.5
SNR=81
RETA Reutte 2.91 307 *e*Pn Pn 14 21 42.6 +2.9
SNR=14
RETA Reutte 2.91 307 Pn Pn 14 21 42.6 +2.9
SNR=14
PKS9 Tamasi 2.96 73⇑ *e* Pn 14 21 42.0 +1.8
PKS9 *e* 14 22 31.4
PKS9 Tamasi 2.96 73⇑ *e*Pn Pn 14 21 42.0 +1.8
PKST T¨s 3.04 59⇑ *e* Pn 14 21 41.5 +0.1
PKST T¨s 3.04 59⇑ *e*Pn Pn 14 21 41.5 +0.1
GEC2 GERESS Array S 3.09 354 *e*Pn Pn 14 21 43.1 +1.0
GEC2 *e*Sn **Sn 14 22 19.5 +0.9**
GEC2 *e*Sg **Sg 14 22 32.0 -1.4**
GEC2 GERESS Array S 3.09 354 *e*Pn Pn 14 21 43.1 +1.0
GEC2 *e*Sn **Sn 14 22 19.5 +0.9**
GEC2 *e*Sg **Sg 14 22 32.0 -1.4**
PKSM Moragy 3.13 80⇓ *i*P Pn 14 21 42.1 -0.6
PKSM Moragy 3.13 80⇓ S Sb 14 22 25.8 -1.4
PKSM Moragy 3.13 80⇑ *e* Pn 14 21 42.1 -0.6
PKSM *e* 14 22 17.2
PKSM Moragy 3.13 80⇑ *e*Pn Pn 14 21 42.1 -0.6
PKSM *e*Sn **Sn 14 22 17.2 -2.4**
MAIM Mastiano 3.22 236 P Pn 14 21 44.6 +0.7
CSKK Cs˘‡kako 3.23 59⇓ *e* Pn 14 21 42.7 -1.2
CSKK *e* 14 22 41.6
CSKK Cs˘‡kako 3.23 59⇓ *e*Pn Pn 14 21 42.7 -1.2
DAVA Damuels 3.33 298 *e*Pn Pn 14 21 48.3 +2.7
DAVA Damuels 3.33 298 ⇓ *i*Pn Pn 14 21 47.3 +1.7
SNR=9.3
DAVA Damuels 3.33 298 Pn Pn 14 21 47.3 +1.7
SNR=9.3
KHC Kasperske Hory 3.38 353 *e*PN Pn 14 21 47.1 +1.0
KHC *ex* x 14 21 52.7
KHC *e*PG **Pg 14 21 57.7 -1.3**
KHC *e*SN **Sn 14 22 25.9 +0.2**
KHC *e*SG **Sg 14 22 40.5 -2.3**
comp=Z,127nm,0.6s
KHC Kasperske Hory 3.38 353 Pn Pn 14 21 47.1 +1.0
KHC Sn **Sn 14 22 25.9 +0.2**
KHC Sg **Sg 14 22 40.5 -2.3**
comp=Z,127nm,0.6s
SMOL Smolenice 3.52 38 *e*PN Pn 14 21 48.3 +0.3
SMOL *e*SG **Sg 14 22 50.3 +3.1**
SMOL Smolenice 3.52 38 *e*Pn Pn 14 21 48.3 +0.3
SMOL *e*Sg **Sg 14 22 50.3 +3.1**
PKS2 Kecel 3.57 77 *e* Sn 14 22 28.7 -1.5
PKS2 Kecel 3.57 77 *e*Sn Sn 14 22 28.7 -1.5
SC2M Scurtabo 3.57 249 P Pn 14 21 49.8 +1.1
TREC Trest 3.63 14 *e*PN Pn 14 21 50.3 +0.8
TREC Trest 3.63 14 Pn Pn 14 21 50.3 +0.8
STON Ston 3.85 138 *i*Pn Pn 14 21 54.6 +2.2
STON Sn **Sn 14 22 38.7 +1.6**
STON Ston 3.85 138 *e*Pn Pn 14 21 54.8 +2.3
STON *e*Sn **Sn 14 22 38.7 +1.6**
STON Ston 3.85 138 *i*Pn Pn 14 21 54.6 +2.2
STON Sn **Sn 14 22 38.7 +1.6**
VRAC Vranov 3.89 24⇓ *i*P Pn 14 21 53.6 +0.5
VRAC Vranov 3.89 24 *e*Pn Pn 14 21 53.4 +0.3
VRAC Vranov 3.89 24 *e*Pg Pb 14 22 05.1 +2.8
VRAC *e*Sg **Sg 14 22 55.7 -3.4**
TEKS Tekeris 3.97 106 *e*Pn Pn 14 21 54.9 +0.7
TEKS *e*Sn **Sn 14 22 41.6 +1.3**
TEKS Tekeris 3.97 106 *e*Pn Pn 14 21 54.9 +0.7
TEKS *e*Sn **Sn 14 22 41.6 +1.3**
FRGS Fruska Gora 4.00 97 *e*Pn Pn 14 21 55.6 +0.9
FRGS *e*Sn **Sn 14 22 43.2 +2.1**
FGSL Fruska Gora 4.00 97 *e*Pn Pn 14 21 55.6 +0.9
FGSL *e*Sn **Sn 14 22 43.2 +2.1**
BBLS Lazići 4.18 115 *e*Pn Pn 14 21 59.2 +2.1
BBLS Lazići 4.18 115 *e*Pn Pn 14 21 59.2 +2.1
PCP Piancastagn 4.18 255 P Pn 14 21 57.9 +0.8
ROTZ Rotzenmuhle 4.21 342 *e*Pn Pn 14 21 58.3 +0.8
ROTZ *e*Sn **Sn 14 22 44.4 -1.7**
ROTZ *e*Sg **Sg 14 23 06.3 -3.0**
ROTZ Rotzenmuhle 4.21 342 *e*Pn Pn 14 21 58.3 +0.8
ROTZ *e*Sn **Sn 14 22 44.4 -1.7**
ROTZ *e*Sg **Sg 14 23 06.3 -3.0**
PRU Pruhonice 4.22 3 *e*PN Pn 14 21 58.1 +0.5
PRU *ex* x 14 22 09.1
PRU *e*PG **Pg 14 22 12.8 -2.2**
PRU *e*SN **Sn 14 22 44.7 -1.6**
PRU *e*SG **Sg 14 23 05.9 -3.7**
comp=Z,43nm,0.6s
PRU Pruhonice 4.22 3 Pn Pn 14 21 58.1 +0.5
PRU Sn **Sn 14 22 44.7 -1.6**
PRU Sg **Sg 14 23 05.9 -3.7**
comp=Z,43nm,0.6s
BRY Bratogost 4.24 131⇓ *i*Pn Pn 14 22 00.8 +2.7
BRY *e*Sn **Sn 14 22 50.3 +3.1**
BRY Bratogost 4.24 131⇓ *i*Pn Pn 14 22 00.8 +2.7
BRY *e*Sn **Sn 14 22 50.3 +3.1**
UPM Unac-Piva 4.25 126⇑ *i*Pn Pn 14 22 00.6 +2.5
UPM *e*Sn **Sn 14 22 50.2 +2.9**
UPM Unac-Piva 4.25 126⇑ *i*Pn Pn 14 22 00.6 +2.5
UPM *e*Sn **Sn 14 22 50.2 +2.9**
SPAK Spaichingen-Ko 4.37 304 P Pn 14 22 01.2 +1.5
SPAK S **Sn 14 22 50.1 -0.1**
GRA1 Grafenberg Arr 4.40 334 *e*Sn Sn 14 22 50.0 -0.8
GRF Grafenberg Arr 4.40 334 *e*Sn Sn 14 22 50.0 -0.8
SATI Passo dei Sala 4.42 274 P Pn 14 22 00.4 -0.3

MANZ	**Manzenberg**	**4.44 342**	*e*Pn	**Pn**	**14 22 01.9 +1.3**	
MANZ			*e*Sn	**Sn**	**14 22 49.3 -2.5**	
MANZ			*e*Sg	**Sg**	**14 23 15.1 -1.5**	
MANZ	**Manzenberg**	**4.44 342**	*e*Pn	**Pn**	**14 22 01.9 +1.3**	
MANZ			*e*Sn	**Sn**	**14 22 49.3 -2.5**	
MANZ			*e*Sg	**Sg**	**14 23 15.1 -1.5**	
DIVS	**Divibare**	**4.45 110** ⇑*i*Pn		**Pn**	**14 22 02.4 +1.5**	
DIVS			*e*Sn	**Sn**	**14 22 53.6 +1.4**	
DIVS	**Divibare**	**4.45 110** ⇑*i*Pn		**Pn**	**14 22 02.4 +1.5**	
DIVS			*e*Sn	**Sn**	**14 22 53.6 +1.4**	
PLE	**Pljevlja**	**4.45 122** *e*Pn		**Pn**	**14 22 02.2 +1.3**	
PLE			*e*Sn	**Sn**	**14 22 54.4 +2.1**	
PLE	**Pljevlja**	**4.45 122** *e*Pn		**Pn**	**14 22 02.2 +1.3**	
PLE			*e*Sn	**Sn**	**14 22 54.4 +2.1**	
PSZ	**Piszkesteto**	**4.46 59** ⇑*i*P		**Pn**	**14 22 01.7 +0.7**	
PSZ	**Piszkesteto**	**4.46 59** ⇑*e*		**Pn**	**14 22 01.6 +0.6**	
PSZ			*e*		14 22 52.8	
PSZ	**Piszkesteto**	**4.46 59** ⇑*e*Pn		**Pn**	**14 22 01.6 +0.6**	
PSZ			*e*Sn	**Sn**	**14 22 52.8 +0.3**	
TRAV	**Traversella**	**4.52 269** P		**Pn**	**14 22 01.3 -0.6**	
STU	**Stuttgart**	**4.53 313** *e*Pn		**Pn**	**14 22 03.3 +1.5**	
STU	**Stuttgart**	**4.53 313** *e*Pn		**Pn**	**14 22 03.3 +1.5**	
NKY	**Niksic**	**4.55 129** ⇓*i*Pn		**Pn**	**14 22 04.7 +2.5**	
NKY			*e*Sn	**Sn**	**14 22 57.3 +2.6**	
NKY	**Niksic**	**4.55 129** ⇓*i*Pn		**Pn**	**14 22 04.7 +2.5**	
NKY			*e*Sn	**Sn**	**14 22 57.3 +2.6**	
HCY	**Herceg Novi**	**4.55 136** ⇑*i*Pn		**Pn**	**14 22 04.0 +1.8**	
HCY			*e*Sn	**Sn**	**14 22 57.2 +2.7**	
HCY	**Herceg Novi**	**4.55 136** ⇑*i*Pn		**Pn**	**14 22 04.0 +1.8**	
HCY			*e*Sn	**Sn**	**14 22 57.2 +2.7**	
MORC	**Moravsky Berou**	**4.59 28** ⇓*i*P		**Pn**	**14 22 03.5 +0.7**	
MORC	**Moravsky Berou**	**4.59 28** *e*Pn		**Pn**	**14 22 03.5 +0.7**	
MORC			*e*Sg	**Sg**	**14 23 21.5 -0.2**	
NKC	**Novy Kostel**	**4.61 346** *e*SN		**Sn**	**14 22 53.8 -2.2**	
NKC	**Novy Kostel**	**4.61 346** Sn		**Sn**	**14 22 53.8 -2.2**	
KRLC	**Kraliky**	**4.64 21** *e*PN		**Pn**	**14 22 04.3 +0.9**	
KRLC	**Kraliky**	**4.64 21** Pn		**Pn**	**14 22 04.3 +0.9**	
RORO	**Rocca Rossa**	**4.65 251** P		**Pn**	**14 22 03.4 -0.2**	
WERN	**Wernitzgruen**	**4.67 346** *e*Sn		**Sn**	**14 22 56.8 -0.8**	
WERN			*e*Sg	**Sg**	**14 23 21.7 -2.5**	
WERN	**Wernitzgruen**	**4.67 346** *e*Sn		**Sn**	**14 22 56.8 -0.8**	
WERN			*e*Sg	**Sg**	**14 23 21.7 -2.5**	
TRUS	**Trudelj**	**4.68 107** ⇑*i*Pn		**Pn**	**14 22 04.9 +1.0**	
TRUS			*e*Sn	**Sn**	**14 22 58.2 +0.5**	
TRUS	**Trudelj**	**4.68 107** ⇑*i*Pn		**Pn**	**14 22 04.9 +1.0**	
TRUS			*e*Sn	**Sn**	**14 22 58.2 +0.5**	
FELD	**Feldberg im Sc**	**4.73 299** P		**Pn**	**14 22 05.9 +1.1**	
FELD			S	**Sn**	**14 22 59.1 -0.2**	
BFO	**Black Forest**	**4.75 305** *e*Pn		**Pn**	**14 22 06.0 +1.1**	
BFO			*e*Sn	**Sn**	**14 22 58.0 -1.4**	
BFO	**Black Forest**	**4.75 305** *e*Pn		**Pn**	**14 22 06.0 +1.1**	
BFO			*e*Sn	**Sn**	**14 22 58.0 -1.4**	
GUNZ	**Gunzen**	**4.75 346** *e*Pn		**Pn**	**14 22 07.5 +2.5**	
GUNZ			*e*Sg	**Sg**	**14 23 27.1 +0.3**	
GUNZ	**Gunzen**	**4.75 346** *e*Pn		**Pn**	**14 22 07.5 +2.5**	
GUNZ			*e*Sg	**Sg**	**14 23 27.1 +0.3**	
PVCC	**Panska Ves**	**4.76 3** eSG		**Sg**	**14 23 24.1 -2.9**	
	comp=Z,81nm,0.4s					
PVCC	**Panska Ves**	**4.76 3** Sg		**Sg**	**14 23 24.1 -2.9**	
	comp=Z,81nm,0.4s					
IVAS	**Ivanjica**	**4.79 115** *e*Sn		**Sn**	**14 23 00.7 +0.2**	
IVAS	**Ivanjica**	**4.79 115** *e*Sn		**Sn**	**14 23 00.7 +0.2**	
DPC	**Dobruska-Polom**	**4.79 17** *e*PN		**Pn**	**14 22 05.6 +0.1**	
DPC			*e*PG	**Pn**	**14 22 19.6 +1.9**	
DPC	**Dobruska-Polom**	**4.79 17** Pn		**Pn**	**14 22 05.6 +0.1**	
SJES	**Sjenica**	**4.84 119** *e*Pn		**Pn**	**14 22 07.2 +0.9**	
BUM	**Brajici-Budva**	**4.86 134** ⇑*i*Pn		**Pn**	**14 22 08.8 +2.4**	
BUM			*e*Sn	**Sn**	**14 23 04.5 +2.3**	
OKC	**Ostrava-Krasne**	**4.86 32** *e*PN		**Pn**	**14 22 07.2 +0.8**	
OKC	**Ostrava-Krasne**	**4.86 32** Pn		**Pn**	**14 22 07.2 +0.8**	
BBS	**Basel-Blauen**	**4.90 293** P		**Pn**	**14 22 08.2 +1.2**	
BBS			S	**Sn**	**14 23 02.5 -0.7**	
PLN	**Plauen**	**4.90 345** *e*Sg		**Sg**	**14 23 29.9 -1.6**	
PLN	**Plauen**	**4.90 345** *e*Sg		**Sg**	**14 23 29.9 -1.6**	
RSP	**Reno Superiore**	**4.91 265** P		**Pn**	**14 22 05.6 -1.6**	
CDT	**Castel del Mon**	**4.93 161** *e*Pn		**Pn**	**14 22 07.4 -0.1**	
CDT			*e*Sn	**Sn**	**14 23 03.7 -0.4**	
PGF	**Pioggiola**	**4.94 231** *e*Pn		**Pn**	**14 22 07.6 +0.1**	
	SNR=1.0					
PGF			*e*Sn	**Sn**	**14 23 01.6 -2.6**	
	comp=Z,41nm,0.3s					
PGF	**Pioggiola**	**4.94 231** *e*Pn		**Pn**	**14 22 07.6 +0.1**	
	SNR=1.0					
PGF			*e*Sn	**Sn**	**14 23 01.6 -2.6**	
	comp=Z,21nm,0.3s					
PDG	**Podgorica**	**4.95 131** *e*Pn		**Pn**	**14 22 09.2 +1.6**	
PDG			*e*Sn	**Sn**	**14 23 05.4 +1.0**	
PDG	**Podgorica**	**4.95 131** ⇓*i*Pn		**Pn**	**14 22 10.2 +2.6**	
PDG			*e*Sn	**Sn**	**14 23 05.4 +1.0**	
TTG	**Podgorica**	**4.95 131** ⇓*i*Pn		**Pn**	**14 22 10.2 +2.6**	
TTG			*e*Sn	**Sn**	**14 23 06.9 +2.5**	
BHB	**Bricherasio**	**4.97 262** P		**Pn**	**14 22 07.0 -1.0**	
GRUS	**Gruza**	**5.01 110** ⇓*i*Pn		**Pn**	**14 22 10.4 +1.9**	
GRUS			*e*Sn	**Sn**	**14 23 05.8 -0.1**	
BEY	**Berane**	**5.02 123** *e*Pn		**Pn**	**14 22 11.1 +2.4**	
BEY			*e*Sn	**Sn**	**14 23 07.5 +1.3**	
IVA	**Berane**	**5.02 123** *e*Pn		**Pn**	**14 22 11.1 +2.4**	
IVA			*e*Sn	**Sn**	**14 23 07.5 +1.3**	
SAOF	**Saorge**	**5.04 252** P		**Pn**	**14 22 09.3 +0.4**	
SAOF			S	**Sn**	**14 23 05.6 -1.1**	
SAOF	**Saorge**	**5.04 252** P		**Pn**	**14 22 09.3 +0.4**	
SAOF			S	**Sn**	**14 23 05.6 -1.1**	
DRME	**Dracevica, Mon**	**5.09 133** ⇓*i*Pn		**Pn**	**14 22 12.0 +2.5**	
DRME			*e*Sn	**Sn**	**14 23 10.2 +2.4**	
DRME	**Dracevica, Mon**	**5.09 133** ⇓*i*Pn		**Pn**	**14 22 12.0 +2.5**	
DRME			*e*Sn	**Sn**	**14 23 10.2 +2.4**	
LIBD	**Limburg**	**5.09 300** P		**Pn**	**14 22 10.8 +1.2**	
BRG	**Berggiesshubel**	**5.10 358** PN		**Pn**	**14 22 11.7 +2.0**	
BRG			PG	**Pg**	**14 22 34.2 +2.3**	
BRG			SN	**Sn**	**14 23 04.9 -3.2**	
BRG			SG	**Sg**	**14 23 32.9 -5.0**	
	comp=Z,39nm,0.6s					
STV	**Sant Anna di V**	**5.10 255** P		**Pn**	**14 22 09.7 -0.1**	
AUTN	**L'Aution**	**5.12 252** P		**Pn**	**14 22 11.4 +1.2**	
AUTN			S	**Sn**	**14 23 08.2 -0.8**	
AUTN	**L'Aution**	**5.12 252** P		**Pn**	**14 22 11.4 +1.2**	
AUTN			S	**Sn**	**14 23 08.2 -0.8**	
SBF	**Sospel**	**5.17 251** *e*Pn		**Pn**	**14 22 10.4 -0.3**	
	SNR=1.0					
SBF			*e*Sn	**Sn**	**14 23 07.1 -2.8**	
	comp=Z,115nm,0.5s					
SBF	**Sospel**	**5.17 251** *e*Pn		**Pn**	**14 22 10.4 -0.3**	
	SNR=1.0					
SBF			*e*Sn	**Sn**	**14 23 07.1 -2.8**	
	comp=Z,58nm,0.5s					
OG22	**Abries**	**5.20 262** P		**Pn**	**14 22 11.7 +0.5**	
OG22	**Abries**	**5.20 262** P		**Pn**	**14 22 11.7 +0.5**	
BZS	**Buzias**	**5.21 89** ⇓*i*P		**Pn**	**14 22 11.6 +0.4**	
LUCF	**Luceram**	**5.22 251** P		**Pn**	**14 22 11.5 +0.1**	
LUCF			S	**Sn**	**14 23 09.7 -1.4**	
LUCF	**Luceram**	**5.22 251** P		**Pn**	**14 22 11.5 +0.1**	
LUCF			S	**Sn**	**14 23 09.7 -1.4**	
LPG	**La Plagne**	**5.22 270** *e*Pn		**Pn**	**14 22 11.9 +0.2**	
	SNR=1.0					
LPG			*e*Sn	**Sn**	**14 23 07.7 -3.8**	
	comp=Z,80nm,0.6s					
LPG	**La Plagne**	**5.22 270** *e*Pn		**Pn**	**14 22 11.9 +0.2**	
	SNR=1.0					
SIRR	**Siria**	**5.23 82** ⇑*i*P		**Pn**	**14 22 10.8 -0.7**	
PVY	**Plav**	**5.23 125** *e*Pn		**Pn**	**14 22 14.2 +2.6**	
PVY			*e*Sn	**Sn**	**14 23 13.3 +1.8**	
PVY	**Plav**	**5.23 125** *e*Pn		**Pn**	**14 22 14.2 +2.6**	
PVY			*e*Sn	**Sn**	**14 23 13.3 +1.8**	
LPL	**La Plagne**	**5.23 270** *e*Pn		**Pn**	**14 22 10.2 -1.6**	
	SNR=1.0					
LPL			*e*Sn	**Sn**	**14 23 08.2 -3.5**	
	comp=Z,34nm,0.4s					
LPL	**La Plagne**	**5.23 270** *e*Pn		**Pn**	**14 22 10.2 -1.6**	
	SNR=1.0					
LPL			*e*Sn	**Sn**	**14 23 08.2 -3.5**	
	comp=Z,17nm,0.4s					
TOUF	**Mont Tournerai**	**5.24 253** P		**Pn**	**14 22 12.7 +0.9**	
TOUF	**Mont Tournerai**	**5.24 253** P		**Pn**	**14 22 12.7 +0.9**	
KSP	**Ksiaz**	**5.26 15** *e*Pg		**Pg**	**14 22 32.7 -2.2**	
KSP			*e*Sg	**Sg**	**14 23 40.3 -2.6**	
MOF	**Molkenrain**	**5.27 296** P		**Pn**	**14 22 13.0 +0.9**	
MOF			S	**Sn**	**14 23 12.3 0.0**	
MOF	**Molkenrain**	**5.27 296** P		**Pn**	**14 22 13.0 +0.9**	
MOF			S	**Sn**	**14 23 12.3 0.0**	
REVF	**Revere**	**5.27 250** P		**Pn**	**14 22 14.0 +2.0**	
REVF	**Revere**	**5.27 250** P		**Pn**	**14 22 14.0 +2.0**	

TOD	**Tromm**	**5.28 318** P		**Pn**	**14 22 14.5 +2.3**	
ULC	**Ulcinj**	**5.28 134** ⇓*i*Pn		**Pn**	**14 22 14.4 +2.2**	
ULC			*e*Sn	**Sn**	**14 23 15.2 +2.6**	
ULC	**Ulcinj**	**5.28 134** ⇓*i*Pn		**Pn**	**14 22 14.4 +2.2**	
ULC			*e*Sn	**Sn**	**14 23 15.2 +2.6**	
LOMF	**Lomont**	**5.31 290** P		**Pn**	**14 22 13.8 +1.1**	
LOMF			S	**Sn**	**14 23 12.5 -1.0**	
LOMF	**Lomont**	**5.31 290** P		**Pn**	**14 22 13.8 +1.1**	
LOMF			S	**Sn**	**14 23 12.5 -1.0**	
MBDF	**Montbardon**	**5.34 261** *e*Pn		**Pn**	**14 22 12.4 -0.8**	
	SNR=1.0					
MBDF			*e*Sn	**Sn**	**14 23 10.6 -3.6**	
	comp=Z,42nm,0.4s					
MBDF	**Montbardon**	**5.34 261** *e*Pn		**Pn**	**14 22 12.4 -0.8**	
	SNR=1.0					
MVIF	**Mont Vial**	**5.34 252** P		**Pn**	**14 22 14.0 +0.8**	
MVIF			S	**Sn**	**14 23 13.8 -0.5**	
MVIF	**Mont Vial**	**5.34 252** P		**Pn**	**14 22 14.0 +0.8**	
MVIF			S	**Sn**	**14 23 13.8 -0.5**	
LANF	**Langenberg**	**5.39 309** P		**Pn**	**14 22 15.4 +1.7**	
LANF	**Langenberg**	**5.39 309** P		**Pn**	**14 22 15.4 +1.7**	
ECH	**Echery**	**5.39 299** P		**Pn**	**14 22 14.5 +0.8**	
ECH	**Echery**	**5.39 299** P		**Pn**	**14 22 14.5 +0.8**	
CDF	**Champ du Feu**	**5.40 302** *e*Pn		**Pn**	**14 22 14.5 +0.5**	
	SNR=1.0					
CDF			*e*Sn	**Sn**	**14 23 11.4 -4.3**	
	comp=Z,24nm,0.4s,SNR=1.0					
CDF	**Champ du Feu**	**5.40 302** *e*Pn		**Pn**	**14 22 14.5 +0.5**	
	SNR=1.0					
HINF	**Hinteralfeld**	**5.43 295** *e*Pn		**Pn**	**14 22 14.8 +0.5**	
	SNR=1.0					
HINF			*e*Sn	**Sn**	**14 23 11.9 -4.4**	
	comp=Z,63nm,0.3s					
HINF	**Hinteralfeld**	**5.43 295** *e*Pn		**Pn**	**14 22 14.8 +0.5**	
	SNR=1.0					
KTD	**Kalmit**	**5.44 313** P		**Pn**	**14 22 16.1 +1.7**	
NIE	**Niedzica**	**5.51 46** *e*Pn		**Pn**	**14 22 16.8 +1.4**	
CALN	**Calern**	**5.58 251** P		**Pn**	**14 22 18.0 +1.6**	
CALN	**Calern**	**5.58 251** P		**Pn**	**14 22 18.0 +1.6**	
SELS	**Selova**	**5.58 115** *e*Pn		**Pn**	**14 22 18.2 +1.9**	
CLL	**Collm**	**5.59 352** *e*Pn		**Pn**	**14 22 18.0 +1.6**	
CLL			*e*Sn	**Sn**	**14 23 18.0 -2.1**	
CLL			*e*Sb	**Sb**	**14 23 33.0 -4.8**	
CLL			*e*Sg	**Sg**	**14 23 49.0 -4.5**	
	comp=Z,107nm,0.8s					
CABF	**La Chapelle**	**5.69 281** *e*Pn		**Pn**	**14 22 18.6 +0.8**	
	SNR=1.0					
CABF			*e*Sg	**Sg**	**14 23 52.6 -4.0**	
	comp=Z,61nm,0.8s					
CABF	**La Chapelle**	**5.69 281** *e*Pn		**Pn**	**14 22 18.6 +0.8**	
	SNR=1.0					
FRF	**La Foret Royal**	**5.82 250** *e*Pn		**Pn**	**14 22 19.5 0.0**	
	SNR=1.0					
FRF			*e*Sn	**Sn**	**14 23 22.1 -3.6**	
	comp=Z,30nm,0.3s,SNR=1.0					
FRF	**La Foret Royal**	**5.82 250** *e*Pn		**Pn**	**14 22 19.5 0.0**	
	SNR=1.0					
HAU	**Haudompre**	**5.82 295** *e*Pn		**Pn**	**14 22 19.2 -0.4**	
	SNR=1.0					
HAU			*e*Sn	**Sn**	**14 23 20.4 -5.4**	
	comp=Z,38nm,0.4s					
HAU	**Haudompre**	**5.82 295** *e*Pn		**Pn**	**14 22 19.2 -0.4**	
	SNR=1.0					
CRVS	**Cervenica-Dubn**	**5.85 55** *e*PN		**Pn**	**14 22 20.9 +0.9**	
CRVS			*e*SG	Sg	14 24 07.8 +6.0	
CRVS	**Cervenica-Dubn**	**5.85 55** *e*Pn		**Pn**	**14 22 20.9 +0.9**	
BOLS	**Boljevac**	**5.86 107** *e*Pn		**Pn**	**14 22 22.1 +2.0**	
BOLS	**Boljevac**	**5.86 107** *e*Pn		**Pn**	**14 22 22.1 +2.0**	
ORIF	**Oris-en-Rattie**	**5.92 265** *e*P		**Pn**	**14 22 23.2 +2.2**	
	SNR=1.0					
ORIF			*e*Sn	**Sn**	**14 23 24.0 -4.4**	
	comp=Z,54nm,0.5s					
ORIF	**Oris-en-Rattie**	**5.92 265** *e*P		**Pn**	**14 22 23.2 +2.2**	
	SNR=1.0					
DRGR		**5.99 77** ⇓*i*P		**Pn**	**14 22 22.0 0.0**	
STHS	**Stebnicka Huta**	**6.00 50** *e*PN		**Pn**	**14 22 24.3 +2.2**	
STHS			*e*SG	**Sg**	**14 24 10.4 +3.7**	
STHS	**Stebnicka Huta**	**6.00 50** *e*Pn		**Pn**	**14 22 24.3 +2.2**	
LMR	**La Mourre**	**6.00 249** *e*Pn		**Pn**	**14 22 21.0 -1.1**	
	SNR=1.0					
LMR			*e*Sn	**Sn**	**14 23 26.3 -4.1**	
	comp=Z,73nm,0.4s					
LMR	**La Mourre**	**6.00 249** *e*Pn		**Pn**	**14 22 21.0 -1.1**	
	SNR=1.0					
GZR	**Gura Zlata**	**6.04 91** ⇓*i*P		**Pn**	**14 22 23.8 +1.1**	
THEF	**They Montfort**	**6.12 297** P		**Pn**	**14 22 25.0 +1.3**	
THEF	**They Montfort**	**6.12 297** P		**Pn**	**14 22 25.0 +1.3**	
KOLS	**Kolonicke sedl**	**6.33 57** eSG		**Sg**	**14 24 17.0 -0.4**	
KOLS			*e*		14 39 39.7	
KOLS			*e*		15 13 34.3	
KOLS	**Kolonicke sedl**	**6.33 57** eSg		**Sg**	**14 24 17.0 -0.4**	
SMRF	**Simiane la Rot**	**6.38 257** *e*Pn		**Pn**	**14 22 27.8 +0.5**	
	SNR=1.0					
SMRF			*e*Sn	**Sn**	**14 23 34.6 -5.1**	
	comp=Z,111nm,0.3s,SNR=1.0					
SMRF	**Simiane la Rot**	**6.38 257** *e*Pn		**Pn**	**14 22 27.8 +0.5**	
	SNR=1.0					
PAGF	**Fort de Pagny**	**6.40 299** *e*Pn		**Pn**	**14 22 24.9 -2.7**	
	baz=115					
ZAPS	**Zavoj**	**6.54 110** *e*Pn		**Pn**	**14 22 30.9 +1.4**	
SFTF	**Sexfontaines**	**6.71 294** *e*Pn		**Pn**	**14 22 30.0 -1.8**	
	baz=115					
VIVF	**Saint-Julien-l**	**6.77 266** *e*Pn		**Pn**	**14 22 32.5 -0.2**	
	SNR=1.0					
VIVF			*e*Sn	**Sn**	**14 23 44.6 -4.7**	
	comp=Z,10nm,0.3s					
VIVF	**Saint-Julien-l**	**6.77 266** *e*Pn		**Pn**	**14 22 32.5 -0.2**	
	SNR=1.0					
MEZF	**Maizieres J'vi**	**6.80 297** *e*Pn		**Pn**	**14 22 31.4 -1.6**	
	baz=106					
SMF	**Signal de Mont**	**7.23 281** *e*Pn		**Pn**	**14 22 38.9 -0.1**	
	SNR=1.0					
SMF			*e*Sn	**Sn**	**14 23 56.0 -4.6**	
	comp=Z,24nm,0.5s					
SMF	**Signal de Mont**	**7.23 281** *e*Pn		**Pn**	**14 22 38.9 -0.1**	
	SNR=1.0					
LOR	**Lormes**	**7.28 286** *e*Pn		**Pn**	**14 22 39.2 -0.4**	
	baz=110,SNR=1.0					
LOR			*e*Sn	**Sn**	**14 23 56.4 -5.4**	
	comp=Z,14nm,0.4s					
LOR	**Lormes**	**7.28 286** *e*Pn		**Pn**	**14 22 39.2 -0.4**	
	SNR=1.0					
MEM	**Membach**	**7.29 314** P		**Pn**	**14 22 42.6 +2.8**	
MEM	**Membach**	**7.29 314** P		**Pn**	**14 22 42.6 +2.8**	
SSF	**Saint Saulge**	**7.49 284** *e*Pn		**Pn**	**14 22 42.7 +0.1**	
	SNR=1.0					
SSF	**Saint Saulge**	**7.49 284** *e*Pn		**Pn**	**14 22 42.7 +0.1**	
	SNR=1.0					
LASF	**Ste Croix**	**7.53 261** *e*Pn		**Pn**	**14 22 42.3 -0.7**	
	SNR=1.0					
LASF			*e*Sn	**Sn**	**14 24 02.6 -5.3**	
	comp=Z,14nm,0.5s					
LASF	**Ste Croix**	**7.53 261** *e*Pn		**Pn**	**14 22 42.3 -0.7**	
	SNR=1.0					
BCLA	**Clavier**	**7.54 311** P		**Pn**	**14 22 45.6 +2.4**	
BCLA	**Clavier**	**7.54 311** P		**Pn**	**14 22 45.6 +2.4**	
AVF	**Avril sur Loir**	**7.58 282** *e*Pn		**Pn**	**14 22 44.0 +0.3**	
	SNR=1.0					
AVF			*e*Sn	Sn	14 24 02.5 -6.5	
	comp=Z,3.5nm,0.3s					
AVF	**Avril sur Loir**	**7.58 282** *e*Pn		**Pn**	**14 22 44.0 +0.3**	
	SNR=1.0					
VOIR		**7.63 89** ⇑*i*P		**Pn**	**14 22 43.7 -0.8**	
GIVF	**Givet**	**7.63 308** *e*P		**Pn**	**14 22 47.1 +2.7**	
	SNR=1.0					
GIVF	**Givet**	**7.63 308** *e*P		**Pn**	**14 22 47.1 +2.7**	
	SNR=1.0					
LBL	**Lubilhac**	**7.71 270** P		**Pn**	**14 22 46.7 +1.1**	
LBL	**Lubilhac**	**7.71 270** P		**Pn**	**14 22 46.7 +1.1**	
AGO	**Saint Agoulin**	**7.72 276** P		**Pn**	**14 22 46.9 +1.3**	
AGO	**Saint Agoulin**	**7.72 276** P		**Pn**	**14 22 46.9 +1.3**	
DOU	**Dourbes**	**7.75 307** P		Pn	14 22 49.1 +3.0	
DOU	**Dourbes**	**7.75 307** P		Pn	14 22 49.1 +3.0	
PYM	**Petit Puy Mans**	**7.82 274** P		**Pn**	**14 22 47.5 +0.4**	
PYM	**Petit Puy Mans**	**7.82 274** P		**Pn**	**14 22 47.5 +0.4**	
BGF	**Bois d'Agland**	**7.91 280** *e*Pn		**Pn**	**14 22 48.5 +0.2**	
	SNR=1.0					
BGF			*e*Sn	**Sn**	**14 24 11.6 -5.7**	
	comp=Z,15nm,0.3s					
BGF	**Bois d'Agland**	**7.91 280** *e*Pn		**Pn**	**14 22 48.5 +0.2**	
	SNR=1.0					
BAIF	**Baives**	**7.95 306** *e*P		**Pn**	**14 22 51.6 +2.8**	
	SNR=1.0					
BAIF	**Baives**	**7.95 306** *e*P		**Pn**	**14 22 51.6 +2.8**	
	SNR=1.0					

HYF	**Humbligny**	**8.10 285** *e*P		**Pn**	**14 22 52.9 +2.0**	
HYF	**Humbligny**	**8.10 285** *e*P		**Pn**	**14 22 52.9 +2.0**	
TCF	**Toulx Ste Croi**	**8.35 278** *e*Pn		**Pn**	**14 22 55.1 +0.8**	
	SNR=1.0					
TCF	**Toulx Ste Croi**	**8.35 278** *e*Pn		**Pn**	**14 22 55.1 +0.8**	
	SNR=1.0					
CAF	**Calviac**	**8.58 269** *e*Pn		**Pn**	**14 22 57.6 +0.1**	
	SNR=1.0					
CAF			*e*Sn	Sn	14 24 27.6 -6.2	
	comp=Z,4.1nm,0.4s					
CAF	**Calviac**	**8.58 269** *e*Pn		**Pn**	**14 22 57.6 +0.1**	
	SNR=1.0					
RJF	**Les Rejaudoux**	**8.91 271** *e*Pn		**Pn**	**14 23 02.8 +0.8**	
	SNR=1.0					
RJF	**Les Rejaudoux**	**8.91 271** *e*Pn		**Pn**	**14 23 02.8 +0.8**	
	SNR=1.0					
FLN	**La Foliniere**	**10.41 292** *e*Pn		**Pn**	**14 23 22.3 -0.2**	
	baz=111					
FLN	**La Foliniere**	**10.41 292** *e*Pn		**Pn**	**14 23 22.3 -0.2**	

IDC 15 14:36:18.9±2.1, 12°86S×167°35E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=113.4km s-min=26.4km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.29**	**227**	P	P	14 42 32.9	+0.9
	1.0nm,0.4s,baz=48,slow=11,SNR=7.8						
WRA	**Warramunga Arr**	**32.40**	**253**	P	P	14 42 50.7	-0.1
	0.3nm,0.5s,baz=85,slow=9.3,SNR=6.9						
ASAR	**Alice Springs**	**33.45**	**246**	P	P	14 42 59.6	-0.3
	0.5nm,0.3s,baz=76,slow=10.0,SNR=42						
ILAR	**Eielson Array**	**84.73**	**18**	P	P	14 48 55.5	+0.9
	0.6nm,0.5s,baz=244,slow=4.9,SNR=18						
ARCES	**ARCESS Array B**	**118.47**	**346**	PKP	PKPdf	14 55 05.8	-2.3
	2.8nm,0.9s,baz=56,slow=1.8,SNR=6.4						

DHMR 15 14:52:48.0±1.6, 13°43N×48°83E, h0km±999km, ML3.5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.06**	**11**	*i* P	Pg	14 53 08.8	+0.4
MUKL				*i* S	Sb	14 53 23.0	-0.7
BDHA	**Al Bayda'**	**3.21**	**280**	*i* P	Pn	14 53 42.5	+2.4
BDHA				AML	AML	14 53 48.7	
	comp=E,234nm,0.3s						
BDHA				*i* S	Sb	14 54 25.3	-1.0
LBOS		**3.51**	**278**	*i* P	Pn	14 53 46.1	+1.9
LBOS				*i* S	Sb	14 54 33.3	-1.5

IDC 15 14:58:25.2±1.4, 13°97N×145°41E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, Error ellipse: s-maj=59.5km s-min=23.9km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**27.36**	**147**	P	P	15 04 12.0	-0.3
WRA	**Warramunga Arr**	**35.41**	**198**	P	P	15 05 22.9	-0.2
	0.7nm,0.6s,baz=16,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**39.06**	**197**	P	P	15 05 53.9	-0.3
	0.3nm,0.9s,baz=19,slow=12,SNR=11						
MKAR	**Makanchi Array**	**61.59**	**316**	P	P	15 08 45.4	+0.8
	0.2nm,0.4s,baz=93,slow=7.5,SNR=3.4						
ILAR	**Eielson Array**	**68.00**	**25**	P	P	15 09 25.3	-0.7
	0.1nm,0.4s,baz=263,slow=6.3,SNR=4.5						

MAN 15 15:14:09, 6°87N×123°90E, h41km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.49**	**44**	⇑*i*P

W34A **Bridge Creek,** 0.57 234 ⇓P Pg 15 18 36.4 +0.7
baz=0.5,SNR=37
W34A ⇑S Sg 15 18 43.6 +0.7
baz=0.5
U34A **Anderson Ranch** 0.91 343 P Pn 15 18 44.3 -0.2
U34A **Anderson Ranch** 0.91 343 ⇓P Pn 15 18 44.3 -0.2
baz=0.9,SNR=688
U34A ⇓S Sn 15 18 57.1 -1.0
baz=0.9
V33A **Lossen Ranch,** 0.91 286 P Pg 15 18 43.0 +0.7
baz=0.9,SNR=120
X34A **Smith Ranch, M** 1.09 208 ⇓P Pn 15 18 46.5 -0.5
baz=1.1,SNR=498
X34A ⇑S Sn 15 19 01.4 -1.2
baz=1.1
W33A **Caddo, Fort Co** 1.11 248 ⇓P Pg 15 18 46.5 +0.5
baz=1.1,SNR=44
W33A ⇑S Sg 15 19 01.1 +0.7
baz=1.1
U33A **Lingo Farm, Me** 1.13 320 P Pn 15 18 47.5 0.0
baz=1.1
TUL1 **Tulsa** 1.20 73 ⇓*i*P Pg 15 18 49.6 +1.7
TUL1 *e*Sg Sn 15 19 07.3 +2.0
TUL1 **Tulsa** 1.20 73 ⇑P Pg 15 18 49.6 +1.7
baz=1.2,SNR=278
TUL1 ⇑S Sn 15 19 07.3 +2.0
baz=1.2
X33A **Lawton** 1.47 226 ⇓P Pn 15 18 52.0 -0.2
baz=1.4,SNR=76
X33A ⇓S Sb 15 19 11.8 -0.2
baz=1.4
V32A **Arapaho** 1.50 276 ⇑P Pb 15 18 53.2 -0.1
baz=1.5,SNR=67
V32A ⇑S Sg 15 19 14.1 +1.1
baz=1.5
WMOK **Wichita Mounta** 1.53 238 *e*Pn Pn 15 18 52.8 -0.2
WMOK *e*Sn Sn 15 19 12.4 -1.1
U32A **Winter Ranch,** 1.66 300 ⇓P Pb 15 18 56.0 -0.1
baz=1.7,SNR=394
U32A ⇓S Sg 15 19 18.6 +0.4
baz=1.7
Y34A **Reagan Ranch,** 1.67 196 ⇓P Pb 15 18 55.5 -0.7
baz=1.6,SNR=157
Y34A ⇑S Sg 15 19 18.1 -0.2
baz=1.6
W32A **Sentinel** 1.72 256 ⇑P Pb 15 18 56.5 -0.6
baz=1.7,SNR=180
W32A ⇑S Sb 15 19 19.3 +0.2
baz=1.7
T33A **Patterson Ranc** 1.73 331 ⇓P Pb 15 18 57.6 +0.4
baz=1.7,SNR=37
T33A ⇑S Sg 15 19 21.3 +1.1
baz=1.7
Y33A **Hilltop Ranch,** 1.94 217 ⇓P Pb 15 19 00.1 -0.8
baz=1.9,SNR=140
Y33A ⇑S Sb 15 19 24.9 -0.5
baz=1.9
X32A **Elmer** 2.05 237 ⇑P Pb 15 19 02.0 -0.7
baz=2.0,SNR=36
S33A **Kaszmaul Farm,** 2.12 343 ⇑P Pb 15 19 03.0 -0.9
baz=2.1,SNR=54
S33A ⇑Sb Sg 15 19 33.6 +0.7
baz=2.1
T32A **Huddler Ranch,** 2.12 320 ⇓P Pb 15 19 03.1 -0.8
baz=2.1,SNR=13
T32A ⇓Sb Sg 15 19 32.8 -0.2
baz=2.1
V31A **Spring Creek L** 2.15 276 ⇑P Pb 15 19 03.5 -1.0
baz=2.1,SNR=113
Z35A **Perchaven, San** 2.23 181 ⇑P Pb 15 19 04.5 -1.2
baz=2.2,SNR=41
W31A **Holland Ranch,** 2.27 261 ⇓P Pb 15 19 04.6 -1.8
baz=2.2
Z34A **Collier Ranch,** 2.27 195 ⇓P Pb 15 19 05.4 -1.0
baz=2.2,SNR=57
U31A **Nine Bar Ranch** 2.29 291 ⇑P Pb 15 19 05.5 -1.2
baz=2.3,SNR=58
Y32A **R-V Farms, Ver** 2.41 230 ⇑P Pb 15 19 07.3 -1.5
baz=2.4,SNR=124
X31A **McDonald Ranch** 2.45 248 ⇓P Pb 15 19 07.9 -1.7
baz=2.4,SNR=84
T31A **Randall Ranch,** 2.51 308 ⇑P Pn 15 19 08.1 +1.6
baz=2.5,SNR=8,1
S32A **Newby Ranch, P** 2.54 327 ⇑P Pb 15 19 08.9 -2.2
baz=2.6,SNR=23
Z33A **Whitaker Ranch** 2.61 210 ⇓P Pb 15 19 09.8 -2.4
baz=2.6,SNR=76
S31A **Mullinville** 2.75 319 ⇓P Pn 15 19 11.8 +2.0
baz=2.8
W30A **Crocket Farms** 2.78 263 ⇑P Pn 15 19 11.8 +1.5
baz=2.8,SNR=9.0
R33A **Olander Ranch,** 2.81 347 ⇓P Pb 15 19 12.8 -2.7
baz=2.8
V30A **Spur Ranch, Mi** 2.84 275 ⇑P Pn 15 19 12.7 +1.6
baz=2.8,SNR=28
Z32A **Haskell** 2.93 220 ⇑P Pn 15 19 13.6 +1.3
baz=2.9
U30A **WK&E Inc. Balk** 2.95 290 ⇓P Pn 15 19 14.1 +1.5
baz=2.9,SNR=19
135A **Vickery Place,** 3.01 183 ⇓P Pn 15 19 14.9 +1.6
baz=3.0
T30A **Plains** 3.06 300 ⇓P Pn 15 19 15.7 +1.5
baz=3.1,SNR=24
134A **White-Moore Ra** 3.07 194 ⇓P Pn 15 19 16.0 +1.8
baz=3.0,SNR=22
R32A **Long Quarter,** 3.09 338 ⇑P Pn 15 19 16.7 +2.2
baz=3.1
R32A ⇑S Sn 15 19 53.7 +1.7
baz=3.1
MIAR **Mount Ida** 3.15 108 *e*Pn Pb 15 19 18.1 -3.4
X30A **Coker Ranch, T** 3.21 251 ⇑P Pn 15 19 18.2 +2.1
baz=3.2
133A **Hamilton Ranch** 3.27 206 ⇓P Pn 15 19 18.4 +1.4
baz=3.2
R31A **Burdett** 3.29 326 ⇑P Pn 15 19 18.6 +1.4
baz=3.3,SNR=11
R31A ⇓S Sn 15 19 58.4 +1.5
baz=3.3
Z31A **Sharp Cattle R** 3.30 228 ⇑P Pn 15 19 18.8 +1.4
baz=3.3
S30A **Montezuma** 3.34 309 ⇑P Pn 15 19 19.8 +1.9
baz=3.3,SNR=39
U29A **Oasis Ranch, S** 3.41 286 ⇓P Pn 15 19 20.4 +1.5
baz=3.4,SNR=14
Q33A **Connelly Farm,** 3.46 352 ⇓P Pn 15 19 21.2 +1.7
baz=3.5,SNR=30
V29A **Stinnett** 3.52 276 ⇓P Pn 15 19 21.5 +1.1
baz=3.5
KSU1 **Kansas State U** 3.56 8 *e*Pn Pn 15 19 23.1 +2.2
KSU1 *e*Sn Sn 15 20 05.6 +2.0
KSU1 **Kansas State U** 3.56 8 ⇑P Pn 15 19 22.9 +2.0
baz=3.6,SNR=18
KSU1 ⇓S Sn 15 20 05.5 +2.0
baz=3.6
ABTX **Abilene, Hawle** 3.56 215 *e*Pn Pn 15 19 22.1 +1.1
ABTX *e*Sg Sg 15 20 18.5 -0.8
WHTX **Lake Whitney** 3.57 183 *e*Pn Pn 15 19 22.6 +1.5
WHTX *e*Sn Sn 15 20 05.5 +1.7
WHTX **Lake Whitney** 3.57 183 ⇓P Pn 15 19 22.5 +1.5
baz=3.6,SNR=17
WHTX ⇑Sb Sb 15 20 15.1 +2.7
baz=3.6
Q32A **Meitler Ranch,** 3.58 343 ⇑P Pn 15 19 22.7 +1.4
baz=3.6,SNR=12
Q32A ⇓S Sn 15 20 05.9 +1.8
baz=3.6
234A **Clairette** 3.64 192 ⇑P Pn 15 19 23.1 +1.1
baz=3.6,SNR=25
W29A **Amraillo** 3.65 264 ⇓P Pn 15 19 23.3 +1.0
baz=3.6,SNR=6.8
T29A **Hugoton** 3.66 297 ⇑P Pn 15 19 23.8 +1.5
baz=3.6,SNR=44
T29A ⇑S Sn 15 20 07.0 +1.0
baz=3.6
R30A **Dighton** 3.66 319 ⇑P Pn 15 19 23.9 +1.6
baz=3.7,SNR=9.6
R30A ⇓S Sn 15 20 07.8 +1.7
baz=3.7
AMTX **Amarillo** 3.72 261 *e*Pn Pn 15 19 25.2 +2.0
AMTX **Amarillo** 3.72 261 ⇓P Pn 15 19 24.7 +1.5
baz=3.7
S29A **Ulysses** 3.75 304 ⇑P Pn 15 19 25.2 +1.5
baz=3.7,SNR=26
233A **Rising Star** 3.81 202 ⇑P Pn 15 19 25.4 +1.0
baz=3.8,SNR=25
Q31A **Ellis** 3.85 334 ⇑P Pn 15 19 26.9 +2.0
baz=3.9
X29A **Tulia** 3.85 254 ⇑P Pn 15 19 26.2 +1.1
baz=3.8
P33A **Williams Farm,** 3.88 354 ⇑P Pn 15 19 26.5 +1.1
baz=3.9,SNR=10.0
131A **Roby** 3.91 223 ⇓P Pn 15 19 26.9 +1.1
baz=3.9
Z30A **Sanderson Ranc** 3.96 236 ⇓P Pn 15 19 27.8 +1.4
baz=3.9
Y29A **Porterfield Fa** 4.05 246 ⇓P Pn 15 19 29.1 +1.4
baz=4.0
UALR **University of** 4.07 100 *e*Pn Pn 15 19 30.8 +2.9
V28A **Channing** 4.09 274 ⇑P Pn 15 19 29.5 +1.3
baz=4.1
W28A **Vega** 4.09 267 ⇓P Pn 15 19 29.7 +1.3
baz=4.1
U28A **Mallet** 4.15 283 ⇓P Pn 15 19 29.9 +0.8
baz=4.1,SNR=5.4
Q30A **Quinter** 4.17 326 ⇓P Pn 15 19 31.4 +2.1
baz=4.2,SNR=15
232A **Coleman** 4.19 210 ⇓P Pn 15 19 30.8 +1.1
baz=4.2,SNR=7.0
P32A **Huiting Farm,** 4.20 345 ⇑P Pn 15 19 30.9 +1.2
baz=4.2
T28A **Walsh** 4.25 293 ⇓P Pn 15 19 31.7 +1.2
baz=4.2,SNR=46
335A **Moody** 4.28 182 ⇑P Pn 15 19 32.0 +1.3
baz=4.3,SNR=9.1
S28A **Manter** 4.28 300 ⇓P Pn 15 19 32.1 +1.2
baz=4.3,SNR=37
130A **Snyder** 4.30 227 ⇑P Pn 15 19 31.5 +0.4
baz=4.3
P31A **Stockton** 4.31 337 ⇓P Pn 15 19 32.3 +1.1
baz=4.3,SNR=21
NATX **Nacogdoches** 4.35 150 *e*Pn Pn 15 19 33.7 +1.9
231A **Bronte** 4.45 216 ⇓P Pn 15 19 33.5 +0.3
baz=4.4
Y28A **McKinney Farm,** 4.46 250 ⇓P Pn 15 19 34.1 +0.6
baz=4.4,SNR=8.2
Q29A **Oakley** 4.48 319 ⇓P Pn 15 19 34.8 +1.2
baz=4.5
V27A **Dan Oppiter Fa** 4.58 274 ⇓P Pn 15 19 36.1 +1.0
baz=4.6,SNR=7.5
R28A **Tribune** 4.61 308 ⇑P Pn 15 19 36.6 +1.2
baz=4.6,SNR=29
U27A **Thompson Grove** 4.63 282 ⇓P Pn 15 19 36.4 +0.6
baz=4.6,SNR=45
P30A **Selden** 4.64 330 ⇓P Pn 15 19 37.0 +1.1
baz=4.7
332A **Millersview** 4.68 208 ⇓P Pn 15 19 36.8 +0.5
baz=4.7,SNR=30
T27A **Campo** 4.69 290 ⇓P Pn 15 19 37.7 +1.1
baz=4.7
W27A **Bowe Ranch, En** 4.81 266 ⇓P Pn 15 19 39.0 +0.7
baz=4.8,SNR=6.0
434A **Burnet** 4.82 191 ⇓P Pn 15 19 38.9 +0.6
baz=4.8,SNR=20
Z28A **Tucker Farm, M** 4.84 243 ⇑P Pn 15 19 39.0 +0.3
baz=4.8
129A **Stewart Farms,** 4.85 234 ⇓P Pn 15 19 39.3 +0.6
baz=4.8
MSTX **Muleshoe** 4.85 252 *e*Pn Pn 15 19 39.5 +0.7
MSTX **Muleshoe** 4.85 252 ⇓P Pn 15 19 39.5 +0.7
baz=4.8
O31A **Woolen Ranch,** 4.87 341 ⇑P Pn 15 19 40.4 +1.4
baz=4.9
230A **Sterling City** 4.90 223 ⇓P Pn 15 19 39.9 +0.4
baz=4.9
X27A **F and S Farms,** 4.91 261 ⇑P Pn 15 19 40.4 +0.8
baz=4.9,SNR=7.6
P29A **Atwood** 5.00 325 ⇑P Pn 15 19 42.0 +1.3
baz=5.0
331A **San Angelo** 5.03 213 ⇓P Pn 15 19 41.5 +0.3
baz=5.0
S27A **Las Animas** 5.04 296 ⇑P Pn 15 19 42.0 +0.7
baz=5.0,SNR=34
O30A **MW Ranch, Wils** 5.12 335 ⇑P Pn 15 19 44.2 +1.7
baz=5.1
432A **Menard** 5.16 206 ⇓P Pn 15 19 43.7 +0.8
baz=5.1,SNR=23
Y27A **Causey** 5.18 253 ⇑P Pn 15 19 43.9 +0.6
baz=5.1,SNR=16
R27A **Eads** 5.23 303 ⇓P Pn 15 19 44.9 +0.9
baz=5.2,SNR=38
N32A **Stulen Farm,** 5.26 351 ⇑P Pn 15 19 46.2 +1.9
baz=5.3
128A **Castleberry Fa** 5.27 238 ⇓P Pn 15 19 45.6 +1.1
baz=5.2,SNR=11
330A **Mertzon** 5.31 220 ⇑P Pn 15 19 45.7 +0.7
baz=5.3
V26A **Tequesquite Ra** 5.36 274 ⇑P Pn 15 19 46.5 +0.8
baz=5.3
U26A **Atchley Ranch,** 5.36 281 ⇓P Pn 15 19 46.7 +0.8
baz=5.3,SNR=26
O29A **4D Ranch, Culb** 5.36 329 ⇑P Pn 15 19 47.5 +1.7
baz=5.4
W26A **Owens Ranch, T** 5.38 267 ⇓P Pn 15 19 46.9 +0.8
baz=5.3,SNR=18
P28A **Saint Francis** 5.39 319 ⇓P Pn 15 19 47.5 +1.4
baz=5.4,SNR=20
T26A **Comanche Natio** 5.39 289 ⇓P Pn 15 19 47.0 +0.6
baz=5.4,SNR=40
N31A **Bailey Ranch,** 5.42 346 ⇑P Pn 15 19 47.8 +1.2
baz=5.5,SNR=5.9
S26A **Kim** 5.44 294 ⇓P Pn 15 19 47.6 +0.8
baz=5.4,SNR=37
Z27A **Tatum** 5.45 247 ⇑P Pn 15 19 47.6 +0.6
baz=5.4,SNR=16
X26A **CR and CF Fran** 5.51 261 ⇑P Pn 15 19 48.3 +0.5
baz=5.5
KSCO **Kaye Shedlock'** 5.52 310 *e*Pn Pn 15 19 48.8 +0.9
104m,0.5s
KSCO **Kaye Shedlock'** 5.52 310 ⇓P Pn 15 19 48.7 +0.7
baz=5.5,SNR=11
JCT **Junction City** 5.52 204 *e*Pn Pn 15 19 47.5 -0.5
JCT *e*Pb Pb 15 20 01.2 -0.7
JCT *e*Pg Pg 15 20 06.5 -4.1
JCT **Junction City** 5.52 204 ⇑P Pn 15 19 48.8 +0.9
baz=5.5
535A **Dale** 5.53 183 ⇑P Pn 15 19 48.9 +0.9
baz=5.5
534A **Blanco** 5.62 191 ⇑P Pn 15 19 49.4 +0.1
baz=5.6
431A **Sonora** 5.64 211 ⇑P Pn 15 19 50.3 +0.7
baz=5.6,SNR=14
Y26A **Elida** 5.69 255 ⇓P Pn 15 19 50.6 +0.3
baz=5.7
533A **Kerrville** 5.69 196 ⇑P Pn 15 19 50.4 +0.1
baz=5.7
R26A **Arlington** 5.69 300 ⇑P Pn 15 19 50.8 +0.5
baz=5.7,SNR=11
N30A **Huelfe Ranch,** 5.69 337 ⇓P Pn 15 19 51.6 +1.2
baz=5.7,SNR=8.9
HKT **Hockley** 5.72 168 *e*Sg Sg 15 21 30.5 +2.0
O28A **Krutsinger Ran** 5.81 323 ⇓P Pn 15 19 53.3 +1.4
baz=5.8,SNR=10
P27A **Ficken Ranch,** 5.83 315 ⇑P Pn 15 19 53.1 +0.8
baz=5.8
430A **Baggett Ranch,** 5.84 216 ⇓P Pn 15 19 52.7 +0.4
baz=5.8,SNR=16
127A **Arkansas Junct** 5.86 242 ⇑P Pn 15 19 52.9 +0.3
baz=5.8
GNAR **Gosnell** 5.86 84 *e*Pn Pn 15 19 52.8 +0.2
GNAR *e*Pg Pg 15 20 16.2 -0.9
GNAR *e*Sn Sn 15 20 58.5 -1.7
GNAR *e*Sg Sg 15 21 31.7 -1.4
BGNE **Belgrade** 5.88 353 *e*Pn Pn 15 19 51.6 -1.2
481nm,0.6s
BGNE **Belgrade** 5.88 353 ⇑P Pn 15 19 54.0 +1.2
baz=5.9
N29A **Votaw Ranch, W** 5.89 334 ⇑P Pn 15 19 54.7 +1.7
baz=5.9,SNR=25
U25A **Circle Dot Ran** 5.89 280 ⇑P Pn 15 19 53.7 +0.5
baz=5.9,SNR=64
M31A **Lambtecht Ranc** 5.93 347 ⇓P Pn 15 19 54.9 +1.3
baz=6.0
W25A **X Bar L Ranch,** 5.93 269 ⇑P Pn 15 19 54.2 +0.6
baz=5.9,SNR=11
T25A **Trinidad** 6.02 287 ⇑P Pn 15 19 55.4 +0.5
baz=6.0,SNR=27
V25A **Rancho No Teng** 6.03 275 ⇓P Pn 15 19 55.5 +0.5
baz=6.0,SNR=30
Z26A **Caprock** 6.04 250 ⇑P Pn 15 19 55.8 +0.6
baz=6.0
PARMO **Parma** 6.14 78 *e*Pn Pn 15 19 55.9 -0.4
N28A **Pribbeno Ranch** 6.14 328 ⇑P Pn 15 19 58.1 +1.6
baz=6.2
PVMO **Portageville** 6.15 80 *e*Sg Sg 15 21 40.6 -1.6
S25A **Robets Cordova** 6.17 292 P Pn 15 19 57.7 +0.6
baz=6.2,SNR=31
227A **Bennet, Jal** 6.18 237 ⇓P Pn 15 19 57.6 +0.6
baz=6.1
X25A **Clemmons Ranch** 6.20 263 ⇓P Pn 15 19 58.0 +0.6
baz=6.2
O27A **Beecher Island** 6.22 319 ⇓P Pn 15 19 59.1 +1.6
baz=6.2
R25A **Fountain Ranch** 6.23 297 ⇓P Pn 15 19 58.6 +0.9
baz=6.2,SNR=26
P26A **Davis Ranch, A** 6.29 311 ⇑P Pn 15 20 00.7 +2.0
baz=6.3,SNR=28
429A **Davenport Ranc** 6.30 220 ⇓P Pn 15 19 58.6 -0.1
baz=6.3
633A **Saathoff Ranch** 6.31 196 ⇓P Pn 15 19 59.1 +0.4
baz=6.3,SNR=5.2
M30A **Dale-Ortello V** 6.31 342 ⇓P Pn 15 20 00.4 +1.6
baz=6.3
SLM **Saint Louis** 6.36 59 *e*Sn Sn 15 21 12.3 -0.2
SLM *e*Sg Sg 15 21 49.9 +0.9
HALT **Halls** 6.41 85 *e*Sn Sn 15 21 16.3 +2.5
530A **J-C Ranch, Com** 6.42 214 ⇓P Pn 15 20 00.6 +0.3
baz=6.4,SNR=11
632A **Uvalde** 6.42 200 ⇓P Pn 15 20 01.0 +0.7
baz=6.4,SNR=8.8
GLAT **Glass** 6.47 81 *e*Sn Sn 15 21 13.3 -1.9
OXF **Oxford** 6.49 97 *e*Pn Pn 15 20 02.6 +1.5
75nm,0.5s
OXF *e*Pg Pg 15 20 29.6 +0.6
Q25A **Bedland, Calha** 6.53 303 ⇓P Pn 15 20 03.2 +1.3
baz=6.5,SNR=13
V24A **Rampart Ranch,** 6.56 274 ⇓P Pn 15 20 03.4 +1.0
baz=6.5
OGNE **Ogallala** 6.57 326 *e*Pn Pn 15 20 01.7 -0.7
OGNE *e*Sg Sg 15 21 51.1 -4.8
Z25A **Roswell** 6.61 252 ⇓P Pn 15 20 03.5 +0.6
baz=6.6
428A **Kincaid Ranch,** 6.66 225 ⇑P Pn 15 20 03.8 +0.2
baz=6.6,SNR=12
L30A **Spencer Herefo** 6.67 344 ⇑P Pn 15 20 05.3 +1.6
baz=6.7
M28A **Bar X Bar Ranc** 6.67 332 ⇑P Pn 15 20 05.2 +1.5
baz=6.7
N27A **Anderson Farm,** 6.70 323 ⇑P Pn 15 20 05.7 +1.5
baz=6.7
W24A **Lazy 6 Ranch,** 6.71 269 ⇓P Pn 15 20 05.2 +0.9
baz=6.7,SNR=13
O26A **Horse Wrangler** 6.71 316 ⇓P Pn 15 20 05.9 +1.5
baz=6.7,SNR=10
735A **Kenedy** 6.71 184 ⇑P Pn 15 20 05.5 +1.3
baz=6.7
S24A **Houchin Ranch,** 6.76 290 ⇑P Pn 15 20 06.3 +1.1
baz=6.7
631A **Perdido Creek** 6.76 206 ⇓P Pn 15 20 05.7 +0.7
baz=6.7
T24B **San Luis** 6.76 285 ⇑P Pn 15 20 05.7 +0.4
baz=6.7
SIUC **Southern Illin** 6.77 69 *e*Sn Sn 15 21 27.0 +4.3
SIUC *e*Sg Sg 15 21 59.5 -2.8
QDL2 **Guadalupe Moun** 6.83 243 *e*Sg Sg 15 22 02.1 -2.1
R24A **Sanders Place,** 6.86 295 ⇓P Pn 15 20 07.7 +1.2
baz=6.8
529A **Stev Forest Ra** 6.87 219 ⇓P Pn 15 20 07.2 +0.7
baz=6.8
Y24A **Capitan** 6.97 259 ⇓P Pn 15 20 08.4 +0.5
baz=6.9,SNR=9.8
427A **Hayter Ranch,** 7.00 230 P Pn 15 20 09.1 +0.8
baz=7.0,SNR=34
SDCO **Great Sand Dun** 7.01 290 *e*Pn Pn 15 20 10.3 +1.7
SCIA **State Center** 7.06 25 *e*Pn Pn 15 20 10.1 +1.1
326A **Caldwell Ranch** 7.07 235 ⇓P Pn 15 20 09.8 +0.6
baz=7.0
Z24A **Sheeppen Canyo** 7.10 254 ⇓P Pn 15 20 11.0 +1.3
baz=7.1,SNR=6.7
Q24A **Divide** 7.18 301 ⇓P Pn 15 20 12.0 +1.0
baz=7.2
833A **Chaparral WMA,** 7.46 195 ⇓P Pn 15 20 15.9 +1.5
baz=7.4,SNR=12
Y23A **Lovelace Mesa,** 7.46 260 ⇓P Pn 15 20 15.4 +0.7
baz=7.4
426A **McDonald Obser** 7.52 231 ⇑P Pn 15 20 15.7 +0.1
baz=7.5
ANMO **Albuquerque** 7.59 268 *e*Pn Pn 15 20 15.7 -0.8
ANMO Lg Lg 15 22 23.4
ANMO **Albuquerque** 7.59 268 Pn Pn 15 20 17.6 +1.1
0.2nm,0.3s,baz=85,slow=11,SNR=4.0
ANMO Pg Pb 15 20 43.4 +6.2
2.9nm,0.3s,baz=76,slow=17,SNR=23
ANMO Lg Lg 15 22 23.4
4.6nm,0.3s,baz=26,slow=19,SNR=5.3
ANMO LR LR 15 23 30.6
comp=Z,184nm,18.8s,baz=96,slow=41
527A **Woodward Ranch** 7.63 227 ⇑P Pn 15 20 17.4 +0.4
baz=7.6
224A **Cornudas Mount** 7.74 246 ⇓P Pn 15 20 19.2 +0.6
baz=7.7
MNTX **Cornudas Mount** 7.83 243 *e*Pn Pn 15 20 19.9 +0.3
MNTX *e*Pg Pg 15 20 50.4 -4.4
LPM **Los Pinos Moun** 7.84 264 Pn Pn 15 20 18.7 -1.2
BNM **Barren Site** 7.87 262 *e*Pn Pn 15 20 20.9 +0.6
ISCO **Idaho Springs** 7.89 305 *e*Pn Pn 15 20 21.8 +1.1
ISCO **Idaho Springs** 7.89 305 ⇑P Pn 15 20 21.5 +0.8
baz=7.9,SNR=29
J30A **Dallas** 7.95 348 ⇑P Pn 15 20 23.0 +1.8
baz=8.0
K27A **Flueckinger Fa** 8.12 333 ⇓P Pn 15 20 25.6 +1.9
baz=8.1
ECSD **EROS Data Cent** 8.17 3 *e*Pn Pn 15 20 23.7 -0.6
ECSD **EROS Data Cent** 8.17 3 ⇑P Pn 15 20 24.6 +0.3
baz=8.2
TXAR **Lajitas Array** 8.27 223 Pn Pn 15 20 27.2 +1.5
TXAR Lg Lg 15 22 40.4
TXAR **Lajitas Array** 8.27 223 Pn Pn 15 20 27.2 +1.5
0.4nm,0.3s,baz=50,slow=11,SNR=6.4
TXAR Lg Lg 15 22 40.4
3.4nm,0.3s,baz=19,slow=12,SNR=7.2
O23A **Lake Granby, G** 8.30 307 ⇑P Pn 15 20 27.5 +1.3
baz=8.3,SNR=13
626A **Big Bend Ranch** 8.37 226 ⇑P Pn 15 20 26.9 -0.2
baz=8.3
M24A **Cheyenne** 8.38 317 ⇑P Pn 15 20 28.7 +1.4
baz=8.4
L25A **Engebretsen Ra** 8.43 323 ⇓P Pn 15 20 29.5 +1.6
baz=8.4,SNR=5.9
J28A **Allard Ranch,** 8.44 340 ⇑P Pn 15 20 29.6 +1.7
baz=8.5
K26A **Motz Farm, Whi** 8.50 329 ⇓P Pn 15 20 30.4 +1.6
baz=8.5
J27A **Elkhorn Farm,** 8.52 336 ⇑P Pn 15 20 30.8 +1.6
baz=8.5
N23A **Red Feather La** 8.69 310 ⇑P Pn 15 20 32.9 +1.4
baz=8.7
LRAL **Lakeview Retre** 8.82 104 *e*Pn Pn 15 20 34.0 +0.9
LRAL *e*Sn Sn 15 22 13.8 +0.8
BRSD **Miller** 8.96 352 *e*Pn Pn 15 20 35.3 +0.2
94nm,0.8s
BRSD *e*Sn Sn 15 22 16.6 0.0
JFWS **Jewell Farm** 9.11 34 *e*Pn Pn 15 20 37.5 +0.4
JFWS *e*Sn Sn 15 22 20.9 +0.8
WCI **Wyandotte Cave** 9.14 70 Pn Pn 15 20 36.0 -1.5
WCI *e*Sn Sn 15 22 20.4 -0.6
SWET **Sewanee** 9.22 89 Pn Pn 15 20 39.9 +1.2
SWET *e*Sn Sn 15 22 21.6 -1.3
SWET eLg Lg 15 23 22.2
MVCO **Mesa Verde** 9.25 284 Pn Pn 15 20 38.9 -0.4
K24A **Anderson Ranch** 9.27 323 ⇓P Pn 15 20 40.9 +1.4
baz=9.3
121A **Cookes Peak, D** 9.28 254 *e*Pn Pn 15 20 43.2 +3.5
L23A **Garrett** 9.30 317 ⇓P Pn 15 20 40.9 +0.9
baz=9.3
SFIN **Scholer Farm** 9.32 56 Sn Sn 15 22 25.0 -0.2
SFIN eLg Lg 15 23 17.1
J25A **Sunshine Ranch** 9.32 329 ⇑P Pn 15 20 41.0 +0.8
baz=9.3
PV01 **Paradox Valley** 9.46 289 *e*Pn Pn 15 20 43.0 +0.8
PV04 **Paradox Valley** 9.77 290 *e*Pn Pn 15 20 48.0 +1.7
O20A **White River Ci** 9.84 301 Pn Pn 15 20 47.7 +0.4
RSSD **Black Hills** 10.02 331 *e*Pn Pn 15 20 50.8 +1.0
K22A **Casper** 10.11 317 *e*Pn Pn 15 20 52.1 +1.1
K22A eLg Lg 15 23 55.0
SPMN **St. Paul** 10.21 18 *e*Pn Pn 15 20 51.6 -0.7
36nm,0.3s
TKL **Tuckaleechee C** 10.94 86 Pn Pn 15 21 04.8 +2.5
TKL Lg Lg 15 24 07.8
TKL **Tuckaleechee C** 10.94 86 Pn Pn 15 21 04.8 +2.5
0.4nm,0.3s,baz=254,slow=8.7,SNR=4.1
TKL Lg Lg 15 24 07.8
3.0nm,0.3s,baz=162,slow=20,SNR=4.5

SRU	**San Rafael**	**11.17**	**292**	*e*Pn	**Pn**	**15 21 06.0**	**+0.4**
TMUT	**Trail Mountain**	**11.73**	**293**	Pn	**Pn**	**15 21 13.2**	**-0.2**
PDAR	**Pinedale Array**	**11.97**	**311**	Pn	**Pn**	**15 21 16.9**	**+0.3**
PDAR				Lg	Lg	15 24 41.2	
PDAR	**Pinedale Array**	**11.97**	**311**	Pn	**Pn**	**15 21 16.8**	**+0.3**
	0.2nm,0.3s,baz=124,slow=16,SNR=5.6						
PDAR				Lg	Lg	15 24 41.2	
	0.7nm,0.3s,baz=113,slow=28,SNR=6.0						
PDAR				LR	LR	15 26 52.0	
	comp=Z,68nm,19.1s,baz=326,slow=43						
COWI	**Conover**	**12.16**	**28**	*e*Pn	**Pn**	**15 21 18.0**	**-0.9**
COWI				*e*Sn	**Sn**	**15 23 30.0**	**-5.0**
EYMN	**Ely**	**13.08**	**17**	*e*Pn	**Pn**	**15 21 28.3**	**-3.1**
ULM	**Lac du Bonnet**	**14.71**	**3**	*e*Pn	**Pn**	**15 21 50.5**	**-3.1**
ULM				Lg	Lg	15 26 08.4	
ULM	**Lac du Bonnet**	**14.71**	**3**	Pn	**Pn**	**15 21 50.8**	**-2.8**
	0.6nm,0.3s,baz=176,slow=11,SNR=5.6						
ULM				Sn	Sn	15 24 26.7	-10
	1.1nm,0.3s,baz=278,slow=21,SNR=3.9						
ULM				Lg	Lg	15 26 08.4	
	0.5nm,0.3s,baz=89,slow=22,SNR=6.7						
ULM				LR	LR	15 28 03.2	
	comp=Z,99nm,18.2s,baz=281,slow=39						
SADO	**Sadowa**	**16.56**	**51**	Lg	Lg	15 27 05.4	
	0.9nm,0.3s,baz=142,slow=2.3,SNR=7.1						
NVAR	**Mina Array Bea**	**17.09**	**286**	LR	LR	15 28 39.8	
	comp=Z,65nm,19.6s,baz=258,slow=36						
FFC	**Flin Flon**	**19.44**	**352**	*e*P	**Pn**	**15 22 54.1**	**+0.7**
	1.9nm,0.7s						
SCHQ	**Schefferville**	**28.45**	**38**	Lg	Lg	15 33 12.9	
	10nm,0.9s,baz=71,slow=2.6,SNR=4.5						
YKA	**Yellowknife Ar**	**29.06**	**343**	P	**P**	**15 24 27.9**	**+1.9**
YKA				Lg	Lg	15 33 47.3	
YKA	**Yellowknife Ar**	**29.06**	**343**	P	**P**	**15 24 27.9**	**+1.9**
	0.4nm,1.0s,baz=143,slow=8.4,SNR=4.1						
YKA				Lg	Lg	15 33 47.3	
	1.4nm,1.0s,baz=155,slow=26,SNR=5.2						
ILAR	**Eielson Array**	**41.47**	**330**	P	P	15 26 15.7	+3.1
ILAR	**Eielson Array**	**41.47**	**330**	P	P	15 26 15.7	+3.1
	0.3nm,0.8s,baz=104,slow=6.9,SNR=6.1						

ISCJB ***15*** *15:27:00.6±0.6,35°.54N±0°.01×97°.22W±0°.02,h5km±4km, mb2.9/1, Error ellipse: s-maj=3.0km s-min=2.0km az=2.0*
NEIC ***15*** *15:27:02.3±0.4,35°.56N×97°.25W,h8km,MN3.8, MW3.7, Error ellipse: s-maj=5.2km s-min=4.5km az=140.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{14}Nm; M_{rr}0.35; $M_{\theta\theta}$3.30; $M_{\phi\phi}$-3.65; $M_{r\theta}$1.62; $M_{\theta\phi}$0.17; $M_{\phi r}$-1.19; Best double couple: M_o4.00000×10^{14} NP1: ϕ_s42.00000°,δ60.00000°,λ174.00000°. NP2: ϕ_s135.00000°,δ85.00000°,λ30.00000°. Principal axes: T 4.0300, Plg24.0000°, Azm2.0000°; N 0.0000, Plg59.0000°, Azm143.0000°; P -4.0300, Plg16.0000°, Azm264.0000°;*
NEIC Felt at Edmond.
IDC ***15*** *15:27:04.3±2.4,35°.74N×97°.49W,h0km,mb3.1/1, mb1 3.6/4,mb1mx3.4/30,mbtmp3.3/4,ML3.8/3,MS2.8/2, Ms1 2.8/2,ms1mx2.5/21 Error ellipse: s-maj=29.9km s-min=16.5km az=95.0*

ISC 15 15:27:02.1±1.2,**35°.55N**±0°.02×**97°.25W**±0°.03,**h5**km±9km, **n202**,σ0**6**2/225,**86C-80D**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
V34A	**Guthrie**	**0.36**	**322**	P		**Pg**	**15 27 09.6**	**+0.5**
V34A	**Guthrie**	**0.36**	**322**	⇓P		**Pg**	**15 27 09.6**	**+0.5**
	baz=0.3,SNR=186							
V34A				⇑S		**Sg**	**15 27 15.0**	**+1.1**
	baz=0.3							
W34A	**Bridge Creek,**	**0.53**	**234**	P		**Pg**	**15 27 12.0**	**-0.3**
W34A	**Bridge Creek,**	**0.53**	**234**	⇓P		**Pg**	**15 27 12.0**	**-0.3**
	baz=0.5,SNR=83							
W34A				⇓S		**Sg**	**15 27 19.2**	**0.0**
	baz=0.5							
V33A	**Lossen Ranch,**	**0.89**	**288**	P		**Pg**	**15 27 18.6**	**-0.5**
	baz=0.9,SNR=186							
V33A				⇓S		**Sg**	**15 27 30.7**	**0.0**
	baz=0.9							
U34A	**Anderson Ranch**	**0.92**	**345**	P		**Pb**	**15 27 20.0**	**-0.5**
U34A	**Anderson Ranch**	**0.92**	**345**	⇑P		**Pb**	**15 27 20.0**	**-0.5**
	baz=0.9,SNR=739							
U34A				⇑S		**Sb**	**15 27 32.5**	**-0.5**
	baz=0.9							
X34A	**Smith Ranch, M**	**1.06**	**207**	P		**Pg**	**15 27 22.2**	**-0.2**
	baz=1.0,SNR=1000							
X34A				⇑S		**Sb**	**15 27 36.8**	**-0.3**
	baz=1.0							
W33A	**Caddo, Fort Co**	**1.07**	**249**	⇑P		**Pg**	**15 27 22.1**	**-0.5**
	baz=1.0,SNR=141							
W33A				⇓S		**Sg**	**15 27 36.7**	**+0.1**
	baz=1.0							
U33A	**Lingo Farm, Me**	**1.13**	**322**	P		**Pg**	**15 27 23.2**	**-0.6**
	baz=1.1							
U33A				S		**Sb**	**15 27 38.6**	**-0.5**
	baz=1.1							
TUL1	**Tulsa**	**1.24**	**73**	*e*P		**Pg**	**15 27 25.3**	**-0.4**
TUL1				*e*Sn		**Sb**	**15 27 42.2**	**0.0**
TUL1	**Tulsa**	**1.24**	**73**	P		**Pg**	**15 27 25.4**	**-0.4**
	baz=1.3,SNR=164							
TUL1				⇑S		**Sn**	**15 27 43.0**	**-0.2**
	baz=1.3							
X33A	**Lawton**	**1.44**	**226**	⇑P		**Pn**	**15 27 27.7**	**-1.2**
	baz=1.4							
X33A				⇑S		**Sb**	**15 27 46.9**	**-1.1**
	baz=1.4							
V32A	**Arapaho**	**1.48**	**277**	⇑P		**Pn**	**15 27 28.9**	**-0.5**
	baz=1.4,SNR=161							
V32A				⇑S		**Sn**	**15 27 48.9**	**-0.2**
	baz=1.4							
WMOK	**Wichita Mounta**	**1.50**	**238**	*e*Pn		**Pn**	**15 27 28.3**	**-1.3**
WMOK				*e*S		**Sn**	**15 27 47.5**	**-2.1**
Y34A	**Reagan Ranch,**	**1.64**	**195**	P		**Pn**	**15 27 31.1**	**-0.5**
	baz=1.6,SNR=350							
Y34A				⇑S		**Sn**	**15 27 53.3**	**+0.2**
	baz=1.6							
U32A	**Winter Ranch,**	**1.65**	**301**	P		**Pn**	**15 27 31.7**	**0.0**
	baz=1.6,SNR=394							
U32A				⇑Sb		**Sb**	**15 27 54.2**	**+0.1**
	baz=1.6							
W32A	**Sentinel**	**1.69**	**256**	P		**Pn**	**15 27 32.2**	**-0.1**
	baz=1.7,SNR=465							
W32A				⇓S		**Sb**	**15 27 55.0**	**-0.2**
	baz=1.7							
T33A	**Patterson Ranc**	**1.73**	**333**	⇑P		**Pn**	**15 27 33.1**	**+0.2**
	baz=1.7,SNR=110							
T33A				Sb		**Sg**	**15 27 57.1**	**-0.6**
	baz=1.7							
Y33A	**Hilltop Ranch,**	**1.91**	**217**	P		**Pn**	**15 27 35.6**	**+0.3**
	baz=1.9,SNR=476							
Y33A				⇑S		**Sn**	**15 28 00.6**	**+0.9**
	baz=1.9							
X32A	**Elmer**	**2.02**	**237**	⇓P		**Pn**	**15 27 37.6**	**+0.8**
	baz=2.0,SNR=126							
X32A				Sb		**Sb**	**15 28 04.4**	**-0.3**
	baz=2.0							
T32A	**Huddler Ranch,**	**2.12**	**321**	⇓P		**Pn**	**15 27 38.8**	**+0.6**
	baz=2.1,SNR=16							
T32A				Sb		**Sb**	**15 28 08.1**	**+0.5**
	baz=2.1							
V31A	**Spring Creek L**	**2.13**	**277**	P		**Pn**	**15 27 39.6**	**+1.3**
	baz=2.1,SNR=157							
V31A				Sb		**Sb**	**15 28 08.8**	**+1.0**
	baz=2.1							
S33A	**Kaszmaul Farm,**	**2.13**	**344**	⇓P		**Pn**	**15 27 38.5**	**+0.1**
	baz=2.1,SNR=51							
S33A				Sb		**Sb**	**15 28 08.9**	**+0.9**
	baz=2.1							
Z35A	**Perchaven, San**	**2.21**	**180**	⇓P		**Pn**	**15 27 40.1**	**+0.6**
	baz=2.2,SNR=166							
W31A	**Holland Ranch,**	**2.23**	**262**	⇓P		**Pn**	**15 27 40.6**	**+0.8**
	baz=2.2,SNR=77							
W31A				Sb		**Sb**	**15 28 11.6**	**+0.6**
	baz=2.2							
Z34A	**Collier Ranch,**	**2.24**	**194**	⇑P		**Pn**	**15 27 41.0**	**+1.1**
	baz=2.2,SNR=135							
U31A	**Nine Bar Ranch**	**2.27**	**292**	⇑P		**Pn**	**15 27 41.2**	**+0.9**
	baz=2.2,SNR=109							
Y32A	**R-V Farms, Ver**	**2.37**	**230**	⇓P		**Pn**	**15 27 42.9**	**+1.2**
	baz=2.4,SNR=166							
X31A	**McDonald Ranch**	**2.42**	**249**	⇑P		**Pn**	**15 27 43.3**	**+1.0**
	baz=2.4,SNR=477							
T31A	**Randall Ranch,**	**2.50**	**309**	⇓P		**Pn**	**15 27 44.4**	**+0.9**
	baz=2.5,SNR=14							
S32A	**Newby Ranch, P**	**2.54**	**328**	⇑P		**Pn**	**15 27 44.6**	**+0.5**
	baz=2.5,SNR=27							
Z33A	**Whitaker Ranch**	**2.58**	**210**	⇑P		**Pn**	**15 27 45.7**	**+1.2**
	baz=2.6,SNR=95							
S31A	**Mullinville**	**2.74**	**320**	⇑P		**Pn**	**15 27 47.8**	**+1.0**
	baz=2.7							
W30A	**Crocket Farms**	**2.75**	**263**	⇓P		**Pn**	**15 27 47.5**	**+0.6**
	baz=2.7,SNR=12							
V30A	**Spur Ranch, Mi**	**2.81**	**275**	⇑P		**Pn**	**15 27 48.7**	**+0.9**
	baz=2.8,SNR=53							
R33A	**Olander Ranch,**	**2.82**	**348**	⇑P		**Pn**	**15 27 48.3**	**+0.5**
	baz=2.8,SNR=8.2							
Z32A	**Haskell**	**2.90**	**220**	⇑P		**Pn**	**15 27 49.4**	**+0.5**
	baz=2.9							
U30A	**WK&E Inc. Balk**	**2.93**	**291**	⇑P		**Pn**	**15 27 50.1**	**+0.7**
	baz=2.9,SNR=18							
135A	**Vickery Place,**	**2.98**	**183**	⇑P		**Pn**	**15 27 50.9**	**+0.8**
	baz=3.0							
134A	**White-Moore Ra**	**3.05**	**193**	⇑P		**Pn**	**15 27 51.7**	**+0.8**
	baz=3.0,SNR=62							
T30A	**Plains**	**3.05**	**301**	⇓P		**Pn**	**15 27 51.0**	**0.0**
	baz=3.0,SNR=16							
R32A	**Long Quarter,**	**3.10**	**338**	⇓P		**Pn**	**15 27 52.9**	**+1.2**
	baz=3.1							
MIAR	**Mount Ida**	**3.17**	**107**	*e*Pn		**Pn**	**15 27 54.2**	**+1.5**
X30A	**Coker Ranch, T**	**3.17**	**251**	⇑P		**Pn**	**15 27 53.3**	**+0.6**
	baz=3.1,SNR=44							
133A	**Hamilton Ranch**	**3.24**	**206**	⇓P		**Pn**	**15 27 54.6**	**+1.0**
	baz=3.2,SNR=21							
Z31A	**Sharp Cattle R**	**3.27**	**228**	⇓P		**Pn**	**15 27 54.2**	**+0.1**
	baz=3.2,SNR=19							
R31A	**Burdett**	**3.29**	**327**	⇑P		**Pn**	**15 27 54.7**	**+0.3**
	baz=3.3,SNR=7.7							
S30A	**Montezuma**	**3.33**	**310**	⇓P		**Pn**	**15 27 54.9**	**0.0**
	baz=3.3,SNR=18							
U29A	**Oasis Ranch, S**	**3.39**	**287**	⇓P		**Pn**	**15 27 56.0**	**+0.3**
	baz=3.4,SNR=9.1							
Q33A	**Connelly Farm,**	**3.48**	**352**	⇓P		**Pn**	**15 27 57.2**	**+0.3**
	baz=3.5,SNR=21							
V29A	**Stinnett**	**3.49**	**277**	⇓P		**Pn**	**15 27 57.1**	**-0.1**
	baz=3.5,SNR=11							
ABTX	**Abilene, Hawle**	**3.53**	**215**	Pn		**Pn**	**15 27 57.4**	**-0.2**
ABTX				*e*Pg		**Pb**	**15 28 06.0**	**+1.0**
WHTX	**Lake Whitney**	**3.55**	**183**	*e*Pn		**Pn**	**15 27 57.6**	**-0.3**
WHTX	**Lake Whitney**	**3.55**	**183**	⇓P		**Pn**	**15 27 58.2**	**+0.3**
	baz=3.6,SNR=20							
KSU1	**Kansas State U**	**3.58**	**8**	*e*Pn		**Pn**	**15 27 58.9**	**+0.6**
KSU1	**Kansas State U**	**3.58**	**8**	⇓P		**Pn**	**15 27 58.9**	**+0.6**
	baz=3.6,SNR=15							
KSU1				⇓S		**Sn**	**15 28 41.8**	**+0.7**
	baz=3.6							
Q32A	**Meitler Ranch,**	**3.59**	**343**	⇑P		**Pn**	**15 27 58.5**	**0.0**
	baz=3.6,SNR=25							
234A	**Clairette**	**3.61**	**192**	⇓P		**Pn**	**15 27 58.8**	**+0.1**
	baz=3.6,SNR=25							
W29A	**Amraillo**	**3.62**	**265**	⇑P		**Pn**	**15 27 59.0**	**0.0**
	baz=3.6,SNR=16							
T29A	**Hugoton**	**3.64**	**297**	⇑P		**Pn**	**15 27 59.5**	**+0.3**
	baz=3.6,SNR=19							
T29A				⇑S		**Sn**	**15 28 42.6**	**0.0**
	baz=3.6							
R30A	**Dighton**	**3.66**	**319**	⇑P		**Pn**	**15 27 59.9**	**+0.6**
	baz=3.6,SNR=13							
AMTX	**Amarillo**	**3.69**	**261**	⇓P		**Pn**	**15 28 00.4**	**+0.5**
	baz=3.7							
S29A	**Ulysses**	**3.74**	**305**	⇓P		**Pn**	**15 28 00.9**	**+0.4**
	baz=3.7,SNR=22							
S29A				⇓S		**Sn**	**15 28 45.4**	**+0.4**
	baz=3.7							
233A	**Rising Star**	**3.78**	**202**	⇑P		**Pn**	**15 28 01.2**	**+0.1**
	baz=3.8,SNR=40							
233A				⇓S		**Sn**	**15 28 47.0**	**+1.1**
	baz=3.8							
X29A	**Tulia**	**3.82**	**255**	⇓P		**Pn**	**15 28 01.8**	**+0.2**
	baz=3.8,SNR=13							
Q31A	**Ellis**	**3.85**	**334**	⇑P		**Pn**	**15 28 02.5**	**+0.4**
	baz=3.8,SNR=8.3							
Q31A				⇑S		**Sn**	**15 28 47.1**	**-0.7**
	baz=3.8							
131A	**Roby**	**3.87**	**223**	⇑P		**Pn**	**15 28 02.4**	**0.0**
	baz=3.9,SNR=6.6							
P33A	**Williams Farm,**	**3.90**	**355**	⇑P		**Pn**	**15 28 02.7**	**0.0**
	baz=3.9,SNR=7.0							
Z30A	**Sanderson Ranc**	**3.92**	**236**	⇑S		**Sn**	**15 28 50.0**	**+0.5**
	baz=3.9							
Y29A	**Porterfield Fa**	**4.01**	**246**	⇓P		**Pn**	**15 28 05.0**	**+0.7**
	baz=4.0,SNR=12							
W28A	**Vega**	**4.06**	**267**	⇓P		**Pn**	**15 28 05.2**	**+0.2**
	baz=4.0,SNR=8.4							
UALR	**University of**	**4.09**	**99**	*e*Pn		**Pn**	**15 28 06.2**	**+0.9**
U28A	**Mallet**	**4.12**	**283**	⇑P		**Pn**	**15 28 05.9**	**+0.1**
	baz=4.1,SNR=25							
U28A				⇑S		**Sn**	**15 28 54.6**	**+0.1**
	baz=4.1							
232A	**Coleman**	**4.16**	**209**	⇑P		**Pn**	**15 28 07.0**	**+0.7**
	baz=4.2,SNR=8.0							
Q30A	**Quinter**	**4.17**	**326**	⇓P		**Pn**	**15 28 06.8**	**+0.4**
	baz=4.2,SNR=15							
T28A	**Walsh**	**4.23**	**293**	⇑P		**Pn**	**15 28 07.3**	**0.0**
	baz=4.2,SNR=37							
335A	**Moody**	**4.26**	**182**	⇓P		**Pn**	**15 28 07.9**	**+0.3**
	baz=4.3,SNR=10							
S28A	**Manter**	**4.26**	**300**	⇓P		**Pn**	**15 28 07.7**	**-0.1**
	baz=4.2,SNR=16							
130A	**Snyder**	**4.26**	**227**	⇓P		**Pn**	**15 28 07.6**	**-0.2**
	baz=4.2,SNR=13							
334A	**Lometa**	**4.28**	**191**	P		**Pn**	**15 28 07.7**	**-0.3**
	baz=4.3,SNR=37							
P31A	**Stockton**	**4.31**	**338**	⇑P		**Pn**	**15 28 08.3**	**-0.1**
	baz=4.3,SNR=16							
Z29A	**Hungry Hill Ra**	**4.34**	**240**	⇓P		**Pn**	**15 28 09.0**	**+0.3**
	baz=4.3,SNR=12							
NATX	**Nacogdoches**	**4.35**	**150**	P		**Pn**	**15 28 09.6**	**+0.8**
Y28A	**McKinney Farm,**	**4.43**	**250**	⇓P		**Pn**	**15 28 10.1**	**0.0**
	baz=4.4,SNR=15							
333A	**Richland Sprin**	**4.45**	**200**	P		**Pn**	**15 28 09.9**	**-0.4**
	baz=4.5,SNR=52							
R28A	**Tribune**	**4.60**	**309**	⇓P		**Pn**	**15 28 12.5**	**+0.1**
	baz=4.6,SNR=16							
U27A	**Thompson Grove**	**4.61**	**283**	⇑P		**Pn**	**15 28 12.3**	**-0.2**
	baz=4.6							
332A	**Millersview**	**4.65**	**207**	⇓P		**Pn**	**15 28 12.8**	**-0.2**
	baz=4.6,SNR=55							
P30A	**Selden**	**4.65**	**330**	⇑P		**Pn**	**15 28 13.3**	**+0.3**
	baz=4.6,SNR=5.1							
T27A	**Campo**	**4.67**	**290**	⇓P		**Pn**	**15 28 13.4**	**0.0**
	baz=4.6							
W27A	**Bowe Ranch, En**	**4.78**	**266**	⇑P		**Pn**	**15 28 15.0**	**0.0**
	baz=4.7							
434A	**Burnet**	**4.80**	**191**	⇓P		**Pn**	**15 28 14.5**	**-0.6**
	baz=4.8,SNR=22							
129A	**Stewart Farms,**	**4.81**	**234**	⇑P		**Pn**	**15 28 15.4**	**+0.1**
	baz=4.8							
MSTX	**Muleshoe**	**4.81**	**253**	*e*Pn		**Pn**	**15 28 14.3**	**-1.0**
MSTX	**Muleshoe**	**4.81**	**253**	⇓P		**Pn**	**15 28 15.0**	**-0.4**
	baz=4.8,SNR=13							
230A	**Sterling City**	**4.87**	**223**	⇑P		**Pn**	**15 28 16.1**	**+0.1**
	baz=4.8,SNR=8.6							
X27A	**F and S Farms,**	**4.88**	**261**	⇓P		**Pn**	**15 28 15.8**	**-0.4**
	baz=4.8,SNR=11							
O31A	**Woolen Ranch,**	**4.88**	**341**	⇑P		**Pn**	**15 28 16.4**	**+0.2**
	baz=4.9							
331A	**San Angelo**	**4.99**	**213**	⇑P		**Pn**	**15 28 17.9**	**+0.2**
	baz=5.0,SNR=19							
P29A	**Atwood**	**5.00**	**325**	⇓P		**Pn**	**15 28 18.1**	**+0.3**
	baz=5.0							
S27A	**Las Animas**	**5.02**	**297**	⇓P		**Pn**	**15 28 18.2**	**0.0**
	baz=5.0,SNR=38							
433A	**Art**	**5.02**	**198**	⇓P		**Pn**	**15 28 17.9**	**-0.3**
	baz=5.0,SNR=29							
432A	**Menard**	**5.12**	**205**	⇓P		**Pn**	**15 28 19.5**	**0.0**
	baz=5.1,SNR=29							
O30A	**MW Ranch, Wils**	**5.13**	**335**	⇑P		**Pn**	**15 28 19.6**	**-0.1**
	baz=5.1,SNR=8.4							
Y27A	**Causey**	**5.15**	**253**	⇑P		**Pn**	**15 28 19.8**	**-0.1**
	baz=5.1,SNR=16							
R27A	**Eads**	**5.22**	**303**	⇑P		**Pn**	**15 28 20.2**	**-0.8**
	baz=5.2,SNR=18							
128A	**Castleberry Fa**	**5.24**	**238**	⇑P		**Pn**	**15 28 20.9**	**-0.2**
	baz=5.2,SNR=16							
330A	**Mertzon**	**5.28**	**220**	⇓P		**Pn**	**15 28 21.5**	**-0.2**
	baz=5.3,SNR=13							
V26A	**Tequesquite Ra**	**5.33**	**275**	⇓P		**Pn**	**15 28 22.3**	**-0.1**
	baz=5.3							
U26A	**Atchley Ranch,**	**5.34**	**281**	⇑P		**Pn**	**15 28 22.2**	**-0.4**
	baz=5.3,SNR=45							
W26A	**Owens Ranch, T**	**5.35**	**267**	⇓P		**Pn**	**15 28 22.5**	**-0.3**
	baz=5.3,SNR=23							
O29A	**4D Ranch, Culb**	**5.37**	**329**	⇓P		**Pn**	**15 28 23.3**	**+0.4**
	baz=5.4							
HBAR	**Harrisburg**	**5.37**	**88**	Pn		**Pn**	**15 28 23.3**	**+0.4**
T26A	**Comanche Natio**	**5.37**	**289**	⇑P		**Pn**	**15 28 22.7**	**-0.4**
	baz=5.3,SNR=26							
Z27A	**Tatum**	**5.41**	**247**	⇓P		**Pn**	**15 28 23.4**	**-0.2**
	baz=5.4,SNR=8.9							
S26A	**Kim**	**5.42**	**294**	⇑P		**Pn**	**15 28 23.3**	**-0.4**
	baz=5.4,SNR=24							
N31A	**Bailey Ranch,**	**5.44**	**346**	⇓P		**Pn**	**15 28 23.6**	**-0.2**
	baz=5.4,SNR=7.5							
X26A	**CR and CF Fran**	**5.48**	**261**	⇓P		**Pn**	**15 28 24.1**	**-0.3**
	baz=5.4,SNR=11							
JCT	**Junction City**	**5.49**	**204**	*e*Pn		**Pn**	**15 28 23.9**	**-0.7**
JCT	**Junction City**	**5.49**	**204**	⇓P		**Pn**	**15 28 24.4**	**-0.2**
	baz=5.5,SNR=14							
KSCO	**Kaye Shedlock'**	**5.51**	**310**	*e*Pn		**Pn**	**15 28 25.7**	**+0.8**
KSCO	**Kaye Shedlock'**	**5.51**	**310**	⇓P		**Pn**	**15 28 25.1**	**+0.1**
	baz=5.5							
534A	**Blanco**	**5.60**	**191**	⇑P		**Pn**	**15 28 25.4**	**-0.7**
	baz=5.6,SNR=13							
431A	**Sonora**	**5.61**	**211**	⇓P		**Pn**	**15 28 26.1**	**-0.2**
	baz=5.6,SNR=39							
Y26A	**Elida**	**5.65**	**255**	⇑P		**Pn**	**15 28 26.5**	**-0.4**
	baz=5.6,SNR=6.0							
533A	**Kerrville**	**5.66**	**196**	⇓P		**Pn**	**15 28 26.5**	**-0.5**
	baz=5.7							
R26A	**Arlington**	**5.68**	**301**	⇓P		**Pn**	**15 28 26.6**	**-0.7**
	baz=5.6,SNR=30							
430A	**Baggett Ranch,**	**5.81**	**216**	⇑P		**Pn**	**15 28 29.0**	**0.0**
	baz=5.8,SNR=18							
O28A	**Krutsinger Ran**	**5.81**	**323**	⇓P		**Pn**	**15 28 28.8**	**-0.2**
	baz=5.8,SNR=12							
127A	**Arkansas Junct**	**5.82**	**242**	⇑P		**Pn**	**15 28 29.6**	**+0.4**
	baz=5.8,SNR=7.4							
532A	**Rocksprings**	**5.85**	**203**	⇑P		**Pn**	**15 28 29.1**	**-0.4**
	baz=5.8,SNR=25							
U25A	**Circle Dot Ran**	**5.87**	**280**	P		**Pn**	**15 28 29.5**	**-0.4**
	baz=5.8,SNR=29							
BGNE	**Belgrade**	**5.89**	**353**	*e*Pn		**Pn**	**15 28 29.6**	**-0.5**
BGNE	**Belgrade**	**5.89**	**353**	⇑P		**Pn**	**15 28 29.6**	**-0.5**
	baz=5.9,SNR=7.1							
N29A	**Votaw Ranch, W**	**5.90**	**334**	⇑P		**Pn**	**15 28 30.5**	**+0.3**
	baz=5.9,SNR=29							
W25A	**X Bar L Ranch,**	**5.90**	**269**	⇑P		**Pn**	**15 28 30.2**	**-0.2**
	baz=5.9,SNR=14							
T25A	**Trinidad**	**6.00**	**287**	⇑P		**Pn**	**15 28 31.3**	**-0.4**
	baz=6.0,SNR=20							
V25A	**Rancho No Teng**	**6.00**	**275**	⇓P		**Pn**	**15 28 31.3**	**-0.5**
	baz=6.0,SNR=9.4							
Z26A	**Caprock**	**6.01**	**250**	⇓P		**Pn**	**15 28 31.7**	**-0.1**
	baz=6.0,SNR=8.2							
531A	**Rocksprings**	**6.04**	**208**	⇑P		**Pn**	**15 28 32.2**	**0.0**
	baz=6.0,SNR=27							
N28A	**Pribbeno Ranch**	**6.15**	**328**	⇑P		**Pn**	**15 28 33.5**	**-0.1**
	baz=6.1							
S25A	**Robets Cordova**	**6.16**	**292**	⇓P		**Pn**	**15 28 33.4**	**-0.5**
	baz=6.1,SNR=20							
X25A	**Clemmons Ranch**	**6.17**	**263**	⇓P		**Pn**	**15 28 33.5**	**-0.5**
	baz=6.1,SNR=7.3							
PVMO	**Portageville**	**6.18**	**80**	Pn		**Pn**	**15 28 32.2**	**-1.8**
PVMO				*e*Sg		Sg	15 30 14.1	-6.4
R25A	**Fountain Ranch**	**6.21**	**297**	⇑P		**Pn**	**15 28 34.3**	**-0.3**
	baz=6.2,SNR=27							
429A	**Davenport Ranc**	**6.27**	**220**	⇑P		**Pn**	**15 28 35.3**	**0.0**
	baz=6.3,SNR=8.2							
633A	**Saathoff Ranch**	**6.29**	**196**	P		**Pn**	**15 28 35.1**	**-0.4**
	baz=6.3,SNR=21							
P26A	**Davis Ranch, A**	**6.29**	**311**	⇓P		**Pn**	**15 28 36.0**	**+0.4**
	baz=6.3,SNR=37							
Y25A	**Mesa, Roswell**	**6.34**	**257**	⇓P		**Pn**	**15 28 36.9**	**+0.5**
	baz=6.3,SNR=9.6							
530A	**J-C Ranch, Com**	**6.39**	**214**	⇓P		**Pn**	**15 28 37.1**	**+0.2**
	baz=6.4,SNR=18							
632A	**Uvalde**	**6.39**	**200**	⇑P		**Pn**	**15 28 36.8**	**-0.2**

SADO	**Sadowa**		**16.59**	**51**	Lg	Lg	15 35 42.9		
	0.9nm,0.3s,baz=153,slow=3.5,SNR=5.2								
ILAR	**Eielson Array**		**41.47**	**330**	P	**P**	**15 34 50.5**	**+0.8**	
	0.2nm,0.6s,baz=105,slow=6.6,SNR=5.2								

IDC ***15*** *15:27:40.2±0.5, 11˚.59N×142˚.22E, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.4/31, mbtmp4.3/24, MS3.7/7, Ms1 3.7/7, ms1mx3.5/35, Error ellipse: s-maj=21.2km s-min=12.2km az=81.0*

NEIC ***15*** *15:27:41.2±0.4, 11˚.56N×142˚.10E, h10km, mb4.8/10, Error ellipse: s-maj=11.9km s-min=8.6km az=93.0*

ISCJB ***15*** *15:27:44.6±0.4, 11˚.55N±0˚.06×142˚.18E±0˚.06, h49km, mb4.3/33, MS3.6/6, Error ellipse: s-maj=9.6km s-min=7.3km az=32.1*

ISC 15 15:27:46.6±0.5, 11˚.56N±0˚.07×142˚.17E±0˚.08, h49km, n67, σ1ᵴ36/72, mb4.3/33, MS3.7/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.32**	**52**	*e*Pn	**Pn**	**15 28 34.6**	**-1.4**
GUMO				*e*Sn	**Sn**	**15 29 12.8**	**-1.5**
JCJ	**Chichijima**	**15.46**	**0**	LR	LR	15 36 54.5	
	comp=Z,328nm,18.2s,baz=43,slow=36						
PMG	**Port Moresby**	**21.41**	**166**	*e*P	**P**	**15 32 27.5**	**-3.0**
	76nm,1.2s						
PMG	**Port Moresby**	**21.41**	**166**	P	**P**	**15 32 28.9**	**-1.6**
	46nm,1.1s,baz=346,slow=8.4,SNR=7.9						
LUWI	**Luwuk**	**22.99**	**238**	*e*P	**P**	**15 32 44.1**	**-3.3**
	51nm,1.0s						
JNU	**Nakatsue**	**23.83**	**336**	P	**P**	**15 32 55.2**	**-0.1**
JNU	**Nakatsue**	**23.83**	**336**	P	**P**	**15 32 55.2**	**-0.1**
	19nm,0.8s,baz=161,slow=9.5,SNR=10						
JNU				LR	LR	15 42 00.4	
	comp=Z,208nm,18.3s,baz=149,slow=36						
MJAR	**Matsushiro Arr**	**25.13**	**352**	P	**P**	**15 33 06.0**	**-1.1**
MJAR	**Matsushiro Arr**	**25.13**	**352**	P	**P**	**15 33 06.0**	**-1.1**
	6.9nm,1.1s,baz=160,slow=8.1,SNR=6.0						
HNR	**Honiara**	**27.33**	**139**	LR	LR	15 45 14.1	
	comp=Z,37nm,18.1s,baz=33,slow=39						
KSRS	**Korea Array**	**28.79**	**336**	P	**P**	**15 33 39.0**	**-0.9**
	2.0nm,1.0s,baz=153,slow=14,SNR=3.7						
KSAR	**Wonju Array Be**	**28.79**	**336**	P	**P**	**15 33 39.0**	**-0.9**
WRA	**Warramunga Arr**	**32.24**	**194**	P	**P**	**15 34 10.2**	**-0.4**
WRA	**Warramunga Arr**	**32.24**	**194**	P	**P**	**15 34 10.2**	**-0.4**
	5.6nm,1.1s,baz=15,slow=9.7,SNR=16						
WRA				LR	LR	15 47 56.3	
	comp=Z,211nm,18.2s,baz=340,slow=38						
USRK	**Ussuriysk Arra**	**33.69**	**347**	P	**P**	**15 34 23.5**	**+0.5**
	2.3nm,0.6s,baz=165,slow=6.7,SNR=4.8						
AS31	**Alice Springs**	**35.93**	**193**	*e*P	**P**	**15 34 41.8**	**-0.8**
ASAR	**Alice Springs**	**35.93**	**193**	P	**P**	**15 34 42.5**	**0.0**
ASAR				PcP	**PcP**	**15 37 10.6**	**+1.8**
ASAR	**Alice Springs**	**35.93**	**193**	P	**P**	**15 34 42.5**	**0.0**
	1.1nm,0.9s,baz=23,slow=12,SNR=22						
ASAR				PcP	**PcP**	**15 37 10.6**	**+1.8**
	0.5nm,0.6s,baz=32,slow=2.8,SNR=4.7						
ASAR				LR	LR	15 49 36.8	
	comp=Z,113nm,18.1s,baz=342,slow=37						
DZM	**Mont Dzumac**	**41.03**	**144**	P	**P**	**15 35 26.6**	**+1.1**
DZM	**Mont Dzumac**	**41.03**	**144**	P	**P**	**15 35 26.6**	**+1.1**
	7.7nm,0.9s,baz=274,slow=7.9,SNR=3.6						
DZM				LR	LR	15 50 16.5	
	comp=Z,105nm,18.1s,baz=343,slow=33						
CMAR	**Chiang Mai Arr**	**42.23**	**285**	P	**P**	**15 35 36.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**42.23**	**285**	P	**P**	**15 35 36.7**	**+1.3**
	2.5nm,0.7s,baz=80,slow=7.0,SNR=15						
STKA	**Stephens Creek**	**43.19**	**181**	P	**P**	**15 35 42.8**	**0.0**
STKA	**Stephens Creek**	**43.19**	**181**	P	**P**	**15 35 42.8**	**0.0**
	5.5nm,1.1s,baz=11,slow=5.2,SNR=6.1						
STKA				LR	LR	15 55 41.7	
	comp=Z,91nm,18.1s,baz=14,slow=39						
ULN	**Ulaanbaatar**	**46.61**	**328**	*e*P	**P**	**15 36 08.0**	**-2.2**
	18nm,1.5s						
GTA	**Gaotai**	**46.62**	**314**	*e*P	**P**	**15 36 12.8**	**+2.5**
GTA				pP	**pP**	**15 36 19.0**	**-4.5**
GTA				sP	sP	15 36 22.3	-6.9
GTA				PcP	**PP**	**15 37 59.3**	**-1.1**
GTA				S	S	15 43 53.0	+57
GTA				sS	sS	15 44 03.3	+45
SONM	**Songino Array**	**46.94**	**327**	P	**P**	**15 36 14.0**	**+1.4**
SONM				PcP	**PcP**	**15 37 46.0**	**+1.3**
SONM	**Songino Array**	**46.94**	**327**	P	**P**	**15 36 14.0**	**+1.4**
	1.3nm,0.5s,baz=142,slow=6.7,SNR=11						
SONM				PcP	**PcP**	**15 37 45.9**	**+1.3**
	0.6nm,0.5s,baz=146,slow=4.7,SNR=2.8						
MK31	**Makanchi Array**	**61.15**	**317**	*e*P	**P**	**15 37 56.1**	**-0.1**
MKAR	**Makanchi Array**	**61.15**	**317**	P	**P**	**15 37 56.9**	**+0.8**
MKAR	**Makanchi Array**	**61.15**	**317**	P	**P**	**15 37 56.9**	**+0.8**
	0.5nm,0.6s,baz=92,slow=8.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**61.77**	**326**	P	**P**	**15 38 00.2**	**0.0**
ZALV	**Zalesovo Beam**	**61.77**	**326**	P	**P**	**15 38 00.2**	**0.0**
	0.8nm,0.5s,baz=110,slow=6.2,SNR=4.7						
KURK	**Kurchatov**	**64.46**	**321**	*e*P	**P**	**15 38 17.1**	**-0.9**
	5.5nm,0.9s						
KTH	**Kantishna Hill**	**69.51**	**26**	*e*P	**P**	**15 38 48.9**	**-1.1**
BRVK	**Borovoye**	**69.97**	**322**	*e*P	**P**	**15 38 51.5**	**-1.4**
	15nm,1.3s						
COLD	**Coldfoot**	**70.82**	**22**	*e*P	**P**	**15 38 57.6**	**-0.3**
	9.4nm,1.0s						
ILAR	**Eielson Array**	**71.52**	**25**	P	**P**	**15 39 01.3**	**-0.8**
ILAR	**Eielson Array**	**71.52**	**25**	P	**P**	**15 39 01.3**	**-0.8**
	5.7nm,0.6s,baz=249,slow=5.9,SNR=53						
PAX	**Paxson**	**71.78**	**27**	*e*P	**P**	**15 39 04.2**	**+0.4**
	4.1nm,0.5s						
DOT	**Dot Lake**	**72.52**	**27**	*e*P	**P**	**15 39 05.8**	**-2.4**
	5.1nm,0.6s						
ABKAR	**Akbulak array**	**76.28**	**318**	*e*P	**P**	**15 39 27.6**	**-2.6**
	1.2nm,0.5s						
INK	**Inuvik**	**77.24**	**22**	P	**P**	**15 39 35.4**	**+0.2**
INK	**Inuvik**	**77.24**	**22**	P	**P**	**15 39 35.4**	**+0.2**
	2.0nm,0.8s,baz=267,slow=6.4,SNR=9.3						
AKTO	**Aktyubinsk**	**77.48**	**319**	P	**P**	**15 39 37.5**	**+0.5**
AKTO	**Aktyubinsk**	**77.48**	**319**	P	**P**	**15 39 37.5**	**+0.5**
	1.3nm,0.5s,baz=114,slow=5.3,SNR=4.3						
DLBC	**Dease Lake**	**79.10**	**32**	P	**P**	**15 39 46.6**	**+0.7**
DLBC	**Dease Lake**	**79.10**	**32**	P	**P**	**15 39 46.6**	**+0.7**
	1.4nm,0.4s,baz=289,slow=9.1,SNR=3.2						
YKA	**Yellowknife Ar**	**85.86**	**27**	P	**P**	**15 40 21.7**	**+0.8**
YKA	**Yellowknife Ar**	**85.86**	**27**	P	**P**	**15 40 21.7**	**+0.8**
	0.6nm,0.5s,baz=286,slow=5.0,SNR=11						
RES	**Resolute Bay**	**87.12**	**13**	P	**P**	**15 40 27.8**	**+0.9**
	1.7nm,0.5s						
RES	**Resolute Bay**	**87.12**	**13**	P	**P**	**15 40 27.8**	**+0.9**
	3.2nm,0.6s,baz=296,slow=3.2,SNR=11						
ARCES	**ARCESS Array B**	**88.19**	**342**	P	**P**	**15 40 32.4**	**+0.3**
ARCES	**ARCESS Array B**	**88.19**	**342**	P	**P**	**15 40 32.4**	**+0.3**
	1.6nm,0.7s,baz=72,slow=7.9,SNR=10						
JOF	**Joensuu**	**89.01**	**335**	*e*p	**P**	**15 40 35.2**	**-0.9**
	2.3nm,0.6s						
NVAR	**Mina Array Bea**	**90.24**	**51**	P	**P**	**15 40 44.3**	**+1.6**
NVAR	**Mina Array Bea**	**90.24**	**51**	P	**P**	**15 40 44.3**	**+1.6**
	1.9nm,0.6s,baz=261,slow=6.0,SNR=20						
FINES	**FINESS Array B**	**91.87**	**334**	P	**P**	**15 40 48.5**	**-0.9**
FINES	**FINESS Array B**	**91.87**	**334**	P	**P**	**15 40 48.5**	**-0.9**
	2.1nm,0.5s,baz=68,slow=5.7,SNR=17						
PDAR	**Pinedale Array**	**95.25**	**45**	P	**P**	**15 41 05.5**	**-0.3**
PDAR	**Pinedale Array**	**95.25**	**45**	P	**P**	**15 41 05.4**	**-0.3**
	0.3nm,0.6s,baz=286,slow=6.5,SNR=2.9						
BRTR	**Keskin Array B**	**96.52**	**313**	P	**P**	**15 41 10.5**	**-0.9**
BRTR	**Keskin Array B**	**96.52**	**313**	P	**P**	**15 41 10.5**	**-0.9**
	0.3nm,0.7s,baz=57,slow=5.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**133.74**	**301**	PKP	**PKPdf**	**15 47 00.5**	**+1.4**
TORD	**Torodi Ar. Bea**	**133.74**	**301**	PKP	**PKPdf**	**15 47 00.5**	**+1.4**
	0.4nm,0.8s,baz=0.0,slow=1.6,SNR=3.0						
LPAZ	**La Paz**	**150.23**	**103**	PKPbc	**PKPbc**	**15 47 35.9**	**+1.9**
LPAZ	**La Paz**	**150.23**	**103**	PKPbc	**PKPbc**	**15 47 35.9**	**+1.9**
	2.6nm,0.6s,baz=269,slow=2.5,SNR=11						

JMA ***15*** *15:44:45.8±0.3, 43˚.38N×147˚.06E, h38km±4km, M5.1*
JMA Felt III J1.

ISCJB ***15*** *15:44:46.3±0.4, 43˚.51N±0˚.02×146˚.80E±0˚.02, h41km±3km, mb5.4/325, MS4.6/73, Error ellipse: s-maj=3.3km s-min=2.3km az=155.1*

GCMT ***15*** *15:44:47.2±0.2, 43˚.49N×147˚.15E, h54km±1km, MW5.2/101, Moment Tensor Solution. s54,c87; s101,c169; Duration: 1ᵴ0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.58±.02; Mθθ0.10±.02; Mϕϕ-0.68±.02; Mrθ-0.00±.01; Mθϕ-0.37±.01; Mϕr0.42±.01; Best double couple: M₀0.83000×10¹⁷ NP1:ϕₛ6.00000°, δ62.00000°, λ71.00000°. NP2:ϕₛ222.00000°, δ34.00000°, λ121.00000°.*

Principal axes: T 0.7310, Plg68.0000°, Azm240.0000°; N 0.1970, Plg16.0000°, Azm15.0000°; P -0.9280, Plg15.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC ***15*** *15:44:47.2±0.2, 43˚.55N×146˚.72E, h35km, mb5.3/132 Error ellipse: s-maj=5.6km s-min=3.3km az=144.0*

NEIC Felt [V] at Shakotan and [III] at Yuzhno-Kuril'sk. Recorded [3 JMA] in eastern Hokkaido and [1 JMA] in southern Hokkaido.

SKHL ***15*** *15:44:48.1±0.9, 43˚.58N×147˚.03E, h57km±5km, mb5.8/4, mbh5.5/3, Ms4.7/8*

SKHL Felt (V) at Malokuril'skoe, (II-III) at Yushno-Kurilsk.

IDC ***15*** *15:44:48.3±0.5, 43˚.58N×146˚.80E, h45km±4km, mb4.8/31, mb1 5.0/40, mb1mx5.0/41, mbtmp5.1/40, MS4.5/36, Ms1 4.5/36, ms1mx4.4/45, Error ellipse: s-maj=10.6km s-min=8.5km az=130.0*

MOS ***15*** *15:44:48.8±1.0, 43˚.67N×146˚.69E, h58km, mb5.9/87, MS4.6/32, Error ellipse: s-maj=6.5km s-min=4.0km az=112.9*

MOS Felt (V) at Malokuril'skoye, (II-III) at Yuzhno-Kuril'sk.

SZGRF ***15*** *15:44:49.0, 43˚.60N×146˚.63E, h33km, mb5.7, MS4.5, Kuril Islands, Russia*

NIED ***15*** *15:45:00, 43˚.50N×147˚.00E, h44km, Mw5.2 Best double couple: M₀7.06000×10¹⁶ NP1:ϕₛ217.00000°, δ23.00000°, λ111.00000°. NP2:ϕₛ14.00000°, δ69.00000°, λ81.00000°.*

ISC 15 15:44:47.3±0.2, 43˚.61N±0˚.03×146˚.80E±0˚.03, h35km±2km, h35km:pP-P, n1263, σ1ᵴ17/1319, mb5.5/340, MS4.7/77, 287C-153D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.81**	**303**	*d* iPN	**Pn**	**15 45 04.6**	**+2.5**
YUK				*i* S	**Sn**	**15 45 17.7**	**+4.9**
YUK				pmax	pmax		
	comp=N,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.81**	**303**	*e*P	**Pn**	**15 45 04.7**	**+2.6**
YUK				AMB	AMB	15 45 05.3	
	comp=E,2μm,0.3s						
YUK				AMB	AMB	15 45 05.3	
	comp=E,3μm,0.3s						
YUK				AMB	AMB	15 45 05.3	
	comp=E,37μm,0.3s						
YUK				*e*S	**Sn**	**15 45 17.8**	**+4.9**
YUK				A	A	15 45 24.0	
	comp=E,105μm,0.7s						
YUK				A	A	15 45 24.0	
	comp=E,56μm,0.7s						
NEM2	**Nemuro 2**	**0.81**	**253**	⇓P	**Pn**	**15 45 03.1**	**+1.0**
NEM2				*e*S	**Sn**	**15 45 15.5**	**+2.6**
JRA	**Rausu**	**1.26**	**286**	⇓P	**Pn**	**15 45 11.0**	**+2.7**
JNK	**Nakash**	**1.51**	**270**	⇓P	**Pn**	**15 45 13.7**	**+1.9**
JNK				*e*S	**Sn**	**15 45 34.7**	**+4.4**
JAK	**Akkeshi**	**1.65**	**249**	P	**Pn**	**15 45 14.7**	**+1.0**
KUR	**Kuril'sk**	**1.80**	**25**	⇓*i* PN	**Pn**	**15 45 18.0**	**+2.3**
KUR				*e*S	**Sn**	**15 45 40.0**	**+2.7**
KUR				pmax	pmax		
	comp=Z,5μm,0.8s						
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,1μm,0.3s						
KUR				pmax	pmax		
	comp=Z,10μm,1.0s						
KUR				smax	smax		
	comp=N,43μm,1.6s						
KUR				smax	smax		
	comp=E,20μm,1.4s						
KUR	**Kuril'sk**	**1.80**	**25**	*e*P	**Pn**	**15 45 17.5**	**+1.8**
KUR				AMB	AMB	15 45 21.0	
	comp=E,1μm,0.6s						
KUR				AMB	AMB	15 45 21.0	
	comp=E,1μm,0.6s						
KUR				AMB	AMB	15 45 21.0	
	comp=E,5μm,0.6s						
KUR				AMB	AMB	15 45 23.0	
	comp=E,10μm,1.0s						
KUR				*e*S	**Sn**	**15 45 37.0**	**-0.3**
KUR				A	A	15 45 51.0	
	comp=E,50μm,1.8s						
KUR				A	A	15 45 51.0	
	comp=E,39μm,1.8s						
JTKR	**Abashiri--Toko**	**2.13**	**281**	⇓P	Pn	15 45 23.7	+3.5
JAR	**Ashorobuto**	**2.23**	**263**	P	**Pn**	**15 45 24.2**	**+2.5**
JAR				*e*S	**Sn**	**15 45 53.1**	**+5.1**
JOB	**Onbets**	**2.28**	**253**	P	**Pn**	**15 45 23.9**	**+1.6**
JMP	**Maruseppu**	**2.52**	**280**	⇓P	Pn	15 45 29.4	+3.7
HRK	**Horoka**	**2.67**	**268**	*e*P	Pn	15 45 31.4	+3.6
HRK				*e*S	**Sn**	**15 46 04.3**	**+5.3**
JCH	**Churui**	**2.71**	**250**	P	**Pn**	**15 45 29.3**	**+1.1**
JCH				*e*S	**Sn**	**15 46 03.0**	**+3.3**
JKK2	**Kamakawa 2**	**2.95**	**277**	P	Pn	15 45 35.6	+4.0
JKA	**Kamikawa-asahi**	**3.08**	**281**	*e*P	**Pn**	**15 45 36.4**	**+3.0**
ASAJ	**Asahikawa**	**3.08**	**281**	P	Pn	15 45 37.8	+4.4
ASAJ	**Asahikawa**	**3.08**	**281**	*e*Pn	Pn	15 45 37.8	+4.4
ASAJ				*e*Sn	**Sn**	**15 46 05.1**	**-3.9**
ASAJ	**Asahikawa**	**3.08**	**281**	P	**Pn**	**15 45 36.4**	**+3.0**
	comp=E,55nm,0.3s,baz=98,slow=13,SNR=334						
ASAJ				LR	LR	15 47 07.0	
	comp=E,17μm,19.8s,baz=207,slow=45						
JFR	**Furan**	**3.10**	**263**	P	Pn	15 45 36.8	+3.2
JEM	**Erimo**	**3.12**	**241**	P	**Pn**	**15 45 36.9**	**+3.1**
ERM	**Erimo**	**3.12**	**241**	Pn	Pn	15 45 37.1	+3.2
	comp=E,17μm,0.6s						
ERM	**Erimo**	**3.12**	**241**	*e*PN	**Pn**	**15 45 36.9**	**+3.0**
ERM				*e*		15 46 10.8	
ERM	**Erimo**	**3.12**	**241**	*e*Pn	**Pn**	**15 45 36.9**	**+3.0**
ERM				*e*Sn	**Sn**	**15 46 10.8**	**+0.9**
ERM	**Erimo**	**3.12**	**241**	*e*P	**Pn**	**15 45 36.9**	**+3.0**
JNBK	**Urakawa-nobuka**	**3.25**	**247**	P	**Pn**	**15 45 37.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.40**	**321**	*i* PN	Pn	15 45 55.2	+3.7
YSS				*e*S	**Sn**	**15 46 44.8**	**+3.4**
YSS				pmax	pmax		
	comp=N,350nm,1.0s						
YSS				pmax	pmax		
	comp=Z,610nm,1.0s						
YSS				pmax	pmax		
	comp=E,340nm,0.9s						
YSS				smax	smax		
	comp=E,810nm,0.8s						
YSS				MLR	MLR		
	comp=E,3μm,17.0s						
YSS				MLR	MLR		
	comp=Z,6μm,17.0s						
YSS				MLR	MLR		
	comp=N,4μm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.40**	**321**	*e*Pn	Pn	15 45 55.5	+4.0
YSS				*e*Sn	**Sn**	**15 46 40.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**4.40**	**321**	*e*P	Pn	15 45 55.2	+3.7
YSS				AMB	AMB	15 45 56.1	
	comp=N,350nm,1.0s						
YSS				AMB	AMB	15 45 56.1	
	comp=N,340nm,1.0s						
YSS				AMB	AMB	15 45 56.1	
	comp=N,610nm,1.0s						
YSS				*e*S	**Sn**	**15 46 44.8**	**+3.4**
YSS				A	A	15 46 48.5	
	comp=N,810nm,0.8s						
YSS				AMS	AMS	15 47 52.0	
	comp=N,4μm,16.0s						
YSS				AMS	AMS	15 47 52.0	
	comp=N,3μm,16.0s						
YSS				AMS	AMS	15 47 52.0	
	comp=N,6μm,16.0s						
JANG	**Nango**	**5.09**	**232**	⇑P	**Pn**	**15 46 00.6**	**-0.4**
UGL	**Uglegorsk**	**6.38**	**331**	PN	Pn	15 46 26.0	+7.4
UGL				S	Sn	15 47 38.5	+8.4
UGL				pmax	pmax		
	comp=Z,140nm,0.8s						
UGL				smax	smax		
	comp=N,100nm,0.7s						
UGL				smax	smax		
	comp=E,280nm,0.7s						
UGL				MLR	MLR		
	comp=N,2μm,15.0s						
UGL				MLR	MLR		
	comp=E,4μm,15.0s						
UGL				MLR	MLR		
	comp=Z,3μm,15.0s						
UGL	**Uglegorsk**	**6.38**	**331**	*e*P	Pn	15 46 23.5	+4.9
UGL				AMB	AMB	15 46 30.5	
	comp=Z,140nm,0.8s						
UGL				*e*S	**Sn**	**15 47 32.5**	**+2.4**
UGL				A	A	15 47 42.0	
	comp=Z,100nm,0.7s						
UGL				A	A	15 47 42.0	
	comp=Z,280nm,0.7s						
UGL				AMS	AMS	15 49 16.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	15 49 16.0	
	comp=Z,4μm,15.0s						
UGL				AMS	AMS	15 49 16.0	
	comp=Z,3μm,15.0s						
TEY	**Ternei**	**7.45**	**285**	*e*P	Pn	15 46 37.7	+4.3
TEY				AMB	AMB	15 46 38.0	
	comp=Z,40nm,1.0s						
TEY				AMB	AMB	15 46 38.0	
	comp=Z,30nm,1.0s						
TEY				AMB	AMB	15 46 38.0	
	comp=Z,1μm,3.0s						
TEY				AMB	AMB	15 46 38.0	
	comp=Z,500nm,3.0s						
TEY				AMS	AMS	15 49 19.0	
	comp=Z,2μm,19.0s						
TEY				AMS	AMS	15 49 19.0	
	comp=Z,5μm,19.0s						
TEY				AMS	AMS	15 49 19.0	
	comp=Z,7μm,19.0s						
JAW	**Awa shima**	**7.68**	**231**	P	**Pn**	**15 46 37.4**	**+0.8**
TYV	**Tymovskoe**	**7.79**	**340**	*e*P	**Pn**	**15 46 40.5**	**+2.5**
TYV				AMB	AMB	15 46 46.2	
	comp=Z,26nm,0.8s						
TYV				AMB	AMB	15 46 46.2	
	comp=Z,57nm,0.8s						
TYV				*e*S	**Sn**	**15 48 04.8**	**0.0**
TYV				A	A	15 48 11.0	
	comp=Z,83nm,0.6s						
TYV				AMS	AMS	15 49 53.0	
	comp=Z,4μm,17.0s						
TYV				AMS	AMS	15 49 53.0	
	comp=Z,4μm,17.0s						
TYV				AMS	AMS	15 49 53.0	
	comp=Z,4μm,17.0s						
JSD	**Sado**	**8.54**	**232**	P	**Pn**	**15 46 48.5**	**+0.2**
JHK	**Hiroka**	**8.69**	**226**	P	**Pn**	**15 46 49.8**	**-0.6**
JAG	**Ashikaga**	**9.12**	**221**	P	**Pn**	**15 46 54.9**	**-1.4**
SKR	**Severo-Kuril's**	**9.50**	**39**	*e*PN	**Pn**	**15 46 59.5**	**-1.9**
SKR				pmax	pmax		
	comp=Z,510nm,0.8s						
SKR				pmax	pmax		
	comp=N,180nm,0.7s						
SKR				pmax	pmax		
	comp=E,130nm,0.7s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR	**Severo-Kuril's**	**9.50**	**39**	*e*P	**Pn**	**15 47 00.5**	**-0.9**
SKR				AMB	AMB	15 47 03.7	
	comp=Z,180nm,0.8s						
SKR				AMB	AMB	15 47 03.7	
	comp=Z,130nm,0.8s						
SKR				AMB	AMB	15 47 03.7	
	comp=Z,510nm,0.8s						
SKR				*e*S	**Sn**	**15 48 43.0**	**-3.9**
SKR				A	A	15 49 08.7	
	comp=Z,90nm,0.6s						
SKR				A	A	15 49 08.7	
	comp=Z,170nm,0.6s						
SKR				A	A	15 49 08.7	
	comp=Z,60nm,0.6s						
SKR				AMS	AMS	15 51 06.0	
	comp=Z,5μm,14.0s						
SKR				AMS	AMS	15 51 06.0	
	comp=Z,5μm,14.0s						
HABR	**Khabarovsk**	**9.51**	**305**	*c i* PN	Pn	15 47 06.8	+5.3
HABR				*e*S	**Sn**	**15 48 51.1**	**+4.0**
HABR				pmax	pmax		
	comp=Z,162nm,1.2s						
HABR				MLR	MLR		
	comp=Z,5μm,20.0s						
MAJO	**Matsushiro**	**9.65**	**226**	*d i* PN	**Pn**	**15 47 03.4**	**-0.1**
MAJO	**Matsushiro**	**9.65**	**226**	*e*Pn	**Pn**	**15 47 00.9**	**-2.6**
MAJO				*e*Sn	**Sn**	**15 48 47.1**	**-3.5**
MAT	**Matsushiro**	**9.65**	**226**	P	**Pn**	**15 47 03.0**	**-0.5**
MAT	**Matsushiro**	**9.65**	**226**	P	**Pn**	**15 47 02.8**	**-0.7**
MAT				S	**Sn**	**15 48 47.1**	**-3.5**
MJAR	**Matsushiro Arr**	**9.65**	**226**	P	**Pn**	**15 47 03.3**	**-0.2**
MJAR	**Matsushiro Arr**	**9.65**	**226**	P	**Pn**	**15 47 03.3**	**-0.2**
	comp=Z,9.0nm,0.3s,baz=30,slow=14,SNR=99						
JRY	**Ryogami san**	**9.71**	**221**	P	**Pn**	**15 47 03.2**	**-1.2**
JNG	**Nsakai**	**9.81**	**226**	P	**Pn**	**15 47 05.3**	**-0.5**
GRNR	**Gornyy**	**10.06**	**319**	*e*P	Pn	15 47 13.5	+4.4
GRNR				AMB	AMB	15 47 14.8	
	comp=Z,50nm,0.8s						
GRNR				AMB	AMB	15 47 14.8	
	comp=Z,84nm,0.8s						
GRNR				AMB	AMB	15 47 14.8	
	comp=Z,64nm,0.8s						
GRNR				*e*S	Sn	15 49 10.2	+10
GRNR				A	A	15 49 11.4	
	comp=Z,59nm,1.0s						
JNT	**Takato**	**10.20**	**224**	P	**Pn**	**15 47 11.3**	**+0.1**
OKH	**Okha**	**10.28**	**347**	*e*PN	Pn	15 47 16.4	+4.4
OKH				*e*S	Sn	15 49 12.0	+6.2
OKH				pmax	pmax		
	comp=Z,2μm,2.0s						
OKH				smax	smax		
	comp=Z,2μm,13.0s						
OKH	**Okha**	**10.28**	**347**	*e*P	Pn	15 47 16.4	+4.4
OKH				AMB	AMB	15 47 18.2	
	comp=Z,2μm,2.0s						
OKH				AMB	AMB	15 47 20.1	
	comp=Z,400nm,1.1s						
OKH				*e*S	**Sn**	**15 49 08.4**	**+2.6**
OKH				AMS	AMS	15 52 58.2	
	comp=Z,2μm,12.0s						
OKH				AMS	AMS	15 52 58.2	
	comp=Z,2μm,12.0s						
JYN	**Shimod**	**10.30**	**221**	P	**Pn**	**15 47 11.9**	**-0.6**
PAU	**Pauzhetka**	**10.37**	**37**	*e*P	**Pn**	**15 47 12.8**	**-0.5**
NKL	**Nikolayevsk**	**10.38**	**339**	*e*P	Pn	15 47 17.5	+4.1
NKL				AMB	AMB	15 47 20.5	
	comp=Z,460nm,2.0s						
NKL				AMB	AMB	15 47 20.5	
	comp=Z,220nm,2.0s						
NKL				AMB	AMB	15 47 20.5	
	comp=

KLR AMS AMS 15 52 57.5
comp=Z,4μm,13.0s
JHJ2 Mitsune 11.82 210 *e*Pn Pn 15 47 29.5 -3.8
JHJ2 *e*Sn Sn 15 49 35.5 -8.4
PEA0B Petropavlovsk- 11.94 33 *e*Pn **Pn 15 47 33.5 -1.3**
PEA0B *e*Sn **Sn 15 49 44.8 -1.8**
PETK Petropavlovsk- 11.94 33 PN **Pn 15 47 34.5 -0.3**
PETK Petropavlovsk- 11.94 33 P **Pn 15 47 34.5 -0.3**
PETK Petropavlovsk- 11.94 33 P **Pn 15 47 34.5 -0.3**
comp=Z,8.8nm,0.3s,baz=196,slow=11,SNR=139
PET Petropavlovsk 12.27 36 *e*PN **Pn 15 47 36.3 -3.0**
PET pmax pmax
comp=Z,29nm,0.6s
PET MLR MLR
comp=Z,5μm,21.0s
PET Petropavlovsk 12.27 36 *e*Pn **Pn 15 47 36.9 -2.4**
PET Petropavlovsk 12.27 36 *e*P **Pn 15 47 36.3 -3.0**
PET *e*S **Sn 15 49 50.4 -4.3**
PET AMS AMS 15 51 52.5
comp=Z,5μm,21.0s
MDJ Mudanjiang 12.41 281 P **Pn 15 47 40.8 -0.5**
MDJ S **Sn 15 49 57.3 -1.0**
MDJ PcP **PcP 15 53 20.6 +0.4**
MDJ ScP **ScP 15 56 54.6 +4.3**
MDJ ScS **ScS 16 00 25.3 -1.0**
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,540nm,6.0s
MDJ LR LR
comp=Z,930nm,14.4s
MDJ LR LR
comp=Z,2μm,21.4s
MDJ LR LR
comp=Z,3μm,19.2s
MDJ Mudanjiang 12.41 281 *e*Pn **Pn 15 47 38.5 -2.8**
comp=Z,121nm,1.0s
JHE Heguri 12.42 228 P **Pn 15 47 40.4 -1.0**
JKN2 Miekihoku 12.43 225 P **Pn 15 47 39.4 -2.1**
EKMR Ekimchan 13.19 321 *e*P **Pn 15 47 51.3 -0.6**
EKMR AMB AMB 15 47 56.0
comp=Z,140nm,1.0s
EKMR AMB AMB 15 47 56.0
comp=Z,75nm,1.0s
EKMR AMB AMB 15 47 56.0
comp=Z,170nm,1.0s
UWA2 Uwa jima 2 15.18 232 P **Pn 15 48 17.1 -1.9**
CN2 Changchun 15.45 278 *e*P **Pn 15 48 21.9 -0.4**
CN2 *es*P sP 15 48 34.3 -5.8
CN2 *e*S **Sn 15 51 10.9 -1.3**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,500nm,7.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,3μm,17.0s
KSRS Korea Array 15.60 253 P **Pn 15 48 24.3 -0.1**
comp=Z,0.5nm,0.3s,baz=62,slow=12,SNR=36
KSRS PcP **PcP 15 53 25.3 +0.8**
comp=Z,0.2nm,0.3s,baz=354,slow=0.3,SNR=9.0
KSRS LR LR 15 54 52.8
comp=Z,2μm,19.3s,baz=58,slow=39
KSRS Korea Array 15.60 253 *e*P **Pn 15 48 24.3 -0.1**
KSAR Wonju Array Be 15.63 253 P **Pn 15 48 24.3 -0.5**
KSAR PcP **PcP 15 53 25.3 +0.7**
BMKR Bomnak 16.12 320 *e*P **Pn 15 48 29.5 -1.4**
BMKR AMB AMB 15 48 31.5
comp=Z,51nm,1.0s
JNU Nakatsue 16.27 235 *e*Pn **Pn 15 48 29.8 -3.2**
comp=Z,78nm,1.1s
JNU Nakatsue 16.27 235 P **Pn 15 48 31.5 -1.5**
comp=Z,0.4nm,0.3s,baz=44,slow=8.1,SNR=9.6
JNU LR LR 15 55 17.1
comp=Z,3μm,20.8s,baz=35,slow=39
ZEA Zeya 16.36 315 *e*P **Pn 15 48 34.0 0.0**
ZEA AMB AMB 15 48 47.0
comp=Z,600nm,4.0s
ZEA AMB AMB 15 48 47.0
comp=Z,600nm,4.0s
ZEA AMB AMB 15 48 50.2
comp=Z,58nm,1.0s
ZEA AMB AMB 15 48 50.2
comp=Z,62nm,1.0s
ZEA AMB AMB 15 48 50.2
comp=Z,150nm,1.0s
ZEA AMS AMS 15 55 40.0
comp=Z,2μm,17.0s
ZEA AMS AMS 15 55 40.0
comp=Z,3μm,17.0s
INCN Inchon 16.49 255 *e*Pn **Pn 15 48 33.6 -2.1**
comp=Z,20nm,0.9s
KROS Kirovskiy 16.86 317 *e*P **Pn 15 48 38.9 -1.5**
KROS AMB AMB 15 48 43.5
comp=Z,35nm,1.0s
KROS AMB AMB 15 48 43.5
comp=Z,87nm,1.0s
KROS AMB AMB 15 48 43.5
comp=Z,110nm,1.0s
CBIJ Chichi jima 16.89 194 P **Pn 15 48 39.5 -1.4**
JCJ Chichijima 16.89 194 P **Pn 15 48 39.5 -1.4**
comp=Z,19nm,0.3s,baz=15,slow=20,SNR=5.0
JCJ LR LR 15 53 38.9
comp=Z,707nm,21.7s,baz=296,slow=31
SNY Shenyang 17.15 272 ⇑P **P 15 48 45.6 +0.2**
SNY pmax pmax
comp=Z,60nm,0.9s
SNY pmax pmax
comp=Z,440nm,5.3s
SNY LR LR
comp=Z,710nm,11.8s
SNY LR LR
comp=Z,2μm,19.8s
SNY LR LR
comp=Z,1μm,19.4s
CLNS Chul'man 19.17 321 *e*P **Pn 15 49 08.4 -0.2**
CLNS pmax pmax
comp=Z,92nm,0.9s
CLNS pmax pmax
comp=N,55nm,1.1s
CLNS pmax pmax
comp=E,33nm,1.1s
HIA Hailar 19.43 296 *e*P **P 15 49 08.4 -2.0**
comp=E,44nm,0.6s
DL2 Dalian 19.47 265 P **Pn 15 49 11.8 -0.5**
DL2 S **Sn 15 52 52.3 +2.7**
DL2 pmax pmax
comp=E,230nm,1.2s
DL2 LR LR
comp=E,470nm,13.7s
DL2 LR LR
comp=E,570nm,17.8s
DL2 LR LR
comp=E,470nm,25.5s
SEY Seymchan 19.63 8⇓ *e*P **P 15 49 11.5 -1.0**
SEY Seymchan 19.63 8 P **P 15 49 11.8 -0.7**
SEY Seymchan 19.63 8 P **P 15 49 11.8 -0.7**
comp=E,1.9nm,0.3s,baz=189,slow=9.5,SNR=47
FX1 Attu Island--F 19.76 53 *e*Pn **Pn 15 49 15.4 -0.2**
FX1 Attu Island--F 19.76 53 P **Pn 15 49 15.3 -0.2**
comp=E,24nm,0.3s,baz=281,slow=1.0,SNR=11
YAK Yakutsk 21.03 337 *e*P **P 15 49 25.5 -2.1**
YAK *e* 15 49 46.7
YAK *e*S **S 15 53 15.9 -3.7**
YAK *e* 15 53 35.6
YAK *e*SSS SSS 15 53 48.0
YAK *e* 16 00 46.1
YAK pmax pmax
comp=Z,47nm,0.8s
YAK pmax pmax
comp=Z,591nm,3.0s
YAK pmax pmax
comp=N,410nm,2.3s
YAK pmax pmax
comp=E,339nm,2.8s
YAK smax smax
comp=E,160nm,1.6s
YAK smax smax
comp=N,339nm,1.9s
YAK MLR MLR
comp=Z,581nm,16.0s
YAK Yakutsk 21.03 337 *e*P **P 15 49 24.7 -2.9**
comp=Z,586nm,2.0s

JOW Kunigami 22.48 228 *e*P **P 15 49 44.6 +1.1**
comp=Z,116nm,1.0s
BJI Beijing 23.04 272 P **P 15 49 48.0 -1.2**
BJI S **S 15 53 55.8 -1.5**
BJI pmax pmax
comp=Z,47nm,0.8s
BJI pmax pmax
comp=Z,320nm,3.4s
BJI LR LR
comp=Z,790nm,14.5s
BJI LR LR
comp=Z,1μm,22.6s
BJI LR LR
comp=Z,2μm,30.7s
BJT Baijiatuau 23.05 272 *e*P **P 15 49 47.9 -1.4**
comp=Z,195nm,1.1s
SSE Sheshan 23.78 247 P **P 15 49 57.1 +0.6**
SSE pP **pP 15 50 07.8 +1.4**
SSE S **S 15 54 10.3 +0.7**
SSE sS **sS 15 54 26.4 +0.2**
SSE pmax pmax
comp=Z,100nm,0.8s
SSE pmax pmax
comp=Z,490nm,5.4s
SSE LR LR
comp=Z,320nm,19.0s
SSE LR LR
comp=Z,740nm,19.0s
SSE LR LR
comp=Z,1μm,18.5s
TIA Tai'an 23.85 262 ⇑P **P 15 49 56.8 -0.3**
TIA sP **sP 15 50 10.1 -1.2**
TIA S **S 15 54 12.3 +1.7**
TIA sS **sS 15 54 27.0 -0.2**
TIA pmax pmax
comp=Z,380nm,1.0s
TIA pmax pmax
comp=Z,660nm,11.0s
TIA LR LR
comp=Z,730nm,18.6s
TIA LR LR
comp=Z,830nm,18.3s
TIA LR LR
comp=Z,740nm,18.4s
NJ2 Nanjing 24.79 252 *e*P **P 15 50 06.9 +1.2**
NJ2 S **S 15 54 28.0 +2.2**
NJ2 pmax pmax
comp=Z,150nm,0.8s
NJ2 pmax pmax
comp=Z,460nm,6.6s
NJ2 LR LR
comp=Z,930nm,18.1s
NJ2 LR LR
comp=Z,2μm,22.7s
NJ2 LR LR
comp=Z,2μm,23.2s
HHC Hu-ho-hao-te 26.12 276 ⇑P **P 15 50 18.4 +0.5**
HHC pP **pP 15 50 28.1 +0.2**
HHC sP **sP 15 50 31.8 -0.4**
HHC S **S 15 54 49.3 +2.2**
HHC pmax pmax
comp=Z,160nm,1.3s
HHC pmax pmax
comp=Z,1μm,4.4s
HHC LR LR
comp=Z,1μm,13.2s
HHC LR LR
comp=Z,2μm,19.1s
HHC LR LR
comp=Z,2μm,17.4s
TATO Taipei 27.80 236 *e*P **P 15 50 30.2 -2.8**
comp=Z,1μm,1.6s
ULN Ulaanbaatar 27.85 293 *e*P **P 15 50 32.9 -0.6**
comp=Z,110nm,1.1s
YHNB Yeheng 28.10 236 *e*P **P 15 50 35.3 -0.4**
comp=Z,80nm,1.0s
SONM Songino Array 28.29 293 P **P 15 50 37.8 +0.4**
SONM Songino Array 28.29 293 P **P 15 50 37.8 +0.4**
comp=Z,49nm,0.6s,baz=89,slow=7.0,SNR=152
SONM LR LR 16 03 05.4
comp=Z,3μm,18.9s,baz=172,slow=39
WHN Wuhan 28.80 254 ⇑P **P 15 50 42.1 +0.3**
WHN pmax pmax
comp=Z,420nm,1.4s
WHN LR LR
comp=Z,1μm,11.0s
WHN LR LR
comp=Z,6μm,22.3s
WHN LR LR
comp=Z,3μm,17.5s
SSLB Suanglung 29.02 235 *e*P **P 15 50 42.0 -1.8**
YULB Yu-li 29.11 234 P **P 15 50 43.5 -1.2**
H11N2 WAKE ISLAND Hy 29.16 138 T T 16 21 33.7
baz=332,slow=76,SNR=9670
H11N1 WAKE ISLAND Hy 29.17 138 T T 16 21 25.1
baz=332,slow=76,SNR=4852
H11N3 WAKE ISLAND Hy 29.18 138 T T 16 21 27.8
baz=332,slow=76,SNR=8110
IRK Irkutsk 29.41 302 *e*P **P 15 50 46.0 -1.1**
IRK pmax pmax
comp=Z,29nm,2.0s
TIXI Tiksi 29.45 349*ce*P **P 15 50 47.1 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 29.45 349 *e*P P 15 50 43.1 -4.1
comp=Z,8.0nm,0.9s
TPUB Ta-pu 29.58 235 *e*P P 15 50 45.4 -3.4
comp=Z,84nm,1.0s
QZH Quanzhou 29.62 240 P **P 15 50 46.8 -2.3**
QZH pmax pmax
comp=Z,180nm,1.1s
QZH LR LR
comp=Z,2μm,21.5s
QZH LR LR
comp=Z,1μm,22.5s
QZH LR LR
comp=Z,2μm,18.3s
TWG Pinlang 29.68 234 *e*P **P 15 50 47.7 -2.0**
TLY Talaya 29.81 301 *e*P **P 15 50 51.3 +0.7**
TLY *e* 15 51 42.6
TLY *e*SS ScP 15 57 24.3 -8.1
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY MLR MLR
comp=Z,1μm,14.0s
ZAK Zakamensk 30.10 298 *e*P P 15 50 56.7 +3.4
ZAK *e* 15 53 50.6
ZAK pmax pmax
comp=Z,12nm,1.1s
H11S1 WAKE ISLAND Hy 30.12 140 T T 16 22 36.6
baz=334,slow=77,SNR=6385
H11S3 WAKE ISLAND Hy 30.12 140 T T 16 22 36.3
baz=334,slow=77,SNR=5013
H11S2 WAKE ISLAND Hy 30.14 140 T T 16 22 39.2
baz=334,slow=77,SNR=5331
XAN Xi'an 30.79 265 P **P 15 50 59.4 -0.1**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN LR LR
comp=Z,410nm,27.9s
XAN LR LR
comp=Z,220nm,27.9s
MOY Mondy 31.45 301 *e*P **P 15 51 05.1 -0.2**
ENH Enshi 32.38 258 *e*P **P 15 51 12.6 -0.9**
comp=Z,53nm,1.0s
TNA Tin City 33.11 33 *e*P **P 15 51 20.1 +0.7**
comp=Z,48nm,0.9s
LZH Lanzhou 33.52 272 ⇑P **P 15 51 24.6 +1.0**
LZH pP **pP 15 51 32.0 -1.8**
LZH sP **sP 15 51 38.0 0.0**
LZH pmax pmax
comp=Z,190nm,1.0s
LZH pmax pmax
comp=Z,420nm,4.0s
LZH LR LR
comp=Z,1μm,16.4s
LZH LR LR
comp=Z,670nm,15.8s
LZH LR LR
comp=Z,940nm,17.5s
GTA Gaotai 35.07 280 *e*P **P 15 51 37.8 +0.9**
GTA pP **pP 15 51 47.3 +0.2**
GTA sP **sP 15 51 51.3 -0.1**
GTA PcP **PcP 15 54 08.9 +0.8**
GTA S **S 15 57 05.1 -1.9**
GTA sS **sS 15 57 21.0 -2.9**

GTA ScP **ScP 15 57 50.0 -0.8**
GTA PcS **PcS 15 57 56.4 +1.3**
GTA ScS **ScS 16 01 54.4 -0.4**
GTA pmax pmax
comp=Z,31nm,1.3s
GTA pmax pmax
comp=Z,150nm,5.9s
GTA LR LR
comp=Z,390nm,17.3s
GTA LR LR
comp=Z,800nm,19.2s
GTA LR LR
comp=Z,1μm,17.6s
HVS Khovu-Aksy 36.05 301⇓ *e*P **P 15 51 44.4 -0.8**
HVS pmax pmax
comp=Z,43nm,1.2s
CD2 Chengdu 36.14 264⇑ *i*P **P 15 51 46.3 +0.2**
CD2 sP **sP 15 52 00.6 +0.1**
CD2 PP **PnPn 15 53 06.1 -1.8**
CD2 PcP **PcP 15 54 13.5 +2.2**
CD2 S **S 15 57 22.5 -0.9**
CD2 sS **sS 15 57 39.1 -1.2**
CD2 SS **SnSn 15 59 46.1 -4.4**
CD2 ScS **ScS 16 02 00.1 -0.6**
CD2 pmax pmax
comp=Z,330nm,0.6s
CD2 pmax pmax
comp=Z,270nm,7.2s
CD2 LR LR
comp=Z,520nm,15.5s
CD2 LR LR
comp=Z,590nm,14.2s
CD2 LR LR
comp=Z,530nm,15.4s
GYA Guiyang 36.64 256⇓ *i*P **P 15 51 50.8 +0.3**
GYA pP **pP 15 52 01.0 +0.3**
GYA sP **sP 15 52 06.4 +1.5**
GYA PP **PP 15 53 16.3 +2.1**
GYA S **S 15 57 30.6 -0.7**
GYA sS **sS 15 57 47.4 -0.8**
GYA ScP **ScP 15 57 57.5 +0.7**
GYA SS **SnSn 15 59 56.0 -6.9**
GYA ScS **ScS 16 02 02.0 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,860nm,14.8s
GYA LR LR
comp=Z,780nm,15.2s
GYA LR LR
comp=Z,820nm,14.9s
SVW2 Sparrevohn 37.84 42 *e*P **P 15 52 01.3 +1.1**
comp=Z,28nm,0.9s
IM04 Indian Mountai 38.89 34 *e*P **P 15 52 09.0 +0.1**
PPLA Purkeypile 39.45 39 *e*P **P 15 52 15.7 +2.0**
comp=Z,145nm,1.4s
QIZ Qiongzhong 39.48 243 P **P 15 52 15.8 +1.5**
QIZ S **S 15 58 15.1 +1.0**
QIZ pmax pmax
comp=Z,36nm,2.2s
QIZ LR LR
comp=Z,640nm,21.3s
QIZ LR LR
comp=Z,350nm,20.1s
QIZ LR LR
comp=Z,830nm,25.1s
CAST Castle Rocks 39.50 38 *e*P **P 15 52 15.5 +1.5**
comp=Z,28nm,0.8s
KDAK Kodiak Island 39.53 47 *e*P **P 15 52 13.6 -0.7**
comp=Z,116nm,0.8s
KTH Kantishna Hill 40.02 38 *e*P **P 15 52 20.1 +1.6**
comp=Z,430nm,0.8s
KMI Kunming 40.24 257 ⇑P **P 15 52 21.3 +0.4**
KMI pP **pP 15 52 31.4 +0.2**
KMI sP **sP 15 52 36.3 +0.9**
KMI PP **PnPn 15 53 58.0 +0.5**
KMI S **S 15 58 25.0 -0.8**
KMI sS **sS 15 58 42.6 -0.2**
KMI SS SS 16 01 16.8 -7.9
KMI ScS **ScS 16 02 23.5 -1.2**
KMI pmax pmax
comp=Z,73nm,1.0s
KMI pmax pmax
comp=Z,540nm,3.1s
KMI LR LR
comp=Z,450nm,12.5s
KMI LR LR
comp=Z,610nm,12.5s
KMI LR LR
comp=Z,770nm,14.9s
TRF Thorofare Moun 40.30 38 *e*P **P 15 52 22.5 +1.6**
comp=Z,28nm,0.8s
COLD Coldfoot 40.41 32 *e*P **P 15 52 22.2 +0.7**
comp=Z,29nm,0.7s
RC01 Rabbit Creek A 40.68 42 *e*P **P 15 52 24.4 +0.6**
comp=Z,40nm,0.8s
ZAA0 Zalesovo Array 40.88 307 *e*P P 15 52 21.3 -4.3
ZALV Zalesovo Beam 40.88 307 P **P 15 52 25.0 -0.6**
ZALV 15 54 25.4
ZALV Zalesovo Beam 40.88 307 P **P 15 52 25.0 -0.6**
ZALV PcP **PcP 15 54 25.4 -0.3**
ZALV Zalesovo Beam 40.88 307 P **P 15 52 25.0 -0.6**
comp=Z,4.1nm,0.4s,baz=50,slow=7.2,SNR=20
ZALV PcP **PcP 15 54 25.4 -0.3**
comp=Z,13nm,0.6s,baz=85,slow=3.3,SNR=11
ZALV LR LR 16 10 17.7
comp=Z,414nm,19.0s,baz=175,slow=37
MCK McKinley 40.90 38 *e*P **P 15 52 26.5 +0.8**
MCK pmax pmax
comp=Z,32nm,0.8s
MCK McKinley 40.90 38 *e*P **P 15 52 26.4 +0.8**
comp=Z,32nm,0.8s
SEW Seward 40.91 43 *e*P **P 15 52 25.6 -0.1**
comp=Z,57nm,1.1s
PMR Palmer 40.93 41 *e*P **P 15 52 27.4 +1.6**
PMR pmax pmax
comp=Z,32nm,1.0s
PMR Palmer 40.93 41 *e*P **P 15 52 27.4 +1.6**
comp=Z,32nm,1.0s
CTBH Cotabato--PC H 41.29 215⇑ *i*P **P 15 52 30.3 +1.0**
COLA College 41.34 36*c i*P **P 15 52 29.9 +0.8**
COLA *i* *PP **pP 15 52 41.6 +2.2**
COLA pmax pmax
comp=Z,169nm,0.8s
COLA MLR MLR
comp=Z,2μm,23.0s
COLA College 41.34 36 *e*P **P 15 52 29.5 +0.4**
comp=Z,19nm,1.0s
NVS Novosibirsk 41.61 309⇑ *i*P **P 15 52 30.0 -1.5**
NVS *e*PPP PPP 15 54 12.3
NVS *e* 15 54 40.2
NVS *e*S **S 15 58 39.9 -5.3**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=E,16nm,1.5s
NVS smax smax
comp=E,21nm,2.1s
ILAR Eielson Array 41.75 36 P **P 15 52 33.0 +0.4**
ILAR ScP **ScP 15 58 12.3 -3.4**
ILAR Eielson Array 41.75 36 P **P 15 52 33.0 +0.4**
comp=E,17nm,0.8s,baz=262,slow=6.3,SNR=42
ILAR ScP **ScP 15 58 12.3 -3.4**
comp=E,1.4nm,0.9s,baz=287,slow=4.7,SNR=5.2
ILAR LR LR 16 12 26.3
comp=E,498nm,18.0s,baz=284,slow=40
SLVN Son La 41.87 252 *e*P **P 15 52 34.4 +0.3**
WMQ Urumqi 41.91 292 P **P 15 52 35.6 +1.3**
WMQ pP **pP 15 52 45.4 +0.8**
WMQ sP **sP 15 52 49.4 +0.6**
WMQ PP **PnPn 15 54 16.0 -0.6**
WMQ PcP **PcP 15 54 32.0 +2.7**
WMQ ScP **ScP 15 58 18.4 +1.6**
WMQ SS **SS 16 01 52.0 -5.1**
WMQ ScS **ScS 16 02 33.8 -0.2**
WMQ pmax pmax
comp=E,41nm,1.2s
WMQ pmax pmax
comp=E,260nm,4.4s
WMQ LR LR
comp=E,630nm,20.6s
WMQ LR LR
comp=E,2μm,18.0s

WMQ LR LR
comp=E,2μm,20.6s
PAX Paxson 42.51 39 *e*P P 15 52 42.0 +3.1
PAX pmax pmax
comp=Z,19nm,0.8s
PAX Paxson 42.51 39 *e*P P 15 52 42.0 +3.1
comp=Z,19nm,0.8s
DIV Divide 42.59 41 *e*P **P 15 52 40.9 +1.4**
comp=Z,102nm,1.1s
DOT Dot Lake 43.07 38 *e*P **P 15 52 43.0 -0.3**
comp=Z,23nm,0.8s
BMRM Bremner River 43.17 42 *e*P **P 15 52 43.0 -1.2**
comp=Z,50nm,0.8s
BMRM *e*P **P 15 52 46.3 +2.1**
EGAK Eagle 44.20 36 *e*P **P 15 52 51.4 -0.9**
comp=Z,118nm,1.4s
MK31 Makanchi Array 44.43 298 *i*P **P 15 52 54.5 0.0**
MK31 pmax pmax
comp=Z,76nm,0.6s
MK31 Makanchi Array 44.43 298 *e*P **P 15 52 54.5 0.0**
MKAR Makanchi Array 44.43 298 *e*P **P 15 52 54.5 0.0**
MKAR 15 54 37.6
MKAR Makanchi Array 44.43 298 *e*P **P 15 52 54.5 0.0**
MKAR PcP **PcP 15 54 37.6 0.0**
MKAR Makanchi Array 44.43 298 P P **15 52 54.5 0.0**
comp=Z,76nm,0.7s,baz=79,slow=9.0,SNR=388
MKAR PcP **PcP 15 54 37.6 0.0**
comp=Z,16nm,1.0s,baz=62,slow=3.4,SNR=3.4
MKAR LR LR 16 12 46.8
comp=Z,1μm,18.3s,baz=62,slow=38
KDM Kudat 45.01 225 ⇑P **P 15 52 57.4 -2.0**
CRAI Chiangrai 45.06 254 P **P 15 53 00.6 +0.9**
comp=Z,115nm,0.8s,comp=Z,6μm
UBPT Khong Chiam 45.06 244 P x 15 53 00.5
comp=Z,62nm,1.3s
UBPT Khong Chiam 45.06 244 P **P 15 53 01.0 +1.3**
comp=Z,62nm,1.3s
DAWY Dawson 45.06 37 *e*P **P 15 52 58.1 -1.2**
KURK Kurchatov 45.40 304 P **P 15 53 02.1 0.0**
comp=Z,164nm,0.9s,SNR=48
KURK Kurchatov 45.40 304*c* *i*P **P 15 53 01.6 -0.5**
KURK pmax pmax
comp=Z,47nm,1.7s
KURK MLR MLR
comp=Z,505nm,21.0s
KURK Kurchatov 45.40 304 *e*P **P 15 53 01.4 -0.7**
comp=Z,21nm,0.8s
KURK PcP **PcP 15 54 40.9 0.0**
KURBB Kurchatov Arra 45.48 304 P **P 15 53 02.9 +0.1**
comp=Z,28nm,0.7s,baz=72,slow=8.8,SNR=165
KURBB PcP **PcP 15 54 40.9 -0.3**
comp=Z,12nm,0.7s,baz=82,slow=3.3,SNR=8.7
DLV T Lat 45.65 238 *e*P **P 15 53 05.4 +0.7**
SDKM Sandakan 45.92 223 ⇑P **P 15 53 07.4 +0.7**
LSA Lhasa 45.94 272 *e*P P 15 53 03.1 -4.1
LSA Lhasa 45.94 272 P **P 15 53 04.6 -2.6**
LSA pmax pmax
comp=Z,140nm,1.1s
LSA Lhasa 45.94 272 P **P 15 53 04.6 -2.6**
comp=Z,140nm,1.1s
SMPI Sarmi 45.97 191 P **P 15 53 06.5 -0.4**
comp=Z,108nm,1.1s
TNTI Ternate 46.04 208 P **P 15 53 07.0 -0.5**
comp=Z,67nm,0.8s
TNTI Ternate 46.04 208 *e*P **P 15 53 05.5 -2.0**
SWI Sorong 46.41 202 P P 15 53 05.2 -5.2
comp=Z,63nm,0.9s
SWI Sorong 46.41 202 P **P 15 53 10.1 -0.3**
comp=Z,63nm,0.9s
INK Inuvik 46.66 30 *e*P **P 15 53 12.1 +0.4**
comp=Z,30nm,0.6s
INK Inuvik 46.66 30 P **P 15 53 12.7 +1.0**
comp=Z,20nm,0.5s,baz=288,slow=6.3,SNR=144
TSM Tawau 46.76 221 ⇓P **P 15 53 13.4 +0.3**
CHAI Chaiyaphum 46.92 248 P **P 15 53 14.7 +0.2**
comp=Z,23nm,0.9s,comp=Z,254nm
CHTO Chiang Mai 47.00 254 *e*P **P 15 53 15.8 +0.7**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 47.00 254 P **P 15 53 15.6 +0.5**
comp=Z,306nm,1.2s,comp=Z,3μm
CHTO Chiang Mai 47.00 254 *e*P **P 15 53 15.8 +0.7**
comp=Z,13nm,1.0s
PBKT Sadao Pong 47.14 250 P x 15 53 16.4
comp=Z,23nm,1.3s
PBKT Sadao Pong 47.14 250 P **P 15 53 16.3 +0.2**
comp=Z,28nm,1.6s
CM31 Chiang Mai Arr 47.24 253 *e*P **P 15 53 15.1 -1.8**
comp=Z,40nm,1.1s
CMAR Chiang Mai Arr 47.24 253 P **P 15 53 17.8 +0.8**
CMAR PcP **PcP 15 54 48.1 +0.2**
CMAR Chiang Mai Arr 47.24 253 P **P 15 53 17.8 +0.8**
comp=Z,14nm,0.8s,baz=43,slow=7.4,SNR=89
CMAR PcP **PcP 15 54 48.1 +0.2**
comp=Z,9.5nm,0.9s,baz=18,slow=3.6,SNR=7.1
CMAR LR LR 16 14 19.1
comp=Z,465nm,21.8s,baz=57,slow=38
LBMI Labuha 47.32 207 P **P 15 53 17.2 -0.3**
comp=Z,64nm,1.0s
GTOI Gorontalo 47.76 213 P **P 15 53 20.4 -0.5**
comp=Z,80nm,0.8s
SHL Shillong 47.77 267 *e*P **P 15 53 20.6 -0.6**
SHL AMB AMB 15 53 21.5
comp=Z,41nm,1.7s
MHMT Maesarieng 48.14 254 P **P 15 53 24.9 +1.0**
comp=Z,48nm,1.0s,comp=Z,467nm
MRSI Marisa 48.34 214 P **P 15 53 25.1 -0.3**
comp=Z,167nm,1.0s,comp=Z,2μm
UTHA Uthaitani 48.89 250 P **P 15 53 30.8 +1.1**
comp=Z,14nm,1.0s,comp=Z,136nm
CHBT CHBT 48.97 245 P x 15 53 31.7
comp=Z,106nm,0.9s,comp=Z,1μm
CHBT CHBT 48.97 245 P **P 15 53 31.4 +1.1**
comp=Z,110nm,1.2s,comp=Z,1μm
SANI Sanana 49.14 208 P **P 15 53 30.0 -1.6**
comp=Z,92nm,1.1s,comp=Z,790nm
BVA0 Borovoye Array 49.40 309 *i*P **P 15 53 33.2 0.0**
BVA0 pmax pmax
comp=Z,96nm,2.0s
BRVK Borovoye 49.45 309 *e*P **P 15 53 33.9 +0.4**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 49.45 309 *e*P **P 15 53 33.9 +0.4**
comp=Z,20nm,0.9s
APSI Ampana 49.72 214 P **P 15 53 35.0 -0.9**
comp=Z,125nm,1.1s,comp=Z,1μm
TAPN Taplejung 49.76 271 *e*P **P 15 53 37.3 +0.7**
comp=Z,159nm,0.8s
PATY Pattaya 49.81 247 P **P 15 53 38.3 +1.6**
comp=Z,31nm,0.9s
NLAI Namlea 49.89 206 P **P 15 53 37.5 +0.2**
comp=Z,36nm,1.4s
SRDT SRDT 49.97 249 P **P 15 53 38.9 +1.0**
comp=Z,137nm,1.3s
KHLT Khaolaem Dam 50.01 250 P **P 15 53 39.6 +1.4**
comp=Z,30nm,1.0s
ULHL Ulahol 50.22 294 *i*P **P 15 53 40.6 +0.8**
ULHL Ulahol 50.22 294 P **P 15 53 40.7 +0.8**
SNR=19
ODAN Odare 50.28 271 *e*P **P 15 53 40.9 +0.4**
comp=Z,154nm,1.0s
TKM2 Tokmak 2 50.34 295 *e*P **P 15 53 41.6 +0.9**
TKM2 pmax pmax
comp=Z,115nm,0.9s
TKM2 Tokmak 2 50.34 295 P **P 15 53 41.6 +0.9**
SNR=89
TKM2 Tokmak 2 50.34 295 *e*P **P 15 53 41.6 +0.9**
comp=Z,115nm,0.9s
JIRN Jiri 50.69 273 *e*P **P 15 53 44.4 +0.7**
comp=Z,347nm,1.0s
GUN Gumba 50.77 273 *e*P **P 15 53 44.7 +0.4**
comp=Z,724nm,0.8s
RAMN Ramite 50.80 272 *e*P **P 15 53 44.8 +0.4**
comp=Z,571nm,0.8s
CHMS Chumysh 50.86 296 *i*P **P 15 53 44.8 +0.4**
CHMS Chumysh 50.86 296 P **P 15 53 44.9 +0.4**
SNR=12
KBK Karagaybulak 50.88 295 *i*P **P 15 53 45.6 +0.8**
KBK Karagaybulak 50.88 295 P **P 15 53 45.7 +0.8**
SNR=96
USP Ospenovka 50.90 296 *i*P **P 15 53 45.4 +0.7**
USP Ospenovka 50.90 296 P **P 15 53 45.5 +0.7**
SNR=85
KZA Kyzart 50.95 295 *i*P **P 15 53 47.2 +1.6**
KZA Kyzart 50.95 295 P **P 15 53 47.2 +1.6**
SNR=68
DLBC Dease Lake 50.95 42 *e*P **P 15 53 45.2 +0.3**
DLBC Dease Lake 50.95 42 P **P 15 53 46.7 +1.7**
comp=Z,3.4nm,0.6s,baz=292,slow=5.4,SNR=5.5
FRU Bishkek 51.02 296 *i*P **P 15 53 47.0 +1.4**
FRU *e* 16 01 22.0
FRU pmax pmax
comp=Z,160nm,2.0s
FRU MLR MLR
comp=Z,600nm,17.0s
AAK Ala-Archa 51.19 296 P **P 15 53 47.0 -0.1**
comp=Z,236nm,0.5s,SNR=40
AAK Ala-Archa 51.19 296 P **P 15 53 47.3 +0.2**
AAK pmax pmax
comp=Z,62nm,1.3s
AAK Ala-Archa 51.19 296 P **P 15 53 48.1 +1.0**
SNR=6.0
AAK Ala-Archa 51.19 296 *e*P **P 15 53 47.5 +0.4**
comp=Z,119nm,1.5s
SBUM Sibu 51.19 227 P x 15 53 47.6
comp=Z,30nm,1.2s
SBUM Sibu 51.19 227 *e*P **P 15 53 47.3 +0.1**
comp=Z,29nm,1.1s
SBUM Sibu 51.19 227 ⇑P **P 15 53 48.2 +1.0**
KKN Kakani 51.27 273 *e*P **P 15 53 48.5 +0.6**
comp=Z,367nm,1.0s
PKI Pulchoki 51.31 273 *e*P **P 15 53 48.4 +0.1**
comp=Z,385nm,1.1s
UCH Uchtor 51.37 295 *i*P **P 15 53 49.5 +0.8**
UCH Uchtor 51.37 295 P **P 15 53 49.6 +0.8**
SNR=17
DMN Daman 51.50 273 *e*P **P 15 53 50.3 +0.6**
comp=Z,445nm,1.0s
GKN Gorkha 51.62 274 *e*P **P 15 53 50.7 +0.3**
comp=Z,371nm,1.1s
EKS2 Erkin-Say 51.65 296 *e*P **P 15 53 51.0 +0.5**
EKS2 pmax pmax
comp=Z,46nm,0.8s
EKS2 Erkin-Say 51.65 296 P **P 15 53 51.5 +1.1**
SNR=8.5
EKS2 Erkin-Say 51.65 296 *e*P **P 15 53 51.0 +0.5**
comp=Z,46nm,0.8s
KSH Kashi 51.68 291 *i*P P 15 53 54.9 +4.2
KSH *e*PP **PP 15 55 52.9 +4.7**
KSH *e*PcS **PcS 15 59 05.3 +3.3**
KSH S **S 16 01 12.3 +2.6**
KSH sS sS 16 01 29.6 +2.5
KSH *e*SS **SS 16 04 46.3 +0.4**
KSH pmax pmax
comp=Z,26nm,0.7s
KSH pmax pmax
comp=Z,420nm,6.3s
KSH LR LR
comp=Z,810nm,16.8s
KSH LR LR
comp=Z,590nm,16.5s
KSH LR LR
comp=Z,450nm,9.2s
AML Almayashu 51.95 295 *i*P **P 15 53 54.0 +1.0**
AML Almayashu 51.95 295 P **P 15 53 54.1 +1.0**
SNR=47
DANN Dangsing 52.06 275 *e*P **P 15 53 54.6 +0.7**
comp=Z,752nm,1.1s
BKB Balikpapan 52.08 219 P **P 15 53 54.1 +0.4**
comp=Z,146nm,1.6s
KOLN Koldanda 52.50 274 *e*P **P 15 53 57.6 +0.5**
comp=Z,484nm,1.2s
PMG Port Moresby 52.76 180 P **P 15 54 00.0 +1.3**
PMG Port Moresby 52.76 180 P **P 15 54 00.0 +1.3**
comp=Z,8.3nm,1.0s,baz=341,slow=11,SNR=2.9
PMG LR LR 16 13 08.1
comp=Z,194nm,19.6s,baz=155,slow=32
KSM Kuching 53.03 228 *e*P **P 15 54 01.3 +0.5**
comp=Z,96nm,1.1s
SVE Sverdlovsk 53.07 317 ⇓*i*P **P 15 54 00.6 0.0**
SVE pmax pmax
comp=Z,92nm,1.1s
SVE MLR MLR
comp=Z,793nm,22.0s
BOK Bokaro 53.19 269 *e*P **P 15 54 01.9 -0.1**
BOK AMB AMB 15 54 03.1
comp=Z,88nm,1.1s
ALE Alert 53.27 5 P **P 15 54 00.6 -1.2**
comp=Z,118nm,0.9s,SNR=13
KK31 Karatay Array 53.56 298 P **P 15 54 04.4 0.0**
KK31 pmax pmax
comp=Z,17nm,0.5s
KKAR Karatay Array 53.56 298 *e*P **P 15 54 04.7 +0.3**
KKAR Karatay Array 53.56 298 *e*P **P 15 54 04.7 +0.3**
SOKR Solikamsk 53.73 321*d* *i*P **P 15 54 05.9 +0.6**
SOKR pmax pmax
comp=Z,70nm,0.9s
SOKR MLR MLR
comp=Z,720nm,25.0s
KTGM Kuala Trenggan 54.08 238 ⇑P **P 15 54 09.4 +0.9**
ARU Arti 54.28 317 P **P 15 54 09.2 -0.3**
comp=Z,408nm,0.5s,SNR=26
ARU Arti 54.28 317*c* *i*P **P 15 54 09.1 -0.4**
ARU *PP **pP 15 54 21.4 +1.3**
ARU *e* 15 55 12.6
ARU 15 56 11.1
ARU S **S 16 01 44.7 +0.3**
ARU 16 03 52.6
ARU SS **SS 16 05 24.3 -1.7**
ARU pmax pmax
comp=Z,66nm,1.0s
ARU MLR MLR
comp=Z,882nm,19.0s
ARU Arti 54.28 317 *e*P **P 15 54 08.5 -0.9**
comp=Z,202nm,1.7s
HOPEN Hopen 54.67 346 IAMs_20 IAMs_20 16 20 29.1
comp=Z,539nm,16.0s
DDI Dehra Dun 55.05 281 *e*P **P 15 54 16.0 +0.6**
DDI AMB AMB 15 54 16.6
comp=Z,142nm,1.4s
DGPR DIGLIPUR 55.05 254 *e*P **P 15 54 13.6 -2.0**
RES Resolute Bay 55.18 17 *e*P **P 15 54 12.9 -2.7**
comp=Z,22nm,0.7s
RES Resolute Bay 55.18 17 P **P 15 54 14.4 -1.3**
comp=Z,17nm,0.6s,baz=305,slow=6.5,SNR=54
DHRM DHARAMSHALA 55.22 283 *e*P **P 15 54 16.5 -0.4**
SMLA Simla 55.23 282 *e*P **P 15 54 16.7 0.0**
DLH Dalhousie 55.30 284 *e*P **P 15 54 17.0 -0.5**
BHK Bhakra 55.60 283 *e*P **P 15 54 20.8 +1.4**
KULM Kulim 55.66 240 P x 15 54 21.3
KULM Kulim 55.66 240 *e*P **P 15 54 20.4 +0.5**
comp=Z,64nm,0.9s
IPM Ipoh 56.05 239 *e*P **P 15 54 22.8 0.0**
comp=Z,47nm,1.1s
YKA Yellowknife Ar 56.06 34 P **P 15 54 22.3 +0.1**
YKA P'P' 16 24 21.9
YKA Yellowknife Ar 56.06 34 P **P 15 54 22.3 +0.1**
comp=Z,11nm,0.7s,baz=301,slow=6.8,SNR=90
YKA PKPPKP P'P'df 16 24 21.9 -5.5
comp=Z,0.4nm,0.8s,baz=137,slow=2.5,SNR=4.6
PBA Port Blair 56.24 253 *ex* sP 15 54 38.4 -0.5
PBA AMB AMB 15 54 47.4
comp=Z,144nm,1.9s
NDI New Delhi 56.58 279 *e*P **P 15 54 25.0 -1.4**
SOEI Soe 56.93 207 *e*P **P 15 54 27.4 -1.6**
AB31 Akbulak array 56.96 309 P **P 15 54 29.1 +0.3**
AB31 pmax pmax
comp=Z,18nm,0.4s
ABKAR Akbulak array 56.96 309 *e*P **P 15 54 29.2 +0.4**
COEN Coen 57.38 184 *e*P **P 15 54 31.8 -0.2**
comp=Z,156nm,0.9s
PRGR Permogore 57.55 326 ⇓*i*P **P 15 54 33.1 +0.4**
PRGR pmax pmax
comp=Z,153nm,1.1s
LVZ Lovozero 57.83 336 ⇑*i*P **P 15 54 34.6 -0.1**
LVZ pmax pmax
comp=Z,43nm,1.7s
LVZ MLR MLR
comp=Z,350nm,19.0s
PSI Prapat 58.67 240 LR LR 16 22 28.1
comp=Z,186nm,19.3s,baz=296,slow=38
KEV Kevo 58.76 339 *e*P **P 15 54 41.3 +0.2**
KEV Kevo 58.76 339 *e*p **P 15 54 41.3 +0.2**
KEV Kevo 58.76 339 *e*P **P 15 54 41.0 -0.1**
comp=Z,22nm,0.8s
VIS Vishakhapatnam 58.86 265 *e*P **P 15 54 41.3 -1.2**
VIS AMB AMB 15 54 43.7
comp=Z,43nm,0.7s
KBL Kabul 59.00 290 *e*P **P 15 54 42.1 -1.5**
KBL pmax pmax
comp=Z,66nm,0.7s
KBL Kabul 59.00 290 *e*P **P 15 54 42.1 -1.5**
comp=Z,66nm,0.7s
BKNI Bangkinang 59.29 236 *e*P **P 15 54 46.9 +1.3**
ARCES ARCESS Array B 59.29 340 P **P 15 54 45.0 +0.1**
ARCES ARCESS Array B 59.29 340 P **P 15 54 45.0 +0.1**
comp=Z,8.5nm,0.6s,baz=52,slow=6.9,SNR=66
ARE0 ARCESS Array S 59.29 340 *e*P **P 15 54 45.0 +0.2**
ARE0 ARCESS Array S 59.29 340 *e*P **P 15 54 42.1 -2.8**
DAG Danmarks Havn 59.55 356 *i*P **P 15 54 44.6 -1.8**
DAG Danmarks Havn 59.55 356 *i*P **P 15 54 44.6 -1.8**
BHPL Bhopal 59.67 274 *e*P **P 15 54 46.3 -1.9**
BHPL AMB AMB 15 54 48.0
comp=Z,104nm,1.4s
KTK1 Kautokeino 60.24 340 *e*P **P 15 54 51.8 +0.5**
KTK1 IAmb IAmb 15 54 52.0
comp=N,16nm,0.8s
GSI Gunungsitoli 60.67 240 *e*P **P 15 54 55.5 +0.4**
TRO Tromso 60.81 342 *e*P P 15 54 58.8 +3.6
TRO IAmb IAmb 15 54 60.0
comp=Z,47nm,0.8s
EDM Edmonton 61.68 42 *e*P **P 15 55 01.9 +0.5**
EDM Edmonton 61.68 42 *e*P **P 15 55 01.9 +0.5**
JOF Joensuu 62.10 332 *e*P **P 15 55 03.9 -0.1**
JOF pmax pmax
comp=Z,65nm,0.5s
JOF Joensuu 62.10 332 *e*p **P 15 55 03.9 -0.1**
comp=Z,65nm,0.5s
C09A Chrisman Ranch 62.25 49 *e*P **P 15 55 07.2 +1.8**
comp=Z,33nm,1.2s
I05D Terrebonne, OR 62.50 54 ⇓P **P 15 55 07.8 +0.7**
baz=62
HYB Hyderabad 62.52 268 ⇑*i*P **P 15 55 05.5 -2.0**
HYB *e*pP **pP 15 55 19.0 +0.7**
HYB *e*PcP **PcP 15 55 50.0 +3.5**
HYB Hyderabad 62.52 268 *e*P **P 15 55 06.7 -0.8**
HUMO Hull Mountain 62.53 56 P **P 15 55 07.3 0.0**
NEW Newport 62.62 48 *e*P **P 15 55 10.1 +2.3**
NEW Newport 62.62 48 P **P 15 55 08.0 +0.2**
comp=Z,7.4nm,0.8s,baz=306,slow=5.9,SNR=8.3
NEW Newport 62.62 48 ⇓P **P 15 55 08.3 +0.5**
baz=62
STEI Steigen 62.99 341 *e*P **P 15 55 09.5 -0.3**
STEI IAmb IAmb 15 55 10.5
comp=Z,23nm,0.9s
YBH Yreka Blue Hor 63.18 57 P **P 15 55 12.4 +0.7**
YBH Yreka Blue Hor 63.18 57 P **P 15 55 12.4 +0.7**
comp=Z,3.6nm,1.0s,baz=345,slow=8.7,SNR=3.7
CTA Charters Tower 63.38 181 P **P 15 55 12.1 -0.9**
CTA Charters Tower 63.38 181 P **P 15 55 12.1 -0.9**
comp=Z,11nm,0.7s,baz=359,slow=6.8,SNR=12
N02D Trinity Center 63.63 58 ⇓P **P 15 55 15.9 +1.2**
baz=64
M04C Macdoel 63.68 57 ⇑P **P 15 55 15.8 +0.8**
baz=64
K05A Summer Lake 63.70 55 *e*P **P 15 55 17.8 +2.5**
comp=Z,80nm,1.7s
WDC Whiskeytown Da 63.96 58 *e*P **P 15 55 19.2 +2.4**
WDC pmax pmax
comp=Z,16nm,1.0s
WDC Whiskeytown Da 63.96 58 *e*P **P 15 55 19.2 +2.4**
comp=Z,16nm,1.0s
SUMG Summit 64.06 2 *i*P **P 15 55 17.0 -0.4**
SUMG pmax pmax
comp=Z,60nm,1.0s
SUMG Summit 64.06 2 *i*P **P 15 55 17.0 -0.4**
comp=Z,60nm,1.0s
SUMG Summit 64.06 2 *e*P **P 15 55 16.9 -0.5**
comp=Z,135nm,1.2s
BSMT Bassoo Peak 64.12 48 *e*P **P 15 55 19.8 +1.9**
WRAB Tennant Creek 64.25 193 P **P 15 55 17.5 -1.2**
comp=Z,246nm,0.9s,SNR=22
WRAB Tennant Creek 64.25 193 *e*P **P 15 55 17.1 -1.6**
WRAB pmax pmax
comp=Z,98nm,1.4s
WRAB Tennant Creek 64.25 193 *e*P **P 15 55 17.1 -1.6**
comp=Z,98nm,1.4s
WRA Warramunga Arr 64.26 193 P **P 15 55 17.4 -1.4**
WRA ⇑*e* 16 24 12.6
WRA Warramunga Arr 64.26 193 P **P 15 55 17.4 -1.4**
comp=Z,27nm,0.8s,baz=9.1,slow=6.7,SNR=242
WRA LR LR 16 20 23.8
comp=Z,126nm,20.8s,baz=30,slow=33
WRA PKP2bc 16 24 12.6
comp=Z,1.3nm,1.1s,baz=198,slow=2.4,SNR=6.8
ABKT Ailbek 64.28 299 P **P 15 55 19.2 +0.2**
comp=Z,378nm,0.6s,SNR=27
KAF Kangasniemi 64.33 333 *e*P **P 15 55 18.8 0.0**
KAF pmax pmax
comp=Z,52nm,0.5s
KAF Kangasniemi 64.33 333 *e*p **P 15 55 18.8 0.0**
comp=Z,52nm,0.5s
FITZ Fitzroy Crossi 64.40 202 *e*P **P 15 55 19.7 0.0**
comp=Z,32nm,0.9s
MOS Moscow 64.42 324 *e*P **P 15 55 18.4 -1.0**
MOS *e* 15 55 53.0
MOS pmax pmax
comp=Z,122nm,1.3s
JTMT Jette 64.46 48 *e*P **P 15 55 21.0 +1.0**
YBMT Yellow Bay 64.53 47 *e*P P 15 55 24.8 +4.3
MOR8 Moi Rana 64.59 341 *e*P **P 15 55 18.0 -2.4**
MOR8 IAmb IAmb 15 55 19.9
comp=Z,158nm,0.7s
PUL Pulkovo 64.61 330*d* *i*P **P 15 55 20.8 +0.2**
PUL pmax pmax
comp=Z,209nm,0.7s
PUL MLR MLR
comp=Z,453nm,20.0s
FLOS Flostrand 64.71 341 *e*P **P 15 55 20.9 -0.2**
FLOS IAmb IAmb 15 55 21.8
comp=Z,52nm,0.7s
J08A Circle Bar Ran 64.75 53 *e*P **P 15 55 24.1 +2.1**
comp=Z,13nm,1.0s
SWMT Swartz Lake 64.75 48 *e*P P 15 55 25.4 +3.5
STOK Stokkvaagen 64.80 341 *e*P **P 15 55 21.7 0.0**
STOK IAmb IAmb 15 55 23.7
comp=N,14nm,0.8s
FIA1 FINESS Array S 64.89 333 *e*P **P 15 55 21.7 -0.7**
FINES FINESS Array B 64.89 333 P **P 15 55 21.7 -0.7**
FINES FINESS Array B 64.89 333 P **P 15 55 21.7 -0.7**
comp=N,115nm,0.6s,baz=43,slow=7.3,SNR=476
FINES LR LR 16 27 34.1
comp=N,337nm,18.2s,baz=146,slow=40
MSO Missoula 65.20 48 *e*P **P 15 55 26.7 +1.8**
comp=N,23nm,0.9s
MSO Missoula 65.20 48 ⇑P **P 15 55 25.9 +1.0**
baz=65
WVOR Wild Horse Val 65.21 54 *e*P P 15 55 28.9 +3.8
WVOR pmax pmax
comp=Z,22nm,1.3s
WVOR Wild Horse Val 65.21 54 *e*P P 15 55 28.9 +3.8
comp=Z,22nm,1.3s
POO Poona 65.22 272 ⇑*i*P **P 15 55 24.0 -1.3**
comp=Z,120nm,1.0s
POO *e*P **P 15 55 24.6 -0.7**
BHJ Bhuj 65.27 279 *e*P **P 15 55 26.4 +0.9**
BHJ AMB AMB 15 55 26.7
comp=Z,97nm,1.2s
OBN Obninsk 65.28 324 P **P 15 55 25.9 +0.8**
comp=Z,583nm,0.7s,SNR=5.7
OBN Obninsk 65.28 324 ⇓*i*P **P 15 55 25.2 +0.1**
OBN *e* 15 57 48.5
OBN *eS* **S 16 04 05.5 -0.4**
OBN pmax pmax
comp=Z,119nm,1.0s
OBN MLR MLR
comp=Z,300nm,20.0s
OBN Obninsk 65.28 324 *e*P **P 15 55 25.4 +0.3**
comp=Z,88nm,0.9s
XMIS Christmas Isla 65.56 225 *e*P **P 15 55 26.5 -0.9**
comp=Z,522nm,1.0s
VRHR Novokhopersk 65.58 318 *e*P **P 15 55 25.2 -1.9**
VRHR pmax pmax
comp=Z,150nm,0.7s
VRHR pmax pmax
comp=N,110nm,1.0s
VRHR pmax pmax
comp=E,160nm,1.5s
BEKR Beckworth 65.73 57 *e*P **P 15 55 26.6 -1.8**
comp=E,15nm,1.2s
SCO Scoresbysund 65.93 356 *i*P **P 15 55 29.1 +0.1**
SCO pmax pmax
comp=Z,25nm,0.8s
SCO Scoresbysund 65.93 356 *i*P P 15 55 29.1 +0.1**
comp=Z,25nm,0.8s
FFC Flin Flon 65.97 36 P **P 15 55 29.0 -0.5**
comp=Z,97nm,0.5s,SNR=7.6
FFC Flin Flon 65.97 36 *e*P **P 15 55 28.3 -1.2**
FFC pmax pmax

FFC **Flin Flon** 65.97 36 *e*P P 15 55 28.3 -1.2
comp=Z,41nm,0.9s
comp=Z,41nm,0.9s

IDAH **Dahanechah** 66.26 293 *e*P P
FCC **Fort Churchill** 66.27 30 *e*P P 15 55 31.5 +0.1
FCC **Fort Churchill** 66.27 30 *e*P P 15 55 31.5 +0.1
comp=Z,0.8nm,0.6s

PAHR **Pah Rah Range** 66.42 57 *e*P P 15 55 33.6 +0.7
comp=Z,35nm,1.3s

PAHR *e*pP **pP** 15 55 43.0 -0.7
NSS **Namsos** 66.53 340 *e*P P 15 55 32.6 -0.4
NSS IAmb IAmb 15 55 33.6
comp=Z,43nm,0.8s

A19A **Klindworth Far** 66.61 44 ⇓P P 15 55 34.6 +0.8
baz=66

LRM **Limekiln Ridge** 66.64 48 *e*P P 15 55 35.0 +0.7
EGMT **Eagleton** 66.67 45 *e*P P 15 55 34.7 +0.4
comp=Z,22nm,0.8s

EGMT **Eagleton** 66.67 45 ⇓P P 15 55 34.9 +0.6
baz=66

VSR **Storozhevoye** 66.68 319 *e*P P 15 55 33.3 -0.8
VSR pmax pmax
comp=Z,170nm,0.7s

VSR pmax pmax
comp=N,150nm,0.9s

VSR pmax pmax
comp=E,120nm,0.9s

VORD **Divnogorie** 66.78 319 *e*P P 15 55 33.9 -0.9
VORD pmax pmax
comp=N,140nm,0.9s

VORD pmax pmax
comp=E,110nm,0.9s

VORD pmax pmax
comp=Z,140nm,0.9s

B19A **Brinkman Farms** 66.81 45 ⇑P P 15 55 35.5 +0.4
baz=67

CMB **Columbia Colle** 66.82 59 *e*P P 15 55 37.3 +1.9
CMB pmax pmax
comp=Z,16nm,0.9s

CMB **Columbia Colle** 66.82 59 *e*P P 15 55 37.3 +1.9
comp=Z,16nm,0.9s

VSU **Vasula** 66.84 330 *c i*P P 15 55 35.0 0.0
VSU pmax pmax
comp=Z,544nm,1.0s

VSU MLR MLR
comp=Z,670nm,18.0s

ITEG **Tejag** 66.91 294 *e*P P 15 55 36.6 +0.5
HLID **Hailey** 66.96 51 *e*P P 15 55 37.7 +1.3
comp=Z,6.6nm,0.9s

HLID **Hailey** 66.96 51 ⇑P P 15 55 36.3 0.0
baz=67,SNR=6.3

IKOO **Kooshah** 67.03 293 *e*P P 15 55 37.7 +0.7
MCMT **McKenzie Canyo** 67.05 49 *e*P P 15 55 37.0 +0.1
comp=Z,2.9nm,0.7s

A20A **Cobblestone Ra** 67.05 44 ⇓P P 15 55 37.3 +0.6
baz=67

WAKR **Walker** 67.12 58 *e*P P 15 55 38.6 +1.1
GOA **Goa** 67.20 270 *e*P P 15 55 37.5 -0.5
C19A **Slack Wire Ran** 67.22 45 ⇑P P 15 55 38.3 +0.5
baz=67,SNR=12

B20A **Solberg Farm,** 67.29 44 ⇓P P 15 55 38.9 +0.8
baz=67

A21A **Bergtoll Ranch** 67.48 43 ⇑P P 15 55 39.2 -0.1
baz=67,SNR=7.1

MAK **Makhachkala** 67.63 308 *e*P **pP** 15 55 52.4 +1.2
MAK MLR MLR
comp=Z,986nm,21.0s

PALK **Pallekele** 67.77 258 P P 15 55 42.0 +0.4
comp=Z,316nm,1.1s,SNR=5.8

PALK **Pallekele** 67.77 258 *e*P P 15 55 42.0 +0.4
comp=Z,336nm,1.1s

PALK **Pallekele** 67.77 258 *i*P P 15 55 42.0 +0.4
SNR=8.8

C20A **Veseth Ranch,** 67.77 45 ⇑P P 15 55 41.8 +0.5
baz=68

DZM **Mont Dzumac** 67.80 160 *e*LR LR 16 16 13.5
comp=Z,265nm,21.6s

DZM **Mont Dzumac** 67.80 160 LR LR 16 24 09.1
comp=Z,211nm,18.3s,baz=203,slow=35

QLMT **Earthquake Lak** 67.82 49 *e*P P 15 55 45.1 +3.3
NVAR **Mina Array Bea** 67.87 58 P P 15 55 42.7 +0.5
NVAR pP **pP** 15 55 55.4 +2.4
NVAR **Mina Array Bea** 67.87 58 P P 15 55 42.7 +0.5
comp=Z,3.1nm,0.7s,baz=294,slow=6.5,SNR=14

NVAR pP **pP** 15 55 55.4 +2.4
comp=Z,11nm,0.7s,baz=292,slow=5.6,SNR=21

NVAR LR LR 16 23 35.8
comp=Z,222nm,19.9s,baz=52,slow=34

IGLO **Ghaloghah** 67.87 300 *e*P P 15 55 42.7 +0.5
NV11 **Mina Array Sit** 67.96 58 *e*P P 15 55 42.1 -0.5
A22A **Carney Farms,** 67.98 43 ⇓P P 15 55 42.3 -0.2
baz=68,SNR=11

AS31 **Alice Springs** 67.98 193 *e*P P 15 55 41.4 -1.3
ASAR **Alice Springs** 67.98 193 P P 15 55 42.0 -0.6
ASAR ⇑*e* 16 24 03.4
ASAR **Alice Springs** 67.98 193 P P 15 55 42.0 -0.6
comp=Z,25nm,0.8s,baz=6.7,slow=5.8,SNR=285

ASAR PKP2bc 16 24 03.4
comp=Z,1.1nm,0.9s,baz=186,slow=3.1,SNR=8.1

ASAR LR LR 16 28 24.5
comp=Z,98nm,18.0s,baz=268,slow=38

TBLU **Trondheim** 68.02 340 *e*P P 15 55 41.3 -1.1
TBLU IAmb IAmb 15 55 42.3
comp=Z,73nm,0.7s

D20A **Manuel Ranch,** 68.11 45 ⇑P P 15 55 43.9 +0.5
baz=68

IKIA **Kiasar** 68.15 300 *e*P P 15 55 44.0 0.0
YMR **Madison River** 68.18 49 *e*P P 15 55 46.8 +2.8
comp=Z,17nm,0.8s

E19A **Rath Farm, Rou** 68.18 46 ⇑P P 15 55 44.6 +0.8
baz=68

YFT **Old Faithful** 68.39 49 *e*P P 15 55 50.4 +5.0
comp=Z,22nm,0.9s

IANJ **Anjilo** 68.46 299 *e*P P 15 55 46.9 +0.9
F19A **Roth Farm, Mol** 68.50 47 ⇓P P 15 55 46.5 +0.6
baz=68,SNR=6.5

H17A **Grant Village** 68.57 49 *e*P P 15 55 49.6 +3.1
H17A **Grant Village** 68.57 49 ⇑P P 15 55 47.4 +0.8
baz=68,SNR=7.4

AFI **Afiamalu** 68.61 136 LR LR 16 19 34.3
comp=Z,221nm,20.2s,baz=350,slow=30

ISHM **Shahmirzad** 68.64 299 *e*P P 15 55 48.0 +0.8
IMW **Indian Meadow** 68.69 49 *e*P P 15 55 50.0 +2.6
comp=Z,24nm,1.0s

FLWY **Flagg Ranch** 68.70 49 *e*P P 15 55 52.6 +5.3
comp=Z,13nm,0.9s

D21A **La Casta Ranch** 68.71 45 ⇑P P 15 55 48.0 +0.9
baz=68

EIDS **Eidsvold** 68.75 176 *e*P P 15 55 48.1 +0.8
comp=Z,16nm,1.0s

TPH **Tonopah** 68.75 57 *e*P P 15 55 48.7 +1.0
TPH pmax pmax
comp=Z,17nm,0.8s

TPH **Tonopah** 68.75 57 *e*P P 15 55 48.7 +1.0
comp=Z,17nm,0.8s

GOF **Gofitskoye** 68.75 312 ⇑*i*P P 15 55 48.4 +1.1
GOF pmax pmax
comp=Z,426nm,0.8s

B23A **Brockton** 68.78 43 ⇑P P 15 55 47.7 +0.1
baz=69,SNR=12

RLMT **Red Lodge** 68.80 47 *e*P P 15 55 47.8 -0.1
comp=Z,19nm,1.1s

FXWY **Fox Creek** 68.81 50 *e*P P 15 55 49.4 +1.3
comp=Z,15nm,0.9s

I17A **Pilgrim Ck.** 68.88 49 ⇑P P 15 55 48.9 +0.5
baz=69,SNR=6.7

MOOW **Moose Ponds** 68.90 49 *e*P P 15 55 49.9 +1.3
comp=Z,19nm,1.0s

SFJD **Kangerlussuaq** 68.93 7 *i*P P 15 55 47.4 -0.6
comp=Z,19nm,0.9s

SFJD **Kangerlussuaq** 68.93 7 *e*P P 15 55 47.8 -0.2
comp=Z,504nm,2.6s

TPAW **Teton Pass** 68.95 50 *e*P P 15 55 51.0 +2.0
comp=Z,43nm,1.1s

A24A **Westby** 68.96 42 ⇓P P 15 55 48.9 +0.3
baz=69

HVU **Hansel Valley** 69.03 52 *e*P P 15 55 50.9 +1.6
HVU pmax pmax
comp=Z,14nm,0.9s

HVU **Hansel Valley** 69.03 52 *e*P P 15 55 50.9 +1.6
comp=Z,14nm,0.9s

LOHW **Long Hollow** 69.06 49 *e*P P 15 55 51.8 +2.2
comp=Z,39nm,1.5s

D22A **Cohagen** 69.07 44 ⇓P P 15 55 49.9 +0.5
baz=69

REDW **Red Top Meadow** 69.09 50 *e*P P 15 55 52.8 +3.0
comp=Z,25nm,1.0s

ILAS **Lasjerd** 69.12 299 *e*P P 15 55 51.0 +0.9
PKM **Peak Mountain** 69.13 61 ⇓P P 15 55 51.8 +1.7
baz=69

C23A **Lambert** 69.14 43 ⇓P P 15 55 50.4 +0.6
baz=69

IDID **Didziasalis** 69.15 328 *e*P P 15 55 50.0 +0.4
IDID AMB AMB 15 55 51.6
comp=Z,92nm,1.0s

ISAL **Salakas** 69.20 328 *e*P P 15 55 50.3 +0.4
ISAL AMB AMB 15 55 51.9
comp=Z,103nm,0.9s

MOL **Molde** 69.25 341 *e*P P 15 55 50.3 +0.2
MOL IAmb IAmb 15 55 50.5
comp=Z,31nm,1.0s

MICGM **Minsk** 69.31 327⇑*e*P P 15 55 50.0 -0.6
IIGN **Ignalina** 69.33 328 *e*P P 15 55 50.7 0.0
IIGN AMB AMB 15 55 52.1
comp=Z,111nm,0.8s

MNK **Minsk** 69.33 327⇑*e*P P 15 55 50.0 -0.7
MNK pmax pmax
comp=E,300nm,1.2s

DOMB **Dombas** 69.34 340 *e*P P 15 55 50.9 +0.1
DOMB IAmb IAmb 15 55 51.4
comp=Z,53nm,0.9s

LAO **LASA Array** 69.36 45 *e*P P 15 55 52.0 +0.9
comp=Z,39nm,0.8s

LAO *e*pP **pP** 15 56 01.7 -0.4
FRB **Frobisher Bay** 69.39 16 P P 15 55 50.2 -0.7
FRB **Frobisher Bay** 69.39 16 P P 15 55 50.2 -0.7
comp=Z,48nm,0.8s,baz=331,slow=6.8,SNR=57

NACGM **Naroch** 69.44 328 *e*P P 15 55 50.0 -1.4
NCK **Nalchik** 69.48 311⇑*i*P P 15 55 52.7 +0.8
SPUT **South Promonto** 69.52 52 *e*P P 15 55 52.1 -0.2
comp=Z,10nm,1.2s

R11A **Troy Canyon, C** 69.57 56 *e*P P 15 55 53.1 +0.3
R11A **Troy Canyon, C** 69.57 56 ⇓P P 15 55 54.2 +1.4
baz=69

IDMV **Damavand** 69.58 300 *e*P P 15 55 52.5 -0.5
TRD **Trivandrum** 69.60 262 *e*P P 15 55 51.6 -1.4
NB2 **NORSAR Subarra** 69.64 339 P P 15 55 52.5 -0.1
comp=Z,126nm,0.8s,baz=32,slow=6.5

NB2 **NORSAR Subarra** 69.64 339 P P 15 55 52.5 -0.1
baz=32,slow=6.5

NOA **NORSAR Array B** 69.64 339 P P 15 55 52.1 -0.6
NOA **NORSAR Array B** 69.64 339 P P 15 55 52.1 -0.6
comp=Z,120nm,0.8s,baz=34,slow=6.1,SNR=379

GUDG **Gudauri** 69.66 310 P P 15 55 54.5 +1.2
KIV **Kislovodsk** 69.67 312 P P 15 55 54.1 +0.9
comp=Z,3μm,0.7s,SNR=54

KIV **Kislovodsk** 69.67 312⇑*i*P P 15 55 53.1 -0.1
KIV *i*S **S** 16 05 00.1 +0.9
KIV pmax pmax
comp=Z,378nm,0.8s

KIV MLR MLR
comp=Z,900nm,20.0s

KIV **Kislovodsk** 69.67 312 *e*P P 15 55 53.1 -0.1
comp=Z,314nm,0.8s

KIV **Kislovodsk** 69.67 312 *i*P P 15 55 54.3 +1.1
SNR=84

KIV *i*P P 15 55 55.3 +2.1
SNR=13

KBZ **Khabaz** 69.71 311 P P 15 55 53.8 +0.6
KBZ **Khabaz** 69.71 311 P P 15 55 53.8 +0.6
KBZ **Khabaz** 69.71 311 P P 15 55 53.8 +0.6
comp=Z,180nm,0.8s,baz=56,slow=5.1,SNR=315

KBZ LR LR 16 31 01.9
comp=Z,769nm,20.0s,baz=231,slow=40

AKN **Aaknes** 69.72 341 *e*P P 15 55 53.5 +0.4
ZEI **Tsey** 69.77 310 *e*P P 15 55 51.9 -2.0
ZEI pmax pmax
comp=Z,120nm,0.9s

DUS **Dusheti** 69.78 309 P P 15 55 55.9 +2.0
B25A **Knox Farm, Ray** 69.81 42 ⇓P P 15 55 54.9 +1.0
baz=70

DGRG **David-gareji** 69.82 308 P P 15 55 55.0 +1.0
G21A **Lodge Grass** 69.83 46 ⇑P P 15 55 55.5 +1.3
baz=70

A26A **Wade Farm, Ken** 69.92 41 ⇓P P 15 55 55.3 +0.8
baz=70

SEAG **Tbilisi Sea** 69.94 309 P P 15 55 55.5 +0.7
F22A **Rosebud** 69.95 45 ⇓P P 15 55 55.2 +0.4
baz=70,SNR=5.5

FURC **Furnace Creek,** 70.00 58 ⇑P P 15 55 56.3 +1.1
baz=70,SNR=5.6

TBLG **Delisi** 70.00 309 P P 15 55 56.1 +1.0
D24A **Glendive** 70.03 43 ⇑P P 15 55 55.9 +0.6
baz=70,SNR=7.6

DUG **Dugway** 70.03 53 *e*P P 15 55 56.9 +1.4
DUG pmax pmax
comp=Z,15nm,0.8s

DUG **Dugway** 70.03 53 *e*P P 15 55 56.9 +1.4
comp=Z,15nm,0.8s

DUG **Dugway** 70.03 53 ⇑P P 15 55 56.3 +0.8
baz=70

TPNV **Topopah Spring** 70.07 58 *e*P P 15 55 58.0 +2.2
TPNV pmax pmax
comp=Z,30nm,1.1s

TPNV **Topopah Spring** 70.07 58 *e*P P 15 55 58.0 +2.2
comp=Z,30nm,1.1s

TPNV **Topopah Spring** 70.07 58 ⇓P P 15 55 56.3 +0.5
baz=70,SNR=6.6

LRMC **Laurel Mountai** 70.11 60 ⇑P P 15 55 57.2 +1.1
baz=70

NEY **Neytrino** 70.12 311⇑*e*P P 15 55 56.9 +0.9
NEY pmax pmax
comp=Z,14nm,1.0s

J19A **Crowheart** 70.14 49 ⇑P P 15 55 56.7 +0.6
baz=70

IVRN **Varamin** 70.15 300 *e*P P 15 55 56.9 +0.7
ONI **Oni** 70.15 310 P P 15 55 57.6 +1.5
B26A **Jensen Ranch,** 70.19 41 ⇑P P 15 55 57.1 +0.9
baz=70

I20A **Worland** 70.19 48 ⇑P P 15 55 57.0 +0.6
baz=70

BW06 **Boulder Array** 70.19 50 *e*P P 15 55 56.1 -0.5
comp=Z,14nm,0.9s

PDAR **Pinedale Array** 70.19 50 P P 15 55 56.4 -0.2
PDAR pP **pP** 15 56 09.4 +1.9
PDAR P'P'ab P'P'ab 16 23 53.8 -8.3
PDAR **Pinedale Array** 70.19 50 P P 15 55 56.4 -0.2
comp=Z,5.4nm,1.0s,baz=254,slow=1.0,SNR=22

PDAR pP **pP** 15 56 09.4 +1.9
comp=Z,8.8nm,0.7s,baz=306,slow=2.1,SNR=20

PDAR PKP2ab 16 23 53.8
comp=Z,1.1nm,1.1s,baz=91,slow=3.7,SNR=4.3

PDAR LR LR 16 26 30.9
comp=Z,276nm,20.2s,baz=328,slow=36

TCUT **Toone Canyon** 70.24 52 *e*P P 15 55 56.0 -0.9
comp=Z,10nm,0.6s

IR3 **Iran Long-Peri** 70.28 300 *e*P P 15 55 57.5 +0.4
EDW2 **Edwards Air Fo** 70.30 60 ⇑P P 15 55 57.3 +0.2
baz=70

G22A **Birney** 70.31 46 ⇓P P 15 55 57.7 +0.6
baz=70

IMHD **Mahdasht** 70.37 301 *e*P P 15 55 58.5 +0.8
KZR **Kazreti** 70.41 309 P P 15 55 58.9 +1.3
F23A **Volborg** 70.43 45 ⇓P P 15 55 58.2 +0.4
baz=70,SNR=6.5

J20A **Shoshoni** 70.61 48 ⇓P P 15 55 59.2 +0.2
baz=70

NLU **North Lily Min** 70.62 53 *e*P P 15 56 02.8 +3.6
comp=Z,12nm,1.0s

C26A **Wahner Farm, P** 70.64 42 ⇑P P 15 55 59.2 +0.3
baz=70

H22A **Clearmont** 70.70 46 ⇑P P 15 55 59.7 +0.2
baz=70

I21A **Big Trails, Te** 70.73 48 ⇓P P 15 56 00.1 +0.3
baz=71

A28A **Rude Farm, Bot** 70.75 40 ⇓P P 15 55 59.8 +0.2
baz=70

DAU **Daniels Canyon** 70.79 52 *e*P P 15 56 04.2 +3.9
DAU **Daniels Canyon** 70.79 52 *e*P P 15 56 04.2 +3.9
G23A **Biddle** 70.79 45 ⇓P P 15 56 00.1 +0.1
baz=71

HYA **Hoyanger** 70.80 341 *e*P P 15 56 00.1 +0.5
HYA IAmb IAmb 15 56 01.1
comp=Z,151nm,0.9s

F24A **Ekalaka** 70.84 44 ⇑P P 15 56 00.6 +0.3
baz=71

AKH **Akhalkalaki** 70.91 309 P P 15 56 02.4 +1.5
E25A **Miller Ranch,** 70.91 43 ⇓P P 15 56 00.9 +0.2
baz=71

BFSC **Mount Baldy Ra** 70.92 61 ⇓P P 15 56 02.0 +1.0
baz=71

J21A **Lysite** 70.96 48 ⇓P P 15 56 01.6 +0.4
baz=71

IRAZ **Razeghan** 71.01 301 *e*P P 15 56 02.4 +0.7
B28A **Dugan Ranch, T** 71.03 40 ⇓P P 15 56 01.8 +0.5
baz=71

GNI **Garni** 71.03 308 *e*P P 15 56 03.7 +2.1
comp=Z,186nm,1.5s

GNI **Garni** 71.03 308 LR LR 16 30 42.2
comp=Z,406nm,19.4s,baz=236,slow=39

GNI **Garni** 71.03 308 *i*P P 15 56 03.7 +2.1
SNR=18

I22A **9 Mile Ranch,** 71.11 47 ⇓P P 15 56 02.2 +0.2
baz=71

A29A **Manning Farm,** 71.22 40 ⇓P P 15 56 02.2 -0.2
baz=71

SUE **Sulen** 71.22 342 *e*P P 15 56 02.7 +0.5
KONO **Kongsberg** 71.25 339 *c i*P P 15 56 02.3 -0.1
KONO pmax pmax
comp=Z,393nm,1.7s

KONO MLR MLR
comp=Z,2μm,18.0s

KONO **Kongsberg** 71.25 339 *e*P P 15 56 02.8 +0.3
KONO IAmb IAmb 15 56 03.7
comp=Z,60nm,0.9s

KONO IAMs_20 IAMs_20 16 28 11.5
comp=Z,2μm,5.2s

KONO **Kongsberg** 71.25 339 *e*P P 15 56 02.7 +0.3
comp=Z,13nm,0.9s

IKLH **Kolahrood** 71.31 298 *e*P P 15 56 04.2 +0.6
HEC **Hector,Ludlow** 71.38 60 ⇓P P 15 56 03.7 0.0
baz=71

CCUT **Cedar City** 71.43 56 *e*P P 15 56 05.5 +1.3
comp=Z,31nm,1.6s

B29A **Wagenman Farm,** 71.49 40 ⇓P P 15 56 04.4 +0.4
baz=71

SUW **Suwalki** 71.49 329⇑*i*P P 15 56 03.5 -0.5
SUW pmax pmax
comp=Z,300nm,1.2s

SUW MLR MLR
comp=Z,500nm,24.6s

SUW **Suwalki** 71.49 329 *i*P P 15 56 03.4 -0.5
SUW LMZ LR 16 28 01.3
SOC **Sochi** 71.52 313 *c i*P P 15 56 04.6 +0.3
SOC *e*PPP PPP 16 00 30.5
SOC *e*S **S** 16 05 16.9 -3.6
SOC *e**SS **sS** 16 05 39.4 +0.9
SOC pmax pmax
comp=Z,118nm,0.8s

SOC MLR MLR
comp=Z,741nm,18.0s

H24A **Dirks Ranch, A** 71.54 45 ⇓P P 15 56 04.4 -0.2
baz=71

AKASG **Malin Array Be** 71.55 324 *ce*P P 15 56 04.0 -0.3
AKASG pmax pmax
comp=Z,83nm,0.4s

AKASG **Malin Array Be** 71.55 324 P P 15 56 04.1 -0.3
AKASG **Malin Array Be** 71.55 324 P P 15 56 04.1 -0.3
comp=Z,84nm,0.5s,baz=39,slow=6.0,SNR=588

AKASG LR LR 16 30 28.2
comp=Z,322nm,18.8s,baz=75,slow=38

KIEV **Kiev** 71.56 324 *c i*P P 15 56 04.0 -0.4
KIEV **Kiev** 71.56 324 *e*P P 15 56 03.6 -0.8
comp=Z,181nm,0.8s

MURC **Murrieta** 71.63 61 ⇓P P 15 56 05.5 +0.4
baz=72

A30A **Hoffart Farm,** 71.64 39 ⇓P P 15 56 04.6 -0.4
baz=71

DIGO **Kars** 71.64 309 *i*P P 15 56 07.1 +1.7
RUND **Rundenannen** 71.65 341 *e*P P 15 56 04.6 -0.2
RUND IAmb IAmb 15 56 05.6
comp=Z,214nm,0.9s

BER **Bergen** 71.69 341 *e*P P 15 56 05.6 +0.7
BER IAmb IAmb 15 56 06.6
comp=Z,117nm,0.8s

F26A **Lodgepole** 71.73 44 ⇑P P 15 56 05.7 +0.1
baz=72

ULM **Lac du Bonnet** 71.77 37 *e*P P 15 56 05.3 -0.4
comp=Z,24nm,1.4s

ULM **Lac du Bonnet** 71.77 37 P P 15 56 05.3 -0.4
comp=Z,4.1nm,0.6s,baz=320,slow=5.8,SNR=7.2

COCO **West Island** 71.78 232 *i*P P 15 56 09.0 +2.9
ODD1 **Odda** 71.79 340 *e*P P 15 56 06.4 +0.7
ODD1 IAmb IAmb 15 56 07.4
comp=Z,16nm,1.0s

IBND **Bandar-abas** 71.81 291 *e*P P 15 56 06.8 +0.5
GMRC **Granite Mounta** 71.83 59 ⇓P P 15 56 06.9 +0.4
baz=72

ANN **Anapa** 71.87 315 *e*P P 15 56 06.4 0.0
ANN *e**PP **pP** 15 56 19.1 +1.8
ANN *e*S **S** 16 05 27.6 +3.1
ANN pmax pmax
comp=Z,142nm,0.6s

K22A **Casper** 71.93 48 *e*P P 15 56 10.0 +3.0
ARTV **Artvin** 71.94 310 *i*P P 15 56 08.5 +1.3
B30A **Myrvik Farm, E** 71.97 39 ⇓P P 15 56 06.9 -0.1
baz=72

DAGI **Agillar** 72.02 310 *i*P P 15 56 08.9 +1.4
F27A **Lemmon** 72.04 43 ⇑P P 15 56 07.1 -0.4
baz=72

SRU **San Rafael** 72.07 53 *e*P P 15 56 09.3 +1.3
SRU pmax pmax
comp=Z,19nm,0.9s

SRU **San Rafael** 72.07 53 *e*P P 15 56 09.3 +1.3
comp=Z,19nm,0.9s

I24A **Kuemmerle Ranc** 72.11 46 ⇑P P 15 56 08.2 +0.2
baz=72

BELC **Belle Mtn. Jos** 72.13 60 ⇑P P 15 56 09.1 +0.8
baz=72

IPIR **Pirpir** 72.17 298 *e*P P 15 56 08.9 +0.1
CLDR **Caldiran** 72.17 307 *e*P P 15 56 09.9 +1.3
DBAD **Bademkaya** 72.18 310 *i*P P 15 56 09.7 +1.2
N20A **Spence Gulch,** 72.21 50 ⇓P P 15 56 08.7 -0.1
baz=72

DDEM **Demirkent** 72.23 310 *i*P P 15 56 10.1 +1.3
RSSD **Black Hills** 72.24 46 *e*P P 15 56 08.9 0.0
RSSD pmax pmax
comp=Z,4.0nm,0.8s

RSSD **Black Hills** 72.24 46 *e*P P 15 56 08.8 0.0
comp=Z,3.5nm,0.8s

BLS5 **Blasjo** 72.26 340 *e*P P 15 56 09.1 +0.6
BLS5 IAmb IAmb 15 56 15.0
comp=Z,49nm,0.9s

L22A **Ellis Ranch, M** 72.40 48 ⇑P P 15 56 09.8 -0.1
baz=72

AGRB **Hanur-Agry** 72.42 308 *e*P P 15 56 11.1 +1.1
G27A **Dupree** 72.43 44 ⇑P P 15 56 09.3 -0.5
baz=72

I25A **Rochford** 72.47 46 ⇓P P 15 56 09.8 -0.4
baz=72

IRM **Iron Mountain** 72.55 59 ⇓P P 15 56 10.9 +0.2
baz=72

IPAR **Pars** 72.61 295 *e*P P 15 56 11.8 +0.4
TUTA **Tutak** 72.64 308 *i*P P 15 56 13.3 +2.0
O20A **White River Ci** 72.69 51 *e*P P 15 56 15.9 +4.2
KMY **Karmoy** 72.74 340 *e*P P 15 56 12.3 +1.0
KMY IAmb IAmb 15 56 13.1
comp=Z,144nm,0.9s

L23A **Garrett** 72.74 48 ⇑P P 15 56 11.5 -0.4
baz=73

M22A **Cedar Creek Ra** 72.74 49 ⇑P P 15 56 11.5 -0.5
baz=73

D30A **Buchanan** 72.74 41 ⇑P P 15 56 11.1 -0.5
baz=72

U15A **North Rim** 72.81 56 ⇓P P 15 56 12.8 +0.3
baz=73,SNR=6.7

ISRV **Sarvestan** 72.86 294 *e*P P 15 56 12.5 -0.5
J25A **Sunshine Ranch** 72.87 46 ⇓P P 15 56 12.6 +0.1
baz=73

TVAN **Van** 72.88 307 *i*P P 15 56 14.7 +1.9
BANOM **Banah** 72.96 290 P P 15 56 13.5 +0.3
SNR=61

BANOM P P 15 56 13.8 +0.5
SNR=26

SNART **Snartemo** 73.01 339 *e*P P 15 56 13.7 +0.8
SNART IAmb IAmb 15 56 14.6
comp=Z,148nm,0.9s

EZM **Erzurum** 73.12 309 *e*P P 15 56 15.9 +1.7
N22A **Wattenberg Ran** 73.23 49 ⇑P P 15 56 15.4 +0.4
baz=73

WBK **Wadi Bani Khal** 73.26 285 P P 15 56 16.2 +1.2
SNR=13

WBK P pP 15 56 16.5 -9.4
SNR=16

I27A **Quinn** 73.29 45 ⇓P P 15 56 15.0 0.0
baz=73

J26A **Sides Ranch, S** 73.30 46 ⇑P P 15 56 14.9 -0.1
baz=73

HAKT **HAKKARI** 73.36 306 *i*P P 15 56 16.7 +1.0

H28A Mission Ridge 73.39 44 ⇓P P 15 56 15.6 +0.1
baz=73
SIM Simferopol' 73.44 317 eP P 15 56 16.2 +0.5
SIM eS SKiKP 16 06 06.0 +23
SIM pmax pmax
comp=Z,127nm,0.8s
SIM MLR MLR
comp=N,230nm,19.4s
N23A Red Feather La 73.45 49 ⇑P P 15 56 16.8 +0.6
baz=73
BAYT Ayd¯-ntepe-Bay 73.47 310 eP P 15 56 18.4 +2.2
PV04 Paradox Valley 73.49 53 eP P 15 56 19.8 +3.4
BSD Bornholm Skovb 73.51 334⇑iP P 15 56 15.5 -0.4
BSD pmax pmax
comp=Z,95nm,1.1s
BSD Bornholm Skovb 73.51 334⇑iP P 15 56 15.5 -0.4
comp=Z,95nm,1.0s
VRTB Varto-Mus 73.57 309 eP P 15 56 18.5 +1.7
SMDO Samad 73.61 286 P P 15 56 18.0 +0.9
SNR=12
SMDO P P 15 56 18.3 +1.1
SNR=13
O22A Kremmling 73.62 50 ⇓P P 15 56 17.7 +0.4
baz=73
CUKT Cukurca 73.63 306 eP P 15 56 17.7 +0.6
UOSS Wadi Hilu 73.66 289 P P 15 56 17.0 -0.3
comp=Z,511nm,0.8s,SNR=29
M24A Cheyenne 73.66 48 ⇓P P 15 56 18.1 +0.8
baz=74
HOQ Hoqain 73.78 287 P P 15 56 18.8 +0.7
SNR=24
HOQ P P 15 56 19.0 +0.9
SNR=17
HATD Hatta, Dubai 73.79 289 iP P 15 56 18.4 +0.3
SNR=60
I28A Midland 73.79 44 ⇓P P 15 56 18.4 +0.5
baz=74
ARMA Armidale 73.80 176 eP P 15 56 18.9 +1.1
COP Copenhagen 73.81 335⇑iP P 15 56 17.6 -0.1
COP pmax pmax
comp=Z,77nm,1.0s
COP Copenhagen 73.81 335⇑iP P 15 56 17.6 -0.1
comp=Z,77nm,1.0s
PV01 Paradox Valley 73.86 53 P P 15 56 19.0 +0.3
comp=Z,1µm,0.8s
P22A Eagle 73.89 50 ⇑P P 15 56 18.9 +0.1
baz=74
ASHO Ashiyiah 73.93 289 P P 15 56 19.5 +0.5
SNR=28
O23A Lake Granby, G 73.94 50 ⇑P P 15 56 19.8 +0.7
baz=74,SNR=5.5
WUAZ Wupatki 73.97 56 ⇑P P 15 56 20.3 +1.1
baz=74,SNR=6.0
G30A Faulkton 73.99 42 ⇑P P 15 56 19.4 +0.4
baz=74
NAZ Nazwa, Dubai 74.00 289⇑iP P 15 56 19.4 +0.1
SNR=12
JMDO Jabal Madar 74.02 286 P P 15 56 20.1 +0.6
SNR=14
SMCO Snowmass 74.06 51 eP P 15 56 21.6 +1.6
comp=Z,13nm,0.8s
BEL Belsk 74.10 329⇑iP P 15 56 20.3 +0.9
BEL pmax pmax
comp=Z,500nm,0.9s
BEL MLR MLR
comp=Z,500nm,25.1s
BEL Belsk 74.10 329 iP P 15 56 20.3 +0.9
BEL LMZ LR 16 29 28.3
MUD Monsted U'grnd 74.12 337 iP P 15 56 19.9 +0.5
MUD pmax pmax
comp=Z,60nm,0.9s
MUD Monsted U'grnd 74.12 337 iP P 15 56 19.9 +0.5
comp=Z,60nm,0.8s
KELT Kelkit 74.13 311 iP P 15 56 21.6 +1.5
BNGB Bing¯¶ll 74.13 309 eP P 15 56 21.5 +1.4
J28A Allard Ranch, 74.17 45 ⇓P P 15 56 20.9 +0.7
baz=74
LLD Lille Linde 74.18 335 iP P 15 56 19.6 -0.2
LLD pmax pmax
comp=Z,81nm,0.7s
LLD Lille Linde 74.18 335 iP P 15 56 19.6 -0.2
comp=Z,81nm,0.7s
FAQ Al Faqa, Dubai 74.21 289⇓iP P 15 56 20.5 -0.1
SNR=15
GKP Gorka Klasztor 74.24 331⇑iP P 15 56 20.3 +0.1
GKP pmax pmax
comp=Z,300nm,1.4s
GKP MLR MLR
comp=Z,500nm,23.5s
GKP Gorka Klasztor 74.24 331 iP P 15 56 20.3 +0.1
GKP LMZ LR 16 30 04.3
ISCO Idaho Springs 74.39 50 eP P 15 56 23.8 +2.0
ISCO pmax pmax
comp=Z,12nm,0.9s
ISCO Idaho Springs 74.39 50 eP P 15 56 23.8 +2.0
comp=Z,12nm,0.9s
ISCO Idaho Springs 74.39 50 ⇑P P 15 56 22.8 +1.0
baz=74,SNR=5.5
LVV L'vov 74.40 326d iP P 15 56 21.2 -0.1
LVV eS S 16 05 50.0 -3.1
LVV MLR MLR
comp=Z,300nm,17.0s
ASUD Al Ashush, Dub 74.47 289⇑iP P 15 56 22.4 +0.4
SNR=34
ARQ Araqi 74.49 287 P P 15 56 22.6 +0.4
SNR=18
MVCO Mesa Verde 74.53 53 eP P 15 56 24.3 +1.8
comp=Z,14nm,0.8s
MVCO Mesa Verde 74.53 53 ⇓P P 15 56 23.6 +1.0
baz=74,SNR=5.3
BEST Besiri 74.55 308 iP P 15 56 24.5 +2.0
P23A Jefferson 74.56 50 ⇑P P 15 56 23.2 +0.4
baz=74
J29A Okreek 74.64 44 ⇑P P 15 56 23.5 +0.6
baz=74
SUSE Susehri 74.66 311 iP P 15 56 23.3 +0.2
X16A Lo Mia Camp, P 74.67 57 ⇓P P 15 56 24.9 +1.6
baz=74,SNR=7.6
PTK Pertek 74.92 310 eP P 15 56 26.6 +1.9
RSDY Resadiye-TOKAT 75.01 312 eP P 15 56 25.8 +0.8
KWP Kalwaria Pacla 75.09 326⇑iP P 15 56 26.0 +0.7
KWP pmax pmax
comp=Z,400nm,0.9s
KWP MLR MLR
comp=Z,600nm,21.7s
KWP Kalwaria Pacla 75.09 326 iP P 15 56 26.0 +0.7
KWP LMZ LR 16 31 50.6
KWP Kalwaria Pacla 75.09 326⇓iP P 15 56 26.5 +1.3
KWP Kalwaria Pacla 75.09 326 eP P 15 56 25.9 +0.7
comp=Z,429nm,1.0s
J30A Dallas 75.12 44 ⇓P P 15 56 26.1 +0.5
baz=75
LEOM Leova 75.12 321⇓iP P 15 56 26.3 +0.8
S22A 4UR Ranch, Cre 75.13 52 ⇓P P 15 56 26.6 +0.6
baz=75
KVT Kavak 75.21 313 eP P 15 56 27.5 +1.3
STKA Stephens Creek 75.27 185 eP P 15 56 26.0 -0.2
STKA Stephens Creek 75.27 185 P P 15 56 25.7 -0.6
comp=Z,16nm,0.8s,baz=344,slow=6.9,SNR=34
STKA pP PcP 15 56 40.0 +0.6
comp=Z,14nm,0.8s,baz=337,slow=8.5,SNR=9.5
STKA LR LR 16 30 50.7
comp=Z,147nm,19.3s,baz=19,slow=37
MAZI Mazidag 75.32 308 eP P 15 56 27.5 +0.6
PRAR RASCA 75.36 323⇓iP P 15 56 27.4 +0.6
R23A Moffat 75.39 51 ⇓P P 15 56 28.1 +0.6
baz=75,SNR=5.9
EYMN Ely 75.40 36 eP P 15 56 26.6 -0.5
comp=Z,29nm,0.9s
ELZG Elazig 75.43 309 iP P 15 56 29.4 +1.8
OGNE Ogallala 75.52 47 eP P 15 56 27.3 -0.7
comp=Z,61nm,0.8s
OGNE Ogallala 75.52 47 ⇓P P 15 56 27.9 -0.1
baz=75
SVSK Karacayir 75.52 312 eP P 15 56 29.7 +1.8
M28A Bar X Bar Ranc 75.55 46 ⇑P P 15 56 28.9 +0.7
baz=75
BOYT Boyabat 75.57 314 iP P 15 56 30.0 +1.8
BURAR Bucovina Array 75.60 323⇑iP P 15 56 29.0 +0.6
BZK Bozkurt 75.65 315 eP P 15 56 28.3 -0.3
Q25A Bedland, Calha 75.76 50 ⇓P P 15 56 30.2 +0.6
baz=76
R24A Sanders Place, 75.76 51 ⇓P P 15 56 29.0 -0.6
baz=76,SNR=6.8
P26A Davis Ranch, A 75.80 49 ⇑P P 15 56 29.7 -0.1
baz=76

KOLS Kolonicke sedl 75.81 326 eP P 15 56 30.0 +0.6
KOLS pmax pmax
comp=Z,68nm,0.9s
KOLS Kolonicke sedl 75.81 326 eP P 15 56 30.0 +0.6
TESR Tescani 75.82 322⇓iP P 15 56 30.2 +0.7
TLCR 75.83 320⇓iP P 15 56 30.4 +0.9
STHS Stebnicka Huta 75.84 327 eP P 15 56 30.9 +1.3
STHS pmax pmax
comp=Z,69nm,0.8s
STHS Stebnicka Huta 75.84 327 eP P 15 56 30.9 +1.3
BSEG Bad Segeberg 75.95 335 eP P 15 56 30.7 +0.7
comp=Z,195nm,1.0s
MVH1 Achvaich 75.98 345 eP P 15 56 30.0 -0.2
FORT Forrest 75.99 197 eP P 15 56 30.6 +0.2
comp=Z,89nm,1.1s
UZH Uzhgorod 76.04 326⇓iP P 15 56 30.5 -0.2
UZH e 15 56 40.0
UZH i 15 56 47.7
UZH ePPP PPP 16 01 14.9
UZH eS S 16 06 08.1 -3.2
UZH e 16 06 28.3
RUE Ruedersdorf 76.08 333 eP P 15 56 30.2 -0.6
comp=Z,189nm,1.3s
CFR Carcaliu 76.15 320⇓iP P 15 56 32.2 +0.8
PETR Petresti 76.15 321⇑iP P 15 56 32.6 +1.2
AKCD Akcadag 76.16 310 iP P 15 56 33.4 +1.6
CRVS Cervenica-Dubn 76.16 326 eP P 15 56 32.0 +0.6
CRVS pmax pmax
comp=Z,48nm,1.1s
CRVS Cervenica-Dubn 76.16 326 eP P 15 56 32.0 +0.6
CTKT Corum 76.20 313 iP P 15 56 33.5 +1.5
NIE Niedzica 76.21 327 iP P 15 56 32.8 +1.1
DARE Darende-Malaty 76.21 310 eP P 15 56 33.1 +1.1
ECSD EROS Data Cent 76.24 42 eP P 15 56 31.6 -0.4
comp=Z,30nm,1.3s
ECSD EROS Data Cent 76.24 42 ⇑P P 15 56 31.7 -0.2
baz=76
URFA Urfa 76.26 309 eP P 15 56 33.0 +0.7
VRI Vrincioaia 76.27 322⇓iP P 15 56 33.2 +1.1
BMR Baia Mare 76.29 324⇓iP P 15 56 33.4 +1.2
PLOR Plostina 76.32 322⇓iP P 15 56 33.4 +1.0
TRPA Tarpa 76.33 325⇓iP P 15 56 33.6 +1.3
TRPA Tarpa 76.33 325⇑eP P 15 56 33.3 +1.0
V22A San Miguel Ran 76.35 53 ⇑P P 15 56 33.2 +0.2
baz=76
T24B San Luis 76.43 52 ⇑P P 15 56 33.6 +0.1
baz=76
ILGA Ilgaz 76.45 314 iP P 15 56 35.1 +1.6
MDO Dochfour 76.47 344 eP P 15 56 33.2 +0.3
S25A Robets Cordova 76.54 51 ⇑P P 15 56 34.3 +0.3
baz=76
TIRR Tirgusor 76.56 320 eP P 15 56 34.3 +0.6
TIRR pmax pmax
comp=Z,60nm,0.9s
TIRR Tirgusor 76.56 320⇓iP P 15 56 34.5 +0.8
TIRR Tirgusor 76.56 320 eP P 15 56 34.2 +0.6
comp=Z,60nm,0.9s
KSP Ksiaz 76.57 330⇑eP P 15 56 34.0 +0.3
KSP MLR MLR
comp=Z,2µm,26.3s
KSP Ksiaz 76.57 330 iP P 15 56 34.0 +0.3
KSP LMZ LR 16 30 05.8
KAC Achnashellach 76.59 345 eP P 15 56 33.7 0.0
CORM Corum 76.61 313 eP P 15 56 35.3 +1.0
HARR Harsova 76.61 320⇓iP P 15 56 35.0 +1.0
R26A Arlington 76.64 50 ⇑P P 15 56 34.2 -0.2
baz=76
BBOO Buckleboo 76.68 189 eP P 15 56 33.1 -1.2
comp=Z,2µm,1.8s
OKC Ostrava-Krasne 76.71 329⇑iP P 15 56 35.0 +0.6
OKC MLR MLR
comp=Z,500nm,16.3s
OKC Ostrava-Krasne 76.71 329⇑iP P 15 56 35.0 +0.6
OKC AMS AMS 16 31 50.0
comp=Z,500nm,16.3s
PINB Pinarbasi 76.73 311 iP P 15 56 36.3 +1.2
DOPR Dopca 76.80 322⇓iP P 15 56 36.7 +1.6
KPL Plockton 76.81 345 eP P 15 56 34.0 -0.8
KPL AMB AMB 15 56 34.5
comp=Z,242nm,4.0s
CANT Cankiri 76.83 314 eP P 15 56 35.7 +0.3
SAFT Safranbolu 76.85 315 eP P 15 56 37.2 +1.8
V23A Ortiz Mt. (NFS 76.89 53 ⇑P P 15 56 36.5 +0.5
baz=77
MLR Muntele Rosu 76.91 322⇓iP P 15 56 36.7 +0.8
ISR Istrita 76.93 321⇓iP P 15 56 37.5 +1.6
UPC Upice 76.94 330 eP P 15 56 36.6 +0.8
UPC Upice 76.94 330⇑eP P 15 56 36.6 +0.8
DPC Dobruska-Polom 76.96 330⇑iP P 15 56 36.7 +0.8
DPC Dobruska-Polom 76.96 330⇑iP P 15 56 36.7 +0.8
DPC AMS AMS 16 30 30.0
DPC Dobruska-Polom 76.96 330 eP P 15 56 36.8 +0.8
Q28A Sharon Springs 76.98 48 ⇑P P 15 56 35.7 -0.6
baz=77
MORC Moravsky Berou 76.98 329 eP P 15 56 35.9 -0.2
MORC pmax pmax
comp=Z,97nm,1.0s
MORC Moravsky Berou 76.98 329⇓iP P 15 56 37.0 +0.9
MORC Moravsky Berou 76.98 329 eP P 15 56 35.9 -0.2
comp=Z,97nm,1.0s
CJR Cluj-Napoca 77.00 324⇓iP P 15 56 37.7 +1.5
R27A Eads 77.01 49 ⇑P P 15 56 35.8 -0.7
baz=77
ELDT Eldivan 77.02 314 iP P 15 56 37.8 +1.2
KRLC Kraliky 77.02 330⇑iP P 15 56 36.7 +0.4
KRLC Kraliky 77.02 330⇑iP P 15 56 36.7 +0.4
GZT Gaziantep 77.03 309 iP P 15 56 38.3 +1.6
S26A Kim 77.11 50 ⇑P P 15 56 37.0 -0.1
baz=77
MSAB Monastry St. A 77.12 320⇓iP P 15 56 38.3 +1.5
CDAG Cicekdag 77.15 313 iP P 15 56 38.2 +1.0
N31A Bailey Ranch, 77.22 45 ⇑P P 15 56 37.9 +0.3
baz=77
NRDL Niedersach Rie 77.25 335 eP P 15 56 37.7 +0.3
comp=Z,51nm,1.0s
PSN Preselentsi 77.26 319 iP P 15 56 38.7 +1.0
PSN Preselentsi 77.26 319⇓iP P 15 56 39.1 +1.4
KMRS Kahramanmaras 77.29 310 eP P 15 56 39.2 +1.2
DRGR 77.32 324⇓iP P 15 56 38.8 +0.8
CLL Collm 77.33 332⇑iP P 15 56 37.7 -0.2
CLL eS S 16 06 27.0 +1.8
CLL pmax pmax
comp=Z,158nm,0.9s
CLL MLR MLR
comp=Z,200nm,20.2s
CLL Collm 77.33 332 eP P 15 56 37.8 -0.2
comp=Z,157nm,0.9s
CLL Collm 77.33 332⇑iP P 15 56 37.7 -0.2
comp=Z,158nm,0.9s
CLL e(pP) PcP 15 56 46.0 -2.4
CLL eS S 16 06 27.0 +1.8
CLL e 16 12 36.0
CLL eSSSS 16 17 12.0
CLL LmV 16 32 00.0
comp=Z,200nm,20.2s
VOIR 77.36 322⇓iP P 15 56 39.5 +1.2
T26A Comanche Natio 77.36 50 ⇓P P 15 56 37.8 -0.8
baz=77,SNR=5.3
BRG Berggiesshubel 77.37 332⇑iP P 15 56 38.5 +0.3
comp=Z,44nm,1.0s
BRG pmax pmax
comp=N,294nm,17.4s
BRG MLR MLR
comp=E,354nm,22.6s
BRG MLR MLR
comp=Z,337nm,15.8s
BRG Berggiesshubel 77.37 332⇑iP P 15 56 38.5 +0.3
BRG pmax pmax
comp=Z,44nm,1.0s
BRG MLR MLR
comp=N,294nm,17.4s
BRG MLR MLR
comp=E,354nm,22.6s
BRG MLR MLR
comp=Z,337nm,15.8s
BRG Berggiesshubel 77.37 332 eP P 15 56 38.3 +0.1
comp=Z,52nm,1.0s
S27A Las Animas 77.38 50 ⇑P P 15 56 38.0 -0.6
baz=77,SNR=5.2
SULR 77.40 321⇓iP P 15 56 39.6 +1.2
BR131 Keskin Array S 77.46 313 eP P 15 56 38.7 -0.4
comp=Z,17nm,0.7s
BRTR Keskin Array B 77.46 313 P P 15 56 39.5 +0.4
BRTR Keskin Array B 77.46 313 P P 15 56 39.5 +0.4
comp=Z,23nm,0.8s,baz=75,slow=3.5,SNR=136
BRTR LR LR 16 37 31.0
comp=Z,344nm,18.8s,baz=183,slow=41
P30A Selden 77.48 47 ⇑P P 15 56 38.9 -0.2
baz=77
BCAM Yenicaga 77.48 315 iP P 15 56 40.3 +1.2
R28A Tribune 77.51 49 ⇓P P 15 56 39.7 +0.4
baz=77
ESY Stoneypath 77.53 343 eP P 15 56 38.9 -0.1
PSZ Piszkesteto 77.58 327 eP P 15 56 40.3 +0.8
PSZ pmax pmax
comp=Z,96nm,1.0s
PSZ Piszkesteto 77.58 327⇓iP P 15 56 40.4 +0.9
PSZ Piszkesteto 77.58 327 eP P 15 56 40.3 +0.8
comp=Z,96nm,1.0s
PSZ Piszkesteto 77.58 327 eP P 15 56 40.3 +0.8
EAB Aberfoyle 77.63 344 eP P 15 56 39.3 -0.2
KUZU Kuzuini 77.72 309 iP P 15 56 41.9 +1.5
W24A Lazy 6 Ranch, 77.72 53 ⇑P P 15 56 40.6 0.0
baz=78
VRAC Vranov 77.72 329⇓iP P 15 56 41.4 +1.2
VRAC Vranov 77.72 329 LR LR 16 33 04.9
comp=Z,420nm,21.0s,baz=48,slow=37
CLZ Clausthal 77.73 334 eP P 15 56 40.9 +0.7
comp=Z,161nm,1.2s
EBL Broad Law 77.75 343 eP P 15 56 40.3 0.0
ANTO Ankara 77.80 314 eP P 15 56 42.0 +1.1
ANTO pmax pmax
comp=Z,84nm,0.8s
ANTO Ankara 77.80 314 eP P 15 56 43.3 +2.4
ANTO Ankara 77.80 314⇓iP P 15 56 42.3 +1.4
ANTO Ankara 77.80 314 eP P 15 56 42.0 +1.1
comp=Z,84nm,0.8s
U26A Atchley Ranch, 77.83 51 ⇓P P 15 56 40.7 -0.6
baz=78
SCHQ Schefferville 77.84 19 eP P 15 56 40.4 -0.4
comp=Z,15nm,0.8s
SCHQ Schefferville 77.84 19 P P 15 56 40.8 0.0
comp=Z,7.0nm,0.5s,baz=351,slow=7.9,SNR=22
SCHQ LR LR 16 32 16.8
comp=Z,441nm,21.7s,baz=99,slow=37
COWI Conover 77.85 36 eP P 15 56 38.6 -2.3
comp=Z,18nm,0.6s
PRU Pruhonice 77.90 331⇑iP P 15 56 41.6 +0.5
PRU MLR MLR
comp=Z,400nm,22.0s
PRU Pruhonice 77.90 331⇑iP P 15 56 41.6 +0.5
PRU AMS AMS 16 32 10.0
comp=Z,400nm,22.0s
KOZT Kozan 77.90 311 eP P 15 56 41.1 -0.3
LOT Lotru 77.91 323⇓iP P 15 56 41.8 +0.3
P31A Stockton 77.95 46 ⇓P P 15 56 41.6 -0.1
baz=78
AFSR Af¯ar-Bala (A 77.96 314 eP P 15 56 41.9 +0.1
PRD Provadia 78.00 319 iP P 15 56 41.7 -0.1
S28A Manter 78.00 49 ⇑P P 15 56 42.0 -0.1
baz=78
NEF NEVSHA 78.00 319 iP P 15 56 42.9 +1.0
PGBU Glenifferbraes 78.02 344 eP P 15 56 41.3 -0.4
PGBU AMB AMB 15 56 49.8
comp=Z,202nm,4.0s
SMOL Smolenice 78.06 328 eP P 15 56 43.4 +1.3
SMOL Smolenice 78.06 328 eP P 15 56 43.4 +1.3
NIG Nigde 78.11 312 eP P 15 56 43.5 +0.6
IBBN Ibbenburen 78.14 336 eP P 15 56 42.7 +0.3
comp=Z,138nm,1.1s
TREC Trest 78.14 330⇑iP P 15 56 43.0 +0.5
TREC MLR MLR
comp=Z,400nm,18.3s
TREC Trest 78.14 330⇑iP P 15 56 43.0 +0.5
TREC AMS AMS 16 32 00.0
comp=Z,400nm,18.3s
Z22A Elephant Butte 78.17 55 ⇓P P 15 56 43.4 +0.2
baz=78
SIRR Siria 78.17 325⇓iP P 15 56 43.6 +0.8
MDUB Mudurnu 78.18 315 eP P 15 56 44.1 +1.1
121A Cookes Peak, D 78.19 56 eP P 15 56 41.5 -1.8
comp=Z,8.5nm,1.1s
BTAS Taskesti 78.21 316 iP P 15 56 43.8 +0.7
ESK Eskdalemuir 78.21 343 eP P 15 56 42.7 -0.1
ESK pmax pmax
comp=Z,103nm,1.4s
ESK Eskdalemuir 78.21 343 eP P 15 56 42.7 -0.1
ESK AMB AMB 15 56 42.7
comp=Z,72nm,1.7s
ESK Eskdalemuir 78.21 343 eP P 15 56 42.7 -0.1
comp=Z,103nm,1.4s
Y23A Lovelace Mesa, 78.24 54 ⇑P P 15 56 43.8 +0.3
baz=78
W25A X Bar L Ranch, 78.26 52 ⇑P P 15 56 43.6 0.0
baz=78
TANN Tannenbergstha 78.26 332 eP P 15 56 43.4 +0.2
comp=Z,25nm,1.0s
BUD Budapest 78.28 327⇑eP P 15 56 43.8 +0.5
P32A Huiting Farm, 78.29 46 ⇑P P 15 56 44.0 +0.4
baz=78
U27A Thompson Grove 78.33 51 ⇑P P 15 56 44.2 +0.3
baz=78
R30A Dighton 78.38 48 ⇑P P 15 56 44.0 -0.1
baz=78
GZR Gura Zlata 78.39 323⇓iP P 15 56 44.7 +0.7
NKC Novy Kostel 78.42 332⇑iP P 15 56 44.2 +0.1
NKC Novy Kostel 78.42 332⇑iP P 15 56 44.2 +0.1
YURE YUREGIR 78.48 310 iP P 15 56 46.8 +2.1
KARA Karaisali 78.49 311 eP P 15 56 44.3 -0.4
PKS7 Kunszentmiklos 78.58 326⇓eP P 15 56 45.9 +1.0
PKSG 78.60 327 eP P 15 56 45.6 +0.5
Y24A Capitan 78.61 54 ⇓P P 15 56 45.5 -0.1
baz=78
GULE Gulek 78.62 311 iP P 15 56 47.1 +1.5
SZH Strazhica 78.63 320 iP P 15 56 45.6 +0.3
X25A Clemmons Ranch 78.63 53 ⇑P P 15 56 45.5 -0.2
baz=78
SULT Sultanhani-AKS 78.64 312 eP P 15 56 45.4 -0.1
CSKK Cs¯±kako 78.68 327⇓eP P 15 56 46.6 +1.1
BZS Buzias 78.71 324⇓iP P 15 56 46.1 +0.4
WTSB Winterswijk 78.72 336 iP P 15 56 45.4 -0.1
comp=Z,62nm,0.8s
UBBA Unterbreizbach 78.73 334 eP P 15 56 46.0 +0.4
comp=Z,86nm,1.8s
SVRH Sivrihisar-ESK 78.77 314 eP P 15 56 45.0 -1.2
Q32A Meitler Ranch, 78.77 46 ⇑P P 15 56 46.3 +0.1
baz=79
KESW Keswick, Cumbr 78.87 343 eP P 15 56 46.6 +0.2
KESW AMB AMB 15 56 56.3
comp=Z,168nm,1.8s
ROTZ Rotzenmuhle 78.90 332 eP P 15 56 47.3 +0.6
comp=Z,45nm,1.0s
JMB Yambol 78.94 319⇓iP P 15 56 47.5 +0.5
GAL1 Galloway 78.95 344 eP P 15 56 46.0 -0.8
KHC Kasperske Hory 78.96 331⇑iP P 15 56 47.6 +0.5
KHC e 15 56 59.9
KHC MLR MLR
comp=Z,500nm,20.4s
KHC Kasperske Hory 78.96 331⇑iP P 15 56 47.6 +0.5
KHC ex x 15 56 51.5
KHC epP pP 15 56 59.9 +1.8
KHC AMS AMS 16 32 40.0
comp=Z,500nm,20.4s
KHC Kasperske Hory 78.96 331 eP P 15 56 47.5 +0.4
comp=Z,76nm,0.9s
BORA Eskisehir 79.00 315 iP P 15 56 48.0 +0.4
BUG Bochum--Univer 79.04 336 eP P 15 56 47.5 +0.1
comp=Z,81nm,1.1s
Y25A Mesa, Roswell 79.04 53 ⇑P P 15 56 48.1 +0.2
baz=79
MERS Mersin 79.06 311 eP P 15 56 48.3 +0.4
SEYT Eskypehyr 79.06 315 iP P 15 56 48.5 +0.6
CAVI Cavuskoy 79.07 316 eP P 15 56 47.8 0.0
SOP Sopron 79.08 328⇑eP P 15 56 48.6 +0.9
X26A CR and CF Fran 79.11 52 ⇑P P 15 56 48.4 +0.2
baz=79
PHSR Pinarhisar 79.13 318 eP P 15 56 48.6 +0.5
CONA Conrad Observa 79.14 329 iP P 15 56 49.1 +1.0
comp=Z,58nm,1.1s,SNR=24
Q33A Connelly Farm, 79.15 46 ⇓P P 15 56 48.1 -0.2
baz=79
GEC2 GERESS Array S 79.16 331 eP P 15 56 48.1 -0.1
GEC2 GERESS Array S 79.16 331 eP P 15 56 48.4 +0.2
comp=Z,36nm,1.1s
GEC2 GERESS Array S 79.16 331 eP P 15 56 48.1 -0.1
GERES GERESS Array B 79.16 331 P P 15 56 48.6 +0.4
GERES GERESS Array B 79.16 331 P P 15 56 48.6 +0.4
comp=Z,16nm,0.8s,baz=32,slow=5.3,SNR=104
GERES LR LR 16 35 20.3

comp=Z,336nm,18.5s,baz=33,slow=38
GEMT Gemlik 79.22 316 *e*P **P 15 56 49.4 +0.8**
LADK Ladik-KONYA 79.25 313 *e*P **P 15 56 49.6 +0.7**
SCIA State Center 79.26 41 *e*P **P 15 56 48.8 +0.1**
comp=Z,51nm,0.6s
GRF Grafenberg Arr 79.30 332 *e*P **P 15 56 49.5 +0.6**
comp=Z,130nm,1.0s
GRF *e*L L 16 35 09.2
comp=Z,215nm,21.6s
PKS9 Tamasi 79.30 327⇓*e*P **P 15 56 49.1 +0.2**
EDRB Edirne 79.34 319 *e*P **P 15 56 49.7 +0.5**
KONT Konya--Tatoy 79.44 313 *e*P **P 15 56 49.7 -0.2**
124A Stringfield Ra 79.46 55 ⇑P **P 15 56 50.7 +0.3**
baz=79
PKSM Moragy 79.46 326⇓*i*P **P 15 56 49.8 0.0**
PKSM Moragy 79.46 326 *e*P **P 15 56 49.5 -0.3**
ULDT Uludag 79.47 316 *i* P **P 15 56 51.4 +1.2**
LHO Holmfirth 79.56 342 *e*P **P 15 56 49.8 -0.4**
R33A Olander Ranch, 79.58 46 ⇓P **P 15 56 50.7 +0.1**
baz=79
BOLV Bolvadin 79.61 314 *i* P **P 15 56 51.9 +1.0**
TNS Taunus Mts 79.74 334 *e*P **P 15 56 51.6 +0.3**
comp=Z,56nm,1.2s
KBI1 Birley Grange 79.75 341⇑*e*P **P 15 56 50.7 -0.5**
KCTX Karacabey (Bur 79.77 317 *e*P **P 15 56 51.3 -0.3**
ALT Altintas 79.79 315 *e*P **P 15 56 51.3 -0.6**
MOA Molln 79.79 330⇑*i*P **P 15 56 51.8 +0.2**
comp=Z,25nm,0.9s,SNR=11
ARSA Arzberg 79.83 329 *i* P **P 15 56 52.4 +0.6**
comp=Z,26nm,1.1s,SNR=8.6
TVSB Tavsanli 79.83 316 *e*P **P 15 56 51.3 -0.8**
224A Cornudas Mount 79.86 55 ⇓P **P 15 56 52.3 -0.2**
baz=80
T32A Huddler Ranch, 79.92 48 ⇓P **P 15 56 52.5 0.0**
baz=80
Z26A Caprock 79.92 53 ⇓P **P 15 56 53.3 +0.6**
baz=80
SHUT Suhut-Afyon 79.94 314 *e*P **P 15 56 52.9 +0.2**
Y27A Causey 79.96 53 ⇑P **P 15 56 52.9 +0.1**
baz=80
125A Gardner Draw, 79.96 54 ⇓P **P 15 56 52.7 -0.3**
baz=80
IKL Isikli 79.98 311 *e*P **P 15 56 52.5 -0.3**
BEHE Becsehely 79.99 327⇓*e*P **P 15 56 53.4 +0.7**
RKY Sarkoy-Tekirda 80.02 318 *e*P **P 15 56 53.1 +0.1**
HGN Heimansgroeve 80.04 336 *i* P **P 15 56 52.7 -0.1**
comp=Z,72nm,1.1s
AMTX Amarillo 80.08 51 ⇑P **P 15 56 53.6 +0.1**
baz=80
BEBN Eben Emael 80.08 336 P **P 15 56 52.9 -0.1**
GDZ Gediz 80.09 315 *i* P **P 15 56 54.3 +0.7**
ERMK Ermenek 80.11 312 *i* P **P 15 56 54.0 +0.2**
KDZ Kurdzhali 80.12 320⇓*i*P **P 15 56 55.0 +1.5**
MEM Membach 80.15 336 P **P 15 56 53.1 -0.3**
comp=Z,32nm,1.2s
MEM Membach 80.15 336 *e*P **P 15 56 53.8 +0.4**
MEM pmax pmax
comp=Z,55nm,1.0s
MEM Membach 80.15 336 *e*P **P 15 56 53.8 +0.4**
comp=Z,55nm,1.0s
KRBG Karabiga-Canak 80.19 318 *e*P **P 15 56 54.5 +0.7**
DURS Dursunbey 80.21 316 *i* P **P 15 56 54.5 +0.4**
GONE Gonen-Balikesi 80.26 317 *e*P P 15 56 50.9 -3.3
ERIK Erikli-Kesan 80.36 318 *e*P **P 15 56 55.5 +0.8**
VTS Vitosha 80.41 321 *e*P **P 15 56 55.6 +0.5**
VTS Vitosha 80.41 321 *i* P **P 15 56 55.3 +0.1**
VTS Vitosha 80.41 321⇓*i*P **P 15 56 56.2 +1.0**
RZN Rozhen 80.42 320 *i* P **P 15 56 55.9 +0.6**
U32A Winter Ranch, 80.47 48 ⇑P **P 15 56 55.4 0.0**
baz=80
FOEL Foel Wylfa 80.47 342 *e*P **P 15 56 55.3 +0.2**
FOEL AMB AMB 15 56 56.8
comp=Z,134nm,1.9s
BALB Balikesir 80.48 317 *e*P **P 15 56 55.6 +0.2**
ENEZ Enez 80.48 318 *e*P **P 15 56 56.4 +1.0**
ENEZ Enez 80.48 318 *e*P **P 15 56 56.4 +1.0**
SOKA Soboth 80.49 329⇑*i*P **P 15 56 55.7 +0.3**
comp=Z,86nm,1.3s,SNR=18
PERS Pernice 80.49 329 *i* P **P 15 56 55.7 +0.2**
ISP Isparta 80.50 314*d i*P **P 15 56 56.0 +0.3**
ISP pmax pmax
comp=Z,35nm,0.8s
ISP Isparta 80.50 314 *e*P **P 15 56 54.9 -0.8**
ISP Isparta 80.50 314⇓*i*P **P 15 56 56.1 +0.3**
ISP Isparta 80.50 314 *e*P **P 15 56 55.9 +0.1**
comp=Z,30nm,0.6s
SUTC Sutluce-Ispart 80.51 313 *e*P **P 15 56 56.3 +0.4**
BCLA Clavier 80.53 336 P **P 15 56 55.9 +0.4**
comp=Z,36nm,1.7s
BALY Balya 80.53 317 *i* P **P 15 56 56.1 +0.3**
GELI Tayfur-Gelibol 80.59 318 *e*P **P 15 56 56.4 +0.4**
GELI Tayfur-Gelibol 80.59 318 *e*P **P 15 56 56.4 +0.4**
FUR Furstenfeldbru 80.59 332 *e*P **P 15 56 56.3 +0.4**
comp=Z,96nm,1.0s
KHAL Karahalli 80.63 315 *i* P **P 15 56 56.8 +0.4**
226B Tecolote Peak, 80.67 54 ⇓P **P 15 56 56.8 +0.1**
baz=80
325A Bean Ranch, Si 80.69 55 ⇓P **P 15 56 57.3 +0.3**
baz=80
SNF Seneffe 80.74 337 P **P 15 56 56.6 0.0**
STU Stuttgart 80.77 333 *e*P **P 15 56 56.7 -0.1**
STU pmax pmax
comp=Z,63nm,0.8s
STU Stuttgart 80.77 333 *e*P **P 15 56 56.9 +0.1**
comp=Z,84nm,1.0s
STU Stuttgart 80.77 333 *e*P **P 15 56 56.7 -0.1**
comp=Z,64nm,0.8s
LFK Lefkose 80.77 310 *e*P **P 15 56 56.8 -0.4**
KBA Koelnbreinsper 80.78 330⇓*i*P **P 15 56 57.8 +0.7**
comp=Z,61nm,0.7s,SNR=26
OBKA Obir 80.81 329⇑*i*P **P 15 56 57.3 +0.1**
comp=Z,24nm,0.8s
GOLS Golise 80.82 328 *e*P **P 15 56 57.1 0.0**
KULA Kula-Manisa 80.94 316 *e*P **P 15 56 55.2 -2.8**
WLF Walferdange 80.94 335 P **P 15 56 58.3 +0.6**
GIVF Givet 80.95 336⇑*i*P **P 15 56 57.6 -0.1**
comp=Z,94nm,1.3s
GIVF Givet 80.95 336⇑*i*P **P 15 56 57.6 -0.1**
GIVF pmax pmax
comp=Z,94nm,1.3s
GIVF Givet 80.95 336⇑*i*P **P 15 56 57.6 -0.1**
comp=Z,94nm,1.3s
MMB Musomiste 80.96 320 *i* P **P 15 56 58.7 +0.7**
MMB Musomiste 80.96 320⇓*i*P **P 15 56 59.3 +1.3**
MMB Musomiste 80.96 320 *i* P **P 15 56 58.7 +0.7**
RAR Rarotonga 80.99 131 LR LR 16 23 21.3
comp=Z,263nm,21.4s,baz=315,slow=29
MANT Manisa 81.01 316 *i* P **P 15 56 59.1 +0.5**
DOU Dourbes 81.02 336 P **P 15 56 57.9 -0.3**
LANF Langenberg 81.03 334 *e*P **P 15 56 58.5 +0.3**
KKB Krupnik 81.04 321 *i* P P 15 56 53.6 -4.8
MYKA Terra Mystica 81.05 329⇑*i*P **P 15 56 58.3 -0.1**
comp=Z,28nm,1.1s,SNR=6.5
425A Indio Mountain 81.10 56 ⇑P **P 15 56 59.6 +0.5**
baz=81
CSS Prodhromos 81.12 310 *e*P **P 15 56 59.3 +0.4**
comp=Z,5.9nm,1.2s
BAIF Baives 81.17 337⇑*i*P **P 15 56 58.8 -0.1**
comp=Z,40nm,1.0s
BAIF Baives 81.17 337⇑*i*P **P 15 56 58.8 -0.1**
BAIF pmax pmax
comp=Z,40nm,1.0s
BAIF Baives 81.17 337⇑*i*P **P 15 56 58.8 -0.1**
comp=Z,40nm,1.0s
WATA Walderalm 81.20 331⇑*i*P **P 15 56 59.4 +0.1**
comp=Z,79nm,1.1s,SNR=14
KORT Korkueli 81.21 314 *i* P **P 15 56 59.4 -0.2**
LJU Ljubljana 81.21 329 *e*P **P 15 56 58.8 -0.5**
U34A Anderson Ranch 81.22 47 ⇑P **P 15 56 59.9 +0.5**
baz=81
WTTA Wattenberg 81.24 331⇓*i*P **P 15 56 59.8 +0.2**
comp=Z,50nm,0.7s,SNR=16
Z29A Hungry Hill Ra 81.25 52 ⇓P **P 15 57 00.1 +0.3**
baz=81
MCH1 Michaelchurch 81.26 342⇑*e*P **P 15 56 58.2 -1.2**
MCH1 AMB AMB 15 57 03.3
comp=Z,91nm,2.1s
128A Castleberry Fa 81.26 53 ⇑P **P 15 57 00.5 +0.6**
baz=81
W32A Sentinel 81.26 49 ⇓P **P 15 56 60.0 +0.2**
baz=81
MENF Mencas 81.29 338 *e*P **P 15 56 59.5 0.0**
RETA Reutte 81.35 332 *i* P **P 15 57 00.4 +0.4**
comp=Z,64nm,1.4s,SNR=14
MOTA Moosalm 81.35 331⇑*i*P **P 15 57 00.2 0.0**
comp=Z,51nm,0.8s,SNR=28
ABTA Abfaltersbach 81.36 330⇑*i*P **P 15 56 59.0 -1.1**
comp=Z,31nm,1.3s,SNR=6.0
DNZL Cakiroluk 81.37 315 *i* P **P 15 57 00.9 +0.4**
LPW Lampeter 81.39 342 *e*P **P 15 56 59.8 -0.2**
BFO Black Forest 81.44 333 P **P 15 57 00.0 -0.4**
comp=Z,237nm,0.8s,SNR=10
BFO Black Forest 81.44 333 *e*P **P 15 56 59.1 -1.3**
BFO pmax pmax
comp=Z,29nm,0.9s
BFO Black Forest 81.44 333 *e*P **P 15 57 00.4 0.0**
comp=Z,42nm,1.0s
BFO Black Forest 81.44 333 *e*P **P 15 56 59.1 -1.3**
comp=Z,29nm,0.9s
WOL Wolverton 81.47 340 *e*P **P**
WOL AMB AMB 15 57 07.1
comp=Z,144nm,2.2s
PLE Pljevlja 81.50 324⇑*i*P **P 15 57 00.7 -0.2**
CEY Cerknica 81.51 328 *i* P **P 15 57 00.4 -0.4**
Z30A Sanderson Ranc 81.56 52 ⇑P **P 15 57 01.6 +0.2**
baz=81
IVA Berane 81.65 324⇑*i*P **P 15 57 02.1 +0.4**
WLS Welschbruch 81.68 334 *e*P **P 15 57 01.8 +0.1**
CDF Champ du Feu 81.70 334⇑*i*P **P 15 57 01.8 -0.1**
comp=Z,104nm,1.0s
CDF Champ du Feu 81.70 334⇑*i*P **P 15 57 01.8 -0.1**
CDF pmax pmax
comp=Z,104nm,1.0s
CDF Champ du Feu 81.70 334⇑*i*P **P 15 57 01.8 -0.1**
comp=Z,104nm,1.0s
IZM Izmir 81.74 316 *e*P **P 15 57 01.1 -1.1**
IZM Izmir 81.74 316 *e*P **P 15 57 01.1 -1.1**
X32A Elmer 81.76 50 ⇑P **P 15 57 02.5 +0.1**
baz=82
426A McDonald Obser 81.76 55 ⇓P **P 15 57 02.4 -0.3**
baz=82
FETA Feichten 81.76 331⇑*i*P **P 15 57 02.5 +0.2**
comp=Z,38nm,1.1s,SNR=9.7
AYDB Zeytinkoy-Aydi 81.77 316 *e*P **P 15 56 59.5 -3.0**
TRI Trieste 81.78 329 *e*P **P 15 57 01.6 -0.6**
TRI pmax pmax
comp=Z,55nm,1.1s
TRI Trieste 81.78 329 *e*P **P 15 57 01.6 -0.6**
comp=Z,55nm,1.1s
WMOK Wichita Mounta 81.80 49 *e*P **P 15 57 04.4 +1.8**
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK Wichita Mounta 81.80 49 *e*P **P 15 57 04.4 +1.8**
comp=Z,9.2nm,1.1s
UPM Unac-Piva 81.81 324⇑*i*P **P 15 57 01.1 -1.6**
DAVA Damuels 81.83 332 *i* P **P 15 57 02.8 +0.2**
comp=Z,80nm,1.4s,SNR=18
RAYN Ar Rayn 81.83 295 P **P 15 57 03.0 +0.1**
comp=Z,369nm,1.1s,SNR=34
PVY Plav 81.85 323⇑*i*P **P 15 57 02.2 -0.6**
BLCB Balcova 81.86 316 *e*P **P 15 57 01.9 -0.9**
BLCB Balcova 81.86 316 *e*P **P 15 57 01.9 -0.9**
ECH Echery 81.91 334 *e*P **P 15 57 01.1 -1.8**
ECH pmax pmax
comp=Z,43nm,1.0s
ECH Echery 81.91 334 *e*P **P 15 57 02.8 -0.1**
ECH Echery 81.91 334 *e*P **P 15 57 01.1 -1.8**
comp=Z,43nm,1.0s
328A Wristen Ranch, 81.97 54 ⇑P **P 15 57 03.7 +0.2**
baz=82
UDBI Udbina 82.00 327 *i* P **P 15 57 02.2 -1.3**
427A Hayter Ranch, 82.00 55 ⇓P **P 15 57 04.1 +0.3**
baz=82
PAGF Fort de Pagny 82.06 335⇑*i*P **P 15 57 04.0 +0.4**
comp=Z,40nm,0.8s
PAGF Fort de Pagny 82.06 335⇑*i*P **P 15 57 04.0 +0.4**
comp=Z,40nm,0.8s
NKY Nikic 82.09 324⇑*i*P **P 15 57 02.8 -1.2**
526A Mary Lane Ranc 82.16 56 ⇑P **P 15 57 05.0 +0.3**
baz=82
AKAS Kas 82.18 313 *i* P **P 15 57 04.4 -0.3**
BRY Bratogost 82.21 324⇑*i*P **P 15 57 03.8 -0.9**
TURN Turunc 82.22 314 *i* P **P 15 57 06.9 +2.3**
MOF Molkenrain 82.24 334 *e*P **P 15 57 04.6 -0.1**
DAVOX Davos/Dischmat 82.26 332 LR LR 16 38 56.9
comp=Z,312nm,18.9s,baz=40,slow=40
THEF They Montfort 82.27 335 *e*P **P 15 57 04.8 0.0**
TTG Podgorica 82.28 324⇑*i*P **P 15 57 04.2 -0.7**
MEZF Maizieres J'vi 82.31 335⇑*i*P **P 15 57 05.2 +0.3**
comp=Z,76nm,0.9s
MEZF Maizieres J'vi 82.31 335⇑*i*P **P 15 57 05.2 +0.3**
comp=Z,76nm,0.9s
HAU Haudompre 82.35 334⇑*i*P **P 15 57 05.0 -0.2**
comp=Z,70nm,1.1s
HAU *e*R
comp=Z,493nm,22.8s
HAU Haudompre 82.35 334⇑*i*P **P 15 57 05.0 -0.2**
HAU pmax pmax
comp=Z,70nm,1.1s
HAU Haudompre 82.35 334⇑*i*P **P 15 57 05.0 -0.2**
comp=Z,70nm,1.1s
HINF Hinteralfeld 82.36 334⇑*i*P **P 15 57 04.8 -0.5**
comp=Z,26nm,0.8s
HINF Hinteralfeld 82.36 334⇑*i*P **P 15 57 04.8 -0.5**
HINF pmax pmax
comp=Z,26nm,0.8s
HINF Hinteralfeld 82.36 334⇑*i*P **P 15 57 04.8 -0.5**
comp=Z,26nm,0.8s
527A Woodward Ranch 82.39 55 ⇓P **P 15 57 06.0 +0.1**
baz=82
626A Big Bend Ranch 82.50 56 ⇓P **P 15 57 06.5 0.0**
baz=82
428A Kincaid Ranch, 82.52 54 ⇓P **P 15 57 06.7 +0.3**
baz=82
BUM Brajici-Budva 82.55 324⇑*i*P **P 15 57 06.1 -0.3**
SFTF Sexfontaines 82.58 335⇑*i*P **P 15 57 06.4 0.0**
comp=Z,105nm,1.0s
SFTF Sexfontaines 82.58 335⇑*i*P **P 15 57 06.4 0.0**
comp=Z,105nm,1.0s
STON Ston 82.58 325 *i* P **P 15 57 05.3 -1.2**
HCY Herceg Novi 82.60 324⇑*i*P **P 15 57 05.9 -0.7**
ULC Ulcinj 82.67 323⇑*i*P **P 15 57 06.4 -0.6**
BDRM Kayabasi 82.67 315 *i* P **P 15 57 07.5 +0.4**
BDRM Kayabasi 82.67 315 *i* P **P 15 57 07.5 +0.4**
TUE Stuetta 82.71 332 *e*P **P 15 57 07.5 +0.1**
BODT Bodrum 82.74 315 *e*P **P 15 57 05.8 -1.7**
BODT Bodrum 82.74 315 *e*P **P 15 57 05.8 -1.7**
LOMF Lomont 82.78 334 *e*P **P 15 57 07.6 +0.1**
528A Cox Ranch, San 82.87 55 ⇓P **P 15 57 08.6 +0.2**
baz=83
330A Mertzon 82.91 53 ⇑P **P 15 57 08.5 0.0**
baz=83
TXAR Lajitas Array 82.94 56 P **P 15 57 09.0 +0.3**
TXAR pP **pP 15 57 21.8 +2.0**
TXAR Lajitas Array 82.94 56 P **P 15 57 09.0 +0.3**
comp=Z,2.2nm,0.5s,baz=291,slow=2.8,SNR=12
TXAR pP **pP 15 57 21.8 +2.0**
comp=Z,15nm,0.8s,baz=295,slow=3.9,SNR=18
TXAR LR LR 16 28 27.7
comp=Z,160nm,21.4s,baz=95,slow=32
627A Terlingua Ranc 83.02 56 ⇓P **P 15 57 08.9 -0.2**
baz=83
429A Davenport Ranc 83.06 54 ⇑P **P 15 57 09.0 -0.2**
baz=83
529A Stev Forest Ra 83.23 55 ⇓P **P 15 57 10.4 +0.3**
baz=83
628A Black Gap, Mar 83.30 55 ⇑P **P 15 57 09.9 -0.5**
baz=83
SFIN Scholer Farm 83.31 38 *e*P **P 15 57 07.8 -2.5**
comp=Z,12nm,0.6s
SFIN Scholer Farm 83.31 38 ⇓P **P 15 57 10.0 -0.3**
baz=83
PMOR Pomariorio Ree 83.31 118 *e*T T 17 28 48.5
comp=Z,136nm,0.3s
133A Hamilton Ranch 83.31 51 ⇓P **P 15 57 10.7 +0.3**
baz=83
430A Baggett Ranch, 83.33 53 ⇑P **P 15 57 10.4 -0.2**
baz=83
331A San Angelo 83.41 53 ⇑P **P 15 57 11.4 +0.4**
baz=83
SENIN Lac Senin/Sane 83.50 333 *e*P **P 15 57 11.2 -0.2**
FLN La Foliniere 83.63 339⇑*i*P **P 15 57 11.7 -0.1**
comp=Z,60nm,0.8s
FLN *e*R
comp=Z,307nm,21.8s
FLN La Foliniere 83.63 339⇑*i*P **P 15 57 11.7 -0.1**
FLN pmax pmax
comp=Z,60nm,0.8s
FLN La Foliniere 83.63 339⇑*i*P **P 15 57 11.7 -0.1**
comp=Z,60nm,0.8s
CABF La Chapelle 83.67 334⇑*i*P **P 15 57 12.1 -0.1**
comp=Z,22nm,0.7s
CABF La Chapelle 83.67 334⇑*i*P **P 15 57 12.1 -0.1**
CABF pmax pmax
comp=Z,22nm,0.7s
CABF La Chapelle 83.67 334⇑*i*P **P 15 57 12.1 -0.1**
comp=Z,22nm,0.7s
LDF La Druitiere 83.69 339⇑*i*P **P 15 57 12.0 -0.1**
comp=Z,54nm,0.9s
LDF La Druitiere 83.69 339⇑*i*P **P 15 57 12.0 -0.1**
LDF pmax pmax
comp=Z,54nm,0.9s
LDF La Druitiere 83.69 339⇑*i*P **P 15 57 12.0 -0.1**
comp=Z,54nm,0.9s
OG01 Vacheresse 83.73 333 *e*P **P 15 57 12.5 0.0**
530A J-C Ranch, Com 83.73 54 ⇓P **P 15 57 12.9 +0.2**
baz=84
332A Millersview 83.75 52 ⇓P **P 15 57 12.4 -0.3**
baz=84
233A Rising Star 83.76 51 ⇑P **P 15 57 12.6 -0.2**
baz=84
431A Sonora 83.77 53 ⇑P **P 15 57 13.0 +0.1**
baz=84
LOR Lormes 83.77 336⇑*i*P **P 15 57 12.4 -0.2**
comp=Z,94nm,0.9s
LOR *e*R
comp=Z,429nm,22.2s
LOR Lormes 83.77 336⇑*i*P **P 15 57 12.4 -0.2**
comp=Z,94nm,0.9s
SSF Saint Saulge 84.06 336⇑*i*P **P 15 57 13.9 -0.1**
comp=Z,44nm,0.8s
SSF Saint Saulge 84.06 336⇑*i*P **P 15 57 13.9 -0.1**
SSF pmax pmax
comp=Z,44nm,0.8s
SSF Saint Saulge 84.06 336⇑*i*P **P 15 57 13.9 -0.1**
comp=Z,44nm,0.8s
GRR Gorron 84.08 339 *e*P **P 15 57 14.2 +0.1**
comp=Z,280nm,1.3s
GRR Gorron 84.08 339 *e*P **P 15 57 14.2 +0.1**
GRR pmax pmax
comp=Z,280nm,1.3s
GRR Gorron 84.08 339 *e*P **P 15 57 14.2 +0.1**
comp=Z,280nm,1.3s
432A Menard 84.10 52 ⇓P **P 15 57 14.4 -0.1**
baz=84
HYF Humbligny 84.13 336 *e*P **P 15 57 14.7 +0.3**
HYF Humbligny 84.13 336 *e*P **P 15 57 14.7 +0.3**
PPT Papeete 84.16 121 LR LR 16 28 52.1
comp=Z,370nm,19.0s,baz=313,slow=31
PPT2 Papeete2 84.18 121 *e*LR LR 16 23 32.1
comp=Z,1µm,26.2s,baz=314
PPT2 Papeete2 84.18 121 *e*T T 17 29 56.2
comp=Z,13nm,0.3s
531A Rocksprings 84.18 53 ⇓P **P 15 57 14.8 -0.2**
baz=84
135A Vickery Place, 84.19 50 ⇑P **P 15 57 15.1 +0.1**
baz=84
333A Richland Sprin 84.23 52 ⇑P **P 15 57 15.0 -0.2**
baz=84
TIAR Tiarei 84.30 121 *e*T T 17 30 06.2
comp=Z,6.1nm,0.3s
SMF Signal de Mont 84.34 335⇑*i*P **P 15 57 15.5 0.0**
comp=Z,135nm,0.8s
SMF Signal de Mont 84.34 335⇑*i*P **P 15 57 15.5 0.0**
SMF pmax pmax
comp=Z,135nm,0.8s
SMF Signal de Mont 84.34 335⇑*i*P **P 15 57 15.5 0.0**
comp=Z,135nm,0.8s
AVF Avril sur Loir 84.36 336⇑*i*P **P 15 57 15.7 +0.2**
comp=Z,81nm,0.8s
AVF Avril sur Loir 84.36 336⇑*i*P **P 15 57 15.7 +0.2**
AVF pmax pmax
comp=Z,81nm,0.8s
AVF Avril sur Loir 84.36 336⇑*i*P **P 15 57 15.7 +0.2**
comp=Z,81nm,0.8s
JCT Junction City 84.38 53 *e*P **P 15 57 16.0 0.0**
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 84.38 53 *e*P **P 15 57 16.0 0.0**
comp=Z,18nm,1.0s
JCT Junction City 84.38 53 ⇑P **P 15 57 15.9 0.0**
baz=84
LPL La Plagne 84.43 333⇑*i*P **P 15 57 16.6 +0.4**
comp=Z,62nm,0.8s
LPL La Plagne 84.43 333⇑*i*P **P 15 57 16.6 +0.4**
LPL pmax pmax
comp=Z,62nm,0.8s
LPL La Plagne 84.43 333⇑*i*P **P 15 57 16.6 +0.4**
comp=Z,62nm,0.8s
LPG La Plagne 84.44 333⇑*i*P **P 15 57 16.8 +0.4**
comp=Z,75nm,0.8s
LPG La Plagne 84.44 333⇑*i*P **P 15 57 16.8 +0.4**
LPG pmax pmax
comp=Z,75nm,0.8s
LPG La Plagne 84.44 333⇑*i*P **P 15 57 16.8 +0.4**
comp=Z,75nm,0.8s
SIUC Southern Illin 84.45 41 *e*P **P 15 57 16.3 +0.2**
comp=Z,35nm,0.8s
532A Rocksprings 84.58 53 ⇑P **P 15 57 16.8 -0.2**
baz=84
433A Art 84.59 52 ⇓P **P 15 57 16.6 -0.5**
baz=84
WHTX Lake Whitney 84.59 50 ⇑P **P 15 57 17.1 +0.2**
baz=84
PBMO Poplar Bluff 84.60 43 *e*P **P 15 57 17.0 0.0**
comp=Z,21nm,0.9s
PBMO *e*pP **pP 15 57 28.7 +0.6**
SGMF Saint Gilles 84.63 340⇑*i*P **P 15 57 17.3 +0.4**
comp=Z,128nm,0.8s
SGMF Saint Gilles 84.63 340⇑*i*P **P 15 57 17.3 +0.4**
SGMF pmax pmax
comp=Z,129nm,0.8s
SGMF Saint Gilles 84.63 340⇑*i*P **P 15 57 17.3 +0.4**
comp=Z,128nm,0.8s
334A Lometa 84.64 51 ⇓P **P 15 57 17.2 -0.1**
baz=84
BGF Bois d'Agland 84.72 336⇑*i*P **P 15 57 18.0 +0.6**
comp=Z,35nm,0.7s
BGF Bois d'Agland 84.72 336⇑*i*P **P 15 57 18.0 +0.6**
BGF pmax pmax
comp=Z,35nm,0.7s
BGF Bois d'Agland 84.72 336⇑*i*P **P 15 57 18.0 +0.6**
comp=Z,35nm,0.7s
631A Perdido Creek 84.72 54 ⇑P **P 15 57 17.8 +0.1**
baz=85
ROSF Rostrenen 84.73 340⇑*i*P **P 15 57 17.9 +0.5**
comp=Z,162nm,0.9s
ROSF Rostrenen 84.73 340⇑*i*P **P 15 57 17.9 +0.5**
ROSF pmax pmax
comp=Z,162nm,0.9s
ROSF Rostrenen 84.73 340⇑*i*P **P 15 57 17.9 +0.5**
comp=Z,162nm,0.9s
MIAR Mount Ida 84.75 46 *e*P **P 15 57 17.6 -0.1**
MIAR pmax pmax
comp=Z,14nm,0.8s
MIAR Mount Ida 84.75 46 *e*P **P 15 57 17.6 -0.1**
comp=Z,14nm,0.8s
AQU L'Aquila 84.76 327 *e*P **P 15 57 18.3 +0.6**
comp=Z,32nm,0.8s
BNI Bardonecchia 84.86 333 *e*P **P 15 57 18.9 +0.6**
BNI Bardonecchia 84.86 333 *e*P **P 15 57 18.9 +0.6**
434A Burnet 85.02 52 ⇑P **P 15 57 19.3 +0.1**
baz=85
QUIF Quistinic 85.10 340 *e*P **P 15 57 19.4 +0.2**
comp=Z,97nm,1.0s
QUIF Quistinic 85.10 340 *e*P **P 15 57 19.4 +0.2**
QUIF pmax pmax
comp=Z,97nm,1.0s
QUIF Quistinic 85.10 340 *e*P **P 15 57 19.4 +0.2**
comp=Z,97nm,1.0s
632A Uvalde 85.11 53 ⇑P **P 15 57 20.0 +0.3**
baz=85
MBDF Montbardon 85.11 333⇑*i*P **P 15 57 19.3 -0.3**
comp=Z,42nm,0.9s
MBDF Montbardon 85.11 333⇑*i*P **P 15 57 19.3 -0.3**
MBDF pmax pmax
comp=Z,42nm,0.9s
MBDF Montbardon 85.11 333⇑*i*P **P 15 57 19.3 -0.3**
comp=Z,42nm,0.9s
533A Kerrville 85.13 53 ⇑P **P 15 57 20.0 +0.3**
baz=85
TCF Toulx Ste Croi 85.15 336⇑*i*P **P 15 57 19.9 +0.3**
comp=Z,53nm,0.8s
TCF Toulx Ste Croi 85.15 336⇑*i*P **P 15 57 19.9 +0.3**
TCF pmax pmax
comp=Z,53nm,0.8s
TCF Toulx Ste Croi 85.15 336⇑*i*P **P 15 57 19.9 +0.3**
comp=Z,53nm,0.8s

MMNY	**Mt. Morris Dam**	**85.17**	**31**	*e*P		**P**	**15 57 19.2**	**-0.5**
	comp=Z,46nm,0.7s								
ACSO	**Alum Creek Sta**	**85.23**	**36**	*e*P		**P**	**15 57 19.9**	**-0.1**
	comp=Z,26nm,0.8s								
ORIF	**Oris-en-Rattie**	**85.24**	**333**	⇑*i*P		**P**	**15 57 20.5**	**+0.4**
	comp=Z,39nm,0.8s								
ORIF				*e*R					
	comp=Z,432nm,22.8s								
ORIF	**Oris-en-Rattie**	**85.24**	**333**	⇑*i*P		**P**	**15 57 20.5**	**+0.4**
ORIF				pmax		pmax			
	comp=Z,39nm,0.8s								
ORIF	**Oris-en-Rattie**	**85.24**	**333**	⇑*i*P		**P**	**15 57 20.5**	**+0.4**
	comp=Z,39nm,0.8s								
MEH	**Mehetia**	**85.34**	**120**	*e*T		T	17 31 24.6		
	comp=Z,54nm,0.3s								
SSB	**Saint Sauveur**	**85.35**	**334**	*e*P		**P**	**15 57 18.9**	**-1.7**
SSB				pmax		pmax			
	comp=Z,23nm,1.0s								
SSB	**Saint Sauveur**	**85.35**	**334**	*e*P		**P**	**15 57 18.9**	**-1.7**
	comp=Z,23nm,1.0s								
PYM	**Petit Puy Mans**	**85.40**	**335**	*e*P		**P**	**15 57 21.2**	**+0.3**
WCI	**Wyandotte Cave**	**85.41**	**39**	*e*P		**P**	**15 57 20.2**	**-0.8**
WCI				pmax		pmax			
	comp=Z,15nm,0.8s								
WCI	**Wyandotte Cave**	**85.41**	**39**	*e*P		**P**	**15 57 20.2**	**-0.8**
	comp=Z,16nm,0.8s								
534A	**Blanco**	**85.48**	**52**	⇑P		**P**	**15 57 21.7**	**+0.2**
	baz=85								
SAOF	**Saorge**	**85.50**	**332**	*e*P		**P**	**15 57 20.8**	**-0.6**
633A	**Saathoff Ranch**	**85.50**	**53**	⇑P		**P**	**15 57 21.9**	**+0.3**
	baz=85								
MFF	**Saint Martin d**	**85.53**	**338**	*e*P		**P**	**15 57 21.9**	**+0.5**
	comp=Z,147nm,1.0s								
MFF	**Saint Martin d**	**85.53**	**338**	*e*P		**P**	**15 57 21.9**	**+0.5**
MFF				pmax		pmax			
	comp=Z,147nm,1.0s								
MFF	**Saint Martin d**	**85.53**	**338**	*e*P		**P**	**15 57 21.9**	**+0.5**
	comp=Z,147nm,1.0s								
AUTN	**L'Aution**	**85.54**	**332**	*e*P		**P**	**15 57 21.1**	**-0.7**
TOUF	**Mont Tournerai**	**85.58**	**332**	*e*P		**P**	**15 57 21.7**	**-0.3**
SBF	**Sospel**	**85.65**	**332**	⇑*i*P		**P**	**15 57 21.7**	**-0.5**
	comp=Z,51nm,0.7s								
SBF	**Sospel**	**85.65**	**332**	⇑*i*P		**P**	**15 57 21.7**	**-0.5**
SBF				pmax		pmax			
	comp=Z,51nm,0.7s								
SBF	**Sospel**	**85.65**	**332**	⇑*i*P		**P**	**15 57 21.7**	**-0.5**
	comp=Z,51nm,0.7s								
LUCF	**Luceram**	**85.66**	**332**	*e*P		**P**	**15 57 22.8**	**+0.6**
VIVF	**Saint-Julien-l**	**85.68**	**334**	⇑*i*P		**P**	**15 57 22.7**	**+0.4**
	comp=Z,61nm,0.9s								
VIVF	**Saint-Julien-l**	**85.68**	**334**	⇑*i*P		**P**	**15 57 22.7**	**+0.4**
VIVF				pmax		pmax			
	comp=Z,61nm,0.9s								
VIVF	**Saint-Julien-l**	**85.68**	**334**	⇑*i*P		**P**	**15 57 22.7**	**+0.4**
	comp=Z,61nm,0.9s								
MVIF	**Mont Vial**	**85.72**	**332**	*e*P		**P**	**15 57 22.1**	**-0.5**
REVF	**Revere**	**85.78**	**332**	*e*P		**P**	**15 57 22.5**	**-0.3**
LBL	**Lubilhac**	**85.79**	**335**	*e*P		**P**	**15 57 23.2**	**+0.3**
FRNF	**Fournols**	**85.86**	**336**	*e*P		**P**	**15 57 23.8**	**+0.7**
832A	**Faith Ranch, C**	**85.91**	**54**	⇑P		**P**	**15 57 23.5**	**-0.1**
	baz=86								
URZ	**Urewera**	**85.99**	**157**	LR		LR	16 28 51.5		
	comp=Z,163nm,20.6s,baz=359,slow=31								
TIP	**Timpagrande**	**86.03**	**323**	*e*P		**P**	**15 57 21.8**	**-2.3**
	comp=Z,32nm,1.3s								
ACCN	**Adirondack Com**	**86.13**	**28**	*e*P		**P**	**15 57 22.9**	**-1.6**
	comp=Z,7.6nm,0.7s								
SMRF	**Simiane la Rot**	**86.18**	**333**	*e*P		**P**	**15 57 27.0**	**+2.3**
	comp=Z,45nm,1.0s								
SMRF	**Simiane la Rot**	**86.18**	**333**	*e*P		**P**	**15 57 27.0**	**+2.3**
	comp=Z,45nm,1.0s								
FRF	**La Foret Royal**	**86.19**	**332**	⇑*i*P		**P**	**15 57 24.4**	**-0.3**
FRF	**La Foret Royal**	**86.19**	**332**	⇑*i*P		**P**	**15 57 24.4**	**-0.3**
FRF	**La Foret Royal**	**86.19**	**332**	⇑*i*P		**P**	**15 57 24.4**	**-0.3**
RJF	**Les Rejaudoux**	**86.24**	**336**	⇑*i*P		**P**	**15 57 25.4**	**+0.4**
	comp=Z,118nm,1.1s								
RJF				*e*R					
	comp=Z,434nm,22.0s								
RJF	**Les Rejaudoux**	**86.24**	**336**	⇑*i*P		**P**	**15 57 25.4**	**+0.4**
RJF				pmax		pmax			
	comp=Z,118nm,1.1s								
RJF	**Les Rejaudoux**	**86.24**	**336**	⇑*i*P		**P**	**15 57 25.4**	**+0.4**
	comp=Z,118nm,1.1s								
PGF	**Pioggiola**	**86.25**	**330**	⇑*i*P		**P**	**15 57 24.7**	**-0.5**
	comp=Z,50nm,0.8s								
PGF	**Pioggiola**	**86.25**	**330**	⇑*i*P		**P**	**15 57 24.7**	**-0.5**
PGF				pmax		pmax			
	comp=Z,50nm,0.8s								
PGF	**Pioggiola**	**86.25**	**330**	⇑*i*P		**P**	**15 57 24.7**	**-0.5**
	comp=Z,50nm,0.8s								
CAF	**Calviac**	**86.43**	**336**	⇑*i*P		**P**	**15 57 26.8**	**+0.9**
	comp=Z,174nm,1.0s								
CAF	**Calviac**	**86.43**	**336**	⇑*i*P		**P**	**15 57 26.8**	**+0.9**
CAF				pmax		pmax			
	comp=Z,174nm,1.0s								
CAF	**Calviac**	**86.43**	**336**	⇑*i*P		**P**	**15 57 26.8**	**+0.9**
	comp=Z,174nm,1.0s								
LMR	**La Mourre**	**86.44**	**332**	⇑*i*P		**P**	**15 57 25.8**	**-0.1**
	comp=Z,200nm,1.1s								
LMR	**La Mourre**	**86.44**	**332**	⇑*i*P		**P**	**15 57 25.8**	**-0.1**
LMR				pmax		pmax			
	comp=Z,200nm,1.1s								
LMR	**La Mourre**	**86.44**	**332**	⇑*i*P		**P**	**15 57 25.8**	**-0.1**
	comp=Z,200nm,1.1s								
LASF	**Ste Croix**	**86.64**	**334**	⇑*i*P		**P**	**15 57 27.7**	**+0.7**
	comp=Z,108nm,1.1s								
LASF	**Ste Croix**	**86.64**	**334**	⇑*i*P		**P**	**15 57 27.7**	**+0.7**
	comp=Z,108nm,1.1s								
LFF	**La Frestale**	**86.80**	**337**	*e*P		**P**	**15 57 28.6**	**+0.9**
	comp=Z,288nm,1.4s								
LFF	**La Frestale**	**86.80**	**337**	*e*P		**P**	**15 57 28.6**	**+0.9**
LFF				pmax		pmax			
	comp=Z,288nm,1.4s								
LFF	**La Frestale**	**86.80**	**337**	*e*P		**P**	**15 57 28.6**	**+0.9**
	comp=Z,288nm,1.4s								
SWET	**Sewanee**	**88.03**	**41**	*e*P		**P**	**15 57 33.5**	**-0.4**
	comp=Z,17nm,0.7s								
CPCT	**Cooper Cave**	**88.50**	**40**	*e*P		**P**	**15 57 34.4**	**-1.7**
TBI	**Tubuai**	**88.59**	**124**	*e*LR		LR	16 25 36.0		
	comp=Z,650nm,25.8s,baz=330								
TBI	**Tubuai**	**88.59**	**124**	*e*T		T	17 35 29.2		
	comp=Z,17nm,0.3s								
EPF	**Esparros**	**88.66**	**336**	⇑*i*P		**P**	**15 57 36.5**	**-0.2**
	comp=Z,20nm,0.8s								
EPF	**Esparros**	**88.66**	**336**	⇑*i*P		**P**	**15 57 36.5**	**-0.2**
EPF				pmax		pmax			
	comp=Z,20nm,0.8s								
EPF	**Esparros**	**88.66**	**336**	⇑*i*P		**P**	**15 57 36.5**	**-0.2**
	comp=Z,20nm,0.8s								
TKL	**Tuckaleechee C**	**88.67**	**39**	*e*P		**P**	**15 57 34.6**	**-2.3**
SJPF	**Ste Jean**	**89.04**	**337**	*e*P		**P**	**15 57 38.2**	**-0.3**
SJPF	**Ste Jean**	**89.04**	**337**	*e*P		**P**	**15 57 38.2**	**-0.3**
SJPF	**Ste Jean**	**89.04**	**337**	*e*P		**P**	**15 57 38.2**	**-0.3**
ETSF	**Etsaut**	**89.05**	**337**	⇑*i*P		**P**	**15 57 39.0**	**+0.4**
	comp=Z,26nm,0.8s								
ETSF	**Etsaut**	**89.05**	**337**	⇑*i*P		**P**	**15 57 39.0**	**+0.4**
ETSF				pmax		pmax			
	comp=Z,27nm,0.8s								
ETSF	**Etsaut**	**89.05**	**337**	⇑*i*P		**P**	**15 57 39.0**	**+0.4**
	comp=Z,26nm,0.8s								
RPZ	**Rata Peaks**	**89.60**	**163**	LR		LR	16 33 24.8		
	comp=Z,398nm,18.4s,baz=109,slow=33								
KMSC	**Kings Mountain**	**90.20**	**38**	⇑P		**P**	**15 57 43.8**	**-0.2**
	baz=90								
KEST	**Kesra**	**92.06**	**327**	P		**P**	**15 57 52.5**	**-0.2**
KEST	**Kesra**	**92.06**	**327**	P		**P**	**15 57 52.5**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=24,slow=2.5,SNR=10								
KEST				LR		LR	16 43 08.6		
	comp=Z,152nm,19.5s,baz=359,slow=38								
ESDC	**Sonseca Array**	**92.99**	**338**	P		**P**	**15 57 56.7**	**-0.3**
ESDC	**Sonseca Array**	**92.99**	**338**	P		**P**	**15 57 56.7**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=16,slow=4.0,SNR=15								
ESDC				LR		LR	16 42 58.2		
	comp=Z,246nm,21.1s,baz=5.0,slow=38								
RKT	**Rikitea**	**97.58**	**115**	*e*LR		LR	16 29 50.6		
	comp=Z,489nm,31.0s,baz=316								
MDT	**Midelt**	**99.58**	**336**	LR		LR	16 48 59.2		
	comp=Z,161nm,20.3s,baz=184,slow=39								
TORD	**Torodi Ar. Bea**	**115.16**	**322**	PKP		**PKPdf**	**16 03 23.8**	**-1.3**
TORD				PP		**PP**	**16 04 22.0**	**-2.3**
TORD	**Torodi Ar. Bea**	**115.16**	**322**	PKP		**PKPdf**	**16 03 23.8**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=17,slow=2.1,SNR=8.7								
TORD				PP		**PP**	**16 04 22.0**	**-2.3**
	comp=Z,3.2nm,0.8s,baz=27,slow=6.5,SNR=6.6								
VNDA	**Vanda**	**121.21**	**176**	PKP		**PKPdf**	**16 03 34.4**	**-0.4**
VNDA	**Vanda**	**121.21**	**176**	PKP		**PKPdf**	**16 03 34.4**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=308,slow=4.8,SNR=7.4								
DBIC	**Dimbokro**	**123.76**	**325**	PKP		**PKPdf**	**16 03 40.7**	**-1.0**
DBIC				PP		**PP**	**16 05 20.4**	**-3.2**
DBIC	**Dimbokro**	**123.76**	**325**	PKP		**PKPdf**	**16 03 40.7**	**-1.0**
	comp=Z,4.2nm,0.6s,baz=50,slow=3.0,SNR=6.4								
DBIC				PP		**PP**	**16 05 20.4**	**-3.2**
	comp=Z,5.5nm,0.9s,baz=331,slow=3.7,SNR=3.7								
TIC	**Toumodi**	**123.85**	**326**	*e*P		PP	16 05 16.1	-8.1	
KIC	**Kosan Boka**	**124.00**	**325**	*e*P		PP	16 05 16.9	-8.3	
	comp=Z,69nm,1.5s								
LIC	**Lamto**	**124.24**	**325**	⇑*i*PKIKP		**PKPdf**	**16 03 41.3**	**-1.3**
	comp=Z,11nm,0.8s								
LIC				*e*R					
	comp=Z,119nm,17.5s								
LIC	**Lamto**	**124.24**	**325**	*e*P		PP	16 05 15.2	-12	
	comp=Z,37nm,1.0s								
LIC	**Lamto**	**124.24**	**325**	⇑*i*PKPdf		**PKPdf**	**16 03 41.3**	**-1.3**
BOSA	**Boshof**	**131.42**	**268**	PKP		**PKPdf**	**16 03 55.8**	**-0.2**
BOSA				PP		**PP**	**16 06 13.7**	**-1.6**
BOSA	**Boshof**	**131.42**	**268**	PKP		**PKPdf**	**16 03 55.8**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=73,slow=3.5,SNR=5.3								
BOSA				PP		**PP**	**16 06 13.7**	**-1.6**
	comp=Z,14nm,1.0s,baz=74,slow=5.8,SNR=7.3								
LPAZ	**La Paz**	**139.77**	**58**	PKP		**PKPdf**	**16 04 12.7**	**+0.2**
LPAZ				SKP			16 07 42.7		
LPAZ	**La Paz**	**139.77**	**58**	PKhKP		PKPpre	16 04 05.8		
	comp=Z,1.0nm,0.5s,baz=352,slow=4.9,SNR=5.1								
LPAZ				PKP		**PKPdf**	**16 04 12.7**	**+0.2**	
	comp=Z,1.7nm,0.6s,baz=297,slow=2.3,SNR=9.6								
LPAZ				SKP			16 07 42.7		
	comp=Z,3.0nm,0.9s,baz=345,slow=6.1,SNR=5.9								
H03N2	**Juan Fernandez**	**143.22**	**90**	T		T	18 44 12.3		
	baz=300,slow=75,SNR=20								
H03N3	**Juan Fernandez**	**143.23**	**90**	T		T	18 44 15.4		
	baz=300,slow=75,SNR=21								
H03N1	**Juan Fernandez**	**143.23**	**90**	T		T	18 43 46.9		
	baz=300,slow=75,SNR=17								
LCO	**Las Campanas**	**146.76**	**77**	*e*PKPbc		**PKPdf**	**16 04 24.8**	**+0.8**
SNAA	**Sanae**	**148.24**	**198**	*e*PKPbc		**PKPbc**	**16 04 27.4**	**-0.9**
BDFB	**Brasilia**	**149.40**	**29**	PKPbc		**PKPbc**	**16 04 32.8**	**-0.1**
BDFB	**Brasilia**	**149.40**	**29**	PKPbc		**PKPbc**	**16 04 32.8**	**-0.1**
	comp=Z,19nm,0.7s,baz=252,slow=0.7,SNR=24								
PLCA	**Paso Flores**	**152.32**	**97**	PKP		**PKPdf**	**16 04 30.8**	**-1.4**
PLCA				PKPbc		**PKPbc**	**16 04 38.9**	**-0.1**
PLCA	**Paso Flores**	**152.32**	**97**	PKP		**PKPdf**	**16 04 30.8**	**-1.4**
	comp=Z,6.6nm,1.1s,baz=294,slow=2.9,SNR=6.2								
PLCA				PKPbc		**PKPbc**	**16 04 38.9**	**-0.1**	
	comp=Z,4.6nm,0.8s,baz=264,slow=5.3,SNR=9.6								
CPUP	**Villa Florida**	**153.91**	**57**	PKP		**PKPdf**	**16 04 33.7**	**-1.1**
CPUP				PKPbc		**PKPbc**	**16 04 42.0**	**-0.8**
CPUP				PKPab		**PKPab**	**16 04 55.2**	**-0.9**
CPUP	**Villa Florida**	**153.91**	**57**	PKP		**PKPdf**	**16 04 33.7**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=39,slow=4.2,SNR=2.8								
CPUP				PKPbc		**PKPbc**	**16 04 42.0**	**-0.8**	
	comp=Z,0.9nm,0.5s,baz=296,slow=1.7,SNR=5.9								
CPUP				PKPab		**PKPab**	**16 04 55.2**	**-0.9**	
	comp=Z,2.8nm,0.6s,baz=235,slow=3.4,SNR=6.1								

*ISCJB **15** 15:56:08.8±0.5,38°.71N±0'.02×22°.85E±0'.02,h15km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=157.3*
*ATH **15** 15:56:08.6,38°68N×22°.87E,h15km±1km, MD3.4/35, ML3.2*
*THE **15** 15:56:08.8,38°.65N×22°.85E,h2km±1km, ML3.3/6, Error ellipse: s-maj=1.5km s-min=0.4km az=14.0*
*CSEM **15** 15:56:08.4±0.1,38°.65N×22°.87E,h2km, MD3.4, Error ellipse: s-maj=3.4km s-min=2.7km az=152.0*

ISC 15 15:56:09.0±0.8, 38°.65N±0'.02×22°.86E±0'.01, h10km±5km, n109, σ0970/153, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.11**	**92**	*e*PB	**Pg**	**15 56 11.6**	**-0.1**
LKR				*e*SB	**Sg**	**15 56 13.8**	**+0.2**
LKR	**Lokris**	**0.11**	**92**	*e*Pb	**Pg**	**15 56 11.6**	**-0.1**
LKR				*e*Sb	**Sg**	**15 56 13.8**	**+0.2**
AXAR	**Agios Charalam**	**0.20**	**305**	P	**Pg**	**15 56 12.7**	**-0.4**
AXAR				S	**Sg**	**15 56 15.7**	**-0.3**
AXAR	**Agios Charalam**	**0.20**	**305**	P	**Pg**	**15 56 12.7**	**-0.4**
AXAR				S	**Sg**	**15 56 15.7**	**-0.3**
SMIA	**Simia**	**0.35**	**50**	P	**Pg**	**15 56 15.6**	**-0.4**
SMIA				S	**Sg**	**15 56 21.2**	**+0.5**
SMIA	**Simia**	**0.35**	**50**	*e*PB	**Pg**	**15 56 15.7**	**-0.3**
SMIA				*e*SB	**Sg**	**15 56 21.4**	**+0.7**
SMIA	**Simia**	**0.35**	**50**	P	**Pg**	**15 56 15.6**	**-0.4**
SMIA				S	**Sg**	**15 56 21.2**	**+0.5**
DSF	**Desfina**	**0.36**	**228**	P	**Pg**	**15 56 12.7**	**-0.8**
DSF				S	**Sg**	**15 56 20.4**	**-0.5**
DSF	**Desfina**	**0.36**	**228**	*e*PB	**Pg**	**15 56 15.4**	**-0.7**
DSF	**Desfina**	**0.36**	**228**	*e*Pb	**Pg**	**15 56 15.4**	**-0.7**
DSF				S	**Sg**	**15 56 20.4**	**-0.5**
AGG	**Agios Georgios**	**0.56**	**312**	P	**Pg**	**15 56 19.1**	**-0.7**
AGG	**Agios Georgios**	**0.56**	**312**	*e*PN	**Pg**	**15 56 19.2**	**-0.6**
AGG				*e*SN	**Sg**	**15 56 27.6**	**+0.5**
AGG	**Agios Georgios**	**0.56**	**312**	*e*Pn	**Pg**	**15 56 19.2**	**-0.6**
AGG				*e*Sn	**Sg**	**15 56 27.6**	**+0.5**
MRKA	**Markates**	**0.57**	**85**	P	**Pg**	**15 56 19.3**	**-0.8**
MRKA				S	**Sg**	**15 56 28.3**	**+0.7**
MRKA	**Markates**	**0.57**	**85**	*e*PN	**Pg**	**15 56 19.5**	**-0.6**
MRKA				*e*SN	**Sb**	**15 56 28.8**	**-0.4**
MRKA	**Markates**	**0.57**	**85**	P	**Pg**	**15 56 19.3**	**-0.8**
MRKA				S	**Sg**	**15 56 28.3**	**+0.7**
KALE	**Kalithea**	**0.62**	**245**	P	**Pg**	**15 56 19.9**	**-1.2**
KALE				S	**Sg**	**15 56 29.4**	**+0.1**
KALE	**Kalithea**	**0.62**	**245**	*e*PB	**Pg**	**15 56 20.2**	**-0.9**
KALE				*e*SN	**Sb**	**15 56 30.6**	**-0.3**
KALE	**Kalithea**	**0.62**	**245**	P	**Pg**	**15 56 19.9**	**-1.2**
KALE	**Kalithea**	**0.62**	**245**	*e*Pb	**Pg**	**15 56 20.2**	**-0.9**
KALE				S	**Sg**	**15 56 29.4**	**+0.1**
KALE				*e*Sn	**Sb**	**15 56 30.6**	**-0.3**
LTK	**Loutraki**	**0.64**	**173**	P	**Pg**	**15 56 20.7**	**-0.6**
LTK	**Loutraki**	**0.64**	**173**	*e*PB	**Pg**	**15 56 21.0**	**-0.3**
LTK				*e*SN	**Sb**	**15 56 31.9**	**+0.8**
LTK	**Loutraki**	**0.64**	**173**	P	**Pg**	**15 56 20.7**	**-0.6**
LTK	**Loutraki**	**0.64**	**173**	*e*Pb	**Pg**	**15 56 21.0**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.68**	**302**	P	**Pg**	**15 56 21.5**	**-0.5**
MAKR				S	**Sg**	**15 56 31.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.68**	**302**	*e*PN	**Pg**	**15 56 21.6**	**-0.5**
MAKR				*e*SN	**Sg**	**15 56 31.4**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.68**	**302**	*e*Pn	**Pg**	**15 56 21.6**	**-0.5**
MAKR				S	**Sg**	**15 56 31.1**	**+0.2**
SKIA	**Skiathos**	**0.69**	**42**	P	**Pg**	**15 56 22.0**	**-0.4**
SKIA				S	**Sb**	**15 56 33.0**	**+0.1**
SKIA	**Skiathos**	**0.69**	**42**	*e*PN	**Pg**	**15 56 22.1**	**-0.4**
SKIA	**Skiathos**	**0.69**	**42**	P	**Pg**	**15 56 22.0**	**-0.4**
SKIA				S	**Sb**	**15 56 33.0**	**+0.1**
NEO	**Neokhori**	**0.71**	**23**	*e*PN	**Pg**	**15 56 22.3**	**-0.4**
NEO				*e*SN	**Sg**	**15 56 31.5**	**-0.5**
NEO	**Neokhori**	**0.71**	**23**	*e*Pn	**Pg**	**15 56 22.3**	**-0.4**
NEO				*e*Sn	**Sg**	**15 56 31.5**	**-0.5**
FYTO	**Fytoko, Volos**	**0.76**	**4**	P	**Pg**	**15 56 22.9**	**-0.7**
FYTO	**Fytoko, Volos**	**0.76**	**4**	P	**Pg**	**15 56 22.9**	**-0.7**
XOR	**Xorichti**	**0.76**	**20**	P	**Pg**	**15 56 23.1**	**-0.5**
XOR	**Xorichti**	**0.76**	**20**	*e*PN	**Pg**	**15 56 23.3**	**-0.3**
XOR	**Xorichti**	**0.76**	**20**	P	**Pg**	**15 56 23.1**	**-0.5**
ERET	**Eretria**	**0.77**	**106**	P	**Pg**	**15 56 23.1**	**-0.7**
ERET				S	**Sb**	**15 56 34.7**	**-0.3**
ERET	**Eretria**	**0.77**	**106**	P	**Pg**	**15 56 23.1**	**-0.7**
ERET				S	**Sb**	**15 56 34.7**	**-0.3**
EFP	**Efpalio**	**0.78**	**254**	P	**Pg**	**15 56 22.7**	**-1.4**
EFP				S	**Sg**	**15 56 34.8**	**+0.5**
EFP	**Efpalio**	**0.78**	**254**	*e*PN	**Pg**	**15 56 23.0**	**-1.1**
EFP				*e*SN	**Sg**	**15 56 35.0**	**+0.7**
EFP	**Efpalio**	**0.78**	**254**	P	**Pg**	**15 56 22.7**	**-1.4**
EFP				S	**Sg**	**15 56 34.8**	**+0.5**
LAKA	**Lakka**	**0.81**	**240**	P	**Pg**	**15 56 23.6**	**-1.0**
LAKA	**Lakka**	**0.81**	**240**	*e*PN	**Pg**	**15 56 23.6**	**-1.0**
LAKA	**Lakka**	**0.81**	**240**	P	**Pg**	**15 56 23.6**	**-1.0**
GUR	**Goura**	**0.82**	**210**	P	**Pg**	**15 56 23.7**	**-1.2**
GUR	**Goura**	**0.82**	**210**	*e*PN	**Pg**	**15 56 24.0**	**-0.9**
GUR	**Goura**	**0.82**	**210**	P	**Pg**	**15 56 23.7**	**-1.2**
KLV	**Kalavryta, Ach**	**0.83**	**223**	*e*PN	**Pg**	**15 56 24.1**	**-0.9**
EVR	**Evrytania**	**0.86**	**288**	*e*PN	**Pg**	**15 56 25.0**	**-0.7**
AOS	**Alonnisos**	**0.95**	**57**	P	**Pg**	**15 56 27.1**	**-0.1**
AOS				S	**Sg**	**15 56 39.8**	**+0.3**
AOS	**Alonnisos**	**0.95**	**57**	*e*PN	**Pg**	**15 56 26.8**	**-0.4**
AOS	**Alonnisos**	**0.95**	**57**	*e*Pn	**Pg**	**15 56 26.8**	**-0.4**
AOS	**Alonnisos**	**0.95**	**57**	P	**Pg**	**15 56 27.1**	**-0.1**
AOS				S	**Sg**	**15 56 39.8**	**+0.3**
ATH	**Athens Observa**	**0.96**	**135**	*e*PN	**Pb**	**15 56 27.6**	**0.0**
ATH				*e*SN	**Sb**	**15 56 40.3**	**0.0**
ATH	**Athens Observa**	**0.96**	**135**	*e*Pn	**Pb**	**15 56 27.6**	**0.0**
PTL	**Penteli**	**0.99**	**127**	*e*PN	**Pg**	**15 56 27.2**	**-0.9**
PTL	**Penteli**	**0.99**	**127**	*e*Pn	**Pg**	**15 56 27.2**	**-0.9**
ATHU	**Athens Univers**	**1.00**	**133**	P	**Pg**	**15 56 27.5**	**-0.7**
ATHU				S	**Sn**	**15 56 43.1**	**-0.1**
ATHU	**Athens Univers**	**1.00**	**133**	P	**Pg**	**15 56 27.5**	**-0.7**
ATHU				S	**Sn**	**15 56 43.1**	**-0.1**
NAIG	**Nisos Aigina**	**1.02**	**151**	*e*PN	**Pb**	**15 56 28.8**	**+0.1**
NAIG	**Nisos Aigina**	**1.02**	**151**	*e*Pn	**Pb**	**15 56 28.8**	**+0.1**
THL	**Klokotos Trika**	**1.12**	**324**	*e*PN	**Pg**	**15 56 29.2**	**-1.4**
THL	**Klokotos Trika**	**1.12**	**324**	*e*Pn	**Pg**	**15 56 29.2**	**-1.4**
DRO	**Drossia**	**1.15**	**233**	P	**Pg**	**15 56 30.7**	**-0.3**
DRO				S	**Sb**	**15 56 46.4**	**+0.6**
DRO	**Drossia**	**1.15**	**233**	*e*PN	**Pb**	**15 56 31.0**	**+0.1**
DRO	**Drossia**	**1.15**	**233**	P	**Pg**	**15 56 30.7**	**-0.3**
DRO	**Drossia**	**1.15**	**233**	*e*Pn	**Pb**	**15 56 31.0**	**+0.1**
DRO				S	**Sb**	**15 56 46.4**	**+0.6**
DID	**Didima**	**1.18**	**165**	P	**Pg**	**15 56 30.8**	**-0.9**
DID				S	**Sb**	**15 56 48.0**	**+1.1**
DID	**Didima**	**1.18**	**165**	*e*PN	**Pg**	**15 56 30.8**	**-0.9**
DID	**Didima**	**1.18**	**165**	P	**Pg**	**15 56 30.8**	**-0.9**
DID				S	**Sb**	**15 56 48.0**	**+1.1**
RLS	**Riolos of Patr**	**1.25**	**242**	*e*PN	**Pg**	**15 56 32.3**	**-0.7**
RLS	**Riolos of Patr**	**1.25**	**242**	*e*Pn	**Pg**	**15 56 32.3**	**-0.7**
PDO	**Prodromos**	**1.32**	**268**	P	**Pg**	**15 56 33.9**	**-0.4**
PDO	**Prodromos**	**1.32**	**268**	*e*PN	**Pb**	**15 56 34.2**	**+0.4**
PDO	**Prodromos**	**1.32**	**268**	P	**Pg**	**15 56 33.9**	**-0.4**
PDO	**Prodromos**	**1.32**	**268**	*e*Pn	**Pb**	**15 56 34.2**	**+0.4**
VLX	**Vlachokerasia**	**1.34**	**197**	P	**Pg**	**15 56 33.2**	**-1.5**
VLX				S	**Sg**	**15 56 51.7**	**-0.3**
VLX	**Vlachokerasia**	**1.34**	**197**	*e*PN	**Pg**	**15 56 34.3**	**-0.4**
VLX	**Vlachokerasia**	**1.34**	**197**	P	**Pg**	**15 56 33.2**	**-1.5**
VLX	**Vlachokerasia**	**1.34**	**197**	*e*Pn	**Pg**	**15 56 34.3**	**-0.4**
VLX				S	**Sg**	**15 56 51.7**	**-0.3**
PAIG	**Paliouri**	**1.42**	**26**	*e*PB	**Pn**	**15 56 33.8**	**-1.1**
PAIG	**Paliouri**	**1.42**	**26**	*e*Pb	**Pn**	**15 56 33.8**	**-1.1**
AMT	**Artemida-Makis**	**1.44**	**219**	P	**Pn**	**15 56 35.8**	**+0.6**
AMT				S	**Sn**	**15 56 55.4**	**

KRKI	**Karangkates**	**0.95**	**328**	P	x	17 02 18.2		
JAGI	**Jajag, Banyuwa**	**1.27**	**67**	P	**Pn**	**17 02 21.2**	**+1.1**	
JAGI				S	**Sn**	**17 02 35.7**	**-0.7**	
PWJI	**Pagerwojo**	**1.49**	**309**	P	**Pn**	**17 02 25.2**	**+2.3**	
PWJI				S	**Sn**	**17 02 41.9**	**+0.4**	
PCJI	**Pacitan**	**1.93**	**293**	P	**Pn**	**17 02 30.1**	**+1.2**	
PCJI				S	**Sn**	**17 02 49.8**	**-2.4**	
NGJI	**Ngawi**	**2.18**	**317**	P	Pn	17 02 27.4	-4.9	
WRA	**Warramunga Arr**	**23.36**	**120**	P	**P**	**17 07 01.9**	**+0.2**	
	0.2nm,0.3s,baz=291,slow=11,SNR=14							
ASAR	**Alice Springs**	**24.79**	**129**	P	**P**	**17 07 15.9**	**+1.3**	
	0.2nm,0.3s,baz=305,slow=8.6,SNR=14							
CMAR	**Chiang Mai Arr**	**30.57**	**333**	P	**P**	**17 08 07.0**	**+0.8**	
	0.2nm,0.5s,baz=168,slow=9.0,SNR=3.7							
STKA	**Stephens Creek**	**35.00**	**135**	P	**P**	**17 08 44.9**	**0.0**	
	2.8nm,1.2s,baz=324,slow=15,SNR=5.5							
SONM	**Songino Array**	**56.85**	**355**	P	**P**	**17 11 35.4**	**-1.2**	
	0.2nm,0.3s,baz=163,slow=6.0,SNR=5.2							
MKAR	**Makanchi Array**	**61.88**	**337**	P	**P**	**17 12 10.1**	**-1.1**	
	0.5nm,0.7s,baz=144,slow=7.3,SNR=10							
ZALV	**Zalesovo Beam**	**67.05**	**342**	P	**P**	**17 12 43.3**	**-1.4**	
	1.7nm,0.8s,baz=151,slow=4.3,SNR=6.3							

MAN 15 17:05:32,16˚99N×122˚41E,h14km,mb4.9,ML3.8,MS3.8, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.08**	**9**	*eP*	Pg	17 05 35.7	+0.8
CAUP	**Cauayan**	**0.56**	**266**	*eP*	Pb	17 05 43.5	-0.2
CAUP				*eS*	Sn	17 05 53.7	-1.1
CVP	**Callao Caves**	**0.91**	**322**	*iP*	Pb	17 05 49.2	-0.4
CVP				*i S*	Sn	17 06 03.2	-0.1
APYP	**Conner**	**1.42**	**308**	*eP*	Pn	17 05 57.3	0.0
BALP	**Baler**	**1.48**	**213**	*eP*	Pn	17 05 57.3	-0.9
ABRA	**Dolores**	**1.75**	**292**	*eP*	Pn	17 06 02.0	+0.1
PCPH	**Palayan**	**1.90**	**222**	*iP*	Pn	17 06 04.2	+0.3
PCPH				*i S*	Sn	17 06 28.8	+1.1

IDC 15 17:11:49.6±17.0, 7˚03S×128˚89E, h209km±197km, mb2.6/1,mb1 2.6/3,mb1mx2.5/19,mbtmp3.1/3,ML2.9/2, Error ellipse: s-maj=139.6km s-min=80.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.89**	**158**	P	Pn	17 14 57.9	0.0
	0.1nm,0.3s,baz=337,slow=13,SNR=7.0						
WRA				S	S	17 17 19.2	-13
	0.1nm,0.3s,baz=337,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.23**	**164**	P	P	17 15 36.5	0.0
	0.1nm,0.3s,baz=346,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	17 22 24.1	0.0
	0.1nm,0.4s,baz=114,slow=7.9,SNR=3.1						

IDC 15 17:21:12.4±1.8, 11˚31N×125˚16E, h0km, mb3.3/4, mb1 3.4/4,mb1mx3.3/24,mbtmp3.3/4, Error ellipse: s-maj=177.4km s-min=22.7km az=69.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.34**	**164**	P	P	17 27 42.9	-0.7
	0.5nm,1.0s,baz=346,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**35.80**	**166**	P	P	17 28 14.0	+0.3
	0.2nm,0.5s,baz=340,slow=6.9,SNR=7.1						
SONM	**Songino Array**	**39.68**	**340**	P	P	17 28 46.3	-0.1
	0.2nm,0.6s,baz=144,slow=6.8,SNR=3.6						
MKAR	**Makanchi Array**	**50.55**	**323**	P	P	17 30 12.5	-0.2
	0.5nm,0.7s,baz=119,slow=7.4,SNR=6.4						

IDC 15 17:27:37.2±1.7, 7˚54S×124˚15E, h0km, mb3.3/1, mb1 4.0/3,mb1mx3.5/20,mbtmp3.8/3,ML4.0/2, Error ellipse: s-maj=196.8km s-min=29.1km az=59.0

ISC 15 17:27:38.7±1.4, 7˚6S±0˚1×124˚16E±0˚09, h10km, n11, σ2s56/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**4.36**	**241**	S	**Sn**	**17 29 38.9**	**+2.9**
	baz=3.8,SNR=3.5						
MTN	**Manton Dam**	**8.65**	**128**	P	Pn	17 29 53.4	+9.4
	baz=8.2,SNR=36						
MTN				S	**Sn**	**17 31 23.7**	**+2.0**
	baz=8.2,SNR=6.7						
KNRA	**Kununurra**	**9.25**	**151**	P	Pn	17 29 57.2	+5.0
	baz=8.6,SNR=10						
KNRA				S	**Sn**	**17 31 34.6**	**-1.8**
	baz=8.6,SNR=3.8						
KDU	**Kakadu**	**9.65**	**123**	P	Pn	17 30 06.8	+9.2
	baz=9.3,SNR=13						
KDU				S	**Sn**	**17 31 49.5**	**+3.3**
	baz=9.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**10.59**	**172**	P	**Pn**	**17 30 12.1**	**+1.5**
	baz=9.7,SNR=11						
FITZ				S	Sn	17 32 00.5	-8.9
	baz=9.7,SNR=6.2						
WRA	**Warramunga Arr**	**15.79**	**142**	Pn	**P**	**17 31 21.8**	**-3.4**
	0.7nm,0.3s,baz=316,slow=12,SNR=31						
WRA				Sn	Sn	17 34 05.4	-11
	0.1nm,0.3s,baz=320,slow=24,SNR=4.3						
WRKA	**Warakurna**	**17.84**	**168**	P	**P**	**17 31 46.4**	**-1.5**
	baz=17,SNR=7.5						
ASAR	**Alice Springs**	**18.56**	**151**	P	**Pn**	**17 31 55.6**	**-0.4**
	0.4nm,0.3s,baz=326,slow=12,SNR=50						
ASAR				S	Sn	17 35 11.6	-12
	0.1nm,0.3s,baz=317,slow=20,SNR=4.2						
MEEK	**Meekatharra**	**19.70**	**195**	P	**P**	**17 32 05.3**	**-3.0**
	baz=19,SNR=4.1						
QIS	**Mount Isa**	**19.77**	**132**	P	**Pn**	**17 32 11.1**	**+0.4**
	baz=19,SNR=5.2						
MKAR	**Makanchi Array**	**65.64**	**330**	P	**P**	**17 38 23.2**	**+0.1**
	0.2nm,0.4s,baz=135,slow=7.6,SNR=8.6						

NEIC 15 17:43:28.4, 18˚92N×65˚96W, h3km, MD2.9(RSPR), After RSPR.

RSPR 15 17:43:28.4, 18˚92N×65˚96W, h3km±1km, MD2.9/6, 21C-15D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**0.65**	**171**	*eP*	Pg	17 43 40.8	-0.2
CBYP	**Canovanas**	**0.65**	**171**	*eP*	Pg	17 43 40.8	-0.2
CBYP				*eS*	Sg	17 43 50.6	+1.0
CBYP	**Canovanas**	**0.65**	**171**	*eP*	Pg	17 43 40.8	-0.2
CBYP				*eS*	Sg	17 43 50.6	+1.0
HUMP	**Col San Antoni**	**0.78**	**172**	*eP*	Pg	17 43 43.0	-0.4
HUMP	**Col San Antoni**	**0.78**	**172**	*eP*	Pg	17 43 43.0	-0.4
HUMP	**Col San Antoni**	**0.78**	**172**	*eP*	Pg	17 43 43.0	-0.4
SJG	**San Juan**	**0.82**	**193**	*eP*	Pg	17 43 44.0	-0.2
SJG				*eS*	Sb	17 43 56.0	-0.9
SJG	**San Juan**	**0.82**	**193**	*eP*	Pg	17 43 44.3	+0.1
SJG				*eS*	Sb	17 43 56.1	-0.8
SJG	**San Juan**	**0.82**	**193**	*eP*	Pg	17 43 44.0	-0.2
SJG				*eS*	Sb	17 43 56.0	-0.9
CPD	**Cerro la Pandu**	**0.88**	**177**	*eP*	Pg	17 43 44.4	-0.9
CPD	**Cerro la Pandu**	**0.88**	**177**	*eP*	Pg	17 43 44.4	-0.9
CPD				*eS*	Sg	17 43 57.6	+0.8
CPD	**Cerro la Pandu**	**0.88**	**177**	*eP*	Pg	17 43 44.4	-0.9
CPD				*eS*	Sg	17 43 57.1	+0.3
MTP	**Monte Pirata**	**0.90**	**155**	*eP*	Pg	17 43 44.4	-1.4
MTP	**Monte Pirata**	**0.90**	**155**	*eP*	Pg	17 43 44.4	-1.4
MTP				*eS*	Sg	17 43 57.3	-0.2
MTP	**Monte Pirata**	**0.90**	**155**	*eP*	Pg	17 43 44.4	-1.4
MTP				*eS*	Sg	17 43 57.3	-0.2
AOPR	**Arecibo Observ**	**0.94**	**233**	*eP*	Pg	17 43 44.9	-1.7
AOPR				*eS*	Sg	17 43 58.8	-0.1
AOPR	**Arecibo Observ**	**0.94**	**233**	*eP*	Pg	17 43 44.9	-1.7
AOPR				*eS*	Sg	17 43 58.8	-0.1
AOPR	**Arecibo Observ**	**0.94**	**233**	*eP*	Pg	17 43 44.9	-1.7
AOPR				*eS*	Sg	17 43 58.8	-0.1
CELP	**Cerrillos**	**1.02**	**215**	*eP*	Pg	17 43 46.7	-1.4
CELP				*eS*	Sg	17 44 00.2	-1.3
CELP	**Cerrillos**	**1.02**	**215**	*eP*	Pg	17 43 46.7	-1.4
CELP				*eS*	Sg	17 44 00.2	-1.3
CELP	**Cerrillos**	**1.02**	**215**	*eP*	Pg	17 43 46.7	-1.4
CELP				*eS*	Sg	17 44 00.2	-1.3
OBIP	**Obispado Ponce**	**1.07**	**215**	*eP*	Pg	17 43 47.5	-1.4
OBIP				*eS*	Sg	17 44 01.8	-0.9
OBIP	**Obispado Ponce**	**1.07**	**215**	*eP*	Pg	17 43 47.5	-1.4
OBIP				*eS*	Sg	17 44 01.8	-0.9
OBIP	**Obispado Ponce**	**1.07**	**215**	*eP*	Pg	17 43 47.5	-1.4
OBIP				*eS*	Sg	17 44 01.8	-0.9
AGPR	**Aguadilla, PR**	**1.18**	**248**	*eP*	Pg	17 43 47.4	-3.7
AGPR	**Aguadilla, PR**	**1.18**	**248**	*eP*	Pg	17 43 47.4	-3.7
AGPR				*eS*	Sg	17 44 04.5	-1.9
AGPR	**Aguadilla, PR**	**1.18**	**248**	*eP*	Pg	17 43 47.4	-3.7
AGPR				*eS*	Sg	17 44 04.0	-2.4
LSP	**Las Mesas**	**1.30**	**236**	*eP*	Pg	17 43 50.2	-3.2
LSP	**Las Mesas**	**1.30**	**236**	*eP*	Pg	17 43 50.2	-3.2
LSP	**Las Mesas**	**1.30**	**236**	*eP*	Pg	17 43 50.2	-3.2
TBVI	**Tortola**	**1.37**	**111**	*eP*	Pn	17 43 51.2	-3.2
TBVI				*eS*	Sg	17 44 09.4	-3.0
TBVI	**Tortola**	**1.37**	**111**	*eP*	Pn	17 43 51.2	-3.2
TBVI				*eS*	Sg	17 44 09.4	-3.0
TBVI	**Tortola**	**1.37**	**111**	*eP*	Pn	17 43 51.2	-3.2
TBVI				*eS*	Sg	17 44 09.4	-3.0
CRPR	**Cabo Rojo, PR**	**1.42**	**230**	*eP*	Pn	17 43 52.5	-2.6
CRPR	**Cabo Rojo, PR**	**1.42**	**230**	*eP*	Pn	17 43 52.5	-2.6
CRPR				*eS*	Sb	17 44 10.4	-3.6
CRPR	**Cabo Rojo, PR**	**1.42**	**230**	*eP*	Pn	17 43 52.5	-2.6
CRPR				*eS*	Sb	17 44 10.4	-3.6

FUNV 15 17:43:50.4, 10˚32N×60˚47W, h17km, MW4.2
IDC 15 17:43:54.7±0.9, 10˚11N×60˚95W, h0km, mb3.7/9, mb1 4.0/9,mb1mx3.7/25,mbtmp3.7/9,MS4.4/5,Ms1 4.4/5, ms1mx3.8/39, Error ellipse: s-maj=28.2km s-min=21.7km az=75.0.
ISCJB 15 17:43:59.7±0.6, 9˚97N±0˚05×61˚24W±0˚05, h48km, mb3.7/9,MS4.3/4, Error ellipse: s-maj=7.8km s-min=6.5km az=28.3

ISC 15 17:44:02.4±0.8, 10˚07N±0˚05×61˚28W±0˚06, h48km, n44, σ1s62/37, mb3.7/9, MS4.3/4, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIPA	**Siparia**	**0.23**	**287**	*eP*	**Pn**	**17 44 13.7**	**+2.9**
TPP	**Pointe-a-Pierr**	**0.30**	**325**	*eP*	**Pn**	**17 44 12.5**	**+1.2**
BUAY	**Buenos Aires**	**0.40**	**275**	*eP*	**Pn**	**17 44 11.5**	**-0.9**
ALNG	**Atlantic LNG**	**0.42**	**285**	*eP*	Pn	17 44 17.0	+4.4
TBH	**Brigand Hill**	**0.46**	**27**	*eP*	**Pn**	**17 44 10.1**	**-3.0**
TRN	**Trinidad (W)**	**0.58**	**348**	*eP*	**Pn**	**17 44 15.5**	**+0.9**
TPR	**Prospect**	**1.21**	**24**	*eP*	**Pn**	**17 44 22.8**	**-0.2**
BOT	**Bacolet**	**1.22**	**27**	*eP*	**Pn**	**17 44 24.9**	**+1.8**
TOSP	**Speyside**	**1.42**	**31**	*eP*	Pn	17 44 21.1	-4.7
GUNV	**Guanoco**	**1.64**	**273**	*eP*	**Pn**	**17 44 29.4**	**+0.6**
GUNV	**Guanoco**	**1.64**	**273**	*eP*	**Pn**	**17 44 29.4**	**+0.6**
CRUV	**Carupano**	**2.02**	**287**	*eP*	**Pn**	**17 44 31.1**	**-2.8**
CRUV	**Carupano**	**2.02**	**287**	*eP*	**Pn**	**17 44 32.1**	**-1.8**
RIOV	**Rio Grande**	**2.06**	**195**	*eP*	Pn	17 44 30.7	-3.9
RIOV				*eS*	**Sn**	**17 45 00.5**	**+1.4**
RIOV	**Rio Grande**	**2.06**	**195**	*eP*	Pn	17 44 30.8	-3.9
RIOV				*eS*	**Sn**	**17 45 01.5**	**+2.4**
PCRV	**Puerto La Cruz**	**3.31**	**272**	*eP*	**Pn**	**17 44 50.1**	**-1.6**
PCRV	**Puerto La Cruz**	**3.31**	**272**	*eP*	**Pn**	**17 44 50.7**	**-1.0**
PRGV	**PARIAGUAN**	**3.57**	**249**	*eP*	**Pn**	**17 44 54.2**	**-1.1**
PRGV	**PARIAGUAN**	**3.57**	**249**	*eP*	**Pn**	**17 44 55.0**	**-0.3**
MCLT	**Moule a Chique**	**3.63**	**5**	*eP*	**Sn**	**17 45 39.3**	**+1.5**
LUEV	**Luepa**	**4.21**	**182**	*eP*	Pn	17 44 56.7	-7.5
LUEV	**Luepa**	**4.21**	**182**	*eP*	Pn	17 44 57.2	-7.0
CUPV	**Cœpira**	**4.44**	**270**	*eP*	**Pn**	**17 45 06.8**	**-0.5**
CUPV	**Cœpira**	**4.44**	**270**	*eP*	**Pn**	**17 45 06.4**	**-1.0**
TURV	**Turiamo**	**6.47**	**274**	*eP*	**Pn**	**17 45 33.3**	**-1.8**
TURV	**Turiamo**	**6.47**	**274**	*eP*	**Pn**	**17 45 33.5**	**-1.6**
BAUV	**El Baul**	**6.76**	**261**	*eP*	**Pn**	**17 45 37.3**	**-1.9**
BAUV				*eS*	**Sn**	**17 46 57.2**	**+2.2**
BAUV	**El Baul**	**6.76**	**261**	*eP*	**Pn**	**17 45 38.1**	**-1.1**
BAUV				*eS*	**Sn**	**17 46 57.2**	**+2.2**
MAPV	**Macapo**	**7.08**	**269**	*eP*	**Pn**	**17 45 41.7**	**-1.7**
PTGA	**Pitinga**	**10.81**	**173**	Pn	Pn	17 46 27.4	-7.3
	3.0nm,0.3s,baz=357,slow=18,SNR=15						
PTGA				Sn	**Sn**	**17 48 33.9**	**-0.5**
	1.6nm,0.3s,baz=236,slow=18,SNR=3.5						
PTGA				Lg	Lg	17 49 29.7	
	3.3nm,0.3s,baz=83,slow=21,SNR=5.8						
PTGA				LR	LR	17 51 06.4	
	comp=Z,1μm,19.9s,baz=353,slow=40						
ROSC	**El Rosal**	**13.94**	**249**	Lg	Lg	17 51 38.4	
	2.6nm,0.3s,baz=99,slow=17,SNR=2.3						
ATAH	**Atahualpa**	**24.14**	**226**	P	**P**	**17 49 16.1**	**+1.5**
	5.8nm,0.6s,baz=304,slow=6.2,SNR=3.8						
SIV	**San Ignacio**	**25.90**	**180**	P	**P**	**17 49 28.8**	**-1.3**
	1.0nm,0.6s,baz=227,slow=13,SNR=2.7						
SIV				Lg	Lg	17 57 26.9	
	4.9nm,0.9s,baz=280,slow=20,SNR=3.1						
SIV				LR	LR	17 59 58.3	
	comp=Z,909nm,18.3s,slow=37						
LPAZ	**La Paz**	**27.06**	**195**	Lg	Lg	17 58 12.8	
	6.3nm,1.0s,baz=199,slow=12,SNR=5.6						
LPAZ				LR		18 00 58.0	
	comp=Z,796nm,18.1s,baz=230,slow=38						
BDFB	**Brasilia**	**28.73**	**153**	Lg	Lg	17 58 51.1	
	5.7nm,0.9s,baz=154,slow=17,SNR=2.8						
BDFB				LR	LR	18 01 46.0	
	comp=Z,1000nm,18.0s,baz=128,slow=37						
CPUP	**Villa Florida**	**36.39**	**174**	LR	LR	18 06 33.2	
	comp=Z,457nm,19.1s,baz=156,slow=37						
TXAR	**Lajitas Array**	**43.96**	**302**	P	**P**	**17 52 07.3**	**+2.1**
	0.3nm,0.4s,baz=116,slow=10,SNR=4.0						
SCHQ	**Schefferville**	**44.86**	**355**	P	**P**	**17 52 12.1**	**+0.2**
	2.1nm,0.6s,baz=175,slow=10,SNR=4.2						
PDAR	**Pinedale Array**	**53.12**	**317**	P	**P**	**17 53 14.0**	**-1.6**
	0.7nm,0.5s,baz=117,slow=9.5,SNR=5.7						
NVAR	**Mina Array Bea**	**58.09**	**309**	P	**P**	**17 53 51.6**	**+0.2**
	0.3nm,0.5s,baz=111,slow=6.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**61.63**	**80**	P	P	17 54 11.9	-3.9
	0.3nm,0.5s,baz=290,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**64.72**	**336**	P	**P**	**17 54 34.1**	**-1.3**
	0.2nm,0.5s,baz=112,slow=7.5,SNR=4.2						
ILAR	**Eielson Array**	**79.09**	**334**	P	**P**	**17 56 00.8**	**-0.7**
	0.2nm,0.6s,baz=88,slow=5.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**145.58**	**35**	PKPbc	**PKPdf**	**18 03 36.0**	**-0.4**
	0.6nm,0.7s,baz=305,slow=4.5,SNR=5.3						

ISCJB 15 17:46:01.9±0.8, 11˚47S±0˚07×166˚45E±0˚09, h59km, mb3.8/8, Error ellipse: s-maj=13.2km s-min=9.2km az=150.4
IDC 15 17:46:07.4±3.4, 11˚32S×166˚31E, h89km±28km, mb3.5/8, mb1 3.7/10,mb1mx3.6/21,mbtmp3.9/10,MS3.1/2, Ms1 3.1/2,ms1mx2.7/25, Error ellipse: s-maj=25.5km s-min=22.9km az=85.0

ISC 15 17:46:03.4±0.9, 11˚45S±0˚1×166˚5E±0˚1, h59km, n19, σ0s72/14, mb3.8/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.75**	**286**	P	**Pn**	**17 47 40.4**	**+0.4**
	40nm,0.3s,baz=149,slow=5.9,SNR=36						
HNR				S	**Sn**	**17 48 55.8**	**+0.3**
	8.6nm,0.3s,baz=151,slow=13,SNR=2.1						
HNR				LR	LR	17 49 43.3	
	comp=Z,105nm,18.7s,baz=123,slow=33						
HNR	**Honiara**	**6.75**	**286**	P	**Pn**	**17 47 40.0**	**0.0**
DZM	**Mont Dzumac**	**10.61**	**180**	P	Pn	17 48 37.9	+5.1
	0.3nm,0.3s,baz=338,slow=19,SNR=4.7						
DZM				S	**Sn**	**17 50 29.9**	**-0.3**
	baz=346,slow=19,SNR=2.1						
PMG	**Port Moresby**	**19.14**	**274**	LR	LR	17 56 27.6	
	comp=Z,84nm,21.0s,baz=122,slow=33						
H11S2	**WAKE ISLAND Hy**	**29.70**	**0**	T	T	18 23 13.5	
	baz=183,slow=78,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**29.71**	**0**	T	T	18 23 13.3	
	baz=183,slow=78,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**29.72**	**0**	T	T	18 23 16.2	
	baz=183,slow=78,SNR=4.8						
STKA	**Stephens Creek**	**30.71**	**225**	P	**P**	**17 52 14.2**	**+1.3**
	1.7nm,0.8s,baz=53,slow=10,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**30.92**	**1**	T	T	18 24 46.8	
	baz=182						
H11N3	**WAKE ISLAND Hy**	**30.93**	**1**	T	T	18 24 43.3	
	baz=182						
H11N2	**WAKE ISLAND Hy**	**30.94**	**1**	T	T	18 24 48.3	
	baz=182						
WRA	**Warramunga Arr**	**32.08**	**251**	P	**P**	**17 52 24.2**	**-0.8**
	1.1nm,0.8s,baz=82,slow=9.2,SNR=7.1						
ASAR	**Alice Springs**	**33.31**	**244**	P	**P**	**17 52 35.2**	**-0.6**
	1.1nm,0.8s,baz=65,slow=10,SNR=16						
ASAR				PcP	**PcP**	**17 55 17.4**	**+0.5**
	0.3nm,0.5s,baz=73,slow=2.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**72.95**	**293**	P	**P**	**17 57 25.8**	**-1.3**
	0.4nm,0.8s,baz=115,slow=4.1,SNR=4.2						
SONM	**Songino Array**	**79.40**	**324**	P	**P**	**17 58 03.6**	**+0.3**
	0.5nm,0.9s,baz=111,slow=4.2,SNR=2.3						
ILAR	**Eielson Array**	**83.61**	**18**	P	**P**	**17 58 25.7**	**+0.7**
	0.5nm,0.7s,baz=266,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**94.30**	**317**	P	**P**	**17 59 16.2**	**-0.3**
	0.8nm,0.7s,baz=85,slow=6.2,SNR=13						
YKA	**Yellowknife Ar**	**94.94**	**27**	P	**P**	**17 59 18.9**	**-0.1**
	0.2nm,0.5s,baz=259,slow=4.4,SNR=4.0						
ARCES	**ARCESS Array B**	**116.87**	**346**	PKP	**PKPdf**	**18 04 40.5**	**-0.3**
	1.4nm,0.8s,baz=38,slow=4.6,SNR=6.9						

IDC 15 17:51:42.0±14.0, 14˚34S×165˚94E, h0km, mb3.6/3, mb1 3.7/4,mb1mx3.5/20,mbtmp3.6/4,ML2.8/1, Error ellipse: s-maj=247.1km s-min=38.9km az=58.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.71**	**177**	Pn	Pn	17 53 35.0	-0.7
	0.1nm,0.3s,baz=342,slow=20,SNR=3.0						
DZM				Sn	Sn	17 55 04.2	+0.3
	0.2nm,0.3s,baz=150,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**28.29**	**228**	P	P	17 57 38.1	+0.8
	1.3nm,0.7s,baz=55,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**30.68**	**255**	P	P	17 57 58.2	-0.5
	0.2nm,0.5s,baz=87,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**31.62**	**248**	P	P	17 58 06.8	-0.1
	0.4nm,0.5s,baz=73,slow=9.6,SNR=13						

IDC 15 18:00:44.9±0.3, 10˚54N×63˚50W, h0km, mb5.0/28, mb1 5.1/30,mb1mx5.1/31,mbtmp5.0/30,ML4.1/2,MS5.0/36, Ms1 5.0/36,ms1mx4.9/45, Error ellipse: s-maj=11.4km s-min=8.7km az=120.0
LDG 15 18:00:44.2±0.2, 10˚58N×63˚75W, h10km, Mb5.5/44, Ms4.8/12, Error ellipse: s-maj=14.0km s-min=4.5km az=107.0
ISCJB 15 18:00:45.4±0.5, 10˚53N±0˚02×63˚48W±0˚01, h6km±2km, mb5.3/293,MS5.2/370, Error ellipse: s-maj=3.1km s-min=1.9km az=172.0
MOS 15 18:00:45.7±1.0, 10˚55N×63˚52W, h10km, mb5.6/95, MS5.1/75, Error ellipse: s-maj=5.4km s-min=4.3km az=54.7
GCMT 15 18:00:46.7±0.1, 10˚55N×63˚53W, h14km, MW5.6/117, Moment Tensor Solution. s83,c141; s117,c231; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-0.21±.04; Mθθ 0.56±.04; Mϕϕ-0.34±.05; Mrθ 0.13±.08; Mθϕ-2.77±.04; Mϕr-0.35±.10; Best double couple: M=2.83100×10^17 NP1:ϕ±175.00000°, δ89.00000°, λ7.00000°. NP2:ϕ±85.00000°, δ83.00000°, λ179.00000°. Principal axes: T 2.9490, Plg6.0000°, Azm41.0000°; N -0.2360, Plg83.0000°, Azm185.0000°; P -2.7130, Plg4.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 15 18:00:46.7±0.9, 10˚45N×63˚48W, h8km±5km, mb5.4/166, MS5.2/297,MW5.5,MW5.4(CAR) Error ellipse: s-maj=3.6km s-min=2.7km az=181.0
NEIC Eleven people injured and three houses damaged at Cariaco. Felt [IV] at Barcelona and Cumana; [III] at Ciudad Guayana, Porlamar and Puerto La Cruz; [II] at Caracas. Also felt at Acarigua, Carupano, La Asuncion, Maturin and Petare. Felt at Port-of-Spain, Trinidad.
FUNV 15 18:00:47.0, 10˚51N×63˚49W, h5km, MW5.4
TRN 15 18:00:51.9, 10˚75N×63˚38W, h88km, MD4.8
TRN Felt (III) in Port of Spain and Guayaguare.
SZGRF 15 18:00:54.9, 10˚86N×62˚93W, h33km, mb5.4, Near coast of Venezuela
NEIC 15 18:00:59.7±0.0, 10˚83N×63˚43W, h10km, Moment Tensor Solution. s141 Moment tensor: Scale 10^17 Nm; Mrr-0.31; Mθθ 0.49; Mϕϕ-0.18; Mrθ 0.50; Mϕϕ-2.26; Mθr 1.21; Best double couple: M=2.60000×10^17 NP1:ϕ±173.00000°, δ78.00000°, λ-26.00000°. NP2:ϕ±269.00000°, δ64.00000°, λ-166.00000°. Principal axes: T 2.5100, Plg9.0000°, Azm223.0000°; N 0.2600, Plg61.0000°, Azm330.0000°; P -2.7600, Plg27.0000°, Azm128.0000°;

ISC 15 18:00:47.4±0.6, 10.49N±0.03×63.49W±0.02, h13km±3km, n1398, σ1s28/1269, mb5.4/297, MS5.2/372, 237C-254D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAMV	**Campeare**	**0.17**	**69**	*iP*	**Pg**	**18 00 49.3**	**-2.2**
CRUV	**Carupano**	**0.31**	**53**	*eP*	**Pg**	**18 00 52.3**	**-1.4**
CRUV				*eS*	**Sg**	**18 00 56.7**	**-1.3**
CRUV	**Carupano**	**0.31**	**53**	*eP*	**Pg**	**18 00 52.3**	**-1.4**
CRUV				*eS*	**Sg**	**18 00 56.5**	**-1.5**
CATA	**Catuaro Ar

BHS Barnard House 3.62 39 *e*P **Pn 18 01 42.6 -0.6**
SFAN Fancy Village 3.66 38 *e*P **Pn 18 01 43.2 -0.6**
SFAN Fancy Village 3.66 38 *e*P **Pn 18 01 43.2 -0.6**
MCLT Moule a Chique 4.05 38 *e*P **Pn 18 01 47.6 -1.6**
MCLT *e*S Sn 18 02 30.2 -6.4
MCLT Moule a Chique 4.05 38 *e*P **Pn 18 01 47.6 -1.6**
MCLT *e*S Sn 18 02 30.2 -6.4
SLB Belfond 4.09 36 *e*P **Pn 18 01 49.2 -0.6**
SLB Belfond 4.09 36 *e*P **Pn 18 01 49.1 -0.6**
TURV Turiamo 4.28 270⇓ *e*P **Pn 18 01 51.3 -1.0**
TURV *e*S **Sn 18 02 39.8 -2.4**
TURV Turiamo 4.28 270 *e*P **Pn 18 01 51.6 -0.8**
BBGH Gun Hill 4.66 55 *e*Pn **Pn 18 01 59.3 +1.7**
H05S1 Guadeloupe/Mar 4.69 33 Pn **Pn 18 01 56.9 -1.0**
SNR=300
H05S1 Sn **Sn 18 02 51.1 -1.2**
BAUV El Baul 4.75 252⇓ *e*P **Pn 18 01 57.3 -1.5**
BAUV *e*S **Sn 18 02 50.2 -3.5**
BAUV El Baul 4.75 252 *e*P **Pn 18 01 57.6 -1.1**
FDF Fort de France 4.79 28 *e*P **Pn 18 01 58.0 -1.5**
FDF Fort de France 4.79 28 *e*Pn **Pn 18 01 58.0 -1.5**
MAPV Macapo 4.94 263⇑ *e*P **Pn 18 02 00.7 -0.7**
LUEV Luepa 5.03 156 *e*P **Pn 18 02 01.8 -1.0**
DSHT Scott's Head 5.13 23 *e*P **Pn 18 02 03.4 -0.6**
DSHT Scott's Head 5.13 23 *e*P **Pn 18 02 03.4 -0.6**
DPMT Pointe Michel 5.17 23 *e*P **Pn 18 02 04.2 -0.4**
DPMT Pointe Michel 5.17 23 *e*P **Pn 18 02 04.2 -0.4**
DBCT Belle View Cho 5.19 23 *e*P **Pn 18 02 04.8 -0.1**
DBCT Belle View Cho 5.19 23 *e*P **Pn 18 02 04.8 -0.1**
MDN Morne-Daniel 5.22 23 *e*P **Pn 18 02 04.8 -0.4**
MDN Morne-Daniel 5.22 23 *e*P **Pn 18 02 04.2 -1.0**
JACV Jacura 5.29 277 *e*P **Pn 18 02 05.3 -0.9**
BBL Barber's Block 5.38 21 *e*P **Pn 18 02 05.6 -1.8**
TBG Guadaloupe-3 5.62 18⇑ *i*P **Pn 18 02 09.4 -1.4**
HMG Houelmont 5.73 17 *e*P **Pn 18 02 11.1 -1.2**
PHG Guadaloupe-2 5.78 18⇑ *i*P **Pn 18 02 11.9 -1.2**
SCG Saint Claude 5.78 17 *e*P **Pn 18 02 11.7 -1.4**
TAG Tarade 5.80 18 *e*P **Pn 18 02 12.1 -1.3**
ECG Echelle 5.80 18⇑ *i*P **Pn 18 02 12.0 -1.4**
DOG Dongo Capester 5.80 18⇑ *i*P **Pn 18 02 12.1 -1.2**
LKG Breislack 5.80 18 *e*P **Pn 18 02 12.1 -1.3**
MLG Mont-d'or 5.80 17 *e*P **Pn 18 02 11.9 -1.4**
FNG Fond-Bernard 5.81 17 *e*P **Pn 18 02 11.9 -1.5**
SSG Sans Toucher 5.84 17 *e*P **Pn 18 02 12.3 -1.5**
BCG Bois Riant Cap 5.85 18 *e*P **Pn 18 02 12.4 -1.6**
SANV Sanarito 6.04 261⇓ *e*P **Pn 18 02 15.3 -1.3**
SANV *e*S **Sn 18 03 21.3 -4.5**
SANV Sanarito 6.04 261 *e*P **Pn 18 02 15.9 -0.8**
SEG Port Louis 6.19 18⇑ *i*P **Pn 18 02 17.7 -0.8**
SIQV Siquisique 6.22 272⇑ *e*P **Pn 18 02 17.0 -2.0**
SIQV *e*S Sn 18 03 23.9 -6.2
DEG La Desirade 6.25 22⇑ *i*P **Pn 18 02 18.2 -1.3**
H05N1 Guadeloupe/Mar 6.26 22 Pn **Pn 18 02 18.9 -0.6**
SNR=1112
H05N1 Sn **Sn 18 03 29.7 -1.2**
SNR=5.4
CURV Curarigua 6.39 266⇑ *e*P **Pn 18 02 20.1 -1.3**
CURV *e*S **Sn 18 03 28.7 -5.7**
MONV Montecano 6.53 284⇑ *e*P **Pn 18 02 21.4 -1.8**
ELOV Elorza 6.87 240⇑ *e*P **Pn 18 02 25.4 -2.5**
DABV Dabajuro 7.04 274 *e*P **Pn 18 02 28.5 -1.8**
SABA Saba 7.09 2 *e*Pn **Pn 18 02 30.7 -0.3**
SDV Santo Domingo 7.22 258 *e*Pn **Pn 18 02 30.1 -2.9**
ANWB Willy Bob 7.33 13 *e*Pn **Pn 18 02 33.0 -1.2**
ANWB *e*Sn **Sn 18 03 56.9 -0.4**
CDVI St. Croix 7.33 350 *e*Pn **Pn 18 02 33.9 -0.3**
CDVI *e*Sn **Sn 18 03 53.9 -3.4**
SOCV Socops 7.60 254 *e*P **Pn 18 02 35.8 -2.2**
SOCV *e*S Sn 18 03 56.5 -7.5
MTP Monte Pirata 7.82 345 *e*Pn **Pn 18 02 40.0 -1.0**
CPD Cerro la Pandu 7.86 343 *e*P **Pn 18 02 42.5 +0.9**
CPD Cerro la Pandu 7.86 343 *e*Pn **Pn 18 02 42.5 +0.9**
HUMP Col San Antoni 7.95 344 *e*Pn **Pn 18 02 45.7 +3.0**
CBYP Canovanas 8.07 344 *e*Pn **Pn 18 02 46.0 +1.6**
CBYP *e*Sn **Sn 18 04 11.3 -4.4**
OBIP Obispado Ponce 8.10 338 *e*Pn **Pn 18 02 46.0 +1.2**
CELP Cerrillos 8.12 339 *e*Pn **Pn 18 02 45.4 +0.4**
CRPR Cabo Rojo, PR 8.26 335 *e*Pn **Pn 18 02 48.3 +1.4**
LSP Las Mesas 8.40 336 *e*Pn **Pn 18 02 47.9 -1.1**
AOPR Arecibo Observ 8.43 338 *e*Pn **Pn 18 02 51.7 +2.3**
MPR Mayaguez 8.45 336 *e*Pn **Pn 18 02 52.2 +2.5**
AGP Aguadilla 8.63 336 *e*Pn Pn 18 02 59.5 +7.4
AGPR Aguadilla, PR 8.67 337 *e*Pn **Pn 18 02 54.5 +1.8**
VIRV Villa del Rosa 8.77 271 *e*P **Pn 18 02 51.7 -2.4**
VIRV *e*S Sn 18 04 23.9 -9.0
CAPV Capacho 9.10 254 *e*P **Pn 18 02 56.8 -2.0**
SDDR Presa de Saban 11.32 319 *e*Pn **Pn 18 03 29.9 +0.9**
PTGA Pitinga 11.68 162 *e*Pn **Pn 18 03 31.4 -2.6**
116nm,0.7s
PTGA *e*Sn Sn 18 05 34.3 -10
PTGA Lg Lg 18 06 45.2
PTGA Pitinga 11.68 162 Pn **Pn 18 03 32.5 -1.5**
8.9nm,0.3s,baz=355,slow=15,SNR=44
PTGA Sn Sn 18 05 37.6 -6.8
18nm,0.3s,baz=315,slow=12,SNR=8.6
PTGA Lg Lg 18 06 45.2
42nm,0.3s,baz=78,slow=23,SNR=5.8
PTGA LR LR 18 08 14.8
comp=Z,12μm,20.1s,baz=344,slow=38
ROSC El Rosal 12.11 243 *e*Pn **Pn 18 03 38.3 -2.0**
ROSC Lg Lg 18 07 10.4
ROSC El Rosal 12.11 243 Pn **Pn 18 03 38.9 -1.4**
5.0nm,0.3s,baz=101,slow=18,SNR=14
ROSC Lg Lg 18 07 10.4
4.2nm,0.3s,baz=170,slow=11,SNR=2.2
ROSC LR LR 18 08 41.5
comp=Z,56μm,19.6s,baz=30,slow=39
GRTK Grand Turk 13.19 327 *e*Pn **Pn 18 03 55.9 +1.3**
GTBY Guantanamo Bay 14.62 311 *e*Pn **Pn 18 04 15.0 +0.9**
MTDJ Mount Denham 15.63 301 *e*Pn **P 18 04 30.8 -1.0**
1μm,2.1s
BCIP Isla Barro Col 16.17 267 *e*Pn **Pn 18 04 30.2 -4.3**
392nm,1.2s
OTAV Otavalo 18.03 237 *e*Pn **Pn 18 04 58.1 -0.3**
268nm,1.5s
SAML Samuel 19.31 179 *e*P **P 18 05 12.1 -0.3**
240nm,1.4s
SAML *e*Sn Sn 18 08 33.7 -16
JTS JuntasAbangare 21.12 271 *e*P **P 18 05 32.4 +0.3**
16nm,1.3s
JTS JuntasAbangare 21.12 271 P **P 18 05 32.4 +0.3**
10nm,0.8s,baz=65,slow=6.1,SNR=6.7
JTS LR LR 18 15 08.8
comp=Z,5μm,18.7s,baz=81,slow=41
BBSR BB Station 21.81 357 *e*P **P 18 05 40.7 +1.4**
BBSR LR LR
comp=Z,3μm,20.0s
ATAH Atahualpa 22.95 221 P **P 18 05 52.1 0.0**
ATAH S **S 18 10 05.5 +2.8**
ATAH Lg Lg 18 12 17.8
ATAH Atahualpa 22.95 221 P **P 18 05 52.1 0.0**
comp=Z,153nm,1.0s,baz=56,slow=4.5,SNR=31
ATAH S **S 18 10 05.4 +2.8**
comp=Z,34nm,1.1s,baz=234,slow=16,SNR=2.7
ATAH Lg Lg 18 12 17.8
comp=Z,41nm,1.1s,baz=293,slow=18,SNR=2.3
ATAH LR LR 18 14 27.0
comp=Z,4μm,21.0s,baz=209,slow=36
TGUH Tegucigalpa,Un 23.51 281 *e*P **P 18 06 01.4 +4.1**
comp=Z,302nm,1.2s
TGUH LR LR
comp=Z,9μm,19.0s
TEIG Tepich 25.76 295 *e*P **P 18 06 16.9 -1.1**
comp=Z,222nm,1.9s
TEIG Tepich 25.76 295 P **P 18 06 17.2 -0.8**
comp=Z,13nm,0.8s,baz=153,slow=9.0,SNR=2.3
TEIG LR LR 18 17 19.2
comp=Z,4μm,18.2s,baz=298,slow=39
NNA Nana 25.98 211 P **P 18 06 20.6 +0.5**
comp=Z,567nm,0.9s,SNR=8.4
NNA Nana 25.98 211 *e*P **P 18 06 20.1 0.0**
NNA LR LR
comp=Z,11μm,21.0s
SIV San Ignacio 26.42 175 P **P 18 06 24.1 +0.1**
SIV Lg Lg 18 14 29.8
SIV San Ignacio 26.42 175 P **P 18 06 24.1 +0.1**
comp=Z,18nm,0.9s,baz=22,slow=11,SNR=21
SIV Lg Lg 18 14 29.8
comp=Z,186nm,1.1s,baz=274,slow=22,SNR=3.3
SIV LR LR 18 16 55.5
comp=Z,6μm,19.9s,slow=37
APG El Apazote 26.68 283 P **P 18 06 26.0 -0.8**
APG El Apazote 26.68 283 P **P 18 06 26.0 -0.8**
comp=Z,4.2nm,0.3s,baz=131,slow=4.3,SNR=9.9
APG LR LR 18 18 27.1
comp=Z,5μm,18.3s,baz=100,slow=40
LPAZ La Paz 27.00 190 *e*P **P 18 06 31.0 +1.0**
LPAZ Lg Lg 18 14 57.3
LPAZ La Paz 27.00 190 P **P 18 06 30.9 +0.9**
comp=Z,12nm,0.9s,baz=12,slow=11,SNR=24
LPAZ Lg Lg 18 14 57.3
comp=Z,142nm,1.1s,baz=191,slow=7.3,SNR=5.8
LPAZ LR LR 18 17 26.2
comp=Z,5μm,18.1s,baz=355,slow=37
CSU Charleston Sou 27.10 328 *e*P **P 18 06 34.1 +4.1**
NHSC New Hope 27.25 328 *e*P **P 18 06 30.6 -0.8**
comp=Z,199nm,1.4s
NHSC LR LR
comp=Z,3μm,19.0s
CNNC Cliffs of the 27.91 334 PFAKE 18 06 50.0 +13
CNNC LR LR
comp=Z,3μm,20.0s
TIGA Tifton 27.96 321 *e*P **P 18 06 39.8 +2.0**
comp=Z,333nm,1.6s
TIGA LR LR
comp=Z,4μm,21.2s
TIGA Tifton 27.96 321 ⇑P **P 18 06 39.1 +1.3**
baz=28
JSC Jenkinsville 28.73 328 *e*P P 18 06 48.1 +3.5
JSC Jenkinsville 28.73 328 *e*P P 18 06 48.1 +3.5
PAYG Puerto Ayora 28.87 249 PFAKE 18 07 00.0 +14
PAYG LR LR
comp=Z,4μm,21.0s
GOGA Godfrey 29.28 324 *e*P **P 18 06 51.4 +1.9**
GOGA pmax pmax
comp=Z,35nm,1.4s
GOGA MLR MLR
comp=Z,2μm,21.0s
GOGA Godfrey 29.28 324 *e*P **P 18 06 51.4 +1.9**
comp=Z,35nm,1.4s
GOGA LR LR
comp=Z,2μm,21.0s
KMSC Kings Mountain 29.44 329 PFAKE 18 07 00.0 +9.1
KMSC LR LR
comp=Z,3μm,19.4s
KMSC Kings Mountain 29.44 329 ⇑P **P 18 06 53.2 +2.3**
baz=30,SNR=16
URVA University of 29.78 337 *e*P P 18 06 57.9 +4.0
BRAL Brewton 29.92 317 PFAKE 18 07 10.0 +15
BRAL LR LR
comp=Z,9μm,20.4s
JSRW J. Sargeant Re 30.02 337 *e*P **P 18 06 57.5 +1.5**
BDFB Brasilia 30.14 149 *e*P **P 18 06 59.5 +2.1**
BDFB Lg Lg 18 16 23.7
BDFB Brasilia 30.14 149 P **P 18 06 58.2 +0.7**
comp=Z,13nm,0.8s,baz=340,slow=5.1,SNR=9.8
BDFB Lg Lg 18 16 23.7
comp=Z,61nm,1.0s,baz=225,slow=20,SNR=2.6
BDFB LR LR 18 19 36.7
comp=Z,10μm,18.7s,baz=319,slow=38
CBN Corbin 30.28 338 PFAKE 18 07 10.0 +12
CBN LR LR
comp=Z,3μm,20.0s
BLA Blacksburg 30.68 333 *e*P **P 18 07 03.4 +1.5**
BLA pmax pmax
comp=Z,39nm,0.8s
BLA MLR MLR
comp=Z,2μm,19.0s
BLA Blacksburg 30.68 333 *e*P **P 18 07 03.4 +1.5**
comp=Z,39nm,0.8s
BLA LR LR
comp=Z,2μm,19.0s
TKL Tuckaleechee C 31.11 327 *e*P **P 18 07 03.0 -2.7**
SDMD Soldier's Deli 31.16 340 P P 18 07 09.7 +3.5
SDMD LR LR
comp=Z,3μm,20.3s
CPCT Cooper Cave 31.36 326 *e*P **P 18 07 09.1 +1.1**
MVL Millersville 31.53 341 *e*P P 18 07 12.6 +3.3
MVL LR LR
comp=Z,3μm,20.6s
CPNY Central Park 31.57 345 PFAKE 18 07 20.0 +10
CPNY LR LR
comp=Z,3μm,21.6s
TZTN Tazewell 31.66 328 PFAKE 18 07 20.0 +9.4
TZTN LR LR
comp=Z,3μm,19.9s
PAL Palisades 31.76 345 PFAKE 18 07 20.0 +8.7
PAL LR LR
comp=Z,12μm,21.1s
LUPA Lehigh Univers 31.78 343 *e*P **P 18 07 14.5 +2.9**
LUPA LR LR
comp=Z,3μm,20.4s
RCBR Riachuelo 31.89 119 *e*P **P 18 07 14.1 +1.2**
comp=Z,14nm,1.2s
RCBR Riachuelo 31.89 119 LR LR 18 20 52.9
comp=Z,7μm,19.3s,baz=301,slow=38
SWET Sewanee 31.99 324 *e*P **P 18 07 14.3 +0.8**
comp=Z,98nm,1.6s
SWET LR LR
comp=Z,2μm,21.0s
ODNJ Ogdensburg 32.01 344 *e*P **P 18 07 16.5 +2.9**
comp=Z,31nm,0.9s
ODNJ LR LR
comp=Z,2μm,18.1s
BRYW Bryant College 32.10 349 PFAKE 18 07 30.0 +16
BRYW LR LR
comp=Z,2μm,18.2s
WES Weston 32.51 349 PFAKE 18 07 30.0 +12
WES LR LR
comp=Z,3μm,20.4s
QUA2 Belchertown 32.61 348 *e*sP **sP 18 07 27.5 +3.1**
QUA2 LR LR
comp=Z,3μm,20.5s
HRV Adam Dziewonsk 32.67 349 PFAKE 18 07 30.0 +11
HRV LR LR
comp=Z,2μm,19.9s
KSPA Keystone Colle 32.78 343 *e*P **P 18 07 22.7 +2.4**
VBMS Vicksburg 33.01 315 *e*P P 18 07 31.1 +8.6
comp=Z,126nm,1.1s
VBMS LR LR
comp=Z,5μm,20.5s
LVC Limon Verde 33.32 189 *e*P **P 18 07 24.3 -1.3**
LVC LR LR
comp=Z,5μm,22.0s
TRY Troy 33.33 346 PFAKE 18 07 40.0 +15
TRY LR LR
comp=Z,800nm,21.7s
BINY Binghamton 33.44 343 *e*P **P 18 07 27.8 +1.7**
BINY LR LR
comp=Z,3μm,20.0s
FFD Franklin Falls 33.62 349 PFAKE 18 07 40.0 +12
FFD LR LR
comp=Z,3μm,20.0s
OXF Oxford 33.65 319 *e*P **P 18 07 28.5 +0.5**
OXF pmax pmax
comp=Z,245nm,1.1s
OXF Oxford 33.65 319 *e*P **P 18 07 28.5 +0.5**
comp=Z,245nm,1.1s
ACCN Adirondack Com 33.95 347 *e*P P 18 07 34.7 +4.2
ACCN LR LR
comp=Z,2μm,20.0s
EMMW East Machias 34.27 355 *e*P P 18 07 37.4 +4.2
EMMW LR LR
comp=Z,3μm,20.0s
ACSO Alum Creek Sta 34.30 333 *e*P **P 18 07 34.9 +1.3**
ACSO LR LR
comp=Z,2μm,20.0s
ALLY Alegheny Colle 34.32 338 *e*P **P 18 07 35.4 +1.7**
ALLY LR LR
comp=Z,3μm,20.0s
WCI Wyandotte Cave 34.37 327 *e*P **P 18 07 31.8 -2.4**
WCI pmax pmax
comp=Z,52nm,1.0s
WCI MLR MLR
comp=Z,2μm,19.4s
WCI Wyandotte Cave 34.37 327 *e*P **P 18 07 31.8 -2.4**
comp=Z,52nm,1.0s
WCI LR LR
comp=Z,2μm,19.4s
WVL Waterville 34.37 352 *e*P P 18 07 38.0 +3.9
LBNH Lisbon 34.41 349 *e*P P 18 07 38.9 +4.4
LBNH MLR MLR
comp=Z,3μm,19.0s
LBNH Lisbon 34.41 349 *e*P P 18 07 38.9 +4.4
LBNH LR LR
comp=Z,3μm,19.0s
MDV Middlebury 34.43 348 *e*P **P 18 07 36.8 +2.2**
UTMT University of 34.50 322 *e*P **P 18 07 36.3 +0.9**
comp=Z,302nm,0.9s
UTMT LR LR
comp=Z,2μm,18.9s
HALT Halls 34.50 321 *e*P **P 18 07 37.1 +1.7**
MMNY Mt. Morris Dam 34.50 341 *e*P P 18 07 38.8 +3.5
MMNY LR LR
comp=Z,7μm,19.4s
NCB Newcomb 34.63 346 *e*P **P 18 07 39.2 +2.8**
comp=Z,64nm,1.3s
NCB LR LR
comp=Z,2μm,20.0s
ERPA Erie 34.67 338 PFAKE 18 07 50.0 +13
ERPA LR LR
comp=Z,3μm,21.0s
USIN University of 34.92 326 *e*P **P 18 07 39.0 +0.1**
USIN LR LR
comp=Z,2μm,20.6s
GNAR Gosnell 34.96 321 *e*P **P 18 07 39.6 +0.3**
PVMO Portageville 35.05 322 PFAKE 18 07 50.0 +10
PVMO LR LR
comp=Z,2μm,20.3s
HBAR Harrisburg 35.10 320 *e*P **P 18 07 43.6 +3.0**
BLO Bloomington 35.18 328 *e*P **P 18 07 42.3 +1.1**
BLO MLR MLR
comp=Z,3μm,20.7s
BLO Bloomington 35.18 328 *e*P **P 18 07 42.3 +1.1**
BLO LR LR
comp=Z,3μm,20.7s
FRNY Flat Rock 35.31 348 *e*P P 18 07 46.4 +4.1
comp=Z,68nm,1.8s
FRNY LR LR
comp=Z,2μm,20.3s
LONY Lake Ozonia 35.33 346 *e*P **P 18 07 43.6 +1.2**
LONY LR LR
comp=Z,2μm,21.0s
PTN Potsdam (NY) 35.38 346 *e*P P 18 07 47.1 +4.3
PTN MLR MLR
comp=Z,4μm,20.9s
PTN Potsdam (NY) 35.38 346 *e*P P 18 07 47.1 +4.3
PTN LR LR
comp=Z,4μm,20.9s
SIUC Southern Illin 35.63 324 *e*P **P 18 07 45.7 +0.6**
SIUC LR LR
comp=Z,2μm,21.7s
UALR University of 35.73 317 *e*P **P 18 07 45.9 -0.1**
UALR LR LR
comp=Z,7μm,20.3s
PBMO Poplar Bluff 35.73 321 *e*P **P 18 07 46.7 +0.7**
PBMO LR LR
comp=Z,2μm,18.3s
NATX Nacogdoches 35.75 311 *e*P **P 18 07 49.0 +2.7**
HKT Hockley 35.81 307⇓ *e*P **P 18 07 48.8 +2.1**
HKT pmax pmax
comp=Z,87nm,2.5s
HKT MLR MLR
comp=Z,2μm,19.0s
HKT Hockley 35.81 307 *e*P **P 18 07 46.7 +0.1**
comp=Z,111nm,1.8s
HKT LR LR
comp=Z,2μm,19.3s
PQI Presque Isle 36.26 355 PFAKE 18 08 00.0 +10
PQI LR LR
comp=Z,3μm,18.9s
AAM Ann Arbor 36.28 334 *e*P **P 18 07 52.3 +1.7**
AAM MLR MLR
comp=Z,2μm,20.0s
AAM Ann Arbor 36.28 334 *e*P **P 18 07 52.3 +1.7**
AAM LR LR
comp=Z,3μm,20.0s
035Z Hargill 36.29 301 ⇑P **P 18 07 51.8 +0.8**
baz=36
SFIN Scholer Farm 36.38 329 *e*P **P 18 07 52.2 +0.7**
comp=Z,25nm,0.8s
SFIN LR LR
comp=Z,2μm,18.9s
SFIN Scholer Farm 36.38 329 ⇓P **P 18 07 52.7 +1.2**
baz=36,SNR=8.4
MIAR Mount Ida 36.43 316 *e*P **P 18 07 51.7 -0.3**
MIAR MLR MLR
comp=Z,6μm,20.0s
MIAR Mount Ida 36.43 316 *e*P **P 18 07 51.7 -0.3**
MIAR LR LR
comp=Z,6μm,20.0s
KVTX Kingsville 36.52 303 PFAKE 18 08 00.0 +7.2
KVTX LR LR
comp=Z,3μm,20.0s
835A Beeville 36.73 304 ⇓P **P 18 07 55.4 +0.7**
baz=37
SLM Saint Louis 36.84 324 PFAKE 18 08 10.0 +15
SLM LR LR
comp=Z,2μm,20.0s
735A Kenedy 36.93 305 ⇑P **P 18 07 57.5 +1.2**
baz=37
034A Hebbronville 37.01 301 ⇑P **P 18 07 57.5 +0.5**
baz=37,SNR=8.6
934A Benavides 37.06 302 ⇓P **P 18 07 58.8 +1.4**
baz=37
CPUP Villa Florida 37.08 171 *e*P **P 18 07 56.7 -0.9**
CPUP Villa Florida 37.08 171 P **P 18 07 57.3 -0.2**
comp=Z,15nm,0.7s,baz=341,slow=6.8,SNR=16
635A Leesville 37.11 305 ⇓P **P 18 07 58.8 +1.0**
baz=37
535A Dale 37.21 307 ⇓P **P 18 07 58.6 -0.1**
baz=37,SNR=6.0
834A Tilden 37.27 303 ⇑P **P 18 07 59.7 +0.5**
baz=37
734A La Parita Cree 37.54 304 ⇑P **P 18 08 02.7 +1.2**
baz=38
634A China Grove, S 37.57 305 ⇓P **P 18 08 02.6 +0.8**
baz=38
335A Moody 37.63 308 ⇑P **P 18 08 03.3 +1.1**
baz=38
933A Laredo 37.69 302 ⇓P **P 18 08 03.4 +0.6**
baz=38
534A Blanco 37.92 306 ⇓P **P 18 08 05.1 +0.3**
baz=38
534A ⇓S **S 18 13 57.6 +1.2**
baz=38
WHTX Lake Whitney 37.96 309 *e*P **P 18 08 04.8 -0.3**
comp=Z,30nm,0.7s
WHTX LR LR
comp=Z,2μm,19.8s
WHTX Lake Whitney 37.96 309 ⇑P **P 18 08 05.3 +0.2**
baz=38,SNR=11
833A Chaparral WMA, 38.03 303 ⇑P **P 18 08 06.2 +0.5**
baz=38,SNR=14
434A Burnet 38.08 307 ⇓P **P 18 08 06.5 +0.3**
baz=38,SNR=11
733A Divot King Ran 38.09 304 ⇓P **P 18 08 06.8 +0.6**
baz=38,SNR=7.4
135A Vickery Place, 38.18 310 ⇓P **P 18 08 07.5 +0.6**
baz=38
633A Saathoff Ranch 38.27 305 ⇑P **P 18 08 08.2 +0.5**
baz=38,SNR=10
334A Lometa 38.27 308 ⇑P **P 18 08 08.4 +0.6**
baz=38
533A Kerrville 38.39 306 ⇑P **P 18 08 09.4 +0.6**
baz=38
Z35A Perchaven, San 38.43 312 ⇓P **P 18 08 10.1 +1.2**
baz=38,SNR=6.6
234A Clairette 38.48 309 ⇓P **P 18 08 09.4 -0.1**
baz=38
832A Faith Ranch, C 38.50 303 ⇓P **P 18 08 10.2 +0.6**
baz=38
732A Laxson Ranch, 38.65 303 ⇑P **P 18 08 10.9 0.0**
baz=39,SNR=11
134A White-Moore Ra 38.69 310 ⇓P **P 18 08 11.3 +0.1**
baz=39,SNR=12
TUL1 Tulsa 38.70 316 *e*P **P 18 08 09.5 -1.7**
comp=Z,139nm,1.2s
TUL1 LR LR
comp=Z,6μm,20.0s
TUL1 Tulsa 38.70 316 ⇑P **P 18 08 11.4 +0.2**
baz=39
433A Art 38.70 307 ⇑P **P 18 08 11.2 -0.2**
baz=39,SNR=28
632A Uvalde 38.78 305 ⇓P **P 18 08 11.5 -0.5**
baz=39
333A Richland Sprin 38.85 308 ⇑P **P 18 08 12.4 -0.1**
baz=39,SNR=53
Z34A Collier Ranch, 38.94 311 ⇑P **P 18 08 13.1 -0.1**
baz=39
DRLN Deer Lake 38.97 6 PFAKE 18 08 30.0 +17
DRLN LR LR
comp=Z,4μm,18.6s
233A Rising Star 39.08 309 ⇓P **P 18 08 14.3 -0.1**
baz=39,SNR=14
Y34A Reagan Ranch, 39.09 312 ⇓P **P 18 08 14.7 +0.2**

	baz=39							
532A	**Rocksprings**	39.11	305	⇓P		P	18 08 15.1	+0.3
	baz=39,SNR=15							
JCT	**Junction City**	39.16	306	*e*P		P	18 08 16.1	+0.9
JCT				pmax		pmax		
	comp=Z,30nm,0.9s							
JCT				MLR		MLR		
	comp=Z,2µm,21.0s							
JCT	**Junction City**	39.16	306	*e*P		P	18 08 16.1	+0.9
JCT	comp=Z,30nm,0.9s							
				LR		LR		
	comp=Z,2µm,21.0s							
JCT	**Junction City**	39.16	306	⇓P		P	18 08 15.6	+0.4
	baz=39,SNR=9.4							
432A	**Menard**	39.30	307	⇓P		P	18 08 16.8	+0.4
	baz=39,SNR=16							
133A	**Hamilton Ranch**	39.34	309	⇑P		P	18 08 16.8	+0.2
	baz=39							
631A	**Perdido Creek**	39.39	304	⇓P		P	18 08 17.4	+0.3
	baz=39,SNR=16							
X34A	**Smith Ranch, M**	39.46	313	⇓P		P	18 08 17.9	+0.3
	baz=40,SNR=35							
332A	**Millersview**	39.47	307	⇑P		P	18 08 18.2	+0.4
	baz=40,SNR=15							
Z33A	**Whitaker Ranch**	39.53	311	⇑P		P	18 08 18.5	+0.3
	baz=40,SNR=14							
232A	**Coleman**	39.60	308	⇓P		P	18 08 19.2	+0.3
	baz=40,SNR=15							
531A	**Rocksprings**	39.63	305	⇑P		P	18 08 19.7	+0.5
	baz=40,SNR=12							
W34A	**Bridge Creek,**	39.73	314	⇑P		P	18 08 20.3	+0.4
	baz=40,SNR=7.1							
Y33A	**Hilltop Ranch,**	39.76	312	⇑P		P	18 08 20.6	+0.5
	baz=40							
JFWS	**Jewell Farm**	39.84	329	*e*P		P	18 08 19.7	-0.9
JFWS				pmax		pmax		
	comp=Z,92nm,1.3s							
JFWS				MLR		MLR		
	comp=Z,2µm,19.0s							
JFWS	**Jewell Farm**	39.84	329	*e*P		P	18 08 19.7	-0.9
JFWS	comp=Z,92nm,1.3s							
				LR		LR		
	comp=Z,2µm,19.0s							
V34A	**Guthrie**	39.85	315	⇑P		P	18 08 21.6	+0.7
	baz=40							
431A	**Sonora**	39.88	306	⇓P		P	18 08 21.9	+0.7
	baz=40,SNR=22							
LCO	**Las Campanas**	39.88	190	*e*P		P	18 08 20.5	-0.9
LCO				LR		LR		
	comp=Z,4µm,19.0s							
ABTX	**Abilene, Hawle**	39.90	309	*e*P		P	18 08 20.4	-1.0
	comp=Z,78nm,1.2s							
ABTX				LR		LR		
	comp=Z,1µm,20.1s							
ABTX	**Abilene, Hawle**	39.90	309	⇓P		P	18 08 22.2	+0.9
	baz=40,SNR=12							
X33A	**Lawton**	39.91	312	⇓P		P	18 08 22.4	+1.0
	baz=40,SNR=6.8							
331A	**San Angelo**	39.97	307	⇑P		P	18 08 22.9	+0.9
	baz=40,SNR=6.3							
Z32A	**Haskell**	40.07	310	⇓P		P	18 08 23.4	+0.7
	baz=40,SNR=14							
231A	**Bronte**	40.14	308	⇑P		P	18 08 23.9	+0.6
	baz=40,SNR=5.6							
U34A	**Anderson Ranch**	40.17	316	⇓P		P	18 08 23.9	+0.4
	baz=40							
W33A	**Caddo, Fort Co**	40.18	313	⇑P		P	18 08 24.2	+0.5
	baz=40							
WMOK	**Wichita Mounta**	40.21	313	*e*P		P	18 08 22.2	-1.7
WMOK				MLR		MLR		
	comp=Z,2µm,21.0s							
WMOK	**Wichita Mounta**	40.21	313	*e*P		P	18 08 22.2	-1.7
WMOK				LR		LR		
	comp=Z,2µm,21.0s							
530A	**J-C Ranch, Com**	40.27	305	⇓P		P	18 08 25.0	+0.6
	baz=40,SNR=15							
Y32A	**R-V Farms, Ver**	40.36	311	⇓P		P	18 08 24.9	-0.2
	baz=40,SNR=7.6							
V33A	**Lossen Ranch,**	40.38	314	⇓P		P	18 08 25.4	+0.1
	baz=40,SNR=8.5							
430A	**Baggett Ranch,**	40.42	306	⇑P		P	18 08 26.0	+0.3
	baz=40,SNR=5.5							
X32A	**Elmer**	40.43	312	⇑P		P	18 08 25.6	-0.1
	baz=40,SNR=7.3							
131A	**Roby**	40.49	309	⇓P		P	18 08 26.6	+0.3
	baz=41							
Z31A	**Sharp Cattle R**	40.58	310	⇓P		P	18 08 27.6	+0.6
	baz=41,SNR=22							
330A	**Mertzon**	40.60	307	⇓P		P	18 08 27.2	0.0
	baz=41							
SCIA	**State Center**	40.72	325	*e*P		P	18 08 28.9	+1.0
	comp=Z,90nm,1.4s							
SCIA				LR		LR		
	comp=Z,2µm,20.0s							
W32A	**Sentinel**	40.73	313	⇑P		P	18 08 28.3	+0.1
	baz=41,SNR=12							
230A	**Sterling City**	40.74	307	⇑P		P	18 08 29.1	+0.8
	baz=41,SNR=7.9							
V32A	**Arapaho**	40.87	314	⇑P		P	18 08 29.7	+0.4
	baz=41							
429A	**Davenport Ranc**	40.89	305	⇓P		P	18 08 30.5	+0.9
	baz=41,SNR=7.9							
130A	**Snyder**	40.91	308	⇓P		P	18 08 29.8	+0.1
	baz=41							
Y31A	**Rekieta Farm,**	40.95	311	⇑P		P	18 08 30.3	+0.3
	baz=41,SNR=10.0							
529A	**Stev Forest Ra**	40.98	304	⇑P		P	18 08 31.3	+1.0
	baz=41,SNR=14							
T33A	**Patterson Ranc**	41.00	316	⇓P		P	18 08 30.7	+0.4
	baz=41							
KSU1	**Kansas State U**	41.02	320	*e*P		P	18 08 30.5	+0.1
KSU1				LR		LR		
	comp=Z,3µm,19.0s							
KSU1	**Kansas State U**	41.02	320	⇑P		P	18 08 30.4	-0.1
	baz=41							
X31A	**McDonald Ranch**	41.04	312	⇑P		P	18 08 30.3	-0.4
	baz=41,SNR=18							
S33A	**Kaszmaul Farm,**	41.10	317	⇑P		P	18 08 31.8	+0.7
	baz=41							
U32A	**Winter Ranch,**	41.16	315	⇓P		P	18 08 32.0	+0.3
	baz=41,SNR=5.1							
W31A	**Holland Ranch,**	41.26	312	⇓P		P	18 08 32.9	+0.3
	baz=41							
329A	**Wagon Wheel Ra**	41.27	306	⇓P		P	18 08 33.3	+0.6
	baz=41,SNR=9.9							
628A	**Black Gap, Mar**	41.31	303	⇑P		P	18 08 33.9	+0.9
	baz=41,SNR=26							
Z30A	**Sanderson Ranc**	41.31	309	⇓P		P	18 08 33.6	+0.6
	baz=41,SNR=16							
229A	**Bryant Ranch,**	41.32	307	⇓P		P	18 08 33.2	+0.1
	baz=41							
Y30A	**Stafford Cattl**	41.39	310	⇓P		P	18 08 33.8	+0.1
	baz=41							
528A	**Cox Ranch, San**	41.45	304	⇑P		P	18 08 34.6	+0.3
	baz=42,SNR=31							
V31A	**Spring Creek L**	41.47	313	⇑P		P	18 08 34.9	+0.6
	baz=42,SNR=5.9							
R33A	**Olander Ranch,**	41.47	318	⇓P		P	18 08 35.0	+0.8
	baz=42							
T32A	**Huddler Ranch,**	41.51	316	⇓P		P	18 08 35.8	+1.2
	baz=42,SNR=10							
428A	**Kincaid Ranch,**	41.56	305	⇑P		P	18 08 36.5	+1.4
	baz=42,SNR=38							
X30A	**Coker Ranch, T**	41.62	311	⇑P		P	18 08 35.8	+0.3
	baz=42							
129A	**Stewart Farms,**	41.62	308	⇓P		P	18 08 35.9	+0.4
	baz=42							
COWI	**Conover**	41.69	333	*e*P		P	18 08 36.3	+0.5
	comp=Z,50nm,1.3s							
COWI				LR		LR		
	comp=Z,2µm,19.0s							
627A	**Terlingua Ranc**	41.71	303	⇓P		P	18 08 37.9	+1.5
	baz=42,SNR=27							
Z29A	**Hungry Hill Ra**	41.74	309	⇑P		P	18 08 36.6	0.0
	baz=42,SNR=6.9							
Q33A	**Connelly Farm,**	41.75	319	⇑P		P	18 08 36.8	+0.3
	baz=42,SNR=15							
U31A	**Nine Bar Ranch**	41.76	314	⇓P		P	18 08 37.1	+0.5
	baz=42							
S32A	**Newby Ranch, P**	41.79	316	⇑P		P	18 08 37.1	+0.2
	baz=42,SNR=10							
328A	**Wristen Ranch,**	41.89	306	⇑P		P	18 08 38.0	+0.2
	baz=42,SNR=23							
P33A	**Williams Farm,**	41.90	319	⇓P		P	18 08 38.2	+0.5
	baz=42							
TXAR	**Lajitas Array**	41.90	302	P		P	18 08 37.7	-0.3
TXAR	**Lajitas Array**	41.90	302	P		P	18 08 37.7	-0.3
	comp=Z,3.9nm,0.6s,baz=108,slow=7.0,SNR=23							
Y29A	**Porterfield Fa**	41.96	310	⇑P		P	18 08 38.5	0.0
	baz=42,SNR=18							
228A	**UT Block 9, Go**	41.99	307	⇓P		P	18 08 38.6	-0.1
	baz=42							
T31A	**Randall Ranch,**	41.99	315	⇑P		P	18 08 39.1	+0.6
	baz=42,SNR=13							
R32A	**Long Quarter,**	42.01	317	⇓P		P	18 08 39.3	+0.6
	baz=42							
V30A	**Spur Ranch, Mi**	42.07	313	⇑P		P	18 08 39.5	+0.3
	baz=42							
128A	**Castleberry Fa**	42.09	308	⇑P		P	18 08 39.7	+0.2
	baz=42							
CFAA	**Coronel Fontan**	42.10	186	LR		LR	18 26 13.7	
	comp=Z,346nm,21.8s,baz=31,slow=36							
527A	**Woodward Ranch**	42.12	304	⇑P		P	18 08 40.0	+0.2
	baz=42,SNR=13							
S31A	**Mullinville**	42.12	316	⇓P		P	18 08 40.0	+0.4
	baz=42,SNR=20							
427A	**Hayter Ranch,**	42.18	305	⇓P		P	18 08 40.6	+0.3
	baz=42,SNR=34							
Q32A	**Meitler Ranch,**	42.22	318	⇑P		P	18 08 40.8	+0.4
	baz=42							
X29A	**Tulia**	42.23	310	⇓P		P	18 08 40.9	+0.3
	baz=42,SNR=5.5							
Z28A	**Tucker Farm, M**	42.28	309	⇑P		P	18 08 41.0	0.0
	baz=42							
626A	**Big Bend Ranch**	42.36	303	⇑P		P	18 08 42.7	+1.0
	baz=42,SNR=24							
U30A	**WK&E Inc. Balk**	42.40	314	⇑P		P	18 08 42.7	+0.8
	baz=42							
AMTX	**Amarillo**	42.40	311	PFAKE			18 08 50.0	+8.0
AMTX				LR		LR		
	comp=Z,2µm,21.0s							
AMTX	**Amarillo**	42.40	311	⇓P		P	18 08 42.3	+0.3
	baz=42							
Y28A	**McKinney Farm,**	42.42	309	⇓P		P	18 08 42.2	0.0
	baz=42,SNR=10							
327A	**Balmorhea Ranc**	42.43	305	⇓P		P	18 08 42.7	+0.4
	baz=42							
526A	**Mary Lane Ranc**	42.48	303	⇑P		P	18 08 43.4	+0.6
	baz=42,SNR=23							
W29A	**Amraillo**	42.48	311	⇓P		P	18 08 43.2	+0.6
	baz=42							
R31A	**Burdett**	42.49	317	⇓P		P	18 08 42.8	+0.2
	baz=43,SNR=15							
T30A	**Plains**	42.56	315	⇑P		P	18 08 43.5	+0.2
	baz=43,SNR=7.5							
P32A	**Huiting Farm,**	42.59	319	⇓P		P	18 08 43.9	+0.6
	baz=43							
426A	**McDonald Obser**	42.63	304	⇓P		P	18 08 44.2	+0.2
	baz=43,SNR=25							
X28A	**Dimmitt**	42.63	310	⇓P		P	18 08 44.7	+0.8
	baz=43							
V29A	**Stinnett**	42.72	312	⇑P		P	18 08 45.2	+0.6
	baz=43							
O32A	**Brockman Farm,**	42.73	320	⇓P		P	18 08 45.2	+0.7
	baz=43							
Q31A	**Ellis**	42.77	318	⇓P		P	18 08 45.6	+0.8
	baz=43							
SPMN	**St. Paul**	42.78	329	*e*P		P	18 08 45.5	+0.7
	comp=Z,16nm,0.6s							
SPMN				LR		LR		
	comp=Z,2µm,20.2s							
SPMN	**St. Paul**	42.78	329	⇑P		P	18 08 46.0	+1.2
	baz=43							
127A	**Arkansas Junct**	42.80	307	⇓P		P	18 08 45.5	+0.3
	baz=43							
S30A	**Montezuma**	42.80	315	⇓P		P	18 08 45.7	+0.5
	baz=43,SNR=9.6							
326A	**Caldwell Ranch**	42.80	305	⇓P		P	18 08 45.5	+0.2
	baz=43,SNR=5.8							
MSTX	**Muleshoe**	42.84	309	*e*P		P	18 08 45.0	-0.6
MSTX	comp=Z,56nm,1.1s			LR		LR		
	comp=Z,2µm,20.2s							
MSTX	**Muleshoe**	42.84	309	⇓P		P	18 08 46.0	+0.4
	baz=43							
Z27A	**Tatum**	42.93	308	⇑P		P	18 08 46.9	+0.6
	baz=43,SNR=12							
W28A	**Vega**	42.95	311	⇑P		P	18 08 47.0	+0.6
	baz=43							
R30A	**Dighton**	42.99	316	⇑P		P	18 08 47.0	+0.3
	baz=43,SNR=10							
P31A	**Stockton**	43.04	318	⇑P		P	18 08 47.9	+0.9
	baz=43,SNR=13							
Y27A	**Causey**	43.11	309	⇓P		P	18 08 48.2	+0.5
	baz=43							
T29A	**Hugoton**	43.15	314	⇑P		P	18 08 48.9	+0.9
	baz=43							
V28A	**Channing**	43.18	312	⇑P		P	18 08 48.5	+0.2
	baz=43							
226B	**Tecolote Peak,**	43.22	306	⇑P		P	18 08 49.8	+1.1
	baz=43,SNR=5.5							
S29A	**Ulysses**	43.25	315	⇓P		P	18 08 49.4	+0.6
	baz=43,SNR=14							
126A	**Clayton Basin,**	43.30	307	⇓P		P	18 08 49.6	+0.3
	baz=43,SNR=6.4							
BGNE	**Belgrade**	43.31	321	*e*P		P	18 08 50.5	+1.3
	comp=Z,129nm,1.2s							
BGNE				LR		LR		
	comp=Z,3µm,21.7s							
BGNE	**Belgrade**	43.31	321	⇑P		P	18 08 49.6	+0.4
	baz=43							
Q30A	**Quinter**	43.31	317	⇑P		P	18 08 49.6	+0.3
	baz=43							
O31A	**Woolen Ranch,**	43.34	319	⇓P		P	18 08 50.3	+0.8
	baz=43							
X27A	**F and S Farms,**	43.36	310	⇓P		P	18 08 50.3	+0.5
	baz=43,SNR=5.9							
GDL2	**Guadalupe Moun**	43.42	306	*e*P		P	18 08 45.3	-5.0
425A	**Indio Mountain**	43.45	304	⇓P		P	18 08 51.1	+0.5
	baz=44,SNR=27							
U28A	**Mallet**	43.46	313	⇓P		P	18 08 50.6	+0.1
	baz=44,SNR=11							
N31A	**Bailey Ranch,**	43.48	320	⇓P		P	18 08 49.9	-0.7
	baz=44							
Z26A	**Caprock**	43.50	308	⇑P		P	18 08 51.2	+0.3
	baz=44,SNR=11							
W27A	**Bowe Ranch, En**	43.51	311	⇑P		P	18 08 50.7	-0.2
	baz=44,SNR=11							
P30A	**Selden**	43.62	318	⇓P		P	18 08 52.5	+0.7
	baz=44,SNR=9.3							
325A	**Bean Ranch, Si**	43.62	305	⇓P		P	18 08 52.6	+0.6
	baz=44,SNR=37							
Y26A	**Elida**	43.63	309	⇓P		P	18 08 52.8	+0.8
	baz=44,SNR=6.0							
V27A	**Dan Oppiter Fa**	43.63	312	⇑P		P	18 08 52.6	+0.7
	baz=44							
R29A	**Marienthal**	43.65	316	⇑P		P	18 08 52.4	+0.4
	baz=44,SNR=12							
T28A	**Walsh**	43.71	314	⇑P		P	18 08 53.0	+0.4
	baz=44,SNR=21							
225A	**Deer Hill, Car**	43.75	306	⇑P		P	18 08 53.7	+0.6
	baz=44,SNR=31							
Q29A	**Oakley**	43.77	317	⇓P		P	18 08 53.3	+0.3
	baz=44,SNR=7.9							
S28A	**Manter**	43.78	314	⇑P		P	18 08 53.5	+0.4
	baz=44,SNR=11							
M31A	**Lambtecht Ranc**	43.78	321	⇓P		P	18 08 53.5	+0.5
	baz=44							
125A	**Gardner Draw,**	43.81	307	⇓P		P	18 08 53.7	+0.2
	baz=44,SNR=20							
ECSD	**EROS Data Cent**	43.81	325	*e*P		P	18 08 53.1	0.0
ECSD	comp=Z,22nm,1.1s			LR		LR		
	comp=Z,3µm,20.0s							
ECSD	**EROS Data Cent**	43.81	325	⇓P		P	18 08 53.8	+0.7
	baz=44							
O30A	**MW Ranch, Wils**	43.83	319	⇓P		P	18 08 54.0	+0.6
	baz=44							
X26A	**CR and CF Fran**	43.86	310	⇑P		P	18 08 54.7	+0.8
	baz=44							
U27A	**Thompson Grove**	43.91	313	⇓P		P	18 08 54.5	+0.3
	baz=44,SNR=36							
W26A	**Owens Ranch, T**	44.04	310	⇑P		P	18 08 55.8	+0.5
	baz=44							
MNTX	**Cornudas Mount**	44.06	305	*e*P		P	18 08 54.5	-0.9
MNTX	comp=Z,22nm,1.1s			LR		LR		
	comp=Z,1µm,22.0s							
R28A	**Tribune**	44.07	315	⇓P		P	18 08 55.9	+0.5
	baz=44,SNR=17							
Z25A	**Roswell**	44.08	307	⇓P		P	18 08 57.0	+1.4
	baz=44,SNR=16							
P29A	**Atwood**	44.10	318	⇓P		P	18 08 56.1	+0.4
	baz=44							
T27A	**Campo**	44.12	313	⇓P		P	18 08 56.0	+0.1
	baz=44,SNR=15							
EYMN	**Ely**	44.14	333	*e*P		P	18 08 56.0	+0.3
	comp=Z,24nm,0.9s							
EYMN				LR		LR		
	comp=Z,2µm,19.0s							
N30A	**Hueftle Ranch,**	44.19	319	⇑P		P	18 08 56.6	+0.3
	baz=44							
O29A	**4D Ranch, Culb**	44.28	318	⇑P		P	18 08 57.5	+0.5
	baz=44							
Y25A	**Mesa, Roswell**	44.30	308	⇓P		P	18 08 59.0	+1.6
	baz=44,SNR=26							
224A	**Cornudas Mount**	44.30	306	⇑P		P	18 08 58.2	+0.8
	baz=44,SNR=32							
SCHQ	**Schefferville**	44.31	357	*e*P		P	18 08 58.1	+1.1
	comp=Z,75nm,1.1s							
SCHQ				LR		LR		
	comp=Z,3µm,20.1s							
SCHQ	**Schefferville**	44.31	357	P		P	18 08 57.8	+0.8
	comp=Z,34nm,0.9s,baz=171,slow=6.1,SNR=22							
V26A	**Tequesquite Ra**	44.35	311	⇑P		P	18 08 58.4	+0.6
	baz=44,SNR=26							
Q28A	**Sharon Springs**	44.44	316	⇑P		P	18 08 58.8	+0.5
	baz=44							
124A	**Stringfield Ra**	44.46	306	⇓P		P	18 09 00.7	+1.9
	baz=44,SNR=8.2							
X25A	**Clemmons Ranch**	44.50	309	⇓P		P	18 09 00.3	+1.3
	baz=45,SNR=20							
S27A	**Las Animas**	44.52	314	⇑P		P	18 08 59.6	+0.5
	baz=45							
N29A	**Votaw Ranch, W**	44.54	319	⇑P		P	18 08 59.5	+0.4
	baz=45							
U26A	**Atchley Ranch,**	44.57	312	⇓P		P	18 08 59.5	-0.1
	baz=45,SNR=44							
L30A	**Spencer Herefo**	44.58	321	⇓P		P	18 08 59.6	+0.2
	baz=45							
Z24A	**Sheeppen Canyo**	44.60	307	⇑P		P	18 09 00.6	+0.6
	baz=45,SNR=49							
W25A	**X Bar L Ranch,**	44.62	310	⇑P		P	18 09 01.6	+1.7
	baz=45,SNR=17							
P28A	**Saint Francis**	44.64	317	⇑P		P	18 08 59.8	-0.1
	baz=45							
R27A	**Eads**	44.73	315	⇑P		P	18 09 01.0	+0.3
	baz=45,SNR=21							
T26A	**Comanche Natio**	44.79	313	⇓P		P	18 09 01.8	+0.5
	baz=45,SNR=19							
Y24A	**Capitan**	44.87	308	⇑P		P	18 09 03.6	+1.5
	baz=45,SNR=69							
S26A	**Kim**	44.90	314	⇓P		P	18 09 03.1	+0.9
	baz=45,SNR=12							
M29A	**Burnside Ranch**	44.91	320	⇓P		P	18 09 01.2	-0.9
	baz=45							
O28A	**Krutsinger Ran**	44.93	318	⇑P		P	18 09 02.7	+0.4
	baz=45							
K30A	**Basset**	44.93	322	⇑P		P	18 09 02.3	+0.1
	baz=45							
KSCO	**Kaye Shedlock'**	44.95	316	PFAKE			18 09 10.0	+7.4
KSCO				LR		LR		
	comp=Z,5µm,21.6s							
KSCO	**Kaye Shedlock'**	44.95	316	⇓P		P	18 09 02.8	+0.3
	baz=45							
V25A	**Rancho No Teng**	44.98	311	⇑P		P	18 09 04.0	+1.1
	baz=45,SNR=81							
U25A	**Circle Dot Ran**	45.06	312	⇑P		P	18 09 03.8	+0.3
	baz=45,SNR=63							
N28A	**Pribbeno Ranch**	45.06	319	⇑P		P	18 09 03.2	-0.1
	baz=45							
123A	**Bell Site, Whi**	45.08	306	⇑P		P	18 09 04.3	+0.7
	baz=45							
L29A	**Maesberg Ranch**	45.12	321	⇓P		P	18 09 04.1	+0.4
	baz=45							
P27A	**Ficken Ranch,**	45.18	317	⇓P		P	18 09 04.7	+0.3
	baz=45							
R26A	**Arlington**	45.19	315	⇑P		P	18 09 04.5	+0.1
	baz=45,SNR=10							
J30A	**Dallas**	45.23	323	⇓P		P	18 09 04.8	+0.3
	baz=45							
Z23A	**Rita Site, Whi**	45.26	307	⇓P		P	18 09 05.0	0.0
	baz=45,SNR=8.4							
M28A	**Bar X Bar Ranc**	45.32	319	⇓P		P	18 09 05.6	+0.2
	baz=45							
W24A	**Lazy 6 Ranch,**	45.33	310	⇑P		P	18 09 06.4	+0.7
	baz=45,SNR=31							
Y23A	**Lovelace Mesa,**	45.35	308	⇓P		P	18 09 06.8	+0.9
	baz=45,SNR=37							
T25A	**Trinidad**	45.37	313	⇓P		P	18 09 07.5	+1.6
	baz=45,SNR=14							
K29A	**Lazy Trails An**	45.41	322	⇓P		P	18 09 07.2	+1.2
	baz=46							
V24A	**Rampart Ranch,**	45.43	310	⇓P		P	18 09 07.8	+1.3
	baz=46,SNR=26							
O27A	**Beecher Island**	45.43	317	⇑P		P	18 09 07.4	+1.1
	baz=46							
OGNE	**Ogallala**	45.51	319	*e*P		P	18 09 06.3	-0.6
	comp=Z,86nm,1.4s							
OGNE				LR		LR		
	comp=Z,4µm,20.0s							
OGNE	**Ogallala**	45.51	319	⇓P		P	18 09 07.4	+0.6
	baz=46							
Q26A	**Hugo**	45.53	315	⇑P		P	18 09 07.8	+0.7
	baz=46							
222A	**Williams Famil**	45.58	305	⇓P		P	18 09 08.2	+0.6
	baz=46							
BRSD	**Miller**	45.58	324	*e*P		P	18 09 06.1	-1.1
	comp=Z,48nm,0.8s							
BRSD				LR		LR		
	comp=Z,3µm,20.6s							
BRSD	**Miller**	45.58	324	⇓P		P	18 09 08.1	+0.9
	baz=46							
S25A	**Robets Cordova**	45.61	313	⇑P		P	18 09 08.8	+1.0
	baz=46,SNR=26							
X23A	**Hourglass Bar**	45.69	309	⇓P		P	18 09 09.7	+1.2
	baz=46,SNR=22							
U24A	**Moreno Valley**	45.70	311	⇑P		P	18 09 09.6	+0.9
	baz=46							
P26A	**Davis Ranch, A**	45.71	316	⇓P		P	18 09 09.2	+0.6
	baz=46							
R25A	**Fountain Ranch**	45.71	314	⇑P		P	18 09 09.3	+0.7
	baz=46							
L28A	**Connealy Angus**	45.74	320	⇑P		P	18 09 09.4	+0.7
	baz=46							
N27A	**Anderson Farm,**	45.77	318	⇓P		P	18 09 09.7	+0.8
	baz=46							
J29A	**Okreek**	45.77	322	⇑P		P	18 09 08.6	-0.2
	baz=46,SNR=17							
Z22A	**Elephant Butte**	45.84	307	⇓P		P	18 09 11.0	+1.4
	baz=46,SNR=17					

baz=46,SNR=17
H29A Onida 46.41 324 ⇑P P 18 09 14.4 +0.6
baz=46
SDCO Great Sand Dun 46.41 313 eP P 18 09 14.0 -0.2
SDCO LR LR
comp=Z,2μm,19.0s
AGMN Agassiz Nation 46.43 330 eP P 18 09 12.5 -1.4
comp=Z,18nm,0.8s
AGMN LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 46.43 330 ⇓P P 18 09 14.4 +0.6
baz=46,SNR=13
F30A Leola 46.46 326 ⇑P P 18 09 15.8 +1.6
baz=47
O25A Wiggins 46.49 316 ⇓P P 18 09 16.1 +1.4
baz=47
LPIG La Paz 46.49 293 LR LR 18 31 58.2
comp=Z,2μm,18.7s,baz=326,slow=40
320A Kipp Ranch, An 46.51 303 ⇑P P 18 09 15.6 +0.7
baz=46
T23A Casias Ranch, 46.51 312 ⇓P P 18 09 16.1 +1.1
baz=47
K27A Flueckinger Fa 46.56 321 ⇓P P 18 09 16.3 +1.2
baz=47
G29A Hoven 46.58 325 ⇑P P 18 09 16.3 +1.2
baz=47
I28A Midland 46.61 323 ⇓P P 18 09 15.8 +0.4
baz=47
Q24A Divide 46.68 315 ⇓P P 18 09 16.3 -0.1
baz=47
V22A San Miguel Ran 46.73 310 ⇑P P 18 09 18.4 +1.7
baz=47,SNR=36
E30A Jud 46.81 327 ⇓P P 18 09 17.4 +0.4
baz=47
R23A Moffat 46.83 313 ⇓P P 18 09 18.4 +0.8
baz=47,SNR=17
U22A Llaves 46.86 311 ⇑P P 18 09 20.2 +2.4
baz=47,SNR=40
F29A Eureka 46.91 325 ⇓P P 18 09 18.4 +0.7
baz=47
H28A Mission Ridge 46.91 323 ⇓P P 18 09 17.9 +0.2
baz=47
G28A Parade 47.08 324 ⇓P P 18 09 19.6 +0.5
baz=47,SNR=7.5
D30A Buchanan 47.11 327 ⇑P P 18 09 19.7 +0.4
baz=47,SNR=8.9
319A Douglas 47.14 303 ⇓P P 18 09 21.4 +1.6
baz=47,SNR=11
K26A Motz Farm, Whi 47.15 320 ⇓P P 18 09 19.3 -0.4
baz=47
I27A Quinn 47.18 322 ⇓P P 18 09 20.6 +0.7
baz=47
E29A Napoleon 47.25 326 ⇓P P 18 09 21.3 +0.9
baz=47
P23A Jefferson 47.34 315 ⇑P P 18 09 22.0 +0.4
baz=47
C30A Mose, Pekin 47.34 328 ⇓P P 18 09 21.4 +0.3
baz=47,SNR=6.9
ISCO Idaho Springs 47.37 315 eP P 18 09 21.6 -0.2
ISCO pmax pmax
comp=Z,65nm,1.7s
ISCO MLR MLR
comp=Z,4μm,21.0s
ISCO Idaho Springs 47.37 315 eP P 18 09 21.6 -0.2
comp=Z,65nm,1.7s
ISCO LR LR
comp=Z,4μm,21.0s
ISCO Idaho Springs 47.37 315 ⇓P P 18 09 21.9 +0.1
baz=47,SNR=9.5
S22A 4UR Ranch, Cre 47.37 312 ⇓P P 18 09 23.5 +1.7
baz=47,SNR=21
L25A Engebretsen Ra 47.38 319 ⇓P P 18 09 21.9 +0.4
baz=48
J26A Sides Ranch, S 47.40 321 ⇑P P 18 09 21.9 +0.2
baz=48
F28A McLaughlin 47.46 325 ⇑P P 18 09 22.6 +0.6
baz=48
H27A Howes 47.51 323 ⇓P P 18 09 22.5 +0.1
baz=48,SNR=7.5
D29A Pettibone, Tap 47.53 327 ⇑P P 18 09 22.7 +0.2
baz=48
K25A Mack Ranch, Ha 47.54 320 ⇑P P 18 09 22.6 -0.2
baz=48
M24A Cheyenne 47.60 318 ⇓P P 18 09 23.8 +0.4
baz=48
I26A New Underwood 47.65 322 ⇑P P 18 09 23.5 -0.1
baz=48
B30A Myrvik Farm, E 47.75 329 ⇑P P 18 09 25.0 +0.7
baz=48
O23A Lake Granby, G 47.76 316 ⇑P P 18 09 25.0 +0.2
baz=48,SNR=10
ULM Lac du Bonnet 47.79 332 eP P 18 09 22.8 -1.7
comp=Z,34nm,1.0s
ULM Lac du Bonnet 47.79 332 P P 18 09 23.0 -1.4
comp=Z,56nm,1.1s,baz=135,slow=8.3,SNR=36
ULM LR LR 18 29 17.7
comp=Z,2μm,18.9s,baz=133,slow=36
E28A Huff 47.83 326 ⇓P P 18 09 25.4 +0.5
baz=48
G27A Dupree 47.84 324 ⇓P P 18 09 25.1 +0.1
baz=48,SNR=10.0
J25A Sunshine Ranch 47.90 321 ⇓P P 18 09 25.9 +0.3
baz=48
H26A Fairpoint 47.91 322 ⇓P P 18 09 26.1 +0.4
baz=48
PHWY Pilot Hill 47.95 317 eP P 18 09 27.7 +1.5
comp=Z,121nm,2.3s
PHWY LR LR
comp=Z,4μm,20.2s
MDND Maddock 48.02 328 eP P 18 09 26.9 +0.5
comp=Z,47nm,0.9s
MDND LR LR
comp=Z,3μm,20.8s
MDND Maddock 48.02 328 ⇑P P 18 09 27.5 +1.2
baz=48
SMCO Snowmass 48.06 314 eP P 18 09 29.0 +1.8
comp=Z,30nm,1.1s
SMCO LR LR
comp=Z,4μm,21.4s
A30A Hoffart Farm, 48.06 330 ⇓P P 18 09 27.1 +0.5
baz=48,SNR=19
P22A Eagle 48.08 315 ⇑P P 18 09 27.6 +0.4
baz=48
N23A Red Feather La 48.09 317 ⇑P P 18 09 27.9 +0.6
baz=48
F27A Lemmon 48.17 324 ⇑P P 18 09 28.3 +0.8
baz=48,SNR=10
O22A Kremmling 48.17 315 ⇓P P 18 09 28.1 +0.1
baz=48,SNR=8.1
I25A Rochford 48.18 321 ⇓P P 18 09 28.1 +0.2
baz=48,SNR=12
M23A Laramie 48.20 317 ⇓P P 18 09 28.9 +0.8
baz=48
E27A Carson 48.23 325 ⇑P P 18 09 29.2 +1.2
baz=48
B29A Wagenman Farm, 48.28 329 ⇑P P 18 09 29.4 +1.1
baz=48
N22A Wattenberg Ran 48.39 316 ⇑P P 18 09 30.4 +0.8
baz=48,SNR=10
MVCO Mesa Verde 48.39 311 eP P 18 09 30.8 +1.1
comp=Z,222nm,1.8s
MVCO LR LR
comp=Z,2μm,21.0s
MVCO Mesa Verde 48.39 311 ⇑P P 18 09 31.2 +1.5
baz=48,SNR=23
J24A Dixon Ranch, L 48.41 320 ⇓P P 18 09 29.7 +0.2
baz=48
RSSD Black Hills 48.42 321 eP P 18 09 30.1 +0.4
RSSD MLR MLR
comp=Z,2μm,20.9s
RSSD Black Hills 48.42 321 eP P 18 09 30.1 +0.4
RSSD LR LR
comp=Z,2μm,20.9s
L23A Garrett 48.49 318 ⇑P P 18 09 30.1 -0.2
baz=49,SNR=8.4
A29A Manning Farm, 48.51 329 ⇓P P 18 09 30.7 +0.6
baz=49,SNR=13
F26A Lodgepole 48.53 324 ⇑P P 18 09 31.0 +0.6
baz=49,SNR=6.8
X18A Snowflake 48.60 307 ⇓P P 18 09 32.5 +1.3
baz=49,SNR=25
W18A Petrified Fore 48.62 308 eP P 18 09 31.0 -0.3
comp=Z,26nm,0.8s
W18A LR LR
comp=Z,1μm,18.9s
W18A Petrified Fore 48.62 308 ⇑P P 18 09 33.3 +2.0
baz=49,SNR=9.4
TUC Tucson 48.62 304 eP P 18 09 32.2 +0.9
TUC pmax pmax
comp=Z,45nm,1.4s
TUC MLR MLR
comp=Z,1μm,21.0s
TUC Tucson 48.62 304 eP P 18 09 32.2 +0.9
comp=Z,45nm,1.4s
TUC LR LR
comp=Z,1μm,21.0s
I24A Kuemmerle Ranc 48.65 321 ⇑P P 18 09 31.5 +0.2
baz=49
K23A Bowen Ranch, D 48.74 319 ⇓P P 18 09 32.9 +0.8
baz=49
M22A Cedar Creek Ra 48.75 317 ⇓P P 18 09 33.0 +0.6
baz=49
E26A Carlson Angus 48.77 325 ⇑P P 18 09 32.9 +0.8
baz=49
PV01 Paradox Valley 48.79 312 eP P 18 09 33.4 +0.7
comp=Z,13μm,1.5s
B28A Dugan Ranch, T 48.80 328 ⇓P P 18 09 33.3 +1.1
baz=49
L22A Ellis Ranch, M 48.93 318 ⇓P P 18 09 34.1 +0.4
baz=49
C27A Sayler Ranch, 48.96 327 ⇑P P 18 09 34.4 +0.9
baz=49
A28A Rude Farm, Bot 49.03 328 ⇓P P 18 09 34.9 +0.8
baz=49,SNR=10
F25A Bowman 49.03 324 ⇑P P 18 09 34.9 +0.7
baz=49
H24A Dirks Ranch, A 49.06 322 ⇑P P 18 09 34.2 -0.3
baz=49,SNR=7.3
D26A Manning 49.07 325 ⇑P P 18 09 34.5 +0.1
baz=49
PV04 Paradox Valley 49.13 312 eP P 18 09 36.5 +1.3
PV10 Paradox Valley 49.22 312 eP P 18 09 37.3 +1.2
comp=Z,433nm,0.9s
K22A Casper 49.27 318 eP P 18 09 36.5 +0.2
comp=Z,28nm,1.0s
K22A LR LR
comp=Z,3μm,19.6s
K22A Casper 49.27 318 ⇓P P 18 09 36.5 +0.2
baz=49,SNR=8.8
RWWY Rawlins 49.29 317 PFAKE 18 09 50.0 +13
RWWY LR LR
comp=Z,3μm,21.4s
E25A Miller Ranch, 49.32 324 ⇑P P 18 09 36.9 +0.5
baz=49
O20A White River Ci 49.34 315 eP P 18 09 36.1 -0.7
comp=Z,56nm,1.4s
O20A LR LR
comp=Z,3μm,22.0s
C26A Wahner Farm, P 49.34 326 ⇑P P 18 09 37.0 +0.5
baz=49
F24A Ekalaka 49.57 323 ⇓P P 18 09 38.8 +0.4
baz=50
J22A Midwest 49.60 319 ⇑P P 18 09 38.5 -0.2
baz=50,SNR=11
D25A Fairfield 49.64 325 ⇑P P 18 09 39.5 +0.8
baz=50
N20A Spence Gulch, 49.64 315 ⇓P P 18 09 39.8 +0.6
baz=50
X16A Lo Mia Camp, P 49.74 306 ⇑P P 18 09 41.5 +1.5
baz=50,SNR=14
K21A Alcova 49.74 318 ⇓P P 18 09 40.5 +0.6
baz=50,SNR=17
G23A Biddle 49.80 322 ⇓P P 18 09 40.0 -0.1
baz=50
I22A 9 Mile Ranch, 49.84 320 ⇓P P 18 09 40.1 -0.4
baz=50,SNR=8.0
A26A Wade Farm, Ken 49.95 328 ⇑P P 18 09 42.1 +1.0
baz=50
WUAZ Wupatki 50.01 308 eP P 18 09 42.9 +0.9
comp=Z,55nm,0.8s
WUAZ LR LR
comp=Z,1μm,19.0s
WUAZ Wupatki 50.01 308 ⇓P P 18 09 43.5 +1.5
baz=50,SNR=45
F23A Volborg 50.08 322 ⇑P P 18 09 42.7 +0.5
baz=50
H22A Clearmont 50.09 321 ⇓P P 18 09 42.7 +0.3
baz=50
B25A Knox Farm, Ray 50.19 326 ⇓P P 18 09 43.6 +0.7
baz=50
D24A Glendive 50.19 324 ⇓P P 18 09 43.2 +0.2
baz=50
J21A Lysite 50.20 319 ⇑P P 18 09 43.5 +0.2
baz=50,SNR=19
214A Organ Pipe Nat 50.20 303 eP P 18 09 44.0 +0.7
comp=Z,21nm,1.1s
214A Organ Pipe Nat 50.20 303 ⇓P P 18 09 44.0 +0.7
baz=50
I21A Big Trails, Te 50.31 319 ⇑P P 18 09 43.8 -0.3
baz=50,SNR=21
G22A Birney 50.36 321 ⇓P P 18 09 44.7 +0.3
baz=50
H21A Big Horn, Sher 50.54 320 ⇓P P 18 09 45.5 -0.3
baz=51
SRU San Rafael 50.57 313 eP P 18 09 47.1 +0.9
SRU pmax pmax
comp=Z,36nm,1.0s
SRU MLR MLR
comp=Z,3μm,21.8s
SRU San Rafael 50.57 313 eP P 18 09 47.1 +0.9
comp=Z,36nm,1.0s
SRU LR LR
comp=Z,3μm,21.8s
J20A Shoshoni 50.61 318 ⇓P P 18 09 46.7 +0.3
baz=51,SNR=15
F22A Rosebud 50.62 322 ⇑P P 18 09 46.1 -0.2
baz=51,SNR=13
E22A Miles City 50.77 323 ⇓P P 18 09 47.7 +0.3
baz=51,SNR=8.1
Y14A Wickenburg 50.85 305 ⇑P P 18 09 49.0 +0.8
baz=51,SNR=12
DGMT Dagmar 50.87 326 eP P 18 09 48.4 +0.3
comp=Z,38nm,1.0s
DGMT LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 50.87 326 ⇑P P 18 09 48.9 +0.8
baz=51,SNR=6.0
I20A Worland 50.91 319 ⇑P P 18 09 48.6 0.0
baz=51,SNR=16
G21A Lodge Grass 50.93 321 ⇓P P 18 09 49.4 +0.7
baz=51
U15A North Rim 51.00 309 ⇓P P 18 09 50.5 +0.9
baz=51,SNR=28
C23A Lambert 51.05 325 ⇓P P 18 09 50.3 +0.9
baz=51
LAO LASA Array 51.06 323 eP P 18 09 50.0 +0.4
comp=Z,29nm,1.1s
LAO LR LR
comp=Z,2μm,19.0s
H20A Greybull 51.08 320 ⇑P P 18 09 49.1 -0.8
baz=51,SNR=12
TMUT Trail Mountain 51.14 312 eP P 18 09 50.8 +0.2
comp=Z,142nm,1.7s
TMUT LR LR
comp=Z,2μm,20.4s
113A Mohawk Valley, 51.18 304 ⇑P P 18 09 50.4 -0.2
baz=51
J19A Crowheart 51.21 318 ⇑P P 18 09 50.9 0.0
baz=51,SNR=23
D22A Cohagen 51.28 324 ⇓P P 18 09 52.4 +1.2
baz=51
B23A Brockton 51.30 326 ⇓P P 18 09 52.5 +1.1
baz=51
BW06 Boulder Array 51.33 317 eP P 18 09 50.9 -1.1
comp=Z,63nm,1.4s
BW06 LR LR
comp=Z,4μm,20.0s
PDAR Pinedale Array 51.33 317 P P 18 09 50.9 -1.1
PDAR Pinedale Array 51.33 317 P P 18 09 50.9 -1.1
comp=Z,4.8nm,0.6s,baz=114,slow=9.5,SNR=33
PDAR LR LR 18 33 22.1
comp=Z,3μm,20.3s,baz=123,slow=38
PLCA Paso Flores 51.38 187 eP P 18 09 51.9 -0.1
comp=Z,85nm,1.5s
PLCA Paso Flores 51.38 187 P P 18 09 52.5 +0.5
comp=Z,16nm,1.0s,baz=12,slow=8.1,SNR=18
PLCA LR LR 18 33 20.6
comp=Z,2μm,18.0s,baz=192,slow=38
E21A Keefer Ranch, 51.50 323 ⇓P P 18 09 53.4 +0.5
baz=52
I19A Meeteetse 51.51 319 ⇑P P 18 09 53.3 +0.1
baz=52,SNR=17
A23A Redstone 51.52 326 ⇓P P 18 09 54.1 +1.2
baz=52
G20A Bridger 51.55 321 ⇓P P 18 09 53.4 0.0
baz=52
DAU Daniels Canyon 51.57 314 eP P 18 09 54.6 +0.7
DAU pmax pmax
comp=Z,75nm,1.5s
DAU Daniels Canyon 51.57 314 eP P 18 09 54.6 +0.7
comp=Z,75nm,1.5s
KNB Kanab 51.58 309 PFAKE 18 10 10.0 +16
KNB LR LR
comp=Z,2μm,19.6s
MPU Maple Canyon 51.70 313 eP P 18 09 56.0 +1.3
comp=Z,53nm,1.4s
MPU LR LR
comp=Z,3μm,20.5s
D21A La Casta Ranch 51.71 323 ⇑P P 18 09 55.1 +0.6
baz=52,SNR=13
B22A Reddig Ranch S 51.78 325 ⇑P P 18 09 55.8 +0.8
baz=52
F20A Billings 51.79 321 ⇓P P 18 09 55.0 -0.1
baz=52,SNR=16
H19A Powell 51.79 320 ⇓P P 18 09 55.4 +0.2
baz=52
PDMCI Parker Dam,Lak 51.85 306 ⇓P P 18 09 56.9 +1.3
baz=52,SNR=6.4
W13A Hualapai Mount 51.86 307 ⇑P P 18 09 57.2 +1.2
baz=52,SNR=26
TCUT Toone Canyon 51.94 315 eP P 18 09 57.2 +0.6
comp=Z,27nm,0.9s
TCUT LR LR
comp=Z,4μm,20.9s
NLU North Lily Min 51.99 313 eP P 18 09 57.7 +0.8
comp=Z,73nm,1.6s
NLU LR LR
comp=Z,3μm,21.2s
CTU Camp Tracy 52.03 314 eP P 18 09 56.9 -0.2
comp=Z,37nm,1.0s
CTU LR LR
comp=Z,4μm,21.0s
Y12C Blythe 52.03 305 ⇑P P 18 09 57.7 +0.7
baz=52
H10N3 ASCENSION HYDR 52.05 109 T T 19 05 04.8
baz=293,slow=74
H10N2 ASCENSION HYDR 52.06 109 T T 19 05 06.9
baz=293,slow=74
H10N1 ASCENSION HYDR 52.07 109 T T 19 05 11.6
baz=293,slow=74
A22A Carney Farms, 52.10 326 ⇑P P 18 09 58.6 +1.2
baz=52
GLA Glamis 52.11 304 eP P 18 09 57.1 -0.6
GLA pmax pmax
comp=Z,47nm,1.4s
GLA MLR MLR
comp=Z,5μm,20.7s
GLA Glamis 52.11 304 eP P 18 09 57.1 -0.6
comp=Z,47nm,1.4s
GLA LR LR
comp=Z,5μm,20.7s
GLA Glamis 52.11 304 ⇑P P 18 09 58.4 +0.7
baz=52
E20A Meyer Farm, Mu 52.11 322 ⇑P P 18 09 57.8 +0.3
baz=52,SNR=15
CCUT Cedar City 52.16 310 eP P 18 09 58.6 +0.4
comp=Z,57nm,1.6s
CCUT LR LR
comp=Z,2μm,19.8s
RLMT Red Lodge 52.17 320 eP P 18 09 57.2 -0.9
comp=Z,68nm,1.3s
RLMT LR LR
comp=Z,3μm,20.0s
ASCN Ascension 52.21 109 PFAKE 18 10 10.0 +11
ASCN LR LR
comp=Z,1μm,19.0s
H18A Shoshone NF, C 52.22 319 ⇓P P 18 09 59.1 +0.5
baz=52,SNR=10
H10S3 ASCENSION HYDR 52.28 110 T T 19 05 27.8
baz=297,slow=75
H10S1 ASCENSION HYDR 52.29 110 T T 19 05 28.4
baz=297,slow=75
H10S2 ASCENSION HYDR 52.30 110 T T 19 05 28.8
baz=297,slow=75
F19A Roth Farm, Mol 52.30 321 ⇑P P 18 09 58.8 -0.1
baz=52,SNR=9.8
LOHW Long Hollow 52.38 318 eP P 18 10 00.3 +0.5
comp=Z,105nm,1.9s
LOHW LR LR
comp=Z,2μm,20.5s
D20A Manuel Ranch, 52.40 323 ⇑P P 18 09 59.9 +0.2
baz=52,SNR=19
SNOW Snow King Moun 52.42 318 PFAKE 18 10 10.0 +10
SNOW LR LR
comp=Z,2μm,20.1s
B21A Ellsworth Farm 52.42 325 ⇑P P 18 10 01.6 +1.8
baz=52
REDW Red Top Meadow 52.44 317 eP P 18 10 00.8 +0.7
comp=Z,111nm,1.5s
REDW LR LR
comp=Z,2μm,19.5s
E19A Rath Farm, Rou 52.49 322 ⇓P P 18 10 00.9 +0.6
baz=53,SNR=20
I17A Pilgrim Ck. 52.49 318 ⇓P P 18 10 01.7 +1.1
baz=53,SNR=5.8
MOOW Moose Ponds 52.53 318 eP P 18 10 01.1 +0.3
comp=Z,77nm,2.0s
MOOW LR LR
comp=Z,2μm,20.3s
TPAW Teton Pass 52.56 318 PFAKE 18 10 10.0 +8.9
TPAW LR LR
comp=Z,2μm,19.6s
DUG Dugway 52.61 313 eP P 18 10 00.8 -0.6
DUG pmax pmax
comp=Z,27nm,0.9s
DUG MLR MLR
comp=Z,3μm,21.0s
DUG Dugway 52.61 313 eP P 18 10 00.8 -0.6
comp=Z,27nm,0.9s
DUG LR LR
comp=Z,3μm,21.0s
DUG Dugway 52.61 313 ⇓P P 18 10 02.4 +1.0
baz=53,SNR=33
IRM Iron Mountain 52.63 305 ⇓P P 18 10 02.6 +1.1
baz=53,SNR=31
FLWY Flagg Ranch 52.64 318 eP P 18 10 03.4 +1.8
comp=Z,71nm,1.7s
FLWY LR LR
comp=Z,4μm,20.0s
A21A Bergtoll Ranch 52.67 325 ⇓P P 18 10 02.7 +1.2
baz=53,SNR=11
FXWY Fox Creek 52.67 318 eP P 18 10 02.5 +0.6
comp=Z,71nm,1.8s
FXWY LR LR
comp=Z,2μm,21.5s
H17A Grant Village 52.69 319 eP P 18 10 03.5 +1.5
comp=Z,64nm,1.8s
H17A LR LR
comp=Z,4μm,18.9s
H17A Grant Village 52.69 319 ⇓P P 18 10 03.1 +1.1
baz=53
IMW Indian Meadow 52.72 318 eP P 18 10 03.6 +1.3
comp=Z,115nm,2.3s
IMW LR LR
comp=Z,2μm,20.2s
GCMT Greycliff 52.72 321 eP P 18 10 01.8 -0.4
comp=Z,28nm,1.1s
SPUT South Promonto 52.74 314 eP P 18 10 01.5 -0.9
comp=Z,18nm,1.2s
SPUT LR LR
comp=Z,4μm,20.9s
BC3 Big Chuckawall 52.76 304 ⇓P P 18 10 03.2 +0.7
baz=53
LDFC Landfair 52.83 306 PFAKE 18 10 20.0 +17
LDFC LR LR
comp=Z,1μm,20.4s
SWSC Sam W. Stewart 52.88 303 ⇓P P 18 10 04.2 +0.9
baz=53
D19A Cripps Ranch, 52.88 322 ⇑P P 18 10 04.8 +1.6
baz=53
YFT Old Faithful 52.88 319 eP P 18 10 05.0 +1.6
comp=Z,37nm,1.2s
YFT LR LR
comp=Z,7μm,20.5s
B20A Solberg Farm, 53.00 324 ⇑P P 18 10 05.6 +1.5
baz=53
BGU Big Grassy Mou 53.02 314 eP P 18 10 04.0 -0.4
comp=Z,32nm,1.2s
YMR Madison River 53.06 319 eP P 18 10 05.6 +0.9
comp=Z,56nm,1.4s
YMR LR LR
comp=Z,2μm,20.9s
HVU Hansel Valley 53.14 315 eP P 18 10 05.0 -0.3
HVU pmax pmax

HVU comp=Z,12nm,0.7s MLR MLR
HVU Hansel Valley 53.14 315 *e*P **P** 18 10 05.0 -0.3
HVU comp=Z,4µm,21.5s comp=Z,12nm,0.7s LR LR
A20A Cobblestone Ra 53.17 325 ⇓P **P** 18 10 06.5 +1.2
baz=53
GMRC Granite Mounta 53.19 306 ⇓P **P** 18 10 06.4 +0.7
baz=53,SNR=17
SHPR Sheep Range 53.24 308 *e*P **P** 18 10 07.2 +1.1
comp=Z,59nm,1.7s
C19A Slack Wire Ran 53.26 323 ⇑P **P** 18 10 07.2 +1.2
baz=53
BELC Belle Mtn. Jos 53.28 305 ⇓P **P** 18 10 06.9 +0.5
baz=53
MONP Monument Peak 53.38 303 ⇓P **P** 18 10 07.4 +0.1
baz=53
QLMT Earthquake Lak 53.43 319 *e*P **P** 18 10 08.4 +1.0
comp=Z,15nm,1.6s
FCC Fort Churchill 53.45 341 *e*P **P** 18 10 06.1 -0.9
FCC pmax pmax
FCC comp=Z,2.0nm,1.0s MLR MLR
comp=Z,100nm,18.8s
FCC Fort Churchill 53.45 341 *e*P **P** 18 10 06.1 -0.9
comp=Z,2.1nm,1.0s
FCC LR LR
comp=Z,100nm,18.8s
B19A Brinkman Farms 53.55 324 ⇓P **P** 18 10 09.5 +1.5
baz=54
BAR Barrett 53.55 303 PFAKE 18 10 20.0 +12
BAR LR LR
comp=Z,900nm,18.4s
TUQ Turquoise Moun 53.56 306 ⇓P **P** 18 10 09.6 +1.2
baz=54,SNR=7.7
PFO Pinyon Flat Ob 53.56 304 *e*P **P** 18 10 10.3 +1.8
comp=Z,7.8nm,1.1s
PFO LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 53.56 304 ⇑P **P** 18 10 09.2 +0.7
baz=54
FFC Flin Flon 53.57 333 P **P** 18 10 08.8 +0.8
comp=Z,99nm,0.8s,SNR=5.3
A19A Klindworth Far 53.66 324 ⇓P **P** 18 10 09.9 +1.0
baz=54,SNR=5.9
HEC Hector,Ludlow 53.74 306 ⇑P **P** 18 10 10.0 +0.3
baz=54
EGMT Eagleton 53.81 323 *e*P **P** 18 10 08.9 -1.1
comp=Z,75nm,1.5s
EGMT LR LR
comp=Z,2µm,21.0s
EGMT Eagleton 53.81 323 ⇓P **P** 18 10 11.2 +1.2
baz=54
BOZ Bozeman (W) 53.90 320 *e*P **P** 18 10 11.4 +0.6
BOZ pmax pmax
BOZ comp=Z,32nm,1.2s MLR MLR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 53.90 320 *e*P **P** 18 10 11.4 +0.6
comp=Z,32nm,1.2s
BOZ LR LR
comp=Z,3µm,19.0s
R11A Troy Canyon, C 54.07 310 *e*P **P** 18 10 12.6 +0.4
comp=Z,67nm,1.6s
R11A Troy Canyon, C 54.07 310 ⇓P **P** 18 10 13.6 +1.4
baz=54,SNR=28
MURC Murrieta 54.17 304 ⇓P **P** 18 10 13.9 +1.1
baz=54
GSC Goldstone 54.23 306 *e*P **P** 18 10 14.3 +1.1
GSC pmax pmax
GSC comp=Z,35nm,1.3s MLR MLR
comp=Z,433nm,20.7s
GSC Goldstone 54.23 306 *e*P **P** 18 10 14.3 +1.1
comp=Z,35nm,1.3s
GSC LR LR
comp=Z,433nm,20.7s
GSC Goldstone 54.23 306 ⇓P **P** 18 10 14.4 +1.1
baz=54
MCMT McKenzie Canyo 54.35 318 *e*P **P** 18 10 14.7 +0.5
comp=Z,15nm,1.2s
DLMT Dillon 54.40 319 *e*P P 18 10 10.3 -4.1
comp=Z,39nm,1.3s
DLMT LR LR
comp=Z,2µm,21.2s
HRY Holter Researc 54.48 321 *e*P **P** 18 10 15.4 +0.4
comp=Z,5.8nm,0.3s
LRM Limekiln Ridge 54.49 320 *e*P **P** 18 10 14.8 -0.5
comp=Z,131nm,1.2s
ELK Elko 54.54 313 *e*P **P** 18 10 16.3 +0.7
comp=Z,134nm,2.2s
ELK LR LR
comp=Z,3µm,21.6s
FURC Furnace Creek, 54.55 307 ⇓P **P** 18 10 17.3 +1.8
baz=55,SNR=6.1
BFSC Mount Baldy Ra 54.67 305 ⇑P **P** 18 10 16.9 +0.3
baz=55
HLID Hailey 54.91 316 *e*P **P** 18 10 18.0 -0.3
comp=Z,24nm,0.9s
HLID LR LR
comp=Z,4µm,20.0s
HLID Hailey 54.91 316 ⇓P **P** 18 10 18.7 +0.5
baz=55,SNR=24
MPMC Manual Prospec 54.95 307 ⇓P **P** 18 10 19.5 +0.8
baz=55,SNR=6.4
LRMC Laurel Mountai 54.97 306 ⇓P **P** 18 10 20.0 +1.3
baz=55,SNR=15
MWC Mount Wilson 54.99 304 *e*P **P** 18 10 19.6 +0.6
MWC pmax pmax
MWC comp=Z,49nm,1.4s MLR MLR
comp=Z,1µm,19.0s
MWC Mount Wilson 54.99 304 *e*P **P** 18 10 19.6 +0.6
comp=Z,48nm,1.4s
MWC LR LR
comp=Z,1µm,19.0s
EDW2 Edwards Air Fo 55.08 305 ⇑P **P** 18 10 20.6 +1.1
baz=55,SNR=16
PASC Pasadena Art C 55.09 304 PFAKE 18 10 30.0 +11
PASC LR LR
comp=Z,1µm,19.4s
CIS Catalina Islan 55.11 303 ⇑P **P** 18 10 20.6 +0.9
baz=55
TPH Tonopah 55.24 309 *e*P **P** 18 10 20.3 -0.4
TPH pmax pmax
comp=Z,67nm,1.4s
TPH MLR MLR
comp=Z,2µm,20.0s
TPH Tonopah 55.24 309 *e*P **P** 18 10 20.2 -0.4
comp=Z,67nm,1.4s
TPH LR LR
comp=Z,2µm,20.0s
CHMT Chamberlain Mo 55.45 321 *e*P **P** 18 10 21.9 -0.1
comp=Z,23nm,1.5s
CWC Cottonwood Cre 55.50 307 ⇑P **P** 18 10 23.5 +0.9
baz=56,SNR=14
OSI Osito Adit 55.61 305 PFAKE 18 10 40.0 +17
OSI LR LR
comp=Z,2µm,19.2s
SLMT Seeley Lake 55.73 321 *e*P **P** 18 10 24.1 +0.1
comp=Z,40nm,1.3s
TIN Tinemaha 55.76 308 ⇓P **P** 18 10 25.4 +1.0
baz=56
MFID Camas Ranch 55.83 316 *e*P **P** 18 10 23.8 -1.0
comp=Z,21nm,1.1s
MFID LR LR
comp=Z,3µm,20.0s
MSO Missoula 55.84 320 *e*P **P** 18 10 27.2 +2.4
comp=Z,42nm,1.8s
MSO LR LR
comp=Z,3µm,19.8s
MSO Missoula 55.84 320 ⇑P **P** 18 10 26.1 +1.3
baz=56
BMN Battle Mountai 55.88 312 *e*P **P** 18 10 22.9 -2.4
BMN pmax pmax
comp=Z,81nm,1.6s
BMN MLR MLR
comp=Z,2µm,22.0s
BMN Battle Mountai 55.88 312 *e*P **P** 18 10 22.9 -2.4
comp=Z,81nm,1.6s
BMN LR LR
comp=Z,2µm,22.0s
MORF Marmelete 55.89 52 *e*P **P** 18 10 28.3 +3.1
comp=Z,96nm,1.3s
MORF Marmelete 55.89 52 *e*P **P** 18 10 26.9 +1.7
MORF *e*S **S** 18 18 15.7 +3.0

NV11 Mina Array Sit 56.04 309 *e*P **P** 18 10 26.2 -0.2
MTUM Tungsten Hills 56.09 308 *e*P **P** 18 10 29.6 +2.7
NVAR Mina Array Bea 56.15 309 P **P** 18 10 27.8 +0.5
NVAR Mina Array Bea 56.15 309 P **P** 18 10 27.8 +0.5
comp=Z,7.4nm,0.7s,baz=114,slow=6.7,SNR=36
NVAR LR LR 18 37 17.9
comp=Z,3µm,18.9s,baz=255,slow=39
SWMT Swartz Lake 56.16 321 *e*P **P** 18 10 27.8 +0.8
comp=Z,21nm,1.6s
VES Vestal, Richgr 56.16 306 ⇓P **P** 18 10 28.6 +1.5
baz=56,SNR=13
PNCL Nicolau / Gran 56.18 51 *e*P **P** 18 10 30.3 +3.1
comp=Z,138nm,1.6s
YBMT Yellow Bay 56.31 321 *e*P P 18 10 23.2 -4.9
JTMT Jette 56.43 321 *e*P **P** 18 10 29.8 +0.8
comp=Z,23nm,1.6s
PBDV Barranco-do-Ve 56.43 52 *e*P **P** 18 10 32.2 +3.1
comp=Z,111nm,1.6s
EVOP Sao Brissos 56.59 51 *e*P **P** 18 10 30.7 +0.6
EVOP pmax pmax
comp=Z,225nm,1.7s
EVOP Sao Brissos 56.59 51 *e*P **P** 18 10 30.7 +0.6
comp=Z,225nm,1.7s
RTC Rabat Centre 56.62 56 PFAKE 18 10 40.0 +10
RTC LR LR
comp=Z,1µm,20.0s
PVAQ Vaqueiros 56.63 52 *e*P **P** 18 10 29.6 -0.9
comp=Z,86nm,1.7s
PVAQ *e*S **S** 18 18 28.0 +5.5
PVAQ *e*LR LR 18 27 12.6
comp=Z,1µm,22.0s
PMTG Montargil 56.65 50 *e*P **P** 18 10 31.7 +1.2
comp=Z,125nm,1.9s
PTOM Tomar 56.65 49 *e*P **P** 18 10 30.9 +0.4
comp=Z,94nm,1.9s
EVO Evora 56.67 51 *e*P **P** 18 10 30.7 0.0
comp=Z,225nm,1.7s
EVO *e*R
comp=Z,2µm,21.0s
EVO Evora 56.67 51 *e*P **P** 18 10 33.5 +2.8
comp=Z,111nm,1.7s
PCAS Casmilo, Conde 56.70 49 *e*P **P** 18 10 31.0 +0.1
comp=Z,112nm,1.5s
WALA Waterton Lakes 56.74 323 *e*P **P** 18 10 34.1 +2.9
comp=Z,0.5nm,0.4s
WALA LR LR
comp=Z,100nm,21.6s
BSMT Bassoo Peak 56.78 321 *e*P **P** 18 10 31.8 +0.2
comp=Z,54nm,1.8s
WAKR Walker 57.03 309 *e*P **P** 18 10 34.6 +1.0
comp=Z,75nm,1.6s
PESTR Estremoz 57.08 50 *e*P **P** 18 10 35.4 +1.8
SFJD Kangerlussuaq 57.10 6 PFAKE 18 10 50.0 +17
SFJD LR LR
comp=Z,2µm,20.0s
PVIS Viseu 57.32 48 *e*P **P** 18 10 35.7 +0.4
comp=Z,69nm,1.3s
PMRV Marv??o 57.36 50 *e*P **P** 18 10 37.1 +1.5
comp=Z,68nm,1.8s
PMRV *e*S **S** 18 18 35.4 +3.3
PMRV *e*LR LR 18 27 39.5
comp=Z,1µm,22.0s
PGAV Gavieira, Arco 57.39 47 *e*P **P** 18 10 36.4 +0.5
comp=Z,82nm,1.5s
PGAV Gavieira, Arco 57.39 47 *e*LR LR 18 27 34.6
comp=Z,945nm,22.0s
PCBR Castelo Branco 57.40 49 *e*P **P** 18 10 37.8 +2.0
comp=Z,85nm,1.8s
WVOR Wild Horse Val 57.48 314 *e*P **P** 18 10 36.3 -0.2
WVOR pmax pmax
comp=Z,62nm,1.6s
WVOR MLR MLR
comp=Z,3µm,20.0s
WVOR Wild Horse Val 57.48 314 *e*P **P** 18 10 36.3 -0.2
comp=Z,62nm,1.6s
WVOR LR LR
comp=Z,3µm,20.0s
PCAB Cabril 57.49 47 *e*P **P** 18 10 39.0 +2.5
comp=Z,90nm,2.0s
MTE Manteigas 57.49 49 *e*P **P** 18 10 39.2 +2.6
comp=Z,99nm,1.5s
MTE *e*S **S** 18 18 39.5 +5.6
MTE *e*LR LR 18 27 48.0
comp=Z,893nm,20.0s
MTE Manteigas 57.49 49 PFAKE 18 10 50.0 +13
MTE LR LR
comp=Z,1µm,21.0s
POLO Lamas de Olo 57.57 47 *e*P **P** 18 10 37.2 +0.1
comp=Z,64nm,0.8s
PVRL Vila Real 57.60 48 *e*P **P** 18 10 37.4 +0.1
comp=Z,107nm,1.3s
J08A Circle Bar Ran 57.64 315 *e*P **P** 18 10 39.6 +2.0
comp=Z,197nm,2.5s
J08A LR LR
comp=Z,3µm,20.4s
F10A Beach Ranch, E 57.64 318 *e*P **P** 18 10 39.1 +1.6
comp=Z,164nm,2.5s
F10A LR LR
comp=Z,3µm,20.5s
CMB Columbia Colle 57.65 308 *e*P **P** 18 10 37.8 +0.1
CMB pmax pmax
comp=Z,28nm,1.5s
CMB MLR MLR
comp=Z,2µm,18.8s
CMB Columbia Colle 57.65 308 *e*P **P** 18 10 37.8 +0.1
comp=Z,28nm,1.5s
CMB LR LR
comp=Z,2µm,18.8s
TIC Toumodi 57.88 89 *e*P **P** 18 10 39.2 -0.4
LIC Lamto 57.93 89 *e*P **P** 18 10 38.8 -1.2
comp=Z,74nm,1.0s,baz=267
LIC *e*R
comp=Z,1µm,18.5s
LIC Lamto 57.93 89 *e*P **P** 18 10 40.0 0.0
comp=Z,98nm,1.0s
LIC Lamto 57.93 89 *e*P **P** 18 10 38.8 -1.2
comp=Z,74nm,1.0s
DBIC Dimbokro 58.03 89 *e*P **P** 18 10 40.1 -0.6
comp=Z,37nm,1.1s
DBIC LR LR
comp=Z,1µm,20.9s
DBIC Dimbokro 58.03 89 P **P** 18 10 40.1 -0.6
comp=Z,33nm,1.1s,baz=263,slow=7.8,SNR=17
BEKR Beckworth 58.05 311 *e*P **P** 18 10 38.5 -2.2
comp=Z,5.5nm,1.1s
BEKR LR LR
comp=Z,1µm,22.0s
MVO Moncorvo 58.07 48 *e*P **P** 18 10 40.6 0.0
comp=Z,152nm,1.4s
MVO *e*S S 18 18 52.3 +11
MVO *e*LR LR 18 27 41.8
comp=Z,796nm,18.0s
KIC Kosan Boka 58.19 89 *e*P **P** 18 10 42.1 +0.3
comp=Z,131nm,1.1s
SAO San Andreas Ge 58.21 307 *e*P P 18 10 45.4 +3.7
SAO pmax pmax
comp=Z,140nm,2.3s
SAO MLR MLR
comp=Z,2µm,20.5s
SAO San Andreas Ge 58.21 307 *e*P P 18 10 45.4 +3.7
comp=Z,140nm,2.3s
SAO LR LR
comp=Z,2µm,20.5s
EDM Edmonton 58.28 327 *e*P **P** 18 10 42.1 +0.2
EDM Edmonton 58.28 327 *e*P **P** 18 10 42.1 +0.2
NEW Newport 58.39 321 *e*P **P** 18 10 40.2 -2.5
comp=Z,35nm,1.1s
NEW LR LR
comp=Z,3µm,21.0s
NEW Newport 58.39 321 ⇑P **P** 18 10 42.3 -0.4
baz=58,SNR=7.5
E09A Wood Farm, Sta 58.42 319 *e*P **P** 18 10 43.8 +0.9
comp=Z,122nm,2.3s
E09A LR LR
comp=Z,2µm,19.8s
PBRG Braganca 58.44 47 *e*P **P** 18 10 44.8 +1.6
comp=Z,74nm,1.8s
MOD Modoc 58.52 313 *e*P **P** 18 10 45.7 +1.8
comp=Z,105nm,2.2s
MOD LR LR
comp=Z,3µm,20.0s
G08A Pilot Rock 58.56 317 *e*P **P** 18 10 44.5 +0.5
G08A LR LR
comp=Z,3µm,20.7s
I07A Izee 58.56 316 *e*P **P** 18 10 44.2 +0.1
comp=Z,50nm,0.9s
I07A LR LR

OHCM Honcut 58.78 310 *e*P **P** 18 10 46.6 +1.1
C09A Chrisman Ranch 58.94 320 *e*P **P** 18 10 46.9 +0.3
comp=Z,132nm,2.0s
C09A LR LR
comp=Z,2µm,18.8s
D08A Wollman Farm, 59.10 319 *e*P P 18 10 51.4 +3.7
comp=Z,192nm,2.6s
D08A LR LR
comp=Z,2µm,20.9s
K05A Summer Lake 59.16 314 *e*P **P** 18 10 49.7 +1.3
comp=Z,408nm,2.1s
HAWA Hanford 59.29 318 *e*P **P** 18 10 51.0 +2.1
comp=Z,187nm,2.3s
HAWA LR LR
comp=Z,2µm,19.0s
PINOR Pine Mountain 59.44 315 PFAKE 18 11 00.0 +10
PINOR LR LR
comp=Z,3µm,19.7s
E07A Sunnyside 59.55 318 PFAKE 18 11 00.0 +9.2
E07A LR LR
comp=Z,2µm,19.4s
MCCM Marconi Confer 59.60 308 PFAKE 18 11 00.0 +8.8
MCCM LR LR
comp=Z,2µm,21.0s
M04C Macdoel 59.60 312 ⇓P **P** 18 10 51.2 -0.2
baz=60
G06A Carlson Farm, 59.67 317 *e*P **P** 18 10 54.8 +3.1
comp=Z,232nm,2.0s
G06A LR LR
comp=Z,3µm,19.3s
PAB San Pablo 59.68 50 *e*P **P** 18 10 53.0 +1.1
PAB pmax pmax
comp=Z,125nm,1.4s
PAB MLR MLR
comp=Z,2µm,22.0s
PAB San Pablo 59.68 50 *e*P **P** 18 10 53.0 +1.1
comp=Z,125nm,1.4s
PAB LR LR
comp=Z,2µm,22.0s
WDC Whiskeytown Da 59.84 311 PFAKE 18 11 10.0 +17
WDC LR LR
comp=Z,2µm,21.0s
HOPS Hopland 59.91 309 PFAKE 18 11 10.0 +17
HOPS LR LR
comp=Z,3µm,20.3s
ESDC Sonseca Array 60.00 50 P **P** 18 10 55.0 +1.0
ESDC Sonseca Array 60.00 50 P **P** 18 10 55.0 +1.0
comp=Z,39nm,0.9s,baz=258,slow=6.6,SNR=68
ESDC LR LR 18 34 18.3
comp=Z,243nm,18.5s,baz=260,slow=34
ESLA Sonseca Array 60.00 50 *e*P **P** 18 10 54.1 +0.1
comp=Z,32nm,1.2s
YBH Yreka Blue Hor 60.23 312 PFAKE 18 11 10.0 +14
YBH LR LR
comp=Z,2µm,19.1s
LTY Liberty 60.30 319 *e*P **P** 18 10 56.9 +0.9
comp=Z,81nm,1.5s
LTY LR LR
comp=Z,1µm,20.5s
KIPM Iron Peak 60.38 310 *e*P **P** 18 10 58.1 +1.4
comp=Z,36nm,1.1s
KCPM Cahto Peak 60.44 310 PFAKE 18 11 10.0 +13
KCPM LR LR
comp=Z,2µm,20.4s
H04A Detroit Lake 60.58 316 PFAKE 18 11 10.0 +12
H04A LR LR
comp=Z,2µm,18.9s
HUMO Hull Mountain 60.60 313 PFAKE 18 11 10.0 +12
HUMO LR LR
comp=Z,2µm,20.9s
KMRM Mail Ridge 60.64 310 *e*P P 18 11 02.0 +3.5
comp=Z,70nm,1.1s
KMRM LR LR
comp=Z,4µm,19.9s
KHMM Horse Mountain 60.79 311 PFAKE 18 11 10.0 +10
KHMM LR LR
comp=Z,3µm,20.0s
LON Longmire 60.89 318 PFAKE 18 11 10.0 +10
LON LR LR
comp=Z,2µm,20.8s
KRMB Red Mountain 61.05 312 PFAKE 18 11 10.0 +8.7
KRMB LR LR
comp=Z,3µm,20.5s
F04A Amboy 61.07 317 PFAKE 18 11 10.0 +8.9
F04A LR LR
comp=Z,2µm,20.2s
B06A Marblemount 61.21 320 PFAKE 18 11 10.0 +8.0
B06A LR LR
comp=Z,2µm,19.6s
COR Corvallis 61.33 315 PFAKE 18 11 20.0 +17
COR LR LR
comp=Z,2µm,22.0s
BORG Borgarnes 61.57 19 LR LR 18 32 44.9
comp=Z,2µm,21.4s,baz=240,slow=31
A05A Maple Falls 61.73 320 PFAKE 18 11 20.0 +14
A05A LR LR
comp=Z,2µm,19.4s
DSB Dublin 62.26 35 PFAKE 18 11 20.0 +11
DSB LR LR
comp=Z,2µm,21.1s
NLWA Neilton Lookou 62.42 318 PFAKE 18 11 20.0 +10
NLWA LR LR
comp=Z,3µm,19.0s
PGC Sidney 62.50 320 PFAKE 18 11 20.0 +9.3
PGC LR LR
comp=Z,100nm,20.9s
QUIF Quistinic 62.52 41 *e*P **P** 18 11 11.6 +0.7
comp=Z,72nm,0.9s
QUIF Quistinic 62.52 41 *e*P **P** 18 11 11.6 +0.7
QUIF pmax pmax
comp=Z,72nm,0.9s
QUIF Quistinic 62.52 41 *e*P **P** 18 11 11.6 +0.7
comp=Z,72nm,0.9s
ROSF Rostrenen 62.57 41 *e*P **P** 18 11 11.3 +0.1
comp=Z,88nm,1.0s
ROSF Rostrenen 62.57 41 *e*P **P** 18 11 11.3 +0.1
ROSF pmax pmax
comp=Z,88nm,1.0s
ROSF Rostrenen 62.57 41 *e*P **P** 18 11 11.3 +0.1
comp=Z,88nm,1.0s
SJPF Ste Jean 62.72 47 *e*P **P** 18 11 12.8 +0.5
comp=Z,199nm,1.1s
SJPF Ste Jean 62.72 47 *e*P **P** 18 11 12.8 +0.5
SJPF pmax pmax
comp=Z,199nm,1.1s
SJPF Ste Jean 62.72 47 *e*P **P** 18 11 12.8 +0.5
comp=Z,199nm,1.1s
OSSF Osses 62.72 47 *e*P **P** 18 11 14.4 +2.1
DYA Yadsworthy 62.76 38 PFAKE 18 11 20.0 +7.6
DYA LR LR
comp=Z,2µm,21.1s
SHEL Horse Pasture 62.90 114 PFAKE 18 11 30.0 +16
SHEL LR LR
comp=Z,646nm,19.0s
SGMF Saint Gilles 63.00 41 *e*P **P** 18 11 14.9 +0.8
comp=Z,167nm,1.2s
SGMF Saint Gilles 63.00 41 *e*P **P** 18 11 14.9 +0.8
SGMF pmax pmax
comp=Z,167nm,1.2s
SGMF Saint Gilles 63.00 41 *e*P **P** 18 11 14.9 +0.8
comp=Z,167nm,1.2s
ETSF Etsaut 63.15 47 *e*P **P** 18 11 15.7 +0.4
comp=Z,114nm,1.3s
ETSF Etsaut 63.15 47 *e*P **P** 18 11 15.7 +0.4
ETSF pmax pmax
comp=Z,114nm,1.3s
ETSF Etsaut 63.15 47 *e*P **P** 18 11 15.7 +0.4
comp=Z,114nm,1.3s
REYF Montagne du Re 63.31 47 *e*P **P** 18 11 18.6 +2.3
EANR 'Ain N'Sour 63.37 55 P **P** 18 11 20.0 +3.1
YKA Yellowknife Ar 63.46 336 P **P** 18 11 15.6 -1.2
YKA Yellowknife Ar 63.46 336 P **P** 18 11 15.6 -1.2
comp=Z,46nm,1.0s,baz=112,slow=7.0,SNR=99
ETRT Tiaret 63.47 56 P P 18 11 21.0 +3.4
TOA0 Torodi Ar. Sit 63.70 80 *e*P **P** 18 11 17.8 -1.5
TORD Torodi Ar. Bea 63.70 80 P **P** 18 11 18.6 -0.6
TORD Torodi Ar. Bea 63.70 80 P **P** 18 11 18.6 -0.6
comp=Z,30nm,0.8s,baz=294,slow=7.5,SNR=48
EPF Esparros 63.83 47 *e*P **P** 18 11 20.2 +0.5
comp=Z,297nm,1.4s
EPF Esparros 63.83 47 *e*P **P** 18 11 20.2 +0.5
EPF pmax pmax
comp=Z,297nm,1.4s
EPF Esparros 63.83 47 *e*P **P** 18 11 20.2 +0.5
comp=Z,297nm,1.4s

SUMG	**Summit**	**63.84**	**8**	*e*P		**P**	**18 11 20.5**	**+0.8**
SUMG				MLR		MLR		
	comp=Z,2µm,22.0s							
SUMG	**Summit**	**63.84**	**8**	*i* P		**P**	**18 11 21.3**	**+1.6**
	comp=Z,18nm,1.0s							
SUMG	**Summit**	**63.84**	**8**	*e*P		**P**	**18 11 20.5**	**+0.8**
SUMG				LR		LR		
	comp=Z,2µm,22.0s							
GRR	**Gorron**	**64.14**	**41**	*e*P		**P**	**18 11 22.0**	**+0.4**
	comp=Z,72nm,0.9s							
GRR	**Gorron**	**64.14**	**41**	*e*P		**P**	**18 11 22.0**	**+0.4**
GRR				pmax		pmax		
	comp=Z,72nm,0.9s							
GRR	**Gorron**	**64.14**	**41**	*e*P		**P**	**18 11 22.0**	**+0.4**
	comp=Z,72nm,0.9s							
MFF	**Saint Martin d**	**64.20**	**43**	*e*P		**P**	**18 11 22.7**	**+0.7**
	comp=Z,87nm,1.2s							
MFF	**Saint Martin d**	**64.20**	**43**	*e*P		**P**	**18 11 22.7**	**+0.7**
MFF				pmax		pmax		
	comp=Z,87nm,1.2s							
MFF	**Saint Martin d**	**64.20**	**43**	*e*P		**P**	**18 11 22.7**	**+0.7**
	comp=Z,87nm,1.2s							
LFF	**La Frestale**	**64.47**	**45**	*e*P		**P**	**18 11 24.5**	**+0.7**
	comp=Z,95nm,1.0s							
LFF	**La Frestale**	**64.47**	**45**	*e*P		**P**	**18 11 24.5**	**+0.7**
LFF				pmax		pmax		
	comp=Z,95nm,1.0s							
LFF	**La Frestale**	**64.47**	**45**	*e*P		**P**	**18 11 24.5**	**+0.7**
	comp=Z,95nm,1.0s							
FLN	**La Foliniere**	**64.47**	**41**	*e*P		**P**	**18 11 24.2**	**+0.5**
	comp=Z,112nm,1.0s							
FLN				*e*R				
	comp=Z,768nm,20.8s							
FLN	**La Foliniere**	**64.47**	**41**	*e*P		**P**	**18 11 24.2**	**+0.5**
FLN				pmax		pmax		
	comp=Z,112nm,1.0s							
FLN	**La Foliniere**	**64.47**	**41**	*e*P		**P**	**18 11 24.2**	**+0.5**
	comp=Z,112nm,1.0s							
LDF	**La Druitiere**	**64.66**	**41**	*e*P		**P**	**18 11 25.2**	**+0.2**
	comp=Z,70nm,1.1s							
LDF	**La Druitiere**	**64.66**	**41**	*e*P		**P**	**18 11 25.2**	**+0.2**
LDF				pmax		pmax		
	comp=Z,70nm,1.1s							
LDF	**La Druitiere**	**64.66**	**41**	*e*P		**P**	**18 11 25.2**	**+0.2**
	comp=Z,70nm,1.1s							
ESK	**Eskdalemuir**	**64.72**	**33**	P		P	18 11 29.2	+4.0
ESK				MLR		MLR		
	comp=Z,2µm,19.0s							
ESK	**Eskdalemuir**	**64.72**	**33**	P		P	18 11 29.2	+4.0
ESK				LR		LR		
	comp=Z,2µm,19.0s							
EDI	**Edinburgh**	**64.93**	**33**	PFAKE			18 11 40.0	+13
EDI				LR		LR		
	comp=Z,1µm,18.7s							
RJF	**Les Rejaudoux**	**65.07**	**45**	*e*P		**P**	**18 11 28.2**	**+0.4**
	comp=Z,95nm,1.1s							
RJF				*e*R				
	comp=Z,1µm,22.0s							
RJF	**Les Rejaudoux**	**65.07**	**45**	*e*P		**P**	**18 11 28.2**	**+0.4**
RJF				pmax		pmax		
	comp=Z,95nm,1.1s							
RJF	**Les Rejaudoux**	**65.07**	**45**	*e*P		**P**	**18 11 28.2**	**+0.4**
	comp=Z,95nm,1.1s							
CAF	**Calviac**	**65.39**	**45**	*e*P		**P**	**18 11 30.3**	**+0.4**
	comp=Z,80nm,1.0s							
CAF	**Calviac**	**65.39**	**45**	*e*P		**P**	**18 11 30.3**	**+0.4**
CAF				pmax		pmax		
	comp=Z,80nm,1.0s							
CAF	**Calviac**	**65.39**	**45**	*e*P		**P**	**18 11 30.3**	**+0.4**
	comp=Z,80nm,1.0s							
TCF	**Toulx Ste Croi**	**65.73**	**44**	*e*P		**P**	**18 11 32.3**	**+0.2**
	comp=Z,73nm,1.2s							
TCF	**Toulx Ste Croi**	**65.73**	**44**	*e*P		**P**	**18 11 32.3**	**+0.2**
TCF				pmax		pmax		
	comp=Z,73nm,1.2s							
TCF	**Toulx Ste Croi**	**65.73**	**44**	*e*P		**P**	**18 11 32.3**	**+0.2**
	comp=Z,73nm,1.2s							
PYM	**Petit Puy Mans**	**66.18**	**45**	*e*P		**P**	**18 11 36.1**	**+1.0**
HYF	**Humbligny**	**66.20**	**43**	*e*P		**P**	**18 11 35.4**	**+0.4**
HYF	**Humbligny**	**66.20**	**43**	*e*P		**P**	**18 11 35.4**	**+0.4**
BGF	**Bois d'Agland**	**66.21**	**44**	*e*P		**P**	**18 11 35.4**	**+0.3**
	comp=Z,68nm,1.2s							
BGF	**Bois d'Agland**	**66.21**	**44**	*e*P		**P**	**18 11 35.4**	**+0.3**
BGF				pmax		pmax		
	comp=Z,68nm,1.2s							
BGF	**Bois d'Agland**	**66.21**	**44**	*e*P		**P**	**18 11 35.4**	**+0.3**
	comp=Z,68nm,1.2s							
LBL	**Lubilhac**	**66.27**	**45**	*e*P		**P**	**18 11 36.1**	**+0.5**
LASF	**Ste Croix**	**66.52**	**46**	*e*P		**P**	**18 11 37.6**	**+0.4**
	comp=Z,239nm,1.7s							
LASF	**Ste Croix**	**66.52**	**46**	*e*P		**P**	**18 11 37.6**	**+0.4**
	comp=Z,239nm,1.7s							
MENF	**Mencas**	**66.54**	**39**	*e*P		**P**	**18 11 38.2**	**+1.1**
RES	**Resolute Bay**	**66.58**	**351**	PFAKE			18 11 50.0	+13
RES				LR		LR		
	comp=Z,4µm,19.9s							
AVF	**Avril sur Loir**	**66.60**	**44**	*e*P		**P**	**18 11 37.5**	**0.0**
	comp=Z,35nm,1.0s							
AVF	**Avril sur Loir**	**66.60**	**44**	*e*P		**P**	**18 11 37.5**	**0.0**
AVF				pmax		pmax		
	comp=Z,35nm,1.0s							
AVF	**Avril sur Loir**	**66.60**	**44**	*e*P		**P**	**18 11 37.5**	**0.0**
	comp=Z,35nm,1.0s							
SSF	**Saint Saulge**	**66.75**	**43**	*e*P		**P**	**18 11 38.3**	**-0.2**
	comp=Z,63nm,1.3s							
SSF	**Saint Saulge**	**66.75**	**43**	*e*P		**P**	**18 11 38.3**	**-0.2**
SSF				pmax		pmax		
	comp=Z,63nm,1.3s							
SSF	**Saint Saulge**	**66.75**	**43**	*e*P		**P**	**18 11 38.3**	**-0.2**
	comp=Z,63nm,1.3s							
TAM	**Tamanrasset**	**66.75**	**70**	*e*P		**P**	**18 11 40.1**	**+1.0**
TAM				pmax		pmax		
	comp=Z,53nm,1.2s							
TAM				MLR		MLR		
	comp=Z,1µm,19.0s							
TAM	**Tamanrasset**	**66.75**	**70**	*e*P		**P**	**18 11 40.1**	**+1.0**
	comp=Z,53nm,1.2s							
TAM				LR		LR		
	comp=Z,1µm,19.0s							
SMF	**Signal de Mont**	**66.90**	**44**	*e*P		**P**	**18 11 39.6**	**+0.1**
	comp=Z,82nm,1.2s							
SMF	**Signal de Mont**	**66.90**	**44**	*e*P		**P**	**18 11 39.6**	**+0.1**
SMF				pmax		pmax		
	comp=Z,82nm,1.2s							
SMF	**Signal de Mont**	**66.90**	**44**	*e*P		**P**	**18 11 39.6**	**+0.1**
	comp=Z,82nm,1.2s							
LOR	**Lormes**	**67.02**	**43**	*e*P		**P**	**18 11 40.1**	**-0.2**
	comp=Z,46nm,0.9s							
LOR				*e*R				
	comp=Z,732nm,19.2s							
LOR	**Lormes**	**67.02**	**43**	*e*P		**P**	**18 11 40.1**	**-0.2**
	comp=Z,46nm,0.9s							
SSB	**Saint Sauveur**	**67.18**	**45**	*e*P		**P**	**18 11 41.9**	**+0.5**
SSB				pmax		pmax		
	comp=Z,110nm,1.8s							
SSB				MLR		MLR		
	comp=Z,1µm,22.0s							
SSB	**Saint Sauveur**	**67.18**	**45**	*e*P		**P**	**18 11 41.9**	**+0.5**
	comp=Z,110nm,1.8s							
SSB				LR		LR		
	comp=Z,1µm,22.0s							
VIVF	**Saint-Julien-l**	**67.21**	**46**	*e*P		**P**	**18 11 41.7**	**+0.1**
	comp=Z,197nm,1.6s							
VIVF	**Saint-Julien-l**	**67.21**	**46**	*e*P		**P**	**18 11 41.7**	**+0.1**
VIVF				pmax		pmax		
	comp=Z,197nm,1.6s							
VIVF	**Saint-Julien-l**	**67.21**	**46**	*e*P		**P**	**18 11 41.7**	**+0.1**
	comp=Z,197nm,1.6s							
TRIS	**Tristan da Cun**	**67.38**	**138**	PFAKE			18 11 50.0	+7.4
TRIS				LR		LR		
	comp=Z,2µm,20.0s							
BAIF	**Baives**	**67.73**	**40**	*e*P		**P**	**18 11 44.3**	**-0.4**
	comp=Z,40nm,1.1s							
BAIF	**Baives**	**67.73**	**40**	*e*P		**P**	**18 11 44.3**	**-0.4**
BAIF				pmax		pmax		
	comp=Z,40nm,1.1s							
BAIF	**Baives**	**67.73**	**40**	*e*P		**P**	**18 11 44.3**	**-0.4**
	comp=Z,40nm,1.1s							
SFTF	**Sexfontaines**	**67.96**	**42**	*e*P		**P**	**18 11 45.9**	**-0.3**
	comp=Z,84nm,1.0s							
SFTF	**Sexfontaines**	**67.96**	**42**	*e*P		**P**	**18 11 45.9**	**-0.3**
	comp=Z,84nm,1.0s							
DOU	**Dourbes**	**67.99**	**40**	P		**P**	**18 11 46.5**	**+0.2**
MEZF	**Maizieres J'vi**	**68.01**	**42**	*e*P		**P**	**18 11 46.5**	**0.0**
	comp=Z,110nm,0.9s							
MEZF	**Maizieres J'vi**	**68.01**	**42**	*e*P		**P**	**18 11 46.5**	**0.0**
	comp=Z,110nm,0.9s							
ORIF	**Oris-en-Rattie**	**68.07**	**46**	*e*P		**P**	**18 11 46.7**	**-0.4**
	comp=Z,74nm,1.3s							
ORIF				*e*R				
	comp=Z,1µm,23.0s							
ORIF	**Oris-en-Rattie**	**68.07**	**46**	*e*P		**P**	**18 11 46.7**	**-0.4**
ORIF				pmax		pmax		
	comp=Z,74nm,1.3s							
ORIF	**Oris-en-Rattie**	**68.07**	**46**	*e*P		**P**	**18 11 46.7**	**-0.4**
	comp=Z,74nm,1.3s							
GIVF	**Givet**	**68.13**	**40**	*e*P		**P**	**18 11 47.0**	**-0.2**
	comp=Z,67nm,0.9s							
GIVF	**Givet**	**68.13**	**40**	*e*P		**P**	**18 11 47.0**	**-0.2**
GIVF				pmax		pmax		
	comp=Z,67nm,0.9s							
GIVF	**Givet**	**68.13**	**40**	*e*P		**P**	**18 11 47.0**	**-0.2**
	comp=Z,67nm,0.9s							
LMR	**La Mourre**	**68.33**	**48**	*e*P		**P**	**18 11 49.1**	**+0.5**
	comp=Z,144nm,1.4s							
LMR	**La Mourre**	**68.33**	**48**	*e*P		**P**	**18 11 49.1**	**+0.5**
LMR				pmax		pmax		
	comp=Z,144nm,1.4s							
LMR	**La Mourre**	**68.33**	**48**	*e*P		**P**	**18 11 49.1**	**+0.5**
	comp=Z,144nm,1.4s							
CABF	**La Chapelle**	**68.43**	**44**	*e*P		**P**	**18 11 49.4**	**+0.1**
	comp=Z,56nm,1.1s							
CABF	**La Chapelle**	**68.43**	**44**	*e*P		**P**	**18 11 49.4**	**+0.1**
CABF				pmax		pmax		
	comp=Z,56nm,1.1s							
CABF	**La Chapelle**	**68.43**	**44**	*e*P		**P**	**18 11 49.4**	**+0.1**
	comp=Z,56nm,1.1s							
FRF	**La Foret Royal**	**68.46**	**47**	*e*P		**P**	**18 11 49.9**	**+0.5**
	comp=Z,168nm,1.5s							
FRF	**La Foret Royal**	**68.46**	**47**	*e*P		**P**	**18 11 49.9**	**+0.5**
FRF				pmax		pmax		
	comp=Z,168nm,1.5s							
FRF	**La Foret Royal**	**68.46**	**47**	*e*P		**P**	**18 11 49.9**	**+0.5**
	comp=Z,168nm,1.5s							
PAGF	**Fort de Pagny**	**68.46**	**42**	*e*P		**P**	**18 11 49.2**	**-0.1**
	comp=Z,22nm,0.9s							
PAGF	**Fort de Pagny**	**68.46**	**42**	*e*P		**P**	**18 11 49.2**	**-0.1**
	comp=Z,22nm,0.9s							
BCLA	**Clavier**	**68.49**	**40**	P		**P**	**18 11 49.7**	**+0.3**
THEF	**They Montfort**	**68.59**	**42**	*e*P		**P**	**18 11 50.0**	**-0.1**
BNI	**Bardonecchia**	**68.64**	**46**	*e*P		**P**	**18 11 53.4**	**+2.7**
BNI				pmax		pmax		
	comp=Z,32nm,1.2s							
BNI				MLR		MLR		
	comp=Z,1µm,19.0s							
BNI	**Bardonecchia**	**68.64**	**46**	*e*P		**P**	**18 11 53.4**	**+2.7**
	comp=Z,32nm,1.2s							
BNI				LR		LR		
	comp=Z,1µm,19.0s							
MBDF	**Montbardon**	**68.67**	**46**	*e*P		**P**	**18 11 50.9**	**0.0**
	comp=Z,39nm,1.0s							
MBDF	**Montbardon**	**68.67**	**46**	*e*P		**P**	**18 11 50.9**	**0.0**
MBDF				pmax		pmax		
	comp=Z,39nm,1.0s							
MBDF	**Montbardon**	**68.67**	**46**	*e*P		**P**	**18 11 50.9**	**0.0**
	comp=Z,39nm,1.0s							
LPL	**La Plagne**	**68.74**	**45**	*e*P		**P**	**18 11 51.5**	**+0.1**
	comp=Z,82nm,0.9s							
LPL	**La Plagne**	**68.74**	**45**	*e*P		**P**	**18 11 51.5**	**+0.1**
LPL				pmax		pmax		
	comp=Z,82nm,0.9s							
LPL	**La Plagne**	**68.74**	**45**	*e*P		**P**	**18 11 51.5**	**+0.1**
	comp=Z,82nm,0.9s							
LPG	**La Plagne**	**68.75**	**45**	*e*P		**P**	**18 11 51.6**	**+0.1**
	comp=Z,106nm,1.0s							
LPG	**La Plagne**	**68.75**	**45**	*e*P		**P**	**18 11 51.6**	**+0.1**
LPG				pmax		pmax		
	comp=Z,106nm,1.0s							
LPG	**La Plagne**	**68.75**	**45**	*e*P		**P**	**18 11 51.6**	**+0.1**
	comp=Z,106nm,1.0s							
BEBN	**Eben Emael**	**68.79**	**40**	P		**P**	**18 11 51.9**	**+0.6**
HAU	**Haudompre**	**68.80**	**43**	*e*P		**P**	**18 11 51.0**	**-0.5**
	comp=Z,48nm,1.1s							
HAU				*e*R				
	comp=Z,1µm,21.8s							
HAU	**Haudompre**	**68.80**	**43**	*e*P		**P**	**18 11 51.0**	**-0.5**
HAU				pmax		pmax		
	comp=Z,48nm,1.1s							
HAU	**Haudompre**	**68.80**	**43**	*e*P		**P**	**18 11 51.0**	**-0.5**
	comp=Z,48nm,1.1s							
WLF	**Walferdange**	**68.91**	**41**	P		**P**	**18 11 53.0**	**+0.9**
	comp=Z,22nm,1.0s							
WLF	**Walferdange**	**68.91**	**41**	*e*P		**P**	**18 11 51.7**	**-0.4**
WLF				pmax		pmax		
	comp=Z,33nm,0.9s							
WLF				MLR		MLR		
	comp=Z,2µm,22.0s							
WLF	**Walferdange**	**68.91**	**41**	*e*P		**P**	**18 11 53.0**	**+0.9**
	comp=Z,30nm,0.9s							
WLF	**Walferdange**	**68.91**	**41**	*e*P		**P**	**18 11 51.7**	**-0.4**
	comp=Z,33nm,0.9s							
WLF				LR		LR		
	comp=Z,2µm,22.0s							
DLBC	**Dease Lake**	**68.92**	**329**	*e*P		**P**	**18 11 54.3**	**+2.2**
TOUF	**Mont Tournerai**	**68.94**	**47**	*e*P		**P**	**18 11 53.9**	**+1.3**
HGN	**Heimansgroeve**	**68.94**	**40**	*e*P		**P**	**18 11 52.9**	**+0.6**
	comp=Z,35nm,1.0s							
MEM	**Membach**	**68.97**	**40**	P		**P**	**18 11 53.2**	**+0.8**
MEM	**Membach**	**68.97**	**40**	*e*P		**P**	**18 11 54.1**	**+1.7**
MEM				pmax		pmax		
	comp=Z,32nm,1.1s							
MEM				MLR		MLR		
	comp=Z,1µm,19.9s							
MEM	**Membach**	**68.97**	**40**	*e*P		**P**	**18 11 54.1**	**+1.7**
	comp=Z,32nm,1.1s							
MEM				LR		LR		
	comp=Z,1µm,19.9s							
LOMF	**Lomont**	**69.03**	**43**	*e*P		**P**	**18 11 53.9**	**+0.9**
SBF	**Sospel**	**69.06**	**47**	*e*P		**P**	**18 11 53.6**	**+0.4**
	comp=Z,147nm,1.1s							
SBF	**Sospel**	**69.06**	**47**	*e*P		**P**	**18 11 53.6**	**+0.4**
SBF				pmax		pmax		
	comp=Z,147nm,1.1s							
SBF	**Sospel**	**69.06**	**47**	*e*P		**P**	**18 11 53.6**	**+0.4**
	comp=Z,147nm,1.1s							
HINF	**Hinteralfeld**	**69.11**	**43**	*e*P		**P**	**18 11 52.8**	**-0.6**
	comp=Z,60nm,1.1s							
HINF	**Hinteralfeld**	**69.11**	**43**	*e*P		**P**	**18 11 52.8**	**-0.6**
HINF				pmax		pmax		
	comp=Z,60nm,1.1s							
HINF	**Hinteralfeld**	**69.11**	**43**	*e*P		**P**	**18 11 52.8**	**-0.6**
	comp=Z,60nm,1.1s							
JMIC	**Jan Mayen**	**69.15**	**17**	LR		LR	18 36 13.2	
	comp=Z,1µm,21.8s,baz=90,slow=31							
SAOF	**Saorge**	**69.16**	**47**	*e*P		**P**	**18 11 54.7**	**+0.9**
SENIN	**Lac Senin/Sane**	**69.23**	**44**	*e*P		**P**	**18 11 56.0**	**+1.6**
MOF	**Molkenrain**	**69.30**	**43**	*e*P		**P**	**18 11 55.4**	**+0.7**
ECH	**Echery**	**69.36**	**42**	*e*P		**P**	**18 11 55.2**	**+0.2**
ECH				pmax		pmax		
	comp=Z,29nm,1.0s							
ECH				MLR		MLR		
	comp=Z,1µm,21.0s							
ECH	**Echery**	**69.36**	**42**	*e*P		**P**	**18 11 56.1**	**+1.1**
ECH	**Echery**	**69.36**	**42**	*e*P		**P**	**18 11 55.2**	**+0.2**
	comp=Z,29nm,1.0s							
ECH				LR		LR		
	comp=Z,1µm,21.0s							
CDF	**Champ du Feu**	**69.46**	**42**	*e*P		**P**	**18 11 55.3**	**-0.4**
	comp=Z,35nm,0.9s							
CDF	**Champ du Feu**	**69.46**	**42**	*e*P		**P**	**18 11 55.3**	**-0.4**
CDF				pmax		pmax		
	comp=Z,35nm,0.9s							
CDF	**Champ du Feu**	**69.46**	**42**	*e*P		**P**	**18 11 55.3**	**-0.4**
	comp=Z,35nm,0.9s							
WLS	**Welschbruch**	**69.52**	**42**	*e*P		**P**	**18 11 56.4**	**+0.4**
WRAK	**Wrangell Islan**	**69.67**	**326**	PFAKE			18 12 10.0	+13
WRAK				LR		LR		
	comp=Z,2µm,19.7s							
WTSB	**Winterswijk**	**69.67**	**38**	*e*P		**P**	**18 11 57.4**	**+0.6**
	comp=Z,50nm,1.0s							
BUG	**Bochum--Univer**	**69.88**	**39**	*e*P		**P**	**18 11 58.3**	**+0.3**
	comp=Z,60nm,1.1s							
LANF	**Langenberg**	**69.89**	**42**	*e*P		**P**	**18 11 58.8**	**+0.6**
CRAG	**Craig**	**69.91**	**325**	PFAKE			18 12 10.0	+12
CRAG				LR		LR		
	comp=Z,2µm,20.8s							
KEST	**Kesra**	**70.04**	**56**	*e*P		**P**	**18 11 59.9**	**+0.5**
KEST	**Kesra**	**70.04**	**56**	P		**P**	**18 12 00.7**	**+1.2**
	comp=Z,26nm,1.1s,baz=216,slow=1.6,SNR=18							
PGF	**Pioggiola**	**70.09**	**49**	*e*P		**P**	**18 11 59.9**	**+0.2**
	comp=Z,112nm,1.0s							
PGF	**Pioggiola**	**70.09**	**49**	*e*P		**P**	**18 11 59.9**	**+0.2**
PGF				pmax		pmax		
	comp=Z,112nm,1.0s							
PGF	**Pioggiola**	**70.09**	**49**	*e*P		**P**	**18 11 59.9**	**+0.2**
	comp=Z,112nm,1.0s							
BFO	**Black Forest**	**70.15**	**42**	*i* P		**P**	**18 12 00.9**	**+1.1**
BFO	**Black Forest**	**70.15**	**42**	*e*P		**P**	**18 12 00.0**	**+0.2**
	comp=Z,8.0nm,0.9s							
BFO	**Black Forest**	**70.15**	**42**	PFAKE			18 12 10.0	+10
BFO				LR		LR		
	comp=Z,1µm,20.0s							
VSL	**Villasalto**	**70.20**	**52**	PFAKE			18 12 10.0	+10
VSL				LR		LR		
	comp=Z,1µm,19.0s							
IBBN	**Ibbenburen**	**70.31**	**38**	*e*P		**P**	**18 12 01.6**	**+0.9**
	comp=Z,72nm,1.1s							
TNS	**Taunus Mts**	**70.45**	**40**	*e*P		**P**	**18 12 02.5**	**+0.8**
	comp=Z,48nm,1.0s							
TUE	**Stuetta**	**70.65**	**44**	*e*P		**P**	**18 12 03.9**	**+0.7**
	comp=Z,439nm,0.5s							
TUE				LR		LR		
	comp=Z,1µm,19.0s							
STU	**Stuttgart**	**70.77**	**42**	*e*P		**P**	**18 12 04.4**	**+0.8**
STU				pmax		pmax		
	comp=Z,52nm,1.0s							
STU				MLR		MLR		
	comp=Z,900nm,20.0s							
STU	**Stuttgart**	**70.77**	**42**	*e*P		**P**	**18 12 04.1**	**+0.5**
	comp=Z,62nm,1.1s							
STU	**Stuttgart**	**70.77**	**42**	*e*P		**P**	**18 12 04.4**	**+0.8**
	comp=Z,52nm,1.0s							
STU				LR		LR		
	comp=Z,900nm,20.0s							
DAVOX	**Davos/Dischmat**	**71.04**	**44**	LR		LR	18 38 49.2	
	comp=Z,576nm,21.3s,baz=256,slow=32							
DAVA	**Damuels**	**71.09**	**44**	⇑*i*P		**P**	**18 12 06.9**	**+1.1**
	comp=Z,57nm,0.9s,SNR=13							
VLC	**Villacollemand**	**71.20**	**47**	PFAKE			18 12 20.0	+14
VLC				LR		LR		
	comp=Z,999nm,19.0s							
SIT	**Sitka**	**71.40**	**327**	PFAKE			18 12 20.0	+13
SIT				LR		LR		
	comp=Z,2µm,20.9s							
UBBA	**Unterbreizbach**	**71.51**	**40**	*e*P		**P**	**18 12 08.4**	**+0.5**
	comp=Z,21nm,1.7s							
FETA	**Feichten**	**71.64**	**44**	⇑*i*P		**P**	**18 12 09.9**	**+0.8**
	comp=Z,80nm,1.1s,SNR=17							
RETA	**Reutte**	**71.70**	**43**	⇓*i*P		**P**	**18 12 10.3**	**+1.0**
	comp=Z,26nm,1.2s,SNR=6.2							
MUD	**Monsted U'grnd**	**71.75**	**34**	*i* P		**P**	**18 12 10.2**	**+0.9**
MUD				pmax		pmax		
	comp=Z,24nm,1.0s							
MUD	**Monsted U'grnd**	**71.75**	**34**	*i* P		**P**	**18 12 10.2**	**+0.9**
	comp=Z,24nm,1.0s							
NRDL	**Niedersach Rie**	**71.76**	**38**	*e*P		**P**	**18 12 10.5**	**+1.1**
	comp=Z,47nm,1.2s							
SKAG	**Skagway**	**71.82**	**329**	*e*P		**P**	**18 12 10.4**	**+0.7**
SKAG				LR		LR		
	comp=Z,1µm,20.2s							
CLZ	**Clausthal**	**71.85**	**39**	*e*P		**P**	**18 12 11.0**	**+0.9**
	comp=Z,33nm,1.2s							
MOTA	**Moosalm**	**71.92**	**44**	⇑*i*P		**P**	**18 12 11.2**	**+0.4**
	comp=Z,27nm,0.9s,SNR=13							
ALE	**Alert**	**72.03**	**0**	P		**P**	**18 12 08.5**	**-2.1**
	comp=Z,71nm,1.1s,SNR=7.2							
BSEG	**Bad Segeberg**	**72.06**	**37**	*e*P		**P**	**18 12 11.9**	**+0.7**
	comp=Z,58nm,1.4s							
FUR	**Furstenfeldbru**	**72.10**	**43**	*e*P		**P**	**18 12 12.7**	**+1.1**
	comp=Z,81nm,1.5s							
GRF	**Grafenberg Arr**	**72.18**	**41**	*e*P		**P**	**18 12 12.8**	**+0.7**
	comp=Z,22nm,1.2s							
WATA	**Walderalm**	**72.24**	**44**	⇓*i*P		**P**	**18 12 13.5**	**+0.8**
	comp=Z,20nm,1.0s,SNR=7.0							
WTTA	**Wattenberg**	**72.28**	**44**	⇑*i*P		**P**	**18 12 14.1**	**+1.1**
	comp=Z,35nm,1.0s,SNR=8.8							
KONO	**Kongsberg**	**72.47**	**31**	⇓*e*P		**P**	**18 12 14.0**	**+0.4**
KONO				pmax		pmax		
	comp=Z,164nm,1.7s							
KONO	**Kongsberg**	**72.47**	**31**	PFAKE			18 12 30.0	+16
KONO				LR		LR		
	comp=Z,2µm,22.0s							
ROTZ	**Rotzenmuhle**	**72.83**	**41**	*e*P		**P**	**18 12 17.0**	**+1.1**
	comp=Z,19nm,1.3s							
ABTA	**Abfaltersbach**	**72.84**	**44**	⇑*i*P		**P**	**18 12 17.3**	**+1.1**
	comp=Z,43nm,1.0s,SNR=14							
INK	**Inuvik**	**72.98**	**339**	*e*P		**P**	**18 12 15.2**	**-1.2**
INK				LR		LR		
	comp=Z,2µm,19.4s							
NKC	**Novy Kostel**	**73.01**	**41**	*e*P		**P**	**18 12 17.6**	**+0.5**
NKC				MLR		MLR		
	comp=Z,1µm,23.4s							
NKC	**Novy Kostel**	**73.01**	**41**	*e*P		**P**	**18 12 17.6**	**+0.5**
NKC				AMS		AMS	18 38 20.0	
	comp=Z,1µm,23.4s							
TANN	**Tannenbergstha**	**73.03**	**40**	*e*P		**P**	**18 12 18.1**	**+0.9**
	comp=Z,23nm,1.1s							
AQU	**L'Aquila**	**73.33**	**49**	*e*P		**P**	**18 12 18.3**	**-0.8**
	comp=Z,32nm,0.9s							
AQU				LR		LR		
	comp=Z,856nm,22.0s							
KBA	**Koelnbreinsper**	**73.43**	**44**	*i* pP		**P**	**18 12 20.9**	**+1.2**
	comp=Z,70nm,1.1s,SNR=22							
CLL	**Collm**	**73.44**	**40**	*i* P		**P**	**18 12 19.1**	**-0.4**
CLL				*e*S		**SKiKP**	**18 21 50.0**	**-0.4**
CLL				pmax		pmax		
	comp=Z,24nm,1.0s							
CLL				MLR		MLR		
	comp=Z,1µm,21.4s							
CLL	**Collm**	**73.44**	**40**	*

BRG comp=N,438nm,15.4s
BRG comp=E,918nm,21.1s
BRG comp=Z,1μm,20.0s
BRG Berggiesshubel 74.00 40 *e*P **P 18 12 23.7 +0.9**
BRG pmax pmax comp=Z,29nm,1.1s
BRG MLR MLR comp=N,438nm,15.4s
BRG MLR MLR comp=E,918nm,21.1s
BRG MLR MLR comp=Z,1μm,20.0s
BRG Berggiesshubel 74.00 40 *e*P **P 18 12 23.8 +0.9** comp=Z,29nm,1.1s
YKU2 Yakutat 74.02 329 PFAKE 18 12 30.0 +7.3
YKU2 LR LR comp=Z,2μm,18.6s
CRNS Crni Vrh 74.03 45 *i*P **P 18 12 24.1 +1.0**
MOA Molln 74.08 43⇑*i*P **P 18 12 24.3 +0.9** comp=Z,31nm,1.1s,SNR=10
LJU Ljubljana 74.21 45 *e*P **P 18 12 25.4 +1.3**
WDD Wield Dalam 74.25 56 PFAKE 18 12 40.0 +15
WDD LR LR comp=Z,966nm,19.0s
PRA Prague 74.28 41 P **P 18 12 26.0 +1.6**
PRU Pruhonice 74.34 41 *e*P **P 18 12 25.9 +1.1**
PRU *e* 18 12 34.3
PRU *e* 18 21 54.4
PRU MLR MLR comp=Z,1μm,21.4s
PRU Pruhonice 74.34 41 *e*P **P 18 12 25.9 +1.1**
PRU *ex* x 18 12 34.3
PRU *e*S **SKiKP 18 21 54.4 +2.5**
PRU AMS AMS 18 39 00.0 comp=Z,1μm,21.4s
HFS Hagfors 74.58 30 LR LR 18 40 08.6 comp=Z,1μm,21.3s,baz=262,slow=32
ARSA Arzberg 74.92 44⇑*i*P **P 18 12 27.1 -1.2** comp=Z,17nm,1.1s,SNR=7.3
TREC Trest 74.94 42 *e*P **P 18 12 28.9 +0.6**
TREC MLR MLR comp=Z,800nm,22.4s
TREC Trest 74.94 42 *e*P **P 18 12 28.9 +0.6**
TREC AMS AMS 18 39 30.0 comp=Z,800nm,22.4s
CONA Conrad Observa 75.16 43⇑*i*P **P 18 12 30.1 +0.3** comp=Z,17nm,1.1s,SNR=8.3
CUC Castrocucco 75.16 51 PFAKE 18 12 40.0 +10
CUC LR LR comp=Z,707nm,22.0s
CEL Celeste 75.27 53 PFAKE 18 12 40.0 +9.5
CEL LR LR comp=Z,562nm,20.0s
UPC Upice 75.31 40 *e*P **P 18 12 30.1 -0.3**
UPC Upice 75.31 40 *e*P **P 18 12 30.1 -0.3**
EGAK Eagle 75.32 334 *e*P **P 18 12 31.4 +1.3** comp=Z,77nm,1.0s
EGAK LR LR comp=Z,3μm,20.0s
KSP Ksiaz 75.49 40 *e*P **P 18 12 32.5 +1.0**
KSP *e* 18 22 44.0
KSP MLR MLR comp=Z,8μm,22.9s
KSP Ksiaz 75.49 40 *e*P **P 18 12 31.7 +0.2**
DPC Dobruska-Polom 75.50 41 *e*P **P 18 12 32.5 +0.9**
DPC *e* 18 12 40.7
DPC Dobruska-Polom 75.50 41 *e*P **P 18 12 32.5 +0.9**
DPC *ex* x 18 12 40.7
DPC AMS AMS 18 42 00.0
DPC Dobruska-Polom 75.50 41 *e*P **P 18 12 31.4 -0.2**
DPC LR LR comp=Z,7μm,20.0s
VRAC Vranov 75.66 42⇓*i*P **P 18 12 33.0 +0.5**
VRAC Vranov 75.66 42 LR LR 18 41 47.9 comp=Z,331nm,21.5s,baz=252,slow=33
BEHE Becsehely 75.78 45⇑*e*P **P 18 12 35.3 +2.1**
TIP Timpagrande 75.92 52 *e*P **P 18 12 34.9 +0.6** comp=Z,36nm,1.2s
TIP LR LR comp=Z,516nm,21.0s
SMOL Smolenice 76.21 43 *e*P **P 18 12 37.1 +1.5**
SMOL Smolenice 76.21 43 *e*P **P 18 12 37.1 +1.5**
MENT Mentasta 76.28 332 *e*P **P 18 12 37.3 +1.5**
MORC Moravsky Berou 76.28 41 *e*P **P 18 12 36.1 0.0**
MORC pmax pmax comp=Z,26nm,1.3s
MORC MLR MLR comp=Z,700nm,19.6s
MORC Moravsky Berou 76.28 41⇓*i*P **P 18 12 36.9 +0.8**
MORC Moravsky Berou 76.28 41 *e*P **P 18 12 36.1 0.0** comp=Z,26nm,1.3s
MORC LR LR comp=Z,700nm,19.6s
DOT Dot Lake 76.48 333 *e*P **P 18 12 37.9 +1.0** comp=Z,61nm,1.5s
DOT LR LR comp=Z,2μm,21.2s
BMRM Bremner River 76.59 330 *e*P **P 18 12 39.5 +1.9** comp=Z,89nm,1.5s
BMRM LR LR comp=Z,2μm,21.4s
RAGM Ragged Mountai 76.60 330 *e*P P 18 12 43.0 +5.4 comp=Z,55nm,1.3s
RAGM LR LR comp=Z,4μm,19.3s
PKST T"'s 76.63 44⇓*e*P **P 18 12 39.2 +1.1**
OKC Ostrava-Krasne 76.67 41 *e*P **P 18 12 38.8 +0.6**
OKC *e* 18 23 00.9
OKC MLR MLR comp=Z,800nm,22.8s
OKC Ostrava-Krasne 76.67 41 *e*P **P 18 12 38.8 +0.6**
OKC *ex* x 18 23 00.9
OKC AMS AMS 18 42 40.0 comp=Z,800nm,22.8s
CSKK Cs˙ǂkako 76.78 44⇑*e*P **P 18 12 38.9 0.0**
PKS9 Tamasi 76.81 45⇑*e*P **P 18 12 40.9 +1.8**
PKSG 76.87 44⇑*e*P **P 18 12 40.7 +1.3**
KBS Kingsbay 76.98 11 PFAKE 18 12 50.0 +11
KBS LR LR comp=Z,1μm,20.0s
PKSM Moragy 77.07 45⇓P **P 18 12 40.6 +0.1**
PKSM Moragy 77.07 45⇓*i*P **P 18 12 40.6 +0.1**
PKSM Moragy 77.07 45⇑*e*P **P 18 12 42.1 +1.6**
PAX Paxson 77.08 332 *e*P **P 18 12 42.8 +2.4**
PAX pmax pmax comp=Z,26nm,1.4s
PAX MLR MLR comp=Z,2μm,19.6s
PAX Paxson 77.08 332 *e*P **P 18 12 42.8 +2.4** comp=Z,26nm,1.4s
PAX LR LR comp=Z,2μm,19.6s
DIV Divide 77.16 330 PFAKE 18 12 50.0 +9.2
DIV LR LR comp=Z,2μm,19.9s
BUD Budapest 77.30 44⇑*e*P **P 18 12 43.3 +1.5**
PKS7 Kunszentmiklos 77.41 44⇑*e*P **P 18 12 43.7 +1.3**
RKT Rikitea 77.47 243 *e*LR LR 18 36 44.0 comp=Z,2μm,32.8s,baz=73
SPITS Spitsbergen Ar 77.72 12 LR LR 18 45 14.0 comp=Z,821nm,19.3s,baz=265,slow=34
ILAR Eielson Array 77.77 334 P **P 18 12 43.8 -0.3**
ILAR Eielson Array 77.77 334 P **P 18 12 43.8 -0.3** comp=Z,4.5nm,1.0s,baz=97,slow=4.6,SNR=33
ILAR LR LR 18 48 05.2 comp=Z,2μm,20.8s,baz=94,slow=36
PSZ Piszkesteto 77.87 43⇓P **P 18 12 45.4 +0.3**
PSZ Piszkesteto 77.87 43⇓*i*P **P 18 12 45.4 +0.3**
PSZ Piszkesteto 77.87 43 *e*P **P 18 12 44.6 -0.4** comp=Z,48nm,1.7s
PSZ LR LR comp=Z,756nm,21.0s
PSZ Piszkesteto 77.87 43⇑*e* **P 18 12 46.5 +1.4**
PKSN Nyarlorinc 77.89 44⇑*e* **P 18 12 47.1 +2.0**
NIE Niedzica 78.09 42 *e*P **P 18 12 48.5 +2.3**
NIE *e*PcP **PcP 18 12 58.1 +2.3**
COLA College 78.18 334⇑*e*P **P 18 12 47.5 +1.2**
COLA pmax pmax comp=Z,77nm,1.7s
COLA College 78.18 334 *e*P **P 18 12 46.7 +0.4**
COLA LR LR comp=Z,2μm,20.0s

SML Sawmill 78.40 331 PFAKE 18 13 00.0 +12
SML LR LR comp=Z,400nm,18.1s
MCK McKinley 78.66 333 *e*P **P 18 12 49.8 +0.8**
MCK pmax pmax comp=Z,18nm,1.0s
MCK MLR MLR comp=Z,2μm,21.7s
MCK McKinley 78.66 333 *e*P **P 18 12 49.8 +0.8** comp=Z,18nm,1.0s
MCK LR LR comp=Z,2μm,21.7s
STHS Stebnicka Huta 78.70 42 *e*P **P 18 12 51.7 +2.1**
STHS pmax pmax comp=Z,8.0nm,1.1s
STHS Stebnicka Huta 78.70 42 *e*P **P 18 12 51.7 +2.1**
PMR Palmer 78.78 331 *e*P **P 18 12 50.6 +0.9**
PMR pmax pmax comp=Z,23nm,1.3s
PMR MLR MLR comp=Z,2μm,18.6s
PMR Palmer 78.78 331 *e*P **P 18 12 50.6 +0.9** comp=Z,23nm,1.3s
PMR LR LR comp=Z,2μm,18.6s
CRVS Cervenica-Dubn 78.87 42 *e*P **P 18 12 52.5 +2.0**
CRVS pmax pmax comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 78.87 42 *e*P **P 18 12 52.5 +2.0**
SEW Seward 78.98 329 *e*P **P 18 12 52.1 +1.3** comp=Z,49nm,1.0s
SEW LR LR comp=Z,2μm,19.0s
RC01 Rabbit Creek A 79.09 330 *e*P **P 18 12 53.1 +1.7** comp=Z,51nm,1.6s
RC01 LR LR comp=Z,2μm,20.9s
COLD Coldfoot 79.13 337 *e*P **P 18 12 54.3 +2.8** comp=Z,25nm,1.4s
COLD LR LR comp=Z,2μm,20.6s
SIRR Siria 79.16 45⇓*i*P **P 18 12 53.3 +1.1**
BZS Buzias 79.18 45⇓P **P 18 12 52.4 +0.2**
BZS Buzias 79.18 45⇓*i*P **P 18 12 52.4 +0.2**
TRF Thorofare Moun 79.27 333 *e*P **P 18 12 54.0 +1.5** comp=Z,36nm,1.0s
TRF LR LR comp=Z,2μm,20.1s
SKO Skopje 79.32 49 *i*P **P 18 12 55.1 +2.0**
KOLS Kolonicke sedl 79.40 42 *e*P **P 18 12 55.4 +2.0**
KOLS pmax pmax comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 79.40 42 *e*P **P 18 12 55.4 +2.0**
UZH Uzhgorod 79.43 42 *e*P **P 18 12 54.1 +0.6**
UZH *i* 18 13 01.7
KTH Kantishna Hill 79.55 333 *e*P **P 18 12 55.2 +1.2** comp=Z,48nm,1.0s
KTH LR LR comp=Z,1μm,19.3s
TRPA Tarpa 79.63 43⇓*i*P **P 18 12 55.3 +0.7**
TRPA Tarpa 79.63 43⇑*e* **P 18 12 56.5 +1.9**
KWP Kalwaria Pacla 79.64 41 *e*P **P 18 12 56.7 +2.0**
KWP Kalwaria Pacla 79.64 41 *e*P **P 18 12 56.7 +2.0**
KWP Kalwaria Pacla 79.64 41⇓*i*P **P 18 12 56.1 +1.4**
KWP Kalwaria Pacla 79.64 41 *e*P **P 18 12 55.3 +0.6** comp=Z,62nm,1.1s
KWP LR LR comp=Z,793nm,20.0s
SUW Suwalki 79.64 37 *e*P **P 18 12 55.8 +1.2**
SUW pmax pmax comp=Z,30nm,0.9s
SUW MLR MLR comp=Z,2μm,22.0s
SUW Suwalki 79.64 37 *e*P **P 18 12 55.6 +1.0**
SUW Suwalki 79.64 37 *e*P **P 18 12 55.8 +1.2** comp=Z,30nm,0.9s
SUW LR LR comp=Z,2μm,22.0s
ARCES ARCESS Array B 79.90 21 P **P 18 12 54.5 -1.2**
ARCES ARCESS Array B 79.90 21 P **P 18 12 54.4 -1.2** comp=Z,12nm,0.8s,baz=286,slow=6.5,SNR=18
ARCES LR LR 18 46 16.6 comp=Z,285nm,18.8s,baz=276,slow=34
GZR Gura Zlata 80.01 46⇓P **P 18 12 57.4 +0.6**
GZR Gura Zlata 80.01 46⇓*i*P **P 18 12 57.4 +0.6**
CAST Castle Rocks 80.08 333 *e*P P 18 13 06.7 +10 comp=Z,14nm,1.0s
CAST LR LR comp=Z,2μm,20.3s
PPLA Purkeypile 80.16 332 *e*P **P 18 12 58.8 +1.5** comp=Z,106nm,1.7s
PPLA LR LR comp=Z,2μm,20.7s
VAY Valandovo 80.22 50⇑*i*P **P 18 13 00.2 +2.2**
KEV Kevo 80.41 21 P P 18 12 54.9 -3.5
KEV MLR MLR comp=Z,698nm,22.0s
KEV Kevo 80.41 21 P P 18 12 54.9 -3.5
KEV LR LR comp=Z,698nm,22.0s
LVV L'vov 80.48 41 *e*P **P 18 13 00.0 +0.8**
LVV MLR MLR comp=Z,700nm,20.0s
LVV MLR MLR comp=N,100nm,18.0s
LVV MLR MLR comp=E,900nm,21.0s
KKB Krupnik 80.55 49 *i*P **P 18 13 02.1 +2.3**
VTS Vitosha 80.57 48⇓P **P 18 13 00.3 +0.3**
VTS Vitosha 80.57 48 *i*P **P 18 13 02.1 +2.1**
VTS Vitosha 80.57 48⇓*i*P **P 18 13 00.3 +0.3**
RSO Redoubt South 80.60 330 *e*P **P 18 13 00.9 +1.0** comp=E,128nm,1.2s
IM04 Indian Mountai 80.62 335 *e*P **P 18 13 01.0 +1.3**
FINES FINESS Array B 80.66 29 P **P 18 12 58.3 -1.6**
FINES FINESS Array B 80.66 29 P **P 18 12 58.3 -1.6** comp=E,17nm,0.8s,baz=270,slow=3.4,SNR=43
FINES LR LR 18 44 00.4 comp=E,837nm,20.9s,baz=279,slow=32
FIA1 FINESS Array S 80.67 29 *e*P **P 18 12 59.1 -0.8**
KAF Kangasniemi 80.72 28 *e*P **P 18 12 59.3 -0.9**
KAF Kangasniemi 80.72 28 *ep* **P 18 12 59.3 -0.9** comp=E,0.4nm,0.3s
KDAK Kodiak Island 80.73 327 PFAKE 18 13 10.0 +10
KDAK LR LR comp=Z,2μm,22.0s
MMB Musomiste 81.06 49⇓P **P 18 13 03.0 +0.5**
MMB Musomiste 81.06 49 *i*P **P 18 13 04.7 +2.2**
MMB Musomiste 81.06 49⇓*i*P **P 18 13 03.0 +0.5**
OHAK Old Harbor 81.16 327 PFAKE 18 13 10.0 +7.3
OHAK LR LR comp=Z,1μm,20.6s
VSU Vasula 81.26 32*c i*P **P 18 13 03.4 +0.2**
VSU pmax pmax comp=Z,150nm,1.2s
BUR08 Bucovina Ar. S 81.46 43 *e*P **P 18 13 05.0 +0.3**
BURAR Bucovina Array 81.47 43⇓P **P 18 13 05.2 +0.5**
BURAR Bucovina Array 81.47 43⇓*i*P **P 18 13 05.2 +0.5**
VOIR 81.60 45⇓P **P 18 13 06.9 +1.5**
VOIR 81.60 45⇓*i*P **P 18 13 06.9 +1.5**
HUMR Humele 81.65 46⇓*i*P **P 18 13 06.7 +1.2**
NACGM Naroch 81.66 36 *e*P **P 18 13 06.0 +0.6**
SII Sitkinak Islan 81.72 326 PFAKE 18 13 20.0 +14
SII LR LR comp=Z,2μm,22.0s
DOPR Dopca 81.77 45⇑*i*P **P 18 13 06.2 0.0**
SVW2 Sparrevohn 81.92 331 *e*P **P 18 13 09.7 +3.1** comp=Z,46nm,1.4s
MLR Muntele Rosu 82.22 45⇑*i*P **P 18 13 09.1 +0.4**
MLR Muntele Rosu 82.22 45 LR LR 18 47 46.3 comp=Z,96nm,19.6s,baz=274,slow=34
MNK Minsk 82.32 36⇑*e*P **P 18 13 07.0 -1.8**
MNK pmax pmax comp=Z,160nm,1.0s
MICGM Minsk 82.34 36⇑*e*P **P 18 13 07.0 -2.0**
TESR Tescani 82.58 44⇓*i*P **P 18 13 08.9 -1.5**
VRI Vrincioaia 82.71 45⇓P **P 18 13 12.1 +1.0**
VRI Vrincioaia 82.71 45⇓*i*P **P 18 13 12.1 +1.0**
JOF Joensuu 82.93 27 *e*P **P 18 13 12.3 +0.5**
JOF pmax pmax comp=Z,16nm,0.8s
JOF Joensuu 82.93 27 *ep* **P 18 13 12.3 +0.5** comp=Z,16nm,0.8s
SANT Santorini 83.03 54 PFAKE 18 13 20.0 +7.0
SANT LR LR comp=Z,407nm,19.0s
JMB Yambol 83.06 48⇑P **P 18 13 13.4 +0.4**
JMB Yambol 83.06 48⇑*i*P **P 18 13 13.4 +0.4**
LVZ Lovozero 83.41 22*de*P **P 18 13 15.4 +1.1**
LVZ pmax pmax comp=Z,50nm,2.5s
LVZ MLR MLR comp=Z,655nm,18.0s
LVZ Lovozero 83.41 22 PFAKE 18 13 30.0 +16
LVZ LR LR comp=Z,847nm,21.0s
KIEV Kiev 83.67 40*c i*P **P 18 13 16.2 +0.3**
KIEV Kiev 83.67 40 *e*P **P 18 13 14.7 -1.3** comp=Z,15nm,1.2s
KIEV LR LR comp=Z,1μm,22.0s
AK01 Malin Array Si 83.68 40 *e*P **P 18 13 15.7 -0.3**
AK02 Malin Array Si 83.68 40 *e*P **P 18 13 15.6 -0.4**
AKASG Malin Array Be 83.68 40*ce*P **P 18 13 16.2 +0.2**
AKASG pmax pmax comp=Z,8.0nm,1.0s
AKASG Malin Array Be 83.68 40 P **P 18 13 15.8 -0.2**
AKASG Malin Array Be 83.68 40 P **P 18 13 15.8 -0.2** comp=Z,7.0nm,1.0s,baz=266,slow=4.5,SNR=26
AKASG LR LR 18 46 44.1 comp=Z,1μm,21.1s,baz=305,slow=33
CFR Carcaliu 83.79 45⇓P **P 18 13 16.1 -0.5**
CFR Carcaliu 83.79 45⇓*i*P **P 18 13 16.1 -0.5**
TIRR Tirgusor 84.09 46 PFAKE 18 13 30.0 +12
TIRR LR LR comp=Z,500nm,21.0s
TSUM Tsumeb 85.11 110 *e*P **P 18 13 24.3 +0.2**
TSUM LR LR comp=Z,2μm,19.0s
SDPT Sand Point 85.41 325 PFAKE 18 13 40.0 +15
SDPT LR LR comp=Z,2μm,20.9s
TNA Tin City 86.42 336 *e*P **P 18 13 31.1 +1.7** comp=Z,35nm,1.2s
TNA LR LR comp=Z,1μm,19.9s
ISP Isparta 86.79 52⇑*e*P **P 18 13 32.5 +0.5**
ISP pmax pmax comp=Z,11nm,0.7s
ISP MLR MLR comp=Z,367nm,21.0s
ISP Isparta 86.79 52 PFAKE 18 13 40.0 +8.0
ISP LR LR comp=Z,560nm,19.0s
OBN Obninsk 87.17 34*d i*P **P 18 13 33.3 0.0**
OBN *e* 18 16 57.4
OBN *e* 18 24 07.2
OBN *e*SS SS 18 30 01.1 +5.4
OBN pmax pmax comp=Z,84nm,1.2s
OBN Obninsk 87.17 34 *e*P **P 18 13 33.2 -0.1** comp=Z,106nm,1.3s
OBN Obninsk 87.17 34 LR LR 18 48 22.5 comp=Z,2μm,21.8s,baz=269,slow=33
SIM Simferopol' 88.00 45 *e*P **P 18 13 39.0 +1.5**
SIM *e*S **S 18 24 26.0 +5.0**
SIM *e*PS **PnS 18 25 29.0 +6.0**
SIM pmax pmax comp=Z,14nm,1.4s
SIM MLR MLR comp=N,350nm,19.7s
ANTO Ankara 88.13 50 *e*P **P 18 13 38.5 +0.1**
ANTO pmax pmax comp=Z,14nm,1.2s
ANTO MLR MLR comp=Z,397nm,21.0s
ANTO Ankara 88.13 50 *e*P **P 18 13 38.5 +0.1** comp=Z,14nm,1.2s
ANTO LR LR comp=Z,397nm,21.0s
GAMB Gambell 88.54 335 PFAKE 18 13 50.0 +10
GAMB LR LR comp=Z,1μm,19.8s
BR131 Keskin Array S 88.79 50 *e*P **P 18 13 41.0 -0.6** comp=Z,17nm,1.4s
BRTR Keskin Array B 88.79 50 P **P 18 13 40.3 -1.3**
BRTR Keskin Array B 88.79 50 P **P 18 13 40.3 -1.3** comp=Z,8.0nm,1.1s,baz=260,slow=4.4,SNR=25
BRTR LR LR 18 48 21.7 comp=Z,114nm,20.6s,baz=86,slow=32
UNV Unalaska Valle 89.17 325 PFAKE 18 13 50.0 +7.2
UNV LR LR comp=Z,1μm,19.4s
PPT Papeete 89.44 252 LR LR 18 47 47.9 comp=Z,521nm,19.7s,baz=244,slow=32
PPT2 Papeete2 89.45 252 *e*SS SS 18 30 25.0 -6.4 comp=Z,633nm,26.5s
PPT2 *e*LQ LQ 18 38 30.0 comp=Z,4μm,35.2s
PPT2 *e*LR LR 18 42 16.4 comp=Z,1μm,31.2s
CSS Prodhromos 89.58 55 PFAKE 18 14 00.0 +15
CSS LR LR comp=Z,93nm,21.0s
PRGR Permogore 89.71 27 *e*P **P 18 13 44.6 -0.6**
PRGR pmax pmax comp=Z,32nm,1.0s
VSR Storozhevoye 89.71 38 *e*P **P 18 13 44.5 -0.9**
VSR pmax pmax comp=Z,20nm,1.1s
VSR pmax pmax comp=N,7.0nm,0.8s
VSR pmax pmax comp=E,20nm,1.1s
VORD Divnogorie 89.85 38 *e*P **P 18 13 45.3 -0.8**
VORD pmax pmax comp=Z,10.0nm,0.9s
VORD pmax pmax comp=N,10.0nm,0.4s
VORD pmax pmax comp=E,30nm,0.8s
ANN Anapa 90.32 44 *e*P P 18 13 51.8 +3.4
ANN pmax pmax comp=Z,57nm,1.4s
ANN MLR MLR comp=E,563nm,20.0s
ANN MLR MLR comp=Z,740nm,20.0s
TBI Tubuai 90.45 246 *e*LQ LQ 18 38 50.5 comp=Z,2μm,35.2s
TBI *e*LR LR 18 42 45.3 comp=Z,2μm,33.8s
SUR Sutherland 90.78 123 P **P 18 13 51.4 +0.3**
SNAA Sanae 91.09 164 *e*P **P 18 13 51.8 +0.4**
SNAA LR LR comp=Z,1μm,21.8s
VRHR Novokhopersk 91.22 38 *e*P **P 18 13 52.3 -0.2**
VRHR pmax pmax comp=Z,10.0nm,1.0s
VRHR pmax pmax comp=N,50nm,1.7s
VRHR pmax pmax comp=E,20nm,0.8s
EIL Elat 92.09 59 LR LR 18 57 49.2 comp=E,627nm,19.4s,baz=280,slow=37
XMAS Kiritimati 93.52 273 PFAKE 18 14 20.0 +16
XMAS LR LR comp=Z,792nm,22.0s
LBTB Lobatse 93.54 115 PFAKE 18 14 10.0 +6.1
LBTB LR LR comp=Z,1μm,18.3s
BOSA Boshof 93.85 118 P **P 18 14 05.0 -0.2**
BOSA Boshof 93.85 118 P **P 18 14 05.0 -0.2** comp=Z,12nm,0.9s,baz=302,slow=3.0,SNR=7.7
BOSA LR LR 18 54 45.7 comp=Z,1μm,20.0s,baz=276,slow=34
GOF Gofitskoye 94.06 43 *e*P **P 18 14 04.9 -0.8**
KIV Kislovodsk 94.17 44*de*P **P 18 14 07.4 +1.0**
KIV *e* 18 17 53.0
KIV *e*SS SS 18 31 45.2 +7.5
KIV pmax pmax comp=Z,14nm,1.1s
KIV MLR MLR comp=Z,400nm,20.0s
KIV Kislovodsk 94.17 44 *e*P **P 18 14 07.5 +1.0**
KIV pmax pmax comp=Z,17nm,1.3s
KIV MLR MLR comp=Z,405nm,20.0s
KIV Kislovodsk 94.17 44 *e*P **P 18 14 07.5 +1.1** comp=Z,17nm,1.3s

KIV LR LR
comp=Z,405nm,20.0s
LSZ Lusaka 94.31 105 P **P** **18 14 08.6 +1.0**
LSZ LR LR
comp=Z,827nm,19.0s
KBZ Khabaz 94.39 44 P **P** **18 14 08.2 +1.0**
KBZ Khabaz 94.39 44 P **P** **18 14 08.2 +1.0**
KBZ Khabaz 94.39 44 P **P** **18 14 08.2 +1.0**
comp=Z,4.7nm,1.1s,baz=314,slow=3.1,SNR=4.4
GNI Garni 96.87 47 LR LR 18 54 50.8
comp=Z,138nm,19.2s,baz=303,slow=34
TIXI Tiksi 97.63 356 PFAKE 18 14 30.0 +8.6
TIXI LR LR
comp=Z,2μm,19.0s
ARU Arti 98.02 28 PFAKE 18 14 30.0 +6.5
ARU LR LR
comp=Z,909nm,20.0s
QSPA South Pole Qui 100.48 180 *e*Pdif **Pdif** **18 14 37.1 +2.8**
QSPA LR LR
comp=Z,1μm,22.0s
KMBO Kilima Mbogo 100.76 89 PFAKE 18 14 50.0 +13
KMBO LR LR
comp=Z,711nm,21.0s
SEY Seymchan 101.76 344⇑ *e*P **Pdif** **18 14 41.4 +1.4**
DAMY Dhamar 104.31 72 PFAKE 18 15 00.0 +7.3
DAMY LR LR
comp=Z,800nm,20.9s
BRVK Borovoye 105.45 27 PFAKE 18 19 20.0
BRVK LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 106.98 354 PFAKE 18 19 20.0
YAK LR LR
comp=Z,1μm,20.0s
SBA Scott Base 108.06 190 PFAKE 18 19 30.0
SBA LR LR
comp=Z,1μm,20.0s
KNTN Kanton 108.43 271 PFAKE 18 19 30.0
KNTN LR LR
comp=Z,1μm,18.0s
VNDA Vanda 109.08 189 PFAKE 18 19 30.0
VNDA LR LR
comp=Z,1μm,21.2s
ZALV Zalesovo Beam 110.41 19 PKiKP **PKiKP** **18 19 18.0 -1.5**
ZALV Zalesovo Beam 110.41 19 PKiKP **PKiKP** **18 19 18.0 -1.5**
comp=Z,0.5nm,0.6s,baz=329,slow=1.7,SNR=3.0
KURK Kurchatov 110.72 25 PKKPab PKKPab 18 30 27.1 -3.8
KURK LR LR
comp=Z,566nm,20.0s
KURBB Kurchatov Arra 110.75 25 PKKPab PKKPab 18 30 27.1 -3.7
comp=Z,0.2nm,0.6s,baz=140,slow=3.4,SNR=2.8
ABPO Ambohimpanom 112.81 106 PFAKE 18 19 40.0
ABPO LR LR
comp=Z,1μm,19.0s
MAW Mawson 112.98 160 PFAKE 18 19 40.0
MAW LR LR
comp=Z,300nm,19.1s
EKS2 Erkin-Say 114.25 33 PFAKE 18 19 40.0 +13
EKS2 LR LR
comp=Z,978nm,21.0s
AAK Ala-Archa 114.65 33 PFAKE 18 19 40.0 +12
AAK LR LR
comp=Z,812nm,22.0s
TKM2 Tokmak 2 115.04 32 PFAKE 18 19 40.0 +11
TKM2 LR LR
comp=Z,838nm,21.0s
MKAR Makanchi Array 115.30 25 PKIKP **PKPdf** **18 19 26.1 -3.0**
MKAR 18 30 00.9
MKAR Makanchi Array 115.30 25 PKP **PKPdf** **18 19 26.1 -3.0**
MKAR PKKPbc **PKKPbc** **18 30 00.9 -4.1**
MKAR Makanchi Array 115.30 25 PKP **PKPdf** **18 19 26.1 -3.0**
comp=Z,0.1nm,0.5s,baz=209,slow=0.8,SNR=2.1
MKAR PKKPbc **PKKPbc** **18 30 00.9 -4.1**
comp=Z,0.6nm,1.1s,baz=189,slow=1.1,SNR=2.2
KBL Kabul 116.53 43 PFAKE 18 19 40.0 +7.9
KBL LR LR
comp=Z,400nm,19.7s
TLY Talaya 117.09 9 PFAKE 18 19 40.0 +7.6
TLY LR LR
comp=Z,1μm,21.0s
KSH Kashi 117.61 35 *e*PKP **PKPdf** **18 19 35.4 +1.5**
KSH *e*PP **PP** **18 20 50.4 +4.9**
KSH *e*SKS **SKSdf** **18 26 42.9 -3.2**
KSH *e*SKKS SKKSac 18 27 39.0 -8.2
KSH AMB AMB
comp=Z,91nm,5.4s
KSH LR LR
comp=Z,630nm,18.1s
KSH LR LR
comp=Z,150nm,9.1s
KSH LR LR
comp=Z,160nm,12.3s
MSEY Mahe Island 119.30 89 PFAKE 18 19 50.0 +12
MSEY LR LR
comp=Z,614nm,22.0s
URZ Urewera 119.45 232 PKP **PKPdf** **18 19 35.3 -1.9**
URZ LR LR
comp=Z,900nm,18.0s
URZ Urewera 119.45 232 PKP **PKPdf** **18 19 35.3 -1.9**
comp=Z,2.2nm,0.2s,baz=180,slow=18,SNR=10
YUK Yuzh-Kuril'sk 119.54 336 *i* PKIKP PKPpre 18 19 27.4
YUK *e* 18 21 05.7
YUK PPP PPP 18 23 31.9
YUK *i* 18 26 47.8
YUK *i* PS **PS** **18 30 44.0 -3.6**
YUK *e*SS SS 18 37 16.5 -4.2
YUK *e*SSS SSS 18 41 45.3
BKZ Black Stump Fm 119.76 231 PFAKE 18 19 50.0 +12
BKZ LR LR
comp=Z,2μm,19.0s
WMQ Urumqi 119.93 24 PKP **PKPdf** **18 19 38.8 +0.7**
WMQ sPKP 18 19 43.8
WMQ PP PP 18 21 07.1 +6.1
WMQ PKS **PKSdf** **18 23 14.3 -0.5**
WMQ SKS **SKSdf** **18 26 49.8 -0.4**
WMQ SKKS **SKKSac** **18 28 00.1 -2.0**
WMQ SS **SKKSdf** **18 37 31.1 -0.9**
WMQ AMB AMB
comp=Z,15nm,10.2s
WMQ LR LR
comp=Z,1μm,24.3s
WMQ LR LR
comp=Z,780nm,27.8s
WMQ LR LR
comp=Z,1μm,24.3s
HIA Hailar 120.44 358 PFAKE 18 19 50.0 +11
HIA LR LR
comp=Z,1μm,21.0s
ASAJ Asahikawa 120.72 338 PFAKE 18 19 50.0 +10
ASAJ LR LR
comp=Z,400nm,20.4s
KHZ Kahutara 121.19 227 PFAKE 18 19 50.0 +10
KHZ LR LR
comp=Z,2μm,22.0s
SONM Songino Array 121.24 8 PKP **PKPdf** **18 19 38.6 -2.1**
SONM Songino Array 121.24 8 PKP **PKPdf** **18 19 38.6 -2.1**
comp=Z,0.7nm,0.6s,baz=293,slow=2.2,SNR=5.8
ULN Ulaanbaatar 121.30 7 PFAKE 18 19 50.0 +9.2
ULN LR LR
comp=Z,1μm,22.0s
ERM Erimo 122.31 337 PFAKE 18 19 50.0 +7.4
ERM LR LR
comp=Z,906nm,20.0s
OUZ Omahuta 122.78 235 PFAKE 18 20 00.0 +16
OUZ LR LR
comp=Z,1μm,20.5s
USRK Ussuriysk Arra 123.79 347 PP PP 18 21 21.2 -5.7
comp=Z,1.3nm,0.7s,baz=32,slow=14,SNR=3.1
MDJ Mudanjiang 123.89 349 PKP **PKPdf** **18 19 46.8 +1.2**
MDJ PP **PP** **18 21 29.3 +1.7**
MDJ SS SS 18 38 19.0 +3.2
MDJ LR LR
comp=Z,440nm,29.6s
MDJ LR LR
comp=Z,430nm,25.3s
MDJ LR LR
comp=Z,400nm,29.6s
MDJ Mudanjiang 123.89 349 PFAKE 18 20 00.0 +14
MDJ LR LR
comp=Z,630nm,21.0s
WHZ Wether Hill Ro 123.89 221 PFAKE 18 20 00.0 +14
WHZ LR LR
comp=Z,800nm,19.2s
CASY Casey 124.13 177 PFAKE 18 20 00.0 +15
CASY LR LR
comp=Z,1μm,20.0s

CN2 Changchun 125.36 352 *e*PKP **PKPdf** **18 19 44.3 -4.2**
CN2 PP **PP** **18 21 38.8 +1.4**
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,800nm,17.0s
CN2 LR LR
comp=Z,1μm,21.0s
GTA Gaotai 127.98 16 *e*PKP **PKPdf** **18 19 53.5 -0.3**
GTA sPKP 18 20 00.6
GTA PP PP 18 22 04.8 +10
GTA SKS **SKSdf** **18 27 03.6 -2.1**
GTA SKKS **SKKSac** **18 28 56.5 +2.5**
GTA AMB AMB
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,690nm,21.4s
GTA LR LR
comp=Z,660nm,21.9s
GTA LR LR
comp=Z,980nm,22.3s
HHC Hu-ho-hao-te 128.72 5 *e*PKP **PKPdf** **18 19 51.0 -4.1**
HHC PP **PP** **18 22 01.8 +2.1**
HHC PKS **PKSdf** **18 23 28.6 -3.2**
HHC SS SS 18 39 16.3 0.0
HHC AMB AMB
comp=Z,190nm,8.7s
HHC LR LR
comp=Z,1μm,23.6s
HHC LR LR
comp=Z,890nm,22.4s
HHC LR LR
comp=Z,1μm,21.1s
MAJO Matsushiro 128.96 337 PFAKE 18 20 10.0 +14
MAJO LR LR
comp=Z,1μm,21.0s
BJI Beijing 129.73 0 PKP **PKPdf** **18 19 57.1 +0.2**
BJI PP **PP** **18 22 07.0 +0.9**
BJI SS SS 18 39 35.0 +6.6
BJI AMB AMB
comp=Z,110nm,6.9s
BJI LR LR
comp=Z,530nm,20.1s
BJI LR LR
comp=Z,520nm,23.9s
BJI LR LR
comp=Z,510nm,25.1s
BJT Baijiatuau 129.75 0 PFAKE 18 20 10.0 +13
BJT LR LR
comp=Z,755nm,20.0s
DZM Mont Dzumac 130.91 250 *e*LQ LQ 18 55 58.4
comp=Z,1μm,38.1s
DZM *e*LR LR 19 01 31.7
comp=Z,611nm,25.1s
KSRS Korea Array 131.12 348 PKP **PKPdf** **18 19 57.7 -1.9**
comp=Z,2.2nm,1.0s,baz=45,slow=0.5,SNR=6.2
KSRS SKPbc **SKPbc** **18 23 20.4 -3.7**
comp=Z,2.2nm,0.9s,baz=358,slow=2.3,SNR=6.2
KSAR Wonju Array Be 131.14 348 PKP **PKPdf** **18 19 57.7 -2.0**
KSAR SKPbc **SKPbc** **18 23 20.4 -3.8**
INCN Inchon 131.35 349 PFAKE 18 20 10.0 +10
INCN LR LR
comp=Z,770nm,20.0s
LZH Lanzhou 132.16 14 *e*PKP **PKPdf** **18 19 59.0 -2.9**
LZH sPKP 18 20 05.1
LZH LR LR
comp=Z,670nm,16.2s
LZH LR LR
comp=Z,730nm,16.4s
LZH LR LR
comp=Z,1μm,20.8s
LSA Lhasa 133.16 31 *e*PKIKP **PKPdf** **18 20 03.8 -0.5**
LSA MLR MLR
comp=Z,604nm,22.0s
LSA Lhasa 133.16 31 *e*PKPdf **PKPdf** **18 20 03.8 -0.5**
LSA LR LR
comp=Z,604nm,22.0s
CD2 Chengdu 137.05 16 *e*PKP **PKPdf** **18 20 10.6 -0.4**
CD2 PP **PP** **18 22 57.6 +4.4**
CD2 PKS **PKSdf** **18 23 42.8 -4.6**
CD2 SKS **SKSdf** **18 27 17.8 -4.2**
CD2 SKKS **SKKSac** **18 29 43.9 -5.6**
CD2 AMB AMB
comp=Z,240nm,8.2s
CD2 LR LR
comp=Z,610nm,19.0s
CD2 LR LR
comp=Z,660nm,21.4s
CD2 LR LR
comp=Z,950nm,26.2s
HNR Honiara 137.23 267 PFAKE 18 20 20.0 +8.4
HNR LR LR
comp=Z,137nm,20.0s
NJ2 Nanjing 137.64 357 *e*PKP **PKPdf** **18 20 13.4 +1.4**
NJ2 PP **PP** **18 22 59.0 +2.4**
NJ2 LR LR
comp=Z,810nm,13.0s
NJ2 LR LR
comp=Z,1μm,15.0s
NJ2 LR LR
comp=Z,500nm,17.8s
TAU Tasmania Unive 138.02 214 PFAKE 18 20 20.0 +7.7
TAU LR LR
comp=Z,2μm,19.0s
SSE Sheshan 138.41 354 PKP **PKPdf** **18 20 15.8 +2.4**
SSE PP PP 18 23 08.5 +7.1
SSE SS SS 18 41 18.8 +5.5
SSE AMB AMB
comp=Z,140nm,6.3s
SSE LR LR
comp=Z,300nm,17.2s
SSE LR LR
comp=Z,360nm,17.2s
SSE LR LR
comp=Z,510nm,22.8s
ENH Enshi 138.91 9 PFAKE 18 20 30.0 +16
ENH LR LR
comp=Z,26nm,21.0s
PALK Pallekele 140.22 65 PFAKE 18 20 30.0 +13
PALK LR LR
comp=Z,700nm,20.0s
JOW Kunigami 141.18 343 PFAKE 18 20 30.0 +11
JOW LR LR
comp=Z,300nm,21.6s
CAN Canberra 141.49 225 PFAKE 18 20 30.0 +11
CAN LR LR
comp=Z,738nm,20.0s
ARMA Armidale 141.82 234 PFAKE 18 20 30.0 +10
ARMA LR LR
comp=Z,700nm,20.1s
GYA Guiyang 142.05 14 PKP **PKPdf** **18 20 20.0 -0.3**
GYA PP **PP** **18 23 28.8 +4.8**
GYA PKS **PKSdf** **18 23 54.3 -2.1**
GYA SKKS 18 30 17.5
GYA SS **SS** **18 41 58.9 +2.4**
GYA AMB AMB
comp=Z,640nm,7.8s
GYA LR LR
comp=Z,260nm,21.5s
GYA LR LR
comp=Z,180nm,22.0s
GYA LR LR
comp=Z,240nm,21.3s
KMI Kunming 142.14 21 PKP **PKPdf** **18 20 20.9 +0.3**
KMI sPKP 18 20 26.3
KMI PP **PP** **18 23 29.0 +4.1**
KMI SKKS 18 30 18.4
KMI SS **SS** **18 41 58.6 +0.5**
KMI AMB AMB
comp=Z,220nm,4.6s
KMI LR LR
comp=Z,660nm,22.3s
KMI LR LR
comp=Z,550nm,15.9s
KMI LR LR
comp=Z,740nm,18.0s
EIDS Eidsvold 144.07 241 PFAKE 18 20 40.0 +16
EIDS LR LR
comp=Z,400nm,20.3s
TATO Taipei 144.42 352 PFAKE 18 20 40.0 +16
TATO LR LR
comp=Z,732nm,20.0s
YOJ Yonaguni jima 144.69 350 PFAKE 18 20 40.0 +15
YOJ LR LR
comp=Z,200nm,19.6s

YHNB Yeheng 144.74 352 PFAKE 18 20 40.0 +15
YHNB LR LR
comp=Z,636nm,19.0s
NACB Ninganchiao 145.19 352 PFAKE 18 20 40.0 +14
NACB LR LR
comp=Z,800nm,21.5s
SSLB Suanglung 145.66 353 *e*PKPdf **PKPdf** **18 20 24.7 -1.8**
SLVN Son La 146.04 21 *e*PKPdf **PKPdf** **18 20 24.4 -3.0**
SLVN LR LR
comp=Z,600nm,22.0s
CHTO Chiang Mai 146.12 31 *e*PKIKP **PKPdf** **18 20 26.6 -0.9**
CHTO MLR MLR
comp=Z,642nm,20.0s
CHTO Chiang Mai 146.12 31 *e*PKPdf **PKPdf** **18 20 26.6 -0.9**
CHTO LR LR
comp=Z,642nm,20.0s
CM31 Chiang Mai Arr 146.41 31 *e*PKPdf **PKPdf** **18 20 27.0 -1.0**
CMAR Chiang Mai Arr 146.41 31 PKPbc **PKPdf** **18 20 27.4 -0.5**
CMAR Chiang Mai Arr 146.41 31 PKPbc **PKPdf** **18 20 27.4 -0.5**
comp=Z,2nm,1.1s,baz=307,slow=3.3,SNR=39
STKA Stephens Creek 148.53 224 *e*PKPdf **PKPdf** **18 20 31.7 +0.6**
STKA *e*PKPbc **PKPbc** **18 20 34.9 +0.2**
STKA LR LR
comp=Z,200nm,19.7s
STKA Stephens Creek 148.53 224 PKPbc **PKPbc** **18 20 35.3 +0.6**
comp=Z,4.8nm,0.8s,baz=91,slow=3.6,SNR=8.8
PMG Port Moresby 149.80 269 PFAKE 18 20 40.0 +1.7
PMG LR LR
comp=Z,729nm,21.0s
CTAO Charters Tower 149.81 248 *e*PKP2 **PKPbc** **18 20 37.8 -0.4**
CTAO MLR MLR
comp=Z,683nm,19.0s
CTAO Charters Tower 149.81 248 *e*PKPbc **PKPbc** **18 20 37.8 -0.4**
CTAO LR LR
comp=Z,683nm,19.0s
QIZ Qiongzhong 149.94 13 PKPbc **PKPdf** **18 20 32.4 -1.3**
QIZ PP **PP** **18 24 12.5 +1.9**
QIZ SS SS 18 43 28.5 +2.5
QIZ LR LR
comp=Z,540nm,19.7s
QIZ LR LR
comp=Z,760nm,22.4s
QIZ Qiongzhong 149.94 13 PFAKE 18 20 50.0 +6.0
QIZ LR LR
comp=Z,778nm,19.0s
BBOO Buckleboo 151.41 216 PFAKE 18 20 50.0 +0.2
BBOO LR LR
comp=Z,16μm,20.7s
COEN Coen 153.72 260 PFAKE 18 20 50.0 +2.7
COEN LR LR
comp=Z,4μm,19.6s
LHMI Lhok Sumawe 155.03 52 PFAKE 18 20 50.0 +8.7
LHMI LR LR
comp=Z,700nm,19.6s
DLV T Lat 156.33 20 PFAKE 18 20 50.0 +6.7
DLV LR LR
comp=Z,800nm,20.1s
FORT Forrest 157.14 206 PFAKE 18 20 50.0 +6.3
FORT LR LR
comp=Z,900nm,20.8s
KULM Kulim 157.75 46 PFAKE 18 21 00.0 +15
KULM LR LR
comp=Z,450nm,20.0s
IPM Ipoh 158.57 47 PFAKE 18 21 00.0 +14
IPM LR LR
comp=Z,600nm,21.4s
AS31 Alice Springs 158.87 229 *e*PKP **PKPdf** **18 20 49.0 +3.0**
ASAR Alice Springs 158.87 229 PKP **PKPdf** **18 20 43.5 -2.6**
ASAR PKPab **PKPab** **18 21 20.9 -1.0**
ASAR Alice Springs 158.87 229 PKP **PKPdf** **18 20 43.4 -2.6**
comp=Z,1.0nm,1.0s,baz=101,slow=1.4,SNR=6.4
ASAR PKPab **PKPab** **18 21 20.9 -1.0**
comp=Z,1.4nm,0.9s,baz=114,slow=3.8,SNR=11
DAV Davao City (W) 160.36 332 PFAKE 18 21 00.0 +12
DAV LR LR
comp=Z,842nm,21.0s
WRAB Tennant Creek 160.41 239 PKIKP **PKPdf** **18 20 46.9 -0.9**
WRAB MLR MLR
comp=Z,892nm,20.0s
WRAB Tennant Creek 160.41 239 PKPdf **PKPdf** **18 20 46.9 -0.9**
WRAB LR LR
comp=Z,892nm,20.0s
WRA Warramunga Arr 160.42 239 PKP **PKPdf** **18 20 45.5 -2.4**
WRA PKPab **PKPab** **18 21 26.8 -2.0**
WRA Warramunga Arr 160.42 239 PKP **PKPdf** **18 20 45.5 -2.4**
comp=Z,3.4nm,1.1s,baz=87,slow=0.9,SNR=9.6
WRA PKPab **PKPab** **18 21 26.8 -2.0**
comp=Z,3.6nm,0.8s,baz=110,slow=4.5,SNR=16
KKM Kota Kinabalu 163.57 1 PFAKE 18 21 00.0 +8.6
KKM LR LR
comp=Z,630nm,19.0s
KAPI Kappang 173.69 329 PFAKE 18 21 10.0 +12
KAPI LR LR
comp=Z,836nm,20.0s

WEL 15 18:10:50.1±0.5, 36.73S×176.85E, h228km±4km, ML3.6/6, 2C, Error ellipse: s-maj=6.5km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.27**	**144**	⇑PN	Pn	18 11 24.5	0.0
HAZ				*e*SN	S	18 11 51.3	-0.2
MXZ	**Matakaoa Point**	**1.43**	**126**	PN	Pn	18 11 25.8	+0.1
MXZ				*e*SN	S	18 11 53.6	0.0
URZ	**Urewera**	**1.54**	**172**	⇑PN	Pn	18 11 26.9	+0.3
URZ				SN	S	18 11 56.0	+0.7
MWZ	**Matawai**	**1.69**	**161**	PN	Pn	18 11 28.4	+0.5
MWZ				SN	S	18 11 57.1	-0.6
CNGZ	**Carnagh Statio**	**2.06**	**149**	PN	Pn	18 11 31.8	+0.5
SNGZ	**Shannon Statio**	**2.08**	**169**	PN	Pn	18 11 31.9	+0.3
RIGZ	**Rimuhau**	**2.10**	**160**	PN	Pn	18 11 32.1	+0.3
RAHZ	**Arahi**	**2.19**	**175**	PN	Pn	18 11 33.1	+0.4
NMHZ	**Naumai**	**2.36**	**181**	PN	Pn	18 11 35.1	+0.7
KNZ	**Kokohu**	**2.38**	**164**	PN	Pn	18 11 34.1	-0.4
KNZ				SN	S	18 12 07.8	-1.4
BKZ	**Black Stump Fm**	**2.45**	**186**	PN	Pn	18 11 35.0	-0.4
MCHZ	**McNeill Hill**	**2.71**	**182**	PN	Pn	18 11 38.3	+0.2
WNVZ	**Wahianoa**	**2.77**	**200**	PN	Pn	18 11 39.3	+0.3
BHHZ	**Black Hill Sta**	**2.82**	**192**	PN	Pn	18 11 38.9	-0.5
KAHZ	**Kahuranaki**	**3.06**	**180**	PN	Pn	18 11 41.6	-0.4
PXZ	**Pawanui**	**3.29**	**180**	PN	Pn	18 11 43.2	-1.4
PXZ				SN	S	18 12 24.9	-2.6
TSZ	**Takapari Road**	**3.39**	**192**	PN	Pn	18 11 45.1	-0.7
MRZ	**Mangatainoka R**	**4.05**	**194**	AML	AML	18 11 50.5	
MRZ				PN	Pn	18 11 51.7	-1.8
OGWZ	**Otaki Gorge**	**4.28**	**197**	PN	Pn	18 11 54.4	-1.9
HOWZ	**Holdsworth Sta**	**4.29**	**194**	PN	Pn	18 11 54.2	-2.3
MTW	**Mount Morrison**	**4.54**	**193**	PN	Pn	18 11 57.1	-2.5
CAW	**Cannon Point**	**4.58**	**197**	PN	Pn	18 11 57.6	-2.5
TCW	**Tory Channel**	**4.90**	**203**	AML	AML	18 13 01.7	
TUWZ	**Tuamarina**	**5.21**	**205**	PN	Pn	18 12 05.5	-2.2
QRZ	**Quartz Range**	**5.30**	**218**	PN	Pn	18 12 06.7	-2.2
THZ	**Tophouse**	**5.88**	**210**	PN	Pn	18 12 14.8	-1.5
KHZ	**Kahutara**	**6.22**	**203**	PN	Pn	18 12 18.2	-2.4
OXZ	**Oxford**	**7.55**	**208**	PN	Pn	18 12 34.2	-3.3
MQZ	**McQueen's Vall**	**7.67**	**203**	*e*PN	Pn	18 12 35.0	-4.0
MQZ				*e*SN	S	18 13 57.2	-9.0

*CSEM **15** 18:28:23.6±1.3, 42.74N×43.35E, h2km, MD2.7, Error ellipse: s-maj=40.3km s-min=11.4km az=160.0*
*TIF **15** 18:28:24.5, 42.55N×43.46E, h8km±1km*
*DDA **15** 18:28:25.6, 42.39N×43.42E, h5km, MD2.7*

ISC 15 18:28:22.3±3.5, 42.7N±0.2×43.45E±0.08, h15km±8km, n12, σ0.38/21, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.12**	**179**	P	**Pb**	**18 28 26.5**	**+0.1**
ONI				S	**Sg**	**18 28 28.1**	**-0.1**
ONI	**Oni**	**0.12**	**179**	P	**Pb**	**18 28 26.5**	**+0.1**
ONI				S	**Sg**	**18 28 28.1**	**-0.1**
AKH	**Akhalkalaki**	**1.30**	**179**	P	**Sn**	**18 29 02.4**	**-0.9**
ARTV	**Artvin**	**1.90**	**217**	*i* P	**Pb**	**18 28 56.5**	**-0.3**
ARTV				*i* S	**Sb**	**18 29 20.2**	**-0.2**
ARTV	**Artvin**	**1.90**	**217**	*i* P	**Pb**	**18 28 56.5**	**-0.3**
ARTV				*i* S	**Sb**	**18 29 20.2**	**-0.2**
DGRG	**David-gareji**	**1.91**	**131**	P	**Pg**	**18 28 59.0**	**+0.1**
DGRG	**David-gareji**	**1.91**	**131**	P	**Pg**	**18 28 59.0**	**+0.1**
DAGI	**Agillar**	**1.99**	**216**	*i* P	**Pb**	**18 28 58.6**	**+0.3**
DAGI				*i* S	**Sn**	**18 29 21.1**	**+0.7**

DBAD	**Bademkaya**	**2.14**	**218**	*i*	P	**Pb**	**18**	**29**	**00.5**	**-0.3**
DBAD				*i*	S	**Sb**	**18**	**29**	**27.1**	**-0.1**
DBAD	**Bademkaya**	**2.14**	**218**	*i*	P	**Pb**	**18**	**29**	**00.5**	**-0.3**
DBAD				*i*	S	**Sb**	**18**	**29**	**27.1**	**-0.1**
DDEM	**Demirkent**	**2.21**	**216**	*i*	P	**Pb**	**18**	**29**	**02.1**	**0.0**
DDEM				*i*	S	**Sb**	**18**	**29**	**29.9**	**+0.5**
DDEM	**Demirkent**	**2.21**	**216**	*i*	P	**Pb**	**18**	**29**	**02.1**	**0.0**
DDEM				*i*	S	**Sb**	**18**	**29**	**29.9**	**+0.5**

KRSC 15 18:39:23.1±2.2, 51°.12N×157°.56E, h108km±25km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PAU	**Pauzhetka**	**0.58**	**307**	*i* P	Pn	18	39	41.6	+1.3
PAU				*eS*	Sn	18	39	53.6	+0.4
SKR	**Severo-Kuril's**	**1.01**	**245**	*i* P	Pn	18	39	46.0	+1.8
SKR				*i* S	Sn	18	40	01.6	+1.5
MIPR	**Malaya Ipel'ka**	**1.26**	**337**	*i* P	Pn	18	39	46.9	-0.1
MIPR				*eS*	Sn	18	40	02.5	-2.6
ASAK	**Asacha**	**1.28**	**9**	*i* P	Pn	18	39	49.4	+2.1
ASAK				*eS*	Sn	18	40	07.5	+1.8
MTVR	**Mutnovka**	**1.42**	**16**	*i* P	Pn	18	39	51.3	+2.3
MTVR				*eS*	Sn	18	40	11.0	+2.4
RUS	**Russkaya**	**1.44**	**24**	*eP*	Pn	18	39	51.3	+2.2
RUS				*eS*	Sn	18	40	11.0	+2.2
GRL	**Gorelyy**	**1.47**	**12**	*eP*	Pn	18	39	51.9	+2.3
GRL				S	Sn	18	40	11.8	+2.1
APC	**Apacha**	**1.83**	**352**	*eP*	Pn	18	39	53.9	+0.1
PET	**Petropavlovsk**	**2.02**	**19**	*eP*	Pn	18	39	58.2	+2.0
PET				*eS*	Sn	18	40	23.4	+1.8
UGLR	**Uglovaya**	**2.23**	**20**	*eP*	Pn	18	40	02.2	+3.1
UGLR				S	Sn	18	40	29.6	+2.9
AVH	**Avacha**	**2.27**	**18**	*eP*	Pn	18	40	02.5	+3.0
AVH				*eS*	Sn	18	40	30.3	+2.9
KOK	**Koryaka**	**2.27**	**16**	*eP*	Pn	18	40	02.7	+3.1
KOK				*eS*	Sn	18	40	30.3	+2.7
SMAR	**Somma**	**2.28**	**19**	*eP*	Pn	18	40	02.6	+2.7
SMAR				S	Sn	18	40	30.0	+2.0
KRER	**Koryakskii**	**2.31**	**18**	*eP*	Pn	18	40	02.9	+2.7
KRER				*eS*	Sn	18	40	30.8	+2.2
SDLR	**Sedlovina**	**2.31**	**20**	*eP*	Pn	18	40	02.6	+2.5
SDLR				*eS*	Sn	18	40	30.3	+1.8
NLC	**Nalytchevo**	**2.33**	**27**	*eP*	Pn	18	40	01.8	+1.6
NLC				*eS*	Sn	18	40	29.3	+0.7
KRX	**Arik**	**2.34**	**16**	*eP*	Pn	18	40	03.1	+2.5
KRX				*eS*	Sn	18	40	31.1	+1.8
SPN	**Mys Shipunski**	**2.50**	**36**	*eP*	Pn	18	40	05.2	+2.8
SPN				*eS*	Sn	18	40	34.5	+2.0
GNL	**Ganaly**	**2.59**	**5**	*eP*	Pn	18	40	04.8	+1.0
KII	**Karymskiy**	**3.14**	**21**	P	Pn	18	40	14.1	+3.1
KII				S	Sn	18	40	50.1	+2.2
MKZ	**Mys Kozlova**	**4.27**	**35**	*eP*	Pn	18	40	27.7	+1.8
MKZ				*eS*	Sn	18	41	13.1	-1.6
KZV	**Kizimen**	**4.33**	**21**	P	Pn	18	40	27.7	+0.7
TUMR	**Tumrok**	**4.45**	**19**	P	Pn	18	40	31.4	+2.8
KBTR	**Krutoberegovo**	**5.98**	**29**	P	Pn	18	40	50.2	+1.2
BKI	**Bering**	**6.50**	**48**	*eP*	Pn	18	40	57.6	+1.5
BKI				*eS*	Sn	18	42	04.6	-4.2

*ROM **15** 19:13:31.9±0.1, 42°.94N×13°.27E, h7km, Ml3.0/27, Error ellipse: s-maj=1.0km s-min=0.7km az=77.0*
*ISCJB **15** 19:13:32.6±0.2, 42°.94N±0°.02×13°.25E±0°.03, h17km±4km, Error ellipse: s-maj=3.7km s-min=2.5km az=161.7*
*LDG **15** 19:13:32.3±0.1, 42°.98N×13°.21E, h5km, Ml3.0/5, Error ellipse: s-maj=4.5km s-min=2.7km az=40.0*
*CSEM **15** 19:13:32.1±0.1, 42°.92N×13°.23E, h10km, ML3.5/12, Error ellipse: s-maj=3.8km s-min=2.5km az=57.0*

ISC 15 19:13:31.9±0.8, 42°.93N±0°.02×13°.25E±0°.02, h18km±4km, n84, σ1§08/119, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
NRCA	**Norcia**	**0.14**	**227**	Pg	**Pg**	**19**	**13**	**36.0**	**-0.1**
NRCA				Sg	**Sg**	**19**	**13**	**39.1**	**+0.2**
	10μm,0.1s								
NRCA	**Norcia**	**0.14**	**227**	Pg	**Pg**	**19**	**13**	**36.0**	**-0.1**
NRCA				Sg	**Sg**	**19**	**13**	**39.1**	**+0.2**
	10μm,0.1s								
FDMO	**Fiordimonte**	**0.16**	**312**	Pg	**Pg**	**19**	**13**	**35.7**	**-0.6**
FDMO				Sg	**Sg**	**19**	**13**	**38.6**	**-0.7**
	5μm,0.4s								
FDMO	**Fiordimonte**	**0.16**	**312**	Pg	**Pg**	**19**	**13**	**35.7**	**-0.6**
FDMO				Sg	**Sg**	**19**	**13**	**38.6**	**-0.7**
	5μm,0.4s								
CESI	**CESI - Serrava**	**0.27**	**287**	Pg	**Pb**	**19**	**13**	**38.0**	**-0.2**
CESI				Sg	**Sb**	**19**	**13**	**42.6**	**+0.1**
	1μm,0.3s								
CESI	**CESI - Serrava**	**0.27**	**287**	Pg	**Pb**	**19**	**13**	**38.0**	**-0.2**
CESI				Sg	**Sb**	**19**	**13**	**42.6**	**+0.1**
	1μm,0.3s								
SMA1	**SAN MARTINO**	**0.30**	**168**	Pg	**Pb**	**19**	**13**	**38.8**	**-0.1**
SMA1				Sg	**Sb**	**19**	**13**	**44.2**	**+0.6**
	2μm,0.5s								
T0402	**Abbadia di Fi**	**0.31**	**21**	Pg	**Pb**	**19**	**13**	**38.7**	**-0.4**
T0402				Sg	**Sb**	**19**	**13**	**44.3**	**+0.4**
	1μm,0.6s								
OFFI	**Offida**	**0.32**	**89**	Pg	**Pb**	**19**	**13**	**39.5**	**+0.4**
	4μm,0.5s								
OFFI	**Offida**	**0.32**	**89**	Pg	**Pb**	**19**	**13**	**39.5**	**+0.4**
	4μm,0.5s								
RM29	**Verrico (Monte**	**0.37**	**186**	Pg	**Pb**	**19**	**13**	**40.2**	**+0.1**
RM29				Sg	**Sb**	**19**	**13**	**47.0**	**+1.4**
	11μm,1.4s								
TERO	**Teramo**	**0.40**	**139**	Pg	**Pb**	**19**	**13**	**40.2**	**-0.4**
TERO				Sg	**Sb**	**19**	**13**	**46.8**	**+0.4**
	2μm,0.7s								
TERO	**Teramo**	**0.40**	**139**	Pg	**Pb**	**19**	**13**	**40.2**	**-0.4**
TERO				Sg	**Sb**	**19**	**13**	**46.8**	**+0.4**
	2μm,0.7s								
CAMP	**Campotosto**	**0.41**	**163**	Pg	**Pb**	**19**	**13**	**40.5**	**-0.3**
CAMP				Sg	**Sb**	**19**	**13**	**47.3**	**+0.6**
	1μm,0.4s								
CAMP	**Campotosto**	**0.41**	**163**	Pg	**Pb**	**19**	**13**	**40.5**	**-0.3**
CAMP				Sg	**Sb**	**19**	**13**	**47.3**	**+0.6**
	1μm,0.4s								
CING	**Cingoli**	**0.45**	**355**	Pg	**Pb**	**19**	**13**	**40.7**	**-0.7**
CING	**Cingoli**	**0.45**	**355**	Pg	**Pb**	**19**	**13**	**40.7**	**-0.7**
TRTR	**Tortoreto Alta**	**0.50**	**104**	Pg	**Pn**	**19**	**13**	**43.3**	**-0.9**
TRTR	**Tortoreto Alta**	**0.50**	**104**	Pg	**Pn**	**19**	**13**	**43.3**	**-0.9**
GUMA	**Gualdo di Mace**	**0.52**	**75**	Pg	Pg	19	13	35.5	-6.8
GUMA				Sg	Sg	19	13	38.0	-11
	27μm,0.6s								
T0104	**Madonna delle**	**0.57**	**174**	Pg	**Pb**	**19**	**13**	**43.5**	**0.0**
T0104				Sg	**Sb**	**19**	**13**	**52.6**	**+1.3**
AQU	**L'Aquila**	**0.58**	**169**	Pg	**Pb**	**19**	**13**	**43.6**	**-0.1**
AQU				Sg	**Sb**	**19**	**13**	**53.1**	**+1.4**
	1μm,1.1s								
AQU	**L'Aquila**	**0.58**	**169**	Pg	**Pb**	**19**	**13**	**43.6**	**-0.1**
AQU				Sg	**Sb**	**19**	**13**	**53.1**	**+1.4**
	1μm,1.1s								
CESX	**Cesi**	**0.59**	**237**	Pg	**Pb**	**19**	**13**	**43.7**	**0.0**
CESX				Sg	**Sb**	**19**	**13**	**53.3**	**+1.6**
	760nm,0.6s								
CESX	**Cesi**	**0.59**	**237**	Pg	**Pb**	**19**	**13**	**43.7**	**0.0**
CESX				Sg	**Sb**	**19**	**13**	**53.3**	**+1.6**
	760nm,0.6s								
ARVD	**Arcevia**	**0.61**	**338**	Pg	**Pb**	**19**	**13**	**44.0**	**-0.2**
ARVD				Sg	**Sb**	**19**	**13**	**53.8**	**+1.3**
	276nm,0.6s								
ARVD	**Arcevia**	**0.61**	**338**	Pg	**Pb**	**19**	**13**	**44.0**	**-0.2**
ARVD				Sg	**Sb**	**19**	**13**	**53.8**	**+1.3**
	276nm,0.6s								
FIAM	**Fiamignano**	**0.67**	**189**	Pg	**Pb**	**19**	**13**	**45.1**	**0.0**
FIAM				Sg	**Sb**	**19**	**13**	**55.9**	**+1.8**
	487nm,0.7s								
FIAM	**Fiamignano**	**0.67**	**189**	Pg	**Pb**	**19**	**13**	**45.1**	**0.0**
FIAM				Sg	**Sb**	**19**	**13**	**55.9**	**+1.8**
	487nm,0.7s								
AOI	**Ancona**	**0.67**	**22**	Pg	**Pb**	**19**	**13**	**44.9**	**-0.3**
AOI				Sg	**Sb**	**19**	**13**	**55.4**	**+1.2**
AOI	**Ancona**	**0.67**	**22**	Pg	**Pb**	**19**	**13**	**44.9**	**-0.3**
AOI				Sg	**Sb**	**19**	**13**	**55.4**	**+1.2**
MNS	**Montasola**	**0.69**	**218**	Pg	**Pb**	**19**	**13**	**45.6**	**+0.2**
MNS				Sg	**Sb**	**19**	**13**	**56.5**	**+1.9**
	734nm,0.7s								
MNS	**Montasola**	**0.69**	**218**	Pg	**Pb**	**19**	**13**	**45.6**	**+0.2**
VCEL	**Villa Celiera**	**0.69**	**141**	Pg	**Pb**	**19**	**13**	**45.6**	**+0.1**
VCEL				Sg	**Sb**	**19**	**13**	**55.7**	**+1.0**
	574nm,0.4s								
VCEL	**Villa Celiera**	**0.69**	**141**	Pg	**Pb**	**19**	**13**	**45.6**	**+0.1**
VCEL				Sg	**Sb**	**19**	**13**	**55.7**	**+1.0**
	574nm,0.4s								
FAGN	**Fagnano**	**0.71**	**160**	Pg	**Pb**	**19**	**13**	**45.6**	**-0.2**
	695nm,0.5s								
FAGN	**Fagnano**	**0.71**	**160**	Pg	**Pb**	**19**	**13**	**45.6**	**-0.2**
	695nm,0.5s								
PIEI	**Pieia**	**0.80**	**320**	Pg	**Pg**	**19**	**13**	**46.9**	**-0.7**
PIEI				Sg	**Sb**	**19**	**13**	**59.5**	**+1.6**
	288nm,0.7s								
PIEI	**Pieia**	**0.80**	**320**	Pg	**Pg**	**19**	**13**	**46.9**	**-0.7**
PIEI				Sg	**Sb**	**19**	**13**	**59.5**	**+1.6**
	288nm,0.7s								
MGAB	**Montegabbione**	**0.84**	**269**	Pg	**Pb**	**19**	**13**	**48.3**	**+0.3**
	413nm,0.4s								
MGAB	**Montegabbione**	**0.84**	**269**	Pg	**Pb**	**19**	**13**	**48.3**	**+0.3**
	413nm,0.4s								
FSSB	**Fossombrone**	**0.84**	**336**	Pg	**Pb**	**19**	**13**	**48.2**	**+0.2**
FSSB				Sg	**Sb**	**19**	**14**	**00.6**	**+1.6**
	942nm,0.3s								
FSSB	**Fossombrone**	**0.84**	**336**	Pg	**Pb**	**19**	**13**	**48.2**	**+0.2**
FSSB				Sg	**Sb**	**19**	**14**	**00.6**	**+1.6**
	942nm,0.3s								
PTQR	**Pietraquaria**	**0.91**	**173**	Pg	**Pb**	**19**	**13**	**49.2**	**-0.1**
	34nm,0.4s								
PTQR	**Pietraquaria**	**0.91**	**173**	Pg	**Pb**	**19**	**13**	**49.2**	**-0.1**
	34nm,0.4s								
BADI	**Badiali**	**0.94**	**309**	Pg	**Pb**	**19**	**13**	**49.8**	**+0.1**
	276nm,0.6s								
BADI	**Badiali**	**0.94**	**309**	Pg	**Pb**	**19**	**13**	**49.8**	**+0.1**
	276nm,0.6s								
SACS	**San Casciano d**	**0.99**	**266**	Pg	**Pn**	**19**	**13**	**51.4**	**+0.4**
	326nm,0.9s								
SACS	**San Casciano d**	**0.99**	**266**	Pg	**Pn**	**19**	**13**	**51.4**	**+0.4**
	326nm,0.9s								
CAFI	**Castiglion Fio**	**1.02**	**294**	Pg	**Pb**	**19**	**13**	**51.5**	**+0.4**
	302nm,0.8s								
CAFI	**Castiglion Fio**	**1.02**	**294**	Pg	**Pb**	**19**	**13**	**51.5**	**+0.4**
	302nm,0.8s								
PARC	**Parchiule**	**1.03**	**315**	Pg	**Pb**	**19**	**13**	**51.5**	**+0.2**
	349nm,0.8s								
PARC	**Parchiule**	**1.03**	**315**	Pg	**Pb**	**19**	**13**	**51.5**	**+0.2**
	349nm,0.8s								
INTR	**Introdacqua**	**1.04**	**152**	Pg	**Pg**	**19**	**13**	**50.6**	**-1.4**
	481nm,0.5s								
INTR	**Introdacqua**	**1.04**	**152**	Pg	**Pg**	**19**	**13**	**50.6**	**-1.4**
	481nm,0.5s								
VVLD	**Villa Vallelon**	**1.09**	**165**	Pg	**Pn**	**19**	**13**	**52.7**	**+0.3**
VVLD	**Villa Vallelon**	**1.09**	**165**	Pg	**Pn**	**19**	**13**	**52.7**	**+0.3**
LPEL	**Lama dei Pelig**	**1.12**	**142**	Pg	**Pn**	**19**	**13**	**53.4**	**+0.6**
	232nm,0.6s								
LPEL	**Lama dei Pelig**	**1.12**	**142**	Pg	**Pn**	**19**	**13**	**53.4**	**+0.6**
	232nm,0.6s								
POFI	**Posta Fibreno**	**1.26**	**164**	Pg	**Pg**	**19**	**13**	**55.5**	**-0.7**
POFI	**Posta Fibreno**	**1.26**	**164**	Pg	**Pg**	**19**	**13**	**55.5**	**-0.7**
MIDA	**Miranda**	**1.49**	**150**	Pg	**Pb**	**19**	**13**	**59.2**	**+0.1**
	151nm,0.9s								
MIDA	**Miranda**	**1.49**	**150**	Pg	**Pb**	**19**	**13**	**59.2**	**+0.1**
	151nm,0.9s								
NVLJ	**Novalja**	**2.01**	**35**	*i* Pn	**Pb**	**19**	**14**	**06.7**	**-1.3**
NVLJ				Sn	**Sn**	**19**	**14**	**31.5**	**+1.7**
NVLJ	**Novalja**	**2.01**	**35**	*i* Pn	**Pb**	**19**	**14**	**06.7**	**-1.3**
NVLJ				Sn	**Sn**	**19**	**14**	**31.4**	**+1.7**
UDBI	**Udbina**	**2.42**	**48**	*e*Pn	**Pb**	**19**	**14**	**13.9**	**-1.2**
UDBI				Sn	**Sn**	**19**	**14**	**41.7**	**+1.6**
UDBI	**Udbina**	**2.42**	**48**	*e*Pn	**Pb**	**19**	**14**	**13.9**	**-1.2**
UDBI				Sn	**Sn**	**19**	**14**	**41.6**	**+1.6**
PGF	**Pioggiola**	**3.15**	**265**	*e*Pn	**Pn**	**19**	**14**	**21.0**	**+0.2**
PGF				*e*Sn	**Sn**	**19**	**14**	**56.2**	**-1.9**
	0.8nm,0.2s								
PGF	**Pioggiola**	**3.15**	**265**	*e*Pn	**Pn**	**19**	**14**	**21.0**	**+0.2**
PGF				*e*Sn	**Sn**	**19**	**14**	**56.2**	**-1.9**
	0.4nm,0.2s								
STON	**Ston**	**3.27**	**89**	*e*Pn	**Pn**	**19**	**14**	**23.0**	**+0.7**
STON	**Ston**	**3.27**	**89**	*e*Pn	**Pn**	**19**	**14**	**23.0**	**+0.7**
FRF	**La Foret Royal**	**4.87**	**280**	*e*Pn	**Pn**	**19**	**14**	**43.2**	**-1.0**
FRF				*e*Sn	**Sn**	**19**	**15**	**36.8**	**-3.3**
	5.3nm,0.6s								
FRF	**La Foret Royal**	**4.87**	**280**	*e*Pn	**Pn**	**19**	**14**	**43.2**	**-1.0**
FRF				*e*Sn	**Sn**	**19**	**15**	**36.8**	**-3.3**
	2.7nm,0.6s								
LMR	**La Mourre**	**4.95**	**277**	*e*Pn	**Pn**	**19**	**14**	**44.6**	**-0.8**
LMR	**La Mourre**	**4.95**	**277**	*e*Pn	**Pn**	**19**	**14**	**44.6**	**-0.8**
MBDF	**Montbardon**	**5.02**	**293**	*e*P	**Pn**	**19**	**14**	**49.4**	**+2.9**
MBDF	**Montbardon**	**5.02**	**293**	*e*P	**Pn**	**19**	**14**	**49.4**	**+2.9**
SMRF	**Simiane la Rot**	**5.69**	**283**	*e*P	Pn	19	14	59.1	+3.6
CABF	**La Chapelle**	**6.29**	**308**	*e*P	Pn	19	15	07.5	+3.6
HINF	**Hinteralfeld**	**6.65**	**320**	*e*Pn	**Pn**	**19**	**15**	**07.6**	**-1.1**
HINF				*e*Sn	Sn	19	16	18.8	-5.2
	4.8nm,0.4s								
HINF	**Hinteralfeld**	**6.65**	**320**	*e*Pn	**Pn**	**19**	**15**	**07.6**	**-1.1**
CDF	**Champ du Feu**	**6.90**	**325**	*e*Pn	**Pn**	**19**	**15**	**13.9**	**+1.7**
CDF				*e*Sn	Sn	19	16	24.7	-5.5
	4.6nm,0.5s								
CDF	**Champ du Feu**	**6.90**	**325**	*e*Pn	**Pn**	**19**	**15**	**13.9**	**+1.7**
HAU	**Haudompre**	**7.02**	**319**	*e*Sn	Sn	19	16	27.9	-5.3
	7.5nm,0.4s								

IDC 15 19:19:30.1±431.0, 8°.46S×26°.45E, h0km, Error ellipse: s-maj=220.1km s-min=200.5km az=52.0, Zaire

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
I32KE	**NAIROBI INFRAS**	**12.57**	**56**	*i*			20	33	44.1
	baz=233,slow=399								
I35NA	**TSUMEB INFRASO**	**13.71**	**218**	*i*			20	38	52.0
	baz=41,slow=319,SNR=1.7								
I47ZA	**BOSHOF INFRASO**	**20.09**	**183**	*i*			21	28	20.0
	baz=0.9,slow=325,SNR=1.0								

KRSC 15 19:24:36.1±2.1, 48°.88N×155°.92E, h3km±8km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**1.81**	**4**	*eP*	Pb	19	25	10.2	+0.3
SKR				*eS*	Sb	19	25	33.5	+0.5
PAU	**Pauzhetka**	**2.66**	**12**	P	Pb	19	25	23.2	-1.1
PAU				*eS*	Sb	19	25	56.9	-0.4
MIPR	**Malaya Ipel'ka**	**3.45**	**9**	P	Pn	19	25	33.0	+2.3
MTVR	**Mutnovka**	**3.89**	**21**	*eP*	Pn	19	25	39.6	+2.6
MTVR				*eS*	Sn	19	26	25.5	+2.2
UGLR	**Uglovaya**	**4.71**	**22**	P	Pn	19	25	52.5	+3.8
AVH	**Avacha**	**4.74**	**21**	P	Pb	19	25	54.5	+4.4
KOK	**Koryaka**	**4.74**	**20**	P	Pn	19	25	52.4	+3.8
SMAR	**Somma**	**4.75**	**21**	P	Pn	19	25	54.2	+5.3
KRER	**Koryakskii**	**4.78**	**21**	*eP*	Pn	19	25	52.6	+3.3
SDLR	**Sedlovina**	**4.79**	**22**	P	Pn	19	25	52.3	+3.0
KRX	**Arik**	**4.81**	**20**	P	Pn	19	25	53.1	+3.5
GNL	**Ganaly**	**4.99**	**14**	P	Pn	19	25	56.2	+4.1

*JMA **15** 19:27:25.0±0.3, 43°.38N×147°.03E, h38km±4km, M3.4*
*SKHL **15** 19:27:27.0±0.3, 43°.47N×147°.00E, h35km, mb4.6/2*

ISC 15 19:27:25.4±4.2, 43°.5N±0°.1×147°.0E±0°.2, h24km±24km, n9, σ0§68/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SHO	**Shikotan**	**0.41**	**344**	*eP*	**Pn**	**19**	**27**	**36.0**	**+0.1**
SHO				AMB	AMB	19	27	39.0	
	233nm,0.3s								
SHO				*eS*	**Sn**	**19**	**27**	**42.5**	**-0.3**
SHO				A	A	19	27	43.5	
	3μm,0.6s								
SHO				A	A	19	27	43.5	
	3μm,0.6s								
NEM2	**Nemuro 2**	**0.92**	**264**	P	**Pn**	**19**	**27**	**42.0**	**-0.7**
NEM2				*eS*	**Sb**	**19**	**27**	**54.2**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.99**	**305**	*eP*	**Pn**	**19**	**27**	**43.7**	**-0.1**
YUK				AMB	AMB	19	27	45.0	
	224nm,0.2s								
YUK				AMB	AMB	19	27	45.0	
	216nm,0.2s								
YUK				AMB	AMB	19	27	45.0	
	443nm,0.2s								
YUK				*eS*	**Sn**	**19**	**27**	**56.5**	**-0.6**
YUK				A	A	19	27	59.3	
	617nm,0.2s								
YUK				A	A	19	27	59.3	
	630nm,0.2s								
JRA	**Rausu**	**1.43**	**290**	P	**Pn**	**19**	**27**	**50.0**	**+0.1**
JNK	**Nakash**	**1.66**	**275**	P	**Pn**	**19**	**27**	**52.6**	**-0.3**
JNK				*eS*	**Sn**	**19**	**28**	**12.7**	**-0.7**
JAK	**Akkeshi**	**1.74**	**255**	P	**Pn**	**19**	**27**	**53.8**	**-0.3**
JAK				*eS*	**Sn**	**19**	**28**	**15.2**	**-0.3**
JTKR	**Abashiri--Toko**	**2.29**	**284**	P	**Pn**	**19**	**28**	**02.8**	**+1.2**
JAR	**Ashorobuto**	**2.35**	**267**	P	**Pn**	**19**	**28**	**03.5**	**+0.9**
JAR				*eS*	**Sn**	**19**	**28**	**31.8**	**+1.1**
JOB	**Onbets**	**2.38**	**257**	P	**Pn**	**19**	**28**	**03.2**	**+0.4**
JOB				*eS*	**Sn**	**19**	**28**	**31.2**	**0.0**

IDC 15 19:28:17.4±6.3, 30°.26S×177°.62W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/18, mbtmp3.7/2, Error ellipse: s-maj=250.1km s-min=59.5km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ASAR	**Alice Springs**	**43.45**	**267**	P	P	19	36	22.2	-0.2
	0.2nm,0.5s,baz=104,slow=6.7,SNR=11								
WRA	**Warramunga Arr**	**44.42**	**272**	P	P	19	36	29.8	-0.4
	1.2nm,0.4s,baz=112,slow=6.7,SNR=35								
FINES	**FINESS Array B**	**145.12**	**340**	PKPbc	PKPbc	19	47	55.2	-0.3
	1.4nm,1.0s,baz=33,slow=3.3,SNR=4.0								

IDC 15 19:39:56.3±19.0, 17°.11N×82°.34W, h0km, mb3.2/1, mb1 3.8/1, mb1mx3.2/23, mbtmp3.3/1, Error ellipse: s-maj=951.6km s-min=59.6km az=52.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TXAR	**Lajitas Array**	**23.02**	**306**	P	P	19	45	03.3	0.0
	0.7nm,0.7s,baz=114,slow=9.0,SNR=4.7								
WRA	**Warramunga Arr**	**145.15**	**260**	PKPbc	PKPbc	19	59	35.0	-1.3
	0.5nm,0.7s,baz=87,slow=3.9,SNR=5.1								
ASAR	**Alice Springs**	**145.47**	**253**	PKPbc	PKPbc	19	59	36.8	-0.5
	0.4nm,0.8s,baz=111,slow=4.3,SNR=3.6								

IDC 15 19:58:42.2±7.6, 15°.41S×176°.71W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=337.8km s-min=38.8km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**46.73**	**257**	P	P	20	07	12.7	-0.8
	0.3nm,0.7s,baz=93,slow=7.1,SNR=6.2								
ASAR	**Alice Springs**	**47.07**	**252**	P	P	20	07	16.6	+0.4
	3.3nm,0.5s,baz=84,slow=8.3,SNR=85								
ILAR	**Eielson Array**	**83.10**	**12**	P	P	20	11	09.5	0.0
	0.4nm,1.0s,baz=210,slow=5.9,SNR=3.6								

*JSN **15** 20:03:53.4±1.1, 18°.93N×71°.13W, h48km±999km*
*ISCJB **15** 20:04:09.9±0.2, 18°.47N±0°.03×72°.81W±0°.02, h6km, mb4.5/74, MS3.7/14, Error ellipse: s-maj=4.6km s-min=2.5km az=14.3*
*IDC **15** 20:04:10.6±0.5, 18°.49N×72°.82W, h0km, mb4.3/23, mb1 4.5/26, mb1mx4.4/41, mbtmp4.3/26, ML3.9/3, MS3.6/17, Ms1 3.6/17, ms1mx3.4/49, Error ellipse: s-maj=15.9km s-min=11.9km az=64.0*
*BJI **15** 20:04:10.0, 18°.50N×72°.80W, h10km*
*NEIC **15** 20:04:12.0±0.2, 18°.49N×72°.83W, h10km, mb4.6/53, Error ellipse: s-maj=3.8km s-min=2.9km az=15.0*

ISC 15 20:04:11.4±0.3, 18°.51N±0°.05×72°.77W±0°.04, h6km, n365, σ1§03/370, mb4.5/74, MS3.7/14, 94C-77D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SDDR	**Presa de Saban**	**1.48**	**71**	*e*Pn	**Pn**	**20**	**04**	**38.0**	**-0.7**
GTBY	**Guantanamo Bay**	**2

baz=25
034A **Hebbronville** 25.32 294 ⇑P P 20 09 40.6 +1.5
baz=25
NCB **Newcomb** 25.42 358 *e*P P 20 09 40.0 +0.3
9.1nm,0.8s
834A **Tilden** 25.49 297 ⇓P P 20 09 41.6 +1.0
baz=25
335A **Moody** 25.66 304 ⇑P P 20 09 43.3 +1.2
baz=26
634A **China Grove, S** 25.71 300 ⇓P P 20 09 44.2 +1.7
baz=26
933A **Laredo** 25.97 295 ⇑P P 20 09 45.3 +0.4
baz=26
WHTX **Lake Whitney** 25.98 306 *e*P P 20 09 45.0 0.0
WHTX **Lake Whitney** 25.98 306 ⇑P P 20 09 46.5 +1.5
baz=26
534A **Blanco** 26.03 301 ⇓P P 20 09 45.6 +0.2
baz=26,SNR=6.4
ATAH **Atahualpa** 26.08 193 P P 20 09 46.9 +0.5
ATAH **Atahualpa** 26.08 193 P P 20 09 46.9 +0.5
3.1nm,0.6s,baz=249,slow=12,SNR=1.7
ATAH LR LR 20 22 14.7
comp=Z,118nm,18.5s,baz=345,slow=42
434A **Burnet** 26.14 303 ⇓P P 20 09 47.0 +0.5
baz=26
833A **Chaparral WMA,** 26.26 297 ⇓P P 20 09 47.4 -0.2
baz=26
733A **Divot King Ran** 26.29 298 ⇓P P 20 09 47.5 -0.3
baz=26
334A **Lometa** 26.32 304 ⇑P P 20 09 48.2 +0.1
baz=26
633A **Saathoff Ranch** 26.41 299 ⇑P P 20 09 49.2 +0.2
baz=26
Z35A **Perchaven, San** 26.42 309 ⇓P P 20 09 49.7 +0.7
baz=26
SADO **Sadowa** 26.72 350 P P 20 09 51.6 +0.1
SADO **Sadowa** 26.72 350 P P 20 09 51.6 +0.1
3.9nm,0.8s,baz=243,slow=4.5,SNR=3.9
SADO LR LR 20 19 59.9
comp=Z,89nm,20.5s,baz=143,slow=36
832A **Faith Ranch, C** 26.74 296 ⇑P P 20 09 51.7 -0.3
baz=27
433A **Art** 26.78 302 ⇑P P 20 09 52.2 -0.1
baz=27,SNR=5.9
732A **Laxson Ranch,** 26.86 297 ⇑P P 20 09 53.1 +0.1
baz=27
333A **Richland Sprin** 26.90 303 ⇓P P 20 09 53.6 +0.2
baz=27
632A **Uvalde** 26.93 299 ⇑P P 20 09 54.2 +0.5
baz=27
Y34A **Reagan Ranch,** 27.09 310 ⇑P P 20 09 55.5 +0.5
baz=27
233A **Rising Star** 27.10 305 ⇓P P 20 09 55.1 -0.1
baz=27
532A **Rocksprings** 27.23 300 ⇓P P 20 09 56.8 +0.5
baz=27
JCT **Junction City** 27.26 301 P P 20 09 55.0 -1.6
JCT **Junction City** 27.26 301 ⇑P P 20 09 56.6 0.0
baz=27
133A **Hamilton Ranch** 27.36 306 ⇓P P 20 09 57.9 +0.4
baz=27
432A **Menard** 27.39 302 ⇓P P 20 09 58.6 +0.8
baz=27
X34A **Smith Ranch, M** 27.45 311 ⇓P P 20 09 59.5 +1.2
baz=27
332A **Millersview** 27.53 303 ⇓P P 20 09 59.8 +0.8
baz=28
Z33A **Whitaker Ranch** 27.53 307 ⇓P P 20 09 59.7 +0.8
baz=28
631A **Perdido Creek** 27.56 298 ⇑P P 20 09 59.8 +0.4
baz=28
232A **Coleman** 27.64 304 ⇓P P 20 10 01.0 +1.0
baz=28
431A **Sonora** 27.98 301 ⇓P P 20 10 04.2 +1.1
baz=28
331A **San Angelo** 28.05 302 ⇓P P 20 10 04.7 +1.0
baz=28
Z32A **Haskell** 28.08 307 ⇑P P 20 10 04.5 +0.6
baz=28
231A **Bronte** 28.18 304 ⇑P P 20 10 05.1 +0.2
baz=28
WMOK **Wichita Mounta** 28.20 310 *e*P P 20 10 04.0 -1.0
3.0nm,0.7s
Y32A **R-V Farms, Ver** 28.35 308 ⇓P P 20 10 06.7 +0.4
baz=28
530A **J-C Ranch, Com** 28.41 299 ⇑P P 20 10 07.0 0.0
baz=28
X32A **Elmer** 28.42 309 ⇑P P 20 10 07.9 +0.9
baz=28
JFWS **Jewell Farm** 28.48 332 *e*P P 20 10 07.2 -0.1
28nm,1.3s
Z31A **Sharp Cattle R** 28.59 306 ⇓P P 20 10 08.7 +0.2
baz=29
330A **Mertzon** 28.68 302 ⇓P P 20 10 09.6 +0.2
baz=29
W32A **Sentinel** 28.72 310 ⇑P P 20 10 09.8 +0.2
baz=29
230A **Sterling City** 28.80 303 ⇓P P 20 10 10.4 0.0
baz=29
V32A **Arapaho** 28.86 312 ⇓P P 20 10 10.7 -0.1
baz=29
SAML **Samuel** 28.88 160 *e*P P 20 10 09.8 -1.3
15nm,2.5s
Y31A **Rekieta Farm,** 28.95 308 ⇓P P 20 10 11.6 0.0
baz=29
429A **Davenport Ranc** 29.01 300 ⇓P P 20 10 12.1 -0.2
baz=29
X31A **McDonald Ranch** 29.03 309 ⇑P P 20 10 12.4 0.0
baz=29
529A **Stev Forest Ra** 29.14 299 ⇑P P 20 10 13.6 +0.1
baz=29
Z30A **Sanderson Ranc** 29.33 306 ⇑P P 20 10 15.4 +0.2
baz=29
329A **Wagon Wheel Ra** 29.36 302 ⇑P P 20 10 15.7 +0.3
baz=29
V31A **Spring Creek L** 29.46 311 ⇑P P 20 10 17.6 +1.4
baz=29
628A **Black Gap, Mar** 29.52 297 ⇑P P 20 10 17.8 +1.0
baz=30
528A **Cox Ranch, San** 29.62 299 ⇓P P 20 10 17.8 0.0
baz=30
428A **Kincaid Ranch,** 29.69 300 ⇓P P 20 10 18.3 -0.1
baz=30,SNR=18
Z29A **Hungry Hill Ra** 29.77 305 ⇓P P 20 10 19.4 +0.4
baz=30
Q33A **Connelly Farm,** 29.82 318 ⇓P P 20 10 20.4 +1.0
baz=30
627A **Terlingua Ranc** 29.94 297 ⇑P P 20 10 20.0 -0.6
baz=30,SNR=13
Y29A **Porterfield Fa** 29.97 306 ⇑P P 20 10 21.2 +0.3
baz=30
T31A **Randall Ranch,** 29.99 314 ⇓P P 20 10 21.7 +0.8
baz=30
328A **Wristen Ranch,** 30.00 301 ⇓P P 20 10 21.6 +0.6
baz=30
S31A **Mullinville** 30.13 315 ⇑P P 20 10 23.1 +0.9
baz=30
TXAR **Lajitas Array** 30.14 297 P P 20 10 22.7 +0.3
TXAR PcP PcP 20 13 21.1 -2.8
TXAR **Lajitas Array** 30.14 297 P P 20 10 22.7 +0.3
3.9nm,0.9s,baz=116,slow=8.4,SNR=9.0
TXAR PcP PcP 20 13 21.1 -2.8
0.4nm,0.7s,baz=150,slow=7.3,SNR=2.4
128A **Castleberry Fa** 30.14 304 ⇑P P 20 10 23.1 +0.7
baz=30
X29A **Tulia** 30.23 307 ⇑P P 20 10 23.5 +0.4
baz=30
Q32A **Meitler Ranch,** 30.28 318 ⇑P P 20 10 23.9 +0.5
baz=30
527A **Woodward Ranch** 30.30 298 ⇓P P 20 10 24.0 +0.1
baz=30
Z28A **Tucker Farm, M** 30.31 305 ⇑P P 20 10 23.6 -0.2
baz=30
427A **Hayter Ranch,** 30.32 300 ⇑P P 20 10 23.9 0.0
baz=30,SNR=5.0
AMTX **Amarillo** 30.40 308 *e*P P 20 10 24.1 -0.5
7.6nm,0.8s
AMTX **Amarillo** 30.40 308 ⇑P P 20 10 24.5 -0.1
baz=30
R31A **Burdett** 30.52 316 ⇓P P 20 10 26.1 +0.5
baz=30
526A **Mary Lane Ranc** 30.68 298 ⇑P P 20 10 26.8 -0.4
baz=31,SNR=15
426A **McDonald Obser** 30.79 299 ⇑P P 20 10 28.2 -0.1
baz=31,SNR=15
Z27A **Tatum** 30.96 304 ⇓P P 20 10 29.6 0.0
baz=31
P31A **Stockton** 31.11 318 ⇑P P 20 10 30.5 -0.2
baz=31
226B **Tecolote Peak,** 31.31 302 ⇑P P 20 10 32.4 -0.3
baz=31
Q30A **Quinter** 31.35 316 ⇓P P 20 10 32.5 -0.4
baz=31
126A **Clayton Basin,** 31.37 303 ⇓P P 20 10 32.3 -0.9
baz=31
W27A **Bowe Ranch, En** 31.51 308 ⇑P P 20 10 33.7 -0.7
baz=32
Z26A **Caprock** 31.55 304 ⇓P P 20 10 34.3 -0.5
baz=32
425A **Indio Mountain** 31.61 299 ⇓P P 20 10 35.2 -0.3
baz=32,SNR=5.4
P30A **Selden** 31.67 317 ⇓P P 20 10 36.2 +0.4
baz=32
325A **Bean Ranch, Si** 31.76 300 ⇑P P 20 10 36.2 -0.5
baz=32,SNR=14
Q29A **Oakley** 31.80 316 ⇑P P 20 10 37.7 +0.8
baz=32
225A **Deer Hill, Car** 31.85 301 ⇑P P 20 10 38.0 +0.5
baz=32
X26A **CR and CF Fran** 31.87 306 ⇑P P 20 10 38.4 +0.7
baz=32
125A **Gardner Draw,** 31.89 302 ⇑P P 20 10 37.1 -0.6
baz=32,SNR=9.9
U27A **Thompson Grove** 31.90 310 ⇓P P 20 10 38.4 +0.5
baz=32
W26A **Owens Ranch, T** 32.05 307 ⇑P P 20 10 39.6 +0.4
baz=32
R28A **Tribune** 32.08 314 ⇓P P 20 10 40.1 +0.7
baz=32
Z25A **Roswell** 32.13 304 ⇑P P 20 10 40.6 +0.6
baz=32
MNTX **Cornudas Mount** 32.19 300 *e*P P 20 10 40.5 +0.2
11nm,0.9s
N30A **Huefile Ranch,** 32.29 319 ⇓P P 20 10 42.2 +1.1
baz=32
Y25A **Mesa, Roswell** 32.33 305 ⇓P P 20 10 42.2 +0.5
baz=32
V26A **Tequesquite Ra** 32.34 308 ⇓P P 20 10 41.3 -0.4
baz=32
224A **Cornudas Mount** 32.41 301 ⇓P P 20 10 41.9 -0.5
baz=32,SNR=21
Q28A **Sharon Springs** 32.46 315 ⇑P P 20 10 43.1 +0.4
baz=32
X25A **Clemmons Ranch** 32.52 306 ⇑P P 20 10 43.7 +0.3
baz=32
124A **Stringfield Ra** 32.54 302 ⇓P P 20 10 43.8 +0.2
baz=32,SNR=13
U26A **Atchley Ranch,** 32.56 310 ⇓P P 20 10 44.2 +0.5
baz=32
W25A **X Bar L Ranch,** 32.62 307 ⇓P P 20 10 45.0 +0.7
baz=33
Z24A **Sheppen Canyo** 32.66 303 ⇓P P 20 10 44.7 0.0
baz=33,SNR=10.0
R27A **Eads** 32.73 313 ⇑P P 20 10 45.3 +0.2
baz=33
Y24A **Capitan** 32.91 304 ⇓P P 20 10 47.3 +0.4
baz=33,SNR=5.4
V25A **Rancho No Teng** 32.98 308 ⇑P P 20 10 47.8 +0.4
baz=33,SNR=14
U25A **Circle Dot Ran** 33.05 309 ⇑P P 20 10 48.6 +0.6
baz=33
Z23A **Rita Site, Whi** 33.33 303 ⇓P P 20 10 50.9 +0.5
baz=33
W24A **Lazy 6 Ranch,** 33.34 307 ⇑P P 20 10 51.2 +0.6
baz=33
T25A **Trinidad** 33.36 310 ⇑P P 20 10 51.2 +0.5
baz=33
Y23A **Lovelace Mesa,** 33.40 304 ⇑P P 20 10 51.6 +0.4
baz=33,SNR=13
Q26A **Hugo** 33.53 314 ⇓P P 20 10 52.1 -0.1
baz=34
S25A **Robets Cordova** 33.60 311 ⇑P P 20 10 52.5 -0.3
baz=34
222A **Williams Famil** 33.70 300 ⇓P P 20 10 54.7 +1.0
baz=34
R25A **Fountain Ranch** 33.70 312 ⇑P P 20 10 53.8 +0.1
baz=34
X23A **Hourglass Bar** 33.72 305 ⇓P P 20 10 54.3 +0.4
baz=34
W23A **Werner Place,** 33.89 306 ⇑P P 20 10 56.8 +1.4
baz=34
Z22A **Elephant Butte** 33.91 302 ⇓P P 20 10 55.6 +0.1
baz=34
BNM **Barren Site** 33.92 304 *e*P P 20 10 56.5 +0.8
17nm,1.1s
LPM **Los Pinos Moun** 33.98 304 *e*P P 20 10 57.1 +1.0
T24B **San Luis** 34.03 310 ⇑P P 20 10 56.7 0.0
baz=34
ANMO **Albuquerque** 34.05 306 *e*P P 20 10 56.7 0.0
4.7nm,1.0s
V23A **Ortiz Mt. (NFS** 34.12 307 ⇓P P 20 10 57.8 +0.4
baz=34
M27A **Reverse DX Ran** 34.13 319 ⇓P P 20 10 57.8 +0.6
baz=34
S24A **Houchin Ranch,** 34.15 311 ⇓P P 20 10 57.9 +0.2
baz=34
R24A **Sanders Place,** 34.33 312 ⇓P P 20 11 00.1 +1.0
baz=34
U23A **El Rito** 34.34 308 ⇓P P 20 11 00.1 +0.7
baz=34
121A **Cookes Peak, D** 34.38 301 *e*P P 20 11 00.8 +1.2
11nm,1.0s
121A **Cookes Peak, D** 34.38 301 ⇑P P 20 10 59.0 -0.6
baz=34,SNR=6.1
SDCO **Great Sand Dun** 34.40 311 *e*P P 20 10 60.0 +0.1
5.1nm,1.0s
LAZ **Lazon** 34.40 304 *e*P P 20 11 00.8 +1.0
8.3nm,1.2s
V22A **San Miguel Ran** 34.73 307 ⇓P P 20 11 03.6 +0.9
baz=35
R23A **Moffat** 34.82 311 ⇑P P 20 11 04.8 +1.3
baz=35
U22A **Llaves** 34.86 308 ⇑P P 20 11 05.0 +1.2
baz=35
LPAZ **La Paz** 34.88 172 P P 20 11 05.6 +1.2
LPAZ **La Paz** 34.88 172 P P 20 11 05.6 +1.2
0.7nm,0.5s,baz=7.1,slow=8.1,SNR=1.7
LPAZ LR LR 20 28 03.4
comp=Z,82nm,18.2s,baz=338,slow=41
P23A **Jefferson** 35.34 313 ⇑P P 20 11 07.7 -0.4
baz=35
S22A **4UR Ranch, Cre** 35.36 310 ⇑P P 20 11 07.9 -0.3
baz=35
N24A **Carr** 35.37 316 ⇓P P 20 11 08.6 +0.5
baz=35
L25A **Engebretsen Ra** 35.46 318 ⇑P P 20 11 08.8 0.0
baz=35
K25A **Mack Ranch, Ha** 35.64 319 ⇓P P 20 11 10.7 +0.3
baz=36
M24A **Cheyenne** 35.65 317 ⇑P P 20 11 11.0 +0.5
baz=36
SMCO **Snowmass** 36.05 312 *e*P P 20 11 13.8 -0.4
5.9nm,0.9s
N23A **Red Feather La** 36.11 315 ⇓P P 20 11 14.5 0.0
baz=36
O22A **Kremmling** 36.18 314 ⇑P P 20 11 15.3 +0.1
baz=36
I25A **Rochford** 36.34 321 ⇓P P 20 11 16.5 +0.2
baz=36
N22A **Wattenberg Ran** 36.41 315 ⇑P P 20 11 17.1 0.0
baz=36
L23A **Garrett** 36.54 317 ⇑P P 20 11 18.4 +0.2
baz=36
SCHQ **Schefferville** 36.54 6 P P 20 11 18.5 +0.8
SCHQ **Schefferville** 36.54 6 P P 20 11 18.5 +0.8
5.2nm,0.6s,baz=220,slow=6.3,SNR=10
SCHQ LR LR 20 26 48.7
comp=Z,72nm,18.5s,baz=246,slow=37
ULM **Lac du Bonnet** 36.66 335 P P 20 11 17.7 -1.0
ULM **Lac du Bonnet** 36.66 335 P P 20 11 17.7 -1.0
1.4nm,0.4s,baz=148,slow=9.0,SNR=4.6
A30A **Hoffart Farm,** 36.70 332 ⇑P P 20 11 20.0 +0.8
baz=37
PV01 **Paradox Valley** 36.78 310 *e*P P 20 11 20.6 +0.3
295nm,0.9s
TUC **Tucson** 36.78 299 *e*P P 20 11 19.2 -0.9
39nm,1.9s
K21A **Alcova** 37.80 317 ⇑P P 20 11 29.2 +0.4
baz=38,SNR=9.6
WUAZ **Wupatki** 38.05 304 *e*P P 20 11 29.9 -1.1
7.2nm,0.9s
WUAZ **Wupatki** 38.05 304 ⇓P P 20 11 31.5 +0.5
baz=38
J21A **Lysite** 38.27 318 ⇓P P 20 11 31.8 -0.9
baz=38
SRU **San Rafael** 38.56 310 *e*P P 20 11 34.3 -1.0
4.6nm,1.0s
F22A **Rosebud** 38.81 322 ⇓P P 20 11 36.5 -0.6
baz=39
U15A **North Rim** 39.02 305 ⇓P P 20 11 39.5 +0.2
baz=39
J19A **Crowheart** 39.26 317 ⇑P P 20 11 41.0 -0.1
baz=39
PDAR **Pinedale Array** 39.37 316 P P 20 11 41.8 -0.2
PDAR PcP PcP 20 13 49.5 -1.0
PDAR **Pinedale Array** 39.37 316 P P 20 11 41.8 -0.2
1.0nm,0.7s,baz=126,slow=9.3,SNR=7.7
PDAR PcP PcP 20 13 49.5 -1.0
1.9nm,0.9s,baz=138,slow=7.4,SNR=4.6
D22A **Cohagen** 39.53 324 ⇑P P 20 11 43.4 +0.2
baz=40
DAU **Daniels Canyon** 39.57 312 *e*P P 20 11 43.0 -0.8
I19A **Meeteetse** 39.59 318 ⇓P P 20 11 43.9 +0.1
baz=40
MPU **Maple Canyon** 39.69 311 *e*P P 20 11 44.5 -0.2
6.8nm,1.0s
H19A **Powell** 39.88 319 ⇑P P 20 11 46.1 -0.1
baz=40
W13A **Hualapai Mount** 39.93 303 ⇑P P 20 11 47.5 +0.7
baz=40
NLU **North Lily Min** 39.98 311 *e*P P 20 11 47.1 -0.1
9.4nm,1.2s
E20A **Meyer Farm, Mu** 40.30 322 ⇓P P 20 11 49.6 +0.1
baz=40
H18A **Shoshone NF, C** 40.31 319 ⇑P P 20 11 49.6 -0.3
baz=40
LOHW **Long Hollow** 40.43 317 *e*P P 20 11 50.9 +0.1
8.4nm,0.9s
REDW **Red Top Meadow** 40.48 316 *e*P P 20 11 50.8 -0.5
18nm,1.3s
I17A **Pilgrim Ck.** 40.55 317 ⇑P P 20 11 52.0 +0.2
baz=40
MOOW **Moose Ponds** 40.58 317 *e*P P 20 11 52.0 0.0
6.0nm,0.9s
DUG **Dugway** 40.60 311 *e*P P 20 11 51.5 -0.7
8.6nm,1.0s
DUG **Dugway** 40.60 311 ⇓P P 20 11 52.6 +0.4
baz=41
TPAW **Teton Pass** 40.60 316 *e*P P 20 11 51.6 -0.7
22nm,1.6s
E19A **Rath Farm, Rou** 40.66 321 ⇑P P 20 11 52.5 -0.1
baz=41
FXWY **Fox Creek** 40.72 316 *e*P P 20 11 53.0 -0.2
11nm,1.3s
IRM **Iron Mountain** 40.75 301 ⇓P P 20 11 53.3 -0.1
baz=41,SNR=9.5
BC3 **Big Chuckawall** 40.90 300 ⇑P P 20 11 55.1 +0.4
baz=41
A21A **Bergtoll Ranch** 41.01 326 ⇑P P 20 11 56.1 +0.7
baz=41
BGU **Big Grassy Mou** 41.01 312 *e*P P 20 11 54.8 -0.8
5.0nm,1.2s
D19A **Cripps Ranch,** 41.08 322 ⇑P P 20 11 56.6 +0.6
baz=41
SHPR **Sheep Range** 41.27 305 P P 20 11 56.9 -1.0
MONP **Monument Peak** 41.56 299 ⇓P P 20 11 59.7 -0.6
baz=42
BDFB **Brasilia** 41.78 143 P P 20 12 02.2 +0.2
BDFB **Brasilia** 41.78 143 P P 20 12 02.2 +0.2
6.5nm,0.7s,baz=304,slow=10,SNR=7.9
EGMT **Eagleton** 42.04 323 ⇑P P 20 12 03.9 0.0
baz=42
R11A **Troy Canyon, C** 42.08 307 *e*P P 20 12 03.9 -0.5
3.1nm,0.8s
R11A **Troy Canyon, C** 42.08 307 ⇑P P 20 12 05.1 +0.7
baz=42
MCMT **McKenzie Canyo** 42.41 317 *e*P P 20 12 05.8 -1.3
2.6nm,0.9s
ELK **Elko** 42.53 311 *e*P P 20 12 07.2 -0.9
4.7nm,1.0s
HLID **Hailey** 42.93 315 *e*P P 20 12 10.2 -1.1
36nm,2.1s
HLID **Hailey** 42.93 315 ⇓P P 20 12 11.2 -0.2
baz=43
LRMC **Laurel Mountai** 43.05 302 ⇑P P 20 12 12.4 +0.1
baz=43
GRAC **Grapevine Rang** 43.12 305 ⇑P P 20 12 13.3 +0.6
baz=43
EDW2 **Edwards Air Fo** 43.19 301 ⇑P P 20 12 13.5 +0.2
baz=43
TPH **Tonopah** 43.25 306 *e*P P 20 12 14.4 +0.4
12nm,1.2s
RCBR **Riachuelo** 43.66 120 P P 20 12 19.4 +2.1
NV11 **Mina Array Sit** 44.05 306 *e*P P 20 12 20.7 +0.3
NVAR **Mina Array Bea** 44.16 306 P P 20 12 22.0 +0.6
NVAR **Mina Array Bea** 44.16 306 P P 20 12 22.0 +0.6
3.3nm,0.8s,baz=97,slow=6.8,SNR=16
WVOR **Wild Horse Val** 45.47 312 *e*P P 20 12 31.3 -0.3
112nm,2.8s
J08A **Circle Bar Ran** 45.64 313 *e*P P 20 12 36.8 +3.9
32nm,1.7s
NEW **Newport** 46.52 320 *e*P P 20 12 38.8 -0.9
8.4nm,1.1s
NEW **Newport** 46.52 320 LR LR 20 33 07.3
comp=Z,67nm,18.6s,baz=278,slow=37
NEW **Newport** 46.52 320 ⇑P P 20 12 39.3 -0.4
baz=46
YBH **Yreka Blue Hor** 48.21 310 P P 20 12 52.1 -0.9
YBH **Yreka Blue Hor** 48.21 310 P P 20 12 52.1 -0.9
3.8nm,0.8s,baz=64,slow=5.6,SNR=4.6
YKA **Yellowknife Ar** 52.58 337 P P 20 13 25.4 -0.2
YKA **Yellowknife Ar** 52.58 337 P P 20 13 25.4 -0.2
1.9nm,0.8s,baz=123,slow=7.2,SNR=27
DLBC **Dease Lake** 57.43 328 *e*P P 20 14 01.2 +0.3
SUMG **Summit** 57.52 12 *i* P P 20 14 02.1 +0.4
5.3nm,0.8s
SUMG **Summit** 57.52 12 *e*P P 20 14 01.6 -0.1
28nm,1.5s
PLCA **Paso Flores** 58.97 178 P P 20 14 11.5 -0.3
PLCA **Paso Flores** 58.97 178 P P 20 14 11.5 -0.3
3.0nm,0.7s,baz=346,slow=5.8,SNR=8.8
ESDC **Sonseca Array** 62.27 54 P P 20 14 35.3 +0.8
ESDC **Sonseca Array** 62.27 54 P P 20 14 35.3 +0.8
4.8nm,1.0s,baz=278,slow=8.0,SNR=12
ESDC LR LR 20 39 07.9
comp=Z,57nm,18.3s,baz=165,slow=34
ESLA **Sonseca Array** 62.27 54 P P 20 14 34.9 +0.4
BMRM **Bremner River** 65.18 329 *e*P P 20 14 54.8 +1.5
37nm,1.4s
PAX **Paxson** 65.82 331 *e*P P 20 14 58.7 +1.2
20nm,1.6s
ILAR **Eielson Array** 66.65 333 P P 20 15 02.5 -0.2
ILAR **Eielson Array** 66.65 333 P P 20 15 02.5 -0.2
1.4nm,0.9s,baz=105,slow=5.4,SNR=13
MCK **McKinley** 67.45 332 *e*P P 20 15 09.1 +1.4
17nm,1.4s
TRF **Thorofare Moun** 68.03 332 *e*P P 20 15 12.1 +0.5
19nm,1.3s
KTH **Kantishna Hill** 68.32 332 *e*P P 20 15 13.2 -0.2
317nm,2.0s
RSO **Redoubt South** 69.16 329 *e*P P 20 15 18.6 -0.1
SENIN **Lac Senin/Sane** 70.07 47 *e*P P 20 15 26.1 +1.5
NB2 **NORSAR Subarra** 71.09 31 P P 20 15 31.6 +1.2
comp=Z,2.6nm,0.8s,baz=276,slow=6.2
NOA **NORSAR Array B** 71.09 31 P P 20 15 32.1 +1.7
NOA **NORSAR Array B** 71.09 31 P P 20 15 32.1 +1.7
comp=Z,3.7nm,1.0s,baz=275,slow=6.3,SNR=4.1
NOA LR LR 20 42 33.7
comp=Z,22nm,20.8s,baz=85,slow=32
TOA0 **Torodi Ar. Sit** 71.41 82 *e*P P 20 15 30.1 -3.0
TORD **Torodi Ar. Bea** 71.41 82 P P 20 15 32.2 -0.8
TORD **Torodi Ar. Bea** 71.41 82 P P 20 15 32.2 -0.8
comp=Z,3.1nm,1.0s,baz=282,slow=4.8,SNR=12
DAVOX **Davos/Dischmat** 71.78 46 LR LR 20 41 38.3
comp=Z,77nm,19.7s,baz=356,slow=31
CLL **Collm** 73.17 41 *e*P P 20 15 44.0 +1.0
KEST **Kesra** 73.18 57 P P 20 15 44.6 +1.2
KEST **Kesra** 73.18 57 P P 20 15 44.6 +1.2
comp=Z,4.1nm,1.0s,baz=280,slow=9.7,SNR=5.1
BRG **Berggiesshubel** 73.83 41 *e*P P 20 15 47.9 +1.1
comp=Z,5.7nm,0.8s
BRG *e* 20 15 51.1
comp=Z,6.2nm,1.0s
KHC **Kasperske Hory** 73.88 43 *e*P P 20 15 48.3 +1.0
KHC *e*pP pP 20 15 51.6 +2.3
KHC **Kasperske Hory** 73.88 43 *e*P P 20 15 47.9 +0.6
comp=Z,20nm,1.5s
GEC2 **GERESS Array S** 74.01 43 *e*P P 20 15 49.2 +1.0
GERES **GERESS Array B** 74.01 43 P P 20 15 49.1 +1.0
GERES **GERESS Array B** 74.01 43 P P 20 15 49.1 +1.0
comp=Z,4.5nm,0.8s,baz=270,slow=4.0,SNR=37
GERES LR LR 20 44 11.5
comp=Z,88nm,20.5s,baz=22,slow=32

PRU	**Pruhonice**	**74.35**	**42**	*e*P	**P**	**20 15 50.8**	**+0.8**
TREC	**Trest**	**75.08**	**43**	*e*P	**P**	**20 15 55.2**	**+0.9**
UPC	**Upice**	**75.19**	**41**	*e*P	**P**	**20 15 56.2**	**+1.4**
UPC				*e*pP	**pP**	**20 15 59.1**	**+2.3**
DPC	**Dobruska-Polom**	**75.41**	**41**	*e*P	**P**	**20 15 57.2**	**+1.0**
DPC				*e*pP	**pP**	**20 16 00.4**	**+2.3**
DPC	**Dobruska-Polom**	**75.41**	**41**	*e*P	**P**	**20 15 57.5**	**+1.3**
TNA	**Tin City**	**75.44**	**335**	*e*P	**P**	**20 15 57.3**	**+1.4**
	comp=Z,82nm,2.5s						
ARCES	**ARCESS Array B**	**75.68**	**21**	P	**P**	**20 15 57.2**	**0.0**
ARCES	**ARCESS Array B**	**75.68**	**21**	P	**P**	**20 15 57.2**	**0.0**
	comp=Z,2.3nm,0.6s,baz=305,slow=4.3,SNR=12						
ARCES				LR	LR	20 43 58.3	
	comp=Z,64nm,21.8s,baz=2.5,slow=32						
MORC	**Moravsky Berou**	**76.30**	**42**	*i*P	**P**	**20 16 02.8**	**+1.6**
OKC	**Ostrava-Krasne**	**76.67**	**42**	*e*P	**P**	**20 16 04.4**	**+1.1**
OKC				*e*pP	**pP**	**20 16 07.8**	**+2.6**
FINES	**FINESS Array B**	**78.08**	**29**	P	**P**	**20 16 11.8**	**+0.9**
FINES	**FINESS Array B**	**78.08**	**29**	P	**P**	**20 16 11.8**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=339,slow=4.7,SNR=7.6						
FINES				LR	LR	20 47 24.5	
	comp=Z,47nm,21.0s,baz=34,slow=33						
KOLS	**Kolonicke sedl**	**79.50**	**42**	*e*P	**P**	**20 16 20.1**	**+1.0**
ISAL	**Salakas**	**79.84**	**35**	*e*P	**P**	**20 16 20.0**	**-0.7**
TRPA	**Tarpa**	**79.90**	**43**	*i*P	**P**	**20 16 22.0**	**+0.8**
JOF	**Joensuu**	**79.93**	**27**	*ep*	**P**	**20 16 22.3**	**+1.3**
	comp=Z,4.0nm,0.6s						
IIGN	**Ignalina**	**79.96**	**35**	*e*P	**P**	**20 16 20.8**	**-0.6**
BZS	**Buzias**	**79.99**	**45**	*i*P	**P**	**20 16 23.4**	**+1.7**
NACGM	**Naroch**	**80.41**	**35**	*e*	**P**	**20 16 23.0**	**-0.8**
BURAR	**Bucovina Array**	**81.77**	**43**	*i*P	**P**	**20 16 32.3**	**+0.9**
VTS	**Vitosha**	**81.97**	**48**	*i*P	**P**	**20 16 33.6**	**+1.0**
VOIR		**82.35**	**45**	*i*P	**P**	**20 16 35.2**	**+0.8**
MLR	**Muntele Rosu**	**82.93**	**44**	*i*P	**P**	**20 16 39.4**	**+1.9**
AKASG	**Malin Array Be**	**83.22**	**39**	P	**P**	**20 16 38.9**	**+0.2**
AKASG	**Malin Array Be**	**83.22**	**39**	P	**P**	**20 16 38.9**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=280,slow=4.1,SNR=8.3						
PPT	**Papeete**			LR	LR	20 49 15.2	
	comp=Z,80nm,20.1s,baz=222,slow=32						
TIXI	**Tiksi**	**88.86**	**353**	*e*P	**P**	**20 17 05.6**	**-0.5**
	comp=Z,8.9nm,1.3s						
BRTR	**Keskin Array B**	**90.34**	**48**	P	**P**	**20 17 14.6**	**+0.7**
BRTR	**Keskin Array B**	**90.34**	**48**	P	**P**	**20 17 14.6**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=298,slow=3.9,SNR=7.6						
BRTR				LR	LR	20 55 14.2	
	comp=Z,21nm,18.4s,baz=10.0,slow=34						
AKTO	**Aktyubinsk**	**98.85**	**29**	LR	LR	21 02 30.4	
	comp=Z,33nm,18.8s,baz=30,slow=35						
KSH	**Kashi**	**115.31**	**26**	*e*PKP	**PKPdf**	**20 22 54.1**	**-0.4**
KSH				*e*SKS	**SKSdf**	**20 30 01.3**	**-6.3**
KSH				*e*SKKS	**SKKSac**	**20 30 51.8**	**-5.8**
KSH				*e*SS	**SS**	**20 39 57.1**	**+5.3**
WMQ	**Urumqi**	**115.44**	**16**	PKP	**PKPdf**	**20 22 53.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**120.81**	**356**	*e*PKP	PKPdf	20 22 59.0	-6.0
HHC				SKS	SKSdf	20 30 08.5	-9.5
HHC				SKKS	SKKSac	20 31 20.8	-13
HHC				SS	**SS**	**20 40 59.3**	**-3.1**
LZH	**Lanzhou**	**125.61**	**3**	*e*PKP	**PKPdf**	**20 23 11.6**	**-2.9**
LZH				sPKP		20 23 17.5	
KMI	**Kunming**	**136.41**	**6**	PKP	**PKPdf**	**20 23 33.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**142.37**	**13**	PKPpre	PKPpre	20 23 43.0	
CMAR	**Chiang Mai Arr**	**142.37**	**13**	PKhKP	PKPpre	20 23 43.0	
	comp=Z,0.6nm,0.9s,baz=329,slow=5.7,SNR=5.8						
STKA	**Stephens Creek**	**146.33**	**240**	PKPbc	**PKPbc**	**20 23 53.2**	**-0.4**
STKA	**Stephens Creek**	**146.33**	**240**	PKPbc	**PKPbc**	**20 23 53.2**	**-0.4**
	comp=Z,4.6nm,1.0s,baz=233,slow=0.6,SNR=6.0						
WRA	**Warramunga Arr**	**154.37**	**262**	PKP	**PKPdf**	**20 24 04.5**	**-0.9**
WRA				PKPbc	**PKiKP**	**20 24 14.0**	**+0.3**
WRA	**Warramunga Arr**	**154.37**	**262**	PKP	**PKPdf**	**20 24 04.5**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=73,slow=1.3,SNR=7.8						
WRA				PKPbc	**PKiKP**	**20 24 14.0**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=85,slow=2.5,SNR=11						
ASAR	**Alice Springs**	**154.61**	**254**	PKP	**PKPdf**	**20 24 04.9**	**-0.7**
ASAR	**Alice Springs**	**154.61**	**254**	PKP	**PKPdf**	**20 24 04.9**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=95,slow=2.2,SNR=2.9						

IDC ***15*** *20:13:53.9±3.0,24.°13N×179.°48W,h407km±29km, mb3.6/4, mb1 3.7/6, mb1mx3.3/39, mbtmp4.5/6, Error ellipse: s-maj=32.5km s-min=22.6km az=20.0*

ISC 15 20:14:04.3±1.3, 24.°45N±0.°1×180.°0W±0.°2, h505km, n14, σ0.89/13, mb4.0/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.19**	**159**	P		P	20 15 19.4	-14
	118nm,0.3s,baz=107,slow=19,SNR=2.5							
RAO				S		S	20 16 20.4	-25
	76nm,0.3s,baz=104,slow=21,SNR=2.0							
DZM	**Mont Dzumac**	**12.68**	**278**	P		**P**	**20 16 49.8**	**-0.4**
	0.4nm,0.3s,baz=115,slow=20,SNR=6.1							
URZ	**Urewera**	**14.04**	**189**	P		P	20 16 58.8	-5.4
	1.4nm,0.3s,baz=322,slow=8.4,SNR=7.9							
URZ				S		**S**	**20 19 31.7**	**-0.9**
	1.1nm,0.3s,baz=108,slow=22,SNR=11							
STKA	**Stephens Creek**	**34.54**	**249**	P		**P**	**20 20 10.9**	**+0.7**
	2.1nm,0.4s,baz=97,slow=10,SNR=15							
STKA				PcP		**PcP**	**20 22 32.5**	**+1.7**
	0.8nm,0.5s,baz=222,slow=23,SNR=3.6							
PMG	**Port Moresby**	**34.66**	**290**	P		**P**	**20 20 10.6**	**-0.7**
	13nm,0.7s,baz=78,slow=4.5,SNR=7.3							
ASAR	**Alice Springs**	**41.96**	**261**	P		**P**	**20 21 11.2**	**+0.5**
	1.9nm,0.8s,baz=90,slow=6.8,SNR=20							
ASAR				PcP		**PcP**	**20 22 55.5**	**+1.0**
	0.2nm,0.3s,baz=108,slow=4.2,SNR=4.9							
WRA	**Warramunga Arr**	**42.38**	**267**	P		**P**	**20 21 13.9**	**-0.2**
	1.9nm,0.4s,baz=101,slow=8.4,SNR=71							
BVAR	**Borovoye Array**	**120.81**	**319**	PKP		**PKPdf**	**20 31 57.3**	**-1.1**
	0.9nm,0.4s,baz=113,slow=2.6,SNR=12							
ARCES	**ARCESS Array B**	**132.37**	**348**	PKP		**PKPdf**	**20 32 19.9**	**-0.1**
	2.8nm,0.8s,baz=122,slow=4.4,SNR=6.3							
FINES	**FINESS Array B**	**138.91**	**341**	PKhKP		PKPpre	20 32 21.6	
	0.7nm,0.7s,baz=29,slow=4.4,SNR=4.6							
HFS	**Hagfors**	**143.03**	**349**	PKhKP		PKPpre	20 32 35.6	
	2.7nm,0.4s,baz=64,slow=3.4,SNR=47							
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc		**PKPdf**	**20 32 43.9**	**-0.3**
	1.2nm,0.3s,baz=43,slow=4.2,SNR=8.1							
BRTR	**Keskin Array B**	**147.87**	**307**	PKPbc		**PKPbc**	**20 32 52.2**	**-0.4**
	1.1nm,0.7s,baz=137,slow=4.9,SNR=7.8							
TORD	**Torodi Ar. Bea**	**168.70**	**188**	PKPab		**PKPab**	**20 34 27.3**	**+0.2**
	1.5nm,1.2s,baz=200,slow=6.1,SNR=3.6							

ISCJB ***15*** *20:22:38.6±0.7, 44.°27N±0.°06×147.°78E±0.°09, h99km±4km, mb3.9/19, Error ellipse: s-maj=12.8km s-min=6.2km az=43.4*

SKHL ***15*** *20:22:39.7±0.2, 44.°33N×147.°85E, h106km±11km, mb5.0/2, msh5.7/2*

MOS ***15*** *20:22:40.5±1.2, 44.°67N×147.°60E, h98km, mb4.0/9, Error ellipse: s-maj=16.5km s-min=11.3km az=102.1*

JMA ***15*** *20:22:40.2±0.3, 43.°96N×147.°87E, h75km, M3.9*

IDC ***15*** *20:22:42.7±3.3, 44.°63N×147.°68E, h105km±29km, mb3.6/17, mb1 3.8/18, mb1mx3.5/55, mbtmp3.9/18, Error ellipse: s-maj=46.6km s-min=16.2km az=171.0*

ISC 15 20:22:38.7±1.2, 44.°19N±0.°07×147.°86E±0.°08, h90km±8km, n50, σ1.°93/57, mb3.9/19, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.05**	**0**	*i*PN		**Pn**	**20 22 59.0**	**+0.2**
KUR				*e*S		**Sn**	**20 23 13.5**	**-0.5**
KUR				pmax	pmax			
	comp=Z,390nm,0.7s							
KUR				smax	smax			
	comp=N,2μm,0.5s							
KUR				smax	smax			
	comp=E,2μm,0.5s							
KUR	**Kuril'sk**	**1.05**	**0**	*e*P		**Pn**	**20 22 59.0**	**+0.2**
KUR				AMB	AMB	20 22 59.5		
	comp=E,300nm,0.5s							
KUR				AMB	AMB	20 22 59.5		
	comp=E,480nm,0.5s							
KUR				AMB	AMB	20 22 59.5		
	comp=E,390nm,0.5s							
KUR				*e*S		**Sn**	**20 23 13.5**	**-0.5**
KUR				A	A	20 23 14.5		
	comp=E,2μm,0.5s							
KUR				A	A	20 23 14.5		
	comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.45**	**265**	*i*PN		**Pn**	**20 23 04.3**	**+0.6**
YUK				*i* S		**Sn**	**20 23 22.6**	**0.0**
YUK				pmax	pmax			
	comp=E,202nm,0.2s							
YUK				pmax	pmax			
	comp=Z,420nm,0.2s							
YUK				pmax	pmax			
	comp=N,76nm,0.1s							
YUK				smax	smax			
	comp=E,1μm,0.3s							
YUK				smax	smax			
	comp=N,664nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.45**	**265**	*e*P		**Pn**	**20 23 04.4**	**+0.7**
YUK				AMB	AMB	20 23 10.5		
	comp=N,80nm,0.2s							
YUK				AMB	AMB	20 23 10.5		
	comp=N,200nm,0.2s							
YUK				AMB	AMB	20 23 10.5		
	comp=N,420nm,0.2s							
YUK				*e*S		**Sn**	**20 23 22.7**	**+0.1**
YUK				A	A	20 23 26.2		
	comp=N,660nm,0.3s							
YUK				A	A	20 23 26.2		
	comp=N,1μm,0.3s							
NEM2	**Nemuro 2**	**1.74**	**243**	P		**Pn**	**20 23 07.8**	**+0.4**
NEM2				*e*S		**Sn**	**20 23 28.5**	**-0.8**
JRA	**Rausu**	**1.99**	**264**	P		**Pn**	**20 23 12.1**	**+1.4**
JRA				*e*S		**Sn**	**20 23 37.0**	**+1.9**
JNK	**Nakash**	**2.35**	**256**	P		**Pn**	**20 23 16.5**	**+1.1**
JNK				*e*S		**Sn**	**20 23 43.9**	**+0.3**
JAK	**Akkeshi**	**2.59**	**244**	P		**Pn**	**20 23 19.1**	**+0.5**
JAK				*e*S		**Sn**	**20 23 48.6**	**-0.7**
JAR	**Ashorobuto**	**3.10**	**255**	P		**Pn**	**20 23 27.3**	**+1.9**
JAR				*e*S		**Sn**	**20 24 02.5**	**+1.0**
JCH	**Churui**	**3.64**	**246**	P		**Pn**	**20 23 33.6**	**+0.9**
JCH				*e*S		**Sn**	**20 24 14.0**	**-0.5**
ASAJ	**Asahikawa**	**3.79**	**271**	P		**Pn**	**20 23 36.9**	**+2.1**
	comp=N,1.3nm,0.3s,baz=106,slow=31,SNR=6.0							
YSS	**Yuzh-Sakhalins**	**4.53**	**309**	*e*P		**Pn**	**20 23 46.5**	**+1.7**
YSS				*e*S		**Sn**	**20 24 34.8**	**-1.4**
JKB	**Kayabe**	**5.51**	**248**	P		**Pn**	**20 23 59.1**	**+1.0**
JKB				*e*S		**Sn**	**20 24 57.4**	**-2.6**
JOT	**Ohata**	**5.74**	**243**	P		**Pn**	**20 24 01.4**	**+0.1**
JOT				*e*S		**Sn**	**20 25 01.0**	**-4.8**
SEY	**Seymchan**	**18.96**	**6**	P		**P**	**20 26 51.6**	**-0.9**
SEY	**Seymchan**	**18.96**	**6**	P		**P**	**20 26 51.6**	**-0.9**
	comp=N,0.2nm,0.3s,baz=198,slow=13,SNR=5.6							
YAK	**Yakutsk**	**20.81**	**336**	*e*P		**P**	**20 27 08.6**	**-3.8**
SONM	**Songino Array**	**28.78**	**292**	P		**P**	**20 28 28.5**	**+0.6**
	comp=N,0.6nm,0.5s,baz=87,slow=8.6,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**29.12**	**141**	T		T	20 59 35.8	
	baz=333,slow=76,SNR=84							
H11N1	**WAKE ISLAND Hy**	**29.12**	**141**	T		T	20 59 31.6	
	baz=333,slow=76,SNR=73							
H11N3	**WAKE ISLAND Hy**	**29.12**	**141**	T		T	20 59 32.4	
	baz=333,slow=76,SNR=71							
H11S1	**WAKE ISLAND Hy**	**30.09**	**142**	T		T	21 00 41.8	
	baz=336,slow=77,SNR=168							
H11S3	**WAKE ISLAND Hy**	**30.09**	**142**	T		T	21 00 42.2	
	baz=336,slow=77,SNR=151							
H11S2	**WAKE ISLAND Hy**	**30.11**	**142**	T		T	21 00 45.8	
	baz=336,slow=77,SNR=129							
ILAR	**Eielson Array**	**40.83**	**37**	P		**P**	**20 30 11.4**	**+0.4**
	comp=N,0.3nm,0.5s,baz=272,slow=9.0,SNR=5.8							
MKAR	**Makanchi Array**	**44.84**	**297**	*e*P		**P**	**20 30 43.8**	**+0.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**44.84**	**297**	P		**P**	**20 30 43.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=76,slow=7.8,SNR=20							
KURK	**Kurchatov**	**45.71**	**304**	P		**P**	**20 30 51.3**	**+0.9**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.2s							
INK	**Inuvik**	**45.77**	**31**	P		**P**	**20 30 51.5**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=302,slow=7.3,SNR=8.4							
KURBB	**Kurchatov Arra**	**45.80**	**304**	P		**P**	**20 30 51.3**	**+0.2**
	comp=Z,2.3nm,0.2s,baz=63,slow=6.7,SNR=12							
BVAR	**Borovoye Array**	**49.62**	**309**	P		**P**	**20 31 20.7**	**+0.1**
BVAR	**Borovoye Array**	**49.62**	**309**	P		**P**	**20 31 20.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=74,slow=9.1,SNR=5.3							
YKA	**Yellowknife Ar**	**59.15**	**34**	P		**P**	**20 32 02.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=309,slow=7.4,SNR=4.2							
ARCES	**ARCESS Array B**	**59.02**	**340**	P		**P**	**20 32 26.5**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=50,slow=7.3,SNR=10							
JOF	**Joensuu**	**61.94**	**332**	*e*P		**P**	**20 32 47.0**	**-1.4**
JOF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JOF	**Joensuu**	**61.94**	**332**	*ep*		**P**	**20 32 47.0**	**-1.4**
	comp=Z,0.7nm,0.3s							
FINES	**FINESS Array B**	**64.72**	**333**	P		**P**	**20 33 05.2**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=43,slow=5.7,SNR=16							
NVAR	**Mina Array Bea**	**66.91**	**58**	P		**P**	**20 33 23.2**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=297,slow=7.0,SNR=2.0							
NB2	**NORSAR Subarra**	**69.38**	**339**	P		**P**	**20 33 35.8**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.38**	**339**	P		**P**	**20 33 35.7**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=31,slow=6.4,SNR=11							
HFS	**Hagfors**	**69.48**	**337**	P		**P**	**20 33 36.0**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=22,slow=4.7,SNR=9.8							
KBZ	**Khabaz**	**69.89**	**312**	P		**P**	**20 33 40.4**	**+0.7**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KBZ	**Khabaz**	**69.89**	**312**	P		**P**	**20 33 40.4**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=121,slow=4.5,SNR=7.6							
AKASG	**Malin Array Be**	**71.53**	**324**	P		**P**	**20 33 49.1**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.53**	**324**	P		**P**	**20 33 49.1**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=38,slow=6.5,SNR=6.4							
MLR	**Muntele Rosu**	**76.93**	**322**	P		**P**	**20 34 22.5**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=224,slow=8.3,SNR=5.0							
CLL	**Collm**	**77.16**	**333**	*e*P		**P**	**20 34 22.0**	**-0.2**
CLL	**Collm**	**77.16**	**333**	*e*P		**P**	**20 34 22.0**	**-0.2**
GERES	**GERESS Array B**	**79.03**	**331**	P		**P**	**20 34 32.8**	**0.0**
	comp=Z,0.5nm,0.4s,baz=45,slow=4.3,SNR=6.6							
TXAR	**Lajitas Array**	**81.98**	**57**	P		**P**	**20 34 49.6**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=290,slow=3.8,SNR=5.2							

FUNV 15 20:35:40.7, 10.°48N×69.°85W, h3km, MW2.3, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIQV	**Siquisique**	**0.18**	**14**	*i*P		Pg	20 35 44.0	-0.3
SIQV				*e*S		Sg	20 35 47.0	+0.3
CURV	**Curarigua**	**0.47**	**193**	*e*P		Pg	20 35 49.9	0.0
CURV				*e*S		Sg	20 35 57.0	+0.9
SANV	**Sanarito**	**1.02**	**162**	*e*P		Pg	20 35 59.8	-0.6
SANV				*e*S		Sg	20 36 13.6	-0.2
MONV	**Montecano**	**1.48**	**356**	*e*P		Pn	20 36 07.7	-0.5
BAUV	**El Baul**	**2.35**	**130**	*e*P		Pn	20 36 20.1	-0.1

IDC 15 20:37:15.2±59.0, 16.°07S×176.°28W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/34, mbtmp3.8/3, Error ellipse: s-maj=1104.0km s-min=172.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.30**	**240**	P		P	20 45 02.8	+0.1
	0.5nm,0.4s,baz=75,slow=12,SNR=4.5							
WRA	**Warramunga Arr**	**46.99**	**258**	P		P	20 45 48.6	0.0
	0.8nm,1.1s,baz=91,slow=8.3,SNR=7.3							
ASAR	**Alice Springs**	**47.26**	**252**	P		P	20 45 50.2	-0.4
	1.4nm,0.4s,baz=90,slow=7.5,SNR=37							

ISCJB ***15*** *20:39:08.2±1.0, 25.°92S±0.°07×177.°4W±0.°2, h161km, mb4.0/5, Error ellipse: s-maj=23.3km s-min=10.3km az=5.7*

IDC ***15*** *20:39:08.3±2.5, 25.°87S×177.°50W, h141km±23km, mb3.9/5, mb1 4.2/7, mb1mx3.6/33, mbtmp4.5/7, Error ellipse: s-maj=29.0km s-min=23.2km az=121.0*

ISC 15 20:39:09.5±0.9, 25.°94S±0.°10×177.°3W±0.°2, h161km, n13, σ1.°05/13, mb4.2/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.34**	**189**	P		**Pn**	**20 40 01.7**	**+0.1**
	152nm,0.3s,baz=270,slow=23,SNR=5.5							
RAO				S		**Sn**	**20 40 40.9**	**-1.3**
	110nm,0.3s,baz=89,slow=24,SNR=7.2							
AFI	**Afiamalu**	**13.05**	**25**	P		**Pn**	**20 42 07.9**	**-1.2**
	5.9nm,0.3s,baz=356,slow=7.8,SNR=6.5							
AFI				S		Sn	20 44 24.2	-10
	4.1nm,0.3s,baz=290,slow=18,SNR=2.8							
URZ	**Urewera**	**13.16**	**200**	S		Sn	20 44 20.3	-16
	1.1nm,0.3s,baz=113,slow=22,SNR=9.0							
CTA	**Charters Tower**	**33.95**	**272**	P		**P**	**20 45 36.7**	**-1.0**
	5.2nm,0.6s,baz=118,slow=12,SNR=6.9							
ASAR	**Alice Springs**	**44.13**	**262**	P		**P**	**20 47 01.6**	**-0.7**
	1.8nm,0.6s,baz=94,slow=7.2,SNR=21							
WRA	**Warramunga Arr**	**44.72**	**267**	P		**P**	**20 47 06.2**	**-0.7**
	3.0nm,0.4s,baz=105,slow=7.8,SNR=39							
MAW	**Mawson**	**76.69**	**200**	P		**P**	**20 50 43.2**	**+0.9**
	2.8nm,0.6s,baz=134,slow=9.7,SNR=1.5							
CMAR	**Chiang Mai Arr**	**92.50**	**289**	P		**P**	**20 52 04.9**	**+2.1**
	0.3nm,0.7s,baz=137,slow=3.2,SNR=4.2							
BVAR	**Borovoye Array**	**123.57**	**318**	PKP		**PKPdf**	**20 57 48.0**	**+0.6**
	0.6nm,0.6s,baz=111,slow=1.0,SNR=6.2							
NB2	**NORSAR Subarra**	**144.43**	**353**	PKP		**PKPdf**	**20 58 26.0**	**0.0**
	comp=Z,1.4nm,0.6s,baz=13,slow=3.5							
NOA	**NORSAR Array B**	**144.43**	**353**	PKP		**PKPdf**	**20 58 26.1**	**0.0**
	comp=Z,3.5nm,0.9s,baz=20,slow=2.5,SNR=11							
AKASG	**Malin Array Be**	**147.99**	**328**	PKPbc		**PKPbc**	**20 58 35.9**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=43,slow=3.7,SNR=12							
BRTR	**Keskin Array B**	**150.74**	**306**	PKPbc		**PKPbc**	**20 58 43.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=143,slow=5.0,SNR=6.1							

ISCJB ***15*** *20:44:24.1±0.8, 42.°50N±0.°06×144.°32E±0.°05, h68km±5km, mb3.3/4, Error ellipse: s-maj=9.9km s-min=5.3km az=164.3*

JMA ***15*** *20:44:24.6±0.1, 42.°55N×144.°26E, h74km±1km, M3.2*

SKHL ***15*** *20:44:26.3±0.6, 42.°31N×144.°78E, h35km, mb5.3/1*

IDC ***15*** *20:44:33.4±1.7, 45.°17N×143.°48E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/38, mbtmp3.4/4, Error ellipse: s-maj=41.3km s-min=23.4km az=118.0*

ISC 15 20:44:24.9±1.2, 42.°47N±0.°08×144.°33E±0.°04, h63km±8km, n20, σ0.°97/33, mb3.4/4, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.56**	**320**	*i*P		**Pn**	**20 44 37.9**	**+0.2**
JOB				*e*S		**Sn**	**20 44 47.3**	**+0.2**
JAK	**Akkeshi**	**0.59**	**28**	*i*P		**Pn**	**20 44 38.2**	**+0.1**
JAK				*e*S		**Sn**	**20 44 48.5**	**+0.9**
JCH	**Churui**	**0.72**	**281**	*i*P		**Pn**	**20 44 39.7**	**+0.1**
JCH				*e*S		**Sn**	**20 44 49.9**	**-0.5**
JAR	**Ashorobuto**	**0.92**	**334**	*i*P		**Pn**	**20 44 41.5**	**-0.5**
JAR				*e*S		**Sn**	**20 44 53.6**	**-1.1**
JNK	**Nakash**	**1.15**	**14**	P		**Pn**	**20 44 44.5**	**-0.5**
JNK				*e*S		**Sn**	**20 44 59.0**	**-1.0**
JNBK	**Urakawa-nobuka**	**1.18**	**261**	P		**Pn**	**20 44 45.1**	**-0.3**
NEM2	**Nemuro 2**	**1.37**	**49**	P		**Pn**	**20 44 47.4**	**-0.5**
NEM2				*e*S		**Sn**	**20 45 03.4**	**-1.8**
JFR	**Furan**	**1.45**	**299**	P		**Pn**	**20 44 48.3**	**-0.7**
JFR				*e*S		**Sn**	**20 45 05.6**	**-1.5**
JBT2	**Biratori 2**	**1.48**	**283**	P		**Pn**	**20 44 48.3**	**-1.1**
JTKR	**Abashiri--Toko**	**1.53**	**349**	P		**Pn**	**20 44 49.9**	**-0.1**
JTKR				*e*S		**Sn**	**20 45 08.7**	**-0.2**
JRA	**Rausu**	**1.57**	**21**	P		**Pn**	**20 44 50.6**	**-0.1**
JRA				*e*S		**Sn**	**20 45 09.7**	**-0.4**
JMP	**Maruseppu**	**1.69**	**336**	P		**Pn**	**20 44 51.5**	**-0.7**
JMP				*e*S		**Sn**	**20 45 11.7**	**-1.2**
JKK2	**Kamakawa 2**	**1.81**	**321**	*e*S		**Sn**	**20 45 14.9**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.92**	**35**	*e*P		**Pn**	**20 44 55.8**	**+0.5**
YUK				AMB	AMB	20 44 57.3		
	309nm,0.1s							
YUK				*e*S		**Sn**	**20 45 18.4**	**-0.1**
YUK				A	A	20 45 18.8		
	1μm,0.6s							
YUK				A	A	20 45 18.8		
	628nm,0.6s							
ASAJ	**Asahikawa**	**2.07**	**323**	Pn		**Pn**	**20 44 57.9**	**+0.5**
	2.2nm,0.3s,baz=210,slow=25,SNR=12							
ASAJ				Sn		**Sn**	**20 45 21.9**	**-0.2**
	3.5nm,0.3s,baz=148,slow=17,SNR=4.8			

HOJ	**Hope**	**4.34**	**269**	*i* P	**Pn**	**21 05 53.6**	**0.0**
HOJ	**Hope**	**4.34**	**269**	*i* P	**Pn**	**21 05 53.6**	**0.0**
STH	**Stony Hill**	**4.39**	**270**	*i* P	**Pn**	**21 05 52.9**	**-1.4**
STH				*i* S	**Sb**	**21 06 59.5**	**+1.6**
STH	**Stony Hill**	**4.39**	**270**	*i* P	**Pn**	**21 05 52.9**	**-1.4**
STH				*i* S	**Sb**	**21 06 59.5**	**+1.6**
PCJ	**Portland Cotta**	**4.75**	**266**	⇑*i* P	**Pn**	**21 06 00.8**	**+1.7**
PCJ	**Portland Cotta**	**4.75**	**266**	⇑*i* P	**Pn**	**21 06 00.8**	**+1.7**
MPR	**Mayaguez**	**4.80**	**89**	*e*Pn	**Pn**	**21 06 01.9**	**+2.1**
MPR				*e*Sn	Sn	21 06 48.3	-7.3
AGP	**Aguadilla**	**4.80**	**86**	*e*Pn	Pn	21 06 05.2	+5.3
CRPR	**Cabo Rojo, PR**	**4.84**	**91**	*e*Pn	**Pn**	**21 06 02.2**	**+1.9**
LSP	**Las Mesas**	**4.85**	**89**	*e*Pn	**Pn**	**21 06 02.6**	**+2.0**
CVJ	**Coleyville**	**5.08**	**271**	⇑*i* P	**Pn**	**21 06 03.2**	**-0.6**
CVJ	**Coleyville**	**5.08**	**271**	⇑*i* P	**Pn**	**21 06 03.2**	**-0.6**
MTDJ	**Mount Denham**	**5.08**	**271**	*e*Pn	**Pn**	**21 06 02.6**	**-1.2**
AOPR	**Arecibo Observ**	**5.17**	**87**	*e*Pn	**Pn**	**21 06 07.4**	**+2.4**
OBIP	**Obispado Ponce**	**5.31**	**90**	*e*Pn	**Pn**	**21 06 07.9**	**+1.0**
OBIP				*e*Sn	**Sn**	**21 07 06.4**	**-1.9**
CELP	**Cerrillos**	**5.34**	**90**	*e*Pn	**Pn**	**21 06 08.4**	**+1.1**
CELP				*e*Sn	**Sn**	**21 07 11.5**	**+2.6**
CPD	**Cerro la Pandu**	**5.97**	**90**	*e*Pn	**Pn**	**21 06 18.1**	**+2.1**
CPD				*e*Sn	Sn	21 07 19.4	-5.1
CBYP	**Canovanas**	**6.02**	**88**	*e*Pn	**Pn**	**21 06 18.2**	**+1.5**
CBYP				*e*Sn	**Sn**	**21 07 22.2**	**-3.6**
HUMP	**Col San Antoni**	**6.03**	**89**	*e*Pn	**Pn**	**21 06 18.8**	**+2.0**
HUMP				*e*Sn	**Sn**	**21 07 24.5**	**-1.4**
MTP	**Monte Pirata**	**6.31**	**90**	*e*Pn	**Pn**	**21 06 22.6**	**+1.9**
MTP				*e*Sn	**Sn**	**21 07 28.5**	**-4.4**
CDVI	**St. Croix**	**7.08**	**92**	*e*Pn	**Pn**	**21 06 30.9**	**-0.3**
CDVI				*e*Sn	**Sn**	**21 07 48.9**	**-2.9**
SABA	**Saba**	**8.54**	**92**	*e*Pn	**Pn**	**21 06 53.6**	**+2.4**
SDV	**Santo Domingo**	**9.35**	**170**	*e*Pn	**Pn**	**21 07 00.2**	**-2.4**
SDV				*e*Sn	Sn	21 08 40.6	-7.4
MLG	**Mont-d'or**	**10.24**	**100**	*e*P	**Pn**	**21 07 16.7**	**+2.1**
SSG	**Sans Toucher**	**10.26**	**100**	*e*P	**Pn**	**21 07 17.5**	**+2.5**
ECG	**Echelle**	**10.29**	**100**	*e*P	**Pn**	**21 07 17.9**	**+2.4**
PHG	**Guadaloupe-2**	**10.31**	**100**	*e*P	**Pn**	**21 07 18.5**	**+2.8**
SEG	**Port Louis**	**10.36**	**98**	*e*P	**Pn**	**21 07 17.9**	**+1.7**
ROSC	**El Rosal**	**13.40**	**189**	Pn	**Pn**	**21 07 59.0**	**+0.9**
ROSC	**El Rosal**	**13.40**	**189**	Pn	**Pn**	**21 07 59.0**	**+0.9**
	1.6nm,0.3s,baz=92,slow=24,SNR=4.6						
ROSC				LR	LR	21 13 23.2	
	comp=Z,176nm,19.8s,baz=85,slow=38						
JTS	**JuntasAbangare**	**14.63**	**239**	Pn	**Pn**	**21 08 14.3**	**-0.5**
JTS	**JuntasAbangare**	**14.63**	**239**	Pn	**Pn**	**21 08 14.3**	**-0.5**
	0.2nm,0.3s,baz=90,slow=10,SNR=1.8						
JTS				LR	LR	21 14 01.3	
	comp=Z,181nm,18.5s,baz=35,slow=38						
OTAV	**Otavalo**	**18.85**	**200**	*e*P	**P**	**21 09 08.8**	**+0.5**
	48nm,1.4s						
URVA	**University of**	**19.89**	**347**	*e*P	**P**	**21 09 19.8**	**+0.8**
JSRW	**J. Sargeant Re**	**20.08**	**347**	*e*P	**P**	**21 09 21.9**	**+0.8**
TKL	**Tuckaleechee C**	**20.22**	**332**	P	Pn	21 09 24.1	-0.6
TKL	**Tuckaleechee C**	**20.22**	**332**	P	Pn	21 09 24.1	-0.6
	13nm,0.9s,baz=149,slow=13,SNR=5.4						
TKL				LR	LR	21 17 25.1	
	comp=Z,320nm,19.5s,baz=156,slow=38						
BLA	**Blacksburg**	**20.30**	**341**	*e*P	Pn	21 09 25.2	-0.4
	48nm,0.9s						
TZTN	**Tazewell**	**20.87**	**334**	*e*P	**P**	**21 09 30.9**	**+1.2**
	26nm,0.9s						
SDMD	**Soldier's Deli**	**21.55**	**350**	*e*P	**P**	**21 09 38.3**	**+1.3**
	27nm,1.0s						
MVL	**Millersville**	**22.05**	**351**	*e*P	**P**	**21 09 44.4**	**+2.0**
	17nm,1.0s						
PTGA	**Pitinga**	**22.30**	**146**	P	**P**	**21 09 46.2**	**+0.9**
PTGA	**Pitinga**	**22.30**	**146**	P	**P**	**21 09 46.2**	**+0.9**
	4.1nm,0.8s,baz=1.6,slow=13,SNR=5.0						
PTGA				LR	LR	21 20 37.5	
	comp=Z,133nm,18.1s,baz=343,slow=42						
ACSO	**Alum Creek Sta**	**23.88**	**339**	P	**P**	**21 09 59.7**	**-1.5**
SIUC	**Southern Illin**	**24.53**	**326**	*e*P	**P**	**21 10 08.1**	**+0.9**
	25nm,0.8s						
ATAH	**Atahualpa**	**25.88**	**194**	P	**P**	**21 10 21.6**	**+1.5**
ATAH	**Atahualpa**	**25.88**	**194**	P	**P**	**21 10 21.6**	**+1.5**
	4.3nm,0.7s,baz=62,slow=9.5,SNR=3.6						
ATAH				LR	LR	21 22 04.8	
	comp=Z,212nm,21.0s,baz=359,slow=40						
SADO	**Sadowa**	**27.15**	**349**	LR	LR	21 20 38.7	
	comp=Z,185nm,21.5s,baz=192,slow=35						
SAML	**Samuel**	**28.38**	**161**	*e*P	P	21 10 39.5	-2.6
	4.8nm,0.9s						
JFWS	**Jewell Farm**	**29.03**	**332**	*e*P	**P**	**21 10 47.4**	**-0.3**
	9.1nm,0.8s						
TXAR	**Lajitas Array**	**30.79**	**297**	P	**P**	**21 11 03.2**	**-0.4**
TXAR	**Lajitas Array**	**30.79**	**297**	P	**P**	**21 11 03.2**	**-0.4**
	0.6nm,0.7s,baz=224,slow=41,SNR=3.0						
MNTX	**Cornudas Mount**	**32.83**	**301**	*e*P	**P**	**21 11 21.7**	**+0.2**
	6.2nm,1.1s						
LPAZ	**La Paz**	**34.47**	**173**	LR	LR	21 27 04.7	
	comp=Z,167nm,18.4s,baz=349,slow=39						
BNM	**Barren Site**	**34.56**	**304**	*e*P	**P**	**21 11 36.6**	**-0.1**
SDCO	**Great Sand Dun**	**35.03**	**311**	*e*P	**P**	**21 11 40.1**	**-0.7**
	7.1nm,1.2s						
LAZ	**Ladron**	**35.05**	**304**	*e*P	**P**	**21 11 40.4**	**-0.4**
SMCO	**Snowmass**	**36.68**	**312**	*e*P	**P**	**21 11 55.1**	**+0.1**
	24nm,1.5s						
SCHQ	**Schefferville**	**36.83**	**5**	P	**P**	**21 11 55.0**	**-0.6**
SCHQ	**Schefferville**	**36.83**	**5**	P	**P**	**21 11 55.0**	**-0.6**
	5.4nm,0.7s,baz=61,slow=18,SNR=4.8						
SCHQ				LR	LR	21 26 27.7	
	comp=Z,138nm,19.5s,baz=253,slow=35						
ULM	**Lac du Bonnet**	**37.19**	**335**	P	**P**	**21 11 58.1**	**-0.6**
ULM	**Lac du Bonnet**	**37.19**	**335**	P	**P**	**21 11 58.1**	**-0.6**
	2.2nm,0.7s,baz=144,slow=7.3,SNR=4.1						
ULM				LR	LR	21 28 15.9	
	comp=Z,140nm,18.8s,baz=111,slow=38						
PV10	**Paradox Valley**	**37.85**	**310**	*e*P	**P**	**21 12 03.8**	**-1.0**
PDAR	**Pinedale Array**	**39.99**	**316**	PcP	**PcP**	**21 14 27.2**	**-0.6**
PDAR	**Pinedale Array**	**39.99**	**316**	PcP	**PcP**	**21 14 27.2**	**-0.6**
	1.2nm,0.9s,baz=101,slow=7.7,SNR=1.9						
PDAR				LR	LR	21 30 10.6	
	comp=Z,164nm,18.8s,baz=117,slow=38						
BDFB	**Brasilia**	**41.18**	**143**	P	**P**	**21 12 34.9**	**+2.3**
BDFB	**Brasilia**	**41.18**	**143**	P	**P**	**21 12 34.9**	**+2.3**
	1.7nm,0.5s,baz=304,slow=11,SNR=2.4						
BDFB				LR	LR	21 30 30.2	
	comp=Z,159nm,18.4s,baz=345,slow=37						
NVAR	**Mina Array Bea**	**44.80**	**307**	P	**P**	**21 13 01.2**	**-0.7**
NVAR				PcP	**PcP**	**21 14 44.0**	**+0.1**
NVAR	**Mina Array Bea**	**44.80**	**307**	P	**P**	**21 13 01.2**	**-0.7**
	0.5nm,0.7s,baz=91,slow=7.3,SNR=3.9						
NVAR				PcP	**PcP**	**21 14 44.0**	**+0.1**
	0.9nm,0.8s,baz=141,slow=5.0,SNR=4.4						
NVAR				LR	LR	21 33 51.9	
	comp=Z,83nm,19.6s,baz=202,slow=39						
CPUP	**Villa Florida**	**46.53**	**162**	LR	LR	21 34 23.9	
	comp=Z,141nm,18.2s,baz=326,slow=38						
YKA	**Yellowknife Ar**	**53.10**	**337**	P	**P**	**21 14 04.1**	**-0.8**
YKA	**Yellowknife Ar**	**53.10**	**337**	P	**P**	**21 14 04.1**	**-0.8**
	1.9nm,0.8s,baz=124,slow=7.4,SNR=5.6						
YKB5	**Yellowknife Ar**	**53.10**	**337**	*e*P	**P**	**21 14 04.0**	**-0.9**
SUMG	**Summit**	**57.74**	**11**	*i* P	**P**	**21 14 39.9**	**+1.2**
	5.9nm,0.8s						
SUMG	**Summit**	**57.74**	**11**	*e*P	**P**	**21 14 37.2**	**-1.5**
	39nm,1.6s						
PLCA	**Paso Flores**	**58.62**	**179**	P	**P**	**21 14 45.9**	**+1.1**
PLCA	**Paso Flores**	**58.62**	**179**	P	**P**	**21 14 45.9**	**+1.1**
	2.4nm,1.0s,baz=356,slow=15,SNR=2.9						
PLCA				LR	LR	21 39 35.3	
	comp=Z,43nm,20.0s,baz=48,slow=36						
ESDC	**Sonseca Array**	**62.01**	**54**	P	**P**	**21 15 08.3**	**+0.1**
ESDC	**Sonseca Array**	**62.01**	**54**	P	**P**	**21 15 08.3**	**+0.1**
	0.2nm,0.3s,baz=281,slow=7.4,SNR=2.7						
IL1	**Eielson Array**	**67.19**	**333**	*e*P	**P**	**21 15 41.5**	**-0.1**
ILAR	**Eielson Array**	**67.19**	**333**	P	**P**	**21 15 40.8**	**-0.8**
ILAR	**Eielson Array**	**67.19**	**333**	P	**P**	**21 15 40.8**	**-0.8**
	1.2nm,0.9s,baz=105,slow=4.9,SNR=8.6						
TOA0	**Torodi Ar. Sit**	**70.91**	**82**	*e*P	**P**	**21 16 04.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**70.91**	**82**	P	**P**	**21 16 04.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**70.91**	**82**	P	**P**	**21 16 04.5**	**-1.0**
	0.9nm,0.9s,baz=281,slow=4.2,SNR=3.6						
TORD				LR	LR	21 44 15.7	
	comp=Z,40nm,20.2s,baz=250,slow=33						
NB2	**NORSAR Subarra**	**71.10**	**31**	P	**P**	**21 16 06.7**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=274,slow=6.2						
NOA	**NORSAR Array B**	**71.10**	**31**	P	**P**	**21 16 07.0**	**+1.1**
NOA	**NORSAR Array B**	**71.10**	**31**	P	**P**	**21 16 07.0**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=274,slow=6.2,SNR=9.0						
NOA				LR	LR	21 43 32.3	
	comp=Z,25nm,20.4s,baz=245,slow=33						
DAVOX	**Davos/Dischmat**	**71.62**	**46**	P	**P**	**21 16 11.1**	**+1.6**
DAVOX	**Davos/Dischmat**	**71.62**	**46**	P	**P**	**21 16 11.1**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=310,slow=16,SNR=2.5						
DAVOX				LR	LR	21 45 13.9	
	comp=Z,70nm,18.1s,baz=262,slow=34						
SPITS	**Spitsbergen Ar**	**72.05**	**13**	P	**P**	**21 16 11.4**	**+0.1**
SPITS	**Spitsbergen Ar**	**72.05**	**13**	P	**P**	**21 16 11.4**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=251,slow=4.4,SNR=5.7						
BRG	**Berggiesshubel**	**73.72**	**41**	*e*P	**P**	**21 16 21.6**	**0.0**
	comp=Z,8.5nm,1.4s						
GEC2	**GERESS Array S**	**73.88**	**43**	*e*P	**P**	**21 16 20.7**	**-2.0**
GERES	**GERESS Array B**	**73.88**	**43**	P	**P**	**21 16 23.2**	**+0.4**
GERES	**GERESS Array B**	**73.88**	**43**	P	**P**	**21 16 23.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=274,slow=5.2,SNR=13						
GERES				LR	LR	21 46 47.4	
	comp=Z,63nm,18.7s,baz=266,slow=34						
VRAC	**Vranov**	**75.67**	**42**	LR	LR	21 46 41.6	
	comp=Z,102nm,19.4s,baz=352,slow=33						
ARCES	**ARCESS Array B**	**75.80**	**21**	P	**P**	**21 16 33.5**	**+0.1**
ARCES	**ARCESS Array B**	**75.80**	**21**	P	**P**	**21 16 33.5**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=298,slow=5.6,SNR=8.3						
ARCES				LR	LR	21 44 37.6	
	comp=Z,49nm,21.7s,baz=356,slow=32						
FINES	**FINESS Array B**	**78.11**	**29**	P	**P**	**21 16 46.9**	**+0.5**
FINES	**FINESS Array B**	**78.11**	**29**	P	**P**	**21 16 46.9**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=245,slow=4.0,SNR=6.1						
FINES				LR	LR	21 48 23.5	
	comp=Z,51nm,19.4s,baz=264,slow=34						
BUR04	**Bucovina Ar. S**	**81.64**	**43**	*e*P	P	21 17 03.4	-2.7
MLR	**Muntele Rosu**	**82.78**	**45**	P	**P**	**21 17 13.6**	**+1.4**
MLR	**Muntele Rosu**	**82.78**	**45**	P	**P**	**21 17 13.6**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=316,slow=4.7,SNR=8.4						
AK11	**Malin Array Si**	**83.11**	**39**	*e*P	P	21 17 11.0	-2.5
AKASG	**Malin Array Be**	**83.14**	**39**	P	**P**	**21 17 13.3**	**-0.3**
AKASG	**Malin Array Be**	**83.14**	**39**	P	**P**	**21 17 13.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=286,slow=3.6,SNR=1.4						
BRTR	**Keskin Array B**	**90.16**	**48**	P	**P**	**21 17 48.8**	**+0.4**
BRTR	**Keskin Array B**	**90.16**	**48**	P	**P**	**21 17 48.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=228,slow=3.1,SNR=3.6						
BRTR				LR	LR	21 58 05.6	
	comp=Z,16nm,18.0s,baz=316,slow=36						
SEY	**Seymchan**	**91.96**	**341**	P	**P**	**21 17 56.6**	**+0.4**
SEY	**Seymchan**	**91.96**	**341**	P	**P**	**21 17 56.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=36,slow=22,SNR=3.6						
MMAI	**Mount Meron Ar**	**94.21**	**53**	LR	LR	21 58 24.9	
	comp=Z,12nm,19.4s,baz=165,slow=34						
KSH	**Kashi**	**115.36**	**27**	*e*PKP	**PKPdf**	**21 23 29.1**	**-0.9**
KSH				*e*PP	**PP**	**21 24 34.9**	**+5.0**
KSH				*e*SKS	**SKSdf**	**21 30 36.0**	**-6.6**
KSH				*e*SKKS	SKKSac	21 31 24.1	-8.8
KSH				*e*SS	**SS**	**21 40 28.0**	**+0.4**
WMQ	**Urumqi**	**115.62**	**16**	PKP	**PKPdf**	**21 23 29.0**	**-1.3**
WMQ				LR	LR		
	comp=Z,39nm,20.8s						
HHC	**Hu-ho-hao-te**	**121.18**	**357**	*e*PKP	**PKPdf**	**21 23 38.3**	**-2.8**
HHC				PP	**PP**	**21 25 11.9**	**+2.1**
HHC				PKS	PKSdf	21 27 08.8	-9.1
HHC				SKS	**SKSdf**	**21 30 50.8**	**-2.8**
HHC				SKKS	SKKSac	21 31 59.8	-11
HHC				SS	**SS**	**21 41 43.1**	**+0.9**
HHC				LR	LR		
	comp=Z,240nm,14.9s						
BJI	**Beijing**	**121.57**	**352**	PKP	**PKPdf**	**21 23 40.1**	**-1.6**
NJ2	**Nanjing**	**128.96**	**348**	*e*PKP	**PKPdf**	**21 23 53.3**	**-2.8**
KMI	**Kunming**	**136.69**	**7**	PKP	**PKPdf**	**21 24 09.6**	**-1.6**
CMAR	**Chiang Mai Arr**	**142.57**	**14**	PKP	**PKPdf**	**21 24 20.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**142.57**	**14**	PKP	**PKPdf**	**21 24 20.2**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=335,slow=2.9,SNR=6.6						
CM01	**Chiang Mai Ar**	**142.61**	**14**	*e*PKPdf	**PKPdf**	**21 24 19.0**	**-2.8**
STKA	**Stephens Creek**	**146.63**	**239**	PKPbc	**PKPdf**	**21 24 29.4**	**+1.1**
STKA	**Stephens Creek**	**146.63**	**239**	PKPbc	**PKPdf**	**21 24 29.4**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=202,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**154.87**	**262**	PKP	**PKPdf**	**21 24 39.3**	**-2.1**
WRA				PKPbc	**PKPbc**	**21 24 47.6**	**-2.4**
WRA	**Warramunga Arr**	**154.87**	**262**	PKP	**PKPdf**	**21 24 39.3**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=86,slow=2.2,SNR=3.4						
WRA				PKPbc	**PKPbc**	**21 24 47.6**	**-2.4**
	comp=Z,2.4nm,1.0s,baz=82,slow=1.7,SNR=7.2						
AS01	**Alice Springs**	**155.00**	**253**	*e*PKPdf	**PKPdf**	**21 24 38.9**	**-2.6**
ASAR	**Alice Springs**	**155.04**	**253**	PKPbc		21 24 48.3	
ASAR	**Alice Springs**	**155.04**	**253**	PKPbc		21 24 48.3	
	comp=Z,0.9nm,0.8s,baz=105,slow=3.0,SNR=6.3						

IDC ***15*** *21:19:15.5±2.1, 6.°62S×129.°51E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.3/27, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=113.2km s-min=31.6km az=68.0*

ISC 15 21:19:17.5±1.1, 6.°68S±0.°07×129.°8E±0.°1, h10km, n8, σ1°66/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.49**	**34**	P	**Sb**	**21 21 31.2**	**+0.5**
	baz=7.0,SNR=3.6						
SOEI	**Soe**	**6.23**	**240**	P	**Pn**	**21 20 50.9**	**+1.2**
	baz=4.3,SNR=5.3						
SOEI				S	Sn	21 21 46.4	-15
	baz=4.3,SNR=3.9						
MTN	**Manton Dam**	**6.27**	**168**	P	Pn	21 20 56.9	+6.8
	baz=4.7,SNR=62						
MTN				S	**Sn**	**21 21 59.3**	**-2.6**
	baz=4.7,SNR=11						
KDU	**Kakadu**	**6.54**	**156**	P	Pb	21 21 02.9	-8.6
	baz=5.4,SNR=85						
KDU				S	**Sn**	**21 22 09.7**	**+1.1**
	baz=5.4,SNR=5.5						
KNRA	**Kununurra**	**8.99**	**186**	P	**Pn**	**21 21 28.3**	**+0.8**
	baz=6.8,SNR=12						
KNRA				S	Sn	21 22 57.6	-11
	baz=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**13.91**	**162**	Pn	**Pn**	**21 22 35.9**	**+1.0**
	0.5nm,0.3s,baz=340,slow=12,SNR=29						
WRA				Sn	Sn	21 24 58.3	-11
	0.6nm,0.3s,baz=331,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**17.35**	**167**	P	**P**	**21 23 20.8**	**-0.6**
	0.1nm,0.3s,baz=338,slow=9.1,SNR=11						
ASAR				S	Sn	21 26 18.1	-15
	0.2nm,0.3s,baz=357,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**21 30 14.4**	**-1.4**
	0.3nm,0.7s,baz=117,slow=7.6,SNR=5.6						

IDC 15 21:52:34.9±2.0, 4.°01N×124.°48E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/42, mbtmp3.2/3, Error ellipse: s-maj=204.4km s-min=25.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.70**	**158**	P	P	21 58 07.4	+0.3
	0.2nm,0.3s,baz=338,slow=9.7,SNR=7.1						
ASAR	**Alice Springs**	**29.00**	**162**	P	P	21 58 36.3	-0.4
	0.1nm,0.3s,baz=336,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**56.06**	**326**	P	P	22 02 15.7	-0.1
	0.1nm,0.4s,baz=115,slow=8.4,SNR=3.7						

NNC ***15*** *22:03:33.2±2.8, 36.°55N×70.°52E, h128km±50km, mb2.7, mpv3.4, Error ellipse: s-maj=23.5km s-min=22.0km az=165.0*

IDC ***15*** *22:03:55.4±17.0, 38.°04N×70.°68E, h237km±119km, mb3.3/1, mb1 3.0/5, mb1mx2.6/45, mbtmp3.6/5, Error ellipse: s-maj=178.4km s-min=46.0km az=178.0*

ISC 15 22:03:37.6±2.7, 36.°8N±0.°2×70.°6E±0.°1, h204km, n11, σ1°88/13, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.32**	**359**	P	**Pn**	**22 05 07.2**	**-1.8**
	0.7nm,0.3s,baz=174,slow=11,SNR=33						
KK31				S	**S**	**22 06 20.7**	**-0.5**
	1.7nm,0.6s,baz=193,slow=24,SNR=6.0						
AAK	**Ala-Archa**	**6.57**	**26**	⇓P	**Pn**	**22 05 11.1**	**-1.3**
	1.9nm,0.6s						
AAK				⇑S	**S**	**22 06 28.5**	**+1.2**
	3.7nm,0.8s						
TKM2	**Tokmak 2**	**7.23**	**30**	⇑P	**Pn**	**22 05 19.2**	**-1.9**
	1.5nm,0.7s						
TKM2				⇑S	**S**	**22 06 42.7**	**-0.4**
	1.4nm,0.8s						
MK31	**Makanchi Array**	**13.26**	**37**	⇓Pn	**P**	**22 06 41.4**	**+0.6**
	1.8nm,1.2s,baz=214,slow=10.0,SNR=6.0						
MK31				⇑Lg	Lg	22 08 02.3	
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**13.26**	**37**	P	**P**	**22 06 42.7**	**+1.9**
	0.1nm,0.3s,baz=211,slow=8.8,SNR=5.3						
AB31	**Akbulak array**	**14.69**	**331**	P	**Pn**	**22 06 56.5**	**+0.8**
	0.2nm,0.3s,baz=171,slow=11,SNR=17						
BVA0	**Borovoye Array**	**16.25**	**360**	P	**Pn**	**22 07 17.3**	**+2.8**
	baz=162,slow=10,SNR=7.7						
BVAR	**Borovoye Array**	**16.25**	**360**	P	**Pn**	**22 07 17.3**	**+2.8**
	0.2nm,0.3s,baz=163,slow=11,SNR=8.8						
AKTO	**Aktyubinsk**	**16.38**	**330**	P	**Pn**	**22 07 17.9**	**+1.8**
	0.2nm,0.3s,baz=135,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**Pn**	**22 07 55.0**	**-1.4**
	0.4nm,0.3s,baz=218,slow=11,SNR=14						
NOA	**NORSAR Array B**	**43.97**	**323**	P	P	22 11 31.3	+7.0
	1.7nm,1.0s,baz=90,slow=11,SNR=2.5						

JMA 15 22:08:20.3±0.1, 38.°54N×141.°72E, h53km±1km, M3.5, 1C-7D Broadband fault plane solution: P waves. NP1:ϕ6 7.00000°, δ68.00000°, λ87.00000°. NP2: ϕ6 195.00000°, δ22.00000°, λ98.00000°. Principal axes: T Plg67.0000°, Azm271.0000°; N Plg3.0000°, Azm8.0000°; P Plg23.0000°, Azm99.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.30**	**254**	⇓P	Pn	22 08 29.8	+0.1
JIO				S	Sn	22 08 36.1	-0.4
OFUJ	**Ofunato**	**0.54**	**356**	⇑P	Pn	22 08 32.3	+0.1
OFUJ				*e*S	Sn	22 08 40.6	-0.3
JMK	**Ichinoseki**	**0.57**	**317**	⇓P	Pn	22 08 32.8	+0.3
JMK				S	Sn	22 08 41.6	+0.2
JOU	**Okura**	**0.85**	**258**	⇓P	Pn	22 08 36.0	-0.1
JOU				S	Sn	22 08 47.4	-0.3
JOM	**Ohasama**	**0.99**	**340**	⇓P	Pn	22 08 38.2	+0.2
JOM				S	Sn	22 08 50.9	-0.1
JMM	**Marumori**	**0.99**	**228**	⇓P	Pn	22 08 37.4	-0.6
JMM				S	Sn	22 08 50.3	-0.7
JYK	**Kaneyama**	**1.13**	**290**	⇓P	Pn	22 08 40.0	+0.2
JRG	**Rokugo**	**1.20**	**316**	P	Pn	22 08 41.2	+0.4
JRG				S	Sn	22 08 56.4	+0.3
JYS	**Shirataka**	**1.34**	**257**	⇓P	Pn	22 08 42.9	+0.2
JYS				S	Sn	22 09 00.0	+0.6
JFK	**Kawauchi**	**1.35**	**210**	P	Pn	22 08 42.6	-0.3
JFK				S	Sn	22 08 58.8	-0.9

IDC 15 22:19:50.0±5.5, 3.°53S×149.°07E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/33, mbtmp3.6/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/29 Error ellipse: s-maj=243.4km s-min=47.9km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.14**	**198**	LR	LR	22 24 05.1	
	comp=Z,213nm,18.3s,baz=358,slow=42						
HNR	**Honiara**	**12.29**	**119**	LR	LR	22 26 58.1	
	comp=Z,87nm,19.7s,baz=290,slow=35						
WRA	**Warramunga Arr**	**21.74**	**220**	P	P	22 24 44.2	+1.0
	1.9nm,0.8s,baz=42,slow=10,SNR=17						
WRA				LR	LR	22 33 06.3	
	comp=Z,49nm,20.4s,baz=185,slow=37						
ASAR	**Alice Springs**	**24.81**	**215**	P	P	22 25 13.2	-0.8
	1.3nm,0.8s,baz=46,slow=8.1,SNR=10						
DZM	**Mont Dzumac**	**24.98**	**139**

AGPR				*e*S	Sg	22 42 29.7	-1.6
AOPR	**Arecibo Observ**	**0.72**	**179**⇑	*e*P	Pg	22 42 21.7	-1.3
AOPR	**Arecibo Observ**	**0.72**	**179**⇑	*e*P	Pg	22 42 21.7	-1.3
AOPR				*e*S	Sg	22 42 31.9	-0.6
LSP	**Las Mesas**	**0.94**	**199**⇑	*e*P	Pg	22 42 24.6	-2.6
LSP	**Las Mesas**	**0.94**	**199**⇑	*e*P	Pg	22 42 24.6	-2.6
IDE	**Isla Desecheo**	**0.95**	**225**⇑	*e*P	Pg	22 42 24.7	-2.9
IDE	**Isla Desecheo**	**0.95**	**225**⇑	*e*P	Pg	22 42 24.7	-2.9
IDE				*e*S	Sg	22 42 38.1	-1.9
CELP	**Cerrillos**	**1.00**	**170**⇑	*e*P	Pg	22 42 26.2	-2.3
CELP				*e*S	Sg	22 42 39.7	-1.8
CELP	**Cerrillos**	**1.00**	**170**⇑	*e*P	Pg	22 42 26.2	-2.3
CELP				*e*S	Sg	22 42 39.7	-1.8
OBIP	**Obispado Ponce**	**1.03**	**172**⇑	*e*P	Pg	22 42 26.6	-2.4
OBIP	**Obispado Ponce**	**1.03**	**172**⇑	*e*P	Pg	22 42 26.6	-2.4
OBIP				*e*S	Sg	22 42 39.7	-2.6
GBPR	**Guanica, Bosqu**	**1.09**	**186**⇓	*e*P	Pg	22 42 27.6	-2.6
GBPR	**Guanica, Bosqu**	**1.09**	**186**⇓	*e*P	Pg	22 42 27.6	-2.6
GBPR				*e*S	Sg	22 42 41.9	-2.5
CRPR	**Cabo Rojo, PR**	**1.10**	**197**⇓	*e*P	Pg	22 42 27.9	-2.5
CRPR	**Cabo Rojo, PR**	**1.10**	**197**⇓	*e*P	Pg	22 42 27.9	-2.5
CRPR				*e*S	Sg	22 42 41.9	-2.9
SJG	**San Juan**	**1.11**	**148**⇓	*e*P	Pg	22 42 27.5	-3.1
SJG				*e*S	Sg	22 42 42.3	-2.8
SJG	**San Juan**	**1.11**	**148**⇓	*e*P	Pg	22 42 27.5	-3.1
SJG				*e*S	Sg	22 42 42.3	-2.8
CBYP	**Canovanas**	**1.17**	**132**⇓	*e*P	Pb	22 42 28.3	-3.3
CBYP	**Canovanas**	**1.17**	**132**⇓	*e*P	Pb	22 42 28.3	-3.3
CBYP				*e*S	Sb	22 42 43.2	-3.7
HUMP	**Col San Antoni**	**1.26**	**137**⇑	*e*P	Pn	22 42 29.4	-3.6
HUMP	**Col San Antoni**	**1.26**	**137**⇑	*e*P	Pn	22 42 29.4	-3.6
HUMP				*e*S	Sb	22 42 45.9	-3.6
CPD	**Cerro la Pandu**	**1.30**	**142**⇑	*e*P	Pn	22 42 30.9	-2.7
CPD	**Cerro la Pandu**	**1.30**	**142**⇑	*e*P	Pn	22 42 30.9	-2.7
CPD				*e*S	Sb	22 42 47.3	-3.5
MTP	**Monte Pirata**	**1.50**	**130**⇓	*e*P	Pn	22 42 32.7	-3.5
MTP	**Monte Pirata**	**1.50**	**130**⇓	*e*P	Pn	22 42 32.7	-3.5
MTP				*e*S	Sn	22 42 51.1	-4.8
PCDR	**Punta Cana, DR**	**1.63**	**251**⇓	*e*P	Pn	22 42 35.7	-2.3
PCDR	**Punta Cana, DR**	**1.63**	**251**⇓	*e*P	Pn	22 42 35.7	-2.3
PCDR				*e*S	Sn	22 42 56.5	-2.6
TBVI	**Tortola**	**2.13**	**107**⇑	*e*P	Pn	22 42 42.2	-2.8
TBVI				*e*S	Sn	22 43 08.2	-3.4
TBVI	**Tortola**	**2.13**	**107**⇑	*e*P	Pn	22 42 42.2	-2.8
TBVI				*e*S	Sn	22 43 08.2	-3.4
DR12	**Loma Pena Alta**	**2.49**	**264**⇓	*e*P	Pn	22 42 47.1	-2.9
DR12	**Loma Pena Alta**	**2.49**	**264**⇓	*e*P	Pn	22 42 47.1	-2.9

IDC ***15*** *22:49:46.2±2.2, 12°.02S×165°.78E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/31, mbtmp3.9/6, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/40, Error ellipse: s-maj=60.8km s-min=32.4km az=101.0*

ISCJB ***15*** *22:49:48.6±1.4, 12°.26S±0°.09×165°.8E±0°.3, h30km, mb3.8/5, MS4.5/2, Error ellipse: s-maj=37.5km s-min=10.5km az=167.9*

ISC 15 22:49:50.5±1.7,**12°.2S**±0°.1×**165°.8E**±0°.3,**h30**km,**n16,** σ1⇟**02**/7,**mb3.7**/5,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.38**	**294**	LR	LR	LR	22 53 45.5	
	comp=Z,70nm,18.5s,baz=114,slow=38							
DZM	**Mont Dzumac**	**9.89**	**177**	Pn	**Pn**		**22 52 11.7**	**+1.0**
	0.7nm,0.3s,baz=307,slow=20,SNR=9.7							
DZM				Sn	**Sn**		**22 53 59.6**	**-1.2**
	0.3nm,0.3s,baz=163,slow=20,SNR=3.7							
PMG	**Port Moresby**	**18.54**	**277**	LR	LR		23 02 05.8	
	comp=Z,35nm,18.3s,baz=118,slow=40							
H11S2	**WAKE ISLAND Hy**	**30.45**	**2**	T	T		23 28 03.9	
	SNR=9.3							
H11S3	**WAKE ISLAND Hy**	**30.46**	**2**	T	T		23 28 04.6	
	SNR=17							
H11S1	**WAKE ISLAND Hy**	**30.47**	**2**	T	T		23 28 04.6	
	SNR=13							
WRA	**Warramunga Arr**	**31.20**	**252**	P	**P**		**22 56 07.2**	**-0.2**
	0.4nm,0.7s,baz=84,slow=9.0,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**31.68**	**2**	T	T		23 29 20.4	
H11N3	**WAKE ISLAND Hy**	**31.68**	**2**	T	T		23 29 19.8	
	SNR=6.2							
H11N2	**WAKE ISLAND Hy**	**31.69**	**2**	T	T		23 29 20.4	
ASAR	**Alice Springs**	**32.39**	**245**	P	**P**		**22 56 18.1**	**+0.3**
	0.5nm,0.7s,baz=68,slow=9.4,SNR=5.6							
SONM	**Songino Array**	**79.60**	**324**	P	**P**		**23 01 55.4**	**+0.4**
	0.6nm,0.8s,baz=134,slow=6.2,SNR=4.7							
DLBC	**Dease Lake**	**87.33**	**28**	LR	LR		23 40 18.1	
	comp=Z,47nm,18.4s,baz=64,slow=35							
MKAR	**Makanchi Array**	**94.38**	**317**	P	**P**		**23 03 07.5**	**+0.1**
	1.3nm,0.8s,baz=96,slow=5.7,SNR=14							
ZALV	**Zalesovo Beam**	**94.49**	**324**	P	**P**		**23 03 06.5**	**-1.3**
	0.3nm,0.4s,baz=108,slow=4.8,SNR=3.8							
ANMO	**Albuquerque**	**95.00**	**55**	LR	LR		23 35 16.4	
	comp=Z,512nm,21.3s,baz=31,slow=29							

ISCJB ***15*** *22:54:30.4±1.0, 19°.8S±0°.1×169°.4E±0°.2, h100km, mb4.0/8, Error ellipse: s-maj=29.9km s-min=7.5km az=38.6*

IDC ***15*** *22:54:32.2±3.4, 20°.25S×169°.68E, h118km±28km, mb3.8/8, mb1 4.1/9, mb1mx3.8/27, mbtmp4.2/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/34, Error ellipse: s-maj=51.0km s-min=25.6km az=152.0*

NOU ***15*** *22:54:32.3±1.0, 18°.85S×168°.33E, h30km±999km, MD3.3, ML3.8*

ISC 15 22:54:31.0±0.9,**19°.7S**±0°.1×**169°.5E**±0°.2,**h100**km,**n28,** σ1⇟**49**/32,**mb3.9**/8,**1D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**3.66**	**226**	*e*P	**Pn**		**22 55 26.3**	**+0.7**
PLUM				*e*S	**Sn**		**22 56 07.8**	**-0.2**
PLUM				AMP			22 56 21.2	
	comp=Z,181nm,1.8s							
DZM	**Mont Dzumac**	**3.67**	**230**	P	**Pn**		**22 55 27.0**	**+1.1**
	comp=Z,33nm,0.3s,baz=51,slow=18,SNR=608							
DZM				S	**Sn**		**22 56 06.3**	**-1.9**
	comp=Z,43nm,0.3s,baz=325,slow=23,SNR=12							
DZM				LR	LR		22 56 38.8	
	comp=Z,143nm,19.8s,baz=24,slow=36							
DZM	**Mont Dzumac**	**3.67**	**230**	*e*P	**Pn**		**22 55 26.2**	**+0.4**
DZM				*e*S	**Sn**		**22 56 05.2**	**-3.1**
DZM				AMP			22 56 23.4	
	comp=Z,1μm,4.4s							
NORM	**Noumea**	**3.74**	**228**	*e*P	**Pn**		**22 55 27.8**	**+1.1**
NORM				*e*S	**Sn**		**22 56 08.2**	**-1.6**
EIDS	**Eidsvold**	**17.89**	**248**	P	**Pn**		**22 58 35.4**	**+2.0**
	baz=18,SNR=3.2							
ARMA	**Armidale**	**19.33**	**233**	P	**Pn**		**22 58 50.7**	**+0.1**
	baz=19,SNR=5.5							
RMQ	**Roma**	**20.19**	**247**	P	Pn		22 59 02.8	+2.2
	baz=20,SNR=5.2							
CTA	**Charters Tower**	**21.83**	**265**	P	**P**		**22 59 17.9**	**+2.4**
	comp=Z,5.6nm,0.6s,baz=85,slow=12,SNR=11							
QLP	**Quilpie**	**24.16**	**249**	P	**P**		**22 59 38.5**	**+0.5**
	baz=24,SNR=6.8							
CMSA	**Cobar Meteorol**	**24.40**	**236**	P	**P**		**22 59 40.0**	**-0.1**
	baz=24,SNR=20							
STKA	**Stephens Creek**	**27.78**	**239**	P	**P**		**23 00 10.1**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=333,slow=17,SNR=7.9							
PATS	**Pohnpei**	**28.59**	**336**	S	**S**		**23 04 55.4**	**-3.7**
	baz=29,SNR=3.2							
HTT	**Hallett**	**30.41**	**237**	P	**P**		**23 00 33.8**	**-0.2**
	baz=30,SNR=3.2							
WRA	**Warramunga Arr**	**33.01**	**264**	P	**P**		**23 00 56.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=98,slow=7.0,SNR=46							
WRA				PcP	**PcP**		**23 03 38.0**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=313,slow=1.2,SNR=4.9							
ASAR	**Alice Springs**	**33.23**	**257**	P	**P**		**23 00 58.5**	**-0.2**
	comp=Z,13nm,0.6s,baz=86,slow=9.3,SNR=194							
MTN	**Manton Dam**	**37.37**	**275**	P	**P**		**23 01 35.5**	**+1.2**
	baz=37,SNR=6.1							
WRKA	**Warakurna**	**38.33**	**254**	P	**P**		**23 01 42.1**	**-0.3**
	baz=38,SNR=25							
MEEK	**Meekatharra**	**47.01**	**252**	P	**P**		**23 02 52.0**	**-0.5**
	baz=47,SNR=3.2							
MJAR	**Matsushiro Arr**	**63.28**	**332**	LR	LR		23 29 35.2	
	comp=Z,25nm,20.9s,baz=65,slow=33							
CMAR	**Chiang Mai Arr**	**78.90**	**294**	P	**P**		**23 06 26.4**	**+2.5**
	comp=Z,1.3nm,0.5s,baz=128,slow=4.2,SNR=6.8							
SONM	**Songino Array**	**87.74**	**323**	P	**P**		**23 07 10.0**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=133,slow=5.0,SNR=6.2							
NVAR	**Mina Array Bea**	**88.96**	**48**	P	**P**		**23 07 15.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=224,slow=9.7,SNR=3.8							
ILAR	**Eielson Array**	**90.63**	**17**	P	**P**		**23 07 21.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=234,slow=4.1,SNR=5.9							
ARCES	**ARCESS Array B**	**125.59**	**345**	PKP	**PKPdf**		**23 13 19.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=81,slow=2.6,SNR=14							
FINES	**FINESS Array B**	**131.12**	**338**	PKP	**PKPdf**		**23 13 29.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=72,slow=0.6,SNR=5.1							
CONA	**Conrad Observa**	**144.67**	**329**⇓	*i*PKPab	**PKPdf**		**23 13 56.3**	**+0.3**
	comp=Z,5.9nm,0.6s							
GERES	**GERESS Array B**	**145.02**	**332**	PKPbc	**PKPab**		**23 13 56.8**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=39,slow=3.4,SNR=31							
TORD	**Torodi Ar. Bea**	**166.58**	**243**	PKP	**PKPdf**		**23 14 23.9**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=68,slow=1.1,SNR=2.3							
TORD				PKPab	**PKPab**		**23 15 26.3**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=103,slow=4.5,SNR=2.3							

IDC 15 23:08:05.8±1.5,**1°.95N×128°.55E, h0**km,**mb3.5**/4, **mb1 3.6**/4,**mb1mx3.4**/48,**mbtmp3.5**/4,**Error ellipse: s-maj=121.3km s-min=20.6km az=71.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**166**	P	P	P	23 13 08.0	+1.0
	0.2nm,0.3s,baz=346,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**25.99**	**169**	P	P	P	23 13 39.6	-0.9
	0.5nm,0.6s,baz=6.9,slow=11,SNR=8.9							
SONM	**Songino Array**	**49.56**	**340**	P	P	P	23 16 59.0	+0.3
	0.3nm,0.6s,baz=150,slow=5.8,SNR=2.8							
MKAR	**Makanchi Array**	**60.05**	**325**	P	P	P	23 18 14.4	-0.3
	0.7nm,0.4s,baz=115,slow=8.0,SNR=44							

KRSC 15 23:23:57.4±1.4,**48°.19N×155°.56E, h30**km±13km,**ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**8**	*e*P	Pn		23 24 38.7	+2.4
SKR				*e*S	Sn		23 25 09.1	+3.1
PAU	**Pauzhetka**	**3.38**	**13**	P	Pn		23 24 51.6	+3.5
PAU				*e*S	Sn		23 25 31.7	+4.6
MIPR	**Malaya Ipel'ka**	**4.17**	**10**	P	Pn		23 25 02.5	+3.6
MTVR	**Mutnovka**	**4.62**	**20**	P	Pn		23 25 09.2	+3.9
MTVR				S	Sn		23 26 02.6	+4.7
RUS	**Russkaya**	**4.65**	**23**	P	Pn		23 25 08.8	+3.3
UGLR	**Uglovaya**	**5.44**	**21**	P	Pn		23 25 22.4	+5.9
AVH	**Avacha**	**5.47**	**20**	P	Pn		23 25 22.0	+5.1
KOK	**Koryaka**	**5.47**	**20**	P	Pn		23 25 22.5	+5.6
SMAR	**Somma**	**5.48**	**21**	P	Pn		23 25 22.2	+5.0
KRER	**Koryakskii**	**5.51**	**20**	P	Pn		23 25 23.1	+5.5
SDLR	**Sedlovina**	**5.52**	**21**	P	Pn		23 25 22.0	+4.4
KRX	**Arik**	**5.54**	**20**	P	Pn		23 25 22.9	+5.0
GNL	**Ganaly**	**5.72**	**14**	P	Pn		23 25 24.6	+4.3
KBTR	**Krutoberegovo**	**9.18**	**26**	P	Pn		23 26 12.6	+5.0

DJA 15 23:35:08.8±0.9,**8°S**±6°×**107°E**±°,**h24**km±9km,**M3.7**/6, **MLv3.7**/6,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.81**	**354**	P	Pb		23 35 24.3	0.0
CISI	**Cisompet, Garu**	**0.81**	**46**	P	Pb		23 35 24.1	-0.3
CISI				S	Sb		23 35 34.4	-0.6
CMJI	**Cimerak**	**1.26**	**75**	P	Pn		23 35 29.8	-1.1
SKJI	**Sukabumi**	**1.29**	**329**	P	Pn		23 35 31.0	-0.3
SKJI				S	Sn		23 35 46.7	-1.1
LEM	**Lembang**	**1.34**	**17**	P	Pb		23 35 33.2	-0.4
LEM				S	Sn		23 35 50.0	+0.4
KPJI	**Karang Pucung**	**1.87**	**65**	P	Pn		23 35 39.2	-0.1

IDC 15 23:50:39.4±2.8,**9°.36N×92°.22E, h0**km,**mb3.1**/3,**mb1 3.6**/4, **mb1mx3.3**/37,**mbtmp3.3**/4,**ML4.3**/1,**Error ellipse: s-maj=79.8km s-min=30.5km az=68.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.15**	**35**	Pn	Pn		23 53 21.1	+0.9
	0.6nm,0.3s,baz=229,slow=15,SNR=4.0							
MKAR	**Makanchi Array**	**38.25**	**349**	P	P		23 58 01.7	+0.4
	0.1nm,0.5s,baz=160,slow=8.7,SNR=1.3							
SONM	**Songino Array**	**40.18**	**15**	P	P		23 58 16.6	-0.9
	0.1nm,0.4s,baz=195,slow=8.1,SNR=2.3							
WRA	**Warramunga Arr**	**50.67**	**125**	P	P		23 59 40.8	-0.1
	0.1nm,0.5s,baz=306,slow=8.5,SNR=7.8							

IDC ***16*** *00:15:16.9±2.4, 6°.66N×126°.64E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/40, mbtmp3.5/3, Error ellipse: s-maj=189.9km s-min=25.2km az=66.0*

ISCJB ***16*** *00:15:25.5±0.9, 6°.56N±0°.08×126°.1E±0°.1, h97km, mb3.4/3, Error ellipse: s-maj=15.8km s-min=10.3km az=166.0*

ISC 16 00:15:26.5±1.3,**6°.6N**±0°.1×**126°.1E**±0°.1,**h97**km,**n7,** σ1⇟**17**/8, **mb3.1**/3,**2C-2D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.76**	**309**⇑	*e*P	**Pn**		**00 15 42.2**	**-2.0**
DMPH				*e*S	**Sn**		**00 15 57.2**	**-0.2**
BIPH	**Bislig**	**1.59**	**9**⇑	*e*P	**Pn**		**00 15 53.5**	**-0.3**
BIPH				*e*S	**Sn**		**00 16 14.2**	**-0.4**
CTBH	**Cotabato--PC H**	**1.94**	**289**⇓	*i*P	**Pn**		**00 15 58.2**	**0.0**
CGP	**Cagayan de Oro**	**2.31**	**323**⇓	*e*P	**Pn**		**00 16 04.4**	**+1.3**
WRA	**Warramunga Arr**	**27.59**	**163**	P	**P**		**00 21 05.6**	**+0.7**
	0.4nm,0.7s,baz=344,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**31.03**	**166**	P	**P**		**00 21 35.7**	**+0.4**
	0.2nm,0.5s,baz=345,slow=7.5,SNR=3.1							
MKAR	**Makanchi Array**	**54.86**	**324**	P	P		00 24 51.0	+4.1
	0.8nm,0.7s,baz=121,slow=8.1,SNR=10							

IDC ***16*** *00:19:53.0±2.9, 6°.46N×126°.48E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/39, mbtmp3.5/3, Error ellipse: s-maj=252.4km s-min=25.4km az=66.0*

ISCJB ***16*** *00:19:59.6±0.9, 6°.34N±0°.07×126°.32E±0°.1, h68km, mb3.4/3, Error ellipse: s-maj=14.6km s-min=9.1km az=158.3*

MAN ***16*** *00:19:59, 6°.40N×126°.38E, h22km, mb4.6, ML3.4, MS3.3*

ISC 16 00:20:01.1±1.3,**6°.42N**±0°.09×**126°.3E**±0°.1,**h68**km,**n9,** σ2⇟**00**/11,**mb3.2**/3,**2C-1D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.52**	**355**	*e*P	Pn		00 20 10.4	-3.7
MATI				*e*S	**Sn**		**00 20 18.3**	**-5.1**
DMPH	**Davao City--Mi**	**1.02**	**310**⇓	*i*P	**Pn**		**00 20 19.1**	**-0.7**
DMPH				*i* S	**Sn**		**00 20 34.4**	**+0.6**
BIPH	**Bislig**	**1.75**	**2**⇑	*e*P	**Pn**		**00 20 30.7**	**+1.3**
BIPH				*e*S	**Sn**		**00 20 51.7**	**+0.9**
BUKP	**Musuan**	**1.90**	**320**	*e*P	**Pn**		**00 20 30.8**	**-0.6**
CTBH	**Cotabato--PC H**	**2.19**	**291**⇑	*i*P	**Pn**		**00 20 35.8**	**+0.5**
PAGZ	**Pagadian**	**3.22**	**296**	*e*P	**Pn**		**00 20 49.9**	**+0.5**
WRA	**Warramunga Arr**	**27.37**	**163**	P	**P**		**00 25 40.7**	**+0.6**
	0.6nm,1.0s,baz=344,slow=9.9,SNR=4.0							
ASAR	**Alice Springs**	**30.81**	**166**	P	**P**		**00 26 10.1**	**-0.6**
	0.5nm,0.9s,baz=345,slow=7.4,SNR=3.0							
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**		**00 29 27.6**	**+1.1**
	0.5nm,0.6s,baz=112,slow=7.9,SNR=9.2							

ISK ***16*** *01:11:26.9, 37°.95N×27°.10E, h21km, MD2.3*

ISCJB ***16*** *01:11:27.6±0.8, 37°.95N±0°.03×27°.10E±0°.08, h13km, Error ellipse: s-maj=9.5km s-min=4.5km az=169.5*

DDA ***16*** *01:11:27.9, 37°.92N×27°.07E, h7km, MD2.6*

CSEM ***16*** *01:11:27.8±0.2, 37°.95N×27°.10E, h8km, MD2.3, Error ellipse: s-maj=6.0km s-min=2.7km az=83.0*

ISC 16 01:11:28.0±1.1,**37°.95N**±0°.03×**27°.12E**±0°.06,**h13**km,**n12,** σ0⇟**33**/20,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.26**	**160**	*i* P	**Pg**		**01 11 33.5**	**0.0**
GCAM				*i* S	**Sg**		**01 11 37.2**	**0.0**
GCAM	**G?zelcaml?**	**0.26**	**160**	*i* P	**Pg**		**01 11 33.5**	**0.0**
GCAM				*i* S	**Sg**		**01 11 37.2**	**0.0**
BLCB	**Balcova**	**0.44**	**352**	*e*PG	**Pg**		**01 11 36.4**	**-0.4**
BLCB				*e*SG	**Sg**		**01 11 43.2**	**+0.5**
BLCB	**Balcova**	**0.44**	**352**	*e*Pg	**Pg**		**01 11 36.4**	**-0.4**
BLCB				*e*Sg	**Sg**		**01 11 43.2**	**+0.5**
IZM	**Izmir**	**0.46**	**14**	*e*PG	**Pg**		**01 11 36.9**	**-0.3**
IZM	**Izmir**	**0.46**	**14**	*e*Pg	**Pg**		**01 11 36.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**90**	*e*PG	**Pg**		**01 11 39.6**	**-0.3**
AYDB				*e*SG	**Sb**		**01 11 49.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**90**	*e*Pg	**Pg**		**01 11 39.6**	**-0.3**
AYDB				*e*Sg	**Sb**		**01 11 49.3**	**+0.2**
BODT	**Bodrum**	**0.90**	**170**	*e*PG	**Pg**		**01 11 44.9**	**-0.4**
BODT	**Bodrum**	**0.90**	**170**	*e*Pg	**Pg**		**01 11 44.9**	**-0.4**
BDRM	**Kayabasi**	**0.92**	**164**	*i* P	**Pb**		**01 11 45.8**	**0.0**
BDRM				*i* S	**Sb**		**01 11 58.2**	**+0.3**
BDRM	**Kayabasi**	**0.92**	**164**	*i* P	**Pb**		**01 11 45.8**	**0.0**
BDRM				*i* S	**Sb**		**01 11 58.2**	**+0.3**

ISCJB ***16*** *01:18:00.4±1.1, 18°.5N±0°.2×72°.8W±0°.2, h6km, mb3.5/6, MS3.2/6, Error ellipse: s-maj=43.8km s-min=19.5km az=42.9*

IDC ***16*** *01:18:01.2±1.4, 18°.51N×72°.79W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/24, mbtmp3.6/6, MS3.2/9, Ms1 3.2/9, ms1mx2.9/36, Error ellipse: s-maj=53.7km s-min=24.5km az=43.0*

ISC 16 01:18:02.1±1.2,**18°.5N**±0°.3×**72°.8W**±0°.3,**h6**km,**n14,** σ0⇟**31**/6, **mb3.6**/6,**MS3.3**/6,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**14.30**	**237**	LR	LR		01 26 16.3	
	comp=Z,64nm,21.0s,baz=64,slow=35							
APG	**El Apazote**	**17.26**	**261**	LR	LR		01 29 45.0	
	comp=Z,50nm,20.4s,baz=90,slow=41							
TKL	**Tuckaleechee C**	**19.66**	**333**	LR	LR		01 30 38.0	
	comp=Z,40nm,20.6s,baz=348,slow=38							
PTGA	**Pitinga**	**22.90**	**145**	LR	LR		01 32 14.4	
	comp=Z,30nm,18.0s,baz=336,slow=37							
SADO	**Sadowa**	**26.73**	**350**	LR	LR		01 33 19.8	
	comp=Z,58nm,18.0s,baz=162,slow=34							
LPAZ	**La Paz**	**34.87**	**172**	LR	LR		01 39 48.6	
	comp=Z,61nm,19.6s,baz=36,slow=38							
BDFB	**Brasilia**	**41.80**	**143**	P	**P**		**01 25 53.0**	**+0.1**
	3.2nm,0.7s,baz=292,slow=8.7,SNR=5.0							
NVAR	**Mina Array Bea**	**44.14**	**306**	P	**P**		**01 26 11.8**	**0.0**
	0.3nm,0.5s,baz=83,slow=7.4,SNR=3.5							
YKA	**Yellowknife Ar**	**52.57**	**337**	P	**P**		**01 27 16.2**	**0.0**
	0.4nm,0.7s,baz=125,slow=7.8,SNR=6.4							
ILAR	**Eielson Array**	**66.64**	**333**	P	**P**		**01 28 53.3**	**0.0**
	0.3nm,0.8s,baz=100,slow=5.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**71.44**	**82**	P	**P**		**01 29 23.6**	**-0.4**
	0.4nm,0.7s,baz=285,slow=5.1,SNR=4.5							
SPITS	**Spitsbergen Ar**	**71.86**	**13**	LR	LR		01 59 43.8	
	comp=Z,30nm,20.8s,baz=0.0,slow=35							
GERES	**GERESS Array B**	**74.05**	**43**	P	**P**		**01 29 39.4**	**+0.3**
	0.6nm,0.8s,baz=274,slow=5.8,SNR=5.1							
GERES				LR	LR		01 56 42.0	
	comp=Z,27nm,21.9s,baz=303,slow=31							
VRAC	**Vranov**	**75.83**	**42**	LR	LR		01 59 43.6	
	comp=Z,8.8nm,18.6s,baz=183,slow=33							

IDC 16 01:18:06.3±1.6,**11°.34S×165°.41E, h0**km,**mb3.7**/4, **mb1 3.9**/5,**mb1mx3.7**/37,**mbtmp3.7**/5,**ML4.1**/1,**MS2.9**/2, **Ms1 2.9**/2,**ms1mx2.6**/29,**Error ellipse: s-maj=49.5km s-min=29.2km az=124.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.70**	**289**	LR	LR		01 22 00.9	
	comp=Z,80nm,19.8s,baz=146,slow=41							
DZM	**Mont Dzumac**	**10.72**	**175**	Pn	Pn		01 20 41.0	-0.3
	1.3nm,0.3s,baz=321,slow=14,SNR=16							
PMG	**Port Moresby**	**18.06**	**274**	LR	LR		01 28 41.2	
	comp=Z,57nm,18.3s,baz=32,slow=35							
WRA	**Warramunga Arr**	**31.08**	**250**	P	P		01 24 26.8	+0.3
	1.6nm,0.9s,baz=80,slow=9.2,SNR=11							
ASAR	**Alice Springs**	**32.37

comp=Z,21µm,0.3s
ITBZ Tabriz 1.97 291 *e*Pn **Pb** **01 27 52.5 -1.1**
ITBZ *e*Sg **Sg** **01 28 19.7 -1.1**
IAZR Azarshahr 1.98 275 *e*Pn **Pb** **01 27 53.2 -0.8**
IAZR *e*Sg **Sg** **01 28 20.6 -0.8**
IAZR *e* 01 28 32.8
comp=Z,55µm,0.2s
IAZR Azarshahr 1.98 275 *e*Pn **Pb** **01 27 53.2 -0.8**
IAZR *e*Sg **Sg** **01 28 20.6 -0.8**
IRAZ Razeghan 2.43 151⇑ *e*Pn **Pn** **01 27 58.8 +1.2**
IRAZ *e* 01 28 36.9
comp=Z,18µm,0.2s
IRAZ Razeghan 2.43 151⇑ *e*Pn **Pn** **01 27 58.8 +1.2**
ALIB Äli-Bayra 2.45 10 ⇓Pn **Pb** **01 27 59.7 -2.1**
ALIB ⇓S **Sb** **01 28 31.7 -0.4**
ALIB Äli-Bayra 2.45 10 Pn **Pb** **01 27 59.7 -2.1**
ALIB S **Sb** **01 28 31.7 -0.4**
IMHD Mahdasht 2.56 136 *e*Pn **Pn** **01 28 00.2 +0.9**
IMHD *e* 01 28 40.0
comp=Z,13µm,0.2s
IMHD Mahdasht 2.56 136 *e*Pn **Pn** **01 28 00.2 +0.9**
SNGE Sanandaj 2.60 201 *e*Pn **Pb** **01 28 01.6 -2.9**
SNGE *e*Sg **Sb** **01 28 36.6 0.0**
comp=Z,726nm,1.0s
SNGE Sanandaj 2.60 201 *e*Pn **Pb** **01 28 01.6 -2.9**
SNGE *e*Sg **Sb** **01 28 36.6 0.0**
SNGE AML AML 01 28 44.5
comp=N,726nm,1.0s
CHTH Charan 2.68 127 *e*Pn **Pn** **01 28 02.7 +1.6**
CHTH *e*Sg **Sb** **01 28 39.7 +0.8**
comp=N,626nm,0.4s
CHTH Charan 2.68 127 *e*Pn **Pn** **01 28 02.7 +1.6**
CHTH *e*Sg **Sb** **01 28 39.7 +0.8**
CHTH AML AML 01 28 44.8
comp=N,626nm,0.4s
KDMR Kurdemir 2.84 356 ⇓Pn **Pn** **01 28 04.6 +1.6**
SNR=34
KDMR ⇑Sn **Sb** **01 28 41.6 -1.7**
NAX Nakhchivan 2.85 306 ⇓Pn **Pb** **01 28 05.8 -2.9**
SNR=52
NAX ⇓Sn **Sb** **01 28 41.7 -2.0**
NAX Nakhchivan 2.85 306 Pn **Pb** **01 28 05.8 -2.9**
SNR=52
NAX Sn **Sb** **01 28 41.7 -2.0**
BRDA Brd 2.90 340 ⇑Pn **Pb** **01 28 06.4 -3.1**
SNR=64
BRDA ⇑Sn **Sb** **01 28 43.6 -1.4**
BRDA Brd 2.90 340 Pn **Pb** **01 28 06.4 -3.1**
SNR=64
BRDA Sn **Sb** **01 28 43.6 -1.4**
GOBA Gobu 3.02 19 ⇑Pn **Pn** **01 28 07.7 +2.1**
GOBA ⇑Sn **Sn** **01 28 43.9 +2.1**
GOBA Gobu 3.02 19 Pn **Pn** **01 28 07.7 +2.1**
GOBA Sn **Sn** **01 28 43.9 +2.1**
ASAO Ashtian 3.24 157 *e*Pn **Pn** **01 28 10.4 +1.7**
ASAO Ashtian 3.24 157 *e*Pn **Pn** **01 28 10.4 +1.7**
PQL Pirkuli 3.25 2 ⇑Pn **Pn** **01 28 10.1 +1.3**
SNR=28
PQL ⇑Sn **Sb** **01 28 52.0 -3.2**
PQL Pirkuli 3.25 2 Pn **Pn** **01 28 10.1 +1.3**
SNR=28
PQL Sn **Sb** **01 28 52.0 -3.2**
IML Ismayilli 3.26 356 ⇑Pn **Pn** **01 28 10.7 +1.8**
SNR=21
IML ⇓Sn **Sb** **01 28 52.2 -3.2**
IML Ismayilli 3.26 356 Pn **Pn** **01 28 10.7 +1.8**
SNR=21
IML Sn **Sb** **01 28 52.2 -3.2**
NDR Nardaran 3.26 21 ⇓Pn **Pn** **01 28 11.2 +2.4**
SNR=3.4
NDR ⇓Sn **Sb** **01 28 51.5 -3.8**
NDR Nardaran 3.26 21 Pn **Pn** **01 28 11.2 +2.4**
SNR=3.4
NDR Sn **Sb** **01 28 51.5 -3.8**
IVIS Veis 3.28 204 *e*Pn **Pn** **01 28 11.3 +2.1**
IVIS *e* 01 29 06.3
comp=Z,3µm,0.4s
IVIS Veis 3.28 204 *e*Pn **Pn** **01 28 11.3 +2.1**
IDHR Dehrash 3.30 211 *e*Pn **Pn** **01 28 11.5 +2.0**
IDHR *e* 01 29 12.9
comp=Z,4µm,0.5s
IDHR Dehrash 3.30 211 *e*Pn **Pn** **01 28 11.5 +2.0**
ATGJ Altiaghaj 3.34 6 ⇑Pn **Pn** **01 28 11.9 +1.9**
SNR=6.0
ATGJ ⇑Sn **Sn** **01 28 52.9 +3.1**
ATGJ Altiaghaj 3.34 6 Pn **Pn** **01 28 11.9 +1.9**
SNR=6.0
ATGJ Sn **Sn** **01 28 52.9 +3.1**
DAMV Damavand 3.40 123 *e*Pn **Pn** **01 28 13.2 +2.2**
comp=Z,290nm,0.8s
DAMV Damavand 3.40 123 *e*Pn **Pn** **01 28 13.2 +2.2**
DAMV AML AML 01 29 05.1
comp=N,350nm,0.6s
DAMV AML AML 01 29 06.4
comp=E,290nm,0.8s
MNGR Mingechevir, A 3.41 342 ⇑Pn **Pn** **01 28 12.9 +2.1**
MNGR ⇑Sn **Sn** **01 28 53.0 +1.8**
MNGR Mingechevir, A 3.41 342 Pn **Pn** **01 28 12.9 +2.1**
MNGR Sn **Sn** **01 28 53.0 +1.8**
IDMV Damavand 3.47 123 *e*Pn **Pn** **01 28 13.6 +1.6**
IDMV *e* 01 28 22.8
comp=Z,4µm,0.1s
IDMV Damavand 3.47 123 *e*Pn **Pn** **01 28 13.6 +1.6**
GANJ Ganja 3.53 332 ⇓Pn **Pn** **01 28 13.6 +1.1**
SNR=7.8
GANJ ⇑Sn **Sn** **01 28 58.4 +4.1**
GANJ Ganja 3.53 332 Pn **Pn** **01 28 13.6 +1.1**
SNR=7.8
GANJ Sn **Sn** **01 28 58.4 +4.1**
SIZA Siyzn 3.55 5 ⇑Pn **Pn** **01 28 14.5 +1.6**
SNR=13
SIZA ⇑Sn **Sn** **01 28 56.9 +2.0**
SIZA Siyzn 3.55 5 Pn **Pn** **01 28 14.5 +1.6**
SNR=13
SIZA Sn **Sn** **01 28 56.9 +2.0**
IGHG Ghaleghazi 3.55 206 *e*Pn **Pn** **01 28 15.4 +2.3**
IGHG Ghaleghazi 3.55 206 *e*Pn **Pn** **01 28 15.4 +2.3**
IVRN Varamin 3.66 133 *e*Pn **Pn** **01 28 15.6 +1.3**
IVRN *e* 01 29 22.6
comp=Z,4µm,0.2s
IVRN Varamin 3.66 133 *e*Pn **Pn** **01 28 15.6 +1.3**
SEKA Sheki 3.80 345 ⇑Pn **Pn** **01 28 17.2 +0.9**
SNR=18
SEKA ⇑Sn **Sn** **01 29 03.5 +2.5**
SEKA Sheki 3.80 345 Pn **Pn** **01 28 17.2 +0.9**
SNR=18
SEKA Sn **Sn** **01 29 03.5 +2.5**
QUBA Quba, Azerbaij 3.81 0 ⇑Pn **Pn** **01 28 18.9 +2.5**
SNR=7.8
QUBA ⇑Sn **Sn** **01 29 04.6 +3.3**
QUBA Quba, Azerbaij 3.81 0 Pn **Pn** **01 28 18.9 +2.5**
SNR=7.8
QUBA Sn **Sn** **01 29 04.6 +3.3**
GHVR GHOM 3.81 142 *e*Pn **Pn** **01 28 18.1 +1.6**
comp=Z,400nm,0.6s
GHVR GHOM 3.81 142 *e*Pn **Pn** **01 28 18.1 +1.6**
GHVR AML AML 01 29 24.5
comp=N,380nm,0.6s
GHVR AML AML 01 29 25.9
comp=E,400nm,0.6s
CUKT Cukurca 3.88 267 *e*P Pn 01 28 20.9 +3.4
CUKT Cukurca 3.88 267 *e*P Pn 01 28 20.9 +3.4
GNI Garni 3.91 313 Pn **Pn** **01 28 20.6 +2.7**
comp=E,1.4nm,0.3s,baz=159,slow=2.7,SNR=13
GNI Pg **Pb** **01 28 27.8 +1.0**
comp=E,18nm,0.3s,baz=168,slow=4.1,SNR=82
GNI LR LR 01 29 22.0
comp=E,35nm,21.4s,baz=98,slow=32
GNI Lg Lg 01 29 22.4
comp=E,6.8nm,0.3s,baz=156,slow=20,SNR=2.1
CLDR Caldiran 3.92 296 *e*P **Pg** **01 28 31.6 -1.2**
IFIR Firoozkooh 3.93 117 *e*Pn **Pn** **01 28 19.7 +1.4**
IFIR *e* 01 28 33.6
comp=Z,4µm,0.2s
IFIR Firoozkooh 3.93 117 *e*Pn **Pn** **01 28 19.7 +1.4**
IKRK Kirkuk 3.95 239 *e*PG **Pn** **01 28 17.8 -0.5**
IKRK *e*Sg Sn 01 28 58.2 -6.6
ZKTA Zakatala 4.34 341 ⇑Pn **Pn** **01 28 25.3 +1.7**
SNR=37
ZKTA ⇑Sn **Sn** **01 29 15.4 +1.2**
DGRG David-gareji 4.58 329 P Pn 01 28 31.3 +4.2
AGRB Hanur-Agry 4.75 297 *e*P **Pb** **01 28 43.7 +2.6**
SEAG Tbilisi Sea 5.08 327 P **Pb** **01 28 45.5 -1.1**
TBLG Delisi 5.08 327 P **Pb** **01 28 45.4 -1.2**

KARS Kars 5.21 308 *e*P Pb 01 28 52.8 +3.9
DUS Dusheti 5.39 329 P Pb 01 28 46.4 -5.6
AKH Akhalkalaki 5.46 317 P **Pb** **01 28 55.6 +2.5**
BTMT Batman 5.56 279 *e*P Pb 01 28 49.3 -5.6
VRTB Varto-Mus 5.75 289 *e*P Pb 01 28 54.5 -3.5
NASN Na'in 5.91 142 *e*Pn **Pn** **01 28 47.3 +1.7**
NASN Na'in 5.91 142 *e*Pn **Pn** **01 28 47.4 +1.7**
BNGB Bing¶l 6.30 286 *e*P Pb 01 29 00.8 -6.7
ONI Oni 6.35 324 P Pn 01 28 54.9 +3.6
ONI Oni 6.35 324 P Pn 01 28 54.9 +3.6
MAZI Mazidag 6.38 272 *e*P Pn 01 28 57.0 +5.2
NSR Nassriya 6.79 197 *e*PN4 Pn 01 28 48.1 -9.2
NSR *e*SN4 Sn 01 29 52.9 -22
NSR Nassriya 6.79 197 *e*Pn Pn 01 28 48.1 -9.2
SNR=39
NSR *e*Sn Sn 01 29 52.9 -22
SNR=39
PTK Pertek 7.28 283 *e*P Pn 01 29 13.0 +8.9
KBZ Khabaz 7.50 327 Pn **Pn** **01 29 08.0 +1.0**
comp=Z,0.0nm,0.3s,baz=192,slow=9.3,SNR=2.4
KBZ LR LR 01 31 49.2
comp=Z,43nm,19.9s,baz=168,slow=37
RTB Rutbah 8.05 238 *e*PN4 Pn 01 29 01.5 -13
RTB *e*SN4 Sn 01 30 13.6 -32
RTB Rutbah 8.05 238 *e*Pn Pn 01 29 01.5 -13
SNR=39
RTB *e*Sn Sn 01 30 13.6 -32
SNR=39
MMAI Mount Meron Ar 11.59 251 Pn Pn 01 30 06.4 +3.2
baz=64,slow=13,SNR=3.0
MMAI LR LR 01 34 43.9
comp=Z,21nm,18.9s,baz=130,slow=39
BRTR Keskin Array B 11.81 285 Pn **Pn** **01 30 07.3 +1.1**
comp=Z,0.0nm,0.3s,baz=91,slow=12,SNR=2.4
EIL Elat 13.72 239 LR LR 01 35 38.0
comp=Z,46nm,18.7s,baz=72,slow=36
AB31 Akbulak array 14.36 32 P Pn 01 30 35.8 -5.1
comp=Z,2.0nm,0.6s,baz=209,slow=14,SNR=53
AB31 ⇑S Sn 01 33 00.8 -19
comp=Z,3.6nm,0.6s,baz=209,slow=22,SNR=7.0
AKTO Aktyubinsk 14.59 25 ⇑P Pn 01 30 40.1 -4.0
comp=Z,7.0nm,0.7s
AKTO ⇓S Sn 01 33 08.8 -17
comp=Z,15nm,0.7s
AKTO Aktyubinsk 14.59 25 Pn Pn 01 30 39.6 -4.4
comp=Z,2.3nm,0.3s,baz=210,slow=11,SNR=38
AKTO Sn Sn 01 33 12.8 -13
comp=Z,1.5nm,0.3s,baz=288,slow=20,SNR=9.6
AKTO Aktyubinsk 14.59 25 P Pn 01 30 40.1 -4.0
comp=Z,7.0nm,0.7s
AKTO S Sn 01 33 08.8 -17
comp=Z,15nm,0.7s
KK31 Karatay Array 17.68 65 ⇑P **Pn** **01 31 20.4 -3.6**
comp=Z,5.1nm,0.8s,baz=256,slow=14,SNR=26
KK31 Karatay Array 17.68 65 P **Pn** **01 31 20.4 -3.6**
comp=Z,5.1nm,0.8s,SNR=26
AKASG Malin Array Be 19.01 320 P **P** **01 31 38.6 -0.7**
comp=Z,0.7nm,0.3s,baz=123,slow=12,SNR=9.6
IDI Anoyia 19.10 270 LR LR 01 38 46.8
comp=Z,36nm,20.0s,baz=116,slow=36
AAK Ala-Archa 20.52 68 P **P** **01 31 56.4 +0.3**
comp=Z,1.0nm,0.5s,baz=228,slow=12,SNR=3.9
AAK LR LR 01 41 38.8
comp=Z,40nm,19.1s,baz=256,slow=42
TKM2 Tokmak 2 21.35 67 ⇑P **P** **01 32 04.2 -1.0**
comp=Z,2.9nm,0.7s
TKM2 Tokmak 2 21.35 67 P **P** **01 32 04.2 -1.0**
comp=Z,2.9nm,0.7s
BRVK Borovoye 21.69 37 ⇓P **P** **01 32 08.3 -0.2**
comp=Z,18nm,0.8s
BRVK Borovoye 21.69 37 P **P** **01 32 08.3 -0.2**
comp=Z,16nm,0.8s
BVA0 Borovoye Array 21.72 38 P **P** **01 32 08.3 -0.5**
comp=Z,16nm,1.2s,baz=237,slow=9.7,SNR=72
BVA0 Borovoye Array 21.72 38 P **P** **01 32 08.3 -0.5**
comp=Z,16nm,1.2s,SNR=72
BVAR Borovoye Array 21.72 38 P **P** **01 32 08.3 -0.6**
comp=Z,6.9nm,0.5s,baz=233,slow=9.5,SNR=43
KURBB Kurchatov Arra 25.05 49 ⇑P **P** **01 32 44.2 +2.3**
comp=Z,8.9nm,1.3s
KURBB Kurchatov Arra 25.05 49 P **P** **01 32 41.8 -0.1**
comp=Z,1.7nm,0.7s,baz=254,slow=9.3,SNR=6.3
KURBB Kurchatov Arra 25.05 49 P **P** **01 32 44.2 +2.3**
comp=Z,8.9nm,1.3s
KURK Kurchatov 25.13 49 ⇑P **P** **01 32 43.4 +0.8**
comp=Z,3.0nm,0.8s
KURK Kurchatov 25.13 49 P **P** **01 32 43.4 +0.8**
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 26.55 59 ⇓P **P** **01 32 58.5 +3.0**
comp=Z,1.5nm,0.6s,baz=251,slow=8.1,SNR=27
MK31 Makanchi Array 26.55 59 P **P** **01 32 58.5 +3.0**
comp=Z,1.5nm,0.6s,SNR=27
MKAR Makanchi Array 26.55 59 P **P** **01 32 55.8 +0.3**
comp=Z,2.3nm,0.7s,baz=251,slow=9.1,SNR=23
GERES GERESS Array B 27.52 305 P **P** **01 33 05.5 +1.1**
comp=Z,1.4nm,0.9s,baz=112,slow=7.9,SNR=6.2
FINES FINESS Array B 27.72 337 P **P** **01 33 06.2 +0.4**
comp=Z,0.8nm,0.7s,baz=134,slow=8.0,SNR=2.7
FINES LR LR 01 46 14.9
comp=Z,55nm,18.1s,baz=206,slow=41
ZALV Zalesovo Beam 29.79 45 P **P** **01 33 23.8 -0.6**
comp=Z,0.5nm,0.5s,baz=260,slow=8.6,SNR=2.9
DAVOX Davos/Dischmat 29.80 300 P **P** **01 33 25.1 +0.3**
comp=Z,2.2nm,0.6s,baz=146,slow=12,SNR=5.2
HFS Hagfors 31.57 327 P **P** **01 33 39.7 -0.3**
comp=Z,3.0nm,0.7s,baz=126,slow=7.7,SNR=9.4
HFS LR LR 01 47 57.1
comp=Z,56nm,19.6s,baz=105,slow=39
NB2 NORSAR Subarra 33.08 327 P **P** **01 33 52.9 -0.3**
comp=Z,1.8nm,0.7s,baz=119,slow=8.6
NOA NORSAR Array B 33.08 327 P **P** **01 33 53.0 -0.3**
comp=Z,1.3nm,0.7s,baz=119,slow=8.3,SNR=4.8
NOA LR LR 01 48 20.2
comp=Z,34nm,18.3s,baz=340,slow=38
ARCES ARCESS Array B 34.38 346 P **P** **01 34 04.2 -0.2**
comp=Z,0.6nm,0.5s,baz=146,slow=8.7,SNR=5.9
TORD Torodi Ar. Bea 48.13 252 P **P** **01 35 57.2 -0.8**
comp=Z,0.5nm,0.9s,baz=59,slow=6.2,SNR=3.7
KSRS Korea Array 61.11 63 LR LR 02 09 35.1
comp=Z,45nm,18.9s,baz=90,slow=42
YKA Yellowknife Ar 79.38 352 P **P** **01 39 25.1 +1.7**
comp=Z,0.2nm,0.8s,baz=19,slow=5.9,SNR=3.6

IDC 16 01:33:11.1±2.5, 11°.14S×114°.76E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/45, mbtmp3.4/6, Error ellipse: s-maj=129.6km s-min=22.5km az=46.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.77**	**117**	P	P		01 37 54.2	+0.4
	0.5nm,0.8s,baz=288,slow=12,SNR=4.6							
WRA				S	S		01 41 29.2	-18
	0.2nm,0.4s,baz=288,slow=25,SNR=3.1							
ASAR	**Alice Springs**	**22.07**	**127**	P	P		01 38 07.6	-0.2
	0.3nm,0.4s,baz=298,slow=10.0,SNR=4.3							
ASAR				S	S		01 42 03.8	-8.5
	0.6nm,0.8s,baz=309,slow=24,SNR=3.9							
SONM	**Songino Array**	**59.19**	**353**	P	P		01 43 13.3	-0.7
	0.2nm,0.4s,baz=172,slow=9.5,SNR=3.2							
MKAR	**Makanchi Array**	**64.58**	**336**	P	P		01 43 50.3	+0.2
	0.8nm,0.4s,baz=146,slow=7.3,SNR=30							
AAK	**Ala-Archa**	**64.98**	**328**	P	P		01 43 53.0	0.0
	0.5nm,0.5s,baz=182,slow=7.5,SNR=4.1							
KURBB	**Kurchatov Arra**	**69.13**	**336**	P	P		01 44 19.4	+0.3
	0.3nm,0.8s,baz=148,slow=5.5,SNR=2.9							

*IDC **16** 01:39:14.8±1.2, 2°.48N×95°.95E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/43, mbtmp3.9/13, ML4.5/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=43.1km s-min=18.0km az=53.0*

*ISCJB **16** 01:39:18.3±0.6, 2°.58N±0°.07×95°.71E±0°.04, h25km, mb3.9/12, Error ellipse: s-maj=10.7km s-min=5.0km az=18.6*

*DJA **16** 01:39:19.5±1.0, 3°.N±6°×9°.6E±°, h12km±6km, M4.3/8, mb4.6/3, MLv4.1/8*

ISC 16 01:39:19.4±0.8, 2°.59N±0°.08×95°.85E±0°.07, h25km, n39, σ0°.97/32, mb4.0/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.51**	**110**	P	P		**01 39 31.4**	**+0.3**
SNSI				S	S		**01 39 40.0**	**+0.9**
TPTI		**1.49**	**63**	P	P		**01 39 45.2**	**+0.6**
TPTI				S	S		**01 40 05.6**	**+0.7**
KCSI	**Kotacane, Aceh**	**2.13**	**64**	P	P		**01 39 56.1**	**-1.3**
KCSI				S	S		**01 40 23.0**	**-0.5**
LHMI	**Lhok Sumawe**	**2.84**	**23**	P	P		**01 40 03.4**	**+0.1**
TSI	**Tuntungan**	**2.86**	**71**	P	P		**01 40 10.3**	**+0.5**
PSI	**Prapat**	**3.08**	**86**	P	x		01 40 08.5	
PSI	**Prapat**	**3.08**	**86**	Pn	Pn		**01 40 08.0**	**+1.3**
	5.5nm,0.3s,baz=295,slow=5.9,SNR=14							
MNSI	**Mandailing Nat**	**4.13**	**115**	P	P		**01 40 22.5**	**+1.5**
PPI	**Padang Panjang**	**5.46**	**124**	P	Pn		01 40 42.5	+3.2
KULM	**Kulim**	**5.49**	**61**	P	x		01 40 41.5	
	63nm,0.9s,0.2nm							
IPM	**Ipoh**	**5.50**	**70**	P	x		01 40 42.0	
	40nm,0.4s,0.2nm							
CMAR	**Chiang Mai Arr**	**16.06**	**11**	Pn	**Pn**		**01 43 04.7**	**+0.9**
	0.6nm,0.3s,baz=198,slow=11,SNR=9.7							
CMAR				LR	LR		01 49 03.5	
	comp=Z,47nm,18.2s,baz=207,slow=36							
H08S2	**Diego Garcia H**	**25.42**	**246**	T	T		02 10 57.1	
	baz=67,slow=76,SNR=214							
H08S3	**Diego Garcia H**	**25.42**	**246**	T	T		02 10 57.2	
	baz=67,slow=76,SNR=141							
H08S1	**Diego Garcia H**	**25.44**	**246**	T	T		02 10 55.9	
	baz=67,slow=76,SNR=15							
ODAN	**Odare**	**25.46**	**342**	*e*P	**P**		**01 44 47.1**	**+1.3**
RAMN	**Ramite**	**25.80**	**341**	*e*P	**P**		**01 44 50.2**	**+1.3**
	31nm,0.6s							
TAPN	**Taplejung**	**25.83**	**343**	*e*P	**P**		**01 44 50.3**	**+1.1**
JIRN	**Jiri**	**26.59**	**341**	*e*P	**P**		**01 44 57.2**	**+1.0**
	35nm,0.7s							
PKI	**Pulchoki**	**26.77**	**339**	*e*P	**P**		**01 44 58.4**	**+0.5**
GUN	**Gumba**	**26.92**	**340**	*e*P	**P**		**01 45 00.2**	**+1.0**
	21nm,0.7s							
KKN	**Kakani**	**27.02**	**339**	*e*P	**P**		**01 45 00.5**	**+0.6**
	12nm,0.7s							
KOLN	**Koldanda**	**27.64**	**336**	*e*P	**P**		**01 45 06.3**	**+0.8**
	14nm,0.8s							
DANN	**Dangsing**	**28.09**	**337**	*e*P	**P**		**01 45 10.1**	**+0.4**
	13nm,0.7s							
H01W3	**Cape Leeuwin H**	**41.04**	**157**	T	T		02 30 30.3	
	baz=332,slow=75,SNR=125							
H01W2	**Cape Leeuwin H**	**41.05**	**157**	T	T		02 30 30.0	
	baz=332,slow=75,SNR=110							
H01W1	**Cape Leeuwin H**	**41.05**	**157**	T	T		02 30 30.6	
	baz=332,slow=75,SNR=115							
WRA	**Warramunga Arr**	**43.91**	**122**	P	**P**		**01 47 22.5**	**-2.0**
	0.7nm,0.6s,baz=298,slow=9.5,SNR=11							
AAK	**Ala-Archa**	**44.20**	**337**	P	**P**		**01 47 26.8**	**+0.2**
	0.8nm,0.6s,baz=155,slow=7.2,SNR=4.5							
ASAR	**Alice Springs**	**45.31**	**127**	P	**P**		**01 47 33.5**	**-2.1**
	0.3nm,0.4s,baz=299,slow=8.0,SNR=8.2							
KSRS	**Korea Array**	**45.51**	**36**	P	**P**		**01 47 35.8**	**-1.2**
	1.0nm,0.8s,baz=224,slow=8.5,SNR=3.7							
MKAR	**Makanchi Array**	**45.59**	**347**	P	**P**		**01 47 37.7**	**+0.2**
	2.0nm,0.5s,baz=155,slow=8.8,SNR=32							
SONM	**Songino Array**	**45.99**	**10**	P	**P**		**01 47 40.5**	**-0.2**
	1.4nm,0.6s,baz=191,slow=8.8,SNR=17							
KURBB	**Kurchatov Arra**	**50.05**	**346**	P	**P**		**01 48 12.0**	**+0.1**
	0.9nm,0.6s,baz=162,slow=7.0,SNR=12							
ZALV	**Zalesovo Beam**	**51.99**	**352**	P	**P**		**01 48 26.6**	**+0.1**
	1.8nm,0.5s,baz=172,slow=6.8,SNR=13							
BVAR	**Borovoye Array**	**54.51**	**341**	P	**P**		**01 48 44.7**	**-0.4**
	1.6nm,0.7s,baz=136,slow=9.2,SNR=16							
FINES	**FINESS Array B**	**78.15**	**333**	P	**P**		**01 51 16.3**	**0.0**
	1.4nm,0.8s,baz=108,slow=4.5,SNR=3.4							
ARCES	**ARCESS Array B**	**80.78**	**340**	P	**P**		**01 51 30.4**	**-0.1**
	1.6nm,0.8s,baz=101,slow=4.9,SNR=5.7							
GERES	**GERESS Array B**	**82.89**	**319**	P	**P**		**01 51 43.1**	**+0.9**
	0.3nm,0.8s,baz=100,slow=4.2,SNR=3.6							

PRE 16 02:00:26.8±3.5, 21°.17S×33°.19E, h10km, ML4.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.40**	**224**	*e*P	Pn		02 02 04.1	+2.7
SLR				*e*S	Sn		02 03 13.0	-1.7
SLR				AML	AML		02 03 53.0	
	comp=Z,101nm,0.6s							
OBSV	**Observatory**	**6.85**	**222**	*e*P	Pn		02 02 08.4	+0.7
OBSV				*e*S	Sn		02 03 24.8	-1.1
OBSV				AML	AML		02 04 11.6	
	comp=Z,69nm,0.5s							
ERPM	**east rand prop**	**6.86**	**220**	*e*P	Pn		02 02 08.8	+1.0
ERPM				*e*S	Sn		02 03 21.4	-4.7
ERPM				AML	AML		02 04 05.4	
	comp=Z,62nm,0.6s							
KSR	**Koster**	**7.42**	**230**	*e*P	Pn		02 02 18.5	+3.0
KSR				*e*S	Sn		02 03 38.0	-1.9
KSR				AML	AML		02 04 29.9	
	comp=Z,19nm,0.6s							
PRYS	**Parys**	**7.82**	**222**	*e*P	Pn		02 02 21.3	+0.3
PRYS				*e*S	Sn		02 03 45.9	-3.9
PRYS				AML	AML		02 04 46.9	
	comp=Z,18nm,0.7s							
LBTB	**Lobatse**	**7.97**	**240**	*e*P	Pn		02 02 25.2	+2.3
LBTB				*e*S	Sn		02 03 49.4	-3.9
LBTB				AML	AML		02 04 41.8	
	comp=Z,47nm,0.6s							
MOAB	**Moab Khotsong**	**8.22**	**224**	*e*S	Sn		02 03 56.8	-2.8
MOAB				AML	AML		02 05 05.1	
	comp=Z,34nm,0.5s							
SWZ	**Schweizer**	**9.34**	**229**	*e*P	Pn		02 02 42.7	+0.9
SWZ				*e*S	Sn		02 04 21.1	-6.0
SWZ				AML	AML		02 05 22.3	
	comp=Z,28nm,0.5s							
KSD	**Kokstad**	**9.93**	**199**	*e*P	Pn		02 02 50.6	+0.8
KSD				*e*S	Sn		02 04 35.9	-5.6
KSD				AML	AML		02 06 03.8	
	comp=Z,6.5nm,0.7s							
BOSA	**Boshof**	**10.33**	**223**	*e*P	Pn		02 02 54.2	-1.1
BOSA				*e*S	Sn		02 04 42.8	-8.6
BOSA				AML	AML		02 06 00.1	
	comp=Z,19nm,0.6s							
HVD	**Gariep Dam**	**11.67**	**215**	*e*S	Sn		02 05 15.5	-8.7
HVD				AML	AML		02 06 44.5	
	comp=Z,10.0nm,0.6s							
UPI	**Upington**	**12.99**	**234**	*e*P	Pn		02 03 31.6	-0.1
UPI				*e*S	Sn		02 05 48.4	-8.0
UPI				AML	AML		02 07 15.1	
	comp=Z,9.6nm,0.6s							
WIN	**Windhoek**	**15.00**	**262**	*e*P	Pn		02 04 00.1	+0.8

*IDC **16** 02:14:07.9±7.7, 36°.42N×71°.12E, h110km±68km, mb2.9/1, mb1 3.0/7, mb1mx2.9/31, mbtmp3.4/7, Error ellipse: s-maj=57.1km s-min=47.6km az=43.0*

*NNC **16** 02:14:08.0±4.5, 36°.60N×70°.58E, h62km±109km, mb3.5, mpv3.5, Error ellipse: s-maj=33.9km s-min=29.0km az=157.0*

ISC 16 02:14:08.7±2.6, 36°.6N±0°.2×70°.6E±0°.1, h88km, n13, σ1°.75/17, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.45**	**359**	P	**Pn**		**02 15 42.4**	**+1.3**
	1.2nm,0.3s,baz=177,slow=12,SNR=106							
KK31				⇑S	**Sn**		**02 16 55.6**	**+2.4**
	0.6nm,0.3s,baz=183,slow=22,SNR=4.6							
AAK	**Ala-Archa**	**6.69**	**25**	⇓P	**Pn**		**02 15 44.0**	**-0.3**
	1.5nm,0.4s							
AAK				⇑S	**Sn**		**02 17 00.2**	**+1.1**
	2.5nm,0.6s							
AAK	**Ala-Archa**	**6.69**	**25**	P	**Pn**		**02 15 44.1**	**-0.3**
	1.9nm,0.3s,baz=167,slow=7.5,SNR=40							
AAK				S	**Sn**		**02 16 59.9**	**+0.8**
	0.5nm,0.3s,baz=143,slow=20,SNR=3.6							
TKM2	**Tokmak 2**	**7.34**	**30**	⇓P	**Pn**		**02 15 51.9**	**-1.5**
	1.6nm,0.5s							
TKM2				⇑S	**Sn**		**02 17 16.2**	**+1.0**
	3.1nm,1.4s							
MK31	**Makanchi Array**	**13.36**	**37**	⇓P	**Pn**		**02 17 16.2**	**+1.7**
	1.4nm,1.1s,baz=201,slow=8.1,SNR=5.4							
MKAR	**Makanchi Array**	**13.36**	**37**	P	**Pn**		**02 17 13.1**	**-1.4**
	0.0nm,0.3s,baz=214,slow=12,SNR=2.4							
AB31	**Akbulak array**	**14.82**	**332**	P	**Pn**		**02 17 34.1**	**+0.7**
	0.2nm,0.4s,baz=151,slow=12,SNR=23							
AB31				⇓S	**Sn**		**02 20 12.8**	**-3.7**
	0.8nm,0.8s							
KURBB	**Kurchatov Arra

AKTO Aktyubinsk 16.51 331 P — P — 02 17 57.9 +2.0
0.3nm,0.3s,baz=131,slow=12,SNR=4.4

ZALV Zalesovo Beam 19.91 25 P — P — 02 18 31.1 -2.0
0.7nm,0.3s,baz=218,slow=10,SNR=10

WRA Warramunga Arr 82.32 122 P — P — 02 26 15.1 -5.8
0.2nm,0.8s,baz=321,slow=5.0,SNR=2.8

ISCJB **16** *02:23:40.7±0.2, 48°.345N±0°.010×7°.77E±0°.01, h3km±2km, Error ellipse: s-maj=1.7km s-min=1.5km az=159.8*
LDG **16** *02:23:42.9±0.1, 48°.34N×7°.80E, h9km, Md3.4/3, Ml3.4/27, Error ellipse: s-maj=0.9km s-min=0.8km az=148.0*
CSEM **16** *02:23:42.0±0.1, 48°.33N×7°.78E, h10km, ML3.5/22, Error ellipse: s-maj=2.1km s-min=1.8km az=146.0*
STR **16** *02:23:42.3±0.1, 48°.35N×7°.79E, h10km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ZUR **16** *02:23:42.8, 48°.36N×7°.73E, h20km±2km, ML2.9/15*
PRU **16** *02:23:43.9, 48°.34N×8°.03E, h0km*
GEN **16** *02:23:44.4, 48°.16N×7°.86E, h2km, ML3.2*
BGR **16** *02:23:44.5±0.5, 48°.40N×7°.89E, h10km, ML3.0/9, Error ellipse: s-maj=6.7km s-min=4.4km az=29.0*
BNS **16** *02:23:44.8±0.3, 48°.31N×7°.76E, h10km, ML2.8*
ISC 16 02:23:42.9±0.3, **48°293N**±0°.010×**7°.745E**±0°.009, **h12**km±2km, **n242, σ1s37**/365, **17C-40D, France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.17**	**214**	⇑*i*P*		**Pg**	**02 23 47.8**	**+1.0**
LIBD				S*		**Sg**	**02 23 51.1**	**+1.7**
LIBD	**Limburg**	**0.17**	**214**	Pg		**Pg**	**02 23 47.7**	**+0.9**
LIBD				Sg		**Sg**	**02 23 50.9**	**+1.4**
WLS	**Welschbruch**	**0.29**	**295**	Pg		**Pg**	**02 23 48.9**	**0.0**
WLS				Sg		**Sg**	**02 23 53.3**	**+0.5**
WLS	**Welschbruch**	**0.29**	**295**	Pg		**Pg**	**02 23 48.9**	**0.0**
WLS				Sg		**Sg**	**02 23 53.3**	**+0.5**
STR	**Strasbourg**	**0.29**	**3**	⇓*i*P*		**Pg**	**02 23 48.1**	**-0.8**
STR				S*		**Sg**	**02 23 52.8**	**-0.1**
STR	**Strasbourg**	**0.29**	**3**	Pg		**Pg**	**02 23 48.0**	**-0.9**
STR				Sg		**Sg**	**02 23 51.4**	**-1.5**
STR	**Strasbourg**	**0.29**	**3**	Pg		**Pg**	**02 23 48.0**	**-0.9**
STR				Sg		**Sg**	**02 23 51.4**	**-1.5**
STR				Sb		**Sg**	**02 23 52.8**	**-0.1**
FBB	**Freiburg im Br**	**0.30**	**166**	⇓*i*P*		**Pg**	**02 23 49.5**	**+0.5**
FBB				S*		**Sg**	**02 23 54.2**	**+1.1**
FBB	**Freiburg im Br**	**0.30**	**166**	Pb		**Pg**	**02 23 49.5**	**+0.5**
FBB				Sb		**Sg**	**02 23 54.2**	**+1.1**
CDF	**Champ du Feu**	**0.34**	**291**	*e*Pg		**Pg**	**02 23 49.8**	**+0.1**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**02 23 54.7**	**+0.4**
	278nm,0.2s							
CDF	**Champ du Feu**	**0.34**	**291**	*e*Pg		**Pg**	**02 23 49.8**	**+0.1**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**02 23 54.7**	**+0.4**
	139nm,0.2s							
KIZ	**Kirchzarten**	**0.36**	**161**	⇓*i*P*		**Pg**	**02 23 50.2**	**+0.1**
KIZ				S*		**Sg**	**02 23 55.2**	**+0.4**
KIZ	**Kirchzarten**	**0.36**	**161**	Pb		**Pg**	**02 23 50.2**	**+0.1**
KIZ				Sb		**Sg**	**02 23 55.2**	**+0.4**
OPP	**Oppenau**	**0.36**	**55**	⇑*i*P*		**Pn**	**02 23 56.5**	**+2.5**
BFO	**Black Forest**	**0.39**	**84**	⇑*i*P*		**Pg**	**02 23 49.6**	**-1.1**
BFO				*i* S*		**Sg**	**02 23 54.3**	**-1.7**
BFO	**Black Forest**	**0.39**	**84**	Pb		**Pg**	**02 23 49.6**	**-1.1**
BFO				Sb		**Sg**	**02 23 54.3**	**-1.7**
ECH	**Echery**	**0.40**	**259**	⇑*i*P*		**Pg**	**02 23 51.3**	**+0.4**
ECH				PmP			02 23 53.8	
ECH				S*		**Sg**	**02 23 57.2**	**+1.0**
ECH	**Echery**	**0.40**	**259**	Pg		**Pg**	**02 23 51.2**	**+0.4**
ECH				Sg		**Sg**	**02 23 57.0**	**+0.8**
ECH	**Echery**	**0.40**	**259**	Pb		**Pg**	**02 23 51.3**	**+0.4**
ECH				Sg		**Sg**	**02 23 57.0**	**+0.8**
FELD	**Feldberg im Sc**	**0.45**	**157**	⇑*i*P*		**Pg**	**02 23 52.0**	**+0.2**
FELD	**Feldberg im Sc**	**0.45**	**157**	Pg		**Pg**	**02 23 51.8**	**-0.1**
MOF	**Molkenrain**	**0.60**	**223**	⇑*i*P*		**Pg**	**02 23 55.5**	**+0.7**
MOF				⇓*i*PmP			02 23 56.6	
MOF	**Molkenrain**	**0.60**	**223**	Pg		**Pg**	**02 23 55.4**	**+0.7**
MOF				Sg		**Sb**	**02 24 05.4**	**+1.5**
MOF	**Molkenrain**	**0.60**	**223**	Pg		**Pg**	**02 23 55.4**	**+0.7**
MOF				Sg		**Sb**	**02 24 05.4**	**+1.5**
LANF	**Langenberg**	**0.69**	**3**	P*		**Pg**	**02 23 55.3**	**-1.1**
LANF				PmP			02 23 56.9	
LANF	**Langenberg**	**0.69**	**3**	Pg		**Pg**	**02 23 55.2**	**-1.1**
LANF				Sg		**Sg**	**02 24 04.6**	**-0.8**
LANF	**Langenberg**	**0.69**	**3**	Pg		**Pg**	**02 23 55.2**	**-1.1**
LANF				Sg		**Sg**	**02 24 04.6**	**-0.8**
SPAK	**Spaichingen-Ko**	**0.72**	**105**	⇓*i*P*		**Pg**	**02 23 56.1**	**-0.8**
SPAK				PmP			02 23 57.6	
SPAK	**Spaichingen-Ko**	**0.72**	**105**	Pg		**Pg**	**02 23 56.0**	**-0.9**
SPAK				Sg		**Sg**	**02 24 05.0**	**-1.4**
SLE	**Schleitheim**	**0.73**	**136**	⇓*i*P*		**Pg**	**02 23 56.7**	**-0.3**
SLE				PmP			02 23 57.8	
SLE				SmS			02 24 09.0	
SLE	**Schleitheim**	**0.73**	**136**	⇓*i*Pn		**Pg**	**02 23 56.7**	**-0.3**
	1µm,0.3s							
SLE	**Schleitheim**	**0.73**	**136**	⇓*i*Pn		**Pg**	**02 23 56.7**	**-0.3**
	1µm,0.3s							
HINF	**Hinteralfeld**	**0.77**	**232**	*e*Pg		**Pg**	**02 23 58.2**	**+0.5**
HINF	**Hinteralfeld**	**0.77**	**232**	*e*Pn		**Pg**	**02 23 58.9**	**+1.2**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**02 24 08.7**	**+1.0**
HINF				*e*Sn		**Sb**	**02 24 10.8**	**+2.2**
	310nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**0.77**	**232**	*e*Pg		**Pg**	**02 23 58.2**	**+0.5**
HINF	**Hinteralfeld**	**0.77**	**232**	*e*Pn		**Pg**	**02 23 58.9**	**+1.2**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**02 24 08.7**	**+1.0**
HINF				*e*Sn		**Sb**	**02 24 10.8**	**+2.2**
	155nm,0.2s,SNR=1.0							
LBG	**Lerchenberg**	**0.79**	**62**	⇑*i*P*		**Pg**	**02 23 56.7**	**-1.5**
LBG				S*		**Sg**	**02 24 06.4**	**-2.2**
LBG				SmS			02 24 08.7	
SULZ	**Cheisacher**	**0.81**	**162**	⇓*i*P		**Pg**	**02 23 58.6**	**+0.1**
	1µm,0.7s							
SULZ	**Cheisacher**	**0.81**	**162**	⇓*i*P		**Pg**	**02 23 58.6**	**+0.1**
	1µm,0.7s							
BBS	**Basel-Blauen**	**0.84**	**191**	P*		**Pg**	**02 23 60.0**	**+0.7**
BBS	**Basel-Blauen**	**0.84**	**191**	Pg		**Pg**	**02 24 00.1**	**+0.9**
TRULL	**Truellikon**	**0.90**	**135**	⇓*i*Pn		**Pg**	**02 24 00.1**	**-0.2**
	485nm,0.4s							
TRULL	**Truellikon**	**0.90**	**135**	⇓*i*Pn		**Pg**	**02 24 00.1**	**-0.2**
	485nm,0.4s							
FLACH	**Flaach**	**0.91**	**142**	⇓*i*Pn		**Pg**	**02 24 00.3**	**-0.1**
	499nm,0.2s							
FLACH	**Flaach**	**0.91**	**142**	⇓*i*Pn		**Pg**	**02 24 00.3**	**-0.1**
	499nm,0.2s							
TUBL	**Tuebingen-Lenn**	**0.92**	**75**	⇑*e*P*		**Pg**	**02 23 59.5**	**-1.2**
GUT	**Gutenstein**	**0.94**	**103**	Pn		**Pg**	**02 24 00.1**	**-1.1**
HAU	**Haudompre**	**0.98**	**253**	*e*Pn		**Pg**	**02 24 01.8**	**0.0**
	SNR=1.0							
HAU	**Haudompre**	**0.98**	**253**	*e*Pg		**Pg**	**02 24 02.2**	**+0.4**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**02 24 15.5**	**+1.0**
	486nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**0.98**	**253**	*e*Pn		**Pg**	**02 24 01.8**	**0.0**
	SNR=1.0							
HAU	**Haudompre**	**0.98**	**253**	*e*Pg		**Pg**	**02 24 02.2**	**+0.4**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**02 24 15.5**	**+1.0**
	243nm,0.3s,SNR=1.0							
STEIN	**Stein am Rhein**	**0.98**	**129**	⇓*i*Pn		**Pg**	**02 24 01.5**	**-0.3**
	289nm,0.3s							
STEIN	**Stein am Rhein**	**0.98**	**129**	⇓*i*Pn		**Pg**	**02 24 01.5**	**-0.3**
	289nm,0.3s							
SISB	**Singen-Schiene**	**1.02**	**126**	⇓*e*Pn		**Pb**	**02 24 02.0**	**-0.5**
SISB				⇓*i*Pg		**Pg**	**02 24 02.7**	**+0.2**
SISB				Sg		**Sg**	**02 24 16.6**	**+0.8**
KTD	**Kalmit**	**1.05**	**12**	Pg		**Pb**	**02 24 02.5**	**-0.6**
KTD	**Kalmit**	**1.05**	**12**	Pg		**Pb**	**02 24 01.8**	**-1.3**
KTD				Sg		**Sg**	**02 24 14.9**	**-2.0**
STU	**Stuttgart**	**1.08**	**63**	⇓*e*Pn		**Pb**	**02 24 01.8**	**-1.7**
STU				Pg		**Pg**	**02 24 02.6**	**-1.1**
STU				*e*Sg		**Sb**	**02 24 15.3**	**-2.2**
	SNR=3.3							
ZUR	**Degenried**	**1.08**	**148**	⇓*i*Pn		**Pb**	**02 24 03.4**	**-0.2**
	784nm,0.2s							
ZUR	**Degenried**	**1.08**	**148**	⇓*i*Pn		**Pb**	**02 24 03.4**	**-0.2**
	784nm,0.2s							
BUCH	**Bad Urach**	**1.08**	**81**	Pn		**Pb**	**02 24 02.3**	**-1.4**
LOMF	**Lomont**	**1.13**	**214**	Pg		**Pb**	**02 24 05.4**	**+1.0**
LOMF				Sg		**Sn**	**02 24 21.6**	**+1.6**
LOMF	**Lomont**	**1.13**	**214**	Pg		**Pb**	**02 24 04.8**	**+0.4**
LOMF				Sg		**Sn**	**02 24 21.3**	**+1.2**
LOMF	**Lomont**	**1.13**	**214**	Pg		**Pb**	**02 24 04.8**	**+0.4**
LOMF				Sg		**Sn**	**02 24 21.3**	**+1.2**
WEIN	**Weingarten**	**1.13**	**132**	⇓*i*Pn		**Pb**	**02 24 04.0**	**-0.4**
	546nm,0.3s							
WEIN	**Weingarten**	**1.13**	**132**	⇓*i*Pn		**Pb**	**02 24 04.0**	**-0.4**
	546nm,0.3s							
THEF	**They Montfort**	**1.18**	**267**	⇑*i*P		**Pb**	**02 24 04.6**	**-0.6**
THEF	**They Montfort**	**1.18**	**267**	Pn		**Pb**	**02 24 04.5**	**-0.7**
THEF	**They Montfort**	**1.18**	**267**	Pg		**Pb**	**02 24 05.7**	**+0.5**
THEF				Sg		**Sb**	**02 24 21.3**	**+0.9**
THEF	**They Montfort**	**1.18**	**267**	Pn		**Pb**	**02 24 04.5**	**-0.7**
THEF	**They Montfort**	**1.18**	**267**	Pg		**Pb**	**02 24 05.7**	**+0.5**
THEF				Sg		**Sb**	**02 24 21.3**	**+0.9**
WILA	**Wila**	**1.18**	**138**	⇓*i*Pn		**Pb**	**02 24 04.8**	**-0.4**
	1µm,0.2s							
WILA	**Wila**	**1.18**	**138**	⇓*i*Pn		**Pb**	**02 24 04.8**	**-0.4**
	1µm,0.2s							
SWS	**Schriesheim-Wi**	**1.35**	**28**	⇓Pn		Pn	02 24 05.0	-2.6
SWS				Sg		**Sb**	**02 24 24.8**	**-0.6**
PAGF	**Fort de Pagny**	**1.37**	**282**	*e*Pn		**Pn**	**02 24 07.5**	**-0.4**
PAGF	**Fort de Pagny**	**1.37**	**282**	*e*Pg		**Pn**	**02 24 09.0**	**+1.1**
	baz=96							
PAGF				*e*Sn		**Sb**	**02 24 24.8**	**-1.2**
PAGF				*e*Sg		**Sn**	**02 24 27.4**	**+1.4**
	48nm,0.2s							
PAGF	**Fort de Pagny**	**1.37**	**282**	*e*Pn		**Pn**	**02 24 07.5**	**-0.4**
PAGF	**Fort de Pagny**	**1.37**	**282**	*e*Pg		**Pn**	**02 24 09.0**	**+1.1**
PAGF				*e*Sn		**Sb**	**02 24 24.8**	**-1.2**
PAGF				*e*Sg		**Sn**	**02 24 27.4**	**+1.4**
	24nm,0.2s							
RUP	**Ruppelstein**	**1.48**	**342**	⇑*i*Pg		**Pn**	**02 24 10.5**	**+1.1**
RUP	**Ruppelstein**	**1.48**	**342**	Pg		**Pn**	**02 24 10.3**	**+0.9**
RUP				Sg		**Sn**	**02 24 28.5**	**-0.3**
TOD	**Tromm**	**1.49**	**28**	Pn		Pn	02 24 06.8	-2.7
TOD	**Tromm**	**1.49**	**28**	Pn		Pn	02 24 06.8	-2.7
TOD	**Tromm**	**1.49**	**28**	Pg		**Pn**	**02 24 09.5**	**0.0**
TOD				Sg		**Sn**	**02 24 28.7**	**-0.2**
BNALP	**Bannalp**	**1.50**	**162**	⇓*e*Pn		**Pn**	**02 24 09.8**	**+0.1**
	397nm,0.4s							
BNALP	**Bannalp**	**1.50**	**162**	⇓*e*Pn		**Pn**	**02 24 09.8**	**+0.1**
	397nm,0.4s							
LIENZ	**Kamor/St.Gall**	**1.54**	**130**	⇓*e*Pn		**Pn**	**02 24 10.4**	**0.0**
	313nm,0.4s							
LIENZ	**Kamor/St.Gall**	**1.54**	**130**	⇓*e*Pn		**Pn**	**02 24 10.4**	**0.0**
	313nm,0.4s							
HASLI	**Hasliberg/Brie**	**1.56**	**170**	⇑*e*Pn		**Pn**	**02 24 10.5**	**-0.1**
	995nm,0.6s							
HASLI	**Hasliberg/Brie**	**1.56**	**170**	⇑*e*Pn		**Pn**	**02 24 10.5**	**-0.1**
	995nm,0.6s							
ABH	**Alteburg**	**1.59**	**355**	Pg		**Pn**	**02 24 12.1**	**+1.0**
ABH	**Alteburg**	**1.59**	**355**	Pg		**Pn**	**02 24 12.0**	**+1.0**
ABH				Sg		**Sn**	**02 24 32.0**	**+0.4**
SIND	**Sindeldorf**	**1.62**	**49**	⇑*e*Pn		Pn	02 24 08.7	-2.7
HDH	**Heidenheim-Cha**	**1.67**	**79**	Pg		**Pn**	**02 24 13.4**	**+1.4**
HDH				Sg		**Sn**	**02 24 34.3**	**+1.0**
PLONS	**Plons/SG**	**1.67**	**138**	*e*Pn		**Pn**	**02 24 12.2**	**+0.2**
	156nm,0.4s							
PLONS	**Plons/SG**	**1.67**	**138**	*e*Pn		**Pn**	**02 24 12.2**	**+0.2**
	156nm,0.4s							
LLS	**Linth-Limmern**	**1.68**	**149**	⇑*e*P		**Pn**	**02 24 12.6**	**+0.3**
	80nm,0.5s							
UBR	**Ueberruh**	**1.70**	**110**	Pn		**Pn**	**02 24 12.3**	**-0.2**
UBR				Sg		**Sb**	**02 24 36.9**	**+1.4**
WLF	**Walferdange**	**1.73**	**323**	PN		**Pn**	**02 24 14.7**	**+1.9**
WLF				SN		**Sb**	**02 24 36.6**	**+0.4**
	comp=E,44nm,0.0s							
WLF	**Walferdange**	**1.73**	**323**	Pg		**Pn**	**02 24 14.8**	**+1.9**
WLF				*e*Sg		**Sb**	**02 24 37.4**	**+1.1**
	SNR=4.2							
WLF	**Walferdange**	**1.73**	**323**	Pn		**Pn**	**02 24 14.6**	**+1.9**
WLF				Sn		**Sb**	**02 24 36.6**	**+0.4**
DAVA	**Damuels**	**1.76**	**124**	⇓*e*Pn		**Pn**	**02 24 13.3**	**-0.1**
	SNR=12							
DAVA				⇑*i*Sn		**Sb**	**02 24 37.7**	**+0.5**
DAVA				⇓*i*Sg		**Sg**	**02 24 40.6**	**+1.2**
	comp=E,68nm,0.3s							
DAVA	**Damuels**	**1.76**	**124**	Pn		**Pn**	**02 24 13.3**	**-0.1**
	SNR=12							
DAVA				Sn		**Sb**	**02 24 37.7**	**+0.5**
DAVA				Sg		**Sg**	**02 24 40.6**	**+1.2**
	comp=E,68nm,0.3s							
MEZF	**Maizieres J'vi**	**1.81**	**278**	*e*Pn		**Pn**	**02 24 12.9**	**-1.0**
	baz=106,SNR=1.0							
MEZF	**Maizieres J'vi**	**1.81**	**278**	*e*Pg		**Pb**	**02 24 16.9**	**+1.0**
	baz=91							
MEZF				*e*Sn		**Sn**	**02 24 35.2**	**-1.5**
	SNR=1.0							
MEZF				*e*Sg		**Sb**	**02 24 40.7**	**+2.2**
	comp=E,55nm,0.2s,baz=94							
MEZF	**Maizieres J'vi**	**1.81**	**278**	*e*Pn		**Pn**	**02 24 12.9**	**-1.0**
	SNR=1.0							
MEZF	**Maizieres J'vi**	**1.81**	**278**	*e*Pg		**Pb**	**02 24 16.9**	**+1.0**
MEZF				*e*Sn		**Sn**	**02 24 35.2**	**-1.5**
	SNR=1.0							
MEZF				*e*Sg		**Sb**	**02 24 40.7**	**+2.2**
	comp=E,28nm,0.2s							
SFTF	**Sexfontaines**	**1.81**	**268**	*e*Pn		**Pn**	**02 24 13.2**	**-0.7**
	baz=90							
SFTF	**Sexfontaines**	**1.81**	**268**	*e*Pg		**Pb**	**02 24 17.4**	**+1.4**
	baz=102							
SFTF				*e*Sn		**Sn**	**02 24 35.4**	**-1.4**
SFTF				*e*Sg		**Sg**	**02 24 41.3**	**+0.2**
	comp=E,180nm,0.3s							
SFTF	**Sexfontaines**	**1.81**	**268**	*e*Pn		**Pn**	**02 24 13.2**	**-0.7**
SFTF	**Sexfontaines**	**1.81**	**268**	*e*Pg		**Pb**	**02 24 17.4**	**+1.4**
SFTF				*e*Sn		**Sn**	**02 24 35.4**	**-1.4**
SFTF				*e*Sg		**Sg**	**02 24 41.3**	**+0.2**
	comp=E,90nm,0.3s							
OBER	**Oberstdorf**	**1.93**	**116**	Sg		**Sb**	**02 24 44.2**	**+2.0**
BGG	**Burgeitz**	**1.93**	**352**	*e*Pg		**Pn**	**02 24 16.1**	**+0.5**
BGG				*e*Sg		**Sn**	**02 24 39.9**	**+0.1**
	comp=E,55nm,0.2s							
FUSIO	**Fusio**	**1.94**	**161**	⇓*i*Pn		**Pn**	**02 24 16.5**	**+0.6**
	comp=E,152nm,1.0s							
FUSIO	**Fusio**	**1.94**	**161**	⇓*i*Pn		**Pn**	**02 24 16.5**	**+0.6**
	comp=E,152nm,1.0s							
TNS	**Taunus Mts**	**1.98**	**13**	P		**Pn**	**02 24 14.3**	**-2.1**
TNS				*e*Pn		Pb	02 24 15.7	-3.4
	SNR=25							
TNS				*e*Pg		**Pg**	**02 24 19.5**	**-1.5**
TNS				*e*Sn		**Sn**	**02 24 38.6**	**-2.6**
	SNR=1.0							
TNS				*e*Sg		**Sb**	**02 24 44.5**	**+0.8**
	SNR=4.4							
CABF	**La Chapelle**	**2.02**	**214**	*e*Pn		**Pn**	**02 24 16.5**	**-0.4**
	SNR=1.0							
CABF	**La Chapelle**	**2.02**	**214**	*e*Pg		**Pg**	**02 24 22.4**	**+0.7**
CABF				*e*Sn		**Sn**	**02 24 40.0**	**-2.2**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**02 24 48.2**	**+0.2**
	comp=E,35nm,0.2s,SNR=1.0							
CABF	**La Chapelle**	**2.02**	**214**	*e*Pn		**Pn**	**02 24 16.5**	**-0.4**
	SNR=1.0							
CABF	**La Chapelle**	**2.02**	**214**	*e*Pg		**Pg**	**02 24 22.4**	**+0.7**
CABF				*e*Sn		**Sn**	**02 24 40.0**	**-2.2**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**02 24 48.2**	**+0.2**
	comp=E,17nm,0.2s,SNR=1.0							
DAVOX	**Davos/Dischmat**	**2.09**	**136**	⇓*i*Pn		**Pn**	**02 24 18.8**	**+0.8**
	comp=E,149nm,0.5s							
DAVOX	**Davos/Dischmat**	**2.09**	**136**	⇓*i*Pn		**Pn**	**02 24 18.8**	**+0.8**
	comp=E,149nm,0.5s							
HILG	**Hillesheim**	**2.12**	**341**	*e*Pg		**Pn**	**02 24 19.0**	**+0.8**
HILG				*e*Sg		**Sn**	**02 24 44.7**	**+0.2**
FUR	**Furstenfeldbru**	**2.36**	**92**	*e*Pg		**Pb**	**02 24 27.2**	**+1.7**
FUR				*e*Sg		**Sb**	**02 24 56.7**	**+2.1**
	SNR=9.2							
FUR	**Furstenfeldbru**	**2.36**	**92**	Pg		**Pb**	**02 24 27.2**	**+1.7**
FUR				Sg		**Sb**	**02 24 56.7**	**+2.1**
	SNR=9.2							
STB	**Steinbach**	**2.38**	**346**	*e*Pn		**Pn**	**02 24 22.2**	**+0.5**
STB	**Steinbach**	**2.38**	**346**	Pn		**Pn**	**02 24 22.2**	**+0.5**
FETA	**Feichten**	**2.38**	**121**	⇑*i*Pn		**Pn**	**02 24 22.5**	**+0.5**
FETA				⇓*i*Sn		**Sn**	**02 24 52.3**	**+1.1**
FETA	**Feichten**	**2.38**	**121**	Pn		**Pn**	**02 24 22.5**	**+0.5**
FETA				Sn		**Sn**	**02 24 52.3**	**+1.1**
SATI	**Passo dei Sala**	**2.42**	**178**	P		**Pn**	**02 24 23.5**	**+0.9**
SATI				S		**Sn**	**02 24 50.8**	**-1.5**
MOTA	**Moosalm**	**2.45**	**111**	⇓*i*Pn		**Pn**	**02 24 23.0**	**+0.1**
MOTA				⇑*i*Sn		**Sn**	**02 24 54.7**	**+1.8**
MOTA	**Moosalm**	**2.45**	**111**	Pn		**Pn**	**02 24 23.0**	**+0.1**
MOTA				Sn		**Sn**	**02 24 54.7**	**+1.8**
KLL	**Kalltalsperre**	**2.54**	**339**	*e*Pn		**Pn**	**02 24 24.2**	**+0.3**
KLL	**Kalltalsperre**	**2.54**	**339**	Pn		**Pn**	**02 24 24.2**	**+0.3**
MEM	**Membach**	**2.58**	**335**	PN		Pn	02 24 27.5	+2.9
MEM				PG		**Pg**	**02 24 31.8**	**-0.5**
MEM				SN		**Sb**	**02 24 59.4**	**-1.3**
	comp=E,29nm,0.0s							
MEM	**Membach**	**2.58**	**335**	Pn		Pn	02 24 27.4	+2.9
GIVF	**Givet**	**2.64**	**314**	*e*Pn		**Pn**	**02 24 25.2**	**-0.1**
	SNR=1.0							
GIVF	**Givet**	**2.64**	**314**	*e*Pg		**Pb**	**02 24 31.7**	**+1.6**
GIVF				*e*Sg		**Sb**	**02 25 05.7**	**+3.3**
	comp=E,21nm,0.2s,SNR=1.0							
GIVF	**Givet**	**2.64**	**314**	*e*Pn		**Pn**	**02 24 25.2**	**-0.1**
	SNR=1.0							
GIVF	**Givet**	**2.64**	**314**	*e*Pg		**Pb**	**02 24 31.7**	**+1.6**
GIVF				*e*Sg		**Sb**	**02 25 05.7**	**+3.3**
	comp=E,11nm,0.2s,SNR=1.0							
BCLA	**Clavier**	**2.66**	**324**	PN		**Pn**	**02 24 27.0**	**+1.3**
BCLA				SN		**Sn**	**02 24 56.5**	**-1.2**
	comp=N,13nm,0.0s							
BCLA	**Clavier**	**2.66**	**324**	Pn		**Pn**	**02 24 26.9**	**+1.3**
BCLA				Sn		**Sn**	**02 24 56.5**	**-1.2**
GRA1	**Grafenberg Arr**	**2.68**	**57**	Pg		**Pb**	**02 24 32.0**	**+1.1**
GRA1				Sg		**Sb**	**02 25 04.6**	**+0.9**
	SNR=4.1							
GRF	**Grafenberg Arr**	**2.68**	**57**	*e*Pg		**Pb**	**02 24 32.0**	**+1.1**
GRF				*e*Sg		**Sb**	**02 25 04.6**	**+0.9**
	SNR=4.1							
DOU	**Dourbes**	**2.74**	**312**	PN		**Pn**	**02 24 27.6**	**+0.8**
DOU				SN		**Sn**	**02 25 02.5**	**+2.7**
	comp=N,21nm,0.0s							
DOU	**Dourbes**	**2.74**	**312**	Pn		**Pn**	**02 24 27.5**	**+0.8**
DOU				Sn		**Sn**	**02 25 02.5**	**+2.7**
TRAV	**Traversella**	**2.78**	**180**	P		**Pn**	**02 24 29.0**	**+1.7**
LOR	**Lormes**	**2.81**	**250**	*e*Pn		**Pn**	**02 24 26.2**	**-1.5**
	baz=78,SNR=1.0							
LOR	**Lormes**	**2.81**	**250**	*e*Pg		**Pg**	**02 24 36.6**	**-0.2**
	baz=67							
LOR				*e*Sg		**Sg**	**02 25 12.4**	**-0.9**
	comp=N,70nm,0.3s,baz=75,SNR=1.0							
LOR	**Lormes**	**2.81**	**250**	*e*Pn		**Pn**	**02 24 26.2**	**-1.5**
	SNR=1.0							
LOR	**Lormes**	**2.81**	**250**	*e*Pg		**Pg**	**02 24 36.6**	**-0.2**
LOR				*e*Sg		**Sg**	**02 25 12.4**	**-0.9**
	comp=N,35nm,0.3s,SNR=1.0							
WTTA	**Wattenberg**	**2.82**	**110**	⇑*e*Pn		**Pn**	**02 24 29.4**	**+1.4**
	SNR=5.2							
WTTA	**Wattenberg**	**2.82**	**110**	Pn		**Pn**	**02 24 29.4**	**+1.4**
	SNR=5.2							
LPL	**La Plagne**	**2.86**	**194**	*e*Pn		**Pn**	**02 24 28.5**	**-0.1**
	SNR=1.0							
LPL	**La Plagne**	**2.86**	**194**	*e*Pg		**Pg**	**02 24 38.1**	**+0.3**
LPL				*e*Sg		**Sg**	**02 25 14.4**	**-0.5**
	comp=N,22nm,0.5s							
LPL	**La Plagne**	**2.86**	**194**	*e*Pn		**Pn**	**02 24 28.5**	**-0.1**
	SNR=1.0							
LPL	**La Plagne**	**2.86**	**194**	*e*Pg		**Pg**	**02 24 38.1**	**+0.3**
LPL				*e*Sg		**Sg**	**02 25 14.4**	**-0.5**
	comp=N,11nm,0.5s							
LPG	**La Pl

	SNR=1.0								
MBDF					*e*Sg		**Sg**	02 25 38.2	-1.3
	comp=N,10nm,0.6s,SNR=1.0								
NKC	**Novy Kostel**	**3.64**	**56**	*e*PG		**Pb**	02 24 48.4	+1.2	
NKC				*e*SG		**Sb**	02 25 34.0	+2.7	
	comp=N,12nm,0.3s								
NKC	**Novy Kostel**	**3.64**	**56**	Pg		**Pb**	02 24 48.4	+1.2	
NKC				Sg		**Sb**	02 25 34.0	+2.7	
	comp=N,12nm,0.3s								
GUNZ	**Gunzen**	**3.65**	**54**	*e*Pn		Pn	02 24 36.8	-2.4	
	SNR=1.7								
GUNZ	**Gunzen**	**3.65**	**54**	Pn		Pn	02 24 36.8	-2.4	
	SNR=1.7								
WERD	**Werda**	**3.68**	**52**	*e*Pn		**Pn**	02 24 38.7	-0.9	
	SNR=2.5								
WERD				*e*Pg		**Pb**	02 24 49.9	+2.1	
WERD	**Werda**	**3.68**	**52**	Pn		**Pn**	02 24 38.7	-0.9	
	SNR=2.5								
TANN	**Tannenbergstha**	**3.74**	**54**	*e*Pn		**Pn**	02 24 40.6	+0.1	
	SNR=3.5								
TANN				*e*Pg		Pb	02 24 51.7	+2.7	
TANN	**Tannenbergstha**	**3.74**	**54**	Pn		**Pn**	02 24 40.6	+0.1	
	SNR=3.5								
BGF	**Bois d'Agland**	**3.75**	**244**	*e*Pn		**Pn**	02 24 39.6	-1.0	
	SNR=1.0								
BGF	**Bois d'Agland**	**3.75**	**244**	*e*Pg		**Pg**	02 24 53.6	-1.1	
BGF				*e*Sg		**Sg**	02 25 41.2	-2.1	
	comp=N,34nm,0.4s,SNR=1.0								
KHC	**Kasperske Hory**	**3.95**	**76**	*e*PN		**Pn**	02 24 43.0	-0.4	
KHC				*e*PG		**Pb**	02 24 53.5	+1.0	
KHC				*e*SG		**Sb**	02 25 45.0	+4.7	
KHC	**Kasperske Hory**	**3.95**	**76**	Pn		**Pn**	02 24 43.0	-0.4	
GEC2	**GERESS Array S**	**3.99**	**80**	*e*Pn		**Pn**	02 24 43.2	-0.8	
	SNR=8.3								
GEC2				*e*Sn		**Sn**	02 25 27.4	-3.4	
	SNR=2.9								
GEC2				*e*Sg		**Sg**	02 25 48.3	-2.8	
	SNR=5.4								
GEC2	**GERESS Array S**	**3.99**	**80**	Pn		**Pn**	02 24 43.2	-0.8	
	SNR=8.3								
GEC2				Sn		**Sn**	02 25 27.4	-3.4	
	SNR=2.9								
GEC2				Sg		**Sg**	02 25 48.3	-2.8	
	SNR=5.4								
VIVF	**Saint-Julien-l**	**4.04**	**213**	*e*Pn		**Pn**	02 24 43.0	-1.6	
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.04**	**213**	*e*Pg		**Pg**	02 24 58.5	-1.7	
VIVF				*e*Sn		**Sn**	02 25 29.1	-2.7	
	SNR=1.0								
VIVF				*e*Sg		**Sg**	02 25 51.7	-0.8	
	comp=N,17nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**4.04**	**213**	*e*Pn		**Pn**	02 24 43.0	-1.6	
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.04**	**213**	*e*Pg		**Pg**	02 24 58.5	-1.7	
VIVF				*e*Sn		**Sn**	02 25 29.1	-2.7	
	SNR=1.0								
VIVF				*e*Sg		**Sg**	02 25 51.7	-0.8	
	comp=N,8.5nm,0.4s,SNR=1.0								
TCF	**Toulx Ste Croi**	**4.27**	**244**	*e*Pn		**Pn**	02 24 46.7	-1.0	
TCF	**Toulx Ste Croi**	**4.27**	**244**	*e*Pg		**Pg**	02 25 02.8	-1.8	
TCF				*e*Sg		**Sg**	02 25 58.2	-1.7	
	comp=N,21nm,0.4s,SNR=1.0								
TCF	**Toulx Ste Croi**	**4.27**	**244**	*e*Pn		**Pn**	02 24 46.7	-1.0	
TCF	**Toulx Ste Croi**	**4.27**	**244**	*e*Pg		**Pg**	02 25 02.8	-1.8	
TCF				*e*Sg		**Sg**	02 25 58.2	-1.7	
	comp=N,10nm,0.4s,SNR=1.0								
SBF	**Sospel**	**4.44**	**183**	*e*P		**Pn**	02 24 52.6	+2.5	
	SNR=1.0								
SBF	**Sospel**	**4.44**	**183**	*e*P		**Pn**	02 24 52.6	+2.5	
	SNR=1.0								
CLL	**Collm**	**4.55**	**46**	*e*(Pn)		Pn	02 24 49.0	-2.5	
CLL				*e*Pg		Pb	02 25 07.0	+4.4	
CLL				*e*Sg		**Sg**	02 26 07.0	-1.9	
	comp=Z,12nm,0.6s								
SMRF	**Simiane la Rot**	**4.57**	**200**	*e*Pn		**Pn**	02 24 51.6	-0.3	
	SNR=1.0								
SMRF				*e*Sn		**Sn**	02 25 42.1	-2.9	
	comp=Z,4.4nm,0.4s								
SMRF	**Simiane la Rot**	**4.57**	**200**	*e*Pn		**Pn**	02 24 51.6	-0.3	
	SNR=1.0								
SMRF				*e*Sn		**Sn**	02 25 42.1	-2.9	
	comp=Z,2.2nm,0.4s								
PRU	**Pruhonice**	**4.77**	**67**	*e*PG		Pb	02 25 09.4	+2.9	
PRU				*e*SB		Sb	02 26 09.9	+6.1	
	comp=Z,8.6nm,0.3s								
PRU	**Pruhonice**	**4.77**	**67**	Pg		Pb	02 25 09.4	+2.9	
PRU				Sg		Sb	02 26 09.9	+6.1	
	comp=Z,8.6nm,0.3s								
BRG	**Berggiesshubel**	**4.79**	**55**	PG		Pb	02 25 10.7	+4.0	
BRG				SG		Sb	02 26 10.9	+6.7	
	comp=Z,5.4nm,0.3s								
LASF	**Ste Croix**	**5.01**	**214**	*e*Pn		**Pn**	02 24 57.5	-0.4	
	SNR=1.0								
LASF				*e*Sn		**Sn**	02 25 52.1	-3.6	
	comp=Z,11nm,1.0s,SNR=1.0								
LASF	**Ste Croix**	**5.01**	**214**	*e*Pn		**Pn**	02 24 57.5	-0.4	
	SNR=1.0								
LASF				*e*Sn		**Sn**	02 25 52.1	-3.6	
	comp=Z,5.7nm,1.0s,SNR=1.0								
LMR	**La Mourre**	**5.03**	**190**	*e*Pn		**Pn**	02 24 58.5	+0.3	
	SNR=1.0								
LMR				*e*Sn		**Sn**	02 25 52.6	-3.7	
	comp=Z,1.6nm,0.3s								
LMR	**La Mourre**	**5.03**	**190**	*e*Pn		**Pn**	02 24 58.5	+0.3	
	SNR=1.0								
LMR				*e*Sn		**Sn**	02 25 52.6	-3.7	
	comp=Z,0.8nm,0.3s								
TREC	**Trest**	**5.21**	**76**	*ex*		Sb	02 26 23.2	+6.7	
	comp=Z,11nm,0.3s								
TREC	**Trest**	**5.21**	**76**	Sg		Sb	02 26 23.2	+6.7	
	comp=Z,11nm,0.3s								
RJF	**Les Rejaudoux**	**5.22**	**237**	*e*Sg		**Sg**	02 26 28.3	-2.0	
	comp=Z,14nm,0.6s,SNR=1.0								
RJF	**Les Rejaudoux**	**5.22**	**237**	*e*Sg		**Sg**	02 26 28.3	-2.0	
	comp=Z,6.8nm,0.6s,SNR=1.0								
LDF	**La Druitiere**	**5.25**	**276**	*e*Sg		Sg	02 26 26.3	-4.9	
	comp=Z,19nm,0.6s,SNR=1.0								
DPC	**Dobruska-Polom**	**5.97**	**67**	*e*SB		Sg	02 26 47.9	-6.7	
OKC	**Ostrava-Krasne**	**7.01**	**73**	*ex*		Sg	02 27 20.2	-7.5	
	comp=Z,13nm,0.7s								

IDC 16 02:52:29.7±7.0, 24°.15S×66°.83W, h131km±65km, mb3.3/2, mb1 3.5/2, mb1mx3.2/17, mbtmp3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/12, Error ellipse: s-maj=60.3km s-min=47.3km az=140.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.53**	**189**	P	Pn	02 54 16.9	0.0
	0.1nm,0.3s,baz=132,slow=14,SNR=8.0						
CFAA				S	Sn	02 55 41.4	+0.6
	0.1nm,0.3s,baz=165,slow=18,SNR=9.3						
TEIG	**Tepich**	**48.81**	**333**	LR	LR	03 22 32.8	
	comp=Z,54nm,20.7s,baz=285,slow=37						
TORD	**Torodi Ar. Bea**	**76.47**	**69**	P	P	03 04 05.6	-0.1
	0.4nm,0.9s,baz=240,slow=5.6,SNR=7.5						
YKA	**Yellowknife Ar**	**94.32**	**340**	P	P	03 05 33.6	-0.2
	0.1nm,0.5s,baz=134,slow=4.8,SNR=7.3						
WRA	**Warramunga Arr**	**131.56**	**207**	PKP	PKPdf	03 11 27.2	-0.6
	0.1nm,0.3s,baz=154,slow=1.7,SNR=4.3						
MKAR	**Makanchi Array**	**146.54**	**40**	PKPbc	PKPbc	03 11 55.3	-0.4
	0.5nm,0.5s,baz=319,slow=3.0,SNR=8.9						

*TIF **16** 04:01:45.6, 42°.56N×43°.46E, h11km±2km*
*CSEM **16** 04:01:47.2±0.6, 42°.56N×43°.38E, h2km, MD2.9, Error ellipse: s-maj=100.0km s-min=11.7km az=133.0*
*DDA **16** 04:01:49.4, 41°.95N×43°.76E, h18km, MD2.9*

ISC 16 04:01:45.8±3.0, 42°.6N±0°.2×43°.3E±0°.1, h0km±16km, n11, σ0§82/21, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.13**	**96**	P	**Pg**	**04 01 48.1**	**-0.1**
ONI				S	**Sg**	**04 01 49.7**	**-0.2**
ONI	**Oni**	**0.13**	**96**	P	**Pg**	**04 01 48.1**	**-0.1**
ONI				S	**Sg**	**04 01 49.7**	**-0.2**
ARTV	**Artvin**	**1.74**	**216**	*i* P	**Pn**	**04 02 18.2**	**+0.8**
ARTV				*i* S	**Sn**	**04 02 40.8**	**+0.4**
ARTV	**Artvin**	**1.74**	**216**	*i* P	**Pn**	**04 02 18.2**	**+0.8**
ARTV				*i* S	**Sn**	**04 02 40.8**	**+0.4**
DBOC	**Borcka**	**1.74**	**224**	*i* P	**Pb**	**04 02 18.6**	**0.0**
DBOC				*i* S	**Sn**	**04 02 37.3**	**-2.8**
DBOC	**Borcka**	**1.74**	**224**	*i* P	**Pb**	**04 02 18.6**	**0.0**
DAGI	**Agillar**	**1.84**	**214**	*i* P	**Pn**	**04 02 19.6**	**+0.9**
DAGI				*i* S	**Sg**	**04 02 44.6**	**-0.2**
DBAD	**Bademkaya**	**1.98**	**217**	*i* P	**Pb**	**04 02 22.6**	**-0.1**
DBAD				*i* S	**Sb**	**04 02 48.1**	**+0.2**
DBAD	**Bademkaya**	**1.98**	**217**	*i* P	**Pb**	**04 02 22.6**	**-0.1**
DBAD				*i* S	**Sb**	**04 02 48.1**	**+0.2**
DDEM	**Demirkent**	**2.06**	**214**	*i* P	**Pb**	**04 02 24.0**	**-0.1**
DDEM				*i* S	**Sn**	**04 02 47.5**	**-0.6**
DDEM	**Demirkent**	**2.06**	**214**	*i* P	**Pb**	**04 02 24.0**	**-0.1**
DDEM				*i* S	**Sn**	**04 02 47.5**	**-0.6**

*ISCJB **16** 04:02:20.0±0.6, 47°.1N±0°.1×147°.2E±0°.2, h346km, mb3.1/10, Error ellipse: s-maj=19.6km s-min=10.2km az=141.2*
*IDC **16** 04:02:21.1±2.0, 47°.12N×147°.17E, h344km±23km, mb2.9/10, mb1 3.2/14, mb1mx3.0/27, mbtmp3.6/14, Error ellipse: s-maj=21.9km s-min=15.2km az=154.0*

ISC 16 04:02:21.1±0.7, 47°.1N±0°.1×147°.2E±0°.1, h346km, n14, σ0§59/15, mb3.3/10, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**4.39**	**229**	P	**Pn**	**04 03 33.2**	**-0.7**
	1.0nm,0.3s,baz=74,slow=7.4,SNR=5.8						
USRK	**Ussuriysk Arra**	**11.04**	**260**	P	**Pn**	**04 04 51.6**	**+0.2**
	0.4nm,0.3s,baz=65,slow=12,SNR=5.5						
MJAR	**Matsushiro Arr**	**12.48**	**216**	P	**Pn**	**04 05 08.9**	**+0.3**
	0.2nm,0.3s,baz=43,slow=9.0,SNR=3.3						
KSRS	**Korea Array**	**17.18**	**243**	P	**P**	**04 05 59.8**	**+0.5**
	0.3nm,0.3s,baz=51,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**27.38**	**287**	P	**P**	**04 07 36.4**	**+0.6**
	0.6nm,0.9s,baz=62,slow=8.1,SNR=3.5						
ILAR	**Eielson Array**	**38.81**	**39**	P	**P**	**04 09 12.9**	**-0.3**
	0.8nm,0.6s,baz=252,slow=5.9,SNR=18						
MKAR	**Makanchi Array**	**43.16**	**295**	P	**P**	**04 09 48.5**	**-0.1**
	0.3nm,0.5s,baz=54,slow=6.0,SNR=4.6						
YKA	**Yellowknife Ar**	**53.03**	**35**	P	**P**	**04 11 02.6**	**-0.4**
	0.2nm,0.6s,baz=302,slow=7.0,SNR=5.8						
YKA				PcP	**PcP**	**04 12 06.7**	**+0.4**
	0.1nm,0.4s,baz=302,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**61.94**	**332**	P	**P**	**04 12 03.7**	**-0.8**
	0.8nm,0.6s,baz=64,slow=8.7,SNR=6.1						
NVAR	**Mina Array Bea**	**65.80**	**59**	P	**P**	**04 12 30.8**	**+0.6**
	0.3nm,0.4s,baz=288,slow=7.2,SNR=5.0						
NOA	**NORSAR Array B**	**66.51**	**338**	P	**P**	**04 12 33.3**	**-0.8**
	0.2nm,0.4s,baz=28,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**67.72**	**193**	P	**P**	**04 12 41.5**	**-0.5**
	0.3nm,0.4s,baz=9.2,slow=6.7,SNR=4.9						
PDAR	**Pinedale Array**	**67.74**	**51**	P	**P**	**04 12 42.9**	**+0.5**
	0.6nm,0.6s,baz=80,slow=0.9,SNR=6.4						
TXAR	**Lajitas Array**	**80.77**	**57**	P	**P**	**04 13 57.5**	**+0.7**
	0.4nm,0.5s,baz=296,slow=3.9,SNR=10						

IDC 16 04:20:22.7±1.3, 7°.09S×128°.92E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/18, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=121.1km s-min=30.6km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.81**	**158**	Pn	Pn	04 23 40.0	0.0
	0.3nm,0.3s,baz=342,slow=13,SNR=11						
WRA					Sn	04 26 09.3	-5.0
	0.1nm,0.3s,baz=339,slow=23,SNR=5.5						
SONM	**Songino Array**	**58.20**	**342**	P	P	04 30 18.8	+0.1
	1.0nm,1.1s,baz=169,slow=8.2,SNR=5.3						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	04 31 20.5	-1.6
	0.3nm,0.5s,baz=115,slow=7.3,SNR=6.8						
ZALV	**Zalesovo Beam**	**71.19**	**334**	P	P	04 31 44.7	+1.4
	0.3nm,0.3s,baz=119,slow=5.1,SNR=3.5						
LPAZ	**La Paz**	**151.29**	**144**	PKPbc	PKPbc	04 40 19.8	-0.3
	0.6nm,0.4s,baz=180,slow=4.0,SNR=5.0						

IDC 16 04:34:36.2±5.0, 34°.95S×101°.59W, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.0/17, mbtmp4.2/4, MS3.3/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=148.2km s-min=40.8km az=7.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**35.20**	**67**	P	P	04 41 33.0	+0.1
	3.4nm,0.9s,baz=222,slow=5.6,SNR=8.0						
LPAZ				LR	LR	04 52 25.2	
	comp=Z,56nm,21.7s,baz=206,slow=30						
NVAR	**Mina Array Bea**	**74.64**	**346**	P	P	04 46 18.3	+1.0
	1.6nm,0.8s,baz=171,slow=6.4,SNR=8.2						
PDAR	**Pinedale Array**	**77.68**	**354**	P	P	04 46 34.3	-0.3
	1.5nm,0.9s,baz=149,slow=9.3,SNR=8.0						
ULM	**Lac du Bonnet**	**84.98**	**4**	P	P	04 47 11.3	-1.5
	1.2nm,0.5s,baz=227,slow=6.2,SNR=2.6						
H01W1	**Cape Leeuwin H**	**102.91**	**210**	T	T	06 43 00.6	
	baz=150,slow=75,SNR=3.5						
H01W2	**Cape Leeuwin H**	**102.91**	**209**	T	T	06 43 03.8	
	baz=150,slow=75,SNR=3.8						
H01W3	**Cape Leeuwin H**	**102.92**	**210**	T	T	06 43 08.4	
	baz=150						
SONM	**Songino Array**	**155.53**	**310**	PKPab	PKPab	04 54 57.1	-0.3
	0.4nm,0.8s,baz=90,slow=2.9,SNR=2.6						

IDC 16 04:44:06.1±3.8, 23°.85N×141°.90E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=484.6km s-min=29.1km az=108.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.15**	**190**	P	P	04 52 16.5	-0.1
	1.0nm,1.1s,baz=7.7,slow=8.5,SNR=3.0						
ILAR	**Eielson Array**	**60.68**	**28**	P	P	04 54 18.2	-0.7
	0.3nm,0.7s,baz=243,slow=6.0,SNR=4.5						
YKA	**Yellowknife Ar**	**75.11**	**28**	P	P	04 55 50.3	+0.6
	0.3nm,0.7s,baz=287,slow=5.5,SNR=4.7						

*ISCJB **16** 04:46:11.6±0.6, 56°.28S±0°.07×148°.8E±0°.3, h10km, mb4.3/8, MS3.7/10, Error ellipse: s-maj=20.4km s-min=10.5km az=175.5*
*IDC **16** 04:46:11.7±0.9, 56°.29S×148°.72E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.2/13, mbtmp4.2/5, ML3.7/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/20, Error ellipse: s-maj=44.4km s-min=21.2km az=83.0*
*NEIC **16** 04:46:13.5±0.4, 56°.31S×148°.31E, h10km, mb4.5/7, Error ellipse: s-maj=20.8km s-min=8.3km az=87.0*

ISC 16 04:46:13.3±0.6, 56°.29S±0°.09×148°.6E±0°.2, h10km, n45, σ0§68/30, mb4.4/8, MS3.7/10, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**19.06**	**58**	P	**P**	**04 50 34.4**	**-1.1**
RPZ	**Rata Peaks**	**19.06**	**58**	P	**P**	**04 50 34.4**	**-1.1**
	0.2nm,0.3s,baz=229,slow=9.3,SNR=2.2						
RPZ				LR	LR	04 56 53.7	
	comp=Z,501nm,20.5s,baz=220,slow=34						
CASY	**Casey**	**20.47**	**225**	*e*P	**P**	**04 50 48.6**	**-2.1**
	13nm,1.0s						
VNDA	**Vanda**	**21.83**	**172**	*e*P	**P**	**04 51 06.0**	**+0.7**
	64nm,1.7s						
VNDA	**Vanda**	**21.83**	**172**	P	**P**	**04 51 05.2**	**-0.2**
	5.1nm,1.0s,baz=341,slow=12,SNR=6.3						
VNDA				LR	LR	04 57 41.6	
	comp=Z,59nm,21.7s,baz=347,slow=32						
STKA	**Stephens Creek**	**24.89**	**346**	*e*P	**P**	**04 51 36.8**	**+0.7**
	3.7nm,1.3s						
STKA	**Stephens Creek**	**24.89**	**346**	P	**P**	**04 51 36.4**	**+0.3**
	6.3nm,1.0s,baz=163,slow=14,SNR=4.7						
STKA				LR	LR	05 00 36.1	
	comp=Z,117nm,18.2s,baz=188,slow=35						
URZ	**Urewera**	**26.17**	**59**	LR	LR	05 01 31.8	
	comp=Z,254nm,21.3s,baz=212,slow=35						
H01W1	**Cape Leeuwin H**	**31.69**	**298**	T	T	05 25 24.3	
	baz=143,slow=75,SNR=240						
H01W2	**Cape Leeuwin H**	**31.70**	**298**	T	T	05 25 24.1	
	baz=143,slow=75,SNR=190						
H01W3	**Cape Leeuwin H**	**31.71**	**298**	T	T	05 25 24.9	
	baz=143,slow=75,SNR=184						
NWAO	**Narrogin (SRO)**	**31.82**	**304**	LR	LR	05 02 25.3	
	comp=Z,263nm,19.0s,baz=170,slow=30						

QSPA	**South Pole Qui**	**33.82**	**180**	P		**P**	**04 52 55.4**	**0.0**	
QSPA	**South Pole Qui**	**33.82**	**180**	P		**P**	**04 52 55.4**	**0.0**	
	2.5nm,0.9s,baz=315,slow=4.4,SNR=3.6								
QSPA				LR		LR	05 06 27.9		
	comp=Z,186nm,18.5s,baz=21,slow=36								
AS31	**Alice Springs**	**34.31**	**336**	*e*P		**P**	**04 53 00.1**	**+0.2**	
DZM	**Mont Dzumac**	**36.65**	**29**	*e*P		**P**	**04 53 19.9**	**0.0**	
	15nm,1.3s								
WRA	**Warramunga Arr**	**37.82**	**338**	P		**P**	**04 53 29.9**	**+0.1**	
WRA	**Warramunga Arr**	**37.82**	**338**	P		**P**	**04 53 29.9**	**+0.1**	
	2.7nm,0.8s,baz=164,slow=7.7,SNR=14								
WRA				LR		LR	05 09 31.0		
	comp=Z,67nm,18.1s,baz=175,slow=37								
WRAB	**Tennant Creek**	**37.83**	**338**	*e*P		**P**	**04 53 29.4**	**-0.5**	
	11nm,1.1s								
MAW	**Mawson**	**38.48**	**218**	LR		LR	05 07 17.1		
	comp=Z,263nm,20.8s,baz=94,slow=33								
COEN	**Coen**	**42.45**	**352**	*e*P		**P**	**04 54 08.3**	**+0.1**	
SNAA	**Sanae**	**50.76**	**191**	*e*P		**P**	**04 55 13.5**	**+0.6**	
	8.2nm,1.0s								
RAR	**Rarotonga**	**51.59**	**69**	LR		LR	05 11 56.7		
	comp=Z,75nm,22.0s,baz=45,slow=30								
PMSA	**Palmer Station**	**56.72**	**164**	*e*P		**P**	**04 55 57.0**	**+0.6**	
H08S2	**Diego Garcia H**	**75.95**	**277**	T		T	06 20 30.7		
	baz=144,SNR=41								
H08S1	**Diego Garcia H**	**75.96**	**277**	T		T	06 20 30.1		
	baz=144,SNR=6.2								
H08S3	**Diego Garcia H**	**75.97**	**277**	T		T	06 20 33.7		
	baz=144,SNR=59								
H08N1	**Diego Garcia H**	**77.84**	**277**	T		T	06 22 56.8		
	baz=139,slow=76,SNR=49								
H08N3	**Diego Garcia H**	**77.85**	**277**	T		T	06 22 59.1		
	baz=139,slow=76,SNR=36								
H08N2	**Diego Garcia H**	**77.86**	**277**	T		T	06 22 57.9		
	baz=139,slow=76,SNR=28								
BOSA	**Boshof**	**82.74**	**228**	LR		LR	05 31 26.4		
	comp=Z,82nm,19.6s,baz=172,slow=33								
CMAR	**Chiang Mai Arr**	**85.31**	**313**	LR		LR	05 35 21.3		
	comp=Z,31nm,20.1s,baz=320,slow=34								
CHTO	**Chiang Mai**	**85.63**	**314**	*e*P		**P**	**04 58 52.3**	**+0.4**	
	1.8nm,0.6s								
YKA	**Yellowknife Ar**	**140.00**	**46**	PKP		**PKPdf**	**05 05 40.4**	**+0.1**	
YKA	**Yellowknife Ar**	**140.00**	**46**	PKP		**PKPdf**	**05 05 40.4**	**+0.1**	
	0.1nm,0.7s,baz=239,slow=2.7,SNR=2.8								
AKASG	**Malin Array Be**	**144.52**	**287**	PKP		**PKPab**	**05 05 46.4**	**-0.8**	
AKASG	**Malin Array Be**	**144.52**	**287**	PKP		**PKPab**	**05 05 46.4**	**-0.8**	
	0.1nm,0.4s,baz=106,slow=2.6,SNR=3.9								
SUW	**Suwalki**	**149.39**	**289**	*e*PKPbc		**PKPbc**	**05 06 01.1**	**-0.1**	
MORC	**Moravsky Berou**	**150.37**	**278**	*e*PKPbc		**PKPbc**	**05 06 04.7**	**+0.9**	
FINES	**FINESS Array B**	**150.68**	**304**	PKPbc		**PKPbc**	**05 06 04.8**	**+0.8**	
FINES	**FINESS Array B**	**150.68**	**304**	PKPbc		**PKPbc**	**05 06 04.8**	**+0.8**	
	3.5nm,0.9s,baz=90,slow=3.2,SNR=6.2								
GERES	**GERESS Array B**	**152.01**	**274**	PKPbc		**PKPbc**	**05 06 07.8**	**+0.1**	
GERES	**GERESS Array B**	**152.01**	**274**	PKPbc		**PKPbc**	**05 06 07.8**	**+0.1**	
	0.9nm,0.9s,baz=130,slow=4.1,SNR=4.1								
ARCES	**ARCESS Array B**	**152.13**	**321**	PKPbc		**PKPbc**	**05 06 07.0**	**-0.3**	
ARCES	**ARCESS Array B**	**152.13**	**321**	PKPbc		**PKPbc**	**05 06 07.0**	**-0.3**	
	2.1nm,0.8s,baz=88,slow=2.1,SNR=3.9								

*IDC **16** 05:11:05.7±0.6, 5°.29N×72°.76W, h0km, mb4.0/12, mb1 4.3/13, mb1mx4.0/26, mbtmp4.1/13, ML4.0/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/47, Error ellipse: s-maj=22.3km s-min=14.7km az=47.0*
*ISCJB **16** 05:11:06.1±0.3, 5°.17N±0°.04×72°.81W±0°.04, h10km, mb4.3/24, MS3.5/7, Error ellipse: s-maj=6.0km s-min=4.8km az=141.5*
*BJI **16** 05:11:07.0, 5°.10N×72°.90W, h10km*
*NEIC **16** 05:11:07.7±0.4, 5°.11N×72°.87W, h10km, mb4.4/13, ML3.9(RSNC), Error ellipse: s-maj=7.5km s-min=6.1km az=114.0*
NEIC Felt at Bogota, Paez, Puerto Lopez, Tauramena and Villavicencio.

ISC 16 05:11:07.0±0.4, 5°.07N±0°.05×72°.82W±0°.04, h10km, n202, σ1§01/205, mb4.3/24, MS3.4/7, 62C-63D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUSC	**La Rusia**	**0.89**	**343**	*e*P	**Pn**	**05 11 24.9**	**-1.0**
CHIC	**Chingaza**	**1.00**	**245**	*i* P	**Pg**	**05 11 25.0**	**-1.3**
ROSC	**El Rosal**	**1.52**	**262**	*e*P	**Pg**	**05 11 36.2**	**0.0**
ROSC					Sn	**05 11 54.4**	**-0.6**
ROSC	**El Rosal**	**1.52**	**262**	Pn	**Pg**	**05 11 36.3**	**+0.2**
	151nm,0.3s,baz=104,slow=12,SNR=191						
ROSC					Sn	**05 11 54.4**	**-0.6**
	110nm,0.3s,baz=106,slow=18,SNR=13						

baz=36
332A Millersview 36.38 319 ⇓P P 05 18 11.4 -0.2
baz=36
431A Sonora 36.51 318 ⇓P P 05 18 12.8 0.0
baz=36
Z34A Collier Ranch, 36.59 323 ⇑P P 05 18 13.5 +0.2
baz=37
232A Coleman 36.65 320 ⇓P P 05 18 13.6 -0.3
baz=37
133A Hamilton Ranch 36.67 322 ⇑P P 05 18 13.7 -0.4
baz=37
530A J-C Ranch, Com 36.68 316 ⇑P P 05 18 13.7 -0.5
baz=37
331A San Angelo 36.78 319 ⇑P P 05 18 14.9 -0.2
baz=37
Y34A Reagan Ranch, 36.91 324 ⇑P P 05 18 16.4 +0.3
baz=37
231A Bronte 37.11 319 ⇑P P 05 18 17.6 -0.3
baz=37
ABTX Abilene, Hawle 37.13 321 ⇓P P 05 18 17.7 -0.4
baz=37
429A Davenport Ranc 37.35 316 ⇓P P 05 18 19.6 -0.4
baz=37
628A Black Gap, Mar 37.38 314 ⇑P P 05 18 20.2 0.0
baz=37
X34A Smith Ranch, M 37.41 325 ⇑P P 05 18 20.7 +0.3
baz=38
SFIN Scholer Farm 37.43 342 ⇓P P 05 18 21.2 +0.8
baz=38
Z32A Haskell 37.49 322 ⇓P P 05 18 21.2 +0.2
baz=38
230A Sterling City 37.60 319 ⇓P P 05 18 22.1 0.0
baz=38
627A Terlingua Ranc 37.72 314 ⇑P P 05 18 23.0 -0.2
baz=38
X33A Lawton 37.76 324 ⇓P P 05 18 23.0 -0.3
baz=38
W34A Bridge Creek, 37.84 326 ⇓P P 05 18 24.4 +0.4
baz=38
TXAR Lajitas Array 37.86 313 P P 05 18 23.9 -0.4
TXAR PcP PcP 05 20 39.1 -1.7
TXAR Lajitas Array 37.86 313 P P 05 18 23.9 -0.4
1.0nm,0.8s,baz=126,slow=8.4,SNR=12
TXAR PcP PcP 05 20 39.1 -1.7
0.4nm,0.8s,baz=115,slow=4.3,SNR=3.5
Z31A Sharp Cattle R 37.91 321 ⇑P P 05 18 25.0 +0.4
baz=38
329A Wagon Wheel Ra 37.93 317 ⇓P P 05 18 24.7 -0.2
baz=38
Y32A R-V Farms, Ver 37.94 323 ⇓P P 05 18 24.8 -0.1
baz=38
428A Kincaid Ranch, 37.95 316 ⇓P P 05 18 25.6 +0.5
baz=38
130A Snyder 37.95 320 ⇑P P 05 18 24.7 -0.4
baz=38
WMOK Wichita Mounta 38.06 324 *e*P P 05 18 24.7 -1.1
5.0nm,1.0s
X32A Elmer 38.13 323 ⇓P P 05 18 26.4 -0.1
baz=38
527A Woodward Ranch 38.27 314 ⇑P P 05 18 28.0 +0.1
baz=38
626A Big Bend Ranch 38.32 313 ⇑P P 05 18 28.5 +0.3
baz=38
Y31A Rekieta Farm, 38.41 322 ⇓P P 05 18 29.4 +0.6
baz=38
328A Wristen Ranch, 38.43 317 ⇓P P 05 18 28.3 -0.7
baz=38
Z30A Sanderson Ranc 38.51 320 ⇓P P 05 18 29.6 -0.1
baz=38
427A Hayter Ranch, 38.53 315 ⇑P P 05 18 29.6 -0.4
baz=38,SNR=7.4
129A Stewart Farms, 38.56 319 ⇓P P 05 18 30.4 +0.2
baz=39
526A Mary Lane Ranc 38.57 314 ⇓P P 05 18 30.2 -0.2
baz=39
W32A Sentinel 38.60 324 ⇓P P 05 18 30.6 +0.2
baz=39
X31A McDonald Ranch 38.69 323 ⇑P P 05 18 31.3 +0.1
baz=39
Y30A Stafford Cattl 38.75 321 ⇓P P 05 18 31.8 +0.1
baz=39,SNR=5.1
Z29A Hungry Hill Ra 38.86 320 ⇓P P 05 18 32.3 -0.3
baz=39,SNR=7.4
426A McDonald Obser 38.87 315 ⇑P P 05 18 32.8 -0.1
baz=39,SNR=6.0
X30A Coker Ranch, T 39.11 322 ⇑P P 05 18 34.8 +0.1
baz=39,SNR=12
326A Caldwell Ranch 39.20 316 ⇓P P 05 18 35.8 +0.2
baz=39
Y29A Porterfield Fa 39.22 321 ⇑P P 05 18 35.8 0.0
baz=39,SNR=5.9
425A Indio Mountain 39.61 314 ⇑P P 05 18 39.0 -0.1
baz=40
Y28A McKinney Farm, 39.62 320 ⇑P P 05 18 39.0 -0.1
baz=40
226B Tecolote Peak, 39.77 316 ⇑P P 05 18 40.8 +0.5
baz=40
Z27A Tatum 39.87 319 ⇓P P 05 18 41.3 +0.1
baz=40,SNR=5.5
AMTX Amarillo 39.90 322 *e*P P 05 18 40.9 -0.4
78nm,2.0s
AMTX Amarillo 39.90 322 ⇓P P 05 18 41.5 +0.1
baz=40
325A Bean Ranch, Si 39.93 315 ⇑P P 05 18 41.6 -0.1
baz=40
MSTX Muleshoe 39.99 320 ⇑P P 05 18 42.3 +0.1
baz=40
Y27A Causey 40.19 319 ⇑P P 05 18 43.3 -0.5
baz=40
R33A Olander Ranch, 40.23 329 ⇑P P 05 18 44.8 +0.8
baz=40
225A Deer Hill, Car 40.24 316 ⇓P P 05 18 44.8 +0.4
baz=40
Z26A Caprock 40.35 318 ⇑P P 05 18 45.3 +0.1
baz=40,SNR=5.5
125A Gardner Draw, 40.45 317 ⇑P P 05 18 46.2 +0.2
baz=40
V29A Stinnett 40.46 323 ⇓P P 05 18 46.6 +0.6
baz=40
X27A F and S Farms, 40.63 320 ⇑P P 05 18 47.8 +0.3
baz=41
Y26A Elida 40.65 319 ⇓P P 05 18 47.9 +0.2
baz=41
224A Cornudas Mount 40.71 315 ⇓P P 05 18 48.6 +0.4
baz=41,SNR=8.6
Z25A Roswell 40.85 317 ⇑P P 05 18 49.6 +0.3
baz=41,SNR=5.2
W27A Bowe Ranch, En 40.88 321 ⇓P P 05 18 49.6 +0.1
baz=41
124A Stringfield Ra 41.02 316 ⇓P P 05 18 51.9 +1.0
baz=41
X26A CR and CF Fran 41.03 320 ⇑P P 05 18 51.0 +0.2
baz=41
V27A Dan Oppiter Fa 41.18 322 ⇑P P 05 18 52.6 +0.6
baz=41
Y25A Mesa, Roswell 41.22 318 ⇑P P 05 18 52.9 +0.5
baz=41
Z24A Sheeppen Canyo 41.32 317 ⇓P P 05 18 53.9 +0.7
baz=41
R30A Dighton 41.43 327 ⇓P P 05 18 54.9 +1.0
baz=42
U27A Thompson Grove 41.61 323 ⇑P P 05 18 56.3 +0.7
baz=42
Y24A Capitan 41.72 318 ⇑P P 05 18 56.7 +0.2
baz=42,SNR=7.8
222A Williams Famil 41.84 314 ⇓P P 05 18 58.3 +0.8
baz=42
S28A Manter 41.85 325 ⇓P P 05 18 58.3 +0.8
baz=42
Z23A Rita Site, Whi 41.88 316 ⇓P P 05 18 58.4 +0.6
baz=42
Y23A Lovelace Mesa, 42.14 317 ⇓P P 05 19 00.6 +0.7
baz=42
U26A Atchley Ranch, 42.16 322 ⇓P P 05 19 00.9 +0.8
baz=42
R28A Tribune 42.32 326 ⇑P P 05 19 01.9 +0.7
baz=42
V25A Rancho No Teng 42.35 321 ⇓P P 05 19 02.1 +0.5
baz=42
Z22A Elephant Butte 42.38 316 ⇓P P 05 19 02.4 +0.5
baz=42
121A Cookes Peak, D 42.56 314 ⇓P P 05 19 04.3 +0.8
baz=43
U25A Circle Dot Ran 42.57 321 ⇑P P 05 19 03.9 +0.5
baz=43
V24A Rampart Ranch, 42.70 320 ⇓P P 05 19 05.3 +0.8
baz=43
R27A Eads 42.85 325 ⇑P P 05 19 06.1 +0.5
baz=43
T25A Trinidad 43.04 322 ⇓P P 05 19 08.3 +1.0
baz=43
319A Douglas 43.05 312 ⇓P P 05 19 08.3 +0.9
baz=43
LAZ Ladron 43.15 317 *e*P P 05 19 08.5 +0.3
2.1nm,0.8s
V23A Ortiz Mt. (NFS 43.30 319 ⇓P P 05 19 10.1 +0.7
baz=43
S25A Robets Cordova 43.40 323 ⇑P P 05 19 10.6 +0.5
baz=43
S24A Houchin Ranch, 43.85 322 ⇑P P 05 19 15.0 +1.1
baz=44
V22A San Miguel Ran 43.87 319 ⇑P P 05 19 14.8 +0.8
baz=44
T23A Casias Ranch, 43.99 321 ⇑P P 05 19 16.0 +1.0
baz=44
SDCO Great Sand Dun 44.10 322 *e*P P 05 19 16.5 +0.6
1.9nm,0.8s
S22A 4UR Ranch, Cre 44.92 321 ⇓P P 05 19 22.7 +0.2
baz=45
X18A Snowflake 45.15 315 ⇓P P 05 19 24.7 +0.5
baz=45
ISCO Idaho Springs 45.49 324 ⇑P P 05 19 27.3 +0.3
baz=46
PV01 Paradox Valley 46.25 320 *e*P P 05 19 33.6 +0.7
L24A Wheatland 46.60 327 ⇑P P 05 19 36.0 +0.5
baz=47
WUAZ Wupatki 46.67 316 *e*P P 05 19 36.6 +0.4
5.5nm,0.9s
WUAZ Wupatki 46.67 316 ⇑P P 05 19 36.9 +0.7
baz=47
Y14A Wickenburg 47.04 313 ⇑P P 05 19 39.4 +0.4
baz=47
U15A North Rim 47.77 316 ⇑P P 05 19 45.6 +0.6
baz=48
GLA Glamis 47.99 311 ⇑P P 05 19 46.8 +0.4
baz=48
W13A Hualapai Mount 48.23 314 ⇑P P 05 19 48.9 +0.5
baz=48
IRM Iron Mountain 48.72 312 ⇑P P 05 19 51.9 -0.1
baz=49
D26A Manning 48.97 333 ⇓P P 05 19 54.6 +0.9
baz=49
ULM Lac du Bonnet 49.03 341 P P 05 19 53.3 -0.7
ULM Lac du Bonnet 49.03 341 P P 05 19 53.3 -0.7
2.5nm,0.8s,baz=147,slow=9.1,SNR=4.2
I21A Big Trails, Te 49.08 327 ⇓P P 05 19 54.8 +0.1
baz=49
A29A Manning Farm, 49.12 337 ⇓P P 05 19 55.2 +0.4
baz=49
J20A Shoshoni 49.21 326 ⇓P P 05 19 56.2 +0.5
baz=49
BELC Belle Mtn. Jos 49.28 311 ⇑P P 05 19 56.4 0.0
baz=49
I20A Worland 49.62 327 ⇓P P 05 19 59.2 +0.3
baz=50
PDAR Pinedale Array 49.67 325 P P 05 19 58.1 -1.2
PDAR Pinedale Array 49.67 325 P P 05 19 58.1 -1.2
0.6nm,0.9s,baz=108,slow=5.8,SNR=3.2
J19A Crowheart 49.69 326 ⇓P P 05 19 59.7 +0.2
baz=50
SCHQ Schefferville 49.85 5 P P 05 20 00.2 0.0
SCHQ Schefferville 49.85 5 P P 05 20 00.2 0.0
5.2nm,0.8s,baz=179,slow=7.8,SNR=5.0
TUQ Turquoise Moun 49.87 313 ⇓P P 05 20 00.5 -0.3
baz=50
HEC Hector,Ludlow 49.89 312 ⇓P P 05 20 00.9 -0.1
baz=50
D24A Glendive 49.90 332 ⇓P P 05 20 01.6 +0.8
baz=50
DUG Dugway 50.13 320 ⇓P P 05 20 02.7 -0.1
baz=50
GSC Goldstone 50.45 313 *e*P P 05 20 05.9 +0.7
2.3nm,0.7s
BGU Big Grassy Mou 50.68 321 *e*P P 05 20 06.0 -1.0
1.8nm,0.9s
D22A Cohagen 50.80 331 ⇑P P 05 20 08.0 +0.3
baz=51
R11A Troy Canyon, C 51.01 317 ⇑P P 05 20 09.7 +0.2
baz=51
B23A Brockton 51.19 333 ⇑P P 05 20 11.4 +0.9
baz=51
A22A Carney Farms, 52.00 333 ⇑P P 05 20 16.7 +0.2
baz=52
TPH Tonopah 52.01 316 *e*P P 05 20 17.0 0.0
2.5nm,0.8s
C20A Veseth Ranch, 52.08 330 ⇑P P 05 20 18.1 +0.9
baz=52
NVAR Mina Array Bea 52.93 315 P P 05 20 23.0 -0.9
NVAR PcP PcP 05 21 33.0 +0.2
NVAR Mina Array Bea 52.93 315 P P 05 20 23.0 -0.9
2.1nm,0.6s,baz=124,slow=6.9,SNR=19
NVAR PcP PcP 05 21 33.0 +0.2
1.1nm,0.6s,baz=141,slow=5.3,SNR=5.5
BSMT Bassoo Peak 55.69 327 *e*P P 05 20 44.6 +0.8
FCC Fort Churchill 56.04 347 *e*P P 05 20 45.3 -0.5
M04C Macdoel 56.85 318 ⇑P P 05 20 52.2 +0.1
baz=57
YKA Yellowknife Ar 65.00 340 P P 05 21 46.4 -0.6
YKA Yellowknife Ar 65.00 340 P P 05 21 46.3 -0.6
1.3nm,0.6s,baz=135,slow=6.4,SNR=56
DBIC Dimbokro 67.58 85 P P 05 22 03.0 -1.5
DBIC Dimbokro 67.58 85 P P 05 22 03.0 -1.5
3.6nm,1.0s,baz=282,slow=6.2,SNR=3.3
MDT Midelt 68.98 57 LR LR 05 48 17.2
comp=Z,46nm,18.4s,baz=85,slow=32
DLBC Dease Lake 69.00 332 LR LR 05 51 27.0
comp=Z,76nm,19.6s,baz=260,slow=35
SUMG Summit 70.65 10 *i* P P 05 22 24.2 +1.3
5.1nm,0.7s
SUMG Summit 70.65 10 *e*P P 05 22 23.8 +0.9
7.1nm,0.8s
TORD Torodi Ar. Bea 73.81 78 P P 05 22 43.4 +1.0
TORD Torodi Ar. Bea 73.81 78 P P 05 22 43.4 +1.0
0.5nm,0.6s,baz=285,slow=5.4,SNR=5.6
RAGM Ragged Mountai 76.69 331 *e*P P 05 23 00.1 +1.9
166nm,0.7s
DOT Dot Lake 77.20 334 *e*P P 05 23 01.0 0.0
3.1nm,0.6s
ILAR Eielson Array 78.67 335 P P 05 23 08.5 -0.6
ILAR Eielson Array 78.67 335 P P 05 23 08.5 -0.6
0.8nm,0.6s,baz=102,slow=4.2,SNR=18
MDJ Mudanjiang 126.60 340 PKP PKPdf 05 30 10.3 -0.6
SONM Songino Array 127.32 1 PKP PKPdf 05 30 11.4 -0.9
SONM Songino Array 127.32 1 PKP PKPdf 05 30 11.5 -0.9
0.3nm,0.6s,baz=356,slow=0.4,SNR=3.8
WMQ Urumqi 128.26 18 PKP PKPdf 05 30 14.3 +0.1
WMQ PP PP 05 32 22.4 +5.5
LZH Lanzhou 138.94 4 *e*PKP PKPdf 05 30 33.5 -1.1
AS31 Alice Springs 148.30 232 *e*PKPbc PKPbc 05 30 53.7 -0.7
WRAB Tennant Creek 149.71 238 *e*PKPdf PKPdf 05 30 52.9 -0.5
WRAB *e*PKPbc PKPbc 05 30 57.6 -0.5
WRA Warramunga Arr 149.72 238 PKP PKPdf 05 30 53.1 -0.3
WRA PKPbc PKPbc 05 30 57.8 -0.3
WRA Warramunga Arr 149.72 238 PKP PKPdf 05 30 53.1 -0.3
6.5nm,0.6s,baz=111,slow=2.4,SNR=43
WRA PKPbc PKPbc 05 30 57.8 -0.3
7.2nm,0.6s,baz=109,slow=2.5,SNR=69

*ISCJB **16** 05:37:13.6±0.2, 59.°85N±0.°02×152.°22W±0.°04, h90km±2km, mb3.9/9, Error ellipse: s-maj=4.1km s-min=3.0km az=135.4*
*NEIC **16** 05:37:15.8, 59.°86N×152.°28W, h75km, MG3.5(AEIC), After AEIC.*
NEIC Felt [III] at Homer. Also felt at Anchor Point.
*IDC **16** 05:37:16.4±2.9, 60.°10N×152.°29W, h82km±20km, mb3.6/9, mb1 3.8/13, mb1mx3.5/32, mbtmp3.7/13, Error ellipse: s-maj=28.4km s-min=18.1km az=169.0*

ISC 16 05:37:14.9±0.6, 59.°85N±0.°03×152.°23W±0.°03, h83km±5km, n115, σ0.°96/141, mb4.1/9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.35**	**122**	P	Pn	05 37 27.9	+0.2
HOM				S	Sn	05 37 37.9	+0.6
ILW	**Iliamna West**	**0.50**	**296**	P	Pn	05 37 28.4	-0.6
NNL	**Ninilchik**	**0.51**	**67**	P	Pn	05 37 29.9	+0.9
NNL				S	Sn	05 37 39.7	+0.3
OPT	**Oil Point**	**0.54**	**249**	P	Pn	05 37 28.9	-0.3
RED	**Redoubt Volcan**	**0.64**	**335**	P	Pn	05 37 29.8	-0.4
RED				S	Sn	05 37 40.8	-0.8
RSO	**Redoubt South**	**0.67**	**337**	*e*Pg	Pn	05 37 30.2	-0.4
BRLK	**Bradley Lake**	**0.69**	**96**	P	Pn	05 37 30.5	-0.1
BRLK				S	Sn	05 37 42.9	+0.5
RDWB	**Redoubt West**	**0.71**	**335**	P	Pn	05 37 30.2	-0.9
RDWB				S	Sn	05 37 42.1	-0.9
RDN	**Redoubt North**	**0.72**	**339**	P	Pn	05 37 30.7	-0.4
AUL	**Augustine Lava**	**0.77**	**233**	P	Pn	05 37 31.4	0.0
AUL				S	Sn	05 37 43.7	-0.1
AUP	**Augustine Pinn**	**0.78**	**232**	P	Pn	05 37 31.6	-0.1
DFR	**Drift River**	**0.78**	**343**	P	Pn	05 37 31.3	-0.4
DFR				S	Sn	05 37 43.5	-0.6
AUH	**Augustine H**	**0.78**	**232**	P	Pn	05 37 31.6	-0.1
AUI	**Augustine Isla**	**0.80**	**230**	P	Pn	05 37 31.5	-0.2
NCT	**North Crescent**	**0.80**	**334**	P	Pn	05 37 31.6	-0.3
NCT				S	Sn	05 37 43.5	-1.0
PDB	**Pedro Bay**	**0.99**	**267**	P	Pn	05 37 33.3	-0.7
PDB				S	Sn	05 37 46.9	-1.3
SLKM	**Skilak Lake**	**1.20**	**56**	P	Pn	05 37 36.8	+0.3
MCNL	**McNeil River**	**1.26**	**239**	P	Pn	05 37 36.5	-0.7
MCNL				S	Sn	05 37 52.3	-1.7
SPU	**Mount Spurr**	**1.34**	**4**	P	Pn	05 37 38.5	+0.2
CKL	**Chakachamna La**	**1.35**	**358**	P	Pn	05 37 38.7	+0.2
CKL				S	Sn	05 37 57.1	+0.8
SPBG	**Spurr Blockage**	**1.42**	**357**	P	Pn	05 37 39.5	+0.2
SPBG				S	Sn	05 37 57.7	0.0
SEW	**Seward**	**1.42**	**78**	P	Pn	05 37 39.1	-0.1
SEW				S	Sn	05 37 57.4	-0.2
BGL	**Barrier Glacie**	**1.42**	**357**	P	Pn	05 37 39.6	+0.3
CGLM	**Capps Glacier**	**1.47**	**4**	P	Pn	05 37 40.6	+0.7
STLK	**Strandline Lak**	**1.67**	**7**	P	Pn	05 37 43.0	+0.5
FIB	**Fire Island**	**1.67**	**37**	P	Pn	05 37 43.9	+1.5
RC01	**Rabbit Creek A**	**1.76**	**44**	P	Pn	05 37 43.7	+0.2
RC01				S	Sn	05 38 06.2	+0.9
SUA	**Susitna One**	**1.78**	**24**	P	Pn	05 37 44.7	+0.7
SUA				S	Sn	05 38 07.2	+1.0
KAHC	**Katmai Hardscr**	**1.86**	**231**	P	Pn	05 37 44.7	-0.4
KDAK	**Kodiak Island**	**2.08**	**185**	P	Pn	05 37 47.2	-0.6
KDAK				S	Sn	05 38 12.8	-0.1
SVW2	**Sparrevohn**	**2.08**	**309**	P	Pn	05 37 47.4	-0.5
KAKN	**Katmai Knife C**	**2.13**	**224**	P	Pn	05 37 48.8	+0.1
KVTA	**Katmai Vly 10**	**2.16**	**228**	P	Pn	05 37 48.9	0.0
SKT	**Skwentna**	**2.17**	**9**	P	Pn	05 37 49.4	+0.3
PWL	**Port Wells**	**2.19**	**61**	P	Pn	05 37 49.2	-0.1
KCE	**Katmai Mt Cerb**	**2.22**	**225**	P	Pn	05 37 50.3	+0.6
KABR	**Katmai Barrier**	**2.23**	**221**	P	Pn	05 37 50.1	+0.2
KELA	**Mount Kelaz**	**2.29**	**234**	P	Pn	05 37 50.6	-0.2
PMR	**Palmer**	**2.32**	**40**	P	Pn	05 37 50.9	-0.1
PMR				S	Sn	05 38 17.4	-1.4
OHAK	**Old Harbor**	**2.69**	**192**	P	Pn	05 37 55.3	-1.0
GLI	**Glacier Island**	**2.75**	**66**	P	Pn	05 37 55.7	-1.2
HIN	**Hinchinbrook I**	**2.92**	**77**	P	Pn	05 37 58.4	-0.7
MID	**Middleton Isla**	**3.02**	**95**	P	Pn	05 38 00.9	+0.5
JPK	**Jack Peak**	**3.04**	**64**	P	Pn	05 38 00.1	-0.7
PPLA	**Purkeypile**	**3.06**	**0**	P	Pn	05 38 02.0	+0.8
PLK4	**Peulik 4**	**3.09**	**226**	P	Pn	05 38 02.5	+1.0
SCM	**Sheep Creek Mo**	**3.12**	**48**	P	Pn	05 38 02.0	+0.2
VLZ	**Valdez**	**3.19**	**64**	P	Pn	05 38 02.3	-0.4
EYAK	**Cordova Ski Ar**	**3.31**	**75**	P	Pn	05 38 03.3	-1.0
DIV	**Divide**	**3.45**	**65**	P	Pn	05 38 05.6	-0.6
SII	**Sitkinak Islan**	**3.45**	**198**	P	Pn	05 38 05.6	-0.8
SGAM	**Sherman Glacie**	**3.57**	**76**	P	Pn	05 38 06.9	-1.0
TT01	**Tatalina**	**3.57**	**331**	P	Pn	05 38 07.8	-0.1
CAST	**Castle Rocks**	**3.59**	**1**	P	Pn	05 38 08.5	+0.4
TRF	**Thorofare Moun**	**3.73**	**14**	P	Pn	05 38 10.0	-0.2
KTH	**Kantishna Hill**	**3.77**	**9**	P	Pn	05 38 11.6	+0.9
GOAT	**Goat Mountain**	**3.82**	**76**	P	Pn	05 38 10.8	-0.7
PS12	**TAPS Pump St12**	**3.85**	**62**	P	Pn	05 38 11.5	-0.2
RND	**Reindeer**	**3.92**	**23**	P	Pn	05 38 13.0	+0.3
BMRM	**Bremner River**	**3.95**	**70**	*e*Pn	Pn	05 38 11.9	-1.1
BMRM				*e*Sn	Sn	05 38 57.4	-0.8
PS11	**TAPS Pump St11**	**3.98**	**53**	P	Pn	05 38 13.6	+0.1
DHY	**Denali Highway**	**3.99**	**34**	P	Pn	05 38 14.4	+0.6
MCK	**McKinley**	**4.20**	**20**	P	Pn	05 38 16.9	+0.4
HARP	**HAARP**	**4.29**	**50**	P	Pn	05 38 17.7	0.0
GLB	**Gilahina Butte**	**4.44**	**65**	P	Pn	05 38 19.2	-0.6
PAX	**Paxson**	**4.51**	**43**	P	Pn	05 38 20.9	+0.2
PS10	**TAPS Pump St10**	**4.73**	**38**	P	Pn	05 38 24.6	+0.9
WRH	**Wood River Hil**	**5.03**	**21**	P	Pn	05 38 27.2	-0.5
HDA	**Harding Lake**	**5.20**	**26**	P	Pn	05 38 30.3	+0.3
CCB	**Clear Creek Bu**	**5.24**	**21**	P	Pn	05 38 30.0	-0.6
MLY	**Manley**	**5.25**	**7**	P	Pn	05 38 31.0	+0.2
PS08	**TAPS Pump Stn8**	**5.35**	**26**	P	Pn	05 38 32.1	+0.1
DOT	**Dot Lake**	**5.44**	**42**	P	Pn	05 38 33.5	+0.2
COLA	**College**	**5.44**	**20**	P	Pn	05 38 32.9	-0.3
MDM	**Murphy Dome**	**5.46**	**18**	P	Pn	05 38 33.1	-0.4
CTGM	**Chitina Glacie**	**5.52**	**74**	P	Pn	05 38 35.0	+0.5
IL1	**Eielson Array**	**5.53**	**24**	P	Pn	05 38 34.2	-0.3
ILAR	**Eielson Array**	**5.53**	**24**	P	Pn	05 38 34.8	+0.2
ILAR				S	Sn	05 39 32.2	-4.5
ILAR	**Eielson Array**	**5.53**	**24**	P	Pn	05 38 34.8	+0.2
	9.4nm,0.3s,baz=209,slow=14,SNR=555						
ILAR				S	Sn	05 39 32.2	-4.5
	2.8nm,0.3s,baz=221,slow=15,SNR=3.5						
CHX	**Chaix Hills**	**5.59**	**83**	P	Pn	05 38 35.4	-0.1
GLM	**Gilmore Dome**	**5.63**	**21**	P	Pn	05 38 35.4	-0.5
SCRK	**Sand Creek**	**5.69**	**40**	P	Pn	05 38 36.1	-0.6
BCA3	**Beaver Creek A**	**5.96**	**53**	P	Pn	05 38 40.2	-0.2
PS06	**TAPS Pump Stn6**	**6.14**	**10**	P	Pn	05 38 43.2	+0.4
IM04	**Indian Mountai**	**6.19**	**354**	*e*Pn	Pn	05 38 43.4	-0.1
IM3	**Indian Mountai**	**6.20**	**354**	P	Pn	05 38 43.4	-0.2
EGAK	**Eagle**	**7.14**	**41**	P	Pn	05 38 56.2	-0.2
DAWY	**Dawson**	**7.38**	**50**	P	Pn	05 38 59.7	-0.1
COLD	**Coldfoot**	**7.46**	**6**	P	Pn	05 39 00.8	-0.1
DLBC	**Dease Lake**	**11.48**	**87**	*e*Pn	Pn	05 39 56.9	+1.3
DLBC				S	Sn	05 41 57.8	-4.0
DLBC	**Dease Lake**	**11.48**	**87**	P	Pn	05 39 57.0	+1.4
	2.0nm,0.3s,baz=262,slow=5.9,SNR=33						
DLBC				S	Sn	05 41 57.8	-4.0
	0.6nm,0.3s,baz=12,slow=18,SNR=5.7						
INK	**Inuvik**	**11.73**	**36**	P	Pn	05 39 58.8	-0.1
INK	**Inuvik**	**11.73**	**36**	P	Pn	05 39 58.8	-0.1
	0.2nm,0.3s,baz=244,slow=19,SNR=10						
YKA	**Yellowknife Ar**	**18.16**	**65**	P	Pn	05 41 21.6	+0.5
YKA				PcP	PcP	05 45 50.0	+0.5
YKA				ScP	ScP	05 49 18.6	+1.4
YKA	**Yellowknife Ar**	**18.16**	**65**	P	Pn	05 41 21.6	+0.5
	0.7nm,0.3s,baz=275,slow=10.0,SNR=151						
YKA				PcP	PcP	05 45 50.0	+0.5
	0.0nm,0.3s,baz=276,slow=1.1,SNR=5.7						
YKA				ScP	ScP	05 49 18.6	+1.4
	0.0nm,0.3s,baz=288,slow=2.1,SNR=7.0						
PETK	**Petropavlovsk-**	**27.86**	**278**	P	P	05 42 56.2	-0.2
PETK	**Petropavlovsk-**	**27.86**	**278**	P	P	05 42 56.2	-0.2
	1.8nm,0.7s,baz=67,slow=11,SNR=3.8						
FRB	**Frobisher Bay**	**37.08**	**47**	P	P	05 44 16.8	+0.4
FRB	**Frobisher Bay**	**37.08**	**47**	P	P	05 44 16.8	+0.4
	3.5nm,0.7s,baz=298,slow=10.0,SNR=8.2						
SONM	**Songino Array**	**55.19**	**306**	P	P	05 46 40.0	+1.3
SONM	**Songino Array**	**55.19**	**306**	P	P	05 46 40.0	+1.3
	0.3nm,0.3s,baz=43,slow=3.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**57.73**	**324**	P	P	05 46 57.0	+0.5
ZALV	**Zalesovo Beam**	**57.73**	**324**	P	P	05 46 57.0	+0.5
	1.2nm,0.5s,baz=23,slow=6.2,SNR=2.6						
FINES	**FINESS Array B**	**59.03**	**1**	P	P	05 47 05.3	-0.1
FINES	**FINESS Array B**	**59.03**	**1**	P	P	05 47 05.3	-0.1
	2.2nm,1.0s,baz=10,slow=12,SNR=4.3						
HFS	**Hagfors**	**59.85**	**8**	P	P	05 47 10.3	-0.8
HFS	**Hagfors**	**59.85**	**8**	P	P	05 47 10.3	-0.8

NNC 16 05:31:23.9±5.3, 37.°30N×71.°29E, h206km±72km, mb2.4, mpv3.4, 6D, Error ellipse: s-maj=50.0km s-min=29.5km az=14.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.83**	**354**	P	Pn	05 32 49.3	+0.3
	0.8nm,0.3s,baz=169,slow=12,SNR=30						
KK31				S	S	05 33 57.4	+1.3
	2.8nm,0.5s,baz=178,slow=22,SNR=17						
AAK	**Ala-Archa**	**5.87**	**24**	⇓P	Pn	05 32 49.3	-0.4
	2.6nm,0.3s						
AAK				⇓S	S	05 33 58.7	+1.3
	3.0nm,0.7s						
TKM2	**Tokmak 2**	**6.51**	**29**	⇓P	Pn	05 32 58.1	0.0
	1.8nm,0.8s						
TKM2				⇓S	S	05 34 11.3	-1.2
	1.8nm,0.8s						
AB31	**Akbulak array**	**14.51**	**329**	P	P	05 34 40.6	-0.2
	0.5nm,0.5s,baz=142,slow=13,SNR=7.3						
AB31				⇓S	S	05 37 20.3	-0.1
	0.6nm,0.7s						
AKTO	**Aktyubinsk**	**16.21**	**328**	⇓P	P	05 34 59.7	+0.1
	1.8nm,1.1s						

1.4nm,0.8s,baz=316,slow=6.0,SNR=5.2
BVAR Borovoye Array 62.38 333 P P 05 47 28.5 +0.1
BVAR Borovoye Array 62.38 333 P P 05 47 28.5 +0.1
1.0nm,0.5s,baz=22,slow=6.9,SNR=5.7
AKASG Malin Array Be 69.80 359 P P 05 48 14.9 -0.9
AKASG Malin Array Be 69.80 359 P P 05 48 14.9 -0.9
0.1nm,0.3s,baz=358,slow=5.9,SNR=2.9
ESDC Sonseca Array 77.44 25 P P 05 49 01.3 +0.5
ESDC Sonseca Array 77.44 25 P P 05 49 01.3 +0.5
0.4nm,0.6s,baz=332,slow=7.9,SNR=3.6
BOSA Boshof 148.73 4 PKPbc PKPbc 05 56 52.2 0.0
BOSA Boshof 148.73 4 PKPbc PKPbc 05 56 52.2 0.0
0.9nm,0.4s,baz=354,slow=1.1,SNR=6.3

NNC ***16*** *05:43:33.3±2.5,54.38N×86.63E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=20.9km s-min=16.7km az=165.0*
ISC 16 05:43:29.2±2.8,54.8N±0.2×87.2E±0.1,h35km,n4,σ2§30/8, 4C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KURK	**Kurchatov**	**6.60**	**236**	⇓Pn		**Pn**		**05 45 04.4**	**+0.8**
	4.0nm,1.2s								
KURK				⇓Sn		**Sn**		**05 46 15.8**	**-1.6**
	2.1nm,1.1s								
KURK				⇑Lg		Lg		05 46 49.1	
	8.1nm,0.9s								
KURBB	**Kurchatov Arra**	**6.70**	**235**	⇑Pn		**Pn**		**05 45 06.0**	**+1.0**
	3.8nm,0.6s								
KURBB				⇑Sn		**Sn**		**05 46 19.8**	**-0.2**
	12nm,0.7s								
KURBB				⇓Lg		Lg		05 46 50.8	
	14nm,0.7s								
MK31	**Makanchi Array**	**8.56**	**203**	Pn		**Pn**		**05 45 33.1**	**+2.6**
	0.7nm,0.4s,baz=25,slow=11,SNR=20								
MK31				⇓Sn		**Sn**		**05 47 04.4**	**-1.4**
	9.1nm,1.0s,baz=26,slow=25,SNR=4.1								
MK31				⇑Lg		Lg		05 47 51.0	
	3.8nm,0.8s								
GTA	**Gaotai**	**17.55**	**146**	P		**P**		**05 47 33.3**	**+1.4**
GTA				pP		**pP**		**05 47 37.6**	**-3.4**
GTA				sP		sP		05 47 40.1	-5.3
GTA				pmax		pmax			
	comp=Z,8.0nm,2.0s								

TIR ***16*** *05:43:51.6, 42.73N×18.86E, h21km, ML3.7*
LDG ***16*** *05:43:57.6±0.1, 42.64N×18.99E, h10km, Ml3.7/8, Error ellipse: s-maj=3.3km s-min=2.5km az=37.0*
ISCJB ***16*** *05:43:57.7±0.2, 42.65N±0.01×18.89E±0.02, h26km±2km, mb3.3/3, Error ellipse: s-maj=2.3km s-min=1.6km az=150.4*
SOF ***16*** *05:43:57.9, 42.71N×18.89E, h112km, MD3.0*
THE ***16*** *05:43:57.7, 42.64N×18.88E, h10km±1km, ML3.6/6, Error ellipse: s-maj=2.0km s-min=1.5km az=283.0*
PRU ***16*** *05:43:58.2, 42.62N×19.08E, h0km*
BEO ***16*** *05:43:58.2±0.3, 42.63N×19.01E, h11km±1km, ML3.6/1*
PDG ***16*** *05:43:58.2±0.4, 42.63N×18.98E, h15km, MD3.7/12, ML3.7/11, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*
CSEM ***16*** *05:43:58.7±0.1, 42.63N×18.90E, h20km, ML3.7, Error ellipse: s-maj=3.1km s-min=2.2km az=48.0*
IDC ***16*** *05:43:59.3±1.9, 42.50N×18.85E, h38km±20km, mb3.1/3, mb1 3.4/12, mb1mx3.3/33, mbtmp3.5/12, ML3.3/9, Error ellipse: s-maj=21.0km s-min=10.5km az=29.0*
ISC 16 05:43:57.8±0.8,42.64N±0.01×18.96E±0.02,h17km±5km, n293,σ1§61/413,mb3.5/3,40C-44D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NKME	**Niksic**	**0.13**	**358**	⇑*i*Pg		**Pb**		**05 44 02.2**	**+0.4**
NKME				*e*Sg		**Sb**		**05 44 05.6**	**+1.1**
NKME	**Niksic**	**0.13**	**358**	⇑*i*Pg		**Pb**		**05 44 02.2**	**+0.4**
NKME				*e*Sg		**Sb**		**05 44 05.6**	**+1.1**
NKY	**Niksic**	**0.18**	**8**	⇓*i*Pg		**Pg**		**05 44 02.6**	**+0.2**
NKY				*e*Sg		**Sb**		**05 44 06.2**	**+0.2**
NKY	**Niksic**	**0.18**	**8**	⇓*i*Pg		**Pg**		**05 44 02.6**	**+0.2**
NKY				*e*Sg		**Sb**		**05 44 06.2**	**+0.2**
PDG	**Podgorica**	**0.30**	**133**	P		**Pg**		**05 44 04.0**	**-0.2**
PDG				S		**Sg**		**05 44 09.0**	**+0.4**
PDG	**Podgorica**	**0.30**	**133**	⇑P		**Pg**		**05 44 04.0**	**-0.2**
PDG	**Podgorica**	**0.30**	**133**	P		**Pg**		**05 44 04.0**	**-0.2**
PDG				S		**Sg**		**05 44 09.0**	**+0.4**
TTG	**Podgorica**	**0.30**	**133**	⇑*i*Pg		**Pg**		**05 44 04.0**	**-0.2**
TTG				*e*Sg		**Sg**		**05 44 08.8**	**+0.2**
BUM	**Brajici-Budva**	**0.34**	**188**	⇑*i*Pg		**Pg**		**05 44 04.8**	**-0.1**
BUM				*e*Sg		**Sb**		**05 44 10.7**	**+0.2**
BUM	**Brajici-Budva**	**0.34**	**188**	⇑*i*Pg		**Pg**		**05 44 04.8**	**-0.1**
BUM				*e*Sg		**Sb**		**05 44 10.7**	**+0.2**
HCY	**Herceg Novi**	**0.39**	**241**	⇓*i*Pg		**Pg**		**05 44 05.8**	**0.0**
HCY				*e*Sg		**Sb**		**05 44 12.5**	**+0.6**
HCY	**Herceg Novi**	**0.39**	**241**	⇓*i*Pg		**Pg**		**05 44 05.8**	**0.0**
HCY				*e*Sg		**Sb**		**05 44 12.5**	**+0.6**
BRY	**Bratogost**	**0.41**	**311**	⇑*i*Pg		**Pg**		**05 44 06.0**	**-0.2**
BRY				*e*Sg		**Sb**		**05 44 13.4**	**+0.8**
BRY	**Bratogost**	**0.41**	**311**	⇑*i*Pg		**Pg**		**05 44 06.0**	**-0.2**
BRY				*e*Sg		**Sb**		**05 44 13.4**	**+0.8**
DRME	**Dracevica, Mon**	**0.48**	**159**	⇓*i*Pg		**Pg**		**05 44 06.9**	**-0.5**
DRME				*e*Sg		**Sb**		**05 44 15.1**	**+0.6**
DRME	**Dracevica, Mon**	**0.48**	**159**	⇓*i*Pg		**Pg**		**05 44 06.9**	**-0.5**
DRME				*e*Sg		**Sb**		**05 44 15.1**	**+0.6**
UPM	**Unac-Piva**	**0.57**	**356**	⇓*i*Pg		**Pg**		**05 44 08.8**	**-0.3**
UPM				*e*Sg		**Sb**		**05 44 18.2**	**+0.9**
UPM	**Unac-Piva**	**0.57**	**356**	⇓*i*Pg		**Pg**		**05 44 08.8**	**-0.3**
UPM				*e*Sg		**Sb**		**05 44 18.2**	**+0.9**
ULC	**Ulcinj**	**0.70**	**162**	⇓*i*Pg		**Pb**		**05 44 10.9**	**-0.7**
ULC				*e*Sg		**Sg**		**05 44 21.8**	**+0.9**
ULC	**Ulcinj**	**0.70**	**162**	⇓*i*Pg		**Pb**		**05 44 10.9**	**-0.7**
ULC				*e*Sg		**Sg**		**05 44 21.8**	**+0.9**
BEY	**Berane**	**0.73**	**71**	⇓*i*Pg		**Pb**		**05 44 11.8**	**-0.2**
BEY				*e*Sg		**Sg**		**05 44 23.1**	**+1.4**
IVA	**Berane**	**0.73**	**71**	⇓*i*Pg		**Pb**		**05 44 11.8**	**-0.2**
IVA				*e*Sg		**Sg**		**05 44 23.1**	**+1.4**
PVY	**Plav**	**0.74**	**93**	⇑*i*Pg		**Pb**		**05 44 12.0**	**-0.2**
PVY				*e*Sg		**Sg**		**05 44 23.8**	**+1.7**
PLE	**Pljevlja**	**0.76**	**24**	⇓*i*Pg		**Pb**		**05 44 12.8**	**+0.2**
PLE				*e*Sg		**Sg**		**05 44 24.2**	**+1.4**
PLE	**Pljevlja**	**0.76**	**24**	⇓*i*Pg		**Pb**		**05 44 12.8**	**+0.2**
PLE				*e*Sg		**Sg**		**05 44 24.2**	**+1.4**
BCI	**Bajram Curri**	**0.86**	**108**	*i* PG		**Pb**		**05 44 14.0**	**-0.3**
BCI				*i* SG		**Sg**		**05 44 26.9**	**+0.9**
BCI	**Bajram Curri**	**0.86**	**108**	*i* Pg		**Pb**		**05 44 14.0**	**-0.3**
BCI				*i* Sg		**Sg**		**05 44 26.9**	**+0.9**
PUK	**Puka**	**0.91**	**130**	*i* PG		**Pb**		**05 44 14.7**	**-0.4**
PUK				*i* SG		**Sn**		**05 44 29.3**	**+0.7**
PUK	**Puka**	**0.91**	**130**	*i* Pg		**Pb**		**05 44 14.7**	**-0.4**
PUK				*i* Sg		**Sn**		**05 44 29.3**	**+0.7**
STON	**Ston**	**0.96**	**285**	*i* Pg		**Pb**		**05 44 15.6**	**-0.2**
STON				*i* Sg		**Sn**		**05 44 30.4**	**+0.8**
STON	**Ston**	**0.96**	**285**	*e*Pg		**Pb**		**05 44 15.5**	**-0.3**
STON				*i* Sg		**Sn**		**05 44 30.3**	**+0.8**
STON	**Ston**	**0.96**	**285**	*e*Pg		**Pb**		**05 44 15.5**	**-0.3**
STON				Sg		**Sn**		**05 44 30.3**	**+0.8**
SJES	**Sjenica**	**0.97**	**50**	⇑*i*Pg		**Pb**		**05 44 15.0**	**-1.2**
SJES				*e*Sg		**Sb**		**05 44 29.3**	**+0.5**
BBLS	**Lazići**	**1.27**	**15**	*e*Pg		**Pb**		**05 44 22.0**	**+0.7**
BBLS				*i* Sg		**Sg**		**05 44 38.8**	**-0.2**
BBLS	**Lazići**	**1.27**	**15**	*e*Pg		**Pb**		**05 44 22.0**	**+0.7**
BBLS				*i* Sg		**Sg**		**05 44 38.8**	**-0.2**
IVAS	**Ivanjica**	**1.28**	**43**	⇑*i*Pg		**Pb**		**05 44 21.9**	**+0.4**
IVAS				*i* Sg		**Sg**		**05 44 39.2**	**-0.1**
IVAS	**Ivanjica**	**1.28**	**43**	⇑*i*Pg		**Pb**		**05 44 21.9**	**+0.4**
IVAS				*i* Sg		**Sg**		**05 44 39.2**	**-0.1**
PHP	**Peshkopia**	**1.46**	**130**	*i* PG		**Pb**		**05 44 24.5**	**+0.1**
PHP				*i* SG		**Sg**		**05 44 47.2**	**+2.4**
PHP	**Peshkopia**	**1.46**	**130**	P		**Pn**		**05 44 23.6**	**+0.3**
PHP				Sg		**Sg**		**05 44 47.2**	**+2.4**
PHP	**Peshkopia**	**1.46**	**130**	P		**Pn**		**05 44 23.6**	**+0.3**
PHP	**Peshkopia**	**1.46**	**130**	*i* Pg		**Pb**		**05 44 24.5**	**+0.1**
PHP				S		**Sg**		**05 44 47.2**	**+2.4**
DIVS	**Divibare**	**1.65**	**27**	P		**Pn**		**05 44 26.6**	**+0.6**
DIVS				S		**Sn**		**05 44 47.7**	**+1.0**
DIVS	**Divibare**	**1.65**	**27**	⇓*i*Pg		**Pn**		**05 44 26.5**	**+0.6**
DIVS				*e*Sg		**Sb**		**05 44 49.7**	**+1.6**
DIVS	**Divibare**	**1.65**	**27**	P		**Pn**		**05 44 26.6**	**+0.6**
DIVS				S		**Sn**		**05 44 47.7**	**+1.0**
DIVS				*e*Sg		**Sb**		**05 44 49.7**	**+1.6**
SELS	**Selova**	**1.69**	**69**	⇑*i*Pg		**Pn**		**05 44 27.1**	**+0.6**
SELS				*i* Sg		**Sb**		**05 44 49.6**	**+0.2**
SELS	**Selova**	**1.69**	**69**	⇑*i*Pg		**Pn**		**05 44 27.1**	**+0.6**
SELS				*i* Sg		**Sb**		**05 44 49.6**	**+0.2**
GRUS	**Gruza**	**1.79**	**45**	⇓*i*Pn		**Pn**		**05 44 28.5**	**+0.6**
GRUS				*e*Sn		**Sb**		**05 44 52.5**	**+0.2**
GRUS	**Gruza**	**1.79**	**45**	⇓*i*Pn		**Pn**		**05 44 28.5**	**+0.6**
GRUS				*e*Sn		**Sb**		**05 44 52.5**	**+0.2**
TRUS	**Trudelj**	**1.91**	**33**	⇑*i*Pn		**Pn**		**05 44 29.0**	**-0.4**
TRUS				*e*Sn		**Sn**		**05 44 54.3**	**+1.3**
TRUS	**Trudelj**	**1.91**	**33**	⇑*i*Pn		**Pn**		**05 44 29.0**	**-0.4**
TRUS				*e*Sn		**Sn**		**05 44 54.3**	**+1.3**
SKO	**Skopje**	**1.96**	**109**	P		**Pb**		**05 44 32.4**	**-0.5**
SKO				S		**Sb**		**05 44 58.4**	**+1.4**
SKO	**Skopje**	**1.96**	**109**	P		**Pb**		**05 44 32.4**	**-0.5**
SKO				S		**Sb**		**05 44 58.4**	**+1.4**
TEKS	**Tekeris**	**1.96**	**12**	⇑*i*Pn		**Pn**		**05 44 30.9**	**+0.7**
TEKS				*e*Sn		**Sn**		**05 44 55.6**	**+1.3**
TEKS	**Tekeris**	**1.96**	**12**	⇑*i*Pn		**Pn**		**05 44 30.9**	**+0.7**
TEKS				*e*Sn		**Sn**		**05 44 55.6**	**+1.3**
PE1	**Pezze di Greco**	**2.16**	**213**	*e*Pn		**Pn**		**05 44 32.4**	**-0.5**
BAI	**Bari**	**2.18**	**226**	*e*Pn		**Pn**		**05 44 32.7**	**-0.4**
BAI				*e*Sn		**Sn**		**05 44 58.2**	**-1.5**
VLO	**Vlora**	**2.20**	**169**	P		**Pn**		**05 44 35.3**	**+1.8**
VLO	**Vlora**	**2.20**	**169**	P		**Pn**		**05 44 35.3**	**+1.8**
SVIS	**Svilajnac**	**2.31**	**44**	⇑*i*Pn		**Pn**		**05 44 35.7**	**+0.7**
SVIS				*e*Sn		**Sn**		**05 45 04.8**	**+1.7**
BIA	**Bitola**	**2.40**	**132**	P		**Pn**		**05 44 37.7**	**+1.5**
BIA				S		**Sb**		**05 45 09.2**	**-0.5**
BIA	**Bitola**	**2.40**	**132**	P		**Pn**		**05 44 37.7**	**+1.5**
BIA				S		**Sb**		**05 45 09.2**	**-0.5**
BEO	**Beograd**	**2.43**	**26**	*e*Pn		**Pn**		**05 44 38.0**	**+1.3**
BEO				*e*Sn		**Sn**		**05 45 07.6**	**+1.6**
BEO	**Beograd**	**2.43**	**26**	*e*Pn		**Pn**		**05 44 38.0**	**+1.3**
BEO				*e*Sn		**Sn**		**05 45 07.6**	**+1.6**
KBN	**Korca**	**2.43**	**145**	*i* PG		**Pn**		**05 44 39.1**	**+2.4**
KBN	**Korca**	**2.43**	**145**	P		**Pn**		**05 44 38.8**	**+2.0**
KBN				S		**Sb**		**05 45 10.0**	**-0.8**
KBN	**Korca**	**2.43**	**145**	P		**Pn**		**05 44 38.8**	**+2.0**
KBN	**Korca**	**2.43**	**145**	*i* Pg		**Pn**		**05 44 39.1**	**+2.4**
KBN				S		**Sb**		**05 45 10.0**	**-0.8**
TAR1	**Taranto**	**2.45**	**211**	*e*Pn		**Pn**		**05 44 37.9**	**+1.0**
BLY	**Banja Luka**	**2.47**	**329**	*e*Pn		**Pn**		**05 44 39.5**	**+2.3**
BLY	**Banja Luka**	**2.47**	**329**	*e*Pn		**Pn**		**05 44 39.5**	**+2.3**
BOLS	**Boljevac**	**2.49**	**60**	⇑*i*Pn		**Pn**		**05 44 36.9**	**-0.6**
BOLS				*e*Sn		**Sn**		**05 45 08.3**	**+0.8**
BOLS	**Boljevac**	**2.49**	**60**	⇑*i*Pn		**Pn**		**05 44 36.9**	**-0.6**
BOLS				*e*Sn		**Sn**		**05 45 08.3**	**+0.8**
FNA	**Florina**	**2.59**	**135**	P		**Pn**		**05 44 40.9**	**+2.0**
FNA				S		**Sb**		**05 45 13.2**	**-2.1**
FNA	**Florina**	**2.59**	**135**	*e*P		**Pn**		**05 44 40.9**	**+2.0**
FNA	**Florina**	**2.59**	**135**	P		**Pn**		**05 44 40.9**	**+2.0**
FNA				S		**Sb**		**05 45 13.2**	**-2.1**
FGSL	**Fruska Gora**	**2.59**	**13**	⇑*i*Pn		**Pn**		**05 44 39.4**	**+0.5**
FGSL				*e*Sn		**Sn**		**05 45 11.1**	**+1.0**
FRGS	**Fruska Gora**	**2.59**	**13**	⇑*i*Pn		**Pn**		**05 44 39.4**	**+0.5**
FRGS				*e*Sn		**Sn**		**05 45 11.1**	**+1.0**
NEST	**Nestorio**	**2.72**	**144**	P		**Pn**		**05 44 42.0**	**+1.3**
NEST				S		**Sn**		**05 45 15.7**	**+2.5**
NEST	**Nestorio**	**2.72**	**144**	*e*P		**Pn**		**05 44 42.7**	**+2.0**
NEST	**Nestorio**	**2.72**	**144**	P		**Pn**		**05 44 42.0**	**+1.3**
NEST				S		**Sn**		**05 45 15.7**	**+2.5**
ZAPS	**Zavoj**	**2.77**	**75**	⇓*i*Pn		**Pn**		**05 44 43.0**	**+1.6**
ZAPS				*e*Sn		**Sn**		**05 45 14.6**	**+0.1**
ZAPS	**Zavoj**	**2.77**	**75**	⇓*i*Pn		**Pn**		**05 44 43.0**	**+1.6**
ZAPS				*e*Sn		**Sn**		**05 45 14.6**	**+0.1**
SRN	**Sarande**	**2.86**	**164**	*e*PN		**Pn**		**05 44 42.4**	**-0.2**
SRN	**Sarande**	**2.86**	**164**	P		**Pn**		**05 44 42.7**	**+0.1**
SRN				S		**Sn**		**05 45 17.7**	**+1.1**
SRN	**Sarande**	**2.86**	**164**	*e*Pn		**Pn**		**05 44 42.4**	**-0.2**
SRN	**Sarande**	**2.86**	**164**	P		**Pn**		**05 44 42.7**	**+0.1**
SRN				S		**Sn**		**05 45 17.7**	**+1.1**
KEK	**Kerkira**	**2.99**	**167**	*e*Pn		**Pn**		**05 44 44.7**	**+0.4**
UDBI	**Udbina**	**2.99**	**310**	*e*Pn		**Pn**		**05 44 47.6**	**+3.1**
UDBI				Sn		**Sb**		**05 45 26.0**	**-0.9**
UDBI	**Udbina**	**2.99**	**310**	*e*Pn		**Pn**		**05 44 47.5**	**+3.1**
VAY	**Valandovo**	**3.00**	**115**	P		**Pn**		**05 44 45.6**	**+1.2**
VAY	**Valandovo**	**3.00**	**115**	⇓*i*Pn		**Pn**		**05 44 45.9**	**+1.5**
VAY				*e*Sn		**Sn**		**05 45 20.9**	**+1.0**
VAY	**Valandovo**	**3.00**	**115**	*i* P		**Pn**		**05 44 45.6**	**+1.2**
VAY				*i* Sg		**Sn**		**05 45 20.9**	**+1.0**
VAY	**Valandovo**	**3.00**	**115**	*i* P		**Pn**		**05 44 45.6**	**+1.2**
VAY	**Valandovo**	**3.00**	**115**	⇓*i*Pn		**Pn**		**05 44 45.9**	**+1.5**
VAY				*i* Sg		**Sn**		**05 45 20.9**	**+1.0**
GRG	**Griva**	**3.07**	**122**	P		**Pn**		**05 44 47.4**	**+1.9**
GRG				S		**Sn**		**05 45 25.6**	**+3.7**
GRG	**Griva**	**3.07**	**122**	*e*P		**Pn**		**05 44 47.6**	**+2.1**
GRG	**Griva**	**3.07**	**122**	P		**Pn**		**05 44 47.4**	**+1.9**
GRG				S		**Sn**		**05 45 25.6**	**+3.7**
VTS	**Vitosha**	**3.14**	**89**	P		**Pn**		**05 44 48.2**	**+1.7**
VTS				S		**Sn**		**05 45 26.9**	**+3.3**
VTS	**Vitosha**	**3.14**	**89**	⇑*i*Pn		**Pn**		**05 44 48.0**	**+1.4**
VTS				*e*Sn		**Sn**		**05 45 24.0**	**+0.4**
VTS	**Vitosha**	**3.14**	**89**	*i* P		**Pn**		**05 44 47.9**	**+1.4**
VTS				*i* Sg		**Sn**		**05 45 25.5**	**+1.9**
VTS	**Vitosha**	**3.14**	**89**	⇓*i*P		**Pn**		**05 44 47.8**	**+1.3**
VTS	**Vitosha**	**3.14**	**89**	S		**Sn**		**05 45 25.6**	**+1.9**
VTS	**Vitosha**	**3.14**	**89**	*i* P		**Pn**		**05 44 47.9**	**+1.4**
VTS				*e*Sn		**Sn**		**05 45 24.0**	**+0.4**
VTS				*i* Sg		**Sn**		**05 45 25.5**	**+1.9**
VTS				S		**Sn**		**05 45 26.9**	**+3.3**
KZN	**Kozani**	**3.14**	**137**	*e*P		**Pn**		**05 44 48.3**	**+1.8**
KKB	**Krupnik**	**3.16**	**103**	*i* P		**Pn**		**05 44 49.4**	**+2.7**
KKB				*i* S		**Sn**		**05 45 26.7**	**+2.8**
KKB	**Krupnik**	**3.16**	**103**	*i* P		**Pn**		**05 44 49.4**	**+2.7**
KKB				*i* S		**Sn**		**05 45 26.7**	**+2.8**
IGT	**Igoumenitsa**	**3.27**	**161**	*e*P		Pn		05 44 40.8	-7.4
KNT	**Kendrikon**	**3.29**	**115**	P		**Pn**		**05 44 50.3**	**+1.8**
KNT				S		**Sn**		**05 45 30.0**	**+2.8**
KNT	**Kendrikon**	**3.29**	**115**	*e*P		**Pn**		**05 44 50.2**	**+1.8**
KNT	**Kendrikon**	**3.29**	**115**	P		**Pn**		**05 44 50.3**	**+1.8**
KNT				S		**Sn**		**05 45 30.0**	**+2.8**
JAN	**Janina**	**3.30**	**154**	*e*P		Pn		05 44 39.6	-9.1
NVLJ	**Novalja**	**3.54**	**304**	*e*Pn		**Pn**		**05 44 53.8**	**+1.9**
NVLJ				Sn		**Sn**		**05 45 35.8**	**+2.6**
NVLJ	**Novalja**	**3.54**	**304**	*e*Pn		**Pn**		**05 44 53.7**	**+1.9**
NVLJ				Sn		**Sn**		**05 45 35.8**	**+2.6**
BZS	**Buzias**	**3.54**	**32**	⇑*i*P		**Pn**		**05 44 52.2**	**+0.3**
BZS	**Buzias**	**3.54**	**32**	S		**Sn**		**05 45 32.4**	**-1.0**
MPEP	**Malo Peshtene**	**3.58**	**77**	*i* P		**Pn**		**05 44 53.9**	**+1.4**
MPEP	**Malo Peshtene**	**3.58**	**77**	*i* P		**Pn**		**05 44 53.9**	**+1.4**
PKSM	**Moragy**	**3.58**	**356**	⇑*i*P		**Pn**		**05 44 53.7**	**+0.6**
PKSM	**Moragy**	**3.58**	**356**	⇓*i*P		**Pn**		**05 44 53.2**	**+0.7**
PKSM				*e*				05 45 34.5	
PKSM	**Moragy**	**3.58**	**356**	*e*Sn		**Sn**		**05 45 34.5**	**+0.1**
LIT	**Litokhoron**	**3.67**	**132**	P		**Pn**		**05 44 55.0**	**+1.3**
LIT				S		**Sn**		**05 45 40.1**	**+3.5**
LIT	**Litokhoron**	**3.67**	**132**	*e*P		**Pn**		**05 44 55.1**	**+1.3**
LIT	**Litokhoron**	**3.67**	**132**	P		**Pn**		**05 44 55.0**	**+1.3**
LIT				S		**Sn**		**05 45 40.1**	**+3.5**
MMB	**Musomiste**	**3.70**	**105**	*i* P		**Pn**		**05 44 56.7**	**+2.6**
MMB				*i* S		**Sn**		**05 45 39.2**	**+1.9**
MMB	**Musomiste**	**3.70**	**105**	⇓*i*P		Pn		05 44 57.4	+3.3
MMB	**Musomiste**	**3.70**	**105**	*i* P		**Pn**		**05 44 56.7**	**+2.6**
MMB				*i* S		**Sn**		**05 45 39.2**	**+1.9**
HORT	**Hortiatis**	**3.71**	**122**	P		**Pn**		**05 44 55.1**	**+0.7**
HORT				S		**Sn**		**05 45 41.3**	**+3.6**
HORT	**Hortiatis**	**3.71**	**122**	*e*P		**Pn**		**05 44 55.9**	**+1.5**
HORT	**Hortiatis**	**3.71**	**122**	P		**Pn**		**05 44 55.1**	**+0.7**
HORT				S		**Sn**		**05 45 41.3**	**+3.6**
SOH	**Sokhos**	**3.76**	**117**	P		**Pn**		**05 44 56.5**	**+1.6**
SOH				S		**Sn**		**05 45 41.6**	**+2.9**
SOH	**Sokhos**	**3.76**	**117**	*e*P		**Pn**		**05 44 56.9**	**+2.0**
SOH	**Sokhos**	**3.76**	**117**	P		**Pn**		**05 44 56.5**	**+1.6**
SOH				S		**Sn**		**05 45 41.6**	**+2.9**
SRS	**Serrai**	**3.78**	**112**	P		**Pn**		**05 44 57.2**	**+2.0**
SRS				S		**Sn**		**05 45 41.1**	**+1.9**
SRS	**Serrai**	**3.78**	**112**	*e*P		**Pn**		**05 44 57.4**	**+2.2**
SRS	**Serrai**	**3.78**	**112**	P		**Pn**		**05 44 57.2**	**+2.0**
SRS				S		**Sn**		**05 45 41.1**	**+1.9**
TIP	**Timpagrande**	**3.83**	**206**	P		**Pn**		**05 44 55.9**	**-0.1**
TIP				S		**Sn**		**05 45 41.0**	**+0.3**
TIP	**Timpagrande**	**3.83**	**206**	P		**Pn**		**05 44 55.9**	**-0.1**
TIP				S		**Sn**		**05 45 41.0**	**+0.3**
THL	**Klokotos Trika**	**3.84**	**142**	*e*P		**Pn**		**05 44 56.0**	**0.0**
PGB	**Panagyurishte**	**3.85**	**90**	*i* P		**Pn**		**05 44 58.7**	**+2.5**
PGB				*i* S		**Sn**		**05 45 42.5**	**+1.5**
PGB	**Panagyurishte**	**3.85**	**90**	*i* P		**Pn**		**05 44 58.7**	**+2.5**
PGB				*i* S		**Sn**		**05 45 42.5**	**+1.5**
NVR	**Nevrokopi**	**3.87**	**108**	*e*P		**Pn**		**05 44 59.1**	**+2.6**
GZR	**Gura Zlata**	**3.90**	**44**	⇓*i*P		**Pn**		**05 44 57.5**	**+0.6**
GZR	**Gura Zlata**	**3.90**	**44**	S		**Sn**		**05 45 42.5**	**+0.3**
BOJS	**Bojanci**	**3.92**	**318**	*i* Pn		**Pn**		**05 44 59.6**	**+2.5**
BOJS	**Bojanci**	**3.92**	**318**	*i* Pn		**Pn**		**05 44 59.6**	**+2.5**
PKS9	**Tamasi**	**3.98**	**353**	⇓*i*P		**Pn**		**05 44 59.1**	**+1.2**
PKS9				*e*				05 45 48.6	
PKS9	**Tamasi**	**3.98**	**353**	⇓*i*P		**Pn**		**05 44 59.1**	**+1.2**
PKS9				*e*Sn		**Sn**		**05 45 48.6**	**+4.4**
PLG	**Polygyros**	**4.06**	**122**	*e*P		**Pn**		**05 45 01.0**	**+1.9**
SIRR	**Siria**	**4.11**	**27**	⇓*i*P		**Pn**		**05 45 00.8**	**+1.0**
SIRR	**Siria**	**4.11**	**27**	S		**Sn**		**05 45 46.4**	**-1.1**
BEHE	**Becsehely**	**4.14**	**339**	⇓*e*SKKPdf		**Pn**		**05 45 02.3**	**+2.2**
BEHE	**Becsehely**	**4.14**	**339**	⇓*e*P		**Pn**		**05 45 02.3**	**+2.2**
PLD	**Plovdiv**	**4.29**	**95**	*i* S		**Sn**		**05 45 52.8**	**+1.0**
PLD	**Plovdiv**	**4.29**	**95**	*i* S		**Sn**		**05 45 52.8**	**+1.0**
DEV	**Deva**	**4.31**	**40**	⇑*i*P		**Pn**		**05 45 02.6**	**+0.1**
DEV	**Deva**	**4.31**	**40**	S		**Sn**		**05 45 51.2**	**-1.1**
PKSN	**Nyarlorinc**	**4.31**	**8**	⇑*e*SKKPdf		**Pn**		**05 45 02.7**	**+0.3**
PKSN				*e*				05 45 51.2	
PKSN	**Nyarlorinc**	**4.31**	**8**	⇑*e*P		**Pn**		**05 45 02.7**	**+0.3**
PKSN				*e*Sn		**Sn**		**05 45 51.2**	**-1.1**
MAKR	**Makrakomi, Fth**	**4.35**	**145**	P		**Pn**		**05 45 04.9**	**+1.9**
MAKR				S		**Sn**		**05 45 56.5**	**+3.2**
MAKR	**Makrakomi, Fth**	**4.35**	**145**	P		**Pn**		**05 45 04.9**	**+1.9**
MAKR				S		**Sn**		**

PGF				*e*Sn		Sn	05 47 01.0	-6.4
	6.9nm,0.6s							
PGF	**Pioggiola**	**7.35**	**273**	*e*Pn		**Pn**	**05 45 43.3**	**-1.0**
KHC	**Kasperske Hory**	**7.50**	**332**	*e*PN		**Pn**	**05 45 49.5**	**+3.2**
KHC				*ex*		x	05 45 58.5	
KHC				*e*SN		**Sn**	**05 47 13.0**	**+2.1**
KHC				*ex*		x	05 47 29.0	
KRLC	**Kraliky**	**7.59**	**349**	*e*PN		**Pn**	**05 45 50.0**	**+2.4**
KRLC				*e*SN		**Sn**	**05 47 13.3**	**+0.1**
KRLC	**Kraliky**	**7.59**	**349**	Pn		**Pn**	**05 45 50.0**	**+2.4**
KRLC				Sn		**Sn**	**05 47 13.3**	**+0.1**
DAVOX	**Davos/Dischmat**	**7.68**	**306**	Pn		**Pn**	**05 45 48.7**	**-0.2**
	0.6nm,0.3s,baz=118,slow=15,SNR=6.6							
DAVOX				Sn		**Sn**	**05 47 14.6**	**-1.0**
	0.4nm,0.3s,baz=163,slow=19,SNR=2.0							
SBF	**Sospel**	**8.50**	**282**	*e*Pn		**Pn**	**05 45 58.3**	**-1.8**
SBF				*e*Sn		Sn	05 47 29.4	-6.2
	11nm,0.6s							
SBF	**Sospel**	**8.50**	**282**	*e*Pn		**Pn**	**05 45 58.3**	**-1.8**
IDI	**Anoyia**	**8.67**	**146**	Pn		**Pn**	**05 46 00.2**	**-2.2**
	0.7nm,0.3s,baz=36,slow=15,SNR=7.2							
IDI				Sn		Sn	05 47 32.2	-7.6
	0.5nm,0.3s,baz=278,slow=14,SNR=3.4							
LAST	**Lasithi**	**9.03**	**144**	*e*P		Pn	05 46 01.0	-6.3
MBDF	**Montbardon**	**9.08**	**287**	*e*Pn		**Pn**	**05 46 07.4**	**-0.6**
MBDF				*e*Sn		Sn	05 47 43.0	-6.8
	6.9nm,0.6s							
MBDF	**Montbardon**	**9.08**	**287**	*e*Pn		**Pn**	**05 46 07.4**	**-0.6**
LPG	**La Plagne**	**9.24**	**292**	*e*Pn		**Pn**	**05 46 08.6**	**-1.8**
LPG				*e*Sn		Sn	05 47 47.0	-7.1
	6.1nm,0.6s							
LPG	**La Plagne**	**9.24**	**292**	*e*Pn		**Pn**	**05 46 08.6**	**-1.8**
LPL	**La Plagne**	**9.26**	**292**	*e*Pn		**Pn**	**05 46 09.4**	**-1.2**
LPL				*e*Sn		Sn	05 47 46.7	-7.7
	7.7nm,0.5s							
LPL	**La Plagne**	**9.26**	**292**	*e*Pn		**Pn**	**05 46 09.4**	**-1.2**
ZKR	**Zakros**	**9.40**	**141**	*e*P		Pn	05 46 07.1	-5.3
CLL	**Collm**	**9.58**	**337**	*e*Sb		Sn	05 48 31.0	+29
CLL				*e*Sg			05 49 17.0	
HINF	**Hinteralfeld**	**9.98**	**305**	*e*Pn		**Pn**	**05 46 18.2**	**-2.2**
HINF				*e*Sn		Sn	05 48 04.2	-7.7
	1.7nm,0.3s							
HINF	**Hinteralfeld**	**9.98**	**305**	*e*Pn		**Pn**	**05 46 18.2**	**-2.2**
CABF	**La Chapelle**	**10.00**	**298**	*e*Pn		**Pn**	**05 46 20.0**	**-0.6**
CABF	**La Chapelle**	**10.00**	**298**	*e*Pn		**Pn**	**05 46 20.0**	**-0.6**
VIVF	**Saint-Julien-l**	**10.57**	**287**	*e*Pn		**Pn**	**05 46 27.7**	**-0.7**
VIVF	**Saint-Julien-l**	**10.57**	**287**	*e*Pn		**Pn**	**05 46 27.7**	**-0.7**
AKASG	**Malin Array Be**	**10.71**	**38**	Pn		**Pn**	**05 46 32.3**	**+2.1**
	0.1nm,0.3s,baz=226,slow=13,SNR=5.2							
BRTR	**Keskin Array B**	**11.44**	**100**	Pn		**Pn**	**05 46 42.0**	**+1.6**
	0.1nm,0.3s,baz=278,slow=12,SNR=4.5							
SMF	**Signal de Mont**	**11.49**	**296**	*e*Pn		**Pn**	**05 46 39.2**	**-1.7**
SMF				*e*Sn		Sn	05 48 40.2	-8.6
	2.8nm,0.4s							
SMF	**Signal de Mont**	**11.49**	**296**	*e*Pn		**Pn**	**05 46 39.2**	**-1.7**
LOR	**Lormes**	**11.65**	**299**	*e*Pn		**Pn**	**05 46 42.1**	**-1.1**
LOR				*e*Sn		Sn	05 48 44.2	-8.6
	3.0nm,0.4s							
LOR	**Lormes**	**11.65**	**299**	*e*Pn		**Pn**	**05 46 42.1**	**-1.1**
AVF	**Avril sur Loir**	**11.85**	**296**	*e*Pn		**Pn**	**05 46 43.8**	**-2.1**
AVF	**Avril sur Loir**	**11.85**	**296**	*e*Pn		**Pn**	**05 46 43.8**	**-2.1**
MMAI	**Mount Meron Ar**	**16.13**	**121**	Pn		**Pn**	**05 47 44.5**	**+0.7**
	0.9nm,0.3s,baz=313,slow=53,SNR=3.0							
HFS	**Hagfors**	**17.82**	**351**	P		**P**	**05 48 06.4**	**+1.1**
	0.1nm,0.3s,baz=184,slow=10,SNR=4.6							
FINES	**FINESS Array B**	**19.32**	**10**	P		**P**	**05 48 21.7**	**0.0**
	0.1nm,0.3s,baz=188,slow=8.0,SNR=5.1							
ARCES	**ARCESS Array B**	**27.18**	**5**	P		**P**	**05 49 39.2**	**-0.7**
	1.2nm,1.0s,baz=183,slow=7.9,SNR=2.6							
MKAR	**Makanchi Array**	**44.12**	**62**	P		**P**	**05 52 04.9**	**-0.1**
	1.0nm,1.1s,baz=268,slow=8.3,SNR=4.6							
YKA	**Yellowknife Ar**	**68.80**	**339**	P		**P**	**05 54 60.0**	**-0.5**
	0.1nm,0.6s,baz=46,slow=5.6,SNR=2.5							

IDC **16** *05:44:20.7±0.8,35°.41N×88°.21E,h0km,mb3.8/14, mb1 4.0/20,mb1mx3.9/33,mbtmp3.9/20,ML3.8/6,MS4.0/29, Ms1 4.0/29,ms1mx3.8/54,Error ellipse: s-maj=24.6km s-min=16.0km az=44.0*

ISCJB **16** *05:44:21.2±0.3,35°.57N±0°.03×88°.22E±0°.05,h10km, mb3.9/18,MS4.0/26,Error ellipse: s-maj=5.6km s-min=4.4km az=163.1*

GCMT **16** *05:44:23.4±0.4,35°.66N×88°.25E,h26km±1km,MW4.9/62, Moment Tensor Solution. s15,c16; s62,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.45±.17; Mθθ-2.30±.12; Mφφ2.74±.13; Mrθ0.15±.27; Mrφ0.82±.11; Mθφ0.27±.23; Best double couple: M◎2.66600×10^16 NP1:φs54.00000°,δ89.00000°,λ6.00000°. NP2: φs324.00000°,δ84.00000°,λ179.00000°. Principal axes: T 2.8950, Plg5.0000°, Azm279.0000°; N -0.4670, Plg84.0000°, Azm66.0000°; P -2.4360, Plg3.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **16** *05:44:23.4±3.2,35°.55N×88°.22E,h14km±21km,mb4.2/6 Error ellipse: s-maj=11.2km s-min=7.5km az=52.0*

BJI **16** *05:44:23.4±3.2,35°.78N×88°.46E,h7km,mB4.7/8,mb4.4/16, Ms4.6/15,Ms7 4.2/9*

ISC 16 05:44:22.8±0.5,35°.61N±0°.06×88°.34E±0°.06,h10km,n88, σ1§18/70,mb3.9/18,MS4.1/26,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.35**	**157**	Pg	**Pb**	**05 46 13.9**	**+0.2**
LSA				Sn	Sb	05 47 24.3	-5.6
LSA				LR	LR		
	comp=E,7μm,13.3s						
LSA				LR	LR		
	comp=Z,2μm,8.5s						
LSA	**Lhasa**	**6.35**	**157**	*e*Pn	**Pn**	**05 45 58.4**	**+1.5**
	18nm,0.8s						
GUN	**Gumba**	**7.96**	**196**	*e*P	**Pn**	**05 46 21.2**	**+2.4**
JIRN	**Jiri**	**8.14**	**194**	*e*P	**Pn**	**05 46 22.6**	**+1.3**
	45nm,1.1s						
DANN	**Dangsing**	**8.22**	**210**	*e*P	Pn	05 46 21.3	-1.1
KKN	**Kakani**	**8.22**	**199**	*e*P	**Pn**	**05 46 23.6**	**+1.3**
TAPN	**Taplejung**	**8.26**	**184**	*e*P	**Pn**	**05 46 23.7**	**+0.8**
	146nm,1.3s						
PKI	**Pulchoki**	**8.40**	**198**	*e*P	**Pn**	**05 46 26.3**	**+1.5**
	16nm,0.8s						
ODAN	**Odare**	**8.76**	**186**	*e*P	**Pn**	**05 46 29.7**	**-0.1**
	80nm,0.8s						
RAMN	**Ramite**	**8.76**	**190**	*e*P	Pn	05 46 28.8	-1.0
	133nm,1.4s						
KOLN	**Koldanda**	**8.80**	**209**	*e*P	Pn	05 46 27.3	-2.9
	18nm,0.9s						
GTA	**Gaotai**	**9.87**	**64**	⇑P	Pn	05 46 46.1	+1.3
GTA				pP		05 46 50.6	
GTA				sP		05 46 53.0	
GTA				S	Sn	05 48 42.8	+7.0
GTA				sS		05 48 49.0	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,74nm,4.8s						
GTA				LR	LR		
	comp=N,5μm,14.0s						
GTA				LR	LR		
	comp=E,1μm,13.8s						
GTA				LR	LR		
	comp=Z,1μm,12.4s						
KSH	**Kashi**	**10.56**	**295**	*i* P	Pn	05 46 58.0	+3.7
KSH				*es*P		05 47 07.3	
KSH				*e*PP	PnPn	05 47 14.6	+13
KSH				*e*S	Sn	05 49 07.3	+14
KSH				*e*SS	SbSb	05 49 21.8	-14
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,110nm,3.5s						
KSH				LR	LR		
	comp=N,1μm,9.5s						
KSH				LR	LR		
	comp=E,1μm,8.2s						
KSH				LR	LR		
	comp=Z,760nm,6.1s						
ULHL	**Ulahol**	**11.51**	**309**	P	**Pn**	**05 47 08.3**	**+1.0**
	SNR=7.1						
MK31	**Makanchi Array**	**12.06**	**340**	*e*Pn	**Pn**	**05 47 14.8**	**+0.1**
MKAR	**Makanchi Array**	**12.06**	**340**	Pn	**Pn**	**05 47 13.9**	**-0.7**
MKAR	**Makanchi Array**	**12.06**	**340**	Pn	**Pn**	**05 47 13.9**	**-0.7**
	0.8nm,0.3s,baz=146,slow=11,SNR=9.7						
MKAR				LR	LR	05 52 18.2	
	comp=Z,369nm,21.9s,baz=155,slow=39						
TKM2	**Tokmak 2**	**12.27**	**310**	P	**Pn**	**05 47 18.2**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**12.27**	**310**	*e*Pn	**Pn**	**05 47 17.9**	**+0.1**
	17nm,1.1s						
KBK	**Karagaybulak**	**12.55**	**308**	P	**Pn**	**05 47 22.2**	**+0.7**
	SNR=5.6						
AAK	**Ala-Archa**	**12.83**	**307**	P	**Pn**	**05 47 26.1**	**+0.8**
	SNR=8.2						
AAK	**Ala-Archa**	**12.83**	**307**	*e*Pn	**Pn**	**05 47 25.2**	**-0.1**
	19nm,1.3s						
AAK	**Ala-Archa**	**12.83**	**307**	Pn	**Pn**	**05 47 25.6**	**+0.3**
	0.2nm,0.3s,baz=111,slow=10,SNR=14						
AAK				LR	LR	05 52 45.7	
	comp=Z,363nm,21.2s,baz=107,slow=39						
AML	**Almayashu**	**13.13**	**304**	P	**Pn**	**05 47 30.4**	**+0.8**
	SNR=6.7						
EKS2	**Erkin-Say**	**13.31**	**306**	P	**Pn**	**05 47 32.7**	**+0.9**
	SNR=12						
EKS2	**Erkin-Say**	**13.31**	**306**	*e*Pn	**Pn**	**05 47 32.7**	**+0.9**
	27nm,1.4s						
KKAR	**Karatay Array**	**15.67**	**304**	*e*Pn	**Pn**	**05 48 03.4**	**-0.3**
	21nm,1.3s						
KKAR				*e*P	**P**	**05 48 08.9**	**+1.1**
KBL	**Kabul**	**15.84**	**272**	*e*Pn	**Pn**	**05 48 03.1**	**-2.9**
	10nm,0.9s						
KBL				*e*P	**P**	**05 48 09.1**	**-0.7**
KURBB	**Kurchatov Arra**	**16.60**	**338**	Pn	**Pn**	**05 48 14.2**	**-1.2**
	0.1nm,0.3s,baz=144,slow=12,SNR=9.4						
KURK	**Kurchatov**	**16.66**	**338**	Pn	**Pn**	**05 48 14.2**	**-1.9**
XAN	**Xi'an**	**16.97**	**89**	P	**P**	**05 48 22.3**	**+0.1**
XAN				S	**S**	**05 51 37.3**	**-1.9**
XAN				pmax	pmax		
	comp=Z,40nm,4.6s						
XAN				LR	LR		
	comp=N,380nm,12.3s						
XAN				LR	LR		
	comp=E,140nm,8.9s						
SONM	**Songino Array**	**18.13**	**42**	P	**P**	**05 48 35.7**	**+0.7**
SONM	**Songino Array**	**18.13**	**42**	P	**P**	**05 48 35.7**	**+0.7**
	0.2nm,0.3s,baz=227,slow=5.9,SNR=7.4						
GYA	**Guiyang**	**18.14**	**115**	P	**Pn**	**05 48 33.3**	**-1.6**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
ZAA0	**Zalesovo Array**	**18.50**	**353**	*e*P	**P**	**05 48 41.0**	**+2.1**
ZALV	**Zalesovo Beam**	**18.50**	**353**	P	**P**	**05 48 38.8**	**-0.1**
ZALV	**Zalesovo Beam**	**18.50**	**353**	P	**P**	**05 48 38.8**	**-0.1**
	0.1nm,0.3s,baz=181,slow=10.0,SNR=7.6						
ZALV				LR	LR	05 56 37.8	
	comp=Z,575nm,20.4s,baz=176,slow=39						
CMAR	**Chiang Mai Arr**	**19.50**	**148**	P	**P**	**05 48 49.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.50**	**148**	P	**P**	**05 48 49.8**	**-0.3**
	0.5nm,0.3s,baz=325,slow=11,SNR=16						
CMAR				LR	LR	05 57 12.3	
	comp=Z,290nm,18.1s,baz=331,slow=40						
BVAR	**Borovoye Array**	**21.53**	**330**	P	**P**	**05 49 12.7**	**+0.8**
BVAR	**Borovoye Array**	**21.53**	**330**	P	**P**	**05 49 12.7**	**+0.8**
	2.3nm,0.8s,baz=128,slow=12,SNR=9.6						
BVAR				LR	LR	05 57 32.8	
	comp=Z,177nm,20.1s,baz=318,slow=37						
BRVK	**Borovoye**	**21.60**	**329**	*e*P	**P**	**05 49 13.0**	**+0.4**
	7.7nm,1.0s						
BJI	**Beijing**	**22.38**	**70**	P	**P**	**05 49 23.4**	**+2.3**
BJI				S	Sn	05 53 32.0	-7.3
BJI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BJI				LR	LR		
	comp=N,2μm,20.7s						
BJI				LR	LR		
	comp=E,730nm,18.0s						
ABKAR	**Akbulak array**	**24.83**	**312**	*e*P	**P**	**05 49 45.3**	**+0.3**
	13nm,1.1s						
AKTO	**Aktyubinsk**	**26.43**	**314**	P	**P**	**05 50 01.6**	**+2.0**
AKTO	**Aktyubinsk**	**26.43**	**314**	P	**P**	**05 50 01.6**	**+2.0**
	3.2nm,0.6s,baz=106,slow=11,SNR=12						
AKTO				LR	LR	06 01 41.7	
	comp=Z,280nm,20.0s,baz=118,slow=39						
KSRS	**Korea Array**	**31.70**	**75**	LR	LR	06 04 16.1	
	comp=Z,111nm,20.8s,baz=103,slow=38						
PSI	**Prapat**	**34.09**	**161**	LR	LR	06 05 36.8	
	comp=Z,147nm,18.9s,baz=150,slow=38						
USRK	**Ussuriysk Arra**	**34.22**	**62**	LR	LR	06 05 58.8	
	comp=Z,356nm,18.6s,baz=74,slow=38						
JNU	**Nakatsue**	**35.00**	**82**	LR	LR	06 06 40.2	
	comp=Z,160nm,18.3s,baz=106,slow=38						
KBZ	**Khabaz**	**35.54**	**297**	LR	LR	06 07 15.7	
	comp=Z,180nm,19.1s,baz=274,slow=39						
MJAR	**Matsushiro Arr**	**39.95**	**74**	LR	LR	06 09 37.2	
	comp=Z,128nm,18.1s,baz=330,slow=38						
OBN	**Obninsk**	**40.17**	**316**	LR	LR	06 09 50.8	
	comp=Z,236nm,18.5s,baz=272,slow=38						
BR131	**Keskin Array S**	**42.94**	**292**	*e*P	**P**	**05 52 21.8**	**-0.2**
	0.7nm,0.6s						
BRTR	**Keskin Array B**	**42.94**	**292**	P	**P**	**05 52 21.6**	**-0.3**
BRTR	**Keskin Array B**	**42.94**	**292**	P	**P**	**05 52 21.6**	**-0.3**
	1.1nm,0.7s,baz=97,slow=8.8,SNR=6.9						
AKASG	**Malin Array Be**	**44.49**	**309**	P	**P**	**05 52 32.8**	**-1.4**
AKASG	**Malin Array Be**	**44.49**	**309**	P	**P**	**05 52 32.8**	**-1.4**
	0.5nm,0.5s,baz=80,slow=6.9,SNR=5.9						
AKASG				LR	LR	06 14 34.0	
	comp=Z,192nm,18.9s,baz=115,slow=41						
EIL	**Elat**	**44.90**	**278**	LR	LR	06 14 43.9	
	comp=Z,127nm,19.0s,baz=265,slow=41						
FINES	**FINESS Array B**	**46.32**	**324**	P	**P**	**05 52 47.6**	**-0.8**
FINES	**FINESS Array B**	**46.32**	**324**	P	**P**	**05 52 47.6**	**-0.8**
	0.7nm,0.6s,baz=103,slow=8.6,SNR=6.9						
FINES				LR	LR	06 13 33.4	
	comp=Z,218nm,18.8s,baz=90,slow=38						
SEY	**Seymchan**	**47.26**	**34**	P	**P**	**05 52 57.3**	**+1.5**
SEY	**Seymchan**	**47.26**	**34**	P	**P**	**05 52 57.3**	**+1.5**
	1.8nm,0.7s,baz=227,slow=19,SNR=5.1						
MLR	**Muntele Rosu**	**47.34**	**302**	LR	LR	06 16 30.1	
	comp=Z,48nm,20.2s,baz=251,slow=41						
ARCES	**ARCESS Array B**	**47.66**	**335**	P	**P**	**05 52 59.8**	**+1.0**
ARCES	**ARCESS Array B**	**47.66**	**335**	P	**P**	**05 52 59.8**	**+1.0**
	1.9nm,0.7s,baz=100,slow=8.7,SNR=3.6						
PETK	**Petropavlovsk-**	**50.53**	**47**	LR	LR	06 16 02.5	
	comp=Z,211nm,19.5s,baz=92,slow=38						
HFS	**Hagfors**	**52.42**	**322**	P	**P**	**05 53 36.1**	**+1.1**
HFS	**Hagfors**	**52.42**	**322**	P	**P**	**05 53 36.1**	**+1.1**
	1.3nm,0.7s,baz=92,slow=16,SNR=3.7						
HFS				LR	LR	06 17 12.5	
	comp=Z,314nm,18.0s,baz=259,slow=38						
VRAC	**Vranov**	**52.75**	**309**	LR	LR	06 17 14.4	
	comp=Z,176nm,20.8s,baz=259,slow=37						
NOA	**NORSAR Array B**	**53.51**	**324**	P	**P**	**05 53 43.5**	**+0.4**
NOA	**NORSAR Array B**	**53.51**	**324**	P	**P**	**05 53 43.5**	**+0.4**
	1.8nm,0.9s,baz=80,slow=7.9,SNR=3.1						
NOA				LR	LR	06 17 35.8	
	comp=Z,159nm,18.1s,baz=85,slow=37						
GERES	**GERESS Array B**	**54.71**	**309**	P	**P**	**05 53 51.6**	**-0.5**
GERES	**GERESS Array B**	**54.71**	**309**	P	**P**	**05 53 51.6**	**-0.5**
	0.7nm,0.8s,baz=72,slow=6.3,SNR=4.2						
GERES				LR	LR	06 18 50.6	
	comp=Z,135nm,18.4s,baz=271,slow=38						
DAVOX	**Davos/Dischmat**	**57.78**	**307**	LR	LR	06 20 43.8	
	comp=Z,90nm,22.0s,baz=69,slow=38						
ESDC	**Sonseca Array**	**69.92**	**305**	LR	LR	06 29 26.8	
	comp=Z,113nm,18.5s,baz=120,slow=39						
WRAB	**Tennant Creek**	**70.37**	**134**	*e*P	**P**	**05 55 36.4**	**-0.6**
	8.1nm,1.3s						
WRA	**Warramunga Arr**	**70.37**	**134**	P	**P**	**05 55 36.0**	**-1.0**
WRA	**Warramunga Arr**	**70.37**	**134**	P	**P**	**05 55 36.0**	**-1.0**
	0.5nm,0.6s,baz=329,slow=6.6,SNR=9.9						
ILAR	**Eielson Array**	**71.06**	**22**	P	**P**	**05 55 42.2**	**+1.6**
ILAR	**Eielson Array**	**71.06**	**22**	P	**P**	**05 55 42.2**	**+1.6**
	0.8nm,1.0s,baz=301,slow=5.7,SNR=4.8						
ILAR				LR	LR	06 28 55.7	
	comp=Z,158nm,21.5s,baz=301,slow=38						
TORD	**Torodi Ar. Bea**	**79.78**	**279**	P	**P**	**05 56 29.4**	**-2.2**
TORD	**Torodi Ar. Bea**	**79.78**	**279**	P	**P**	**05 56 29.4**	**-2.2**
	0.4nm,0.7s,baz=46,slow=4.1,SNR=3.7						
TORD				LR	LR	06 33 38.1	
	comp=Z,63nm,18.7s,baz=355,slow=37						
YKA	**Yellowknife Ar**	**80.50**	**11**	P	**P**	**05 56 34.6**	**0.0**
YKA	**Yellowknife Ar**	**80.50**	**11**	P	**P**	**05 56 34.6**	**0.0**
	0.5nm,1.0s,baz=338,slow=4.9,SNR=4.6						
STKA	**Stephens Creek**	**83.68**	**13?**	LR	LR	06 38 30.4	
	comp=Z,77nm,20.0s,baz=206,slow=39						
DBIC	**Dimbokro**	**88.76**	**277**	LR	LR	06 41 16.5	
	comp=Z,88nm,18.8s,baz=237,slow=38						
ULM	**Lac du Bonnet**	**94.43**	**3**	LR	LR	06 43 52.6	
	comp=Z,88nm,21.6s,baz=292,slow=38						

TIR **16** *05:52:17.8,42°.56N×18°.80E,h25km,ML3.8*

SZGRF **16** *05:52:21.7,42°.01N×19°.46E,h10km,mb4.6,Northwestern Balkan Peninsula*

IDC **16** *05:52:24.2±0.9,42°.48N×18°.92E,h0km,mb3.4/7, mb1 3.7/17,mb1mx3.7/35,mbtmp3.5/17,ML3.5/10,MS3.3/3, Ms1 3.4/3,ms1mx2.7/32,Error ellipse: s-maj=15.3km s-min=11.9km az=2.0*

SOF **16** *05:52:25.0,42°.74N×18°.88E,h2km,MD3.4*

THE **16** *05:52:27.8,42°.57N×18°.87E,h15km±1km,ML3.9/6,Error ellipse: s-maj=1.8km s-min=1.3km az=101.0*

MOS **16** *05:52:27.5±0.8,42°.56N×18°.96E,h33km,mb4.3/1,Error ellipse: s-maj=13.2km s-min=5.5km az=95.8*

BEO **16** *05:52:27.7±0.3,42°.62N×18°.97E,h8km±2km,ML4.0/8*

VIE **16** *05:52:27.6±0.4,42°.61N×18°.93E,h10km,mb3.7/14, ML3.5/2,Ms4.2/12,Error ellipse: s-maj=4.6km s-min=3.0km az=67.0*

CSEM **16** *05:52:27.4±0.1,42°.60N×18°.92E,h10km,ML3.9,Ms4.2, Error ellipse: s-maj=2.4km s-min=1.6km az=49.0*

ISCJB **16** *05:52:27.3±0.2,42°.61N±0°.01×18°.86E±0°.02,h27km±2km, mb3.4/7,MS4.0/1,Error ellipse: s-maj=2.1km s-min=1.5km az=144.0*

LDG **16** *05:52:27.5±0.1,42°.61N×18°.92E,h10km,Ml4.3/13,Error ellipse: s-maj=4.0km s-min=2.9km az=35.0*

PDG **16** *05:52:27.5±0.4,42°.62N×18°.96E,h17km,MD3.9/11, ML3.9/10,Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

PRU **16** *05:52:29.8,42°.67N×19°.06E,h1km*

ISC 16 05:52:27.6±0.7,42°.63N±0°.01×18°.95E±0°.02,h17km±4km, n392,σ1§59/531,mb3.5/7,51C-42D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKME	**Niksic**	**0.14**	**2**	⇑*i*Pg	**Pg**	**05 52 31.8**	**+0.1**
NKME				*e*Sg	**Sg**	**05 52 35.3**	**+0.9**
NKME	**Niksic**	**0.14**	**2**	⇑*i*Pg	**Pg**	**05 52 31.8**	**+0.1**
NKME				*e*Sg	**Sg**	**05 52 35.3**	**+0.9**
NKY	**Niksic**	**0.19**	**11**	⇑*i*Pg	**Pb**	**05 52 32.5**	**-0.2**
NKY	**Niksic**	**0.19**	**11**	⇑*i*Pg	**Pb**	**05 52 32.5**	**-0.2**
PDG	**Podgorica**	**0.30**	**131**	P	**Pg**	**05 52 33.6**	**-0.5**
PDG				S	**Sg**	**05 52 38.6**	**+0.1**
PDG	**Podgorica**	**0.30**	**131**	⇑*i*Pg	**Pg**	**05 52 33.6**	**-0.5**
PDG	**Podgorica**	**0.30**	**131**	P	**Pg**	**05 52 33.6**	**-0.5**
PDG				S	**Sg**	**05 52 38.6**	**+0.1**
TTG	**Podgorica**	**0.30**	**131**	⇑*i*Pg	**Pg**	**05 52 33.6**	**-0.5**
TTG				*e*Sg	**Sg**	**05 52 38.8**	**+0.3**
BUM	**Brajici-Budva**	**0.33**	**187**	⇓*i*Pg	**Pg**	**05 52 34.5**	**-0.1**
BUM				*e*Sg	**Sg**	**05 52 39.7**	**+0.3**
BUM	**Brajici-Budva**	**0.33**	**187**	⇓*i*Pg	**Pg**	**05 52 34.5**	**-0.1**
BUM				*e*Sg	**Sg**	**05 52 39.7**	**+0.3**
HCY	**Herceg Novi**	**0.38**	**242**	⇓*i*Pg	**Pg**	**05 52 35.2**	**-0.3**
HCY				*e*Sg	**Sb**	**05 52 42.2**	**+0.6**
HCY	**Herceg Novi**	**0.38**	**242**	⇓*i*Pg	**Pg**	**05 52 35.2**	**-0.3**
BRY	**Bratogost**	**0.41**	**312**	⇑*i*Pg	**Pg**	**05 52 35.7**	**-0.3**
BRY				*e*Sg	**Sb**	**05 52 42.7**	**+0.3**
BRY	**Bratogost**	**0.41**	**312**	⇑*i*Pg	**Pg**	**05 52 35.7**	**-0.3**
BRY				*e*Sg	**Sb**	**05 52 42.7**	**+0.3**
DRME	**Dracevica, Mon**	**0.48**	**158**	⇓*i*Pg	**Pg**	**05 52 36.5**	**-0.7**
DRME				*e*Sg	**Sb**	**05 52 44.7**	**+0.5**
DRME	**Dracevica, Mon**	**0.48**	**158**	⇓*i*Pg	**Pg**	**05 52 36.5**	**-0.7**
DRME				*e*Sg	**Sb**	**05 52 44.7**	**+0.5**
UPM	**Unac-Piva**	**0.57**	**357**	⇑*i*Pg	**Pb**	**05 52 38.5**	**-0.8**
UPM				*e*Sg	**Sb**	**05 52 48.0**	**+0.7**
UPM	**Unac-Piva**	**0.57**	**357**	⇑*i*Pg	**Pb**	**05 52 38.5**	**-0.8**
UPM				*e*Sg	**Sb**	**05 52 48.0**	**+0.7**
ULC	**Ulcinj**	**0.70**	**161**	⇑*i*Pg	**Pb**	**05 52 40.8**	**-0.6**
ULC				*e*Sg	**Sg**	**05 52 51.9**	**+1.2**
ULC	**Ulcinj**	**0.70**	**161**	⇑*i*Pg	**Pb**	**05 52 40.8**	**-0.6**
BEY	**Berane**	**0.74**	**70**	⇓*i*Pg	**Pb**	**05 52 41.4**	**-0.7**
BEY				*e*Sg	**Sn**	**05 52 53.4**	**-0.8**
IVA	**Berane**	**0.74**	**70**	⇓*i*Pg	**Pb**	**05 52 41.4**	**-0.7**
IVA				*e*Sg	**Sn**	**05 52 53.4**	**-0.8**
PVY	**Plav**	**0.75**	**92**	⇑*i*Pg	**Pb**	**05 52 41.6**	**-0.7**
PVY				*e*Sg	**Sg**	**05 52 53.5**	**+1.3**
PLE	**Pljevlja**	**0.77**	**25**	⇑*i*Pg	**Pb**	**05 52 42.4**	**-0.3**
PLE				*e*Sg	**Sn**	**05 52 54.7**	**-0.4**
PLE	**Pljevlja**	**0.77**	**25**	⇑*i*Pg	**Pb**	**05 52 42.4**	**-0.3**
PLE				*e*Sg	**Sn**

BOLS				*e*Sn	**Sb**	05 53 40.3	-2.3
BOLS	**Boljevac**	2.50	60	*e*Pn	**Pn**	05 53 07.5	0.0
BOLS				*e*Sn	**Sb**	05 53 40.3	-2.3
FNA	**Florina**	2.59	135	P	**Pn**	05 53 10.1	+1.3
FNA	**Florina**	2.59	135	P	**Pn**	05 53 10.1	+1.3
FGSL	**Fruska Gora**	2.60	14	⇓*i*Pn	**Pn**	05 53 08.8	-0.1
FGSL				*e*Sn	**Sn**	05 53 41.3	+1.1
FRGS	**Fruska Gora**	2.60	14	⇓*i*Pn	**Pn**	05 53 08.8	-0.1
FRGS				*e*Sn	**Sn**	05 53 41.3	+1.1
NEST	**Nestorio**	2.72	144	P	**Pn**	05 53 11.9	+1.3
NEST	**Nestorio**	2.72	144	P	**Pn**	05 53 11.9	+1.3
ZAPS	**Zavoj**	2.78	75	⇑*i*Pn	**Pn**	05 53 12.7	+1.3
ZAPS				*e*Sn	**Sn**	05 53 47.0	+2.4
ZAPS	**Zavoj**	2.78	75	⇑*i*Pn	**Pn**	05 53 12.7	+1.3
ZAPS				*e*Sn	**Sn**	05 53 47.0	+2.4
SRN	**Sarande**	2.86	164	*i* PN	**Pn**	05 53 13.1	+0.7
SRN	**Sarande**	2.86	164	P	**Pn**	05 53 12.9	+0.5
SRN				S	**Sn**	05 53 46.3	-0.1
SRN	**Sarande**	2.86	164	P	**Pn**	05 53 12.9	+0.5
SRN				S	**Sn**	05 53 46.3	-0.1
UDBI	**Udbina**	2.99	310	*i* Pn	**Pn**	05 53 17.2	+2.9
UDBI				Sn	**Sb**	05 53 54.7	-2.1
UDBI	**Udbina**	2.99	310	*i* Pn	**Pn**	05 53 17.2	+2.9
UDBI				Sn	**Sb**	05 53 54.6	-2.1
VAY	**Valandovo**	3.00	115	P	**Pn**	05 53 15.1	+0.8
VAY	**Valandovo**	3.00	115	*e*Pn	**Pn**	05 53 14.7	+0.4
VAY				*e*Sn	**Sn**	05 53 51.3	+1.4
VAY	**Valandovo**	3.00	115	*i* P	**Pn**	05 53 15.6	+1.3
VAY				*i* S	**Sn**	05 53 52.7	+2.8
VAY	**Valandovo**	3.00	115	*e*Pn	**Pn**	05 53 14.7	+0.4
VAY	**Valandovo**	3.00	115	P	**Pn**	05 53 15.1	+0.8
VAY				*e*Sn	**Sn**	05 53 51.3	+1.4
VAY				*i* S	**Sn**	05 53 52.7	+2.8
GRG	**Griva**	3.08	122	P	**Pn**	05 53 16.4	+1.0
GRG	**Griva**	3.08	122	P	**Pn**	05 53 16.4	+1.0
VTS	**Vitosha**	3.15	89	P	**Pn**	05 53 17.8	+1.2
VTS				S	**Sn**	05 53 56.1	+2.4
VTS	**Vitosha**	3.15	89	*e*Pn	**Pn**	05 53 17.7	+1.2
VTS				*e*Sn	**Sn**	05 53 53.9	+0.2
VTS	**Vitosha**	3.15	89	*i* P	**Pn**	05 53 17.4	+0.9
VTS				*i* S	**Sn**	05 53 56.2	+2.5
VTS	**Vitosha**	3.15	89	⇓*i*P	**Pn**	05 53 17.7	+1.2
VTS	**Vitosha**	3.15	89	S	**Sn**	05 53 55.7	+2.0
VTS	**Vitosha**	3.15	89	P	**Pn**	05 53 17.8	+1.2
VTS				*e*Sn	**Sn**	05 53 53.9	+0.2
VTS				S	**Sn**	05 53 56.1	+2.4
KKB	**Krupnik**	3.17	103	*i* P	**Pn**	05 53 19.2	+2.6
KKB				*i* S	**Sn**	05 53 55.2	+1.2
KKB	**Krupnik**	3.17	103	*i* P	**Pn**	05 53 19.2	+2.6
KKB				*i* S	**Sn**	05 53 55.2	+1.2
IGT	**Igoumenitsa**	3.27	161	P	**Pn**	05 53 18.3	+0.3
IGT				S	**Sn**	05 53 56.9	+0.4
IGT	**Igoumenitsa**	3.27	161	P	**Pn**	05 53 18.3	+0.3
IGT				S	**Sn**	05 53 56.9	+0.4
KNT	**Kendrikon**	3.29	115	P	**Pn**	05 53 19.4	+1.0
KNT	**Kendrikon**	3.29	115	P	**Pn**	05 53 19.4	+1.0
MEV	**Metsovon**	3.32	148	P	**Pn**	05 53 21.7	+2.8
MEV	**Metsovon**	3.32	148	P	**Pn**	05 53 21.7	+2.8
NVLJ	**Novalja**	3.54	305	*e*Pn	**Pn**	05 53 23.0	+1.3
NVLJ				Sn	**Sn**	05 54 05.2	+2.2
NVLJ	**Novalja**	3.54	305	*e*Pn	**Pn**	05 53 22.9	+1.3
NVLJ				Sn	**Sn**	05 54 05.2	+2.2
BZS	**Buzias**	3.55	32	⇓*i*P	**Pn**	05 53 22.0	+0.1
BZS	**Buzias**	3.55	32	S	**Sn**	05 54 01.1	-2.4
PKSM	**Moragy**	3.59	357	⇑*i*P	**Pn**	05 53 22.5	+0.1
PKSM	**Moragy**	3.59	357	S	**Sn**	05 54 01.1	-3.3
PKSM	**Moragy**	3.59	357	⇓*e*	**Pn**	05 53 22.9	+0.5
PKSM				*e*		05 54 04.0	
PKSM	**Moragy**	3.59	357	⇓*e*Pn	**Pn**	05 53 22.9	+0.5
PKSM				*e*Sn	**Sn**	05 54 04.0	-0.4
MPEP	**Malo Peshtene**	3.59	77	*e*P	**Pb**	05 53 31.2	+0.6
MPEP				*i* S	**Sg**	05 54 23.9	+1.0
LIT	**Litokhoron**	3.67	132	P	**Pn**	05 53 25.4	+1.8
LIT	**Litokhoron**	3.67	132	P	**Pn**	05 53 25.4	+1.8
MMB	**Musomiste**	3.71	105	*i* P	**Pn**	05 53 26.0	+1.9
MMB				*i* S	**Sg**	05 54 28.3	+1.7
MMB	**Musomiste**	3.71	105	⇓*i*P	**Pn**	05 53 26.7	+2.6
MMB	**Musomiste**	3.71	105	S	**Sn**	05 54 12.0	+4.6
MMB	**Musomiste**	3.71	105	*i* P	**Pn**	05 53 26.0	+1.9
HORT	**Hortiatis**	3.72	122	P	**Pn**	05 53 24.7	+0.4
HORT	**Hortiatis**	3.72	122	P	**Pn**	05 53 24.7	+0.4
SOH	**Sokhos**	3.76	117	P	**Pn**	05 53 26.7	+1.9
SOH	**Sokhos**	3.76	117	P	**Pn**	05 53 26.7	+1.9
SRS	**Serrai**	3.78	112	P	**Pn**	05 53 26.8	+1.7
SRS				S	**Sn**	05 54 12.0	+2.8
SRS	**Serrai**	3.78	112	P	**Pn**	05 53 26.8	+1.7
SRS				S	**Sn**	05 54 12.0	+2.8
TIP	**Timpagrande**	3.82	206	P	**Pn**	05 53 25.3	-0.4
TIP				S	**Sn**	05 54 10.6	+0.3
TIP	**Timpagrande**	3.82	206	P	**Pn**	05 53 25.3	-0.4
TIP				S	**Sn**	05 54 10.6	+0.3
GZR	**Gura Zlata**	3.91	44	⇑*i*P	**Pn**	05 53 26.6	-0.3
GZR	**Gura Zlata**	3.91	44	S	**Sn**	05 54 12.0	-0.4
BOJS	**Bojanci**	3.92	318	*i* Pn	**Pn**	05 53 29.2	+2.3
BOJS				*i* Sn	**Sn**	05 54 16.0	+3.5
BOJS	**Bojanci**	3.92	318	*i* Pn	**Pn**	05 53 29.2	+2.3
BOJS				*i* Sn	**Sn**	05 54 16.0	+3.5
PKS9	**Tamasi**	3.99	353	⇓*e*P	**Pn**	05 53 28.6	+0.7
PKS9				*e*		05 54 27.7	
PKS9	**Tamasi**	3.99	353	⇓*e*Pn	**Pn**	05 53 28.6	+0.7
LKD2	**Lefkada island**	4.05	161	P	**Pn**	05 53 28.5	-0.3
LKD2				S	**Sn**	05 54 14.1	-1.7
LKD2	**Lefkada island**	4.05	161	P	**Pn**	05 53 28.5	-0.3
LKD2				S	**Sn**	05 54 14.1	-1.7
CRES	**Cresnjev**	4.06	323	*i* Pn	**Pn**	05 53 30.7	+1.7
SIRR	**Siria**	4.12	27	⇑*i*P	**Pn**	05 53 29.5	-0.3
SIRR	**Siria**	4.12	27	S	**Sn**	05 54 16.1	-1.5
BEHE	**Becsehely**	4.14	339	⇓*e*	**Pn**	05 53 32.0	+2.0
BEHE				*e*		05 54 23.3	
BEHE	**Becsehely**	4.14	339	⇓*e*Pn	**Pn**	05 53 32.0	+2.0
BEHE				*e*Sn	**Sn**	05 54 23.3	+5.3
PLD	**Plovdiv**	4.30	95	*i* P	**Pn**	05 53 34.6	+2.4
PLD				*i* S	**Sg**	05 54 43.8	-1.8
PLD	**Plovdiv**	4.30	95	*i* P	**Pn**	05 53 34.6	+2.4
PKSN	**Nyarlorinc**	4.32	8	*e*	**Pn**	05 53 33.2	+0.8
PKSN				*e*		05 54 21.5	
PKSN	**Nyarlorinc**	4.32	8	*e*Pn	**Pn**	05 53 33.2	+0.8
PKSN				*e*Sn	**Sn**	05 54 21.5	-0.8
MAKR	**Makrakomi, Fth**	4.35	145	P	**Pn**	05 53 33.7	+0.8
MAKR				S	**Sn**	05 54 24.7	+1.6
MAKR	**Makrakomi, Fth**	4.35	145	P	**Pn**	05 53 33.7	+0.8
MAKR				S	**Sn**	05 54 24.7	+1.6
PDO	**Prodromos**	4.37	156	P	**Pn**	05 53 32.8	-0.4
PDO				S	**Sn**	05 54 24.1	+0.4
PDO	**Prodromos**	4.37	156	P	**Pn**	05 53 32.8	-0.4
PDO				S	**Sn**	05 54 24.1	+0.4
RZN	**Rozhen**	4.39	100	*i* P	**Pn**	05 53 35.8	+2.2
RZN				*i* S	**Sn**	05 54 28.1	+3.6
RZN	**Rozhen**	4.39	100	*i* P	**Pn**	05 53 35.8	+2.2
RZN				*i* S	**Sn**	05 54 28.1	+3.6
FYTO	**Fytoko, Volos**	4.41	135	P	**Pn**	05 53 33.9	+0.1
FYTO	**Fytoko, Volos**	4.41	135	P	**Pn**	05 53 33.9	+0.1
PKS7	**Kunszentmiklos**	4.42	2	⇓*e*	**Pn**	05 53 34.7	+0.9
PKS7				*e*		05 54 24.5	
PKS7	**Kunszentmiklos**	4.42	2	⇓*e*Pn	**Pn**	05 53 34.7	+0.9
PKS7				*e*Sn	**Sn**	05 54 24.5	-0.4
AGG	**Agios Georgios**	4.42	143	P	**Pn**	05 53 34.3	+0.4
AGG	**Agios Georgios**	4.42	143	P	**Pn**	05 53 34.3	+0.4
PVO	**Paravola**	4.46	153	P	**Pn**	05 53 35.3	+0.9
PVO				S	**Sn**	05 54 26.6	+0.7
PVO	**Paravola**	4.46	153	P	**Pn**	05 53 35.3	+0.9
PVO				S	**Sn**	05 54 26.6	+0.7
KAVA	**Kavala**	4.47	110	P	**Pn**	05 53 36.8	+2.3
KAVA	**Kavala**	4.47	110	P	**Pn**	05 53 36.8	+2.3
PAIG	**Paliouri**	4.47	126	P	**Pn**	05 53 35.6	+1.0
PAIG				S	**Sn**	05 54 28.8	+2.6
PAIG	**Paliouri**	4.47	126	P	**Pn**	05 53 35.6	+1.0
PAIG				S	**Sn**	05 54 28.8	+2.6
LOT	**Lotru**	4.48	49	⇑*i*P	**Pn**	05 53 34.8	+0.1
LOT	**Lotru**	4.48	49	S	**Sn**	05 54 26.3	-0.1
LJU	**Ljubljana**	4.66	319	*i* Pn	**Pn**	05 53 39.3	+2.2
LJU	**Ljubljana**	4.66	319	*i* Pn	**Pn**	05 53 39.3	+2.2
LJU				*i* Sn	**Sn**	05 54 36.2	+5.4
PKST	**T"s**	4.67	352	⇓*e*	**Pn**	05 53 38.0	+0.6
PKST				*e*		05 54 30.6	
PKST	**T"s**	4.67	352	⇓*e*Pn	**Pn**	05 53 38.0	+0.6
PKST				*e*Sn	**Sn**	05 54 30.6	-0.6
CSKK	**Cs^‡kako**	4.76	354	⇑*e*	**Pn**	05 53 39.7	+1.2
CSKK				*e*		05 54 33.8	
CSKK	**Cs^‡kako**	4.76	354	⇑*e*Pn	**Pn**	05 53 39.7	+1.2
CSKK				*e*Sn	**Sn**	05 54 33.8	+0.6
EFP	**Efpalio**	4.76	151	P	**Pn**	05 53 40.1	+1.5
EFP	**Efpalio**	4.76	151	P	**Pn**	05 53 40.1	+1.5
PKSG		4.78	355	⇓*e*	**Pn**	05 53 39.8	+1.0
PKSG				*e*		05 54 33.4	
PKSG		4.78	355	⇓*e*Pn	**Pn**	05 53 39.8	+1.0
PKSG				*e*Sn	**Sn**	05 54 33.4	-0.3
AXAR	**Agios Charalam**	4.78	143	P	**Pn**	05 53 39.4	+0.6
AXAR	**Agios Charalam**	4.78	143	P	**Pn**	05 53 39.4	+0.6
JAVS	**Javornik**	4.79	315	*i* Pn	**Pn**	05 53 40.6	+1.6
JAVS				*e*Sn	**Sn**	05 54 36.0	+1.9
JAVS				comp=Z,420nm,0.9s			
JAVS	**Javornik**	4.79	315	*i* Pn	**Pn**	05 53 40.5	+1.5
JAVS				*e*Sn	**Sn**	05 54 36.0	+1.9
				comp=Z,420nm,0.9s			
PERS	**Pernice**	4.85	327	*i* Pn	**Pn**	05 53 41.5	+1.7
PERS				*i* Sn	**Sn**	05 54 35.9	+0.3
BUD	**Budapest**	4.86	1	⇑*e*	**Pn**	05 53 40.5	+0.7
BUD				*e*		05 54 32.3	
BUD	**Budapest**	4.86	1	⇑*e*Pn	**Pn**	05 53 40.5	+0.7
KALE	**Kalithea**	4.88	149	P	**Pn**	05 53 40.5	+0.2
KALE				S	**Sn**	05 54 38.1	+1.7
KALE	**Kalithea**	4.88	149	P	**Pn**	05 53 40.5	+0.2
KALE				S	**Sn**	05 54 38.1	+1.7
KDZ	**Kurdzhali**	4.91	99	*i* P	**Pn**	05 53 41.7	+1.1
KDZ	**Kurdzhali**	4.91	99	⇑*i*P	**Pn**	05 53 42.6	+2.0
KDZ	**Kurdzhali**	4.91	99	S	**Sn**	05 54 36.2	-0.8
KDZ	**Kurdzhali**	4.91	99	*i* P	**Pn**	05 53 41.7	+1.1
SOKA	**Soboth**	4.92	327	⇑*i*Pn	**Pn**	05 53 42.5	+1.7
	SNR=25						
SOKA	**Soboth**	4.92	327	Pn	**Pn**	05 53 42.5	+1.7
	SNR=25						
ARR	**Arges**	4.93	54	⇑*i*P	**Pn**	05 53 42.2	+1.2
ARR	**Arges**	4.93	54	S	**Sn**	05 54 34.1	-3.5
DRGR		4.95	32	*i* S	**Sn**	05 54 34.8	-3.3
DRGR				*i* P	**Pn**	05 53 41.6	+0.4
DRGR		4.95	32	S	**Sn**	05 54 34.0	-4.1
LAKA	**Lakka**	4.96	151	P	**Pn**	05 53 42.0	+0.7
LAKA	**Lakka**	4.96	151	P	**Pn**	05 53 42.0	+0.7
OBKA	**Obir**	4.99	323	*e*Pn	**Pn**	05 53 44.4	+2.6
OBKA	**Obir**	4.99	323	*e*Pn	**Pn**	05 53 44.4	+2.6
DSF	**Desfina**	5.02	146	P	**Pn**	05 53 42.4	+0.2
DSF				S	**Sn**	05 54 40.8	+1.0
DSF	**Desfina**	5.02	146	P	**Pn**	05 53 42.4	+0.2
DSF				S	**Sn**	05 54 40.8	+1.0
DRO	**Drossia**	5.13	155	P	**Pn**	05 53 43.9	+0.3
DRO				S	**Sn**	05 54 42.1	-0.3
DRO	**Drossia**	5.13	155	P	**Pn**	05 53 43.9	+0.3
DRO				S	**Sn**	05 54 42.1	-0.3
SZH	**Strazhica**	5.17	81	*i* P	**Pn**	05 53 46.4	+2.3
SZH	**Strazhica**	5.17	81	*i* P	**Pn**	05 53 46.4	+2.3
ARSA	**Arzberg**	5.22	333	*e*Pn	**Pn**	05 53 46.5	+1.6
ARSA	**Arzberg**	5.22	333	⇓*i*Pn	**Pn**	05 53 46.4	+1.4
	SNR=17						
ARSA	**Arzberg**	5.22	333	Pn	**Pn**	05 53 46.3	+1.4
	SNR=17						
SOP	**Sopron**	5.33	342	⇑*e*	**Pn**	05 53 47.6	+1.3
SOP				*e*		05 54 49.6	
SOP	**Sopron**	5.33	342	⇑*e*Pn	**Pn**	05 53 47.6	+1.3
SOP				*e*Sn	**Sn**	05 54 49.6	+2.3
PSZ	**Piszkesteto**	5.33	7	⇑*i*P	**Pn**	05 53 46.6	+0.1
PSZ	**Piszkesteto**	5.33	7	S	**Sn**	05 54 44.7	-2.8
PSZ	**Piszkesteto**	5.33	7	⇑*e*	**Pn**	05 53 46.7	+0.2
PSZ				*e*		05 54 44.5	
PSZ	**Piszkesteto**	5.33	7	⇑*e*Pn	**Pn**	05 53 46.7	+0.2
GUR	**Goura**	5.36	150	P	**Pn**	05 53 46.3	-0.6
GUR	**Goura**	5.36	150	P	**Pn**	05 53 46.3	-0.6
LTK	**Loutraki**	5.53	145	P	**Pn**	05 53 49.0	-0.2
LTK	**Loutraki**	5.53	145	P	**Pn**	05 53 49.0	-0.2
ALN	**Alexandroupoli**	5.58	106	P	**Pn**	05 53 51.8	+2.0
ALN	**Alexandroupoli**	5.58	106	P	**Pn**	05 53 51.8	+2.0
ERET	**Eretria**	5.58	137	P	**Pn**	05 53 50.7	+0.8
ERET	**Eretria**	5.58	137	P	**Pn**	05 53 50.7	+0.8
JMB	**Yambol**	5.64	89	*i* P	**Pn**	05 53 48.9	-1.8
JMB				*i* S	**Sg**	05 55 25.8	-2.9
JMB	**Yambol**	5.64	89	⇓*i*P	**Pn**	05 53 51.0	+0.3
JMB	**Yambol**	5.64	89	S	**Sn**	05 54 52.1	-3.0
CONA	**Conrad Observa**	5.73	339	⇓*i*Pn	**Pn**	05 53 52.7	+0.8
	SNR=11						
CONA				⇓*i*Sn	**Sn**	05 54 59.7	+2.4
CONA	**Conrad Observa**	5.73	339	Pn	**Pn**	05 53 52.7	+0.8
	SNR=11						
CONA				Sn	**Sn**	05 54 59.7	+2.4
MLR	**Muntele Rosu**	5.80	58	⇓*i*P	**Pn**	05 53 54.1	+1.2
MLR	**Muntele Rosu**	5.80	58	S	**Sn**	05 55 00.5	+1.5
MLR	**Muntele Rosu**	5.80	58	Pn	**Pn**	05 53 55.1	+2.2
	comp=Z,0.1nm,0.3s,baz=151,slow=16,SNR=8.9						
MLR				Sn	**Sn**	05 55 00.7	+1.7
	comp=Z,0.1nm,0.3s,baz=229,slow=20,SNR=5.1						
MLR	**Muntele Rosu**	5.80	58	P	**Pn**	05 53 55.1	+2.2
MLR				S	**Sn**	05 55 00.7	+1.7
KBA	**Koelnbreinsper**	5.97	320	*e*Pn	**Pn**	05 53 57.3	+2.0
KBA				*e*Sn	**Sn**	05 55 08.5	+5.2
KBA	**Koelnbreinsper**	5.97	320	⇓*i*Pn	**Pn**	05 53 56.3	+1.0
	SNR=9.0						
KBA				⇑*i*Sn	**Sn**	05 55 05.8	+2.5
KBA	**Koelnbreinsper**	5.97	320	Pn	**Pn**	05 53 56.3	+1.0
	SNR=9.0						
KBA				Sn	**Sn**	05 55 05.8	+2.5
SMOL	**Smolenice**	5.98	350	*e*P	**Pn**	05 53 56.3	+1.0
SMOL	**Smolenice**	5.98	350	*e*PN	**Pn**	05 53 56.3	+1.0
SMOL	**Smolenice**	5.98	350	*e*P	**Pn**	05 53 56.3	+1.0
TRPA	**Tarpa**	6.05	23	⇑*i*P	**Pn**	05 53 56.4	+0.2
TRPA	**Tarpa**	6.05	23	S	**Sn**	05 55 02.3	-2.8
TRPA	**Tarpa**	6.05	23	*e*	**Pn**	05 53 56.5	+0.2
TRPA	**Tarpa**	6.05	23	*e*Pn	**Pn**	05 53 56.5	+0.2
PYL	**PYLOS**	6.12	158	P	**Pn**	05 53 55.5	-1.7
PYL				S	**Sn**	05 55 04.2	-2.5
PYL	**PYLOS**	6.12	158	P	**Pn**	05 53 55.5	-1.7
ABTA	**Abfaltersbach**	6.16	314	⇑*i*Pn	**Pn**	05 53 58.8	+0.9
	SNR=22						
ABTA	**Abfaltersbach**	6.16	314	Pn	**Pn**	05 53 58.8	+0.9
	SNR=22						
MOA	**Molln**	6.18	329	*e*Pn	**Pn**	05 54 00.8	+2.8
MOA				*e*Sn	**Sn**	05 55 11.0	+2.8
MOA	**Molln**	6.18	329	⇓*i*Pn	**Pn**	05 54 00.4	+2.4
	SNR=6.2						
MOA	**Molln**	6.18	329	Pn	**Pn**	05 54 00.4	+2.4
	SNR=6.2						
MOA				*e*Sn	**Sn**	05 55 11.0	+2.8
PRD	**Provadia**	6.23	82	*i* S	**Sg**	05 55 47.0	-0.6
MAIM	**Mastiano**	6.30	285	P	**Pn**	05 54 00.0	+0.3
PLOR	**Plostina**	6.40	57	⇑*i*P	**Pn**	05 54 02.0	+0.9
PLOR	**Plostina**	6.40	57	S	**Sn**	05 55 15.1	+1.3
UZH	**Uzhgorod**	6.45	20	*e*P	**Pn**	05 54 03.5	+1.9
UZH				*e*		05 55 17.3	
UZH	**Uzhgorod**	6.45	20	*e*P	**Pn**	05 54 03.5	+1.9
UZH				*e*S	**Sn**	05 55 17.3	+2.6
VRI	**Vrincioaia**	6.46	57	⇑*i*P	**Pn**	05 54 02.6	+0.7
VRI	**Vrincioaia**	6.46	57	S	**Sn**	05 55 09.2	-5.9
CRVS	**Cervenica-Dubn**	6.52	15	*e*P	**Pn**	05 54 04.1	+1.5
CRVS				MLR	MLR		
	comp=Z,100nm,2.0s						
CRVS	**Cervenica-Dubn**	6.52	15	*e*PN	**Pn**	05 54 04.1	+1.5
CRVS				*e*SG	Sg	05 56 03.0	+6.4
CRVS	**Cervenica-Dubn**	6.52	15	*e*P	**Pn**	05 54 04.1	+1.5
	comp=Z,100nm,2.0s						
VALM	**Valbona**	6.56	288	P	**Pn**	05 54 03.3	0.0
BURAR	**Bucovina Array**	6.67	40	⇑*i*P	**Pn**	05 54 05.0	+0.1
BURAR	**Bucovina Array**	6.67	40	S	**Sn**	05 55 18.8	-1.7
KOLS	**Kolonicke sedl**	6.72	19	*e*P	**Pn**	05 54 06.9	+1.5
KOLS	**Kolonicke sedl**	6.72	19	*e*PN	**Pn**	05 54 06.9	+1.5
KOLS	**Kolonicke sedl**	6.72	19	*e*P	**Pn**	05 54 06.9	+1.5
PSN	**Preselentsi**	6.84	78	*i* S	**Sg**	05 56 03.7	-3.2
CODM	**Codolo**	6.84	288	P	**Pn**	05 54 08.1	+0.9
NIE	**Niedzica**	6.86	7	*e*Pn	**Pn**	05 54 09.7	+2.3
VRAC	**Vranov**	6.88	347	Pn	**Pn**	05 54 09.9	+2.3
	comp=Z,0.9nm,0.3s,baz=173,slow=11,SNR=4.3						
VRAC	**Vranov**	6.88	347	P	**Pn**	05 54 09.9	+2.3
	comp=Z,1.0nm,0.3s						
TLB	**Topalu**	6.89	70	⇑*i*P	**Pn**	05 54 09.1	+1.4
WTTA	**Wattenberg**	6.95	314	*e*Pn	**Pn**	05 54 10.3	+1.5
WTTA				*e*Sn	**Sn**	05 55 31.0	+3.5
WTTA	**Wattenberg**	6.95	314	⇓*i*Pn	**Pn**	05 54 10.1	+1.3
	SNR=16						
WTTA	**Wattenberg**	6.95	314	Pn	**Pn**	05 54 10.1	+1.3
	SNR=16						
WTTA				*e*Sn	**Sn**	05 55 31.0	+3.5
STHS	**Stebnicka Huta**	6.97	12	*e*P	**Pn**	05 54 05.5	-3.4
STHS	**Stebnicka Huta**	6.97	12	*e*PN	**Pn**	05 54 05.5	-3.4
STHS	**Stebnicka Huta**	6.97	12	*e*SG	Sg	05 56 19.8	+8.5
WATA	**Walderalm**	7.03	315	⇑*i*Pn	**Pn**	05 54 11.0	+1.1
	SNR=17						
WATA				⇓*i*Sn	**Sn**	05 55 31.5	+2.1
WATA	**Walderalm**	7.03	315	Pn	**Pn**	05 54 11.0	+1.1
	SNR=17						
WATA				Sn	**Sn**	05 55 31.5	+2.1
SC2M	**Scurtabo**	7.07	288	P	**Pn**	05 54 11.4	+1.1
MORC	**Moravsky Berou**	7.22	353	*e*Pn	**Pn**	05 54 14.0	+1.7
GEC2	**GERESS Array S**	7.22	331	*e*Pn	**Pn**	05 54 14.6	+2.3
GEC2	**GERESS Array S**	7.22	331	*e*Pn	**Pn**	05 54 14.6	+2.3
GERES	**GERESS Array B**	7.22	331	Pn	**Pn**	05 54 14.3	+2.0
	comp=Z,3.1nm,0.3s,baz=156,slow=13,SNR=77						
GERES				Sn	**Sn**	05 55 32.5	-1.4
	comp=Z,2.8nm,0.3s,baz=148,slow=23,SNR=5.8						
GERES				LR	LR	05 57 26.5	
	comp=Z,59nm,19.3s,baz=307,slow=41						
GERES	**GERESS Array B**	7.22	331	P	**Pn**	05 54 14.3	+2.0
	comp=Z,3.0nm,0.3s						
MOTA	**Moosalm**	7.29	313	⇓*i*Pn	**Pn**	05 54 14.6	+1.2
	SNR=28						
MOTA				⇑*i*Sn	**Sn**	05 55 38.9	+3.1
MOTA	**Moosalm**	7.29	313	Pn	**Pn**	05 54 14.6	+1.2
	SNR=28						
MOTA				Sn	**Sn**	05 55 38.9	+3.1
FETA	**Feichten**	7.31	310	⇑*i*Pn	**Pn**	05 54 14.5	+0.9
	SNR=9.0						
FETA	**Feichten**	7.31	310	Pn	**Pn**	05 54 14.5

	comp=Z,24nm,0.5s								
HAU	**Haudompre**	**10.37**	**306**	*e*Pn		**Pn**	05 54 54.8	**-0.7**
	SNR=1.0								
VIVF	**Saint-Julien-l**	**10.57**	**287**	*e*Pn		**Pn**	05 54 57.5	**-0.7**
	SNR=1.0								
VIVF				*e*Sn		Sn	05 56 48.1	-8.0	
	comp=Z,6.8nm,0.5s								
VIVF	**Saint-Julien-l**	**10.57**	**287**	*e*Pn		**Pn**	05 54 57.5	**-0.7**	
	SNR=1.0								
AKASG	**Malin Array Be**	**10.72**	**38**	P		**Pn**	05 55 00.7	**+0.5**	
AKASG	**Malin Array Be**	**10.72**	**38**	Pn		**Pn**	05 55 00.7	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=227,slow=13,SNR=6.7								
AKASG	**Malin Array Be**	**10.72**	**38**	P		**Pn**	05 55 00.7	**+0.5**	
BRTR	**Keskin Array B**	**11.45**	**100**	Pn		**Pn**	05 55 10.0	**-0.4**	
	comp=Z,0.0nm,0.3s,baz=288,slow=10,SNR=2.4								
BRTR	**Keskin Array B**	**11.45**	**100**	P		**Pn**	05 55 10.0	**-0.4**	
SMF	**Signal de Mont**	**11.48**	**296**	*e*Pn		**Pn**	05 55 09.2	**-1.5**	
	SNR=1.0								
SMF				*e*Sn		Sn	05 57 10.9	-7.6	
	comp=Z,18nm,0.4s,SNR=1.0								
SMF	**Signal de Mont**	**11.48**	**296**	*e*Pn		**Pn**	05 55 09.2	**-1.5**	
	SNR=1.0								
LOR	**Lormes**	**11.65**	**299**	*e*Pn		Pn	05 55 10.0	-3.0	
	baz=118,SNR=1.0								
LOR				*e*Sn		Sn	05 57 15.4	-7.2	
	comp=Z,16nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	**11.82**	**297**	*e*Pn		**Pn**	05 55 13.5	**-1.8**	
AVF	**Avril sur Loir**	**11.85**	**296**	*e*Pn		**Pn**	05 55 13.5	**-2.2**	
	SNR=1.0								
BGF	**Bois d'Agland**	**12.13**	**294**	*e*Pn		**Pn**	05 55 17.9	**-1.6**	
	SNR=1.0								
VSU	**Vasula**	**16.59**	**14**	*e*P		**Pn**	05 56 19.9	**+0.8**	
VSU				pmax	pmax				
	comp=Z,32nm,1.3s								
OBN	**Obninsk**	**16.98**	**37**	P		**P**	05 56 27.0	**+1.1**	
OBN				pmax	pmax				
	comp=Z,10.0nm,1.3s								
OBN	**Obninsk**	**16.98**	**37**	P		**P**	05 56 27.0	**+1.1**	
	comp=Z,10.0nm,1.3s								
HFS	**Hagfors**	**17.82**	**351**	P		**Pn**	05 56 34.4	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=9.5								
HFS	**Hagfors**	**17.82**	**351**	P		**Pn**	05 56 34.4	**-0.1**	
NB2	**NORSAR Subarra**	**19.02**	**348**	P		**P**	05 56 48.7	**+0.3**	
	comp=Z,2.1nm,0.8s,baz=162,slow=11								
NB2	**NORSAR Subarra**	**19.02**	**348**	P		**P**	05 56 48.7	**+0.3**	
	comp=Z,2.1nm,0.8s,SNR=3.9								
NOA	**NORSAR Array B**	**19.02**	**348**	P		**P**	05 56 47.9	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=159,slow=11,SNR=3.2								
NOA				LR		LR	06 04 34.9		
	comp=Z,50nm,18.4s,baz=295,slow=38								
NOA	**NORSAR Array B**	**19.02**	**348**	P		**P**	05 56 47.9	**-0.5**	
	comp=Z,50nm,18.4s								
FINES	**FINESS Array B**	**19.33**	**10**	P		**P**	05 56 52.1	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=167,slow=10,SNR=5.0								
FINES	**FINESS Array B**	**19.33**	**10**	P		**P**	05 56 52.1	**+0.4**	
TORD	**Torodi Ar. Bea**	**32.96**	**212**	P		**P**	05 59 00.4	**-1.0**	
	comp=Z,0.4nm,0.6s,baz=12,slow=8.3,SNR=3.1								
BVAR	**Borovoye Array**	**35.35**	**55**	P		**P**	05 59 22.0	**+0.1**	
BVAR	**Borovoye Array**	**35.35**	**55**	P		**P**	05 59 22.0	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=270,slow=5.8,SNR=2.3								
BVAR	**Borovoye Array**	**35.35**	**55**	P		**P**	05 59 22.0	**+0.1**	
MKAR	**Makanchi Array**	**44.13**	**62**	P		**P**	06 00 34.9	**-0.1**	
MKAR	**Makanchi Array**	**44.13**	**62**	P		**P**	06 00 34.9	**-0.1**	
	comp=Z,0.4nm,0.8s,baz=299,slow=6.5,SNR=3.2								
MKAR	**Makanchi Array**	**44.13**	**62**	P		**P**	06 00 34.9	**-0.1**	
SONM	**Songino Array**	**58.62**	**52**	P		**P**	06 02 22.8	**-0.8**	
	comp=Z,0.2nm,0.6s,baz=282,slow=7.2,SNR=3.2								
SONM	**Songino Array**	**58.62**	**52**	P		**P**	06 02 22.8	**-0.8**	
YKA	**Yellowknife Ar**	**68.81**	**339**	P		**P**	06 03 29.2	**-1.2**	
	comp=Z,0.2nm,0.6s,baz=40,slow=5.2,SNR=4.2								
CMAR	**Chiang Mai Arr**	**70.49**	**83**	LR		LR	06 36 23.3		
	comp=Z,91nm,20.9s,baz=230,slow=37								
ILAR	**Eielson Array**	**72.36**	**354**	P		**P**	06 03 50.7	**-1.3**	
	comp=Z,0.3nm,0.7s,baz=3.1,slow=4.7,SNR=4.6								
TXAR	**Lajitas Array**	**91.06**	**313**	P		**P**	06 05 31.1	**-0.2**	
	comp=Z,0.4nm,0.9s,baz=341,slow=1.9,SNR=2.8								
TXAR	**Lajitas Array**	**91.06**	**313**	P		**P**	06 05 31.1	**-0.2**	

IDC ***16*** *06:08:46.5±1.0,39.04N×21.27E, h0km, mb3.8/9, mb1 3.8/13,mb1mx3.8/30,mbtmp3.7/13, ML4.1/4, Error ellipse: s-maj=20.5km s-min=13.9km az=53.0*

BEO ***16*** *06:08:46.9±1.1,38.67N×21.01E, h12km±10km*

TIR ***16*** *06:08:48.6,38.85N×21.30E, h1km, ML3.6*

SOF ***16*** *06:08:49.9,38.85N×21.27E, h25km, MD3.3*

CSEM ***16*** *06:08:49.6±0.1,38.95N×21.15E, h10km, mb3.8/7, Error ellipse: s-maj=2.8km s-min=1.9km az=50.0*

MOS ***16*** *06:08:49.8±1.1,39.03N×21.16E, h39km, mb4.1/12, Error ellipse: s-maj=11.3km s-min=7.7km az=73.4*

ISCJB ***16*** *06:08:49.3±0.3,38.98N±0.01×21.07E±0.02, h23km±2km, mb3.9/15, Error ellipse: s-maj=2.6km s-min=1.9km az=39.1*

ATH ***16*** *06:08:49.3,38.93N×21.19E, h17km±1km, MD3.7/37, ML3.7*

THE ***16*** *06:08:50.1,38.98N×21.24E, h0km±1km, ML3.9/24, Error ellipse: s-maj=1.7km s-min=0.6km az=243.0*

PDG ***16*** *06:08:53.5±0.5,39.18N×21.03E, h27km±2km, ML3.9/10, Error ellipse: s-maj=2.3km s-min=1.4km az=90.0*

ISC 16 06:08:49.8±0.6, 38.94N±0.01×21.19E±0.01, h24km±5km, n406, σ1ş71/496, mb3.9/15, 26C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDO	**Prodromos**	**0.34**	**181**	P	**Pb**	**06 08 57.1**	**-0.3**
PDO				S	**Sb**	**06 09 03.4**	**+0.8**
PDO	**Prodromos**	**0.34**	**181**	*e*PB	**Pb**	**06 08 56.8**	**-0.6**
PDO				*e*SB	**Sb**	**06 09 01.1**	**-1.5**
PDO	**Prodromos**	**0.34**	**181**	*e*Pb	**Pb**	**06 08 56.8**	**-0.6**
PDO	**Prodromos**	**0.34**	**181**	P	**Pb**	**06 08 57.1**	**-0.3**
PDO				*e*Sb	**Sb**	**06 09 01.1**	**-1.5**
PDO				S	**Sb**	**06 09 03.4**	**+0.8**
PVO	**Paravola**	**0.42**	**141**	P	**Pb**	**06 08 58.3**	**-0.3**
PVO				S	**Sb**	**06 09 05.0**	**+0.4**
PVO	**Paravola**	**0.42**	**141**	P	**Pb**	**06 08 58.3**	**-0.3**
PVO				S	**Sb**	**06 09 04.8**	**+0.2**
LKD2	**Lefkada island**	**0.44**	**250**	P	**Pb**	**06 08 58.7**	**-0.3**
LKD2				S	**Sn**	**06 09 07.0**	**-1.0**
LKD2	**Lefkada island**	**0.44**	**250**	*e*PB	**Pb**	**06 08 58.5**	**-0.5**
LKD2				*e*SB	**Sb**	**06 09 04.4**	**-0.9**
LKD2	**Lefkada island**	**0.44**	**250**	P	**Pb**	**06 08 58.7**	**-0.3**
LKD2				*e*Sb	**Sb**	**06 09 04.4**	**-0.9**
LKD2				S	**Sn**	**06 09 06.2**	**-1.8**
EVR	**Evrytania**	**0.48**	**93**	*e*PB	**Pb**	**06 08 59.2**	**-0.5**
EVR				*e*SB	**Sb**	**06 09 05.9**	**-0.6**
EVR	**Evrytania**	**0.48**	**93**	P	**Pb**	**06 08 59.2**	**-0.5**
EVR				S	**Sb**	**06 09 07.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.74**	**84**	P	**Pb**	**06 09 03.9**	**0.0**
MAKR				S	**Sn**	**06 09 14.4**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.74**	**84**	*e*PN	**Pb**	**06 09 04.0**	**0.0**
MAKR	**Makrakomi, Fth**	**0.74**	**84**	P	**Pb**	**06 09 04.0**	**0.0**
MAKR				S	**Sn**	**06 09 14.5**	**-0.8**
JAN	**Janina**	**0.76**	**340**	*e*PN	**Pb**	**06 09 04.2**	**-0.2**
JAN	**Janina**	**0.76**	**340**	P	**Pb**	**06 09 04.2**	**-0.2**
JAN				S	**Sb**	**06 09 14.1**	**-0.2**
EFP	**Efpalio**	**0.76**	**132**	P	**Pb**	**06 09 04.1**	**-0.3**
EFP				S	**Sn**	**06 09 16.8**	**+1.0**
EFP	**Efpalio**	**0.76**	**132**	*e*PN	**Pb**	**06 09 04.1**	**-0.3**
EFP	**Efpalio**	**0.76**	**132**	P	**Pb**	**06 09 04.1**	**-0.3**
EFP				S	**Sb**	**06 09 14.9**	**+0.6**
UPR	**University Cam**	**0.81**	**145**	P	**Pn**	**06 09 06.3**	**+0.6**
UPR	**University Cam**	**0.81**	**145**	P	**Pn**	**06 09 06.3**	**+0.6**
MEV	**Metsovon**	**0.84**	**2**	P	**Pb**	**06 09 05.8**	**0.0**
MEV	**Metsovon**	**0.84**	**2**	P	**Pb**	**06 09 05.8**	**0.0**
IGT	**Igoumenitsa**	**0.89**	**312**	P	**Pb**	**06 09 06.4**	**-0.1**
IGT				S	**Sn**	**06 09 21.0**	**+2.0**
IGT	**Igoumenitsa**	**0.89**	**312**	*e*PN	**Pn**	**06 09 06.6**	**-0.2**
IGT	**Igoumenitsa**	**0.89**	**312**	P	**Pb**	**06 09 06.4**	**-0.1**
IGT				S	**Sn**	**06 09 20.0**	**+1.0**
THL	**Klokotos Trika**	**0.89**	**46**	*e*PN	**Pb**	**06 09 06.2**	**-0.4**
THL	**Klokotos Trika**	**0.89**	**46**	P	**Pb**	**06 09 06.1**	**-0.5**
THL				S	**Sb**	**06 09 17.4**	**-0.6**
AGG	**Agios Georgios**	**0.89**	**85**	P	**Pb**	**06 09 06.6**	**0.0**
AGG				S	**Sn**	**06 09 19.1**	**0.0**
AGG	**Agios Georgios**	**0.89**	**85**	*e*PN	**Pb**	**06 09 06.6**	**0.0**
AGG	**Agios Georgios**	**0.89**	**85**	P	**Pb**	**06 09 06.6**	**0.0**
AGG				S	**Sn**	**06 09 19.1**	**0.0**
VLS	**Valsamata**	**0.90**	**212**	*e*PB	**Pb**	**06 09 05.7**	**-1.0**
VLS				*e*SN	**Sn**	**06 09 19.0**	**-0.2**
VLS	**Valsamata**	**0.90**	**212**	P	**Pb**	**06 09 05.7**	**-1.0**
VLS				*e*Sn	**Sn**	**06 09 19.0**	**-0.2**
RLS	**Riolos of Patr**	**0.91**	**166**	*e*PN	**Pb**	**06 09 06.8**	**-0.1**
RLS	**Riolos of Patr**	**0.91**	**166**	P	**Pb**	**06 09 06.8**	**-0.1**
RLS				S	**Sn**	**06 09 19.8**	**+0.3**
KALE	**Kalithea**	**0.93**	**126**	P	**Pb**	**06 09 06.8**	**-0.4**
KALE				S	**Sn**	**06 09 21.8**	**+1.8**
KALE	**Kalithea**	**0.93**	**126**	*e*PN	**Pb**	**06 09 06.9**	**-0.3**
KALE	**Kalithea**	**0.93**	**126**	P	**Pb**	**06 09 06.8**	**-0.4**
KALE				S	**Sn**	**06 09 21.2**	**+1.2**
LAKA	**Lakka**	**0.94**	**138**	P	**Pb**	**06 09 06.9**	**-0.5**
LAKA	**Lakka**	**0.94**	**138**	*e*PN	**Pn**	**06 09 07.4**	**-0.1**
LAKA	**Lakka**	**0.94**	**138**	P	**Pb**	**06 09 07.3**	**-0.1**
VTN	**Vitineika**	**1.03**	**180**	P	**Pn**	**06 09 09.4**	**+0.7**
VTN				S	**Sn**	**06 09 28.1**	**+5.8**
VTN	**Vitineika**	**1.03**	**180**	P	**Pn**	**06 09 09.4**	**+0.7**
DRO	**Drossia**	**1.07**	**157**	P	**Pn**	**06 09 09.3**	**0.0**
DRO				S	**Sn**	**06 09 27.1**	**+3.6**
DRO	**Drossia**	**1.07**	**157**	*e*PN	**Pb**	**06 09 09.6**	**-0.1**
DRO	**Drossia**	**1.07**	**157**	P	**Pn**	**06 09 09.3**	**0.0**
DRO	**Drossia**	**1.07**	**157**	*e*Pn	**Pb**	**06 09 09.6**	**-0.1**
DRO				S	**Sn**	**06 09 26.8**	**+3.3**
AXAR	**Agios Charalam**	**1.16**	**98**	P	**Pb**	**06 09 11.2**	**+0.1**
AXAR				S	**Sn**	**06 09 28.4**	**+2.7**
AXAR	**Agios Charalam**	**1.16**	**98**	P	**Pb**	**06 09 11.3**	**+0.1**
AXAR				S	**Sn**	**06 09 28.1**	**+2.4**
KLV	**Kalavryta, Ach**	**1.17**	**140**	*e*PN	**Pb**	**06 09 11.2**	**-0.2**
KLV	**Kalavryta, Ach**	**1.17**	**140**	P	**Pn**	**06 09 10.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.17**	**140**	*e*Pn	**Pb**	**06 09 11.2**	**-0.2**
DSF	**Desfina**	**1.17**	**117**	P	**Pn**	**06 09 10.4**	**-0.4**
DSF				S	**Sn**	**06 09 29.0**	**+2.9**
DSF	**Desfina**	**1.17**	**117**	*e*PN	**Pb**	**06 09 11.3**	**-0.1**
DSF	**Desfina**	**1.17**	**117**	P	**Pn**	**06 09 10.4**	**-0.4**
DSF	**Desfina**	**1.17**	**117**	*e*Pn	**Pb**	**06 09 11.3**	**-0.1**
DSF				S	**Sn**	**06 09 29.0**	**+2.9**
SRN	**Sarande**	**1.31**	**316**	*i* PG	**Pb**	**06 09 15.7**	**+2.0**
SRN				*i* SG	**Sb**	**06 09 34.8**	**+4.7**
SRN	**Sarande**	**1.31**	**316**	P	**Pb**	**06 09 13.9**	**+0.2**
SRN				S	**Sb**	**06 09 35.1**	**+5.0**
SRN	**Sarande**	**1.31**	**316**	P	**Pb**	**06 09 13.9**	**+0.2**
SRN	**Sarande**	**1.31**	**316**	*i* Pg	**Pb**	**06 09 15.7**	**+2.0**
SRN				*i* Sg	**Sb**	**06 09 34.8**	**+4.7**
SRN				S	**Sb**	**06 09 35.1**	**+5.0**
KEK	**Kerkira**	**1.32**	**306**	*e*PN	**Pb**	**06 09 14.2**	**+0.2**
KEK	**Kerkira**	**1.32**	**306**	*e*Pn	**Pb**	**06 09 14.2**	**+0.2**
GUR	**Goura**	**1.35**	**138**	P	**Pb**	**06 09 14.2**	**-0.3**
GUR				S	**Sb**	**06 09 35.0**	**+3.6**
GUR	**Goura**	**1.35**	**138**	*e*PN	**Pb**	**06 09 14.9**	**+0.4**
GUR	**Goura**	**1.35**	**138**	P	**Pb**	**06 09 14.2**	**-0.3**
GUR	**Goura**	**1.35**	**138**	*e*Pn	**Pb**	**06 09 14.9**	**+0.4**
GUR				S	**Sb**	**06 09 35.0**	**+3.6**
KZN	**Kozani**	**1.43**	**18**	*e*PN	**Pb**	**06 09 16.5**	**+0.6**
KZN	**Kozani**	**1.43**	**18**	P	**Pb**	**06 09 15.9**	**0.0**
KZN	**Kozani**	**1.43**	**18**	*e*Pn	**Pb**	**06 09 16.5**	**+0.6**
KZN				S	**Sb**	**06 09 34.3**	**+0.6**
FYTO	**Fytoko, Volos**	**1.44**	**71**	P	**Pb**	**06 09 15.5**	**-0.4**
FYTO				S	**Sb**	**06 09 35.4**	**+1.7**
FYTO	**Fytoko, Volos**	**1.44**	**71**	P	**Pb**	**06 09 15.5**	**-0.4**
FYTO				S	**Sb**	**06 09 35.4**	**+1.7**
LKR	**Lokris**	**1.44**	**101**	*e*PN	**Pb**	**06 09 15.8**	**-0.2**
LKR	**Lokris**	**1.44**	**101**	P	**Pb**	**06 09 15.8**	**-0.2**
AMT	**Artemida-Makis**	**1.47**	**164**	P	**Pb**	**06 09 17.0**	**+0.6**
AMT				S	**Sb**	**06 09 39.4**	**+4.8**
AMT	**Artemida-Makis**	**1.47**	**164**	P	**Pb**	**06 09 17.0**	**+0.6**
NEST	**Nestorio**	**1.47**	**356**	P	**Pb**	**06 09 17.0**	**+0.5**
NEST				S	**Sb**	**06 09 38.2**	**+3.3**
NEST	**Nestorio**	**1.47**	**356**	P	**Pb**	**06 09 17.0**	**+0.5**
NEST				S	**Sb**	**06 09 38.2**	**+3.3**
LIT	**Litokhoron**	**1.53**	**41**	P	**Pb**	**06 09 17.1**	**-0.4**
LIT				S	**Sb**	**06 09 39.7**	**+2.2**
LIT	**Litokhoron**	**1.53**	**41**	*e*PN	**Pb**	**06 09 17.7**	**+0.2**
LIT	**Litokhoron**	**1.53**	**41**	P	**Pb**	**06 09 17.2**	**-0.3**
LIT	**Litokhoron**	**1.53**	**41**	*e*Pn	**Pb**	**06 09 17.7**	**+0.2**
LIT				S	**Sb**	**06 09 38.7**	**+2.2**
SMIA	**Simia**	**1.58**	**92**	P	**Pb**	**06 09 18.6**	**+0.3**
SMIA				S	**Sb**	**06 09 38.8**	**+1.0**
SMIA	**Simia**	**1.58**	**92**	*e*PN	**Pb**	**06 09 18.9**	**+0.6**
SMIA	**Simia**	**1.58**	**92**	P	**Pb**	**06 09 18.6**	**+0.3**
SMIA	**Simia**	**1.58**	**92**	*e*Pn	**Pb**	**06 09 18.9**	**+0.6**
SMIA				S	**Sb**	**06 09 38.8**	**+1.0**
XOR	**Xorichti**	**1.61**	**74**	P	**Pb**	**06 09 18.8**	**-0.1**
XOR				S	**Sb**	**06 09 41.1**	**+2.3**
XOR	**Xorichti**	**1.61**	**74**	*e*PN	**Pb**	**06 09 18.7**	**-0.1**
XOR	**Xorichti**	**1.61**	**74**	P	**Pb**	**06 09 18.8**	**-0.1**
XOR				S	**Sb**	**06 09 41.1**	**+2.3**
NEO	**Neokhori**	**1.62**	**76**	*e*PN	**Pb**	**06 09 18.5**	**-0.5**
NEO	**Neokhori**	**1.62**	**76**	*e*Pn	**Pb**	**06 09 18.5**	**-0.5**
LTK	**Loutraki**	**1.67**	**123**	P	**Pb**	**06 09 20.4**	**+0.5**
LTK	**Loutraki**	**1.67**	**123**	*e*PN	**Pb**	**06 09 20.7**	**+0.8**
LTK	**Loutraki**	**1.67**	**123**	P	**Pb**	**06 09 20.4**	**+0.5**
LTK	**Loutraki**	**1.67**	**123**	*e*Pn	**Pb**	**06 09 20.7**	**+0.8**
KBN	**Korca**	**1.71**	**350**	*e*PG	**Pb**	**06 09 22.7**	**+2.2**
KBN				*e*SG	Sb	06 09 47.5	+5.9
KBN	**Korca**	**1.71**	**350**	P	**Pb**	**06 09 19.9**	**-0.6**
KBN				S	**Sb**	**06 09 45.8**	**+4.2**
KBN	**Korca**	**1.71**	**350**	P	**Pb**	**06 09 19.9**	**-0.6**
KBN	**Korca**	**1.71**	**350**	*e*Pg	**Pb**	**06 09 22.7**	**+2.2**
KBN				S	**Sb**	**06 09 45.8**	**+4.2**
SKIA	**Skiathos**	**1.79**	**82**	P	**Pb**	**06 09 21.6**	**-0.2**
SKIA				S	**Sb**	**06 09 44.8**	**+1.0**
SKIA	**Skiathos**	**1.79**	**82**	*e*PN	**Pb**	**06 09 21.8**	**0.0**
SKIA	**Skiathos**	**1.79**	**82**	P	**Pb**	**06 09 21.6**	**-0.2**
SKIA				S	**Sb**	**06 09 44.8**	**+1.0**
VLX	**Vlachokerasia**	**1.83**	**149**	P	**Pb**	**06 09 23.3**	**+0.7**
VLX	**Vlachokerasia**	**1.83**	**149**	P	**Pb**	**06 09 23.3**	**+0.7**
FNA	**Florina**	**1.84**	**4**	P	**Pb**	**06 09 23.9**	**+0.4**
FNA				S	**Sb**	**06 09 48.6**	**+3.1**
FNA	**Florina**	**1.84**	**4**	*e*PN	**Pb**	**06 09 23.2**	**+0.4**
FNA	**Florina**	**1.84**	**4**	*e*Pn	**Pb**	**06 09 23.2**	**+0.4**
FNA				S	**Sb**	**06 09 48.6**	**+3.1**
ITM	**Ithomi**	**1.85**	**162**	*e*PN	**Pb**	**06 09 23.0**	**0.0**
ITM	**Ithomi**	**1.85**	**162**	*e*Pn	**Pb**	**06 09 23.0**	**0.0**
MRKA	**Markates**	**1.89**	**96**	P	**Pb**	**06 09 22.7**	**-0.9**
MRKA	**Markates**	**1.89**	**96**	*e*PN	**Pb**	**06 09 23.0**	**-0.6**
MRKA	**Markates**	**1.89**	**96**	P	**Pb**	**06 09 22.7**	**-0.9**
MRKA	**Markates**	**1.89**	**96**	*e*Pn	**Pb**	**06 09 23.0**	**-0.6**
VLO	**Vlora**	**2.01**	**320**	P	**Pb**	**06 09 25.0**	**-0.6**
VLO	**Vlora**	**2.01**	**320**	P	**Pb**	**06 09 25.0**	**-0.6**
BIA	**Bitola**	**2.08**	**3**	P	**Pb**	**06 09 25.7**	**-1.1**
BIA				S	**Sb**	**06 09 55.0**	**+2.8**
BIA	**Bitola**	**2.08**	**3**	P	**Pb**	**06 09 25.7**	**-1.1**
BIA				S	**Sb**	**06 09 55.0**	**+2.8**
PYL	**PYLOS**	**2.09**	**168**	P	**Pb**	**06 09 26.1**	**-0.4**
PYL	**PYLOS**	**2.09**	**168**	*e*PN	**Pb**	**06 09 26.1**	**-0.9**
PYL	**PYLOS**	**2.09**	**168**	*e*Pn	**Pb**	**06 09 26.1**	**-0.9**
PYL	**PYLOS**	**2.09**	**168**	P	**Pb**	**06 09 26.6**	**-0.4**
AOS	**Alonnisos**	**2.11**	**83**	P	**Pn**	**06 09 24.8**	**+1.3**
AOS				S	**Sb**	**06 09 51.7**	**-1.3**
AOS	**Alonnisos**	**2.11**	**83**	*e*PB	**Pn**	**06 09 25.1**	**+1.6**
AOS	**Alonnisos**	**2.11**	**83**	P	**Pn**	**06 09 24.8**	**+1.3**
AOS	**Alonnisos**	**2.11**	**83**	*e*Pb	**Pn**	**06 09 25.1**	**+1.6**
AOS				S	**Sb**	**06 09 51.7**	**-1.3**
ERET	**Eretria**	**2.11**	**103**	P	**Pb**	**06 09 25.9**	**-1.4**
ERET	**Eretria**	**2.11**	**103**	P	**Pb**	**06 09 25.9**	**-1.4**
DID	**Didima**	**2.16**	**131**	P	**Pb**	**06 09 27.3**	**-0.9**
DID	**Didima**	**2.16**	**131**	*e*PN	**Pb**	**06 09 27.3**	**-0.9**
DID	**Didima**	**2.16**	**131**	P	**Pb**	**06 09 27.3**	**-0.9**
PAIG	**Paliouri**	**2.16**	**62**	P	**Pn**	**06 09 25.6**	**+1.3**
PAIG				S	**Sn**	**06 09 51.7**	**+1.3**
PAIG	**Paliouri**	**2.16**	**62**	*e*PB	**Pn**	**06 09 26.0**	**+1.7**
PAIG	**Paliouri**	**2.16**	**62**	P	**Pn**	**06 09 25.6**	**+1.3**
PAIG	**Paliouri**	**2.16**	**62**	*e*Pb	**Pn**	**06 09 26.0**	**+1.7**
PAIG				S	**Sn**	**06 09 51.7**	**+1.3**
THE	**Thessaloniki**	**2.17**	**38**	P	**Pn**	**06 09 25.9**	**+1.5**
THE				S	**Sb**	**06 09 54.8**	**0.0**
THE	**Thessaloniki**	**2.17**	**38**	*e*PB	**Pb**	**06 09 26.4**	**-2.0**
THE	**Thessaloniki**	**2.17**	**38**	P	**Pn**	**06 09 25.9**	**+1.5**
THE	**Thessaloniki**	**2.17**	**38**	*e*Pb	**Pb**	**06 09 26.4**	**-2.0**
THE				S	**Sb**	**06 09 54.8**	**0.0**
ATH	**Athens Observa**	**2.21**	**115**	*e*PN	**Pb**	**06 09 28.2**	**-0.8**
ATH	**Athens Observa**	**2.21**	**115**	*e*Pn	**Pb**	**06 09 28.2**	**-0.8**
HORT	**Hortiatis**	**2.21**	**41**	P	**Pn**	**06 09 26.3**	**+1.2**
HORT	**Hortiatis**	**2.21**	**41**	*e*PN	**Pb**	**06 09 27.6**	**-1.5**
HORT	**Hortiatis**	**2.21**	**41**	P	**Pn**	**06 09 26.3**	**+1.2**
HORT	**Hortiatis**	**2.21**	**41**	*e*Pn	**Pb**	**06 09 27.6**	**-1.5**
GRG	**Griva**	**2.21**	**24**	P	**Pn**	**06 09 26.7**	**+1.6**
GRG	**Griva**	**2.21**	**24**	*e*PB	**Pb**	**06 09 27.0**	**-2.2**
GRG	**Griva**	**2.21**	**24**	P	**Pn**	**06 09 26.7**	**+1.6**
GRG	**Griva**	**2.21**	**24**	*e*Pb	**Pb**	**06 09 27.0**	**-2.2**
PLG	**Polygyros**	**2.25**	**50**	*e*PN	**Pn**	**06 09 27.5**	**+1.9**
PLG	**Polygyros**	**2.25**	**50**	*e*Pn	**Pn**	**06 09 27.5**	**+1.9**
ATHU	**Athens Univers**	**2.26**	**115**	P	**Pb**	**06 09 28.4**	**-1.5**
ATHU				S	**Sb**	**06 09 57.9**	**+0.5**
ATHU	**Athens Univers**	**2.26**	**115**	P	**Pb**	**06 09 28.4**	**-1.5**
ATHU				S	**Sb**	**06 09 57.9**	**+0.5**
PTL	**Penteli**	**2.28**	**112**	*e*PB	**Pb**	**06 09 28.4**	**-1.9**
PTL	**Penteli**	**2.28**	**112**	*e*Pb	**Pb**	**06 09 28.4**	**-1.9**
SOH	**Sokhos**	**2.51**	**41**	P	**Pb**	**06 09 31.6**	**-2.5**
SOH				S	**Sb**	**06 10 03.1**	**-1.5**
SOH	**Sokhos**	**2.51**	**41**	*e*PN	**Pb**	**06 09 31.6**	**-2.5**
SOH	**Sokhos**	**2.51**	**41**	P	**Pb**	**06 09 31.6**	**-2.5**
SOH				S	**Sb**	**06 10 03.1**	**-1.5**
OUR	**Ouranopolis**	**2.56**	**56**	P	**Pn**	**06 09 31.8**	**+2.0**
OUR				S	**Sb**	**06 10 03.4**	**-2.7**
OUR	**Ouranopolis**	**2.56**	**56**	*e*PN	**Pn**	**06 09 32.1**	**+2.3**
OUR	**Ouranopolis**	**2.56**	**56**	P	**Pn**	**06 09 31.8**	**+2.0**
OUR	**Ouranopolis**	**2.56**	**56**	*e*Pn	**Pn**	**06 09 32.1**	**+2.3**
OUR				S	**Sb**	**06 10 03.4**	**-2.7**
KNT	**Kendrikon**	**2.57**	**30**	P	**Pn**	**06 09 32.0**	**+2.0**
KNT	**Kendrikon**	**2.57**	**30**	*e*PN	**Pn**	**06 09 32.3**	**+2.3**
KNT	**Kendrikon**	**2.57**	**30**	P	**Pn**	**06 09 32.0**	**+2.0**
KNT	**Kendrikon**	**2.57**	**30**	*e*Pn	**Pn**	**06 09 32.3**	**+2.3**
VAY	**Valandovo**	**2.60**	**24**	P	**Pn**	**06 09 32.2**	**+1.9**
VAY	**Valandovo**	**2.60**	**24**	*e*Pn	**Pn**	**06 09 32.2**	**+1.9**
VAY	**Valandovo**	**2.60**	**24**	*i* P	**Pb**	**06 09 32.8**	**-2.9**
VAY	**Valandovo**	**2.60**	**24**	P	**Pn**	**06 09 32.2**	**+1.9**
VLI	**Veliai**	**2.62**	**148**	*e*PB	**Pb**	**06 09 33.8**	**-2.2**
PHP	**Peshkopia**	**2.80**	**348**	P	**Pn**	**06 09 35.9**	**+2.8**
PHP	**Peshkopia**	**2.80**	**348**	P	**Pn**	**06 09 35.9**

IZM	**Izmir**	**4.78**	**95**	*e*Pn		**Pn**	**06 10 02.2**	**+1.8**
MPEP	**Malo Peshtene**	**4.81**	**23**	*i* P		**Pn**	**06 10 03.7**	**+3.0**
MPEP				*i* S		**Sb**	**06 11 05.6**	**-5.1**
MPEP	**Malo Peshtene**	**4.81**	**23**	*i* P		**Pn**	**06 10 03.7**	**+3.0**
MS1	**Monte Sant'Ang**	**4.87**	**306**	*e*Pn		**Pn**	**06 10 02.5**	**+0.9**
BOLS	**Boljevac**	**4.91**	**6**	*e*Pn		**Pn**	**06 10 03.6**	**+1.5**
BOLS	**Boljevac**	**4.91**	**6**	*e*Pn		**Pn**	**06 10 03.6**	**+1.5**
KRBG	**Karabiga-Canak**	**4.93**	**71**	*e*PN		**Pn**	**06 10 04.6**	**+2.3**
KRBG	**Karabiga-Canak**	**4.93**	**71**	*e*Pn		**Pn**	**06 10 04.6**	**+2.3**
GRUS	**Gruza**	**4.95**	**356**	*e*Pn		**Pn**	**06 10 04.3**	**+1.6**
GRUS	**Gruza**	**4.95**	**356**	*e*Pn		**Pn**	**06 10 04.3**	**+1.6**
BALY	**Balya**	**5.05**	**79**	*i* P		Pn	06 10 07.8	+3.8
BALY	**Balya**	**5.05**	**79**	*i* P		Pn	06 10 07.8	+3.8
BBLS	**Lazići**	**5.10**	**345**	*e*Pn		**Pn**	**06 10 06.4**	**+1.7**
BBLS	**Lazići**	**5.10**	**345**	*e*Pn		**Pn**	**06 10 06.4**	**+1.7**
LAST	**Lasithi**	**5.10**	**136**	P		**Pn**	**06 10 06.6**	**+1.8**
LAST	**Lasithi**	**5.10**	**136**	P		**Pn**	**06 10 06.6**	**+1.8**
EDRB	**Edirne**	**5.14**	**54**	*e*PN		**Pn**	**06 10 06.9**	**+1.7**
EDRB	**Edirne**	**5.14**	**54**	*e*Pn		**Pn**	**06 10 06.9**	**+1.7**
GONE	**Gonen-Balikesi**	**5.14**	**76**	*e*PN		**Pn**	**06 10 07.5**	**+2.2**
GONE	**Gonen-Balikesi**	**5.14**	**76**	*e*Pn		**Pn**	**06 10 07.5**	**+2.2**
BODT	**Bodrum**	**5.19**	**109**	*e*PN		**Pn**	**06 10 08.1**	**+2.2**
BODT	**Bodrum**	**5.19**	**109**	*e*Pn		**Pn**	**06 10 08.1**	**+2.2**
DIVS	**Divibare**	**5.23**	**350**	P		**Pn**	**06 10 07.7**	**+1.2**
DIVS				S		**Sn**	**06 11 06.5**	**+0.4**
DIVS	**Divibare**	**5.23**	**350**	*e*Pn		**Pn**	**06 10 07.7**	**+1.2**
DIVS	**Divibare**	**5.23**	**350**	P		**Pn**	**06 10 07.7**	**+1.2**
DIVS				S		**Sn**	**06 11 06.5**	**+0.4**
BALB	**Balikesir**	**5.24**	**80**	*e*PN		**Pn**	**06 10 08.6**	**+2.0**
BALB	**Balikesir**	**5.24**	**80**	*e*Pn		**Pn**	**06 10 08.6**	**+2.0**
PVL	**Pavlikeni**	**5.29**	**35**	*i* P		**Pn**	**06 10 08.0**	**+0.7**
PVL	**Pavlikeni**	**5.29**	**35**	*i* P		**Pn**	**06 10 08.0**	**+0.7**
TRUS	**Trudelj**	**5.31**	**354**	*e*Pn		**Pn**	**06 10 08.2**	**+0.7**
TRUS	**Trudelj**	**5.31**	**354**	*e*Pn		**Pn**	**06 10 08.2**	**+0.7**
SVIS	**Svilajnac**	**5.32**	**0**	*e*Pn		**Pn**	**06 10 08.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**5.35**	**99**	*e*PN		**Pn**	**06 10 10.3**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**5.35**	**99**	*e*Pn		**Pn**	**06 10 10.3**	**+2.0**
JMB	**Yambol**	**5.40**	**48**	*i* P		**Pn**	**06 10 08.7**	**-0.1**
JMB	**Yambol**	**5.40**	**48**	⇑*i*P		**Pn**	**06 10 09.6**	**+0.8**
JMB	**Yambol**	**5.40**	**48**	*i* P		**Pn**	**06 10 08.7**	**-0.1**
ZKR	**Zakros**	**5.55**	**132**	P		Pn	06 10 14.8	+3.9
DURS	**Dursunbey**	**5.69**	**81**	*i* P		Pn	06 10 16.3	+3.4
DURS	**Dursunbey**	**5.69**	**81**	*i* P		Pn	06 10 16.3	+3.4
TEKS	**Tekeris**	**5.74**	**348**	*e*Pn		**Pn**	**06 10 14.3**	**+0.8**
TEKS	**Tekeris**	**5.74**	**348**	*e*Pn		**Pn**	**06 10 14.3**	**+0.8**
MANT	**Manisa**	**5.78**	**92**	*i* P		Pn	06 10 19.1	+4.9
KULA	**Kula-Manisa**	**5.86**	**92**	*e*PN		**Pn**	**06 10 17.7**	**+2.5**
KULA	**Kula-Manisa**	**5.86**	**92**	*e*Pn		**Pn**	**06 10 17.7**	**+2.5**
ULDT	**Uludag**	**6.26**	**76**	*i* P		Pn	06 10 26.4	+5.7
DNZL	**Cakiroluk**	**6.30**	**99**	*i* P		Pn	06 10 26.2	+4.8
TVSB	**Tavsanli**	**6.45**	**83**	*e*PN		**Pn**	**06 10 25.5**	**+2.2**
TVSB	**Tavsanli**	**6.45**	**83**	*e*Pn		**Pn**	**06 10 25.5**	**+2.2**
KHAL	**Karahalli**	**6.52**	**92**	*i* P		Pn	06 10 15.6	-8.8
BLY	**Banja Luka**	**6.53**	**334**	*e*Pn		**Pn**	**06 10 24.6**	**+0.4**
BLY	**Banja Luka**	**6.53**	**334**	*e*Pn		**Pn**	**06 10 24.6**	**+0.4**
BZS	**Buzias**	**6.68**	**3**	⇑*i*P		**Pn**	**06 10 28.2**	**+1.9**
BZS	**Buzias**	**6.68**	**3**	S		**Sn**	**06 11 37.8**	**-3.8**
UDBI	**Udbina**	**6.90**	**326**	*e*Pn		**Pn**	**06 10 30.5**	**+1.1**
UDBI						**Sn**	**06 11 45.6**	**-1.5**
UDBI	**Udbina**	**6.90**	**326**	*e*Pn		**Pn**	**06 10 30.5**	**+1.1**
ARR	**Arges**	**6.91**	**21**	⇑*i*P		**Pn**	**06 10 32.3**	**+2.7**
ALT	**Altintas**	**6.95**	**86**	*e*PN		**Pn**	**06 10 32.6**	**+2.4**
ALT	**Altintas**	**6.95**	**86**	*e*Pn		**Pn**	**06 10 32.6**	**+2.4**
AKAS	**Kas**	**7.21**	**109**	*i* P		Pn	06 10 28.9	-4.9
ELL	**Elmali**	**7.24**	**105**	*e*PN		**Pn**	**06 10 36.1**	**+1.9**
ELL	**Elmali**	**7.24**	**105**	*e*Pn		**Pn**	**06 10 36.1**	**+1.9**
NVLJ	**Novalja**	**7.34**	**322**	*e*Pn		**Pn**	**06 10 35.1**	**-0.3**
NVLJ				S		**Sn**	**06 11 53.5**	**-4.3**
NVLJ	**Novalja**	**7.34**	**322**	*e*Pn		**Pn**	**06 10 35.0**	**-0.3**
ISP	**Isparta**	**7.42**	**96**	*i* P		**Pn**	**06 10 37.5**	**+0.9**
ISP	**Isparta**	**7.42**	**96**	*i* P		**Pn**	**06 10 37.5**	**+0.9**
MLR	**Muntele Rosu**	**7.43**	**27**	⇓*i*P		**Pn**	**06 10 38.0**	**+1.2**
MLR	**Muntele Rosu**	**7.43**	**27**	Pn		Pn	06 10 39.9	+3.1
	0.4nm,0.3s,baz=258,slow=11,SNR=14							
MLR	**Muntele Rosu**	**7.43**	**27**	P		Pn	06 10 39.9	+3.1
KORT	**Korkueli**	**7.49**	**102**	*i* P		Pn	06 10 44.4	+6.8
SEYT	**Eskypehyr**	**7.52**	**83**	*i* P		Pn	06 10 42.9	+4.8
BOLV	**Bolvadin**	**7.62**	**89**	*i* P		Pn	06 10 45.0	+5.5
DOPR	**Dopca**	**7.67**	**22**	⇑*i*P		Pn	06 10 43.4	+3.4
SUTC	**Sutluce-Ispart**	**7.86**	**98**	*e*PN		**Pn**	**06 10 44.6**	**+1.9**
SUTC	**Sutluce-Ispart**	**7.86**	**98**	*e*Pn		**Pn**	**06 10 44.6**	**+1.9**
BOJS	**Bojanci**	**7.90**	**328**	*i* Pn		**Pn**	**06 10 43.6**	**+0.6**
BOJS				*i* Sn		**Sn**	**06 12 06.7**	**-4.9**
BOJS	**Bojanci**	**7.90**	**328**	P		**Pn**	**06 10 43.6**	**+0.6**
VRI	**Vrincioaia**	**8.04**	**29**	*i* P		Pn	06 10 48.9	+3.9
VRI	**Vrincioaia**	**8.04**	**29**	⇓*i*P		Pn	06 10 48.8	+3.8
VRI	**Vrincioaia**	**8.04**	**29**	*i* P		Pn	06 10 48.9	+3.9
LJU	**Ljubljana**	**8.63**	**327**	*e*Pn		**Pn**	**06 10 53.7**	**+0.5**
LJU				*i* Sn		**Sn**	**06 12 24.2**	**-5.5**
LJU	**Ljubljana**	**8.63**	**327**	*e*Pn		**Pn**	**06 10 53.7**	**+0.5**
JAVS	**Javornik**	**8.71**	**325**	*i* Pn		**Pn**	**06 10 54.8**	**+0.4**
JAVS				*i* Sn		**Sn**	**06 12 28.6**	**-3.3**
JAVS	**Javornik**	**8.71**	**325**	*i* Pn		**Pn**	**06 10 54.8**	**+0.4**
PERS	**Pernice**	**8.89**	**332**	*i* Pn		**Pn**	**06 10 56.9**	**+0.2**
PERS				*e*Sn		**Sn**	**06 12 31.3**	**-4.7**
PERS	**Pernice**	**8.89**	**332**	*i* Pn		**Pn**	**06 10 56.9**	**+0.2**
PSZ	**Piszkesteto**	**9.02**	**354**	⇑*i*P		**Pn**	**06 11 00.9**	**+2.4**
ELDT	**Eldivan**	**9.56**	**77**	*i* P		Pn	06 11 10.6	+4.6
BRTR	**Keskin Array B**	**9.68**	**81**	Pn		Pn	06 11 11.4	+3.7
	0.2nm,0.3s,baz=258,slow=12,SNR=6.3							
BRTR	**Keskin Array B**	**9.68**	**81**	P		Pn	06 11 11.4	+3.7
PGF	**Pioggiola**	**9.93**	**295**	*e*P		**Pn**	**06 11 13.8**	**+2.8**
	33nm,1.0s							
CDAG	**Cicekdag**	**10.24**	**82**	*i* P		Pn	06 11 21.5	+6.2
NIE	**Niedzica**	**10.49**	**357**	*e*P		Pn	06 11 26.1	+7.5
CTKT	**Corum**	**10.60**	**77**	*i* P		Pn	06 11 25.1	+4.8
GERES	**GERESS Array B**	**11.27**	**334**	Pn		**Pn**	**06 11 29.7**	**+0.4**
	0.3nm,0.3s,baz=157,slow=14,SNR=11							
GERES				Sn		**Sn**	**06 13 31.0**	**-3.5**
	0.5nm,0.3s,baz=153,slow=23,SNR=7.2							
GERES	**GERESS Array B**	**11.27**	**334**	P		**Pn**	**06 11 29.7**	**+0.4**
	1.0nm,0.3s							
DAVOX	**Davos/Dischmat**	**11.40**	**317**	Pn		**Pn**	**06 11 32.2**	**+0.9**
	0.7nm,0.3s,baz=141,slow=22,SNR=8.3							
DAVOX				Sn		Sn	06 13 31.8	-6.1
	baz=126,slow=19							
DAVOX	**Davos/Dischmat**	**11.40**	**317**	P		**Pn**	**06 11 32.2**	**+0.9**
	1.0nm,0.3s							
DPC	**Dobruska-Polom**	**11.92**	**345**	*e*P		Pn	06 11 52.8	+15
DPC	**Dobruska-Polom**	**11.92**	**345**	*e*P		Pn	06 11 52.8	+15
MBDF	**Montbardon**	**12.20**	**303**	*e*P		Pn	06 11 35.4	-6.8
LPG	**La Plagne**	**12.54**	**306**	*e*P		**Pn**	**06 11 46.7**	**-0.2**
	13nm,0.8s							
LPG	**La Plagne**	**12.54**	**306**	*e*P		**Pn**	**06 11 46.7**	**-0.2**
	13nm,0.8s							
LPL	**La Plagne**	**12.56**	**306**	*e*P		**Pn**	**06 11 46.2**	**-0.9**
LPL	**La Plagne**	**12.56**	**306**	*e*P		**Pn**	**06 11 46.2**	**-0.9**
KIEV	**Kiev**	**13.04**	**23**	*i* P		**Pn**	**06 11 52.6**	**-0.9**
AKASG	**Malin Array Be**	**13.05**	**23**	P		**Pn**	**06 11 54.2**	**+0.6**
AKASG	**Malin Array Be**	**13.05**	**23**	Pn		**Pn**	**06 11 54.2**	**+0.6**
	0.4nm,0.3s,baz=210,slow=13,SNR=5.3							
AKASG	**Malin Array Be**	**13.05**	**23**	P		**Pn**	**06 11 54.2**	**+0.6**
HINF	**Hinteralfeld**	**13.67**	**315**	*e*P		**Pn**	**06 12 01.3**	**-0.8**
HAU	**Haudompre**	**14.06**	**315**	*e*P		**Pn**	**06 12 07.3**	**-0.1**
SMF	**Signal de Mont**	**14.86**	**307**	*e*P		**Pn**	**06 12 17.8**	**-0.5**
KIV	**Kislovodsk**	**16.86**	**66**	*i* P		**Pn**	**06 12 43.4**	**-0.8**
GNI	**Garni**	**18.20**	**79**	*e*P		**Pn**	**06 13 00.7**	**-0.2**
	15nm,1.6s							
ESDC	**Sonseca Array**	**19.46**	**280**	P		**Pn**	**06 13 15.9**	**-0.2**
	0.7nm,0.3s,baz=69,slow=11,SNR=6.2							
VSU	**Vasula**	**19.86**	**9**	*e*P		**P**	**06 13 18.5**	**-0.4**
VSU				pmax		pmax		
	comp=Z,11nm,0.7s							
VSU	**Vasula**	**19.86**	**9**	*e*P		**P**	**06 13 18.5**	**-0.4**
	comp=Z,11nm,0.7s							
HFS	**Hagfors**	**21.73**	**350**	P		**P**	**06 13 38.2**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=146,slow=11,SNR=9.7							
FINES	**FINESS Array B**	**22.73**	**6**	P		**P**	**06 13 48.4**	**-1.3**
	comp=Z,3.9nm,0.9s,baz=170,slow=11,SNR=8.7							
NB2	**NORSAR Subarra**	**22.98**	**348**	P		**P**	**06 13 52.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	**22.98**	**348**	P		**P**	**06 13 52.1**	**-0.3**
	comp=Z,1.4nm,0.6s,SNR=7.6							
NOA	**NORSAR Array B**	**22.99**	**348**	P		**P**	**06 13 51.8**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=155,slow=9.5,SNR=7.8							
ARCES	**ARCESS Array B**	**30.74**	**3**	P		**P**	**06 15 02.2**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=194,slow=9.6,SNR=6.9							
TORD	**Torodi Ar. Bea**	**30.95**	**219**	P		**P**	**06 15 06.1**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=31,slow=9.7,SNR=7.3							
KURBB	**Kurchatov Arra**	**41.35**	**54**	PcP		**PcP**	**06 18 30.7**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=273,slow=4.4,SNR=5.5							
KURK	**Kurchatov**	**41.40**	**54**	*e*P		**P**	**06 16 34.1**	**+0.1**
KURK				pmax		pmax		
	comp=Z,1.0nm,1.3s							
KURK	**Kurchatov**	**41.40**	**54**	*e*P		**P**	**06 16 34.1**	**+0.1**
	comp=Z,1.0nm,1.3s							
NVS	**Novosibirsk**	**43.77**	**48**	*e*P		**P**	**06 16 50.7**	**-2.5**
MKAR	**Makanchi Array**	**44.46**	**59**	*e*P		**P**	**06 16 58.6**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**44.46**	**59**	P		**P**	**06 16 58.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=281,slow=7.0,SNR=22							
MKAR	**Makanchi Array**	**44.46**	**59**	*e*P		**P**	**06 16 58.6**	**-0.2**
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**44.79**	**49**	*e*P		**P**	**06 17 01.4**	**+0.1**
ZALV				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ZALV	**Zalesovo Beam**	**44.79**	**49**	P		**P**	**06 17 01.4**	**+0.1**
	comp=Z,9.7nm,0.5s,baz=276,slow=8.6,SNR=48							
ZALV	**Zalesovo Beam**	**44.79**	**49**	*e*P		**P**	**06 17 01.4**	**+0.1**
	comp=Z,10.0nm,0.5s							
HVS	**Khovu-Aksy**	**50.67**	**51**	*e*P		**P**	**06 17 46.5**	**-0.6**
HVS				pmax		pmax		
	comp=Z,19nm,1.1s							
ZAK	**Zakamensk**	**56.66**	**49**	*e*P		**P**	**06 18 30.8**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.9s							
ZAK	**Zakamensk**	**56.66**	**49**	*e*P		**P**	**06 18 30.8**	**-0.2**
	comp=Z,2.0nm,1.9s							
TIXI	**Tiksi**	**58.75**	**21**	*e*P		**P**	**06 18 45.3**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.3s							
TIXI	**Tiksi**	**58.75**	**21**	*e*P		**P**	**06 18 45.3**	**+0.1**
	comp=Z,2.0nm,1.3s							
SONM	**Songino Array**	**59.57**	**51**	P		**P**	**06 18 51.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=302,slow=8.5,SNR=4.8							
SONM	**Songino Array**	**59.57**	**51**	P		**P**	**06 18 51.3**	**-0.2**
	comp=Z,1.0nm,0.8s							
ULN	**Ulaanbaatar**	**59.95**	**51**	*e*P		**P**	**06 18 54.0**	**-0.1**
	comp=Z,2.0nm,1.3s							
YKA	**Yellowknife Ar**	**72.85**	**340**	P		**P**	**06 20 15.4**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=48,slow=5.2,SNR=4.1							
KSRS	**Korea Array**	**78.44**	**51**	P		**P**	**06 20 47.0**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=297,slow=5.5,SNR=4.8							

DDA ***16*** *06:15:59.8,38°.93N×26°.35E,h7km,MD2.8*
ISCJB ***16*** *06:16:01.2±1.0,38°.93N±0°.04×26°.39E±0°.07,h3km±6km, Error ellipse: s-maj=10.0km s-min=5.1km az=156.3*
CSEM ***16*** *06:16:01.5±0.3,38°.93N×26°.43E,h2km,MD2.8,Error ellipse: s-maj=7.6km s-min=3.8km az=60.0*
ISK ***16*** *06:16:01.3,38°.95N×26°.43E,h4km,MD2.8*

ISC 16 06:16:01.4±1.4,38°.97N±0°.03×26°.40E±0°.04,h11km±11km, n40,σ0s78/50,3C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.41**	**34**	*i* P	**Pg**	**06 16 09.4**	**0.0**
AYVA				*i* S	**Sb**	**06 16 16.7**	**-0.1**
AYVA	**Ayvalik**	**0.41**	**34**	*i* P	**Pg**	**06 16 09.4**	**0.0**
AYVA				*i* S	**Sb**	**06 16 16.7**	**-0.1**
BLCB	**Balcova**	**0.77**	**139**	*e*PG	**Pg**	**06 16 15.8**	**-0.5**
BLCB				*e*SG	**Sb**	**06 16 26.8**	**-0.4**
BLCB	**Balcova**	**0.77**	**139**	*e*Pg	**Pg**	**06 16 15.8**	**-0.5**
EZN	**Ezine**	**0.86**	**356**	*e*PG	**Pb**	**06 16 18.5**	**+0.3**
EZN				*e*SG	**Sn**	**06 16 31.1**	**-0.7**
EZN	**Ezine**	**0.86**	**356**	*e*Pg	**Pb**	**06 16 18.5**	**+0.3**
EZN				*e*Sg	**Sn**	**06 16 31.1**	**-0.7**
AKHS	**Akhisar**	**1.11**	**94**	*i* P	**Pb**	**06 16 21.6**	**-0.9**
AKHS				*i* S	**Sn**	**06 16 38.1**	**0.0**
AKHS	**Akhisar**	**1.11**	**94**	*i* P	**Pb**	**06 16 21.6**	**-0.9**
AKHS				*i* S	**Sn**	**06 16 38.1**	**0.0**
AKS	**Akhisar**	**1.11**	**94**	*e*PN	**Pb**	**06 16 22.2**	**-0.3**
AKS	**Akhisar**	**1.11**	**94**	*e*Pn	**Pb**	**06 16 22.2**	**-0.3**
BALY	**Balya**	**1.22**	**50**	*i* P	**Pn**	**06 16 22.0**	**-2.4**
BALY				*i* S	**Sn**	**06 16 41.3**	**+0.4**
BALB	**Balikesir**	**1.33**	**59**	*e*PN	**Pg**	**06 16 27.1**	**+0.2**
BALB	**Balikesir**	**1.33**	**59**	*e*Pn	**Pg**	**06 16 27.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.43**	**2**	*e*PN	**Pg**	**06 16 28.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.43**	**2**	*e*Pn	**Pg**	**06 16 28.8**	**0.0**
LPK	**Lapseki**	**1.43**	**11**	*e*PN	**Pb**	**06 16 28.2**	**+0.2**
LPK	**Lapseki**	**1.43**	**11**	*e*Pn	**Pb**	**06 16 28.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.46**	**42**	*e*PN	**Pg**	**06 16 29.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.46**	**42**	*e*Pn	**Pg**	**06 16 29.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**131**	*e*PN	**Pb**	**06 16 30.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**131**	*e*Pn	**Pb**	**06 16 30.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.58**	**26**	*e*PN	**Pb**	**06 16 31.0**	**+0.4**
KRBG	**Karabiga-Canak**	**1.58**	**26**	*e*Pn	**Pb**	**06 16 31.0**	**+0.4**
ERIK	**Erikli-Kesan**	**1.70**	**3**	*e*PN	**Pb**	**06 16 33.1**	**+0.5**
ERIK	**Erikli-Kesan**	**1.70**	**3**	*e*Pn	**Pb**	**06 16 33.1**	**+0.5**
DURS	**Dursunbey**	**1.73**	**68**	*i* P	**Pn**	**06 16 31.9**	**+0.5**
DURS				*i* S	**Sb**	**06 16 55.4**	**+0.5**
DURS	**Dursunbey**	**1.73**	**68**	*i* P	**Pn**	**06 16 31.9**	**+0.5**
DURS				*i* S	**Sb**	**06 16 55.4**	**+0.5**
ENEZ	**Enez**	**1.77**	**354**	*e*PN	**Pb**	**06 16 34.3**	**+0.4**
ENEZ	**Enez**	**1.77**	**354**	*e*Pn	**Pb**	**06 16 34.3**	**+0.4**
EDC	**Edincik**	**1.78**	**39**	*e*PN	**Pb**	**06 16 33.7**	**-0.3**
EDC	**Edincik**	**1.78**	**39**	*e*Pn	**Pb**	**06 16 33.7**	**-0.3**
KULA	**Kula-Manisa**	**1.82**	**104**	*e*PN	**Pn**	**06 16 33.9**	**+1.1**
KULA	**Kula-Manisa**	**1.82**	**104**	*e*Pn	**Pn**	**06 16 33.9**	**+1.1**
KCTX	**Karacabey (Bur**	**1.99**	**49**	*e*PN	**Pb**	**06 16 36.6**	**-1.0**
KCTX	**Karacabey (Bur**	**1.99**	**49**	*e*Pn	**Pb**	**06 16 36.6**	**-1.0**
TVSB	**Tavsanli**	**2.43**	**78**	*e*PN	**Pn**	**06 16 42.8**	**+1.8**
TVSB	**Tavsanli**	**2.43**	**78**	*e*Pn	**Pn**	**06 16 42.8**	**+1.8**
VAY	**Valandovo**	**3.76**	**310**	⇑*i*P	**Pb**	**06 17 09.2**	**+1.5**
SKO	**Skopje**	**4.83**	**310**	⇑*i*P	**Pn**	**06 17 12.8**	**-1.2**
SKO	**Skopje**	**4.83**	**310**	⇑*i*P	**Pn**	**06 17 12.7**	**-1.3**

CSEM ***16*** *06:26:06.5±0.1,42°.65N×18°.98E,h15km,ML2.1,Error ellipse: s-maj=2.9km s-min=2.4km az=103.0*
BEO ***16*** *06:26:07.0±0.4,42°.62N×19°.04E,h14km±3km,ML2.0/7*
PDG ***16*** *06:26:07.1±0.2,42°.63N×18°.98E,h11km,MD2.2/2, ML2.1/12,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 16 06:26:06.9±0.8,42°.63N±0°.02×18°.97E±0°.02,h16km±5km, n39,σ0s65/77,12C-16D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKME	**Niksic**	**0.13**	**356**	⇓*i*Pg	**Pg**	**06 26 10.6**	**-0.2**
NKME				*e*Sg	**Sg**	**06 26 13.2**	**-0.1**
NKME	**Niksic**	**0.13**	**356**	⇓*i*Pg	**Pg**	**06 26 10.6**	**-0.2**
NKME				*e*Sg	**Sg**	**06 26 13.2**	**-0.1**
NKY	**Niksic**	**0.18**	**6**	⇑*i*Pg	**Pg**	**06 26 11.1**	**-0.4**
NKY				*e*Sg	**Sg**	**06 26 14.7**	**+0.2**
NKY	**Niksic**	**0.18**	**6**	⇑*i*Pg	**Pg**	**06 26 11.1**	**-0.4**
NKY				*e*Sg	**Sg**	**06 26 14.7**	**+0.2**
PDG	**Podgorica**	**0.29**	**134**	⇑*i*Pg	**Pg**	**06 26 12.4**	**-0.7**
PDG	**Podgorica**	**0.29**	**134**	⇑*i*Pg	**Pg**	**06 26 12.9**	**-0.2**
PDG				*e*Sg	**Sg**	**06 26 17.6**	**+0.2**
TTG	**Podgorica**	**0.29**	**134**	⇑*i*Pg	**Pg**	**06 26 12.9**	**-0.2**
TTG				*e*Sg	**Sg**	**06 26 17.6**	**+0.2**
BUM	**Brajici-Budva**	**0.34**	**189**	⇓*i*Pg	**Pg**	**06 26 13.7**	**-0.2**
BUM				*e*Sg	**Sg**	**06 26 19.1**	**+0.4**
BUM	**Brajici-Budva**	**0.34**	**189**	⇓*i*Pg	**Pg**	**06 26 13.7**	**-0.2**
BUM				*e*Sg	**Sg**	**06 26 19.1**	**+0.4**
HCY	**Herceg Novi**	**0.40**	**242**	⇓*i*Pg	**Pg**	**06 26 14.7**	**-0.3**
HCY				*e*Sg	**Sb**	**06 26 21.4**	**0.0**
HCY	**Herceg Novi**	**0.40**	**242**	⇓*i*Pg	**Pg**	**06 26 14.7**	**-0.3**
HCY				*e*Sg	**Sb**	**06 26 21.4**	**0.0**
BRY	**Bratogost**	**0.41**	**311**	⇑*i*Pg	**Pg**	**06 26 15.0**	**-0.4**
BRY				*e*Sg	**Sg**	**06 26 21.5**	**+0.4**
BRY	**Bratogost**	**0.41**	**311**	⇑*i*Pg	**Pg**	**06 26 15.0**	**-0.4**
BRY				*e*Sg	**Sg**	**06 26 21.5**	**+0.4**
DRME	**Dracevica, Mon**	**0.47**	**160**	⇓*i*Pg	**Pg**	**06 26 16.0**	**-0.4**
DRME				*e*Sg	**Sb**	**06 26 24.1**	**+0.4**
DRME	**Dracevica, Mon**	**0.47**	**160**	⇓*i*Pg	**Pg**	**06 26 16.0**	**-0.4**
DRME				*e*Sg	**Sb**	**06 26 24.1**	**+0.4**
UPM	**Unac-Piva**	**0.57**	**355**	⇓*i*Pg	**Pg**	**06 26 17.4**	**-0.9**
UPM				*e*Sg	**Sg**	**06 26 26.8**	**+0.9**
UPM	**Unac-Piva**	**0.57**	**355**	⇓*i*Pg	**Pg**	**06 26 17.4**	**-0.9**
UPM				*e*Sg	**Sg**	**06 26 26.8**	**+0.9**
ULC	**Ulcinj**	**0.70**	**163**	⇓*i*Pg	**Pg**	**06 26 19.7**	**-0.9**
ULC				*e*Sg	**Sb**	**06 26 30.9**	**+0.7**
ULC	**Ulcinj**	**0.70**	**163**	⇓*i*Pg	**Pg**	**06 26 19.7**	**-0.9**
ULC				*e*Sg	**Sb**	**06 26 30.9**	**+0.7**
BEY	**Berane**	**0.72**	**70**	⇓*i*Pg	**Pg**	**06 26 20.6**	**-0.4**
BEY				*e*Sg	**Sb**	**06 26 32.3**	**+1.4**
IVA	**Berane**	**0.72**	**70**	⇓*i*Pg	**Pg**	**06 26 20.6**	**-0.4**
IVA				*e*Sg	**Sb**	**06 26 32.3**	**+1.4**
PVY	**Plav**	**0.73**	**93**	⇑*i*Pg	**Pg**	**06 26 20.8**	**-0.4**
PVY				*e*Sg	**Sb**	**06 26 32.5**	**+1.3**
PVY	**Plav**	**0.73**	**93**	⇑*i*Pg	**Pg**	**06 26 20.8**	**-0.4**
PVY				*e*Sg	**Sb**	**06 26 32.5**	**+1.3**
PLE	**Pljevlja**	**0.76**	**24**	⇓*i*Pg	**Pg**	**06 26 21.1**	**-0.7**
PLE				*e*Sg	**Sb**	**06 26 32.9**	**+0.8**
PLE	**Pljevlja**	**0.76**	**24**	⇓*i*Pg	**Pg**	**06 26 21.1**	**-0.7**
PLE				*e*Sg	**Sb**	**06 26 32.9**	**+0.8**
STON	**Ston**	**0.96**	**285**	*e*Pg	**Pb**	**06 26 24.4**

KMI S **Sn** **06 37 27.8 +4.3**
KMI pmax pmax
comp=E,9.0nm,0.8s
KMI LR LR
comp=E,370nm,13.6s
KMI LR LR
comp=E,440nm,14.3s
KMI LR LR
comp=E,410nm,12.9s
HYB Hyderabad 14.39 285 P **Pn** **06 34 49.0 -1.8**
HYB S **Sn** **06 37 33.0 +3.9**
HYB Hyderabad 14.39 285 *i* P **Pn** **06 34 49.0 -1.8**
HYB *es*P 06 35 06.0
HYB *e*S **Sn** **06 37 33.0 +3.9**
HYB Hyderabad 14.39 285 *e*P **Pn** **06 34 49.0 -1.8**
HYB *ex* x 06 37 14.6
HYB Hyderabad 14.39 285 P **Pn** **06 34 49.0 -1.8**
HYB S **Sn** **06 37 33.0 +3.9**
MNSI Mandailing Nat 14.76 154 P **Pn** **06 34 54.1 -1.7**
comp=E,27nm,1.1s,comp=E,2µm
JIRN Jiri 14.88 335 *e*P **Pn** **06 34 55.5 -2.2**
comp=E,145nm,0.6s
PKI Pulchoki 15.13 333 *e*P **Pn** **06 34 58.5 -2.5**
comp=E,157nm,0.6s
GUN Gumba 15.23 335 *e*P **Pn** **06 35 00.7 -1.6**
DMN Daman 15.30 332 *e*P **Pn** **06 35 01.6 -1.5**
comp=E,105nm,0.6s
LSA Lhasa 15.55 354 P **Pn** **06 35 08.1 +1.6**
LSA Lhasa 15.55 354 *e*P **Pn** **06 35 08.3 +1.8**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 15.55 354 *e*P **Pn** **06 35 08.3 +1.8**
comp=Z,19nm,0.6s
KGM Kluang 15.74 139 ⇑P **P** **06 35 11.9 0.0**
BKNI Bangkinang 15.84 150 *e*P **Pn** **06 35 08.5 -1.4**
comp=Z,52nm,0.6s
GKN Gorkha 15.85 331 *e*P **Pn** **06 35 08.5 -1.6**
comp=Z,111nm,0.4s
KOLN Koldanda 16.17 328 *e*P **Pn** **06 35 13.2 -1.0**
comp=Z,140nm,0.6s
MYKOM Kota Tinggi 16.25 138 ⇓P **P** **06 35 18.3 +0.7**
DANN Dangsing 16.56 330 *e*P **Pn** **06 35 18.7 -0.6**
comp=Z,47nm,0.4s
PDSI Padang 16.67 154 P **Pn** **06 35 18.4 -2.0**
comp=Z,42nm,0.8s
QIZ Qiongzhong 16.73 71 P **Pn** **06 35 20.4 -0.7**
QIZ S **Sn** **06 38 25.3 -0.7**
QIZ pmax pmax
comp=Z,51nm,2.5s
QIZ LR LR
comp=Z,470nm,15.8s
BHPL Bhopal 17.37 304 *e*P **P** **06 35 29.9 -0.1**
BHPL *ex* x 06 38 32.3
GYA Guiyang 17.59 44⇑ *i*P **P** **06 35 32.8 +0.3**
GYA pP **pP** **06 35 42.6 -0.4**
GYA PP **PnPn** **06 35 49.8 +6.6**
GYA S **Sn** **06 38 45.0 -2.1**
GYA sS S 06 39 01.4 +8.2
GYA SS **SnSn** **06 39 10.3 +9.2**
GYA PcP **PcP** **06 40 10.8 +0.9**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.5s
GYA LR LR
comp=Z,520nm,14.8s
GYA LR LR
comp=Z,490nm,14.0s
GYA LR LR
comp=Z,610nm,14.6s
POO Poona 18.99 286 *e*P **P** **06 35 48.0 +0.1**
POO *ex* x 06 39 22.7
CD2 Chengdu 19.30 29 *e*P **P** **06 35 51.0 -0.2**
CD2 pP **pP** **06 36 01.8 +0.1**
CD2 sP **sP** **06 36 08.3 +1.1**
CD2 PP **PnPn** **06 36 10.0 +3.5**
CD2 S **S** **06 39 21.8 -5.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,140nm,4.2s
CD2 LR LR
comp=Z,490nm,16.6s
CD2 LR LR
comp=Z,370nm,13.1s
CD2 LR LR
comp=Z,450nm,17.8s
MDSI Maura Dua 21.55 149 P **P** **06 36 11.8 -3.8**
ENH Enshi 21.99 41 *e*P **P** **06 36 19.8 -0.5**
comp=Z,24nm,1.0s
SBUM Sibu 22.18 120 P x 06 36 40.6
SBUM Sibu 22.18 120 ⇓P P 06 36 27.8 +5.5
SMLA Simla 22.34 322 *e*P **P** **06 36 24.1 +0.1**
SMLA *e*S **S** **06 40 27.1 +0.2**
BTM Bintulu 22.52 117 ⇑⇑P **P** **06 36 29.4 +3.3**
DHRM DHARAMSHALA 23.65 322 *e*P **P** **06 36 37.1 -0.4**
DHRM *e*S **S** **06 40 52.9 +3.4**
LZH Lanzhou 23.83 22 ⇑⇑P **P** **06 36 39.5 +0.4**
LZH pP **pP** **06 36 53.0 +2.5**
LZH sP **sP** **06 36 57.5 +1.7**
LZH *e*S **S** **06 40 52.0 -0.1**
LZH sS **sS** **06 41 13.0 +1.5**
LZH SS SnSn 06 41 47.1 +13
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,210nm,5.2s
LZH LR LR
comp=Z,740nm,14.5s
LZH LR LR
comp=Z,260nm,13.1s
LZH LR LR
comp=Z,780nm,15.9s
XAN Xi'an 24.40 33 P **P** **06 36 43.8 -0.4**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,29nm,4.7s
SDKM Sandakan 25.16 107 ⇑P P 06 36 56.1 +4.8
WHN Wuhan 25.43 47 *e*P **P** **06 36 53.8 +0.3**
WHN S **S** **06 41 13.3 -4.1**
WHN LR LR
comp=Z,720nm,16.6s
GTA Gaotai 25.81 12 *e*P **P** **06 36 57.6 +0.6**
GTA pP **pP** **06 37 06.9 -1.7**
GTA sP **sP** **06 37 11.0 -2.8**
GTA PcP **PcP** **06 40 27.1 +1.3**
GTA S **S** **06 41 24.1 +0.5**
GTA sS **sS** **06 41 39.8 -3.2**
GTA SS **SnSn** **06 42 30.8 +8.6**
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,91nm,6.4s
GTA LR LR
comp=Z,190nm,18.5s
GTA LR LR
comp=Z,150nm,16.1s
GTA LR LR
comp=Z,180nm,16.9s
KSH Kashi 29.40 332 P **P** **06 37 28.3 -0.9**
KSH *e*PP **PnPn** **06 38 23.3 -1.1**
KSH *e*PcP **PcP** **06 40 35.3 +0.8**
KSH *e*S **S** **06 42 15.5 -4.7**
KSH *es*S **sS** **06 42 35.1 -4.6**
KSH *e*SS **SnSn** **06 43 49.6 -0.1**
KSH pmax pmax
comp=Z,13nm,0.6s
KSH pmax pmax
comp=Z,260nm,6.4s
KSH LR LR
comp=Z,66nm,7.2s
KSH LR LR
comp=Z,120nm,5.9s
KSH LR LR
comp=Z,190nm,5.9s
NJ2 Nanjing 29.48 49 *e*P **P** **06 37 30.1 +0.3**
NJ2 S **S** **06 42 26.0 +4.7**
NJ2 LR LR
comp=Z,270nm,19.4s
NJ2 LR LR
comp=Z,160nm,22.2s
NJ2 LR LR
comp=Z,290nm,20.6s
H08S3 Diego Garcia H 29.82 225 T T 07 08 43.0
baz=44,slow=75,SNR=14
H08S2 Diego Garcia H 29.83 225 T T 07 08 48.8
baz=44,slow=75,SNR=19
H08S1 Diego Carcia H 29.84 225 T T 07 08 47.1
baz=44
WMQ Urumqi 29.90 352 P **P** **06 37 35.5 +2.1**
WMQ pP **pP** **06 37 47.4 +2.3**
WMQ sP **sP** **06 37 52.9 +2.6**
WMQ pmax pmax
comp=Z,8.0nm,0.5s
HHC Hu-ho-hao-te 31.05 28 *e*P **P** **06 37 43.4 -0.4**
HHC pP **pP** **06 37 54.3 -1.2**
HHC sP **sP** **06 38 01.5 +0.8**
HHC PP **PnPn** **06 38 45.6 -0.6**
HHC S **S** **06 42 42.6 -3.5**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,210nm,4.7s
HHC LR LR
comp=Z,380nm,15.9s
HHC LR LR
comp=Z,240nm,13.1s
HHC LR LR
comp=Z,310nm,9.5s
UCH Uchtor 32.25 334 *i* P **P** **06 37 55.2 +0.6**
UCH Uchtor 32.25 334 P **P** **06 37 55.2 +0.6**
SNR=6.5
TKM2 Tokmak 2 32.37 336 *i* P **P** **06 37 56.2 +0.8**
TKM2 Tokmak 2 32.37 336 P **P** **06 37 56.2 +0.8**
SNR=7.4
TKM2 Tokmak 2 32.37 336 *e*P **P** **06 37 55.7 +0.3**
comp=Z,3.9nm,0.8s
AML Almayashu 32.53 333 *i* P **P** **06 37 58.2 +1.2**
AML Almayashu 32.53 333 P **P** **06 37 58.3 +1.2**
SNR=10
AAK Ala-Archa 32.59 334 *e*P **P** **06 37 58.6 +1.4**
AAK pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 32.59 334 P **P** **06 37 58.8 +1.6**
SNR=6.6
AAK Ala-Archa 32.59 334 *e*P **P** **06 37 58.6 +1.4**
comp=Z,11nm,1.1s
AAK Ala-Archa 32.59 334 P **P** **06 37 58.4 +1.1**
comp=Z,6.0nm,0.9s,baz=153,slow=9.1,SNR=14
AAK LR LR 06 52 32.4
comp=Z,318nm,21.0s,baz=162,slow=39
BJI Beijing 32.73 34 P **P** **06 37 59.3 +1.0**
BJI S **S** **06 43 14.5 +2.5**
BJI pmax pmax
comp=Z,15nm,0.6s
BJI LR LR
comp=Z,240nm,29.3s
BJI LR LR
comp=Z,280nm,24.4s
CHMS Chumysh 32.78 335 *i* P **P** **06 37 59.0 +0.3**
CHMS Chumysh 32.78 335 P **P** **06 37 59.1 +0.3**
SNR=5.7
EKS2 Erkin-Say 32.92 333 *i* P **P** **06 38 01.6 +1.5**
EKS2 Erkin-Say 32.92 333 P **P** **06 38 01.7 +1.5**
SNR=10
EKS2 Erkin-Say 32.92 333 *e*P **P** **06 38 01.0 +0.9**
comp=Z,9.4nm,0.8s
USP Ospenovka 33.10 335 *i* P **P** **06 38 02.5 +0.9**
USP Ospenovka 33.10 335 P **P** **06 38 02.5 +0.9**
SNR=10
MK31 Makanchi Array 33.75 347 *e*P **P** **06 38 07.5 +0.3**
MK31 Makanchi Array 33.75 347 *e*P **P** **06 38 07.5 +0.3**
MKAR Makanchi Array 33.75 347 *ce*P **P** **06 38 07.5 +0.3**
MKAR pmax pmax
comp=Z,16nm,1.0s
MKAR Makanchi Array 33.75 347 *e*P **P** **06 38 07.7 +0.5**
MKAR Makanchi Array 33.75 347 P **P** **06 38 07.5 +0.3**
comp=Z,16nm,1.0s,baz=161,slow=8.7,SNR=76
MKAR LR LR 06 55 54.3
comp=Z,138nm,19.6s,baz=339,slow=43
KK31 Karatay Array 34.76 330 *i* P **P** **06 38 16.4 +0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 34.76 330 *e*P **P** **06 38 16.5 +0.5**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 34.76 330 *e*P **P** **06 38 16.5 +0.5**
comp=Z,9.0nm,0.8s
SONM Songino Array 35.31 16 P **P** **06 38 21.1 +0.2**
SONM PcP **PcP** **06 40 51.0 +0.5**
SONM ScP **ScP** **06 44 34.6 +1.7**
SONM Songino Array 35.31 16 P **P** **06 38 21.1 +0.2**
comp=Z,6.9nm,0.9s,baz=201,slow=5.5,SNR=36
SONM PcP **PcP** **06 40 51.0 +0.5**
comp=Z,1.6nm,0.7s,baz=194,slow=3.6,SNR=5.3
SONM ScP **ScP** **06 44 34.6 +1.7**
comp=Z,0.6nm,0.9s,baz=203,slow=3.0,SNR=4.2
SONM LR LR 06 55 09.4
comp=Z,69nm,19.1s,baz=340,slow=40
ULN Ulaanbaatar 35.52 16 *e*P **P** **06 38 22.8 +0.2**
comp=Z,13nm,1.3s
HATD Hatta, Dubai 36.33 293⇑ *i*P **P** **06 38 32.3 +2.6**
SNR=6.7
FAQ Al Faqa, Dubai 36.80 292 ⇓P **P** **06 38 35.4 +1.6**
HVS Khovu-Aksy 36.85 1*c i*P **P** **06 38 34.2 +0.3**
HVS pmax pmax
comp=Z,86nm,1.2s
ASUD Al Ashush, Dub 37.02 292 ⇓ *i*P **P** **06 38 38.0 +2.4**
SNR=8.2
ZAK Zakamensk 37.03 11 *e*P **P** **06 38 35.9 +0.5**
ZAK *e* 06 40 55.9
ZAK pmax pmax
comp=Z,3.0nm,1.8s
IKRD Kardeh 38.18 312 *e*P P 06 38 39.9 -5.6
KURBB Kurchatov Arra 38.22 345 P **P** **06 38 45.6 +0.3**
comp=Z,14nm,0.8s,baz=171,slow=7.3,SNR=146
KURK Kurchatov 38.29 345*d iP* **P** **06 38 45.7 -0.2**
KURK pmax pmax
comp=Z,23nm,1.7s
KURK Kurchatov 38.29 345 *e*P **P** **06 38 46.0 +0.1**
comp=Z,15nm,1.1s
KURK *e* 06 38 55.8
TLY Talaya 38.34 11 *e*P **P** **06 38 47.5 +1.1**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,43nm,9.0s
TLY Talaya 38.34 11 *e*P **P** **06 38 47.6 +1.1**
comp=Z,4.4nm,1.0s
KSAR Wonju Array Be 38.59 47 P **P** **06 38 48.1 -0.5**
KSRS Korea Array 38.62 47 P **P** **06 38 48.1 -0.7**
comp=Z,1.0nm,0.5s,baz=242,slow=8.2,SNR=4.5
ISFR Sfrayin 38.67 313 *e*P **P** **06 38 50.4 +0.7**
JNU Nakatsue 39.11 55 LR LR 06 57 04.4
comp=Z,100nm,18.5s,baz=70,slow=39
ISRV Sarvestan 39.90 299 *e*P **P** **06 39 01.2 +1.2**
IPAR Pars 40.06 300 *e*P **P** **06 39 02.7 +1.3**
ISAD Sadrabad 40.08 303 *e*P **P** **06 39 01.7 +0.2**
ZAA0 Zalesovo Array 40.20 352 *e*P **P** **06 39 01.7 -0.1**
ZAA0 *e* 06 39 11.2
ZALV Zalesovo Beam 40.20 352 P **P** **06 39 01.9 0.0**
ZALV Zalesovo Beam 40.20 352 P **P** **06 39 01.9 0.0**
ZALV Zalesovo Beam 40.20 352 P **P** **06 39 01.9 0.0**
comp=Z,9.4nm,0.8s,baz=176,slow=9.0,SNR=44
ZALV LR LR 06 59 04.6
comp=Z,85nm,19.3s,baz=142,slow=41
CN2 Changchun 40.41 37 *e*P **P** **06 39 01.0 -2.7**
CN2 *e*S **S** **06 45 05.9 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,12.0s
IANJ Anjilo 41.05 308 *e*P **P** **06 39 10.0 +0.5**
NVS Novosibirsk 41.29 351 *e*P P 06 39 06.6 -4.2
IZEF Zefreh 41.46 304 *e*P **P** **06 39 13.4 +0.5**
IKIA Kiasar 41.49 309 *e*P **P** **06 39 13.7 +0.6**
IALA Alasht 42.11 309 *e*P **P** **06 39 20.1 +1.9**
IPRN Peran 42.52 309 *e*P **P** **06 39 23.1 +1.8**
IPIR Pirpir 42.57 303 *e*P **P** **06 39 22.9 +0.9**
BVA0 Borovoye Array 42.74 340 *i* P **P** **06 39 22.4 -0.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 42.74 340 P **P** **06 39 22.4 -0.3**
BVAR Borovoye Array 42.74 340 P **P** **06 39 22.4 -0.3**
BVAR Borovoye Array 42.74 340 P **P** **06 39 22.4 -0.3**
comp=Z,5.1nm,0.8s,baz=141,slow=9.6,SNR=20
BVAR LR LR 07 02 09.4
comp=Z,119nm,18.0s,baz=284,slow=43
BRVK Borovoye 42.80 340 *e*P **P** **06 39 23.1 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 42.80 340 *e*P **P** **06 39 23.1 -0.1**
comp=Z,5.2nm,1.0s
MDJ Mudanjiang 43.32 38 P **P** **06 39 27.5 0.0**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,100nm,4.6s
MBWA Marble Bar 43.78 143 *e*P **P** **06 39 29.3 -2.1**
comp=Z,8.8nm,0.8s
MBWA *e* 06 39 38.7
IRAZ Razeghan 44.10 307 *e*P **P** **06 39 35.8 +1.6**
IGZV Ghazvin 44.18 308 *e*P **P** **06 39 36.2 +1.4**
AB31 Akbulak array 44.29 329 *i* P **P** **06 39 35.9 +0.7**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR Akbulak array 44.29 329 *e*P **P** **06 39 35.9 +0.7**
comp=Z,26nm,0.8s
ABKAR *e* 06 39 45.3
MJAR Matsushiro Arr 45.90 53 LR LR 07 01 54.7
comp=Z,54nm,18.8s,baz=230,slow=40
AKTO Aktyubinsk 46.00 329 P **P** **06 39 49.1 +0.3**
AKTO Aktyubinsk 46.00 329 P **P** **06 39 49.0 +0.3**
AKTO Aktyubinsk 46.00 329 P **P** **06 39 49.0 +0.3**
comp=Z,8.3nm,0.6s,baz=125,slow=8.4,SNR=44
AKTO LR LR 07 03 27.0
comp=Z,92nm,18.6s,baz=138,slow=42
SVE Sverdlovsk 49.22 337*ce*P **P** **06 40 14.2 +0.6**
SVE pmax pmax
comp=Z,52nm,0.9s
GNI Garni 49.45 311 *e*P **P** **06 40 17.7 +1.9**
comp=Z,45nm,1.1s
GNI Garni 49.45 311 P **P** **06 40 17.4 +1.6**
comp=Z,9.7nm,0.5s,baz=124,slow=3.2,SNR=8.1
GNI Garni 49.45 311 ⇓P **P** **06 40 17.8 +1.9**
ARU Arti 49.74 336*d iP* **P** **06 40 17.6 0.0**
ARU 06 42 10.6
ARU S **S** **06 47 25.6 +2.0**
ARU SS **SS** **06 50 58.0 +1.7**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 49.74 336 *e*P **P** **06 40 17.5 -0.2**
comp=Z,15nm,0.8s
ARU *e* 06 40 27.4
ZEI Tsey 50.87 314 *e*P **P** **06 40 26.9 +0.3**
ZEI pmax pmax
comp=Z,11nm,0.7s
KBZ Khabaz 51.86 315 P **P** **06 40 34.5 +0.7**
KBZ Khabaz 51.86 315 P **P** **06 40 34.5 +0.7**
KBZ Khabaz 51.86 315 P **P** **06 40 34.5 +0.7**
comp=Z,4.3nm,0.7s,baz=107,slow=8.3,SNR=12
KIV Kislovodsk 52.08 315*d iP* **P** **06 40 35.4 -0.1**
KIV *e* 06 40 46.9
KIV *e* 06 40 52.6
KIV pmax pmax
comp=Z,43nm,1.0s
KIV MLR MLR
comp=Z,100nm,17.0s
KIV Kislovodsk 52.08 315 *e*P **P** **06 40 36.6 +1.0**
comp=Z,32nm,0.8s
KIV Kislovodsk 52.08 315⇓ *i*P **P** **06 40 36.6 +1.0**
SNR=6.9
GOF Gofitskoye 52.20 317 *e*P **P** **06 40 37.2 +0.9**
NWAO Narrogin (SRO) 52.21 154 P **P** **06 40 34.9 -1.5**
NWAO Narrogin (SRO) 52.21 154 P **P** **06 40 34.9 -1.5**
comp=Z,28nm,1.1s,baz=318,slow=7.7,SNR=6.6
YSS Yuzh-Sakhalins 52.57 41 *e*P **P** **06 40 38.6 -0.4**
SOKR Solikamsk 52.62 338 *e*P **P** **06 40 39.8 +0.7**
SOKR pmax pmax
comp=Z,20nm,0.8s
WRA Warramunga Arr 52.86 129 P **P** **06 40 40.0 -1.5**
WRA PcP **PcP** **06 41 50.0 -0.3**
WRA Warramunga Arr 52.86 129 P **P** **06 40 40.0 -1.5**
comp=Z,8.3nm,0.9s,baz=312,slow=8.0,SNR=32
WRA PcP **PcP** **06 41 50.0 -0.3**
comp=Z,3.9nm,0.7s,baz=321,slow=3.1,SNR=14
WRA LR LR 07 07 18.0
comp=Z,60nm,18.5s,baz=120,slow=41
WRAB Tennant Creek 52.86 129 *e*P **P** **06 40 40.2 -1.3**
WRAB pmax pmax
comp=Z,11nm,0.9s
WRAB Tennant Creek 52.86 129 *e*P **P** **06 40 40.2 -1.3**
comp=Z,11nm,0.9s
ASF Jabal al Asfar 54.11 300 P **P** **06 40 51.2 +0.5**
ASF Jabal al Asfar 54.11 300 P **P** **06 40 51.2 +0.5**
comp=Z,4.2nm,0.8s,baz=22,slow=2.1,SNR=7.5
YAK Yakutsk 54.40 20 *e*P **P** **06 40 51.9 -0.2**
AS31 Alice Springs 54.82 133 *e*P **P** **06 40 54.6 -1.2**
AS31 *e* 06 41 04.7
VRHR Novokhopersk 55.27 323 *e*P **P** **06 40 57.2 -1.4**
VRHR pmax pmax
comp=N,6.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.9s
ABPO Ambohimpanom 55.96 235 *e*P **P** **06 41 05.2 +0.9**
ABPO pmax pmax
comp=Z,7.0nm,0.7s
ABPO Ambohimpanom 55.96 235 *e*P **P** **06 41 05.2 +0.9**
comp=Z,6.6nm,0.7s
VORD Divnogorie 56.59 322 *e*P **P** **06 41 06.7 -1.4**
VORD pmax pmax
comp=N,2.0nm,0.8s
VORD pmax pmax
comp=E,7.0nm,0.8s
VORD pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 56.75 323 *e*P **P** **06 41 07.4 -1.8**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR pmax pmax
comp=Z,9.0nm,0.8s
BR131 Keskin Array S 57.67 308 *e*P **P** **06 41 15.6 -0.5**
comp=Z,9.6nm,0.7s
BRTR Keskin Array B 57.67 308 P **P** **06 41 15.4 -0.7**
BRTR Keskin Array B 57.67 308 P **P** **06 41 15.4 -0.7**
comp=Z,13nm,0.7s,baz=121,slow=7.7,SNR=84
BRTR LR LR 07 09 37.0
comp=Z,59nm,21.2s,baz=107,slow=40
PRGR Permogore 58.20 336 *e*P **P** **06 41 18.0 -1.2**
PRGR pmax pmax
comp=Z,26nm,0.7s
PMG Port Moresby 58.50 111 *e*P **P** **06 41 22.4 +0.3**
comp=Z,6.2nm,0.6s
OBN Obninsk 59.57 326⇑ *e*P **P** **06 41 28.7 -0.1**
OBN *e* 06 41 39.8
OBN *e* 06 41 45.2
OBN 06 42 17.7
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,19.0s
TIXI Tiksi 61.29 12⇓ *e*P **P** **06 41 38.9 -1.4**
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 61.29 12 *e*P **P** **06 41 39.4 -0.9**
comp=Z,16nm,1.1s
TIXI *e* 06 41 49.9
TIRR Tirgusor 62.18 313⇓ *i*P **P** **06 41 46.8 0.0**
CFR Carcaliu 62.47 314⇑ *i*P **P** **06 41 48.9 +0.2**
AKASG Malin Array Be 62.66 320*ce*P **P** **06 41 48.7 -1.1**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 62.66 320 P **P** **06 41 48.8 -1.1**
AKASG Malin Array Be 62.66 320 P **P** **06 41 48.8 -1.1**
comp=Z,4.5nm,0.7s,baz=83,slow=5.8,SNR=24
AK02 Malin Array Si 62.66 320 *e*P **P** **06 41 48.9 -1.0**
AK01 Malin Array Si 62.66 320 *e*P **P** **06 41 48.8 -1.1**
AK01 *e* 06 41 58.9
KIEV Kiev 62.67 320 *e*P **P** **06 41 48.9 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 62.67 320 *e*P **P** **06 41 48.9 -1.0**
comp=Z,4.9nm,0.7s
JMB Yambol 63.29 311 ⇓P **P** **06 41 52.6 -1.6**
JMB Yambol 63.29 311⇓ *i*P **P** **06 41 52.6 -1.6**
VRI Vrincioaia 63.54 314 ⇑P **P** **06 41 56.5 +0.6**

VRI	**Vrincioaia**	**63.54**	**314**	⇑*i*P		**P**	**06 41 56.5**	**+0.6**
SEY	**Seymchan**	**63.68**	**26**	⇑*e*P		**P**	**06 41 56.6**	**+0.2**
MLR	**Muntele Rosu**	**64.04**	**314**	⇑*i*P		**P**	**06 42 00.2**	**+0.9**
MLR	**Muntele Rosu**	**64.04**	**314**	P		**P**	**06 41 59.5**	**+0.2**
MLR	**Muntele Rosu**	**64.04**	**314**	P		**P**	**06 41 59.5**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=59,slow=4.2,SNR=16							
KDZ	**Kurdzhali**	**64.09**	**310**	⇑P		**P**	**06 41 59.7**	**+0.1**
KDZ	**Kurdzhali**	**64.09**	**310**	⇑*i*P		**P**	**06 41 59.7**	**+0.1**
IDI	**Anoyia**	**64.26**	**302**	P		**P**	**06 42 00.5**	**-0.4**
IDI	**Anoyia**	**64.26**	**302**	P		**P**	**06 42 00.5**	**-0.4**
	comp=Z,8.2nm,0.6s,baz=75,slow=6.1,SNR=7.6							
JOF	**Joensuu**	**64.77**	**334**	*e*P		**P**	**06 42 03.6**	**0.0**
JOF				pmax	pmax			
	comp=Z,14nm,0.6s							
JOF	**Joensuu**	**64.77**	**334**	*e*p		**P**	**06 42 03.6**	**0.0**
	comp=Z,14nm,0.6s							
BURAR	**Bucovina Array**	**64.78**	**316**	⇑P		**P**	**06 42 04.4**	**+0.3**
BURAR	**Bucovina Array**	**64.78**	**316**	⇑*i*P		**P**	**06 42 04.4**	**+0.3**
BUR08	**Bucovina Ar. S**	**64.79**	**316**	*e*P		**P**	**06 42 04.4**	**+0.2**
NACGM	**Naroch**	**64.94**	**324**	*e*		**P**	**06 42 06.0**	**+1.2**
ARR	**Arges**	**64.95**	**314**	⇓*i*P		**P**	**06 42 05.0**	**-0.2**
STKA	**Stephens Creek**	**65.22**	**135**	*e*P		**P**	**06 42 06.4**	**-0.6**
	comp=Z,4.7nm,1.4s							
STKA	**Stephens Creek**	**65.22**	**135**	P		**P**	**06 42 06.2**	**-0.8**
	comp=Z,5.7nm,0.8s,baz=346,slow=6.0,SNR=8.5							
STKA				LR		LR	07 10 16.4	
	comp=Z,144nm,21.9s,baz=25,slow=36							
VTS	**Vitosha**	**65.78**	**310**	⇑P		**P**	**06 42 11.2**	**+0.5**
VTS	**Vitosha**	**65.78**	**310**	⇑*i*P		**P**	**06 42 11.2**	**+0.5**
KWP	**Kalwaria Pacla**	**66.65**	**318**	⇑P		**P**	**06 42 16.3**	**+0.4**
KWP	**Kalwaria Pacla**	**66.65**	**318**	*e*P		**P**	**06 42 16.0**	**+0.1**
KWP	**Kalwaria Pacla**	**66.65**	**318**	⇑*i*P		**P**	**06 42 16.3**	**+0.4**
KWP	**Kalwaria Pacla**	**66.65**	**318**	*e*P		**P**	**06 42 16.1**	**+0.1**
	comp=Z,27nm,1.1s							
FINES	**FINESS Array B**	**66.71**	**331**	P		**P**	**06 42 15.7**	**-0.4**
FINES	**FINESS Array B**	**66.71**	**331**	P		**P**	**06 42 15.7**	**-0.4**
	comp=Z,9.2nm,0.6s,baz=96,slow=5.9,SNR=65							
FINES				LR		LR	07 13 59.7	
	comp=Z,146nm,18.7s,baz=71,slow=38							
KAF	**Kangasniemi**	**66.77**	**332**	*e*P		**P**	**06 42 16.1**	**-0.3**
KAF	**Kangasniemi**	**66.77**	**332**	*e*p		**P**	**06 42 16.1**	**-0.3**
UZH	**Uzhgorod**	**66.83**	**317**	*e*P		**P**	**06 42 16.7**	**-0.4**
UZH				*e*			06 42 31.5	
UZH				*i*			06 42 39.5	
SUW	**Suwalki**	**66.86**	**323**	*e*P		**P**	**06 42 16.5**	**-0.7**
SUW				*e*			06 42 26.7	
SUW				pmax	pmax			
	comp=Z,38nm,1.0s							
SUW	**Suwalki**	**66.86**	**323**	*e*P		**P**	**06 42 17.1**	**-0.1**
SUW	**Suwalki**	**66.86**	**323**	*e*P		**P**	**06 42 16.5**	**-0.7**
	comp=Z,38nm,1.0s							
SUW				*e*			06 42 26.7	
KOLS	**Kolonicke sedl**	**66.87**	**317**	*e*P		**P**	**06 42 17.7**	**+0.3**
KOLS				pmax	pmax			
	comp=Z,10.0nm,1.6s							
KOLS	**Kolonicke sedl**	**66.87**	**317**	*e*P		**P**	**06 42 17.7**	**+0.3**
CRVS	**Cervenica-Dubn**	**67.40**	**317**	*e*P		**P**	**06 42 21.4**	**+0.7**
CRVS				pmax	pmax			
	comp=Z,21nm,1.2s							
CRVS	**Cervenica-Dubn**	**67.40**	**317**	*e*P		**P**	**06 42 21.4**	**+0.7**
STHS	**Stebnicka Huta**	**67.58**	**318**	*e*P		**P**	**06 42 22.0**	**+0.1**
STHS				pmax	pmax			
	comp=Z,4.0nm,0.7s							
STHS	**Stebnicka Huta**	**67.58**	**318**	*e*P		**P**	**06 42 22.0**	**+0.1**
PSZ	**Piszkesteto**	**68.38**	**316**	*e*P		**P**	**06 42 26.9**	**-0.1**
PSZ				pmax	pmax			
	comp=Z,18nm,1.4s							
PSZ	**Piszkesteto**	**68.38**	**316**	*e*P		**P**	**06 42 26.9**	**-0.1**
	comp=Z,18nm,1.4s							
KEV	**Kevo**	**68.59**	**340**	*e*P		**P**	**06 42 26.9**	**-0.9**
KEV				pmax	pmax			
	comp=Z,357nm,2.6s							
KEV	**Kevo**	**68.59**	**340**	*e*p		**P**	**06 42 26.9**	**-0.9**
	comp=Z,357nm,2.6s							
ARCES	**ARCESS Array B**	**69.03**	**340**	P		**P**	**06 42 30.7**	**+0.1**
ARCES	**ARCESS Array B**	**69.03**	**340**	P		**P**	**06 42 30.7**	**+0.1**
	comp=Z,5.4nm,0.6s,baz=91,slow=6.7,SNR=39							
ARCES				LR		LR	07 16 14.0	
	comp=Z,168nm,18.3s,baz=133,slow=39							
OKC	**Ostrava-Krasne**	**69.61**	**318**	*e*P		**P**	**06 42 34.9**	**+0.4**
OKC	**Ostrava-Krasne**	**69.61**	**318**	*e*P		**P**	**06 42 34.9**	**+0.4**
MORC	**Moravsky Berou**	**70.00**	**318**	*e*P		**P**	**06 42 37.2**	**+0.2**
MORC				pmax	pmax			
	comp=Z,12nm,1.1s							
MORC	**Moravsky Berou**	**70.00**	**318**	*e*P		**P**	**06 42 37.2**	**+0.2**
	comp=Z,12nm,1.1s							
KRLC	**Kraliky**	**70.50**	**318**	*e*P		**P**	**06 42 40.4**	**+0.4**
KRLC	**Kraliky**	**70.50**	**318**	*e*P		**P**	**06 42 40.4**	**+0.4**
LSZ	**Lusaka**	**70.56**	**248**	*e*P		**P**	**06 42 42.1**	**+1.0**
	comp=Z,13nm,0.8s							
DPC	**Dobruska-Polom**	**70.80**	**319**	*e*P		**P**	**06 42 42.8**	**+0.9**
DPC	**Dobruska-Polom**	**70.80**	**319**	*e*P		**P**	**06 42 42.0**	**+0.1**
DPC	**Dobruska-Polom**	**70.80**	**319**	*e*P		**P**	**06 42 42.8**	**+0.9**
KSP	**Ksiaz**	**70.83**	**319**	*e*P		**P**	**06 42 42.3**	**+0.4**
KSP	**Ksiaz**	**70.83**	**319**	*e*P		**P**	**06 42 42.7**	**+0.8**
ARMA	**Armidale**	**71.64**	**129**	*e*P		**P**	**06 42 47.7**	**+0.4**
	comp=Z,4.5nm,0.6s							
ARMA				*e*			06 42 57.5	
PRU	**Pruhonice**	**71.94**	**318**	*e*P		**P**	**06 42 48.9**	**+0.2**
PRU	**Pruhonice**	**71.94**	**318**	*e*P		**P**	**06 42 48.9**	**+0.2**
BRG	**Berggiesshubel**	**72.32**	**319**	*e*P		**P**	**06 42 51.5**	**+0.6**
	comp=Z,11nn,0.9s							
BRG	**Berggiesshubel**	**72.32**	**319**	*e*P		**P**	**06 42 51.5**	**+0.6**
BRG				pmax	pmax			
	comp=Z,11nn,1.0s							
GEC2	**GERESS Array S**	**72.52**	**317**	*e*P		**P**	**06 42 52.2**	**-0.1**
GEC2				pmax	pmax			
	comp=Z,3μm,1.0s							
GEC2	**GERESS Array S**	**72.52**	**317**	*e*P		**P**	**06 42 52.2**	**-0.1**
	comp=Z,3μm,1.0s							
GERES	**GERESS Array B**	**72.52**	**317**	P		**P**	**06 42 52.5**	**+0.2**
GERES	**GERESS Array B**	**72.52**	**317**	P		**P**	**06 42 52.5**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=86,slow=5.8,SNR=63							
CLL	**Collm**	**72.90**	**320**	⇑*i*P		**P**	**06 42 54.5**	**+0.1**
CLL				pmax	pmax			
	comp=Z,11nn,1.2s							
CLL	**Collm**	**72.90**	**320**	⇑*i*P		**P**	**06 42 54.5**	**+0.1**
	comp=Z,11nn,1.2s							
CLL				*e*S		**S**	**06 52 18.0**	**+0.4**
CLL				*e*SS		**SS**	**06 56 54.0**	**-4.2**
CLL				Lm		MLR	07 19 00.0	
	comp=Z,100nm,19.0s							
NB2	**NORSAR Subarra**	**73.79**	**330**	P		**P**	**06 42 58.6**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=88,slow=5.9							
NOA	**NORSAR Array B**	**73.79**	**330**	P		**P**	**06 42 58.7**	**-0.8**
NOA	**NORSAR Array B**	**73.79**	**330**	P		**P**	**06 42 58.7**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=90,slow=5.8,SNR=18							
NOA				LR		LR	07 17 30.3	
	comp=Z,74nm,18.9s,baz=100,slow=37							
DAVOX	**Davos/Dischmat**	**75.21**	**315**	P		**P**	**06 43 08.1**	**-0.1**
DAVOX	**Davos/Dischmat**	**75.21**	**315**	P		**P**	**06 43 08.1**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=135,slow=6.8,SNR=6.0							
TUE	**Stuetta**	**75.60**	**315**	*e*P		**P**	**06 43 10.1**	**-0.3**
	comp=Z,18nm,1.4s							
PGF	**Pioggiola**	**76.26**	**311**	*e*P		**P**	**06 43 13.5**	**-0.7**
PGF	**Pioggiola**	**76.26**	**311**	*e*P		**P**	**06 43 13.5**	**-0.7**
PGF	**Pioggiola**	**76.26**	**311**	*e*P		**P**	**06 43 13.5**	**-0.7**
LBTB	**Lobatse**	**76.47**	**240**	*e*P		**P**	**06 43 16.2**	**+0.6**
	comp=Z,9.2nm,0.6s							
CDF	**Champ du Feu**	**76.80**	**317**	*e*P		**P**	**06 43 16.3**	**-0.8**
CDF	**Champ du Feu**	**76.80**	**317**	*e*P		**P**	**06 43 16.3**	**-0.8**
CDF	**Champ du Feu**	**76.80**	**317**	*e*P		**P**	**06 43 16.3**	**-0.8**
HINF	**Hinteralfeld**	**77.15**	**316**	*e*P		**P**	**06 43 18.3**	**-0.7**
HINF	**Hinteralfeld**	**77.15**	**316**	*e*P		**P**	**06 43 18.3**	**-0.7**
HINF	**Hinteralfeld**	**77.15**	**316**	*e*P		**P**	**06 43 18.3**	**-0.7**
SBF	**Sospel**	**77.24**	**312**	*e*P		**P**	**06 43 18.8**	**-0.8**
	comp=Z,27nm,0.8s							
SBF	**Sospel**	**77.24**	**312**	*e*P		**P**	**06 43 18.8**	**-0.8**
SBF				pmax	pmax			
	comp=Z,27nm,0.8s							
SBF	**Sospel**	**77.24**	**312**	*e*P		**P**	**06 43 18.8**	**-0.8**
	comp=Z,27nm,0.8s							
MEM	**Membach**	**77.36**	**319**	P		P	06 43 24.3	+4.3
	comp=Z,24nm,3.5s							
WLF	**Walferdange**	**77.38**	**318**	P		**P**	**06 43 20.9**	**+0.7**
	comp=Z,25nm,2.5s							
HAU	**Haudompre**	**77.46**	**317**	*e*P		**P**	**06 43 19.9**	**-0.8**
	comp=Z,6.9nm,0.6s							
HAU				*e*R				
	comp=Z,67nm,18.8s							
HAU	**Haudompre**	**77.46**	**317**	*e*P		**P**	**06 43 19.9**	**-0.8**
HAU				pmax	pmax			
	comp=Z,7.0nm,0.6s							
HAU	**Haudompre**	**77.46**	**317**	*e*P		**P**	**06 43 19.9**	**-0.8**
	comp=Z,6.9nm,0.6s							
LPG	**La Plagne**	**77.51**	**314**	⇓*i*P		**P**	**06 43 21.1**	**-0.3**
	comp=Z,38nn,0.8s							
LPG	**La Plagne**	**77.51**	**314**	⇓*i*P		**P**	**06 43 21.1**	**-0.3**
LPG				pmax	pmax			
	comp=Z,38nm,0.8s							
LPG	**La Plagne**	**77.51**	**314**	⇓*i*P		**P**	**06 43 21.1**	**-0.3**
	comp=Z,38nm,0.8s							
LPL	**La Plagne**	**77.52**	**314**	⇓*i*P		**P**	**06 43 21.1**	**-0.3**
	comp=Z,36nn,0.7s							
LPL	**La Plagne**	**77.52**	**314**	⇓*i*P		**P**	**06 43 21.1**	**-0.3**
LPL				pmax	pmax			
	comp=Z,36nm,0.7s							
LPL	**La Plagne**	**77.52**	**314**	⇓*i*P		**P**	**06 43 21.1**	**-0.3**
	comp=Z,36nn,0.7s							
MBDF	**Montbardon**	**77.60**	**313**	*e*P		**P**	**06 43 20.5**	**-1.2**
	comp=Z,15nn,0.8s							
MBDF	**Montbardon**	**77.60**	**313**	*e*P		**P**	**06 43 20.5**	**-1.2**
MBDF				pmax	pmax			
	comp=Z,15nn,0.8s							
MBDF	**Montbardon**	**77.60**	**313**	*e*P		**P**	**06 43 20.5**	**-1.2**
	comp=Z,15nn,0.8s							
PAGF	**Fort de Pagny**	**77.80**	**317**	*e*P		**P**	**06 43 21.3**	**-1.3**
PAGF	**Fort de Pagny**	**77.80**	**317**	*e*P		**P**	**06 43 21.3**	**-1.3**
CABF	**La Chapelle**	**77.82**	**315**	*e*P		**P**	**06 43 22.5**	**-0.4**
	comp=Z,18nn,0.8s							
CABF	**La Chapelle**	**77.82**	**315**	*e*P		**P**	**06 43 22.5**	**-0.4**
CABF				pmax	pmax			
	comp=Z,18nn,0.8s							
CABF	**La Chapelle**	**77.82**	**315**	*e*P		**P**	**06 43 22.5**	**-0.4**
	comp=Z,18nn,0.8s							
LMR	**La Mourre**	**77.98**	**312**	*e*P		**P**	**06 43 23.2**	**-0.5**
	comp=Z,16nn,0.8s							
LMR	**La Mourre**	**77.98**	**312**	*e*P		**P**	**06 43 23.2**	**-0.5**
LMR				pmax	pmax			
	comp=Z,16nn,0.8s							
LMR	**La Mourre**	**77.98**	**312**	*e*P		**P**	**06 43 23.2**	**-0.5**
	comp=Z,16nn,0.8s							
BOSA	**Boshof**	**78.16**	**236**	*e*P		**P**	**06 43 25.6**	**+0.6**
	comp=Z,13nn,0.8s							
BOSA	**Boshof**	**78.16**	**236**	P		**P**	**06 43 25.6**	**+0.6**
	comp=Z,15nn,0.7s,baz=71,slow=4.3,SNR=31							
ORIF	**Oris-en-Rattie**	**78.20**	**314**	*e*P		**P**	**06 43 24.0**	**-1.0**
	comp=Z,8.0nn,0.8s							
ORIF				*e*R				
	comp=Z,87nn,19.2s							
ORIF	**Oris-en-Rattie**	**78.20**	**314**	*e*P		**P**	**06 43 24.0**	**-1.0**
ORIF				pmax	pmax			
	comp=Z,8.0nn,0.8s							
ORIF	**Oris-en-Rattie**	**78.20**	**314**	*e*P		**P**	**06 43 24.0**	**-1.0**
	comp=Z,8.0nn,0.8s							
SFTF	**Sexfontaines**	**78.31**	**317**	*e*P		**P**	**06 43 24.9**	**-0.5**
SFTF	**Sexfontaines**	**78.31**	**317**	*e*P		**P**	**06 43 24.9**	**-0.5**
SNF	**Seneffe**	**78.47**	**319**	P		**P**	**06 43 26.3**	**+0.1**
SMRF	**Simiane la Rot**	**78.55**	**313**	*e*P		**P**	**06 43 26.9**	**0.0**
	comp=Z,42nn,1.1s							
SMRF	**Simiane la Rot**	**78.55**	**313**	*e*P		**P**	**06 43 26.9**	**0.0**
	comp=Z,42nn,1.1s							
BAIF	**Baives**	**78.58**	**319**	*e*P		**P**	**06 43 26.6**	**-0.2**
	comp=Z,23nn,0.9s							
BAIF	**Baives**	**78.58**	**319**	*e*P		**P**	**06 43 26.6**	**-0.2**
BAIF				pmax	pmax			
	comp=Z,23nn,0.9s							
BAIF	**Baives**	**78.58**	**319**	*e*P		**P**	**06 43 26.6**	**-0.2**
	comp=Z,23nn,0.9s							
VIVF	**Saint-Julien-l**	**79.06**	**314**	*e*P		**P**	**06 43 29.2**	**-0.4**
	comp=Z,16nn,0.9s							
VIVF	**Saint-Julien-l**	**79.06**	**314**	*e*P		**P**	**06 43 29.2**	**-0.4**
VIVF				pmax	pmax			
	comp=Z,16nn,0.9s							
VIVF	**Saint-Julien-l**	**79.06**	**314**	*e*P		**P**	**06 43 29.2**	**-0.4**
	comp=Z,16nn,0.9s							
LOR	**Lormes**	**79.23**	**316**	*e*P		**P**	**06 43 29.8**	**-0.7**
	comp=Z,12nn,0.8s							
LOR				*e*R				
	comp=Z,85nn,18.2s							
LOR	**Lormes**	**79.23**	**316**	*e*P		**P**	**06 43 29.8**	**-0.7**
	comp=Z,12nn,0.8s							
SMF	**Signal de Mont**	**79.35**	**315**	⇓*i*P		**P**	**06 43 30.3**	**-0.9**
	comp=Z,15nn,0.7s							
SMF	**Signal de Mont**	**79.35**	**315**	⇓*i*P		**P**	**06 43 30.3**	**-0.9**
SMF				pmax	pmax			
	comp=Z,15nn,0.7s							
SMF	**Signal de Mont**	**79.35**	**315**	⇓*i*P		**P**	**06 43 30.3**	**-0.9**
	comp=Z,15nn,0.7s							
SSF	**Saint Saulge**	**79.50**	**316**	*e*P		**P**	**06 43 31.3**	**-0.7**
	comp=Z,16nn,0.9s							
SSF	**Saint Saulge**	**79.50**	**316**	*e*P		**P**	**06 43 31.3**	**-0.7**
SSF				pmax	pmax			
	comp=Z,16nn,0.9s							
SSF	**Saint Saulge**	**79.50**	**316**	*e*P		**P**	**06 43 31.3**	**-0.7**
	comp=Z,16nn,0.9s							
AVF	**Avril sur Loir**	**79.65**	**316**	*e*P		**P**	**06 43 31.9**	**-0.9**
	comp=Z,12nn,0.8s							
AVF	**Avril sur Loir**	**79.65**	**316**	*e*P		**P**	**06 43 31.9**	**-0.9**
AVF				pmax	pmax			
	comp=Z,12nn,0.8s							
AVF	**Avril sur Loir**	**79.65**	**316**	*e*P		**P**	**06 43 31.9**	**-0.9**
	comp=Z,12nn,0.8s							
TCF	**Toulx Ste Croi**	**80.52**	**315**	⇓*i*P		**P**	**06 43 37.2**	**-0.3**
	comp=Z,47nn,1.2s							
TCF	**Toulx Ste Croi**	**80.52**	**315**	⇓*i*P		**P**	**06 43 37.2**	**-0.3**
TCF				pmax	pmax			
	comp=Z,47nn,1.2s							
TCF	**Toulx Ste Croi**	**80.52**	**315**	⇓*i*P		**P**	**06 43 37.2**	**-0.3**
	comp=Z,47nn,1.2s							
CAF	**Calviac**	**80.87**	**314**	*e*P		**P**	**06 43 39.2**	**-0.3**
	comp=Z,16nn,1.0s							
CAF	**Calviac**	**80.87**	**314**	*e*P		**P**	**06 43 39.2**	**-0.3**
CAF				pmax	pmax			
	comp=Z,16nn,1.0s							
CAF	**Calviac**	**80.87**	**314**	*e*P		**P**	**06 43 39.2**	**-0.3**
	comp=Z,16nn,1.0s							
RJF	**Les Rejaudoux**	**81.18**	**314**	*e*P		**P**	**06 43 40.9**	**-0.1**
	comp=Z,24nn,1.0s							
RJF				*e*R				
	comp=Z,118nn,17.5s							
RJF	**Les Rejaudoux**	**81.18**	**314**	*e*P		**P**	**06 43 40.9**	**-0.1**
RJF				pmax	pmax			
	comp=Z,24nn,1.0s							
RJF	**Les Rejaudoux**	**81.18**	**314**	*e*P		**P**	**06 43 40.9**	**-0.1**
	comp=Z,24nn,1.0s							
TSUM	**Tsumeb**	**81.42**	**248**	*e*P		**P**	**06 43 43.3**	**+0.4**
	comp=Z,7.3nn,1.0s							
LDF	**La Druitiere**	**81.62**	**318**	*e*P		**P**	**06 43 42.7**	**-0.6**
LDF	**La Druitiere**	**81.62**	**318**	*e*P		**P**	**06 43 42.7**	**-0.6**
LDF	**La Druitiere**	**81.62**	**318**	*e*P		**P**	**06 43 42.7**	**-0.6**
LFF	**La Frestale**	**81.79**	**314**	*e*P		**P**	**06 43 43.5**	**-0.8**
LFF	**La Frestale**	**81.79**	**314**	*e*P		**P**	**06 43 43.5**	**-0.8**
LFF	**La Frestale**	**81.79**	**314**	*e*P		**P**	**06 43 43.5**	**-0.8**
FLN	**La Foliniere**	**81.82**	**318**	*e*P		**P**	**06 43 43.9**	**-0.4**
	comp=Z,36nn,0.9s							
FLN				*e*R				
	comp=Z,110nn,19.8s							
FLN	**La Foliniere**	**81.82**	**318**	*e*P		**P**	**06 43 43.9**	**-0.4**
FLN				pmax	pmax			
	comp=Z,36nn,0.9s							
FLN	**La Foliniere**	**81.82**	**318**	*e*P		**P**	**06 43 43.9**	**-0.4**
	comp=Z,36nn,0.9s							
MFF	**Saint Martin d**	**82.05**	**316**	*e*P		**P**	**06 43 45.0**	**-0.6**
	comp=Z,13nn,0.8s							
MFF	**Saint Martin d**	**82.05**	**316**	*e*P		**P**	**06 43 45.0**	**-0.6**
MFF				pmax	pmax			
	comp=Z,13nn,0.8s							
MFF	**Saint Martin d**	**82.05**	**316**	*e*P		**P**	**06 43 45.0**	**-0.6**
	comp=Z,13nn,0.8s							
SJPF	**Ste Jean**	**83.57**	**313**	*e*P		**P**	**06 43 52.7**	**-0.9**
SJPF	**Ste Jean**	**83.57**	**313**	*e*P		**P**	**06 43 52.7**	**-0.9**
SJPF	**Ste Jean**	**83.57**	**313**	*e*P		**P**	**06 43 52.7**	**-0.9**
ESDC	**Sonseca Array**	**86.42**	**310**	P		**P**	**06 44 07.8**	**-0.2**
ESDC	**Sonseca Array**	**86.42**	**310**	P		**P**	**06 44 07.8**	**-0.2**
	comp=Z,2.8nn,0.8s,baz=58,slow=4.6,SNR=14							
SUMG	**Summit**	**87.80**	**347**	*i* P		**P**	**06 44 14.1**	**-0.4**
SUMG				pmax	pmax			
	comp=Z,7.0nn,0.8s							
SUMG	**Summit**	**87.80**	**347**	*i* P		**P**	**06 44 14.1**	**-0.4**
	comp=Z,6.9nn,0.8s							
SUMG	**Summit**	**87.80**	**347**	*e*P		**P**	**06 44 14.3**	**-0.2**
	comp=Z,6.1nn,0.8s							
TOA0	**Torodi Ar. Sit**	**88.20**	**283**	*e*P		**P**	**06 44 17.0**	**0.0**
TORD	**Torodi Ar. Bea**	**88.20**	**283**	P		**P**	**06 44 17.2**	**+0.2**
TORD				PP		**PP**	**06 47 42.3**	**-2.2**
TORD	**Torodi Ar. Bea**	**88.20**	**283**	P		**P**	**06 44 17.2**	**+0.2**
	comp=Z,11nn,0.8s,baz=83,slow=4.6,SNR=53							
TORD				PP		**PP**	**06 47 42.3**	**-2.2**
	comp=Z,1.1nn,0.9s,baz=75,slow=8.6,SNR=4.8							
MCK	**McKinley**	**89.09**	**23**	*e*P		**P**	**06 44 20.6**	**+0.3**
MCK	**McKinley**	**89.09**	**23**	*e*P		**P**	**06 44 20.6**	**+0.3**
ILAR	**Eielson Array**	**89.30**	**22**	P		**P**	**06 44 20.3**	**-0.9**
ILAR				PP		**PP**	**06 47 52.1**	**+0.4**
ILAR	**Eielson Array**	**89.30**	**22**	P		**P**	**06 44 20.3**	**-0.9**
	comp=Z,2.1nn,0.8s,baz=299,slow=4.4,SNR=28							
ILAR				PP		**PP**	**06 47 52.1**	**+0.4**
	comp=Z,0.5nn,0.9s,baz=307,slow=6.9,SNR=4.2							
PMR	**Palmer**	**90.12**	**25**	*e*P		**P**	**06 44 25.2**	**+0.2**
PMR				pmax	pmax			
	comp=Z,8.0nn,0.7s							
PMR	**Palmer**	**90.12**	**25**	*e*P		**P**	**06 44 25.2**	**+0.2**
	comp=Z,7.8nn,0.7s							
DOT	**Dot Lake**	**90.95**	**22**	*e*P		**P**	**06 44 28.9**	**-0.1**
	comp=Z,3.6nn,0.8s							
INK	**Inuvik**	**91.23**	**16**	*e*P		**P**	**06 44 30.2**	**+0.1**
	comp=Z,8.1nn,1.3s							
URZ	**Urewera**	**94.03**	**128**	LR		LR	07 33 04.3	
	comp=Z,149nm,19.1s,baz=188,slow=39							
DBIC	**Dimbokro**	**96.06**	**278**	P		**P**	**06 44 54.1**	**+0.7**
DBIC	**Dimbokro**	**96.06**	**278**	P		**P**	**06 44 54.1**	**+0.7**
	comp=Z,2.8nn,1.0s,baz=82,slow=13,SNR=3.3							
YKA	**Yellowknife Ar**	**100.54**	**13**	P		**Pdif**	**06 45 12.0**	**-0.5**
YKA				PKKPbc		**PKKPbc**	**07 01 26.2**	**-3.3**
YKA				PKKP		**PKKPdf**	**07 01 34.5**	**+1.0**
YKA				PKKPab			07 01 50.3	
YKA	**Yellowknife Ar**	**100.54**	**13**	P		**Pdif**	**06 45 12.0**	**-0.5**
	comp=Z,0.4nn,0.8s,baz=327,slow=4.2,SNR=8.0							
YKA				PKKPbc		**PKKPbc**	**07 01 26.2**	**-3.3**
	comp=Z,0.2nn,0.6s,baz=154,slow=2.5,SNR=8.0							
YKA				PKKP		**PKKPdf**	**07 01 34.5**	**+1.0**
	comp=Z,0.1nn,0.6s,baz=153,slow=3.2,SNR=4.7							
YKA				PKKPab			07 01 50.3	
	comp=Z,0.2nn,0.6s,baz=149,slow=5.3,SNR=6.0							
PDAR	**Pinedale Array**	**119.62**	**19**	PKP		**PKPdf**	**06 50 14.6**	**-1.0**
PDAR	**Pinedale Array**	**119.62**	**19**	PKP		**PKPdf**	**06 50 14.6**	**-1.0**
	comp=Z,1.2nn,0.8s,baz=60,slow=1.2,SNR=9.1							
NVAR	**Mina Array Bea**	**119.95**	**28**	PKP		**PKPdf**	**06 50 17.1**	**+0.8**
NVAR	**Mina Array Bea**	**119.95**	**28**	PKP		**PKPdf**	**06 50 17.1**	**+0.8**
	comp=Z,1.2nn,0.5s,baz=297,slow=2.2,SNR=8.1							
DUG	**Dugway**	**120.77**	**23**	*e*PKP		**PKPdf**	**06 50 18.1**	**+0.4**
DUG	**Dugway**	**120.77**	**23**	*e*PKPdf		**PKPdf**	**06 50 18.1**	**+0.4**
DAU	**Daniels Canyon**	**121.15**	**22**	*e*PKIKP		**PKPdf**	**06 50 18.9**	**+0.3**
DAU	**Daniels Canyon**	**121.15**	**22**	*e*PKPdf		**PKPdf**	**06 50 18.9**	**+0.3**
ANMO	**Albuquerque**	**127.72**	**20**	*e*PKPdf		**PKPdf**	**06 50 32.3**	**+1.1**
ANMO				PKP		**PKPdf**	**06 50 32.5**	**+1.3**
ANMO	**Albuquerque**	**127.72**	**20**	PKP		**PKPdf**	**06 50 32.5**	**+1.3**
	comp=Z,2.2nn,0.9s,baz=233,slow=1.8,SNR=11							
TKL	**Tuckaleechee C**	**130.34**	**357**	PKP		**PKPdf**	**06 50 35.5**	**-0.4**
TKL	**Tuckaleechee C**	**130.34**	**357**	PKP		**PKPdf**	**06 50 35.5**	**-0.4**
	comp=Z,2.

MTP	**Monte Pirata**	**1.08**	**178**⇑	*e*P	Pb	07 53 35.2	-3.1
MTP				*e*S	Sb	07 53 48.6	-3.6
TBVI	**Tortola**	**1.20**	**130**⇑	*e*P	Pn	07 53 36.7	-3.2
TBVI	**Tortola**	**1.20**	**130**⇑	*e*P	Pn	07 53 36.7	-3.2
TBVI	**Tortola**	**1.20**	**130**⇑	*e*P	Pn	07 53 36.7	-3.2
CDVI	**St. Croix**	**1.63**	**151**⇓	*e*P	Pn	07 53 43.5	-2.3
CDVI	**St. Croix**	**1.63**	**151**⇓	*e*P	Pn	07 53 43.5	-2.3
CDVI				*e*S	Sn	07 54 03.6	-2.7
CDVI	**St. Croix**	**1.63**	**151**⇓	*e*P	Pn	07 53 43.5	-2.3
CDVI				*e*S	Sn	07 54 03.1	-3.2

IDC **16** *07:54:47.0±0.7, 22.°10N×143.°27E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/24, mbtmp4.0/11, Error ellipse: s-maj=27.0km s-min=18.4km az=80.0*
ISCJB **16** *07:54:50.7±0.7, 22.°1N±0.°1×143.°2E±0.°2, h33km, mb3.9/11, Error ellipse: s-maj=27.0km s-min=17.3km az=173.1*

ISC 16 07:54:52.4±0.7, 22.°1N±0.°1×143.°2E±0.°2, h35km, n14, σ1ş05/13, mb4.1/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.06**	**320**	P	**P**	**08 02 15.9**	**-0.2**
	0.3nm,0.4s,baz=128,slow=8.0,SNR=3.4						
WRA	**Warramunga Arr**	**42.66**	**192**	P	**P**	**08 02 46.3**	**+0.4**
	0.4nm,0.2s,baz=16,slow=9.2,SNR=19						
STKA	**Stephens Creek**	**53.68**	**182**	P	**P**	**08 04 11.3**	**+0.6**
	2.0nm,0.9s,baz=355,slow=1.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**53.92**	**321**	P	**P**	**08 04 13.8**	**+1.4**
	1.0nm,0.4s,baz=109,slow=7.9,SNR=5.5						
MKAR	**Makanchi Array**	**54.46**	**312**	P	**P**	**08 04 17.1**	**+0.7**
	0.4nm,0.5s,baz=91,slow=5.9,SNR=5.8						
ILAR	**Eielson Array**	**61.68**	**27**	P	**P**	**08 05 07.2**	**+0.6**
	0.9nm,0.7s,baz=261,slow=5.3,SNR=8.8						
H02S1	**DAWSON INLET T**	**69.27**	**40**	T	T	09 20 21.5	
	SNR=5.4						
YKA	**Yellowknife Ar**	**76.10**	**28**	P	**P**	**08 06 36.6**	**+0.3**
	0.9nm,0.4s,baz=292,slow=5.8,SNR=40						
ARCES	**ARCESS Array B**	**78.56**	**341**	P	**P**	**08 06 49.8**	**-0.2**
	1.5nm,0.7s,baz=46,slow=6.9,SNR=5.3						
KBZ	**Khabaz**	**82.12**	**314**	P	**P**	**08 07 08.8**	**-0.8**
	2.0nm,0.7s,baz=34,slow=2.7,SNR=5.8						
FINES	**FINESS Array B**	**82.84**	**334**	P	**P**	**08 07 11.8**	**-1.2**
	0.9nm,0.3s,baz=66,slow=4.6,SNR=14						
NVAR	**Mina Array Bea**	**82.88**	**52**	P	**P**	**08 07 14.6**	**+0.6**
	1.2nm,0.7s,baz=277,slow=5.4,SNR=11						
PLCA	**Paso Flores**	**145.99**	**131**	PKPbc	**PKPdf**	**08 14 26.6**	**-1.4**
	0.7nm,0.3s,baz=191,slow=1.2,SNR=9.1						
LPAZ	**La Paz**	**149.88**	**85**	PKPbc	**PKPbc**	**08 14 38.8**	**-1.8**
	1.7nm,0.6s,baz=347,slow=1.5,SNR=9.3						

ISN **16** *08:06:41.7±1.4, 37.°58N×42.°01E, h0km±65km, ML3.5*
ISK **16** *08:06:44.2, 37.°15N×42.°68E, h13km, ML3.3*
DDA **16** *08:06:44.6, 37.°37N×42.°73E, h7km, MD3.5, ML3.7*
CSEM **16** *08:06:47.2±0.3, 37.°41N×42.°56E, h2km, ML3.7, Error ellipse: s-maj=6.2km s-min=6.0km az=77.0*

ISC 16 08:06:45.5±1.2, 37.°36N±0.°03×42.°68E±0.°02, h0km±10km, n59, σ1ş45/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**S¯-rnak**	**0.25**	**303**	*i* P	**Pg**	**08 06 50.3**	**+0.1**
SIRN				*i* S	**Sg**	**08 06 55.4**	**+1.9**
SIRN	**S¯-rnak**	**0.25**	**303**	*i* P	**Pg**	**08 06 50.3**	**+0.1**
CUKT	**Cukurca**	**0.75**	**98**	*e*Pg	**Pg**	**08 06 58.9**	**-0.9**
CUKT				*e*Sg	**Sg**	**08 07 09.9**	**+0.3**
CUKT	**Cukurca**	**0.75**	**98**	*e*Pg	**Pg**	**08 06 58.9**	**-0.9**
CUKT				*e*Sg	**Sg**	**08 07 09.9**	**+0.3**
HAKT	**HAKKARI**	**0.84**	**76**	*i* P	**Pg**	**08 07 00.4**	**-1.3**
HAKT				*i* S	**Sb**	**08 07 15.8**	**+0.7**
GEVA	**Gevas**	**1.00**	**18**	*i* P	**Pg**	**08 07 03.7**	**-0.9**
GEVA				*i* S	**Sn**	**08 07 20.5**	**-1.3**
TATV	**Tatvan**	**1.19**	**344**	*i* P	**Pg**	**08 07 08.1**	**-0.2**
TATV				*i* S	**Sg**	**08 07 22.1**	**-1.7**
TATV	**Tatvan**	**1.19**	**344**	*i* P	**Pg**	**08 07 08.1**	**-0.2**
TATV				*i* S	**Sg**	**08 07 22.1**	**-1.7**
BEST	**Besiri**	**1.24**	**296**	*i* P	Pn	08 07 18.9	+8.8
BEST				*i* S	**Sn**	**08 07 28.4**	**+0.9**
BTMT	**Batman**	**1.26**	**312**	*e*PN	**Pg**	**08 07 09.5**	**0.0**
BTMT				*e*SN	**Sn**	**08 07 28.5**	**+0.6**
TVAN	**Van**	**1.30**	**26**	*i* P	**Pb**	**08 07 10.6**	**-0.4**
TVAN				*i* S	**Sn**	**08 07 31.2**	**+1.8**
TVAN	**Van**	**1.30**	**26**	*i* P	**Pb**	**08 07 10.6**	**-0.4**
TVAN				*i* S	**Sn**	**08 07 31.2**	**+1.8**
SVAN	**Silvan-Diyarba**	**1.41**	**304**	*e*PN	**Pn**	**08 07 12.3**	**-0.1**
MARD	**Mardin**	**1.51**	**269**	*i* P	**Pn**	**08 07 13.8**	**-0.1**
MARD				*i* S	**Sg**	**08 07 36.3**	**+2.3**
MAZI	**Mazidag**	**1.78**	**274**	*e*PN	**Pn**	**08 07 15.9**	**-1.7**
MAZI	**Mazidag**	**1.78**	**274**	*e*Pn	**Pn**	**08 07 15.9**	**-1.7**
DIY	**Diyarbakir**	**2.02**	**286**	*e*Pn	**Pn**	**08 07 21.3**	**+0.5**
CLDR	**Caldiran**	**2.03**	**28**	*e*PN	**Pb**	**08 07 22.0**	**-1.4**
CLDR	**Caldiran**	**2.03**	**28**	*e*Pn	**Pb**	**08 07 22.0**	**-1.4**
VRTB	**Varto-Mus**	**2.04**	**332**	*e*PN	**Pb**	**08 07 22.5**	**-1.0**
VRTB	**Varto-Mus**	**2.04**	**332**	*e*Pn	**Pb**	**08 07 22.5**	**-1.0**
TUTA	**Tutak**	**2.04**	**3**	*i* P	**Pn**	**08 07 22.0**	**+0.7**
TUTA				*i* S	**Sg**	**08 07 52.5**	**+1.4**
TUTA	**Tutak**	**2.04**	**3**	*i* P	**Pn**	**08 07 22.0**	**+0.7**
DYBB	**Diyarbakir**	**2.10**	**287**	*e*PN	**Pn**	**08 07 21.3**	**-0.6**
DIYA	**Diyarbakir**	**2.10**	**286**	*i* P	**Sn**	**08 07 45.1**	**-3.9**
DIYA				*i* S	**Sg**	**08 07 55.1**	**+2.0**
AGRB	**Hanur-Agry**	**2.23**	**6**	*e*PN	**Pb**	**08 07 25.8**	**-0.9**
AGRB	**Hanur-Agry**	**2.23**	**6**	*e*Pn	**Pb**	**08 07 25.8**	**-0.9**
BNGB	**Bing¯l**	**2.27**	**317**	*e*PN	**Pn**	**08 07 24.3**	**0.0**
BINT	**Bingol**	**2.29**	**312**	*e*Pn	**Pn**	**08 07 24.3**	**-0.4**
IKRK	**Kirkuk**	**2.37**	**145**	*e*Pn	**Pb**	**08 07 29.0**	**0.0**
IKRK				*e*Sn	**Sg**	**08 08 02.0**	**+0.3**
ERZM	**Erzurum**	**2.74**	**338**	*i* P	**Pb**	**08 07 36.8**	**+1.3**
ERZM				*i* S	**Sn**	**08 08 02.1**	**-2.8**
EZM	**Erzurum**	**2.74**	**338**	*e*PN	**Pn**	**08 07 32.5**	**+1.6**
PTK	**Pertek**	**3.01**	**302**	*e*PN	**Pn**	**08 07 34.3**	**-0.2**
PTK	**Pertek**	**3.01**	**302**	*e*Pn	**Pn**	**08 07 34.3**	**-0.2**
URFA	**Urfa**	**3.07**	**273**	*e*PN	**Pn**	**08 07 34.6**	**-0.7**
URFA	**Urfa**	**3.07**	**273**	*e*Pn	**Pn**	**08 07 34.6**	**-0.7**
ELZG	**Elazig**	**3.13**	**292**	*i* P	Sn	08 08 08.5	-5.9
ELZG				*i* S	**Sg**	**08 08 26.7**	**+0.6**
ERZN	**Erzincan**	**3.21**	**315**	*e*PN	**Pn**	**08 07 38.4**	**+1.1**
EZC	**Erzincan**	**3.53**	**314**	*e*Pn	Pn	08 07 38.4	-3.3
BAYT	**Ayd¯-ntepe-Bay**	**3.62**	**328**	*e*PN	**Pn**	**08 07 44.7**	**+1.8**
BAYT	**Ayd¯-ntepe-Bay**	**3.62**	**328**	*e*Pn	**Pn**	**08 07 44.7**	**+1.8**
ILIC	**ilic-Erzincan**	**3.84**	**304**	*e*PN	**Pn**	**08 07 46.8**	**+0.9**
ILIC	**ilic-Erzincan**	**3.84**	**304**	*e*Pn	**Pn**	**08 07 46.8**	**+0.9**
AKCD	**Akcadag**	**3.88**	**285**	*i* P	**Sn**	**08 08 27.3**	**-5.4**
AKCD				*i* S	**Sg**	**08 08 50.9**	**+0.8**
GUMT	**Gumushane**	**3.98**	**322**	*e*PN	**Pn**	**08 07 50.0**	**+2.2**
GUMT	**Gumushane**	**3.98**	**322**	*e*Pn	**Pn**	**08 07 50.0**	**+2.2**
DARE	**Darende-Malaty**	**4.28**	**288**	*e*PN	**Pn**	**08 07 51.5**	**-0.4**
DARE	**Darende-Malaty**	**4.28**	**288**	*e*Pn	**Pn**	**08 07 51.5**	**-0.4**
KMRS	**Kahramanmaras**	**4.60**	**274**	*e*PN	**Pn**	**08 07 56.2**	**0.0**
KMRS	**Kahramanmaras**	**4.60**	**274**	*e*Pn	**Pn**	**08 07 56.3**	**0.0**
RTB	**Rutbah**	**4.73**	**205**	*e*PN4	Pn	08 07 54.9	-3.2
RTB				*e*SN4	Sn	08 08 47.9	-5.9
RTB	**Rutbah**	**4.73**	**205**	*e*Pn	Pn	08 07 54.9	-3.2
	SNR=39						
IBDR	**Badra**	**5.01**	**147**	*e*PN4	Pn	08 08 07.0	+5.2
KOZT	**Kozan**	**5.45**	**273**	*e*PN	**Pn**	**08 08 08.1**	**+0.1**
KOZT	**Kozan**	**5.45**	**273**	*e*Pn	**Pn**	**08 08 08.1**	**+0.1**
BNN	**Bunyan**	**5.59**	**288**	*e*PN	**Pn**	**08 08 10.8**	**+0.8**
BNN	**Bunyan**	**5.59**	**288**	*e*Pn	**Pn**	**08 08 10.8**	**+0.8**
NSR	**Nassriya**	**6.95**	**155**	*e*PN4	Pn	08 08 32.7	+4.2
NSR				*e*S	**Sn**	**08 09 50.8**	**+2.5**
NSR	**Nassriya**	**6.95**	**155**	*e*Pn	Pn	08 08 32.7	+4.2
	SNR=39						
NSR				*e*S	**Sn**	**08 09 50.8**	**+2.5**
	SNR=3.0						

IDC 16 08:08:41.6±1.5, 3.°59N×126.°68E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=136.4km s-min=26.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**162**	P	P	08 14 03.4	0.0
	1.1nm,0.4s,baz=343,slow=10.0,SNR=7.7						
SONM	**Songino Array**	**47.41**	**342**	P	P	08 17 17.4	-0.6
	0.2nm,0.5s,baz=161,slow=7.4,SNR=1.9						
MKAR	**Makanchi Array**	**57.64**	**325**	P	P	08 18 32.6	-1.1
	0.2nm,0.4s,baz=118,slow=7.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**60.69**	**333**	P	P	08 18 55.7	+1.1
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.6						

KRNET **16** *08:10:07.8±0.1, 39.°26N×71.°45E, h3km, mb3.4*
NNC **16** *08:10:08.1±4.5, 39.°11N×71.°35E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=34.2km s-min=19.8km az=2.0*

ISC 16 08:10:08.8±2.7, 39.°1N±0.°2×71.°40E±0.°05, h10km, n14, σ2ş38/25, 8C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.46**	**42**	*e*P	**Pg**	**08 10 14.8**	**-3.0**
	baz=51						
DRK				*e*S	**Sg**	**08 10 21.0**	**-2.9**
	baz=51						
BTK	**Batken**	**1.02**	**334**	*e*P	**Pg**	**08 10 25.8**	**-2.6**
	baz=329						
BTK				*e*S	**Sg**	**08 10 39.6**	**-2.1**
	baz=329						
OHH	**Osh**	**1.74**	**37**	*e*P	**Pn**	**08 10 39.0**	**-0.2**
	baz=39						
OHH				*e*S	**Sn**	**08 11 01.8**	**+0.3**
	baz=39						
ARSB	**Arslanbob**	**2.49**	**29**	*e*P	**Pn**	**08 10 49.0**	**-0.5**
	baz=29						
ARSB				*e*S	**Sn**	**08 11 21.0**	**+0.9**
	baz=29						
AML	**Almayashu**	**3.46**	**30**	P	**Pn**	**08 11 05.5**	**+2.5**
	SNR=12						
UCH	**Uchtor**	**3.88**	**36**	P	**Pn**	**08 11 11.0**	**+2.1**
	SNR=12						
KK31	**Karatay Array**	**4.01**	**351**	⇑Pn	**Pn**	**08 11 12.4**	**+2.1**
	2.8nm,0.5s,baz=177,slow=13,SNR=36						
KK31				⇑Pg	**Pb**	**08 11 21.0**	**+1.5**
	1.2nm,0.3s,baz=174,slow=13,SNR=5.7						
KK31				⇓Sn	**Sn**	**08 12 02.3**	**+4.9**
	3.8nm,0.5s						
KK31				⇓Lg	Lg	08 12 14.9	
	5.8nm,0.7s,baz=175,slow=30,SNR=4.5						
KZA	**Kyzart**	**4.14**	**44**	P	**Pn**	**08 11 13.3**	**+0.8**
	SNR=8.9						
AAK	**Ala-Archa**	**4.20**	**33**	⇓Pn	**Pn**	**08 11 15.1**	**+2.0**
	3.7nm,0.5s						
AAK				⇑Pg	**Pb**	**08 11 22.8**	**0.0**
	4.7nm,0.6s						
AAK				⇑Sn	**Sn**	**08 12 04.3**	**+2.0**
	4.5nm,0.5s						
AAK				⇑Lg	Lg	08 12 17.9	
	6.0nm,0.4s						
AAK	**Ala-Archa**	**4.20**	**33**	P	**Pn**	**08 11 15.2**	**+2.1**
	SNR=8.4						
CHMS	**Chumysh**	**4.61**	**32**	P	**Pn**	**08 11 20.9**	**+2.3**
	SNR=6.4						
USP	**Ospenovka**	**4.74**	**29**	P	**Pn**	**08 11 22.2**	**+1.9**
	SNR=5.0						
TKM2	**Tokmak 2**	**4.93**	**39**	⇑Pn	**Pn**	**08 11 25.4**	**+2.3**
	1.7nm,0.4s						
TKM2				⇑Pg	**Pb**	**08 11 37.8**	**+2.5**
	3.5nm,1.0s						
TKM2				⇓Sn	**Sn**	**08 12 24.4**	**+4.1**
	7.4nm,1.1s						
TKM2				⇑Lg	Lg	08 12 45.1	
	2.8nm,0.6s						
AB31	**Akbulak array**	**13.02**	**325**	⇓Pn	**Pn**	**08 13 12.1**	**-1.5**
	0.2nm,0.3s,baz=66,slow=38,SNR=11						
AB31				⇓Sn	**Sn**	**08 15 37.6**	**-0.8**
	1.2nm,0.8s						

IDC **16** *08:12:14.0±0.7, 4.°30S×79.°52W, h59km±7km, mb3.4/8, mb1 3.8/11, mb1mx3.6/24, mbtmp3.8/11, MS3.2/7, Ms1 3.2/7, ms1mx3.1/18, Error ellipse: s-maj=34.7km s-min=8.7km az=64.0*
ISCJB **16** *08:12:15.4±0.6, 4.°36S±0.°09×79.°5W±0.°2, h94km, mb3.7/8, Error ellipse: s-maj=24.7km s-min=7.6km az=152.2*

ISC 16 08:12:16.5±0.8, 4.°5S±0.°1×79.°6W±0.°2, h94km, n18, σ1ş14/13, mb3.6/8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.90**	**157**	P	**Pn**	**08 13 00.3**	**-0.9**
	29nm,0.3s,baz=333,slow=6.0,SNR=159						
ATAH				S	**Sn**	**08 13 35.7**	**+0.2**
	178nm,0.3s,baz=138,slow=20,SNR=22						
JTS	**JuntasAbangare**	**15.61**	**340**	LR	LR	08 20 41.5	
	comp=Z,81nm,19.4s,baz=127,slow=33						
LPAZ	**La Paz**	**16.25**	**137**	P	**P**	**08 16 01.8**	**+0.5**
	0.2nm,0.3s,baz=305,slow=16,SNR=7.5						
LPAZ				LR	LR	08 23 52.0	
	comp=Z,77nm,22.0s,baz=17,slow=43						
PTGA	**Pitinga**	**19.91**	**80**	P	**P**	**08 16 40.1**	**-0.8**
	0.1nm,0.3s,baz=281,slow=23,SNR=2.3						
PTGA				LR	LR	08 25 28.0	
	comp=Z,54nm,19.3s,baz=256,slow=40						
SIV	**San Ignacio**	**21.47**	**124**	P	**P**	**08 16 59.4**	**+1.7**
	0.6nm,0.5s,baz=169,slow=1.9,SNR=3.3						
TEIG	**Tepich**	**25.98**	**341**	LR	LR	08 26 39.6	
	comp=Z,46nm,19.3s,baz=56,slow=34						
CPUP	**Villa Florida**	**30.42**	**138**	LR	LR	08 31 28.9	
	comp=Z,42nm,18.7s,baz=64,slow=32						
PLCA	**Paso Flores**	**37.01**	**169**	LR	LR	08 32 18.0	
	comp=Z,42nm,18.7s,baz=64,slow=32						
TXAR	**Lajitas Array**	**40.80**	**327**	P	**P**	**08 19 49.0**	**+0.1**
	0.6nm,0.9s,baz=140,slow=11,SNR=4.5						
ANMO	**Albuquerque**	**46.66**	**329**	P	**P**	**08 20 37.4**	**+1.5**
	3.8nm,0.8s,baz=156,slow=10,SNR=21						
PDAR	**Pinedale Array**	**54.30**	**333**	P	**P**	**08 21 32.3**	**-1.2**
	0.8nm,0.9s,baz=125,slow=7.8,SNR=5.0						
PDAR				pP	pP	08 21 49.6	-6.8
	0.6nm,0.8s,baz=120,slow=8.8,SNR=3.6						
PDAR				LR	LR	08 47 23.7	
	comp=Z,30nm,18.1s,baz=281,slow=39						
NVAR	**Mina Array Bea**	**55.74**	**323**	P	**P**	**08 21 44.1**	**+0.2**
	1.2nm,0.7s,baz=128,slow=7.4,SNR=12						
NVAR				pP	pP	08 21 59.8	-7.3
	0.5nm,0.6s,baz=126,slow=4.7,SNR=2.7						
ULM	**Lac du Bonnet**	**56.28**	**347**	P	**P**	**08 21 46.0**	**-1.2**
	2.2nm,0.7s,baz=154,slow=2.8,SNR=3.5						
YKA	**Yellowknife Ar**	**71.91**	**344**	P	**P**	**08 23 30.3**	**+1.1**
	0.4nm,0.8s,baz=136,slow=6.5,SNR=8.1						
YKA				pP	**PcP**	**08 23 46.0**	**-1.4**
	0.5nm,0.8s,baz=138,slow=5.3,SNR=7.1						
ILAR	**Eielson Array**	**84.55**	**337**	P	**P**	**08 24 39.6**	**+0.6**
	0.3nm,0.7s,baz=151,slow=3.7,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**113.91**	**288**	T	T	10 33 41.5	
	baz=80						
H11S1	**WAKE ISLAND Hy**	**113.92**	**288**	T	T	10 33 38.1	
	baz=80						
H11S3	**WAKE ISLAND Hy**	**113.93**	**288**	T	T	10 33 42.5	
	baz=80						

NEIC **16** *08:23:35.6, 19.°27N×65.°57W, h59km, MD3.4(RSPR), After RSPR.*

RSPR 16 08:23:35.6, 19.°27N×65.°57W, h59km±13km, MD3.4/3, 6C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.03**	**195**	*e*S	Sn	08 24 06.5	-1.3
CBYP	**Canovanas**	**1.03**	**195**	*e*Pn	Pn	08 23 53.1	-1.0
CBYP				*e*Sn	Sn	08 24 05.6	-2.1
CBYP	**Canovanas**	**1.03**	**195**	*e*S	Sn	08 24 06.5	-1.3
HUMP	**Col San Antoni**	**1.15**	**193**⇑	*e*P	Pn	08 23 55.2	-0.4
HUMP	**Col San Antoni**	**1.15**	**193**⇑	*e*P	Pn	08 23 55.2	-0.4
HUMP				*e*S	Sn	08 24 10.7	+0.2
HUMP	**Col San Antoni**	**1.15**	**193**⇑	*e*P	Pn	08 23 55.2	-0.4
HUMP				*e*S	Sn	08 24 10.7	+0.2
MTP	**Monte Pirata**	**1.17**	**179**⇑	*e*P	Pn	08 23 54.8	-1.0
MTP	**Monte Pirata**	**1.17**	**179**⇑	*e*P	Pn	08 23 54.8	-1.0
MTP				*e*S	Sn	08 24 09.3	-1.5
MTP	**Monte Pirata**	**1.17**	**179**⇑	*e*P	Pn	08 23 54.8	-1.0
MTP				*e*S	Sn	08 24 09.3	-1.5
ABVI	**Anegada Island**	**1.29**	**114**⇓	*e*P	Pn	08 23 55.7	-1.7
ABVI				*e*S	Sn	08 24 13.7	-0.1
ABV	**Anegada**	**1.29**	**114**⇓	*e*P	Pn	08 23 55.7	-1.7
ABV	**Anegada**	**1.29**	**114**⇓	*e*P	Pn	08 23 55.7	-1.7
ABV				*e*S	Sn	08 24 13.7	-0.1
CELP	**Cerrillos**	**1.52**	**219**	*e*Pn	Pn	08 24 02.0	+1.4
CELP				*e*Sn	Sn	08 24 23.4	+4.0
OBIP	**Obispado Ponce**	**1.56**	**219**	*e*Pn	Pn	08 24 02.8	+1.6
OBIP				*e*Sn	Sn	08 24 22.3	+1.9
CDVI	**St. Croix**	**1.69**	**153**⇓	*e*P	Pn	08 24 02.6	-0.3
CDVI	**St. Croix**	**1.69**	**153**⇓	*e*P	Pn	08 24 02.6	-0.3
CDVI				*e*S	Sn	08 24 22.6	-0.9
CDVI	**St. Croix**	**1.69**	**153**⇓	*e*P	Pn	08 24 02.6	-0.3
CDVI				*e*S	Sn	08 24 22.6	-0.9

IDC **16** *08:34:45.0±0.9, 43.°47N×147.°08E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.8/28, mbtmp3.7/17, ML3.3/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/40, Error ellipse: s-maj=25.9km s-min=17.1km az=155.0*
ISCJB **16** *08:34:49.8±0.8, 43.°41N±0.°05×147.°06E±0.°07, h51km±6km, mb3.6/13, MS3.6/1, Error ellipse: s-maj=11.0km s-min=5.0km az=140.8*
MOS **16** *08:34:49.0±1.2, 43.°38N×147.°05E, h44km, mb4.0/9, Error ellipse: s-maj=12.0km s-min=8.7km az=73.3*
MOS Felt (III) at Malokuril'skoye.
SKHL **16** *08:34:51.8±0.3, 43.°49N×147.°02E, h61km±9km, mb5.3/3*
SKHL Felt (III) at Malokurilskoe.
JMA **16** *08:34:51.2±0.2, 43.°42N×146.°96E, h39km±3km, M4.4*
JMA Felt I J1.
NIED **16** *08:35:00, 43.°40N×147.°00E, h47km, Mw3.9 Best double couple: M0 8.89000×10^14 NP1:φs242.00000°, δ50.00000°, λ175.00000°. NP2:φs335.00000°, δ86.00000°, λ40.00000°.*

ISC 16 08:34:50.5±0.8, 43.°41N±0.°07×147.°07E±0.°06, h38km±2km, n60, σ1ş04/60, mb3.7/13, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.50**	**339**	*e*P	**Pn**	**08 35 01.5**	**+0.5**
SHO				AMB	AMB	08 35 03.4	
	3μm,0.5s						
SHO				*e*S	**Sn**	**08 35 08.5**	**+0.1**
SHO				A	A	08 35 09.0	
	3μm,0.6s						
SHO				A	A	08 35 09.0	
	4μm,0.6s						
NEM2	**Nemuro 2**	**0.97**	**268**	P	**Pn**	**08 35 07.4**	**-0.1**
NEM2				*e*S	**Sn**	**08 35 19.4**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.08**	**306**	*d* iPN	**Pn**	**08 35 08.9**	**-0.1**
YUK				*i* S	**Sn**	**08 35 21.8**	**-0.9**
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,4μm,0.2s						
YUK				pmax	pmax		
	comp=E,853nm,0.1s						
YUK				smax	smax		
	comp=N,4μm,0.5s						
YUK				smax	smax		
	comp=E,6μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.08**	**306**	*e*P	**Pn**	**08 35 08.9**	**-0.1**
YUK				AMB	AMB	08 35 09.9	
	comp=E,1μm,0.2s						
YUK				AMB	AMB	08 35 09.9	
	comp=E,850nm,0.2s						
YUK				AMB	AMB	08 35 09.9	
	comp=E,4μm,0.2s						
YUK				*e*S	**Sn**	**08 35 21.8**	**-0.9**
YUK				A	A	08 35 24.1	
	comp=E,4μm,0.5s						
YUK				A	A	08 35 24.1	
	comp=E,6μm,0.5s						
JRA	**Rausu**	**1.51**	**291**	P	**Pn**	**08 35 15.3**	**+0.4**
JRA				*e*S	**Sn**	**08 35 32.8**	**-0.6**
JNK	**Nakash**	**1.72**	**277**	P	**Pn**	**08 35 17.9**	**+0.1**
JNK				*e*S	**Sn**	**08 35 37.6**	**-1.0**
JAK	**Akkeshi**	**1.79**	**258**	P	**Pn**	**08 35 19.1**	**+0.4**
JAK				*e*S	**Sn**	**08 35 39.7**	**-0.4**
KUR	**Kuril'sk**	**1.91**	**17**	*e*PN	**Pn**	**08 35 21.0**	**+0.5**
KUR				*e*S	**Sn**	**08 35 44.0**	**+0.7**
KUR				pmax	pmax		
	comp=Z,210nm,0.2s						
KUR				smax	smax		
	comp=N,590nm,0.6s						
KUR				smax	smax		
	comp=E,390nm,0.5s						
KUR	**Kuril'sk**	**1.91**	**17**	*e*P	**Pn**	**08 35 21.0**	**+0.5**
KUR				AMB	AMB	08 35 21.3	
	comp=E,210nm,0.2s						
KUR				*e*S	**Sn**	**08 35 43.0**	**-0.3**
KUR				A	A	08 35 59.0	
	comp=E,590nm,0.6s						
KUR				A	A	08 35 59.0	
	comp=E,390nm,0.6s						
JTKR	**Abashiri--Toko**	**2.36**	**285**	P	**Pn**	**08 35 28.0**	**+1.4**
JAR	**Ashorobuto**	**2.41**	**269**	P	**Pn**	**08 35 28.4**	**+1.1**
JAR				*e*S	**Sn**	**08 35 56.8**	**+1.2**
JOB	**Onbets**	**2.42**	**259**	P	**Pn**	**08 35 28.4**	**+1.0**
JCH	**Churui**	**2.83**	**255**	P	**Pn**	**08 35 33.9**	**+0.8**
JCH				*e*S	**Sn**	**08 36 05.6**	**-0.4**
HRK	**Horoka**	**2.

AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 71.82 324 P **P 08 46 07.3 -1.5**
comp=Z,0.9nm,0.5s,baz=41,slow=6.5,SNR=7.3
TXAR Lajitas Array 82.89 56 P **P 08 47 12.3 +1.0**
comp=Z,0.3nm,0.9s,baz=298,slow=3.9,SNR=5.1
H03N2 Juan Fernandez 143.02 90 T T 11 34 17.1
baz=301,slow=75,SNR=2.7
H03N3 Juan Fernandez 143.03 90 T T 11 34 20.7
baz=301,slow=75,SNR=3.7
H03N1 Juan Fernandez 143.03 90 T T 11 34 01.3
baz=301,slow=75,SNR=4.0

ISCJB **16** *08:36:06.9±1.3,2.70S±0.10×100.2E±0.1,h50km,mb3.4/4, Error ellipse: s-maj=18.5km s-min=8.5km az=136.3*
DJA **16** *08:36:10.9±1.2,2.5S±8×10.1E±1.0,h13km,M3.8/4, MLv3.8/4*
IDC **16** *08:36:10.5±3.0,2.33S×100.92E,h45km±10km,mb3.2/4, mb1 3.3/4,mb1mx3.1/23,mbtmp3.2/4,Error ellipse: s-maj=144.3km s-min=26.2km az=56.0*
ISC 16 08:36:09.2±1.3,**2.6S**±0.1×**100.3E**±0.1,**h50**km,**n9, σ1s30**/14,**mb3.6/4,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.69**	**6**	P	**Pn**	**08 36 35.5**	**-0.9**
PDSI				S	**Sn**	**08 36 56.1**	**-0.8**
MASI	**Maura Aman, Be**	**2.02**	**105**	P	**Pn**	**08 36 41.8**	**+0.9**
MASI				S	**Sn**	**08 37 06.6**	**+1.6**
PPI	**Padang Panjang**	**2.14**	**3**	P	**Pn**	**08 36 43.9**	**+1.4**
MNSI	**Mandailing Nat**	**3.45**	**348**	P	**Pn**	**08 37 02.8**	**+2.3**
MNSI				S	Sn	08 37 53.0	+13
WRA	**Warramunga Arr**	**37.44**	**120**	P	**P**	**08 43 16.3**	**-1.7**
	0.3nm,0.7s,baz=303,slow=9.0,SNR=5.2						
SONM	**Songino Array**	**50.52**	**5**	P	**P**	**08 45 02.3**	**-0.3**
	0.5nm,0.5s,baz=186,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**51.69**	**344**	P	**P**	**08 45 11.6**	**+0.4**
	0.2nm,0.5s,baz=145,slow=7.4,SNR=2.8						
MKAR				pP	**pP**	**08 45 25.1**	**+0.3**
	0.7nm,0.6s,baz=150,slow=8.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**57.81**	**349**	P	**P**	**08 45 55.9**	**+0.5**
	0.2nm,0.3s,baz=158,slow=7.2,SNR=1.7						
ZALV				pP	**pP**	**08 46 09.2**	**-0.1**
	1.1nm,0.7s,baz=162,slow=6.1,SNR=4.4						
TXAR	**Lajitas Array**	**145.00**	**38**	PKP	**PKPbc**	**08 55 41.3**	**+0.1**
	0.3nm,0.6s,baz=213,slow=2.0,SNR=5.1						
TXAR				pPKP	**pPKPdf**	**08 55 55.4**	**-1.7**
	0.8nm,0.8s,baz=263,slow=0.7,SNR=8.1						

WEL 16 09:19:12.2±0.1,**38.39S**×**176.28E**,**h5**km,**ML3.8/1,Error ellipse: s-maj=0.6km s-min=0.4km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRRZ	**Handcock Road**	**0.00**	**159**	P*	Pg	09 19 13.5	+0.3
PRRZ	**Plateau Road**	**0.14**	**142**	PG	Pg	09 19 15.6	+0.5
PRRZ				SG	Sg	09 19 18.1	+1.1
GRRZ	**Galatos Road**	**0.14**	**286**	PG	Pg	09 19 15.7	+0.6
GRRZ				SG	Sg	09 19 18.3	+1.2
HLRZ	**Highlands Stat**	**0.15**	**22**	PG	Pg	09 19 15.6	+0.4
HLRZ				SG	Sg	09 19 19.0	+1.8
ALRZ	**Allen Road**	**0.18**	**165**	PG	Pg	09 19 16.4	+0.5
ALRZ				SG	Sg	09 19 19.6	+1.2
RRRZ	**Republican Roa**	**0.19**	**75**	PG	Pg	09 19 16.8	+0.8
RRRZ				SG	Sg	09 19 19.3	+0.8
UTU	**Utuhina**	**0.22**	**341**	PG	Pg	09 19 16.9	+0.3
TARZ	**Mount Tarawera**	**0.23**	**49**	PG	Pg	09 19 19.2	+2.3
PKVZ	**Pokaka**	**1.16**	**219**	AML	AML	09 16 58.4	
PKVZ				AML	AML	09 17 36.1	
PKVZ				AML	AML	09 17 36.1	

IDC 16 09:26:07.7±2.6,**16.78S**×**178.14W**,**h0**km,**mb3.6**/3, **mb1 4.0**/3,**mb1mx3.6**/18,**mbtmp3.6**/3,**Error ellipse: s-maj=142.3km s-min=35.5km az=154.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.10**	**258**	P	P	09 34 25.9	-0.1
	0.4nm,0.5s,baz=96,slow=6.9,SNR=8.8						
ILAR	**Eielson Array**	**84.74**	**13**	P	P	09 38 42.9	-0.4
	0.1nm,0.4s,baz=215,slow=5.0,SNR=5.0						
TXAR	**Lajitas Array**	**85.18**	**58**	P	P	09 38 46.9	+0.5
	0.4nm,0.9s,baz=235,slow=8.7,SNR=3.5						

IDC **16** *10:55:26.1±0.5,11.59N×140.80E,h0km,mb4.2/20, mb1 4.4/20,mb1mx4.4/25,mbtmp4.2/20,MS3.8/27, Ms1 3.8/27,ms1mx3.7/39,Error ellipse: s-maj=22.9km s-min=12.3km az=78.0*
MOS **16** *10:55:29.2±1.2,11.51N×140.62E,h33km,mb5.0/27,Error ellipse: s-maj=15.2km s-min=6.6km az=113.7*
ISCJB **16** *10:55:30.4±1.3,11.48N±0.05×140.61E±0.05, h42km±12km,mb4.7/74,MS3.9/38,Error ellipse: s-maj=9.6km s-min=7.4km az=148.1*
BJI **16** *10:55:31.2,11.40N×140.60E,h60km,mB5.0/24,mb4.7/37, Ms4.7/21,Ms7 4.3/24*
NEIC **16** *10:55:32.3±2.0,11.53N×140.65E,h42km±18km,mb4.9/28, Error ellipse: s-maj=8.0km s-min=4.7km az=71.0*
ISC 16 10:55:33.4±0.5,**11.52N**±0.06×**140.66E**±0.08,**h54**km±2km, **n160,σ1s35**/189,**mb4.7**/74,**MS3.8**/38,**3C-3D,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**15.56**	**5**	LR	LR	11 04 25.0	
	comp=Z,201nm,18.2s,baz=290,slow=35						
LUWI	**Luwuk**	**21.72**	**236**	*e*P	**P**	**11 00 19.4**	**-1.0**
PMG	**Port Moresby**	**21.77**	**162**	*e*P	**P**	**11 00 20.1**	**-0.7**
	12nm,0.8s						
PMG	**Port Moresby**	**21.77**	**162**	P	**P**	**11 00 18.8**	**-2.0**
	17nm,1.0s,baz=0.7,slow=8.2,SNR=7.1						
PMG				LR	LR	11 08 42.6	
	comp=Z,343nm,18.1s,baz=298,slow=36						
JNU	**Nakatsue**	**23.30**	**339**	*e*P	**P**	**11 00 37.4**	**+0.6**
	125nm,2.8s						
JNU	**Nakatsue**	**23.30**	**339**	P	**P**	**11 00 36.1**	**-0.7**
	4.4nm,0.7s,baz=276,slow=9.0,SNR=3.8						
JNU				LR	LR	11 08 14.7	
	comp=Z,186nm,21.0s,baz=144,slow=33						
MJAR	**Matsushiro Arr**	**25.01**	**355**	P	**P**	**11 00 51.2**	**-1.2**
MJAR	**Matsushiro Arr**	**25.01**	**355**	P	**P**	**11 00 51.2**	**-1.2**
	1.5nm,0.8s,baz=176,slow=11,SNR=4.3						
MJAR				LR	LR	11 10 02.4	
	comp=Z,76nm,18.5s,baz=190,slow=35						
MAJO	**Matsushiro**	**25.01**	**355**	*e*P	**P**	**11 00 54.4**	**+2.0**
MAJO				pmax	pmax		
	comp=Z,43nm,1.3s						
COEN	**Coen**	**25.43**	**174**	*e*P	**P**	**11 00 56.0**	**-0.4**
	comp=Z,40nm,0.9s						
TJN	**Taejon**	**27.51**	**336**	*e*P	**P**	**11 01 16.9**	**+2.0**
KSRS	**Korea Array**	**28.24**	**338**	P	**P**	**11 01 21.4**	**0.0**
	comp=Z,0.3nm,0.7s,baz=145,slow=8.9,SNR=2.9						
KSRS				LR	LR	11 11 17.1	
	comp=Z,231nm,19.9s,baz=146,slow=34						
KSAR	**Wonju Array Be**	**28.25**	**338**	P	**P**	**11 01 21.4**	**0.0**
HNR	**Honiara**	**28.30**	**137**	LR	LR	11 11 09.8	
	comp=Z,113nm,21.2s,baz=323,slow=33						
NJ2	**Nanjing**	**28.66**	**319**	*e*P	**P**	**11 01 25.1**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
QIZ	**Qiongzhong**	**30.61**	**288**	P	**P**	**11 01 41.8**	**-0.9**
QIZ				S	**S**	**11 06 41.3**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,31nm,1.7s						
WHN	**Wuhan**	**30.87**	**312**	P	**P**	**11 01 47.5**	**+2.7**
WHN				LR	LR		
	comp=Z,580nm,13.6s						
WRAB	**Tennant Creek**	**31.86**	**191**	*e*P	**P**	**11 01 52.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,14nm,1.3s						
WRAB	**Tennant Creek**	**31.86**	**191**	*e*P	**P**	**11 01 52.5**	**-1.2**
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**31.88**	**191**	P	**P**	**11 01 53.4**	**-0.4**
WRA	**Warramunga Arr**	**31.88**	**191**	P	**P**	**11 01 53.4**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=9.8,slow=9.4,SNR=12						
WRA				LR	LR	11 14 51.4	
	comp=Z,245nm,19.5s,baz=10.0,slow=36						
ASAJ	**Asahikawa**	**32.52**	**3**	LR	LR	11 16 04.2	
	comp=Z,91nm,19.3s,baz=172,slow=38						
YUK	**Yuzh-Kuril'sk**	**32.71**	**7**	*d*P	P	11 01 56.1	-4.7
USRK	**Ussuriysk Arra**	**33.41**	**349**	P	**P**	**11 02 07.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=157,slow=7.8,SNR=3.3						
USRK				LR	LR	11 13 59.6	
	comp=Z,169nm,20.0s,baz=170,slow=33						
MDJ	**Mudanjiang**	**34.33**	**346**	P	**P**	**11 02 14.8**	**-0.1**
MDJ				pP	**pP**	**11 02 27.8**	**-0.8**
MDJ				sP	**sP**	**11 02 33.9**	**-1.1**
MDJ				S	**S**	**11 07 39.0**	**+0.5**
MDJ				sS	**sS**	**11 08 01.9**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.6s						
MDJ				LR	LR		
	comp=Z,130nm,27.4s						
CN2	**Changchun**	**34.75**	**341**	*e*P	P	11 02 21.8	+3.3
CN2				*e*S	**S**	**11 07 48.6**	**+3.5**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
GYA	**Guiyang**	**35.28**	**300**	P	**P**	**11 02 23.3**	**-0.2**
GYA				pP	**pP**	**11 02 37.8**	**+0.5**
GYA				sP	**sP**	**11 02 45.0**	**+1.4**
GYA				PP	**PP**	**11 03 44.6**	**+0.2**
GYA				PcP	**PcP**	**11 04 53.8**	**+0.5**
GYA				S	**S**	**11 07 52.5**	**-1.4**
GYA				sS	**sS**	**11 08 17.8**	**+0.6**
GYA				ScP	**ScP**	**11 08 34.0**	**-0.7**
GYA				SS	**SnSn**	**11 10 12.1**	**-3.9**
GYA				ScS	**ScS**	**11 12 37.5**	**-1.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.7s						
GYA				LR	LR		
	comp=Z,560nm,17.6s						
GYA				LR	LR		
	comp=Z,510nm,18.2s						
GYA				LR	LR		
	comp=Z,490nm,17.9s						
AS31	**Alice Springs**	**35.59**	**191**	P	**P**	**11 02 26.4**	**+0.4**
AS31				*e*PcP	**PcP**	**11 04 50.8**	**-3.2**
ASAR	**Alice Springs**	**35.59**	**191**	P	**P**	**11 02 26.6**	**+0.6**
ASAR				PcP	**PcP**	**11 04 55.1**	**+1.1**
ASAR	**Alice Springs**	**35.59**	**191**	P	**P**	**11 02 26.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=18,slow=12,SNR=14						
ASAR				PcP	**PcP**	**11 04 55.1**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=12,slow=4.3,SNR=5.4						
ASAR				LR	LR	11 16 57.5	
	comp=Z,218nm,20.1s,baz=12,slow=36						
BJI	**Beijing**	**35.72**	**327**	P	**P**	**11 02 26.8**	**-0.1**
BJI				sP	**sP**	**11 02 47.1**	**+0.1**
BJI				S	**S**	**11 08 03.0**	**+3.0**
BJI				sS	**sS**	**11 08 22.0**	**-1.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BJI				LR	LR		
	comp=Z,250nm,21.3s						
BJI				LR	LR		
	comp=Z,220nm,19.8s						
BJI				LR	LR		
	comp=Z,97nm,19.8s						
SLVN	**Son La**	**36.50**	**290**	*e*P	**P**	**11 02 34.3**	**+0.4**
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**38.31**	**296**	P	**P**	**11 02 51.3**	**+1.9**
KMI				S	**S**	**11 08 40.0**	**-0.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KMI				LR	LR		
	comp=Z,110nm,19.1s						
KLR	**Kul'dur**	**38.32**	**351**	*e*P	P	11 02 45.2	-3.7
CD2	**Chengdu**	**39.19**	**305**	*e*P	**P**	**11 02 56.9**	**+0.4**
CD2				sP	**sP**	**11 03 17.3**	**+0.6**
CD2				PP	**PnPn**	**11 04 32.3**	**+2.1**
CD2				S	**S**	**11 08 53.8**	**+0.7**
CD2				sS	**sS**	**11 09 17.0**	**+0.4**
CD2				SS	**SS**	**11 11 41.1**	**-6.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				pmax	pmax		
	comp=Z,100nm,7.2s						
CD2				LR	LR		
	comp=Z,290nm,15.5s						
CD2				LR	LR		
	comp=Z,220nm,11.9s						
CD2				LR	LR		
	comp=Z,170nm,13.1s						
CMAR	**Chiang Mai Arr**	**40.81**	**285**	P	**P**	**11 03 10.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**40.81**	**285**	P	**P**	**11 03 10.9**	**+0.8**
	comp=Z,6.3nm,0.9s,baz=88,slow=6.3,SNR=28						
CMAR				LR	LR	11 18 54.2	
	comp=Z,74nm,21.3s,baz=98,slow=34						
LZH	**Lanzhou**	**41.24**	**313**	*e*P	**P**	**11 03 14.0**	**+0.4**
LZH				pP	**pP**	**11 03 27.5**	**-0.1**
LZH				sP	**sP**	**11 03 34.1**	**+0.2**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,72nm,4.3s						
LZH				LR	LR		
	comp=Z,210nm,6.8s						
LZH				LR	LR		
	comp=Z,230nm,5.3s						
LZH				LR	LR		
	comp=Z,320nm,8.9s						
DZM	**Mont Dzumac**	**41.88**	**143**	*e*LR	LR	11 14 58.9	
	comp=Z,332nm,23.3s						
DZM	**Mont Dzumac**	**41.88**	**143**	P	**P**	**11 03 18.9**	**+0.1**
DZM	**Mont Dzumac**	**41.88**	**143**	P	**P**	**11 03 18.9**	**+0.1**
	comp=Z,7.7nm,0.8s,baz=326,slow=15,SNR=5.1						
DZM				LR	LR	11 17 28.9	
	comp=Z,192nm,19.4s,baz=16,slow=32						
STKA	**Stephens Creek**	**43.16**	**179**	P	**P**	**11 03 30.1**	**+1.2**
STKA	**Stephens Creek**	**43.16**	**179**	P	**P**	**11 03 30.1**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=326,slow=7.3,SNR=2.1						
STKA				LR	LR	11 22 21.3	
	comp=Z,144nm,18.5s,baz=22,slow=37						
PETK	**Petropavlovsk-**	**43.68**	**15**	LR	LR	11 21 09.6	
	comp=Z,95nm,19.0s,baz=151,slow=35						
GTA	**Gaotai**	**45.58**	**315**	P	**P**	**11 03 49.3**	**+0.8**
GTA				pP	**pP**	**11 04 00.8**	**-1.9**
GTA				sP	**sP**	**11 04 05.9**	**-3.0**
GTA				PcP	**PcP**	**11 05 27.3**	**+1.0**
GTA				S	**S**	**11 10 27.5**	**+0.3**
GTA				sS	**sS**	**11 10 49.3**	**-1.8**
GTA				SS	**ScS**	**11 13 43.8**	**+3.5**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,69nm,5.7s						
GTA				LR	LR		
	comp=Z,130nm,18.0s						
GTA				LR	LR		
	comp=Z,100nm,18.5s						
GTA				LR	LR		
	comp=Z,160nm,19.5s						
ULN	**Ulaanbaatar**	**45.87**	**329**	*e*P	**P**	**11 03 51.6**	**+1.0**
	comp=Z,8.0nm,1.3s						
SONM	**Songino Array**	**46.18**	**328**	P	**P**	**11 03 53.7**	**+0.7**
SONM				PcP	**PcP**	**11 05 28.4**	**+0.2**
SONM	**Songino Array**	**46.18**	**328**	P	**P**	**11 03 53.7**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=141,slow=7.0,SNR=9.9						
SONM				PcP	**PcP**	**11 05 28.4**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=145,slow=3.9,SNR=5.9						
SONM				LR	LR	11 24 03.7	
	comp=Z,216nm,18.7s,baz=147,slow=37						
ZAK	**Zakamensk**	**49.38**	**329**	*e*P	**P**	**11 04 17.5**	**-0.2**
ZAK				*e*		11 04 29.2	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TLY	**Talaya**	**50.02**	**331**	*e*P	**P**	**11 04 24.0**	**+1.5**
TLY				*e*		11 04 40.1	
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,176nm,22.0s						
YAK	**Yakutsk**	**51.05**	**353**	*e*P	**P**	**11 04 29.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.3s						
YAK	**Yakutsk**	**51.05**	**353**	*e*P	**P**	**11 04 30.4**	**+0.4**
	comp=N,26nm,0.8s						
SEY	**Seymchan**	**52.02**	**7**	*i*P	**P**	**11 04 36.7**	**-0.5**
SEY	**Seymchan**	**52.02**	**7**	P	**P**	**11 04 36.9**	**-0.4**
SEY	**Seymchan**	**52.02**	**7**	P	**P**	**11 04 36.9**	**-0.4**
	comp=N,3.3nm,0.8s,baz=185,slow=6.3,SNR=11						
AFI	**Afiamalu**	**53.50**	**117**	LR	LR	11 22 14.0	
	comp=N,86nm,20.0s,baz=307,slow=30						
HVS	**Khovu-Aksy**	**54.86**	**326**	*d*P	**P**	**11 05 00.0**	**+1.6**
HVS				pmax	pmax		
	comp=Z,61nm,1.2s						
WMQ	**Urumqi**	**55.65**	**316**	P	**P**	**11 05 05.5**	**+1.2**
WMQ				pP	**pP**	**11 05 21.4**	**+2.6**
WMQ				sP	**sP**	**11 05 28.4**	**+3.5**
WMQ				PP	**PP**	**11 07 11.8**	**+2.9**
WMQ				S	**S**	**11 12 45.0**	**-1.6**
WMQ				pmax	pmax		
	comp=Z,21nm,1.0s						
WMQ				LR	LR		
	comp=Z,59nm,22.7s						
WMQ				LR	LR		
	comp=Z,39nm,18.9s						
WMQ				LR	LR		
	comp=Z,72nm,19.9s						
URZ	**Urewera**	**60.11**	**147**	LR	LR	11 28 52.7	
	comp=Z,61nm,20.3s,baz=276,slow=33						
MK31	**Makanchi Array**	**60.18**	**318**	*e*P	**P**	**11 05 35.9**	**+0.1**
MK31	**Makanchi Array**	**60.18**	**318**	*e*P	**P**	**11 05 35.9**	**+0.1**
MKAR	**Makanchi Array**	**60.18**	**318**	*e*P	**P**	**11 05 36.1**	**+0.3**
MKAR	**Makanchi Array**	**60.18**	**318**	*e*P	**P**	**11 05 36.1**	**+0.3**
MKAR	**Makanchi Array**	**60.18**	**318**	P	**P**	**11 05 36.4**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=99,slow=8.9,SNR=62						
MKAR				LR	LR	11 30 50.1	
	comp=Z,39nm,21.7s,baz=48,slow=35						
TIXI	**Tiksi**	**60.52**	**356**	*e*P	**P**	**11 05 36.6**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**60.52**	**356**	*e*P	**P**	**11 05 37.4**	**-0.3**
	comp=Z,2.5nm,0.7s						
ZAA0	**Zalesovo Array**	**60.97**	**326**	*e*P	**P**	**11 05 40.7**	**-0.3**
ZALV	**Zalesovo Beam**	**60.97**	**326**	P	**P**	**11 05 41.0**	**0.0**
ZALV						11 06 22.3	
ZALV	**Zalesovo Beam**	**60.97**	**326**	P	**P**	**11 05 41.0**	**0.0**
ZALV				PcP	**PcP**	**11 06 22.3**	**-1.6**
ZALV	**Zalesovo Beam**	**60.97**	**326**	P	**P**	**11 05 41.0**	**0.0**
	comp=Z,3.3nm,0.5s,baz=110,slow=6.2,SNR=14						
ZALV				PcP	**PcP**	**11 06 22.3**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=132,slow=4.2,SNR=5.3						
ZALV				LR	LR	11 33 13.1	
	comp=Z,83nm,18.6s,baz=70,slow=37						
RPZ	**Rata Peaks**	**61.55**	**155**	LR	LR	11 28 07.7	
	comp=Z,50nm,19.7s,baz=302,slow=32						
NVS	**Novosibirsk**	**62.15**	**327**	*e*P	**P**	**11 05 48.1**	**-0.9**
KSH	**Kashi**	**63.26**	**308**	*e*P	**P**	**11 05 55.6**	**-1.3**
KSH				*e*PP	**PP**	**11 08 19.3**	**+2.8**
KSH				*e*PcS		11 10 40.5	
KSH				*e*S	S	11 14 18.3	-6.8
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,150nm,4.2s						
KSH				LR	LR		
	comp=Z,95nm,5.5s						
KSH				LR	LR		
	comp=Z,94nm,7.8s						
KSH				LR	LR		
	comp=Z,120nm,6.4s						
KURK	**Kurchatov**	**63.56**	**321**	*e*P	**P**	**11 05 58.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,19nm,0.9s						
KURK	**Kurchatov**	**63.56**	**321**	*e*P	**P**	**11 05 58.1**	**-0.3**
	comp=Z,19nm,0.9s						
TKM2	**Tokmak 2**	**64.01**	**312**	*e*P	**P**	**11 06 02.2**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TKM2	**Tokmak 2**	**64.01**	**312**	P	**P**	**11 06 02.4**	**+0.5**
	SNR=8.2						
TKM2	**Tokmak 2**	**64.01**	**312**	*e*P	**P**	**11 06 02.2**	**+0.3**
	comp=Z,6.2nm,0.9s						
KZA	**Kyzart**	**64.14**	**311**	*i*P	**P**	**11 06 04.1**	**+1.1**
KZA	**Kyzart**	**64.14**	**311**	P	**P**	**11 06 04.1**	**+1.1**
	SNR=10						
KBK	**Karagaybulak**	**64.45**	**312**	*i*P	**P**	**11 06 05.3**	**+0.6**
KBK	**Karagaybulak**	**64.45**	**312**	P	**P**	**11 06 05.3**	**+0.6**
	SNR=6.9						
CHMS	**Chumysh**	**64.64**	**312**	*i*P	**P**	**11 06 05.7**	**0.0**
CHMS	**Chumysh**	**64.64**	**312**	P	**P**	**11 06 05.8**	**0.0**
	SNR=5.0						
UCH	**Uchtor**	**64.71**	**311**	*i*P	**P**	**11 06 07.6**	**+0.9**
UCH	**Uchtor**	**64.71**	**311**	P	**P**	**11 06 07.7**	**+0.9**
	SNR=19						
AAK	**Ala-Archa**	**64.78**	**312**	*e*P	**P**	**11 06 06.7**	**-0.1**
AAK				*e*		11 06 39.7	
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**64.78**	**312**	*e*P	**P**	**11 06 06.7**	**-0.1**
	comp=Z,4.0nm,1.0s						
AAK				*e*PcP	**PcP**	**11 06 39.7**	**-0.3**
AML	**Almayashu**	**65.30**	**311**	*i*P	**P**	**11 06 11.5**	**+1.0**
AML	**Almayashu**	**65.30**	**311**	P	**P**	**11 06 11.5**	**+1.0**
	SNR=12						
EKS2	**Erkin-Say**	**65.30**	**312**	*e*P	**P**	**11 06 10.5**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
EKS2	**Erkin-Say**	**65.30**	**312**	*e*P	**P**	**11 06 10.5**	**+0.3**
	comp=Z,5.3nm,0.9s						
BRVK	**Borovoye**	**69.09**	**323**	*e*P	**P**	**11 06 33.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s						
BRVK	**Borovoye**	**69.09**	**323**	*e*P	**P**	**11 06 33.7**	**-0.1**
	comp=Z,17nm,0.9s						
COLD	**Coldfoot**	**71.42**	**23**	*e*P	**P**	**11 06 48.8**	**+1.0**
	comp=Z,6.6nm,1.0s						
ILAR	**Eielson Array**	**72.19**	**25**	P	**P**	**11 06 50.6**	**-1.8**
ILAR	**Eielson Array**	**72.19**	**25**	P	**P**	**11 06 50.6**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=258,slow=4.7,SNR=9.5						
ILAR				LR	LR	11 40 52.2	
	comp=Z,53nm,18.1s,baz=249,slow=38						
PPT2	**Papeete2**	**74.71**	**112**	*e*LR	LR	11 30 08.5	
	comp=Z,101nm,24.2s						
SVE	**Sverdlovsk**	**74.98**	**326**	*i*P	**P**	**11 07 08.9**	**-0.1**
SVE				pmax	pmax		
	comp=Z,15nm,1.1s						
ABKAR	**Akbulak array**	**75.32**	**318**	*e*P	**P**	**11 07 10.3**	**-0.7**
	comp=Z,3.1nm,0.6s						
ARU	**Arti**	**76.12**	**325**	*c i*P	**P**	**11 07 14.5**	**-1.0**
ARU						11 10 07.6	
ARU				pmax	pmax		
	comp=Z,14nm,1.2s						
ARU	**Arti**	**76.12**	**325**	*e*P	**P**	**11 07 15.1**	**-0.4**
	comp=Z,8.3nm,0.7s						
SOKR	**Solikamsk**	**77.05**	**329**	*e*P	**P**	**11 07 20.9**	**+0.3**
SOKR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SOKR				MLR	MLR		
	comp=Z,200nm,17.0s						
PRGR	**Permogore**	**82.34**	**331**	*e*P	**P**	**11 07 48.3**	**-1.0**
PRGR

comp=N,4.0nm,0.8s
VORD pmax pmax
comp=E,4.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
VSR Storozhevoye 88.20 322 *e*P **P 11 08 15.9 -2.9**
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,4.0nm,0.9s
JOF Joensuu 88.41 334 *e*P **P 11 08 20.8 +1.3**
JOF Joensuu 88.41 334 *e*p **P 11 08 20.8 +1.3**
OBN Obninsk 88.55 326‖*e*P **P 11 08 18.8 -1.5**
OBN 11 18 38.0
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,200nm,17.0s
MOD Modoc 89.02 48 *e*P **P 11 08 22.9 -0.2**
comp=Z,12nm,1.2s
NEW Newport 89.48 41 *e*P **P 11 08 25.3 +0.4**
comp=Z,89nm,2.9s
CMB Columbia Colle 89.93 51 *e*P **P 11 08 27.2 -0.1**
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 89.93 51 *e*P **P 11 08 27.1 -0.1**
comp=Z,4.1nm,0.9s
J08A Circle Bar Ran 89.94 46 *e*P **P 11 08 27.6 +0.3**
comp=Z,13nm,1.1s
WVOR Wild Horse Val 90.08 47 *e*P **P 11 08 27.9 -0.1**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 90.08 47 *e*P **P 11 08 27.9 -0.1**
comp=Z,6.7nm,0.9s
PAHR Pah Rah Range 90.26 49 *e*P **P 11 08 29.2 +0.3**
comp=Z,6.2nm,1.0s
KAF Kangasniemi 90.86 335 *e*P **P 11 08 28.9 -2.1**
KAF Kangasniemi 90.86 335 *e*p **P 11 08 28.9 -2.1**
BSMT Bassoo Peak 91.10 41 *e*P **P 11 08 33.1 +0.4**
comp=Z,3.9nm,1.2s
FINES FINESS Array B 91.26 334 P **P 11 08 30.9 -1.9**
FINES FINESS Array B 91.26 334 P **P 11 08 30.9 -1.9**
comp=Z,7.2nm,0.7s,baz=66,slow=4.8,SNR=23
FINES LR LR 11 51 26.2
comp=Z,79nm,19.7s,baz=46,slow=37
NVAR Mina Array Bea 91.41 50 P **P 11 08 34.6 +0.3**
NVAR Mina Array Bea 91.41 50 P **P 11 08 34.6 +0.3**
comp=Z,3.4nm,0.9s,baz=262,slow=5.4,SNR=16
MFID Camas Ranch 91.78 45 *e*P **P 11 08 36.2 +0.3**
comp=Z,53nm,2.4s
TPH Tonopah 92.32 51 *e*P **P 11 08 39.1 +0.5**
TPH pmax pmax
comp=Z,60nm,2.8s
TPH Tonopah 92.32 51 *e*P **P 11 08 39.1 +0.5**
comp=Z,60nm,2.8s
HLID Hailey 92.71 45 *e*P **P 11 08 40.8 +0.6**
comp=Z,4.6nm,1.0s
AKASG Malin Array Be 94.28 324 *i* P **P 11 08 44.5 -2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 94.28 324 P **P 11 08 45.0 -2.1**
AKASG Malin Array Be 94.28 324 P **P 11 08 45.0 -2.1**
comp=Z,1.3nm,0.8s,baz=55,slow=4.1,SNR=6.0
AKASG LR LR 11 52 10.1
comp=Z,70nm,22.0s,baz=45,slow=36
KIEV Kiev 94.29 324 *e*P **P 11 08 43.9 -3.2**
HVU Hansel Valley 94.43 46 *e*P **P 11 08 48.4 +0.2**
HVU pmax pmax
comp=Z,5.0nm,1.0s
HVU Hansel Valley 94.43 46 *e*P **P 11 08 48.4 +0.2**
comp=Z,5.1nm,1.0s
YMR Madison River 94.67 43 *e*P **P 11 08 49.9 +0.6**
comp=Z,8.5nm,0.9s
MOOW Moose Ponds 95.15 44 *e*P **P 11 08 51.5 0.0**
comp=Z,23nm,2.3s
BRTR Keskin Array B 95.45 312 P **P 11 08 52.2 -0.7**
BRTR Keskin Array B 95.45 312 P **P 11 08 52.2 -0.7**
comp=Z,0.9nm,1.0s,baz=46,slow=10,SNR=3.1
BRTR LR LR 11 55 08.3
comp=Z,21nm,20.7s,baz=44,slow=38
PDAR Pinedale Array 96.32 44 P **P 11 08 56.8 -0.1**
PDAR Pinedale Array 96.32 44 P **P 11 08 56.8 -0.1**
comp=Z,0.5nm,0.8s,baz=249,slow=7.6,SNR=3.2
PDAR LR LR 11 46 13.4
comp=Z,33nm,20.8s,baz=308,slow=32
NOA NORSAR Array B 97.45 338 LR LR 11 55 49.1
comp=Z,48nm,20.2s,baz=275,slow=37
TORD Torodi Ar. Bea 132.48 300 PKP **PKPdf 11 14 43.0 0.0**
TORD Torodi Ar. Bea 132.48 300 PKP **PKPdf 11 14 43.0 0.0**
comp=Z,0.5nm,0.8s,baz=27,slow=3.1,SNR=3.5
PLCA Paso Flores 140.00 142 PKP **PKPdf 11 14 57.3 +1.0**
PLCA Paso Flores 140.00 142 PKP **PKPdf 11 14 57.3 +1.0**
comp=Z,2.0nm,1.0s,baz=297,slow=4.5,SNR=3.6
LCO Las Campanas 145.98 125 *e*PKPbc **PKPbc 11 15 08.2 0.0**
LVC Limon Verde 149.72 115 *e*PKPbc **PKPbc 11 15 19.7 +1.2**
LPAZ La Paz 151.67 103 *e*PKPbc **PKPbc 11 15 24.5 +0.8**
LPAZ La Paz 151.67 103 PKPbc **PKPbc 11 15 24.5 +0.8**
comp=Z,8.7nm,0.8s,baz=267,slow=1.7,SNR=15

MEX 16 11:26:06.8±0.6, 16°88N×96°58W, h71km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.24**	**323**	*e*P	Pn	11 26 16.7	-1.4
VHO				*e*S	Sn	11 26 24.5	-1.7
OXX	**Oaxaca**	**0.25**	**326**	*i* P	Pn	11 26 13.0	-5.1
OXX				*e*S	Sn	11 26 20.5	-5.8
HUIG	**Huatulco**	**1.19**	**158**	*e*P	Pn	11 26 27.1	-0.7
HUIG				*e*S	Sn	11 26 41.2	-2.3
PNIG	**Pinotepa**	**1.56**	**252**	*e*P	Pn	11 26 30.6	-2.0
PNIG				*e*S	Sn	11 26 50.9	-1.2
TPIG	**Tehuac#an**	**1.71**	**334**	*i* P	Pn	11 26 33.9	-0.9
TPIG				*i* S	Sn	11 26 53.5	-2.5
TLIG	**Tlapa**	**2.02**	**290**	*i* P	Pn	11 26 38.1	-0.8
TLIG				*i* S	Sn	11 27 00.7	-2.7
PCIG		**3.43**	**109**	*i* P	Pn	11 26 57.6	-0.3
PCIG				*i* S	Sn	11 27 35.9	-1.6

IDC ***16*** *11:51:35.9±0.7, 19°.30N×66°.75W, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.0/28, mbtmp4.1/16, ML2.9/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/34, Error ellipse: s-maj=21.7km s-min=15.7km az=5.0*
ISCJB ***16*** *11:51:37.4±0.4, 19°.39N±0°.03×66°.68W±0°.03, h19km, mb4.0/14, MS3.3/7, Error ellipse: s-maj=4.6km s-min=3.9km az=166.2*
NEIC ***16*** *11:51:40.2, 19°.35N×66°.68W, h8km, MD3.9(RSPR), After RSPR.*
RSPR ***16*** *11:51:40.2, 19°.35N×66°.68W, h8km±3km, MD3.9/12*
ISC 16 11:51:38.9±0.5, 19°30N±0°.04×66°68W±0°.03, h19km, n79, σ0s74/86, mb4.0/13, MS3.3/7, 26C-14D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.92**	**206**‖	*e*P	**Pb**	**11 51 56.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.92**	**206**‖	*e*P	**Pb**	**11 51 56.1**	**-0.1**
AGPR				*e*S	**Sn**	**11 52 09.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.95**	**184**‖	*e*P	**Pg**	**11 51 57.4**	**+0.1**
AOPR	**Arecibo Observ**	**0.95**	**184**‖	*e*P	**Pg**	**11 51 57.4**	**+0.1**
AOPR				*e*S	**Sn**	**11 52 10.7**	**+0.5**
LRS	**Lares**	**1.01**	**189**‖	*e*P	**Pb**	**11 51 57.5**	**-0.3**
LRS	**Lares**	**1.01**	**189**‖	*e*P	**Pb**	**11 51 57.5**	**-0.3**
IDE	**Isla Desecheo**	**1.17**	**220**‖	*e*P	**Pn**	**11 51 59.9**	**-0.4**
IDE	**Isla Desecheo**	**1.17**	**220**‖	*e*P	**Pn**	**11 51 59.9**	**-0.4**
LSP	**Las Mesas**	**1.18**	**199**‖	*e*P	**Pn**	**11 52 00.0**	**-0.3**
LSP	**Las Mesas**	**1.18**	**199**‖	*e*P	**Pn**	**11 52 00.0**	**-0.3**
CELP	**Cerrillos**	**1.22**	**175**‖	*e*P	**Pn**	**11 52 00.8**	**-0.1**
CELP	**Cerrillos**	**1.22**	**175**‖	*e*P	**Pn**	**11 52 00.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.25**	**177**‖	*e*P	**Pn**	**11 52 01.4**	**+0.1**
OBIP	**Obispado Ponce**	**1.25**	**177**‖	*e*P	**Pn**	**11 52 01.4**	**+0.1**
OBIP				*e*S	**Sn**	**11 52 18.0**	**+0.4**
SJG	**San Juan**	**1.28**	**157**‖	*e*P	**Pn**	**11 52 02.0**	**+0.3**
SJG	**San Juan**	**1.28**	**157**‖	*e*P	**Pn**	**11 52 02.0**	**+0.3**
CBYP	**Canovanas**	**1.28**	**142**‖	*e*P	**Pn**	**11 52 01.6**	**-0.3**
CBYP	**Canovanas**	**1.28**	**142**‖	*e*P	**Pn**	**11 52 01.6**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.33**	**188**‖	*e*P	**Pb**	**11 52 02.9**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.33**	**188**‖	*e*P	**Pb**	**11 52 02.9**	**-0.2**
GBPR				*e*S	**Sb**	**11 52 20.4**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.34**	**198**‖	*e*P	**Pb**	**11 52 03.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.34**	**198**‖	*e*P	**Pb**	**11 52 03.4**	**-0.1**
CRPR				*e*S	**Sb**	**11 52 21.3**	**+1.0**
HUMP	**Col San Antoni**	**1.39**	**145**‖	*e*P	**Pn**	**11 52 03.3**	**0.0**
HUMP	**Col San Antoni**	**1.39**	**145**‖	*e*P	**Pn**	**11 52 03.3**	**0.0**
HUMP				*e*S	**Sn**	**11 52 21.2**	**0.0**
CPD	**Cerro la Pandu**	**1.45**	**150**‖	*e*P	**Pn**	**11 52 04.3**	**+0.2**
CPD	**Cerro la Pandu**	**1.45**	**150**‖	*e*P	**Pn**	**11 52 04.3**	**+0.2**
CPD				*e*S	**Sb**	**11 52 23.3**	**0.0**
MTP	**Monte Pirata**	**1.60**	**138**‖	*e*P	**Pn**	**11 52 06.1**	**-0.1**
MTP	**Monte Pirata**	**1.60**	**138**‖	*e*P	**Pn**	**11 52 06.1**	**-0.1**
MTP				*e*S	**Sn**	**11 52 26.0**	**-0.4**
IMO	**Isla Mona**	**1.65**	**225**‖	*e*P	**Pb**	**11 52 09.0**	**+0.2**
IMO	**Isla Mona**	**1.65**	**225**‖	*e*P	**Pb**	**11 52 09.0**	**+0.2**
PCDR	**Punta Cana, DR**	**1.79**	**244**‖	*e*P	**Pn**	**11 52 09.3**	**+0.6**
PCDR	**Punta Cana, DR**	**1.79**	**244**‖	*e*P	**Pn**	**11 52 09.3**	**+0.6**
TBVI	**Tortola**	**2.14**	**114**‖	*e*P	**Pn**	**11 52 13.9**	**+0.2**
TBVI	**Tortola**	**2.14**	**114**‖	*e*P	**Pn**	**11 52 13.9**	**+0.2**
ABV	**Anegada**	**2.29**	**104**‖	*e*P	**Pn**	**11 52 15.8**	**+0.1**
ABVI	**Anegada Island**	**2.29**	**104**‖	*e*P	**Pn**	**11 52 15.8**	**+0.1**
DR12	**Loma Pena Alta**	**2.60**	**259**‖	*e*P	**Pn**	**11 52 19.9**	**-0.1**
DR12				*e*S	**Sn**	**11 52 50.6**	**-0.5**
DR12	**Loma Pena Alta**	**2.60**	**259**‖	*e*P	**Pn**	**11 52 19.9**	**-0.1**
DR12				*e*S	**Sn**	**11 52 50.6**	**-0.5**
SDDR	**Presa de Saban**	**4.36**	**267**‖	*e*P	**Pn**	**11 52 45.6**	**+1.4**
SDDR	**Presa de Saban**	**4.36**	**267**‖	*e*P	**Pn**	**11 52 45.6**	**+1.4**
ROSC	**El Rosal**	**16.17**	**208**	Pn	**Pn**	**11 55 26.5**	**+0.9**
ROSC	**El Rosal**	**16.17**	**208**	Pn	**Pn**	**11 55 26.5**	**+0.9**
	1.0nm,0.3s,baz=108,slow=18,SNR=2.8						
JTS	**JuntasAbangare**	**19.79**	**246**	LR	LR	12 02 46.1	
	comp=Z,52nm,19.9s,baz=62,slow=34						
TEIG	**Tepich**	**20.34**	**276**	P	**P**	**11 56 13.0**	**-1.2**
TEIG	**Tepich**	**20.34**	**276**	P	**P**	**11 56 13.0**	**-1.2**
	24nm,1.1s,baz=98,slow=15,SNR=2.9						
TEIG				LR	LR	12 06 08.5	
	comp=Z,123nm,18.4s,baz=41,slow=43						
PTGA	**Pitinga**	**20.96**	**161**	P	**P**	**11 56 20.4**	**-0.6**
PTGA	**Pitinga**	**20.96**	**161**	P	**P**	**11 56 20.4**	**-0.6**
	6.8nm,0.6s,baz=347,slow=15,SNR=8.7						
APG	**El Apazote**	**23.11**	**263**	P	**P**	**11 56 42.4**	**-1.8**
APG	**El Apazote**	**23.11**	**263**	P	**P**	**11 56 42.4**	**-1.8**
	7.5nm,0.8s,baz=103,slow=9.5,SNR=8.8						
APG				LR	LR	12 06 22.9	
	comp=Z,56nm,19.1s,baz=72,slow=38						
ATAH	**Atahualpa**	**28.69**	**205**	LR	LR	12 10 21.0	
	comp=Z,65nm,22.0s,baz=16,slow=39						
TXAR	**Lajitas Array**	**35.02**	**294**	P	**P**	**11 58 31.4**	**+0.7**
TXAR	**Lajitas Array**	**35.02**	**294**	P	**P**	**11 58 31.4**	**+0.7**
	2.2nm,1.0s,baz=109,slow=9.8,SNR=13						
TXAR				LR	LR	12 16 00.6	
	comp=Z,32nm,22.0s,baz=0.0,slow=42						
ULM	**Lac du Bonnet**	**38.63**	**330**	P	**P**	**11 59 00.1**	**-0.9**
ULM	**Lac du Bonnet**	**38.63**	**330**	P	**P**	**11 59 00.1**	**-0.9**
	2.5nm,0.8s,baz=166,slow=17,SNR=3.9						
NVAR	**Mina Array Bea**	**48.40**	**305**	P	**P**	**12 00 18.8**	**-1.4**
NVAR	**Mina Array Bea**	**48.40**	**305**	P	**P**	**12 00 18.8**	**-1.4**
	0.2nm,0.6s,baz=98,slow=5.6,SNR=2.9						
YKA	**Yellowknife Ar**	**54.21**	**335**	P	**P**	**12 01 02.1**	**-0.9**
YKA	**Yellowknife Ar**	**54.21**	**335**	P	**P**	**12 01 02.1**	**-0.9**
	0.9nm,0.6s,baz=114,slow=7.6,SNR=20						
DBIC	**Dimbokro**	**61.26**	**93**	P	**P**	**12 01 54.0**	**+0.6**
DBIC	**Dimbokro**	**61.26**	**93**	P	**P**	**12 01 54.0**	**+0.6**
	3.5nm,0.6s,baz=257,slow=7.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**65.59**	**84**	P	**P**	**12 02 22.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**65.59**	**84**	P	**P**	**12 02 22.2**	**+0.1**
	2.7nm,0.7s,baz=290,slow=6.8,SNR=19						
TORD				LR	LR	12 29 00.6	
	comp=Z,53nm,20.2s,baz=290,slow=34						
NOA	**NORSAR Array B**	**67.46**	**31**	P	**P**	**12 02 35.0**	**+1.7**
NOA	**NORSAR Array B**	**67.46**	**31**	P	**P**	**12 02 35.0**	**+1.7**
	1.1nm,0.7s,baz=270,slow=6.2,SNR=3.0						
NOA				LR	LR	12 27 55.9	
	comp=Z,21nm,21.2s,baz=270,slow=32						
ILAR	**Eielson Array**	**68.55**	**333**	P	**P**	**12 02 39.7**	**-0.4**
ILAR	**Eielson Array**	**68.55**	**333**	P	**P**	**12 02 39.7**	**-0.4**
	0.4nm,0.8s,baz=79,slow=3.9,SNR=4.7						
GERES	**GERESS Array B**	**69.46**	**44**	P	**P**	**12 02 44.7**	**-1.4**
GERES	**GERESS Array B**	**69.46**	**44**	P	**P**	**12 02 44.7**	**-1.4**
	0.4nm,0.7s,baz=274,slow=3.8,SNR=4.0						
ARCES	**ARCESS Array B**	**72.86**	**22**	P	**P**	**12 03 07.1**	**+0.9**
ARCES	**ARCESS Array B**	**72.86**	**22**	P	**P**	**12 03 07.1**	**+0.9**
	4.2nm,0.9s,baz=304,slow=4.0,SNR=4.5						
FINES	**FINESS Array B**	**74.56**	**30**	P	**P**	**12 03 17.0**	**+0.7**
FINES	**FINESS Array B**	**74.56**	**30**	P	**P**	**12 03 17.0**	**+0.7**
	2.5nm,0.8s,baz=249,slow=3.6,SNR=7.4						
AKASG	**Malin Array Be**	**78.95**	**40**	LR	LR	12 35 19.2	
	comp=Z,30nm,20.9s,baz=290,slow=33						
BRTR	**Keskin Array B**	**85.50**	**50**	P	**P**	**12 04 17.2**	**+1.2**
BRTR	**Keskin Array B**	**85.50**	**50**	P	**P**	**12 04 17.2**	**+1.2**
	0.5nm,0.6s,baz=253,slow=4.4,SNR=3.2						
WRA	**Warramunga Arr**	**160.18**	**265**	PKPab	**PKPab**	**12 12 18.4**	**+0.2**
WRA	**Warramunga Arr**	**160.18**	**265**	PKPab	**PKPab**	**12 12 18.4**	**+0.2**
	0.2nm,0.7s,baz=79,slow=3.4,SNR=5						
ASAR	**Alice Springs**	**160.36**	**254**	PKPab	**PKPab**	**12 12 18.6**	**-0.2**
ASAR	**Alice Springs**	**160.36**	**254**	PKPab	**PKPab**	**12 12 18.6**	**-0.2**
	0.3nm,0.7s,baz=107,slow=3.8,SNR=5.1						

IDC 16 11:56:24.0±3.7, 5°40S×151°17E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=118.4km s-min=30.4km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.84**	**227**	P	P	12 01 18.8	+0.5
	1.1nm,0.5s,baz=53,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.62**	**221**	P	P	12 01 45.7	-0.7
	1.7nm,0.6s,baz=59,slow=9.0,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.25**	**32**	T	T	12 32 43.4	
	baz=222,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.26**	**32**	T	T	12 32 42.6	
	baz=222,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.27**	**32**	T	T	12 32 42.9	
	baz=222,slow=75,SNR=21						
SONM	**Songino Array**	**65.98**	**329**	P	P	12 07 11.6	-0.7
	0.5nm,0.5s,baz=146,slow=6.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.93**	**286**	PKPbc	PKPbc	12 16 16.0	+1.0
	0.6nm,0.7s,baz=80,slow=2.7,SNR=3.6						

ISCJB ***16*** *12:03:23.5±0.4, 33°.90N±0°.02×116°.99W±0°.02, h9km±3km, mb3.5/4, MS3.2/1, Error ellipse: s-maj=2.6km s-min=2.0km az=22.8*
IDC ***16*** *12:03:23.8±1.8, 33°.86N×117°.10W, h0km, mb3.3/3, mb1 3.7/8, mb1mx3.6/29, mbtmp3.4/8, ML3.8/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/21, Error ellipse: s-maj=28.9km s-min=6.8km az=47.0*
NEIC ***16*** *12:03:25.7, 33°.93N×117°.02W, h14km, ML4.3(PAS), After PAS.*
NEIC Felt [IV] at San Jacinto; [III] at Angelus Oaks, Banning, Beaumont, Calimesa, Forest Falls, Hemet, Homeland, Idyllwild, Irvine, Menifee, Moreno Valley, Mountain Center, Nuevo, Perris, Riverside, San Bernardino, Sun City, White Water, Winchester and Yucaipa. Felt northwest to Lake Hughes and southeast to Brawley.
ISC 16 12:03:23.9±1.1, 33°90N±0°02×117°06W±0°02, h3km±8km, n128, σ1s36/166, mb3.5/4, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURC	**Murrieta**	**0.32**	**201**	P	**Pb**	**12 03 32.3**	**+0.1**
	baz=0.4						
MURC				S	**Sb**	**12 03 37.8**	**+0.1**
	baz=0.4						
BBRC	**Big Bear Solar**	**0.38**	**18**	P	**Pg**	**12 03 31.9**	**+0.5**
	baz=0.3						
BBRC				S	**Sg**	**12 03 37.2**	**+0.8**
	baz=0.3						
PFO	**Pinyon Flat Ob**	**0.58**	**119**	Pg	**Pb**	**12 03 36.1**	**-0.7**
PFO				Lg	Lg	12 03 43.9	
PFO	**Pinyon Flat Ob**	**0.58**	**119**	Pg	**Pb**	**12 03 36.1**	**-0.7**
	1μm,0.3s,baz=297,slow=15						
PFO				Lg	Lg	12 03 43.9	
	4μm,0.3s,baz=212,slow=19,SNR=89						
PFO	**Pinyon Flat Ob**	**0.58**	**119**	P	**Pb**	**12 03 35.7**	**-1.0**
	baz=0.6						
PFO				S	**Sg**	**12 03 43.4**	**+0.9**
	baz=0.6						
BFSC	**Mount Baldy Ra**	**0.60**	**305**	P	**Pb**	**12 03 36.3**	**-0.8**
	baz=0.6						
BFSC				S	**Sb**	**12 03 44.7**	**-1.4**
	baz=0.6						
BELC	**Belle Mtn. Jos**	**0.89**	**83**	P	**Pg**	**12 03 41.1**	**+0.1**
	baz=0.8						
BELC				S	**Sg**	**12 03 53.0**	**+0.5**
	baz=0.8						
MWC	**Mount Wilson**	**0.89**	**292**	*e*Pg	**Pb**	**12 03 41.7**	**-0.3**
MWC				*e*Sg	**Sb**	**12 03 54.1**	**-0.3**
PASC	**Pasadena Art C**	**0.97**	**287**	*e*Pg	**Pb**	**12 03 43.0**	**-0.3**
PASC				*e*Sg	**Sb**	**12 03 57.5**	**+0.9**
RRX	**Edison Barstow**	**0.98**	**3**	P	**Pg**	**12 03 42.7**	**0.0**
	baz=0.9						
RRX				S	**Sg**	**12 03 55.6**	**+0.1**
	baz=0.9						
109C	**Camp Elliot, M**	**1.00**	**182**	P	**Pb**	**12 03 43.5**	**-0.4**
	baz=1.1						
109C				S	**Sb**	**12 03 57.3**	**-0.2**
	baz=1.1						
FMP	**Fort Macarthur**	**1.04**	**260**	P	**Pb**	**12 03 44.4**	**-0.1**
	baz=1.1						
DECC	**Green Verdugo**	**1.11**	**289**	Pb	**Pb**	**12 03 45.5**	**-0.2**
	baz=1.1						
DECC				S	**Sb**	**12 04 00.9**	**+0.3**
	baz=1.1						
HEC	**Hector,Ludlow**	**1.11**	**33**	P	**Pg**	**12 03 44.8**	**-0.4**
	baz=1.1						
HEC				S	**Sg**	**12 03 59.1**	**-0.5**
	baz=1.1						
MONP	**Monument Peak**	**1.14**	**152**	Pg	**Pn**	**12 03 46.5**	**-0.4**
	baz=1.2						
MONP				S	**Sb**	**12 04 01.1**	**-0.5**
	baz=1.2						
CIS	**Catalina Islan**	**1.22**	**247**	Pb	**Pg**	**12 03 47.2**	**-0.1**
	baz=1.3						
CIS				Sb	**Sn**	**12 04 04.6**	**-0.2**
	baz=1.3						
EDW2	**Edwards Air Fo**	**1.25**	**322**	Pg	**Pb**	**12 03 47.9**	**-0.2**
	baz=1.2						
EDW2				Sb	**Sg**	**12 04 03.9**	**-0.1**
	baz=1.2						
BAR	**Barrett**	**1.25**	**165**	*e*Pn	**Pg**	**12 03 47.7**	**-0.3**
BAR				*e*Sn	**Sb**	**12 04 04.3**	**-0.4**
BC3	**Big Chuckawall**	**1.36**	**100**	Pb	**Pn**	**12 03 48.4**	**-1.4**
	baz=1.3						
GSC	**Goldstone**	**1.42**	**8**	*e*Pn	**Pn**	**12 03 49.8**	**-0.9**
GSC				*e*Sn	**Sb**	**12 04 09.5**	**0.0**
GSC	**Goldstone**	**1.42**	**8**	Pb	**Pn**	**12 03 49.7**	**-0.9**
	baz=1.4						
SWSC	**Sam W. Stewart**	**1.42**	**132**	P	**Pn**	**12 03 49.1**	**-1.5**
	baz=1.4						
GMRC	**Granite Mounta**	**1.46**	**52**	Pb	**Pn**	**12 03 49.9**	**-1.3**
	baz=1.4						
GMRC				Sb	**Sg**	**12 04 09.4**	**-1.4**
	baz=1.4						
SCI	**San Clemente I**	**1.54**	**234**	Pb	**Pn**	**12 03 52.3**	**+0.1**
	baz=1.6						
SCI				S	**Sn**	**12 04 11.8**	**-0.9**
	baz=1.6						
OSI	**Osito Adit**	**1.55**	**298**	*e*Pn	**Pn**	**12 03 52.3**	**-0.1**
OSI				*e*Sn	**Sg**	**12 04 13.9**	**+0.1**
OSI	**Osito Adit**	**1.55**	**298**	Pb	**Pn**	**12 03 52.1**	**-0.3**
	baz=1.6						
OSI				Sb	**Sg**	**12 04 13.7**	**0.0**
	baz=1.6						
IRM	**Iron Mountain**	**1.61**	**80**	P	**Pn**	**12 03 51.5**	**-1.7**
	baz=1.6						
LRMC	**Laurel Mountai**	**1.66**	**342**	P	**Pn**	**12 03 53.4**	**-0.6**
	baz=1.6						
LRMC				Sb	**Sn**	**12 04 16.1**	**+0.2**
	baz=1.6						
BLG	**Laguna Peak**	**1.68**	**278**	P	**Pn**	**12 03 53.2**	**-0.9**
	baz=1.7						
TUQ	**Turquoise Moun**	**1.80**	**31**	P	**Pn**	**12 03 54.6**	**-1.3**
	baz=1.7						
TUQ				Sb	**Sn**	**12 04 19.9**	**+0.6**
	baz=1.7						
ARVC	**Arvin**	**1.91**	**311**	P	**Pn**	**12 03 56.9**	**-0.4**
	baz=1.9						
ARVC				Sb	**Sb**	**12 04 24.2**	**+0.7**
	baz=1.9						
LDFC	**Landfair**	**2.00**	**53**	*e*Pn	**Pn**	**12 03 57.3**	**-1.3**
LDFC				*e*Sg	**Sb**	**12 04 25.5**	**-0.7**
GLA	**Glamis**	**2.05**	**114**	*e*Pn	**Pn**	**12 03 57.8**	**-1.5**
GLA				*e*Sg	**Sg**	**12 04 30.6**	**+0.9**
GLA	**Glamis**	**2.05**	**114**	P	**Pn**	**12 03 57.7**	**-1.5**
	baz=2.0						
SHOC	**Shoshone**	**2.10**	**18**	P	**Pn**	**12 03 59.1**	**-0.9**
	baz=2.1						
Y12C	**Blythe**	**2.12**	**93**	P	**Pn**	**12 03 58.5**	**-1.7**
	baz=2.1						
BSC	**Santa Cruz Isl**	**2.14**	**273**	P	**Pn**	**12 03 59.7**	**-0.8**
	baz=2.2						
MPMC	**Manual Prospec**	**2.19**	**351**	P	**Pn**	**12 04 00.5**	**-0.8**
	baz=2.2						
NEE2	**Needles Airpor**	**2.20**	**66**	P	**Pn**	**12 03 59.6**	**-1.7**
	baz=2.1						
NEE2				Sb	**Sb**	**12 04 32.3**	**+0.4**
	baz=2.1						
SBC	**Santa Barbara**	**2.27**	**285**	P	**Pn**	**12 04 02.1**	**-0.1**
	baz=2.3						
PDMCI	**Parker Dam,Lak**	**2.46**	**80**	P	**Pn**	**12 04 03.4**	**-1.4**
	baz=2.4						
PKM	**Peak Mountain**	**2.49**	**294**	P	**Pn**	**12 04 05.4**	**0.0**
	baz=2.5						
CWC	**Cottonwood Cre**	**2.67**	**342**	P	**Pn**	**12 04 07.9**	**0.0**
	baz=2.6						
W13A	**Hualapai Mount**	**2.88**	**65**	P	**Pn**	**12 04 09.8**	**-1.2**
	baz=2.8						
113A	**Mohawk Valley,**	**2.98**	**111**	P	**Pn**	**12 04 10.3**	**-1.7**
	baz=3.0						
SHPR	**Sheep Range**	**3.03**	**30**	*e*Pn	**Pn**	**12 04 12.2**	**-0.7**
SHPR				*e*Sg	**Sg**	**12 04 59.5**	**-1.8**
GRAC	**Grapevine Rang**	**3.11**	**355**	P	**Pn**	**12 04 14.2**	**+0.3**
	baz=3.1						
TIN	**Tinemaha**	**3.29**	**344**	P	**Pn**	**12 04 17.

baz=6.1
BEKR Beckworth 6.52 337 *e*Pn **Pn 12 05 02.5 +1.7**
7.5nm,0.8s
BEKR *e*Sg **Sg 12 06 49.4 -3.8**
BMN Battle Mountai 6.53 359 *e*Pn **Pn 12 05 01.4 +0.6**
8.8nm,0.6s
BMN *e*Sg **Sg 12 06 51.3 -2.1**
ELK Elko 6.99 11 Pn Pn 12 05 03.9 -3.4
ELK Pg Pb 12 05 30.2 +4.2
2.0nm,0.3s,baz=180,slow=14,SNR=29
ELK Lg Lg 12 06 56.4
1.0nm,0.3s,baz=185,slow=7.6,SNR=4.2
319A Douglas 7.03 109 P **Pn 12 05 07.2 -0.5**
baz=7.0
DUG Dugway 7.14 27 *e*Pn **Pn 12 05 08.5 -0.9**
16nm,0.9s
TMUT Trail Mountain 7.16 39 Pn **Pn 12 05 09.1 -0.6**
14nm,0.4s
SRU San Rafael 7.40 43 *e*Pn **Pn 12 05 12.6 -0.4**
12nm,0.6s
320A Kipp Ranch, An 7.64 107 P **Pn 12 05 16.3 +0.2**
baz=7.6
MVCO Mesa Verde 7.72 62 Pn **Pn 12 05 16.1 -1.3**
32nm,0.6s
MVCO Mesa Verde 7.72 62 P **Pn 12 05 18.3 +1.0**
baz=7.7
121A Cookes Peak, D 7.89 97 *e*Pn **Pn 12 05 19.3 -0.4**
30nm,0.4s
121A *e*Sn **Sn 12 06 47.4 -2.2**
121A Cookes Peak, D 7.89 97 P **Pn 12 05 19.2 -0.4**
baz=7.8
PV04 Paradox Valley 7.98 53 *e*Pn **Pn 12 05 22.0 +1.1**
221A Mesquite Ranch 8.03 101 P **Pn 12 05 21.0 -0.5**
baz=8.0
PV01 Paradox Valley 8.07 56 Pn **Pn 12 05 23.4 +1.2**
1µm,0.5s
LAZ Ladron 8.24 84 Pn **Pn 12 05 24.1 -0.4**
6.3nm,0.8s
LENM Lemitar 8.38 85 *e*Pn **Pn 12 05 23.9 -2.5**
4.0nm,0.6s
Y22D IRIS PASSCAL I 8.43 86 P **Pn 12 05 27.9 +1.0**
baz=8.4
Z22A Elephant Butte 8.45 92 P **Pn 12 05 27.3 0.0**
baz=8.4
222A Williams Famil 8.55 99 P **Pn 12 05 28.4 -0.4**
baz=8.5
HVU Hansel Valley 8.57 22 *e*Pn **Pn 12 05 30.1 +1.2**
7.3nm,0.6s
BNM Barren Site 8.67 85 *e*Pn **Pn 12 05 30.9 +0.6**
4.6nm,0.3s
ANMO Albuquerque 8.82 80 *e*Pn **Pn 12 05 32.1 -0.4**
6.9nm,0.6s
ANMO Pg Pg 12 06 07.8 -5.1
ANMO Lg Lg 12 08 00.0
ANMO Albuquerque 8.82 80 Pn **Pn 12 05 33.6 +1.2**
0.3nm,0.3s,baz=268,slow=12,SNR=6.1
ANMO Pg Pg 12 06 07.8 -5.1
0.8nm,0.3s,baz=276,slow=14,SNR=14
ANMO Lg Lg 12 08 00.0
0.4nm,0.3s,baz=59,slow=10,SNR=4.1
Z23A Rita Site, Whi 9.06 91 P **Pn 12 05 35.9 +0.2**
baz=9.0
123A Bell Site, Whi 9.13 95 P **Pn 12 05 36.7 +0.1**
baz=9.1
Y23A Lovelace Mesa, 9.15 87 P **Pn 12 05 37.0 +0.1**
baz=9.1
Y24A Capitan 9.66 87 P **Pn 12 05 44.3 +0.4**
baz=9.6
Z24A Sheeppen Canyo 9.77 90 P **Pn 12 05 45.4 -0.1**
baz=9.7
124A Stringfield Ra 9.79 94 P **Pn 12 05 45.8 0.0**
baz=9.7
224A Cornudas Mount 9.86 97 P **Pn 12 05 46.1 -0.6**
baz=9.8
MNTX Cornudas Mount 10.07 99 *e*Pn **Pn 12 05 49.2 -0.2**
5.1nm,0.3s
MNTX *e*Sn **Sn 12 07 40.1 -2.8**
Z25A Roswell 10.32 90 P **Pn 12 05 53.6 +0.7**
baz=10
225A Deer Hill, Car 10.43 96 P **Pn 12 05 55.4 +0.9**
baz=10
125A Gardner Draw, 10.46 93 P **Pn 12 05 56.2 +1.4**
baz=10
325A Bean Ranch, Si 10.50 101 P **Pn 12 05 55.2 -0.3**
baz=10
PDAR Pinedale Array 10.63 31 Pn **Pn 12 06 00.2 +2.9**
PDAR Pg 12 06 47.9
PDAR Pinedale Array 10.63 31 Pn **Pn 12 06 00.2 +2.9**
0.1nm,0.3s,baz=213,slow=13,SNR=3.1
PDAR Pg 12 06 47.9
0.1nm,0.3s,baz=221,slow=16,SNR=3.7
226B Tecolote Peak, 10.98 96 P **Pn 12 06 03.7 +1.7**
baz=11
LPIG La Paz 11.40 147 Pn **Pn 12 06 09.9 +2.3**
LPIG La Paz 11.40 147 Pn **Pn 12 06 09.9 +2.3**
5.4nm,0.3s,baz=261,slow=13,SNR=3.0
TXAR Lajitas Array 12.29 108 Pn **Pn 12 06 20.8 +1.0**
TXAR Lg Lg 12 09 57.9
TXAR Lajitas Array 12.29 108 Pn **Pn 12 06 20.8 +1.0**
0.6nm,0.3s,baz=293,slow=12,SNR=56
TXAR Lg Lg 12 09 57.9
0.0nm,0.3s,baz=288,slow=29,SNR=3.1
NEW Newport 14.36 360 Pn Pn 12 06 51.2 +3.3
NEW Newport 14.36 360 Pn Pn 12 06 51.2 +3.3
0.0nm,0.3s,baz=163,slow=17,SNR=1.8
ULM Lac du Bonnet 22.56 37 P **P 12 08 25.5 +0.6**
ULM Lac du Bonnet 22.56 37 P **P 12 08 25.5 +0.6**
2.1nm,0.7s,baz=243,slow=2.3,SNR=2.6
DLBC Dease Lake 26.04 344 LR LR 12 20 09.8
comp=Z,72nm,21.1s,baz=320,slow=39
YKA Yellowknife Ar 28.66 2 P **P 12 09 20.8 -0.7**
YKA Yellowknife Ar 28.66 2 P **P 12 09 20.8 -0.7**
0.1nm,0.5s,baz=178,slow=9.2,SNR=6.3
ILAR Eielson Array 35.83 339 P **P 12 10 24.6 +0.4**
ILAR Eielson Array 35.83 339 P **P 12 10 24.6 +0.4**
0.3nm,0.6s,baz=152,slow=7.9,SNR=6.4
MDJ Mudanjiang 81.19 318 P **P 12 15 41.6 +0.7**
MDJ pmax pmax
comp=Z,8.0nm,1.8s
MDJ pmax pmax
comp=Z,110nm,5.6s
WMQ Urumqi 99.42 342 *e*P **Pdif 12 17 08.3 +0.4**
LZH Lanzhou 100.58 327 *e*P **Pdif 12 17 12.0 -1.4**
LZH pP pP 12 17 16.8 +2.2
LZH sP sP 12 17 19.0 +4.0
LZH pmax pmax
comp=Z,14nm,1.0s

RSPR 16 12:16:23.3, 18°.46N×68°.37W, h172km±2km, MD3.6/8, 11C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.06**	**352**	*e*P		Pn	12 16 45.7	-0.3
PCDR	**Punta Cana, DR**	**0.06**	**352**	*e*S		Sn	12 17 03.2	-0.3
IDE	**Isla Desecheo**	**0.86**	**95**	⇓*e*P		Pn	12 16 49.4	+0.3
IDE	**Isla Desecheo**	**0.86**	**95**	*e*S		Sn	12 17 08.5	-0.4
DR12	**Loma Pena Alta**	**1.01**	**289**	⇑*e*P		Pn	12 16 50.0	-0.3
DR12				*e*S		Sn	12 17 10.2	-0.9
AGPR	**Aguadilla, PR**	**1.20**	**89**	⇓*e*P		Pn	12 16 52.0	+0.2
AGPR	**Aguadilla, PR**	**1.20**	**89**	*e*S		Sn	12 17 13.3	-0.3
LSP	**Las Mesas**	**1.25**	**103**	⇑*e*P		Pn	12 16 52.2	-0.1
LSP	**Las Mesas**	**1.25**	**103**	*e*S		Sn	12 17 14.6	0.0
CRPR	**Cabo Rojo, PR**	**1.28**	**110**	⇑*e*P		Pn	12 16 52.2	-0.3
CRPR	**Cabo Rojo, PR**	**1.28**	**110**	*e*S		Sn	12 17 14.9	-0.1
LRS	**Lares**	**1.46**	**96**	⇑*e*P		Pn	12 16 53.8	-0.4
AOPR	**Arecibo Observ**	**1.54**	**94**	⇑*e*P		Pn	12 16 55.0	0.0
OBIP	**Obispado Ponce**	**1.73**	**104**	⇑*e*P		Pn	12 16 56.3	-0.6
OBIP	**Obispado Ponce**	**1.73**	**104**	*e*S		Sn	12 17 22.4	-0.4
CELP	**Cerrillos**	**1.75**	**102**	⇑*e*P		Pn	12 16 56.7	-0.4
CELP				*e*S		Sn	12 17 23.1	0.0
CBYP	**Canovanas**	**2.40**	**94**	⇑*e*P		Pn	12 17 04.2	-0.2
HUMP	**Col San Antoni**	**2.42**	**97**	⇑*e*P		Pn	12 17 04.5	0.0
MTP	**Monte Pirata**	**2.70**	**97**	⇑*e*P		Pn	12 17 08.1	+0.1

MAN 16 12:26:20, 7°.15N×125°.98E, h30km, mb4.5, ML3.3, MS3.2, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.34**	**126**	*e*P		Pn	12 26 29.6	+0.7
MATI				*e*S		Sn	12 26 37.7	+2.8
DMPH	**Davao City--Mi**	**0.47**	**262**	⇑*i*P		Pn	12 26 31.7	+0.9
DMPH				*i* S		Sn	12 26 40.2	+2.1
BIPH	**Bislig**	**1.10**	**20**	⇑*e*P		Pb	12 26 40.0	-0.4
BIPH				*e*S		Sb	12 26 54.1	-0.2
BUKP	**Musuan**	**1.16**	**309**	*e*P		Pn	12 26 40.9	+0.6
BUKP				*e*S		Sn	12 26 51.1	-4.1
GSPH	**General Santos**	**1.47**	**224**	⇑*i*P		Pn	12 26 44.2	-0.4
CTBH	**Cotabato--PC H**	**1.72**	**272**	⇑*i*P		Pn	12 26 48.6	+0.7
CGP	**Cagayan de Oro**	**1.82**	**316**	⇑*e*P		Pn	12 26 50.5	+1.2
CGP				*e*S		Sb	12 27 15.0	0.0
BUTP	**Butuan**	**1.84**	**349**	*e*P		Pb	12 26 52.6	-0.5
PAGZ	**Pagadian**	**2.67**	**285**	*e*P		Pn	12 27 00.8	-0.1

CSEM ***16*** *12:35:47.8, 37°.96N×20°.08E, h4km, MD3.5, After ATH*
ATH ***16*** *12:35:47.8, 37°.96N×20°.08E, h4km±2km, MD3.5/14*
ISC 16 12:35:48.0±1.6, 37°.96N±0°.05×20°.07E±0°.06, h12km±10km, n40, σ1§10/54, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.46**	**62**	*e*PG		Pg	12 35 56.7	-0.4
VLS				*e*SG		Sg	12 36 02.7	-0.5
VLS	**Valsamata**	**0.46**	**62**	*e*Pg		Pg	12 35 56.7	-0.4
VLS				*e*Sg		Sg	12 36 02.7	-0.5
LKD2	**Lefkada island**	**0.94**	**29**	*e*PG		Pg	12 36 05.6	-0.6
LKD2				*e*SG		Sb	12 36 19.1	+0.4
LKD2	**Lefkada island**	**0.94**	**29**	*e*Pg		Pg	12 36 05.6	-0.6
LKD2				*e*Sg		Sb	12 36 19.1	+0.4
PDO	**Prodromos**	**1.08**	**54**	*e*PG		Pg	12 36 08.0	-0.8
PDO				*e*SG		Sb	12 36 23.2	+0.6
PDO	**Prodromos**	**1.08**	**54**	*e*Pg		Pg	12 36 08.0	-0.8
PDO				*e*Sg		Sb	12 36 23.2	+0.6
RLS	**Riolos of Patr**	**1.11**	**85**	*e*PG		Pg	12 36 08.4	-0.9
RLS	**Riolos of Patr**	**1.11**	**85**	*e*Pg		Pg	12 36 08.4	-0.9
DRO	**Drossia**	**1.29**	**90**	*e*PG		Pg	12 36 11.9	-1.0
DRO	**Drossia**	**1.29**	**90**	*e*Pg		Pg	12 36 11.9	-1.0
AMT	**Artemida-Makis**	**1.37**	**108**	*e*PN		Pn	12 36 14.0	+1.1
AMT				*e*SB		Sg	12 36 32.3	+0.3
AMT	**Artemida-Makis**	**1.37**	**108**	*e*Pn		Pn	12 36 14.0	+1.1
AMT				*e*Sb		Sg	12 36 32.3	+0.3
EFP	**Efpalio**	**1.52**	**72**	*e*PB		Pb	12 36 16.2	+0.2
EFP	**Efpalio**	**1.52**	**72**	*e*Pb		Pb	12 36 16.2	+0.2
LAKA	**Lakka**	**1.53**	**79**	*e*PG		Pn	12 36 15.6	+0.5
LAKA	**Lakka**	**1.53**	**79**	*e*Pg		Pn	12 36 15.6	+0.5
IGT	**Igoumenitsa**	**1.58**	**7**	*e*PB		Pg	12 36 17.6	-0.7
IGT				*e*SB		Sg	12 36 38.9	+0.1
IGT	**Igoumenitsa**	**1.58**	**7**	*e*Pb		Pg	12 36 17.6	-0.7
IGT				*e*Sb		Sg	12 36 38.9	+0.1
KLV	**Kalavryta, Ach**	**1.64**	**87**	*e*PN		Pn	12 36 17.7	+1.0
KLV	**Kalavryta, Ach**	**1.64**	**87**	*e*Pn		Pn	12 36 17.7	+1.0
EVR	**Evrytania**	**1.66**	**55**	*e*PB		Pg	12 36 19.7	-0.2
EVR	**Evrytania**	**1.66**	**55**	*e*Pb		Pg	12 36 19.7	-0.2
ITM	**Ithomi**	**1.67**	**117**	*e*PB		Pb	12 36 19.5	+0.9
ITM				*e*SB		Sg	12 36 42.1	+0.4
ITM	**Ithomi**	**1.67**	**117**	*e*Pb		Pb	12 36 19.5	+0.9
ITM				*e*Sb		Sg	12 36 42.1	+0.4
KEK	**Kerkira**	**1.76**	**353**	*e*PG		Pb	12 36 20.5	+0.3
KEK	**Kerkira**	**1.76**	**353**	*e*Pg		Pb	12 36 20.5	+0.3
GUR	**Goura**	**1.79**	**90**	*e*PN		Pn	12 36 20.3	+1.5
GUR	**Goura**	**1.79**	**90**	*e*Pn		Pn	12 36 20.3	+1.5
MAKR	**Makrakomi, Fth**	**1.93**	**56**	*e*PG		Pb	12 36 23.7	+0.7
MAKR	**Makrakomi, Fth**	**1.93**	**56**	*e*Pg		Pb	12 36 23.7	+0.7
DSF	**Desfina**	**1.99**	**76**	*e*PN		Pb	12 36 24.0	0.0
DSF	**Desfina**	**1.99**	**76**	*e*Pn		Pb	12 36 24.0	0.0
AGG	**Agios Georgios**	**2.06**	**59**	*e*PN		Pb	12 36 25.1	-0.3
AGG	**Agios Georgios**	**2.06**	**59**	*e*Pn		Pb	12 36 25.1	-0.3
DID	**Didima**	**2.55**	**99**	*e*PN		Pb	12 36 32.7	-1.0
DID	**Didima**	**2.55**	**99**	*e*Pn		Pb	12 36 32.7	-1.0
FNA	**Florina**	**2.99**	**19**	*e*PN		Pn	12 36 38.2	+3.0
FNA	**Florina**	**2.99**	**19**	*e*Pn		Pn	12 36 38.2	+3.0
STON	**Ston**	**5.22**	**340**	*e*Pn		Pn	12 37 06.7	+0.8
STON				Sn		Sn	12 38 03.5	-2.5
NVLJ	**Novalja**	**7.67**	**331**	*i* Pn		Pn	12 37 41.0	+1.7
NVLJ				Sn		Sn	12 39 02.9	-3.2

ISCJB ***16*** *12:44:36.6±0.6, 25°.04N±0°.05×141°.5E±0°.1, h500km, mb3.4/11, Error ellipse: s-maj=15.6km s-min=6.2km az=178.1*
IDC ***16*** *12:44:37.0±0.7, 25°.06N×141°.76E, h504km±7km, mb3.1/11, mb1 3.3/15, mb1mx3.1/28, mbtmp3.1/15, Error ellipse: s-maj=15.0km s-min=12.1km az=81.0*
JMA ***16*** *12:44:38.9±0.2, 25°.31N×141°.68E, h511km, M5.2*
ISC 16 12:44:37.1±0.7, 25°.11N±0°.08×141°.7E±0°.1, h500km, n29, σ1§50/39, mb3.4/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.58**	**15**	P		**P**	**12 45 43.1**	**+2.9**
JHHJ				S		**S**	**12 46 34.1**	**+2.5**
JCJ	**Chichijima**	**2.03**	**12**	P		**P**	**12 45 44.6**	**+2.3**
84nm,0.3s,baz=290,slow=22,SNR=51								
JCJ				S		**S**	**12 46 35.8**	**+0.5**
37nm,0.3s,baz=281,slow=18,SNR=4.3								
CBIJ	**Chichi jima**	**2.03**	**12**	P		**P**	**12 45 44.5**	**+2.3**
CBIJ				S		**S**	**12 46 36.2**	**+0.9**
JHJ2	**Mitsune**	**8.15**	**349**	P		**P**	**12 46 35.3**	**+0.4**
BSO1	**Boso 1**	**9.54**	**356**	P		**P**	**12 46 51.1**	**+2.3**
BSO1				S		**S**	**12 48 40.3**	**+3.0**
BSO3	**Boso 3**	**9.72**	**354**	P		**P**	**12 46 53.6**	**+2.6**
BSO3				S		**S**	**12 48 41.0**	**-0.3**
BSO4	**Boso 4**	**9.92**	**353**	S		**S**	**12 48 44.8**	**-0.7**
JOD2	**Odawara 2**	**10.37**	**348**	P		**P**	**12 46 59.5**	**+1.2**
JOD2				S		**S**	**12 48 53.3**	**-1.2**
JHU	**Hanno**	**10.91**	**350**	P		**P**	**12 47 04.4**	**+0.4**
JHU				S		**S**	**12 49 02.6**	**-2.4**
JRY	**Ryogami san**	**11.14**	**348**	P		**P**	**12 47 06.6**	**+0.2**
JRY				S		**S**	**12 49 06.8**	**-2.6**
JYT	**Yasato**	**11.16**	**354**	P		**P**	**12 47 07.0**	**+0.4**
JYT				S		**S**	**12 49 08.7**	**-1.1**
JAG	**Ashikaga**	**11.45**	**351**	P		**P**	**12 47 10.4**	**+0.7**
JAG				S		**S**	**12 49 12.4**	**-2.0**
JHO	**Hitachi**	**11.51**	**355**	S		**S**	**12 49 16.0**	**-0.5**
MJAR	**Matsushiro Arr**	**11.79**	**346**	P		**P**	**12 47 13.1**	**-0.2**
0.6nm,0.3s,baz=166,slow=11,SNR=9.5								
JNU	**Nakatsue**	**12.38**	**313**	P		**P**	**12 47 21.9**	**+2.3**
0.2nm,0.3s,baz=151,slow=6.7,SNR=3.8								
KSRS	**Korea Array**	**17.02**	**320**	P		**P**	**12 48 09.2**	**+1.1**
1.0nm,0.3s,baz=148,slow=8.7,SNR=48								
SONM	**Songino Array**	**35.88**	**318**	P		**P**	**12 50 54.7**	**+0.4**
0.7nm,0.5s,baz=134,slow=8.0,SNR=12								
CMAR	**Chiang Mai Arr**	**40.13**	**269**	P		**P**	**12 51 29.1**	**-0.3**
1.4nm,0.7s,baz=58,slow=7.4,SNR=10								
WRA	**Warramunga Arr**	**45.35**	**190**	P		**P**	**12 52 09.2**	**-0.9**
0.9nm,0.3s,baz=7.8,slow=7.9,SNR=68								
ASAR	**Alice Springs**	**49.07**	**189**	P		**P**	**12 52 37.1**	**-1.1**
0.5nm,1.0s,baz=21,slow=6.4,SNR=3.6								
ZALV	**Zalesovo Beam**	**50.72**	**320**	P		**P**	**12 52 49.4**	**-0.5**
1.1nm,0.3s,baz=106,slow=8.5,SNR=8.4								
MKAR	**Makanchi Array**	**51.43**	**311**	P		**P**	**12 52 55.3**	**+0.1**
0.9nm,0.5s,baz=86,slow=9.1,SNR=38								
ILAR	**Eielson Array**	**59.66**	**28**	P		**P**	**12 53 51.3**	**-0.9**
0.9nm,0.8s,baz=254,slow=5.5,SNR=3.9								
YKA	**Yellowknife Ar**	**74.09**	**28**	P		**P**	**12 55 20.9**	**-0.4**
1.0nm,0.5s,baz=293,slow=6.0,SNR=32								
KBZ	**Khabaz**	**79.05**	**313**	P		**P**	**12 55 49.1**	**+0.1**
0.9nm,0.5s,baz=67,slow=7.7,SNR=3.4								
FINES	**FINESS Array B**	**79.54**	**334**	P		**P**	**12 55 50.2**	**-1.1**
0.8nm,0.8s,baz=58,slow=5.4,SNR=2.8								
NVAR	**Mina Array Bea**	**82.08**	**51**	P		**P**	**12 56 05.7**	**+0.4**
1.0nm,0.8s,baz=285,slow=5.9,SNR=5.5								
PLCA	**Paso Flores**	**148.97**	**128**	PKPbc		**PKPbc**	**13 03 27.9**	**-0.6**
1.8nm,0.8s,baz=229,slow=6.1,SNR=4.8								
LPAZ	**La Paz**	**150.79**	**78**	PKPbc		**PKPbc**	**13 03 33.6**	**-0.5**
1.2nm,0.4s,baz=348,slow=3.6,SNR=5.4								

ISCJB ***16*** *12:59:36.4±0.8, 25°.46S±0°.07×179°.4W±0°.1, h432km, mb3.6/5, Error ellipse: s-maj=15.4km s-min=9.0km az=170.2*
IDC ***16*** *12:59:38.9±4.9, 25°.57S×179°.48W, h442km±57km, mb3.3/5, mb1 3.6/7, mb1mx3.3/19, mbtmp4.2/7, Error ellipse: s-maj=53.0km s-min=25.2km az=174.0*
ISC 16 12:59:38.0±1.0, 25°.47S±0°.10×179°.4W±0°.1, h432km, n23, σ1§50/24, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**12.48**	**190**	PN	**P**	**13 02 21.9**	**-0.2**
MWZ	**Matawai**	**13.09**	**191**	PN	**P**	**13 02 28.3**	**-0.5**
MWZ				SN	**S**	**13 04 49.9**	**0.0**
URZ	**Urewera**	**13.09**	**192**	P	**P**	**13 02 28.8**	**0.0**
4.8nm,0.3s,baz=318,slow=3.6,SNR=34							
URZ	**Urewera**	**13.09**	**192**	PN	**P**	**13 02 27.4**	**-1.3**
URZ				SN	**S**	**13 04 49.1**	**-0.7**
DZM	**Mont Dzumac**	**13.38**	**282**	P	**P**	**13 02 33.9**	**+1.7**
1.2nm,0.3s,baz=81,slow=17,SNR=14							
BKZ	**Black Stump Fm**	**14.09**	**193**	PN	**P**	**13 02 40.2**	**+0.6**
LHI	**Lord Howe Isla**	**19.84**	**247**	P	**P**	**13 03 41.6**	**+2.7**
baz=20,SNR=3.9							
ARMA	**Armidale**	**26.01**	**252**	P	**P**	**13 04 36.2**	**+1.5**
baz=26,SNR=6.9							
MGCD	**Mangrove Creek**	**26.76**	**246**	P	**P**	**13 04 43.1**	**+2.0**
baz=27,SNR=7.1							
RMQ	**Roma**	**28.59**	**261**	P	**P**	**13 04 58.9**	**+1.5**
baz=28,SNR=6.7							
QLP	**Quilpie**	**32.61**	**260**	P	**P**	**13 05 32.2**	**0.0**
baz=32,SNR=5.0							
STKA	**Stephens Creek**	**34.66**	**250**	P	**P**	**13 05 49.4**	**-0.2**
1.3nm,0.5s,baz=91,slow=12,SNR=4.3							
HTT	**Hallett**	**36.94**	**248**	P	**P**	**13 06 08.8**	**+0.2**
baz=37,SNR=5.3							
MANU	**Manus Island**	**39.56**	**301**	P	P	13 06 23.5	-6.8
baz=38,SNR=3.6							
ASAR	**Alice Springs**	**42.32**	**262**	P	**P**	**13 06 51.7**	**-0.7**
4.7nm,0.8s,baz=95,slow=7.1,SNR=46							
WRA	**Warramunga Arr**	**42.85**	**268**	P	**P**	**13 06 55.4**	**-1.2**
6.7nm,0.6s,baz=103,slow=8.1,SNR=40							
WRKA	**Warakurna**	**47.03**	**259**	P	**P**	**13 07 27.9**	**-1.1**
baz=47,SNR=13							
KNRA	**Kununurra**	**49.23**	**271**	P	**P**	**13 07 44.8**	**-0.7**
baz=48,SNR=26							
FITZ	**Fitzroy Crossi**	**51.25**	**267**	P	**P**	**13 07 60.0**	**-0.5**
baz=51,SNR=16							
LUWI	**Luwuk**	**60.71**	**284**	S	**S**	**13 16 44.8**	**-4.5**
baz=60,SNR=3.4							
NVAR	**Mina Array Bea**	**85.51**	**44**	P	**P**	**13 11 29.1**	**-0.2**
0.4nm,0.7s,baz=236,slow=6.4,SNR=3.5							
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**13 11 54.1**	**-0.1**
0.2nm,0.7s,baz=218,slow=6.6,SNR=3.0							
AKASG	**Malin Array Be**	**146.57**	**326**	PKPbc	**PKPbc**	**13 18 30.5**	**+1.0**
0.5nm,0.4s,baz=45,slow=4.0,SNR=4.6							

ISCJB ***16*** *13:04:05.0±0.2, 54°.65N±0°.02×141°.79E±0°.05, h10km, mb4.1/37, MS3.8/8, Error ellipse: s-maj=4.5km s-min=3.2km az=4.5*
SKHL ***16*** *13:04:04.3±0.2, 54°.61N×141°.60E, h9km±3km, mb4.9/4, Ms4.2/2, msh4.9/1*
IDC ***16*** *13:04:05.6±0.6, 54°.74N×141°.85E, h0km, mb4.0/23, mb1 4.3/25, mb1mx4.2/32, mbtmp4.0/25, ML3.2/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/42, Error ellipse: s-maj=16.4km s-min=11.8km az=145.0*
MOS ***16*** *13:04:05.0±1.4, 54°.68N×142°.08E, h9km, mb4.4/6, Error ellipse: s-maj=11.7km s-min=6.3km az=89.3*
NEIC ***16*** *13:04:07.0±0.3, 54°.71N×141°.96E, h10km, mb4.4/10, Error ellipse: s-maj=8.4km s-min=6.9km az=145.0*
ISC 16 13:04:06.7±0.3, 54.73°N±0°.03×141°.93E±0°.03, h10km, n125, σ1§74/133, mb4.3/37, MS3.8/8, 4C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**1.32**	**153**	⇑*i*PN		**Pn**	**13 04 28.9**	**-2.2**
OKH				*i* S		**Sg**	**13 04 48.0**	**-1.1**
OKH				pmax	pmax			
comp=N,2.0nm,1.0s								
OKH				smax	smax			
comp=N,7.0nm,0.5s								
OKH				smax	smax			
comp=E,7.0nm,0.5s								
OKH	**Okha**	**1.32**	**153**	⇑*i*Pg		**Pn**	**13 04 29.0**	**-2.2**
OKH				⇑*i*Pg		**Pn**	**13 04 29.0**	**-2.2**
OKH				AMB	AMB	13 04 30.1		
comp=E,7µm,1.0s								
OKH				AMB	AMB	13 04 30.1		
comp=E,200nm,0.5s								
OKH				⇓*i*Sg		**Sg**	**13 04 47.6**	**-1.5**
OKH				A	A	13 04 53.0		
comp=E,7µm,0.5s								
OKH	**Okha**	**1.32**	**153**	*e*Pg		**Pn**	**13 04 28.9**	**-2.2**
OKH				AMB	AMB	13 04 29.3		
comp=E,2µm,1.0s								
OKH				*i* Sg		**Sb**	**13 04 46.0**	**-2.5**
OKH				A	A	13 04 53.0		
comp=E,7µm,0.5s								
NKL	**Nikolayevsk**	**1.74**	**206**	*i* Pg		**Pn**	**13 04 36.0**	**-1.0**
NKL				AMB	AMB	13 04 37.0		
comp=E,500nm,2.0s								
NKL				AMB	AMB	13 04 37.0		
comp=E,600nm,2.0s								
NKL				AMB	AMB	13 04 39.0		
comp=E,440nm,0.3s								
NKL				*i* Sg		**Sb**	**13 05 00.5**	**-0.2**
NKL				A	A	13 05 05.0		
comp=E,6µm,2.0s								
NKL				A	A	13 05 05.0		
comp=E,8µm,2.0s								
NKL				AMS	AMS	13 05 36.0		
comp=E,4µm,7.0s								
NKL				AMS	AMS	13 05 36.0		
comp=E,4µm,7.0s								
NKL				AMS	AMS	13 05 36.0		
NKL	**Nikolayevsk**	**1.74**	**206**	*e*Pg		**Pn**	**13 04 35.5**	**-1.5**
NKL				AMB	AMB	13 04 39.0		
comp=E,440nm,0.3s								
NKL				sP	Sn	13 04 42.0	-17	
NKL				AMB	AMB	13 04 43.5		
comp=E,1µm,2.0s								
NKL				AMB	AMB	13 04 43.5		
comp=E,1µm,2.0s								
NKL				AMB	AMB	13 04 43.5		
comp=E,2µm,2.0s								
NKL				*e*Sg		**Sb**	**13 04 57.5**	**-3.2**
NKL				A	A	13 05 05.0		
comp=E,6µm,1.5s								
NKL				A	A	13 05 05.0		
comp=E,8µm,1.5s								
NKL				AMS	AMS	13 06 36.0		
comp=E,4µm,6.0s								
NKL				AMS	AMS	13 06 36.0		
comp=E,4µm,6.0s								
TYV	**Tymovskoe**	**3.90**	**173**	*e*P

comp=E,220nm,0.5s
EKMR Ekimchan 5.56 256 *e*P **Pn** 13 05 26.7 **-2.8**
EKMR *e*Pg Pg 13 05 49.3 -3.9
EKMR AMB AMB 13 05 53.9
comp=E,14nm,0.6s
EKMR AMB AMB 13 05 53.9
comp=E,25nm,0.6s
EKMR AMB AMB 13 05 53.9
comp=E,26nm,0.6s
EKMR *e*S Sn 13 06 26.5 -6.9
EKMR *e*Sg **Sg** **13 07 03.0 -2.1**
EKMR A A 13 07 11.5
comp=E,730nm,0.8s
EKMR A A 13 07 11.5
comp=E,370nm,0.8s
EKMR A A 13 07 11.5
comp=E,180nm,0.8s
UGL Uglegorsk 5.66 179 *e*Pg **Pg** **13 05 56.0 +1.0**
UGL AMB AMB 13 06 02.0
comp=E,78nm,0.8s
UGL AMS AMS 13 08 34.0
comp=E,1μm,11.0s
UGL AMS AMS 13 08 34.0
comp=E,1μm,11.0s
UGL AMS AMS 13 08 34.0
comp=E,2μm,11.0s
UGL Uglegorsk 5.66 179 *e*rx rx 13 06 00.5
UGL AMB AMB 13 06 02.0
comp=E,78nm,0.8s
UGL *e*rx rx 13 06 15.0
UGL *e*S Sn 13 06 27.5 -8.3
UGL *e*rx rx 13 07 44.0
UGL A A 13 07 45.0
comp=E,112nm,1.0s
UGL A A 13 07 55.0
comp=E,1μm,7.0s
UGL A A 13 07 55.0
comp=E,1μm,7.0s
UGL AMS AMS 13 09 34.0
comp=E,1μm,11.0s
UGL AMS AMS 13 09 34.0
comp=E,1μm,11.0s
UGL AMS AMS 13 09 34.0
comp=E,2μm,11.0s
BMKR Bomnak 7.58 275 *e*Pg Pb 13 06 24.5 +6.3
BMKR AMB AMB 13 06 25.5
comp=E,5.0nm,0.5s
BMKR *e*Sg **Sg** **13 08 07.3 -2.5**
HABR Khabarovsk 7.58 217 *e*PN **Pn** **13 05 55.4 -1.8**
YSS Yuzh-Sakhalins 7.80 176 *e*PN **Pn** **13 05 59.0 -1.2**
YSS MLR MLR
comp=Z,700nm,14.0s
YSS Yuzh-Sakhalins 7.80 176 *e*P **Pn** **13 05 59.0 -1.2**
YSS *e*S **Sn** **13 07 31.5 +3.0**
YSS AMS AMS 13 10 08.0
comp=Z,700nm,14.0s
YSS Yuzh-Sakhalins 7.80 176 *e*P **Pn** **13 05 59.1 -1.2**
YSS Yuzh-Sakhalins 7.80 176 *e*P **Pn** **13 05 59.0 -1.2**
YSS *e*rx rx 13 06 09.2
YSS *e*S **Sn** **13 07 31.5 +3.0**
YSS AMS AMS 13 10 08.0
comp=Z,700nm,14.0s
YASR Yasnyy 8.34 266 *e*P Pn 13 06 02.4 -5.2
YASR *e*Pg Pb 13 06 35.4 +4.2
YASR AMB AMB 13 06 37.9
comp=Z,8.0nm,0.6s
YASR *e*S **Sn** **13 07 38.8 -3.0**
YASR *i* Sg **Sg** **13 08 31.3 -2.9**
YASR A A 13 08 43.8
comp=Z,310nm,1.0s
KLR Kul'dur 8.35 233 *e*Pg Pg 13 06 39.3 -7.1
KLR AMS AMS 13 09 54.0
comp=E,1μm,11.0s
KLR AMS AMS 13 09 54.0
comp=Z,3μm,11.0s
ZEA Zeya 8.66 269 *e*Pg Pg 13 06 44.8 -7.5
ZEA AMB AMB 13 06 45.5
comp=Z,7.0nm,0.7s
ZEA *e*Sg **Sg** **13 08 45.5 +1.2**
ZEA A A 13 08 52.8
comp=Z,159nm,1.0s
KROS Kirovskiy 8.70 274 *e*P Pn 13 06 07.5 -5.0
KROS AMB AMB 13 06 12.9
comp=Z,3.0nm,0.5s
KROS *e*Pg Pg 13 07 00.5 +7.5
KROS AMB AMB 13 07 01.5
comp=Z,7.0nm,0.7s
KROS *e*Sg **Sg** **13 08 42.0 -3.5**
KROS A A 13 08 45.9
comp=Z,78nm,0.7s
PETK Petropavlovsk- 9.45 93 PN **Pn** **13 06 21.0 -1.8**
PETK Petropavlovsk- 9.45 93 Pn **Pn** **13 06 21.0 -1.8**
PETK Sn **Sn** **13 08 04.7 -4.3**
PETK Petropavlovsk- 9.45 93 Pn **Pn** **13 06 21.0 -1.8**
comp=Z,1.1nm,0.3s,baz=294,slow=13,SNR=36
PETK Sn **Sn** **13 08 04.7 -4.3**
comp=Z,1.3nm,0.3s,baz=293,slow=22,SNR=6.4
PETK LR LR 13 10 20.7
comp=Z,161nm,21.0s,baz=294,slow=40
YAK Yakutsk 9.73 324 *e*PN **Pn** **13 06 27.8 +1.2**
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=Z,12nm,0.7s
YAK MLR MLR
comp=Z,225nm,12.0s
YAK MLR MLR
comp=E,390nm,11.0s
YAK Yakutsk 9.73 324 *e*P **Pn** **13 06 28.0 +1.4**
YAK Yakutsk 9.73 324 *e*P **Pn** **13 06 28.9 +2.3**
SEY Seymchan 9.84 29 PN **Pn** **13 06 26.9 -1.1**
SEY Seymchan 9.84 29 Pn **Pn** **13 06 26.9 -1.1**
SEY Sn **Sn** **13 08 15.2 -3.3**
SEY Seymchan 9.84 29 Pn **Pn** **13 06 26.9 -1.1**
comp=E,1.6nm,0.3s,baz=238,slow=21,SNR=17
SEY Sn **Sn** **13 08 15.2 -3.3**
comp=E,2.5nm,0.3s,baz=54,slow=19,SNR=5.9
SEY Seymchan 9.84 29 *e*P **Pn** **13 06 30.4 +2.4**
PET Petropavlovsk 10.03 93 *e*PN **Pn** **13 06 29.6 -1.0**
PET MLR MLR
comp=Z,200nm,11.0s
PET Petropavlovsk 10.03 93 *e*P **Pn** **13 06 29.6 -1.0**
PET AMS AMS 13 10 53.6
comp=Z,213nm,11.0s
TEY Ternei 10.29 202 *e*Sg 13 09 44.8
TEY A A 13 09 51.2
comp=Z,86nm,0.9s
TEY A A 13 09 51.2
comp=Z,129nm,0.9s
ASAJ Asahikawa 10.63 177 LR LR 13 11 48.6
comp=Z,200nm,18.9s,baz=11,slow=44
TIXI Tiksi 17.90 347 *e*P **P** **13 08 18.6 +2.6**
TIXI pmax pmax
comp=Z,22nm,0.8s
TIXI Tiksi 17.90 347 *e*Pn **Pn** **13 08 14.6 -0.7**
comp=Z,18nm,0.8s
MJA0 Matsu Arr-Jizo 18.36 189 *e*P **P** **13 08 23.0 +1.6**
MAJO Matsushiro 18.37 190 *e*P **P** **13 08 20.7 -0.7**
MAJO pmax pmax
comp=Z,72nm,1.3s
MAJO Matsushiro 18.37 190 *e*P **P** **13 08 20.7 -0.7**
MJAR Matsushiro Arr 18.37 190 P **P** **13 08 21.2 -0.2**
MJAR Matsushiro Arr 18.37 190 P **P** **13 08 21.3 -0.2**
comp=Z,0.1nm,0.3s,baz=0.3,slow=10,SNR=8.1
KSRS Korea Array 19.75 215 P **Pn** **13 08 37.7 -0.4**
comp=Z,0.1nm,0.3s,baz=26,slow=11,SNR=11
KSRS LR LR 13 15 24.4
comp=Z,70nm,18.9s,baz=40,slow=34
KSAR Wonju Array Be 19.78 215 P **Pn** **13 08 37.7 -0.6**
TLY Talaya 22.94 278 *e*P **P** **13 09 12.7 +1.9**
TLY *e*S S 13 13 09.0 -12
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,122nm,13.0s
SONM Songino Array 23.08 267 P **P** **13 09 13.2 +0.8**
SONM Songino Array 23.08 267 P **P** **13 09 13.2 +0.8**
comp=Z,1.0nm,0.8s,baz=55,slow=11,SNR=7.4
SONM LR LR 13 19 05.0
comp=Z,208nm,18.5s,baz=341,slow=39
ZAK Zakamensk 23.68 275 *e*P **P** **13 09 19.8 +1.4**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
MOY Mondy 24.46 280 *e*P **P** **13 09 26.4 +0.7**
TNA Tin City 26.44 46 *e*P **P** **13 09 44.3 +1.0**

comp=Z,9.9nm,0.7s
IM04 Indian Mountai 32.20 44 *e*P **P** **13 10 34.4 -0.1**
NVS Novosibirsk 32.98 295 *e*P P 13 10 34.4 -7.0
COLD Coldfoot 33.34 41 *e*P **P** **13 10 44.5 0.0**
comp=Z,3.7nm,0.8s
MCK McKinley 34.77 47 *e*P **P** **13 10 58.7 +1.8**
MCK McKinley 34.77 47 *e*P **P** **13 10 58.7 +1.8**
COLA College 34.88 45 *e*P **P** **13 10 59.9 +2.2**
COLA pmax pmax
comp=Z,17nm,1.0s
ILAR Eielson Array 35.30 45 P **P** **13 11 01.2 -0.2**
ILAR Eielson Array 35.30 45 P **P** **13 11 01.2 -0.2**
comp=Z,5.0nm,0.8s,baz=288,slow=8.8,SNR=32
KURK Kurchatov 37.40 291 P **P** **13 11 20.6 +1.2**
KURK Kurchatov 37.40 291 P **P** **13 11 20.6 +1.2**
KURBB Kurchatov Arra 37.49 291 P **P** **13 11 20.6 +0.3**
comp=Z,1.2nm,0.7s,baz=64,slow=8.5,SNR=4.8
MK31 Makanchi Array 37.50 283 *e*P **P** **13 11 20.6 +0.2**
MK31 Makanchi Array 37.50 283 *e*P **P** **13 11 20.6 +0.2**
MKAR Makanchi Array 37.50 283 *e*P **P** **13 11 21.1 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 37.50 283 P **P** **13 11 20.9 +0.4**
MKAR Makanchi Array 37.50 283 P **P** **13 11 20.9 +0.4**
comp=Z,1.9nm,0.8s,baz=60,slow=8.6,SNR=13
MKAR LR LR 13 26 08.0
comp=Z,53nm,18.3s,baz=223,slow=35
EGAK Eagle 37.60 43 *e*P **P** **13 11 20.9 -0.1**
comp=Z,10nm,0.9s
INK Inuvik 39.04 36 P **P** **13 11 32.8 -0.2**
INK Inuvik 39.04 36 P **P** **13 11 32.8 -0.2**
comp=Z,3.6nm,0.8s,baz=302,slow=7.8,SNR=17
BVAR Borovoye Array 40.52 298 P **P** **13 11 45.5 -0.1**
BVAR Borovoye Array 40.52 298 P **P** **13 11 45.5 -0.1**
BVAR Borovoye Array 40.52 298 P **P** **13 11 45.5 -0.1**
comp=Z,1.2nm,0.8s,baz=59,slow=5.6,SNR=6.2
BRVK Borovoye 40.56 298 *i* P P 13 11 50.0 +4.1
BRVK pmax pmax
comp=Z,5.0nm,1.4s
SVE Sverdlovsk 43.22 307 *e*P P 13 12 11.9 +4.4
ARU Arti 44.40 308 *c i*P P 13 12 19.7 +2.7
ARU 13 13 56.0
ARU S **S** **13 18 56.1 +5.0**
ARU SS **SS** **13 22 05.2 -4.3**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 44.40 308 *e*P **P** **13 12 17.1 +0.1**
comp=Z,3.6nm,0.8s
AAK Ala-Archa 44.44 283 *e*P **P** **13 12 19.0 +1.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 44.44 283 *e*P **P** **13 12 19.0 +1.3**
comp=Z,2.4nm,0.8s
AAK Ala-Archa 44.44 283 P **P** **13 12 18.7 +0.9**
comp=Z,2.1nm,0.8s,baz=70,slow=5.4,SNR=5.3
RES Resolute Bay 45.50 18 P **P** **13 12 27.4 +1.8**
RES Resolute Bay 45.50 18 P **P** **13 12 27.4 +1.8**
comp=Z,5.4nm,0.8s,baz=307,slow=8.8,SNR=16
ABKAR Akbulak array 48.06 299 *e*P **P** **13 12 45.2 -0.7**
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 48.77 239 P **P** **13 12 52.5 +0.8**
CMAR Chiang Mai Arr 48.77 239 P **P** **13 12 52.5 +0.8**
comp=Z,1.3nm,0.9s,baz=20,slow=7.1,SNR=8.2
YKA Yellowknife Ar 48.80 37 P **P** **13 12 51.8 +0.4**
YKA Yellowknife Ar 48.80 37 P **P** **13 12 51.8 +0.4**
comp=Z,1.2nm,0.7s,baz=307,slow=7.5,SNR=24
FINES FINESS Array B 53.64 328 P **P** **13 13 27.2 -0.5**
FINES FINESS Array B 53.64 328 P **P** **13 13 27.2 -0.5**
comp=Z,1.3nm,0.6s,baz=33,slow=8.4,SNR=7.2
OBN Obninsk 54.66 317 P **P** **13 13 36.0 +0.8**
NB2 NORSAR Subarra 58.17 334 P P 13 14 03.1 +2.9
comp=Z,3.3nm,0.7s,baz=32,slow=6.9
NOA NORSAR Array B 58.17 334 P **P** **13 13 59.7 -0.5**
NOA NORSAR Array B 58.17 334 P **P** **13 13 59.7 -0.5**
comp=Z,3.4nm,0.8s,baz=32,slow=6.9,SNR=6.7
NOA LR LR 13 41 55.3
comp=Z,81nm,18.5s,baz=5.0,slow=39
FRB Frobisher Bay 59.52 15 P **P** **13 14 08.1 -1.4**
FRB Frobisher Bay 59.52 15 P **P** **13 14 08.1 -1.4**
comp=Z,13nm,0.7s,baz=358,slow=8.1,SNR=12
KIV Kislovodsk 60.25 305 *ǁ e*P **P** **13 14 15.2 +0.2**
KIV *PP **pP** **13 14 19.0 +0.8**
KIV pmax pmax
comp=Z,18nm,1.2s
KIV MLR MLR
comp=Z,100nm,17.0s
KBZ Khabaz 60.32 305 P **P** **13 14 14.9 -0.4**
KBZ Khabaz 60.32 305 P **P** **13 14 14.9 -0.4**
KBZ Khabaz 60.32 305 P **P** **13 14 14.9 -0.4**
comp=Z,1.3nm,0.8s,baz=51,slow=6.5,SNR=2.3
AKASG Malin Array Be 60.90 318 *e*P **P** **13 14 19.3 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 60.90 318 P **P** **13 14 18.6 -0.6**
AKASG Malin Array Be 60.90 318 P **P** **13 14 18.6 -0.6**
comp=Z,2.1nm,0.8s,baz=38,slow=8.2,SNR=4.1
HLID Hailey 62.62 53 *e*P **P** **13 14 32.7 +1.6**
comp=Z,3.2nm,1.0s
H17A Grant Village 63.71 50 *e*P **P** **13 14 40.6 +2.2**
comp=Z,6.0nm,1.3s
NVAR Mina Array Bea 64.73 59 P **P** **13 14 45.1 0.0**
NVAR Mina Array Bea 64.73 59 P **P** **13 14 45.1 0.0**
comp=Z,0.7nm,0.7s,baz=303,slow=5.4,SNR=7.0
ULM Lac du Bonnet 64.78 37 P **P** **13 14 46.1 +1.1**
ULM Lac du Bonnet 64.78 37 P **P** **13 14 46.1 +1.1**
comp=Z,3.7nm,1.0s,baz=329,slow=8.2,SNR=4.3
PDAR Pinedale Array 65.45 50 P P 13 14 52.4 +2.5
PDAR Pinedale Array 65.45 50 P P 13 14 52.3 +2.5
comp=Z,1.7nm,0.9s,baz=358,slow=1.9,SNR=11
PDAR LR LR 13 46 06.4
comp=Z,66nm,18.2s,baz=322,slow=38
CLL Collm 66.09 328 *e*P **P** **13 14 56.0 +2.6**
CLL Collm 66.09 328 *e*P **P** **13 14 56.0 +2.6**
BRTR Keskin Array B 67.78 308 P **P** **13 15 04.7 0.0**
BRTR Keskin Array B 67.78 308 P **P** **13 15 04.7 0.0**
comp=Z,1.9nm,0.8s,baz=28,slow=5.6,SNR=6.2
GERES GERESS Array B 68.01 326 P **P** **13 15 06.2 +0.3**
GERES GERESS Array B 68.01 326 P **P** **13 15 06.2 +0.3**
comp=Z,0.3nm,0.6s,baz=25,slow=5.8,SNR=3.0
O20A White River Ci 68.15 51 *e*P **P** **13 15 05.3 -1.7**
comp=Z,1.5nm,0.7s
WRA Warramunga Arr 74.65 187 P **P** **13 15 45.5 -0.5**
WRA Warramunga Arr 74.65 187 P **P** **13 15 45.5 -0.5**
comp=Z,2.8nm,0.9s,baz=6.5,slow=6.5,SNR=12
SADO Sadowa 74.92 29 LR LR 13 49 28.1
comp=Z,45nm,18.3s,baz=16,slow=36
ASAR Alice Springs 78.38 188 P **P** **13 16 07.2 +0.1**
ASAR Alice Springs 78.38 188 P **P** **13 16 07.2 +0.1**
comp=Z,1.8nm,0.7s,baz=2.6,slow=6.0,SNR=30
TXAR Lajitas Array 79.18 54 P **P** **13 16 14.1 +2.3**
TXAR Lajitas Array 79.18 54 P **P** **13 16 14.1 +2.3**
comp=Z,0.2nm,0.8s,baz=341,slow=4.8,SNR=2.9
TXAR LR LR 13 49 17.1
comp=Z,64nm,20.8s,baz=320,slow=34
ESDC Sonseca Array 81.53 334 P P 13 16 27.3 +3.1
ESDC Sonseca Array 81.53 334 P P 13 16 27.3 +3.1
comp=Z,1.2nm,0.8s,baz=17,slow=7.1,SNR=6.1

IDC ***16*** *13:29:29.2±2.0, 6˚.14N×126˚.73E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=177.5km s-min=21.7km az=67.0*
MAN ***16*** *13:29:34, 5˚.78N×126˚.68E, h32km, mb4.8, ML3.7, MS3.7*
ISCJB ***16*** *13:29:36.9±0.9, 5˚.84N±0˚.07×126˚.32E±0˚.08, h71km, mb3.3/4, Error ellipse: s-maj=12.3km s-min=9.1km az=165.3*
ISC 16 13:29:38.3±1.2,**5˚.82N**±0˚.09×**126˚.33E**±0˚.10,**h71**km,**n11,** σ2§**15**/14,**mb3.3**/4,**2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.12**	**356**	*e*P	**Pn**	**13 29 55.2**	**-3.1**
MATI				*e*S	**Sn**	**13 30 10.6**	**-2.7**
GSPH	**General Santos**	**1.40**	**281**	*i*P	**Pn**	**13 29 59.2**	**-2.9**
GSPH				*e*S	**Sn**	**13 30 17.6**	**-2.4**
DMPH	**Davao City--Mi**	**1.50**	**327**	*i*P	**Pn**	**13 30 02.6**	**-0.6**
DMPH				*i* S	**Sn**	**13 30 24.2**	**+2.2**
BUKP	**Musuan**	**2.40**	**328**	*e*P	**Pn**	**13 30 15.0**	**-0.4**
CTBH	**Cotabato--PC H**	**2.50**	**304**	*ǁ i*P	**Pn**	**13 30 17.0**	**+0.3**
BUTP	**Butuan**	**3.20**	**347**	*e*P	**Pn**	**13 30 28.1**	**+1.8**
PAGZ	**Pagadian**	**3.55**	**305**	*e*P	**Pn**	**13 30 33.4**	**+2.4**
WRA	**Warramunga Arr**	**26.79**	**163**	P	**P**	**13 35 12.7**	**+0.9**
	0.8nm,0.9s,baz=345,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**30.23**	**166**	P	**P**	**13 35 44.0**	**+1.5**
	0.2nm,0.5s,baz=341,slow=7.3,SNR=8.4						
MKAR	**Makanchi Array**	**55.62**	**325**	P	**P**	**13 39 07.9**	**+1.0**
	0.2nm,0.5s,baz=123,slow=7.1,SNR=5.5						
KURBB	**Kurchatov Arra**	**59.78**	**327**	P	**P**	**13 39 34.8**	**-1.1**
	0.2nm,0.3s,baz=128,slow=6.3,SNR=2.4						

IDC ***16*** *13:31:32.0±1.3, 18˚.53N×72˚.67W, h0km, mb3.4/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.4/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=48.2km s-min=24.3km az=39.0*
ISCJB ***16*** *13:31:32.4±1.0, 18˚.6N±0˚.2×72˚.7W±0˚.2, h13km, mb3.4/7, MS3.0/1, Error ellipse: s-maj=40.8km s-min=18.2km az=44.6*
ISC 16 13:31:33.9±1.2,**18˚.5N**±0˚.2×**72˚.7W**±0˚.2,**h13**km,**n8,** σ0§**45**/7, **mb3.3**/7,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTGA	**Pitinga**	**22.85**	**145**	P	**P**	**13 36 37.0**	**-0.2**
	1.6nm,0.3s,baz=354,slow=7.2,SNR=4.2						
ATAH	**Atahualpa**	**26.10**	**193**	LR	LR	13 47 43.6	
	comp=Z,42nm,19.1s,baz=11,slow=37						
TXAR	**Lajitas Array**	**30.21**	**297**	P	**P**	**13 37 44.4**	**-0.1**
	0.6nm,1.0s,baz=120,slow=11,SNR=4.4						
PDAR	**Pinedale Array**	**39.42**	**316**	P	**P**	**13 39 04.0**	**+0.1**
	0.2nm,0.6s,baz=129,slow=9.4,SNR=2.3						
NVAR	**Mina Array Bea**	**44.22**	**306**	P	**P**	**13 39 43.8**	**+0.6**
	0.3nm,0.6s,baz=90,slow=8.5,SNR=3.2						
YKA	**Yellowknife Ar**	**52.60**	**337**	P	**P**	**13 40 46.7**	**-0.5**
	0.2nm,0.6s,baz=123,slow=7.3,SNR=6.6						
ILAR	**Eielson Array**	**66.68**	**333**	P	**P**	**13 42 24.0**	**-0.2**
	0.2nm,0.9s,baz=90,slow=5.4,SNR=3.4						
GERES	**GERESS Array B**	**73.96**	**43**	P	**P**	**13 43 09.6**	**+0.4**
	0.7nm,0.7s,baz=285,slow=4.7,SNR=4.9						

ISCJB ***16*** *13:34:19.9±0.6, 27˚.27N±0˚.03×102˚.65E±0˚.06, h10km, mb3.7/7, Error ellipse: s-maj=7.7km s-min=4.9km az=176.0*
IDC ***16*** *13:34:21.1±1.0, 27˚.41N×102˚.71E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, Error ellipse: s-maj=40.2km s-min=18.1km az=58.0*
BJI ***16*** *13:34:23.4, 27˚.35N×102˚.51E, h10km, ML3.5/14*
ISC 16 13:34:22.1±0.8,**27˚.46N**±0˚.04×**102˚.75E**±0˚.06,**h10**km,**n12,** σ2§**07**/16,**mb3.6**/7,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.32**	**180**	Pg	**Pb**	**13 35 02.8**	**-1.5**
KMI				Sg	**Sb**	**13 35 30.9**	**-2.2**
KMI				smax	smax		
	comp=N,110nm,1.2s						
KMI				smax	smax		
	comp=E,130nm,1.2s						
CD2	**Chengdu**	**3.55**	**14**	*e*Pn	**Pb**	**13 35 23.1**	**-2.0**
CD2				Pg	**Pg**	**13 35 32.6**	**+2.4**
CD2				Sn	**Sg**	**13 36 14.3**	**-2.0**
CD2				Sg	Sb	13 36 25.9	+17
CD2				smax	smax		
	comp=N,270nm,0.8s						
CD2				smax	smax		
	comp=E,240nm,1.0s						
GYA	**Guiyang**	**3.63**	**105**	Pn	**Pb**	**13 35 23.6**	**-2.9**
GYA				Pg	**Pg**	**13 35 33.3**	**+1.6**
GYA				Sn	**Sb**	**13 36 08.4**	**-2.3**
GYA				Sg	**Sg**	**13 36 22.1**	**+3.3**
GYA				smax	smax		
	comp=N,100nm,0.9s						
GYA				smax	smax		
	comp=E,50nm,0.7s						
XAN	**Xi'an**	**8.44**	**37**	P	Pn	13 36 27.5	+3.0
SONM	**Songino Array**	**20.54**	**7**	P	Pn	13 39 03.0	-0.1
	1.3nm,0.7s,baz=191,slow=12,SNR=12						
KSRS	**Korea Array**	**23.40**	**58**	P	**P**	**13 39 31.5**	**+0.3**
	0.4nm,0.4s,baz=246,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**25.14**	**326**	P	**P**	**13 39 50.0**	**+2.6**
	0.5nm,0.5s,baz=134,slow=11,SNR=7.3						
KURBB	**Kurchatov Arra**	**29.57**	**328**	P	**P**	**13 40 27.4**	**+0.4**
	0.3nm,0.3s,baz=137,slow=8.9,SNR=5.4						
WRA	**Warramunga Arr**	**56.18**	**144**	P	**P**	**13 44 02.7**	**+0.3**
	0.6nm,0.8s,baz=332,slow=8.0,SNR=8.2						
ASAR	**Alice Springs**	**59.06**	**146**	P	**P**	**13 44 23.3**	**+0.7**
	0.4nm,0.6s,baz=327,slow=6.7,SNR=8.6						
FINES	**FINESS Array B**	**59.96**	**327**	P	**P**	**13 44 28.1**	**-0.2**
	2.0nm,0.9s,baz=87,slow=9.9,SNR=5.4						
ARCES	**ARCESS Array B**	**60.11**	**337**	P	**P**	**13 44 28.9**	**-0.4**
	5.5nm,1.0s,baz=96,slow=8.2,SNR=4.7						

IDC ***16*** *13:57:13.5±1.5, 0˚.23S×122˚.26E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=193.7km s-min=24.5km az=61.0*
ISCJB ***16*** *13:57:29.9±0.6, 0˚.06S±0˚.08×122˚.89E±0˚.07, h162km, mb3.1/3, Error ellipse: s-maj=12.2km s-min=9.0km az=32.9*
DJA ***16*** *13:57:31.9±0.7, 0˚.S±5˚×12˚.3E±˚, h141km±7km, M3.6/7, MLv3.6/7*
ISC 16 13:57:30.7±1.1,**0˚.06S**±0˚.08×**122˚.89E**±0˚.07,**h162**km,**n12,** σ1§**07**/12,**mb3.1**/3,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.70**	**10**	P	**Pn**	**13 57 55.5**	**+1.0**
LUWI	**Luwuk**	**0.98**	**187**	P	**Pn**	**13 57 56.3**	**-0.2**
LUWI				S	**Sn**	**13 58 14.7**	**-1.7**
MRSI	**Marisa**	**1.08**	**299**	P	**Pn**	**13 57 56.5**	**-0.8**
MRSI				S	**Sn**	**13 58 16.4**	**-1.3**
KMSI	**Cibinong**	**1.26**	**60**	P	**Pn**	**13 57 59.7**	**+0.8**
APSI	**Ampana**	**1.50**	**236**	P	**Pn**	**13 58 01.3**	**+0.1**
TOLI	**Toli-Toli**	**2.40**	**299**	P	x	13 58 10.9	
SANI	**Sanana**	**3.68**	**123**	P	Pn	13 58 24.0	-3.2
TTSI	**Tana Toraja**	**4.27**	**226**	P	**Pn**	**13 58 36.5**	**+1.7**
LBMI	**Labuha**	**4.65**	**97**	P	**Pn**	**13 58 39.6**	**-0.2**
WRA	**Warramunga Arr**	**22.73**	**151**	P	**P**	**14 02 18.9**	**-0.1**
	0.6nm,0.5s,baz=327,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.79**	**156**	P	**P**	**14 02 47.3**	**+0.4**
	0.2nm,0.4s,baz=329,slow=8.0,SNR=5.6						
MKAR	**Makanchi Array**	**58.60**	**328**	P	**P**	**14 07 11.1**	**+0.4**
	0.1nm,0.4s,baz=131,slow=8.9,SNR=4.2						

IDC 16 14:13:30.8±11.0,**9˚.09S×158˚.82E, h0km, mb3.5**/3, **mb1 3.6**/3,**mb1mx3.4**/18,**mbtmp3.5**/3,**Error ellipse: s-maj=358.4km s-min=47.9km az=118.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.16**	**107**	*e*P	Pn	14 14 14.0	+20
HNR				*e*S	Sn	14 14 38.0	+27
WRA	**Warramunga Arr**	**26.00**	**243**	P	P	14 19 04.1	-1.5
	0.7nm,0.8s,baz=68,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**27.89**	**236**	P	P	14 19 24.1	+1.4
	0.3nm,0.8s,baz=68,slow=9.8,SNR=3.3						
MKAR	**Makanchi Array**	**87.48**	**318**	P	P	14 26 20.4	-0.1
	0.3nm,0.7s,baz=97,slow=6.5,SNR=4.2						

ISCJB ***16*** *14:18:14.2±1.2, 5˚.50S±0˚.09×152˚.2E±0˚.2, h45km, mb3.5/6, Error ellipse: s-maj=28.2km s-min=7.1km az=24.6*
IDC ***16*** *14:18:22.8±5.8, 5˚.39S×151˚.71E, h98km±45km, mb3.3/6, mb1 3.4/7, mb1mx3.3/18, mbtmp3.3/7, MS2.8/1, Ms1 2.8/1, ms1mx2.4/13, Error ellipse: s-maj=64.0km s-min=27.9km az=111.0*
ISC 16 14:18:15.8±1.5,**5˚.4S**±0˚.1×**152˚.2E**±0˚.2,**h45**km,**n17,** σ1§**68**/19,**mb3.5**/6,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.22**	**358**	P	**Pn**	**14 18 36.4**	**-0.1**
	baz=1.5,SNR=95						
RABL				S	**Sn**	**14 18 53.9**	**+2.1**
	baz=1.5,SNR=6.1						
PMG	**Port Moresby**	**6.39**	**231**	P	**Pn**	**14 19 49.2**	**+1.7**
	1.8nm,0.3s,baz=43,slow=12,SNR=9.1						
PMG				S	**Sn**	**14 20 57.6**	**-1.6**
	3.4nm,0.3s,baz=112,slow=19,SNR=6.7						
PMG	**Port Moresby**	**6.39**	**231**	P	Pn	**14 19 49.7**	**+2.2**
	baz=6.6,SNR=8.6						
PMG				S	**Sn**	**14 21 00.9**	**+1.7**
	baz=6.6,SNR=3.2						
HNR	**Honiara**	**8.65**	**118**	LR	LR	14 23 23.4	

comp=Z,59nm,20.5s,baz=159,slow=33
KDU Kakadu 20.78 248 P P 14 22 51.1 -2.1
baz=21,SNR=7.7
MTN Manton Dam 22.07 249 P P 14 23 06.4 -0.8
baz=22,SNR=7.1
WRA Warramunga Arr 22.60 229 P P 14 23 11.7 -1.2
1.2nm,0.5s,baz=51,slow=10,SNR=18
KNRA Kununurra 25.18 244 P P 14 23 35.7 -1.6
baz=26,SNR=10
ASAR Alice Springs 25.30 222 P P 14 23 38.0 -0.4
0.8nm,0.6s,baz=55,slow=8.9,SNR=20
FITZ Fitzroy Crossi 28.85 242 P P 14 24 08.5 -1.8
baz=29,SNR=7.5
WRKA Warakurna 30.11 227 P P 14 24 20.2 -1.3
baz=30,SNR=3.2
MEEK Meekatharra 38.37 233 P P 14 25 34.3 +1.4
baz=39,SNR=7.5
SONM Songino Array 66.53 328 P P 14 29 02.2 +0.9
0.5nm,0.5s,baz=139,slow=5.2,SNR=5.7
MKAR Makanchi Array 80.40 319 P P 14 30 20.7 -2.1
0.3nm,0.8s,baz=103,slow=6.2,SNR=2.9
ZALV Zalesovo Beam 81.34 326 P P 14 30 26.3 -1.2
0.5nm,0.5s,baz=108,slow=4.7,SNR=3.5
ILAR Eielson Array 82.94 22 P P 14 30 37.4 +1.7
0.2nm,0.6s,baz=266,slow=6.0,SNR=4.5
TORD Torodi Ar. Bea 149.93 287 PKPbc PKPbc 14 38 00.8 -1.5
0.7nm,0.8s,baz=71,slow=2.3,SNR=5.0

KRNET 16 14:24:01.9±0.1, 39°27N×76°89E, h3km, mb3.9, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	Naryn	2.27	343	eP	Pn	14 24 42.0	+1.2
	baz=342						
NRN				eS	Sb	14 25 12.5	-0.3
	baz=342						
SFK	Sufi-Kurgan	2.72	287	eP	Pn	14 24 48.9	+2.0
	baz=287						
SFK				eS	Sb	14 25 24.8	-0.8
	baz=287						
ARLS	Aral	3.25	324	i P	Pn	14 24 56.6	+2.6
	baz=324						
ARLS				eS	Sb	14 25 38.2	-2.4
	baz=324						
BOOM	Boomskoye usch	3.30	348	eP	Pn	14 24 57.8	+3.0
	baz=348						
BOOM				eS	Sb	14 25 40.6	-1.6
	baz=348						

DJA 16 14:49:06.7±0.3, 8°S±3°×10°6E±°, h43km±11km, M3.6/11, MLv3.6/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	Cibinong	0.83	51	P	Pn	14 49 22.3	+0.3
CNJI				S	Sn	14 49 33.3	+0.2
SKJI	Sukabumi	0.83	5	P	Pn	14 49 22.9	+0.9
SKJI				S	Sn	14 49 33.6	+0.4
DBJI	Dramaga	1.31	12	P	Pn	14 49 29.1	+0.6
DBJI				S	Sn	14 49 45.0	+0.2
CISI	Cisompet, Garu	1.35	78	P	Pn	14 49 28.8	-0.4
CISI				S	Sn	14 49 44.6	-1.5
CGJI	Cibinong	1.45	327	P	Pn	14 49 30.7	+0.3
CGJI				S	Sn	14 49 49.5	+1.3
LEM	Lembang	1.51	48	P	Pn	14 49 32.9	+1.4
CMJI	Cimerak	1.95	88	P	Pn	14 49 37.3	0.0
CMJI				S	Sn	14 50 00.6	0.0
KPJI	Karang Pucung	2.48	78	P	Pn	14 49 47.3	+2.7
KASI	Kota Agung	3.03	319	P	Pn	14 49 52.2	0.0
KASI				S	Sn	14 50 27.2	0.0
UGM	Wanagama	4.01	91	P	Pn	14 50 06.2	+0.5

IDC 16 14:54:54.0±17.0, 18.06S×177.97W, h441km±167km, mb3.1/5, mb1 3.3/5, mb1mx3.0/19, mbtmp3.9/5, Error ellipse: s-maj=109.5km s-min=36.4km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.01	260	P	P	15 02 28.3	-0.7
	0.4nm,0.5s,baz=98,slow=6.7,SNR=16						
ASAR	Alice Springs	45.15	254	P	P	15 02 30.4	+0.3
	0.8nm,0.4s,baz=89,slow=8.2,SNR=50						
MJAR	Matsushiro Arr	68.28	323	P	P	15 05 09.6	-0.1
	1.0nm,0.6s,baz=151,slow=5.9,SNR=6.3						
PETK	Petropavlovsk-	73.94	345	P	P	15 05 42.8	0.0
	3.4nm,1.0s,baz=111,slow=9.6,SNR=5.1						
ILAR	Eielson Array	85.95	13	P	P	15 06 45.6	-0.2
	0.2nm,0.4s,baz=221,slow=5.4,SNR=9.4						
BRTR	Keskin Array B	145.19	315	PKP	PKPdf	15 13 39.6	-1.2
	0.8nm,0.9s,baz=90,slow=1.4,SNR=3.2						
GERES	GERESS Array B	147.87	345	PKPbc	PKPbc	15 13 48.2	-0.4
	1.1nm,0.6s,baz=23,slow=3.2,SNR=10						

MAN 16 15:55:36, 6°28N×125°89E, h54km, mb4.2, ML3.0, MS2.7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.76	29	eP	Pn	15 55 53.1	+2.4
MATI				eS	Sn	15 56 05.0	+3.5
GSPH	General Santos	0.95	259	⇑iP	Pn	15 55 52.3	-1.1
GSPH				i S	Sn	15 56 09.4	+3.3
BUKP	Musuan	1.79	333	eP	Pn	15 56 09.3	+4.7
CTBH	Cotabato--PC H	1.88	300	⇑eP	Pn	15 56 07.2	+1.5

*IDC **16** 15:59:53.8±0.7, 18°23N×72°45W, h0km, mb3.8/16, mb1 4.1/17, mb1mx4.0/28, mbtmp3.9/17, ML4.3/1, MS3.7/17, Ms1 3.7/17, ms1mx3.6/33, Error ellipse: s-maj=21.4km s-min=15.2km az=54.0*

*ISCJB **16** 15:59:54.4±0.3, 18°46N±0°04×72°50W±0°03, h13km, mb4.0/25, MS3.8/15, Error ellipse: s-maj=5.8km s-min=3.5km az=176.5*

*BJI **16** 15:59:55.0, 18°50N×72°50W, h10km*

*NEIC **16** 15:59:55.7±0.3, 18°47N×72°55W, h10km, mb4.5/15, Error ellipse: s-maj=7.8km s-min=5.1km az=182.0*

NEIC Felt at Delmas and Port-au-Prince.

*JSN **16** 16:00:48.9±0.7, 18°34N×76°31W, h15km±55km, MD4.5*

ISC 16 15:59:56.0±0.4, 18°45N±0°06×72°46W±0°04, h13km, n90, σ1°69/85, mb4.1/25, MS3.8/15, 4C, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.23	64	ePn	Pn	16 00 16.8	-2.2
SDDR				eSn	Sb	16 00 33.8	-1.3
GTBY	Guantanamo Bay	2.91	301	ePn	Pn	16 00 39.3	-2.7
GTBY				eSn	Sn	16 01 16.8	-0.1
GRTK	Grand Turk	3.29	22	ePn	Pn	16 00 46.6	-0.8
GRTK				eSn	Sn	16 01 25.4	-0.9
YHJ	Yallahs	3.88	262	⇑iP	Pn	16 00 57.7	+2.3
YHJ	Yallahs	3.88	262	⇑iP	Pn	16 00 57.7	+2.3
GWJ	Greenwich	4.07	265	i P	Pn	16 00 57.6	-0.6
GWJ	Greenwich	4.07	265	i P	Pn	16 00 57.6	-0.6
HOJ	Hope	4.10	265	i P	Pn	16 00 58.5	+0.1
HOJ	Hope	4.10	265	i P	Pn	16 00 58.5	+0.1
STH	Stony Hill	4.15	266	i P	Pn	16 00 58.4	-0.8
STH	Stony Hill	4.15	266	i P	Pn	16 00 58.4	-0.8
PCJ	Portland Cotta	4.52	262	i P	Pn	16 01 06.7	+2.4
PCJ	Portland Cotta	4.52	262	i P	Pn	16 01 06.7	+2.4
CVJ	Coleyville	4.83	268	i P	Pn	16 01 08.7	+0.2
CVJ	Coleyville	4.83	268	i P	Pn	16 01 08.7	+0.2
MTDJ	Mount Denham	4.83	268	ePn	Pn	16 01 06.1	-2.4
MTDJ				eSn	Sn	16 02 03.1	-1.3
MCJ	Malvern	5.00	265	⇑iP	Pn	16 01 12.6	+1.7
MCJ	Malvern	5.00	265	⇑iP	Pn	16 01 12.6	+1.7
AGPR	Aguadilla, PR	5.08	89	ePn	Pn	16 01 14.1	+2.2
LSP	Las Mesas	5.11	92	ePn	Pn	16 01 14.3	+1.9
LRS	Lares	5.33	91	ePn	Pn	16 01 18.2	+2.7
OBIP	Obispado Ponce	5.58	93	ePn	Pn	16 01 19.4	+0.6
OBIP				eSn	Sn	16 02 20.4	-2.4
CELP	Cerrillos	5.60	93	ePn	Pn	16 01 20.4	+1.3
CBYP	Canovanas	6.27	91	ePn	Pn	16 01 30.2	+1.8
MTP	Monte Pirata	6.57	92	ePn	Pn	16 01 33.9	+1.4
PHG	Guadaloupe-2	10.61	102	eP	Pn	16 02 30.0	+2.0
BCIP	Isla Barro Col	11.68	219	ePn	Pn	16 02 41.9	-0.5
JTS	JuntasAbangare	14.56	238	ePn	Pn	16 03 20.2	-1.7
	25nm,1.0s						
JTS	JuntasAbangare	14.56	238	LR	LR	16 08 53.2	
	comp=Z,181nm,19.9s,baz=54,slow=37						
TEIG	Tepich	15.04	279	ePn	Pn	16 03 26.1	-2.2
TEIG	Tepich	15.04	279	Pn	Pn	16 03 27.8	-0.5
	1.3nm,0.3s,baz=97,slow=15,SNR=6.3						
TEIG				LR	LR	16 09 13.5	
	comp=Z,194nm,20.9s,baz=33,slow=37						
APG	El Apazote	17.58	261	P	Pn	16 03 57.4	-3.8
APG	El Apazote	17.58	261	P	Pn	16 03 57.4	-3.8
	0.2nm,0.3s,baz=85,slow=18,SNR=2.6						
OTAV	Otavalo	19.03	199	P	Pn	16 04 20.0	+0.9
	19nm,1.2s						
TKL	Tuckaleechee C	19.86	332	eP	P	16 04 26.3	-0.6
TKL	Tuckaleechee C	19.86	332	P	Pn	16 04 29.9	+1.4
	8.7nm,0.8s,baz=152,slow=14,SNR=8.5						
TKL				LR	LR	16 11 56.5	
	comp=Z,111nm,21.0s,baz=145,slow=36						
BLA	Blacksburg	19.96	341	eP	P	16 04 27.7	-0.3
	30nm,0.8s						
CPCT	Cooper Cave	20.03	330	eP	P	16 04 26.5	-2.3
CBN	Corbin	20.15	349	eP	P	16 04 30.1	+0.1
	51nm,0.4s						
SWET	Sewanee	20.54	327	eP	P	16 04 32.8	-1.6
	91nm,2.0s						
SDMD	Soldier's Deli	21.23	351	eP	P	16 04 41.1	-0.6
	37nm,1.2s						
PTGA	Pitinga	22.67	146	eP	P	16 04 57.6	+0.2
	18nm,1.3s						
PTGA	Pitinga	22.67	146	P	P	16 04 54.0	-3.4
	1.0nm,0.3s,baz=345,slow=12,SNR=3.1						
PTGA				LR	LR	16 14 16.2	
	comp=Z,152nm,21.3s,baz=333,slow=38						
SIUC	Southern Illin	24.16	326	eP	P	16 05 15.4	+3.5
	13nm,0.7s						
SADO	Sadowa	26.84	349	LR	LR	16 16 01.5	
	comp=Z,96nm,18.1s,baz=5.6,slow=36						
JFWS	Jewell Farm	28.67	332	eP	P	16 05 51.9	-0.8
	11nm,0.6s						
SAML	Samuel	28.72	161	eP	P	16 05 51.6	-1.6
	1.6nm,1.1s						
TXAR	Lajitas Array	30.43	297	P	P	16 06 09.1	+0.5
TXAR	Lajitas Array	30.43	297	P	P	16 06 09.1	+0.5
	0.2nm,0.6s,baz=106,slow=9.7,SNR=3.2						
TXAR				LR	LR	16 21 25.0	
	comp=Z,87nm,18.3s,baz=180,slow=42						
LPAZ	La Paz	34.78	173	P	P	16 06 45.2	-1.9
	0.3nm,0.3s,baz=3.6,slow=6.2,SNR=3.1						
LPAZ				LR	LR	16 21 45.9	
	comp=Z,82nm,18.2s,baz=108,slow=38						
LPIG	La Paz	35.64	286	LR	LR	16 21 14.6	
	comp=Z,122nm,19.8s,baz=168,slow=36						
SCHQ	Schefferville	36.57	5	LR	LR	16 20 55.5	
	comp=Z,109nm,19.3s,baz=285,slow=34						
ULM	Lac du Bonnet	36.84	335	LR	LR	16 21 51.5	
	comp=Z,30nm,20.4s,baz=165,slow=36						
PDAR	Pinedale Array	39.62	316	P	P	16 07 27.6	-0.1
PDAR	Pinedale Array	39.62	316	P	P	16 07 27.6	-0.1
	1.0nm,0.7s,baz=119,slow=9.4,SNR=2.7						
LOHW	Long Hollow	40.68	317	eP	P	16 07 35.7	-0.7
	5.0nm,0.8s						
REDW	Red Top Meadow	40.73	316	eP	P	16 07 36.8	-0.1
	7.8nm,0.9s						
MOOW	Moose Ponds	40.83	317	eP	P	16 07 37.9	+0.2
	4.2nm,0.8s						
TPAW	Teton Pass	40.85	316	eP	P	16 07 38.0	0.0
	6.0nm,1.1s						
FXWY	Fox Creek	40.96	316	eP	P	16 07 38.5	-0.3
	5.1nm,0.9s						
NVAR	Mina Array Bea	44.44	306	P	P	16 08 09.1	+2.0
NVAR	Mina Array Bea	44.44	306	P	P	16 08 09.1	+2.0
	0.2nm,0.3s,baz=119,slow=7.3,SNR=3.5						
CPUP	Villa Florida	46.87	161	LR	LR	16 30 11.9	
	comp=Z,97nm,18.8s,baz=331,slow=39						
YKA	Yellowknife Ar	52.75	337	P	P	16 09 10.1	-0.3
YKA	Yellowknife Ar	52.75	337	P	P	16 09 10.1	-0.3
	1.5nm,0.8s,baz=121,slow=6.3,SNR=13						
SUMG	Summit	57.52	12	i P	P	16 09 44.5	-0.7
	8.7nm,0.8s						
SUMG	Summit	57.52	12	eP	P	16 09 44.5	-0.7
	8.4nm,0.8s						
RES	Resolute Bay	57.56	353	P	P	16 09 47.5	+2.5
RES	Resolute Bay	57.56	353	P	P	16 09 47.5	+2.5
	1.9nm,0.9s,baz=140,slow=7.9,SNR=3.6						
PLCA	Paso Flores	58.90	178	P	P	16 09 53.8	-1.0
	3.1nm,0.9s,baz=357,slow=7.1,SNR=5.5						
ESDC	Sonseca Array	62.06	54	P	P	16 10 17.2	+0.6
ESDC	Sonseca Array	62.06	54	P	P	16 10 17.2	+0.6
	0.4nm,0.4s,baz=279,slow=7.7,SNR=6.4						
DBIC	Dimbokro	66.70	91	LR	LR	16 37 08.3	
	comp=Z,81nm,18.3s,baz=323,slow=34						
ILAR	Eielson Array	66.84	333	P	P	16 10 49.5	+2.1
ILAR	Eielson Array	66.84	333	P	P	16 10 49.5	+2.1
	0.3nm,0.7s,baz=79,slow=4.8,SNR=5.2						
TORD	Torodi Ar. Bea	71.12	82	P	P	16 11 16.8	+1.9
	0.5nm,1.0s,baz=286,slow=6.5,SNR=3.8						
TORD				LR	LR	16 39 08.2	
	comp=Z,69nm,19.0s,baz=240,slow=33						
GERES	GERESS Array B	73.85	43	P	P	16 11 31.0	+0.3
GERES	GERESS Array B	73.85	43	P	P	16 11 31.0	+0.3
	1.3nm,0.9s,baz=287,slow=5.0,SNR=7.4						
GERES				LR	LR	16 40 06.8	
	comp=Z,71nm,18.4s,baz=283,slow=33						
ARCES	ARCESS Array B	75.63	21	P	P	16 11 41.1	+0.6
ARCES	ARCESS Array B	75.63	21	P	P	16 11 41.1	+0.6
	5.5nm,1.0s,baz=290,slow=5.4,SNR=6.0						
ARCES				LR	LR	16 39 22.6	
	comp=Z,85nm,19.1s,baz=324,slow=31						
FINES	FINESS Array B	77.99	29	LR	LR	16 41 42.3	
	comp=Z,109nm,18.1s,baz=284,slow=32						
AKASG	Malin Array Be	83.08	39	P	P	16 12 21.7	+0.3
	0.4nm,0.5s,baz=282,slow=4.2,SNR=3.7						
BRTR	Keskin Array B	90.16	48	P	P	16 12 56.7	+0.1
	0.6nm,0.8s,baz=310,slow=6.8,SNR=2.6						
PETK	Petropavlovsk-	96.65	332	LR	LR	17 04 40.5	
	comp=Z,68nm,19.3s,baz=199,slow=40						
WMQ	Urumqi	115.42	16	PKP	PKPdf	16 18 37.3	-0.7
HHC	Hu-ho-hao-te	120.89	356	ePKP	PKPdf	16 18 39.8	-8.8
HHC				PP	PP	16 20 13.5	-2.4
HHC				SKS	SKSdf	16 25 50.3	-10
HHC				SKKS	SKKSac	16 27 04.5	-12
HHC	Hu-ho-hao-te	120.89	356	SS	SS	16 36 38.8	-7.4
HHC				AMB	AMB		
	comp=Z,170nm,8.2s						
HHC				LR	LR		
	comp=N,170nm,14.3s						
HHC				LR	LR		
	comp=E,250nm,15.7s						
HHC				LR	LR		
	comp=Z,180nm,14.5s						
LZH	Lanzhou	125.65	4	ePKP	PKPdf	16 18 53.1	-4.9
LZH				sPKP		16 19 01.3	
KMI	Kunming	136.44	6	PKP	PKPdf	16 19 18.1	-0.6
WRA	Warramunga Arr	154.66	262	PKPbc	PKPbc	16 19 56.4	-1.3
	comp=Z,0.8nm,1.2s,baz=84,slow=2.3,SNR=8.2						

HLW 16 16:05:40.9, 21.63N×31.99E, h12km±7km, Md3.7, Ml4.0, Sudan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HKFR	Khafra	1.15	326	P	Pb	16 06 01.2	-1.6
	baz=327						
ASHG	Umm Shaghir	1.66	349	P	Pn	16 06 09.1	-0.8
	baz=350						
NNAL	NNAL	1.77	20	P	Pn	16 06 10.5	-0.9
	baz=20						
NGMR	NGMR	1.92	11	P	Pn	16 06 12.7	-0.8
	baz=11						
NGMR				S	Sn	16 06 35.9	-1.7
	baz=11						
NSKD	NSKD	2.05	10	P	Pn	16 06 15.0	-0.3
	baz=10.0						
NSKD				S	Sn	16 06 39.4	-1.5
	baz=10.0						
AKRL	Khor El Raml	2.13	18	P	Pn	16 06 15.9	-0.5
	baz=18						
AAHD	Abu Hadid	2.22	18	P	Pn	16 06 17.1	-0.5
	baz=18						
NAHD	NAHD	2.28	18	P	Pn	16 06 18.0	-0.4
	baz=18						
APRS		2.97	337	P	Pn	16 06 27.2	-0.7
	baz=337						
HSHL	Bi'r Shalatayn	3.48	64	P	Pn	16 06 34.7	-0.2
	baz=64						
HDK2	Wahat Dakhilah	3.87	314	P	Pn	16 06 40.3	-0.1
	baz=315						
HAGS	Hagol	3.89	45	P	Pn	16 06 39.5	-1.0
	baz=44						
GTR	Jabal at Tayr	4.08	341	P	Pn	16 06 43.1	-0.1
	baz=342						
AKRG	Al Kharijah	4.09	341	P	Pn	16 06 42.4	-1.0
	baz=341						
EMRS	Mersa Alam	4.26	37	P	Pn	16 06 45.4	-0.3
	baz=37						
HADB		4.42	33	P	Pn	16 06 47.3	-0.6
	baz=32						
HDK1	Dakhla	4.56	329	P	Pn	16 06 50.0	+0.1
	baz=330						
HQSR		4.66	28	P	Pn	16 06 50.6	-0.5
	baz=27						
HFRF	Wahat Farafira	6.44	329	P	Pn	16 07 15.9	+0.3
	baz=330						

MAN 16 16:53:33, 5.76N×126.65E, h24km, mb4.9, ML3.8, MS3.8, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	1.24	342	eP	Pn	16 53 54.8	-0.1
MATI				eS	Sn	16 54 04.3	-6.6
GSPH	General Santos	1.73	281	⇑eP	Pn	16 53 59.0	-2.7
DMPH	Davao City--Mi	1.74	319	⇑iP	Pn	16 54 02.3	+0.6
DMPH				eS	Sn	16 54 23.8	+0.6
BUKP	Musuan	2.63	323	eP	Pn	16 54 14.8	+0.7
CTBH	Cotabato--PC H	2.80	301	⇑iP	Pn	16 54 17.0	+0.7
CGP	Cagayan de Oro	3.31	324	⇑eP	Pn	16 54 26.1	+2.7
CGP				eS	Sn	16 55 05.0	+3.1
BUTP	Butuan	3.35	342	eP	Pb	16 54 28.3	-3.4

*ISCJB **16** 16:57:52.2±0.7, 25°32S±0°08×179°7E±0°1, h493km, mb3.6/9, Error ellipse: s-maj=15.5km s-min=10.6km az=10.6*

*IDC **16** 16:57:53.3±3.5, 25°33S×179°72E, h496km±39km, mb3.3/9, mb1 3.6/11, mb1mx3.5/18, mbtmp3.4/11, Error ellipse: s-maj=24.7km s-min=24.0km az=3.0*

ISC 16 16:57:52.9±0.7, 25°4S±0°1×179°8E±0°1, h493km, n27, σ0°81/26, mb3.8/9, 1C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.67	282	P	P	17 00 40.1	+1.3
	0.5nm,0.3s,baz=76,slow=18,SNR=7.6						
URZ	Urewera	13.02	189	P	P	17 00 42.2	+0.1
	3.9nm,0.3s,baz=26,slow=2.1,SNR=44						
URZ				S	S	17 03 01.1	-0.6
	0.3nm,0.3s,baz=349,slow=18,SNR=5.7						
QLP	Quilpie	31.93	260	P	P	17 03 37.8	+0.5
	baz=39,SNR=4.4						
STKA	Stephens Creek	34.02	250	P	P	17 03 55.5	+0.4
	3.3nm,1.0s,baz=83,slow=8.1,SNR=2.4						
WRA	Warramunga Arr	42.15	268	P	P	17 05 00.6	-1.0
	2.4nm,0.4s,baz=102,slow=7.9,SNR=78						
KDU	Kakadu	46.26	277	P	P	17 05 32.2	-1.3
	baz=53,SNR=4.2						
WRKA	Warakurna	46.35	259	P	P	17 05 33.5	-0.7
	baz=54,SNR=6.2						
KNRA	Kununurra	48.52	271	P	P	17 05 50.2	-0.3
	baz=56,SNR=22						
FITZ	Fitzroy Crossi	50.55	267	P	P	17 06 05.5	0.0
	baz=58,SNR=10						
MORW	Morawa	56.20	251	P	P	17 06 45.3	-0.4
	baz=63,SNR=3.5						
MJAR	Matsushiro Arr	73.03	326	P	P	17 08 31.0	-1.1
	1.6nm,0.7s,baz=160,slow=4.9,SNR=7.3						
KSRS	Korea Array	79.28	320	P	P	17 09 06.5	0.0
	0.9nm,0.6s,baz=133,slow=6.4,SNR=7.9						
PETK	Petropavlovsk-	80.51	347	P	P	17 09 12.3	-0.4
	3.1nm,0.8s,baz=130,slow=7.1,SNR=8.4						
NVAR	Mina Array Bea	85.96	44	P	P	17 09 41.2	+0.6
	0.8nm,0.3s,baz=240,slow=7.2,SNR=5.3						
CMAR	Chiang Mai Arr	89.88	290	P	P	17 09 59.9	+0.7
	0.2nm,0.5s,baz=132,slow=4.0,SNR=4.1						
TXAR	Lajitas Array	91.38	58	P	P	17 10 07.1	+1.1
	0.9nm,0.8s,baz=240,slow=4.0,SNR=10						
ILAR	Eielson Array	93.53	14	P	P	17 10 13.3	-1.6
	0.3nm,0.8s,baz=224,slow=4.7,SNR=4.4						
ARCES	ARCESS Array B	133.31	348	PKP	PKPdf	17 16 11.3	-0.3
	3.4nm,0.8s,baz=46,slow=2.6,SNR=6.8						
FINES	FINESS Array B	139.80	341	PKhKP	PKPpre	17 16 14.8	
	1.0nm,0.6s,baz=29,slow=3.2,SNR=9.1						
FINES				PKP	PKPdf	17 16 25.1	+1.3
	1.6nm,0.8s,baz=90,slow=1.4,SNR=7.2						
NB2	NORSAR Subarra	143.53	351	PKP	PKPab	17 16 27.8	-1.0
	comp=Z,1.8nm,0.5s,baz=16,slow=3.3						
NOA	NORSAR Array B	143.53	351	PKhKP	PKPpre	17 16 27.2	
	comp=Z,1.0nm,0.7s,baz=9.3,slow=2.7,SNR=11						
AKASG	Malin Array Be	146.12	326	PKPbc	PKPdf	17 16 36.0	+0.9
	comp=Z,0.9nm,0.4s,baz=42,slow=4.0,SNR=11						
BRTR	Keskin Array B	148.31	305	PKPbc	PKPbc	17 16 42.7	-0.7
	comp=Z,0.9nm,0.6s,baz=93,slow=2.1,SNR=6.4						
VRI	Vrincioaia	150.30	320	i/iP	PKPdf	17 16 42.3	+0.2
PLOR	Plostina	150.35	320	i/iP	PKPdf	17 16 41.9	-0.3
MLR	Muntele Rosu	150.97	320	⇑i/iP	PKPdf	17 16 43.3	0.0
TORD	Torodi Ar. Bea	167.68	189	PKPab	PKPab	17 18 12.5	+0.2
	comp=Z,0.8nm,0.8s,baz=183,slow=4.2,SNR=4.4						

IDC 16 16:58:02.5±13.0, 28.80N×81.96E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.1/26, mbtmp3.4/3, Error ellipse: s-maj=257.4km s-min=86.9km az=140.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	Lohaghat	1.64	294	eP	Pg	16 58 38.0	+4.1
LGTI				eS	Sn	16 58 50.3	-4.0
MKAR	Makanchi Array	17.97	1	P	Pn	17 02 13.1	-0.6
	0.1nm,0.3s,baz=175,slow=10,SNR=4.6						
ZALV	Zalesovo Beam	25.22	4	P	P	17 03 30.1	+0.2
	0.8nm,0.5s,baz=182,slow=8.8,SNR=5.6						
FINES	FINESS Array B	48.94	328	P	P	17 06 50.1	-0.1
	0.9nm,0.8s,baz=115,slow=6.6,SNR=4.0						

IDC 16 17:24:43.8±1.9, 60.82S×25.24W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.6/14, mbtmp3.9/1, MS3.4/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=112.2km s-min=77.5km az=132.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	Brasilia	48.02	330	LR	LR	17 49 20.5	
	comp=Z,42nm,18.5s,baz=34,slow=31						
H10S2	ASCENSION HYDR	52.36	13	T	T	18 31 01.4	
	baz=191						
H10S3	ASCENSION HYDR	52.36	13	T	T	18 31 00.5	
	baz=191						
H10S1	ASCENSION HYDR

TXAR Lajitas Array 47.40 325 P **P** **17 44 14.5 -0.4**
1.6nm,0.5s,baz=150,slow=8.9,SNR=21
PDAR Pinedale Array 60.67 331 P **P** **17 45 51.5 +0.4**
0.8nm,0.9s,baz=125,slow=7.8,SNR=2.5
NVAR Mina Array Bea 62.42 322 P **P** **17 46 03.2 +0.3**
0.4nm,0.7s,baz=122,slow=8.6,SNR=3.0
NVAR pP **pP** **17 46 37.9 +0.4**
0.1nm,0.3s,baz=113,slow=9.1,SNR=1.8
DBIC Dimbokro 71.02 80 P **P** **17 46 57.4 -0.2**
1.3nm,0.4s,baz=226,slow=6.9,SNR=4.0
DBIC pP **pP** **17 47 32.5 -0.5**
2.3nm,0.8s,baz=220,slow=7.9,SNR=2.3
SNAA Sanae 75.76 162 P **P** **17 47 25.5 +1.1**
0.4nm,0.5s,baz=265,slow=11,SNR=5.3
YKA Yellowknife Ar 77.71 342 P **P** **17 47 34.2 -1.0**
0.9nm,0.5s,baz=142,slow=6.0,SNR=22
YKA PcP **PcP** **17 47 47.4 +2.6**
0.3nm,0.4s,baz=131,slow=6.0,SNR=8.3
YKA pP **pP** **17 48 11.7 +0.5**
0.6nm,0.5s,baz=141,slow=6.0,SNR=6.0
TORD Torodi Ar. Bea 78.67 75 P **P** **17 47 42.0 +0.3**
1.1nm,0.5s,baz=280,slow=4.8,SNR=11
QSPA South Pole Qui 81.14 180 P **P** **17 47 55.4 +1.4**
0.7nm,0.6s,baz=211,slow=5.9,SNR=3.6
INK Inuvik 87.45 341 P **P** **17 48 24.2 -1.4**
1.3nm,0.8s,baz=95,slow=6.4,SNR=4.0
ILAR Eielson Array 90.73 336 P **P** **17 48 40.3 -0.8**
0.3nm,0.5s,baz=131,slow=3.7,SNR=7.8
ILAR pP **pP** **17 49 18.5 +0.5**
0.4nm,0.8s,baz=76,slow=4.2,SNR=4.2
ZALV Zalesovo Beam 132.15 16 PKP **PKPdf** **17 54 51.4 0.0**
0.8nm,0.5s,baz=289,slow=3.0,SNR=5.2
ZALV pPKP **pPKPdf** **17 55 31.0 +1.0**
1.0nm,0.4s,baz=264,slow=2.7,SNR=5.7
ASAR Alice Springs 137.36 220 PKP **PKPdf** **17 55 01.9 -0.3**
0.5nm,0.6s,baz=132,slow=2.9,SNR=7.9
MKAR Makanchi Array 137.39 24 PKP **PKPdf** **17 55 01.2 -0.3**
0.2nm,0.6s,baz=299,slow=3.0,SNR=2.5
MKAR pPKP **pPKPdf** **17 55 41.1 +1.0**
0.5nm,0.7s,baz=359,slow=1.2,SNR=4.4
WRA Warramunga Arr 139.68 224 PKhKP PKPpre 17 54 59.1
0.6nm,0.5s,baz=123,slow=1.9,SNR=4.8
WRA PKP **PKPdf** **17 55 06.5 0.0**
0.9nm,0.4s,baz=119,slow=2.1,SNR=34
WRA pPKP pPKPdf 17 55 44.3 -0.8
0.3nm,0.7s,baz=134,slow=1.7,SNR=2.1
KSRS Korea Array 145.21 328 PKPbc **PKPbc** **17 55 15.2 -0.5**
2.7nm,0.8s,baz=47,slow=4.1,SNR=11
KSRS pPKPbc pPKPbc 17 55 55.5 +1.7
0.9nm,0.8s,baz=57,slow=2.8,SNR=3.8

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*ISCJB **16** 17:37:12.1±0.5,49.42S±0.07×30.3E±0.2,h10km, mb4.3/14,MS3.6/8,Error ellipse: s-maj=21.7km s-min=8.6km az=162.6*
*IDC **16** 17:37:12.4±0.8,49.42S×30.55E,h0km,mb4.1/8, mb1 4.2/9,mb1mx3.9/23,mbtmp4.1/9,ML4.6/1,MS3.7/8, Ms1 3.6/8,ms1mx3.5/26,Error ellipse: s-maj=38.2km s-min=16.8km az=74.0*
*NEIC **16** 17:37:13.7±0.4,49.42S×30.43E,h10km,mb4.5/11,Error ellipse: s-maj=18.4km s-min=8.0km az=72.0*

ISC 16 17:37:13.7±0.6,49.42S±0.09×30.4E±0.2,h10km,n36, σ0.8s2/28,mb4.3/14,MS3.6/8,1C,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.48**	**334**	P	**Pn**	**17 41 30.4**	**+0.4**
SUR	**Sutherland**	**18.48**	**334**	P	**Pn**	**17 41 30.4**	**+0.4**
	2.2nm,0.3s,baz=146,slow=10.0,SNR=18						
SYO	**Syowa Base**	**20.15**	**170**	*eP*	Pn	17 41 49.4	-0.1
BOSA	**Boshof**	**21.15**	**347**	*eP*	**P**	**17 41 59.5**	**0.0**
	9.0nm,1.0s						
BOSA	**Boshof**	**21.15**	**347**	P	**P**	**17 41 59.5**	**+0.5**
	4.4nm,0.7s,baz=181,slow=12,SNR=9.7						
BOSA				LR	LR	17 48 46.8	
	comp=Z,210nm,18.4s,baz=168,slow=33						
MAW	**Mawson**	**24.40**	**150**	LR	LR	17 49 49.7	
	comp=Z,130nm,19.6s,baz=82,slow=31						
LBTB	**Lobatse**	**24.66**	**349**	*eP*	**P**	**17 42 34.4**	**-0.2**
	17nm,1.4s						
LBTB	**Lobatse**	**24.66**	**349**	P	**P**	**17 42 34.6**	**+0.1**
	2.3nm,0.7s,baz=191,slow=11,SNR=3.7						
LBTB				LR	LR	17 50 43.2	
	comp=Z,166nm,19.0s,baz=14,slow=33						
SNAA	**Sanae**	**26.97**	**202**	P	**P**	**17 42 56.0**	**+0.9**
SNAA	**Sanae**	**26.97**	**202**	P	**P**	**17 42 56.0**	**+0.9**
	0.8nm,0.8s,baz=63,slow=14,SNR=1.5						
SNAA				LR	LR	17 51 01.3	
	comp=Z,68nm,19.0s,baz=52,slow=31						
TSUM	**Tsumeb**	**31.86**	**337**	P	**P**	**17 43 36.9**	**-2.2**
	6.0nm,1.1s						
LSZ	**Lusaka**	**34.10**	**356**	P	**P**	**17 43 59.5**	**+0.9**
	2.0nm,0.7s						
QSPA	**South Pole Qui**	**40.80**	**180**	*eP*	**P**	**17 44 53.7**	**-1.2**
	12nm,1.0s						
QSPA	**South Pole Qui**	**40.80**	**180**	P	**P**	**17 44 54.2**	**-0.7**
	9.3nm,1.0s,baz=262,slow=4.9,SNR=9.2						
CASY	**Casey**	**42.44**	**144**	P	**P**	**17 45 07.1**	**-1.0**
	15nm,0.9s						
SHEL	**Horse Pasture**	**44.43**	**306**	P	**P**	**17 45 24.8**	**0.0**
	55nm,0.8s						
KMBO	**Kilima Mbogo**	**48.47**	**9**	LR	LR	18 04 47.2	
	comp=Z,80nm,19.7s,baz=97,slow=34						
VNDA	**Vanda**	**49.82**	**168**	*eP*	**P**	**17 46 06.8**	**+0.7**
	5.3nm,0.9s						
VNDA				*e*		17 46 17.1	
VNDA	**Vanda**	**49.82**	**168**	P	**P**	**17 46 07.1**	**+1.1**
	1.9nm,0.8s,baz=257,slow=4.0,SNR=4.8						
VNDA				LR	LR	18 04 49.3	
	comp=Z,101nm,19.2s,baz=59,slow=33						
SBA	**Scott Base**	**50.20**	**169**	P	**P**	**17 46 10.2**	**+1.3**
	20nm,0.9s						
SBA				*e*		17 46 21.1	
H10S2	**ASCENSION HYDR**	**55.05**	**301**	T	T	18 46 29.1	
	baz=148						
H10S3	**ASCENSION HYDR**	**55.07**	**301**	T	T	18 46 28.2	
	baz=148						
H10S1	**ASCENSION HYDR**	**55.07**	**301**	T	T	18 46 29.1	
	baz=148						
PLCA	**Paso Flores**	**66.55**	**234**	*eP*	**P**	**17 48 03.0**	**-0.8**
TOA0	**Torodi Ar. Sit**	**67.25**	**329**	P	**P**	**17 48 08.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**67.25**	**329**	P	**P**	**17 48 09.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**67.25**	**329**	P	**P**	**17 48 09.0**	**+0.8**
	0.8nm,0.8s,baz=170,slow=6.4,SNR=4.9						
CPUP	**Villa Florida**	**69.07**	**254**	LR	LR	18 15 17.4	
	comp=Z,45nm,18.4s,baz=14,slow=33						
STKA	**Stephens Creek**	**78.62**	**126**	P	**P**	**17 49 16.0**	**+0.4**
	1.1nm,0.9s						
STKA	**Stephens Creek**	**78.62**	**126**	P	**P**	**17 49 16.1**	**+0.4**
	4.1nm,0.8s,baz=357,slow=5.2,SNR=4.9						
WRA	**Warramunga Arr**	**83.74**	**113**	P	**P**	**17 49 42.8**	**-0.3**
WRA	**Warramunga Arr**	**83.74**	**113**	P	**P**	**17 49 42.8**	**-0.3**
	1.4nm,0.7s,baz=210,slow=3.9,SNR=16						
WRAB	**Tennant Creek**	**83.76**	**113**	*eP*	**P**	**17 49 43.1**	**0.0**
	4.5nm,0.9s						
KEST	**Kesra**	**86.82**	**343**	LR	LR	18 29 58.9	
	comp=Z,38nm,18.5s,baz=290,slow=36						
PDAR	**Pinedale Array**	**151.72**	**272**	PKPab	**PKPab**	**17 57 17.5**	**+0.5**
PDAR	**Pinedale Array**	**151.72**	**272**	PKPab	**PKPab**	**17 57 17.5**	**+0.5**
	0.4nm,0.9s,baz=116,slow=4.1,SNR=2.3						

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*IDC **16** 17:43:43.9±1.8,27.38S×69.95W,h72km±7km,mb3.4/1, mb1 3.0/2,mb1mx3.0/17,mbtmp3.0/2,Error ellipse: s-maj=75.4km s-min=16.9km az=78.0*
*SJA **16** 17:43:57.3±0.7,28.04S×69.01W,h19km±14km,MD3.5, ML2.6*

ISC 16 17:43:52.8±1.3,27.6S±0.1×68.9W±0.1,h107km,n11, σ2s10/13,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**1.92**	**170**	*eP*	**Pn**	**17 44 25.9**	**+1.1**
AGUA				*eS*	**Sn**	**17 44 46.3**	**-2.9**
LCO	**Las Campanas**	**2.15**	**228**	*eP*	**Pn**	**17 44 29.4**	**+1.6**
LCO				*eP*	**Pn**	**17 44 29.4**	**+1.6**
ACLC	**CERRO LA CRUZ**	**2.49**	**138**	*eP*	Pn	17 44 36.7	+4.5
ACLC				*eS*	**Sn**	**17 45 05.7**	**+3.3**
CYA	**Choya**	**2.84**	**108**	*eP*	Pn	17 44 44.6	+8.0
AVFE	**Valle Fertil**	**3.30**	**158**	*eP*4	**Pn**	**17 44 44.1**	**+1.3**
AVFE				*eS*	**Sn**	**17 45 22.0**	**+0.6**
AVFE				AML	AML	17 45 33.3	
	comp=Z,20nm,0.3s						
APLL	**PUNTA DE LOS L**	**3.47**	**144**	*eP*	Pn	17 44 48.9	+3.9
CFAA	**Coronel Fontan**	**4.04**	**172**	P	**Pn**	**17 44 50.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=335,slow=14,SNR=13						
CFAA				S	**Sn**	**17 45 40.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=200,slow=17,SNR=2.8						
TORD	**Torodi Ar. Bea 79.42 69**			P	**P**	**17 55 47.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=255,slow=6.3,SNR=3.3						
TORD				pP	pP	17 56 05.7	-9.3
	comp=Z,0.5nm,0.7s,baz=250,slow=5.5,SNR=2.3						
KURBB	**Kurchatov Arra 146.24 38**			PKPbc	**PKPdf**	**18 03 16.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=287,slow=2.8,SNR=4.6						
KURBB				pPKPbc	pPKPbc	18 03 38.0	-11
	comp=Z,0.3nm,0.3s,baz=18,slow=3.9,SNR=3.5						
ZALV	**Zalesovo Beam 147.34 29**			PKPbc	**PKPdf**	**18 03 18.7**	**-2.2**
	comp=Z,0.6nm,0.4s,baz=297,slow=3.0,SNR=4.3						
MKAR	**Makanchi Array 150.33 42**			PKPbc	**PKPdf**	**18 03 26.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=310,slow=1.6,SNR=12						
MKAR				pPKPbc	pPKPbc	18 03 47.4	-13
	comp=Z,0.3nm,0.7s,baz=290,slow=4.2,SNR=2.0						

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*NIED **16** 17:49:00,24.20N×125.20E,h35km,Mw4.3 Best double couple: M0 3.52000×10^15 NP1:φ=256.00000°,δ17.00000°, λ115.00000°. NP2:φ=51.00000°,δ75.00000°,λ83.00000°.*
*IDC **16** 17:49:00.5±0.7,24.36N×125.14E,h0km,mb4.2/27, mb1 4.3/28,mb1mx4.2/35,mbtmp4.2/28,ML3.5/1,MS3.5/6, Ms1 3.5/6,ms1mx3.2/33,Error ellipse: s-maj=17.6km s-min=16.4km az=103.0*
*BJI **16** 17:49:00.6,24.14N×125.51E,h33km,mB4.7/18,mb4.3/33, Ms4.1/21,Ms7 3.9/23*
*MOS **16** 17:49:03.3±1.1,24.35N×125.20E,h33km,mb4.8/20,Error ellipse: s-maj=12.0km s-min=6.4km az=118.2*
*JMA **16** 17:49:03.9±0.3,24.20N×125.18E,h9km,M4.5*
JMA Felt I J1.
*ISCJB **16** 17:49:04.2±0.5,24.31N±0.04×125.23E±0.03,h42km±3km, mb4.4/57,MS3.6/11,Error ellipse: s-maj=7.6km s-min=3.8km az=149.4*
*NEIC **16** 17:49:05.2±0.9,24.30N×125.20E,h35km±6km,mb4.4/19, Error ellipse: s-maj=10.1km s-min=5.9km az=150.0*
NEIC Recorded [1 JMA] on Miyako-jima.

ISC 16 17:49:04.4±0.6,24.23N±0.05×125.24E±0.04,h30km±2km, h30km:pP-P,n193,σ1s52/211,mb4.4/56,MS3.6/11,4C-2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.55**	**16**	P	**Pb**	**17 49 15.5**	**-0.2**
JOGS				S	**Sb**	**17 49 23.8**	**+0.4**
JMJ	**Miyako jima 2**	**0.59**	**5**	P	**Pb**	**17 49 15.7**	**-0.6**
JMJ				S	**Sb**	**17 49 24.1**	**-0.3**
JTJ	**Tarama**	**0.64**	**310**	P	**Pb**	**17 49 16.0**	**-1.1**
JTJ				S	**Sb**	**17 49 24.2**	**-1.6**
JIJ	**Ishigaki jima**	**1.01**	**278**	P	**Pn**	**17 49 21.9**	**-0.6**
JKRS	**Kuro-shima**	**1.12**	**271**	P	**Pb**	**17 49 24.6**	**-0.6**
HATJ	**Hateruma jima**	**1.32**	**263**	P	**Pn**	**17 49 27.0**	**+0.3**
HATJ				S	**Sb**	**17 49 43.9**	**-1.2**
IRIF	**Iriomote-Funau**	**1.38**	**275**	P	**Pn**	**17 49 27.8**	**+0.2**
YOJ	**Yonaguni jima**	**2.04**	**277**	*eP*	**Pn**	**17 49 38.1**	**+1.4**
YOJ	**Yonaguni jima**	**2.04**	**277**	P	**Pn**	**17 49 38.4**	**+1.7**
YOJ	**Yonaguni jima**	**2.04**	**277**	*ePn*	**Pn**	**17 49 38.1**	**+1.4**
JKE	**Kume jima 2**	**2.52**	**34**	P	**Pn**	**17 49 43.2**	**0.0**
JAGN	**Aguni-jima**	**2.97**	**37**	P	**Pn**	**17 49 50.1**	**+0.7**
NACB	**Ninganchiao**	**3.33**	**270**	*ePn*	**Pn**	**17 49 53.4**	**-0.9**
TATO	**Taipei**	**3.49**	**283**	*ePn*	**Pn**	**17 49 59.0**	**+2.3**
YHNB	**Yeheng**	**3.55**	**278**	*ePn*	**Pn**	**17 49 58.5**	**+1.1**
YULB	**Yu-li**	**3.70**	**258**	*ePn*	**Pn**	**17 49 58.1**	**-1.4**
YULB				*eSn*	**Sn**	**17 50 38.2**	**-4.0**
JIH	**Iheya**	**3.73**	**41**	P	**Pn**	**17 50 00.0**	**+0.2**
JOW	**Kunigami**	**3.77**	**46**	P	**Pn**	**17 50 00.5**	**-0.1**
JOW	**Kunigami**	**3.77**	**46**	*ePn*	**Pn**	**17 50 00.4**	**-0.1**
JOW				*e*		17 50 09.6	
SSLB	**Suanglung**	**3.94**	**264**	*ePn*	**Pn**	**17 50 02.3**	**-0.6**
TWG	**Pinlang**	**4.07**	**251**	*ePn*	**Pn**	**17 50 02.7**	**-1.9**
TWG				*eSn*	**Sn**	**17 50 45.7**	**-5.5**
TPUB	**Ta-pu**	**4.32**	**259**	*ePn*	**Pn**	**17 50 08.3**	**+0.2**
JTK	**Tokunoshima**	**4.87**	**43**	P	**Pn**	**17 50 14.2**	**-1.4**
JAMN	**Amaminishikomi**	**5.34**	**41**	P	**Pn**	**17 50 20.1**	**-1.9**
JMZ	**Minamidaito 2**	**5.65**	**72**	P	**Pn**	**17 50 23.7**	**-2.7**
JAM	**Amami Oshima**	**5.72**	**42**	P	**Pn**	**17 50 25.7**	**-1.5**
NJ2	**Nanjing**	**9.62**	**326**	*eP*	**Pn**	**17 51 20.9**	**+0.2**
NJ2				S	**Sn**	**17 53 08.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				LR	LR		
	comp=N,530nm,12.0s						
NJ2				LR	LR		
	comp=E,370nm,11.6s						
NJ2				LR	LR		
	comp=Z,430nm,14.3s						
JNU	**Nakatsue**	**10.15**	**28**	Pn	**Pn**	**17 51 27.2**	**-0.8**
JNU	**Nakatsue**	**10.15**	**28**	Pn	**Pn**	**17 51 27.2**	**-0.8**
	0.3nm,0.3s,baz=179,slow=20,SNR=4.9						
WHN	**Wuhan**	**11.54**	**305**	P	Pn	17 51 50.3	+3.3
WHN				S	Sn	17 54 06.5	+12
WHN				LR	LR		
	comp=Z,880nm,15.1s						
KSAR	**Wonju Array Be**	**13.37**	**9**	Pn	**Pn**	**17 52 13.3**	**+1.3**
KSRS	**Korea Array**	**13.38**	**9**	Pn	**Pn**	**17 52 13.3**	**+1.1**
	0.1nm,0.3s,baz=190,slow=13,SNR=6.8						
KSRS				LR	LR	17 57 47.3	
	comp=Z,121nm,18.5s,baz=174,slow=40						
QIZ	**Qiongzhong**	**15.22**	**253**	P	**Pn**	**17 52 37.4**	**+0.2**
QIZ				S	**Sn**	**17 55 26.0**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,34nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,230nm,4.6s						
ENH	**Enshi**	**15.24**	**297**	*ePn*	**Pn**	**17 52 39.2**	**+1.7**
	6.2nm,0.8s						
JCJ	**Chichijima**	**15.55**	**76**	LR	LR	17 58 28.7	
	comp=Z,161nm,19.6s,baz=260,slow=36						
MAJO	**Matsushiro**	**16.59**	**39**	*eP*	**P**	**17 52 57.9**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**16.59**	**39**	*ePn*	**P**	**17 52 57.9**	**+0.9**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**16.59**	**39**	P	**P**	**17 52 58.0**	**+1.0**
MAT				S	**Sn**	**17 55 56.6**	**-1.4**
MJAR	**Matsushiro Arr**	**16.59**	**39**	Pn	**P**	**17 52 58.3**	**+1.3**
MJAR	**Matsushiro Arr**	**16.59**	**39**	Pn	**P**	**17 52 58.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=224,slow=11,SNR=16						
GYA	**Guiyang**	**16.94**	**281**	*eP*	**P**	**17 53 00.3**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJI	**Beijing**	**17.52**	**336**	P	**Pn**	**17 53 04.8**	**-1.5**
BJI				S	**Sn**	**17 56 21.5**	**+1.1**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI				LR	LR		
	comp=Z,120nm,22.9s						
CN2	**Changchun**	**19.53**	**0**	*eP*	**P**	**17 53 28.5**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**20.15**	**329**	*eP*	**P**	**17 53 36.5**	**+0.3**
HHC				sP	**sP**	**17 53 48.3**	**+0.1**
HHC				S	S	17 57 10.9	-10
HHC				sS	Sn	17 57 28.1	+4.0
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,330nm,4.7s						
HHC				LR	LR		
	comp=Z,400nm,11.2s						
HHC				LR	LR		
	comp=Z,530nm,10.4s						
HHC				LR	LR		
	comp=Z,400nm,14.2s						
CD2	**Chengdu**	**20.16**	**294**	*eP*	Pn	17 53 37.5	-0.8
CD2				sP	sP	17 53 51.3	+2.9
CD2				PP	**PnPn**	**17 53 57.6**	**+4.4**
CD2				S	**S**	**17 57 16.5**	**-4.7**
CD2				sS	sS	17 57 30.1	-4.0
CD2				SS	**SnSn**	**17 57 45.8**	**+6.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,160nm,4.2s						
CD2				LR	LR		
	comp=Z,270nm,11.8s						
CD2				LR	LR		
	comp=Z,320nm,11.8s						
CD2				LR	LR		
	comp=Z,320nm,13.1s						
KMI	**Kunming**	**20.46**	**277**	P	Pn	17 53 45.6	+3.4
KMI				pP	pP	17 53 52.9	+4.8
KMI				S	**S**	**17 57 27.1**	**-0.6**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				LR	LR		
	comp=Z,210nm,15.3s						
KMI				LR	LR		
	comp=Z,250nm,17.2s						
KMI				LR	LR		
	comp=Z,180nm,17.2s						
MDJ	**Mudanjiang 20.65 9**			P	**P**	**17 53 41.8**	**+0.3**
MDJ				pP	**pP**	**17 53 49.8**	**+0.2**
MDJ				sP	**sP**	**17 53 53.8**	**+0.3**
MDJ				S	**S**	**17 57 30.8**	**+0.2**
MDJ				sS	**sS**	**17 57 44.6**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.6s						
MDJ				LR	LR		
	comp=Z,24nm,20.2s						
MDJ				LR	LR		
	comp=Z,72nm,22.6s						
MDJ				LR	LR		
	comp=Z,80nm,21.6s						
USRK	**Ussuriysk Arra 20.68 14**			P	**P**	**17 53 40.3**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=212,slow=13,SNR=3.1						
LZH	**Lanzhou 21.90 308**			*eP*	**P**	**17 53 52.4**	**-2.8**
LZH				pP	**pP**	**17 54 02.5**	**-0.9**
LZH				sP	**sP**	**17 54 06.0**	**-1.3**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				LR	LR		
	comp=Z,210nm,13.0s						
LZH				LR	LR		
	comp=Z,390nm,14.7s						
LZH				LR	LR		
	comp=Z,310nm,15.6s						
ASAJ	**Asahikawa 24.40 31**			P	**P**	**17 54 19.5**	**-0.5**
ASAJ	**Asahikawa 24.40 31**			P	**P**	**17 54 19.5**	**-0.5**
	comp=Z,11nm,1.0s,baz=332,slow=8.0,SNR=4.8						
CHTO	**Chiang Mai 25.03 263**			*eP*	**P**	**17 54 27.0**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHTO	**Chiang Mai 25.03 263**			*eP*	**P**	**17 54 27.0**	**+1.0**
	comp=Z,7.8nm,0.7s						
CM31	**Chiang Mai Arr 25.13 262**			P	**P**	**17 54 27.6**	**+0.7**
	comp=Z,4.0nm,0.7s						
CM31				*e*		17 54 37.1	
CMAR	**Chiang Mai Arr 25.13 262**			P	**P**	**17 54 28.0**	**+1.1**
CMAR	**Chiang Mai Arr 25.13 262**			P	**P**	**17 54 28.0**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=66,slow=7.6,SNR=10						
CMAR				LR	LR	18 04 50.3	
	comp=Z,68nm,18.9s,baz=80,slow=38						
HIA	**Hailar 25.36 352**			*eP*	**P**	**17 54 28.0**	**-0.7**
GTA	**Gaotai 26.26 311**			*eP*	**P**	**17 54 36.3**	**-0.8**
GTA				pP	**pP**	**17 54 45.4**	**-0.5**
GTA				sP	**sP**	**17 54 49.4**	**-0.3**
GTA				S	**S**	**17 59 04.5**	**-3.3**
GTA				sS	**sS**	**17 59 20.4**	**-2.0**
GTA				SS	**SnSn**	**18 00 14.3**	**+5.8**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,4.0s						
GTA				LR	LR		
	comp=Z,170nm,15.2s						
GTA				LR	LR		
	comp=Z,250nm,15.2s						
GTA				LR	LR		
	comp=Z,190nm,15.2s						
YSS	**Yuzh-Sakhalins 26.66 27**			P	**P**	**17 54 42.0**	**+1.5**
YSS	**Yuzh-Sakhalins 26.66 27**			P	**P**	**17 54 42.0**	**+1.5**
ULN	**Ulaanbaatar 27.66 333**			*eP*	**P**	**17 54 48.6**	**-1.0**
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array 27.91 332**			P	**P**	**17 54 49.5**	**-2.3**
SONM	**Songino Array 27.91 332**			P	**P**	**17 54 49.5**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=147,slow=11,SNR=12						
SONM				LR	LR	18 07 24.3	
	comp=Z,131nm,21.5s,baz=181,slow=40						
LSA	**Lhasa 30.80 288**			*eP*	**P**	**17 55 19.6**	**+1.5**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LSA	**Lhasa 30.80 288**			*eP*	**P**	**17 55 19.6**	**+1.5**
	comp=Z,2.6nm,0.9s						
TAPN	**Taplejung 33.85 283**			*eP*	**P**	**17 55 45.7**	**+1.0**
	comp=Z,16nm,0.7s						
ODAN	**Odare 34.17 283**			*eP*	**P**	**17 55 48.2**	**+0.8**
	comp=Z,32nm,0.9s						
RAMN	**Ramite 34.87 283**			*eP*	**P**	**17 55 54.1**	**+0.7**
JIRN	**Jiri 35.18 284**			*eP*	**P**	**17 55 56.7**	**+0.4**
	comp=Z,17nm,0.8s						
GUN	**Gumba 35.44 285**			*eP*	**P**	**17 55 59.1**	**+0.6**
	comp=Z,17nm,0.8s						
PKI	**Pulchoki 35.88 284**			*eP*	**P**	**17 56 02.3**	**+0.1**
	comp=Z,18nm,1.0s						
KKN	**Kakani 35.98 284**			*eP*	**P**	**17 56 03.3**	**+0.4**
	comp=Z,20nm,0.8s						
DMN	**Daman 36.14 284**			*eP*	**P**	**17 56 04.7**	**+0.3**
	comp=Z,28nm,1.0s						
WMQ	**Urumqi 36.34 312**			P	**P**	**17 56 06.3**	**+0.7**
WMQ				pP	**pP**	**17 56 16.0**	**+1.4**
WMQ				sP	**sP**	**17 56 19.9**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ				LR	LR		
	comp=Z,17nm,20.5s						
WMQ				LR	LR		
	comp=Z,59nm,19.4s						
WMQ				LR	LR		
	comp=Z,76nm,16.5s						
GKN	**Gorkha 36.53 285**			*eP*	**P**	**17 56 07.7**	**+0.1**
	comp=Z,22nm,0.8s						
DANN	**Dangsing 37.28 285**			*eP*	**P**	**17 56 14.0**	**-0.2**
	comp=Z,27nm,0.7s						
KOLN	**Koldanda 37.47 285**			*eP*	**P**	**17 56 15.9**	**+0.3**
PETK	**Petropavlovsk- 37.82 32**			P	**P**	**17 56 18.1**	**+0.1**
PETK	**Petropavlovsk- 37.82 32**			P	**P**	**17 56 18.1**	**+0.1**
PETK	**Petropavlovsk- 37.82 32**			P	**P**	**17 56 18.1**	**+0.1**
	comp=Z,4.8nm,1.0s,baz=168,slow=7.4,SNR=1.9						
PETK				LR	LR	18 10 05.7	
	comp=Z,135nm,21.2s,baz=322,slow=34						
H11N1	**WAKE ISLAND Hy 38.79 88**			T	T	18 37 45.0	
	baz=286,slow=75,SNR=7.9						
H11N2	**WAKE ISLAND Hy 38.79 88**	

comp=Z,91nm,5.8s
KSH LR LR
comp=Z,32nm,4.5s
KSH LR LR
comp=Z,39nm,5.5s
KURK Kurchatov 44.47 319 *e*P **P 17 57 11.2 -1.5**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 44.47 319 *e*P **P 17 57 11.2 -1.5**
comp=Z,2.9nm,0.8s
TKM2 Tokmak 2 44.67 307 *e*P **P 17 57 15.8 +1.1**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 44.67 307 *e*P **P 17 57 15.8 +1.1**
comp=Z,4.2nm,0.6s
WRAB Tennant Creek 44.78 168 *e*P **P 17 57 15.9 +0.5**
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WRAB Tennant Creek 44.78 168 *e*P **P 17 57 15.9 +0.5**
comp=Z,5.4nm,0.9s
WRA Warramunga Arr 44.79 168 P **P 17 57 16.3 +0.8**
WRA Warramunga Arr 44.79 168 P **P 17 57 16.3 +0.8**
comp=Z,2.4nm,0.5s,baz=348,slow=8.9,SNR=29
AAK Ala-Archa 45.44 307 *e*P **P 17 57 20.4 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 45.44 307 *e*P **P 17 57 20.4 -0.4**
comp=Z,2.5nm,0.9s
AAK Ala-Archa 45.44 307 P **P 17 57 20.9 +0.2**
comp=Z,0.9nm,0.5s,baz=101,slow=5.2
EKS2 Erkin-Say 45.96 307 *e*P **P 17 57 24.7 -0.2**
EKS2 pmax pmax
comp=Z,4.0nm,1.1s
EKS2 Erkin-Say 45.96 307 *e*P **P 17 57 24.6 -0.2**
comp=Z,4.0nm,1.1s
TIXI Tiksi 47.49 2Ĩ *i*P **P 17 57 33.6 -2.6**
TIXI pmax pmax
comp=Z,5.0nm,2.2s
ASAR Alice Springs 48.35 169 P **P 17 57 44.7 +1.3**
ASAR Alice Springs 48.35 169 P **P 17 57 44.7 +1.3**
comp=Z,0.9nm,0.6s,baz=354,slow=14,SNR=5.4
KK31 Karatay Array 48.40 307 *i*P **P 17 57 44.1 +0.4**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 48.40 307 *e*P **P 17 57 43.7 0.0**
KKAR Karatay Array 48.40 307 *e*P **P 17 57 43.7 0.0**
KBL Kabul 49.49 296 *e*P **P 17 57 53.2 +0.8**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 49.49 296 *e*P **P 17 57 53.2 +0.8**
comp=Z,9.2nm,0.8s
BVAR Borovoye Array 50.01 320 P **P 17 57 55.1 -0.7**
BVAR Borovoye Array 50.01 320 P **P 17 57 55.1 -0.7**
BVAR Borovoye Array 50.01 320 P **P 17 57 55.1 -0.7**
comp=Z,1.2nm,0.5s,baz=112,slow=8.7,SNR=7.7
BRVK Borovoye 50.08 320 *e*P **P 17 57 54.9 -1.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.08 320 *e*P **P 17 57 54.9 -1.4**
comp=Z,3.3nm,0.7s
AB31 Akbulak array 56.06 314 *i*P **P 17 58 40.4 -0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 56.06 314 *e*P **P 17 58 40.5 0.0**
ARU Arti 57.31 323*d i*P **P 17 58 48.7 -0.5**
ARU 18 00 53.9
ARU S **S 18 06 45.3 +1.9**
ARU SS **SS 18 10 26.4 -6.2**
ARU pmax pmax
comp=Z,22nm,2.5s
ARU Arti 57.31 323 *e*P **P 17 58 48.2 -1.0**
comp=Z,6.5nm,0.7s
AKTO Aktyubinsk 57.33 316 P **P 17 58 48.6 -0.9**
AKTO Aktyubinsk 57.33 316 P **P 17 58 48.6 -0.9**
AKTO Aktyubinsk 57.33 316 P **P 17 58 48.6 -0.9**
comp=Z,1.9nm,0.6s,baz=116,slow=16,SNR=12
PRGR Permogore 64.08 329 P **P 17 59 33.8 -1.4**
PRGR pmax pmax
comp=Z,11nm,0.7s
COLA College 67.05 28 *e*P **P 17 59 55.6 +1.3**
COLA College 67.05 28 *e*P **P 17 59 55.6 +1.3**
SML Sawmill 67.29 31 *e*P **P 17 59 54.7 -1.3**
SML Sawmill 67.29 31 *e*P **P 17 59 54.7 -1.3**
ILAR Eielson Array 67.47 28 P **P 17 59 58.3 +1.3**
ILAR Eielson Array 67.47 28 P **P 17 59 58.3 +1.3**
comp=Z,0.7nm,0.5s,baz=296,slow=9.2,SNR=16
VRHR Novokhopersk 67.62 317 *e*P **P 17 59 56.4 -1.8**
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 67.83 308 *e*P **P 17 59 58.9 -1.1**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 68.33 309 P **P 18 00 03.5 +0.7**
KBZ Khabaz 68.33 309 P **P 18 00 03.5 +0.7**
KBZ Khabaz 68.33 309 P **P 18 00 03.5 +0.7**
comp=Z,3.0nm,0.9s,baz=146,slow=3.6,SNR=5.9
KIV Kislovodsk 68.42 310*ce* **P 18 00 02.4 -1.1**
KIV *e**PP **pP 18 00 12.5 -0.6**
KIV pmax pmax
comp=Z,11nm,1.2s
KIV Kislovodsk 68.42 310 *e*P **P 18 00 03.8 +0.2**
comp=Z,17nm,1.1s
VSR Storozhevoye 69.11 318 *e*P **P 18 00 06.2 -1.3**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 69.75 322⇓ *e*P **P 18 00 11.0 -0.4**
OBN pmax pmax
comp=Z,10.0nm,1.2s
SPITS Spitsbergen Ar 70.22 348 P **P 18 00 13.7 -0.3**
SPITS Spitsbergen Ar 70.22 348 P **P 18 00 13.7 -0.3**
comp=Z,1.5nm,0.4s,baz=70,slow=4.7,SNR=5.5
JOF Joensuu 70.47 331 *e*P **P 18 00 15.4 -0.3**
JOF pmax pmax
comp=Z,7.0nm,0.5s
JOF Joensuu 70.47 331 *ep* **P 18 00 15.4 -0.3**
comp=Z,6.9nm,0.5s
ARCES ARCESS Array B 70.87 338 P **P 18 00 17.1 -1.0**
ARCES ARCESS Array B 70.87 338 P **P 18 00 17.1 -1.0**
comp=Z,4.9nm,0.9s,baz=66,slow=6.0,SNR=9.2
INK Inuvik 71.78 23 *e*P **P 18 00 21.1 -2.4**
comp=Z,8.7nm,1.0s
INK Inuvik 71.78 23 P **P 18 00 24.8 +1.2**
comp=Z,0.9nm,0.4s,baz=319,slow=9.1,SNR=7.5
ANN Anapa 71.85 312 *e*P **P 18 00 24.3 -0.1**
ANN pmax pmax
comp=Z,221nm,1.5s
KAF Kangasniemi 72.93 331 *e*P **P 18 00 30.5 0.0**
KAF Kangasniemi 72.93 331 *ep* **P 18 00 30.5 0.0**
FINES FINESS Array B 73.26 330 P **P 18 00 32.3 -0.1**
FINES FINESS Array B 73.26 330 P **P 18 00 32.3 -0.1**
comp=Z,6.6nm,0.6s,baz=66,slow=6.4,SNR=44
AKASG Malin Array Be 75.28 319*ce* **P 18 00 43.5 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 75.28 319 P **P 18 00 43.7 -0.7**
AKASG Malin Array Be 75.28 319 P **P 18 00 43.7 -0.7**
comp=Z,0.5nm,0.4s,baz=57,slow=6.4,SNR=6.3
BR131 Keskin Array S 76.11 307 *e*P P 18 00 45.2 -4.4
comp=Z,4.5nm,0.9s
BR131 *e* 18 00 59.2
BRTR Keskin Array B 76.11 307 P **P 18 00 49.8 +0.2**
BRTR Keskin Array B 76.11 307 P **P 18 00 49.8 +0.2**
comp=Z,0.6nm,0.6s,baz=126,slow=6.3,SNR=6.0
ASF Jabal al Asfar 76.19 299 P **P 18 00 51.0 +0.9**
ASF Jabal al Asfar 76.19 299 P **P 18 00 51.0 +0.9**
comp=Z,1.5nm,0.7s,baz=108,slow=3.2,SNR=3.1
SUW Suwalki 77.47 324 *e*P **P 18 00 54.7 -2.1**
SUW *e* 18 01 06.5
SUW pmax pmax
comp=Z,28nm,0.9s
SUW Suwalki 77.47 324 *e*P **P 18 00 54.7 -2.1**
comp=Z,28nm,0.9s
SUW *e* 18 01 06.5
RES Resolute Bay 78.00 10 P **P 18 01 00.6 +1.2**
RES Resolute Bay 78.00 10 P **P 18 01 00.6 +1.2**
comp=Z,0.5nm,0.4s,baz=2.9,slow=2.0,SNR=4.0
HFS Hagfors 79.31 332 P **P 18 01 06.6 -0.2**
HFS Hagfors 79.31 332 P **P 18 01 06.6 -0.2**
comp=Z,3.6nm,0.7s,baz=86,slow=5.4,SNR=15
NB2 NORSAR Subarra 79.89 333 P **P 18 01 09.8 -0.2**
comp=Z,2.3nm,0.8s,baz=54,slow=5.6
NOA NORSAR Array B 79.89 333 P **P 18 01 09.9 -0.2**
NOA NORSAR Array B 79.89 333 P **P 18 01 09.9 -0.2**
comp=Z,3.3nm,0.8s,baz=57,slow=5.5,SNR=9.9
YKA Yellowknife Ar 81.46 24 P **P 18 01 18.8 +0.5**
YKA Yellowknife Ar 81.46 24 P **P 18 01 18.8 +0.5**
comp=Z,0.9nm,0.6s,baz=305,slow=5.2,SNR=17
SUMG Summit 82.81 355 *i*P **pP 18 01 35.8 +0.3**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 82.81 355 *i*P pP 18 01 35.8 +0.3
comp=Z,5.9nm,0.8s
SUMG Summit 82.81 355 *ep*P pP 18 01 36.7 +1.2
VRAC Vranov 83.25 321 P **P 18 01 29.7 +1.7**
VRAC Vranov 83.25 321 P **P 18 01 29.7 +1.7**
comp=Z,1.0nm,0.5s,baz=48,slow=9.6,SNR=3.5
KHC Kasperske Hory 85.05 322 *e*P pP 18 01 47.6 +0.7
KHC Kasperske Hory 85.05 322 *ep*P pP 18 01 47.6 +0.7
GERES GERESS Array B 85.13 322 P **P 18 01 37.9 +0.2**
GERES GERESS Array B 85.13 322 P **P 18 01 37.9 +0.2**
comp=Z,0.6nm,0.6s,baz=56,slow=8.2,SNR=6.3
LPG La Plagne 90.93 322 *e*P **P 18 02 05.5 -0.3**
LPL La Plagne 90.93 322 *e*P **P 18 02 05.6 -0.1**
comp=Z,2.3nm,0.5s
FFC Flin Flon 91.57 25 P **P 18 02 08.4 +0.3**
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC Flin Flon 91.57 25 P **P 18 02 08.4 +0.3**
comp=Z,4.5nm,1.0s

IDC 16 18:20:01.9±1.2**,11°.43N**×**92°.88E,h0**km**,mb3.4/4, mb1 3.5/4,mb1mx3.3/26,mbtmp3.4/4,Error ellipse: s-maj=68.4km s-min=25.1km az=50.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**27.75**	**228**	T	T	18 53 32.6	
	baz=42,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**27.76**	**228**	T	T	18 53 33.8	
	baz=42,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**27.77**	**228**	T	T	18 53 33.2	
	baz=42						
MKAR	**Makanchi Array**	**36.37**	**348**	P	P	18 27 07.7	-0.1
	0.5nm,0.5s,baz=167,slow=8.3,SNR=7.0						
WRA	**Warramunga Arr**	**51.35**	**127**	P	P	18 29 08.6	0.0
	0.2nm,0.3s,baz=308,slow=8.1,SNR=10						
ASAR	**Alice Springs**	**53.16**	**131**	P	P	18 29 21.8	-0.2
	0.1nm,0.4s,baz=304,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**88.58**	**283**	P	P	18 32 57.5	0.0
	0.3nm,0.8s,baz=74,slow=2.3,SNR=2.4						

IDC ***16*** *18:32:52.0*±*0.8, 1°.45S*×*99°.36E, h0km, mb4.1/13, mb1 4.2/15,mb1mx4.0/26,mbtmp4.0/15,ML3.5/2, Error ellipse: s-maj=30.1km s-min=15.3km az=52.0*
ISCJB ***16*** *18:32:54.5*±*0.5, 1°.47S*±*0°.05*×*99°.23E*±*0°.05, h30km, mb4.1/13, Error ellipse: s-maj=8.9km s-min=5.3km az=139.4*
DJA ***16*** *18:32:56.9*±*0.4, 1°.S*±*3°*×*9°.E*±*°, h30km, M4.8/5, MLv4.8/5*
ISC 16 18:32:57.0±0.7**,1°.37S**±0°.08**×99°.37E**±0°.08**,h30km,n41,** σ0**99**/34**,mb4.1**/13**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.18**	**68**	P	**Pn**	**18 33 17.4**	**-0.1**
PDSI				S	**Sb**	**18 33 35.1**	**+1.3**
PPI	**Padang Panjang**	**1.37**	**49**	P	**Pn**	**18 33 20.1**	**0.0**
MNSI	**Mandailing Nat**	**2.16**	**6**	P	**Pn**	**18 33 32.1**	**+1.2**
BKNI	**Bangkinang**	**2.37**	**45**	P	**Pb**	**18 33 38.6**	**-0.4**
RGRI	**Rengat**	**3.13**	**71**	P	**Pn**	**18 33 47.2**	**+2.9**
GSI	**Gunungsitoli**	**3.20**	**326**	P	**Pn**	**18 33 44.7**	**-0.6**
PSI	**Prapat**	**4.16**	**354**	P	x	18 33 55.8	
PSI	**Prapat**	**4.16**	**354**	Pn	**Pn**	**18 33 56.2**	**-2.5**
	0.9nm,0.3s,baz=173,slow=11,SNR=9.9						
MNAI	**Manna**	**4.66**	**130**	P	**Pn**	**18 34 05.9**	**+0.6**
LHSI	**Lahat**	**4.82**	**121**	P	**Pn**	**18 34 08.6**	**+1.1**
TSI	**Tuntungan**	**4.90**	**351**	P	**Pn**	**18 34 09.1**	**+0.4**
TPTI		**5.09**	**335**	P	**Pn**	**18 34 12.7**	**+1.4**
KCSI	**Kotacane, Aceh**	**5.11**	**342**	P	**Pn**	**18 34 10.8**	**-0.8**
MDSI	**Maura Dua**	**5.72**	**123**	P	**Pn**	**18 34 21.2**	**+1.3**
LWLI	**Liwa**	**5.92**	**128**	P	**Pn**	**18 34 23.2**	**+0.4**
IPM	**Ipoh**	**6.04**	**16**	P	x	18 34 27.5	
KASI	**Kota Agung**	**6.58**	**129**	P	**Pn**	**18 34 32.4**	**+0.7**
KULM	**Kulim**	**6.74**	**11**	P	x	18 34 35.1	
CGJI	**Cibinong**	**8.18**	**130**	P	**Pn**	**18 34 53.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.70**	**359**	P	**P**	**18 37 24.4**	**+0.3**
	0.2nm,0.3s,baz=186,slow=10,SNR=19						
H08S2	**Diego Garcia H**	**27.50**	**256**	T	T	19 06 35.7	
	baz=81						
H08S3	**Diego Garcia H**	**27.50**	**256**	T	T	19 06 32.1	
	baz=81						
H08S1	**Diego Carcia H**	**27.51**	**256**	T	T	19 06 46.1	
	baz=81						
H01W3	**Cape Leeuwin H**	**36.08**	**159**	T	T	19 17 44.4	
	baz=337						
H01W2	**Cape Leeuwin H**	**36.09**	**159**	T	T	19 17 44.9	
	baz=337						
H01W1	**Cape Leeuwin H**	**36.09**	**159**	T	T	19 17 44.5	
	baz=337						
WRA	**Warramunga Arr**	**38.86**	**121**	P	**P**	**18 40 18.7**	**-1.2**
	2.3nm,0.7s,baz=303,slow=9.2,SNR=24						
ASAR	**Alice Springs**	**40.13**	**126**	P	**P**	**18 40 29.6**	**-0.9**
	1.2nm,0.7s,baz=297,slow=7.5,SNR=20						
KSRS	**Korea Array**	**46.81**	**31**	P	**P**	**18 41 23.3**	**-0.7**
	0.8nm,0.7s,baz=222,slow=8.4,SNR=5.3						
SONM	**Songino Array**	**49.38**	**6**	P	**P**	**18 41 44.4**	**+0.5**
	0.7nm,0.6s,baz=188,slow=9.4,SNR=6.2						
SONM				PcP	**PcP**	**18 43 06.7**	**+0.6**
	1.2nm,0.8s,baz=191,slow=5.5,SNR=2.5						
STKA	**Stephens Creek**	**50.04**	**132**	P	**P**	**18 41 48.4**	**-0.7**
	3.7nm,1.0s,baz=344,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**50.26**	**345**	P	**P**	**18 41 50.6**	**+0.1**
	3.5nm,0.7s,baz=148,slow=8.2,SNR=43						
USRK	**Ussuriysk Arra**	**53.90**	**29**	P	**P**	**18 42 17.6**	**-0.1**
	1.8nm,0.8s,baz=257,slow=5.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.44**	**350**	P	**P**	**18 42 35.6**	**-0.1**
	5.5nm,0.7s,baz=181,slow=5.7,SNR=38						
KBZ	**Khabaz**	**67.42**	**319**	P	**P**	**18 43 49.7**	**-0.1**
	2.0nm,0.7s,baz=117,slow=6.9,SNR=8.4						
EIL	**Elat**	**68.65**	**303**	P	**P**	**18 43 58.1**	**+0.3**
	2.2nm,0.7s,baz=28,slow=12,SNR=3.5						
BRTR	**Keskin Array B**	**72.43**	**312**	P	**P**	**18 44 19.9**	**-1.1**
	0.5nm,0.6s,baz=134,slow=6.5,SNR=5.3						
SEY	**Seymchan**	**75.28**	**22**	P	**P**	**18 44 37.0**	**+0.1**
	baz=210,slow=8.1						
FINES	**FINESS Array B**	**83.26**	**332**	P	**P**	**18 45 20.9**	**+0.4**
	1.9nm,0.9s,baz=88,slow=6.1,SNR=6.6						
GERES	**GERESS Array B**	**88.16**	**319**	P	**P**	**18 45 45.8**	**+0.6**
	0.4nm,0.5s,baz=108,slow=4.3,SNR=5.1						
TXAR	**Lajitas Array**	**144.57**	**36**	PKP	**PKPdf**	**18 52 31.0**	**-0.6**
	1.0nm,0.7s,baz=272,slow=1.2,SNR=15						

NEIC ***16*** *18:33:27.9*±*0.7, 1°.50S*×*99°.43E, h10km, mb4.0/2, Error ellipse: s-maj=26.0km s-min=11.5km az=64.0*
ISCJB ***16*** *18:33:29.5*±*0.6, 1°.34S*±*0°.09*×*99°.5E*±*0°.1, h30km, mb4.3/16, MS3.7/1, Error ellipse: s-maj=20.6km s-min=9.6km az=150.2*
IDC ***16*** *18:33:34.1*±*3.2, 1°.39S*×*99°.45E, h52km*±*27km, mb4.0/15, mb1 4.1/17,mb1mx3.9/28,mbtmp4.0/17,ML3.8/2, MS3.8/2, Ms1 3.8/2, ms1mx3.3/25, Error ellipse: s-maj=25.4km s-min=12.9km az=52.0*
ISC 16 18:33:31.3±0.7**,1°.4S**±0°.1×**99°.5E**±0°.2**,h30km,n50,** σ0**92**/47**,mb4.3**/16**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.24**	**353**	P	**Pn**	**18 34 36.0**	**+2.0**
PSI	**Prapat**	**4.24**	**353**	P	**Pn**	**18 34 36.0**	**+2.0**
	2.0nm,0.3s,baz=185,slow=14,SNR=4.3						
PSI				LR	LR	18 36 35.7	
	comp=Z,1μm,18.2s,baz=160,slow=44						
IPM	**Ipoh**	**6.08**	**15**	Pn	Pn	18 35 07.5	+8.2
	46nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.77**	**359**	P	**P**	**18 37 59.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.77**	**359**	P	**P**	**18 37 59.7**	**+0.5**
	0.2nm,0.3s,baz=187,slow=10,SNR=5.9						
CHTO	**Chiang Mai**	**20.13**	**359**	*e*P	**P**	**18 38 00.7**	**-2.3**
	3.1nm,1.0s						

H08S2 Diego Garcia H 27.56 256 T T 19 07 09.9
baz=77,slow=75,SNR=144
H08S3 Diego Garcia H 27.57 256 T T 19 07 07.5
baz=77,slow=75,SNR=211
H08S1 Diego Carcia H 27.58 256 T T 19 07 08.6
baz=77,SNR=10.0
H08N1 Diego Carcia H 28.78 259 T T 19 09 20.2
baz=79
H08N2 Diego Garcia H 28.79 260 T T 19 09 24.7
baz=79
H08N3 Diego Garcia H 28.80 259 T T 19 09 25.3
baz=79
H01W3 Cape Leeuwin H 35.98 159 T T 19 18 18.8
baz=335,slow=75,SNR=27
H01W2 Cape Leeuwin H 36.00 159 T T 19 18 17.8
baz=335,slow=75,SNR=30
H01W1 Cape Leeuwin H 36.00 159 T T 19 18 18.4
baz=335,slow=75,SNR=20
WRA Warramunga Arr 38.75 121 P **P 18 40 52.8 -0.5**
WRA PcP **PcP 18 43 05.4 +0.6**
WRA Warramunga Arr 38.75 121 P **P 18 40 52.8 -0.5**
6.1nm,0.7s,baz=302,slow=9.3,SNR=29
WRA PcP **PcP 18 43 05.4 +0.6**
0.5nm,0.7s,baz=312,slow=2.5,SNR=5.3
AS31 Alice Springs 40.02 126 *e*P **P 18 41 02.0 -1.9**
ASAR Alice Springs 40.02 126 P **P 18 41 04.0 +0.1**
ASAR PcP **PcP 18 43 10.1 +1.4**
ASAR S **S 18 47 07.8 -0.2**
ASAR Alice Springs 40.02 126 P **P 18 41 04.0 +0.1**
3.4nm,0.7s,baz=301,slow=7.4,SNR=13
ASAR PcP **PcP 18 43 10.1 +1.4**
1.4nm,0.9s,baz=321,slow=3.2,SNR=4.6
ASAR S **S 18 47 07.8 -0.2**
1.1nm,1.0s,baz=290,slow=15,SNR=5.5
JNU Nakatsue 45.38 38 P **P 18 41 46.9 -0.4**
JNU Nakatsue 45.38 38 P **P 18 41 46.9 -0.4**
7.1nm,0.8s,baz=202,slow=3.3,SNR=6.5
KSAR Wonju Array Be 46.79 31 P **P 18 41 57.6 -0.6**
KSRS Korea Array 46.82 31 P **P 18 41 57.6 -0.8**
2.4nm,0.7s,baz=222,slow=8.3,SNR=9.4
SONM Songino Array 49.44 6 P **P 18 42 19.0 +0.3**
SONM PcP **PcP 18 43 40.9 +0.3**
SONM Songino Array 49.44 6 P **P 18 42 19.0 +0.3**
2.3nm,0.9s,baz=187,slow=9.5,SNR=6.5
SONM PcP **PcP 18 43 40.9 +0.3**
1.2nm,0.7s,baz=193,slow=4.4,SNR=5.0
STKA Stephens Creek 49.93 132 P **P 18 42 23.5 +0.9**
STKA Stephens Creek 49.93 132 P **P 18 42 23.5 +0.9**
5.7nm,0.7s,baz=305,slow=5.8,SNR=6.2
MKAR Makanchi Array 50.34 345 P **P 18 42 25.6 +0.1**
MKAR Makanchi Array 50.34 345 P **P 18 42 25.6 +0.1**
2.1nm,0.6s,baz=149,slow=8.1,SNR=10
USRK Ussuriysk Arra 53.92 29 P **P 18 42 51.7 -0.3**
4.8nm,0.8s,baz=221,slow=6.5,SNR=8.5
ZAA0 Zalesovo Array 56.52 350 *e*P **P 18 43 10.1 -0.5**
ZALV Zalesovo Beam 56.52 350 P **P 18 43 11.3 +0.7**
ZALV Zalesovo Beam 56.52 350 P **P 18 43 11.3 +0.7**
4.0nm,0.7s,baz=157,slow=6.6,SNR=8.7
ZALV LR LR 19 12 10.7
comp=Z,56nm,18.6s,baz=247,slow=41
KBZ Khabaz 67.53 319 P **P 18 44 24.5 -0.3**
KBZ Khabaz 67.53 319 P **P 18 44 24.5 -0.3**
1.3nm,0.7s,baz=134,slow=7.9,SNR=4.6
BRTR Keskin Array B 72.54 312 P **P 18 44 54.3 -1.5**
BRTR Keskin Array B 72.54 312 P **P 18 44 54.3 -1.5**
0.3nm,0.6s,baz=137,slow=6.7,SNR=2.9
SEY Seymchan 75.31 22 P **P 18 45 11.3 -0.1**
SEY Seymchan 75.31 22 P **P 18 45 11.3 -0.1**
3.2nm,0.6s,baz=210,slow=11,SNR=4.7
TIXI Tiksi 75.39 9 *e*P **P 18 45 09.9 -1.7**
2.7nm,0.6s
FINES FINESS Array B 83.36 332 P **P 18 45 55.2 -0.1**
FINES FINESS Array B 83.36 332 P **P 18 45 55.2 -0.1**
0.7nm,0.5s,baz=93,slow=7.6,SNR=5.8
GERES GERESS Array B 88.27 319 P **P 18 46 19.6 -0.5**
GERES GERESS Array B 88.27 319 P **P 18 46 19.6 -0.5**
0.7nm,0.9s,baz=73,slow=3.3,SNR=2.9
QSPA South Pole Qui 88.52 180 P **P 18 46 21.9 +1.0**
QSPA South Pole Qui 88.52 180 P **P 18 46 21.9 +1.0**
1.0nm,0.8s,baz=203,slow=5.3,SNR=5.9
H09N1 TRISTAN DA CUN106.36 231 T T 20 44 09.4
TXAR Lajitas Array 144.58 36 PKP **PKPdf 18 53 05.3 -0.5**
TXAR Lajitas Array 144.58 36 PKP **PKPdf 18 53 05.3 -0.5**
2.3nm,0.6s,baz=244,slow=1.1,SNR=17

IDC ***16*** *18:43:19.8*±*0.9, 31°.96N*×*104°.26E, h0km, mb3.3/8, mb1 3.5/9, mb1mx3.4/29, mbtmp3.3/9, ML2.9/1, Error ellipse: s-maj=35.1km s-min=17.7km az=57.0*
ISC 16 18:43:20.9±0.9**,31°.7N**±0°.1×**104°.0E**±0°.2**,h14km,n10,** σ1**946**/10**,mb3.3**/7**,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.97**	**200**	Pn	**P**	**18 46 45.1**	**-1.4**
	0.0nm,0.3s,baz=19,slow=11,SNR=3.2						
SONM	**Songino Array**	**16.21**	**6**	Pn	**P**	**18 47 11.5**	**+0.1**
	0.0nm,0.3s,baz=187,slow=10,SNR=3.4						
KSRS	**Korea Array**	**20.46**	**67**	P	**P**	**18 47 57.0**	**-1.0**
	0.3nm,0.6s,baz=250,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**22.50**	**318**	P	**P**	**18 48 21.4**	**+1.4**
	0.2nm,0.7s,baz=117,slow=13,SNR=2.7						
ZALV	**Zalesovo Beam**	**26.16**	**334**	P	**P**	**18 48 55.4**	**+0.8**
	0.4nm,0.3s,baz=126,slow=9.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**26.73**	**322**	P	**P**	**18 48 58.6**	**-1.2**
	0.2nm,0.3s,baz=127,slow=8.7,SNR=2.5						
FINES	**FINESS Array B**	**57.04**	**326**	P	**P**	**18 53 06.5**	**+0.4**
	4.2nm,1.1s,baz=96,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**59.00**	**146**	P	**P**	**18 53 21.7**	**+1.4**
	0.4nm,0.7s,baz=338,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	**62.03**	**149**	P	**P**	**18 53 43.0**	**+2.1**
	0.2nm,0.8s,baz=336,slow=6.6,SNR=3.5						
YKA	**Yellowknife Ar**	**81.14**	**17**	P	**P**	**18 55 34.4**	**-1.1**
	0.1nm,0.4s,baz=328,slow=5.3,SNR=4.2						

DJA 16 19:29:28.3±4.2**,5°N**±16°**×9°5E**±3°**,h72km**±31km**,M3.6/4, mb4.1/3,mB5.0/1,MLv3.4/4,Mw(mB)4.3/1,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.65**	**75**	P	Pn	19 29 55.9	+0.5
TPTI		**2.40**	**130**	P	Pn	19 30 05.3	-0.1
SNSI	**Sinabang, Aceh**	**2.58**	**158**	P	Pn	19 30 07.9	0.0
KCSI	**Kotacane, Aceh**	**2.74**	**118**	P	Pn	19 30 10.2	+0.1
KULM	**Kulim**	**5.31**	**85**	P	x	19 30 44.9	
	19nm,1.3s						
IPM	**Ipoh**	**5.68**	**93**	P	x	19 30 49.6	
	15nm,1.8s						
MNSI	**Mandailing Nat**	**5.82**	**133**	P	Pn	19 30 52.1	+0.1

KRSC 16 19:40:31.0±2.2**,50°.39N**×**157°.56E,h58**km±28km**,ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**288**	*i* P	Pn	19 40 48.3	-0.2
SKR				*e*S	Sn	19 40 59.8	-1.7
PAU	**Pauzhetka**	**1.18**	**337**	*e*P	Pn	19 40 52.9	+1.6
PAU				*e*S	Sn	19 41 07.9	+1.4
MIPR	**Malaya Ipel'ka**	**1.96**	**345**	*e*P	Pn	19 41 04.5	+2.6
MIPR				S	Sn	19 41 27.9	+2.6
ASAK	**Asacha**	**2.01**	**6**	*e*P	Pn	19 41 06.0	+3.3
ASAK				*e*S	Sn	19 41 30.3	+3.6
RUS	**Russkaya**	**2.13**	**16**	P	Pn	19 41 05.9	+1.7
RUS				S	Sn	19 41 30.1	+0.6
MTVR	**Mutnovka**	**2.13**	**10**	*e*P	Pn	19 41 06.6	+2.2
MTVR				*e*S	Sn	19 41 31.6	+1.7
GRL	**Gorelyy**	**2.19**	**8**	P	Pn	19 41 08.8	+3.6
GRL				*e*S	Sn	19 41 34.9	+3.6
APC	**Apacha**	**2.55**	**354**	*e*P	Pn	19 41 12.9	+3.0
APC				*e*S	Sn	19 41 42.3	+2.5
PET	**Petropavlovsk**	**2.73**	**14**	*e*P	Pn	19 41 15.5	+3.2
PET				*e*S	Sn	19 41 46.6	+2.6
UGLR	**Uglovaya**	**2.93**	**15**	*e*P	Pn	19 41 18.9	+3.6
UGLR				S	Sn	19 41 52.9	+3.5
AVH	**Avacha**	**2.97**	**14**	*e*P	Pn	19 41 19.6	+3.8
AVH				S	Sn	19 41 54.0	+3.7
SMAR	**Somma**	**2.98**	**14**	*e*P	Pn	19 41 19.7	+3.6
KOK

SDLR	**Sedlovina**	**3.01**	**15**	*e*P	Pn	19 41 18.9	+2.6
SDLR				S	Sn	19 41 53.8	+2.5
KRER	**Koryakskii**	**3.01**	**14**	*e*P	Pn	19 41 19.9	+3.4
KRX	**Arik**	**3.05**	**12**	*e*P	Pn	19 41 20.6	+3.6
KRX				S	Sn	19 41 55.6	+3.2
SPN	**Mys Shipunski**	**3.12**	**28**	S	Sn	19 41 57.6	+4.0
GNL	**Ganaly**	**3.32**	**4**	P	Pn	19 41 24.2	+3.6
MKZ	**Mys Kozlova**	**4.89**	**30**	P	Pn	19 41 44.9	+3.0
KZV	**Kizimen**	**5.01**	**18**	P	Pn	19 41 48.7	+4.9
TUMR	**Tumrok**	**5.15**	**17**	P	Pn	19 41 50.7	+5.1
KBTR	**Krutoberegovo**	**6.63**	**26**	P	Pn	19 42 09.2	+3.6
BKI	**Bering**	**7.02**	**43**	S	Sn	19 43 28.1	-1.1

IDC ***16*** *19:42:25.1±5.4, 17˚.22N×100˚.26W, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.5/24, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=145.3km s-min=38.4km az=37.0*

ISCJB ***16*** *19:42:34.9±1.5, 17˚.50N±0˚.08×103˚.06W±0˚.06, h28km±9km, mb3.4/2, Error ellipse: s-maj=16.1km s-min=5.0km az=35.9*

MEX ***16*** *19:42:37.1±0.4, 17˚.50N×103˚.08W, h10km±14km, MD4.1*

ISC 16 19:42:35.8±1.9**, 17˚60N**±0˚.10×**103˚00W**±0˚.07**, h18**km±9km**, n16**, σ1$**47/22, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.76**	**334**	*e*P			**Pg**	**19 42 50.7**	**-0.1**
MMIG				*e*S			**Sg**	**19 43 01.0**	**+0.1**
ZIIG	**Zihuatanejo**	**1.46**	**90**	*e*P			**Pn**	**19 43 00.7**	**-0.5**
ZIIG				*e*S			**Sn**	**19 43 19.3**	**-0.7**
R15V		**1.82**	**329**	*i* P			**Pn**	**19 43 05.9**	**-0.4**
R15V				*e*S			**Sn**	**19 43 28.5**	**-0.5**
EZ5V		**1.96**	**343**	*i* P			**Pn**	**19 43 08.3**	**-0.1**
EZ5V				*e*S			**Sn**	**19 43 32.7**	**+0.1**
ARIG	**Puente Sto Nin**	**2.61**	**75**	*e*P			**Pn**	**19 43 18.2**	**+1.0**
ARIG				*e*S			**Sn**	**19 43 49.5**	**+1.1**
MOIG	**Morelia**	**2.68**	**39**	*e*P			**Pn**	**19 43 17.4**	**-1.0**
MOIG				*e*S			**Sn**	**19 43 47.3**	**-3.3**
SFJM	**Santa Fe**	**2.87**	**359**	*i* P			**Pn**	**19 43 22.6**	**+1.7**
SFJM				*e*S			**Sn**	**19 43 57.2**	**+2.2**
ACX	**Acapulco**	**3.08**	**103**	*i* P			**Pn**	**19 43 22.8**	**-0.9**
ACX				*e*S			**Sn**	**19 43 59.8**	**-0.3**
ANIG	**Ahuacatlan**	**3.72**	**337**	*e*P			**Pn**	**19 43 33.1**	**+0.5**
ANIG				*i* S			**Sn**	**19 44 16.4**	**+0.3**
TLIG	**Tlapa**	**4.22**	**90**	*i* P			**Pn**	**19 43 41.1**	**+1.7**
TLIG				*e*S			**Sn**	**19 44 30.8**	**+2.4**
TXAR	**Lajitas Array**	**11.70**	**357**	Pn			Pn	19 45 25.8	+3.9
	0.0nm,0.3s,baz=180,slow=14,SNR=2.5								
YKA	**Yellowknife Ar**	**45.58**	**352**	P			**P**	**19 50 52.4**	**-2.1**
	0.4nm,0.8s,baz=161,slow=7.6,SNR=6.0								
ILAR	**Eielson Array**	**55.52**	**339**	P			**P**	**19 52 11.0**	**+1.4**
	0.2nm,0.5s,baz=143,slow=5.0,SNR=4.8								
H03N2	**Juan Fernandez**	**55.71**	**156**	T			T	20 52 37.9	
	baz=332,slow=75,SNR=5.2								
H03N1	**Juan Fernandez**	**55.72**	**156**	T			T	20 52 33.1	
	baz=332,slow=75,SNR=8.3								
H03N3	**Juan Fernandez**	**55.73**	**156**	T			T	20 52 38.0	
	baz=332,slow=75,SNR=10								

BJI ***16*** *19:53:15.0, 13˚.30N×120˚.98E, h100km, mB5.0/32, mb4.9/48*

ISCJB ***16*** *19:53:19.0±0.2, 13˚.61N±0˚.02×120˚.84E±0˚.03, h107km±2km, mb4.7/95, Error ellipse: s-maj=4.7km s-min=3.1km az=171.6*

GCMT ***16*** *19:53:18.3±0.3, 13˚.75N×120˚.72E, h77km±3km, MW4.9/63, Moment Tensor Solution. s18,c21; s63,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.03±.15; Mθθ0.50±.14; Mϕϕ-2.53±.14; Mrθ1.23±.07; Mθϕ-1.09±.10; Mϕr-0.01±.11; Best double couple: M○2.84100×10^16 NP1:ϕs45.00000°,δ57.00000°,λ128.00000°. NP2: ϕs170.00000°,δ49.00000°,λ47.00000°. Principal axes: T 2.7720, Plg58.0000°, Azm12.0000°; N 0.1380, Plg31.0000°, Azm202.0000°; P -2.9100, Plg5.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *19:53:18.3±0.2, 13.56N×120.87E, mb4.9/34 Error ellipse: s-maj=5.5km s-min=4.2km az=86.0*

NEIC Felt [II PIVS] at Puerto Galera. Also felt [II PIVS] at Alabang and Muntinlupa City, Luzon. Felt [II] at Manila. Also felt at Candelaria, Mabini, Rizal and San Pascual.

MAN ***16*** *19:53:18, 13.57N×120.52E, h60km, mb5.6, ML4.6, MS5.0*

MAN INTENSITY II - PTO GALERA MINDORO ORIENTAL; AIABANG MUNTINLUPA CITY.

IDC ***16*** *19:53:18.8±0.3, 13.56N×120.88E, h95km±2km, mb4.4/38, mb1 4.5/38, mb1mx4.5/41, mbtmp4.4/38, MS3.5/3, Ms1 3.5/3, ms1mx3.2/51, Error ellipse: s-maj=11.5km s-min=5.8km az=79.0*

KLM ***16*** *19:53:18.6, 13.69N×120.89E, h75km, mb4.7, MS5.8*

DJA ***16*** *19:53:24.2±1.3, 14˚N±7˚×12˚1E±˚, h124km±13km, M4.9/27, mb5.0/27, mB5.4/4, Mw(mB)4.8/4*

BKK ***16*** *19:53:27.1±1.0, 14˚N±7˚×12˚1E±˚, h166km±11km, M5.2/21, mB5.1/5, mb4.8/21, MLv5.7/1, Mw(mB)4.4/5*

ISC 16 19:53:19.1±0.3**, 13˚56N**±0˚.03×**120˚79E**±0˚.04**, h96**km±1km**, h96km:pP-P, n325,** σ1**$50**/399**, mb4.7**/94**, 37C-27D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.17**	**110**	⇑*i*P			**Pn**	**19 53 32.0**	**-0.8**
PGP				*i* S			**Sn**	**19 53 41.7**	**-1.4**
TGY	**Tagaytay City**	**0.56**	**15**	P			**Pn**	**19 53 35.1**	**0.0**
TGY				S			**Sn**	**19 53 48.0**	**+1.0**
TGY	**Tagaytay City**	**0.56**	**15**	P			**Pn**	**19 53 35.1**	**0.0**
	7μm,0.3s,baz=167,slow=5.3,SNR=462								
TGY				S			**Sn**	**19 53 48.0**	**+1.0**
	21μm,0.3s,baz=60,slow=22,SNR=17								
TGY	**Tagaytay City**	**0.56**	**15**	⇑*i*P			**Pn**	**19 53 35.2**	**+0.1**
TGY				*e*S			**Sn**	**19 53 45.5**	**-1.5**
BOAC	**Boac**	**1.03**	**95**	*e*P			**Pn**	**19 53 41.3**	**+1.7**
SJMP	**San Jose**	**1.14**	**164**	*e*P			**Pn**	**19 53 41.9**	**+1.0**
BUSP	**Coron**	**1.65**	**200**	*e*P			**Pn**	**19 53 46.0**	**-1.1**
OTRP	**Odiongan**	**1.69**	**135**	*e*P			**Pn**	**19 53 49.3**	**+1.7**
AUQP	**San Andres**	**1.85**	**97**	*e*P			Pn	19 53 53.6	+4.0
BALP	**Baler**	**2.30**	**19**	*e*P			**Pn**	**19 53 57.3**	**+1.8**
SCZP	**Santa Cruz**	**2.36**	**339**	*e*P			**Pn**	**19 53 54.1**	**-2.2**
KALP	**Kalibo**	**2.41**	**141**	*e*P			Pn	19 54 06.8	+10
ENPP	**El Nido**	**2.69**	**210**	*e*P			**Pn**	**19 53 59.6**	**-1.1**
CUYO	**Cuyo Island**	**2.70**	**175**	*e*P			**Pn**	**19 54 00.8**	**0.0**
RCP	**Roxas**	**2.76**	**136**	⇓*e*P			**Pn**	**19 54 03.9**	**+2.4**
BCPH	**Baguio City Da**	**2.81**	**356**	⇑*i*P			**Pn**	**19 54 02.1**	**-0.4**
BCPH				*i* S			**Sn**	**19 54 33.6**	**-2.2**
BOLP	**Bolinao**	**2.93**	**343**	*e*P			**Pn**	**19 54 03.5**	**-0.4**
MMPH	**Masbate**	**3.01**	**113**	*e*P			Pn	19 54 07.6	+2.7
PVCP	**Virac**	**3.27**	**89**	⇓*i*P			Pn	19 54 11.8	+3.4
GUIM	**Jordan**	**3.41**	**149**	*e*P			**Pn**	**19 54 13.0**	**+2.7**
CAUP	**Cauayan**	**3.51**	**16**	*e*P			**Pn**	**19 54 13.6**	**+1.9**
PALP	**Palanan**	**3.82**	**24**	*e*P			**Pn**	**19 54 18.1**	**+2.2**
SZP	**Santa**	**3.98**	**355**	*e*Pn			**Pn**	**19 54 17.9**	**-0.1**
SZP				*e*Sn			**Sn**	**19 55 07.5**	**+3.8**
ABRA	**Dolores**	**4.07**	**359**	*e*P			**Pn**	**19 54 19.1**	**0.0**
CVP	**Callao Caves**	**4.24**	**13**	⇓*e*P			**Pn**	**19 54 22.4**	**+0.9**
PPR	**Puerto Princes**	**4.27**	**208**	⇓*i*P			**Pn**	**19 54 22.3**	**+0.4**
PPR				*i* S			**Sn**	**19 55 07.3**	**-3.3**
APYP	**Conner**	**4.30**	**6**	*e*P			**Pn**	**19 54 24.5**	**+2.2**
LLP	**Lapu-Lapu**	**4.48**	**136**	⇓*e*P			Pn	19 54 28.2	+3.4
LLP				*e*S			Sn	19 55 28.6	+13
OCLP	**Ormoc**	**4.49**	**123**	*e*P			Pn	19 54 28.8	+3.9
PLP	**Palo**	**4.74**	**120**	⇓*i*P			Pn	19 54 31.9	+3.7
PIP	**Pasuquin**	**4.74**	**358**	⇓*e*P			**Pn**	**19 54 29.9**	**+1.6**
SGCP	**Mt. Cagua**	**4.81**	**14**	*e*P			Pn	19 54 33.4	+4.1
SNPH	**Sibulan**	**4.83**	**150**	⇓*e*P			**Pn**	**19 54 28.3**	**-1.2**
SNPH				*e*S			**Sn**	**19 55 22.8**	**-1.5**
TBP	**Tagbilaran**	**4.88**	**142**	*e*P			Pn	19 54 34.7	+4.5
TBP				*e*S			Sn	19 55 11.4	-14
MSLP	**Maasin**	**5.24**	**130**	*e*P			Pn	19 54 39.2	+4.1
IPIL	**Ipil**	**6.00**	**163**	*e*P			**Pn**	**19 54 47.6**	**+2.2**
PAGZ	**Pagadian**	**6.22**	**156**	*e*P			Pn	19 54 52.9	+4.5
KDM	**Kudat**	**7.66**	**211**	⇓P			**Pn**	**19 55 10.0**	**+1.9**
DAV	**Davao City (W)**	**7.99**	**143**	*e*Pn			Pn	19 55 18.8	+6.3
	108nm,0.6s								
SDKM	**Sandakan**	**8.63**	**205**	⇑P			**Pn**	**19 55 21.6**	**+0.3**
KKM	**Kota Kinabalu**	**8.72**	**212**	P			x	19 55 35.6	
KKM	**Kota Kinabalu**	**8.72**	**212**	*e*Pn			**Pn**	**19 55 24.6**	**+2.0**
KKM	**Kota Kinabalu**	**8.72**	**212**	⇓P			**Pn**	**19 55 24.2**	**+1.6**
TSM	**Tawau**	**9.65**	**198**	⇑P			**Pn**	**19 55 36.9**	**+1.8**
SSLB	**Suanglung**	**10.18**	**1**	*e*Pn			**Pn**	**19 55 40.6**	**-1.6**
	21nm,0.8s								
NACB	**Ninganchiao**	**10.59**	**4**	*e*Pn			**Pn**	**19 55 47.2**	**-0.6**
YHNB	**Yeheng**	**11.07**	**3**	*e*Pn			**Pn**	**19 55 54.7**	**+0.2**
QIZ	**Qiongzhong**	**11.83**	**299**	P			**Pn**	**19 56 03.6**	**-1.1**
QIZ				S			**Sn**	**19 58 16.8**	**+2.0**
QIZ				pmax			pmax		
	comp=Z,100nm,1.3s								
QIZ				pmax			pmax		
	comp=Z,310nm,5.1s								
QIZ	**Qiongzhong**	**11.83**	**299**	*e*Pn			**Pn**	**19 56 03.5**	**-1.2**
	76nm,0.7s								
DLV	**T Lat**	**12.11**	**264**	*e*Pn			**Pn**	**19 56 09.3**	**+0.8**
DLV				*e*Sn			Sn	19 58 13.9	-8.0
SBUM	**Sibu**	**13.92**	**218**	P			x	19 56 35.0	
	50nm,1.1s								
SBUM	**Sibu**	**13.92**	**218**	*e*Pn			**Pn**	**19 56 33.6**	**+1.4**
SBUM	**Sibu**	**13.92**	**218**	⇓P			**P**	**19 56 38.5**	**+1.4**
LUWI	**Luwuk**	**14.64**	**172**	P			**P**	19 56 58.6	+13
LUWI	**Luwuk**	**14.64**	**172**	*e*Pn			**Pn**	**19 56 47.6**	**+2.4**
	152nm,1.1s								
JOW	**Kunigami**	**14.95**	**27**	*e*Pn			**Pn**	**19 56 46.3**	**+0.9**
	124nm,1.1s								
LBMI	**Labuha**	**15.60**	**154**	P			**P**	**19 56 55.6**	**-0.2**
	74nm,1.0s								
MMSI	**Mamuju**	**16.25**	**187**	P			x	19 57 08.2	
	85nm,0.9s								
SANI	**Sanana**	**16.34**	**161**	P			**P**	**19 57 03.6**	**-0.5**
	45nm,1.2s								
NLAI	**Namlea**	**17.83**	**159**	P			Pn	19 57 26.2	+5.2
	44nm,0.8s								
SLVN	**Son La**	**17.86**	**298**	*e*Pn			**P**	**19 57 21.5**	**+0.6**
WHN	**Wuhan**	**17.92**	**342**	P			**Pn**	**19 57 24.3**	**+2.3**
WHN				sP			**sP**	**19 57 53.0**	**+1.2**
WHN				S			**Sn**	**20 00 42.0**	**+0.2**
WHN				LR			LR		
	comp=Z,590nm,11.8s								
CHBT	**CHBT**	**18.00**	**270**	P			**Pn**	**19 57 25.3**	**+2.2**
	37nm,0.8s								
CHAI	**Chaiyaphum**	**18.34**	**280**	P			**Pn**	**19 57 28.0**	**+0.8**
	41nm,0.7s,320nm								
GYA	**Guiyang**	**18.44**	**316**	⇑*i*P			**Pn**	**19 57 28.9**	**+0.4**
GYA				pP			**pP**	**19 57 44.8**	**-0.7**
GYA				PP			PP	19 57 48.3	
GYA				S			**S**	**20 00 49.9**	**-2.9**
GYA				sS			sS	20 01 13.3	-10
GYA				SS			**SnSn**	**20 01 17.0**	**+6.4**
GYA				PcP			**PcP**	**20 01 54.8**	**+0.7**
GYA				pmax			pmax		
	comp=Z,20nm,0.9s								
GYA				pmax			pmax		
	comp=Z,120nm,4.6s								
GYA				LR			LR		
	comp=N,580nm,16.6s								
GYA				LR			LR		
	comp=E,520nm,17.2s								
GYA				LR			LR		
	comp=Z,540nm,16.8s								
KAPI	**Kappang**	**18.48**	**183**	*e*P			**Pn**	**19 57 30.4**	**+1.5**
	92nm,0.6s								
NJ2	**Nanjing**	**18.49**	**355**	*e*P			**Pn**	**19 57 29.8**	**+0.9**
NJ2				pmax			pmax		
	comp=Z,20nm,1.0s								
KTGM	**Kuala Trenggan**	**19.23**	**246**	⇑P			**Pn**	**19 57 40.1**	**+2.3**
PBKT	**Sadao Pong**	**19.37**	**281**	P			x	19 57 39.5	
	22nm,0.8s								
PBKT	**Sadao Pong**	**19.37**	**281**	P			**Pn**	**19 57 39.6**	**+0.2**
	22nm,0.8s								
PATY	**Pattaya**	**19.41**	**270**	P			**Pn**	**19 57 43.6**	**+3.7**
	13nm,1.0s								
ENH	**Enshi**	**19.64**	**330**	*e*P			**P**	**19 57 40.4**	**+0.2**
	17nm,0.7s								
KMI	**Kunming**	**20.52**	**307**	P			**P**	**19 57 51.8**	**+1.8**
KMI				S			**S**	**20 01 34.0**	**-0.6**
KMI				pmax			pmax		
	comp=Z,22nm,1.6s								
KMI				LR			LR		
	comp=N,210nm,10.7s								
KMI				LR			LR		
	comp=E,190nm,11.0s								
KMI				LR			LR		
	comp=Z,360nm,18.9s								
CRAI	**Chiangrai**	**20.62**	**292**	P			**P**	**19 57 52.7**	**+1.8**
	118nm,1.2s								
KGM	**Kluang**	**20.74**	**238**	⇓P			Pn	19 57 55.0	-0.4
UTHA	**Uthaitani**	**20.75**	**278**	P			Pn	19 57 55.3	-0.3
	7.2nm,0.7s,86nm								
SRDT	**SRDT**	**21.04**	**275**	P			P	19 58 00.5	+5.0
	96nm,1.2s								
KULM	**Kulim**	**21.48**	**249**	*e*P			**P**	**19 58 00.3**	**+0.1**
	19nm,1.0s								
KULM	**Kulim**	**21.48**	**249**	⇑P			**P**	**19 58 03.2**	**+3.0**
IPM	**Ipoh**	**21.48**	**247**	⇑P			**P**	**19 58 03.2**	**+3.0**
FRIM	**Kepong**	**21.53**	**243**	⇑P			P	19 58 05.6	+4.9
JNU	**Nakatsue**	**21.54**	**24**	*e*P			**P**	**19 58 00.7**	**0.0**
	13nm,0.8s								
JNU	**Nakatsue**	**21.54**	**24**	P			**P**	**19 58 01.1**	**+0.5**
	20nm,0.8s,baz=138,slow=23,SNR=9.4								
CM31	**Chiang Mai Arr**	**21.55**	**286**	*e*P			**P**	**19 58 01.8**	**+0.9**
	24nm,0.8s								
CMAR	**Chiang Mai Arr**	**21.55**	**286**	P			**P**	**19 58 01.9**	**+1.1**
CMAR				PcP			**PcP**	**20 02 00.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**21.55**	**286**	P			**P**	**19 58 01.9**	**+1.1**
	20nm,0.8s,baz=98,slow=7.5,SNR=95								
CMAR				PcP			**PcP**	**20 02 00.5**	**+0.7**
	1.3nm,0.7s,baz=52,slow=0.9,SNR=6.4								
KHLT	**Khaolaem Dam**	**21.56**	**276**	P			**P**	**19 58 04.6**	**+3.6**
	13nm,1.1s								
CHTO	**Chiang Mai**	**21.61**	**287**	P			**P**	**19 58 02.5**	**+1.0**
	113nm,1.0s,2μm								
CHTO	**Chiang Mai**	**21.61**	**287**	*e*P			**P**	**19 58 01.7**	**+0.1**
	5.6nm,1.0s								
SRPI	**Serui, Papua**	**21.68**	**134**	P			P	19 58 10.7	+8.5
	62nm,0.7s,2μm								
LBFI	**Labuhan Bajo,**	**21.91**	**182**	P			x	19 58 10.0	
	236nm,0.8s								
JMBI	**JAMBI**	**22.74**	**230**	P			P	19 58 18.7	+5.4
	215nm,1.0s								
JAGI	**Jajag, Banyuwa**	**22.86**	**197**	P			**P**	**19 58 18.4**	**+3.9**
	71nm,1.0s								
JAGI	**Jajag, Banyuwa**	**22.86**	**197**	*e*P			**P**	**19 58 16.3**	**+1.8**
	80nm,1.0s								
XAN	**Xi'an**	**23.06**	**334**	P			**P**	**19 58 15.8**	**-0.6**
XAN				pmax			pmax		
	comp=Z,12nm,0.6s								
CD2	**Chengdu**	**23.33**	**321**	P			**P**	**19 58 18.3**	**-0.6**
CD2				pP			**pP**	**19 58 39.0**	**+0.3**
CD2				sP			**sP**	**19 58 50.8**	**+0.1**
CD2				PP			**PnPn**	**19 58 54.8**	**+4.2**
CD2				S			**S**	**20 02 21.4**	**-2.8**
CD2				sS			**sS**	**20 02 56.8**	**-3.5**
CD2				SS			**SnSn**	**20 03 16.3**	**+6.4**
CD2				pmax			pmax		
	comp=Z,180nm,0.8s								
CD2				pmax			pmax		
	comp=Z,210nm,6.8s								
CD2				LR			LR		
	comp=N,410nm,10.7s								
CD2				LR			LR		
	comp=E,260nm,11.8s								
CD2				LR			LR		
	comp=Z,240nm,13.1s								
SOEI	**Soe**	**23.42**	**171**	*e*P			**P**	**19 58 18.7**	**-1.3**
	44nm,0.9s								
PSI	**Prapat**	**24.11**	**246**	P			x	19 58 28.0	
	44nm,1.0s								
PSI	**Prapat**	**24.11**	**246**	P			**P**	**19 58 27.7**	**+1.5**
PSI	**Prapat**	**24.11**	**246**	P			**P**	**19 58 27.7**	**+1.5**
	28nm,0.8s,baz=59,slow=4.8,SNR=16								
PSI				LR			LR	20 08 17.5	
	comp=Z,53nm,18.8s,baz=258,slow=37								
JCJ	**Chichijima**	**24.11**	**53**	LR			LR	20 06 41.0	
	comp=Z,244nm,18.4s,baz=225,slow=33								
TSI	**Tuntungan**	**24.12**	**248**	P			**P**	**19 58 29.9**	**+3.8**
	80nm,1.1s								
LHSI	**Lahat**	**24.33**	**226**	P			**P**	**19 58 31.1**	**+3.0**
	92nm,0.9s								
MDSI	**Maura Dua**	**24.36**	**224**	P			**P**	**19 58 30.6**	**+2.3**
	25nm,0.8s								
INCN	**Inchon**	**24.39**	**11**	P			**P**	**19 58 28.5**	**+0.1**
MNSI	**Mandailing Nat**	**24.53**	**241**	P			**P**	**19 58 31.1**	**+1.2**
	24nm,0.6s								
PPI	**Padang Panjang**	**24.54**	**237**	P			**P**	**19 58 31.5**	**+1.5**
	32nm,1.2s								
KSAR	**Wonju Array Be**	**24.61**	**14**	P			**P**	**19 58 30.7**	**+0.3**
KSAR				PcP			**PcP**	**20 02 04.8**	**-1.0**
KSRS	**Korea Array**	**24.63**	**14**	P			**P**	**19 58 30.7**	**+0.1**
	4.2nm,0.7s,baz=197,slow=11,SNR=13								
KSRS				PcP			**PcP**	**20 02 04.8**	**-1.1**
	0.9nm,0.7s,baz=135,slow=1.3,SNR=5.0								
KSRS				LR			LR	20 08 16.0	
	comp=Z,112nm,19.7s,baz=48,slow=36								
PDSI	**Padang**	**24.75**	**236**	P			**P**	**19 58 36.6**	**+4.6**
	16nm,0.8s,598nm								
KCSI	**Kotacane, Aceh**	**24.82**	**248**	P			**P**	**19 58 35.0**	**+2.4**
	12nm,1.0s								
LWLI	**Liwa**	**24.83**	**223**	P			**P**	**19 58 37.4**	**+4.7**
	102nm,0.9s,2μm								
GSI	**Gunungsitoli**	**26.00**	**244**	P			**P**	**19 58 43.8**	**+0.5**
	28nm,0.7s								
GSI	**Gunungsitoli**	**26.00**	**244**	*e*P			**P**	**19 58 41.4**	**-1.8**
GSI				*e*PcP			**PcP**	**20 02 10.2**	**+0.8**
BJT	**Baijiatuao**	**26.67**	**352**	P			**P**	**19 58 47.8**	**-1.1**
BJI	**Beijing**	**26.69**	**352**	P			**P**	**19 58 48.9**	**-0.2**
BJI				S			**S**	**20 03 16.8**	**-0.6**
BJI				pmax			pmax		
	comp=Z,31nm,1.2s								
BJI				LR			LR		
	comp=Z,120nm,37.8s								
LZH	**Lanzhou**	**27.11**	**329**	P			**P**	**19 58 54.0**	**+0.8**
LZH				pP			**pP**	**19 59 15.4**	**+0.6**
LZH				sP			sP	19 59 31.8	+5.8
LZH				pmax			pmax		
	comp=Z,110nm,1.5s								
LZH				LR			LR		
	comp=N,360nm,15.4s								
LZH				LR			LR		
	comp=E,350nm,14.4s								
LZH				LR			LR		
	comp=Z,330nm,26.0s								
MAJO	**Matsushiro**	**27.70**	**31**	*e*P			**P**	**19 58 57.1**	**-1.2**
	7.7nm,0.9s								
MAT	**Matsushiro**	**27.70**	**31**	P			**P**	**19 58 57.2**	**-1.1**
MJAR	**Matsushiro Arr**	**27.70**	**31**	P			**P**	**19 58 57.6**	**-0.7**
MJAR				PcP			**PcP**	**20 02 12.9**	**-0.1**
MJAR	**Matsushiro Arr**	**27.70**	**31**	P			**P**	**19 58 57.6**	**-0.7**
	3.5nm,0.7s,baz=205,slow=7.7,SNR=13								
MJAR				PcP			**PcP**	**20 02 13.0**	**-0.1**
	0.4nm,0.6s,baz=189,slow=3.4,SNR=4.3								
SNY	**Shenyang**	**28.27**	**4**	⇑P			**P**	**19 59 02.0**	**-1.2**
SNY				pmax			pmax		
	comp=Z,11nm,1.1s								
HHC	**Hu-ho-hao-te**	**28.36**	**345**	*e*P			**P**	**19 59 04.8**	**+0.6**
HHC				pP			**pP**	**19 59 25.5**	**-0.4**
HHC				sP			**sP**	**19 59 41.0**	**+3.9**
HHC				S			**S**	**20 03 39.6**	**-4.4**
HHC				SS			**SnSn**	**20 05 15.4**	**+3.0**
HHC				PcS			**PcS**	**20 05 59.4**	**+2.3**
HHC				pmax			pmax		
	comp=Z,30nm,0.7s								
HHC				pmax			pmax		
	comp=Z,210nm,4.6s								
HHC				LR			LR		
	comp=N,390nm,10.4s								
HHC				LR			LR		
	comp=E,400nm,10.6s								
HHC				LR			LR		
	comp=Z,150nm,10.2s								
CN2	**Changchun**	**30.40**	**7**	*e*P			P	19 59 25.9	+3.8
GTA	**Gaotai**	**31.70**	**328**	⇑P			**P**	**19 59 34.5**	**+0.7**
GTA				pP			**pP**	**19 59 57.4**	**+1.8**
GTA				sP			**sP**	**20 00 08.3**	**+1.5**
GTA				PcP			**PcP**	**20 02 24.0**	**+0.6**
GTA				S			**S**	**20 04 37.1**	**+0.6**
GTA				sS			**sS**	**20 05 15.1**	**+0.8**
GTA				SS			**SnSn**	**20 06 33.5**	**+0.1**
GTA				pmax			pmax		
	comp=Z,30nm,1.3s								
GTA				pmax			pmax		
	comp=Z,150nm,3.8s								
GTA				LR			LR		
	comp=N,250nm,18.0s								
GTA				LR			LR		
	comp=E,190nm,17.6s								
GTA				LR			LR		
	comp=Z,220nm,18.0s								
LSA	**Lhasa**	**31.76**	**305**	*e*P			**P**	**19 59 35.4**	**+0.6**
	35nm,0.6s								
FITZ	**Fitzroy Crossi**	**31.82**	**171**	*e*P			**P**	**19 59 33.8**	**-1.1**
	12nm,1.0s								
MDJ	**Mudanjiang**	**31.85**	**12**	P			**P**	**19 59 34.9**	**0.0**
MDJ				pP			**pP**	**19 59 56.8**	**+0.1**
MDJ				sP			**sP**	**20 00 06.3**	**-1.6**
MDJ				S			**S**	**20 04 40.1**	**+1.7**
MDJ				sS			**s

WMQ	**Urumqi**	**41.37**	**323**	P	**P**	**20 00 55.3**	**-0.5**
WMQ				pP	**pP**	**20 01 18.0**	**-0.3**
WMQ				sP	**sP**	**20 01 29.5**	**+0.2**
WMQ				PP	**PP**	**20 02 35.4**	**+2.3**
WMQ				PcP	**PcP**	**20 02 52.3**	**0.0**
WMQ				S	**S**	**20 07 02.5**	**-0.9**
WMQ				SS	**SS**	**20 10 04.9**	**-6.0**
WMQ				ScS	**ScS**	**20 10 46.8**	**-3.2**
WMQ				pmax	pmax		
	comp=Z,36nm,0.8s						
WMQ				LR	LR		
	comp=N,2μm,24.0s						
WMQ				LR	LR		
	comp=E,1μm,22.7s						
WMQ				LR	LR		
	comp=Z,2μm,22.7s						
CTAO	**Charters Tower**	**41.78**	**143**	*e*P	**P**	**20 00 56.6**	**-2.7**
FORT	**Forrest**	**44.63**	**171**	*e*P	**P**	**20 01 21.2**	**-0.8**
	59nm,1.3s						
MK31	**Makanchi Array**	**46.20**	**324**	*e*P	**P**	**20 01 34.8**	**+0.4**
MKAR	**Makanchi Array**	**46.20**	**324**	*e*P	**P**	**20 01 34.4**	**0.0**
MKAR				PcP	**PcP**	**20 03 08.8**	**+0.2**
MKAR	**Makanchi Array**	**46.20**	**324**	P	**P**	**20 01 34.9**	**+0.6**
	42nm,0.9s,baz=130,slow=9.0,SNR=264						
MKAR				PcP	**PcP**	**20 03 08.8**	**+0.2**
	2.8nm,0.8s,baz=142,slow=2.2,SNR=2.6						
NWAO	**Narrogin (SRO)**	**46.35**	**184**	P	**P**	**20 01 36.0**	**+0.4**
NWAO				pP	**pP**	**20 01 58.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**46.35**	**184**	P	**P**	**20 01 36.0**	**+0.4**
	20nm,0.7s,baz=8.3,slow=6.7,SNR=17						
NWAO				pP	**pP**	**20 01 58.0**	**-0.6**
	14nm,0.7s,baz=16,slow=10,SNR=4.1						
KSH	**Kashi**	**47.06**	**312**	*e*P	**P**	**20 01 43.5**	**+2.2**
KSH				*e*PP	**PP**	**20 03 35.1**	**+2.2**
KSH				*e*PcS	**PcS**	**20 07 07.1**	**-0.2**
KSH				*e*S	**S**	**20 08 27.1**	**+0.9**
KSH				*es*S	sS	20 09 11.3	+5.6
KSH				*e*SS	**SS**	**20 11 49.4**	**-5.0**
KSH				pmax	pmax		
	comp=Z,13nm,1.2s						
KSH				pmax	pmax		
	comp=Z,120nm,6.5s						
KSH				LR	LR		
	comp=N,150nm,6.0s						
KSH				LR	LR		
	comp=E,150nm,5.7s						
KSH				LR	LR		
	comp=Z,120nm,6.2s						
ULHL	**Ulahol**	**47.88**	**315**	P	**P**	**20 01 49.1**	**+1.3**
	SNR=12						
KZA	**Kyzart**	**48.50**	**315**	P	**P**	**20 01 54.2**	**+1.4**
	SNR=36						
TKM2	**Tokmak 2**	**48.59**	**316**	P	**P**	**20 01 54.0**	**+0.9**
	SNR=40						
TKM2	**Tokmak 2**	**48.59**	**316**	*e*P	**P**	**20 01 53.5**	**+0.4**
	23nm,0.7s						
YAK	**Yakutsk**	**48.82**	**6**	*e*P	**P**	**20 01 52.0**	**-2.3**
	16nm,0.7s						
KBK	**Karagaybulak**	**48.92**	**315**	P	**P**	**20 01 57.1**	**+1.3**
	SNR=47						
UCH	**Uchtor**	**49.06**	**315**	P	**P**	**20 01 58.6**	**+1.4**
	SNR=67						
PETK	**Petropavlovsk-**	**49.11**	**29**	P	**P**	**20 01 57.8**	**+1.1**
PETK	**Petropavlovsk-**	**49.11**	**29**	P	**P**	**20 01 57.8**	**+1.1**
	2.8nm,0.6s,baz=205,slow=6.9,SNR=8.1						
CHMS	**Chumysh**	**49.19**	**316**	P	**P**	**20 01 58.1**	**+0.5**
	SNR=22						
ZAA0	**Zalesovo Array**	**49.22**	**333**	*e*P	**P**	**20 01 57.0**	**-0.5**
ZALV	**Zalesovo Beam**	**49.22**	**333**	P	**P**	**20 01 57.0**	**-0.6**
ZALV				pP	**pP**	**20 02 20.6**	**-0.1**
ZALV	**Zalesovo Beam**	**49.22**	**333**	P	**P**	**20 01 57.0**	**-0.6**
	13nm,0.4s,baz=129,slow=6.7,SNR=66						
ZALV				pP	**pP**	**20 02 20.6**	**-0.1**
	3.8nm,0.8s,baz=140,slow=7.8,SNR=2.6						
AAK	**Ala-Archa**	**49.23**	**315**	P	**P**	**20 01 59.0**	**+0.9**
	SNR=19						
AAK	**Ala-Archa**	**49.23**	**315**	P	**P**	**20 01 59.3**	**+1.2**
	SNR=6.6						
AAK	**Ala-Archa**	**49.23**	**315**	*e*P	**P**	**20 01 58.2**	**+0.2**
	15nm,0.8s						
AAK	**Ala-Archa**	**49.23**	**315**	P	**P**	**20 01 58.9**	**+0.9**
	12nm,0.7s,baz=98,slow=5.7,SNR=55						
STKA	**Stephens Creek**	**49.38**	**157**	*e*P	**P**	**20 01 56.7**	**-2.4**
	0.5nm,0.7s						
STKA				pP	**pP**	**20 02 21.8**	**-0.4**
STKA				sP	**sP**	**20 02 31.2**	**-1.8**
STKA	**Stephens Creek**	**49.38**	**157**	P	**P**	**20 01 58.7**	**-0.4**
	1.9nm,0.6s,baz=309,slow=7.3,SNR=6.3						
STKA				pP	**pP**	**20 02 21.8**	**-0.4**
	3.4nm,0.7s,baz=348,slow=5.3,SNR=3.5						
STKA				sP	**sP**	**20 02 31.2**	**-1.8**
	4.8nm,0.7s,baz=338,slow=4.6,SNR=4.7						
USP	**Ospenovka**	**49.46**	**316**	P	**P**	**20 02 00.3**	**+0.7**
	SNR=64						
PET	**Petropavlovsk**	**49.50**	**29**	P	**P**	**20 01 57.3**	**-2.4**
AML	**Almayashu**	**49.60**	**314**	P	**P**	**20 02 02.3**	**+1.2**
	SNR=46						
EKS2	**Erkin-Say**	**49.73**	**315**	P	**P**	**20 02 02.8**	**+1.0**
	SNR=40						
EKS2	**Erkin-Say**	**49.73**	**315**	*e*P	**P**	**20 02 02.4**	**+0.6**
	30nm,0.8s						
KURBB	**Kurchatov Arra**	**50.35**	**326**	P	**P**	**20 02 06.5**	**+0.3**
	62nm,0.8s,baz=128,slow=7.5,SNR=567						
KURK	**Kurchatov**	**50.35**	**326**	P	**P**	**20 02 07.0**	**+0.8**
	SNR=41						
KURK	**Kurchatov**	**50.35**	**326**	*e*P	**P**	**20 02 06.4**	**+0.3**
	80nm,0.6s						
KURK				*e*pP	**pP**	**20 02 28.6**	**-0.8**
KBL	**Kabul**	**51.06**	**304**	*e*P	**P**	**20 02 11.9**	**-0.2**
	23nm,0.9s						
KKAR	**Karatay Array**	**52.13**	**314**	*e*P	**P**	**20 02 19.6**	**-0.1**
BVAR	**Borovoye Array**	**55.94**	**326**	P	**P**	**20 02 47.0**	**-0.1**
BVAR	**Borovoye Array**	**55.94**	**326**	P	**P**	**20 02 47.0**	**-0.1**
	11nm,0.6s,baz=120,slow=8.8,SNR=116						
BRVK	**Borovoye**	**56.01**	**326**	P	**P**	**20 02 48.3**	**+0.7**
	SNR=18						
BRVK	**Borovoye**	**56.01**	**326**	*e*P	**P**	**20 02 47.4**	**-0.3**
BRVK				*e*pP	**pP**	**20 03 12.1**	**+0.8**
TIXI	**Tiksi**	**58.27**	**3**	*e*P	**P**	**20 03 02.1**	**-1.1**
	19nm,0.9s						
ABKAR	**Akbulak array**	**60.90**	**319**	*e*P	**P**	**20 03 21.5**	**-0.2**
BANOM	**Banah**	**61.42**	**292**	⇓*i*P	**P**	**20 03 25.8**	**+0.2**
	SNR=8.4						
ASHO	**Ashiyiah**	**61.68**	**291**	⇓*i*P	**P**	**20 03 27.0**	**-0.5**
	SNR=8.0						
AKTO	**Aktyubinsk**	**62.38**	**320**	P	**P**	**20 03 31.4**	**-0.2**
AKTO	**Aktyubinsk**	**62.38**	**320**	P	**P**	**20 03 31.4**	**-0.2**
	14nm,0.5s,baz=97,slow=9.3,SNR=56						
ARU	**Arti**	**63.55**	**327**	*e*P	**P**	**20 03 38.1**	**-1.2**
ARU				*e*pP	**pP**	**20 04 01.1**	**-2.2**
GAMB	**Gambell**	**68.04**	**26**	*e*P	**P**	**20 04 06.8**	**-1.1**
	8.9nm,0.9s						
GNI	**Garni**	**70.77**	**308**	*e*P	**P**	**20 04 25.7**	**+0.2**
GNI	**Garni**	**70.77**	**308**	P	**P**	**20 04 26.9**	**+1.5**
	9.7nm,0.6s,baz=16,slow=13,SNR=8.8						
GNI	**Garni**	**70.77**	**308**	⇓*i*P	**P**	**20 04 26.3**	**+0.8**
	SNR=8.6						
KBZ	**Khabaz**	**72.04**	**312**	P	**P**	**20 04 32.6**	**-0.1**
KBZ	**Khabaz**	**72.04**	**312**	P	**P**	**20 04 32.6**	**-0.1**
	12nm,0.9s,baz=117,slow=5.9,SNR=23						
KIV	**Kislovodsk**	**72.19**	**312**	P	**P**	**20 04 34.5**	**+0.7**
	SNR=8.7						
KIV	**Kislovodsk**	**72.19**	**312**	*e*P	**P**	**20 04 33.7**	**-0.1**
KIV	**Kislovodsk**	**72.19**	**312**	⇑*i*P	**P**	**20 04 33.9**	**+0.1**
	SNR=21						
OBN	**Obninsk**	**75.70**	**324**	*e*P	**P**	**20 04 52.2**	**-1.7**
	17nm,0.9s						
OBN	**Obninsk**	**75.70**	**324**	P	**P**	**20 04 52.5**	**-1.4**
	8.4nm,0.5s,baz=162,slow=20,SNR=4.4						
IM04	**Indian Mountai**	**75.86**	**25**	*e*P	**P**	**20 04 54.6**	**0.0**
ASF	**Jabal al Asfar**	**77.81**	**300**	P	**P**	**20 05 07.6**	**+1.2**
ASF	**Jabal al Asfar**	**77.81**	**300**	P	**P**	**20 05 07.6**	**+1.2**
	15nm,0.8s,baz=47,slow=4.8,SNR=28						
JOF	**Joensuu**	**77.81**	**332**	*e*p	**P**	**20 05 04.5**	**-1.1**
	9.9nm,0.4s						
MCK	**McKinley**	**78.08**	**27**	*e*P	**P**	**20 05 06.4**	**-0.8**
	16nm,0.9s						
PMR	**Palmer**	**78.23**	**29**	*e*P	**P**	**20 05 07.9**	**-0.1**
	10.0nm,0.8s						
KEV	**Kevo**	**78.69**	**339**	*e*p	**P**	**20 05 10.0**	**-0.4**
	2.4nm,0.4s						
ILAR	**Eielson Array**	**78.84**	**26**	P	**P**	**20 05 10.2**	**-1.2**
ILAR				pP	**pP**	**20 05 34.8**	**-1.5**
ILAR	**Eielson Array**	**78.84**	**26**	P	**P**	**20 05 10.2**	**-1.2**
	0.9nm,0.6s,baz=269,slow=4.1,SNR=14						
ILAR				pP	**pP**	**20 05 34.8**	**-1.5**
	0.6nm,0.8s,baz=246,slow=3.8,SNR=2.6						
MMAI	**Mount Meron Ar**	**78.93**	**301**	P	**P**	**20 05 13.4**	**+0.9**
MMAI	**Mount Meron Ar**	**78.93**	**301**	P	**P**	**20 05 13.4**	**+0.9**
	10.0nm,0.7s,baz=72,slow=9.1,SNR=18						
ARCES	**ARCESS Array B**	**79.25**	**339**	P	**P**	**20 05 12.9**	**-0.6**
ARCES	**ARCESS Array B**	**79.25**	**339**	P	**P**	**20 05 12.9**	**-0.6**
	5.7nm,0.5s,baz=76,slow=7.2,SNR=56						
ARE0	**ARCESS Array S**	**79.25**	**339**	*e*P	**P**	**20 05 12.8**	**-0.6**
BR131	**Keskin Array S**	**79.31**	**308**	*e*P	**P**	**20 05 14.0**	**-0.6**
	2.8nm,0.6s						
BRTR	**Keskin Array B**	**79.31**	**308**	P	**P**	**20 05 13.8**	**-0.8**
BRTR	**Keskin Array B**	**79.31**	**308**	P	**P**	**20 05 13.8**	**-0.8**
	6.2nm,0.8s,baz=123,slow=4.8,SNR=39						
ABPO	**Ambohimpanom**	**79.34**	**247**	*e*P	**P**	**20 05 15.3**	**+0.3**
	15nm,0.9s						
EIL	**Elat**	**79.85**	**298**	P	**P**	**20 05 18.4**	**+0.9**
EIL	**Elat**	**79.85**	**298**	P	**P**	**20 05 18.4**	**+0.9**
	32nm,0.8s,baz=350,slow=2.6,SNR=26						
ANTO	**Ankara**	**79.93**	**309**	⇑*i*P	**P**	**20 05 18.2**	**+0.4**
KAF	**Kangasniemi**	**80.22**	**332**	*e*p	**P**	**20 05 17.8**	**-1.0**
	6.1nm,0.6s						
CSS	**Prodhromos**	**80.31**	**304**	*e*P	**P**	**20 05 19.9**	**0.0**
	2.3nm,0.8s						
FINES	**FINESS Array B**	**80.45**	**331**	P	**P**	**20 05 18.8**	**-1.3**
FINES				pP	**pP**	**20 05 46.8**	**+1.6**
FINES	**FINESS Array B**	**80.45**	**331**	P	**P**	**20 05 18.8**	**-1.3**
	3.1nm,0.6s,baz=46,slow=6.4,SNR=31						
FINES				pP	**pP**	**20 05 46.8**	**+1.6**
	3.5nm,0.8s,baz=108,slow=4.2,SNR=3.1						
AKASG	**Malin Array Be**	**80.62**	**320**	P	**P**	**20 05 19.7**	**-1.5**
AKASG				pP	**pP**	**20 05 44.8**	**-1.5**
AKASG	**Malin Array Be**	**80.62**	**320**	P	**P**	**20 05 19.7**	**-1.5**
	1.9nm,0.7s,baz=66,slow=5.3,SNR=19						
AKASG				pP	**pP**	**20 05 44.8**	**-1.5**
	0.7nm,0.6s,baz=70,slow=4.8,SNR=3.0						
AK01	**Malin Array Si**	**80.63**	**320**	*e*P	**P**	**20 05 18.9**	**-2.3**
KIEV	**Kiev**	**80.64**	**320**	*e*P	**P**	**20 05 19.2**	**-2.1**
	9.7nm,1.2s						
AK02	**Malin Array Si**	**80.64**	**320**	*e*P	**P**	**20 05 19.1**	**-2.3**
NACGM	**Naroch**	**81.32**	**324**	*e*	**P**	**20 05 23.0**	**-1.8**
TLCR		**81.89**	**314**	⇑*i*P	**P**	**20 05 28.0**	**0.0**
CFR	**Carcaliu**	**82.36**	**315**	⇑*i*P	**P**	**20 05 28.1**	**-2.4**
MSAB	**Monastry St. A**	**82.80**	**314**	⇓*i*P	**P**	**20 05 33.0**	**+0.2**
TESR	**Tescani**	**83.11**	**316**	⇓*i*P	**P**	**20 05 34.1**	**-0.3**
VRI	**Vrincioaia**	**83.19**	**315**	⇓*i*P	**P**	**20 05 35.1**	**+0.3**
INK	**Inuvik**	**83.19**	**21**	P	**P**	**20 05 34.3**	**0.0**
INK				pP	**pP**	**20 05 59.5**	**-0.1**
INK	**Inuvik**	**83.19**	**21**	P	**P**	**20 05 34.3**	**0.0**
	6.2nm,0.9s,baz=294,slow=6.6,SNR=14						
INK				pP	**pP**	**20 05 59.5**	**-0.1**
	2.4nm,0.9s,baz=268,slow=9.5,SNR=2.3						
PRAR	**RASCA**	**83.21**	**317**	⇓*i*P	**P**	**20 05 34.2**	**-0.7**
PLOR	**Plostina**	**83.25**	**315**	⇓*i*P	**P**	**20 05 35.2**	**0.0**
SUW	**Suwalki**	**83.56**	**324**	*e*P	**P**	**20 05 35.1**	**-1.4**
MLR	**Muntele Rosu**	**83.81**	**315**	⇑*i*P	**P**	**20 05 38.0**	**-0.2**
MLR	**Muntele Rosu**	**83.81**	**315**	P	**P**	**20 05 37.8**	**-0.4**
MLR	**Muntele Rosu**	**83.81**	**315**	P	**P**	**20 05 37.8**	**-0.4**
	2.4nm,0.8s,baz=22,slow=4.1,SNR=22						
BURAR	**Bucovina Array**	**83.82**	**317**	⇑*i*P	**P**	**20 05 38.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**83.82**	**317**	*e*P	**P**	**20 05 37.9**	**-0.3**
KMBO	**Kilima Mbogo**	**83.98**	**267**	P	**P**	**20 05 41.8**	**+2.1**
	SNR=5.9						
KMBO	**Kilima Mbogo**	**83.98**	**267**	P	**P**	**20 05 41.4**	**+1.7**
	0.6nm,0.9s						
KMBO				pP	**pP**	**20 06 06.1**	**+1.1**
KMBO	**Kilima Mbogo**	**83.98**	**267**	P	**P**	**20 05 41.4**	**+1.7**
	8.8nm,0.8s,baz=55,slow=9.0,SNR=28						
KMBO				pP	**pP**	**20 06 06.1**	**+1.1**
	2.0nm,0.7s,baz=90,slow=6.1,SNR=2.4						
DOPR	**Dopca**	**84.08**	**316**	⇓*i*P	**P**	**20 05 39.4**	**0.0**
ARR	**Arges**	**84.74**	**315**	⇑*i*P	**P**	**20 05 42.3**	**-0.5**
KWP	**Kalwaria Pacla**	**84.95**	**320**	⇑*i*P	**P**	**20 05 43.4**	**-0.2**
KWP	**Kalwaria Pacla**	**84.95**	**320**	*e*P	**P**	**20 05 43.2**	**-0.5**
	7.2nm,0.4s						
KDZ	**Kurdzhali**	**85.07**	**312**	⇑*i*P	**P**	**20 05 44.2**	**-0.2**
CJR	**Cluj-Napoca**	**85.11**	**317**	⇓*i*P	**P**	**20 05 45.1**	**+0.5**
LOT	**Lotru**	**85.31**	**315**	⇓*i*P	**P**	**20 05 45.6**	**-0.1**
KOLS	**Kolonicke sedl**	**85.40**	**319**	*e*P	**P**	**20 05 44.0**	**-1.9**
TRPA	**Tarpa**	**85.44**	**318**	⇓*i*P	**P**	**20 05 46.0**	**-0.1**
DRGR		**85.68**	**317**	⇑*i*P	**P**	**20 05 47.8**	**+0.4**
STHS	**Stebnicka Huta**	**85.92**	**320**	*e*P	**P**	**20 05 48.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**85.93**	**319**	*e*P	**P**	**20 05 48.6**	**+0.1**
APE	**Apeiranthos**	**86.07**	**307**	⇓*i*P	P	20 06 00.2	+11
MMB	**Musomiste**	**86.31**	**312**	⇑*i*P	**P**	**20 05 49.4**	**-1.2**
VTS	**Vitosha**	**86.42**	**313**	⇑*i*P	**P**	**20 05 50.6**	**-0.7**
NIE	**Niedzica**	**86.50**	**320**	*e*P	**P**	**20 05 51.9**	**+0.5**
SIRR	**Siria**	**86.52**	**317**	⇑*i*P	**P**	**20 05 51.4**	**-0.1**
HFS	**Hagfors**	**86.64**	**331**	P	**P**	**20 05 50.5**	**-1.3**
HFS	**Hagfors**	**86.64**	**331**	P	**P**	**20 05 50.5**	**-1.3**
	3.3nm,0.5s,baz=92,slow=5.2,SNR=29						
BZS	**Buzias**	**86.72**	**316**	⇑*i*P	**P**	**20 05 52.3**	**-0.2**
VAY	**Valandovo**	**87.22**	**312**	*e*P	**P**	**20 05 54.4**	**-0.6**
NB2	**NORSAR Subarra**	**87.42**	**333**	P	**P**	**20 05 53.8**	**-1.9**
	comp=Z,4.0nm,0.7s,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**87.42**	**333**	P	**P**	**20 05 53.7**	**-1.9**
NOA				pP	**pP**	**20 06 19.5**	**-1.6**
NOA	**NORSAR Array B**	**87.42**	**333**	P	**P**	**20 05 53.7**	**-1.9**
	comp=Z,4.5nm,0.7s,baz=68,slow=4.7,SNR=18						
NOA				pP	**pP**	**20 06 19.5**	**-1.6**
	comp=Z,3.2nm,0.9s,baz=68,slow=4.7,SNR=3.3						
OKC	**Ostrava-Krasne**	**87.72**	**321**	*e*P	**P**	**20 05 58.0**	**+0.8**
MORC	**Moravsky Berou**	**88.11**	**321**	⇓*i*P	**P**	**20 05 59.4**	**+0.3**
MORC	**Moravsky Berou**	**88.11**	**321**	*e*P	**P**	**20 05 58.7**	**-0.4**
	comp=Z,3.6nm,0.8s						
DPC	**Dobruska-Polom**	**88.67**	**322**	*e*P	**P**	**20 06 01.6**	**-0.1**
VRAC	**Vranov**	**88.85**	**321**	⇓*i*P	**P**	**20 06 02.3**	**-0.3**
VRAC	**Vranov**	**88.85**	**321**	P	**P**	**20 06 02.4**	**-0.1**
VRAC	**Vranov**	**88.85**	**321**	P	**P**	**20 06 02.4**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=118,slow=4.4,SNR=5.9						
BRG	**Berggiesshubel**	**89.90**	**323**	*e*P	**P**	**20 06 08.0**	**+0.6**
	comp=Z,11nm,1.5s						
KHC	**Kasperske Hory**	**90.76**	**321**	*e*P	**P**	**20 06 11.8**	**+0.3**
GERES	**GERESS Array B**	**90.80**	**321**	P	**P**	**20 06 11.2**	**-0.6**
GERES				pP	**pP**	**20 06 36.8**	**-0.5**
GERES	**GERESS Array B**	**90.80**	**321**	P	**P**	**20 06 11.2**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=73,slow=4.6,SNR=17						
GERES				pP	**pP**	**20 06 36.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=88,slow=4.1,SNR=3.6						
VISS	**Visnje**	**91.17**	**318**	*i* P	**P**	**20 06 13.9**	**+0.4**
JAVS	**Javornik**	**91.65**	**318**	*i* P	**P**	**20 06 15.6**	**-0.2**
YKA	**Yellowknife Ar**	**92.87**	**22**	P	**P**	**20 06 21.0**	**+0.1**
YKA				pP	**pP**	**20 06 46.0**	**-0.4**
YKA	**Yellowknife Ar**	**92.87**	**22**	P	**P**	**20 06 21.0**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=308,slow=4.4,SNR=41						
YKA				pP	**pP**	**20 06 46.0**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=310,slow=4.3,SNR=3.4						
VNDA	**Vanda**	**93.89**	**172**	P	**P**	**20 06 25.4**	**+0.3**
VNDA	**Vanda**	**93.89**	**172**	P	**P**	**20 06 25.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=325,slow=4.9,SNR=4.4						
LPG	**La Plagne**	**96.49**	**320**	*e*P	**P**	**20 06 37.3**	**-0.9**
	comp=Z,5.7nm,0.7s						
LPG	**La Plagne**	**96.49**	**320**	*e*P	**P**	**20 06 37.3**	**-0.9**
	comp=Z,5.7nm,0.7s						
LPL	**La Plagne**	**96.49**	**320**	*e*P	**P**	**20 06 37.2**	**-1.0**
	comp=Z,7.2nm,0.7s						
LPL	**La Plagne**	**96.49**	**320**	*e*P	**P**	**20 06 37.2**	**-1.0**
	comp=Z,7.2nm,0.7s						
ORIF	**Oris-en-Rattie**	**97.30**	**319**	*e*P	**P**	**20 06 41.7**	**0.0**
	comp=Z,5.6nm,0.8s						
ORIF	**Oris-en-Rattie**	**97.30**	**319**	*e*P	**P**	**20 06 41.7**	**0.0**
	comp=Z,5.6nm,0.8s						
NVAR	**Mina Array Bea**	**104.37**	**44**	PKiKP	**PKiKP**	**20 11 29.2**	**-0.3**
NVAR	**Mina Array Bea**	**104.37**	**44**	PKiKP	**PKiKP**	**20 11 29.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=217,slow=3.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**114.08**	**291**	PKP	PKPdf	20 11 47.3	-0.8
TORD				PP	PP	20 12 33.7	-10
TORD	**Torodi Ar. Bea**	**114.08**	**291**	PKP	PKPdf	20 11 47.3	-0.8
	comp=Z,0.6nm,0.8s,baz=84,slow=2.9,SNR=5.7						
TORD				PP	PP	20 12 33.7	-10
	comp=Z,0.8nm,0.8s,baz=72,slow=4.7,SNR=3.6						
TXAR	**Lajitas Array**	**119.51**	**45**	PKP	**PKPdf**	**20 11 58.6**	**+0.3**
TXAR	**Lajitas Array**	**119.51**	**45**	PKP	**PKPdf**	**20 11 58.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=236,slow=0.6,SNR=13						
TKL	**Tuckaleechee C**	**125.81**	**25**	PKP	**PKPdf**	**20 12 09.8**	**-0.3**
TKL	**Tuckaleechee C**	**125.81**	**25**	PKP	**PKPdf**	**20 12 09.8**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=219,slow=6.5,SNR=5.9						
PLCA	**Paso Flores**	**151.17**	**162**	PKPbc	**PKPbc**	**20 13 02.2**	**+0.7**
PLCA	**Paso Flores**	**151.17**	**162**	PKPbc	**PKPbc**	**20 13 02.2**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=160,slow=4.2,SNR=6.5						
BDFB	**Brasilia**	**168.97**	**258**	PKPab	**PKPab**	**20 14 27.9**	**+0.2**
BDFB	**Brasilia**	**168.97**	**258**	PKPab	**PKPab**	**20 14 27.9**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=90,slow=5.3,SNR=8.7						
LPAZ	**La Paz**	**170.96**	**109**	PKP	**PKPdf**	**20 13 18.2**	**+0.5**
LPAZ				PKPab	**PKPab**	**20 14 41.6**	**+4.5**
LPAZ	**La Paz**	**170.96**	**109**	PKP	**PKPdf**	**20 13 18.2**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=308,slow=1.4,SNR=3.9						
LPAZ				PKPab	**PKPab**	**20 14 41.6**	**+4.5**
	comp=Z,0.9nm,0.6s,baz=226,slow=3.7,SNR=3.6						

MOS **16** *20:08:12.8±0.9,51.76N×177.74E,h27km,mb5.7/115, MS4.9/44,Error ellipse: s-maj=6.5km s-min=4.0km az=96.8*

BJI **16** *20:08:16.2,51.70N×177.80E,h77km,mB5.5/51,mb5.6/63, Ms5.1/60,Ms7 4.7/55*

NEIC **16** *20:08:17.0±0.1,51.71N×177.71E,h50km,mb5.3/222, MS4.9/110,MW5.5,MW5.5,Error ellipse: s-maj=4.1km s-min=2.0km az=179.0,Moment Tensor Solution. s32 Moment tensor: Scale 1017Nm; Mrr~1.03; Mθθ0.80; Mθφ0.23; Mrθ-1.76; Mθφ-1.25; Mφr~0.67; Best double couple: Mw2.40000×1017 NP1:φs99.00000°,δ75.00000°, λ-125.00000°. NP2:φs339.00000°,δ38.00000°, λ-26.00000°. Principal axes: T 2.1900, Plg21.0000°, Azm205.00000°; N 0.4500, Plg33.0000°, Azm100.0000°; P -2.6400, Plg48.0000°, Azm322.0000°;*

GCMT **16** *20:08:17.0±0.1,51.74N×177.59E,h62km±1km, MW5.5/111,Moment Tensor Solution. s95,c167; s111,c215; Duration: 1s4 Moment tensor: Scale 1017 Nm; Mrr~0.28±.04; Mθθ-0.01±.04; Mφφ0.28±.04; Mrθ-1.80±.04; Mθφ-1.74±.03; Mφr~0.35±.03; Best double couple: Mw2.52500×1017 NP1:φs93.00000°,δ84.00000°, λ-135.00000°. NP2:φs357.00000°,δ45.00000°, λ-8.00000°. Principal axes: T 2.3470, Plg25.0000°, Azm217.0000°; N 0.3550, Plg45.0000°, Azm99.0000°; P -2.7020, Plg35.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB **16** *20:08:17.7±0.3,51.66N±0.03×177.83E±0.02,h72km±2km, mb5.3/370 Error ellipse: s-maj=4.2km s-min=1.8km az=4.8*

IDC **16** *20:08:18.2±0.3,51.74N×177.71E,h59km±2km,mb5.0/49, mb1 5.1/52,mb1mx5.0/60,mbtmp5.3/52,MS4.6/50, Ms1 4.6/50,ms1mx4.5/61,Error ellipse: s-maj=8.7km s-min=6.1km az=172.0*

SZGRF **16** *20:08:25.2,52.07N×176.03E,h33km,mb5.5,MS4.7,Rat Islands, Aleutian Islands, United States*

NEIC **16** *20:08:30.8±0.0,51.68N×177.70E,h51km,Moment Tensor Solution. s132 Moment tensor: Scale 1017Nm; Mrr0.17; Mθθ-0.09; Mφφ-0.08; Mrθ-1.41; Mθφ-1.59; Mφr~0.87; Best double couple: Mw2.20000×1017 NP1: φs86.00000°,δ87.00000°,λ-137.00000°. NP2: φs353.00000°,δ48.00000°,λ-3.00000°. Principal axes: T 1.7000, Plg26.0000°, Azm211.0000°; N 0.0200, Plg48.0000°, Azm88.0000°; P -2.6200, Plg30.0000°, Azm318.0000°;*

ISC 16 20:08:19.0±0.2,51.71N±0.04×177.70E±0.02,h69km±1km, h68km:pP-P,n1591,σ1s18/1810,mb5.4/384,289C-315D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.56**	**64**	P	**Pn**	**20 08 31.3**	**-1.0**
LSNW	**Little Sitkin**	**0.57**	**63**	P	**Pn**	**20 08 31.4**	**-1.0**
LSPA	**Little Sitkin**	**0.60**	**65**	P	**Pn

comp=E,780nm,0.8s
PMR Palmer 20.51 48 *e*P **P 20 12 51.0 -0.1**
PMR pmax pmax
comp=E,64nm,0.9s
PMR Palmer 20.51 48 *e*P **P 20 12 51.0 -0.1**
comp=E,64nm,0.9s
PMR *e*ScP **ScP 20 20 30.4 +0.6**
TRF Thorofare Moun 20.54 43 *e*P **P 20 12 52.1 +0.5**
TRF *e*ScP **ScP 20 20 30.8 +0.6**
MCK McKinley 21.20 43 *e*P **P 20 12 57.8 -0.8**
MCK *e* 20 17 01.9
MCK pmax pmax
comp=Z,133nm,1.2s
MCK McKinley 21.20 43 *e*P **P 20 12 57.8 -0.8**
comp=Z,133nm,1.2s
MCK *e*PcP **PcP 20 17 01.9 +0.9**
MCK *e*ScP **ScP 20 20 30.8 -0.8**
DIV Divide 22.01 50 *e*P **P 20 13 06.0 -1.2**
comp=Z,200nm,1.0s
COLA College 22.03 40*d i*P **P 20 13 07.9 +0.6**
COLA pmax pmax
comp=Z,1μm,2.5s
COLA College 22.03 40 *e*P **P 20 13 07.1 -0.2**
comp=Z,32nm,1.0s
COLA *e*ScP **ScP 20 20 31.8 -1.7**
COLA LR LR
comp=Z,2μm,21.0s
COLD Coldfoot 22.14 33 *e*P **P 20 13 07.5 -0.9**
comp=Z,154nm,1.6s
COLD *e*ScP **ScP 20 20 35.2 +1.4**
ILAR Eielson Array 22.39 41 P **P 20 13 09.3 -1.8**
ILAR PcP **PcP 20 17 03.5 +0.2**
ILAR ScP **ScP 20 20 33.5 -0.9**
ILAR *e* 20 47 05.4
ILAR Eielson Array 22.39 41 P **P 20 13 09.3 -1.8**
comp=Z,14nm,0.8s,baz=242,slow=8.9,SNR=121
ILAR PcP **PcP 20 17 03.5 +0.2**
comp=Z,4.2nm,0.8s,baz=281,slow=3.2,SNR=4.0
ILAR ScP **ScP 20 20 33.5 -0.9**
comp=Z,5.1nm,0.6s,baz=289,slow=3.2,SNR=27
ILAR LR LR 20 21 45.5
comp=Z,2μm,21.5s,baz=260,slow=36
ILAR P3KPbc 20 47 05.4
comp=Z,0.6nm,1.0s,baz=56,slow=3.1,SNR=4.1
RAGM Ragged Mountai 22.45 53 *e*P **P 20 13 11.2 -0.7**
comp=Z,412nm,0.8s
PAX Paxson 22.50 46 *e*P **P 20 13 11.8 -0.7**
PAX pmax pmax
comp=Z,566nm,1.8s
PAX Paxson 22.50 46 *e*P **P 20 13 11.8 -0.7**
comp=Z,566nm,1.8s
PAX *e* 20 13 28.1
PAX *e*ScP **ScP 20 20 35.1 +0.2**
BMRM Bremner River 22.55 51 *e*P **P 20 13 12.1 -0.9**
comp=Z,195nm,1.0s
BMRM *e*ScP **ScP 20 20 34.7 -0.4**
YUK Yuzh-Kuril'sk 22.55 263*c i*P **P 20 13 11.0 -2.2**
YUK *i* 20 13 46.6
YUK *i* S **S 20 17 11.5 -3.9**
YUK *i* SS SnSn 20 18 05.1 +15
YUK pmax pmax
comp=E,339nm,1.2s
YUK pmax pmax
comp=Z,582nm,1.2s
YUK pmax pmax
comp=N,58nm,0.6s
YUK MLR MLR
comp=N,314nm,19.0s
YUK MLR MLR
comp=Z,880nm,19.0s
YSS Yuzh-Sakhalins 23.12 272*k e*P **P 20 13 19.0 +0.1**
YSS *e**SP **sP 20 13 43.7 +1.5**
YSS *e*S **S 20 17 21.0 -3.5**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,120nm,1.0s
YSS pmax pmax
comp=Z,1μm,8.0s
YSS MLR MLR
comp=Z,700nm,18.0s
YSS MLR MLR
comp=N,500nm,16.0s
YSS Yuzh-Sakhalins 23.12 272 *e*P **P 20 13 18.6 -0.2**
comp=N,114nm,0.9s
DOT Dot Lake 23.27 44⇓*e*P **P 20 13 19.0 -1.2**
comp=N,116nm,1.0s
DOT *e*PcP **PcP 20 17 06.5 +1.3**
DOT *e*ScP **ScP 20 20 37.5 +0.6**
MENT Mentasta 23.27 46 *e*P **P 20 13 20.8 +0.5**
MENT *e* 20 13 37.7
MENT *e*ScP **ScP 20 20 36.7 -0.2**
ASAJ Asahikawa 24.53 266 *e*P **P 20 13 32.2 +0.4**
comp=N,112nm,0.9s
ASAJ Asahikawa 24.53 266 P **P 20 13 32.7 +0.9**
comp=N,277nm,0.9s,baz=34,slow=6.6,SNR=48
ASAJ LR LR 20 21 45.3
comp=N,574nm,21.1s,baz=92,slow=33
EGAK Eagle 24.75 42 *e*P **P 20 13 33.8 +0.2**
comp=N,290nm,0.9s
EGAK *e*ScP **ScP 20 20 41.1 +0.3**
EGAK LR LR
comp=Z,2μm,20.0s
ERM Érimo 25.32 261 PFAKE 20 13 50.0 +11
ERM LR LR
comp=Z,942nm,19.0s
HABR Khabarovsk 27.26 280*de*P **P 20 13 56.0 -0.4**
HABR *e* 20 14 43.7
HABR *e* 20 17 13.6
HABR *e*S **S 20 18 31.3 +0.8**
HABR *e*SS **SnSn 20 19 48.0 +3.1**
HABR *e* 20 24 39.0
HABR pmax pmax
comp=Z,50nm,1.0s
HABR pmax pmax
comp=N,11nm,1.0s
HABR pmax pmax
comp=E,49nm,1.0s
HABR MLR MLR
comp=Z,310nm,18.0s
YAK Yakutsk 27.55 311*d i*P **P 20 13 57.7 -1.1**
YAK *e* 20 17 14.8
YAK *e*S **S 20 18 29.3 -5.4**
YAK *e*SS **SnSn 20 19 51.8 +0.2**
YAK *e* 20 24 38.2
YAK pmax pmax
comp=Z,232nm,0.9s
YAK pmax pmax
comp=E,80nm,1.1s
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=Z,91nm,0.8s
YAK pmax pmax
comp=E,98nm,1.1s
YAK pmax pmax
comp=N,63nm,1.1s
YAK smax smax
comp=N,328nm,3.9s
YAK smax smax
comp=E,205nm,3.2s
YAK MLR MLR
comp=Z,2μm,28.0s
YAK MLR MLR
comp=N,2μm,20.0s
YAK Yakutsk 27.55 311 *e*P **P 20 13 57.4 -1.4**
comp=N,259nm,1.0s
YAK *e*S **S 20 18 33.3 -1.4**
YAK *e*ScP **ScP 20 20 48.9 -0.2**
INK Inuvik 28.46 36 *e*P **P 20 14 07.7 +0.8**
comp=N,314nm,1.9s
INK PcP **PcP 20 17 17.6 +0.7**
INK ScP **ScP 20 20 51.4 -0.3**
INK Inuvik 28.46 36 P **P 20 14 07.7 +0.8**
comp=N,30nm,0.7s,baz=263,slow=8.0,SNR=105
INK PcP **PcP 20 17 17.6 +0.7**
comp=N,12nm,0.8s,baz=356,slow=1.6,SNR=4.2
INK ScP **ScP 20 20 51.4 -0.3**
comp=N,8.0nm,1.0s,baz=254,slow=4.6,SNR=6.2
INK LR LR 20 25 58.6
comp=N,2μm,21.0s,baz=246,slow=37
KLR Kul'dur 28.98 283 *e*P P 20 14 07.7 -4.0
KLR *e*S **S 20 18 54.5 -3.0**
KLR pmax pmax
comp=E,80nm,1.0s
KLR pmax pmax
comp=Z,150nm,1.0s
KLR MLR MLR
comp=E,800nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
TIXI Tiksi 29.27 331 *e*P **P 20 14 13.0 -1.1**
TIXI *e* 20 17 18.9
TIXI *e* 20 20 53.9
TIXI pmax pmax
comp=Z,18nm,0.9s
TIXI Tiksi 29.27 331 *e*P **P 20 14 13.0 -1.1**
comp=Z,18nm,0.9s
TIXI *e*PcP **PcP 20 17 18.9 0.0**
TIXI *e*ScP **ScP 20 20 53.9 -0.4**
DLBC Dease Lake 30.00 56 *e*P **P 20 14 21.0 +0.3**
DLBC ScP **ScP 20 20 57.4 +0.4**
DLBC Dease Lake 30.00 56 P **P 20 14 21.5 +0.8**
comp=Z,7.5nm,0.5s,baz=271,slow=4.4,SNR=24
DLBC ScP **ScP 20 20 57.4 +0.4**
comp=Z,7.4nm,0.9s,baz=19,slow=1.8,SNR=4.5
DLBC LR LR 20 26 37.3
comp=Z,2μm,21.0s,baz=279,slow=37
USRK Ussuriysk Arra 31.09 274 P **P 20 14 30.1 -0.2**
comp=Z,67nm,0.8s,baz=59,slow=7.7,SNR=105
USRK PcP **PcP 20 17 25.1 +0.9**
comp=Z,12nm,0.8s,baz=41,slow=1.5,SNR=9.1
USRK ScP **ScP 20 21 01.4 +0.7**
comp=Z,3.7nm,0.8s,baz=52,slow=7.5,SNR=5.2
USRK LR LR 20 26 23.0
comp=Z,615nm,21.1s,baz=58,slow=35
MJAR Matsushiro Arr 31.70 257 P **P 20 14 36.6 +0.8**
MJAR PcP **PcP 20 17 26.6 +0.6**
MJAR ScP **ScP 20 21 03.5 +0.5**
MJAR Matsushiro Arr 31.70 257 P **P 20 14 36.6 +0.8**
comp=Z,9.5nm,0.8s,baz=54,slow=7.1,SNR=27
MJAR PcP **PcP 20 17 26.6 +0.6**
comp=Z,1.3nm,0.5s,baz=88,slow=2.6,SNR=7.5
MJAR ScP **ScP 20 21 03.5 +0.5**
comp=Z,4.1nm,0.9s,baz=73,slow=4.4,SNR=7.3
MJAR LR LR 20 25 46.5
comp=Z,504nm,21.8s,baz=90,slow=33
MAJO Matsushiro 31.70 257⇑*i*P **P 20 14 37.3 +1.4**
MAJO pmax pmax
comp=Z,193nm,0.7s
MAJO Matsushiro 31.70 257 *e*P **P 20 14 36.3 +0.4**
comp=Z,6.2nm,0.9s
MAJO LR LR
comp=Z,837nm,20.0s
MAT Matsushiro 31.70 257 P **P 20 14 36.6 +0.7**
MAT S **S 20 19 43.8 +3.4**
VLA Vladivostok 31.71 273*j i*P **P 20 14 35.6 -0.2**
VLA *e* 20 15 42.3
VLA *e* 20 17 25.2
VLA *e*S **S 20 19 41.3 +1.0**
VLA pmax pmax
comp=Z,63nm,1.0s
MDJ Mudanjiang 32.36 277 P **P 20 14 40.4 -1.1**
MDJ pP **pP 20 14 59.1 +1.0**
MDJ sP **sP 20 15 08.8 +2.6**
MDJ S **S 20 19 47.8 -2.7**
MDJ PcS **PcS 20 21 11.8 -0.7**
MDJ pmax pmax
comp=Z,29nm,0.9s
MDJ pmax pmax
comp=Z,100nm,4.6s
MDJ LR LR
comp=Z,2μm,36.3s
MDJ LR LR
comp=Z,810nm,31.1s
MDJ LR LR
comp=Z,700nm,23.4s
MDJ Mudanjiang 32.36 277 *e*P **P 20 14 40.4 -1.1**
comp=Z,24nm,0.8s
MDJ *e*PcP **PcP 20 17 28.1 +0.5**
MDJ LR LR
comp=Z,1μm,20.0s
H11N2 WAKE ISLAND Hy 33.02 199 T T 20 50 09.1
baz=13,SNR=281
H11N3 WAKE ISLAND Hy 33.03 199 T T 20 50 08.0
baz=13,SNR=185
H11N1 WAKE ISLAND Hy 33.04 199 T T 20 50 08.3
baz=13,SNR=233
H11S1 WAKE ISLAND Hy 34.25 199 T T 20 51 44.9
baz=10,slow=69
H11S3 WAKE ISLAND Hy 34.27 199 T T 20 51 46.9
baz=10,slow=69
H11S2 WAKE ISLAND Hy 34.27 199 T T 20 51 37.5
baz=10,slow=69
CN2 Changchun 35.34 278⇓P **P 20 15 06.8 -0.5**
CN2 PP **PP 20 16 28.5 0.0**
CN2 *e*S **S 20 20 32.3 -4.1**
CN2 SS **SnSn 20 22 54.1 -6.7**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,700nm,19.0s
KIP Kipapa 35.64 139⇓*i*P **P 20 15 12.2 +2.1**
KIP pmax pmax
comp=Z,93nm,1.0s
KIP Kipapa 35.64 139 *e*P **P 20 15 11.6 +1.4**
comp=Z,126nm,0.9s
HON Honolulu 35.73 139 *e*P **P 20 15 11.7 +0.8**
HON Honolulu 35.73 139 *e*P **P 20 15 11.7 +0.8**
HIA Hailar 36.12 290 *e*P **P 20 15 13.4 -0.7**
comp=Z,69nm,0.6s
HIA *e*ScP **ScP 20 21 23.2 +4.8**
HIA LR LR
comp=Z,986nm,20.0s
CBIJ Chichi jima 36.28 241 P **P 20 15 14.8 -0.7**
JCJ Chichijima 36.28 241 P **P 20 15 14.8 -0.7**
comp=Z,54nm,0.5s,baz=285,slow=18,SNR=3.9
JCJ LR LR 20 27 29.3
comp=Z,361nm,20.5s,baz=37,slow=32
YKA Yellowknife Ar 36.58 46 P **P 20 15 17.9 +0.2**
YKA pP **pP 20 15 33.0 -1.5**
YKA PcP **PcP 20 17 39.8 +0.3**
YKA ScP **ScP 20 21 19.4 -0.3**
YKA Yellowknife Ar 36.58 46 P **P 20 15 17.9 +0.2**
comp=Z,9.2nm,0.6s,baz=283,slow=8.2,SNR=108
YKA pP **pP 20 15 33.0 -1.5**
comp=Z,15nm,0.8s,baz=282,slow=8.2,SNR=8.4
YKA PcP **PcP 20 17 39.8 +0.3**
comp=Z,4.0nm,0.8s,baz=288,slow=3.1,SNR=3.7
YKA ScP **ScP 20 21 19.4 -0.3**
comp=Z,2.7nm,0.5s,baz=283,slow=3.7,SNR=15
NLWA Neilton Lookou 37.28 73 PFAKE 20 15 40.0 +16
NLWA LR LR
comp=Z,850nm,21.0s
KSRS Korea Array 37.46 268 P **P 20 15 26.8 +1.4**
comp=Z,20nm,0.9s,baz=58,slow=8.4,SNR=93
KSRS pP **pP 20 15 40.8 -1.5**
comp=Z,11nm,0.8s,baz=50,slow=7.3,SNR=6.8
KSRS PcP **PcP 20 17 44.1 +1.5**
comp=Z,8.4nm,0.8s,baz=43,slow=2.3,SNR=13
KSRS ScP **ScP 20 21 24.7 +1.3**
comp=Z,1.0nm,0.8s,baz=69,slow=5.1,SNR=5.0
KSRS LR LR 20 30 03.9
comp=Z,274nm,20.8s,baz=55,slow=35
KSAR Wonju Array Be 37.49 268 P **P 20 15 26.8 +1.1**
KSAR pP **pP 20 15 40.8 -1.8**
KSAR PcP **PcP 20 17 44.1 +1.4**
KSAR ScP **ScP 20 21 24.7 +1.1**
BLN Blyn Mountain 37.51 72 P **P 20 15 26.1 +0.2**
SNY Shenyang 37.56 277⇓P P 20 15 20.8 -5.5
SNY S **S 20 21 09.6 -0.8**
SNY pmax pmax
comp=Z,390nm,6.5s
SNY LR LR
comp=Z,580nm,21.1s
SNY LR LR
comp=Z,380nm,19.1s
SNY LR LR
comp=Z,840nm,18.6s
A05A Maple Falls 37.57 70 *e*P **P 20 15 25.7 -0.6**
comp=Z,37nm,0.9s
POHA Pohakuloa 38.16 137 *e*P **P 20 15 31.9 +0.1**
comp=Z,90nm,0.8s
INCN Inchon 38.24 269 P **P 20 15 33.6 +1.5**
SNR=6.9
INCN Inchon 38.24 269 *e*P **P 20 15 33.3 +1.2**
comp=Z,23nm,0.9s
INCN LR LR
comp=Z,408nm,19.0s
HTW Haystack Looko 38.32 71 P **P 20 15 32.6 -0.1**
CIT Chita 38.45 297 *e*P **P 20 15 33.9 +0.2**
CIT *e* 20 15 42.1
CIT *e* 20 15 48.2
CIT pmax pmax
comp=Z,294nm,1.2s
JNU Nakatsue 38.46 260 P **P 20 15 35.2 +1.2**
JNU Nakatsue 38.46 260 P **P 20 15 35.2 +1.2**
comp=Z,55nm,0.8s,baz=47,slow=6.3,SNR=32
TJN Taejon 38.48 267 *i* P **P 20 15 34.9 +0.8**
D05A Enumclaw 38.49 72 *e*P **P 20 15 34.2 +0.1**
comp=Z,151nm,1.8s
D05A *e*ScP **ScP 20 21 28.8 +1.6**
FL2 Flat Top 2 38.78 74 P **P 20 15 36.8 +0.1**
LVP Lakeview Peak 38.81 74 P **P 20 15 37.0 +0.1**
NLW Nelson Butte 39.03 70 P **P 20 15 38.4 -0.3**
TWW Teanaway 39.18 72 P **P 20 15 40.1 +0.2**
TBM Table Mountain 39.32 71 P **P 20 15 40.8 -0.4**
WTV Waterville 39.44 70 P **P 20 15 40.7 -1.3**
B08A Colville Reser 39.47 69 *e*P **P 20 15 41.7 -0.7**
comp=Z,20nm,0.9s
B08A *e*ScP **ScP 20 21 31.1 0.0**
VLL Laurance Lake 39.56 74 P **P 20 15 43.2 +0.1**
H04A Detroit Lake 39.67 76 *e*P **P 20 15 44.0 0.0**
comp=Z,41nm,1.0s
E07A Sunnyside 40.07 72 *e*P **P 20 15 46.8 -0.5**
comp=Z,21nm,0.8s
E07A *e*ScP **ScP 20 21 34.5 +1.0**
L02D Cave Junction, 40.20 80⇑P **P 20 15 48.0 -0.4**
baz=40
HUMO Hull Mountain 40.34 79 *e*P **P 20 15 50.2 +0.6**
comp=Z,265nm,2.5s
HUMO *e*PcP **PcP 20 17 50.5 -1.1**
RES Resolute Bay 40.34 24 P **P 20 15 50.0 +0.9**
RES ScP **ScP 20 21 33.2 -0.7**
RES Resolute Bay 40.34 24 P **P 20 15 50.0 +0.9**
comp=Z,42nm,1.0s,baz=256,slow=9.5,SNR=78
RES ScP **ScP 20 21 33.2 -0.7**
comp=Z,3.9nm,0.8s,baz=284,slow=4.2,SNR=3.2
HAWA Hanford 40.35 72 *e*P **P 20 15 48.4 -1.1**
comp=Z,28nm,0.8s
HAWA *e*ScP **ScP 20 21 35.5 +1.1**
HAWA LR LR
comp=Z,601nm,19.0s
I05D Terrebonne, OR 40.36 76⇑P **P 20 15 48.9 -0.9**
baz=40
C09A Chrisman Ranch 40.37 69 *e*P **P 20 15 48.8 -0.9**
comp=Z,22nm,0.7s
C09A *e*ScP **ScP 20 21 35.6 +1.1**
H2OWA Water 40.41 72 P **P 20 15 49.8 -0.3**
DL2 Dalian 40.48 274 P **P 20 15 51.0 +0.3**
DL2 S **S 20 21 55.4 +1.2**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,220nm,6.5s
DL2 LR LR
comp=Z,330nm,19.6s
DL2 LR LR
comp=Z,320nm,14.2s
J04D Umpqua Nationa 40.50 78⇓P **P 20 15 51.7 +0.7**
baz=40
EDM Edmonton 40.55 60 *e*P **P 20 15 50.2 -0.9**
EDM Edmonton 40.55 60 *e*P **P 20 15 50.2 -0.9**
EDM *e*ScP **ScP 20 21 35.0 -0.1**
NEW Newport 40.80 68 *e*P **P 20 15 52.0 -1.3**
comp=Z,29nm,0.8s
NEW PcP **PcP 20 17 53.1 +0.1**
NEW *e*ScP **ScP 20 21 36.2 0.0**
NEW *e*S **S 20 22 04.6 +5.6**
NEW LR LR
comp=Z,802nm,21.0s
NEW Newport 40.80 68 P **P 20 15 52.5 -0.8**
comp=Z,20nm,0.7s,baz=300,slow=7.4,SNR=52
NEW PcP **PcP 20 17 53.1 +0.1**
comp=Z,9.8nm,0.7s,baz=340,slow=1.3,SNR=2.0
NEW ScP **ScP 20 21 36.3 0.0**
comp=Z,5.7nm,0.9s,baz=269,slow=2.8,SNR=5.8
NEW Newport 40.80 68⇓P **P 20 15 52.3 -1.0**
baz=41,SNR=33
KHMM Horse Mountain 40.85 82 *e*P **P 20 15 56.2 +2.2**
comp=Z,758nm,2.8s
YBH Yreka Blue Hor 40.98 80 P **P 20 15 56.1 +1.2**
YBH Yreka Blue Hor 40.98 80 P **P 20 15 56.2 +1.2**
comp=Z,17nm,0.7s,baz=338,slow=4.0,SNR=22
YBH LR LR 20 30 33.2
comp=Z,516nm,21.5s,baz=300,slow=33
J05D Fort Rock, OR 41.01 77⇑P **P 20 15 55.5 +0.3**
baz=41
K04D Chiloquin, OR 41.06 78⇑P **P 20 15 56.7 +1.1**
baz=41
M02C Callahan 41.09 80⇑P **P 20 15 56.7 +0.9**
baz=41
E09A Wood Farm, Sta 41.10 71 *e*P **P 20 15 55.1 -0.6**
comp=Z,22nm,1.0s
E09A *e*ScP **ScP 20 21 38.4 +1.0**
KMRM Mail Ridge 41.25 82 *e*P **P 20 15 59.6 +2.5**
comp=Z,64nm,0.9s
G08A Pilot Rock 41.27 73 *e*P **P 20 15 56.8 -0.5**
comp=Z,10nm,1.0s
N02D Trinity Center 41.43 81⇓P **P 20 15 58.0 -0.5**
baz=41
M04C Macdoel 41.49 79⇓P **P 20 15 59.1 0.0**
baz=41
K05A Summer Lake 41.53 77 *e*P **P 20 15 59.5 0.0**
comp=Z,46nm,0.9s
K05A *e*ScP **ScP 20 21 40.9 +1.5**
I07A Izee 41.61 75 *e*P **P 20 15 59.9 -0.2**
comp=Z,23nm,0.8s
I07A *e*ScP **ScP 20 21 40.9 +1.3**
KIPM Iron Peak 41.64 83 *e*P **P 20 16 01.0 +0.6**
comp=Z,57nm,1.4s
KCPM Cahto Peak 41.65 83 *e*P **P 20 16 01.6 +1.1**
comp=Z,38nm,1.2s
WDC Whiskeytown Da 41.76 81 *e*P **P 20 16 01.9 +0.7**
WDC pmax pmax
comp=Z,71nm,1.4s
WDC Whiskeytown Da 41.76 81 *e*P **P 20 16 01.9 +0.7**
comp=Z,71nm,1.4s
F10A Beach Ranch, E 41.93 71 *e*P **P 20 16 01.6 -1.1**
comp=Z,24nm,0.9s
F10A *e*ScP **ScP 20 21 42.1 +1.2**
WALA Waterton Lakes 42.24 65 *e*P **P 20 16 04.2 -0.9**
comp=Z,1.1nm,0.9s
MOD Modoc 42.36 78 *e*P **P 20 16 06.7 +0.5**
comp=Z,6.3nm,0.8s
BSMT Bassoo Peak 42.36 67 *e*P **P 20 16 05.2 -1.1**
BSMT *e*ScP **ScP 20 21 43.4 +0.7**
HOPS Hopland 42.38 83 *e*P **P 20 16 06.9 +0.6**
comp=Z,95nm,1.1s
BLMT Blacktail Moun 42.52 67 *e*P **P 20 16 06.3 -1.2**
J08A Circle Bar Ran 42.63 75 *e*P **P 20 16 08.3 -0.1**
comp=Z,23nm,0.9s
J08A *e*ScP **ScP 20 21 44.8 +1.1**
JTMT Jette 42.70 67 *e*P **P 20 16 07.6 -1.3**
JTMT *e*ScP **ScP 20 21 43.8 -0.2**
YBMT Yellow Bay 42.80 67 *e*P **P 20 16 08.3 -1.4**
SWMT Swartz Lake 42.99 67 *e*P **P 20 16 09.9 -1.3**
SWMT *e*ScP **ScP 20 21 45.7 +0.5**
WVOR Wild Horse Val 43.06 76 *e*P **P 20 16 11.5 -0.4**
WVOR pmax pmax
comp=Z,32nm,0.9s
WVOR Wild Horse Val 43.06 76 *e*P **P 20 16 11.5 -0.4**
comp=Z,32nm,0.9s
WVOR *e*ScP **ScP 20 21 46.8 +1.3**
OHCM Honcut 43.16 82 *e*P **P 20 16 12.7 +0.2**
BJI Beijing 43.16 279 P **P 20 16 13.4 +0.9**
BJI pP **pP 20 16 30.3 +0.6**
BJI sP **sP 20 16 40.3 +2.7**
BJI PP **PP 20 17 53.6 -0.1**
BJI S **S 20 22 32.4 -1.4**
BJI pmax pmax
comp=Z,110nm,1.0s
BJI pmax pmax
comp=Z,690nm,3.8s
BJI LR LR
comp=Z,410nm,25.2s
BJI LR LR
comp=Z,570nm,20.4s
BJI LR LR

comp=Z,670nm,33.6s
BJT Baijiatuau 43.18 279 *eP* **P** **20 16 13.1 +0.4**
comp=Z,78nm,0.8s
BJT LR LR
comp=Z,730nm,21.0s
MSO Missoula 43.39 68 *eP* **P** **20 16 13.2 -1.3**
comp=Z,21nm,0.9s
MSO *eScP* **ScP** **20 21 47.0 +0.3**
MSO Missoula 43.39 68 ⇓P **P** **20 16 13.3 -1.1**
baz=43,SNR=22
IRK Irkutsk 43.41 301 *eP* **P** **20 16 13.3 -1.1**
IRK *e* 20 18 02.7
IRK pmax pmax
comp=Z,107nm,2.2s
SLMT Seeley Lake 43.42 68 *eP* **P** **20 16 13.4 -1.5**
SLMT *eScP* **ScP** **20 21 46.9 -0.1**
BEKR Beckworth 43.52 80 *eP* **P** **20 16 15.6 -0.2**
comp=Z,15nm,1.0s
BEKR *eScP* **ScP** **20 21 47.3 -0.2**
CHMT Chamberlain Mo 43.74 68 *eP* **P** **20 16 15.3 -2.1**
TLY Talaya 44.02 301 P **P** **20 16 19.3 -0.1**
comp=Z,425nm,0.8s,SNR=23
TLY Talaya 44.02 301 *eP* **P** **20 16 19.8 +0.4**
TLY *eSSS* SSS 20 26 53.5
TLY pmax pmax
comp=Z,81nm,1.1s
TLY MLR MLR
comp=Z,3µm,21.0s
TLY Talaya 44.02 301 P **P** **20 16 20.1 +0.7**
SNR=32
TLY Talaya 44.02 301 *eP* **P** **20 16 19.9 +0.4**
comp=Z,67nm,1.0s
TLY LR LR
comp=Z,3µm,22.0s
ULN Ulaanbaatar 44.14 294 P **P** **20 16 21.1 +0.6**
SNR=38
ULN Ulaanbaatar 44.14 294 *eP* **P** **20 16 20.6 +0.1**
comp=Z,144nm,1.0s
MFID Camas Ranch 44.18 73 *eP* **P** **20 16 20.5 -0.4**
comp=Z,23nm,1.2s
MFID *eScP* **ScP** **20 21 50.6 +0.5**
PAHR Pah Rah Range 44.22 80 *eP* **P** **20 16 21.4 +0.1**
comp=Z,39nm,1.0s
PAHR *eScP* **ScP** **20 21 51.5 +1.2**
JOW Kunigami 44.51 255 *eP* **P** **20 16 24.6 +1.1**
comp=Z,18nm,0.9s
SONM Songino Array 44.53 294 P **P** **20 16 24.4 +0.8**
SONM PcP **PcP** **20 18 05.8 +0.2**
SONM ScP **ScP** **20 21 51.5 +0.1**
SONM Songino Array 44.53 294 P **P** **20 16 24.4 +0.8**
comp=Z,90nm,0.5s,baz=65,slow=7.7,SNR=1128
SONM PcP **PcP** **20 18 05.8 +0.2**
comp=Z,8.0nm,0.7s,baz=71,slow=2.9,SNR=3.8
SONM ScP **ScP** **20 21 51.5 +0.1**
comp=Z,1.8nm,0.9s,baz=28,slow=6.5,SNR=4.2
SONM LR LR 20 35 18.6
comp=Z,1µm,21.9s,baz=58,slow=36
CMB Columbia Colle 44.63 83 *eP* **P** **20 16 24.9 +0.5**
CMB pmax pmax
comp=Z,47nm,1.3s
CMB Columbia Colle 44.63 83 *eP* **P** **20 16 24.9 +0.5**
comp=Z,47nm,1.3s
CMB *eScP* **ScP** **20 21 52.9 +1.0**
HRY Holter Researc 44.67 67 *eP* **P** **20 16 23.4 -1.3**
SAO San Andreas Ge 44.77 85 *eP* **P** **20 16 25.7 +0.1**
SAO pmax pmax
comp=Z,32nm,1.0s
SAO San Andreas Ge 44.77 85 *eP* **P** **20 16 25.6 +0.1**
comp=Z,32nm,1.0s
LRM Limekiln Ridge 44.81 69 *eP* **P** **20 16 24.1 -1.9**
LRM *eScP* **ScP** **20 21 53.2 +0.4**
ZAK Zakamensk 44.90 299 ⇑/P **P** **20 16 26.5 +0.1**
ZAK *e* 20 18 07.3
ZAK pmax pmax
comp=Z,35nm,1.3s
WAKR Walker 44.92 81 *eP* **P** **20 16 27.6 +0.7**
HLID Hailey 44.94 72 *eP* **P** **20 16 26.1 -0.9**
comp=Z,32nm,1.1s
HLID *eScP* **ScP** **20 21 53.8 +0.5**
HLID LR LR
comp=Z,577nm,19.0s
HLID Hailey 44.94 72 ⇓P **P** **20 16 26.1 -0.9**
baz=45,SNR=28
TIA Tai'an 44.95 274 ⇓P **P** **20 16 27.6 +0.7**
TIA S **S** **20 23 01.3 +1.3**
TIA sS **sS** **20 23 32.8 +3.5**
TIA pmax pmax
comp=Z,110nm,0.9s
TIA LR LR
comp=Z,430nm,21.7s
TIA LR LR
comp=Z,430nm,20.5s
TIA LR LR
comp=Z,600nm,19.6s
DLMT Dillon 44.98 69 *eP* **P** **20 16 26.7 -0.5**
comp=Z,12nm,1.0s
DLMT *eScP* **ScP** **20 21 54.1 +0.7**
BMN Battle Mountai 45.10 78 *eP* **P** **20 16 28.5 +0.2**
BMN pmax pmax
comp=Z,19nm,0.7s
BMN Battle Mountai 45.10 78 *eP* **P** **20 16 28.5 +0.2**
comp=Z,19nm,0.7s
EGMT Eagleton 45.13 65 *eP* **P** **20 16 27.1 -1.2**
comp=Z,27nm,0.8s
EGMT LR LR
comp=Z,740nm,22.0s
EGMT Eagleton 45.13 65 ⇓P **P** **20 16 26.8 -1.4**
baz=45,SNR=28
MCMT McKenzie Canyo 45.13 70 P **P** **20 16 27.4 -1.2**
A19A Klindworth Far 45.20 63 ⇓P **P** **20 16 27.2 -1.6**
baz=45,SNR=13
B19A Brinkman Farms 45.35 64 ⇑P **P** **20 16 28.7 -1.3**
baz=45,SNR=8.4
BOZ Bozeman (W) 45.38 68 *eP* **P** **20 16 29.2 -1.2**
BOZ pmax pmax
comp=Z,26nm,0.8s
BOZ MLR MLR
comp=Z,606nm,20.0s
BOZ Bozeman (W) 45.38 68 *eP* **P** **20 16 29.2 -1.2**
comp=Z,26nm,0.8s
BOZ LR LR
comp=Z,606nm,20.0s
MOY Mondy 45.44 302 *eP* **P** **20 16 30.8 0.0**
MOY pmax pmax
comp=Z,93nm,4.4s
HHC Hu-ho-hao-te 45.49 283 *eP* **P** **20 16 32.0 +0.7**
HHC pP **pP** **20 16 52.8 +4.3**
HHC PcP **PcP** **20 18 04.9 -4.1**
HHC S **S** **20 23 03.4 -4.4**
HHC ScS **ScS** **20 26 19.3 -1.5**
HHC pmax pmax
comp=Z,110nm,1.2s
HHC pmax pmax
comp=Z,640nm,7.9s
HHC LR LR
comp=Z,1µm,13.7s
HHC LR LR
comp=Z,1µm,17.8s
HHC LR LR
comp=Z,980nm,14.8s
NVAR Mina Array Bea 45.67 81 P **P** **20 16 33.2 +0.4**
NVAR pP **pP** **20 16 49.2 -0.8**
NVAR PcP **PcP** **20 18 11.6 +1.8**
NVAR ScP **ScP** **20 21 57.5 +1.1**
NVAR Mina Array Bea 45.67 81 P **P** **20 16 33.2 +0.4**
comp=Z,9.5nm,0.7s,baz=297,slow=7.6,SNR=50
NVAR pP **pP** **20 16 49.2 -0.8**
comp=Z,29nm,0.9s,baz=294,slow=6.8,SNR=11
NVAR PcP **PcP** **20 18 11.6 +1.8**
comp=Z,8.6nm,0.8s,baz=297,slow=4.0,SNR=2.6
NVAR ScP **ScP** **20 21 57.5 +1.1**
comp=Z,4.5nm,0.8s,baz=282,slow=4.3,SNR=8.3
NVAR LR LR 20 32 44.3
comp=Z,469nm,21.9s,baz=62,slow=32
A20A Cobblestone Ra 45.68 63 ⇓P **P** **20 16 31.2 -1.4**
baz=46,SNR=12
C19A Slack Wire Ran 45.68 65 ⇑P **P** **20 16 31.8 -0.8**
baz=46,SNR=21
FFC Flin Flon 45.70 53 *eP* **P** **20 16 31.6 -1.0**
FFC pmax pmax
comp=Z,5.0nm,1.1s
FFC MLR MLR
comp=Z,2µm,20.0s
FFC Flin Flon 45.70 53 *eP* **P** **20 16 31.6 -1.0**
comp=Z,5.5nm,1.1s
FFC *eScP* **ScP** **20 21 55.1 -0.9**
FFC LR LR
comp=Z,2µm,20.0s
NV11 Mina Array Sit 45.76 81 *eP* **P** **20 16 33.6 +0.2**
SSE Sheshan 45.83 266 ⇓P **P** **20 16 35.1 +1.2**
SSE pP **pP** **20 16 54.6 +3.5**
SSE sP sP 20 17 04.5 +5.5
SSE S **S** **20 23 11.4 -1.2**
SSE sS **sS** **20 23 45.4 +3.5**
SSE pmax pmax
comp=Z,49nm,0.8s
SSE pmax pmax
comp=Z,230nm,5.5s
SSE LR LR
comp=Z,230nm,23.0s
SSE LR LR
comp=Z,130nm,22.9s
MLAC Mammoth Lakes 45.84 82 ⇑P **P** **20 16 34.3 0.0**
baz=46
B20A Solberg Farm, 45.87 63 ⇑P **P** **20 16 33.0 -1.1**
baz=46,SNR=7.8
QLMT Earthquake Lak 45.96 69 *eP* **P** **20 16 34.2 -0.8**
QLMT *eScP* **ScP** **20 21 58.6 +1.1**
D19A Cripps Ranch, 46.10 65 ⇑P **P** **20 16 35.1 -0.9**
baz=46,SNR=11
ELK Elko 46.11 76 *eP* **P** **20 16 36.5 +0.2**
comp=Z,14nm,0.8s
ELK *eScP* **ScP** **20 21 59.3 +1.1**
A21A Bergtoll Ranch 46.17 62 ⇑P **P** **20 16 35.7 -0.7**
baz=46,SNR=7.4
MTUM Tungsten Hills 46.18 82 *eP* **P** **20 16 34.6 -2.3**
MTUM *eScP* **ScP** **20 21 59.6 +1.1**
PTRM Twissleman Ran 46.25 85 *eP* **P** **20 16 38.5 +1.2**
PTRM *eScP* ScP 20 22 06.0 +7.4
C20A Veseth Ranch, 46.28 64 ⇑P **P** **20 16 36.3 -1.0**
baz=46,SNR=7.0
GCMT Greycliff 46.43 67 *eP* **P** **20 16 37.1 -1.5**
comp=Z,10nm,1.0s
RCTC Rector, Farmer 46.43 84 ⇓P **P** **20 16 39.8 +1.2**
baz=46
B21A Ellsworth Farm 46.43 63 ⇑P **P** **20 16 37.3 -1.2**
baz=46
YFT Old Faithful 46.53 69 *eP* **P** **20 16 39.7 +0.2**
comp=Z,28nm,0.7s
YFT *eScP* **ScP** **20 22 03.0 +3.0**
E19A Rath Farm, Rou 46.55 66 ⇑P **P** **20 16 38.8 -0.7**
baz=46
TPH Tonopah 46.55 80 *eP* **P** **20 16 39.9 +0.1**
TPH pmax pmax
comp=Z,32nm,0.8s
TPH Tonopah 46.55 80 *eP* **P** **20 16 39.9 +0.1**
comp=Z,32nm,0.8s
D20A Manuel Ranch, 46.56 65 ⇑P **P** **20 16 39.2 -0.3**
baz=46,SNR=9.1
TIN Tinemaha 46.58 82 ⇑P **P** **20 16 40.9 +1.0**
baz=46,SNR=9.6
SMMC Simmler 46.61 85 ⇑P **P** **20 16 40.7 +0.7**
baz=46,SNR=6.9
NJ2 Nanjing 46.62 269 *eP* **P** **20 16 40.3 +0.2**
NJ2 pP **pP** **20 16 59.8 +2.4**
NJ2 sP **sP** **20 17 08.6 +3.3**
NJ2 S **S** **20 23 26.0 +2.0**
NJ2 sS **sS** **20 23 53.0 -0.4**
NJ2 pmax pmax
comp=Z,70nm,0.9s
NJ2 pmax pmax
comp=Z,330nm,5.9s
NJ2 LR LR
comp=Z,320nm,22.3s
NJ2 LR LR
comp=Z,410nm,24.9s
NJ2 LR LR
comp=Z,450nm,23.1s
H17A Grant Village 46.71 69 *eP* **P** **20 16 40.8 -0.2**
H17A *eScP* **ScP** **20 22 03.3 +2.6**
H17A Grant Village 46.71 69 ⇑P **P** **20 16 41.2 +0.2**
baz=46,SNR=21
A22A Carney Farms, 46.72 62 ⇑P **P** **20 16 39.5 -1.2**
baz=46,SNR=10
IMW Indian Meadow 46.79 70 *eP* **P** **20 16 41.3 -0.4**
comp=Z,13nm,0.8s
IMW *eScP* **ScP** **20 22 02.2 +1.1**
F19A Roth Farm, Mol 46.81 67 ⇓P **P** **20 16 40.6 -1.0**
baz=47,SNR=6.6
FLWY Flagg Ranch 46.82 70 *eP* **P** **20 16 41.6 -0.2**
comp=Z,22nm,0.8s
FLWY *eScP* **ScP** **20 22 02.3 +1.1**
VES Vestal, Richgr 46.83 84 ⇓P **P** **20 16 41.5 -0.2**
baz=47,SNR=12
FXWY Fox Creek 46.89 70 *eP* **P** **20 16 41.9 -0.5**
comp=Z,5.8nm,0.9s
FXWY *eScP* **ScP** **20 22 02.4 +0.9**
TIY Taiyuan 46.89 279 P **P** **20 16 43.3 +1.0**
TIY pP pP 20 17 05.1 +5.5
TIY S **S** **20 23 32.6 +4.6**
TIY pmax pmax
comp=Z,530nm,4.5s
E20A Meyer Farm, Mu 46.90 66 ⇑P **P** **20 16 41.2 -1.0**
baz=47,SNR=8.2
HVU Hansel Valley 46.97 73 *eP* **P** **20 16 42.1 -0.8**
HVU pmax pmax
comp=Z,24nm,0.8s
HVU Hansel Valley 46.97 73 *eP* **P** **20 16 42.0 -0.8**
comp=Z,24nm,0.8s
HVU *eScP* **ScP** **20 22 02.6 +0.9**
PKM Peak Mountain 46.99 86 ⇑P **P** **20 16 44.0 +0.8**
baz=47,SNR=11
I17A Pilgrim Ck. 46.99 70 ⇓P **P** **20 16 42.9 -0.3**
baz=47,SNR=5.7
MOOW Moose Ponds 46.99 70 *eP* **P** **20 16 42.5 -0.7**
comp=Z,5.4nm,0.8s
MOOW *eScP* **ScP** **20 22 02.6 +0.8**
TPAW Teton Pass 47.02 70 *eScP* **ScP** **20 22 02.8 +0.8**
RLMT Red Lodge 47.05 68 *eP* **P** **20 16 42.5 -1.0**
comp=Z,22nm,0.8s
RLMT LR LR
comp=Z,893nm,20.0s
CWC Cottonwood Cre 47.06 83 ⇓P **P** **20 16 44.2 +0.5**
baz=47,SNR=8.9
B22A Reddig Ranch S 47.07 62 ⇑P **P** **20 16 42.6 -0.8**
baz=47
H18A Shoshone NF, C 47.08 68 ⇑P **P** **20 16 43.5 -0.3**
baz=47,SNR=7.8
GRAC Grapevine Rang 47.14 82 ⇓P **P** **20 16 44.8 +0.6**
baz=47,SNR=6.2
LOHW Long Hollow 47.16 70 *eP* **P** **20 16 42.2 -2.3**
comp=Z,9.6nm,0.9s
LOHW *eScP* **ScP** **20 22 03.2 +0.7**
REDW Red Top Meadow 47.16 71 *eP* **P** **20 16 44.0 -0.5**
comp=Z,13nm,1.0s
D21A La Casta Ranch 47.22 64 ⇓P **P** **20 16 44.3 -0.4**
baz=47
F20A Billings 47.29 66 ⇓P **P** **20 16 44.7 -0.6**
baz=47
FCC Fort Churchill 47.29 45 *eP* **P** **20 16 44.8 -0.1**
FCC pmax pmax
comp=Z,1.0nm,1.0s
FCC Fort Churchill 47.29 45 *eP* **P** **20 16 44.8 -0.1**
comp=Z,0.9nm,1.0s
FCC *eScP* **ScP** **20 22 01.9 -0.6**
A23A Redstone 47.31 61 ⇑P **P** **20 16 44.2 -1.1**
baz=47
BGU Big Grassy Mou 47.33 75 *eP* **P** **20 16 45.6 -0.1**
comp=Z,8.1nm,0.9s
BGU *eScP* **ScP** **20 22 04.1 +0.8**
SBC Santa Barbara 47.35 86 ⇓P **P** **20 16 45.6 -0.2**
baz=47
R11A Troy Canyon, C 47.38 79 *eP* **P** **20 16 46.0 -0.2**
R11A *eScP* **ScP** **20 22 04.9 +1.3**
R11A Troy Canyon, C 47.38 79 ⇓P **P** **20 16 46.0 -0.2**
baz=47,SNR=43
C22A Vida 47.44 63 ⇓P **P** **20 16 45.3 -1.1**
baz=47,SNR=6.2
SPUT South Promonto 47.45 74 *eP* **P** **20 16 46.2 -0.4**
comp=Z,14nm,0.8s
ARVC Arvin 47.45 85 ⇑P **P** **20 16 46.4 -0.1**
baz=47
E21A Keefer Ranch, 47.47 65 ⇓P **P** **20 16 45.8 -0.8**
baz=47
H19A Powell 47.47 68 ⇓P **P** **20 16 46.3 -0.5**
baz=47,SNR=12
B23A Brockton 47.53 62 ⇓P **P** **20 16 45.7 -1.3**
baz=47,SNR=7.2
G20A Bridger 47.59 67 ⇑P **P** **20 16 46.3 -1.4**
baz=47,SNR=18
D22A Cohagen 47.62 64 ⇑P **P** **20 16 47.0 -0.8**
baz=47,SNR=12
MPMC Manual Prospec 47.67 83 ⇑P **P** **20 16 48.3 -0.2**
baz=48,SNR=24
BSC Santa Cruz Isl 47.70 86 ⇑P **P** **20 16 49.6 +1.1**
baz=48,SNR=5.6
FURC Furnace Creek, 47.80 82 ⇑P **P** **20 16 49.9 +0.8**
baz=48,SNR=8.5
C23A Lambert 47.80 63 ⇓P **P** **20 16 48.2 -0.9**
baz=48,SNR=13
A24A Westby 47.80 61 ⇓P **P** **20 16 47.9 -1.2**
baz=48,SNR=10
I19A Meeteetse 47.84 69 ⇑P **P** **20 16 49.0 -0.8**
baz=48
OSI Osito Adit 47.85 85 *eP* **P** **20 16 50.0 +0.3**
comp=Z,47nm,0.8s
OSI Osito Adit 47.85 85 ⇑P **P** **20 16 50.1 +0.3**
baz=48,SNR=5.2
F21A Absaloka Mine, 47.86 66 ⇓P **P** **20 16 48.5 -1.2**
baz=48
LAO LASA Array 47.86 64 *eP* **P** **20 16 48.6 -1.1**
comp=Z,22nm,0.8s
LAO LR LR
comp=Z,824nm,20.0s
DUG Dugway 47.91 75 *eP* **P** **20 16 50.1 -0.2**
DUG pmax pmax
comp=Z,41nm,1.1s
DUG MLR MLR
comp=Z,476nm,20.0s
DUG Dugway 47.91 75 *eP* **P** **20 16 50.1 -0.2**
comp=Z,41nm,1.1s
DUG *eScP* **ScP** **20 22 06.3 +0.6**
DUG LR LR
comp=Z,476nm,20.0s
DUG Dugway 47.91 75 ⇑P **P** **20 16 50.0 -0.2**
baz=48,SNR=43
DGMT Dagmar 47.96 61 PFAKE 20 17 00.0 +10
DGMT LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 47.96 61 ⇑P **P** **20 16 49.3 -1.1**
baz=48
EDW2 Edwards Air Fo 48.13 84 ⇑P **P** **20 16 51.6 -0.3**
baz=48,SNR=14
H20A Greybull 48.15 68 ⇓P **P** **20 16 51.2 -0.8**
baz=48,SNR=6.0
D23A Lindsay 48.15 63 ⇓P **P** **20 16 51.5 -0.4**
baz=48
E22A Miles City 48.16 64 ⇑P **P** **20 16 51.0 -1.0**
baz=48,SNR=10
G21A Lodge Grass 48.16 66 ⇑P **P** **20 16 51.0 -1.1**
baz=48
TCUT Toone Canyon 48.19 73 *eP* **P** **20 16 51.8 -0.7**
comp=Z,28nm,0.9s
CTU Camp Tracy 48.24 74 *eP* **P** **20 16 52.3 -0.6**
comp=Z,16nm,0.8s
J19A Crowheart 48.27 70 ⇓P **P** **20 16 52.6 -0.4**
baz=48,SNR=10
BW06 Boulder Array 48.27 70 *eP* **P** **20 16 51.8 -1.3**
comp=Z,30nm,0.9s
BW06 *eScP* **ScP** **20 22 07.0 -0.3**
BW06 LR LR
comp=Z,585nm,21.0s
PDAR Pinedale Array 48.27 70 P **P** **20 16 52.0 -1.2**
PDAR ScP **ScP** **20 22 06.8 -0.4**
PDAR Pinedale Array 48.27 70 P **P** **20 16 52.0 -1.2**
comp=Z,15nm,0.7s,baz=310,slow=3.2,SNR=75
PDAR ScP **ScP** **20 22 06.8 -0.4**
comp=Z,4.6nm,0.8s,baz=316,slow=0.8,SNR=9.3
PDAR LR LR 20 35 28.5
comp=Z,380nm,21.7s,baz=310,slow=34
A25A Svangstu Ranch 48.28 60 ⇓P **P** **20 16 51.9 -0.9**
baz=48,SNR=8.7
DECC Green Verdugo 48.34 85 ⇑P **P** **20 16 53.8 +0.3**
baz=48
C24A Savage 48.38 62 ⇓P **P** **20 16 52.6 -1.0**
baz=48
F22A Rosebud 48.38 65 ⇑P **P** **20 16 52.6 -1.0**
baz=48
I20A Worland 48.39 68 ⇓P **P** **20 16 53.0 -0.9**
baz=48,SNR=8.9
PASC Pasadena Art C 48.48 85 *eP* **P** **20 16 54.5 0.0**
comp=Z,102nm,1.4s
NLU North Lily Min 48.51 75 *eP* **P** **20 16 54.0 -0.9**
comp=Z,15nm,0.9s
NLU *eScP* **ScP** **20 22 09.5 +1.2**
SHOC Shoshone 48.52 82 ⇓P **P** **20 16 55.4 +0.5**
baz=48,SNR=8.1
MWC Mount Wilson 48.52 85 *eP* **P** **20 16 55.1 0.0**
MWC pmax pmax
comp=Z,132nm,1.2s
MWC Mount Wilson 48.52 85 *eP* **P** **20 16 55.1 0.0**
comp=Z,132nm,1.2s
GSC Goldstone 48.59 83 *eP* **P** **20 16 55.8 +0.4**
GSC pmax pmax
comp=Z,15nm,0.9s
GSC Goldstone 48.59 83 *eP* **P** **20 16 55.8 +0.4**
comp=Z,15nm,0.9s
GSC Goldstone 48.59 83 ⇓P **P** **20 16 55.8 +0.4**
baz=48,SNR=54
H21A Big Horn, Sher 48.61 67 ⇑P **P** **20 16 55.4 -0.2**
baz=48,SNR=6.0
B25A Knox Farm, Ray 48.64 61 ⇑P **P** **20 16 54.8 -0.8**
baz=48
D24A Glendive 48.67 63 ⇓P **P** **20 16 55.9 +0.1**
baz=48,SNR=5.3
G22A Birney 48.69 66 ⇑P **P** **20 16 55.1 -1.0**
baz=48
DAU Daniels Canyon 48.71 74 *eP* **P** **20 16 56.5 -0.1**
DAU Daniels Canyon 48.71 74 *eP* **P** **20 16 56.5 -0.1**
FMP Fort Macarthur 48.72 86 ⇑P **P** **20 16 56.5 +0.1**
baz=49
MPU Maple Canyon 48.73 75 *eP* **P** **20 16 56.5 -0.2**
comp=Z,83nm,1.9s
MPU *eScP* **ScP** **20 22 10.3 +1.0**
RRX Edison Barstow 48.74 83 ⇓P **P** **20 16 56.5 0.0**
baz=49
BFSC Mount Baldy Ra 48.76 85 ⇑P **P** **20 16 57.1 +0.2**
baz=49,SNR=24
J20A Shoshoni 48.78 69 ⇑P **P** **20 16 56.7 -0.2**
baz=49,SNR=10
SHPR Sheep Range 48.82 81 *eP* **P** **20 16 57.0 -0.2**
CIS Catalina Islan 48.85 86 ⇓P **P** **20 16 57.3 -0.1**
baz=49,SNR=8.6
A26A Wade Farm, Ken 48.88 60 ⇓P **P** **20 16 56.2 -1.2**
baz=49
F23A Volborg 48.89 65 ⇓P **P** **20 16 56.5 -1.1**
baz=49,SNR=9.0
C25A Freed Ranch, W 48.91 62 ⇑P **P** **20 16 56.8 -0.9**
baz=49
I21A Big Trails, Te 48.96 68 ⇓P **P** **20 16 56.8 -1.5**
baz=49,SNR=15
E24A Baker 49.01 63 ⇑P **P** **20 16 57.7 -0.7**
baz=49
H22A Clearmont 49.03 67 ⇑P **P** **20 16 57.4 -1.4**
baz=49
TUQ Turquoise Moun 49.05 82 ⇑P **P** **20 16 59.0 0.0**
baz=49,SNR=18
ARUT Antelope Range 49.05 78 *eP* **P** **20 16 58.0 -1.0**
ARUT pmax pmax
comp=Z,224nm,0.8s
ARUT Antelope Range 49.05 78 *eP* **P** **20 16 58.0 -1.0**
comp=Z,224nm,0.8s
SCI San Clemente I 49.05 87 ⇑P **P** **20 16 59.6 +0.7**
baz=49
B26A Jensen Ranch, 49.08 60 ⇑P **P** **20 16 58.0 -0.9**
baz=49
J21A Lysite 49.15 69 ⇑P **P** **20 16 58.8 -1.0**
baz=49,SNR=6.9
HEC Hector,Ludlow 49.19 83 ⇑P **P** **20 17 00.2 +0.2**
baz=49,SNR=18
BBRC Big Bear Solar 49.20 84 ⇓P **P** **20 17 01.2 +0.9**
baz=49
G23A Biddle 49.21 65 ⇓P **P** **20 16 59.4 -0.7**
baz=49
CCUT Cedar City 49.24 78 *eP* **P** **20 17 00.5 -0.1**
comp=Z,11nm,0.6s
KBS Kingsbay 49.34 356 *ceP* **P** **20 17 00.7 +0.2**
KBS pmax pmax
comp=Z,235nm,2.5s
KBS Kingsbay 49.34 356 *eP* **P** **20 17 01.4 +0.9**
KBS IAmb IAmb 20 17 02.7
comp=Z,91nm,0.9s
KBS Kingsbay 49.34 356 *eP* **P** **20 17 01.2 +0.7**
comp=Z,82nm,0.9s
KBS LR LR
comp=Z,1µm,22.0s
F24A Ekalaka 49.36 64 ⇓P **P** **20 17 00.3 -0.9**
baz=49
I22A 9 Mile Ranch, 49.38 67 ⇓P **P** **20 17 00.6 -0.8**
baz=49,SNR=10

TMUT	Trail Mountain	49.44	75	eP		P	20 17 01.5	-0.6		
	comp=Z,39nm,0.9s									
MURC	Murrieta	49.47	85	⇓P		P	20 17 02.6	+0.5		
	baz=49,SNR=17									
C26A	Wahner Farm, P	49.48	61	⇓P		P	20 17 01.0	-1.0		
	baz=49,SNR=6.0									
HVS	Khovu-Aksy	49.54	305	diP		P	20 17 02.6	+0.1		
HVS				pmax		pmax				
	comp=Z,182nm,0.8s									
E25A	Miller Ranch,	49.55	63	⇑P		P	20 17 02.1	-0.5		
	baz=49									
B27A	Peters Farms,	49.59	60	⇑P		P	20 17 02.5	-0.3		
	baz=49									
GMRC	Granite Mounta	49.64	83	⇓P		P	20 17 03.3	-0.2		
	baz=50,SNR=32									
J22A	Midwest	49.67	68	⇑P		P	20 17 02.6	-1.1		
	baz=50,SNR=17									
G24A	Alzada	49.69	65	⇓P		P	20 17 02.6	-1.1		
	baz=50,SNR=5.0									
K21A	Alcova	49.70	69	⇓P		P	20 17 02.5	-1.5		
	baz=50,SNR=9.7									
D26A	Manning	49.76	62	⇑P		P	20 17 03.3	-0.9		
	baz=50									
LDFC	Landfair	49.78	82	eP		P	20 17 04.2	-0.4		
	comp=Z,112nm,1.3s									
A28A	Rude Farm, Bot	49.82	59	⇑P		P	20 17 03.7	-0.8		
	baz=50									
F25A	Bowman	49.86	64	⇑P		P	20 17 04.4	-0.6		
	baz=50									
C27A	Sayler Ranch,	49.87	61	⇑P		P	20 17 04.6	-0.3		
	baz=50									
SPA0	Spitsbergen Ar	49.87	355	eP		P	20 17 04.5	-0.1		
SPITS	Spitsbergen Ar	49.87	355	P		P	20 17 04.8	+0.2		
SPITS	Spitsbergen Ar	49.87	355	P		P	20 17 04.8	+0.2		
	comp=Z,107nm,0.5s,baz=25,slow=4.6,SNR=852									
SPITS				LR		LR	20 37 40.2			
	comp=Z,538nm,22.0s,baz=350,slow=35									
PFO	Pinyon Flat Ob	49.93	84	eP		P	20 17 05.3	-0.4		
PFO				eScP		ScP	20 22 15.3	+1.0		
PFO	Pinyon Flat Ob	49.93	84	LR		LR	20 34 23.5			
	comp=Z,579nm,21.9s,baz=296,slow=31									
PFO	Pinyon Flat Ob	49.93	84	⇓P		P	20 17 05.2	-0.4		
	baz=50,SNR=12									
BELC	Belle Mtn. Jos	49.95	84	⇑P		P	20 17 05.0	-0.9		
	baz=50,SNR=23									
H24A	Dirks Ranch, A	49.96	65	⇓P		P	20 17 03.8	-1.9		
	baz=50,SNR=6.0									
SRU	San Rafael	49.97	75	eP		P	20 17 06.1	+0.1		
SRU				pmax		pmax				
	comp=Z,36nm,1.1s									
SRU	San Rafael	49.97	75	eP		P	20 17 06.1	+0.1		
	comp=Z,36nm,1.1s									
SRU				eScP		ScP	20 22 14.9	+0.4		
109C	Camp Elliot, M	50.01	86	⇓P		P	20 17 06.3	+0.2		
	baz=50,SNR=5.9									
B28A	Dugan Ranch, T	50.04	59	⇑P		P	20 17 05.5	-0.7		
	baz=50									
E26A	Carlson Angus	50.09	62	⇓P		P	20 17 05.7	-0.9		
	baz=50									
K22A	Casper	50.11	69	eP		P	20 17 05.3	-1.8		
K22A				eScP		ScP	20 22 14.9	-0.1		
K22A	Casper	50.11	69	⇓P		P	20 17 06.2	-0.9		
	baz=50									
D27A	Center	50.22	61	⇑P		P	20 17 06.9	-0.7		
	baz=50									
N20A	Spence Gulch,	50.23	72	⇑P		P	20 17 08.1	0.0		
	baz=50,SNR=15									
NEE2	Needles Airpor	50.29	82	⇑P		P	20 17 08.5	+0.3		
	baz=50									
YHNB	Yeheng	50.30	260	PFAKE			20 17 20.0	+11		
YHNB				LR		LR				
	comp=Z,512nm,20.0s									
G25A	Newell	50.33	64	⇑P		P	20 17 07.9	-0.6		
	baz=50									
TARA	Tarawa	50.34	186	eP		P	20 17 09.0	+0.2		
	comp=Z,342nm,1.3s									
F26A	Lodgepole	50.34	63	⇑P		P	20 17 07.7	-0.9		
	baz=50									
A29A	Manning Farm,	50.36	58	⇑P		P	20 17 07.9	-0.7		
	baz=50,SNR=6.7									
IRM	Iron Mountain	50.37	83	⇑P		P	20 17 08.9	0.0		
	baz=50,SNR=45									
BAR	Barrett	50.42	85	eP		P	20 17 09.7	+0.4		
	comp=Z,100nm,1.3s									
MONP	Monument Peak	50.43	85	⇓P		P	20 17 09.5	-0.1		
	baz=50,SNR=23									
WHN	Wuhan	50.46	271	⇓P		P	20 17 09.5	-0.1		
WHN				pP		pP	20 17 24.6	-2.5		
WHN				sP		sP	20 17 32.3	-2.6		
WHN				S		S	20 24 14.3	-3.7		
WHN				pmax		pmax				
	comp=Z,58nm,0.6s									
WHN				LR		LR				
	comp=Z,700nm,4.3s									
WHN				LR		LR				
	comp=Z,630nm,4.9s									
WHN				LR		LR				
	comp=Z,860nm,17.3s									
I24A	Kuemmerle Ranc	50.46	66	⇑P		P	20 17 08.5	-1.1		
	baz=50									
C28A	Hausauer Farms	50.47	60	⇑P		P	20 17 09.8	+0.3		
	baz=50									
BC3	Big Chuckawall	50.51	84	⇑P		P	20 17 09.8	-0.3		
	baz=50,SNR=20									
W13A	Hualapai Mount	50.52	81	⇓P		P	20 17 10.3	0.0		
	baz=50,SNR=20									
L22A	Ellis Ranch, M	50.55	69	⇓P		P	20 17 10.2	-0.3		
	baz=50,SNR=5.4									
K23A	Bowen Ranch, D	50.57	68	⇓P		P	20 17 09.6	-0.9		
	baz=50									
B29A	Wagenman Farm,	50.57	59	⇑P		P	20 17 09.7	-0.5		
	baz=50									
H25A	Fruitdale	50.58	65	⇑P		P	20 17 09.5	-0.9		
	baz=50									
E27A	Carson	50.60	62	⇑P		P	20 17 09.6	-0.9		
	baz=50									
U15A	North Rim	50.62	79	⇑P		P	20 17 11.5	+0.3		
	baz=50,SNR=54									
RSSD	Black Hills	50.63	66	eP		P	20 17 09.2	-1.9		
RSSD				pmax		pmax				
	comp=Z,2.0nm,0.9s									
RSSD	Black Hills	50.63	66	eP		P	20 17 09.2	-1.9		
	comp=Z,1.5nm,0.9s									
O20A	White River Ci	50.68	72	eP		P	20 17 09.9	-1.5		
O20A	White River Ci	50.68	72	⇓P		P	20 17 10.9	-0.5		
	baz=50,SNR=8.2									
D28A	Regan	50.69	61	⇓P		P	20 17 11.0	-0.1		
	baz=50									
F27A	Lemmon	50.69	63	⇑P		P	20 17 10.4	-0.8		
	baz=50									
J24A	Dixon Ranch, L	50.77	67	⇑P		P	20 17 10.9	-1.1		
	baz=51									
SWSC	Sam W. Stewart	50.78	84	⇑P		P	20 17 12.0	+0.1		
	baz=51,SNR=5.0									
A30A	Hoffart Farm,	50.84	58	⇓P		P	20 17 11.2	-1.0		
	baz=51,SNR=9.1									
M22A	Cedar Creek Ra	50.85	70	⇓P		P	20 17 11.7	-1.1		
	baz=51,SNR=8.0									
HOPEN	Hopen	50.86	352	eP		P	20 17 12.1	+0.2		
HOPEN				IAmb		IAmb	20 17 13.7			
	comp=Z,62nm,0.7s									
I25A	Rochford	50.87	66	⇓P		P	20 17 11.2	-1.5		
	baz=51									
PDMCI	Parker Dam,Lak	50.90	82	⇓P		P	20 17 12.3	-0.5		
	baz=51,SNR=29									
L23A	Garrett	50.92	69	⇑P		P	20 17 11.9	-1.4		
	baz=51,SNR=19									
E28A	Huff	50.99	61	⇓P		P	20 17 12.5	-1.0		
	baz=51									
Y12C	Blythe	51.02	83	⇓P		P	20 17 14.1	+0.3		
	baz=51,SNR=25									
G27A	Dupree	51.04	63	⇓P		P	20 17 12.6	-1.3		
	baz=51									
B30A	Myrvik Farm, E	51.12	58	⇑P		P	20 17 13.7	-0.7		
	baz=51,SNR=6.8									
SSLB	Suanglung	51.20	259	eP		P	20 17 15.3	0.0		
	comp=Z,423nm,2.4s									
J25A	Sunshine Ranch	51.22	66	⇓P		P	20 17 13.7	-1.6		
	baz=51									
YULB	Yu-li	51.29	259	eP		P	20 17 15.6	-0.3		
	comp=Z,25nm,0.9s									
D29A	Pettibone, Tap	51.29	60	⇑P		P	20 17 14.2	-1.5		
	baz=51									
GLA	Glamis	51.31	84	eP		P	20 17 16.1	+0.1		
GLA				pmax		pmax				
	comp=Z,13nm,0.6s									
GLA	Glamis	51.31	84	eP		P	20 17 16.1	+0.1		
	comp=Z,13nm,0.6s									
GLA	Glamis	51.31	84	⇑P		P	20 17 15.8	-0.2		
	baz=51,SNR=32									
ULM	Lac du Bonnet	51.31	55	eP		P	20 17 14.2	-1.5		
	comp=Z,12nm,1.0s									
ULM				ScP		ScP	20 22 18.4	-1.4		
ULM	Lac du Bonnet	51.31	55	P		P	20 17 14.6	-1.1		
	comp=Z,5.4nm,0.5s,baz=309,slow=8.5,SNR=11									
ULM				ScP		ScP	20 22 18.4	-1.4		
	comp=Z,2.0nm,0.5s,baz=259,slow=8.5,SNR=4.7									
ULM				LR		LR	20 40 18.4			
	comp=Z,2μm,19.1s,baz=312,slow=37									
N22A	Wattenberg Ran	51.31	71	⇓P		P	20 17 14.9	-1.3		
	baz=51,SNR=12									
M23A	Laramie	51.32	69	⇑P		P	20 17 15.2	-1.1		
	baz=51									
I26A	New Underwood	51.36	65	⇓P		P	20 17 15.2	-1.1		
	baz=51									
F28A	McLaughlin	51.38	62	⇓P		P	20 17 15.2	-1.2		
	baz=51									
PV04	Paradox Valley	51.40	74	eP		P	20 17 16.0	-0.8		
L24A	Wheatland	51.41	68	⇓P		P	20 17 16.0	-0.8		
	baz=51									
H27A	Howes	51.42	64	⇑P		P	20 17 16.4	-0.3		
	baz=51									
XAN	Xi'an	51.45	278	P		P	20 17 17.0	0.0		
XAN				pP		pP	20 17 36.5	+1.9		
XAN				sP		sP	20 17 47.0	+4.6		
XAN				PP		PP	20 19 18.3	+3.7		
XAN				S		S	20 24 32.0	+0.3		
XAN				sS		sS	20 25 06.3	+4.8		
XAN				pmax		pmax				
	comp=Z,8.0nm,0.8s									
XAN				pmax		pmax				
	comp=Z,78nm,7.5s									
XAN				LR		LR				
	comp=Z,260nm,15.0s									
XAN				LR		LR				
	comp=Z,210nm,18.3s									
C30A	Mose, Pekin	51.50	59	⇓P		P	20 17 16.3	-0.9		
	baz=51									
N23A	Red Feather La	51.55	70	⇓P		P	20 17 17.9	-0.1		
	baz=51									
E29A	Napoleon	51.57	61	⇓P		P	20 17 16.9	-0.9		
	baz=51									
PHWY	Pilot Hill	51.58	69	eP		P	20 17 17.0	-1.3		
	comp=Z,7.1nm,0.8s									
PHWY				eScP		ScP	20 22 21.6	+0.1		
O22A	Kremmling	51.66	71	⇑P		P	20 17 18.4	-0.5		
	baz=52,SNR=10									
J26A	Sides Ranch, S	51.68	66	⇓P		P	20 17 17.8	-0.9		
	baz=52									
D30A	Buchanan	51.72	60	⇓P		P	20 17 17.4	-1.4		
	baz=52,SNR=6.1									
TPUB	Ta-pu	51.77	259	eP		P	20 17 19.3	-0.1		
	comp=Z,52nm,0.8s									
PV01	Paradox Valley	51.77	75	eP		P	20 17 18.4	-1.2		
	comp=Z,2μm,0.7s									
PV01				eScP		ScP	20 22 22.2	-0.2		
WUAZ	Wupatki	51.78	79	eP		P	20 17 20.2	+0.5		
	comp=Z,26nm,0.8s									
WUAZ				eScP		ScP	20 22 23.4	+1.0		
WUAZ	Wupatki	51.78	79	⇑P		P	20 17 19.8	+0.1		
	baz=52,SNR=22									
I27A	Quinn	51.79	65	⇓P		P	20 17 18.5	-1.0		
	baz=52									
G28A	Parade	51.80	63	⇑P		P	20 17 18.9	-0.6		
	baz=52									
Y14A	Wickenburg	51.84	82	⇑P		P	20 17 19.9	0.0		
	baz=52,SNR=18									
M24A	Cheyenne	51.84	69	⇓P		P	20 17 20.3	+0.3		
	baz=52									
L25A	Engebretsen Ra	51.90	68	⇓P		P	20 17 19.9	-0.6		
	baz=52									
P22A	Eagle	51.90	72	⇓P		P	20 17 21.0	+0.4		
	baz=52,SNR=8.2									
F29A	Eureka	51.92	62	⇑P		P	20 17 19.5	-0.9		
	baz=52									
H28A	Mission Ridge	51.99	64	⇑P		P	20 17 20.0	-0.9		
	baz=52,SNR=8.5									
O23A	Lake Granby, G	52.00	71	⇓P		P	20 17 21.3	-0.1		
	baz=52,SNR=22									
K26A	Motz Farm, Whi	52.01	67	⇓P		P	20 17 20.5	-0.7		
	baz=52									
E30A	Jud	52.01	61	⇓P		P	20 17 19.8	-1.2		
	baz=52									
SMCO	Snowmass	52.04	72	eP		P	20 17 21.0	-0.8		
	comp=Z,11nm,0.8s									
SMCO				eScP		ScP	20 22 24.4	+0.7		
113A	Mohawk Valley,	52.16	83	⇓P		P	20 17 22.1	-0.1		
	baz=52,SNR=14									
ZAA0	Zalesovo Array	52.19	312	eP		P	20 17 21.2	-1.0		
ZALV	Zalesovo Beam	52.19	312	P		P	20 17 21.6	-0.7		
ZALV	Zalesovo Beam	52.19	312	P		P	20 17 21.6	-0.7		
ZALV				ScP		ScP	20 22 23.7	+0.1		
ZALV	Zalesovo Beam	52.19	312	P		P	20 17 21.6	-0.7		
	comp=Z,23nm,0.7s,baz=51,slow=6.5,SNR=87									
ZALV				ScP		ScP	20 22 23.7	+0.1		
	comp=Z,2.2nm,0.7s,baz=46,slow=4.6,SNR=2.9									
ZALV				LR		LR	20 41 16.5			
	comp=Z,922nm,19.0s,baz=54,slow=38									
N24A	Carr	52.22	70	⇓P		P	20 17 22.6	-0.2		
	baz=52									
Z14A	Wintersburg	52.26	82	⇓P		P	20 17 23.5	+0.5		
	baz=52									
G29A	Hoven	52.27	62	⇓P		P	20 17 22.4	-0.6		
	baz=52									
M25A	Palm-Egli Farm	52.31	68	⇓P		P	20 17 22.0	-1.5		
	baz=52									
I28A	Midland	52.33	64	⇓P		P	20 17 22.8	-0.7		
	baz=52,SNR=6.3									
J27A	Elkhorn Farm,	52.33	65	⇑P		P	20 17 23.3	-0.2		
	baz=52									
NVS	Novosibirsk	52.37	313	⇓iP		P	20 17 21.9	-1.6		
NVS				e			20 19 22.0			
NVS				eS		S	20 24 40.8	-2.9		
NVS				e			20 27 01.9			
NVS				pmax		pmax				
	comp=N,32nm,1.0s									
NVS				pmax		pmax				
	comp=E,53nm,1.0s									
NVS				pmax		pmax				
	comp=Z,109nm,1.0s									
NVS				smax		smax				
	comp=N,29nm,2.2s									
NVS				smax		smax				
	comp=E,48nm,2.4s									
MVCO	Mesa Verde	52.41	75	eP		P	20 17 23.9	-0.5		
	comp=E,26nm,0.9s									
MVCO				LR		LR				
	comp=Z,813nm,21.0s									
MVCO	Mesa Verde	52.41	75	⇑P		P	20 17 24.2	-0.3		
	baz=52,SNR=15									
ISCO	Idaho Springs	52.45	71	eP		P	20 17 24.4	-0.3		
ISCO				pmax		pmax				
	comp=Z,22nm,1.3s									
ISCO				MLR		MLR				
	comp=Z,744nm,21.0s									
ISCO	Idaho Springs	52.45	71	eP		P	20 17 24.4	-0.3		
	comp=Z,22nm,1.3s									
ISCO				LR		LR				
	comp=Z,744nm,21.0s									
ISCO	Idaho Springs	52.45	71	⇑P		P	20 17 24.7	0.0		
	baz=52,SNR=16									
H29A	Onida	52.47	63	⇓P		P	20 17 24.4	-0.1		
	baz=52									
X16A	Lo Mia Camp, P	52.47	80	⇑P		P	20 17 25.4	+0.6		
	baz=52,SNR=21									
AGMN	Agassiz Nation	52.51	57	PFAKE			20 17 40.0	+15		
AGMN				LR		LR				
	comp=Z,1μm,19.0s									
AGMN	Agassiz Nation	52.51	57	⇓P		P	20 17 24.1	-0.7		
	baz=52									
K27A	Flueckinger Fa	52.54	66	⇓P		P	20 17 24.3	-0.8		
	baz=52									
O24A	Longmont	52.56	70	⇑P		P	20 17 25.6	+0.3		
	baz=52									
P23A	Jefferson	52.59	72	⇓P		P	20 17 26.4	+0.6		
	baz=52,SNR=5.5									
J28A	Allard Ranch,	52.65	65	⇑P		P	20 17 25.3	-0.6		
	baz=52,SNR=8.8									
N25A	Grover	52.69	69	⇓P		P	20 17 26.0	-0.3		
	baz=52									
G30A	Faulkton	52.74	62	⇑P		P	20 17 25.4	-1.1		
	baz=52									
I29A	Vivian Onida	52.80	64	⇑P		P	20 17 26.0	-0.9		
	baz=53									
M26A	McRoberts Ranc	52.81	68	⇓P		P	20 17 27.3	+0.1		
	baz=53									
Q23A	Hartsel	52.90	72	⇓P		P	20 17 27.8	-0.2		
	baz=53									
K28A	Ten Mile Ranch	53.03	66	⇓P		P	20 17 28.5	-0.2		
	baz=53									
P24A	Kohler Place,	53.05	71	⇓P		P	20 17 30.0	+1.0		
	baz=53									
W18A	Petrified Fore	53.05	78	⇑P		P	20 17 29.2	+0.1		
	baz=53									
S22A	4UR Ranch, Cre	53.06	74	⇑P		P	20 17 29.1	-0.2		
	baz=53,SNR=25									
O25A	Wiggins	53.12	70	⇑P		P	20 17 29.6	+0.2		
	baz=53									
J29A	Okreek	53.18	64	⇓P		P	20 17 29.1	-0.6		
	baz=53,SNR=9.4									
N26A	Koester Ranch,	53.18	69	⇑P		P	20 17 29.4	-0.4		
	baz=53									
LZH	Lanzhou	53.18	284	⇓P		P	20 17 31.3	+1.3		
LZH				pP		pP	20 17 51.5	+3.8		
LZH				sP		sP	20 17 59.4	+3.9		
LZH				S		S	20 24 56.4	+0.7		
LZH				sS		sS	20 25 26.3	+0.7		
LZH				SS		SS	20 28 33.0	-2.5		
LZH				pmax		pmax				
	comp=Z,92nm,1.0s									
LZH				pmax		pmax				
	comp=Z,570nm,4.0s									
LZH				LR		LR				
	comp=Z,990nm,16.4s									
LZH				LR		LR				
	comp=Z,540nm,13.7s									
LZH				LR		LR				
	comp=Z,1μm,17.5s									
M27A	Reverse DX Ran	53.21	67	⇓P		P	20 17 29.9	-0.2		
	baz=53									
BJO	Bjornoya	53.24	353	eP		P	20 17 30.1	+0.5		
BJO				IAmb		IAmb	20 17 31.6			
	comp=Z,182nm,0.7s									
Q24A	Divide	53.26	72	⇑P		P	20 17 31.0	+0.3		
	baz=53									
BRSD	Miller	53.28	63	⇓P		P	20 17 29.4	-1.0		
	baz=53									
214A	Organ Pipe Nat	53.30	83	eP		P	20 17 30.6	-0.1		
	comp=Z,46nm,1.0s									
214A	Organ Pipe Nat	53.30	83	⇑P		P	20 17 30.8	+0.1		
	baz=53,SNR=22									
X18A	Snowflake	53.31	79	⇑P		P	20 17 31.3	+0.3		
	baz=53,SNR=10									
R23A	Moffat	53.37	73	⇓P		P	20 17 32.4	+0.9		
	baz=53									
GTA	Gaotai	53.40	289	⇓P		P	20 17 32.3	+0.8		
GTA				pP		pP	20 17 45.5	-3.7		
GTA				PP		PP	20 19 34.4	+2.2		
GTA				ScP		ScP	20 22 29.5	+0.2		
GTA				S		S	20 25 00.1	+1.6		
GTA				pmax		pmax				
	comp=Z,110nm,0.9s									
GTA				pmax		pmax				
	comp=Z,270nm,5.9s									
GTA				LR		LR				
	comp=Z,610nm,18.0s									
GTA				LR		LR				
	comp=Z,810nm,18.5s									
GTA				LR		LR				
	comp=Z,850nm,18.0s									
SUMG	Summit	53.48	13	iP		P	20 17 31.6	-0.3		
SUMG				pmax		pmax				
	comp=Z,16nm,1.0s									
SUMG	Summit	53.48	13	iP		P	20 17 31.6	-0.3		
	comp=Z,16nm,1.0s									
SUMG				i			20 17 49.7			
SUMG	Summit	53.48	13	eP		P	20 17 32.0	+0.1		
	comp=Z,58nm,1.1s									
P25A	Willow Gulch B	53.48	70	⇓P		P	20 17 32.1	-0.1		
	baz=53,SNR=25									
O26A	Horse Wrangler	53.51	69	⇑P		P	20 17 32.5	+0.2		
	baz=53									
S23A	Nye Farm, Mont	53.58	73	⇓P		P	20 17 33.2	+0.2		
	baz=53,SNR=7.6									
N27A	Anderson Farm,	53.59	68	⇓P		P	20 17 32.6	-0.3		
	baz=53									
K29A	Lazy Trails An	53.59	65	⇑P		P	20 17 33.0	+0.2		
	baz=53									
ENH	Enshi	53.67	274	eP		P	20 17 32.8	-0.7		
	comp=Z,37nm,0.8s									
ENH				LR		LR				
	comp=Z,25nm,20.0s									
J30A	Dallas	53.70	64	⇓P		P	20 17 33.3	-0.2		
	baz=54									
R24A	Sanders Place,	53.77	72	⇓P		P	20 17 34.5	+0.2		
	baz=54,SNR=13									
OGNE	Ogallala	53.79	68	PFAKE			20 17 50.0	+16		
OGNE				LR		LR				
	comp=Z,682nm,19.0s									
OGNE	Ogallala	53.79	68	⇑P		P	20 17 35.3	+0.9		
	baz=54									
Q25A	Bedland, Calha	53.83	71	⇑P		P	20 17 35.0	+0.2		
	baz=54,SNR=15									
SDCO	Great Sand Dun	53.85	73	eP		P	20 17 34.8	-0.3		
	comp=Z,18nm,1.0s									
SDCO				LR		LR				
	comp=Z,397nm,20.0s									
FRB	Frobisher Bay	53.86	30	LR		LR	20 42 10.1			
	comp=Z,μm,21.2s,baz=312,slow=38									
M28A	Bar X Bar Ranc	53.88	67	⇑P		P	20 17 35.6	+0.7		
	baz=54									
P26A	Davis Ranch, A	53.93	70	⇓P		P	20 17 36.2	+0.7		
	baz=54,SNR=10									
U22A	Llaves	53.95	75	⇑P		P	20 17 36.0	+0.3		
	baz=54									
L29A	Maesberg Ranch	53.95	66	⇓P		P	20 17 35.5	+0.1		
	baz=54									
T23A	Casias Ranch,	54.00	74	⇑P		P	20 17 36.6	+0.5		
	baz=54									
O27A	Beecher Island	54.02	69	⇓P		P	20 17 36.4	+0.4		
	baz=54									
K30A	Basset	54.05	65	⇓P		P	20 17 36.1	0.0		
	baz=54									
S24A	Houchin Ranch,	54.09	73	⇑P		P	20 17 37.2	+0.3		
	baz=54,SNR=18									
V22A	San Miguel Ran	54.23	76	⇑P		P	20 17 38.0	+0.3		
	baz=54,SNR=13									
M29A

EYMN **Ely** 54.99 55 *e*P P 20 17 41.3 -1.6
comp=Z,24nm,1.0s
EYMN LR LR
comp=Z,2µm,19.0s
N30A **Hueftle Ranch,** 55.00 67 ⇑P P 20 17 42.2 -0.8
baz=55
ECSD **EROS Data Cent** 55.02 62 *e*P P 20 17 40.4 -2.7
comp=Z,7.0nm,1.0s
ECSD LR LR
comp=Z,846nm,19.0s
ECSD **EROS Data Cent** 55.02 62 ⇓P P 20 17 41.9 -1.2
baz=55
O29A **4D Ranch, Culb** 55.04 68 ⇑P P 20 17 43.3 0.0
baz=55
R27A **Eads** 55.09 71 ⇑P P 20 17 43.8 -0.1
baz=55,SNR=25
LAZ **Ladron** 55.11 77 *e*P P 20 17 44.2 +0.1
comp=Z,15nm,1.1s
S26A **Kim** 55.14 72 ⇓P P 20 17 43.7 -0.5
baz=55,SNR=21
Q28A **Sharon Springs** 55.14 69 ⇑P P 20 17 43.9 -0.3
baz=55
ANMO **Albuquerque** 55.15 76 *e*P P 20 17 44.1 -0.2
ANMO *e*ScP ScP 20 22 38.0 +0.8
ANMO LR LR
comp=Z,513nm,20.0s
W23A **Werner Place,** 55.19 76 ⇓P P 20 17 45.0 +0.3
baz=55,SNR=10
M31A **Lambtecht Ranc** 55.27 65 ⇓P P 20 17 44.7 -0.2
baz=55
P29A **Atwood** 55.31 68 ⇑P P 20 17 45.4 +0.1
baz=55,SNR=8.0
V24A **Rampart Ranch,** 55.34 75 ⇓P P 20 17 46.0 +0.3
baz=55,SNR=19
T26A **Comanche Natio** 55.37 72 ⇓P P 20 17 45.5 -0.4
baz=55,SNR=11
LENM **Lemitar** 55.37 77 *e*P P 20 17 46.4 +0.5
U25A **Circle Dot Ran** 55.40 73 ⇓P P 20 17 46.3 +0.1
baz=55,SNR=26
O30A **MW Ranch, Wils** 55.43 67 ⇑P P 20 17 46.9 +0.8
baz=55
S27A **Las Animas** 55.44 71 ⇓P P 20 17 46.6 +0.3
baz=55
Y22D **IRIS PASSCAL I** 55.46 77 ⇑P P 20 17 46.1 -0.5
baz=55
LPM **Los Pinos Moun** 55.48 77 *e*P P 20 17 46.9 +0.1
X23A **Hourglass Bar** 55.56 76 ⇓P P 20 17 46.9 -0.5
baz=55
BNM **Barren Site** 55.59 77 *e*P P 20 17 47.4 -0.1
comp=Z,31nm,1.2s
W24A **Lazy 6 Ranch,** 55.60 75 ⇑P P 20 17 48.1 +0.4
baz=55,SNR=18
N31A **Bailey Ranch,** 55.63 66 ⇑P P 20 17 46.8 -0.7
baz=55
R28A **Tribune** 55.63 70 ⇑P P 20 17 48.0 +0.3
baz=55
V25A **Rancho No Teng** 55.66 74 ⇑P P 20 17 47.9 -0.1
baz=56,SNR=19
BGNE **Belgrade** 55.70 65 *e*P P 20 17 46.6 -1.4
BGNE **Belgrade** 55.70 65 ⇑P P 20 17 48.0 0.0
baz=56
P30A **Selden** 55.74 68 ⇓P P 20 17 48.1 -0.3
baz=56,SNR=8.9
Q29A **Oakley** 55.75 69 ⇓P P 20 17 48.6 +0.1
baz=56
U26A **Atchley Ranch,** 55.80 73 ⇑P P 20 17 48.9 -0.1
baz=56,SNR=26
O31A **Woolen Ranch,** 55.87 67 ⇑P P 20 17 49.4 +0.2
baz=56
319A **Douglas** 55.87 81 ⇑P P 20 17 49.9 +0.4
baz=56,SNR=16
T27A **Campo** 55.96 72 ⇑P P 20 17 50.0 0.0
baz=56
R29A **Marienthal** 55.97 69 ⇓P P 20 17 50.1 0.0
baz=56
121A **Cookes Peak, D** 55.99 79 *e*P P 20 17 50.5 +0.1
comp=Z,31nm,1.0s
121A **Cookes Peak, D** 55.99 79 ⇓P P 20 17 51.1 +0.7
baz=56,SNR=10
Z22A **Elephant Butte** 56.00 78 ⇓P P 20 17 50.7 +0.3
baz=56,SNR=8.7
X24A **Lazy VL Ranch,** 56.03 76 ⇑P P 20 17 51.5 +0.9
baz=56
N32A **Stulken Farm,** 56.04 66 ⇓P P 20 17 49.8 -0.7
baz=56
Y23A **Lovelace Mesa,** 56.09 77 ⇑P P 20 17 51.3 +0.2
baz=56,SNR=35
S28A **Manter** 56.09 71 ⇑P P 20 17 50.8 -0.1
baz=56,SNR=28
SPMN **St. Paul** 56.10 58 *e*P P 20 17 49.4 -1.4
SPMN **St. Paul** 56.10 58 ⇓P P 20 17 50.4 -0.4
baz=56
SFJD **Kangerlussuaq** 56.13 21 *i* P P 20 17 50.6 0.0
comp=Z,9.8nm,0.9s
SFJD **Kangerlussuaq** 56.13 21 LR LR 20 42 53.1
comp=Z,486nm,20.3s,baz=324,slow=37
Q30A **Quinter** 56.13 68 ⇑P P 20 17 50.8 -0.4
baz=56,SNR=8.6
W25A **X Bar L Ranch,** 56.17 74 ⇓P P 20 17 51.6 0.0
baz=56,SNR=26
V26A **Tequesquite Ra** 56.18 74 ⇑P P 20 17 51.4 -0.3
baz=56,SNR=24
P31A **Stockton** 56.26 67 ⇓P P 20 17 51.7 -0.3
baz=56,SNR=5.1
T28A **Walsh** 56.28 71 ⇑P P 20 17 52.1 -0.2
baz=56,SNR=16
U27A **Thompson Grove** 56.33 72 ⇓P P 20 17 52.3 -0.4
baz=56,SNR=14
221A **Mesquite Ranch** 56.36 80 ⇑P P 20 17 53.0 0.0
baz=56
320A **Kipp Ranch, An** 56.36 81 ⇓P P 20 17 54.3 +1.2
baz=56,SNR=9.8
O32A **Brockman Farm,** 56.39 66 ⇓P P 20 17 52.9 -0.1
baz=56
Z23A **Rita Site, Whi** 56.44 77 ⇓P P 20 17 53.9 +0.4
baz=56,SNR=7.3
Y24A **Capitan** 56.46 76 ⇓P P 20 17 54.2 +0.5
baz=56,SNR=52
X25A **Clemmons Ranch** 56.52 75 ⇓P P 20 17 55.1 +1.0
baz=56
S29A **Ulysses** 56.52 70 ⇓P P 20 17 54.3 +0.3
baz=56
R30A **Dighton** 56.57 69 ⇑P P 20 17 54.0 -0.3
baz=56,SNR=11
Q31A **Ellis** 56.59 68 ⇓P P 20 17 54.1 -0.3
baz=56
P32A **Huiting Farm,** 56.63 67 ⇑P P 20 17 54.0 -0.7
baz=56,SNR=7.4
W26A **Owens Ranch, T** 56.67 74 ⇑P P 20 17 55.1 0.0
baz=56,SNR=5.9
222A **Williams Famil** 56.70 79 ⇓P P 20 17 56.2 +0.8
baz=56
U28A **Mallet** 56.71 72 ⇓P P 20 17 55.2 -0.2
baz=56,SNR=13
T29A **Hugoton** 56.73 71 ⇓P P 20 17 55.9 +0.4
baz=56
CD2 **Chengdu** 56.76 279 P P 20 17 55.9 +0.1
CD2 pP **pP** 20 18 16.0 +2.4
CD2 PcP **PcP** 20 18 49.1 -1.8
CD2 PP **PP** 20 20 02.3 0.0
CD2 S S 20 25 35.3 -6.1
CD2 sS **sS** 20 26 13.4 -0.2
CD2 ScS **ScS** 20 27 36.3 -2.3
CD2 SS **SS** 20 29 29.3 -2.5
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 pmax pmax
comp=Z,370nm,5.9s
CD2 LR LR
comp=Z,640nm,15.5s
CD2 LR LR
comp=Z,480nm,17.8s
CD2 LR LR
comp=Z,440nm,17.8s
V27A **Dan Oppiter Fa** 56.77 73 ⇑P P 20 17 55.3 -0.5
baz=57
123A **Bell Site, Whi** 56.85 78 ⇓P P 20 17 56.3 -0.2
baz=57
S30A **Montezuma** 56.89 70 ⇑P P 20 17 56.5 -0.1
baz=57,SNR=7.6
Y25A **Mesa, Roswell** 56.91 76 ⇑P P 20 17 57.1 +0.2
baz=57,SNR=19
Z24A **Sheeppen Canyo** 56.92 77 ⇑P P 20 17 57.6 +0.6
baz=57,SNR=13
KEV **Kevo** 56.97 348 *e*P P 20 17 56.6 0.0
KEV **Kevo** 56.97 348 *ep* P 20 17 56.6 0.0
KEV **Kevo** 56.97 348 PFAKE 20 18 10.0 +13
KEV LR LR
comp=Z,1µm,21.0s
R31A **Burdett** 57.00 69 ⇑P P 20 17 57.2 -0.1
baz=57,SNR=9.0
X26A **CR and CF Fran** 57.01 75 ⇓P P 20 17 57.8 +0.2
baz=57,SNR=9.5
Q32A **Meitler Ranch,** 57.08 67 ⇓P P 20 17 57.4 -0.5
baz=57,SNR=14
W27A **Bowe Ranch, En** 57.11 74 ⇓P P 20 17 58.1 -0.2
baz=57
V28A **Channing** 57.14 73 ⇑P P 20 17 58.4 -0.1
baz=57
KURK **Kurchatov** 57.19 312 *e*P P 20 17 58.3 -0.1
KURK S S 20 25 45.6 -2.7
KURK pmax pmax
comp=Z,157nm,0.9s
KURK MLR MLR
comp=Z,892nm,19.0s
KURK **Kurchatov** 57.19 312 P P 20 17 58.9 +0.5
SNR=100
KURK **Kurchatov** 57.19 312 *e*P P 20 17 58.3 -0.1
comp=Z,157nm,0.9s
KURK S S 20 25 45.6 -2.7
KURK ⇑*e* 20 48 07.0
KURK *e* 20 55 09.7
KURK LR LR
comp=Z,892nm,19.0s
U29A **Oasis Ranch, S** 57.23 71 ⇓P P 20 17 59.0 0.0
baz=57
T30A **Plains** 57.25 70 ⇓P P 20 17 59.2 0.0
baz=57
P33A **Williams Farm,** 57.28 66 ⇑P P 20 17 58.3 -1.0
baz=57,SNR=6.2
SCO **Scoresbysund** 57.29 8 *i* P P 20 17 59.1 +0.3
SCO pmax pmax
comp=Z,6.0nm,0.8s
SCO **Scoresbysund** 57.29 8 *i* P P 20 17 59.1 +0.3
comp=Z,5.5nm,0.8s
KURBB **Kurchatov Arra** 57.29 312 S S 20 25 45.6 -4.1
comp=Z,0.8nm,0.9s,baz=54,slow=12,SNR=5.0
KURBB PKP2bc 20 48 07.0
comp=Z,1.0nm,1.0s,baz=235,slow=3.2,SNR=4.5
KURBB P4KPbc 20 55 09.7
comp=Z,0.7nm,0.9s,baz=46,slow=4.5,SNR=6.4
124A **Stringfield Ra** 57.30 77 ⇓P P 20 17 59.3 -0.4
baz=57,SNR=7.5
WMQ **Urumqi** 57.31 301 P P 20 18 02.3 +2.9
WMQ pP **pP** 20 18 21.5 +4.2
WMQ sP sP 20 18 30.3 +5.3
WMQ PcP **PcP** 20 18 55.8 +2.9
WMQ S **S** 20 25 50.3 0.0
WMQ sS **sS** 20 26 23.4 +2.8
WMQ ScS **ScS** 20 27 40.8 -1.4
WMQ SS **SS** 20 29 41.6 +1.8
WMQ pmax pmax
comp=Z,120nm,0.7s
WMQ pmax pmax
comp=Z,760nm,4.5s
WMQ LR LR
comp=Z,2µm,22.8s
WMQ LR LR
comp=Z,1µm,23.9s
WMQ LR LR
comp=Z,2µm,22.8s
Z25A **Roswell** 57.34 76 ⇓P P 20 17 59.8 -0.1
baz=57,SNR=5.4
ARCES **ARCESS Array B** 57.36 349 P P 20 17 59.0 -0.4
ARCES PcP **PcP** 20 18 52.9 +0.3
ARCES **ARCESS Array B** 57.36 349 P P 20 17 59.0 -0.4
comp=Z,31nm,0.5s,baz=33,slow=7.0,SNR=124
ARCES PcP **PcP** 20 18 52.9 +0.3
comp=Z,24nm,0.8s,baz=27,slow=6.1,SNR=5.3
ARE0 **ARCESS Array S** 57.36 349 *e*P P 20 17 58.6 -0.8
X27A **F and S Farms,** 57.38 74 ⇓P P 20 18 00.4 +0.2
baz=57
R32A **Long Quarter,** 57.38 68 ⇑P P 20 18 00.0 0.0
baz=57
COWI **Conover** 57.43 56 *e*P P 20 17 58.6 -1.5
comp=Z,14nm,0.9s
COWI LR LR
comp=Z,1µm,20.0s
Y26A **Elida** 57.44 75 ⇑P P 20 18 00.4 -0.1
baz=57,SNR=21
V29A **Stinnett** 57.47 72 ⇓P P 20 18 00.6 -0.1
baz=57
S31A **Mullinville** 57.48 69 ⇑P P 20 18 00.5 -0.3
baz=57
W28A **Vega** 57.49 73 ⇓P P 20 18 00.5 -0.4
baz=57
Q33A **Connelly Farm,** 57.49 67 ⇓P P 20 18 00.0 -0.7
baz=57,SNR=20
U30A **WK&E Inc. Balk** 57.54 71 ⇑P P 20 18 01.3 +0.1
baz=57,SNR=5.3
LVZ **Lovozero** 57.55 344 P P 20 18 00.7 -0.1
comp=Z,771nm,0.7s,SNR=22
LVZ **Lovozero** 57.55 344 *ce*P P 20 18 00.2 -0.5
LVZ pmax pmax
comp=Z,103nm,0.7s
LVZ **Lovozero** 57.55 344 *e*P P 20 18 00.3 -0.5
comp=Z,104nm,0.8s
T31A **Randall Ranch,** 57.72 70 ⇑P P 20 18 01.1 -1.3
baz=58,SNR=7.0
S32A **Newby Ranch, P** 57.74 69 ⇓P P 20 18 01.3 -1.2
baz=58
Z26A **Caprock** 57.79 76 ⇑P P 20 18 03.1 0.0
baz=58,SNR=21
125A **Gardner Draw,** 57.81 77 ⇑P P 20 18 03.2 0.0
baz=58,SNR=26
Y27A **Causey** 57.86 75 ⇓P P 20 18 03.7 +0.2
baz=58,SNR=27
R33A **Olander Ranch,** 57.88 68 ⇓P P 20 18 02.6 -0.9
baz=58
W29A **Amraillo** 57.91 73 ⇓P P 20 18 04.4 +0.5
baz=58
TRO **Tromso** 57.98 351 *e*P P 20 18 07.4 +3.8
TRO IAmb IAmb 20 18 08.1
comp=Z,72nm,0.6s
X28A **Dimmitt** 58.00 74 ⇑P P 20 18 05.2 +0.7
baz=58
MNTX **Cornudas Mount** 58.04 78 *e*P P 20 18 04.5 -0.1
comp=Z,24nm,1.0s
MNTX LR LR
comp=Z,345nm,20.0s
MSTX **Muleshoe** 58.04 74 ⇓P P 20 18 04.9 +0.2
baz=58,SNR=16
V30A **Spur Ranch, Mi** 58.04 72 ⇑P P 20 18 04.8 +0.1
baz=58
AMTX **Amarillo** 58.06 73 *e*P P 20 18 04.7 -0.2
comp=Z,23nm,0.8s
AMTX **Amarillo** 58.06 73 ⇓P P 20 18 05.2 +0.4
baz=58
APA **Apatity** 58.06 345 ⇓*i*P P 20 18 05.0 +0.8
APA *i* 20 18 56.4
APA *i* S S 20 25 56.0 -3.3
APA pmax pmax
comp=Z,54nm,1.2s
225A **Deer Hill, Car** 58.09 77 ⇓P P 20 18 05.7 +0.5
baz=58,SNR=8.5
MK31 **Makanchi Array** 58.09 306 *i* P P 20 18 04.3 -0.6
MK31 pmax pmax
comp=Z,39nm,0.6s
MK31 **Makanchi Array** 58.09 306 *e*P P 20 18 04.1 -0.7
MKAR **Makanchi Array** 58.09 306 P P 20 18 04.4 -0.5
MKAR pmax pmax
comp=Z,42nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR **Makanchi Array** 58.09 306 *e*P P 20 18 03.9 -0.9
MKAR P'P'ab **P'P'ab** 20 48 12.2 -3.6
MKAR **Makanchi Array** 58.09 306 P P 20 18 04.4 -0.5
comp=Z,42nm,0.6s,baz=51,slow=6.7,SNR=509
MKAR PKP2ab 20 48 12.2
comp=Z,1.2nm,1.0s,baz=253,slow=1.5,SNR=4.3
T32A **Huddler Ranch,** 58.10 69 ⇑P P 20 18 05.0 -0.1
baz=58
SCIA **State Center** 58.11 62 *e*P P 20 18 04.2 -0.7
comp=Z,38nm,0.9s
SCIA LR LR
comp=Z,1µm,22.0s
GYA **Guiyang** 58.12 273 ⇓*i*P P 20 18 05.3 -0.1
GYA pP **pP** 20 18 26.4 +3.1
GYA sP **sP** 20 18 36.0 +5.0
GYA PP **PP** 20 20 16.8 +2.3
GYA ScP **ScP** 20 22 47.5 -2.7
GYA PcS **PcS** 20 22 56.0 -2.2
GYA S **S** 20 26 02.3 +0.9
GYA sS **sS** 20 26 33.0 +1.3
GYA SS **SS** 20 29 50.8 -2.6
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,4.3s
GYA LR LR
comp=Z,490nm,19.3s
GYA LR LR
comp=Z,570nm,18.3s
GYA LR LR
comp=Z,420nm,17.8s
U31A **Nine Bar Ranch** 58.12 70 ⇓P P 20 18 04.7 -0.5
baz=58
KSU1 **Kansas State U** 58.12 66 *e*P P 20 18 03.9 -1.3
comp=Z,26nm,0.7s
KSU1 LR LR
comp=Z,982nm,19.0s
KSU1 **Kansas State U** 58.12 66 ⇓P P 20 18 04.5 -0.6
baz=58,SNR=7.1
KTK1 **Kautokeino** 58.13 349 *e*P P 20 18 04.9 +0.2
KTK1 IAmb IAmb 20 18 05.2
comp=N,26nm,0.6s
126A **Clayton Basin,** 58.20 76 ⇓P P 20 18 06.2 +0.2
baz=58,SNR=7.9
Z27A **Tatum** 58.22 75 ⇑P P 20 18 06.1 0.0
baz=58,SNR=11
GDL2 **Guadalupe Moun** 58.30 77 *e*P P 20 18 05.7 -1.0
X29A **Tulia** 58.35 73 ⇓P P 20 18 07.3 +0.4
baz=58,SNR=5.6
S33A **Kaszmaul Farm,** 58.35 68 ⇓P P 20 18 06.7 -0.1
baz=58
Y28A **McKinney Farm,** 58.39 74 ⇓P P 20 18 07.0 -0.2
baz=58,SNR=6.7
W30A **Crocket Farms** 58.51 72 ⇑P P 20 18 08.4 +0.4
baz=58
226B **Tecolote Peak,** 58.51 77 ⇑P P 20 18 08.3 +0.3
baz=58,SNR=15
V31A **Spring Creek L** 58.53 71 ⇓P P 20 18 08.5 +0.4
baz=58
127A **Arkansas Junct** 58.58 76 ⇑P P 20 18 08.7 +0.1
baz=58
U32A **Winter Ranch,** 58.61 70 ⇑P P 20 18 08.3 -0.3
baz=58,SNR=6.7
TGY **Tagaytay City** 58.64 252 P P 20 18 10.1 +1.1
TGY **Tagaytay City** 58.64 252 P P 20 18 10.1 +1.1
comp=N,64nm,0.5s,baz=122,slow=1.8,SNR=3.5
Z28A **Tucker Farm, M** 58.74 75 ⇑P P 20 18 09.6 -0.1
baz=59
Y29A **Porterfield Fa** 58.77 74 ⇓P P 20 18 10.1 +0.2
baz=59,SNR=16
X30A **Coker Ranch, T** 58.84 73 ⇓P P 20 18 10.3 0.0
baz=59,SNR=12
W31A **Holland Ranch,** 58.88 71 ⇑P P 20 18 10.6 +0.1
baz=59
425A **Indio Mountain** 58.92 79 ⇓P P 20 18 11.6 +0.7
baz=59
JFWS **Jewell Farm** 59.02 59 PFAKE 20 18 20.0 +8.7
JFWS LR LR
comp=Z,2µm,20.0s
V32A **Arapaho** 59.04 70 ⇑P P 20 18 11.9 +0.3
baz=59
227A **Bennet, Jal** 59.09 76 ⇑P P 20 18 12.5 +0.5
baz=59,SNR=5.5
U33A **Lingo Farm, Me** 59.09 69 ⇓P P 20 18 11.3 -0.6
baz=59
128A **Castleberry Fa** 59.15 75 ⇓P P 20 18 12.4 0.0
baz=59,SNR=17
326A **Caldwell Ranch** 59.16 77 ⇓P P 20 18 12.8 +0.3
baz=59,SNR=16
Z29A **Hungry Hill Ra** 59.17 74 ⇑P P 20 18 13.2 +0.6
baz=59,SNR=13
BVA0 **Borovoye Array** 59.20 318 *i* P P 20 18 12.8 +0.4
BVA0 pmax pmax
comp=Z,113nm,0.6s
BVAR **Borovoye Array** 59.20 318 P P 20 18 12.9 +0.5
BVAR **Borovoye Array** 59.20 318 P P 20 18 12.9 +0.5
BVAR ScP **ScP** 20 22 57.4 +3.0
BVAR ⇑*e* 20 47 49.9
BVAR P'P'ab **P'P'ab** 20 48 08.0 -3.4
BVAR **Borovoye Array** 59.20 318 P P 20 18 12.9 +0.5
comp=Z,157nm,0.6s,baz=50,slow=6.4,SNR=1270
BVAR ScP **ScP** 20 22 57.4 +3.0
comp=Z,2.6nm,0.5s,baz=63,slow=2.8,SNR=7.9
BVAR LR LR 20 45 20.0
comp=Z,2µm,21.0s,baz=46,slow=38
BVAR PKP2bc 20 47 49.9
comp=Z,0.7nm,0.8s,baz=242,slow=3.1,SNR=3.0
BVAR PKP2ab 20 48 08.0
comp=Z,2.0nm,0.9s,baz=222,slow=2.0,SNR=5.5
BRVK **Borovoye** 59.22 318 *e*P P 20 18 12.8 +0.3
BRVK pmax pmax
comp=Z,148nm,0.6s
BRVK MLR MLR
comp=Z,2µm,21.0s
BRVK **Borovoye** 59.22 318 P P 20 18 13.3 +0.8
SNR=50
BRVK **Borovoye** 59.22 318 *e*P P 20 18 12.8 +0.3
comp=Z,148nm,0.6s
BRVK LR LR
comp=Z,2µm,21.0s
Y30A **Stafford Cattl** 59.22 73 ⇓P P 20 18 13.4 +0.4
baz=59,SNR=19
X31A **McDonald Ranch** 59.24 72 ⇓P P 20 18 13.9 +0.8
baz=59,SNR=5.7
W32A **Sentinel** 59.33 71 ⇑P P 20 18 14.0 +0.3
baz=59,SNR=7.0
V33A **Lossen Ranch,** 59.41 70 ⇑P P 20 18 14.1 -0.1
baz=59
U34A **Anderson Ranch** 59.42 69 ⇑P P 20 18 13.8 -0.4
baz=59,SNR=8.2
228A **UT Block 9, Go** 59.43 76 ⇑P P 20 18 14.7 +0.3
baz=59,SNR=5.3
Z30A **Sanderson Ranc** 59.49 74 ⇓P P 20 18 14.9 +0.1
baz=59,SNR=14
129A **Stewart Farms,** 59.51 75 ⇑P P 20 18 15.1 +0.2
baz=59,SNR=10
Y31A **Rekieta Farm,** 59.54 73 ⇓P P 20 18 15.0 -0.1
baz=59
426A **McDonald Obser** 59.58 78 ⇓P P 20 18 15.4 -0.2
baz=59,SNR=12
W33A **Caddo, Fort Co** 59.77 71 ⇑P P 20 18 16.9 +0.3
baz=60
X32A **Elmer** 59.80 72 ⇑P P 20 18 17.4 +0.6
baz=60,SNR=5.5
328A **Wristen Ranch,** 59.82 77 ⇑P P 20 18 16.9 -0.2
baz=60,SNR=28
427A **Hayter Ranch,** 59.84 77 ⇓P P 20 18 17.2 -0.1
baz=60,SNR=6.7
V34A **Guthrie** 59.85 69 ⇑P P 20 18 17.1 0.0
baz=60
WMOK **Wichita Mounta** 59.87 71 *e*P P 20 18 16.4 -1.0
WMOK pmax pmax
comp=Z,24nm,0.9s
WMOK **Wichita Mounta** 59.87 71 *e*P P 20 18 16.4 -1.0
comp=Z,24nm,0.9s
LOF **Lofoten** 59.89 353 *e*P pP 20 18 38.7 +3.8
LOF IAmb IAmb 20 18 42.8
comp=Z,73nm,0.9s
STEI **Steigen** 59.96 352 *e*P P 20 18 17.2 -0.1
STEI IAmb IAmb 20 18 17.6
comp=Z,58nm,0.6s
526A **Mary Lane Ranc** 59.98 79 ⇑P P 20 18 18.5 +0.3
baz=60,SNR=15
Y32A **R-V Farms, Ver** 60.00 72 ⇑P P 20 18 18.8 +0.6
baz=60,SNR=6.5
229A **Bryant Ranch,** 60.01 75 ⇓P P 20 18 18.3 -0.1
baz=60
Z31A **Sharp Cattle R** 60.06 73 ⇑P P 20 18 19.1 +0.4
baz=60,SNR=12
130A **Snyder** 60.08 74 ⇓P P 20 18 19.6 +0.8
baz=60,SNR=5.5
SVE **Sverdlovsk** 60.11 326 *c* *i*P P 20 18 19.7 +1.1
SVE *e*S S 20 26 19.5 -6.6
SVE *e*SS **SS** 20 30 22.5 -0.5
SVE pmax pmax
comp=Z,127nm,1.5s
SVE MLR MLR
comp=Z,2µm,24.0s
W34A **Bridge Creek,** 60.12 70 ⇓P P 20 18 19.2 +0.1
baz=60
X33A **Lawton** 60.18 71 ⇑P P 20 18 19.2 -0.2
baz=60
527A **Woodward Ranch** 60.21 78 ⇑P P 20 18 19.7 -0.1
baz=60,SNR=6.6
329A **Wagon Wheel Ra** 60.25 76 ⇑P P 20 18 20.0 0.0
baz=60,SNR=8.2

626A	**Big Bend Ranch**	**60.31**	**79**	⇑P		**P**	**20 18 20.4**	**0.0**
	baz=60,SNR=28							
428A	**Kincaid Ranch,**	**60.36**	**77**	⇓P		**P**	**20 18 20.9**	**+0.1**
	baz=60,SNR=19							
131A	**Roby**	**60.37**	**74**	⇑P		**P**	**20 18 21.0**	**+0.2**
	baz=60,SNR=11							
LPIG	**La Paz**	**60.42**	**88**	LR		LR	20 39 01.0	
	comp=Z,223nm,20.6s,baz=312,slow=30							
Z32A	**Haskell**	**60.46**	**73**	⇓P		**P**	**20 18 21.3**	**-0.1**
	baz=60,SNR=19							
Y33A	**Hilltop Ranch,**	**60.48**	**72**	⇑P		**P**	**20 18 21.5**	**0.0**
	baz=60,SNR=7.9							
230A	**Sterling City**	**60.49**	**75**	⇑P		**P**	**20 18 21.5**	**-0.1**
	baz=60,SNR=54							
X34A	**Smith Ranch, M**	**60.53**	**71**	⇑P		**P**	**20 18 22.0**	**+0.2**
	baz=60							
528A	**Cox Ranch, San**	**60.70**	**78**	⇑P		**P**	**20 18 23.3**	**+0.1**
	baz=60,SNR=18							
PRGR	**Permogore**	**60.74**	**336**	⇓*i*P		**P**	**20 18 23.5**	**+0.7**
PRGR							20 19 07.3	
PRGR				pmax		pmax		
	comp=Z,120nm,0.9s							
TXAR	**Lajitas Array**	**60.75**	**79**	P		**P**	**20 18 23.3**	**-0.2**
TXAR				pP		**pP**	**20 18 38.9**	**-2.5**
TXAR				ScP		**ScP**	**20 23 02.1**	**+0.3**
TXAR	**Lajitas Array**	**60.75**	**79**	P		**P**	**20 18 23.3**	**-0.2**
	comp=Z,6.8nm,0.5s,baz=304,slow=5.0,SNR=126							
TXAR				pP		**pP**	**20 18 38.9**	**-2.5**
	comp=Z,12nm,0.7s,baz=289,slow=3.8,SNR=10							
TXAR				ScP		**ScP**	**20 23 02.1**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=285,slow=2.8,SNR=4.7							
TXAR				LR		LR	20 45 32.6	
	comp=Z,232nm,18.1s,baz=0.0,slow=37							
330A	**Mertzon**	**60.79**	**75**	⇑P		**P**	**20 18 23.3**	**-0.4**
	baz=61,SNR=14							
TUL1	**Tulsa**	**60.80**	**68**	*e*P		**P**	**20 18 22.2**	**-1.4**
TUL1	**Tulsa**	**60.80**	**68**	⇑P		**P**	**20 18 23.4**	**-0.2**
	baz=61,SNR=5.0							
627A	**Terlingua Ranc**	**60.83**	**79**	⇓P		**P**	**20 18 24.1**	**0.0**
	baz=61,SNR=17							
ABTX	**Abilene, Hawle**	**60.85**	**73**	*e*P		**P**	**20 18 23.7**	**-0.3**
ABTX	**Abilene, Hawle**	**60.85**	**73**	⇓P		**P**	**20 18 24.2**	**+0.1**
	baz=61,SNR=26							
Z33A	**Whitaker Ranch**	**60.90**	**72**	⇑P		**P**	**20 18 24.3**	**-0.1**
	baz=61,SNR=10							
429A	**Davenport Ranc**	**60.91**	**77**	⇑P		**P**	**20 18 24.2**	**-0.3**
	baz=61,SNR=8.8							
231A	**Bronte**	**60.93**	**74**	⇓P		**P**	**20 18 25.2**	**+0.6**
	baz=61,SNR=13							
Y34A	**Reagan Ranch,**	**61.02**	**71**	⇓P		**P**	**20 18 25.2**	**0.0**
	baz=61,SNR=12							
529A	**Stev Forest Ra**	**61.07**	**77**	⇑P		**P**	**20 18 26.0**	**+0.4**
	baz=61,SNR=8.8							
SCHQ	**Schefferville**	**61.07**	**37**	*e*P		**P**	**20 18 24.8**	**-0.3**
	comp=Z,34nm,0.9s							
SCHQ	**Schefferville**	**61.07**	**37**	P		**P**	**20 18 25.2**	**+0.1**
	comp=Z,29nm,0.9s,baz=332,slow=6.5,SNR=16							
SCHQ				LR		LR	20 47 48.2	
	comp=Z,757nm,18.6s,baz=322,slow=39							
628A	**Black Gap, Mar**	**61.12**	**78**	⇓P		**P**	**20 18 26.1**	**+0.2**
	baz=61							
ARU	**Arti**	**61.14**	**326**	P		**P**	**20 18 26.0**	**+0.4**
	comp=Z,993nm,0.6s,SNR=75							
ARU	**Arti**	**61.14**	**326**	*d i*P		**P**	**20 18 26.2**	**+0.6**
ARU				*PP		**pP**	**20 18 42.1**	**-1.5**
ARU							20 19 05.5	
ARU							20 20 38.3	
ARU				S		**S**	**20 26 42.8**	**+3.5**
ARU				SS		**SS**	**20 30 40.6**	**+1.4**
ARU				pmax		pmax		
	comp=Z,159nm,1.0s							
ARU				MLR		MLR		
	comp=Z,1μm,20.0s							
ARU	**Arti**	**61.14**	**326**	*e*P		**P**	**20 18 26.1**	**+0.6**
	comp=Z,110nm,0.8s							
ARU				LR		LR		
	comp=Z,1μm,20.0s							
HDIL	**Hopedale**	**61.17**	**60**	*e*P		**P**	**20 18 24.4**	**-1.7**
	comp=Z,36nm,0.9s							
HDIL				LR		LR		
	comp=Z,1μm,21.0s							
430A	**Baggett Ranch,**	**61.19**	**76**	⇑P		**P**	**20 18 26.4**	**0.0**
	baz=61,SNR=31							
133A	**Hamilton Ranch**	**61.29**	**73**	⇑P		**P**	**20 18 27.4**	**+0.3**
	baz=61,SNR=17							
331A	**San Angelo**	**61.31**	**75**	⇓P		**P**	**20 18 27.0**	**-0.2**
	baz=61,SNR=15							
Z34A	**Collier Ranch,**	**61.34**	**72**	⇓P		**P**	**20 18 27.3**	**-0.1**
	baz=61							
232A	**Coleman**	**61.37**	**74**	⇑P		**P**	**20 18 27.6**	**0.0**
	baz=61,SNR=12							
KMI	**Kunming**	**61.52**	**275**	P		**P**	**20 18 29.1**	**+0.2**
KMI				pP		**pP**	**20 18 49.1**	**+2.2**
KMI				sP		**sP**	**20 18 58.8**	**+4.2**
KMI				PP		**PP**	**20 20 47.3**	**+2.6**
KMI				S		**S**	**20 26 41.3**	**-4.0**
KMI				SS		**SS**	**20 30 43.3**	**-3.6**
KMI				pmax		pmax		
	comp=Z,220nm,8.0s							
KMI				LR		LR		
	comp=Z,3μm,17.9s							
KMI				LR		LR		
	comp=Z,2μm,15.8s							
KMI				LR		LR		
	comp=Z,290nm,19.0s							
KONS	**Konsvik**	**61.53**	**353**	*e*P		**P**	**20 18 28.1**	**0.0**
KONS				IAmb		IAmb	20 18 29.3	
	comp=Z,39nm,0.9s							
530A	**J-C Ranch, Com**	**61.58**	**77**	⇑P		**P**	**20 18 29.0**	**-0.1**
	baz=61,SNR=43							
QIZ	**Qiongzhong**	**61.60**	**265**	P		**P**	**20 18 28.3**	**-0.9**
QIZ				pP		**pP**	**20 18 47.8**	**+0.6**
QIZ				sP		**sP**	**20 18 57.0**	**+2.1**
QIZ				S		**S**	**20 26 43.3**	**-2.8**
QIZ				sS		**sS**	**20 27 18.8**	**+2.2**
QIZ				pmax		pmax		
	comp=Z,45nm,2.8s							
QIZ				LR		LR		
	comp=Z,430nm,40.7s							
431A	**Sonora**	**61.65**	**76**	⇑P		**P**	**20 18 29.2**	**-0.2**
	baz=62,SNR=23							
DAV	**Davao City (W)**	**61.65**	**243**	PFAKE			20 18 40.0	+10
DAV				LR		LR		
	comp=Z,577nm,22.0s							
332A	**Millersview**	**61.67**	**74**	⇓P		**P**	**20 18 29.6**	**0.0**
	baz=62,SNR=23							
FLOS	**Flostrand**	**61.67**	**353**	*e*P		**P**	**20 18 28.8**	**-0.2**
FLOS				IAmb		IAmb	20 18 30.0	
	comp=Z,50nm,0.6s							
STOK	**Stokkvaagen**	**61.70**	**353**	*e*P		**P**	**20 18 29.4**	**+0.1**
STOK				IAmb		IAmb	20 18 30.1	
	comp=N,38nm,0.6s							
233A	**Rising Star**	**61.72**	**73**	⇓P		**P**	**20 18 30.2**	**+0.2**
	baz=62,SNR=11							
MOR8	**Moi Rana**	**61.75**	**352**	*e*P		**P**	**20 18 28.3**	**-1.3**
MOR8				IAmb		IAmb	20 18 28.9	
	comp=Z,63nm,0.6s							
Z35A	**Perchaven, San**	**61.76**	**71**	⇑P		**P**	**20 18 30.3**	**+0.1**
	baz=62							
134A	**White-Moore Ra**	**61.81**	**72**	⇑P		**P**	**20 18 30.8**	**+0.3**
	baz=62,SNR=11							
432A	**Menard**	**62.00**	**75**	⇓P		**P**	**20 18 31.4**	**-0.4**
	baz=62,SNR=8.4							
531A	**Rocksprings**	**62.05**	**76**	⇑P		**P**	**20 18 31.9**	**-0.3**
	baz=62,SNR=13							
333A	**Richland Sprin**	**62.16**	**74**	⇓P		**P**	**20 18 33.0**	**+0.1**
	baz=62,SNR=13							
234A	**Clairette**	**62.18**	**73**	⇓P		**P**	**20 18 33.3**	**+0.3**
	baz=62,SNR=21							
135A	**Vickery Place,**	**62.22**	**72**	⇑P		**P**	**20 18 33.2**	**0.0**
	baz=62							
JCT	**Junction City**	**62.27**	**75**	*e*P		**P**	**20 18 32.9**	**-0.8**
JCT				pmax		pmax		
	comp=Z,22nm,0.8s							
JCT				MLR		MLR		
	comp=Z,738nm,21.0s							
JCT	**Junction City**	**62.27**	**75**	*e*P		**P**	**20 18 32.9**	**-0.8**
	comp=Z,22nm,0.8s							
JCT				LR		LR		
	comp=Z,738nm,21.0s							
JCT	**Junction City**	**62.27**	**75**	⇑P		**P**	**20 18 33.2**	**-0.5**
	baz=62,SNR=11							
532A	**Rocksprings**	**62.47**	**76**	⇑P		**P**	**20 18 34.5**	**-0.5**
	baz=62,SNR=13							
SFIN	**Scholer Farm**	**62.48**	**59**	⇓P		**P**	**20 18 34.9**	**+0.1**
	baz=62							
433A	**Art**	**62.51**	**75**	⇑P		**P**	**20 18 35.0**	**-0.2**
	baz=62,SNR=20							
631A	**Perdido Creek**	**62.57**	**77**	⇓P		**P**	**20 18 35.3**	**-0.3**
	baz=62,SNR=13							
WHTX	**Lake Whitney**	**62.60**	**72**	⇓P		**P**	**20 18 36.1**	**+0.4**
	baz=62							
334A	**Lometa**	**62.60**	**73**	⇑P		**P**	**20 18 36.0**	**+0.2**
	baz=62,SNR=27							
JOF	**Joensuu**	**62.68**	**343**	*e*P		**P**	**20 18 35.5**	**-0.3**
JOF				pmax		pmax		
	comp=Z,46nm,0.7s							
JOF	**Joensuu**	**62.68**	**343**	*e*p		**P**	**20 18 35.5**	**-0.3**
	comp=Z,46nm,0.7s							
HNR	**Honiara**	**62.79**	**200**	LR		LR	20 40 58.6	
	comp=Z,853nm,21.5s,baz=12,slow=31							
KLMR	**Klimovskoe**	**62.89**	**338**	*e*P		**P**	**20 18 37.1**	**-0.1**
KLMR				pmax		pmax		
	comp=Z,138nm,1.5s							
AAM	**Ann Arbor**	**62.90**	**55**	PFAKE			20 18 50.0	+12
AAM				LR		LR		
	comp=Z,1μm,20.0s							
BORG	**Borgarnes**	**62.94**	**9**	LR		LR	20 45 57.0	
	comp=Z,455nm,21.5s,baz=350,slow=36							
434A	**Burnet**	**62.95**	**74**	⇓P		**P**	**20 18 38.2**	**0.0**
	baz=63,SNR=29							
632A	**Uvalde**	**62.98**	**76**	⇓P		**P**	**20 18 38.2**	**-0.1**
	baz=63,SNR=7.6							
533A	**Kerrville**	**63.03**	**75**	⇑P		**P**	**20 18 38.1**	**-0.6**
	baz=63,SNR=16							
MIAR	**Mount Ida**	**63.04**	**68**	*e*P		**P**	**20 18 37.8**	**-0.9**
MIAR				pmax		pmax		
	comp=Z,45nm,1.0s							
MIAR				MLR		MLR		
	comp=Z,496nm,20.0s							
MIAR	**Mount Ida**	**63.04**	**68**	*e*P		**P**	**20 18 37.8**	**-0.9**
	comp=Z,45nm,1.0s							
MIAR				LR		LR		
	comp=Z,496nm,20.0s							
335A	**Moody**	**63.12**	**73**	⇓P		**P**	**20 18 39.6**	**+0.4**
	baz=63							
PBMO	**Poplar Bluff**	**63.23**	**64**	*e*P		**P**	**20 18 38.4**	**-1.5**
	comp=Z,25nm,0.8s							
AAA	**Alma-Ata**	**63.26**	**307**	*e*P		**P**	**20 18 41.2**	**+1.1**
AAA				pmax		pmax		
	comp=Z,400nm,1.0s							
AAA				MLR		MLR		
	comp=Z,1μm,23.0s							
SADO	**Sadowa**	**63.35**	**51**	LR		LR	20 47 27.7	
	comp=Z,1μm,20.2s,baz=352,slow=37							
633A	**Saathoff Ranch**	**63.38**	**76**	⇓P		**P**	**20 18 41.3**	**+0.3**
	baz=63							
435B	**Jarrell**	**63.39**	**73**	⇑P		**P**	**20 18 41.5**	**+0.5**
	baz=63							
534A	**Blanco**	**63.40**	**75**	⇑P		**P**	**20 18 40.7**	**-0.4**
	baz=63,SNR=16							
732A	**Laxson Ranch,**	**63.43**	**77**	⇓P		**P**	**20 18 41.3**	**0.0**
	baz=63,SNR=18							
NSS	**Namsos**	**63.56**	**353**	*e*P		**P**	**20 18 41.6**	**0.0**
SLVN	**Son La**	**63.57**	**271**	*e*P		**P**	**20 18 42.8**	**+0.4**
832A	**Faith Ranch, C**	**63.75**	**77**	⇓P		**P**	**20 18 43.6**	**+0.1**
	baz=64,SNR=14							
733A	**Divot King Ran**	**63.85**	**76**	⇓P		**P**	**20 18 45.0**	**+0.9**
	baz=64,SNR=6.6							
634A	**China Grove, S**	**63.94**	**75**	⇑P		**P**	**20 18 45.3**	**+0.7**
	baz=64							
535A	**Dale**	**63.94**	**74**	⇓P		**P**	**20 18 45.5**	**+0.9**
	baz=64,SNR=6.1							
833A	**Chaparral WMA,**	**64.07**	**77**	⇑P		**P**	**20 18 46.4**	**+0.8**
	baz=64							
TKM2	**Tokmak 2**	**64.19**	**307**	*i* P		**P**	**20 18 46.8**	**+0.4**
TKM2	**Tokmak 2**	**64.19**	**307**	P		**P**	**20 18 46.9**	**+0.4**
	SNR=134							
TKM2	**Tokmak 2**	**64.19**	**307**	*e*P		**P**	**20 18 46.6**	**+0.2**
	comp=Z,88nm,0.9s							
TKM2				LR		LR		
	comp=Z,1μm,21.0s							
734A	**La Parita Cree**	**64.20**	**76**	⇑P		**P**	**20 18 47.6**	**+1.2**
	baz=64							
536A	**Bastrop**	**64.20**	**74**	⇓P		**P**	**20 18 47.4**	**+1.1**
	baz=64							
KAF	**Kangasniemi**	**64.27**	**346**	*e*P		**P**	**20 18 45.9**	**-0.4**
KAF	**Kangasniemi**	**64.27**	**346**	*e*p		**P**	**20 18 45.9**	**-0.4**
635A	**Leesville**	**64.28**	**75**	⇑P		**P**	**20 18 47.9**	**+1.0**
	baz=64							
ULHL	**Ulahol**	**64.36**	**306**	*i* P		**P**	**20 18 48.7**	**+1.2**
ULHL	**Ulahol**	**64.36**	**306**	P		**P**	**20 18 48.7**	**+1.2**
	SNR=20							
WCI	**Wyandotte Cave**	**64.46**	**60**	P		**P**	**20 18 47.3**	**-0.7**
WCI				pmax		pmax		
	comp=Z,15nm,0.9s							
WCI	**Wyandotte Cave**	**64.46**	**60**	P		**P**	**20 18 47.2**	**-0.7**
	comp=Z,15nm,0.9s							
USP	**Ospenovka**	**64.47**	**308**	*i* P		**P**	**20 18 48.8**	**+0.8**
USP	**Ospenovka**	**64.47**	**308**	P		**P**	**20 18 48.8**	**+0.8**
	SNR=266							
CHMS	**Chumysh**	**64.55**	**308**	*i* P		**P**	**20 18 49.2**	**+0.7**
CHMS	**Chumysh**	**64.55**	**308**	P		**P**	**20 18 49.3**	**+0.7**
	SNR=62							
735A	**Kenedy**	**64.64**	**75**	⇓P		**P**	**20 18 50.3**	**+1.0**
	baz=64							
933A	**Laredo**	**64.66**	**77**	⇑P		**P**	**20 18 50.3**	**+0.9**
	baz=64,SNR=11							
KBK	**Karagaybulak**	**64.71**	**307**	*i* P		**P**	**20 18 50.5**	**+0.8**
KBK	**Karagaybulak**	**64.71**	**307**	P		**P**	**20 18 50.5**	**+0.8**
	SNR=84							
834A	**Tilden**	**64.73**	**76**	⇑P		**P**	**20 18 50.7**	**+0.9**
	baz=65							
FRU	**Bishkek**	**64.74**	**308**	⇓*i*P		**P**	**20 18 50.3**	**+0.6**
FRU				*i*			20 19 06.0	
FRU				*e*			20 28 40.0	
FRU				pmax		pmax		
	comp=Z,250nm,1.8s							
ACSO	**Alum Creek Sta**	**64.75**	**57**	PFAKE			20 19 00.0	+10
ACSO				LR		LR		
	comp=Z,1μm,20.0s							
ERPA	**Erie**	**64.89**	**53**	PFAKE			20 19 00.0	+9.3
ERPA				LR		LR		
	comp=Z,2μm,19.0s							
FIA1	**FINESS Array S**	**64.94**	**345**	*e*P		**P**	**20 18 49.8**	**-0.8**
FIA1				*e*PcP		**PcP**	**20 19 23.9**	**+0.7**
FINES	**FINESS Array B**	**64.94**	**345**	P		**P**	**20 18 50.2**	**-0.5**
FINES	**FINESS Array B**	**64.94**	**345**	P		**P**	**20 18 50.2**	**-0.5**
	comp=Z,63nm,0.8s,baz=13,slow=6.1,SNR=193							
FINES				LR		LR	20 50 56.7	
	comp=Z,304nm,19.9s,baz=29,slow=39							
AAK	**Ala-Archa**	**64.95**	**308**	*e*P		**P**	**20 18 52.1**	**+0.8**
AAK				pmax		pmax		
	comp=Z,70nm,0.6s							
AAK	**Ala-Archa**	**64.95**	**308**	P		**P**	**20 18 52.1**	**+0.8**
	SNR=124							
AAK	**Ala-Archa**	**64.95**	**308**	P		**P**	**20 18 52.0**	**+0.7**
	SNR=37							
AAK	**Ala-Archa**	**64.95**	**308**	*e*P		**P**	**20 18 52.0**	**+0.8**
	comp=Z,70nm,0.6s							
AAK				⇑*e*			20 47 44.1	
AAK	**Ala-Archa**	**64.95**	**308**	PKP2bc		**P'P'ab**	**20 47 44.1**	**-3.9**
	comp=Z,0.8nm,0.7s,baz=232,slow=6.3,SNR=4.2							
AAK				LR		LR	20 49 04.1	
	comp=Z,487nm,18.6s,baz=26,slow=38							
TBLU	**Trondheim**	**64.95**	**354**	*e*P		**P**	**20 18 50.1**	**-0.6**
TBLU				IAmb		IAmb	20 18 51.1	
	comp=Z,59nm,0.5s							
KZA	**Kyzart**	**64.99**	**307**	*i* P		**P**	**20 18 52.8**	**+1.0**
KZA	**Kyzart**	**64.99**	**307**	P		**P**	**20 18 52.9**	**+1.0**
	SNR=55							
HKT	**Hockley**	**65.03**	**73**	*e*P		**P**	**20 18 52.3**	**+0.6**
HKT	**Hockley**	**65.03**	**73**	*e*P		**P**	**20 18 52.3**	**+0.6**
835A	**Beeville**	**65.04**	**76**	⇓P		**P**	**20 18 53.2**	**+1.3**
	baz=65,SNR=6.6							
934A	**Benavides**	**65.13**	**77**	⇓P		**P**	**20 18 54.0**	**+1.5**
	baz=65,SNR=9.0							
ALLY	**Alegheny Colle**	**65.16**	**54**	*e*P		**P**	**20 18 52.0**	**-0.4**
	comp=Z,35nm,1.0s							
UCH	**Uchtor**	**65.24**	**307**	*i* P		**P**	**20 18 54.3**	**+0.8**
UCH	**Uchtor**	**65.24**	**307**	P		**P**	**20 18 54.4**	**+0.8**
	SNR=57							
LSA	**Lhasa**	**65.26**	**287**	P		**P**	**20 18 55.1**	**+1.3**
LSA				pmax		pmax		
	comp=Z,70nm,0.8s							
LSA	**Lhasa**	**65.26**	**287**	*e*P		**P**	**20 18 54.9**	**+1.1**
LSA				pmax		pmax		
	comp=Z,46nm,0.8s							
LSA				MLR		MLR		
	comp=Z,415nm,20.0s							
LSA	**Lhasa**	**65.26**	**287**	*e*P		**P**	**20 18 54.9**	**+1.1**
	comp=Z,46nm,0.8s							
LSA				LR		LR		
	comp=Z,415nm,20.0s							
EKS2	**Erkin-Say**	**65.28**	**308**	*e*P		**P**	**20 18 54.3**	**+1.0**
EKS2				*e*			20 21 14.5	
EKS2				pmax		pmax		
	comp=Z,96nm,0.8s							
EKS2				MLR		MLR		
	comp=Z,1μm,20.0s							
EKS2	**Erkin-Say**	**65.28**	**308**	P		**P**	**20 18 54.4**	**+1.0**
	SNR=204							
EKS2	**Erkin-Say**	**65.28**	**308**	*e*P		**P**	**20 18 54.3**	**+1.0**
	comp=Z,96nm,0.8s							
EKS2				*e*PP		**PP**	**20 21 14.5**	**-2.6**
EKS2				LR		LR		
	comp=Z,1μm,20.0s							
034A	**Hebbronville**	**65.42**	**77**	⇓P		**P**	**20 18 55.3**	**+1.0**
	baz=65							
MMNY	**Mt. Morris Dam**	**65.46**	**52**	*e*P		**P**	**20 18 53.9**	**-0.5**
	comp=Z,80nm,1.1s							
PTN	**Potsdam (NY)**	**65.47**	**49**	*e*P		**P**	**20 18 53.0**	**-1.4**
PTN				pmax		pmax		
	comp=Z,34nm,0.9s							
PTN	**Potsdam (NY)**	**65.47**	**49**	*e*P		**P**	**20 18 53.0**	**-1.4**
	comp=Z,34nm,0.9s							
LONY	**Lake Ozonia**	**65.62**	**48**	PFAKE			20 19 10.0	+15
LONY				LR		LR		
	comp=Z,2μm,21.0s							
AML	**Almayashu**	**65.72**	**308**	*i* P		**P**	**20 18 57.7**	**+1.2**
AML	**Almayashu**	**65.72**	**308**	P		**P**	**20 18 57.8**	**+1.2**
	SNR=9.3							
MOL	**Molde**	**65.80**	**355**	*e*P		**P**	**20 18 57.0**	**+0.8**
MOL				IAmb		IAmb	20 18 58.7	
	comp=Z,39nm,0.7s							
035A	**Encino**	**65.86**	**77**	⇑P		**P**	**20 18 58.4**	**+1.2**
	baz=66							
AFI	**Afiamalu**	**65.98**	**169**	PFAKE			20 19 10.0	+12
AFI				LR		LR		
	comp=Z,834nm,20.0s							
AKTO	**Aktyubinsk**	**66.12**	**323**	P		**P**	**20 18 59.2**	**+0.7**
AKTO				*PP		**pP**	**20 19 14.7**	**-2.0**
AKTO	**Aktyubinsk**	**66.12**	**323**	P		**P**	**20 18 59.2**	**+0.7**
AKTO				pP		**pP**	**20 19 14.7**	**-2.0**
AKTO	**Aktyubinsk**	**66.12**	**323**	P		**P**	**20 18 59.2**	**+0.7**
	comp=Z,108nm,0.8s,baz=53,slow=7.4,SNR=265							
AKTO				pP		**pP**	**20 19 14.7**	**-2.0**
	comp=Z,63nm,0.9s,baz=62,slow=7.6,SNR=6.6							
AKN	**Aaknes**	**66.22**	**355**	*e*P		**P**	**20 18 59.6**	**+0.7**
035Z	**Hargill**	**66.23**	**77**	⇓P		**P**	**20 19 01.1**	**+1.6**
	baz=66							
DOMB	**Dombas**	**66.23**	**354**	*e*P		**P**	**20 18 59.2**	**+0.2**
DOMB				IAmb		IAmb	20 19 00.5	
	comp=Z,50nm,1.1s							
NCB	**Newcomb**	**66.28**	**49**	PFAKE			20 19 10.0	+10
NCB				LR		LR		
	comp=Z,2μm,21.0s							
PMG	**Port Moresby**	**66.32**	**213**	P		**P**	**20 18 59.7**	**-0.4**
PMG	**Port Moresby**	**66.32**	**213**	P		**P**	**20 18 59.7**	**-0.4**
	comp=Z,16nm,1.0s,baz=30,slow=5.4,SNR=4.7							
PMG				LR		LR	20 43 31.4	
	comp=Z,780nm,21.4s,baz=46,slow=32							
AB31	**Akbulak array**	**66.32**	**321**	*i* P		**P**	**20 19 00.4**	**+0.6**
AB31				pmax		pmax		
	comp=Z,19nm,0.4s							
KK31	**Karatay Array**	**66.52**	**310**	*i* P		**P**	**20 19 01.5**	**+0.3**
KK31				pmax		pmax		
	comp=Z,70nm,0.6s							
KSH	**Kashi**	**66.53**	**304**	⇓*i*P		P	20 19 05.5	+4.1
KSH				*e*PcS			20 23 35.4	
KSH				*i* S		S	20 27 53.3	+6.5
KSH				sS		sS	20 28 27.5	+10
KSH				ScS		**ScS**	**20 28 52.8**	**+0.7**
KSH				pmax		pmax		
	comp=Z,66nm,0.6s							
KSH				LR		LR		
	comp=Z,680nm,14.6s							
KSH				LR		LR		
	comp=Z,2μm,16.9s							
KSH				LR		LR		
	comp=Z,420nm,9.2s							
CRAI	**Chiangrai**	**66.59**	**273**	P		**P**	**20 19 02.3**	**+0.4**
	comp=Z,111nm,0.9s							
BINY	**Binghamton**	**66.79**	**51**	*e*P		**P**	**20 19 01.7**	**-1.2**
	comp=Z,14nm,0.7s							
BINY				LR		LR		
	comp=Z,2μm,20.0s							
SWET	**Sewanee**	**66.86**	**62**	*e*P		**P**	**20 19 03.2**	**-0.3**
	comp=Z,14nm,0.7s							
ACCN	**Adirondack Com**	**66.99**	**49**	*e*P		**P**	**20 19 02.4**	**-1.8**
	comp=Z,25nm,0.9s							
NB2	**NORSAR Subarra**	**67.08**	**353**	P		**P**	**20 19 04.5**	**0.0**
	comp=Z,61nm,0.7s,baz=8.8,slow=6.5							
NB2	**NORSAR Subarra**	**67.08**	**353**	P		**P**	**20 19 04.5**	**0.0**
	baz=8.8,slow=6.5							
NOA	**NORSAR Array B**	**67.08**	**353**	P		**P**	**20 19 04.5**	**0.0**
NOA				pP		**pP**	**20 19 20.3**	**-2.4**
NOA	**NORSAR Array B**	**67.08**	**353**	P		**P**	**20 19 04.5**	**0.0**
	comp=Z,63nm,0.7s,baz=10,slow=6.4,SNR=217							
NOA				pP		**pP**	**20 19 20.3**	**-2.4**
	comp=Z,23nm,0.8s,baz=9.9,slow=6.4,SNR=5.1							
NOA				LR		LR	20 46 45.7	
	comp=Z,414nm,21.8s,baz=15,slow=34							
LBNH	**Lisbon**	**67.13**	**47**	PFAKE			20 19 20.0	+15
LBNH				LR		LR		
	comp=Z,1μm,19.0s							
HYA	**Hoyanger**	**67.27**	**356**	*e*P		**P**	**20 19 06.5**	**+0.9**
NAO01	**NORSAR Array S**	**67.30**	**353**	*e*P		**P**	**20 19 05.5**	**-0.2**
	comp=Z,18nm,0.6s							
KSPA	**Keystone Colle**	**67.39**	**51**	*e*P		**P**	**20 19 06.7**	**0.0**
KSPA				*e

comp=Z,738nm,1.2s
KONO Kongsberg 68.58 354 *e*P **P** **20 19 14.4 +0.6**
KONO IAmb IAmb 20 19 15.7
comp=Z,78nm,0.7s
KONO Kongsberg 68.58 354 *e*P **P** **20 19 13.8 -0.1**
comp=Z,25nm,1.0s
PAL Palisades 68.71 50 *e*P **P** **20 19 14.5 -0.4**
PAL pmax pmax
comp=Z,29nm,1.0s
PAL Palisades 68.71 50 *e*P **P** **20 19 14.5 -0.4**
comp=Z,29nm,1.0s
OBN Obninsk 68.75 337 P **P** **20 19 15.3 +0.4**
comp=Z,593nm,0.8s,SNR=11
OBN Obninsk 68.75 337κ *i*P **P** **20 19 14.9 0.0**
OBN *i* *PP **pP** **20 19 31.2 -2.0**
OBN *SP **sP** **20 19 44.0 +3.1**
OBN S S 20 28 19.0 +6.5
OBN pmax pmax
comp=Z,143nm,1.2s
OBN MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 68.75 337 *e*P **P** **20 19 15.0 +0.1**
comp=Z,188nm,1.3s
OBN LR LR
comp=Z,2μm,20.0s
CM31 Chiang Mai Arr 68.81 273 *e*P **P** **20 19 16.0 +0.1**
comp=Z,25nm,0.8s
CMAR Chiang Mai Arr 68.81 273 P **P** **20 19 16.2 +0.3**
CMAR pP **pP** **20 19 32.7 -1.5**
CMAR ⇑*e* 20 47 38.0
CMAR Chiang Mai Arr 68.81 273 P **P** **20 19 16.2 +0.3**
comp=Z,23nm,0.9s,baz=26,slow=7.1,SNR=138
CMAR pP **pP** **20 19 32.7 -1.5**
comp=Z,12nm,0.7s,baz=28,slow=7.0,SNR=8.1
CMAR PKP2bc 20 47 38.0
comp=Z,0.8nm,0.9s,baz=258,slow=4.2,SNR=4.3
CMAR LR LR 20 50 50.2
comp=Z,164nm,20.7s,baz=46,slow=37
CHAI Chaiyaphum 68.84 269 P **P** **20 19 16.7 +0.6**
comp=Z,8.0nm,1.0s
PBKT Sadao Pong 68.97 270 P **P** **20 19 17.3 +0.4**
comp=Z,24nm,0.9s
BLS5 Blasjo 68.99 355 *e*P **P** **20 19 17.2 +0.7**
BLS5 IAmb IAmb 20 19 19.1
comp=Z,27nm,0.8s
TAPN Taplejung 69.03 288⇓ *i*P **P** **20 19 18.3 +0.8**
comp=Z,188nm,0.8s
MSVF Nonsavu 69.15 180 *e*P **P** **20 19 18.4 +0.6**
MSVF pmax pmax
comp=Z,246nm,2.4s
MSVF MLR MLR
comp=Z,2μm,19.0s
MSVF Nonsavu 69.15 180 *e*P **P** **20 19 18.4 +0.6**
comp=Z,246nm,2.4s
MSVF LR LR
comp=Z,2μm,19.0s
CBN Corbin 69.15 55 PFAKE 20 19 30.0 +12
CBN LR LR
comp=Z,2μm,19.0s
GOGA Godfrey 69.56 62 PFAKE 20 19 30.0 +10
GOGA LR LR
comp=Z,1μm,21.0s
ODAN Odare 69.58 288⇓ *i*P **P** **20 19 21.5 +0.6**
comp=Z,106nm,0.9s
MHMT Maesarieng 69.65 274 P **P** **20 19 21.4 +0.4**
comp=Z,20nm,0.7s
GUN Gumba 69.69 289⇓ *i*P **P** **20 19 22.6 +0.9**
comp=Z,281nm,0.5s
JIRN Jiri 69.70 289⇓ *i*P **P** **20 19 22.8 +1.1**
comp=Z,249nm,0.6s
LUWI Luwuk 69.92 241 *e*P **P** **20 19 21.6 -1.1**
RAMN Ramite 69.98 288⇓ *i*P **P** **20 19 24.1 +0.7**
comp=Z,413nm,0.8s
SNART Snartemo 70.03 355 *e*P **P** **20 19 23.6 +0.8**
SNART IAmb IAmb 20 19 24.0
comp=Z,32nm,0.6s
JSC Jenkinsville 70.11 60 *e*P **P** **20 19 23.3 -0.4**
JSC Jenkinsville 70.11 60 *e*P **P** **20 19 23.3 -0.4**
KKN Kakani 70.13 290⇓ *i*P **P** **20 19 25.1 +0.9**
comp=Z,133nm,0.6s
PKI Pulchoki 70.22 290⇓ *i*P **P** **20 19 25.5 +0.6**
comp=Z,134nm,0.6s
GKN Gorkha 70.35 290⇓ *i*P **P** **20 19 26.2 +0.7**
comp=Z,192nm,0.7s
TAOE Nuku Hiva Isla 70.36 135 *e*T T 21 35 25.1
comp=Z,252nm,0.3s
DMN Daman 70.37 290⇓ *i*P **P** **20 19 26.6 +0.9**
comp=Z,107nm,0.7s
ISAL Salakas 70.51 343 *e*P **P** **20 19 25.5 -0.3**
ISAL AMB AMB 20 19 27.9
comp=Z,28nm,1.2s
DANN Dangsing 70.60 291⇓ *i*P **P** **20 19 28.0 +0.8**
comp=Z,436nm,0.9s
IDID Didziasalis 70.65 343 *e*P **P** **20 19 26.3 -0.3**
IDID AMB AMB 20 19 28.7
comp=Z,45nm,0.9s
UTHA Uthaitani 70.69 271 P **P** **20 19 28.1 +0.7**
comp=Z,5.4nm,1.1s,comp=Z,126nm
IIGN Ignalina 70.71 343 *e*P **P** **20 19 26.2 -0.8**
IIGN AMB AMB 20 19 28.6
comp=Z,42nm,0.9s
VRHR Novokhopersk 71.03 332 *e*P **P** **20 19 27.6 -1.4**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.7s
VRHR pmax pmax
comp=Z,100nm,0.7s
VRHR MLR MLR
comp=N,1μm,28.0s
VRHR MLR MLR
comp=E,1μm,28.0s
VRHR MLR MLR
comp=Z,2μm,28.0s
NACGM Naroch 71.03 343 *e*P **P** **20 19 27.0 -2.0**
KOLN Koldanda 71.13 291⇓ *i*P **P** **20 19 30.8 +0.5**
comp=Z,126nm,0.8s
CNNC Cliffs of the 71.16 57 PFAKE 20 19 40.0 +10
CNNC LR LR
comp=Z,884nm,19.0s
MICGM Minsk 71.20 342 *e*P **P** **20 19 29.0 -1.0**
MNK Minsk 71.21 342 *e*P **P** **20 19 29.0 -1.1**
MNK pmax pmax
comp=Z,480nm,1.0s
NHSC New Hope 71.58 60 PFAKE 20 19 40.0 +7.4
NHSC LR LR
comp=Z,1μm,20.0s
VSR Storozhevoye 71.61 334 *e*P **P** **20 19 31.8 -0.7**
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s
VSR MLR MLR
comp=N,600nm,23.0s
VSR MLR MLR
comp=E,470nm,23.0s
VSR MLR MLR
comp=Z,1μm,23.0s
MUD Monsted U'grnd 71.78 353 *i* P **P** **20 19 34.4 +1.0**
MUD pmax pmax
comp=Z,51nm,0.9s
MUD Monsted U'grnd 71.78 353 *i* P **P** **20 19 34.4 +1.0**
comp=Z,51nm,0.9s
VORD Divnogorie 71.80 334 *e*P **P** **20 19 33.2 -0.5**
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,60nm,0.8s
VORD MLR MLR
comp=N,1μm,26.0s
VORD MLR MLR
comp=E,330nm,26.0s
VORD MLR MLR
comp=Z,1μm,26.0s
PATY Pattaya 71.81 268 P **P** **20 19 35.5 +1.3**
comp=Z,19nm,0.8s,comp=Z,1μm
DHRM DHARAMSHALA 71.85 299 *e*P **P** **20 19 34.8 +0.2**
COEN Coen 71.94 215 *e*P **P** **20 19 34.3 -0.5**
comp=Z,109nm,0.9s
SMLA Simla 72.23 298 *e*P **P** **20 19 36.8 +0.3**
SMLA *e*P **P** **20 19 36.8 +0.3**
COP Copenhagen 72.27 351 *i* P **P** **20 19 35.3 -1.1**
COP pmax pmax
comp=Z,72nm,0.8s
COP Copenhagen 72.27 351 *i* P **P** **20 19 35.3 -1.1**
comp=Z,72nm,0.8s
DDI Dehra Dun 72.35 297 *e*P **P** **20 19 37.2 -0.2**
DDI AMB AMB 20 19 39.6
comp=Z,153nm,0.0s
BHK Bhakra 72.42 298 *e*P **P** **20 19 39.5 +1.8**
SUW Suwalki 72.51 345 *e*P **P** **20 19 37.2 -0.6**
SUW Suwalki 72.51 345 *e*P **P** **20 19 37.2 -0.6**
SUW Suwalki 72.51 345 *e*P **P** **20 19 37.1 -0.7**
comp=Z,110nm,0.8s
BSD Bornholm Skovb 72.58 350 *i* P **P** **20 19 37.9 -0.3**
BSD pmax pmax
comp=Z,50nm,1.1s
BSD Bornholm Skovb 72.58 350 *i* P **P** **20 19 37.9 -0.3**
comp=Z,50nm,1.0s
BOK Bokaro 72.78 287 *e*P **P** **20 19 40.6 +0.7**
PMOR Pomariorio Ree 72.86 145 *e*P **P** **20 19 41.4 +1.1**
comp=Z,71nm,0.9s
PMOR Pomariorio Ree 72.86 145 *e*T T 21 38 35.2
comp=Z,46nm,0.2s
VAH Vaihoa 73.17 145 *e*P **P** **20 19 43.2 +1.1**
comp=Z,88nm,0.9s
EKA Eskdalemuir Ar 73.32 1 LR LR 20 51 04.0
comp=Z,256nm,20.3s,baz=80,slow=35
KBL Kabul 73.88 306 *e*P **P** **20 19 45.8 -0.8**
KBL pmax pmax
comp=Z,169nm,1.0s
KBL Kabul 73.88 306 *e*P **P** **20 19 45.8 -0.8**
comp=Z,169nm,1.0s
NDI New Delhi 74.08 296 *e*P **P** **20 19 46.0 -1.5**
NDI *ex* x 20 20 00.0
DZM Mont Dzumac 74.12 191 *e*P **P** **20 19 49.2 +1.5**
comp=Z,53nm,1.0s
DZM *e*S **SKiKP** **20 29 12.0 +3.3**
comp=Z,252nm,33.4s
DZM Mont Dzumac 74.12 191 *e*LR LR 20 42 29.3
comp=Z,4μm,25.2s
DZM Mont Dzumac 74.12 191 P **P** **20 19 48.8 +1.1**
DZM Mont Dzumac 74.12 191 P **P** **20 19 48.8 +1.1**
comp=Z,21nm,1.0s,baz=67,slow=9.3,SNR=9.9
DZM LR LR 20 46 00.3
comp=Z,1μm,21.9s,baz=28,slow=30
BSEG Bad Segeberg 74.19 352 *e*P **P** **20 19 48.7 +1.0**
comp=Z,163nm,1.3s
AKASG Malin Array Be 74.52 340 P **P** **20 19 49.7 0.0**
AKASG *PP **PcP** **20 20 05.6 +1.8**
AKASG Malin Array Be 74.52 340 P **P** **20 19 49.7 0.0**
AKASG pP **PcP** **20 20 05.6 +1.8**
AKASG Malin Array Be 74.52 340 P **P** **20 19 49.7 0.0**
comp=Z,69nm,0.7s,baz=24,slow=6.0,SNR=186
AKASG pP **PcP** **20 20 05.6 +1.8**
comp=Z,11nm,0.5s,baz=22,slow=6.1,SNR=3.9
AKASG LR LR 20 55 03.2
comp=Z,612nm,21.8s,baz=15,slow=38
AKBB Malin Array Si 74.52 340 *e*P **P** **20 19 49.6 -0.1**
AKBB Malin Array Si 74.52 340 *e*P **P** **20 19 49.6 -0.1**
KIEV Kiev 74.53 340 *d* iP **P** **20 19 49.8 +0.1**
KIEV Kiev 74.53 340 *e*P **P** **20 19 49.6 -0.1**
KIEV LR LR
comp=Z,761nm,19.0s
AK01 Malin Array Si 74.53 340 *e*P **P** **20 19 49.5 -0.2**
AK02 Malin Array Si 74.56 340 *e*P **P** **20 19 49.7 -0.2**
PPT Papeete 74.67 148 LR LR 20 44 42.2
comp=Z,1μm,21.4s,baz=315,slow=29
PPT2 Papeete2 74.69 148 *e*S **S** **20 29 20.8 -0.8**
comp=Z,363nm,28.8s
PPT2 Papeete2 74.69 148 *e*LR LR 20 42 56.4
comp=Z,4μm,27.8s,baz=341
PPT2 Papeete2 74.69 148 *e*T T 21 40 53.0
comp=Z,14nm,0.3s
TIAR Tiarei 74.73 147 *e*P **P** **20 19 52.5 +1.3**
comp=Z,21nm,1.0s
TIAR Tiarei 74.73 147 *e*T T 21 40 56.4
comp=Z,7.6nm,0.3s
PAE Paea 74.75 148 *e*T T 21 40 57.5
comp=Z,5.5nm,0.3s
KAPI Kappang 74.87 241 *e*P **P** **20 19 52.5 +0.4**
KAPI LR LR
comp=Z,291nm,20.0s
TVO Taravao 74.97 147 *e*T T 21 41 14.5
comp=Z,2.6nm,0.2s
BEL Belsk 75.00 345 *e*P **P** **20 19 53.1 +0.6**
BEL Belsk 75.00 345 *e*P **P** **20 19 53.0 +0.6**
RUE Ruedersdorf 75.30 350 *e*P **P** **20 19 53.9 -0.2**
comp=Z,49nm,0.9s
MEH Mehetia 75.46 146 *e*T T 21 41 50.5
comp=Z,41nm,0.3s
NRDL Niedersach Rie 75.64 352 *e*P **P** **20 19 56.4 +0.4**
comp=Z,50nm,1.0s
GOF Gofitskoye 75.97 329⇓ *i*P **P** **20 19 59.4 +1.2**
GOF pmax pmax
comp=Z,350nm,0.8s
IBBN Ibbenburen 76.01 354 *e*P **P** **20 19 58.9 +0.7**
comp=Z,160nm,0.9s
IBBN *e*L L 20 50 35.5
comp=Z,523nm,21.5s
CLZ Clausthal 76.27 352 *e*P **P** **20 20 00.5 +0.8**
comp=Z,105nm,1.1s
MAK Makhachkala 76.30 325 *e*P **P** **20 19 58.7 -1.3**
MAK *e* 20 20 15.4
MAK *e*PPP PPP 20 24 41.4
MAK *e*S **S** **20 29 40.8 +1.8**
MAK *e* 20 30 19.6
MAK *e*SSS SSS 20 37 52.0
MAK pmax pmax
comp=Z,603nm,1.6s
MAK MLR MLR
comp=Z,2μm,22.0s
ABKT Ailbek 76.33 315 P **P** **20 20 01.4 +1.1**
comp=Z,300nm,0.8s,SNR=19
LVV L'vov 76.39 343 *e*P **P** **20 20 00.2 -0.2**
LVV MLR MLR
comp=N,600nm,22.0s
LVV MLR MLR
comp=E,400nm,22.0s
LVV MLR MLR
comp=Z,900nm,22.0s
WTSB Winterswijk 76.41 354 *e*P **P** **20 20 01.2 +0.7**
comp=Z,50nm,0.8s
CLL Collm 76.54 350⇓ *i*P **P** **20 20 01.1 -0.1**
CLL *e*S **S** **20 29 42.0 +0.6**
CLL pmax pmax
comp=Z,25nm,0.8s
CLL Collm 76.54 350 *e*P **P** **20 20 01.1 -0.1**
comp=Z,15nm,0.6s
CLL *e*L L 20 52 16.8
comp=Z,420nm,19.8s
CLL Collm 76.54 350⇓ *i*P **P** **20 20 01.1 -0.1**
comp=Z,25nm,0.8s
CLL *e*sP **sP** **20 20 27.0 -0.4**
CLL *e*PP PP 20 22 59.0 +5.8
CLL *e*S **S** **20 29 42.0 +0.6**
CLL *e*PS **PnS** **20 30 29.0 +1.9**
CLL *e*SS SS 20 34 54.0 +18
CLL *e*SS 20 35 06.0
CLL *e*SSS SSS 20 38 06.0
CLL *e*SSSS 20 40 12.0
CLL LmV 20 52 00.0
comp=Z,400nm,19.7s
DGPR DIGLIPUR 76.55 274 *e*P **P** **20 20 01.4 -0.4**
DGPR AMB AMB 20 20 23.6
comp=Z,90nm,3.0s
CTA Charters Tower 76.61 210 P **P** **20 20 02.0 +0.1**
CTA Charters Tower 76.61 210 P **P** **20 20 02.0 +0.1**
comp=Z,19nm,0.8s,baz=13,slow=9.3
CTA LR LR 20 48 56.0
comp=Z,458nm,21.3s,baz=25,slow=32
CTAO Charters Tower 76.61 210 *e*P **P** **20 20 02.0 +0.1**
CTAO pmax pmax
comp=Z,24nm,0.9s
CTAO MLR MLR
comp=Z,677nm,21.0s
CTAO Charters Tower 76.61 210 *e*P **P** **20 20 01.9 +0.1**
comp=Z,24nm,0.9s
CTAO LR LR
comp=Z,677nm,21.0s
KSP Ksiaz 76.61 348⇓ *e*P **P** **20 20 01.7 0.0**
KSP MLR MLR
comp=Z,4μm,24.4s
KSP Ksiaz 76.61 348 *e*P **P** **20 20 01.7 0.0**
KWP Kalwaria Pacla 76.81 344 *e*P **P** **20 20 04.0 +1.2**
KWP Kalwaria Pacla 76.81 344 *e*P **P** **20 20 04.0 +1.2**
KWP Kalwaria Pacla 76.81 344⇓ *i*P **P** **20 20 04.3 +1.5**
KWP Kalwaria Pacla 76.81 344 PFAKE 20 20 10.0 +7.2
KWP LR LR
comp=Z,2μm,22.0s
BRG Berggiesshubel 76.87 350 *i* P **P** **20 20 03.0 -0.1**
comp=Z,37nm,1.3s
BRG *e* 20 20 13.9
comp=Z,13nm,1.0s
BRG Berggiesshubel 76.87 350 *i* P **P** **20 20 03.0 -0.1**
BRG *e* 20 20 13.9
BRG pmax pmax
comp=Z,37nm,1.3s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG Berggiesshubel 76.87 350 *e*P **P** **20 20 03.1 0.0**
comp=Z,24nm,0.9s
BUG Bochum--Univer 76.90 354 *e*P **P** **20 20 03.5 +0.3**
comp=Z,63nm,1.0s
UPC Upice 76.98 348⇓ *i*P **P** **20 20 03.6 -0.1**
UPC Upice 76.98 348⇓ *i*P **P** **20 20 03.6 -0.1**
KIV Kislovodsk 77.07 328 P **P** **20 20 05.1 +0.6**
comp=Z,714nm,0.8s,SNR=31
KIV Kislovodsk 77.07 328κ *i*P **P** **20 20 04.4 -0.1**
KIV *i* 20 20 12.5
KIV *e* 20 20 15.0
KIV pmax pmax
comp=Z,98nm,0.8s
KIV MLR MLR
comp=Z,600nm,21.0s
KIV Kislovodsk 77.07 328 P **P** **20 20 05.9 +1.4**
SNR=21
KIV Kislovodsk 77.07 328 *e*P **P** **20 20 05.3 +0.8**
comp=Z,101nm,0.9s
KIV LR LR
comp=Z,607nm,22.0s
DPC Dobruska-Polom 77.09 348⇓ *i*P **P** **20 20 04.9 +0.5**
DPC *e* 20 20 22.3
DPC Dobruska-Polom 77.09 348⇓ *i*P **P** **20 20 04.9 +0.5**
DPC *e*pP **pP** **20 20 22.3 -0.8**
DPC Dobruska-Polom 77.09 348 *e*P **P** **20 20 04.7 +0.3**
KBZ Khabaz 77.21 328 P **P** **20 20 06.5 +1.4**
KBZ Khabaz 77.21 328 P **P** **20 20 06.5 +1.4**
KBZ Khabaz 77.21 328 P **P** **20 20 06.5 +1.4**
comp=Z,59nm,0.8s,baz=93,slow=2.6,SNR=103
KBZ LR LR 20 59 34.1
comp=Z,654nm,19.6s,baz=14,slow=40
STHS Stebnicka Huta 77.27 344 *e*P **P** **20 20 07.0 +1.6**
STHS pmax pmax
comp=Z,18nm,0.7s
STHS Stebnicka Huta 77.27 344 *e*P **P** **20 20 07.0 +1.6**
KRLC Kraliky 77.30 348⇓ *i*P **P** **20 20 05.9 +0.3**
KRLC Kraliky 77.30 348⇓ *i*P **P** **20 20 05.9 +0.3**
UBBA Unterbreizbach 77.31 352 *e*P **P** **20 20 05.8 +0.3**
comp=Z,101nm,2.9s
OKC Ostrava-Krasne 77.34 347⇓ *i*P **P** **20 20 06.2 +0.4**
OKC MLR MLR
comp=Z,900nm,17.0s
OKC Ostrava-Krasne 77.34 347⇓ *i*P **P** **20 20 06.2 +0.4**
OKC AMS AMS 20 53 50.0
comp=Z,900nm,17.0s
NIE Niedzica 77.42 345 *e*P **P** **20 20 07.1 +0.8**
TANN Tannenbergstha 77.48 350 *e*P **P** **20 20 06.8 +0.2**
comp=Z,22nm,1.4s
MORC Moravsky Berou 77.49 347 *e*P **P** **20 20 06.4 -0.3**
MORC pmax pmax
comp=Z,27nm,1.0s
MORC Moravsky Berou 77.49 347⇓ *i*P **P** **20 20 07.2 +0.6**
MORC Moravsky Berou 77.49 347 *e*P **P** **20 20 06.3 -0.3**
comp=Z,27nm,1.0s
KOLS Kolonicke sedl 77.56 344 *e*P **P** **20 20 08.2 +1.2**
KOLS pmax pmax
comp=Z,31nm,0.7s
KOLS Kolonicke sedl 77.56 344 *e*P **P** **20 20 08.2 +1.2**
PRA Prague 77.60 349⇓ *i*P **P** **20 20 08.0 +0.8**
BEBN Eben Emael 77.64 355 P **P** **20 20 07.6 +0.2**
HGN Heimansgroeve 77.66 355 *e*P **P** **20 20 08.0 +0.5**
comp=Z,65nm,1.1s
NKC Novy Kostel 77.66 350⇓ *i*P **P** **20 20 07.8 +0.2**
NKC Novy Kostel 77.66 350⇓ *i*P **P** **20 20 07.8 +0.2**
PRU Pruhonice 77.67 349⇓ *i*P **P** **20 20 07.7 +0.1**
PRU *e* 20 20 24.0
PRU MLR MLR
comp=Z,700nm,19.3s
PRU Pruhonice 77.67 349⇓ *i*P **P** **20 20 07.7 +0.1**
PRU *e*pP **pP** **20 20 24.0 -2.2**
PRU AMS AMS 20 55 50.0
comp=Z,700nm,19.3s
NEY Neytrino 77.69 328⇑ *i*P **P** **20 20 08.7 +0.6**
NEY pmax pmax
comp=Z,40nm,2.5s
ZEI Tsey 77.71 327 *e*P **P** **20 20 06.5 -1.7**
ZEI pmax pmax
comp=Z,144nm,1.0s
CRVS Cervenica-Dubn 77.73 344 *e*P **P** **20 20 08.9 +0.9**
CRVS pmax pmax
comp=Z,22nm,0.7s
CRVS Cervenica-Dubn 77.73 344 *e*P **P** **20 20 08.9 +0.9**
GUDG Gudauri 77.80 327 P **P** **20 20 10.2 +1.5**
MEM Membach 77.81 355 P **P** **20 20 09.0 +0.6**
comp=Z,42nm,1.2s
MEM AP **pP** **20 20 24.9 -2.1**
MEM Membach 77.81 355 *e*P **P** **20 20 09.6 +1.3**
MEM pmax pmax
comp=Z,79nm,1.1s
MEM Membach 77.81 355 *e*P **P** **20 20 09.6 +1.3**
comp=Z,79nm,1.1s
UZH Uzhgorod 77.85 344⇑ *i*P **P** **20 20 08.9 +0.3**
UZH *e**PP **PcP** **20 20 21.4 +3.1**
UZH *e*PPP PPP 20 24 50.3
UZH *e*S **S** **20 29 55.0 -0.6**
UZH *e*PS **PnS** **20 30 37.5 -6.2**
ANN Anapa 77.93 332 *e*P **P** **20 20 06.9 -2.2**
ANN *e**PP **pP** **20 20 25.0 -2.7**
ANN *e*S **S** **20 29 56.1 -0.5**
ANN pmax pmax
comp=Z,148nm,1.5s
SNF Seneffe 78.00 356 P **P** **20 20 09.8 +0.4**
SNF AP **pP** **20 20 26.6 -1.4**
TNS Taunus Mts 78.03 353 *e*P **P** **20 20 10.0 +0.3**
comp=Z,39nm,0.7s
ONI Oni 78.04 327 P **P** **20 20 10.9 +1.0**
BCLA Clavier 78.04 355 P **P** **20 20 09.4 -0.2**
comp=Z,16nm,0.9s
BCLA AP **pP** **20 20 25.6 -2.7**
DUS Dusheti 78.05 326 P **P** **20 20 11.1 +1.1**
VRAC Vranov 78.08 347⇑ *i*P **P** **20 20 10.9 +1.0**
VRAC Vranov 78.08 347 P **P** **20 20 10.6 +0.7**
VRAC Vranov 78.08 347 P **P** **20 20 10.6 +0.7**
comp=Z,52nm,0.8s,baz=11,slow=6.0,SNR=57
KIS Kishinev 78.10 339α *i*P **P** **20 20 10.0 0.0**
KIS *e* 20 20 25.0
KIS *e* 20 23 16.0
KIS *e* 20 30 04.0
KIS *e* 20 30 40.0
KIS pmax pmax
comp=Z,400nm,1.8s
KIS pmax pmax
comp=Z,300nm,2.0s
KIS MLR MLR
comp=N,600nm,20.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS Kishinev 78.10 339⇑ *i*P **P** **20 20 10.0 0.0**
comp=Z,400nm,1.8s
KIS LRM MLR 20 58 12.0
comp=Z,1μm,20.0s
ROTZ Rotzenmuhle 78.15 350 *e*P **P** **20 20 10.9 +0.6**
comp=Z,33nm,1.0s
BHPL Bhopal 78.16 292 *e*P **P** **20 20 10.7 -0.1**
BHPL AMB AMB 20 20 12.4
comp=Z,72nm,0.9s
IAS Iasi 78.19 340⇓ *i*P **P** **20 20 11.1 +0.6**
TREC Trest 78.23 348 *e*P **P** **20 20 11.2 +0.4**
TREC Trest 78.23 348⇓ *e*P **P** **20 20 11.2 +0.4**
BUR08 Bucovina Ar. S 78.25 341 *e*P **P** **20 20 11.7 +0.7**
BURAR Bucovina Array 78.28 341⇓ *i*P **P** **20 20 12.0 +0.9**
TRPA Tarpa 78.29 343⇓ *i*P **P** **20 20 12.4 +1.4**
TRPA Tarpa 78.29 343⇓ *e*P **P** **20 20 12.3 +1.3**
SEAG Tbilisi Sea 78.31 326 P **P** **20 20 12.3 +1.0**
PRAR RASCA 78.31 341⇑ *i*P **P** **20 20 11.7 +0.5**
GRF Grafenberg Arr 78.32 351 *e*P **P** **20 20 12.0 +0.8**
comp=Z,45nm,0.9s
GRF *e*L L 20 54 15.4
comp=Z,437nm,21.6s
SOC Sochi 78.35 330 *d* iP **P** **20 20 12.0 +0.5**

SOC eS S 20 30 04.5 +3.3
SOC e*SS sS 20 30 52.6 +20
SOC pmax pmax
comp=Z,108nm,1.0s
SOC MLR MLR
comp=Z,814nm,20.0s
TBLG Delisi 78.36 326 P P 20 20 12.9 +1.3
CHVG Ch'k'valeri 78.38 328 P P 20 20 12.8 +1.1
GIVF Givet 78.38 355 eP P 20 20 11.7 +0.2
comp=Z,63nm,0.9s
GIVF Givet 78.38 355 eP P 20 20 11.7 +0.2
GIVF pmax pmax
comp=Z,63nm,0.9s
GIVF Givet 78.38 355 eP P 20 20 11.7 +0.2
comp=Z,63nm,0.9s
DGRG David-gareji 78.38 325 P P 20 20 14.4 +2.6
DOU Dourbes 78.40 355 P P 20 20 11.7 +0.1
BAIF Baives 78.45 356 eP P 20 20 12.4 +0.5
comp=Z,54nm,0.9s
BAIF Baives 78.45 356 eP P 20 20 12.4 +0.5
BAIF pmax pmax
comp=Z,54nm,0.9s
BAIF Baives 78.45 356 eP P 20 20 12.4 +0.5
comp=Z,54nm,0.9s
BMR Baia Mare 78.55 343⇑iP P 20 20 14.1 +1.6
KHC Kasperske Hory 78.62 349⇓iP P 20 20 13.1 +0.1
KHC e 20 20 17.0
KHC Kasperske Hory 78.62 349⇓iP P 20 20 13.1 +0.1
KHC ex x 20 20 17.0
KHC esP sP 20 20 32.4 -6.8
KHC Kasperske Hory 78.62 349 eP P 20 20 13.1 +0.1
comp=Z,43nm,1.0s
SIM Simferopol' 78.72 335c iP P 20 20 15.0 +1.5
SIM eS S 20 30 09.0 +3.9
SIM pmax pmax
comp=Z,38nm,1.0s
SIM MLR MLR
comp=Z,340nm,16.2s
LEOM Leova 78.73 339⇓iP P 20 20 14.4 +0.9
WLF Walferdange 78.74 354 P P 20 20 14.0 +0.5
WLF Walferdange 78.74 354 eP P 20 20 14.2 +0.7
WLF pmax pmax
comp=Z,26nm,0.9s
WLF MLR MLR
comp=Z,830nm,19.0s
WLF Walferdange 78.74 354 eP P 20 20 14.3 +0.7
comp=Z,30nm,1.0s
WLF Walferdange 78.74 354 eP P 20 20 14.2 +0.7
comp=Z,26nm,0.9s
WLF LR LR
comp=Z,830nm,19.0s
GEC2 GERESS Array S 78.89 349 eP P 20 20 14.6 +0.2
comp=Z,21nm,1.1s
GERES GERESS Array B 78.89 349 P P 20 20 14.7 +0.2
GERES PP PP 20 23 19.5 +6.5
GERES GERESS Array B 78.89 349 P P 20 20 14.7 +0.2
comp=Z,10nm,0.6s,baz=24,slow=5.0,SNR=102
GERES PP PP 20 23 19.5 +6.5
comp=Z,0.4nm,0.6s,baz=26,slow=7.1,SNR=3.7
GERES LR LR 21 00 25.8
comp=Z,265nm,18.4s,baz=6.0,slow=40
PSZ Piszkesteto 78.94 345 eP P 20 20 15.6 +0.8
PSZ pmax pmax
comp=Z,54nm,0.9s
PSZ MLR MLR
comp=Z,790nm,21.0s
PSZ Piszkesteto 78.94 345⇑iP P 20 20 16.4 +1.6
PSZ Piszkesteto 78.94 345 eP P 20 20 15.6 +0.8
comp=Z,54nm,0.9s
PSZ LR LR
comp=Z,790nm,21.0s
PSZ Piszkesteto 78.94 345⇑eP P 20 20 16.2 +1.4
VIS Vishakhapatnam 78.95 284 eP P 20 20 15.4 +0.3
VIS AMB AMB 20 20 17.0
comp=Z,36nm,0.0s
TESR Tescani 79.04 340⇑iP P 20 20 16.0 +0.8
AKH Akhalkalaki 79.07 327 P P 20 20 17.4 +1.7
LANF Langenberg 79.31 353 eP P 20 20 18.2 +1.5
STU Stuttgart 79.41 352 eP P 20 20 17.3 +0.1
STU pmax pmax
comp=Z,51nm,0.9s
STU Stuttgart 79.41 352 eP P 20 20 17.5 +0.3
comp=Z,40nm,1.0s
STU Stuttgart 79.41 352 eP P 20 20 17.3 +0.1
comp=Z,51nm,0.9s
CJR Cluj-Napoca 79.46 342⇑iP P 20 20 19.1 +1.5
CONA Conrad Observa 79.53 348 iP P 20 20 19.0 +1.1
comp=Z,55nm,0.7s,SNR=20
DRGR 79.55 343 eP P 20 20 18.8 +0.7
DRGR 79.55 343⇓iP P 20 20 19.2 +1.1
VRI Vrincioaia 79.64 340 eP P 20 20 18.8 +0.3
VRI Vrincioaia 79.64 340⇑iP P 20 20 19.6 +1.1
PETR Petresti 79.66 339⇓iP P 20 20 20.5 +1.9
PLOR Plostina 79.67 340⇑iP P 20 20 19.7 +1.0
BCA Borcka 79.67 328 eP P 20 20 11.7 -7.1
SOP Sopron 79.67 347⇑eP P 20 20 20.2 +1.6
PKSG 79.69 346⇑eP P 20 20 20.3 +1.6
CSKK Cs^‡kako 79.74 346⇑eP P 20 20 20.6 +1.6
DBOC Borcka 79.74 328 iP P 20 20 19.8 +0.6
GNI Garni 79.76 325 P P 20 20 21.7 +2.2
SNR=13
GNI Garni 79.76 325 eP P 20 20 20.9 +1.5
comp=Z,91nm,1.2s
GNI Garni 79.76 325 P P 20 20 21.4 +2.0
comp=Z,15nm,0.6s,baz=8.5,slow=3.8,SNR=24
GNI LR LR 20 59 36.0
comp=Z,1µm,20.8s,baz=31,slow=39
GNI Garni 79.76 325⇓iP P 20 20 22.0 +2.5
SNR=28
ARTV Artvin 79.80 328 iP P 20 20 20.8 +1.1
MOA Molln 79.81 349⇓iP P 20 20 19.9 +0.5
comp=Z,16nm,0.8s
TLCR 79.81 338⇑iP P 20 20 20.3 +0.9
DOPR Dopca 79.82 341⇓iP P 20 20 21.2 +1.7
FUR Furstenfeldbru 79.82 351 eP P 20 20 19.9 +0.4
comp=Z,48nm,1.0s
FUR eL L 20 56 33.7
comp=Z,306nm,22.0s
MDB Medias 79.86 342⇓iP P 20 20 20.7 +1.0
PKST T"s 79.87 346⇓eP P 20 20 20.8 +1.0
PAGF Fort de Pagny 79.88 355 eP P 20 20 20.4 +0.7
comp=Z,19nm,0.6s
PAGF Fort de Pagny 79.88 355 eP P 20 20 20.4 +0.7
comp=Z,19nm,0.6s
FLN La Foliniere 79.89 359 eP P 20 20 19.8 0.0
comp=Z,90nm,0.9s
FLN eR
comp=Z,244nm,21.2s
FLN La Foliniere 79.89 359 eP P 20 20 19.8 0.0
FLN pmax pmax
comp=Z,90nm,0.9s
FLN La Foliniere 79.89 359 eP P 20 20 19.8 0.0
comp=Z,90nm,0.9s
DAGI Agillar 79.90 328 iP P 20 20 21.2 +1.0
PKS7 Kunszentmiklos 79.91 345⇑eP P 20 20 21.6 +1.7
KARS Kars 79.91 327 eP P 20 20 21.0 +0.7
WLS Welschbruch 79.91 353 eP P 20 20 20.3 +0.3
CDF Champ du Feu 79.92 354 eP P 20 20 20.2 +0.1
comp=Z,30nm,0.6s
CDF Champ du Feu 79.92 354 eP P 20 20 20.2 +0.1
CDF pmax pmax
comp=Z,30nm,0.6s
CDF Champ du Feu 79.92 354 eP P 20 20 20.2 +0.1
comp=Z,30nm,0.6s
BFO Black Forest 79.92 353 iP P 20 20 20.4 +0.4
BFO Black Forest 79.92 353 eP P 20 20 20.2 +0.2
comp=Z,27nm,0.8s
BFO eL L 20 54 05.5
comp=Z,449nm,21.9s
BFO Black Forest 79.92 353 eP P 20 20 19.7 -0.4
comp=Z,16nm,0.5s
BFO LR LR
comp=Z,520nm,20.0s
MEZF Maizieres J'vi 79.97 355 eP P 20 20 20.7 +0.5
comp=Z,25nm,0.7s
MEZF Maizieres J'vi 79.97 355 eP P 20 20 20.7 +0.5
comp=Z,25nm,0.7s
CFR Carcaliu 79.98 339⇑iP P 20 20 21.1 +0.8
DIGO Kars 80.00 326 iP P 20 20 22.2 +1.4
BBSR BB Station 80.03 50 PFAKE 20 20 30.0 +9.2
BBSR LR LR
comp=Z,1µm,22.0s
DBAD Bademkaya 80.03 328 iP P 20 20 22.1 +1.3
GRER 80.04 340⇑iP P 20 20 22.6 +1.9
LDF La Druitiere 80.06 359 eP P 20 20 20.7 0.0
LDF La Druitiere 80.06 359 eP P 20 20 20.7 0.0
TBI Tubuai 80.10 150 eS S 20 30 19.0 -0.9
comp=Z,318nm,31.8s
TBI Tubuai 80.10 150 eLR LR 20 45 01.2
comp=Z,3µm,32.8s,baz=338
TBI Tubuai 80.10 150 eT T 21 47 39.0
comp=Z,8.2nm,0.3s
ECH Echery 80.12 354 eP P 20 20 21.3 +0.2
ECH pmax pmax
comp=Z,25nm,1.0s
ECH Echery 80.12 354 eP P 20 20 21.4 +0.3
ECH Echery 80.12 354 eP P 20 20 21.3 +0.2
comp=Z,25nm,1.0s
DDEM Demirkent 80.12 328 iP P 20 20 22.5 +1.1
MLR Muntele Rosu 80.16 340⇑iP P 20 20 23.5 +2.0
MLR Muntele Rosu 80.16 340 P P 20 20 23.3 +1.8
MLR pP pP 20 20 39.2 -1.0
MLR Muntele Rosu 80.16 340 P P 20 20 23.3 +1.8
comp=Z,19nm,0.9s,baz=192,slow=3.2,SNR=83
MLR pP pP 20 20 39.2 -1.0
comp=Z,6.2nm,0.8s,baz=95,slow=19,SNR=3.8
LHMI Lhok Sumawe 80.19 266 eP P 20 20 23.1 +1.2
comp=Z,99nm,0.9s
LHMI epP pP 20 20 40.2 -0.4
THEF They Montfort 80.19 354 eP P 20 20 22.1 +0.7
EIDS Eidsvold 80.23 204 eP P 20 20 22.2 +0.5
comp=Z,12nm,0.9s
ARSA Arzberg 80.24 348 iP P 20 20 22.8 +1.1
comp=Z,52nm,0.8s,SNR=22
SIRR Siria 80.24 343⇑iP P 20 20 23.1 +1.3
SFTF Sexfontaines 80.26 355 eP P 20 20 22.2 +0.4
comp=Z,45nm,0.5s
SFTF Sexfontaines 80.26 355 eP P 20 20 22.2 +0.4
comp=Z,45nm,0.5s
GRR Gorron 80.27 359 eP P 20 20 22.1 +0.3
GRR Gorron 80.27 359 eP P 20 20 22.1 +0.3
GRR Gorron 80.27 359 eP P 20 20 22.1 +0.3
HAU Haudompre 80.39 354 eP P 20 20 22.6 +0.1
comp=Z,26nm,0.5s
HAU eR
comp=Z,288nm,19.8s
HAU Haudompre 80.39 354 eP P 20 20 22.6 +0.1
HAU pmax pmax
comp=Z,26nm,0.5s
HAU Haudompre 80.39 354 eP P 20 20 22.6 +0.1
comp=Z,26nm,0.5s
ISR Istrita 80.39 340⇑iP P 20 20 24.2 +1.6
DEV Deva 80.39 342⇑iP P 20 20 23.8 +1.3
SGMF Saint Gilles 80.41 0 eP P 20 20 23.1 +0.5
comp=Z,88nm,0.9s
SGMF Saint Gilles 80.41 0 eP P 20 20 23.1 +0.5
SGMF pmax pmax
comp=Z,88nm,0.9s
SGMF Saint Gilles 80.41 0 eP P 20 20 23.1 +0.5
comp=Z,88nm,0.9s
MOF Molkenrain 80.49 354 eP P 20 20 22.3 -0.8
PKS9 Tamasi 80.49 346⇑eP P 20 20 23.9 +0.8
HINF Hinteralfeld 80.54 354 eP P 20 20 23.2 -0.2
comp=Z,30nm,0.9s
HINF Hinteralfeld 80.54 354 eP P 20 20 23.2 -0.2
HINF pmax pmax
comp=Z,30nm,0.9s
HINF Hinteralfeld 80.54 354 eP P 20 20 23.2 -0.2
comp=Z,30nm,0.9s
RETA Reutte 80.55 351⇓iP P 20 20 24.1 +0.6
comp=Z,23nm,0.9s,SNR=8.0
ARR Arges 80.55 341⇓iP P 20 20 25.1 +1.6
TLB Topalu 80.56 339⇓iP P 20 20 24.3 +0.9
SECR 80.57 340⇑iP P 20 20 25.1 +1.6
MTUR Matau 80.59 341⇓iP P 20 20 25.4 +1.6
WATA Walderalm 80.61 350⇓iP P 20 20 24.6 +0.7
comp=Z,49nm,0.5s,SNR=37
LOT Lotru 80.64 342⇑iP P 20 20 24.5 +0.5
MOTA Moosalm 80.65 351⇓iP P 20 20 24.6 +0.5
comp=Z,40nm,0.8s,SNR=27
DYDN Diyadin 80.67 326 iP P 20 20 26.2 +1.8
KBA Koelnbreinsper 80.67 349 iP P 20 20 25.5 +1.2
comp=Z,154nm,0.7s,SNR=63
WTTA Wattenberg 80.68 350 iP P 20 20 25.0 +0.7
comp=Z,92nm,0.8s,SNR=32
AMRR Amara 80.70 339⇑iP P 20 20 25.4 +1.2
RAO Raoul Island 80.70 176 LR LR 20 49 35.2
comp=Z,726nm,21.8s,baz=7.0,slow=31
MACK Trabzon 80.72 329 iP P 20 20 24.8 +0.4
WRAB Tennant Creek 80.77 221 eP P 20 20 23.9 -0.8
WRAB pmax pmax
comp=Z,26nm,0.9s
WRAB MLR MLR
comp=Z,389nm,20.0s
WRAB Tennant Creek 80.77 221 eP P 20 20 23.9 -0.8
comp=Z,26nm,0.9s
WRAB LR LR
comp=Z,389nm,20.0s
WRA Warramunga Arr 80.79 221 P P 20 20 24.4 -0.5
WRA PKKPbc **PKKPbc** 20 39 03.2 +1.0
WRA Warramunga Arr 80.79 221 P P 20 20 24.4 -0.5
comp=Z,10nm,0.6s,baz=31,slow=6.1,SNR=90
WRA PKKPbc **PKKPbc** 20 39 03.2 +1.0
comp=Z,0.4nm,0.8s,baz=220,slow=2.0,SNR=5.6
WRA LR LR 20 55 24.0
comp=Z,142nm,19.9s,baz=60,slow=35
PKSM Moragy 80.80 345⇑iP P 20 20 25.3 +0.6
PKSM Moragy 80.80 345⇑eP P 20 20 25.1 +0.4
DAVA Damuels 80.83 352⇑iP P 20 20 25.7 +0.6
comp=Z,31nm,1.4s,SNR=5.0
HOMI Horasan 80.83 327 iP P 20 20 26.8 +1.4
PSI Prapat 80.85 263 P P 20 20 25.1 -0.5
PSI Prapat 80.85 263 P P 20 20 25.1 -0.5
comp=Z,15nm,0.9s,baz=324,slow=2.6,SNR=8.4
PSI LR LR 20 56 08.9
comp=Z,82nm,21.4s,baz=36,slow=36
SOKA Soboth 80.86 348 iP P 20 20 26.1 +1.0
comp=Z,69nm,0.7s,SNR=28
SULR 80.87 340⇑iP P 20 20 25.7 +0.6
AGRB Hanur-Agry 80.88 326 eP P 20 20 27.5 +2.0
BZS Buzias 80.88 343⇑iP P 20 20 25.7 +0.5
PERS Pernice 80.89 348 iP P 20 20 26.1 +0.8
CLDR Caldiran 80.94 325 eP P 20 20 26.8 +0.9
LOMF Lomont 81.01 354 eP P 20 20 26.0 +0.1
FETA Feichten 81.01 351 iP P 20 20 26.6 +0.5
comp=Z,53nm,0.9s,SNR=19
MSAB Monastry St. A 81.08 339⇓iP P 20 20 26.8 +0.6
MYKA Terra Mystica 81.08 349⇓iP P 20 20 26.7 +0.4
comp=Z,27nm,0.8s,SNR=7.4
OBKA Obir 81.09 348⇓iP P 20 20 27.1 +0.8
comp=Z,94nm,0.7s,SNR=30
ABTA Abfaltersbach 81.10 350 iP P 20 20 27.0 +0.6
comp=Z,80nm,1.1s,SNR=22
BAYT Ayd¬ntepe-Bay 81.10 329 eP P 20 20 24.9 -1.7
EZM Erzurum 81.14 327 eP P 20 20 29.1 +2.1
CIOR Ciorogarla 81.17 340⇑iP P 20 20 27.9 +1.2
BANR Banloc 81.19 344⇓iP P 20 20 28.6 +1.8
GRSN GIRESUNGRSN 81.21 330 iP P 20 20 27.5 +0.5
GUMT Gumushane 81.25 329 eP P 20 20 29.0 +1.6
LOR Lormes 81.26 356 eP P 20 20 27.4 +0.2
comp=Z,21nm,0.7s
LOR eR
comp=Z,536nm,22.8s
LOR Lormes 81.26 356 eP P 20 20 27.4 +0.2
comp=Z,21nm,0.7s
HUMR Humele 81.28 341⇑iP P 20 20 28.6 +1.3
HYF Humbligny 81.31 357 eP P 20 20 28.0 +0.6
HYF Humbligny 81.31 357 eP P 20 20 28.0 +0.6
PSN Preselentsi 81.38 338⇑iP P 20 20 29.4 +1.6
DIKM Dikmen 81.45 332 eP P 20 20 28.6 +0.4
SSF Saint Saulge 81.48 356 eP P 20 20 28.6 +0.3
comp=Z,38nm,0.8s
SSF Saint Saulge 81.48 356 eP P 20 20 28.6 +0.3
SSF pmax pmax
comp=Z,38nm,0.8s
SSF Saint Saulge 81.48 356 eP P 20 20 28.6 +0.3
comp=Z,38nm,0.8s
KELT Kelkit 81.61 329 iP P 20 20 30.7 +1.4
TUE Stuetta 81.68 352 eP P 20 20 30.5 +0.8
comp=Z,441nm,0.5s
TUE LR LR
comp=Z,668nm,20.0s
KVT Kavak 81.74 332 eP P 20 20 31.5 +1.6
VISS Visnje 81.75 348 iP P 20 20 29.9 +0.2
JAVS Javornik 81.76 349 iP P 20 20 29.8 -0.2
AVF Avril sur Loir 81.76 356 eP P 20 20 29.9 +0.1
comp=Z,16nm,0.6s
AVF Avril sur Loir 81.76 356 eP P 20 20 29.9 +0.1
AVF pmax pmax
comp=Z,17nm,0.6s
AVF Avril sur Loir 81.76 356 eP P 20 20 29.9 +0.1
comp=Z,16nm,0.6s
BOYT Boyabat 81.76 333 iP P 20 20 31.3 +1.4
VRTB Varto-Mus 81.78 327 eP P 20 20 32.6 +2.4
CABF La Chapelle 81.79 354 eP P 20 20 30.5 +0.4
comp=Z,48nm,1.0s
CABF La Chapelle 81.79 354 eP P 20 20 30.5 +0.4
CABF pmax pmax
comp=Z,48nm,1.0s
CABF La Chapelle 81.79 354 eP P 20 20 30.5 +0.4
comp=Z,48nm,1.0s
SISC Sisak 81.86 347 P P 20 20 31.5 +1.2
SMF Signal de Mont 81.88 356 eP P 20 20 30.6 +0.2
comp=Z,48nm,0.7s
SMF Signal de Mont 81.88 356 eP P 20 20 30.6 +0.2
SMF pmax pmax
comp=Z,48nm,0.7s
SMF Signal de Mont 81.88 356 eP P 20 20 30.6 +0.2
comp=Z,48nm,0.7s
SENIN Lac Senin/Sane 81.95 353 eP P 20 20 31.9 +0.8
TRI Trieste 81.97 349 eP P 20 20 30.9 0.0
TRI pmax pmax
comp=Z,76nm,1.3s
TRI Trieste 81.97 349 eP P 20 20 30.9 0.0
comp=Z,76nm,1.3s
RSDY Resadiye-TOKAT 81.99 331 eP P 20 20 30.8 -0.3
BOJS Bojanci 81.99 348 iP P 20 20 31.4 +0.5
BGF Bois d'Agland 82.01 356 eP P 20 20 31.4 +0.3
BGF Bois d'Agland 82.01 356 eP P 20 20 31.4 +0.3
BGF Bois d'Agland 82.01 356 eP P 20 20 31.4 +0.3
ZIMR 82.03 340⇑iP P 20 20 32.4 +1.2
HYB Hyderabad 82.04 288⇑iP P 20 20 30.5 -1.2
HYB e 20 20 35.5
HYB ePcP PcP 20 20 39.0 +1.9
HYB eS S 20 30 40.0 -0.7
HYB Hyderabad 82.04 288 eP P 20 20 31.6 -0.1
HYB AMB AMB 20 20 33.5
comp=Z,73nm,1.6s
MFF Saint Martin d 82.05 358 eP P 20 20 31.7 +0.4
comp=Z,43nm,1.0s
MFF Saint Martin d 82.05 358 eP P 20 20 31.7 +0.4
MFF pmax pmax
comp=Z,43nm,1.0s
MFF Saint Martin d 82.05 358 eP P 20 20 31.7 +0.4
comp=Z,43nm,1.0s
TGUH Tegucigalpa,Un 82.18 77 eP P 20 20 34.2 +1.8
comp=Z,79nm,1.1s
BNGB Bing¶l 82.19 328 eP P 20 20 34.0 +1.6
SZH Strazhica 82.28 340 eP P 20 20 33.7 +1.1
TCF Toulx Ste Croi 82.30 357 eP P 20 20 32.9 +0.2
comp=Z,20nm,0.7s
TCF Toulx Ste Croi 82.30 357 eP P 20 20 32.9 +0.2
TCF pmax pmax
comp=Z,20nm,0.7s
TCF Toulx Ste Croi 82.30 357 eP P 20 20 32.9 +0.2
comp=Z,20nm,0.7s
TOKA Tokat 82.31 331 iP P 20 20 34.4 +1.5
HAKT HAKKARI 82.43 325 iP P 20 20 34.9 +1.1
BHJ Bhuj 82.53 298 eP P 20 20 34.6 +0.5
BHJ AMB AMB 20 20 36.2
comp=Z,52nm,2.0s
SVSK Karacayir 82.53 331 eP P 20 20 35.6 +1.7
CTKT Corum 82.53 332 iP P 20 20 35.5 +1.3
KEMA Kemaliye 82.65 329 iP P 20 20 35.7 +1.0
RSL Roselend 82.67 354 eP P 20 20 35.9 +1.1
PTK Pertek 82.70 328 eP P 20 20 36.9 +1.8
CUKT Cukurca 82.74 325 eP P 20 20 36.4 +1.1
PYM Petit Puy Mans 82.81 356 eP P 20 20 35.7 +0.3
LPL La Plagne 82.84 354 eP P 20 20 36.9 +1.2
comp=Z,52nm,0.8s
LPL La Plagne 82.84 354 eP P 20 20 36.9 +1.2
LPL pmax pmax
comp=Z,52nm,0.8s
LPL La Plagne 82.84 354 eP P 20 20 36.9 +1.2
comp=Z,52nm,0.8s
GSI Gunungsitoli 82.85 263 eP P 20 20 35.3 -0.6
LPG La Plagne 82.86 354 eP P 20 20 37.1 +1.2
comp=Z,89nm,0.9s
LPG La Plagne 82.86 354 eP P 20 20 37.1 +1.2
LPG pmax pmax
comp=Z,89nm,0.9s
LPG La Plagne 82.86 354 eP P 20 20 37.1 +1.2
comp=Z,89nm,0.9s
CANT Cankiri 82.88 333 eP P 20 20 37.0 +1.1
JMB Yambol 82.90 339⇑iP P 20 20 36.7 +0.9
FITZ Fitzroy Crossi 82.99 229 eP P 20 20 36.4 0.0
comp=Z,34nm,0.9s
CORM Corum 82.99 332 eP P 20 20 35.9 -0.6
ELDT Eldivan 83.04 333 iP P 20 20 38.8 +2.0
ELZG Elazig 83.20 329 iP P 20 20 39.3 +1.7
SSB Saint Sauveur 83.21 355 eP P 20 20 37.7 +0.3
SSB pmax pmax
comp=Z,13nm,0.9s
SSB MLR MLR
comp=Z,545nm,20.0s
SSB Saint Sauveur 83.21 355 eP P 20 20 37.7 +0.3
comp=Z,13nm,0.9s
SSB LR LR
comp=Z,545nm,20.0s
YOZ Yozgat 83.28 332 eP P 20 20 38.8 +0.7
BNI Bardonecchia 83.30 354 eP P 20 20 39.7 +1.6
BNI pmax pmax
comp=Z,46nm,0.9s
BNI MLR MLR
comp=Z,1µm,22.0s
BNI Bardonecchia 83.30 354 eP P 20 20 39.6 +1.6
comp=Z,46nm,0.9s
BNI LR LR
comp=Z,1µm,22.0s
RJF Les Rejaudoux 83.31 357 eP P 20 20 37.9 0.0
comp=Z,11nm,0.6s
RJF eR
comp=Z,473nm,21.2s
RJF Les Rejaudoux 83.31 357 eP P 20 20 37.9 0.0
RJF pmax pmax
comp=Z,11nm,0.6s
RJF Les Rejaudoux 83.31 357 eP P 20 20 37.9 0.0
comp=Z,11nm,0.6s
DYBB Diyarbakir 83.31 328 eP P 20 20 39.9 +1.7
LBL Lubilhac 83.32 356 eP P 20 20 38.7 +0.7
PGB Panagyurishte 83.34 341 eP P 20 20 39.0 +0.8
PLE Pljevlja 83.49 344⇑iP P 20 20 39.7 +0.7
ORIF Oris-en-Rattie 83.49 354 eP P 20 20 39.9 +1.0
comp=Z,36nm,0.7s
ORIF eR
comp=Z,312nm,21.0s
ORIF Oris-en-Rattie 83.49 354 eP P 20 20 39.9 +1.0
ORIF pmax pmax
comp=Z,37nm,0.7s
ORIF Oris-en-Rattie 83.49 354 eP P 20 20 39.9 +1.0
comp=Z,36nm,0.7s
VTS Vitosha 83.50 341 eP P 20 20 38.8 -0.3
VTS Vitosha 83.50 341⇓iP P 20 20 39.6 +0.5
OG22 Abries 83.51 353 eP P 20 20 41.8 +2.6
DIM Dimitrovgrad 83.53 340 eP P 20 20 40.5 +1.4
CDAG Cicekdag 83.58 332 iP P 20 20 40.2 +0.7
DARE Darende-Malaty 83.61 330 eP P 20 20 41.5 +1.9
MBDF Montbardon 83.62 354 eP P 20 20 40.7 +1.0
comp=Z,46nm,0.6s
MBDF Montbardon 83.62 354 eP P 20 20 40.7 +1.0
MBDF pmax pmax
comp=Z,46nm,0.6s
MBDF Montbardon 83.62 354 eP P 20 20 40.7 +1.0
comp=Z,46nm,0.6s
BTAS Taskesti 83.62 335 iP P 20 20 40.2 +0.6
MAZI Mazidag 83.65 327 eP P 20 20 41.2 +1.3
PLD Plovdiv 83.66 340 eP P 20 20 41.3 +1.6
CAF Calviac 83.67 357 eP P 20 20 40.3 +0.5
comp=Z,11nm,0.6s
CAF Calviac 83.67 357 eP P 20 20 40.3 +0.5
CAF pmax pmax
comp=Z,11nm,0.6s
CAF Calviac 83.67 357 eP P 20 20 40.3 +0.5
comp=Z,11nm,0.6s
MARD Mardin 83.67 327 iP P 20 20 41.0 +1.0
UPM Unac-Piva 83.69 345⇑iP P 20 20 40.1 0.0
LFF La Frestale 83.69 358 eP P 20 20 40.2 +0.4
comp=Z,24nm,0.6s
LFF La Frestale 83.69 358 eP P 20 20 40.2 +0.4
LFF pmax pmax
comp=Z,24nm,0.6s
LFF La Frestale 83.69 358 eP P 20 20 40.2 +0.4
comp=Z,24nm,0.6s
BR131 Keskin Array S 83.69 333 eP P 20 20 40.3 +0.2

comp=Z,24nm,0.7s
BRTR Keskin Array B 83.69 333 P P 20 20 40.6 +0.5
BRTR Keskin Array B 83.69 333 P P 20 20 40.6 +0.5
comp=Z,40nm,0.8s,baz=48,slow=2.7,SNR=153
BRTR LR LR 21 03 53.7
comp=Z,160nm,19.4s,baz=357,slow=40
AKCD Akcadag 83.72 329 *i* P **P 20 20 41.7 +1.4**
ANTO Ankara 83.80 334 *eP* **P 20 20 41.7 +1.1**
ANTO pmax pmax
comp=Z,98nm,1.4s
ANTO MLR MLR
comp=Z,495nm,21.0s
ANTO Ankara 83.80 334 ⇑ *i*P **P 20 20 41.7 +1.1**
ANTO Ankara 83.80 334 P **P 20 20 42.0 +1.4**
SNR=11
ANTO Ankara 83.80 334 *eP* **P 20 20 41.7 +1.1**
comp=Z,98nm,1.4s
ANTO LR LR
comp=Z,495nm,21.0s
IVA Berane 83.85 344 *eP* **P 20 20 41.5 +0.7**
VLC Villacollemand 83.88 351 *eP* **P 20 20 41.3 +0.4**
comp=Z,30nm,0.6s
VLC LR LR
comp=Z,518nm,21.0s
POO Poona 83.92 292 *eP* **P 20 20 41.2 -0.2**
KDZ Kurdzhali 83.94 339 ⇑ *i*P **P 20 20 42.3 +1.1**
BRY Bratogost 84.05 345 ⇑ *i*P **P 20 20 41.9 0.0**
RZN Rozhen 84.06 340 *eP* **P 20 20 43.4 +1.4**
NKY Niksic 84.06 344 ⇑ *i*P **P 20 20 42.1 +0.2**
PVY Plav 84.10 344 *eP* **P 20 20 42.5 +0.3**
NKME Niksic 84.11 344 ⇑ *i*P **P 20 20 41.8 -0.3**
STON Ston 84.21 345 P **P 20 20 41.7 -0.8**
URFA Urfa 84.21 328 *eP* **P 20 20 43.5 +0.7**
KKB Krupnik 84.22 341 *eP* **P 20 20 44.2 +1.6**
TOUF Mont Tournerai 84.30 353 *eP* **P 20 20 43.7 +0.5**
AS31 Alice Springs 84.30 220 *eP* **P 20 20 42.9 -0.2**
AUTN L'Aution 84.30 353 *eP* **P 20 20 45.4 +2.2**
ASAR Alice Springs 84.30 220 P **P 20 20 43.1 +0.1**
ASAR pP **pP 20 20 58.7 -3.3**
ASAR Alice Springs 84.30 220 P **P 20 20 43.1 +0.1**
comp=Z,7.5nm,0.8s,baz=25,slow=5.4,SNR=65
ASAR pP **pP 20 20 58.7 -3.3**
comp=Z,9.5nm,0.8s,baz=30,slow=5.3,SNR=12
ASAR LR LR 20 54 46.8
comp=Z,251nm,21.3s,baz=40,slow=33
ATAB Bozova 84.36 329 *i* P **P 20 20 45.1 +1.7**
MMB Musomiste 84.36 341 *eP* **P 20 20 43.6 +0.3**
MMB Musomiste 84.36 341 ⇓ *i*P **P 20 20 44.4 +1.1**
TTG Podgorica 84.38 344 *eP* **P 20 20 43.9 +0.5**
LUCF Luceram 84.41 353 *eP* **P 20 20 45.1 +1.5**
BORA Eskisehir 84.41 335 *i* P **P 20 20 44.3 +0.6**
MVIF Mont Vial 84.42 353 *eP* **P 20 20 44.6 +0.8**
SBF Sospel 84.43 353 *eP* **P 20 20 43.9 +0.2**
comp=Z,140nm,1.0s
SBF Sospel 84.43 353 *eP* **P 20 20 43.9 +0.2**
SBF pmax pmax
comp=Z,140nm,1.0s
SBF Sospel 84.43 353 *eP* **P 20 20 43.9 +0.2**
comp=Z,140nm,1.0s
SKO Skopje 84.44 342 *i* P **P 20 20 44.9 +1.2**
LASF Ste Croix 84.44 356 *eP* **P 20 20 44.5 +0.8**
comp=Z,23nm,0.9s
LASF Ste Croix 84.44 356 *eP* **P 20 20 44.5 +0.8**
comp=Z,23nm,0.9s
SMRF Simiane la Rot 84.45 354 *eP* **P 20 20 45.2 +1.4**
comp=Z,102nm,1.1s
SMRF Simiane la Rot 84.45 354 *eP* **P 20 20 45.2 +1.4**
comp=Z,102nm,1.1s
HCY Herceg Novi 84.50 345 ⇑ *i*P **P 20 20 44.0 0.0**
ULDT Uludag 84.50 336 *i* P **P 20 20 45.1 +0.8**
REVF Revere 84.56 353 *eP* **P 20 20 45.1 +0.8**
BUM Brajici-Budva 84.57 344 *eP* **P 20 20 46.1 +1.7**
CALN Calern 84.58 353 *eP* **P 20 20 46.0 +1.4**
DRME Dracevica, Mon 84.63 344 ⇑ *i*P **P 20 20 45.1 +0.4**
SEYT Eskypehyr 84.65 335 *i* P **P 20 20 44.8 -0.1**
MTDJ Mount Denham 84.68 67 PFAKE 20 21 00.0 +15
MTDJ LR LR
comp=Z,614nm,19.0s
GZT Gaziantep 84.69 329 *i* P **P 20 20 46.5 +1.2**
GTBY Guantanamo Bay 84.71 65 PFAKE 20 21 00.0 +15
GTBY LR LR
comp=Z,998nm,19.0s
KMRS Kahramanmaras 84.77 330 *eP* **P 20 20 46.4 +0.9**
ULC Ulcinj 84.84 344 ⇑ *i*P **P 20 20 46.5 +0.8**
VAY Valandovo 84.85 341 *i* P **P 20 20 47.1 +1.4**
LEPF PUYLOUBIER 84.89 354 *eP* **P 20 20 47.3 +1.4**
NIG Nigde 84.91 332 *eP* **P 20 20 47.6 +1.1**
ARMA Armidale 84.93 202 *eP* **P 20 20 47.2 +1.1**
comp=Z,30nm,0.9s
LMR La Mourre 85.03 354 *eP* **P 20 20 47.1 +0.5**
comp=Z,82nm,1.1s
LMR La Mourre 85.03 354 *eP* **P 20 20 47.1 +0.5**
LMR pmax pmax
comp=Z,82nm,1.0s
LMR La Mourre 85.03 354 *eP* **P 20 20 47.1 +0.5**
comp=Z,82nm,1.0s
KOZT Kozan 85.12 330 *eP* **P 20 20 47.8 +0.6**
SULT Sultanhani-AKS 85.15 332 *eP* **P 20 20 46.4 -1.1**
RKT Rikitea 85.26 137 *eS* **S 20 31 11.1 -1.4**
comp=Z,189nm,26.2s
RKT Rikitea 85.26 137 *eLR* LR 20 47 33.1
comp=Z,1µm,32.8s,baz=327
AQU L'Aquila 85.32 348 *eP* **P 20 20 48.9 +0.7**
comp=Z,79nm,1.0s
AQU LR LR
comp=Z,557nm,21.0s
BOLV Bolvadin 85.37 335 *i* P **P 20 20 48.9 +0.3**
SJPF Ste Jean 85.55 359 *eP* **P 20 20 49.6 +0.3**
SJPF Ste Jean 85.55 359 *eP* **P 20 20 49.6 +0.3**
SJPF Ste Jean 85.55 359 *eP* **P 20 20 49.6 +0.3**
KARA Karaisali 85.56 331 *eP* **P 20 20 48.2 -1.2**
CEYT Ceyhan 85.58 330 *eP* **P 20 20 50.7 +1.2**
PGF Pioggiola 85.61 352 *eP* **P 20 20 50.1 +0.4**
comp=Z,113nm,0.6s
PGF Pioggiola 85.61 352 *eP* **P 20 20 50.1 +0.4**
PGF pmax pmax
comp=Z,113nm,0.6s
PGF Pioggiola 85.61 352 *eP* **P 20 20 50.1 +0.4**
comp=Z,113nm,0.6s
EPF Esparros 85.61 358 *eP* **P 20 20 49.4 -0.2**
comp=Z,15nm,0.8s
EPF Esparros 85.61 358 *eP* **P 20 20 49.4 -0.2**
EPF pmax pmax
comp=Z,15nm,0.8s
EPF Esparros 85.61 358 *eP* **P 20 20 49.4 -0.2**
comp=Z,15nm,0.8s
GULE Gulek 85.62 331 *i* P **P 20 20 50.9 +1.0**
GRTK Grand Turk 85.63 61 PFAKE 20 21 00.0 +10
GRTK LR LR
comp=Z,952nm,20.0s
ETSF Etsaut 85.76 359 *eP* **P 20 20 51.2 +0.8**
comp=Z,18nm,0.6s
ETSF Etsaut 85.76 359 *eP* **P 20 20 51.2 +0.8**
ETSF pmax pmax
comp=Z,18nm,0.6s
ETSF Etsaut 85.76 359 *eP* **P 20 20 51.2 +0.8**
comp=Z,18nm,0.6s
YURE YUREGIR 85.79 330 *i* P **P 20 20 52.1 +1.5**
KHAL Karahalli 86.08 335 *i* P **P 20 20 50.6 -1.5**
ISP Isparta 86.33 335 P **P 20 20 53.4 +0.1**
ISP pmax pmax
comp=Z,22nm,0.8s
ISP MLR MLR
comp=Z,468nm,21.0s
ISP Isparta 86.33 335 P **P 20 20 53.4 +0.1**
comp=Z,22nm,0.8s
ISP LR LR
comp=Z,468nm,21.0s
GOA Goa 86.33 290 *eP* **P 20 20 52.2 -1.3**
GOA AMB AMB 20 20 54.3
comp=Z,54nm,0.7s
OSPF L'Ospedale 86.47 351 *eP* **P 20 20 54.6 +0.7**
JTS JuntasAbangare 86.52 78 PFAKE 20 21 10.0 +16
JTS LR LR
comp=Z,277nm,21.0s
PBRG Braganca 86.78 3 *eP* **P 20 20 55.0 -0.4**
comp=Z,40nm,1.8s
AYK Aydincik 87.10 332 *i* P P 20 20 47.0 -10
POLO Lamas de Olo 87.17 4 *eP* **P 20 20 57.1 -0.2**
comp=Z,28nm,2.0s
BANOM Banah 87.22 310 P **P 20 20 57.9 +0.1**
SNR=14
BANOM Banah 87.22 310 ⇓ *i*P **P 20 20 57.2 -0.6**
SNR=9.3
CUC Castrocucco 87.31 346 *eP* **P 20 20 57.6 -0.4**
CUC LR LR
comp=Z,489nm,22.0s
MVO Moncorvo 87.41 4 *eP* **P 20 20 57.9 -0.6**
comp=Z,29nm,1.7s
MVO Moncorvo 87.41 4 *e*LR LR 20 50 11.7
comp=Z,199nm,20.0s
SDDR Presa de Saban 87.59 62 PFAKE 20 21 10.0 +10
SDDR LR LR
comp=Z,561nm,21.0s
TIP Timpagrande 87.97 345 *eP* **P 20 21 01.0 -0.2**
comp=Z,25nm,1.0s
TIP LR LR
comp=Z,506nm,19.0s
MTE Manteigas 88.15 4 *eP* **P 20 21 02.7 +0.7**
MTE Manteigas 88.15 4 *e*LR LR 20 50 40.0
comp=Z,386nm,20.0s
CSS Prodhromos 88.21 331 *eP* **P**
CSS LR LR **20 21 01.7 -0.6**
comp=Z,106nm,21.0s
HATD Hatta, Dubai 88.23 309 ⇑ *e*P **P 20 21 02.7 +0.1**
SNR=12
NAZ Nazwa, Dubai 88.32 310 ⇓ P **P 20 21 02.0 -1.0**
ASHO Ashiyiah 88.38 309 P **P 20 21 03.1 -0.2**
SNR=7.3
ASHO Ashiyiah 88.38 309 P **P 20 21 02.5 -0.8**
SNR=11
MBWA Marble Bar 88.45 232 *eP* **P 20 21 02.8 -0.6**
PCAS Casmilo, Conde 88.45 5 *eP* **P 20 21 02.8 -0.6**
comp=Z,59nm,2.0s
FAQ Al Faqa, Dubai 88.56 310 *i* P **P 20 21 03.1 -1.0**
SNR=9.5
VSL Villasalto 88.60 351 *eP* **P 20 21 05.1 +1.0**
comp=Z,38nm,1.0s
PALK Pallekele 88.67 280 *eP* **P 20 21 05.8 +1.0**
comp=Z,140nm,1.0s
SMDO Samad 88.77 307 P **P 20 21 06.6 +1.3**
SNR=5.5
ASUD Al Ashush, Dub 88.78 310 *i* P **P 20 21 04.5 -0.6**
SNR=6.4
SANT Santorini 88.98 338 PFAKE 20 21 20.0 +14
SANT LR LR
comp=Z,621nm,21.0s
ESDC Sonseca Array 88.98 1 P **P 20 21 05.1 -0.8**
ESDC Sonseca Array 88.98 1 P **P 20 21 05.1 -0.8**
comp=Z,1.6nm,0.5s,baz=350,slow=4.0,SNR=14
CEL Celeste 89.00 346 *eP* **P 20 21 05.5 -0.6**
comp=Z,50nm,0.8s
CEL LR LR
comp=Z,483nm,20.0s
STKA Stephens Creek 89.07 210 *eP* **P 20 21 06.4 +0.3**
comp=Z,4.4nm,0.9s
STKA pP **pP 20 21 22.5 -2.6**
STKA Stephens Creek 89.07 210 P **P 20 21 07.1 +1.1**
comp=Z,14nm,0.9s,baz=356,slow=5.7,SNR=13
STKA pP **pP 20 21 22.5 -2.6**
comp=Z,17nm,0.9s,baz=351,slow=7.2,SNR=9.6
STKA LR LR 20 56 53.1
comp=Z,733nm,21.9s,baz=18,slow=33
PMRV Marv??o 89.13 4 *e*LR LR 20 50 49.1
comp=Z,315nm,22.0s
ARQ Araqi 89.29 308 P **P 20 21 07.7 +0.1**
SNR=7.5
MMAI Mount Meron Ar 89.37 329 P **P 20 21 08.0 +0.1**
MMAI Mount Meron Ar 89.37 329 P **P 20 21 08.0 +0.1**
comp=Z,7.7nm,0.8s,baz=28,slow=7.6,SNR=12
URZ Urewera 89.60 180 P **P 20 21 06.2 -2.1**
URZ Urewera 89.60 180 P **P 20 21 06.2 -2.1**
comp=Z,7.3nm,0.8s,baz=321,slow=12,SNR=3.7
URZ LR LR 20 55 25.8
comp=Z,753nm,21.8s,baz=18,slow=32
ASF Jabal al Asfar 89.66 328 P **P 20 21 09.2 -0.1**
ASF Jabal al Asfar 89.66 328 P **P 20 21 09.2 -0.1**
comp=Z,9.0nm,0.8s,baz=173,slow=3.8,SNR=3.2
EVO Evora 89.99 4 *eP* P 20 21 06.0 -4.6
comp=Z,34nm,2.0s
CAN Canberra 90.25 203 PFAKE 20 21 20.0 +8.5
CAN LR LR
comp=Z,829nm,20.0s
PVAQ Vaqueiros 91.13 4 *e*LR LR 20 52 04.2
comp=Z,374nm,22.0s
KEST Kesra 92.33 351 *eP* **P 20 21 21.0 -0.6**
KEST Kesra 92.33 351 P **P 20 21 21.2 -0.4**
comp=Z,8.6nm,0.9s,baz=330,slow=3.8,SNR=13
EIL Elat 92.61 328 P **P 20 21 22.8 -0.1**
EIL Elat 92.61 328 P **P 20 21 22.8 -0.1**
comp=Z,2.3nm,0.6s,baz=6.4,slow=4.3,SNR=5.2
SNZO South Karori 92.68 182 PFAKE 20 21 30.0 +7.5
SNZO LR LR
comp=Z,1µm,20.0s
ANWB Willy Bob 93.73 55 PFAKE 20 21 40.0 +12
ANWB LR LR
comp=Z,898nm,22.0s
RPZ Rata Peaks 95.22 185 LR LR 20 59 04.7
comp=Z,412nm,21.6s,baz=27,slow=32
SDV Santo Domingo 96.14 67 PFAKE 20 21 50.0 +11
SDV LR LR
comp=Z,13µm,19.0s
FDF Fort de France 96.52 56 PFAKE 20 21 50.0 +9.0
FDF LR LR
comp=Z,676nm,19.0s
ROSC El Rosal 97.21 73 LR LR 21 10 59.2
comp=Z,65nm,18.2s,baz=2.0,slow=39
OTAV Otavalo 98.38 79 PFAKE 20 22 00.0 +10
OTAV LR LR
comp=Z,235nm,21.0s
GRGR Grenville 98.44 58 PFAKE 20 22 00.0 +10
GRGR LR LR
comp=Z,1µm,22.0s
NWAO Narrogin (SRO) 99.53 228 LR LR 21 03 03.9
comp=Z,230nm,21.5s,baz=41,slow=33
TAM Tamanrasset 105.50 353 PFAKE 20 26 50.0
TAM LR LR
comp=Z,300nm,19.0s
PTGA Pitinga 110.04 64 PFAKE 20 26 50.0
PTGA LR LR
comp=Z,312nm,20.0s
SACV Santiago Islan 111.06 22 PFAKE 20 27 00.0
SACV LR LR
comp=Z,720nm,19.0s
MSEY Mahe Island 113.20 293 PFAKE 20 27 00.0
MSEY LR LR
comp=Z,293nm,20.0s
SAML Samuel 114.84 72 PFAKE 20 27 00.0 +8.2
SAML LR LR
comp=Z,332nm,19.0s
TOA0 Torodi Ar. Sit 115.32 356 *e*PKPdf **PKPdf 20 26 51.2 -1.6**
TORD Torodi Ar. Bea 115.32 356 PKP **PKPdf 20 26 51.8 -1.0**
TORD PP PP 20 27 45.8 -7.4
TORD SKP 20 30 21.8
TORD PKKPbc **PKKPbc 20 37 26.8 +1.8**
TORD PKKP **PKKPdf 20 37 49.1 +1.2**
TORD Torodi Ar. Bea 115.32 356 PKP **PKPdf 20 26 51.7 -1.0**
comp=Z,1.9nm,0.6s,baz=1.2,slow=1.9,SNR=22
TORD PP PP 20 27 45.8 -7.4
comp=Z,3.2nm,1.0s,baz=9.1,slow=6.4,SNR=5.6
TORD SKP 20 30 21.8
comp=Z,0.6nm,0.5s,baz=322,slow=1.1,SNR=5.5
TORD PKKPbc **PKKPbc 20 37 26.8 +1.8**
comp=Z,1.2nm,0.7s,baz=174,slow=3.1,SNR=8.1
TORD PKKP **PKKPdf 20 37 49.1 +1.2**
comp=Z,2.2nm,0.8s,baz=187,slow=3.5,SNR=7.0
LPAZ La Paz 117.57 81 PKP **PKPdf 20 26 59.3 +1.6**
LPAZ PKKPbc **PKKPbc 20 37 20.1 +2.4**
LPAZ La Paz 117.57 81 PKP **PKPdf 20 26 59.3 +1.6**
comp=Z,1.4nm,0.5s,baz=258,slow=6.0,SNR=5.9
LPAZ PKKPbc **PKKPbc 20 37 20.1 +2.4**
comp=Z,0.6nm,0.5s,baz=153,slow=4.5,SNR=2.6
KMBO Kilima Mbogo 119.66 313 PKP **PKPdf 20 27 02.7 +1.3**
KMBO pPKP **pPKPdf 20 27 19.3 -1.9**
KMBO PP **PP 20 28 23.4 -0.8**
KMBO LR LR
comp=Z,540nm,21.0s
KMBO Kilima Mbogo 119.66 313 PKP **PKPdf 20 27 02.7 +1.3**
comp=Z,1.7nm,0.8s,baz=44,slow=23,SNR=5.3
KMBO pPKP **pPKPdf 20 27 19.3 -1.9**
comp=Z,2.4nm,0.8s,baz=57,slow=12,SNR=4.1
KMBO PP **PP 20 28 23.4 -0.8**
comp=Z,3.6nm,0.9s,baz=34,slow=11,SNR=4.5
DBIC Dimbokro 121.81 3 PKP **PKPdf 20 27 05.1 -0.2**
DBIC pPKP **pPKPdf 20 27 21.4 -3.7**
DBIC Dimbokro 121.81 3 PKP **PKPdf 20 27 05.1 -0.2**
comp=Z,3.9nm,0.5s,baz=24,slow=2.1,SNR=18
DBIC pPKP **pPKPdf 20 27 21.4 -3.7**
comp=Z,3.4nm,0.5s,baz=333,slow=6.3,SNR=3.7
TIC Toumodi 121.83 3 *e*PKP1 **PKPdf 20 27 04.4 -0.9**
KIC Kosan Boka 122.12 3 *e*PKP1 **PKPdf 20 27 05.3 -0.6**
comp=Z,18nm,0.9s
LIC Lamto 122.25 3 *e*PKIKP **PKPdf 20 27 05.2 -0.9**
LIC Lamto 122.25 3 *e*PKP1 **PKPdf 20 27 04.7 -1.4**
comp=Z,30nm,1.1s
LIC Lamto 122.25 3 *e*PKPdf **PKPdf 20 27 05.2 -0.9**
H03N2 Juan Fernandez 123.35 103 T T 22 42 07.5
baz=317
H03N1 Juan Fernandez 123.36 103 T T 22 42 05.6
baz=317
H03N3 Juan Fernandez 123.36 103 T T 22 42 09.1
baz=317
RCBR Riachuelo 126.48 43 PFAKE 20 27 30.0 +16
RCBR LR LR
comp=Z,388nm,19.0s
CASY Casey 128.19 208 PFAKE 20 27 30.0 +14
CASY LR LR
comp=Z,458nm,20.0s
MSKU Masuku 128.36 340 PFAKE 20 27 30.0 +12
MSKU LR LR
comp=Z,1.0nm,19.0s
BDFB Brasilia 128.93 62 PKP **PKPdf 20 27 19.4 +0.6**
BDFB Brasilia 128.93 62 PKP **PKPdf 20 27 19.4 +0.6**
comp=Z,5.6nm,0.9s,baz=32,slow=0.9,SNR=7.6
OPO Ambohidratompo 129.14 292 SKPbc SKPbc 20 30 39.2 +4.8
comp=Z,4.4nm,0.9s,baz=67,slow=8.5,SNR=3.8
VNDA Vanda 129.34 184 PKP **PKPdf 20 27 19.9 +2.2**
VNDA pPKP **pPKPdf 20 27 36.6 -0.8**
VNDA SKPbc SKPbc 20 30 35.0 +2.0
VNDA Vanda 129.34 184 PKP **PKPdf 20 27 19.9 +2.2**
comp=Z,1.2nm,0.8s,baz=323,slow=7.6,SNR=3.7
VNDA pPKP **pPKPdf 20 27 36.6 -0.8**
comp=Z,1.9nm,0.9s,baz=7.7,slow=4.3,SNR=3.4
VNDA SKPbc SKPbc 20 30 35.0 +2.0
comp=Z,1.3nm,0.7s,baz=345,slow=5.4,SNR=4.1
ABPO Ambohimpanom 129.47 291 PFAKE 20 27 30.0 +10
ABPO LR LR
comp=Z,356nm,20.0s
CPUP Villa Florida 131.71 80 PKP **PKPdf 20 27 24.2 +0.5**
CPUP SKPbc **SKPab 20 30 43.6 -0.3**
CPUP Villa Florida 131.71 80 PKP **PKPdf 20 27 24.2 +0.5**
comp=Z,0.7nm,0.4s,baz=21,slow=5.9,SNR=2.8
CPUP SKPbc **SKPab 20 30 43.6 -0.3**
comp=Z,5.3nm,0.6s,baz=296,slow=3.2,SNR=10
PLCA Paso Flores 133.16 105 PKP **PKPdf 20 27 26.8 +0.7**
PLCA pPKP **pPKPdf 20 27 45.4 -0.5**
PLCA SKPbc **SKPbc 20 30 48.0 +0.2**
PLCA Paso Flores 133.16 105 PKP **PKPdf 20 27 26.8 +0.7**
comp=Z,5.8nm,0.7s,baz=282,slow=2.6,SNR=22
PLCA pPKP **pPKPdf 20 27 45.4 -0.5**
comp=Z,4.0nm,0.6s,baz=259,slow=3.8,SNR=3.9
PLCA SKPbc **SKPbc 20 30 48.0 +0.2**
comp=Z,4.8nm,0.8s,baz=316,slow=4.7,SNR=9.3
ASCN Ascension 135.24 17 PFAKE 20 27 40.0 +9.3
ASCN LR LR
comp=Z,993nm,19.0s
LSZ Lusaka 136.25 315 PKP **PKPdf 20 27 33.5 +0.8**
LSZ pPKP **pPKPdf 20 27 50.7 -1.8**
LSZ SKPbc **SKPbc 20 30 58.6 0.0**
LSZ LR LR
comp=Z,601nm,22.0s
LSZ Lusaka 136.25 315 PKP **PKPdf 20 27 33.5 +0.8**
comp=Z,2.2nm,0.8s,baz=48,slow=7.1,SNR=6.9
LSZ pPKP **pPKPdf 20 27 50.7 -1.8**
comp=Z,3.2nm,0.9s,baz=32,slow=9.4,SNR=3.1
LSZ SKPbc **SKPbc 20 30 58.6 0.0**
comp=Z,2.2nm,0.6s,baz=21,slow=7.3,SNR=4.4
QSPA South Pole Qui 141.46 180 *e*PKPpre PKPpre 20 27 35.6
QSPA *e*SKP 20 31 11.4
QSPA LR LR
comp=Z,485nm,20.0s
TSUM Tsumeb 143.99 327 *e*PKPdf PKPbc 20 27 44.7 +0.1
TSUM *e*SKP 20 31 18.6
MAW Mawson 145.41 218 PKPbc **PKPdf 20 27 47.3 -0.1**
MAW pPKPbc pPKPbc 20 28 03.7 -3.4
MAW Mawson 145.41 218 PKPbc **PKPdf 20 27 47.3 -0.1**
comp=Z,7.4nm,0.5s,baz=59,slow=9.5,SNR=6.7
MAW pPKPbc pPKPbc 20 28 03.7 -3.4
comp=Z,34nm,0.9s,baz=42,slow=3.0,SNR=4.2
LBTB Lobatse 145.90 311 *e*PKPdf **PKPbc 20 27 50.2 -0.3**
LBTB *e*SKP 20 31 13.5
BOSA Boshof 149.09 308 *e*PKPbc **PKPbc 20 27 59.2 +0.1**
BOSA pPKPbc **pPKPbc 20 28 14.5 -4.3**
BOSA Boshof 149.09 308 PKPbc **PKPbc 20 27 59.4 +0.2**
comp=Z,14nm,0.6s,baz=58,slow=2.1,SNR=36
BOSA pPKPbc **pPKPbc 20 28 14.5 -4.3**
comp=Z,18nm,0.8s,baz=75,slow=0.9,SNR=7.8

ISN **16** *20:23:08.5±1.3, 32°.84N×48°.77E, h366km, ML4.6*
ISCJB **16** *20:23:34.4±0.1, 32°.46N±0°.02×48°.33E±0°.02, h10km, mb4.9/174, MS4.3/15, Error ellipse: s-maj=2.5km s-min=1.7km az=26.1*
NEIC **16** *20:23:37.0, 32°.45N×48°.30E, h5km, mb5.0/76, MN4.9(TEH), After TEH.*
NEIC At least 150 houses damaged in Khuzestan.
MOS **16** *20:23:38.2±1.1, 32°.61N×48°.33E, h33km, mb5.2/51, Error ellipse: s-maj=5.2km s-min=3.0km az=119.9*
THR **16** *20:23:38.7±0.8, 32°.56N×48°.44E, h15km±7km, ML4.9*
TEH **16** *20:23:38.3, 32°.43N×48°.30E, h10km, ML4.9*
CSEM **16** *20:23:39.9±0.1, 32°.46N×48°.33E, h40km, mb4.9/99, Ms5.5, Error ellipse: s-maj=3.0km s-min=2.0km az=24.0*
SGS **16** *20:23:39.3, 32°.55N×48°.98E, h14km, ML5.4*
IDC **16** *20:23:39.9±1.7, 32°.61N×48°.41E, h32km±11km, mb4.4/41, mb1 4.4/49, mb1mx4.4/51, mbtmp4.5/49, MS4.0/8, Ms1 4.0/8, ms1mx3.6/47, Error ellipse: s-maj=10.0km s-min=8.5km az=157.0*
BJI **16** *20:23:41.0, 32°.60N×48°.40E, h70km, mB5.3/33, mb5.0/49, Ms4.8/24, Ms7 4.5/22*
SZGRF **16** *20:24:03.0, 34°.06N×45°.76E, h33km, mb5.0, Iran-Iraq border region*
ISC 16 20:23:36.1±0.2,**32°.51N**±0°.02×**48°.37E**±0°.01,**h10**km,**n1011**,
σ1§**23**/1036,**mb5.0**/174,**MS4.5**/15,**117C-45D**,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.55**	**138**	*e*Pg		**Pb**	**20 23 49.5**	**+1.7**
	67µm,0.8s							
SHGR	**Shooshtar-Gavs**	**0.55**	**138**	*e*Pg		**Pb**	**20 23 49.5**	**+1.7**
SHGR					AML	AML	20 24 04.5	
	comp=N,70µm,0.3s							
SHGR					AML	AML	20 24 07.8	
	comp=E,67µm,0.8s							
IKFM	**Kafar-mosalman**	**1.10**	**337**	*e*Pg		**Pg**	**20 23 57.0**	**-0.3**
IKFM	**Kafar-mosalman**	**1.10**	**337**	*e*Pg		**Pg**	**20 23 57.0**	**-0.3**
IDOB	**Doab**	**1.28**	**353**	*e*Pg		**Pn**	**20 23 59.5**	**-0.8**
IDOB	**Doab**	**1.28**	**353**	*e*Pg		**Pn**	**20 23 59.5**	**-0.8**
IKOM	**Komasi**	**1.81**	**337**	*e*Pn		**Pb**	**20 24 10.3**	**+0.9**
IKOM				*e*Sg		**Sg**	**20 24 36.9**	**+2.6**
IKOM				*e*			20 24 45.5	
	comp=Z,17µm,0.5s							
IKOM	**Komasi**	**1.81**	**337**	Pn		**Pb**	**20 24 10.5**	**+1.1**
IKOM	**Komasi**	**1.81**	**337**	*e*Pn		**Pb**	**20 24 10.3**	**+0.9**
IBZA	**Bozab**	**2.00**	**348**	*e*Pn		**Pb**	**20 24 12.8**	**+0.2**
IBZA				*e*			20 24 44.2	
	comp=Z,48µm,0.4s							
IBZA	**Bozab**	**2.00**	**348**	*e*Pn		**Pb**	**20 24 12.9**	**+0.2**
IPIR	**Pirpir**	**2.14**	**85**	*e*Pn		**Pb**	**20 24 15.4**	**+0.3**
IPIR				*e*Sg		**Sg**	**20 24 46.1**	**+1.3**
IPIR				*e*			20 24 49.5	
	comp=Z,58µm,0.3s							
IPIR	**Pirpir**	**2.14**	**85**	Pn		**Pb**	**20 24 15.7**	**+0.6**
IPIR	**Pirpir**	**2.14**	**85**	*e*Pn		**Pb**	**20 24 15.4**	**+0.3**
IBDR	**Badra**	**2.14**	**287**	*e*PG		Pn	20 24 06.5	-5.3
IBDR				*e*SG		**Sg**	**20 24 49.0**	**+4.2**
IGHG	**Ghaleghazi**	**2.35**	**321**	*e*Pn		**Pn**	**20 24 17.3**	**+2.2**
IGHG				*e*Sg		**Sg**	**20 24 53.4**	**+1.6**
IGHG				*e*			20 25 03.2	
	comp=Z,75µm,0.5s							
IGHG	**Ghaleghazi**	**2.35**	**321**	Pn		**Pn**	**20 24 17.3**	**+2.2**
IGHG	**Ghaleghazi**	**2.35**	**321**	*e*Pn		**Pn**	**20 24 17.3**	**+2.2**
IVIS	**Veis**	**2.38**	**328**	*e*Pn		**Pn**	**20 24 17.4**	**+2.2**
IVIS				*e*			20 25 01.4	
	comp=Z,41µm,0.5s							
IVIS	**Veis**	**2.38**	**328**	*e*Pn		**Pn**	**20 24 17.4**	**+2.2**
NSR	**Nassriya**	**2.42**	**232**	*e*PG		Pn	20 24 11.8	-3.9
NSR				*e*SG		**Sg**	**20 24 54.2**	**+0.4**
ASAO	**Ashtian**	**2.46**	**34**	*e*Pn		**Pb**	**20 24 19.7**	**-0.9**
ASAO				*e*Sg		**Sg**	**20 24 53.8**	**-1.3**
	comp=Z,6µm,1.3s							
ASAO	**Ashtian**	**2.46**	**34**	*e*Pn		**Pb**	**20 24 19.7**	**-0.9**

ASAO eSg Sg 20 24 53.8 -1.3
ASAO AML AML 20 25 02.9
comp=E,6µm,1.3s
ILIN Lien 2.67 334 ePn **Pn 20 24 22.0 +2.6**
ILIN e 20 24 32.1
comp=Z,24µm,0.4s
ILIN Lien 2.67 342 ePn **Pn 20 24 22.0 +2.6**
SNGE Sanandaj 2.71 342 ePn **Pb 20 24 23.7 -1.1**
SNGE Sanandaj 2.71 342 ePn **Pb 20 24 23.7 -1.1**
IDHR Dehrash 2.74 323 ePn **Pn 20 24 22.2 +1.9**
IDHR e 20 25 19.1
comp=Z,22µm,0.4s
IDHR Dehrash 2.74 323 Pn **Pn 20 24 22.2 +1.9**
IDHR Dehrash 2.74 323 ePn **Pn 20 24 22.2 +1.9**
IKLH Kolahrood 2.82 73 ePn Pn 20 24 25.0 +3.6
IKLH e 20 25 12.6
comp=Z,76µm,0.3s
IKLH Kolahrood 2.82 73 ePn Pn 20 24 25.0 +3.6
IGAR Gharneh 3.11 91 ePn **Pn 20 24 28.4 +3.0**
IGAR e 20 25 21.1
comp=E,4µm,0.2s
GHVR GHOM 3.14 50 ePn Pn 20 24 28.4 +2.8
comp=E,3µm,0.2s
GHVR GHOM 3.14 50 ePn Pn 20 24 28.4 +2.8
GHVR AML AML 20 25 24.5
comp=E,4µm,3.5s
GHVR AML AML 20 25 29.0
comp=N,3µm,0.2s
IRAZ Razeghan 3.16 24 ePn Pn 20 24 29.5 +3.3
IRAZ e 20 25 29.6
comp=Z,41µm,0.4s
IRAZ Razeghan 3.16 24 ePn Pn 20 24 29.5 +3.3
IZEF Zefreh 3.36 82 ePn **Pn 20 24 31.8 +2.9**
IZEF e 20 25 35.6
comp=Z,22µm,0.3s
IZEF Zefreh 3.36 82 Pn Pn 20 24 32.0 +3.1
IZEF Zefreh 3.36 82 ePn **Pn 20 24 31.8 +2.9**
IMHD Mahdasht 3.69 30 ePn Pn 20 24 36.5 +3.1
IMHD e 20 25 38.7
comp=Z,19µm,0.3s
IMHD Mahdasht 3.69 30 ePn Pn 20 24 36.5 +3.1
IVRN Varamin 3.74 48 ePn Pn 20 24 37.0 +3.1
IVRN e 20 25 38.3
comp=Z,16µm,0.4s
IVRN Varamin 3.74 48 ePn Pn 20 24 37.0 +3.1
NASN Na'in 3.76 84 ePn **Pn 20 24 37.3 +2.9**
NASN Na'in 3.76 84 ePn **Pn 20 24 37.3 +2.9**
IGZV Ghazvin 4.16 21 ePn **Pn 20 24 42.3 +2.5**
IGZV e 20 26 04.2
comp=Z,12µm,0.4s
IGZV Ghazvin 4.16 21 ePn **Pn 20 24 42.3 +2.5**
ZNJK Zanjan 4.16 4 ePn Pn 20 24 42.9 +3.0
ZNJK Zanjan 4.16 4 ePn Pn 20 24 42.9 +3.0
IDMV Damavand 4.31 44 ePn Pn 20 24 44.7 +2.7
IDMV e 20 26 06.7
comp=Z,18µm,0.5s
IDMV Damavand 4.31 44 Pn Pn 20 24 44.7 +2.7
IDMV Damavand 4.31 44 ePn Pn 20 24 44.7 +2.7
KFJS 4.33 185 S **Sn 20 25 34.3 +1.8**
baz=192
KFJS 4.33 185 P **Pn 20 24 45.1 +3.1**
baz=192
KFJS 4.33 185 P **Pn 20 24 45.0 +3.1**
KFJS S **Sn 20 25 34.0 +1.5**
IKRK Kirkuk 4.42 312 ePn **Pn 20 24 44.0 +0.8**
IKRK eSn **Sn 20 25 31.0 -3.7**
ISAD Sadrabad 4.55 96 ePn **Pn 20 24 47.5 +2.3**
ISAD e 20 26 09.3
comp=Z,18µm,0.4s
ISAD Sadrabad 4.55 96 ePn **Pn 20 24 47.5 +2.3**
ILAS Lasjerd 4.77 52 ePn Pn 20 24 51.0 +2.7
ILAS e 20 26 40.2
comp=Z,13µm,0.4s
ILAS Lasjerd 4.77 52 ePn Pn 20 24 51.0 +2.7
IFIR Firoozkooh 4.79 48 ePn Pn 20 24 51.6 +3.0
IFIR e 20 26 16.1
comp=Z,3µm,0.2s
IFIR Firoozkooh 4.79 48 ePn Pn 20 24 51.6 +3.0
IPAR Pars 4.81 122 ePn **Pn 20 24 50.5 +1.5**
IPAR e 20 25 50.2
comp=Z,11µm,0.4s
IPAR Pars 4.81 122 ePn **Pn 20 24 50.5 +1.5**
IPRN Peran 4.96 40 ePn Pn 20 24 54.5 +3.6
IPRN e 20 26 22.9
comp=Z,15µm,0.5s
ICHK Chekchek 5.12 91 ePn **Pn 20 24 55.4 +2.4**
ICHK e 20 26 31.3
comp=Z,10µm,0.4s
ICHK Chekchek 5.12 91 Pn **Pn 20 24 55.5 +2.5**
ICHK Chekchek 5.12 91 ePn **Pn 20 24 55.4 +2.4**
IALA Alasht 5.12 45 ePn Pn 20 24 56.5 +3.4
IALA e 20 25 24.8
comp=Z,6µm,0.3s
IALA Alasht 5.12 45 ePn Pn 20 24 56.5 +3.4
ISRV Sarvestan 5.13 126 ePn **Pn 20 24 54.8 +1.5**
ISRV e 20 27 09.2
comp=Z,17µm,0.6s
ISRV Sarvestan 5.13 126 ePn **Pn 20 24 54.8 +1.5**
ISHM Shahmirzad 5.24 50 ePn Pn 20 24 57.6 +2.8
ISHM e 20 26 32.9
comp=Z,10µm,0.3s
ISHM Shahmirzad 5.24 50 ePn Pn 20 24 57.6 +2.8
IMEH Mehriz 5.42 100 ePn **Pn 20 24 59.3 +2.0**
IMEH e 20 26 02.8
comp=Z,3µm,0.2s
IMEH Mehriz 5.42 100 ePn **Pn 20 24 59.3 +2.0**
IANJ Anjilo 5.47 56 ePn **Pn 20 25 00.1 +2.2**
IANJ e 20 25 29.1
comp=Z,7µm,0.4s
IANJ Anjilo 5.47 56 ePn **Pn 20 25 00.1 +2.2**
IAZR Azarshahr 5.51 340 ePn **Pn 20 25 01.1 +2.5**
IAZR e 20 25 28.3
comp=Z,4µm,0.3s
IAZR Azarshahr 5.51 340 Pn **Pn 20 25 01.0 +2.5**
IAZR Azarshahr 5.51 340 Pn **Pn 20 25 01.0 +2.5**
IFTB Fath-abad 5.72 344 ePn **Pn 20 25 03.6 +2.2**
IFTB Fath-abad 5.72 344 ePn **Pn 20 25 03.6 +2.2**
IHRS Heris 5.89 350 e 20 25 34.5
comp=Z,5µm,0.5s
IHRS ePn **Pn 20 25 06.2 +2.5**
ITBZ Tabriz 5.99 343 ePn **Pn 20 25 07.0 +2.1**
ITBZ Tabriz 5.99 343 ePn **Pn 20 25 07.0 +2.1**
IGLO Ghaloghah 6.01 47 ePn Pn 20 25 08.8 +3.4
ASYS 6.09 216 S **Sn 20 26 12.8 -3.2**
baz=220
ASYS 6.09 216 P **Pn 20 25 07.5 +1.2**
baz=220
ASYS 6.09 216 P **Pn 20 25 07.0 +0.7**
ASYS S **Sn 20 26 13.0 -3.0**
IBAF Bafgh 6.18 97 e 20 25 10.7
comp=Z,3µm,0.2s
IBAF ePn **Pn 20 25 09.7 +2.1**
IMRD Marand 6.56 341 ePn **Pn 20 25 14.7 +2.0**
IMRD e 20 25 52.1
comp=Z,3µm,0.5s
IMRD Marand 6.56 341 ePn **Pn 20 25 14.7 +2.0**
BOQSS 6.68 172 S **Sn 20 26 31.1 +0.6**
baz=176
BOQSS 6.68 172 P **Pn 20 25 16.1 +1.7**
baz=176
BOQSS 6.68 172 P **Pn 20 25 16.0 +1.7**
BOQSS S **Sn 20 26 31.0 +0.6**
KRBR Kerman 7.62 107 ePn Pn 20 25 31.9 +4.5
SLWS 7.94 165 S Sn 20 26 58.1 -3.4
baz=168
SLWS 7.94 165 P **Pn 20 25 33.4 +1.8**
baz=168
SLWS 7.94 165 P **Pn 20 25 33.0 +1.4**
SLWS S Sn 20 26 58.0 -3.6
GNI Garni 8.16 340 ePn Pn 20 25 38.8 +4.0
GNI Lg Lg 20 27 57.7
GNI Garni 8.16 340 Pn Pn 20 25 39.5 +4.8
comp=Z,0.3nm,0.3s,baz=147,slow=17,SNR=3.1
GNI Lg Lg 20 27 57.7
baz=99,slow=19,SNR=1.5
GNI LR LR 20 29 27.9
comp=Z,817nm,19.9s,baz=150,slow=43
GNI Garni 8.16 340 ePn Pn 20 25 38.8 +4.0
BTHS 8.71 165 S Sn 20 27 15.6 -4.9
baz=168
BTHS 8.71 165 P **Pn 20 25 42.8 +0.6**
baz=168
BTHS 8.71 165 P **Pn 20 25 43.0 +0.8**
BTHS S Sn 20 27 16.0 -4.5

IKOO Kooshah 8.99 88 ePn **Pn 20 25 47.9 +1.7**
IKOO Kooshah 8.99 88 ePn **Pn 20 25 47.9 +1.7**
IKRD Kardeh 9.38 60 ePn Pn 20 26 03.5 +12
BANOM Banah 9.54 131 Pn **Pn 20 25 54.0 +0.4**
SNR=18
BANOM Banah 9.54 131 *i* P **Pn 20 25 53.3 -0.3**
SNR=94
BANOM Banah 9.54 131 P **Pn 20 25 53.3 -0.3**
SNR=94
BANOM Banah 9.54 131 Pn **Pn 20 25 54.0 +0.4**
SNR=18
IPAY Payeh 9.61 63 ePn **Pn 20 25 56.7 +2.0**
IPAY e 20 26 19.9
comp=Z,458nm,0.3s
IPAY Payeh 9.61 63 ePn **Pn 20 25 56.7 +2.0**
ABKT Ailbek 9.63 53 Pn Pn 20 25 58.2 +3.4
comp=Z,258nm,1.0s,SNR=12
IDAH Dahanechah 9.70 86 ePn **Pn 20 25 58.3 +2.3**
IDAH e 20 26 11.4
comp=Z,790nm,0.2s
IDAH Dahanechah 9.70 86 ePn **Pn 20 25 58.3 +2.3**
ASF Jabal al Asfar 9.71 271 Pn **Pn 20 25 56.0 0.0**
ASF Sn **Sn 20 27 41.6 -3.5**
ASF Lg Lg 20 28 54.7
ASF Jabal al Asfar 9.71 271 Pn **Pn 20 25 56.0 0.0**
comp=Z,1.4nm,0.3s,baz=55,slow=10,SNR=14
ASF Sn **Sn 20 27 41.6 -3.5**
comp=Z,1.1nm,0.3s,baz=218,slow=12,SNR=3.0
ASF Lg Lg 20 28 54.7
comp=Z,1.0nm,0.3s,baz=220,slow=19,SNR=4.8
ASF LR LR 20 31 00.4
comp=Z,944nm,18.6s,baz=40,slow=45
IMOG Moghan 9.76 65 ePn **Pn 20 25 58.9 +2.1**
IMOG Moghan 9.76 65 ePn **Pn 20 25 58.9 +2.1**
NAZ Nazwa, Dubai 9.85 138⇓ *i* P **Pn 20 25 58.7 +0.8**
SNR=62
NAZ Nazwa, Dubai 9.85 138 P **Pn 20 25 58.7 +0.8**
SNR=62
ISRO Mashad 9.92 65 ePn **Pn 20 26 01.3 +2.4**
ISRO Mashad 9.92 65 ePn **Pn 20 26 01.3 +2.4**
ASUD Al Ashush, Dub 9.96 140 *i* P **Pn 20 26 00.9 +1.6**
SNR=56
ASUD *i* P **Pn 20 26 01.1 +1.8**
SNR=18
ASUD Al Ashush, Dub 9.96 140 P **Pn 20 26 00.9 +1.6**
SNR=56
FAQ Al Faqa, Dubai 10.01 139⇓ *i* P **Pn 20 26 00.3 +0.4**
SNR=45
FAQ Al Faqa, Dubai 10.01 139 P **Pn 20 26 00.3 +0.4**
SNR=45
HATD Hatta, Dubai 10.25 136⇓ *i* P **Pn 20 26 03.4 +0.1**
SNR=40
HATD Hatta, Dubai 10.25 136 P **Pn 20 26 03.4 +0.1**
SNR=40
ASHO Ashiyiah 10.32 137 Pn **Pn 20 26 04.7 +0.4**
SNR=25
ASHO Ashiyiah 10.32 137⇑ *i* P **Pn 20 26 03.8 -0.4**
SNR=72
ASHO Ashiyiah 10.32 137 P **Pn 20 26 03.8 -0.4**
SNR=72
ASHO Ashiyiah 10.32 137 Pn **Pn 20 26 04.7 +0.4**
SNR=25
IMYA Miami 10.41 65 ePn **Pn 20 26 07.4 +1.7**
IMYA Miami 10.41 65 ePn **Pn 20 26 07.4 +1.7**
MAK Makhachkala 10.45 357 eP Pn 20 26 09.5 +3.5
comp=Z,164nm,1.2s
MAK eS Sn 20 28 11.2 +8.1
MAK pmax pmax
comp=Z,164nm,1.2s
MAK MLR MLR
comp=Z,1µm,13.0s
MAK Makhachkala 10.45 357 eP Pn 20 26 09.5 +3.5
comp=Z,164nm,1.2s
ZEI Tsey 10.85 342 eP **Pn 20 26 12.6 +1.0**
ZEI pmax pmax
comp=Z,32nm,1.6s
MMAI Mount Meron Ar 10.93 276 Pn **Pn 20 26 13.0 +0.4**
MMAI Lg Lg 20 29 43.1
MMAI Mount Meron Ar 10.93 276 Pn **Pn 20 26 13.0 +0.4**
comp=Z,0.7nm,0.3s,baz=84,slow=17,SNR=5.8
MMAI Lg Lg 20 29 43.2
comp=Z,1.5nm,0.3s,baz=105,slow=34,SNR=3.4
MMAI Mount Meron Ar 10.93 276 Pn **Pn 20 26 13.0 +0.4**
NCK Nalchik 11.59 342 *i* P **Pn 20 26 21.6 0.0**
NCK Nalchik 11.59 342 *i* P **Pn 20 26 21.6 0.0**
NEY Neytrino 11.61 339⇓ eP **Pn 20 26 20.7 -1.2**
ARQ Araqi 11.64 140 Pn **Pn 20 26 23.1 +0.8**
SNR=26
ARQ Araqi 11.64 140 Pn **Pn 20 26 23.1 +0.8**
SNR=26
EIL Elat 11.84 260 Pn **Pn 20 26 25.7 +0.6**
EIL Lg Lg 20 30 12.3
EIL Elat 11.84 260 Pn **Pn 20 26 25.7 +0.6**
comp=Z,1.6nm,0.3s,baz=129,slow=6.4,SNR=16
EIL Lg Lg 20 30 12.3
comp=Z,1.0nm,0.3s,baz=288,slow=6.2,SNR=5.9
EIL LR LR 20 32 10.3
comp=Z,995nm,19.0s,baz=82,slow=43
EIL Elat 11.84 260 Pn **Pn 20 26 25.7 +0.6**
HOQ Hoqain 11.89 136 Pn **Pn 20 26 25.9 +0.1**
SNR=12
HOQ Hoqain 11.89 136 P **Pn 20 26 25.9 +0.1**
SNR=12
KBZ Khabaz 11.99 341 P Pn 20 26 32.0 +5.0
KBZ Khabaz 11.99 341 Pn Pn 20 26 32.0 +5.0
KBZ Khabaz 11.99 341 Pn Pn 20 26 32.0 +5.0
comp=Z,0.0nm,0.3s,baz=172,slow=14,SNR=4.2
KIV Kislovodsk 12.26 340 P **Pn 20 26 29.0 -1.8**
KIV MLR MLR
comp=Z,600nm,12.0s
KIV Kislovodsk 12.26 340 Pn Pn 20 26 38.2 +7.3
SNR=8.4
KIV Kislovodsk 12.26 340 ePn Pn 20 26 36.1 +5.3
SMDO Samad 12.72 135 Pn **Pn 20 26 37.7 +0.4**
SNR=31
SMDO Samad 12.72 135 P **Pn 20 26 37.7 +0.4**
SNR=31
CSS Prodhromos 12.75 285 Pn Pn 20 26 40.9 +3.4
SOC Sochi 12.98 331 eP **Pn 20 26 42.9 +2.4**
SOC pmax pmax
comp=Z,47nm,0.9s
SOC Sochi 12.98 331 eP **Pn 20 26 42.9 +2.4**
comp=Z,47nm,0.9s
GOF Gofitskoye 13.19 343 eP **P 20 26 54.3 +0.8**
GOF pmax pmax
comp=Z,60nm,1.2s
JMDO Jabal Madar 13.29 137 Pn **Pn 20 26 43.9 -1.0**
SNR=18
JMDO Jabal Madar 13.29 137 P **Pn 20 26 43.9 -1.0**
SNR=18
WBK Wadi Bani Khal 13.62 134 Pn **Pn 20 26 49.4 0.0**
SNR=12
WBK Wadi Bani Khal 13.62 134 P **Pn 20 26 49.4 0.0**
SNR=12
BR131 Keskin Array S 13.90 305 ePn **Pn 20 26 55.7 +2.5**
BR131 Keskin Array S 13.90 305 ePn **Pn 20 26 55.7 +2.5**
BRTR Keskin Array B 13.90 305 Pn **Pn 20 26 55.8 +2.5**
BRTR Keskin Array B 13.90 305 Pn **Pn 20 26 55.8 +2.5**
comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=8.3
BRTR Keskin Array B 13.90 305 Pn **Pn 20 26 55.8 +2.5**
ANTO Ankara 14.55 305 eP **Pn 20 27 04.2 +2.1**
ANTO Ankara 14.55 305 ePn **Pn 20 27 04.2 +2.1**
ANTO Ankara 14.55 305 ePn **Pn 20 27 04.2 +2.1**
ANN Anapa 14.93 328 eP Pn 20 26 58.8 -8.4
ANN eS Sn 20 29 44.3 -8.2
ANN pmax pmax
comp=Z,138nm,1.5s
ANN MLR MLR
comp=N,839nm,17.0s
ANN MLR MLR
comp=E,307nm,17.0s
ANN MLR MLR
comp=Z,509nm,17.0s
ISP Isparta 15.52 295 eP **P 20 27 18.6 -1.0**
ISP Isparta 15.52 295 ePn **P 20 27 18.6 -1.0**
ISP Isparta 15.52 295 eP **P 20 27 18.6 -1.0**
ABTO Aybut 15.74 162 Pn **Pn 20 27 15.8 -2.2**
SNR=8.2
ABTO Aybut 15.74 162 Pn **Pn 20 27 15.8 -2.2**
SNR=8.2
RBK Rabkut 15.85 159 Pn **Pn 20 27 17.6 -1.8**
SNR=9.5
RBK Rabkut 15.85 159 Pn **Pn 20 27 17.6 -1.8**
SNR=9.5
SIM Simferopol' 16.64 322 *c i* P **P 20 27 32.0 +0.2**
SIM pmax pmax
comp=Z,17nm,1.0s

SIM Simferopol' 16.64 322 *i* P **P 20 27 32.0 +0.2**
comp=Z,17nm,1.0s
KBL Kabul 17.36 78 eP **P 20 27 40.9 +0.8**
KBL pmax pmax
comp=Z,52nm,0.8s
KBL Kabul 17.36 78 ePn **P 20 27 40.9 +0.8**
comp=Z,52nm,0.8s
KBL Kabul 17.36 78 eP **P 20 27 40.9 +0.8**
comp=Z,52nm,0.8s
DAMY Dhamar 18.22 192 eP **P 20 27 52.8 +3.1**
comp=Z,42nm,0.8s
LBOS 18.77 189 eP **Pn 20 27 58.9 +2.6**
ABKAR Akbulak array 18.84 24 eP **P 20 27 56.0 0.0**
comp=Z,10nm,0.6s
ABKAR eScP **ScP 20 35 54.9 -3.4**
ABKAR Akbulak array 18.84 24 eP **P 20 27 56.0 0.0**
comp=Z,10nm,0.6s
ABKAR eScP **ScP 20 35 54.9 -3.4**
VRHR Novokhopersk 19.22 347 eP **P 20 28 01.2 +1.0**
VRHR pmax pmax
comp=N,230nm,0.9s
VRHR pmax pmax
comp=E,110nm,0.9s
VRHR pmax pmax
comp=Z,180nm,0.9s
VRHR Novokhopersk 19.22 347 eP **P 20 28 01.2 +1.0**
SANT Santorini 19.27 288 eP **P 20 28 00.8 -0.1**
comp=Z,70nm,0.9s
SANT Santorini 19.27 288 eP **P 20 28 00.8 -0.1**
comp=Z,70nm,0.9s
AKTK Aktyubinsk 19.28 19 P **P 20 28 01.0 +0.1**
AKTO Aktyubinsk 19.28 19 P **P 20 28 01.0 +0.1**
AKTO Aktyubinsk 19.28 19 P **P 20 28 01.0 +0.1**
AKTO Aktyubinsk 19.28 19 P **P 20 28 01.0 +0.1**
comp=Z,0.6nm,0.3s,baz=198,slow=9.9,SNR=20
AKTO Aktyubinsk 19.28 19 P **P 20 28 01.0 +0.1**
APE Apeiranthos 19.29 290⇓ eP **P 20 27 58.7 -2.4**
APE Apeiranthos 19.29 290 eP **P 20 27 58.7 -2.4**
PSN Preselentsi 19.36 311⇓ P **P 20 28 02.9 +1.2**
PSN Preselentsi 19.36 311⇓ *i* P **P 20 28 02.9 +1.2**
PSN Preselentsi 19.36 311 P **P 20 28 02.9 +1.2**
TRBA At Turbah 19.58 192 eP **Pn 20 28 08.3 +2.3**
VORD Divnogorie 19.61 343 eP **P 20 28 03.4 -1.1**
VORD eS S 20 31 35.7 -10
VORD pmax pmax
comp=N,120nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,60nm,0.8s
VORD smax smax
comp=N,10.0nm,0.9s
VORD smax smax
comp=E,80nm,0.9s
VORD smax smax
comp=Z,8.0nm,0.9s
VORD MLR MLR
comp=N,270nm,13.0s
VORD MLR MLR
comp=E,180nm,13.0s
VORD MLR MLR
comp=Z,370nm,13.0s
VORD Divnogorie 19.61 343 eP **P 20 28 03.4 -1.1**
PRD Provadia 19.64 309⇑ P **P 20 28 06.1 +1.2**
IDI Anoyia 19.68 285 P **Pn 20 28 07.6 +0.8**
IDI Anoyia 19.68 285 P **Pn 20 28 07.6 +0.8**
comp=Z,2.4nm,0.3s,baz=91,slow=9.9,SNR=21
TLCR 19.74 316⇑ P **P 20 28 05.7 -0.2**
TLCR 19.74 316⇑ *i* P **P 20 28 05.7 -0.2**
TLCR 19.74 316 P **P 20 28 05.7 -0.2**
MSAB Monastry St. A 19.78 312⇓ *i* P **P 20 28 06.8 +0.4**
VSR Storozhevoye 19.88 343 eP **P 20 28 06.2 -1.1**
VSR eS **S 20 31 46.8 -4.2**
VSR pmax pmax
comp=N,100nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR smax smax
comp=E,140nm,1.4s
VSR smax smax
comp=Z,50nm,1.4s
VSR smax smax
comp=N,50nm,1.3s
VSR MLR MLR
comp=N,240nm,14.0s
VSR MLR MLR
comp=E,190nm,14.0s
VSR MLR MLR
comp=Z,470nm,14.0s
VSR Storozhevoye 19.88 343 eP **P 20 28 06.2 -1.1**
JMB Yambol 19.89 306⇓ P **Pn 20 28 09.9 +0.7**
JMB Yambol 19.89 306⇓ *i* P **Pn 20 28 09.9 +0.7**
JMB Yambol 19.89 306 P **Pn 20 28 09.9 +0.7**
TLB Topalu 19.89 313⇑ P **P 20 28 08.4 +0.9**
TLB Topalu 19.89 313⇑ *i* P **P 20 28 08.4 +0.9**
TLB Topalu 19.89 313 P **P 20 28 08.4 +0.9**
HARR Harsova 20.01 313⇑ P **P 20 28 09.9 +1.0**
HARR Harsova 20.01 313⇑ *i* P **P 20 28 09.9 +1.0**
HARR Harsova 20.01 313 P **P 20 28 09.9 +1.0**
CFR Carcaliu 20.14 315⇓ P **P 20 28 10.5 +0.3**
CFR Carcaliu 20.14 315⇓ *i* P **P 20 28 10.5 +0.3**
CFR Carcaliu 20.14 315 P **P 20 28 10.5 +0.3**
VOR Voronezh 20.34 343 eP **P 20 28 11.0 -1.4**
VOR pmax pmax
comp=Z,280nm,1.4s
VOR Voronezh 20.34 343 eP **P 20 28 11.0 -1.4**
comp=Z,280nm,1.4s
KKAR Karatay Array 20.38 52 eP **P 20 28 13.1 +0.1**
KKAR Karatay Array 20.38 52 eP **P 20 28 13.1 +0.1**
KKAR Karatay Array 20.38 52 eP **P 20 28 13.1 +0.1**
KDZ Kurdzhali 20.41 303⇓ P Pn 20 28 15.5 +0.1
KDZ Kurdzhali 20.41 303⇓ *i* P Pn 20 28 15.5 +0.1
KDZ Kurdzhali 20.41 303 P Pn 20 28 15.5 +0.1
PGOR Pogoanele 20.70 313⇑ P **P 20 28 17.2 +0.8**
KIS Kishinev 20.78 320⇓ *i* P **P 20 28 17.0 -0.2**
KIS pmax pmax
comp=Z,200nm,2.0s
KIS Kishinev 20.78 320⇓ *i* P **P 20 28 17.0 -0.2**
comp=Z,200nm,2.0s
KIS Kishinev 20.78 320 *i* P **P 20 28 17.0 -0.2**
comp=Z,200nm,2.0s
LEOM Leova 20.79 318⇑ P **P 20 28 17.7 +0.4**
LEOM Leova 20.79 318⇑ *i* P **P 20 28 17.7 +0.4**
LEOM Leova 20.79 318 P **P 20 28 17.7 +0.4**
PETR Petresti 20.97 315⇓ *i* P **P 20 28 19.8 +0.6**
SULR 21.05 312⇑ *i* P **P 20 28 22.0 +1.9**
ISR Istrita 21.08 313⇓ P **P 20 28 21.1 +0.6**
ISR Istrita 21.08 313⇓ *i* P **P 20 28 21.1 +0.6**
ISR Istrita 21.08 313 P **P 20 28 21.1 +0.6**
LPSR Galich'ya Gora 21.21 344 eP **P 20 28 21.0 -0.8**
SECR 21.34 312⇑ *i* P **P 20 28 24.3 +1.1**
VRI Vrincioaia 21.34 315⇑ P **P 20 28 24.2 +0.9**
VRI Vrincioaia 21.34 315⇑ *i* P **P 20 28 24.2 +0.9**
VRI Vrincioaia 21.34 315 P **P 20 28 24.2 +0.9**
PLOR Plostina 21.38 315⇓ P **P 20 28 25.1 +1.3**
PLOR Plostina 21.38 315⇓ *i* P **P 20 28 25.1 +1.3**
PLOR Plostina 21.38 315 P **P 20 28 25.1 +1.3**
IAS Iasi 21.59 319⇑ P **P 20 28 26.3 +0.4**
IAS Iasi 21.59 319⇑ *i* P **P 20 28 26.3 +0.4**
IAS Iasi 21.59 319 P **P 20 28 26.3 +0.4**
MMB Musomiste 21.59 302⇑ P **P 20 28 28.1 +2.0**
MMB Musomiste 21.59 302⇑ *i* P **P 20 28 28.1 +2.0**
MMB Musomiste 21.59 302 P **P 20 28 28.1 +2.0**
MLR Muntele Rosu 21.63 313⇑ *i* P **P 20 28 27.1 +0.6**
MLR Muntele Rosu 21.63 313 P **P 20 28 28.6 +2.1**
MLR Muntele Rosu 21.63 313 P **P 20 28 28.6 +2.1**
comp=Z,8.5nm,0.9s,baz=96,slow=6.8,SNR=17
MLR LR LR 20 39 04.2
comp=Z,104nm,18.6s,baz=120,slow=43
MLR Muntele Rosu 21.63 313 P **P 20 28 28.6 +2.1**
TESR Tescani 21.73 316⇑ *i* P **P 20 28 27.5 +0.1**
HUMR Humele 21.80 310⇓ *i* P **P 20 28 29.7 +1.5**
MTUR Matau 22.05 312⇓ P **P 20 28 32.9 +1.9**
MTUR Matau 22.05 312⇓ *i* P **P 20 28 32.9 +1.9**
MTUR Matau 22.05 312 P **P 20 28 32.9 +1.9**
DOPR Dopca 22.20 314⇓ *i* P **P 20 28 33.0 +0.4**
VTS Vitosha 22.27 304⇑ P **P 20 28 36.3 +2.9**
VTS Vitosha 22.27 304⇑ *i* P **P 20 28 36.3 +2.9**
VAY Valandovo 22.36 300 *i* P P 20 28 26.0 -8.3
ARR Arges 22.39 312⇑ *i* P **P 20 28 35.6 +1.0**
PRAR RASCA 22.43 318⇓ *i* P **P 20 28 34.8 -0.2**

EKS2 Erkin-Say 22.46 56 *e*P **P 20 28 35.8 +0.3**
EKS2 pmax pmax
comp=Z,32nm,1.4s
EKS2 Erkin-Say 22.46 56 *e*P **P 20 28 35.8 +0.3**
comp=Z,32nm,1.4s
EKS2 Erkin-Say 22.46 56 *e*P **P 20 28 35.8 +0.3**
comp=Z,32nm,1.4s
UCH Uchtor 22.85 57 *i* P **P 20 28 41.9 +1.9**
UCH Uchtor 22.85 57 P **P 20 28 41.9 +1.9**
SNR=11
UCH Uchtor 22.85 57 *i* P **P 20 28 41.9 +1.9**
AAK Ala-Archa 22.96 56 P **P 20 28 41.8 +1.0**
AAK 20 32 30.3
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK pmax pmax
comp=N,2.0nm,0.8s
AAK Ala-Archa 22.96 56 *e*P **P 20 28 41.9 +1.0**
comp=N,15nm,1.0s
AAK PcP **PcP 20 32 30.2 -0.5**
AAK ScP **ScP 20 36 05.7 -3.0**
AAK Ala-Archa 22.96 56 P **P 20 28 41.8 +1.0**
comp=N,3.9nm,0.6s,baz=243,slow=8.1,SNR=8.3
AAK PcP **PcP 20 32 30.3 -0.5**
comp=N,3.9nm,0.8s,baz=164,slow=4.7,SNR=4.4
AAK ScP **ScP 20 36 05.7 -3.0**
comp=N,1.9nm,0.8s,baz=224,slow=4.6,SNR=4.1
AAK Ala-Archa 22.96 56 P **P 20 28 41.8 +1.0**
comp=N,4.0nm,0.6s
AAK Ala-Archa 22.96 56 PcP **PcP 20 32 30.2 -0.5**
LOT Lotru 22.97 311⇑*i*P **P 20 28 41.1 +0.3**
AK02 Malin Array Si 22.99 328 *e*P **P 20 28 38.7 -2.1**
AK02 *e*S **S 20 32 48.0 -3.2**
AK01 Malin Array Si 23.01 328 *e*P **P 20 28 39.7 -1.4**
AK01 *e*S **S 20 32 48.9 -2.7**
AK01 Malin Array Si 23.01 328 *e*P **P 20 28 39.7 -1.4**
AK01 *e*S **S 20 32 48.9 -2.7**
AKASG Malin Array Be 23.02 328 P **P 20 28 39.8 -1.3**
AKASG 20 32 30.2
AKASG Malin Array Be 23.02 328 P **P 20 28 39.8 -1.3**
AKASG PcP **PcP 20 32 30.2 -0.3**
AKASG Malin Array Be 23.02 328 P **P 20 28 39.8 -1.3**
comp=N,8.5nm,0.9s,baz=135,slow=9.0,SNR=31
AKASG PcP **PcP 20 32 30.2 -0.3**
comp=N,2.7nm,0.7s,baz=89,slow=2.2,SNR=7.6
AKASG Malin Array Be 23.02 328 P **P 20 28 39.8 -1.3**
AKBB Malin Array Si 23.02 328 *e*P **P 20 28 39.1 -2.0**
AKBB *e*S **S 20 32 49.0 -2.6**
AKBB Malin Array Si 23.02 328 *e*P **P 20 28 39.1 -2.0**
AKBB *e*S **S 20 32 49.0 -2.6**
AKBB Malin Array Si 23.02 328 *e*P **P 20 28 39.1 -2.0**
KIEV Kiev 23.02 328⇑*i*P **P 20 28 38.6 -2.5**
KIEV Kiev 23.02 328 *e*P **P 20 28 38.1 -3.0**
comp=N,44nm,1.5s
BURAR Bucovina Array 23.15 317⇑P **P 20 28 42.8 +0.2**
BURAR Bucovina Array 23.15 317⇑*i*P **P 20 28 42.8 +0.2**
USP Ospenovka 23.16 55 *i* P **P 20 28 44.0 +1.3**
USP Ospenovka 23.16 55 P **P 20 28 44.0 +1.3**
SNR=8.3
USP Ospenovka 23.16 55 *i* P **P 20 28 44.0 +1.3**
BUR08 Bucovina Ar. S 23.17 317 P **P 20 28 42.4 -0.4**
BUR08 Bucovina Ar. S 23.17 317 P **P 20 28 42.4 -0.4**
CHMS Chumysh 23.25 56 *i* P **P 20 28 45.3 +1.7**
CHMS Chumysh 23.25 56 P **P 20 28 45.4 +1.7**
SNR=12
CHMS Chumysh 23.25 56 *i* P **P 20 28 45.3 +1.7**
KBK Karagaybulak 23.29 57 *i* P **P 20 28 46.3 +2.2**
KBK Karagaybulak 23.29 57 P **P 20 28 46.3 +2.2**
SNR=15
KBK Karagaybulak 23.29 57 *i* P **P 20 28 46.3 +2.2**
KZA Kyzart 23.34 58 *i* P **P 20 28 48.4 +3.4**
KZA Kyzart 23.34 58 P **P 20 28 48.4 +3.4**
SNR=9.7
KZA Kyzart 23.34 58 *i* P **P 20 28 48.4 +3.4**
KSH Kashi 23.34 65 *i* P **P 20 28 42.0 -2.7**
KSH PP **PnPn 20 29 11.4 +0.9**
KSH *e*PcP **PcP 20 32 34.0 +2.4**
KSH S S 20 32 48.6 -8.9
KSH *e*SS **SnSn 20 33 30.3 -1.6**
KSH pmax pmax
comp=N,100nm,3.6s
KSH LR LR
comp=N,880nm,15.3s
KSH LR LR
comp=N,950nm,12.9s
KSH LR LR
comp=N,1μm,14.2s
SKO Skopje 23.34 302 *i* P **P 20 28 45.4 +0.9**
SKO Skopje 23.34 302 *i* P **P 20 28 45.4 +0.9**
BOLS Boljevac 23.54 306 *e*P **P 20 28 45.0 -1.5**
CJR Cluj-Napoca 23.65 314⇑P **P 20 28 47.2 -0.4**
CJR Cluj-Napoca 23.65 314⇑*i*P **P 20 28 47.2 -0.4**
CJR Cluj-Napoca 23.65 314 P **P 20 28 47.2 -0.4**
DEV Deva 23.70 312⇑P **P 20 28 49.0 +1.0**
DEV Deva 23.70 312⇑*i*P **P 20 28 49.0 +1.0**
DEV Deva 23.70 312 P **P 20 28 49.0 +1.0**
TKM2 Tokmak 2 23.82 56 *e*P **P 20 28 50.4 +0.9**
TKM2 pmax pmax
comp=Z,30nm,0.8s
TKM2 Tokmak 2 23.82 56 P **P 20 28 50.9 +1.4**
SNR=42
TKM2 Tokmak 2 23.82 56 *e*P **P 20 28 50.4 +0.9**
comp=Z,30nm,0.8s
TKM2 Tokmak 2 23.82 56 *e*P **P 20 28 50.4 +0.9**
comp=Z,30nm,0.8s
SELS Selova 23.92 304 *e*P **P 20 28 49.9 -0.3**
OBN Obninsk 24.08 343⇑*e*P **P 20 28 51.3 -0.2**
OBN *e* 20 28 55.6
OBN *PP pP 20 29 07.0 +12
OBN *e* 20 29 27.7
OBN S **S 20 33 11.0 +2.3**
OBN pmax pmax
comp=Z,66nm,1.3s
OBN MLR MLR
comp=Z,300nm,15.0s
OBN Obninsk 24.08 343 *e*P **P 20 28 50.8 -0.7**
comp=Z,239nm,1.9s
OBN Obninsk 24.08 343 P **P 20 28 51.0 -0.5**
comp=Z,20nm,0.5s,baz=57,slow=7.6,SNR=11
OBN Obninsk 24.08 343 *e*P **P 20 28 50.8 -0.7**
comp=Z,239nm,1.9s
ULHL Ulahol 24.09 58 *i* P **P 20 28 53.9 +1.9**
ULHL Ulahol 24.09 58 P **P 20 28 54.0 +1.9**
SNR=17
ULHL Ulahol 24.09 58 *i* P **P 20 28 53.9 +1.9**
BMR Baia Mare 24.17 316⇑P **P 20 28 52.3 -0.2**
BMR Baia Mare 24.17 316⇑*i*P **P 20 28 52.3 -0.2**
BMR Baia Mare 24.17 316 P **P 20 28 52.3 -0.2**
SVIS Svilajnac 24.19 307 *e*P **P 20 28 52.4 -1.2**
DRGR 24.23 314⇑P **P 20 28 54.0 +0.9**
DRGR 24.23 314⇑*i*P **P 20 28 54.0 +0.9**
DRGR 24.23 314 P **P 20 28 54.0 +0.9**
SDNR Sundarnagar 24.25 85 *e*P **P 20 28 54.0 +0.6**
GRUS Gruza 24.41 306 *e*P **P 20 28 55.4 +0.7**
MOS Moscow 24.41 345 *e*P **P 20 28 53.7 -0.8**
MOS *e* 20 29 25.5
MOS *e*S **S 20 33 12.1 -1.9**
MOS *e* 20 33 25.2
MOS pmax pmax
comp=Z,141nm,1.3s
MOS pmax pmax
comp=Z,400nm,1.9s
MOS Moscow 24.41 345 *e*P **P 20 28 53.7 -0.8**
comp=Z,400nm,1.9s
MOS *e*S **S 20 33 12.1 -1.9**
BZS Buzias 24.42 310⇑P **P 20 28 55.1 +0.4**
BZS Buzias 24.42 310⇑*i*P **P 20 28 55.1 +0.4**
BZS Buzias 24.42 310 *e*P **P 20 28 54.8 +0.1**
BANR Banloc 24.64 309⇑*i*P **P 20 28 57.8 +1.1**
SIRR Siria 24.65 312⇓*i*P **P 20 28 58.7 +1.8**
IVAS Ivanjica 24.70 305 *e*P **P 20 28 58.0 +0.6**
TRUS Trudelj 24.72 306 *e*P **P 20 28 57.2 -0.3**
ARU Arti 24.94 13 P **P 20 28 59.5 +0.1**
comp=Z,389nm,0.9s,SNR=22
ARU Arti 24.94 13*c i*P **P 20 28 59.4 +0.1**
ARU PPP PPP 20 29 41.4
ARU S **S 20 33 23.9 +1.3**
ARU SS **SnSn 20 34 09.7 -0.9**
ARU pmax pmax
comp=Z,69nm,1.1s
ARU Arti 24.94 13 *e*P **P 20 28 58.9 -0.4**
comp=Z,66nm,1.0s
ARU Arti 24.94 13 *e*P **P 20 28 58.9 -0.4**
comp=Z,66nm,1.0s
ARU S **S 20 33 23.9 +1.3**
TRPA Tarpa 24.96 316⇑*i*P **P 20 29 00.3 +0.7**
TRPA Tarpa 24.96 316⇓*e*P **P 20 29 00.5 +0.9**
TRPA Tarpa 24.96 316⇓*e*P **P 20 29 00.5 +0.9**
LVV L'vov 25.02 321 *e*P **P 20 29 01.4 +1.3**
LVV MLR MLR
comp=Z,200nm,16.0s
LVV L'vov 25.02 321 *e*P **P 20 29 01.4 +1.3**
comp=Z,200nm,16.0s
FURI Furi 25.16 203 P **P 20 29 06.1 +4.1**
BBLS Lazići 25.30 305 *e*P **P 20 29 04.0 +1.2**
UZH Uzhgorod 25.35 317⇑*i*P **P 20 29 03.7 +0.6**
UZH *e**PP pP 20 29 14.5 +8.4
UZH *e**SP sP 20 29 19.7 +12
UZH *e*S **S 20 33 23.7 -5.6**
UZH Uzhgorod 25.35 317 *i* P **P 20 29 03.7 +0.6**
TEKS Tekeris 25.42 307 *e*P **P 20 29 03.8 -0.1**
FGSL Fruska Gora 25.43 308 *e*P **P 20 29 04.6 +0.6**
KOLS Kolonicke sedl 25.51 318 *e*P **P 20 29 06.1 +1.5**
KOLS pmax pmax
comp=Z,33nm,1.3s
KOLS Kolonicke sedl 25.51 318 *e*P **P 20 29 06.1 +1.5**
KOLS Kolonicke sedl 25.51 318 *e*P **P 20 29 06.1 +1.5**
comp=Z,33nm,1.3s
KWP Kalwaria Pacla 25.63 319⇑P **P 20 29 06.6 +0.9**
KWP Kalwaria Pacla 25.63 319 *e*P **P 20 29 06.4 +0.7**
KWP Kalwaria Pacla 25.63 319⇑*i*P **P 20 29 06.6 +0.9**
KWP Kalwaria Pacla 25.63 319 *e*P **P 20 29 06.2 +0.5**
comp=Z,19nm,0.6s
KWP Kalwaria Pacla 25.63 319 *e*P **P 20 29 06.2 +0.5**
comp=Z,19nm,0.6s
SVE Sverdlovsk 25.75 16⇑*i*P **P 20 29 07.4 +0.7**
SVE pmax pmax
comp=Z,36nm,1.1s
SVE Sverdlovsk 25.75 16 *i* P **P 20 29 07.4 +0.7**
comp=Z,36nm,1.1s
BRVK Borovoye 25.89 31 *e*P **P 20 29 07.9 -0.1**
BRVK pmax pmax
comp=Z,19nm,0.9s
BRVK Borovoye 25.89 31 P **P 20 29 08.8 +0.8**
SNR=8.0
BRVK Borovoye 25.89 31 *e*P **P 20 29 07.9 -0.1**
comp=Z,19nm,0.9s
BRVK Borovoye 25.89 31 *e*P **P 20 29 07.9 -0.1**
comp=Z,19nm,0.9s
BVAR Borovoye Array 25.92 31 P **P 20 29 08.6 +0.3**
BVAR 20 32 36.8
BVAR Borovoye Array 25.92 31 P **P 20 29 08.6 +0.3**
BVAR PcP **PcP 20 32 36.8 0.0**
BVAR ScP **ScP 20 36 13.4 -3.0**
BVAR Borovoye Array 25.92 31 P **P 20 29 08.6 +0.3**
comp=Z,7.9nm,0.8s,baz=222,slow=8.2,SNR=30
BVAR PcP **PcP 20 32 36.8 0.0**
comp=Z,2.6nm,0.8s,baz=247,slow=3.1,SNR=3.8
BVAR ScP **ScP 20 36 13.4 -3.0**
comp=Z,1.2nm,0.8s,baz=218,slow=2.3,SNR=5.0
BVAR Borovoye Array 25.92 31 P **P 20 29 08.6 +0.3**
BVAR Borovoye Array 25.92 31 PcP **PcP 20 32 36.8 0.0**
CRVS Cervenica-Dubn 25.96 317 *e*P **P 20 29 09.7 +1.0**
CRVS pmax pmax
comp=Z,11nm,1.2s
CRVS Cervenica-Dubn 25.96 317 *e*P **P 20 29 09.7 +1.0**
CRVS Cervenica-Dubn 25.96 317 *e*P **P 20 29 09.7 +1.0**
comp=Z,11nm,1.2s
STHS Stebnicka Huta 26.34 318 *e*P **P 20 29 15.8 +3.7**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 26.34 318 *e*P **P 20 29 15.8 +3.7**
MICGM Minsk 26.34 333⇓*e*P **P 20 29 10.0 -2.1**
MNK Minsk 26.36 333 *e*P **P 20 29 10.0 -2.2**
MNK pmax pmax
comp=Z,260nm,1.0s
MNK Minsk 26.36 333 *e*P **P 20 29 10.0 -2.2**
comp=Z,260nm,1.0s
TIP Timpagrande 26.38 294 *e*P **P 20 29 13.3 +0.6**
comp=Z,43nm,1.3s
TIP Timpagrande 26.38 294 *e*P **P 20 29 13.3 +0.6**
comp=Z,43nm,1.3s
PSZ Piszkesteto 26.44 314⇑P **P 20 29 13.6 +0.5**
PSZ Piszkesteto 26.44 314⇑*i*P **P 20 29 13.6 +0.5**
PSZ Piszkesteto 26.44 314 *e*P **P 20 29 13.0 -0.1**
comp=Z,20nm,1.0s
PSZ Piszkesteto 26.44 314⇓*e*P **P 20 29 13.9 +0.8**
PSZ Piszkesteto 26.44 314 *e*P **P 20 29 13.0 -0.1**
comp=Z,20nm,1.0s
PKSM Moragy 26.57 310⇓P **P 20 29 15.3 +1.1**
PKSM Moragy 26.57 310⇓*i*P **P 20 29 15.3 +1.1**
PKSM Moragy 26.57 310⇓*e*P **P 20 29 15.2 +1.1**
PKSM Moragy 26.57 310⇓*e*P **P 20 29 15.2 +1.1**
POO Poona 26.79 115 *ex* P **P 20 29 17.0 +0.5**
NIE Niedzica 26.87 317 *e*P **P 20 29 21.2 +4.3**
PKS9 Tamasi 26.93 310⇓*e*P **P 20 29 18.6 +1.1**
PKS9 Tamasi 26.93 310⇓*e*P **P 20 29 18.6 +1.1**
CEL Celeste 27.00 291 *e*P **P 20 29 19.5 +1.2**
comp=Z,56nm,0.9s
CEL Celeste 27.00 291 *e*P **P 20 29 19.5 +1.2**
comp=Z,56nm,0.9s
NACGM Naroch 27.07 332 *e* **P 20 29 18.0 -0.6**
PKSG 27.16 312⇓*e*P **P 20 29 20.5 +1.0**
PKSG 27.16 312⇓*e*P **P 20 29 20.5 +1.0**
CUC Castrocucco 27.18 295 *e*P **P 20 29 21.0 +1.1**
comp=Z,19nm,1.1s
CUC Castrocucco 27.18 295 *e*P **P 20 29 21.0 +1.1**
comp=Z,19nm,1.1s
IIGN Ignalina 27.62 332 *e*P **P 20 29 23.0 -0.5**
IIGN AMB AMB 20 29 32.8
comp=Z,17nm,1.1s
IIGN Ignalina 27.62 332 *e*P **P 20 29 23.0 -0.5**
comp=Z,17nm,1.1s
ISAL Salakas 27.82 333 *e*P **P 20 29 25.0 -0.3**
ISAL AMB AMB 20 29 36.2
comp=Z,14nm,1.3s
ISAL Salakas 27.82 333 *e*P **P 20 29 25.0 -0.3**
comp=Z,14nm,1.3s
OKC Ostrava-Krasne 28.31 317 *e*P **P 20 29 29.8 0.0**
OKC Ostrava-Krasne 28.31 317 *e*P **P 20 29 29.8 0.0**
OKC Ostrava-Krasne 28.31 317 *e*P **P 20 29 29.8 0.0**
BOJS Bojanci 28.60 307 *e*P **P 20 29 33.4 +1.0**
BOJS Bojanci 28.60 307 *e*P **P 20 29 33.4 +1.0**
KURBB Kurchatov Arra 28.64 42 P **P 20 29 33.8 +1.2**
comp=Z,13nm,0.7s,baz=244,slow=9.4,SNR=97
KURBB PcP **PcP 20 32 42.5 -0.9**
comp=Z,2.8nm,0.9s,baz=244,slow=3.2,SNR=6.0
KURBB ScP **ScP 20 36 21.1 -3.6**
comp=Z,0.8nm,0.9s,baz=251,slow=3.8,SNR=4.7
MORC Moravsky Berou 28.64 316⇑P **P 20 29 33.3 +0.5**
MORC Moravsky Berou 28.64 316⇑*i*P **P 20 29 33.3 +0.5**
MORC Moravsky Berou 28.64 316 *e*P **P 20 29 32.8 0.0**
comp=Z,3.4nm,0.8s
MORC Moravsky Berou 28.64 316 *e*P **P 20 29 32.8 0.0**
comp=Z,3.4nm,0.8s
KURK Kurchatov 28.73 42 P **P 20 29 33.8 +0.3**
KURK 20 32 42.5
KURK Kurchatov 28.73 42 P **P 20 29 34.9 +1.4**
SNR=8.9
KURK Kurchatov 28.73 42 P **P 20 29 33.8 +0.3**
KURK PcP **PcP 20 32 42.5 -1.1**
KURK ScP **ScP 20 36 21.1 -3.9**
KURK Kurchatov 28.73 42 P **P 20 29 33.8 +0.3**
KLMR Klimovskoe 28.94 351 *e*P **P 20 29 33.4 -1.8**
KLMR pmax pmax
comp=Z,35nm,1.1s
KLMR Klimovskoe 28.94 351 *e*P **P 20 29 33.4 -1.8**
comp=Z,35nm,1.1s
CONA Conrad Observa 28.95 312⇓*i*P **P 20 29 36.3 +0.7**
comp=Z,9.9nm,1.1s
CONA Conrad Observa 28.95 312 P **P 20 29 36.3 +0.7**
comp=Z,9.9nm,1.1s
VISS Visnje 28.96 307 *i* P **P 20 29 36.1 +0.4**
VISS Visnje 28.96 307 *i* P **P 20 29 36.1 +0.4**
VRAC Vranov 29.01 315 P **P 20 29 36.5 +0.5**
VRAC Vranov 29.01 315 P **P 20 29 36.5 +0.5**
comp=Z,2.6nm,0.5s,baz=78,slow=8.4,SNR=3.5
VRAC Vranov 29.01 315 P **P 20 29 36.5 +0.5**
PERS Pernice 29.01 309 *i* P **P 20 29 37.0 +0.9**
PERS Pernice 29.01 309 *i* P **P 20 29 37.0 +0.9**
PRGR Permogore 29.19 357 P **P 20 29 35.5 -1.9**
PRGR S **S 20 34 26.3 -3.3**
PRGR pmax pmax
comp=Z,15nm,0.7s
PRGR Permogore 29.19 357 P **P 20 29 35.5 -1.9**
comp=Z,15nm,0.7s
KRLC Kraliky 29.21 316 *e*P **P 20 29 38.1 +0.2**
KRLC Kraliky 29.21 316 *e*P **P 20 29 38.1 +0.2**
KRLC Kraliky 29.21 316 *e*P **P 20 29 38.1 +0.2**
AQU L'Aquila 29.27 300 P **P 20 29 39.9 +1.4**
comp=Z,16nm,0.9s
AQU L'Aquila 29.27 300 P **P 20 29 39.9 +1.4**
comp=Z,16nm,0.9s
MK31 Makanchi Array 29.50 51 *e*P **P 20 29 41.2 +0.8**
MK31 *e* 20 32 44.6
MK31 Makanchi Array 29.50 51 *e*P **P 20 29 41.2 +0.8**
MK31 *e*PcP **PcP 20 32 44.6 -1.1**
MK31 Makanchi Array 29.50 51 *e*P **P 20 29 41.2 +0.8**
MKAR Makanchi Array 29.50 51 *e*P **P 20 29 41.4 +1.0**
MKAR 20 32 44.7
MKAR S **S 20 34 33.4 -1.5**
MKAR 20 36 24.2
MKAR Makanchi Array 29.50 51 *e*P **P 20 29 41.4 +1.0**
MKAR PcP **PcP 20 32 44.7 -0.9**
MKAR S **S 20 34 33.4 -1.5**
MKAR ScP **ScP 20 36 24.2 -3.3**
MKAR Makanchi Array 29.50 51 P **P 20 29 41.4 +1.0**
comp=Z,20nm,0.7s,baz=246,slow=7.7,SNR=162
MKAR PcP **PcP 20 32 44.7 -0.9**
comp=Z,1.8nm,0.7s,baz=264,slow=1.6,SNR=3.6
MKAR S **S 20 34 33.4 -1.5**
comp=Z,0.7nm,0.9s,baz=306,slow=25,SNR=2.5
MKAR ScP **ScP 20 36 24.2 -3.3**
comp=Z,1.3nm,1.0s,baz=264,slow=7.1,SNR=4.0
MKAR Makanchi Array 29.50 51 *e*P **P 20 29 41.4 +1.0**
MKAR Makanchi Array 29.50 51 PcP **PcP 20 32 44.7 -0.9**
MKAR S **S 20 34 33.4 -1.5**
JAVS Javornik 29.51 307 *i* P **P 20 29 41.2 +0.6**
JAVS Javornik 29.51 307 *i* P **P 20 29 41.2 +0.6**
DPC Dobruska-Polom 29.60 317 *e*P **P 20 29 41.2 -0.1**
DPC Dobruska-Polom 29.60 317 *e*P **P 20 29 41.2 -0.1**
DPC Dobruska-Polom 29.60 317 *e*P **P 20 29 40.4 -0.9**
DPC Dobruska-Polom 29.60 317 *e*P **P 20 29 40.4 -0.9**
VSU Vasula 29.79 337⇓*i*P **P 20 29 42.1 -0.6**
VSU pmax pmax
comp=Z,68nm,0.7s
VSU Vasula 29.79 337 *i* P **P 20 29 42.1 -0.6**
comp=Z,68nm,0.7s
KSP Ksiaz 29.82 317 *e*P **P 20 29 43.3 +0.1**
KSP Ksiaz 29.82 317 *e*P **P 20 29 43.2 +0.1**
KSP Ksiaz 29.82 317 *e*P **P 20 29 43.3 +0.1**
UPC Upice 29.84 317 *e*P **P 20 29 43.0 -0.4**
UPC Upice 29.84 317 *e*P **P 20 29 43.0 -0.4**
UPC Upice 29.84 317 *e*P **P 20 29 43.0 -0.4**
MOA Molln 29.93 311 *e*P **P 20 29 44.9 +0.6**
comp=Z,12nm,0.9s
MOA Molln 29.93 311⇑*i*P **P 20 29 44.9 +0.6**
comp=Z,10nm,0.8s
MOA Molln 29.93 311 P **P 20 29 44.9 +0.6**
comp=Z,10nm,0.8s
KBA Koelnbreinsper 30.30 309 *e*P **P 20 29 48.2 +0.5**
comp=Z,14nm,0.9s
KBA Koelnbreinsper 30.30 309⇑*i*P **P 20 29 48.3 +0.6**
comp=Z,12nm,0.8s,SNR=5.6
KBA Koelnbreinsper 30.30 309 P **P 20 29 48.3 +0.6**
comp=Z,12nm,0.8s,SNR=5.6
GEC2 GERESS Array S 30.61 312 *e*P **P 20 29 50.2 -0.1**
GEC2 GERESS Array S 30.61 312 *e*P **P 20 29 50.2 -0.1**
GERES GERESS Array B 30.61 312 P **P 20 29 50.2 -0.1**
GERES PcP **PcP 20 32 48.3 -0.2**
GERES ScP **ScP 20 36 30.6 -0.6**
GERES GERESS Array B 30.61 312 P **P 20 29 50.2 -0.1**
comp=Z,1.3nm,0.6s,baz=112,slow=9.0,SNR=16
GERES PcP **PcP 20 32 48.3 -0.2**
comp=Z,2.2nm,0.7s,baz=116,slow=3.1,SNR=11
GERES ScP **ScP 20 36 30.6 -0.6**
comp=Z,0.4nm,0.8s,baz=352,slow=2.0,SNR=2.2
GERES GERESS Array B 30.61 312 P **P 20 29 50.2 -0.1**
DANN Dangsing 30.71 88 *e*P **P 20 29 52.6 +1.0**
comp=Z,106nm,0.9s
KOLN Koldanda 30.74 90 *e*P **P 20 29 52.2 +0.3**
ABTA Abfaltersbach 30.77 308⇑*i*P **P 20 29 51.9 +0.2**
comp=Z,15nm,1.1s
ABTA Abfaltersbach 30.77 308 P **P 20 29 51.9 +0.2**
comp=Z,15nm,1.1s
KHC Kasperske Hory 30.78 313 *e*P P 20 29 48.9 -2.9
KHC *e* 20 30 00.0
KHC Kasperske Hory 30.78 313 *e*P P 20 29 48.9 -2.9
KHC *ex* x 20 30 00.0
KHC Kasperske Hory 30.78 313 *e*P **P 20 29 51.4 -0.4**
comp=Z,44nm,2.1s
KHC Kasperske Hory 30.78 313 *e*P **P 20 29 51.4 -0.4**
comp=Z,44nm,2.1s
HYB Hyderabad 31.08 112 *i* P **P 20 29 53.5 -1.2**
BRG Berggiesshubel 31.19 316 *e*P **P 20 29 55.0 -0.3**
comp=Z,18nm,1.6s
BRG Berggiesshubel 31.19 316 *e*P **P 20 29 55.0 -0.3**
BRG pmax pmax
comp=Z,18nm,1.6s
BRG Berggiesshubel 31.19 316 *e*P **P 20 29 55.1 -0.3**
BRG Berggiesshubel 31.19 316 *e*P **P 20 29 55.0 -0.3**
comp=Z,18nm,1.6s
WTTA Wattenberg 31.48 309 *e*P **P 20 29 58.4 +0.3**
comp=Z,30nm,1.2s
WTTA Wattenberg 31.48 309⇓*i*P **P 20 29 58.3 +0.3**
comp=Z,24nm,1.1s,SNR=5.7
WTTA Wattenberg 31.48 309 P **P 20 29 58.3 +0.2**
comp=Z,24nm,1.1s,SNR=5.7
WATA Walderalm 31.53 309⇑*i*P **P 20 29 58.2 -0.3**
comp=Z,19nm,1.0s,SNR=8.8
WATA Walderalm 31.53 309 P **P 20 29 58.2 -0.3**
comp=Z,19nm,1.0s,SNR=8.8
GKN Gorkha 31.55 89 *e*P **P 20 29 59.3 +0.4**
comp=Z,83nm,0.9s
ROTZ Rotzenmuhle 31.84 314 *e*P **P 20 30 01.5 +0.5**
comp=Z,131nm,2.4s
ROTZ Rotzenmuhle 31.84 314 *e*P **P 20 30 01.5 +0.5**
comp=Z,131nm,2.4s
MOTA Moosalm 31.85 309⇑*i*P **P 20 30 00.7 -0.6**
comp=Z,22nm,1.0s,SNR=12
MOTA Moosalm 31.85 309 P **P 20 30 00.7 -0.6**
comp=Z,22nm,1.0s,SNR=12
NKC Novy Kostel 31.85 314 *e*P **P 20 30 00.6 -0.5**
NKC Novy Kostel 31.85 314 *e*P **P 20 30 00.6 -0.5**
NKC Novy Kostel 31.85 314 *e*P **P 20 30 00.6 -0.5**
CLL Collm 31.91 317 *i* P **P 20 30 01.7 +0.1**
CLL pmax pmax
comp=Z,24nm,1.3s
CLL Collm 31.91 317 *e*P **P 20 30 01.8 +0.1**
comp=Z,24nm,1.4s
CLL Collm 31.91 317 *i* P **P 20 30 01.7 +0.1**
comp=Z,24nm,1.3s
CLL *e* 20 30 10.0
CLL Collm 31.91 317 *i* P **P 20 30 01.7 +0.1**
comp=Z,24nm,1.3s
FUR Furstenfeldbru 31.95 310 *e*P **P 20 30 02.5 +0.5**
comp=Z,51nm,1.0s
FUR Furstenfeldbru 31.95 310 *e*P **P 20 30 02.5 +0.5**
comp=Z,51nm,1.0s
FETA Feichten 32.02 308⇑*i*P **P 20 30 02.4 -0.4**
comp=Z,18nm,0.9s,SNR=6.0
FETA Feichten 32.02 308 P **P 20 30 02.4 -0.4**
comp=Z,18nm,0.9s,SNR=6.0
DMN Daman 32.06 89 *e*P **P 20 30 04.1 +0.6**
comp=Z,76nm,0.9s
VSL Villasalto 32.11 294 *e*P **P 20 30 04.7 +1.1**
comp=Z,29nm,1.0s
VSL Villasalto 32.11 294 *e*P **P 20 30 04.7 +1.1**
comp=Z,29nm,1.0s
KKN Kakani 32.16 89 *e*P **P 20 30 04.9 +0.6**
comp=Z,56nm,0.7s
JOF Joensuu 32.30 345 *e*P **P 20 30 05.0 +0.2**
JOF pmax pmax
comp=Z,28nm,0.8s
JOF Joensuu 32.30 345 *e*p **P 20 30 05.0 +0.2**
comp=Z,28nm,0.8s
JOF Joensuu 32.30 345 *e*P **P 20 30 05.0 +0.2**
comp=Z,28nm,0.8s
KEST Kesra 32.32 287 P **P 20 30 07.5 +2.0**
KEST PcP **PcP 20 32 54.5 +1.1**
KEST Kesra 32.32 287 P **P 20 30 07.5 +2.0**
comp=Z,3.1nm,0.8s,baz=264,slow=6.1,SNR=6.4
KEST PcP **PcP 20 32 54.5 +1.1**
comp=Z,2.4nm,0.9s,baz=222,slow=16,SNR=3.6
KEST Kesra 32.32 287 PcP **PcP 20 32 54.5 +1.1**
PKI Pulchoki 32.33 89 *e*P **P 20 30 06.4 +0.4**
comp=Z,80nm,0.9s
FIA1 FINESS Array S 32.35 340 *e*P **P 20 30 04.7 -0.7**
FIA1 FINESS Array S 32.35 340 *e*P **P 20 30 04.7 -0.7**
FINES FINESS Array B 32.35 340 P **P 20 30 05.4 0.0**

FINES	**FINESS Array B**	**32.35**	**340**	P	**P**	**20 30 05.4**	**0.0**
	comp=Z,14nm,0.9s,baz=144,slow=10,SNR=29						
FINES	**FINESS Array B**	**32.35**	**340**	P	**P**	**20 30 05.4**	**0.0**
GRA1	**Grafenberg Arr**	**32.42**	**313**	eP	**P**	**20 30 06.4**	**+0.3**
	comp=Z,23nm,1.0s						
GRF	**Grafenberg Arr**	**32.42**	**313**	eP	**P**	**20 30 06.4**	**+0.3**
	comp=Z,23nm,1.0s						
DAVOX	**Davos/Dischmat**	**32.53**	**307**	P	**P**	**20 30 07.6**	**+0.2**
DAVOX				PcP	**PcP**	**20 32 54.1**	**+0.2**
DAVOX	**Davos/Dischmat**	**32.53**	**307**	P	**P**	**20 30 07.6**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=97,slow=8.1						
DAVOX				PcP	**PcP**	**20 32 54.2**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=240,slow=8.1,SNR=3.6						
DAVOX	**Davos/Dischmat**	**32.53**	**307**	P	**P**	**20 30 07.6**	**+0.2**
	comp=Z,4.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**32.53**	**307**	PcP	**PcP**	**20 32 54.2**	**+0.2**
	comp=Z,3.0nm,0.7s						
PGF	**Pioggiola**	**32.53**	**299**	eP	**P**	**20 30 07.5**	**+0.2**
PGF	**Pioggiola**	**32.53**	**299**	eP	**P**	**20 30 07.5**	**+0.2**
PGF	**Pioggiola**	**32.53**	**299**	eP	**P**	**20 30 07.5**	**+0.2**
PGF	**Pioggiola**	**32.53**	**299**	eP	**P**	**20 30 07.5**	**+0.2**
GUN	**Gumba**	**32.63**	**88**	eP	**P**	**20 30 09.3**	**+0.7**
	comp=Z,150nm,0.9s						
WMQ	**Urumqi**	**32.63**	**58**	P	**P**	**20 30 07.3**	**-0.8**
WMQ				pP	**pP**	**20 30 11.6**	**+0.4**
WMQ				sP	**sP**	**20 30 14.3**	**+1.8**
WMQ				PP	**PnPn**	**20 31 15.1**	**-0.6**
WMQ				PcP	**PcP**	**20 32 54.6**	**+0.5**
WMQ				ScP	**ScP**	**20 36 36.8**	**-1.3**
WMQ				SS	**SnSn**	**20 37 15.3**	**-3.1**
WMQ				pmax	pmax		
	comp=Z,13nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.2s						
WMQ				LR	LR		
	comp=N,2µm,18.8s						
WMQ				LR	LR		
	comp=E,1µm,18.8s						
WMQ				LR	LR		
	comp=Z,2µm,24.0s						
WMQ	**Urumqi**	**32.63**	**58**	P	**P**	**20 30 09.4**	**+1.3**
WMQ				pP	pP	20 30 27.3	+16
WMQ				sP	sP	20 30 36.4	+24
WMQ				PP	**PP**	**20 31 20.6**	**-1.2**
WMQ				PcP	**PcP**	**20 32 54.3**	**+0.2**
WMQ				S	S	20 35 18.5	-5.5
WMQ				sS	sS	20 35 49.5	+20
WMQ				ScP	ScP	20 36 30.3	-7.8
WMQ				pmax	pmax		
	comp=Z,13nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,140nm,6.0s						
WMQ				LR	LR		
	comp=Z,2µm,23.9s						
WMQ				LR	LR		
	comp=Z,1µm,25.9s						
WMQ				LR	LR		
	comp=Z,2µm,23.9s						
DAVA	**Damuels**	**32.64**	**308**	eP	**P**	**20 30 08.2**	**-0.1**
	comp=Z,24nm,0.9s						
DAVA	**Damuels**	**32.64**	**308⇑**	iP	**P**	**20 30 08.0**	**-0.3**
	comp=Z,35nm,1.0s,SNR=8.2						
DAVA	**Damuels**	**32.64**	**308**	P	**P**	**20 30 08.0**	**-0.3**
	comp=Z,35nm,1.0s,SNR=8.2						
KAF	**Kangasniemi**	**32.83**	**341**	eP	**P**	**20 30 09.7**	**+0.2**
KAF	**Kangasniemi**	**32.83**	**341**	ep	**P**	**20 30 09.7**	**+0.2**
KAF	**Kangasniemi**	**32.83**	**341**	eP	**P**	**20 30 09.7**	**+0.2**
TUE	**Stuetta**	**32.83**	**307**	eP	**P**	**20 30 09.6**	**-0.4**
	comp=Z,169nm,2.8s						
TUE	**Stuetta**	**32.83**	**307**	eP	**P**	**20 30 09.6**	**-0.4**
	comp=Z,169nm,2.8s						
JIRN	**Jiri**	**32.97**	**88**	eP	**P**	**20 30 12.2**	**+0.6**
	comp=Z,78nm,0.7s						
NVS	**Novosibirsk**	**33.14**	**37**	eP	**P**	**20 30 11.1**	**-1.2**
NVS				e		20 31 24.1	
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,16nm,1.3s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NVS	**Novosibirsk**	**33.14**	**37**	eP	**P**	**20 30 11.1**	**-1.2**
RAMN	**Ramite**	**33.53**	**89**	eP	**P**	**20 30 16.3**	**-0.1**
	comp=Z,75nm,0.9s						
ZAA0	**Zalesovo Array**	**33.57**	**39**	eP	**P**	**20 30 15.8**	**-0.3**
ZAA0				ePP	**PP**	**20 31 31.5**	**-0.5**
ZAA0				ePcP	**PcP**	**20 32 53.7**	**-2.7**
ZAA0	**Zalesovo Array**	**33.57**	**39**	eP	**P**	**20 30 15.8**	**-0.3**
ZALV	**Zalesovo Beam**	**33.57**	**39**	P	**P**	**20 30 16.5**	**+0.4**
ZALV						20 32 54.9	
ZALV	**Zalesovo Beam**	**33.57**	**39**	P	**P**	**20 30 16.5**	**+0.4**
ZALV				PcP	**PcP**	**20 32 54.9**	**-1.5**
ZALV	**Zalesovo Beam**	**33.57**	**39**	P	**P**	**20 30 16.5**	**+0.4**
	comp=Z,17nm,0.8s,baz=254,slow=9.1,SNR=69						
ZALV				PcP	**PcP**	**20 32 54.9**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=248,slow=4.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**33.57**	**39**	P	**P**	**20 30 16.5**	**+0.4**
CLZ	**Clausthal**	**33.63**	**316**	eP	**P**	**20 30 17.2**	**+0.5**
	comp=Z,25nm,1.1s						
CLZ	**Clausthal**	**33.63**	**316**	eP	**P**	**20 30 17.2**	**+0.5**
	comp=Z,25nm,1.1s						
SBF	**Sospel**	**33.79**	**302⇑**	iP	**P**	**20 30 18.5**	**+0.2**
	comp=Z,59nm,0.9s						
SBF	**Sospel**	**33.79**	**302⇑**	iP	**P**	**20 30 18.5**	**+0.2**
SBF				pmax	pmax		
	comp=Z,59nm,0.9s						
SBF	**Sospel**	**33.79**	**302⇑**	iP	**P**	**20 30 18.5**	**+0.2**
	comp=Z,59nm,0.9s						
SBF	**Sospel**	**33.79**	**302⇑**	iP	**P**	**20 30 18.5**	**+0.2**
	comp=Z,29nm,0.9s						
NRDL	**Niedersach Rie**	**34.01**	**317**	eP	**P**	**20 30 20.8**	**+0.9**
	comp=Z,31nm,1.2s						
NRDL	**Niedersach Rie**	**34.01**	**317**	eP	**P**	**20 30 20.8**	**+0.9**
	comp=Z,31nm,1.2s						
SENIN	**Lac Senin/Sane**	**34.21**	**306**	eP	**P**	**20 30 21.5**	**-0.5**
SENIN	**Lac Senin/Sane**	**34.21**	**306**	eP	**P**	**20 30 21.5**	**-0.5**
ODAN	**Odare**	**34.23**	**89**	eP	**P**	**20 30 22.5**	**+0.1**
	comp=Z,25nm,0.8s						
TNS	**Taunus Mts**	**34.29**	**313**	eP	**P**	**20 30 23.6**	**+1.1**
	comp=Z,29nm,1.3s						
TNS	**Taunus Mts**	**34.29**	**313**	eP	**P**	**20 30 23.6**	**+1.1**
	comp=Z,29nm,1.3s						
TAPN	**Taplejung**	**34.34**	**88**	eP	**P**	**20 30 24.1**	**+0.6**
	comp=Z,42nm,0.8s						
MBDF	**Montbardon**	**34.35**	**303⇑**	iP	**P**	**20 30 23.2**	**0.0**
	comp=Z,27nm,0.7s						
MBDF	**Montbardon**	**34.35**	**303⇑**	iP	**P**	**20 30 23.2**	**0.0**
MBDF				pmax	pmax		
	comp=Z,27nm,0.7s						
MBDF	**Montbardon**	**34.35**	**303⇑**	iP	**P**	**20 30 23.2**	**0.0**
	comp=Z,27nm,0.7s						
MBDF	**Montbardon**	**34.35**	**303⇑**	iP	**P**	**20 30 23.2**	**0.0**
	comp=Z,14nm,0.7s						
LMR	**La Mourre**	**34.42**	**301**	eP	**P**	**20 30 23.5**	**-0.1**
LMR	**La Mourre**	**34.42**	**301**	eP	**P**	**20 30 23.5**	**-0.1**
LMR	**La Mourre**	**34.42**	**301**	eP	**P**	**20 30 23.5**	**-0.1**
LMR	**La Mourre**	**34.42**	**301**	eP	**P**	**20 30 23.5**	**-0.1**
BNI	**Bardonecchia**	**34.46**	**304**	eP	**P**	**20 30 24.0**	**-0.1**
BNI				pmax	pmax		
	comp=Z,38nm,0.8s						
BNI	**Bardonecchia**	**34.46**	**304**	eP	**P**	**20 30 24.0**	**-0.1**
	comp=Z,38nm,0.8s						
BNI	**Bardonecchia**	**34.46**	**304**	eP	**P**	**20 30 24.0**	**-0.1**
	comp=Z,38nm,0.8s						
LPG	**La Plagne**	**34.46**	**304⇑**	iP	**P**	**20 30 24.0**	**-0.3**
	comp=Z,52nm,0.8s						
LPG	**La Plagne**	**34.46**	**304⇑**	iP	**P**	**20 30 24.0**	**-0.3**
LPG				pmax	pmax		
	comp=Z,52nm,0.8s						
LPG	**La Plagne**	**34.46**	**304⇑**	iP	**P**	**20 30 24.0**	**-0.3**
	comp=Z,52nm,0.8s						
LPG	**La Plagne**	**34.46**	**304⇑**	iP	**P**	**20 30 24.0**	**-0.3**
	comp=Z,26nm,0.8s						
LPL	**La Plagne**	**34.48**	**304⇑**	iP	**P**	**20 30 24.1**	**-0.3**
	comp=Z,64nm,0.9s						
LPL	**La Plagne**	**34.48**	**304⇑**	iP	**P**	**20 30 24.1**	**-0.3**
LPL				pmax	pmax		
	comp=Z,64nm,0.9s						
LPL	**La Plagne**	**34.48**	**304⇑**	iP	**P**	**20 30 24.1**	**-0.3**
	comp=Z,64nm,0.9s						
LPL	**La Plagne**	**34.48**	**304⇑**	iP	**P**	**20 30 24.1**	**-0.3**
	comp=Z,32nm,0.9s						
CDF	**Champ du Feu**	**34.60**	**310**	eP	**P**	**20 30 24.6**	**-0.6**
	comp=Z,19nm,1.1s						
CDF	**Champ du Feu**	**34.60**	**310**	eP	**P**	**20 30 24.6**	**-0.6**
CDF				pmax	pmax		
	comp=Z,19nm,1.1s						
CDF	**Champ du Feu**	**34.60**	**310**	eP	**P**	**20 30 24.6**	**-0.6**
	comp=Z,19nm,1.1s						
CDF	**Champ du Feu**	**34.60**	**310**	eP	**P**	**20 30 24.6**	**-0.6**
	comp=Z,9.4nm,1.1s						
HINF	**Hinteralfeld**	**34.76**	**308⇑**	iP	**P**	**20 30 25.8**	**-0.8**
	comp=Z,14nm,0.9s						
HINF	**Hinteralfeld**	**34.76**	**308⇑**	iP	**P**	**20 30 25.8**	**-0.8**
HINF				pmax	pmax		
	comp=Z,14nm,0.9s						
HINF	**Hinteralfeld**	**34.76**	**308⇑**	iP	**P**	**20 30 25.8**	**-0.8**
	comp=Z,14nm,0.9s						
HINF	**Hinteralfeld**	**34.76**	**308⇑**	iP	**P**	**20 30 25.8**	**-0.8**
	comp=Z,6.9nm,0.9s						
ORIF	**Oris-en-Rattie**	**35.01**	**303**	eP	**P**	**20 30 28.2**	**-0.6**
	comp=Z,15nm,0.9s						
ORIF	**Oris-en-Rattie**	**35.01**	**303**	eP	**P**	**20 30 28.2**	**-0.6**
ORIF				pmax	pmax		
	comp=Z,15nm,0.9s						
ORIF	**Oris-en-Rattie**	**35.01**	**303**	eP	**P**	**20 30 28.2**	**-0.6**
	comp=Z,15nm,0.9s						
ORIF	**Oris-en-Rattie**	**35.01**	**303**	eP	**P**	**20 30 28.2**	**-0.6**
	comp=Z,7.3nm,0.9s						
KMBO	**Kilima Mbogo**	**35.07**	**200**	P	**P**	**20 30 32.1**	**+2.4**
KMBO	**Kilima Mbogo**	**35.07**	**200**	P	**P**	**20 30 32.1**	**+2.4**
	comp=Z,3.5nm,1.0s,baz=353,slow=11,SNR=6.5						
CABF	**La Chapelle**	**35.07**	**306⇑**	iP	**P**	**20 30 29.3**	**0.0**
	comp=Z,90nm,0.9s						
CABF	**La Chapelle**	**35.07**	**306⇑**	iP	**P**	**20 30 29.3**	**0.0**
CABF				pmax	pmax		
	comp=Z,90nm,0.9s						
CABF	**La Chapelle**	**35.07**	**306⇑**	iP	**P**	**20 30 29.3**	**0.0**
	comp=Z,90nm,0.9s						
CABF	**La Chapelle**	**35.07**	**306⇑**	iP	**P**	**20 30 29.3**	**0.0**
	comp=Z,45nm,0.9s						
HAU	**Haudompre**	**35.13**	**309**	eP	**P**	**20 30 28.8**	**-0.9**
	comp=Z,18nm,0.9s						
HAU	**Haudompre**	**35.13**	**309**	eP	**P**	**20 30 28.8**	**-0.9**
HAU				pmax	pmax		
	comp=Z,19nm,0.9s						
HAU	**Haudompre**	**35.13**	**309**	eP	**P**	**20 30 28.8**	**-0.9**
	comp=Z,18nm,0.9s						
HAU	**Haudompre**	**35.13**	**309**	eP	**P**	**20 30 28.8**	**-0.9**
	comp=Z,9.2nm,0.9s						
SMRF	**Simiane la Rot**	**35.14**	**302**	eP	**P**	**20 30 29.7**	**-0.2**
SMRF	**Simiane la Rot**	**35.14**	**302**	eP	**P**	**20 30 29.7**	**-0.2**
SMRF	**Simiane la Rot**	**35.14**	**302**	eP	**P**	**20 30 29.7**	**-0.2**
IBBN	**Ibbenburen**	**35.31**	**316**	eP	**P**	**20 30 32.3**	**+1.1**
	comp=Z,39nm,1.2s						
IBBN	**Ibbenburen**	**35.31**	**316**	eP	**P**	**20 30 32.3**	**+1.1**
	comp=Z,39nm,1.2s						
BUG	**Bochum--Univer**	**35.34**	**315**	eP	**P**	**20 30 32.5**	**+1.0**
	comp=Z,18nm,1.1s						
BUG	**Bochum--Univer**	**35.34**	**315**	eP	**P**	**20 30 32.5**	**+1.0**
	comp=Z,18nm,1.1s						
WLF	**Walferdange**	**35.59**	**311**	P	**P**	**20 30 33.7**	**0.0**
	comp=Z,22nm,2.0s						
WLF	**Walferdange**	**35.59**	**311**	eP	**P**	**20 30 33.7**	**0.0**
	comp=Z,44nm,1.4s						
WLF	**Walferdange**	**35.59**	**311**	P	**P**	**20 30 33.6**	**0.0**
	comp=Z,22nm,2.0s						
PAGF	**Fort de Pagny**	**35.64**	**309⇑**	iP	**P**	**20 30 33.6**	**-0.5**
	comp=Z,5.1nm,0.8s						
PAGF	**Fort de Pagny**	**35.64**	**309⇑**	iP	**P**	**20 30 33.6**	**-0.5**
	comp=Z,5.1nm,0.8s						
PAGF	**Fort de Pagny**	**35.64**	**309⇑**	iP	**P**	**20 30 33.6**	**-0.5**
	comp=Z,2.5nm,0.8s						
HFS	**Hagfors**	**35.82**	**331**	P	**P**	**20 30 35.2**	**-0.3**
HFS	**Hagfors**	**35.82**	**331**	P	**P**	**20 30 35.2**	**-0.3**
	comp=Z,16nm,0.8s,baz=125,slow=9.9,SNR=54						
HFS	**Hagfors**	**35.82**	**331**	P	**P**	**20 30 35.2**	**-0.3**
MEM	**Membach**	**35.90**	**313**	P	**P**	**20 30 38.1**	**+1.8**
	comp=Z,28nm,3.6s						
MEM	**Membach**	**35.90**	**313**	P	**P**	**20 30 38.1**	**+1.8**
	comp=Z,28nm,3.6s						
SFTF	**Sexfontaines**	**36.03**	**309⇑**	iP	**P**	**20 30 36.9**	**-0.5**
	comp=Z,48nm,1.0s						
SFTF	**Sexfontaines**	**36.03**	**309⇑**	iP	**P**	**20 30 36.9**	**-0.5**
	comp=Z,48nm,1.0s						
SFTF	**Sexfontaines**	**36.03**	**309⇑**	iP	**P**	**20 30 36.9**	**-0.5**
	comp=Z,24nm,1.0s						
MEZF	**Maizieres J'vi**	**36.07**	**309⇑**	iP	**P**	**20 30 37.4**	**-0.3**
	comp=Z,78nm,1.2s						
MEZF	**Maizieres J'vi**	**36.07**	**309⇑**	iP	**P**	**20 30 37.4**	**-0.3**
	comp=Z,78nm,1.2s						
MEZF	**Maizieres J'vi**	**36.07**	**309⇑**	iP	**P**	**20 30 37.4**	**-0.3**
	comp=Z,39nm,1.2s						
APA	**Apatity**	**36.18**	**350⇑**	iP	**P**	**20 30 38.6**	**+0.2**
APA				MLR	MLR		
	comp=Z,1µm,18.0s						
APA	**Apatity**	**36.18**	**350**	i P	**P**	**20 30 38.6**	**+0.2**
	comp=Z,1µm,18.0s						
LVZ	**Lovozero**	**36.32**	**351**	eP	**P**	**20 30 38.6**	**-1.1**
LVZ				pmax	pmax		
	comp=Z,126nm,1.7s						
LVZ	**Lovozero**	**36.32**	**351**	eP	**P**	**20 30 38.6**	**-1.1**
	comp=Z,126nm,1.7s						
LVZ	**Lovozero**	**36.32**	**351**	eP	**P**	**20 30 38.6**	**-1.1**
	comp=Z,126nm,1.7s						
LASF	**Ste Croix**	**36.38**	**302**	eP	**P**	**20 30 39.9**	**-0.6**
	comp=Z,68nm,1.4s						
LASF	**Ste Croix**	**36.38**	**302**	eP	**P**	**20 30 39.9**	**-0.6**
	comp=Z,68nm,1.4s						
LASF	**Ste Croix**	**36.38**	**302**	eP	**P**	**20 30 39.9**	**-0.6**
	comp=Z,34nm,1.4s						
GIVF	**Givet**	**36.52**	**312**	eP	**P**	**20 30 41.6**	**0.0**
	comp=Z,48nm,1.1s						
GIVF	**Givet**	**36.52**	**312**	eP	**P**	**20 30 41.6**	**0.0**
GIVF				pmax	pmax		
	comp=Z,48nm,1.1s						
GIVF	**Givet**	**36.52**	**312**	eP	**P**	**20 30 41.6**	**0.0**
	comp=Z,48nm,1.1s						
GIVF	**Givet**	**36.52**	**312**	eP	**P**	**20 30 41.6**	**0.0**
	comp=Z,24nm,1.1s						
LSA	**Lhasa**	**36.56**	**83**	P	**P**	**20 30 43.0**	**+0.3**
LSA	**Lhasa**	**36.56**	**83**	eP	**P**	**20 30 43.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**36.56**	**83**	eP	**P**	**20 30 43.2**	**+0.5**
	comp=Z,7.9nm,0.6s						
LSA	**Lhasa**	**36.56**	**83**	eP	**P**	**20 30 43.2**	**+0.5**
	comp=Z,8.0nm,0.6s						
SMF	**Signal de Mont**	**36.61**	**306⇑**	iP	**P**	**20 30 41.8**	**-0.6**
	comp=Z,75nm,0.9s						
SMF	**Signal de Mont**	**36.61**	**306⇑**	iP	**P**	**20 30 41.8**	**-0.6**
SMF				pmax	pmax		
	comp=Z,75nm,0.9s						
SMF	**Signal de Mont**	**36.61**	**306⇑**	iP	**P**	**20 30 41.8**	**-0.6**
	comp=Z,75nm,0.9s						
SMF	**Signal de Mont**	**36.61**	**306⇑**	iP	**P**	**20 30 41.8**	**-0.6**
	comp=Z,38nm,0.9s						
DOU	**Dourbes**	**36.67**	**312**	P	**P**	**20 30 43.0**	**+0.1**
DOU	**Dourbes**	**36.67**	**312**	P	**P**	**20 30 42.9**	**+0.1**
LOR	**Lormes**	**36.67**	**307⇑**	iP	**P**	**20 30 42.1**	**-0.9**
	comp=Z,22nm,0.9s						
LOR	**Lormes**	**36.67**	**307⇑**	iP	**P**	**20 30 42.1**	**-0.9**
	comp=Z,22nm,0.9s						
LOR	**Lormes**	**36.67**	**307⇑**	iP	**P**	**20 30 42.1**	**-0.9**
	comp=Z,11nm,0.9s						
SSF	**Saint Saulge**	**36.89**	**307⇑**	iP	**P**	**20 30 44.2**	**-0.6**
	comp=Z,31nm,0.8s						
SSF	**Saint Saulge**	**36.89**	**307⇑**	iP	**P**	**20 30 44.2**	**-0.6**
SSF				pmax	pmax		
	comp=Z,31nm,0.8s						
SSF	**Saint Saulge**	**36.89**	**307⇑**	iP	**P**	**20 30 44.2**	**-0.6**
	comp=Z,31nm,0.8s						
SSF	**Saint Saulge**	**36.89**	**307⇑**	iP	**P**	**20 30 44.2**	**-0.6**
	comp=Z,15nm,0.8s						
BAIF	**Baives**	**36.90**	**312**	eP	**P**	**20 30 45.0**	**+0.2**
	comp=Z,20nm,0.8s						
BAIF	**Baives**	**36.90**	**312**	eP	**P**	**20 30 45.0**	**+0.2**
BAIF				pmax	pmax		
	comp=Z,20nm,0.8s						
BAIF	**Baives**	**36.90**	**312**	eP	**P**	**20 30 45.0**	**+0.2**
	comp=Z,20nm,0.8s						
BAIF	**Baives**	**36.90**	**312**	eP	**P**	**20 30 45.0**	**+0.2**
	comp=Z,9.8nm,0.8s						
SNF	**Seneffe**	**36.95**	**312**	P	**P**	**20 30 45.3**	**+0.1**
SNF	**Seneffe**	**36.95**	**312**	P	**P**	**20 30 45.3**	**+0.1**
AVF	**Avril sur Loir**	**36.96**	**306⇑**	iP	**P**	**20 30 44.7**	**-0.7**
	comp=Z,47nm,1.2s						
AVF	**Avril sur Loir**	**36.96**	**306⇑**	iP	**P**	**20 30 44.7**	**-0.7**
AVF				pmax	pmax		
	comp=Z,47nm,1.2s						
AVF	**Avril sur Loir**	**36.96**	**306⇑**	iP	**P**	**20 30 44.7**	**-0.7**
	comp=Z,47nm,1.2s						
AVF	**Avril sur Loir**	**36.96**	**306⇑**	iP	**P**	**20 30 44.7**	**-0.7**
	comp=Z,24nm,1.2s						
BGF	**Bois d'Agland**	**37.28**	**306⇑**	iP	**P**	**20 30 47.5**	**-0.7**
	comp=Z,24nm,0.9s						
BGF	**Bois d'Agland**	**37.28**	**306⇑**	iP	**P**	**20 30 47.5**	**-0.7**
BGF				pmax	pmax		
	comp=Z,24nm,0.9s						
BGF	**Bois d'Agland**	**37.28**	**306⇑**	iP	**P**	**20 30 47.5**	**-0.7**
	comp=Z,24nm,0.9s						
BGF	**Bois d'Agland**	**37.28**	**306⇑**	iP	**P**	**20 30 47.5**	**-0.7**
	comp=Z,12nm,0.9s						
NB2	**NORSAR Subarra**	**37.34**	**331**	P	**P**	**20 30 47.5**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=123,slow=8.6						
NB2	**NORSAR Subarra**	**37.34**	**331**	P	**P**	**20 30 47.5**	**-1.0**
	comp=Z,2.3nm,0.6s,SNR=1.1						
NOA	**NORSAR Array B**	**37.34**	**331**	P	**P**	**20 30 47.4**	**-1.0**
NOA	**NORSAR Array B**	**37.34**	**331**	P	**P**	**20 30 47.4**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=123,slow=8.6,SNR=11						
NOA	**NORSAR Array B**	**37.34**	**331**	P	**P**	**20 30 47.4**	**-1.0**
NAO01	**NORSAR Array S**	**37.37**	**331**	P	**P**	**20 30 47.2**	**-1.5**
NAO01	**NORSAR Array S**	**37.37**	**331**	P	**P**	**20 30 47.2**	**-1.5**
TCF	**Toulx Ste Croi**	**37.70**	**305**	eP	**P**	**20 30 51.3**	**-0.4**
	comp=Z,28nm,1.2s						
TCF	**Toulx Ste Croi**	**37.70**	**305**	eP	**P**	**20 30 51.3**	**-0.4**
TCF				pmax	pmax		
	comp=Z,28nm,1.2s						
TCF	**Toulx Ste Croi**	**37.70**	**305**	eP	**P**	**20 30 51.3**	**-0.4**
	comp=Z,28nm,1.2s						
TCF	**Toulx Ste Croi**	**37.70**	**305**	eP	**P**	**20 30 51.3**	**-0.4**
	comp=Z,14nm,1.2s						
CAF	**Calviac**	**37.71**	**303**	eP	**P**	**20 30 51.3**	**-0.5**
CAF	**Calviac**	**37.71**	**303**	eP	**P**	**20 30 51.3**	**-0.5**
CAF	**Calviac**	**37.71**	**303**	eP	**P**	**20 30 51.3**	**-0.5**
CAF	**Calviac**	**37.71**	**303**	eP	**P**	**20 30 51.3**	**-0.5**
HVS	**Khovu-Aksy**	**37.85**	**47c**	iP	**P**	**20 30 54.2**	**+1.2**
HVS				pmax	pmax		
	comp=Z,140nm,1.4s						
HVS	**Khovu-Aksy**	**37.85**	**47**	i P	**P**	**20 30 54.2**	**+1.2**
	comp=Z,140nm,1.4s						
SHL	**Shillong**	**38.46**	**89**	ex	**P**	**20 30 59.0**	**+0.4**
LFF	**La Frestale**	**38.65**	**303**	eP	**P**	**20 30 59.3**	**-0.4**
LFF	**La Frestale**	**38.65**	**303**	eP	**P**	**20 30 59.3**	**-0.4**
LFF	**La Frestale**	**38.65**	**303**	eP	**P**	**20 30 59.3**	**-0.4**
LFF	**La Frestale**	**38.65**	**303**	eP	**P**	**20 30 59.3**	**-0.4**
EPF	**Esparros**	**38.92**	**300**	eP	**P**	**20 31 01.0**	**-1.0**
EPF	**Esparros**	**38.92**	**300**	eP	**P**	**20 31 01.0**	**-1.0**
EPF	**Esparros**	**38.92**	**300**	eP	**P**	**20 31 01.0**	**-1.0**
EPF	**Esparros**	**38.92**	**300**	eP	**P**	**20 31 01.0**	**-1.0**
TAM	**Tamanrasset**	**38.95**	**267**	eP	**P**	**20 31 03.7**	**+1.1**
TAM				pmax	pmax		
	comp=Z,20nm,1.4s						
TAM	**Tamanrasset**	**38.95**	**267**	eP	**P**	**20 31 03.7**	**+1.1**
	comp=Z,20nm,1.4s						
TAM	**Tamanrasset**	**38.95**	**267**	eP	**P**	**20 31 03.7**	**+1.1**
	comp=Z,20nm,1.4s						
PALK	**Pallekele**	**39.15**	**123**	P	P	20 31 00.4	-3.8
KEV	**Kevo**	**39.16**	**348**	eP	**P**	**20 31 02.4**	**-1.2**
KEV	**Kevo**	**39.16**	**348**	eP	**P**	**20 31 02.4**	**-1.2**
KEV	**Kevo**	**39.16**	**348**	eP	**P**	**20 31 02.4**	**-1.2**
ARCES	**ARCESS Array B**	**39.23**	**348**	P	**P**	**20 31 04.5**	**+0.1**
ARCES	**ARCESS Array B**	**39.23**	**348**	P	**P**	**20 31 04.5**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=155,slow=11,SNR=14						
ARCES	**ARCESS Array B**	**39.23**	**348**	P	**P**	**20 31 04.4**	**+0.1**
MFF	**Saint Martin d**	**39.34**	**305**	eP	**P**	**20 31 04.4**	**-1.1**
	comp=Z,11nm,0.7s						
MFF	**Saint Martin d**	**39.34**	**305**	eP	**P**	**20 31 04.4**	**-1.1**
MFF				pmax	pmax		
	comp=Z,11nm,0.7s						
MFF	**Saint Martin d**	**39.34**	**305**	eP	**P**	**20 31 04.4**	**-1.1**
	comp=Z,11nm,0.7s						
MFF	**Saint Martin d**	**39.34**	**305**	eP	**P**	**20 31 04.4**	**-1.1**
	comp=Z,5.4nm,0.7s						
LDF	**La Druitiere**	**39.49**	**309**	eP	**P**	**20 31 05.4**	**-1.2**
	comp=Z,22nm,0.8s						
LDF	**La Druitiere**	**39.49**	**309**	eP	**P**	**20 31 05.4**	**-1.2**
LDF				pmax	pmax		
	comp=Z,22nm,0.8s						
LDF	**La Druitiere**	**39.49**	**309**	eP	**P**	**20 31 05.4**	**-1.2**
	comp=Z,22nm,0.8s						
LDF	**La Druitiere**	**39.49**	**309**	eP	**P**	**20 31 05.4**	**-1.2**
	comp=Z,11nm,0.8s						
ETSF	**Etsaut**	**39.58**	**300**	eP	**P**	**20 31 06.3**	**-1.3**
ETSF	**Etsaut**	**39.58**	**300**	eP	**P**	**20 31 06.3**	**-1.3**
ETSF	**Etsaut**	**39.58**	**300**	eP	**P**	**20 31 06.3**	**-1.3**
ETSF	**Etsaut**	**39.58**	**300**	eP	**P**	**20 31 06.3**	**-1.3**
FLN	**La Foliniere**	**39.74**	**309**	eP	**P**	**20 31 07.6**	**-1.1**
FLN	**La Foliniere**	**39.74**	**309**	eP	**P**	**20 31 07.6**	**-1.1**
FLN	**La Foliniere**	**39.74**	**309**	eP	**P**	**20 31 07.6**	**-1.1**
FLN	**La Foliniere**	**39.74**	**309**	eP	**P**	**20 31 07.6**	**-1.1**
GRR	**Gorron**	**39.95**	**308**	eP	**P**	**20 31 09.5**	**-1.0**
GRR	**Gorron**	**39.95**	**308**	eP	**P**	**20 31 09.5**	**-1.0**
GRR	**Gorron**	**39.95**	**308**	eP	**P**	**20 31 09.5**	**-1.0**
GRR	**Gorron**	**39.95**	**308**	eP	**P**	**20 31 09.5**	**-1.0**
SJPF	**Ste Jean**	**40.06**	**300**	eP	**P**	**20 31 10.8**	**-0.7**
SJPF	**Ste Jean**	**40.06**	**300**	eP	**P**	**20 31 10.8**	**-0.7**
SJPF	**Ste Jean**	**40.06**	**300**	eP	**P**	**20 31 10.8**	**-0.7**
SJPF	**Ste Jean**	**40.06**	**300**	eP	**P**	**20 31 10.8**	**-0.7**
WOL	**Wolverton**	**40.52**	**313**	eP	**P**	**20 31 15.2**	**0.0**
WOL				AMB	AMB	20 31 17.7	
	comp=Z,178nm,2.4s						
WOL	**Wolverton**	**40.52**	**313**	eP	**P**	**20 31 15.2**	**0.0**
SWN1	**Swindon**	**40.91**	**313**	eP	**P**	**20 31 18.2**	**-0.1**
SWN1				AMB	AMB	20 31 22.9	
	comp=Z,275nm,2.2s						
SWN1	**Swindon**	**40.91**	**313**	eP	**P**	**20 31 18.2**	**-0.1**
SGMF	**Saint Gilles**	**41.08**	**308**	eP	**P**	**20 31 19.0**	**-0.8**
SGMF	**Saint Gilles**	**41.08**	**308**	eP	**P**	**20 31 19.0**	**-0.8**
SGMF	**Saint Gilles**	**41.08**	**308**	eP	**P**	**20 31 19.0**	**-0.8**
SGMF	**Saint Gilles**	**41.08**	**308**	eP	**P**	**20 31 19.0**	**-0.8**
HPK	**Haverah Park**	**41.19**	**317**	eP	**P**	**20 31 20.3**	**-0.4**
HPK	**Haverah Park**	**41.19**	**317**	eP	**P**	**20 31 20.3**	**-0.4**
OLDB	**Oldbury-Upon-S**	**41.39**	**313**	eP	**P**	**20 31 22.1**	**-0.2**
OLDB	**Oldbury-Upon-S**	**41.39**	**313**	eP	**P**	**20 31 22.1**	**-0.2**
QUIF	**Quistinic**	**41.47**	**307**	eP	**P**	**20 31 21.9**	**-1.1**
QUIF	**Quistinic**	**41.47**	**307**	eP	**P**	**20 31 21.9**	**-1.1**
QUIF	**Quistinic**	**41.47**	**307**	eP	**P**	**20 31 21.9**	**-1.1**
QUIF	**Quistinic**	**41.47**	**307**	eP	**P**	**20 31 21.9**	**-1.1**
ROSF	**Rostrenen**	**41.56**	**308**	eP	**P**	**20 31 22.8**	**-1.0**
ROSF	**Rostrenen**	**41.56**	**308**	eP	**P**	**20 31 22.8**	**-1.0**
ROSF	**Rostrenen**	**41.56**	**308**	eP	**P**	**20 31 22.8**	**-1.0**
ROSF	**Rostrenen**	**41.56**	**308**	eP	**P**	**20 31 22.8**	**-1.0**
HLM1	**Long Mynd**	**41.70**	**314**	eP	**P**	**20 31 24.1**	**-0.8**
HLM1				AMB	AMB	20 31 30.7	
	comp=Z,123nm,5.6s						
HLM1	**Long Mynd**	**41.70**	**314**	eP	**P**	**20 31 24.1**	**-0.8**
MCH1	**Michaelchurch**	**41.71**	**313**	eP	**P**	**20 31 23.5**	**-1.4**
MCH1				AMB	AMB	20 31 33.3	
	comp=Z,95nm,4.7s						
MCH1	**Michaelchurch**	**41.71**	**313**	eP	**P**	**20 31 23.5**	**-1.4**
GTA	**Gaotai**	**41.74**	**66**	⇑P	**P**	**20 31 26.6**	**+1.0**
GTA				pP	pP	20 31 39.3	+11
GTA				PcP	**PcP**	**20 33 21.8**	**-0.1**
GTA				PcS	**PcS**	**20 37 10.8**	**-2.7**
GTA				S	**S**	**20 37 38.1**	**-4.7**
GTA				SS	SS	20 40 38.3	-10
GTA				pmax	pmax		
	comp=Z,33nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,4.7s						
GTA				LR	LR		
	comp=Z,390nm,17.1s						
GTA				LR	LR		
	comp=Z,370nm,17.6s						
GTA				LR	LR		
	comp=Z,410nm,15.7s						
FOEL	**Foel Wylfa**	**41.95**	**315**	eP	**P**	**20 31 26.4**	**-0.5**
FOEL	**Foel Wylfa**	**41.95**	**315**	eP	**P**	**20 31 26.4**	**-0.5**
HEX	**Exmoor**	**42.10**	**312**	eP	**P**	**20 31 27.6**	**-0.6**
HEX	**Exmoor**	**42.10**	**312**	eP	**P**	**20 31 27.6**	**-0.6**
ESY	**Stoneypath**	**42.14**	**319**	eP	**P**	**20 31 27.9**	**-0.5**
ESY	**Stoneypath**	**42.14**	**319**	eP	**P**	**20 31 27.9**	**-0.5**
KESW	**Keswick, Cumbr**	**42.16**	**317**	eP	**P**	**20 31 28.4**	**-0.2**
KESW				AMB	AMB	20 31 31.6	
	comp=Z,136nm,2.0s						
KESW	**Keswick, Cumbr**	**42.16**	**317**	eP	**P**	**20 31 28.4**	**-0.2**
EBL	**Broad Law**	**42.34**	**319**	eP	**P**	**20 31 29.7**	**-0.4**
EBL	**Broad Law**	**42.34**	**319**	eP	**P**	**20 31 29.7**	**-0.4**
ESDC	**Sonseca Array**	**42.38**	**295**	P	**P**	**20 31 31.1**	**+0.4**

ESDC PcP PcP 20 33 24.6 +0.7
ESDC Sonseca Array 42.38 295 P P 20 31 31.1 +0.4
comp=Z,3.5nm,0.8s,baz=73,slow=8.6,SNR=19
ESDC PcP PcP 20 33 24.6 +0.7
comp=Z,1.8nm,0.7s,baz=60,slow=3.7,SNR=7.1
ESDC Sonseca Array 42.38 295 P P 20 31 31.1 +0.4
ESDC Sonseca Array 42.38 295 PcP PcP 20 33 24.6 +0.7
ESLA Sonseca Array 42.38 295 eP P 20 31 30.8 +0.1
ESLA Sonseca Array 42.38 295 eP P 20 31 30.8 +0.1
MOY Mondy 42.45 47 eP P 20 31 32.9 +1.8
MOY pmax pmax
comp=Z,24nm,1.5s
MOY Mondy 42.45 47 eP P 20 31 32.9 +1.8
comp=Z,24nm,1.5s
EAB Aberfoyle 43.14 319 eP P 20 31 35.5 -1.0
EAB Aberfoyle 43.14 319 eP P 20 31 35.5 -1.0
ZAK Zakamensk 43.79 49 ⇓i P P 20 31 42.5 +0.5
ZAK e 20 33 27.0
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK Zakamensk 43.79 49 i P P 20 31 42.5 +0.5
comp=Z,5.0nm,1.4s
TLY Talaya 44.09 47 P P 20 31 43.7 -0.6
TLY Talaya 44.09 47 P P 20 31 43.7 -0.6
TLY Talaya 44.09 47 P P 20 31 43.7 -0.6
MDT Midelt 44.20 285 P P 20 31 46.3 +0.7
MDT Midelt 44.20 285 P P 20 31 46.3 +0.7
comp=Z,6.6nm,1.0s,baz=89,slow=9.4,SNR=15
MDT Midelt 44.20 285 P P 20 31 46.3 +0.7
PBRG Braganca 44.23 298 eP P 20 31 45.9 +0.3
comp=Z,42nn,1.9s
PBRG Braganca 44.23 298 eP P 20 31 45.9 +0.3
comp=Z,42nn,1.9s
IRK Irkutsk 44.51 47 eP P 20 31 48.0 +0.3
IRK pmax pmax
comp=Z,34nn,1.5s
IRK Irkutsk 44.51 47 eP P 20 31 48.0 +0.3
comp=Z,34nn,1.5s
MVO Moncorvo 44.52 298 eP P 20 31 48.5 +0.5
comp=Z,42nn,1.6s
MVO Moncorvo 44.52 298 eLR LR 20 50 00.2
comp=Z,199nn,20.0s
MVO Moncorvo 44.52 298 eP P 20 31 48.5 +0.5
comp=Z,42nn,1.6s
MTE Manteigas 45.01 297 eP P 20 31 52.8 +0.9
comp=Z,67nn,1.3s
MTE Manteigas 45.01 297 eLR LR 20 50 32.4
comp=Z,386nn,20.0s
MTE Manteigas 45.01 297 eP P 20 31 52.8 +0.9
comp=Z,67nn,1.3s
PMRV Marv??o 45.04 295 eP P 20 31 52.6 +0.5
comp=Z,31nn,1.6s
PMRV Marv??o 45.04 295 eP P 20 31 52.6 +0.5
comp=Z,31nn,1.6s
POLO Lamas de Olo 45.06 298 eP P 20 31 52.5 +0.2
comp=Z,36nn,1.7s
POLO Lamas de Olo 45.06 298 eP P 20 31 52.5 +0.2
comp=Z,36nn,1.7s
PESTR Estremoz 45.29 294 eP P 20 31 54.4 +0.4
PESTR Estremoz 45.29 294 eP P 20 31 54.4 +0.4
PGAV Gavieira, Arco 45.34 299 eP P 20 31 55.6 +1.1
comp=Z,82nn,2.0s
PGAV Gavieira, Arco 45.34 299 eLR LR 20 49 41.0
comp=Z,376nn,20.0s
PGAV Gavieira, Arco 45.34 299 eP P 20 31 55.6 +1.1
comp=Z,82nn,2.0s
LZH Lanzhou 45.45 69 eP P 20 31 55.8 +0.3
LZH pmax pmax
comp=Z,34nn,1.0s
LZH pmax pmax
comp=Z,160nn,4.0s
LZH LR LR
comp=Z,760nn,17.3s
LZH LR LR
comp=Z,300nn,12.2s
LZH LR LR
comp=Z,770nn,18.4s
PVAQ Vaqueiros 45.66 292 eLR LR 20 52 02.3
comp=Z,374nn,22.0s
PCAS Casmilo, Conde 45.79 296 eP P 20 31 58.8 +0.8
comp=Z,71nn,1.4s
PCAS Casmilo, Conde 45.79 296 eP P 20 31 58.8 +0.8
comp=Z,71nn,1.4s
SONM Songino Array 45.84 53 P P 20 31 58.8 +0.4
SONM PcP PcP 20 33 35.1 -0.6
SONM Songino Array 45.84 53 P P 20 31 58.8 +0.4
comp=Z,1.6nm,0.5s,baz=280,slow=8.1,SNR=18
SONM PcP PcP 20 33 35.1 -0.6
comp=Z,3.0nm,0.8s,baz=277,slow=2.9,SNR=8.4
SONM Songino Array 45.84 53 P P 20 31 58.8 +0.4
PNCL Nicolau / Gran 46.15 294 eP P 20 32 01.6 +0.8
comp=Z,33nn,1.8s
PNCL Nicolau / Gran 46.15 294 eP P 20 32 01.6 +0.8
comp=Z,33nn,1.8s
ULN Ulaanbaatar 46.28 53 eP P 20 32 01.9 0.0
comp=Z,9.7nm,0.8s
ULN Ulaanbaatar 46.28 53 eP P 20 32 01.9 0.0
comp=Z,9.6nm,0.8s
PMAFR Mafra 46.57 295 eP P 20 32 02.4 -1.8
comp=Z,193nn,2.2s
PMAFR Mafra 46.57 295 eP P 20 32 02.4 -1.8
comp=Z,193nn,2.2s
MHMT Maesarieng 46.62 95 P P 20 32 13.8 +9.1
CD2 Chengdu 46.69 76 P P 20 32 05.3 0.0
CD2 pmax pmax
comp=Z,20nn,1.1s
CD2 pmax pmax
comp=Z,70nn,5.3s
TOA0 Torodi Ar. Sit 46.71 257 eP P 20 32 05.4 -0.1
TOA0 Torodi Ar. Sit 46.71 257 eP P 20 32 05.4 -0.1
TORD Torodi Ar. Bea 46.71 257 P P 20 32 05.6 +0.1
TORD Torodi Ar. Bea 46.71 257 P P 20 32 05.6 +0.1
comp=Z,7.0nm,1.0s,baz=55,slow=8.5,SNR=21
TORD Torodi Ar. Bea 46.71 257 P P 20 32 05.6 +0.1
CHTO Chiang Mai 47.18 94 eP P 20 32 07.9 -1.2
CHTO e 20 33 56.1
CHTO pmax pmax
comp=Z,3.0nm,1.1s
CHTO Chiang Mai 47.18 94 P P 20 32 09.0 -0.1
comp=Z,42nn,1.1s
CHTO Chiang Mai 47.18 94 eP P 20 32 07.9 -1.2
comp=Z,2.7nm,1.1s
CHTO ePP PP 20 33 56.1 -3.9
CHTO Chiang Mai 47.18 94 eP P 20 32 07.9 -1.2
comp=Z,3.0nm,1.1s
CM31 Chiang Mai Arr 47.34 94 eP P 20 32 10.3 -0.1
comp=Z,2.6nm,0.6s
CM31 Chiang Mai Arr 47.34 94 eP P 20 32 10.3 -0.1
comp=Z,2.6nm,0.6s
CMAR Chiang Mai Arr 47.34 94 P P 20 32 10.1 -0.3
CMAR PcP PcP 20 33 41.6 +0.3
CMAR Chiang Mai Arr 47.34 94 P P 20 32 10.1 -0.3
comp=Z,4.9nm,1.0s,baz=295,slow=8.2,SNR=28
CMAR PcP PcP 20 33 41.6 +0.3
comp=Z,3.7nm,0.8s,baz=292,slow=4.8,SNR=9.8
CMAR Chiang Mai Arr 47.34 94 P P 20 32 10.1 -0.3
CRAI Chiangrai 47.76 91 P P 20 32 13.7 +0.1
comp=Z,36nn,1.0s
KMI Kunming 47.78 84 P P 20 32 13.8 -0.2
KMI pmax pmax
comp=Z,20nn,1.1s
SPITS Spitsbergen Ar 47.84 352 P P 20 32 14.2 +0.7
SPITS Spitsbergen Ar 47.84 352 P P 20 32 14.2 +0.7
comp=Z,27nn,0.9s,baz=146,slow=9.1,SNR=36
SPITS Spitsbergen Ar 47.84 352 P P 20 32 14.2 +0.7
PBKT Sadao Pong 49.93 95 P P 20 32 31.4 +1.1
comp=Z,12nn,1.5s
XAN Xi'an 49.99 71 P P 20 32 30.4 -0.3
XAN pmax pmax
comp=Z,8.0nm,0.8s
SLVN Son La 50.27 88 eP P 20 32 33.1 +0.2
comp=Z,18nn,1.0s
SLVN Son La 50.27 88 eP P 20 32 33.1 +0.2
comp=Z,18nn,1.0s
HHC Hu-ho-hao-te 50.39 62 eP P 20 32 34.3 +0.6
HHC S S 20 39 41.4 -5.6
HHC pmax pmax
comp=Z,50nn,1.3s
HHC pmax pmax
comp=Z,440nn,6.5s
HHC LR LR
comp=Z,590nn,16.7s
HHC LR LR
comp=Z,490nn,15.7s
HHC LR LR
comp=Z,220nn,18.8s

GYA Guiyang 50.57 81 ⇓i P P 20 32 36.3 +1.0
GYA pP pP 20 32 53.8 +15
GYA sP sP 20 33 02.0 +22
GYA PP **PP 20 34 33.8 +2.8**
GYA ScP ScP 20 37 41.5 -7.7
GYA S S 20 39 43.8 -6.1
GYA sS sS 20 40 15.5 +20
GYA ScS ScS 20 42 17.0 -10
GYA SS SS 20 43 14.3 -10
GYA pmax pmax
comp=Z,20nn,1.0s
GYA pmax pmax
comp=Z,120nn,4.9s
GYA LR LR
comp=Z,440nn,19.0s
GYA LR LR
comp=Z,510nn,18.9s
GYA LR LR
comp=Z,460nn,17.8s
OPO Ambohidratompo 50.81 181 P P 20 32 39.3 +2.4
OPO Ambohidratompo 50.81 181 P P 20 32 39.3 +2.4
comp=Z,6.3nm,0.8s,baz=33,slow=5.8,SNR=5.3
LSZ Lusaka 51.30 205 eP P 20 32 41.8 +1.2
comp=Z,9.8nm,0.8s
LSZ Lusaka 51.30 205 P P 20 32 42.6 +2.0
comp=Z,8.7nm,0.8s,baz=16,slow=9.1,SNR=10
ENH Enshi 51.59 75 eP P 20 32 42.1 -0.6
comp=Z,12nn,0.9s
ENH Enshi 51.59 75 eP P 20 32 42.1 -0.6
comp=Z,12nn,0.9s
BJI Beijing 54.00 61 P P 20 33 00.5 +0.1
BJI pmax pmax
comp=Z,35nn,0.8s
BJT Baijiatuau 54.00 62 eP P 20 33 00.4 0.0
comp=Z,20nn,0.7s
BJT Baijiatuau 54.00 62 eP P 20 33 00.4 0.0
comp=Z,20nn,0.7s
HIA Hailar 54.48 50 eP P 20 33 04.2 +0.4
comp=Z,28nn,1.1s
HIA Hailar 54.48 50 eP P 20 33 04.2 +0.4
comp=Z,28nn,1.1s
DBIC Dimbokro 55.66 255 eP P 20 33 12.6 -0.1
comp=Z,13nn,0.9s
DBIC Dimbokro 55.66 255 P P 20 33 12.8 +0.1
comp=Z,12nn,0.9s,baz=20,slow=8.7,SNR=12
DBIC Dimbokro 55.66 255 eP P 20 33 12.6 -0.1
comp=Z,13nn,0.9s
GSI Gunungsitoli 55.67 114 eP P 20 33 13.1 +0.3
comp=Z,72nn,0.9s
GSI Gunungsitoli 55.67 114 eP P 20 33 13.1 +0.3
comp=Z,72nn,0.9s
KULM Kulim 55.69 108 eP P 20 33 11.8 -1.2
comp=Z,17nn,0.8s
KULM Kulim 55.69 108 eP P 20 33 11.8 -1.2
comp=Z,17nn,0.8s
KIC Kosan Boka 55.74 254 eP P 20 33 13.5 +0.2
comp=Z,70nn,1.2s
PSI Prapat 55.80 111 P P 20 33 13.3 -0.6
PSI Prapat 55.80 111 P P 20 33 13.3 -0.6
comp=Z,12nn,0.7s,baz=335,slow=7.7,SNR=8.2
TIC Toumodi 55.80 255 eP P 20 33 13.8 0.0
LIC Lamto 56.05 254 ⇑i P P 20 33 15.9 +0.4
comp=Z,26nn,0.7s
LIC Lamto 56.05 254 eP P 20 33 15.7 +0.2
comp=Z,71nn,1.0s
LIC Lamto 56.05 254 ⇑i P P 20 33 15.9 +0.4
comp=Z,26nn,0.6s
LIC Lamto 56.05 254 ⇑i P P 20 33 15.9 +0.4
comp=Z,13nn,0.7s
QIZ Qiongzhong 56.28 88 P P 20 33 16.8 -0.4
QIZ S S 20 41 01.3 -6.1
QIZ pmax pmax
comp=Z,52nn,2.2s
IPM Ipoh 56.46 108 eP P 20 33 16.4 -2.0
comp=Z,44nn,0.8s
IPM Ipoh 56.46 108 eP P 20 33 16.5 -2.0
comp=Z,44nn,0.8s
TIXI Tiksi 56.53 22 eP P 20 33 17.3 -0.8
TIXI pmax pmax
comp=Z,12nn,1.1s
TIXI Tiksi 56.53 22 eP P 20 33 17.3 -0.8
comp=Z,12nn,1.1s
TIXI Tiksi 56.53 22 eP P 20 33 17.3 -0.8
comp=Z,12nn,1.1s
YAK Yakutsk 57.87 33 eP P 20 33 25.9 -1.8
YAK pmax pmax
comp=Z,18nn,1.1s
YAK pmax pmax
comp=E,7.0nn,1.3s
YAK Yakutsk 57.87 33 eP P 20 33 26.6 -1.1
comp=E,14nn,1.0s
YAK Yakutsk 57.87 33 eP P 20 33 25.9 -1.8
comp=E,18nn,1.1s
SUMG Summit 58.39 339 eP P 20 33 31.7 0.0
SUMG pmax pmax
comp=Z,26nn,0.9s
SUMG Summit 58.39 339 eP P 20 33 31.7 0.0
comp=Z,26nn,0.9s
SUMG Summit 58.39 339 eP P 20 33 31.7 0.0
comp=Z,26nn,0.9s
NJ2 Nanjing 58.52 70 eP P 20 33 32.9 +0.1
NJ2 pmax pmax
comp=Z,20nn,0.8s
BKNI Bangkinang 58.98 112 eP P 20 33 35.0 -1.2
BKNI Bangkinang 58.98 112 eP P 20 33 35.0 -1.2
TSUM Tsumeb 59.26 214 eP P 20 33 38.8 +0.7
comp=Z,20nn,1.4s
TSUM Tsumeb 59.26 214 eP P 20 33 38.8 +0.7
comp=Z,20nn,1.4s
CN2 Changchun 59.62 55 eP P 20 33 39.9 -0.3
CN2 eS S 20 41 46.8 -3.7
CN2 pmax pmax
comp=Z,20nn,0.7s
CN2 LR LR
comp=Z,200nn,13.0s
CN2 LR LR
comp=Z,200nn,13.0s
CN2 LR LR
comp=Z,200nn,14.0s
LBTB Lobatse 61.19 204 eP P 20 33 52.4 +1.2
comp=Z,25nn,0.8s
KLR Kul'dur 62.11 47 eP P 20 33 57.1 0.0
KLR Kul'dur 62.11 47 eP P 20 33 57.1 0.0
MDJ Mudanjiang 62.19 53 P P 20 33 56.4 -1.3
MDJ pmax pmax
comp=Z,4.0nm,1.0s
MDJ pmax pmax
comp=Z,53nn,2.9s
KSAR Wonju Array Be 63.50 61 P P 20 34 05.9 -0.6
KSAR Wonju Array Be 63.50 61 P P 20 34 05.9 -0.6
KSRS Korea Array 63.52 61 P P 20 34 05.9 -0.8
comp=Z,12nn,0.7s,baz=285,slow=6.8,SNR=63
KSRS LR LR 21 05 02.2
comp=Z,99nn,19.0s,baz=110,slow=39
KSRS Korea Array 63.52 61 P P 20 34 05.9 -0.8
comp=Z,99nn,19.0s
USRK Ussuriysk Arra 63.95 53 P P 20 34 08.3 -1.1
comp=Z,7.3nm,0.8s,baz=285,slow=6.3,SNR=17
BOSA Boshof 64.64 202 eP P 20 34 15.2 +1.2
comp=Z,18nn,0.9s
BOSA Boshof 64.64 202 P P 20 34 15.5 +1.4
comp=Z,19nn,0.8s,baz=24,slow=7.4,SNR=22
BOSA LR LR 21 03 24.6
comp=Z,287nn,20.7s,baz=28,slow=37
JNU Nakatsue 67.46 64 P P 20 34 31.8 -0.5
JNU Nakatsue 67.46 64 P P 20 34 31.8 -0.5
comp=Z,6.3nm,0.8s,baz=10,slow=7.4,SNR=4.4
JNU Nakatsue 67.46 64 P P 20 34 31.8 -0.5
SEY Seymchan 67.54 29 i P P 20 34 32.4 +0.2
SEY Seymchan 67.54 29 i P P 20 34 32.4 +0.2
KKM Kota Kinabalu 68.11 97 eP P 20 34 36.4 -0.4
comp=Z,22nn,0.9s
KKM Kota Kinabalu 68.11 97 eP P 20 34 36.3 -0.4
comp=Z,22nn,0.9s
SUR Sutherland 69.59 205 P P 20 34 47.0 +1.4
YSS Yuzh-Sakhalins 69.79 47 ⇑eP P 20 34 45.2 -1.4
YSS e 20 34 51.6
YSS pmax pmax
comp=Z,30nn,1.0s
YSS Yuzh-Sakhalins 69.79 47 eP P 20 34 45.5 -1.1
comp=Z,37nn,1.0s
YSS Yuzh-Sakhalins 69.79 47 eP P 20 34 45.2 -1.4
comp=Z,30nn,1.0s
RES Resolute Bay 70.38 350 P P 20 34 49.4 -0.3
RES Resolute Bay 70.38 350 P P 20 34 49.4 -0.3
comp=Z,3.6nm,0.8s,baz=22,slow=11,SNR=3.1

RES Resolute Bay 70.38 350 P P 20 34 49.4 -0.3
MJAR Matsushiro Arr 71.40 58 P P 20 34 56.5 -0.1
MJAR Matsushiro Arr 71.40 58 P P 20 34 56.5 -0.1
comp=Z,1.3nm,0.9s,baz=166,slow=10,SNR=3.9
MJAR Matsushiro Arr 71.40 58 P P 20 34 56.5 -0.1
FRB Frobisher Bay 72.00 335 P P 20 34 59.3 -0.3
FRB Frobisher Bay 72.00 335 P P 20 34 59.3 -0.3
comp=Z,6.3nm,0.7s,baz=54,slow=7.6,SNR=12
FRB Frobisher Bay 72.00 335 P P 20 34 59.3 -0.3
SCHQ Schefferville 76.81 327 P P 20 35 27.0 -0.9
SCHQ Schefferville 76.81 327 P P 20 35 27.0 -0.9
comp=Z,3.1nm,0.8s,baz=55,slow=16,SNR=2.9
SCHQ Schefferville 76.81 327 P P 20 35 27.0 -0.9
JCJ Chichijima 78.92 65 LR LR 21 15 30.1
comp=Z,152nn,19.3s,baz=236,slow=39
INK Inuvik 79.48 1 eP P 20 35 41.3 -1.0
comp=Z,6.7nm,1.1s
INK Inuvik 79.48 1 P P 20 35 41.3 -1.0
comp=Z,4.3nm,0.9s,baz=25,slow=7.7,SNR=8.5
INK Inuvik 79.48 1 eP P 20 35 41.3 -1.0
comp=Z,7.0nm,1.1s
COLD Coldfoot 79.58 7 eP P 20 35 42.5 -0.4
comp=Z,7.5nm,1.0s
COLD Coldfoot 79.58 7 eP P 20 35 42.5 -0.4
comp=Z,7.5nm,1.0s
IM04 Indian Mountai 80.35 9 eP P 20 35 46.6 -0.6
IM04 Indian Mountai 80.35 9 eP P 20 35 46.6 -0.6
COLA College 82.11 7 ⇓i P P 20 35 56.7 +0.2
COLA pmax pmax
comp=Z,76nn,1.5s
COLA College 82.11 7 eP P 20 35 55.7 -0.8
comp=Z,4.1nm,0.8s
COLA College 82.11 7 eP P 20 35 55.7 -0.8
comp=Z,4.1nm,0.8s
ILAR Eielson Array 82.30 7 P P 20 35 56.7 -0.9
ILAR Eielson Array 82.30 7 P P 20 35 56.7 -0.9
comp=Z,2.5nm,0.9s,baz=330,slow=4.0,SNR=25
ILAR LR LR 21 15 50.0
comp=Z,86nn,21.3s,baz=266,slow=38
ILAR Eielson Array 82.30 7 P P 20 35 56.7 -0.9
EGAK Eagle 82.75 4 eP P 20 35 59.4 -0.4
comp=Z,20nn,1.3s
EGAK Eagle 82.75 4 eP P 20 35 59.4 -0.4
comp=Z,20nn,1.3s
KTH Kantishna Hill 83.04 9 eP P 20 36 00.3 -1.2
comp=Z,11nn,0.9s
KTH Kantishna Hill 83.04 9 eP P 20 36 00.3 -1.2
comp=Z,11nn,0.9s
MCK McKinley 83.10 8 eP P 20 36 01.3 -0.5
MCK pmax pmax
comp=Z,14nn,1.2s
MCK McKinley 83.10 8 eP P 20 36 01.3 -0.5
comp=Z,14nn,1.2s
MCK McKinley 83.10 8 eP P 20 36 01.3 -0.5
comp=Z,14nn,1.2s
DOT Dot Lake 83.66 6 eP P 20 36 02.0 -2.6
comp=Z,10nn,0.9s
FCC Fort Churchill 83.83 341 eP P 20 36 05.0 -0.5
FCC Fort Churchill 83.83 341 eP P 20 36 05.0 -0.5
comp=Z,0.1nm,0.8s
FCC Fort Churchill 83.83 341 eP P 20 36 05.0 -0.5
YKA Yellowknife Ar 84.34 352 P P 20 36 07.2 -0.8
YKA Yellowknife Ar 84.34 352 P P 20 36 07.2 -0.8
comp=Z,4.5nm,0.9s,baz=12,slow=5.3,SNR=49
YKA Yellowknife Ar 84.34 352 P P 20 36 07.2 -0.8
DLBC Dease Lake 89.39 359 P P 20 36 33.5 +0.7
DLBC Dease Lake 89.39 359 P P 20 36 33.5 +0.7
comp=Z,4.8nm,0.8s,baz=337,slow=7.3,SNR=4.1
DLBC Dease Lake 89.39 359 P P 20 36 33.5 +0.7
FFC Flin Flon 89.44 343 eP P 20 36 32.1 -1.0
FFC Flin Flon 89.44 343 eP P 20 36 32.1 -1.0
FFC Flin Flon 89.44 343 eP P 20 36 32.1 -1.0
ULM Lac du Bonnet 91.72 338 P P 20 36 42.6 -1.1
ULM Lac du Bonnet 91.72 338 P P 20 36 42.6 -1.1
comp=Z,6.8nm,1.0s,baz=36,slow=1.5,SNR=8.8
ULM Lac du Bonnet 91.72 338 P P 20 36 42.7 -1.1
A30A Hoffart Farm, 93.63 339 P P 20 36 52.0 -0.6
baz=93
A29A Manning Farm, 93.93 339 P P 20 36 53.3 -0.7
baz=94
B30A Myrvik Farm, E 94.07 339 P P 20 36 54.2 -0.4
baz=94
A24A Westby 95.26 342 P P 20 37 00.5 +0.4
baz=95
D30A Buchanan 95.39 338 P P 20 37 00.3 -0.5
baz=95
A22A Carney Farms, 95.68 343 P P 20 37 02.3 +0.2
baz=95
A19A Klindworth Far 96.39 345 P P 20 37 05.3 0.0
baz=96
E28A Huff 96.47 339 P P 20 37 06.0 +0.3
baz=96
C22A Vida 96.83 343 P P 20 37 07.7 +0.4
baz=96
F26A Lodgepole 97.71 340 P P 20 37 10.5 -0.9
baz=97
D21A La Casta Ranch 97.73 343 P P 20 37 10.7 -0.8
baz=97
BRSD Miller 97.83 337 eP P 20 37 07.0 -4.8
comp=Z,106nn,0.4s
YBMT Yellow Bay 98.44 348 eP P 20 37 14.6 -0.1
YBMT Yellow Bay 98.44 348 eP P 20 37 14.6 -0.1
ASAR Alice Springs 98.81 112 P P 20 37 15.2 -1.3
ASAR Alice Springs 98.81 112 P P 20 37 15.2 -1.3
comp=Z,0.7nm,0.6s,baz=303,slow=4.6,SNR=5.3
ASAR Alice Springs 98.81 112 P P 20 37 15.2 -1.3
NVAR Mina Array Bea 108.34 349 PKiKP PKiKP 20 42 05.9 +0.7
NVAR Mina Array Bea 108.34 349 PKiKP PKiKP 20 42 05.9 +0.7
comp=Z,0.2nm,0.3s,baz=220,slow=2.4,SNR=4.1
TXAR Lajitas Array 113.01 334 PKiKP PKiKP 20 42 13.2 -0.9
TXAR Lajitas Array 113.01 334 PKiKP PKiKP 20 42 13.2 -0.9
comp=Z,0.4nm,0.8s,baz=221,slow=0.8,SNR=3.9
LPAZ La Paz 120.74 270 PKP PKPdf 20 42 29.4 -0.4
LPAZ La Paz 120.74 270 PKP PKPdf 20 42 29.4 -0.4
comp=Z,1.3nm,0.8s,baz=65,slow=4.3,SNR=4.6
CFAA Coronel Fontan 127.00 253 PKP PKPdf 20 42 41.4 +0.8
CFAA Coronel Fontan 127.00 253 PKP PKPdf 20 42 41.4 +0.8
comp=Z,0.3nm,0.6s,baz=37,slow=5.1,SNR=3.7

DJA ***16*** *20:28:35.7±1.9,0°S±16°×13°4E±°,h11km±11km,M4.6/5, MLv4.6/5*
ISCJB ***16*** *20:28:36.5±0.3,0°.75S±0°.04×133°.97E±0°.05,h32km, mb4.1/17,Error ellipse: s-maj=6.7km s-min=5.3km az=165.9*
IDC ***16*** *20:28:37.6±4.6,0°.69S×133°.85E,h25km±30km,mb3.9/11, mb1 4.1/12,mb1mx3.9/25,mbtmp4.1/12,ML4.7/1,Error ellipse: s-maj=39.3km s-min=12.0km az=74.0*
NEIC ***16*** *20:28:40.3±2.6,0°.73S×133°.85E,h46km±24km,mb4.2/9, Error ellipse: s-maj=21.2km s-min=9.5km az=61.0*
ISC 16 20:28:38.4±0.5,0°.74S±0°.05×133°.99E±0°.05,h32km,n56,
σ1§95/61,**mb4.2**/17,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWPI	**Manokwari, Pap**	**0.20**	**164**	P	x	20 28 44.9	
BAKI	**Biak**	**2.17**	**102**	P	**Pn**	**20 29 11.8**	**-0.5**
SRPI	**Serui, Papua**	**2.52**	**117**	P	**Pn**	**20 29 19.2**	**+2.0**
SWI	**Sorong**	**2.73**	**267**	P	**Pn**	**20 29 20.1**	**+0.1**
FAKI	**Fak Fak**	**2.78**	**219**	P	**Pn**	**20 29 22.5**	**+1.8**
FAKI	**Fak Fak**	**2.78**	**219**	ePn	**Pn**	**20 29 21.9**	**+1.2**
FAKI	**Fak Fak** baz=1.9,SNR=88	**2.78**	**219**	P	**Pn**	**20 29 22.3**	**+1.6**
SMPI	**Sarmi**	**4.88**	**105**	P	**Pn**	**20 29 49.4**	**-0.3**
KDU	**Kakadu** baz=11,SNR=23	**11.97**	**187**	P	**Pn**	**20 31 27.4**	**+0.5**
KDU				S	**Sn**	**20 33 36.6**	**-2.8**
	baz=11,SNR=4.0						
MTN	**Manton Dam** baz=12,SNR=9.7	**12.36**	**193**	P	**Pn**	**20 31 33.0**	**+0.7**
MTN				S	**Sn**	**20 33 46.2**	**-2.7**
	baz=12,SNR=5.1						
MANU	**Manus Island** baz=14,SNR=4.1	**13.44**	**96**	S	**Sn**	**20 34 16.0**	**+0.5**
KNRA	**Kununurra** baz=15,SNR=7.2	**15.71**	**199**	P	**Pn**	**20 32 16.4**	**-1.2**
KNRA				S	**Sn**	**20 35 08.2**	**-2.6**
	baz=15,SNR=4.7						
COEN	**Coen** baz=16,SNR=6.3	**15.98**	**146**	P	P	20 32 30.0	+5.8
WRAB	**Tennant Creek** 7.3nm,0.4s	**19.08**	**179**	eP	**P**	**20 32 57.8**	**-0.7**
WRA	**Warramunga Arr**	**19.09**	**179**	P	**P**	**20 32 58.7**	**+0.1**
WRA				S	**Sn**	**20 36 25.5**	**-7.1**

WRA	**Warramunga Arr**	**19.09 179**	P		**P**		**20 32 58.7**	**+0.1**
	2.5nm,0.3s,baz=359,slow=11,SNR=177							
WRA			S		**Sn**		**20 36 25.5**	**-7.1**
	0.1nm,0.3s,baz=353,slow=24,SNR=4.0							
FITZ	**Fitzroy Crossi**	**19.11 205**	*eP*		**P**		**20 32 59.0**	**+0.3**
	4.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.11 205**	P		**P**		**20 32 56.9**	**-1.9**
	baz=18,SNR=4.4							
QIS	**Mount Isa**	**20.45 165**	P		**P**		**20 33 14.5**	**+1.0**
	baz=20,SNR=17							
CTA	**Charters Tower**	**22.67 149**	P		**P**		**20 33 40.2**	**+2.8**
CTA	**Charters Tower**	**22.67 149**	P		**P**		**20 33 40.2**	**+2.8**
	9.5nm,0.8s,baz=323,slow=12,SNR=13							
CTAO	**Charters Tower**	**22.67 149**	*eP*		**P**		**20 33 40.4**	**+3.1**
	8.0nm,0.8s							
AS31	**Alice Springs**	**22.79 180**	*eP*		**P**		**20 33 38.9**	**+0.3**
ASAR	**Alice Springs**	**22.79 180**	P		**P**		**20 33 38.8**	**+0.2**
ASAR			S		**S**		**20 37 48.3**	**+2.5**
ASAR	**Alice Springs**	**22.79 180**	P		**P**		**20 33 38.8**	**+0.2**
	5.2nm,0.5s,baz=6.0,slow=11,SNR=86							
ASAR			S		**S**		**20 37 48.3**	**+2.5**
	1.0nm,1.0s,baz=2.5,slow=23,SNR=4.9							
MBWA	**Marble Bar**	**24.61 213**	P		**P**		**20 33 55.8**	**-0.2**
	26nm,1.2s							
WRKA	**Warakurna**	**24.77 192**	P		**P**		**20 33 58.4**	**+0.9**
	baz=24,SNR=12							
QLP	**Quilpie**	**27.52 160**	P		**P**		**20 34 25.0**	**+2.7**
	baz=27,SNR=3.9							
STKA	**Stephens Creek**	**31.80 168**	P		**P**		**20 34 60.0**	**-0.1**
STKA	**Stephens Creek**	**31.80 168**	P		**P**		**20 34 60.0**	**-0.1**
	1.3nm,0.4s,baz=323,slow=8.5,SNR=7.3							
JNU	**Nakatsue**	**33.81 355**	P		**P**		**20 35 17.0**	**-0.7**
JNU	**Nakatsue**	**33.81 355**	P		**P**		**20 35 17.0**	**-0.7**
	4.6nm,0.8s,baz=150,slow=14,SNR=1.9							
BLDU	**Ballidu**	**33.94 207**	P		**P**		**20 35 20.0**	**+1.1**
	baz=33,SNR=7.1							
CM31	**Chiang Mai Arr**	**39.37 301**	*eP*		**P**		**20 36 05.3**	**-0.1**
	6.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**39.37 301**	P		**P**		**20 36 03.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**39.37 301**	P		**P**		**20 36 03.5**	**-1.9**
	2.1nm,0.9s,baz=124,slow=7.1,SNR=11							
CHTO	**Chiang Mai**	**39.52 301**	*eP*		**P**		**20 36 06.2**	**-0.4**
	5.9nm,1.2s							
SONM	**Songino Array**	**54.01 337**	P		**P**		**20 37 59.0**	**-0.7**
SONM	**Songino Array**	**54.01 337**	P		**P**		**20 37 59.0**	**-0.7**
	0.3nm,0.8s,baz=128,slow=6.9,SNR=2.5							
MK31	**Makanchi Array**	**65.38 324**	*eP*		**P**		**20 39 18.2**	**+0.3**
MKAR	**Makanchi Array**	**65.38 324**	P		**P**		**20 39 18.6**	**+0.7**
MKAR	**Makanchi Array**	**65.38 324**	P		**P**		**20 39 18.6**	**+0.7**
	1.5nm,0.7s,baz=105,slow=8.7,SNR=17							
TKM2	**Tokmak 2**	**67.89 318**	P		**P**		**20 39 35.3**	**+1.0**
	1.7nm,0.8s							
ZALV	**Zalesovo Beam**	**67.90 331**	P		**P**		**20 39 31.7**	**-2.1**
ZALV	**Zalesovo Beam**	**67.90 331**	P		**P**		**20 39 31.7**	**-2.1**
	0.6nm,0.6s,baz=112,slow=6.4,SNR=3.0							
EKS2	**Erkin-Say**	**69.03 317**	P		**P**		**20 39 40.7**	**-0.6**
KURK	**Kurchatov**	**69.43 326**	*eP*		**P**		**20 39 43.1**	**-0.3**
	3.3nm,1.3s							
KURBB	**Kurchatov Arra**	**69.43 326**	P		**P**		**20 39 43.7**	**+0.3**
	2.5nm,0.8s,baz=117,slow=6.3,SNR=18							
BVAR	**Borovoye Array**	**75.03 326**	P		**P**		**20 40 16.2**	**-0.7**
BVAR	**Borovoye Array**	**75.03 326**	P		**P**		**20 40 16.2**	**-0.7**
	1.7nm,1.0s,baz=90,slow=4.4,SNR=6.5							
BRVK	**Borovoye**	**75.10 326**	P		**P**		**20 40 17.1**	**-0.1**
ABKAR	**Akbulak array**	**80.19 320**	*eP*		**P**		**20 40 47.9**	**+2.2**
	1.4nm,0.8s							
ILAR	**Eielson Array**	**86.03 25**	P		**P**		**20 41 14.7**	**-0.9**
ILAR	**Eielson Array**	**86.03 25**	P		**P**		**20 41 14.7**	**-0.9**
	0.7nm,0.8s,baz=264,slow=4.9,SNR=7.2							
TORD	**Torodi Ar. Bea**	**131.17 287**	PKP		**PKPdf**		**20 47 49.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**131.17 287**	PKP		**PKPdf**		**20 47 49.0**	**+0.7**
	0.3nm,0.8s,baz=127,slow=2.2,SNR=3.1							

IDC ***16*** *20:42:08.3±2.1,6.01S×130.76E,h0km,mb3.3/2, mb1 3.4/4,mb1mx3.2/39,mbtmp3.3/4,ML3.3/2,Error ellipse: s-maj=143.5km s-min=29.4km az=72.0*

ISC 16 20:42:17.6±1.3,6.6S±0.1×130.5E±0.1,h90km,n11, σ3°36/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MTN	**Manton Dam**	**6.22**	**174**	P	Pn	20	43	51.6	+4.7
	baz=6.0,SNR=4.7								
MTN				S	**Sn**	**20**	**44**	**58.3**	**+1.7**
	baz=6.0,SNR=9.1								
KDU	**Kakadu**	**6.34**	**162**	P	Pn	20	43	57.2	+8.7
	baz=6.2,SNR=40								
KDU				S	**Sn**	**20**	**45**	**04.1**	**+4.7**
	baz=6.2,SNR=7.8								
SOEI	**Soe**	**6.92**	**243**	P	**Pn**	**20**	**43**	**54.8**	**-1.8**
	baz=6.3,SNR=6.2								
SOEI				S	Sn	20	44	58.6	-15
	baz=6.3,SNR=4.3								
KNRA	**Kununurra**	**9.17**	**191**	P	**Pn**	**20**	**44**	**28.1**	**+1.1**
	baz=8.8,SNR=6.9								
KNRA				S	Sn	20	46	01.4	-7.1
	baz=8.8,SNR=4.6								
FITZ	**Fitzroy Crossi**	**12.37**	**202**	P	**Pn**	**20**	**45**	**09.0**	**-1.4**
	baz=12,SNR=5.5								
FITZ				S	Sn	20	47	14.7	-12
	baz=12,SNR=4.7								
WRA	**Warramunga Ar**	**13.76**	**165**	Pn	**P**	**20**	**45**	**33.3**	**-1.0**
	0.2nm,0.3s,baz=350,slow=13,SNR=14								
WRA				Sn	**Sn**	**20**	**47**	**55.3**	**-5.1**
	0.5nm,0.3s,baz=336,slow=21,SNR=9.2								
COEN	**Coen**	**14.44**	**121**	S	**S**	**20**	**48**	**28.3**	**-2.3**
	baz=15,SNR=4.4								
ASAR	**Alice Springs**	**17.27**	**169**	P	**P**	**20**	**46**	**16.7**	**+3.4**
	0.1nm,0.3s,baz=347,slow=10,SNR=6.6								
ASAR				S	**Sn**	**20**	**49**	**19.7**	**-5.4**
	0.1nm,0.3s,baz=348,slow=26,SNR=5.0								
WRKA	**Warakurna**	**18.44**	**186**	P	**Pn**	**20**	**46**	**30.1**	**+2.8**
	baz=18,SNR=3.2								
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	**20**	**53**	**08.4**	**+0.1**
	0.1nm,0.3s,baz=114,slow=7.1,SNR=7.8								
KURBB	**Kurchatov Arra**	**72.45**	**328**	P	**P**	**20**	**53**	**34.4**	**+0.2**
	0.2nm,0.8s,baz=136,slow=4.3,SNR=3.3								

IDC ***16*** *20:44:42.2±0.7, 14.83S×173.76W,h0km,mb4.1/9, mb1 4.4/9,mb1mx4.2/19,mbtmp4.1/9,MS4.1/20, Ms1 4.1/20,ms1mx3.9/39,Error ellipse: s-maj=33.1km s-min=17.3km az=128.0*

ISCJB ***16*** *20:44:44.5±0.4, 14.79S±0.10×173.7W±0.1,h30km, mb4.5/29,MS4.1/19,Error ellipse: s-maj=18.3km s-min=8.7km az=41.1*

NEIC ***16*** *20:44:47.0±0.3, 14.90S×173.67W,h35km,mb4.6/20, Error ellipse: s-maj=18.5km s-min=8.7km az=138.0*

ISC 16 20:44:46.7±0.5, 14.8S±0.1×173.7W±0.2,h30km,n91, σ1°02/52,mb4.6/29,MS4.1/19,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AFI	**Afiamalu**	**2.08**	**64**	*e*Pn	Pn	20	45	09.5	-10
AFI				Sn	Sn	20	45	29.3	-15
AFI	**Afiamalu**	**2.08**	**64**	Pn	Pn	20	45	09.9	-10
	216nm,0.3s,baz=42,slow=2.8,SNR=182								
AFI				Sn	Sn	20	45	29.3	-15
	388nm,0.3s,baz=23,slow=21,SNR=17								
MSVF	**Nonsavu**	**8.43**	**249**	*e*Pn	Pn	20	46	55.8	+8.9
	173nm,1.2s								
RAR	**Rarotonga**	**14.70**	**118**	LR	LR	20	52	54.8	
	comp=Z,414nm,19.1s,baz=46,slow=33								
RAO	**Raoul Island**	**14.88**	**194**	Pn	**Pn**	**20**	**48**	**16.7**	**+1.7**
DZM	**Mont Dzumac**	**20.15**	**246**	*e*LR	LR	20	54	20.0	
	1µm,25.6s								
DZM	**Mont Dzumac**	**20.15**	**246**	*e*P	Pn	20	49	23.7	+2.9
	39nm,1.1s								
DZM	**Mont Dzumac**	**20.15**	**246**	LR	LR	20	55	53.9	
	comp=Z,658nm,20.0s,baz=30,slow=33								
PPT	**Papeete**	**23.33**	**100**	LR	LR	20	56	29.5	
	comp=Z,306nm,18.5s,baz=262,slow=30								
PAE	**Paea**	**23.33**	**100**	*e*T	T	21	13	23.1	
	4.0nm,0.2s								
PPT2	**Papeete2**	**23.33**	**100**	*e*LQ	LQ	20	54	13.5	
	1µm,28.5s								
PPT2				*e*LR	LR	20	55	17.0	
	759nm,25.5s								
TIAR	**Tiarei**	**23.55**	**100**	*e*T	T	21	13	39.3	
	5.4nm,0.5s								
TVO	**Taravao**	**23.65**	**101**	*e*T	T	21	13	47.2	
	3.5nm,0.4s								
TBI	**Tubuai**	**24.41**	**114**	*e*LQ	LQ	20	54	43.5	
	834nm,28.0s								
TBI				*e*LR	LR	20	55	39.5	
	771nm,26.5s,baz=286								
TBI	**Tubuai**	**24.41**	**114**	*e*T	T	21	14	46.8	
	8.7nm,0.3s								
URZ	**Urewera**	**24.72**	**197**	P	**P**	**20**	**50**	**04.6**	**-0.7**
URZ	**Urewera**	**24.72**	**197**	P	**P**	**20**	**50**	**04.6**	**-0.7**
	5.1nm,0.7s,baz=338,slow=15,SNR=6.0								
HNR	**Honiara**	**26.29**	**279**	LR	LR	20	59	12.3	
	comp=Z,382nm,18.8s,baz=127,slow=33								
RKT	**Rikitea**	**37.46**	**109**	*e*LR	LR	21	01	39.7	
	390nm,25.0s,baz=283								
RKT	**Rikitea**	**37.46**	**109**	*e*T	T	21	31	03.2	
	2.5nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**38.31**	**329**	T	T	21	33	13.8	
	baz=151,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**38.33**	**329**	T	T	21	33	12.7	
	baz=151,slow=76,SNR=17								
H11S1	**WAKE ISLAND Hy**	**38.33**	**329**	T	T	21	33	15.9	
	baz=151,slow=76,SNR=13								
CTAO	**Charters Tower**	**38.48**	**256**	P	**P**	**20**	**52**	**07.6**	**+1.2**
	6.5nm,1.1s								
H11N3	**WAKE ISLAND Hy**	**39.26**	**330**	T	T	21	34	16.5	
	baz=152,slow=77,SNR=10								
H11N1	**WAKE ISLAND Hy**	**39.27**	**330**	T	T	21	34	21.1	
	baz=152,slow=77,SNR=10								
H11N2	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	21	34	18.0	
	baz=152,slow=77,SNR=8.9								
STKA	**Stephens Creek**	**44.07**	**239**	P	**P**	**20**	**52**	**50.6**	**-1.5**
STKA	**Stephens Creek**	**44.07**	**239**	P	**P**	**20**	**52**	**50.6**	**-1.5**
	1.3nm,0.7s,baz=75,slow=4.5,SNR=2.7								
WRAB	**Tennant Creek**	**49.68**	**256**	*e*P	**P**	**20**	**53**	**34.9**	**-1.4**
	4.5nm,0.7s								
WRA	**Warramunga Arr**	**49.69**	**256**	P	**P**	**20**	**53**	**35.2**	**-1.1**
WRA	**Warramunga Arr**	**49.69**	**256**	P	**P**	**20**	**53**	**35.2**	**-1.1**
	4.6nm,0.7s,baz=90,slow=7.2,SNR=82								
WRA				LR	LR	21	12	01.0	
	comp=Z,134nm,20.9s,baz=50,slow=33								
AS31	**Alice Springs**	**50.01**	**251**	*e*P	**P**	**20**	**53**	**37.4**	**-1.4**
ASAR	**Alice Springs**	**50.01**	**251**	P	**P**	**20**	**53**	**38.0**	**-0.8**
ASAR	**Alice Springs**	**50.01**	**251**	P	**P**	**20**	**53**	**38.0**	**-0.8**
	23nm,0.7s,baz=87,slow=7.8,SNR=330								
ASAR				LR	LR	21	12	45.2	
	comp=Z,350nm,21.9s,baz=90,slow=34								
VNDA	**Vanda**	**63.92**	**186**	*e*P	**P**	**20**	**55**	**16.9**	**+0.6**
	17nm,1.6s								
VNDA	**Vanda**	**63.92**	**186**	P	**P**	**20**	**55**	**17.5**	**+1.1**
	2.7nm,0.9s,baz=30,slow=6.0,SNR=5.8								
MJAR	**Matsushiro Arr**	**68.30**	**320**	LR	LR	21	20	07.3	
	comp=Z,122nm,22.0s,baz=100,slow=31								
FX1	**Attu Island--F**	**68.37**	**351**	LR	LR	21	17	15.6	
	comp=Z,160nm,22.0s,baz=188,slow=29								
PETK	**Petropavlovsk-**	**71.99**	**342**	P	**P**	**20**	**56**	**08.2**	**+0.9**
PETK	**Petropavlovsk-**	**71.99**	**342**	P	**P**	**20**	**56**	**08.3**	**+0.9**
	3.7nm,0.8s,baz=129,slow=11,SNR=3.3								
PFO	**Pinyon Flat Ob**	**72.75**	**47**	LR	LR	21	21	32.4	
	comp=Z,183nm,19.5s,baz=295,slow=30								
LPIG	**La Paz**	**72.99**	**59**	LR	LR	21	19	16.4	
	comp=Z,148nm,19.5s,baz=298,slow=28								
YBH	**Yreka Blue Hor**	**73.32**	**37**	LR	LR	21	20	23.0	
	comp=Z,103nm,19.5s,baz=224,slow=29								
NVAR	**Mina Array Bea**	**74.10**	**42**	P	**P**	**20**	**56**	**20.2**	**-0.3**
NVAR	**Mina Array Bea**	**74.10**	**42**	P	**P**	**20**	**56**	**20.2**	**-0.3**
	0.8nm,0.7s,baz=224,slow=11,SNR=5.2								
NVAR				LR	LR	21	22	25.5	
	comp=Z,125nm,20.4s,baz=78,slow=30								
TPH	**Tonopah**	**74.61**	**43**	P	**P**	**20**	**56**	**22.7**	**-0.7**
	7.3nm,1.0s								
QSPA	**South Pole Qui**	**75.22**	**180**	*e*P	**P**	**20**	**56**	**25.1**	**-1.3**
	8.1nm,1.0s								
KSRS	**Korea Array**	**75.54**	**316**	LR	LR	21	24	25.4	
	comp=Z,38nm,20.1s,baz=64,slow=32								
TUC	**Tucson**	**76.26**	**51**	P	**P**	**20**	**56**	**31.1**	**-1.7**
	4.9nm,1.2s								
USRK	**Ussuriysk Arra**	**76.74**	**323**	LR	LR	21	25	13.6	
	comp=Z,108nm,19.5s,baz=107,slow=32								
BBB	**Bella Bella**	**77.50**	**27**	LR	LR	21	23	31.3	
	comp=Z,130nm,19.6s,baz=288,slow=30								
DUG	**Dugway**	**78.64**	**43**	P	P	20	56	41.5	-4.5
	2.6nm,0.9s								
TMUT	**Trail Mountain**	**79.27**	**44**	*e*P	**P**	**20**	**56**	**48.9**	**-0.9**
	6.3nm,0.9s								
HLID	**Hailey**	**79.37**	**39**	*e*P	**P**	**20**	**56**	**49.6**	**-0.5**
	4.0nm,0.9s								
HVU	**Hansel Valley**	**79.47**	**42**	*e*P	**P**	**20**	**56**	**50.6**	**0.0**
	4.0nm,0.8s								
TCUT	**Tone Canyon**	**80.03**	**43**	P	P	20	56	49.0	-4.8
	14nm,0.9s								
TXAR	**Lajitas Array**	**80.54**	**56**	LR	LR	21	24	31.4	
	comp=Z,98nm,20.9s,baz=0.0,slow=30								
PV01	**Paradox Valley**	**80.54**	**46**	*e*P	P	20	56	59.4	+2.9
	450nm,1.2s								
MCK	**McKinley**	**80.61**	**11**	*e*P	**P**	**20**	**56**	**55.6**	**-0.4**
	7.7nm,1.0s								
MCMT	**McKenzie Canyo**	**80.99**	**39**	*e*P	**P**	**20**	**57**	**00.8**	**+2.0**
	1.5nm,0.9s								
GDL2	**Guadalupe Moun**	**81.11**	**53**	*e*P	**P**	**20**	**56**	**59.2**	**-0.4**
	4.2nm,1.0s								
COLA	**College**	**81.85**	**11**	*e*P	**P**	**20**	**57**	**02.8**	**+0.3**
	7.5nm,0.9s								
ILAR	**Eielson Array**	**81.94**	**11**	P	**P**	**20**	**57**	**03.2**	**+0.1**
ILAR	**Eielson Array**	**81.94**	**11**	P	**P**	**20**	**57**	**03.2**	**+0.1**
	0.5nm,0.7s,baz=219,slow=6.1,SNR=8.3								
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**20**	**57**	**03.8**	**-0.6**
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**20**	**57**	**03.8**	**-0.6**
	1.2nm,0.7s,baz=187,slow=2.3,SNR=9.6								
PDAR				LR	LR	21	28	14.6	
	comp=Z,76nm,19.2s,baz=346,slow=32								
HRY	**Holter Researc**	**82.57**	**38**	*e*P	**P**	**20**	**57**	**04.9**	**-2.0**
	3.7nm,0.7s								
MSTX	**Muleshoe**	**83.04**	**52**	P	**P**	**20**	**57**	**09.0**	**-0.7**
	5.5nm,0.9s								
ABTX	**Abilene, Hawle**	**84.97**	**55**	*e*P	**P**	**20**	**57**	**18.0**	**-1.4**
	17nm,1.0s								
RSSD	**Black Hills**	**86.24**	**43**	P	P	20	57	22.1	-3.6
	4.1nm,1.1s								
APG	**El Apazote**	**87.45**	**74**	LR	LR	21	27	31.8	
	comp=Z,87nm,18.0s,baz=111,slow=29								
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**20**	**57**	**41.3**	**-0.1**
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**20**	**57**	**41.3**	**-0.1**
	0.7nm,0.9s,baz=239,slow=4.9,SNR=9.9								
TEIG	**Tepich**	**90.86**	**69**	LR	LR	21	31	28.6	
	comp=Z,50nm,19.8s,baz=150,slow=31								
ULM	**Lac du Bonnet**	**93.67**	**39**	LR	LR	21	33	34.9	
	comp=Z,109nm,20.4s,baz=308,slow=31								
BVAR	**Borovoye Array**	**117.24**	**322**	PKP	**PKPdf**	**21**	**03**	**29.7**	**+0.8**
BVAR	**Borovoye Array**	**117.24**	**322**	PKP	**PKPdf**	**21**	**03**	**29.7**	**+0.8**
	0.6nm,0.7s,baz=45,slow=2.2,SNR=5.3								
BDFB	**Brasilia**	**118.40**	**117**	PKP	**PKPdf**	**21**	**03**	**32.7**	**+0.3**
BDFB	**Brasilia**	**118.40**	**117**	PKP	**PKPdf**	**21**	**03**	**32.7**	**+0.3**
	21nm,0.3s,baz=68,slow=25,SNR=41								
ARCES	**ARCESS Array B**	**124.00**	**352**	PKP	**PKPdf**	**21**	**03**	**43.4**	**+1.9**
ARCES	**ARCESS Array B**	**124.00**	**352**	PKP	**PKPdf**	**21**	**03**	**43.4**	**+1.9**
	3.0nm,0.8s,baz=350,slow=4.6,SNR=5.9								
AKASG	**Malin Array Be**	**139.69**	**337**	PKP	**PKPdf**	**21**	**04**	**11.5**	**-0.1**
AKASG	**Malin Array Be**	**139.69**	**337**	PKP	**PKPdf**	**21**	**04**	**11.5**	**-0.1**
	0.4nm,0.6s,baz=42,slow=2.8,SNR=5.1								
KMBO	**Kilima Mbogo**	**145.51**	**245**	PKPbc	**PKPab**	**21**	**04**	**23.1**	**-0.6**
KMBO	**Kilima Mbogo**	**145.51**	**245**	PKPbc	**PKPab**	**21**	**04**	**23.1**	**-0.6**
	1.0nm,0.7s,baz=69,slow=16,SNR=3.5								
BR131	**Keskin Array S**	**145.52**	**321**	*e*PKPdf	**PKPab**	**21**	**04**	**23.1**	**+0.4**
BRTR	**Keskin Array B**	**145.52**	**321**	PKPbc	**PKPab**	**21**	**04**	**23.8**	**+1.0**
BRTR	**Keskin Array B**	**145.52**	**321**	PKPbc	**PKPab**	**21**	**04**	**23.8**	**+1.0**
	4.4nm,0.7s,baz=101,slow=2.8,SNR=30								
GERES	**GERESS Array B**	**145.53**	**351**	PKPbc	**PKPbc**	**21**	**04**	**21.9**	**-0.3**
GERES	**GERESS Array B**	**145.53**	**351**	PKPbc	**PKPbc**	**21**	**04**	**21.9**	**-0.3**
	1.4nm,0.8s,baz=32,slow=3.8,SNR=7.5								

ISCJB ***16*** *20:56:41.3±0.3,30.38N±0.04×138.59E±0.05,h440km, mb3.5/19,Error ellipse: s-maj=6.2km s-min=4.9km az=178.0*

JMA ***16*** *20:56:41.0±0.1,30.38N×138.78E,h469km,M3.8*

IDC ***16*** *20:56:43.1±1.0,30.46N×138.46E,h442km±10km, mb3.2/19,mb1 3.4/25,mb1mx3.3/44,mbtmp4.0/25,Error ellipse: s-maj=12.8km s-min=10.6km az=80.0*

ISC 16 20:56:42.2±0.5,30.39N±0.06×138.62E±0.08,h440km,n47, σ1°18/58,mb3.5/19,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JIE	**Ise**	**4.30**	**338**	P	**P**	**20**	**58**	**02.0**	**+2.6**
CBIJ	**Chichi jima**	**4.54**	**136**	P	**P**	**20**	**58**	**01.8**	**+0.1**
CBIJ				S	**S**	**20**	**59**	**04.1**	**-2.3**
JCJ	**Chichijima**	**4.54**	**136**	P	**P**	**20**	**58**	**02.0**	**+0.3**
	17nm,0.3s,baz=290,slow=14,SNR=14								
JCJ				S	**S**	**20**	**59**	**04.3**	**-2.1**
	53nm,0.3s,baz=298,slow=23,SNR=12								

BSO1	**Boso 1**	**4.69**	**24**	S	**S**	**20**	**59**	**07.2**	**-0.7**
JOD2	**Odawara 2**	**4.87**	**5**	P	**P**	**20**	**58**	**06.4**	**+1.7**
JOD2				S	**S**	**20**	**59**	**12.4**	**+0.3**
JTO	**Tosashimizu**	**5.54**	**298**	P	**P**	**20**	**58**	**13.2**	**+1.8**
JRY	**Ryogami san**	**5.61**	**2**	P	**P**	**20**	**58**	**12.9**	**+0.8**
JRY				S	**S**	**20**	**59**	**24.1**	**-1.5**
MJAR	**Matsushiro Arr**	**6.14**	**357**	P	**P**	**20**	**58**	**17.4**	**-0.1**
	1.0nm,0.3s,baz=172,slow=12,SNR=32								
MJAR				S	**S**	**20**	**59**	**34.1**	**-1.4**
	0.2nm,0.3s,baz=98,slow=22,SNR=6.1								
MAT	**Matsushiro**	**6.14**	**357**	P	**P**	**20**	**58**	**17.6**	**+0.1**
MAT				S	**S**	**20**	**59**	**33.4**	**-2.1**
JHS	**Saijyo**	**6.53**	**316**	P	**P**	**20**	**58**	**22.9**	**+1.2**
JNU	**Nakatsue**	**7.13**	**294**	P	**P**	**20**	**58**	**29.3**	**+1.1**
	1.9nm,0.3s,baz=98,slow=4.5,SNR=34								
JSJ	**Shimokoshiki**	**7.75**	**282**	P	**P**	**20**	**58**	**36.3**	**+1.5**
JAM	**Amami Oshima**	**8.11**	**258**	P	**P**	**20**	**58**	**40.0**	**+1.3**
JMK	**Ichinoseki**	**8.80**	**13**	P	**P**	**20**	**58**	**46.6**	**+0.5**
JMK				S	**S**	**21**	**00**	**25.6**	**-2.4**
KSRS	**Korea Array**	**11.33**	**311**	P	**P**	**20**	**59**	**14.4**	**+0.7**
	0.9nm,0.3s,baz=126,slow=11,SNR=55								
ASAJ	**Asahikawa**	**14.06**	**12**	P	**P**	**20**	**59**	**42.8**	**-0.5**
	0.4nm,0.3s,baz=105,slow=20,SNR=2.6								
USRK	**Ussuriysk Arra**	**14.75**	**341**	P	**P**	**20**	**59**	**50.8**	**+0.1**
	0.2nm,0.3s,baz=178,slow=9.8,SNR=5.7								
SONM	**Songino Array**	**30.18**	**314**	P	**P**	**21**	**02**	**14.5**	**-0.3**
	1.1nm,0.4s,baz=123,slow=8.5,SNR=21								
CMAR	**Chiang Mai Arr**	**37.85**	**261**	P	**P**	**21**	**03**	**19.8**	**-0.2**
	2.7nm,0.7s,baz=53,slow=7.0,SNR=33								
CMAR				ScP	**ScP**	**21**	**08**	**30.4**	**-0.2**
	0.2nm,0.7s,baz=64,slow=2.1,SNR=4.1								
TAPN	**Taplejung**	**44.39**	**279**	*e*P	**P**	**21**	**04**	**12.1**	**-0.4**
	3.5nm,0.4s								
ODAN	**Odare**	**44.80**	**279**	*e*P	**P**	**21**	**04**	**15.2**	**-0.5**
	12nm,0.7s								
ZALV	**Zalesovo Beam**	**44.95**	**318**	P	**P**	**21**	**04**	**15.2**	**-0.9**
	1.0nm,0.6s,baz=90,slow=10,SNR=5.6								
ZALV				ScP	**ScP**	**21**	**08**	**55.8**	**-2.4**
	0.6nm,0.6s,baz=93,slow=6.1,SNR=2.9								
RAMN	**Ramite**	**45.45**	**279**	*e*P	**P**	**21**	**04**	**20.3**	**-0.4**
	14nm,0.5s								
JIRN	**Jiri**	**45.59**	**280**	*e*P	**P**	**21**	**04**	**22.0**	**0.0**
	25nm,0.4s								
GUN	**Gumba**	**45.79**	**281**	*e*P	**P**	**21**	**04**	**23.3**	**-0.1**
	15nm,0.4s								
MKAR	**Makanchi Array**	**45.98**	**307**	P	**P**	**21**	**04**	**23.2**	**-1.1**
	1.9nm,0.6s,baz=88,slow=10,SNR=3.6								
MKAR				ScP	**ScP**	**21**	**09**	**00.7**	**-2.0**
	0.3nm,0.6s,baz=97,slow=4.8,SNR=2.9								
PKI	**Pulchoki**	**46.28**	**280**	*e*P	**P**	**21**	**04**	**26.5**	**-0.7**
	3.6nm,0.5s								
KKN	**Kakani**	**46.33**	**281**	*e*P	**P**	**21**	**04**	**27.0**	**-0.4**
DMN	**Daman**	**46.53**	**281**	*e*P	**P**	**21**	**04**	**28.5**	**-0.5**
	5.1nm,0.4s							

KULA	**Kula-Manisa**	**2.45**	**3**	*e*Pn	**Pn**	**21 03 40.4**	**-1.8**
NPS	**Neapolis**	**2.46**	**252**	*e*P	**Pn**	**21 03 43.3**	**+1.0**
NPS	**Neapolis**	**2.46**	**252**	*e*P	**Pn**	**21 03 43.3**	**+1.0**
SUTC	**Sutluce-Ispart**	**2.47**	**54**	*e*PN	**Pn**	**21 03 44.2**	**+1.7**
SUTC	**Sutluce-Ispart**	**2.47**	**54**	*e*Pn	**Pn**	**21 03 44.2**	**+1.7**
IZM	**Izmir**	**2.52**	**338**	*e*PN	**Pn**	**21 03 42.5**	**-0.6**
IZM	**Izmir**	**2.52**	**338**	*e*Pn	**Pn**	**21 03 42.5**	**-0.6**
APE	**Apeiranthos**	**2.57**	**294**	*e*P	**Pn**	**21 03 44.9**	**+1.1**
APE	**Apeiranthos**	**2.57**	**294**	*e*P	**Pn**	**21 03 44.9**	**+1.1**
BLCB	**Balcova**	**2.58**	**334**	*e*PN	**Pn**	**21 03 43.8**	**-0.1**
BLCB	**Balcova**	**2.58**	**334**	*e*Pn	**Pn**	**21 03 43.8**	**-0.1**
LAST	**Lasithi**	**2.60**	**251**	*e*P	**Pn**	**21 03 45.5**	**+1.2**
LAST	**Lasithi**	**2.60**	**251**	*e*P	**Pn**	**21 03 45.5**	**+1.2**
AKHS	**Akhisar**	**2.86**	**350**	*i* P	**Pn**	**21 03 49.5**	**+1.8**
AKHS	**Akhisar**	**2.86**	**350**	*i* P	**Pn**	**21 03 49.5**	**+1.8**
AKS	**Akhisar**	**2.86**	**350**	*e*PN	**Pn**	**21 03 46.5**	**-1.2**
AKS	**Akhisar**	**2.86**	**350**	*e*Pn	**Pn**	**21 03 46.5**	**-1.2**
DEMI	**Demirci**	**2.98**	**4**	*i* P	**Pn**	**21 03 50.6**	**+1.2**
DEMI				*i* S	**Sn**	**21 04 23.2**	**-0.7**
DEMI	**Demirci**	**2.98**	**4**	*i* P	**Pn**	**21 03 50.6**	**+1.2**
DEMI				*i* S	**Sn**	**21 04 23.2**	**-0.7**
SHUT	**Suhut-Afyon**	**2.98**	**33**	*e*PN	**Pn**	**21 03 49.2**	**-0.3**
SHUT	**Suhut-Afyon**	**2.98**	**33**	*e*Pn	**Pn**	**21 03 49.2**	**-0.3**
CHOS	**Chios island**	**3.02**	**321**	*e*P	**Pn**	**21 03 51.2**	**+1.3**
CHOS	**Chios island**	**3.02**	**321**	*e*P	**Pn**	**21 03 51.2**	**+1.3**
GAZI	**Gazipasa**	**3.11**	**86**	*i* P	**Pn**	**21 03 50.3**	**-0.9**
GAZI				*i* S	**Sn**	**21 04 22.5**	**-4.7**
GAZI	**Gazipasa**	**3.11**	**86**	*i* P	**Pn**	**21 03 50.3**	**-0.9**
GDZ	**Gediz**	**3.12**	**15**	*i* P	**Pn**	**21 03 52.5**	**+1.1**
GDZ				*i* S	**Sn**	**21 04 27.3**	**-0.2**
GDZ	**Gediz**	**3.12**	**15**	*i* P	**Pn**	**21 03 52.5**	**+1.1**
GDZ				*i* S	**Sn**	**21 04 27.3**	**-0.2**
ALT	**Altintas**	**3.25**	**23**	*e*PN	**Pn**	**21 03 51.9**	**-1.3**
ALT	**Altintas**	**3.25**	**23**	*e*Pn	**Pn**	**21 03 51.9**	**-1.3**
BOLV	**Bolvadin**	**3.30**	**36**	*i* P	**Pn**	**21 03 56.0**	**+2.2**
BOLV				*i* S	**Sn**	**21 04 29.5**	**-2.4**
BOLV	**Bolvadin**	**3.30**	**36**	*i* P	**Pn**	**21 03 56.0**	**+2.2**
BOLV				*i* S	**Sn**	**21 04 29.5**	**-2.4**
AKMC	**Akamas**	**3.31**	**107**	P	**Pn**	**21 03 54.6**	**+0.7**
	baz=288						
AKMC	**Akamas**	**3.31**	**107**	P	**Pn**	**21 03 54.6**	**+0.7**
PPCY	**Paphos**	**3.37**	**109**	P	**Pn**	**21 03 55.7**	**+1.0**
	baz=290						
PPCY	**Paphos**	**3.37**	**109**	P	**Pn**	**21 03 55.7**	**+1.0**
TVSB	**Tavsanli**	**3.47**	**13**	*e*PN	**Pn**	**21 03 54.5**	**-1.6**
TVSB	**Tavsanli**	**3.47**	**13**	*e*Pn	**Pn**	**21 03 54.5**	**-1.6**
ALFC	**Alevga**	**3.48**	**104**	⇑P	**Pn**	**21 03 56.9**	**+0.7**
	baz=284						
ALFC				S	**Sn**	**21 04 35.8**	**-0.4**
ALFC	**Alevga**	**3.48**	**104**	⇑P	**Pn**	**21 03 56.9**	**+0.7**
ALFC				S	**Sn**	**21 04 35.8**	**-0.4**
VAM	**Vamos**	**3.54**	**261**	*e*P	**Pn**	**21 03 58.1**	**+1.1**
VAM	**Vamos**	**3.54**	**261**	*e*P	**Pn**	**21 03 58.1**	**+1.1**
ERMK	**Ermenek**	**3.63**	**80**	*i* P	Pn	21 04 03.3	+4.9
ERMK				*i* S	Sn	21 04 31.3	-8.7
ERMK	**Ermenek**	**3.63**	**80**	*i* P	Pn	21 04 03.3	+4.9
SZAC	**Souni-Zanaja**	**3.83**	**109**	P	**Pn**	**21 04 01.9**	**+0.9**
	baz=290						
SZAC				S	**Sn**	**21 04 43.7**	**-1.1**
SZAC	**Souni-Zanaja**	**3.83**	**109**	P	**Pn**	**21 04 01.9**	**+0.9**
SZAC				S	**Sn**	**21 04 43.7**	**-1.1**
MAMC	**Mammari**	**3.97**	**102**	P	**Pn**	**21 04 03.7**	**+0.8**
	baz=283						
MAMC	**Mammari**	**3.97**	**102**	P	**Pn**	**21 04 03.7**	**+0.8**
HMAT	**Matruh**	**5.09**	**193**	P	**Pn**	**21 04 18.3**	**0.0**
	baz=196						
HMAT	**Matruh**	**5.09**	**193**	P	**Pn**	**21 04 18.3**	**0.0**
SLUM		**5.31**	**212**	P	**Pn**	**21 04 21.7**	**+0.4**
	baz=214						
SLUM		**5.31**	**212**	P	**Pn**	**21 04 21.7**	**+0.4**
AMAG	**Maghara**	**6.70**	**142**	P	**Pn**	**21 04 40.4**	**0.0**
	baz=141						
AMAG	**Maghara**	**6.70**	**142**	P	**Pn**	**21 04 40.4**	**0.0**
RSH		**6.72**	**138**	P	**Pn**	**21 04 40.7**	**+0.1**
	baz=137						
RSH		**6.72**	**138**	P	**Pn**	**21 04 40.7**	**+0.1**
KOT	**Kottamia**	**6.74**	**154**	P	**Pn**	**21 04 40.8**	**-0.1**
	baz=154						
KOT	**Kottamia**	**6.74**	**154**	P	**Pn**	**21 04 40.8**	**-0.1**
HHAG	**Hagoal**	**6.81**	**152**	P	**Pn**	**21 04 41.4**	**-0.6**
	baz=152						
HHAG	**Hagoal**	**6.81**	**152**	P	**Pn**	**21 04 41.4**	**-0.6**
GLL	**Jalalah**	**7.02**	**156**	P	**Pn**	**21 04 44.3**	**-0.5**
	baz=156						
GLL	**Jalalah**	**7.02**	**156**	P	**Pn**	**21 04 44.3**	**-0.5**
SUZ		**7.21**	**148**	P	**Pn**	**21 04 46.8**	**-0.5**
	baz=148						
SUZ		**7.21**	**148**	P	**Pn**	**21 04 46.8**	**-0.5**
ZAF		**7.58**	**152**	P	**Pn**	**21 04 52.1**	**-0.4**
	baz=151						
ZAF		**7.58**	**152**	P	**Pn**	**21 04 52.1**	**-0.4**
HNKL	**Nakhl**	**7.67**	**141**	P	**Pn**	**21 04 53.1**	**-0.5**
	baz=140						
HNKL				S	Sn	21 06 12.7	-6.5
	baz=140						
HNKL	**Nakhl**	**7.67**	**141**	P	**Pn**	**21 04 53.1**	**-0.5**
GRB	**Gharib**	**8.59**	**154**	P	**Pn**	**21 05 05.9**	**-0.4**
	baz=153						
GRB	**Gharib**	**8.59**	**154**	P	**Pn**	**21 05 05.9**	**-0.4**
HKAT	**Jabal Katrina**	**8.85**	**147**	P	**Pn**	**21 05 10.4**	**+0.4**
	baz=146						
HKAT	**Jabal Katrina**	**8.85**	**147**	P	**Pn**	**21 05 10.4**	**+0.4**
TR2		**8.85**	**148**	P	**Pn**	**21 05 09.8**	**-0.1**
	baz=148						
TR2		**8.85**	**148**	P	**Pn**	**21 05 09.8**	**-0.1**
TR1		**9.28**	**148**	P	**Pn**	**21 05 15.4**	**-0.3**
	baz=148						
TR1		**9.28**	**148**	P	**Pn**	**21 05 15.4**	**-0.3**

CSEM ***16*** *21:16:23.2±1.0, 49.°91N×18.°56E, h1km, Error ellipse: s-maj=15.8km s-min=12.6km az=79.0*
PRU 16 21:16:24.2, 49.°87N×18.°52E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.24**	**262**	*e*PG	Pg	21 16 29.2	+0.3
OKC				*e*SG	Sg	21 16 31.6	-0.5
	comp=Z,6.1nm,0.2s						
OKC	**Ostrava-Krasne**	**0.24**	**262**	Pg	Pg	21 16 29.2	+0.3
OKC				Sg	Sg	21 16 31.6	-0.5
	6.1nm,0.2s						
MORC	**Moravsky Berou**	**0.64**	**262**	*e*Pg	Pg	21 16 36.2	-0.4
MORC				*e*Sg	Sg	21 16 45.1	+0.2
VRAC	**Vranov**	**1.37**	**247**	*e*Pg	Pg	21 16 49.8	-0.8
DPC	**Dobruska-Polom**	**1.49**	**290**	*e*PG	Pn	21 16 52.0	-0.4
DPC				*e*SG	Sg	21 17 11.6	-0.8
DPC	**Dobruska-Polom**	**1.49**	**290**	Pg	Pn	21 16 52.0	-0.4
DPC				Sg	Sg	21 17 11.6	-0.8

ISCJB ***16*** *21:21:08.0±0.4, 40.°71N±0.°02×21.°37E±0.°03, h8km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=42.4*
SKO ***16*** *21:21:07.5, 40.°75N×21.°37E, h20km, M1.3, ML1.7*
CSEM ***16*** *21:21:07.9±0.2, 40.°75N×21.°34E, h10km, MD3.1, Error ellipse: s-maj=3.7km s-min=3.1km az=127.0*
ATH ***16*** *21:21:07.9, 40.°73N×21.°35E, h16km±1km, MD3.1/8*
THE ***16*** *21:21:08.4, 40.°75N×21.°32E, h10km±1km, ML2.2/3, Error ellipse: s-maj=1.4km s-min=1.0km az=319.0*
ISC 16 21:21:08.2±0.8, 40.°75N±0.°02×21.°33E±0.°02, h15km±4km, n46, σ0°69/75, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.05**	**43**	P	**Pg**	**21 21 10.9**	**-0.1**
FNA				S	**Sg**	**21 21 13.2**	**+0.4**
FNA	**Florina**	**0.05**	**43**	*e*PB	**Pg**	**21 21 11.0**	**-0.1**
FNA				*e*SB	**Sg**	**21 21 13.3**	**+0.4**
FNA	**Florina**	**0.05**	**43**	P	**Pg**	**21 21 10.9**	**-0.1**
FNA				S	**Sg**	**21 21 13.2**	**+0.4**
BIA	**Bitola**	**0.27**	**359**	P	**Pg**	**21 21 13.2**	**-0.8**
BIA				S	**Sg**	**21 21 18.4**	**+0.5**
BIA	**Bitola**	**0.27**	**359**	*i* Pg	**Pg**	**21 21 13.8**	**-0.2**
BIA				*i* Sg	**Sb**	**21 21 19.1**	**-0.3**
BIA	**Bitola**	**0.27**	**359**	P	**Pg**	**21 21 13.2**	**-0.8**
BIA	**Bitola**	**0.27**	**359**	*i* Pg	**Pg**	**21 21 13.7**	**-0.2**
BIA				S	**Sg**	**21 21 18.4**	**+0.5**
BIA				*i* Sg	**Sb**	**21 21 19.0**	**-0.3**
NEST	**Nestorio**	**0.40**	**213**	P	**Pg**	**21 21 15.4**	**-0.8**
NEST				S	**Sg**	**21 21 21.3**	**-0.4**
NEST	**Nestorio**	**0.40**	**213**	*e*PB	**Pg**	**21 21 15.4**	**-0.8**
NEST				*e*SB	**Sg**	**21 21 21.9**	**+0.2**
NEST	**Nestorio**	**0.40**	**213**	P	**Pg**	**21 21 15.4**	**-0.8**
NEST				S	**Sg**	**21 21 21.3**	**-0.4**
NEST				*e*Sb	**Sg**	**21 21 21.9**	**+0.2**
KBN	**Korca**	**0.43**	**253**	P	**Pg**	**21 21 16.6**	**-0.3**
KBN				S	**Sg**	**21 21 22.8**	**+0.1**
KBN	**Korca**	**0.43**	**253**	P	**Pg**	**21 21 16.6**	**-0.3**
KBN				S	**Sg**	**21 21 22.8**	**+0.1**
KZN	**Kozani**	**0.55**	**143**	*e*PN	**Pg**	**21 21 18.3**	**-0.8**
KZN				*e*SN	**Sg**	**21 21 26.2**	**-0.3**
KZN	**Kozani**	**0.55**	**143**	*e*Pn	**Pg**	**21 21 18.3**	**-0.8**
KZN				*e*Sn	**Sg**	**21 21 26.2**	**-0.3**
MEV	**Metsovon**	**0.97**	**185**	P	**Pb**	**21 21 25.5**	**-1.2**
MEV	**Metsovon**	**0.97**	**185**	P	**Pb**	**21 21 25.5**	**-1.2**
LIT	**Litokhoron**	**1.09**	**126**	P	**Pb**	**21 21 28.6**	**-0.2**
LIT				S	**Sn**	**21 21 45.4**	**+1.5**
LIT	**Litokhoron**	**1.09**	**126**	*e*PN	**Pb**	**21 21 28.7**	**-0.1**
LIT	**Litokhoron**	**1.09**	**126**	P	**Pb**	**21 21 28.6**	**-0.2**
LIT				S	**Sn**	**21 21 45.4**	**+1.5**
VAY	**Valandovo**	**1.10**	**58**	P	**Pb**	**21 21 28.5**	**-0.3**
VAY	**Valandovo**	**1.10**	**58**	*i* Pg	**Pb**	**21 21 28.6**	**-0.3**
VAY				*i* Sg	**Sg**	**21 21 43.5**	**-0.2**
VAY				*e*Lg	Lg	21 21 47.0	
	comp=N,26nm,1.0s						
VAY				*e*Lg	Lg	21 21 47.6	
	comp=E,8.2nm,0.6s						
VAY	**Valandovo**	**1.10**	**58**	P	**Pb**	**21 21 28.5**	**-0.3**
VAY				*i* Sg	**Sg**	**21 21 43.4**	**-0.2**
VAY				*e*Lg	Lg	21 21 47.6	
	comp=E,8.2nm,0.6s						
PHP	**Peshkopia**	**1.15**	**325**	P	**Pn**	**21 21 28.5**	**-1.4**
PHP				S	**Sg**	**21 21 46.6**	**+1.2**
PHP	**Peshkopia**	**1.15**	**325**	P	**Pn**	**21 21 28.5**	**-1.4**
PHP				S	**Sg**	**21 21 46.6**	**+1.2**
KNT	**Kendrikon**	**1.25**	**70**	P	**Pn**	**21 21 31.3**	**+0.1**
KNT				S	**Sg**	**21 21 48.7**	**0.0**
KNT	**Kendrikon**	**1.25**	**70**	*e*PN	**Pb**	**21 21 31.7**	**+0.1**
KNT				*e*SN	**Sg**	**21 21 49.5**	**+0.8**
KNT	**Kendrikon**	**1.25**	**70**	P	**Pn**	**21 21 31.3**	**+0.1**
KNT	**Kendrikon**	**1.25**	**70**	*e*Pn	**Pb**	**21 21 31.7**	**+0.1**
KNT				S	**Sg**	**21 21 48.7**	**0.0**
KNT				*e*Sn	**Sg**	**21 21 49.5**	**+0.8**
THL	**Klokotos Trika**	**1.29**	**156**	*e*PB	**Pn**	**21 21 31.0**	**-0.7**
THL	**Klokotos Trika**	**1.29**	**156**	*e*Pb	**Pn**	**21 21 31.0**	**-0.7**
SRN	**Sarande**	**1.34**	**230**	P	**Pn**	**21 21 32.5**	**+0.2**
SRN				S	**Sg**	**21 21 52.3**	**+1.0**
SRN	**Sarande**	**1.34**	**230**	P	**Pn**	**21 21 32.5**	**+0.2**
SRN				S	**Sg**	**21 21 52.3**	**+1.0**
HORT	**Hortiatis**	**1.35**	**96**	P	**Pn**	**21 21 33.0**	**+0.4**
HORT	**Hortiatis**	**1.35**	**96**	*e*PN	**Pn**	**21 21 32.8**	**+0.2**
HORT	**Hortiatis**	**1.35**	**96**	*e*Pn	**Pn**	**21 21 32.8**	**+0.2**
IGT	**Igoumenitsa**	**1.44**	**213**	P	**Pb**	**21 21 34.7**	**0.0**
IGT				S	**Sg**	**21 21 56.4**	**+1.9**
IGT	**Igoumenitsa**	**1.44**	**213**	*e*PN	**Pg**	**21 21 35.5**	**-0.3**
IGT	**Igoumenitsa**	**1.44**	**213**	P	**Pb**	**21 21 34.7**	**0.0**
IGT	**Igoumenitsa**	**1.44**	**213**	*e*Pn	**Pg**	**21 21 35.5**	**-0.3**
IGT				S	**Sg**	**21 21 56.4**	**+1.9**
PLG	**Polygyros**	**1.65**	**102**	*e*PN	**Pb**	**21 21 37.7**	**-0.7**
PLG	**Polygyros**	**1.65**	**102**	*e*Pn	**Pb**	**21 21 37.7**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.84**	**160**	P	**Pn**	**21 21 39.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.84**	**160**	P	**Pn**	**21 21 39.2**	**-0.1**
AGG	**Agios Georgios**	**1.89**	**156**	P	**Pn**	**21 21 40.3**	**+0.4**
AGG	**Agios Georgios**	**1.89**	**156**	*e*PB	**Pn**	**21 21 40.3**	**+0.4**
AGG	**Agios Georgios**	**1.89**	**156**	P	**Pn**	**21 21 40.3**	**+0.4**

IDC ***16*** *21:25:08.8±4.8, 1.°79S×139.°66E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/44, mbtmpb3.7/4, ML3.8/1, Error ellipse: s-maj=202.6km s-min=25.1km az=87.0*
ISCJB ***16*** *21:25:10.3±0.9, 1.°54S±0.°07×139.°18E±0.°05, h10km, mb3.5/3, Error ellipse: s-maj=10.6km s-min=7.3km az=172.2*
DJA ***16*** *21:25:11.7±1.4, 2.°S±9.°×13.°9E±°, h10km, M4.1/3, MLv4.1/3*
ISC 16 21:25:11.8±1.2, 1.°62S±0.°08×139.°15E±0.°07, h10km, n9, σ1°66/12, mb3.7/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.57**	**230**	P	**Pg**	**21 25 21.9**	**-1.0**
SMPI				S	**Sb**	**21 25 33.4**	**+1.3**
GENI	**Genyem**	**1.40**	**133**	P	**Pn**	**21 25 36.4**	**-1.0**
GENI				S	**Sn**	**21 25 56.0**	**0.0**
JAY	**Jayapura**	**1.79**	**120**	P	**Pn**	**21 25 41.9**	**-0.9**
	baz=6.8,SNR=11						
WAMI	**Wamena**	**2.29**	**191**	P	**Pg**	**21 25 55.6**	**-0.1**
WAMI				S	**Sb**	**21 26 24.8**	**+3.2**
MANU	**Manus Island**	**8.22**	**93**	P	**Pn**	**21 27 11.7**	**+0.4**
	baz=13,SNR=9.9						
WRA	**Warramunga Arr**	**18.81**	**194**	P	**P**	**21 29 29.6**	**-2.1**
	0.3nm,0.3s,baz=19,slow=12,SNR=16						
WRA				S	Sn	21 32 45.0	-18
	0.1nm,0.3s,baz=17,slow=22,SNR=4.1						
ASAR	**Alice Springs**	**22.50**	**193**	P	**P**	**21 30 10.0**	**-1.7**
	1.2nm,0.5s,baz=17,slow=11,SNR=14						
ASAR				S	S	21 34 09.6	-9.1
	0.5nm,0.8s,baz=14,slow=25,SNR=2.9						
MKAR	**Makanchi Array**	**69.20**	**322**	P	**P**	**21 36 20.0**	**+1.1**
	0.5nm,0.8s,baz=98,slow=8.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**73.10**	**325**	P	**P**	**21 36 43.6**	**+1.2**
	0.4nm,0.6s,baz=105,slow=5.4,SNR=6.4						

SKO ***16*** *21:25:32.7, 40.°69N×21.°26E, h15km, M1.2, ML1.7*
ISCJB ***16*** *21:25:33.9±0.4, 40.°73N±0.°02×21.°32E±0.°04, h10km±3km, Error ellipse: s-maj=5.1km s-min=3.4km az=36.1*
CSEM ***16*** *21:25:33.6±0.2, 40.°73N×21.°32E, h11km±1km, MD2.9, Error ellipse: s-maj=3.9km s-min=3.0km az=109.0*
ATH ***16*** *21:25:33.6, 40.°73N×21.°34E, h15km±1km, MD2.9/5*
THE ***16*** *21:25:34.0, 40.°75N×21.°31E, h11km, ML2.2/2, Error ellipse: s-maj=1.0km s-min=0.6km az=279.0*
ISC 16 21:25:33.7±0.8, 40.°73N±0.°02×21.°32E±0.°02, h13km±5km, n30, σ0°49/58, 4C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.07**	**35**	P	**Pg**	**21 25 36.4**	**0.0**
FNA				S	**Sg**	**21 25 38.4**	**0.0**
FNA	**Florina**	**0.07**	**35**	⇓*i*PB	**Pg**	**21 25 36.5**	**0.0**
FNA				*e*SB	**Sg**	**21 25 38.7**	**+0.3**
FNA	**Florina**	**0.07**	**35**	P	**Pg**	**21 25 36.4**	**0.0**
FNA				S	**Sg**	**21 25 38.4**	**0.0**
BIA	**Bitola**	**0.29**	**0**	P	**Pg**	**21 25 39.0**	**-0.8**
BIA				S	**Sg**	**21 25 43.9**	**0.0**
BIA	**Bitola**	**0.29**	**0**	⇑*i*Pg	**Pg**	**21 25 39.5**	**-0.4**
BIA				⇑*i*Sg	**Sg**	**21 25 44.5**	**+0.6**
BIA	**Bitola**	**0.29**	**0**	P	**Pg**	**21 25 39.0**	**-0.8**
BIA	**Bitola**	**0.29**	**0**	⇑*i*Pg	**Pg**	**21 25 39.4**	**-0.4**
BIA				S	**Sg**	**21 25 43.9**	**0.0**
BIA				⇑*i*Sg	**Sg**	**21 25 44.5**	**+0.6**
NEST	**Nestorio**	**0.37**	**214**	P	**Pg**	**21 25 41.1**	**-0.1**
NEST				S	**Sb**	**21 25 47.7**	**-0.3**
NEST	**Nestorio**	**0.37**	**214**	*e*PB	**Pg**	**21 25 41.1**	**-0.1**
NEST				*e*SB	**Sg**	**21 25 47.3**	**+1.0**
NEST	**Nestorio**	**0.37**	**214**	*e*Pb	**Pg**	**21 25 41.1**	**-0.1**
NEST				*e*Sb	**Sg**	**21 25 47.3**	**+1.0**
KBN	**Korca**	**0.42**	**256**	P	**Pg**	**21 25 41.7**	**-0.4**
KBN				S	**Sg**	**21 25 48.0**	**+0.3**
KBN	**Korca**	**0.42**	**256**	P	**Pg**	**21 25 41.7**	**-0.4**
KBN				S	**Sg**	**21 25 48.0**	**+0.3**
KZN	**Kozani**	**0.54**	**141**	*e*PN	**Pg**	**21 25 43.5**	**-0.8**
KZN	**Kozani**	**0.54**	**141**	*e*Pn	**Pg**	**21 25 43.5**	**-0.8**
MEV	**Metsovon**	**0.94**	**184**	P	**Pn**	**21 25 53.0**	**+0.2**
MEV				S	**Sn**	**21 26 05.9**	**-0.2**
MEV	**Metsovon**	**0.94**	**184**	P	**Pn**	**21 25 53.0**	**+0.2**
MEV				S	**Sn**	**21 26 05.9**	**-0.2**
LIT	**Litokhoron**	**1.09**	**125**	P	**Pb**	**21 25 54.2**	**-0.2**
LIT				S	**Sn**	**21 26 10.8**	**+1.2**
LIT	**Litokhoron**	**1.09**	**125**	*e*PN	**Pb**	**21 25 54.1**	**-0.3**
LIT				*e*SN	**Sg**	**21 26 08.8**	**0.0**
LIT	**Litokhoron**	**1.09**	**125**	P	**Pb**	**21 25 54.2**	**-0.2**
LIT				*e*Sn	**Sg**	**21 26 08.8**	**0.0**
LIT				S	**Sn**	**21 26 10.8**	**+1.2**
VAY	**Valandovo**	**1.12**	**57**	*i* Pg	**Pg**	**21 25 55.6**	**+0.4**
VAY				*i* Sg	**Sn**	**21 26 11.0**	**+0.7**
VAY				*e*Lg	Lg	21 26 12.0	
	comp=E,5.4nm,0.6s						
VAY				*e*Lg	Lg	21 26 12.3	
	comp=N,21nm,0.9s						
VAY	**Valandovo**	**1.12**	**57**	*i* Pg	**Pg**	**21 25 55.6**	**+0.4**
VAY				*i* Sg	**Sn**	**21 26 10.9**	**+0.7**
VAY				*e*Lg	Lg	21 26 12.3	
	comp=N,21nm,0.9s						
PHP	**Peshkopia**	**1.17**	**326**	P	**Pb**	**21 25 55.5**	**-0.2**
PHP				S	**Sg**	**21 26 11.8**	**+0.4**
PHP	**Peshkopia**	**1.17**	**326**	P	**Pb**	**21 25 55.5**	**-0.2**
PHP				S	**Sg**	**21 26 11.8**	**+0.4**
KNT	**Kendrikon**	**1.27**	**69**	P	**Pb**	**21 25 57.3**	**-0.2**
KNT				S	**Sg**	**21 26 14.5**	**-0.2**
KNT	**Kendrikon**	**1.27**	**69**	*e*PN	**Pb**	**21 25 57.3**	**-0.2**
KNT				*e*SN	**Sg**	**21 26 15.0**	**+0.3**
KNT	**Kendrikon**	**1.27**	**69**	*e*Pn	**Pb**	**21 25 57.3**	**-0.2**
KNT				S	**Sg**	**21 26 14.5**	**-0.2**
KNT				*e*Sn	**Sg**	**21 26 15.0**	**+0.3**
THL	**Klokotos Trika**	**1.27**	**155**	*e*PB	**Pn**	**21 25 56.6**	**-0.6**
THL				*e*SN	**Sg**	**21 26 15.2**	**+0.4**
THL	**Klokotos Trika**	**1.27**	**155**	*e*Pb	**Pn**	**21 25 56.6**	**-0.6**
THL				*e*Sn	**Sg**	**21 26 15.2**	**+0.4**
AGG	**Agios Georgios**	**1.87**	**155**	P	**Pn**	**21 26 05.1**	**-0.3**
AGG	**Agios Georgios**	**1.87**	**155**	P	**Pn**	**21 26 05.1**	**-0.3**

DSN ***16*** *21:25:52.1±1.4, 34.°53N×47.°60E, h15km, mb4.1/6, Ms4.4/6, Error ellipse: s-maj=20.8km s-min=15.0km az=59.0*
IDC ***16*** *21:26:15.3±0.6, 32.°48N×48.°39E, h0km, mb3.9/25, mb1 4.0/31, mb1mx3.9/58, mbtmpb3.9/31, ML4.1/5, MS3.2/4, Ms1 3.2/4, ms1mx2.8/54, Error ellipse: s-maj=16.3km s-min=11.1km az=170.0*
SGS ***16*** *21:26:18.4, 32.°67N×48.°96E, h18km, Ml4.3*
THR ***16*** *21:26:18.7±0.6, 32.°35N×48.°22E, h39km±8km, ML3.9*
TEH ***16*** *21:26:19.9, 32.°44N×48.°28E, h15km, ML4.1*
BJI ***16*** *21:26:19.7, 32.°50N×48.°30E, h50km, mB4.7/2, mb4.3/8*
NEIC ***16*** *21:26:20.5, 32.°46N×48.°28E, h18km, mb4.4/7, MN4.1(TEH), After TEH.*
NEIC Damage included with event at 20:23 UTC.
CSEM ***16*** *21:26:21.0±0.1, 32.°49N×48.°32E, h40km, mb4.8/18, Ms4.4, Error ellipse: s-maj=4.2km s-min=2.8km az=33.0*
ISN ***16*** *21:26:35.8±2.3, 32.°47N×46.°52E, h0km±48km, ML3.9*
ISC 16 21:26:19.0±0.8, 32.°46N±0.°03×48.°27E±0.°03, h26km±5km, n316, σ1°32/322, mb4.3/46, 11C-10D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.57**	**128**	*e*Pg	**Pb**	**21 26 30.2**	**-0.3**
SHGR				*e*Sg	**Sb**	**21 26 39.2**	**+0.8**
SHGR				AML	AML	21 26 49.7	
	comp=N,6μm,0.2s						
SHGR				AML	AML	21 26 53.2	
	comp=E,5μm,0.8s						
IKFM	**Kafar-mosalman**	**1.11**	**342**	*e*Pg	**Pn**	**21 26 37.2**	**-1.8**
IKFM				*e*Sg	**Sn**	**21 26 54.8**	**+1.3**
IKFM	**Kafar-mosalman**	**1.11**	**342**	*e*Pg	**Pn**	**21 26 37.2**	**-1.8**
IKFM				*e*Sg	**Sn**	**21 26 54.8**	**+1.3**
IDOB	**Doab**	**1.32**	**357**	*e*Pn	**Pn**	**21 26 41.3**	**-0.8**
IDOB	**Doab**	**1.32**	**357**	*e*Pn	**Pn**	**21 26 41.3**	**-0.8**
IKOM	**Komasi**	**1.82**	**340**	*e*Pn	**Pb**	**21 26 51.2**	**-0.5**
IKOM				*e*Sg	**Sb**	**21 27 17.5**	**+3.3**
IKOM				*e*		21 27 22.4	
	comp=Z,44μm,0.4s						
IKOM	**Komasi**	**1.82**	**340**	Pn	**Pb**	**21 26 51.1**	**-0.7**
IKOM	**Komasi**	**1.82**	**340**	Pn	**Pb**	**21 26 51.1**	**-0.7**
IBZA	**Bozab**	**2.03**	**351**	*e*Pn	**Pb**	**21 26 53.7**	**-1.7**
IBZA				*e*		21 27 25.5	
	comp=Z,15μm,0.3s						
IBZA	**Bozab**	**2.03**	**351**	Pn	**Pb**	**21 26 53.7**	**-1.7**
IBZA	**

ASYS		**6.00**	**216**	P		**Pn**	**21 27 47.8**	**+1.6**
	baz=219								
ASYS		**6.00**	**216**	P		**Pn**	**21 27 48.0**	**+1.8**
CUKT	**Cukurca**	**6.12**	**323**	*e*P		**Pn**	**21 27 49.5**	**+1.6**
CUKT	**Cukurca**	**6.12**	**323**	*e*P		**Pn**	**21 27 49.5**	**+1.6**
IBAF	**Bafgh**	**6.26**	**96**	*e*Pn		**Pn**	**21 27 51.0**	**+1.1**
IBAF				*e*			21 28 31.8		
	comp=Z,174nm,0.2s								
IBAF	**Bafgh**	**6.26**	**96**	Pn		**Pn**	**21 27 51.3**	**+1.4**
IBAF	**Bafgh**	**6.26**	**96**	*e*Pn		**Pn**	**21 27 51.0**	**+1.1**
HAKT	**HAKKARI**	**6.31**	**325**	*i* P		**Pn**	**21 27 51.5**	**+0.9**
HAKT	**HAKKARI**	**6.31**	**325**	*i* P		**Pn**	**21 27 51.5**	**+0.9**
BOQSS		**6.64**	**171**	P		**Pn**	**21 27 57.2**	**+2.2**
	baz=176								
BOQSS		**6.64**	**171**	P		**Pn**	**21 27 57.0**	**+2.0**
RTB	**Rutbah**	**6.73**	**277**	*e*PN4		**Pn**	**21 27 55.9**	**-0.3**
RTB				*e*SN4			21 28 54.3		
RTB	**Rutbah**	**6.73**	**277**	*e*Pn		**Pn**	**21 27 55.9**	**-0.3**
	SNR=39								
SIRN	**S¯¯rnak**	**6.95**	**318**	*i* P		**Pn**	**21 27 59.3**	**+0.1**
SIRN				*i* S		**Sn**	**21 29 15.4**	**-2.0**
SIRN	**S¯¯rnak**	**6.95**	**318**	*i* P		**Pn**	**21 27 59.3**	**+0.1**
TVAN	**Van**	**7.23**	**328**	*i* P		Pn	21 28 06.4	+3.2
TVAN	**Van**	**7.23**	**328**	*i* P		Pn	21 28 06.4	+3.2
CLDR	**Caldiran**	**7.54**	**333**	*e*P		**Pn**	**21 29 09.8**	**+2.3**
CLDR	**Caldiran**	**7.54**	**333**	*e*P		**Pn**	**21 28 09.8**	**+2.3**
MARD	**Mardin**	**7.83**	**310**	*i* P		**Pn**	**21 28 09.7**	**-1.6**
BEST	**Besiri**	**7.88**	**315**	*i* P		**Pn**	**21 28 11.8**	**-0.2**
SLWS		**7.92**	**164**	S		**Sn**	**21 29 39.2**	**-2.1**
	baz=168								
SLWS		**7.92**	**164**	S		**Sn**	**21 29 39.0**	**-2.2**
MAZI	**Mazidag**	**8.12**	**310**	*e*P		Pn	21 28 20.9	+5.5
GNI	**Garni**	**8.18**	**341**	*e*Pn		**Pn**	**21 28 17.5**	**+1.3**
GNI				Lg		Lg	21 30 35.8		
GNI	**Garni**	**8.18**	**341**	Pn		Pn	21 28 25.4	+9.2
	comp=Z,0.3nm,0.3s,baz=106,slow=12,SNR=3.8								
GNI				Lg		Lg	21 30 35.8		
	comp=Z,0.3nm,0.3s,baz=348,slow=20,SNR=1.7								
GNI				LR		LR	21 32 08.2		
	comp=Z,130nm,21.1s,baz=166,slow=43								
GNI	**Garni**	**8.18**	**341**	*e*Pn		**Pn**	**21 28 17.5**	**+1.3**
AGRB	**Hanur-Agry**	**8.28**	**330**	*e*P		**Pn**	**21 28 16.3**	**-1.4**
BTHS		**8.69**	**164**	S		**Sn**	**21 29 57.6**	**-2.6**
	baz=168								
BTHS		**8.69**	**164**	P		**Pn**	**21 28 23.3**	**+0.2**
	baz=168								
BTHS		**8.69**	**164**	P		**Pn**	**21 28 23.0**	**-0.1**
BTHS				S		**Sn**	**21 29 58.0**	**-2.2**
BNGB	**Bingˆǁl**	**8.97**	**319**	*e*Pn		Pn	21 28 23.1	-3.8
RAYN	**Ar Rayn**	**9.23**	**196**	*e*Pn		**Pn**	**21 28 31.6**	**+1.0**
RAYN				*e*Sn		**Sn**	**21 30 10.8**	**-2.9**
RAYN	**Ar Rayn**	**9.23**	**196**	*e*Pn		**Pn**	**21 28 31.6**	**+1.0**
BANOM	**Banah**	**9.58**	**131**	⇑*i*P		**Pn**	**21 28 34.8**	**-0.4**
	SNR=34								
BANOM	**Banah**	**9.58**	**131**	P		**Pn**	**21 28 34.8**	**-0.4**
	SNR=34								
ASF	**Jabal al Asfar**	**9.63**	**271**	Pn		**Pn**	**21 28 36.6**	**+0.6**
ASF				Sn		**Sn**	**21 30 20.0**	**-3.3**
ASF				Lg		Lg	21 31 34.8		
ASF	**Jabal al Asfar**	**9.63**	**271**	Pn		**Pn**	**21 28 36.6**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=47,slow=12,SNR=13								
ASF				Sn		**Sn**	**21 30 20.0**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=204,slow=20,SNR=2.9								
ASF				Lg		Lg	21 31 34.8		
	comp=Z,1.0nm,0.3s,baz=93,slow=23,SNR=3.6								
PTK	**Pertek**	**9.65**	**314**	*e*P		**Pn**	**21 28 35.8**	**-0.6**
PTK	**Pertek**	**9.65**	**314**	*e*P		**Pn**	**21 28 35.8**	**-0.6**
ELZG	**Elazig**	**9.67**	**311**	*i* P		**Pn**	**21 28 37.0**	**+0.4**
ELZG	**Elazig**	**9.67**	**311**	*i* P		**Pn**	**21 28 37.0**	**+0.4**
NAZ	**Nazwa, Dubai**	**9.88**	**137**	⇓P		**Pn**	**21 28 40.5**	**+1.1**
NAZ	**Nazwa, Dubai**	**9.88**	**137**	P		**Pn**	**21 28 40.5**	**+1.1**
ASUD	**Al Ashush, Dub**	**9.97**	**140**	*i* P		**Pn**	**21 28 41.9**	**+1.2**
	SNR=19								
ASUD	**Al Ashush, Dub**	**9.97**	**140**	P		**Pn**	**21 28 41.9**	**+1.2**
	SNR=19								
FAQ	**Al Faqa, Dubai**	**10.03**	**138**	⇓*i*P		**Pn**	**21 28 42.8**	**+1.4**
	SNR=11								
FAQ	**Al Faqa, Dubai**	**10.03**	**138**	P		**Pn**	**21 28 42.8**	**+1.4**
	SNR=11								
AKCD	**Akcadag**	**10.25**	**307**	*i* P		**Pn**	**21 28 45.7**	**+1.1**
AKCD	**Akcadag**	**10.25**	**307**	*i* P		**Pn**	**21 28 45.7**	**+1.1**
HATD	**Hatta, Dubai**	**10.28**	**136**	*i* P		**Pn**	**21 28 45.0**	**+0.2**
	SNR=8.7								
HATD	**Hatta, Dubai**	**10.28**	**136**	P		**Pn**	**21 28 45.0**	**+0.2**
	SNR=8.7								
ASHO	**Ashiyiah**	**10.34**	**137**	⇑*i*P		**Pn**	**21 28 45.6**	**-0.1**
	SNR=14								
ASHO	**Ashiyiah**	**10.34**	**137**	P		**Pn**	**21 28 45.6**	**-0.1**
	SNR=14								
MMAI	**Mount Meron Ar**	**10.85**	**276**	Pn		**Pn**	**21 28 54.3**	**+1.6**
MMAI				Lg		Lg	21 32 19.2		
MMAI	**Mount Meron Ar**	**10.85**	**276**	Pn		**Pn**	**21 28 54.3**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=84,slow=16,SNR=5.6								
MMAI				Lg		Lg	21 32 19.2		
	comp=Z,0.7nm,0.3s,baz=111,slow=36,SNR=3.3								
MMAI	**Mount Meron Ar**	**10.85**	**276**	Pn		**Pn**	**21 28 54.3**	**+1.6**
SUSE	**Susehri**	**11.20**	**316**	*i* P		Pn	21 29 02.4	+4.8
EIL	**Elat**	**11.75**	**260**	Pn		**Pn**	**21 29 06.3**	**+1.3**
EIL				Lg		Lg	21 32 45.0		
EIL	**Elat**	**11.75**	**260**	Pn		**Pn**	**21 29 06.3**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=72,slow=8.7,SNR=5.4								
EIL				Lg		Lg	21 32 45.0		
	comp=Z,0.5nm,0.3s,baz=122,slow=13,SNR=2.6								
EIL				LR		LR	21 34 39.7		
	comp=Z,82nm,20.4s,baz=100,slow=42								
EIL	**Elat**	**11.75**	**260**	Pn		**Pn**	**21 29 06.3**	**+1.3**
KBZ	**Khabaz**	**12.01**	**341**	Pn		Pn	21 29 16.7	+8.2
KBZ	**Khabaz**	**12.01**	**341**	Pn		Pn	21 29 16.7	+8.2
	comp=Z,0.0nm,0.3s,baz=120,slow=20,SNR=2.1								
KBZ				LR		LR	21 33 17.6		
	comp=Z,66nm,18.6s,baz=140,slow=35								
BRTR	**Keskin Array B**	**13.86**	**306**	Pn		**Pn**	**21 29 36.9**	**+3.0**
BRTR	**Keskin Array B**	**13.86**	**306**	Pn		**Pn**	**21 29 36.9**	**+3.0**
	comp=Z,0.0nm,0.3s,baz=121,slow=14,SNR=3.5								
BRTR	**Keskin Array B**	**13.86**	**306**	Pn		**Pn**	**21 29 36.9**	**+3.0**
BR231	**Keskin MP Arra**	**14.51**	**305**	*e*Pn		**Pn**	**21 29 44.6**	**+1.9**
BR231	**Keskin MP Arra**	**14.51**	**305**	*e*Pn		**Pn**	**21 29 44.6**	**+1.9**
KBL	**Kabul**	**17.45**	**78**	*e*Pn		**Pn**	**21 30 21.2**	**+0.4**
	comp=Z,5.4nm,1.2s								
KBL	**Kabul**	**17.45**	**78**	*e*Pn		**Pn**	**21 30 21.2**	**+0.4**
	comp=Z,5.4nm,1.2s								
ABKAR	**Akbulak array**	**18.92**	**24**	*e*P		**P**	**21 30 38.0**	**+0.3**
ABKAR	**Akbulak array**	**18.92**	**24**	*e*P		**P**	**21 30 38.0**	**+0.3**
AKTO	**Aktyubinsk**	**19.36**	**19**	P		**P**	**21 30 42.0**	**-0.5**
AKTO	**Aktyubinsk**	**19.36**	**19**	P		**P**	**21 30 42.0**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=209,slow=7.2,SNR=17								
AKTO	**Aktyubinsk**	**19.36**	**19**	P		**P**	**21 30 42.0**	**-0.5**
IDI	**Anoyia**	**19.61**	**285**	P		**Pn**	**21 30 47.2**	**+0.3**
IDI	**Anoyia**	**19.61**	**285**	P		**Pn**	**21 30 47.2**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=60,slow=13,SNR=13								
IDI	**Anoyia**	**19.61**	**285**	P		**Pn**	**21 30 47.2**	**+0.3**
CFR	**Carcaliu**	**20.11**	**315**	⇓*i*P		Pn	21 30 52.1	-0.6
KKAR	**Karatay Array**	**20.48**	**52**	*e*P		**P**	**21 30 55.3**	**+0.4**
KKAR	**Karatay Array**	**20.48**	**52**	*e*P		**P**	**21 30 55.3**	**+0.4**
VRI	**Vrincioaia**	**21.32**	**315**	⇑*i*P		**P**	**21 31 05.8**	**+2.0**
PLOR	**Plostina**	**21.35**	**315**	⇓*i*P		**P**	**21 31 06.3**	**+2.0**
MMB	**Musomiste**	**21.55**	**302**	⇓*i*P		**P**	**21 31 04.3**	**-2.1**
MLR	**Muntele Rosu**	**21.60**	**313**	⇑*i*P		**P**	**21 31 07.7**	**+0.7**
MLR	**Muntele Rosu**	**21.60**	**313**	P		**P**	**21 31 08.8**	**+1.8**
MLR	**Muntele Rosu**	**21.60**	**313**	P		**P**	**21 31 08.8**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=89,slow=14,SNR=8.8								
MLR	**Muntele Rosu**	**21.60**	**313**	P		**P**	**21 31 08.8**	**+1.8**
TESR	**Tescani**	**21.70**	**317**	⇓*i*P		**P**	**21 31 08.7**	**+0.7**
DOPR	**Dopca**	**22.17**	**314**	⇑*i*P		**P**	**21 31 14.9**	**+1.9**
ARR	**Arges**	**22.36**	**312**	⇑*i*P		**P**	**21 31 17.4**	**+2.4**
PRAR	**RASCA**	**22.41**	**318**	⇓*i*P		**P**	**21 31 15.8**	**+0.2**
AKASG	**Malin Array Be**	**23.01**	**328**	P		**P**	**21 31 20.9**	**-0.9**
AKASG	**Malin Array Be**	**23.01**	**328**	P		**P**	**21 31 20.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=135,slow=9.5,SNR=7.5								
AKASG	**Malin Array Be**	**23.01**	**328**	P		**P**	**21 31 20.9**	**-0.9**
KIEV	**Kiev**	**23.01**	**328**	*e*P		**P**	**21 31 21.6**	**-0.2**
	comp=Z,48nm,2.3s								
KIEV	**Kiev**	**23.01**	**328**	*e*P		**P**	**21 31 21.6**	**-0.2**
	comp=Z,48nm,2.3s								
AK11	**Malin Array Si**	**23.02**	**328**	*e*P		**P**	**21 31 22.5**	**+0.6**
AK11	**Malin Array Si**	**23.02**	**328**	*e*P		**P**	**21 31 22.5**	**+0.6**
AAK	**Ala-Archa**	**23.06**	**56**	P		**P**	**21 31 23.4**	**+0.8**
AAK	**Ala-Archa**	**23.06**	**56**	P		**P**	**21 31 23.4**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=220,slow=9.0,SNR=4.5								
AAK	**Ala-Archa**	**23.06**	**56**	P		**P**	**21 31 23.4**	**+0.8**
BURAR	**Bucovina Array**	**23.12**	**318**	⇓*i*P		**P**	**21 31 23.8**	**+0.7**
BUR04	**Bucovina Ar. S**	**23.13**	**318**	*e*P		**P**	**21 31 23.5**	**+0.4**
BUR04	**Bucovina Ar. S**	**23.13**	**318**	*e*P		**P**	**21 31 23.5**	**+0.4**
KSH	**Kashi**	**23.44**	**65**	*e*P		**P**	**21 31 26.3**	**-0.1**
KSH				*e*PcP		**PcP**	**21 35 14.1**	**+2.0**
KSH				*e*S		S	21 35 31.4	-6.9
KSH				*es*S		**sS**	**21 35 50.0**	**-0.9**
KSH				pmax		pmax			
	comp=Z,34nm,1.6s								
TKM2	**Tokmak 2**	**23.92**	**56**	*e*P		**P**	**21 31 32.0**	**+1.0**
	comp=Z,3.0nm,0.7s								
TKM2	**Tokmak 2**	**23.92**	**56**	*e*P		**P**	**21 31 32.0**	**+1.0**
	comp=Z,3.0nm,0.7s								
OBN	**Obninsk**	**24.10**	**343**	P		**P**	**21 31 32.1**	**-0.2**
OBN	**Obninsk**	**24.10**	**343**	P		**P**	**21 31 32.1**	**-0.2**
	comp=Z,6.7nm,0.4s,baz=224,slow=24,SNR=3.0								
OBN	**Obninsk**	**24.10**	**343**	P		**P**	**21 31 32.1**	**-0.2**
DRGR		**24.20**	**314**	⇓*i*P		**P**	**21 31 34.9**	**+1.5**
GRUS	**Gruza**	**24.36**	**306**	*e*P		**P**	**21 31 36.1**	**+1.2**
BZS	**Buzias**	**24.38**	**310**	*e*P		**P**	**21 31 35.6**	**+0.6**
SIRR	**Siria**	**24.62**	**312**	⇑*i*P		**P**	**21 31 39.5**	**+2.3**
IVAS	**Ivanjica**	**24.66**	**305**	*e*P		**P**	**21 31 38.8**	**+1.2**
TRUS	**Trudelj**	**24.68**	**306**	*e*P		**P**	**21 31 38.4**	**+0.6**
DIVS	**Divibare**	**24.93**	**306**	*e*P		**P**	**21 31 41.1**	**+1.0**
TEKS	**Tekeris**	**25.38**	**307**	*e*P		**P**	**21 31 45.6**	**+1.5**
KWP	**Kalwaria Pacla**	**25.61**	**320**	⇑*i*P		**P**	**21 31 47.1**	**+0.9**
KWP	**Kalwaria Pacla**	**25.61**	**320**	*e*P		**P**	**21 31 46.3**	**+0.2**
	comp=Z,6.5nm,0.6s								
KWP	**Kalwaria Pacla**	**25.61**	**320**	*e*P		**P**	**21 31 46.3**	**+0.2**
	comp=Z,6.5nm,0.6s								
BVAR	**Borovoye Array**	**26.00**	**31**	P		**P**	**21 31 49.9**	**+0.2**
BVAR	**Borovoye Array**	**26.00**	**31**	P		**P**	**21 31 49.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=224,slow=8.8,SNR=11								
BVAR	**Borovoye Array**	**26.00**	**31**	P		**P**	**21 31 49.9**	**+0.2**
TIP	**Timpagrande**	**26.32**	**294**	*e*P		**P**	**21 31 53.9**	**+1.0**
	comp=Z,167nm,2.1s								
TIP	**Timpagrande**	**26.32**	**294**	*e*P		**P**	**21 31 53.8**	**+1.0**
	comp=Z,167nm,2.1s								
PSZ	**Piszkesteto**	**26.41**	**314**	*e*P		**P**	**21 31 55.0**	**+1.5**
	comp=Z,6.3nm,1.1s								
PSZ	**Piszkesteto**	**26.41**	**314**	*e*P		**P**	**21 31 55.0**	**+1.5**
	comp=Z,6.3nm,1.1s								
PKSM	**Moragy**	**26.53**	**310**	⇓*i*P		**P**	**21 31 56.6**	**+2.1**
KURBB	**Kurchatov Arra**	**28.73**	**42**	P		**P**	**21 32 14.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=245,slow=9.3,SNR=9.4								
KURBB				PcP		**PcP**	**21 35 22.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=254,slow=3.2,SNR=4.0								
KURK	**Kurchatov**	**28.82**	**42**	P		**P**	**21 32 14.3**	**-0.6**
KURK				PcP		**PcP**	**21 35 22.8**	**-1.3**
MK01	**Makanchi Array**	**29.60**	**51**	*e*P		**P**	**21 32 22.0**	**+0.1**
MK01	**Makanchi Array**	**29.60**	**51**	*e*P		**P**	**21 32 22.0**	**+0.1**
MKAR	**Makanchi Array**	**29.60**	**51**	*e*P		**P**	**21 32 21.5**	**-0.4**
MKAR				PcP		**PcP**	**21 35 25.1**	**-1.1**
MKAR	**Makanchi Array**	**29.60**	**51**	P		**P**	**21 32 22.4**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=246,slow=9.8,SNR=24								
MKAR				PcP		**PcP**	**21 35 25.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=223,slow=5.0,SNR=4.3								
MKAR	**Makanchi Array**	**29.60**	**51**	*e*P		**P**	**21 32 21.5**	**-0.4**
MKAR	**Makanchi Array**	**29.60**	**51**	PcP		**PcP**	**21 35 25.1**	**-1.1**
GERES	**GERESS Array B**	**30.58**	**313**	P		**P**	**21 32 32.3**	**+1.6**
GERES	**GERESS Array B**	**30.58**	**313**	P		**P**	**21 32 32.3**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=120,slow=8.1,SNR=6.4								
GERES	**GERESS Array B**	**30.58**	**313**	P		**P**	**21 32 32.3**	**+1.6**
VLC	**Villacollemand**	**31.67**	**303**	*e*P		**P**	**21 32 40.5**	**+0.3**
	comp=Z,15nm,1.1s								
VLC	**Villacollemand**	**31.67**	**303**	*e*P		**P**	**21 32 40.5**	**+0.3**
	comp=Z,15nm,1.1s								
JOF	**Joensuu**	**32.32**	**346**	*e*p		**P**	**21 32 45.9**	**+0.2**
	comp=Z,1.3nm,0.4s								
JOF	**Joensuu**	**32.32**	**346**	*e*P		**P**	**21 32 45.9**	**+0.2**
	comp=Z,1.3nm,0.4s								
FINES	**FINESS Array B**	**32.37**	**340**	P		**P**	**21 32 46.1**	**0.0**
FINES	**FINESS Array B**	**32.37**	**340**	P		**P**	**21 32 46.1**	**0.0**
	comp=Z,1.9nm,0.4s,baz=145,slow=11,SNR=35								
FINES	**FINESS Array B**	**32.37**	**340**	P		**P**	**21 32 46.1**	**0.0**
WMQ	**Urumqi**	**32.73**	**58**	P		**P**	**21 32 51.3**	**+1.7**
WMQ				pP		pP	21 33 03.1	+5.8
WMQ				sP		sP	21 33 08.5	+8.0
KAF	**Kangasniemi**	**32.85**	**341**	*e*p		**P**	**21 32 51.0**	**+0.7**
KAF	**Kangasniemi**	**32.85**	**341**	*e*P		**P**	**21 32 51.0**	**+0.7**
ZAA0	**Zalesovo Array**	**33.67**	**39**	*e*P		**P**	**21 32 56.9**	**-0.6**
ZAA0	**Zalesovo Array**	**33.67**	**39**	*e*P		**P**	**21 32 56.9**	**-0.6**
ZALV	**Zalesovo Beam**	**33.67**	**39**	P		**P**	**21 32 57.6**	**+0.1**
ZALV	**Zalesovo Beam**	**33.67**	**39**	P		**P**	**21 32 57.6**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=243,slow=8.9,SNR=17								
ZALV	**Zalesovo Beam**	**33.67**	**39**	P		**P**	**21 32 57.6**	**+0.1**
SBF	**Sospel**	**33.74**	**302**	*e*P		**P**	**21 32 59.6**	**+1.2**
	comp=Z,32nm,0.9s								
SBF	**Sospel**	**33.74**	**302**	*e*P		**P**	**21 32 59.6**	**+1.2**
	comp=Z,32nm,0.9s								
MBDF	**Montbardon**	**34.31**	**303**	*e*P		**P**	**21 33 04.2**	**+0.8**
	comp=Z,11nm,0.7s								
MBDF	**Montbardon**	**34.31**	**303**	*e*P		**P**	**21 33 04.2**	**+0.8**
	comp=Z,11nm,0.7s								
MBDF	**Montbardon**	**34.31**	**303**	*e*P		**P**	**21 33 04.2**	**+0.8**
	comp=Z,11nm,0.7s								
BNI	**Bardonecchia**	**34.41**	**304**	*e*P		**P**	**21 33 04.3**	**0.0**
	comp=Z,6.9nm,0.6s								
BNI	**Bardonecchia**	**34.41**	**304**	*e*P		**P**	**21 33 04.3**	**0.0**
	comp=Z,6.9nm,0.6s								
LPG	**La Plagne**	**34.42**	**304**	*e*P		**P**	**21 33 05.2**	**+0.7**
	comp=Z,6.4nm,0.5s								
LPG	**La Plagne**	**34.42**	**304**	*e*P		**P**	**21 33 05.2**	**+0.7**
	comp=Z,6.4nm,0.5s								
LPG	**La Plagne**	**34.42**	**304**	*e*P		**P**	**21 33 05.2**	**+0.7**
	comp=Z,6.4nm,0.5s								
LPL	**La Plagne**	**34.43**	**304**	*e*P		**P**	**21 33 05.3**	**+0.7**
	comp=Z,7.9nm,0.6s								
LPL	**La Plagne**	**34.43**	**304**	*e*P		**P**	**21 33 05.3**	**+0.7**
	comp=Z,7.9nm,0.6s								
LPL	**La Plagne**	**34.43**	**304**	*e*P		**P**	**21 33 05.3**	**+0.7**
	comp=Z,7.9nm,0.6s								
CABF	**La Chapelle**	**35.03**	**306**	*e*P		**P**	**21 33 10.3**	**+0.7**
	comp=Z,12nm,0.6s								
CABF	**La Chapelle**	**35.03**	**306**	*e*P		**P**	**21 33 10.3**	**+0.7**
	comp=Z,12nm,0.6s								
CABF	**La Chapelle**	**35.03**	**306**	*e*P		**P**	**21 33 10.3**	**+0.7**
	comp=Z,12nm,0.6s								
SMRF	**Simiane la Rot**	**35.09**	**302**	*e*P		**P**	**21 33 11.1**	**+1.0**
SMRF	**Simiane la Rot**	**35.09**	**302**	*e*P		**P**	**21 33 11.1**	**+1.0**
SMRF	**Simiane la Rot**	**35.09**	**302**	*e*P		**P**	**21 33 11.1**	**+1.0**
MEZF	**Maizieres J'vi**	**36.03**	**309**	*e*P		**P**	**21 33 18.7**	**+0.7**
MEZF	**Maizieres J'vi**	**36.03**	**309**	*e*P		**P**	**21 33 18.7**	**+0.7**
LASF	**Ste Croix**	**36.34**	**302**	*e*P		**P**	**21 33 21.1**	**+0.4**
	comp=Z,14nm,1.0s								
LASF	**Ste Croix**	**36.34**	**302**	*e*P		**P**	**21 33 21.1**	**+0.4**
	comp=Z,14nm,1.0s								
LASF	**Ste Croix**	**36.34**	**302**	*e*P		**P**	**21 33 21.1**	**+0.4**
	comp=Z,14nm,1.0s								
SMF	**Signal de Mont**	**36.57**	**306**	⇑*i*P		**P**	**21 33 23.0**	**+0.3**
	comp=Z,11nm,0.7s								
SMF	**Signal de Mont**	**36.57**	**306**	⇑*i*P		**P**	**21 33 23.0**	**+0.3**
	comp=Z,11nm,0.6s								
SMF	**Signal de Mont**	**36.57**	**306**	⇑*i*P		**P**	**21 33 23.0**	**+0.3**
	comp=Z,11nm,0.6s								
NB2	**NORSAR Subarra**	**37.34**	**331**	P		**P**	**21 33 28.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=124,slow=8.6								
NB2	**NORSAR Subarra**	**37.34**	**331**	P		**P**	**21 33 28.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=124,slow=8.4,SNR=3.8								
NOA	**NORSAR Array B**	**37.34**	**331**	P		**P**	**21 33 28.7**	**-0.4**
NOA	**NORSAR Array B**	**37.34**	**331**	P		**P**	**21 33 28.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=124,slow=8.5,SNR=4.0								
NOA	**NORSAR Array B**	**37.34**	**331**	P		**P**	**21 33 28.7**	**-0.4**
NBO02	**NORSAR Array S**	**37.49**	**331**	*e*P		**P**	**21 33 29.1**	**-1.2**
NBO02	**NORSAR Array S**	**37.49**	**331**	*e*P		**P**	**21 33 29.1**	**-1.2**
ARA0	**ARCESS Array S**	**39.27**	**348**	*e*P		**P**	**21 33 44.0**	**-1.1**
ARA0	**ARCESS Array S**	**39.27**	**348**	*e*P		**P**	**21 33 44.0**	**-1.1**
ARCES	**ARCESS Array B**	**39.27**	**348**	P		**P**	**21 33 45.3**	**+0.2**
ARCES	**ARCESS Array B**	**39.27**	**348**	P		**P**	**21 33 45.3**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=157,slow=9.2,SNR=7.1								
ARCES	**ARCESS Array B**	**39.27**	**348**	P		**P**	**21 33 45.3**	**+0.2**
LDF	**La Druitiere**	**39.45**	**309**	*e*P		**P**	**21 33 47.1**	**+0.2**
LDF	**La Druitiere**	**39.45**	**309**	*e*P		**P**	**21 33 47.1**	**+0.2**
FLN	**La Foliniere**	**39.70**	**309**	*e*P		**P**	**21 33 48.8**	**-0.2**
	comp=Z,8.8nm,0.4s								
FLN	**La Foliniere**	**39.70**	**309**	*e*P		**P**	**21 33 48.8**	**-0.2**
	comp=Z,8.0nm,0.4s								
GTA	**Gaotai**	**41.84**	**65**	*e*P		**P**	**21 34 07.9**	**+1.0**
GTA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ESDC	**Sonseca Array**	**42.33**	**295**	P		**P**	**21 34 11.8**	**+1.0**
ESDC	**Sonseca Array**	**42.33**	**295**	P		**P**	**21 34 11.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=69,slow=8.1,SNR=4.8								
ESDC	**Sonseca Array**	**42.33**	**295**	P		**P**	**21 34 11.8**	**+1.0**
MDT	**Midelt**	**44.13**	**285**	P		**P**	**21 34 26.9**	**+1.3**
MDT	**Midelt**	**44.13**	**285**	P		**P**	**21 34 26.9**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=28,slow=6.8,SNR=4.5								
MDT	**Midelt**	**44.13**	**285**	P		**P**	**21 34 26.9**	**+1.3**
LZH	**Lanzhou**	**45.55**	**69**	*e*P		**P**	**21 34 37.0**	**+0.2**
LZH				sP		sP	21 34 55.0	+7.1
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
SONM	**Songino Array**	**45.94**	**53**	P		**P**	**21 34 39.8**	**+0.1**
SONM				PcP		**PcP**	**21 36 16.0**	**-0.4**
SONM	**Songino Array**	**45.94**	**53**	P		**P**	**21 34 39.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=278,slow=8.4,SNR=8.7								
SONM				PcP		**PcP**	**21 36 16.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=294,slow=1.4,SNR=4.5								
SONM	**Songino Array**	**45.94**	**53**	P		**P**	**21 34 39.8**	**+0.1**
SONM	**Songino Array**	**45.94**	**53**	PcP		**PcP**	**21 36 16.0**	**-0.4**
SONA1	**Songino Array**	**45.94**	**53**	*e*P		**P**	**21 34 38.9**	**-0.9**
SONA1	**Songino Array**	**45.94**	**53**	*e*P		**P**	**21 34 38.9**	**-0.9**
TOA0	**Torodi Ar. Sit**	**46.62**	**257**	*e*P		**P**	**21 34 45.4**	**+0.1**
TOA0	**Torodi

comp=Z,206nm,19.3s,baz=45,slow=36
CTAO Charters Tower 16.14 216 *e*P **P 21 38 47.9 -0.9**
32nm,1.0s
DZM Mont Dzumac 17.95 147 *e*P **Pn 21 39 11.2 +2.0**
95nm,1.1s
DZM *e*LR LR 21 43 24.1
1µm,27.6s
DZM Mont Dzumac 17.95 147 P **Pn 21 39 11.5 +2.3**
DZM Mont Dzumac 17.95 147 P **Pn 21 39 11.5 +2.3**
1.1nm,0.3s,baz=356,slow=10,SNR=15
DZM LR LR 21 45 05.0
comp=Z,463nm,21.1s,baz=25,slow=33
SMPI Sarmi 18.09 285 P **Pn 21 39 10.8 +0.1**
124nm,1.3s
EIDS Eidsvold 18.87 194 *e*P **P 21 39 19.1 +0.2**
19nm,1.0s
EIDS Eidsvold 18.87 194 ⇓P **Pn 21 39 19.6 -0.5**
baz=19,SNR=6.7
RMQ Roma 20.59 199 ⇑P **P 21 39 38.8 +1.2**
baz=20,SNR=13
BAKI Biak 20.80 285 P **P 21 39 41.6 +1.6**
129nm,1.3s
QLP Quilpie 22.51 209 ⇓P **P 21 39 57.6 -0.6**
baz=22,SNR=24
ARMA Armidale 23.65 190 *e*P **P 21 40 09.2 -0.3**
85nm,1.1s
ARMA Armidale 23.65 190 P **P 21 40 10.1 +0.6**
baz=24,SNR=25
KDU Kakadu 23.98 255 ⇓P **P 21 40 10.9 -1.6**
baz=24,SNR=16
WRA Warramunga Arr 24.75 237 P **P 21 40 18.8 -0.7**
WRA PcP **PcP 21 43 54.9 -0.1**
WRA S S 21 44 46.4 +9.3
WRA ScP **ScP 21 47 29.8 +1.5**
WRA Warramunga Arr 24.75 237 P **P 21 40 18.8 -0.7**
20nm,0.6s,baz=61,slow=9.7,SNR=143
WRA PcP **PcP 21 43 54.9 -0.1**
1.9nm,0.8s,baz=60,slow=2.0,SNR=5.7
WRA S S 21 44 46.4 +9.3
0.9nm,0.8s,baz=62,slow=15,SNR=2.9
WRA ScP **ScP 21 47 29.8 +1.5**
2.5nm,1.0s,baz=66,slow=3.6,SNR=7.6
WRA LR LR 21 49 33.4
comp=Z,227nm,18.8s,baz=55,slow=35
MTN Manton Dam 25.30 255 ⇓P P 21 40 19.6 -4.9
baz=25,SNR=4.0
CMSA Cobar Meteorol 26.27 200 ⇑P **P 21 40 32.4 -0.7**
baz=26
MGCD Mangrove Creek 26.47 190 P **P 21 40 36.1 +1.3**
baz=26,SNR=4.7
AS01 Alice Springs 26.98 230 *e*P **P 21 40 36.2 -3.5**
AS01 *e*ScP **ScP 21 47 35.2 +0.5**
ASAR Alice Springs 27.02 230 P **P 21 40 38.6 -1.4**
ASAR PcP **PcP 21 43 58.8 -1.3**
ASAR S S 21 45 26.2 +13
ASAR ScP **ScP 21 47 36.0 +1.2**
ASAR Alice Springs 27.02 230 P **P 21 40 38.6 -1.4**
4.3nm,0.7s,baz=62,slow=8.6,SNR=49
ASAR PcP **PcP 21 43 58.8 -1.3**
1.4nm,0.8s,baz=55,slow=3.9,SNR=5.7
ASAR S S 21 45 26.2 +13
0.8nm,0.9s,baz=62,slow=16,SNR=3.8
ASAR ScP **ScP 21 47 36.0 +1.2**
2.7nm,1.0s,baz=68,slow=3.0,SNR=11
H11S3 WAKE ISLAND Hy 27.41 22 T T 22 09 10.2
baz=203,slow=77,SNR=699
H11S2 WAKE ISLAND Hy 27.41 22 T T 22 09 10.4
baz=203,slow=77,SNR=692
H11S1 WAKE ISLAND Hy 27.43 22 T T 22 08 56.2
baz=203,slow=77,SNR=205
KNRA Kununurra 28.16 250 ⇑P **P 21 40 49.6 -0.6**
baz=28,SNR=6.3
STKA Stephens Creek 28.20 207 *e*P **P 21 40 50.3 -0.2**
10nm,1.9s
STKA Stephens Creek 28.20 207 P **P 21 40 49.7 -0.7**
5.3nm,0.9s,baz=11,slow=12,SNR=6.3
STKA LR LR 21 51 48.2
comp=Z,329nm,20.1s,baz=24,slow=36
STKA Stephens Creek 28.20 207 P **P 21 40 50.2 -0.2**
baz=28,SNR=4.1
H11N1 WAKE ISLAND Hy 28.60 22 T T 22 10 38.0
baz=213,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 28.61 22 T T 22 10 34.3
baz=213,slow=76,SNR=26
H11N2 WAKE ISLAND Hy 28.62 22 T T 22 10 39.0
baz=213,slow=76,SNR=7.8
LBMI Labuha 29.26 281 P **P 21 41 02.0 +1.9**
FITZ Fitzroy Crossi 31.69 247 *e*P **P 21 41 20.2 -1.2**
6.7nm,0.8s
FITZ Fitzroy Crossi 31.69 247 ⇓P **P 21 41 19.3 -2.1**
baz=31,SNR=7.5
WRKA Warakurna 32.09 233 ⇑P **P 21 41 22.7 -2.2**
baz=32,SNR=29
ARPS Mount Arapiles 32.35 202 ⇓P **P 21 41 27.0 0.0**
baz=32,SNR=6.3
FORT Forrest 35.36 224 *e*P **P 21 41 51.8 -1.4**
36nm,0.7s
FORT Forrest 35.36 224 ⇓P **P 21 41 51.5 -1.6**
baz=35,SNR=12
URZ Urewera 36.42 152 LR LR 21 54 47.7
comp=Z,213nm,18.2s,baz=330,slow=32
JCJ Chichijima 36.52 339 LR LR 21 57 08.3
comp=Z,66nm,19.3s,baz=2.0,slow=36
BKZ Black Stump Fm 36.88 153 *e*P **P 21 42 07.9 +1.8**
462nm,2.9s
MBWA Marble Bar 37.89 244 *e*P **P 21 42 13.3 -1.6**
36nm,1.4s
RPZ Rata Peaks 38.81 163 *e*P **P 21 42 23.3 +1.0**
45nm,0.9s
RPZ Rata Peaks 38.81 163 P **P 21 42 23.5 +1.2**
38nm,0.8s,baz=266,slow=1.1,SNR=12
RPZ LR LR 21 57 40.2
comp=Z,95nm,20.0s,baz=328,slow=35
MEEK Meekatharra 40.65 237 ⇓P **P 21 42 35.8 -2.1**
baz=40,SNR=6.4
KKM Kota Kinabalu 41.91 287 *e*P **P 21 42 47.0 -1.4**
37nm,1.0s
KKM Kota Kinabalu 41.91 287 ⇓P **P 21 42 45.6 -2.8**
baz=42,SNR=7.8
KLBR Kellerberrin 43.34 231 ⇓P **P 21 42 57.6 -2.1**
baz=43,SNR=16
MORW Morawa 43.67 235 ⇑P **P 21 43 00.1 -2.2**
baz=43,SNR=4.4
NWAO Narrogin (SRO) 44.33 229 P **P 21 43 05.8 -1.8**
NWAO Narrogin (SRO) 44.33 229 P **P 21 43 05.9 -1.8**
8.5nm,0.7s,baz=73,slow=7.0,SNR=5.3
MJAR Matsushiro Arr 46.49 340 P **P 21 43 24.5 -0.1**
MJAR Matsushiro Arr 46.49 340 P **P 21 43 24.5 -0.1**
2.2nm,0.9s,baz=148,slow=6.6,SNR=5.1
JNU Nakatsue 46.60 330 *e*P **P 21 43 25.2 -0.3**
16nm,1.0s
JNU *e*PcP **PcP 21 44 55.8 -2.8**
JNU Nakatsue 46.60 330 P **P 21 43 24.9 -0.6**
10nm,0.9s,baz=90,slow=3.1,SNR=10
KSRS Korea Array 51.51 331 P **P 21 44 03.1 +0.1**
2.2nm,0.6s,baz=145,slow=7.1,SNR=15
KSAR Wonju Array Be 51.52 331 P **P 21 44 03.1 +0.1**
KS01 Wonju Array Si 51.54 331 *e*P **P 21 44 01.3 -1.9**
QIZ Qiongzhong 52.46 300 P **P 21 44 10.3 -0.1**
QIZ S **S 21 51 34.3 +2.2**
QIZ pmax pmax
comp=Z,32nm,2.4s
NJ2 Nanjing 52.67 320 *e*P **P 21 44 12.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PPT Papeete 53.89 107 LR LR 22 02 41.6
comp=Z,41nm,21.2s,baz=280,slow=31
PPT2 Papeete2 53.89 107 *e*LR LR 22 00 20.9
144nm,28.0s
TBI Tubuai 54.62 114 *e*LR LR 22 00 29.0
425nm,32.5s
USRK Ussuriysk Arra 55.46 339 P **P 21 44 33.0 +1.3**
2.3nm,0.9s,baz=144,slow=5.4,SNR=4.0
MDJ Mudanjiang 56.70 338 P **P 21 44 41.9 +1.3**
MDJ PcS **PcS 21 49 37.8 +1.1**
MDJ S **S 21 52 30.6 +2.3**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,51nm,2.9s
MDJ LR LR
comp=N,34nm,26.7s
MDJ LR LR
comp=E,41nm,25.4s
MDJ LR LR
comp=Z,76nm,23.9s
KULM Kulim 56.72 281 *e*P **P 21 44 39.0 -2.3**
30nm,1.4s
CN2 Changchun 57.72 334 *e*P **P 21 44 50.3 +2.5**
GYA Guiyang 58.39 307 P **P 21 44 54.3 +1.3**
GYA PP **PP 21 47 06.0 +3.0**
GYA ScP **ScP 21 49 37.3 -0.7**
GYA S **S 21 52 50.5 -0.7**
GYA ScS **ScS 21 54 33.8 -3.5**
GYA SS **SS 21 56 43.6 -1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,490nm,19.1s
GYA LR LR
comp=E,440nm,18.6s
GYA LR LR
comp=Z,450nm,18.2s
BJI Beijing 59.60 325 P **P 21 45 01.1 +0.2**
BJI pmax pmax
comp=Z,6.0nm,0.4s
PETK Petropavlovsk- 59.92 1 LR LR 22 07 37.1
comp=Z,89nm,21.8s,baz=188,slow=33
KMI Kunming 60.98 304 P **P 21 45 10.5 -0.5**
KMI pmax pmax
comp=Z,3.0nm,0.5s
CM01 Chiang Mai Arr 61.81 295 *e*P **P 21 45 15.8 -0.6**
CMAR Chiang Mai Arr 61.83 295 P **P 21 45 16.9 +0.3**
CMAR pP **pP 21 45 31.6 -2.4**
CMAR Chiang Mai Arr 61.83 295 P **P 21 45 16.9 +0.3**
2.7nm,0.7s,baz=126,slow=5.6,SNR=29
CMAR pP **pP 21 45 31.7 -2.4**
2.4nm,0.9s,baz=134,slow=5.8,SNR=3.9
CHTO Chiang Mai 61.95 296 *e*P **P 21 45 15.7 -1.7**
18nm,2.9s
CD2 Chengdu 62.71 310 *e*P **P 21 45 22.8 +0.5**
CD2 PP **PP 21 47 42.0 +1.0**
CD2 S **S 21 53 44.8 -1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,160nm,4.8s
HHC Hu-ho-hao-te 62.80 323 *e*P **P 21 45 22.4 -0.4**
HHC PP **PP 21 47 46.6 +4.9**
HHC S **S 21 53 43.6 -3.5**
HHC SS **SS 21 57 53.8 +0.4**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.4s
HHC LR LR
comp=N,250nm,16.1s
HHC LR LR
comp=E,310nm,14.3s
HHC LR LR
comp=Z,210nm,17.1s
LZH Lanzhou 65.14 315 *e*P **P 21 45 40.5 +2.2**
LZH pmax pmax
comp=Z,13nm,1.0s
RKT Rikitea 67.87 112 *e*LR LR 22 06 31.7
354nm,30.2s
GTA Gaotai 69.55 317 *e*P **P 21 46 06.8 +0.7**
GTA S **S 21 55 09.5 +0.3**
GTA SS **SS 21 59 39.6 +1.3**
GTA pmax pmax
comp=Z,2.0nm,1.4s
GTA pmax pmax
comp=Z,110nm,5.2s
GTA LR LR
comp=N,110nm,17.6s
GTA LR LR
comp=E,86nm,16.2s
GTA LR LR
comp=Z,89nm,18.0s
ULN Ulaanbaatar 69.65 327 *e*P **P 21 46 06.8 +0.2**
3.8nm,0.7s
SONM Songino Array 69.99 327 P **P 21 46 09.4 +0.8**
SONM Songino Array 69.99 327 P **P 21 46 09.4 +0.8**
3.8nm,0.5s,baz=146,slow=6.2,SNR=69
SONA1 Songino Array 69.99 327 *e*P **P 21 46 08.9 +0.3**
VNDA Vanda 70.52 179 *e*P **P 21 46 12.5 +1.3**
5.8nm,1.0s
VNDA Vanda 70.52 179 P **P 21 46 11.8 +0.6**
4.2nm,0.9s,baz=324,slow=7.6,SNR=10
TAPN Taplejung 74.40 301 *e*P **P 21 46 35.2 -0.4**
25nm,1.1s
ODAN Odare 74.54 300 *e*P **P 21 46 35.9 -0.4**
17nm,0.6s
RAMN Ramite 75.24 300 *e*P **P 21 46 40.1 -0.2**
JIRN Jiri 75.78 301 *e*P **P 21 46 43.3 -0.3**
5.1nm,0.5s
GUN Gumba 76.12 301 *e*P **P 21 46 45.3 -0.2**
16nm,0.7s
PKI Pulchoki 76.43 300 *e*P **P 21 46 46.6 -0.6**
KKN Kakani 76.59 301 *e*P **P 21 46 47.7 -0.3**
DMN Daman 76.70 300 *e*P **P 21 46 48.3 -0.3**
25nm,1.1s
GKN Gorkha 77.20 301 *e*P **P 21 46 50.9 -0.5**
DANN Dangsing 78.04 301 *e*P **P 21 46 54.9 -1.3**
6.0nm,0.6s
RSO Redoubt South 78.27 23 *e*P P 21 47 00.6 +4.0
WMQ Urumqi 79.63 317 P **P 21 47 05.8 +1.5**
WMQ pmax pmax
comp=Z,2.0nm,0.9s
WMQ LR LR
comp=N,63nm,26.0s
WMQ LR LR
comp=E,71nm,22.8s
WMQ LR LR
comp=Z,68nm,29.1s
QSPA South Pole Qui 82.95 180 P **P 21 47 21.7 +0.1**
QSPA South Pole Qui 82.95 180 P **P 21 47 21.7 +0.1**
15nm,1.0s,baz=351,slow=1.5,SNR=27
ILAR Eielson Array 82.99 21 P **P 21 47 22.3 +0.7**
ILAR pP **pP 21 47 37.7 -2.1**
ILAR Eielson Array 82.99 21 P **P 21 47 22.3 +0.7**
0.6nm,0.9s,baz=250,slow=4.9,SNR=6.2
ILAR pP **pP 21 47 37.7 -2.1**
0.4nm,0.6s,baz=241,slow=4.8,SNR=3.1
MK01 Makanchi Array 84.17 318 *e*P **P 21 47 28.0 -0.1**
MKAR Makanchi Array 84.19 318 *e*P **P 21 47 28.2 0.0**
MKAR pP **pP 21 47 47.0 +0.6**
MKAR Makanchi Array 84.19 318 P **P 21 47 28.1 0.0**
3.2nm,0.6s,baz=98,slow=5.9,SNR=39
MKAR pP **pP 21 47 47.0 +0.6**
1.3nm,0.7s,baz=97,slow=5.1,SNR=3.6
MKAR LR LR 22 23 59.6
comp=Z,31nm,20.1s,baz=66,slow=35
ZAA0 Zalesovo Array 84.85 326 *e*P **P 21 47 30.0 -1.3**
ZALV Zalesovo Beam 84.85 326 P **P 21 47 30.2 -1.0**
ZALV Zalesovo Beam 84.85 326 P **P 21 47 30.2 -1.0**
2.9nm,0.5s,baz=114,slow=5.9,SNR=21
KSH Kashi 86.91 310 P **P 21 47 44.3 +2.4**
KSH *e*PP **PP 21 51 08.5 +2.8**
KSH *e*SKS **SKSac 21 58 02.9 -0.7**
KSH *e*S **S 21 58 14.3 -1.0**
KSH *e*SS **SS 22 03 59.3 +0.1**
KSH pmax pmax
comp=Z,35nm,2.5s
KSH LR LR
comp=N,56nm,6.6s
KSH LR LR
comp=E,39nm,5.7s
KSH LR LR
comp=Z,39nm,3.5s
KURK Kurchatov 87.57 322 P **P 21 47 43.7 -1.0**
KURK pP **pP 21 48 03.7 +0.6**
KURBB Kurchatov Arra 87.60 321 P **P 21 47 43.7 -1.1**
1.0nm,0.5s,baz=96,slow=5.1,SNR=12
KURBB pP **pP 21 48 03.7 +0.4**
0.4nm,0.3s,baz=100,slow=3.6,SNR=2.5
TKM2 Tokmak 2 87.87 314 *e*P **P 21 47 46.3 -0.3**
2.6nm,0.5s
AAK Ala-Archa 88.61 313 *e*P **P 21 47 50.4 +0.4**
9.3nm,1.8s
AAK Ala-Archa 88.61 313 P **P 21 47 49.6 -0.4**
1.0nm,0.5s,baz=120,slow=7.4,SNR=6.2
INK Inuvik 89.35 20 LR LR 22 21 17.8
comp=Z,66nm,21.1s,baz=248,slow=31
C09A Chrisman Ranch 92.19 42 *e*P **P 21 48 06.5 +0.1**
BVAR Borovoye Array 93.01 323 P **P 21 48 08.7 -1.3**
BVAR Borovoye Array 93.01 323 P **P 21 48 08.7 -1.3**
1.8nm,0.8s,baz=115,slow=5.5,SNR=10.0
YKA Yellowknife Ar 95.83 28 P P 21 48 26.1 +3.4
YKA Yellowknife Ar 95.83 28 P P 21 48 26.1 +3.4
0.2nm,0.7s,baz=262,slow=4.9,SNR=3.3
IMW Indian Meadow 96.92 47 *e*P **P 21 48 29.9 +1.4**
4.9nm,0.9s
AKASG Malin Array Be 118.23 325 PKP **PKPdf 21 53 41.8 -1.8**
AKASG Malin Array Be 118.23 325 PKP **PKPdf 21 53 41.8 -1.8**
0.3nm,0.3s,baz=55,slow=2.1,SNR=3.8
GERES GERESS Array B 127.67 329 PKP **PKPdf 21 54 01.5 -0.4**
GERES GERESS Array B 127.67 329 PKP **PKPdf 21 54 01.5 -0.4**
0.6nm,0.7s,baz=85,slow=1.1,SNR=5.8
BDFB Brasilia 147.13 133 PKPbc **PKPab 21 54 41.6 -0.8**
BDFB Brasilia 147.13 133 PKPbc **PKPab 21 54 41.6 -0.8**
9.9nm,0.7s,baz=202,slow=4.4,SNR=18
MDT Midelt 148.73 328 PKPbc **PKPbc 21 54 44.9 +0.4**
MDT Midelt 148.73 328 PKPbc **PKPbc 21 54 44.9 +0.4**
1.5nm,0.8s,baz=125,slow=5.2,SNR=5.1
TORD Torodi Ar. Bea 154.14 286 PKPbc **PKPbc 21 54 56.6 -0.7**
TORD Torodi Ar. Bea 154.14 286 PKPbc **PKPbc 21 54 56.6 -0.7**
1.8nm,0.8s,baz=59,slow=2.3,SNR=12
KIC Kosan Boka 161.01 269 *e*P **PKPab 21 55 39.7 -1.3**
12nm,0.7s
DBIC Dimbokro 161.13 270 PKPab **PKPab 21 55 41.1 -0.4**
DBIC Dimbokro 161.13 270 PKPab **PKPab 21 55 41.1 -0.4**
3.0nm,0.7s,baz=48,slow=4.6,SNR=5.3
LIC Lamto 161.28 269 *e*P **PKPab 21 55 41.9 -0.3**
5.7nm,0.2s
TIC Toumodi 161.30 270 *e*P **PKPab 21 55 41.4 -0.8**

WEL 16 21:38:05.2±0.6, 36.86S×176.83E, h245km±4km, ML3.7/13, 1C-1D, Error ellipse: s-maj=5.7km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.18**	**140**	PN	Pn	21 38 40.8	+0.1
HAZ				SN	S	21 39 07.8	-0.8
MXZ	**Matakaoa Point**	**1.38**	**121**	⇓PN	Pn	21 38 42.1	+0.1
URZ	**Urewera**	**1.42**	**171**	PN	Pn	21 38 42.4	+0.1
URZ				SN	S	21 39 11.3	-0.3
MWZ	**Matawai**	**1.58**	**160**	⇑PN	Pn	21 38 43.7	+0.1
MWZ				AML	AML	21 41 14.1	
CNGZ	**Carnagh Statio**	**1.96**	**147**	PN	Pn	21 38 47.2	+0.4
SNGZ	**Shannon Statio**	**1.96**	**168**	PN	Pn	21 38 47.1	+0.2
RIGZ	**Rimuhau**	**1.99**	**158**	PN	Pn	21 38 47.3	+0.2
RAHZ	**Arahi**	**2.07**	**174**	PN	Pn	21 38 48.2	+0.4
NMHZ	**Naumai**	**2.24**	**180**	PN	Pn	21 38 50.0	+0.5
WHHZ	**Waihua**	**2.24**	**172**	PN	Pn	21 38 49.6	+0.2
WHHZ				SN	S	21 39 23.9	-0.5
KNZ	**Kokohu**	**2.26**	**163**	PN	Pn	21 38 49.2	-0.4
BKZ	**Black Stump Fm**	**2.32**	**186**	PN	Pn	21 38 50.1	-0.2
BKZ				AML	AML	21 39 27.1	
MHGZ	**Mahia Peninsul**	**2.45**	**160**	PN	Pn	21 38 51.3	-0.1
MCHZ	**McNeill Hill**	**2.59**	**182**	PN	Pn	21 38 53.0	+0.1
WNVZ	**Wahianoa**	**2.65**	**201**	PN	Pn	21 38 54.1	+0.3
BHHZ	**Black Hill Sta**	**2.70**	**193**	PN	Pn	21 38 53.8	-0.3
KAHZ	**Kahuranaki**	**2.94**	**179**	PN	Pn	21 38 56.4	-0.2
PNHZ	**Pukenui**	**3.10**	**189**	PN	Pn	21 38 57.2	-1.1
PXZ	**Pawanui**	**3.17**	**180**	PN	Pn	21 38 56.7	-2.5
PXZ				AML	AML	21 39 52.7	
TSZ	**Takapari Road**	**3.27**	**192**	PN	Pn	21 38 59.4	-0.9
DVHZ	**Dannevirke**	**3.48**	**188**	PN	Pn	21 39 01.5	-1.2
ANWZ	**Angora Road**	**3.61**	**184**	PN	Pn	21 39 03.5	-0.6
BFZ	**Birch Farm**	**3.85**	**187**	PN	Pn	21 39 05.8	-1.1
MRZ	**Mangatainoka R**	**3.92**	**194**	PN	Pn	21 39 06.2	-1.6
OGWZ	**Otaki Gorge**	**4.16**	**198**	PN	Pn	21 39 08.5	-2.1
HOWZ	**Holdsworth Sta**	**4.17**	**194**	PN	Pn	21 39 09.0	-1.7
KIW	**Kapiti Island**	**4.27**	**200**	AML	AML	21 40 02.3	
MTW	**Mount Morrison**	**4.42**	**193**	PN	Pn	21 39 11.8	-1.9
CAW	**Cannon Point**	**4.46**	**197**	PN	Pn	21 39 11.8	-2.4
PAWZ	**Paruwai Farm**	**4.65**	**193**	AML	AML	21 40 11.5	
MSWZ	**Moikau Station**	**4.72**	**195**	PN	Pn	21 39 15.0	-2.2
PLWZ	**Palliser**	**4.87**	**194**	PN	Pn	21 39 16.5	-2.6
NNZ	**Nelson**	**5.12**	**211**	PN	Pn	21 39 19.6	-2.5
QRZ	**Quartz Range**	**5.20**	**219**	PN	Pn	21 39 20.5	-2.6
THZ	**Tophouse**	**5.77**	**211**	PN	Pn	21 39 28.2	-2.1
KHZ	**Kahutara**	**6.11**	**204**	PN	Pn	21 39 32.0	-2.5
LTZ	**Lake Taylor**	**6.88**	**209**	PN	Pn	21 39 41.0	-3.2

IDC 16 21:39:49.0±1.4, 3.76N×127.15E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/55, mbtmp3.6/5, Error ellipse: s-maj=129.7km s-min=19.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**164**	P	P	21 45 09.5	-1.6
	3.3nm,0.6s,baz=344,slow=11,SNR=18						
ASAR	**Alice Springs**	**28.04**	**167**	P	P	21 45 44.1	+1.9
	0.4nm,0.3s,baz=347,slow=11,SNR=4.9						
SONM	**Songino Array**	**47.41**	**341**	P	P	21 48 26.1	+0.7
	0.3nm,0.5s,baz=162,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**57.77**	**325**	P	P	21 49 41.7	-0.4
	0.4nm,0.5s,baz=122,slow=8.3,SNR=5.1						
KURBB	**Kurchatov Arra**	**61.94**	**327**	P	P	21 50 10.0	-0.6
	0.4nm,0.3s,baz=129,slow=5.8,SNR=3.9						

IDC ***16*** *21:43:07.9±1.4, 1.32S×126.49E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/46, mbtmp3.8/6, Error ellipse: s-maj=188.2km s-min=19.6km az=68.0*
ISCJB ***16*** *21:43:11.3±0.5, 1.34S±0.04×126.51E±0.04, h29km, mb3.9/6, Error ellipse: s-maj=6.3km s-min=5.9km az=28.7*
DJA ***16*** *21:43:13.2±0.6, 1°S±2°×12°7'E±°, h35km±8km, M4.2/7, mb4.3/1, MLv4.1/7*

ISC 16 21:43:11.7±0.6, 1.38S±0.04×126.51E±0.05, h29km, n17, σ1s74/23, mb4.0/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.85**	**218**	P	**Pb**	**21 43 27.8**	**-0.1**
SANI				S	**Sn**	**21 43 40.3**	**+1.1**
LBMI	**Labuha**	**1.23**	**54**	P	**Pb**	**21 43 33.4**	**-1.0**
LBMI				S	**Sb**	**21 43 51.9**	**+2.0**
NLAI	**Namlea**	**1.94**	**162**	P	**Pb**	**21 43 44.3**	**-2.2**
NLAI				S	**Sb**	**21 44 08.6**	**-1.7**
TNTI	**Ternate**	**2.30**	**22**	P	**Pb**	**21 43 50.3**	**-2.2**
TNTI				S	**Sb**	**21 44 20.1**	**-0.4**
LUWI	**Luwuk**	**3.75**	**275**	P	**Pn**	**21 44 08.8**	**+1.1**
GTOI	**Gorontalo**	**4.03**	**300**	P	Pn	21 44 15.1	+3.6
APSI	**Ampana**	**4.88**	**275**	P	**Pn**	**21 44 24.6**	**+1.4**
MRSI	**Marisa**	**4.92**	**292**	P	**Pn**	**21 44 24.2**	**+0.4**
FAKI	**Fak Fak**	**5.94**	**105**	P	**Pn**	**21 44 39.3**	**+1.5**
FAKI				S	**Sn**	**21 45 46.5**	**+1.6**
WRA	**Warramunga Arr**	**19.98**	**158**	P	**Pn**	**21 47 42.6**	**-1.2**
	1.3nm,0.6s,baz=339,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**23.29**	**163**	P	**P**	**21 48 18.4**	**+1.1**
	2.9nm,0.8s,baz=339,slow=11,SNR=19						
GTA	**Gaotai**	**47.40**	**332**	*e*P	**P**	**21 51 45.6**	**+1.9**
GTA				pP	**pP**	**21 51 49.5**	**-3.0**
GTA				sP	**sP**	**21 51 52.0**	**-4.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**52.06**	**343**	P	**P**	**21 52 19.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=159,slow=8.8,SNR=4.4						
MKAR	**Makanchi Array**	**61.64**	**327**	P	**P**	**21 53 27.9**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=121,slow=8.5,SNR=16						
ZALV	**Zalesovo Beam**	**65.03**	**334**	P	**P**	**21 53 48.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=116,slow=6.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**65.93**	**329**	P	**P**	**21 53 55.3**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=126,slow=6.2,SNR=7.1						
TORD	**Torodi Ar. Bea**	**124.15**	**285**	PKP	**PKPdf**	**22 02 08.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=49,slow=2.5,SNR=3.4						

SJA 16 21:51:05.7±0.3, 23.01S×63.47W, h42km±28km, MD4.4, ML3.6, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**2.52**	**227**	*e*P		21 51 46.5	
SLA				*e*S		21 52 16.7	
SLA				AML		21 52 21.2	
	comp=Z,276nm,0.7s						
AHML	**Horco Molle**	**4.12**	**204**	*e*P		21 52 09.0	
AHML				*e*P		21 52 09.0	
ACLC	**CERRO LA CRUZ**	**7.11**	**205**	*e*P		21 52 49.9	

CSEM ***16*** *21:51:57.9±0.1, 45.77N×14.20E, h10km, ML1.1/4, Error ellipse: s-maj=3.4km s-min=2.3km az=27.0*
LJU 16 21:51:57.5, 45.78N×14.21E, h15km, ML0.6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.15**	**320**	*i* Pg	Pg	21 52 01.6	-0.1
JAVS				*i* Sg	Sg	21 52 04.6	+0.1
JAVS							
	comp=Z,9.0nm,0.1s						
JAVS	**Javornik**	**0.15**	**320**	*i* Pg	Pg	21 52 01.6	-0.1
JAVS				*i* Sg	Sg	21 52 04.6	+0.2
	comp=Z,9.0nm,0.1s						
CEY	**Cerknica**	**0.16**	**103**	*i* Pg	Pg	21 52 01.6	0.0
CEY				*i* Sg	Sg	21 52 04.6	+0.3
CEY							
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.16**	**103**	*i* Pg	Pg	21 52 01.6	0.0
CEY				*i* Sg	Sg	21 52 04.6	+0.3
	comp=Z,4.0nm,0.1s						
SKDS	**Skadanscina**	**0.27**	**211**	*i* Pg	Pg	21 52 03.1	-0.2
SKDS				*i* Sg	Sg	21 52 07.7	+0.5
SKDS							
	comp=Z,1.0nm,0.0s						
SKDS	**Skadanscina**	**0.27**	**211**	*i* Pg	Pg	21 52 03.1	-0.2
SKDS				*i* Sg	Sg	21 52 07.7	+0.5
	comp=Z,1.0nm,0.0s						
CRNS	**Crni Vrh**	**0.31**	**7**	*e*Sg	Sg	21 52 09.1	+0.5
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg	Pg	21 52 04.6	-0.1
VOJS				*e*Sg	Sg	21 52 10.0	+0.4
VOJS							
	comp=Z,1.0nm,0.1s						
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg	Pg	21 52 04.6	-0.1
VOJS				*e*Sg	Sg	21 52 10.0	+0.4
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**0.44**	**86**	*i* Pg	Pg	21 52 06.6	+0.2
VISS	**Visnje**	**0.44**	**86**	*i* Pg	Pg	21 52 06.6	+0.2
VNDS	**Vrh nad Dolski**	**0.48**	**46**	*i* Pg	Pg	21 52 07.3	+0.3
PDKS	**Podkum**	**0.62**	**62**	*e*Sg	Sb	21 52 18.7	-0.1
PDKS	**Podkum**	**0.62**	**62**	*e*Sg	Sb	21 52 18.7	-0.1
BOJS	**Bojanci**	**0.78**	**110**	*i* Pg	Pb	21 52 13.1	+0.3
BOJS	**Bojanci**	**0.78**	**110**	*i* Pg	Pb	21 52 13.1	+0.3

SKO **16** *21:52:43.0,40.˚71N×21.˚34E,h19km,M2.1,ML2.5*
ISCJB **16** *21:52:43.8±0.3,40.˚74N±0.˚01×21.˚34E±0.˚02,h12km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=2.9*
ATH **16** *21:52:43.2,40.˚72N×21.˚37E,h18km±1km,MD3.3/15*
CSEM **16** *21:52:44.0±0.1,40.˚73N×21.˚39E,h8km,MD3.3, Error ellipse: s-maj=2.6km s-min=2.1km az=80.0*
THE **16** *21:52:44.2,40.˚71N×21.˚41E,h1km±1km,ML2.8/8, Error ellipse: s-maj=1.9km s-min=0.7km az=7.0*
BEO **16** *21:52:45.6±0.9,40.˚89N×21.˚31E,h0km,ML2.5/5*
ISC 16 21:52:44.2±0.8,**40.˚73N**±0.˚01×**21.˚37E**±0.˚02,**h13**km±4km, **n129,**σ0§**87**/196,**2C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.05**	**9**	P	**Pg**	**21 52 46.6**	**-0.2**
FNA				S	**Sg**	**21 52 48.3**	**-0.4**
FNA	**Florina**	**0.05**	**9**	*e*PB	**Pg**	**21 52 46.7**	**-0.1**
FNA				*e*SB	**Sg**	**21 52 49.0**	**+0.3**
FNA	**Florina**	**0.05**	**9**	P	**Pg**	**21 52 46.6**	**-0.2**
FNA				S	**Sg**	**21 52 48.3**	**-0.4**
FNA				*e*Sb	**Sg**	**21 52 49.0**	**+0.3**
BIA	**Bitola**	**0.29**	**354**	P	**Pg**	**21 52 49.3**	**-0.9**
BIA				S	**Sg**	**21 52 54.2**	**-0.1**
BIA	**Bitola**	**0.29**	**354**↑	*i* Pg	**Pg**	**21 52 49.8**	**-0.5**
BIA				*i* Sg	**Sg**	**21 52 54.8**	**+0.5**
BIA	**Bitola**	**0.29**	**354**	P	**Pg**	**21 52 49.3**	**-0.9**
BIA	**Bitola**	**0.29**	**354**↑	*i* Pg	**Pg**	**21 52 49.7**	**-0.5**
BIA				S	**Sg**	**21 52 54.2**	**-0.1**
NEST	**Nestorio**	**0.40**	**217**	P	**Pg**	**21 52 51.1**	**-1.1**
NEST				S	**Sg**	**21 52 57.3**	**-0.3**
NEST	**Nestorio**	**0.40**	**217**	*e*PB	**Pg**	**21 52 51.3**	**-0.9**
NEST				*e*SB	**Sg**	**21 52 57.4**	**-0.2**
NEST	**Nestorio**	**0.40**	**217**	*e*Pb	**Pg**	**21 52 51.3**	**-0.9**
NEST				*e*Sb	**Sg**	**21 52 57.4**	**-0.2**
KBN	**Korca**	**0.45**	**256**	P	**Pg**	**21 52 52.1**	**-1.1**
KBN				S	**Sg**	**21 52 59.7**	**+0.4**
KBN	**Korca**	**0.45**	**256**	P	**Pg**	**21 52 52.1**	**-1.1**
KBN				S	**Sg**	**21 52 59.7**	**+0.4**
KZN	**Kozani**	**0.53**	**144**	*e*PN	**Pg**	**21 52 54.2**	**-0.4**
KZN				*e*SN	**Sg**	**21 53 01.6**	**0.0**
KZN	**Kozani**	**0.53**	**144**	*e*Pn	**Pg**	**21 52 54.2**	**-0.4**
KZN				*e*Sn	**Sg**	**21 53 01.6**	**0.0**
MEV	**Metsovon**	**0.95**	**186**	P	**Pg**	**21 53 00.8**	**-1.8**
MEV	**Metsovon**	**0.95**	**186**	P	**Pg**	**21 53 00.8**	**-1.8**
LIT	**Litokhoron**	**1.07**	**126**	P	**Pg**	**21 53 04.4**	**-0.3**
LIT				S	**Sg**	**21 53 18.3**	**-0.3**
LIT	**Litokhoron**	**1.07**	**126**	*e*PN	**Pg**	**21 53 04.3**	**-0.5**
LIT	**Litokhoron**	**1.07**	**126**	P	**Pg**	**21 53 04.4**	**-0.3**
LIT				S	**Sg**	**21 53 18.3**	**-0.3**
VAY	**Valandovo**	**1.08**	**57**	P	**Pg**	**21 53 03.8**	**-1.3**
VAY				S	**Sg**	**21 53 18.9**	**-0.3**
VAY	**Valandovo**	**1.08**	**57**	*e*Pg	**Pg**	**21 53 03.6**	**-1.5**
VAY				*e*Sg	**Sg**	**21 53 18.9**	**-0.3**
VAY	**Valandovo**	**1.08**	**57**	*i* Pg	**Pg**	**21 53 04.5**	**-0.7**
VAY				*i* Sg	**Sn**	**21 53 20.7**	**+0.7**
VAY				*e*Lg	Lg	21 53 23.1	
	comp=E,82nm,0.8s						
VAY				*e*Lg	Lg	21 53 23.4	
	comp=N,86nm,0.5s						
VAY	**Valandovo**	**1.08**	**57**	P	**Pg**	**21 53 03.8**	**-1.3**
VAY	**Valandovo**	**1.08**	**57**	*i* Pg	**Pg**	**21 53 04.4**	**-0.7**
VAY				S	**Sg**	**21 53 18.9**	**-0.3**
VAY				*e*Lg	Lg	21 53 23.4	
	comp=N,86nm,0.5s						
JAN	**Janina**	**1.15**	**200**	*e*PB	**Pg**	**21 53 03.8**	**-2.5**
JAN	**Janina**	**1.15**	**200**	*e*Pb	**Pg**	**21 53 03.8**	**-2.5**
PHP	**Peshkopia**	**1.18**	**324**	*i* PG	**Pb**	**21 53 06.0**	**-0.5**
PHP				*i* SG	**Sn**	**21 53 23.2**	**+0.8**
PHP	**Peshkopia**	**1.18**	**324**	*i* Pg	**Pb**	**21 53 06.0**	**-0.5**
PHP				*i* Sg	**Sn**	**21 53 23.2**	**+0.8**
THE	**Thessaloniki**	**1.22**	**94**	P	**Pb**	**21 53 06.8**	**-0.3**
THE				S	**Sn**	**21 53 23.8**	**+0.5**
THE	**Thessaloniki**	**1.22**	**94**	*e*PN	**Pb**	**21 53 06.9**	**-0.2**
THE	**Thessaloniki**	**1.22**	**94**	*e*Pn	**Pb**	**21 53 06.9**	**-0.2**
THE				S	**Sn**	**21 53 23.8**	**+0.5**
KNT	**Kendrikon**	**1.24**	**69**	P	**Pn**	**21 53 07.6**	**+0.4**
KNT				S	**Sn**	**21 53 25.5**	**+1.7**
KNT	**Kendrikon**	**1.24**	**69**	*e*PN	**Pb**	**21 53 07.7**	**+0.3**
KNT	**Kendrikon**	**1.24**	**69**	P	**Pn**	**21 53 07.6**	**+0.4**
KNT				S	**Sn**	**21 53 25.5**	**+1.7**
SKO	**Skopje**	**1.24**	**3**	*i* Pg	**Pn**	**21 53 07.5**	**+0.3**
SKO	**Skopje**	**1.24**	**3**	*i* Pg	**Pn**	**21 53 07.5**	**+0.3**
THL	**Klokotos Trika**	**1.27**	**157**	P	**Pn**	**21 53 06.7**	**-0.8**
THL	**Klokotos Trika**	**1.27**	**157**	*e*PN	**Pn**	**21 53 06.8**	**-0.8**
THL	**Klokotos Trika**	**1.27**	**157**	*e*Pn	**Pn**	**21 53 06.8**	**-0.8**
HORT	**Hortiatis**	**1.33**	**95**	P	**Pn**	**21 53 08.0**	**-0.5**
HORT				S	**Sb**	**21 53 26.5**	**+0.6**
HORT	**Hortiatis**	**1.33**	**95**	*e*PN	**Pn**	**21 53 07.6**	**-0.9**
HORT	**Hortiatis**	**1.33**	**95**	*e*Pn	**Pn**	**21 53 07.6**	**-0.9**
HORT	**Hortiatis**	**1.33**	**95**	P	**Pn**	**21 53 08.0**	**-0.5**
HORT				S	**Sb**	**21 53 26.5**	**+0.6**
SRN	**Sarande**	**1.35**	**231**	*i* PG	**Pn**	**21 53 08.8**	**+0.1**
SRN				*i* SG	**Sg**	**21 53 29.1**	**+1.5**
SRN	**Sarande**	**1.35**	**231**	P	**Pn**	**21 53 09.1**	**+0.4**
SRN				S	**Sg**	**21 53 29.4**	**+1.8**
SRN	**Sarande**	**1.35**	**231**	*i* Pg	**Pn**	**21 53 08.8**	**+0.1**
SRN	**Sarande**	**1.35**	**231**	P	**Pn**	**21 53 09.1**	**+0.4**
SRN				*i* Sg	**Sg**	**21 53 29.1**	**+1.5**
IGT	**Igoumenitsa**	**1.44**	**214**	P	**Pg**	**21 53 11.4**	**-0.4**
IGT				S	**Sg**	**21 53 31.6**	**+1.1**
IGT	**Igoumenitsa**	**1.44**	**214**	*e*PB	**Pn**	**21 53 09.1**	**-0.8**
IGT	**Igoumenitsa**	**1.44**	**214**	P	**Pn**	**21 53 11.4**	**-0.4**
IGT				S	**Sg**	**21 53 31.6**	**+1.1**
SOH	**Sokhos**	**1.51**	**86**	P	**Pn**	**21 53 10.6**	**-0.4**
SOH				S	**Sb**	**21 53 31.9**	**+0.7**
SOH	**Sokhos**	**1.51**	**86**	*e*PN	**Pn**	**21 53 11.4**	**+0.4**
SOH	**Sokhos**	**1.51**	**86**	P	**Pn**	**21 53 10.6**	**-0.4**
SOH	**Sokhos**	**1.51**	**86**	*e*Pn	**Pn**	**21 53 11.4**	**+0.4**
SOH				S	**Sb**	**21 53 31.9**	**+0.7**
KEK	**Kerkira**	**1.57**	**230**	*e*PN	**Pb**	**21 53 13.1**	**-0.1**
KEK	**Kerkira**	**1.57**	**230**	*e*Pn	**Pb**	**21 53 13.1**	**-0.1**
PLG	**Polygyros**	**1.62**	**102**	P	**Pn**	**21 53 12.8**	**+0.2**
PLG	**Polygyros**	**1.62**	**102**	*e*PN	**Pn**	**21 53 12.9**	**+0.3**
PLG	**Polygyros**	**1.62**	**102**	P	**Pn**	**21 53 12.8**	**+0.2**
PUK	**Puka**	**1.71**	**320**	*i* PN	**Pb**	**21 53 15.8**	**+0.2**
PUK				*i* SN	**Sn**	**21 53 35.3**	**-0.4**
PUK	**Puka**	**1.71**	**320**	*i* Pn	**Pb**	**21 53 15.8**	**+0.2**
PUK				*i* Sn	**Sn**	**21 53 35.3**	**-0.4**
SRS	**Serrai**	**1.73**	**76**	P	**Pn**	**21 53 13.6**	**-0.4**
SRS	**Serrai**	**1.73**	**76**	P	**Pn**	**21 53 13.6**	**-0.4**
FYTO	**Fytoko, Volos**	**1.79**	**137**	P	**Pn**	**21 53 14.5**	**-0.3**
FYTO	**Fytoko, Volos**	**1.79**	**137**	P	**Pn**	**21 53 14.5**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.82**	**161**	P	**Pn**	**21 53 15.3**	**+0.1**
MAKR				S	**Sn**	**21 53 38.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.82**	**161**	*e*PN	**Pn**	**21 53 15.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.82**	**161**	*e*Pn	**Pn**	**21 53 15.4**	**+0.2**
MAKR				S	**Sn**	**21 53 38.9**	**+0.8**
EVR	**Evrytania**	**1.85**	**169**	*e*PN	**Pn**	**21 53 15.8**	**+0.1**
EVR	**Evrytania**	**1.85**	**169**	*e*Pn	**Pn**	**21 53 15.8**	**+0.1**
AGG	**Agios Georgios**	**1.86**	**156**	P	**Pn**	**21 53 15.8**	**0.0**
AGG	**Agios Georgios**	**1.86**	**156**	*e*PN	**Pn**	**21 53 15.8**	**0.0**
AGG	**Agios Georgios**	**1.86**	**156**	P	**Pn**	**21 53 15.8**	**0.0**
BCI	**Bajram Curri**	**1.90**	**330**	*i* PN	**Pb**	**21 53 18.5**	**-0.3**
BCI				*i* SN	**Sg**	**21 53 46.5**	**+1.2**
BCI	**Bajram Curri**	**1.90**	**330**	*i* Pn	**Pb**	**21 53 18.5**	**-0.3**
PAIG	**Paliouri**	**1.94**	**114**	P	**Pn**	**21 53 16.7**	**-0.2**
PAIG	**Paliouri**	**1.94**	**114**	*e*PB	**Pn**	**21 53 16.5**	**-0.4**
PAIG	**Paliouri**	**1.94**	**114**	P	**Pn**	**21 53 16.7**	**-0.2**
NVR	**Nevrokopi**	**1.99**	**71**	P	**Pn**	**21 53 18.1**	**+0.6**
NVR	**Nevrokopi**	**1.99**	**71**	P	**Pn**	**21 53 18.1**	**+0.6**
NEO	**Neokhori**	**2.02**	**134**	*e*PB	**Pn**	**21 53 17.5**	**-0.4**
LKD2	**Lefkada island**	**2.02**	**196**	P	**Pn**	**21 53 19.4**	**+1.5**
LKD2				S	**Sb**	**21 53 45.1**	**-0.6**
LKD2	**Lefkada island**	**2.02**	**196**	*e*PN	**Pn**	**21 53 18.8**	**+0.9**
LKD2	**Lefkada island**	**2.02**	**196**	*e*Pn	**Pn**	**21 53 18.8**	**+0.9**
LKD2	**Lefkada island**	**2.02**	**196**	P	**Pn**	**21 53 19.4**	**+1.5**
LKD2				S	**Sb**	**21 53 45.1**	**-0.6**
PDO	**Prodromos**	**2.14**	**184**	P	**Pb**	**21 53 21.8**	**-1.0**
PDO	**Prodromos**	**2.14**	**184**	P	**Pb**	**21 53 21.8**	**-1.0**
AXAR	**Agios Charalam**	**2.20**	**153**	P	**Pn**	**21 53 20.8**	**+0.3**
AXAR				S	**Sn**	**21 53 49.5**	**+1.9**
AXAR	**Agios Charalam**	**2.20**	**153**	P	**Pn**	**21 53 20.8**	**+0.3**
AXAR				S	**Sn**	**21 53 49.5**	**+1.9**
VTS	**Vitosha**	**2.31**	**36**	P	**Pn**	**21 53 23.0**	**+0.9**
VTS	**Vitosha**	**2.31**	**36**	P	**Pn**	**21 53 23.0**	**+0.9**
PDG	**Podgorica**	**2.32**	**318**	P	**Pn**	**21 53 23.9**	**+1.9**
PDG				S	**Sb**	**21 53 54.1**	**-0.3**
PDG	**Podgorica**	**2.32**	**318**	*e*Pg	**Pn**	**21 53 24.0**	**+1.9**
PDG				*e*Sg	**Sb**	**21 53 54.6**	**+0.2**
PDG	**Podgorica**	**2.32**	**318**	P	**Pn**	**21 53 23.9**	**+1.9**
PDG				S	**Sb**	**21 53 54.1**	**-0.3**
EFP	**Efpalio**	**2.34**	**170**	P	**Pn**	**21 53 23.6**	**+1.2**
EFP				S	**Sn**	**21 53 53.0**	**+2.1**
EFP	**Efpalio**	**2.34**	**170**	P	**Pn**	**21 53 23.6**	**+1.2**
EFP				S	**Sn**	**21 53 53.0**	**+2.1**
KALE	**Kalithea**	**2.41**	**165**	P	**Pn**	**21 53 23.4**	**0.0**
KALE				S	**Sn**	**21 53 54.0**	**+1.1**
KALE	**Kalithea**	**2.41**	**165**	*e*PN	**Pn**	**21 53 23.4**	**0.0**
KALE	**Kalithea**	**2.41**	**165**	P	**Pn**	**21 53 23.4**	**0.0**
KALE				S	**Sn**	**21 53 54.0**	**+1.1**
LKR	**Lokris**	**2.43**	**148**	*e*PN	**Pn**	**21 53 23.9**	**+0.3**
LKR	**Lokris**	**2.43**	**148**	*e*Pn	**Pn**	**21 53 23.9**	**+0.3**
DSF	**Desfina**	**2.49**	**158**	P	**Pn**	**21 53 24.1**	**-0.3**
DSF				S	**Sn**	**21 53 55.4**	**+0.8**
DSF	**Desfina**	**2.49**	**158**	P	**Pn**	**21 53 24.1**	**-0.3**
DSF				S	**Sn**	**21 53 55.4**	**+0.8**
SELS	**Selova**	**2.49**	**356**	*e*Pn	**Pn**	**21 53 25.9**	**+1.4**
SELS				*e*Sn	**Sn**	**21 53 54.4**	**-0.3**
LAKA	**Lakka**	**2.54**	**169**	P	**Pn**	**21 53 25.2**	**+0.1**
LAKA	**Lakka**	**2.54**	**169**	*e*PN	**Pn**	**21 53 25.4**	**+0.3**
LAKA	**Lakka**	**2.54**	**169**	*e*Pn	**Pn**	**21 53 25.4**	**+0.3**
ZAPS	**Zavoj**	**2.71**	**20**	*e*Pn	**Pn**	**21 53 28.8**	**+1.3**
ZAPS				*e*Sn	**Sn**	**21 54 00.4**	**+0.3**
SJES	**Sjenica**	**2.73**	**338**	*e*Pn	**Pn**	**21 53 29.3**	**+1.5**
SJES				*e*Sn	**Sn**	**21 54 00.8**	**0.0**
DRO	**Drossia**	**2.79**	**174**	P	**Pn**	**21 53 30.6**	**+2.0**
DRO	**Drossia**	**2.79**	**174**	P	**Pn**	**21 53 30.6**	**+2.0**
GUR	**Goura**	**2.89**	**165**	P	**Pn**	**21 53 30.5**	**+0.4**
GUR				S	**Sn**	**21 54 05.2**	**+0.4**
GUR	**Goura**	**2.89**	**165**	P	**Pn**	**21 53 30.5**	**+0.4**
GUR				S	**Sn**	**21 54 05.2**	**+0.4**
IVAS	**Ivanjica**	**2.98**	**343**	*e*Pn	**Pn**	**21 53 31.6**	**+0.4**
IVAS				*e*Sn	**Sn**	**21 54 07.0**	**+0.1**
IVAS	**Ivanjica**	**2.98**	**343**	*e*Pn	**Pn**	**21 53 31.6**	**+0.4**
IVAS	**Ivanjica**	**2.98**	**343**	*e*Sn	**Sn**	**21 54 07.0**	**+0.1**
GRUS	**Gruza**	**3.19**	**352**	*e*Pn	**Pn**	**21 53 34.6**	**+0.6**
GRUS				*e*Sn	**Sn**	**21 54 11.2**	**-0.7**
GRUS	**Gruza**	**3.19**	**352**	*e*Pn	**Pn**	**21 53 34.6**	**+0.6**
GRUS	**Gruza**	**3.19**	**352**	*e*Sn	**Sn**	**21 54 11.2**	**-0.7**
STON	**Ston**	**3.48**	**309**	*e*Pn	**Pn**	**21 53 38.8**	**+0.8**
STON				Sn	**Sn**	**21 54 18.9**	**0.0**
STON	**Ston**	**3.48**	**309**	*e*Pn	**Pn**	**21 53 38.7**	**+0.8**
STON				Sn	**Sn**	**21 54 18.9**	**0.0**
DIVS	**Divibare**	**3.51**	**344**	P	**Pn**	**21 53 38.6**	**0.0**
DIVS	**Divibare**	**3.51**	**344**	*e*Pn	**Pn**	**21 53 38.9**	**+0.3**
DIVS				*e*Sn	**Sn**	**21 54 18.3**	**-1.7**
DIVS	**Divibare**	**3.51**	**344**	P	**Pn**	**21 53 38.6**	**0.0**
DIVS	**Divibare**	**3.51**	**344**	*e*Pn	**Pn**	**21 53 38.9**	**+0.3**
DIVS				*e*Sn	**Sn**	**21 54 18.3**	**-1.7**
DID	**Didima**	**3.54**	**155**	P	**Pn**	**21 53 39.3**	**+0.5**
DID				S	**Sn**	**21 54 20.4**	**-0.1**
DID	**Didima**	**3.54**	**155**	P	**Pn**	**21 53 39.3**	**+0.5**
DID				S	**Sn**	**21 54 20.4**	**-0.1**
NVLJ	**Novalja**	**6.13**	**311**	*e*Pn	**Pn**	**21 54 14.0**	**-0.5**
NVLJ				Sn	**Sn**	**21 55 21.4**	**-2.9**
NVLJ	**Novalja**	**6.13**	**311**	*e*Pn	**Pn**	**21 54 13.9**	**-0.5**

IDC **16** *22:04:46.5±0.6,24.˚01N×125.˚03E,h0km,mb4.6/34, mb1 4.7/37,mb1mx4.6/42,mbtmp4.6/37,ML4.1/3,MS3.6/11, Ms1 3.6/11,ms1mx3.3/48,Error ellipse: s-maj=15.3km s-min=13.2km az=132.0*
ISCJB **16** *22:04:50.7±0.4,24.˚00N±0.˚03×125.˚16E±0.˚02,h40km±3km, mb4.7/97,MS3.7/16,Error ellipse: s-maj=4.8km s-min=2.8km az=155.6*
MOS **16** *22:04:50.2±1.0,23.˚99N×125.˚11E,h38km,mb5.0/36,Error ellipse: s-maj=8.8km s-min=5.1km az=116.6*
NEIC **16** *22:04:53.0±0.5,24.˚05N×125.˚04E,h44km±4km,mb4.9/41, MW4.5(NIED),Error ellipse: s-maj=5.3km s-min=3.4km az=139.0*
NEIC Recorded [1 JMA] on Iriomote-jima, Ishigaki-jima and Miyako-jima.
JMA **16** *22:04:52.3±0.3,23.˚91N×125.˚10E,h30km,M4.7*
JMA Felt I J1.
BJI **16** *22:04:52.7,24.˚10N×125.˚00E,h58km,mB4.6/30,mb4.4/41, Ms4.2/26,Ms7 4.0/23*
NIED **16** *22:05:00,23.˚90N×125.˚10E,h44km,Mw4.6 Best double couple: M0 7.74000×10^15 NP1:φ=355.00000°,δ=35.00000°, λ=119.00000°. NP2:φ=141.00000°,δ=60.00000°,λ=71.00000°.*
ISC 16 22:04:53.7±0.5,**23.˚99N**±0.˚04×**125.˚12E**±0.˚03,**h54**km±3km, **h54**km**:pP-P,n323,**σ1§**51**/372,**mb4.7**/97,**MS3.6**/17, **24C-21D,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.75**	**330**	P	**Pn**	**22 05 07.4**	**-0.8**
JTJ				S	**Sn**	**22 05 18.0**	**-0.8**
JOGS	**Gusukube**	**0.81**	**19**	P	**Pn**	**22 05 08.5**	**-0.5**
JOGS				S	**Sn**	**22 05 20.8**	**+0.5**
JMJ	**Miyako jima 2**	**0.83**	**11**	P	**Pn**	**22 05 08.7**	**-0.7**
JMJ				S	**Sn**	**22 05 20.9**	**+0.1**
JIJ	**Ishigaki jima**	**0.96**	**293**	P	**Pn**	**22 05 10.0**	**-1.0**
JIJ				S	**Sn**	**22 05 22.2**	**-1.6**
JKRS	**Kuro-shima**	**1.04**	**284**	P	**Pn**	**22 05 11.6**	**-0.4**
JKRS				S	**Sn**	**22 05 24.9**	**-0.7**
HATJ	**Hateruma jima**	**1.20**	**273**	P	**Pn**	**22 05 13.3**	**-0.9**
HATJ				S	**Sn**	**22 05 27.8**	**-1.7**
IRIF	**Iriomote-Funau**	**1.31**	**285**	P	**Pn**	**22 05 15.0**	**-0.7**
IRIF				S	**Sn**	**22 05 31.2**	**-0.9**
YOJ	**Yonaguni jima**	**1.98**	**284**	P	**Pn**	**22 05 23.9**	**-0.8**
YOJ				S	**Sn**	**22 05 45.8**	**-2.6**
JKE	**Kume jima 2**	**2.77**	**33**	P	**Pn**	**22 05 33.8**	**-1.9**
JKE				S	**Sn**	**22 06 05.4**	**-2.5**
JJT2	**Tamagusuku 2**	**3.21**	**48**	P	**Pn**	**22 05 40.9**	**-0.7**
NACB	**Ninganchiao**	**3.22**	**274**	*e*Pn	**Pn**	**22 05 39.8**	**-2.0**
NACB				*e*Sn	Sn	22 06 08.8	-10
JAGN	**Aguni-jima**	**3.22**	**36**	P	**Pn**	**22 05 40.2**	**-1.6**
TATO	**Taipei**	**3.45**	**287**	*e*Pn	**Pn**	**22 05 44.3**	**-0.6**
TATO				*e*Sn	**Sn**	**22 06 22.1**	**-2.4**
YHNB	**Yeheng**	**3.48**	**282**	*e*Pn	**Pn**	**22 05 45.5**	**+0.1**
YHNB				*e*Sn	**Sn**	**22 06 22.5**	**-2.9**
YULB	**Yu-li**	**3.55**	**261**	*e*Pn	**Pn**	**22 05 43.6**	**-2.7**
YULB				*e*Sn	Sn	22 06 19.8	-7.3
SSLB	**Suanglung**	**3.81**	**268**	*e*Pn	**Pn**	**22 05 48.2**	**-1.8**
SSLB				*e*Sn	**Sn**	**22 06 28.9**	**-4.7**
TWG	**Pinlang**	**3.89**	**253**	*e*Pn	**Pn**	**22 05 48.0**	**-3.0**
TWG				*e*Sn	Sn	22 06 27.3	-8.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**3.98**	**40**	P	**Pn**	**22 05 50.5**	**-1.6**
JIH				S	**Sn**	**22 06 34.2**	**-3.3**
JOW	**Kunigami**	**4.02**	**45**	P	**Pn**	**22 05 51.0**	**-1.8**
JOW				S	**Sn**	**22 06 35.1**	**-3.5**
JOW	**Kunigami**	**4.02**	**45**	*e*Pn	**Pn**	**22 05 51.2**	**-1.5**
TPUB	**Ta-pu**	**4.17**	**261**	*e*Pn	**Pn**	**22 05 53.9**	**-1.0**
TPUB				*e*Sn	**Sn**	**22 06 40.0**	**-2.3**
JTK	**Tokunoshima**	**5.12**	**42**	P	**Pn**	**22 06 05.2**	**-2.6**
JTK				S	**Sn**	**22 07 00.1**	**-5.5**
JAMN	**Amaminishikomi**	**5.59**	**40**	P	**Pn**	**22 06 11.1**	**-3.1**
JAMN				S	Sn	22 07 11.0	-6.1
JMZ	**Minamidaito 2**	**5.83**	**71**	P	Pn	22 06 13.9	-3.7
JMZ				S	Sn	22 07 14.1	-9.1
JAM	**Amami Oshima**	**5.97**	**42**	P	**Pn**	**22 06 16.7**	**-2.7**
JAM				S	Sn	22 07 19.9	-6.6
QZH	**Quanzhou**	**6.02**	**280**↓	*i* Pn	Pn	22 06 14.8	-5.3
QZH				Sn	Sn	22 07 15.9	-12
QZH				smax	smax		
	comp=N,250nm,0.3s						
QZH				smax	smax		
	comp=E,260nm,0.7s						
JZK	**Kikaishima**	**6.13**	**44**	P	**Pn**	**22 06 19.5**	**-2.2**
CVP	**Callao Caves**	**6.97**	**207**↓	*e*P	**Pn**	**22 06 31.0**	**-2.3**
CVP				*e*S	Sn	22 07 43.4	-7.9
PALP	**Palanan**	**7.34**	**201**	*e*P	**Pn**	**22 06 37.2**	**-1.1**
ABRA	**Dolores**	**7.54**	**214**	*e*P	**Pn**	**22 06 40.6**	**-0.3**
CAUP	**Cauayan**	**7.66**	**204**	*e*P	**Pn**	**22 06 43.8**	**+1.1**
NJ2	**Nanjing**	**9.75**	**327**	*e*P	**Pn**	**22 07 12.3**	**+1.1**
NJ2				pmax	pmax		
	comp=E,10.0nm,0.5s						
JNU	**Nakatsue**	**10.41**	**28**	*e*Pn	**Pn**	**22 07 18.6**	**-1.7**
JNU				*e*Sn	**Sn**	**22 09 12.2**	**-3.2**
JNU	**Nakatsue**	**10.41**	**28**	Pn	**Pn**	**22 07 18.3**	**-2.0**
	comp=E,1.3nm,0.3s,baz=75,slow=4.9,SNR=14						
JNU				Sn	**Sn**	**22 09 12.1**	**-3.3**
	comp=E,0.7nm,0.3s,baz=191,slow=16,SNR=4.7						
JNU				LR	LR	22 11 54.9	
	comp=E,106nm,18.9s,baz=202,slow=41						
WHN	**Wuhan**	**11.58**	**307**	P	**Pn**	**22 07 38.3**	**+2.0**
WHN				LR	LR		
	comp=E,520nm,16.9s						
KSAR	**Wonju Array Be**	**13.62**	**9**	Pn	**Pn**	**22 08 02.8**	**-1.2**
KSRS	**Korea Array**	**13.63**	**10**	Pn	**Pn**	**22 08 02.8**	**-1.4**
	comp=E,0.4nm,0.3s,baz=190,slow=13,SNR=42						
KSRS				LR	LR	22 13 55.4	
	comp=E,132nm,20.2s,baz=188,slow=40						
KS01	**Wonju Array Si**	**13.65**	**9**	*e*Pn	**Pn**	**22 08 03.7**	**-0.8**
QIZ	**Qiongzhong**	**15.04**	**254**	P	**Pn**	**22 08 23.3**	**+0.3**
QIZ				S	**Sn**

comp=E,105nm,19.5s,baz=166,slow=37
LZH Lanzhou 21.95 308 P **P** **22 09 43.3 +0.3**
LZH pP **pP** **22 09 57.5 +2.1**
LZH sP **sP** **22 10 04.0 +1.8**
LZH *e*S **S** **22 13 41.1 -1.4**
LZH sS Sn 22 13 58.3 +2.9
LZH SS **SnSn** **22 14 16.8 +5.3**
LZH pmax pmax
comp=E,13nm,1.0s
LZH pmax pmax
comp=E,69nm,5.9s
LZH LR LR
comp=E,400nm,13.8s
LZH LR LR
comp=E,420nm,12.0s
LZH LR LR
comp=E,530nm,14.9s
ERM Erimo 23.41 36 *ce*P **P** **22 09 56.4 -1.4**
ERM pmax pmax
comp=Z,41nm,1.0s
ASAJ Asahikawa 24.66 31 P **P** **22 10 09.2 0.0**
ASAJ Asahikawa 24.66 31 P **P** **22 10 09.2 0.0**
comp=Z,14nm,0.4s,baz=16,slow=30,SNR=10
ASAJ LR LR 22 20 36.4
comp=Z,156nm,18.1s,baz=232,slow=38
SBUM Sibu 24.78 212 *e*P **P** **22 10 10.3 -0.3**
comp=Z,25nm,0.9s
CHTO Chiang Mai 24.89 263 *e*P **P** **22 10 12.0 +0.4**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 24.89 263 *e*P **P** **22 10 12.0 +0.4**
comp=Z,2.0nm,0.9s
CM01 Chiang Mai Arr 24.99 262 *e*P **P** **22 10 12.8 +0.3**
CMAR Chiang Mai Arr 24.99 262 P **P** **22 10 12.4 -0.2**
CMAR Chiang Mai Arr 24.99 262 P **P** **22 10 12.4 -0.2**
comp=Z,3.6nm,0.9s,baz=61,slow=8.8,SNR=20
CMAR LR LR 22 20 52.2
comp=Z,118nm,19.9s,baz=70,slow=39
HIA Hailar 25.58 352 *e*P **P** **22 10 17.0 -0.5**
comp=Z,9.7nm,0.7s
HABR Khabarovsk 25.67 15 *e*P **P** **22 10 16.8 -1.5**
HABR *e**PP **pP** **22 10 31.5 -0.4**
HABR *e* 22 10 56.0
HABR *e* 22 13 45.8
HABR *e*S **S** **22 14 41.6 -1.3**
HABR *e*SS **SnSn** **22 15 42.3 +0.5**
HABR *e* 22 21 09.5
HABR MLR MLR
comp=Z,78nm,18.0s
KLR Kul'dur 25.73 10 *e*P P 22 10 13.8 -5.1
GTA Gaotai 26.33 312 *e*P **P** **22 10 23.6 -1.0**
GTA pP **pP** **22 10 35.1 -3.2**
GTA sP **sP** **22 10 41.1 -3.6**
GTA PcP **PcP** **22 13 50.5 +1.0**
GTA S **S** **22 14 49.8 -4.1**
GTA sS sS 22 15 10.3 -6.8
GTA SS **SnSn** **22 15 59.8 +1.5**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,45nm,5.5s
GTA LR LR
comp=Z,160nm,16.4s
GTA LR LR
comp=Z,120nm,14.3s
GTA LR LR
comp=Z,95nm,17.1s
KSM Kuching 26.58 215 *e*P **P** **22 10 27.6 +0.7**
comp=Z,18nm,0.9s
YSS Yuzh-Sakhalins 26.92 27 *e*P **P** **22 10 29.8 +0.2**
YSS *e* 22 10 49.0
YSS pmax pmax
comp=Z,30nm,1.0s
ULN Ulaanbaatar 27.82 333 *e*P **P** **22 10 36.9 -1.0**
comp=Z,4.9nm,0.8s
SONM Songino Array 28.07 333 P **P** **22 10 38.6 -1.5**
SONM PcP **PcP** **22 13 53.9 +0.4**
SONM Songino Array 28.07 333 P **P** **22 10 38.6 -1.5**
comp=Z,1.7nm,0.4s,baz=153,slow=9.2,SNR=35
SONM PcP **PcP** **22 13 53.9 +0.4**
comp=Z,1.0nm,1.0s,baz=134,slow=4.2,SNR=4.0
SONM LR LR 22 21 31.1
comp=Z,63nm,19.9s,baz=171,slow=36
SONA1 Songino Array 28.07 333 *e*P **P** **22 10 38.3 -1.9**
IPM Ipoh 30.25 234 *e*P **P** **22 10 59.2 -0.5**
comp=Z,14nm,1.0s
LSA Lhasa 30.76 288 P **P** **22 11 05.0 +0.4**
LSA Lhasa 30.76 288 *e*P **P** **22 11 02.6 -2.0**
LSA pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 30.76 288 *e*P **P** **22 11 02.6 -2.0**
comp=Z,2.5nm,0.8s
TLY Talaya 32.19 335 *e*P **P** **22 11 16.7 +0.4**
TLY pmax pmax
comp=Z,2.0nm,0.7s
TLY MLR MLR
comp=Z,96nm,17.0s
PSI Prapat 32.93 234 P **P** **22 11 23.8 +0.5**
PSI Prapat 32.93 234 P **P** **22 11 23.8 +0.5**
comp=Z,22nm,0.9s,baz=25,slow=4.3,SNR=13
BKNI Bangkinang 33.14 228 *e*P **P** **22 11 25.5 +0.5**
comp=Z,42nm,1.0s
TAPN Taplejung 33.80 284 *e*P **P** **22 11 32.8 +1.8**
comp=Z,47nm,1.1s
ODAN Odare 34.11 283 *e*P **P** **22 11 35.2 +1.5**
comp=Z,30nm,0.8s
RAMN Ramite 34.81 283 *e*P **P** **22 11 41.1 +1.4**
comp=Z,14nm,0.7s
GSI Gunungsitoli 34.92 234 *e*P **P** **22 11 40.2 -0.3**
comp=Z,16nm,0.7s
JIRN Jiri 35.13 284 *e*P **P** **22 11 44.0 +1.4**
comp=Z,22nm,1.0s
GUN Gumba 35.39 285 *e*P **P** **22 11 46.1 +1.2**
comp=Z,33nm,1.0s
PKI Pulchoki 35.83 284 *e*P **P** **22 11 49.3 +0.7**
KKN Kakani 35.93 285 *e*P **P** **22 11 50.3 +1.0**
comp=Z,17nm,0.8s
DMN Daman 36.09 284 *e*P **P** **22 11 51.7 +0.9**
comp=Z,17nm,0.8s
WMQ Urumqi 36.41 312 P **P** **22 11 53.6 +0.5**
WMQ pP **pP** **22 12 08.8 +1.8**
WMQ sP **sP** **22 12 15.9 +2.5**
WMQ pmax pmax
comp=Z,2.0nm,0.9s
WMQ LR LR
comp=Z,97nm,20.4s
GKN Gorkha 36.48 285 *e*P **P** **22 11 54.7 +0.7**
comp=Z,16nm,0.8s
DANN Dangsing 37.24 286 *e*P **P** **22 12 01.7 +1.1**
comp=Z,20nm,0.8s
PEA0 Petropavlovsk- 38.08 32 *e*P **P** **22 12 06.7 -0.2**
PETK Petropavlovsk- 38.08 32 P **P** **22 12 07.1 +0.2**
PETK Petropavlovsk- 38.08 32 P **P** **22 12 07.1 +0.2**
PETK Petropavlovsk- 38.08 32 P **P** **22 12 07.1 +0.2**
comp=Z,7.3nm,0.8s,baz=182,slow=3.1,SNR=11
PETK LR LR 22 28 12.3
comp=Z,70nm,21.5s,baz=230,slow=37
YAK Yakutsk 38.15 3 *e*P **P** **22 12 06.3 -1.1**
H11N1 WAKE ISLAND Hy 38.91 88 T T 22 53 44.1
baz=286,slow=75,SNR=4.4
H11N2 WAKE ISLAND Hy 38.91 88 T T 22 53 44.7
baz=286,slow=75,SNR=7.6
H11N3 WAKE ISLAND Hy 38.92 88 T T 22 53 49.5
baz=286,slow=75,SNR=4.7
H11S3 WAKE ISLAND Hy 39.03 90 T T 22 54 04.3
baz=279
H11S1 WAKE ISLAND Hy 39.04 90 T T 22 54 34.3
baz=279
H11S2 WAKE ISLAND Hy 39.05 90 T T 22 54 35.9
baz=279
MK01 Makanchi Array 40.99 315 *e*P **P** **22 12 31.0 -0.3**
MK31 Makanchi Array 41.00 315 *i*P **P** **22 12 31.0 -0.4**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 41.00 315 *e*P **P** **22 12 31.2 -0.2**
MKAR Makanchi Array 41.00 315 *e*P **P** **22 12 31.2 -0.2**
MKAR Makanchi Array 41.00 315 P **P** **22 12 30.9 -0.6**
comp=Z,5.5nm,0.6s,baz=100,slow=9.1,SNR=88
COEN Coen 41.64 153 *e*P **P** **22 12 37.8 +0.9**
comp=Z,68nm,0.9s
FITZ Fitzroy Crossi 41.84 179 *e*P **P** **22 12 40.8 +2.4**
comp=Z,6.9nm,0.8s
ZAA0 Zalesovo Array 42.40 325 *e*P **P** **22 12 41.4 -1.3**
ZALV Zalesovo Beam 42.40 325 P **P** **22 12 41.3 -1.4**
ZALV 22 14 34.8
ZALV Zalesovo Beam 42.40 325 P **P** **22 12 41.3 -1.4**
ZALV PcP **PcP** **22 14 34.8 -0.2**
ZALV Zalesovo Beam 42.40 325 P **P** **22 12 41.3 -1.4**
comp=Z,7.0nm,0.5s,baz=111,slow=8.3,SNR=45
ZALV PcP **PcP** **22 14 34.8 -0.2**
comp=Z,0.9nm,0.6s,baz=101,slow=1.5,SNR=3.0
SEY Seymchan 42.99 18 *ce*P **P** **22 12 47.7 +0.4**
SEY Seymchan 42.99 18 P **P** **22 12 47.9 +0.6**
SEY Seymchan 42.99 18 P **P** **22 12 47.9 +0.6**
comp=Z,5.6nm,0.6s,baz=221,slow=5.8,SNR=26
NVS Novosibirsk 43.64 326 *e*P P 22 12 48.5 -4.1
KSH Kashi 44.02 303 ⇑*i*P P 22 12 59.8 +3.6
KSH *e*PP **PcP** **22 14 44.6 +3.6**
KSH *e*PcS **PcS** **22 18 36.8 +2.7**
KSH *e*S **S** **22 19 27.3 +2.7**
KSH *e*sS sS 22 19 53.5 +4.9
KSH *e*SS **SS** **22 22 37.0 -6.1**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,79nm,4.0s
KSH LR LR
comp=Z,150nm,6.7s
KSH LR LR
comp=Z,180nm,6.3s
KSH LR LR
comp=Z,160nm,6.8s
ULHL Ulahol 44.15 307 *i*P **P** **22 12 58.7 +1.5**
ULHL Ulahol 44.15 307 P **P** **22 12 58.7 +1.5**
SNR=6.0
KURK Kurchatov 44.57 319 P **P** **22 13 00.2 0.0**
KURK 22 14 43.8
KURK Kurchatov 44.57 319 P **P** **22 13 00.2 0.0**
KURK PcP **PP** **22 14 43.8 -1.1**
WRAB Tennant Creek 44.58 168 *ce*P **P** **22 12 59.9 -0.6**
WRAB pmax pmax
comp=Z,22nm,1.2s
WRA Warramunga Arr 44.59 168 P **P** **22 13 00.8 +0.2**
WRA PcP **PcP** **22 14 43.4 +0.5**
WRA Warramunga Arr 44.59 168 P **P** **22 13 00.8 +0.2**
comp=Z,2.4nm,0.8s,baz=349,slow=8.8,SNR=17
WRA PcP **PcP** **22 14 43.4 +0.5**
comp=Z,0.8nm,0.8s,baz=333,slow=3.7,SNR=2.5
KURBB Kurchatov Arra 44.59 319 P **P** **22 13 00.2 -0.2**
comp=Z,8.8nm,0.7s,baz=109,slow=8.2,SNR=93
KURBB PcP **PcP** **22 14 43.8 +1.3**
comp=Z,1.0nm,0.9s,baz=114,slow=3.1,SNR=3.9
TKM2 Tokmak 2 44.72 307 *e*P **P** **22 13 02.6 +0.8**
TKM2 pmax pmax
comp=Z,17nm,0.6s
TKM2 Tokmak 2 44.72 307 P **P** **22 13 02.9 +1.1**
SNR=24
TKM2 Tokmak 2 44.72 307 *e*P **P** **22 13 02.6 +0.8**
comp=Z,16nm,0.6s
KBK Karagaybulak 45.16 307 *i*P **P** **22 13 06.4 +1.2**
KBK Karagaybulak 45.16 307 P **P** **22 13 06.4 +1.2**
SNR=10.0
CHMS Chumysh 45.35 307 *i*P **P** **22 13 07.3 +0.8**
CHMS Chumysh 45.35 307 P **P** **22 13 07.4 +0.8**
SNR=13
UCH Uchtor 45.42 306 *i*P **P** **22 13 09.2 +1.6**
UCH Uchtor 45.42 306 P **P** **22 13 09.2 +1.6**
SNR=18
AAK Ala-Archa 45.49 307 *e*P **P** **22 13 08.3 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 45.49 307 P **P** **22 13 08.6 +0.8**
SNR=5.3
AAK Ala-Archa 45.49 307 *e*P **P** **22 13 08.3 +0.5**
comp=Z,4.7nm,0.8s
AAK Ala-Archa 45.49 307 P **P** **22 13 08.1 +0.3**
comp=Z,3.9nm,0.6s,baz=123,slow=5.8,SNR=23
USP Ospenovka 45.57 308 *i*P **P** **22 13 08.9 +0.6**
USP Ospenovka 45.57 308 P **P** **22 13 08.9 +0.6**
SNR=5.9
AML Almayashu 46.01 306 *i*P **P** **22 13 13.6 +1.4**
AML Almayashu 46.01 306 P **P** **22 13 13.7 +1.4**
SNR=11
EKS2 Erkin-Say 46.01 307 *e*P **P** **22 13 12.4 +0.5**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 46.01 307 P **P** **22 13 12.9 +0.9**
SNR=7.7
EKS2 Erkin-Say 46.01 307 *e*P **P** **22 13 12.4 +0.5**
comp=Z,3.9nm,0.8s
TIXI Tiksi 47.73 2 *ce*P **P** **22 13 23.6 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
AS01 Alice Springs 48.14 169 *e*P **P** **22 13 29.2 +0.7**
KK31 Karatay Array 48.45 307 *i*P **P** **22 13 30.7 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 48.45 307 *e*P **P** **22 13 31.6 +0.8**
KKAR Karatay Array 48.45 307 *e*P **P** **22 13 31.6 +0.8**
KBL Kabul 49.49 296 *e*P **P** **22 13 39.9 +0.8**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 49.49 296 *e*P **P** **22 13 39.9 +0.8**
comp=Z,8.1nm,0.9s
BVAR Borovoye Array 50.11 320 P **P** **22 13 43.1 -0.2**
BVAR 22 15 01.5
BVAR Borovoye Array 50.11 320 P **P** **22 13 43.1 -0.2**
BVAR PcP **PcP** **22 15 01.5 -0.6**
BVAR Borovoye Array 50.11 320 P **P** **22 13 43.1 -0.2**
comp=Z,2.4nm,0.3s,baz=103,slow=8.2,SNR=19
BVAR PcP **PcP** **22 15 01.5 -0.6**
comp=Z,1.6nm,0.7s,baz=140,slow=1.9,SNR=4.7
BRVK Borovoye 50.18 320 *e*P **P** **22 13 42.6 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 50.18 320 *e*P **P** **22 13 42.6 -1.2**
comp=Z,9.1nm,0.8s
ABKAR Akbulak array 56.15 314 *e*P **P** **22 14 27.8 +0.1**
SVE Sverdlovsk 56.33 323 ⇑*i*P **P** **22 14 29.3 +0.4**
SVE pmax pmax
comp=Z,34nm,0.8s
AKTO Aktyubinsk 57.42 316 P **P** **22 14 35.9 -0.8**
AKTO Aktyubinsk 57.42 316 P **P** **22 14 35.9 -0.8**
AKTO Aktyubinsk 57.42 316 P **P** **22 14 35.9 -0.8**
comp=Z,3.3nm,0.9s,baz=92,slow=6.8,SNR=12
ARU Arti 57.43 323 *ce*P **P** **22 14 36.1 -0.5**
ARU S **S** **22 22 30.1 +0.6**
ARU pmax pmax
comp=Z,32nm,1.0s
STKA Stephens Creek 57.75 163 P **P** **22 14 38.7 -0.4**
STKA Stephens Creek 57.75 163 P **P** **22 14 38.7 -0.4**
comp=Z,1.6nm,0.3s,baz=315,slow=4.3,SNR=3.3
TNA Tin City 58.90 27 *e*P **P** **22 14 48.1 +1.4**
comp=Z,9.0nm,1.2s
DZM Mont Dzumac 60.92 135 LR LR 22 36 18.7
comp=Z,226nm,20.6s,baz=38,slow=31
PRGR Permogore 64.22 329 *e*P **P** **22 15 21.5 -1.1**
RSO Redoubt South 65.59 33 *e*P **P** **22 15 30.1 -1.7**
COLD Coldfoot 66.08 25 *e*P **P** **22 15 36.0 +1.3**
comp=Z,4.1nm,0.8s
KTH Kantishna Hill 66.13 29 *e*P **P** **22 15 35.8 +0.6**
comp=Z,97nm,2.3s
TRF Thorofare Moun 66.43 29 *e*P **P** **22 15 38.8 +1.6**
comp=Z,131nm,2.6s
RC01 Rabbit Creek A 66.98 32 *e*P **P** **22 15 41.3 +0.8**
comp=Z,114nm,2.1s
MCK McKinley 66.99 29 *e*P **P** **22 15 41.5 +0.9**
MCK pmax pmax
comp=Z,17nm,0.8s
MCK McKinley 66.99 29 *e*P **P** **22 15 41.5 +0.9**
comp=Z,17nm,0.8s
PMR Palmer 67.20 31 *e*P **P** **22 15 41.7 -0.2**
PMR pmax pmax
comp=Z,194nm,2.6s
PMR Palmer 67.20 31 *e*P **P** **22 15 41.7 -0.2**
comp=Z,194nm,2.6s
KLMR Klimovskoe 67.23 328 *e*P **P** **22 15 41.2 -0.9**
KLMR pmax pmax
comp=Z,21nm,1.4s
SEW Seward 67.27 33 *e*P **P** **22 15 42.3 0.0**
comp=Z,103nm,1.5s
VRHR Novokhopersk 67.72 317 *e*P **P** **22 15 43.4 -1.9**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
ILAR Eielson Array 67.73 28 P **P** **22 15 44.9 -0.3**
ILAR Eielson Array 67.73 28 P **P** **22 15 44.9 -0.3**
comp=Z,2.7nm,0.7s,baz=268,slow=3.1,SNR=49
IL1 Eielson Array 67.73 28 *e*P **P** **22 15 44.7 -0.4**
ZEI Tsey 67.88 308 *e*P **P** **22 15 46.1 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
KBZ Khabaz 68.39 309 P **P** **22 15 50.5 +0.8**
KBZ Khabaz 68.39 309 P **P** **22 15 50.5 +0.8**
KBZ Khabaz 68.39 309 P **P** **22 15 50.5 +0.8**
comp=Z,4.6nm,0.9s,baz=90,slow=5.1,SNR=7.3
KIV Kislovodsk 68.49 310 *ke*P **P** **22 15 50.0 -0.4**
KIV *i* 22 16 01.8
KIV pmax pmax
comp=Z,12nm,1.0s
DOT Dot Lake 69.15 29 *e*P **P** **22 15 54.6 +0.6**
comp=Z,12nm,0.8s
VORD Divnogorie 69.18 318 *e*P **P** **22 15 53.7 -0.8**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 69.21 318 *e*P **P** **22 15 53.6 -1.0**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
MENT Mentasta 69.45 29 *e*P **P** **22 15 56.5 +0.5**
BMRM Bremner River 69.47 31 *e*P **P** **22 15 57.0 +0.9**
comp=Z,39nm,1.3s
OBN Obninsk 69.86 322 P **P** **22 15 58.0 -0.5**
OBN *e* 22 16 10.3
EGAK Eagle 70.13 27 *e*P **P** **22 16 01.2 +1.1**
comp=Z,9.9nm,0.8s
SPITS Spitsbergen Ar 70.42 348 P **P** **22 16 02.3 +0.6**
SPITS Spitsbergen Ar 70.42 348 P **P** **22 16 02.3 +0.6**
comp=Z,4.3nm,0.6s,baz=85,slow=3.0,SNR=13
KEV Kevo 70.48 339 *e*P **P** **22 16 02.3 +0.2**
KEV pmax pmax
comp=Z,130nm,1.8s
KEV Kevo 70.48 339 *e*P **P** **22 16 02.3 +0.2**
comp=Z,130nm,1.8s
JOF Joensuu 70.62 331 *e*P **P** **22 16 04.1 +1.0**
JOF pmax pmax
comp=Z,5.0nm,0.4s
JOF Joensuu 70.62 331 *ep* **P** **22 16 04.1 +1.0**
comp=Z,5.4nm,0.4s
ARCES ARCESS Array B 71.05 338 P **P** **22 16 05.8 +0.2**
ARCES ARCESS Array B 71.05 338 P **P** **22 16 05.8 +0.2**
comp=Z,7.6nm,1.1s,baz=77,slow=8.5,SNR=5.2
DAWY Dawson 71.06 28 *e*P **P** **22 16 06.9 +1.1**
RAYN Ar Rayn 71.83 288 *e*P **P** **22 16 09.8 -1.4**
comp=Z,3.4nm,1.1s
INK Inuvik 72.04 23 *e*P **P** **22 16 12.0 +0.5**
comp=Z,20nm,0.9s
INK Inuvik 72.04 23 P **P** **22 16 12.5 +1.0**
comp=Z,17nm,0.8s,baz=292,slow=5.6
AFI Afiamalu 72.23 115 LR LR 22 43 38.4
comp=Z,48nm,21.7s,baz=190,slow=32
KAF Kangasniemi 73.08 331 *e*P **P** **22 16 18.5 +0.7**
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 73.08 331 *ep* **P** **22 16 18.5 +0.7**
comp=Z,2.9nm,0.4s
FINES FINESS Array B 73.41 330 P **P** **22 16 20.2 +0.5**
FINES FINESS Array B 73.41 330 P **P** **22 16 20.2 +0.5**
comp=Z,5.0nm,0.5s,baz=60,slow=5.7,SNR=59
AKASG Malin Array Be 75.38 319 *i*P **P** **22 16 30.8 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 75.38 319 P **P** **22 16 30.9 -0.6**
AKASG Malin Array Be 75.38 319 P **P** **22 16 30.9 -0.6**
comp=Z,6.2nm,0.7s,baz=57,slow=6.3,SNR=38
AK11 Malin Array Si 75.42 319 *e*P **P** **22 16 31.1 -0.6**
BRTR Keskin Array B 76.16 307 P **P** **22 16 36.9 +0.5**
BRTR Keskin Array B 76.16 307 P **P** **22 16 36.9 +0.5**
comp=Z,3.4nm,0.8s,baz=107,slow=4.0,SNR=19
ANTO Ankara 76.72 308 *e*P **P** **22 16 39.4 0.0**
ANTO pmax pmax
comp=Z,7.0nm,0.7s
ANTO Ankara 76.72 308 *e*P **P** **22 16 39.4 0.0**
comp=Z,6.9nm,0.7s
BR231 Keskin MP Arra 76.75 308 *e*P **P** **22 16 37.5 -2.1**
DLBC Dease Lake 77.26 31 P **P** **22 16 42.8 +0.8**
DLBC Dease Lake 77.26 31 P **P** **22 16 42.8 +0.8**
comp=Z,4.5nm,0.6s,baz=288,slow=6.4,SNR=4.1
SUW Suwalki 77.60 324 *e*P **P** **22 16 43.7 -0.2**
SUW Suwalki 77.60 324 *e*P **P** **22 16 43.7 -0.2**
CFR Carcaliu 78.04 314 ⇓P P 22 16 40.3 -6.2
CFR Carcaliu 78.04 314 ⇓*i*P P 22 16 40.3 -6.2
RES Resolute Bay 78.25 10 *e*P **P** **22 16 46.8 -0.4**
TLB Topalu 78.32 314 ⇓P **P** **22 16 48.4 +0.3**
TLB Topalu 78.32 314 ⇓*i*P **P** **22 16 48.4 +0.3**
PRAR RASCA 78.44 317 ⇓*i*P **P** **22 16 48.7 0.0**
TESR Tescani 78.50 316 ⇓*i*P **P** **22 16 49.1 0.0**
EIL Elat 78.65 297 P **P** **22 16 49.6 -0.6**
EIL Elat 78.65 297 P **P** **22 16 49.6 -0.6**
comp=Z,2.1nm,0.5s,baz=0.0,slow=4.0,SNR=3.8
VRI Vrincioaia 78.69 315 ⇑P **P** **22 16 50.9 +0.7**
VRI Vrincioaia 78.69 315 ⇑*i*P **P** **22 16 50.9 +0.7**
BURAR Bucovina Array 78.97 317 ⇑P **P** **22 16 52.2 +0.4**
BURAR Bucovina Array 78.97 317 ⇑*i*P **P** **22 16 52.2 +0.4**
BUR04 Bucovina Ar. S 78.97 317 *e*P **P** **22 16 51.5 -0.2**
MLR Muntele Rosu 79.35 315 ⇑*i*P **P** **22 16 55.0 +1.1**
MLR Muntele Rosu 79.35 315 P **P** **22 16 54.8 +0.9**
MLR Muntele Rosu 79.35 315 P **P** **22 16 54.8 +0.9**
comp=Z,1.3nm,0.8s,baz=82,slow=4.6,SNR=6.7
HFS Hagfors 79.46 332 P **P** **22 16 54.0 -0.1**
HFS Hagfors 79.46 332 P **P** **22 16 54.0 -0.1**
comp=Z,15nm,0.8s,baz=72,slow=4.8,SNR=20
DOPR Dopca 79.52 316 ⇓*i*P **P** **22 16 55.4 +0.7**
KWP Kalwaria Pacla 79.66 320 *e*P **P** **22 16 55.7 +0.3**
KWP pmax pmax
comp=Z,46nm,1.4s
KWP Kalwaria Pacla 79.66 320 *e*P **P** **22 16 56.0 +0.6**
KWP Kalwaria Pacla 79.66 320 ⇓*i*P **P** **22 16 56.1 +0.6**
KWP Kalwaria Pacla 79.66 320 *e*P **P** **22 16 55.7 +0.3**
comp=Z,46nm,1.4s
NB2 NORSAR Subarra 80.05 333 P **P** **22 16 56.8 -0.4**
comp=Z,16nm,0.8s,baz=58,slow=5.6
NB2 NORSAR Subarra 80.05 333 P **P** **22 16 56.8 -0.4**
baz=58,slow=5.6
NOA NORSAR Array B 80.05 333 P **P** **22 16 56.9 -0.4**
NOA NORSAR Array B 80.05 333 P **P** **22 16 56.9 -0.4**
comp=Z,12nm,0.8s,baz=58,slow=5.5,SNR=27
KOLS Kolonicke sedl 80.22 319 *e*P **P** **22 16 58.2 -0.2**
KOLS pmax pmax
comp=Z,16nm,1.8s
KOLS Kolonicke sedl 80.22 319 *e*P **P** **22 16 58.2 -0.2**
ARR Arges 80.24 315 ⇓*i*P **P** **22 16 59.3 +0.6**
HUMR Humele 80.36 314 ⇓*i*P **P** **22 16 59.3 +0.1**
TRPA Tarpa 80.40 318 ⇑*i*P **P** **22 16 59.2 -0.2**
STHS Stebnicka Huta 80.62 320 *e*P **P** **22 17 01.1 +0.5**
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 80.62 320 *e*P **P** **22 17 01.1 +0.5**
CRVS Cervenica-Dubn 80.71 319 *e*P **P** **22 17 02.0 +0.9**
CRVS pmax pmax
comp=Z,7.0nm,1.3s
CRVS Cervenica-Dubn 80.71 319 *e*P **P** **22 17 02.0 +0.9**
LOT Lotru 80.76 316 ⇑*i*P **P** **22 17 02.1 +0.6**
DRGR 80.86 317 ⇓P **P** **22 17 02.7 +0.7**
DRGR 80.86 317 ⇓*i*P **P** **22 17 02.7 +0.7**
DEV Deva 81.13 316 ⇓P **P** **22 17 04.3 +1.0**
DEV Deva 81.13 316 ⇓*i*P **P** **22 17 04.3 +1.0**
YKA Yellowknife Ar 81.72 24 P **P** **22 17 07.0 +0.8**
YKA Yellowknife Ar 81.72 24 P **P** **22 17 06.9 +0.8**
comp=Z,10nm,0.9s,baz=305,slow=5.2,SNR=119
SIRR Siria 81.74 317 ⇑*i*P **P** **22 17 07.3 +0.7**
BZS Buzias 82.06 316 ⇑P **P** **22 17 06.4 -1.8**
BZS Buzias 82.06 316 ⇑*i*P **P** **22 17 06.3 -1.9**
VTS Vitosha 82.34 313 ⇑P **P** **22 17 10.5 +0.5**
VTS Vitosha 82.34 313 ⇑*i*P **P** **22 17 10.5 +0.5**
MORC Moravsky Berou 82.60 321 ⇓P **P** **22 17 11.7 +0.7**
MORC Moravsky Berou 82.60 321 ⇓*i*P **P** **22 17 11.7 +0.7**
KSP Ksiaz 82.78 323 *e*P **P** **22 17 12.9 +1.0**
SUMG Summit 83.03 355 *e*P **P** **22 17 13.8 +0.5**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 83.03 355 *e*P **P** **22 17 13.8 +0.5**
comp=Z,12nm,0.9s
VRAC Vranov 83.36 321 ⇑*i*P **P** **22 17 16.0 +1.0**
VRAC Vranov 83.36 321 P **P** **22 17 15.4 +0.5**

VRAC	**Vranov**	**83.36**	**321**	P		**P**		**22 17 15.4**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=49,slow=4.2,SNR=5.1								
PKSM	**Moragy**	**83.64**	**318**	⇓P		**P**		**22 17 16.0**	**-0.4**
PKSM	**Moragy**	**83.64**	**318**	⇓*i*P		**P**		**22 17 16.0**	**-0.4**
CLL	**Collm**	**84.34**	**324**	*e*P		**P**		**22 17 21.0**	**+1.1**
CLL					pmax	pmax			
	comp=Z,5.0nm,1.0s								
CLL	**Collm**	**84.34**	**324**	*e*P		**P**		**22 17 21.0**	**+1.1**
	comp=Z,5.0nm,1.0s								
CLL				*e*PP		**PP**		**22 20 36.0**	**+1.3**
CLL				*e*PS		**PnS**		**22 28 37.0**	**-3.7**
GERES	**GERESS Array B**	**85.24**	**322**	P		**P**		**22 17 24.9**	**+0.3**
GERES	**GERESS Array B**	**85.24**	**322**	P		**P**		**22 17 24.9**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=53,slow=5.1,SNR=18								
EDM	**Edmonton**	**87.97**	**31**	*e*P		**P**		**22 17 37.9**	**+0.1**
EDM	**Edmonton**	**87.97**	**31**	*e*P		**P**		**22 17 37.9**	**+0.1**
DAVOX	**Davos/Dischmat**	**88.52**	**322**	P		**P**		**22 17 41.2**	**+0.4**
DAVOX	**Davos/Dischmat**	**88.52**	**322**	P		**P**		**22 17 41.2**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=356,slow=5.0,SNR=7.9								
NEW	**Newport**	**89.07**	**36**	*e*P		**P**		**22 17 43.6**	**+0.5**
	comp=Z,8.2nm,0.9s								
NEW	**Newport**	**89.07**	**36**	P		**P**		**22 17 44.9**	**+1.8**
	baz=296,slow=4.3								
EKA	**Eskdalemuir Ar**	**89.53**	**333**	P		**P**		**22 17 43.9**	**-1.1**
EKA	**Eskdalemuir Ar**	**89.53**	**333**	P		**P**		**22 17 43.9**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=36,slow=5.4,SNR=3.3								
WALA	**Waterton Lakes**	**90.29**	**34**	*e*P		**P**		**22 17 50.0**	**+1.2**
BSMT	**Bassoo Peak**	**90.58**	**36**	*e*P		**P**		**22 17 52.0**	**+1.7**
LPG	**La Plagne**	**91.04**	**322**	⇑*i*P		**P**		**22 17 52.9**	**+0.3**
	comp=Z,19nm,0.8s								
LPL	**La Plagne**	**91.04**	**322**	⇑*i*P		**P**		**22 17 52.7**	**+0.2**
	comp=Z,14nm,0.8s								
J08A	**Circle Bar Ran**	**91.15**	**41**	*e*P		**P**		**22 17 54.1**	**+1.1**
	comp=Z,7.7nm,1.0s								
SWMT	**Swartz Lake**	**91.21**	**36**	*e*P		**P**		**22 17 54.2**	**+1.0**
FCC	**Fort Churchill**	**91.39**	**19**	*e*P		**P**		**22 17 53.8**	**+0.3**
FCC	**Fort Churchill**	**91.39**	**19**	*e*P		**P**		**22 17 53.8**	**+0.3**
SLMT	**Seeley Lake**	**91.64**	**36**	*e*P		**P**		**22 17 55.0**	**-0.2**
FFC	**Flin Flon**	**91.83**	**25**	*e*P		**P**		**22 17 56.5**	**+0.8**
FFC					pmax	pmax			
	comp=Z,6.0nm,0.8s								
FFC	**Flin Flon**	**91.83**	**25**	*e*P		**P**		**22 17 56.5**	**+0.8**
	comp=Z,5.7nm,0.8s								
MFID	**Camas Ranch**	**92.68**	**40**	*e*P		**P**		**22 18 01.0**	**+1.0**
	comp=Z,7.9nm,0.9s								
PPT	**Papeete**	**92.86**	**108**	LR		LR		22 52 12.8	
	comp=Z,45nm,20.4s,baz=223,slow=31								
DLMT	**Dillon**	**93.31**	**37**	*e*P		**P**		**22 18 04.0**	**+1.1**
	comp=Z,7.5nm,0.8s								
HLID	**Hailey**	**93.41**	**39**	*e*P		**P**		**22 18 05.4**	**+1.9**
	comp=Z,6.1nm,0.9s								
NV01	**Mina Array Sit**	**94.08**	**45**	*e*P		**P**		**22 18 07.6**	**+0.8**
NVAR	**Mina Array Bea**	**94.08**	**45**	P		**P**		**22 18 08.2**	**+1.5**
NVAR	**Mina Array Bea**	**94.08**	**45**	P		**P**		**22 18 08.2**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=285,slow=4.2,SNR=7.7								
TORD	**Torodi Ar. Bea**	**113.54**	**298**	PKiKP		**PKiKP**		**22 23 26.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**113.54**	**298**	PKiKP		**PKiKP**		**22 23 26.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=37,slow=2.1,SNR=2.4								

MAN 16 22:06:12.1±8.5 51N×122.3 2E±1.4, h41±3km, mb4.4, ML3.3, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.21**	**238**	*e*P	Pn	22 06 33.1	+0.6
APYP				*e*S	Sn	22 06 50.6	+2.9

*NERS **16** 22:14:46.2, 60.2 91N×155.2 4E, h1km*
*KRSC **16** 22:14:47.8±2.5, 60.2 80N×155.2 54E, h17km±44km, ML4.0*
ISC 16 22:14:48.1±3.4, 60.2 91N±0.0 6×155.2 6E±0.0 4, h5km±25km, n10, σ1 9 78/22, 2C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGD	**Magadan 1**	**2.45**	**251**	*e*Pg	**Pn**	**22 15 29.3**	**+0.7**
MGD				*e*Sg	**Sb**	**22 16 02.6**	**-0.3**
SEY	**Seymchan**	**2.47**	**327**	*e*P	**Pn**	**22 15 27.3**	**-1.7**
SEY				*e*Pg	**Pb**	**22 15 31.9**	**-1.1**
SEY				Pgmax		22 15 33.9	
	30nm,0.2s						
SEY				*e*Sg	**Sn**	**22 16 00.9**	**+1.4**
SEY				Sgmax		22 16 03.2	
	760nm,0.2s						
SEY				Sgmax		22 16 03.2	
	760nm,0.2s						
SNGR	**Sinegor'e**	**2.65**	**298**	*e*P	**Pn**	**22 15 29.4**	**-2.0**
SNGR				*e*Pg	**Pb**	**22 15 33.8**	**-2.1**
SNGR				Pgmax		22 15 35.9	
	70nm,0.3s						
SNGR				*e*Sg	**Sn**	**22 16 04.7**	**+0.9**
SNGR				Sgmax		22 16 07.0	
	630nm,0.3s						
PALN	**Palana**	**2.95**	**126**	*e*P	**Pn**	**22 15 35.6**	**+0.2**
PALN				*e*S	**Sn**	**22 16 09.1**	**-2.0**
OCHR	**Omchak**	**3.69**	**285**	⇑*i*P	**Pn**	**22 15 45.6**	**-0.2**
OCHR				*e*Pg	**Pb**	**22 15 55.0**	**+1.2**
OCHR				*e*S	**Sn**	**22 16 26.7**	**-3.0**
OCHR				*e*Sg	**Sb**	**22 16 42.0**	**+3.1**
OCHR				Sgmax		22 16 42.9	
	500nm,0.3s						
SUUS	**Susuman**	**3.89**	**302**	⇑*i*P	**Pn**	**22 15 46.7**	**-1.8**
SUUS				Pgmax		22 15 47.3	
	20nm,0.2s						
SUUS				*e*Sg	**Sb**	**22 16 45.8**	**+1.3**
SUUS				Sgmax		22 16 51.2	
	390nm,0.5s						
SUUS				Sgmax		22 16 51.2	
	200nm,0.5s						
OSSR	**Ossora**	**4.20**	**110**	*e*P	**Pn**	**22 15 53.5**	**+0.8**
OSSR				*e*S	**Sn**	**22 16 39.9**	**-2.1**
ESO	**Esso**	**5.29**	**159**	*e*P	**Pn**	**22 16 08.1**	**+0.4**
TILK	**Tilichiki**	**5.32**	**90**	*e*P	**Pn**	**22 16 09.2**	**+1.1**
TILK				*e*S	**Sn**	**22 17 11.2**	**+1.5**
GNL	**Ganaly**	**7.36**	**168**	P	**Pn**	**22 16 37.9**	**+1.7**

*BJI **16** 22:17:22.3, 53.4 0N×163.3 0W, h35km, mB4.7/3, mb4.2/12, Ms4.5/3, Ms7 4.4/2*
*ISCJB **16** 22:17:25.9±0.8, 53.4 3N±0.0 6×163.3 0W±0.0 5, h35km±5km, mb4.1/31, MS3.3/2, Error ellipse: s-maj=11.0km s-min=4.2km az=162.8*
*IDC **16** 22:17:26.1±1.1, 54.0 6N×163.6 9W, h0km, mb4.1/26, mb1 4.2/28, mb1mx4.0/66, mbtmp4.0/28, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/52, Error ellipse: s-maj=28.3km s-min=13.0km az=168.0*
*NEIC **16** 22:17:27.4±1.6, 53.6 1N×163.4 2W, h25km±10km, mb4.4/2, ML3.9(AEIC), Error ellipse: s-maj=11.9km s-min=3.9km az=163.0*
ISC 16 22:17:27.9±0.7, 53.5 8N±0.0 7×163.4 7W±0.0 4, h29km±4km, n117, σ1 9 21/114, mb4.2/31, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.11**	**324**	P	**Pn**	**22 17 47.5**	**-0.1**
WESN	**West Dahl Nort**	**1.19**	**327**	P	**Pn**	**22 17 48.8**	**+0.2**
SSLW	**Shishaldin Wes**	**1.25**	**343**	P	**Pn**	**22 17 49.5**	**0.0**
SSBA	**Shishaldin**	**1.25**	**342**	P	**Pn**	**22 17 49.4**	**-0.2**
SSBA				S	**Sn**	**22 18 06.7**	**+1.1**
SSLN	**Shishaldin Nor**	**1.27**	**346**	P	**Pn**	**22 17 50.3**	**+0.5**
FALS	**False Pass**	**1.28**	**1**	P	**Pn**	**22 17 49.9**	**+0.1**
FALS				S	**Sb**	**22 18 09.5**	**+2.0**
AKUT	**Akutan**	**1.47**	**293**	P	**Pn**	**22 17 52.4**	**-0.1**
AKUT				S	**Sn**	**22 18 12.3**	**+1.6**
DRIA	**Deer Island**	**1.56**	**27**	P	**Pn**	**22 17 52.8**	**-1.0**
ZRO	**Akutan Zero**	**1.57**	**290**	P	**Pn**	**22 17 53.8**	**-0.1**
AKGG	**Akutan Green G**	**1.61**	**294**	P	**Pn**	**22 17 54.6**	**+0.2**
AKGG				S	**Sn**	**22 18 16.1**	**+1.8**
AKRB	**Akutan Reef Bi**	**1.63**	**291**	P	**Pn**	**22 17 54.7**	**0.0**
AKRB				S	**Sb**	**22 18 17.3**	**-0.3**
DTNA	**Dutton South F**	**1.73**	**24**	P	**Pn**	**22 17 55.7**	**-0.3**
UNV	**Unalaska Valle**	**1.82**	**280**	P	**Pn**	**22 17 56.6**	**-0.6**
DOL	**Dolgoi Island**	**1.83**	**30**	P	**Pn**	**22 17 56.9**	**-0.6**
MREP	**Makushin Rep't**	**1.96**	**278**	P	**Pn**	**22 17 59.6**	**+0.4**
MSW	**Makushin Switc**	**1.99**	**281**	P	**Pn**	**22 17 59.9**	**+0.2**
PS4A	**Pavlof South-4**	**2.00**	**27**	P	**Pn**	**22 18 00.2**	**+0.3**
PVV	**Pavlof Volcano**	**2.05**	**28**	P	**Pn**	**22 18 01.2**	**+0.8**
MCIR	**Makushin Cirqu**	**2.06**	**282**	P	**Pn**	**22 18 01.0**	**+0.3**
MSOM	**Makushin Julie**	**2.08**	**278**	P	**Pn**	**22 18 00.9**	**+0.1**
SDPT	**Sand Point**	**2.49**	**43**	P	**Pn**	**22 18 06.3**	**-0.2**
SDPT				S	**Sn**	**22 18 36.6**	**+0.8**

NIKH	**Nikolski High**	**3.29**	**261**	P		**Pn**		**22 18 17.0**	**-0.5**
VNHG	**Veniaminof 1**	**3.63**	**41**	P		**Pn**		**22 18 23.6**	**+1.3**
CHGN	**Chignik**	**3.99**	**45**	*e*Pn		**Pn**		**22 18 26.8**	**-0.3**
CHGN				*e*Sn		**Sn**		**22 19 16.1**	**+3.2**
OHAK	**Old Harbor**	**6.85**	**54**	*e*Pn		**Pn**		**22 19 04.4**	**-1.9**
KDAK	**Kodiak Island**	**7.46**	**51**	*e*Pn		**Pn**		**22 19 11.8**	**-2.8**
SVW2	**Sparrevohn**	**8.65**	**26**	*e*Pn		Pn		22 19 35.6	+4.5
RSO	**Redoubt South**	**9.03**	**36**	*e*Pn		**Pn**		**22 19 37.7**	**+1.3**
SEW	**Seward**	**10.07**	**44**	*e*Pn		**Pn**		**22 19 49.1**	**-1.3**
RC01	**Rabbit Creek A**	**10.55**	**39**	*e*Pn		**Pn**		**22 19 56.8**	**-0.3**
PPLA	**Purkeypile**	**11.05**	**28**	*e*Pn		**Pn**		**22 20 04.2**	**+0.1**
KTH	**Kantishna Hill**	**11.93**	**28**	*e*Pn		**Pn**		**22 20 14.1**	**-1.8**
TRF	**Thorofare Moun**	**12.03**	**29**	*e*Pn		**Pn**		**22 20 15.7**	**-1.7**
TNA	**Tin City**	**12.22**	**351**	*e*Pn		Pn		22 20 23.1	+3.3
BMRM	**Bremner River**	**12.57**	**46**	*e*Pn		**Pn**		**22 20 21.8**	**-2.9**
PAX	**Paxson**	**13.30**	**38**	*e*Pn		**Pn**		**22 20 32.5**	**-2.2**
IL1	**Eielson Array**	**14.02**	**30**	*e*Pn		**Pn**		**22 20 42.9**	**-1.4**
ILAR	**Eielson Array**	**14.02**	**30**	Pn		Pn		22 20 38.5	-5.8
ILAR	**Eielson Array**	**14.02**	**30**	Pn		Pn		22 20 38.5	-5.8
	0.1nm,0.3s,baz=228,slow=13,SNR=7.1								
DOT	**Dot Lake**	**14.21**	**37**	*e*Pn		**Pn**		**22 20 44.5**	**-2.6**
COLD	**Coldfoot**	**15.12**	**20**	*e*Pn		**Pn**		**22 20 59.9**	**+0.7**
	15nm,1.1s								
DAWY	**Dawson**	**16.18**	**40**	*e*Pn		**Pn**		**22 21 10.9**	**-2.1**
DLBC	**Dease Lake**	**19.19**	**62**	P		**Pn**		**22 21 51.1**	**+1.0**
DLBC	**Dease Lake**	**19.19**	**62**	P		**Pn**		**22 21 51.1**	**+1.0**
	0.1nm,0.3s,baz=270,slow=11,SNR=2.5								
INK	**Inuvik**	**20.39**	**32**	*e*P		**P**		**22 21 59.4**	**-2.6**
	63nm,2.5s								
INK	**Inuvik**	**20.39**	**32**	P		**P**		**22 21 59.5**	**-2.6**
	2.0nm,0.5s,baz=254,slow=11,SNR=11								
PETK	**Petropavlovsk-**	**23.00**	**285**	P		**P**		**22 22 30.3**	**+0.2**
PETK	**Petropavlovsk-**	**23.00**	**285**	P		**P**		**22 22 30.3**	**+0.2**
	1.9nm,0.5s,baz=88,slow=12,SNR=7.4								
YKA	**Yellowknife Ar**	**26.73**	**51**	P		**P**		**22 23 05.0**	**+0.5**
YKA	**Yellowknife Ar**	**26.73**	**51**	P		**P**		**22 23 05.0**	**+0.5**
	1.3nm,0.6s,baz=270,slow=8.2,SNR=24								
YBH	**Yreka Blue Hor**	**29.49**	**97**	LR		LR		22 32 30.0	
	comp=Z,27nm,21.9s,baz=313,slow=30								
RES	**Resolute Bay**	**33.72**	**26**	P		**P**		**22 24 05.1**	**-1.0**
RES	**Resolute Bay**	**33.72**	**26**	P		**P**		**22 24 05.1**	**-1.0**
	1.3nm,0.9s,baz=256,slow=9.6,SNR=5.6								
NVAR	**Mina Array Bea**	**34.20**	**98**	P		P		22 24 15.1	+4.2
NVAR	**Mina Array Bea**	**34.20**	**98**	P		P		22 24 15.1	+4.2
	0.2nm,0.3s,baz=291,slow=7.6,SNR=2.8								
ULM	**Lac du Bonnet**	**40.41**	**66**	P		**P**		**22 25 05.7**	**+2.5**
ULM	**Lac du Bonnet**	**40.41**	**66**	P		**P**		**22 25 05.7**	**+2.5**
	0.0nm,0.5s,baz=326,slow=7.3,SNR=2.6								
H11N2	**WAKE ISLAND Hy**	**40.74**	**226**	T		T		23 08 48.7	
	baz=28,slow=75,SNR=52								
H11N3	**WAKE ISLAND Hy**	**40.75**	**226**	T		T		23 08 48.8	
	baz=28,slow=75,SNR=32								
H11N1	**WAKE ISLAND Hy**	**40.76**	**226**	T		T		23 08 47.4	
	baz=28,slow=75,SNR=44								
H11S1	**WAKE ISLAND Hy**	**41.91**	**225**	T		T		23 10 16.2	
	baz=26,slow=77,SNR=45								
H11S2	**WAKE ISLAND Hy**	**41.93**	**225**	T		T		23 10 17.1	
	baz=26,slow=77,SNR=30								
H11S3	**WAKE ISLAND Hy**	**41.93**	**225**	T		T		23 10 17.4	
	baz=26,slow=77,SNR=41								
MDJ	**Mudanjiang**	**43.22**	**286**	P		P		22 25 21.1	-5.1
MDJ					pmax	pmax			
	comp=Z,6.0nm,1.7s								
MDJ					pmax	pmax			
	comp=Z,52nm,4.1s								
MJAR	**Matsushiro Arr**	**43.27**	**271**	P		**P**		**22 25 28.1**	**+1.4**
MJAR	**Matsushiro Arr**	**43.27**	**271**	P		**P**		**22 25 28.1**	**+1.4**
	2.0nm,0.8s,baz=48,slow=7.0,SNR=4.1								
SUMG	**Summit**	**48.52**	**19**	*i* P		**P**		**22 26 07.9**	**-0.1**
	8.6nm,1.0s								
SUMG				*i*				22 26 17.9	
KSRS	**Korea Array**	**48.76**	**280**	P		**P**		**22 26 10.6**	**+0.7**
	1.2nm,0.6s,baz=48,slow=7.3,SNR=5.7								
KSAR	**Wonju Array Be**	**48.79**	**280**	P		**P**		**22 26 10.6**	**+0.5**
TXAR	**Lajitas Array**	**49.22**	**95**	P		**P**		**22 26 14.4**	**+0.7**
TXAR	**Lajitas Array**	**49.22**	**95**	P		**P**		**22 26 14.4**	**+0.7**
	0.4nm,0.5s,baz=295,slow=6.4,SNR=7.0								
SONM	**Songino Array**	**53.68**	**303**	P		**P**		**22 26 46.5**	**-0.3**
SONM	**Songino Array**	**53.68**	**303**	P		**P**		**22 26 46.5**	**-0.3**
	1.4nm,0.8s,baz=46,slow=8.3,SNR=2.9								
ARCES	**ARCESS Array B**	**57.02**	**356**	P		**P**		**22 27 09.6**	**-0.8**
ARCES	**ARCESS Array B**	**57.02**	**356**	P		**P**		**22 27 09.6**	**-0.8**
	1.9nm,0.8s,baz=2.7,slow=7.3,SNR=5.1								
ZALV	**Zalesovo Beam**	**58.86**	**320**	P		**P**		**22 27 23.3**	**-0.1**
ZALV	**Zalesovo Beam**	**58.86**	**320**	P		**P**		**22 27 23.3**	**-0.1**
	0.7nm,0.6s,baz=32,slow=5.9,SNR=4.4								
GTA	**Gaotai**	**63.02**	**300**	*e*P		**P**		**22 27 51.5**	**-0.7**
GTA				pP		**pP**		**22 27 58.6**	**-2.5**
GTA				sP		sP		22 28 02.3	-2.2
GTA				Pmax	pmax				
	comp=Z,2.0nm,0.8s								
LZH	**Lanzhou**	**63.38**	**295**	*e*P		**P**		**22 27 52.3**	**-2.3**
LZH				pP		**pP**		**22 28 02.0**	**-1.5**
LZH				sP		**sP**		**22 28 06.4**	**-0.6**
LZH				Pmax	pmax				
	comp=Z,14nm,1.0s								
KURK	**Kurchatov**	**63.75**	**321**	P		**P**		**22 27 57.8**	**+1.2**
KURBB	**Kurchatov Arra**	**63.86**	**321**	P		**P**		**22 27 57.8**	**+0.5**
	1.1nm,0.7s,baz=38,slow=6.7,SNR=14								
BVAR	**Borovoye Array**	**64.70**	**327**	P		**P**		**22 28 02.9**	**+0.1**
BVAR	**Borovoye Array**	**64.70**	**327**	P		**P**		**22 28 02.9**	**+0.1**
	3.3nm,0.8s,baz=46,slow=6.4,SNR=14								
FINES	**FINESS Array B**	**65.07**	**355**	P		**P**		**22 28 04.9**	**-0.2**
FINES	**FINESS Array B**	**65.07**	**355**	P		**P**		**22 28 04.9**	**-0.2**
	2.5nm,0.8s,baz=345,slow=4.5,SNR=7.7								
MKAR	**Makanchi Array**	**65.47**	**316**	P		**P**		**22 28 07.2**	**-0.8**
MKAR	**Makanchi Array**	**65.47**	**316**	P		**P**		**22 28 07.2**	**-0.8**
	1.0nm,0.8s,baz=45,slow=6.5,SNR=9.7								
MK01	**Makanchi Array**	**65.49**	**316**	*e*P		**P**		**22 28 07.1**	**-0.9**
WMQ	**Urumqi**	**65.51**	**311**	*e*P		**P**		**22 28 08.3**	**0.0**
WMQ				pP		**pP**		**22 28 18.6**	**+1.3**
WMQ				sP		**sP**		**22 28 22.5**	**+1.8**
WMQ				LR		LR			
	comp=N,51nm,14.8s								
WMQ				LR		LR			
	comp=Z,36nm,11.6s								
NB2	**NORSAR Subarra**	**65.65**	**3**	P		**P**		**22 28 08.5**	**-0.4**
	comp=Z,22nm,1.7s,baz=359,slow=6.5								
NOA	**NORSAR Array B**	**65.65**	**3**	P		**P**		**22 28 08.9**	**0.0**
NOA	**NORSAR Array B**	**65.65**	**3**	P		**P**		**22 28 08.9**	**0.0**
	comp=Z,2.7nm,1.0s,baz=360,slow=6.3,SNR=3.0								
HFS	**Hagfors**	**66.61**	**2**	P		**P**		**22 28 14.3**	**-0.7**
HFS	**Hagfors**	**66.61**	**2**	P		**P**		**22 28 14.3**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=36,slow=5.9,SNR=11								
EKA	**Eskdalemuir Ar**	**70.24**	**12**	P		**P**		**22 28 38.2**	**+0.5**
EKA	**Eskdalemuir Ar**	**70.24**	**12**	P		**P**		**22 28 38.2**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=345,slow=4.4,SNR=6.1								
AKTO	**Aktyubinsk**	**70.64**	**333**	P		**P**		**22 28 40.7**	**+0.4**
AKTO	**Aktyubinsk**	**70.64**	**333**	P		**P**		**22 28 40.7**	**+0.4**
	comp=Z,6.8nm,0.8s,baz=31,slow=5.2,SNR=25								
KSH	**Kashi**	**74.08**	**316**	*e*P		P		22 29 04.6	+3.4
KSH				*e*PcP		**PcP**		**22 29 18.8**	**+2.6**
KSH				*e*PP		PP		22 31 54.9	+8.8
KSH				*e*S		S		22 38 38.8	+6.8
KSH				*e*sS		SKSac		22 38 55.9	-11
KSH				Pmax	pmax				
	comp=Z,3.0nm,1.3s								
KSH				LR		LR			
	comp=Z,32nm,7.1s								
KSH				LR		LR			
	comp=Z,33nm,4.5s								
CLL	**Collm**	**75.44**	**2**	*e*P		**P**		**22 29 08.0**	**-0.7**
AKASG	**Malin Array Be**	**75.54**	**352**	P		**P**		**22 29 08.6**	**-0.7**
AKASG	**Malin Array Be**	**75.54**	**352**	P		**P**		**22 29 08.6**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=10,slow=5.7,SNR=16								
AK11	**Malin Array Si**	**75.57**	**352**	*e*P		P		22 29 04.6	-4.8
VRAC	**Vranov**	**77.49**	**360**	P		**P**		**22 29 19.6**	**-0.7**
VRAC	**Vranov**	**77.49**	**360**	P		**P**		**22 29 19.6**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=326,slow=3.6,SNR=3.2								
GERES	**GERESS Array B**	**77.92**	**2**	P		**P**		**22 29 23.2**	**+0.3**
GERES	**GERESS Array B**	**77.92**	**2**	P		**P**		**22 29 23.2**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=15,slow=5.5,SNR=6.9								
BUR04	**Bucovina Ar. S**	**78.91**	**354**	*e*P		**P**		**22 29 26.2**	**-2.1**
CMAR	**Chiang Mai Arr**	**79.75**	**287**	P		**P**		**22 29 33.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**79.75**	**287**	P		**P**		**22 29 33.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=27,slow=4.5,SNR=5.5								
DAVOX	**Davos/Dischmat**	**79.86**	**5**	P		**P**		**22 29 34.1**	**+0.5**
DAVOX	**Davos/Dischmat**	**79.86**	**5**	P		**P**		**22 29 34.1**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=309,slow=6.5,SNR=6.5								
ESDC	**Sonseca Array**	**85.45**	**16**	P		**P**		**22 30 01.9**	**-0.7**
ESDC	**Sonseca Array**	**85.45**	**16**	P		**P**		**22 30 01.9**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=342,slow=5.0,SNR=3.0								
BR231	**Keskin MP Arra**	**85.90**	**348**	*e*P		**P**		**22 30 03.0**	**-1.9**
BRTR	**Keskin Array B**	**85.90**	**347**	P		**P**		**22 30 05.9**	**+0.9**
BRTR	**Keskin Array B**	**85.90**	**347**	P		**P**		**22 30 05.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=72,slow=4.0,SNR=8.9								

*MOS **16** 22:20:11.9±1.8, 56.0 8N×113.8 3E, h7km, mb4.4/1, Error ellipse: s-maj=21.2km s-min=17.3km az=137.1*
*BYKL **16** 22:20:12.4±0.2, 56.1 5N×113.8 7E, h16km±3km*
ISC 16 22:20:11.7±0.9, 56.0 7N±0.0 3×113.7 8E±0.0 2, h12km±8km, n38, σ2 9 07/70, 10C-10D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.14**	**292**	*e*PG	**Pb**	**22 20 16.3**	**+0.1**
SVKR				*e*		22 20 19.0	
SVKR				pmax	pmax		
	comp=Z,2μm,0.2s						
SVKR				smax	smax		
	comp=E,7μm,0.6s						
SVKR	**Severomuysk**	**0.14**	**292**	⇓*i*Pg	**Pb**	**22 20 16.4**	**+0.2**
SVKR				*e*Sg	**Sg**	**22 20 19.1**	**+1.6**
SVKR				Pmax			
	comp=E,2μm,0.1s						
SVKR				Smax			
	comp=E,7μm,0.7s						
UKT	**Uakit**	**0.58**	**189**	⇓*i*Pg	**Pb**	**22 20 24.8**	**+0.9**
	comp=E,69nm,0.9s						
UKT				⇓*i*Pg	**Pb**	**22 20 24.8**	**+0.9**
	comp=E,21nm,0.9s						
UKT				⇑*i*Pg	**Pb**	**22 20 24.8**	**+0.9**
	comp=E,72nm,0.9s						
UKT				*i* Sg	**Sn**	**22 20 33.9**	**-1.5**
UKT				Pmax			
	comp=E,84nm,0.8s						
UKT				Smax			
	comp=E,377nm,1.1s						
NLYR	**Nelyaty**	**1.15**	**68**	⇑*i*PG	**Pb**	**22 20 32.8**	**-0.7**
NLYR				*e*		22 20 47.2	
NLYR				pmax	pmax		
	comp=Z,158nm,0.7s						
NLYR				smax	smax		
	comp=E,921nm,0.9s						
NLYR	**Nelyaty**	**1.15**	**68**	⇓*i*Pg	**Pb**	**22 20 32.2**	**-1.3**
NLYR				*e*Pb	**Pn**	**22 20 33.7**	**0.0**
NLYR				*e*Sg	**Sb**	**22 20 46.7**	**-1.8**
NLYR				*e*Sb	**Sn**	**22 20 49.3**	**-0.1**
NLYR				max			
	comp=E,170nm,0.7s						
NLYR				max			
	comp=E,922nm,1.0s						
YOA	**Uoyan**	**1.16**	**274**	*e*PG	**Pg**	**22 20 34.4**	**+0.5**
YOA				*i*		22 20 52.1	
YOA				pmax	pmax		
	comp=Z,176nm,0.2s						
YOA				smax	smax		
	comp=N,3μm,0.6s						
YOA	**Uoyan**	**1.16**	**274**	*e*Pg	**Pg**	**22 20 35.5**	**+1.6**
YOA				*e*Sg	**Sn**	**22 20 52.3**	**+2.9**
YOA				*e*		22 20 56.6	
Y

TUP				Smax				
	comp=N,198nm,1.2s							
CIT	**Chita**	**4.06**	**182**	*e*	Pg	**Pg**	22 22 05.3	+36
CIT				*e*Sg	**Sg**	**Sg**	**22 22 20.6**	**-1.2**
CIT				Smax				
	comp=N,125nm,0.8s							
OGRR	**Ongureny**	**4.32**	**238**	⇑*i*Pn	**Pn**	**Pn**	**22 21 19.5**	**+2.3**
OGRR				*e*			22 21 25.7	
OGRR				*e*Pg	**Pb**	**Pb**	**22 21 30.5**	**+3.0**
OGRR				*e*			22 21 36.6	
OGRR				*e*Sg	**Sg**	**Sg**	**22 22 28.1**	**-2.2**
OGRR				max				
	comp=N,4.0nm,0.4s							
OGRR				Smax				
	comp=N,49nm,1.6s							
YKLR	**Yuktali**	**4.41**	**80**	*e*Pn	**Pn**	**Pn**	**22 21 16.8**	**-1.6**
YKLR				*e*Pg	**Pb**	**Pb**	**22 21 31.0**	**+1.9**
YKLR				*e*Sg	**Sg**	**Sg**	**22 22 28.1**	**-5.2**
ZRHB	**Zarechye**	**5.24**	**231**	*e*	Pn	Pn	22 21 33.8	+4.0
ZRHB				*e*			22 22 41.2	
ZRHB				Sg	**Sg**	**Sg**	**22 22 55.9**	**-3.8**
ZRHB				Smax				
	comp=N,100nm,1.0s							
TRG	**Tyrgan**	**5.46**	**236**	Pg	Pb	Pb	22 21 51.2	+4.3
TRG				*e*			22 22 03.5	
TRG				*e*			22 22 41.6	
TRG				*e*Sg	**Sg**	**Sg**	**22 23 02.9**	**-3.9**
TRG				Smax				
	comp=N,20nm,1.2s							
UUDB	**Ulan-Yde**	**5.54**	**223**	Pg	Pb	Pb	22 21 52.9	+4.6
UUDB				Pg	Pg	Pg	22 22 10.9	+13
UUDB				Sg	**Sg**	**Sg**	**22 23 06.7**	**-2.8**
UUDB				Smax				
	comp=N,86nm,1.3s							
KAB	**Kabansk**	**5.81**	**229**	*e*Sg	**Sg**	**Sg**	**22 23 15.5**	**-2.6**
KAB				Smax				
	comp=N,300nm,0.8s							
HRMR	**Khuramsha**	**6.01**	**225**	*e*Pg	Pg	Pg	22 22 02.6	-4.0
HRMR				*e*			22 22 06.1	
HRMR				*e*Sg	**Sg**	**Sg**	**22 23 22.4**	**-1.9**
HRMR				max				
	comp=N,10.0nm,0.8s							
HRMR				Smax				
	comp=N,98nm,0.9s							
IENR	**Iengra**	**6.19**	**84**	⇑*i*Pn	**Pn**	**Pn**	**22 21 42.9**	**0.0**
IENR				*e*Pg	**Pb**	**Pb**	**22 22 01.8**	**+2.4**
IENR				*e*			22 22 20.8	
IENR				*e*			22 23 00.9	
IENR				*e*Sg	Sg		22 23 22.6	-7.7
KPC	**Khapcheranga**	**6.43**	**188**	*e*Pn	**Pn**	**Pn**	**22 21 47.2**	**+1.0**
KPC				*e*			22 21 53.1	
KPC				*e*			22 22 03.9	
KPC				*e*Pg	Pg		22 22 09.7	-5.0
KPC				*e*Sg	**Sg**	**Sg**	**22 23 35.0**	**-2.9**
KPC				Pmax				
	comp=N,3.0nm,0.8s							
KPC				Smax				
	comp=N,40nm,1.2s							
IRK	**Irkutsk**	**6.77**	**240**	*e*Sg	**Sg**	**Sg**	**22 23 45.7**	**-3.1**
TLY	**Talaya**	**7.43**	**238**	*e*Sg	**Sg**	**Sg**	**22 24 04.7**	**-5.1**
TLY				Smax				
	comp=N,16nm,1.9s							
HIA	**Hailar**	**7.71**	**150**	*e*Pg	Pg	Pg	22 22 33.0	-6.2
HIA				*e*			22 23 49.5	
HIA				*e*Sg	Sg	Sg	22 24 12.3	-6.6
HIA				*e*			22 24 18.2	
ZAK	**Zakamensk**	**8.49**	**232**	*e*Sg	**Sg**	**Sg**	**22 24 39.5**	**-4.3**
ZAK				Smax				
	comp=N,27nm,0.7s							
MOY	**Mondy**	**8.74**	**245**	*e*	Pn	Pn	22 22 33.0	+15
MOY				*e*			22 23 29.9	
MOY				*e*Sg	**Sg**	**Sg**	**22 24 46.6**	**-5.4**
MOY				Smax				
	comp=N,26nm,1.6s							
ORL	**Orlik**	**8.90**	**252**	*e*	Pn	Pn	22 22 29.9	+10
ORL				*e*			22 22 41.4	
ORL				*e*Pg	Pg	Pg	22 22 53.2	-8.7
ORL				*e*			22 24 19.6	
ORL				*e*Sg	Sg	Sg	22 24 49.7	-7.3
ORL				Smax				
	comp=N,20nm,1.4s							
ULN	**Ulaanbaatar**	**9.20**	**210**	*e*Sg	Sn	Sn	22 25 01.1	+53
ULN				*e*			22 25 05.3	
ULN				*e*			22 25 07.9	

MEX 16 22:27:33.1±0.8, 16°.83N×99°.60W, h43km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.25**	**279**	*i* P	Pn	22 27 40.8	-0.4
ACX				*e*S	Sn	22 27 45.4	-1.5
TLIG	**Tlapa**	**1.23**	**53**	*i* P	Pn	22 27 51.6	-2.4
TLIG				*i* S	Sn	22 28 07.8	-1.7
PNIG	**Pinotepa**	**1.48**	**107**	*i* P	Pn	22 27 55.8	-1.5
PNIG				*e*S	Sn	22 28 13.3	-2.1
ARIG	**Puente Sto Nin**	**1.61**	**334**	*i* P	Pn	22 27 57.6	-1.5
ARIG				*e*S	Sn	22 28 17.2	-1.5
ZIIG	**Zihuatanejo**	**1.94**	**294**	*i* P	Pn	22 28 01.4	-2.2
ZIIG				*e*S	Sn	22 28 24.6	-2.2
YAIG	**Yautepec**	**2.08**	**14**	*e*P	Pn	22 28 03.9	-1.8
YAIG				*e*S	Sn	22 28 28.5	-2.1

*IDC **16** 22:27:32.1±1.1, 11°.51S×165°.82E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/35, mbtmp4.1/13, MS3.6/1, Ms1 3.6/1, ms1mx2.8/28, Error ellipse: s-maj=34.6km s-min=22.0km az=129.0*
*ISCJB **16** 22:27:34.3±1.0, 11°.5S±0°.2×165°.6E±0°.2, h24km, mb4.1/16, Error ellipse: s-maj=28.6km s-min=14.7km az=42.7*
*NEIC **16** 22:27:37.4±0.8, 11°.53S×165°.67E, h35km, mb4.4/3, Error ellipse: s-maj=24.0km s-min=12.1km az=137.0*
ISC 16 22:27:36.0±1.0, 11°.5S±0°.2×165°.7E±0°.2, h24km, n34, σ0s73/37, mb4.1/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**18.37**	**275**	LR	LR	22 38 57.6	
	comp=Z,159nm,18.2s,baz=43,slow=37						
COEN	**Coen**	**22.12**	**261**	*e*P	**P**	**22 32 28.2**	**-1.8**
	181nm,1.5s						
STKA	**Stephens Creek**	**30.09**	**224**	P	**P**	**22 33 44.4**	**+0.7**
STKA	**Stephens Creek**	**30.09**	**224**	P	**P**	**22 33 44.4**	**+0.7**
	1.1nm,0.6s,baz=45,slow=13,SNR=2.7						
WRAB	**Tennant Creek**	**31.29**	**251**	*e*P	**P**	**22 33 53.2**	**-1.3**
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**31.31**	**251**	P	**P**	**22 33 53.8**	**-0.8**
WRA				PcP	**PcP**	**22 36 49.4**	**+0.8**
WRA	**Warramunga Arr**	**31.31**	**251**	P	**P**	**22 33 53.8**	**-0.8**
	1.9nm,0.8s,baz=81,slow=9.5,SNR=11						
WRA				PcP	**PcP**	**22 36 49.4**	**+0.8**
	0.6nm,0.8s,baz=79,slow=3.2,SNR=3.6						
MJAR	**Matsushiro Arr**	**54.37**	**333**	P	**P**	**22 37 00.5**	**-0.4**
MJAR	**Matsushiro Arr**	**54.37**	**333**	P	**P**	**22 37 00.5**	**-0.4**
	1.2nm,0.8s,baz=160,slow=8.2,SNR=3.6						
JNU	**Nakatsue**	**55.44**	**324**	P	**P**	**22 37 08.9**	**+0.2**
JNU	**Nakatsue**	**55.44**	**324**	P	**P**	**22 37 08.9**	**+0.2**
	7.1nm,0.8s,baz=97,slow=8.1,SNR=2.5						
KSRS	**Korea Array**	**60.24**	**326**	P	**P**	**22 37 42.6**	**+0.2**
	0.4nm,0.5s,baz=136,slow=8.0,SNR=5.4						
KSAR	**Wonju Array Be**	**60.25**	**326**	P	**P**	**22 37 42.6**	**+0.1**
USRK	**Ussuriysk Arra**	**63.34**	**333**	P	**P**	**22 38 04.0**	**+0.8**
	1.9nm,0.8s,baz=136,slow=9.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**72.27**	**294**	P	**P**	**22 39 01.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**72.27**	**294**	P	**P**	**22 39 01.3**	**+1.3**
	1.2nm,0.4s,baz=122,slow=5.1,SNR=7.1						
ULN	**Ulaanbaatar**	**78.66**	**324**	*e*P	**P**	**22 39 35.0**	**-1.2**
	1.6nm,0.6s						
SONM	**Songino Array**	**79.02**	**324**	P	**P**	**22 39 39.0**	**+0.8**
SONM	**Songino Array**	**79.02**	**324**	P	**P**	**22 39 39.0**	**+0.8**
	1.1nm,0.8s,baz=151,slow=6.7,SNR=8.0						
ILAR	**Eielson Array**	**83.95**	**18**	P	**P**	**22 40 03.5**	**-0.2**
ILAR	**Eielson Array**	**83.95**	**18**	P	**P**	**22 40 03.5**	**-0.2**
	0.4nm,0.7s,baz=241,slow=5.1,SNR=9.8						
NVAR	**Mina Array Bea**	**86.34**	**50**	P	**P**	**22 40 15.8**	**-0.7**
NVAR	**Mina Array Bea**	**86.34**	**50**	P	**P**	**22 40 15.9**	**-0.7**
	0.3nm,0.5s,baz=246,slow=7.8,SNR=2.6						
MK31	**Makanchi Array**	**93.84**	**317**	*e*P	**P**	**22 40 50.8**	**-0.5**
MKAR	**Makanchi Array**	**93.84**	**317**	P	**P**	**22 40 51.6**	**+0.3**
MKAR	**Makanchi Array**	**93.84**	**317**	P	**P**	**22 40 51.6**	**+0.3**
	1.3nm,0.6s,baz=93,slow=6.7,SNR=18						
ZALV	**Zalesovo Beam**	**93.91**	**324**	P	**P**	**22 40 51.2**	**-0.2**
ZALV	**Zalesovo Beam**	**93.91**	**324**	P	**P**	**22 40 51.2**	**-0.2**
	1.6nm,1.0s,baz=83,slow=4.6,SNR=5.3						
YKA	**Yellowknife Ar**	**95.39**	**27**	P	**P**	**22 40 57.6**	**-0.4**
YKA	**Yellowknife Ar**	**95.39**	**27**	P	**P**	**22 40 57.6**	**-0.4**
	0.1nm,0.3s,baz=272,slow=5.5,SNR=3.8						
ESDC	**Sonseca Array**	**150.49**	**344**	PKPbc	**PKPbc**	**22 47 26.3**	**+0.2**
ESDC				PKPab	**PKPab**	**22 47 32.8**	**+0.3**
ESDC	**Sonseca Array**	**150.49**	**344**	PKPbc	**PKPbc**	**22 47 26.3**	**+0.2**
	0.8nm,0.8s,baz=42,slow=2.4,SNR=4.1						
ESDC				PKPab	**PKPab**	**22 47 32.8**	**+0.3**
	1.3nm,0.8s,baz=1.6,slow=3.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**164.31**	**278**	PKPab	**PKPab**	**22 48 33.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**164.31**	**278**	PKPab	**PKPab**	**22 48 33.1**	**+0.3**
	0.7nm,1.1s,baz=116,slow=4.0,SNR=3.0						

MEX 16 22:30:43.5±1.0, 14°.85N×96°.71W, h16km±33km, MD4.2, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.09**	**32**	*i* P	Pb	22 30 59.7	-4.3
HUIG				*e*S	Sb	22 31 13.4	-4.5
PNIG	**Pinotepa**	**2.06**	**319**	*i* P	Pn	22 31 15.2	-2.3
PNIG				*i* S	Sn	22 31 37.1	-5.7
VHO	**Vista Hermosa**	**2.21**	**359**	*i* P	Pn	22 31 16.7	-3.1
VHO				*e*S	Sn	22 31 42.8	-4.3
TLIG	**Tlapa**	**3.24**	**327**	*i* P	Pn	22 31 31.8	-2.0
TLIG				*i* S	Sn	22 32 08.2	-4.0
PCIG		**3.48**	**75**	*i* P	Pn	22 31 31.8	-5.2
PCIG				*i* S	Sn	22 32 12.2	-5.6
TPIG	**Tehuac#an**	**3.61**	**350**	*i* P	Pn	22 31 37.0	-2.0
TPIG				*i* S	Sn	22 32 17.5	-4.0
PLIG	**Platanillo**	**4.43**	**323**	*i* P	Pn	22 31 50.7	+0.5
PLIG				*i* S	Sn	22 32 37.9	-3.6
YAIG	**Yautepec**	**4.59**	**331**	*i* P	Pn	22 31 53.0	+0.5
YAIG				*i* S	Sn	22 32 41.1	-4.5
ARIG	**Puente Sto Nin**	**4.88**	**315**	*e*P	Pn	22 31 57.5	+1.1
ARIG				*i* S	Sn	22 32 49.9	-2.7

*IDC **16** 22:31:37.2±0.7, 14°.65S×167°.00E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/35, mbtmp4.3/17, ML3.7/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/28, Error ellipse: s-maj=25.1km s-min=17.7km az=94.0*
*ISCJB **16** 22:31:42.9±0.5, 14°.80S±0°.06×166°.8E±0°.1, h57km, mb4.3/19, MS3.6/3, Error ellipse: s-maj=15.3km s-min=7.9km az=2.7*
*NEIC **16** 22:31:42.2±0.4, 14°.76S×166°.89E, h35km, mb4.6/4, Error ellipse: s-maj=12.8km s-min=9.4km az=118.0*
ISC 16 22:31:45.0±0.5, 14°.80S±0°.07×167°.0E±0°.1, h57km, n61, σ1s71/62, mb4.4/19, MS3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.24**	**184**	*e*Pn	**Pn**	**22 33 26.2**	**-2.2**
	19nm,0.6s						
DZM				*e*Sn	**Sn**	**22 34 49.4**	**0.0**
DZM	**Mont Dzumac**	**7.24**	**184**	Pn	**Pn**	**22 33 26.8**	**-1.6**
	1.2nm,0.3s,baz=35,slow=19,SNR=24						
DZM				Sn	**Sn**	**22 34 52.3**	**+3.0**
	1.4nm,0.3s,baz=264,slow=22,SNR=3.2						
DZM				LR	LR	22 35 56.6	
	comp=Z,732nm,20.2s,baz=41,slow=35						
HNR	**Honiara**	**8.68**	**307**	LR	LR	22 36 39.5	
	comp=Z,321nm,18.9s,baz=150,slow=35						
CTA	**Charters Tower**	**20.43**	**252**	P	**P**	**22 36 17.0**	**-0.7**
CTA	**Charters Tower**	**20.43**	**252**	P	**P**	**22 36 17.0**	**-0.7**
	9.9nm,0.8s,baz=78,slow=13,SNR=9.8						
CTAO	**Charters Tower**	**20.43**	**252**	*e*P	**P**	**22 36 15.8**	**-1.9**
	38nm,1.6s						
URZ	**Urewera**	**25.03**	**161**	LR	LR	22 44 53.0	
	comp=Z,103nm,19.1s,baz=298,slow=32						
STKA	**Stephens Creek**	**28.71**	**229**	*e*P	**P**	**22 37 37.2**	**+0.3**
STKA	**Stephens Creek**	**28.71**	**229**	P	**P**	**22 37 37.3**	**+0.4**
	3.0nm,0.8s,baz=279,slow=9.0,SNR=3.2						
STKA				LR	LR	22 48 27.8	
	comp=Z,204nm,18.1s,baz=35,slow=35						
WRAB	**Tennant Creek**	**31.50**	**256**	*e*P	**P**	**22 38 04.3**	**+2.5**
WRA	**Warramunga Arr**	**31.51**	**256**	P	**P**	**22 37 59.1**	**-2.8**
WRA	**Warramunga Arr**	**31.51**	**256**	P	**P**	**22 37 59.1**	**-2.8**
	1.7nm,1.0s,baz=83,slow=8.2,SNR=5.2						
AS31	**Alice Springs**	**32.36**	**249**	*e*P	**P**	**22 38 08.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**39.70**	**259**	*e*P	**P**	**22 39 10.7**	**-1.4**
	12nm,1.0s						
MJAR	**Matsushiro Arr**	**57.83**	**333**	P	**P**	**22 41 29.4**	**-1.4**
MJAR	**Matsushiro Arr**	**57.83**	**333**	P	**P**	**22 41 29.4**	**-1.4**
	2.7nm,0.8s,baz=164,slow=8.4,SNR=5.7						
JNU	**Nakatsue**	**58.80**	**325**	P	**P**	**22 41 36.7**	**-1.0**
JNU	**Nakatsue**	**58.80**	**325**	P	**P**	**22 41 36.7**	**-1.0**
	7.3nm,1.0s,baz=143,slow=5.1,SNR=4.0						
ASAJ	**Asahikawa**	**62.71**	**340**	P	**P**	**22 42 02.9**	**-1.1**
	9.2nm,0.7s,baz=220,slow=7.9,SNR=4.0						
VNDA	**Vanda**	**62.78**	**181**	P	**P**	**22 42 05.1**	**+1.0**
VNDA	**Vanda**	**62.78**	**181**	P	**P**	**22 42 05.1**	**+1.0**
	2.2nm,0.9s,baz=340,slow=8.3,SNR=5.8						
KSRS	**Korea Array**	**63.63**	**326**	P	**P**	**22 42 09.3**	**-0.9**
	0.8nm,0.7s,baz=148,slow=7.1,SNR=3.9						
KSAR	**Wonju Array Be**	**63.64**	**326**	P	**P**	**22 42 09.3**	**-1.0**
USRK	**Ussuriysk Arra**	**66.81**	**333**	P	**P**	**22 42 31.2**	**+0.5**
	3.4nm,0.9s,baz=143,slow=8.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**74.70**	**294**	P	**P**	**22 43 20.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**74.70**	**294**	P	**P**	**22 43 20.1**	**+1.0**
	0.5nm,0.3s,baz=127,slow=4.1,SNR=5.6						
QSPA	**South Pole Qui**	**75.22**	**180**	*e*P	**P**	**22 43 19.4**	**-2.1**
	10.0nm,1.2s						
ULN	**Ulaanbaatar**	**82.02**	**324**	*e*P	**P**	**22 43 57.1**	**-2.0**
	5.6nm,1.4s						
SONM	**Songino Array**	**82.38**	**324**	P	**P**	**22 44 01.1**	**+0.1**
SONM	**Songino Array**	**82.38**	**324**	P	**P**	**22 44 01.1**	**+0.1**
	1.1nm,0.9s,baz=156,slow=6.2,SNR=7.7						
ILAR	**Eielson Array**	**86.69**	**18**	P	**P**	**22 44 21.0**	**-1.2**
ILAR	**Eielson Array**	**86.69**	**18**	P	**P**	**22 44 21.0**	**-1.2**
	2.6nm,0.7s,baz=242,slow=4.7,SNR=28						
NVAR	**Mina Array Bea**	**87.55**	**49**	P	**P**	**22 44 28.4**	**+1.1**
NVAR	**Mina Array Bea**	**87.55**	**49**	P	**P**	**22 44 28.4**	**+1.1**
	0.3nm,0.5s,baz=232,slow=6.8,SNR=2.6						
PDAR	**Pinedale Array**	**95.22**	**47**	LR	LR	23 21 15.6	
	comp=Z,34nm,20.2s,baz=328,slow=31						
TXAR	**Lajitas Array**	**96.58**	**62**	P	**P**	**22 45 08.1**	**-1.1**
TXAR	**Lajitas Array**	**96.58**	**62**	P	**P**	**22 45 08.1**	**-1.1**
	0.5nm,1.0s,baz=270,slow=1.8,SNR=3.2						
MK31	**Makanchi Array**	**97.05**	**316**	*e*P	**P**	**22 45 10.4**	**-0.4**
MKAR	**Makanchi Array**	**97.05**	**316**	P	**P**	**22 45 10.2**	**-0.6**
MKAR	**Makanchi Array**	**97.05**	**316**	P	**P**	**22 45 10.2**	**-0.6**
	1.5nm,0.7s,baz=96,slow=5.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**97.27**	**324**	P	**P**	**22 45 10.3**	**-1.2**
ZALV	**Zalesovo Beam**	**97.27**	**324**	P	**P**	**22 45 10.3**	**-1.2**
	1.1nm,0.7s,baz=104,slow=6.3,SNR=5.4						
YKA	**Yellowknife Ar**	**97.75**	**27**	P	**P**	**22 45 12.9**	**-0.6**
YKA	**Yellowknife Ar**	**97.75**	**27**	P	**P**	**22 45 12.9**	**-0.6**
	0.5nm,0.7s,baz=254,slow=4.6,SNR=9.3						
ARCES	**ARCESS Array B**	**120.25**	**345**	PKP	**PKPdf**	**22 50 29.3**	**+0.2**
ARCES	**ARCESS Array B**	**120.25**	**345**	PKP	**PKPdf**	**22 50 29.3**	**+0.2**
	3.1nm,0.9s,baz=68,slow=2.4,SNR=5.5						
FINES	**FINESS Array B**	**125.68**	**338**	PKP	**PKPdf**	**22 50 40.0**	**+0.3**
FINES	**FINESS Array B**	**125.68**	**338**	PKP	**PKPdf**	**22 50 40.0**	**+0.3**
	2.9nm,0.8s,baz=29,slow=4.4,SNR=4.5						
NOA	**NORSAR Array B**	**130.62**	**345**	PKP	**PKPdf**	**22 50 49.8**	**+0.6**
NOA	**NORSAR Array B**	**130.62**	**345**	PKP	**PKPdf**	**22 50 49.8**	**+0.6**
	1.4nm,0.8s,baz=33,slow=1.9,SNR=3.4						
AKASG	**Malin Array Be**	**130.62**	**326**	PKP	**PKPdf**	**22 50 49.3**	**-0.2**
AKASG	**Malin Array Be**	**130.62**	**326**	PKP	**PKPdf**	**22 50 49.3**	**-0.2**
	0.3nm,0.4s,baz=51,slow=1.2,SNR=3.7						
GERES	**GERESS Array B**	**139.57**	**333**	PKP	**PKPdf**	**22 51 05.5**	**-0.9**
GERES	**GERESS Array B**	**139.57**	**333**	PKP	**PKPdf**	**22 51 05.5**	**-0.9**
	1.2nm,0.9s,baz=45,slow=0.3,SNR=6.8						
BNI	**Bardonecchia**	**145.53**	**335**	*e*PKPdf	**PKPdf**	**22 51 18.1**	**+1.0**
KEST	**Kesra**	**151.07**	**320**	PKPbc	**PKPbc**	**22 51 33.0**	**+0.7**
KEST	**Kesra**	**151.07**	**320**	PKPbc	**PKPbc**	**22 51 33.0**	**+0.7**
	4.3nm,1.0s,baz=32,slow=3.4,SNR=6.4						
ESDC	**Sonseca Array**	**153.97**	**344**	PKPbc	**PKPbc**	**22 51 38.6**	**+0.1**
ESDC				PKPab	**PKPab**	**22 51 56.0**	**+4.2**
ESDC	**Sonseca Array**	**153.97**	**344**	PKPbc	**PKPbc**	**22 51 38.6**	**+0.1**
	0.7nm,0.7s,baz=358,slow=2.9,SNR=4.2						
ESDC				PKPab	**PKPab**	**22 51 56.0**	**+4.2**
	0.7nm,0.7s,baz=352,slow=3.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**165.60**	**265**	PKPab	**PKPab**	**22 52 48.3**	**+5.1**
TORD	**Torodi Ar. Bea**	**165.60**	**265**	PKPab	**PKPab**	**22 52 48.3**	**+5.1**
	1.0nm,0.9s,baz=110,slow=3.1,SNR=5.5						

NNC 16 22:59:46.9±4.9, 37°.11N×71°.30E, h215km±68km, mb2.5, mpv3.6, 3C-4D, Error ellipse: s-maj=53.5km s-min=29.6km az=35.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.02**	**354**	⇓P	Pn	23 01 14.4	-0.1
	2.7nm,0.2s,baz=193,slow=15,SNR=189						
KK31				⇓S	S	23 02 25.2	+1.2
	1.3nm,0.4s,baz=185,slow=24,SNR=4.9						
AAK	**Ala-Archa**	**6.04**	**23**	⇑P	Pn	23 01 15.1	+0.1
	2.6nm,0.4s						
AAK				⇓S	S	23 02 25.0	+0.1
	1.5nm,0.5s						
TKM2	**Tokmak 2**	**6.67**	**28**	⇑P	Pn	23 01 22.8	-0.4
	1.1nm,0.5s						
AB31	**Akbulak array**	**14.68**	**329**	P	Pn	23 03 04.3	0.0
	0.3nm,0.4s,baz=148,slow=12,SNR=23						
AB31				⇓S	S	23 05 46.1	-0.5
	0.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.38**	**329**	⇑P	Pn	23 03 24.9	+0.1
	2.8nm,1.4s						

*ISCJB **16** 23:05:01.5±1.4, 18°.4N±0°.3×72°.60W±0°.10, h13km, mb3.5/4, Error ellipse: s-maj=46.1km s-min=10.5km az=168.7*
*IDC **16** 23:05:02.1±2.1, 18°.44N×72°.59W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/37, mbtmp3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/38, Error ellipse: s-maj=74.7km s-min=28.1km az=14.0*
ISC 16 23:05:03.6±1.4, 18°.3N±0°.3×72°.6W±0°.1, h13km, n9, σ1s29/10, mb3.6/4, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHJ	**Yallahs**	**3.71**	**264**	*i* P	**Pb**	**23 06 09.0**	**-0.1**
GWJ	**Greenwich**	**3.92**	**267**	*i* P	**Pn**	**23 06 02.1**	**-1.5**
HOJ	**Hope**	**3.94**	**266**	*i* P	**Pn**	**23 06 03.2**	**-0.7**
STH	**Stony Hill**	**3.99**	**267**	*i* P	**Pn**	**23 06 03.1**	**-1.5**
STH				*i* S	**Sn**	**23 06 53.3**	**+2.0**
TKL	**Tuckaleechee C**	**19.88**	**332**	LR	LR	23 16 56.6	
	comp=Z,54nm,21.8s,baz=325,slow=96						
TXAR	**Lajitas Array**	**30.35**	**297**	P	**P**	**23 11 15.6**	**+0.2**
	0.3nm,0.7s,baz=114,slow=11,SNR=3.2						
TXAR				PcP	**PcP**	**23 14 16.4**	**+1.0**
	0.7nm,1.1s,baz=111,slow=4.9,SNR=3.5						
YKA	**Yellowknife Ar**	**52.79**	**337**	P	**P**	**23 14 17.5**	**-0.7**
	0.7nm,0.8s,baz=124,slow=7.3,SNR=12						
TORD	**Torodi Ar. Bea**	**71.28**	**82**	P	**P**	**23 16 23.2**	**-0.2**
	0.4nm,0.8s,baz=278,slow=4.9,SNR=3.3						
GERES	**GERESS Array B**	**74.03**	**43**	P	**P**	**23 16 40.2**	**+0.8**
	0.8nm,0.8s,baz=270,slow=5.3,SNR=7.1						

*NEIC **16** 23:07:37.2, 43°.21S×173°.52E, h21km, ML3.8(WEL), After WEL.*
NEIC Felt in Canterbury.
WEL 16 23:07:38.0±0.2, 43°.20S×173°.50E, h33km, ML3.8/31, 13C-5D, Error ellipse: s-maj=3.2km s-min=1.6km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.74**	**239**	⇑PN	Pn	23 07 51.8	-0.3
CRLZ				SN	Sn	23 08 01.8	-0.7
CRLZ				AML	AML	23 08 02.4	
CRLZ	**Canterbury Las**	**0.74**	**239**	P*	Pn	23 07 51.8	-0.3
CRLZ				S*	Sn	23 08 01.6	-0.6
KHZ	**Kahutara**	**0.78**	**2**	⇑PN	Pn	23 07 52.1	-0.7
KHZ				SN	Sn	23 08 02.1	-1.1
KHZ				AML	AML	23 08 02.7	
KHZ	**Kahutara**	**0.78**	**2**	P*	Pn	23 07 52.1	-0.7
MQZ	**McQueen's Vall**	**0.80**	**230**	⇑PN	Pn	23 07 52.3	-0.6
MQZ				SN	Sn	23 08 02.5	-1.1
MQZ	**McQueen's Vall**	**0.80**	**230**	P*	Pn	23 07 52.3	-0.6
MQZ				S*	Sn	23 08 02.5	-1.1
LTZ	**Lake Taylor**	**0.99**	**294**	PN	Pn	23 07 55.3	-0.4
LTZ				AML	AML	23 08 08.7	
LTZ				AML	AML	23 08 09.0	
LTZ	**Lake Taylor**	**0.99**	**294**	Pn	Pn	23 07 55.4	-0.4
OXZ	**Oxford**	**1.07**	**263**	PN	Pn	23 07 56.3	-

FOZ	**Fox Glacier**	**2.80**	**261**	⇓PN	Pn	23 08 20.7	+0.3
FOZ				AML	AML	23 08 52.2	
FOZ				AML	AML	23 08 52.3	
FOZ				AML	AML	23 08 53.1	
FOZ				AML	AML	23 08 53.1	
FOZ	**Fox Glacier**	**2.80**	**261**	Pn	Pn	23 08 20.7	+0.3
MRZ	**Mangatainoka R**	**2.97**	**32**	⇑PN	Pn	23 08 21.2	-1.7
MRZ				AML	AML	23 08 56.5	
MRZ				AML	AML	23 08 57.0	
MRZ	**Mangatainoka R**	**2.97**	**32**	Pn	Pn	23 08 21.2	-1.7
TIWZ	**Tintock**	**3.01**	**37**	PN	Pn	23 08 21.7	-1.6
TIWZ				AML	AML	23 08 55.9	
TIWZ				AML	AML	23 08 58.4	
TIWZ	**Tintock**	**3.01**	**37**	Pn	Pn	23 08 21.7	-1.6
PRWZ	**Pori Road**	**3.22**	**36**	PN	Pn	23 08 24.6	-1.8
BFZ	**Birch Farm**	**3.25**	**40**	PN	Pn	23 08 24.4	-2.3
BFZ	**Birch Farm**	**3.25**	**40**	Pn	Pn	23 08 24.4	-2.3
POWZ	**Post Office Ro**	**3.28**	**32**	PN	Pn	23 08 25.7	-1.4
POWZ	**Post Office Ro**	**3.28**	**32**	Pn	Pn	23 08 25.7	-1.4
HHSZ	**Highcliff Hill**	**3.39**	**217**	⇑PN	Pn	23 08 28.4	-0.3
DVHZ	**Dannevirke**	**3.52**	**35**	PN	Pn	23 08 28.0	-2.4
DVHZ	**Dannevirke**	**3.52**	**35**	Pn	Pn	23 08 28.0	-2.4
ANWZ	**Angora Road**	**3.53**	**40**	PN	Pn	23 08 28.8	-1.7
JCZ	**Jackson Bay**	**3.55**	**254**	PN	Pn	23 08 30.8	-0.1
WKZ	**Wanaka**	**3.62**	**242**	PN	Pn	23 08 31.8	0.0
WAZ	**Wanganui**	**3.62**	**19**	PN	Pn	23 08 32.5	+0.7
EAZ	**Earnscleugh**	**3.63**	**235**	PN	Pn	23 08 31.9	0.0
EAZ				AML	AML	23 09 13.0	
EAZ				AML	AML	23 09 14.0	
TSZ	**Takapari Road**	**3.64**	**31**	PN	Pn	23 08 30.1	-2.0
TSZ				AML	AML	23 09 12.7	
TSZ	**Takapari Road**	**3.64**	**31**	Pn	Pn	23 08 30.1	-2.0
PRHZ	**Porangahau**	**3.75**	**40**	PN	Pn	23 08 32.6	-1.1
PRHZ				SN	Sn	23 09 12.4	-4.3
WPHZ	**Waipukurau**	**3.83**	**36**	PN	Pn	23 08 33.3	-1.4
WPHZ				SN	Sn	23 09 16.1	-2.5
PNHZ	**Pukenui**	**3.86**	**33**	PN	Pn	23 08 32.9	-2.3
PNHZ				SN	Sn	23 09 15.6	-3.7
DFE	**Dawson Falls**	**3.90**	**7**	PN	Pn	23 08 36.4	+0.8
KHEZ	**Kahui Hut**	**3.92**	**6**	PN	Pn	23 08 37.0	+0.9
NEZ	**North Egmont**	**3.95**	**7**	PN	Pn	23 08 38.8	+2.4
PKE	**Pukeiti**	**4.02**	**5**	PN	Pn	23 08 38.2	+0.9
PXZ	**Pawanui**	**4.05**	**40**	PN	Pn	23 08 35.4	-2.2
PXZ				SN	Sn	23 09 20.3	-3.6
PKVZ	**Pokaka**	**4.15**	**20**	PN	Pn	23 08 39.0	-0.1
MOVZ	**Moawhango**	**4.15**	**25**	PN	Pn	23 08 37.8	-1.4
VRZ	**Vera Road**	**4.18**	**14**	PN	Pn	23 08 39.7	+0.2
VRZ				AML	AML	23 08 43.2	
VRZ				AML	AML	23 09 32.5	
WNVZ	**Wahianoa**	**4.18**	**23**	PN	Pn	23 09 39.0	-0.7
WNVZ				AML	AML	23 08 42.5	
BHHZ	**Black Hill Sta**	**4.18**	**28**	PN	Pn	23 08 38.1	-1.5
TRVZ	**Turoa**	**4.19**	**22**	PN	Pn	23 08 39.5	-0.4
TRVZ				AML	AML	23 09 28.2	
TRVZ				AML	AML	23 09 30.6	
DRZ	**Dome Shelter**	**4.22**	**22**	PN	Pn	23 08 40.0	-0.4
WHVZ	**Whangaehu Hut**	**4.22**	**23**	PN	Pn	23 08 39.6	-0.7
FWVZ	**Far West T-bar**	**4.23**	**22**	PN	Pn	23 08 40.1	-0.4
FWVZ				AML	AML	23 09 28.6	
FWVZ				AML	AML	23 09 31.4	
KAHZ	**Kahuranaki**	**4.24**	**38**	PN	Pn	23 08 39.2	-1.2
KAHZ				SN	Sn	23 09 25.1	-3.8
WPVZ	**Whakapapa**	**4.28**	**22**	PN	Pn	23 08 41.4	+0.4
COVZ	**Chateau Observ**	**4.29**	**22**	PN	Pn	23 08 40.8	-0.2
NGZ	**Ngauruhoe**	**4.32**	**22**	PN	Pn	23 08 41.1	-0.5
OTVZ	**Oturere**	**4.35**	**23**	PN	Pn	23 08 41.3	-0.7
OTVZ				AML	AML	23 09 33.4	
TWVZ	**Taurewa**	**4.38**	**20**	PN	Pn	23 08 41.7	-0.6
MCHZ	**McNeill Hill**	**4.46**	**34**	PN	Pn	23 08 41.8	-1.5
KATZ	**Kakaramea**	**4.54**	**22**	PN	Pn	23 08 44.7	+0.2
SYZ	**Scrubby Hill**	**4.55**	**221**	PN	Pn	23 08 44.5	-0.1
HIZ	**Hauiti**	**4.79**	**13**	PN	Pn	23 08 47.9	0.0
NMHZ	**Naumai**	**4.80**	**32**	PN	Pn	23 08 46.0	-2.1
RAHZ	**Arahi**	**5.07**	**34**	PN	Pn	23 08 49.8	-1.9
DCZ	**Deep Cove**	**5.09**	**241**	PN	Pn	23 08 51.6	-0.3
ALRZ	**Allen Road**	**5.11**	**26**	PN	Pn	23 08 49.8	-2.5
KNZ	**Kokohu**	**5.23**	**38**	PN	Pn	23 08 51.2	-2.7
SNGZ	**Shannon Statio**	**5.29**	**35**	PN	Pn	23 08 52.0	-2.7
APZ	**The Paps**	**5.33**	**225**	PN	Pn	23 08 55.0	-0.4
RIGZ	**Rimuhau**	**5.53**	**37**	PN	Pn	23 08 55.3	-2.8
TOZ	**Tahuroa Road**	**5.67**	**16**	PN	Pn	23 08 59.0	-0.9
PYZ	**Puysegur Point**	**5.69**	**236**	PN	Pn	23 08 59.8	-0.4
MWZ	**Matawai**	**5.74**	**34**	PN	Pn	23 08 57.3	-3.7
MKAZ	**Moumakai**	**6.21**	**12**	PN	Pn	23 09 06.5	-1.0
HAZ	**Te Kaha**	**6.34**	**32**	PN	Pn	23 09 06.0	-3.2

*ISCJB **16** 23:17:32.6±0.6, 6°.43S±0°.04×130°.19E±0°.10, h90km, mb3.5/4, Error ellipse: s-maj=13.5km s-min=5.7km az=2.6*
*IDC **16** 23:17:45.1±11.0, 6°.87S×130°.76E, h231km±137km, mb3.1/4, mb1 3.3/5, mb1mx3.1/31, mbtmp3.8/5, Error ellipse: s-maj=104.3km s-min=58.8km az=84.0*

ISC 16 23:17:34.2±0.8, **6°.53S**±0°.05×**130°.40E**±0°.09, **h90**km, **n15, σ2$33/18, mb3.6/4, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.04**	**27**	P	**Pn**	**23 18 36.1**	**+2.3**
	baz=4.2,SNR=52						
FAKI				S	**Sn**	**23 19 20.3**	**+0.3**
	baz=4.2,SNR=14						
MTN	**Manton Dam**	**6.32**	**173**	P	Pn	23 19 08.7	+3.9
	baz=6.5,SNR=23						
MTN				S	**Sn**	**23 20 18.9**	**+3.4**
	baz=6.5,SNR=8.4						
KDU	**Kakadu**	**6.45**	**162**	P	Pn	23 19 10.4	+3.8
	baz=6.7,SNR=293						
KDU				S	**Sn**	**23 20 20.9**	**+2.1**
	baz=6.7,SNR=11						
KNRA	**Kununurra**	**9.23**	**190**	P	**Pn**	**23 19 45.7**	**+1.2**
	baz=9.3,SNR=89						
KNRA				S	**Sn**	**23 21 23.7**	**-2.9**
	baz=9.3,SNR=7.4						
WRA	**Warramunga Arr**	**13.87**	**164**	P	**Pn**	**23 20 47.7**	**+0.7**
	3.2nm,0.3s,baz=344,slow=13,SNR=31						
WRA				S	**Sn**	**23 23 16.5**	**-3.1**
	3.2nm,0.3s,baz=353,slow=22,SNR=8.7						
COEN	**Coen**	**14.57**	**121**	P	**P**	**23 21 01.9**	**+1.8**
	baz=15,SNR=10						
COEN				S	**Sn**	**23 23 32.2**	**-4.5**
	baz=15,SNR=7.8						
QIS	**Mount Isa**	**16.56**	**148**	P	**P**	**23 21 24.5**	**+2.4**
	baz=17,SNR=3.8						
QIS				S	Sn	23 24 18.0	-6.7
	baz=17,SNR=4.1						
WRKA	**Warakurna**	**18.51**	**186**	P	**Pn**	**23 21 45.6**	**+0.8**
	baz=19,SNR=13						
LEM	**Lembang**	**22.62**	**268**	P	P	23 22 20.6	-7.4
	baz=22,SNR=4.3						
MEEK	**Meekatharra**	**22.93**	**208**	P	**P**	**23 22 30.5**	**-0.4**
	baz=23,SNR=3.3						
PATS	**Pohnpei**	**30.86**	**65**	S	**S**	**23 28 38.9**	**-0.9**
	baz=31,SNR=3.1						
SONM	**Songino Array**	**58.12**	**341**	P	**P**	**23 27 17.4**	**-1.2**
	0.3nm,0.5s,baz=158,slow=7.1,SNR=6.7						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**23 28 22.9**	**-1.3**
	0.5nm,0.5s,baz=120,slow=8.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**71.34**	**334**	P	**P**	**23 28 42.3**	**-1.9**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**72.32**	**328**	P	**P**	**23 28 48.6**	**-1.5**
	0.2nm,0.5s,baz=122,slow=5.4,SNR=2.8						

*IDC **16** 23:18:01.2±7.6, 21°.08N×143°.35E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/42, mbtmp3.5/7, Error ellipse: s-maj=203.7km s-min=36.1km az=179.0*

ISC 16 23:18:10.0±7.7, **22°.1N**±1°×**143°.4E**±0°.3, **h35**km, **n7, σ1$69/7, mb3.5/7, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.48**	**320**	P	**P**	**23 25 38.2**	**+1.1**
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.1						
MKAR	**Makanchi Array**	**54.86**	**313**	P	**P**	**23 27 37.2**	**+0.4**
	0.2nm,0.6s,baz=96,slow=7.4,SNR=4.7						
KURBB	**Kurchatov Arra**	**57.68**	**317**	P	**P**	**23 27 54.6**	**-2.3**
	0.2nm,0.4s,baz=92,slow=8.3,SNR=6.5						
ILAR	**Eielson Array**	**61.97**	**27**	P	**P**	**23 28 25.4**	**-0.8**
	0.9nm,1.0s,baz=252,slow=5.1,SNR=6.9						
BVAR	**Borovoye Array**	**62.82**	**320**	P	**P**	**23 28 30.2**	**-1.9**
	0.4nm,0.5s,baz=87,slow=7.4,SNR=7.1						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**23 29 56.3**	**+0.9**
	0.1nm,0.5s,baz=294,slow=5.6,SNR=4.4						
FINES	**FINESS Array B**	**83.29**	**335**	P	**P**	**23 30 33.3**	**+0.5**
	2.9nm,1.1s,baz=74,slow=5.9,SNR=6.7						

*IDC **16** 23:37:44.3±5.0, 35°.79N×70°.94E, h157km±43km, mb3.2/6, mb1 3.3/10, mb1mx3.0/48, mbtmp3.6/10, Error ellipse: s-maj=34.4km s-min=23.7km az=27.0*
*NNC **16** 23:37:57.0±3.2, 36°.85N×70°.83E, h170km, mb3.0, mpv3.9, Error ellipse: s-maj=28.0km s-min=22.5km az=141.0*

ISC 16 23:37:52.2±1.8, **36°.5N**±0°.1×**71°.1E**±0°.1, **h188**km, **n24, σ1$58/25, mb3.3/5, 2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.90**	**51**	Pn	**Pn**	**23 39 03.1**	**-2.1**
KSH				Sn	Sn	23 39 54.8	-7.8
KSH				smax	smax		
	comp=N,21nm,0.3s						
KSH				smax	smax		
	comp=E,19nm,0.4s						
DLH	**Dalhousie**	**5.64**	**133**	*e*P	Sn	23 40 08.0	-12
AML	**Almayashu**	**5.98**	**19**	P	**Pn**	**23 39 20.4**	**+1.0**
	SNR=102						
UCH	**Uchtor**	**6.31**	**24**	P	**Pn**	**23 39 25.5**	**+1.7**
	SNR=29						
KZA	**Kyzart**	**6.45**	**29**	P	**Pn**	**23 39 26.8**	**+1.4**
	SNR=8.2						
EKS2	**Erkin-Say**	**6.50**	**18**	P	**Pn**	**23 39 27.0**	**+1.1**
	SNR=7.3						
KK31	**Karatay Array**	**6.62**	**356**	P	**Pn**	**23 39 27.5**	**+0.2**
	comp=E,2.8nm,0.4s,baz=189,slow=14,SNR=25						
KK31				S	**Sn**	**23 40 38.2**	**-4.3**
	comp=E,2.2nm,0.3s,baz=188,slow=24,SNR=6.8						
AAK	**Ala-Archa**	**6.67**	**22**	⇑P	**Pn**	**23 39 29.5**	**+1.2**
	comp=E,4.2nm,0.3s						
AAK				⇓S	**Sn**	**23 40 44.4**	**+0.3**
	comp=E,5.5nm,0.7s						
AAK	**Ala-Archa**	**6.67**	**22**	P	**Pn**	**23 39 30.0**	**+1.8**
	SNR=18						
AAK	**Ala-Archa**	**6.67**	**22**	P	**Pn**	**23 39 30.1**	**+1.8**
	comp=E,3.1nm,0.3s,baz=184,slow=9.2,SNR=55						
AAK				S	**Sn**	**23 40 43.9**	**-0.2**
	comp=E,0.5nm,0.3s,baz=131,slow=22,SNR=13						
KBK	**Karagaybulak**	**6.84**	**25**	P	**Pn**	**23 39 32.5**	**+2.1**
	SNR=8.9						
USP	**Ospenovka**	**7.26**	**20**	P	**Pn**	**23 39 37.1**	**+1.4**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.30**	**27**	⇓P	**Pn**	**23 39 37.9**	**+1.5**
	comp=E,8.3nm,0.8s						
TKM2				⇑S	**Sn**	**23 40 57.4**	**-1.6**
	comp=E,2.7nm,0.8s						
TKM2	**Tokmak 2**	**7.30**	**27**	P	**Pn**	**23 39 38.1**	**+1.6**
	SNR=16						
MKAR	**Makanchi Array**	**13.26**	**36**	P	**Pn**	**23 40 54.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=214,slow=7.0,SNR=4.1						
AB31	**Akbulak array**	**15.12**	**331**	⇓P	**P**	**23 41 17.4**	**+0.4**
	comp=E,0.6nm,0.5s,baz=144,slow=10,SNR=16						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**23 41 33.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=164,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**16.82**	**330**	P	**Pn**	**23 41 36.5**	**-0.2**
	comp=E,0.1nm,0.3s,baz=140,slow=12,SNR=3.1						
ZALV	**Zalesovo Beam**	**19.89**	**24**	P	**P**	**23 42 09.8**	**+0.7**
	comp=E,1.0nm,0.3s,baz=216,slow=11,SNR=8.9						
FINES	**FINESS Array B**	**37.52**	**326**	P	**P**	**23 44 47.4**	**-0.3**
	comp=E,1.2nm,0.9s,baz=114,slow=9.4,SNR=5.4						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**23 45 17.9**	**+0.1**
	comp=E,4.3nm,0.9s,baz=111,slow=7.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	P	23 48 11.6	-5.8
	comp=E,0.2nm,0.4s,baz=52,slow=5.5,SNR=6.7						
YKA	**Yellowknife Ar**	**81.25**	**3**	P	**P**	**23 49 46.4**	**-0.4**
	comp=E,0.1nm,0.4s,baz=351,slow=5.2,SNR=4.5						
WRA	**Warramunga Arr**	**81.94**	**122**	P	P	23 49 45.4	-5.6
	comp=E,0.2nm,0.3s,baz=328,slow=4.6,SNR=2.5						

MAN 17 00:41:53, 6°.79N×124°.04E, h21km**, mb4.4, ML3.3, MS3.1, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.47**	**26**	⇓*i*P	Pn	00 42 04.0	-0.5
CTBH				*i* S	Sn	00 42 14.1	+1.8
PAGZ	**Pagadian**	**1.23**	**328**	*e*P	Pb	00 42 16.2	+0.6
PAGZ				*e*S	Sn	00 42 25.9	-5.1
BUKP	**Musuan**	**1.48**	**43**	*e*P	Pn	00 42 18.8	+0.3
IPIL	**Ipil**	**1.76**	**304**	*e*P	Pn	00 42 23.1	+0.8

*JSN **17** 00:46:36.1±0.6, 21°.09N×72°.60W, h50km±999km*
*ISCJB **17** 00:46:48.4±0.8, 18°.5N±0°.1×72°.90W±0°.09, h6km, mb3.3/6, MS3.1/2, Error ellipse: s-maj=16.1km s-min=11.8km az=167.4*
*IDC **17** 00:46:49.3±1.4, 18°.53N×72°.89W, h0km, mb3.5/7, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, ML3.5/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/35, Error ellipse: s-maj=39.9km s-min=24.5km az=14.0*

ISC 17 00:46:50.3±0.9, **18°.6N**±0°.1×**72°.95W**±0°.09, **h6**km, **n16, σ0$96/13, mb3.4/6, 2C, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHJ	**Yallahs**	**3.43**	**259**	*i* P	**Pn**	**00 47 45.6**	**+1.2**
GWJ	**Greenwich**	**3.62**	**263**	*i* P	**Pn**	**00 47 46.2**	**-0.8**
HOJ	**Hope**	**3.65**	**262**	⇑*i*P	**Pn**	**00 47 47.6**	**+0.2**
STH	**Stony Hill**	**3.70**	**263**	⇑*i*P	**Pn**	**00 47 46.9**	**-1.1**
STH				*i* S	**Sb**	**00 48 40.3**	**-0.9**
ROSC	**El Rosal**	**13.69**	**186**	Pn	**Pn**	**00 50 05.6**	**+0.2**
	1.5nm,0.3s,baz=247,slow=24,SNR=3.6						
JTS	**JuntasAbangare**	**14.23**	**236**	LR	LR	00 55 46.1	
	comp=Z,38nm,19.9s,baz=97,slow=38						
TEIG	**Tepich**	**14.56**	**279**	Pn	**Pn**	**00 50 17.2**	**+0.3**
	1.1nm,0.3s,baz=197,slow=22,SNR=6.2						
TKL	**Tuckaleechee C**	**19.54**	**333**	LR	LR	00 59 43.4	
	comp=Z,51nm,18.1s,baz=22,slow=40						
SADO	**Sadowa**	**26.64**	**350**	LR	LR	01 03 10.8	
	comp=Z,39nm,21.1s,baz=355,slow=37						
TXAR	**Lajitas Array**	**29.97**	**297**	P	**P**	**00 52 59.5**	**-0.2**
	0.4nm,0.9s,baz=119,slow=7.3,SNR=2.9						
LPAZ	**La Paz**	**34.95**	**172**	LR	LR	01 08 47.4	
	comp=Z,47nm,20.2s,baz=32,slow=38						
PDAR	**Pinedale Array**	**39.21**	**316**	P	**P**	**00 54 19.5**	**-0.1**
	0.2nm,0.5s,baz=113,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**43.99**	**306**	P	**P**	**00 55 00.7**	**+1.8**
	0.6nm,1.0s,baz=105,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**52.46**	**337**	P	**P**	**00 56 03.5**	**-0.1**
	0.3nm,0.7s,baz=125,slow=7.8,SNR=8.0						
TORD	**Torodi Ar. Bea**	**71.57**	**82**	P	**P**	**00 58 11.8**	**-1.2**
	0.4nm,0.8s,baz=279,slow=7.5,SNR=3.4						
GERES	**GERESS Array B**	**74.09**	**43**	P	**P**	**00 58 27.9**	**+0.4**
	1.0nm,0.9s,baz=284,slow=5.4,SNR=5.6						

*IDC **17** 00:51:43.1±1.7, 51°.29N×177°.90E, h0km, mb3.5/7, mb1 3.9/8, mb1mx3.6/28, mbtmp3.5/8, ML3.6/1, Error ellipse: s-maj=49.6km s-min=11.6km az=13.0*
*ISCJB **17** 00:51:50.6±0.9, 51°.6N±0°.1×177°.66E±0°.07, h70km±6km, mb3.5/7, Error ellipse: s-maj=23.0km s-min=6.7km az=10.4*
*NEIC **17** 00:51:51.0, 51°.51N×177°.63E, h47km, ML3.6(AEIC), After AEIC.*

ISC 17 00:51:51.7±1.3, **51°.6N**±0°.1×**177°.71E**±0°.05, **h61**km±10km, **n31, σ1$06/30, mb3.6/7, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.62**	**53**	P	**Pn**	**00 52 05.1**	**0.0**
LSNW	**Little Sitkin**	**0.64**	**52**	P	**Pn**	**00 52 05.2**	**0.0**
LSSE	**Little Sitkin**	**0.64**	**56**	P	**Pn**	**00 52 05.3**	**0.0**
LSPA	**Little Sitkin**	**0.66**	**54**	P	**Pn**	**00 52 05.6**	**+0.1**
LSPA				S	**Sn**	**00 52 15.2**	**-0.3**
AMKA	**Amchitka**	**1.01**	**101**	P	**Pn**	**00 52 09.9**	**0.0**
AMKA				S	**Sn**	**00 52 23.1**	**-0.3**
CETU	**Semis' Tuman**	**1.17**	**70**	P	**Pn**	**00 52 12.7**	**+0.7**
CESW	**Semis' Southwe**	**1.20**	**74**	P	**Pn**	**00 52 12.6**	**+0.3**
CEAP	**Semis' Anvil P**	**1.23**	**69**	P	**Pn**	**00 52 13.8**	**+1.0**
CERB	**Semis' Cerberu**	**1.24**	**73**	P	**Pn**	**00 52 13.6**	**+0.6**
CERB				S	**Sn**	**00 52 29.8**	**+1.0**
CERAA	**Semis' Rag'd T**	**1.27**	**74**	P	**Pn**	**00 52 13.7**	**+0.4**
GALAA	**Gareloi Lava P**	**2.20**	**84**	P	**Pn**	**00 52 27.4**	**+1.6**
SMY	**Shemya**	**2.51**	**299**	P	**Pn**	**00 52 29.6**	**-0.4**
TASE	**Tanaga Southea**	**2.66**	**83**	P	**Pn**	**00 52 33.2**	**+1.2**
TAFP	**Tanaga Falls P**	**2.69**	**81**	P	**Pn**	**00 52 33.3**	**+0.7**
TAFP				S	**Sn**	**00 53 05.6**	**+1.6**
TAPA	**Tanaga Point A**	**2.79**	**83**	P	**Pn**	**00 52 34.8**	**+0.9**
FX1	**Attu Island--F**	**3.09**	**297**	P	**Pn**	**00 52 38.5**	**+0.6**
FX1				S	**Sn**	**00 53 16.8**	**+3.2**
FX1	**Attu Island--F**	**3.09**	**297**	Pn	Pn	00 52 35.3	-2.6
	21nm,0.3s,baz=153,slow=16,SNR=28						
FX1				Sn	**Sn**	**00 53 13.5**	**-0.1**
	21nm,0.3s,baz=107,slow=19,SNR=5.4						
KIKV	**Kanaga Island**	**3.20**	**83**	P	**Pn**	**00 52 40.6**	**+1.2**
ILAR	**Eielson Array**	**22.48**	**40**	P	**P**	**00 56 44.8**	**-0.7**
	0.4nm,0.5s,baz=247,slow=8.6,SNR=12						
H11N2	**WAKE ISLAND Hy**	**32.90**	**199**	T	T	01 33 38.9	
	baz=15,slow=72,SNR=20						
H11N3	**WAKE ISLAND Hy**	**32.91**	**199**	T	T	01 33 39.1	
	baz=15,slow=72,SNR=13						
H11N1	**WAKE ISLAND Hy**	**32.92**	**199**	T	T	01 33 36.8	
	baz=15,slow=72,SNR=22						
H11S1	**WAKE ISLAND Hy**	**34.13**	**199**	T	T	01 35 07.4	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**34.14**	**199**	T	T	01 35 09.7	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**34.14**	**199**	T	T	01 35 08.5	
	baz=17						
YKA	**Yellowknife Ar**	**36.67**	**46**	P	**P**	**00 58 51.9**	**0.0**
	0.4nm,0.6s,baz=282,slow=8.3,SNR=6.5						
SONM	**Songino Array**	**44.59**	**295**	P	**P**	**00 59 58.3**	**+0.7**
	1.0nm,0.4s,baz=72,slow=7.5,SNR=11						
NVAR	**Mina Array Bea**	**45.68**	**81**	P	**P**	**01 00 04.6**	**-1.8**
	0.4nm,0.7s,baz=290,slow=8.8,SNR=3.6						
PDAR	**Pinedale Array**	**48.31**	**70**	P	**P**	**01 00 25.7**	**-1.1**
	0.6nm,0.8s,baz=309,slow=3.5,SNR=4.4						
MKAR	**Makanchi Array**	**58.18**	**306**	P	**P**	**01 01 38.4**	**-0.6**
	0.3nm,0.4s,baz=47,slow=7.2,SNR=5.5						
TXAR	**Lajitas Array**	**60.77**	**79**	P	**P**	**01 01 57.4**	**+0.3**
	0.3nm,0.6s,baz=303,slow=5.8,SNR=11						

*ARO **17** 01:04:42.5, 15°.N±185°.×4°.5E±10°.0, h15km±99km, ML4.0*
*CSEM **17** 01:04:52.7±0.4, 14°.48N×44°.51E, h2km, ML4.3, Error ellipse: s-maj=11.6km s-min=7.5km az=64.0*
*ISCJB **17** 01:04:53.1±0.6, 14°.49N±0°.03×44°.39E±0°.04, h5km±5km, Error ellipse: s-maj=6.4km s-min=4.6km az=178.1*
*DHMR **17** 01:04:53.6±0.9, 14°.52N×44°.42E, h4km±5km, ML4.3, MW6.0*

ISC 17 01:04:53.4±1.1, **14°.51N**±0°.03×**44°.43E**±0°.04, **h2**km±10km, **n17, σ0$94/27, 5C-5D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHBB	**Dhamar BB**	**0.07**	**324**	⇓*i*P	**Pg**	**01 04 54.9**	**0.0**
DHBB				*i* S	**Sg**	**01 04 56.0**	**0.0**
DHBB	**Dhamar BB**	**0.07**	**324**	⇓*i*P	**Pg**	**01 04 54.8**	**-0.1**
	SNR=106						
DHBB				*i* S	**Sg**	**01 04 56.0**	**0.0**
UDYN	**Al 'Udayn**	**0.71**	**220**	⇑*i*P	**Pg**	**01 05 06.9**	**-0.1**
UDYN				*i* S	**Sg**	**01 05 16.4**	**+0.3**
SANA	**San'a**	**0.90**	**346**	⇑*i*P	**Pg**	**01 05 10.1**	**-0.4**
SANA				*i* S	**Sg**	**01 05 23.2**	**+1.0**
SANA				AML	AML	01 05 26.4	
	comp=E,11μm,0.3s						
LBOS		**1.02**	**129**	⇑*i*P	**Pg**	**01 05 13.5**	**+0.6**
LBOS				*i* S	**Sb**	**01 05 27.7**	**-0.1**
BDHA	**Al Bayda'**	**1.22**	**116**	⇑*i*P	**Pg**	**01 05 16.7**	**-0.1**
BDHA				AML	AML	01 05 37.5	
	comp=N,10μm,0.3s						
BDHA	**Al Bayda'**	**1.22**	**116**	⇑*i*P	**Pg**	**01 05 16.7**	**-0.1**
	SNR=91						
BDHA				*i* S	**Sg**	**01 05 33.3**	**+0.6**
	comp=N,10μm,0.3s,SNR=91						
TRBA	**At Turbah**	**1.31**	**194**	⇓*e*P	**Pg**	**01 05 18.5**	**-0.1**
TRBA				*i* S	**Sb**	**01 05 36.9**	**+0.6**
HAJJ	**Hajjah**	**1.43**	**326**	⇓*i*P	**Pn**	**01 05 20.1**	**-0.4**
HAJJ				*i* S	**Sn**	**01 05 40.3**	**+0.3**
HAJJ				AML	AML	01 05 41.4	
	comp=Z,4μm,0.3s						
HAJJ	**Hajjah**	**1.43**	**326**	⇓*i*P	**Pn**	**01 05 20.1**	**-0.4**
HAJJ				*i* S	**Sn**	**01 05 40.3**	**+0.3**
	comp=Z,4μm,0.3s,SNR=75

0.8nm,0.9s,baz=277,slow=5.2,SNR=4.6

MAN 17 01:28:19,10°38N×122°92E,h16km,mb4.2,ML3.0,MS2.7, 2C-1D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.41**	**308**	*e*P	Pb	01 28 28.4	+0.6
GUIM				*e*S	Sb	01 28 35.3	+1.6
LLP	**Lapu-Lapu**	**1.04**	**93**⇓	*e*P	Pb	01 28 35.5	-3.1
LLP				*e*S	Sb	01 28 48.0	-4.0
SNPH	**Sibulan**	**1.07**	**163**⇑	*i*P	Pb	01 28 34.4	-4.9
SNPH				*i* S	Sb	01 28 50.8	-2.4
TBP	**Tagbilaran**	**1.16**	**126**	*e*P	Pn	01 28 39.0	-1.5
TBP				*e*S	Sg	01 28 56.9	+0.4
RCP	**Roxas**	**1.19**	**352**⇑	*e*P	Pn	01 28 39.9	-1.1
RCP				*e*S	Sg	01 28 57.2	-0.3
MSLP	**Maasin**	**1.93**	**97**	*e*P	Pn	01 28 51.5	+0.3
MSLP				*e*S	Sn	01 29 16.3	+1.2
PAGZ	**Pagadian**	**2.56**	**170**	*e*P	Pn	01 29 00.3	+0.5

IDC 17 01:42:38.8±9.3,6°69S×127°59E,h519km±146km,mb2.7/3, mb1 3.0/4,mb1mx2.8/18,mbtmp3.7/4,Error ellipse: s-maj=100.3km s-min=62.5km az=81.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.72**	**154**	P	P	01 45 45.1	-0.8
	0.8nm,0.3s,baz=334,slow=11,SNR=10						
WRA				S	S	01 48 23.1	+3.0
	baz=331,slow=18,SNR=4.0						
SONM	**Songino Array**	**57.42**	**343**	P	P	01 51 38.3	+0.5
	0.2nm,0.5s,baz=157,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**66.67**	**328**	P	P	01 52 37.7	-0.1
	0.3nm,0.4s,baz=118,slow=8.1,SNR=15						
ZALV	**Zalesovo Beam**	**70.26**	**335**	P	P	01 52 58.8	-0.6
	0.6nm,0.6s,baz=117,slow=5.0,SNR=3.8						

JMA 17 01:49:04.4,22°68N×120°82E,h62km±1km,M3.7
ISCJB 17 01:49:05.7±0.4,22°70N±0°02×120°88E±0°02,h61km±3km, Error ellipse: s-maj=3.4km s-min=3.0km az=171.5
TAP 17 01:49:05.9,22°72N×120°85E,h51km,ML3.9,B
ISC 17 01:49:06.4±1.3,22°70N±0°03×120°86E±0°03,h56km±6km, n64,σ0s61/114,11C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.14**	**140**	*e*P	**Pn**	**01 49 14.8**	**-0.2**
	baz=138						
ECL				S	**Sn**	**01 49 20.7**	**-0.6**
	baz=138						
SSD	**Sandimen**	**0.22**	**282**⇓	*i*P	**Pn**	**01 49 15.1**	**-0.4**
	baz=279						
SSD				S	**Sn**	**01 49 21.2**	**-0.9**
	baz=279						
TWG	**Pinlang**	**0.23**	**59**⇓	*i*P	**Pn**	**01 49 15.2**	**-0.3**
	baz=65						
TWG				S	**Sn**	**01 49 21.8**	**-0.3**
	baz=65						
TTN	**Taitung**	**0.27**	**79**	*e*P	**Pn**	**01 49 15.8**	**0.0**
	baz=93						
TTN				*e*S	**Sn**	**01 49 23.1**	**+0.5**
	baz=93						
EAST	**Anshuo**	**0.32**	**182**⇓	*i*P	**Pn**	**01 49 16.1**	**-0.2**
	baz=182						
EAST				S	**Sn**	**01 49 22.9**	**-0.5**
	baz=182						
SGLT	**Jiouru**	**0.34**	**274**	*e*P	**Pn**	**01 49 16.6**	**+0.2**
	baz=276						
SGLT				*e*S	**Sn**	**01 49 24.1**	**+0.4**
	baz=276						
TAW	**Tawu**	**0.34**	**175**	P	**Pn**	**01 49 16.4**	**-0.1**
	baz=172						
TAW				*i* S	**Sn**	**01 49 23.7**	**0.0**
	baz=172						
SCZT	**Fangliau**	**0.40**	**214**⇓	*i*P	**Pn**	**01 49 16.7**	**-0.2**
	baz=214						
SCZT				*i* S	**Sn**	**01 49 24.1**	**-0.5**
	baz=214						
TWM1	**Shoushan**	**0.42**	**287**	*e*P	**Pn**	**01 49 17.8**	**+0.5**
	baz=286						
TWM1				*e*S	**Sn**	**01 49 26.4**	**+1.3**
	baz=286						
SGST	**Jiashian**	**0.46**	**326**⇑	*i*P	**Pn**	**01 49 17.4**	**-0.2**
	baz=327						
SGST				S	**Sn**	**01 49 25.6**	**-0.1**
	baz=327						
STYT	**Tauyuan**	**0.47**	**348**⇑	*i*P	**Pn**	**01 49 17.4**	**-0.4**
	baz=342						
STYT				*e*S	**Sn**	**01 49 25.5**	**-0.5**
	baz=342						
ELDTW	**Lidau**	**0.51**	**17**⇓	*i*P	**Pn**	**01 49 18.1**	**-0.2**
	baz=10.0						
ELDTW				S	**Sn**	**01 49 26.6**	**-0.3**
	baz=10.0						
KAU	**Kaohsiung**	**0.53**	**255**	*e*P	**Pn**	**01 49 19.0**	**+0.7**
	baz=253						
KAU				*e*S	**Sn**	**01 49 28.2**	**+1.2**
	baz=253						
CHN1	**Nanshi**	**0.57**	**328**⇑	*i*P	**Pn**	**01 49 18.6**	**-0.3**
	baz=328						
CHN1				S	**Sn**	**01 49 28.0**	**+0.1**
	baz=328						
TWP	**Hsiaoliuchiu**	**0.58**	**233**	*e*P	**Pn**	**01 49 19.5**	**+0.6**
	baz=230						
WTP	**Ta-pu**	**0.59**	**337**⇑	*i*P	**Pn**	**01 49 18.8**	**-0.3**
	baz=339						
WTP				*e*S	**Sn**	**01 49 28.1**	**-0.2**
	baz=339						
CHN3	**Shinhua**	**0.59**	**309**	*e*P	**Pn**	**01 49 19.3**	**+0.3**
	baz=309						
CHN3				*e*S	**Sn**	**01 49 29.2**	**+1.0**
	baz=309						
CHKT	**Chengkung**	**0.61**	**50**	P	**Pn**	**01 49 19.1**	**-0.2**
	baz=52						
CHKT				S	**Sn**	**01 49 28.9**	**+0.3**
	baz=52						
TWK	**Hsinying**	**0.66**	**329**⇑	*i*P	**Pn**	**01 49 19.5**	**-0.4**
	baz=330						
TWK				*e*S	**Sn**	**01 49 30.0**	**+0.2**
	baz=330						
TAI1	**Yung-k'ang**	**0.67**	**300**	*e*P	**Pn**	**01 49 20.2**	**+0.1**
	baz=300						
HEN	**Hengchun**	**0.70**	**189**	⇓P	**Pn**	**01 49 20.6**	**+0.2**
	baz=192						
HEN				*e*S	**Sn**	**01 49 31.1**	**+0.5**
	baz=192						
TWK1	**Hengchun**	**0.76**	**184**⇓	*i*P	**Pn**	**01 49 21.2**	**+0.1**
	baz=186						
TWK1				S	**Sn**	**01 49 32.2**	**+0.3**
	baz=186						
TWF1	**Yuli**	**0.76**	**32**⇓	*i*P	**Pn**	**01 49 20.9**	**-0.3**
	baz=33						
TWF1				S	**Sn**	**01 49 32.7**	**+0.7**
	baz=33						
SCLT	**Jiali**	**0.77**	**308**	P	**Pn**	**01 49 21.3**	**0.0**
	baz=308						
SCLT				S	**Sn**	**01 49 32.9**	**+0.7**
	baz=308						
YUS	**Yu-Shan**	**0.79**	**6**⇑	*i*P	**Pn**	**01 49 21.9**	**-0.1**
	baz=7.0						
YUS				*e*S	**Sn**	**01 49 33.2**	**-0.2**
	baz=7.0						
TSEB	**Hengchuen, Pin**	**0.80**	**177**	*e*P	**Pn**	**01 49 21.8**	**+0.2**
	baz=173						
TSEB				*e*S	**Sn**	**01 49 33.8**	**+1.0**
	baz=173						
ALS	**Alishan**	**0.81**	**356**⇑	*i*P	**Pn**	**01 49 21.9**	**-0.2**
	baz=347						
ALS				S	**Sn**	**01 49 33.5**	**0.0**
	baz=347						
CHN8	**Yiju**	**0.88**	**317**	*e*P	**Pn**	**01 49 22.1**	**-0.6**
	baz=318						
CHN8				*e*S	**Sn**	**01 49 35.3**	**+0.7**
	baz=318						
CHY	**Chiayi**	**0.89**	**333**	*e*P	**Pn**	**01 49 22.0**	**-0.8**
	baz=334						
CHY				*e*S	**Sn**	**01 49 34.8**	**-0.1**
	baz=334						
CHN2	**Minshiung**	**0.90**	**337**	⇑P	**Pn**	**01 49 22.7**	**-0.3**
	baz=337						
CHN2				*e*S	**Sn**	**01 49 35.5**	**+0.4**
	baz=337						
EHY	**Hungye**	**0.91**	**28**⇓	*i*P	**Pn**	**01 49 22.8**	**-0.2**
	baz=37						
EHY				*e*S	**Sn**	**01 49 35.8**	**+0.5**
	baz=37						
CHN5	**Tsauling**	**0.91**	**349**	⇑P	**Pn**	**01 49 22.7**	**-0.5**
	baz=350						
CHN5				*e*S	**Sn**	**01 49 35.3**	**-0.2**
	baz=350						
LAY	**Lan-yu**	**0.92**	**136**	*e*P	**Pn**	**01 49 21.6**	**-1.6**
	baz=129						
WGK	**Gukeng**	**1.02**	**344**	*e*P	**Pn**	**01 49 24.1**	**-0.4**
	baz=345						
WGK				*e*S	**Sn**	**01 49 38.0**	**+0.1**
	baz=345						
WSF	**Szhu**	**1.10**	**328**	*e*P	**Pn**	**01 49 25.0**	**-0.6**
	baz=328						
WSF				S	**Sn**	**01 49 39.8**	**-0.1**
	baz=328						
SMLT	**Sun Moon Lake**	**1.18**	**2**	P	**Pn**	**01 49 26.8**	**0.0**
	baz=2.0						
SMLT				*i* S	**Sn**	**01 49 42.0**	**+0.1**
	baz=2.0						
WNT	**Mingjian**	**1.18**	**352**	*e*P	**Pn**	**01 49 26.6**	**-0.1**
	baz=343						
WNT				*e*S	**Sn**	**01 49 41.9**	**+0.1**
	baz=343						
TYC	**Yuchr**	**1.20**	**360**	⇑P	**Pn**	**01 49 26.8**	**-0.1**
	baz=350						
TYC				S	**Sn**	**01 49 42.7**	**+0.5**
	baz=350						
ESL	**Shilin**	**1.23**	**25**⇓	*e*P	**Pn**	**01 49 26.7**	**-0.6**
	baz=40						
ESL				*e*S	**Sn**	**01 49 43.1**	**+0.2**
	baz=40						
WDGT	**Dungji**	**1.24**	**297**⇑	*e*P	**Pn**	**01 49 26.4**	**-1.0**
	baz=297						
WDGT				*e*S	**Sn**	**01 49 41.1**	**-2.0**
	baz=297						
WTCT	**Ta-ch'eng**	**1.27**	**335**	*e*P	**Pn**	**01 49 27.1**	**-0.8**
	baz=336						
TCU	**Taichung**	**1.45**	**353**	*e*P	**Pn**	**01 49 30.3**	**0.0**
	baz=343						
PNG	**Penghu**	**1.48**	**306**	*e*P	**Pn**	**01 49 29.6**	**-1.1**
	baz=306						
PNG				*e*S	**Sn**	**01 49 46.7**	**-2.2**
	baz=306						
WHF	**Hehuan Shan**	**1.48**	**14**	*e*P	**Pn**	**01 49 31.2**	**0.0**
	baz=15						
WHF				*e*S	**Sn**	**01 49 49.4**	**-0.3**
	baz=15						
TWD	**Chiawan**	**1.53**	**26**	*e*P	**Pn**	**01 49 31.7**	**+0.3**
	baz=38						
TWD				*e*S	**Sn**	**01 49 50.6**	**+0.4**
	baz=38						
TWT	**Tachien**	**1.57**	**11**	*e*P	**Pn**	**01 49 32.2**	**0.0**
	baz=2.0						
TWT				*e*S	**Sn**	**01 49 51.4**	**-0.1**
	baz=2.0						
TWQ1	**Liyutan**	**1.64**	**357**	*e*P	**Pn**	**01 49 33.3**	**+0.4**
	baz=357						
TWQ1				*e*S	**Sn**	**01 49 53.3**	**+0.3**
	baz=357						
NSY	**Sanyi**	**1.71**	**357**	*e*P	**Pn**	**01 49 34.4**	**+0.6**
	baz=357						
NNS	**Nan Shan**	**1.79**	**15**	*e*P	**Pn**	**01 49 35.8**	**+0.7**
	baz=15						
NNS				*e*S	**Sn**	**01 49 56.7**	**-0.1**
	baz=15						
ENA	**Nanau**	**1.90**	**25**	*e*P	**Pn**	**01 49 36.4**	**0.0**
	baz=36						
NSTT	**Nanjuang**	**1.93**	**4**	*e*P	**Pn**	**01 49 37.2**	**+0.5**
	baz=353						
NSK	**Sanguang**	**2.02**	**13**	*e*P	**Pn**	**01 49 39.4**	**+1.3**
	baz=13						
NSK				*e*S	**Sn**	**01 50 02.8**	**+0.6**
	baz=13						
ENTT	**Nioudou**	**2.04**	**18**	*e*P	**Pn**	**01 49 38.5**	**+0.2**
	baz=30						
TWC	**Suao**	**2.10**	**25**	*e*P	**Pn**	**01 49 39.6**	**+0.4**
	baz=25						
TWA	**Mucha**	**2.36**	**16**	*e*P	**Pn**	**01 49 43.5**	**+0.8**
	baz=2.0						
NWF	**Wu-fen Shan**	**2.50**	**19**	*e*P	**Pn**	**01 49 45.6**	**+0.8**
	baz=31						
YOJ	**Yonaguni jima**	**2.64**	**48**	P	**Pn**	**01 49 47.1**	**+0.6**
YOJ				*e*S	**Sn**	**01 50 18.6**	**+1.3**
YOJ	**Yonaguni jima**	**2.64**	**48**	*e*P	**Pn**	**01 49 47.3**	**+0.8**
	baz=49						
KNM	**Kinmen**	**2.81**	**308**	*e*P	**Pn**	**01 49 49.1**	**+0.3**
	baz=306						
HATJ	**Hateruma jima**	**3.02**	**63**	P	**Pn**	**01 49 51.2**	**-0.5**
HATJ				*e*S	**Sn**	**01 50 25.6**	**-1.1**
IRIF	**Iriomote-Funau**	**3.10**	**58**	P	**Pn**	**01 49 52.7**	**0.0**
IRIF				*e*S	**Sn**	**01 50 29.3**	**+0.8**
JKRS	**Kuro-shima**	**3.27**	**62**	P	**Pn**	**01 49 55.4**	**+0.3**
JKRS				*e*S	**Sn**	**01 50 32.7**	**-0.1**
JIJ	**Ishigaki jima**	**3.44**	**61**	P	**Pn**	**01 49 57.0**	**-0.4**
JIJ				*e*S	**Sn**	**01 50 36.0**	**-0.9**
JTJ	**Tarama**	**4.02**	**61**	P	**Pn**	**01 50 05.2**	**-0.1**
JTJ				*e*S	**Sn**	**01 50 50.9**	**-0.2**

ISCJB 17 02:19:39.3±1.3,19°05S±0°4×177°8W±0°3,h570km,mb3.5/7, Error ellipse: s-maj=63.6km s-min=15.8km az=150.7
IDC 17 02:19:39.3±5.3,19°11S×177°70W,h562km,57km,mb3.1/7, mb1 3.3/8,mb1mx3.1/20,mbtmp3.1/8,Error ellipse: s-maj=60.0km s-min=29.6km az=149.0
ISC 17 02:19:39.7±1.3,19°1S±0°4×177°7W±0°2,h570km,n13, σ0s59/12,mb3.7/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.11**	**256**	P	**P**	**02 22 49.9**	**-0.1**
	0.4nm,0.3s,baz=96,slow=18,SNR=5.5						
CTA	**Charters Tower**	**33.91**	**262**	P	**P**	**02 25 36.6**	**+0.2**
	2.6nm,0.5s,baz=96,slow=12,SNR=7.6						
STKA	**Stephens Creek**	**38.63**	**243**	P	**P**	**02 26 15.4**	**+0.3**
	1.0nm,0.4s,baz=201,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**45.06**	**261**	P	**P**	**02 27 05.6**	**-0.2**
	0.8nm,0.3s,baz=97,slow=7.8,SNR=6.6						
SEY	**Seymchan**	**85.11**	**347**	P	**P**	**02 31 15.7**	**+0.2**
	1.4nm,0.6s,baz=127,slow=18,SNR=6.4						
TXAR	**Lajitas Array**	**86.10**	**57**	P	**P**	**02 31 21.9**	**+0.6**
	0.4nm,0.7s,baz=217,slow=7.1,SNR=5.4						
ILAR	**Eielson Array**	**86.93**	**13**	P	**P**	**02 31 23.5**	**-0.7**
	0.8nm,0.8s,baz=222,slow=6.3,SNR=13						
PDAR	**Pinedale Array**	**87.79**	**43**	P	**P**	**02 31 29.2**	**+0.2**
	0.4nm,0.7s,baz=242,slow=3.9,SNR=3.4						
ARCES	**ARCESS Array B**	**127.62**	**350**	PKP	**PKPdf**	**02 37 40.0**	**0.0**
	1.6nm,1.0s,baz=58,slow=3.0,SNR=6.9						
AKASG	**Malin Array Be**	**141.94**	**332**	PKhKP	PKPpre	02 38 02.9	
	0.3nm,0.3s,baz=42,slow=4.1,SNR=7.4						
BRTR	**Keskin Array B**	**146.09**	**314**	PKPbc	**PKPbc**	**02 38 17.1**	**+0.1**
	0.8nm,0.5s,baz=142,slow=5.4,SNR=6.9						
GERES	**GERESS Array B**	**148.95**	**345**	PKPbc	**PKPbc**	**02 38 24.2**	**+0.3**
	1.5nm,0.8s,baz=45,slow=2.3,SNR=11						
TORD	**Torodi Ar. Bea**	**174.03**	**175**	PKP	**PKPdf**	**02 38 43.8**	**-1.4**
	0.8nm,1.1s,baz=204,slow=3.2,SNR=3.3						

ISCJB 17 02:41:35.8±0.7,31°87S±0°06×177°5W±0°1,h18km, mb4.5/9,MS3.6/1,Error ellipse: s-maj=12.9km s-min=7.2km az=18.7
IDC 17 02:41:36.0±1.2,31°27S×177°54W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.9/19,mbtmp4.2/4,MS3.5/2,Ms1 3.5/2, ms1mx2.8/29,Error ellipse: s-maj=41.5km s-min=31.0km az=37.0
NEIC 17 02:41:43.3±0.4,31°91S×177°66W,mb4.7/7,Error ellipse: s-maj=14.0km s-min=11.0km az=191.0
ISC 17 02:41:37.7±0.5,31°80S±0°08×177°46W±0°09,h18km,n54, σ1s00/58,mb4.5/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**7.11**	**212**	PN	**Pn**	**02 43 21.9**	**+1.1**
HAZ				*e*SN	**Sn**	**02 44 41.6**	**+0.5**
MWZ	**Matawai**	**7.70**	**211**	SN	**Sn**	**02 44 55.9**	**+0.1**
URZ	**Urewera**	**7.83**	**213**	Pn	**Pn**	**02 43 30.5**	**-0.2**
URZ				Sn	**Sn**	**02 44 57.8**	**-1.1**
URZ	**Urewera**	**7.83**	**213**	Pn	**Pn**	**02 43 30.5**	**-0.2**
	0.7nm,0.3s,baz=338,slow=10,SNR=8.5						
URZ				Sn	**Sn**	**02 44 57.8**	**-1.1**
	1.9nm,0.3s,baz=102,slow=13,SNR=8.5						
URZ	**Urewera**	**7.83**	**213**	PN	**Pn**	**02 43 30.8**	**+0.1**
URZ				SN	**Sn**	**02 44 57.7**	**-1.1**
OUZ	**Omahuta**	**8.21**	**243**	*e*Pn	**Pn**	**02 43 36.1**	**+0.2**
DZM	**Mont Dzumac**	**17.30**	**300**	*e*Pn	**Pn**	**02 45 38.7**	**+0.3**
DZM	**Mont Dzumac**	**17.30**	**300**	LR	LR	02 50 49.4	
	comp=Z,123nm,20.1s,baz=245,slow=33						
CTA	**Charters Tower**	**34.49**	**281**	P	**P**	**02 48 24.9**	**+0.1**
CTA	**Charters Tower**	**34.49**	**281**	P	**P**	**02 48 24.9**	**+0.1**
	4.0nm,0.8s,baz=102,slow=13,SNR=5.3						
CTAO	**Charters Tower**	**34.49**	**281**	*e*P	**P**	**02 48 25.6**	**+0.7**
	6.9nm,0.9s						
STKA	**Stephens Creek**	**34.63**	**259**	P	**P**	**02 48 27.4**	**+1.4**
STKA	**Stephens Creek**	**34.63**	**259**	P	**P**	**02 48 27.4**	**+1.4**
	2.8nm,0.8s,baz=60,slow=8.7,SNR=4.3						
STKA				LR	LR	03 01 59.7	
	comp=Z,97nm,18.8s,baz=24,slow=35						
PMG	**Port Moresby**	**39.63**	**296**	*e*P	**P**	**02 49 08.1**	**-0.4**
	7.5nm,0.7s						
COEN	**Coen**	**40.11**	**287**	*e*P	**P**	**02 49 11.1**	**-1.5**
AS31	**Alice Springs**	**43.51**	**268**	*e*P	**P**	**02 49 40.4**	**0.0**
WRAB	**Tennant Creek**	**44.62**	**273**	*e*P	**P**	**02 49 49.6**	**+0.4**
	12nm,0.8s						
WRAB				*e*pP	pP	02 50 03.9	+9.0
WRA	**Warramunga Arr**	**44.62**	**273**	P	**P**	**02 49 49.4**	**+0.1**
WRA	**Warramunga Arr**	**44.62**	**273**	P	**P**	**02 49 49.4**	**+0.1**
	3.2nm,0.6s,baz=113,slow=7.8,SNR=14						
MBWA	**Marble Bar**	**56.54**	**264**	*e*P	**P**	**02 51 17.4**	**-1.9**
	6.7nm,1.1s						
QSPA	**South Pole Qui**	**58.31**	**180**	*e*P	**P**	**02 51 30.4**	**-0.9**
	2.3nm,1.0s						
QSPA				*e*pP	pP	02 51 47.0	+10
QSPA	**South Pole Qui**	**58.31**	**180**	P	P	02 51 37.2	+5.8
	0.9nm,0.7s,baz=355,slow=11,SNR=5.1						
PMSA	**Palmer Station**	**70.80**	**155**	*e*P	**P**	**02 52 53.5**	**+0.9**
KKM	**Kota Kinabalu**	**73.43**	**288**	*e*P	P	02 53 05.3	-4.0
	17nm,1.1s						
NNA	**Nana**	**92.60**	**106**	*e*P	**P**	**02 54 47.6**	**-1.1**
LVC	**Limon Verde**	**92.86**	**119**	*e*P	**P**	**02 54 48.6**	**-1.5**
	7.4nm,1.2s						
MK31	**Makanchi Array**	**119.02**	**309**	*e*PKPdf	**PKPdf**	**03 00 25.5**	**+0.4**
KURK	**Kurchatov**	**122.34**	**313**	*e*PKPdf	**PKPdf**	**03 00 31.1**	**-0.1**
TKM2	**Tokmak 2**	**122.55**	**304**	*e*PKPdf	**PKPdf**	**03 00 32.7**	**+0.5**
EKS2	**Erkin-Say**	**123.78**	**303**	*e*PKPdf	**PKPdf**	**03 00 34.7**	**+0.2**
LSZ	**Lusaka**	**127.12**	**212**	*e*PKPdf	**PKPdf**	**03 00 41.5**	**-0.2**
TSUM	**Tsumeb**	**127.28**	**198**	*e*PKPdf	**PKPdf**	**03 00 43.2**	**+1.3**
BRVK	**Borovoye**	**127.79**	**315**	*e*PKPdf	**PKPdf**	**03 00 42.0**	**+0.4**
ARU	**Arti**	**134.46**	**320**	*e*PKPdf	**PKPdf**	**03 00 53.5**	**+0.6**
ASCN	**Ascension**	**137.32**	**155**	*e*PKPdf	**PKPdf**	**03 01 01.3**	**+0.5**
GNI	**Garni**	**145.11**	**296**	*e*PKPdf	**PKPbc**	**03 01 14.6**	**+0.8**
KBZ	**Khabaz**	**146.26**	**302**	PKPbc	**PKPbc**	**03 01 17.8**	**+0.8**
KBZ	**Khabaz**	**146.26**	**302**	PKPbc	**PKPbc**	**03 01 17.8**	**+0.8**
	1.4nm,0.9s,baz=90,slow=15,SNR=2.2						
KIV	**Kislovodsk**	**146.38**	**303**	*e*PKPbc	**PKPdf**	**03 01 16.8**	**+0.7**
FINES	**FINESS Array B**	**146.61**	**340**	PKPbc	**PKPbc**	**03 01 18.4**	**+1.1**
FINES	**FINESS Array B**	**146.61**	**340**	PKPbc	**PKPbc**	**03 01 18.4**	**+1.1**
	3.0nm,0.8s,baz=44,slow=4.0,SNR=14						
NAO01	**NORSAR Array S**	**150.43**	**352**	*e*PKPdf	**PKPdf**	**03 01 22.0**	**-0.1**
NAO01				*e*PKPbc	**PKPbc**	**03 01 27.5**	**+0.1**
AKASG	**Malin Array Be**	**152.69**	**322**	PKPbc	**PKPbc**	**03 01 30.9**	**-1.9**
AKASG	**Malin Array Be**	**152.69**	**322**	PKPbc	**PKPbc**	**03 01 30.9**	**-1.9**
	0.2nm,0.4s,baz=49,slow=3.1,SNR=3.7						
KIEV	**Kiev**	**152.70**	**322**	*e*PKPdf	**PKPdf**	**03 01 26.0**	**+0.2**
BR131	**Keskin Array S**	**153.65**	**296**	*e*PKPbc	**PKPbc**	**03 01 35.9**	**+0.3**
BRTR	**Keskin Array B**	**153.65**	**296**	PKPbc	**PKPbc**	**03 01 35.6**	**0.0**
BRTR	**Keskin Array B**	**153.65**	**296**	PKPbc	**PKPbc**	**03 01 35.6**	**0.0**
	0.5nm,0.6s,baz=143,slow=5.1,SNR=6.4						
CSS	**Prodhromos**	**154.14**	**285**	*e*PKPdf	**PKPdf**	**03 01 28.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**156.58**	**319**	*e*PKPdf	**PKPdf**	**03 01 32.2**	**+0.7**
BUR08				*e*PKPab	**PKPab**	**03 02 01.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**161.42**	**177**	PKPab	**PKPab**	**03 02 24.4**	**+2.4**
TORD	**Torodi Ar. Bea**	**161.42**	**177**	PKPab	**PKPab**	**03 02 24.4**	**+2.4**
	0.4nm,0.9s,baz=171,slow=3.6,SNR=2.8						
WLF	**Walferdange**	**161.95**	**352**	*e*PKPdf	**PKPdf**	**03 01 37.5**	**+0.1**
WLF				*e*PKPab	**PKPab**	**03 02 24.0**	**+0.5**
AQU	**L'Aquila**	**166.37**	**324**	*e*PKPab	**PKPab**	**03 02 40.9**	**-2.4**

MAN 17 03:03:04,18°13N×120°52E,h4km,mb4.0,ML2.8,MS2.4, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.22**	**27**⇓	*i*P	Pg	03 03 09.8	+1.4
ABRA	**Dolores**	**0.51**	**158**	*e*P	Pb	03 03 14.9	-0.7
ABRA				*e*S	Sg	03 03 20.6	+0.1
APYP	**Conner**	**0.74**	**111**	*e*P	Pb	03 03 19.5	0.0
APYP				*e*S	Sn	03 03 33.7	+0.7
SGCP	**Mt. Cagua**	**1.46**	**85**	*e*P	Pg	03 03 37.2	+5.2

IGQ 17 03:04:03±1.0,2°75S×78°83W,h5km±62km,Mb4.2,6C-3D, Error ellipse: s-maj=6.8km s-min=4.5km az=36.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.27**	**8**	⇑P	Pg	03 04 27.3	-0.7
IGUA	**Igualata**	**1.27**	**8**	⇑S	Sg	03 04 44.4	-0.6
PAT1	**Patacocha**	**1.29**	**17**	⇑P	Pg	03 04 28.9	+0.4
BPAT	**Tungurahua Vol**	**1.30**	**18**	P	Pg	03 04 28.9	+0.4
ULBA	**Ulba**	**1.36**	**18**	P	Pn	03 04 28.4	-0.7
JUI6	**Juive**	**1.36**	**15**	P	Pn	03 04 28.8	-0.3
BULB	**Ulba Tungurahu**	**1.37**	**18**	⇓S	Sg	03 04 48.0	+0.1
BULB	**Ulba Tungurahu**	**1.37**	**18**	⇓P	Pb	03 04 29.6	0.0
PISA	**Pisayambo**	**1.74**	**15**	P	Pn	03 04 34.7	+0.2
PAST	**Pastocalle**	**2.05**	**5**	P	Pn	03 04 38.9	+0.1
CAMI	**Rancho Maria**	**2.08**	**9**	P	Pn	03 04 38.5	-0.8
TAMB	**Tambo**	**2.09**	**13**	P	Pn	03 04 39.8	+0.4
BRFF	**Cotopaxi Volca**	**2.10**	**11**	⇓P	Pn	03 04 39.4	-0.3
BTAM	**Cotopaxi Volca**	**2.10**	**12**	⇑P	Pn	03 04 39.8	+0.2
BVC2	**Cotopaxi Volca**	**2.12**	**11**	P	Pn	03 04 39.3	-0.6
**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JSE				eS	Sb	03 37 00.1	-0.5
UGL	**Uglegorsk**	**2.28**	**358**	eSg	**Sg**	**03 37 17.0**	**+0.4**
UGL				A	A	03 37 17.5	
	8.0nm,0.6s						
TYV	**Tymovskoe**	**4.08**	**4**	ePg	**Pg**	**03 37 21.5**	**+0.1**
TYV				AMB	AMB	03 37 22.3	
	6.0nm,0.6s						

SFS 17 03:53:03.0, 35°.84N×1°.24W, h19km, ML2.2
CSEM 17 03:53:05.4, 35°.80N×1°.56W, h0km, ML2.2, After MDD
MDD 17 03:53:05.4±0.8, 35°.80N×1°.56W, h0km, mbLg2.2/11, 2C, Error ellipse: s-maj=8.2km s-min=6.6km az=4.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.82**	**94**	P	Pb	03 53 22.0	-0.5
USTO	**Oran**	**0.82**	**94**	P	Pb	03 53 22.0	-0.5
EMLI	**Melilla**	**1.24**	**247**	P	Pg	03 53 27.0	-2.2
	8.4nm,0.1s,SNR=7.9						
EMLI				S	Sb	03 53 46.3	+0.1
	29nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**1.24**	**247**	P	Pg	03 53 27.0	-2.2
	8.4nm,0.1s,SNR=7.9						
EMLI				S	Sb	03 53 46.3	+0.1
	29nm,0.2s,SNR=7.9						
EMEL	**Melilla**	**1.25**	**247**	P	Pg	03 53 27.0	-2.2
	8.4nm,0.1s,SNR=7.9						
EMEL				S	Sb	03 53 46.3	-0.1
	29nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.54**	**316**	⇑P	Pn	03 53 32.7	-1.7
	4.0nm,0.2s,SNR=18						
EBER				S	Sn	03 53 54.7	-0.5
	16nm,0.2s,SNR=10						
EBER	**Berja**	**1.54**	**316**	P	Pn	03 53 32.7	-1.6
	4.0nm,0.2s,SNR=18						
EBER				S	Sn	03 53 54.7	-0.5
	16nm,0.2s,SNR=10						
EBER	**Berja**	**1.54**	**316**	P	Pn	03 53 32.7	-1.6
	4.0nm,0.2s,SNR=18						
EBER				S	Sn	03 53 54.7	-0.5
	16nm,0.2s,SNR=10						
GORA	**Gorafe**	**2.06**	**325**	P	Pn	03 53 39.7	-1.7
	0.5nm,0.1s,SNR=7.9						
GORA				S	Sn	03 54 06.9	-1.0
	7.7nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**2.06**	**325**	P	Pn	03 53 39.7	-1.7
	0.5nm,0.1s,SNR=7.9						
GORA				S	Sn	03 54 06.9	-1.0
	7.7nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**2.06**	**325**	P	Pn	03 53 39.7	-1.7
	0.5nm,0.1s,SNR=7.9						
GORA				S	Sn	03 54 06.9	-1.0
	7.7nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.18**	**338**	P	Pn	03 53 41.0	-2.0
	0.4nm,0.1s,SNR=7.9						
EHUE				S	Sn	03 54 09.4	-1.4
	1.8nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.18**	**338**	P	Pn	03 53 41.0	-2.0
	0.4nm,0.1s,SNR=7.9						
EHUE				S	Sn	03 54 09.4	-1.4
	1.8nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.18**	**338**	P	Pn	03 53 41.0	-2.0
	0.4nm,0.1s,SNR=7.9						
EHUE				S	Sn	03 54 09.4	-1.4
	1.8nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.19**	**313**	P	Pn	03 53 41.8	-1.4
	0.5nm,0.1s,SNR=7.9						
ECOG				S	Sn	03 54 08.9	-2.3
	3.2nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.19**	**313**	P	Pn	03 53 41.8	-1.4
	0.5nm,0.1s,SNR=7.9						
ECOG				S	Sn	03 54 08.9	-2.3
	3.2nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.19**	**313**	P	Pn	03 53 41.8	-1.4
	0.5nm,0.1s,SNR=7.9						
ECOG				S	Sn	03 54 08.9	-2.3
	3.2nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**2.26**	**310**	P	Pn	03 53 42.5	-1.7
	2.3nm,0.4s,SNR=7.9						
SELV				S	Sn	03 54 10.9	-1.9
	4.5nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**2.26**	**310**	P	Pn	03 53 42.5	-1.7
	2.3nm,0.4s,SNR=7.9						
SELV				S	Sn	03 54 10.9	-1.9
	4.5nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**2.26**	**310**	P	Pn	03 53 42.5	-1.7
	2.3nm,0.4s,SNR=7.9						
SELV				S	Sn	03 54 10.9	-1.9
	4.5nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.34**	**329**	⇑P	Pn	03 53 45.6	+0.3
	0.8nm,0.1s,SNR=18						
EQES				S	Sn	03 54 15.3	+0.5
	6.8nm,0.2s,SNR=8.9						
EQES	**Quesada**	**2.34**	**329**	P	Pn	03 53 45.6	+0.3
	0.8nm,0.1s,SNR=18						
EQES				S	Sn	03 54 15.4	+0.5
	6.8nm,0.2s,SNR=8.9						
EQES	**Quesada**	**2.34**	**329**	P	Pn	03 53 45.6	+0.3
	0.8nm,0.1s,SNR=18						
EQES				S	Sn	03 54 15.4	+0.5
	6.8nm,0.2s,SNR=8.9						
EMIJ	**Mijas**	**2.71**	**287**	P	Pn	03 53 47.9	-2.4
	0.1nm,0.1s,SNR=7.8						
EMIJ				S	Sn	03 54 18.9	-4.9
	2.7nm,0.3s						
EMIJ	**Mijas**	**2.71**	**287**	P	Pn	03 53 47.9	-2.4
	0.1nm,0.1s,SNR=7.8						
EMIJ				S	Sn	03 54 18.9	-4.9
	2.7nm,0.3s						
EMIJ	**Mijas**	**2.71**	**287**	P	Pn	03 53 47.9	-2.4
	0.1nm,0.1s,SNR=7.8						
EMIJ				S	Sn	03 54 18.9	-4.9
	2.7nm,0.3s						
ETOB	**Tobarra**	**2.84**	**0**	P	Pn	03 53 49.6	-2.6
	1.2nm,0.2s,SNR=11						
ETOB				S	Sn	03 54 22.0	-5.2
	3.4nm,0.2s,SNR=5.2						
ETOB	**Tobarra**	**2.84**	**0**	P	Pn	03 53 49.6	-2.5
	1.2nm,0.2s,SNR=11						
ETOB				S	Sn	03 54 22.0	-5.1
	3.4nm,0.2s,SNR=5.2						
ETOB	**Tobarra**	**2.84**	**0**	P	Pn	03 53 49.6	-2.5
	1.2nm,0.2s,SNR=11						
ETOB				S	Sn	03 54 22.0	-5.1
	3.4nm,0.2s,SNR=5.2						
EVIA	**Vianos**	**2.93**	**345**	P	Pn	03 53 51.3	-2.1
	1.2nm,0.2s,SNR=7.9						
EVIA				S	Sn	03 54 26.6	-2.9
	2.9nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.93**	**345**	P	Pn	03 53 51.3	-2.1
	1.2nm,0.2s,SNR=7.9						
EVIA				S	Sn	03 54 26.6	-2.9
	2.9nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.93**	**345**	P	Pn	03 53 51.3	-2.1
	1.2nm,0.2s,SNR=7.9						
EVIA				S	Sn	03 54 26.6	-2.9
	2.9nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.84**	**307**	P	Pn	03 54 03.7	-2.1
	0.0nm,0.1s,SNR=7.9						
ECAB				S	Sn	03 54 49.0	-2.6
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.84**	**307**	P	Pn	03 54 03.7	-2.1
	SNR=7.9						
ECAB				S	Sn	03 54 49.0	-2.7
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.84**	**307**	P	Pn	03 54 03.7	-2.1
	SNR=7.9						
ECAB				S	Sn	03 54 49.0	-2.7
	0.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.96**	**35**	P	Pn	03 54 01.3	-6.1
	1.5nm,0.2s,SNR=7.9						
EIBI				S	Sn	03 54 43.1	-12
	2.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.31**	**334**	P	Pn	03 54 09.5	-2.8
	2.1nm,0.1s,baz=151,slow=13,SNR=15						
ESDC				S	Sn	03 54 59.1	-4.3
	0.3nm,0.3s,baz=147,slow=23,SNR=4.6						
PVAQ	**Vaqueiros**	**5.21**	**290**	ePn	Pn	03 54 25.0	+0.4
PVAQ				eSn	Sn	03 55 23.8	-1.6
PVAQ	**Vaqueiros**	**5.21**	**290**	P	Pn	03 54 25.0	+0.4
PVAQ				S	Sn	03 55 23.8	-1.6
PBDV	**Barranco-do-Ve**	**5.33**	**288**	ePn	Pn	03 54 26.5	+0.2
PBDV				eSn	Sn	03 55 26.7	-1.8
PBDV	**Barranco-do-Ve**	**5.33**	**288**	P	Pn	03 54 26.5	+0.2
PBDV				S	Sn	03 55 26.7	-1.8

NIED 17 04:17:00, 31°.30N×131°.90E, h23km, Mw3.9 Best double couple: Mo9.09000×10^14 NP1:φs248.00000°, δ53.00000°, λ174.00000°. NP2:φs341.00000°, δ86.00000°, λ37.00000°.
JMA 17 04:17:29.2±0.2, 31°.27N×131°.85E, h31km±2km, M3.5, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.56**	**297**	⇓P	Pb	04 17 40.4	-0.2
JNAR				eS	Sb	04 17 48.8	+0.4
JTSR	**Tashiro 2**	**0.80**	**263**	⇑P	Pn	04 17 44.2	-0.2
JTZ	**Takazaki**	**0.91**	**314**	P	Pn	04 17 45.5	-0.3
JTN	**Tanegashima 3**	**0.97**	**231**	⇑P	Pn	04 17 46.9	+0.2
JTSN	**Tsuno**	**1.02**	**343**	P	Pn	04 17 47.5	+0.2
JTSN				eS	Sn	04 18 00.8	+0.2
JSU	**Suzuyama**	**1.22**	**282**	P	Pn	04 17 50.3	+0.2
JSU				eS	Sn	04 18 05.7	+0.1

IDC 17 04:28:56.7±2.2, 29°.53N×130°.74E, h0km, mb3.8/9, mb1 3.8/12, mb1mx3.8/27, mbtmp3.7/12, ML3.2/3, MS2.9/3, Ms1 3.0/3, ms1mx2.8/29, Error ellipse: s-maj=49.5km s-min=27.4km az=168.0
NIED 17 04:29:00, 30°.00N×130°.80E, h26km, Mw4.0 Best double couple: Mo1.06000×10^15 NP1:φs207.00000°, δ20.00000°, λ81.00000°. NP2:φs36.00000°, δ70.00000°, λ93.00000°.
JMA 17 04:29:05.2±0.1, 30°.03N×130°.82E, h32km±2km, M3.8
ISC 17 04:29:03.7±2.2, 29°.96N±0°.10×130°.77E±0°.10, h29km±12km, n22, σ1s16/24, mb3.8/9, 1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.70**	**315**	P	**Pn**	**04 29 18.6**	**+0.9**
JKC				eS	**Sn**	**04 29 27.9**	**+0.3**
JTN	**Tanegashima 3**	**0.71**	**15**	⇓P	**Pb**	**04 29 17.6**	**0.0**
JTN				eS	**Sb**	**04 29 26.6**	**-0.5**
JNN	**Nakanoshima**	**0.79**	**261**	P	**Pn**	**04 29 20.6**	**+1.8**
JTSR	**Tashiro 2**	**1.21**	**6**	P	**Pb**	**04 29 25.7**	**-0.3**
JTSR				eS	**Sb**	**04 29 41.0**	**-0.2**
JSU	**Suzuyama**	**1.56**	**350**	P	**Pn**	**04 29 30.0**	**+0.4**
JSU				eS	**Sn**	**04 29 48.5**	**-0.4**
JNAR	**Kushima--Naru**	**1.62**	**15**	P	**Pb**	**04 29 31.7**	**-1.2**
JNAR				S	**Sb**	**04 29 52.3**	**-0.6**
JNU	**Nakatsue**	**3.15**	**2**	Pn	**Pn**	**04 29 53.4**	**+2.0**
	3.2nm,0.3s,baz=177,slow=7.5,SNR=18						
JNU				Sn	**Sn**	**04 30 29.6**	**+1.5**
	4.9nm,0.3s,baz=129,slow=15,SNR=4.1						
JNU				LR	LR	04 31 23.3	
	comp=Z,191nm,20.1s,baz=12,slow=41						
KSRS	**Korea Array**	**7.84**	**343**	Pn	**Pn**	**04 30 58.1**	**+2.4**
	0.3nm,0.3s,baz=160,slow=14,SNR=6.9						
KSRS				LR	LR	04 33 55.4	
	comp=Z,82nm,21.7s,baz=158,slow=36						
MJAR	**Matsushiro Arr**	**9.05**	**42**	Pn	**Pn**	**04 31 14.4**	**+2.1**
	0.2nm,0.3s,baz=224,slow=14,SNR=3.2						
SONM	**Songino Array**	**25.87**	**320**	P	**P**	**04 34 32.2**	**-0.8**
	1.5nm,0.8s,baz=139,slow=10,SNR=10						
CMAR	**Chiang Mai Arr**	**31.10**	**256**	LR	LR	04 48 48.9	
	comp=Z,21nm,18.6s,baz=45,slow=38						
H11N2	**WAKE ISLAND Hy**	**34.20**	**99**	T	T	05 11 55.8	
	baz=299,slow=76,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**34.21**	**99**	T	T	05 11 57.0	
	baz=299,slow=76,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**34.22**	**99**	T	T	05 11 57.6	
	baz=299,slow=76,SNR=5.1						
ZALV	**Zalesovo Beam**	**40.76**	**319**	P	**P**	**04 36 41.9**	**-0.1**
	0.6nm,0.5s,baz=100,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**40.86**	**308**	P	**P**	**04 36 43.6**	**+0.6**
	1.8nm,0.5s,baz=90,slow=10,SNR=33						
ILAR	**Eielson Array**	**60.10**	**29**	P	**P**	**04 39 07.9**	**-0.1**
	0.5nm,0.9s,baz=272,slow=4.8,SNR=3.7						
FINES	**FINESS Array B**	**70.73**	**331**	P	**P**	**04 40 15.8**	**-0.9**
	1.3nm,0.6s,baz=61,slow=5.3,SNR=11						
AKASG	**Malin Array Be**	**74.15**	**320**	P	**P**	**04 40 36.3**	**-1.0**
	0.4nm,0.4s,baz=57,slow=6.4,SNR=3.8						
YKA	**Yellowknife Ar**	**74.20**	**26**	P	**P**	**04 40 37.9**	**+0.5**
	0.3nm,0.8s,baz=306,slow=5.3,SNR=5.7						
BRTR	**Keskin Array B**	**76.51**	**308**	P	**P**	**04 40 51.0**	**-0.3**
	1.1nm,0.9s,baz=74,slow=5.3,SNR=4.6						
NOA	**NORSAR Array B**	**76.95**	**334**	P	**P**	**04 40 52.3**	**-1.0**
	1.4nm,1.0s,baz=50,slow=5.4,SNR=2.5						

ISCJB 17 05:14:40.6±0.3, 6°.16S±0°.03×130°.71E±0°.04, h124km, mb4.5/23, Error ellipse: s-maj=5.2km s-min=4.5km az=162.2
NEIC 17 05:14:43.8±0.8, 6°.12S×130°.48E, h146km±8km, mb4.5/10, Error ellipse: s-maj=9.1km s-min=5.6km az=49.0
BJI 17 05:14:43.0, 6°.10S×130°.50E, h145km, mB4.8/6, mb4.6/14
DJA 17 05:14:45.0±0.4, 6°S±4°×13°1E±°, h107km±7km, M5.0/24, mB5.5/11, mb4.8/24, MLv5.2/12, Mw(mB)4.9/11
IDC 17 05:14:46.6±3.9, 6°.06S×130°.62E, h170km±36km, mb3.8/10, mb1 4.0/12, mb1mx3.9/20, mbtmp3.9/12, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=29.7km s-min=11.7km az=61.0
ISC 17 05:14:42.0±0.4, 6°.11S±0°.05×130°.61E±0°.06, h124km, n97, σ1s86/108, mb4.4/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.73**	**336**	P	**Pn**	**05 15 13.8**	**+1.4**
BNDI				S	**Sn**	**05 15 37.2**	**+1.7**
MSAI	**Masohi**	**3.22**	**329**	P	**Pn**	**05 15 32.9**	**+1.6**
MSAI				S	**Sn**	**05 16 11.5**	**+2.2**
FAKI	**Fak Fak**	**3.57**	**27**	P	**Pn**	**05 15 36.6**	**+0.7**
NLAI	**Namlea**	**4.51**	**309**	P	**Pn**	**05 15 51.1**	**+2.6**
NLAI				S	**Sn**	**05 16 44.2**	**+4.0**
SWI	**Sorong**	**5.25**	**7**	P	**Pn**	**05 15 58.3**	**-0.2**
	324nm,0.8s,26μm5.4nm						
SWI				S	**Sn**	**05 16 54.6**	**-3.4**
	324nm,0.8s,26μm5.4nm						
SANI	**Sanana**	**6.12**	**311**	P	**Pn**	**05 16 11.7**	**+1.5**
	61nm,0.7s,1μm0.3nm						
SANI				S	**Sn**	**05 17 17.4**	**-1.6**
	61nm,0.7s,1μm0.3nm						
MWPI	**Manokwari, Pap**	**6.18**	**34**	P	x	05 16 12.8	
	709nm,0.7s,8μm2.9nm						
MWPI				S	x	05 17 22.8	
	709nm,0.7s,8μm2.9nm						
LBMI	**Labuha**	**6.26**	**330**	P	**Pn**	**05 16 12.9**	**+0.9**
	253nm,1.0s,4μm1.4nm						
SOEI	**Soe**	**7.25**	**240**	P	**Pn**	**05 16 27.5**	**+2.0**
	172nm,0.8s,5μm1.8nm						
BAKI	**Biak**	**7.35**	**49**	P	**Pn**	**05 16 29.0**	**+2.3**
	1μm,0.8s,11μm4.9nm						
TNTI	**Ternate**	**7.56**	**335**	P	**Pn**	**05 16 31.8**	**+2.2**
	115nm,1.2s,0.5nm						
TNTI	**Ternate**	**7.56**	**335**	ePn	**Pn**	**05 16 30.4**	**+0.8**
MMRI	**Maumere**	**8.67**	**253**	P	**Pn**	**05 16 47.7**	**+3.1**
	109nm,0.7s,3μm						
MMRI	**Maumere**	**8.67**	**253**	ePn	**Pn**	**05 16 44.4**	**-0.2**
SMPI	**Sarmi**	**9.06**	**63**	P	**Pn**	**05 16 52.2**	**+2.4**
	38nm,1.2s,5μm						
KKSI	**Kolaka, Sulawe**	**9.13**	**282**	P	x	05 16 52.8	
	53nm,0.7s						
LUWI	**Luwuk**	**9.30**	**302**	P	**Pn**	**05 16 56.0**	**+2.9**
	57nm,0.7s,5μm						
LUWI	**Luwuk**	**9.30**	**302**	ePn	**Pn**	**05 16 53.4**	**+0.4**
APSI	**Ampana**	**10.32**	**300**	P	**Pn**	**05 17 08.7**	**+1.8**
	35nm,0.8s						
BKSI	**Bulukumba**	**10.46**	**274**	P	**Pn**	**05 17 10.3**	**+1.6**
	28nm,0.9s						
BNSI	**Bone**	**10.60**	**279**	P	**Pn**	**05 17 13.5**	**+3.0**
	28nm,1.5s						
JAY	**Jayapura**	**10.68**	**71**	P	**Pn**	**05 17 14.8**	**+3.1**
JAY	**Jayapura**	**10.68**	**71**	P	**Pn**	**05 17 14.8**	**+3.1**
	1.0nm,0.3s,baz=228,slow=15,SNR=3.1						
WSI	**Waingapu**	**10.81**	**250**	P	**Pn**	**05 17 14.1**	**+0.7**
	341nm,0.8s						
MRSI	**Marisa**	**10.85**	**307**	P	**Pn**	**05 17 14.0**	**+0.1**
	21nm,0.6s,740nm						
LBFI	**Labuhan Bajo,**	**10.89**	**257**	P	x	05 17 16.5	
	116nm,1.6s						
SPSI	**Sidrap Palu**	**11.01**	**281**	P	**Pn**	**05 17 17.6**	**+1.6**
	20nm,1.3s						
TTSI	**Tana Toraja**	**11.18**	**285**	P	**Pn**	**05 17 20.2**	**+1.9**
	18nm,1.5s						
MMSI	**Mamuju**	**12.15**	**286**	P	x	05 17 33.0	
	31nm,2.2s						
WRAB	**Tennant Creek**	**14.21**	**166**	ePn	**Pn**	**05 17 56.1**	**-1.7**
WRA	**Warramunga Arr**	**14.22**	**166**	P	**Pn**	**05 17 55.3**	**-2.6**
WRA				S	Sn	05 20 25.2	-10
WRA	**Warramunga Arr**	**14.22**	**166**	P	**Pn**	**05 17 55.3**	**-2.6**
	4.3nm,0.3s,baz=341,slow=13,SNR=52						
WRA				S	Sn	05 20 25.2	-10
	10nm,0.3s,baz=342,slow=21,SNR=11						
BKB	**Balikpapan**	**14.50**	**289**	P	**P**	**05 18 04.9**	**+0.3**
MTNI	**Mataram**	**14.54**	**259**	P	x	05 18 03.1	
	41nm,0.7s						
COEN	**Coen**	**14.62**	**123**	ePn	**P**	**05 18 05.3**	**-0.6**
SRBI	**Singaraja**	**15.40**	**262**	P	**P**	**05 18 16.3**	**+1.7**
	68nm,1.2s						
PMG	**Port Moresby**	**16.72**	**102**	P	x	05 18 32.3	
PMG	**Port Moresby**	**16.72**	**102**	eP	**P**	**05 18 32.3**	**+3.1**
	96nm,0.8s						
PMG	**Port Moresby**	**16.72**	**102**	P	**P**	**05 18 32.4**	**+3.1**
	3.6nm,0.3s,baz=285,slow=6.6,SNR=26						
AS01	**Alice Springs**	**17.75**	**170**	eP	**Pn**	**05 18 41.7**	**+0.3**
MBWA	**Marble Bar**	**18.30**	**214**	eP	**P**	**05 18 46.9**	**+0.4**
	29nm,0.6s						
KKM	**Kota Kinabalu**	**18.77**	**310**	eP	**P**	**05 18 51.0**	**-0.8**
	48nm,1.2s						
CTA	**Charters Tower**	**20.59**	**134**	P	**P**	**05 19 13.1**	**+1.7**
CTA	**Charters Tower**	**20.59**	**134**	P	**P**	**05 19 13.1**	**+1.7**
	4.8nm,0.6s,baz=312,slow=12,SNR=12						
CTAO	**Charters Tower**	**20.59**	**134**	eP	**P**	**05 19 12.8**	**+1.4**
	12nm,1.0s						
FORT	**Forrest**	**24.66**	**185**	eP	**P**	**05 19 51.0**	**-0.2**
	45nm,0.9s						
STKA	**Stephens Creek**	**27.62**	**160**	eP	**P**	**05 20 18.5**	**+0.6**
	5.2nm,1.4s						
STKA	**Stephens Creek**	**27.62**	**160**	P	**P**	**05 20 18.3**	**+0.4**
	6.2nm,0.4s,baz=340,slow=7.8,SNR=39						
STKA				LR	LR	05 32 37.7	
	comp=Z,113nm,20.5s,baz=204,slow=39						
NWAO	**Narrogin (SRO)**	**29.45**	**203**	LR	LR	05 32 27.2	
	comp=Z,105nm,21.3s,baz=17,slow=36						
QIZ	**Qiongzhong**	**32.29**	**321**	P	**P**	**05 20 59.5**	**+0.2**
QIZ				S	**S**	**05 26 03.4**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,24nm,2.0s						
DZM	**Mont Dzumac**	**38.07**	**118**	P	**P**	**05 21 48.4**	**-0.5**
DZM	**Mont Dzumac**	**38.07**	**118**	P	**P**	**05 21 48.4**	**-0.5**
	6.6nm,0.9s,baz=297,slow=9.0,SNR=5.3						
NJ2	**Nanjing**	**39.57**	**344**	eP	**P**	**05 22 02.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.64**	**309**	P	**P**	**05 22 01.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.64**	**309**	P	**P**	**05 22 01.4**	**-0.5**
	0.8nm,0.4s,baz=139,slow=7.2,SNR=7.4						
CMAR				LR	LR	05 38 47.6	
	comp=Z,21nm,18.4s,baz=145,slow=36						
GYA	**Guiyang**	**39.84**	**325**	eP	**P**	**05 22 04.0**	**+0.4**
GYA				pP	pP	05 22 37.6	+6.1
GYA				sP	sP	05 22 55.4	+10
GYA				ScP	**ScP**	**05 27 41.3**	**-3.6**
GYA				S	**S**	**05 27 57.9**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**41.22**	**320**	P	**P**	**05 22 14.3**	**-0.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSAR	**Wonju Array Be**	**43.40**	**357**	P	**P**	**05 22 32.2**	**-0.1**
KSRS	**Korea Array**	**43.41**	**357**	P	**P**	**05 22 32.2**	**-0.2**
	0.5nm,0.4s,baz=170,slow=7.4,SNR=3.4						
CD2	**Chengdu**	**44.89**	**327**	eP	**P**	**05 22 45.9**	**+1.5**
LZH	**Lanzhou**	**48.92**	**331**	eP	**P**	**05 23 16.8**	**+1.0**
LZH				pP	**pP**	**05 23 44.0**	**-0.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC	**Hu-ho-hao-te**	**49.90**	**341**	eP	**P**	**05 23 25.8**	**+2.8**
HHC				pP	pP	05 23 59.3	+7.4
HHC				sP	sP	05 24 18.5	+13
HHC				S	**S**	**05 30 26.4**	**+2.6**
HHC				SS	**SS**	**05 33 57.3**	**-1.1**
HHC				pmax	pmax		
	comp=Z,67nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,3.4s						
CN2	**Changchun**	**49.90**	**355**	eP	P	05 23 26.8	+4.0
USRK	**Ussuriysk Arra**	**50.09**	**1**	P	**P**	**05 23 23.5**	**-0.8**
	0.8nm,0.5s,baz=190,slow=7.3,SNR=3.2						
GTA	**Gaotai**	**53.49**	**330**	eP	**P**	**05 23 49.4**	**-0.5**
GTA				pP	**pP**	**05 24 21.8**	**+2.7**
GTA				sP	**sP**	**05 24 37.6**	**+4.8**
GTA				S	**S**	**05 31 10.0**	**-3.3**
GTA				sS	**sS**	**05 32 06.8**	**+3.1**
GTA				SS	**SKiKP**	**05 34 52.1**	**-0.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,68nm,4.8s						
GTA				LR	LR		
	comp=N,72nm,16.6s						
GTA				LR	LR		
	comp=E,85nm,17.3s						
GTA				LR	LR		
	comp=Z,110nm,15.2s						
ULN	**Ulaanbaatar**	**57.62**	**341**	eP	**P**	**05 24 18.8**	**-0.3**
	2.9nm,0.6s						
SONM	**Songino Array**	**57.80**	**341**	P	**P**	**05 24 20.5**	**0.0**
SONM	**Songino Array**	**57.80**	**341**	P	**P**	**05 24 20.5**	**0.0**
	1.8nm,0.5s,baz=163,slow=7.1,SNR=26						
WMQ	**Urumqi**	**62.99**	**326**	P	**P**	**05 24 57.4**	**+1.7**
WMQ				pP	**PcP**	**05 25 31.0**	**-1.6**
WMQ				sP	sP	05 25 46.6	+7.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WMQ				LR	LR		
	comp=N,61nm,28.3s						
WMQ				LR	LR		
	comp=Z,29nm,19.8s						
KSH	**Kashi**	**67.78**	**317**	eP	**P**	**05 25 27.3**	**+0.5**
KSH				ePP	**PP**	**05 27 58.3**	**+0.4**
KSH				ePcS		05 29 57.1	
KSH				eS	S	05 34 07.9	-7.2
KSH				eSS	**SS**	**05 38 32.1**	**-7.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,86nm,5.1s						
KSH				LR	LR		
	comp=N,52nm,5.0s						
KSH				LR	LR		
	comp=E,13nm,3.0s						
KSH				LR	LR		
	comp=Z,27nm,6.2s						
MK01	**Makanchi Array**	**67.80**	**326**	eP	**P**	**05 25 26.1**	**-0.5**
MKAR	**Makanchi Array**	**67.82**	**326**	eP	**P**	**05 25 26.2**	**-0.6**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**05 25 26.5**	**-0.2**
	9.9nm,0.4s,baz=113,slow=8.5,SNR=438						
KZA	**Kyzart**	**69.50**	**319**	P	**P**	**05 25 38.2**	**+0.4**
	SNR=5.5						
TKM2	**Tokmak 2**	**69.69**	**320**	P	**P**	**05 25 38.6**	**-0.1**
	SNR=7.1						
TKM2	**Tokmak 2**	**69.69**	**320**	eP	**P**	**05 25 38.2**	**-0.5**
	13nm,1.4s						
AAK	**Ala-Archa**	**70.26**	**319**	eP	**P**	**05 25 41.9**	**-0.2**
	8.0nm,1.3s						
AML	**Almayashu**	**70.54**	**319**	P	**P**	**05 25 44.4**	**+0.3**
	SNR=7.9						
USP	**Ospenovka**	**70.56**	**320**	P	**P**	**05 25 43.6**	**-0.2**
	SNR=8.4						
EKS2	**Erkin-Say**	**70.74**	**319**	P	**P**	**05 25 45.4**	**+0.4**
	SNR=6.6						
EKS2	**Erkin-Say**	**70.74**	**319**	eP	**P**	**05 25 43.7**	**-1.2**
	3.8nm,0.8s						
ZAA0	**Zalesovo Array**	**71.06**	**333**	eP	**P**	**05 25 44.8**	**-1.6**
ZALV	**Zalesovo Beam**	**71.06**	**333**	P	**P**	**05 25 45.0**	**-1.5**
ZALV	**Zalesovo Beam**	**71.06**	**333**	P	**P**	**05 25 45.0**	**-1.5**
	0.9nm,0.3s,baz=127,slow=5.2,SNR=9.8						
KKAR	**Karatay Array**	**73.08**	**318**	eP	**P**	**05 25 58.0**	**-0.8**
ABKAR	**Akbulak array**	**82.19**	**321**	eP	**P**	**05 26 48.1**	**-1.1**
ILAR	**Eielson Array**	**92.29**	**25**	P	**P**	**05 27 35.1**	**-2.7**
ILAR	**Eielson Array**	**92.29**	**25**	P	**P**	**05 27 35.1**	**-2.7**
	0.6nm,0.8s,baz=285,slow=4.7,SNR=5.8						
MFID	**Camas Ranch**	**111.23**	**46**	ePKiKP	**PKiKP**	**05 33 00.0**	**-1.6**
GERES	**GERESS Array B**	**112.13**	**321**	PKiKP	**PKiKP**	**05 33 01.4**	**-1.6**
GERES	**GERESS Array B**	**112.13**	**321**	PKiKP	**PKiKP**	**05 33 01.4**	**-1.6**
	0.2nm,0.5s,baz=92,slow=2.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**129.22**	**282**	PKP	**PKPdf**	**05 33 35.5**	**-1.2**
TORD				SKPbc	SKPab	05 36 41.9	-4.1
TORD	**Torodi Ar. Bea**	**129.22**	**282**	PKP	**PKPdf**	**05 33 35.5**	**-1.2**
	0.2nm,0.3s,baz=90,slow=2.8,SNR=6.6						
TORD				SKPbc	SKPab	05 36 41.9	-4.1
	0.3nm,0.6s,baz=72,slow=3.3,SNR=4.5						
CPUP	**Villa Florida**	**146.85**	**167**	PKPbc	**PKPdf**	**05 34 08.3**	**-0.3**

CPUP	**Villa Florida**	**146.85**	**167**	PKPbc	**PKPdf**	**05 34 08.3**	**-0.3**
	1.1nm,0.5s,baz=130,slow=0.9,SNR=3.4						
LPAZ	**La Paz**	**151.03**	**140**	PKPbc	**PKPbc**	**05 34 22.4**	**+0.2**
LPAZ	**La Paz**	**151.03**	**140**	PKPbc	**PKPbc**	**05 34 22.4**	**+0.2**
	4.0nm,0.3s,baz=31,slow=3.5,SNR=54						

MAN 17 05:25:16,7.28N×124.22E,h20km,mb4.3,ML3.1,MS2.9, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.07**	**153**	↑*i*	P	05 25 20.1	+0.4
CTBH				*i*	S	05 25 28.1	+5.9
IPIL	**Ipil**	**1.71**	**287**	↓*e*	P	05 25 44.5	-0.1
IPIL				*e*	S	05 26 10.1	+2.3

KRSC **17** *05:30:10.8±2.2, 50.60N×156.73E, h142km±22km, ML3.9*
MOS **17** *05:30:10.7±1.4, 50.94N×155.81E, h139km, mb3.8/4, Error ellipse: s-maj=26.3km s-min=16.3km az=80.9*
ISCJB **17** *05:30:11.7±0.5, 50.90N±0.07×155.9E±0.1, h149km±4km, mb3.5/13, Error ellipse: s-maj=15.1km s-min=7.1km az=41.5*
IDC **17** *05:30:15.3±1.6, 51.09N×155.75E, h163km±12km, mb3.2/12, mb1 3.5/14, mb1mx3.3/27, mbtmp3.6/14, Error ellipse: s-maj=22.5km s-min=12.4km az=157.0*

ISC 17 05:30:11.9±0.7, 50.74N±0.07×156.17E±0.08, h144km±5km, n52, σ1§55/63, mb3.7/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.07**	**210**	*e*PN	**Pn**	**05 30 29.5**	**-1.7**
SKR				*e*S	**Sn**	**05 30 43.5**	**-2.3**
SKR				pmax	pmax		
	comp=Z,310nm,0.5s						
SKR				pmax	pmax		
	comp=N,300nm,0.3s						
SKR				pmax	pmax		
	comp=E,110nm,0.3s						
SKR				smax	smax		
	comp=N,810nm,0.6s						
SKR				smax	smax		
	comp=E,410nm,0.6s						
SKR	**Severo-Kuril's**	**0.07**	**210**	*i* P	**Pn**	**05 30 32.0**	**+0.8**
SKR				*i* S	**Sn**	**05 30 46.6**	**+0.8**
PAU	**Pauzhetka**	**0.83**	**29**	*i* P	**Pn**	**05 30 34.8**	**+0.2**
PAU				*e*S	**Sn**	**05 30 52.4**	**+0.4**
MIPR	**Malaya Ipel'ka**	**1.58**	**13**	*i* P	**Pn**	**05 30 41.9**	**+0.1**
MIPR				*e*S	**Sn**	**05 31 04.4**	**-0.3**
ASAK	**Asacha**	**1.96**	**33**	*e*P	**Pn**	**05 30 47.2**	**+1.0**
ASAK				*e*S	**Sn**	**05 31 11.7**	**-0.9**
MTVR	**Mutnovka**	**2.15**	**35**	*i* P	**Pn**	**05 30 49.0**	**+0.6**
MTVR				*i* S	**Sn**	**05 31 16.4**	**-0.2**
GRL	**Gorelyy**	**2.17**	**32**	*e*P	**Pn**	**05 30 48.8**	**+0.2**
GRL				*e*S	**Sn**	**05 31 16.8**	**-0.1**
RUS	**Russkaya**	**2.24**	**40**	*e*P	**Pn**	**05 30 49.6**	**+0.3**
RUS				*e*S	**Sn**	**05 31 16.0**	**-2.2**
APC	**Apacha**	**2.27**	**15**	*e*P	**Pn**	**05 30 49.6**	**-0.2**
APC				*e*S	**Sn**	**05 31 22.8**	**+3.8**
PETK	**Petropavlovsk-**	**2.55**	**21**	PN	**Pn**	**05 30 54.0**	**+0.7**
PETK				S	**Sn**	**05 31 27.1**	**+1.9**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.55**	**21**	P	**Pn**	**05 30 54.0**	**+0.7**
	comp=N,2.8nm,0.3s,baz=182,slow=13,SNR=50						
PETK				S	**Sn**	**05 31 27.1**	**+1.9**
	comp=N,1.4nm,0.3s,baz=180,slow=21,SNR=4.6						
PET	**Petropavlovsk**	**2.75**	**33**	*e*P	**Pn**	**05 30 56.5**	**+0.8**
UGLR	**Uglovaya**	**2.96**	**33**	*i* P	**Pn**	**05 30 59.8**	**+1.2**
UGLR				*i* S	**Sn**	**05 31 34.2**	**-0.5**
KOK	**Koryaka**	**2.97**	**30**	*e*P	**Pn**	**05 31 00.1**	**+1.5**
AVH	**Avacha**	**2.98**	**31**	*e*P	**Pn**	**05 30 59.6**	**+0.8**
AVH				*e*S	**Sn**	**05 31 33.4**	**-1.6**
SMAR	**Somma**	**3.00**	**32**	*e*P	**Pn**	**05 31 00.8**	**+1.7**
SMAR				*e*S	**Sn**	**05 31 35.9**	**+0.2**
KRER	**Koryakskii**	**3.02**	**31**	*e*P	**Pn**	**05 31 00.6**	**+1.3**
KRER				*e*S	**Sn**	**05 31 36.4**	**+0.4**
KRX	**Arik**	**3.03**	**29**	*e*P	**Pn**	**05 31 00.5**	**+1.0**
SDLR	**Sedlovina**	**3.04**	**32**	*e*P	**Pn**	**05 31 00.2**	**+0.6**
SDLR				*e*S	**Sn**	**05 31 36.2**	**-0.2**
NLC	**Nalytchevo**	**3.12**	**38**	*e*P	**Pn**	**05 30 59.9**	**-0.6**
NLC				*e*S	**Sn**	**05 31 35.2**	**-2.9**
GNL	**Ganaly**	**3.15**	**20**	*e*P	**Pn**	**05 31 01.0**	**+0.1**
SPN	**Mys Shipunski**	**3.35**	**44**	*e*S	**Sn**	**05 31 40.2**	**-3.2**
KII	**Karymskiy**	**3.86**	**30**	*e*P	**Pn**	**05 31 11.1**	**+1.0**
KII				*e*S	**Sn**	**05 31 54.8**	**-0.5**
MKZ	**Mys Kozlova**	**5.10**	**39**	*e*P	**Pn**	**05 31 25.8**	**-0.6**
MKZ				*e*S	**Sn**	**05 32 21.3**	**-3.2**
TUMR	**Tumrok**	**5.14**	**26**	*e*P	**Pn**	**05 31 29.2**	**+2.2**
KBTR	**Krutoberegovo**	**6.76**	**33**	*e*P	**Pn**	**05 31 47.5**	**-1.0**
KBTR				*e*S	**Sn**	**05 33 00.5**	**-3.7**
BKI	**Bering**	**7.41**	**49**	*i* P	**Pn**	**05 31 56.1**	**-1.1**
BKI				*i* S	Sn	05 33 11.8	-8.0
YAK	**Yakutsk**	**18.36**	**318**	*e*P	**P**	**05 34 13.4**	**-1.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
MJAR	**Matsushiro Arr**	**19.18**	**229**	P	**Pn**	**05 34 27.6**	**+0.9**
	comp=E,0.3nm,0.3s,baz=29,slow=7.2,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**32.09**	**161**	T	T	06 10 28.8	
	baz=350,slow=77,SNR=12						
SONM	**Songino Array**	**32.10**	**285**	P	**P**	**05 36 23.6**	**-1.7**
	comp=E,0.2nm,0.4s,baz=60,slow=5.6,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**32.11**	**161**	T	T	06 10 30.4	
	baz=350,slow=77,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**32.11**	**161**	T	T	06 10 30.6	
	baz=350,slow=77,SNR=17						
ILAR	**Eielson Array**	**32.19**	**42**	P	**P**	**05 36 26.4**	**+0.7**
	comp=E,0.4nm,0.7s,baz=265,slow=6.4,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**33.24**	**162**	T	T	06 11 56.8	
	baz=351,slow=77,SNR=25						
H11S3	**WAKE ISLAND Hy**	**33.25**	**162**	T	T	06 11 57.6	
	baz=351,slow=77,SNR=27						
H11S2	**WAKE ISLAND Hy**	**33.26**	**162**	T	T	06 11 58.1	
	baz=351,slow=77,SNR=9.3						
YKA	**Yellowknife Ar**	**46.53**	**40**	P	**P**	**05 38 25.1**	**+0.7**
	comp=E,0.2nm,0.7s,baz=300,slow=6.6,SNR=4.8						
KURK	**Kurchatov**	**46.91**	**302**	P	**P**	**05 38 26.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**46.98**	**295**	P	**P**	**05 38 27.0**	**-1.1**
MKAR	**Makanchi Array**	**46.98**	**295**	P	**P**	**05 38 27.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=66,slow=7.4,SNR=13						
KURBB	**Kurchatov Arra**	**47.01**	**302**	P	**P**	**05 38 26.9**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=59,slow=7.0,SNR=4.3						
ARCES	**ARCESS Array B**	**54.74**	**341**	P	**P**	**05 39 23.5**	**-2.3**
	comp=Z,1.9nm,0.8s,baz=37,slow=9.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**55.29**	**256**	P	**P**	**05 39 30.5**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=27,slow=6.1,SNR=3.2						
NVAR	**Mina Array Bea**	**58.87**	**66**	P	**P**	**05 39 58.1**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=299,slow=7.8,SNR=4.9						
PDAR	**Pinedale Array**	**60.82**	**57**	P	**P**	**05 40 10.8**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=42,slow=2.4,SNR=6.0						
WRA	**Warramunga Arr**	**72.96**	**201**	P	**P**	**05 41 27.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=18,slow=6.5,SNR=4.7						
TXAR	**Lajitas Array**	**73.83**	**63**	P	**P**	**05 41 32.8**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=298,slow=5.2,SNR=26						
ESDC	**Sonseca Array**	**88.29**	**345**	P	**P**	**05 42 45.3**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=356,slow=3.8,SNR=4.0						
H03N2	**Juan Fernandez**	**136.68**	**88**	T	T	08 20 31.5	
	baz=312,slow=75,SNR=3.5						
H03N1	**Juan Fernandez**	**136.69**	**88**	T	T	08 20 30.4	
	baz=312,slow=75,SNR=4.0						
H03N3	**Juan Fernandez**	**136.69**	**88**	T	T	08 20 30.7	
	baz=312,slow=75,SNR=3.6						

JMA 17 06:04:26.1±0.1, 38.23N×142.20E, h35km±2km, M1.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.71**	**289**	P	Pn	06 04 39.6	0.0
JIO				S	Sn	06 04 49.2	0.0
OFUJ	**Ofunato**	**0.94**	**334**	P	Pn	06 04 42.9	0.0
JMK	**Ichinoseki**	**1.05**	**313**	P	Pn	06 04 45.0	+0.6
JOU	**Okura**	**1.22**	**277**	*e*S	Sn	06 05 03.3	+1.4
JOM	**Ohasama**	**1.43**	**331**	*e*S	Sn	06 05 08.4	+1.3

KMA **17** *06:04:14.1, 38.08N×145.84E, h0km*
IDC **17** *06:04:35.0±0.4, 37.92N×143.65E, h0km, mb5.2/36, mb1 5.4/43, mb1mx5.3/44, mbtmp5.3/43, ML5.0/4, MS5.1/32, Ms1 5.1/32, ms1mx5.0/41, Error ellipse: s-maj=11.1km s-min=10.4km az=64.0*
ISCJB **17** *06:04:35.7±0.6, 38.00N±0.02×143.53E±0.01, h8km±3km, mb5.5/365, MS5.3/204, Error ellipse: s-maj=3.1km s-min=1.7km az=169.1*
NEIC **17** *06:04:36.5±0.1, 37.94N×143.60E, h7km, mb5.7/216, MS5.2/140, MW5.6, MW5.6(NIED), Error ellipse: s-maj=2.5km s-min=1.8km az=149.0, Moment Tensor Solution. s55 Moment tensor: Scale 10^17Nm; Mrr-0.62; Mθθ-0.71; Mφφ 1.33; Mrθ 0.60; Mθφ 0.75; Mφr 2.52; Best double couple: M0 2.90000×10^17 NP1:φs 38.00000°, δ 13.00000°, λ -64.00000°. NP2:φs 192.00000°, δ 79.00000°, λ -96.00000°. Principal axes: T 3.2900, Plg33.0000°, Azm286.0000°; N -0.9400, Plg5.0000°, Azm192.0000°; P -2.3500, Plg55.0000°, Azm94.0000°;*
NEIC Felt [II] at Misawa and Yokosuka. Also felt at Akishima, Ayase, Sendai and Tsukuba. Recorded [2 JMA] in Fukushima, Gumma, Ibaraki, Iwate, Miyagi, Saitama and Tochigi; [1 JMA] in Akita, Aomori, Chiba, Kanagawa, Nagano, Shizuoka, Tokyo, Yamagata and Yamanashi. Also recorded [1 JMA] in southwestern Hokkaido and on Miyake-jima and O-shima.
BJI **17** *06:04:36.8, 38.07N×143.08E, h4km, mB5.7/46, mb5.6/74, Ms5.6/80, Ms7 5.5/73*
GCMT **17** *06:04:36.5±0.1, 38.00N×143.60E, h19km, MW5.6/121, Moment Tensor Solution. s83,c141; s121,c286; Duration: 1§5 Moment tensor: Scale 10^17Nm; Mrr-0.76±.04; Mθθ-1.34±.03; Mφφ 2.10±.03; Mrθ 0.28±.07; Mθφ 1.45±.03; Mφr 2.17±.12; Best double couple: M0 2.97000×10^17 NP1:φs 166.00000°, δ 83.00000°, λ -131.00000°. NP2:φs 68.00000°, δ 42.00000°, λ -11.00000°. Principal axes: T 3.6670, Plg26.0000°, Azm288.0000°; N -1.3940, Plg41.0000°, Azm173.0000°; P -2.2720, Plg38.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=60s. nsta2 refers to surface/mantle waves, cutoff=50s.*
JMA **17** *06:04:38.5±0.2, 38.05N×143.53E, h41km, M5.6*
JMA Felt II J1.
MOS **17** *06:04:39.4±1.0, 38.06N×143.54E, h33km, mb5.8/133, MS5.2/67, Error ellipse: s-maj=6.0km s-min=3.8km az=106.5*
SZGRF **17** *06:04:46.0, 38.62N×143.79E, h33km, mb5.5, Off east coast of Honshu, Japan*
NIED **17** *06:05:00, 38.00N×143.60E, h29km, Mw5.6 Best double couple: M0 2.65000×10^17 NP1:φs 73.00000°, δ 50.00000°, λ 9.00000°. NP2:φs 337.00000°, δ 83.00000°, λ 139.00000°.*

ISC 17 06:04:38.4±0.3, 37.99N±0.03×143.54E±0.03, h19km±1km, h18km:pP-P, n1511, σ1§19/1576, mb5.6/374, MS5.2/209, 357C-223D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.79**	**286**	↑P	**Pn**	**06 05 07.6**	**-0.7**
JIO				*e*S	**Sn**	**06 05 28.4**	**-2.1**
OFUJ	**Ofunato**	**1.83**	**307**	↑P	**Pn**	**06 05 07.8**	**-1.1**
OFUJ				*e*S	**Sn**	**06 05 29.2**	**-2.3**
JMK	**Ichinoseki**	**2.06**	**298**	↑P	**Pn**	**06 05 11.4**	**-0.6**
JMK				*e*S	**Sn**	**06 05 35.0**	**-2.2**
MIYJ	**Miyakonagasawa**	**2.08**	**320**	↑P	**Pn**	**06 05 10.7**	**-1.6**
JMM	**Marumori**	**2.18**	**268**	↑P	**Pn**	**06 05 13.1**	**-0.6**
JMM				*e*S	**Sn**	**06 05 38.0**	**-2.1**
JFK	**Kawauchi**	**2.21**	**254**	P	**Pn**	**06 05 13.2**	**-0.9**
JFK				*e*S	**Sn**	**06 05 39.0**	**-1.9**
JOU	**Okura**	**2.30**	**280**	↑P	**Pn**	**06 05 15.4**	**0.0**
JOU				*e*S	**Sn**	**06 05 42.5**	**-0.7**
JOM	**Ohasama**	**2.30**	**311**	↑P	**Pn**	**06 05 14.8**	**-0.6**
JOM				*e*S	**Sn**	**06 05 41.8**	**-1.4**
JTH	**Tanohata**	**2.35**	**327**	↑P	**Pn**	**06 05 14.4**	**-1.6**
ONAJ	**Iwakimizuishiy**	**2.35**	**249**	↑P	**Pn**	**06 05 15.1**	**-1.1**
JFT	**Otama**	**2.58**	**260**	↑P	**Pn**	**06 05 19.5**	**+0.2**
JFT				S	**Sn**	**06 05 49.3**	**-0.9**
JYK	**Kaneyama**	**2.67**	**291**	↑P	**Pn**	**06 05 20.4**	**0.0**
JRG	**Rokugo**	**2.67**	**303**	↑P	**Pn**	**06 05 20.3**	**-0.2**
JHO	**Hitachi**	**2.74**	**241**	↑P	**Pn**	**06 05 20.0**	**-1.4**
JANG	**Nango**	**2.85**	**327**	P	**Pn**	**06 05 21.2**	**-1.8**
JANG				S	**Sn**	**06 05 53.9**	**-3.0**
JYW	**Yuwa**	**3.03**	**302**	↑P	**Pn**	**06 05 25.6**	**+0.2**
JSB	**Shiboa**	**3.06**	**252**	P	**Pn**	**06 05 25.9**	**+0.1**
JYA	**Atsumi**	**3.07**	**282**	↑P	**Pn**	**06 05 26.3**	**+0.3**
JFY	**Yanaizu**	**3.10**	**260**	P	**Pn**	**06 05 26.6**	**+0.2**
JAH	**Hinai**	**3.15**	**315**	P	**Pn**	**06 05 26.7**	**-0.4**
JNS	**Sasagawa**	**3.35**	**268**	↑P	**Pn**	**06 05 30.2**	**+0.5**
JTM	**Tenmabayashi**	**3.39**	**326**	P	**Pn**	**06 05 29.3**	**-1.0**
JTM				*e*S	**Sn**	**06 06 07.7**	**-2.3**
JAW	**Awa shima**	**3.42**	**279**	↑P	**Pn**	**06 05 31.2**	**+0.6**
JAG	**Ashikaga**	**3.62**	**246**	P	**Pn**	**06 05 32.9**	**-0.6**
JHK	**Hiroka**	**3.67**	**260**	↑P	**Pn**	**06 05 34.4**	**+0.2**
JOT	**Ohata**	**3.90**	**331**	P	**Pn**	**06 05 36.8**	**-0.5**
BSO3	**Boso 3**	**4.01**	**218**	↓P	**Pn**	**06 05 37.9**	**-0.8**
ERM	**Erimo**	**4.03**	**356**	*e*P	**Pn**	**06 05 38.4**	**-0.7**
ERM				*e*		06 06 22.9	
ERM	**Erimo**	**4.03**	**356**	*e*Pn	**Pn**	**06 05 38.4**	**-0.7**
ERM				*e*Sn	**Sn**	**06 06 22.9**	**-2.9**
JSD	**Sado**	**4.17**	**272**	↑P	**Pn**	**06 05 40.9**	**-0.2**
JRY	**Ryogami san**	**4.21**	**243**	↑P	**Pn**	**06 05 41.0**	**-0.6**
MJAR	**Matsushiro Arr**	**4.49**	**253**	Pn	**Pn**	**06 05 46.1**	**+0.6**
MJAR				Sn	**Sn**	**06 06 33.9**	**-3.5**
MJAR	**Matsushiro Arr**	**4.49**	**253**	Pn	**Pn**	**06 05 46.1**	**+0.6**
	178nm,0.3s,baz=71,slow=11,SNR=1130						
MJAR				Sn	**Sn**	**06 06 33.9**	**-3.5**
	76nm,0.3s,baz=310,slow=22,SNR=6.2						
MJAR				LR	LR	06 07 52.1	
	comp=Z,42μm,19.2s,baz=65,slow=44						
MAJO	**Matsushiro**	**4.50**	**253**	*e*P	**Pn**	**06 05 46.4**	**+0.8**
MAJO				*e*		06 06 38.2	
MAJO	**Matsushiro**	**4.50**	**253**	*e*Pn	**Pn**	**06 05 46.4**	**+0.8**
MAJO				*e*Sn	**Sn**	**06 06 38.2**	**+0.9**
MAT	**Matsushiro**	**4.50**	**253**	P	**Pn**	**06 05 46.4**	**+0.9**
MAT	**Matsushiro**	**4.50**	**253**	P	**Pn**	**06 05 46.5**	**+0.9**
MAT				S	**Sn**	**06 06 37.3**	**0.0**
JNG	**Nsakai**	**4.62**	**252**	P	**Pn**	**06 05 48.1**	**+0.7**
AJI	**Ajiro2**	**4.64**	**232**	↑P	**Pn**	**06 05 46.2**	**-1.2**
JYN	**Shimob**	**4.72**	**240**	↑P	**Pn**	**06 05 49.0**	**+0.3**
JNY	**Yasuok**	**5.27**	**242**	P	**Pn**	**06 05 57.3**	**+1.1**
JGN	**Niukaw**	**5.28**	**252**	P	**Pn**	**06 05 58.0**	**+1.6**
JHJ2	**Mitsune**	**5.74**	**213**	*e*Pn	**Pn**	**06 06 01.4**	**-1.2**
JAO	**Obara**	**5.74**	**244**	↑P	**Pn**	**06 06 03.5**	**+0.8**
JGM	**Miyama**	**5.93**	**249**	↑P	**Pn**	**06 06 06.5**	**+1.2**
ASAJ	**Asahikawa**	**6.16**	**354**	*e*Pn	**Pn**	**06 06 08.3**	**-0.1**
ASAJ				*e*Sn	**Sn**	**06 07 15.4**	**-2.9**
ASAJ				Sn	**Sn**	**06 07 15.6**	**-2.8**
ASAJ	**Asahikawa**	**6.16**	**354**	Pn	**Pn**	**06 06 08.0**	**-0.4**
	81nm,0.3s,baz=188,slow=20,SNR=149						
ASAJ				Sn	**Sn**	**06 07 15.6**	**-2.8**
	25nm,0.3s,baz=130,slow=19,SNR=5.0						
ASAJ				LR	LR	06 09 02.9	
	comp=Z,26μm,21.2s,baz=198,slow=43						
YUK	**Yuzh-Kuril'sk**	**6.29**	**15**	↓*i*P	Pn	06 06 06.7	-3.4
YUK				*i* S	Sn	06 07 14.3	-7.1
YUK				pmax	pmax		
	comp=N,1μm,0.4s						
YUK				pmax	pmax		
	comp=E,949nm,0.4s						
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				smax	smax		
	comp=E,15μm,0.6s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				MLR	MLR		
	comp=N,11μm,17.0s						
YUK				MLR	MLR		
	comp=E,17μm,17.0s						
YUK				MLR	MLR		
	comp=Z,9μm,17.0s						
KUR	**Kuril'sk**	**7.93**	**23**	*e*P	**Pn**	**06 06 29.6**	**-3.0**
KUR				*e*S	Sn	06 07 54.5	-7.2
KUR				pmax	pmax		
	comp=N,270nm,0.5s						
KUR				pmax	pmax		
	comp=Z,990nm,0.5s						
KUR				pmax	pmax		
	comp=E,340nm,0.6s						
KUR				pmax	pmax		
	comp=N,6μm,2.0s						
KUR				pmax	pmax		
	comp=Z,5μm,2.0s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR				smax	smax		
	comp=E,2μm,0.8s						
KUR				smax	smax		
	comp=N,8μm,3.0s						
KUR				smax	smax		
	comp=E,8μm,2.0s						
KUR				MLR	MLR		
	comp=Z,19μm,12.0s						
KUR				MLR	MLR		
	comp=N,10μm,10.0s						
KUR				MLR	MLR		
	comp=E,20μm,12.0s						
JAI	**Aioi**	**8.48**	**243**	P	**Pn**	**06 06 39.9**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.98**	**357**	↑*e*P	**Pn**	**06 06 46.6**	**-0.4**
YSS				*e*S	**Sn**	**06 08 24.0**	**-3.5**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,500nm,3.0s						
YSS				smax	smax		
	comp=N,600nm,1.1s						
YSS				MLR	MLR		
	comp=Z,14μm,16.0s						
YSS				MLR	MLR		
	comp=N,11μm,15.0s						
YSS				MLR	MLR		
	comp=E,5μm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.98**	**357**	*e*Pn	**Pn**	**06 06 46.7**	**-0.4**
KSULL	**Ulleungdo**	**10.03**	**271**	P	**Pn**	**06 07 03.3**	**+1.8**
	SNR=8.2						
KSULL	**Ulleungdo**	**10.03**	**271**	P	**Pn**	**06 07 03.3**	**+1.8**
	SNR=8.2						
VLA	**Vladivostok**	**10.24**	**304**	*e*P	**Pn**	**06 07 05.6**	**+1.3**
VLA				*i* S	**Sn**	**06 09 04.4**	**+5.8**
VLA				pmax	pmax		
	comp=Z,473nm,1.1s						
USRK	**Ussuriysk Arra**	**10.70**	**309**	Pn	**Pn**	**06 07 11.7**	**+1.1**
	comp=Z,6.2nm,0.3s,baz=114,slow=15,SNR=146						
USRK				LR	LR	06 11 14.4	
	comp=Z,17μm,19.0s,baz=114,slow=37						
CBIJ	**Chichi jima**	**10.92**	**186**	*e*Pn	Pn	06 07 09.8	-4.0
CBIJ				*e*Sn	Sn	06 09 00.2	-15
CBIJ				Sn	Sn	06 09 01.8	-14
JCJ	**Chichijima**	**10.92**	**186**	Pn	Pn	06 07 09.8	-3.9
	comp=Z,98nm,0.3s,baz=265,slow=15,SNR=75						
JCJ				Sn	Sn	06 09 01.8	-14
	comp=Z,320nm,0.3s,baz=330,slow=20,SNR=9.6						
JCJ				LR	LR	06 11 12.5	
	comp=Z,1μm,21.5s,baz=0.5,slow=37						
UGL	**Uglegorsk**	**11.14**	**355**	*e*P	**Pn**	**06 07 16.0**	**-0.5**
UGL				*e*		06 09 18.0	
UGL				pmax	pmax		
	comp=Z,75nm,0.6s						
UGL				pmax	pmax		
	comp=Z,700nm,2.0s						
UGL				MLR	MLR		
	comp=N,15μm,18.0s						
UGL				MLR	MLR		
	comp=Z,15μm,18.0s						
UGL				MLR	MLR		
	comp=E,17μm,16.0s						
JKIT	**Kitakata**	**11.23**	**245**	P	**Pn**	**06 07 18.1**	**+0.2**
KSULJ	**Uljin**	**11.33**	**268**	P	**Pn**	**06 07 21.4**	**+2.1**
	SNR=18						
KSULJ	**Uljin**	**11.33**	**268**	P	**Pn**	**06 07 21.4**	**+2.1**
	SNR=18						
JNU	**Nakatsue**	**11.40**	**249**	Pn	**Pn**	**06 07 20.2**	**-0.1**
JNU	**Nakatsue**	**11.40**	**249**	Pn	**Pn**	**06 07 20.2**	**-0.1**
	comp=E,3.1nm,0.3s,baz=51,slow=12,SNR=79						
JNU				LR	LR	06 12 10.9	
	comp=E,18μm,19.5s,baz=62,slow=40						
KSPHA	**Pohang**	**11.46**	**265**	P	**Pn**	**06 07 23.2**	**+2.1**
	SNR=24						
KSTBA	**Taebaek**	**11.62**	**270**	P	**Pn**	**06 07 25.9**	**+2.7**
	SNR=47						
KSTBA	**Taebaek**	**11.62**	**270**	P	**Pn**	**06 07 25.9**	**+2.7**
	SNR=47						
JFI	**Itaya**	**11.62**	**251**	P	**Pn**	**06 07 23.9**	**+0.6**
KSJMJ	**Jumunjin**	**11.68**	**274**	P	**Pn**	**06 07 26.0**	**+1.9**
	SNR=16						
KSDGY	**Daegwallyong**	**11.76**	**273**	P	**Pn**	**06 07 28.1**	**+2.8**
	SNR=15						
KSSKC	**Sokcho**	**11.84**	**276**	P	**Pn**	**06 07 27.7**	**+1.5**
	SNR=17						
KSSKC	**Sokcho**	**11.84**	**276**	P	**Pn**	**06 07 27.7**	**+1.5**
	SNR=17						
KSBUS	**Busan**	**11.91**	**261**	P	**Pn**	**06 07 29.1**	**+1.9**
	SNR=10						
KSBUS				P	**Pn**	**06 07 29.1**	**+1.9**
	SNR=10						
KSDAG	**Daegu**	**11.94**	**264**	P	**Pn**	**06 07 29.7**	**+2.1**
	SNR=20						
KSYOW	**Yeongwol**	**12.00**	**271**	P	**Pn**	**06 07 31.0**	**+2.5**
	SNR=32						
SEHB	**SEOHWA**	**12.05**	**276**	P	**Pn**	**06 07 31.5**	**+2.4**
	SNR=13						
SEHB	**SEOHWA**	**12.05**	**276**	P	**Pn**	**06 07 31.5**	**+2.4**
	SNR=13						
HABR	**Khabarovsk**	**12.16**	**332**	*c*e	P	**Pn**	**06 07 28.1**	**-2.5**
HABR				*e*S	**Sn**	**06 09 44.8**	**-0.8**
HABR				pmax	pmax		
	comp=N,36nm,2.4s						
HABR				pmax	pmax		
	comp=Z,114nm,2.4s						
HABR				MLR	MLR		
	comp=Z,12μm,17.0s						
KSIJA	**INJE**	**12.18**	**275**	P	**Pn**	**06 07 33.1**	**+2.2**
	SNR=29						
KSRS	**Korea Array**	**12.38**	**272**	Pn	**Pn**	**06 07 35.5**	**+1.9**
	comp=Z,7.0nm,0.3s,baz=88,slow=13,SNR=244						
KS

INCN	**Inchon**	**13.40**	**273**	*e*Pn	**Pn**	**06 07 49.5**	**+2.0**
KSGAH	**Ganghwa** SNR=8.4	**13.52**	**274**	P	**Pn**	**06 07 50.5**	**+1.3**
KSGUS	**GUNSAN** SNR=12	**13.54**	**267**	P	**Pn**	**06 07 50.4**	**+1.0**
KSJEU	**Jeongeup** SNR=19	**13.56**	**264**	P	**Pn**	**06 07 50.9**	**+1.2**
KSKWJ	**Gwangju** SNR=8.9	**13.60**	**263**	P	**Pn**	**06 07 51.6**	**+1.3**
KSSES	**Seosan** SNR=14	**13.65**	**270**	P	**Pn**	**06 07 50.8**	**-0.1**
KSMOK	**Mokpo** SNR=7.6	**13.92**	**262**	P	**Pn**	**06 07 55.9**	**+1.2**
KSWAN	**Wando** SNR=6.6	**14.07**	**260**	P	**Pn**	**06 07 57.6**	**+0.9**
KLR	**Kul'dur**	**14.09**	**327**	*e*P	Pn	06 07 51.0	-6.0
KLR				*e*		06 10 27.5	
KLR	comp=N,96nm,1.4s			pmax	pmax		
KLR	comp=E,280nm,1.4s			pmax	pmax		
KLR	comp=Z,400nm,1.4s			pmax	pmax		
KLR	comp=N,8μm,13.0s			MLR	MLR		
KLR	comp=Z,4μm,13.0s			MLR	MLR		
KSHAN	**Haenam** SNR=6.9	**14.11**	**261**	P	**Pn**	**06 07 57.9**	**+0.6**
KSJDO	**Jindo** SNR=10	**14.34**	**261**	P	**Pn**	**06 08 01.0**	**+0.6**
CN2	**Changchun**	**14.86**	**299**	⇑P	**Pn**	**06 08 05.5**	**-1.9**
CN2				*ep*P	P	06 08 08.8	-4.3
CN2				*e*S	**Sn**	**06 10 50.3**	**-1.1**
CN2	comp=Z,200nm,3.0s			pmax	pmax		
CN2	comp=Z,4μm,19.0s			LR	LR		
CN2	comp=Z,8μm,19.0s			LR	LR		
CN2	comp=Z,8μm,18.0s			LR	LR		
KSHUK	**Heuksando** SNR=9.5	**14.95**	**263**	P	**Pn**	**06 08 08.8**	**+0.1**
SKR	**Severo-Kuril's**	**15.53**	**31**	*e*P	Pn	06 08 10.5	-5.7
SKR				*e*S	Sn	06 10 57.0	-11
SKR	comp=Z,1μm,1.0s			pmax	pmax		
SKR	comp=N,120nm,0.5s			pmax	pmax		
SKR	comp=E,440nm,1.0s			pmax	pmax		
SKR	comp=Z,2μm,6.0s			pmax	pmax		
SKR	comp=N,140nm,0.6s			smax	smax		
SKR	comp=E,60nm,0.6s			smax	smax		
SKR	comp=N,5μm,12.0s			MLR	MLR		
SKR	comp=E,5μm,12.0s			MLR	MLR		
SKR	comp=Z,8μm,12.0s			MLR	MLR		
OKH	**Okha**	**15.57**	**359**	*e*P	**Pn**	**06 08 16.0**	**-0.7**
OKH	comp=Z,900nm,4.4s			pmax	pmax		
SNY	**Shenyang**	**15.79**	**290**	⇑P	**Pn**	**06 08 18.0**	**-1.6**
SNY				S	**Sn**	**06 11 08.4**	**-5.7**
SNY	comp=Z,98nm,1.2s			pmax	pmax		
SNY	comp=Z,3μm,9.8s			pmax	pmax		
SNY	comp=Z,6μm,14.1s			LR	LR		
SNY	comp=Z,21μm,16.3s			LR	LR		
SNY	comp=Z,23μm,15.7s			LR	LR		
JOW	**Kunigami** comp=Z,101nm,0.9s	**17.00**	**234**	*e*P	**P**	**06 08 37.3**	**+0.3**
DL2	**Dalian**	**17.19**	**280**	P	**Pn**	**06 08 35.4**	**-2.1**
DL2				S	**Sn**	**06 11 47.9**	**-0.3**
DL2	comp=Z,700nm,1.4s			pmax	pmax		
DL2	comp=Z,2μm,5.1s			pmax	pmax		
DL2	comp=Z,4μm,13.9s			LR	LR		
DL2	comp=Z,5μm,16.7s			LR	LR		
DL2	comp=Z,7μm,18.0s			LR	LR		
PEA0B	**Petropavlovsk-**	**18.03**	**28**	*e*Pn	**Pn**	**06 08 46.3**	**-1.4**
PETK	**Petropavlovsk-**	**18.03**	**28**	P	**Pn**	**06 08 46.3**	**-1.4**
PETK	comp=Z,2.0nm,0.3s			pmax	pmax		
PETK	comp=Z,2μm,21.7s			MLR	MLR		
PETK	**Petropavlovsk-**	**18.03**	**28**	P	**Pn**	**06 08 46.3**	**-1.4**
PETK	**Petropavlovsk-** comp=Z,1.8nm,0.3s,baz=229,slow=6.2,SNR=40	**18.03**	**28**	P	**Pn**	**06 08 46.3**	**-1.4**
PETK	comp=Z,2μm,21.6s,baz=214,slow=37			LR	LR	06 15 41.4	
PET	**Petropavlovsk**	**18.33**	**30**	*e*P	**P**	**06 08 52.4**	**+1.0**
PET				*e*S	**Sn**	**06 12 13.1**	**-2.4**
PET	comp=Z,234nm,1.4s			pmax	pmax		
PET	comp=Z,2μm,5.8s			pmax	pmax		
PET	comp=E,5μm,17.9s			smax	smax		
PET	comp=Z,6μm,18.0s			MLR	MLR		
PET	comp=Z,5μm,18.0s			MLR	MLR		
PET	**Petropavlovsk** comp=Z,510nm,1.5s	**18.33**	**30**	*e*P	**P**	**06 08 52.0**	**+0.6**
SSE	**Sheshan**	**19.64**	**256**	⇑P	**P**	**06 09 04.3**	**-1.6**
SSE				pP	**Pn**	**06 09 07.4**	**+0.1**
SSE				S	**S**	**06 12 43.4**	**-3.3**
SSE				sS	**Sn**	**06 12 50.1**	**+2.8**
SSE	comp=Z,40nm,0.6s			pmax	pmax		
SSE	comp=Z,1μm,8.3s			pmax	pmax		
SSE	comp=Z,14μm,20.4s			LR	LR		
SSE	comp=Z,3μm,20.5s			LR	LR		
SSE	comp=Z,14μm,15.1s			LR	LR		
HIA	**Hailar** comp=Z,139nm,0.8s	**20.50**	**311**	*e*P	**P**	**06 09 12.6**	**-2.7**
HIA				*e*S	S	06 12 53.5	-10
HIA	comp=Z,11μm,20.0s			LR	LR		
NJ2	**Nanjing**	**21.04**	**261**	*e*P	**P**	**06 09 19.4**	**-1.8**
NJ2				pP	**pP**	**06 09 22.0**	**-4.5**
NJ2				sP	**sP**	**06 09 24.0**	**-4.9**
NJ2	comp=Z,100nm,1.2s			pmax	pmax		
NJ2	comp=Z,1μm,10.7s			pmax	pmax		
NJ2	comp=Z,13μm,18.2s			LR	LR		
NJ2	comp=Z,8μm,18.0s			LR	LR		
NJ2	comp=Z,9μm,16.7s			LR	LR		
TIA	**Tai'an**	**21.13**	**273**	⇑P	**P**	**06 09 19.8**	**-2.3**
TIA				S	S	06 13 01.1	-15
TIA				SS	**SnSn**	**06 13 34.9**	**-3.2**
TIA	comp=Z,240nm,1.2s			pmax	pmax		
TIA	comp=Z,2μm,11.7s			pmax	pmax		
TIA	comp=Z,8μm,14.7s			LR	LR		
TIA	comp=Z,12μm,14.8s			LR	LR		
TIA	comp=Z,16μm,14.8s			LR	LR		
BJI	**Beijing**	**21.34**	**284**	P	**P**	**06 09 21.4**	**-2.9**
BJI	comp=Z,300nm,1.4s			pmax	pmax		
BJI	comp=Z,1μm,3.6s			pmax	pmax		
BJI	comp=Z,7μm,16.6s			LR	LR		
BJI	comp=Z,11μm,14.6s			LR	LR		
BJT	**Baijiatuan** comp=Z,5μm,21.2s	**21.34**	**284**	*e*P	**P**	**06 09 21.5**	**-2.9**
BJT	comp=Z,434nm,0.8s			*e*S	S	06 13 01.6	-19
BJT	comp=Z,6μm,20.0s			LR	LR		
CLNS	**Chul'man**	**22.55**	**333**	*e*P	**P**	**06 09 36.8**	**-0.5**
CLNS				*e**PP	**pP**	**06 09 46.8**	**+4.2**
CLNS				*e*		06 10 00.6	
CLNS				*e*		06 13 26.7	
CLNS				*e*S	**S**	**06 13 42.9**	**-0.6**
CLNS				*e*SS	**SnSn**	**06 14 17.4**	**+4.6**
CLNS	comp=E,83nm,1.0s			pmax	pmax		
CLNS	comp=N,154nm,0.8s			pmax	pmax		
CLNS	comp=Z,275nm,0.9s			pmax	pmax		
CLNS	comp=E,266nm,1.3s			pmax	pmax		
CLNS	comp=N,384nm,1.5s			pmax	pmax		
CLNS	comp=Z,192nm,0.9s			smax	smax		
CLNS	comp=E,2μm,12.8s			smax	smax		
CLNS	comp=N,1μm,14.5s			MLR	MLR		
CLNS	comp=E,3μm,13.0s			MLR	MLR		
CLNS	comp=N,7μm,16.0s			MLR	MLR		
CLNS	comp=Z,7μm,18.0s			LR	LR		
TATO	**Taipei** comp=Z,105nm,0.8s	**22.78**	**242**	P	**P**	**06 09 36.6**	**-3.2**
TATO	comp=Z,4μm,19.0s			LR	LR		
YHNB	**Yeheng**	**23.05**	**241**	PFAKE		06 09 50.0	+7.2
YHNB	comp=Z,3μm,22.0s			LR	LR		
SSLB	**Suanglung**	**23.92**	**240**	*e*P	**P**	**06 09 49.5**	**-1.8**
GUMO	**Guam**	**24.33**	**177**	PFAKE		06 10 10.0	+15
GUMO	comp=Z,4μm,20.0s			LR	LR		
TIY	**Taiyuan**	**24.51**	**279**	*e*P	**P**	**06 09 55.1**	**-1.6**
TIY				S	**S**	**06 14 19.8**	**+3.5**
TIY	comp=Z,310nm,0.6s			pmax	pmax		
TIY	comp=Z,2μm,6.2s			pmax	pmax		
TIY	comp=Z,4μm,12.8s			LR	LR		
TIY	comp=Z,7μm,13.4s			LR	LR		
TIY	comp=Z,10μm,17.6s			LR	LR		
HHC	**Hu-ho-hao-te**	**24.80**	**287**	*e*P	**P**	**06 09 57.8**	**-1.5**
HHC				sP	**sP**	**06 10 06.3**	**-1.0**
HHC				PP	**PnPn**	**06 10 31.8**	**+0.2**
HHC				S	S	06 14 10.0	-11
HHC				sS	sS	06 14 24.8	-5.5
HHC				SS	**SnSn**	**06 15 11.8**	**+3.7**
HHC	comp=Z,270nm,0.9s			pmax	pmax		
HHC	comp=Z,30μm,15.1s			LR	LR		
HHC	comp=Z,32μm,14.9s			LR	LR		
QZH	**Quanzhou**	**24.85**	**246**	⇑*i*P	**P**	**06 09 55.0**	**-4.8**
QZH				S	**S**	**06 14 15.8**	**-6.0**
QZH	comp=Z,240nm,0.8s			pmax	pmax		
QZH	comp=Z,2μm,4.8s			pmax	pmax		
QZH	comp=Z,6μm,13.2s			LR	LR		
QZH	comp=Z,13μm,13.6s			LR	LR		
QZH	comp=Z,16μm,14.3s			LR	LR		
WHN	**Wuhan**	**25.17**	**262**	⇑P	**P**	**06 10 02.9**	**+0.3**
WHN				sP	**sP**	**06 10 14.8**	**+4.2**
WHN				S	**S**	**06 14 27.5**	**+0.6**
WHN	comp=Z,7μm,13.8s			LR	LR		
WHN	comp=Z,14μm,14.6s			LR	LR		
WHN	comp=Z,17μm,16.4s			LR	LR		
CIT	**Chita**	**25.21**	**314**	*e*P	**P**	**06 10 02.4**	**-0.4**
CIT				*e*		06 10 15.2	
CIT				*e*		06 10 43.5	
CIT				*e*		06 10 55.5	
CIT				*e*		06 14 28.0	
CIT	comp=Z,746nm,1.7s			pmax	pmax		
FX1	**Attu Island--F**	**25.33**	**44**	P	**P**	**06 10 03.6**	**-0.3**
FX1	**Attu Island--F** comp=Z,160nm,0.8s,baz=259,slow=10,SNR=14	**25.33**	**44**	P	**P**	**06 10 03.6**	**-0.3**
FX1	comp=Z,3μm,19.6s,baz=260,slow=32			LR	LR	06 18 10.5	
SEY	**Seymchan**	**25.55**	**9**	⇓*i*P	**P**	**06 10 05.7**	**0.0**
SEY	**Seymchan**	**25.55**	**9**	P	**P**	**06 10 06.8**	**+1.0**
SEY	**Seymchan** comp=Z,150nm,0.8s,baz=186,slow=6.7,SNR=147	**25.55**	**9**	P	**P**	**06 10 06.8**	**+1.0**
YAK	**Yakutsk**	**25.55**	**345**	*c i*P	**P**	**06 10 05.4**	**-0.3**
YAK				*e**PP	**pP**	**06 10 11.2**	**-0.2**
YAK				*e*		06 13 40.0	
YAK				*e*S	**S**	**06 14 32.9**	**+0.7**
YAK				*e*SS	**SnSn**	**06 15 33.4**	**+7.5**
YAK	comp=Z,168nm,0.9s			pmax	pmax		
YAK	comp=E,20nm,0.9s			pmax	pmax		
YAK	comp=N,51nm,1.2s			pmax	pmax		
YAK	comp=N,763nm,1.8s			pmax	pmax		
YAK	comp=Z,330nm,2.0s			pmax	pmax		
YAK	comp=E,337nm,1.9s			smax	smax		
YAK	comp=N,2μm,2.5s			smax	smax		
YAK	comp=E,817nm,3.0s			MLR	MLR		
YAK	comp=Z,4μm,16.0s			MLR	MLR		
YAK	comp=E,2μm,17.0s			MLR	MLR		
YAK	comp=N,3μm,16.0s			LR	LR		
YAK	**Yakutsk** comp=N,279nm,0.8s	**25.55**	**345**	*e*P	**P**	**06 10 06.0**	**+0.3**
YAK	comp=Z,4μm,19.0s			LR	LR		
BTO	**Baotou**	**25.99**	**286**	*e*P	**P**	**06 10 09.6**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=319,slow=75,SNR=6.5	**27.25**	**125**	T	T	06 39 02.8	
H11N1	**WAKE ISLAND Hy** baz=319,slow=75,SNR=88	**27.26**	**125**	T	T	06 38 58.0	
H11N3	**WAKE ISLAND Hy** baz=319,slow=75,SNR=207	**27.27**	**125**	T	T	06 39 14.6	
H11S1	**WAKE ISLAND Hy** baz=322	**28.02**	**127**	T	T	06 39 58.7	
H11S3	**WAKE ISLAND Hy**	**28.02**	**127**	T	T	06 39 58.2	
H11S2	**WAKE ISLAND Hy** baz=322	**28.04**	**127**	T	T	06 40 02.9	
XAN	**Xi'an**	**28.18**	**273**	P	**P**	**06 10 29.8**	**0.0**
XAN				pP	**pP**	**06 10 33.8**	**-1.7**
XAN				PP	**PnPn**	**06 11 18.5**	**+0.6**
XAN				S	**S**	**06 15 10.6**	**-3.9**
XAN				sS	sS	06 15 17.5	-6.4
XAN				SS	**SnSn**	**06 16 30.6**	**-0.2**
XAN	comp=Z,36nm,0.8s			pmax	pmax		
XAN	comp=Z,330nm,8.5s			pmax	pmax		
XAN	comp=Z,5μm,16.5s			LR	LR		
XAN	comp=Z,2μm,15.3s			LR	LR		
XAN	comp=Z,2μm,16.5s			LR	LR		
ULN	**Ulaanbaatar** SNR=127	**28.25**	**302**	P	**P**	**06 10 31.5**	**+1.1**
ULN	**Ulaanbaatar** comp=Z,190nm,0.7s	**28.25**	**302**	*e*P	**P**	**06 10 31.2**	**+0.8**
ULN	comp=Z,4μm,20.0s			LR	LR		
SONM	**Songino Array**	**28.69**	**302**	P	**P**	**06 10 35.1**	**+0.9**
SONM	**Songino Array** comp=Z,90nm,0.7s,baz=102,slow=7.9,SNR=126	**28.69**	**302**	P	**P**	**06 10 35.1**	**+0.9**
SONM	comp=Z,5μm,19.1s,baz=104,slow=37			LR	LR	06 22 33.1	
ENH	**Enshi** comp=Z,210nm,0.8s	**29.10**	**265**	*e*P	**P**	**06 10 38.1**	**+0.1**
ENH	comp=Z,353nm,19.0s			LR	LR		
HKC	**Hong Kong Obse**	**29.66**	**247**	P	P	06 10 48.0	+5.0
GZH	**Guangzhou**	**29.79**	**249**	P	P	06 10 40.1	-4.0
GZH				S	**S**	**06 15 34.4**	**-5.4**
GZH	comp=Z,14μm,17.2s			LR	LR		
GZH	comp=Z,21μm,16.9s			LR	LR		
IRK	**Irkutsk**	**30.74**	**310**	*e*P	**P**	**06 10 51.8**	**-0.5**
IRK	comp=Z,273nm,1.4s			pmax	pmax		
TLY	**Talaya** comp=Z,803nm,0.9s,SNR=16	**31.01**	**309**	P	**P**	**06 10 56.3**	**+1.6**
TLY	**Talaya**	**31.01**	**309**	*c i*P	**P**	**06 10 55.0**	**+0.3**
TLY				*e*		06 11 11.3	
TLY				*e*		06 12 04.2	
TLY				*e*S	**S**	**06 16 00.6**	**+2.1**
TLY				*e*SS	**SnSn**	**06 17 38.7**	**-0.6**
TLY	comp=Z,223nm,1.2s			pmax	pmax		
TLY	comp=Z,8μm,16.0s			MLR	MLR		
TLY	**Talaya** SNR=47	**31.01**	**309**	P	**P**	**06 10 56.2**	**+1.5**
TLY	**Talaya**	**31.01**	**309**	*e*P	**P**	**06 10 55.1**	**+0.3**
TLY	comp=Z,7μm,20.0s			LR	LR		
ZAK	**Zakamensk**	**31.03**	**307**	⇑*i*P	**P**	**06 10 55.5**	**+0.5**
ZAK	comp=Z,118nm,1.4s			pmax	pmax		
LZH	**Lanzhou**	**31.59**	**279**	⇑P	**P**	**06 11 00.8**	**+0.7**
LZH				pP	**pP**	**06 11 04.8**	**-1.0**
LZH				sP	**sP**	**06 11 06.8**	**-1.3**
LZH				PP	**PnPn**	**06 12 02.0**	**-1.5**
LZH				S	**S**	**06 16 07.8**	**-0.3**
LZH				sS	**sS**	**06 16 16.6**	**-0.9**
LZH				SS	**SnSn**	**06 17 53.1**	**-0.7**
LZH	comp=Z,200nm,1.0s			pmax	pmax		
LZH	comp=Z,1μm,4.6s			LR	LR		
LZH	comp=Z,7μm,13.4s			LR	LR		
LZH	comp=Z,10μm,15.6s			LR	LR		
LZH	comp=Z,13μm,17.2s			LR	LR		
MOY	**Mondy**	**32.64**	**309**	*e*P	**P**	**06 11 09.4**	**+0.3**
MOY	comp=Z,99nm,1.7s			pmax	pmax		
GYA	**Guiyang**	**33.05**	**261**	⇑*i*P	**P**	**06 11 12.9**	**0.0**
GYA				PcP	**PcP**	**06 13 58.0**	**+1.7**
GYA				S	S	**06 16 27.9**	**-3.0**
GYA				ScP	**ScP**	**06 17 42.3**	**+2.8**
GYA				ScS	**ScS**	**06 21 40.0**	**-0.1**
GYA	comp=Z,100nm,1.0s			pmax	pmax		
GYA	comp=Z,490nm,10.6s			pmax	pmax		
GYA	comp=Z,4μm,21.1s			LR	LR		
GYA	comp=Z,3μm,24.3s			LR	LR		
GYA	comp=Z,4μm,23.6s			LR	LR		
CD2	**Chengdu**	**33.37**	**270**	⇑*i*P	**P**	**06 11 15.3**	**-0.3**
CD2				sP	**sP**	**06 11 23.3**	**-0.3**
CD2				PcP	**PcP**	**06 13 57.5**	**+0.4**
CD2				S	S	06 16 28.8	-6.9
CD2				SS	**SnSn**	**06 18 36.5**	**-0.6**
CD2	comp=Z,240nm,1.4s			pmax	pmax		
CD2	comp=Z,990nm,11.4s			pmax	pmax		
CD2	comp=Z,14μm,15.5s			LR	LR		
CD2	comp=Z,8μm,16.6s			LR	LR		
CD2	comp=Z,9μm,16.8s			LR	LR		
GTA	**Gaotai**	**33.91**	**286**	⇑P	**P**	**06 11 21.5**	**+1.2**
GTA				pP	**pP**	**06 11 29.8**	**+3.7**
GTA				PcP	**PcP**	**06 14 00.8**	**+2.2**
GTA				S	**S**	**06 16 40.9**	**-3.2**
GTA				ScP	**ScP**	**06 17 42.8**	**+0.4**
GTA				PcS	**PcS**	**06 17 46.3**	**+1.6**
GTA				SS	**SnSn**	**06 18 48.9**	**-1.3**
GTA				ScS	**ScS**	**06 21 43.5**	**-0.7**
GTA	comp=Z,180nm,1.3s			pmax	pmax		
GTA	comp=Z,1μm,4.5s			LR	LR		
GTA	comp=Z,5μm,16.6s			LR	LR		
GTA	comp=Z,11μm,17.1s			LR	LR		
GTA	comp=Z,13μm,18.1s			LR	LR		
MIDW	**Midway**	**33.95**	**95**	PFAKE		06 11 30.0	+9.4
MIDW	comp=Z,5μm,20.0s			LR	LR		
TIXI	**Tiksi**	**34.56**	**352**	⇑*i*P	**P**	**06 11 24.5**	**-0.9**
TIXI	comp=Z,40nm,1.7s			pmax	pmax		
TIXI	comp=Z,2μm,17.0s			MLR	MLR		
TIXI	**Tiksi** comp=Z,35nm,0.9s	**34.56**	**352**	*e*P	**P**	**06 11 24.8**	**-0.6**
TIXI	comp=Z,2μm,20.0s			LR	LR		
DAV	**Davao City (W)**	**34.82**	**212**	PFAKE		06 11 40.0	+12
DAV	comp=Z,3μm,19.0s			LR	LR		
QIZ	**Qiongzhong**	**34.86**	**247**	P	**P**	**06 11 28.9**	**+0.3**
QIZ				pP	**pP**	**06 11 32.3**	**-2.0**
QIZ				PP	**PP**	**06 12 50.1**	**+2.4**
QIZ				S	**S**	**06 17 01.1**	**+2.2**
QIZ				sS	**sS**	**06 17 08.3**	**0.0**
QIZ	comp=Z,44nm,2.5s			pmax	pmax		
QIZ	comp=Z,730nm,11.3s			pmax	pmax		
QIZ	comp=Z,5μm,24.1s			LR	LR		
QIZ	comp=Z,2μm,22.3s			LR	LR		
QIZ	comp=Z,9μm,14.6s			LR	LR		
QIZ	**Qiongzhong**	**34.86**	**247**	PFAKE		06 11 40.0	+11
QIZ	comp=Z,4μm,19.0s			LR	LR		
KMI	**Kunming**	**36.78**	**262**	P	**P**	**06 11 45.0**	**-0.2**
KMI				pP	**pP**	**06 11 53.0**	**+2.0**
KMI				sP	**sP**	**06 11 55.8**	**+2.5**
KMI				PP	**PP**	**06 13 09.3**	**+0.3**
KMI				S	**S**	**06 17 24.8**	**-3.8**
KMI				sS	**sS**	**06 17 37.9**	**-0.2**
KMI				SS	**SnSn**	**06 19 53.8**	**-6.3**
KMI	comp=Z,87nm,1.0s			pmax	pmax		
KMI	comp=Z,620nm,5.8s			pmax	pmax		
KMI	comp=Z,5μm,15.6s			LR	LR		
KMI				LR	LR		

comp=Z,3µm,15.6s
KMI LR LR
comp=Z,5µm,14.3s
GAMB Gambell 37.02 31 *e*P P 06 11 46.6 0.0
comp=Z,24nm,1.0s
HVS Khovu-Aksy 37.15 307 *c i*P P 06 11 48.4 +0.4
HVS pmax pmax
comp=Z,2µm,1.3s
SLVN Son La 37.91 255 *e*P P 06 11 55.0 +0.3
comp=Z,38nm,1.1s
TNA Tin City 39.19 30 *e*P P 06 12 05.5 +0.7
comp=Z,88nm,0.9s
TNTI Ternate 39.92 206 *e*P P 06 12 11.3 -0.1
comp=Z,80nm,0.9s
SMPI Sarmi 40.03 188 P P 06 12 13.9 +1.6
comp=Z,142nm,1.2s
SDKM Sandakan 40.14 223 ⇓P P 06 12 14.5 +1.1
SWI Sorong 40.29 199 P P 06 12 17.7 +3.2
comp=Z,43nm,0.8s
KKM Kota Kinabalu 40.34 225 PFAKE
KKM LR LR 06 12 30.0 +15
comp=Z,2µm,20.0s
KKM Kota Kinabalu 40.34 225 ⇑P P 06 12 15.5 +0.4
UBPT Khong Chiam 40.46 247 P x 06 12 17.5
comp=Z,81nm,1.0s
UBPT Khong Chiam 40.46 247 P P 06 12 21.9 +5.9
comp=Z,81nm,1.2s
GENI Genyem 40.50 185 P P 06 12 20.4 +4.2
comp=Z,145nm,1.6s,comp=Z,6µm
TSM Tawau 40.91 221 ⇑P P 06 12 20.9 +1.3
LBMI Labuha 41.19 205 P P 06 12 27.9 +6.0
CRAI Chiangrai 41.25 257 P P 06 12 23.3 +0.8
comp=Z,80nm,1.1s,comp=Z,2µm
GTOI Gorontalo 41.70 212 P P 06 12 26.6 +0.5
comp=Z,209nm,1.0s,comp=Z,2µm
WMQ Urumqi 41.93 296 P P 06 12 28.5 +0.6
WMQ pP pP 06 12 33.0 -0.7
WMQ sP sP 06 12 35.5 -0.5
WMQ PP PnPn 06 14 08.6 -1.3
WMQ PcP PcP 06 14 25.3 +2.2
WMQ S S 06 18 43.4 -1.9
WMQ SS SS 06 21 46.0 -5.9
WMQ ScS ScS 06 22 29.0 -0.7
WMQ pmax pmax
comp=Z,130nm,1.0s
WMQ pmax pmax
comp=Z,950nm,7.2s
WMQ LR LR
comp=Z,3µm,13.1s
WMQ LR LR
comp=Z,3µm,19.0s
WMQ LR LR
comp=Z,2µm,23.2s
MRSI Marisa 42.30 213 P P 06 12 32.6 +1.6
comp=Z,135nm,1.3s,comp=Z,1µm
ZAA0 Zalesovo Array 42.53 312 *e*P P 06 12 32.4 -0.2
ZALV Zalesovo Beam 42.53 312 P P 06 12 32.7 +0.2
ZALV 06 14 25.2
ZALV pmax pmax
comp=Z,31nm,0.8s
ZALV pmax pmax
comp=Z,21nm,0.6s
ZALV MLR MLR
comp=Z,5µm,19.9s
ZALV Zalesovo Beam 42.53 312 P P 06 12 32.7 +0.2
ZALV PcP PcP 06 14 25.2 +0.4
ZALV Zalesovo Beam 42.53 312 P P 06 12 32.7 +0.2
comp=Z,31nm,0.8s,baz=88,slow=7.6,SNR=87
ZALV PcP PcP 06 14 25.2 +0.4
comp=Z,21nm,0.6s,baz=97,slow=3.5,SNR=5.5
ZALV LR LR 06 31 05.3
comp=Z,5µm,19.9s,baz=85,slow=37
PBKT Sadao Pong 42.97 252 P P 06 12 37.1 +0.6
comp=Z,77nm,1.2s,comp=Z,1µm
SANI Sanana 43.02 206 P P 06 12 35.6 -1.3
comp=Z,104nm,1.3s,comp=Z,1µm
CHTO Chiang Mai 43.16 256 *e*P P 06 12 38.5 +0.4
CHTO pmax pmax
comp=Z,45nm,0.7s
CHTO MLR MLR
comp=Z,3µm,20.0s
CHTO Chiang Mai 43.16 256 P P 06 12 39.1 +1.0
SNR=16
CHTO Chiang Mai 43.16 256 *e*P P 06 12 38.5 +0.4
comp=Z,45nm,0.7s
CHTO LR LR
comp=Z,3µm,20.0s
LUWI Luwuk 43.32 211 P P 06 12 42.8 +3.5
comp=Z,84nm,1.1s,comp=Z,2µm
CM31 Chiang Mai Arr 43.37 256 *e*P P 06 12 40.2 +0.4
comp=Z,17nm,0.6s
CMAR Chiang Mai Arr 43.37 256 P P 06 12 40.3 +0.5
CMAR Chiang Mai Arr 43.37 256 P P 06 12 40.3 +0.5
comp=Z,8.7nm,0.6s,baz=52,slow=6.1,SNR=42
CMAR LR LR 06 31 47.9
comp=Z,2µm,19.5s,baz=52,slow=38
NVS Novosibirsk 43.42 313 ⇑ *i*P P 06 12 38.5 -1.2
NVS *e*S S 06 18 57.9 -8.8
NVS pmax pmax
comp=N,16nm,0.5s
NVS pmax pmax
comp=Z,71nm,0.5s
NVS pmax pmax
comp=E,56nm,0.6s
NVS smax smax
comp=N,15nm,1.7s
NVS smax smax
comp=E,34nm,1.9s
APSI Ampana 43.67 213 P P 06 12 44.7 +2.6
comp=E,261nm,1.2s,comp=E,2µm
LSA Lhasa 43.81 275 P P 06 12 44.8 +1.1
LSA pP pP 06 12 52.9 +3.3
LSA S S 06 19 18.1 +4.1
LSA LR LR
comp=E,2µm,16.4s
LSA LR LR
comp=E,3µm,17.5s
LSA LR LR
comp=E,6µm,17.5s
LSA Lhasa 43.81 275 *e*P P 06 12 44.8 +1.1
LSA *e*S S 06 19 21.8 +7.8
LSA pmax pmax
comp=Z,105nm,0.6s
LSA MLR MLR
comp=Z,6µm,20.0s
LSA Lhasa 43.81 275 *e*P P 06 12 44.8 +1.1
comp=Z,104nm,0.6s
LSA *e*S S 06 19 21.8 +7.8
LSA LR LR
comp=Z,6µm,20.0s
MHMT Maesarieng 44.32 257 P P 06 12 48.4 +1.1
comp=Z,66nm,1.1s,comp=Z,701nm
CHBT CHBT 44.41 247 P x 06 12 48.7
comp=Z,88nm,1.1s
CHBT CHBT 44.41 247 P P 06 12 49.2 +1.1
comp=Z,88nm,1.1s
BTM Bintulu 44.44 226 ⇑P P 06 12 49.6 +1.3
IM04 Indian Mountai 44.95 31 *e*P P 06 12 52.4 +0.5
MK31 Makanchi Array 45.05 302 *e*P P 06 12 53.1 +0.1
MK31 Makanchi Array 45.05 302 *e*P P 06 12 53.1 +0.1
MKAR Makanchi Array 45.05 302 P P 06 12 53.2 +0.2
MKAR pmax pmax
comp=Z,49nm,1.0s
MKAR MLR MLR
comp=Z,3µm,18.2s
MKAR Makanchi Array 45.05 302 P P 06 12 53.2 +0.2
MKAR Makanchi Array 45.05 302 P P 06 12 53.2 +0.2
comp=Z,27nm,0.7s,baz=85,slow=8.9,SNR=152
MKAR LR LR 06 32 30.6
comp=Z,3µm,18.2s,baz=73,slow=37
RSO Redoubt South 45.10 39 *e*P P 06 12 53.7 +0.3
comp=Z,496nm,0.8s
SHL Shillong 45.11 270 ⇑ *i*P P 06 12 53.0 -0.8
SHL *ex* x 06 19 38.0
KDAK Kodiak Island 45.25 43 *e*P P 06 12 54.2 -0.1
comp=Z,397nm,0.8s
KDAK LR LR
comp=Z,4µm,21.0s
TARA Tarawa 45.35 136 PFAKE
TARA LR LR 06 13 10.0 +14
comp=Z,3µm,22.0s
PATY Pattaya 45.37 248 P P 06 12 57.5 +1.8
comp=Z,34nm,1.0s,comp=Z,1µm
PPLA Purkeypile 45.41 35 *e*P P 06 12 56.9 +1.2
comp=Z,325nm,1.3s
SBUM Sibu 45.54 227 P x 06 13 00.6
comp=Z,60nm,1.1s
SBUM Sibu 45.54 227 ⇑P P 06 12 58.2 +1.1
SRDT SRDT 45.74 251 P P 06 13 00.1 +1.4
comp=Z,201nm,1.3s
KHLT Khaolaem Dam 45.86 252 P P 06 13 01.5 +1.9
comp=Z,39nm,1.2s
KTH Kantishna Hill 46.01 35 *e*P P 06 13 01.1 +0.8
comp=Z,299nm,1.1s
KTH *e*PcP PcP 06 14 32.0 -4.7
TRF Thorofare Moun 46.29 35 *e*P P 06 13 02.8 +0.2
comp=Z,89nm,0.9s
COLD Coldfoot 46.49 29 *e*P P 06 13 04.5 +0.5
comp=Z,82nm,1.3s
RC01 Rabbit Creek A 46.57 38 *e*P P 06 13 04.5 -0.2
comp=Z,241nm,0.8s
RC01 *e*ScP ScP 06 18 26.2 -4.8
KURK Kurchatov 46.68 308 P P 06 13 06.2 +0.5
KURK pmax pmax
comp=Z,71nm,0.6s
KURK Kurchatov 46.68 308 P P 06 13 05.7 0.0
SNR=122
KURK Kurchatov 46.68 308 P P 06 13 06.2 +0.5
comp=Z,27nm,0.6s
KURK LR LR
comp=Z,2µm,19.0s
KURBB Kurchatov Arra 46.76 308 P P 06 13 06.2 -0.1
comp=Z,71nm,0.6s,baz=81,slow=8.0,SNR=328
SEW Seward 46.76 39 *e*P P 06 13 05.8 -0.3
comp=Z,272nm,1.1s
MCK McKinley 46.89 34 *e*P P 06 13 07.2 0.0
MCK pmax pmax
comp=Z,142nm,1.0s
MCK McKinley 46.89 34 *e*P P 06 13 07.2 0.0
comp=Z,142nm,1.0s
SPSI Sidrap Palu 47.21 213 P P 06 13 24.4 +14
PMG Port Moresby 47.27 175 P x 06 13 11.6
comp=Z,67nm,1.1s
PMG Port Moresby 47.27 175 *e*P P 06 13 10.7 +0.1
comp=Z,61nm,1.0s
PMG Port Moresby 47.27 175 LR LR 06 30 55.6
comp=Z,562nm,21.5s,baz=14,slow=34
COLA College 47.36 33 *d i*P P 06 13 11.1 +0.3
COLA pmax pmax
comp=Z,587nm,1.3s
COLA MLR MLR
comp=Z,5µm,19.0s
COLA College 47.36 33 *e*P P 06 13 11.3 +0.5
comp=Z,108nm,0.9s
COLA LR LR
comp=Z,1µm,21.0s
KSM Kuching 47.44 228 *e*P P 06 13 13.0 +1.0
comp=Z,59nm,0.8s
KSM LR LR
comp=Z,717nm,21.0s
KSM Kuching 47.44 228 ⇓P P 06 13 13.3 +1.3
ILAR Eielson Array 47.78 33 P P 06 13 13.8 -0.2
ILAR Eielson Array 47.78 33 P P 06 13 13.8 -0.2
comp=Z,103nm,0.8s,baz=262,slow=5.8,SNR=412
KAPI Kappang 48.16 213 PFAKE
KAPI LR LR 06 13 30.0 +12
comp=Z,612nm,20.0s
PAX Paxson 48.48 35 *e*P P 06 13 20.0 +0.4
PAX pmax pmax
comp=Z,88nm,1.1s
PAX Paxson 48.48 35 *e*P P 06 13 20.0 +0.4
comp=Z,88nm,1.1s
DIV Divide 48.49 38 *e*P P 06 13 20.4 +0.7
comp=Z,568nm,1.1s
KTGM Kuala Trenggan 49.03 239 ⇑P P 06 13 25.8 +1.4
DOT Dot Lake 49.07 34 *e*P P 06 13 23.9 -0.2
comp=Z,83nm,0.8s
BMRM Bremner River 49.07 38 *e*P P 06 13 24.4 +0.2
comp=Z,292nm,1.0s
SURT Suratani 49.52 246 P P 06 13 33.3 +5.3
comp=Z,27nm,1.5s
EGAK Eagle 50.23 33 *e*P P 06 13 32.6 -0.2
comp=Z,53nm,0.9s
EGAK LR LR
comp=Z,1µm,20.0s
ULHL Ulahol 50.44 297 *i*P P 06 13 35.6 +0.6
ULHL Ulahol 50.44 297 P P 06 13 35.6 +0.6
SNR=20
PKDT Phuket 50.58 246 P P 06 13 38.0 +1.9
TKM2 Tokmak 2 50.67 298 *e*P P 06 13 37.7 +1.0
TKM2 pmax pmax
comp=Z,234nm,1.1s
TKM2 MLR MLR
comp=Z,2µm,19.0s
TKM2 Tokmak 2 50.67 298 P P 06 13 37.8 +1.1
SNR=56
TKM2 Tokmak 2 50.67 298 *e*P P 06 13 37.7 +1.0
comp=Z,234nm,1.1s
TKM2 LR LR
comp=Z,2µm,19.0s
BOK Bokaro 50.72 271 *e*P P 06 13 37.5 +0.4
KULM Kulim 50.76 241 P x 06 13 37.2
comp=Z,50nm,1.7s
KULM Kulim 50.76 241 *e*P P 06 13 37.2 -0.2
comp=Z,46nm,1.0s
KULM LR LR
comp=Z,3µm,19.0s
KULM Kulim 50.76 241 ⇓P P 06 13 37.9 +0.5
SOEI Soe 50.80 205 P P 06 13 37.7 -0.1
comp=Z,193nm,1.0s,comp=Z,2µm
SOEI Soe 50.80 205 *e*P P 06 13 37.8 -0.1
comp=Z,147nm,0.9s
DAWY Dawson 51.08 33 *e*P P 06 13 39.8 +0.5
IPM Ipoh 51.09 240 P x 06 13 39.8
comp=Z,71nm,1.5s,comp=Z,894nm
IPM Ipoh 51.09 240 *e*P P 06 13 39.8 -0.1
comp=Z,41nm,0.8s
IPM Ipoh 51.09 240 ⇓P P 06 13 40.1 +0.1
DGPR DIGLIPUR 51.16 255 *e*P P 06 13 41.3 +0.8
DGPR AMB AMB 06 13 57.0
comp=Z,159nm,1.8s
BVAR Borovoye Array 51.19 312 P P 06 13 40.0 -0.2
BVAR pmax pmax
comp=Z,14nm,0.6s
BVAR MLR MLR
comp=Z,17nm,28.6s
BVAR Borovoye Array 51.19 312 P P 06 13 40.0 -0.2
BVAR Borovoye Array 51.19 312 P P 06 13 40.0 -0.2
comp=Z,14nm,0.6s,baz=79,slow=8.0,SNR=94
BVAR LR LR 06 36 32.9
comp=Z,4µm,19.6s,baz=77,slow=37
KZA Kyzart 51.19 297 *i*P P 06 13 42.9 +2.0
KZA Kyzart 51.19 297 P P 06 13 43.0 +2.0
SNR=9.9
KBK Karagaybulak 51.20 298 *i*P P 06 13 41.6 +0.9
KBK Karagaybulak 51.20 298 P P 06 13 41.7 +0.9
SNR=52
CHMS Chumysh 51.23 299 *i*P P 06 13 41.3 +0.5
CHMS Chumysh 51.23 299 P P 06 13 41.3 +0.5
SNR=16
BRVK Borovoye 51.24 312 *e*P P 06 13 40.8 +0.2
BRVK pmax pmax
comp=Z,90nm,1.1s
BRVK MLR MLR
comp=Z,5µm,19.0s
BRVK Borovoye 51.24 312 P P 06 13 41.3 +0.7
SNR=15
BRVK Borovoye 51.24 312 *e*P P 06 13 40.8 +0.2
comp=Z,90nm,1.1s
BRVK LR LR
comp=Z,5µm,19.0s
USP Ospenovka 51.31 299 *i*P P 06 13 42.0 +0.6
USP Ospenovka 51.31 299 P P 06 13 42.0 +0.6
SNR=34
KGM Kluang 51.37 236 ⇑P P 06 13 43.3 +1.3
FRU Bishkek 51.38 299 ⇑ *i*P P 06 13 43.5 +1.6
FRU *e* 06 13 56.0
FRU *e* 06 15 44.0
FRU *e*S S 06 21 04.0 +3.6
FRU pmax pmax
comp=Z,210nm,1.7s
FRU MLR MLR
comp=Z,2µm,15.0s
FRU MLR MLR
comp=E,3µm,15.0s
AAK Ala-Archa 51.53 298 P P 06 13 43.6 +0.4
AAK pmax pmax
comp=Z,15nm,0.6s
AAK MLR MLR
comp=Z,17nm,28.6s
AAK Ala-Archa 51.53 298 P P 06 13 43.7 +0.5
SNR=19
AAK Ala-Archa 51.53 298 P P 06 13 43.8 +0.7
SNR=30
AAK Ala-Archa 51.53 298 P P 06 13 43.6 +0.5
comp=Z,6.1nm,0.6s
AAK Ala-Archa 51.53 298 P P 06 13 43.6 +0.5
comp=Z,14nm,0.6s,baz=68,slow=8.2,SNR=32
AAK LR LR 06 38 31.7
comp=Z,1µm,18.0s,baz=58,slow=39
KSH Kashi 51.56 294 ⇑ *i*P P 06 13 47.5 +4.1
KSH PP PP 06 15 46.4 +5.8
KSH *e*PcS PcS 06 18 57.3 +2.0
KSH S S 06 21 08.3 +5.1
KSH *e*sS sS 06 21 15.3 +2.3
KSH SS SS 06 24 42.1 +3.0
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,450nm,3.9s
KSH LR LR
comp=Z,1µm,11.8s
KSH LR LR
comp=Z,2µm,12.9s
KSH LR LR
comp=Z,2µm,16.1s
FRIM Kepong 51.58 238 ⇑P P 06 13 43.7 0.0
UCH Uchtor 51.65 298 *i*P P 06 13 45.3 +0.9
UCH Uchtor 51.65 298 P P 06 13 45.3 +0.9
SNR=14
COEN Coen 51.67 180 *e*P P 06 13 44.4 +0.2
comp=Z,861nm,1.0s
EKS2 Erkin-Say 52.02 299 *e*P P 06 13 47.0 +0.2
EKS2 pmax pmax
comp=Z,29nm,0.7s
EKS2 MLR MLR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 52.02 299 P P 06 13 47.3 +0.5
SNR=35
EKS2 Erkin-Say 52.02 299 *e*P P 06 13 47.0 +0.2
comp=Z,29nm,0.7s
EKS2 LR LR
comp=Z,2µm,21.0s
AML Almayashu 52.26 298 *i*P P 06 13 50.0 +1.1
AML Almayashu 52.26 298 P P 06 13 50.0 +1.1
SNR=48
LGTI Lohaghat 52.45 281 *ex* P 06 13 53.0 +3.1
KIP Kipapa 52.56 91 *c i*P P 06 13 50.0 -0.9
KIP pmax pmax
comp=Z,151nm,1.0s
KIP MLR MLR
comp=Z,821nm,18.0s
INK Inuvik 52.76 28 *e*P P 06 13 51.5 -0.2
comp=Z,104nm,1.2s
MTNI Mataram 52.96 215 P x 06 14 09.0
PSI Prapat 53.74 240 P P 06 14 00.2 +0.5
PSI Prapat 53.74 240 P P 06 14 00.2 +0.5
comp=Z,9.3nm,0.7s,baz=37,slow=5.5,SNR=7.1
PSI LR LR 06 36 57.5
comp=Z,2µm,22.0s,baz=26,slow=36
DDI Dehra Dun 53.75 283 *e*P P 06 13 59.7 +0.1
SDNR Sundarnagar 54.05 284 *e*P P 06 14 02.0 +0.2
SMLA Simla 54.07 284 *e*P P 06 14 02.2 +0.4
SMLA AMB AMB 06 14 03.5
comp=Z,124nm,1.2s
SMLA *ex* x 06 17 23.0
SMLA *ex* x 06 21 12.6
KKAR Karatay Array 54.11 300 *e*P P 06 14 02.1 +0.1
KKAR pmax pmax
comp=Z,50nm,0.8s
KKAR Karatay Array 54.11 300 *e*P P 06 14 02.1 +0.1
comp=Z,50nm,0.8s
BKNI Bangkinang 54.13 236 P P 06 14 11.1 +8.7
BKNI Bangkinang 54.13 236 *e*P P 06 14 03.1 +0.7
comp=Z,146nm,0.8s
DHRM DHARAMSHALA 54.23 286 *e*P P 06 14 03.4 +0.1
DHRM AMB AMB 06 14 08.1
comp=Z,177nm,0.4s
BHK Bhakra 54.51 285 *e*P P 06 14 06.3 +1.2
PWJI Pagerwojo 54.52 220 P P 06 14 05.5 +0.3
comp=Z,187nm,0.8s
BJII Banjamegara 55.02 222 P x 06 14 23.8
NDI New Delhi 55.15 281 *e*P P 06 14 09.0 -0.8
NDI *ex* x 06 21 48.0
POHA Pohakuloa 55.41 91 *e*P P 06 14 12.1 0.0
comp=Z,395nm,1.1s
KPJI Karang Pucung 55.44 223 P P 06 14 18.2 +6.4
SVE Sverdlovsk 55.55 319 *de*P P 06 14 12.9 +0.7
SVE *e*S S 06 21 57.7 +1.1
SVE *e*SS SS 06 25 45.1 +4.1
SVE pmax pmax
comp=Z,192nm,1.3s
SVE MLR MLR
comp=Z,9µm,16.0s
SVE MLR MLR
comp=E,6µm,15.0s
LHSI Lahat 55.73 231 P P 06 14 14.8 +0.8
comp=E,247nm,1.0s,comp=E,4µm
LEM Lembang 55.74 225 P P 06 14 14.7 +0.5
comp=E,168nm,1.9s
KLI Kotabumi 55.74 229 P P 06 14 23.2 +9.1
GSI Gunungsitoli 55.74 240 P P 06 14 15.0 +0.9
comp=E,178nm,1.0s,comp=E,2µm
GSI Gunungsitoli 55.74 240 *e*P P 06 14 14.2 +0.1
comp=E,176nm,1.0s
MDSI Maura Dua 55.85 230 P P 06 14 15.1 +0.3
VIS Vishakhapatnam 55.98 266 *e*P P 06 14 16.8 +1.0
VIS AMB AMB 06 14 31.7
comp=Z,96nm,1.5s
ARU Arti 56.77 319 P P 06 14 21.7 +0.8
comp=Z,574nm,0.7s,SNR=22
ARU Arti 56.77 319 *c i*P P 06 14 21.1 +0.2
ARU 06 15 15.8
ARU 06 16 23.0
ARU PPP PPP 06 17 42.5
ARU S S 06 22 15.8 +3.1
ARU SS SS 06 25 57.4 -2.7
ARU pmax pmax
comp=Z,7µm,15.9s
ARU Arti 56.77 319 *e*P P 06 14 21.0 +0.2
comp=Z,71nm,0.7s
ARU LR LR
comp=Z,5µm,20.0s
DLBC Dease Lake 56.83 39 *e*P P 06 14 22.0 +0.6
BHPL Bhopal 57.67 276 *e*P P 06 14 27.7 -0.2
CTAO Charters Tower 57.82 177 *e*P P 06 14 28.4 -0.3
CTAO pmax pmax
comp=Z,36nm,1.4s
CTAO MLR MLR
comp=Z,648nm,19.0s
CTAO Charters Tower 57.82 177 *e*P P 06 14 28.4 -0.3
comp=Z,36nm,1.4s
CTAO LR LR
comp=Z,648nm,19.0s
WRAB Tennant Creek 58.26 190 *d i*P P 06 14 31.0 -0.7
WRAB pmax pmax
comp=Z,544nm,1.0s
WRAB MLR MLR
comp=Z,2µm,21.0s
WRAB Tennant Creek 58.26 190 *e*P P 06 14 30.9 -0.9
comp=Z,201nm,0.9s
WRAB LR LR
comp=Z,820nm,20.0s
WRA Warramunga Arr 58.27 190 P P 06 14 31.0 -0.8
WRA ⇑ *e* 06 44 25.4
WRA Warramunga Arr 58.27 190 P P 06 14 31.0 -0.8
comp=Z,146nm,0.9s,baz=9.2,slow=7.3,SNR=262
WRA LR LR 06 41 11.0
comp=Z,350nm,20.3s,baz=5.0,slow=38
WRA PKP2bc 06 44 25.4
comp=Z,4.4nm,1.1s,baz=206,slow=2.1,SNR=8.1
ABKAR Akbulak array 58.62 310 *e*P P 06 14 33.9 -0.2
comp=Z,54nm,0.4s
KBL Kabul 58.65 291 *e*P P 06 14 34.5 -0.3
KBL pmax pmax
comp=Z,150nm,0.9s
KBL Kabul 58.65 291 *e*P P 06 14 34.5 -0.3
comp=Z,150nm,0.9s
ALE Alert 59.05 4 P P 06 14 36.6 0.0
comp=Z,299nm,1.3s,SNR=30
AKTO Aktyubinsk 59.29 312 P P 06 14 38.8 +0.1
AKTO pmax pmax
comp=Z,16nm,0.8s
AKTO MLR MLR
comp=Z,3µm,18.8s
AKTO Aktyubinsk 59.29 312 P P 06 14 38.8 +0.1
AKTO Aktyubinsk 59.29 312 P P 06 14 38.8 +0.1
comp=Z,16nm,0.8s,baz=65,slow=11,SNR=31
AKTO LR LR 06 41 40.4

comp=Z,3µm,18.8s,baz=60,slow=38
HOPEN **Hopen** 59.52 346 *e*S **S** 06 22 49.7 +1.6
HOPEN IAMs_20 IAMs_20 06 41 53.9
comp=Z,2µm,20.8s
SPITS **Spitsbergen Ar** 59.91 349 P **P** 06 14 42.4 -0.2
SPITS **Spitsbergen Ar** 59.91 349 P **P** 06 14 42.4 -0.2
comp=Z,8.3nm,0.6s,baz=78,slow=7.8,SNR=13
HYB **Hyderabad** 59.92 269 *i* P **P** 06 14 43.0 -0.5
HYB *e*pP **pP** 06 14 48.0 -1.5
HYB *e*PcP **PcP** 06 15 32.0 +2.2
HYB *e*S **S** 06 22 54.0 -0.9
HYB **Hyderabad** 59.92 269 *e*P **P** 06 14 43.8 +0.2
HYB AMB AMB 06 14 58.8
comp=Z,106nm,0.8s
KBS **Kingsbay** 60.00 350 *c i*P **P** 06 14 43.7 +0.5
KBS pmax pmax
comp=Z,47nm,1.2s
KBS **Kingsbay** 60.00 350 *e*P **P** 06 14 44.2 +1.0
KBS *e*S S 06 23 00.9 +6.6
KBS IAMs_20 IAMs_20 06 45 01.6
comp=Z,1µm,15.5s
KBS **Kingsbay** 60.00 350 PFAKE 06 15 00.0 +17
KBS LR LR
comp=Z,1µm,21.0s
PRGR **Permogore** 60.88 327⇑ *i*P **P** 06 14 51.0 +1.6
PRGR 06 17 07.9
PRGR *e*S S 06 23 16.1 +10
PRGR pmax pmax
comp=Z,239nm,1.9s
RES **Resolute Bay** 61.25 15 *e*P **P** 06 14 51.3 -0.4
comp=Z,1.1nm,0.3s
LVZ **Lovozero** 61.93 336 *e*P **P** 06 14 56.6 +0.1
LVZ pmax pmax
comp=Z,32nm,1.3s
LVZ **Lovozero** 61.93 336 PFAKE 06 15 10.0 +14
LVZ LR LR
comp=Z,2µm,19.0s
BJO **Bjornoya** 61.93 345 IAMs_20 IAMs_20 06 46 46.4
comp=Z,3µm,17.6s
AS31 **Alice Springs** 61.99 190 *e*P **P** 06 14 56.8 -0.5
AS31 *e*PcP **PcP** 06 15 38.3 +0.5
YKA **Yellowknife Ar** 62.12 31 P **P** 06 14 57.4 -0.4
YKA **Yellowknife Ar** 62.12 31 P **P** 06 14 57.4 -0.4
comp=Z,21nm,0.7s,baz=304,slow=6.7,SNR=151
APA **Apatity** 62.51 336⇑ *i*P **P** 06 15 02.0 +1.7
APA 06 15 37.8
APA *i* 06 17 28.0
APA *i*S **S** 06 23 29.0 +2.6
APA pmax pmax
comp=Z,34nm,1.0s
APA MLR MLR
comp=Z,2µm,16.0s
MBWA **Marble Bar** 62.95 205 *e*P **P** 06 15 03.4 -0.3
comp=Z,28nm,0.8s
MBWA LR LR
comp=Z,497nm,19.0s
POO **Poona** 63.01 273⇑ *i*PN **P** 06 15 04.0 -0.5
comp=Z,60nm,1.0s
POO *e*P **P** 06 15 04.7 +0.2
POO AMB AMB 06 15 18.1
comp=Z,61nm,0.4s
KEV **Kevo** 63.15 340 *e*P **P** 06 15 04.0 -0.5
KEV pmax pmax
comp=Z,30nm,0.8s
KEV **Kevo** 63.15 340 *e*P **P** 06 15 04.6 +0.2
KEV **Kevo** 63.15 340 *e*p **P** 06 15 04.0 -0.5
comp=Z,30nm,0.8s
KEV **Kevo** 63.15 340 *e*P **P** 06 15 04.2 -0.3
comp=Z,31nm,0.8s
KEV LR LR
comp=Z,2µm,20.0s
EIDS **Eidsvold** 63.42 172 *e*P **P** 06 15 07.0 +0.2
comp=Z,33nm,0.8s
EIDS *e*PcP **PcP** 06 15 45.3 +1.8
NOUC **Port Laguerre** 63.49 156 *e*P **P** 06 15 04.6 -2.7
DZM **Mont Dzumac** 63.50 156 *e*P **P** 06 15 09.4 +1.9
comp=Z,107nm,1.1s
DZM *e*pP pP 06 15 22.2 +8.7
comp=Z,163nm,1.1s
DZM *e*S **S** 06 23 39.1 -0.8
comp=Z,442nm,24.4s
DZM **Mont Dzumac** 63.50 156 *e*LR LR 06 33 58.6
comp=Z,3µm,22.9s
DZM **Mont Dzumac** 63.50 156 P **P** 06 15 06.9 -0.6
DZM **Mont Dzumac** 63.50 156 P **P** 06 15 06.9 -0.6
comp=Z,44nm,1.0s,baz=42,slow=8.6,SNR=15
ARCES **ARCESS Array B** 63.69 340 P **P** 06 15 08.2 0.0
ARCES **ARCESS Array B** 63.69 340 P **P** 06 15 08.2 0.0
comp=Z,22nm,0.8s,baz=58,slow=7.3,SNR=30
ARCES LR LR 06 47 22.8
comp=Z,1µm,18.2s,baz=49,slow=40
ARE0 **ARCESS Array S** 63.69 340 *e*P **P** 06 15 09.4 +1.2
ARE0 **ARCESS Array S** 63.69 340 *e*P **P** 06 15 08.3 +0.2
BHJ **Bhuj** 63.75 280 *e*P **P** 06 15 09.9 +0.7
BHJ AMB AMB 06 15 13.7
comp=Z,76nm,1.7s
MSVF **Nonsavu** 64.22 143 *e*P **P** 06 15 12.4 +0.1
MSVF pmax pmax
comp=Z,36nm,1.0s
MSVF MLR MLR
comp=Z,2µm,19.0s
MSVF **Nonsavu** 64.22 143 *e*P **P** 06 15 12.4 +0.1
comp=Z,36nm,1.0s
MSVF LR LR
comp=Z,2µm,19.0s
XMAS **Kiritimati** 64.64 109 PFAKE 06 15 30.0 +15
XMAS LR LR
comp=Z,5µm,20.0s
GOA **Goa** 64.74 270 *e*P **P** 06 15 14.9 -0.8
GOA AMB AMB 06 15 29.1
comp=Z,116nm,2.9s
NLWA **Neilton Lookou** 64.82 49 *e*P **P** 06 15 17.3 +1.3
comp=Z,171nm,1.1s
NLWA LR LR
comp=Z,1µm,19.0s
ABKT **Ailbek** 64.85 299 P **P** 06 15 16.9 +0.6
comp=Z,231nm,0.8s,SNR=8.6
HEF **Hetta** 64.93 339 *e*P **P** 06 15 16.8 +0.6
VDB **Vedder Mountai** 65.04 46 P **P** 06 15 17.6 +0.3
KIF **Kilpisjarvi** 65.31 341 *e*P **P** 06 15 18.7 +0.1
TRO **Tromso** 65.35 342 *e*P P 06 15 23.0 +4.1
JOF **Joensuu** 65.91 332 *e*P **P** 06 15 23.4 +0.8
JOF pmax pmax
comp=Z,30nm,0.6s
JOF **Joensuu** 65.91 332 *e*p **P** 06 15 23.4 +0.8
comp=Z,30nm,0.6s
IDAH **Dahanechah** 66.22 294 *e*P **P** 06 15 26.3 +0.8
COCO **West Island** 66.35 231 PFAKE 06 15 40.0 +14
COCO LR LR
comp=Z,966nm,21.0s
LON **Longmire** 66.36 48 *e*P **P** 06 15 26.2 +0.3
LON pmax pmax
comp=Z,25nm,1.1s
LON **Longmire** 66.36 48 *e*P **P** 06 15 26.2 +0.3
comp=Z,25nm,1.1s
TRD **Trivandrum** 66.38 262⇓ *i*S **S** 06 24 16.7 +1.0
AFI **Afiamalu** 66.47 132 PFAKE 06 15 40.0 +13
AFI LR LR
comp=Z,2µm,20.0s
NLW **Nelson Butte** 66.53 47 P **P** 06 15 27.6 +0.5
COR **Corvallis** 66.56 51 *e*P **P** 06 15 27.5 +0.4
COR pmax pmax
comp=Z,167nm,1.3s
COR **Corvallis** 66.56 51 *e*P **P** 06 15 27.5 +0.4
comp=Z,167nm,1.3s
ETW **Entiat** 66.78 47 P **P** 06 15 29.2 +0.5
TBM **Table Mountain** 66.85 48 P **P** 06 15 29.7 +0.6
KULLO **Kullorsuaq** 66.86 6 *i* P **P** 06 15 28.1 -0.5
KULLO pmax pmax
comp=Z,26nm,1.1s
KULLO MLR MLR
comp=Z,2µm,20.0s
KULLO **Kullorsuaq** 66.86 6 *i* P **P** 06 15 28.1 -0.5
comp=Z,26nm,1.0s
KULLO LR LR
comp=Z,2µm,19.0s
WTV **Waterville** 66.95 47 P **P** 06 15 29.7 0.0
IKOO **Kooshah** 67.00 294 *e*P **P** 06 15 31.1 +0.6
EBG **Ellensburg** 67.00 48 P **P** 06 15 31.0 +0.9
SAW **Saint Andrews** 67.27 47 P **P** 06 15 31.9 +0.2
MOS **Moscow** 67.48 324 *e*P **P** 06 15 32.1 -0.7
MOS *e* 06 15 46.1
MOS *e* 06 18 05.0
MOS *e*S **S** **06 24 27.9 0.0**
MOS *e* 06 25 02.5
MOS *e* 06 25 31.4
MOS pmax pmax
comp=Z,88nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.7s
MOS smax smax
comp=N,1µm,5.0s
MOS smax smax
comp=E,2µm,5.1s
MOS MLR MLR
comp=Z,5µm,16.0s
MOS MLR MLR
comp=N,2µm,14.0s
MOS MLR MLR
comp=E,3µm,15.0s
EDM **Edmonton** 67.54 39 *e*P **P** 06 15 33.0 -0.3
EDM **Edmonton** 67.54 39 *e*P **P** 06 15 33.0 -0.3
HUMO **Hull Mountain** 67.80 53 P **P** 06 15 36.5 +1.4
comp=E,66nm,1.5s
OD2 **Odessa Site #2** 67.83 47 P **P** 06 15 35.3 +0.1
HAWA **Hanford** 67.88 48 *e*P **P** 06 15 34.4 -1.2
comp=E,63nm,1.4s
HAWA LR LR
comp=Z,738nm,21.0s
I05D **Terrebonne, OR** 67.89 50 ⇓P **P** 06 15 36.2 +0.6
baz=68
H2OWA **Water** 67.95 48 P **P** 06 15 36.7 +0.8
VRHR **Novokhopersk** 68.11 318 *e*P **P** 06 15 35.4 -1.4
VRHR *e* 06 18 08.2
VRHR *e*S **S** **06 24 32.5 -3.0**
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR smax smax
comp=N,80nm,2.5s
VRHR smax smax
comp=E,300nm,2.5s
VRHR smax smax
comp=Z,40nm,2.5s
VRHR MLR MLR
comp=N,3µm,18.0s
VRHR MLR MLR
comp=E,4µm,18.0s
VRHR MLR MLR
comp=Z,7µm,18.0s
KHMM **Horse Mountain** 68.22 55 P **P** 06 15 38.4 +0.5
comp=Z,185nm,1.3s
PUL **Pulkovo** 68.22 330 *e*P **P** 06 15 38.1 +0.7
PUL pmax pmax
comp=Z,97nm,1.3s
KAF **Kangasniemi** 68.23 333 *e*P **P** 06 15 37.2 -0.2
KAF pmax pmax
comp=Z,37nm,0.6s
KAF **Kangasniemi** 68.23 333 *e*p **P** 06 15 37.2 -0.2
comp=Z,37nm,0.6s
NEW **Newport** 68.26 45 *e*P **P** 06 15 38.2 +0.3
comp=Z,101nm,1.1s
NEW LR LR
comp=Z,688nm,20.0s
NEW **Newport** 68.26 45 ⇑P **P** 06 15 38.3 +0.3
baz=68,SNR=62
OBN **Obninsk** 68.34 324⇑ *e*P **P** 06 15 37.9 -0.2
OBN *e* 06 18 10.2
OBN *i*S **S** **06 24 41.1 +3.1**
OBN *e*SS **SS** **06 28 55.2 -5.4**
OBN pmax pmax
comp=Z,88nm,1.7s
OBN MLR MLR
comp=Z,3µm,16.0s
OBN **Obninsk** 68.34 324 *e*P **P** 06 15 38.6 +0.5
OBN LR LR
comp=Z,2µm,21.0s
OBN **Obninsk** 68.34 324 P **P** 06 15 38.0 -0.1
comp=Z,12nm,0.4s,baz=72,slow=7.3,SNR=7.3
YBH **Yreka Blue Hor** 68.42 53 *e*P **P** 06 15 40.0 +0.9
comp=Z,111nm,1.4s
PINOR **Pine Mountain** 68.46 51 *e*P **P** 06 15 39.7 +0.6
comp=Z,172nm,1.1s
ARMA **Armidale** 68.47 172 *e*P **P** 06 15 39.1 -0.2
comp=Z,68nm,1.1s
M02C **Callahan** 68.51 54 ⇑P **P** 06 15 39.9 +0.3
baz=68
J05D **Fort Rock, OR** 68.52 51 ⇑P **P** 06 15 40.1 +0.4
baz=68
IGLO **Ghaloghah** 68.52 300 *e*P **P** 06 15 40.4 +0.4
K04D **Chiloquin, OR** 68.55 52 ⇑P **P** 06 15 40.2 +0.3
baz=68
FIA1 **FINESS Array S** 68.75 333 *e*P **P** 06 15 40.6 0.0
FINES **FINESS Array B** 68.75 333 P **P** 06 15 40.7 +0.1
FINES **FINESS Array B** 68.75 333 P **P** 06 15 40.7 +0.1
comp=Z,31nm,0.7s,baz=48,slow=5.2,SNR=76
FINES LR LR 06 48 15.1
comp=Z,4µm,18.6s,baz=52,slow=38
IKIA **Kiasar** 68.77 300 *e*P **P** 06 15 41.9 +0.3
N02D **Trinity Center** 68.82 54 ⇓P **P** 06 15 41.7 +0.1
baz=69
M04C **Macdoel** 68.94 53 ⇑P **P** 06 15 42.4 0.0
baz=69
KCPM **Cahto Peak** 68.94 56 *e*P **P** 06 15 42.6 +0.2
comp=Z,76nm,1.2s
IANJ **Anjilo** 69.01 299 *e*P **P** 06 15 44.0 +1.0
MOR8 **Moi Rana** 69.05 340 *e*P **P** 06 15 41.0 -1.4
WDC **Whiskeytown Da** 69.14 54 *e*P **P** 06 15 44.2 +0.7
WDC pmax pmax
comp=Z,79nm,1.3s
WDC **Whiskeytown Da** 69.14 54 *e*P **P** 06 15 44.1 +0.7
comp=Z,79nm,1.3s
MAK **Makhachkala** 69.19 309 *e*P **P** 06 15 42.1 -1.6
MAK *e* 06 18 15.4
MAK *e*S **S** **06 24 45.7 -2.9**
MAK *e* 06 25 38.9
MAK *e*SS **SS** **06 29 19.2 +4.8**
MAK pmax pmax
comp=Z,331nm,1.5s
MAK MLR MLR
comp=Z,3µm,16.0s
ISHM **Shahmirzad** 69.26 300 *e*P **P** 06 15 45.4 +0.8
VSR **Storozhevoye** 69.32 319 *e*P **P** 06 15 43.0 -1.4
VSR *e* 06 18 20.6
VSR *e*S **S** **06 24 47.4 -2.5**
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,70nm,1.1s
VSR pmax pmax
comp=E,80nm,1.1s
VSR pmax pmax
comp=Z,40nm,1.1s
VSR smax smax
comp=N,100nm,1.5s
VSR smax smax
comp=E,70nm,1.5s
VSR smax smax
comp=Z,30nm,1.5s
VSR MLR MLR
comp=N,4µm,17.0s
VSR MLR MLR
comp=E,3µm,17.0s
VSR MLR MLR
comp=Z,6µm,17.0s
VORD **Divnogorie** 69.40 319 *e*P **P** 06 15 45.3 +0.5
VORD *e* 06 18 20.9
VORD *e*S **S** **06 24 50.3 -0.5**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=Z,40nm,1.1s
VORD pmax pmax
comp=E,50nm,1.0s
VORD smax smax
comp=N,310nm,3.0s
VORD smax smax
comp=Z,10.0nm,2.6s
VORD smax smax
comp=E,270nm,3.0s
VORD MLR MLR
comp=N,3µm,17.0s
VORD MLR MLR
comp=E,3µm,17.0s
VORD MLR MLR
comp=Z,6µm,17.0s
STKA **Stephens Creek** 69.53 182 *e*P **P** 06 15 45.7 0.0
STKA **Stephens Creek** 69.53 182 P **P** 06 15 45.1 -0.6
comp=Z,20nm,0.9s,baz=348,slow=7.6,SNR=16
STKA LR LR 06 45 05.2
comp=Z,476nm,22.0s,baz=9.2,slow=35
WALA **Waterton Lakes** 69.59 43 *e*P **P** 06 15 46.5 +0.2
comp=Z,3.5nm,1.3s
ILAS **Lasjerd** 69.71 299 *e*P **P** 06 15 48.4 +0.9
IFIR **Firoozkooh** 69.71 300 *e*P **P** 06 15 48.2 +0.7
SUMG **Summit** 69.72 1 *i* P **P** 06 15 47.4 +0.4
SUMG pmax pmax
comp=Z,62nm,0.8s
SUMG MLR MLR
comp=Z,2µm,21.0s
SUMG **Summit** 69.72 1 *i* P **P** 06 15 47.4 +0.4
comp=Z,62nm,0.8s
SUMG
comp=Z,1µm,20.0s
SUMG **Summit** 69.72 1 *e*P **P** 06 15 47.4 +0.4
comp=Z,79nm,0.8s
BSMT **Bassoo Peak** 69.79 45 *e*P **P** 06 15 47.9 +0.3
comp=Z,9.9nm,0.9s
MOD **Modoc** 69.84 52 *e*P **P** 06 15 48.2 +0.2
comp=Z,36nm,0.8s
MOD *e*PP **PP** 06 18 21.8 -0.3
IBAF **Bafgh** 69.92 295 *e*P **P** 06 15 48.9 +0.3
FORT **Forrest** 69.93 194 *e*P **P** 06 15 47.8 -0.3
comp=Z,118nm,0.8s
BLMT **Blacktail Moun** 69.94 44 P **P** 06 15 49.3 +0.8
comp=Z,65nm,1.4s
JTMT **Jette** 70.13 45 *e*P **P** 06 15 50.1 +0.4
comp=Z,47nm,1.2s
YBMT **Yellow Bay** 70.22 44 *e*P **P** 06 15 50.4 +0.3
comp=Z,46nm,1.2s
IDMV **Damavand** 70.24 300 *e*P **P** 06 15 51.1 +0.4
ICHK **Chekchek** 70.39 296 *e*P **P** 06 15 52.1 +0.5
SWMT **Swartz Lake** 70.42 45 *e*P **P** 06 15 51.7 +0.3
comp=Z,75nm,1.3s
VSU **Vasula** 70.48 330⇑ *i*P **P** 06 15 50.8 -0.5
VSU pmax pmax
comp=Z,224nm,1.4s
WVOR **Wild Horse Val** 70.58 51 *e*P **P** 06 15 53.0 +0.5
WVOR pmax pmax
comp=Z,60nm,1.1s
WVOR MLR MLR
comp=Z,1µm,20.0s
WVOR **Wild Horse Val** 70.58 51 *e*P **P** 06 15 53.0 +0.5
comp=Z,60nm,1.1s
WVOR LR LR
comp=Z,1µm,20.0s
GOF **Gofitskoye** 70.71 312⇑ *i*P **P** 06 15 53.6 +0.6
GOF *i* 06 16 08.1
GOF pmax pmax
comp=Z,70nm,1.1s
IVRN **Varamin** 70.77 300 *e*P **P** 06 15 53.6 -0.1
BBOO **Buckleboo** 70.78 187 *e*P **P** 06 15 52.8 -0.6
comp=Z,839nm,0.9s
MSO **Missoula** 70.85 45 ⇓P **P** 06 15 53.9 -0.1
baz=71,SNR=35
SLMT **Seeley Lake** 70.86 45 *e*P **P** 06 15 54.1 0.0
comp=Z,123nm,1.4s
BEKR **Beckworth** 70.93 54 *e*P **P** 06 15 54.8 +0.1
comp=Z,24nm,0.9s
NSS **Namsos** 70.98 340 *e*P **P** 06 15 55.2 +0.9
NSS IAMs_20 IAMs_20 06 50 52.0
comp=Z,3µm,21.6s
IGZV **Ghazvin** 71.03 302 *e*P **P** 06 15 56.3 +0.8
ISAD **Sadrabad** 71.09 296 *e*P **P** 06 15 55.9 -0.1
CHMT **Chamberlain Mo** 71.18 45 *e*P **P** 06 15 56.0 -0.2
comp=Z,16nm,1.3s
SCO **Scoresbysund** 71.32 355 *i* P **P** 06 15 56.7 +0.4
SCO pmax pmax
comp=Z,20nm,1.0s
SCO **Scoresbysund** 71.32 355 *i* P **P** 06 15 56.7 +0.4
comp=Z,20nm,1.0s
GUDG **Gudauri** 71.33 310 P **P** 06 15 58.4 +1.2
DGRG **David-gareji** 71.35 308 P **P** 06 15 56.1 -0.9
DUS **Dusheti** 71.40 309 P **P** 06 15 59.0 +1.6
ZEI **Tsey** 71.49 310 *e*P P 06 15 54.1 -4.0
ZEI pmax pmax
comp=Z,19nm,0.6s
IZEF **Zefreh** 71.50 298 *e*P **P** 06 15 58.9 +0.5
KIV **Kislovodsk** 71.55 312 P **P** 06 15 59.7 +1.4
comp=Z,474nm,0.7s,SNR=14
KIV **Kislovodsk** 71.55 312 *e*P **P** 06 15 58.9 +0.6
KIV *e* 06 16 14.5
KIV *e*S **S** **06 25 18.1 +1.7**
KIV *e*SS **SS** **06 29 56.7 +5.9**
KIV pmax pmax
comp=Z,88nm,1.1s
KIV pmax pmax
comp=Z,53nm,3.3s
KIV **Kislovodsk** 71.55 312 P **P** 06 15 59.5 +1.2
SNR=38
KIV **Kislovodsk** 71.55 312 *e*P **P** 06 15 58.9 +0.6
comp=Z,249nm,1.1s
KIV LR LR
comp=Z,2µm,19.0s
KIV **Kislovodsk** 71.55 312⇓ *i*P **P** 06 15 59.1 +0.8
SNR=18
KBZ **Khabaz** 71.56 311 P **P** 06 15 59.1 +1.0
KBZ pmax pmax
comp=Z,14nm,0.7s
KBZ MLR MLR
comp=Z,17nm,28.6s
KBZ **Khabaz** 71.56 311 P **P** 06 15 59.1 +1.0
KBZ **Khabaz** 71.56 311 P **P** 06 15 59.1 +1.0
comp=Z,14nm,0.7s,baz=37,slow=6.7,SNR=33
KBZ LR LR 06 52 35.3
comp=Z,3µm,18.0s,baz=38,slow=40
TBLG **Delisi** 71.58 309 P **P** 06 15 58.9 +0.5
PAHR **Pah Rah Range** 71.64 54 *e*P **P** 06 15 59.3 +0.4
comp=Z,44nm,1.0s
PAHR *e*PP **PP** 06 18 36.2 -1.4
MFID **Camas Ranch** 71.72 49 *e*P **P** 06 15 59.7 +0.3
comp=Z,58nm,1.0s
IRAZ **Razeghan** 71.77 301 *e*P **P** 06 15 59.9 0.0
IKLH **Kolahrood** 71.79 298 *e*P **P** 06 16 00.7 +0.6
ONI **Oni** 71.88 310 P **P** 06 16 01.3 +1.0
CMB **Columbia Colle** 71.93 56 *e*P **P** 06 16 00.9 +0.3
CMB *e* 06 16 19.2
CMB pmax pmax
comp=Z,71nm,1.2s
CMB **Columbia Colle** 71.93 56 *e*P **P** 06 16 00.9 +0.3
comp=Z,71nm,1.2s
CMB *e*PcP **PcP** 06 16 19.2 -0.1
NEY **Neytrino** 71.94 311 *e*P **P** 06 16 01.6 +0.9
NEY pmax pmax
comp=Z,6.0nm,1.0s
FFC **Flin Flon** 71.98 34 *e*P **P** 06 16 00.3 -0.2
FFC pmax pmax
comp=Z,117nm,0.9s
FFC MLR MLR
comp=Z,882nm,20.0s
FFC **Flin Flon** 71.98 34 *e*P **P** 06 16 00.3 -0.2
comp=Z,117nm,0.9s
FFC LR LR
comp=Z,882nm,20.0s
KZR **Kazreti** 71.98 309 P P 06 16 06.3 +5.4
HRY **Holter Researc** 72.09 44 *e*P **P** 06 16 01.7 +0.2
comp=Z,58nm,1.2s
LRM **Limekiln Ridge** 72.28 45 *e*P **P** 06 16 03.0 +0.2
comp=Z,873nm,1.1s
WAKR **Walker** 72.28 55 *e*P **P** 06 16 03.5 +0.6
comp=Z,42nm,1.2s
WBK **Wadi Bani Khal** 72.34 285 P **P** 06 16 04.8 +1.6
SNR=12
FCC **Fort Churchill** 72.38 28 *e*P **P** 06 16 02.2 -0.6
FCC pmax pmax
comp=Z,3.0nm,1.1s
FCC **Fort Churchill** 72.38 28 *e*P **P** 06 16 02.2 -0.6
comp=Z,2.9nm,1.1s

A19A	**Klindworth Far**	**72.41**	**41**	⇑P		**P**	**06 16 03.5**	**+0.1**
	baz=72,SNR=39							
EGMT	**Eagleton**	**72.43**	**42**	*e*P		**P**	**06 16 03.4**	**-0.1**
	comp=Z,72nm,1.2s							
EGMT				LR		LR		
	comp=Z,1µm,19.0s							
EGMT	**Eagleton**	**72.43**	**42**	⇓P		**P**	**06 16 03.5**	**+0.1**
	baz=72,SNR=28							
HLID	**Hailey**	**72.48**	**48**	*e*P		**P**	**06 16 04.4**	**+0.4**
	comp=Z,41nm,1.0s							
HLID				LR		LR		
	comp=Z,738nm,21.0s							
HLID	**Hailey**	**72.48**	**48**	⇓P		**P**	**06 16 04.1**	**+0.2**
	baz=72,SNR=49							
GNI	**Garni**	**72.48**	**307**	P		**P**	**06 16 06.1**	**+2.1**
	SNR=15							
GNI	**Garni**	**72.48**	**307**	*e*P		**P**	**06 16 04.9**	**+0.9**
	comp=Z,126nm,1.4s							
GNI				LR		LR		
	comp=Z,1µm,22.0s							
GNI	**Garni**	**72.48**	**307**	P		**P**	**06 16 05.1**	**+1.1**
	comp=Z,3.6nm,0.5s,baz=165,slow=8.0,SNR=9.6							
BANOM	**Banah**	**72.50**	**289**	⇓P		**P**	**06 16 04.7**	**+0.5**
AKH	**Akhalkalaki**	**72.53**	**309**	P		**P**	**06 16 05.4**	**+1.0**
ILULI	**Ilulissat**	**72.56**	**5**	*i* P		**P**	**06 16 04.7**	**+1.0**
ILULI				pmax		pmax		
	comp=Z,28nm,0.9s							
ILULI	**Ilulissat**	**72.56**	**5**	*i* P		**P**	**06 16 04.7**	**+1.0**
	comp=Z,28nm,0.8s							
IDID	**Didziasalis**	**72.59**	**328**	*e*P		**P**	**06 16 04.1**	**0.0**
IDID				AMB		AMB	06 16 26.8	
	comp=Z,19nm,1.2s							
BMN	**Battle Mountai**	**72.59**	**52**	*e*P		**P**	**06 16 05.0**	**+0.3**
BMN				*e*			06 16 22.5	
BMN				pmax		pmax		
	comp=Z,69nm,1.0s							
BMN	**Battle Mountai**	**72.59**	**52**	*e*P		**P**	**06 16 05.0**	**+0.3**
	comp=Z,69nm,1.0s							
BMN				*e*PcP		**PcP**	**06 16 22.5**	**+0.3**
B19A	**Brinkman Farms**	**72.59**	**42**	⇓P		**P**	**06 16 04.6**	**+0.2**
	baz=72,SNR=18							
CHVG	**Ch'k'valeri**	**72.62**	**311**	P		**P**	**06 16 04.3**	**-0.4**
MCMT	**McKenzie Canyo**	**72.64**	**46**	*e*P		**P**	**06 16 05.0**	**+0.1**
	comp=Z,9.1nm,1.2s							
MICGM	**Minsk**	**72.65**	**327**	*e*P		**P**	**06 16 05.0**	**+0.5**
MNK	**Minsk**	**72.67**	**327**	*e*P		**P**	**06 16 05.0**	**+0.4**
MNK				*e*			06 16 18.0	
MNK				*e*S		**S**	**06 25 31.0**	**+2.4**
MNK				*e*SS		**SS**	**06 30 04.0**	**-3.0**
MNK				pmax		pmax		
	comp=Z,190nm,1.0s							
MNK				MLR		MLR		
	comp=Z,6µm,16.0s							
ISAL	**Salakas**	**72.67**	**328**	*e*P		**P**	**06 16 04.6**	**0.0**
ISAL				AMB		AMB	06 16 35.1	
	comp=Z,39nm,0.9s							
IPAR	**Pars**	**72.69**	**294**	*e*P		**P**	**06 16 05.8**	**+0.2**
IIGN	**Ignalina**	**72.78**	**328**	*e*P		**P**	**06 16 05.3**	**0.0**
IIGN				AMB		AMB	06 16 27.2	
	comp=Z,21nm,0.9s							
SMDO	**Samad**	**72.79**	**286**	P		**P**	**06 16 07.6**	**+1.6**
	SNR=18							
BOZ	**Bozeman (W)**	**72.84**	**45**	*e*P		**P**	**06 16 06.3**	**+0.2**
BOZ				pmax		pmax		
	comp=Z,65nm,1.2s							
BOZ				MLR		MLR		
	comp=Z,892nm,20.0s							
BOZ	**Bozeman (W)**	**72.84**	**45**	*e*P		**P**	**06 16 06.3**	**+0.2**
	comp=Z,65nm,1.2s							
BOZ				LR		LR		
	comp=Z,892nm,20.0s							
NACGM	**Naroch**	**72.85**	**327**	*e*P		**P**	**06 16 05.0**	**-0.7**
A20A	**Cobblestone Ra**	**72.86**	**41**	⇑P		**P**	**06 16 06.4**	**+0.4**
	baz=73,SNR=24							
ISRV	**Sarvestan**	**72.90**	**294**	*e*P		**P**	**06 16 07.1**	**+0.2**
C19A	**Slack Wire Ran**	**72.98**	**42**	⇓P		**P**	**06 16 07.3**	**+0.6**
	baz=73,SNR=46							
HOQ	**Hoqain**	**73.05**	**287**	P		**P**	**06 16 08.1**	**+0.6**
	SNR=14							
NVAR	**Mina Array Bea**	**73.06**	**54**	P		**P**	**06 16 08.2**	**+0.6**
NVAR	**Mina Array Bea**	**73.06**	**54**	P		**P**	**06 16 08.2**	**+0.6**
	comp=Z,42nm,0.8s,baz=296,slow=5.6,SNR=116							
B20A	**Solberg Farm,**	**73.09**	**41**	⇑P		**P**	**06 16 07.2**	**-0.1**
	baz=73,SNR=30							
CAN	**Canberra**	**73.12**	**175**	*e*P		**P**	**06 16 06.5**	**-0.9**
CAN				pmax		pmax		
	comp=Z,48nm,1.1s							
CAN				MLR		MLR		
	comp=Z,1µm,19.0s							
CAN	**Canberra**	**73.12**	**175**	*e*P		**P**	**06 16 06.5**	**-0.9**
	comp=Z,48nm,1.1s							
CAN				LR		LR		
	comp=Z,1µm,19.0s							
JMDO	**Jabal Madar**	**73.14**	**285**	P		**P**	**06 16 08.9**	**+0.9**
	SNR=9.7							
NV11	**Mina Array Sit**	**73.15**	**54**	*e*P		**P**	**06 16 08.5**	**+0.5**
MLAC	**Mammoth Lakes**	**73.17**	**55**	⇑P		**P**	**06 16 08.2**	**-0.1**
	baz=73,SNR=21							
HATD	**Hatta, Dubai**	**73.24**	**289**	⇑P		**P**	**06 16 08.9**	**+0.3**
A21A	**Bergtoll Ranch**	**73.31**	**40**	⇑P		**P**	**06 16 08.6**	**-0.1**
	baz=73,SNR=37							
D19A	**Cripps Ranch,**	**73.42**	**43**	⇓P		**P**	**06 16 09.5**	**+0.1**
	baz=73,SNR=47							
QLMT	**Earthquake Lak**	**73.45**	**46**	*e*P		**P**	**06 16 10.2**	**+0.5**
	comp=Z,7.5nm,1.2s							
NAZ	**Nazwa, Dubai**	**73.50**	**289**	⇑ *i* P		**P**	**06 16 11.1**	**+1.0**
	SNR=7.9							
SOC	**Sochi**	**73.51**	**313**	*c i* P		**P**	**06 16 09.9**	**+0.1**
SOC				*i*			06 16 23.3	
SOC				*e*			06 18 50.5	
SOC				*e*PPP		PPP	06 20 38.4	
SOC				*i* S		**S**	**06 25 38.2**	**-0.4**
SOC				*e*			06 26 14.1	
SOC				*e*SS		**SS**	**06 30 24.7**	**+4.2**
SOC				pmax		pmax		
	comp=Z,20nm,0.6s							
SOC				MLR		MLR		
	comp=Z,3µm,18.0s							
C20A	**Veseth Ranch,**	**73.55**	**42**	⇓P		**P**	**06 16 10.3**	**+0.2**
	baz=73,SNR=41							
CLDR	**Caldiran**	**73.58**	**307**	*e*P		**P**	**06 16 12.1**	**+1.4**
B21A	**Ellsworth Farm**	**73.62**	**41**	⇑P		**P**	**06 16 10.4**	**0.0**
	baz=73,SNR=22							
FAQ	**Al Faqa, Dubai**	**73.69**	**289**	⇑ *i* P		**P**	**06 16 11.2**	**0.0**
	SNR=8.4							
IBZA	**Bozab**	**73.70**	**301**	*e*P		**P**	**06 16 09.2**	**-2.3**
SMMC	**Simmler**	**73.74**	**58**	⇓P		**P**	**06 16 11.4**	**+0.1**
	baz=74							
ARQ	**Araqi**	**73.79**	**287**	P		**P**	**06 16 12.9**	**+1.1**
	SNR=16							
YMR	**Madison River**	**73.81**	**46**	*e*P		**P**	**06 16 12.4**	**+0.5**
	comp=Z,92nm,1.3s							
YMR				*e*PP		**PP**	**06 18 58.0**	**+1.9**
A22A	**Carney Farms,**	**73.82**	**40**	⇓P		**P**	**06 16 11.5**	**-0.1**
	baz=74,SNR=47							
D20A	**Manuel Ranch,**	**73.87**	**42**	⇓P		**P**	**06 16 12.1**	**+0.1**
	baz=74,SNR=64							
TIN	**Tinemaha**	**73.90**	**55**	⇓P		**P**	**06 16 13.3**	**+0.9**
	baz=74,SNR=11							
E19A	**Rath Farm, Rou**	**73.91**	**43**	⇓P		**P**	**06 16 12.2**	**0.0**
	baz=74,SNR=72							
AGRB	**Hanur-Agry**	**73.91**	**308**	*e*P		**P**	**06 16 11.8**	**-0.7**
NB2	**NORSAR Subarra**	**73.95**	**338**	P		**P**	**06 16 12.3**	**+0.1**
	comp=Z,76nm,1.1s,baz=38,slow=5.9							
NB2	**NORSAR Subarra**	**73.95**	**338**	P		**P**	**06 16 12.3**	**+0.1**
	baz=38,slow=5.9							
NOA	**NORSAR Array B**	**73.95**	**338**	P		**P**	**06 16 12.2**	**+0.1**
NOA	**NORSAR Array B**	**73.95**	**338**	P		**P**	**06 16 12.2**	**+0.1**
	comp=Z,23nm,0.8s,baz=39,slow=5.8,SNR=48							
NOA				LR		LR	06 53 55.5	
	comp=Z,2µm,19.1s,baz=40,slow=40							
ASUD	**Al Ashush, Dub**	**73.95**	**289**	⇑ *i* P		**P**	**06 16 13.2**	**+0.5**
	SNR=11							
TPH	**Tonopah**	**73.96**	**54**	*e*P		**P**	**06 16 13.0**	**+0.2**
TPH				pmax		pmax		
	comp=Z,81nm,1.1s							
TPH	**Tonopah**	**73.96**	**54**	*e*P		**P**	**06 16 13.0**	**+0.2**
	comp=Z,81nm,1.1s							
YFT	**Old Faithful**	**74.01**	**46**	*e*P		**P**	**06 16 14.7**	**+1.6**
	comp=Z,34nm,0.8s							
VES	**Vestal, Richgr**	**74.04**	**57**	⇑P		**P**	**06 16 13.0**	**0.0**
	baz=74,SNR=27							
PKM	**Peak Mountain**	**74.10**	**58**	⇓P		**P**	**06 16 14.5**	**+0.9**
	baz=74,SNR=15							
LKWY	**Lake**	**74.19**	**46**	*e*P		**P**	**06 16 15.3**	**+1.1**
LKWY				pmax		pmax		
	comp=Z,54nm,1.2s							
LKWY				MLR		MLR		
	comp=Z,1µm,20.0s							
LKWY	**Lake**	**74.19**	**46**	*e*P		**P**	**06 16 15.2**	**+1.1**
	comp=Z,54nm,1.2s							
LKWY				LR		LR		
	comp=Z,1µm,20.0s							
H17A	**Grant Village**	**74.19**	**46**	*e*P		**P**	**06 16 16.3**	**+2.1**
	comp=Z,106nm,1.0s							
H17A				*e*PcP		**PcP**	**06 16 32.4**	**+3.3**
H17A	**Grant Village**	**74.19**	**46**	⇑P		**P**	**06 16 16.4**	**+2.1**
	baz=74,SNR=92							
F19A	**Roth Farm, Mol**	**74.20**	**44**	⇑P		**P**	**06 16 14.4**	**+0.4**
	baz=74,SNR=47							
B22A	**Reddig Ranch S**	**74.22**	**41**	⇑P		**P**	**06 16 14.9**	**+0.9**
	baz=74,SNR=9.3							
E20A	**Meyer Farm, Mu**	**74.24**	**43**	⇑P		**P**	**06 16 14.6**	**+0.4**
	baz=74,SNR=51							
CWC	**Cottonwood Cre**	**74.35**	**56**	⇑P		**P**	**06 16 15.4**	**+0.2**
	baz=74,SNR=14							
A23A	**Redstone**	**74.37**	**40**	P		**P**	**06 16 14.4**	**-0.4**
	baz=74							
SBC	**Santa Barbara**	**74.43**	**58**	⇓P		**P**	**06 16 15.6**	**+0.3**
	baz=74							
RLMT	**Red Lodge**	**74.48**	**45**	*e*P		**P**	**06 16 15.7**	**-0.1**
	comp=Z,58nm,1.3s							
RLMT				LR		LR		
	comp=Z,1µm,19.0s							
I17A	**Pilgrim Ck.**	**74.49**	**46**	⇑P		**P**	**06 16 16.6**	**+0.8**
	baz=74,SNR=80							
GRAC	**Grapevine Rang**	**74.49**	**55**	⇑P		**P**	**06 16 16.5**	**+0.7**
	baz=74,SNR=50							
D21A	**La Casta Ranch**	**74.49**	**42**	⇑P		**P**	**06 16 15.9**	**+0.3**
	baz=74,SNR=26							
HVU	**Hansel Valley**	**74.51**	**49**	*e*P		**P**	**06 16 16.6**	**+0.6**
HVU				pmax		pmax		
	comp=Z,70nm,0.9s							
HVU	**Hansel Valley**	**74.51**	**49**	*e*P		**P**	**06 16 16.6**	**+0.6**
	comp=Z,70nm,0.9s							
H18A	**Shoshone NF, C**	**74.53**	**45**	⇑P		**P**	**06 16 16.5**	**+0.4**
	baz=74,SNR=32							
IDHR	**Dehrash**	**74.56**	**302**	*e*P		**P**	**06 16 16.0**	**-0.4**
AKASG	**Malin Array Be**	**74.57**	**323**	P		**P**	**06 16 15.5**	**-0.3**
AKASG							06 19 06.2	
AKASG				pmax		pmax		
	comp=Z,8.0nm,0.6s							
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AKASG				MLR		MLR		
	comp=Z,17nm,28.6s							
AKASG	**Malin Array Be**	**74.57**	**323**	P		**P**	**06 16 15.5**	**-0.3**
AKASG				PP		**PP**	**06 19 06.2**	**+4.2**
AKASG	**Malin Array Be**	**74.57**	**323**	P		**P**	**06 16 15.5**	**-0.3**
	comp=Z,8.1nm,0.6s,baz=44,slow=5.9,SNR=53							
AKASG				PP		**PP**	**06 19 06.2**	**+4.2**
	comp=Z,5.4nm,0.7s,baz=44,slow=8.9,SNR=4.4							
AKASG				LR		LR	06 52 08.9	
	comp=Z,3µm,18.1s,baz=70,slow=38							
AKBB	**Malin Array Si**	**74.57**	**323**	*e*P		**P**	**06 16 16.1**	**+0.2**
AKBB				*e*			06 16 30.5	
AKBB	**Malin Array Si**	**74.57**	**323**	*e*P		**P**	**06 16 16.1**	**+0.2**
AKBB				*e*PcP		**PcP**	**06 16 30.5**	**+0.3**
AK01	**Malin Array Si**	**74.58**	**323**	*e*P		**P**	**06 16 15.8**	**-0.1**
AK01				*e*PcP		**PcP**	**06 16 29.5**	**-0.8**
KIEV	**Kiev**	**74.58**	**323**	*e*P		**P**	**06 16 15.9**	**0.0**
KIEV				*e*			06 16 30.6	
KIEV				pmax		pmax		
	comp=Z,63nm,1.0s							
KIEV				MLR		MLR		
	comp=Z,2µm,19.0s							
KIEV	**Kiev**	**74.58**	**323**	*e*P		**P**	**06 16 15.9**	**0.0**
	comp=Z,64nm,1.0s							
KIEV				*e*PcP		**PcP**	**06 16 30.6**	**+0.3**
KIEV				LR		LR		
	comp=Z,2µm,19.0s							
AK02	**Malin Array Si**	**74.60**	**323**	*e*P		**P**	**06 16 16.1**	**0.0**
ARVC	**Arvin**	**74.62**	**57**	⇓P		**P**	**06 16 16.9**	**+0.4**
	baz=74,SNR=11							
B23A	**Brockton**	**74.63**	**40**	⇑P		**P**	**06 16 16.2**	**-0.1**
	baz=74,SNR=69							
C22A	**Vida**	**74.64**	**41**	⇓P		**P**	**06 16 16.5**	**+0.1**
	baz=74,SNR=11							
IGHG	**Ghaleghazi**	**74.65**	**302**	*e*P		**P**	**06 16 16.9**	**-0.1**
F20A	**Billings**	**74.67**	**44**	⇓P		**P**	**06 16 17.7**	**+1.0**
	baz=74,SNR=10							
EZM	**Erzurum**	**74.73**	**309**	*e*P		**P**	**06 16 18.0**	**+0.7**
BSC	**Santa Cruz Isl**	**74.74**	**59**	⇑P		**P**	**06 16 18.1**	**+0.8**
	baz=74							
SFJD	**Kangerlussuaq**	**74.78**	**6**	*i* P		**P**	**06 16 16.7**	**-0.1**
	comp=Z,40nm,0.8s							
SFJD								
	comp=Z,1µm,21.0s							
SFJD	**Kangerlussuaq**	**74.78**	**6**	*e*P		**P**	**06 16 16.4**	**-0.4**
	comp=Z,54nm,0.8s							
SFJD				*e*PcP		**PcP**	**06 16 30.3**	**-0.5**
SFJD				LR		LR		
	comp=Z,2µm,20.0s							
E21A	**Keefer Ranch,**	**74.78**	**42**	⇓P		**P**	**06 16 17.9**	**+0.6**
	baz=74,SNR=14							
A24A	**Westby**	**74.83**	**39**	⇑P		**P**	**06 16 18.5**	**+1.0**
	baz=75,SNR=20							
R11A	**Troy Canyon, C**	**74.84**	**53**	*e*P		**P**	**06 16 18.3**	**+0.4**
	comp=Z,60nm,1.1s							
R11A				*e*PcP		**PcP**	**06 16 32.2**	**+0.3**
R11A	**Troy Canyon, C**	**74.84**	**53**	⇑P		**P**	**06 16 18.4**	**+0.4**
	baz=75,SNR=76							
D22A	**Cohagen**	**74.87**	**42**	⇓P		**P**	**06 16 18.4**	**+0.7**
	baz=75,SNR=31							
BGU	**Big Grassy Mou**	**74.87**	**50**	*e*P		**P**	**06 16 18.5**	**+0.4**
	comp=Z,9.6nm,0.9s							
CUKT	**Cukurca**	**74.89**	**305**	*e*P		**P**	**06 16 17.1**	**-1.0**
H19A	**Powell**	**74.92**	**45**	⇑P		**P**	**06 16 18.7**	**+0.5**
	baz=75,SNR=25							
C23A	**Lambert**	**74.96**	**41**	⇑P		**P**	**06 16 18.5**	**+0.2**
	baz=75,SNR=23							
MPMC	**Manual Prospec**	**74.96**	**56**	⇓P		**P**	**06 16 19.0**	**+0.3**
	baz=75,SNR=72							
SUW	**Suwalki**	**74.98**	**328**	*e*P		**P**	**06 16 19.7**	**+1.5**
SUW				pmax		pmax		
	comp=Z,106nm,1.1s							
SUW	**Suwalki**	**74.98**	**328**	*e*P		**P**	**06 16 19.8**	**+1.5**
SUW	**Suwalki**	**74.98**	**328**	*e*P		**P**	**06 16 19.7**	**+1.5**
	comp=Z,106nm,1.1s							
SPUT	**South Promonto**	**74.99**	**49**	*e*P		**P**	**06 16 18.7**	**0.0**
	comp=Z,66nm,1.4s							
SPUT				*e*PP		**PP**	**06 19 05.1**	**-1.0**
OSI	**Osito Adit**	**74.99**	**58**	*e*P		**P**	**06 16 19.2**	**+0.5**
	comp=Z,50nm,0.9s							
OSI	**Osito Adit**	**74.99**	**58**	⇑P		**P**	**06 16 19.1**	**+0.3**
	baz=75,SNR=13							
G20A	**Bridger**	**75.00**	**44**	⇑P		**P**	**06 16 18.4**	**-0.2**
	baz=75,SNR=20							
DGMT	**Dagmar**	**75.03**	**40**	*e*P		**P**	**06 16 18.4**	**-0.2**
	comp=Z,128nm,1.1s							
DGMT				*e*PcP		**PcP**	**06 16 31.4**	**-0.9**
DGMT				LR		LR		
	comp=Z,896nm,20.0s							
DGMT	**Dagmar**	**75.03**	**40**	⇑P		**P**	**06 16 18.4**	**-0.2**
	baz=75,SNR=30							
BLG	**Laguna Peak**	**75.06**	**58**	⇑P		**P**	**06 16 19.5**	**+0.5**
	baz=75,SNR=6.7							
FURC	**Furnace Creek,**	**75.13**	**55**	⇓P		**P**	**06 16 20.2**	**+0.9**
	baz=75,SNR=57							
LAO	**LASA Array**	**75.14**	**42**	*e*P		**P**	**06 16 19.6**	**+0.2**
	comp=Z,109nm,1.3s							
LAO				*e*PcP		**PcP**	**06 16 32.8**	**-0.1**
LAO				LR		LR		
	comp=Z,1µm,19.0s							
LRMC	**Laurel Mountai**	**75.17**	**57**	⇑P		**P**	**06 16 20.9**	**+1.1**
	baz=75,SNR=10							
BAYT	**Ayd¨–ntepe-Bay**	**75.18**	**310**	*e*P		P	06 16 14.5	-5.4
F21A	**Absaloka Mine,**	**75.21**	**43**	⇑P		**P**	**06 16 20.8**	**+0.9**
	baz=75,SNR=10.0							
A25A	**Svangstu Ranch**	**75.26**	**39**	⇑P		**P**	**06 16 21.3**	**+1.3**
	baz=75,SNR=8.6							
I19A	**Meeteetse**	**75.31**	**45**	⇑P		**P**	**06 16 21.5**	**+0.9**
	baz=75,SNR=25							
EDW2	**Edwards Air Fo**	**75.33**	**57**	⇑P		**P**	**06 16 21.1**	**+0.4**
	baz=75,SNR=52							
D23A	**Lindsay**	**75.36**	**41**	⇓P		**P**	**06 16 21.4**	**+0.8**
	baz=75,SNR=52							
E22A	**Miles City**	**75.44**	**42**	⇓P		**P**	**06 16 21.6**	**+0.5**
	baz=75,SNR=19							
DUG	**Dugway**	**75.45**	**50**	*e*P		**P**	**06 16 22.0**	**+0.6**
DUG				pmax		pmax		
	comp=Z,81nm,0.9s							
DUG				MLR		MLR		
	comp=Z,632nm,20.0s							
DUG	**Dugway**	**75.45**	**50**	*e*P		**P**	**06 16 22.0**	**+0.6**
	comp=Z,81nm,0.9s							
DUG				LR		LR		
	comp=Z,632nm,20.0s							
DUG	**Dugway**	**75.45**	**50**	⇓P		**P**	**06 16 22.2**	**+0.9**
	baz=75,SNR=94							
DECC	**Green Verdugo**	**75.47**	**58**	⇓P		**P**	**06 16 22.7**	**+1.3**
	baz=75,SNR=7.7							
C24A	**Savage**	**75.53**	**40**	⇑P		**P**	**06 16 22.4**	**+0.8**
	baz=75,SNR=14							
GUMT	**Gumushane**	**75.54**	**310**	*e*P		**P**	**06 16 23.7**	**+1.8**
G21A	**Lodge Grass**	**75.55**	**44**	⇑P		**P**	**06 16 22.5**	**+0.7**
	baz=75,SNR=16							
KONO	**Kongsberg**	**75.55**	**338**	⇑ *i* P		**P**	**06 16 21.7**	**+0.4**
KONO				pmax		pmax		
	comp=Z,365nm,2.5s							
KONO	**Kongsberg**	**75.55**	**338**	IAMs_20		IAMs_20	06 54 36.3	
	comp=Z,3µm,13.7s							
KONO	**Kongsberg**	**75.55**	**338**	PFAKE			06 16 30.0	+8.7
KONO				LR		LR		
	comp=Z,3µm,20.0s							
H20A	**Greybull**	**75.58**	**45**	⇑P		**P**	**06 16 22.5**	**+0.5**
	baz=75,SNR=16							
PASC	**Pasadena Art C**	**75.61**	**58**	*e*P		**P**	**06 16 21.9**	**-0.3**
	comp=Z,34nm,1.2s							
MWC	**Mount Wilson**	**75.67**	**58**	*e*P		**P**	**06 16 22.7**	**-0.1**
MWC				pmax		pmax		
	comp=Z,57nm,1.2s							
MWC	**Mount Wilson**	**75.67**	**58**	*e*P		**P**	**06 16 22.7**	**-0.1**
	comp=Z,57nm,1.2s							
B25A	**Knox Farm, Ray**	**75.68**	**39**	⇑P		**P**	**06 16 23.2**	**+0.8**
	baz=75,SNR=19							
BNGB	**Bing ¶ll**	**75.70**	**308**	*e*P		**P**	**06 16 21.6**	**-1.2**
F22A	**Rosebud**	**75.70**	**43**	⇓P		**P**	**06 16 23.1**	**+0.5**
	baz=76,SNR=21							
TCUT	**Toone Canyon**	**75.73**	**49**	*e*P		**P**	**06 16 23.7**	**+0.6**
	comp=Z,172nm,1.3s							
J19A	**Crowheart**	**75.76**	**46**	⇑P		**P**	**06 16 23.8**	**+0.7**
	baz=76,SNR=78							
BW06	**Boulder Array**	**75.78**	**47**	*e*P		**P**	**06 16 23.1**	**-0.2**
	comp=Z,79nm,1.3s							
BW06				*e*PP		**PP**	**06 19 12.1**	**-0.8**
BW06				LR		LR		
	comp=Z,926nm,21.0s							
CTU	**Camp Tracy**	**75.78**	**49**	*e*P		**P**	**06 16 23.6**	**+0.3**
	comp=Z,52nm,1.0s							
PDAR	**Pinedale Array**	**75.78**	**47**	P		**P**	**06 16 23.1**	**-0.2**
PDAR	**Pinedale Array**	**75.78**	**47**	P		**P**	**06 16 23.1**	**-0.2**
	comp=Z,25nm,0.7s,baz=268,slow=1.6,SNR=107							
FMP	**Fort Macarthur**	**75.81**	**58**	⇑P		**P**	**06 16 23.9**	**+0.6**
	baz=76							
A26A	**Wade Farm, Ken**	**75.82**	**38**	⇓P		**P**	**06 16 23.4**	**+0.3**
	baz=76,SNR=21							
SIM	**Simferopol'**	**75.82**	**316**	*e*P		**P**	**06 16 20.4**	**-2.8**
SIM				*e*S		**S**	**06 26 00.0**	**-4.4**
SIM				pmax		pmax		
	comp=Z,20nm,0.9s							
SIM				pmax		pmax		
	comp=Z,160nm,8.5s							
SHOC	**Shoshone**	**75.85**	**56**	⇑P		**P**	**06 16 23.7**	**+0.2**
	baz=76,SNR=21							
I20A	**Worland**	**75.85**	**45**	⇓P		**P**	**06 16 24.1**	**+0.5**
	baz=76,SNR=48							
D24A	**Glendive**	**75.85**	**41**	⇑P		**P**	**06 16 23.7**	**+0.2**
	baz=76,SNR=20							
GSC	**Goldstone**	**75.86**	**56**	*e*P		**P**	**06 16 23.8**	**+0.1**
GSC				pmax		pmax		
	comp=Z,41nm,1.0s							
GSC	**Goldstone**	**75.86**	**56**	*e*P		**P**	**06 16 23.8**	**+0.1**
	comp=Z,41nm,1.0s							
GSC	**Goldstone**	**75.86**	**56**	⇑P		**P**	**06 16 23.9**	**+0.2**
	baz=76,SNR=44							
SVAN	**Silvan-Diyarba**	**75.88**	**307**	*e*P		**P**	**06 16 21.6**	**-2.1**
CIS	**Catalina Islan**	**75.92**	**59**	⇑P		**P**	**06 16 24.4**	**+0.4**
	baz=76,SNR=8.7							
BFSC	**Mount Baldy Ra**	**75.93**	**58**	⇑P		**P**	**06 16 24.3**	**+0.2**
	baz=76,SNR=31							
RRX	**Edison Barstow**	**75.98**	**57**	⇑P		**P**	**06 16 24.8**	**+0.5**
	baz=76							
RAO	**Raoul Island**	**75.99**	**146**	PFAKE			06 16 40.0	+16
RAO				LR		LR		
	comp=Z,2µm,19.0s							
C25A	**Freed Ranch, W**	**76.00**	**40**	⇑P		**P**	**06 16 24.6**	**+0.3**
	baz=76,SNR=19							
H21A	**Big Horn, Sher**	**76.02**	**44**	⇓P		**P**	**06 16 24.7**	**+0.1**
	baz=76,SNR=32							
NLU	**North Lily Min**	**76.04**	**50**	*e*P		**P**	**06 16 25.3**	**+0.4**
	comp=Z,45nm,0.9s							
G22A	**Birney**	**76.05**	**43**	⇓P		**P**	**06 16 25.0**	**+0.3**
	baz=76,SNR=19							
B26A	**Jensen Ranch,**	**76.07**	**39**	⇓P		**P**	**06 16 24.9**	**+0.2**
	baz=76,SNR=32							
F23A	**Volborg**	**76.20**	**42**	⇑P		**P**	**06 16 25.4**	**-0.1**
	baz=76,SNR=61				

baz=77,SNR=15
109C Camp Elliot, M 77.10 58 ⇓P P 06 16 30.8 +0.1
baz=77,SNR=9.3
LDFC Landfair 77.10 56 eP P 06 16 31.1 +0.2
comp=Z,91nm,1.2s
PFO Pinyon Flat Ob 77.10 57 eP P 06 16 30.7 -0.2
comp=Z,33nm,1.0s
PFO LR LR
comp=Z,2µm,22.0s
PFO Pinyon Flat Ob 77.10 57 ⇓P P 06 16 30.9 0.0
baz=77,SNR=22
J22A Midwest 77.11 45 ⇓P P 06 16 30.7 -0.1
baz=77,SNR=115
A29A Manning Farm, 77.16 37 ⇑P P 06 16 30.6 -0.1
baz=77,SNR=70
BELC Belle Mtn. Jos 77.17 57 ⇑P P 06 16 31.1 -0.1
baz=77,SNR=18
K21A Alcova 77.18 46 ⇓P P 06 16 31.0 -0.2
baz=77,SNR=62
KVT Kavak 77.19 312 eP P 06 16 27.3 -3.9
E26A Carlson Angus 77.24 40 ⇓P P 06 16 31.4 +0.2
baz=77,SNR=17
KIS Kishinev 77.25 320 eP P 06 16 28.0 -3.3
KIS e 06 16 45.0
KIS eS S 06 26 14.0 -5.9
KIS ePS PnS 06 26 46.0 -14
KIS MLR MLR
comp=Z,4µm,16.0s
KIS MLR MLR
comp=N,3µm,14.0s
KIS MLR MLR
comp=Z,4µm,16.0s
KIS Kishinev 77.25 320 eP P 06 16 28.0 -3.3
D27A Center 77.28 39 ⇑P P 06 16 31.4 0.0
baz=77
H24A Dirks Ranch, A 77.29 43 ⇓P P 06 16 31.6 -0.1
baz=77,SNR=35
I23A Meade Ranch, G 77.31 44 ⇓P P 06 16 31.9 0.0
baz=77
SVSK Karacayir 77.37 311 eP P 06 16 30.8 -1.2
B29A Wagenman Farm, 77.42 37 ⇓P P 06 16 32.6 +0.4
baz=77,SNR=14
C28A Hausauer Farms 77.43 38 ⇑P P 06 16 32.8 +0.5
baz=77,SNR=15
SRU San Rafael 77.50 50 eP P 06 16 33.3 +0.2
SRU pmax pmax
comp=Z,118nm,0.9s
SRU San Rafael 77.50 50 eP P 06 16 33.3 +0.2
comp=Z,118nm,0.9s
BAR Barrett 77.52 58 eP P 06 16 33.0 -0.1
comp=Z,25nm,1.0s
F26A Lodgepole 77.55 41 ⇑P P 06 16 33.0 -0.1
baz=77,SNR=38
BEL Belsk 77.56 328 eP P 06 16 34.7 +1.8
BEL Belsk 77.56 328 eP P 06 16 34.6 +1.7
MONP Monument Peak 77.56 58 ⇓P P 06 16 34.0 +0.4
baz=77,SNR=14
K22A Casper 77.58 45 eP P 06 16 33.2 -0.3
comp=Z,82nm,1.1s
K22A ePcP PcP 06 16 43.0 -0.6
K22A Casper 77.58 45 ⇓P P 06 16 33.4 0.0
baz=77,SNR=25
A30A Hoffart Farm, 77.58 37 ⇓P P 06 16 33.4 +0.3
baz=77,SNR=37
LVV L'vov 77.59 325 eP P 06 16 35.0 +1.9
LVV e 06 16 47.4
LVV eS S 06 26 24.4 +0.8
LVV MLR MLR
comp=N,1µm,15.0s
LVV MLR MLR
comp=E,2µm,15.0s
LVV MLR MLR
comp=Z,2µm,15.0s
G25A Newell 77.60 42 ⇓P P 06 16 33.4 +0.1
baz=77,SNR=11
NEE2 Needles Airpor 77.61 56 ⇓P P 06 16 33.8 +0.2
baz=77
J23A Dilts Ranch, B 77.63 44 ⇑P P 06 16 33.3 -0.3
baz=77
IRM Iron Mountain 77.64 56 ⇑P P 06 16 33.9 +0.2
baz=77,SNR=42
D28A Regan 77.70 39 ⇑P P 06 16 34.2 +0.4
baz=77,SNR=11
E27A Carson 77.72 40 ⇓P P 06 16 34.4 +0.4
baz=78,SNR=18
MDND Maddock 77.72 38 eP P 06 16 34.0 +0.1
comp=Z,198nm,1.2s
MDND Maddock 77.72 38 ⇑P P 06 16 34.3 +0.3
baz=78,SNR=7.6
BC3 Big Chuckawall 77.74 57 ⇑P P 06 16 34.7 +0.3
baz=78,SNR=44
N20A Spence Gulch, 77.76 48 ⇓P P 06 16 34.9 +0.4
baz=78,SNR=73
ULM Lac du Bonnet 77.77 34 P P 06 16 33.4 -0.7
comp=Z,18nm,1.1s
ULM Lac du Bonnet 77.77 34 P P 06 16 33.4 -0.7
comp=Z,31nm,0.9s,baz=318,slow=6.4,SNR=33
ULM LR LR 06 51 58.7
comp=Z,374nm,21.7s,baz=338,slow=37
URFA Urfa 77.81 308 eP P 06 16 34.4 -0.2
I24A Kuemmerle Ranc 77.84 43 ⇑P P 06 16 35.1 +0.3
baz=78,SNR=11
F27A Lemmon 77.87 41 ⇑P P 06 16 35.0 +0.2
baz=78,SNR=6.7
H25A Fruitdale 77.88 42 ⇑P P 06 16 34.9 -0.1
baz=78,SNR=36
W13A Hualapai Mount 77.89 55 ⇓P P 06 16 35.4 0.0
baz=78,SNR=25
B30A Myrvik Farm, E 77.91 37 ⇓P P 06 16 34.9 0.0
baz=78,SNR=28
DARE Darende-Malaty 77.92 310 eP P 06 16 30.8 -4.5
SWSC Sam W. Stewart 77.95 58 ⇑P P 06 16 35.5 +0.1
baz=78,SNR=10
RSSD Black Hills 77.98 43 eP P 06 16 35.0 -0.7
RSSD pmax pmax
comp=Z,37nm,1.0s
RSSD Black Hills 77.98 43 eP P 06 16 35.0 -0.7
comp=Z,37nm,1.0s
K23A Bowen Ranch, D 78.02 45 ⇑P P 06 16 36.5 +0.6
baz=78,SNR=9.2
L22A Ellis Ranch, M 78.03 46 ⇑P P 06 16 36.2 +0.2
baz=78,SNR=30
E28A Huff 78.06 39 ⇓P P 06 16 36.3 +0.5
baz=78,SNR=9.7
U15A North Rim 78.08 53 ⇓P P 06 16 37.2 +0.7
baz=78,SNR=75
J24A Dixon Ranch, L 78.17 44 ⇓P P 06 16 36.9 +0.3
baz=78,SNR=9.3
PDMCI Parker Dam,Lak 78.21 56 ⇑P P 06 16 37.2 +0.3
baz=78,SNR=41
I25A Rochford 78.21 43 ⇑P P 06 16 36.6 -0.4
baz=78,SNR=25
O20A White River Ci 78.22 48 eP P 06 16 36.9 -0.1
comp=Z,73nm,1.0s
O20A White River Ci 78.22 48 ⇓P P 06 16 37.5 +0.4
baz=78,SNR=33
G27A Dupree 78.25 41 ⇓P P 06 16 37.0 +0.1
baz=78,SNR=21
D29A Pettibone, Tap 78.27 39 ⇑P P 06 16 37.4 +0.4
baz=78,SNR=5.8
Y12C Blythe 78.30 56 ⇑P P 06 16 37.6 +0.3
baz=78,SNR=49
H26A Fairpoint 78.32 42 ⇑P P 06 16 37.5 +0.1
baz=78,SNR=26
KWP Kalwaria Pacla 78.33 325 eP P 06 16 38.4 +1.2
KWP pmax pmax
comp=Z,57nm,0.7s
KWP MLR MLR
comp=Z,2µm,19.0s
KWP Kalwaria Pacla 78.33 325 eP P 06 16 39.3 +2.1
KWP Kalwaria Pacla 78.33 325 ⇓iP P 06 16 38.5 +1.2
KWP Kalwaria Pacla 78.33 325 eP P 06 16 38.4 +1.2
comp=Z,57nm,0.7s
KWP LR LR
comp=Z,2µm,19.0s
M22A Cedar Creek Ra 78.35 46 ⇑P P 06 16 37.8 -0.1
baz=78,SNR=37
C30A Mose, Pekin 78.37 38 ⇑P P 06 16 37.5 0.0
baz=78,SNR=32
L23A Garrett 78.39 45 ⇑P P 06 16 37.5 -0.5
baz=78,SNR=36
K24A Anderson Ranch 78.48 44 ⇑P P 06 16 38.3 -0.1
baz=78
F28A McLaughlin 78.51 40 ⇑P P 06 16 38.2 -0.1
baz=78
GLA Glamis 78.52 57 eP P 06 16 39.1 +0.4
GLA pmax pmax
comp=Z,56nm,1.1s
GLA Glamis 78.52 57 eP P 06 16 39.0 +0.4
comp=Z,56nm,1.1s
GLA Glamis 78.52 57 ⇓P P 06 16 39.4 +0.7
baz=78,SNR=18
BUR08 Bucovina Ar. S 78.58 323 eP P 06 16 39.2 +0.4
E29A Napoleon 78.59 39 ⇑P P 06 16 39.2 +0.5
baz=78,SNR=9.5
J25A Sunshine Ranch 78.60 43 ⇑P P 06 16 39.1 +0.1
baz=78
BURAR Bucovina Array 78.60 323 ⇓iP P 06 16 39.7 +0.8
CORM Corum 78.60 312 eP P 06 16 37.1 -2.0
D30A Buchanan 78.65 38 ⇓P P 06 16 39.4 +0.3
baz=78,SNR=18
TESR Tescani 78.67 321 ⇓iP P 06 16 39.8 +0.6
I26A New Underwood 78.67 42 ⇑P P 06 16 39.5 +0.2
baz=78,SNR=19
H27A Howes 78.68 42 ⇑P P 06 16 39.7 +0.4
baz=78
BNN Bunyan 78.73 311 eP P 06 16 35.0 -4.8
M23A Laramie 78.81 46 ⇓P P 06 16 40.7 +0.4
baz=79,SNR=9.6
N22A Wattenberg Ran 78.82 47 ⇓P P 06 16 40.9 +0.4
baz=79,SNR=23
CFR Carcaliu 78.84 319 ⇓iP P 06 16 40.6 +0.5
L24A Wheatland 78.87 45 ⇑P P 06 16 41.0 +0.5
baz=79
PV04 Paradox Valley 78.94 50 eP P 06 16 41.5 +0.4
KMRS Kahramanmaras 78.95 309 eP P 06 16 35.0 -5.9
G28A Parade 78.98 41 ⇓P P 06 16 41.3 +0.3
baz=79,SNR=14
E30A Jud 79.00 39 ⇑P P 06 16 41.4 +0.4
baz=79,SNR=12
F29A Eureka 79.01 40 ⇓P P 06 16 41.5 +0.4
baz=79,SNR=13
SAFT Safranbolu 79.03 314 eP P 06 16 35.9 -5.3
KOLS Kolonicke sedl 79.03 325 eP P 06 16 42.5 +1.4
KOLS pmax pmax
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 79.03 325 eP P 06 16 42.5 +1.4
J26A Sides Ranch, S 79.04 43 ⇑P P 06 16 41.6 +0.3
baz=79,SNR=20
N23A Red Feather La 79.06 46 ⇑P P 06 16 42.4 +0.7
baz=79,SNR=57
I27A Quinn 79.08 42 ⇑P P 06 16 41.7 +0.1
baz=79,SNR=45
K25A Mack Ranch, Ha 79.08 44 ⇓P P 06 16 41.6 -0.1
baz=79
VRI Vrincioaia 79.08 321 ⇑iP P 06 16 43.3 +1.8
PLOR Plostina 79.13 321 ⇓iP P 06 16 41.4 -0.4
STHS Stebnicka Huta 79.14 326 eP P 06 16 43.5 +1.8
STHS pmax pmax
comp=Z,13nm,1.3s
STHS Stebnicka Huta 79.14 326 eP P 06 16 43.5 +1.8
Y14A Wickenburg 79.17 55 ⇓P P 06 16 42.6 +0.3
baz=79,SNR=62
AGMN Agassiz Nation 79.18 36 eP P 06 16 40.9 -1.1
comp=Z,64nm,1.1s
AGMN LR LR
comp=Z,1µm,21.0s
AGMN Agassiz Nation 79.18 36 ⇑P P 06 16 41.2 -0.7
baz=79,SNR=24
O22A Kremmling 79.19 47 ⇑P P 06 16 42.8 +0.2
baz=79,SNR=33
H28A Mission Ridge 79.20 41 ⇓P P 06 16 42.5 +0.3
baz=79,SNR=107
WUAZ Wupatki 79.23 53 eP P 06 16 43.0 +0.3
comp=Z,104nm,1.1s
WUAZ LR LR
comp=Z,879nm,22.0s
WUAZ Wupatki 79.23 53 ⇓P P 06 16 43.2 +0.5
baz=79,SNR=65
UZH Uzhgorod 79.24 325 eP P 06 16 39.9 -2.3
UZH e 06 16 49.9
UZH i 06 16 57.0
UZH e 06 19 43.0
UZH ePPP PPP 06 21 34.4
UZH eS S 06 26 34.9 -6.3
UZH e 06 26 46.0
UZH ePS PnS 06 27 24.3 -0.4
UZH eSS SS 06 31 41.5 -5.2
UZH eSSS SSS 06 35 07.0
UZH MLR MLR
comp=N,2µm,16.0s
UZH MLR MLR
comp=E,1µm,16.0s
UZH MLR MLR
comp=Z,700nm,16.0s
PV01 Paradox Valley 79.31 50 eP P 06 16 43.4 +0.3
comp=Z,8µm,1.1s
M24A Cheyenne 79.31 45 ⇑P P 06 16 43.6 +0.6
baz=79,SNR=39
L25A Engebretsen Ra 79.33 44 ⇓P P 06 16 43.6 +0.5
baz=79,SNR=16
K26A Motz Farm, Whi 79.40 44 ⇑P P 06 16 43.4 0.0
baz=79,SNR=22
113A Mohawk Valley, 79.40 57 ⇑P P 06 16 43.7 +0.3
baz=79,SNR=45
G29A Hoven 79.41 40 ⇓P P 06 16 43.9 +0.6
baz=79,SNR=6.1
F30A Leola 79.41 39 ⇓P P 06 16 43.7 +0.4
baz=79
CRVS Cervenica-Dubn 79.42 325 eP P 06 16 45.0 +1.8
CRVS pmax pmax
comp=Z,71nm,2.1s
CRVS Cervenica-Dubn 79.42 325 eP P 06 16 45.0 +1.8
P22A Eagle 79.44 48 ⇑P P 06 16 44.3 +0.5
baz=79,SNR=90
BR131 Keskin Array S 79.47 312 eP P 06 16 44.1 +0.2
comp=Z,7.6nm,0.7s
BRTR Keskin Array B 79.47 312 P P 06 16 43.9 0.0
BRTR Keskin Array B 79.47 312 P P 06 16 43.8 0.0
comp=Z,2.9nm,0.8s,baz=60,slow=4.7,SNR=12
BRTR LR LR 06 57 23.0
comp=Z,696nm,18.1s,baz=48,slow=40
TRPA Tarpa 79.49 324 ⇓iP P 06 16 44.8 +1.2
TRPA Tarpa 79.49 324 ⇓eP P 06 16 44.9 +1.3
O23A Lake Granby, G 79.52 47 ⇑P P 06 16 45.4 +1.1
baz=79,SNR=47
NIE Niedzica 79.55 326 eP P 06 16 46.1 +2.1
NIE ePcP PcP 06 16 54.8 +2.9
NIE L L 06 54 35.0
comp=Z,2µm,19.2s
Z14A Wintersburg 79.57 56 ⇑P P 06 16 45.0 +0.7
baz=79,SNR=13
I28A Midland 79.59 42 ⇑P P 06 16 44.5 +0.2
baz=79,SNR=68
KOZT Kozan 79.62 310 eP P 06 16 40.1 -4.5
H29A Onida 79.65 41 ⇑P P 06 16 44.5 -0.1
baz=79,SNR=40
J27A Elkhorn Farm, 79.66 43 ⇓P P 06 16 45.1 +0.3
baz=79,SNR=24
N24A Carr 79.70 46 ⇓P P 06 16 45.9 +0.7
baz=80,SNR=20
MLR Muntele Rosu 79.74 321 ⇑iP P 06 16 47.8 +2.6
M25A Palm-Egli Farm 79.77 45 ⇓P P 06 16 46.1 +0.7
baz=80,SNR=9.3
G30A Faulkton 79.84 40 ⇑P P 06 16 45.7 0.0
baz=80,SNR=26
ANTO Ankara 79.87 313 eP P 06 16 46.4 +0.5
ANTO pmax pmax
comp=Z,61nm,1.3s
ANTO MLR MLR
comp=Z,763nm,19.0s
ANTO Ankara 79.87 313 ⇓iP P 06 16 48.3 +2.4
ANTO Ankara 79.87 313 eP P 06 16 46.4 +0.5
comp=Z,61nm,1.3s
ANTO LR LR
comp=Z,763nm,19.0s
RUE Ruedersdorf 79.87 331 eP P 06 16 46.3 +0.7
comp=Z,58nm,1.2s
X16A Lo Mia Camp, P 79.88 54 ⇓P P 06 16 46.6 +0.4
baz=80,SNR=104
DGAR Diego Garcia 79.90 252 PFAKE
DGAR LR LR
comp=Z,1µm,20.0s
K27A Flueckinger Fa 79.91 43 ⇓P P 06 16 46.4 +0.2
baz=80,SNR=24
MVCO Mesa Verde 79.94 50 eP P 06 16 46.7 +0.1
MVCO LR LR
comp=Z,639nm,19.0s
MVCO Mesa Verde 79.94 50 ⇓P P 06 16 46.9 +0.3
baz=80,SNR=45
J28A Allard Ranch, 79.95 42 ⇑P P 06 16 46.5 +0.2
baz=80,SNR=36
NIG Nigde 79.95 311 eP P 06 16 47.8 +1.2
BSEG Bad Segeberg 79.96 334 eP P 06 16 47.7 +1.7
comp=Z,44nm,1.1s
ISCO Idaho Springs 79.97 47 eP P 06 16 47.0 +0.2
ISCO pmax pmax
comp=Z,62nm,1.3s
ISCO MLR MLR
comp=Z,802nm,21.0s
ISCO Idaho Springs 79.97 47 eP P 06 16 47.0 +0.2
comp=Z,62nm,1.3s
ISCO LR LR
comp=Z,802nm,21.0s
ISCO Idaho Springs 79.97 47 ⇑P P 06 16 47.2 +0.4
baz=80,SNR=45
CJR Cluj-Napoca 80.02 323 ⇓iP P 06 16 48.8 +2.2
I29A Vivian Onida 80.02 41 ⇓P P 06 16 46.6 0.0
baz=80,SNR=30
O24A Longmont 80.06 46 ⇑P P 06 16 47.6 +0.5
baz=80,SNR=44
P23A Jefferson 80.12 47 ⇑P P 06 16 48.5 +0.8
baz=80,SNR=19
N25A Grover 80.16 45 ⇓P P 06 16 48.3 +0.7
baz=80,SNR=21
KSP Ksiaz 80.17 329 ⇑eP P 06 16 48.1 +0.9
KSP eS S 06 26 52.0 +1.0
KSP MLR MLR
comp=Z,20µm,18.4s
KSP Ksiaz 80.17 329 eP P 06 16 49.0 +1.8
OKC Ostrava-Krasne 80.17 328 eP P 06 16 48.4 +1.2
OKC e 06 19 48.0
OKC eS S 06 26 52.8 +1.8
OKC MLR MLR
comp=Z,3µm,18.8s
OKC Ostrava-Krasne 80.17 328 eP P 06 16 48.4 +1.2
OKC ePP PP 06 19 48.0 -0.9
OKC eS S 06 26 52.8 +1.8
OKC AMS AMS 06 55 00.0
comp=Z,3µm,18.8s
KARA Karaisali 80.23 310 eP P 06 16 40.7 -7.2
M26A McRoberts Ranc 80.25 44 ⇑P P 06 16 48.6 +0.6
baz=80
L27A T5 Ranch, Ells 80.29 44 ⇑P P 06 16 48.6 +0.4
baz=80,SNR=14
BRSD Miller 80.42 40 eP P 06 16 48.1 -0.7
comp=Z,91nm,0.9s
BRSD Miller 80.42 40 ⇑P P 06 16 49.0 +0.2
baz=80,SNR=10
J29A Okreek 80.44 42 ⇑P P 06 16 49.2 +0.3
baz=80,SNR=29
MORC Moravsky Berou 80.47 328 eP P 06 16 48.3 -0.6
MORC pmax pmax
comp=Z,17nm,0.7s
MORC Moravsky Berou 80.47 328 ⇓iP P 06 16 50.1 +1.2
MORC Moravsky Berou 80.47 328 eP P 06 16 48.3 -0.6
comp=Z,17nm,0.7s
ARR Arges 80.47 321 ⇑iP P 06 16 51.2 +2.1
W18A Petrified Fore 80.52 53 ⇓P P 06 16 50.3 +0.6
baz=80
DPC Dobruska-Polom 80.53 329 iP P 06 16 51.3 +2.0
DPC e 06 19 48.6
DPC eS S 06 26 55.3 +0.3
DPC Dobruska-Polom 80.53 329 iP P 06 16 51.3 +2.0
DPC ePP PP 06 19 48.6 -3.4
DPC eS S 06 26 55.3 +0.3
DPC AMS AMS 06 55 20.0
214A Organ Pipe Nat 80.54 57 eP P 06 16 49.6 0.0
comp=Z,51nm,1.2s
214A Organ Pipe Nat 80.54 57 ⇑P P 06 16 50.1 +0.5
baz=80,SNR=32
UPC Upice 80.54 329 eP P 06 16 51.1 +1.8
UPC e 06 16 59.5
UPC e 06 19 50.2
UPC Upice 80.54 329 eP P 06 16 51.1 +1.8
UPC ex x 06 16 59.5
UPC ePP PP 06 19 50.2 -1.8
P24A Kohler Place, 80.56 47 ⇑P P 06 16 50.5 +0.6
baz=80,SNR=18
S22A 4UR Ranch, Cre 80.60 49 ⇑P P 06 16 51.0 +0.8
baz=80,SNR=77
O25A Wiggins 80.61 46 ⇓P P 06 16 51.3 +1.2
baz=80,SNR=9.6
M27A Reverse DX Ran 80.62 44 ⇓P P 06 16 50.2 +0.2
baz=80
N26A Koester Ranch, 80.64 45 ⇑P P 06 16 50.3 +0.1
baz=80,SNR=12
MVH1 Achvaich 80.68 343 ⇑eP P 06 16 51.0 +1.1
X18A Snowflake 80.76 53 ⇓P P 06 16 51.3 +0.3
baz=80,SNR=39
MCD Coleburn Disti 80.78 343 eP P 06 16 51.3 +0.9
Q24A Divide 80.79 47 ⇑P P 06 16 51.4 +0.2
baz=80,SNR=19
MERS Mersin 80.81 310 eP P 06 16 49.0 -2.1
PSZ Piszkesteto 80.85 325 eP P 06 16 51.5 +0.4
PSZ pmax pmax
comp=Z,70nm,1.4s
PSZ MLR MLR
comp=Z,3µm,19.0s
PSZ Piszkesteto 80.85 325 ⇑iP P 06 16 52.1 +1.0
PSZ Piszkesteto 80.85 325 eP P 06 16 51.5 +0.4
comp=Z,70nm,1.4s
PSZ LR LR
comp=Z,3µm,19.0s
PSZ Piszkesteto 80.85 325 ⇓eP P 06 16 52.1 +1.0
K29A Lazy Trails An 80.89 42 ⇑P P 06 16 51.5 +0.1
baz=81,SNR=31
R23A Moffat 80.91 48 ⇑P P 06 16 52.4 +0.5
baz=81,SNR=86
NRS Narsarsuaq 80.93 4 iP P 06 16 51.1 0.0
NRS pmax pmax
comp=Z,60nm,0.8s
J30A Dallas 80.93 41 ⇓P P 06 16 51.6 0.0
baz=81,SNR=20
O26A Horse Wrangler 80.98 45 ⇑P P 06 16 52.4 +0.3
baz=81,SNR=31
P25A Willow Gulch B 80.99 46 ⇓P P 06 16 52.9 +0.8
baz=81,SNR=22
N27A Anderson Farm, 81.03 45 ⇑P P 06 16 52.8 +0.6
baz=81,SNR=11
BRG Berggiesshubel 81.08 330 eP P 06 16 53.3 +1.2
comp=Z,32nm,1.1s
BRG ePP PP 06 19 56.1 -0.3
comp=Z,7.7nm,0.8s
BRG
comp=N,2µm,16.6s
BRG
comp=E,2µm,16.5s
BRG
comp=Z,4µm,17.3s
BRG Berggiesshubel 81.08 330 eP P 06 16 53.3 +1.2
BRG e 06 19 56.1
BRG pmax pmax
comp=Z,32nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG MLR MLR
comp=N,2µm,16.6s
BRG MLR MLR
comp=E,2µm,16.5s
BRG MLR MLR
comp=Z,4µm,17.3s
BRG Berggiesshubel 81.08 330 eP P 06 16 53.5 +1.4
comp=Z,32nm,1.1s
CLL Collm 81.10 331 ⇓iP P 06 16 53.3 +1.1
CLL e 06 20 00.0
CLL eS S 06 27 08.0 +7.3
CLL pmax pmax
comp=Z,65nm,1.2s
CLL MLR MLR
comp=Z,2µm,18.8s
CLL Collm 81.10 331 eP P 06 16 53.4 +1.2
comp=Z,65nm,1.2s
CLL Collm 81.10 331 ⇓iP P 06 16 53.3 +1.1
comp=Z,65nm,1.2s
CLL e 06 17 26.0
CLL ePP PP 06 20 00.0 +3.5
CLL e 06 21 53.0
CLL eS S 06 27 08.0 +7.3
CLL eSS SS 06 32 06.0 -8.2
CLL e 06 33 12.0
CLL eSSS SSS 06 36 00.0
CLL LmH 06 50 00.0
comp=N,3µm,19.3s
CLL LmH 06 50 00.0
comp=E,4µm,18.5s
CLL LmV 06 57 00.0
comp=Z,2µm,18.8s

S23A Nye Farm, Mont 81.12 49 ⇑P P 06 16 53.8 +0.8
baz=81,SNR=22
NRDL Niedersach Rie 81.21 333 *e*P P 06 16 54.0 +1.3
comp=Z,54nm,1.8s
OGNE Ogallala 81.22 44 *e*P P 06 16 53.1 -0.1
comp=Z,145nm,1.1s
OGNE LR LR
comp=Z,658nm,20.0s
OGNE Ogallala 81.22 44 ⇑P P 06 16 53.5 +0.3
baz=81,SNR=9.8
LADK Ladik-KONYA 81.22 312 *e*P P 06 16 54.4 +1.1
VRAC Vranov 81.22 328⇓*i*P P 06 16 55.0 +2.0
SIRR Siria 81.26 323⇑*i*P P 06 16 54.5 +1.3
M28A Bar X Bar Ranc 81.27 44 ⇑P P 06 16 53.9 +0.4
baz=81,SNR=6.3
L29A Maesberg Ranch 81.29 43 ⇓P P 06 16 53.7 +0.2
baz=81,SNR=17
R24A Sanders Place, 81.30 48 ⇓P P 06 16 54.2 +0.4
baz=81,SNR=46
KAC Achnashellach 81.32 344⇑*e*P P 06 16 53.9 +0.6
K30A Basset 81.32 42 ⇓P P 06 16 53.8 +0.1
baz=81,SNR=31
Q25A Bedland, Calha 81.35 47 ⇑P P 06 16 54.4 +0.3
baz=81,SNR=47
SDCO Great Sand Dun 81.39 48 *e*P P 06 16 54.7 +0.3
comp=Z,36nm,1.1s
SDCO LR LR
comp=Z,739nm,19.0s
KONT Konya--Tatoy 81.40 312 *e*P P 06 16 51.1 -3.0
EYMN Ely 81.41 34 *e*P P 06 16 53.4 -0.6
comp=Z,79nm,1.1s
EYMN LR LR
comp=Z,908nm,19.0s
P26A Davis Ranch, A 81.43 46 ⇑P P 06 16 54.5 +0.1
baz=81,SNR=14
O27A Beecher Island 81.49 45 ⇓P P 06 16 54.6 -0.1
baz=81,SNR=22
U22A Llaves 81.49 50 ⇓P P 06 16 55.4 +0.6
baz=81,SNR=50
PRA Prague 81.52 330 P P 06 16 57.0 +2.6
PRA PP PP 06 20 00.0 0.0
PRU Pruhonice 81.54 330 *e*P P 06 16 56.3 +1.7
PRU *e* 06 17 04.8
PRU *e* 06 19 59.7
PRU *e*S S 06 27 04.4 -0.9
PRU MLR MLR
comp=Z,4µm,19.4s
PRU Pruhonice 81.54 330 *e*P P 06 16 56.3 +1.7
PRU *ex* x 06 17 04.8
PRU *e*PP PP 06 19 59.7 -0.5
PRU *e*S S 06 27 04.4 -0.9
PRU AMS AMS 06 55 50.0
comp=Z,4µm,19.4s
T23A Casias Ranch, 81.55 49 ⇓P P 06 16 55.9 +0.6
baz=81,SNR=27
KPL Plockton 81.55 344 *e*P P 06 16 55.5 +1.1
KPL AMB AMB 06 16 57.6
comp=Z,178nm,3.3s
M29A Burnside Ranch 81.61 43 ⇓P P 06 16 55.4 +0.2
baz=81
S24A Houchin Ranch, 81.63 48 ⇑P P 06 16 56.5 +0.7
baz=81,SNR=31
CLZ Clausthal 81.64 333 *e*P P 06 16 56.8 +1.6
comp=Z,90nm,1.4s
TUC Tucson 81.64 55 *e*P P 06 16 55.6 0.0
TUC pmax pmax
comp=Z,33nm,1.2s
TUC MLR MLR
comp=Z,921nm,21.0s
TUC Tucson 81.64 55 *e*P P 06 16 55.5 0.0
comp=Z,33nm,1.2s
TUC LR LR
comp=Z,921nm,21.0s
N28A Pribbeno Ranch 81.67 44 ⇑P P 06 16 55.7 +0.1
baz=81,SNR=12
TREC Trest 81.69 329 *e*P P 06 16 57.0 +1.5
TREC *e* 06 17 05.5
TREC MLR MLR
comp=Z,3µm,18.8s
TREC Trest 81.69 329 *e*P P 06 16 57.0 +1.5
TREC *ex* x 06 17 05.5
TREC AMS AMS 06 56 10.0
comp=Z,3µm,18.8s
BZS Buzias 81.76 323⇓*i*P P 06 16 56.2 +0.4
Q26A Hugo 81.76 47 ⇑P P 06 16 56.3 +0.1
baz=82,SNR=21
V22A San Miguel Ran 81.76 51 ⇑P P 06 16 56.5 +0.2
baz=82,SNR=60
L30A Spencer Herefo 81.78 42 ⇓P P 06 16 55.9 -0.2
baz=82,SNR=15
R25A Fountain Ranch 81.84 48 ⇓P P 06 16 56.9 +0.3
baz=82,SNR=28
P27A Ficken Ranch, 81.86 46 ⇑P P 06 16 56.7 +0.1
baz=82,SNR=12
PKSG 81.92 326 *e*P P 06 16 58.0 +1.4
T24B San Luis 81.92 49 ⇓P P 06 16 58.5 +1.3
baz=82,SNR=84
U23A El Rito 81.92 50 ⇓P P 06 16 57.9 +0.7
baz=82,SNR=217
O28A Krutsinger Ran 81.92 45 ⇓P P 06 16 57.0 +0.1
baz=82,SNR=12
URZ Urewera 81.94 154 *e*P P 06 16 54.7 -1.8
URZ Urewera 81.94 154 P P 06 16 54.5 -2.1
comp=Z,23nm,0.9s,baz=319,slow=4.3,SNR=9.8
M30A Dale-Ortello V 81.98 43 ⇑P P 06 16 57.0 -0.2
baz=82,SNR=7.7
TANN Tannenbergstha 82.02 331 *e*P P 06 16 58.6 +1.4
comp=Z,15nm,1.1s
N29A Votaw Ranch, W 82.08 44 ⇑P P 06 16 57.7 0.0
baz=82,SNR=9.2
S25A Roberts Cordova 82.08 48 ⇑P P 06 16 58.1 +0.1
baz=82,SNR=18
L31A Butterfield Fa 82.08 42 ⇑P P 06 16 57.7 0.0
baz=82,SNR=65
ECSD EROS Data Cent 82.11 39 *e*P P 06 16 57.0 -0.8
comp=Z,51nm,0.9s
ECSD LR LR
comp=Z,1µm,20.0s
ECSD EROS Data Cent 82.11 39 ⇑P P 06 16 56.8 -0.9
baz=82,SNR=37
ESY Stoneypath 82.12 342 *e*P P 06 16 59.2 +1.7
NKC Novy Kostel 82.17 331 *e*P P 06 16 59.3 +1.4
NKC Novy Kostel 82.17 331 *e*P P 06 16 59.3 +1.4
IBBN Ibbenburen 82.18 334 *e*P P 06 16 59.2 +1.3
comp=Z,43nm,1.0s
KSCO Kaye Shedlock' 82.21 46 *e*P P 06 16 58.4 -0.2
comp=Z,77nm,1.2s
KSCO Kaye Shedlock' 82.21 46 ⇑P P 06 16 58.5 0.0
baz=82,SNR=19
R26A Arlington 82.22 47 ⇑P P 06 16 58.6 0.0
baz=82,SNR=53
EAB Aberfoyle 82.29 343 *e*P P 06 16 58.9 +0.5
V23A Ortiz Mt. (NFS 82.31 50 ⇓P P 06 17 00.4 +1.2
baz=82,SNR=44
P28A Saint Francis 82.31 45 ⇑P P 06 16 58.8 -0.2
baz=82,SNR=26
EBL Broad Law 82.36 342 *e*P P 06 17 00.0 +1.3
N30A Hueftle Ranch, 82.38 43 ⇑P P 06 16 59.7 +0.4
baz=82
U24A Moreno Valley 82.42 49 ⇑P P 06 17 01.3 +1.4
baz=82,SNR=19
T25A Trinidad 82.44 48 ⇓P P 06 17 00.5 +0.6
baz=82,SNR=55
O29A 4D Ranch, Culb 82.47 44 ⇑P P 06 16 59.7 0.0
baz=82,SNR=8.2
SOP Sopron 82.49 327⇓*e*P P 06 17 01.7 +2.1
ISP Isparta 82.55 313 PFAKE 06 17 10.0 +10
ISP LR LR
comp=Z,901nm,21.0s
PKS9 Tamasi 82.58 325 *e*P P 06 17 01.6 +1.5
M31A Lambtecht Ranc 82.60 42 ⇑P P 06 16 59.6 -0.8
baz=82,SNR=17
KHC Kasperske Hory 82.60 329 *i* P P 06 17 01.8 +1.6
KHC *e* 06 17 09.1
KHC *e* 06 20 07.3
KHC *e*S S 06 27 14.0 -2.4
KHC MLR MLR
comp=Z,3µm,20.1s
KHC Kasperske Hory 82.60 329 *i* P P 06 17 01.8 +1.6
KHC *ex* x 06 17 09.1
KHC *e*PP PP 06 20 07.3 -1.7
KHC *e*S S 06 27 14.0 -2.4
KHC AMS AMS 06 56 10.0
comp=Z,3µm,20.1s
KHC Kasperske Hory 82.60 329 *e*P P 06 17 00.8 +0.5
comp=Z,45nm,1.3s
KHC *e*PP PP 06 20 07.5 -1.5
CONA Conrad Observa 82.60 328⇑*i*sP sP 06 17 02.2 -6.6
comp=Z,52nm,1.5s,SNR=18
R27A Eads 82.61 47 ⇓P P 06 17 00.6 0.0
baz=82,SNR=21
Q28A Sharon Springs 82.62 46 ⇑P P 06 17 00.4 -0.3
baz=82,SNR=13
ROTZ Rotzenmuhle 82.63 331 *e*P P 06 17 02.2 +1.9
comp=Z,35nm,1.2s
S26A Kim 82.67 47 ⇓P P 06 17 00.6 -0.3
baz=82,SNR=27
PGBU Glenifferbraes 82.67 342⇑*e*P P 06 17 02.3 +1.9
ANMO Albuquerque 82.67 51 *e*P P 06 17 01.3 +0.2
comp=Z,94nm,1.2s
ANMO LR LR
comp=Z,751nm,21.0s
PKSM Moragy 82.70 325⇑*e*P P 06 17 01.8 +1.1
W23A Werner Place, 82.72 51 ⇑P P 06 17 02.4 +1.1
baz=82,SNR=52
P29A Atwood 82.75 45 ⇑P P 06 17 01.2 -0.1
baz=82,SNR=9.1
GEC2 GERESS Array S 82.78 329 *e*P P 06 17 02.5 +1.3
comp=Z,14nm,1.2s
GERES GERESS Array B 82.78 329 P P 06 17 01.4 +0.2
GERES GERESS Array B 82.78 329 P P 06 17 01.4 +0.2
comp=Z,5.0nm,0.8s,baz=35,slow=5.2,SNR=35
GERES LR LR 06 56 57.5
comp=Z,3µm,18.9s,baz=27,slow=38
WTSB Winterswijk 82.79 335 *e*P P 06 17 02.2 +1.1
CSS Prodhromos 82.79 309 PFAKE 06 17 10.0 +8.5
CSS LR LR
comp=Z,203nm,21.0s
ESK Eskdalemuir 82.81 342 *e*P P 06 17 01.2 +0.1
ESK AMB AMB 06 17 13.4
comp=Z,238nm,5.5s
O30A MW Ranch, Wils 82.83 44 ⇓P P 06 17 01.4 -0.2
baz=83,SNR=15
SPMN St. Paul 82.86 36 *e*P P 06 17 01.1 -0.5
comp=Z,64nm,1.3s
SPMN St. Paul 82.86 36 ⇑P P 06 17 01.5 -0.1
baz=83,SNR=12
LENM Lemitar 82.87 52 *e*P P 06 17 02.1 +0.1
comp=Z,25nm,1.1s
V24A Rampart Ranch, 82.88 50 ⇓P P 06 17 03.1 +0.9
baz=83,SNR=110
T26A Comanche Natio 82.90 48 ⇓P P 06 17 01.7 -0.5
baz=83,SNR=81
U25A Circle Dot Ran 82.94 49 ⇓P P 06 17 02.9 +0.4
baz=83,SNR=51
S27A Las Animas 82.96 47 ⇓P P 06 17 02.6 +0.1
baz=83,SNR=14
Y22D IRIS PASSCAL I 82.96 52 ⇓P P 06 17 02.3 -0.3
baz=83
N31A Bailey Ranch, 82.98 43 ⇓P P 06 17 02.4 +0.1
baz=83
BGNE Belgrade 82.99 42 *e*P P 06 17 01.8 -0.6
comp=Z,190nm,1.0s
BGNE Belgrade 82.99 42 ⇑P P 06 17 02.3 -0.1
baz=83,SNR=18
PMOR Pomariorio Ree 83.03 115 *e*P P 06 17 03.6 +0.9
comp=Z,110nm,1.1s
PMOR *e*pP pP 06 17 16.2 +7.3
comp=Z,126nm,1.1s
GRF Grafenberg Arr 83.07 331 *e*P P 06 17 04.6 +2.0
comp=Z,42nm,1.0s
X23A Hourglass Bar 83.08 51 ⇑P P 06 17 04.0 +0.8
baz=83,SNR=15
R28A Tribune 83.13 46 ⇓P P 06 17 03.1 -0.1
baz=83,SNR=7.5
W24A Lazy 6 Ranch, 83.14 50 ⇑P P 06 17 04.5 +0.9
baz=83,SNR=92
P30A Selden 83.17 44 ⇑P P 06 17 03.4 0.0
baz=83,SNR=23
VTS Vitosha 83.19 320 *i* P P 06 17 05.0 +1.5
VTS Vitosha 83.19 320⇓*i*P P 06 17 05.2 +1.7
V25A Rancho No Teng 83.20 49 ⇑P P 06 17 04.5 +0.7
baz=83,SNR=61
Q29A Oakley 83.22 45 ⇑P P 06 17 03.3 -0.4
baz=83,SNR=9.7
319A Douglas 83.22 55 ⇓P P 06 17 04.1 +0.2
baz=83,SNR=52
O31A Woolen Ranch, 83.25 43 ⇑P P 06 17 03.3 -0.4
baz=83,SNR=17
ARSA Arzberg 83.27 327⇑*i*pP P 06 17 05.1 +1.3
comp=Z,26nm,1.6s,SNR=8.9
MOA Mn 83.33 328⇓*i*sP sP 06 17 05.7 -6.7
comp=Z,42nm,1.6s,SNR=9.7
U26A Atchley Ranch, 83.34 49 ⇑P P 06 17 04.6 +0.1
baz=83,SNR=52
N32A Stulken Farm, 83.37 42 ⇓P P 06 17 03.3 -1.1
baz=83
VAH Vaihoa 83.38 115 *e*P P 06 17 05.0 +0.5
comp=Z,56nm,1.1s
121A Cookes Peak, D 83.43 54 *e*P P 06 17 05.5 +0.5
comp=Z,99nm,1.0s
121A Cookes Peak, D 83.43 54 ⇓P P 06 17 05.5 +0.5
baz=83,SNR=72
KESW Keswick, Cumbr 83.44 341⇑*e*P P 06 17 05.4 +1.0
KESW AMB AMB 06 17 11.9
comp=Z,181nm,4.0s
R29A Marienthal 83.46 46 ⇓P P 06 17 05.1 +0.2
baz=83
Z22A Elephant Butte 83.47 53 ⇑P P 06 17 05.5 +0.3
baz=83,SNR=56
T27A Campo 83.49 47 ⇑P P 06 17 04.9 -0.3
baz=83
X24A Lazy VL Ranch, 83.55 51 ⇑P P 06 17 06.3 +0.7
baz=83,SNR=38
PPT Papeete 83.56 118 LR LR 06 51 45.9
comp=Z,586nm,18.4s,baz=296,slow=34
PPT2 Papeete2 83.58 118 *e*S S 06 27 27.1 0.0
comp=Z,2µm,32.2s
PPT2 Papeete2 83.58 118 *e*LQ LQ 06 39 10.6
comp=Z,829nm,29.8s
PPT2 *e*LR LR 06 43 18.2
comp=Z,3µm,24.5s,baz=318
KOGS Kog 83.58 326 *e*P P 06 17 05.6 +0.3
GAL1 Galloway 83.58 342⇑*e*P P 06 17 05.6 +0.5
Q30A Quinter 83.58 45 ⇑P P 06 17 05.6 +0.1
baz=83
Y23A Lovelace Mesa, 83.59 52 ⇑P P 06 17 06.5 +0.7
baz=83,SNR=95
S28A Manter 83.60 47 ⇑P P 06 17 06.1 +0.4
baz=83,SNR=26
HPK Haverah Park 83.62 340⇑*e*P P 06 17 06.7 +1.4
HPK AMB AMB 06 17 08.1
comp=Z,114nm,2.5s
MMB Musomiste 83.65 319 *i* P P 06 17 06.5 +0.7
P31A Stockton 83.67 44 ⇑P P 06 17 05.5 -0.4
baz=83,SNR=52
TNS Taunus Mts 83.67 333 *e*P P 06 17 07.2 +1.5
comp=Z,18nm,0.9s
W25A X Bar L Ranch, 83.71 50 ⇑P P 06 17 06.8 +0.4
baz=84,SNR=162
V26A Tequesquite Ra 83.72 49 ⇓P P 06 17 06.5 +0.1
baz=84,SNR=56
320A Kipp Ranch, An 83.74 55 ⇓P P 06 17 07.2 +0.6
baz=84,SNR=26
O32A Brockman Farm, 83.74 43 ⇑P P 06 17 06.0 -0.3
baz=84
KKB Krupnik 83.78 320 *i* P P 06 17 08.4 +2.0
221A Mesquite Ranch 83.78 54 ⇑P P 06 17 07.5 +0.8
baz=84,SNR=6.9
T28A Walsh 83.80 47 ⇑P P 06 17 06.6 -0.1
baz=84,SNR=8.6
U27A Thompson Grove 83.86 48 ⇑P P 06 17 07.5 +0.4
baz=84,SNR=25
SNZO South Karori 83.90 157 PFAKE 06 17 20.0 +13
SNZO LR LR
comp=Z,2µm,20.0s
SOKA Soboth 83.93 327⇑*i*pP P 06 17 07.6 +0.4
comp=Z,75nm,1.5s,SNR=21
Z23A Rita Site, Whi 83.93 52 ⇑P P 06 17 07.6 +0.1
baz=84,SNR=41
TVO Taravao 83.94 118 *e*P P 06 17 08.5 +1.0
comp=Z,27nm,1.1s
SCHQ Schefferville 83.94 17 *e*P P 06 17 06.6 -0.4
comp=Z,22nm,1.0s
SCHQ Schefferville 83.94 17 P P 06 17 06.6 -0.4
comp=Z,18nm,0.9s,baz=1.6,slow=7.2,SNR=11
SCHQ LR LR 06 59 38.1
comp=Z,651nm,18.8s,baz=338,slow=39
Y24A Capitan 83.98 51 ⇓P P 06 17 07.8 -0.1
baz=84,SNR=46
P32A Huiting Farm, 84.02 43 ⇓P P 06 17 06.8 -0.9
baz=84,SNR=26
Q31A Ellis 84.02 44 ⇓P P 06 17 06.7 -1.0
baz=84
S29A Ulysses 84.03 46 ⇓P P 06 17 08.1 +0.3
baz=84,SNR=6.2
R30A Dighton 84.04 45 ⇓P P 06 17 07.5 -0.4
baz=84,SNR=18
X25A Clemmons Ranch 84.05 50 ⇑P P 06 17 08.7 +0.6
baz=84,SNR=27
HGN Heimansgroeve 84.10 335 *e*P P 06 17 09.1 +1.3
222A Williams Famil 84.15 54 ⇑P P 06 17 09.0 +0.3
baz=84,SNR=32
GOLS Golise 84.19 326 *e*P P 06 17 09.5 +1.0
MEM Membach 84.20 334 P P 06 17 09.9 +1.5
comp=Z,14nm,1.1s
W26A Owens Ranch, T 84.21 50 ⇑P P 06 17 09.9 +1.0
baz=84,SNR=23
KBI1 Birley Grange 84.22 340⇑*e*P P 06 17 10.0 +1.6
U28A Mallet 84.25 48 ⇑P P 06 17 09.1 +0.1
baz=84,SNR=16
T29A Hugoton 84.25 47 ⇓P P 06 17 09.1 +0.1
baz=84
OBKA Obir 84.27 327⇑*i*pP P 06 17 09.7 +0.8
comp=Z,16nm,0.9s
FUR Furstenfeldbru 84.29 330 *e*P P 06 17 10.7 +1.8
comp=Z,86nm,1.1s
V27A Dan Oppiter Fa 84.31 48 ⇓P P 06 17 10.1 +0.7
baz=84,SNR=13
KBA Koelnbreinsper 84.32 328⇑*i*pP P 06 17 10.7 +1.4
comp=Z,43nm,1.6s,SNR=11
123A Bell Site, Whi 84.33 53 ⇑P P 06 17 10.7 +1.2
baz=84,SNR=10
S30A Montezuma 84.38 46 ⇓P P 06 17 09.4 -0.2
baz=84,SNR=13
Z24A Sheeppen Canyo 84.42 52 ⇓P P 06 17 10.5 +0.4
baz=84,SNR=37
Y25A Mesa, Roswell 84.44 51 ⇓P P 06 17 10.0 -0.1
baz=84,SNR=38
R31A Burdett 84.45 45 ⇑P P 06 17 10.0 0.0
baz=84,SNR=13
Q32A Meitler Ranch, 84.49 44 ⇓P P 06 17 09.5 -0.6
baz=84,SNR=25
X26A CR and CF Fran 84.55 50 ⇑P P 06 17 11.3 +0.7
baz=84,SNR=31
MYKA Terra Mystica 84.56 328⇑*i*pP P 06 17 10.5 +0.2
comp=Z,45nm,1.6s,SNR=10
STU Stuttgart 84.59 332 *e*P P 06 17 11.6 +1.2
STU pmax pmax
comp=Z,97nm,1.4s
STU Stuttgart 84.59 332 *e*P P 06 17 11.9 +1.5
comp=Z,140nm,1.8s
STU Stuttgart 84.59 332 *e*P P 06 17 11.6 +1.2
comp=Z,96nm,1.4s
BCLA Clavier 84.60 335 P P 06 17 11.8 +1.4
comp=Z,21nm,1.3s
P33A Williams Farm, 84.64 43 ⇓P P 06 17 11.0 +0.1
baz=84,SNR=5.9
LJU Ljubljana 84.64 327 *e*P P 06 17 11.1 +0.4
W27A Bowe Ranch, En 84.65 49 ⇓P P 06 17 11.7 +0.5
baz=84,SNR=136
V28A Channing 84.68 48 ⇓P P 06 17 12.4 +1.1
baz=84,SNR=7.0
U29A Oasis Ranch, S 84.75 47 ⇑P P 06 17 12.3 +0.8
baz=84,SNR=5.9
BOJS Bojanci 84.75 326 *e*P P 06 17 11.8 +0.6
T30A Plains 84.76 46 ⇑P P 06 17 11.8 +0.3
baz=84,SNR=5.1
124A Stringfield Ra 84.79 52 ⇑P P 06 17 12.1 +0.1
baz=85,SNR=51
R32A Long Quarter, 84.81 44 ⇑P P 06 17 11.3 -0.4
baz=85
WME Myndd Eilian 84.82 341⇑*e*P P 06 17 12.1 +0.7
WPM1 Penmaenmawr 84.84 341⇑*e*P P 06 17 12.2 +0.6
Z25A Roswell 84.86 51 ⇑P P 06 17 12.6 +0.4
baz=85,SNR=78
SNF Seneffe 84.87 335 P P 06 17 13.1 +1.4
WTTA Wattenberg 84.87 329⇓*i*pP P 06 17 13.0 +1.0
comp=Z,34nm,1.2s,SNR=10.0
Q33A Connelly Farm, 84.88 43 ⇑P P 06 17 11.3 -0.8
baz=85,SNR=22
X27A F and S Farms, 84.92 49 ⇓P P 06 17 13.4 +0.9
baz=85,SNR=45
ABTA Abfaltersbach 84.93 329⇑*i*pP P 06 17 12.6 +0.3
comp=Z,29nm,1.1s,SNR=7.9
LANF Langenberg 84.93 333 *e*P P 06 17 13.7 +1.6
WLF1 Llynfaes 84.94 341 *e*P P 06 17 12.5 +0.5
WLF1 AMB AMB 06 17 14.2
comp=Z,137nm,1.7s
WLF Walferdange 84.95 334 P P 06 17 13.3 +1.1
comp=Z,39nm,1.7s
WLF Walferdange 84.95 334 P P 06 17 12.6 +0.4
WLF pmax pmax
comp=Z,69nm,1.4s
WLF MLR MLR
comp=Z,3µm,21.0s
WLF Walferdange 84.95 334 P P 06 17 12.6 +0.4
comp=Z,69nm,1.4s
WLF LR LR
comp=Z,3µm,21.0s
S31A Mullinville 84.95 45 ⇓P P 06 17 12.5 0.0
baz=85,SNR=8.8
Y26A Elida 84.97 50 ⇑P P 06 17 13.3 +0.5
baz=85,SNR=17
FOEL Foel Wylfa 84.99 341⇑*e*P P 06 17 12.8 +0.5
V29A Stinnett 85.01 48 ⇑P P 06 17 13.2 +0.3
baz=85,SNR=5.8
MOTA Moosalm 85.02 330⇑*i*pP P 06 17 13.0 +0.2
comp=Z,38nm,1.0s,SNR=24
W28A Vega 85.03 49 ⇑P P 06 17 14.0 +1.0
baz=85,SNR=10.0
GIVF Givet 85.03 335 *e*P P 06 17 12.8 +0.2
GIVF Givet 85.03 335 *e*P P 06 17 12.8 +0.2
GIVF Givet 85.03 335 *e*P P 06 17 12.8 +0.2
RETA Reutte 85.04 330⇑*i*pP P 06 17 13.3 +0.5
comp=Z,61nm,1.0s,SNR=17
U30A WK&E Inc. Balk 85.05 47 ⇓P P 06 17 13.3 +0.2
baz=85,SNR=18
RPZ Rata Peaks 85.07 160 P P 06 17 11.9 -0.7
RPZ Rata Peaks 85.07 160 P P 06 17 11.9 -0.7
comp=Z,5.9nm,0.6s,baz=338,slow=7.8,SNR=3.8
DOU Dourbes 85.11 335 P P 06 17 14.3 +1.3
comp=Z,18nm,2.0s
SCIA State Center 85.15 39 *e*P P 06 17 13.2 -0.1
comp=Z,84nm,1.1s
SCIA LR LR
comp=Z,1µm,19.0s
S32A Newby Ranch, P 85.20 45 ⇓P P 06 17 13.8 +0.1
baz=85,SNR=15
T31A Randall Ranch, 85.21 46 ⇓P P 06 17 13.7 -0.1
baz=85,SNR=16
BAIF Baives 85.28 335 *e*P P 06 17 14.1 +0.3
comp=Z,83nm,1.5s
BAIF Baives 85.28 335 *e*P P 06 17 14.1 +0.3
BAIF pmax pmax
comp=Z,83nm,1.5s
BAIF Baives 85.28 335 *e*P P 06 17 14.1 +0.3
comp=Z,83nm,1.5s
BFO Black Forest 85.28 332 P P 06 17 15.0 +1.1
comp=Z,336nm,1.1s,SNR=16
BFO Black Forest 85.28 332 *e*P P 06 17 14.2 +0.3
BFO pmax pmax
comp=Z,68nm,1.1s
BFO MLR MLR
comp=Z,2µm,21.0s
BFO Black Forest 85.28 332 *e*P P 06 17 15.3 +1.4
comp=Z,102nm,1.2s
BFO Black Forest 85.28 332 *e*P P 06 17 14.2 +0.3
comp=Z,68nm,1.1s
BFO LR LR
comp=Z,2µm,21.0s
R33A Olander Ranch, 85.29 44 ⇑P P 06 17 14.0 -0.2
baz=85,SNR=12
125A Gardner Draw, 85.31 52 ⇑P P 06 17 14.5 0.0
baz=85,SNR=72
Z26A Caprock 85.32 51 ⇓P P 06 17 14.3 -0.2
baz=85,SNR=77
Y27A Causey 85.40 50 ⇑P P 06 17 14.9 0.0
baz=85,SNR=31
FETA Feichten 85.43 330⇑*i*pP P 06 17 15.4 +0.5
comp=Z,33nm,1.0s,SNR=12
W29A Amraillo 85.45 48 ⇑P P 06 17 15.1 0.0
baz=85,SNR=6.9
KSU1 Kansas State U 85.47 43 *e*P P 06 17 13.7 -1.2
comp=Z,65nm,1.0s
KSU1 LR LR
comp=Z,754nm,21.0s
KSU1 Kansas State U 85.47 43 ⇓P P 06 17 14.3 -0.7
baz=85,SNR=19
MNTX Cornudas Mount 85.51 53 *e*P P 06 17 15.1 -0.2
comp=Z,51nm,1.2s

MNTX LR LR
comp=Z,442nm,20.0s
X28A **Dimmitt** 85.54 49 ⇓P P 06 17 15.5 -0.1
baz=85,SNR=18
DAVA **Damuels** 85.55 330 ⇑*ip*P P 06 17 16.1 +0.6
comp=Z,74nm,1.0s,SNR=16
MSTX **Muleshoe** 85.58 50 *e*P P 06 17 15.6 -0.2
comp=Z,56nm,1.2s
MSTX **Muleshoe** 85.58 50 ⇓P P 06 17 15.9 +0.2
baz=85,SNR=22
T32A **Huddler Ranch,** 85.58 45 ⇑P P 06 17 15.6 0.0
baz=85,SNR=20
225A **Deer Hill, Car** 85.58 52 ⇑P P 06 17 16.0 +0.1
baz=85,SNR=17
AMTX **Amarillo** 85.60 48 ⇓P P 06 17 16.1 +0.3
baz=85
CDF **Champ du Feu** 85.60 332 *e*P P 06 17 16.0 +0.4
comp=Z,221nm,1.4s
CDF **Champ du Feu** 85.60 332 *e*P P 06 17 16.0 +0.4
CDF pmax pmax
comp=Z,221nm,1.4s
CDF **Champ du Feu** 85.60 332 *e*P P 06 17 16.0 +0.4
comp=Z,221nm,1.4s
U31A **Nine Bar Ranch** 85.62 46 P P 06 17 15.5 -0.4
baz=85
STRD **Stroud** 85.72 339 *e*P P 06 17 16.2 +0.2
STRD AMB AMB 06 17 18.6
comp=Z,188nm,1.8s
126A **Clayton Basin,** 85.72 51 ⇓P P 06 17 16.5 0.0
baz=86,SNR=23
MCH1 **Michaelchurch** 85.75 340⇑ *e*P P 06 17 17.1 +1.0
MCH1 AMB AMB 06 17 18.7
comp=Z,84nm,2.1s
Z27A **Tatum** 85.76 50 ⇑P P 06 17 16.5 -0.2
baz=86,SNR=74
HMNX **Herstmonceux** 85.80 338 *e*P P 06 17 18.1 +1.8
GDL2 **Guadalupe Moun** 85.81 52 *e*P P 06 17 16.9 -0.1
comp=Z,44nm,1.0s
ECH **Echery** 85.81 332 *e*P P 06 17 16.7 +0.2
ECH pmax pmax
comp=Z,43nm,1.0s
ECH MLR MLR
comp=Z,1μm,20.0s
ECH **Echery** 85.81 332 *e*P P 06 17 17.0 +0.5
ECH **Echery** 85.81 332 *e*P P 06 17 16.7 +0.2
comp=Z,43nm,1.0s
ECH LR LR
comp=Z,1μm,20.0s
JFWS **Jewell Farm** 85.82 36 PFAKE 06 17 30.0 +13
JFWS LR LR
comp=Z,2μm,21.0s
MONM **Monmouth** 85.83 340⇑ *e*P P 06 17 16.6 +0.1
MONM AMB AMB 06 17 18.7
comp=Z,88nm,1.6s
SWN1 **Swindon** 85.85 339 *e*P P 06 17 17.9 +1.3
WOL **Wolverton** 85.86 339⇑ *e*P P 06 17 18.1 +1.4
WOL AMB AMB 06 17 23.6
comp=Z,141nm,2.0s
X29A **Tulia** 85.89 49 ⇑P P 06 17 17.6 +0.3
baz=86,SNR=64
LPW **Lampeter** 85.92 341 *e*P P 06 17 17.0 +0.1
LPW AMB AMB 06 17 22.1
comp=Z,77nm,1.8s
APE **Apeiranthos** 85.92 315 *e*P P 06 17 17.1 -0.3
APE pmax pmax
comp=Z,76nm,1.4s
Y28A **McKinney Farm,** 85.93 50 ⇑P P 06 17 17.3 -0.3
baz=86,SNR=23
DAVOX **Davos/Dischmat** 85.97 330 P P 06 17 18.0 +0.4
DAVOX **Davos/Dischmat** 85.97 330 P P 06 17 18.0 +0.4
comp=Z,19nm,0.9s,baz=38,slow=2.1
226B **Tecolote Peak,** 86.01 52 ⇑P P 06 17 17.7 -0.2
baz=86
PAGF **Fort de Pagny** 86.04 333 *e*P P 06 17 18.4 +0.8
comp=Z,42nm,0.9s
PAGF **Fort de Pagny** 86.04 333 *e*P P 06 17 18.4 +0.8
comp=Z,42nm,0.9s
W30A **Crocket Farms** 86.04 48 ⇑P P 06 17 18.3 +0.3
baz=86
V31A **Spring Creek L** 86.05 47 ⇓P P 06 17 18.4 +0.4
baz=86,SNR=22
CLNB **Carlsbad** 86.06 52 *e*P P 06 17 18.3 +0.1
comp=Z,5.4nm,0.9s
U32A **Winter Ranch,** 86.10 46 ⇓P P 06 17 18.4 +0.2
baz=86,SNR=14
127A **Arkansas Junct** 86.11 51 ⇑P P 06 17 18.6 +0.2
baz=86,SNR=8.5
MOF **Molkenrain** 86.12 332 *e*P P 06 17 19.3 +1.1
THEF **They Montfort** 86.22 333 *e*P P 06 17 19.0 +0.4
HINF **Hinteralfeld** 86.25 332 *e*P P 06 17 18.8 0.0
comp=Z,44nm,1.2s
HINF **Hinteralfeld** 86.25 332 *e*P P 06 17 18.8 0.0
HINF pmax pmax
comp=Z,44nm,1.2s
HINF **Hinteralfeld** 86.25 332 *e*P P 06 17 18.8 0.0
comp=Z,44nm,1.2s
Z28A **Tucker Farm, M** 86.28 50 ⇑P P 06 17 19.4 +0.1
baz=86,SNR=22
HAU **Haudompre** 86.28 333 *e*P P 06 17 19.1 +0.2
comp=Z,65nm,1.0s
HAU *e*R
comp=Z,2μm,19.0s
HAU **Haudompre** 86.28 333 *e*P P 06 17 19.1 +0.2
HAU pmax pmax
comp=Z,65nm,1.0s
HAU **Haudompre** 86.28 333 *e*P P 06 17 19.1 +0.2
comp=Z,65nm,1.0s
Y29A **Porterfield Fa** 86.31 49 ⇑P P 06 17 19.7 +0.3
baz=86,SNR=17
MEZF **Maizieres J'vi** 86.32 334 *e*P P 06 17 19.7 +0.7
comp=Z,298nm,1.5s
MEZF **Maizieres J'vi** 86.32 334 *e*P P 06 17 19.7 +0.7
comp=Z,298nm,1.5s
425A **Indio Mountain** 86.37 53 ⇓P P 06 17 19.9 +0.1
baz=86,SNR=63
X30A **Coker Ranch, T** 86.38 48 ⇑P P 06 17 19.8 +0.2
baz=86,SNR=9.8
W31A **Holland Ranch,** 86.40 47 ⇓P P 06 17 20.1 +0.4
baz=86,SNR=20
TUE **Stuetta** 86.43 330 P P 06 17 21.1 +1.3
comp=Z,32nm,1.1s
TUE LR LR
comp=Z,2μm,20.0s
SANT **Santorini** 86.46 314 PFAKE 06 17 30.0 +10
SANT LR LR
comp=Z,1μm,19.0s
V32A **Arapaho** 86.55 46 ⇑P P 06 17 20.9 +0.5
baz=86,SNR=22
U33A **Lingo Farm, Me** 86.56 45 P P 06 17 19.5 -1.0
baz=86
SFTF **Sexfontaines** 86.58 334 *e*P P 06 17 20.7 +0.4
comp=Z,195nm,1.2s
SFTF **Sexfontaines** 86.58 334 *e*P P 06 17 20.7 +0.4
comp=Z,195nm,1.2s
227A **Bennet, Jal** 86.60 51 ⇑P P 06 17 21.1 +0.3
baz=86,SNR=11
326A **Caldwell Ranch** 86.65 52 ⇑P P 06 17 21.4 +0.3
baz=86,SNR=31
LOMF **Lomont** 86.66 332 *e*P P 06 17 21.4 +0.6
128A **Castleberry Fa** 86.68 51 ⇑P P 06 17 21.6 +0.4
baz=86,SNR=22
Z29A **Hungry Hill Ra** 86.71 50 ⇑P P 06 17 21.6 +0.3
baz=86,SNR=30
Y30A **Stafford Cattl** 86.76 49 ⇓P P 06 17 21.9 +0.4
baz=86,SNR=10.0
X31A **McDonald Ranch** 86.77 48 ⇑P P 06 17 21.7 +0.1
baz=86,SNR=26
W32A **Sentinel** 86.85 47 ⇓P P 06 17 22.4 +0.5
baz=87,SNR=31
U34A **Anderson Ranch** 86.89 45 ⇑P P 06 17 22.3 +0.3
baz=87,SNR=31
V33A **Lossen Ranch,** 86.91 46 ⇓P P 06 17 22.4 +0.3
baz=87,SNR=14
228A **UT Block 9, Go** 86.96 51 ⇑P P 06 17 23.2 +0.7
baz=87,SNR=8.6
Z30A **Sanderson Ranc** 87.04 49 ⇓P P 06 17 23.4 +0.5
baz=87,SNR=23
129A **Stewart Farms,** 87.05 50 ⇓P P 06 17 23.4 +0.4
baz=87
426A **McDonald Obser** 87.06 53 ⇓P P 06 17 23.6 +0.4
baz=87,SNR=21
Y31A **Rekieta Farm,** 87.08 48 ⇑P P 06 17 23.5 +0.4
baz=87,SNR=20
W33A **Caddo, Fort Co** 87.28 46 ⇓P P 06 17 25.2 +1.2
baz=87,SNR=25
427A **Hayter Ranch,** 87.33 52 ⇑P P 06 17 24.4 0.0
baz=87,SNR=19
X32A **Elmer** 87.33 47 ⇑P P 06 17 24.5 +0.3
baz=87,SNR=35
V34A **Guthrie** 87.33 45 ⇑P P 06 17 24.6 +0.4
baz=87,SNR=17
328A **Wristen Ranch,** 87.33 52 ⇑P P 06 17 24.5 +0.1
baz=87,SNR=24
WMOK **Wichita Mounta** 87.39 47 *e*P P 06 17 24.2 -0.4
WMOK pmax pmax
comp=Z,53nm,1.1s
WMOK MLR MLR
comp=Z,728nm,21.0s
WMOK **Wichita Mounta** 87.39 47 *e*P P 06 17 24.2 -0.4
comp=Z,53nm,1.1s
WMOK LR LR
comp=Z,728nm,21.0s
526A **Mary Lane Ranc** 87.43 53 ⇑P P 06 17 25.0 0.0
baz=87,SNR=36
Y32A **R-V Farms, Ver** 87.53 48 ⇓P P 06 17 25.4 +0.1
baz=87,SNR=20
229A **Bryant Ranch,** 87.54 51 ⇑P P 06 17 25.8 +0.5
baz=87,SNR=9.4
TBI **Tubuai** 87.58 122 *e*S S 06 28 06.0 0.0
comp=Z,641nm,37.8s
TBI **Tubuai** 87.58 122 *e*LQ LQ 06 41 17.6
comp=Z,879nm,32.0s
TBI *e*LR LR 06 44 45.0
comp=Z,2μm,21.8s,baz=313
Z31A **Sharp Cattle R** 87.60 49 ⇑P P 06 17 25.5 -0.1
baz=87,SNR=19
W34A **Bridge Creek,** 87.61 46 ⇓P P 06 17 26.2 +0.6
baz=87,SNR=16
130A **Snyder** 87.62 50 ⇓P P 06 17 25.8 +0.1
baz=87,SNR=6.4
527A **Woodward Ranch** 87.67 53 ⇑P P 06 17 26.3 +0.2
baz=87,SNR=10
626A **Big Bend Ranch** 87.75 54 ⇑P P 06 17 26.5 0.0
baz=88,SNR=24
329A **Wagon Wheel Ra** 87.77 51 ⇓P P 06 17 26.8 +0.3
baz=88,SNR=25
LOR **Lormes** 87.79 334 *e*P P 06 17 26.5 +0.3
comp=Z,170nm,1.3s
LOR *e*R
comp=Z,2μm,18.2s
LOR **Lormes** 87.79 334 *e*P P 06 17 26.5 +0.3
comp=Z,170nm,1.3s
428A **Kincaid Ranch,** 87.86 52 ⇑P P 06 17 27.5 +0.6
baz=88,SNR=24
VLC **Villacollemand** 87.91 328 PFAKE 06 17 40.0 +13
VLC LR LR
comp=Z,3μm,20.0s
131A **Roby** 87.91 49 ⇑P P 06 17 27.6 +0.5
baz=88,SNR=10
FLN **La Foliniere** 87.91 337 *e*P P 06 17 27.0 +0.3
comp=Z,52nm,0.8s
FLN *e*R
comp=Z,3μm,18.8s
FLN **La Foliniere** 87.91 337 *e*P P 06 17 27.0 +0.3
FLN pmax pmax
comp=Z,52nm,0.8s
FLN **La Foliniere** 87.91 337 *e*P P 06 17 27.0 +0.3
comp=Z,52nm,0.8s
LDF **La Druitiere** 87.95 337 *e*P P 06 17 27.1 +0.2
comp=Z,45nm,0.8s
LDF **La Druitiere** 87.95 337 *e*P P 06 17 27.1 +0.2
LDF pmax pmax
comp=Z,45nm,0.8s
LDF **La Druitiere** 87.95 337 *e*P P 06 17 27.1 +0.2
comp=Z,45nm,0.8s
Z32A **Haskell** 88.00 48 ⇑P P 06 17 27.7 +0.2
baz=88,SNR=69
Y33A **Hilltop Ranch,** 88.00 47 ⇑P P 06 17 27.5 +0.1
baz=88,SNR=23
230A **Sterling City** 88.02 50 ⇓P P 06 17 27.5 -0.1
baz=88,SNR=15
X34A **Smith Ranch, M** 88.04 46 ⇑P P 06 17 27.9 +0.3
baz=88,SNR=25
AQU **L'Aquila** 88.06 325 *e*P P 06 17 28.6 +1.0
comp=Z,42nm,1.1s
AQU LR LR
comp=Z,3μm,19.0s
SSF **Saint Saulge** 88.09 334 *e*P P 06 17 28.0 +0.4
comp=Z,93nm,1.3s
SSF **Saint Saulge** 88.09 334 *e*P P 06 17 28.0 +0.4
SSF pmax pmax
comp=Z,93nm,1.3s
SSF **Saint Saulge** 88.09 334 *e*P P 06 17 28.0 +0.4
comp=Z,93nm,1.3s
528A **Cox Ranch, San** 88.18 53 ⇑P P 06 17 28.4 -0.1
baz=88,SNR=23
TXAR **Lajitas Array** 88.19 54 P P 06 17 27.8 -0.7
TXAR PKKPbc **PKKPbc** 06 35 12.2 +1.0
TXAR **Lajitas Array** 88.19 54 P P 06 17 27.8 -0.7
comp=Z,9.3nm,0.6s,baz=306,slow=3.0,SNR=92
TXAR PKKPbc **PKKPbc** 06 35 12.2 +1.0
comp=Z,0.2nm,0.5s,baz=193,slow=3.5,SNR=4.8
TXAR LR LR 06 50 52.4
comp=Z,744nm,21.9s,baz=0.0,slow=32
HYF **Humbligny** 88.21 335 *e*P P 06 17 29.1 +0.9
HYF **Humbligny** 88.21 335 *e*P P 06 17 29.1 +0.9
LPL **La Plagne** 88.23 331 *e*P P 06 17 29.3 +0.7
comp=Z,66nm,1.1s
LPL **La Plagne** 88.23 331 *e*P P 06 17 29.3 +0.7
LPL pmax pmax
comp=Z,66nm,1.1s
LPL **La Plagne** 88.23 331 *e*P P 06 17 29.3 +0.7
comp=Z,66nm,1.1s
TUL1 **Tulsa** 88.23 44 *e*P P 06 17 28.2 -0.4
comp=Z,52nm,1.2s
TUL1 **Tulsa** 88.23 44 ⇑P P 06 17 28.7 +0.1
baz=88,SNR=15
LPG **La Plagne** 88.24 331 *e*P P 06 17 29.0 +0.3
comp=Z,51nm,1.0s
LPG **La Plagne** 88.24 331 *e*P P 06 17 29.0 +0.3
LPG pmax pmax
comp=Z,51nm,1.0s
LPG **La Plagne** 88.24 331 *e*P P 06 17 29.0 +0.3
comp=Z,51nm,1.0s
627A **Terlingua Ranc** 88.29 53 ⇑P P 06 17 28.9 -0.2
baz=88,SNR=21
330A **Mertzon** 88.32 51 ⇓P P 06 17 29.0 -0.1
baz=88,SNR=14
SMF **Signal de Mont** 88.33 334 *e*P P 06 17 29.1 +0.3
comp=Z,132nm,1.4s
SMF **Signal de Mont** 88.33 334 *e*P P 06 17 29.1 +0.3
SMF pmax pmax
comp=Z,132nm,1.4s
SMF **Signal de Mont** 88.33 334 *e*P P 06 17 29.1 +0.3
comp=Z,132nm,1.4s
GRR **Gorron** 88.36 337 *e*P P 06 17 29.4 +0.6
comp=Z,85nm,0.9s
GRR **Gorron** 88.36 337 *e*P P 06 17 29.4 +0.6
GRR pmax pmax
comp=Z,85nm,0.9s
GRR **Gorron** 88.36 337 *e*P P 06 17 29.4 +0.6
comp=Z,85nm,0.9s
AVF **Avril sur Loir** 88.38 334 *e*P P 06 17 29.5 +0.5
comp=Z,98nm,1.1s
AVF **Avril sur Loir** 88.38 334 *e*P P 06 17 29.5 +0.5
AVF pmax pmax
comp=Z,98nm,1.1s
AVF **Avril sur Loir** 88.38 334 *e*P P 06 17 29.5 +0.5
comp=Z,98nm,1.1s
ABTX **Abilene, Hawle** 88.39 49 *e*P P 06 17 29.0 -0.4
comp=Z,2nm,1.1s
ABTX **Abilene, Hawle** 88.39 49 ⇑P P 06 17 29.5 +0.2
baz=88,SNR=16
429A **Davenport Ranc** 88.42 52 ⇓P P 06 17 29.5 -0.1
baz=88,SNR=9.5
Z33A **Whitaker Ranch** 88.44 48 ⇓P P 06 17 29.6 +0.1
baz=88,SNR=17
231A **Bronte** 88.47 50 ⇓P P 06 17 29.7 0.0
baz=88,SNR=9.2
Y34A **Reagan Ranch,** 88.54 47 ⇑P P 06 17 30.1 +0.1
baz=88,SNR=8.9
529A **Stev Forest Ra** 88.56 52 ⇓P P 06 17 30.4 +0.1
baz=88
628A **Black Gap, Mar** 88.58 53 ⇓P P 06 17 30.7 +0.4
baz=88
BNI **Bardonecchia** 88.64 331 *e*P P 06 17 30.8 +0.4
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNI MLR MLR
comp=Z,3μm,21.0s
BNI **Bardonecchia** 88.64 331 *e*P P 06 17 30.8 +0.4
comp=Z,8.6nm,0.8s
BNI LR LR
comp=Z,3μm,21.0s
430A **Baggett Ranch,** 88.71 51 ⇑P P 06 17 31.4 +0.4
baz=88,SNR=14
BGF **Bois d'Agland** 88.75 334 *e*P P 06 17 31.3 +0.5
comp=Z,176nm,1.7s
BGF **Bois d'Agland** 88.75 334 *e*P P 06 17 31.3 +0.5
BGF pmax pmax
comp=Z,176nm,1.7s
BGF **Bois d'Agland** 88.75 334 *e*P P 06 17 31.3 +0.5
comp=Z,176nm,1.7s
CUC **Castrocucco** 88.80 323 PFAKE 06 17 40.0 +8.8
CUC LR LR
comp=Z,1μm,20.0s
133A **Hamilton Ranch** 88.83 48 ⇑P P 06 17 31.8 +0.3
baz=89,SNR=10
331A **San Angelo** 88.84 50 ⇑P P 06 17 31.5 0.0
baz=89,SNR=15
Z34A **Collier Ranch,** 88.87 47 ⇓P P 06 17 31.8 +0.2
baz=89,SNR=9.0
232A **Coleman** 88.91 49 ⇑P P 06 17 31.4 -0.4
baz=89,SNR=29
TIP **Timpagrande** 88.97 321 *e*P P 06 17 33.9 +1.9
comp=Z,18nm,1.3s
TIP LR LR
comp=Z,1μm,21.0s
530A **J-C Ranch, Com** 89.09 52 ⇓P P 06 17 33.0 +0.3
baz=89,SNR=19
SLM **Saint Louis** 89.11 39 *e*P P 06 17 32.4 -0.2
SLM pmax pmax
comp=Z,84nm,1.1s
SLM **Saint Louis** 89.11 39 *e*P P 06 17 32.4 -0.2
comp=Z,84nm,1.1s
ROSF **Rostrenen** 89.12 339 *e*P P 06 17 33.0 +0.6
comp=Z,107nm,1.1s
ROSF **Rostrenen** 89.12 339 *e*P P 06 17 33.0 +0.6
ROSF pmax pmax
comp=Z,107nm,1.0s
ROSF **Rostrenen** 89.12 339 *e*P P 06 17 33.0 +0.6
comp=Z,107nm,1.0s
431A **Sonora** 89.17 51 ⇑P P 06 17 32.9 -0.2
baz=89,SNR=8.6
332A **Millersview** 89.21 50 ⇓P P 06 17 33.0 -0.2
baz=89,SNR=40
TCF **Toulx Ste Croi** 89.21 334 *e*P P 06 17 33.5 +0.6
comp=Z,85nm,1.3s
TCF **Toulx Ste Croi** 89.21 334 *e*P P 06 17 33.5 +0.6
TCF pmax pmax
comp=Z,85nm,1.3s
TCF **Toulx Ste Croi** 89.21 334 *e*P P 06 17 33.5 +0.6
comp=Z,85nm,1.3s
SSB **Saint Sauveur** 89.25 332 PFAKE 06 17 40.0 +6.8
SSB LR LR
comp=Z,2μm,19.0s
233A **Rising Star** 89.26 49 ⇑P P 06 17 33.4 -0.1
baz=89,SNR=30
AAM **Ann Arbor** 89.27 33 *e*P P 06 17 33.3 +0.1
AAM pmax pmax
comp=Z,51nm,1.3s
AAM MLR MLR
comp=Z,632nm,20.0s
AAM **Ann Arbor** 89.27 33 *e*P P 06 17 33.3 +0.1
comp=Z,51nm,1.3s
AAM LR LR
comp=Z,632nm,20.0s
SFIN **Scholer Farm** 89.27 36 *e*P P 06 17 32.8 -0.4
comp=Z,56nm,1.1s
SFIN **Scholer Farm** 89.27 36 ⇑P P 06 17 33.1 -0.2
baz=89,SNR=14
Z35A **Perchaven, San** 89.28 47 ⇓P P 06 17 33.4 -0.2
baz=89,SNR=26
SBF **Sospel** 89.35 330 *e*P P 06 17 34.6 +0.9
comp=Z,57nm,1.0s
SBF **Sospel** 89.35 330 *e*P P 06 17 34.6 +0.9
SBF pmax pmax
comp=Z,57nm,1.0s
SBF **Sospel** 89.35 330 *e*P P 06 17 34.6 +0.9
comp=Z,57nm,1.0s
134A **White-Moore Ra** 89.35 48 ⇓P P 06 17 34.1 +0.3
baz=89,SNR=13
432A **Menard** 89.53 50 ⇓P P 06 17 34.7 -0.1
baz=89,SNR=19
VIVF **Saint-Julien-l** 89.57 332 *e*P P 06 17 35.1 +0.4
comp=Z,86nm,1.4s
VIVF **Saint-Julien-l** 89.57 332 *e*P P 06 17 35.1 +0.4
VIVF pmax pmax
comp=Z,86nm,1.4s
VIVF **Saint-Julien-l** 89.57 332 *e*P P 06 17 35.1 +0.4
comp=Z,86nm,1.4s
531A **Rocksprings** 89.57 51 ⇓P P 06 17 35.0 0.0
baz=89,SNR=31
333A **Richland Sprin** 89.70 49 ⇓P P 06 17 35.4 -0.1
baz=90,SNR=31
MFF **Saint Martin d** 89.72 336 *e*P P 06 17 36.1 +0.8
comp=Z,65nm,0.9s
MFF **Saint Martin d** 89.72 336 *e*P P 06 17 36.1 +0.8
MFF pmax pmax
comp=Z,65nm,0.9s
MFF **Saint Martin d** 89.72 336 *e*P P 06 17 36.1 +0.8
comp=Z,65nm,0.9s
234A **Clairette** 89.72 48 ⇑P P 06 17 35.4 -0.2
baz=90,SNR=35
135A **Vickery Place,** 89.75 48 ⇑P P 06 17 35.9 +0.1
baz=90,SNR=7.8
JCT **Junction City** 89.81 50 *e*P P 06 17 35.4 -0.7
JCT pmax pmax
comp=Z,24nm,0.7s
JCT MLR MLR
comp=Z,707nm,21.0s
JCT **Junction City** 89.81 50 *e*P P 06 17 35.4 -0.7
comp=Z,24nm,0.7s
JCT LR LR
comp=Z,707nm,21.0s
JCT **Junction City** 89.81 50 ⇑P P 06 17 35.6 -0.5
baz=90,SNR=15
532A **Rocksprings** 89.99 51 ⇑P P 06 17 36.5 -0.5
baz=90,SNR=20
433A **Art** 90.04 50 ⇓P P 06 17 36.8 -0.3
baz=90,SNR=15
631A **Perdido Creek** 90.08 52 ⇓P P 06 17 37.4 +0.1
baz=90,SNR=23
CEL **Celeste** 90.11 321 *e*P P 06 17 37.9 +0.5
comp=Z,37nm,1.0s
CEL LR LR
comp=Z,2μm,20.0s
WHTX **Lake Whitney** 90.13 48 *e*P P 06 17 37.4 -0.1
comp=Z,132nm,1.1s
WHTX **Lake Whitney** 90.13 48 ⇑P P 06 17 37.5 0.0
baz=90,SNR=24
334A **Lometa** 90.14 49 ⇓P P 06 17 37.5 -0.1
baz=90,SNR=41
LMR **La Mourre** 90.16 330 *e*P P 06 17 38.4 +1.0
comp=Z,143nm,1.5s
LMR **La Mourre** 90.16 330 *e*P P 06 17 38.4 +1.0
LMR pmax pmax
comp=Z,143nm,1.5s
LMR **La Mourre** 90.16 330 *e*P P 06 17 38.4 +1.0
comp=Z,143nm,1.5s
RJF **Les Rejaudoux** 90.30 334 *e*P P 06 17 38.8 +0.7
comp=Z,86nm,1.1s
RJF *e*R
comp=Z,2μm,18.5s
RJF **Les Rejaudoux** 90.30 334 *e*P P 06 17 38.8 +0.7
RJF pmax pmax
comp=Z,86nm,1.1s
RJF **Les Rejaudoux** 90.30 334 *e*P P 06 17 38.8 +0.7
comp=Z,86nm,1.1s
SIUC **Southern Illin** 90.33 39 *e*P P 06 17 38.3 0.0
comp=Z,75nm,1.2s
CAF **Calviac** 90.44 334 *e*P P 06 17 39.9 +1.1
comp=Z,75nm,1.1s
CAF **Calviac** 90.44 334 *e*P P 06 17 39.9 +1.1
CAF pmax pmax
comp=Z,75nm,1.0s
CAF **Calviac** 90.44 334 *e*P P 06 17 39.9 +1.1
comp=Z,75nm,1.0s
MIAR **Mount Ida** 90.46 44 *e*P P 06 17 38.7 -0.3
MIAR *e* 06 21 11.8
MIAR pmax pmax
comp=Z,85nm,1.1s
MIAR MLR MLR
comp=Z,946nm,21.0s
MIAR **Mount Ida** 90.46 44 *e*P P 06 17 38.7 -0.3
comp=Z,85nm,1.1s
MIAR *e*PP PP 06 21 11.8 -1.1
MIAR LR LR
comp=Z,946nm,21.0s
434A **Burnet** 90.50 49 ⇓P P 06 17 38.5 -0.8
baz=90,SNR=18
632A **Uvalde** 90.50 51 ⇓P P 06 17 39.4 +0.1
baz=90,SNR=15

LASF	**Ste Croix**	**90.53**	**332**	*e*P		**P**	**06 17 39.8**	**+0.6**
	comp=Z,48nm,1.2s								
LASF	**Ste Croix**	**90.53**	**332**	*e*P		**P**	**06 17 39.8**	**+0.6**
	comp=Z,48nm,1.2s								
533A	**Kerrville**	**90.56**	**50**	⇓P		**P**	**06 17 39.5**	**-0.1**
	baz=90,SNR=7.5								
335A	**Moody**	**90.66**	**48**	⇓P		**P**	**06 17 39.8**	**-0.2**
	baz=90								
LONY	**Lake Ozonia**	**90.85**	**26**	PFAKE			06 17 50.0	+9.4
LONY				LR		LR			
	comp=Z,1μm,19.0s								
LFF	**La Frestale**	**90.89**	**335**	*e*P		**P**	**06 17 41.8**	**+1.0**
	comp=Z,87nm,1.0s								
LFF	**La Frestale**	**90.89**	**335**	*e*P		**P**	**06 17 41.8**	**+1.0**
LFF				pmax		pmax			
	comp=Z,87nm,1.0s								
LFF	**La Frestale**	**90.89**	**335**	*e*P		**P**	**06 17 41.8**	**+1.0**
	comp=Z,87nm,1.0s								
633A	**Saathoff Ranch**	**90.91**	**51**	⇓P		**P**	**06 17 41.0**	**-0.1**
	baz=91,SNR=18								
435B	**Jarrell**	**90.93**	**49**	P		**P**	**06 17 40.5**	**-0.7**
	baz=91								
534A	**Blanco**	**90.93**	**50**	⇓P		**P**	**06 17 41.0**	**-0.3**
	baz=91,SNR=28								
732A	**Laxson Ranch,**	**90.94**	**52**	⇓P		**P**	**06 17 41.6**	**+0.3**
	baz=91,SNR=16								
ERPA	**Erie**	**90.95**	**31**	*e*P		**P**	**06 17 41.1**	**-0.1**
	comp=Z,67nm,1.2s								
ERPA				LR		LR			
	comp=Z,854nm,20.0s								
UALR	**University of**	**90.96**	**43**	*e*P		**P**	**06 17 41.2**	**-0.1**
	comp=Z,24nm,1.1s								
832A	**Faith Ranch, C**	**91.25**	**52**	⇑P		**P**	**06 17 43.1**	**+0.3**
	baz=91,SNR=11								
ACSO	**Alum Creek Sta**	**91.25**	**34**	*e*P		**P**	**06 17 42.2**	**-0.3**
	comp=Z,40nm,1.2s								
ACSO				LR		LR			
	comp=Z,817nm,19.0s								
ALLY	**Alegheny Colle**	**91.28**	**31**	*e*P		**P**	**06 17 42.7**	**0.0**
	comp=Z,47nm,1.3s								
MSEY	**Mahe Island**	**91.32**	**265**	PFAKE			06 17 50.0	+6.7
MSEY				LR		LR			
	comp=Z,627nm,19.0s								
733A	**Divot King Ran**	**91.36**	**51**	⇑P		**P**	**06 17 43.7**	**+0.4**
	baz=91,SNR=8.0								
634A	**China Grove, S**	**91.47**	**50**	⇓P		**P**	**06 17 44.4**	**+0.6**
	baz=91								
535A	**Dale**	**91.48**	**49**	⇑P		**P**	**06 17 44.2**	**+0.4**
	baz=91								
NCB	**Newcomb**	**91.54**	**26**	*e*P		**P**	**06 17 43.6**	**-0.2**
	comp=Z,25nm,0.9s								
NCB				LR		LR			
	comp=Z,1μm,19.0s								
833A	**Chaparral WMA,**	**91.58**	**52**	⇓P		**P**	**06 17 44.9**	**+0.6**
	baz=91,SNR=12								
734A	**La Parita Cree**	**91.73**	**51**	⇓P		**P**	**06 17 45.6**	**+0.7**
	baz=92,SNR=9.0								
536A	**Bastrop**	**91.75**	**49**	P		**P**	**06 17 44.7**	**-0.3**
	baz=92								
635A	**Leesville**	**91.82**	**50**	⇑P		**P**	**06 17 46.1**	**+0.8**
	baz=92,SNR=5.5								
NATX	**Nacogdoches**	**91.92**	**46**	PFAKE			06 18 00.0	+14
NATX				LR		LR			
	comp=Z,1μm,21.0s								
PKME	**Peaks-Kenny Pk**	**92.00**	**23**	PFAKE			06 18 00.0	+14
PKME				LR		LR			
	comp=Z,894nm,19.0s								
LBNH	**Lisbon**	**92.08**	**25**	PFAKE			06 18 00.0	+14
LBNH				LR		LR			
	comp=Z,1μm,19.0s								
933A	**Laredo**	**92.16**	**52**	⇓P		**P**	**06 17 48.0**	**+1.0**
	baz=92,SNR=29								
VSL	**Villasalto**	**92.16**	**326**	PFAKE			06 18 00.0	+13
VSL				LR		LR			
	comp=Z,2μm,19.0s								
735A	**Kenedy**	**92.18**	**50**	⇓P		**P**	**06 17 47.8**	**+0.8**
	baz=92								
834A	**Tilden**	**92.24**	**51**	⇑P		**P**	**06 17 48.1**	**+0.8**
	baz=92								
ACCN	**Adirondack Com**	**92.25**	**26**	*e*P		**P**	**06 17 47.0**	**-0.1**
	comp=Z,52nm,1.4s								
BINY	**Binghamton**	**92.44**	**28**	PFAKE			06 18 00.0	+12
BINY				LR		LR			
	comp=Z,1μm,22.0s								
HKT	**Hockley**	**92.57**	**48**	⇑*i*P		**P**	**06 17 49.0**	**+0.3**
HKT				pmax		pmax			
	comp=Z,19nm,1.3s								
835A	**Beeville**	**92.57**	**51**	⇑P		**P**	**06 17 50.0**	**+1.1**
	baz=92,SNR=7.7								
934A	**Benavides**	**92.64**	**52**	⇓P		**P**	**06 17 50.2**	**+1.0**
	baz=92,SNR=7.1								
WDD	**Wield Dalam**	**92.67**	**321**	PFAKE			06 18 00.0	+11
WDD				LR		LR			
	comp=Z,1μm,19.0s								
034A	**Hebbronville**	**92.92**	**52**	⇑P		**P**	**06 17 51.2**	**+0.7**
	baz=93,SNR=17								
KVTX	**Kingsville**	**93.06**	**51**	PFAKE			06 18 00.0	+8.9
KVTX				LR		LR			
	comp=Z,687nm,19.0s								
035A	**Encino**	**93.37**	**52**	P		**P**	**06 17 52.2**	**-0.3**
	baz=93								
035Z	**Hargill**	**93.73**	**52**	⇑P		**P**	**06 17 54.3**	**+0.1**
	baz=94								
BLA	**Blacksburg**	**94.87**	**34**	PFAKE			06 18 10.0	+11
BLA				LR		LR			
	comp=Z,1μm,20.0s								
KEST	**Kesra**	**95.27**	**324**	P		**P**	**06 18 01.7**	**+0.5**
KEST	**Kesra**	**95.27**	**324**	P		**P**	**06 18 01.7**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=27,slow=4.5,SNR=5.0								
KEST				LR		LR	07 07 28.6		
	comp=Z,773nm,18.1s,baz=330,slow=40								
CBN	**Corbin**	**95.33**	**31**	PFAKE			06 18 10.0	+8.7
CBN				LR		LR			
	comp=Z,760nm,19.0s								
KMSC	**Kings Mountain**	**96.18**	**36**	⇑P		**P**	**06 18 04.9**	**-0.4**
	baz=96								
GOGA	**Godfrey**	**96.59**	**38**	PFAKE			06 18 20.0	+13
GOGA				LR		LR			
	comp=Z,837nm,21.0s								
ESDC	**Sonseca Array**	**97.16**	**335**	P		Pdif	06 18 09.9	+0.1
ESDC	**Sonseca Array**	**97.16**	**335**	P		Pdif	06 18 09.9	+0.1
	comp=Z,2.7nm,0.7s,baz=18,slow=4.2,SNR=22								
ESDC				LR		LR	07 09 27.1		
	comp=Z,1μm,18.7s,baz=20,slow=40								
PAB	**San Pablo**	**97.40**	**336**	PFAKE			06 18 20.0	+9.1
PAB				LR		LR			
	comp=Z,3μm,19.0s								
RKT	**Rikitea**	**97.56**	**113**	*e*SS		SS	06 36 13.6	-2.4
	comp=Z,263nm,30.0s								
RKT	**Rikitea**	**97.56**	**113**	*e*LR		LR	06 49 38.6		
	comp=Z,2μm,24.2s,baz=307								
MTE	**Manteigas**	**97.61**	**338**	PFAKE			06 18 20.0	+8.2
MTE				LR		LR			
	comp=Z,2μm,19.0s								
CNNC	**Cliffs of the**	**97.63**	**33**	PFAKE			06 18 20.0	+8.1
CNNC				LR		LR			
	comp=Z,784nm,20.0s								
NHSC	**New Hope**	**98.40**	**36**	PFAKE			06 18 30.0	+15
NHSC				LR		LR			
	comp=Z,1μm,20.0s								
KMBO	**Kilima Mbogo**	**103.51**	**279**	PFAKE			06 18 50.0	+11
KMBO				LR		LR			
	comp=Z,748nm,20.0s								
BBSR	**BB Station**	**105.21**	**25**	PFAKE			06 23 10.0		
BBSR				LR		LR			
	comp=Z,642nm,21.0s								
ABPO	**Ambohimpanom**	**106.31**	**258**	PFAKE			06 23 10.0		
ABPO				LR		LR			
	comp=Z,603nm,20.0s								
CASY	**Casey**	**107.01**	**193**	PFAKE			06 23 10.0		
CASY				LR		LR			
	comp=Z,557nm,20.0s								
TAM	**Tamanrasset**	**107.82**	**320**	PFAKE			06 23 20.0		
TAM				LR		LR			
	comp=Z,691nm,20.0s								
TGUH	**Tegucigalpa,Un**	**109.66**	**53**	PFAKE			06 23 20.0		
TGUH				LR		LR			
	comp=Z,579nm,22.0s								
GTBY	**Guantanamo Bay**	**111.89**	**39**	PFAKE			06 23 20.0		
GTBY				LR		LR			
	comp=Z,676nm,19.0s								
MTDJ	**Mount Denham**	**112.06**	**42**	PFAKE			06 23 20.0		
MTDJ				LR		LR			
	comp=Z,682nm,20.0s								
GRTK	**Grand Turk**	**112.43**	**35**	PFAKE			06 23 30.0		
GRTK				LR		LR			
	comp=Z,950nm,20.0s								

JTS	**JuntasAbangare**	**113.98**	**54**	PFAKE			06 23 30.0		
JTS				LR		LR			
	comp=Z,483nm,21.0s								
SDDR	**Presa de Saban**	**114.55**	**36**	PFAKE			06 23 30.0	+12	
SDDR				LR		LR			
	comp=Z,727nm,20.0s								
VNDA	**Vanda**	**115.79**	**176**	PKP		**PKPdf**	**06 23 17.3**	**-1.0**	
VNDA	**Vanda**	**115.79**	**176**	PKP		**PKPdf**	**06 23 17.3**	**-1.0**	
	comp=Z,3.0nm,1.0s,baz=330,slow=3.4,SNR=5.7								
TOA0	**Torodi Ar. Sit**	**117.82**	**317**	*e*PKPdf		**PKPdf**	**06 23 23.2**	**-0.9**	
TORD	**Torodi Ar. Bea**	**117.82**	**317**	PKP		**PKPdf**	**06 23 22.7**	**-1.4**	
TORD				PKKPbc		**PKKPbc**	**06 33 45.1**	**+1.5**	
TORD	**Torodi Ar. Bea**	**117.82**	**317**	PKP		**PKPdf**	**06 23 22.7**	**-1.4**	
	comp=Z,1.5nm,0.6s,baz=24,slow=3.0,SNR=12								
TORD				PKKPbc		**PKKPbc**	**06 33 45.1**	**+1.5**	
	comp=Z,3.9nm,1.0s,baz=215,slow=3.0,SNR=12								
LSZ	**Lusaka**	**119.15**	**273**	*e*PKPdf		**PKPdf**	**06 23 26.6**	**-0.1**	
LSZ				*e*PP		**PP**	**06 24 45.3**	**-1.8**	
LSZ				LR		LR			
	comp=Z,891nm,19.0s								
FDF	**Fort de France**	**122.66**	**29**	PFAKE			06 23 50.0	+17	
FDF				LR		LR			
	comp=Z,804nm,21.0s								
ROSC	**El Rosal**	**124.75**	**48**	*e*PKPdf		**PKPdf**	**06 23 38.0**	**+0.1**	
ROSC	**El Rosal**	**124.75**	**48**	PKP		**PKPdf**	**06 23 38.1**	**+0.1**	
	comp=Z,6.8nm,0.7s,baz=316,slow=3.1,SNR=8.1								
GRGR	**Grenville**	**124.83**	**30**	PFAKE			06 23 50.0	+12	
GRGR				LR		LR			
	comp=Z,703nm,21.0s								
OTAV	**Otavalo**	**125.78**	**56**	PFAKE			06 23 50.0	+10	
OTAV				LR		LR			
	comp=Z,379nm,20.0s								
SACV	**Santiago Islan**	**125.96**	**345**	PFAKE			06 23 50.0	+10	
SACV				LR		LR			
	comp=Z,506nm,20.0s								
DBIC	**Dimbokro**	**126.71**	**320**	PKP		**PKPdf**	**06 23 40.5**	**-0.7**	
DBIC				*e*PKPdf		**PKiKP**	**06 23 40.8**	**-0.9**	
DBIC	**Dimbokro**	**126.71**	**320**	PKP		**PKPdf**	**06 23 40.5**	**-0.7**	
	comp=Z,6.4nm,0.6s,baz=8.7,slow=3.0,SNR=21								
TIC	**Toumodi**	**126.81**	**320**	*e*PKIKP		**PKPdf**	**06 23 41.3**	**-0.1**	
KIC	**Kosan Boka**	**126.91**	**319**	*e*PKIKP		**PKPdf**	**06 23 41.6**	**0.0**	
	comp=Z,44nm,1.2s								
LIC	**Lamto**	**127.18**	**319**	*e*PKIKP		**PKPdf**	**06 23 41.9**	**-0.2**	
	comp=Z,60nm,1.4s								
LIC				*e*R					
	comp=Z,1μm,19.8s								
LIC	**Lamto**	**127.18**	**319**	*e*PKIKP		**PKPdf**	**06 23 41.2**	**-0.9**	
	comp=Z,62nm,1.5s								
LIC	**Lamto**	**127.18**	**319**	*e*PKPdf		**PKPdf**	**06 23 41.9**	**-0.2**	
QSPA	**South Pole Qui**	**127.73**	**180**	PKP		**PKPdf**	**06 23 40.5**	**-1.1**	
QSPA				LR		LR			
	comp=Z,545nm,21.0s								
QSPA	**South Pole Qui**	**127.73**	**180**	PKP		**PKPdf**	**06 23 40.4**	**-1.1**	
	comp=Z,29nm,1.1s,baz=306,slow=2.0,SNR=29								
BOSA	**Boshof**	**128.41**	**261**	PKP		**PKPdf**	**06 23 43.9**	**-0.2**	
BOSA	**Boshof**	**128.41**	**261**	PKP		**PKPdf**	**06 23 43.9**	**-0.2**	
	comp=Z,5.4nm,0.9s,baz=70,slow=1.1,SNR=7.0								
TSUM	**Tsumeb**	**129.71**	**276**	PFAKE			06 24 00.0	+13	
TSUM				LR		LR			
	comp=Z,604nm,20.0s								
NNA	**Nana**	**135.67**	**65**	PFAKE			06 24 10.0	+12	
NNA				LR		LR			
	comp=Z,575nm,20.0s								
PTGA	**Pitinga**	**137.07**	**36**	*e*PKPdf		**PKPdf**	**06 24 01.3**	**+0.5**	
PTGA				LR		LR			
	comp=Z,438nm,21.0s								
SNAA	**Sanae**	**142.15**	**197**	P		PKPpre	06 24 03.6		
SNAA	**Sanae**	**142.15**	**197**	PKPpre		PKPpre	06 24 03.2		
SNAA	**Sanae**	**142.15**	**197**	PKhKP		PKPpre	06 24 03.2		
	baz=122,slow=3.4								
SAML	**Samuel**	**142.37**	**47**	*e*PKPdf		PKPpre	06 24 04.3		
SAML				LR		LR			
	comp=Z,437nm,20.0s								
VNA2	**Neumayer--Watz**	**143.70**	**196**	P		PKPab	06 24 08.1	+0.4	
VNA1	**Neumayer--Stat**	**144.10**	**196**	P		PKPbc	06 24 09.6	-0.1	
LPAZ	**La Paz**	**144.75**	**61**	*e*PKPdf		**PKPab**	**06 24 13.2**	**-0.8**	
LPAZ				PKP		PKPbc	06 24 13.7	-0.5	
LPAZ	**La Paz**	**144.75**	**61**	PKP		**PKPab**	**06 24 13.7**	**-0.4**	
	comp=Z,24nm,0.7s,baz=315,slow=2.9,SNR=102								
RCBR	**Riachuelo**	**147.98**	**359**	*e*PKPbc		**PKPbc**	**06 24 23.5**	**+0.4**	
RCBR				LR		LR			
	comp=Z,450nm,19.0s								
LVC	**Limon Verde**	**148.25**	**70**	*e*PKPdf		**PKPdf**	**06 24 20.3**	**-0.3**	
LVC				*e*PKPbc		**PKPbc**	**06 24 24.3**	**+0.4**	
LVC				LR		LR			
	comp=Z,839nm,19.0s								
SIV	**San Ignacio**	**149.17**	**51**	PKP		**PKPdf**	**06 24 21.4**	**-0.4**	
SIV				PKPbc		**PKPbc**	**06 24 25.7**	**-0.4**	
SIV	**San Ignacio**	**149.17**	**51**	PKP		**PKPdf**	**06 24 21.4**	**-0.4**	
	comp=Z,18nm,1.0s,baz=321,slow=1.0,SNR=24								
SIV				PKPbc		**PKPbc**	**06 24 25.7**	**-0.4**	
	comp=Z,64nm,1.0s,baz=315,slow=2.8,SNR=43								
LCO	**Las Campanas**	**150.21**	**83**	*e*PKPdf		**PKPdf**	**06 24 23.4**	**-0.1**	
LCO				*e*PKPbc		**PKPbc**	**06 24 28.3**	**-0.3**	
LCO				LR		LR			
	comp=Z,513nm,19.0s								
CMCH	**Combarbala**	**150.87**	**87**	⇑*i*P		**PKPbc**	**06 24 28.7**	**-1.2**	
CMCH	**Combarbala**	**150.87**	**87**	⇑*i*P		**PKPbc**	**06 24 28.7**	**-1.2**	
CLCH	**Cerro Calan**	**152.04**	**91**	*i* P		**PKPbc**	**06 24 32.3**	**-0.2**	
PLCA	**Paso Flores**	**153.59**	**107**	*e*PKPdf		**PKPdf**	**06 24 27.7**	**-0.3**	
PLCA				PKP		**PKPdf**	**06 24 28.0**	**0.0**	
PLCA				PKPbc		**PKPbc**	**06 24 35.7**	**-0.1**	
PLCA				*e*PKPbc		**PKPbc**	**06 24 36.0**	**+0.3**	
PLCA	**Paso Flores**	**153.59**	**107**	PKP		**PKPdf**	**06 24 28.0**	**0.0**	
	comp=Z,2.4nm,1.0s,baz=273,slow=1.7,SNR=4.2								
PLCA				PKPbc		**PKPbc**	**06 24 35.7**	**-0.1**	
	comp=Z,18nm,1.1s,baz=256,slow=3.8,SNR=13								
BDFB	**Brasilia**	**155.51**	**28**	PKP		**PKPdf**	**06 24 32.4**	**+1.0**	
BDFB				PKPbc		PKPbc	06 24 39.9		
BDFB	**Brasilia**	**155.51**	**28**	PKP		**PKPdf**	**06 24 32.4**	**+1.0**	
	comp=Z,2.5nm,0.9s,baz=316,slow=4.2,SNR=2.9								
BDFB				PKPbc		PKPbc	06 24 39.9		
	comp=Z,9.5nm,1.0s,baz=312,slow=2.1,SNR=7.5								
CPUP	**Villa Florida**	**158.90**	**63**	PKP		**PKPdf**	**06 24 34.3**	**-0.9**	
CPUP				PKPab		**PKPab**	**06 25 10.7**	**-0.7**	
CPUP	**Villa Florida**	**158.90**	**63**	PKP		**PKPdf**	**06 24 34.3**	**-0.9**	
	comp=Z,8.6nm,1.0s,baz=309,slow=2.8,SNR=3.9								
CPUP				PKPab		**PKPab**	**06 25 10.7**	**-0.7**	
	comp=Z,8.7nm,0.7s,baz=313,slow=4.0,SNR=11								

KNET ***17*** *06:05:15.7±0.5, 42°.33N×75°.97E, h0km, ml2.7, Error ellipse: s-maj=3.6km s-min=2.4km az=18.0*
KRNET ***17*** *06:05:15.7±0.1, 42°.29N×76°.06E, h11km, mb3.6*
NNC ***17*** *06:05:15.7±0.7, 42°.30N×76°.02E, h0km, mb2.9, mpv3.1, Error ellipse: s-maj=4.4km s-min=2.3km az=168.0*
ISCJB ***17*** *06:05:16.2±0.5, 42°.30N±0°.03×76°.05E±0°.03, h7km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=3.1*

ISC 17 06:05:16.5±0.9, 42°.30N±0°.02×76°.02E±0°.02, h8km±8km, n32, σ0°89/57, 21C-28D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ULHL	**Ulahol**	**0.17**	**107**	⇓P			**Pg**	**06 05 19.7**	**-0.5**
	344nm,0.1s,SNR=3022								
ULHL				⇑S			**Sg**	**06 05 22.4**	**-0.4**
	3μm,0.2s								
ULHL	**Ulahol**	**0.17**	**107**	⇓*i*P			**Pg**	**06 05 19.6**	**-0.6**
	baz=106								
ULHL				⇓*i*S			**Sg**	**06 05 22.2**	**-0.6**
	baz=106								
BOOM	**Boomskoye usch**	**0.20**	**343**	*e*P			**Pg**	**06 05 21.2**	**+0.5**
	baz=336								
BOOM				*e*S			**Sg**	**06 05 24.2**	**+0.7**
	baz=336								
KZA	**Kyzart**	**0.61**	**249**	P			**Pg**	**06 05 28.4**	**0.0**
	87nm,0.2s,SNR=228								
KZA				⇓S			**Sg**	**06 05 37.2**	**+0.8**
	153nm,0.2s								
KZA	**Kyzart**	**0.61**	**249**	⇑*i*P			**Pg**	**06 05 28.3**	**0.0**
	baz=251								
KZA				⇑*i*S			**Sg**	**06 05 37.0**	**+0.6**
	baz=251								
TKM2	**Tokmak 2**	**0.70**	**334**	⇑P			**Pg**	**06 05 29.4**	**-0.5**
	11nm,0.1s								
TKM2				⇓S			**Sg**	**06 05 39.2**	**+0.1**
	201nm,0.4s								
TKM2	**Tokmak 2**	**0.70**	**334**	⇓P			**Pg**	**06 05 29.5**	**-0.5**
	89nm,0.1s,SNR=110								
TKM2				⇓S			**Sg**	**06 05 39.3**	**+0.2**
	637nm,0.1s								
TKM2	**Tokmak 2**	**0.70**	**334**	⇓*i*P			**Pg**	**06 05 29.5**	**-0.4**
	baz=332								
TKM2				⇓*i*S			**Sg**	**06 05 39.2**	**+0.2**
	baz=332								

NRN	**Naryn**	**0.86**	**181**	*e*P			**Pg**	**06 05 32.8**	**-0.3**
	baz=184								
NRN				*e*S			**Sg**	**06 05 44.5**	**+0.2**
	baz=184								
KBK	**Karagaybulak**	**0.87**	**295**	⇓P			**Pg**	**06 05 33.1**	**-0.2**
	45nm,0.1s,SNR=29								
KBK				⇓S			**Sb**	**06 05 45.3**	**-0.4**
	568nm,0.2s								
KBK	**Karagaybulak**	**0.87**	**295**	⇓*i*P			**Pg**	**06 05 33.0**	**-0.2**
	baz=295								
KBK				⇓*i*S			**Sg**	**06 05 45.0**	**+0.5**
	baz=295								
UCH	**Uchtor**	**1.12**	**267**	⇑P			**Pg**	**06 05 37.1**	**-0.9**
	22nm,0.2s,SNR=41								
UCH				⇑S			**Sg**	**06 05 52.2**	**-0.3**
	40nm,0.2s								
UCH	**Uchtor**	**1.12**	**267**	⇑*i*P			**Pg**	**06 05 37.0**	**-0.9**
	baz=268								
UCH				⇑*i*S			**Sg**	**06 05 52.4**	**-0.1**
	baz=268								
KNDC	**Almaty**	**1.15**	**37**	⇑P			**Pg**	**06 05 38.0**	**-0.6**
	12nm,0.1s								
KNDC				⇑S			**Sg**	**06 05 53.2**	**-0.5**
	104nm,0.3s								
CHMS	**Chumysh**	**1.17**	**307**	⇓P			**Pg**	**06 05 37.9**	**-1.0**
	24nm,0.1s,SNR=16								
CHMS				⇓S			**Sg**	**06 05 53.6**	**-0.4**
	139nm,0.2s								
CHMS	**Chumysh**	**1.17**	**307**	⇑*i*P			**Pg**	**06 05 37.9**	**-1.0**
	baz=307								
CHMS				⇑*i*S			**Sb**	**06 05 53.9**	**-0.3**
	baz=307								
AAK	**Ala-Archa**	**1.18**	**287**	⇓P			**Pg**	**06 05 38.1**	**-0.9**
	3.0nm,0.2s								
AAK				⇑S			**Sg**	**06 05 54.0**	**-0.3**
	40nm,0.4s								
AAK	**Ala-Archa**	**1.18**	**287**	⇑P			**Pg**	**06 05 38.1**	**-0.9**
	14nm,0.1s,SNR=53								
AAK				⇑S			**Sg**	**06 05 54.0**	**-0.3**
	116nm,0.2s								
AAK	**Ala-Archa**	**1.18**	**287**	⇓*i*P			**Pg**	**06 05 38.0**	**-1.0**
	baz=287								
AAK				⇓*i*S			**Sg**	**06 05 54.0**	**-0.3**
	baz=287								
ANVS	**Anan'yevo**	**1.31**	**68**	*i* P			**Pg**	**06 05 40.0**	**-1.6**
	baz=67								
ANVS				*e*S			**Sg**	**06 05 57.0**	**-1.7**
	baz=67								
USP	**Ospenovka**	**1.48**	**311**	⇓P			**Pn**	**06 05 43.4**	**0.0**
	50nm,0.2s,SNR=105								
USP				⇓S			**Sb**	**06 06 03.0**	**-0.1**
	153nm,0.3s								
USP	**Ospenovka**	**1.48**	**311**	⇓*i*P			**Pn**	**06 05 43.4**	**0.0**
	baz=311								
USP				⇓*i*S			**Sb**	**06 06 03.3**	**+0.1**
	baz=311								
EKS2	**Erkin-Say**	**1.70**	**283**	⇓*i*P			**Pb**	**06 05 48.2**	**+0.2**
	baz=283								
EKS2				⇓*i*S			**Sg**	**06 06 11.7**	**+0.7**
	baz=283								
AML	**Almayashu**	**1.73**	**265**	⇑P			**Pb**	**06 05 48.5**	**-0.3**
	26nm,0.2s,SNR=43								
AML	**Almayashu**	**1.73**	**265**	⇑*i*P			**Pb**	**06 05 48.4**	**-0.3**
	baz=266								
AML				⇑*i*S			**Sb**	**06 06 11.4**	**+0.6**
	baz=266								
SFK	**Sufi-Kurgan**	**2.97**	**221**	*e*P			**Pb**	**06 06 09.8**	**+0.1**
	baz=221								
SFK				*e*S			**Sb**	**06 06 47.8**	**+1.6**
	baz=221								
OHH	**Osh**	**3.01**	**235**	*e*P			**Pb**	**06 06 10.4**	**+0.1**
	baz=236								
OHH				*e*S			**Sg**	**06 06 51.5**	**-1.6**
	baz=236								
ARK	**Arkit**	**3.06**	**262**	*e*P			**Pg**	**06 06 13.5**	**-1.6**
	baz=262								
KK31	**Karatay Array**	**4.14**	**283**	⇓Pg			**Pg**	**06 06 32.9**	**-2.8**
	1.3nm,0.3s,baz=99,slow=17,SNR=48								
KK31				⇓Lg			Lg	06 07 24.8	
	9.8nm,0.6s,baz=97,slow=29,SNR=13								
MK31	**Makanchi Array**	**6.35**	**43**	⇓Pn			**Pn**	**06 06 53.1**	**+2.8**
	0.1nm,0.2s,baz=222,slow=16,SNR=16								
MK31				⇑Sn			**Sn**	**06 08 03.1**	**+0.2**
	0.9nm,0.4s,baz=219,slow=27,SNR=6.4								
MK31				⇑Lg			Lg	06 08 35.0	
	0.7nm,0.4s								
KURBB	**Kurchatov Arra**	**8.51**	**11**	⇓Lg			Lg	06 09 44.7	
	4.3nm,0.7s								
KURK	**Kurchatov**	**8.61**	**11**	⇑Lg			Lg	06 09 47.5	
	1.3nm,0.7s								

**JMA 17 06:05:22.8±0.1, 29°.81N×130°.

PBX	**Punta Banda**	**1.24**	**249**	*e*P	Pg	07 07 30.1	-2.3

AZER ***17*** *07:18:56.2±0.2, 40°.20′N×41°.04′E, h50km±2.97km, Error ellipse: s-maj=104.0km s-min=18.5km az=292.0*
ISN ***17*** *07:18:56.7±1.9, 41°.15′N×41°.18′E, h0km±999km, ML3.5*
NSSP ***17*** *07:19:01.9, 40°.13′N×42°.57′E, h10km, Ms3.3*
ISK ***17*** *07:19:04.7, 40°.08′N×42°.74′E, h5km, MD3.6*
DDA ***17*** *07:19:05.0, 40°.09′N×42°.70′E, h7km, ML3.4*
CSEM ***17*** *07:19:06.1±0.2, 40°.09′N×42°.72′E, h2km, MD3.6, Error ellipse: s-maj=4.3km s-min=3.7km az=173.0*

ISC 17 07:19:05.6±1.0, 40°.08′N±0°.02×42°.71′E±0°.02, h8km±2.9km, n82, σ1=9.48/114, 6C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGO	**Kars**	**0.61**	**57**	*i* P	**Pg**	**07 19 17.5**	**+0.1**
DIGO				*i* S	**Sg**	**07 19 26.8**	**+1.4**
DIGO	**Kars**	**0.61**	**57**	*i* P	**Pg**	**07 19 17.5**	**+0.1**
DIGO				*i* S	**Sg**	**07 19 26.8**	**+1.4**
KARS	**Kars**	**0.61**	**27**	*e* PG	**Pg**	**07 19 17.4**	**0.0**
KARS				*e*SG	**Sb**	**07 19 27.4**	**-0.1**
KARS	**Kars**	**0.61**	**27**	*i* Pg	**Pg**	**07 19 17.4**	**0.0**
KARS				*e*Sg	**Sb**	**07 19 27.4**	**-0.1**
HOMI	**Horasan**	**0.62**	**267**	*i* P	**Pg**	**07 19 17.1**	**-0.4**
HOMI				*i* S	**Sg**	**07 19 25.7**	**0.0**
DYDN	**Diyadin**	**0.93**	**125**	*i* P	**Pg**	**07 19 22.6**	**-0.8**
DYDN				*i* S	**Sg**	**07 19 35.1**	**-0.4**
DYDN	**Diyadin**	**0.93**	**125**	*i* P	**Pg**	**07 19 22.6**	**-0.8**
DYDN				*i* S	**Sg**	**07 19 35.1**	**-0.4**
ERZM	**Erzurum**	**1.05**	**261**	*i* P	**Pg**	**07 19 25.6**	**-0.1**
ERZM				*i* S	**Sb**	**07 19 40.3**	**+0.3**
ERZM	**Erzurum**	**1.05**	**261**	*i* P	**Pg**	**07 19 25.6**	**-0.1**
ERZM				*i* S	**Sb**	**07 19 40.3**	**+0.3**
EZM	**Erzurum**	**1.05**	**261**	*e*PG	**Pg**	**07 19 25.6**	**-0.1**
DDEM	**Demirkent**	**1.09**	**318**	*i* P	**Pg**	**07 19 26.2**	**-0.3**
DDEM				*i* S	**Sg**	**07 19 38.9**	**-1.7**
DDEM	**Demirkent**	**1.09**	**318**	*i* P	**Pg**	**07 19 26.2**	**-0.3**
DDEM				*i* S	**Sg**	**07 19 38.9**	**-1.7**
DAGI	**Agillar**	**1.16**	**329**	*i* P	**Pg**	**07 19 27.9**	**+0.1**
DAGI				*i* S	**Sg**	**07 19 43.1**	**+0.1**
DBAD	**Bademkaya**	**1.21**	**321**	*i* P	**Pg**	**07 19 28.7**	**-0.1**
DBAD				*i* S	**Sg**	**07 19 44.5**	**-0.1**
DBAD	**Bademkaya**	**1.21**	**321**	*i* P	**Pg**	**07 19 28.7**	**-0.1**
DBAD				*i* S	**Sg**	**07 19 44.5**	**-0.1**
AMBZ	**Amberd**	**1.23**	**75**	↑P	**Pg**	**07 19 28.2**	**-0.9**
AMBZ				S	**Sn**	**07 19 47.3**	**+1.2**
ARTV	**Artvin**	**1.25**	**332**	*i* P	**Pg**	**07 19 28.8**	**-0.7**
ARTV				*i* S	**Sg**	**07 19 43.7**	**-2.1**
ARTV	**Artvin**	**1.25**	**332**	*i* P	**Pg**	**07 19 28.8**	**-0.7**
ARTV				*i* S	**Sg**	**07 19 43.7**	**-2.1**
PAAR	**P'arak'ar**	**1.28**	**87**	↑P	**Pg**	**07 19 31.1**	**+0.9**
PAAR				S	**Sn**	**07 19 51.3**	**+4.0**
CLDR	**Caldiran**	**1.32**	**135**	*e*PN	**Pn**	**07 19 30.5**	**-0.1**
CLDR	**Caldiran**	**1.32**	**135**	*e*Pn	**Pn**	**07 19 30.5**	**-0.1**
VRTB	**Varto-Mus**	**1.34**	**227**	*e*PN	**Pg**	**07 19 31.5**	**+0.3**
VRTB	**Varto-Mus**	**1.34**	**227**	*e*Pn	**Pg**	**07 19 31.5**	**+0.3**
AKH	**Akhalkalaki**	**1.45**	**24**	P	**Pn**	**07 19 32.6**	**+0.3**
AKH				S	**Sg**	**07 19 53.2**	**+0.9**
AKH	**Akhalkalaki**	**1.45**	**24**	P	**Pn**	**07 19 32.6**	**+0.3**
AKH				S	**Sg**	**07 19 53.2**	**+0.9**
DBOC	**Borcka**	**1.49**	**328**	*e*P	**Pb**	**07 19 33.3**	**-0.2**
DBOC				*e*S	**Sn**	**07 19 51.1**	**-1.2**
DBOC	**Borcka**	**1.49**	**328**	*e*P	**Pb**	**07 19 33.3**	**-0.2**
DBOC				*e*S	**Sn**	**07 19 51.1**	**-1.2**
KAPZ	**Kaputan**	**1.54**	**81**	↑P	**Pn**	**07 19 34.1**	**+0.6**
KAPZ				S	**Sg**	**07 19 56.0**	**+0.8**
GNI	**Garni**	**1.56**	**87**	↓P	**Pg**	**07 19 36.9**	**+1.4**
GNI				S	**Sg**	**07 20 00.4**	**+4.6**
STE	**Stepanavan**	**1.56**	**54**	P	**Pn**	**07 19 31.5**	**-2.3**
STE				S	**Sn**	**07 19 53.0**	**-1.3**
BCA	**Borcka**	**1.59**	**329**	*e*PN	**Pb**	**07 19 35.0**	**-0.2**
BCA	**Borcka**	**1.59**	**329**	*e*Pn	**Pb**	**07 19 35.0**	**-0.2**
TATV	**Tatvan**	**1.61**	**192**	*e*P	**Pb**	**07 19 35.7**	**0.0**
TATV				*e*S	**Sn**	**07 19 55.4**	**-0.1**
TATV	**Tatvan**	**1.61**	**192**	*e*P	**Pb**	**07 19 35.7**	**0.0**
TATV				*e*S	**Sn**	**07 19 55.4**	**-0.1**
TVAN	**Van**	**1.65**	**161**	*e*P	**Pn**	**07 19 35.9**	**+0.9**
TVAN				*e*S	**Sn**	**07 19 56.1**	**-0.3**
TVAN	**Van**	**1.65**	**161**	*e*P	**Pn**	**07 19 35.9**	**+0.9**
TVAN				*e*S	**Sn**	**07 19 56.1**	**-0.3**
KZR	**Kazreti**	**1.83**	**44**	P	**Pb**	**07 19 39.4**	**0.0**
KZR				S	**Sg**	**07 20 04.9**	**+0.4**
KZR	**Kazreti**	**1.83**	**44**	P	**Pb**	**07 19 39.4**	**0.0**
KZR				S	**Sg**	**07 20 04.9**	**+0.4**
BNGB	**Bing^¶l**	**1.91**	**236**	*e*PN	**Pn**	**07 19 39.4**	**+0.9**
BAYT	**Ayd¯–ntepe-Bay**	**1.99**	**280**	*e*PN	**Pb**	**07 19 41.4**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.99**	**280**	*e*Pn	**Pb**	**07 19 41.4**	**-0.7**
BTMT	**Batman**	**2.11**	**207**	*e*PN	**Pn**	**07 19 42.6**	**+1.3**
BTMT	**Batman**	**2.11**	**207**	*e*Pn	**Pn**	**07 19 42.6**	**+1.3**
TBLG	**Delisi**	**2.25**	**42**	P	**Pb**	**07 19 45.8**	**-0.7**
TBLG				S	**Sg**	**07 20 17.7**	**-0.2**
TBLG	**Delisi**	**2.25**	**42**	P	**Pb**	**07 19 45.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.26**	**212**	*e*PN	**Pn**	**07 19 45.0**	**+1.7**
VADZ	**Vardenis**	**2.33**	**87**	P	**Pg**	**07 19 50.0**	**-0.2**
NAX	**Nakhchivan** SNR=6.6	**2.34**	**112**	↓P	**Pg**	**07 19 51.7**	**+1.3**
NAX				↑S	Sg	07 20 33.3	+12
ERZN	**Erzincan**	**2.35**	**259**	*e*PN	**Pn**	**07 19 46.6**	**+2.0**
KTUT	**Trabzon**	**2.42**	**293**	*e*PN	**Pn**	**07 19 47.2**	**+1.9**
KTUT	**Trabzon**	**2.42**	**293**	*e*Pn	**Pn**	**07 19 47.2**	**+1.9**
DGRG	**David-gareji**	**2.44**	**55**	P	**Pg**	**07 19 51.3**	**-1.1**
DGRG				S	**Sg**	**07 20 26.2**	**+2.2**
DGRG	**David-gareji**	**2.44**	**55**	P	**Pg**	**07 19 51.3**	**-1.1**
GUMT	**Gumushane**	**2.50**	**280**	*e*PN	**Pn**	**07 19 48.4**	**+1.8**
GUMT	**Gumushane**	**2.50**	**280**	*e*Pn	**Pn**	**07 19 48.4**	**+1.8**
ONI	**Oni**	**2.57**	**12**	P	**Pg**	**07 19 55.0**	**+0.2**
ONI				S	**Sg**	**07 20 29.8**	**+1.8**
CHVG	**Ch'k'valeri**	**2.67**	**350**	P	Pg	07 20 00.5	+3.7
CHVG				S	Sg	07 20 37.6	+6.2
GANJ	**Ganja** SNR=3.4	**2.82**	**77**	↓P	**Pg**	**07 19 58.1**	**-1.5**
PTK	**Pertek**	**2.83**	**246**	*e*PN	**Pn**	**07 19 53.7**	**+2.5**
PTK	**Pertek**	**2.83**	**246**	*e*Pn	**Pn**	**07 19 53.7**	**+2.5**
DIY	**Diyarbakir**	**2.92**	**222**	*e*Pn	**Pn**	**07 19 54.4**	**+2.1**
CUKT	**Cukurca**	**2.92**	**166**	*e*PN	**Pn**	**07 19 53.7**	**+1.3**
CUKT	**Cukurca**	**2.92**	**166**	*e*Pn	**Pn**	**07 19 53.7**	**+1.3**
DYBB	**Diyarbakir**	**2.92**	**224**	*e*PN	**Pn**	**07 19 54.4**	**+2.0**
MAZI	**Mazidag**	**3.16**	**215**	*e*PN	**Pn**	**07 19 57.7**	**+2.0**
MAZI	**Mazidag**	**3.16**	**215**	*e*Pn	**Pn**	**07 19 57.7**	**+2.0**
ILIC	**ilic-Erzincan**	**3.25**	**260**	*e*PN	**Pn**	**07 19 59.3**	**+2.3**
ILIC	**ilic-Erzincan**	**3.25**	**260**	*e*Pn	**Pn**	**07 19 59.3**	**+2.3**
ZKTA	**Zakatala**	**3.35**	**61**	↑P	**Pb**	**07 20 04.0**	**-1.2**
ZKTA				↑S	**Sg**	**07 20 53.9**	**+0.8**
ZKT	**Zaqatala**	**3.39**	**61**	P	**Pb**	**07 20 04.0**	**-1.8**
SEKA	**Sheki** SNR=4.5	**3.60**	**70**	↓P	**Pb**	**07 20 07.6**	**-1.8**
SEKA				↓S	**Sg**	**07 21 03.1**	**+2.0**
SEKA	**Sheki** SNR=4.5	**3.60**	**70**	P	**Pb**	**07 20 07.6**	**-1.8**
RSDY	**Resadiye-TOKAT**	**4.13**	**276**	*e*PN	Pn	07 20 12.4	+3.4
RSDY	**Resadiye-TOKAT**	**4.13**	**276**	*e*Pn	Pn	07 20 12.4	+3.4
SVSK	**Karacayir**	**4.39**	**270**	*e*PN	**Pn**	**07 20 15.6**	**+3.2**
SVSK	**Karacayir**	**4.39**	**270**	*e*Pn	**Pn**	**07 20 15.6**	**+3.2**
IKRK	**Kirkuk**	**4.85**	**164**	*e*PN4	**Pb**	**07 20 31.7**	**+0.9**
IKRK				*e*SN4	**Sg**	**07 21 37.4**	**-3.9**
BHD	**Baghdad**	**6.93**	**168**	*e*PN4	Pb	07 21 01.0	-5.2
BHD				*e*S	**Sb**	**07 22 25.8**	**-3.3**
BHD	**Baghdad** SNR=39	**6.93**	**168**	*e*Pn	Pb	07 21 01.0	-5.2
BHD	SNR=3.0			*e*S	**Sb**	**07 22 25.8**	**-3.3**
IBDR	**Badra**	**7.43**	**159**	*e*PN4	Pb	07 21 07.8	-6.8
IBDR				*e*SN4	**Sb**	**07 22 41.8**	**-1.6**
NSR	**Nassriya**	**9.47**	**162**	*e*PN4	Pn	07 21 36.2	+14
NSR	**Nassriya** SNR=39	**9.47**	**162**	*e*Pn	Pn	07 21 36.2	+14

NNC ***17*** *07:36:01.4±11.0, 54°.14′N×87°.75′E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=96.9km s-min=69.1km az=10.0*
IDC ***17*** *07:36:04.7±3.0, 54°.38′N×86°.91′E, h0km, mb1 3.0/2, mb1mx2.8/29, mbtmp3.0/2, ML3.0/2, Error ellipse: s-maj=26.3km s-min=18.3km az=56.0*

ISC 17 07:36:01.9±4.6, 54°.6′N±0°.2×87°.2′E±0°.2, h10km, n7, σ1=9.73/10, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**246**	*i*		07 46 20.0	
	baz=72,slow=356,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.56**	**246**	Pg	**Pn**	**07 36 27.9**	**-1.8**
	1.7nm,0.3s,baz=66,slow=16,SNR=23						
ZALV				Lg	Lg	07 36 46.7	
	1.1nm,0.3s,baz=78,slow=15,SNR=5.4						
KURK	**Kurchatov**	**6.53**	**237**	↓↓Pn	**Pn**	**07 37 38.1**	**+0.2**
	1.6nm,1.1s						
KURK				↑Sn	**Sn**	**07 38 54.8**	**+2.4**
	1.2nm,1.2s						
KURK				↑Lg	Lg	07 39 28.8	
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.63**	**237**	↑Pn	**Pn**	**07 37 40.0**	**+0.7**
	2.4nm,0.6s						
KURBB				↑Sn	**Sn**	**07 38 54.6**	**-0.4**
	0.9nm,0.3s						
KURBB				↑Lg	Lg	07 39 28.8	
	2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.63**	**237**	Pn	**Pn**	**07 37 40.5**	**+1.1**
	0.4nm,0.3s,baz=55,slow=14,SNR=22						
KURBB				Lg	Lg	07 39 27.1	
	0.1nm,0.3s,baz=60,slow=4.4,SNR=3.3						
MK31	**Makanchi Array**	**8.43**	**204**	↓↓Pn	**Pn**	**07 38 04.8**	**+0.7**
	1.0nm,0.9s,baz=25,slow=13,SNR=13						
MK31				↑Sn	**Sn**	**07 39 39.0**	**-0.2**
	0.3nm,0.6s,baz=33,slow=24,SNR=4.6						
MK31				↑Lg	Lg	07 40 24.2	
	2.6nm,1.2s,baz=27,slow=33						
MKAR	**Makanchi Array**	**8.43**	**204**	Pn	**Pn**	**07 38 05.2**	**+1.2**
	0.1nm,0.3s,baz=23,slow=12,SNR=8.3						
MKAR				Sn	**Sn**	**07 39 36.3**	**-2.9**
	0.1nm,0.3s,baz=23,slow=27,SNR=3.7						
MKAR				Lg	Lg	07 40 22.2	
	0.0nm,0.3s,baz=16,slow=33,SNR=3.8						

KRNET ***17*** *07:57:14.4±0.1, 39°.34N×72°.66E, h3km, mb3.7*
NNC ***17*** *07:57:30.4±11.0, 40°.00N×72°.67E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=97.0km s-min=57.5km az=0.0*

ISC 17 07:57:14.9±1.9, 39°.40N±0°.08×72°.66E±0°.05, h3km±13km, n11, σ1=9.76/18, 5C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.67**	**277**	*e*P	**Pb**	**07 57 28.2**	**-1.3**
	baz=282						
DRK				*e*S	**Sg**	**07 57 37.4**	**+0.8**
	baz=282						
SFK	**Sufi-Kurgan**	**0.89**	**47**	*e*P	**Pg**	**07 57 32.1**	**0.0**
	baz=43						
SFK				*e*S	**Sb**	**07 57 45.9**	**+0.3**
	baz=43						
OHH	**Osh**	**1.12**	**5**	↓*i*P	**Pg**	**07 57 38.8**	**+2.3**
	baz=5.0						
OHH				↓*e*S	**Sn**	**07 57 55.6**	**+1.9**
	baz=5.0						
BTK	**Batken**	**1.56**	**295**	*e*P	**Pg**	**07 57 45.0**	**+0.1**
	baz=297						
BTK				*e*S	**Sg**	**07 58 06.8**	**+1.6**
	baz=297						
ARSB	**Arslanbob**	**1.94**	**7**	*e*P	**Pb**	**07 57 51.3**	**+0.3**
	baz=7.0						
ARSB				*e*S	**Sg**	**07 58 18.1**	**+1.0**
	baz=7.0						
ARK	**Arkit**	**2.45**	**348**	*e*P	**Pg**	**07 58 01.2**	**-0.7**
	baz=348						
ARK				*e*S	**Sg**	**07 58 34.5**	**+0.8**
	baz=348						
ARLS	**Aral**	**2.76**	**27**	*i* P	**Pg**	**07 58 07.3**	**-0.6**
	baz=26						
ARLS				*e*S	**Sg**	**07 58 42.2**	**-1.5**
	baz=26						
AAK	**Ala-Archa**	**3.51**	**23**	↑Pn	**Pb**	**07 58 16.8**	**-1.1**
	3.3nm,0.6s						
AAK				↑Lg	Lg	07 59 02.7	
	4.8nm,0.5s						
KK31	**Karatay Array**	**4.04**	**337**	Pn	Pb	07 58 22.0	-4.7
	0.7nm,0.3s,baz=149,slow=12,SNR=32						
KK31				↑Sn	**Sb**	**07 59 11.4**	**-4.6**
	1.4nm,0.3s,baz=144,slow=23,SNR=5.6						
TKM2	**Tokmak 2**	**4.16**	**31**	↓Pn	**Pg**	**07 58 34.0**	**-0.5**
	1.5nm,0.5s						
TKM2				↑Lg	Lg	07 59 29.6	
	2.5nm,0.6s						
AKTO	**Aktyubinsk**	**15.11**	**322**	↑P	**P**	**08 00 56.2**	**+1.6**
	0.7nm,0.5s						

THE ***17*** *08:03:16.1, 36°.26N×21°.90E, h0km±2km, ML3.3/6, Error ellipse: s-maj=3.5km s-min=1.5km az=225.0*
ATH ***17*** *08:03:16.9, 36°.44N×21°.91E, h9km, MD3.5/34, ML3.1*
CSEM ***17*** *08:03:17.8±0.4, 36°.42N×21°.95E, h2km, MD3.5, Error ellipse: s-maj=8.5km s-min=4.6km az=35.0*

ISC 17 08:03:15.6±1.2, 36°.33N±0°.04×21°.87E±0°.03, h0km±9km, n166, σ1=9.25/224, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.57**	**350**	P	**Pg**	**08 03 27.0**	**+0.5**
PYL				S	**Sb**	**08 03 37.7**	**+0.7**
PYL	**PYLOS**	**0.57**	**350**	*e*PB	**Pg**	**08 03 26.5**	**0.4**
PYL				*e*SB	**Sg**	**08 03 32.7**	**-1.2**
PYL	**PYLOS**	**0.57**	**350**	*e*Pb	**Pg**	**08 03 26.5**	**0.0**
PYL	**PYLOS**	**0.57**	**350**	P	**Pg**	**08 03 27.0**	**+0.5**
PYL				*e*Sb	**Sg**	**08 03 32.7**	**-1.2**
PYL				S	**Sb**	**08 03 37.7**	**+0.7**
ITM	**Ithomi**	**0.84**	**3**	*e*PG	**Pg**	**08 03 30.8**	**-1.0**
ITM				*e*SB	**Sg**	**08 03 41.8**	**-0.9**
ITM	**Ithomi**	**0.84**	**3**	*e*Pg	**Pg**	**08 03 30.8**	**-1.0**
ITM				*e*Sb	**Sg**	**08 03 41.8**	**-0.9**
VLI	**Veliai**	**0.94**	**66**	*e*PB	**Pg**	**08 03 34.0**	**+0.3**
VLI				*e*SB	**Sg**	**08 03 45.9**	**0.0**
VLI	**Veliai**	**0.94**	**66**	*e*Pb	**Pg**	**08 03 34.0**	**+0.3**
VLI				*e*Sb	**Sg**	**08 03 45.9**	**0.0**
KYTH	**Kithira**	**0.95**	**93**	*e*PG	**Pg**	**08 03 34.0**	**+0.3**
KYTH	**Kithira**	**0.95**	**93**	*e*Pg	**Pg**	**08 03 34.0**	**+0.3**
VLX	**Vlachokerasia**	**1.11**	**22**	P	**Pb**	**08 03 37.2**	**-0.5**
VLX				S	**Sn**	**08 03 55.7**	**+1.2**
VLX	**Vlachokerasia**	**1.11**	**22**	*e*PN	**Pb**	**08 03 36.4**	**-1.3**
VLX				*e*SB	**Sb**	**08 03 49.7**	**-3.1**
VLX	**Vlachokerasia**	**1.11**	**22**	*e*Pn	**Pb**	**08 03 36.4**	**-1.3**
VLX	**Vlachokerasia**	**1.11**	**22**	P	**Pb**	**08 03 37.2**	**-0.5**
VLX				*e*Sb	**Sb**	**08 03 49.7**	**-3.1**
VLX				S	**Sn**	**08 03 55.7**	**+1.2**
AMT	**Artemida-Makis**	**1.20**	**354**	P	**Pb**	**08 03 38.8**	**-0.4**
AMT				S	**Sn**	**08 03 58.0**	**+1.3**
AMT	**Artemida-Makis**	**1.20**	**354**	*e*PN	**Pb**	**08 03 38.3**	**-0.9**
AMT				*e*SB	**Sb**	**08 03 53.1**	**-2.2**
AMT	**Artemida-Makis**	**1.20**	**354**	*e*Pn	**Pb**	**08 03 38.3**	**-0.9**
AMT	**Artemida-Makis**	**1.20**	**354**	P	**Pb**	**08 03 38.8**	**-0.4**
AMT				*e*Sb	**Sb**	**08 03 53.1**	**-2.2**
AMT				S	**Sn**	**08 03 58.0**	**+1.3**
DID	**Didima**	**1.60**	**43**	P	**Pb**	**08 03 46.1**	**0.0**
DID				S	**Sg**	**08 04 07.9**	**+0.8**
DID	**Didima**	**1.60**	**43**	*e*PB	**Pb**	**08 03 45.3**	**-0.8**
DID				*e*SB	**Sn**	**08 04 05.3**	**-1.3**
DID	**Didima**	**1.60**	**43**	*e*Pb	**Pb**	**08 03 45.3**	**-0.8**
DID	**Didima**	**1.60**	**43**	P	**Pb**	**08 03 46.1**	**0.0**
DID				*e*Sb	**Sn**	**08 04 05.3**	**-1.3**
DID				S	**Sg**	**08 04 07.9**	**+0.8**
DRO	**Drossia**	**1.62**	**356**	P	**Pb**	**08 03 46.1**	**-0.2**
DRO				S	**Sg**	**08 04 10.6**	**+3.0**
DRO	**Drossia**	**1.62**	**356**	*e*PB	**Pb**	**08 03 45.5**	**-0.8**
DRO				*e*SB	**Sb**	**08 04 06.3**	**-1.0**
DRO	**Drossia**	**1.62**	**356**	*e*Pb	**Pb**	**08 03 45.5**	**-0.8**
DRO	**Drossia**	**1.62**	**356**	P	**Pb**	**08 03 46.1**	**-0.2**
DRO				*e*Sb	**Sb**	**08 04 06.3**	**-1.0**
DRO				S	**Sg**	**08 04 10.6**	**+3.0**
GUR	**Goura**	**1.64**	**13**	P	**Pb**	**08 03 46.4**	**-0.4**
GUR				S	**Sg**	**08 04 11.3**	**+2.9**
GUR	**Goura**	**1.64**	**13**	*e*PB	**Pb**	**08 03 46.0**	**-0.8**
GUR				*e*SB	**Sb**	**08 04 07.3**	**-0.8**
GUR	**Goura**	**1.64**	**13**	*e*Pb	**Pb**	**08 03 46.0**	**-0.8**
GUR	**Goura**	**1.64**	**13**	P	**Pb**	**08 03 46.4**	**-0.4**
GUR				*e*Sb	**Sb**	**08 04 07.3**	**-0.8**
GUR				S	**Sg**	**08 04 11.3**	**+2.9**
VTN	**Vitineika**	**1.67**	**341**	P	**Pb**	**08 03 46.3**	**-0.9**
VTN				S	**Sg**	**08 04 11.3**	**+2.1**
VTN	**Vitineika**	**1.67**	**341**	P	**Pb**	**08 03 46.3**	**-0.9**
VTN				S	**Sg**	**08 04 11.3**	**+2.1**
KLV	**Kalavryta, Ach**	**1.72**	**7**	*e*PG	**Pn**	**08 03 46.8**	**0.0**
KLV				*e*SB	**Sb**	**08 04 09.3**	**-1.0**
KLV	**Kalavryta, Ach**	**1.72**	**7**	*e*Pg	**Pn**	**08 03 46.8**	**0.0**
KLV				*e*Sb	**Sb**	**08 04 09.3**	**-1.0**
RLS	**Riolos of Patr**	**1.75**	**350**	*e*PG	**Pb**	**08 03 47.8**	**-0.7**
RLS				*e*SB	**Sg**	**08 04 11.2**	**-0.6**
RLS	**Riolos of Patr**	**1.75**	**350**	*e*Pg	**Pb**	**08 03 47.8**	**-0.7**
RLS				*e*Sb	**Sg**	**08 04 11.2**	**-0.6**
LAKA	**Lakka**	**1.90**	**3**	P	**Pb**	**08 03 51.0**	**-0.2**
LAKA	**Lakka**	**1.90**	**3**	*e*PG	**Pb**	**08 03 50.3**	**-0.9**
LAKA	**Lakka**	**1.90**	**3**	*e*Pg	**Pb**	**08 03 50.3**	**-0.9**
LAKA	**Lakka**	**1.90**	**3**	P	**Pb**	**08 03 51.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.93**	**42**	*e*PG	**Pb**	**08 03 50.9**	**-0.6**
NAIG	**Nisos Aigina**	**1.93**	**42**	*e*Pg	**Pb**	**08 03 50.9**	**-0.6**
KALE	**Kalithea**	**2.06**	**6**	P	**Pb**	**08 03 53.3**	**-0.6**
KALE	**Kalithea**	**2.06**	**6**	*e*PN	**Pb**	**08 03 52.7**	**-1.2**
KALE				*e*SN	**Sb**	**08 04 19.0**	**-1.2**
KALE	**Kalithea**	**2.06**	**6**	*e*Pn	**Pb**	**08 03 52.7**	**-1.2**
KALE	**Kalithea**	**2.06**	**6**	P	**Pb**	**08 03 53.3**	**-0.6**
KALE				*e*Sn	**Sb**	**08 04 19.0**	**-1.2**
EFP	**Efpalio**	**2.09**	**1**	P	**Pb**	**08 03 54.6**	**+0.3**
EFP	**Efpalio**	**2.09**	**1**	*e*PN	**Pb**	**08 03 53.0**	**-1.3**
EFP				*e*SN	**Sb**	**08 04 19.6**	**-1.2**
EFP	**Efpalio**	**2.09**	**1**	*e*Pn	**Pb**	**08 03 53.0**	**-1.3**
EFP	**Efpalio**	**2.09**	**1**	P	**Pb**	**08 03 54.6**	**+0.3**
EFP				*e*Sn	**Sb**	**08 04 19.6**	**-1.2**
VLS	**Valsamata**	**2.10**	**331**	*e*PN	**Pb**	**08 03 53.3**	**-1.2**
VLS	**Valsamata**	**2.10**	**331**	*e*Pn	**Pb**	**08 03 53.3**	**-1.2**
VAM	**Vamos**	**2.11**	**115**	*e*PN	**Pb**	**08 03 55.1**	**+0.5**
VAM				*e*SN	**Sg**	**08 04 23.0**	**-0.3**
DSF	**Desfina**	**2.14**	**14**	P	**Pb**	**08 03 54.4**	**-0.8**
DSF	**Desfina**	**2.14**	**14**	*e*PN	**Pn**	**08 03 53.2**	**+0.7**
DSF				*e*SN	**Sb**	**08 04 20.2**	**-2.1**
DSF	**Desfina**	**2.14**	**14**	*e*Pn	**Pn**	**08 03 53.2**	**+0.7**
DSF	**Desfina**	**2.14**	**14**	P	**Pb**	**08 03 54.4**	**-0.8**
DSF				*e*Sn	**Sb**	**08 04 20.2**	**-2.1**
ATH	**Athens Observa**	**2.20**	**42**	*e*PN	**Pn**	**08 03 53.9**	**+0.5**
ATH				*e*SN	**Sb**	**08 04 22.1**	**-2.0**
ATH	**Athens Observa**	**2.20**	**42**	*e*Pn	**Pn**	**08 03 53.9**	**+0.5**
ATH				*e*Sn	**Sb**	**08 04 22.1**	**-2.0**
ATHU	**Athens Univers**	**2.24**	**43**	P	**Pn**	**08 03 54.8**	**+1.0**
ATHU				S	**Sb**	**08 04 23.8**	**-1.3**
ATHU	**Athens Univers**	**2.24**	**43**	P	**Pn**	**08 03 54.8**	**+1.0**
ATHU				S	**Sb**	**08 04 23.8**	**-1.3**
PVO	**Paravola**	**2.29**	**353**	P	**Pb**	**08 03 58.3**	**+0.5**
PVO	**Paravola**	**2.29**	**353**	P	**Pb**	**08 03 58.3**	**+0.5**
PDO	**Prodromos**	**2.33**	**347**	P	**Pn**	**08 03 55.8**	**+0.8**
PDO				S	**Sb**	**08 04 27.4**	**-0.2**
PDO	**Prodromos**	**2.33**	**347**	*e*PN	**Pn**	**08 03 56.1**	**+1.1**
PDO				*e*SN	**Sn**	**08 04 24.7**	**+0.4**
PDO	**Prodromos**	**2.33**	**347**	P	**Pn**	**08 03 55.8**	**+0.8**
PDO	**Prodromos**	**2.33**	**347**	*e*Pn	**Pn**	**08 03 56.1**	**+1.1**
PDO				*e*Sn	**Sn**	**08 04 24.7**	**+0.4**
PDO				S	**Sb**	**08 04 27.4**	**-0.2**
PTL	**Penteli**	**2.34**	**42**	*e*PN	**Pn**	**08 03 56.2**	**+0.9**
PTL				*e*SN	**Sn**	**08 04 24.4**	**-0.3**
PTL	**Penteli**	**2.34**	**42**	*e*Pn	**Pn**	**08 03 56.2**	**+0.9**
PTL				*e*Sn	**Sn**	**08 04 24.4**	**-0.3**
LKR	**Lokris**	**2.48**	**21**	*e*PN	**Pn**	**08 03 58.0**	**+0.8**
LKR	**Lokris**

RDO	**Rodhopi**	**5.60**	**30**	*e*Pn		**Pn**	**08 04 41.2**	**+1.2**

*ISCJB **17** 08:56:38.1±0.7, 33°.76N×0°.06×135°.06E±0°.04, h47km±6km, mb3.5/4, Error ellipse: s-maj=11.0km s-min=5.0km az=163.9*

*JMA **17** 08:56:38.9, 33°.78N×135°.06E, h42km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs236.00000°, δ75.00000°, λ54.00000°. NP2: φs127.00000°, δ38.00000°, λ156.00000°. Principal axes: T Plg47.0000°, Azm109.0000°; N Plg35.0000°, Azm247.0000°; P Plg22.0000°, Azm353.0000°;*

JMA Felt I J1.

*IDC **17** 08:56:52.7±2.0, 34°.67N×136°.92E, h244km±28km, mb3.1/4, mb1 3.2/5, mb1mx2.9/36, mbtmp3.5/5 Error ellipse: s-maj=60.4km s-min=19.3km az=68.0*

ISC 17 08:56:38.7±1.3, 33°.75N±0°.07×135°.06E±0°.04, h35km±2km, n14, σ0s64/22, mb3.6/4, 4C-3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.27**	**67**	⇑P	**Pn**	**08 56 46.9**	**+0.3**
JWM				S	**Sn**	**08 56 52.3**	**-0.5**
JAI	**Aioi**	**0.51**	**275**	⇑P	**Pn**	**08 56 49.8**	**+0.4**
JAI				S	**Sn**	**08 56 57.4**	**+0.5**
JWY	**Kouya**	**0.65**	**43**	⇓P	**Pn**	**08 56 51.5**	**0.0**
JWY				S	**Sn**	**08 57 00.0**	**-0.6**
JAJ2	**Tsuna**	**0.69**	**348**	⇓P	**Pn**	**08 56 52.0**	**0.0**
JAJ2				S	**Sn**	**08 57 01.2**	**-0.2**
JMN	**Monobe**	**0.98**	**269**	⇑P	**Pn**	**08 56 56.1**	**+0.1**
JMN				S	**Sn**	**08 57 08.8**	**+0.1**
JHE	**Heguri**	**1.04**	**30**	⇓P	**Pn**	**08 56 56.6**	**-0.2**
JHE				S	**Sn**	**08 57 09.7**	**-0.5**
JKN2	**Miekihoku**	**1.12**	**64**	P	**Pn**	**08 56 57.5**	**-0.4**
JKN2				*e*S	**Sn**	**08 57 11.6**	**-0.5**
JJS	**Sakaide**	**1.12**	**304**	⇑P	**Pn**	**08 56 57.9**	**0.0**
JJS				S	**Sn**	**08 57 11.1**	**-1.1**
MAT	**Matsushiro**	**3.80**	**42**	P	**Pn**	**08 57 35.8**	**+1.1**
MAT				S	**Sn**	**08 58 19.3**	**+1.1**
MJAR	**Matsushiro Arr**	**3.80**	**42**	P	**Pn**	**08 57 36.0**	**+1.3**
	1.8nm,0.3s,baz=244,slow=14,SNR=20						
MJAR				S	Sn	08 57 57.1	-21
	1.2nm,0.3s,baz=233,slow=16,SNR=7.7						
SONM	**Songino Array**	**25.68**	**312**	P	**P**	**09 02 05.3**	**-0.1**
	0.3nm,0.4s,baz=121,slow=9.4,SNR=3.8						
MKAR	**Makanchi Array**	**41.57**	**304**	P	**P**	**09 04 23.3**	**+0.4**
	0.2nm,0.5s,baz=89,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**53.39**	**181**	P	**P**	**09 05 54.4**	**-0.5**
	1.2nm,0.7s,baz=356,slow=7.9,SNR=9.1						
FINES	**FINESS Array B**	**69.22**	**331**	P	P	09 07 32.3	-9.2
	1.2nm,0.7s,baz=61,slow=6.5,SNR=11						

*CSEM **17** 09:18:18.8±0.1, 36°.83N×5°.28W, h15km, ML3.5/26, Error ellipse: s-maj=3.4km s-min=2.5km az=7.0*

*ISCJB **17** 09:18:19.1±0.4, 36°.84N±0°.04×5°.32W±0°.03, h29km±6km, Error ellipse: s-maj=6.4km s-min=3.5km az=168.7*

*MDD **17** 09:18:19.9±0.2, 36°.73N×5°.25W, h20km±1km, mbLg2.8/39, Error ellipse: s-maj=3.2km s-min=2.2km az=14.0, PRXIMO SFS **17** 09:18:19.0, 36°.70N×5°.20W, h19km, ML2.8*

*INMG **17** 09:18:19.5±1.7, 36°.65N×5°.28W, h24km±4km, ML3.0, Error ellipse: s-maj=3.8km s-min=2.9km az=20.0*

ISC 17 09:18:19.6±0.9, 36°.71N±0°.03×5°.25W±0°.02, h27km±5km, n118, σ2s96/188, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REAL	**Reales**	**0.22**	**171**	Pg	**Pb**	**09 18 25.6**	**-0.4**
REAL				Lg	Lg	09 18 30.5	
REAL	**Reales**	**0.22**	**171**	*i* P	**Pb**	**09 18 25.6**	**-0.4**
REAL				*i* S	**Sb**	**09 18 30.5**	**+0.2**
LIJA	**Lijar**	**0.23**	**328**	⇓Pg	**Pb**	**09 18 24.9**	**-1.2**
LIJA				Lg	Lg	09 18 29.3	
LIJA	**Lijar**	**0.23**	**328**	*i* P	**Pb**	**09 18 24.9**	**-1.2**
LIJA				*i* S	**Sn**	**09 18 29.3**	**-1.2**
EMIJ	**Mijas**	**0.41**	**110**	⇓Pg	**Pb**	**09 18 27.2**	**-1.3**
	93nm,0.3s,SNR=18						
EMIJ				Lg	Lg	09 18 33.0	
	536nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.41**	**110**	Pg	**Pb**	**09 18 27.2**	**-1.3**
	93nm,0.3s,SNR=18						
EMIJ				Lg	Lg	09 18 33.0	
	536nm,0.4s,SNR=7.9						
ESPR	**Espera**	**0.51**	**289**	⇓Pg	**Pb**	**09 18 29.6**	**-0.6**
	76nm,0.4s,SNR=18						
ESPR				Lg	Lg	09 18 37.8	
	430nm,0.3s,SNR=7.9						
ESPR	**Espera**	**0.51**	**289**	Pg	**Pb**	**09 18 29.6**	**-0.6**
	76nm,0.4s,SNR=18						
ESPR				Lg	Lg	09 18 37.8	
	430nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.66**	**85**	Pg	**Pn**	**09 18 31.5**	**-1.7**
EMAL				Lg	Lg	09 18 43.6	
EMAL	**Malaga-Limoner**	**0.66**	**85**	*e*P	**Pn**	**09 18 31.5**	**-1.7**
EMAL				*i* S	**Sn**	**09 18 43.6**	**+0.9**
CNIL	**Conil**	**0.73**	**243**	Pg	**Pb**	**09 18 35.5**	**+1.7**
CNIL	**Conil**	**0.73**	**243**	*e*P	**Pb**	**09 18 35.5**	**+1.7**
SFS	**San Fernando**	**0.81**	**253**	Pg	**Pb**	**09 18 35.3**	**+0.2**
SFS				Lg	Lg	09 18 48.9	
SFS	**San Fernando**	**0.81**	**253**	*i* P	**Pb**	**09 18 35.3**	**+0.2**
SFS				Lg	Lg	09 18 48.9	
ECEU	**Ceuta**	**0.81**	**187**	Pg	**Pb**	**09 18 35.7**	**+0.5**
	5.3nm,0.1s,SNR=13						
ECEU				Lg	Lg	09 18 47.3	
	32nm,0.2s,SNR=5.0						
ECEU	**Ceuta**	**0.81**	**187**	Pg	**Pb**	**09 18 35.7**	**+0.5**
	5.3nm,0.1s,SNR=13						
ECEU				Lg	Lg	09 18 47.3	
	32nm,0.2s,SNR=5.0						
ELUQ	**Luque**	**1.16**	**42**	⇑Pg	**Pb**	**09 18 41.0**	**-0.1**
	34nm,0.2s,SNR=18						
ELUQ				Lg	Lg	09 18 57.2	
	170nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**1.16**	**42**	Pg	**Pb**	**09 18 41.0**	**-0.1**
	34nm,0.2s,SNR=18						
ELUQ				Lg	Lg	09 18 57.2	
	170nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**1.33**	**66**	Pg	**Pb**	**09 18 44.2**	**+0.2**
	11nm,0.4s,SNR=7.9						
SELV				Lg	Lg	09 19 00.9	
	32nm,0.4s,SNR=7.9						
SELV	**Sierra Elvira**	**1.33**	**66**	Pg	**Pb**	**09 18 44.2**	**+0.2**
	11nm,0.4s,SNR=7.9						
SELV				Lg	Lg	09 19 00.9	
	32nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**1.37**	**354**	Pg	**Pb**	**09 18 43.3**	**-1.4**
	26nm,0.1s,SNR=88						
ECAB				Lg	Lg	09 19 01.5	
	72nm,0.1s,SNR=5.0						
ECAB	**El Cabril**	**1.37**	**354**	Pg	**Pb**	**09 18 43.3**	**-1.4**
	26nm,0.1s,SNR=88						
ECAB				Lg	Lg	09 19 01.5	
	72nm,0.1s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.46**	**67**	Pg	**Pb**	**09 18 47.0**	**+0.7**
	21nm,0.2s,SNR=14						
ECOG				Lg	Lg	09 19 04.1	
	46nm,0.3s,SNR=4.7						
ECOG	**Cogollos-Vega**	**1.46**	**67**	Pg	**Pb**	**09 18 47.0**	**+0.7**
	21nm,0.2s,SNR=14						
ECOG				Lg	Lg	09 19 04.1	
	46nm,0.3s,SNR=4.7						
EBER	**Berja**	**1.90**	**84**	Pg	**Pb**	**09 18 52.3**	**-1.5**
	15nm,0.5s,SNR=13						
EBER				Lg	Lg	09 19 19.6	
	27nm,0.3s,SNR=5.2						
EBER	**Berja**	**1.90**	**84**	Pg	**Pb**	**09 18 52.3**	**-1.5**
	15nm,0.5s,SNR=13						
EBER				Lg	Lg	09 19 19.6	
	27nm,0.3s,SNR=5.2						
GORA	**Gorafe**	**1.93**	**66**	Pg	**Pb**	**09 18 55.1**	**+0.9**
	14nm,0.2s,SNR=7.9						
GORA				Lg	Lg	09 19 19.6	
	54nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**1.93**	**66**	Pg	**Pb**	**09 18 55.1**	**+0.9**
	14nm,0.2s,SNR=7.9						
GORA				Lg	Lg	09 19 19.6	
	54nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.06**	**57**	Pn	**Pn**	**09 18 52.7**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EQES				Pg	**Pb**	**09 18 56.5**	**+0.1**
	5.8nm,0.1s,SNR=7.9						
EQES				Lg	Lg	09 19 24.6	
	57nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.06**	**57**	Pn	**Pn**	**09 18 52.7**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.09**	**290**	*e*Pn	**Pn**	**09 18 51.4**	**-1.5**
PVAQ				*e*Sn	**Sn**	**09 19 15.3**	**-2.7**
PVAQ				*e*Sg	**Sb**	**09 19 24.9**	**+2.4**
PVAQ				A	A	09 19 26.2	
	52nm,0.3s						
PVAQ	**Vaqueiros**	**2.09**	**290**	Pn	**Pn**	**09 18 51.4**	**-1.5**
PVAQ				Sn	**Sn**	**09 19 15.3**	**-2.7**
PVAQ				Lg	Lg	09 19 24.9	
	52nm,0.3s						
PVAQ	**Vaqueiros**	**2.09**	**290**	Pn	**Pn**	**09 18 51.4**	**-1.5**
PVAQ				Sn	**Sn**	**09 19 15.3**	**-2.7**
PVAQ				*e*Sg	**Sb**	**09 19 24.9**	**+2.4**
	52nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.21**	**285**	*e*Pn	**Pn**	**09 18 53.5**	**-1.1**
PBDV				*e*Sn	**Sn**	**09 19 18.4**	**-2.6**
PBDV				*e*Sg	**Sb**	**09 19 30.0**	**+4.0**
PBDV				A	A	09 19 34.6	
	38nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.21**	**285**	Pn	**Pn**	**09 18 53.5**	**-1.1**
PBDV				Sn	**Sn**	**09 19 18.4**	**-2.6**
PBDV				Lg	Lg	09 19 30.0	
	38nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.21**	**285**	Pn	**Pn**	**09 18 53.5**	**-1.1**
PBDV				Sn	**Sn**	**09 19 18.4**	**-2.6**
PBDV				*e*Sg	**Sb**	**09 19 30.0**	**+4.0**
	38nm,0.2s						
EHUE	**Huescar**	**2.39**	**62**	Pn	**Pn**	**09 18 57.2**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
EHUE				Pg	**Pb**	**09 19 02.5**	**+0.4**
	2.7nm,0.1s,SNR=7.9						
EHUE				Lg	Lg	09 19 34.6	
	11nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.39**	**62**	Pn	**Pn**	**09 18 57.2**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.47**	**303**	*e*Pn	**Pn**	**09 18 56.5**	**-1.5**
PBEJ				*e*Sg	**Sb**	**09 19 34.9**	**+1.7**
PBEJ				A	A	09 19 43.1	
	58nm,0.5s						
PBEJ	**Beja**	**2.47**	**303**	Pn	**Pn**	**09 18 56.5**	**-1.5**
PBEJ				Lg	Lg	09 19 34.9	
	29nm,0.5s						
PBEJ	**Beja**	**2.47**	**303**	Pn	**Pn**	**09 18 56.5**	**-1.5**
PBEJ				*e*Sg	**Sb**	**09 19 34.9**	**+1.7**
	58nm,0.5s						
EBAD	**Badajoz**	**2.48**	**326**	Pn	**Pn**	**09 18 57.2**	**-1.0**
	1.1nm,0.1s,SNR=7.2						
EBAD				Pg	**Pb**	**09 19 02.3**	**-1.2**
	2.3nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	09 19 34.5	
	85nm,0.2s,SNR=13						
EBAD	**Badajoz**	**2.48**	**326**	Pn	**Pn**	**09 18 57.2**	**-1.0**
	1.1nm,0.1s,SNR=7.2						
MORF	**Marmelete**	**2.79**	**283**	*e*Pn	**Pn**	**09 19 01.4**	**-1.1**
MORF				*e*Sn	**Sn**	**09 19 33.8**	**-1.5**
MORF				A	A	09 19 50.6	
	23nm,0.3s						
MORF	**Marmelete**	**2.79**	**283**	Pn	**Pn**	**09 19 01.4**	**-1.1**
MORF				Sn	**Sn**	**09 19 33.8**	**-1.5**
	23nm,0.3s						
MORF	**Marmelete**	**2.79**	**283**	Pn	**Pn**	**09 19 01.4**	**-1.1**
MORF				*e*Sn	**Sn**	**09 19 33.8**	**-1.5**
	23nm,0.3s						
PESTR	**Estremoz**	**2.84**	**320**	*e*Pn	**Pn**	**09 19 03.3**	**0.0**
PESTR				*e*Sg	**Sb**	**09 19 47.2**	**+3.1**
PESTR	**Estremoz**	**2.84**	**320**	*e*Pn	**Pn**	**09 19 03.3**	**0.0**
PESTR				*e*Sg	**Sb**	**09 19 47.2**	**+3.1**
EVO	**Evora**	**2.85**	**311**	*e*Pn	**Pn**	**09 19 02.2**	**-1.1**
EVO				*e*Sg	**Sb**	**09 19 48.7**	**+4.4**
EVO				A	A	09 19 51.7	
	55nm,0.4s						
EVO	**Evora**	**2.85**	**311**	Pn	**Pn**	**09 19 02.2**	**-1.1**
EVO				Lg	Lg	09 19 48.7	
	55nm,0.4s						
EVO	**Evora**	**2.85**	**311**	Pn	**Pn**	**09 19 02.2**	**-1.1**
EVO				*e*Sg	**Sb**	**09 19 48.7**	**+4.4**
	55nm,0.4s						
PFVI	**Vila Bisbo**	**2.90**	**280**	*e*Pn	**Pn**	**09 19 02.7**	**-1.3**
PFVI				*e*Sn	**Sn**	**09 19 35.8**	**-2.1**
PFVI				A	A	09 19 59.4	
	19nm,0.6s						
PFVI	**Vila Bisbo**	**2.90**	**280**	Pn	**Pn**	**09 19 02.7**	**-1.3**
	5.5nm,0.1s,SNR=12						
PFVI				Sn	**Sn**	**09 19 35.5**	**-2.4**
	24nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	09 19 50.6	
	12nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.90**	**280**	Pn	**Pn**	**09 19 02.7**	**-1.3**
	5.5nm,0.1s,SNR=12						
PFVI				*e*Sn	**Sn**	**09 19 35.8**	**-2.1**
	19nm,0.6s						
PFVI				Lg	Lg	09 19 50.6	
	12nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.90**	**288**	*e*Pn	**Pn**	**09 19 03.2**	**-0.8**
PTEO				*e*Sn	**Sn**	**09 19 36.3**	**-1.6**
PTEO				A	A	09 19 59.9	
	33nm,0.6s						
PTEO	**Sao Teotonio**	**2.90**	**288**	Pn	**Pn**	**09 19 03.2**	**-0.8**
PTEO				Sn	**Sn**	**09 19 36.3**	**-1.6**
	17nm,0.6s						
PTEO	**Sao Teotonio**	**2.90**	**288**	Pn	**Pn**	**09 19 03.2**	**-0.8**
PTEO				*e*Sn	**Sn**	**09 19 36.3**	**-1.6**
	33nm,0.6s						
EVIA	**Vianos**	**2.91**	**48**	Pn	**Pn**	**09 19 03.5**	**-0.8**
	0.8nm,0.1s,SNR=7.9						
EVIA				Pg	**Pb**	**09 19 11.9**	**+1.0**
	6.8nm,0.2s,SNR=7.9						
EVIA				Sn	**Sn**	**09 19 35.9**	**-2.5**
	23nm,0.4s,SNR=7.9						
EVIA				Lg	Lg	09 19 49.0	
	32nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**2.91**	**48**	Pn	**Pn**	**09 19 03.5**	**-0.8**
	0.8nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.91**	**48**	Pg	**Pb**	**09 19 11.9**	**+1.0**
	6.8nm,0.2s,SNR=7.9						
EVIA				Sn	**Sn**	**09 19 35.9**	**-2.5**
	23nm,0.4s,SNR=7.9						
EVIA				Lg	Lg	09 19 49.0	
	32nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**2.96**	**299**	*e*Pn	**Pn**	**09 19 03.5**	**-1.4**
PNCL				*e*Sn	**Sn**	**09 19 37.7**	**-1.8**
PNCL				*e*Sg	**Sb**	**09 19 51.0**	**+3.5**
PNCL				A	A	09 19 54.8	
	31nm,0.5s						
PNCL	**Nicolau / Gran**	**2.96**	**299**	*e*Pn	**Pn**	**09 19 03.5**	**-1.4**
PNCL				*e*Sn	**Sn**	**09 19 37.7**	**-1.8**
PNCL				*e*Sg	**Sb**	**09 19 51.0**	**+3.5**
	31nm,0.5s						
ESDC	**Sonseca Array**	**3.13**	**18**	Pn	**Pn**	**09 19 07.5**	**+0.2**
	1.2nm,0.2s,baz=193,slow=12,SNR=8.4						
ESDC				Pg	**Pb**	**09 19 15.9**	**+1.3**
	3.8nm,0.2s,SNR=7.9						
ESDC				Sn	**Sn**	**09 19 42.9**	**-0.9**
	3.3nm,0.3s,SNR=7.9						
ESDC				Lg	Lg	09 19 55.6	
	19nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.13**	**18**	Pn	**Pn**	**09 19 07.5**	**+0.2**
	1.2nm,0.2s,SNR=8.4						
PMRV	**Marv??o**	**3.20**	**329**	*e*Pn	**Pn**	**09 19 07.4**	**-0.8**
PMRV				*e*Sg	**Sb**	**09 19 55.8**	**+1.5**
PMRV				A	A	09 20 00.2	
	38nm,0.8s						
PMRV	**Marv??o**	**3.20**	**329**	Pn	**Pn**	**09 19 07.4**	**-0.8**
PMRV				Lg	Lg	09 19 55.8	
	38nm,0.8s						
PMRV	**Marv??o**	**3.20**	**329**	Pn	**Pn**	**09 19 07.4**	**-0.8**
PMRV				*e*Sg	**Sb**	**09 19 55.8**	**+1.5**
	38nm,0.8s						
EPLA	**Plasencia**	**3.42**	**349**	Pn	**Pn**	**09 19 11.3**	**+0.2**
	4.6nm,0.1s,SNR=7.1						
EPLA				Pg	**Pb**	**09 19 20.5**	**+1.0**
	2.2nm,0.2s,SNR=7.9						
EPLA				Sn	**Sn**	**09 19 48.1**	**-2.7**
	32nm,0.2s,SNR=7.3						
EPLA				Lg	Lg	09 20 03.9	
	24nm,0.3s,SNR=5.0						
EPLA	**Plasencia**	**3.42**	**349**	Pn	**Pn**	**09 19 11.3**	**+0.2**
	4.6nm,0.1s,SNR=7.1						
ETOB	**Tobarra**	**3.52**	**56**	Pn	**Pn**	**09 19 12.7**	**+0.1**
	0.6nm,0.1s,SNR=6.3						
ETOB				Sn	**Sn**	**09 19 52.5**	**-0.8**
	1.8nm,0.1s,SNR=5.0						
ETOB				Lg	Lg	09 20 08.6	
	14nm,0.4s,SNR=6.1						
ETOB	**Tobarra**	**3.52**	**56**	Pn	**Pn**	**09 19 12.6**	**+0.1**
	0.6nm,0.1s,SNR=6.3						
ETOB				Sn	**Sn**	**09 19 52.5**	**-0.8**
	1.8nm,0.1s,SNR=5.0						
ETOB				Lg	Lg	09 20 08.6	
	14nm,0.4s,SNR=6.1						
PCBR	**Castelo Branco**	**3.59**	**331**	*e*Pn	**Pn**	**09 19 13.8**	**+0.4**
PCBR				*e*Sn	**Sn**	**09 19 52.8**	**-2.1**
PCBR				*e*Sg	**Sb**	**09 20 09.2**	**+3.8**
PCBR				A	A	09 20 18.3	
	23nm,0.3s						
PCBR	**Castelo Branco**	**3.59**	**331**	Pn	**Pn**	**09 19 13.8**	**+0.4**
PCBR				Sn	**Sn**	**09 19 52.8**	**-2.1**
PCBR				Lg	Lg	09 20 09.2	
	12nm,0.3s						
PCBR	**Castelo Branco**	**3.59**	**331**	Pn	**Pn**	**09 19 13.8**	**+0.4**
PCBR				Sn	**Sn**	**09 19 52.8**	**-2.1**
PCBR				*e*Sg	**Sb**	**09 20 09.2**	**+3.8**
	23nm,0.3s						
PTOM	**Tomar**	**3.83**	**320**	*e*Pn	**Pn**	**09 19 16.8**	**0.0**
PTOM				*e*Sg	**Sb**	**09 20 16.2**	**+3.8**
PTOM				A	A	09 20 24.3	
	41nm,0.5s						
PTOM	**Tomar**	**3.83**	**320**	Pn	**Pn**	**09 19 16.8**	**0.0**
PTOM				Lg	Lg	09 20 16.2	
	20nm,0.5s						
PTOM	**Tomar**	**3.83**	**320**	Pn	**Pn**	**09 19 16.8**	**0.0**
PTOM				*e*Sg	**Sb**	**09 20 16.2**	**+3.8**
	41nm,0.5s						
PMAFR	**Mafra**	**3.90**	**306**	*e*Pn	**Pn**	**09 19 17.6**	**-0.2**
PMAFR				*e*Sn	**Sn**	**09 20 00.9**	**-1.8**
PMAFR				A	A	09 20 36.8	
	35nm,0.7s						
PMAFR	**Mafra**	**3.90**	**306**	Pn	**Pn**	**09 19 16.6**	**-1.2**
	2.3nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**09 19 59.6**	**-3.1**
	9.8nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	09 20 20.5	
	33nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.90**	**306**	Pn	**Pn**	**09 19 16.6**	**-1.2**
	2.3nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**09 20 00.9**	**-1.8**
	35nm,0.7s						
PMAFR				Lg	Lg	09 20 20.5	
	33nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**4.02**	**12**	Pn	**Pn**	**09 19 19.4**	**-0.2**
	0.7nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**09 20 04.2**	**-1.7**
	1.5nm,0.2s,SNR=7.9						
GUD				Lg	Lg	09 20 24.0	
	10.0nm,0.3s,SNR=5.0						
GUD	**Guadarrama**	**4.02**	**12**	Pn	**Pn**	**09 19 19.4**	**-0.2**
	0.7nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**09 20 04.2**	**-1.7**
	1.5nm,0.2s,SNR=7.9						
GUD				Lg	Lg	09 20 24.0	
	10.0nm,0.3s,SNR=5.0						
MTE	**Manteigas**	**4.10**	**335**	*e*Pn	**Pn**	**09 19 19.8**	**-0.8**
MTE				*e*Sg	**Sb**	**09 20 24.2**	**+3.9**
MTE				A	A	09 20 33.2	
	78nm,0.6s						
MTE	**Manteigas**	**4.10**	**335**	Pn	**Pn**	**09 19 19.8**	**-0.8**
MTE				Lg	Lg	09 20 24.2	
	39nm,0.6s						
MTE	**Manteigas**	**4.10**	**335**	Pn	**Pn**	**09 19 19.8**	**-0.8**
MTE				*e*Sg	**Sb**	**09 20 24.2**	**+3.9**
	78nm,0.6s						
PCAS	**Casmilo, Conde**	**4.21**	**324**	*e*Pn	**Pn**	**09 19 22.0**	**+0.1**
PCAS				*e*Sg	**Sb**	**09 20 28.7**	**+5.5**
PCAS				A	A	09 20 37.5	
	52nm,0.5s						
PCAS	**Casmilo, Conde**	**4.21**	**324**	*e*Pn	**Pn**	**09 19 22.0**	**+0.1**
PCAS				*e*Sg	**Sb**	**09 20 28.7**	**+5.5**
	52nm,0.5s						
PVIS	**Viseu**	**4.51**	**333**	*e*Pn	**Pn**	**09 19 26.4**	**+0.3**
PVIS				*e*Sn	**Sn**	**09 20 15.7**	**-1.9**
PVIS				*e*Sg	Sb	09 20 39.2	+7.3
PVIS				A	A	09 20 45.3	
	24nm,0.5s						
PVIS	**Viseu**	**4.51**	**333**	Pn	**Pn**	**09 19 26.4**	**+0.3**
PVIS				Sn	**Sn**	**09 20 15.7**	**-1.9**
PVIS				Lg	Lg	09 20 39.2	
	12nm,0.5s						
PVIS	**Viseu**	**4.51**	**333**	Pn	**Pn**	**09 19 26.4**	**+0.3**
PVIS				Sn	**Sn**	**09 20 15.7**	**-1.9**
PVIS				*e*Sg	Sb	09 20 39.2	+7.3
	24nm,0.5s						
ETOR	**Torete**	**4.81**	**30**	Pn	**Pn**	**09 19 29.9**	**-0.4**
	3.5nm,0.2s,SNR=7.1						
ETOR				Lg	Lg	09 20 47.2	
	12nm,0.3s,SNR=5.0						
ETOR	**Torete**	**4.81**	**30**	Pn	**Pn**	**09 19 29.9**	**-0.4**
	3.5nm,0.2s,SNR=7.1						
ETOR				Lg	Lg	09 20 47.2	
	12nm,0.3s,SNR=5.0						
PVRL	**Vila Real**	**4.95**	**338**	*e*Sn	**Sn**	**09 20 25.9**	**-2.7**
PVRL				A	A	09 20 59.3	
	14nm,0.4s						
PVRL	**Vila Real**	**4.95**	**338**	Sn	**Sn**	**09 20 25.9**	**-2.7**
	7.2nm,0.4s						
PVRL	**Vila Real**	**4.95**	**338**	*e*Sn	**Sn**	**09 20 25.9**	**-2.7**
	14nm,0.4s						
POLO	**Lamas de Olo**	**5.06**	**338**	*e*Sn	**Sn**	**09 20 28.5**	**-3.0**
POLO				A	A	09 21 00.0	
	5.7nm,0.4s						
POLO	**Lamas de Olo**	**5.06**	**338**	*e*Sn	**Sn**	**09 20 28.5**	**-3.0**
	5.7nm,0.4s						
PBRG	**Braganca**	**5.22**	**348**	*e*Pn	**Pn**	**09 19 36.2**	**+0.3**
PBRG				*e*Sn	**Sn**	**09 20 31.5**	**-3.8**
PBRG				*e*Sg	Sb	09 21 00.8	+8.3
PBRG				A	A	09 21 08.1	
	9.5nm,0.4s						
PBRG	**Braganca**	**5.22**

0.5nm,0.2s,SNR=7.9
ELAN Lg Lg 09 21 44.0
3.5nm,0.6s,SNR=4.0
EPON Pontenova 6.77 348 Sn **Sn** **09 21 08.2 -5.2**
2.0nm,0.3s,SNR=7.9
EPON Lg Lg 09 21 47.9
5.9nm,0.6s,SNR=7.9
IEPA Eparoz 6.80 26 Pn **Pn** **09 19 57.6 0.0**
1.0nm,0.3s,SNR=7.9
IEPA Lg Lg 09 21 46.9
2.2nm,0.5s,SNR=7.9
IEPA Eparoz 6.80 26 Pn **Pn** **09 19 57.6 0.0**
1.0nm,0.3s,SNR=7.9
IEPA Lg Lg 09 21 46.9
2.2nm,0.5s,SNR=7.9
EMAZ Mazaricos 6.86 336 Sn **Sn** **09 21 10.4 -5.2**
1.9nm,0.3s,SNR=7.9
EMAZ Lg Lg 09 21 48.9
5.0nm,0.5s,SNR=7.9
IELO Elcoad 6.86 26 Pn **Pn** **09 19 58.8 +0.3**
0.3nm,0.2s,SNR=7.9
IELO Lg Lg 09 21 49.2
1.1nm,0.4s,SNR=7.9
IELO Elcoad 6.86 26 Pn **Pn** **09 19 58.8 +0.3**
0.3nm,0.2s,SNR=7.9
IELO Lg Lg 09 21 49.2
1.1nm,0.4s,SNR=7.9

*ISCJB **17** 09:23:30.8±1.2, 67°.72N×0°.06×20°.5E±0°.3, h0km, Error ellipse: s-maj=18.1km s-min=5.8km az=20.1*
*IDC **17** 09:23:31.9±1.2, 67°.84N×20°.62E, h0km, mb1 3.0/3, mb1mx2.8/44, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=18.1km s-min=7.4km az=116.0*
*NAO **17** 09:23:32.6±2.0, 67°.81N×20°.62E, ML2.3*
*CSEM **17** 09:23:33.2±0.5, 67°.77N×20°.60E, h1km, ML1.9, Error ellipse: s-maj=21.5km s-min=8.2km az=116.0, Suspected Mining explosion.*
*BER **17** 09:23:34.4±3.1, 67°.81N×20°.19E, h0km, ML1.9, ML2.3(NAO), Suspected explosion*
ISC 17 09:23:32.8±1.0, 67°.79N±0°.04×20°.46E±0°.06, h0km, n16, σ0s90/23, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	**1.60**	**39**	*e*Sg		**Sg**	**09 24 25.4**	**+1.2**
KTK1				IAML			09 24 29.6	
	comp=N,16nm,0.2s							
KTK1	**Kautokeino**	**1.60**	**39**	*e*Sg		**Sg**	**09 24 25.4**	**+1.2**
	SNR=90							
ARA0	**ARCESS Array S**	**2.55**	**44**	Pn		**Pn**	**09 24 14.5**	**-0.8**
	baz=224,slow=14							
ARA0				Sn		**Sn**	**09 24 47.5**	**+0.5**
	baz=230,slow=28							
ARA0	**ARCESS Array S**	**2.55**	**44**	Pn		**Pn**	**09 24 14.5**	**-0.8**
	baz=224,slow=14							
ARA0				Sn		**Sn**	**09 24 47.5**	**+0.5**
	baz=230,slow=28							
ARA0	**ARCESS Array S**	**2.55**	**44**	Pn		**Pn**	**09 24 14.5**	**-0.8**
	SNR=159							
ARA0				Sn		**Sn**	**09 24 47.5**	**+0.5**
ARCES	**ARCESS Array B**	**2.55**	**44**	Pn		**Pn**	**09 24 13.7**	**-1.6**
	comp=N,0.6nm,0.3s,baz=225,slow=14,SNR=53							
ARCES				Lg		Lg	09 24 49.5	
	comp=N,4.1nm,0.3s,baz=225,slow=26,SNR=17							
MOR8	**Moi Rana**	**2.87**	**238**	*e*Sg		**Sg**	**09 24 55.5**	**+0.6**
MOR8				IAML			09 24 58.5	
	comp=Z,15nm,0.3s							
MOR8	**Moi Rana**	**2.87**	**238**	*e*Sg		**Sg**	**09 24 55.5**	**+0.6**
	SNR=90							
FIA0	**FINESS Array S**	**6.81**	**157**	Pn		**Pn**	**09 25 13.9**	**+0.1**
FIA0				Sn		**Sn**	**09 26 31.5**	**-0.4**
	baz=349,slow=22							
FIA0				Lg		Lg	09 27 04.7	
FIA0	**FINESS Array S**	**6.81**	**157**	Pn		**Pn**	**09 25 13.9**	**+0.1**
FIA0				Sn		**Sn**	**09 26 31.5**	**-0.4**
	baz=349,slow=22							
FIA0				Lg		Lg	09 27 04.7	
FIA0	**FINESS Array S**	**6.81**	**157**	Pn		**Pn**	**09 25 13.9**	**+0.1**
FIA0				Sn		**Sn**	**09 26 31.5**	**-0.4**
FINES	**FINESS Array B**	**6.81**	**157**	Pn		**Pn**	**09 25 13.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=2.9							
FINES				Sn		**Sn**	**09 26 31.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=347,slow=23,SNR=3.1							
FINES				Lg		Lg	09 27 04.9	
	comp=Z,0.1nm,0.3s,baz=338,slow=30,SNR=2.8							
NB2	**NORSAR Subarra**	**7.86**	**215**	Pn		**Pn**	**09 25 29.3**	**+1.1**
NB2	**NORSAR Subarra**	**7.86**	**215**	Pn		**Pn**	**09 25 29.3**	**+1.1**
NB2	**NORSAR Subarra**	**7.86**	**215**	Pn		**Pn**	**09 25 29.3**	**+1.1**
NOA	**NORSAR Array B**	**7.86**	**215**	Pn		**Pn**	**09 25 26.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=11,SNR=2.8							

*BJI **17** 09:34:16.7, 32°.09N×47°.86E, h37km, mB5.0/7, mb4.7/17, Ms4.3/7, Ms7 4.2/6*
*IDC **17** 09:34:17.4±0.7, 32°.57N×48°.38E, h0km, mb4.2/20, mb1 4.3/26, mb1mx4.2/50, mbtmp4.2/26, ML4.2/5, MS3.5/6, Ms1 3.5/6, ms1mx3.1/53, Error ellipse: s-maj=18.1km s-min=12.1km az=156.0*
*ISCJB **17** 09:34:17.9±0.2, 32°.49N±0°.02×48°.21E±0°.02, h10km, mb4.5/72, MS3.5/3, Error ellipse: s-maj=3.1km s-min=2.4km az=19.5*
*CSEM **17** 09:34:19.7±0.1, 32°.52N×48°.24E, h10km, mb4.5/54, Error ellipse: s-maj=4.6km s-min=3.4km az=13.0*
*SGS **17** 09:34:19.8, 32°.65N×49°.10E, h13km, Ml4.8*
*TEH **17** 09:34:20.6, 32°.47N×48°.30E, h3km, ML4.3*
*THR **17** 09:34:21.5±1.5, 32°.55N×48°.43E, h15km±14km, ML4.1*
*MOS **17** 09:34:21.4±1.1, 32°.63N×48°.27E, h33km, mb4.8/33, Error ellipse: s-maj=7.1km s-min=4.4km az=115.7*
*NEIC **17** 09:34:21.9, 32°.36N×48°.33E, h39km, mb4.4/19, After THR.*
*ISN **17** 09:34:43.4±2.1, 32°.62N×47°.89E, h1km±9km, ML4.2*
*DDA **17** 09:35:36.0, 36°.68N×43°.49E, h42km*
ISC 17 09:34:19.4±0.3, 32°.53N±0°.03×48°.24E±0°.03, h10km, n500, σ1s29/503, mb4.5/72, MS3.5/4, 21C-16D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.64**	**131**	*e*Pg		**Pg**	**09 34 32.5**	**+0.7**
SHGR	**Shooshtar-Gavs**	**0.64**	**131**	*e*Pg		**Pg**	**09 34 32.0**	**+0.2**
	11μm,0.5s							
SHGR	**Shooshtar-Gavs**	**0.64**	**131**	*e*Pg		**Pg**	**09 34 32.0**	**+0.2**
SHGR				AML		AML	09 34 50.2	
	comp=E,11μm,0.5s							
IKMR	**Kamar-syah**	**0.99**	**7**	*e*Pg		**Pg**	**09 34 37.1**	**-1.4**
IKMR	**Kamar-syah**	**0.99**	**7**	*e*Pg		**Pg**	**09 34 37.1**	**-1.4**
IKFM	**Kafar-mosalman**	**1.04**	**342**	ǁ*e*Pg		**Pg**	**09 34 39.4**	**-0.1**
IKFM	**Kafar-mosalman**	**1.04**	**342**	ǁ*e*Pg		**Pg**	**09 34 39.4**	**-0.1**
IDOB	**Doab**	**1.25**	**358**	*e*Pg		**Pn**	**09 34 42.4**	**-0.8**
IDOB	**Doab**	**1.25**	**358**	*e*Pg		**Pn**	**09 34 42.4**	**-0.8**
IKOM	**Komasi**	**1.75**	**340**	*e*Pg		**Pb**	**09 34 52.8**	**+1.1**
IKOM				*e*Sg		**Sg**	**09 35 17.4**	**+1.8**
IKOM				*e*			09 35 25.0	
	comp=Z,52μm,0.3s							
IKOM	**Komasi**	**1.75**	**340**	Pg		**Pb**	**09 34 52.9**	**+1.1**
IKOM	**Komasi**	**1.75**	**340**	*e*Pg		**Pb**	**09 34 52.8**	**+1.1**
IKOM				*e*Sg		**Sg**	**09 35 17.4**	**+1.8**
KHMZ	**Khomeyn**	**1.88**	**50**	*e*Pg		**Pn**	**09 34 53.6**	**+1.7**
	comp=Z,2μm,0.6s							
KHMZ	**Khomeyn**	**1.88**	**50**	*e*Pg		**Pn**	**09 34 53.6**	**+1.7**
KHMZ				AML		AML	09 35 20.9	
	comp=E,2μm,0.8s							
KHMZ				AML		AML	09 35 21.6	
	comp=N,2μm,0.6s							
IBZA	**Bozab**	**1.96**	**351**	*e*Pn		**Pn**	**09 34 55.2**	**+2.2**
IBZA				*e*			09 35 03.5	
	comp=Z,19μm,0.2s							
IBZA	**Bozab**	**1.96**	**351**	Pn		**Pn**	**09 34 55.1**	**+2.1**
IBZA	**Bozab**	**1.96**	**351**	*e*Pn		**Pn**	**09 34 55.2**	**+2.2**
IBDR	**Badra**	**2.02**	**287**	*e*PG		**Sn**	**09 35 21.8**	**+2.8**
IPIR	**Pirpir**	**2.25**	**85**	*e*Pn		**Pn**	**09 34 58.4**	**+1.4**
IPIR				*e*Sg		**Sb**	**09 35 29.1**	**+0.8**
IPIR	**Pirpir**	**2.25**	**85**	Pn		**Pn**	**09 34 58.4**	**+1.4**
IPIR				Sg		**Sb**	**09 35 28.6**	**+0.3**
IPIR	**Pirpir**	**2.25**	**85**	*e*Pn		**Pn**	**09 34 58.4**	**+1.4**
IGHG	**Ghaleghazi**	**2.27**	**323**	*e*Pn		**Pn**	**09 35 00.0**	**+2.8**
IGHG				*e*Sg		**Sg**	**09 35 34.8**	**+2.3**
IGHG				*e*			09 35 45.2	
	comp=Z,27μm,0.3s							
IGHG	**Ghaleghazi**	**2.27**	**323**	Pn		**Pn**	**09 35 00.3**	**+3.1**
IGHG	**Ghaleghazi**	**2.27**	**323**	*e*Pn		**Pn**	**09 35 00.0**	**+2.8**
IVIS	**Veis**	**2.30**	**330**	*e*Pn		**Pb**	**09 35 00.6**	**-0.5**
IVIS				*e*			09 35 43.8	
	comp=Z,17μm,0.4s							
IVIS	**Veis**	**2.30**	**330**	Pn		**Pb**	**09 35 02.1**	**+1.0**
IVIS	**Veis**	**2.30**	**330**	*e*Pn		**Pb**	**09 35 00.6**	**-0.5**
ASAO	**Ashtian**	**2.50**	**36**	*e*Pn		**Pn**	**09 35 03.0**	**+2.5**
	comp=Z,1μm,0.4s							
ASAO	**Ashtian**	**2.50**	**36**	*e*Pn		**Pn**	**09 35 03.0**	**+2.5**
ASAO				AML		AML	09 35 45.0	
	comp=N,1μm,0.7s							
ASAO				AML		AML	09 35 46.5	
	comp=E,1μm,0.4s							
ILIN	**Lien**	**2.60**	**336**	*e*Pn		**Pn**	**09 35 04.3**	**+2.4**
ILIN				*e*			09 35 51.0	
	comp=Z,15μm,0.4s							
ILIN	**Lien**	**2.60**	**336**	Pn		**Pn**	**09 35 04.2**	**+2.4**
ILIN	**Lien**	**2.60**	**336**	*e*Pn		**Pn**	**09 35 04.3**	**+2.4**
IDHR	**Dehrash**	**2.66**	**325**	*e*Pn		**Pn**	**09 35 05.4**	**+2.9**
IDHR				*e*			09 35 50.7	
	comp=Z,15μm,0.2s							
IDHR	**Dehrash**	**2.66**	**325**	Pn		**Pn**	**09 35 04.5**	**+2.0**
IDHR	**Dehrash**	**2.66**	**325**	*e*Pn		**Pn**	**09 35 05.4**	**+2.9**
SNGE	**Sanandaj**	**2.66**	**344**	*e*Pn		**Pb**	**09 35 06.8**	**-0.5**
SNGE	**Sanandaj**	**2.66**	**344**	*e*Pn		**Pb**	**09 35 06.8**	**-0.5**
SNGE	**Sanandaj**	**2.66**	**344**	*e*Pn		**Pb**	**09 35 06.8**	**-0.5**
IKLH	**Kolahrood**	**2.92**	**74**	*e*			09 35 55.6	
	comp=Z,12μm,0.3s							
IKLH				*e*Pn		**Pn**	**09 35 07.7**	**+1.5**
QAM	**Ghamsar**	**2.95**	**65**	*e*Pn		**Pn**	**09 35 08.1**	**+1.5**
IRAZ	**Razeghan**	**3.19**	**26**	*e*Pn		**Pn**	**09 35 12.1**	**+2.2**
IRAZ				*e*			09 35 33.2	
	comp=Z,9μm,0.2s							
IRAZ	**Razeghan**	**3.19**	**26**	Pn		**Pn**	**09 35 12.7**	**+2.8**
IRAZ	**Razeghan**	**3.19**	**26**	*e*Pn		**Pn**	**09 35 12.1**	**+2.2**
GHVR	**GHOM**	**3.21**	**52**	*e*Pn		**Pn**	**09 35 11.9**	**+1.9**
GHVR				*e*			09 36 09.1	
	comp=Z,636nm,0.5s							
GHVR	**GHOM**	**3.21**	**52**	*e*Pn		**Pn**	**09 35 11.9**	**+1.9**
GHVR				AML		AML	09 36 09.1	
	comp=E,636nm,0.5s							
IGAR	**Gharneh**	**3.22**	**91**	*e*Pn		**Pn**	**09 35 11.3**	**+1.1**
IGAR				*e*			09 36 00.3	
	comp=E,913nm,0.1s							
BHD	**Baghdad**	**3.33**	**284**	*e*PN4		Pg	09 35 33.5	+10
BHD				*e*SN4		**Sg**	**09 36 06.2**	**-0.1**
BHD	**Baghdad**	**3.33**	**284**	*e*Pn		Pg	09 35 33.5	+10
	SNR=39							
BHD				*e*Sn		**Sg**	**09 36 06.2**	**-0.1**
	SNR=39							
IZEF	**Zefreh**	**3.47**	**83**	*e*Pn		**Pn**	**09 35 14.7**	**+0.9**
IZEF				*e*			09 35 16.4	
	comp=Z,5μm,0.3s							
IZEF	**Zefreh**	**3.47**	**83**	*e*Pn		**Pn**	**09 35 14.7**	**+0.9**
IMHD	**Mahdasht**	**3.73**	**32**	*e*Pn		**Pn**	**09 35 19.0**	**+1.7**
IMHD				*e*			09 36 21.6	
	comp=Z,3μm,0.3s							
IMHD	**Mahdasht**	**3.73**	**32**	Pn		**Pn**	**09 35 18.9**	**+1.7**
IMHD	**Mahdasht**	**3.73**	**32**	*e*Pn		**Pn**	**09 35 19.0**	**+1.7**
IR3	**Iran Long-Peri**	**3.74**	**38**	*e*Pn		**Pn**	**09 35 19.0**	**+1.7**
IR3	**Iran Long-Peri**	**3.74**	**38**	*e*Pn		**Pn**	**09 35 19.0**	**+1.7**
IVRN	**Varamin**	**3.81**	**49**	*e*Pn		**Pn**	**09 35 19.7**	**+1.5**
IVRN				*e*			09 35 33.1	
	comp=Z,4μm,0.2s							
IVRN	**Varamin**	**3.81**	**49**	Pn		**Pn**	**09 35 20.0**	**+1.8**
IVRN	**Varamin**	**3.81**	**49**	*e*Pn		**Pn**	**09 35 19.7**	**+1.5**
NASN	**Na'in**	**3.87**	**85**	*e*Pn		**Pn**	**09 35 20.3**	**+1.0**
NASN	**Na'in**	**3.87**	**85**	*e*Pn		**Pn**	**09 35 20.3**	**+1.0**
NASN	**Na'in**	**3.87**	**85**	*e*Pn		**Pn**	**09 35 20.5**	**+1.2**
CHTH	**Charan**	**4.13**	**35**	*e*Pn		**Pn**	**09 35 24.2**	**+1.3**
CHTH	**Charan**	**4.13**	**35**	*e*Pn		**Pn**	**09 35 24.2**	**+1.3**
ZNJK	**Zanjan**	**4.14**	**5**	*e*Pn		**Pn**	**09 35 25.7**	**+2.7**
ZNJK	**Zanjan**	**4.14**	**5**	*e*Pn		**Pn**	**09 35 25.7**	**+2.7**
IGZV	**Ghazvin**	**4.18**	**23**	*e*Pn		**Pn**	**09 35 24.9**	**+1.4**
IGZV				*e*			09 36 21.3	
	comp=Z,3μm,0.3s							
IGZV	**Ghazvin**	**4.18**	**23**	Pn		**Pn**	**09 35 24.3**	**+0.8**
IGZV	**Ghazvin**	**4.18**	**23**	*e*Pn		**Pn**	**09 35 24.9**	**+1.4**
IKRK	**Kirkuk**	**4.32**	**313**	*e*PN4		Pg	09 35 46.8	+4.6
IKRK				*e*SN4		Sg	09 36 31.2	-7.0
KFJS		**4.34**	**183**	S		**Sn**	**09 36 17.8**	**+1.6**
	baz=193							
KFJS		**4.34**	**183**	P		**Pn**	**09 35 27.9**	**+2.5**
	baz=193							
KFJS		**4.34**	**183**	P		**Pn**	**09 35 28.0**	**+2.5**
KFJS				S		**Sn**	**09 36 18.0**	**+1.9**
DAMV	**Damavand**	**4.38**	**44**	*e*Pn		**Pn**	**09 35 27.4**	**+1.2**
DAMV	**Damavand**	**4.38**	**44**	*e*Pn		**Pn**	**09 35 27.4**	**+1.2**
IDMV	**Damavand**	**4.38**	**45**	*e*Pn		**Pn**	**09 35 27.2**	**+1.0**
IDMV				*e*			09 36 39.5	
	comp=Z,3μm,0.5s							
IDMV	**Damavand**	**4.38**	**45**	Pn		**Pn**	**09 35 26.4**	**+0.2**
IDMV	**Damavand**	**4.38**	**45**	*e*Pn		**Pn**	**09 35 27.2**	**+1.0**
ISAD	**Sadrabad**	**4.66**	**96**	*e*Pn		**Pn**	**09 35 31.2**	**+1.1**
ISAD				*e*			09 37 00.9	
	comp=Z,2μm,0.5s							
ISAD	**Sadrabad**	**4.66**	**96**	Pn		**Pn**	**09 35 31.3**	**+1.2**
ISAD	**Sadrabad**	**4.66**	**96**	*e*Pn		**Pn**	**09 35 31.2**	**+1.1**
ILAS	**Lasjerd**	**4.84**	**53**	*e*Pn		**Pn**	**09 35 33.8**	**+1.1**
ILAS				*e*			09 37 12.2	
	comp=Z,3μm,0.4s							
ILAS	**Lasjerd**	**4.84**	**53**	*e*Pn		**Pn**	**09 35 33.8**	**+1.1**
IFIR	**Firoozkooh**	**4.86**	**49**	*e*Pn		**Pn**	**09 35 34.2**	**+1.3**
IFIR				*e*			09 37 04.0	
	comp=N,3μm,0.4s							
IFIR	**Firoozkooh**	**4.86**	**49**	*e*Pn		**Pn**	**09 35 34.2**	**+1.3**
IPAR	**Pars**	**4.92**	**122**	*e*Pn		**Pn**	**09 35 34.1**	**+0.4**
IPAR				*e*			09 36 34.7	
	comp=Z,2μm,0.4s							
IPAR	**Pars**	**4.92**	**122**	*e*Pn		**Pn**	**09 35 34.1**	**+0.4**
IPRN	**Peran**	**5.02**	**41**	*e*Pn		**Pn**	**09 35 36.3**	**+1.4**
IPRN				*e*			09 37 05.9	
	comp=Z,4μm,0.4s							
IALA	**Alasht**	**5.18**	**46**	*e*Pn		**Pn**	**09 35 39.6**	**+2.3**
IALA				*e*			09 36 09.3	
	comp=Z,2μm,0.3s							
IALA	**Alasht**	**5.18**	**46**	*e*Pn		**Pn**	**09 35 39.6**	**+2.3**
ICHK	**Chekchek**	**5.23**	**92**	*e*Pn		**Pn**	**09 35 38.1**	**+0.2**
ICHK	**Chekchek**	**5.23**	**92**	*e*Pn		**Pn**	**09 35 38.1**	**+0.2**
ISRV	**Sarvestan**	**5.24**	**126**	*e*Pn		**Pn**	**09 35 37.4**	**-0.7**
ISRV				*e*			09 36 41.1	
	comp=Z,2μm,0.1s							
ISRV	**Sarvestan**	**5.24**	**126**	Pn		**Pn**	**09 35 37.3**	**-0.8**
ISRV	**Sarvestan**	**5.24**	**126**	*e*Pn		**Pn**	**09 35 37.4**	**-0.7**
IBST	**Bostanabad**	**5.27**	**348**	*e*Pn		**Pn**	**09 35 40.1**	**+1.6**
IBST	**Bostanabad**	**5.27**	**348**	*e*Pn		**Pn**	**09 35 40.1**	**+1.6**
ISRB	**Sarab**	**5.30**	**355**	*e*Pn		**Pn**	**09 35 40.8**	**+1.9**
ISRB				*e*			09 35 59.7	
	comp=Z,2μm,0.4s							
ISRB	**Sarab**	**5.30**	**355**	Pn		**Pn**	**09 35 40.7**	**+1.9**
ISRB	**Sarab**	**5.30**	**355**	*e*Pn		**Pn**	**09 35 40.8**	**+1.9**
ISHM	**Shahmirzad**	**5.31**	**51**	*e*Pn		**Pn**	**09 35 40.5**	**+1.4**
ISHM	**Shahmirzad**	**5.31**	**51**	*e*Pn		**Pn**	**09 35 40.5**	**+1.4**
IAZR	**Azarshahr**	**5.46**	**341**	*e*Pn		**Pn**	**09 35 43.8**	**+2.8**
IAZR	**Azarshahr**	**5.46**	**341**	*e*Pn		**Pn**	**09 35 43.8**	**+2.8**
IMEH	**Mehriz**	**5.54**	**100**	*e*Pn		**Pn**	**09 35 42.6**	**+0.4**
IMEH				*e*			09 37 28.0	
	comp=N,855nm,0.3s							
IMEH	**Mehriz**	**5.54**	**100**	*e*Pn		**Pn**	**09 35 42.6**	**+0.4**
IANJ	**Anjilo**	**5.55**	**57**	*e*Pn		**Pn**	**09 35 42.6**	**+0.3**
IANJ				*e*			09 35 43.6	
	comp=Z,1μm,0.2s							
IANJ	**Anjilo**	**5.55**	**57**	*e*Pn		**Pn**	**09 35 42.6**	**+0.3**
IKIA	**Kiasar**	**5.81**	**49**	*e*Pn		**Pn**	**09 35 47.2**	**+1.3**
IKIA	**Kiasar**	**5.81**	**49**	*e*Pn		**Pn**	**09 35 47.2**	**+1.3**
IHRS	**Heris**	**5.85**	**351**	*e*Pn		**Pn**	**09 35 48.6**	**+2.1**
IHRS				*e*			09 36 17.6	
	comp=Z,1μm,0.5s							
IHRS	**Heris**	**5.85**	**351**	*e*Pn		**Pn**	**09 35 48.6**	**+2.1**
GHIR	**Ghir-Karzin**	**5.89**	**135**	*e*Pn		**Pn**	**09 35 46.4**	**-0.6**
GHIR	**Ghir-Karzin**	**5.89**	**135**	*e*Pn		**Pn**	**09 35 46.4**	**-0.6**
ASYS		**6.04**	**215**	S		**Sn**	**09 36 57.3**	**-0.9**
	baz=220							
ASYS		**6.04**	**215**	S		**Sn**	**09 36 57.0**	**-1.2**
CUKT	**Cukurca**	**6.05**	**322**	*e*P		Pn	09 35 46.9	-2.1
IGLO	**Ghaloghah**	**6.08**	**48**	*e*Pn		**Pn**	**09 35 50.8**	**+1.2**
IBAF	**Bafgh**	**6.29**	**97**	*e*Pn		**Pn**	**09 35 52.5**	**0.0**
IBAF				*e*			09 35 53.5	
	comp=Z,633nm,0.2s							
IBAF	**Bafgh**	**6.29**	**97**	*e*Pn		**Pn**	**09 35 52.5**	**0.0**
RTB	**Rutbah**	**6.70**	**276**	*e*PN4		Pb	09 36 21.7	+5.7
RTB				*e*SN4		Sb	09 37 28.7	-7.3
RTB	**Rutbah**	**6.70**	**276**	*e*Pn		Pb	09 36 21.7	+5.7
	SNR=39							
RTB				*e*Sn		Sb	09 37 28.7	-7.3
	SNR=39							
BOQSS		**6.71**	**171**	P		**Pn**	**09 35 59.7**	**+1.5**
	baz=177							
BOQSS		**6.71**	**171**	P		**Pn**	**09 36 00.0**	**+1.9**
SIRN	**S¨–rnak**	**6.88**	**318**	*i* P		**Pn**	**09 35 59.4**	**-1.1**
GEVA	**Gevas**	**7.15**	**325**	*i* P		**Pn**	**09 36 05.1**	**+0.9**
GEVA				*i* S		**Sn**	**09 37 25.8**	**+0.2**
GEVA	**Gevas**	**7.15**	**325**	*i* P		**Pn**	**09 36 05.1**	**+0.9**
GEVA				*i* S		**Sn**	**09 37 25.8**	**+0.2**
CLDR	**Caldiran**	**7.47**	**333**	*e*P		Pn	09 36 12.9	+4.2
CLDR	**Caldiran**	**7.47**	**333**	*e*P		Pn	09 36 12.9	+4.2
KRBR	**Kerman**	**7.73**	**107**	*e*Pn		**Pn**	**09 36 12.2**	**-0.1**
KRBR	**Kerman**	**7.73**	**107**	*e*Pn		**Pn**	**09 36 12.2**	**-0.1**
MARD	**Mardin**	**7.76**	**310**	*i* P		**Pn**	**09 36 11.8**	**-0.8**
MARD				*i* S		**Sn**	**09 37 38.8**	**-1.8**
BEST	**Besiri**	**7.81**	**315**	*i* P		Pn	09 36 16.8	+3.5
BEST				*i* S		**Sn**	**09 37 41.0**	**-0.9**
SVAN	**Silvan-Diyarba**	**8.03**	**316**	*e*P		Pn	09 36 11.5	-4.7
MAZI	**Mazidag**	**8.06**	**310**	*e*P		Pn	09 36 11.2	-5.4
GNI	**Garni**	**8.11**	**341**	*e*Pn		Pn	09 36 23.4	+6.1
GNI	**Garni**	**8.11**	**341**	Pn		**Pn**	**09 36 17.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=12,slow=14,SNR=2.1							
GNI				LR		LR	09 40 09.9	
	comp=Z,240nm,20.8s,baz=146,slow=43							
AGRB	**Hanur-Agry**	**8.21**	**330**	*e*P		**Pn**	**09 36 21.1**	**+2.3**
AGRB	**Hanur-Agry**	**8.21**	**330**	*e*P		**Pn**	**09 36 21.1**	**+2.3**
MRVT	**Maraveh tapeh**	**8.22**	**49**	*e*Pn		**Pn**	**09 36 21.4**	**+2.6**
MRVT	**Maraveh tapeh**	**8.22**	**49**	*e*Pn		**Pn**	**09 36 21.4**	**+2.6**
MRVT	**Maraveh tapeh**	**8.22**	**49**	*e*Pn		**Pn**	**09 36 21.4**	**+2.6**
BTHS		**8.76**	**164**	S		Sn	09 37 58.9	-6.1
	baz=169							
BTHS		**8.76**	**164**	P		**Pn**	**09 36 25.6**	**-0.6**
	baz=169							
BTHS		**8.76**	**164**	P		**Pn**	**09 36 26.0**	**-0.2**
BTHS				S		Sn	09 37 59.0	-6.1
URFA	**Urfa**	**9.14**	**305**	*e*P		Pn	09 36 28.1	-3.4
DGRG	**David-gareji**	**9.19**	**346**	P		Pn	09 36 41.8	+10
KZR	**Kazreti**	**9.34**	**342**	P		Pn	09 36 39.0	+4.8
PTK	**Pertek**	**9.59**	**314**	*e*P		Pn	09 36 33.8	-3.9
TBLG	**Delisi**	**9.60**	**344**	P		Pn	09 36 42.5	+4.9
ASF	**Jabal al Asfar**	**9.60**	**271**	Pn		**Pn**	**09 36 38.3**	**+0.5**
ASF				Sn		**Sn**	**09 38 22.6**	**-3.2**
ASF				Lg		Lg	09 39 43.6	
	comp=Z,1.1nm,0.3s,baz=195,slow=20,SNR=6.4							
DAGI	**Agillar**	**9.92**	**331**	*i* P		Pn	09 36 46.9	+4.8
AKCD	**Akcadag**	**10.19**	**307**	*i* P		**Pn**	**09 36 48.6**	**+2.7**
AKCD				*i* S		**Sn**	**09 38 36.0**	**-4.3**
AKCD	**Akcadag**	**10.19**	**307**	*i* P		**Pn**	**09 36 48.6**	**+2.7**
BAYT	**Ayd¨–ntepe-Bay**	**10.19**	**323**	*e*P		**Pn**	**09 36 44.5**	**-1.5**
KELT	**Kelkit**	**10.49**	**319**	*i* P		**Pn**	**09 36 52.9**	**+2.8**
KELT	**Kelkit**	**10.49**	**319**	*i* P		**Pn**	**09 36 52.9**	**+2.8**
ZEI	**Tsey**	**10.80**	**343**	*e*P		Pn	09 37 02.0	+7.8
ZEI				pmax		pmax		
	comp=Z,13nm,1.6s							
MMAI	**Mount Meron Ar**	**10.81**	**276**	Pn		**Pn**	**09 36 55.8**	**+1.4**
MMAI	**Mount Meron Ar**	**10.81**	**276**	Pn		**Pn**	**09 36 55.8**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=96,slow=14,SNR=2.5							
MMAI				LR		LR	09 42 23.2	
	comp=Z,171nm,18.9s,baz=95,slow=44							
MMAI	**Mount Meron Ar**	**10.81**	**276**	Pn		**Pn**	**09 36 55.8**	**+1.4**
SVSK	**Karacayir**	**11.68**	**312**	*e*P		Pn	09 37 03.0	-

VRI Vrincioaia 21.25 315⇑ *i*P P 09 39 07.3 +1.6
VRI Vrincioaia 21.25 315 P P 09 39 07.3 +1.6
PLOR Plostina 21.29 315⇑P P 09 39 08.2 +2.1
PLOR Plostina 21.29 315⇑ *i*P P 09 39 08.1 +2.0
PLOR Plostina 21.29 315 P P 09 39 08.2 +2.1
MMB Musomiste 21.49 302 ⇓P P 09 39 09.4 +1.1
MMB Musomiste 21.49 302⇓ *i*P P 09 39 09.4 +1.1
MMB Musomiste 21.49 302 P P 09 39 09.4 +1.1
MLR Muntele Rosu 21.53 313⇑ *i*P P 09 39 08.9 +0.1
MLR Muntele Rosu 21.53 313⇑P P 09 39 10.4 +0.6
MLR Muntele Rosu 21.53 313 P P 09 39 10.5 +1.7
MLR Muntele Rosu 21.53 313 P P 09 39 10.5 +1.7
comp=Z,3.6nm,0.8s,baz=177,slow=4.5,SNR=13
MLR Muntele Rosu 21.53 313 P P 09 39 08.9 +0.1
TESR Tescani 21.64 316⇑P P 09 39 10.4 +0.6
DOPR Dopca 22.11 314⇓ *i*P P 09 39 17.4 +2.5
VTS Vitosha 22.16 304 ⇓P P 09 39 16.9 +1.2
VTS Vitosha 22.16 304⇓ *i*P P 09 39 16.9 +1.2
VTS Vitosha 22.16 304 P P 09 39 16.9 +1.2
ARR Arges 22.29 312⇑ *i*P P 09 39 19.8 +2.9
EKS2 Erkin-Say 22.55 56 *e*P P 09 39 20.1 +0.4
EKS2 pmax pmax
comp=Z,10.0nm,1.4s
EKS2 Erkin-Say 22.55 56 *e*P P 09 39 20.1 +0.4
comp=Z,10nm,1.4s
EKS2 Erkin-Say 22.55 56 *e*P P 09 39 20.1 +0.4
comp=Z,10.0nm,1.4s
AK02 Malin Array Si 22.92 328 *e*P P 09 39 23.4 0.0
AK02 Malin Array Si 22.92 328 *e*P P 09 39 23.4 0.0
AK01 Malin Array Si 22.94 328 *e*P P 09 39 24.0 +0.4
AK01 Malin Array Si 22.94 328 *e*P P 09 39 24.0 +0.4
AKASG Malin Array Be 22.94 328 P P 09 39 22.4 -1.2
AKASG 09 43 13.0
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 22.94 328 P P 09 39 22.4 -1.2
AKASG PcP PcP 09 43 13.0 -0.7
AKASG Malin Array Be 22.94 328 P P 09 39 22.4 -1.2
comp=Z,4.0nm,0.9s,baz=134,slow=9.1,SNR=15
AKASG PcP PcP 09 43 13.0 -0.7
comp=Z,0.1nm,0.3s,baz=93,slow=2.2,SNR=4.8
AKASG Malin Array Be 22.94 328 P P 09 39 22.4 -1.2
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 22.94 328 PcP PcP 09 43 13.0 -0.7
KIEV Kiev 22.94 328 P P 09 39 23.3 -0.3
KIEV Kiev 22.94 328 *e*P P 09 39 24.1 +0.5
comp=Z,5.4nm,0.7s
KIEV Kiev 22.94 328 *e*P P 09 39 24.1 +0.5
comp=Z,5.4nm,0.7s
AAK Ala-Archa 23.04 57 P P 09 39 24.8 -0.2
AAK Ala-Archa 23.04 57 *e*P P 09 39 26.4 +1.5
comp=Z,3.6nm,0.9s
AAK Ala-Archa 23.04 57 LR LR 09 49 36.8
comp=Z,117nm,20.8s,baz=254,slow=40
AAK Ala-Archa 23.04 57 P P 09 39 24.8 -0.2
BURAR Bucovina Array 23.05 318⇑P P 09 39 26.7 +1.7
BURAR Bucovina Array 23.05 318⇑ *i*P P 09 39 26.7 +1.7
BUR08 Bucovina Ar. S 23.08 318 *e*P P 09 39 27.5 +2.2
BUR08 Bucovina Ar. S 23.08 318 *e*P P 09 39 27.5 +2.2
KSH Kashi 23.43 65 P P 09 39 26.9 -2.0
KSH *e*PP PnPn 09 39 57.1 +2.0
KSH *e*S S 09 43 32.5 -10
KSH sS **sS** 09 43 46.3 -1.1
KSH *e*SS SnSn 09 44 17.1 -0.4
KSH pmax pmax
comp=Z,4.0nm,0.4s
KSH LR LR
comp=Z,190nm,6.8s
KSH LR LR
comp=Z,150nm,8.1s
KSH LR LR
comp=Z,180nm,8.7s
BOLS Boljevac 23.44 306 *e*P P 09 39 27.7 -1.1
SELS Selova 23.82 304 *e*P P 09 39 32.2 -0.3
TKM2 Tokmak 2 23.90 56 *e*P P 09 39 34.1 +0.5
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
TKM2 Tokmak 2 23.90 56 *e*P P 09 39 34.1 +0.5
comp=Z,7.9nm,0.7s
TKM2 Tokmak 2 23.90 56 *e*P P 09 39 34.1 +0.5
comp=Z,8.0nm,0.7s
OBN Obninsk 24.03 343⇑ *e*P P 09 39 33.9 -0.4
OBN *e*S S 09 43 42.1 -9.1
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 24.03 343 LR LR 09 50 33.7
comp=Z,133nm,18.7s,baz=96,slow=41
OBN Obninsk 24.03 343 *e*P P 09 39 33.9 -0.4
comp=Z,7.0nm,0.5s
GRUS Gruza 24.30 306 *e*P P 09 39 36.7 -0.4
BZS Buzias 24.32 310⇑P P 09 39 38.5 +1.3
BZS Buzias 24.32 310⇑ *i*P P 09 39 38.5 +1.3
BZS Buzias 24.32 310 P P 09 39 38.5 +1.3
MOS Moscow 24.36 345 *e*P P 09 39 37.9 +0.5
MOS *e* 09 40 11.5
MOS *e* 09 40 24.9
MOS *e* 09 45 03.2
MOS pmax pmax
comp=Z,61nm,1.0s
MOS Moscow 24.36 345 *e*P P 09 39 37.9 +0.5
comp=Z,61nm,1.0s
SIRR Siria 24.55 312⇓ *i*P P 09 39 41.5 +2.2
IVAS Ivanjica 24.60 305 *e*P P 09 39 40.6 +0.8
DIVS Divibare 24.86 306 *e*P P 09 39 42.9 +0.7
TRPA Tarpa 24.87 316⇓ *i*P P 09 39 43.6 +1.5
ARU Arti 24.95 14*c i*P P 09 39 43.6 +0.9
ARU 09 40 14.0
ARU S **S** 09 44 09.0 +3.0
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 24.95 14 *e*P P 09 39 42.5 -0.2
comp=Z,30nm,1.0s
ARU Arti 24.95 14 *e*P P 09 39 42.5 -0.2
comp=Z,30nm,1.0s
BBLS Lazići 25.20 305 *e*P P 09 39 43.4 -1.8
NDI New Delhi 25.20 91 *e*P P 09 39 45.0 -0.3
FGSL Fruska Gora 25.33 308 *e*P P 09 39 47.2 +0.8
KOLS Kolonicke sedl 25.42 318 *e*P P 09 39 48.9 +1.8
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 25.42 318 *e*P P 09 39 48.9 +1.8
KOLS Kolonicke sedl 25.42 318 *e*P P 09 39 48.9 +1.8
comp=Z,10.0nm,1.1s
SVE Sverdlovsk 25.76 16 *e*P P 09 39 50.4 +0.3
SVE pmax pmax
comp=Z,13nm,0.9s
SVE Sverdlovsk 25.76 16 *e*P P 09 39 50.4 +0.3
comp=Z,13nm,0.9s
CRVS Cervenica-Dubn 25.87 317 *e*P P 09 39 52.2 +1.0
CRVS pmax pmax
comp=Z,4.0nm,0.8s
CRVS Cervenica-Dubn 25.87 317 *e*P P 09 39 52.2 +1.0
CRVS Cervenica-Dubn 25.87 317 *e*P P 09 39 52.2 +1.0
comp=Z,4.0nm,0.8s
BRVK Borovoye 25.93 31⇓ *e*P P 09 39 51.4 -0.3
BRVK pmax pmax
comp=Z,128nm,26.1s
BRVK Borovoye 25.93 31 *e*P P 09 39 51.4 -0.3
comp=Z,128nm,26.1s
BVA0 Borovoye Array 25.96 31 *i* P P 09 39 51.7 -0.2
BVA0 pmax pmax
comp=Z,6.0nm,0.8s
BVA0 Borovoye Array 25.96 31 *i* P P 09 39 51.7 -0.2
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 25.96 31 P P 09 39 51.1 -0.8
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 25.96 31 P P 09 39 51.1 -0.8
BVAR Borovoye Array 25.96 31 P P 09 39 51.1 -0.8
comp=Z,1.4nm,0.4s,baz=222,slow=6.5,SNR=10
BVAR Borovoye Array 25.96 31 P P 09 39 51.1 -0.8
comp=Z,1.0nm,0.4s
STHS Stebnicka Huta 26.25 318 *e*P P 09 39 57.3 +2.6
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 26.25 318 *e*P P 09 39 57.3 +2.6
STHS Stebnicka Huta 26.25 318 *e*P P 09 39 57.3 +2.6
comp=Z,2.0nm,0.9s
TIP Timpagrande 26.27 294 *e*P P 09 39 56.3 +1.3
comp=Z,15nm,1.4s
TIP Timpagrande 26.27 294 *e*P P 09 39 56.3 +1.3
comp=Z,15nm,1.4s
PSZ Piszkesteto 26.35 314⇑P P 09 39 57.3 +1.7
PSZ Piszkesteto 26.35 314⇑ *i*P P 09 39 57.3 +1.7
PSZ Piszkesteto 26.35 314 *e*P P 09 39 59.4 +3.8
comp=Z,15nm,1.1s
PSZ Piszkesteto 26.35 314 P P 09 39 57.3 +1.7
CEL Celeste 26.89 291 *e*P P 09 40 03.0 +2.3
comp=Z,32nm,1.1s
NACGM Naroch 27.00 332 *e* P 09 40 01.0 -0.3
KURBB Kurchatov Arra 28.70 42 P P 09 40 16.0 -0.6
comp=Z,3.9nm,0.7s,baz=243,slow=9.7,SNR=9.4
KURK Kurchatov 28.79 42 P P 09 40 16.0 -1.4
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 28.79 42 P P 09 40 16.0 -1.4
KURK Kurchatov 28.79 42 P P 09 40 16.0 -1.4
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 29.57 51 *i* P P 09 40 24.1 -0.3
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 29.57 51 *e*P P 09 40 24.4 0.0
MK31 Makanchi Array 29.57 51 *i* P P 09 40 24.1 -0.3
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 29.57 51 P P 09 40 23.1 -1.3
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 29.57 51 *e*P P 09 40 24.6 +0.2
MKAR Makanchi Array 29.57 51 P P 09 40 23.1 -1.3
comp=Z,5.0nm,0.7s,baz=251,slow=8.3,SNR=25
MKAR Makanchi Array 29.57 51 *e*P P 09 40 24.6 +0.2
VSU Vasula 29.72 337⇑ *e*P P 09 40 25.1 -0.4
VSU pmax pmax
comp=Z,88nm,1.0s
VSU Vasula 29.72 337 *e*P P 09 40 25.1 -0.4
comp=Z,88nm,1.0s
MOA Molln 29.84 311⇓ *i*P P 09 40 27.6 +0.9
comp=Z,5.7nm,0.9s
MOA Molln 29.84 311 P P 09 40 27.6 +0.9
comp=Z,5.7nm,0.9s
GERES GERESS Array B 30.52 312 P P 09 40 32.7 -0.1
GERES PcP PcP 09 43 31.2 -0.4
GERES GERESS Array B 30.52 312 P P 09 40 32.7 -0.1
comp=Z,0.9nm,0.7s,baz=93,slow=8.0,SNR=5.8
GERES PcP PcP 09 43 31.2 -0.4
comp=Z,0.9nm,0.8s,baz=115,slow=4.4,SNR=5.3
GERES GERESS Array B 30.52 312 P P 09 40 32.7 -0.1
comp=Z,1.0nm,0.7s
GERES GERESS Array B 30.52 312 PcP PcP 09 43 31.2 -0.4
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 30.69 313 P P 09 40 36.1 +1.8
KHC pmax pmax
comp=Z,54nm,2.3s
KHC Kasperske Hory 30.69 313 P P 09 40 36.1 +1.8
comp=Z,54nm,2.3s
MOTA Moosalm 31.75 309⇑ *i*P P 09 40 43.7 -0.1
comp=Z,5.6nm,0.7s
MOTA Moosalm 31.75 309 P P 09 40 43.7 -0.1
comp=Z,5.6nm,0.7s
CLL Collm 31.82 317 *e*P P 09 40 44.0 -0.1
FETA Feichten 31.92 308⇑ *i*P P 09 40 46.0 +0.7
comp=Z,5.7nm,0.9s
FETA Feichten 31.92 308 P P 09 40 46.0 +0.7
comp=Z,5.7nm,0.9s
JOF Joensuu 32.25 346 *e*P P 09 40 47.7 0.0
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 32.25 346 *e*p P 09 40 47.7 0.0
comp=Z,7.4nm,0.7s
JOF Joensuu 32.25 346 *e*P P 09 40 47.7 0.0
comp=Z,7.0nm,0.7s
FINES FINESS Array B 32.30 340 P P 09 40 47.7 -0.5
FINES FINESS Array B 32.30 340 P P 09 40 47.7 -0.5
comp=Z,2.3nm,0.4s,baz=143,slow=11,SNR=22
FINES LR LR 09 55 43.8
comp=Z,134nm,19.8s,baz=350,slow=40
FINES FINESS Array B 32.30 340 P P 09 40 47.7 -0.5
comp=Z,134nm,19.8s
PGF Pioggiola 32.43 299 *e*P P 09 40 50.3 +0.6
PGF Pioggiola 32.43 299 *e*P P 09 40 50.3 +0.6
PGF Pioggiola 32.43 299 *e*P P 09 40 50.3 +0.6
PGF Pioggiola 32.43 299 *e*P P 09 40 50.3 +0.6
WMQ Urumqi 32.72 58 P P 09 40 52.4 +0.2
WMQ pP pP 09 41 02.0 +6.7
WMQ PP PnPn 09 42 00.1 0.0
WMQ PcP PcP 09 43 38.3 +0.6
WMQ pmax pmax
comp=Z,11nm,0.4s
WMQ LR LR
comp=Z,110nm,22.4s
WMQ LR LR
comp=Z,79nm,15.6s
KAF Kangasniemi 32.77 341 *e*P P 09 40 52.2 -0.2
KAF Kangasniemi 32.77 341 *e*p P 09 40 52.2 -0.2
KAF Kangasniemi 32.77 341 *e*P P 09 40 52.2 -0.2
ZALV Zalesovo Beam 33.63 40 P P 09 40 59.3 -0.6
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 33.63 40 P P 09 40 59.3 -0.6
ZALV Zalesovo Beam 33.63 40 P P 09 40 59.3 -0.6
comp=Z,3.2nm,0.5s,baz=242,slow=8.4,SNR=13
ZALV Zalesovo Beam 33.63 40 P P 09 40 59.3 -0.6
comp=Z,3.0nm,0.5s
SBF Sospel 33.69 302 *e*P P 09 41 01.3 +0.6
comp=Z,22nm,0.8s
SBF Sospel 33.69 302 *e*P P 09 41 01.3 +0.6
SBF pmax pmax
comp=Z,22nm,0.8s
SBF Sospel 33.69 302 *e*P P 09 41 01.3 +0.6
comp=Z,22nm,0.8s
SBF Sospel 33.69 302 *e*P P 09 41 01.3 +0.6
comp=Z,11nm,0.8s
MBDF Montbardon 34.25 303 *e*P P 09 41 05.9 +0.2
comp=Z,21nm,0.9s
MBDF Montbardon 34.25 303 *e*P P 09 41 05.9 +0.2
MBDF pmax pmax
comp=Z,21nm,0.9s
MBDF Montbardon 34.25 303 *e*P P 09 41 05.9 +0.2
comp=Z,21nm,0.9s
MBDF Montbardon 34.25 303 *e*P P 09 41 05.9 +0.2
comp=Z,10nm,0.9s
BNI Bardonecchia 34.35 304 *e*P P 09 41 06.9 +0.4
BNI pmax pmax
comp=Z,24nm,0.9s
BNI Bardonecchia 34.35 304 *e*P P 09 41 06.9 +0.4
comp=Z,24nm,0.9s
BNI Bardonecchia 34.35 304 *e*P P 09 41 06.9 +0.4
comp=Z,24nm,0.9s
LPG La Plagne 34.36 304 *e*P P 09 41 06.9 +0.2
comp=Z,13nm,0.6s
LPG La Plagne 34.36 304 *e*P P 09 41 06.9 +0.2
LPG pmax pmax
comp=Z,13nm,0.6s
LPG La Plagne 34.36 304 *e*P P 09 41 06.9 +0.2
comp=Z,13nm,0.6s
LPG La Plagne 34.36 304 *e*P P 09 41 06.9 +0.2
comp=Z,6.4nm,0.6s
LPL La Plagne 34.37 304 *e*P P 09 41 06.9 +0.1
comp=Z,20nm,0.7s
LPL La Plagne 34.37 304 *e*P P 09 41 06.9 +0.1
LPL pmax pmax
comp=Z,20nm,0.7s
LPL La Plagne 34.37 304 *e*P P 09 41 06.9 +0.1
comp=Z,20nm,0.7s
LPL La Plagne 34.37 304 *e*P P 09 41 06.9 +0.1
comp=Z,10nm,0.7s
HINF Hinteralfeld 34.66 308 *e*P P 09 41 08.7 -0.3
HINF Hinteralfeld 34.66 308 *e*P P 09 41 08.7 -0.3
HINF Hinteralfeld 34.66 308 *e*P P 09 41 08.7 -0.3
HINF Hinteralfeld 34.66 308 *e*P P 09 41 08.7 -0.3
ORIF Oris-en-Rattie 34.90 303 *e*P P 09 41 11.0 -0.2
comp=Z,8.8nm,0.8s
ORIF Oris-en-Rattie 34.90 303 *e*P P 09 41 11.0 -0.2
ORIF pmax pmax
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 34.90 303 *e*P P 09 41 11.0 -0.2
comp=Z,8.8nm,0.8s
ORIF Oris-en-Rattie 34.90 303 *e*P P 09 41 11.0 -0.2
comp=Z,4.4nm,0.8s
CABF La Chapelle 34.97 306 *e*P P 09 41 12.1 +0.3
comp=Z,38nm,0.9s
CABF La Chapelle 34.97 306 *e*P P 09 41 12.1 +0.3
CABF pmax pmax
comp=Z,38nm,0.9s
CABF La Chapelle 34.97 306 *e*P P 09 41 12.1 +0.3
comp=Z,38nm,0.9s
CABF La Chapelle 34.97 306 *e*P P 09 41 12.1 +0.3
comp=Z,19nm,0.9s
HAU Haudompre 35.03 309 *e*P P 09 41 11.6 -0.6
HAU Haudompre 35.03 309 *e*P P 09 41 11.6 -0.6
HAU Haudompre 35.03 309 *e*P P 09 41 11.6 -0.6
SFTF Sexfontaines 35.93 309 *e*P P 09 41 19.7 -0.2
comp=Z,18nm,0.8s
SFTF Sexfontaines 35.93 309 *e*P P 09 41 19.7 -0.2
comp=Z,18nm,0.8s
SFTF Sexfontaines 35.93 309 *e*P P 09 41 19.7 -0.2
comp=Z,8.9nm,0.8s
MEZF Maizieres J'vi 35.97 309 *e*P P 09 41 20.2 0.0
comp=Z,32nm,1.0s
MEZF Maizieres J'vi 35.97 309 *e*P P 09 41 20.2 0.0
comp=Z,32nm,1.0s
MEZF Maizieres J'vi 35.97 309 *e*P P 09 41 20.2 0.0
comp=Z,16nm,1.0s
LASF Ste Croix 36.28 302 *e*P P 09 41 22.7 -0.3
comp=Z,14nm,1.0s
LASF Ste Croix 36.28 302 *e*P P 09 41 22.7 -0.3
comp=Z,14nm,1.0s
LASF Ste Croix 36.28 302 *e*P P 09 41 22.7 -0.3
comp=Z,7.2nm,1.0s
GIVF Givet 36.43 312 *e*P P 09 41 24.5 +0.4
GIVF Givet 36.43 312 *e*P P 09 41 24.5 +0.4
GIVF Givet 36.43 312 *e*P P 09 41 24.5 +0.4
GIVF Givet 36.43 312 *e*P P 09 41 24.5 +0.4
SMF Signal de Mont 36.51 306 *e*P P 09 41 24.7 -0.2
comp=Z,21nm,0.7s
SMF Signal de Mont 36.51 306 *e*P P 09 41 24.7 -0.2
SMF pmax pmax
comp=Z,21nm,0.7s
SMF Signal de Mont 36.51 306 *e*P P 09 41 24.7 -0.2
comp=Z,21nm,0.7s
SMF Signal de Mont 36.51 306 *e*P P 09 41 24.7 -0.2
comp=Z,11nm,0.7s
LOR Lormes 36.57 307 *e*P P 09 41 24.8 -0.7
LOR Lormes 36.57 307 *e*P P 09 41 24.8 -0.7
LOR Lormes 36.57 307 *e*P P 09 41 24.8 -0.7
SSF Saint Saulge 36.79 307 *e*P P 09 41 27.0 -0.2
comp=Z,6.7nm,0.7s
SSF Saint Saulge 36.79 307 *e*P P 09 41 27.0 -0.2
SSF pmax pmax
comp=Z,7.0nm,0.7s
SSF Saint Saulge 36.79 307 *e*P P 09 41 27.0 -0.2
comp=Z,6.7nm,0.7s
SSF Saint Saulge 36.79 307 *e*P P 09 41 27.0 -0.2
comp=Z,3.3nm,0.7s
BAIF Baives 36.81 312 *e*P P 09 41 28.0 +0.6
BAIF Baives 36.81 312 *e*P P 09 41 28.0 +0.6
BAIF Baives 36.81 312 *e*P P 09 41 28.0 +0.6
BAIF Baives 36.81 312 *e*P P 09 41 28.0 +0.6
AVF Avril sur Loir 36.86 306 *e*P P 09 41 28.3 +0.4
comp=Z,26nm,1.2s
AVF Avril sur Loir 36.86 306 *e*P P 09 41 28.3 +0.4
AVF pmax pmax
comp=Z,26nm,1.2s
AVF Avril sur Loir 36.86 306 *e*P P 09 41 28.3 +0.4
comp=Z,26nm,1.2s
AVF Avril sur Loir 36.86 306 *e*P P 09 41 28.3 +0.4
comp=Z,13nm,1.2s
BGF Bois d'Agland 37.18 306 *e*P P 09 41 30.3 -0.3
BGF Bois d'Agland 37.18 306 *e*P P 09 41 30.3 -0.3
BGF Bois d'Agland 37.18 306 *e*P P 09 41 30.3 -0.3
BGF Bois d'Agland 37.18 306 *e*P P 09 41 30.3 -0.3
NB2 NORSAR Subarra 37.27 331 P P 09 41 30.4 -0.8
comp=Z,1.7nm,0.7s,baz=125,slow=8.6
NB2 NORSAR Subarra 37.27 331 P P 09 41 30.4 -0.8
comp=Z,1.7nm,0.7s,SNR=5.1
NOA NORSAR Array B 37.27 331 P P 09 41 30.5 -0.8
NOA NORSAR Array B 37.27 331 P P 09 41 30.5 -0.8
comp=Z,1.4nm,0.7s,baz=123,slow=8.6,SNR=4.9
NOA NORSAR Array B 37.27 331 P P 09 41 30.5 -0.8
comp=Z,1.0nm,0.7s
TCF Toulx Ste Croi 37.59 305 *e*P P 09 41 34.0 -0.2
TCF Toulx Ste Croi 37.59 305 *e*P P 09 41 34.0 -0.2
TCF Toulx Ste Croi 37.59 305 *e*P P 09 41 34.0 -0.2
TCF Toulx Ste Croi 37.59 305 *e*P P 09 41 34.0 -0.2
ARCES ARCESS Array B 39.19 348 P P 09 41 47.2 0.0
ARCES ARCESS Array B 39.19 348 P P 09 41 47.2 0.0
comp=Z,2.4nm,0.5s,baz=162,slow=8.1,SNR=15
ARCES ARCESS Array B 39.19 348 P P 09 41 47.3 0.0
comp=Z,2.0nm,0.5s
LDF La Druitiere 39.39 309 *e*P P 09 41 48.3 -0.8
LDF La Druitiere 39.39 309 *e*P P 09 41 48.3 -0.8
LDF La Druitiere 39.39 309 *e*P P 09 41 48.3 -0.8
LDF La Druitiere 39.39 309 *e*P P 09 41 48.3 -0.8
FLN La Foliniere 39.64 309 *e*P P 09 41 50.5 -0.8
FLN La Foliniere 39.64 309 *e*P P 09 41 50.5 -0.8
FLN La Foliniere 39.64 309 *e*P P 09 41 50.5 -0.8
FLN La Foliniere 39.64 309 *e*P P 09 41 50.5 -0.8
GRR Gorron 39.85 308 *e*P P 09 41 52.3 -0.7
comp=Z,26nm,0.9s
GRR Gorron 39.85 308 *e*P P 09 41 52.3 -0.7
GRR pmax pmax
comp=Z,26nm,0.9s
GRR Gorron 39.85 308 *e*P P 09 41 52.3 -0.7
comp=Z,26nm,0.9s
GRR Gorron 39.85 308 *e*P P 09 41 52.3 -0.7
comp=Z,13nm,0.9s
QUIF Quistinic 41.37 307 *e*P P 09 42 04.7 -0.8
QUIF Quistinic 41.37 307 *e*P P 09 42 04.7 -0.8
QUIF Quistinic 41.37 307 *e*P P 09 42 04.7 -0.8
QUIF Quistinic 41.37 307 *e*P P 09 42 04.7 -0.8
ROSF Rostrenen 41.46 308 *e*P P 09 42 05.5 -0.8
ROSF Rostrenen 41.46 308 *e*P P 09 42 05.5 -0.8
ROSF Rostrenen 41.46 308 *e*P P 09 42 05.5 -0.8
ROSF Rostrenen 41.46 308 *e*P P 09 42 05.5 -0.8
GTA Gaotai 41.83 66 *e*P P 09 42 09.5 -0.2
GTA pP pP 09 42 20.3 +7.5
GTA sP sP 09 42 24.4 +10
GTA pmax pmax
comp=Z,8.0nm,0.7s
ESDC Sonseca Array 42.27 295 P P 09 42 13.9 +0.7
ESDC Sonseca Array 42.27 295 P P 09 42 13.9 +0.7
comp=Z,1.1nm,0.6s,baz=74,slow=8.4,SNR=9.8
ESDC Sonseca Array 42.27 295 P P 09 42 13.9 +0.7
LZH Lanzhou 45.55 69 *e*P P 09 42 37.5 -2.1
LZH pP **pP** 09 42 47.9 +5.1
LZH sP sP 09 42 52.6 +8.6
LZH pmax pmax
comp=Z,16nm,1.0s
TOA0 Torodi Ar. Sit 46.61 257 *e*P P 09 42 48.0 0.0
TOA0 Torodi Ar. Sit 46.61 257 *e*P P 09 42 48.0 0.0
TORD Torodi Ar. Bea 46.61 257 P P 09 42 48.2 +0.2
TORD Torodi Ar. Bea 46.61 257 P P 09 42 48.2 +0.2
comp=Z,2.5nm,0.8s,baz=57,slow=8.9,SNR=21
TORD Torodi Ar. Bea 46.61 257 P P 09 42 48.2 +0.2
SPITS Spitsbergen Ar 47.81 352 P P 09 42 56.6 0.0
SPITS Spitsbergen Ar 47.81 352 P P 09 42 56.6 0.0
comp=Z,11nm,0.8s,baz=141,slow=9.3,SNR=13
SPITS Spitsbergen Ar 47.81 352 P P 09 42 56.6 0.0
comp=Z,11nm,0.8s
KMI Kunming 47.89 84 P P 09 42 57.4 -0.8
KMI pP pP 09 43 07.4 +6.1
KMI sP sP 09 43 11.6 +9.0
KMI pmax pmax
comp=Z,11nm,1.3s
HHC Hu-ho-hao-te 50.48 61 *e*P P 09 43 16.5 -1.2
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,140nm,3.7s
GYA Guiyang 50.68 81 *e*P P 09 43 18.3 -1.1
GYA pmax pmax
comp=Z,10.0nm,0.9s
LSZ Lusaka 51.27 205 *e*P P 09 43 25.4 +1.7
comp=Z,3.7nm,1.0s
DBIC Dimbokro 55.55 254 P P 09 43 55.4 +0.1
DBIC Dimbokro 55.55 254 P P 09 43 55.4 +0.1
comp=Z,3.9nm,0.7s,baz=51,slow=6.5,SNR=5.8
DBIC Dimbokro 55.55 254 P P 09 43 55.4 +0.1
comp=Z,4.0nm,0.7s
KIC Kosan Boka 55.64 254 *e*P P 09 43 56.2 +0.3
comp=Z,33nm,1.1s
TIC Toumodi 55.70 254 *e*P P 09 43 56.6 +0.2
LIC Lamto 55.95 254⇑ *i*P P 09 43 58.5 +0.4
comp=Z,13nm,0.7s
LIC Lamto 55.95 254 *e*P P 09 43 58.1 0.0
comp=Z,30nm,0.9s
LIC Lamto 55.95 254⇑ *i*P P 09 43 58.5 +0.4
comp=Z,13nm,0.7s
LIC Lamto 55.95 254⇑ *i*P P 09 43 58.5 +0.4
comp=Z,6.3nm,0.7s
TIXI Tiksi 56.55 22⇓ *e*P P 09 44 00.7 -0.9
TIXI pmax pmax
comp=Z,3.0nm,1.2s

TIXI	**Tiksi**	**56.55**	**22**	*e*P		**P**	**09 44 00.7**	**-0.9**
	comp=Z,3.2nm,0.9s								
TIXI	**Tiksi**	**56.55**	**22**	*e*P		**P**	**09 44 00.7**	**-0.9**
	comp=Z,3.0nm,1.2s								
SUMG	**Summit**	**58.33**	**339**	*e*P		**P**	**09 44 14.5**	**-0.2**
SUMG				pmax	pmax				
	comp=Z,9.0nm,0.9s								
SUMG	**Summit**	**58.33**	**339**	*i* P		**P**	**09 44 15.0**	**+0.3**
	comp=Z,7.1nm,0.9s								
SUMG	**Summit**	**58.33**	**339**	*e*P		**P**	**09 44 14.5**	**-0.2**
	comp=Z,8.9nm,0.9s								
SUMG	**Summit**	**58.33**	**339**	*e*P		**P**	**09 44 14.5**	**-0.2**
	comp=Z,9.0nm,0.9s								
NJ2	**Nanjing**	**58.62**	**70**	*e*P		**P**	**09 44 14.5**	**-2.3**
NJ2				pmax	pmax				
	comp=Z,20nm,0.5s								
CN2	**Changchun**	**59.70**	**55**	*e*P		**P**	**09 44 24.9**	**+0.8**
LBTB	**Lobatse**	**61.17**	**203**	*e*P		**P**	**09 44 35.1**	**+0.8**
	comp=Z,21nm,1.4s								
LBTB	**Lobatse**	**61.17**	**203**	*e*P		**P**	**09 44 35.2**	**+0.8**
	comp=Z,21nm,1.4s								
KSAR	**Wonju Array Be**	**63.59**	**61**	P		**P**	**09 44 48.7**	**-1.8**
KSAR	**Wonju Array Be**	**63.59**	**61**	P		**P**	**09 44 48.7**	**-1.8**
KSRS	**Korea Array**	**63.61**	**61**	P		**P**	**09 44 48.7**	**-1.9**
	comp=Z,3.5nm,0.6s,baz=285,slow=6.6,SNR=19								
KSRS	**Korea Array**	**63.61**	**61**	P		**P**	**09 44 48.7**	**-1.9**
	comp=Z,3.0nm,0.6s								
USRK	**Ussuriysk Arra**	**64.03**	**53**	P		P	09 44 50.3	-2.9
	comp=Z,1.6nm,0.6s,baz=305,slow=5.1,SNR=4.9								
BOSA	**Boshof**	**64.61**	**202**	*e*P		**P**	**09 44 57.7**	**+0.4**
	comp=Z,24nm,1.6s								
BOSA	**Boshof**	**64.61**	**202**	P		**P**	**09 44 58.0**	**+0.8**
	comp=Z,9.7nm,0.9s,baz=22,slow=7.1,SNR=12								
BOSA	**Boshof**	**64.61**	**202**	*e*P		**P**	**09 44 57.7**	**+0.4**
	comp=Z,24nm,1.6s								
SEY	**Seymchan**	**67.57**	**29**⇓	*e*P		**P**	**09 45 15.8**	**0.0**
SEY	**Seymchan**	**67.57**	**29**	P		**P**	**09 45 15.5**	**-0.3**
SEY	**Seymchan**	**67.57**	**29**	P		**P**	**09 45 15.5**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=250,slow=6.5,SNR=12								
SEY	**Seymchan**	**67.57**	**29**	P		**P**	**09 45 15.5**	**-0.3**
COLA	**College**	**82.10**	**7**	*e*P		**P**	**09 46 39.4**	**-0.4**
COLA				pmax	pmax				
	comp=Z,5.0nm,1.2s								
COLA	**College**	**82.10**	**7**	*e*P		**P**	**09 46 39.4**	**-0.4**
	comp=Z,4.7nm,1.2s								
COLA	**College**	**82.10**	**7**	*e*P		**P**	**09 46 39.4**	**-0.4**
	comp=Z,5.0nm,1.2s								
ILAR	**Eielson Array**	**82.29**	**6**	P		**P**	**09 46 39.5**	**-1.4**
ILAR	**Eielson Array**	**82.29**	**6**	P		**P**	**09 46 39.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=320,slow=3.5,SNR=8.3								
ILAR	**Eielson Array**	**82.29**	**6**	P		**P**	**09 46 39.5**	**-1.4**
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**84.30**	**352**	P		**P**	**09 46 50.1**	**-1.1**
YKA	**Yellowknife Ar**	**84.30**	**352**	P		**P**	**09 46 50.1**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=12,slow=5.3,SNR=23								
YKA	**Yellowknife Ar**	**84.30**	**352**	*i* P		**P**	**09 46 50.0**	**-1.1**
	comp=Z,1.0nm,0.8s								

IDC 17 09:36:36.3±3.0, 54°.33N×87°.38E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=25.2km s-min=16.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**257**	*i*		09 47 27.3	
	baz=79,slow=354,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.55**	**257**	Pg	Pn	09 37 03.5	-1.7
	3.7nm,0.3s,baz=71,slow=17,SNR=41						
ZALV				Lg	Lg	09 37 25.5	
	1.9nm,0.3s,baz=74,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**6.56**	**239**	Pn	Pn	09 38 14.5	+0.6
	0.3nm,0.3s,baz=56,slow=14,SNR=13						
KURBB				Lg	Lg	09 40 03.6	
	0.1nm,0.3s,baz=147,slow=30,SNR=6.6						
MKAR	**Makanchi Array**	**8.21**	**205**	Pn	Pn	09 38 37.4	+0.7
	0.1nm,0.3s,baz=26,slow=14,SNR=6.9						
MKAR				Sn	Sn	09 40 11.1	+1.1
	0.1nm,0.3s,baz=26,slow=26,SNR=8.2						
MKAR				Lg	Lg	09 40 56.9	
	0.1nm,0.3s,baz=17,slow=26,SNR=3.7						

*ISCJB **17** 09:37:21.8±0.4, 25°.55N±0°.04×105°.86E±0°.05, h10km, mb4.2/22, MS3.7/1, Error ellipse: s-maj=6.4km s-min=5.2km az=43.5*

*IDC **17** 09:37:22.3±0.9, 25°.59N×105°.76E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.1/30, mbtmp4.2/17, ML4.2/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/50, Error ellipse: s-maj=22.0km s-min=17.9km az=28.0*

*BJI **17** 09:37:23.7, 25°.58N×105°.75E, h6km, mb4.1/6, ML4.4/16, Ms3.9/6, Ms7 3.9/11*

*NEIC **17** 09:37:26.1±1.8, 25°.56N×105°.80E, h27km±14km, mb4.4/5, Error ellipse: s-maj=6.6km s-min=6.2km az=86.0*

NEIC At least 7 people killed, 9 injured and 1 missing after 2 landslides occurred in Guizhou.

ISC 17 09:37:23.3±0.5, 25°.53N±0°.04×105°.88E±0°.04, h10km, n58, σ1§66/72, mb4.2/22, 1C-1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**1.17**	**37**⇓	*i* Pg	**Pb**	**09 37 45.1**	**-0.5**
GYA				Sg	**Sb**	**09 37 55.0**	**-5.9**
GYA				smax	smax		
	comp=N,7μm,0.6s						
GYA				smax	smax		
	comp=E,4μm,0.8s						
KMI	**Kunming**	**2.87**	**263**	Pn	**Pn**	**09 38 09.5**	**+0.2**
KMI				Sn	**Sn**	**09 38 44.1**	**+0.1**
KMI				Sg	**Sg**	**09 38 52.6**	**-2.9**
KMI				smax	smax		
	comp=N,580nm,0.9s						
KMI				smax	smax		
	comp=E,410nm,1.0s						
KMI				LR	LR		
	comp=N,1μm,3.8s						
KMI				LR	LR		
	comp=E,810nm,4.6s						
KMI				LR	LR		
	comp=Z,540nm,4.2s						
KMI	**Kunming**	**2.87**	**263**	Pn	**Pn**	**09 38 09.5**	**+0.2**
KMI				Pg	**Pg**	**09 38 18.0**	**-0.3**
KMI				Sn	**Sn**	**09 38 44.1**	**+0.1**
KMI				Sg	**Sg**	**09 38 52.6**	**-2.9**
SLVN	**Son La**	**4.55**	**204**	*e*Pn	**Pn**	**09 38 33.5**	**+1.2**
SLVN				*e*Pg	**Pg**	**09 38 48.4**	**-2.1**
SLVN				*e*Sg	**Sg**	**09 39 48.8**	**-0.7**
CD2	**Chengdu**	**5.68**	**341**	Pn	**Pn**	**09 38 45.8**	**-2.0**
CD2				Sn	**Sn**	**09 39 56.6**	**+3.5**
CD2				Sg	Sg	09 40 18.3	-7.3
CD2				smax	smax		
	comp=N,340nm,0.9s						
CD2				smax	smax		
	comp=E,400nm,0.8s						
CD2				LR	LR		
	comp=Z,2μm,10.1s						
ENH	**Enshi**	**5.70**	**33**	*e*Pn	**Pn**	**09 38 49.9**	**+1.8**
	31nm,0.7s						
ENH				*e*Sn	Sn	09 39 59.7	+6.1
QIZ	**Qiongzhong**	**7.44**	**150**	Pn	**Pn**	**09 39 12.1**	**+0.1**
QIZ				LR	LR		
	comp=E,460nm,8.6s						
QIZ				LR	LR		
	comp=Z,1μm,10.7s						
QIZ	**Qiongzhong**	**7.44**	**150**	*e*Pn	**Pn**	**09 39 12.0**	**+0.1**
XAN	**Xi'an**	**8.88**	**17**	P	**Pn**	**09 39 32.3**	**+0.5**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				LR	LR		
	comp=N,190nm,6.6s						
XAN				LR	LR		
	comp=E,170nm,7.0s						
XAN				LR	LR		
	comp=Z,120nm,9.1s						
WHN	**Wuhan**	**9.00**	**54**	⇑P	**Pn**	**09 39 31.3**	**-2.0**
WHN				S	**Sn**	**09 41 13.3**	**-1.4**
WHN				LR	LR		
	comp=N,1μm,4.5s						
WHN				LR	LR		
	comp=E,940nm,5.0s						
WHN				LR	LR		
	comp=Z,560nm,9.2s						
CMAR	**Chiang Mai Arr**	**9.53**	**224**	Pn	**Pn**	**09 39 42.1**	**+1.5**
CMAR				Lg	Lg	09 42 28.5	
CMAR	**Chiang Mai Arr**	**9.53**	**224**	Pn	**Pn**	**09 39 42.1**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=32,slow=12,SNR=7.2						
CMAR				Lg	Lg	09 42 28.5	
	comp=Z,0.6nm,0.3s,baz=52,slow=29,SNR=6.6						
CMAR				LR	LR	09 43 52.3	
	comp=Z,97nm,18.5s,baz=40,slow=41						
LZH	**Lanzhou**	**10.67**	**351**	*e*P	**Pn**	**09 39 55.5**	**-0.8**
LZH				pP		09 39 58.6	
LZH				sP		09 40 01.5	
LZH				*e*S	**Sn**	**09 41 51.3**	**-4.6**
LZH				SS	**SnSn**	**09 42 09.4**	**+1.2**
LZH				LR	LR		
	comp=Z,850nm,10.1s						
NJ2	**Nanjing**	**13.10**	**57**	*e*P	P	09 40 35.6	-4.1
LSA	**Lhasa**	**13.70**	**291**	P	**Pn**	**09 40 38.0**	**-0.1**
LSA	**Lhasa**	**13.70**	**291**	*e*Pn	**Pn**	**09 40 38.4**	**+0.3**
	comp=Z,28nm,1.0s						
GTA	**Gaotai**	**14.75**	**341**	*e*P	**Pn**	**09 40 53.1**	**+1.0**
GTA				pP	**P**	**09 40 59.1**	**+0.9**
GTA				sP		09 41 02.3	
GTA				S	**Sn**	**09 43 37.9**	**+2.2**
GTA				sS	S	09 43 46.3	-8.2
GTA				SS	**SnSn**	**09 43 54.8**	**+6.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				LR	LR		
	comp=Z,560nm,14.7s						
GTA				LR	LR		
	comp=Z,270nm,15.2s						
GTA				LR	LR		
	comp=Z,540nm,15.2s						
KSAR	**Wonju Array Be**	**22.15**	**52**	P	**P**	**09 42 19.9**	**+0.6**
KSRS	**Korea Array**	**22.18**	**52**	P	**P**	**09 42 19.9**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=239,slow=9.8,SNR=17						
SONM	**Songino Array**	**22.27**	**1**	P	**P**	**09 42 20.7**	**+0.1**
SONM	**Songino Array**	**22.27**	**1**	P	**P**	**09 42 20.7**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=182,slow=9.2,SNR=36						
ULN	**Ulaanbaatar**	**22.31**	**2**	*e*P	**P**	**09 42 21.3**	**+0.2**
	comp=Z,4.1nm,0.6s						
JNU	**Nakatsue**	**23.04**	**65**	P	**P**	**09 42 30.9**	**+2.1**
JNU	**Nakatsue**	**23.04**	**65**	P	**P**	**09 42 30.9**	**+2.1**
	comp=Z,6.1nm,0.8s,baz=225,slow=5.7,SNR=3.7						
HYB	**Hyderabad**	**26.64**	**258**	*i* P	**P**	**09 43 04.0**	**+1.6**
USRK	**Ussuriysk Arra**	**28.20**	**42**	P	**P**	**09 43 16.6**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=240,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**28.32**	**325**	P	**P**	**09 43 17.4**	**+0.3**
MKAR	**Makanchi Array**	**28.32**	**325**	P	**P**	**09 43 17.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=140,slow=8.4,SNR=4.0						
KSH	**Kashi**	**28.66**	**306**	*e*P	P	09 43 14.3	-6.1
KSH				*e*PP	PnPn	09 44 01.8	-8.7
KSH				*e*PcP	**PcP**	**09 46 30.8**	**-0.3**
KSH				*e*S	S	09 47 54.8	-15
KSH				*e*sS	sS	09 48 00.9	-13
KSH				*e*SS	SnSn	09 49 11.9	-18
KSH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,57nm,3.9s						
KSH				LR	LR		
	comp=N,83nm,10.6s						
KSH				LR	LR		
	comp=E,91nm,5.4s						
KSH				LR	LR		
	comp=Z,74nm,5.6s						
ZAA0	**Zalesovo Array**	**32.42**	**337**	*e*P	**P**	**09 43 53.1**	**-0.1**
ZALV	**Zalesovo Beam**	**32.42**	**337**	P	**P**	**09 43 53.2**	**-0.1**
ZALV	**Zalesovo Beam**	**32.42**	**337**	P	**P**	**09 43 53.2**	**-0.1**
	comp=Z,15nm,0.8s,baz=135,slow=8.2,SNR=44						
KURBB	**Kurchatov Arra**	**32.69**	**327**	P	**P**	**09 43 55.9**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=131,slow=9.7,SNR=42						
KURK	**Kurchatov**	**32.71**	**327**	*e*P	**P**	**09 43 55.6**	**-0.2**
	comp=Z,7.1nm,0.8s						
BVAR	**Borovoye Array**	**38.19**	**325**	P	**P**	**09 44 43.1**	**+0.2**
BVAR	**Borovoye Array**	**38.19**	**325**	P	**P**	**09 44 43.1**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=116,slow=6.7,SNR=5.0						
BVAR				LR	LR	10 00 11.2	
	comp=Z,124nm,19.0s,baz=190,slow=36						
BRVK	**Borovoye**	**38.26**	**325**	*e*P	**P**	**09 44 43.9**	**+0.4**
	comp=Z,4.1nm,0.8s						
TIXI	**Tiksi**	**47.93**	**10**	*e*P	**P**	**09 46 01.2**	**-0.3**
	comp=Z,1.7nm,0.5s						
WRAB	**Tennant Creek**	**52.99**	**146**	*e*P	**P**	**09 46 42.2**	**+1.8**
	comp=Z,32nm,2.0s						
WRA	**Warramunga Arr**	**52.99**	**146**	P	**P**	**09 46 41.8**	**+1.4**
WRA	**Warramunga Arr**	**52.99**	**146**	P	**P**	**09 46 41.8**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=332,slow=8.3,SNR=11						
AKASG	**Malin Array Be**	**62.39**	**316**	P	**P**	**09 47 45.2**	**-1.0**
AKASG	**Malin Array Be**	**62.39**	**316**	P	**P**	**09 47 45.2**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=72,slow=6.0,SNR=9.5						
ARCES	**ARCESS Array B**	**62.98**	**337**	P	**P**	**09 47 50.6**	**+0.7**
ARCES	**ARCESS Array B**	**62.98**	**337**	P	**P**	**09 47 50.6**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=76,slow=7.5,SNR=2.9						
FINES	**FINESS Array B**	**63.08**	**328**	P	**P**	**09 47 50.1**	**-0.4**
FINES	**FINESS Array B**	**63.08**	**328**	P	**P**	**09 47 50.1**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=94,slow=7.1,SNR=5.9						
NB2	**NORSAR Subarra**	**70.20**	**329**	P	**P**	**09 48 34.4**	**-1.8**
	comp=Z,3.6nm,0.9s,baz=75,slow=6.2						
NOA	**NORSAR Array B**	**70.20**	**329**	P	**P**	**09 48 34.4**	**-1.8**
NOA	**NORSAR Array B**	**70.20**	**329**	P	**P**	**09 48 34.4**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=76,slow=6.2,SNR=4.1						
GERES	**GERESS Array B**	**72.59**	**316**	P	**P**	**09 48 50.8**	**-0.1**
GERES	**GERESS Array B**	**72.59**	**316**	P	**P**	**09 48 50.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=74,slow=5.5,SNR=6.4						
DAVOX	**Davos/Dischmat**	**75.73**	**315**	P	**P**	**09 49 09.2**	**-0.2**
DAVOX	**Davos/Dischmat**	**75.73**	**315**	P	**P**	**09 49 09.2**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=93,slow=5.1,SNR=6.3						
YKA	**Yellowknife Ar**	**86.53**	**18**	P	**P**	**09 50 06.8**	**+0.5**
YKA	**Yellowknife Ar**	**86.53**	**18**	P	**P**	**09 50 06.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=326,slow=5.1,SNR=20						
TXAR	**Lajitas Array**	**118.52**	**29**	PKP	**PKPdf**	**09 56 12.4**	**+0.4**
TXAR	**Lajitas Array**	**118.52**	**29**	PKP	**PKPdf**	**09 56 12.4**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=338,slow=1.0,SNR=4.6						

*IDC **17** 09:46:38.1±0.3, 6°.14S×152°.73E, h0km, mb5.2/28, mb1 5.3/29, mb1mx5.3/33, mbtmp5.2/29, ML4.4/1, MS4.8/28, Ms1 4.8/28, ms1mx4.7/36, Error ellipse: s-maj=16.0km s-min=10.5km az=77.0*

*NEIC **17** 09:46:40.4±0.1, 6°.12S×152°.59E, h10km, mb5.5/133, MS5.1/127, MW5.7, Error ellipse: s-maj=4.4km s-min=3.5km az=140.0*

*ISCJB **17** 09:46:40.0±1.0, 6°.11S±0°.03×152°.53E±0°.02, h15km±7km, mb5.5/195, MS5.0/179, Error ellipse: s-maj=4.7km s-min=3.8km az=2.3*

*GCMT **17** 09:46:40.4±0.1, 6°.23S×152°.75E, h14km, MW5.7/126, Moment Tensor Solution. s121,c209; s126,c361; Duration: 1§6 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.77±.04; $M_{\theta\theta}$3.24±.03; $M_{\phi\phi}$0.53±.03; $M_{r\theta}$-0.73±.07; $M_{\theta\phi}$-0.50±.02; $M_{\phi r}$-0.16±.07; Best double couple: M_o3.62500×10^{17} NP1:φ96.00000°, δ51.00000°, λ-95.00000°. NP2:φ284.00000°, δ40.00000°, λ-84.00000°. Principal axes: T 3.3950, Plg5.0000°, Azm190.0000°; N 0.4600, Plg4.0000°, Azm99.0000°; P -3.8550, Plg83.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **17** 09:46:42.4, 5°.87S×152°.79E, h35km, mB5.8/59, mb5.3/57, Ms5.2/61, Ms7 4.9/59*

*DJA **17** 09:46:43.0±2.0, 6°.3S±5°×15°.3E±°, h33km±18km, M5.5/12, mb5.3/12, mB5.8/8, MLv6.0/1, Mw(mB)5.3/8, Mwp5.5/3*

*MOS **17** 09:46:43.7±1.0, 5°.89S×152°.47E, h33km, mb5.7/53, MS4.9/41, Error ellipse: s-maj=8.2km s-min=6.2km az=105.7*

*NEIC **17** 09:46:59.0±0.0, 5°.88S×152°.69E, h10km, Moment Tensor Solution. s139 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.26; $M_{\theta\theta}$2.53; $M_{\theta\phi}$0.73; $M_{r\theta}$-2.88; $M_{\phi\phi}$-0.67; $M_{\phi r}$-1.33; Best double couple: M_o4.30000×10^{17} NP1:φ298.00000°, δ26.00000°, λ-54.00000°. NP2:φ81.00000°, δ69.00000°, λ-105.00000°. Principal axes: T 3.7200, Plg21.0000°, Azm182.0000°; N 1.1200, Plg14.0000°, Azm86.0000°; P -4.8500, Plg63.0000°, Azm325.0000°;*

ISC 17 09:46:43.6±0.3, 6°.09S±0°.03×152°.68E±0°.04, h33km±1km, h33km: pP-P, n1134, σ1§25/1128, mb5.5/186, MS5.1/179, 182C-182D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.96**	**345**	P	**Pn**	**09 47 15.0**	**+0.5**
	baz=2.1,SNR=171						

PMG	**Port Moresby**	**6.39**	**239**	P		x	09 48 17.1		
	1μm,0.8s,17μm26μm5.0nm								
PMG	**Port Moresby**	**6.39**	**239**	*e*Pn		**Pn**	**09 48 16.6**	**+1.1**
PMG				*e*Sn		**Sn**	**09 49 31.6**	**+4.3**
PMG	**Port Moresby**	**6.39**	**239**	Pn		**Pn**	**09 48 16.7**	**+1.2**
	144nm,0.3s,baz=54,slow=6.8,SNR=153								
PMG				Sn		**Sn**	**09 49 31.4**	**+4.1**
	226nm,0.3s,baz=9.0,slow=19,SNR=13								
PMG				LR		LR	09 50 48.7		
	comp=Z,19μm,19.3s,baz=47,slow=39								
PMG	**Port Moresby**	**6.39**	**239**	P		**Pn**	**09 48 16.7**	**+1.2**	
	baz=6.4,SNR=204								
HNR	**Honiara**	**7.93**	**115**	LR		LR	09 51 29.4		
	comp=Z,14μm,19.1s,baz=272,slow=37								
HNR	**Honiara**	**7.93**	**115**	*e*P		**Pn**	**09 48 38.0**	**+1.4**	
COEN	**Coen**	**12.19**	**229**	*e*Pn		**Pn**	**09 49 34.5**	**-0.6**	
COEN	**Coen**	**12.19**	**229**	⇓P		**Pn**	**09 49 34.8**	**-0.4**	
	baz=12,SNR=30								
JAY	**Jayapura**	**12.46**	**286**	LR		LR	09 53 57.2		
	comp=Z,5μm,19.9s,baz=140,slow=35								
SMPI	**Sarmi**	**14.52**	**286**	P		**Pn**	**09 50 10.0**	**+3.1**	
	139nm,1.2s								
CTA	**Charters Tower**	**15.25**	**204**	Pn		**Pn**	**09 50 15.5**	**-1.2**	
CTA	**Charters Tower**	**15.25**	**204**	Pn		**Pn**	**09 50 15.5**	**-1.2**	
	1.1nm,0.3s,baz=31,slow=15,SNR=17								
CTA				LR		LR	09 55 09.0		
	comp=Z,5μm,19.8s,baz=28,slow=34								
CTAO	**Charters Tower**	**15.25**	**204**	*e*P		**Pn**	**09 50 15.8**	**-0.9**	
CTAO				pmax	pmax				
	comp=Z,186nm,1.3s								
CTAO	**Charters Tower**	**15.25**	**204**	*e*P		**Pn**	**09 50 15.8**	**-0.9**	
	comp=Z,186nm,1.3s								
QIS	**Mount Isa**	**19.18**	**220**	P		**P**	**09 51 05.3**	**+0.6**	
	baz=19,SNR=79								
EIDS	**Eidsvold**	**19.23**	**184**	*e*P		**P**	**09 51 05.0**	**-0.2**	
	comp=Z,312nm,1.1s								
EIDS	**Eidsvold**	**19.23**	**184**	P		**P**	**09 51 05.2**	**0.0**	
	baz=19,SNR=74								
FAKI	**Fak Fak**	**20.61**	**278**	P		**P**	**09 51 20.2**	**-0.1**	
	comp=Z,96nm,1.1s,comp=Z,3μm								
FAKI	**Fak Fak**	**20.61**	**278**	*e*P		**P**	**09 51 20.9**	**+0.6**	
	comp=Z,79nm,1.0s								
FAKI	**Fak Fak**	**20.61**	**278**	P		Pn	09 51 23.7	+0.9	
	baz=21,SNR=5.2								
RMQ	**Roma**	**20.62**	**190**	P		**P**	**09 51 21.0**	**+0.6**	
	baz=21,SNR=341								
NOUC	**Port Laguerre**	**20.66**	**142**	*e*P		**P**	**09 51 20.1**	**-0.6**	
DZM	**Mont Dzumac**	**20.72**	**141**	*e*P		**P**	**09 51 21.3**	**-0.2**	
	comp=Z,372nm,1.2s								
DZM				*e*S		**S**	**09 55 11.4**	**+0.1**	
	comp=Z,4μm,24.1s								
DZM				*e*LQ		LQ	09 55 36.4		
	comp=Z,14μm,26.7s								
DZM				*e*LR		LR	09 56 22.5		
	comp=Z,12μm,25.4s								
DZM	**Mont Dzumac**	**20.72**	**141**	*e*P		**P**	**09 51 21.6**	**+0.1**	
	comp=Z,218nm,1.3s								
DZM	**Mont Dzumac**	**20.72**	**141**	P		**P**	**09 51 21.4**	**-0.1**	
	comp=Z,64nm,0.9s,baz=299,slow=10,SNR=34								
DZM				LR		LR	09 58 00.9		
	comp=Z,8μm,20.3s,baz=316,slow=33								
KDU	**Kakadu**	**20.98**	**250**	P		**P**	**09 51 24.6**	**+0.4**	
	baz=21,SNR=52								
GUMO	**Guam**	**21.04**	**338**	*e*P		**P**	**09 51 25.7**	**+0.9**	
	comp=Z,445nm,1.4s								
GUMO				LR		LR			
	comp=Z,5μm,19.0s								
QLP	**Quilpie**	**21.91**	**201**	P		**P**	**09 51 34.0**	**-0.2**	
	baz=22,SNR=158								
MTN	**Manton Dam**	**22.28**	**251**	P		**P**	**09 51 39.8**	**+1.6**	
	baz=22,SNR=13								
WRAB	**Tennant Creek**	**22.51**	**231**	P		**P**	**09 51 40.3**	**-0.4**	
	comp=Z,648nm,1.3s,SNR=44								
WRAB	**Tennant Creek**	**22.51**	**231**	*c i* P		**P**	**09 51 40.1**	**-0.6**	
WRAB				pmax	pmax				
	comp=Z,408nm,1.2s								
WRAB				MLR	MLR				
	comp=Z,14μm,16.0s								
WRAB	**Tennant Creek**	**22.51**	**231**	*e*P		**P**	**09 51 40.0**	**-0.6**	
	comp=Z,157nm,1.1s								
WRAB				LR		LR			
	comp=Z,6μm,20.0s								
WRA	**Warramunga Arr**	**22.52**	**231**	P		**P**	**09 51 40.2**	**-0.7**	
WRA				PcP		**PcP**	**09 55 33.2**	**-1.0**	
WRA	**Warramunga Arr**	**22.52**	**231**	P		**P**	**09 51 40.2**	**-0.7**	
	comp=Z,172nm,1.2s,baz=54,slow=10,SNR=91								
WRA				PcP		**PcP**	**09 55 33.2**	**-1.0**	
	comp=Z,20nm,1.2s,baz=42,slow=2.0,SNR=4.9								
WRA				LR		LR	10 00 33.2		
	comp=Z,6μm,18.5s,baz=65,slow=37								
PALU	**Palau**	**22.54**	**306**	P		**P**	**09 51 41.6**	**+0.6**	
	baz=23,SNR=15								
ARMA	**Armidale**	**24.22**	**182**	*e*P		**P**	**09 51 56.9**	**-0.6**	
	comp=Z,104nm,1.2s								
ARMA	**Armidale**	**24.22**	**182**	P		**P**	**09 51 57.0**	**-0.6**	
	baz=24,SNR=11								
AS31	**Alice Springs**	**25.13**	**224**	*e*P		**P**	**09 52 05.6**	**-0.3**	
KNRA	**Kununurra**	**25.32**	**246**	P		**P**	**09 52 07.8**	**+0.2**	
	baz=25,SNR=53								
CMSA	**Cobar Meteorol**	**26.15**	**194**	P		**P**	**09 52 14.0**	**-1.0**	
	baz=26,SNR=48								
SANI	**Sanana**	**26.92**	**277**	P		**P**	**09 52 21.7**	**-0.4**	
	comp=Z,103nm,1.2s,comp=Z,1μ

comp=Z,1μm,19.5s,baz=300,slow=34
RAO Raoul Island 36.07 133 LR LR 10 06 27.0
comp=Z,3μm,18.4s,baz=312,slow=33
TSM Tawau 36.26 286 ⇓P **P** **09 53 43.5 -0.7**
TAU Tasmania Unive 36.97 187 PFAKE 09 54 00.0 +10
TAU LR LR
comp=Z,3μm,19.0s
SDKM Sandakan 37.29 288 ⇓P **P** **09 53 50.8 -2.2**
KDM Kudat 38.03 289 ⇓P **P** **09 53 57.8 -1.4**
KMBL Kambalda 38.26 225 P **P** **09 54 00.4 -0.5**
baz=38,SNR=7.8
JAGI Jajag, Banyuwa 38.28 264 *e*P **P** **09 53 59.7 -1.7**
comp=Z,90nm,0.9s
JAGI Jajag, Banyuwa 38.28 264 P **P** **09 53 59.6 -1.7**
baz=38,SNR=6.0
MEEK Meekatharra 38.34 234 P **P** **09 54 01.1 -0.7**
baz=38,SNR=14
KKM Kota Kinabalu 38.34 288 PFAKE 09 54 10.0 +8.0
KKM LR LR
comp=Z,928nm,19.0s
KKM Kota Kinabalu 38.34 288 ⇓P **P** **09 54 00.1 -1.9**
URZ Urewera 38.95 149 *e*P **P** **09 54 06.0 -0.6**
comp=Z,45nm,1.1s
URZ Urewera 38.95 149 P **P** **09 54 05.8 -0.8**
comp=Z,9.5nm,0.5s,baz=9.2,slow=7.3,SNR=11
SNZO South Karori 40.20 154 PFAKE 09 54 30.0 +13
SNZO LR LR
comp=Z,4μm,20.0s
GIRL Giralia 40.55 242 P **P** **09 54 21.2 +1.0**
baz=41,SNR=5.7
BTM Bintulu 40.60 282 ⇑P **P** **09 54 19.8 -1.0**
RPZ Rata Peaks 40.81 160 *e*P **P** **09 54 21.3 -0.7**
comp=Z,84nm,1.4s
RPZ *e* 09 54 34.7
RPZ Rata Peaks 40.81 160 P **P** **09 54 21.3 -0.7**
comp=Z,17nm,0.8s,baz=134,slow=1.3,SNR=6.9
DCZ Deep Cove 41.21 165 *e*P **P** **09 54 27.4 +2.2**
comp=Z,61nm,1.2s
SBUM Sibu 41.28 281 *e*P **P** **09 54 26.7 +0.3**
comp=Z,57nm,1.3s
SBUM Sibu 41.28 281 ⇑P **P** **09 54 25.6 -0.8**
KLBR Kellerberrin 41.35 228 P **P** **09 54 25.3 -1.4**
baz=41,SNR=21
MORW Morawa 41.46 232 P **P** **09 54 26.5 -1.0**
baz=42,SNR=5.7
BLDU Ballidu 41.65 230 P **P** **09 54 27.9 -1.2**
baz=42,SNR=22
NWAO Narrogin (SRO) 42.41 226 P **P** **09 54 35.5 +0.1**
NWAO PP **PP** **09 56 12.7 -1.3**
NWAO Narrogin (SRO) 42.41 226 P **P** **09 54 35.5 +0.1**
comp=Z,10nm,1.1s,baz=66,slow=11,SNR=4.1
NWAO PP **PP** **09 56 12.7 -1.3**
comp=Z,14nm,0.8s,baz=48,slow=12,SNR=4.3
SSLB Suanglung 42.90 315 *e*P **P** **09 54 39.3 -0.1**
comp=Z,65nm,1.3s
KSM Kuching 42.97 279 *e*P **P** **09 54 40.3 +0.2**
comp=Z,83nm,1.1s
KSM LR LR
comp=Z,531nm,20.0s
KSM Kuching 42.97 279 ⇑P **P** **09 54 39.4 -0.7**
YHNB Yeheng 43.18 316 *e*P **P** **09 54 41.6 -0.1**
comp=Z,100nm,1.1s
YHNB LR LR
comp=Z,1μm,19.0s
TATO Taipei 43.30 317 PFAKE 09 54 50.0 +7.4
TATO LR LR
comp=Z,2μm,20.0s
JNU Nakatsue 44.15 333 *e*P **P** **09 54 49.4 0.0**
comp=Z,330nm,3.0s
JNU Nakatsue 44.15 333 P **P** **09 54 49.2 -0.2**
comp=Z,18nm,0.8s,baz=105,slow=0.5,SNR=10
MJAR Matsushiro Arr 44.52 343 P **P** **09 54 50.0 -2.2**
MJAR PcP **PcP** **09 56 35.3 +0.1**
MJAR Matsushiro Arr 44.52 343 P **P** **09 54 50.0 -2.2**
comp=Z,9.0nm,0.9s,baz=166,slow=8.6,SNR=12
MJAR PcP **PcP** **09 56 35.3 +0.1**
comp=Z,10nm,0.8s,baz=165,slow=4.1,SNR=11
MJAR LR LR 10 10 57.7
comp=Z,685nm,20.9s,baz=165,slow=33
MAJO Matsushiro 44.53 343 *e*P **P** **09 54 51.9 -0.3**
MAJO pmax pmax
comp=Z,4.0nm,1.2s
MAJO MLR MLR
comp=Z,858nm,21.0s
MAJO Matsushiro 44.53 343 *e*P **P** **09 54 51.9 -0.3**
comp=Z,4.3nm,1.2s
MAJO LR LR
comp=Z,858nm,21.0s
MAT Matsushiro 44.53 343 P **P** **09 54 51.4 -0.8**
MAT S **S** **10 01 25.0 -0.6**
CISI Cisompet, Garu 44.56 265 *e*P **P** **09 54 51.7 -1.3**
comp=Z,201nm,1.1s
QZH Quanzhou 45.30 314 ⇓*i*P P 09 54 54.3 -4.3
QZH S **S** **10 01 37.1 0.0**
QZH pmax pmax
comp=Z,2μm,9.9s
QZH LR LR
comp=Z,2μm,17.6s
SSE Sheshan 47.68 323 ⇓P **P** **09 55 17.4 +0.2**
SSE pP **pP** **09 55 28.9 +1.8**
SSE S **S** **10 02 12.8 +1.7**
SSE sS **sS** **10 02 32.0 +4.6**
SSE pmax pmax
comp=Z,23nm,0.6s
SSE pmax pmax
comp=Z,640nm,6.9s
SSE LR LR
comp=Z,840nm,17.6s
SSE LR LR
comp=Z,520nm,17.5s
SSE LR LR
comp=Z,1μm,17.5s
TJN Taejon 48.45 333 *i* P **P** **09 55 23.1 +0.1**
ERM Erimo 48.66 351 PFAKE 09 55 40.0 +16
ERM LR LR
comp=Z,1μm,20.0s
QIZ Qiongzhong 49.03 302 PFAKE 09 55 40.0 +12
QIZ LR LR
comp=Z,1μm,21.0s
KSRS Korea Array 49.09 334 P **P** **09 55 27.9 -0.1**
comp=Z,16nm,1.0s,baz=151,slow=8.7,SNR=28
KSAR Wonju Array Be 49.10 334 P **P** **09 55 27.9 -0.1**
MYKOM Kota Tinggi 49.38 278 *e*P **P** **09 55 31.2 +0.6**
MYKOM Kota Tinggi 49.38 278 ⇑P **P** **09 55 30.9 +0.3**
INCN Inchon 49.70 333 P **P** **09 55 33.8 +1.2**
SNR=5.6
INCN Inchon 49.70 333 *e*P **P** **09 55 33.3 +0.8**
comp=Z,23nm,1.0s
INCN LR LR
comp=Z,885nm,19.0s
NJ2 Nanjing 49.77 322 *e*P **P** **09 55 34.8 +1.6**
NJ2 S **S** **10 02 46.0 +5.5**
NJ2 pmax pmax
comp=Z,20nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,8.6s
NJ2 LR LR
comp=Z,1μm,15.9s
NJ2 LR LR
comp=Z,2μm,18.6s
NJ2 LR LR
comp=Z,2μm,16.5s
KGM Kluang 49.94 278 ⇑P **P** **09 55 35.3 +0.5**
YUK Yuzh-Kuril'sk 50.27 354 *d*/*i*P P 09 55 29.3 -7.5
YUK *i* 09 57 28.0
YUK *e*PPP PPP 09 58 26.4
YUK *e*S S 10 02 38.5 -8.5
YUK *i* 10 05 17.9
YUK *i* SS **SS** **10 06 17.7 -3.4**
YUK *e*SSS SSS 10 07 43.7
XMAS Kiritimati 50.45 82 PFAKE 09 55 50.0 +11
XMAS LR LR
comp=Z,3μm,22.0s
KTGM Kuala Trenggan 50.75 282 ⇓P **P** **09 55 40.9 -0.1**
ASAJ Asahikawa 50.80 351 *e*P **P** **09 55 40.7 -0.1**
comp=Z,30nm,1.2s
ASAJ Asahikawa 50.80 351 LR LR 10 14 26.9
comp=Z,527nm,19.0s,slow=33
WHN Wuhan 51.71 317 ⇓P **P** **09 55 48.6 +0.8**
WHN S **S** **10 03 11.8 +4.4**
WHN LR LR
comp=Z,2μm,14.8s
WHN LR LR
comp=Z,2μm,17.6s
WHN LR LR
comp=Z,2μm,19.0s
FRIM Kepong 51.82 279 ⇑P **P** **09 55 49.4 +0.4**
BKNI Bangkinang 51.94 275 *e*P **P** **09 55 50.1 +0.2**
comp=Z,145nm,1.0s
PPI Padang Panjang 52.47 274 P **P** **09 55 53.0 -0.8**
baz=53,SNR=14
VLA Vladivostok 52.49 341 ⇑*i*P **P** **09 55 52.7 -0.7**
VLA *e* 09 57 02.5
VLA *i* 09 57 50.8
VLA *i* S **S** **10 03 16.2 -1.5**
VLA pmax pmax
comp=Z,19nm,1.1s
IPM Ipoh 52.64 280 *e*P **P** **09 55 54.7 -0.4**
comp=Z,71nm,1.5s
IPM Ipoh 52.64 280 ⇑P **P** **09 55 54.8 -0.4**
KULM Kulim 53.16 281 *e*P **P** **09 55 58.3 -0.7**
comp=Z,46nm,1.3s
KULM Kulim 53.16 281 ⇓P **P** **09 55 58.2 -0.8**
DL2 Dalian 53.22 330 P **P** **09 55 59.0 +0.1**
DL2 pmax pmax
comp=Z,33nm,0.8s
DL2 pmax pmax
comp=Z,650nm,7.7s
DL2 LR LR
comp=Z,260nm,15.7s
DL2 LR LR
comp=Z,480nm,16.3s
DL2 LR LR
comp=Z,500nm,17.1s
CHBT CHBT 53.42 291 P **P** **09 56 01.3 +0.5**
comp=Z,30nm,1.3s,comp=Z,1μm
USRK Ussuriysk Arra 53.42 342 P **P** **09 56 01.6 +1.3**
comp=Z,2.7nm,0.5s,baz=143,slow=5.6,SNR=17
USRK LR LR 10 19 34.7
comp=Z,396nm,18.2s,baz=158,slow=37
YSS Yuzh-Sakhalins 53.54 352 *ke*P **P** **09 56 01.1 0.0**
YSS *e* 09 57 08.0
YSS *e* 09 59 07.0
YSS *e*S **S** **10 03 28.0 -3.9**
YSS *e*PS **PnS** **10 03 52.0 +7.6**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,1μm,8.0s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 53.54 352 *e*P **P** **09 56 01.0 0.0**
comp=Z,46nm,1.1s
YSS LR LR
comp=Z,280nm,20.0s
TIA Tai'an 53.68 324 ⇓P **P** **09 56 02.3 -0.1**
TIA sP **sP** **09 56 16.0 -0.3**
TIA S **S** **10 03 36.8 +2.5**
TIA pmax pmax
comp=Z,50nm,1.2s
TIA pmax pmax
comp=Z,1μm,7.8s
TIA LR LR
comp=Z,840nm,17.5s
TIA LR LR
comp=Z,1μm,20.8s
TIA LR LR
comp=Z,1μm,15.8s
PSI Prapat 54.40 278 P **P** **09 56 07.9 -0.3**
PSI Prapat 54.40 278 P **P** **09 56 07.9 -0.3**
comp=Z,71nm,1.2s,baz=142,slow=4.6,SNR=19
PSI Prapat 54.40 278 P **P** **09 56 07.2 -1.0**
baz=54,SNR=18
MDJ Mudanjiang 54.58 340 P **P** **09 56 08.5 -0.3**
MDJ PcP **PcP** **09 57 12.3 +0.7**
MDJ PP **PP** **09 58 10.8 -0.7**
MDJ ScP **ScP** **10 01 08.3 +0.6**
MDJ PcS **PcS** **10 01 10.0 -1.1**
MDJ S **S** **10 03 45.0 -1.1**
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,770nm,7.4s
MDJ LR LR
comp=Z,860nm,21.4s
MDJ LR LR
comp=Z,650nm,19.6s
MDJ LR LR
comp=Z,1μm,26.8s
MDJ Mudanjiang 54.58 340 *e*P **P** **09 56 08.7 -0.1**
comp=Z,51nm,1.4s
MDJ LR LR
comp=Z,732nm,21.0s
SNY Shenyang 54.59 334 ⇑P **P** **09 56 07.6 -1.3**
SNY S **S** **10 03 41.1 -5.2**
SNY pmax pmax
comp=Z,900nm,7.6s
SNY LR LR
comp=Z,550nm,14.1s
SNY LR LR
comp=Z,510nm,16.9s
CHAI Chaiyaphum 54.73 294 P **P** **09 56 10.7 +0.3**
comp=Z,6.8nm,1.1s,comp=Z,137nm
ENH Enshi 54.95 314 *e*P **P** **09 56 11.9 +0.1**
comp=Z,30nm,0.9s
ENH LR LR
comp=Z,36nm,19.0s
SLVN Son La 55.05 301 *e*P **P** **09 56 14.0 +1.3**
comp=Z,20nm,1.1s
GYA Guiyang 55.09 308 ⇑*i*P **P** **09 56 13.8 +0.9**
GYA pP **pP** **09 56 24.0 +1.0**
GYA PcP **PcP** **09 57 15.3 +1.2**
GYA PP **PP** **09 58 20.3 +3.8**
GYA ScP **ScP** **10 01 10.8 +0.2**
GYA S **S** **10 03 52.4 -1.3**
GYA sS **sS** **10 04 10.0 -0.3**
GYA SS **SS** **10 07 37.5 -0.7**
GYA pmax pmax
comp=Z,80nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.2s
GYA LR LR
comp=Z,2μm,19.1s
GYA LR LR
comp=Z,1μm,20.3s
GYA LR LR
comp=Z,3μm,19.6s
COCO West Island 55.39 259 *i* P **P** **09 56 17.8 +2.6**
COCO West Island 55.39 259 PFAKE 09 56 30.0 +15
COCO LR LR
comp=Z,723nm,19.0s
CN2 Changchun 55.42 336 *e*P **P** **09 56 15.3 +0.5**
CN2 *e*pP **pP** **09 56 25.0 +0.1**
CN2 *e*S **S** **10 03 57.1 -0.3**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 55.51 276 *e*P **P** **09 56 14.7 -1.3**
comp=Z,510nm,1.4s
KIP Kipapa 55.54 59 ⇑*e*P **P** **09 56 16.0 -0.1**
KIP pmax pmax
comp=Z,52nm,1.7s
SURT Suratani 55.76 285 P **P** **09 56 18.5 +0.7**
comp=Z,32nm,1.2s,comp=Z,434nm
PBKT Sadao Pong 55.87 295 P **P** **09 56 20.0 +1.4**
comp=Z,29nm,1.0s
PKDT Phuket 55.96 284 P **P** **09 56 19.7 +0.5**
comp=Z,121nm,1.1s,comp=Z,8μm
HABR Khabarovsk 56.49 346 *e*P **P** **09 56 21.3 -1.1**
HABR *e**PP **pP** **09 56 30.5 -2.0**
HABR *e**SP **sP** **09 56 34.5 -1.9**
HABR *e* 09 57 18.4
HABR *e*S **S** **10 04 09.8 -1.6**
HABR *e**SS **sS** **10 04 27.0 -1.1**
HABR *e* 10 06 07.1
HABR *e*SS **SS** **10 07 58.5 -0.8**
HABR pmax pmax
comp=N,20nm,1.7s
HABR pmax pmax
comp=E,18nm,1.6s
HABR pmax pmax
comp=Z,52nm,1.6s
HABR MLR MLR
comp=Z,378nm,16.0s
LHMI Lhok Sumawe 56.77 280 *e*P **P** **09 56 24.4 -0.6**
comp=Z,329nm,1.1s
SRDT SRDT 56.87 291 P **P** **09 56 27.0 +1.3**
comp=Z,142nm,0.9s
BJT Baijiatuan 56.89 327 PFAKE 09 56 40.0 +15
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 56.90 327 P **P** **09 56 25.6 +0.1**
BJI S **S** **10 04 16.3 -0.8**
BJI pmax pmax
comp=Z,26nm,1.4s
BJI pmax pmax
comp=Z,950nm,4.0s
BJI LR LR
comp=Z,820nm,17.4s
BJI LR LR
comp=Z,830nm,17.4s
BJI LR LR
comp=Z,920nm,38.7s
POHA Pohakuloa 57.05 62 *e*P **P** **09 56 27.3 +0.1**
comp=Z,132nm,1.2s
PPT Papeete 57.46 107 LR LR 10 16 01.2
comp=Z,380nm,21.8s,baz=271,slow=31
PPT2 Papeete2 57.46 107 *e*S **S** **10 04 27.2 +1.8**
comp=Z,512nm,23.0s
PPT2 *e*SS **SS** **10 08 18.2 +2.6**
comp=Z,427nm,28.0s
PPT2 *e*LQ LQ 10 11 02.7
comp=Z,583nm,23.8s
PPT2 *e*LR LR 10 13 24.5
comp=Z,781nm,23.0s
PAE Paea 57.46 107 *e*P **P** **09 56 31.0 +1.1**
comp=Z,26nm,1.2s
TIY Taiyuan 57.47 323 *e*P **P** **09 56 31.4 +1.7**
TIY S **S** **10 04 25.9 +1.0**
TIY pmax pmax
comp=Z,740nm,6.8s
TIY LR LR
comp=Z,730nm,16.5s
TIY LR LR
comp=Z,590nm,15.6s
TIY LR LR
comp=Z,840nm,15.4s
XAN Xi'an 57.48 317 P **P** **09 56 29.4 -0.3**
XAN pP **pP** **09 56 40.0 +0.1**
XAN sP **sP** **09 56 44.3 +0.5**
XAN PP **PP** **09 58 37.6 0.0**
XAN S S 10 04 17.8 -7.3
XAN sS sS 10 04 35.4 -6.3
XAN SS SS 10 08 07.6 -7.8
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN pmax pmax
comp=Z,200nm,8.6s
XAN LR LR
comp=Z,430nm,16.5s
XAN LR LR
comp=Z,200nm,17.1s
XAN LR LR
comp=Z,230nm,18.8s
KHLT Khaolaem Dam 57.50 292 P **P** **09 56 31.5 +1.4**
comp=Z,14nm,1.3s,comp=Z,551nm
KMI Kunming 57.61 305 P **P** **09 56 32.3 +1.2**
KMI pP **pP** **09 56 38.0 -3.2**
KMI PP **PP** **09 58 43.5 +4.3**
KMI S **S** **10 04 32.3 +4.8**
KMI sS **sS** **10 04 41.5 -2.7**
KMI pmax pmax
comp=Z,23nm,1.0s
KMI pmax pmax
comp=Z,620nm,7.4s
KMI LR LR
comp=Z,320nm,18.2s
KMI LR LR
comp=Z,460nm,20.6s
KMI LR LR
comp=Z,790nm,19.7s
CRAI Chiangrai 57.67 298 P **P** **09 56 32.2 +0.8**
comp=Z,36nm,1.0s,comp=Z,2μm
TIAR Tiarei 57.67 107 *e*P **P** **09 56 33.0 +1.6**
comp=Z,36nm,1.0s
KLR Kul'dur 58.04 344 ⇑*i*P P 09 56 29.2 -4.2
KLR *e*S **S** **10 04 28.0 -3.8**
KLR *e* 10 06 20.0
KLR pmax pmax
comp=Z,420nm,2.8s
KLR pmax pmax
comp=Z,2μm,11.0s
KLR smax smax
comp=N,1μm,10.5s
KLR smax smax
comp=E,600nm,10.5s
TBI Tubuai 58.14 114 *e*S **S** **10 04 32.7 -1.4**
comp=E,992nm,25.8s
TBI *e*SS **SS** **10 08 31.4 +5.3**
comp=E,387nm,25.0s
TBI *e*LQ LQ 10 11 20.3
comp=E,2μm,31.2s
TBI *e*LR LR 10 13 48.3
comp=E,1μm,28.8s
CMAR Chiang Mai Arr 58.32 296 P **P** **09 56 36.9 +0.9**
CMAR P'P' 10 26 11.0
CMAR Chiang Mai Arr 58.32 296 P **P** **09 56 36.9 +0.9**
comp=E,27nm,1.0s,baz=112,slow=5.3,SNR=52
CMAR LR LR 10 21 57.4
comp=E,484nm,19.1s,baz=110,slow=36
CMAR PKPPKP P'P'df 10 26 11.0 -5.7
comp=E,0.7nm,0.3s,baz=302,slow=4.0,SNR=4.5
CHTO Chiang Mai 58.44 296 *e*P **P** **09 56 37.4 +0.7**
CHTO pmax pmax
comp=Z,14nm,1.4s
CHTO MLR MLR
comp=Z,536nm,19.0s
CHTO Chiang Mai 58.44 296 P **P** **09 56 37.8 +1.0**
SNR=8.5
CHTO Chiang Mai 58.44 296 P **P** **09 56 37.5 +0.7**
comp=Z,135nm,1.3s,comp=Z,4μm
CHTO Chiang Mai 58.44 296 *e*P **P** **09 56 37.4 +0.7**
comp=Z,14nm,1.4s
CHTO LR LR
comp=Z,536nm,19.0s
PMOR Pomariorio Ree 58.94 104 *e*P **P** **09 56 41.6 +1.4**
comp=Z,304nm,1.2s
PET Petropavlovsk 59.11 4 ⇓*e*P **P** **09 56 40.9 +0.3**
PET *e*S **S** **10 04 48.4 +2.9**
PET pmax pmax
comp=Z,1μm,13.6s
PET pmax pmax
comp=Z,81nm,1.1s
PET Petropavlovsk 59.11 4 *e*P **P** **09 56 40.4 -0.2**
comp=Z,119nm,1.3s
PET LR LR
comp=Z,1μm,21.0s
PEA0B Petropavlovsk- 59.13 4 *e*P **P** **09 56 41.1 +0.3**
PETK Petropavlovsk- 59.13 4 P **P** **09 56 41.3 +0.5**
PETK Petropavlovsk- 59.13 4 P **P** **09 56 41.3 +0.5**
PETK Petropavlovsk- 59.13 4 P **P** **09 56 41.3 +0.5**
comp=Z,44nm,0.7s,baz=169,slow=8.2,SNR=115
PETK LR LR 10 17 40.0
comp=Z,408nm,21.9s,baz=190,slow=32
MHMT Maesarieng 59.14 295 P **P** **09 56 42.8 +1.2**
comp=Z,14nm,1.0s,comp=Z,2μm
VAH Vaihoa 59.20 104 *e*P **P** **09 56 43.2 +1.1**
comp=Z,98nm,1.1s
CD2 Chengdu 59.49 311 ⇓*i*P **P** **09 56 44.3 +0.4**
CD2 sP **sP** **09 56 57.9 0.0**
CD2 PcP **PcP** **09 57 34.8 +3.6**
CD2 PP **PP** **09 58 58.5 +2.9**
CD2 S **S** **10 04 49.5 -1.9**
CD2 sS **sS** **10 05 08.3 +0.2**
CD2 ScS **ScS** **10 06 28.0 -4.0**
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,860nm,6.0s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,970nm,17.8s
HHC Hu-ho-hao-te 60.02 325 *e*P **P** **09 56 47.6 +0.2**
HHC sP **sP** **09 57 03.6 +2.1**
HHC S **S** **10 04 57.8 -0.3**
HHC pmax pmax
comp=Z,86nm,1.2s
HHC pmax pmax

comp=Z,1μm,5.8s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,1μm,16.8s
FX1 Attu Island--F 61.27 14 eP **P 09 56 55.8 +0.4**
FX1 Attu Island--F 61.27 14 P **P 09 56 56.5 +1.0**
comp=Z,98nm,0.9s,baz=113,slow=2.5,SNR=6.3
LZH Lanzhou 62.07 316 ⇓P **P 09 57 02.8 +1.3**
LZH pP **pP 09 57 11.4 -0.3**
LZH sP **sP 09 57 15.3 -0.3**
LZH S **S 10 05 24.3 -0.2**
LZH sS **sS 10 05 39.0 -2.3**
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,660nm,5.6s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,2μm,17.4s
HIA Hailar 62.16 336 eP **P 09 57 02.1 +0.5**
comp=Z,58nm,1.2s
HIA LR LR
comp=Z,526nm,20.0s
GTA Gaotai 66.52 318 ⇓P **P 09 57 31.6 +1.1**
GTA pP **pP 09 57 41.9 +1.1**
GTA sP **sP 09 57 45.8 +1.1**
GTA PP **PP 10 00 00.3 +2.9**
GTA ScP 10 02 01.3
GTA S **S 10 06 20.3 +1.0**
GTA sS **sS 10 06 37.6 +1.3**
GTA pmax pmax
comp=Z,49nm,1.1s
GTA pmax pmax
comp=Z,760nm,6.9s
GTA LR LR
comp=Z,370nm,18.5s
GTA LR LR
comp=Z,550nm,17.6s
GTA LR LR
comp=Z,780nm,18.5s
CLNS Chul'man 66.71 344 eP **P 09 57 31.9 +0.7**
CLNS e*PP **pP 09 57 42.8 +1.3**
CLNS e 09 57 59.5
CLNS e 10 00 00.6
CLNS eS **S 10 06 24.2 +3.5**
CLNS e 10 07 21.6
CLNS eSS **SS 10 10 41.1 +2.1**
CLNS pmax pmax
comp=Z,51nm,1.1s
CLNS pmax pmax
comp=N,32nm,1.2s
CLNS pmax pmax
comp=E,21nm,1.3s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS smax smax
comp=E,382nm,14.4s
CLNS smax smax
comp=N,307nm,10.9s
CLNS MLR MLR
comp=Z,439nm,16.0s
CLNS MLR MLR
comp=N,399nm,15.0s
CLNS MLR MLR
comp=E,444nm,17.0s
CASY Casey 66.75 197 eP **P 09 57 31.6 +0.3**
comp=E,72nm,1.3s
CASY LR LR
comp=Z,2μm,19.0s
CIT Chita 66.81 335 eP **P 09 57 33.0 +1.0**
CIT e 09 57 44.4
CIT e 09 57 50.4
CIT e 09 58 06.5
CIT pmax pmax
comp=Z,209nm,1.5s
SHL Shillong 66.86 301 ⇓*i*P **P 09 57 34.0 +1.0**
ULN Ulaanbaatar 67.03 328 P **P 09 57 35.1 +1.5**
SNR=46
ULN Ulaanbaatar 67.03 328 eP **P 09 57 34.8 +1.2**
comp=Z,92nm,1.1s
ULN LR LR
comp=Z,633nm,20.0s
SONM Songino Array 67.35 328 P **P 09 57 36.7 +1.0**
SONM ⇑*e* 10 26 00.6
SONM Songino Array 67.35 328 P **P 09 57 36.7 +1.0**
comp=Z,75nm,1.0s,baz=134,slow=5.9,SNR=225
SONM PKP2bc 10 26 00.6
comp=Z,6.1nm,1.0s,baz=292,slow=2.0,SNR=18
SONM LR LR 10 27 34.6
comp=Z,469nm,19.3s,baz=125,slow=36
SEY Seymchan 68.83 360 ⇑*i*P **P 09 57 45.0 +0.6**
LSA Lhasa 68.87 305 P **P 09 57 46.8 +0.8**
LSA pmax pmax
comp=Z,70nm,0.9s
LSA Lhasa 68.87 305 eP **P 09 57 46.9 +0.9**
LSA pmax pmax
comp=Z,61nm,0.9s
LSA MLR MLR
comp=Z,613nm,19.0s
LSA Lhasa 68.87 305 eP **P 09 57 46.9 +0.9**
comp=Z,61nm,0.9s
LSA LR LR
comp=Z,613nm,19.0s
YAK Yakutsk 70.21 349*d* *i*P **P 09 57 52.9 0.0**
YAK e*PP **pP 09 57 59.9 -3.3**
YAK e 09 58 12.6
YAK e 10 00 25.4
YAK ePPP PPP 10 02 06.2
YAK eS **S 10 07 03.2 +1.2**
YAK e*SS sS 10 07 27.3 +8.2
YAK eSS **SS 10 11 31.1 -1.7**
YAK pmax pmax
comp=Z,275nm,1.5s
YAK pmax pmax
comp=N,121nm,1.5s
YAK pmax pmax
comp=E,30nm,1.4s
YAK pmax pmax
comp=E,1.0nm,0.4s
YAK pmax pmax
comp=Z,7.0nm,0.5s
YAK pmax pmax
comp=N,14nm,1.1s
YAK smax smax
comp=N,1μm,8.1s
YAK smax smax
comp=E,817nm,7.7s
YAK MLR MLR
comp=Z,283nm,16.0s
YAK MLR MLR
comp=N,212nm,16.0s
YAK MLR MLR
comp=E,134nm,16.0s
YAK Yakutsk 70.21 349 eP **P 09 57 53.4 +0.5**
comp=E,299nm,1.2s
YAK LR LR
comp=Z,469nm,19.0s
ZAK Zakamensk 70.53 329⇑*i*P **P 09 57 55.9 +0.6**
ZAK pmax pmax
comp=Z,112nm,1.2s
TLY Talaya 71.13 330 P **P 09 57 59.3 +0.5**
comp=Z,288nm,1.0s,SNR=44
TLY Talaya 71.13 330*d* *i*P **P 09 57 59.7 +0.9**
TLY e 09 58 19.1
TLY eS **S 10 07 14.7 +1.4**
TLY e 10 07 40.9
TLY e 10 08 00.9
TLY pmax pmax
comp=Z,78nm,1.4s
TLY MLR MLR
comp=Z,365nm,16.0s
TLY Talaya 71.13 330 P **P 09 57 60.0 +1.1**
SNR=37
TLY Talaya 71.13 330 eP **P 09 57 59.6 +0.8**
comp=Z,60nm,1.1s
TLY LR LR
comp=Z,410nm,20.0s
IRK Irkutsk 71.17 331 eP **P 09 57 57.3 -1.7**
IRK pmax pmax
comp=Z,137nm,1.4s
RKT Rikitea 71.41 112 eP **P 09 58 02.0 +0.9**
comp=Z,140nm,1.4s
RKT eS **S 10 07 18.8 +1.3**
comp=Z,349nm,30.5s
RKT eSS **SS 10 11 56.0 +3.4**
comp=Z,458nm,35.5s
RKT eLR LR 10 19 49.9
comp=Z,1μm,26.0s
VNDA Vanda 71.55 178 eP **P 09 58 00.0 -0.9**
comp=Z,55nm,1.4s
VNDA Vanda 71.55 178 P **P 09 57 59.8 -1.1**
comp=Z,14nm,1.1s,baz=343,slow=6.0,SNR=15
VNDA LR LR 10 25 15.1
comp=Z,404nm,19.6s,baz=24,slow=32
SBA Scott Base 72.10 177 eP **P 09 58 04.6 +0.4**
SBA pmax pmax
comp=Z,55nm,1.5s
SBA MLR MLR
comp=Z,832nm,20.0s
SBA Scott Base 72.10 177 eP **P 09 58 04.6 +0.4**
comp=Z,55nm,1.5s
SBA LR LR
comp=Z,832nm,20.0s
MOY Mondy 72.45 329 eP **P 09 58 07.8 +0.9**
MOY pmax pmax
comp=Z,205nm,1.4s
MIR Mirnyy 72.69 201⇑*i*P **P 09 58 09.0 +1.1**
MIR *e* 09 58 30.0
MIR eS **S 10 07 34.0 +3.3**
MIR ePS PnS 10 08 24.0 +19
MIR pmax pmax
comp=Z,105nm,1.0s
MIR pmax pmax
comp=Z,1μm,5.0s
PALK Palmerston 73.03 279 eP **P 09 58 11.5 +0.5**
comp=Z,389nm,1.2s
GAMB Gambell 74.65 16 eP **P 09 58 20.1 +0.7**
comp=Z,78nm,1.2s
HVS Khovu-Aksy 76.05 326*d* *i*P **P 09 58 28.4 +0.5**
HVS pmax pmax
comp=Z,1μm,1.3s
HVS MLR MLR
comp=Z,62μm,24.0s
WMQ Urumqi 76.61 318 P **P 09 58 32.0 +0.8**
WMQ pP **PcP 09 58 42.3 -0.3**
WMQ PcP **pP 09 58 44.0 +2.4**
WMQ sP **sP 09 58 46.3 +0.9**
WMQ PP **PP 10 01 25.3 +1.5**
WMQ S **S 10 08 13.6 -1.8**
WMQ sS **sS 10 08 30.8 -1.8**
WMQ SKS **SKSac 10 08 35.6 -5.1**
WMQ ScS **SKKSac 10 08 41.5 +0.3**
WMQ SS **SS 10 13 11.3 -0.1**
WMQ pmax pmax
comp=Z,45nm,1.1s
WMQ pmax pmax
comp=Z,1μm,4.1s
WMQ LR LR
comp=Z,510nm,26.0s
WMQ LR LR
comp=Z,360nm,37.5s
WMQ LR LR
comp=Z,240nm,25.3s
HYB Hyderabad 76.80 289⇓*i*P **P 09 58 32.0 -0.7**
HYB eS **S 10 08 18.0 -0.4**
TNA Tin City 77.06 16 eP **P 09 58 33.7 +0.6**
comp=Z,78nm,1.3s
RSO Redoubt South 78.81 24 eP **P 09 58 43.6 +0.4**
TIXI Tiksi 79.15 353*d* *i*P **P 09 58 44.1 -0.5**
TIXI pmax pmax
comp=Z,53nm,1.2s
TIXI MLR MLR
comp=Z,294nm,16.0s
TIXI Tiksi 79.15 353 eP **P 09 58 44.1 -0.5**
comp=Z,82nm,1.4s
TIXI LR LR
comp=Z,354nm,19.0s
SPU Mount Spurr 79.49 24 eP **P 09 58 46.2 -0.5**
SEW Seward 80.00 26 eP **P 09 58 50.2 +0.9**
comp=Z,148nm,1.2s
NDI New Delhi 80.27 300 ex **P 09 58 49.0 -2.6**
NDI ex x 10 08 52.0
RC01 Rabbit Creek A 80.39 25 eP **P 09 58 52.0 +0.5**
comp=Z,265nm,1.2s
PPLA Purkeypile 80.40 22 eP **P 09 58 51.5 -0.3**
comp=Z,100nm,1.3s
CAST Castle Rocks 80.74 22 eP **P 09 58 53.6 +0.2**
comp=Z,77nm,1.1s
MK31 Makanchi Array 81.22 319 *i*P **P 09 58 56.1 -0.2**
MK31 pmax pmax
comp=Z,138nm,1.4s
MK31 Makanchi Array 81.22 319 eP **P 09 58 56.3 -0.1**
MKAR Makanchi Array 81.22 319*c* *i*P **P 09 58 56.5 +0.2**
MKAR pmax pmax
comp=Z,31μm,1.1s
MKAR Makanchi Array 81.22 319 eP **P 09 58 56.5 +0.2**
MKAR PKKPbc **PKKPbc 10 17 31.3 -2.7**
MKAR P'P' 10 25 36.9
MKAR Makanchi Array 81.22 319 P **P 09 58 56.3 0.0**
comp=Z,31nm,1.1s,baz=104,slow=6.3,SNR=70
MKAR PKKPbc **PKKPbc 10 17 31.3 -2.7**
comp=Z,1.0nm,0.8s,baz=298,slow=3.1,SNR=6.4
MKAR PKPPKP **P'P'df 10 25 36.9 +1.0**
comp=Z,2.7nm,1.1s,baz=291,slow=3.4,SNR=7.6
MKAR LR LR 10 35 25.5
comp=Z,494nm,19.2s,baz=103,slow=36
KTH Kantishna Hill 81.25 22 eP **P 09 58 55.9 -0.3**
comp=Z,124nm,1.1s
POO Poona 81.41 290 ex **P 09 58 56.5 -1.4**
TRF Thorofare Moun 81.43 22 eP **P 09 58 56.9 -0.4**
comp=Z,76nm,1.1s
IM04 Indian Mountai 81.61 19 eP **P 09 58 58.5 +0.5**
DIV Divide 82.08 26 eP **P 09 59 01.5 +0.9**
comp=Z,143nm,1.1s
MCK McKinley 82.09 22 eP **P 09 59 00.0 -0.6**
MCK pmax pmax
comp=Z,327nm,1.2s
MCK McKinley 82.09 22 eP **P 09 58 60.0 -0.6**
comp=Z,327nm,1.2s
ZALV Zalesovo Beam 82.16 326 *i*P **P 09 59 00.3 -0.7**
ZALV pmax pmax
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 82.16 326 P **P 09 59 00.3 -0.7**
ZALV PKKP **PKKPbc 10 17 28.4 -3.8**
ZALV Zalesovo Beam 82.16 326 P **P 09 59 00.3 -0.7**
comp=Z,16nm,0.7s,baz=111,slow=6.5,SNR=64
ZALV PKKP **PKKPbc 10 17 28.4 -3.8**
comp=Z,0.4nm,0.4s,baz=324,slow=2.0,SNR=4.0
ZALV LR LR 10 35 30.6
comp=Z,487nm,20.2s,baz=87,slow=36
RAGM Ragged Mountai 82.21 26 eP **P 09 59 03.0 +1.7**
comp=Z,186nm,1.2s
BMRM Bremner River 82.51 26 eP **P 09 59 03.8 +0.9**
comp=Z,334nm,1.3s
PAX Paxson 83.07 24 eP **P 09 59 05.6 -0.2**
PAX pmax pmax
comp=Z,59nm,1.2s
PAX Paxson 83.07 24 eP **P 09 59 05.6 -0.2**
comp=Z,59nm,1.2s
COLA College 83.08 22 eP **P 09 59 04.9 -0.8**
COLA pmax pmax
comp=Z,265nm,1.2s
COLA MLR MLR
comp=Z,962nm,20.0s
COLA College 83.08 22 eP **P 09 59 04.8 -0.8**
comp=Z,265nm,1.2s
COLA LR LR
comp=Z,962nm,20.0s
NVS Novosibirsk 83.34 327 eP **P 09 59 05.6 -1.6**
NVS eS **S 10 09 26.2 +0.5**
NVS pmax pmax
comp=N,23nm,1.1s
NVS pmax pmax
comp=E,38nm,1.1s
NVS pmax pmax
comp=Z,71nm,1.1s
NVS smax smax
comp=N,103nm,3.2s
NVS smax smax
comp=E,356nm,3.7s
ILAR Eielson Array 83.39 22 P **P 09 59 06.1 -1.2**
ILAR Eielson Array 83.39 22 P **P 09 59 06.1 -1.2**
comp=E,89nm,1.1s,baz=257,slow=4.6,SNR=140
COLD Coldfoot 83.51 19 eP **P 09 59 08.7 +0.9**
comp=E,134nm,1.3s
KSH Kashi 83.68 311 P **P 09 59 11.4 +1.9**
KSH eSKS **S 10 09 28.1 -2.0**
KSH S **SKSac 10 09 32.3 +2.1**
KSH sS **sS 10 09 50.1 +2.6**
KSH pmax pmax
comp=E,20nm,1.1s
KSH pmax pmax
comp=E,1μm,6.1s
KSH LR LR
comp=E,510nm,20.1s
KSH LR LR
comp=E,340nm,15.7s
KSH LR LR
comp=E,230nm,9.5s
QSPA South Pole Qui 83.88 180 P **P 09 59 09.3 -0.7**
QSPA LR LR
comp=Z,638nm,19.0s
QSPA South Pole Qui 83.88 180 P **P 09 59 09.3 -0.7**
comp=Z,52nm,1.1s,baz=345,slow=2.2,SNR=37
DOT Dot Lake 83.95 24 eP **P 09 59 10.9 +0.7**
comp=Z,200nm,1.2s
ULHL Ulahol 84.12 313 *i*P **P 09 59 12.5 +0.8**
ULHL Ulahol 84.12 313 P **P 09 59 12.6 +0.8**
SNR=13
MAW Mawson 84.34 203 P **P 09 59 11.8 -0.3**
MAW Mawson 84.34 203 P **P 09 59 11.8 -0.3**
comp=Z,13nm,0.7s,baz=117,slow=8.3,SNR=10
MAW LR LR 10 33 23.6
comp=Z,713nm,21.6s,baz=94,slow=33
KURK Kurchatov 84.71 322 P **P 09 59 13.5 -0.7**
comp=Z,261nm,1.0s,SNR=58
KURK Kurchatov 84.71 322 eP **P 09 59 13.8 -0.5**
KURK pmax pmax
comp=Z,52nm,1.0s
KURK MLR MLR
comp=Z,292nm,20.0s
KURK Kurchatov 84.71 322 P **P 09 59 14.2 0.0**
SNR=40
KURK Kurchatov 84.71 322 eP **P 09 59 13.8 -0.5**
comp=Z,52nm,1.0s
KURK LR LR
comp=Z,292nm,20.0s
TKM2 Tokmak 2 84.74 314 *i*P **P 09 59 15.4 +0.5**
TKM2 Tokmak 2 84.74 314 P **P 09 59 15.4 +0.5**
SNR=39
TKM2 Tokmak 2 84.74 314 eP **P 09 59 15.4 +0.5**
comp=Z,73nm,1.3s
TKM2 LR LR
comp=Z,529nm,19.0s
KURBB Kurchatov Arra 84.74 322 P **P 09 59 14.2 -0.2**
comp=Z,28nm,1.0s,baz=97,slow=5.9,SNR=112
KZA Kyzart 84.80 313 *i*P **P 09 59 16.9 +1.5**
KZA Kyzart 84.80 313 P **P 09 59 16.9 +1.5**
SNR=61
KBK Karagaybulak 85.14 314 *i*P **P 09 59 17.6 +0.7**
KBK Karagaybulak 85.14 314 P **P 09 59 17.6 +0.7**
SNR=23
CHMS Chumysh 85.36 314 *i*P **P 09 59 18.0 +0.3**
CHMS Chumysh 85.36 314 P **P 09 59 18.1 +0.3**
SNR=34
UCH Uchtor 85.36 313 *i*P **P 09 59 19.2 +0.9**
UCH Uchtor 85.36 313 P **P 09 59 19.3 +0.9**
SNR=56
FRU Bishkek 85.42 314 *i*P **P 09 59 19.0 +0.9**
FRU *e* 10 09 41.5
FRU pmax pmax
comp=Z,280nm,2.2s
FRU MLR MLR
comp=Z,300nm,17.0s
AAK Ala-Archa 85.46 314 P **P 09 59 19.6 +1.1**
comp=Z,235nm,1.2s,SNR=25
AAK Ala-Archa 85.46 314*d* *i*P **P 09 59 19.0 +0.5**
AAK pmax pmax
comp=Z,109nm,1.2s
AAK MLR MLR
comp=Z,926nm,19.0s
AAK Ala-Archa 85.46 314 P **P 09 59 19.1 +0.7**
SNR=28
AAK Ala-Archa 85.46 314 P **P 09 59 19.4 +0.9**
SNR=35
AAK Ala-Archa 85.46 314 eP **P 09 59 19.1 +0.5**
comp=Z,277nm,2.0s
AAK P'P' 10 25 29.9
AAK Ala-Archa 85.46 314 P **P 09 59 18.9 +0.4**
comp=Z,26nm,1.0s,baz=86,slow=6.1,SNR=38
AAK PKPPKP **P'P'df 10 25 29.9 +1.1**
comp=Z,1.6nm,0.9s,baz=132,slow=1.8,SNR=5.7
AAK LR LR 10 39 39.3
comp=Z,307nm,18.3s,baz=83,slow=37
EGAK Eagle 85.58 23 eP **P 09 59 19.0 +0.7**
comp=Z,185nm,1.1s
EGAK LR LR
comp=Z,1μm,19.0s
USP Ospenovka 85.60 314 *i*P **P 09 59 19.5 +0.6**
USP Ospenovka 85.60 314 P **P 09 59 19.6 +0.6**
SNR=13
AML Almayashu 85.94 313 *i*P **P 09 59 22.2 +1.1**
AML Almayashu 85.94 313 P **P 09 59 22.2 +1.1**
SNR=91
EKS2 Erkin-Say 85.99 313 *i*P **P 09 59 21.8 +0.8**
EKS2 Erkin-Say 85.99 313 P **P 09 59 21.8 +0.8**
SNR=66
EKS2 Erkin-Say 85.99 313 eP **P 09 59 21.8 +0.8**
comp=Z,67nm,1.1s
EKS2 LR LR
comp=Z,452nm,20.0s
DAWY Dawson 86.00 24 eP **P 09 59 21.4 +0.9**
WRAK Wrangell Islan 86.81 33 eP **P 09 59 25.7 +1.2**
comp=Z,186nm,1.5s
WRAK LR LR
comp=Z,1μm,19.0s
KBL Kabul 88.20 305 eP **P 09 59 32.1 0.0**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 88.20 305 eP **P 09 59 32.0 0.0**
comp=Z,5.0nm,0.6s
KK31 Karatay Array 88.43 313 P **P 09 59 32.3 -0.4**
KK31 pmax pmax
comp=Z,51nm,1.4s
KKAR Karatay Array 88.43 313 eP **P 09 59 32.7 0.0**
KKAR pmax pmax
comp=Z,52nm,1.3s
KKAR Karatay Array 88.43 313 eP **P 09 59 32.7 0.0**
comp=Z,52nm,1.3s
DLBC Dease Lake 88.54 31 eP **P 09 59 33.8 +0.8**
KHMM Horse Mountain 89.11 49 eP **P 09 59 38.9 +2.8**
INK Inuvik 89.69 21 eP **P 09 59 37.9 -0.1**
comp=Z,62nm,1.1s
INK Inuvik 89.69 21 LR LR 10 42 20.2
comp=Z,510nm,18.0s,baz=252,slow=37
M02C Callahan 89.84 48 ⇓P **P 09 59 41.2 +1.7**
baz=90
N02D Trinity Center 89.89 49 ⇑P **P 09 59 41.3 +1.6**
baz=90
HUMO Hull Mountain 89.94 47 eP P 09 59 43.4 +3.6
comp=Z,40nm,1.3s
YBH Yreka Blue Hor 90.00 48 eP **P 09 59 43.3 +3.1**
comp=Z,18nm,1.0s
NLWA Neilton Lookou 90.01 42 eP **P 09 59 41.6 +1.5**
comp=Z,54nm,1.3s
NLWA LR LR
comp=Z,1μm,19.0s
BVAR Borovoye Array 90.20 323 P **P 09 59 39.8 -0.9**
BVAR Borovoye Array 90.20 323 P **P 09 59 39.8 -0.9**
BVAR Borovoye Array 90.20 323 P **P 09 59 39.8 -0.9**
comp=Z,17nm,0.9s,baz=107,slow=5.0,SNR=42
BVAR LR LR 10 42 51.1
comp=Z,462nm,18.0s,baz=98,slow=37
BRVK Borovoye 90.27 323 P **P 09 59 40.4 -0.6**
comp=Z,125nm,1.0s,SNR=8.3
BRVK Borovoye 90.27 323*d* *i*P **P 09 59 39.9 -1.1**
BRVK pmax pmax
comp=Z,31nm,1.2s
BRVK MLR MLR
comp=Z,623nm,19.0s
BRVK Borovoye 90.27 323 P **P 09 59 40.1 -0.9**
SNR=15
BRVK Borovoye 90.27 323 eP **P 09 59 40.3 -0.7**
comp=Z,12nm,0.6s
BRVK LR LR
comp=Z,640nm,19.0s
OHCM Honcut 90.60 51 eP **P 09 59 45.8 +2.9**
M04C Macdoel 90.65 48 ⇑P **P 09 59 45.4 +2.1**
baz=91

H04A **Detroit Lake** 90.78 45 *e*P P 09 59 44.7 +1.0
K04D **Chiloquin, OR** 90.82 47 ⇑P P 09 59 45.7 +1.7
baz=91
D05A **Enumclaw** 91.25 43 *e*P P 09 59 47.8 +2.1
comp=Z,67nm,1.4s
J05D **Fort Rock, OR** 91.28 47 ⇑P P 09 59 47.8 +1.6
baz=91
SMMC **Simmler** 91.29 55 ⇑P P 09 59 47.6 +1.3
baz=91
CMB **Columbia Colle** 91.30 52 *e*P P 09 59 47.8 +1.5
CMB pmax pmax
comp=Z,18nm,1.2s
CMB **Columbia Colle** 91.30 52 *e*P P 09 59 47.8 +1.5
comp=Z,18nm,1.2s
LON **Longmire** 91.32 43 *e*P P 09 59 47.1 +1.0
LON pmax pmax
comp=Z,15nm,1.3s
LON **Longmire** 91.32 43 *e*P P 09 59 47.1 +1.0
comp=Z,15nm,1.3s
I05D **Terrebonne, OR** 91.34 46 ⇑P P 09 59 47.6 +1.3
baz=92
PKM **Peak Mountain** 91.39 55 ⇑P P 09 59 48.9 +2.0
baz=92
A05A **Maple Falls** 91.43 41 *e*P P 09 59 48.3 +1.8
comp=Z,38nm,1.4s
SBC **Santa Barbara** 91.43 56 ⇓P P 09 59 48.9 +2.0
baz=92
BSC **Santa Cruz Isl** 91.45 56 ⇓P P 09 59 49.3 +2.3
baz=92
K05A **Summer Lake** 91.46 47 *e*P P 09 59 48.8 +1.6
comp=Z,178nm,2.0s
BEKR **Beckworth** 91.53 50 *e*P P 09 59 47.9 +0.5
comp=Z,10.0nm,1.1s
B06A **Marblemount** 91.76 42 *e*P P 09 59 49.6 +1.5
MOD **Modoc** 91.80 48 *e*P P 09 59 49.6 +1.0
comp=Z,31nm,1.3s
BLG **Laguna Peak** 91.93 56 ⇓P P 09 59 50.5 +1.2
baz=92
G06A **Carlson Farm,** 91.94 45 *e*P P 09 59 50.0 +0.9
RCTC **Rector, Farmer** 92.02 54 ⇓P P 09 59 51.0 +1.4
baz=92
WAKR **Walker** 92.09 52 *e*P P 09 59 51.8 +1.7
VES **Vestal, Richgr** 92.09 54 ⇓P P 09 59 51.0 +1.1
baz=92
LTY **Liberty** 92.15 43 *e*P P 09 59 50.2 +0.2
ARVC **Arvin** 92.23 55 ⇓P P 09 59 52.0 +1.4
baz=92
SCI **San Clemente I** 92.25 57 ⇓P P 09 59 51.5 +0.8
baz=92
PAHR **Pah Rah Range** 92.26 50 *e*P P 09 59 52.6 +1.8
comp=Z,26nm,1.0s
BLTW **Bickleton** 92.34 44 P P 09 59 52.1 +1.3
CIS **Catalina Islan** 92.41 57 ⇑P P 09 59 52.9 +1.4
baz=92,SNR=5.5
SYO **Syowa Base** 92.42 199 ⇓*e*PcP PcP 09 59 54.3 +2.9
ETW **Entiat** 92.42 43 P P 09 59 51.5 +0.1
DECC **Green Verdugo** 92.55 56 ⇑P P 09 59 54.2 +2.1
baz=93
I07A **Izee** 92.62 46 *e*P P 09 59 53.7 +1.4
E07A **Sunnyside** 92.63 44 *e*P P 09 59 53.0 +0.8
MTUM **Tungsten Hills** 92.66 53 *e*P P 09 59 54.3 +1.5
PASC **Pasadena Art C** 92.66 56 *e*P P 09 59 54.9 +2.3
comp=Z,31nm,1.1s
WTV **Waterville** 92.68 42 P P 09 59 52.6 +0.1
MWC **Mount Wilson** 92.77 56 *e*P P 09 59 55.6 +2.2
MWC pmax pmax
comp=Z,110nm,1.4s
MWC **Mount Wilson** 92.77 56 *e*P P 09 59 55.6 +2.2
comp=Z,110nm,1.4s
HAWA **Hanford** 92.84 44 *e*P P 09 59 54.3 +1.2
comp=Z,42nm,1.1s
HAWA LR LR
comp=Z,995nm,19.0s
EDW2 **Edwards Air Fo** 92.89 55 ⇑P P 09 59 55.3 +1.6
baz=93,SNR=16
TIN **Tinemaha** 92.90 53 ⇓P P 09 59 56.0 +2.2
baz=93
H2OWA **Water** 92.91 44 P P 09 59 54.9 +1.4
CWC **Cottonwood Cre** 92.96 54 ⇑P P 09 59 55.9 +1.8
baz=93
NVAR **Mina Array Bea** 92.97 52 P P 09 59 54.8 +0.5
NVAR **Mina Array Bea** 92.97 52 P P 09 59 54.8 +0.5
comp=Z,24nm,1.0s,baz=255,slow=5.4,SNR=70
NVAR LR LR 10 34 58.5
comp=Z,1μm,20.4s,baz=90,slow=31
NV11 **Mina Array Sit** 93.08 52 *e*P P 09 59 56.4 +1.7
WVOR **Wild Horse Val** 93.09 48 *e*P P 09 59 55.9 +1.3
WVOR pmax pmax
comp=Z,148nm,2.5s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR **Wild Horse Val** 93.09 48 *e*P P 09 59 55.9 +1.3
comp=Z,148nm,2.5s
WVOR LR LR
comp=Z,1μm,20.0s
BFSC **Mount Baldy Ra** 93.10 56 ⇓P P 09 59 56.5 +1.7
baz=93,SNR=10
G08A **Pilot Rock** 93.13 45 *e*P P 09 59 55.7 +1.1
comp=Z,37nm,1.1s
B08A **Colville Reser** 93.17 42 *e*P P 09 59 54.8 +0.1
comp=Z,23nm,1.1s
LRMC **Laurel Mountai** 93.19 55 ⇓P P 09 59 57.3 +2.1
baz=93
J08A **Circle Bar Ran** 93.29 47 *e*P P 09 59 56.4 +0.9
MPMC **Manual Prospec** 93.40 54 ⇓P P 09 59 57.8 +1.6
baz=94
MURC **Murrieta** 93.43 57 ⇑P P 09 59 57.8 +1.6
baz=94
109C **Camp Elliot, M** 93.44 57 ⇑P P 09 59 58.9 +2.7
baz=94
OD2 **Odessa Site #2** 93.49 43 P P 09 59 56.5 +0.3
GRAC **Grapevine Rang** 93.58 53 ⇓P P 09 59 59.0 +2.1
baz=94
BBRC **Big Bear Solar** 93.71 56 ⇓P P 10 00 00.0 +2.3
baz=94
TPH **Tonopah** 93.79 52 *e*P P 09 59 59.7 +1.7
TPH pmax pmax
comp=Z,17nm,1.0s
TPH **Tonopah** 93.79 52 *e*P P 09 59 59.7 +1.7
comp=Z,17nm,1.0s
E09A **Wood Farm, Sta** 93.80 44 *e*P P 09 59 58.1 +0.6
comp=Z,54nm,1.1s
C09A **Chrisman Ranch** 93.82 42 *e*P P 09 59 58.5 +0.8
comp=Z,21nm,1.0s
GSC **Goldstone** 93.89 55 *e*P P 10 00 00.3 +1.9
GSC pmax pmax
comp=Z,17nm,1.4s
GSC **Goldstone** 93.89 55 *e*P P 10 00 00.3 +1.9
comp=Z,17nm,1.4s
GSC **Goldstone** 93.89 55 ⇓P P 10 00 00.5 +2.1
baz=94,SNR=6.2
FURC **Furnace Creek,** 93.94 54 ⇑P P 10 00 00.8 +2.4
baz=94,SNR=14
BMN **Battle Mountai** 93.98 50 *e*P P 10 00 00.4 +1.7
BMN pmax pmax
comp=Z,24nm,1.1s
BMN **Battle Mountai** 93.98 50 *e*P P 10 00 00.4 +1.7
comp=Z,24nm,1.1s
MONP **Monument Peak** 94.02 57 ⇓P P 10 00 01.3 +2.2
baz=94
PFO **Pinyon Flat Ob** 94.05 57 *e*P P 10 00 01.8 +2.6
comp=Z,13nm,1.0s
PFO **Pinyon Flat Ob** 94.05 57 LR LR 10 33 32.8
comp=Z,369nm,21.9s,baz=222,slow=30
PFO **Pinyon Flat Ob** 94.05 57 ⇑P P 10 00 01.3 +2.2
baz=94,SNR=5.4
HEC **Hector,Ludlow** 94.25 56 ⇑P P 10 00 00.9 +0.9
baz=94,SNR=10
SHOC **Shoshone** 94.37 55 ⇑P P 10 00 01.8 +1.4
baz=94,SNR=5.5
F10A **Beach Ranch, E** 94.39 44 *e*P P 10 00 00.7 +0.3
comp=Z,35nm,1.1s
BELC **Belle Mtn. Jos** 94.46 56 ⇑P P 10 00 02.2 +1.1
baz=95,SNR=11
SWSC **Sam W. Stewart** 94.55 57 ⇑P P 10 00 02.2 +0.9
baz=95,SNR=5.8
TUQ **Turquoise Moun** 94.62 55 ⇑P P 10 00 02.6 +0.8
baz=95,SNR=14
NEW **Newport** 94.63 42 *e*P P 10 00 01.7 +0.3
comp=Z,34nm,1.1s
NEW LR LR
comp=Z,1μm,21.0s
NEW **Newport** 94.63 42 ⇑P P 10 00 01.8 +0.3
baz=95
GMRC **Granite Mounta** 94.79 56 ⇓P P 10 00 03.6 +1.0
baz=95,SNR=11
BC3 **Big Chuckawall** 94.88 57 ⇑P P 10 00 04.7 +1.7
baz=95,SNR=12
R11A **Troy Canyon, C** 95.09 52 *e*P P 10 00 05.7 +1.8
comp=Z,24nm,1.3s
R11A **Troy Canyon, C** 95.09 52 ⇓P P 10 00 05.4 +1.4
baz=95
IRM **Iron Mountain** 95.17 56 ⇑P P 10 00 05.8 +1.6
baz=95,SNR=10
MFID **Camas Ranch** 95.22 47 *e*P P 10 00 04.3 0.0
comp=Z,22nm,1.4s
LDFC **Landfair** 95.26 55 *e*P P 10 00 08.2 +3.6
comp=Z,33nm,1.4s
SHPR **Sheep Range** 95.31 54 *e*P P 10 00 06.2 +1.3
GLA **Glamis** 95.36 57 *e*P P 10 00 08.1 +3.0
GLA pmax pmax
comp=Z,17nm,1.0s
GLA **Glamis** 95.36 57 *e*P P 10 00 08.1 +3.0
comp=Z,17nm,1.0s
GLA **Glamis** 95.36 57 ⇓P P 10 00 06.3 +1.2
baz=96,SNR=6.5
ELK **Elko** 95.50 50 *e*P P 10 00 07.2 +1.4
comp=Z,17nm,1.3s
Y12C **Blythe** 95.66 57 ⇑P P 10 00 07.7 +1.4
baz=96,SNR=8.5
PDMCI **Parker Dam,Lak** 96.01 56 ⇑P P 10 00 09.7 +1.7
baz=96,SNR=9.3
BSMT **Bassoo Peak** 96.17 43 *e*P P 10 00 09.4 +0.8
SVE **Sverdlovsk** 96.17 326 *e*P P 10 00 06.4 -1.8
SVE *e*SS SS 10 17 57.2 0.0
SVE pmax pmax
comp=Z,18nm,1.2s
SVE MLR MLR
comp=Z,818nm,19.0s
113A **Mohawk Valley,** 96.24 58 ⇓P P 10 00 10.9 +1.9
baz=96
HLID **Hailey** 96.26 47 *e*P P 10 00 09.2 +0.1
comp=Z,5.2nm,1.0s
HLID LR LR
comp=Z,860nm,19.0s
HLID **Hailey** 96.26 47 ⇑P P 10 00 10.2 +1.0
baz=96
W13A **Hualapai Mount** 96.27 55 ⇓P P 10 00 10.1 +0.7
baz=96
AB31 **Akbulak array** 96.36 319 P P 10 00 06.9 -2.3
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR **Akbulak array** 96.36 319 *e*P P 10 00 07.3 -1.9
comp=Z,16nm,1.3s
JTMT **Jette** 96.51 43 *e*P P 10 00 10.6 +0.5
comp=Z,1.6nm,1.0s
YKA **Yellowknife Ar** 96.61 28 P P 10 00 10.3 +0.3
YKA PKiKP **PKiKP** 10 04 46.5 -0.4
YKA PKKP **PKKPbc** 10 16 51.8 -4.4
YKA **Yellowknife Ar** 96.61 28 P P 10 00 10.3 +0.3
comp=Z,6.6nm,0.9s,baz=270,slow=4.5,SNR=61
YKA PKiKP **PKiKP** 10 04 46.5 -0.4
comp=Z,0.7nm,0.9s,baz=278,slow=1.5,SNR=8.9
YKA PKKP **PKKPbc** 10 16 51.8 -4.4
comp=Z,0.4nm,0.9s,baz=86,slow=3.1,SNR=5.0
MSEY **Mahe Island** 96.65 265 PFAKE 10 00 20.0 +8.6
MSEY LR LR
comp=Z,520nm,19.0s
SWMT **Swartz Lake** 96.69 43 *e*P P 10 00 10.9 +0.1
comp=Z,8.9nm,1.4s
YBMT **Yellow Bay** 96.69 43 *e*P P 10 00 11.2 +0.3
MSO **Missoula** 96.71 44 *e*P P 10 00 13.4 +2.4
comp=Z,7.3nm,1.1s
MSO **Missoula** 96.71 44 ⇓P P 10 00 11.8 +0.8
baz=97
ARUT **Antelope Range** 96.75 53 *e*P P 10 00 13.9 +2.4
ARUT pmax pmax
comp=Z,223nm,1.3s
ARUT **Antelope Range** 96.75 53 *e*P P 10 00 13.9 +2.4
comp=Z,223nm,1.3s
WALA **Waterton Lakes** 96.79 41 *e*P P 10 00 12.4 +1.0
comp=Z,1.5nm,1.1s
CCUT **Cedar City** 96.80 53 *e*P P 10 00 14.1 +2.3
comp=Z,11nm,1.1s
Y14A **Wickenburg** 96.94 57 ⇑P P 10 00 13.6 +1.3
baz=97,SNR=6.9
214A **Organ Pipe Nat** 97.00 59 *e*P P 10 00 15.2 +2.6
comp=Z,8.5nm,1.3s
SLMT **Seeley Lake** 97.03 43 *e*P Pdif 10 00 14.3 +1.7
CHMT **Chamberlain Mo** 97.19 44 *e*P Pdif 10 00 13.4 0.0
BGU **Big Grassy Mou** 97.19 50 *e*P P 10 00 13.0 -0.4
comp=Z,2.1nm,1.1s
EDM **Edmonton** 97.22 37 *e*P P 10 00 13.1 +0.1
EDM **Edmonton** 97.22 37 *e*P P 10 00 13.1 +0.1
ARU **Arti** 97.31 326 P P 10 00 11.0 -2.3
comp=Z,77nm,1.0s,SNR=5.5
ARU **Arti** 97.31 326 *d*/*i*P P 10 00 11.0 -2.3
ARU 10 04 06.5
ARU S **SKSac** 10 10 45.2 -2.9
ARU PS **PS** 10 12 54.2 -7.0
ARU pmax pmax
comp=Z,19nm,1.5s
ARU MLR MLR
comp=Z,954nm,19.0s
ARU **Arti** 97.31 326 *e*P P 10 00 11.2 -2.1
comp=Z,13nm,1.0s
ARU LR LR
comp=Z,1μm,19.0s
DUG **Dugway** 97.33 50 *e*P Pdif 10 00 14.7 +0.6
DUG pmax pmax
comp=Z,14nm,1.5s
DUG MLR MLR
comp=Z,865nm,20.0s
DUG **Dugway** 97.33 50 *e*P Pdif 10 00 14.7 +0.6
comp=Z,14nm,1.5s
DUG LR LR
comp=Z,865nm,20.0s
DUG **Dugway** 97.33 50 ⇓P Pdif 10 00 14.9 +0.8
baz=98
HVU **Hansel Valley** 97.40 49 *e*P Pdif 10 00 14.9 +0.5
HVU pmax pmax
comp=Z,20nm,1.1s
HVU **Hansel Valley** 97.40 49 *e*P Pdif 10 00 14.9 +0.5
comp=Z,20nm,1.1s
MCMT **McKenzie Canyo** 97.42 46 *e*P Pdif 10 00 15.3 +0.8
comp=Z,3.0nm,1.1s
DLMT **Dillon** 97.61 45 *e*P Pdif 10 00 15.9 +0.7
U15A **North Rim** 97.62 54 ⇓P Pdif 10 00 16.5 +0.8
baz=98,SNR=5.3
AKTO **Aktyubinsk** 97.63 320 LR LR 10 45 07.7
comp=Z,411nm,19.1s,baz=80,slow=36
LRM **Limekiln Ridge** 97.72 45 *e*P Pdif 10 00 17.4 +1.6
X16A **Lo Mia Camp, P** 98.25 56 ⇓P Pdif 10 00 19.4 +1.0
baz=98
BOZ **Bozeman (W)** 98.29 45 *e*P P 10 00 18.3 +0.1
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ MLR MLR
comp=Z,763nm,20.0s
BOZ **Bozeman (W)** 98.29 45 *e*P Pdif 10 00 18.3 +0.1
comp=Z,5.9nm,0.9s
BOZ LR LR
comp=Z,763nm,20.0s
WUAZ **Wupatki** 98.33 55 *e*P Pdif 10 00 22.2 +3.5
comp=Z,3.6nm,0.8s
WUAZ LR LR
comp=Z,610nm,19.0s
WUAZ **Wupatki** 98.33 55 ⇑P Pdif 10 00 19.8 +1.1
baz=98
QLMT **Earthquake Lak** 98.43 46 *e*P Pdif 10 00 21.1 +2.1
TMUT **Trail Mountain** 98.55 51 *e*P Pdif 10 00 22.1 +2.3
comp=Z,10nm,1.1s
FXWY **Fox Creek** 98.72 47 *e*P Pdif 10 00 21.3 +0.9
TUC **Tucson** 98.73 58 *e*P Pdif 10 00 22.7 +2.3
TUC pmax pmax
comp=Z,13nm,1.8s
TUC MLR MLR
comp=Z,701nm,19.0s
TUC **Tucson** 98.73 58 *e*P Pdif 10 00 22.7 +2.3
comp=Z,13nm,1.8s
TUC LR LR
comp=Z,701nm,19.0s
YMR **Madison River** 98.76 46 *e*P Pdif 10 00 21.8 +1.3
comp=Z,13nm,1.0s
TPAW **Teton Pass** 98.77 47 *e*P Pdif 10 00 21.7 +1.1
comp=Z,22nm,1.5s
IMW **Indian Meadow** 98.78 47 *e*P Pdif 10 00 21.9 +1.2
REDW **Red Top Meadow** 98.85 47 *e*P Pdif 10 00 22.4 +1.6
comp=Z,15nm,1.3s
YFT **Old Faithful** 98.86 46 *e*P Pdif 10 00 23.4 +2.5
comp=Z,25nm,1.0s
FLWY **Flagg Ranch** 98.96 46 *e*P Pdif 10 00 23.2 +1.9
LOHW **Long Hollow** 99.03 47 *e*P **Pdif** **10 00 22.6 +0.9**
H17A **Grant Village** 99.04 46 *e*P **Pdif** **10 00 24.0 +2.2**
baz=99,SNR=6.3
H17A **Grant Village** 99.04 46 ⇑P Pdif 10 00 22.7 +0.9
baz=99,SNR=6.3
I17A **Pilgrim Ck.** 99.05 47 ⇓P Pdif 10 00 22.5 +0.7
baz=99,SNR=5.7
SRU **San Rafael** 99.08 51 *e*P Pdif 10 00 23.4 +1.5
SRU pmax pmax
comp=Z,9.0nm,1.5s
SRU **San Rafael** 99.08 51 *e*P Pdif 10 00 23.4 +1.5
comp=Z,8.7nm,1.5s
EGMT **Eagleton** 99.55 42 *e*P Pdif 10 00 23.5 -0.2
comp=Z,41nm,1.4s
EGMT LR LR
comp=Z,577nm,20.0s
EGMT **Eagleton** 99.55 42 ⇓P Pdif 10 00 24.6 +0.9
baz=100,SNR=8.7
H18A **Shoshone NF, C** 99.69 46 ⇓P Pdif 10 00 25.5 +0.9
baz=100,SNR=8.3
BW06 **Boulder Array** 99.80 48 *e*Pdif Pdif 10 00 25.4 +0.3
comp=Z,8.1nm,1.1s
BW06 LR LR
comp=Z,1μm,20.0s
PDAR **Pinedale Array** 99.80 48 P Pdif 10 00 24.5 -0.6
PDAR **Pinedale Array** 99.80 48 P Pdif 10 00 24.5 -0.6
comp=Z,5.1nm,0.9s,baz=245,slow=2.1,SNR=26
PDAR LR LR 10 39 31.0
comp=Z,725nm,20.3s,baz=276,slow=32
RLMT **Red Lodge** 99.96 45 PFAKE 10 00 40.0 +14
RLMT LR LR
comp=Z,681nm,20.0s
319A **Douglas** 99.99 59 ⇑P Pdif 10 00 26.3 +0.2
baz=100
C19A **Slack Wire Ran** 100.04 43 ⇓P Pdif 10 00 27.0 +1.2
baz=100
B19A **Brinkman Farms** 100.08 42 ⇑P Pdif 10 00 27.0 +1.0
baz=100
J19A **Crowheart** 100.16 47 ⇑P Pdif 10 00 27.0 +0.4
baz=100,SNR=7.3
F19A **Roth Farm, Mol** 100.17 45 ⇑P Pdif 10 00 27.6 +1.1
baz=100,SNR=7.1
D19A **Cripps Ranch,** 100.17 43 ⇑P Pdif 10 00 27.1 +0.6
baz=100,SNR=10
H19A **Powell** 100.17 46 ⇑P Pdif 10 00 27.7 +1.1
baz=100,SNR=8.0
I19A **Meeteetse** 100.19 46 ⇑P Pdif 10 00 27.8 +1.1
baz=100,SNR=5.6
A19A **Klindworth Far** 100.20 41 ⇓P Pdif 10 00 27.3 +0.8
baz=100,SNR=9.0
E19A **Rath Farm, Rou** 100.26 44 ⇓P Pdif 10 00 28.0 +1.1
baz=100,SNR=7.9
PV04 **Paradox Valley** 100.34 52 *e*Pdif Pdif 10 00 29.3 +1.8
PV01 **Paradox Valley** 100.61 52 *e*Pdif Pdif 10 00 30.1 +1.3
comp=Z,1μm,1.6s
320A **Kipp Ranch, An** 100.64 59 ⇑P Pdif 10 00 29.9 +0.9
baz=101
MVCO **Mesa Verde** 100.67 53 PFAKE 10 00 40.0 +11
MVCO LR LR
comp=Z,596nm,22.0s
MVCO **Mesa Verde** 100.67 53 ⇑P Pdif 10 00 29.4 +0.3
baz=101
D20A **Manuel Ranch,** 100.68 43 ⇓P Pdif 10 00 29.4 +0.7
baz=101,SNR=5.4
B20A **Solberg Farm,** 100.70 42 ⇑P Pdif 10 00 29.5 +0.7
baz=101
G20A **Bridger** 100.71 45 ⇑P Pdif 10 00 29.5 +0.6
baz=101
E20A **Meyer Farm, Mu** 100.71 44 ⇓P Pdif 10 00 29.3 +0.5
baz=101,SNR=10
F20A **Billings** 100.73 45 ⇓P Pdif 10 00 29.5 +0.5
baz=101
A20A **Cobblestone Ra** 100.74 42 ⇑P Pdif 10 00 29.7 +0.7
baz=101,SNR=17
C20A **Veseth Ranch,** 100.74 43 ⇓P Pdif 10 00 29.5 +0.5
baz=101,SNR=6.1
N20A **Spence Gulch,** 100.80 50 ⇑P Pdif 10 00 30.2 +0.6
baz=101
I20A **Worland** 100.81 47 ⇓P Pdif 10 00 29.9 +0.5
baz=101
O20A **White River Ci** 100.83 50 *e*Pdif Pdif 10 00 30.5 +0.8
comp=Z,6.8nm,1.1s
O20A **White River Ci** 100.83 50 ⇓P Pdif 10 00 29.6 -0.2
baz=101
J20A **Shoshoni** 100.86 47 ⇓P Pdif 10 00 30.6 +0.9
baz=101
H20A **Greybull** 100.89 46 ⇓P Pdif 10 00 30.1 +0.4
baz=101,SNR=5.6
121A **Cookes Peak, D** 101.28 58 ⇓P Pdif 10 00 31.8 -0.1
baz=101
J21A **Lysite** 101.33 47 ⇑P Pdif 10 00 32.8 +0.9
baz=101,SNR=13
B21A **Ellsworth Farm** 101.36 42 ⇓P Pdif 10 00 32.8 +1.1
baz=102
A21A **Bergtoll Ranch** 101.39 41 ⇓P Pdif 10 00 32.8 +1.0
baz=102,SNR=17
G21A **Lodge Grass** 101.42 45 ⇓P Pdif 10 00 33.1 +1.0
baz=102,SNR=8.9
I21A **Big Trails, Te** 101.42 47 ⇓P Pdif 10 00 32.6 +0.4
baz=102,SNR=6.0
E21A **Keefer Ranch,** 101.44 44 ⇑P Pdif 10 00 32.6 +0.5
baz=102,SNR=7.2
D21A **La Casta Ranch** 101.46 43 ⇓P Pdif 10 00 32.6 +0.4
baz=102
K21A **Alcova** 101.50 48 ⇑P Pdif 10 00 33.1 +0.4
baz=102
H21A **Big Horn, Sher** 101.56 46 ⇓P Pdif 10 00 34.0 +1.2
baz=102
RES **Resolute Bay** 101.68 15 P Pdif 10 00 33.0 +0.6
RES **Resolute Bay** 101.68 15 P Pdif 10 00 33.0 +0.6
comp=Z,6.0nm,0.9s,baz=301,slow=5.9,SNR=17
SMCO **Snowmass** 101.83 51 *e*Pdif Pdif 10 00 36.6 +2.2
P22A **Eagle** 101.99 51 ⇓P Pdif 10 00 35.6 +0.7
baz=102
S22A **4UR Ranch, Cre** 101.99 53 ⇑P Pdif 10 00 35.9 +0.8
baz=102
I22A **9 Mile Ranch,** 102.00 47 ⇑P Pdif 10 00 35.7 +1.0
baz=102,SNR=7.2
U22A **Llaves** 102.00 54 ⇑P Pdif 10 00 35.6 +0.5
baz=102
D22A **Cohagen** 102.01 43 ⇓P Pdif 10 00 35.4 +0.8
baz=102,SNR=7.6
LAO **LASA Array** 102.02 44 *e*Pdif Pdif 10 00 36.1 +1.4
LAO LR LR
comp=Z,690nm,19.0s
J22A **Midwest** 102.03 47 ⇑P Pdif 10 00 35.6 +0.7
baz=102,SNR=7.8
K22A **Casper** 102.04 48 *e*Pdif Pdif 10 00 36.0 +1.0
comp=Z,16nm,1.3s
K22A **Casper** 102.04 48 ⇓P Pdif 10 00 35.2 +0.2
baz=102
A22A **Carney Farms,** 102.05 41 ⇑P Pdif 10 00 35.4 +0.7
baz=102,SNR=6.5
B22A **Reddig Ranch S** 102.05 42 ⇑P Pdif 10 00 36.4 +1.6
baz=102
F22A **Rosebud** 102.05 45 ⇓P Pdif 10 00 36.1 +1.3
baz=102,SNR=7.1
G22A **Birney** 102.06 45 ⇓P Pdif 10 00 36.5 +1.5
baz=102,SNR=7.3
O22A **Kremmling** 102.13 50 ⇑P Pdif 10 00 35.8 +0.1
baz=102
C22A **Vida** 102.17 43 ⇓P Pdif 10 00 36.5 +1.2
baz=102
N22A **Wattenberg Ran** 102.17 50 ⇑P Pdif 10 00 36.0 +0.3
baz=102
E22A **Miles City** 102.22 44 ⇓P Pdif 10 00 36.8 +1.2
baz=102
ANMO **Albuquerque** 102.36 56 *e*Pdif Pdif 10 00 39.4 +2.8
comp=Z,2.9nm,1.3s
ANMO LR LR
comp=Z,516nm,21.0s
ABPO **Ambohimpanom** 102.51 249 PFAKE 10 00 50.0 +12
ABPO LR LR
comp=Z,470nm,20.0s
U23A **El Rito** 102.54 54 ⇓P Pdif 10 00 38.5 +1.1
baz=103
N23A **Red Feather La** 102.56 50 ⇑P Pdif 10 00 38.8 +1.3
baz=103
123A **Bell Site, Whi** 102.56 58 ⇓P Pdif 10 00 38.1 +0.6
baz=103
V23A **Ortiz Mt. (NFS** 102.56 55 ⇑P Pdif 10 00 38.7 +1.2
baz=103
Z23A **Rita Site, Whi** 102.58 57 ⇓P Pdif 10 00 38.6 +1.1
baz=103
W23A **Werner Place,** 102.61 55 ⇑P Pdif 10 00 38.1 +0.3
baz=103
O23A **Lake Granby, G** 102.61 50 ⇑P Pdif 10 00 38.5 +0.8
baz=103
C23A **Lambert** 102.64 42 ⇑P Pdif 10 00 38.3 +1.0
baz=103,SNR=9.4
T23A **Casias Ranch,** 102.64 54 ⇑P Pdif 10 00 38.9 +0.9

baz=105
F23A **Volborg** 102.65 45 ⇓P Pdif 10 00 39.1 +1.5
baz=103,SNR=12
D23A **Lindsay** 102.67 43 ⇓P Pdif 10 00 38.3 +0.7
baz=103,SNR=6.9
L23A **Garrett** 102.67 48 ⇓P Pdif 10 00 38.3 +0.4
baz=103
K23A **Bowen Ranch, D** 102.69 48 ⇓P Pdif 10 00 38.5 +0.6
baz=103
M23A **Laramie** 102.69 49 ⇑P Pdif 10 00 39.3 +1.3
baz=103
G23A **Biddle** 102.70 45 ⇑P Pdif 10 00 38.7 +0.9
baz=103,SNR=13
B23A **Brockton** 102.71 42 ⇑P Pdif 10 00 38.8 +1.2
baz=103
Y23A **Lovelace Mesa,** 102.71 57 ⇓P Pdif 10 00 39.0 +0.8
baz=103
A23A **Redstone** 102.73 41 ⇓P Pdif 10 00 39.0 +1.3
baz=103
ISCO **Idaho Springs** 102.86 51 PFAKE 10 00 50.0 +11
ISCO LR LR
comp=Z,1µm,19.0s
ISCO **Idaho Springs** 102.86 51 ⇑P Pdif 10 00 39.3 +0.4
baz=103
SDCO **Great Sand Dun** 103.04 53 PFAKE 10 00 50.0 +10
SDCO LR LR
comp=Z,838nm,21.0s
T24B **San Luis** 103.17 53 ⇑P Pdif 10 00 41.1 +0.7
baz=103
W24A **Lazy 6 Ranch,** 103.21 55 ⇑P Pdif 10 00 41.1 +0.7
baz=103
Y24A **Capitan** 103.23 57 ⇓P Pdif 10 00 41.8 +1.3
baz=103
DGMT **Dagmar** 103.23 42 *e*Pdif Pdif 10 00 40.8 +0.8
comp=Z,28nm,1.3s
DGMT LR LR
comp=Z,911nm,20.0s
DGMT **Dagmar** 103.23 42 ⇓P Pdif 10 00 40.7 +0.7
baz=103
124A **Stringfield Ra** 103.24 58 ⇑P Pdif 10 00 41.3 +0.6
baz=103
O24A **Longmont** 103.26 50 ⇑P Pdif 10 00 41.2 +0.8
baz=103
U24A **Moreno Valley** 103.27 54 ⇑P Pdif 10 00 40.9 +0.1
baz=103
S24A **Houchin Ranch,** 103.28 53 ⇑P Pdif 10 00 41.6 +0.8
baz=103
D24A **Glendive** 103.28 43 ⇓P Pdif 10 00 41.6 +1.3
baz=103,SNR=5.3
V24A **Rampart Ranch,** 103.31 55 ⇓P Pdif 10 00 42.1 +1.3
baz=103
F24A **Ekalaka** 103.31 44 ⇑P Pdif 10 00 41.2 +0.7
baz=103
A24A **Westby** 103.31 41 ⇓P Pdif 10 00 40.4 0.0
baz=103
MNTX **Cornudas Mount** 103.32 59 PFAKE 10 00 50.0 +9.2
MNTX LR LR
comp=Z,563nm,19.0s
H24A **Dirks Ranch, A** 103.33 46 ⇑P Pdif 10 00 41.5 +0.9
baz=103
R24A **Sanders Place,** 103.33 52 ⇑P Pdif 10 00 41.6 +0.7
baz=103
E24A **Baker** 103.34 44 ⇑P Pdif 10 00 41.7 +1.1
baz=103
I24A **Kuemmerle Ranc** 103.34 46 ⇑P Pdif 10 00 41.1 +0.4
baz=103
J24A **Dixon Ranch, L** 103.36 47 ⇑P Pdif 10 00 41.1 +0.3
baz=104
N24A **Carr** 103.36 50 ⇓P Pdif 10 00 41.2 +0.3
baz=104
G24A **Alzada** 103.38 45 ⇑P Pdif 10 00 41.2 +0.4
baz=104
PRGR **Permogore** 103.41 332 *e*P Pdif 10 00 38.3 -2.1
PRGR pmax pmax
comp=Z,16nm,1.0s
RSSD **Black Hills** 103.75 46 *e*P Pdif 10 00 42.4 -0.2
RSSD pmax pmax
comp=Z,13nm,1.3s
RSSD **Black Hills** 103.75 46 *e*Pdif Pdif 10 00 42.4 -0.2
comp=Z,13nm,1.3s
FFC **Flin Flon** 103.80 35 PFAKE 10 00 50.0 +7.7
FFC LR LR
comp=Z,576nm,20.0s
Y25A **Mesa, Roswell** 103.84 57 ⇓P Pdif 10 00 43.7 +0.5
baz=104
Z25A **Roswell** 103.84 57 ⇓P Pdif 10 00 43.6 +0.4
baz=104
S25A **Robets Cordova** 103.89 53 ⇑P Pdif 10 00 42.9 -0.5
baz=104
A25A **Svangstu Ranch** 103.89 41 ⇓P Pdif 10 00 43.4 +0.5
baz=104
125A **Gardner Draw,** 103.91 58 ⇑P Pdif 10 00 42.9 -0.6
baz=104
T25A **Trinidad** 103.94 53 ⇓P Pdif 10 00 44.3 +0.6
baz=104
C25A **Freed Ranch, W** 103.94 42 ⇑P Pdif 10 00 43.8 +0.6
baz=104
D25A **Fairfield** 103.96 43 ⇑P Pdif 10 00 44.2 +0.9
baz=104
Q25A **Bedland, Calha** 103.97 52 ⇑P Pdif 10 00 44.2 +0.5
baz=104
E25A **Miller Ranch,** 103.97 44 ⇑P Pdif 10 00 44.2 +0.9
baz=104
I25A **Rochford** 103.97 46 ⇓P Pdif 10 00 44.1 +0.5
baz=104
U25A **Circle Dot Ran** 103.98 54 ⇓P Pdif 10 00 44.4 +0.6
baz=104
W25A **X Bar L Ranch,** 103.99 55 ⇓P Pdif 10 00 43.4 -0.4
baz=104
F25A **Bowman** 103.99 44 ⇑P Pdif 10 00 43.9 +0.4
baz=104
P25A **Willow Gulch B** 103.99 51 ⇓P Pdif 10 00 44.2 +0.4
baz=104
H25A **Fruitdale** 104.02 46 ⇑P Pdif 10 00 44.2 +0.5
baz=104
G25A **Newell** 104.09 45 ⇑P Pdif 10 00 44.4 +0.5
baz=104
226B **Tecolote Peak,** 104.35 59 ⇓P Pdif 10 00 46.9 +1.5
baz=104
Z26A **Caprock** 104.46 57 ⇓P Pdif 10 00 47.3 +1.4
baz=105
J26A **Sides Ranch, S** 104.51 47 ⇑P Pdif 10 00 46.6 +0.7
baz=105
Q26A **Hugo** 104.53 51 ⇑P Pdif 10 00 46.8 +0.6
baz=105
F26A **Lodgepole** 104.55 44 ⇓P Pdif 10 00 45.9 0.0
baz=105
W26A **Owens Ranch, T** 104.56 55 ⇓P Pdif 10 00 46.0 -0.4
baz=105
D26A **Manning** 104.57 43 ⇓P Pdif 10 00 46.0 +0.1
baz=105
T26A **Comanche Natio** 104.59 53 ⇓P Pdif 10 00 47.3 +0.8
baz=105
I26A **New Underwood** 104.60 46 ⇓P Pdif 10 00 47.5 +1.3
baz=105
A26A **Wade Farm, Ken** 104.60 41 ⇑P Pdif 10 00 46.7 +0.7
baz=105
H26A **Fairpoint** 104.60 46 ⇓P Pdif 10 00 46.6 +0.4
baz=105
KBS **Kingsbay** 104.61 353 PFAKE 10 01 00.0 +15
KBS LR LR
comp=Z,566nm,20.0s
E26A **Carlson Angus** 104.62 44 ⇓P Pdif 10 00 47.4 +1.1
baz=105
R26A **Arlington** 104.63 52 ⇓P Pdif 10 00 47.9 +1.3
baz=105
S26A **Kim** 104.66 53 ⇓P Pdif 10 00 47.7 +1.0
baz=105
C26A **Wahner Farm, P** 104.70 42 ⇓P Pdif 10 00 47.4 +0.9
baz=105
TXAR **Lajitas Array** 104.85 61 PKiKP PKiKP 10 05 03.4 +0.4
TXAR **Lajitas Array** 104.85 61 PKiKP PKiKP 10 05 03.4 +0.4
comp=Z,2.2nm,1.1s,baz=259,slow=1.4,SNR=9.3
327A **Balmorhea Ranc** 104.94 59 ⇓P PKiKP 10 05 02.7 -0.3
baz=105
427A **Hayter Ranch,** 105.04 60 ⇓P PKiKP 10 05 03.0 -0.3
baz=105
627A **Terlingua Ranc** 105.09 61 ⇓P PKiKP 10 05 03.9 +0.5
baz=105
H27A **Howes** 105.10 46 ⇑P PKiKP 10 05 02.4 -0.5
baz=105
Z27A **Tatum** 105.10 57 ⇓P PKiKP 10 05 03.3 -0.1
baz=105
C27A **Sayler Ranch,** 105.11 42 ⇑P PKiKP 10 05 03.0 +0.2
baz=105
G27A **Dupree** 105.11 45 ⇑P PKiKP 10 05 03.6 +0.7
baz=105
Y27A **Causey** 105.12 57 ⇓P PKiKP 10 05 03.2 -0.1
baz=105
W27A **Bowe Ranch, En** 105.14 55 ⇑P PKiKP 10 05 03.9 +0.5
baz=105
D27A **Center** 105.18 43 ⇓P PKiKP 10 05 03.9 +0.9
baz=105
B27A **Peters Farms,** 105.18 42 ⇓P PKiKP 10 05 03.5 +0.6
baz=105
P27A **Fickett Ranch,** 105.22 51 ⇑P PKiKP 10 05 04.0 +0.6
baz=105
E27A **Carson** 105.24 44 ⇑P PKiKP 10 05 03.5 +0.4
baz=105
U27A **Thompson Grove** 105.25 54 ⇑P PKiKP 10 05 04.0 +0.4
baz=105
T27A **Campo** 105.29 53 ⇓P PKiKP 10 05 04.1 +0.5
baz=105
MSTX **Muleshoe** 105.44 57 ⇑P PKiKP 10 05 04.4 +0.5
baz=106
OGNE **Ogallala** 105.51 49 PFAKE 10 05 20.0
OGNE LR LR
comp=Z,735nm,19.0s
628A **Black Gap, Mar** 105.53 61 ⇓P PKiKP 10 05 03.9 -0.2
baz=106
328A **Wristen Ranch,** 105.53 59 ⇓P PKiKP 10 05 04.0 -0.1
baz=106
528A **Cox Ranch, San** 105.59 61 ⇓P PKiKP 10 05 04.0 -0.3
baz=106
428A **Kincaid Ranch,** 105.66 60 ⇑P PKiKP 10 05 04.4 0.0
baz=106
B28A **Dugan Ranch, T** 105.77 41 ⇑P PKiKP 10 05 04.2 +0.2
baz=106
T28A **Walsh** 105.77 53 ⇓P PKiKP 10 05 04.9 +0.5
baz=106
E28A **Huff** 105.82 43 ⇓P PKiKP 10 05 04.9 +0.8
baz=106
I28A **Midland** 105.82 46 ⇑P PKiKP 10 05 04.1 -0.1
baz=106
Q28A **Sharon Springs** 105.83 51 ⇑P PKiKP 10 05 04.7 +0.2
baz=106
J28A **Allard Ranch,** 105.84 47 ⇓P PKiKP 10 05 04.3 0.0
baz=106
H28A **Mission Ridge** 105.84 45 ⇑P PKiKP 10 05 04.5 +0.2
baz=106
F28A **McLaughlin** 105.84 44 ⇑P PKiKP 10 05 04.2 0.0
baz=106
P28A **Saint Francis** 105.85 51 ⇓P PKiKP 10 05 04.5 0.0
baz=106
C28A **Hausauer Farms** 105.86 42 ⇑P PKiKP 10 05 05.2 +1.1
baz=106
G28A **Parade** 105.86 45 ⇓P PKiKP 10 05 05.3 +1.0
baz=106
Y28A **McKinney Farm,** 105.88 57 ⇓P PKiKP 10 05 05.0 +0.3
baz=106
X28A **Dimmitt** 105.88 56 ⇑P PKiKP 10 05 04.6 -0.2
baz=106
N28A **Pribbeno Ranch** 105.91 50 ⇑P PKiKP 10 05 05.3 +0.7
baz=106
S28A **Manter** 105.91 53 ⇑P PKiKP 10 05 05.3 +0.6
baz=106
LVZ **Lovozero** 105.93 340 PFAKE 10 05 20.0
LVZ LR LR
comp=Z,573nm,20.0s
529A **Stev Forest Ra** 106.08 61 ⇑P PKiKP 10 05 05.6 +0.5
baz=106
329A **Wagon Wheel Ra** 106.23 59 ⇓P PKiKP 10 05 05.3 -0.1
baz=106
129A **Stewart Farms,** 106.27 58 ⇓P PKiKP 10 05 05.3 -0.2
baz=106
X29A **Tulia** 106.30 56 ⇓P PKiKP 10 05 05.3 -0.1
baz=106
V29A **Stinnett** 106.34 55 ⇓P PKiKP 10 05 05.2 -0.3
baz=106
429A **Davenport Ranc** 106.34 60 ⇓P PKiKP 10 05 05.4 -0.2
baz=106
Z29A **Hungry Hill Ra** 106.36 57 ⇑P PKiKP 10 05 05.5 -0.2
baz=106
H29A **Onida** 106.42 45 ⇑P PKiKP 10 05 05.4 +0.1
baz=106
B29A **Wagenman Farm,** 106.43 41 ⇑P PKiKP 10 05 05.7 +0.5
baz=106
A29A **Manning Farm,** 106.43 41 ⇓P PKiKP 10 05 05.3 +0.1
baz=106
I29A **Vivian Onida** 106.43 46 ⇑P PKiKP 10 05 05.1 -0.3
baz=106
APA **Apatity** 106.50 340 *e*P Pdif 10 00 56.4 +2.4
530A **J-C Ranch, Com** 106.85 60 ⇓P PKiKP 10 05 06.7 +0.1
baz=107
Z30A **Sanderson Ranc** 106.85 57 ⇓P PKiKP 10 05 06.2 -0.3
baz=107
430A **Baggett Ranch,** 106.90 60 ⇓P PKiKP 10 05 06.6 -0.1
baz=107
330A **Mertzon** 106.92 59 ⇑P PKiKP 10 05 06.5 -0.2
baz=107
DGRG **David-gareji** 106.97 311 P PKiKP 10 05 29.4 +23
X30A **Coker Ranch, T** 106.98 56 ⇓P PKiKP 10 05 06.0 -0.6
baz=107
U30A **WK&E Inc. Balk** 106.99 54 ⇓P PKiKP 10 05 07.0 +0.3
baz=107
P30A **Selden** 107.01 51 ⇓P PKiKP 10 05 07.0 +0.4
baz=107
A30A **Hoffart Farm,** 107.03 41 ⇑P PKiKP 10 05 06.5 +0.2
baz=107
D30A **Buchanan** 107.05 43 ⇓P PKiKP 10 05 06.0 -0.4
baz=107
Q30A **Quinter** 107.09 51 ⇑P PKiKP 10 05 06.2 -0.6
baz=107
G30A **Faulkton** 107.10 45 ⇑P PKiKP 10 05 06.0 -0.6
baz=107
J30A **Dallas** 107.11 47 ⇑P PKiKP 10 05 05.9 -0.7
baz=107
K30A **Basset** 107.11 47 ⇑P PKiKP 10 05 05.9 -0.8
baz=107
R30A **Dighton** 107.12 52 ⇓P PKiKP 10 05 06.9 0.0
baz=107
TBLG **Delisi** 107.41 312 P PKiKP 10 05 28.7 +21
KEV **Kevo** 107.50 343 PFAKE 10 05 20.0
KEV LR LR
comp=Z,527nm,21.0s
Y31A **Rekieta Farm,** 107.52 56 ⇑P PKiKP 10 05 07.7 0.0
baz=108
531A **Rocksprings** 107.53 60 ⇓P PKiKP 10 05 07.9 +0.1
baz=108
631A **Perdido Creek** 107.54 61 ⇓P PKiKP 10 05 07.8 -0.1
baz=108
331A **San Angelo** 107.57 59 ⇑P PKiKP 10 05 08.4 +0.5
baz=108
GNI **Garni** 107.61 310 PFAKE 10 05 20.0
GNI LR LR
comp=Z,244nm,20.0s
231A **Bronte** 107.62 59 ⇑P PKiKP 10 05 08.0 0.0
baz=108
O31A **Woolen Ranch,** 107.64 50 ⇓P PKiKP 10 05 08.0 +0.2
baz=108
U31A **Nine Bar Ranch** 107.65 54 ⇑P PKiKP 10 05 08.5 +0.6
baz=108
Z31A **Sharp Cattle R** 107.67 57 ⇑P PKiKP 10 05 07.2 -0.8
baz=108
P31A **Stockton** 107.68 51 ⇓P PKiKP 10 05 07.9 +0.1
baz=108
X31A **McDonald Ranch** 107.70 56 ⇓P PKiKP 10 05 07.7 -0.3
baz=108
V31A **Spring Creek L** 107.71 55 ⇓P PKiKP 10 05 07.6 -0.4
baz=108
T31A **Randall Ranch,** 107.71 53 ⇑P PKiKP 10 05 08.4 +0.5
baz=108
Q31A **Ellis** 107.73 51 ⇑P PKiKP 10 05 08.2 +0.3
baz=108
ARCES **ARCESS Array B** 108.06 343 PKiKP PKiKP 10 05 06.7 -1.0
ARCES **ARCESS Array B** 108.06 343 PKiKP PKiKP 10 05 06.7 -1.0
comp=Z,3.6nm,0.9s,baz=68,slow=2.4,SNR=6.2
532A **Rocksprings** 108.09 60 ⇓P PKiKP 10 05 07.9 -1.0
baz=108
732A **Laxson Ranch,** 108.11 62 ⇓P PKiKP 10 05 07.9 -1.0
baz=108
832A **Faith Ranch, C** 108.13 62 ⇑P PKiKP 10 05 08.7 -0.3
baz=108
432A **Menard** 108.14 60 ⇓P PKiKP 10 05 08.0 -1.0
baz=108
ABTX **Abilene, Hawle** 108.14 58 ⇑P PKiKP 10 05 08.8 -0.1
baz=108
332A **Millersview** 108.15 59 ⇑P PKiKP 10 05 09.1 +0.2
baz=108
JCT **Junction City** 108.15 60 *e*PKPdf PKiKP 10 05 08.8 -0.2
JCT LR LR
comp=Z,1µm,20.0s
JCT **Junction City** 108.15 60 ⇑P PKiKP 10 05 09.1 +0.1
baz=108
232A **Coleman** 108.19 59 ⇑P PKiKP 10 05 09.3 +0.3
baz=108
Z32A **Haskell** 108.22 57 ⇓P PKiKP 10 05 08.9 -0.1
baz=108
632A **Uvalde** 108.23 61 ⇓P PKiKP 10 05 09.5 +0.4
baz=108
ONI **Oni** 108.24 313 P PKiKP 10 05 19.9 +11
P32A **Huiting Farm,** 108.27 50 ⇑P PKiKP 10 05 09.5 +0.6
baz=108
T32A **Huddler Ranch,** 108.30 53 ⇑P PKiKP 10 05 08.8 -0.2
baz=108
ULM **Lac du Bonnet** 108.31 39 PKiKP PKiKP 10 05 07.6 -1.0
ULM **Lac du Bonnet** 108.31 39 PKiKP PKiKP 10 05 07.6 -1.0
comp=Z,4.6nm,1.0s,baz=259,slow=2.8,SNR=4.1
U32A **Winter Ranch,** 108.33 54 ⇓P PKiKP 10 05 09.6 +0.5
baz=108
R32A **Long Quarter,** 108.33 52 ⇑P PKiKP 10 05 09.2 +0.1
baz=108
N32A **Stulken Farm,** 108.34 49 ⇑P PKiKP 10 05 09.6 +0.6
baz=108
BGNE **Belgrade** 108.36 48 *e*PKPdf PKiKP 10 05 09.3 +0.3
BGNE **Belgrade** 108.36 48 ⇑P PKiKP 10 05 09.4 +0.4
baz=108
Q32A **Meitler Ranch,** 108.38 51 ⇓P PKiKP 10 05 09.3 +0.2
baz=108
AKH **Akhalkalaki** 108.38 312 P PKiKP 10 05 18.8 +9.5
KIV **Kislovodsk** 108.57 314 PFAKE 10 05 20.0
KIV LR LR
comp=Z,288nm,22.0s
WMOK **Wichita Mounta** 108.67 56 PFAKE 10 05 20.0
WMOK LR LR
comp=Z,479nm,22.0s
AGMN **Agassiz Nation** 108.74 41 PFAKE 10 05 20.0
AGMN LR LR
comp=Z,952nm,19.0s
433A **Art** 108.75 60 ⇑P PKiKP 10 05 08.9 -1.2
baz=109
133A **Hamilton Ranch** 108.75 58 ⇑P PKiKP 10 05 10.0 0.0
baz=109
633A **Saathoff Ranch** 108.76 61 ⇓P PKiKP 10 05 09.7 -0.4
baz=109
333A **Richland Sprin** 108.80 59 ⇓P PKiKP 10 05 10.0 -0.2
baz=109
233A **Rising Star** 108.81 58 ⇑P PKiKP 10 05 10.0 -0.2
baz=109
Z33A **Whitaker Ranch** 108.82 57 ⇑P PKiKP 10 05 10.7 +0.6
baz=109
533A **Kerrville** 108.84 60 ⇓P PKiKP 10 05 09.4 -0.9
baz=109
W33A **Caddo, Fort Co** 108.89 55 ⇓P PKiKP 10 05 09.9 -0.2
baz=109
X33A **Lawton** 108.92 56 ⇑P PKiKP 10 05 10.1 -0.1
baz=109
Q33A **Connelly Farm,** 108.94 51 ⇓P PKiKP 10 05 10.6 +0.4
baz=109
V33A **Lossen Ranch,** 108.96 54 ⇓P PKiKP 10 05 10.6 +0.3
baz=109
ECSD **EROS Data Cent** 109.11 46 PFAKE 10 05 20.0
ECSD LR LR
comp=Z,1µm,19.0s
ECSD **EROS Data Cent** 109.11 46 ⇑P PKiKP 10 05 09.9 -0.4
baz=109
534A **Blanco** 109.33 60 ⇑P PKiKP 10 05 11.5 +0.3
baz=109
034A **Hebbronville** 109.33 64 ⇓P PKiKP 10 05 10.8 -0.4
baz=109
834A **Tilden** 109.39 62 ⇓P PKiKP 10 05 11.5 +0.2
baz=110
334A **Lometa** 109.43 59 ⇑P PKiKP 10 05 11.5 +0.2
baz=110
434A **Burnet** 109.45 60 ⇑P PKiKP 10 05 10.4 -1.0
baz=110
134A **White-Moore Ra** 109.46 58 ⇑P PKiKP 10 05 11.2 -0.1
baz=110
234A **Clairette** 109.46 58 ⇑P PKiKP 10 05 11.5 +0.1
baz=110
X34A **Smith Ranch, M** 109.46 56 ⇑P PKiKP 10 05 11.3 0.0
baz=110
Z34A **Collier Ranch,** 109.52 57 ⇓P PKiKP 10 05 11.9 +0.5
baz=110
V34A **Guthrie** 109.58 54 ⇓P PKiKP 10 05 12.2 +0.7
baz=110
Y34A **Reagan Ranch,** 109.59 56 ⇑P PKiKP 10 05 12.2 +0.7
baz=110
OBN **Obninsk** 109.74 327 PFAKE 10 05 20.0
OBN LR LR
comp=Z,708nm,21.0s
KSU1 **Kansas State U** 109.87 51 PFAKE 10 05 20.0
KSU1 LR LR
comp=Z,1µm,22.0s
KSU1 **Kansas State U** 109.87 51 ⇓P PKiKP 10 05 12.3 +0.4
baz=110
035Z **Hargill** 109.91 64 ⇑P PKiKP 10 05 12.1 -0.2
baz=110
635A **Leesville** 109.99 61 ⇑P PKiKP 10 05 12.1 -0.3
baz=110
KVTX **Kingsville** 110.01 63 PFAKE 10 05 20.0
KVTX LR LR
comp=Z,649nm,19.0s
WHTX **Lake Whitney** 110.04 58 ⇓P PKiKP 10 05 12.2 -0.2
baz=110
Z35A **Perchaven, San** 110.08 57 ⇑P PKiKP 10 05 12.6 +0.1
baz=110
535A **Dale** 110.11 60 ⇑P PKiKP 10 05 12.6 0.0
baz=110
SOC **Sochi** 110.75 314 *i* PKiKP PKiKP 10 05 13.2 -0.2
SOC *e* 10 05 47.4
SOC *e* 10 11 52.7
SOC *e*PS PS 10 15 10.3 -11
SOC *e*SS SS 10 21 09.4 -9.1
SOC MLR MLR
comp=Z,188nm,14.0s
TUL1 **Tulsa** 110.96 54 ⇑P PKiKP 10 05 14.1 0.0
baz=111
EYMN **Ely** 111.67 41 PFAKE 10 05 30.0
EYMN LR LR
comp=Z,913nm,19.0s
SCIA **State Center** 111.92 47 PFAKE 10 05 30.0
SCIA LR LR
comp=Z,870nm,19.0s
ANN **Anapa** 112.09 316 *e*P Pdif 10 01 17.3 -2.1
ANN *i* 10 05 14.3
ANN *e* 10 05 24.6
ANN *e* 10 05 55.9
ANN *e* 10 11 52.9
ANN *e*SP SP 10 15 32.3 +3.0
ANN pmax pmax
comp=Z,53nm,1.5s
FINES **FINESS Array B** 112.17 335 PKiKP PKiKP 10 05 14.8 -0.8
FINES **FINESS Array B** 112.17 335 PKiKP PKiKP 10 05 14.8 -0.8
comp=Z,1.8nm,0.8s,baz=64,slow=3.2,SNR=4.4
NATX **Nacogdoches** 112.43 58 PFAKE 10 05 30.0
NATX LR LR
comp=Z,957nm,20.0s
MIAR **Mount Ida** 112.96 55 PFAKE 10 05 30.0
MIAR LR LR
comp=Z,936nm,20.0s
SUMG **Summit** 113.23 4 *i* PKiKP PKiKP 10 05 18.7 +0.9
SUMG *i* 10 06 15.8
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG **Summit** 113.23 4 *i* P PKiKP 10 05 18.7 +0.9
comp=Z,5.3nm,0.9s
SUMG *i* 10 06 15.8
JFWS **Jewell Farm** 113.83 46 PFAKE 10 05 30.0
JFWS LR LR
comp=Z,919nm,21.0s
KMBO **Kilima Mbogo** 115.14 266 *e*PKPdf PKPdf 10 05 22.3 -0.6
KMBO LR LR
comp=Z,288nm,19.0s
AKASG **Malin Array Be** 115.47 324 PKiKP PKPdf 10 05 20.7 -1.5
AKASG 10 15 54.9
AKASG **Malin Array Be** 115.47 324 PKP PKPdf 10 05 20.7 -1.5
AKASG PKKPbc PKKPbc 10 15 54.9 -2.7
AKASG **Malin Array Be** 115.47 324 PKP PKPdf 10 05 20.7 -1.5
comp=Z,5.2nm,1.0s,baz=61,slow=2.3,SNR=14
AKASG PKKPbc PKKPbc 10 15 54.9 -2.7
comp=Z,2.9nm,1.0s,baz=258,slow=3.8,SNR=6.5
KIEV **Kiev** 115.48 324 *c i* PKiKP PKPdf 10 05 22.3 +0.1
KIEV **Kiev** 115.48 324 PFAKE 10 05 30.0 +7.8
KIEV LR LR
comp=Z,544nm,22.0s
AK02 **Malin Array Si** 115.49 324 *e*PKPdf PKPdf 10 05 21.3 -1.0
BRTR **Keskin Array B** 116.07 311 PKKPab PKKPab 10 15 57.0 -2.0
BRTR **Keskin Array B** 116.07 311 PKKPab PKKPab 10 15 57.0 -2.0
comp=Z,1.6nm,1.1s,baz=237,slow=3.8,SNR=4.0
ANTO **Ankara** 116.66 312 PFAKE 10 05 40.0 +15
ANTO LR LR

comp=Z,181nm,21.0s
SFIN Scholer Farm 116.77 48 ⇓P **PKPdf 10 05 24.4 -0.6**
baz=117
SFJD Kangerlussuaq 117.12 10 PFAKE 10 05 40.0 +15
SFJD LR LR
comp=Z,575nm,19.0s
CSS Prodhromos 117.42 306 PFAKE 10 05 40.0 +14
CSS LR LR
comp=Z,70nm,20.0s
BLO Bloomington 117.52 49 *e*PKIKP **PKPdf 10 05 26.3 -0.2**
BLO Bloomington 117.52 49 *e*PKPdf **PKPdf 10 05 26.3 -0.2**
NB2 NORSAR Subarra118.08 340 PKPdf **PKPdf 10 05 26.4 -0.6**
comp=Z,4.1nm,0.9s,baz=44,slow=1.9
NOA NORSAR Array B118.08 340 PKP **PKPdf 10 05 25.0 -2.0**
NOA NORSAR Array B118.08 340 PKP **PKPdf 10 05 25.0 -2.0**
comp=Z,4.3nm,0.9s,baz=49,slow=1.9,SNR=5.4
AAM Ann Arbor 118.66 45 *e*PKIKP **PKPdf 10 05 28.1 -0.5**
AAM MLR MLR
comp=Z,906nm,20.0s
AAM Ann Arbor 118.66 45 *e*PKPdf **PKPdf 10 05 28.1 -0.5**
AAM LR LR
comp=Z,906nm,20.0s
BOSA Boshof 118.76 233 PKP **PKPdf 10 05 27.6 -1.8**
BOSA Boshof 118.76 233 PKP **PKPdf 10 05 27.6 -1.8**
comp=Z,4.8nm,1.0s,baz=112,slow=3.5,SNR=3.2
PLCA Paso Flores 118.82 144 PKP **PKPdf 10 05 27.6 -1.6**
PLCA Paso Flores 118.82 144 PKP **PKPdf 10 05 27.6 -1.6**
comp=Z,6.0nm,1.0s,baz=260,slow=3.6,SNR=7.4
ISP Isparta 118.92 310 PFAKE 10 05 40.0 +11
ISP LR LR
comp=Z,275nm,22.0s
BUR08 Bucovina Ar. S 119.13 322 *e*PKPdf **PKPdf 10 05 31.3 +1.8**
KWP Kalwaria Pacla 119.70 325 PFAKE 10 05 40.0 +10
KWP LR LR
comp=Z,849nm,21.0s
ACSO Alum Creek Sta 119.82 47 *e*PKPdf **PKPdf 10 05 30.3 -0.6**
ACSO LR LR
comp=Z,538nm,19.0s
KOLS Kolonicke sedl 120.29 324 *e*PKIKP **PKPdf 10 05 31.5 -0.1**
KOLS Kolonicke sedl 120.29 324 *e*PKP **PKPdf 10 05 31.5 -0.1**
UZH Uzhgorod 120.42 324 *e*PKIKP PKPdf 10 05 39.0 +7.2
UZH *e* 10 05 47.7
TGUH Tegucigalpa,Un 120.57 77 *e*PKPdf **PKPdf 10 05 32.8 -0.1**
TGUH LR LR
comp=Z,770nm,20.0s
STHS Stebnicka Huta 120.64 325 *e*PKIKP **PKPdf 10 05 33.3 +1.1**
STHS Stebnicka Huta 120.64 325 *e*PKP **PKPdf 10 05 33.3 +1.1**
CRVS Cervenica-Dubn 120.77 325 *e*PKIKP **PKPdf 10 05 30.7 -1.8**
CRVS Cervenica-Dubn 120.77 325 *e*PKP **PKPdf 10 05 30.7 -1.8**
LSZ Lusaka 121.06 248 *e*PKPdf **PKPdf 10 05 33.5 -0.6**
LSZ LR LR
comp=Z,580nm,19.0s
NIE Niedzica 121.16 326 *e*PKPdf **PKPdf 10 05 33.5 +0.2**
ERPA Erie 121.27 44 PFAKE 10 05 50.0 +16
ERPA LR LR
comp=Z,770nm,21.0s
GOGA Godfrey 121.41 54 PFAKE 10 05 50.0 +16
GOGA LR LR
comp=Z,586nm,19.0s
TIGA Tifton 121.78 57 ⇑P **PKPdf 10 05 34.7 -0.2**
baz=122
SCHQ Schefferville 121.99 26 PKP **PKPdf 10 05 34.7 0.0**
SCHQ Schefferville 121.99 26 PKP **PKPdf 10 05 34.7 0.0**
comp=Z,10nm,1.0s,baz=38,slow=1.7,SNR=4.3
OKC Ostrava-Krasne 122.13 327 *e*PKIKP **PKPdf 10 05 35.2 +0.2**
OKC Ostrava-Krasne 122.13 327 *e*PKPdf **PKPdf 10 05 35.2 +0.2**
PSZ Piszkesteto 122.17 324 ⇑PKIKP **PKPdf 10 05 35.3 0.0**
PSZ Piszkesteto 122.17 324 ⇑*i*P **PKPdf 10 05 35.3 0.0**
PSZ Piszkesteto 122.17 324 PFAKE 10 05 50.0 +15
PSZ LR LR
comp=Z,400nm,20.0s
BZS Buzias 122.25 321 ⇓PKIKP **PKPdf 10 05 35.6 +0.2**
BZS Buzias 122.25 321 ⇓*i*P **PKPdf 10 05 35.6 +0.2**
MORC Moravsky Berou 122.49 327 ⇓PKIKP **PKPdf 10 05 36.7 +0.9**
MORC Moravsky Berou 122.49 327 ⇓*i*P **PKPdf 10 05 36.7 +0.9**
MORC Moravsky Berou 122.49 327 *e*PKPdf **PKPdf 10 05 35.9 +0.1**
KSP Ksiaz 122.55 329 *e*PKIKP **PKPdf 10 05 35.5 -0.3**
KMSC Kings Mountain 122.63 52 ⇑P **PKPdf 10 05 36.3 -0.2**
baz=123
BLA Blacksburg 122.69 49 PFAKE 10 05 50.0 +13
BLA LR LR
comp=Z,863nm,22.0s
KRLC Kraliky 122.73 328 *e*PKIKP **PKPdf 10 05 36.6 +0.3**
KRLC *e* 10 07 14.9
KRLC Kraliky 122.73 328 *e*PKPdf **PKPdf 10 05 36.6 +0.3**
KRLC *e*PP **PP 10 07 14.9 +1.1**
DPC Dobruska-Polom 122.82 328 *e*PKIKP **PKPdf 10 05 37.1 +0.7**
DPC *e* 10 07 14.3
DPC Dobruska-Polom 122.82 328 *e*PKPdf **PKPdf 10 05 37.1 +0.7**
DPC *e*PP **PP 10 07 14.3 -0.1**
DPC AMS AMS 10 58 40.0
JTS JuntasAbangare 122.86 82 *e*PKPdf **PKPdf 10 05 38.1 +0.6**
JTS LR LR
comp=Z,679nm,19.0s
UPC Upice 122.89 329 *e*PKIKP **PKPdf 10 05 37.3 +0.8**
UPC *e* 10 07 16.4
UPC Upice 122.89 329 *e*PKPdf **PKPdf 10 05 37.3 +0.8**
UPC *e*PP **PP 10 07 16.4 +1.6**
VRAC Vranov 123.27 327 ⇓*i*P **PKPdf 10 05 38.1 +0.8**
VRAC Vranov 123.27 327 PKP **PKPdf 10 05 37.4 +0.1**
VRAC Vranov 123.27 327 PKP **PKPdf 10 05 37.4 +0.1**
comp=Z,7.1nm,0.9s,baz=63,slow=2.1,SNR=7.3
BSEG Bad Segeberg 123.41 334 *e*PKPdf **PKPdf 10 05 37.7 +0.4**
PVCC Panska Ves 123.62 329 *e*PKIKP **PKPdf 10 05 38.7 +0.8**
PVCC Panska Ves 123.62 329 *e*PKPdf **PKPdf 10 05 38.7 +0.8**
BRG Berggiesshubel 123.72 330 *e*PKP **PKPdf 10 05 38.3 +0.2**
comp=Z,22nm,1.2s
BRG Berggiesshubel 123.72 330 *e*PKIKP **PKPdf 10 05 38.3 +0.2**
BRG pmax pmax
comp=Z,22nm,1.2s
BRG Berggiesshubel 123.72 330 *e*PKPdf **PKPdf 10 05 38.2 +0.2**
LONY Lake Ozonia 123.76 39 *e*PKPdf **PKPdf 10 05 37.5 -0.9**
LONY LR LR
comp=Z,551nm,20.0s
PKSM Moragy 123.77 323 ⇓PKIKP **PKPdf 10 05 38.5 +0.2**
PKSM Moragy 123.77 323 ⇓*i*P **PKPdf 10 05 38.5 +0.2**
TREC Trest 123.87 328 *e*PKIKP **PKPdf 10 05 38.5 +0.1**
TREC MLR MLR
comp=Z,600nm,18.4s
TREC Trest 123.87 328 *e*PKPdf **PKPdf 10 05 38.5 +0.1**
TREC AMS AMS 10 59 30.0
comp=Z,600nm,18.4s
CLL Collm 123.92 331 ⇑*e*P Pdif 10 02 23.0 +11
CLL *i* 10 05 38.5
CLL *e* 10 07 20.0
CLL pmax pmax
comp=Z,20nm,1.2s
CLL MLR MLR
comp=Z,400nm,18.3s
CLL Collm 123.92 331 *e*PKPdf **PKPdf 10 05 38.6 +0.1**
CLL Collm 123.92 331 ⇑*i*PKPdf **PKPdf 10 05 38.5 +0.1**
comp=Z,20nm,1.2s
CLL *e*pPKPdf **PKiKP 10 05 41.0 +2.3**
CLL *e*PP **PP 10 07 20.0 -1.6**
CLL *es*PP 10 07 27.0
CLL *e* 10 16 07.0
CLL *e*PS **PS 10 17 17.0 -3.2**
CLL *e* 10 18 36.0
CLL *e*PPS PPS 10 18 47.0
CLL *e*SS SS 10 24 15.0 +6.5
CLL *e* 10 24 58.0
CLL *e*SSS SSS 10 28 42.0
CLL *e* 10 32 54.0
CLL LmH 10 58 00.0
comp=N,300nm,18.3s
CLL LmH 10 58 00.0
comp=E,300nm,20.5s
CLL LmV 11 05 00.0
comp=Z,400nm,18.3s
BINY Binghamton 123.95 42 PFAKE 10 05 50.0 +11
BINY LR LR
comp=Z,810nm,19.0s
PRU Pruhonice 123.96 329 *e*PKIKP **PKPdf 10 05 38.6 +0.1**
PRU *e* 10 05 47.6
PRU Pruhonice 123.96 329 *e*PKPdf **PKPdf 10 05 38.6 +0.1**
PRU *ex* x 10 05 47.6
PRA Prague 123.96 329 PKPdf **PKPdf 10 05 39.0 +0.5**
NCB Newcomb 124.30 40 *e*PKPdf **PKPdf 10 05 38.8 -0.6**
NCB LR LR
comp=Z,988nm,20.0s
CONA Conrad Observa 124.45 326 ⇑*i*PKiKP **PKPdf 10 05 39.6 -0.1**
comp=Z,17nm,1.4s
NRDL Niedersach Rie 124.49 333 *e*PKPdf **PKPdf 10 05 39.9 +0.5**

CBN Corbin 124.61 47 PFAKE 10 05 50.0 +10
CBN LR LR
comp=Z,923nm,20.0s
TANN Tannenbergstha 124.75 330 *e*PKPdf **PKPdf 10 05 40.3 +0.2**
CLZ Clausthal 124.81 332 *e*PKPdf **PKPdf 10 05 40.6 +0.4**
NKC Novy Kostel 124.87 330 *e*PKIKP **PKPdf 10 05 40.5 +0.2**
NKC Novy Kostel 124.87 330 *e*PKPdf **PKPdf 10 05 40.5 +0.2**
MDV Middlebury 124.94 39 *e*PKPdf **PKPdf 10 05 40.4 -0.2**
KHC Kasperske Hory 124.97 328 *ci*PKIKP **PKPdf 10 05 40.5 -0.1**
KHC pmax pmax
comp=Z,131nm,1.2s
KHC Kasperske Hory 124.97 328 *e*PKPdf **PKPdf 10 05 40.8 +0.2**
KHC *e*PP **PP 10 07 25.4 -3.4**
KHC Kasperske Hory 124.97 328 *e*PKPdf **PKPdf 10 05 40.6 +0.1**
GEC2 GERESS Array S 125.08 328 *e*PKPdf **PKPdf 10 05 40.8 -0.1**
GERES GERESS Array B 125.08 328 PKP **PKPdf 10 05 40.6 -0.2**
GERES GERESS Array B 125.08 328 PKP **PKPdf 10 05 40.7 -0.2**
comp=Z,7.3nm,1.0s,baz=56,slow=2.5,SNR=34
CNNC Cliffs of the 125.28 51 *e*PKPdf **PKPdf 10 05 41.2 -0.3**
CNNC LR LR
comp=Z,820nm,20.0s
ROTZ Rotzenmuhle 125.28 330 *e*PKPdf **PKPdf 10 05 41.4 +0.3**
PERS Pernice 125.60 325 *e*PKPdf **PKPdf 10 05 41.4 -0.5**
LBNH Lisbon 125.60 38 PFAKE 10 05 50.0 +8.1
LBNH LR LR
comp=Z,782nm,20.0s
LCO Las Campanas 125.61 132 PFAKE 10 05 50.0 +7.3
LCO LR LR
comp=Z,448nm,21.0s
SOKA Soboth 125.62 325 ⇑*i*PKPdf **PKPdf 10 05 41.3 -0.6**
comp=Z,18nm,1.2s,SNR=7.5
IBBN Ibbenburen 125.65 334 *e*PKPdf **PKPdf 10 05 42.1 +0.4**
UBBA Unterbreizbach 125.67 332 *e*PKPdf **PKPdf 10 05 42.1 +0.4**
GCIS Gornji Cirnik 125.73 324 *e*PKPdf **PKPdf 10 05 42.2 +0.1**
GRF Grafenberg Arr 125.82 330 *e*PKPdf **PKPdf 10 05 42.0 -0.2**
BOJS Bojanci 126.15 324 *e*PKPdf **PKPdf 10 05 43.1 +0.2**
LJU Ljubljana 126.27 325 *i* PKPdf **PKPdf 10 05 43.1 0.0**
WTSB Wintaswijk 126.31 334 *e*P **PKPdf 10 05 43.8 +0.9**
BUG Bochum-Univer 126.48 334 *e*PKPdf **PKPdf 10 05 43.5 +0.2**
PKME Peaks-Kenny Pk 126.64 36 PFAKE 10 06 00.0 +16
PKME LR LR
comp=Z,870nm,19.0s
FUR Furstenfeldbru 126.77 329 *e*PKPdf **PKPdf 10 05 44.0 0.0**
TNS Taunus Mts 126.80 332 *e*PKPdf **PKPdf 10 05 44.3 +0.2**
ABTA Abfaltersbach 126.99 327 ⇓*i*PKPdf **PKPdf 10 05 43.5 -1.1**
comp=Z,27nm,1.2s,SNR=9.5
WATA Walderalm 127.13 328 ⇑*i*PKPdf **PKPdf 10 05 44.4 -0.5**
comp=Z,31nm,1.2s,SNR=11
WTTA Wattenberg 127.15 328 *i* PKiKP **PKPdf 10 05 45.0 0.0**
comp=Z,45nm,1.2s,SNR=15
MOTA Moosalm 127.38 328 ⇓*i*PKPdf **PKPdf 10 05 44.7 -0.7**
comp=Z,27nm,1.1s,SNR=12
STU Stuttgart 127.43 330 *e*PKIKP **PKPdf 10 05 45.6 +0.4**
STU Stuttgart 127.43 330 *e*PKPdf **PKPdf 10 05 45.4 +0.2**
STU Stuttgart 127.43 330 *e*PKPdf **PKPdf 10 05 45.6 +0.4**
HGN Heimansgroeve 127.56 334 *e*P **PKPdf 10 05 45.3 -0.1**
NNA Nana 127.58 110 *e*PKPdf **PKPdf 10 05 46.8 +0.2**
NNA LR LR
comp=Z,343nm,19.0s
MEM Membach 127.64 334 PKP **PKPdf 10 05 45.8 +0.3**
FETA Feichten 127.78 328 ⇑PKiKP **PKPdf 10 05 46.2 0.0**
comp=Z,22nm,1.1s,SNR=10.0
BCIP Isla Barro Col 127.89 83 PFAKE 10 06 00.0 +13
BCIP LR LR
comp=Z,338nm,19.0s
BCLA Clavier 128.08 334 PKP **PKPdf 10 05 46.7 +0.3**
BFO Black Forest 128.15 330 *i* PKIKP **PKPdf 10 05 48.1 +1.4**
BFO Black Forest 128.15 330 *e*PKPdf **PKPdf 10 05 47.4 +0.7**
BFO Black Forest 128.15 330 PFAKE 10 06 00.0 +13
BFO LR LR
comp=Z,213nm,19.0s
WLF Walferdange 128.25 333 PKP **PKPdf 10 05 48.3 +1.5**
WLF Walferdange 128.25 333 *e*PKPdf **PKPdf 10 05 47.7 +0.9**
WLF Walferdange 128.25 333 PFAKE 10 06 00.0 +13
WLF LR LR
comp=Z,655nm,20.0s
DAVOX Davos/Dischmat 128.38 328 PKP **PKPdf 10 05 47.1 -0.3**
DAVOX Davos/Dischmat 128.38 328 PKP **PKPdf 10 05 47.1 -0.3**
comp=Z,16nm,1.0s,baz=225,slow=2.9,SNR=11
TIP Timpagrande 128.43 316 PFAKE 10 06 00.0 +12
TIP LR LR
comp=Z,224nm,20.0s
SNF Seneffe 128.46 335 PKP **PKPdf 10 05 47.4 +0.2**
GIVF Givet 128.53 334 *e*PKIKP **PKPdf 10 05 47.7 +0.4**
comp=Z,106nm,1.3s
GIVF Givet 128.53 334 *e*PKIKP **PKPdf 10 05 47.7 +0.4**
GIVF Givet 128.53 334 *e*PKPdf **PKPdf 10 05 47.7 +0.4**
CDF Champ du Feu 128.61 331 *e*PKIKP **PKPdf 10 05 47.4 -0.2**
comp=Z,29nm,1.2s
CDF Champ du Feu 128.61 331 *e*PKIKP **PKPdf 10 05 47.4 -0.2**
CDF Champ du Feu 128.61 331 *e*PKPdf **PKPdf 10 05 47.4 -0.2**
DOU Dourbes 128.63 334 PKP **PKPdf 10 05 45.2 -2.3**
OTAV Otavalo 128.64 95 *e*PKPdf **PKPdf 10 05 50.1 +0.9**
OTAV LR LR
comp=Z,307nm,19.0s
CUC Castrocucco 128.68 318 PFAKE 10 06 00.0 +12
CUC LR LR
comp=Z,298nm,22.0s
ECH Echery 128.80 331 *e*PKIKP **PKPdf 10 05 47.9 0.0**
ECH Echery 128.80 331 *e*PKPdf **PKPdf 10 05 47.9 0.0**
BAIF Baives 128.82 334 *e*PKIKP **PKPdf 10 05 48.2 +0.4**
comp=Z,50nm,1.3s
BAIF Baives 128.82 334 *e*PKIKP **PKPdf 10 05 48.2 +0.4**
BAIF Baives 128.82 334 *e*PKPdf **PKPdf 10 05 48.2 +0.4**
TUE Stuetta 128.86 328 *e*PKPdf **PKPdf 10 05 47.7 -0.6**
TUE LR LR
comp=Z,618nm,21.0s
AQU L'Aquila 129.01 322 PFAKE 10 06 00.0 +11
AQU LR LR
comp=Z,483nm,20.0s
TSUM Tsumeb 129.14 239 *e*PKPdf **PKPdf 10 05 49.2 -0.3**
TSUM LR LR
comp=Z,1μm,19.0s
HINF Hinteralfeld 129.23 331 *e*PKIKP **PKPdf 10 05 48.6 -0.2**
comp=Z,72nm,1.3s
HINF Hinteralfeld 129.23 331 *e*PKIKP **PKPdf 10 05 48.6 -0.2**
HINF Hinteralfeld 129.23 331 *e*PKPdf **PKPdf 10 05 48.6 -0.2**
HAU Haudompre 129.34 331 *e*PKIKP **PKPdf 10 05 48.9 0.0**
comp=Z,81nm,1.3s
HAU *e*R
comp=Z,335nm,21.8s
HAU Haudompre 129.34 331 *e*PKIKP **PKPdf 10 05 48.9 0.0**
HAU Haudompre 129.34 331 *e*PKPdf **PKPdf 10 05 48.9 0.0**
CEL Celeste 129.46 316 PFAKE 10 06 00.0 +10
CEL LR LR
comp=Z,230nm,22.0s
MEZF Maizieres J'vi 129.59 332 *e*PKIKP **PKPdf 10 05 49.9 +0.5**
comp=Z,164nm,1.4s
MEZF Maizieres J'vi 129.59 332 *e*PKPdf **PKPdf 10 05 49.9 +0.5**
VLC Villacollemand 129.75 325 PFAKE 10 06 00.0 +10
VLC LR LR
comp=Z,543nm,20.0s
SFTF Sexfontaines 129.81 332 *e*PKIKP **PKPdf 10 05 50.0 +0.2**
SFTF Sexfontaines 129.81 332 *e*PKPdf **PKPdf 10 05 50.0 +0.2**
LVC Limon Verde 130.31 126 PFAKE 10 06 00.0 +8.2
LVC LR LR
comp=Z,505nm,21.0s
CABF La Chapelle 130.44 330 *e*PKIKP **PKPdf 10 05 51.7 +0.5**
comp=Z,247nm,1.8s
CABF La Chapelle 130.44 330 *e*PKIKP **PKPdf 10 05 51.7 +0.5**
CABF La Chapelle 130.44 330 *e*PKPdf **PKPdf 10 05 51.7 +0.5**
LPL La Plagne 130.86 329 *e*PKIKP **PKPdf 10 05 52.4 +0.2**
comp=Z,28nm,1.1s
LPL La Plagne 130.86 329 *e*PKIKP **PKPdf 10 05 52.4 +0.2**
LPL La Plagne 130.86 329 *e*PKPdf **PKPdf 10 05 52.4 +0.2**
LPG La Plagne 130.87 329 *e*PKIKP **PKPdf 10 05 52.6 +0.3**
comp=Z,34nm,1.3s
LPG La Plagne 130.87 329 *e*PKIKP **PKPdf 10 05 52.6 +0.3**
LPG La Plagne 130.87 329 *e*PKPdf **PKPdf 10 05 52.6 +0.3**
LOR Lormes 131.04 332 *e*PKIKP **PKPdf 10 05 52.5 +0.3**
comp=Z,70nm,1.4s
LOR *e*R
comp=Z,448nm,19.5s
LOR Lormes 131.04 332 *e*PKPdf **PKPdf 10 05 52.5 +0.3**
BNI Bardonecchia 131.20 328 *e*PKIKP **PKPdf 10 05 53.5 +0.8**
BNI Bardonecchia 131.20 328 *e*PKPdf **PKPdf 10 05 53.5 +0.8**
SSF Saint Saulge 131.36 332 *e*PKIKP **PKPdf 10 05 53.1 +0.3**
comp=Z,76nm,1.4s
SSF Saint Saulge 131.36 332 *e*PKIKP **PKPdf 10 05 53.1 +0.3**
SSF Saint Saulge 131.36 332 *e*PKPdf **PKPdf 10 05 53.1 +0.3**
MBDF Montbardon 131.37 328 *e*PKIKP **PKPdf 10 05 53.0 -0.1**
comp=Z,65nm,1.7s
MBDF Montbardon 131.37 328 *e*PKIKP **PKPdf 10 05 53.0 -0.1**
MBDF Montbardon 131.37 328 *e*PKPdf **PKPdf 10 05 53.0 -0.1**

SMF Signal de Mont 131.50 332 *e*PKIKP **PKPdf 10 05 52.9 -0.2**
comp=Z,37nm,1.1s
SMF Signal de Mont 131.50 332 *e*PKIKP **PKPdf 10 05 52.9 -0.2**
SMF Signal de Mont 131.50 332 *e*PKPdf **PKPdf 10 05 52.9 -0.2**
PGF Pioggiola 131.54 324 *e*PKIKP **PKPdf 10 05 53.4 0.0**
comp=Z,120nm,1.3s
PGF Pioggiola 131.54 324 *e*PKIKP **PKPdf 10 05 53.4 0.0**
PGF Pioggiola 131.54 324 *e*PKPdf **PKPdf 10 05 53.4 0.0**
SBF Sospel 131.59 327 *e*PKIKP **PKPdf 10 05 53.0 -0.4**
comp=Z,101nm,1.3s
SBF Sospel 131.59 327 *e*PKIKP **PKPdf 10 05 53.0 -0.4**
SBF Sospel 131.59 327 *e*PKPdf **PKPdf 10 05 53.0 -0.4**
HYF Humbligny 131.60 333 *e*PKIKP **PKPdf 10 05 54.1 +0.9**
HYF Humbligny 131.60 333 *e*PKPdf **PKPdf 10 05 54.1 +0.9**
AVF Avril sur Loir 131.63 332 *e*PKIKP **PKPdf 10 05 53.5 +0.2**
AVF Avril sur Loir 131.63 332 *e*PKIKP **PKPdf 10 05 53.5 +0.2**
AVF Avril sur Loir 131.63 332 *e*PKPdf **PKPdf 10 05 53.5 +0.2**
ORIF Oris-en-Rattie 131.71 329 *e*PKIKP **PKPdf 10 05 53.1 -0.5**
comp=Z,500nm,1.4s
ORIF *e*R
comp=Z,434nm,22.5s
ORIF Oris-en-Rattie 131.71 329 *e*PKIKP **PKPdf 10 05 53.1 -0.5**
ORIF Oris-en-Rattie 131.71 329 *e*PKPdf **PKPdf 10 05 53.1 -0.5**
LDF La Druitiere 131.76 336 *e*PKIKP **PKPdf 10 05 53.7 +0.2**
LDF La Druitiere 131.76 336 *e*PKIKP **PKPdf 10 05 53.7 +0.2**
LDF La Druitiere 131.76 336 *e*PKPdf **PKPdf 10 05 53.7 +0.2**
FLN La Foliniere 131.77 336 *e*PKIKP **PKPdf 10 05 53.9 +0.4**
FLN *e*R
comp=Z,342nm,22.0s
FLN La Foliniere 131.77 336 *e*PKIKP **PKPdf 10 05 53.9 +0.4**
FLN La Foliniere 131.77 336 *e*PKPdf **PKPdf 10 05 53.9 +0.4**
BGF Bois d'Agland 132.03 332 *e*PKIKP **PKPdf 10 05 54.7 +0.6**
comp=Z,31nm,1.1s
BGF Bois d'Agland 132.03 332 *e*PKIKP **PKPdf 10 05 54.7 +0.6**
BGF Bois d'Agland 132.03 332 *e*PKPdf **PKPdf 10 05 54.7 +0.6**
GRR Gorron 132.22 336 *e*PKIKP **PKPdf 10 05 55.3 +1.0**
comp=Z,191nm,1.6s
GRR Gorron 132.22 336 *e*PKIKP **PKPdf 10 05 55.3 +1.0**
GRR Gorron 132.22 336 *e*PKPdf **PKPdf 10 05 55.3 +1.0**
VIVF Saint-Julien-l 132.37 329 *e*PKIKP **PKPdf 10 05 55.4 +0.6**
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 132.37 329 *e*PKIKP **PKPdf 10 05 55.4 +0.6**
VIVF Saint-Julien-l 132.37 329 *e*PKPdf **PKPdf 10 05 55.4 +0.6**
SMRF Simiane la Rot 132.51 328 *e*PKIKP **PKPdf 10 05 55.4 +0.3**
SMRF Simiane la Rot 132.51 328 *e*PKPdf **PKPdf 10 05 55.4 +0.3**
TCF Toulx Ste Croi 132.53 332 *e*PKIKP **PKPdf 10 05 54.8 -0.2**
comp=Z,58nm,1.2s
TCF Toulx Ste Croi 132.53 332 *e*PKIKP **PKPdf 10 05 54.8 -0.2**
TCF Toulx Ste Croi 132.53 332 *e*PKPdf **PKPdf 10 05 54.8 -0.2**
SGMF Saint Gilles 132.99 338 *e*PKIKP **PKPdf 10 05 56.2 +0.4**
comp=Z,65nm,1.2s
SGMF Saint Gilles 132.99 338 *e*PKIKP **PKPdf 10 05 56.2 +0.4**
SGMF Saint Gilles 132.99 338 *e*PKPdf **PKPdf 10 05 56.2 +0.4**
VSL Villasalto 133.13 321 PFAKE 10 06 10.0 +14
VSL LR LR
comp=Z,249nm,19.0s
ROSF Rostrenen 133.19 338 *e*PKIKP **PKPdf 10 05 56.5 +0.3**
comp=Z,78nm,1.2s
ROSF Rostrenen 133.19 338 *e*PKIKP **PKPdf 10 05 56.5 +0.3**
ROSF Rostrenen 133.19 338 *e*PKPdf **PKPdf 10 05 56.5 +0.3**
ROSC El Rosal 133.20 89 PKP **PKPdf 10 05 57.9 +0.2**
ROSC *e*PKPdf **PKiKP 10 05 58.4 -0.5**
ROSC *e*SKPdf **SKPdf 10 09 30.9 +0.2**
ROSC El Rosal 133.20 89 PKP **PKPdf 10 05 57.9 +0.2**
comp=Z,7.6nm,0.5s,baz=59,slow=5.7,SNR=9.7
LASF Ste Croix 133.34 329 *e*PKIKP **PKPdf 10 05 57.5 +0.9**
comp=Z,50nm,1.2s
LASF Ste Croix 133.34 329 *e*PKPdf **PKPdf 10 05 57.5 +0.9**
MFF Saint Martin d 133.34 334 *e*PKIKP **PKPdf 10 05 56.7 +0.2**
comp=Z,85nm,1.5s
MFF Saint Martin d 133.34 334 *e*PKIKP **PKPdf 10 05 56.7 +0.2**
MFF Saint Martin d 133.34 334 *e*PKPdf **PKPdf 10 05 56.7 +0.2**
QUIF Quistinic 133.50 338 *e*PKIKP **PKPdf 10 05 57.6 +0.9**
comp=Z,121nm,1.4s
QUIF Quistinic 133.50 338 *e*PKIKP **PKPdf 10 05 57.6 +0.9**
QUIF Quistinic 133.50 338 *e*PKPdf **PKPdf 10 05 57.6 +0.9**
RJF Les Rejaudoux 133.59 332 *e*PKIKP **PKPdf 10 05 57.4 +0.4**
comp=Z,74nm,1.4s
RJF *e*R
comp=Z,587nm,23.0s
RJF Les Rejaudoux 133.59 332 *e*PKIKP **PKPdf 10 05 57.4 +0.4**
RJF Les Rejaudoux 133.59 332 *e*PKPdf **PKPdf 10 05 57.4 +0.4**
CAF Calviac 133.61 331 *e*PKIKP **PKPdf 10 05 58.4 +1.3**
comp=Z,28nm,1.1s
CAF Calviac 133.61 331 *e*PKIKP **PKPdf 10 05 58.4 +1.3**
CAF Calviac 133.61 331 *e*PKPdf **PKPdf 10 05 58.4 +1.3**
LPAZ La Paz 133.90 119 PKP **PKPdf 10 05 58.9 -0.3**
LPAZ *e*PKPdf **PKiKP 10 05 59.1 -1.4**
LPAZ La Paz 133.90 119 PKP **PKPdf 10 05 58.9 -0.3**
comp=Z,27nm,1.1s,baz=250,slow=2.5,SNR=22
LFF La Frestale 134.22 332 *e*PKIKP **PKPdf 10 05 58.4 +0.2**
comp=Z,83nm,1.3s
LFF La Frestale 134.22 332 *e*PKIKP **PKPdf 10 05 58.4 +0.2**
LFF La Frestale 134.22 332 *e*PKPdf **PKPdf 10 05 58.4 +0.2**
KEST Kesra 135.26 316 PKP **PKPdf 10 06 00.2 -0.4**
KEST Kesra 135.26 316 PKP **PKPdf 10 06 00.2 -0.4**
comp=Z,3.7nm,1.1s,baz=281,slow=2.2,SNR=5.0
SDDR Presa de Saban 135.34 69 PFAKE 10 06 10.0 +8.9
SDDR LR LR
comp=Z,508nm,20.0s
EPF Esparros 135.85 331 *e*PKIKP **PKPdf 10 06 02.6 +1.2**
comp=Z,39nm,1.4s
EPF Esparros 135.85 331 *e*PKIKP **PKPdf 10 06 02.6 +1.2**
EPF Esparros 135.85 331 *e*PKPdf **PKPdf 10 06 02.6 +1.2**
ETSF Etsaut 136.38 331 *e*PKIKP **PKPdf 10 06 03.0 +0.6**
comp=Z,69nm,1.5s
ETSF Etsaut 136.38 331 *e*PKIKP **PKPdf 10 06 03.0 +0.6**
ETSF Etsaut 136.38 331 *e*PKPdf **PKPdf 10 06 03.0 +0.6**
BBSR BB Station 136.46 48 PFAKE 10 06 20.0 +17
BBSR LR LR
comp=Z,508nm,19.0s
SJPF Ste Jean 136.53 332 *e*PKIKP **PKPdf 10 06 03.4 +0.8**
comp=Z,22nm,1.2s
SJPF Ste Jean 136.53 332 *e*PKIKP **PKPdf 10 06 03.4 +0.8**
SJPF Ste Jean 136.53 332 *e*PKPdf **PKPdf 10 06 03.4 +0.8**
CPUP Villa Florida 136.58 139 PKP **PKPdf 10 06 02.8 -0.4**
CPUP Villa Florida 136.58 139 PKP **PKPdf 10 06 02.8 -0.4**
comp=Z,6.8nm,0.9s,baz=211,slow=1.7,SNR=6.2
LSP Las Mesas 139.41 69 *e*PKPdf **PKPdf 10 06 09.1 +0.5**
LRS Lares 139.61 69 *e*PKPdf **PKPdf 10 06 08.7 -0.2**
OBIP Obispado Ponce 139.88 69 *e*PKPdf **PKPdf 10 06 09.3 -0.1**
CELP Cerrillos 139.90 69 *e*PKPdf **PKPdf 10 06 09.5 0.0**
PGAV Gavieira, Arco 140.46 338 *e*PKPdf **PKPdf 10 06 11.1 +1.1**
ESDC Sonseca Array 140.50 331 PKPpre PKPpre 10 06 03.4
ESDC PKP **PKPdf 10 06 10.9 +0.8**
ESDC Sonseca Array 140.50 331 PKhKP PKPpre 10 06 03.4
comp=Z,1.7nm,0.8s,baz=8.1,slow=3.0,SNR=6.6
ESDC PKP **PKPdf 10 06 10.9 +0.8**
comp=Z,2.1nm,0.8s,baz=16,slow=2.2,SNR=7.2
CBYP Canovanas 140.53 69 *e*PKPdf **PKPdf 10 06 13.0 +2.3**
POLO Lamas de Olo 140.79 337 *e*PKPdf **PKPdf 10 06 13.1 +2.5**
MTP Monte Pirata 140.85 69 *e*PKPdf **PKPdf 10 06 11.3 +0.2**
SAML Samuel 141.25 112 *e*PKPdf **PKPdf 10 06 12.2 +0.2**
SAML LR LR
comp=Z,382nm,20.0s
MTE Manteigas 141.51 335 *e*PKPdf **PKPdf 10 06 07.9 -4.0**
MTE Manteigas 141.51 335 *e*PKPdf **PKPdf 10 06 12.9 +1.0**
CDVI St. Croix 141.66 69 *e*PKPdf **PKPdf 10 06 13.7 +1.1**
PCBR Castelo Branco 141.95 335 *e*PKPdf **PKPdf 10 06 13.1 +0.5**
PCAS Casmilo, Conde 142.19 336 *e*PKPdf **PKPdf 10 06 14.3 +1.3**
PMRV Marv??o 142.26 334 *e*PKPdf **PKPdf 10 06 08.9 -4.3**
PTOM Tomar 142.52 336 *e*PKPdf **PKPdf 10 06 09.8 -3.8**
PESTR Estremoz 142.81 334 *e*PKPdf **PKPdf 10 06 16.1 +1.9**
EVO Evora 143.27 334 *e*PKPdf **PKPdf 10 06 14.6 -0.4**
LIS Lisbon 143.59 336 *e*P PKPbc 10 06 14.1 +1.2
LIS Lisbon 143.59 336 *e*P PKPbc 10 06 14.1 +1.3
PBEJ Beja 143.63 334 *e*PKPdf PKPbc 10 06 13.4 +0.4
PNCL Nicolau / Gran 143.84 334 *e*PKPdf PKPbc 10 06 13.6 0.0
PVAQ Vaqueiros 144.07 333 *e*PKPdf PKPbc 10 06 15.1 +0.7
TAM Tamanrasset 144.25 301 *e*PKIKP PKPbc 10 06 15.8 +0.2
TAM MLR MLR
comp=Z,334nm,19.0s
TAM Tamanrasset 144.25 301 *e*PKPdf PKPbc 10 06 15.8 +0.2
TAM LR LR
comp=Z,334nm,19.0s
PBDV Barranco-do-Ve 144.30 333 *e*PKPdf **PKPdf 10 06 16.3

ECG	**Echelle**	**144.94**	**71**	*e*P		**PKPab**	**10 06 17.2**	**-0.7**
PHG	**Guadaloupe-2**	**144.95**	**71**	*e*P		**PKPab**	**10 06 17.5**	**-0.4**
DOG	**Dongo Capester**	**144.97**	**71**	*e*P	PKPbc	10 06 18.1	+0.2	
TBG	**Guadaloupe-3**	**144.99**	**71**	*e*P		**PKPab**	**10 06 17.8**	**0.0**
SEG	**Port Louis**	**145.00**	**70**	*e*P	PKPbc	10 06 16.6	-1.3	
MGG	**Marie-Galante**	**145.28**	**71**	*e*P		**PKPbc**	**10 06 17.8**	**-0.9**
GRW	**Mount Saint Ca**	**145.58**	**77**	*e*		**PKPab**	**10 06 22.8**	**+2.6**
GRGR	**Grenville**	**145.59**	**77**	*e*PKPdf		**PKPdf**	**10 06 17.1**	**-2.6**
GRGR				LR	LR			
	comp=Z,305nm,19.0s							
FDF	**Fort de France**	**145.68**	**73**	*e*PKIKP		**PKPbc**	**10 06 20.1**	**0.0**
FDF				MLR	MLR			
	comp=Z,197nm,19.0s							
FDF	**Fort de France**	**145.68**	**73**	*e*P		**PKPdf**	**10 06 19.7**	**-0.1**
FDF	**Fort de France**	**145.68**	**73**	*e*PKPdf		**PKPbc**	**10 06 20.1**	**0.0**
FDF				LR	LR			
	comp=Z,197nm,19.0s							
TPP	**Pointe-a-Pierr**	**145.97**	**81**	*e*		**PKPab**	**10 06 21.5**	**-0.1**
TRN	**Trinidad (W)**	**145.99**	**80**	*e*		**PKPdf**	**10 06 20.3**	**0.0**
MDT	**Midelt**	**146.03**	**324**	PKPbc		**PKPbc**	**10 06 20.7**	**-0.1**
MDT	**Midelt**	**146.03**	**324**	PKPbc		**PKPbc**	**10 06 20.7**	**-0.1**
	comp=Z,33nm,1.1s,baz=48,slow=4.4,SNR=21							
TBH	**Brigand Hill**	**146.33**	**80**	*e*		**PKPab**	**10 06 22.9**	**-0.1**
TPR	**Prospect**	**146.55**	**79**	*e*		**PKPbc**	**10 06 22.4**	**-0.4**
BOT	**Bacolet**	**146.61**	**79**	*e*		**PKPbc**	**10 06 23.2**	**+0.2**
H07S1	**FLORES T-PHASB**	**146.67**	**5**	*e*PKP		**PKPdf**	**10 06 20.6**	**-0.3**
PTGA	**Pitinga**	**146.71**	**101**	*e*PKPdf		**PKPdf**	**10 06 22.0**	**+0.3**
PTGA				LR	LR			
	comp=Z,309nm,19.0s							
TOSP	**Speyside**	**146.78**	**79**	*e*P		**PKPbc**	**10 06 23.9**	**+0.5**
PGRA	**Graciosa**	**147.20**	**1**	*e*PKP		**PKPab**	**10 06 26.2**	**+0.6**
ROSA	**Rosais**	**147.51**	**1**	*e*PKP		**PKPab**	**10 06 26.4**	**-0.4**
ADH	**Angra Heroismo**	**147.58**	**360**	*e*PKP		**PKPab**	**10 06 26.3**	**-0.8**
PCED	**Cedros**	**147.59**	**2**	*e*PKP		**PKPbc**	**10 06 25.9**	**+0.9**
PMAN	**Manadas**	**147.60**	**1**	*e*PKP		**PKPbc**	**10 06 25.8**	**+0.8**
PCAN	**Candelaria**	**147.76**	**2**	*e*PKP		**PKPbc**	**10 06 25.9**	**+0.4**
PSET	**Sete Cidades**	**148.38**	**358**	*e*PKP		**PKPbc**	**10 06 28.2**	**+1.0**
BART	**Pico Bartolome**	**148.40**	**357**	*e*PKP		**PKPdf**	**10 06 22.4**	**-1.4**
PDA	**Ponta Delgada**	**148.45**	**357**	*e*PKP		**PKPbc**	**10 06 22.4**	**+0.2**
PSMN	**Pico do Norte,**	**149.16**	**356**	*e*P		**PKPbc**	**10 06 27.2**	**-1.9**
BDFB	**Brasilia**	**150.23**	**137**	PKPbc		**PKPbc**	**10 06 31.7**	**-0.8**
BDFB	**Brasilia**	**150.23**	**137**	PKPbc		**PKPbc**	**10 06 31.7**	**-0.8**
	comp=Z,71nm,1.1s,baz=326,slow=1.8,SNR=14							
TOA0	**Torodi Ar. Sit**	**150.57**	**286**	*e*PKPbc		**PKPbc**	**10 06 32.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**150.57**	**286**	PKPbc		**PKPbc**	**10 06 32.2**	**-1.0**
TORD				PP		**PP**	**10 10 07.8**	**-1.9**
TORD	**Torodi Ar. Bea**	**150.57**	**286**	PKPbc		**PKPbc**	**10 06 32.2**	**-1.0**
	comp=Z,62nm,0.9s,baz=75,slow=2.4,SNR=11							
TORD				PP		**PP**	**10 10 07.8**	**-1.9**
	comp=Z,5.2nm,1.0s,baz=60,slow=4.4,SNR=4.7							
KIC	**Kosan Boka**	**157.56**	**272**	*e*P		**PKPdf**	**10 06 32.6**	**-5.1**
	comp=Z,48nm,1.4s							
KIC	**Kosan Boka**	**157.56**	**272**	*e*PcP		**PKPab**	**10 07 08.5**	**-1.2**
TIC	**Toumodi**	**157.83**	**273**	*e*P		PKPdf	10 06 31.1	-7.0
TIC	**Toumodi**	**157.83**	**273**	*e*PcP		**PKPab**	**10 07 08.3**	**-2.6**
LIC	**Lamto**	**157.84**	**272**	*e*PKP2		**PKPab**	**10 07 09.0**	**-1.9**
	comp=Z,22nm,0.9s							
LIC				*e*R				
	comp=Z,792nm,21.8s							
LIC	**Lamto**	**157.84**	**272**	*e*P		PKPdf	10 06 28.1	-10
	comp=Z,48nm,1.8s							
LIC	**Lamto**	**157.84**	**272**	*e*PcP		**PKPab**	**10 07 10.4**	**-0.5**
LIC	**Lamto**	**157.84**	**272**	*e*PKPab		**PKPab**	**10 07 09.0**	**-1.9**
RCBR	**Riachuelo**	**165.39**	**144**	PFAKE			10 07 00.0	+14
RCBR				LR	LR			
	comp=Z,776nm,20.0s							
SACV	**Santiago Islan**	**170.45**	**338**	PFAKE			10 07 00.0	+11
SACV				LR	LR			
	comp=Z,690nm,20.0s							

IDC 17 10:00:43.6±3.1, 54°21N×87°27E, h0km, mb1 3.3/2, mb1mx3.0/29, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=28.8km s-min=17.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**261**	*i*			10 11 30.0	
	baz=77,slow=352,SNR=3.6							
ZALV	**Zalesovo Beam**	**1.47**	**261**	Pg		Pn	10 01 09.2	-2.0
	4.8nm,0.3s,baz=78,slow=16,SNR=30							
ZALV				Lg		Lg	10 01 30.4	
	3.9nm,0.3s,baz=83,slow=23,SNR=8.9							
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn		Pn	10 02 20.4	+0.9
	1.1nm,0.3s,baz=54,slow=14,SNR=20							
MKAR	**Makanchi Array**	**8.07**	**205**	Pn		Pn	10 02 43.5	+1.4
	0.2nm,0.3s,baz=27,slow=14,SNR=7.9							
MKAR				Sn		Sn	10 04 12.4	-1.7
	0.1nm,0.3s,baz=26,slow=27,SNR=3.3							

*MOS **17** 10:14:34.7±0.8, 49°.80N×155°.65E, h66km, mb4.3/20, Error ellipse: s-maj=15.9km s-min=6.6km az=75.8*
*KRSC **17** 10:14:35.3±0.6, 49°.74N×156°.56E, h26km±10km, ML4.8*
*ISCJB **17** 10:14:36.8±0.7, 49°.86N±0°.07×155°.81E±0°.09, h85km±5km, mb4.0/30, Error ellipse: s-maj=14.2km s-min=5.2km az=141.0*
*IDC **17** 10:14:38.8±2.3, 49°.87N×155°.67E, h85km±21km, mb3.7/28, mb1 3.9/32, mb1mx3.7/57, mbtmp4.0/32, Error ellipse: s-maj=16.7km s-min=10.0km az=148.0*

ISC 17 10:14:37.3±1.2, 49°.85N±0°.10×155°.84E±0°.08, h73km±8km, n79, σ1°12/84, mb4.1/30, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**0.86**	**12**	⇓*i*	PN	Pn	10 14 51.0	-3.2
SKR				*e*	S	**Sn**	**10 15 02.9**	**-3.8**
SKR				pmax	pmax			
	comp=N,590nm,0.5s							
SKR				pmax	pmax			
	comp=E,460nm,0.5s							
SKR				pmax	pmax			
	comp=Z,1μm,0.5s							
SKR				smax	smax			
	comp=N,6μm,0.3s							
SKR				smax	smax			
	comp=E,4μm,0.3s							
SKR	**Severo-Kuril's**	**0.86**	**12**	P		**Pn**	**10 14 53.4**	**-0.8**
SKR				S		**Sn**	**10 15 06.4**	**-0.3**
PAU	**Pauzhetka**	**1.74**	**21**	PN		**Pn**	**10 15 05.4**	**-0.1**
PAU				S		**Sn**	**10 15 27.2**	**+0.4**
PAU	**Pauzhetka**	**1.74**	**21**	P		**Pn**	**10 15 05.4**	**-0.1**
PAU				S		**Sn**	**10 15 27.2**	**+0.4**
MIPR	**Malaya Ipel'ka**	**2.50**	**13**	P		**Pn**	**10 15 16.5**	**+0.7**
ASAK	**Asacha**	**2.85**	**26**	P		**Pn**	**10 15 21.2**	**+0.6**
MTVR	**Mutnovka**	**3.02**	**28**	P		**Pn**	**10 15 23.3**	**+0.3**
MTVR				S		**Sn**	**10 15 58.1**	**0.0**
GRL	**Gorelyy**	**3.05**	**27**	P		**Pn**	**10 15 23.8**	**+0.5**
RUS	**Russkaya**	**3.09**	**32**	PN		**Pn**	**10 15 23.8**	**+0.1**
RUS				S		**Sn**	**10 15 58.9**	**-0.6**
RUS	**Russkaya**	**3.09**	**32**	P		**Pn**	**10 15 23.8**	**+0.1**
RUS				S		**Sn**	**10 15 58.9**	**-0.6**
APC	**Apacha**	**3.19**	**15**	P		**Pn**	**10 15 27.1**	**+2.0**
PETK	**Petropavlovsk-**	**3.47**	**19**	PN		**Pn**	**10 15 30.6**	**+1.7**
PETK				pmax	pmax			
	comp=Z,6.0nm,0.3s							
PETK	**Petropavlovsk-**	**3.47**	**19**	P		**Pn**	**10 15 30.6**	**+1.7**
	comp=Z,6.4nm,0.3s,baz=184,slow=14,SNR=291							
PETK				S		Sn	10 16 16.4	+7.6
	comp=Z,4.3nm,0.3s,baz=115,slow=18,SNR=4.7							
PET	**Petropavlovsk**	**3.64**	**28**	*e*PN		**Pn**	**10 15 31.8**	**+0.6**
PET				*e*S		**Sn**	**10 16 12.7**	**-0.1**
PET				pmax	pmax			
	comp=Z,48nm,0.5s							
PET				smax	smax			
	comp=N,353nm,0.5s							
PET				smax	smax			
	comp=E,317nm,0.5s							
PET	**Petropavlovsk**	**3.64**	**28**	P		**Pn**	**10 15 32.2**	**+1.0**
PET				S		**Sn**	**10 16 14.0**	**+1.2**
UGLR	**Uglovaya**	**3.85**	**28**	P		**Pn**	**10 15 35.6**	**+1.4**
KOK	**Koryaka**	**3.87**	**26**	P		**Pn**	**10 15 36.5**	**+2.1**
SMAR	**Somma**	**3.89**	**27**	P		**Pn**	**10 15 36.2**	**+1.4**
KRER	**Koryakskii**	**3.91**	**27**	P		**Pn**	**10 15 36.7**	**+1.6**
SDLR	**Sedlovina**	**3.93**	**28**	P		**Pn**	**10 15 36.5**	**+1.3**
KRX	**Arik**	**3.93**	**25**	P		**Pn**	**10 15 37.2**	**+1.9**
GNL	**Ganaly**	**4.07**	**18**	P		**Pn**	**10 15 39.8**	**+2.6**
SPN	**Mys Shipunski**	**4.18**	**37**	PN		**Pn**	**10 15 38.7**	**+0.2**
SPN				S		**Sn**	**10 16 25.6**	**-0.4**
SPN	**Mys Shipunski**	**4.18**	**37**	P		**Pn**	**10 15 38.7**	**+0.2**
SPN				S		**Sn**	**10 16 25.6**	**-0.4**

MKZ	**Mys Kozlova**	**5.95**	**35**	PN		**Pn**	**10 16 03.9**	**+1.3**
MKZ	**Mys Kozlova**	**5.95**	**35**	P		**Pn**	**10 16 03.9**	**+1.3**
KBTR	**Krutoberegovo**	**7.63**	**31**	PN		**Pn**	**10 16 27.9**	**+2.2**
KBTR	**Krutoberegovo**	**7.63**	**31**	P		**Pn**	**10 16 27.9**	**+2.2**
YSS	**Yuzh-Sakhalins**	**9.17**	**257**	⇓*e*PN		**Pn**	**10 16 48.0**	**+1.3**
YSS				*e*	S	**Sn**	**10 18 31.2**	**+3.0**
YSS				pmax	pmax			
	comp=Z,20nm,0.6s							
ASAJ	**Asahikawa**	**10.70**	**243**	P		**Pn**	**10 17 08.9**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=81,slow=13,SNR=19							
ERM	**Erimo**	**11.79**	**235**	*e*PN		Pn	10 17 19.0	-3.4
SEY	**Seymchan**	**13.25**	**353**	PN		Pn	10 17 45.2	+3.1
SEY	**Seymchan**	**13.25**	**353**	P		Pn	10 17 45.2	+3.1
	comp=Z,0.4nm,0.3s,baz=188,slow=22,SNR=7.9							
USRK	**Ussuriysk Arra**	**17.18**	**260**	P		**Pn**	**10 18 31.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=60,slow=15,SNR=5.3							
MJAR	**Matsushiro Arr**	**18.43**	**230**	P		**P**	**10 18 46.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=8.8							
MAJO	**Matsushiro**	**18.43**	**230**	*e*P		**P**	**10 18 46.2**	**-0.6**
YAK	**Yakutsk**	**18.89**	**320**	*e*P		**P**	**10 18 51.6**	**0.0**
YAK				pmax	pmax			
	comp=Z,17nm,1.0s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.3s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.2s							
KSRS	**Korea Array**	**23.54**	**249**	P		**P**	**10 19 40.0**	**-1.0**
	comp=N,4.0nm,0.8s,baz=47,slow=9.8,SNR=16							
JNU	**Nakatsue**	**24.90**	**237**	P		**P**	**10 19 53.0**	**-0.4**
	comp=N,6.6nm,0.7s,baz=22,slow=5.5,SNR=7.2							
TIXI	**Tiksi**	**25.08**	**340**	⇑*i*	P	**P**	**10 19 54.3**	**-0.3**
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**31.32**	**160**	T		T	10 53 44.7	
	baz=346,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**31.34**	**160**	T		T	10 53 48.6	
	baz=346,slow=0.7							
H11N3	**WAKE ISLAND Hy**	**31.34**	**160**	T		T	10 53 46.4	
	baz=346							
SONM	**Songino Array**	**32.13**	**286**	PcP		**PcP**	**10 23 44.6**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=86,slow=4.5,SNR=4.7							
H11S1	**WAKE ISLAND Hy**	**32.46**	**161**	T		T	10 55 09.7	
	baz=350,slow=0.7,SNR=678							
H11S3	**WAKE ISLAND Hy**	**32.47**	**161**	T		T	10 55 06.4	
	baz=350,slow=0.7,SNR=976							
H11S2	**WAKE ISLAND Hy**	**32.48**	**161**	T		T	10 55 11.1	
	baz=350,slow=0.7,SNR=401							
ILAR	**Eielson Array**	**33.01**	**41**	P		**P**	**10 21 05.2**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=259,slow=6.0,SNR=32							
INK	**Inuvik**	**38.06**	**35**	P		**P**	**10 21 49.5**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=307,slow=9.2,SNR=14							
ZALV	**Zalesovo Beam**	**42.33**	**304**	P		**P**	**10 22 23.2**	**-0.5**
ZALV							10 24 15.9	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**42.33**	**304**	P		**P**	**10 22 23.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=64,slow=9.8,SNR=3.1							
ZALV				PcP		**PcP**	**10 24 15.8**	**0.0**
	comp=Z,1.0nm,0.5s,baz=62,slow=3.4,SNR=3.8							
MKAR	**Makanchi Array**	**47.17**	**296**	*e*P		**P**	**10 23 02.4**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.17**	**296**	P		**P**	**10 23 01.4**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=58,slow=6.7,SNR=9.5							
KURK	**Kurchatov**	**47.20**	**302**	*de*P		**P**	**10 23 02.7**	**+0.3**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**47.30**	**302**	P		**P**	**10 23 02.9**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=64,slow=7.5,SNR=19							
KURBB				PcP		**PcP**	**10 24 33.0**	**0.0**
	comp=Z,1.1nm,0.9s,baz=60,slow=3.6,SNR=9.0							
YKA	**Yellowknife Ar**	**47.36**	**39**	P		**P**	**10 23 04.6**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=298,slow=7.7,SNR=16							
SPITS	**Spitsbergen Ar**	**49.88**	**350**	P		**P**	**10 23 22.3**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=32,slow=7.4,SNR=4.5							
BVAR	**Borovoye Array**	**50.32**	**309**	P		**P**	**10 23 25.7**	**-0.6**
BVAR							10 24 44.4	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**50.32**	**309**	P		**P**	**10 23 25.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=56,slow=7.2,SNR=9.8							
BVAR				PcP		**PcP**	**10 24 44.4**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=60,slow=4.4,SNR=4.9							
CMAR	**Chiang Mai Arr**	**54.87**	**256**	P		**P**	**10 24 01.1**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=25,slow=6.9,SNR=6.2							
ARCES	**ARCESS Array B**	**55.52**	**341**	P		**P**	**10 24 02.8**	**-1.5**
	comp=Z,3.7nm,0.9s,baz=36,slow=7.4,SNR=5.4							
AKTO	**Aktyubinsk**	**58.02**	**312**	P		**P**	**10 24 21.3**	**-1.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKTO	**Aktyubinsk**	**58.02**	**312**	P		**P**	**10 24 21.3**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=41,slow=8.4,SNR=5.9							
NVAR	**Mina Array Bea**	**59.44**	**65**	P		**P**	**10 24 33.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=294,slow=8.7,SNR=4.8							
PDAR	**Pinedale Array**	**61.49**	**57**	P		**P**	**10 24 47.7**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=318,slow=2.3,SNR=9.9							
FRB	**Frobisher Bay**	**61.52**	**21**	P		**P**	**10 24 45.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=258,slow=22,SNR=4.6							
SFJD	**Kangerlussuaq**	**61.77**	**11**	P		**P**	**10 24 47.0**	**-0.6**
	comp=Z,9.1nm,0.9s,baz=184,slow=11,SNR=4.4							
FINES	**FINESS Array B**	**62.00**	**335**	P		**P**	**10 24 48.1**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=23,slow=6.9,SNR=6.3							
NOA	**NORSAR Array B**	**65.86**	**342**	P		**P**	**10 25 14.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=26,slow=6.5,SNR=2.7							
HFS	**Hagfors**	**66.17**	**340**	P		**P**	**10 25 16.2**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=54,slow=2.8,SNR=8.2							
SCHQ	**Schefferville**	**69.77**	**25**	P		**P**	**10 25 39.2**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=222,slow=19,SNR=9.9							
AKASG	**Malin Array Be**	**69.96**	**327**	P		**P**	**10 25 39.7**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**69.96**	**327**	P		**P**	**10 25 39.7**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=32,slow=6.4,SNR=4.4							
WRA	**Warramunga Arr**	**72.05**	**201**	P		**P**	**10 25 52.0**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=16,slow=6.5,SNR=13							
EKA	**Eskdalemuir Ar**	**73.73**	**348**	P		**P**	**10 26 02.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=22,slow=4.9,SNR=5.1							
TXAR	**Lajitas Array**	**74.42**	**63**	P		**P**	**10 26 08.4**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=297,slow=4.3,SNR=28							
GERES	**GERESS Array B**	**76.43**	**335**	P		**P**	**10 26 17.9**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=27,slow=8.8,SNR=2.8							
BRTR	**Keskin Array B**	**77.34**	**318**	P		**P**	**10 26 24.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=85,slow=1.6,SNR=4.0							
MMAI	**Mount Meron Ar**	**82.08**	**313**	P		**P**	**10 26 50.0**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=347,slow=7.2,SNR=3.6							

WEL 17 10:17:20.5±0.6, 37°.93S×176°.02E, h170km±5km, ML3.6/16, 11C-2D, Error ellipse: s-maj=3.9km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**0.92**	**111**	⇑P		PN	10 17 46.6	0.0
URZ				S		SN	10 18 06.8	+0.1
MWZ	**Matawai**	**1.26**	**109**	PN		Pn	10 17 49.6	+0.1
MWZ				S		SN	10 18 11.3	-0.4
NGZ	**Ngauruhoe**	**1.29**	**195**	PN		Pn	10 17 50.4	+0.5
BKZ	**Black Stump Fm**	**1.29**	**163**	⇑P		Pn	10 17 49.5	-0.3
RAHZ	**Arahi**	**1.30**	**140**	PN		Pn	10 17 50.2	+0.4
NMHZ	**Naumai**	**1.32**	**152**	PN		Pn	10 17 50.6	+0.6
WPVZ	**Whakapapa**	**1.33**	**196**	PN		Pn	10 17 50.5	+0.3
SNGZ	**Shannon Statio**	**1.34**	**130**	⇑P		Pn	10 17 50.5	+0.3
SNGZ				S		SN	10 18 13.0	-0.2
TUVZ	**Tukino**	**1.37**	**192**	PN		Pn	10 17 50.8	+0.2
HAZ	**Te Kaha**	**1.41**	**84**	PN		Pn	10 17 50.6	-0.1
HAZ				S		SN	10 18 13.4	-0.6
TRVZ	**Turoa**	**1.42**	**195**	PN		Pn	10 17 51.6	+0.4
WNVZ	**Wahianoa**	**1.44**	**193**	PN		Pn	10 17 51.2	0.0
PKVZ	**Pokaka**	**1.46**	**201**	PN		Pn	10 17 51.6	+0.2
WHHZ	**Waihua**	**1.49**	**141**	PN		Pn	10 17 51.7	+0.1
MOVZ	**Moawhango**	**1.49**	**188**	⇑P		Pn	10 17 51.2	-0.5
BHHZ	**Black Hill Sta**	**1.56**	**179**	⇑P		Pn	10 17 51.7	-0.6
RIGZ	**Rimuhau**	**1.58**	**120**	PN		Pn	10 17 52.5	0.0
MCHZ	**McNeill Hill**	**1.60**	**161**	PN		Pn	10 17 52.9	+0.3
KNZ	**Kokohu**	**1.70**	**131**	⇑P		Pn	10 17 53.3	-0.3
CNGZ	**Carnagh Statio**	**1.81**	**109**	PN		Pn	10 17 55.4	+0.6
MHGZ	**Mahia Peninsul**	**1.92**	**130**	PN		Pn	10 17 55.9	-0.1
KAHZ	**Kahuranaki**	**1.98**	**161**	⇑P		Pn	10 17 56.3	-0.4
PNHZ	**Pukenui**	**1.99**	**176**	PN		Pn	10 17 55.8	-1.0
TSZ	**Takapari Road**	**2.13**	**181**	⇑P		Pn	10 17 57.1	-1.2
WPHZ	**Waipukurau**	**2.16**	**171**	PN		Pn	10 17 57.6	-1.1
PXZ	**Pawanui**	**2.20**	**163**	⇑P		Pn	10 17 58.1	-1.0
DVHZ	**Dannevirke**	**2.37**	**177**	⇑P		Pn	10 17 59.4	-1.8
PRHZ	**Porangahau**	**2.39**	**169**	PN		Pn	10 18 00.1	-1.2
POWZ	**Post Office Ro**	**2.47**	**184**	PN		Pn	10 18 00.4	-1.9
ANWZ	**Angora Road**	**2.56**	**172**	PN		Pn	10 18 01.7	-1.5
PRWZ	**Pori Road**	**2.63**	**181**	PN		Pn	10 18 02.3	-1.8
MRZ	**Mangatainoka R**	**2.75**	**187**	⇑PN		Pn	10 18 03.2	-2.5
MRZ				AML		AML	10 18 38.7	
MRZ				AML		AML	10 18 38.9	
BFZ	**Birch Farm**	**2.76**	**176**	PN		Pn	10 18 03.5	-2.2
TIWZ	**Tintock**	**2.85**	**182**	⇓PN		Pn	10 18 04.5	-2.4
HOWZ	**Holdsworth Sta**	**2.99**	**187**	PN		Pn	10 18 05.7	-2.9
KIW	**Kapiti Island**	**3.06**	**196**	PN		Pn	10 18 06.4	-2.9
TMWZ	**Te Maipa**	**3.18**	**182**	PN		Pn	10 18 08.1	-2.8
MTW	**Mount Morrison**	**3.25**	**187**	PN		Pn	10 18 08.4	-3.4
CAW	**Cannon Point**	**3.26**	**193**	PN		Pn	10 18 08.9	-3.0
TRWZ	**Traveller**	**3.48**	**184**	PN		Pn	10 18 11.3	-3.3
PAWZ	**Paruwai Farm**	**3.48**	**187**	*e*PN		Pn	10 18 11.1	-3.5
MSWZ	**Moikau Station**	**3.54**	**189**	PN		Pn	10 18 11.7	-3.6
TCW	**Tory Channel**	**3.55**	**202**	PN		Pn	10 18 12.1	-3.4
PLWZ	**Palliser**	**3.69**	**189**	PN		Pn	10 18 13.4	-4.0
TUWZ	**Tuamarina**	**3.85**	**204**	PN		Pn	10 18 15.4	-3.9
NNZ	**Nelson**	**3.87**	**211**	PN		Pn	10 18 15.9	-3.7
QRZ	**Quartz Range**	**3.96**	**222**	PN		Pn	10 18 17.5	-3.3
THZ	**Tophouse**	**4.52**	**211**	PN		Pn	10 18 24.2	-3.9
KHZ	**Kahutara**	**4.87**	**202**	⇓PN		Pn	10 18 28.4	-4.1
DSZ	**Denniston Nort**	**5.01**	**219**	PN		Pn	10 18 30.7	-3.7
LTZ	**Lake Taylor**	**5.63**	**209**	*e*PN		Pn	10 18 37.3	-5.2
OXZ	**Oxford**	**6.18**	**208**	*e*PN		Pn	10 18 44.2	-5.6
MQZ	**McQueen's Vall**	**6.31**	**203**	PN		Pn	10 18 45.1	-6.3

*MOS **17** 10:44:25.3±1.2, 45°.87N×150°.06E, h120km, mb4.4/25, Error ellipse: s-maj=10.5km s-min=6.8km az=84.9*
*ISCJB **17** 10:44:25.4±0.6, 45°.59N±0°.06×150°.06E±0°.06, h130km±5km, mb4.2/50, Error ellipse: s-maj=10.4km s-min=6.2km az=150.8*
*SKHL **17** 10:44:26.0±0.9, 45°.45N×150°.25E, h132km±6km, mb5.3/4, msh5.8/1*
*BJI **17** 10:44:26.0, 45°.69N×150°.12E, h141km, mB4.7/2, mb4.6/10*
*IDC **17** 10:44:27.9±2.2, 46°.04N×149°.97E, h126km±18km, mb3.7/17, mb1 3.9/21, mb1mx3.8/42, mbtmp4.1/21, MS3.4/1, Ms1 3.4/1, ms1mx2.7/54, Error ellipse: s-maj=22.2km s-min=10.9km az=166.0*
*NEIC **17** 10:44:27.7±0.8, 45°.81N×150°

JANG eS Sn 10 47 44.0 -7.7
JTH Tanohata 8.18 230 eS Sn 10 47 46.7 -7.6
JOSM Okushiri–Mats 8.36 250 P **Pn** **10 46 24.9 -0.9**
PEA0B Petropavlovsk- 9.12 30 ePn Pn 10 46 31.0 -4.9
PETK Petropavlovsk- 9.12 30 PN Pn 10 46 30.5 -5.5
PETK S Sn 10 48 06.9 -10
PETK pmax pmax
comp=Z,2.0nm,0.3s
PETK Petropavlovsk- 9.12 30 P Pn 10 46 30.4 -5.5
comp=Z,2.1nm,0.3s,baz=200,slow=11,SNR=61
PETK S Sn 10 48 06.9 -10
comp=Z,0.0nm,0.3s,baz=218,slow=16,SNR=2.2
JRG Rokugo 9.23 232 eS **Sn** **10 48 14.2 -5.6**
JIO Ouri 9.54 226 eS Sn 10 48 19.6 -7.6
JFK Kawauchi 10.62 223 eS Sn 10 48 46.6 -6.9
USRK Ussuriysk Arra 12.88 271 P **Pn** **10 47 25.8 +0.4**
comp=Z,0.4nm,0.3s,baz=79,slow=13,SNR=9.2
BMKR Bomnak 16.38 312 eP **Pn** **10 48 07.5 -1.6**
KROS Kirovskiy 17.27 310 eP **P** **10 48 16.0 -3.1**
SEY Seymchan 17.54 4⇓ iP **P** **10 48 21.1 -0.8**
CN2 Changchun 17.57 273 eP **Pn** **10 48 24.3 +0.8**
KSRS Korea Array 18.37 252 P **Pn** **10 48 35.5 +2.5**
comp=Z,0.2nm,0.3s,baz=54,slow=11,SNR=9.6
NJ2 Nanjing 27.57 252 eP **P** **10 50 02.1 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 28.13 346⇑ eP P 10 50 02.0 -3.6
TIXI pmax pmax
comp=Z,1.0nm,0.5s
HHC Hu-ho-hao-te 28.25 274 eP **P** **10 50 08.3 +1.1**
HHC pP **pP** **10 50 39.9 +2.2**
HHC PP **PnPn** **10 51 04.6 +1.0**
HHC S **S** **10 54 41.6 -0.9**
HHC sS **sS** **10 55 36.5 +0.2**
HHC SS **SnSn** **10 56 17.9 +1.3**
HHC pmax pmax
comp=Z,23nm,0.9s
H11N2 WAKE ISLAND Hy 29.22 146 T T 11 21 16.5
baz=342,slow=0.7
H11N1 WAKE ISLAND Hy 29.23 146 T T 11 21 22.5
baz=342,slow=0.7
H11N3 WAKE ISLAND Hy 29.23 146 T T 11 21 28.0
baz=342
SONM Songino Array 29.75 290 P **P** **10 50 21.8 +1.4**
comp=Z,0.2nm,0.3s,baz=72,slow=8.7,SNR=5.2
H11S1 WAKE ISLAND Hy 30.25 147 T T 11 22 43.0
baz=341,SNR=399
H11S3 WAKE ISLAND Hy 30.26 147 T T 11 22 42.1
baz=341,SNR=198
H11S2 WAKE ISLAND Hy 30.27 147 T T 11 22 40.8
baz=341,SNR=256
LZH Lanzhou 35.78 271 eP **P** **10 51 14.8 +1.8**
LZH pP **pP** **10 51 45.9 +1.7**
LZH sP **sP** **10 52 02.1 +1.4**
LZH pmax pmax
comp=Z,18nm,1.0s
IM04 Indian Mountai 36.03 35 eP **P** **10 51 13.8 -0.8**
GTA Gaotai 37.05 279 eP **P** **10 51 24.1 +0.4**
GTA pP **pP** **10 51 55.0 -0.1**
GTA sP **sP** **10 52 11.1 -0.4**
GTA pmax pmax
comp=Z,2.0nm,0.6s
KTH Kantishna Hill 37.11 40 eP **P** **10 51 23.6 -0.1**
comp=Z,20nm,1.3s
COLD Coldfoot 37.58 33 eP **P** **10 51 27.5 -0.1**
comp=Z,6.9nm,0.6s
COLA College 38.45 37 ceP **P** **10 51 34.8 -0.1**
COLA pmax pmax
comp=Z,31nm,0.9s
COLA College 38.45 37 eP **P** **10 51 35.1 +0.3**
comp=Z,1.8nm,0.6s
ILAR Eielson Array 38.87 38 P **P** **10 51 37.0 -1.3**
comp=Z,2.4nm,0.7s,baz=264,slow=7.7,SNR=54
GYA Guiyang 39.34 256 eP **P** **10 51 44.8 +1.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ZALV Zalesovo Beam 41.62 306 P **P** **10 51 59.2 -2.0**
ZALV 10 53 56.6
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,15nm,28.6s
ZALV Zalesovo Beam 41.62 306 P **P** **10 51 59.2 -2.0**
comp=Z,0.4nm,0.4s,baz=57,slow=6.6,SNR=2.9
ZALV PcP **PcP** **10 53 56.6 +1.3**
comp=Z,0.6nm,0.5s,baz=72,slow=3.5,SNR=5.5
ZALV LR LR 11 12 31.3
comp=Z,43nm,19.2s,baz=307,slow=41
QIZ Qiongzhong 42.38 245 P **P** **10 52 09.3 +1.6**
QIZ S **S** **10 58 23.1 +4.9**
QIZ pmax pmax
comp=Z,42nm,2.0s
WMQ Urumqi 43.39 291 P **P** **10 52 17.6 +1.9**
WMQ pP **pP** **10 52 49.1 +1.2**
WMQ sP **sP** **10 53 05.3 +1.2**
WMQ pmax pmax
comp=Z,3.0nm,0.8s
WMQ LR LR
comp=Z,68nm,21.4s
WMQ LR LR
comp=Z,99nm,16.0s
WMQ LR LR
comp=Z,43nm,16.8s
INK Inuvik 43.86 31 eP **P** **10 52 18.6 -0.4**
comp=Z,4.6nm,0.8s
MKAR Makanchi Array 45.62 297 P **P** **10 52 32.8 -0.5**
MKAR 10 54 10.6
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 45.62 297 P **P** **10 52 32.8 -0.5**
comp=Z,0.6nm,0.6s,baz=68,slow=7.0,SNR=8.1
MKAR PcP **PcP** **10 54 10.6 +1.5**
comp=Z,0.8nm,0.6s,baz=63,slow=3.5,SNR=7.7
KURK Kurchatov 46.28 304⇓ eP **P** **10 52 37.5 -0.9**
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 46.28 304 eP **P** **10 52 37.4 -0.9**
comp=Z,2.6nm,1.2s
BVAR Borovoye Array 50.01 309 P **P** **10 53 05.1 -1.8**
BVAR 10 54 25.2
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 50.01 309 P **P** **10 53 05.1 -1.8**
comp=Z,0.6nm,0.6s,baz=60,slow=8.8,SNR=5.0
BVAR PcP **PcP** **10 54 25.2 +0.6**
comp=Z,0.7nm,0.3s,baz=82,slow=4.0,SNR=6.8
BRVK Borovoye 50.05 309 P **P** **10 53 06.0 -1.2**
BRVK pmax pmax
comp=Z,3.0nm,1.6s
RES Resolute Bay 52.71 18 eP **P** **10 53 25.9 -0.8**
comp=Z,8.4nm,0.9s
KSH Kashi 53.15 292 eP P 10 53 33.8 +3.2
KSH eS **S** **11 00 49.8 -0.1**
KSH pmax pmax
comp=Z,50nm,5.1s
KSH LR LR
comp=Z,53nm,4.3s
KSH LR LR
comp=Z,47nm,6.8s
KSH LR LR
comp=Z,25nm,4.4s
YKA Yellowknife Ar 53.21 35 P **P** **10 53 30.4 -0.1**
comp=Z,2.9nm,0.7s,baz=298,slow=6.8,SNR=62
YKA PcP **PcP** **10 54 37.4 +1.0**
comp=Z,0.4nm,0.6s,baz=304,slow=3.5,SNR=6.1
SPITS Spitsbergen Ar 53.47 349 P **P** **10 53 29.9 -2.4**
comp=Z,16nm,1.1s,baz=74,slow=11,SNR=7.9
ABKAR Akbulak array 57.58 309 eP **P** **10 54 01.7 -0.2**
comp=Z,1.7nm,0.5s
ARCES ARCESS Array B 58.33 340 P **P** **10 54 05.2 -1.7**
comp=Z,1.4nm,0.7s,baz=46,slow=7.7,SNR=4.4
KULLO Kullorsuaq 58.84 8 iP **P** **10 54 08.9 -1.4**
KULLO pmax pmax
comp=Z,7.0nm,0.7s
KULLO Kullorsuaq 58.84 8 iP **P** **10 54 08.9 -1.4**
comp=Z,7.3nm,0.6s
SUMG Summit 62.10 3 iP **P** **10 54 32.8 -0.1**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 62.10 3 iP **P** **10 54 32.8 -0.1**
comp=Z,10nm,0.8s
SUMG Summit 62.10 3 eP **P** **10 54 32.4 -0.5**
comp=Z,16nm,0.9s
FINES FINESS Array B 64.25 334 P **P** **10 54 45.1 -1.7**
comp=Z,2.6nm,0.6s,baz=35,slow=8.9,SNR=18
NVAR Mina Array Bea 64.92 60 P **P** **10 54 52.2 +0.4**
comp=Z,1.7nm,0.6s,baz=289,slow=7.1,SNR=15
TPH Tonopah 65.80 60 eP **P** **10 54 58.5 +1.1**
TPH pmax pmax
comp=Z,3.0nm,0.9s
TPH Tonopah 65.80 60 eP **P** **10 54 58.5 +1.1**
comp=Z,2.9nm,0.9s
BW06 Boulder Array 67.22 52 eP **P** **10 55 06.7 +0.2**
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 67.22 52 P **P** **10 55 06.8 +0.4**
comp=Z,1.5nm,0.6s,baz=273,slow=1.8,SNR=21
NB2 NORSAR Subarra 68.71 340 P **P** **10 55 14.0 -1.2**
comp=Z,0.8nm,0.5s,baz=28,slow=6.9
NOA NORSAR Array B 68.71 340 P **P** **10 55 13.2 -2.0**
comp=Z,1.9nm,0.7s,baz=30,slow=6.4,SNR=9.9
RSSD Black Hills 69.27 48 eP **P** **10 55 19.3 +0.1**
RSSD pmax pmax
comp=Z,2.0nm,0.6s
RSSD Black Hills 69.27 48 eP **P** **10 55 19.3 +0.1**
comp=Z,2.2nm,0.6s
KBZ Khabaz 70.17 313 P **P** **10 55 24.5 +0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.17 313 P **P** **10 55 24.5 +0.1**
comp=Z,4.7nm,0.8s,baz=32,slow=3.4,SNR=9.5
PV10 Paradox Valley 70.45 55 eP **P** **10 55 28.1 +1.6**
comp=Z,102nm,0.8s
AKASG Malin Array Be 71.38 325 P **P** **10 55 30.7 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.38 325 P **P** **10 55 30.7 -0.9**
comp=Z,1.1nm,0.3s,baz=37,slow=6.1,SNR=14
KIEV Kiev 71.39 325 P **P** **10 55 31.3 -0.3**
AK02 Malin Array Si 71.42 325 eP **P** **10 55 31.1 -0.7**
BUR08 Bucovina Ar. S 75.42 325 eP **P** **10 55 55.6 +0.2**
BURAR Bucovina Array 75.44 325 i⇑P **P** **10 55 56.1 +0.6**
BURAR Bucovina Array 75.44 325 i⇑P **P** **10 55 56.0 +0.6**
TESR Tescani 75.73 323 i⇓P **P** **10 55 57.9 +0.9**
TRPA Tarpa 76.07 327 i⇓P **P** **10 55 58.7 -0.2**
DPC Dobruska-Polom 76.46 332 eP **P** **10 56 02.0 +0.8**
DPC Dobruska-Polom 76.46 332 eP **P** **10 56 02.0 +0.8**
MORC Moravsky Berou 76.53 331 i⇑P **P** **10 56 02.4 +0.8**
MORC Moravsky Berou 76.53 331 i⇑P **P** **10 56 02.4 +0.8**
MORC Moravsky Berou 76.53 331 eP **P** **10 56 01.8 +0.3**
comp=Z,3.4nm,0.8s
KRLC Kraliky 76.54 331 eP **P** **10 56 02.4 +0.8**
KRLC Kraliky 76.54 331 eP **P** **10 56 02.4 +0.8**
CLL Collm 76.70 334 i P **P** **10 56 02.2 -0.2**
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 76.70 334 i P **P** **10 56 02.2 -0.2**
comp=Z,5.0nm,0.6s
MLR Muntele Rosu 76.84 323 i⇑P **P** **10 56 04.6 +1.1**
PSZ Piszkesteto 77.25 328 eP **P** **10 56 06.3 +0.6**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 77.25 328 eP **P** **10 56 06.3 +0.6**
comp=Z,3.0nm,0.8s
VRAC Vranov 77.25 331 i⇑P **P** **10 56 07.2 +1.6**
PRU Pruhonice 77.36 332 eP **P** **10 56 06.8 +0.7**
PRU Pruhonice 77.36 332 eP **P** **10 56 06.8 +0.7**
ARR Arges 77.49 324 i⇓P **P** **10 56 09.0 +2.0**
NKC Novy Kostel 77.81 334 eP **P** **10 56 08.3 -0.4**
NKC Novy Kostel 77.81 334 eP **P** **10 56 08.3 -0.4**
BRTR Keskin Array B 77.81 315 P **P** **10 56 10.5 +1.5**
comp=Z,1.4nm,0.8s,baz=69,slow=7.0,SNR=6.0
KHC Kasperske Hory 78.41 332 eP **P** **10 56 13.0 +0.9**
KHC e 10 56 20.9
KHC Kasperske Hory 78.41 332 eP **P** **10 56 13.0 +0.9**
KHC ePCP **PcP** **10 56 20.9 +0.1**
KHC Kasperske Hory 78.41 332 eP **P** **10 56 12.8 +0.7**
comp=Z,5.6nm,0.8s
GERES GERESS Array B 78.62 332 P **P** **10 56 13.6 +0.3**
comp=Z,1.8nm,0.6s,baz=38,slow=6.0,SNR=18
WMOK Wichita Mounta 78.83 52 eP **P** **10 56 14.5 -0.1**
WMOK pmax pmax
comp=Z,2.0nm,0.8s
WMOK Wichita Mounta 78.83 52 eP **P** **10 56 14.5 -0.1**
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 79.98 58 P **P** **10 56 22.0 +1.0**
comp=Z,0.9nm,0.5s,baz=297,slow=4.4,SNR=20
VTS Vitosha 80.34 323 ⇓P **P** **10 56 19.8 -3.0**
VTS Vitosha 80.34 323 i⇓P **P** **10 56 19.8 -3.0**
SFTF Sexfontaines 81.80 337 eP **P** **10 56 30.4 +0.2**
SFTF Sexfontaines 81.80 337 eP **P** **10 56 30.4 +0.2**
FLN La Foliniere 82.67 341 eP **P** **10 56 34.8 +0.1**
FLN La Foliniere 82.67 341 eP **P** **10 56 34.8 +0.1**
FLN La Foliniere 82.67 341 eP **P** **10 56 34.8 +0.1**
LOR Lormes 82.97 338 eP **P** **10 56 36.5 +0.2**
comp=Z,2.7nm,0.5s
LOR Lormes 82.97 338 eP **P** **10 56 36.5 +0.2**
comp=Z,2.7nm,0.5s
GRR Gorron 83.11 341 eP **P** **10 56 37.0 +0.1**
comp=Z,6.2nm,0.5s
GRR Gorron 83.11 341 eP **P** **10 56 37.0 +0.1**
GRR pmax pmax
comp=Z,6.0nm,0.5s
GRR Gorron 83.11 341 eP **P** **10 56 37.0 +0.1**
comp=Z,6.2nm,0.5s
PPT2 Papeete2 83.21 123 eLQ LQ 10 56 14.9
comp=Z,3μm,26.0s
PPT2 eLR LR 10 57 14.2
comp=Z,910nm,25.8s
SSF Saint Saulge 83.26 338 eP **P** **10 56 37.9 +0.2**
comp=Z,9.7nm,0.9s
SSF Saint Saulge 83.26 338 eP **P** **10 56 37.9 +0.2**
SSF pmax pmax
comp=Z,10.0nm,0.9s
SSF Saint Saulge 83.26 338 eP **P** **10 56 37.9 +0.2**
comp=Z,9.7nm,0.9s
AVF Avril sur Loir 83.55 338 eP **P** **10 56 39.8 +0.6**
AVF Avril sur Loir 83.55 338 eP **P** **10 56 39.8 +0.6**
AVF Avril sur Loir 83.55 338 eP **P** **10 56 39.8 +0.6**
SMF Signal de Mont 83.55 337 eP **P** **10 56 38.9 -0.4**
SMF Signal de Mont 83.55 337 eP **P** **10 56 38.9 -0.4**
SMF Signal de Mont 83.55 337 eP **P** **10 56 38.9 -0.4**
LPG La Plagne 83.77 335 eP **P** **10 56 41.7 +0.9**
comp=Z,11nm,1.0s
LPG La Plagne 83.77 335 eP **P** **10 56 41.7 +0.9**
LPG pmax pmax
comp=Z,11nm,1.0s
LPG La Plagne 83.77 335 eP **P** **10 56 41.7 +0.9**
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 84.32 338 eP **P** **10 56 43.5 +0.3**
comp=Z,3.5nm,0.7s
TCF Toulx Ste Croi 84.32 338 eP **P** **10 56 43.5 +0.3**
TCF pmax pmax
comp=Z,4.0nm,0.7s
TCF Toulx Ste Croi 84.32 338 eP **P** **10 56 43.5 +0.3**
comp=Z,3.5nm,0.7s
MFF Saint Martin d 84.62 340 eP **P** **10 56 45.4 +0.8**
MFF Saint Martin d 84.62 340 eP **P** **10 56 45.4 +0.8**
MFF Saint Martin d 84.62 340 eP **P** **10 56 45.4 +0.8**
TBI Tubuai 87.80 127 eLQ LQ 10 56 40.8
comp=Z,2μm,27.0s
TBI eLR LR 10 57 46.9
comp=Z,2μm,27.2s,baz=288
ETSF Etsaut 88.19 339 eP **P** **10 57 04.4 +2.2**
comp=Z,4.3nm,0.6s
ETSF Etsaut 88.19 339 eP **P** **10 57 04.4 +2.2**
ETSF pmax pmax
comp=Z,4.0nm,0.6s
ETSF Etsaut 88.19 339 eP **P** **10 57 04.4 +2.2**
comp=Z,4.3nm,0.6s
TORD Torodi Ar. Bea 115.01 326 PKP **PKPdf** **11 02 52.5 +0.7**
comp=Z,0.2nm,0.4s,baz=48,slow=2.8,SNR=3.9
H03N2 Juan Fernandez 140.89 90 T T 13 41 15.9
baz=307,slow=0.7,SNR=16
H03N3 Juan Fernandez 140.91 90 T T 13 41 13.0
baz=307
H03N1 Juan Fernandez 140.91 90 T T 13 41 14.7
baz=307,slow=0.7,SNR=16
BDFB Brasilia 146.60 33 PKPbc **PKPab** **11 03 53.4 -0.5**
comp=Z,2.6nm,0.4s,baz=86,slow=1.2,SNR=6.0
PLCA Paso Flores 150.22 95 PKPbc **PKPbc** **11 04 02.5 +1.3**
comp=Z,1.7nm,0.7s,baz=316,slow=3.3,SNR=7.7

*IDC **17** 10:46:20.8±0.6, 15°.47S×173°.98W, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/33, mbtmp4.2/16, ML3.5/1, MS4.3/26, Ms1 4.3/26, ms1mx4.2/34, Error ellipse: s-maj=22.9km s-min=16.2km az=118.0*

*ISCJB **17** 10:46:24.0±0.2, 15°.66S±0°.08×174°.44W±0°.07, h10km, mb4.6/60, MS4.4/22, Error ellipse: s-maj=13.7km s-min=6.7km az=144.9*

*NEIC **17** 10:46:25.7±0.3, 15°.63S×174°.43W, h10km, mb4.7/42, Error ellipse: s-maj=16.0km s-min=7.6km az=136.0*

*GCMT **17** 10:46:25.7±0.2, 15°.22S×174°.22W, h22km±1km, MW5.1/87, Moment Tensor Solution. s38,c47; s87,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.06±.21; Mθθ-1.94±.19; Mφφ 1.88±.16; Mrθ 0.72±.29; Mφφ 5.55±.15; Mθφ 1.03±.27; Best double couple: Mo6.00000×10^16 NP1:φs350.00000°, δ82.00000°, λ172.00000°. NP2: φs81.00000°, δ82.00000°, λ8.00000°. Principal axes: T 6.1010, Plg12.0000°, Azm305.0000°; N -0.2000, Plg78.0000°, Azm126.0000°; P -5.8990, Plg0.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 10:46:24.5±0.5, 15.7S±0.1×174.3W±0.1, h10km, n263, σ1§38/225, mb4.7/60, MS4.4/22, 8C-8D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
AFI	**Afiamalu**	**3.04**	**55**	ePn	Pn	10 47 01.1	-12
AFI	**Afiamalu**	**3.04**	**55**	Pn	Pn	10 47 01.1	-12
	26nm,0.3s,baz=91,slow=0.8,SNR=54						
AFI				LR	LR	10 48 03.2	
	comp=Z,4μm,18.8s,baz=261,slow=39						
MSVF	**Nonsavu**	**7.57**	**253**	ePn	Pn	10 48 19.6	+4.5
RAO	**Raoul Island**	**13.92**	**193**	LR	LR	10 53 43.7	
	comp=Z,852nm,20.4s,baz=0.0,slow=31						
RAR	**Rarotonga**	**14.88**	**114**	LR	LR	10 54 28.9	
	comp=Z,1μm,18.4s,baz=226,slow=33						
DZM	**Mont Dzumac**	**19.26**	**248**	eP	**Pn**	**10 50 50.3**	**-0.1**
	109nm,1.6s						
DZM				eLR	LR	10 55 25.4	
	2μm,26.3s						
DZM	**Mont Dzumac**	**19.26**	**248**	P	**P**	**10 50 49.7**	**+0.3**
DZM	**Mont Dzumac**	**19.26**	**248**	P	**P**	**10 50 49.7**	**+0.3**
	0.1nm,0.3s,baz=75,slow=21,SNR=5.1						
DZM				LR	LR	10 57 03.2	
	comp=Z,1μm,19.1s,baz=66,slow=33						
URZ	**Urewera**	**23.74**	**197**	eP	**P**	**10 51 36.5**	**-0.4**
	68nm,1.1s						
URZ	**Urewera**	**23.74**	**197**	P	**P**	**10 51 36.0**	**-0.9**
	18nm,0.7s,baz=5.6,slow=3.6,SNR=8.7						
URZ				LR	LR	10 59 37.5	
	comp=Z,2μm,21.5s,baz=17,slow=33						
PAE	**Paea**	**23.80**	**98**	eT	T	11 15 55.3	
	10.0nm,0.4s						
PPT	**Papeete**	**23.81**	**98**	LR	LR	10 58 31.2	
	comp=Z,221nm,21.1s,baz=270,slow=31						
PPT2	**Papeete2**	**23.81**	**98**	eT	T	11 15 56.2	
	17nm,0.4s						
TIAR	**Tiarei**	**24.02**	**98**	eT	T	11 16 11.8	
	12nm,0.4s						
TVO	**Taravao**	**24.12**	**99**	eT	T	11 16 19.2	
	8.5nm,0.4s						
TBI	**Tubuai**	**24.64**	**112**	eT	T	11 17 05.8	
	32nm,0.3s						
BKZ	**Black Stump Fm**	**24.76**	**197**	eP	**P**	**10 51 50.1**	**+3.7**
	39nm,1.2s						
VAH	**Vaihoa**	**25.75**	**93**	eT	T	11 18 17.9	
	17nm,0.2s						
HNR	**Honiara**	**25.83**	**281**	LR	LR	11 00 53.4	
	comp=Z,408nm,19.1s,baz=126,slow=33						
RPZ	**Rata Peaks**	**30.60**	**201**	P	**P**	**10 52 40.8**	**+2.1**
RPZ	**Rata Peaks**	**30.60**	**201**	P	**P**	**10 52 40.8**	**+2.1**
	6.3nm,0.8s,baz=189,slow=4.1,SNR=5.0						
RPZ				LR	LR	11 03 17.0	
	comp=Z,520nm,20.6s,baz=12,slow=33						
WHZ	**Wether Hill Ro**	**33.60**	**203**	eP	**P**	**10 53 05.7**	**+0.7**
	34nm,0.8s						
TAOE	**Nuku Hiva Isla**	**34.06**	**83**	eT	T	11 28 35.9	
	258nm,0.3s						
RKT	**Rikitea**	**37.78**	**108**	eLR	LR	11 03 49.5	
	757nm,27.5s						
PMG	**Port Moresby**	**38.05**	**275**	P	**P**	**10 53 45.0**	**+1.5**
PMG	**Port Moresby**	**38.05**	**275**	P	**P**	**10 53 45.0**	**+1.5**
	11nm,0.8s,baz=145,slow=13,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**38.73**	**330**	T	T	11 34 34.1	
	baz=152,slow=0.7,SNR=58						
H11S3	**WAKE ISLAND Hy**	**38.74**	**330**	T	T	11 34 38.7	
	baz=152,slow=0.7,SNR=34						
H11S1	**WAKE ISLAND Hy**	**38.75**	**330**	T	T	11 34 37.4	
	baz=152,slow=0.7,SNR=36						
H11N3	**WAKE ISLAND Hy**	**39.70**	**332**	T	T	11 35 46.7	
	baz=153,slow=0.7,SNR=34						
H11N1	**WAKE ISLAND Hy**	**39.70**	**332**	T	T	11 35 48.0	
	baz=153,slow=0.7,SNR=45						
H11N2	**WAKE ISLAND Hy**	**39.72**	**332**	T	T	11 35 47.6	
	baz=153,slow=0.7,SNR=43						
COEN	**Coen**	**41.06**	**267**	eP	**P**	**10 54 11.5**	**+2.9**
	314nm,1.5s						
STKA	**Stephens Creek**	**43.12**	**240**	eP	**P**	**10 54 26.4**	**+1.1**
	1.7nm,1.0s						
STKA	**Stephens Creek**	**43.12**	**240**	P	**P**	**10 54 25.7**	**+0.4**
	6.5nm,0.9s,baz=88,slow=9.5,SNR=7.1						
STKA				LR	LR	11 11 09.3	
	comp=Z,474nm,18.7s,baz=56,slow=34						
JAY	**Jayapura**	**46.15**	**282**	LR	LR	11 11 19.4	
	comp=Z,249nm,20.0s,baz=134,slow=32						
WRAB	**Tennant Creek**	**48.89**	**257**	eP	**P**	**10 55 12.7**	**+1.7**
	83nm,2.3s						
WRA	**Warramunga Arr**	**48.90**	**257**	P	**P**	**10 55 08.3**	**-2.7**
WRA				PcP	**PcP**	**10 56 37.0**	**+1.4**
WRA	**Warramunga Arr**	**48.90**	**257**	P	**P**	**10 55 08.3**	**-2.7**
	4.6nm,0.8s,baz=89,slow=7.6,SNR=31						
WRA				PcP	**PcP**	**10 56 37.0**	**+1.4**
	2.0nm,0.8s,baz=83,slow=3.7,SNR=6.7						
WRA				LR	LR	11 14 34.1	
	comp=Z,601nm,18.7s,baz=90,slow=34						
AS31	**Alice Springs**	**49.16**	**252**	eP	**P**	**10 55 10.0**	**-3.1**
JCJ	**Chichijima**	**59.89**	**315**	LR	LR	11 17 32.7	
	comp=Z,467nm,19.9s,baz=97,slow=31						
VNDA	**Vanda**	**63.02**	**186**	LR	LR	11 18 32.9	
	comp=Z,123nm,21.9s,baz=20,slow=30						
NWAO	**Narrogin (SRO)**	**63.70**	**241**	LR	LR	11 23 55.9	
	comp=Z,458nm,18.5s,slow=35						
MJAR	**Matsushiro Ar**	**68.56**	**320**	LR	LR	11 21 46.6	
	comp=Z,172nm,21.6s,baz=130,slow=31						
ASAJ	**Asahikawa**	**71.29**	**329**	P	**P**	**10 57 42.8**	**-1.4**
ASAJ	**Asahikawa**	**71.29**	**329**	P	**P**	**10 57 42.8**	**-1.4**
	6.7nm,0.9s,baz=300,slow=8.1,SNR=3.4						
VES	**Vestal, Richgr**	**73.17**	**44**	P	**P**	**10 57 56.7**	**+1.1**
	baz=73						
BFSC	**Mount Baldy Ra**	**73.26**	**46**	P	**P**	**10 57 57.4**	**+1.0**
	baz=74						
EDW2	**Edwards Air Fo**	**73.38**	**46**	P	**P**	**10 57 57.6**	**+0.7**
	baz=74						
MONP	**Monument Peak**	**73.42**	**48**	P	**P**	**10 57 57.9**	**+0.5**
	baz=74						
CMB	**Columbia Colle**	**73.56**	**42**	eP	**P**	**10 57 58.8**	**+0.8**
	16nm,1.6s						
M02C	**Callahan**	**74.06**	**38**	P	**P**	**10 58 00.7**	**-0.2**
	baz=74						
BELC	**Belle Mtn. Jos**	**74.30**	**47**	P	**P**	**10 58 02.1**	**-0.5**
	baz=74						
MPMC	**Manual Prospec**	**74.36**	**45**	P	**P**	**10 58 03.4**	**+0.5**
	baz=75						
QSPA	**South Pole Qui**	**74.38**	**180**	P	**P**	**10 58 01.5**	**-1.0**
QSPA	**South Pole Qui**	**74.38**	**180**	P	**P**	**10 58 01.5**	**-1.0**
	8.9nm,1.0s,baz=25,slow=2.7,SNR=7.5						
QSPA				LR	LR	11 26 08.5	
	comp=Z,260nm,20.5s,baz=55,slow=32						
GSC	**Goldstone**	**74.42**	**46**	eP	**P**	**10 58 05.3**	**+2.1**
	4.0nm,1.6s						
GSC	**Goldstone**	**74.42**	**46**	P	**P**	**10 58 04.3**	**+1.2**
	baz=75						
HEC	**Hector,Ludlow**	**74.50**	**46**	P	**P**	**10 58 04.9**	**+1.3**
	baz=75						
GRAC	**Grapevine Rang**	**74.96**	**44**	P	**P**	**10 58 06.6**	**+0.4**
	baz=75						
FURC	**Furnace Creek,**	**75.01**	**45**	P	**P**	**10 58 07.5**	**+1.1**
	baz=75						
TUQ	**Turquoise Moun**	**75.10**	**46**	P	**P**	**10 58 07.8**	**+0.6**
	baz=75						
NVAR	**Mina Array Bea**	**75.14**	**42**	P	P	10 58 03.7	-3.6
NVAR	**Mina Array Bea**	**75.14**	**42**	P	P	10 58 03.7	-3.6
	1.2nm,0.7s,baz=229,slow=8.2,SNR=5.5						
NVAR				LR	LR	11 23 23.1	
	comp=Z,299nm,20.6s,baz=115,slow=30						
113A	**Mohawk Valley,**	**75.28**	**49**	P	**P**	**10 58 08.2**	**+0.2**
	baz=76						
TPH	**Tonopah**	**75.64**	**43**	eP	**P**	**10 58 09.5**	**-0.8**
	12nm,1.3s						

KSRS **Korea Array** 75.71 316 P P 10 58 09.5 -0.9
2.8nm,0.9s,baz=121,slow=6.2,SNR=9.1
KSRS LR LR 11 28 35.9
comp=Z,140nm,18.7s,baz=132,slow=33
KSAR **Wonju Array Be** 75.73 316 P P 10 58 09.5 -1.0
MOD **Modoc** 75.89 39 eP P 10 58 13.6 +2.1
7.5nm,1.1s
W13A **Hualapai Mount** 76.36 47 P P 10 58 14.6 +0.2
baz=76
Y14A **Wickenburg** 76.41 49 P P 10 58 14.6 +0.1
baz=77
I05D **Terrebonne, OR** 76.76 36 P P 10 58 17.5 +1.2
baz=77
R11A **Troy Canyon, C** 76.88 44 P P 10 58 17.6 +0.3
baz=77
USRK **Ussuriysk Arra** 77.05 324 P P 10 58 16.1 -1.8
0.7nm,0.6s,baz=148,slow=16,SNR=3.1
USRK LR LR 11 25 49.5
comp=Z,202nm,21.6s,baz=114,slow=31
WVOR **Wild Horse Val** 77.21 39 eP P 10 58 18.3 -0.7
5.7nm,1.2s
TUC **Tucson** 77.26 51 eP P 10 58 19.6 +0.2
1.9nm,0.9s
X16A **Lo Mia Camp, P** 77.77 49 P P 10 58 23.0 +0.6
baz=78
CCUT **Cedar City** 77.96 45 eP P 10 58 25.3 +1.9
5.3nm,1.2s
ARUT **Antelope Range** 78.03 45 eP P 10 58 25.6 +1.9
66nm,1.0s
U15A **North Rim** 78.14 47 P P 10 58 26.4 +1.9
baz=78
WUAZ **Wupatki** 78.35 48 eP P 10 58 26.3 +0.7
5.8nm,1.2s
WUAZ **Wupatki** 78.35 48 P P 10 58 26.5 +1.0
baz=78
G08A **Pilot Rock** 78.68 36 eP P 10 58 29.2 +2.1
18nm,1.7s
DUG **Dugway** 79.67 43 eP P 10 58 34.2 +1.6
5.0nm,1.1s
DUG **Dugway** 79.67 43 P P 10 58 33.9 +1.2
baz=80
TMUT **Trail Mountain** 80.30 45 eP P 10 58 38.2 +1.9
8.3nm,1.0s
HLID **Hailey** 80.41 40 eP P 10 58 37.8 +1.2
5.4nm,1.2s
HLID **Hailey** 80.41 40 P P 10 58 37.6 +1.0
baz=81
HVU **Hansel Valley** 80.51 42 eP P 10 58 38.7 +1.5
6.5nm,1.2s
Z22A **Elephant Butte** 80.56 52 P P 10 58 39.0 +1.4
baz=81
CTU **Camp Tracy** 80.62 43 eP P 10 58 39.9 +2.0
4.4nm,0.9s
SRU **San Rafael** 80.67 45 eP P 10 58 39.7 +1.5
6.8nm,1.2s
425A **Indio Mountain** 81.05 55 P P 10 58 41.0 +0.7
baz=81
TRF **Thorofare Moun** 81.05 11 eP P 10 58 43.5 +3.9
12nm,0.9s
TNA **Tin City** 81.13 3 eP P 10 58 40.2 +0.5
4.6nm,0.8s
MVCO **Mesa Verde** 81.19 47 P P 10 58 42.7 +1.7
baz=81
626A **Big Bend Ranch** 81.23 56 P P 10 58 42.1 +0.9
baz=81
PV10 **Paradox Valley** 81.35 46 eP P 10 58 42.5 +0.7
56nm,0.8s
526A **Mary Lane Ranc** 81.47 56 P P 10 58 43.5 +1.0
baz=82
124A **Stringfield Ra** 81.47 53 P P 10 58 43.9 +1.3
baz=82
TXAR **Lajitas Array** 81.52 56 P P 10 58 39.5 -3.3
TXAR **Lajitas Array** 81.52 56 P P 10 58 39.5 -3.3
0.4nm,1.0s,baz=268,slow=8.3,SNR=3.4
TXAR LR LR 11 29 08.7
comp=Z,200nm,18.7s,baz=0.0,slow=32
Y23A **Lovelace Mesa,** 81.53 51 P P 10 58 44.2 +1.3
baz=82
MCK **McKinley** 81.55 11 eP P 10 58 42.2 +0.2
8.1nm,0.9s
PV01 **Paradox Valley** 81.56 47 eP P 10 58 44.3 +1.3
388nm,1.1s
ANMO **Albuquerque** 81.67 50 eP P 10 58 43.9 +0.3
2.1nm,1.0s
225A **Deer Hill, Car** 81.72 53 P P 10 58 44.9 +1.1
baz=82
426A **McDonald Obser** 81.75 55 P P 10 58 45.5 +1.4
baz=82
V22A **San Miguel Ran** 81.76 49 P P 10 58 46.2 +2.1
baz=82
627A **Terlingua Ranc** 81.78 56 P P 10 58 46.1 +2.0
baz=82
Z24A **Sheeppen Canyo** 81.80 52 P P 10 58 46.0 +1.7
baz=82
527A **Woodward Ranch** 81.88 56 P P 10 58 45.6 +0.9
baz=82
W23A **Werner Place,** 81.99 50 P P 10 58 46.6 +1.3
baz=82
U22A **Llaves** 82.00 49 P P 10 58 47.3 +2.0
baz=82
Y24A **Capitan** 82.00 52 ⇑P P 10 58 46.6 +1.3
baz=82
MCMT **McKenzie Canyo** 82.03 39 eP P 10 58 46.6 +1.3
3.1nm,1.2s
125A **Gardner Draw,** 82.07 53 ⇓P P 10 58 47.6 +2.0
baz=82
628A **Black Gap, Mar** 82.20 57 P P 10 58 47.8 +1.5
baz=82
226B **Tecolote Peak,** 82.21 54 ⇓P P 10 58 47.8 +1.5
baz=82,SNR=6.2
V23A **Ortiz Mt. (NFS** 82.22 50 ⇓P P 10 58 48.6 +2.1
baz=82,SNR=5.5
427A **Hayter Ranch,** 82.32 55 ⇑P P 10 58 46.7 -0.2
baz=82,SNR=5.4
MSO **Missoula** 82.44 37 P P 10 58 46.8 -0.4
baz=83
U23A **El Rito** 82.46 49 ⇑P P 10 58 49.5 +1.8
baz=83,SNR=8.6
DLMT **Dillon** 82.46 39 eP P 10 58 50.4 +3.0
REDW **Red Top Meadow** 82.53 41 eP P 10 58 50.2 +2.3
25nm,1.5s
TPAW **Teton Pass** 82.53 41 eP P 10 58 49.8 +1.8
9.0nm,1.1s
SEY **Seymchan** 82.54 345 P P 10 58 43.6 -3.6
SEY **Seymchan** 82.54 345 P P 10 58 43.6 -3.6
1.7nm,0.8s,baz=197,slow=23,SNR=6.0
528A **Cox Ranch, San** 82.54 56 ⇑P P 10 58 49.4 +1.3
baz=83
FXWY **Fox Creek** 82.56 41 eP P 10 58 49.4 +1.3
10nm,1.5s
W24A **Lazy 6 Ranch,** 82.56 50 ⇓P P 10 58 49.4 +1.1
baz=83
Y25A **Mesa, Roswell** 82.56 52 P P 10 58 49.2 +1.0
baz=83
S22A **4UR Ranch, Cre** 82.62 48 P P 10 58 50.4 +1.8
baz=83,SNR=5.6
O20A **White River Ci** 82.71 45 P P 10 58 51.4 +2.5
baz=83
IMW **Indian Meadow** 82.74 41 eP P 10 58 50.7 +1.6
8.0nm,1.1s
MOOW **Moose Ponds** 82.79 41 eP P 10 58 50.9 +1.6
6.4nm,1.3s
COLA **College** 82.79 11 eP P 10 58 49.5 +1.1
20nm,2.1s
LOHW **Long Hollow** 82.81 41 eP P 10 58 51.1 +1.7
72nm,2.9s
Z26A **Caprock** 82.84 53 P P 10 58 50.6 +1.0
baz=83
T23A **Casias Ranch,** 82.88 49 P P 10 58 51.0 +1.1
baz=83
V24A **Rampart Ranch,** 82.88 50 P P 10 58 50.8 +0.9
baz=83
ILAR **Eielson Array** 82.88 11 P P 10 58 44.2 -4.7
ILAR **Eielson Array** 82.88 11 P P 10 58 44.2 -4.7
0.7nm,0.8s,baz=225,slow=6.1,SNR=9.1
ILAR LR LR 11 28 12.0
comp=Z,147nm,20.9s,baz=175,slow=30
QLMT **Earthquake Lak** 82.90 40 eP P 10 58 51.8 +2.0
I17A **Pilgrim Ck.** 82.98 41 P P 10 58 51.5 +1.3
baz=83
529A **Stev Forest Ra** 82.98 56 P P 10 58 51.9 +1.5
baz=83
FLWY **Flagg Ranch** 82.98 41 eP P 10 58 52.9 +2.7
6.8nm,0.9s
328A **Wristen Ranch,** 83.00 55 P P 10 58 51.2 +0.8
baz=83
N20A **Spence Gulch,** 83.02 44 P P 10 58 51.8 +1.3
baz=83

BW06 **Boulder Array** 83.07 42 eP P 10 58 51.5 +0.8
5.3nm,1.0s
PDAR **Pinedale Array** 83.07 42 P P 10 58 46.4 -4.3
PDAR **Pinedale Array** 83.07 42 P P 10 58 46.4 -4.3
3.7nm,1.0s,baz=236,slow=1.6,SNR=5.3
PDAR LR LR 11 28 24.8
comp=Z,229nm,20.6s,baz=288,slow=30
127A **Arkansas Junct** 83.08 53 P P 10 58 51.6 +0.8
baz=83
YMR **Madison River** 83.11 40 eP P 10 58 53.5 +2.6
11nm,1.1s
SMCO **Snowmass** 83.15 46 eP P 10 58 53.1 +1.6
95nm,2.8s
H17A **Grant Village** 83.21 40 eP P 10 58 53.9 +2.4
3.8nm,1.0s
Y26A **Elida** 83.22 52 P P 10 58 52.9 +1.3
baz=83
W25A **X Bar L Ranch,** 83.27 51 P P 10 58 52.8 +1.0
baz=83
T24B **San Luis** 83.36 49 P P 10 58 53.0 +0.6
baz=84
V25A **Rancho No Teng** 83.41 50 P P 10 58 52.5 -0.1
baz=84
429A **Davenport Ranc** 83.43 56 P P 10 58 52.8 +0.1
baz=84
Z27A **Tatum** 83.44 53 P P 10 58 52.5 -0.2
baz=84
P22A **Eagle** 83.48 46 ⇓P P 10 58 53.9 +0.9
baz=84
R23A **Moffat** 83.53 48 P P 10 58 54.0 +0.7
baz=84
SDCO **Great Sand Dun** 83.57 48 eP P 10 58 53.5 0.0
4.3nm,1.3s
J19A **Crowheart** 83.63 42 P P 10 58 55.1 +1.5
baz=84
530A **JC Ranch, Com** 83.70 56 P P 10 58 55.1 +1.0
baz=84
Y27A **Causey** 83.71 52 P P 10 58 54.7 +0.6
baz=84
S24A **Houchin Ranch,** 83.73 48 P P 10 58 55.4 +1.1
baz=84
128A **Castleberry Fa** 83.73 54 P P 10 58 55.5 +1.3
baz=84
U25A **Circle Dot Ran** 83.79 50 P P 10 58 55.8 +1.2
baz=84
O22A **Kremmling** 83.88 46 P P 10 58 55.6 +0.5
baz=84
DAWY **Dawson** 83.90 15 eP P 10 58 55.1 +0.8
V26A **Tequesquite Ra** 84.01 50 P P 10 58 56.5 +0.9
baz=84
I19A **Meeteetse** 84.04 41 P P 10 58 56.8 +1.2
baz=84
MSTX **Muleshoe** 84.04 52 eP P 10 58 57.3 +1.5
16nm,1.0s
MSTX **Muleshoe** 84.04 52 P P 10 58 56.7 +1.0
baz=84
631A **Perdido Creek** 84.04 57 P P 10 58 56.4 +0.7
baz=84
R24A **Sanders Place,** 84.05 48 P P 10 58 56.4 +0.5
baz=84
N22A **Wattenberg Ran** 84.23 45 P P 10 58 56.9 +0.1
baz=84
U26A **Atchley Ranch,** 84.28 50 P P 10 58 56.9 -0.1
baz=84
S25A **Robets Cordova** 84.30 49 P P 10 58 57.2 +0.1
baz=84
330A **Mertzon** 84.30 55 P P 10 58 57.4 +0.4
baz=84
J20A **Shoshoni** 84.30 42 P P 10 58 58.2 +1.3
baz=84,SNR=7.7
O23A **Lake Granby, G** 84.33 46 P P 10 58 57.6 +0.3
baz=84
Q24A **Divide** 84.33 47 P P 10 58 57.3 -0.1
baz=84
531A **Rocksprings** 84.34 57 P P 10 58 57.1 -0.2
baz=84
H19A **Powell** 84.34 41 P P 10 58 57.5 +0.4
baz=84
K21A **Alcova** 84.51 43 ⇑P P 10 58 58.2 +0.1
baz=85
COLD **Coldfoot** 84.55 9 eP P 10 58 60.0 +2.6
11nm,1.3s
I20A **Worland** 84.55 42 P P 10 58 58.7 +0.6
baz=85,SNR=5.0
Z29A **Hungry Hill Ra** 84.58 53 P P 10 58 59.6 +1.1
baz=85
R25A **Fountain Ranch** 84.61 48 P P 10 58 59.5 +0.9
baz=85
N23A **Red Feather La** 84.61 45 P P 10 58 59.7 +1.0
baz=85
X28A **Dimmitt** 84.69 52 P P 10 58 59.2 +0.1
baz=85
J21A **Lysite** 84.71 42 ⇑P P 10 59 00.0 +1.0
baz=85,SNR=10.0
H20A **Greybull** 84.88 41 ⇓P P 10 59 01.0 +1.2
baz=85
O24A **Longmont** 84.88 46 P P 10 59 01.3 +1.4
baz=85
F19A **Roth Farm, Mol** 84.93 40 P P 10 59 01.0 +0.9
baz=85
S26A **Kim** 84.98 49 P P 10 59 01.5 +1.0
baz=85
K22A **Casper** 85.00 43 P P 10 59 01.6 +1.0
baz=85
I21A **Big Trails, Te** 85.02 42 ⇓P P 10 59 01.1 +0.5
baz=85,SNR=5.4
Z30A **Sanderson Ranc** 85.04 54 P P 10 59 00.9 +0.1
baz=85
X29A **Tulia** 85.04 52 P P 10 59 01.3 +0.5
baz=85
JCT **Junction City** 85.05 57 P P 10 59 01.6 +0.7
baz=85
231A **Bronte** 85.17 55 P P 10 59 01.6 +0.2
baz=85
432A **Menard** 85.20 56 P P 10 59 02.5 +0.8
baz=85
834A **Tilden** 85.24 59 P P 10 59 02.3 +0.5
baz=85
L23A **Garrett** 85.31 44 P P 10 59 02.9 +0.7
baz=86
N24A **Carr** 85.31 45 P P 10 59 02.8 +0.7
baz=86
E19A **Rath Farm, Rou** 85.32 39 P P 10 59 03.4 +1.5
baz=86
J22A **Midwest** 85.37 43 P P 10 59 03.7 +1.4
baz=86
131A **Roby** 85.39 54 P P 10 59 03.0 +0.5
baz=86
332A **Millersview** 85.43 56 P P 10 59 03.5 +0.7
baz=86
EGMT **Eagleton** 85.49 37 P P 10 59 04.0 +1.3
baz=86
I22A **9 Mile Ranch,** 85.58 42 P P 10 59 04.6 +1.3
baz=86
D19A **Cripps Ranch,** 85.59 39 P P 10 59 05.0 +1.8
baz=86
M24A **Cheyenne** 85.62 45 P P 10 59 05.9 +2.2
baz=86
K23A **Bowen Ranch, D** 85.64 43 P P 10 59 06.0 +2.3
baz=86
232A **Coleman** 85.69 55 P P 10 59 04.8 +0.7
baz=86
433A **Art** 85.72 57 P P 10 59 04.6 +0.3
baz=86
E20A **Meyer Farm, Mu** 85.74 39 ⇓P P 10 59 05.2 +1.3
baz=86
C19A **Slack Wire Ran** 85.77 38 P P 10 59 05.8 +1.7
baz=86
ABTX **Abilene, Hawle** 85.96 55 eP P 10 59 06.5 +1.2
25nm,1.1s
ABTX **Abilene, Hawle** 85.96 55 P P 10 59 06.3 +1.0
baz=86
Y31A **Rekieta Farm,** 85.96 53 P P 10 59 06.3 +0.9
baz=86
534A **Blanco** 85.97 57 P P 10 59 07.1 +1.7
baz=86
D20A **Manuel Ranch,** 86.01 39 ⇑P P 10 59 07.1 +1.8
baz=86
333A **Richland Sprin** 86.01 56 P P 10 59 07.3 +1.7
baz=86
B19A **Brinkman Farms** 86.17 37 P P 10 59 07.3 +1.2
baz=86
635A **Leesville** 86.32 58 P P 10 59 08.7 +1.6
baz=86
233A **Rising Star** 86.33 55 P P 10 59 08.8 +1.6
baz=86
Z32A **Haskell** 86.33 54 P P 10 59 08.5 +1.4
baz=86

C20A **Veseth Ranch,** 86.38 38 P P 10 59 09.1 +2.0
baz=87,SNR=6.0
434A **Burnet** 86.41 57 P P 10 59 09.3 +1.7
baz=87
A19A **Klindworth Far** 86.52 37 P P 10 59 09.3 +1.5
baz=87
133A **Hamilton Ranch** 86.52 55 P P 10 59 08.6 +0.5
baz=87
334A **Lometa** 86.61 56 P P 10 59 09.4 +0.8
baz=87
D21A **La Casta Ranch** 86.69 39 P P 10 59 10.0 +1.3
baz=87
B20A **Solberg Farm,** 86.71 38 P P 10 59 10.0 +1.3
baz=87
A20A **Cobblestone Ra** 86.97 37 ⇑P P 10 59 11.1 +1.1
baz=87,SNR=5.5
MAW **Mawson** 87.25 199 LR LR 11 36 24.4
comp=Z,295nm,18.4s,baz=122,slow=34
A21A **Bergtoll Ranch** 87.61 37 P P 10 59 13.4 +0.4
baz=88
B22A **Reddig Ranch S** 87.85 38 P P 10 59 14.9 +0.7
baz=88
J27A **Elkhorn Farm,** 88.26 44 P P 10 59 17.4 +1.0
baz=88
YKA **Yellowknife Ar** 90.70 24 P P 10 59 22.8 -4.4
YKA **Yellowknife Ar** 90.70 24 P P 10 59 22.8 -4.4
0.3nm,0.7s,baz=236,slow=5.2,SNR=7.2
CMAR **Chiang Mai Arr** 91.83 289 P P 10 59 32.4 -1.0
CMAR **Chiang Mai Arr** 91.83 289 P P 10 59 32.4 -1.0
1.6nm,0.7s,baz=89,slow=2.3,SNR=3.1
CMAR LR LR 11 35 39.3
comp=Z,92nm,20.8s,baz=98,slow=32
SONM **Songino Array** 94.44 318 LR LR 11 36 29.3
comp=Z,143nm,21.7s,baz=160,slow=32
ULM **Lac du Bonnet** 94.71 39 LR LR 11 36 02.0
comp=Z,316nm,19.8s,baz=252,slow=32
GTA **Gaotai** 96.64 309 eP P 10 59 54.8 -0.4
GTA pP pP 10 59 58.3 -0.3
GTA sP sP 11 00 01.0 +1.2
GTA pmax pmax
comp=Z,1.0nm,0.7s
BVAR **Borovoye Array** 117.53 322 PKP PKPdf 11 05 09.0 -1.6
BVAR **Borovoye Array** 117.53 322 PKP PKPdf 11 05 09.0 -1.6
comp=Z,0.5nm,0.7s,baz=69,slow=2.1,SNR=3.8
KMBO **Kilima Mbogo** 144.60 245 ePKPdf PKPdf 11 06 04.1 +1.3
KMBO **Kilima Mbogo** 144.60 245 PKP PKPdf 11 06 03.4 +0.6
comp=Z,6.7nm,0.9s,baz=33,slow=21,SNR=12
BR131 **Keskin Array S** 145.78 320 ePKPdf PKPab 11 06 04.9 +0.1
BRTR **Keskin Array B** 145.78 320 PKPbc PKPdf 11 06 02.2 -1.8
BRTR **Keskin Array B** 145.78 320 PKPbc PKPdf 11 06 02.2 -1.8
comp=Z,3.1nm,0.9s,baz=3.8,slow=3.7,SNR=6.8
GERES **GERESS Array B** 146.26 350 PKPbc PKPdf 11 06 02.8 -1.6
GERES **GERESS Array B** 146.26 350 PKPbc PKPdf 11 06 02.8 -1.6
comp=Z,1.1nm,0.8s,baz=46,slow=3.9,SNR=6.7
TORD **Torodi Ar. Bea** 175.42 123 PKPab PKPab 11 08 09.0 -3.6
TORD **Torodi Ar. Bea** 175.42 123 PKPab PKPab 11 08 09.0 -3.6
comp=Z,0.8nm,1.0s,baz=223,slow=4.4,SNR=3.6

ISCJB ***17*** *11:07:03.1±1.3,24°.4S±0°.1×179°.9E±0°.2,h517km,mb4.1/4, Error ellipse: s-maj=23.5km s-min=15.7km az=166.5*
IDC ***17*** *11:07:04.2±4.4,24°.46S×179°.97E,h526km±52km,mb3.5/4, mb1 3.7/6,mb1mx3.1/39,mbtmp4.4/6,Error ellipse: s-maj=43.4km s-min=27.1km az=9.0*
ISC 17 11:07:03.9±1.4**,24°.5S**±0°.1×**180°.0E**±0°.2**,h517**km**,n7,**
σ**0**§**92/7,mb4.0**/4**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.65**	**278**	P	**P**	**11 09 49.6**	**+0.1**
	0.5nm,0.3s,baz=79,slow=16,SNR=6.5						
URZ	**Urewera**	**13.93**	**189**	P	**P**	**11 10 01.3**	**-1.1**
	0.3nm,0.3s,baz=0.0,slow=20,SNR=2.9						
URZ				S	**S**	**11 12 30.8**	**+1.1**
	0.2nm,0.3s,baz=301,slow=19,SNR=3.4						
CTA	**Charters Tower**	**31.45**	**271**	P	**P**	**11 12 43.0**	**+0.2**
	13nm,0.3s,baz=95,slow=11,SNR=37						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**11 13 08.8**	**+0.5**
	1.8nm,0.5s,baz=96,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**11 14 11.7**	**-0.7**
	2.8nm,0.3s,baz=97,slow=8.5,SNR=112						
TXAR	**Lajitas Array**	**90.78**	**58**	P	**P**	**11 19 12.4**	**+0.4**
	0.6nm,0.7s,baz=224,slow=6.9,SNR=7.9						
HFS	**Hagfors**	**143.13**	**349**	PKP	PKPab	11 25 34.5	-1.4
	2.9nm,0.9s,baz=33,slow=3.4,SNR=7.8						

ISCJB ***17*** *11:09:43.0±0.4,16°.78S±0°.05×69°.33W±0°.05,h173km, mb4.2/12,Error ellipse: s-maj=7.3km s-min=6.6km az=158.9*
NEIC ***17*** *11:09:44.6±0.6,16°.79S×69°.40W,h174km±5km,mb4.6/9, Error ellipse: s-maj=9.4km s-min=8.1km az=72.0*
IDC ***17*** *11:09:46.1±0.9,16°.70S×69°.32W,h186km±6km,mb3.8/10, mb1 4.0/13,mb1mx3.7/41,mbtmp4.3/13,Error ellipse: s-maj=17.2km s-min=13.7km az=72.0*
ISC 17 11:09:44.3±0.5**,16.82S**±0°.06×**69.45W**±0°.06**,h173**km**,n51,**
σ**1**§**13/51,mb4.3**/**12,1C,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.37**	**67**	ePn	**Pn**	**11 10 17.2**	**+2.0**
LPAZ				eSn	**Sn**	**11 10 40.5**	**+1.7**
LPAZ	**La Paz**	**1.37**	**67**	P	**Pn**	**11 10 16.9**	**+1.8**
	96nm,0.3s,baz=276,slow=7.2,SNR=1046						
LPAZ				S	**Sn**	**11 10 40.4**	**+1.6**
	34nm,0.3s,baz=163,slow=25,SNR=26						
LPAZ				LR	LR	11 10 47.2	
	comp=Z,172nm,19.5s,baz=180,slow=51						
ARE	**Arequipa**	**1.99**	**280**	⇑*i*P	**Pn**	**11 10 22.0**	**+0.8**
ARE				*i* S	**Sn**	**11 10 51.0**	**+1.4**
LVC	**Limon Verde**	**5.79**	**175**	ePn	**Pn**	**11 11 08.9**	**+0.2**
	118nm,0.8s						
LVC				eSn	**Sn**	**11 12 11.7**	**-3.3**
SIV	**San Ignacio**	**8.08**	**85**	P	**Pn**	**11 11 37.5**	**-1.3**
SIV	**San Ignacio**	**8.08**	**85**	P	**Pn**	**11 11 37.5**	**-1.3**
	15nm,0.3s,baz=285,slow=11,SNR=38						
NNA	**Nana**	**8.63**	**303**	ePn	**Pn**	**11 11 45.6**	**-0.5**
	13nm,0.4s						
SAML	**Samuel**	**9.92**	**39**	ePn	**Pn**	**11 12 01.2**	**-1.8**
	7.6nm,0.8s						
LCO	**Las Campanas**	**12.19**	**185**	ePn	**Pn**	**11 12 31.7**	**-1.0**
	30nm,0.8s						
LCO				eSn	Sn	11 14 39.9	-8.4
CPUP	**Villa Florida**	**14.71**	**132**	P	**Pn**	**11 13 05.7**	**+1.6**
CPUP	**Villa Florida**	**14.71**	**132**	P	**Pn**	**11 13 05.7**	**+1.6**
	0.5nm,0.3s,baz=296,slow=10,SNR=4.1						
CFAA	**Coronel Fontan**	**14.76**	**176**	P	**Pn**	**11 13 04.5**	**-0.3**
CFAA				S	Sn	11 15 39.5	-10
CFAA	**Coronel Fontan**	**14.76**	**176**	P	**Pn**	**11 13 04.5**	**-0.3**
	0.1nm,0.3s,baz=354,slow=13,SNR=15						
CFAA				S	Sn	11 15 39.5	-10
	0.0nm,0.3s,baz=180,slow=16,SNR=2.8						
PTGA	**Pitinga**	**18.51**	**31**	eP	**P**	**11 13 47.1**	**-0.7**
	4.9nm,0.6s						
PTGA	**Pitinga**	**18.51**	**31**	P	**P**	**11 13 47.0**	**-0.7**
	1.0nm,0.3s,baz=197,slow=13,SNR=11						
H03N1	**Juan Fernandez**	**18.62**	**206**	T	T	11 33 08.8	
	baz=20						
H03N2	**Juan Fernandez**	**18.63**	**206**	T	T	11 33 07.0	
	baz=20						
H03N3	**Juan Fernandez**	**18.64**	**206**	T	T	11 33 12.3	
	baz=20						
OTAV	**Otavalo**	**19.13**	**331**	eP	**Pn**	**11 13 58.0**	**+0.3**
	20nm,1.5s						
BDFB	**Brasilia**	**20.61**	**90**	P	**P**	**11 14 09.9**	**-0.6**
BDFB	**Brasilia**	**20.61**	**90**	P	**P**	**11 14 09.9**	**-0.6**
	14nm,0.7s,baz=258,slow=12,SNR=23						
PLCA	**Paso Flores**	**23.85**	**182**	eP	**P**	**11 14 43.4**	**+1.6**
	16nm,0.7s						
PLCA	**Paso Flores**	**23.85**	**182**	P	**P**	**11 14 43.1**	**+1.3**
	18nm,0.8s,baz=4.0,slow=12,SNR=48						
RCBR	**Riachuelo**	**34.59**	**76**	eP	**P**	**11 16 17.2**	**+0.1**
CELP	**Cerrillos**	**34.79**	**5**	eP	**P**	**11 16 17.8**	**-0.8**
TXAR	**Lajitas Array**	**56.54**	**324**	P	**P**	**11 19 08.5**	**-0.5**
TXAR	**Lajitas Array**	**56.54**	**324**	P	**P**	**11 19 08.5**	**-0.5**
	0.5nm,0.8s,baz=139,slow=8.4,SNR=3.1						
LIC	**Lamto**	**67.65**	**76**	eP	**P**	**11 20 22.7**	**-0.5**
	18nm,0.8s						
TIC	**Toumodi**	**67.81**	**75**	eP	P	11 20 19.3	-5.0
KIC	**Kosan Boka**	**67.97**	**76**	eP	**P**	**11 20 24.5**	**-0.7**
	21nm,0.6s						
DBIC	**Dimbokro**	**67.97**	**75**	eP	**P**	**11 20 25.0**	**-0.2**
	9.8nm,0.9s						
DBIC	**Dimbokro**	**67.97**	**75**	P	**P**	**11 20 24.6**	**-0.6**
	9.7nm,0.8s,baz=241,slow=5.7,SNR=12						

PDAR	**Pinedale Array**	**69.83**	**330**	P	**P**	**11**	**20**	**36.6 +0.2**
PDAR	**Pinedale Array**	**69.83**	**330**	P	**P**	**11**	**20**	**36.6 +0.2**
	0.2nm,0.5s,baz=130,slow=8.4,SNR=3.8							
ULM	**Lac du Bonnet**	**70.72**	**342**	P	**P**	**11**	**20**	**40.4 -1.0**
ULM	**Lac du Bonnet**	**70.72**	**342**	P	**P**	**11**	**20**	**40.4 -1.0**
	2.4nm,0.4s,baz=160,slow=5.9,SNR=9.9							
QSPA	**South Pole Qui**	**73.35**	**180**	P	**P**	**11**	**20**	**58.2 +1.2**
	1.6nm,0.6s,baz=225,slow=2.4,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**76.31**	**72**	*eP*	**P**	**11**	**21**	**13.7 -1.1**
TORD	**Torodi Ar. Bea**	**76.31**	**72**	P	**P**	**11**	**21**	**14.0 -0.7**
TORD	**Torodi Ar. Bea**	**76.31**	**72**	P	**P**	**11**	**21**	**14.0 -0.7**
	6.9nm,0.9s,baz=259,slow=5.6,SNR=32							
VNDA	**Vanda**	**81.35**	**190**	P	**P**	**11**	**21**	**42.3 +1.2**
VNDA	**Vanda**	**81.35**	**190**	P	**P**	**11**	**21**	**42.3 +1.2**
	4.7nm,1.3s,baz=124,slow=11,SNR=4.0							
YKA	**Yellowknife Ar**	**86.62**	**341**	P	**P**	**11**	**22**	**08.2 +0.4**
YKA	**Yellowknife Ar**	**86.62**	**341**	P	**P**	**11**	**22**	**08.2 +0.4**
	0.9nm,0.5s,baz=134,slow=4.8,SNR=48							
INK	**Inuvik**	**96.39**	**340**	*eP*	**P**	**11**	**22**	**51.9 -1.1**
	2.4nm,0.4s							
WRA	**Warramunga Arr**	**136.64**	**214**	PKP	**PKPdf**	**11**	**28**	**47.4 +0.6**
WRA	**Warramunga Arr**	**136.64**	**214**	PKP	**PKPdf**	**11**	**28**	**47.4 +0.6**
	0.6nm,0.7s,baz=139,slow=1.9,SNR=5.7							
MKAR	**Makanchi Array**	**142.05**	**32**	SKPbc	**SKPbc**	**11**	**32**	**17.6 +0.4**
MKAR	**Makanchi Array**	**142.05**	**32**	SKPbc	**SKPbc**	**11**	**32**	**17.6 +0.4**
	0.7nm,0.7s,baz=5.7,slow=1.2,SNR=5.6							
SONM	**Songino Array**	**148.88**	**5**	PKPbc	**PKPbc**	**11**	**29**	**13.0 +1.3**
SONM	**Songino Array**	**148.88**	**5**	PKPbc	**PKPbc**	**11**	**29**	**13.0 +1.3**
	1.5nm,0.5s,baz=316,slow=1.7,SNR=15							

CRAAG ***17*** *11:17:34.0,36˚12N×4˚19E,Ml4.3*
IDC ***17*** *11:17:35.8±1.8,36˚13N×3˚96E,h0km,mb3.5/1,mb1 3.5/5, mb1mx3.2/46,mbtmp3.3/5,ML3.4/4,Error ellipse: s-maj=30.3km s-min=24.2km az=166.0*
CSEM ***17*** *11:17:37.9±0.2,36˚38N×4˚04E,h10km,mb4.3,Error ellipse: s-maj=5.7km s-min=4.3km az=171.0*
LDG ***17*** *11:17:37.0±0.2,36˚17N×3˚86E,h10km,Ml3.3/8,Error ellipse: s-maj=5.2km s-min=3.5km az=148.0*
MDD ***17*** *11:17:37.9±0.4,36˚17N×4˚00E,h0km,mb4.3/37,Error ellipse: s-maj=5.1km s-min=4.4km az=163.0,PRXIMO*
SFS ***17*** *11:17:38.0,36˚18N×3˚98E,h0km,ML4.4*

ISC 17 11:17:37.9±0.6, 36˚33N±0˚03×4˚00E±0˚02, h19km±2km, n173, σ1s35/178, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.30**	**199**	P	Pg	11 17 40.5	-4.1
AKET	**Djebel Ketaf**	**0.30**	**199**	P	Pg	11 17 40.5	-4.1
AKET	**Djebel Ketaf**	**0.30**	**199**	P	Pg	11 17 40.5	-4.1
ADJB	**Djebel Djoub**	**0.49**	**250**	P	**Pg**	**11 17 46.5**	**-1.4**
ADJB	**Djebel Djoub**	**0.49**	**250**	P	**Pg**	**11 17 46.5**	**-1.4**
ADJB	**Djebel Djoub**	**0.49**	**250**	P	**Pg**	**11 17 46.5**	**-1.4**
EMHD	**Djebel Mahouad**	**0.86**	**262**	P	**Pb**	**11 17 53.3**	**-0.9**
EMHD	**Djebel Mahouad**	**0.86**	**262**	P	**Pb**	**11 17 53.3**	**-0.9**
EMHD	**Djebel Mahouad**	**0.86**	**262**	P	**Pb**	**11 17 53.3**	**-0.9**
ABA	**Alger-Bouzarea**	**0.91**	**302**	P	**Pn**	**11 17 55.8**	**+0.1**
ABA	**Alger-Bouzarea**	**0.91**	**302**	P	**Pn**	**11 17 55.8**	**+0.1**
ABA	**Alger-Bouzarea**	**0.91**	**302**	P	**Pn**	**11 17 55.8**	**+0.1**
SET	**Setif**	**1.14**	**96**	P	**Pg**	**11 18 00.0**	**0.0**
SET	**Setif**	**1.14**	**96**	P	**Pg**	**11 18 00.0**	**0.0**
SET	**Setif**	**1.14**	**96**	P	**Pg**	**11 18 00.0**	**0.0**
DFRA	**Djebel Bou Aff**	**1.53**	**81**	P	**Pb**	**11 18 05.6**	**-0.1**
DFRA	**Djebel Bou Aff**	**1.53**	**81**	P	**Pb**	**11 18 05.6**	**-0.1**
DFRA	**Djebel Bou Aff**	**1.53**	**81**	P	**Pb**	**11 18 05.6**	**-0.1**
EBNR	**Beni Rached**	**2.00**	**270**	P	Pg	11 18 17.8	+1.5
CASM	**Ain Smara**	**2.01**	**91**	P	**Pg**	**11 18 16.0**	**-0.6**
CASM	**Ain Smara**	**2.01**	**91**	P	**Pg**	**11 18 16.0**	**-0.6**
CASM	**Ain Smara**	**2.01**	**91**	P	**Pg**	**11 18 16.0**	**-0.6**
ECHA	**Ech Chlef**	**2.14**	**266**	P	**Pg**	**11 18 18.1**	**-0.9**
ECHA	**Ech Chlef**	**2.14**	**266**	P	**Pg**	**11 18 18.1**	**-0.9**
ECHF	**Ech Chlef**	**2.16**	**266**	P	**Pg**	**11 18 18.1**	**-1.3**
CKFL	**Kef-Lekhel**	**2.20**	**87**	P	**Pg**	**11 18 19.4**	**-0.7**
CKFL	**Kef-Lekhel**	**2.20**	**87**	P	**Pg**	**11 18 19.4**	**-0.7**
CAEH	**'Ain El Ouahch**	**2.34**	**78**	P	**Pn**	**11 18 15.6**	**+0.3**
CAEH	**'Ain El Ouahch**	**2.34**	**78**	P	**Pn**	**11 18 15.6**	**+0.3**
CAEH	**'Ain El Ouahch**	**2.34**	**78**	P	**Pn**	**11 18 15.6**	**+0.3**
EANR	**'Ain N'Sour**	**2.38**	**262**	P	**Pb**	**11 18 18.3**	**-1.8**
EANR	**'Ain N'Sour**	**2.38**	**262**	P	**Pb**	**11 18 18.3**	**-1.8**
EANR	**'Ain N'Sour**	**2.38**	**262**	P	**Pb**	**11 18 18.3**	**-1.8**
ETRT	**Tiaret**	**2.38**	**248**	P	**Pn**	**11 18 17.3**	**+1.2**
ETRT	**Tiaret**	**2.38**	**248**	P	**Pn**	**11 18 17.3**	**+1.2**
ETRT	**Tiaret**	**2.38**	**248**	P	**Pn**	**11 18 17.3**	**+1.2**
OKGL	**Djebel Kef Gue**	**2.73**	**265**	P	**Pn**	**11 18 20.9**	**+0.1**
	18nm,0.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.73**	**265**	P	**Pn**	**11 18 20.9**	**+0.1**
	18nm,0.2s,SNR=7.9						
CMAH	**Djebel Manchou**	**2.77**	**83**	P	**Pn**	**11 18 21.8**	**+0.5**
CMAH	**Djebel Manchou**	**2.77**	**83**	P	**Pn**	**11 18 21.8**	**+0.5**
CMAH	**Djebel Manchou**	**2.77**	**83**	P	**Pn**	**11 18 21.8**	**+0.5**
ABSA	**Djebel Ababsia**	**2.81**	**90**	P	**Pn**	**11 18 21.8**	**-0.1**
ABSA	**Djebel Ababsia**	**2.81**	**90**	P	**Pn**	**11 18 21.8**	**-0.1**
CABS	**Djebel Ababsia**	**2.81**	**90**	P	**Pn**	**11 18 21.8**	**-0.1**
CABS	**Djebel Ababsia**	**2.81**	**90**	P	**Pn**	**11 18 21.8**	**-0.1**
EIBI	**Ibiza**	**3.42**	**323**	P	Pn	11 18 32.8	+2.6
	19nm,0.2s,SNR=42						
EIBI				S	**Sn**	**11 19 10.8**	**+0.6**
	16nm,0.3s						
EIBI	**Ibiza**	**3.42**	**323**	P	Pn	11 18 32.8	+2.6
	19nm,0.2s,SNR=42						
EIBI				S	**Sn**	**11 19 10.8**	**+0.6**
	16nm,0.3s						
ETOS	**Mallorca**	**3.56**	**345**	P	**Pn**	**11 18 34.7**	**+2.6**
	21nm,0.4s,SNR=77						
ETOS				S	**Sn**	**11 19 13.3**	**-0.3**
	11nm,0.3s,SNR=6.3						
ETOS	**Mallorca**	**3.56**	**345**	P	**Pn**	**11 18 34.7**	**+2.6**
	21nm,0.4s,SNR=77						
ETOS				S	**Sn**	**11 19 13.3**	**-0.3**
	11nm,0.3s,SNR=6.3						
MAHO	**Mahon**	**3.57**	**3**	P	**Pn**	**11 18 33.1**	**+0.9**
MAHO				S	Sn	11 19 06.5	-7.3
MAHO	**Mahon**	**3.57**	**3**	P	**Pn**	**11 18 33.1**	**+0.9**
EBEN	**Beniarda**	**4.11**	**306**	P	Pn	11 18 42.4	+2.7
	1.8nm,0.2s,SNR=20						
EBEN				S	**Sn**	**11 19 29.3**	**+2.0**
	3.6nm,0.4s						
EBEN	**Beniarda**	**4.11**	**306**	P	Pn	11 18 42.4	+2.7
	1.8nm,0.2s,SNR=20						
EBEN				S	**Sn**	**11 19 29.3**	**+2.0**
	3.6nm,0.4s						
CART	**Cartagena**	**4.20**	**289**	P	**Pn**	**11 18 41.9**	**+1.1**
CART				S	**Sn**	**11 19 28.9**	**-0.4**
CART	**Cartagena**	**4.20**	**289**	P	**Pn**	**11 18 41.9**	**+1.1**
CART				S	**Sn**	**11 19 28.9**	**-0.4**
KEST	**Kesra**	**4.37**	**96**	Pn	**Pn**	**11 18 44.7**	**+1.3**
	0.9nm,0.3s,baz=275,slow=2.5,SNR=19						
KEST				Sn	**Sn**	**11 19 34.8**	**+1.0**
	0.6nm,0.3s,baz=220,slow=17,SNR=2.6						
EMUR	**La Murta**	**4.45**	**291**	P	**Pn**	**11 18 45.7**	**+1.3**
	5.4nm,0.2s,SNR=18						
EMUR				S	**Sn**	**11 19 37.9**	**+2.2**
	5.5nm,0.4s						
EMUR	**La Murta**	**4.45**	**291**	P	**Pn**	**11 18 45.7**	**+1.3**
	5.4nm,0.2s,SNR=18						
EMUR				S	**Sn**	**11 19 37.9**	**+2.2**
	5.5nm,0.4s						
ETOB	**Tobarra**	**4.98**	**299**	P	**Pn**	**11 18 54.1**	**+2.4**
	10nm,0.3s,SNR=39						
ETOB				S	**Sn**	**11 19 49.8**	**+1.0**
	4.5nm,0.4s						
ETOB	**Tobarra**	**4.98**	**299**	P	**Pn**	**11 18 54.1**	**+2.4**
	10nm,0.3s,SNR=39						
ETOB				S	**Sn**	**11 19 49.8**	**+1.0**
	4.5nm,0.4s						
EMOS	**Mosqueruela**	**5.35**	**320**	P	Pn	11 18 59.4	+2.6
	5.2nm,0.2s,SNR=50						
EMOS				S	**Sn**	**11 19 58.4**	**+0.5**
	8.4nm,0.5s						
EMOS	**Mosqueruela**	**5.35**	**320**	P	Pn	11 18 59.4	+2.6
	5.2nm,0.2s,SNR=50						
EMOS				S	**Sn**	**11 19 58.4**	**+0.5**
	8.4nm,0.5s						
ERTA	**Horta de San J**	**5.44**	**329**	P	Pn	11 19 01.0	+3.1
	1.7nm,0.3s,SNR=7.9						
ERTA				S	**Sn**	**11 19 60.0**	**0.0**
	5.9nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.44**	**329**	P	Pn	11 19 01.0	+3.1
	1.7nm,0.3s,SNR=7.9						
ERTA				S	**Sn**	**11 20 00.0**	**0.0**
	5.9nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.48**	**288**	P	Pn	11 19 01.4	+2.9
	6.3nm,0.3s,SNR=7.9						
EHUE				S	**Sn**	**11 20 00.1**	**-0.9**
	1.6nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.48**	**288**	P	Pn	11 19 01.4	+2.9
	6.3nm,0.3s,SNR=7.9						
EHUE				S	**Sn**	**11 20 00.1**	**-0.9**
	1.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.51**	**336**	P	**Pn**	**11 19 01.3**	**+2.3**
	2.6nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**11 20 00.9**	**-0.9**
	SNR=7.9						
EPOB	**Poblet**	**5.51**	**336**	P	**Pn**	**11 19 01.3**	**+2.3**
	2.6nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**11 20 00.9**	**-0.9**
	SNR=7.9						
CFON	**Fontmartina**	**5.56**	**348**	P	**Pn**	**11 19 02.1**	**+2.4**
	12nm,0.3s,SNR=31						
CFON				S	**Sn**	**11 20 05.8**	**+2.7**
	6.4nm,0.2s						
CFON	**Fontmartina**	**5.56**	**348**	P	**Pn**	**11 19 02.1**	**+2.4**
	12nm,0.3s,SNR=31						
CFON				S	**Sn**	**11 20 05.8**	**+2.7**
	6.4nm,0.2s						
EBER	**Berja**	**5.57**	**278**	P	**Pn**	**11 19 00.8**	**+0.9**
	4.3nm,0.3s,SNR=18						
EBER				S	**Sn**	**11 20 02.8**	**-0.7**
	13nm,0.7s						
EBER	**Berja**	**5.57**	**278**	P	**Pn**	**11 19 00.8**	**+0.9**
	4.3nm,0.3s,SNR=18						
EBER				S	**Sn**	**11 20 02.8**	**-0.7**
	13nm,0.7s						
EVIA	**Vianos**	**5.66**	**296**	P	Pn	11 19 03.7	+2.6
	7.9nm,0.4s,SNR=5.0						
EVIA				S	**Sn**	**11 20 07.1**	**+1.5**
	7.4nm,0.3s						
EVIA	**Vianos**	**5.66**	**296**	P	Pn	11 19 03.7	+2.6
	7.9nm,0.4s,SNR=5.0						
EVIA				S	**Sn**	**11 20 07.1**	**+1.5**
	7.4nm,0.3s						
EQES	**Quesada**	**5.84**	**287**	P	Pn	11 19 06.5	+2.9
	13nm,0.5s,SNR=17						
EQES				S	**Sn**	**11 20 10.2**	**+0.2**
	14nm,0.5s						
EQES	**Quesada**	**5.84**	**287**	P	Pn	11 19 06.5	+2.9
	13nm,0.5s,SNR=17						
EQES				S	**Sn**	**11 20 10.2**	**+0.2**
	14nm,0.5s						
EMIR	**Miracle**	**5.90**	**342**	P	Pn	11 19 07.5	+3.2
	28nm,0.3s,SNR=56						
EMIR				S	**Sn**	**11 20 12.7**	**+1.3**
	18nm,0.5s						
EJON	**La Jonquera**	**6.17**	**352**	P	Pn	11 19 11.2	+3.2
	8.2nm,0.2s,SNR=48						
EJON				S	**Sn**	**11 20 19.3**	**+1.2**
	5.8nm,0.3s						
SJAF	**Saint Jean de**	**6.21**	**352**	P	Pn	11 19 11.4	+2.9
	49nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**11 20 19.5**	**+0.6**
	17nm,0.6s,SNR=7.9						
SELV	**Sierra Elvira**	**6.27**	**281**	P	Pn	11 19 11.8	+2.5
	2.7nm,0.5s,SNR=7.9						
SELV				S	**Sn**	**11 20 18.5**	**-1.9**
	1.7nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**6.27**	**281**	P	Pn	11 19 11.8	+2.5
	2.7nm,0.5s,SNR=7.9						
CLLI	**Llivia**	**6.34**	**346**	P	Pn	11 19 14.8	+4.4
	2.6nm,0.2s,SNR=22						
CLLI				S	**Sn**	**11 20 23.6**	**+1.3**
	1.8nm,0.5s,SNR=7.9						
CSOR	**Sort**	**6.43**	**341**	P	Pn	11 19 15.6	+3.9
	2.5nm,0.3s,SNR=7.9						
CSOR				S	**Sn**	**11 20 26.7**	**+2.1**
	8.1nm,0.4s,SNR=7.9						
ETOR	**Torete**	**6.53**	**315**	P	Pn	11 19 17.2	+4.3
	7.7nm,0.3s,SNR=14						
ETOR				S	**Sn**	**11 20 27.2**	**+0.4**
	7.4nm,0.6s,SNR=7.9						
EMIJ	**Mijas**	**7.08**	**274**	P	Pn	11 19 23.1	+2.7
	1.4nm,0.5s,SNR=7.9						
EMIJ				S	**Sn**	**11 20 36.8**	**-3.5**
	2.6nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**7.08**	**274**	P	Pn	11 19 23.1	+2.7
	1.4nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**7.08**	**288**	P	**Pn**	**11 19 20.7**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.08**	**288**	P	**Pn**	**11 19 20.7**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.12**	**300**	P	**Pn**	**11 19 22.9**	**+1.8**
	2.1nm,0.2s,baz=115,slow=14,SNR=9.8						
ESDC	**Sonseca Array**	**7.12**	**300**	Pn	**Pn**	**11 19 21.8**	**+0.8**
	1.1nm,0.3s,baz=114,slow=14,SNR=11						
ESDC	**Sonseca Array**	**7.12**	**300**	P	**Pn**	**11 19 22.9**	**+1.8**
	2.1nm,0.2s,SNR=9.8						
EPF	**Esparros**	**7.26**	**338**	*eP*	Pn	11 19 26.7	+3.7
EPF				*eSn*	**Sn**	**11 20 42.5**	**-2.4**
	5.2nm,0.4s						
PGF	**Pioggiola**	**7.32**	**30**	*ePn*	**Pn**	**11 19 23.6**	**-0.2**
PGF				*eSn*	**Sn**	**11 20 44.3**	**-2.0**
	4.6nm,0.3s						
PGF	**Pioggiola**	**7.32**	**30**	*ePn*	**Pn**	**11 19 23.6**	**-0.2**
PGF				*eSn*	**Sn**	**11 20 44.3**	**-2.0**
	2.3nm,0.3s						
ETSF	**Etsaut**	**7.44**	**333**	*ePn*	**Pn**	**11 19 24.6**	**-0.9**
ETSF	**Etsaut**	**7.44**	**333**	*eP*	Pn	11 19 29.2	+3.7
ETSF				*eSn*	**Sn**	**11 20 45.1**	**-4.3**
	2.6nm,0.3s						
ETSF	**Etsaut**	**7.44**	**333**	*ePn*	**Pn**	**11 19 24.6**	**-0.9**
IEPA	**Eparoz**	**7.62**	**329**	P	Pn	11 19 31.4	+3.5
	1.6nm,0.3s,SNR=7.9						
IEPA				S	**Sn**	**11 20 52.6**	**-1.1**
	3.0nm,0.3s,SNR=7.9						
ATE	**Arette**	**7.66**	**333**	P	Pn	11 19 31.9	+3.5
	1.2nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**11 20 55.0**	**+0.4**
	2.6nm,0.3s,SNR=7.9						
ATE	**Arette**	**7.66**	**333**	S	**Sn**	**11 20 55.0**	**+0.4**
	2.6nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**7.66**	**330**	P	Pn	11 19 32.0	+3.6
	0.9nm,0.3s,SNR=7.9						
IELO				S	**Sn**	**11 20 55.0**	**+0.4**
	2.4nm,0.4s,SNR=7.9						
IUNC	**Unciti**	**7.70**	**328**	P	Pn	11 19 33.2	+4.3
	1.6nm,0.1s,SNR=7.9						
IUNC				S	**Sn**	**11 20 55.9**	**+0.4**
	2.9nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**7.71**	**306**	P	Pn	11 19 31.9	+2.7
	0.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.71**	**306**	P	Pn	11 19 31.9	+2.7
	0.8nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**7.72**	**286**	P	**Pn**	**11 19 30.0**	**+0.8**
	1.1nm,0.2s,SNR=10						
ECAB				S	**Sn**	**11 20 53.4**	**-2.7**
	2.2nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**7.72**	**286**	P	**Pn**	**11 19 30.0**	**+0.8**
	1.1nm,0.2s,SNR=10						
SMRF	**Simiane la Rot**	**7.73**	**8**	*ePn*	**Pn**	**11 19 30.7**	**+1.3**
SMRF				*eSn*	**Sn**	**11 20 54.9**	**-1.5**
	0.6nm,0.2s						
SMRF	**Simiane la Rot**	**7.73**	**8**	*ePn*	**Pn**	**11 19 30.7**	**+1.3**
SMRF				*eSn*	**Sn**	**11 20 54.9**	**-1.5**
	0.3nm,0.2s						
LASF	**Ste Croix**	**7.74**	**359**	*ePn*	**Pn**	**11 19 31.1**	**+1.6**
LASF				*eSn*	**Sn**	**11 20 53.4**	**-3.2**
	1.8nm,0.3s						
LASF	**Ste Croix**	**7.74**	**359**	*ePn*	**Pn**	**11 19 31.1**	**+1.6**
EARA	**Aranguren**	**7.74**	**328**	P	Pn	11 19 34.1	+4.6
	3.5nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**7.76**	**329**	P	**Pn**	**11 19 32.3**	**+2.4**
	1.5nm,0.2s,SNR=7.9						
IZUN				S	**Sn**	**11 20 58.2**	**+1.0**
	1.4nm,0.4s,SNR=7.9						
IZUN	**Zunzarren**	**7.76**	**329**	P	**Pn**	**11 19 32.3**	**+2.4**
	1.5nm,0.2s,SNR=7.9						
IZUN				S	**Sn**	**11 20 58.2**	**+1.0**
	1.4nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**7.88**	**331**	*ePn*	**Pn**	**11 19 30.3**	**-1.1**
SJPF	**Ste Jean**	**7.88**	**331**	*eP*	Pn	11 19 35.8	+4.4
SJPF				*eSn*	**Sn**	**11 20 56.2**	**-3.8**
	2.4nm,0.3s						
SJPF	**Ste Jean**	**7.88**	**331**	*ePn*	**Pn**	**11 19 30.3**	**-1.1**
MDT	**Midelt**	**7.92**	**246**	Pn	**Pn**	**11 19 31.0**	**-1.1**
	0.1nm,0.3s,baz=85,slow=18,SNR=3.5						
MDT				Lg	Lg	11 21 50.3	
	0.4nm,0.3s,baz=353,slow=17,SNR=2.7						
SBF	**Sospel**	**7.97**	**18**	*ePn*	**Pn**	**11 19 33.3**	**+0.6**
SBF				*eSn*	**Sn**	**11 20 59.6**	**-2.8**
	4.6nm,0.3s						
SBF	**Sospel**	**7.97**	**18**	*ePn*	**Pn**	**11 19 33.3**	**+0.6**
ELIZ	**Elizondo**	**8.04**	**330**	P	Pn	11 19 38.0	+4.3
	4.1nm,0.4s,SNR=7.9						
ELIZ				S	**Sn**	**11 21 02.9**	**-1.2**
	2.9nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**8.08**	**330**	P	Pn	11 19 38.1	+3.9
	1.6nm,0.2s,SNR=5.8						
EALK				S	**Sn**	**11 21 05.0**	**+0.1**
	9.1nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**8.08**	**330**	S	**Sn**	**11 21 05.0**	**+0.1**
	9.1nm,0.4s,SNR=7.9						
VIVF	**Saint-Julien-l**	**8.53**	**3**	*ePn*	**Pn**	**11 19 40.6**	**+0.2**
VIVF				*eSn*	**Sn**	**11 21 13.7**	**-2.4**
	2.7nm,0.5s						
VIVF	**Saint-Julien-l**	**8.53**	**3**	*ePn*	**Pn**	**11 19 40.6**	**+0.2**
MBDF	**Montbardon**	**8.65**	**13**	*ePn*	**Pn**	**11 19 42.4**	**+0.3**
MBDF	**Montbardon**	**8.65**	**13**	*ePn*	**Pn**	**11 19 42.4**	**+0.3**
EMIN	**Mina Concepcio**	**8.65**	**283**	P	Pn	**11 19 43.9**	**+1.9**
	0.8nm,0.2s,SNR=7.5						
EMIN	**Mina Concepcio**	**8.65**	**283**	P	**Pn**	**11 19 43.9**	**+1.9**
	0.8nm,0.2s,SNR=7.5						
ORIF	**Oris-en-Rattie**	**8.70**	**9**	*ePn*	**Pn**	**11 19 43.3**	**+0.6**
ORIF	**Oris-en-Rattie**	**8.70**	**9**	*ePn*	**Pn**	**11 19 43.3**	**+0.6**
CAF	**Calviac**	**8.71**	**351**	*ePn*	**Pn**	**11 19 42.4**	**-0.5**
CAF	**Calviac**	**8.71**	**351**	*eP*	Pn	11 19 48.7	+5.8
CAF	**Calviac**	**8.71**	**351**	*ePn*	**Pn**	**11 19 42.4**	**-0.5**
LFF	**La Frestale**	**8.95**	**345**	*ePn*	**Pn**	**11 19 45.1**	**-1.0**
LFF	**La Frestale**	**8.95**	**345**	*eP*	Pn	11 19 50.4	+4.3
LFF	**La Frestale**	**8.95**	**345**	*ePn*	**Pn**	**11 19 45.1**	**-1.0**
ELAN	**Lanestosa**	**8.96**	**323**	P	Pn	11 19 49.8	+3.7
	2.9nm,0.5s,SNR=11						
RJF	**Les Rejaudoux**	**9.16**	**349**	*ePn*	**Pn**	**11 19 47.6**	**-1.4**
RJF	**Les Rejaudoux**	**9.16**	**349**	*eP*	Pn	11 19 53.1	+4.1
RJF	**Les Rejaudoux**	**9.16**	**349**	*ePn*	**Pn**	**11 19 47.6**	**-1.4**
EARI	**Arriondas**	**9.93**	**317**	P	Pn	11 20 03.9	+4.3
	5.2nm,0.4s,SNR=25						
TCF	**Toulx Ste Croi**	**10.04**	**353**	*ePn*	**Pn**	**11 20 02.7**	**+1.7**
TCF	**Toulx Ste Croi**	**10.04**	**353**	*ePn*	**Pn**	**11 20 02.7**	**+1.7**
ECAL	**Calabor**	**10.04**	**307**	P	Pn	11 20 04.4	+3.2
	5.6nm,0.3s,SNR=18						
ECAL	**Calabor**	**10.04**	**307**	P	Pn	11 20 04.4	+3.2
	5.6nm,0.3s,SNR=18						
BGF	**Bois d'Agland**	**10.26**	**356**	*ePn*	**Pn**	**11 20 04.2**	**+0.2**
BGF	**Bois d'Agland**	**10.26**	**356**	*eP*	Pn	11 20 09.5	+5.5
BGF	**Bois d'Agland**	**10.26**	**356**	*ePn*	**Pn**	**11 20 04.2**	**+0.2**
CABF	**La Chapelle**	**10.39**	**8**	*ePn*	**Pn**	**11 20 06.5**	**+0.6**
CABF	**La Chapelle**	**10.39**	**8**	*ePn*	**Pn**	**11 20 06.5**	**+0.6**
MFF	**Saint Martin d**	**10.72**	**344**	*ePn*	**Pn**	**11 20 10.8**	**+0.5**
MFF	**Saint Martin d**	**10.72**	**344**	*ePn*	**Pn**	**11 20 10.8**	**+0.5**
EPON	**Pontenova**	**11.05**	**313**	P	Pn	11 20 17.8	+2.9
	2.5nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**11.05**	**313**	P	Pn	11 20 17.8	+2.9
	2.5nm,0.4s,SNR=7.9						
HAU	**Haudompre**	**11.80**	**8**	*ePn*	**Pn**	**11 20 25.2**	**+0.1**
HAU	**Haudompre**	**11.80**	**8**	*ePn*	**Pn**	**11 20 25.2**	**+0.1**
LDF	**La Druitiere**	**12.63**	**347**	*ePn*	**Pn**	**11 20 37.0**	**+0.6**
LDF	**La Druitiere**	**12.63**	**347**	*ePn*	**Pn**	**11 20 37.0**	**+0.6**
QUIF	**Quistinic**	**12.73**	**338**	*ePn*	**Pn**	**11 20 38.0**	**+0.2**
QUIF	**Quistinic**	**12.73**	**338**	P	**Pn**	**11 20 38.0**	**+0

JAGI	**Jajag, Banyuwa**	**13.62**	**116**	P		**Pn**	**11 21 30.6**	**-3.1**
	baz=14,SNR=12							
JAGI				S		Sn	11 23 56.8	-7.8
	baz=14,SNR=3.1							
CM31	**Chiang Mai Arr**	**21.07**	**352**	*e*P		**P**	**11 23 00.0**	**+0.9**
	2.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**21.07**	**352**	P		**P**	**11 22 57.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**21.07**	**352**	P		**P**	**11 22 57.5**	**-1.5**
	2.5nm,0.5s,baz=186,slow=8.4,SNR=27							
CHTO	**Chiang Mai**	**21.42**	**353**	*e*P		**P**	**11 23 02.2**	**-0.6**
	3.3nm,0.4s							
QIZ	**Qiongzhong**	**22.86**	**20**	P		**P**	**11 23 17.6**	**+0.5**
QIZ				S		**S**	**11 27 18.8**	**+3.4**
QIZ				pmax	pmax			
	comp=Z,27nm,2.2s							
SLVN	**Son La**	**23.83**	**5**	*e*P		**P**	**11 23 26.3**	**+0.2**
KMI	**Kunming**	**27.53**	**2**	P		**P**	**11 24 00.5**	**+1.0**
KMI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MEEK	**Meekatharra**	**28.87**	**148**	P		**P**	**11 24 12.6**	**+1.4**
	baz=29,SNR=3.4							
GYA	**Guiyang**	**29.23**	**9**	*e*P		**P**	**11 24 15.8**	**+1.4**
GYA				pP		**pP**	**11 24 47.4**	**+1.2**
GYA				sP		**sP**	**11 25 06.0**	**+2.5**
GYA				PP		**PnPn**	**11 25 17.3**	**+1.9**
GYA				PcP		**PcP**	**11 27 18.5**	**+0.5**
GYA				ScP		**ScP**	**11 30 44.3**	**-1.6**
GYA				ScS		**ScS**	**11 34 37.9**	**-2.7**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ENH	**Enshi**	**33.46**	**12**	*e*P		**P**	**11 24 50.0**	**-1.4**
	12nm,0.7s							
WRA	**Warramunga Arr**	**36.16**	**121**	P		**P**	**11 25 12.9**	**-1.9**
WRA	**Warramunga Arr**	**36.16**	**121**	P		**P**	**11 25 12.9**	**-1.9**
	0.8nm,1.0s,baz=308,slow=8.8,SNR=11							
WRAB	**Tennant Creek**	**36.16**	**121**	*e*P		**P**	**11 25 14.3**	**-0.5**
	51nm,1.9s							
XAN	**Xi'an**	**37.01**	**10**	P		**P**	**11 25 20.9**	**-0.9**
XAN				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AS31	**Alice Springs**	**37.47**	**127**	*e*P		**P**	**11 25 24.7**	**-1.2**
NJ2	**Nanjing**	**38.03**	**24**	*e*P		**P**	**11 25 31.3**	**+1.0**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NJ2				LR	LR			
	comp=Z,240nm,26.2s							
LZH	**Lanzhou**	**38.49**	**3**	*e*P		**P**	**11 25 36.5**	**+2.2**
LZH				pP		**pP**	**11 26 05.5**	**-1.5**
LZH				sP		**sP**	**11 26 22.3**	**-1.8**
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
GTA	**Gaotai**	**41.80**	**358**	*e*P		**P**	**11 26 01.6**	**+0.1**
GTA				pP		**pP**	**11 26 33.5**	**-1.2**
GTA				sP		**sP**	**11 26 49.5**	**-2.1**
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**44.11**	**11**	*e*P		P	11 26 23.3	+3.3
HHC				pP		pP	11 26 53.0	-0.5
HHC				S		**S**	**11 32 44.5**	**+3.0**
HHC				pmax	pmax			
	comp=Z,45nm,1.0s							
HHC				pmax	pmax			
	comp=Z,210nm,4.7s							
HTT	**Hallett**	**46.33**	**136**	P		**P**	**11 26 38.0**	**+0.4**
	baz=46,SNR=3.7							
STKA	**Stephens Creek**	**47.44**	**132**	LR		LR	11 49 08.0	
	comp=Z,56nm,20.2s,baz=24,slow=39							
WMQ	**Urumqi**	**47.88**	**346**	P		**P**	**11 26 50.8**	**+1.4**
WMQ				pP		**pP**	**11 27 22.8**	**-0.6**
WMQ				sP		**sP**	**11 27 38.8**	**-1.3**
WMQ				PP		**PP**	**11 28 43.9**	**+1.1**
WMQ				pmax	pmax			
	comp=Z,11nm,0.6s							
WMQ				LR		LR		
	comp=N,82nm,16.3s							
WMQ				LR		LR		
	comp=E,95nm,19.0s							
WMQ				LR		LR		
	comp=Z,87nm,23.0s							
KSH	**Kashi**	**48.13**	**333**	*e*P		**P**	**11 26 50.1**	**-1.4**
KSH				*e*PP		**PP**	**11 28 43.1**	**-2.2**
KSH				*e*PcS		**PcS**	**11 32 11.1**	**-1.7**
KSH				*e*S		**S**	**11 33 34.0**	**-5.0**
KSH				*e*SS		SS	11 37 01.4	-9.0
KSH				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KSH				pmax	pmax			
	comp=Z,90nm,4.2s							
KSH				LR		LR		
	comp=N,44nm,4.0s							
KSH				LR		LR		
	comp=E,59nm,6.2s							
KSH				LR		LR		
	comp=Z,44nm,3.8s							
SONM	**Songino Array**	**50.34**	**4**	P		**P**	**11 27 08.7**	**+0.5**
SONM	**Songino Array**	**50.34**	**4**	P		**P**	**11 27 08.7**	**+0.5**
	1.9nm,0.3s,baz=185,slow=9.8,SNR=33							
CN2	**Changchun**	**50.80**	**22**	*e*P		**P**	**11 27 14.5**	**+3.0**
TKM2	**Tokmak 2**	**51.07**	**335**	*e*P		**P**	**11 27 14.4**	**+0.5**
	11nm,0.9s							
AAK	**Ala-Archa**	**51.31**	**334**	*e*P		**P**	**11 27 16.1**	**+0.5**
	2.0nm,0.7s							
EKS2	**Erkin-Say**	**51.64**	**334**	*e*P		**P**	**11 27 18.7**	**+0.7**
	10nm,0.8s							
MK31	**Makanchi Array**	**52.07**	**343**	*e*P		**P**	**11 27 20.4**	**-0.6**
MKAR	**Makanchi Array**	**52.07**	**343**	*e*P		**P**	**11 27 20.6**	**-0.3**
MKAR	**Makanchi Array**	**52.07**	**343**	P		**P**	**11 27 20.5**	**-0.5**
	3.2nm,0.4s,baz=146,slow=8.3,SNR=62							
KKAR	**Karatay Array**	**53.48**	**332**	*e*P		**P**	**11 27 31.1**	**-0.3**
	1.1nm,0.4s							
USRK	**Ussuriysk Array**	**53.82**	**27**	P		**P**	**11 27 33.2**	**-0.6**
	2.7nm,0.7s,baz=229,slow=5.6,SNR=7.1							
OPO	**Ambohidratompo**	**55.75**	**249**	P		P	11 27 52.5	+4.1
OPO	**Ambohidratompo**	**55.75**	**249**	P		P	11 27 52.5	+4.1
	3.4nm,0.7s,baz=106,slow=3.7,SNR=4.0							
KURK	**Kurchatov**	**56.66**	**343**	*e*P		**P**	**11 27 53.3**	**-0.7**
	3.2nm,0.8s							
ZAA0	**Zalesovo Array**	**58.06**	**348**	*e*P		**P**	**11 28 02.7**	**-1.0**
ZALV	**Zalesovo Beam**	**58.06**	**348**	P		**P**	**11 28 02.9**	**-0.9**
ZALV	**Zalesovo Beam**	**58.06**	**348**	P		**P**	**11 28 02.9**	**-0.9**
	4.4nm,0.3s,baz=164,slow=6.9,SNR=36							
BVAR	**Borovoye Array**	**61.34**	**339**	P		**P**	**11 28 24.6**	**-1.6**
BVAR	**Borovoye Array**	**61.34**	**339**	P		**P**	**11 28 24.6**	**-1.6**
	2.2nm,0.6s,baz=134,slow=8.5,SNR=18							
BRVK	**Borovoye**	**61.40**	**339**	*e*P		**P**	**11 28 25.7**	**-0.9**
	1.7nm,0.4s							
ABKAR	**Akbulak array**	**63.00**	**331**	*e*P		**P**	**11 28 36.7**	**-0.6**
	7.9nm,0.7s							
AKTO	**Aktyubinsk**	**64.72**	**331**	P		**P**	**11 28 47.7**	**-0.9**
AKTO	**Aktyubinsk**	**64.72**	**331**	P		**P**	**11 28 47.7**	**-0.9**
	1.5nm,0.4s,baz=119,slow=4.2,SNR=14							
BOSA	**Boshof**	**76.97**	**241**	P		**P**	**11 30 05.6**	**+2.4**
BOSA	**Boshof**	**76.97**	**241**	P		**P**	**11 30 05.6**	**+2.4**
	1.1nm,0.6s,baz=215,slow=10,SNR=4.6							
FINES	**FINESS Array B**	**85.44**	**332**	P		**P**	**11 30 47.4**	**+0.4**
FINES	**FINESS Array B**	**85.44**	**332**	P		**P**	**11 30 47.4**	**+0.4**
	0.9nm,0.8s,baz=116,slow=19,SNR=4.5							
ARCES	**ARCESS Array B**	**87.61**	**340**	P		**P**	**11 30 57.5**	**0.0**
ARCES	**ARCESS Array B**	**87.61**	**340**	P		**P**	**11 30 57.5**	**0.0**
	2.0nm,0.8s,baz=91,slow=4.3,SNR=12							
TXAR	**Lajitas Array**	**144.01**	**40**	PKP		PKPbc	11 37 43.2	-0.2
TXAR	**Lajitas Array**	**144.01**	**40**	PKP		PKPbc	11 37 43.2	-0.2
	0.1nm,0.4s,baz=48,slow=1.9,SNR=4.0							
CPUP	**Villa Florida**	**144.91**	**214**	PKPbc		**PKPdf**	**11 37 47.8**	**+1.2**
CPUP	**Villa Florida**	**144.91**	**214**	PKPbc		**PKPdf**	**11 37 47.8**	**+1.2**
	1.1nm,0.5s,baz=92,slow=5.7,SNR=3.1							
BDFB	**Brasilia**	**145.10**	**238**	PKPbc		**PKPdf**	**11 37 49.5**	**+2.2**
BDFB	**Brasilia**	**145.10**	**238**	PKPbc		**PKPdf**	**11 37 49.5**	**+2.2**
	2.3nm,0.5s,baz=150,slow=7.9,SNR=5.4							

ISCJB ***17*** *11:44:34.1±0.2, 42.°63N±0.°02×13.°31E±0.°02, h12km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=146.0*
ROM ***17*** *11:44:34.3±0.1, 42.°64N×13.°32E, h8km±1km, Ml3.1/39, Error ellipse: s-maj=1.3km s-min=1.0km az=56.0*
CSEM ***17*** *11:44:34.2±0.1, 42.°62N×13.°27E, h2km, ML3.7/6, Error ellipse: s-maj=3.7km s-min=2.4km az=54.0*
LDG ***17*** *11:44:34.6±0.1, 42.°62N×13.°28E, h5km, Ml2.8/7, Error ellipse: s-maj=3.7km s-min=2.3km az=39.0*
PRU ***17*** *11:44:35.3, 42.°61N×13.°61E, h5km*
ISC 17 11:44:33.9±0.5**, 42.°62N**±0.°01×**13.°30E**±0.°02**, h12**km±3km**, n138,** σ1**$39**/164**, 7C, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**70**	⇑*i*	P*g*	**Pg**	**11 44 35.8**	**-0.5**
SMA1					S*g*	**Sg**	**11 44 36.6**	**-1.3**
	151μm,0.2s							
RM29	**Verrico (Monte**	**0.09**	**230**	⇑*i*	P*g*	**Pg**	**11 44 37.8**	**+1.0**
RM29					S*g*	**Sg**	**11 44 40.2**	**+1.2**
	7μm,0.8s							
TERO	**Teramo**	**0.22**	**89**		P*g*	**Pg**	**11 44 39.1**	**+0.4**
TERO					S*g*	**Sg**	**11 44 42.6**	**+0.6**
	14μm,0.4s							
TERO	**Teramo**	**0.22**	**89**		P*g*	**Pg**	**11 44 39.1**	**+0.4**
TERO					S*g*	**Sg**	**11 44 42.6**	**+0.6**
	14μm,0.4s							
NRCA	**Norcia**	**0.25**	**327**		P*g*	**Pg**	**11 44 39.7**	**+0.5**
NRCA					S*g*	**Sg**	**11 44 43.9**	**+1.0**
	5μm,0.2s							
NRCA	**Norcia**	**0.25**	**327**		P*g*	**Pg**	**11 44 39.7**	**+0.5**
T0104	**Madonna delle**	**0.26**	**174**		P*g*	**Pb**	**11 44 40.5**	**-0.1**
T0104					S*g*	**Sb**	**11 44 45.7**	**+0.7**
AQU	**L'Aquila**	**0.28**	**164**		P*g*	**Pg**	**11 44 40.6**	**+1.0**
AQU					S*g*	**Sb**	**11 44 46.6**	**+1.1**
	6μm,0.7s							
AQU	**L'Aquila**	**0.28**	**164**		P*g*	**Pg**	**11 44 40.6**	**+1.0**
AQU					S*g*	**Sb**	**11 44 46.6**	**+1.1**
	6μm,0.7s							
FIAM	**Fiamignano**	**0.38**	**201**		P*g*	**Pb**	**11 44 42.5**	**-0.1**
FIAM					S*g*	**Sb**	**11 44 49.0**	**+0.6**
	1μm,0.6s							
FIAM	**Fiamignano**	**0.38**	**201**		P*g*	**Pb**	**11 44 42.5**	**-0.1**
FIAM					S*g*	**Sb**	**11 44 49.0**	**+0.6**
	1μm,0.6s							
FAGN	**Fagnano**	**0.41**	**149**		P*g*	**Pg**	**11 44 42.6**	**+0.5**
	5μm,0.5s							
FAGN	**Fagnano**	**0.41**	**149**		P*g*	**Pg**	**11 44 42.6**	**+0.5**
	5μm,0.5s							
OFFI	**Offida**	**0.42**	**42**		P*g*	**Pb**	**11 44 43.4**	**+0.1**
	5μm,0.3s							
OFFI	**Offida**	**0.42**	**42**		P*g*	**Pb**	**11 44 43.4**	**+0.1**
	5μm,0.3s							
FDMO	**Fiordimonte**	**0.44**	**339**		P*g*	**Pg**	**11 44 42.9**	**+0.2**
FDMO					S*g*	**Sb**	**11 44 49.8**	**-0.5**
	1μm,0.2s							
FDMO	**Fiordimonte**	**0.44**	**339**		P*g*	**Pg**	**11 44 42.9**	**+0.2**
FDMO					S*g*	**Sb**	**11 44 49.8**	**-0.5**
	1μm,0.2s							
VCEL	**Villa Celiera**	**0.46**	**119**		P*g*	**Pb**	**11 44 44.1**	**+0.1**
VCEL					S*g*	**Sb**	**11 44 51.8**	**+1.0**
	3μm,0.5s							
VCEL	**Villa Celiera**	**0.46**	**119**		P*g*	**Pb**	**11 44 44.1**	**+0.1**
VCEL					S*g*	**Sb**	**11 44 51.8**	**+1.0**
	3μm,0.5s							
CESI	**CESI - Serrava**	**0.48**	**323**		P*g*	**Pg**	**11 44 43.8**	**+0.4**
CESI					S*g*	**Sb**	**11 44 51.3**	**-0.1**
	584nm,0.4s							
CESI	**CESI - Serrava**	**0.48**	**323**		P*g*	**Pg**	**11 44 43.8**	**+0.4**
CESI					S*g*	**Sb**	**11 44 51.3**	**-0.1**
	584nm,0.4s							
TRTR	**Tortoreto Alta**	**0.49**	**67**		P*g*	**Pb**	**11 44 45.1**	**+0.7**
TRTR	**Tortoreto Alta**	**0.49**	**67**		P*g*	**Pb**	**11 44 45.1**	**+0.7**
T0401	**Montottone (Fe**	**0.49**	**26**		P*g*	**Pb**	**11 44 44.7**	**+0.2**
MNS	**Montasola**	**0.52**	**243**		P*g*	**Pb**	**11 44 44.8**	**-0.1**
MNS					S*g*	**Sb**	**11 44 53.6**	**+1.3**
	993nm,0.3s							
MNS	**Montasola**	**0.52**	**243**		P*g*	**Pb**	**11 44 44.8**	**-0.1**
MNS					S*g*	**Sb**	**11 44 53.6**	**+1.3**
	993nm,0.3s							
CESX	**Cesi**	**0.53**	**269**		P*g*	**Pb**	**11 44 44.9**	**-0.3**
CESX					S*g*	**Sb**	**11 44 54.2**	**+1.4**
	1μm,0.4s							
CESX	**Cesi**	**0.53**	**269**		P*g*	**Pb**	**11 44 44.9**	**-0.3**
CESX					S*g*	**Sb**	**11 44 54.2**	**+1.4**
	1μm,0.4s							
PTQR	**Pietraquaria**	**0.60**	**173**		P*g*	**Pg**	**11 44 46.0**	**+0.3**
	129nm,0.5s							
PTQR	**Pietraquaria**	**0.60**	**173**		P*g*	**Pg**	**11 44 46.0**	**+0.3**
	129nm,0.5s							
T0402	**Abbadia di Fi**	**0.60**	**7**		P*g*	**Pg**	**11 44 46.2**	**+0.5**
T0402					S*g*	**Sb**	**11 44 56.2**	**+1.3**
	865nm,0.5s							
MTCE	**Montecelio**	**0.73**	**215**		P*g*	**Pb**	**11 44 48.5**	**0.0**
	939nm,1.0s							
MTCE	**Montecelio**	**0.73**	**215**		P*g*	**Pb**	**11 44 48.5**	**0.0**
	939nm,1.0s							
INTR	**Introdacqua**	**0.76**	**143**		P*g*	**Pg**	**11 44 48.6**	**+0.1**
	991nm,0.8s							
INTR	**Introdacqua**	**0.76**	**143**		P*g*	**Pg**	**11 44 48.6**	**+0.1**
	991nm,0.8s							
CING	**Cingoli**	**0.76**	**354**		P*g*	**Pg**	**11 44 48.6**	**0.0**
CING					S*g*	**Sb**	**11 45 00.5**	**+1.2**
CING	**Cingoli**	**0.76**	**354**		P*g*	**Pg**	**11 44 48.6**	**0.0**
CING					S*g*	**Sb**	**11 45 00.5**	**+1.2**
VVLD	**Villa Vallelon**	**0.79**	**162**		P*g*	**Pg**	**11 44 49.6**	**+0.5**
	540nm,0.9s							
VVLD	**Villa Vallelon**	**0.79**	**162**		P*g*	**Pg**	**11 44 49.6**	**+0.5**
	540nm,0.9s							
GUAR	**Guarcino**	**0.83**	**179**		P*g*	**Pn**	**11 44 51.5**	**+0.1**
	728nm,0.9s							
GUAR	**Guarcino**	**0.83**	**179**		P*g*	**Pn**	**11 44 51.5**	**+0.1**
	728nm,0.9s							
MURB	**Monte Urbino**	**0.86**	**319**		P*g*	**Pg**	**11 44 50.6**	**+0.1**
MURB	**Monte Urbino**	**0.86**	**319**		P*g*	**Pg**	**11 44 50.6**	**+0.1**
CAFR	**Castel Frentan**	**0.87**	**117**		P*g*	**Pg**	**11 44 50.5**	**-0.2**
	873nm,0.7s							
CAFR	**Castel Frentan**	**0.87**	**117**		P*g*	**Pg**	**11 44 50.5**	**-0.2**
	873nm,0.7s							
LPEL	**Lama dei Pelig**	**0.87**	**131**		P*g*	**Pg**	**11 44 50.2**	**-0.5**
LPEL					S*g*	**Sb**	**11 45 03.4**	**+0.8**
	479nm,0.6s							
LPEL	**Lama dei Pelig**	**0.87**	**131**		P*g*	**Pg**	**11 44 50.2**	**-0.5**
LPEL					S*g*	**Sb**	**11 45 03.4**	**+0.8**
	479nm,0.6s							
ARVD	**Arcevia**	**0.92**	**343**		P*g*	**Pg**	**11 44 51.4**	**-0.2**
	293nm,0.6s							
ARVD	**Arcevia**	**0.92**	**343**		P*g*	**Pg**	**11 44 51.4**	**-0.2**
	293nm,0.6s							
MGAB	**Montegabbione**	**0.92**	**289**		P*g*	**Pb**	**11 44 52.0**	**+0.2**
	2μm,0.6s							
MGAB	**Montegabbione**	**0.92**	**289**		P*g*	**Pb**	**11 44 52.0**	**+0.2**
	2μm,0.6s							
AOI	**Ancona**	**0.95**	**13**		P*g*	**Pb**	**11 44 52.5**	**+0.1**
	415nm,0.5s							
AOI	**Ancona**	**0.95**	**13**		P*g*	**Pb**	**11 44 52.5**	**+0.1**
	415nm,0.5s							
POFI	**Posta Fibreno**	**0.95**	**161**		P*g*	**Pb**	**11 44 52.2**	**-0.2**
	507nm,0.9s							
POFI	**Posta Fibreno**	**0.95**	**161**		P*g*	**Pb**	**11 44 52.2**	**-0.2**
	507nm,0.9s							
SDI	**San Donato**	**0.99**	**157**		P*g*	**Pb**	**11 44 52.5**	**-0.4**
	273nm,0.6s							
SDI	**San Donato**	**0.99**	**157**		P*g*	**Pb**	**11 44 52.5**	**-0.4**
	273nm,0.6s							
SACS	**San Casciano d**	**1.05**	**283**		P*g*	**Pn**	**11 44 54.8**	**+0.3**
	474nm,0.8s							
GIUL	**Giuliano Di Ro**	**1.06**	**182**		P*g*	**Pn**	**11 44 55.1**	**+0.5**
	466nm,1.1s							
GIUL	**Giuliano Di Ro**	**1.06**	**182**		P*g*	**Pn**	**11 44 55.1**	**+0.5**
	466nm,1.1s							
PIEI	**Pieia**	**1.07**	**329**		P*g*	**Pb**	**11 44 54.1**	**-0.3**
	228nm,0.6s							
PIEI	**Pieia**	**1.07**	**329**		P*g*	**Pb**	**11 44 54.1**	**-0.3**
	228nm,0.6s							
SENI	**Senigallia**	**1.08**	**357**		P*g*	**Pg**	**11 44 56.0**	**+1.2**
	263nm,0.7s							
SENI	**Senigallia**	**1.08**	**357**		P*g*	**Pg**	**11 44 56.0**	**+1.2**
	263nm,0.7s							
RNI2	**Rionero Sannit**	**1.11**	**145**		P*g*	**Pb**	**11 44 55.2**	**+0.1**
RNI2	**Rionero Sannit**	**1.11**	**145**		P*g*	**Pb**	**11 44 55.2**	**+0.1**
FSSB	**Fossombrone**	**1.14**	**341**		P*g*	**Pb**	**11 44 55.7**	**+0.2**
	695nm,0.3s							
FSSB	**Fossombrone**	**1.14**	**341**		P*g*	**Pb**	**11 44 55.7**	**+0.2**
	695nm,0.3s							
CERA	**Filignano**	**1.15**	**152**		P*g*	**Pb**	**11 44 55.0**	**-0.8**
	628nm,1.2s							
CERA	**Filignano**	**1.15**	**152**		P*g*	**Pb**	**11 44 55.0**	**-0.8**
	628nm,1.2s							
BADI	**Badiali**	**1.18**	**319**		P*g*	**Pg**	**11 44 56.8**	**+0.2**
	424nm,0.7s							
BADI	**Badiali**	**1.18**	**319**		P*g*	**Pg**	**11 44 56.8**	**+0.2**
	424nm,0.7s							
CAFI	**Castiglion Fio**	**1.21**	**306**		P*g*	**Pg**	**11 44 57.3**	**+0.2**
CAFI	**Castiglion Fio**	**1.21**	**306**		P*g*	**Pg**	**11 44 57.3**	**+0.2**
MIDA	**Miranda**	**1.21**	**144**		P*g*	**Pn**	**11 44 56.0**	**-0.7**
	183nm,0.6s							
MIDA	**Miranda**	**1.21**	**144**		P*g*	**Pn**	**11 44 56.0**	**-0.7**
	183nm,0.6s							

PARC	**Parchiule**	**1.29**	**323**		P*g*	**Pb**	**11 44 58.2**	**+0.1**
	339nm,0.7s							
PARC	**Parchiule**	**1.29**	**323**		P*g*	**Pb**	**11 44 58.2**	**+0.1**
	339nm,0.7s							
PESA	**Pesaro**	**1.36**	**346**		P*g*	**Pg**	**11 45 00.3**	**+0.2**
	391nm,0.5s							
PESA	**Pesaro**	**1.36**	**346**		P*g*	**Pg**	**11 45 00.3**	**+0.2**
	391nm,0.5s							
ARCI	**Arcidosso**	**1.36**	**280**		P*g*	**Pg**	**11 45 00.5**	**+0.4**
	87nm,0.9s							
ARCI	**Arcidosso**	**1.36**	**280**		P*g*	**Pg**	**11 45 00.5**	**+0.4**
	87nm,0.9s							
CRE	**Caprese Michel**	**1.41**	**316**		P*g*	**Pb**	**11 45 00.7**	**+0.6**
	67nm,0.5s							
CRE	**Caprese Michel**	**1.41**	**316**		P*g*	**Pb**	**11 45 00.7**	**+0.6**
	67nm,0.5s							
ASQU	**Asqua**	**1.61**	**317**		P*g*	**Pb**	**11 45 03.2**	**-0.4**
	128nm,0.7s							
ASQU	**Asqua**	**1.61**	**317**		P*g*	**Pb**	**11 45 03.2**	**-0.4**
	128nm,0.7s							
MELA	**Melanico ??? S**	**1.64**	**123**		P*g*	**Pb**	**11 45 04.8**	**+0.8**
	268nm,0.8s							
SFI	**Santa Sofia**	**1.67**	**321**		P*g*	**Pb**	**11 45 03.9**	**-0.6**
	216nm,1.1s							
SFI	**Santa Sofia**	**1.67**	**321**		P*g*	**Pb**	**11 45 03.9**	**-0.6**
	216nm,1.1s							
CSNT	**Castellina Chi**	**1.70**	**301**		P*g*	**Pb**	**11 45 05.2**	**+0.1**
	140nm,1.2s							
CSNT	**Castellina Chi**	**1.70**	**301**		P*g*	**Pb**	**11 45 05.2**	**+0.1**
	140nm,1.2s							
GRFL	**Gerfalco**	**1.79**	**288**		P*g*	**Pb**	**11 45 06.4**	**-0.2**
	22nm,0.6s							
GRFL	**Gerfalco**	**1.79**	**288**		P*g*	**Pb**	**11 45 06.4**	**-0.2**
	22nm,0.6s							
NVLJ	**Novalja**	**2.25**	**30**	*i*	P*n*	**Pn**	**11 45 11.9**	**+1.0**
NVLJ					S*n*	**Sb**	**11 45 40.9**	**-1.4**
NVLJ	**Novalja**	**2.25**	**30**	*i*	P*n*	**Pn**	**11 45 11.9**	**+1.0**
NVLJ					S*n*	**Sb**	**11 45 40.8**	**-1.4**
MAIM	**Mastiano**	**2.42**	**303**	P		**Pn**	**11 45 14.2**	**+0.9**
SKDS	**Skadanscina**	**2.97**	**10**	*i*	P*n*	**Pn**	**11 45 21.7**	**+0.9**
SKDS	**Skadanscina**	**2.97**	**10**	*i*	P*n*	**Pn**	**11 45 21.7**	**+0.9**
PGF	**Pioggiola**	**3.18**	**270**	*e*P		**Pn**	**11 45 26.3**	**+2.6**
PGF				*e*S	*n*	**Sn**	**11 45 59.3**	**-2.3**
	3.6nm,0.4s							
PGF	**Pioggiola**	**3.18**	**270**	*e*P		**Pn**	**11 45 26.3**	**+2.6**
PGF				*e*S	*n*	**Sn**	**11 45 59.3**	**-2.3**
	1.8nm,0.4s							
BOJS	**Bojanci**	**3.21**	**25**	*i*	P*n*	**Pn**	**11 45 26.2**	**+2.2**
BOJS	**Bojanci**	**3.21**	**25**	*i*	P*n*	**Pn**	**11 45 26.2**	**+2.2**
STON	**Ston**	**3.25**	**84**	*i*	P*n*	**Pn**	**11 45 26.3**	**+1.7**
STON					S*n*	**Sn**	**11 46 04.3**	**+1.1**
STON	**Ston**	**3.25**	**84**	*i*	P*n*	**Pn**	**11 45 26.3**	**+1.7**
STON					S*n*	**Sn**	**11 46 04.3**	**+1.1**
SC2M	**Scurtabo**	**3.27**	**304**	P		**Pn**	**11 45 26.6**	**+1.7**
BUA	**Buia**	**3.60**	**358**	⇑*i*	P*g*	**Pn**	**11 45 30.8**	**+1.4**
BUA				*i*	S*g*	Pb	11 45 33.3	-4.1
BUA	**Buia**	**3.60**	**358**	*i*	P*g*	**Pn**	**11 45 30.8**	**+1.4**
ABTA	**Abfaltersbach**	**4.16**	**353**	*i*	P*n*	**Pn**	**11 45 39.2**	**+1.9**
	SNR=35							
ABTA	**Abfaltersbach**	**4.16**	**353**		P*n*	**Pn**	**11 45 39.2**	**+1.9**
	SNR=35							
SBF	**Sospel**	**4.46**	**288**	*e*	P*n*	**Pn**	**11 45 41.7**	**+0.3**
SBF	**Sospel**	**4.46**	**288**	*e*	P*n*	**Pn**	**11 45 41.7**	**+0.3**
BBLS	**Lazići**	**4.63**	**72**	*e*	P*n*	Pn	11 45 46.8	+3.1
WTTA	**Wattenberg**	**4.79**	**346**	⇑*i*	P*n*	Pn	11 45 48.1	+3.1
WTTA	**Wattenberg**	**4.79**	**346**		P*n*	Pn	11 45 49.1	+3.1
WATA	**Walderalm**	**4.87**	**346**	⇑*i*	P*n*	Pn	11 45 50.4	+3.3
	SNR=14							
WATA	**Walderalm**	**4.87**	**346**		P*n*	Pn	11 45 50.4	+3.3
	SNR=14							
MOTA	**Moosalm**	**4.97**	**343**	⇑*i*	P*n*	Pn	11 45 51.8	+3.3
	SNR=6.1

	baz=319								
CHKT	**Chengkung**	**0.79**	**24**	*e*P		Pg	11 53 27.2	-0.8	
	baz=8.0								
ELDTW	**Lidau**	**0.81**	**360**	*e*P		Pg	11 53 27.6	-1.1	
	baz=13								
SGST	**Jiashian**	**0.81**	**330**⇑	*i*P		Pb	11 53 29.5	+0.5	
	baz=337								
STYT	**Tauyuan**	**0.82**	**343**	*e*P		Pg	11 53 28.8	-0.1	
	baz=344								
CHN3	**Shinhua**	**0.93**	**319**	*e*P		Pn	11 53 33.5	+1.7	
	baz=335								
CHN3				*e*S		Sn	11 53 49.2	+4.1	
	baz=335								
CHN1	**Nanshi**	**0.93**	**331**	⇓P		Pn	11 53 32.5	+0.6	
	baz=333								
CHN1				*e*S		Sn	11 53 47.0	+1.7	
	baz=333								
WTP	**Ta-pu**	**0.95**	**337**	⇓*i*P		Pn	11 53 32.3	+0.1	
	baz=341								
WTP				*e*S		Sn	11 53 47.4	+1.6	
	baz=341								
TWF1	**Yuli**	**1.01**	**14**	*e*P		Pg	11 53 30.8	-1.5	
	baz=15								
TWK	**Hsinying**	**1.02**	**331**	⇓P		Pn	11 53 33.7	+0.6	
	baz=333								
TWK				*e*S		Sn	11 53 49.7	+2.2	
	baz=333								
YUS	**Yu-Shan**	**1.11**	**357**	*e*P		Pb	11 53 33.5	-1.3	
	baz=7.0								
ALS	**Alishan**	**1.15**	**350**	*e*P		Pb	11 53 34.7	-0.4	
	baz=2.0								
CHY	**Chiayi**	**1.25**	**334**	*e*P		Pg	11 53 37.9	+1.0	
	baz=336								
CHN5	**Tsauling**	**1.26**	**345**⇑	*e*P		Pg	11 53 37.9	+0.7	
	baz=1.0								
CHN5				*e*S		Sg	11 53 57.4	+3.7	
	baz=1.0								
CHN2	**Minshiung**	**1.26**	**336**	*e*P		Pg	11 53 37.1	+0.1	
	baz=338								
WGK	**Gukeng**	**1.37**	**342**	*e*P		Pg	11 53 39.1	-0.1	
	baz=345								
WSF	**Szhu**	**1.46**	**330**	*e*P		Pn	11 53 39.4	+0.3	
	baz=333								
ESL	**Shilin**	**1.48**	**15**	*e*P		Pn	11 53 39.8	+0.3	
	baz=16								
SMLT	**Sun Moon Lake**	**1.51**	**356**	*e*P		Pb	11 53 41.1	+0.1	
	baz=8.0								
SMLT				*e*S		Sg	11 54 03.4	+1.8	
	baz=8.0								
WNT	**Mingjian**	**1.53**	**348**	*e*P		Pg	11 53 41.9	-0.4	
	baz=351								
TYC	**Yuchr**	**1.53**	**354**	*e*P		Pb	11 53 41.4	+0.2	
	baz=15								
TYC				*e*S		Sg	11 54 05.6	+3.5	
	baz=15								
WHF	**Hehuan Shan**	**1.78**	**7**	*e*P		Pb	11 53 45.2	-0.8	
	baz=22								
TWT	**Tachien**	**1.88**	**4**	*e*P		Pn	11 53 45.7	+0.6	
	baz=13								
TWQ1	**Liyutan**	**1.98**	**353**	*e*P		Pb	11 53 47.6	-1.2	
	baz=356								
NSY	**Sanyi**	**2.05**	**353**	*e*P		Pb	11 53 49.7	-0.3	
	baz=356								
NNS	**Nan Shan**	**2.08**	**9**	*e*P		Pb	11 53 51.0	+0.2	
	baz=25								
NSTT	**Nanjuang**	**2.25**	**359**	*e*P		Pn	11 53 53.2	-0.2	
	baz=1.0								
ENTT	**Nioudou**	**2.31**	**12**	*e*P		Pn	11 53 52.4	+1.5	
	baz=25								
NSK	**Sanguang**	**2.31**	**8**	*e*P		Pn	11 53 52.3	+1.3	
	baz=25								

IDC 17 11:59:12.6±30.0, 17°.54S×178°.51W, h497km±266km, mb2.6/2, mb1 3.0/2, mb1mx2.6/34, mbtmp3.5/2, Error ellipse: s-maj=444.7km s-min=77.7km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.60**	**259**	P	P	12 06 40.1	-0.2
	0.3nm,0.5s,baz=95,slow=6.8,SNR=11						
ILAR	**Eielson Array**	**85.55**	**13**	P	P	12 10 57.0	-0.2
	0.4nm,1.0s,baz=224,slow=6.3,SNR=4.5						
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	PKPbc	12 17 59.2	-0.5
	0.4nm,0.5s,baz=33,slow=3.8,SNR=4.4						

*BJI **17** 12:00:00.5, 57°.70S×65°.90W, h9km, mB6.1/54, Ms6.1/61, Ms7 6.0/60*

*IDC **17** 12:00:00.5±0.3, 57°.67S×65°.71W, h0km, mb5.4/18, mb1 5.5/21, mb1mx5.3/26, mbtmp5.4/21, ML5.4/3, MS5.8/21, Ms1 5.8/21, ms1mx5.7/23, Error ellipse: s-maj=16.7km s-min=10.6km az=85.0*

*ISCJB **17** 12:00:00.4±0.1, 57°.68S±0°.03×65°.90W±0°.07, h10km, mb5.9/127, MS6.0/213, Error ellipse: s-maj=5.9km s-min=3.6km az=158.3*

*GCMT **17** 12:00:01.1±0.1, 57°.94S×66°.16W, h19km, MW6.2/123, Moment Tension Solution. s123,c281; s121,c459; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.74±.02; $M_{\theta\theta}$1.29±.02; $M_{\phi\phi}$-2.03±.02; $M_{r\theta}$0.73±.04; $M_{\theta\phi}$2.08±.01; $M_{r\phi}$0.62±.04; Best double couple: M_o2.88700×10^{18} NP1:ϕ_s16.00000°,δ75.00000°, λ159.00000°. NP2:ϕ_s112.00000°,δ70.00000°,λ16.00000°. Principal axes: T 2.7270, Plg25.0000°, Azm333.0000°; N 0.3230, Plg65.0000°, Azm163.0000°; P -3.0480, Plg4.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **17** 12:00:01.1±0.1, 57°.66S×65°.88W, h5km, mb6.0/105, MS6.0/157, MW6.2, MW6.3 Error ellipse: s-maj=6.2km s-min=3.8km az=84.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{18}Nm; M_{rr}0.89; $M_{\theta\theta}$1.20; $M_{\phi\phi}$-2.09; $M_{r\theta}$0.68; $M_{\theta\phi}$1.58; $M_{r\phi}$1.22; Best double couple: M_o2.80000×10^{18} NP1:ϕ_s117.00000°,δ55.00000°, λ17.00000°. NP2:ϕ_s17.00000°,δ76.00000°,λ144.00000°. Principal axes: T 2.5900, Plg34.0000°, Azm331.0000°; N 0.3500, Plg51.0000°, Azm179.0000°; P -2.9400, Plg13.0000°, Azm71.0000°;*

NEIC Felt [II] at Punta Arenas, Chile.

*MOS **17** 12:00:01.1±0.9, 57°.70S×66°.05W, h10km, mb5.9/57, MS5.9/46 Error ellipse: s-maj=21.4km s-min=8.4km az=89.2*

*NEIC **17** 12:00:19.0±0.0, 58°.13S×64°.54W, h10km, Moment Tensor Solution. s89 Moment tensor: Scale 10^{18}Nm; M_{rr}0.62; $M_{\theta\theta}$1.22; $M_{\phi\phi}$-1.84; $M_{r\theta}$1.81; $M_{\theta\phi}$1.95; $M_{r\phi}$1.91; Best double couple: M_o3.60000×10^{18} NP1:ϕ_s117.00000°, δ49.00000°,λ15.00000°. NP2:ϕ_s17.00000°,δ79.00000°, λ138.00000°. Principal axes: T 4.0200, Plg36.0000°, Azm328.0000°; N -0.9000, Plg46.0000°, Azm185.0000°; P -3.1200, Plg19.0000°, Azm73.0000°;*

ISC 17 12:00:01.6±0.2, 57°.69S±0°.03×66°.04W±0°.05, h10km, n1343, σ1°29/1137, mb6.0/119, MS6.0/214, 200C-187D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**3.16**	**334**	Pn	**Pn**	**12 00 50.7**	**-0.7**
USHA				Sn	**Sn**	**12 01 29.0**	**-0.1**
USHA	**Ushuaia**	**3.16**	**334**	Pn	**Pn**	**12 00 50.7**	**-0.7**
	334nm,0.3s,baz=136,slow=12,SNR=677						
USHA				LR	LR	12 01 21.2	
	comp=Z,87μm,19.8s,baz=173,slow=25						
USHA				Sn	**Sn**	**12 01 29.0**	**-0.1**
	956nm,0.3s,baz=274,slow=19,SNR=5.1						
PMSA	**Palmer Station**	**7.17**	**173**	*e*Pn	**Pn**	**12 01 46.5**	**+0.1**
PMSA				Sn	**Sn**	**12 03 03.2**	**-4.5**
PMSA	**Palmer Station**	**7.17**	**173**	Pn	**Pn**	**12 01 46.2**	**-0.1**
	7.7nm,0.3s,baz=348,slow=13,SNR=37						
PMSA				Sn	**Sn**	**12 03 03.2**	**-4.5**
	9.7nm,0.3s,baz=203,slow=18,SNR=3.1						
PMSA				LR	LR	12 03 48.4	
	comp=Z,155μm,19.5s,baz=334,slow=32						
CHRN	**Cochrane**	**11.32**	**336**	*e*P	**Pn**	**12 02 42.6**	**-0.7**
COYC	**Coyhaique**	**12.70**	**340**	*e*P	**Pn**	**12 03 02.4**	**+0.4**
HOCH	**HornopirOn**	**16.32**	**343**⇑	*i*P	**P**	**12 03 53.0**	**-0.5**
PLCA	**Paso Flores** 5μm,2.3s	**17.22**	**348**	*e*P	**P**	**12 04 03.5**	**-0.2**
PLCA	**Paso Flores**	**17.22**	**348**	P	**P**	**12 04 04.0**	**+0.3**
	3.0nm,0.3s,baz=173,slow=13,SNR=114						
PLCA				LR	LR	12 10 51.4	
	comp=Z,56μm,21.0s,baz=178,slow=38						
LPA	**La Plata**	**23.43**	**17***c*	*i*P	**P**	**12 05 12.0**	**+1.3**
LPA				PP	**PnPn**	**12 05 34.0**	**-2.9**
LPA				PPP	PPP	12 05 45.0	
LPA				S	**S**	**12 09 26.0**	**+2.2**
LPA				S(2)		12 09 43.0	
LPA							
	comp=Z,36μm,22.0s						
CACH	**El Canelo**	**23.78**	**351**⇑	*i*P	**P**	**12 05 14.2**	**-0.1**
CHCH	**Chadas Angostu**	**23.97**	**351**⇓	*i*P	**P**	**12 05 15.6**	**-0.4**
LNV	**Longovilo**	**24.02**	**349**⇑	*i*P	**P**	**12 05 15.5**	**-0.8**
CLCH	**Cerro Calan**	**24.49**	**351**⇑	*i*P	**P**	**12 05 20.7**	**-0.1**
FCH	**Farellones**	**24.54**	**351**⇑	*i*P	**P**	**12 05 17.0**	**-4.6**
PEL	**Peldehue**	**24.75**	**351**⇓	*i*P	**P**	**12 05 23.1**	**-0.1**
CFAA	**Coronel Fontan**	**26.13**	**356**	P	**P**	**12 05 34.5**	**-1.1**
CFAA	**Coronel Fontan**	**26.13**	**356**	P	**P**	**12 05 34.5**	**-1.1**
	comp=Z,5.3nm,0.7s,baz=179,slow=8.6,SNR=48						
CFAA				LR	LR	12 15 60.0	
	comp=Z,4μm,18.5s,baz=256,slow=37						
VNA1	**Neumayer--Stat**	**27.03**	**142**	P	**P**	**12 05 45.0**	**+1.7**
VNA2	**Neumayer--Watz**	**27.31**	**142**	P	**P**	**12 05 47.4**	**+1.5**
VNA2	**Neumayer--Watz**	**27.31**	**142**	S	**S**	**12 10 23.5**	**-1.5**
SNAA	**Sanae**	**28.74**	**144**	P	**P**	**12 05 58.8**	**+0.1**
SNAA	**Sanae**	**28.74**	**144**	S	**S**	**12 10 46.8**	**-0.7**
SNAA	**Sanae**	**28.74**	**144**	⇓*i*P	**P**	**12 06 00.1**	**+1.4**
SNAA	**Sanae**	**28.74**	**144**	*e*P	**P**	**12 05 58.8**	**+0.1**
	comp=Z,2μm,1.8s						
SNAA	**Sanae**	**28.74**	**144**	P	**P**	**12 05 58.7**	**+0.1**
	comp=Z,64nm,1.1s,baz=272,slow=7.5,SNR=56						
SNAA				LR	LR	12 15 23.8	
	comp=Z,9μm,21.4s,baz=280,slow=32						
LCO	**Las Campanas**	**28.86**	**352**	*e*P	**P**	**12 05 59.9**	**-0.5**
	comp=Z,344nm,1.4s						
LCO				LR	LR		
	comp=Z,52μm,20.0s						
CPUP	**Villa Florida**	**31.95**	**15**	*e*P	**P**	**12 06 26.6**	**-0.7**
	comp=Z,2.3nm,0.6s						
CPUP	**Villa Florida**	**31.95**	**15**	P	**P**	**12 06 26.9**	**-0.4**
	comp=Z,22nm,0.7s,baz=181,slow=7.6,SNR=35						
CPUP				LR	LR	12 19 58.6	
	comp=Z,34μm,18.6s,baz=174,slow=38						
QSPA	**South Pole Qui**	**32.54**	**180**	*e*P	**P**	**12 06 32.3**	**-0.1**
	comp=Z,2μm,1.6s						
QSPA				LR	LR		
	comp=Z,15μm,22.0s						
QSPA	**South Pole Qui**	**32.54**	**180**	P	**P**	**12 06 32.4**	**-0.1**
	comp=Z,154nm,1.0s,baz=152,slow=4.1,SNR=178						
LVC	**Limon Verde**	**35.10**	**355**	*e*P	**P**	**12 06 54.9**	**-0.3**
	comp=Z,2μm,2.4s						
LVC				LR	LR		
	comp=Z,59μm,19.0s						
TRIS	**Tristan da Cun**	**40.49**	**83**	*e*P	**P**	**12 07 41.5**	**+1.2**
	comp=Z,218nm,1.1s						
TRIS				LR	LR		
	comp=Z,10μm,22.0s						
SBA	**Scott Base**	**40.92**	**195**	*e*P	**P**	**12 07 45.8**	**+2.4**
SBA				pmax	pmax		
	comp=Z,532nm,1.8s						
SBA				MLR	MLR		
	comp=Z,5μm,19.0s						
SBA	**Scott Base**	**40.92**	**195**	*e*P	**P**	**12 07 45.8**	**+2.4**
	comp=Z,532nm,1.8s						
SBA				LR	LR		
	comp=Z,5μm,19.0s						
ARE	**Arequipa**	**41.36**	**352**⇑	*i*P	P	12 07 58.5	+11
ARE				*i*		12 09 25.4	
ARE	**Arequipa**	**41.36**	**352**⇑	*i*P	P	12 07 58.5	+11
ARE				*i*		12 09 25.4	
LPAZ	**La Paz**	**41.36**	**357**	*e*P	**P**	**12 07 48.8**	**+0.5**
	comp=Z,233nm,1.1s						
LPAZ				PcP	**PcP**	**12 09 48.0**	**+1.5**
LPAZ	**La Paz**	**41.36**	**357**	P	**P**	**12 07 48.8**	**+0.5**
	comp=Z,102nm,1.1s,baz=152,slow=6.9,SNR=127						
LPAZ				PcP	**PcP**	**12 09 48.0**	**+1.5**
	comp=Z,35nm,1.0s,baz=102,slow=6.9,SNR=4.8						
LPAZ				LR	LR	12 27 23.2	
	comp=Z,31μm,19.0s,baz=163,slow=40						
VNDA	**Vanda**	**41.84**	**194**	*e*P	**P**	**12 07 53.0**	**+2.1**
	comp=Z,457nm,2.3s						
VNDA	**Vanda**	**41.84**	**194**	P	**P**	**12 07 53.1**	**+2.2**
	comp=Z,11nm,1.2s,baz=144,slow=8.0,SNR=12						
VNDA				LR	LR	12 23 10.4	
	comp=Z,12μm,19.4s,baz=150,slow=33						
SYO	**Syowa Base**	**42.71**	**149**⇓	*e*P	P	12 07 54.8	-3.3
SYO	**Syowa Base**	**42.71**	**149**⇓	*e*pP	**P**	**12 07 55.6**	**-2.5**
BDFB	**Brasilia**	**44.11**	**25**	P	**P**	**12 08 10.2**	**+0.2**
BDFB	**Brasilia**	**44.11**	**25**	P	**P**	**12 08 10.2**	**+0.2**
	comp=Z,67nm,0.8s,baz=192,slow=6.9,SNR=57						
BDFB				LR	LR	12 26 44.4	
	comp=Z,14μm,19.2s,baz=188,slow=36						
NNA	**Nana**	**46.35**	**345**	P	**P**	**12 08 27.0**	**-0.8**
	comp=Z,501nm,2.0s,SNR=9.5						
NNA	**Nana**	**46.35**	**345**	*e*P	**P**	**12 08 27.7**	**-0.1**
	comp=Z,1μm,2.3s						
SAML	**Samuel**	**48.68**	**4**	*e*P	**P**	**12 08 45.6**	**-0.2**
	comp=Z,330nm,2.3s						
SAML				LR	LR		
	comp=Z,46μm,19.0s						
MAW	**Mawson**	**49.46**	**157**	*e*P	**P**	**12 08 51.7**	**+0.5**
	comp=Z,173nm,1.7s						
MAW	**Mawson**	**49.46**	**157**	P	**P**	**12 08 51.4**	**+0.2**
	comp=Z,90nm,1.1s,baz=221,slow=10,SNR=17						
MAW				LR	LR	12 29 11.7	
	comp=Z,33μm,19.6s,baz=212,slow=35						
ATAH	**Atahualpa**	**51.34**	**344**	LR	LR	12 28 16.8	
	comp=Z,22μm,18.1s,baz=171,slow=33						
MIR	**Mirnyy**	**55.08**	**170**⇓	*i*P	**P**	**12 09 32.0**	**-0.9**
MIR				*i*		12 09 32.0	
MIR				*e*		12 11 39.0	
MIR				*e*PPP	PPP	12 12 54.0	
MIR				*e*S	S	12 17 22.0	+7.1
MIR				*e*		12 19 26.0	
MIR				pmax	pmax		
	comp=Z,3μm,5.0s						
MIR				pmax	pmax		
	comp=Z,546nm,2.0s						
MIR				MLR	MLR		
	comp=N,47μm,20.0s						
MIR				MLR	MLR		
	comp=E,15μm,20.0s						
MIR				MLR	MLR		
	comp=Z,56μm,20.0s						
PTCN	**Pitcairn Islan**	**55.35**	**278**	PFAKE		12 09 50.0	+15
PTCN				LR	LR		
	comp=Z,12μm,19.0s						
CASY	**Casey**	**56.32**	**178**	*e*P	**P**	**12 09 42.0**	**+0.2**
	comp=Z,1μm,2.2s						
CASY				LR	LR		
	comp=Z,20μm,19.0s						
RCBR	**Riachuelo**	**56.83**	**37**	*e*P	**P**	**12 09 47.0**	**+0.9**
	comp=Z,108nm,2.1s						
RCBR				LR	LR		
	comp=Z,17μm,20.0s						
PTGA	**Pitinga**	**57.00**	**7**	*e*P	**P**	**12 09 46.8**	**-0.5**
	comp=Z,205nm,2.3s						
PTGA	**Pitinga**	**57.00**	**7**	LR	LR	12 36 07.5	
	comp=Z,24μm,19.4s,baz=182,slow=38						
OTAV	**Otavalo**	**58.60**	**345**	*e*P	**P**	**12 10 00.3**	**+1.2**
	comp=Z,4μm,2.9s						
OTAV				LR	LR		
	comp=Z,11μm,20.0s						
ELIM	**Elim**	**59.38**	**107**⇓	*i*P	**P**	**12 10 03.2**	**-0.6**
ELIM				AMB	AMB	12 10 14.9	
	comp=Z,338nm,1.3s						
RKT	**Rikitea**	**59.53**	**275**	*e*P	**P**	**12 10 04.6**	**-0.3**
	comp=Z,166nm,1.4s						
RKT				*e*S	**S**	**12 18 13.3**	**-1.2**
	comp=Z,20μm,27.2s						
RKT				*e*LQ	LQ	12 25 12.3	
	comp=Z,27μm,33.2s						
RKT				*e*LR	LR	12 27 40.0	
	comp=Z,15μm,30.8s,baz=142						
RKT	**Rikitea**	**59.53**	**275**	*e*T	T	13 14 11.0	
	comp=Z,5.8nm,0.2s						
PAYG	**Puerto Ayora**	**60.03**	**332**	*e*P	**P**	**12 10 09.4**	**+1.0**
	comp=Z,113nm,1.0s						
PAYG				LR	LR		
	comp=Z,24μm,21.0s						
SUR	**Sutherland**	**61.67**	**106**	P	**P**	**12 10 20.0**	**+0.3**
	comp=Z,544nm,1.7s,SNR=7.7						
SUR	**Sutherland**	**61.67**	**106**	*e*P	**P**	**12 10 19.9**	**+0.2**
	comp=Z,301nm,1.6s						
SUR				LR	LR		
	comp=Z,8μm,21.0s						
MCQ	**Macquarie Isla**	**62.38**	**208**	*e*P	**P**	**12 10 25.0**	**+1.2**
MCQ				pmax	pmax		
	comp=Z,10μm,1.8s						
MCQ	**Macquarie Isla**	**62.38**	**208**	*e*P	**P**	**12 10 25.0**	**+1.2**
	comp=Z,53μm,1.8s						
H10S3	**ASCENSION HYDR**	**62.51**	**60**	T	T	13 18 44.1	
	baz=206,slow=0.7,SNR=88						
H10S2	**ASCENSION HYDR**	**62.51**	**60**	T	T	13 18 42.6	
	baz=206,slow=0.7,SNR=81						
H10S1	**ASCENSION HYDR**	**62.53**	**60**	T	T	13 18 49.7	
	baz=206,slow=0.7,SNR=96						
ROSC	**El Rosal**	**62.70**	**351**	*e*P	**P**	**12 10 28.2**	**+1.3**
ROSC	**El Rosal**	**62.70**	**351**	P	**P**	**12 10 28.1**	**+1.1**
	comp=Z,107nm,0.9s,baz=139,slow=3.2,SNR=62						
ROSC				LR	LR	12 38 14.9	
	comp=Z,23μm,19.0s,baz=186,slow=37						
ASCN	**Ascension**	**63.54**	**60**	PFAKE		12 10 40.0	+7.9
ASCN				LR	LR		
	comp=Z,3μm,20.0s						
H10N3	**ASCENSION HYDR**	**63.56**	**60**	T	T	13 20 02.1	
	baz=206,slow=0.7,SNR=78						
H10N1	**ASCENSION HYDR**	**63.56**	**60**	T	T	13 20 02.4	
	baz=206,slow=0.7,SNR=82						
H10N2	**ASCENSION HYDR**	**63.58**	**60**	T	T	13 20 03.4	
	baz=206,slow=0.7,SNR=83						
GRM	**Grahamstown**	**63.82**	**111**	*e*P	**P**	**12 10 33.2**	**-0.7**
GRM				AMB	AMB	12 10 37.9	
	comp=Z,225nm,6.5s						
UPI	**Upington**	**65.10**	**104**	*e*P	**P**	**12 10 41.7**	**-0.6**
UPI				AMB	AMB	12 10 53.6	
	comp=Z,128nm,1.7s						
HVD	**Gariep Dam**	**65.48**	**109**	*e*P	**P**	**12 10 43.8**	**-1.1**
HVD				AMB	AMB	12 10 53.9	
	comp=Z,229nm,4.8s						
BOSA	**Boshof**	**66.97**	**107**⇓	*i*P	**P**	**12 10 53.5**	**-0.8**
BOSA				AMB	AMB	12 10 56.9	
	comp=Z,129nm,1.9s						
BOSA	**Boshof**	**66.97**	**107**	*e*P	**P**	**12 10 53.5**	**-0.8**
	comp=Z,259nm,1.5s						
BOSA	**Boshof**	**66.97**	**107**	P	**P**	**12 10 53.6**	**-0.8**
	comp=Z,34nm,0.9s,baz=212,slow=6.6,SNR=41						
BOSA				LR	LR	12 34 10.9	
	comp=Z,6μm,21.4s,baz=218,slow=31						
TBI	**Tubuai**	**67.11**	**262**	*e*PP	PP	12 13 28.5	+5.8
	comp=Z,463nm,29.0s						
TBI				*e*S	**S**	**12 19 48.4**	**-0.7**
	comp=Z,24μm,30.0s						
TBI				*e*LQ	LQ	12 28 09.4	
	comp=Z,11μm,27.2s						
TBI				*e*LR	LR	12 30 59.3	
	comp=Z,14μm,29.2s,baz=148						
TBI	**Tubuai**	**67.11**	**262**	*e*T	T	13 23 43.8	
	comp=Z,9.8nm,0.3s						
ODZ	**Otahua Downs**	**67.30**	**220**	*e*P	**P**	**12 10 58.0**	**+1.9**
	comp=Z,337nm,2.0s						
PAF	**Port-aux-Franc**	**67.39**	**151**	PFAKE		12 11 10.0	+13
PAF				LR	LR		
	comp=Z,7μm,20.0s						
WHZ	**Wether Hill Ro**	**67.47**	**218**	*e*P	**P**	**12 10 59.4**	**+2.3**
	comp=Z,56nm,1.2s						
KSD	**Kokstad**	**67.51**	**112**	*e*P	**P**	**12 10 58.0**	**+0.2**
KSD				AMB	AMB	12 11 01.3	
	comp=Z,69nm,2.8s						
BCIP	**Isla Barro Col**	**67.58**	**345**	*e*P	**P**	**12 10 58.6**	**+0.6**
	comp=Z,1μm,1.9s						
BCIP				LR	LR		
	comp=Z,8μm,19.0s						
WIN	**Windhoek**	**67.59**	**97**⇓	*i*P	**P**	**12 10 58.7**	**+0.2**
WIN				AMB	AMB	12 11 10.2	
	comp=Z,47nm,1.4s						
TPP	**Pointe-a-Pierr**	**67.87**	**5**	*e*	**P**	**12 11 02.3**	**+2.4**
DCZ	**Deep Cove**	**68.09**	**217**	*e*P	**P**	**12 11 02.4**	**+1.4**
	comp=Z,61nm,1.0s						
SWZ	**Schweizer**	**68.17**	**106**	*e*P	**P**	**12 11 00.8**	**-1.2**
SWZ				AMB	AMB	12 11 12.7	
	comp=Z,191nm,1.5s						
TRN	**Trinidad (W)**	**68.20**	**5**	*e*	**P**	**12 11 04.5**	**+2.5**
RPZ	**Rata Peaks**	**68.32**	**221**	*e*P	**P**	**12 11 03.7**	**+1.1**
	comp=Z,380nm,2.0s						
RPZ	**Rata Peaks**	**68.32**	**221**	P	**P**	**12 11 05.0**	**+2.4**
	comp=Z,220nm,1.0s,baz=154,slow=6.5,SNR=4.6						
KHZ	**Kahutara**	**68.56**	**223**	*e*P	**P**	**12 11 05.5**	**+1.5**
	comp=Z,110nm,1.5s						
BFZ	**Birch Farm**	**69.03**	**226**	*e*P	**P**	**12 11 06.7**	**-0.4**
	comp=Z,320nm,1.4s						
SNZO	**South Karori**	**69.08**	**225**	PFAKE		12 11 20.0	+13
SNZO				LR	LR		
	comp=Z,9μm,22.0s						
PRYS	**Parys**	**69.42**	**108**⇓	*i*P	**P**	**12 11 08.7**	**-1.1**
PRYS				AMB	AMB	12 11 20.2	
	comp=Z,88nm,1.5s						
JTS	**JuntasAbangare**	**69.50**	**340**	P	**P**	**12 11 11.9**	**+1.8**
	comp=Z,1μm,1.7s,SNR=30						
JTS	**JuntasAbangare**	**69.50**	**340**	P	**P**	**12 11 11.3**	**+1.2**
JTS				LR	LR		
	comp=Z,8μm,20.0s						
JTS	**JuntasAbangare**	**69.50**	**340**	P	**P**	**12 11 11.3**	**+1.2**
	comp=Z,91nm,0.9s,baz=194,slow=1.9,SNR=41						
GRGR	**Grenville**	**69.67**	**5**	*e*P	**P**	**12 11 12.3**	**+1.3**
	comp=Z,825nm,1.5s						
GRGR				LR	LR		
	comp=Z,16nm,19.0s						
LBTB	**Lobatse**	**70.07**	**105**⇓	*i*P	**P**	**12 11 12.8**	**-1.0**
LBTB				AMB	AMB	12 11 24.8	
	comp=Z,197nm,1.6s						
LBTB	**Lobatse**	**70.07**	**105**	*e*P	**P**	**12 11 13.3**	**-0.5**
	comp=Z,351nm,1.4s						
BKZ	**Black Stump Fm**	**70.24**	**227**	*e*P	**P**	**12 11 16.1**	**+1.5**
	comp=Z,220nm,1.5s						
ERPM	**east rand prop**	**70.34**	**108**⇓	*i*P	**P**	**12 11 15.5**	**0.0**
ERPM				AMB	AMB	12 11 26.9	
	comp=Z,234nm,1.4s						
OBSV	**Observatory**	**70.39**	**108**⇓	*e*P	**P**	**12 11 15.2**	**-0.7**
OBSV				AMB	AMB	12 11 26.5	
	comp=Z,176nm,1.4s						
TSUM	**Tsumeb**	**70.60**	**95**	*e*P	**P**	**12 11 17.0**	**-0.1**
	comp=Z,71nm,1.1s						
TSUM				LR	LR		
	comp=Z,4μm,21.0s						
URZ	**Urewera**	**70.78**	**228**	*e*P	**P**	**12 11 18.5**	**+0.7**
	comp=Z,87nm,1.0s						
URZ	**Urewera**	**70.78**	**228**	P	**P**	**12 11 19.0**	**+1.2**
	comp=Z,39nm,1.1s,baz=8.1,slow=3.1,SNR=7.1						
BBGH	**Gun Hill**	**70.78**	**7**	PFAKE		12 11 30.0	+12
BBGH

FDF LR LR
comp=Z,14µm,20.0s
VAH Vaihoa 72.78 269 *e*P **P 12 11 29.4 -0.6**
comp=Z,217nm,1.2s
VAH Vaihoa 72.78 269 *e*T T 13 30 52.5
comp=Z,23nm,0.2s
RUDU RUNDU 72.80 96 ⇓ *i*P **P 12 11 30.6 +0.3**
RUDU AMB AMB 12 11 41.2
comp=Z,165nm,1.4s
PMOR Pomariorio Ree 73.11 269 *e*P **P 12 11 31.5 -0.5**
comp=Z,124nm,1.1s
MGG Marie-Galante 73.44 5 *e*P **P 12 11 34.2 +0.4**
PHG Guadaloupe-2 73.52 4 *e*P **P 12 11 33.6 -0.8**
DOG Dongo Capester 73.54 4 *e*P **P 12 11 34.6 +0.2**
ECG Echelle 73.55 4 *e*P **P 12 11 34.9 +0.2**
FNG Fond-Bernard 73.57 4 *e*P **P 12 11 34.3 -0.3**
TGUH Tegucigalpa,Un 73.61 339 *e*P **P 12 11 35.6 +0.8**
comp=Z,214nm,0.9s
TGUH LR LR
comp=Z,15µm,19.0s
DEG La Desirade 73.84 5 *e*P **P 12 11 36.2 0.0**
TAOE Nuku Hiva Isla 74.08 279 *e*T T 13 32 12.9
comp=Z,113nm,0.3s
RAR Rarotonga 74.29 255 *e*P P 12 11 43.2 +4.4
comp=Z,713nm,2.0s
RAR LR LR
comp=Z,7µm,22.0s
OUZ Omahuta 74.81 227 *e*P **P 12 11 42.1 +0.3**
comp=Z,104nm,1.0s
SABA Saba 75.06 3 *e*P **P 12 11 44.1 +0.9**
comp=Z,3µm,2.3s
ANWB Willy Bob 75.16 4 *e*P **P 12 11 43.9 +0.2**
comp=Z,263nm,1.0s
ANWB LR LR
comp=Z,14µm,22.0s
CDVI St. Croix 75.17 1 *e*P **P 12 11 44.1 +0.4**
comp=Z,789nm,2.3s
APG El Apazote 75.20 336 P **P 12 11 41.7 -2.6**
APG El Apazote 75.20 336 P **P 12 11 41.7 -2.6**
comp=Z,134nm,0.9s,baz=168,slow=4.5,SNR=98
CRPR Cabo Rojo, PR 75.42 359 *e*P **P 12 11 44.8 -0.4**
comp=Z,2µm,2.1s
OBIP Obispado Ponce 75.45 359 *e*P **P 12 11 44.7 -0.7**
comp=Z,270nm,1.1s
CELP Cerrillos 75.48 359 *e*P **P 12 11 44.8 -0.9**
MTP Monte Pirata 75.50 0 *e*P **P 12 11 43.9 -1.9**
comp=Z,130nm,1.4s
CBYP Canovanas 75.68 0 *e*P **P 12 11 45.1 -1.6**
comp=Z,771nm,2.0s
LRS Lares 75.70 359 *e*P **P 12 11 46.0 -0.9**
AOPR Arecibo Observ 75.75 359 *e*P **P 12 11 47.2 0.0**
comp=Z,835nm,2.3s
HOJ Hope 75.94 349 *i* PA P 12 11 53.2 +5.0
TAU Tasmania Unive 75.95 205 PFAKE 12 12 00.0 +12
TAU LR LR
comp=Z,4µm,20.0s
MCJ Malvern 75.95 349 *i* PA P 12 11 51.7 +3.3
GWJ Greenwich 76.00 350 *i* PA **P 12 11 51.8 +3.0**
STH Stony Hill 76.01 349 *i* P **P 12 11 49.8 +1.1**
MTDJ Mount Denham 76.24 349 *e*P **P 12 11 52.5 +2.4**
comp=Z,575nm,1.6s
MTDJ LR LR
comp=Z,8µm,21.0s
RAO Raoul Island 76.40 237 PFAKE 12 12 00.0 +9.1
RAO LR LR
comp=Z,4µm,22.0s
MBJ Montego Bay 76.44 348 *i* PA P 12 12 05.9 +15
SDDR Presa de Saban 76.51 355 *e*P **P 12 11 51.8 +0.3**
comp=Z,126nm,1.1s
SDDR LR LR
comp=Z,8µm,20.0s
GTBY Guantanamo Bay 77.69 351 *e*P **P 12 11 59.3 +1.2**
comp=Z,141nm,1.0s
GTBY LR LR
comp=Z,6µm,20.0s
GRTK Grand Turk 79.01 355 *e*P **P 12 12 07.2 +1.9**
comp=Z,145nm,0.9s
GRTK LR LR
comp=Z,11µm,19.0s
LSZ Lusaka 79.47 102 P **P 12 12 09.5 +1.1**
SNR=47
LSZ Lusaka 79.47 102 *e*P **P 12 12 08.6 +0.2**
comp=Z,227nm,1.4s
LSZ LR LR
comp=Z,6µm,19.0s
TEIG Tepich 79.81 339 *e*P **P 12 12 09.6 -0.2**
comp=Z,2µm,2.6s
TEIG LR LR
comp=Z,10µm,20.0s
LIC Lamto 80.33 62 *e*P **P 12 12 12.8 0.0**
comp=Z,451nm,1.4s,baz=221
LIC *e*R
comp=Z,4µm,19.2s
LIC Lamto 80.33 62 *e*P **P 12 12 13.0 +0.2**
comp=Z,426nm,1.4s
LIC Lamto 80.33 62 *e*P **P 12 12 12.8 0.0**
comp=Z,451nm,1.4s
SACV Santiago Islan 80.41 41 P **P 12 12 13.7 +0.6**
comp=Z,375nm,1.8s,SNR=6.3
SACV Santiago Islan 80.41 41 PFAKE 12 12 20.0 +6.9
SACV LR LR
comp=Z,6µm,19.0s
KIC Kosan Boka 80.59 62 *e*P **P 12 12 14.3 +0.1**
comp=Z,376nm,1.3s
TIC Toumodi 80.70 62 *e*P **P 12 12 14.8 0.0**
DBIC Dimbokro 80.81 62 ⇑ *i*P **P 12 12 15.5 +0.2**
DBIC Dimbokro 80.81 62 *e*P **P 12 12 15.6 +0.3**
comp=Z,273nm,1.8s
DBIC PP **PP 12 15 16.1 -3.5**
DBIC Dimbokro 80.81 62 P **P 12 12 15.3 0.0**
comp=Z,34nm,0.7s,baz=178,slow=6.0,SNR=61
DBIC PP **PP 12 15 16.1 -3.5**
comp=Z,23nm,1.3s,baz=173,slow=4.7,SNR=3.9
DBIC LR LR 12 43 07.7
comp=Z,2µm,19.9s,baz=208,slow=32
CAN Canberra 82.76 208 *e*P **P 12 12 26.3 +0.7**
CAN pmax pmax
comp=Z,151nm,1.5s
CAN MLR MLR
comp=Z,3µm,19.0s
CAN Canberra 82.76 208 *e*P **P 12 12 26.3 +0.7**
comp=Z,151nm,1.5s
CAN LR LR
comp=Z,3µm,19.0s
MSKU Masuku 83.07 82 LR LR 12 41 37.7
comp=Z,5µm,21.8s,baz=358,slow=30
ABPO Ambohimpanom 85.84 119 PFAKE 12 12 50.0 +8.4
ABPO LR LR
comp=Z,3µm,19.0s
AFI Afiamalu 86.56 249 *e*P **P 12 12 45.9 +0.9**
comp=Z,58nm,0.6s
AFI LR LR
comp=Z,3µm,21.0s
ARMA Armidale 86.69 212 *e*P **P 12 12 45.9 +0.4**
comp=Z,79nm,1.4s
RER Riviere de l'E 87.78 127 *e*P **P 12 12 52.3 +1.4**
comp=Z,218nm,1.1s
RER LR LR
comp=Z,4µm,20.0s
STKA Stephens Creek 87.79 203 *e*P **P 12 12 50.9 +0.2**
comp=Z,38nm,2.0s
STKA Stephens Creek 87.79 203 P **P 12 12 50.6 0.0**
comp=Z,12nm,0.9s,baz=179,slow=5.7,SNR=8.6
BBOO Buckleboo 87.94 198 *e*P **P 12 12 51.1 -0.3**
comp=Z,2µm,1.0s
035Z Hargill 88.04 332 ⇓ P **P 12 12 52.1 +0.5**
baz=88
MSVF Nonsavu 88.18 239 PFAKE 12 13 00.0 +7.2
MSVF LR LR
comp=Z,8µm,22.0s
035A Encino 88.50 332 P **P 12 12 54.6 +0.8**
baz=89
936A North Padre Is 88.76 333 P **P 12 12 56.0 +1.0**
baz=89
034A Hebbronville 88.77 331 ⇓ P **P 12 12 56.2 +1.1**
baz=89,SNR=36
KVTX Kingsville 89.03 332 *e*P **P 12 12 57.8 +1.6**
comp=Z,329nm,1.2s
KVTX LR LR
comp=Z,7µm,19.0s
934A Benavides 89.24 332 ⇓ P **P 12 12 58.2 +1.0**
baz=90,SNR=39
DZM Mont Dzumac 89.33 227 *e*P **P 12 12 57.9 -0.3**
comp=Z,101nm,1.2s
DZM Mont Dzumac 89.33 227 *e*PP PP 12 16 27.4 -0.8
comp=Z,586nm,25.6s
DZM *e*S **S 12 23 45.0 -3.0**
comp=Z,5µm,26.8s
DZM *e*SS **SS 12 29 43.7 +2.4**
comp=Z,5µm,32.2s
DZM Mont Dzumac 89.33 227 *e*LR LR 12 41 25.3
comp=Z,36µm,32.5s
DZM Mont Dzumac 89.33 227 *e*P **P 12 12 58.7 +0.6**
comp=Z,41nm,1.0s
DZM Mont Dzumac 89.33 227 P P 12 13 01.9 +3.8
comp=Z,21nm,0.9s,baz=131,slow=8.1,SNR=7.8
933A Laredo 89.45 331 ⇑ P **P 12 12 59.4 +1.2**
baz=90,SNR=56
LPIG La Paz 89.49 320 P **P 12 13 00.3 +1.8**
LPIG La Paz 89.49 320 P **P 12 13 00.3 +1.8**
comp=Z,42nm,0.8s,baz=147,slow=0.7,SNR=16
TOA0 Torodi Ar. Sit 89.57 64 *e*P **P 12 12 59.4 +0.3**
TORD Torodi Ar. Bea 89.57 64 P **P 12 12 59.1 0.0**
TORD PP **PP 12 16 29.5 -1.4**
TORD Torodi Ar. Bea 89.57 64 P **P 12 12 59.1 0.0**
comp=Z,11nm,0.7s,baz=215,slow=4.0,SNR=42
TORD PP **PP 12 16 29.5 -1.4**
comp=Z,5.6nm,0.9s,baz=222,slow=5.8,SNR=3.8
TORD LR LR 12 46 53.9
comp=Z,2µm,21.4s,baz=190,slow=32
835A Beeville 89.72 332 ⇑ P **P 12 13 00.6 +1.2**
baz=90,SNR=29
BBSR BB Station 89.72 1 *e*P **P 12 13 01.5 +2.2**
comp=Z,70nm,1.3s
BBSR LR LR
comp=Z,6µm,21.0s
834A Tilden 89.75 332 ⇓ P **P 12 13 00.7 +1.1**
baz=90,SNR=28
TIGA Tifton 90.01 345 *e*P **P 12 13 01.5 +0.8**
comp=Z,292nm,1.3s
TIGA Tifton 90.01 345 ⇑ P **P 12 13 01.3 +0.5**
baz=90
BRAL Brewton 90.12 342 PFAKE 12 13 10.0 +8.8
BRAL LR LR
comp=Z,6µm,21.0s
833A Chaparral WMA, 90.15 331 ⇑ P **P 12 13 01.9 +0.4**
baz=90,SNR=31
735A Kenedy 90.26 332 ⇓ P **P 12 13 02.5 +0.6**
baz=91,SNR=15
832A Faith Ranch, C 90.27 331 ⇑ P **P 12 13 02.6 +0.5**
baz=91,SNR=28
734A La Parita Cree 90.44 332 ⇓ P **P 12 13 03.1 +0.3**
baz=91,SNR=14
733A Divot King Ran 90.50 331 ⇑ P **P 12 13 03.2 0.0**
baz=91,SNR=15
732A Laxson Ranch, 90.69 331 ⇑ P **P 12 13 04.5 +0.5**
baz=91,SNR=42
635A Leesville 90.76 333 ⇑ P **P 12 13 04.0 -0.3**
baz=91,SNR=23
HKT Hockley 90.83 334 *c i*P **P 12 13 04.7 +0.2**
HKT pmax pmax
comp=Z,198nm,1.8s
HKT MLR MLR
comp=Z,6µm,18.0s
HKT Hockley 90.83 334 *e*P **P 12 13 04.9 +0.4**
comp=Z,452nm,1.9s
634A China Grove, S 90.90 332 ⇑ P **P 12 13 05.2 +0.3**
baz=91,SNR=8.7
FORT Forrest 91.07 192 *e*P **P 12 13 05.9 -0.2**
comp=Z,58nm,0.9s
633A Saathoff Ranch 91.18 332 ⇓ P **P 12 13 06.8 +0.5**
baz=92,SNR=76
NHSC New Hope 91.23 348 *e*P **P 12 13 07.7 +1.4**
comp=Z,380nm,1.3s
NHSC LR LR
comp=Z,7µm,22.0s
536A Bastrop 91.25 333 P **P 12 13 06.4 -0.1**
baz=92
535A Dale 91.32 333 ⇑ P **P 12 13 07.0 +0.1**
baz=92,SNR=22
632A Uvalde 91.38 331 ⇑ P **P 12 13 07.5 +0.3**
baz=92,SNR=35
631A Perdido Creek 91.50 330 ⇓ P **P 12 13 07.8 0.0**
baz=92,SNR=60
534A Blanco 91.55 332 ⇓ P **P 12 13 07.8 -0.1**
baz=92,SNR=44
EIDS Eidsvold 91.60 213 *e*P **P 12 13 08.5 -0.1**
comp=Z,98nm,1.3s
533A Kerrville 91.73 332 ⇑ P **P 12 13 09.0 +0.1**
baz=92,SNR=17
VBMS Vicksburg 91.91 339 *e*P **P 12 13 11.1 +1.5**
comp=Z,376nm,1.4s
GOGA Godfrey 91.94 345 *e*P **P 12 13 09.8 +0.1**
GOGA pmax pmax
comp=Z,56nm,1.0s
GOGA MLR MLR
comp=Z,8µm,20.0s
GOGA Godfrey 91.94 345 *e*P **P 12 13 09.8 +0.1**
comp=Z,56nm,1.0s
GOGA LR LR
comp=Z,8µm,20.0s
435B Jarrell 92.05 333 P **P 12 13 10.4 +0.2**
baz=92
628A Black Gap, Mar 92.20 328 ⇓ P **P 12 13 11.5 +0.4**
baz=92
531A Rocksprings 92.21 331 ⇑ P **P 12 13 11.2 +0.1**
baz=92,SNR=80
434A Burnet 92.24 333 ⇓ P **P 12 13 10.9 -0.3**
baz=93,SNR=52
TXAR Lajitas Array 92.28 328 P **P 12 13 12.0 +0.5**
TXAR PKKPbc **PKKPbc 12 30 26.6 +1.6**
TXAR Lajitas Array 92.28 328 P **P 12 13 12.0 +0.5**
comp=Z,31nm,0.9s,baz=153,slow=6.8,SNR=179
TXAR PKKPbc **PKKPbc 12 30 26.6 +1.6**
comp=Z,0.4nm,0.7s,baz=347,slow=5.1,SNR=3.5
TXAR LR LR 12 47 59.3
comp=Z,8µm,19.9s,baz=0.0,slow=31
NATX Nacogdoches 92.31 336 *e*P **P 12 13 12.4 +1.0**
comp=Z,138nm,1.0s
NATX LR LR
comp=Z,5µm,22.0s
627A Terlingua Ranc 92.31 328 ⇓ P **P 12 13 12.3 +0.6**
baz=93,SNR=48
JCT Junction City 92.31 331 *e*P **P 12 13 11.2 -0.3**
JCT pmax pmax
comp=Z,168nm,1.0s
JCT MLR MLR
comp=Z,3µm,21.0s
JCT Junction City 92.31 331 *e*P **P 12 13 11.2 -0.3**
comp=Z,168nm,1.0s
JCT LR LR
comp=Z,3µm,21.0s
JCT Junction City 92.31 331 ⇑ P **P 12 13 11.3 -0.2**
baz=93,SNR=92
433A Art 92.39 332 ⇑ P **P 12 13 11.6 -0.3**
baz=93,SNR=67
530A J-C Ranch, Com 92.40 330 ⇓ P **P 12 13 12.5 +0.5**
baz=93,SNR=59
XMAS Kiritimati 92.47 270 PFAKE 12 13 20.0 +7.3
XMAS LR LR
comp=Z,6µm,22.0s
335A Moody 92.49 333 ⇑ P **P 12 13 12.1 -0.1**
baz=93,SNR=17
JSC Jenkinsville 92.52 347 *e*P **P 12 13 13.9 +1.6**
JSC Jenkinsville 92.52 347 *e*P **P 12 13 13.9 +1.6**
529A Stev Forest Ra 92.62 329 ⇑ P **P 12 13 13.6 +0.6**
baz=93,SNR=52
626A Big Bend Ranch 92.62 327 ⇓ P **P 12 13 13.9 +0.9**
baz=93,SNR=60
432A Menard 92.69 331 ⇓ P **P 12 13 12.7 -0.6**
baz=93,SNR=21
431A Sonora 92.71 331 ⇓ P **P 12 13 12.8 -0.6**
baz=93,SNR=29
334A Lometa 92.73 333 ⇑ P **P 12 13 13.1 -0.3**
baz=93,SNR=47
528A Cox Ranch, San 92.81 329 ⇑ P **P 12 13 14.0 0.0**
baz=93,SNR=38
333A Richland Sprin 92.91 332 ⇑ P **P 12 13 13.8 -0.4**
baz=93,SNR=107
430A Baggett Ranch, 92.98 330 ⇓ P **P 12 13 14.4 -0.3**
baz=93,SNR=26
429A Davenport Ranc 93.00 330 ⇓ P **P 12 13 14.8 +0.1**
baz=93,SNR=112
527A Woodward Ranch 93.03 328 ⇓ P **P 12 13 15.8 +0.8**
baz=93,SNR=81
526A Mary Lane Ranc 93.08 328 ⇑ P **P 12 13 15.9 +0.7**
baz=93,SNR=44
CNNC Cliffs of the 93.11 350 PFAKE 12 13 30.0 +15
CNNC LR LR
comp=Z,7µm,20.0s
332A Millersview 93.16 332 ⇑ P **P 12 13 14.7 -0.7**
baz=94,SNR=41
WHTX Lake Whitney 93.17 334 *e*P **P 12 13 15.5 +0.1**
comp=Z,32nm,0.8s
WHTX Lake Whitney 93.17 334 ⇑ P **P 12 13 14.8 -0.6**
baz=94,SNR=19
331A San Angelo 93.26 331 ⇑ P **P 12 13 15.4 -0.5**
baz=94,SNR=26
428A Kincaid Ranch, 93.32 329 ⇓ P **P 12 13 17.0 +0.8**
baz=94,SNR=20
234A Clairette 93.35 333 ⇑ P **P 12 13 15.6 -0.7**
baz=94,SNR=16
KMSC Kings Mountain 93.37 347 *e*P **P 12 13 16.3 +0.1**
comp=Z,52nm,1.2s
KMSC Kings Mountain 93.37 347 ⇓ P **P 12 13 15.7 -0.6**
baz=94
233A Rising Star 93.55 332 ⇑ P **P 12 13 16.8 -0.4**
baz=94,SNR=27
330A Mertzon 93.55 330 ⇑ P **P 12 13 17.1 -0.1**
baz=94,SNR=28
232A Coleman 93.61 332 ⇓ P **P 12 13 17.0 -0.6**
baz=94,SNR=34
427A Hayter Ranch, 93.63 328 ⇓ P **P 12 13 18.7 +1.0**
baz=94,SNR=41
426A McDonald Obser 93.64 328 ⇓ P **P 12 13 18.5 +0.6**
baz=94,SNR=26
135A Vickery Place, 93.70 334 ⇑ P **P 12 13 17.4 -0.4**
baz=94
231A Bronte 93.83 331 ⇓ P **P 12 13 17.8 -0.7**
baz=94,SNR=26
329A Wagon Wheel Ra 93.84 330 ⇑ P **P 12 13 18.7 +0.1**
baz=94,SNR=46
134A White-Moore Ra 93.88 333 ⇑ P **P 12 13 18.3 -0.4**
baz=94,SNR=16
328A Wristen Ranch, 93.97 329 ⇑ P **P 12 13 19.6 +0.4**
baz=94,SNR=34
230A Sterling City 93.99 331 ⇑ P **P 12 13 18.9 -0.3**
baz=94,SNR=11
425A Indio Mountain 94.03 327 ⇓ P **P 12 13 19.2 -0.4**
baz=94,SNR=12
SWET Sewanee 94.06 344 *e*P **P 12 13 19.1 -0.4**
comp=Z,155nm,1.8s
CPCT Cooper Cave 94.08 345 *e*P **P 12 13 19.9 +0.3**
133A Hamilton Ranch 94.12 333 ⇑ P **P 12 13 19.5 -0.3**
baz=94,SNR=22
327A Balmorhea Ranc 94.15 329 ⇑ P **P 12 13 21.2 +1.2**
baz=94,SNR=6.3
326A Caldwell Ranch 94.23 328 ⇓ P **P 12 13 21.3 +0.8**
baz=95,SNR=18
229A Bryant Ranch, 94.25 330 ⇓ P **P 12 13 20.6 +0.1**
baz=95,SNR=9.7
ABTX Abilene, Hawle 94.31 332 *e*P **P 12 13 21.0 +0.3**
comp=Z,124nm,1.5s
ABTX Abilene, Hawle 94.31 332 ⇓ P **P 12 13 20.3 -0.4**
baz=95,SNR=17
Z35A Perchaven, San 94.41 334 ⇓ P **P 12 13 20.9 -0.1**
baz=95,SNR=7.8
131A Roby 94.55 331 ⇑ P **P 12 13 21.8 0.0**
baz=95,SNR=16
Z34A Collier Ranch, 94.60 334 ⇑ P **P 12 13 21.8 -0.1**
baz=95,SNR=8.0
228A UT Block 9, Go 94.60 330 ⇑ P **P 12 13 22.3 +0.2**
baz=95
130A Snyder 94.62 331 ⇑ P **P 12 13 22.0 -0.2**
baz=95,SNR=7.4
227A Bennet, Jal 94.70 329 ⇓ P **P 12 13 23.0 +0.4**
baz=95
Z33A Whitaker Ranch 94.72 333 ⇑ P **P 12 13 22.3 -0.2**
baz=95,SNR=25
UALR University of 94.74 339 *e*P **P 12 13 22.7 +0.2**
comp=Z,197nm,1.8s
MIAR Mount Ida 94.77 337 *e*P **P 12 13 23.0 +0.3**
MIAR pmax pmax
comp=Z,153nm,1.7s
MIAR MLR MLR
comp=Z,4µm,19.0s
MIAR Mount Ida 94.77 337 *e*P **P 12 13 22.9 +0.3**
comp=Z,153nm,1.7s
MIAR LR LR
comp=Z,4µm,19.0s
129A Stewart Farms, 94.89 330 ⇓ P **P 12 13 23.5 +0.1**
baz=95,SNR=11
Z32A Haskell 94.92 332 ⇑ P **P 12 13 23.5 +0.1**
baz=95,SNR=28
MNTX Cornudas Mount 95.00 327 *e*P **P 12 13 23.7 -0.1**
comp=Z,61nm,2.0s
MNTX LR LR
comp=Z,6µm,19.0s
226B Tecolote Peak, 95.00 328 ⇓ P **P 12 13 24.4 +0.4**
baz=95,SNR=8.3
TZTN Tazewell 95.03 346 *e*P **P 12 13 23.7 -0.2**
comp=Z,120nm,1.4s
128A Castleberry Fa 95.05 330 ⇓ P **P 12 13 24.3 +0.2**
baz=95,SNR=19
Z31A Sharp Cattle R 95.10 332 ⇓ P **P 12 13 24.2 -0.1**
baz=95,SNR=18
Y34A Reagan Ranch, 95.12 334 ⇑ P **P 12 13 24.1 -0.2**
baz=96,SNR=8.4
GDL2 Guadalupe Moun 95.17 328 *e*P **P 12 13 25.2 +0.4**
225A Deer Hill, Car 95.22 328 ⇑ P **P 12 13 24.9 -0.2**
baz=96
BLA Blacksburg 95.32 349 PFAKE 12 13 40.0 +15
BLA LR LR
comp=Z,5µm,20.0s
Z30A Sanderson Ranc 95.32 331 ⇓ P **P 12 13 25.0 -0.4**
baz=96,SNR=19
127A Arkansas Junct 95.34 329 ⇓ P **P 12 13 25.9 +0.4**
baz=96,SNR=13
Y33A Hilltop Ranch, 95.38 333 ⇑ P **P 12 13 25.2 -0.3**
baz=96,SNR=6.9
Z29A Hungry Hill Ra 95.45 331 ⇑ P **P 12 13 25.5 -0.4**
baz=96,SNR=14
GNAR Gosnell 95.46 341 *e*P **P 12 13 25.7 -0.1**
126A Clayton Basin, 95.50 329 ⇑ P **P 12 13 26.4 +0.1**
baz=96
JSRW J. Sargeant Re 95.55 351 *e*P **P 12 13 27.0 +0.8**
Y32A R-V Farms, Ver 95.58 333 ⇑ P **P 12 13 26.4 -0.1**
baz=96
320A Kipp Ranch, An 95.61 324 ⇓ P **P 12 13 27.9 +1.1**
baz=96,SNR=12
UTMT University of 95.63 342 *e*P **P 12 13 26.8 +0.2**
comp=Z,92nm,1.2s
Z28A Tucker Farm, M 95.66 330 ⇓ P **P 12 13 26.6 -0.3**
baz=96,SNR=7.4
125A Gardner Draw, 95.69 328 ⇓ P **P 12 13 27.0 -0.1**
baz=96,SNR=16
Y31A Rekieta Farm, 95.74 332 ⇑ P **P 12 13 27.5 +0.3**
baz=96,SNR=8.3
X34A Smith Ranch, M 95.76 334 ⇑ P **P 12 13 26.6 -0.6**
baz=96
Y30A Stafford Cattl 95.82 331 ⇓ P **P 12 13 27.3 -0.3**
baz=96,SNR=5.3
X33A Lawton 95.86 334 ⇓ P **P 12 13 27.1 -0.6**
baz=96
319A Douglas 95.88 324 ⇑ P **P 12 13 29.1 +1.1**
baz=96,SNR=15
222A Williams Famil 95.89 326 ⇓ P **P 12 13 28.8 +0.8**
baz=96
Z27A Tatum 95.90 329 ⇓ P **P 12 13 28.1 0.0**
baz=96,SNR=23
X32A Elmer 95.94 333 ⇑ P **P 12 13 28.0 0.0**
baz=96,SNR=7.2
124A Stringfield Ra 95.95 327 ⇓ P **P 12 13 29.2 +0.8**
baz=96,SNR=13
221A Mesquite Ranch 96.00 325 ⇓ P **P 12 13 29.7 +1.1**
baz=96
Y29A Porterfield Fa 96.01 331 ⇓ P **P 12 13 28.2 -0.3**
baz=96,SNR=9.7
CBN Corbin 96.01 351 PFAKE 12 13 40.0 +12
CBN LR LR
comp=Z,8µm,22.0s
Z26A Caprock 96.07 329 ⇑ P **P 12 13 28.8 -0.1**
baz=96,SNR=18
WMOK Wichita Mounta 96.11 333 *e*P **P 12 13 28.0 -0.9**
WMOK pmax pmax
comp=Z,35nm,1.1s
WMOK MLR MLR
comp=Z,5µm,20.0s
WMOK Wichita Mounta 96.11 333 *e*P **P 12 13 28.0 -0.9**
comp=Z,35nm,1.1s
WMOK LR LR
comp=Z,5µm,20.0s
123A Bell Site, Whi 96.13 327 ⇓ P **P 12 13 29.9 +0.8**
baz=96
KMBO Kilima Mbogo 96.14 102 P P 12 13 33.3 +3.4
SNR=5.4
KMBO Kilima Mbogo 96.14 102 *e*P **P 12 13 31.5 +1.6**
comp=Z,17nm,1.4s
KMBO Kilima Mbogo 96.14 102 P **P 12 13 32.1 +2.2**
comp=Z,0.8nm,0.3s,baz=221,slow=23,SNR=4.8
KMBO LR LR 12 53 59.8
comp=Z,2µm,18.1s,baz=188,slow=34
Y28A McKinney Farm, 96.20 330 ⇓ P **P 12 13 29.3 -0.1**

baz=96,SNR=18
Z25A Roswell 96.29 328 ⇑P P 12 13 30.2 +0.3
baz=97,SNR=13
X31A McDonald Ranch 96.31 332 ⇑P P 12 13 29.4 -0.3
baz=97,SNR=11
PBMO Poplar Bluff 96.33 341 *e*P P 12 13 29.3 -0.4
comp=Z,222nm,2.3s
W34A Bridge Creek, 96.35 334 ⇓P P 12 13 29.8 -0.2
baz=97
X30A Coker Ranch, T 96.36 332 ⇓P P 12 13 29.9 -0.1
baz=97,SNR=31
MSTX Muleshoe 96.40 330 *e*P P 12 13 30.7 +0.4
MSTX Muleshoe 96.40 330 ⇓P P 12 13 29.7 -0.6
baz=97,SNR=22
Y27A Causey 96.43 330 ⇑P P 12 13 30.2 -0.2
baz=97,SNR=8.8
W33A Caddo, Fort Co 96.43 334 ⇓P P 12 13 30.9 +0.6
baz=97,SNR=13
121A Cookes Peak, D 96.49 326 *e*P P 12 13 32.4 +1.5
comp=Z,171nm,2.2s
121A Cookes Peak, D 96.49 326 ⇑P P 12 13 31.5 +0.7
baz=97,SNR=11
Z24A Sheeppen Canyo 96.52 328 ⇑P P 12 13 31.4 +0.5
baz=97,SNR=23
TUL1 Tulsa 96.55 336 *e*P P 12 13 30.8 0.0
comp=Z,98nm,1.5s
TUL1 Tulsa 96.55 336 ⇓P P 12 13 30.4 -0.4
baz=97,SNR=11
X29A Tulia 96.57 331 ⇓P P 12 13 30.8 -0.2
baz=97,SNR=23
W32A Sentinel 96.59 333 ⇑P P 12 13 30.6 -0.4
baz=97,SNR=17
Y26A Elida 96.64 329 ⇑P P 12 13 31.4 0.0
baz=97,SNR=12
Z23A Rita Site, Whi 96.71 327 ⇑P P 12 13 32.9 +1.1
baz=97,SNR=5.5
X28A Dimmitt 96.77 331 ⇑P P 12 13 32.0 0.0
baz=97,SNR=6.6
W31A Holland Ranch, 96.83 333 ⇑P P 12 13 31.9 -0.3
baz=97
V34A Guthrie 96.86 335 ⇑P P 12 13 31.9 -0.4
baz=97,SNR=10
Y25A Mesa, Roswell 96.89 328 ⇑P P 12 13 32.5 -0.1
baz=97,SNR=6.7
Z22A Elephant Butte 96.92 326 ⇓P P 12 13 33.0 +0.3
baz=97
AMTX Amarillo 96.98 331 *e*P P 12 13 33.5 +0.6
comp=Z,48nm,1.1s
AMTX Amarillo 96.98 331 ⇑P P 12 13 32.9 0.0
baz=97
W30A Crocket Farms 96.98 332 ⇑P P 12 13 32.9 +0.1
baz=97
SIUC Southern Illin 97.03 342 *e*P P 12 13 32.9 0.0
comp=Z,8.0nm,0.5s
V33A Lossen Ranch, 97.03 334 ⇑P P 12 13 32.7 -0.2
baz=97,SNR=7.2
Y24A Capitan 97.10 328 ⇑P Pdif 12 13 34.4 +0.7
baz=97,SNR=15
V32A Arapaho 97.11 333 ⇑P Pdif 12 13 33.7 +0.2
baz=98,SNR=7.0
X27A F and S Farms, 97.13 330 ⇑P P 12 13 33.2 -0.4
baz=98,SNR=6.5
W29A Amarillo 97.19 331 ⇓P P 12 13 33.8 -0.1
baz=98
TUC Tucson 97.22 323 *e*P Pdif 12 13 35.3 +1.2
TUC pmax pmax
comp=Z,74nm,1.9s
TUC MLR MLR
comp=Z,5μm,20.0s
TUC Tucson 97.22 323 *e*P Pdif 12 13 35.2 +1.1
comp=Z,74nm,1.9s
TUC LR LR
comp=Z,5μm,20.0s
X26A CR and CF Fran 97.23 329 ⇑P Pdif 12 13 34.5 +0.3
baz=98
AS31 Alice Springs 97.25 198 *e*P P 12 13 33.9 -0.7
AS31 *e*PP PP 12 17 34.1 +4.1
Y23A Lovelace Mesa, 97.28 327 ⇑P Pdif 12 13 35.5 +1.0
baz=98,SNR=8.7
V31A Spring Creek L 97.36 333 ⇓P Pdif 12 13 35.2 +0.6
baz=98,SNR=7.8
X25A Clemmons Ranch 97.44 329 ⇑P P 12 13 35.1 0.0
baz=98
U34A Anderson Ranch 97.44 335 ⇓P P 12 13 34.3 -0.5
baz=98
W28A Vega 97.47 331 ⇑P Pdif 12 13 35.2 0.0
baz=98
W27A Bowe Ranch, En 97.51 330 ⇑P Pdif 12 13 35.4 0.0
baz=98,SNR=10
V30A Spur Ranch, Mi 97.56 332 ⇑P Pdif 12 13 36.1 +0.6
baz=98
214A Organ Pipe Nat 97.57 321 *e*P Pdif 12 13 37.4 +1.7
comp=Z,37nm,1.8s
214A Organ Pipe Nat 97.57 321 ⇑P Pdif 12 13 36.6 +1.0
baz=98
U33A Lingo Farm, Me 97.58 334 P P 12 13 34.9 -0.5
baz=98
BNM Barren Site 97.65 327 *e*P Pdif 12 13 38.4 +2.2
comp=Z,6.4nm,1.2s
BNM *e*PP PP 12 17 35.6 +1.2
Y22D IRIS PASSCAL I 97.67 327 P Pdif 12 13 36.2 0.0
baz=98
X24A Lazy VL Ranch, 97.70 328 P Pdif 12 13 36.7 +0.3
baz=98
MVL Millersville 97.71 352 *e*P Pdif 12 13 36.1 +0.1
comp=Z,201nm,2.3s
W26A Owens Ranch, T 97.72 330 ⇓P P 12 13 36.2 -0.1
baz=98
U32A Winter Ranch, 97.73 334 ⇓P Pdif 12 13 36.2 0.0
baz=98
LENM Lemitar 97.77 327 *e*P Pdif 12 13 38.1 +1.5
LPM Los Pinos Moun 97.81 327 *e*P Pdif 12 13 38.5 +1.7
V29A Stinnett 97.87 332 ⇑P P 12 13 36.6 -0.3
baz=98
X23A Hourglass Bar 97.93 328 P Pdif 12 13 38.1 +0.7
baz=98
U31A Nine Bar Ranch 97.93 333 P Pdif 12 13 38.4 +1.3
baz=98
V28A Channing 97.94 331 ⇓P P 12 13 37.2 0.0
baz=98
CTA Charters Tower 97.97 210 LR LR 12 52 57.8
comp=Z,1μm,18.5s,baz=180,slow=32
CTAO Charters Tower 97.97 210 *e*P Pdif 12 13 38.5 +0.6
CTAO pmax pmax
comp=Z,35nm,1.2s
CTAO MLR MLR
comp=Z,3μm,21.0s
CTAO Charters Tower 97.97 210 *e*P Pdif 12 13 38.5 +0.6
comp=Z,35nm,1.2s
CTAO LR LR
comp=Z,3μm,21.0s
BLO Bloomington 98.03 344 *e*P Pdif 12 13 37.6 +0.2
BLO pmax pmax
comp=Z,23nm,1.2s
BLO Bloomington 98.03 344 *e*P Pdif 12 13 37.6 +0.2
comp=Z,23nm,1.2s
W25A X Bar L Ranch, 98.04 329 ⇑P P 12 13 37.4 -0.3
baz=98,SNR=10
LAZ Ladron 98.04 327 *e*P Pdif 12 13 39.0 +1.1
comp=Z,30nm,2.1s
V27A Dan Oppiter Fa 98.11 331 ⇓P Pdif 12 13 38.1 +0.1
baz=98
T33A Patterson Ranc 98.23 334 ⇑P P 12 13 38.0 -0.4
baz=99
U30A WK&E Inc. Balk 98.28 332 ⇑P Pdif 12 13 39.0 +0.3
baz=99
W24A Lazy 6 Ranch, 98.29 328 ⇓P Pdif 12 13 39.3 +0.3
baz=99,SNR=7.5
ANMO Albuquerque 98.35 327 *e*P Pdif 12 13 39.6 +0.4
comp=Z,128nm,2.5s
ANMO LR LR
comp=Z,13μm,20.0s
V26A Tequesquite Ra 98.40 330 ⇓P P 12 13 39.1 -0.2
baz=99
W23A Werner Place, 98.46 328 ⇓P Pdif 12 13 40.4 +0.7
baz=99
T32A Huddler Ranch, 98.48 334 ⇑P P 12 13 38.7 -0.8
baz=99
U28A Mallet 98.53 331 ⇓P P 12 13 39.6 -0.2
baz=99
T31A Randall Ranch, 98.58 333 ⇓P Pdif 12 13 40.5 +0.5
baz=99
ACSO Alum Creek Sta 98.59 347 *e*P Pdif 12 13 40.3 +0.4
comp=Z,26nm,1.3s
ACSO LR LR
comp=Z,10μm,22.0s
113A Mohawk Valley, 98.63 321 P Pdif 12 13 41.1 +0.8
baz=99
S33A Kaszmaul Farm, 98.66 335 P Pdif 12 13 41.1 +0.8
baz=99
V25A Rancho No Teng 98.66 329 ⇑P Pdif 12 13 40.7 +0.1
baz=99
ODNJ Ogdensburg 98.67 353 *e*P Pdif 12 13 41.2 +1.0
comp=Z,8.4nm,0.6s
U27A Thompson Grove 98.73 331 ⇓P Pdif 12 13 40.9 +0.1
baz=99,SNR=7.2
V24A Rampart Ranch, 98.74 329 ⇑P Pdif 12 13 41.7 +0.7
baz=99
T30A Plains 98.74 333 P Pdif 12 13 40.8 0.0
baz=99
Z14A Wintersburg 98.90 322 ⇓P Pdif 12 13 42.3 +0.8
baz=99
U26A Atchley Ranch, 98.95 330 ⇓P P 12 13 41.9 +0.1
baz=99
S32A Newby Ranch, P 98.98 334 ⇓P Pdif 12 13 41.3 -0.4
baz=99
X18A Snowflake 99.01 325 ⇑P Pdif 12 13 43.0 +0.8
baz=99
V23A Ortiz Mt. (NFS 99.01 328 ⇑P Pdif 12 13 43.0 +0.8
baz=99
S31A Mullinville 99.03 334 ⇑P Pdif 12 13 41.7 -0.3
baz=99
T29A Hugoton 99.03 332 ⇑P Pdif 12 13 41.3 -0.7
baz=99
U25A Circle Dot Ran 99.13 330 ⇓P Pdif 12 13 43.1 +0.5
baz=100,SNR=17
T28A Walsh 99.20 332 ⇓P Pdif 12 13 43.5 +0.6
baz=100
GLA Glamis 99.25 320 ⇑P Pdif 12 13 43.0 -0.1
baz=100
S30A Montezuma 99.28 333 ⇓P Pdif 12 13 43.3 +0.2
baz=100
SFIN Scholer Farm 99.30 344 ⇓P Pdif 12 13 42.7 -0.3
baz=100
T27A Campo 99.31 331 ⇓P Pdif 12 13 43.1 -0.3
baz=100
R33A Olander Ranch, 99.34 335 ⇓P Pdif 12 13 43.3 0.0
baz=100
X16A Lo Mia Camp, P 99.38 323 ⇓P Pdif 12 13 45.0 +1.2
baz=100
V22A San Miguel Ran 99.38 327 ⇑P Pdif 12 13 44.8 +1.0
baz=100,SNR=7.3
U24A Moreno Valley 99.38 329 ⇓P Pdif 12 13 44.7 +0.8
baz=100,SNR=8.1
S29A Ulysses 99.43 332 ⇑P Pdif 12 13 44.4 +0.7
baz=100
Y14A Wickenburg 99.44 322 ⇓P Pdif 12 13 44.1 +0.2
baz=100
SWSC Sam W. Stewart 99.49 319 ⇓P Pdif 12 13 45.0 +0.9
baz=100
W18A Petrified Fore 99.49 325 ⇑P Pdif 12 13 44.8 +0.5
baz=100
U23A El Rito 99.56 328 ⇓P Pdif 12 13 45.1 +0.5
baz=100,SNR=7.6
S28A Manter 99.59 332 ⇑P Pdif 12 13 44.3 -0.2
baz=100,SNR=6.7
R32A Long Quarter, 99.61 335 ⇓P Pdif 12 13 44.3 -0.2
baz=100
T26A Comanche Natio 99.64 330 ⇑P Pdif 12 13 45.2 +0.3
baz=100,SNR=5.6
MONP Monument Peak 99.66 319 ⇓P Pdif 12 13 46.4 +1.2
baz=100
R31A Burdett 99.68 334 ⇓P Pdif 12 13 44.4 -0.4
baz=100
ALLY Alegheny Colle 99.68 349 *e*P Pdif 12 13 45.4 +0.7
comp=Z,26nm,1.1s
TAM Tamanrasset 99.68 63 *e*P Pdif 12 13 46.4 +1.0
TAM pmax pmax
comp=Z,11nm,1.4s
TAM MLR MLR
comp=Z,5μm,22.0s
TAM Tamanrasset 99.68 63 *e*P Pdif 12 13 46.4 +1.0
comp=Z,11nm,1.4s
TAM LR LR
comp=Z,5μm,22.0s
Y12C Blythe 99.78 321 ⇑P Pdif 12 13 46.5 +1.1
baz=100
KSU1 Kansas State U 99.79 336 PFAKE 12 14 00.0 +15
KSU1 LR LR
comp=Z,6μm,21.0s
KSU1 Kansas State U 99.79 336 ⇑P Pdif 12 13 44.9 -0.4
baz=100
U22A Llaves 99.80 328 ⇑P Pdif 12 13 46.8 +1.2
baz=100
T25A Trinidad 99.83 330 ⇑P Pdif 12 13 46.6 +0.8
baz=100,SNR=6.2
R30A Dighton 99.85 333 ⇑P Pdif 12 13 45.4 -0.2
baz=100
BINY Binghamton 99.88 353 PFAKE 12 14 00.0 +14
BINY LR LR
comp=Z,7μm,19.0s
109C Camp Elliot, M 99.90 318 ⇑P Pdif 12 13 46.6 +0.7
baz=100
S27A Las Animas 99.94 331 ⇓P Pdif 12 13 46.3 +0.1
baz=100
Q33A Connelly Farm, 99.96 335 ⇑P Pdif 12 13 45.9 -0.2
baz=100
BC3 Big Chuckawall 100.02 320 ⇓P Pdif 12 13 47.0 +0.5
baz=100
T24B San Luis 100.02 329 ⇑P Pdif 12 13 47.3 +0.6
baz=100
S26A Kim 100.03 331 ⇓P Pdif 12 13 46.6 0.0
baz=100,SNR=5.9
Q32A Meitler Ranch, 100.12 335 ⇓P Pdif 12 13 47.2 +0.4
baz=100
ERPA Erie 100.13 350 PFAKE 12 14 00.0 +13
ERPA LR LR
comp=Z,6μm,19.0s
PDMCI Parker Dam,Lak 100.15 321 ⇑P Pdif 12 13 47.7 +0.8
baz=100
T23A Casias Ranch, 100.18 328 ⇑P Pdif 12 13 48.1 +0.7
baz=100
R29A Marienthal 100.19 333 ⇓P Pdif 12 13 47.1 0.0
baz=100
R28A Tribune 100.28 332 ⇓P Pdif 12 13 47.4 -0.2
baz=101
PFO Pinyon Flat Ob 100.32 319 *e*Pdif Pdif 12 13 50.1 +2.1
PFO LR LR
comp=Z,5μm,20.0s
PFO Pinyon Flat Ob 100.32 319 P Pdif 12 13 50.0 +2.1
comp=Z,1.7nm,0.8s,baz=174,slow=4.3,SNR=6.1
PFO Pinyon Flat Ob 100.32 319 ⇑P Pdif 12 13 49.3 +1.4
baz=101
S25A Robets Cordova 100.32 330 ⇑P Pdif 12 13 48.1 +0.2
baz=101,SNR=11
Q31A Ellis 100.33 334 ⇓P Pdif 12 13 48.3 +0.6
baz=101
P33A Williams Farm, 100.35 336 ⇓P Pdif 12 13 47.4 -0.4
baz=101
WUAZ Wupatki 100.36 324 *e*Pdif Pdif 12 13 49.7 +1.6
comp=Z,13nm,1.3s
WUAZ LR LR
comp=Z,4μm,19.0s
WUAZ Wupatki 100.36 324 ⇑P Pdif 12 13 49.0 +0.9
baz=101
IRM Iron Mountain 100.37 320 ⇑P Pdif 12 13 49.3 +1.2
baz=101
R27A Eads 100.48 331 ⇓P Pdif 12 13 48.4 -0.2
baz=101
Q30A Quinter 100.50 334 ⇑P Pdif 12 13 47.8 -0.6
baz=101
SCI San Clemente I 100.50 317 ⇓P Pdif 12 13 49.8 +1.2
baz=101
S24A Houchin Ranch, 100.52 329 ⇑P Pdif 12 13 49.8 +0.8
baz=101,SNR=10.0
BELC Belle Mtn. Jos 100.52 320 ⇑P Pdif 12 13 49.1 +0.3
baz=101
MURC Murrieta 100.58 319 ⇓P Pdif 12 13 50.3 +1.3
baz=101
Q29A Oakley 100.60 333 ⇑P Pdif 12 13 49.3 +0.4
baz=101
R26A Arlington 100.66 331 ⇓P Pdif 12 13 49.9 +0.6
baz=101
SDCO Great Sand Dun 100.69 329 *e*Pdif Pdif 12 13 50.5 +0.9
comp=Z,6.1nm,1.3s
SDCO *e*PP PP 12 17 56.3 -1.4
SDCO LR LR
comp=Z,9μm,19.0s
AAM Ann Arbor 100.72 347 *e*P Pdif 12 13 49.4 +0.1
AAM MLR MLR
comp=Z,8μm,21.0s
AAM Ann Arbor 100.72 347 *e*Pdif Pdif 12 13 49.4 +0.1
AAM LR LR
comp=Z,8μm,21.0s
P32A Huiting Farm, 100.73 335 ⇑P Pdif 12 13 48.2 -1.3
baz=101
R25A Fountain Ranch 100.74 330 ⇓P Pdif 12 13 49.2 -0.5
baz=101
NEE2 Needles Airpor 100.74 321 ⇑P Pdif 12 13 50.6 +1.0
baz=101
S23A Nye Farm, Mont 100.80 329 ⇑P Pdif 12 13 50.7 +0.6
baz=101
W13A Hualapai Mount 100.80 322 ⇑P Pdif 12 13 50.8 +0.7
baz=101
WRA Warramunga Arr 100.81 199 P Pdif 12 13 49.8 -0.7
WRA Warramunga Arr 100.81 199 P Pdif 12 13 49.8 -0.7
comp=Z,18nm,0.9s,baz=174,slow=4.1,SNR=43
P31A Stockton 100.82 334 ⇑P Pdif 12 13 49.3 -0.5
baz=101
WRAB Tennant Creek 100.82 199 *e*P Pdif 12 13 49.9 -0.6
WRAB MLR MLR
comp=Z,4μm,20.0s
WRAB Tennant Creek 100.82 199 *e*Pdif Pdif 12 13 49.9 -0.6
WRAB LR LR
comp=Z,4μm,20.0s
CIS Catalina Islan 100.83 318 ⇓P Pdif 12 13 51.6 +1.5
baz=101
Q28A Sharon Springs 100.97 332 ⇑P Pdif 12 13 50.5 -0.2
baz=101
R24A Sanders Place, 101.04 330 ⇓P Pdif 12 13 52.0 +0.9
baz=101,SNR=13
P30A Selden 101.04 334 ⇑P Pdif 12 13 50.3 -0.6
baz=101
MVCO Mesa Verde 101.05 327 *e*PP PP 12 17 58.3 -2.0
comp=Z,210nm,2.8s
MVCO LR LR
comp=Z,9μm,21.0s
MVCO Mesa Verde 101.05 327 ⇓P Pdif 12 13 52.1 +0.8
baz=101
S22A 4UR Ranch, Cre 101.06 328 ⇓P Pdif 12 13 52.2 +0.9
baz=101,SNR=5.4
FMP Fort Macarthur 101.07 318 ⇓P Pdif 12 13 52.5 +1.5
baz=101
BBRC Big Bear Solar 101.08 319 ⇓P Pdif 12 13 52.7 +1.3
baz=101
GMRC Granite Mounta 101.11 320 ⇓P Pdif 12 13 52.4 +1.0
baz=101
KSCO Kaye Shedlock' 101.12 332 ⇑P Pdif 12 13 51.8 +0.4
baz=102
R23A Moffat 101.20 329 ⇓P Pdif 12 13 52.5 +0.6
baz=102
P29A Atwood 101.26 333 ⇑P Pdif 12 13 51.2 -0.6
baz=102
Q26A Hugo 101.27 331 ⇓P Pdif 12 13 52.4 +0.4
baz=102
O32A Brockman Farm, 101.27 335 ⇓P Pdif 12 13 50.6 -1.2
baz=102
MBWA Marble Bar 101.30 185 *e*Pdif Pdif 12 13 53.7 +1.1
comp=Z,16nm,1.2s
MBWA LR LR
comp=Z,8μm,19.0s
BFSC Mount Baldy Ra 101.32 319 ⇓P Pdif 12 13 52.7 +0.4
baz=102
HEC Hector,Ludlow 101.38 320 ⇑P Pdif 12 13 54.3 +1.8
baz=102
O31A Woolen Ranch, 101.41 335 ⇓P Pdif 12 13 51.4 -1.0
baz=102
P28A Saint Francis 101.44 333 ⇑P Pdif 12 13 53.2 +0.5
baz=102
MWC Mount Wilson 101.44 318 *e*P Pdif 12 13 55.1 +2.1
MWC pmax pmax
comp=Z,7.0nm,1.3s
MWC Mount Wilson 101.44 318 *e*Pdif Pdif 12 13 55.1 +2.1
comp=Z,6.7nm,1.3s
Q25A Bedland, Calha 101.45 331 ⇑P Pdif 12 13 53.3 +0.4
baz=102
U15A North Rim 101.49 324 ⇑P Pdif 12 13 54.1 +0.8
baz=102
NCB Newcomb 101.53 354 PFAKE 12 14 00.0 +7.1
NCB LR LR
comp=Z,6μm,19.0s
DECC Green Verdugo 101.57 318 ⇓P Pdif 12 13 54.6 +1.2
baz=102
O30A MW Ranch, Wils 101.60 334 ⇑P Pdif 12 13 53.1 -0.3
baz=102
P27A Ficken Ranch, 101.62 332 ⇓P Pdif 12 13 53.7 +0.1
baz=102
LBNH Lisbon 101.69 356 PFAKE 12 14 10.0 +16
LBNH LR LR
comp=Z,8μm,19.0s
O29A 4D Ranch, Culb 101.72 333 ⇓P Pdif 12 13 54.1 +0.2
baz=102
Q24A Divide 101.74 330 ⇓P Pdif 12 13 54.5 +0.2
baz=102
TUQ Turquoise Moun 101.79 320 ⇓P Pdif 12 13 55.8 +1.4
baz=102
SCIA State Center 101.81 340 PFAKE 12 14 10.0 +16
SCIA LR LR
comp=Z,4μm,21.0s
Q23A Hartsel 101.87 329 ⇑P Pdif 12 13 55.9 +1.0
baz=102
PV01 Paradox Valley 101.93 327 *e*PP PP 12 18 05.9 -1.0
comp=Z,5μm,2.1s
N31A Bailey Ranch, 101.96 335 ⇓P Pdif 12 13 55.5 +0.5
baz=102
O28A Krutsinger Ran 101.96 333 ⇑P Pdif 12 13 55.7 +0.7
baz=102
GSC Goldstone 101.97 320 ⇓P Pdif 12 13 56.2 +1.0
baz=102
P25A Willow Gulch B 101.99 331 ⇓P Pdif 12 13 56.4 +1.2
baz=102
EDW2 Edwards Air Fo 102.01 319 ⇑P Pdif 12 13 56.5 +1.2
baz=102
LONY Lake Ozonia 102.19 354 PFAKE 12 14 10.0 +14
LONY LR LR
comp=Z,7μm,20.0s
O27A Beecher Island 102.20 332 ⇑P Pdif 12 13 56.6 +0.5
baz=102
MSEY Mahe Island 102.21 120 PFAKE 12 14 10.0 +13
MSEY LR LR
comp=Z,3μm,20.0s
PV04 Paradox Valley 102.27 327 *e*PP PP 12 18 12.1 +2.7
JFWS Jewell Farm 102.27 342 PFAKE 12 14 10.0 +14
JFWS LR LR
comp=Z,11μm,21.0s
PV10 Paradox Valley 102.29 327 *e*Pdif Pdif 12 13 58.6 +1.9
comp=Z,54nm,0.9s
N28A Pribbeno Ranch 102.44 333 ⇓P Pdif 12 13 56.6 -0.5
baz=103
SMCO Snowmass 102.44 329 *e*Pdif Pdif 12 14 00.0 +2.4
O26A Horse Wrangler 102.46 332 ⇓P Pdif 12 13 57.6 +0.4
baz=103
M31A Lambtecht Ranc 102.46 335 ⇓P Pdif 12 13 57.2 0.0
baz=103
SHPR Sheep Range 102.50 321 *e*PP PP 12 18 11.1 -0.1
comp=Z,27nm,1.6s
O25A Wiggins 102.54 331 ⇑P Pdif 12 13 58.5 +0.9
baz=103
PKME Peaks-Kenny Pk 102.63 358 PFAKE 12 14 10.0 +12
PKME LR LR
comp=Z,8μm,20.0s
ISCO Idaho Springs 102.65 330 *e*P Pdif 12 13 59.4 +1.0
ISCO *e* 12 18 11.5
ISCO pmax pmax
comp=Z,91nm,2.6s
ISCO MLR MLR
comp=Z,8μm,20.0s
ISCO Idaho Springs 102.65 330 *e*Pdif Pdif 12 13 59.4 +1.0
comp=Z,91nm,2.6s
ISCO *e*PP PP 12 18 11.5 -0.8
ISCO LR LR
comp=Z,8μm,20.0s
ISCO Idaho Springs 102.65 330 ⇑P Pdif 12 13 59.1 +0.8
baz=103
P22A Eagle 102.77 329 ⇓P Pdif 12 14 00.1 +1.2
baz=103
OGNE Ogallala 102.80 333 PFAKE 12 14 10.0 +11
OGNE LR LR
comp=Z,4μm,20.0s
O24A Longmont 102.80 330 ⇑P Pdif 12 13 59.4 +0.5
baz=103
ARUT Antelope Range 103.11 323 *e*PP PP 12 18 16.2 +0.5
comp=Z,3μm,2.5s
O23A Lake Granby, G 103.11 330 ⇓P Pdif 12 14 01.2 +0.8
baz=104
L30A Spencer Herefo 103.21 335 ⇑P Pdif 12 14 00.3 -0.2
baz=104
L31A Butterfield Fa 103.22 336 ⇓P Pdif 12 14 00.0 -0.5
baz=104
O22A Kremmling 103.24 329 ⇑P Pdif 12 14 01.5 +0.5
baz=104
VES Vestal, Richgr 103.27 318 ⇓P Pdif 12 14 01.7 +0.9
baz=104

HNR	**Honiara**	**103.35**	**227**	PFAKE		12 14	10.0	+8.2
HNR				LR	LR			
	comp=Z,534nm,19.0s							
SRU	**San Rafael**	**103.41**	**326**	*e*PP	PP	12 18	18.2	+0.3
	comp=Z,103nm,2.3s							
N24A	**Carr**	**103.41**	**331**	⇑P	**Pdif**	**12 14**	**02.3**	**+0.8**
	baz=104							
M27A	**Reverse DX Ran**	**103.44**	**333**	⇑P	**Pdif**	**12 14**	**01.9**	**+0.4**
	baz=104							
L29A	**Maesberg Ranch**	**103.49**	**334**	⇑P	**Pdif**	**12 14**	**01.1**	**-0.6**
	baz=104							
M26A	**McRoberts Ranc**	**103.57**	**332**	⇑P	**Pdif**	**12 14**	**02.3**	**+0.1**
	baz=104							
O20A	**White River Ci**	**103.69**	**328**	⇓P	**Pdif**	**12 14**	**02.9**	**+0.1**
	baz=104							
N23A	**Red Feather La**	**103.76**	**330**	⇓P	**Pdif**	**12 14**	**03.7**	**+0.5**
	baz=104							
M25A	**Palm-Egli Farm**	**103.77**	**332**	⇑P	**Pdif**	**12 14**	**03.3**	**+0.2**
	baz=104							
N22A	**Wattenberg Ran**	**103.81**	**330**	⇓P	**Pdif**	**12 14**	**03.9**	**+0.5**
	baz=104							
K30A	**Basset**	**103.87**	**335**	⇑P	**Pdif**	**12 14**	**03.0**	**-0.3**
	baz=104							
K29A	**Lazy Trails An**	**104.11**	**335**	⇑P	**Pdif**	**12 14**	**05.9**	**+1.4**
	baz=104							
M23A	**Laramie**	**104.24**	**330**	⇑P	**Pdif**	**12 14**	**05.7**	**+0.5**
	baz=105							
ECSD	**EROS Data Cent**	**104.24**	**338**	PFAKE		12 14	20.0	+15
ECSD				LR	LR			
	comp=Z,5µm,19.0s							
K28A	**Ten Mile Ranch**	**104.31**	**334**	⇓P	**Pdif**	**12 14**	**06.1**	**+0.7**
	baz=105							
R11A	**Troy Canyon, C**	**104.32**	**322**	⇓P	**Pdif**	**12 14**	**06.1**	**+0.4**
	baz=105							
M22A	**Cedar Creek Ra**	**104.41**	**330**	⇓P	**Pdif**	**12 14**	**06.5**	**+0.4**
	baz=105							
J30A	**Dallas**	**104.46**	**335**	⇑P	**Pdif**	**12 14**	**05.1**	**-0.8**
	baz=105							
K27A	**Flueckinger Fa**	**104.51**	**333**	⇓P	**Pdif**	**12 14**	**06.3**	**0.0**
	baz=105							
L24A	**Wheatland**	**104.57**	**331**	⇓P	**Pdif**	**12 14**	**06.9**	**+0.3**
	baz=105							
TPH	**Tonopah**	**104.62**	**321**	*e*P	**Pdif**	**12 14**	**09.2**	**+2.1**
TPH	**Tonopah**	**104.62**	**321**	*e*Pdif	**Pdif**	**12 14**	**09.2**	**+2.1**
NLU	**North Lily Min**	**104.66**	**325**	*e*PP	PP	12 18	28.1	+0.8
	comp=Z,22nm,1.5s							
K26A	**Motz Farm, Whi**	**104.74**	**333**	⇑P	**PKiKP**	**12 18**	**23.0**	**+0.4**
	baz=105							
K25A	**Mack Ranch, Ha**	**104.83**	**332**	⇓P	**PKiKP**	**12 18**	**23.8**	**+1.0**
	baz=105							
DUG	**Dugway**	**105.10**	**325**	*e*PKPdf	**PKiKP**	**12 18**	**24.8**	**+1.4**
DUG				LR	LR			
	comp=Z,5µm,21.0s							
NV11	**Mina Array Sit**	**105.26**	**320**	*e*PKPdf	**PKiKP**	**12 18**	**27.5**	**+3.7**
NVAR	**Mina Array Bea**	**105.31**	**320**	PKiKP	**PKiKP**	**12 18**	**25.6**	**+1.7**
NVAR				PKKPbc	**PKKPbc**	**12 29**	**49.3**	**+0.8**
NVAR				PKKP	**PKKPdf**	**12 29**	**59.0**	**-0.6**
NVAR	**Mina Array Bea**	**105.31**	**320**	PKiKP	**PKiKP**	**12 18**	**25.6**	**+1.7**
	comp=Z,2.1nm,0.9s,baz=198,slow=2.4,SNR=6.8							
NVAR				PKKPbc	**PKKPbc**	**12 29**	**49.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=264,slow=4.5,SNR=3.7							
NVAR				PKKP	**PKKPdf**	**12 29**	**59.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=318,slow=3.2,SNR=4.5							
K22A	**Casper**	**105.55**	**330**	PP	PP	12 18	33.8	-0.1
	baz=106							
J24A	**Dixon Ranch, L**	**105.70**	**332**	PP	PP	12 18	34.9	0.0
	baz=106							
K21A	**Alcova**	**105.73**	**330**	PP	PP	12 18	34.9	-0.3
	baz=106							
I27A	**Quinn**	**105.76**	**334**	PP	PP	12 18	34.9	-0.3
	baz=106							
BGU	**Big Grassy Mou**	**105.84**	**325**	*e*PKPdf	**PKiKP**	**12 18**	**26.9**	**+2.1**
H29A	**Onida**	**105.86**	**335**	PP	PP	12 18	34.8	-1.1
	baz=106							
I26A	**New Underwood**	**105.91**	**333**	PP	PP	12 18	36.2	-0.1
	baz=106							
J23A	**Dilts Ranch, B**	**106.00**	**331**	PP	PP	12 18	37.1	0.0
	baz=106							
H28A	**Mission Ridge**	**106.09**	**335**	PP	PP	12 18	36.9	-0.7
	baz=106							
G30A	**Faulkton**	**106.11**	**336**	PP	PP	12 18	36.3	-1.4
	baz=106							
I24A	**Kuemmerle Ranc**	**106.19**	**332**	PP	PP	12 18	37.7	-0.8
	baz=106							
POHA	**Pohakuloa**	**106.20**	**281**	PFAKE		12 18	40.0	
POHA				LR	LR			
	comp=Z,5µm,19.0s							
J22A	**Midwest**	**106.25**	**331**	PP	PP	12 18	38.5	-0.5
	baz=107							
H27A	**Howes**	**106.30**	**334**	PP	PP	12 18	38.5	-0.6
	baz=107							
G29A	**Hoven**	**106.33**	**336**	PP	PP	12 18	38.2	-1.2
	baz=107							
G28A	**Parade**	**106.45**	**335**	PP	PP	12 18	39.2	-1.0
	baz=107							
H26A	**Fairpoint**	**106.45**	**334**	PP	PP	12 18	39.8	-0.4
	baz=107							
J21A	**Lysite**	**106.45**	**330**	PP	PP	12 18	40.6	+0.1
	baz=107							
BW06	**Boulder Array**	**106.50**	**328**	PFAKE		12 18	40.0	
BW06				LR	LR			
	comp=Z,11µm,21.0s							
PDAR	**Pinedale Array**	**106.50**	**328**	Pdif	**Pdif**	**12 14**	**15.4**	**+0.1**
PDAR				PKiKP	**PKiKP**	**12 18**	**25.6**	**-0.5**
PDAR				PKKPbc	**PKKPbc**	**12 29**	**44.8**	**-0.2**
PDAR	**Pinedale Array**	**106.50**	**328**	Pdiff	**Pdif**	**12 14**	**15.4**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=82,slow=11,SNR=3.6							
PDAR				PKiKP	**PKiKP**	**12 18**	**25.6**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=119,slow=1.1,SNR=4.3							
PDAR				PKKPbc	**PKKPbc**	**12 29**	**44.8**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=336,slow=3.3,SNR=4.4							
I23A	**Meade Ranch, G**	**106.50**	**331**	PP	PP	12 18	40.3	-0.4
	baz=107							
J20A	**Shoshoni**	**106.63**	**329**	PP	PP	12 18	41.8	+0.1
	baz=107							
H25A	**Fruitdale**	**106.65**	**333**	PP	PP	12 18	41.5	-0.3
	baz=107							
I22A	**9 Mile Ranch,**	**106.70**	**331**	PP	PP	12 18	41.6	-0.7
	baz=107							
F30A	**Leola**	**106.75**	**337**	PP	PP	12 18	41.3	-1.1
	baz=107							
J19A	**Crowheart**	**106.81**	**329**	PP	PP	12 18	42.7	-0.4
	baz=107							
I21A	**Big Trails, Te**	**106.84**	**330**	PP	PP	12 18	42.7	-0.6
	baz=107							
DGAR	**Diego Garcia**	**106.90**	**137**	PFAKE		12 18	40.0	
DGAR				LR	LR			
	comp=Z,2µm,20.0s							
F29A	**Eureka**	**106.92**	**336**	PP	PP	12 18	42.4	-1.3
	baz=107							
G27A	**Dupree**	**106.97**	**334**	PP	PP	12 18	43.1	-0.9
	baz=107							
H24A	**Dirks Ranch, A**	**107.00**	**332**	PP	PP	12 18	43.7	-0.7
	baz=107							
H23A	**Clabaugh Cattl**	**107.04**	**332**	PP	PP	12 18	44.0	-0.8
	baz=107							
G25A	**Newell**	**107.14**	**333**	PP	PP	12 18	44.7	-0.7
	baz=108							
F28A	**McLaughlin**	**107.15**	**335**	PP	PP	12 18	44.8	-0.6
	baz=108							
I20A	**Worland**	**107.19**	**330**	PP	PP	12 18	45.3	-0.5
	baz=108							
LIS	**Lisbon**	**107.22**	**43**	*e*PP	PP	12 18	46.7	+0.8
LIS				AMS	AMS	13 07	47.6	
	comp=Z,4µm,18.9s							
TARA	**Tarawa**	**107.26**	**244**	PFAKE		12 18	40.0	
TARA				LR	LR			
	comp=Z,3µm,20.0s							
H22A	**Clearmont**	**107.32**	**331**	PP	PP	12 18	46.0	-0.7
	baz=108							
E30A	**Jud**	**107.36**	**337**	PP	PP	12 18	45.8	-1.1
	baz=108							
EYMN	**Ely**	**107.37**	**342**	PFAKE		12 18	40.0	
EYMN				LR	LR			
	comp=Z,6µm,22.0s							
F27A	**Lemmon**	**107.45**	**335**	PP	PP	12 18	46.9	-0.8
	baz=108							
I19A	**Meeteetse**	**107.51**	**329**	PP	PP	12 18	48.2	-0.1
	baz=108							
G24A	**Alzada**	**107.51**	**333**	PP	PP	12 18	47.6	-0.6
	baz=108							
H21A	**Big Horn, Sher**	**107.53**	**331**	PP	PP	12 18	47.4	-1.0
	baz=108							
E29A	**Napoleon**	**107.58**	**336**	PP	PP	12 18	47.4	-1.2
	baz=108							
F26A	**Lodgepole**	**107.58**	**334**	PP	PP	12 18	47.9	-0.7
	baz=108							
G23A	**Biddle**	**107.64**	**332**	PP	PP	12 18	47.9	-1.1
	baz=108							
H20A	**Greybull**	**107.65**	**330**	PP	PP	12 18	49.0	-0.2
	baz=108							
E28A	**Huff**	**107.82**	**336**	PP	PP	12 18	49.3	-1.0
	baz=108							
F25A	**Bowman**	**107.84**	**334**	PP	PP	12 18	49.6	-0.9
	baz=108							
PMG	**Port Moresby**	**107.84**	**215**	PFAKE		12 18	40.0	
PMG				LR	LR			
	comp=Z,3µm,21.0s							
I17A	**Pilgrim Ck.**	**107.85**	**328**	PP	PP	12 18	51.2	+0.4
	baz=108							
E27A	**Carson**	**107.87**	**335**	PP	PP	12 18	50.5	-0.2
	baz=108							
G22A	**Birney**	**107.88**	**331**	PP	PP	12 18	50.0	-0.9
	baz=108							
D30A	**Buchanan**	**107.91**	**337**	PP	PP	12 18	50.4	-0.5
	baz=108							
F24A	**Ekalaka**	**108.00**	**333**	PP	PP	12 18	51.0	-0.7
	baz=108							
D29A	**Pettibone, Tap**	**108.04**	**337**	PP	PP	12 18	50.1	-1.7
	baz=108							
H19A	**Powell**	**108.09**	**329**	PP	PP	12 18	51.4	-1.0
	baz=108							
E26A	**Carlson Angus**	**108.12**	**334**	PP	PP	12 18	51.5	-1.0
	baz=108							
F23A	**Volborg**	**108.13**	**332**	PP	PP	12 18	51.2	-1.4
	baz=108							
G21A	**Lodge Grass**	**108.13**	**331**	PP	PP	12 18	51.3	-1.3
	baz=108							
H17A	**Grant Village**	**108.28**	**328**	PP	PP	12 18	55.0	+1.0
	baz=109							
H18A	**Shoshone NF, C**	**108.29**	**329**	PP	PP	12 18	53.7	-0.3
	baz=109							
E25A	**Miller Ranch,**	**108.37**	**334**	PP	PP	12 18	53.4	-0.9
	baz=109							
D28A	**Regan**	**108.38**	**336**	PP	PP	12 18	53.6	-0.7
	baz=109							
G20A	**Bridger**	**108.39**	**330**	PP	PP	12 18	53.1	-1.5
	baz=109							
F22A	**Rosebud**	**108.40**	**332**	PP	PP	12 18	53.1	-1.4
	baz=109							
C30A	**Mose, Pekin**	**108.42**	**338**	PP	PP	12 18	53.9	-0.7
	baz=109							
AGMN	**Agassiz Nation**	**108.47**	**340**	PFAKE		12 18	40.0	
AGMN				LR	LR			
	comp=Z,7µm,22.0s							
AGMN	**Agassiz Nation**	**108.47**	**340**	PP	PP	12 18	54.8	-0.1
	baz=109							
D27A	**Center**	**108.51**	**335**	PP	PP	12 18	55.1	-0.2
	baz=109							
RLMT	**Red Lodge**	**108.59**	**329**	PFAKE		12 18	40.0	
RLMT				LR	LR			
	comp=Z,5µm,20.0s							
E24A	**Baker**	**108.64**	**333**	PP	PP	12 18	55.4	-0.9
	baz=109							
HLID	**Hailey**	**108.66**	**325**	PFAKE		12 18	40.0	
HLID				LR	LR			
	comp=Z,5µm,20.0s							
HLID	**Hailey**	**108.66**	**325**	PP	PP	12 18	56.2	-0.5
	baz=109							
MDND	**Maddock**	**108.79**	**337**	PP	PP	12 18	56.5	-0.8
	baz=109							
C28A	**Hausauer Farms**	**108.83**	**336**	PP	PP	12 18	56.7	-0.9
	baz=109							
F20A	**Billings**	**108.91**	**330**	PP	PP	12 18	57.3	-1.1
	baz=109							
E22A	**Miles City**	**108.93**	**332**	PP	PP	12 18	57.3	-1.1
	baz=109							
COCO	**West Island**	**108.95**	**162**	PFAKE		12 18	40.0	
COCO				LR	LR			
	comp=Z,4µm,21.0s							
D25A	**Fairfield**	**108.96**	**334**	PP	PP	12 18	58.1	-0.6
	baz=109							
WVOR	**Wild Horse Val**	**109.00**	**322**	PFAKE		12 18	40.0	
WVOR				LR	LR			
	comp=Z,4µm,19.0s							
C27A	**Sayler Ranch,**	**109.07**	**336**	PP	PP	12 18	58.7	-0.7
	baz=109							
B30A	**Myrvik Farm, E**	**109.10**	**338**	PP	PP	12 19	00.1	+0.6
	baz=109							
N02D	**Trinity Center**	**109.12**	**318**	PP	PP	12 18	58.9	-1.0
	baz=110							
D24A	**Glendive**	**109.17**	**333**	PP	PP	12 18	59.8	-0.3
	baz=110							
F19A	**Roth Farm, Mol**	**109.17**	**330**	PP	PP	12 18	59.6	-0.7
	baz=110							
LAO	**LASA Array**	**109.23**	**332**	PFAKE		12 18	40.0	
LAO				LR	LR			
	comp=Z,4µm,20.0s							
MTE	**Manteigas**	**109.28**	**44**	PFAKE		12 18	40.0	
MTE				LR	LR			
	comp=Z,6µm,20.0s							
C26A	**Wahner Farm, P**	**109.31**	**335**	PP	PP	12 19	00.4	-0.8
	baz=110							
E21A	**Keefer Ranch,**	**109.31**	**331**	PP	PP	12 19	00.2	-1.0
	baz=110							
D23A	**Lindsay**	**109.43**	**333**	PP	PP	12 19	01.5	-0.5
	baz=110							
C25A	**Freed Ranch, W**	**109.47**	**334**	PP	PP	12 19	01.6	-0.7
	baz=110							
B28A	**Dugan Ranch, T**	**109.52**	**337**	PP	PP	12 19	02.1	-0.6
	baz=110							
M04C	**Macdoel**	**109.53**	**319**	PP	PP	12 19	02.5	-0.4
	baz=110							
M02C	**Callahan**	**109.54**	**318**	PP	PP	12 19	02.3	-0.6
	baz=110							
E20A	**Meyer Farm, Mu**	**109.56**	**331**	PP	PP	12 19	02.6	-0.3
	baz=110							
A30A	**Hoffart Farm,**	**109.56**	**338**	PP	PP	12 19	02.6	-0.2
	baz=110							
C24A	**Savage**	**109.58**	**333**	PP	PP	12 19	02.5	-0.6
	baz=110							
D22A	**Cohagen**	**109.65**	**332**	PP	PP	12 19	03.2	-0.5
	baz=110							
B27A	**Peters Farms,**	**109.67**	**336**	PP	PP	12 19	03.4	-0.3
	baz=110							
E19A	**Rath Farm, Rou**	**109.69**	**330**	PP	PP	12 19	03.6	-0.4
	baz=110							
BOZ	**Bozeman (W)**	**109.73**	**328**	PFAKE		12 18	40.0	
BOZ				LR	LR			
	comp=Z,7µm,21.0s							
A29A	**Manning Farm,**	**109.73**	**337**	PP	PP	12 19	05.3	+1.2
	baz=110							
PAB	**San Pablo**	**109.76**	**46**	PFAKE		12 18	40.0	
PAB				LR	LR			
	comp=Z,4µm,19.0s							
D21A	**La Casta Ranch**	**109.78**	**332**	PP	PP	12 19	04.4	-0.2
	baz=110							
B26A	**Jensen Ranch,**	**109.86**	**335**	PP	PP	12 19	04.0	-1.1
	baz=110							
A28A	**Rude Farm, Bot**	**109.94**	**337**	PP	PP	12 19	06.4	+0.7
	baz=110							
B25A	**Knox Farm, Ray**	**109.97**	**335**	PP	PP	12 19	05.5	-0.4
	baz=110							
C23A	**Lambert**	**110.02**	**333**	PP	PP	12 19	05.7	-0.5
	baz=110							
ESDC	**Sonseca Array**	**110.02**	**47**	PP	PP	12 19	03.7	-2.7
ESDC	**Sonseca Array**	**110.02**	**47**	PP	PP	12 19	03.7	-2.7
	comp=Z,2.8nm,1.0s,baz=205,slow=7.1,SNR=6.3							
D20A	**Manuel Ranch,**	**110.10**	**331**	PP	PP	12 19	06.6	-0.3
	baz=110							
C22A	**Vida**	**110.13**	**333**	PP	PP	12 19	06.7	-0.4
	baz=110							
K04D	**Chiloquin, OR**	**110.24**	**319**	PP	PP	12 19	07.9	-0.2
	baz=111							
A26A	**Wade Farm, Ken**	**110.31**	**336**	PP	PP	12 19	07.3	-1.0
	baz=111							
ULM	**Lac du Bonnet**	**110.35**	**340**	PP	PP	12 19	07.7	-0.9
ULM	**Lac du Bonnet**	**110.35**	**340**	PP	PP	12 19	07.7	-0.9
	comp=Z,6.6nm,1.0s,baz=166,slow=7.2,SNR=6.5							
D19A	**Cripps Ranch,**	**110.36**	**330**	PP	PP	12 19	08.1	-0.7
	baz=111							
DGMT	**Dagmar**	**110.40**	**334**	PFAKE		12 18	40.0	
DGMT				LR	LR			
	comp=Z,4µm,20.0s							
DGMT	**Dagmar**	**110.40**	**334**	PP	PP	12 19	08.7	-0.3
	baz=111							
B23A	**Brockton**	**110.59**	**333**	PP	PP	12 19	10.3	-0.1
	baz=111							
A25A	**Svangstu Ranch**	**110.59**	**335**	PP	PP	12 19	09.8	-0.6
	baz=111							
J05D	**Fort Rock, OR**	**110.64**	**320**	PP	PP	12 19	10.2	-0.8
	baz=111							
C20A	**Veseth Ranch,**	**110.64**	**331**	PP	PP	12 19	10.2	-0.6
	baz=111							
B22A	**Reddig Ranch S**	**110.68**	**333**	PP	PP	12 19	10.5	-0.5
	baz=111							
A24A	**Westby**	**110.78**	**334**	PP	PP	12 19	11.6	-0.2
	baz=111							
C19A	**Slack Wire Ran**	**110.93**	**330**	PP	PP	12 19	12.5	-0.4
	baz=111							
A23A	**Redstone**	**111.02**	**334**	PP	PP	12 19	13.7	+0.2
	baz=111							
B21A	**Ellsworth Farm**	**111.05**	**332**	PP	PP	12 19	13.1	-0.6
	baz=111							
A22A	**Carney Farms,**	**111.30**	**333**	PP	PP	12 19	15.3	-0.2
	baz=112							
B20A	**Solberg Farm,**	**111.31**	**331**	PP	PP	12 19	15.5	-0.1
	baz=112							
EGMT	**Eagleton**	**111.39**	**330**	PFAKE		12 18	50.0	
EGMT				LR	LR			
	comp=Z,4µm,20.0s							
EGMT	**Eagleton**	**111.39**	**330**	PP	PP	12 19	15.9	-0.3
	baz=112							
MSO	**Missoula**	**111.47**	**327**	PP	PP	12 19	15.8	-1.1
	baz=112							
A21A	**Bergtoll Ranch**	**111.55**	**332**	PP	PP	12 19	16.9	-0.4
	baz=112							
B19A	**Brinkman Farms**	**111.57**	**331**	PP	PP	12 19	17.0	-0.5
	baz=112							
I05D	**Terrebonne, OR**	**111.60**	**321**	PP	PP	12 19	17.6	-0.1
	baz=112							
A20A	**Cobblestone Ra**	**111.70**	**332**	PP	PP	12 19	18.3	0.0
	baz=112							
A19A	**Klindworth Far**	**111.95**	**331**	PP	PP	12 19	20.4	+0.2
	baz=112							
SWMT	**Swartz Lake**	**112.11**	**327**	*e*PKPdf	**PKiKP**	**12 18**	**36.5**	**+0.2**
CMAH	**Djebel Manchou**	**112.21**	**56**	P	PKKPdf	12 29	52.0	+5.9
JTMT	**Jette**	**112.40**	**327**	*e*PKPdf	**PKiKP**	**12 18**	**37.6**	**+0.8**
YBMT	**Yellow Bay**	**112.43**	**327**	*e*PP	PP	12 19	21.5	-2.3
HAWA	**Hanford**	**112.81**	**323**	PFAKE		12 18	50.0	
HAWA				LR	LR			
	comp=Z,4µm,20.0s							
NEW	**Newport**	**113.72**	**325**	*e*PKPdf	**PKiKP**	**12 18**	**38.9**	**-0.3**
NEW				LR	LR			
	comp=Z,4µm,19.0s							
SJPF	**Ste Jean**	**114.02**	**47**	*e*PKIKP	**PKiKP**	**12 18**	**39.7**	**-0.2**
	comp=Z,56nm,1.4s							
SJPF	**Ste Jean**	**114.02**	**47**	*e*PKIKP	**PKiKP**	**12 18**	**39.7**	**-0.2**
SJPF	**Ste Jean**	**114.02**	**47**	*e*PKPdf	PKPdf	12 18	39.7	-0.2
EPF	**Esparros**	**114.57**	**48**	*e*PKIKP	PKPdf	12 18	41.1	+0.1
EPF	**Esparros**	**114.57**	**48**	*e*PKIKP	PKPdf	12 18	41.1	+0.1
EPF	**Esparros**	**114.57**	**48**	*e*PKPdf	PKPdf	12 18	41.1	+0.1
WDD	**Wield Dalam**	**114.87**	**62**	PFAKE		12 18	50.0	+8.3
WDD				LR	LR			
	comp=Z,5µm,20.0s							
NLWA	**Neilton Lookou**	**115.13**	**321**	PFAKE		12 18	50.0	+8.1
NLWA				LR	LR			
	comp=Z,4µm,19.0s							
VSL	**Villasalto**	**115.45**	**56**	PFAKE		12 18	50.0	+7.2
VSL				LR	LR			
	comp=Z,4µm,19.0s							
FFC	**Flin Flon**	**115.78**	**338**	PFAKE		12 18	50.0	+7.1
FFC				LR	LR			
	comp=Z,7µm,19.0s							
LFF	**La Frestale**	**116.33**	**47**	*e*PKIKP	**PKPdf**	**12 18**	**44.5**	**+0.3**
LFF	**La Frestale**	**116.33**	**47**	*e*PKIKP	**PKPdf**	**12 18**	**44.5**	**+0.3**
LFF	**La Frestale**	**116.33**	**47**	*e*PKPdf	**PKPdf**	**12 18**	**44.5**	**+0.3**
CAF	**Calviac**	**116.83**	**48**	*e*PKIKP	**PKPdf**	**12 18**	**45.3**	**0.0**
	comp=Z,131nm,1.9s							
CAF	**Calviac**	**116.83**	**48**	*e*PKIKP	**PKPdf**	**12 18**	**45.3**	**0.0**
CAF	**Calviac**	**116.83**	**48**	*e*PKPdf	**PKPdf**	**12 18**	**45.3**	**0.0**
RJF	**Les Rejaudoux**	**116.93**	**47**	*e*PKIKP	**PKPdf**	**12 18**	**45.4**	**0.0**
RJF				*e*R				
	comp=Z,13µm,22.2s							
RJF	**Les Rejaudoux**	**116.93**	**47**	*e*PKIKP	**PKPdf**	**12 18**	**45.4**	**0.0**
RJF	**Les Rejaudoux**	**116.93**	**47**	*e*PKPdf	**PKPdf**	**12 18**	**45.4**	**0.0**
EDM	**Edmonton**	**117.07**	**330**	*e*PKIKP	**PKPdf**	**12 18**	**44.0**	**-1.4**
EDM	**Edmonton**	**117.07**	**330**	*e*PKPdf	**PKPdf**	**12 18**	**44.0**	**-1.4**
KAPI	**Kappang**	**117.33**	**186**	PFAKE		12 19	00.0	+13
KAPI				LR	LR			
	comp=Z,3µm,20.0s							
QUIF	**Quistinic**	**117.35**	**42**	*e*PKIKP	**PKPdf**	**12 18**	**46.2**	**+0.1**
	comp=Z,151nm,1.6s							
QUIF	**Quistinic**	**117.35**	**42**	*e*PKIKP	**PKPdf**	**12 18**	**46.2**	**+0.1**
QUIF	**Quistinic**	**117.35**	**42**	*e*PKPdf	**PKPdf**	**12 18**	**46.2**	**+0.1**
CEL	**Celeste**	**117.44**	**61**	PFAKE		12 19	00.0	+13
CEL				LR	LR			
	comp=Z,4µm,21.0s							
ROSF	**Rostrenen**	**117.67**	**42**	*e*PKIKP	**PKPdf**	**12 18**	**47.2**	**+0.5**
	comp=Z,167nm,1.7s							
ROSF	**Rostrenen**	**117.67**	**42**	*e*PKIKP	**PKPdf**	**12 18**	**47.2**	**+0.5**
ROSF	**Rostrenen**	**117.67**	**42**	*e*PKPdf	**PKPdf**	**12 18**	**47.2**	**+0.5**
PGF	**Pioggiola**	**117.77**	**54**	*e*PKIKP	**PKPdf**	**12 18**	**47.2**	**0.0**
	comp=Z,135nm,1.7s							
PGF	**Pioggiola**	**117.77**	**54**	*e*PKIKP	**PKPdf**	**12 18**	**47.2**	**0.0**
PGF	**Pioggiola**	**117.77**	**54**	*e*PKPdf	**PKPdf**	**12 18**	**47.2**	**0.0**
VIVF	**Saint-Julien-l**	**117.83**	**49**	*e*PKIKP	**PKPdf**	**12 18**	**47.6**	**+0.4**
VIVF	**Saint-Julien-l**	**117.83**	**49**	*e*PKIKP	**PKPdf**	**12 18**	**47.6**	**+0.4**
VIVF	**Saint-Julien-l**	**117.83**	**49**	*e*PKPdf	**PKPdf**	**12 18**	**47.6**	**+0.4**
SGMF	**Saint Gilles**	**117.86**	**43**	*e*PKIKP	**PKPdf**	**12 18**	**47.5**	**+0.4**
	comp=Z,280nm,1.9s							
SGMF	**Saint Gilles**	**117.86**	**43**	*e*PKI

CABF	La Chapelle	119.83	49	ePKIKP	PKPdf	12 18 51.0	-0.1	
CABF	La Chapelle	119.83	49	ePKPdf	PKPdf	12 18 51.0	-0.1	
EIL	Elat	120.30	82	PKP	PKPdf	12 18 52.1	-0.3	
EIL	Elat	120.30	82	PKP	PKPdf	12 18 52.1	-0.3	
	comp=Z,12nm,0.8s,baz=255,slow=0.5,SNR=11							
SANT	Santorini	120.62	70	PFAKE		12 19 00.0	+7.1	
SANT				LR	LR			
	comp=Z,2μm,21.0s							
SFTF	Sexfontaines	120.70	47	ePKIKP	PKPdf	12 18 53.0	+0.4	
	comp=Z,123nm,1.5s							
SFTF	Sexfontaines	120.70	47	ePKPdf	PKPdf	12 18 53.0	+0.4	
LBMI	Labuha	120.85	196	PKP	PKPdf	12 18 56.0	+2.0	
MEZF	Maizieres J'vi	120.94	47	ePKIKP	PKPdf	12 18 53.5	+0.5	
	comp=Z,142nm,1.5s							
MEZF	Maizieres J'vi	120.94	47	ePKPdf	PKPdf	12 18 53.5	+0.5	
HAU	Haudompre	121.06	48	ePKIKP	PKPdf	12 18 53.7	+0.4	
	comp=Z,58nm,1.4s							
HAU				eR				
	comp=Z,5μm,20.0s							
HAU	Haudompre	121.06	48	ePKIKP	PKPdf	12 18 53.7	+0.4	
HAU	Haudompre	121.06	48	ePKPdf	PKPdf	12 18 53.7	+0.4	
TUE	Stuetta	121.06	51	ePKPdf	PKPdf	12 18 53.6	0.0	
TUE				LR	LR			
	comp=Z,4μm,20.0s							
HINF	Hinteralfeld	121.11	49	ePKIKP	PKPdf	12 18 53.7	+0.3	
	comp=Z,120nm,1.8s							
HINF	Hinteralfeld	121.11	49	ePKIKP	PKPdf	12 18 53.7	+0.3	
HINF	Hinteralfeld	121.11	49	ePKPdf	PKPdf	12 18 53.7	+0.3	
PAGF	Fort de Pagny	121.25	48	ePKIKP	PKPdf	12 18 54.3	+0.7	
	comp=Z,18nm,1.5s							
PAGF	Fort de Pagny	121.25	48	ePKPdf	PKPdf	12 18 54.3	+0.7	
DAVOX	Davos/Dischmat	121.53	51	PKP	PKPdf	12 18 54.4	-0.1	
DAVOX	Davos/Dischmat	121.53	51	PKP	PKPdf	12 18 54.4	-0.1	
	comp=Z,16nm,0.9s,baz=132,slow=3.9,SNR=16							
ECH	Echery	121.55	49	PFAKE		12 19 10.0	+16	
ECH				LR	LR			
	comp=Z,4μm,20.0s							
CDF	Champ du Feu	121.76	49	ePKIKP	PKPdf	12 18 55.0	+0.3	
	comp=Z,101nm,1.8s							
CDF	Champ du Feu	121.76	49	ePKIKP	PKPdf	12 18 55.0	+0.3	
CDF	Champ du Feu	121.76	49	ePKPdf	PKPdf	12 18 55.0	+0.3	
BAIF	Baives	121.87	46	ePKIKP	PKPdf	12 18 55.3	+0.6	
	comp=Z,73nm,1.5s							
BAIF	Baives	121.87	46	ePKIKP	PKPdf	12 18 55.3	+0.6	
BAIF	Baives	121.87	46	ePKPdf	PKPdf	12 18 55.3	+0.6	
DAVA	Damuels	121.93	51	*i* PKPdf	PKPdf	12 18 56.6	+1.4	
	comp=Z,36nm,1.2s,SNR=6.5							
DOU	Dourbes	122.05	46	PKP	PKPdf	12 18 56.4	+1.4	
FETA	Feichten	122.08	52	*i* PKPdf	PKPdf	12 18 56.5	+1.0	
	comp=Z,27nm,1.4s,SNR=7.4							
BFO	Black Forest	122.12	49	*i* PKIKP	PKPdf	12 18 56.4	+1.1	
BFO	Black Forest	122.12	49	ePKPdf	PKPdf	12 18 55.3	0.0	
BFO	Black Forest	122.12	49	PFAKE		12 19 10.0	+15	
BFO				LR	LR			
	comp=Z,2μm,19.0s							
MNSI	Mandailing Nat	122.13	163	PKP	PKPdf	12 18 56.0	-0.5	
GIVF	Givet	122.14	46	ePKIKP	PKPdf	12 18 55.9	+0.7	
	comp=Z,198nm,1.8s							
GIVF	Givet	122.14	46	ePKIKP	PKPdf	12 18 55.9	+0.7	
GIVF	Givet	122.14	46	ePKPdf	PKPdf	12 18 55.9	+0.7	
GSI	Gunungsitoli	122.29	161	ePKPdf	PKPdf	12 18 57.8	+1.0	
WLF	Walferdange	122.31	47	PKP	PKPdf	12 18 56.3	+0.7	
WLF	Walferdange	122.31	47	PFAKE		12 19 10.0	+14	
WLF				LR	LR			
	comp=Z,6μm,22.0s							
TRI	Trieste	122.36	55	ePKIKP	PKPdf	12 18 55.9	+0.1	
TRI	Trieste	122.36	55	ePKPdf	PKPdf	12 18 55.9	+0.1	
RETA	Reutte	122.46	51	*i* PKPdf	PKPdf	12 18 57.4	+1.3	
	comp=Z,22nm,1.2s,SNR=5.7							
MOTA	Moosalm	122.49	52	⇓*i* PKPdf	PKPdf	12 18 55.9	-0.3	
	comp=Z,27nm,1.0s,SNR=11							
BCLA	Clavier	122.58	46	PKP	PKPdf	12 18 56.0	-0.1	
ABTA	Abfaltersbach	122.63	53	⇓*i* PKPdf	PKPdf	12 18 56.1	-0.3	
	comp=Z,19nm,1.2s,SNR=6.2							
WTTA	Wattenberg	122.66	52	⇑*i* PKPdf	PKPdf	12 18 56.3	-0.2	
	comp=Z,49nm,1.5s,SNR=12							
GTOI	Gorontalo	122.66	191	PKP	PKPdf	12 19 00.9	+3.4	
WATA	Walderalm	122.69	52	⇑*i* PKPdf	PKPdf	12 18 56.1	-0.5	
	comp=Z,17nm,1.2s,SNR=7.9							
STU	Stuttgart	122.82	50	ePKIKP	PKPdf	12 18 57.0	+0.4	
STU	Stuttgart	122.82	50	ePKPdf	PKPdf	12 18 56.6	0.0	
STU	Stuttgart	122.82	50	ePKPdf	PKPdf	12 18 57.0	+0.4	
GORS	Gorjuse	122.93	54	ePKPdf	PKPdf	12 18 57.5	+0.5	
LJU	Ljubljana	122.95	55	ePKPdf	PKPdf	12 18 57.3	+0.4	
LJU				ePP	PP	12 20 35.5	-1.3	
LJU				eSS	SS	12 37 29.4	+8.9	
MEM	Membach	123.00	46	PKP	PKPdf	12 18 58.5	+1.6	
MYKA	Terra Mystica	123.02	54	⇑*i* PKPdf	PKPdf	12 18 57.2	+0.1	
	comp=Z,24nm,1.0s,SNR=7.3							
MMAI	Mount Meron Ar	123.16	80	PKP	PKPdf	12 18 57.9	0.0	
MMAI	Mount Meron Ar	123.16	80	PKP	PKPdf	12 18 57.9	0.0	
	comp=Z,13nm,1.0s,baz=297,slow=0.2,SNR=4.0							
TRD	Trivandrum	123.24	135	eP	PKPdf	12 18 59.2	+0.7	
TRD				AMS	AMS	13 08 09.6		
	comp=Z,3μm,11.7s							
ASF	Jabal al Asfar	123.30	81	PKP	PKPdf	12 18 59.4	+1.2	
ASF	Jabal al Asfar	123.30	81	PKP	PKPdf	12 18 59.4	+1.2	
	comp=Z,14nm,1.1s,baz=154,slow=1.1,SNR=9.6							
OBKA	Obir	123.32	55	⇓*i* PKPdf	PKPdf	12 18 58.3	+0.5	
	comp=Z,38nm,1.2s,SNR=9.8							
ESK	Eskdalemuir	123.50	38	PFAKE		12 19 10.0	+12	
ESK				LR	LR			
	comp=Z,6μm,19.0s							
EKA	Eskdalemuir Ar	123.53	38	PKP	PKPdf	12 18 56.9	-0.9	
EKA	Eskdalemuir Ar	123.53	38	PKP	PKPdf	12 18 56.9	-0.9	
	comp=Z,9.0nm,0.9s,baz=200,slow=1.4,SNR=14							
CSS	Prodhromos	123.57	77	ePKPdf	PKPdf	12 18 58.5	-0.1	
CSS				LR	LR			
	comp=Z,854nm,21.0s							
TNS	Taunus Mts	123.66	48	ePKPdf	PKPdf	12 18 58.8	+0.6	
SOKA	Soboth	123.67	55	⇑*i* PKPdf	PKPdf	12 18 59.6	+1.2	
	comp=Z,32nm,1.5s,SNR=14							
PERS	Pernice	123.67	55	ePKPdf	PKPdf	12 18 58.4	0.0	
MMB	Musomiste	123.79	65	⇑PKIKP	PKPdf	12 18 59.3	+0.5	
MMB	Musomiste	123.79	65	⇑*i* P	PKPdf	12 18 59.3	+0.5	
KSM	Kuching	123.87	176	PKP	x	12 19 01.6		
KSM	Kuching	123.87	176	PFAKE		12 19 10.0	+10	
KSM				LR	LR			
	comp=Z,6μm,21.0s							
KULA	Kula-Manisa	123.89	70	eP	PKPdf	12 18 59.2	+0.1	
PSI	Prapat	123.98	162	PKP	x	12 19 00.0		
KOGS	Kog	124.03	56	ePKPdf	PKPdf	12 18 59.1	+0.1	
TPTI		124.12	160	PKP	PKPdf	12 19 04.1	+3.8	
BUG	Bochum--Univer	124.15	46	ePKPdf	PKPdf	12 18 59.3	+0.3	
KHL	Karahalli	124.19	71	eP	PKPdf	12 19 00.1	+0.4	
MOA	Molln	124.23	53	*i* PKPdf	PKPdf	12 19 00.4	+1.0	
	comp=Z,43nm,1.6s,SNR=12							
SUTC	Sutluce-Ispart	124.29	73	eP	PKPdf	12 19 02.2	+2.2	
VTS	Vitosha	124.31	63	⇓PKIKP	PKPdf	12 19 00.3	+0.4	
VTS	Vitosha	124.31	63	⇓*i* P	PKPdf	12 19 00.3	+0.4	
ISP	Isparta	124.31	72	⇑*i* PKIKP	PKPdf	12 19 01.1	+1.1	
ISP	Isparta	124.31	72	PFAKE		12 19 10.0	+10	
ISP				LR	LR			
	comp=Z,2μm,19.0s							
ARSA	Arzberg	124.32	55	*i* PKPdf	PKPdf	12 18 59.9	+0.3	
	comp=Z,37nm,1.1s,SNR=14							
GRF	Grafenberg Arr	124.37	50	ePKPdf	PKPdf	12 18 59.6	0.0	
GRF				eSKKPbc	SKKPbc	12 32 34.1	+0.7	
GRF				eL	L	13 14 40.4		
	comp=Z,3μm,20.9s							
KCSI	Kotacane, Aceh	124.49	160	PKP	PKPdf	12 19 00.0	-1.0	
TSI	Tuntungan	124.61	161	PKP	PKPdf	12 19 05.4	+4.2	
KDZ	Kurdzhali	124.66	66	⇓PKIKP	PKPdf	12 19 00.2	-0.2	
KDZ	Kurdzhali	124.66	66	⇓*i* P	PKPdf	12 19 00.2	-0.2	
MIDW	Midway	124.69	269	PFAKE		12 19 10.0	+9.2	
MIDW				LR	LR			
	comp=Z,3μm,20.0s							
UBBA	Unterbreizbach	124.75	49	ePKPdf	PKPdf	12 19 00.6	+0.5	
GEC2	GERESS Array S	124.76	52	ePKPdf	PKPdf	12 18 59.7	-0.8	
GERES	GERESS Array B	124.76	52	PKP	PKPdf	12 19 00.0	-0.5	
GERES	GERESS Array B	124.76	52	PKP	PKPdf	12 19 00.0	-0.5	
	comp=Z,12nm,0.9s,baz=207,slow=1.5,SNR=62							
SHUT	Suhut-Afyon	124.88	72	eP	PKPdf	12 19 00.4	-0.6	
SFJD	Kangerlussuaq	124.91	7	PFAKE		12 19 10.0	+10	
SFJD				LR	LR			
	comp=Z,7μm,20.0s							
PKSM	Moragy	124.92	57	⇑PKIKP	PKPdf	12 19 01.1	+0.4	
PKSM	Moragy	124.92	57	⇑*i* P	PKPdf	12 19 01.1	+0.4	
PKSM	Moragy	124.92	57	⇓ePKPdf	PKPdf	12 19 01.5	+0.8	
KHC	Kasperske Hory	124.92	52	ePKIKP	PKPdf	12 19 00.5	-0.2	
KHC				*e*		12 19 06.1		
KHC				*e*		12 20 47.2		
KHC				*e*		12 32 24.3		
KHC				eSS	SS	12 37 41.0	-4.4	
KHC				MLR	MLR			
	comp=Z,4μm,21.5s							
KHC	Kasperske Hory	124.92	52	ePKPdf	PKPdf	12 19 00.5	-0.2	
KHC				epPKP	pPKPdf	12 19 06.1	+2.0	
KHC				*ex*	x	12 19 15.0		
KHC				ePP	PP	12 20 47.2	-2.8	
KHC				*ex*	x	12 30 39.0		
KHC				eSKKP		12 32 24.3		
KHC				eSS	SS	12 37 41.0	-4.4	
KHC				AMS	AMS	13 18 00.0		
	comp=Z,4μm,21.5s							
KHC	Kasperske Hory	124.92	52	ePKPdf	PKPdf	12 19 01.1	+0.4	
CONA	Conrad Observa	124.99	54	*i* PKPdf	PKPdf	12 19 01.8	+0.9	
	comp=Z,30nm,1.4s,SNR=7.9							
IBBN	Ibbenburen	125.02	46	ePKPdf	PKPdf	12 19 01.1	+0.4	
ALT	Altintas	125.04	71	eP	PKPdf	12 19 00.4	-0.9	
PKS9	Tamasi	125.04	57	⇓ePKPdf	PKPdf	12 19 01.8	+0.9	
H11S2	WAKE ISLAND Hyl	125.06	247	T	T	14 36 33.1		
	baz=150,slow=0.7,SNR=561							
H11S3	WAKE ISLAND Hyl	125.07	247	T	T	14 36 39.9		
	baz=150,slow=0.7,SNR=101							
H11S1	WAKE ISLAND Hyl	125.08	247	T	T	14 36 43.6		
	baz=150,slow=0.7,SNR=146							
SOP	Sopron	125.11	55	⇓*e*	PKPdf	12 19 01.6	+0.6	
NKC	Novy Kostel	125.30	50	ePKIKP	PKPdf	12 19 01.9	+0.6	
NKC				*e*		12 19 07.4		
NKC				*e*		12 20 52.6		
NKC				MLR	MLR			
	comp=Z,2μm,19.7s							
NKC	Novy Kostel	125.30	50	ePKPdf	PKPdf	12 19 01.9	+0.6	
NKC				epPKP	pPKPdf	12 19 07.4	+2.6	
NKC				*ex*	x	12 19 09.7		
NKC				ePP	PP	12 20 52.6	+0.1	
NKC				AMS	AMS	13 15 00.0		
	comp=Z,2μm,19.7s							
KONT	Konya--Tatoy	125.35	74	eP	PKPdf	12 19 01.8	-0.1	
PKST	T¨'s	125.44	56	⇓ePKPdf	PKPdf	12 19 01.7	0.0	
TANN	Tannenbergstha	125.44	50	ePKPdf	PKPdf	12 19 01.5	-0.2	
WRAK	Wrangell Islan	125.55	321	PFAKE		12 19 10.0	+8.5	
WRAK				LR	LR			
	comp=Z,4μm,20.0s							
YKA	Yellowknife Ar	125.60	335	PKP	PKPdf	12 19 01.4	-0.1	
YKA	Yellowknife Ar	125.60	335	PKP	PKPdf	12 19 01.4	-0.1	
	comp=Z,15nm,0.9s,baz=161,slow=2.1,SNR=72							
CSKK	Cs¨ákako	125.62	56	⇓ePKPdf	PKPdf	12 19 01.5	-0.5	
MERS	Mersin	125.65	76	eP	PKPdf	12 19 02.2	-0.3	
CLZ	Clausthal	125.68	48	ePKPdf	PKPdf	12 19 02.1	+0.1	
PKSG		125.70	56	⇓ePKPdf	PKPdf	12 19 02.1	-0.1	
PKS7	Kunszentmiklos	125.78	57	⇓ePKPdf	PKPdf	12 19 02.9	+0.6	
BZS	Buzias	125.84	60	⇓PKIKP	PKPdf	12 19 02.8	+0.3	
BZS	Buzias	125.84	60	⇓*i* P	PKPdf	12 19 02.8	+0.3	
TREC	Trest	125.86	53	ePKIKP	PKPdf	12 19 02.7	+0.2	
TREC				*e*		12 19 08.2		
TREC				*e*		12 20 57.5		
TREC				MLR	MLR			
	comp=Z,4μm,19.0s							
TREC	Trest	125.86	53	ePKPdf	PKPdf	12 19 02.7	+0.2	
TREC				epPKP	pPKPdf	12 19 08.2	+2.3	
TREC				ePP	PP	12 20 57.5	+1.2	
TREC				AMS	AMS	13 18 50.0		
	comp=Z,4μm,19.0s							
IPM	Ipoh	125.96	164	PKP	x	12 19 04.6		
IPM	Ipoh	125.96	164	ePKPdf	PKPdf	12 19 04.1	+0.3	
PRU	Pruhonice	125.98	52	ePKIKP	PKPdf	12 19 03.0	+0.4	
PRU				*e*		12 19 08.5		
PRU				*e*		12 20 55.6		
PRU				*e*		12 32 30.4		
PRU				eSS	SS	12 37 55.3	-3.3	
PRU				MLR	MLR			
	comp=Z,4μm,21.6s							
PRU	Pruhonice	125.98	52	ePKPdf	PKPdf	12 19 03.0	+0.4	
PRU				epPKP	pPKPdf	12 19 08.5	+2.5	
PRU				ePP	PP	12 20 55.6	-1.4	
PRU				*ex*	x	12 30 48.2		
PRU				eSKKP		12 32 30.4		
PRU				eSS	SS	12 37 55.3	-3.3	
PRU				AMS	AMS	13 08 10.0		
	comp=Z,4μm,21.6s							
PKSN	Nyarlorinc	125.99	58	⇓ePKPdf	PKPdf	12 19 03.9	+1.2	
H11N3	WAKE ISLAND Hyl	126.00	248	T	T	14 37 51.0		
	baz=149,slow=0.7,SNR=126							
PRA	Prague	126.00	52	PKPdf	PKPdf	12 19 04.0	+1.4	
PRA				PP	PP	12 20 56.0	-1.1	
H11N1	WAKE ISLAND Hyl	126.00	248	T	T	14 37 45.6		
	baz=149,slow=0.7,SNR=96							
H11N2	WAKE ISLAND Hyl	126.02	248	T	T	14 37 46.5		
	baz=149,slow=0.7,SNR=92							
SVRH	Sivrihisar-ESK	126.05	72	eP	PKPdf	12 19 00.4	-2.8	
NRDL	Niedersach Rie	126.08	47	ePKPdf	PKPdf	12 19 03.0	+0.4	
SULT	Sultanhani-AKS	126.14	74	eP	PKPdf	12 19 02.8	-0.7	
CLL	Collm	126.34	50	⇓*i* PKIKP	PKPdf	12 19 03.7	+0.5	
CLL				*i*		12 19 11.8		
CLL				pmax	pmax			
	comp=Z,51nm,1.3s							
CLL				MLR	MLR			
	comp=Z,4μm,21.5s							
CLL	Collm	126.34	50	ePKPdf	PKPdf	12 19 03.0	-0.2	
CLL	Collm	126.34	50	⇓*i* PKPdf	PKPdf	12 19 03.7	+0.5	
	comp=Z,51nm,1.3s							
CLL				*i*		12 19 11.8		
CLL				*i*		12 19 18.3		
CLL				ePP	PP	12 20 55.0	-4.4	
CLL				*e*		12 22 24.0		
CLL				ePPP	PPP	12 23 48.0		
CLL				eSKSac	SKSac	12 26 15.0	+7.0	
CLL				eSKKSac	SKKSac	12 27 51.0	-4.9	
CLL				eSdif	Sdif	12 29 09.0	+10	
CLL				ePS	PS	12 30 58.0	-3.4	
CLL				ePcPPKPre		12 32 31.0		
CLL				ePPS	PPS	12 32 35.0		
CLL				*e*		12 33 36.0		
CLL				eSS	SS	12 38 04.0	+1.0	
CLL				eSSS	SSS	12 42 30.0		
CLL				eSSSS		12 46 06.0		
CLL				LV		13 16 00.0		
	comp=Z,4μm,21.5s							
SIRR	Siria	126.34	59	⇑*i* P	PKPdf	12 19 04.1	+0.6	
VRAC	Vranov	126.35	54	⇑*i* P	PKPdf	12 19 04.1	+0.7	
VRAC	Vranov	126.35	54	PKP	PKPdf	12 19 03.3	-0.1	
VRAC	Vranov	126.35	54	PKP	PKPdf	12 19 03.3	-0.1	
	comp=Z,34nm,1.2s,baz=203,slow=1.6,SNR=16							
BRG	Berggiesshubel	126.40	51	ePKP	PKPdf	12 19 03.1	-0.3	
	comp=Z,27nm,1.1s							
BRG				ePP	PP	12 20 56.8	-3.0	
	comp=Z,53nm,1.9s							
BRG				SDIFF		12 29 01.0		
BRG				SS	SS	12 38 04.0	+0.2	
BRG								
	comp=N,3μm,20.2s							
BRG								
	comp=E,2μm,22.4s							
BRG								
	comp=Z,4μm,21.9s							
BRG	Berggiesshubel	126.40	51	ePKIKP	PKPdf	12 19 03.1	-0.3	
BRG				*e*		12 20 56.8		
BRG				SS	SS	12 38 04.0	+0.2	
BRG				pmax	pmax			
	comp=Z,27nm,1.1s							
BRG				pmax	pmax			
	comp=Z,53nm,1.9s							
BRG				MLR	MLR			
	comp=N,3μm,20.2s							
BRG				MLR	MLR			
	comp=E,2μm,22.4s							
BRG				MLR	MLR			
	comp=Z,4μm,21.9s							
BRG	Berggiesshubel	126.40	51	ePKPdf	PKPdf	12 19 03.1	-0.3	
PVCC	Panska Ves	126.40	51	ePKIKP	PKPdf	12 19 04.1	+0.7	
PVCC				*e*		12 19 08.8		
PVCC				*e*		12 20 59.3		
PVCC				MLR	MLR			
	comp=Z,4μm,18.7s							
PVCC	Panska Ves	126.40	51	ePKPdf	PKPdf	12 19 04.1	+0.7	
PVCC				epPKP	pPKPdf	12 19 08.8	+2.0	
PVCC				ePP	PP	12 20 59.3	-0.5	
PVCC				AMS	AMS	13 16 00.0		
	comp=Z,4μm,18.7s							
DLBC	Dease Lake	126.41	324	ePKPdf	PKPdf	12 19 04.3	+1.0	
DEV	Deva	126.63	60	⇑PKIKP	PKPdf	12 19 05.6	+1.6	
DEV	Deva	126.63	60	⇑*i* P	PKPdf	12 19 05.6	+1.6	
NIG	Nigde	126.64	75	eP	PKPdf	12 19 02.2	-2.4	
MDUB	Mudurnu	126.66	71	eP	PKPdf	12 18 59.3	-5.1	
KULM	Kulim	126.70	163	PKP	x	12 19 10.2		
KULM	Kulim	126.70	163	ePKPdf	PKPdf	12 19 05.1	-0.1	
KULM				LR	LR			
	comp=Z,5μm,21.0s							
LOT	Lotru	126.72	61	⇑*i* P	PKPdf	12 19 04.4	+0.1	
BORG	Borgarnes	126.75	22	PKP	PKPdf	12 19 04.5	+1.0	
BORG				LR	LR			
	comp=Z,7μm,20.0s							
BORG	Borgarnes	126.75	22	PKP	PKPdf	12 19 04.5	+1.0	
	comp=Z,24nm,0.9s,baz=216,slow=3.8,SNR=3.8							
PSZ	Piszkesteto	126.77	57	⇑PKIKP	PKPdf	12 19 04.9	+0.6	
PSZ	Piszkesteto	126.77	57	⇑*i* P	PKPdf	12 19 04.9	+0.6	
PSZ	Piszkesteto	126.77	57	ePKPdf	PKPdf	12 19 05.2	+0.9	
PSZ				LR	LR			
	comp=Z,4μm,20.0s							
PSZ	Piszkesteto	126.77	57	⇑ePKPdf	PKPdf	12 19 05.4	+1.1	
KOZT	Kozan	126.80	76	eP	PKPdf	12 19 04.0	-0.7	
AFSR	Af˙ar-Bala (A	126.84	73	eP	PKPdf	12 19 03.4	-1.4	
UPC	Upice	127.00	52	ePKIKP	PKPdf	12 19 05.0	+0.4	
UPC				*e*		12 19 10.8		
UPC	Upice	127.00	52	ePKPdf	PKPdf	12 19 05.0	+0.4	
UPC				epPKP	pPKPdf	12 19 10.8	+2.8	
UPC				ePP	PP	12 20 59.9	-3.9	
KRLC	Kraliky	127.00	53	ePKIKP	PKPdf	12 19 05.4	+0.8	
KRLC				*e*		12 19 11.1		
KRLC				*e*		12 22 03.1		
KRLC	Kraliky	127.00	53	ePKPdf	PKPdf	12 19 05.4	+0.8	
KRLC				epPKP	pPKPdf	12 19 11.1	+3.0	
KRLC				ePP	PP	12 21 03.1	-0.8	
DPC	Dobruska-Polom	127.01	53	ePKIKP	PKPdf	12 19 05.4	+0.7	
DPC				*e*		12 19 11.0		
DPC				*e*		12 31 06.6		
DPC				*e*		12 32 40.5		
DPC				eSS	SS	12 38 07.8	-3.7	
DPC	Dobruska-Polom	127.01	53	ePKPdf	PKPdf	12 19 05.4	+0.7	
DPC				epPKP	pPKPdf	12 19 11.0	+2.9	
DPC				ePP	PP	12 20 58.2	-5.7	
DPC				eSP	SP	12 31 06.6	+0.2	
DPC				*ex*	x	12 32 40.5		
DPC				eSS	SS	12 38 07.8	-3.7	
DPC				AMS	AMS	13 16 20.0		
ANTO	Ankara	127.02	72	⇑PKIKP	PKPdf	12 19 06.7	+1.6	
ANTO	Ankara	127.02	72	⇑*i* P	PKPdf	12 19 06.7	+1.6	
ANTO	Ankara	127.02	72	ePKPdf	PKPdf	12 19 06.2	+1.2	
ANTO				LR	LR			
	comp=Z,2μm,20.0s							
ARR	Arges	127.07	62	⇓*i* P	PKPdf	12 19 05.2	+0.2	
CMBY	CAMPBELL BAY	127.09	155	eP	PKPdf	12 19 04.2	-1.7	
CMBY				AMS	AMS	13 10 01.8		
	comp=Z,3μm,9.4s							
MORC	Moravsky Berou	127.11	54	⇑PKIKP	PKPdf	12 19 06.5	+1.6	
MORC	Moravsky Berou	127.11	54	⇑*i* P	PKPdf	12 19 06.5	+1.6	
MORC	Moravsky Berou	127.11	54	ePKPdf	PKPdf	12 19 06.0	+1.1	
DRGR		127.22	60	⇑PKIKP	PKPdf	12 19 05.8	+0.6	
DRGR		127.22	60	⇑*i* P	PKPdf	12 19 05.8	+0.6	
BSEG	Bad Segeberg	127.26	46	ePKPdf	PKPdf	12 19 05.2	+0.3	
SMDO	Samad	127.28	107	PKPdf	PKPdf	12 19 06.4	+0.3	
	SNR=23							
HOQ	Hoqain	127.33	105	PKPdf	PKPdf	12 19 06.0	-0.1	
	SNR=10							
BR131	Keskin Array S	127.34	73	ePKPdf	PKPdf	12 19 05.6	-0.2	
BRTR	Keskin Array B	127.34	73	PKP	PKPdf	12 19 05.8	0.0	
BRTR	Keskin Array B	127.34	73	PKP	PKPdf	12 19 05.8	0.0	
	comp=Z,13nm,0.9s,baz=190,slow=3.0,SNR=40							
KSP	Ksiaz	127.37	52	ePKIKP	PKPdf	12 19 05.6	+0.4	
KSP				*e*		12 19 11.7		
KSP				ePPS	PPS	12 32 38.0		
KSP				eSS	SS	12 38 12.0	-3.8	
KSP	Ksiaz	127.37	52	ePKPdf	PKPdf	12 19 06.7	+1.5	
KSP				LMZ	LR	13 10 09.9		
KMRS	Kahramanmaras	127.38	77	eP	PKPdf	12 19 06.2	+0.4	
WBK	Wadi Bani Khal	127.38	108	PKPdf	PKPdf	12 19 07.3	+1.

KIS *e* 12 33 10.0
KIS pmax pmax
comp=Z,360nm,1.6s
KIS Kishinev 130.25 63 *e*PKP **PKPdf 12 19 11.0 +0.2**
comp=Z,400nm,1.6s
BNGB Bing¶ll 130.47 79 *e*P **PKPdf 12 19 11.6 -0.1**
CUKT Cukurca 130.73 83 *e*P **PKPdf 12 19 12.2 -0.1**
POO Poona 131.01 126 *e*P **PKPdf 12 19 13.0 -0.3**
POO *e*P **PKiKP 12 19 13.7 -0.5**
POO AMS AMS 13 06 09.4
comp=Z,3µm,22.0s
BAYT Ayd¨ntepe-Bay 131.21 77 *e*P **PKPdf 12 19 14.2 +1.0**
KONO Kongsberg 131.23 41 *i* PKIKP **PKPdf 12 19 17.4 +5.1**
KONO Kongsberg 131.23 41 PFAKE 12 19 20.0 +7.7
KONO LR LR
comp=Z,7µm,20.0s
SUMG Summit 131.37 11 *i* PKIKP **PKPdf 12 19 13.2 +0.5**
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG MLR MLR
comp=Z,5µm,24.0s
SUMG Summit 131.37 11 *i* P **PKPdf 12 19 13.2 +0.5**
comp=Z,23nm,1.1s
SUMG *i* 12 19 30.7
SUMG
comp=Z,5µm,23.0s
SUMG Summit 131.37 11 *e*PKPdf **PKPdf 12 19 13.5 +0.8**
SIM Simferopol' 131.39 69 *i* PKIKP **PKPdf 12 19 13.9 +0.8**
SIM *e* 12 21 35.0
SIM *e*PS **PS 12 31 52.0 +6.5**
SIM *e*SS SS 12 39 13.0 +7.4
SIM pmax pmax
comp=Z,68nm,1.1s
SIM pmax pmax
comp=Z,90nm,6.5s
SIM MLR MLR
comp=N,2µm,21.7s
EZM Erzurum 131.50 79 *e*P **PKPdf 12 19 15.0 +1.2**
SCO Scoresbysund 131.67 18 *i* PKIKP **PKPdf 12 19 13.0 +0.2**
SCO pmax pmax
comp=Z,6.0nm,1.0s
SCO MLR MLR
comp=Z,4µm,22.0s
SCO Scoresbysund 131.67 18 *i* P **PKPdf 12 19 13.0 +0.2**
comp=Z,6.1nm,1.0s
SCO
comp=Z,4µm,21.0s
HYB Hyderabad 131.98 132 *i* PKP **PKPdf 12 19 13.5 -1.6**
HYB *e*PP **PP 12 21 36.0 0.0**
HYB *e*SKP 12 22 40.0
HYB *e* 12 31 34.0
HYB *e*SS SS 12 39 12.0 -0.1
HYB Hyderabad 131.98 132 *e*P **PKPdf 12 19 13.8 -1.3**
AGRB Hanur-Agry 132.12 80 *e*P **PKPdf 12 19 13.9 -1.0**
KULLO Kullorsuaq 132.13 3⇑*i*PKIKP **PKPdf 12 19 12.9 -0.7**
KULLO pmax pmax
comp=Z,11nm,1.0s
KULLO MLR MLR
comp=Z,4µm,22.0s
KULLO Kullorsuaq 132.13 3⇑*i*P **PKPdf 12 19 12.9 -0.7**
comp=Z,11nm,0.9s
KULLO
comp=Z,4µm,21.0s
CLDR Caldiran 132.29 81 *e*P **PKPdf 12 19 15.3 0.0**
NAO01 NORSAR Array S 132.53 40 *e*PKPdf **PKPdf 12 19 15.1 +0.3**
SUW Suwalki 132.58 53 *e*PKIKP **PKPdf 12 19 14.6 -0.4**
SUW Suwalki 132.58 53 *e*PKPdf **PKPdf 12 19 14.6 -0.4**
SUW *e*PKPbc PKiKP 12 19 22.2 +6.1
SUW *e*PKPab 12 19 29.9
SUW LMZ LR 13 09 53.4
SUW Suwalki 132.58 53 *e*PKPdf **PKPdf 12 19 15.4 +0.4**
BCA Borcka 132.74 77 *e*P **PKPdf 12 19 15.7 -0.1**
NB2 NORSAR Subarra 132.78 40 PKPdf **PKPdf 12 19 15.3 0.0**
comp=Z,288nm,2.0s,baz=241,slow=1.9
NB2 NORSAR Subarra 132.78 40 PKPdf **PKPdf 12 19 15.3 0.0**
baz=241,slow=1.9
NOA NORSAR Array B 132.78 40 PKP **PKPdf 12 19 15.7 +0.4**
NOA NORSAR Array B 132.78 40 PKP **PKPdf 12 19 15.7 +0.4**
comp=Z,5.0nm,0.8s,baz=227,slow=1.8,SNR=8.6
DGPR DIGLIPUR 132.79 152 *e*P **PKPdf 12 19 17.9 +1.3**
DGPR AMS AMS 13 08 36.8
comp=Z,2µm,19.4s
ANN Anapa 132.96 71 *i* PKIKP **PKPdf 12 19 15.9 -0.1**
ANN *e* 12 26 25.5
ANN *e*SS SS 12 39 23.0 -1.6
ANN pmax pmax
comp=E,52nm,1.5s
ANN pmax pmax
comp=N,89nm,1.5s
ANN pmax pmax
comp=Z,236nm,1.4s
AK02 Malin Array Si 132.99 60 *e*PKPdf **PKPdf 12 19 15.9 0.0**
AK01 Malin Array Si 133.02 60 *e*PKPdf **PKPdf 12 19 15.4 -0.5**
KIEV Kiev 133.02 60 *i* PKIKP **PKPdf 12 19 15.3 -0.6**
KIEV Kiev 133.02 60 *e*PKPdf **PKPdf 12 19 15.6 -0.3**
KIEV LR LR
comp=Z,3µm,21.0s
AKASG Malin Array Be 133.03 60 PKHKP PKPpre 12 19 07.4
AKASG 12 19 15.1
AKASG pmax pmax
comp=Z,15nm,0.8s
AKASG Malin Array Be 133.03 60 PKPpre PKPpre 12 19 07.4
AKASG PKP **PKPdf 12 19 15.1 -0.9**
AKASG Malin Array Be 133.03 60 PKHKP PKPpre 12 19 07.4
comp=Z,0.2nm,0.4s,baz=242,slow=1.8,SNR=4.7
AKASG PKP **PKPdf 12 19 15.1 -0.9**
comp=Z,15nm,0.8s,baz=254,slow=2.1,SNR=73
AKBB Malin Array Si 133.03 60 *e*PKIKP **PKPdf 12 19 15.5 -0.5**
AKBB Malin Array Si 133.03 60 *e*PKPdf **PKPdf 12 19 15.5 -0.5**
HFS Hagfors 133.03 42 PKP **PKPdf 12 19 14.8 -0.9**
HFS Hagfors 133.03 42 PKP **PKPdf 12 19 14.8 -0.9**
comp=Z,8.1nm,0.8s,baz=159,slow=4.5,SNR=15
BMRM Bremner River 133.19 319 *e*PKPdf **PKPdf 12 19 16.8 +0.8**
BHJ Bhuj 133.20 118 *e*P **PKPdf 12 19 16.2 -1.0**
SOC Sochi 133.27 74*c* *i*PKIKP **PKPdf 12 19 15.8 -0.9**
SOC *i* 12 21 42.4
SOC *e* 12 26 29.1
SOC *i*SS SS 12 39 24.3 -4.2
SOC pmax pmax
comp=Z,62nm,0.9s
SOC MLR MLR
comp=Z,981nm,20.0s
GNI Garni 133.46 81 PKPdf **PKPdf 12 19 18.7 +1.3**
SNR=5.6
GNI Garni 133.46 81 *e*PKPdf **PKPdf 12 19 18.5 +1.1**
GNI LR LR
comp=Z,3µm,20.0s
GNI Garni 133.46 81 PKP **PKPdf 12 19 18.5 +1.1**
comp=Z,13nm,0.7s,baz=271,slow=3.3,SNR=9.0
DAWY Dawson 133.63 324 *e*PKPdf **PKPdf 12 19 16.7 -0.1**
AKH Akhalkalaki 133.70 79 P **PKPdf 12 19 16.5 -1.3**
DIV Divide 133.72 319 *e*PKPdf **PKPdf 12 19 17.2 +0.2**
CHVG Ch'k'valeri 133.89 76 P **PKPdf 12 19 18.4 +0.5**
KDAK Kodiak Island 134.03 312 PFAKE 12 19 30.0 +12
KDAK LR LR
comp=Z,5µm,20.0s
VIS Vishakhapatnam 134.08 137 *e*P **PKPdf 12 19 18.2 -0.8**
KZR Kazreti 134.17 79 P PKPdf 12 19 30.1 +12
SEW Seward 134.36 316 *e*PKPdf **PKPdf 12 19 18.8 +0.7**
ONI Oni 134.52 78 P **PKPdf 12 19 18.5 -0.6**
TBLG Delisi 134.59 79 P **PKPdf 12 19 18.1 -1.1**
NEY Neytrino 134.60 76*d* *i*PKIKP **PKPdf 12 19 20.3 +0.9**
EGAK Eagle 134.68 324 *e*PKPdf **PKPdf 12 19 19.3 +0.6**
EGAK LR LR
comp=Z,4µm,20.0s
DGRG David-gareji 134.72 80 P **PKPdf 12 19 20.0 +0.5**
NACGM Naroch 134.74 54 *e*PKP **PKPdf 12 19 18.0 -1.0**
IIGN Ignalina 134.79 54 *e*P **PKPdf 12 19 17.6 -1.5**
IIGN AMB AMB 12 19 19.1
comp=Z,23nm,2.0s
DOT Dot Lake 134.84 322 *e*PKPdf **PKPdf 12 19 19.6 +0.6**
ZEI Tsey 134.89 78 *i* PKIKP **PKPdf 12 19 19.5 -0.5**
ZEI pmax pmax
comp=Z,36nm,1.3s
ISAL Salakas 134.90 53 *e*P **PKPdf 12 19 17.9 -1.4**
ISAL AMB AMB 12 19 21.6
comp=Z,17nm,1.3s
MNK Minsk 134.94 55⇓*i*PKIKP **PKPdf 12 19 18.0 -1.4**
MNK pmax pmax
comp=Z,350nm,1.2s
MICGM Minsk 134.96 55⇓*i*PKP **PKPdf 12 19 18.0 -1.5**
INK Inuvik 134.96 331 *e*PKPdf **PKPdf 12 19 18.8 -0.2**
IDID Didziasalis 134.99 54 *e*P **PKPdf 12 19 18.1 -1.4**
IDID AMB AMB 12 19 24.0
comp=Z,13nm,1.4s
KBZ Khabaz 135.02 76 PKHKP PKPpre 12 19 11.1
KBZ 12 19 19.9
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 135.02 76 PKPpre PKPpre 12 19 11.1
KBZ PKP **PKPdf 12 19 19.9 0.0**
KBZ Khabaz 135.02 76 PKhKP PKPpre 12 19 11.1
comp=Z,2.5nm,0.9s,baz=202,slow=5.4,SNR=5.1
KBZ PKP **PKPdf 12 19 19.9 0.0**
comp=Z,20nm,0.9s,baz=193,slow=2.9,SNR=23
KIV Kislovodsk 135.07 76 *i* PKIKP **PKPdf 12 19 19.5 -0.7**
KIV *e*PS **PS 12 32 11.3 -5.9**
KIV *e*SS SS 12 39 45.5 -4.9
KIV pmax pmax
comp=Z,61nm,1.1s
KIV MLR MLR
comp=Z,2µm,21.0s
KIV Kislovodsk 135.07 76 PKPdf **PKPdf 12 19 20.6 +0.4**
SNR=8.8
KIV Kislovodsk 135.07 76 PFAKE 12 19 30.0 +10
KIV LR LR
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 135.12 317 *e*PKPdf **PKPdf 12 19 20.0 +0.4**
NCK Nalchik 135.22 77 *e*PKIKP **PKPdf 12 19 21.9 +1.5**
NGP Nagpur 135.53 130 *e*P **PKPdf 12 19 20.0 -1.6**
NGP *ex* x 12 21 59.5
NGP *ex* x 12 40 03.1
NGP AMS AMS 13 20 10.5
comp=Z,2µm,15.1s
GOF Gofitskoye 136.01 75 *e*PKIKP **PKPdf 12 19 21.2 -0.6**
GOF pmax pmax
comp=Z,70nm,1.3s
ILAR Eielson Array 136.52 322 PKPpre PKPpre 12 19 09.4
ILAR PKP **PKPdf 12 19 22.1 +0.1**
ILAR Eielson Array 136.52 322 PKhKP PKPpre 12 19 09.4
comp=Z,1.9nm,1.0s,baz=170,slow=1.9,SNR=12
ILAR PKP **PKPdf 12 19 22.1 +0.1**
comp=Z,59nm,0.9s,baz=198,slow=1.2,SNR=68
MCK McKinley 136.54 320 *e*PKHKP PKPpre 12 19 12.0
MCK *e* 12 19 22.8
MCK McKinley 136.54 320 *e*PKPpre PKPpre 12 19 12.0
MCK *e*PKPdf **PKPdf 12 19 22.8 +0.6**
BHPL Bhopal 136.71 127 *e*P **PKPdf 12 19 22.5 -1.4**
TRF Thorofare Moun 136.84 319 *e*PKPpre PKPpre 12 19 12.6
TRF *e*PKPdf **PKPdf 12 19 23.2 +0.3**
COLA College 136.90 322*d* *i*PKIKP **PKPdf 12 19 22.1 -0.6**
COLA College 136.90 322 *e*PKPpre PKPpre 12 19 12.2
COLA *e*PKPdf **PKPdf 12 19 23.0 +0.2**
COLA LR LR
comp=Z,3µm,20.0s
MAK Makhachkala 136.91 80 *i* PKIKP **PKPdf 12 19 22.3 -1.2**
MAK *e* 12 26 36.7
MAK *e*SS SS 12 40 09.0 -3.1
MAK pmax pmax
comp=Z,458nm,1.1s
MAK MLR MLR
comp=Z,2µm,17.0s
VSU Vasula 137.00 50⇓*i*PKIKP **PKPdf 12 19 24.7 +1.6**
VSU MLR MLR
comp=Z,7µm,19.0s
KTH Kantishna Hill 137.12 319 *e*PKPpre PKPpre 12 19 10.7
KTH *e*PKPdf **PKPdf 12 19 23.5 +0.1**
PPLA Purkeypile 137.17 318 *e*PKPdf **PKPdf 12 19 23.9 +0.4**
PPLA *e*PP **PP 12 22 07.8 -1.3**
PPLA *e*SKPab **SKPab 12 23 04.8 +1.4**
VORD Divnogorie 138.01 66 *e*PKIKP **PKPdf 12 19 22.5 -2.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,4.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,1.0s
VSR Storozhevoye 138.11 65 *e*PKIKP **PKPdf 12 19 23.8 -1.6**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=Z,40nm,1.3s
VSR pmax pmax
comp=E,6.0nm,1.2s
FINES FINESS Array B 138.53 46 PKPpre PKPpre 12 19 16.2
FINES PKP **PKPdf 12 19 25.8 -0.1**
FINES FINESS Array B 138.53 46 PKhKP PKPpre 12 19 16.2
comp=E,3.6nm,1.0s,baz=264,slow=3.8,SNR=3.7
FINES PKP **PKPdf 12 19 25.8 -0.1**
comp=E,11nm,0.9s,baz=153,slow=2.1,SNR=16
FIA1 FINESS Array S 138.53 46 *e*PKPdf **PKPdf 12 19 25.4 -0.4**
KAF Kangasniemi 139.01 46 *e*PKIKP **PKPdf 12 19 26.1 -0.6**
KAF pmax pmax
comp=Z,24nm,0.8s
KAF Kangasniemi 139.01 46 *ep* **PKPdf 12 19 26.1 -0.6**
comp=Z,24nm,0.8s
COLD Coldfoot 139.09 324 *e*PKPpre PKPpre 12 19 19.0
COLD *e*PKPdf **PKiKP 12 19 28.1 -0.9**
VRHR Novokhopersk 139.24 67 *e*PKIKP PKPpre 12 19 22.3
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR MLR MLR
comp=N,310nm,22.0s
VRHR MLR MLR
comp=E,2µm,22.0s
VRHR MLR MLR
comp=Z,2µm,22.0s
OBN Obninsk 139.27 59⇓*i*PKIKP **PKPdf 12 19 26.5 -0.9**
OBN *i* SS SS 12 40 36.3 -3.5
OBN pmax pmax
comp=Z,131nm,1.5s
OBN MLR MLR
comp=Z,3µm,21.0s
OBN Obninsk 139.27 59 PKP **PKPdf 12 19 27.4 0.0**
OBN LR LR
comp=Z,4µm,20.0s
OBN Obninsk 139.27 59 PKP **PKPdf 12 19 27.4 0.0**
comp=Z,26nm,0.8s,baz=165,slow=21,SNR=9.2
CM31 Chiang Mai Arr 139.27 158 *e*PKPdf **PKPdf 12 19 28.6 0.0**
CMAR Chiang Mai Arr 139.27 158 PKPpre PKPpre 12 19 19.2
CMAR PKP **PKPdf 12 19 29.4 +0.8**
CMAR PP **PP 12 22 22.9 +1.3**
CMAR Chiang Mai Arr 139.27 158 PKhKP PKPpre 12 19 19.2
comp=Z,5.8nm,1.1s,baz=224,slow=3.9,SNR=16
CMAR PKP **PKPdf 12 19 29.4 +0.8**
comp=Z,9.5nm,0.9s,baz=216,slow=2.8,SNR=17
CMAR PP **PP 12 22 22.9 +1.3**
comp=Z,3.5nm,1.1s,baz=216,slow=6.8,SNR=5.2
IM04 Indian Mountai 139.55 321 *e*PKPpre PKPpre 12 19 19.4
IM04 *e*PKPdf **PKiKP 12 19 29.4 -0.6**
CHTO Chiang Mai 139.62 158 *e*PKHKP PKPpre 12 19 21.3
CHTO MLR MLR
comp=Z,4µm,22.0s
CHTO Chiang Mai 139.62 158 PKPdf PKPpre 12 19 21.9
SNR=8.5
CHTO Chiang Mai 139.62 158 *e*PKPpre PKPpre 12 19 21.3
CHTO LR LR
comp=Z,4µm,22.0s
MOS Moscow 140.12 59 *i* PKIKP **PKPdf 12 19 26.2 -2.7**
MOS pmax pmax
comp=Z,100nm,1.5s
BOK Bokaro 140.57 137 *e*P **PKPdf 12 19 28.2 -2.6**
BOK AMS AMS 13 11 59.5
comp=Z,2µm,16.7s
QIZ Qiongzhong 141.27 174 PKP **PKPdf 12 19 30.8 -1.4**
QIZ SS SS 12 41 04.9 +2.8
QIZ LR LR
comp=Z,3µm,23.4s
QIZ LR LR
comp=Z,4µm,31.0s
QIZ Qiongzhong 141.27 174 PFAKE 12 19 40.0 +7.8
QIZ LR LR
comp=Z,3µm,21.0s
NDI New Delhi 141.34 123 *ex* **PKPdf 12 19 29.0 -3.1**
JOF Joensuu 141.40 47 *e*PKHKP PKPpre 12 19 25.4
JOF pmax pmax
comp=Z,30nm,1.0s
JOF Joensuu 141.40 47 *ep* PKPpre 12 19 25.4
comp=Z,30nm,1.0s
KBL Kabul 142.19 108 *e*PKIKP **PKPdf 12 19 36.7 +3.0**
KBL Kabul 142.19 108 *e*PKPdf **PKPdf 12 19 36.7 +3.0**
ARE0 ARCESS Array S 142.63 35 *e*P **PKPdf 12 19 30.5 -2.6**
ARE0 *e* 12 42 01.6
ARCES ARCESS Array B 142.63 35 PKPpre PKPpre 12 19 28.4
ARCES ARCESS Array B 142.63 35 PKhKP PKPpre 12 19 28.4
comp=Z,3.7nm,0.5s,baz=248,slow=2.1,SNR=31
DDI Dehra Dun 143.12 122 *ex* **PKPdf 12 19 30.3 -5.0**
DDI AMS AMS 13 10 17.6
comp=Z,2µm,24.7s
BJO Bjornoya 143.18 27 *e*P PKPbc 12 19 32.3 +1.3
KEV Kevo 143.20 35 PFAKE 12 19 50.0 +16
KEV LR LR
comp=Z,3µm,20.0s
SMLA Simla 143.39 121 *ex* PKPab 12 19 31.9 +0.2
KBS Kingsbay 143.71 19*c* *i*PKIKP PKPbc 12 19 33.3 +0.9
KBS Kingsbay 143.71 19 *e*P PKPbc 12 19 32.9 +0.5
KBS Kingsbay 143.71 19 *e*PKPdf PKPbc 12 19 33.2 +0.8
KBS LR LR
comp=Z,3µm,21.0s
DHRM DHARAMSHALA 143.92 118 *e*P PKPab 12 19 34.2 +0.1
DHRM AMS AMS 13 10 36.5
comp=Z,2µm,20.8s
SPA0 Spitsbergen Ar 144.18 20 *e*P **PKPab 12 19 33.6 +0.2**
SPITS Spitsbergen Ar 144.18 20 PKP PKPbc 12 19 33.8 0.0
SPITS Spitsbergen Ar 144.18 20 PKP PKPbc 12 19 33.8 0.0
comp=Z,74nm,0.9s,baz=160,slow=4.6,SNR=35
SHL Shillong 144.25 144 *e*PKP **PKPab 12 19 35.0 -0.4**
SHL *e*PP **PP 12 22 53.0 +0.8**
APA Apatity 144.37 41⇓*i*PKIKP **PKPab 12 19 34.4 0.0**
APA *i* 12 22 50.0
APA pmax pmax
comp=Z,311nm,1.2s
TNA Tin City 144.40 316 *e*PKPdf PKPbc 12 19 35.3 +0.5
LVZ Lovozero 144.94 40*c* *i*PKIKP **PKPab 12 19 36.2 -0.3**
LVZ pmax pmax
comp=Z,472nm,1.2s
LVZ MLR MLR
comp=Z,3µm,23.0s
LVZ Lovozero 144.94 40 PFAKE 12 19 50.0 +13
LVZ LR LR
comp=Z,3µm,21.0s
GAMB Gambell 145.10 312 *e*PKPdf **PKPdf 12 19 37.3 -0.2**
TPUB Ta-pu 145.31 191 *e*PKPdf **PKPdf 12 19 39.2 0.0**
HOPEN Hopen 145.31 24 *e*P **PKPbc 12 19 35.9 -1.6**
YULB Yu-li 145.32 192 *e*PKPdf **PKPbc 12 19 37.3 -1.7**
GZH Guangzhou 145.43 179 PKPbc **PKPbc 12 19 39.3 0.0**
GZH SS SS 12 41 52.0 +2.1
GZH LR LR
comp=Z,4µm,24.3s
GZH LR LR
comp=Z,2µm,22.6s
GZH LR LR
comp=Z,7µm,27.5s
SSLB Suanglung 145.75 191 *e*PKPdf **PKPbc 12 19 40.5 +0.1**
NACB Ninganchiao 146.06 193 *e*PKPdf **PKPdf 12 19 39.9 -0.6**
KMI Kunming 146.48 161 PKPbc **PKPdf 12 19 41.3 -0.2**
KMI PP **PP 12 23 08.5 +3.2**
KMI SKKS 12 29 57.8
KMI AMB AMB
comp=Z,800nm,6.8s
KMI LR LR
comp=Z,2µm,19.7s
KMI LR LR
comp=Z,950nm,24.1s
KMI LR LR
comp=Z,3µm,31.8s
YHNB Yeheng 146.58 192 *e*PKPdf **PKPbc 12 19 42.3 -0.6**
YHNB LR LR
comp=Z,2µm,21.0s
PRGR Permogore 146.70 54⇑*i*PKP2 **PKPbc 12 19 42.1 0.0**
PRGR pmax pmax
comp=Z,293nm,1.3s
TATO Taipei 146.87 193 PFAKE 12 19 50.0 +5.0
TATO LR LR
comp=Z,2µm,22.0s
FX1 Attu Island--F 146.89 288 *e*PKPbc **PKPbc 12 19 43.4 +0.5**
FX1 Attu Island--F 146.89 288 PKPbc **PKPbc 12 19 43.6 +0.7**
comp=Z,45nm,0.6s,baz=280,slow=19,SNR=7.9
QZH Quanzhou 147.11 188 PKPbc **PKPdf 12 19 40.6 -1.6**
QZH AMB AMB
comp=Z,2µm,5.2s
AKTO Aktyubinsk 147.23 78 PKIKP **PKPdf 12 19 40.7 -0.9**
AKTO pmax pmax
comp=Z,238nm,1.3s
AKTO Aktyubinsk 147.23 78 PKPbc **PKPbc 12 19 42.9 -1.1**
AKTO Aktyubinsk 147.23 78 PKPbc **PKPbc 12 19 42.9 -1.1**
comp=Z,38nm,0.7s,baz=212,slow=3.2,SNR=43
JOW Kunigami 147.53 204 *e*PKPbc **PKPbc 12 19 46.3 +0.8**
AB31 Akbulak array 147.56 81 *i* PKHKP PKPpre 12 19 40.6
AB31 pmax pmax
comp=Z,265nm,1.1s
ABKAR Akbulak array 147.56 81 *e*PKPdf **PKPdf 12 19 41.6 -0.6**
ABKAR *e*PKPbc **PKPbc 12 19 44.8 -0.1**
LSA Lhasa 147.84 141 PKPbc **PKPdf 12 19 43.6 -0.3**
LSA Lhasa 147.84 141 *e*PKIKP **PKPdf 12 19 44.5 +0.6**
LSA *e* 12 19 47.8
LSA MLR MLR
comp=Z,3µm,21.0s
LSA Lhasa 147.84 141 *e*PKPdf **PKPdf 12 19 44.5 +0.6**
LSA *e*PKPbc **PKPbc 12 19 47.8 +0.9**
LSA LR LR
comp=Z,3µm,21.0s
GYA Guiyang 148.36 167 *i* PKPbc **PKPdf 12 19 43.0 -1.4**
GYA PKPab **PKPab 12 19 54.3 +3.3**
GYA PP **PP 12 23 20.4 +4.2**
GYA SKKS 12 30 08.0
GYA SS **SS 12 42 25.6 +2.1**
GYA AMB AMB
comp=Z,1µm,7.5s
GYA LR LR
comp=Z,2µm,28.1s
GYA LR LR
comp=Z,1µm,28.8s
GYA LR LR
comp=Z,3µm,29.1s
KK31 Karatay Array 149.31 99 *i* PKHKP PKPpre 12 19 44.6
KK31 pmax pmax
comp=Z,291nm,1.1s
KKAR Karatay Array 149.31 99 *e*PKIKP **PKPdf 12 19 45.4 +0.1**
KKAR *e* 12 19 49.8
KKAR Karatay Array 149.31 99 *e*PKPdf **PKPdf 12 19 45.4 +0.1**
KKAR *e*PKPbc **PKPbc 12 19 49.8 +0.1**
KSH Kashi 149.54 110 PKPbc **PKPdf 12 19 45.4 -0.5**
KSH *e*PP PP 12 23 18.4 -5.4
KSH *e*SKS **SKSdf 12 26 49.3 -4.5**
KSH AMB AMB
comp=Z,640nm,5.3s
KSH LR LR
comp=Z,540nm,15.3s
KSH LR LR
comp=Z,730nm,16.5s
KSH LR LR
comp=Z,1µm,17.4s
AML Almayashu 150.30 104 P **PKPdf 12 19 46.6 -0.8**
SNR=18
ARU Arti 150.55 68 *i* PKIKP **PKPdf 12 19 46.6 -0.2**
ARU 12 23 30.1
ARU Arti 150.55 68 PFAKE 12 20 00.0 +1.0
ARU LR LR
comp=Z,4µm,20.0s
EKS2 Erkin-Say 150.72 103 *e*PKIKP **PKPdf 12 19 47.8 +0.1**
EKS2 *e* 12 19 54.3
EKS2 MLR MLR
comp=Z,3µm,21.0s
EKS2 Erkin-Say 150.72 103 P **PKPdf 12 19 47.0 -0.6**
SNR=24
EKS2 Erkin-Say 150.72 103 *e*PKPdf **PKPdf 12 19 47.8 +0.1**
EKS2 *e*PKPbc **PKiKP 12 19 54.3 +0.4**
EKS2 LR LR
comp=Z,3µm,21.0s
UCH Uchtor 150.79 105 P **PKPdf 12 19 47.7 -0.5**
SNR=29
KZA Kyzart 151.06 106 P **PKPdf 12 19 48.9 +0.3**
SNR=24
AAK Ala-Archa 151.07 104*c* *i*PKIKP **PKPdf 12 19 45.4 -2.9**
AAK Ala-Archa 151.07 104 P **PKPdf 12 19 48.4 +0.1**
SNR=25
AAK Ala-Archa 151.07 104 PKPdf **PKPdf 12 19 47.9 -0.4**
SNR=84
AAK Ala-Archa 151.07 104 PKP **PKPdf 12 19 47.7 -0.6**
AAK PKPbc **PKiKP 12 19 54.6 0.0**
AAK LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 151.07 104 PKP **PKPdf 12 19 47.7 -0.6**
comp=Z,20nm,1.1s,baz=200,slow=2.7,SNR=37
AAK PKPbc **PKiKP 12 19 54.6 0.0**
comp=Z,98nm,0.8s,baz=150,slow=4.1,SNR=108

FRU	**Bishkek**	**151.28**	**104**	*e*PKIKP	**PKPdf**	**12 19 49.0**	**+0.6**		
FRU				*i*		12 19 55.0			
FRU				*e*		12 23 32.0			
FRU				pmax	pmax				
	comp=Z,640nm,1.8s								
KBK	**Karagaybulak**	**151.32**	**105**	P	**PKPdf**	**12 19 48.1**	**-0.5**		
	SNR=17								
CHMS	**Chumysh**	**151.46**	**104**	P	**PKPdf**	**12 19 47.9**	**-0.8**		
	SNR=10								
USP	**Ospenovka**	**151.52**	**103**	P	**PKPdf**	**12 19 48.5**	**-0.2**		
	SNR=9.5								
ULHL	**Ulahol**	**151.70**	**107**	*i* PKIKP	**PKPbc**	**12 19 57.1**	**+1.5**		
ULHL	**Ulahol**	**151.70**	**107**	P	**PKPbc**	**12 19 57.2**	**+1.5**		
	SNR=6.1								
SVE	**Sverdlovsk**	**151.76**	**69**	*e*PKIKP	**PKPdf**	**12 19 48.8**	**+0.2**		
SVE				pmax	pmax				
	comp=Z,303nm,1.4s								
TKM2	**Tokmak 2**	**151.85**	**105**	*e*PKIKP	**PKPdf**	**12 19 48.9**	**-0.6**		
TKM2				*e*		12 19 56.2			
TKM2				MLR	MLR				
	comp=Z,2μm,19.0s								
TKM2	**Tokmak 2**	**151.85**	**105**	P	**PKPdf**	**12 19 49.0**	**-0.5**		
	SNR=23								
TKM2	**Tokmak 2**	**151.85**	**105**	*e*PKPdf	**PKPdf**	**12 19 48.9**	**-0.6**		
TKM2				*e*PKPbc	**PKiKP**	**12 19 56.2**	**-0.1**		
TKM2				*e*PKPab	**PKPab**	**12 20 06.7**	**+1.6**		
TKM2				LR	LR				
	comp=Z,2μm,19.0s								
ENH	**Enshi**	**152.41**	**172**	*e*PKPbc	**PKPbc**	**12 19 57.8**	**+0.4**		
WHN	**Wuhan**	**152.86**	**181**	⇑PKPbc	**PKPdf**	**12 19 52.0**	**+0.9**		
WHN				SS	SS	12 43 16.6	+3.6		
WHN				LR	LR				
	comp=Z,2μm,17.1s								
WHN				LR	LR				
	comp=Z,2μm,15.9s								
WHN				LR	LR				
	comp=Z,7μm,23.4s								
JNU	**Nakatsue**	**152.87**	**212**	*e*PKPdf	**PKPdf**	**12 19 50.8**	**-0.3**		
JNU				*e*PKPbc	**PKiKP**	**12 19 58.5**	**0.0**		
SSE	**Sheshan**	**152.94**	**194**	⇑PKPbc	**PKPdf**	**12 19 50.8**	**-0.4**		
SSE				PP	PP	12 23 48.4	+6.0		
SSE				SS	SS	12 43 16.3	+2.2		
SSE				AMB	AMB				
	comp=Z,350nm,6.4s								
SSE				LR	LR				
	comp=Z,2μm,20.1s								
SSE				LR	LR				
	comp=Z,1μm,20.1s								
SSE				LR	LR				
	comp=Z,3μm,19.2s								
MJAR	**Matsushiro Arr**	**153.43**	**228**	PKP	**PKPdf**	**12 19 51.2**	**-0.6**		
MJAR				PKPbc	**PKPbc**	**12 19 59.2**	**-0.2**		
MJAR	**Matsushiro Arr**	**153.43**	**228**	PKP	**PKPdf**	**12 19 51.2**	**-0.6**		
	comp=Z,12nm,1.4s,baz=220,slow=1.6,SNR=9.8								
MJAR				PKPbc	**PKPbc**	**12 19 59.2**	**-0.2**		
	comp=Z,4.1nm,0.8s,baz=168,slow=6.4,SNR=10								
MAJO	**Matsushiro**	**153.44**	**228***c*	*i*PKIKP	**PKPbc**	**12 19 58.5**	**-0.9**		
MAJO	**Matsushiro**	**153.44**	**228**	*e*PKPdf	**PKPdf**	**12 19 51.9**	**+0.1**		
MAJO				LR	LR				
	comp=Z,2μm,22.0s								
MAT	**Matsushiro**	**153.44**	**228**	PKP	**PKPdf**	**12 19 50.7**	**-1.1**		
NJ2	**Nanjing**	**154.14**	**190**	*e*PKPbc	**PKPdf**	**12 19 53.6**	**+0.7**		
NJ2				pPKP	**PKPbc**	**12 20 00.0**	**-1.0**		
NJ2				PKPab	**PKPab**	**12 20 15.0**	**+0.3**		
NJ2				AMB	AMB				
	comp=Z,1μm,5.3s								
NJ2				LR	LR				
	comp=Z,1μm,24.8s								
NJ2				LR	LR				
	comp=Z,950nm,21.2s								
NJ2				LR	LR				
	comp=Z,550nm,22.2s								
PET	**Petropavlovsk**	**154.54**	**279**	*i* PKIKP	PKPdf	12 19 47.0	-5.7		
PET				*e*		12 23 51.8			
PET				*e*PPS	PPS	12 37 06.5			
PET				*e*SS	SS	12 43 27.1	-5.7		
PET	**Petropavlovsk**	**154.54**	**279**	PFAKE		12 20 00.0	-1.2		
PET				LR	LR				
	comp=Z,4μm,20.0s								
PEA0B	**Petropavlovsk-**	**155.09**	**278**	*e*PKPbc	PKPdf	12 20 03.0	+10		
PETK	**Petropavlovsk-**	**155.09**	**278**	PKIKP	**PKPdf**	**12 19 53.6**	**+0.1**		
PETK						12 20 17.8			
PETK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
PETK				pmax	pmax				
	comp=Z,34nm,0.9s								
PETK	**Petropavlovsk-**	**155.09**	**278**	PKP	**PKPdf**	**12 19 53.6**	**+0.1**		
PETK				PKPab	**PKPab**	**12 20 17.8**	**-0.5**		
PETK	**Petropavlovsk-**	**155.09**	**278**	PKP	**PKPdf**	**12 19 53.6**	**+0.1**		
	comp=Z,5.4nm,1.0s,baz=101,slow=1.5,SNR=3.1								
PETK				PKPab	**PKPab**	**12 20 17.8**	**-0.5**		
	comp=Z,34nm,0.9s,baz=108,slow=7.2,SNR=9.0								
BRVK	**Borovoye**	**155.09**	**82***c*	*i*PKIKP	**PKPdf**	**12 19 52.9**	**-0.6**		
BRVK	**Borovoye**	**155.09**	**82**	PKPdf	**PKPdf**	**12 19 53.1**	**-0.4**		
	SNR=21								
BRVK	**Borovoye**	**155.09**	**82**	PFAKE		12 20 00.0	+6.5		
BRVK				LR	LR				
	comp=Z,3μm,20.0s								
BVA0	**Borovoye Array**	**155.13**	**82**	*i* PKIKP	**PKPdf**	**12 19 51.5**	**-2.1**		
BVA0				pmax	pmax				
	comp=Z,88nm,1.3s								
BVAR	**Borovoye Array**	**155.13**	**82**	PKIKP	**PKPdf**	**12 19 53.3**	**-0.3**		
BVAR				pmax	pmax				
	comp=Z,18nm,1.1s								
BVAR	**Borovoye Array**	**155.13**	**82**	PKP	**PKPdf**	**12 19 53.3**	**-0.3**		
BVAR	**Borovoye Array**	**155.13**	**82**	PKP	**PKPdf**	**12 19 53.3**	**-0.3**		
	comp=Z,18nm,1.1s,baz=228,slow=1.8,SNR=61								
ERM	**Erimo**	**155.77**	**242**	PFAKE		12 20 10.0	-11		
ERM				LR	LR				
	comp=Z,4μm,20.0s								
YUK	**Yuzh-Kuril'sk**	**155.94**	**249***c*	*i*PKIKP	PKPdf	12 19 48.5	-6.4		
YUK				*i* PPP	PPP	12 27 34.6			
YUK				*i* SSS	SSS	12 49 53.1			
XAN	**Xi'an**	**156.10**	**170**	PKP	**PKPdf**	**12 19 54.3**	**-1.3**		
XAN				PKS	**PKSdf**	**12 23 27.1**	**-2.5**		
XAN				SKS	**SKSdf**	**12 26 59.8**	**-1.9**		
XAN				AMB	AMB				
	comp=Z,200nm,8.5s								
XAN				LR	LR				
	comp=Z,2μm,20.8s								
XAN				LR	LR				
	comp=Z,770nm,23.8s								
XAN				LR	LR				
	comp=Z,1μm,20.8s								
TJN	**Taejon**	**156.89**	**208**	*e*PKIKP	**PKPdf**	**12 19 59.6**	**+3.2**		
LZH	**Lanzhou**	**157.36**	**158**	*e*PKP	**PKPdf**	**12 19 57.8**	**+0.5**		
LZH				PKPab	**PKPab**	**12 20 29.1**	**+0.5**		
LZH				PP	**PP**	**12 24 08.6**	**+1.2**		
LZH				SKKS		12 30 55.3			
LZH				*e*SS	**SS**	**12 44 07.4**	**+5.0**		
LZH				AMB	AMB				
	comp=Z,1μm,5.2s								
LZH				LR	LR				
	comp=Z,940nm,16.4s								
LZH				LR	LR				
	comp=Z,1μm,19.0s								
LZH				LR	LR				
	comp=Z,2μm,20.4s								
KSAR	**Wonju Array Be**	**157.75**	**210**	PKP	**PKPdf**	**12 19 56.9**	**-0.7**		
KSAR				PKPab	**PKPab**	**12 20 32.6**	**+2.5**		
KSRS	**Korea Array**	**157.75**	**210**	PKP	**PKPdf**	**12 19 56.9**	**-0.6**		
	comp=Z,3.8nm,1.1s,baz=175,slow=2.2,SNR=13								
KSRS				PKPab	**PKPab**	**12 20 32.6**	**+2.6**		
	comp=Z,7.3nm,1.0s,baz=169,slow=2.4,SNR=5.5								
MK31	**Makanchi Array**	**157.96**	**106**	*i* PKIKP	**PKPdf**	**12 19 55.7**	**-1.8**		
MK31				pmax	pmax				
	comp=Z,24nm,1.2s								
MK31	**Makanchi Array**	**157.96**	**106**	*e*PKPdf	**PKPdf**	**12 19 56.8**	**-0.8**		
MKAR	**Makanchi Array**	**157.96**	**106**	PKIKP	**PKPdf**	**12 19 56.9**	**-0.7**		
MKAR						12 20 30.3			
MKAR						12 24 11.3			
MKAR				pmax	pmax				
	comp=Z,10.0nm,1.2s								
MKAR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MKAR	**Makanchi Array**	**157.96**	**106**	PKP	**PKPdf**	**12 19 56.9**	**-0.7**		
MKAR				PKPab	**PKPab**	**12 20 30.3**	**-0.6**		
MKAR				PP	**PP**	**12 24 11.3**	**+0.1**		
MKAR	**Makanchi Array**	**157.96**	**106**	PKP	**PKPdf**	**12 19 56.9**	**-0.7**		
	comp=Z,10nm,1.2s,baz=259,slow=1.2,SNR=33								
MKAR				PKPab	**PKPab**	**12 20 30.3**	**-0.6**		
	comp=Z,6.6nm,0.8s,baz=222,slow=6.0,SNR=10								
MKAR				PP	**PP**	**12 24 11.3**	**+0.1**		
	comp=Z,4.3nm,0.9s,baz=204,slow=3.2,SNR=3.1								
INCN	**Inchon**	**158.12**	**208**	PFAKE		12 20 10.0	+12		
INCN				LR	LR				
	comp=Z,2μm,19.0s								
KURBB	**Kurchatov Arra**	**158.28**	**94**	PKP	**PKPdf**	**12 19 57.6**	**-0.1**		
	comp=Z,7.2nm,1.1s,baz=248,slow=1.7,SNR=36								
KURBB				PKPab	**PKPab**	**12 20 31.8**	**-0.3**		
	comp=Z,54nm,0.8s,baz=241,slow=4.9,SNR=42								
KURK	**Kurchatov**	**158.38**	**94**	PKIKP	**PKPdf**	**12 19 57.6**	**-0.2**		
KURK						12 20 31.8			
KURK				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KURK				pmax	pmax				
	comp=Z,54nm,0.9s								
KURK	**Kurchatov**	**158.38**	**94**	PKPdf	**PKPdf**	**12 19 57.5**	**-0.4**		
	SNR=22								
KURK	**Kurchatov**	**158.38**	**94**	PKP	**PKPdf**	**12 19 57.6**	**-0.2**		
KURK				PKPab	**PKPab**	**12 20 31.8**	**-0.8**		
KURK				LR	LR				
	comp=Z,1μm,22.0s								
TIA	**Tai'an**	**158.41**	**187**	PKP	**PKPdf**	**12 19 58.6**	**+0.2**		
TIA				SS	SS	12 44 13.3	+0.2		
TIA				AMB	AMB				
	comp=Z,2μm,6.4s								
TIA				LR	LR				
	comp=Z,2μm,24.5s								
TIA				LR	LR				
	comp=Z,2μm,21.3s								
TIA				LR	LR				
	comp=Z,3μm,23.6s								
WMQ	**Urumqi**	**158.53**	**119**	PKP	**PKPdf**	**12 19 58.3**	**-0.1**		
WMQ				sPKP		12 20 03.3			
WMQ				PKS	**PKSdf**	**12 23 34.9**	**+3.0**		
WMQ				PP	**PP**	**12 24 15.6**	**+1.4**		
WMQ				SKS	**SKSdf**	**12 27 02.8**	**-0.9**		
WMQ				SKKS	**SKKSac**	**12 30 58.8**	**-3.7**		
WMQ				SS	**SS**	**12 44 15.8**	**+0.2**		
WMQ				AMB	AMB				
	comp=Z,1μm,5.0s								
WMQ				LR	LR				
	comp=Z,2μm,24.0s								
WMQ				LR	LR				
	comp=Z,2μm,20.1s								
WMQ				LR	LR				
	comp=Z,3μm,32.2s								
GTA	**Gaotai**	**159.53**	**147**	⇑PKP	**PKPdf**	**12 19 59.1**	**-0.7**		
GTA				sPKP		12 20 06.3			
GTA				PKPab	**PKPab**	**12 20 38.8**	**+0.9**		
GTA				PP	**PP**	**12 24 22.0**	**+2.7**		
GTA				SKS	**SKSdf**	**12 27 01.8**	**-3.2**		
GTA				SKKS	**SKKSac**	**12 31 07.4**	**-0.5**		
GTA				SS	**SS**	**12 44 28.0**	**+2.4**		
GTA				AMB	AMB				
	comp=Z,1μm,6.7s								
GTA				LR	LR				
	comp=Z,2μm,21.4s								
GTA				LR	LR				
	comp=Z,1μm,20.4s								
GTA				LR	LR				
	comp=Z,4μm,20.9s								
YSS	**Yuzh-Sakhalins**	**159.54**	**251***c*	*i*PKIKP	**PKPdf**	**12 19 57.0**	**-2.3**		
YSS				*e*		12 24 16.0			
YSS				*e*SS	SS	12 44 22.0	-4.3		
YSS				*e*SSS	SSS	12 50 42.0			
YSS	**Yuzh-Sakhalins**	**159.54**	**251**	PFAKE		12 20 10.0	+11		
YSS				LR	LR				
	comp=Z,1μm,20.0s								
TIY	**Taiyuan**	**159.98**	**176**	PKP	**PKPdf**	**12 19 59.4**	**-0.9**		
TIY				PP	**PP**	**12 24 19.6**	**-1.9**		
TIY				SKKS		12 31 12.3			
TIY				AMB	AMB				
	comp=Z,800nm,4.3s								
TIY				LR	LR				
	comp=Z,4μm,21.8s								
TIY				LR	LR				
	comp=Z,7μm,34.6s								
TIY				LR	LR				
	comp=Z,4μm,19.7s								
SEY	**Seymchan**	**160.49**	**302**	‖*e*PKIKP	**PKPdf**	**12 19 55.6**	**-4.3**		
DL2	**Dalian**	**160.54**	**198**	PKP	**PKPdf**	**12 19 59.5**	**-1.2**		
DL2				PKPab	**PKPab**	**12 20 39.3**	**-2.8**		
DL2				SKKS		12 31 11.0			
DL2				AMB	AMB				
	comp=Z,850nm,5.4s								
DL2				LR	LR				
	comp=Z,770nm,22.1s								
DL2				LR	LR				
	comp=Z,730nm,20.6s								
DL2				LR	LR				
	comp=Z,1μm,20.1s								
VLA	**Vladivostok**	**161.56**	**225***c*	*i*PKIKP	**PKPdf**	**12 19 59.3**	**-2.3**		
BJT	**Baijiatuan**	**162.25**	**186**	PFAKE		12 20 10.0	+7.5		
BJT				LR	LR				
	comp=Z,3μm,22.0s								
BJI	**Beijing**	**162.27**	**186**	PKP	**PKPdf**	**12 20 01.5**	**-1.0**		
BJI				SKKS		12 31 23.1			
BJI				SS	**SS**	**12 44 56.6**	**+2.9**		
BJI				AMB	AMB				
	comp=Z,1μm,6.4s								
BJI				LR	LR				
	comp=Z,2μm,27.5s								
BJI				LR	LR				
	comp=Z,760nm,27.2s								
BJI				LR	LR				
	comp=Z,4μm,30.4s								
USRK	**Ussuriysk Arra**	**162.43**	**228**	PKPab	**PKPab**	**12 20 50.8**	**+0.5**		
	comp=Z,1.2nm,0.6s,baz=151,slow=4.4,SNR=5.4								
NVS	**Novosibirsk**	**162.77**	**86**	‖*i*PKIKP	**PKPdf**	**12 19 58.1**	**-4.4**		
NVS				*i*		12 20 49.2			
NVS				*i*		12 24 37.6			
NVS				*i*		12 27 10.8			
NVS				pmax	pmax				
	comp=N,15nm,1.6s								
NVS				pmax	pmax				
	comp=E,28nm,1.6s								
SNY	**Shenyang**	**162.98**	**205**	⇑PKP	**PKPdf**	**12 20 02.1**	**-1.0**		
SNY				PP	PP	12 24 45.3	+7.8		
SNY				SS	SS	12 45 01.6	+0.4		
SNY				AMB	AMB				
	comp=E,540nm,10.2s								
SNY				LR	LR				
	comp=E,870nm,22.9s								
SNY				LR	LR				
	comp=E,2μm,19.6s								
SNY				LR	LR				
	comp=E,2μm,38.7s								
HHC	**Hu-ho-hao-te**	**163.07**	**174**	*e*PKP	**PKPdf**	**12 20 02.4**	**-1.0**		
HHC				SKS	**SKSdf**	**12 27 02.3**	**-5.5**		
HHC				SKKS	**SKKSac**	**12 31 22.4**	**-3.6**		
HHC				SS	**SS**	**12 45 00.8**	**-1.4**		
HHC				AMB	AMB				
	comp=E,1μm,8.7s								
HHC				LR	LR				
	comp=E,5μm,22.8s								
HHC				LR	LR				
	comp=E,2μm,24.3s								
HHC				LR	LR				
	comp=E,6μm,21.6s								
ZAA0	**Zalesovo Array**	**163.27**	**90**	*e*PKPdf	**PKPdf**	**12 20 01.3**	**-1.7**		
ZAA0				*e*PKPab	**PKPab**	**12 20 51.8**	**-2.0**		
ZALV	**Zalesovo Beam**	**163.27**	**90**	PKIKP	**PKPdf**	**12 20 01.4**	**-1.6**		
ZALV						12 20 52.7			
ZALV				pmax	pmax				
	comp=Z,12nm,1.2s								
ZALV				pmax	pmax				
	comp=Z,16nm,0.8s								
ZALV	**Zalesovo Beam**	**163.27**	**90**	PKP	**PKPdf**	**12 20 01.4**	**-1.6**		
ZALV				PKPab	**PKPab**	**12 20 52.7**	**-1.1**		
ZALV	**Zalesovo Beam**	**163.27**	**90**	PKP	**PKPdf**	**12 20 01.4**	**-1.6**		
	comp=Z,6.6nm,1.0s,baz=249,slow=2.5,SNR=34								
ZALV				PKPab	**PKPab**	**12 20 52.7**	**-1.1**		
	comp=Z,16nm,0.8s,baz=253,slow=4.4,SNR=15								
MDJ	**Mudanjiang**	**163.70**	**223**	PKP	**PKPdf**	**12 20 02.0**	**-1.7**		
MDJ				PKS	**PKSdf**	**12 23 36.8**	**+0.3**		
MDJ				PP	**PP**	**12 24 41.1**	**-0.5**		
MDJ				SKS	**SKSdf**	**12 27 07.8**	**0.0**		
MDJ				SS	**SS**	**12 45 05.4**	**-3.7**		
MDJ				AMB	AMB				
	comp=Z,870nm,6.7s								
MDJ				LR	LR				
	comp=Z,1μm,30.1s								
MDJ				LR	LR				
	comp=Z,2μm,24.6s								
MDJ				LR	LR				
	comp=Z,2μm,21.9s								
MDJ	**Mudanjiang**	**163.70**	**223**	*e*PKPdf	**PKPdf**	**12 20 02.6**	**-1.1**		
MDJ				LR	LR				
	comp=Z,3μm,20.0s								
CN2	**Changchun**	**164.34**	**212**	*e*PKP	**PKPdf**	**12 20 01.8**	**-2.5**		
CN2				*ep*PKP	**pPKPdf**	**12 20 11.6**	**+3.8**		
CN2				PKPab	**PKPab**	**12 20 58.6**	**-0.1**		
CN2				*e*PP	**PP**	**12 24 46.0**	**+1.2**		
CN2				SKKS		12 31 27.8			
CN2				*e*SS	**SS**	**12 45 12.0**	**-3.5**		
CN2				AMB	AMB				
	comp=Z,200nm,10.0s								
CN2				LR	LR				
	comp=Z,2μm,20.0s								
CN2				LR	LR				
	comp=Z,2μm,20.0s								
CN2				LR	LR				
	comp=Z,3μm,22.0s								
HABR	**Khabarovsk**	**164.39**	**243**	*e*PKIKP	**PKPdf**	**12 20 02.2**	**-2.0**		
HABR				*e*		12 20 09.6			
HABR				*e*		12 24 44.5			
HABR				*e*		12 27 06.7			
HABR				PPP	PPP	12 28 35.4			
HABR				*e*SS	SS	12 45 20.1	+3.5		
HABR				*e*SSS	SSS	12 51 46.4			
HABR				pmax	pmax				
	comp=E,18nm,1.9s								
HABR				pmax	pmax				
	comp=Z,83nm,1.9s								
HABR				pmax	pmax				
	comp=N,36nm,1.9s								
HABR				pmax	pmax				
	comp=Z,134nm,2.4s								
TIXI	**Tiksi**	**164.69**	**342**	*i* PKIKP	PKPdf	12 19 57.0	-6.8		
TIXI	**Tiksi**	**164.69**	**342**	*e*PKPdf	PKPdf	12 19 58.0	-5.8		
TIXI				LR	LR				
	comp=Z,4μm,21.0s								
KLR	**Kul'dur**	**166.47**	**239**	*e*PKIKP	PKPdf	12 19 59.0	-6.9		
KLR				*e*		12 21 04.0			
KLR				pmax	pmax				
	comp=Z,2μm,10.5s								
HVS	**Khovu-Aksy**	**166.53**	**110***d*	*i*PKIKP	**PKPdf**	**12 20 05.1**	**-0.9**		
SONM	**Songino Array**	**169.12**	**152**	PKP	**PKPdf**	**12 20 07.7**	**-0.4**		
SONM				PKPab	**PKPab**	**12 21 19.6**	**-0.3**		
SONM				PP	**PP**	**12 25 10.3**	**+0.7**		
SONM	**Songino Array**	**169.12**	**152**	PKP	**PKPdf**	**12 20 07.7**	**-0.4**		
	comp=Z,25nm,1.3s,baz=202,slow=0.8,SNR=55								
SONM				PKPab	**PKPab**	**12 21 19.6**	**-0.3**		
	comp=Z,6.2nm,1.0s,baz=188,slow=4.4,SNR=8.4								
SONM				PP	**PP**	**12 25 10.3**	**+0.7**		
	comp=Z,3.3nm,0.9s,baz=195,slow=4.6,SNR=4.3								
ULN	**Ulaanbaatar**	**169.31**	**154**	PKPdf	**PKPdf**	**12 20 07.1**	**-1.0**		
	SNR=54								
ULN	**Ulaanbaatar**	**169.31**	**154**	*e*PKPdf	**PKPdf**	**12 20 07.3**	**-0.9**		
ULN				*e*PKPab	**PKPab**	**12 21 20.0**	**-0.7**		
ULN				LR	LR				
	comp=Z,6μm,22.0s								
ZAK	**Zakamensk**	**170.36**	**135**	*e*PKIKP	**PKPdf**	**12 20 07.6**	**-1.0**		
ZAK				pmax	pmax				
	comp=Z,33nm,1.8s								
MOY	**Mondy**	**170.37**	**123**	*e*PKIKP	**PKPdf**	**12 20 08.7**	**+0.1**		
MOY				*e*		12 25 11.8			
MOY				pmax	pmax				
	comp=Z,214nm,4.3s								
HIA	**Hailar**	**170.89**	**205**	PFAKE		12 20 20.0	+11		
HIA				LR	LR				
	comp=Z,5μm,22.0s								
YAK	**Yakutsk**	**170.99**	**305**	*e*PKIKP	PKPdf	12 19 59.9	-8.5		
YAK				*e*		12 21 27.6			
YAK				*e*		12 25 25.5			
YAK				*e*SS	SS	12 46 27.4	+4.6		
YAK				pmax	pmax				
	comp=Z,26nm,2.3s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.5s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.6s								
YAK				pmax	pmax				
	comp=Z,138nm,3.8s								
YAK				pmax	pmax				
	comp=N,141nm,4.1s								
YAK				pmax	pmax				
	comp=E,164nm,5.4s								
YAK	**Yakutsk**	**170.99**	**305**	*e*PKPdf	**PKPdf**	**12 20 04.0**	**-4.4**		
YAK				*e*PKPab	**PKPab**	**12 21 27.1**	**-0.6**		
YAK				LR	LR				
	comp=Z,3μm,22.0s								
TLY	**Talaya**	**171.52**	**131***c*	*i*PKIKP	**PKPdf**	**12 20 07.7**	**-1.4**		
TLY				*e*		12 25 19.7			
TLY				*e*		12 29 26.5			
TLY				*e*SS	SS	12 46 27.1	-1.0		
TLY				pmax	pmax				
	comp=Z,69nm,1.6s								
TLY	**Talaya**	**171.52**	**131**	PKPdf	**PKPdf**	**12 20 09.5**	**+0.5**		
	SNR=36								
TLY	**Talaya**	**171.52**	**131**	PFAKE		12 20 20.0	+11		
TLY				LR	LR				
	comp=Z,1μm,21.0s								
IRK	**Irkutsk**	**172.20**	**130**	*e*PKIKP	**PKPdf**	**12 20 05.8**	**-3.6**		
IRK				*e*		12 21 33.2			
IRK				pmax	pmax				
	comp=Z,184nm,2.0s								
CLNS	**Chul'man**	**174.01**	**266**	*e*PKIKP	**PKPdf**	**12 20 05.0**	**-5.0**		
CLNS				pmax	pmax				
	comp=Z,12nm,1.2s								
CLNS				pmax	pmax				
	comp=E,5.0nm,1.3s								
CLNS				pmax	pmax				
	comp=N,4.0nm,1.0s								
CIT	**Chita**	**174.31**	**177**	*e*PKIKP	**PKPdf**	**12 20 09.3**	**-0.9**		
CIT				*e*		12 21 42.6			

SOF **17** *12:11:44.7, 41.76N×23.84E, h6km, MD2.5*
ATH **17** *12:11:45.6, 41.66N×23.86E, h15km, MD3.0/15*
THE **17** *12:11:45.3, 41.71N×23.81E, h2km±1km, ML2.4/7, Error ellipse: s-maj=1.8km s-min=0.6km az=300.0*
CSEM **17** *12:11:45.1±0.1, 41.72N×23.80E, h5km, MD2.5, Error ellipse: s-maj=3.0km s-min=2.6km az=107.0*
BEO **17** *12:11:46.1±0.5, 41.72N×23.82E, h0km, ML2.0/4*
SKO **17** *12:11:46.1, 41.75N×23.80E, h2km*

ISC 17 12:11:46.0±0.8, 41.72N±0.02×23.83E±0.02, h12km±6km, n79,σ1.9 17/146, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMB	**Musomiste**	**0.15**	**210**	*i* P	**Pg**	**12 11 49.4**	**-0.2**
MMB				*i* S	**Sg**	**12 11 53.1**	**+1.0**
MMB	**Musomiste**	**0.15**	**210**	*i* P	**Pg**	**12 11 49.4**	**-0.2**
MMB				*i* S	**Sg**	**12 11 53.1**	**+1.0**
NVR	**Nevrokopi**	**0.37**	**

KAVA				eSN	Sg	12 12 12.6	-2.1		
KAVA	**Kavala**	**0.89**	**144**	P	Pg	12 12 01.4	-1.7		
KAVA				eSn	Sg	12 12 12.6	-2.1		
KAVA				S	Sg	12 12 14.2	-0.5		
KNT	**Kendrikon**	**0.89**	**232**	P	Pg	12 12 02.2	-1.0		
KNT				S	Sg	12 12 14.1	-0.8		
KNT	**Kendrikon**	**0.89**	**232**	ePB	Pg	12 12 01.9	-1.3		
KNT				eSN	Sg	12 12 14.2	-0.7		
KNT	**Kendrikon**	**0.89**	**232**	ePb	Pg	12 12 01.9	-1.3		
KNT	**Kendrikon**	**0.89**	**232**	P	Pg	12 12 02.2	-1.0		
KNT				S	Sg	12 12 14.1	-0.8		
SOH	**Sokhos**	**0.96**	**202**	P	Pg	12 12 03.6	-1.0		
SOH				S	Sg	12 12 16.9	-0.3		
SOH	**Sokhos**	**0.96**	**202**	ePN	Pg	12 12 03.3	-1.3		
SOH				eSN	Sg	12 12 16.2	-1.0		
SOH	**Sokhos**	**0.96**	**202**	ePn	Pg	12 12 03.3	-1.3		
SOH	**Sokhos**	**0.96**	**202**	P	Pg	12 12 03.6	-1.0		
SOH				eSn	Sg	12 12 16.2	-1.0		
VTS	**Vitosha**	**0.99**	**332**	P	Pg	12 12 03.6	-1.5		
VTS				S	Sg	12 12 17.7	-0.3		
VTS	**Vitosha**	**0.99**	**332**	ePg	Pg	12 12 03.6	-1.5		
VTS				*i* Sg	Sg	12 12 16.4	-1.6		
VTS	**Vitosha**	**0.99**	**332**	*i* P	Pg	12 12 03.5	-1.5		
VTS	**Vitosha**	**0.99**	**332**	P	Pg	12 12 03.6	-1.5		
VTS				*i* Sg	Sg	12 12 16.4	-1.6		
VTS				S	Sg	12 12 17.7	-0.3		
VAY	**Valandovo**	**1.02**	**248**	P	Pg	12 12 04.0	-1.7		
VAY				S	Sg	12 12 18.6	-0.5		
VAY	**Valandovo**	**1.02**	**248**	ePg	Pg	12 12 03.6	-2.1		
VAY				*i* Sg	Sg	12 12 18.7	-0.4		
VAY	**Valandovo**	**1.02**	**248**	*i* P	Pn	12 12 06.6	+0.5		
VAY	**Valandovo**	**1.02**	**248**	ePg	Pg	12 12 03.6	-2.1		
VAY	**Valandovo**	**1.02**	**248**	P	Pg	12 12 04.0	-1.7		
VAY				*i* Sg	Sg	12 12 18.7	-0.4		
HORT	**Hortiatis**	**1.25**	**206**	P	Pg	12 12 08.5	-1.5		
HORT				S	Sg	12 12 25.9	-0.3		
HORT	**Hortiatis**	**1.25**	**206**	ePN	Pg	12 12 08.2	-1.8		
HORT				eSN	Sg	12 12 25.4	-0.8		
HORT	**Hortiatis**	**1.25**	**206**	ePn	Pg	12 12 08.2	-1.8		
HORT	**Hortiatis**	**1.25**	**206**	P	Pg	12 12 08.5	-1.5		
HORT				eSn	Sg	12 12 25.4	-0.8		
THE	**Thessaloniki**	**1.27**	**211**	P	Pg	12 12 08.6	-1.7		
THE				S	Sb	12 12 26.5	+0.6		
THE	**Thessaloniki**	**1.27**	**211**	ePN	Pg	12 12 08.7	-1.6		
THE				eSN	Sg	12 12 25.6	-1.1		
THE	**Thessaloniki**	**1.27**	**211**	P	Pg	12 12 08.6	-1.7		
THE				eSn	Sg	12 12 25.6	-1.1		
THE				S	Sb	12 12 26.5	+0.6		
GRG	**Griva**	**1.31**	**235**	P	Pn	12 12 10.4	+0.2		
GRG				S	Sb	12 12 28.0	+0.5		
GRG	**Griva**	**1.31**	**235**	ePN	Pn	12 12 09.6	-0.6		
GRG				eSN	Sg	12 12 27.7	-0.7		
GRG	**Griva**	**1.31**	**235**	ePn	Pn	12 12 09.6	-0.6		
GRG	**Griva**	**1.31**	**235**	P	Pn	12 12 10.4	+0.2		
GRG				eSn	Sg	12 12 27.7	-0.7		
GRG				S	Sb	12 12 28.0	+0.5		
PLG	**Polygyros**	**1.37**	**192**	ePN	Pn	12 12 11.0	0.0		
PLG				eSN	Sb	12 12 28.5	-0.6		
PLG	**Polygyros**	**1.37**	**192**	ePn	Pn	12 12 11.0	0.0		
PLG				eSn	Sb	12 12 28.5	-0.6		
OUR	**Ouranopolis**	**1.39**	**175**	P	Pn	12 12 10.6	-0.6		
OUR				S	Sn	12 12 31.0	+1.7		
OUR	**Ouranopolis**	**1.39**	**175**	ePN	Pn	12 12 10.5	-0.6		
OUR				eSN	Sb	12 12 29.2	-0.2		
OUR	**Ouranopolis**	**1.39**	**175**	P	Pn	12 12 10.6	-0.6		
OUR				eSn	Sb	12 12 29.2	-0.2		
OUR				S	Sn	12 12 31.0	+1.7		
RDO	**Rodhopi**	**1.41**	**113**	ePN	Pn	12 12 11.2	-0.2		
RDO				eSN	Sb	12 12 29.8	-0.2		
RDO	**Rodhopi**	**1.41**	**113**	ePn	Pn	12 12 11.2	-0.2		
RDO				eSn	Sb	12 12 29.8	-0.2		
MPEP	**Malo Peshtene**	**1.64**	**358**	*i* P	Pb	12 12 16.2	0.0		
MPEP	**Malo Peshtene**	**1.64**	**358**	*i* P	Pb	12 12 16.2	0.0		
ZAPS	**Zavoj**	**1.79**	**331**	ePg	Pb	12 12 19.0	+0.3		
ZAPS				eSg	Sg	12 12 43.0	-0.5		
SMTH	**Samothraki Isl**	**1.79**	**133**	ePN	Pn	12 12 17.6	+0.9		
SMTH				eSN	Sn	12 12 39.8	+0.4		
SMTH	**Samothraki Isl**	**1.79**	**133**	ePn	Pn	12 12 17.6	+0.9		
SMTH				eSn	Sn	12 12 39.8	+0.4		
PAIG	**Paliouri**	**1.79**	**184**	P	Pn	12 12 16.4	-0.3		
PAIG				S	Sn	12 12 40.0	+0.6		
PAIG	**Paliouri**	**1.79**	**184**	ePN	Pn	12 12 17.5	+0.8		
PAIG				eSN	Sn	12 12 40.4	+1.0		
PAIG	**Paliouri**	**1.79**	**184**	P	Pn	12 12 16.4	-0.3		
PAIG	**Paliouri**	**1.79**	**184**	ePn	Pn	12 12 17.5	+0.8		
PAIG				S	Sn	12 12 40.0	+0.6		
ALN	**Alexandroupoli**	**1.86**	**115**	P	Pn	12 12 18.9	+1.3		
ALN				S	Sb	12 12 43.2	+0.1		
ALN	**Alexandroupoli**	**1.86**	**115**	ePN	Pn	12 12 19.0	+1.3		
ALN				eSN	Sn	12 12 42.8	+1.7		
ALN	**Alexandroupoli**	**1.86**	**115**	P	Pn	12 12 18.9	+1.3		
ALN				eSn	Sn	12 12 42.8	+1.7		
ALN				S	Sb	12 12 43.2	+0.1		
LIT	**Litokhoron**	**1.91**	**213**	ePN	Pn	12 12 19.0	+0.7		
LIT				eSN	Sb	12 12 44.5	0.0		
LIT	**Litokhoron**	**1.91**	**213**	ePn	Pn	12 12 19.0	+0.7		
LIT				eSn	Sb	12 12 44.5	0.0		
XOR	**Xorichti**	**2.40**	**192**	ePN	Pn	12 12 26.1	+1.0		
XOR	**Xorichti**	**2.40**	**192**	ePn	Pn	12 12 26.1	+1.0		
NEST	**Nestorio**	**2.47**	**239**	ePB	Pn	12 12 27.4	+1.2		
NEST	**Nestorio**	**2.47**	**239**	ePb	Pn	12 12 27.4	+1.2		
BOLS	**Boljevac**	**2.52**	**327**	ePn	Pn	12 12 28.6	+1.8		
BOLS				eSn	Sn	12 13 00.1	+2.7		
BOLS	**Boljevac**	**2.52**	**327**	ePn	Pn	12 12 28.6	+1.8		
BOLS				eSn	Sn	12 13 00.1	+2.7		
THL	**Klokotos Trika**	**2.56**	**213**	ePB	Pn	12 12 27.8	+0.6		
THL	**Klokotos Trika**	**2.56**	**213**	ePb	Pn	12 12 27.8	+0.6		
AGG	**Agios Georgios**	**2.92**	**204**	ePN	Pn	12 12 33.6	+1.3		
AGG	**Agios Georgios**	**2.92**	**204**	ePn	Pn	12 12 33.6	+1.3		

*ISCJB **17** 12:15:17.1±0.5, 18°.23S±0°.04×69°.83W±0°.07, h96km±6km, mb4.1/11, Error ellipse: s-maj=11.4km s-min=5.6km az=165.3*

*GUC **17** 12:15:17.3±0.6, 18°.27S×69°.95W, h99km±5km, ML4.6*

*NEIC **17** 12:15:17.3, 18°.27S×69°.95W, h99km, mb4.3/4, After GUC. NEIC Felt [II] at Tacna, Peru.*

*IDC **17** 12:15:20.4±2.6, 18°.25S×69°.77W, h109km±21km, mb3.9/9, mb1 4.1/12, mb1mx3.8/43, mbtmp4.4/12, Error ellipse: s-maj=23.5km s-min=19.4km az=46.0*

ISC 17 12:15:18.2±0.8, **18°.28S**±0°.04×**69°.96W**±0°.08, **h92**km±7km, **n56**, σ0**86**/62, **mb4.1**/11, **5C-3D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.92**	**158**	⇑*i*P	**Pn**	**12 15 37.8**	**+0.3**
MNMC				*i* S	**Sn**	**12 15 52.6**	**+0.8**
MNMC				AML	AML	12 15 55.5	
	comp=N,20μm,0.5s						
MNMC	**Minimini**	**0.92**	**158**	⇑*i*P	**Pn**	**12 15 37.8**	**+0.3**
MNMC				*i* S	**Sn**	**12 15 52.6**	**+0.8**
PSGC	**Pisagua**	**1.32**	**187**	⇑*i*P	**Pn**	**12 15 41.4**	**-0.6**
PSGC				*i* S	**Sn**	**12 16 00.3**	**+0.3**
PSGC				AML	AML	12 16 05.3	
	comp=E,6μm,0.5s						
PSGC	**Pisagua**	**1.32**	**187**	⇑*i*P	**Pn**	**12 15 41.4**	**-0.6**
PSGC				*i* S	**Sn**	**12 16 00.3**	**+0.3**
ARE	**Arequipa**	**2.32**	**321**	⇓*i*P	**Pn**	**12 15 54.5**	**-0.6**
ARE				eS	**Sn**	**12 16 24.0**	**+0.8**
PATCX	**Punta Patache**	**2.54**	**184**	⇑*i*P	**Pn**	**12 15 57.3**	**-0.4**
PATCX				*i* S	**Sn**	**12 16 28.6**	**+0.6**
PATCX				AML	AML	12 16 40.3	
	comp=E,3μm,0.4s						
LPAZ	**La Paz**	**2.64**	**42**	ePn	**Pn**	**12 16 01.8**	**+2.3**
LPAZ				eSn	Sn	12 16 18.6	-13
LPAZ	**La Paz**	**2.64**	**42**	P	**Pn**	**12 16 01.1**	**+1.5**
	comp=E,17nm,0.3s,baz=232,slow=9.7,SNR=318						
LPAZ				S	Sn	12 16 17.4	-14
	comp=E,30nm,0.3s,baz=199,slow=5.5,SNR=20						
PB01	**Plate Boundary**	**2.79**	**171**	⇓*i*P	**Pn**	**12 16 01.1**	**0.0**
PB01				*i* S	**Sn**	**12 16 34.0**	**0.0**
PB01				AML	AML	12 16 47.0	
	comp=E,2μm,0.3s						
PB01	**Plate Boundary**	**2.79**	**171**	⇓*i*P	**Pn**	**12 16 01.1**	**0.0**
PB01				*i* S	**Sn**	**12 16 34.0**	**0.0**
PB07	**Plate Boundary**	**3.43**	**179**	e*i*P	**Pn**	**12 16 10.0**	**+0.2**
PB07				*i* S	**Sn**	**12 16 49.9**	**+0.3**
PB09	**Plate Boundary**	**3.56**	**169**	e*i*P	**Pn**	**12 16 12.5**	**+0.9**
PB09				*i* S	**Sn**	**12 16 53.7**	**+0.8**
PB09	**Plate Boundary**	**3.56**	**169**	e*i*P	**Pn**	**12 16 12.5**	**+0.9**
PB09				*i* S	**Sn**	**12 16 53.7**	**+0.8**
PB04	**Plate Boundary**	**3.99**	**174**	*i* P	**Pn**	**12 16 17.0**	**-0.2**
PB04				*i* S	**Sn**	**12 17 03.4**	**+0.5**
PB04	**Plate Boundary**	**3.99**	**174**	*i* P	**Pn**	**12 16 17.0**	**-0.2**
PB04				*i* S	**Sn**	**12 17 03.4**	**+0.5**
LVC	**Limon Verde**	**4.42**	**167**	e*i*Pn	**Pn**	**12 16 24.5**	**+1.2**
SIV	**San Ignacio**	**8.79**	**76**	P	**Pn**	**12 17 21.8**	**-0.8**
SIV	**San Ignacio**	**8.79**	**76**	P	**Pn**	**12 17 21.8**	**-0.8**
	comp=E,11nm,0.3s,baz=276,slow=12,SNR=66						
SAML	**Samuel**	**11.37**	**36**	e*i*Pn	Pn	12 17 54.7	-3.0
	comp=E,1.2nm,1.0s						
H03N1	**Juan Fernandez**	**17.10**	**206**	T	T	12 36 48.4	
	baz=28,slow=0.7,SNR=1270						
H03N2	**Juan Fernandez**	**17.11**	**206**	T	T	12 36 43.1	
	baz=28,slow=0.7,SNR=1207						
H03N3	**Juan Fernandez**	**17.12**	**206**	T	T	12 36 49.7	
	baz=28,slow=0.7,SNR=1576						
PTGA	**Pitinga**	**20.01**	**30**	e*i*P	**P**	**12 19 41.5**	**-2.2**
PTGA	**Pitinga**	**20.01**	**30**	P	**P**	**12 19 41.5**	**-2.2**
	comp=E,5.5nm,0.3s,baz=208,slow=14,SNR=41						
OTAV	**Otavalo**	**20.20**	**335**	e*i*P	**P**	**12 19 46.5**	**+0.1**
	comp=E,4.0nm,0.8s						
BDFB	**Brasilia**	**21.15**	**86**	P	**P**	**12 19 56.3**	**+0.1**
BDFB	**Brasilia**	**21.15**	**86**	P	**P**	**12 19 56.3**	**+0.1**
	comp=E,5.8nm,0.6s,baz=257,slow=12,SNR=10.0						
PLCA	**Paso Flores**	**22.39**	**181**	e*i*P	**P**	**12 20 10.3**	**+1.3**
	comp=E,11nm,1.3s						
PLCA	**Paso Flores**	**22.39**	**181**	P	**P**	**12 20 09.7**	**+0.7**
	comp=E,6.7nm,1.1s,baz=355,slow=12,SNR=7.0						
TXAR	**Lajitas Array**	**57.44**	**325**	P	P	12 25 01.1	+3.5
TXAR	**Lajitas Array**	**57.44**	**325**	P	P	12 25 01.1	+3.5
	comp=E,0.1nm,0.4s,baz=134,slow=7.6,SNR=5.3						
SIUC	**Southern Illin**	**58.57**	**342**	e*i*P	**P**	**12 25 05.0**	**-0.3**
	comp=E,18nm,0.8s						
DBIC	**Dimbokro**	**68.81**	**75**	e*i*P	**P**	**12 26 12.0**	**-1.2**
	comp=E,4.4nm,0.6s						
DBIC	**Dimbokro**	**68.81**	**75**	P	**P**	**12 26 12.1**	**-1.0**
	comp=E,4.5nm,0.5s,baz=241,slow=7.1,SNR=8.1						
PDAR	**Pinedale Array**	**70.84**	**330**	P	**P**	**12 26 26.2**	**+1.0**
PDAR	**Pinedale Array**	**70.84**	**330**	P	**P**	**12 26 26.2**	**+1.0**
	comp=E,0.6nm,1.0s,baz=132,slow=2.7,SNR=3.2						
ULM	**Lac du Bonnet**	**71.96**	**343**	P	**P**	**12 26 32.2**	**+0.6**
ULM	**Lac du Bonnet**	**71.96**	**343**	P	**P**	**12 26 32.2**	**+0.6**
	comp=E,2.1nm,0.3s,baz=156,slow=6.0,SNR=7.9						
NVAR	**Mina Array Bea**	**72.36**	**322**	P	**P**	**12 26 34.9**	**+0.4**
NVAR	**Mina Array Bea**	**72.36**	**322**	P	**P**	**12 26 34.9**	**+0.4**
	comp=E,1.2nm,0.8s,baz=155,slow=5.8,SNR=6.8						
TOA0	**Torodi Ar. Sit**	**77.24**	**71**	e*i*P	**P**	**12 27 01.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**77.24**	**71**	P	**P**	**12 27 01.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**77.24**	**71**	P	**P**	**12 27 01.6**	**-1.3**
	comp=E,4.7nm,0.6s,baz=253,slow=5.4,SNR=18						
ESDC	**Sonseca Array**	**84.25**	**45**	P	**P**	**12 27 40.0**	**+0.2**
ESDC	**Sonseca Array**	**84.25**	**45**	P	**P**	**12 27 40.0**	**+0.2**
	comp=E,0.6nm,0.6s,baz=254,slow=5.5,SNR=6.3						
YKA	**Yellowknife Ar**	**87.83**	**341**	P	**P**	**12 27 57.1**	**+0.4**
YKA	**Yellowknife Ar**	**87.83**	**341**	P	**P**	**12 27 57.1**	**+0.4**
	comp=E,3.0nm,0.6s,baz=134,slow=4.8,SNR=78						
WRA	**Warramunga Arr**	**135.16**	**213**	PKP	**PKPdf**	**12 34 27.7**	**-0.1**
WRA	**Warramunga Arr**	**135.16**	**213**	PKP	**PKPdf**	**12 34 27.7**	**-0.1**
	comp=E,6nm,0.5s,baz=143,slow=1.7,SNR=10.0						
ZALV	**Zalesovo Beam**	**139.42**	**23**	PKP	**PKPdf**	**12 34 34.6**	**+0.1**
ZALV	**Zalesovo Beam**	**139.42**	**23**	PKP	**PKPdf**	**12 34 34.6**	**+0.1**
	comp=E,0.8nm,0.5s,baz=274,slow=0.9,SNR=4.4						
MKAR	**Makanchi Array**	**143.54**	**33**	PKP	PKPbc	12 34 39.5	-0.3
MKAR	**Makanchi Array**	**143.54**	**33**	PKP	PKPbc	12 34 39.5	-0.3
	comp=E,0.2nm,0.4s,baz=303,slow=3.0,SNR=7.3						
SONM	**Songino Array**	**150.37**	**5**	PKPbc	**PKPbc**	**12 34 59.7**	**+0.6**
SONM	**Songino Array**	**150.37**	**5**	PKPbc	**PKPbc**	**12 34 59.7**	**+0.6**
	comp=E,0.5nm,0.5s,baz=309,slow=1.7,SNR=6.4						

*IDC **17** 12:33:03.3±1.2, 4°.51S×135°.59E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.7/30, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=38.9km s-min=26.1km az=49.0*

*ISCJB **17** 12:33:04.9±0.5, 4°.51S±0°.04×135°.60E±0°.05, h20km, mb3.6/4, Error ellipse: s-maj=7.8km s-min=5.5km az=15.4*

ISC 17 12:33:07.5±0.6, **4°.49S**±0°.05×**135°.57E**±0°.05, **h20**km, **n21**, σ2**80**/26, **mb3.7**/4, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.69**	**15**	P	**Pb**	**12 33 58.1**	**+3.1**
	899nm,0.6s,10μm3.4nm						
SRPI				S	**Sn**	**12 34 16.9**	**-4.8**
	899nm,0.6s,10μm3.4nm						
BAKI	**Biak**	**3.32**	**9**	P	**Pn**	**12 33 58.3**	**-0.1**
BAKI				S	**Sn**	**12 34 36.5**	**-0.8**
FAKI	**Fak Fak**	**3.66**	**295**	P	**Pn**	**12 34 04.8**	**+1.7**
FAKI				S	**Sn**	**12 34 44.8**	**-0.9**
FAKI	**Fak Fak**	**3.66**	**295**	S	**Pn**	**12 34 04.7**	**+1.7**
	baz=2.3,SNR=5.6						
MWPI	**Manokwari, Pap**	**3.85**	**337**	P	x	12 34 04.5	
MWPI				S	x	12 34 54.6	
SMPI	**Sarmi**	**4.00**	**52**	P	**Pn**	**12 34 06.6**	**-1.2**
	44nm,1.8s,0.9nm						
JAY	**Jayapura**	**5.49**	**69**	Pn	**Pn**	**12 34 27.6**	**-0.8**
	0.7nm,0.3s,baz=233,slow=15,SNR=2.8						
JAY				Sn	**Sn**	**12 35 36.4**	**+5.4**
	1.3nm,0.3s,baz=81,slow=19,SNR=2.7						
KDU	**Kakadu**	**8.70**	**200**	P	**Pn**	**12 35 14.6**	**+2.3**
	baz=9.4,SNR=12						
MTN	**Manton Dam**	**9.38**	**208**	P	Pn	12 35 25.2	+3.5
	baz=10.0,SNR=13						
COEN	**Coen**	**12.03**	**142**	P	**Pn**	**12 35 57.8**	**-0.3**
	baz=14,SNR=6.4						
KNRA	**Kununurra**	**12.97**	**211**	P	**Pn**	**12 36 11.5**	**+0.6**
	baz=14,SNR=20						
KNRA				S	**Sn**	**12 38 32.9**	**-1.9**
	baz=14,SNR=5.5						
WRA	**Warramunga Arr**	**15.41**	**184**	Pn	**Pn**	**12 36 41.6**	**-2.3**
	0.6nm,0.3s,baz=6.1,slow=13,SNR=32						
WRA				Sn	**Sn**	**12 39 28.4**	**-5.8**
	0.6nm,0.3s,baz=10,slow=22,SNR=6.7						
QIS	**Mount Isa**	**16.45**	**167**	P	**P**	**12 37 04.2**	**+4.2**
	baz=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**16.65**	**215**	P	**P**	**12 37 01.4**	**-0.9**
	baz=17,SNR=10.0						
FITZ				S	**Sn**	**12 40 00.5**	**-3.9**
	baz=17,SNR=5.1						
CTA	**Charters Tower**	**18.68**	**147**	P	**P**	**12 37 22.9**	**-1.7**
	0.1nm,0.3s,baz=327,slow=12,SNR=2.3						
WRKA	**Warakurna**	**21.59**	**198**	P	**P**	**12 37 59.4**	**+3.1**
	baz=22,SNR=17						
QLP	**Quilpie**	**23.48**	**160**	P	**P**	**12 38 18.8**	**+2.7**
	baz=25,SNR=7.1						
SONM	**Songino Array**	**58.06**	**337**	P	**P**	**12 42 58.7**	**-0.8**
	0.2nm,0.5s,baz=150,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**69.32**	**324**	P	**P**	**12 44 14.0**	**+0.3**
	0.6nm,0.4s,baz=108,slow=8.1,SNR=18						
ZALV	**Zalesovo Beam**	**71.93**	**331**	P	**P**	**12 44 27.7**	**-1.7**
	0.3nm,0.5s,baz=106,slow=3.1,SNR=2.4						
ILAR	**Eielson Array**	**88.75**	**25**	P	**P**	**12 45 57.6**	**-2.0**
	0.2nm,0.5s,baz=271,slow=4.7,SNR=4.0						

MEX 17 12:37:42.0±0.6, **16°.53N**×**100°.04W**, **h14**km±18km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.38**	**27**	*i* P	Pg	12 37 48.8	-0.9
ACX				eS	Sg	12 37 53.8	-1.1
ZIIG	**Zihuatanejo**	**1.74**	**308**	*i* P	Pn	12 38 08.1	-3.7
ZIIG				*i* S	Sn	12 38 28.6	-5.1
TLIG	**Tlapa**	**1.74**	**54**	*i* P	Pn	12 38 09.3	-2.7
TLIG				eS	Sn	12 38 29.3	-4.8
ARIG	**Puente Sto Nin**	**1.77**	**350**	*i* P	Pn	12 38 09.5	-2.8
ARIG				eS	Sn	12 38 30.4	-4.1
PNIG	**Pinotepa**	**1.84**	**94**	*i* P	Pn	12 38 10.2	-3.0
PNIG				eS	Sn	12 38 31.4	-4.8
PLIG	**Platanillo**	**1.92**	**15**	*i* P	Pn	12 38 10.6	-3.9
PLIG				*i* S	Sn	12 38 33.7	-4.8
YAIG	**Yautepec**	**2.50**	**22**	*i* P	Pn	12 38 19.3	-3.2
YAIG				*i* S	Sn	12 38 47.9	-5.0

MAN 17 13:03:04, 7°.19N×126°.01E, h25km**, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.51**	**258**	⇑*i*P	Pn	13 03 15.1	-0.6
DMPH				*i* S	Sn	13 03 32.9	+9.3
CTBH	**Cotabato--PC H**	**1.75**	**271**	⇓*i*P	Pn	13 03 33.2	+0.4

*IDC **17** 13:09:39.1±0.7, 36°.05N×141°.87E, h0km, mb3.9/17, mb1 4.1/23, mb1mx4.0/31, mbtmp3.9/23, ML3.8/5, Error ellipse: s-maj=18.2km s-min=15.8km az=160.0*

*ISCJB **17** 13:09:40.4±0.4, 36°.11N±0°.04×141°.98E±0°.05, h23km, mb4.1/32, MS5.3/1, Error ellipse: s-maj=6.2km s-min=4.7km az=31.5*

*JMA **17** 13:09:41.6±0.3, 36°.11N×141°.92E, h66km±5km, M3.9*

*NEIC **17** 13:09:41.6±2.5, 36°.07N×141°.88E, h17km±16km, mb4.5/6, Error ellipse: s-maj=7.1km s-min=6.5km az=80.0*

*MOS **17** 13:09:44.1±0.9, 36°.47N×141°.79E, h33km, mb4.5/20, Error ellipse: s-maj=11.8km s-min=7.9km az=131.3*

ISC 17 13:09:42.5±0.5, **36°.05N**±0°.05×**141°.92E**±0°.06, **h23**km, **n100**, σ0**89**/96, **mb4.2**/32, **7C-6D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.93**	**248**	P	**Pb**	**13 09 59.5**	**-0.4**
CHOJ				S	**Sn**	**13 10 12.9**	**+0.2**
JHO	**Hitachi**	**1.22**	**297**	⇑P	**Pn**	**13 10 02.4**	**-1.8**
JFK	**Kawauchi**	**1.56**	**328**	P	**Pn**	**13 10 07.0**	**-1.8**
BSO1	**Boso 1**	**1.59**	**209**	P	**Pn**	**13 10 09.0**	**+0.2**
BSO1				S	**Sb**	**13 10 30.6**	**+0.2**
BSO3	**Boso 3**	**1.70**	**223**	P	**Pn**	**13 10 10.7**	**+0.2**
JFT	**Otama**	**1.94**	**319**	⇑P	**Pn**	**13 10 13.3**	**-0.7**
JFT				S	**Sn**	**13 10 36.0**	**-1.7**
JMM	**Marumori**	**2.02**	**334**	⇑P	**Pn**	**13 10 13.3**	**-1.9**
JAG	**Ashikaga**	**2.03**	**281**	⇑P	**Pn**	**13 10 14.1**	**-1.2**
JOD2	**Odawara 2**	**2.44**	**252**	P	**Pn**	**13 10 20.8**	**-0.1**
JRY	**Ryogami san**	**2.45**	**270**	⇑P	**Pn**	**13 10 20.2**	**-0.8**
MJAR	**Matsushiro Arr**	**3.04**	**280**	Pn	**Pn**	**13 10 28.8**	**-0.3**
MJAR	**Matsushiro Arr**	**3.04**	**280**	Pn	**Pn**	**13 10 28.8**	**-0.3**
	22nm,0.3s,baz=116,slow=8.5,SNR=257						
MAJO	**Matsushiro**	**3.04**	**280**	e*i*P	**Pn**	**13 10 29.5**	**+0.3**
MAJO	**Matsushiro**	**3.04**	**280**	e*i*P	**Pn**	**13 10 29.3**	**+0.1**
MAT	**Matsushiro**	**3.04**	**280**	P	**Pn**	**13 10 29.1**	**-0.1**
MAT				S	**Sn**	**13 11 06.5**	**+1.7**
JHJ2	**Mitsune**	**3.41**	**211**	e*i*P	**Pn**	**13 10 34.2**	**-0.1**
ASAJ	**Asahikawa**	**8.07**	**3**	e*i*P	**Pn**	**13 11 36.7**	**-1.5**
ASAJ	**Asahikawa**	**8.07**	**3**	Pn	**Pn**	**13 11 36.6**	**-1.6**
	1.2nm,0.3s,baz=246,slow=6.5,SNR=14						
YUK	**Yuzh-Kuril'sk**	**8.52**	**20**	d*i*P	Pn	13 11 40.1	-4.3
YUK				*i* S	Sn	13 13 10.6	-9.2
YUK				pmax	pmax		
	comp=Z,54nm,0.3s						
YUK				pmax	pmax		
	comp=E,45nm,0.1s						
YUK				pmax	pmax		
	comp=N,21nm,0.3s						
CBIJ	**Chichi jima**	**8.93**	**178**	Pn	**Pn**	**13 11 48.9**	**-1.2**
JCJ	**Chichijima**	**8.93**	**178**	Pn	**Pn**	**13 11 48.9**	**-1.2**
	comp=N,5.4nm,0.3s,baz=360,slow=19,SNR=6.0						
JNU	**Nakatsue**	**9.56**	**255**	Pn	**Pn**	**13 11 59.1**	**+0.3**
JNU	**Nakatsue**	**9.56**	**255**	Pn	**Pn**	**13 11 59.1**	**+0.3**
	comp=N,0.4nm,0.3s,baz=88,slow=8.6,SNR=6.0						
USRK	**Ussuriysk Arra**	**11.13**	**320**	Pn	**Pn**	**13 12 20.5**	**+0.4**
	comp=N,0.2nm,0.3s,baz=136,slow=15,SNR=4.6						
KSRS	**Korea Array**	**11.32**	**281**

TLY pmax pmax
comp=Z,7.0nm,0.9s
HVS Khovu-Aksy 37.32 309⇓*eP* **P 13 16 53.4 +0.5**
HVS pmax pmax
comp=Z,45nm,1.5s
CMAR Chiang Mai Arr 41.66 257 P **P 13 17 29.1 -0.2**
CMAR Chiang Mai Arr 41.66 257 P **P 13 17 29.1 -0.2**
comp=Z,0.7nm,0.7s,baz=51,slow=5.9,SNR=6.5
ZAA0 Zalesovo Array 42.88 313 *eP* **P 13 17 37.8 -1.1**
ZALV Zalesovo Beam 42.88 313 *iP* **P 13 17 38.5 -0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 42.88 313 P **P 13 17 38.6 -0.3**
ZALV Zalesovo Beam 42.88 313 P **P 13 17 38.6 -0.3**
comp=Z,3.6nm,0.7s,baz=110,slow=5.9,SNR=18
MK31 Makanchi Array 44.99 303 *eP* **P 13 17 55.4 -0.5**
MK31 Makanchi Array 44.99 303 *eP* **P 13 17 55.4 -0.5**
MKAR Makanchi Array 44.99 303 P **P 13 17 55.7 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 44.99 303 P **P 13 17 55.7 -0.3**
MKAR Makanchi Array 44.99 303 P **P 13 17 55.7 -0.3**
comp=Z,3.1nm,0.7s,baz=87,slow=9.1,SNR=30
KURK Kurchatov 46.86 309 *eP* **P 13 18 09.8 -0.8**
KURK Kurchatov 46.86 309 *eP* **P 13 18 09.8 -0.8**
ILAR Eielson Array 50.11 32 P **P 13 18 35.8 +0.4**
ILAR Eielson Array 50.11 32 P **P 13 18 35.8 +0.4**
comp=Z,0.5nm,0.8s,baz=264,slow=6.2,SNR=7.9
TKM2 Tokmak 2 50.46 299 *eP* **P 13 18 39.1 +0.4**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 50.46 299 *eP* **P 13 18 39.1 +0.4**
comp=Z,3.3nm,0.7s
BVA0 Borovoye Array 51.53 313 *iP* **P 13 18 45.2 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 51.59 313⇓*iP* **P 13 18 46.8 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
KKAR Karatay Array 53.97 301 *eP* **P 13 19 04.2 -0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 53.97 301 *eP* **P 13 19 04.2 -0.3**
comp=Z,1.1nm,0.6s
INK Inuvik 55.07 27 *eP* **P 13 19 12.6 +0.5**
INK Inuvik 55.07 27 P **P 13 19 12.9 +0.8**
comp=Z,0.7nm,0.5s,baz=305,slow=6.4,SNR=4.8
WRA Warramunga Arr 56.15 189 P **P 13 19 20.0 -0.4**
WRA Warramunga Arr 56.15 189 P **P 13 19 20.0 -0.4**
comp=Z,1.5nm,0.6s,baz=7.8,slow=7.3,SNR=21
ARU Arti 57.37 319*d iP* **P 13 19 28.4 -0.2**
ARU 13 21 34.9
ARU S **S 13 27 26.0 +2.3**
ARU SS **SS 13 31 16.2 +3.5**
ARU pmax pmax
comp=Z,21nm,2.5s
AB31 Akbulak array 58.88 311 *iP* **P 13 19 38.7 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 58.88 311 *eP* **P 13 19 38.3 -1.1**
comp=Z,2.6nm,0.5s
YKA Yellowknife Ar 64.45 30 P **P 13 20 16.8 +0.2**
YKA Yellowknife Ar 64.45 30 P **P 13 20 16.8 +0.2**
comp=Z,0.2nm,0.7s,baz=304,slow=6.7,SNR=4.9
ARCES ARCESS Array B 65.06 340 P **P 13 20 20.3 -0.3**
ARCES ARCESS Array B 65.06 340 P **P 13 20 20.3 -0.3**
comp=Z,2.0nm,0.8s,baz=53,slow=12,SNR=4.5
OBN Obninsk 69.12 324⇓*iP* **P 13 20 46.1 -0.4**
OBN *e* 13 23 19.8
OBN *e*S S 13 29 43.7 -6.8
OBN *e*SS SS 13 34 06.0 -10
OBN pmax pmax
comp=Z,24nm,2.5s
FINES FINESS Array B 69.87 333 P **P 13 20 50.9 -0.1**
FINES FINESS Array B 69.87 333 P **P 13 20 50.9 -0.1**
comp=Z,2.9nm,0.7s,baz=76,slow=8.0,SNR=7.0
KIV Kislovodsk 71.86 311 *eP* **P 13 21 04.4 +0.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,2μm,18.0s
NB2 NORSAR Subarra 75.25 338 P **P 13 21 22.9 -0.2**
comp=Z,1.6nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 75.25 338 P **P 13 21 23.0 -0.2**
NOA NORSAR Array B 75.25 338 P **P 13 21 23.0 -0.2**
comp=Z,0.8nm,0.5s,baz=39,slow=5.8,SNR=3.6
NVAR Mina Array Bea 75.25 53 P **P 13 21 25.3 +1.5**
NVAR Mina Array Bea 75.25 53 P **P 13 21 25.3 +1.5**
comp=Z,0.2nm,0.6s,baz=279,slow=9.8,SNR=2.6
AKASG Malin Array Be 75.32 323*ceP* **P 13 21 23.3 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.32 323 P **P 13 21 23.4 -0.3**
AKASG Malin Array Be 75.32 323 P **P 13 21 23.4 -0.3**
comp=Z,1.9nm,0.5s,baz=47,slow=5.9,SNR=24
KIEV Kiev 75.33 323⇓*eP* **P 13 21 21.9 -1.8**
AK02 Malin Array Si 75.36 323 *eP* **P 13 21 23.6 -0.3**
PDAR Pinedale Array 78.06 46 P **P 13 21 41.1 +1.5**
PDAR Pinedale Array 78.06 46 P **P 13 21 41.2 +1.5**
comp=Z,0.3nm,0.8s,baz=292,slow=9.6,SNR=2.4
BRTR Keskin Array B 79.81 312 P **P 13 21 49.3 +0.1**
BRTR Keskin Array B 79.81 312 P **P 13 21 49.3 +0.1**
comp=Z,1.3nm,0.9s,baz=106,slow=2.7,SNR=4.4
GERES GERESS Array B 83.76 329 P **P 13 22 09.3 -0.5**
GERES GERESS Array B 83.76 329 P **P 13 22 09.3 -0.5**
comp=Z,0.4nm,0.7s,baz=57,slow=4.9,SNR=3.9
TXAR Lajitas Array 90.39 53 P **P 13 22 43.1 +0.8**
TXAR Lajitas Array 90.39 53 P **P 13 22 43.1 +0.8**
comp=Z,0.2nm,0.9s,baz=291,slow=3.8,SNR=3.7
H03N2 Juan Fernandez 146.50 98 T T 16 13 06.7
baz=288,slow=75,SNR=5.9
H03N3 Juan Fernandez 146.51 98 T T 16 13 09.0
baz=288,slow=75,SNR=6.0
H03N1 Juan Fernandez 146.52 98 T T 16 13 07.0
baz=288,slow=75,SNR=6.5
LPAZ La Paz 146.82 61 PKPbc **PKPbc 13 29 24.5 +0.5**
LPAZ La Paz 146.82 61 PKPbc **PKPbc 13 29 24.5 +0.5**
comp=Z,0.7nm,0.5s,baz=318,slow=1.8,SNR=5.3

*IDC **17** 13:12:10.6±5.9, 33.°18S×179.°02W, h49km±52km, mb3.9/3, mb1 4.2/4, mb1mx3.7/28, mbtmp4.2/4, ML4.0/1, Error ellipse: s-maj=43.0km s-min=33.2km az=43.0*
*NEIC **17** 13:12:14.7±4.2, 33.°24S×179.°22W, h86km±34km, mb4.6/1, Error ellipse: s-maj=39.1km s-min=29.9km az=203.0*

ISC 17 13:12:10.0±0.8, 33.°36S±0.°08×178.°8W±0.°1, h48km, n60, σ1s40/55, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MXZ	**Matakaoa Point**	**4.82**	**209**	PN	**Pn**		**13 13 19.7**	**-0.3**
MXZ				SN	**Sn**		**13 14 15.1**	**+0.6**
HAZ	**Te Kaha**	**5.20**	**212**	PN	**Pn**		**13 13 25.4**	**+0.2**
HAZ				SN	**Sn**		**13 14 24.9**	**+1.0**
CNGZ	**Carnagh Statio**	**5.67**	**205**	PN	**Pn**		**13 13 30.9**	**-0.6**
MWZ	**Matawai**	**5.80**	**210**	PN	**Pn**		**13 13 32.6**	**-0.8**
MWZ				SN	**Sn**		**13 14 37.6**	**-1.0**
OPRZ	**Ohinepanea**	**5.87**	**219**	PN	**Pn**		**13 13 35.7**	**+1.4**
URZ	**Urewera**	**5.92**	**213**	*eP*	**Pn**		**13 13 34.6**	**-0.4**
	7.1nm,0.8s							
URZ				S	**Sn**		**13 14 43.5**	**+2.0**
URZ	**Urewera**	**5.92**	**213**	P	**Pn**		**13 13 36.0**	**+0.9**
	4.2nm,0.3s,baz=360,slow=5.4,SNR=20							
URZ				S	**Sn**		**13 14 43.6**	**+2.0**
	9.4nm,0.3s,baz=234,slow=23,SNR=3.6							
URZ	**Urewera**	**5.92**	**213**	PN	**Pn**		**13 13 33.5**	**-1.5**
RIGZ	**Rimuhau**	**6.02**	**207**	*ePN*	**Pn**		**13 13 35.5**	**-1.0**
PRGZ	**Paritu Road**	**6.17**	**205**	*ePN*	**Pn**		**13 13 38.6**	**+0.1**
SNGZ	**Shannon Statio**	**6.25**	**209**	*ePN*	**Pn**		**13 13 38.4**	**-1.3**
KNZ	**Kokohu**	**6.33**	**206**	PN	**Pn**		**13 13 39.1**	**-1.6**
MHGZ	**Mahia Peninsul**	**6.37**	**204**	*ePN*	**Pn**		**13 13 40.0**	**-1.3**
RAHZ	**Arahi**	**6.47**	**210**	*ePN*	**Pn**		**13 13 41.6**	**-1.0**
ALRZ	**Allen Road**	**6.53**	**216**	*ePN*	**Pn**		**13 13 43.9**	**+0.5**
WHHZ	**Waihua**	**6.55**	**208**	*ePN*	**Pn**		**13 13 43.4**	**-0.3**
OUZ	**Omahuta**	**6.58**	**251**	*eP*	**Pn**		**13 13 44.3**	**+0.3**
	47nm,0.8s							
NMHZ	**Naumai**	**6.75**	**211**	*ePN*	**Pn**		**13 13 45.6**	**-0.8**
BKZ	**Black Stump Fm**	**6.94**	**212**	PN	**Pn**		**13 13 49.2**	**+0.2**
MCHZ	**McNeill Hill**	**7.08**	**210**	PN	**Pn**		**13 13 50.9**	**-0.1**
KAHZ	**Kahuranaki**	**7.31**	**207**	*ePN*	**Pn**		**13 13 51.8**	**-2.4**
BHHZ	**Black Hill Sta**	**7.39**	**213**	*ePN*	**Pn**		**13 13 53.9**	**-1.4**
PXZ	**Pawanui**	**7.52**	**206**	PN	**Pn**		**13 13 53.8**	**-3.1**
PRHZ	**Porangahau**	**7.81**	**207**	PN	**Pn**		**13 14 00.3**	**-0.7**
TSZ	**Takapari Road**	**7.91**	**211**	*ePN*	**Pn**		**13 13 59.3**	**-3.1**
MRZ	**Mangatainoka R**	**8.57**	**210**	*ePN*	**Pn**		**13 14 07.4**	**-4.0**
TMWZ	**Te Maipa**	**8.82**	**207**	*ePN*	**Pn**		**13 14 11.7**	**-3.1**
OGWZ	**Otaki Gorge**	**8.87**	**211**	*ePN*	**Pn**		**13 14 11.9**	**-3.6**
KIW	**Kapiti Island**	**9.02**	**212**	PN	**Pn**		**13 14 12.4**	**-5.1**
TCW	**Tory Channel**	**9.59**	**213**	PN	**Pn**		**13 14 21.4**	**-3.9**
NNZ	**Nelson**	**10.02**	**216**	PN	**Pn**		**13 14 26.6**	**-4.6**
QRZ	**Quartz Range**	**10.18**	**220**	PN	**Pn**		**13 14 28.4**	**-4.9**
THZ	**Tophouse**	**10.67**	**216**	PN	**Pn**		**13 14 34.7**	**-5.5**
KHZ	**Kahutara**	**10.88**	**212**	PN	**Pn**		**13 14 38.6**	**-4.4**
STKA	**Stephens Creek**	**33.27**	**261**	*eP*	**P**		**13 18 42.0**	**-0.9**
CTA	**Charters Tower**	**33.74**	**284**	P	**P**		**13 18 47.2**	**+0.2**
CTA	**Charters Tower**	**33.74**	**284**	P	**P**		**13 18 47.2**	**+0.2**
	2.7nm,0.6s,baz=122,slow=6.6,SNR=3.5							
AS31	**Alice Springs**	**42.38**	**271**	*eP*	P		13 19 55.0	-4.8
WRA	**Warramunga Arr**	**43.63**	**276**	P	**P**		**13 20 08.2**	**-1.8**
WRA	**Warramunga Arr**	**43.63**	**276**	P	**P**		**13 20 08.2**	**-1.8**
	3.3nm,0.7s,baz=118,slow=7.6,SNR=14							
QSPA	**South Pole Qui**	**56.76**	**180**	P	**P**		**13 21 50.8**	**+2.0**
	5.6nm,0.9s							
H03N3	**Juan Fernandez**	**79.60**	**123**	T	T		14 52 53.5	
	baz=237,slow=75,SNR=45							
H03N2	**Juan Fernandez**	**79.60**	**123**	T	T		14 52 46.2	
	baz=237,slow=75,SNR=25							
H03N1	**Juan Fernandez**	**79.62**	**123**	T	T		14 52 45.8	
	baz=237,slow=75,SNR=35							
NVAR	**Mina Array Bea**	**90.85**	**43**	P	**P**		**13 25 10.2**	**+1.8**
NVAR	**Mina Array Bea**	**90.85**	**43**	P	**P**		**13 25 10.2**	**+1.8**
	0.5nm,0.8s,baz=232,slow=9.6,SNR=4.0							
JOF	**Joensuu**	**144.89**	**336**	*ep*	**PKPdf**		**13 31 40.3**	**-0.5**
KAF	**Kangasniemi**	**147.08**	**338**	*ep*	**PKPbc**		**13 31 45.9**	**-0.8**
FIA1	**FINESS Array S**	**147.66**	**338**	*e*PKPbc	**PKPbc**		**13 31 47.7**	**-0.6**
FINES	**FINESS Array B**	**147.66**	**338**	PKPbc	**PKPbc**		**13 31 48.2**	**-0.2**
FINES	**FINESS Array B**	**147.66**	**338**	PKPbc	**PKPbc**		**13 31 48.2**	**-0.2**
	6.3nm,0.8s,baz=68,slow=4.2,SNR=15							
NB2	**NORSAR Subarra**	**151.55**	**350**	PKP	**PKPbc**		**13 31 57.6**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=18,slow=2.6							
NOA	**NORSAR Array B**	**151.55**	**350**	PKPbc	**PKPbc**		**13 31 55.5**	**-2.5**
NOA	**NORSAR Array B**	**151.55**	**350**	PKPbc	**PKPbc**		**13 31 55.5**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=22,slow=4.8,SNR=11							
AKASG	**Malin Array Be**	**153.16**	**319**	PKPbc	**PKPbc**		**13 32 01.7**	**-0.2**
AKASG	**Malin Array Be**	**153.16**	**319**	PKPbc	**PKPbc**		**13 32 01.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=62,slow=1.9,SNR=4.3							
BRTR	**Keskin Array B**	**153.28**	**293**	PKPbc	**PKPbc**		**13 32 01.9**	**-0.9**
BRTR	**Keskin Array B**	**153.28**	**293**	PKPbc	**PKPbc**		**13 32 01.9**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=116,slow=2.9,SNR=5.9							
TORD	**Torodi Ar. Bea**	**159.88**	**181**	PKP	**PKPdf**		**13 32 04.8**	**+0.6**
TORD				PKPab	**PKPab**		**13 32 44.9**	**+1.6**
TORD	**Torodi Ar. Bea**	**159.88**	**181**	PKP	**PKPdf**		**13 32 04.8**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=157,slow=2.3,SNR=3.9							
TORD				PKPab	**PKPab**		**13 32 44.9**	**+1.6**
	comp=Z,2.7nm,0.8s,baz=167,slow=3.3,SNR=14							

IDC 17 14:05:40.7±3.1, 31.°65S×177.°44W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.8/24, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=78.4km s-min=44.2km az=124.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**7.97**	**213**	PN	Pn		14 07 37.1	-0.7
	0.6nm,0.3s,baz=192,slow=23,SNR=13							
STKA	**Stephens Creek**	**34.69**	**259**	P	P		14 12 33.3	+1.1
	1.3nm,0.5s,baz=99,slow=8.6,SNR=4.2							
WRA	**Warramunga Arr**	**44.64**	**273**	P	P		14 13 54.5	-0.8
	1.4nm,0.4s,baz=112,slow=8.0,SNR=44							
FINES	**FINESS Array B**	**146.49**	**340**	PKPbc	PKPdf		14 25 22.4	+0.7
	1.9nm,1.0s,baz=46,slow=4.0,SNR=6.1							

*ISCJB **17** 14:33:41.9±0.6, 51.°48N±0.°03×16.°18E±0.°04, h0km, Error ellipse: s-maj=4.2km s-min=3.0km az=24.0*
*IPEC **17** 14:33:43.7±0.3, 51.°51N×16.°23E, h0km, ML2.1/3, Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
*CSEM **17** 14:33:44.9±0.4, 51.°42N×16.°13E, h2km, ML3.1/10, Error ellipse: s-maj=6.3km s-min=3.6km az=9.0*
*IDC **17** 14:33:45.1±0.8, 51.°45N×16.°16E, h0km, mb1 3.4/5, mb1mx3.2/27, mbtmp3.2/5, ML2.3/5, Error ellipse: s-maj=18.6km s-min=6.7km az=97.0*
*PRU **17** 14:33:46.0, 51.°40N×16.°14E, h0km*

ISC 17 14:33:43.5±0.8, 51.°52N±0.°04×16.°15E±0.°03, h0km, n33, σ0s83/65, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSP	**Ksiaz**	**0.68**	**172**	*i* Pg	**Pg**		**14 33 57.0**	**+0.5**
KSP				*i* Sg	**Sg**		**14 34 05.5**	**+0.2**
KSP	**Ksiaz**	**0.68**	**172**	⇓*i* Pg	**Pg**		**14 33 57.0**	**+0.5**
KSP				*i* Sg	**Sg**		**14 34 05.5**	**+0.2**
UPC	**Upice**	**1.01**	**185**	*e*PG	**Pg**		**14 34 02.9**	**0.0**
UPC				*e*SG	**Sg**		**14 34 15.4**	**-0.6**
	comp=Z,16nm,0.2s							
UPC	**Upice**	**1.01**	**185**	Pg	**Pg**		**14 34 02.9**	**0.0**
UPC				Sg	**Sg**		**14 34 15.4**	**-0.6**
	16nm,0.2s							
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**		**14 34 05.8**	**-0.2**
DPC				*e*SG	**Sg**		**14 34 20.2**	**-0.9**
DPC	**Dobruska-Polom**	**1.17**	**175**	Pg	**Pg**		**14 34 05.8**	**-0.2**
DPC				Sg	**Sg**		**14 34 20.2**	**-0.9**
PVCC	**Panska Ves**	**1.40**	**226**	*e*PG	**Pb**		**14 34 10.8**	**+0.2**
PVCC				*e*SG	**Sb**		**14 34 29.2**	**+0.2**
	comp=Z,71nm,0.2s							
PVCC	**Panska Ves**	**1.40**	**226**	Pg	**Pb**		**14 34 10.8**	**+0.2**
PVCC				Sg	**Sb**		**14 34 29.2**	**+0.2**
	71nm,0.2s							
KRLC	**Kraliky**	**1.50**	**164**	*e*PG	**Pn**		**14 34 11.9**	**+0.2**
KRLC				*e*SG	**Sg**		**14 34 30.5**	**-1.1**
KRLC	**Kraliky**	**1.50**	**164**	Pg	**Pn**		**14 34 11.9**	**+0.2**
KRLC				Sg	**Sg**		**14 34 30.5**	**-1.1**
BRG	**Berggiesshubel**	**1.53**	**246**	PG	**Pg**		**14 34 13.0**	**+0.2**
BRG				SG	**Sn**		**14 34 33.4**	**+0.7**
	22nm,0.4s							
PRA	**Prague**	**1.81**	**218**	PN	**Pn**		**14 34 16.0**	**+0.1**
PRA				PG	**Pb**		**14 34 17.0**	**-0.5**
PRA				SG	**Sn**		**14 34 40.0**	**+0.4**
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**		**14 34 16.6**	**+0.3**
PRU				*e*PG	**Pb**		**14 34 17.9**	**-0.1**
PRU				*e*SG	**Sb**		**14 34 42.0**	**+0.5**
	comp=Z,11nm,0.3s							
PRU	**Pruhonice**	**1.84**	**214**	Pn	**Pn**		**14 34 16.6**	**+0.3**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**		**14 34 17.6**	**-0.4**
MORC				*e*Sg	**Sn**		**14 34 44.0**	**+0.8**
	11nm,0.2s,baz=335							
CLL	**Collm**	**1.98**	**265**	*e*Pg	**Pg**		**14 34 22.0**	**+0.5**
CLL				*i* Sg	**Sg**		**14 34 48.2**	**+1.1**
	comp=Z,16nm,0.7s							
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pb**		**14 34 22.5**	**-0.1**
OKC				*e*SG	**Sb**		**14 34 49.0**	**-0.3**
	comp=Z,13nm,0.3s							
OKC	**Ostrava-Krasne**	**2.11**	**142**	Pg	**Pb**		**14 34 22.5**	**-0.1**
OKC				Sg	**Sb**		**14 34 49.0**	**-0.3**
	comp=Z,13nm,0.3s							
VRAC	**Vranov**	**2.23**	**172**	Pn	**Pn**		**14 34 22.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=330,slow=16,SNR=11							
VRAC				Lg	Lg		14 34 53.5	
	comp=Z,4.5nm,0.3s,baz=75,slow=19,SNR=12							
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**		**14 34 21.6**	**-0.1**
	baz=354							
VRAC				*e*Sg	**Sb**		**14 34 53.0**	**+0.2**
	comp=Z,16nm,0.4s,baz=354							
TREC	**Trest**	**2.26**	**191**	*e*PG	**Pb**		**14 34 25.7**	**+0.4**
TREC				*e*SG	**Sb**		**14 34 54.5**	**+0.7**
	comp=Z,14nm,0.3s							
TREC	**Trest**	**2.26**	**191**	Pg	**Pb**		**14 34 25.7**	**+0.4**
TREC				Sg	**Sb**		**14 34 54.5**	**+0.7**
	comp=Z,14nm,0.3s							
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn	**Pn**		**14 34 25.3**	**+0.4**
	baz=358							
KRUC				*e*Sg	**Sb**		**14 35 00.5**	**+1.0**
	comp=Z,5.3nm,0.2s,baz=358							
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**		**14 34 29.0**	**+1.2**
NKC				*e*PG	**Pg**		**14 34 34.4**	**-0.3**
NKC				*e*SG	**Sg**		**14 35 10.2**	**+0.9**
	comp=Z,11nm,0.4s							
NKC	**Novy Kostel**	**2.67**	**243**	Pn	**Pn**		**14 34 29.0**	**+1.2**
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**		**14 34 31.5**	**+0.5**
KHC				*e*PG	**Pb**		**14 34 37.3**	**+1.2**
KHC				*e*SN	**Sn**		**14 35 05.3**	**-1.2**
KHC				*e*SG	**Sg**		**14 35 15.1**	**-1.5**
	comp=Z,6.1nm,0.3s							
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	**Pn**		**14 34 31.5**	**+0.5**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**		**14 34 34.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=10							
GERES				Pg	**Pb**		**14 34 40.8**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=35,slow=16,SNR=22							
GERES				Lg	Lg		14 35 22.3	
	comp=Z,2.1nm,0.3s,baz=29,slow=26,SNR=8.3							
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*PG	**Pg**		**14 34 59.7**	**+1.9**
STHS				*e*SG	**Sg**		**14 35 48.7**	**+0.8**
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*Pg	**Pg**		**14 34 59.7**	**+1.9**
STHS				*e*Sg	**Sg**		**14 35 48.7**	**+0.8**
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**		**14 35 50.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=3.5							
HFS				Sn	**Sn**		**14 37 28.2**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=21,SNR=2.5							
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**		**14 36 07.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=143,slow=13,SNR=2.5							
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**		**14 36 24.7**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=206,slow=9.3,SNR=2.6							

IDC 17 15:08:05.4±0.7, 13.°20N×144.°02E, h0km, mb3.8/13, mb1 4.1/13, mb1mx4.0/25, mbtmp3.8/13, Error ellipse: s-maj=25.1km s-min=16.9km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H11N1	**WAKE ISLAND Hy**	**22.86**	**71**	T	T		15 37 10.3	
	baz=255							
H11N2	**WAKE ISLAND Hy**	**22.87**	**70**	T	T		15 37 21.0	
	baz=255							
H11N3	**WAKE ISLAND Hy**	**22.88**	**71**	T	T		15 37 16.5	
	baz=255							
JNU	**Nakatsue**	**23.18**	**331**	P	P		15 13 14.5	+0.7
	3.1nm,0.7s,baz=136,slow=6.2,SNR=7.6							
MJAR	**Matsushiro Arr**	**23.82**	**348**	P	P		15 13 20.2	0.0
	2.3nm,0.6s,baz=167,slow=8.6,SNR=12							
KSRS	**Korea Array**	**28.11**	**332**	P	P		15 13 59.7	+0.7
	0.7nm,0.8s,baz=147,slow=10,SNR=3.6							
WRA	**Warramunga Arr**	**34.28**	**196**	P	P		15 14 53.5	0.0
	2.5nm,0.8s,baz=18,slow=9.5,SNR=23							
ASAR	**Alice Springs**	**37.95**	**195**	P	P		15 15 24.9	-0.1
	0.5nm,0.6s,baz=19,slow=12,SNR=16							
CMAR	**Chiang Mai Arr**	**43.60**	**283**	P	P		15 16 11.6	-0.2
	0.3nm,0.5s,baz=83,slow=6.1,SNR=4.6							
SONM	**Songino Array**	**46.58**	**326**	P	P		15 16 35.4	+0.2
	0.3nm,0.5s,baz=133,slow=6.6,SNR=3.5							
MKAR	**Makanchi Array**	**61.20**	**316**	P	P		15 18 21.9	-0.2
	0.6nm,0.6s,baz=90,slow=8.6,SNR=11							
ZALV	**Zalesovo Beam**	**61.46**	**325**	P	P		15 18 22.4	-1.3
	0.4nm,0.4s,baz=131,slow=8.0,SNR=2.9							
ILAR	**Eielson Array**	**69.27**	**25**	P	P		15 19 13.6	-0.6
	0.4nm,0.6s,baz=251,slow=6.1,SNR=14							
YKA	**Yellowknife Ar**	**83.58**	**27**	P	P		15 20 35.2	-0.1
	0.9nm,0.6s,baz=286,slow=5.0,SNR=6.4							
NVAR	**Mina Array Bea**	**87.81**	**51**	P	P		15 20 58.1	+1.0
	2.6nm,0.7s,baz=263,slow=6.1,SNR=23							
FINES	**FINESS Array B**	**91.16**	**335**	P	P		15 21 09.3	-2.8
	2.9nm,1.0s,baz=64,slow=4.4,SNR=5.8							
PDAR	**Pinedale Array**	**92.82**	**45**	P	P		15 21 19.6	-1.0
	0.3nm,0.6s,baz=256,slow=3.4,SNR=2.3							
LPAZ	**La Paz**	**148.78**	**100**	PKPbc	PKPbc		15 27 56.3	-0.3
	1.2nm,0.6s,baz=265,slow=2.9,SNR=5.7							

*IDC **17** 15:22:06.3±22.0, 50.°86N×179.°04E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.3/28, mbtmp3.3/4, Error ellipse: s-maj=407.7km s-min=88.1km az=78.0*
*ISCJB **17** 15:22:23.3±0.9, 51.°11N±0.°07×178.°31W±0.°07, h23km, mb3.2/4, Error ellipse: s-maj=10.4km s-min=6.1km az=173.5*
*NEIC **17** 15:22:25.4, 51.°25N×178.°33W, h7km, ML3.3(AEIC), After AEIC.*

ISC 17 15:22:24.3±1.4, 51.°2N±0.°1×178.°33W±0.°04, h23km, n23, σ0s69/24, mb3.3/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TAFL	**Tanaga Flats**	**0.61**	**26**	P	**Pb**		**15 22 36.9**	**+0.5**
GALAA	**Gareloi Lava P**	**0.62**	**334**	P	**Pn**		**15 22 37.6**	**-0.2**
GAEA	**Gareloi East**	**0.63**	**336**	P	**Pn**		**15 22 37.5**	**-0.5**
TASE	**Tanaga Southea**	**0.66**	**16**	P	**Pb**		**15 22 37.6**	**+0.4**
GANE	**Gareloi Northe**	**0.67**	**336**	P	**Pb**		**15 22 37.9**	**+0.5**
TAPA	**Tanaga Point A**	**0.69**	**28**	P	**Pb**		**15 22 38.0**	**+0.3**
TAFP	**Tanaga Falls P**	**0.73**	**17**	P	**Pb**		**15 22 38.5**	**+0.1**
TAFP				S	**Sb**		**15 22 47.8**	**-0.1**
KIKV	**Kanaga Island**	**0.99**	**47**	P	**Pb**		**15 22 42.4**	**-

baz=98
MKAR Makanchi Array 145.25 36 PKP **PKPdf 15 51 37.9 +0.7**
comp=E,0.4nm,0.7s,baz=318,slow=3.3,SNR=4.8

MAN 17 16:01:28,13.52N×120.96E,h32km,mb4.7,ML3.6,MS3.6, 2C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.02**	**190**	⇓*eP*	Pb	16 01 33.6	+0.2
TGY	**Tagaytay City**	**0.58**	**358**	⇑*eP*	Pn	16 01 40.6	+0.5
ARP	**Angono**	**1.03**	**11**	⇑*iP*	Pn	16 01 42.1	-4.1

IDC ***17*** *16:08:43.3±0.8,3.46S×77.63W,h0km,mb3.9/12, mb1 4.1/14,mb1mx4.0/26,mbtmp3.9/14,ML3.0/2,MS3.2/2, Ms1 3.2/2,ms1mx2.8/32,Error ellipse: s-maj=34.5km s-min=11.5km az=46.0*

ISCJB ***17*** *16:08:52.3±0.6,3.95S±0.06×77.60W±0.07,h110km, mb3.8/11,Error ellipse: s-maj=9.7km s-min=8.8km az=163.2*

ISC 17 16:08:53.0±0.7,3.99S±0.09×77.4W±0.1,h110km,n18, σ2§21/14,mb3.8/11,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.27**	**197**	Pn	Pn	16 09 37.4	-5.6
	4.5nm,0.3s,baz=0.6,slow=8.1,SNR=26						
ATAH				Sn	**Sn**	**16 10 20.1**	**-1.5**
	26nm,0.3s,baz=0.0,slow=14,SNR=5.0						
ROSC	**El Rosal**	**9.31**	**19**	Pn	Pn	16 10 54.7	-10
	1.2nm,0.3s,baz=102,slow=20,SNR=1.9						
ROSC				Lg	Lg	16 13 43.7	
	1.1nm,0.3s,baz=282,slow=19,SNR=3.0						
LPAZ	**La Paz**	**15.26**	**144**	Pn	**P**	**16 12 24.9**	**-0.7**
	0.1nm,0.3s,baz=287,slow=11,SNR=2.4						
LPAZ				Lg	Lg	16 16 59.3	
	0.1nm,0.3s,baz=192,slow=15,SNR=4.4						
JTS	**JuntasAbangare**	**16.04**	**332**	LR	LR	16 18 05.9	
	comp=Z,111nm,19.5s,baz=114,slow=36						
PTGA	**Pitinga**	**17.74**	**80**	Pn	**Pn**	**16 12 53.8**	**+0.6**
	0.3nm,0.3s,baz=280,slow=11,SNR=3.5						
PTGA				Sn	**S**	**16 16 07.8**	**-3.4**
	0.5nm,0.3s,baz=319,slow=19,SNR=4.4						
PTGA				Lg	Lg	16 18 04.5	
	0.1nm,0.3s,baz=180,slow=20,SNR=2.8						
PTGA				LR	LR	16 20 34.8	
	comp=Z,66nm,18.7s,baz=302,slow=40						
SIV	**San Ignacio**	**20.02**	**128**	P	**Pn**	**16 13 21.6**	**+1.5**
	0.8nm,0.4s,baz=311,slow=12,SNR=2.2						
SIV				S	Sn	16 17 16.2	+10
	3.0nm,0.5s,baz=59,slow=14,SNR=9.7						
SIV				Lg	Lg	16 19 25.9	
	4.2nm,0.9s,baz=219,slow=18,SNR=2.5						
APG	**El Apazote**	**22.87**	**326**	P	**P**	**16 13 43.5**	**-4.0**
	3.1nm,0.7s,baz=171,slow=13,SNR=4.4						
APG				ScP	ScP	16 21 15.3	+12
	1.4nm,0.7s,baz=117,slow=6.8,SNR=4.2						
PLCA	**Paso Flores**	**37.10**	**171**	P	P	16 15 59.8	+7.0
	1.4nm,0.7s,baz=266,slow=13,SNR=3.8						
TXAR	**Lajitas Array**	**41.61**	**324**	P	**P**	**16 16 30.4**	**-0.1**
	0.3nm,0.7s,baz=144,slow=8.7,SNR=4.9						
PDAR	**Pinedale Array**	**54.87**	**331**	P	**P**	**16 18 12.6**	**+0.2**
	0.7nm,0.7s,baz=152,slow=6.1,SNR=5.3						
ULM	**Lac du Bonnet**	**56.32**	**346**	P	**P**	**16 18 20.6**	**-1.6**
	4.9nm,0.8s,baz=160,slow=6.4,SNR=8.6						
NVAR	**Mina Array Bea**	**56.66**	**322**	P	**P**	**16 18 25.8**	**+0.6**
	0.5nm,0.6s,baz=122,slow=6.8,SNR=5.8						
YKA	**Yellowknife Ar**	**72.07**	**343**	P	**P**	**16 20 05.5**	**+0.7**
	0.1nm,0.4s,baz=143,slow=5.9,SNR=5.1						
DBIC	**Dimbokro**	**73.21**	**82**	P	P	16 20 16.5	+3.9
	2.5nm,0.8s,baz=315,slow=1.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**80.34**	**76**	P	P	16 20 57.2	+4.5
	0.8nm,0.8s,baz=287,slow=5.9,SNR=5.9						
INK	**Inuvik**	**81.79**	**342**	P	**P**	**16 21 01.1**	**+1.8**
	3.3nm,1.0s,baz=144,slow=2.8,SNR=4.5						
ILAR	**Eielson Array**	**84.97**	**336**	P	**P**	**16 21 17.2**	**+1.5**
	1.0nm,0.8s,baz=135,slow=3.4,SNR=9.7						
ZALV	**Zalesovo Beam**	**128.12**	**13**	PKP	**PKPdf**	**16 27 49.6**	**+3.4**
	1.2nm,0.9s,baz=329,slow=1.7,SNR=4.9						

ISCJB ***17*** *16:46:51.4±0.6,7.54S±0.10×88.95E±0.07,h10km, mb4.0/17,MS3.6/3,Error ellipse: s-maj=14.4km s-min=10.1km az=160.2*

IDC ***17*** *16:46:51.5±0.8,7.64S×88.88E,h0km,mb4.0/17, mb1 4.1/17,mb1mx4.0/27,mbtmp4.0/17,MS3.5/4, Ms1 3.6/4,ms1mx3.1/29,Error ellipse: s-maj=22.8km s-min=19.3km az=38.0*

DJA ***17*** *16:48:00.0±1.8,4.S±11.×9.3E±1.5,h10km,M4.9/10, mb4.9/10,mB5.5/3,MLv4.9/1,Mw(mB)5.0/3*

ISC 17 16:46:53.5±0.7,7.6S±0.1×88.9E±0.1,h10km,n37, σ1§16/25,mb4.2/17,MS3.5/3,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**12.37**	**37**	P	**Pn**	**16 49 48.7**	**-1.2**
	80nm,1.2s,0.3nm						
PDSI	**Padang**	**13.28**	**61**	P	**Pn**	**16 50 01.5**	**-0.8**
	46nm,0.6s,720nm						
PPI	**Padang Panjang**	**13.46**	**59**	P	**Pn**	**16 50 04.7**	**0.0**
	43nm,0.7s						
MNSI	**Mandailing Nat**	**13.50**	**52**	P	**Pn**	**16 50 05.3**	**0.0**
	44nm,1.2s,731nm						
TPTI		**13.56**	**38**	P	**Pn**	**16 50 05.2**	**-0.9**
	10nm,1.0s,34µm						
KCSI	**Kotacane, Aceh**	**14.13**	**39**	P	**Pn**	**16 50 13.7**	**-0.2**
	14nm,0.8s						
PSI	**Prapat**	**14.36**	**44**	P	x	16 50 25.6	
PSI	**Prapat**	**14.36**	**44**	LR	LR	16 54 45.9	
	comp=Z,118nm,20.9s,baz=190,slow=33						
LHSI	**Lahat**	**15.01**	**76**	P	**Pn**	**16 50 27.8**	**+1.9**
H08S2	**Diego Garcia H**	**16.27**	**269**	T	T	17 07 21.7	
	baz=91,slow=74,SNR=138						
H08S3	**Diego Garcia H**	**16.28**	**269**	T	T	17 07 27.5	
	baz=91,slow=74,SNR=217						
H08S1	**Diego Garcia H**	**16.29**	**269**	T	T	17 07 40.0	
	baz=91,slow=74,SNR=74						
KULM	**Kulim**	**17.34**	**43**	P	x	16 50 59.1	
	24nm,0.9s						
H08N1	**Diego Garcia H**	**17.81**	**273**	T	T	17 09 47.5	
	baz=156						
H08N2	**Diego Garcia H**	**17.82**	**273**	T	T	17 09 50.0	
	baz=156						
H08N3	**Diego Garcia H**	**17.83**	**273**	T	T	17 09 53.3	
	baz=156						
CMAR	**Chiang Mai Arr**	**27.70**	**21**	P	**P**	**16 52 43.4**	**+1.3**
	2.2nm,0.9s,baz=210,slow=9.2,SNR=15						
CMAR				LR	LR	17 04 23.3	
	comp=Z,91nm,18.3s,baz=207,slow=38						
H01W3	**Cape Leeuwin H**	**35.72**	**143**	T	T	17 32 07.3	
	baz=314,slow=75						
H01W2	**Cape Leeuwin H**	**35.73**	**143**	T	T	17 31 21.6	
	baz=314						
H01W1	**Cape Leeuwin H**	**35.74**	**143**	T	T	17 32 23.6	
	baz=314,slow=75						
WRA	**Warramunga Arr**	**45.66**	**110**	P	**P**	**16 55 15.3**	**+0.5**
	0.9nm,0.8s,baz=279,slow=9.2,SNR=5.4						
MKAR	**Makanchi Array**	**54.45**	**354**	P	**P**	**16 56 21.6**	**+0.5**
	0.5nm,0.7s,baz=177,slow=7.3,SNR=4.9						
STKA	**Stephens Creek**	**54.54**	**124**	P	**P**	**16 56 20.7**	**-1.4**
	1.9nm,0.8s,baz=315,slow=6.1,SNR=4.3						
CTA	**Charters Tower**	**56.80**	**109**	P	**P**	**16 56 37.8**	**-0.8**
	1.9nm,0.8s,baz=248,slow=1.9,SNR=3.0						
SONM	**Songino Array**	**57.30**	**14**	P	**P**	**16 56 41.4**	**-0.2**
	1.9nm,0.8s,baz=192,slow=8.2,SNR=14						
SONM				LR	LR	17 21 31.9	
	comp=Z,77nm,20.4s,baz=269,slow=36						
KSRS	**Korea Array**	**57.74**	**36**	P	**P**	**16 56 44.8**	**+0.1**
	3.3nm,0.8s,baz=232,slow=7.5,SNR=16						
KSRS				LR	LR	17 23 28.2	
	comp=Z,34nm,18.1s,baz=332,slow=38						
ZALV	**Zalesovo Beam**	**61.39**	**357**	P	**P**	**16 57 09.6**	**0.0**
	3.5nm,0.7s,baz=178,slow=5.3,SNR=23						
BVAR	**Borovoye Array**	**62.39**	**347**	P	**P**	**16 57 16.3**	**-0.1**
	0.6nm,0.9s,baz=164,slow=5.7,SNR=2.4						
BOSA	**Boshof**	**63.31**	**242**	P	**P**	**16 57 23.3**	**0.0**
	1.2nm,0.6s,baz=83,slow=1.6,SNR=4.6						
MJAR	**Matsushiro Arr**	**63.70**	**43**	P	**P**	**16 57 24.9**	**-0.6**
	2.0nm,0.8s,baz=217,slow=6.4,SNR=6.4						
USRK	**Ussuriysk Arra**	**64.54**	**33**	P	**P**	**16 57 31.3**	**+0.5**
	1.5nm,0.8s,baz=242,slow=3.1,SNR=3.0						
KBZ	**Khabaz**	**65.86**	**325**	P	**P**	**16 57 38.9**	**-0.5**
	1.5nm,0.8s,baz=114,slow=12,SNR=2.9						
BRTR	**Keskin Array B**	**69.38**	**317**	P	**P**	**16 58 01.7**	**-0.2**
	0.2nm,0.4s,baz=179,slow=8.8,SNR=2.9						
FINES	**FINESS Array B**	**84.11**	**335**	P	**P**	**16 59 23.6**	**-0.8**
	0.6nm,0.5s,baz=106,slow=5.1,SNR=6.0						
ARCES	**ARCESS Array B**	**88.08**	**342**	P	**P**	**16 59 42.7**	**-1.2**
	3.9nm,0.8s,baz=106,slow=6.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**89.01**	**283**	P	**P**	**16 59 49.7**	**+0.2**
	0.5nm,1.0s,baz=115,slow=3.6,SNR=3.1						
NVAR	**Mina Array Bea**	**140.67**	**35**	PKP	**PKPdf**	**17 06 28.1**	**+3.9**
	0.6nm,0.9s,baz=302,slow=5.2,SNR=3.0						

WEL 17 16:55:21.6±0.4,37.45S×177.62E,h104km±2km,ML3.5/4, 3C-8D,Error ellipse: s-maj=2.6km s-min=1.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.33**	**158**	PN	Pn	16 55 36.4	-0.3
HAZ				SN	Sn	16 55 47.7	-0.4
MXZ	**Matakaoa Point**	**0.56**	**102**	⇑PN	Pn	16 55 38.2	+0.1
MXZ				AML	AML	16 55 38.6	
MXZ				SN	Sn	16 55 51.3	+0.8
MXZ				AML	AML	16 55 52.2	
MWZ	**Matawai**	**0.89**	**185**	⇓PN	Pn	16 55 41.2	0.0
MWZ				SN	Sn	16 55 56.3	+0.3
MWZ				AML	AML	16 55 57.1	
MWZ				AML	AML	16 55 57.2	
MWZ				AML	AML	16 55 57.2	
URZ	**Urewera**	**0.91**	**206**	⇑PN	Pn	16 55 41.1	-0.2
URZ				AML	AML	16 55 57.0	
URZ				AML	AML	16 55 57.2	
MARZ	**Manawahe**	**0.93**	**234**	PN	Pn	16 55 41.4	-0.1
OPRZ	**Ohinepanea**	**0.94**	**244**	⇓PN	Pn	16 55 41.5	0.0
EDRZ	**Edgecumbe**	**0.96**	**226**	⇓PN	Pn	16 55 42.1	+0.1
CNGZ	**Carnagh Statio**	**1.14**	**156**	PN	Pn	16 55 44.1	+0.4
TARZ	**Mount Tarawera**	**1.18**	**228**	PN	Pn	16 55 45.0	+0.6
RIGZ	**Rimuhau**	**1.26**	**175**	⇓PN	Pn	16 55 45.1	-0.2
SNGZ	**Shannon Statio**	**1.35**	**189**	⇓PN	Pn	16 55 46.1	-0.2
PRRZ	**Plateau Road**	**1.43**	**222**	⇓PN	Pn	16 55 47.3	+0.1
PRGZ	**Paritu Road**	**1.49**	**172**	PN	Pn	16 55 47.5	-0.4
ALRZ	**Allen Road**	**1.50**	**222**	PN	Pn	16 55 48.2	+0.1
RAHZ	**Arahi**	**1.53**	**196**	PN	Pn	16 55 48.2	-0.2
KNZ	**Kokohu**	**1.57**	**179**	PN	Pn	16 55 48.3	-0.6
WHHZ	**Waihua**	**1.66**	**190**	PN	Pn	16 55 49.6	-0.3
MHGZ	**Mahia Peninsul**	**1.72**	**173**	PN	Pn	16 55 50.6	-0.2
NMHZ	**Naumai**	**1.77**	**201**	⇓PN	Pn	16 55 51.5	0.0
BKZ	**Black Stump Fm**	**1.93**	**207**	PN	Pn	16 55 52.9	-0.7
MCHZ	**McNeill Hill**	**2.12**	**200**	PN	Pn	16 55 55.3	-0.6
BHHZ	**Black Hill Sta**	**2.38**	**210**	PN	Pn	16 55 58.2	-1.1
KAHZ	**Kahuranaki**	**2.42**	**194**	PN	Pn	16 55 58.4	-1.4
WNVZ	**Wahianoa**	**2.46**	**220**	PN	Pn	16 55 59.5	-1.0
PXZ	**Pawanui**	**2.65**	**193**	⇑PN	Pn	16 56 00.6	-2.1
PXZ				AML	AML	16 56 32.7	
PNHZ	**Pukenui**	**2.70**	**204**	PN	Pn	16 56 01.3	-2.3
ANWZ	**Angora Road**	**3.14**	**196**	PN	Pn	16 56 06.5	-2.7
PRWZ	**Pori Road**	**3.36**	**202**	*e*PN	Pn	16 56 09.6	-2.6
BFZ	**Birch Farm**	**3.40**	**198**	⇓PN	Pn	16 56 09.6	-3.2
MRZ	**Mangatainoka R**	**3.58**	**206**	PN	Pn	16 56 11.8	-3.4
TIWZ	**Tintock**	**3.59**	**202**	PN	Pn	16 56 12.0	-3.3
HOWZ	**Holdsworth Sta**	**3.82**	**205**	PN	Pn	16 56 14.5	-3.9
OGWZ	**Otaki Gorge**	**3.87**	**209**	PN	Pn	16 56 15.7	-3.3
TMWZ	**Te Maipa**	**3.90**	**200**	PN	Pn	16 56 15.5	-3.9
KIW	**Kapiti Island**	**4.01**	**211**	PN	Pn	16 56 17.5	-3.4
CAW	**Cannon Point**	**4.16**	**208**	PN	Pn	16 56 19.3	-3.6
TCW	**Tory Channel**	**4.57**	**214**	PN	Pn	16 56 24.0	-4.4

NEIC 17 17:20:54.1,51.85N×179.69W,h13km,ML2.6(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**0.39**	**278**	P	Pg	17 21 02.2	+0.1
CERB	**Semis' Cerberu**	**0.43**	**281**	P	Pg	17 21 02.7	-0.1
CERB				S	Sb	17 21 09.6	-0.5
CESW	**Semis' Southwe**	**0.47**	**276**	P	Pg	17 21 02.9	-0.5
CEAP	**Semis' Anvil P**	**0.48**	**289**	P	Pg	17 21 03.7	0.0
GALAA	**Gareloi Lava P**	**0.57**	**99**	P	Pg	17 21 04.9	-0.6
AMKA	**Amchitka**	**0.79**	**233**	P	Pg	17 21 08.3	-1.1
AMKA				S	Sg	17 21 19.6	-0.2
TASE	**Tanaga Southea**	**1.02**	**90**	P	Pb	17 21 12.1	-1.6
TAFP	**Tanaga Falls P**	**1.06**	**87**	P	Pb	17 21 12.2	-2.0
TAFP				S	Sb	17 21 26.1	-2.0
LSPA	**Little Sitkin**	**1.08**	**276**	P	Pb	17 21 13.1	-1.6
LSPA				S	Sb	17 21 28.4	-0.4
LSSE	**Little Sitkin**	**1.08**	**275**	P	Pb	17 21 13.2	-1.5
TAFL	**Tanaga Flats**	**1.11**	**94**	P	Pb	17 21 13.3	-1.9
TAPA	**Tanaga Point A**	**1.16**	**91**	P	Pn	17 21 13.8	-2.3

ISCJB ***17*** *17:26:34.8±0.8,18.87N±0.10×145.5E±0.2,h214km, mb3.5/11,Error ellipse: s-maj=21.8km s-min=13.5km az=177.6*

IDC ***17*** *17:26:39.6±5.1,18.83N×145.50E,h252km±51km, mb3.3/11,mb1 3.4/13,mb1mx3.2/27,mbtmp3.8/13,Error ellipse: s-maj=25.6km s-min=13.3km az=94.0*

ISC 17 17:26:35.9±0.9,18.8N±0.1×145.6E±0.2,h214km,n13, σ1§12/13,mb3.5/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.80**	**341**	P	**P**	**17 30 39.2**	**-0.3**
	0.2nm,0.3s,baz=162,slow=10,SNR=4.3						
JNU	**Nakatsue**	**19.39**	**320**	P	**P**	**17 30 47.1**	**+1.3**
	0.1nm,0.3s,baz=151,slow=13,SNR=1.7						
JAY	**Jayapura**	**21.74**	**193**	P	**P**	**17 31 10.8**	**+0.2**
	23nm,0.9s,baz=22,slow=5.4,SNR=3.2						
KSRS	**Korea Array**	**24.14**	**324**	P	**P**	**17 31 31.7**	**-0.7**
	0.8nm,0.9s,baz=155,slow=9.0,SNR=3.4						
ASAJ	**Asahikawa**	**25.34**	**355**	P	**P**	**17 31 44.6**	**+1.6**
	8.1nm,1.1s,baz=228,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**40.07**	**197**	P	**P**	**17 33 50.6**	**-0.1**
	1.6nm,0.5s,baz=24,slow=8.7,SNR=21						
SONM	**Songino Array**	**42.97**	**321**	P	**P**	**17 34 14.1**	**+0.1**
	0.1nm,0.4s,baz=133,slow=8.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**44.08**	**277**	P	**P**	**17 34 23.8**	**+0.6**
	0.3nm,0.6s,baz=64,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**58.29**	**314**	P	**P**	**17 36 08.0**	**-0.3**
	0.5nm,0.7s,baz=93,slow=8.7,SNR=3.4						
ILAR	**Eielson Array**	**63.59**	**26**	P	**P**	**17 36 43.0**	**-0.6**
	0.3nm,0.5s,baz=254,slow=5.9,SNR=9.1						
YKA	**Yellowknife Ar**	**77.94**	**28**	P	**P**	**17 38 10.3**	**+0.4**
	0.5nm,0.6s,baz=288,slow=5.4,SNR=12						
NVAR	**Mina Array Bea**	**83.16**	**52**	P	**P**	**17 38 39.5**	**+1.0**
	1.0nm,0.5s,baz=270,slow=5.7,SNR=4.8						
FINES	**FINESS Array B**	**86.72**	**335**	P	**P**	**17 38 52.9**	**-2.5**
	3.4nm,0.9s,baz=74,slow=2.8,SNR=8.4						

WEL 17 17:28:32.4±0.4,38.30S×176.02E,h180km±3km,ML3.7/11, 30C-2D,Error ellipse: s-maj=1.6km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.36**	**136**	PN	Pn	17 28 56.9	+0.1
ALRZ				SN	Sn	17 29 15.8	+0.1
WHTZ	**Whakaora**	**0.37**	**188**	*e*PN	Pn	17 28 57.6	+0.8
TARZ	**Mount Tarawera**	**0.39**	**81**	PN	Pn	17 28 56.9	-0.1
RATZ	**Rangitukua**	**0.60**	**199**	⇑PN	Pn	17 28 57.8	0.0
RITZ	**Rihia Road**	**0.69**	**191**	PN	Pn	17 28 58.7	+0.5
KATZ	**Kakaramea**	**0.72**	**201**	PN	Pn	17 28 58.6	+0.1
KRVZ	**Karewarewa**	**0.85**	**200**	PN	Pn	17 28 59.1	-0.2
URZ	**Urewera**	**0.86**	**88**	⇑PN	Pn	17 28 58.5	-0.7
URZ				SN	Sn	17 29 18.1	-1.6
URZ				AML	AML	17 29 19.3	
WTVZ	**West Tongariro**	**0.88**	**202**	PN	Pn	17 28 59.3	-0.2
WTVZ				SN	Sn	17 29 20.3	-0.3
TWVZ	**Taurewa**	**0.90**	**210**	⇑PN	Pn	17 28 59.5	-0.1
OTVZ	**Oturere**	**0.91**	**198**	PN	Pn	17 28 59.7	0.0
NGZ	**Ngauruhoe**	**0.94**	**200**	PN	Pn	17 28 59.9	0.0
BKZ	**Black Stump Fm**	**0.94**	**157**	⇑PN	Pn	17 28 59.7	-0.1
BKZ				AML	AML	17 29 21.8	
BKZ				AML	AML	17 29 22.0	
HIZ	**Hauiti**	**0.94**	**256**	⇑PN	Pn	17 28 59.8	+0.1
HIZ				SN	Sn	17 29 20.7	-0.1
COVZ	**Chateau Observ**	**0.97**	**202**	⇑PN	Pn	17 28 59.9	-0.2
WPVZ	**Whakapapa**	**0.98**	**202**	⇑PN	Pn	17 29 00.1	-0.1
NMHZ	**Naumai**	**1.01**	**143**	⇑PN	Pn	17 29 01.1	+0.8
TUVZ	**Tukino**	**1.01**	**196**	⇑PN	Pn	17 29 00.4	-0.1
FWVZ	**Far West T-bar**	**1.02**	**201**	PN	Pn	17 29 00.4	-0.3
RAHZ	**Arahi**	**1.04**	**127**	PN	Pn	17 29 00.9	+0.4
WHVZ	**Whangaehu Hut**	**1.04**	**199**	PN	Pn	17 29 00.6	-0.2
DRZ	**Dome Shelter**	**1.04**	**200**	PN	Pn	17 29 00.7	-0.2
TRVZ	**Turoa**	**1.07**	**200**	PN	Pn	17 29 00.7	-0.2
WNVZ	**Wahianoa**	**1.08**	**198**	⇑PN	Pn	17 29 00.8	-0.2
PKVZ	**Pokaka**	**1.12**	**208**	⇑PN	Pn	17 29 01.0	-0.2
MOVZ	**Moawhango**	**1.13**	**191**	⇑PN	Pn	17 29 00.7	-0.5
SNGZ	**Shannon Statio**	**1.14**	**115**	⇑PN	Pn	17 29 01.5	+0.2
BHHZ	**Black Hill Sta**	**1.19**	**178**	⇑PN	Pn	17 29 01.3	-0.4
WHHZ	**Waihua**	**1.23**	**130**	⇑PN	Pn	17 29 02.3	+0.3
MCHZ	**McNeill Hill**	**1.26**	**155**	⇑PN	Pn	17 29 02.8	+0.6
MKAZ	**Moumakai**	**1.37**	**330**	PN	Pn	17 29 03.1	-0.1
RIGZ	**Rimuhau**	**1.43**	**107**	⇑PN	Pn	17 29 03.8	0.0
KNZ	**Kokohu**	**1.48**	**120**	⇑PN	Pn	17 29 04.2	0.0
HAZ	**Te Kaha**	**1.49**	**69**	PN	Pn	17 29 03.1	-1.2
PRGZ	**Paritu Road**	**1.59**	**114**	PN	Pn	17 29 05.1	-0.1
CKHZ	**Cape Kidnapper**	**1.59**	**149**	⇑PN	Pn	17 29 05.5	+0.2
PNHZ	**Pukenui**	**1.62**	**175**	⇑PN	Pn	17 29 05.1	-0.5
KAHZ	**Kahuranaki**	**1.64**	**156**	⇑PN	Pn	17 29 05.9	+0.1
MHGZ	**Mahia Peninsul**	**1.70**	**121**	PN	Pn	17 29 06.5	+0.1
CNGZ	**Carnagh Statio**	**1.73**	**97**	PN	Pn	17 29 06.9	+0.3
TSZ	**Takapari Road**	**1.76**	**182**	⇑PN	Pn	17 29 06.4	-0.6
TSZ				AML	AML	17 29 06.7	
TSZ				AML	AML	17 29 06.8	
NEZ	**North Egmont**	**1.79**	**237**	PN	Pn	17 29 07.7	+0.3
WPHZ	**Waipukurau**	**1.79**	**170**	⇑PN	Pn	17 29 06.8	-0.5
PKE	**Pukeiti**	**1.83**	**240**	PN	Pn	17 29 07.5	-0.2
PXZ	**Pawanui**	**1.85**	**160**	⇑PN	Pn	17 29 07.4	-0.4
PXZ				AML	AML	17 29 36.5	
KHEZ	**Kahui Hut**	**1.86**	**237**	PN	Pn	17 29 07.8	-0.3
MXZ	**Matakaoa Point**	**1.95**	**69**	PN	Pn	17 29 08.5	-0.5
DVHZ	**Dannevirke**	**2.00**	**177**	⇑PN	Pn	17 29 08.4	-1.1
PRHZ	**Porangahau**	**2.02**	**167**	⇑PN	Pn	17 29 09.0	-0.8
POWZ	**Post Office Ro**	**2.10**	**185**	⇑PN	Pn	17 29 09.4	-1.2
ANWZ	**Angora Road**	**2.19**	**171**	⇑PN	Pn	17 29 10.7	-0.9
PRWZ	**Pori Road**	**2.25**	**181**	PN	Pn	17 29 11.2	-1.1
MRZ	**Mangatainoka R**	**2.38**	**188**	⇑PN	Pn	17 29 12.1	-1.6
MRZ				AML	AML	17 29 45.4	
MRZ				AML	AML	17 29 45.4	
BFZ	**Birch Farm**	**2.39**	**176**	PN	Pn	17 29 12.3	-1.5
TIWZ	**Tintock**	**2.48**	**182**	PN	Pn	17 29 13.3	-1.6
TIWZ				AML	AML	17 29 48.1	
TIWZ				AML	AML	17 29 48.6	
OGWZ	**Otaki Gorge**	**2.60**	**194**	⇑PN	Pn	17 29 14.6	-1.6
HOWZ	**Holdsworth Sta**	**2.63**	**188**	PN	Pn	17 29 14.5	-2.1
KIW	**Kapiti Island**	**2.70**	**198**	PN	Pn	17 29 15.3	-2.2
TMWZ	**Te Maipa**	**2.81**	**182**	PN	Pn	17 29 16.9	-1.9
MTW	**Mount Morrison**	**2.88**	**188**	PN	Pn	17 29 17.1	-2.5
MTW				AML	AML	17 29 54.6	
CAW	**Cannon Point**	**2.90**	**194**	PN	Pn	17 29 17.5	-2.3
CAW				AML	AML	17 29 55.9	
CAW				AML	AML	17 29 57.4	
DUWZ	**D'Urville Isla**	**2.98**	**212**	PN	Pn	17 29 18.4	-2.5
TRWZ	**Traveller**	**3.11**	**185**	PN	Pn	17 29 20.0	-2.3
PAWZ	**Paruwai Farm**	**3.11**	**188**	PN	Pn	17 29 20.0	-2.4
WEL	**Wellington**	**3.14**	**198**	PN	Pn	17 29 20.1	-2.6
MSWZ	**Moikau Station**	**3.17**	**191**	PN	Pn	17 29 20.3	-2.9
MSWZ				AML	AML	17 29 59.8	
MSWZ				AML	AML	17 30 00.1	
SNZO	**South Karori**	**3.17**	**198**	PN	Pn	17 29 20.5	-2.6
TCW	**Tory Channel**	**3.21**	**204**	PN	Pn	17 29 20.9	-2.6
TCW				AML	AML	17 30 02.1	
TCW				AML	AML	17 30 02.7	
BHW	**Baring Head**	**3.23**	**196**	PN	Pn	17 29 21.1	-2.7
PLWZ	**Palliser**	**3.32**	**190**	PN	Pn	17 29 22.0	-3.0
TUWZ	**Tuamarina

comp=Z,89nm,18.3s,baz=7.5,slow=41
JTS JuntasAbangare 14.31 237 Pn **Pn 17 54 29.3 -2.5**
JTS JuntasAbangare 14.31 237 Pn **P 17 54 38.9 -0.2**
0.6nm,0.3s,baz=324,slow=18,SNR=4.9
JTS LR LR 18 00 17.5
comp=Z,154nm,18.2s,baz=48,slow=38
TEIG Tepich 14.66 279 Pn **Pn 17 54 36.3 -0.3**
TEIG Tepich 14.66 279 Pn **Pn 17 54 36.3 -0.3**
0.6nm,0.3s,baz=119,slow=19,SNR=2.4
BBSR BB Station 15.59 26 *e*Pn **Pn 17 54 46.0 -2.9**
14nm,0.8s
OTAV Otavalo 19.02 197 *e*P **Pn 17 55 32.4 +0.1**
43nm,1.6s
TKL Tuckaleechee C 19.60 333 P **P 17 55 36.8 -0.7**
TKL Tuckaleechee C 19.60 333 P **P 17 55 36.8 -0.7**
0.1nm,0.3s,baz=150,slow=8.1,SNR=2.5
TKL LR LR 18 03 32.8
comp=Z,129nm,19.4s,baz=192,slow=38
PTGA Pitinga 22.96 145 *e*P **P 17 56 12.5 -1.3**
19nm,1.0s
PTGA Pitinga 22.96 145 P **P 17 56 13.0 -0.8**
15nm,1.0s,baz=338,slow=10,SNR=16
PTGA LR LR 18 05 31.4
comp=Z,76nm,19.6s,baz=342,slow=38
ATAH Atahualpa 26.10 193 P **P 17 56 44.6 +0.9**
2.1nm,0.4s,baz=246,slow=20,SNR=2.0
ATAH LR LR 18 07 56.0
comp=Z,90nm,21.5s,baz=5.1,slow=39
SADO Sadowa 26.67 350 LR LR 18 07 16.5
comp=Z,107nm,18.4s,baz=212,slow=36
SAML Samuel 28.94 160 *e*P **P 17 57 06.0 -2.7**
3.3nm,0.9s
TXAR Lajitas Array 30.07 297 P **P 17 57 18.7 0.0**
TXAR PcP **PcP 18 00 22.9 +2.2**
TXAR Lajitas Array 30.07 297 P **P 17 57 18.7 0.0**
2.0nm,1.0s,baz=116,slow=8.5,SNR=8.8
TXAR PcP **PcP 18 00 22.9 +2.2**
0.4nm,0.8s,baz=126,slow=4.6,SNR=3.8
BNM Barren Site 33.84 304 *e*P **P 17 57 52.0 0.0**
8.0nm,1.1s
LPAZ La Paz 34.93 172 P **P 17 58 03.0 +1.0**
LPAZ La Paz 34.93 172 P **P 17 58 03.0 +1.0**
0.4nm,0.4s,baz=0.0,slow=7.1,SNR=2.5
LPAZ LR LR 18 13 05.9
comp=Z,164nm,21.0s,baz=346,slow=38
SIV San Ignacio 36.23 161 P P 17 58 09.0 -3.4
SIV PcP **PcP 18 00 39.5 +1.6**
SIV San Ignacio 36.23 161 P P 17 58 09.0 -3.4
0.7nm,0.6s,baz=197,slow=11,SNR=2.5
SIV PcP **PcP 18 00 39.5 +1.6**
1.5nm,0.8s,baz=315,slow=7.1,SNR=2.9
SCHQ Schefferville 36.51 6 P **P 17 58 15.9 +1.5**
SCHQ Schefferville 36.51 6 P **P 17 58 15.9 +1.5**
9.6nm,1.1s,baz=222,slow=14,SNR=2.3
SCHQ LR LR 18 12 19.3
comp=Z,68nm,20.0s,baz=143,slow=35
ULM Lac du Bonnet 36.59 335 P **P 17 58 16.8 +1.6**
ULM Lac du Bonnet 36.59 335 P **P 17 58 16.8 +1.6**
2.8nm,0.7s,baz=123,slow=8.3,SNR=4.4
WUAZ Wupatki 37.98 304 *e*P **P 17 58 28.3 +0.9**
34nm,2.1s
PDAR Pinedale Array 39.29 316 P **P 17 58 38.8 +0.4**
PDAR PcP **PcP 18 00 47.5 +0.2**
PDAR Pinedale Array 39.29 316 P **P 17 58 38.8 +0.4**
0.6nm,0.9s,baz=134,slow=8.5,SNR=4.3
PDAR PcP **PcP 18 00 47.5 +0.2**
0.6nm,0.9s,baz=108,slow=5.8,SNR=3.8
REDW Red Top Meadow 40.41 316 *e*P **P 17 58 49.0 +1.3**
45nm,2.0s
MOOW Moose Ponds 40.51 317 *e*P **P 17 58 48.4 -0.1**
55nm,2.7s
FXWY Fox Creek 40.64 316 *e*P **P 17 58 50.3 +0.7**
64nm,2.9s
BDFB Brasilia 41.86 143 P **P 17 58 58.2 -1.5**
BDFB Brasilia 41.86 143 P **P 17 58 58.2 -1.5**
2.9nm,0.7s,baz=311,slow=19,SNR=5.0
BDFB LR LR 18 16 29.3
comp=Z,60nm,20.0s,baz=313,slow=36
NVAR Mina Array Bea 44.09 306 P **P 17 59 17.9 +0.2**
NVAR Mina Array Bea 44.09 306 P **P 17 59 17.9 +0.2**
1.5nm,1.0s,baz=112,slow=7.6,SNR=6.8
FRB Frobisher Bay 45.26 3 P **P 17 59 27.4 +1.0**
FRB Frobisher Bay 45.26 3 P **P 17 59 27.4 +1.0**
3.0nm,0.8s,baz=188,slow=12,SNR=3.1
CPUP Villa Florida 47.09 161 LR LR 18 20 18.4
comp=Z,99nm,18.7s,baz=332,slow=37
YKA Yellowknife Ar 52.51 337 P **P 18 00 21.0 -1.1**
YKA Yellowknife Ar 52.51 337 P **P 18 00 21.0 -1.1**
2.3nm,0.8s,baz=124,slow=7.0,SNR=29
RES Resolute Bay 57.42 353 LR LR 18 23 45.0
comp=Z,93nm,20.9s,baz=279,slow=34
SUMG Summit 57.49 12 *i* P **P 18 00 59.0 +0.5**
6.0nm,1.0s
SUMG Summit 57.49 12 P **P 18 00 57.3 -1.3**
11nm,1.0s
PLCA Paso Flores 59.02 178 P **P 18 01 07.0 -2.1**
PLCA Paso Flores 59.02 178 P **P 18 01 07.0 -2.1**
2.0nm,1.0s,baz=331,slow=8.4,SNR=2.9
INK Inuvik 62.21 339 P P 18 01 25.7 -4.8
2.1nm,0.9s,baz=153,slow=9.0,SNR=9.8
ESDC Sonseca Array 62.29 54 P **P 18 01 31.6 -0.1**
ESDC Sonseca Array 62.29 54 P **P 18 01 31.6 -0.1**
3.3nm,0.8s,baz=274,slow=6.9,SNR=16
ESDC LR LR 18 25 25.4
comp=Z,39nm,18.3s,baz=215,slow=33
SJPF Ste Jean 64.25 50 *e*P **P 18 01 47.3 +2.8**
47nm,1.3s
SJPF Ste Jean 64.25 50 *e*P **P 18 01 47.3 +2.8**
47nm,1.3s
GRR Gorron 64.45 45 *e*P **P 18 01 47.8 +2.1**
GRR Gorron 64.45 45 *e*P **P 18 01 47.8 +2.1**
FLN La Foliniere 64.70 44 *e*P **P 18 01 49.9 +2.5**
FLN eR
180nm,18.5s
FLN La Foliniere 64.70 44 *e*P **P 18 01 49.9 +2.5**
ETSF Etsaut 64.74 51 *e*P **P 18 01 50.5 +2.6**
12nm,0.9s
ETSF Etsaut 64.74 51 *e*P **P 18 01 50.5 +2.6**
12nm,0.9s
MFF Saint Martin d 64.94 47 *e*P **P 18 01 51.1 +2.2**
24nm,1.1s
MFF Saint Martin d 64.94 47 *e*P **P 18 01 51.1 +2.2**
24nm,1.1s
LDF La Druitiere 64.94 44 *e*P **P 18 01 51.2 +2.3**
27nm,1.1s
LDF La Druitiere 64.94 44 *e*P **P 18 01 51.2 +2.3**
27nm,1.1s
EPF Esparros 65.40 51 *e*P **P 18 01 54.8 +2.7**
34nm,1.3s
EPF Esparros 65.40 51 *e*P **P 18 01 54.8 +2.7**
34nm,1.3s
LFF La Frestale 65.60 48 *e*P **P 18 01 55.3 +2.0**
24nm,1.0s
LFF La Frestale 65.60 48 *e*P **P 18 01 55.3 +2.0**
24nm,1.0s
RJF Les Rejaudoux 66.14 48 *e*P **P 18 01 58.7 +2.0**
5.8nm,0.8s
RJF eR
170nm,17.0s
RJF Les Rejaudoux 66.14 48 *e*P **P 18 01 58.7 +2.0**
5.8nm,0.8s
CAF Calviac 66.54 48 *e*P **P 18 02 01.4 +2.0**
10nm,0.9s
CAF Calviac 66.54 48 *e*P **P 18 02 01.4 +2.0**
10nm,0.9s
TCF Toulx Ste Croi 66.57 47 *e*P **P 18 02 01.5 +1.9**
26nm,1.3s
TCF Toulx Ste Croi 66.57 47 *e*P **P 18 02 01.5 +1.9**
26nm,1.3s
ILAR Eielson Array 66.58 333 P **P 18 01 58.5 -0.7**
ILAR Eielson Array 66.58 333 P **P 18 01 58.5 -0.7**
1.6nm,1.1s,baz=88,slow=5.6,SNR=6.9
BGF Bois d'Agland 67.00 47 *e*P **P 18 02 04.0 +1.7**
9.4nm,0.8s
BGF Bois d'Agland 67.00 47 *e*P **P 18 02 04.0 +1.7**
9.4nm,0.8s
DBIC Dimbokro 67.06 91 LR LR 18 31 05.9
comp=Z,12nm,18.7s,baz=272,slow=36
AVF Avril sur Loir 67.34 46 *e*P **P 18 02 06.0 +1.6**
9.5nm,1.1s
AVF Avril sur Loir 67.34 46 *e*P **P 18 02 06.0 +1.6**
9.5nm,1.0s
SSF Saint Saulge 67.42 46 *e*P **P 18 02 06.7 +1.8**
8.2nm,0.9s
SSF Saint Saulge 67.42 46 *e*P **P 18 02 06.7 +1.8**
8.2nm,0.9s
LOR Lormes 67.65 46 *e*P **P 18 02 08.1 +1.7**
32nm,1.2s
LOR *e*R
171nm,22.8s
LOR Lormes 67.65 46 *e*P **P 18 02 08.1 +1.7**
32nm,1.2s
LASF Ste Croix 67.88 49 *e*P **P 18 02 10.4 +2.5**
7.7nm,0.8s
LASF Ste Croix 67.88 49 *e*P **P 18 02 10.4 +2.5**
7.7nm,0.8s
MEZF Maizieres J'vi 68.38 44 *e*P **P 18 02 12.9 +2.0**
27nm,1.1s
MEZF Maizieres J'vi 68.38 44 *e*P **P 18 02 12.9 +2.0**
27nm,1.1s
SFTF Sexfontaines 68.39 45 *e*P **P 18 02 12.9 +1.9**
SFTF Sexfontaines 68.39 45 *e*P **P 18 02 12.9 +1.9**
VIVF Saint-Julien-l 68.40 48 *e*P **P 18 02 13.9 +2.8**
43nm,1.4s
VIVF Saint-Julien-l 68.40 48 *e*P **P 18 02 13.9 +2.8**
43nm,1.4s
SMRF Simiane la Rot 69.12 49 *e*P **P 18 02 18.6 +2.9**
SMRF Simiane la Rot 69.12 49 *e*P **P 18 02 18.6 +2.9**
CABF La Chapelle 69.23 46 *e*P **P 18 02 18.2 +1.9**
11nm,0.9s
CABF La Chapelle 69.23 46 *e*P **P 18 02 18.2 +1.9**
11nm,0.9s
ORIF Oris-en-Rattie 69.24 48 *e*P **P 18 02 19.3 +2.8**
ORIF *e*R
74nm,22.5s
ORIF Oris-en-Rattie 69.24 48 *e*P **P 18 02 19.3 +2.8**
HINF Hinteralfeld 69.63 45 *e*P **P 18 02 20.1 +1.3**
HINF Hinteralfeld 69.63 45 *e*P **P 18 02 20.1 +1.3**
LPL La Plagne 69.78 47 *e*P **P 18 02 22.4 +2.4**
14nm,0.9s
LPL La Plagne 69.78 47 *e*P **P 18 02 22.4 +2.4**
14nm,0.9s
LPG La Plagne 69.80 47 *e*P **P 18 02 22.8 +2.7**
5.8nm,0.7s
LPG La Plagne 69.80 47 *e*P **P 18 02 22.8 +2.7**
5.8nm,0.7s
CDF Champ du Feu 69.86 44 *e*P **P 18 02 22.1 +1.9**
CDF Champ du Feu 69.86 44 *e*P **P 18 02 22.1 +1.9**
MBDF Montbardon 69.89 48 *e*P **P 18 02 23.2 +2.6**
7.1nm,0.8s
MBDF Montbardon 69.89 48 *e*P **P 18 02 23.2 +2.6**
7.1nm,0.8s
SBF Sospel 70.47 49 *e*P **P 18 02 25.9 +1.9**
SBF Sospel 70.47 49 *e*P **P 18 02 25.9 +1.9**
TORD Torodi Ar. Bea 71.46 82 P **P 18 02 28.2 -2.2**
TORD Torodi Ar. Bea 71.46 82 P **P 18 02 28.2 -2.2**
1.7nm,0.8s,baz=285,slow=6.5,SNR=9.8
DAVOX Davos/Dischmat 71.80 46 LR LR 18 28 54.8
comp=Z,62nm,19.1s,baz=258,slow=32
CLL Collm 73.18 41 *e*P **P 18 02 41.0 +0.9**
KEST Kesra 73.21 57 *e*P **P 18 02 39.4 -1.3**
KEST Kesra 73.21 57 P **P 18 02 42.5 +1.9**
2.3nm,1.0s,baz=285,slow=11,SNR=4.6
KEST LR LR 18 29 56.7
comp=Z,27nm,20.4s,baz=250,slow=32
BRG Berggiesshubel 73.84 41 *e*P **P 18 02 43.7 -0.2**
4.4nm,1.0s
KHC Kasperske Hory 73.90 43 *e*P **P 18 02 45.3 +0.9**
KHC *ep*P **pP 18 02 47.2 +0.8**
GERES GERESS Array B 74.03 43 P **P 18 02 45.2 0.0**
GERES GERESS Array B 74.03 43 P **P 18 02 45.2 0.0**
3.6nm,0.8s,baz=276,slow=3.9,SNR=17
PRU Pruhonice 74.36 42 *e*P **P 18 02 50.1 +3.0**
TREC Trest 75.10 43 *e*P **P 18 02 54.4 +3.0**
UPC Upice 75.20 41 *e*P P 18 02 55.4 +3.5
DPC Dobruska-Polom 75.42 41 *e*P **P 18 02 56.0 +2.8**
DPC *ex* x 18 02 59.3
ARCES ARCESS Array B 75.67 21 P **P 18 02 54.4 +0.1**
ARCES ARCESS Array B 75.67 21 P **P 18 02 54.4 +0.1**
6.7nm,0.9s,baz=281,slow=5.6,SNR=3.7
KRLC Kraliky 75.77 42 *e*P **P 18 02 57.4 +2.2**
VRAC Vranov 75.80 42 LR LR 18 31 24.8
comp=Z,86nm,20.7s,baz=277,slow=32
MORC Moravsky Berou 76.31 42 ⇑*i*P P 18 03 01.7 +3.4
OKC Ostrava-Krasne 76.68 42 *e*P **P 18 03 03.1 +2.8**
PKSM Moragy 77.85 45 ⇑*i*P **P 18 03 09.4 +2.4**
FINES FINESS Array B 78.07 29 P P 18 03 04.8 -3.1
1.8nm,0.9s,baz=297,slow=7.3,SNR=2.5
STHS Stebnicka Huta 78.73 42 *e*P P 18 03 16.0 +4.1
CRVS Cervenica-Dubn 79.01 42 *e*P **P 18 03 15.5 +2.1**
BZS Buzias 80.01 45 ⇑*i*P **P 18 03 18.5 -0.3**
MLR Muntele Rosu 82.94 44 ⇑*i*P **P 18 03 35.8 +1.2**
AKASG Malin Array Be 83.22 39 P **P 18 03 34.8 -0.9**
AKASG Malin Array Be 83.22 39 P **P 18 03 34.8 -0.9**
1.3nm,0.8s,baz=269,slow=4.4,SNR=6.9
AKASG LR LR 18 39 46.9
comp=Z,38nm,18.6s,baz=350,slow=35
IDI Anoyia 85.56 54 LR LR 18 33 10.0
comp=Z,50nm,22.0s,baz=256,slow=30
BRTR Keskin Array B 90.36 48 P **P 18 04 10.3 -0.7**
BRTR Keskin Array B 90.36 48 P **P 18 04 10.3 -0.7**
3.2nm,1.1s,baz=306,slow=8.5,SNR=6.5
BRTR LR LR 18 39 51.3
comp=Z,18nm,21.9s,baz=336,slow=32
SEY Seymchan 91.40 341 P **P 18 04 15.3 +0.1**
SEY Seymchan 91.40 341 P **P 18 04 15.3 +0.1**
3.6nm,1.1s,baz=45,slow=7.1,SNR=7.3
KSH Kashi 115.30 26 *e*PKP **PKPdf 18 09 50.3 -1.2**
KSH *e*PP **PP 18 10 54.8 +3.8**
KSH *e*SKS SKSdf 18 16 57.1 -7.5
KSH *e*SKKS SKKSac 18 17 44.4 -10
KSH *e*SS **SS 18 26 47.4 -1.3**
KSH AMB AMB
comp=Z,29nm,3.6s
WMQ Urumqi 115.42 15 PKP **PKPdf 18 09 50.0 -1.6**
WMQ PP **PP 18 10 55.0 +3.5**
WMQ AMB AMB
comp=Z,25nm,10.1s
WMQ LR LR
comp=N,57nm,16.2s
WMQ LR LR
comp=Z,41nm,19.8s
HHC Hu-ho-hao-te 120.77 356 *e*PKP PKPdf 18 09 55.8 -6.2
HHC PP **PP 18 11 30.3 +1.8**
HHC SKS SKSdf 18 17 05.3 -10
HHC SKKS SKKSac 18 19 18.9 -11
HHC SS **SS 18 27 55.8 -3.0**
HHC LR LR
comp=N,380nm,22.1s
HHC LR LR
comp=E,290nm,18.1s
HHC LR LR
comp=Z,400nm,17.8s
GTA Gaotai 121.94 7 PKP PKPdf 18 09 58.1 -6.2
LZH Lanzhou 125.57 3 *e*PKP **PKPdf 18 10 09.3 -2.1**
LZH LR LR
comp=N,110nm,18.1s
LZH LR LR
comp=E,120nm,17.6s
LZH LR LR
comp=Z,160nm,20.0s
NJ2 Nanjing 128.45 347 *e*PKP **PKPdf 18 10 14.3 -2.5**
KMI Kunming 136.38 6 PKP **PKPdf 18 10 31.3 -0.9**
CMAR Chiang Mai Arr 142.35 13 PKP **PKPdf 18 10 40.1 -2.9**
CMAR Chiang Mai Arr 142.35 13 PKP **PKPdf 18 10 40.1 -2.9**
0.3nm,0.7s,baz=339,slow=2.2,SNR=2.9
STKA Stephens Creek 146.29 240 PKPbc **PKPbc 18 10 50.9 +0.4**
STKA Stephens Creek 146.29 240 PKPbc **PKPbc 18 10 50.9 +0.4**
1.8nm,0.8s,baz=27,slow=2.3,SNR=3.7
WRA Warramunga Arr 154.31 262 PKP **PKPdf 18 11 00.8 -1.5**
WRA PKPbc **PKPbc 18 11 09.9 -0.6**
WRA Warramunga Arr 154.31 262 PKP **PKPdf 18 11 00.8 -1.5**
1.8nm,1.0s,baz=70,slow=1.6,SNR=7.0
WRA PKPbc **PKPbc 18 11 09.9 -0.6**
1.5nm,0.9s,baz=76,slow=1.3,SNR=7.4
ASAR Alice Springs 154.56 254 PKPbc **PKPbc 18 11 10.1 -0.9**
ASAR Alice Springs 154.56 254 PKPbc **PKPbc 18 11 10.0 -0.9**
0.6nm,0.8s,baz=103,slow=2.9,SNR=5.5

*ISCJB **17** 18:05:26.3±0.3, 43.°11N±0.°07×131.°17E±0.°05, h54**9**km, mb3.3/13, Error ellipse: s-maj=9.2km s-min=4.3km az=6.5*
*IDC **17** 18:05:28.0±0.5, 43.°29N×130.°89E, h556km±5km, mb3.0/13, mb1 3.1/16, mb1mx2.9/42, mbtmp3.8/16, Error ellipse: s-maj=16.7km s-min=11.4km az=125.0*
*JMA **17** 18:05:28.3±0.5, 42.°96N×131.°41E, h570km, M3.5*
*BJI **17** 18:05:31.0, 43.°70N×131.°08E, h541km, mb4.1/1*
ISC 17 18:05:26.8±0.6, 42.°99N±0.°09×131.°24E±0.°07, h549km, n41, σ1$47/46, mb3.3/13, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**1.33**	**24**	P	**P**	**P**	**18 06 35.8**	**+2.1**
	4.1nm,0.3s,baz=238,slow=2.0,SNR=52							
USRK				S	**S**	**S**	**18 07 30.5**	**+2.0**
	baz=224,slow=8.1,SNR=2.4							
MDJ	**Mudanjiang**	**2.02**	**324**	P	**P**	**P**	**18 06 38.8**	**+2.5**
MDJ				pmax	pmax			
	comp=Z,56nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,110nm,6.0s							
CN2	**Changchun**	**4.30**	**283**	*e*P	**P**	**P**	**18 06 52.0**	**+1.2**
KSRS	**Korea Array**	**6.08**	**206**	P	P	P	18 07 10.1	+3.9
	0.9nm,0.3s,baz=20,slow=8.8,SNR=34							
KSRS				S	S	S	18 08 34.1	+6.7
	baz=17,slow=21,SNR=5.1							
JKB	**Kayabe**	**7.33**	**95**	P	**P**	**P**	**18 07 19.2**	**+1.4**
JHR	**Hokuryu**	**7.68**	**81**	P	**P**	**P**	**18 07 23.9**	**+2.7**
JRG	**Rokugo**	**7.94**	**114**	P	**P**	**P**	**18 07 25.5**	**+1.6**
JRG				*e*S	**S**	**S**	**18 08 59.6**	**-0.4**
JWK2	**Keihoku**	**8.01**	**69**	P	**P**	**P**	**18 07 26.6**	**+2.2**
ASAJ	**Asahikawa**	**8.33**	**78**	P	**P**	**P**	**18 07 29.2**	**+1.5**
	1.4nm,0.3s,baz=270,slow=10,SNR=15							
JMK	**Ichinoseki**	**8.56**	**115**	P	**P**	**P**	**18 07 31.1**	**+1.0**
JMK				S	**S**	**S**	**18 09 10.3**	**-0.9**
JMM	**Marumori**	**8.90**	**122**	P	**P**	**P**	**18 07 34.9**	**+1.4**
JMM				*e*S	**S**	**S**	**18 09 16.9**	**-0.7**
JCH	**Churui**	**8.92**	**88**	P	**P**	**P**	**18 07 35.3**	**+1.6**
JCH				*e*S	**S**	**S**	**18 09 15.1**	**-2.7**
JTKR	**Abashiri--Toko**	**9.27**	**80**	P	**P**	**P**	**18 07 38.6**	**+1.5**
JHO	**Hitachi**	**9.60**	**128**	P	**P**	**P**	**18 07 40.0**	**-0.6**
JHO				S	**S**	**S**	**18 09 26.8**	**-3.7**
NEM2	**Nemuro 2**	**10.60**	**83**	P	**P**	**P**	**18 07 51.1**	**+0.3**
NEM2				*e*S	**S**	**S**	**18 09 48.0**	**-1.2**
SONM	**Songino Array**	**18.07**	**294**	P	**P**	**P**	**18 09 02.8**	**-2.6**
	0.1nm,0.3s,baz=100,slow=9.0,SNR=5.8							
CMAR	**Chiang Mai Arr**	**36.63**	**238**	P	**P**	**P**	**18 11 48.0**	**+0.8**
	0.6nm,0.6s,baz=37,slow=6.8,SNR=7.2							
TAPN	**Taplejung**	**38.40**	**260**	*e*P	**P**	**P**	**18 12 02.2**	**+0.2**
	6.2nm,0.5s							
ODAN	**Odare**	**38.92**	**260**	*e*P	**P**	**P**	**18 12 05.4**	**-0.7**
	3.6nm,0.5s							
JIRN	**Jiri**	**39.33**	**262**	*e*P	**P**	**P**	**18 12 09.5**	**0.0**
GUN	**Gumba**	**39.41**	**263**	*e*P	**P**	**P**	**18 12 10.0**	**-0.2**
	9.9nm,0.6s							
RAMN	**Ramite**	**39.44**	**261**	*e*P	**P**	**P**	**18 12 10.1**	**-0.2**
	6.8nm,0.6s							
KKN	**Kakani**	**39.91**	**263**	*e*P	**P**	**P**	**18 12 13.7**	**-0.3**
	6.4nm,0.6s							
PKI	**Pulchoki**	**39.94**	**263**	*e*P	**P**	**P**	**18 12 13.7**	**-0.7**
PKIN	**Phulchoki**	**39.95**	**263**	*e*P	**P**	**P**	**18 12 13.6**	**-0.8**
	5.7nm,0.8s							
DMN	**Daman**	**40.14**	**263**	*e*P	**P**	**P**	**18 12 15.7**	**-0.2**
GKN	**Gorkha**	**40.26**	**264**	*e*P	**P**	**P**	**18 12 16.3**	**-0.5**
	7.2nm,0.5s							
DANN	**Dangsing**	**40.71**	**265**	*e*P	**P**	**P**	**18 12 20.7**	**+0.2**
	39nm,0.6s							
KOLN	**Koldanda**	**41.15**	**264**	*e*P	**P**	**P**	**18 12 23.3**	**-0.6**
ILAR	**Eielson Array**	**48.83**	**34**	P	**P**	**P**	**18 13 22.0**	**+0.1**
	1.0nm,0.6s,baz=287,slow=8.2,SNR=19							
INK	**Inuvik**	**52.71**	**28**	P	**P**	**P**	**18 13 50.1**	**+0.2**
	1.0nm,0.8s,baz=296,slow=6.5,SNR=4.1							
ARCES	**ARCESS Array B**	**55.53**	**336**	P	**P**	**P**	**18 14 08.1**	**-1.7**
	5.2nm,1.0s,baz=60,slow=7.2,SNR=5.5							
RES	**Resolute Bay**	**58.68**	**13**	P	**P**	**P**	**18 14 30.7**	**-0.5**
	1.2nm,0.3s,baz=311,slow=7.7,SNR=3.2							
FINES	**FINESS Array B**	**59.76**	**328**	P	**P**	**P**	**18 14 37.0**	**-1.6**
	1.6nm,0.8s,baz=92,slow=5.7,SNR=9.0							
YKA	**Yellowknife Ar**	**62.46**	**29**	P	**P**	**P**	**18 14 56.0**	**-0.2**
	0.7nm,0.6s,baz=312,slow=6.1,SNR=17							
AKASG	**Malin Array Be**	**64.71**	**317**	P	P	P	18 15 07.2	-3.6
	0.4nm,0.5s,baz=50,slow=6.3,SNR=5.7							
NOA	**NORSAR Array B**	**65.49**	**332**	P	**P**	**P**	**18 15 13.2**	**-2.4**
	0.6nm,0.6s,baz=42,slow=6.2,SNR=3.2							
ASAR	**Alice Springs**	**66.37**	**177**	P	**P**	**P**	**18 15 23.3**	**+1.8**
	0.4nm,1.1s,baz=350,slow=6.9,SNR=2.9							
NVAR	**Mina Array Bea**	**77.34**	**49**	P	**P**	**P**	**18 16 25.9**	**+0.4**
	0.9nm,0.6s,baz=312,slow=5.4,SNR=6.0							
PDAR	**Pinedale Array**	**78.70**	**41**	P	**P**	**P**	**18 16 32.9**	**+0.2**
	0.9nm,0.8s,baz=13,slow=2.0,SNR=5.1							
TXAR	**Lajitas Array**	**92.13**	**46**	P	**P**	**P**	**18 17 38.8**	**+0.7**
	0.2nm,0.8s,baz=316,slow=2.5,SNR=2.5							

*IDC **17** 18:11:02.3±1.3, 43.°51N×126.°95W, h0km, mb3.6/6, mb1 3.9/11, mb1mx3.7/33, mbtmp3.6/11, ML3.6/5, MS3.5/7, Ms1 3.5/7, ms1mx3.1/51, Error ellipse: s-maj=23.3km s-min=12.1km az=49.0*
*BJI **17** 18:11:02.7, 42.°75N×127.°26W, h14km, mb4.4/3*
*NEIC **17** 18:11:04.0±0.7, 43.°48N×126.°96W, h10km, mb4.3/8, Error ellipse: s-maj=9.1km s-min=5.5km az=72.0*
*ISCJB **17** 18:11:07.0±1.4, 43.°56N±0.°03×126.°61W±0.°06, h26km±11km, mb4.2/12, MS3.3/4, Error ellipse: s-maj=7.4km s-min=4.3km az=169.7*
ISC 17 18:11:07.1±0.8, 43.°53N±0.°05×126.°68W±0.°07, h15km±5km, n128, σ1$40/129, mb4.4/12, MS3.4/4, 10C-23D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.84**	**110**	*e*Pn	**Pn**	**Pn**	**18 11 35.5**	**-2.7**
KEBM				*e*Sn	**Sn**	**Sn**	**18 12 00.1**	**-1.1**
RNO	**Roman Nose**	**2.17**	**79**	P	**Pn**	**Pn**	**18 11 42.3**	**-0.4**
COR	**Corvallis**	**2.66**	**65**	*e*Pn	**Pn**	**Pn**	**18 11 49.0**	**-0.3**
HUMO	**Hull Mountain**	**2.88**	**107**	*e*Pn	**Pn**	**Pn**	**18 11 51.1**	**-1.4**
HUMO				*e*Sn	**Sn**	**Sn**	**18 12 25.4**	**-1.5**
BBOR	**Butler Butte**	**3.00**	**101**	P	**Pn**	**Pn**	**18 11 53.2**	**-1.0**
BROR	**Big Rock Looko**	**3.15**	**75**	P	**Pn**	**Pn**	**18 11 56.7**	**+0.6**
H04A	**Detroit Lake**	**3.44**	**69**	*e*Pn	**Pn**	**Pn**	**18 12 01.1**	**+0.9**
YBH	**Yreka Blue Hor**	**3.44**	**120**	*e*Pn	**Pn**	**Pn**	**18 11 58.9**	**-1.3**
YBH				*e*Sn	**Sn**	**Sn**	**18 12 39.4**	**-1.3**
YBH	**Yreka Blue Hor**	**3.44**	**120**	Pn	**Pn**	**Pn**	**18 11 58.9**	**-1.3**
	1.8nm,0.3s,baz=290,slow=13,SNR=48							
YBH				Sn	**Sn**	**Sn**	**18 12 43.2**	**+2.5**
	0.4nm,0.3s,baz=121,slow=23,SNR=3.6							
G04A	**Mulino**	**3.45**	**59**	P	**Pn**	**Pn**	**18 12 01.5**	**+1.3**
K04D	**Chiloquin, OR**	**3.72**	**102**	⇓P	**Pn**	**Pn**	**18 12 04.4**	**+0.3**
	baz=3.7							
I05D	**Terrebonne, OR**	**3.94**	**76**	⇑P		**Pn**	**18 12 07.8**	**+0.8**
	baz=3.9							
M04C	**Macdoel**	**3.98**	**114**	⇑P		**Pn**	**18 12 08.4**	**+0.8**
	baz=3.9							
J05D	**Fort Rock, OR**	**3.98**	**92**	⇓P		**Pn**	**18 12 08.3**	**+0.7**
	baz=3.9							
MTMW	**Mount Mitchell**	**4.04**	**50**	P	**Pn**	**Pn**	**18 12 09.7**	**+1.1**
VLL	**Laurance Lake**	**4.07**	**60**	P	**Pn**	**Pn**	**18 12 10.6**	**+1.8**
NLWA	**Neilton Lookou**	**4.34**	**26**	*e*Pn	**Pn**	**Pn**	**18 12 12.2**	**-0.3**
NLWA				*e*Sn	**Sn**	**Sn**	**18 13 03.1**	**+0.3**
G06A	**Carlson Farm,**	**4.66**	**66**	*e*Pn	**Pn**	**Pn**	**18 12 17.5**	**+0.6**
LON	**Longmire**	**4.72**	**45**	*e*Pn	**Pn**	**Pn**	**18 12 18.6**	**+0.9**
LON				*e*Sn	**Sn**	**Sn**	**18 13 10.0**	**-2.2**
D05A	**Enumclaw**	**4.93**	**40**	*e*Pn	**Pn**	**Pn**	**18 12 21.1**	**+0.5**
MOD	**Modoc**	**4.97**	**107**	*e*Pn	**Pn**	**Pn**	**18 12 20.6**	**-0.7**
MOD				*e*Pg	**Pg**	**Pg**	**18 12 40.2**	**-2.1**
MOD				*e*Sn	**Sn**	**Sn**	**18 13 17.4**	**-1.3**
I07A	**Izee**	**5.22**	**81**	*e*Pn	**Pn**	**Pn**	**18 12 25.3**	**+0.6**
PGC	**Sidney**	**5.59**	**23**	*e*Pn	**Pn**	**Pn**	**18 12 27.5**	**-2.1**
PGC				*e*Sn	**Sn**	**Sn**	**18 13 27.3**	**-6.3**
E07A	**Sunnyside**	**5.71**	**56**	*e*Pn	**Pn**	**Pn**	**18 12 32.6**	**+1.3**
G08A	**Pilot Rock**	**5.81**	**70**	*e*Pn	**Pn**	**Pn**	**18 12 33.5**	**+0.8**
HAWA	**Hanford**	**5.83**	**58**	*e*Pn	**Pn**	**Pn**	**18 12 32.0**	**-0.9**
HAWA				*e*Sn	**Sn**	**Sn**	**18 13 37.7**	**-1.7**
J08A	**Circle Bar Ran**	**5.98**	**89**	*e*Pn	**Pn**	**Pn**	**18 12 34.6**	**-0.5**
B06A	**Marblemount**	**6.16**	**34**	*e*Pn	**Pn**	**Pn**	**18 12 37.9**	**+0.4**
E09A	**Wood Farm, Sta**	**6.75**	**61**	*e*Pn	**Pn**	**Pn**	**18 12 46.2**	**+0.7**
B08A	**Colville Reser**	**7.04**	**44**	*e*Pn	**Pn**	**Pn**	**18 12 50.2**	**+0.6**
C09A	**Chrisman Ranch**	**7.28**	**51**	*e*Pn	**Pn**	**Pn**	**18 12 53.9**

NEW	Newport	8.18	51	⇓P		Pn	18 13 06.2 +1.0
	baz=8.1,SNR=7.3						
HLID	Hailey	8.91	86	ePn		Pn	18 13 15.7 +0.2
BSMT	Bassoo Peak	9.38	58	ePn		Pn	18 13 22.0 +0.2
MSO	Missoula	9.58	65	ePn		Pn	18 13 25.3 +0.8
MSO	Missoula	9.58	65	⇓P		Pn	18 13 25.9 +1.4
	baz=9.5,SNR=7.3						
VES	Vestal, Richgr	9.65	140	⇑P		Pn	18 13 26.5 +1.1
	baz=9.6,SNR=5.3						
JTMT	Jette	9.65	60	ePn		Pn	18 13 24.8 -0.7
SWMT	Swartz Lake	9.75	62	ePn		Pn	18 13 26.4 -0.4
SLMT	Seeley Lake	9.99	64	ePn		Pn	18 13 28.2 -2.0
MCMT	McKenzie Canyo	10.03	78	ePn		Pn	18 13 30.5 -0.3
CHMT	Chamberlain Mo	10.06	66	ePn		Pn	18 13 30.7 -0.5
DLMT	Dillon	10.24	75	ePn		Pn	18 13 34.4 +0.9
MPMC	Manual Prospec	10.28	133	⇓P		Pn	18 13 35.4 +1.2
	baz=10						
ARVC	Arvin	10.36	141	⇓P		Pn	18 13 36.4 +1.3
	baz=10						
LRM	Limekiln Ridge	10.39	72	ePn		Pn	18 13 33.9 -1.9
WALA	Waterton Lakes	10.42	54	ePn		Pn	18 13 36.5 +0.6
BGU	Big Grassy Mou	10.46	100	ePn		Pn	18 13 37.2 +0.6
DUG	Dugway	10.87	103	ePn		Pn	18 13 43.0 +0.9
EDW2	Edwards Air Fo	10.95	139	P		Pn	18 13 44.6 +1.4
	baz=11,SNR=7.2						
YMR	Madison River	11.36	79	ePn		Pn	18 13 49.6 +0.6
TPAW	Teton Pass	11.43	85	ePn		Pn	18 13 50.6 +0.6
REDW	Red Top Meadow	11.51	85	ePn		Pn	18 13 51.3 +0.2
ARUT	Antelope Range	11.57	115	ePn		Pn	18 13 50.1 -1.7
TUQ	Turquoise Moun	11.59	131	⇓P		Pn	18 13 55.6 +3.6
	baz=12,SNR=15						
H17A	Grant Village	11.64	80	ePn		Pn	18 13 53.2 +0.3
LOHW	Long Hollow	11.67	84	ePn		Pn	18 13 52.7 -0.5
HEC	Hector,Ludlow	11.82	134	⇑P		Pn	18 13 58.0 +2.8
	baz=12						
DAU	Daniels Canyon	11.90	100	ePn		Pn	18 13 54.1 -2.3
GMRC	Granite Mounta	12.22	132	⇓P		Pn	18 14 02.9 +2.2
	baz=12,SNR=6.0						
H18A	Shoshone NF, C	12.29	79	⇓P		Pn	18 14 02.6 +0.9
	baz=12						
LDFC	Landfair	12.30	129	ePn		Pn	18 14 03.9 +2.1
PDAR	Pinedale Array	12.54	88	Pn		Pn	18 14 07.7 +2.7
PDAR	Pinedale Array	12.54	88	Pn		Pn	18 14 07.7 +2.7
	0.1nm,0.3s,baz=278,slow=11,SNR=12						
PDAR				LR		LR	18 19 15.4
	comp=Z,321nm,20.2s,baz=300,slow=39						
EGMT	Eagleton	12.64	63	ePn		Pn	18 14 06.4 +0.1
EGMT	Eagleton	12.64	63	⇓P		Pn	18 14 06.6 +0.3
	baz=13						
H19A	Powell	12.78	79	⇓P		Pn	18 14 09.5 +1.2
	baz=13						
I19A	Meeteetse	12.80	82	⇓P		Pn	18 14 10.7 +2.1
	baz=13,SNR=5.4						
F19A	Roth Farm, Mol	12.84	73	⇑P		Pn	18 14 09.2 +0.2
	baz=13						
IRM	Iron Mountain	12.96	132	P		Pn	18 14 13.0 +2.2
	baz=13,SNR=7.7						
W13A	Hualapai Mount	12.99	126	⇓P		Pn	18 14 12.4 +1.2
	baz=13						
E19A	Rath Farm, Rou	13.00	71	⇓P		Pn	18 14 11.9 +0.6
	baz=13						
C19A	Slack Wire Ran	13.03	65	⇓P		Pn	18 14 11.9 +0.3
	baz=13						
D19A	Cripps Ranch,	13.04	68	⇓P		Pn	18 14 13.2 +1.5
	baz=13						
BC3	Big Chuckawall	13.19	135	⇑P		Pn	18 14 14.5 +0.6
	baz=13						
J20A	Shoshoni	13.52	84	⇑P		Pn	18 14 20.2 +1.8
	baz=14						
D20A	Manuel Ranch,	13.53	68	⇑P		Pn	18 14 21.6 +3.3
	baz=14						
A19A	Klindworth Far	13.53	60	⇑P		Pn	18 14 21.0 +2.5
	baz=14						
DLBC	Dease Lake	15.07	353	Pn		P	18 14 44.6 0.0
DLBC	Dease Lake	15.07	353	Pn		P	18 14 44.6 0.0
	0.1nm,0.3s,baz=165,slow=12,SNR=5.7						
H24A	Dirks Ranch, A	15.93	78	⇓P		P	18 14 52.7 -1.6
	baz=16,SNR=7.6						
TUC	Tucson	16.79	127	ePn		Pn	18 15 01.5 -0.1
	24nm,1.9s						
ANMO	Albuquerque	17.83	112	P		Pn	18 15 14.5 -0.3
ANMO	Albuquerque	17.83	112	P		Pn	18 15 14.5 -0.3
	0.1nm,0.3s,baz=318,slow=12,SNR=5.3						
121A	Cookes Peak, D	18.45	120	ePn		P	18 15 19.6 -2.7
	5.5nm,0.9s						
B28A	Dugan Ranch, T	18.90	66	⇓P		Pn	18 15 30.5 +3.0
	baz=19						
W25A	X Bar L Ranch,	19.04	108	⇓P		Pn	18 15 31.6 +2.1
	baz=19,SNR=5.5						
V26A	Tequesquite Ra	19.21	106	⇑P		Pn	18 15 33.3 +1.8
	baz=19,SNR=10.0						
FFC	Flin Flon	19.56	46	eP		P	18 15 32.7 -1.3
	7.4nm,0.8s						
C30A	Mose, Pekin	20.11	68	⇓P		Pn	18 15 42.6 +0.6
	baz=20,SNR=6.0						
B30A	Myrvik Farm, E	20.25	66	⇓P		Pn	18 15 43.6 0.0
	baz=20,SNR=6.7						
YKA	Yellowknife Ar	20.27	16	P		P	18 15 41.5 -0.2
YKA	Yellowknife Ar	20.27	16	P		P	18 15 41.5 -0.2
	0.8nm,0.6s,baz=209,slow=11,SNR=17						
A30A	Hoffart Farm,	20.30	65	⇓P		Pn	18 15 44.3 0.0
	baz=20,SNR=13						
ECSD	EROS Data Cent	21.71	79	eP		P	18 15 58.0 +0.4
	22nm,1.5s						
AGMN	Agassiz Nation	21.88	67	eP		P	18 15 58.6 -0.7
	15nm,0.9s						
AGMN	Agassiz Nation	21.88	67	⇓P		P	18 16 02.8 +3.6
	baz=22,SNR=6.2						
ULM	Lac du Bonnet	21.99	61	eP		P	18 15 60.0 -0.4
ULM	Lac du Bonnet	21.99	61	P		P	18 16 00.8 +0.3
	6.1nm,0.8s,baz=265,slow=8.1,SNR=7.7						
ULM				LR		LR	18 25 23.9
	comp=Z,192nm,20.4s,baz=285,slow=39						
TXAR	Lajitas Array	23.22	120	P		P	18 16 14.1 +0.5
TXAR	Lajitas Array	23.22	120	P		P	18 16 14.1 +0.5
	0.9nm,0.9s,baz=302,slow=7.2,SNR=8.9						
TXAR				LR		LR	18 25 41.3
	comp=Z,62nm,19.2s,baz=0.0,slow=38						
WMOK	Wichita Mounta	23.27	103	eP		P	18 16 13.9 -0.1
	20nm,1.3s						
LPIG	La Paz	23.60	140	P		P	18 16 16.7 -0.6
LPIG	La Paz	23.60	140	P		P	18 16 16.7 -0.6
	12nm,0.3s,baz=79,slow=5.2,SNR=2.8						
LPIG				LR		LR	18 25 05.3
	comp=Z,104nm,18.2s,baz=328,slow=36						
ILAR	Eielson Array	24.13	339	P		P	18 16 19.4 -2.7
ILAR	Eielson Array	24.13	339	P		P	18 16 19.3 -2.7
	1.8nm,0.8s,baz=155,slow=8.9,SNR=22						
ILAR				LR		LR	18 23 58.4
	comp=Z,160nm,21.5s,baz=144,slow=32						
SPMN	St. Paul	24.18	74	eP		P	18 16 23.4 +0.8
	15nm,0.8s						
INK	Inuvik	25.10	354	P		P	18 16 28.4 -2.4
INK	Inuvik	25.10	354	P		P	18 16 28.4 -2.4
	1.1nm,0.8s,baz=186,slow=6.8,SNR=3.6						
H11N3	WAKE ISLAND Hy	59.71	269	T		T	19 25 14.9
	baz=52,slow=75,SNR=118						
H11N2	WAKE ISLAND Hy	59.71	269	T		T	19 25 15.1
	baz=52,slow=75,SNR=96						
H11N1	WAKE ISLAND Hy	59.72	269	T		T	19 25 16.3
	baz=52,slow=75,SNR=123						
H11S1	WAKE ISLAND Hy	60.63	268	T		T	19 26 15.0
	baz=50,slow=74,SNR=1117						
H11S2	WAKE ISLAND Hy	60.64	268	T		T	19 26 12.9
	baz=50,slow=74,SNR=591						
H11S3	WAKE ISLAND Hy	60.65	268	T		T	19 26 16.3
	baz=50,slow=74,SNR=433						
CN2	Changchun	71.83	314	eP		P	18 22 29.8 +0.8
SONM	Songino Array	77.72	327	P		P	18 22 59.0 -4.1
SONM	Songino Array	77.72	327	P		P	18 22 59.0 -4.1
	0.5nm,0.8s,baz=29,slow=3.4,SNR=5.1						
BRVK	Borovoye	82.69	350	eP		P	18 23 26.9 -2.8
	4.1nm,1.1s						
WMQ	Urumqi	87.76	336	eP		P	18 23 56.8 +1.4
LZH	Lanzhou	88.40	321	eP		P	18 23 58.4 -0.3
LZH				pP		pP	18 24 03.5 -0.2
LZH				sP		sP	18 24 05.8 +0.4
LZH				pmax		pmax	
	comp=Z,14nm,1.0s						

*JSN **17** 18:19:15.2± 1.6, 19°.35N × 72°.60W, h0km ± 999km, MD5.7*
*ISCJB **17** 18:19:17.7± 0.2, 18°.47N ± 0°.03 × 72°.75W ± 0°.02, h6km,*
mb4.2/40,MS3.8/19, Error ellipse: s-maj=4.8km
s-min=2.9km az=3.8

*IDC **17** 18:19:18.9± 0.5, 18°.50N × 72°.69W, h0km, mb4.1/27,*
mb1 4.3/30,mb1mx4.3/37, mbtmp4.1/30, ML3.4/3, MS3.7/22,
Ms1 3.7/22, ms1mx3.5/47, Error ellipse: s-maj=15.3km
s-min=11.2km az=61.0
*NEIC **17** 18:19:19.9± 0.2, 18°.49N × 72°.80W, h10km, mb4.5/9, Error*
ellipse: s-maj=5.2km s-min=3.7km az=185.0
ISC 17 18:19:19.6± 0.3, 18°.51N ± 0°.04 × 72°.78W ± 0°.04, h6km, n134,
σ 19 25/137, mb4.3/40, MS3.8/19, 2C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.49	71	ePn		Pn	18 19 45.1	-1.9
SDDR				eS		Sn	18 20 06.9	+0.2
GTBY	Guantanamo Bay	2.62	303	ePn		Pn	18 20 00.2	-2.2
GRTK	Grand Turk	3.37	27	ePn		Pn	18 20 12.1	-0.6
YHJ	Yallahs	3.58	261	eP		Pn	18 20 17.2	+1.4
YHJ	Yallahs	3.58	261	eP		Pn	18 20 17.2	+1.4
GWJ	Greenwich	3.78	264	eP		Pn	18 20 18.3	-0.2
GWJ	Greenwich	3.78	264	eP		Pn	18 20 18.3	-0.2
HOJ	Hope	3.81	263	iP		Pn	18 20 17.9	-0.8
HOJ	Hope	3.81	263	eP		Pn	18 20 17.9	-0.8
STH	Stony Hill	3.85	264	iP		Pn	18 20 18.3	-1.1
STH				iS		Sn	18 21 07.0	+1.9
STH	Stony Hill	3.85	264	iP		Pn	18 20 18.3	-1.1
STH				iS		Sn	18 21 07.0	+1.9
CVJ	Coleyville	4.53	267	eP		Pn	18 20 28.2	-0.6
CVJ	Coleyville	4.53	267	eP		Pn	18 20 28.2	-0.6
MTDJ	Mount Denham	4.53	267	ePn		Pn	18 20 27.0	-1.8
CRPR	Cabo Rojo, PR	5.41	94	ePn		Pn	18 20 39.8	-1.0
CRPR				eSn		Sn	18 21 42.1	-1.3
LSP	Las Mesas	5.42	93	Pn		Pn	18 20 42.6	+1.7
LRS	Lares	5.64	91	ePn		Pn	18 20 45.0	+1.1
LRS				eSn		Sn	18 21 47.5	-1.7
AOPR	Arecibo Observ	5.72	91	ePn		Pn	18 20 45.4	+0.3
OBIP	Obispado Ponce	5.88	94	ePn		Pn	18 20 46.8	-0.5
OBIP				eSn		Sn	18 21 53.3	-1.8
CELP	Cerrillos	5.91	93	ePn		Pn	18 20 47.6	0.0
CELP				eSn		Sn	18 21 55.0	-0.7
CBYP	Canovanas	6.58	91	ePn		Pn	18 20 56.4	-0.6
CBYP				eSn		Sn	18 22 11.2	-1.1
MTP	Monte Pirata	6.88	92	ePn		Pn	18 21 02.0	+1.1
LZG	Guadaloupe-1	10.77	101	eP		Pn	18 21 56.7	+2.3
BCIP	Isla Barro Col	11.54	217	ePn		Pn	18 22 03.1	-1.8
BCIP				eSn		Sn	18 24 13.0	-1.2
GRGR	Grenville	12.46	119	ePn		Pn	18 22 15.9	-1.6
GRGR				eSn		Sn	18 24 36.1	-0.7
ROSC	El Rosal	13.65	187	ePn		Pn	18 22 35.0	+0.8
ROSC				Sn		Sn	18 25 07.6	+1.1
ROSC	El Rosal	13.65	187	Pn		Pn	18 22 36.2	+2.0
	2.3nm,0.3s,baz=81,slow=17,SNR=13							
ROSC				Sn		Sn	18 25 07.6	+1.1
	0.7nm,0.3s,baz=81,slow=19,SNR=2.3							
ROSC				LR		LR	18 28 02.2	
	comp=Z,67nm,19.3s,baz=202,slow=38							
JTS	JuntasAbangare	14.34	237	ePn		Pn	18 22 43.1	-0.2
	20nm,0.9s							
JTS	JuntasAbangare	14.34	237	Pn		P	18 22 50.4	-0.1
	0.5nm,0.3s,baz=51,slow=13,SNR=6.2							
JTS				LR		LR	18 28 29.3	
	comp=Z,155nm,18.6s,baz=50,slow=38							
TEIG	Tepich	14.73	279	ePn		Pn	18 22 46.3	-2.2
TEIG	Tepich	14.73	279	Pn		P	18 22 52.7	-2.1
	2.0nm,0.3s,baz=90,slow=5.3,SNR=7.0							
TEIG				LR		LR	18 28 00.1	
	comp=Z,73nm,21.3s,baz=88,slow=35							
APG	El Apazote	17.29	261	Pn		P	18 23 23.9	+0.4
APG	El Apazote	17.29	261	Pn		P	18 23 23.9	+0.4
	0.3nm,0.3s,baz=72,slow=9.6,SNR=3.3							
OTAV	Otavalo	18.99	198	ePn		P	18 23 42.6	+0.1
	19nm,0.9s							
JSRW	J. Sargeant Re	19.63	348	eP		P	18 23 48.1	-0.7
TKL	Tuckaleechee C	19.66	333	P		P	18 23 49.2	-0.1
TKL				S		S	18 27 17.6	-14
TKL	Tuckaleechee C	19.66	333	P		P	18 23 49.2	-0.1
	0.1nm,0.3s,baz=170,slow=14,SNR=2.1							
TKL				S		S	18 27 17.6	-14
	0.2nm,0.3s,baz=24,slow=18,SNR=2.8							
CBN	Corbin	20.03	349	eP		P	18 23 53.4	+0.1
	33nm,0.5s							
PTGA	Pitinga	22.89	145	eP		P	18 24 23.5	-0.7
	11nm,0.8s							
PTGA	Pitinga	22.89	145	P		P	18 24 24.8	+0.6
	14nm,1.0s,baz=340,slow=11,SNR=15							
PTGA				LR		LR	18 33 51.6	
	comp=Z,82nm,19.4s,baz=336,slow=38							
ATAH	Atahualpa	26.07	193	P		P	18 24 58.3	+3.7
	5.7nm,0.6s,baz=349,slow=10,SNR=2.5							
ATAH				LR		LR	18 36 19.5	
	comp=Z,122nm,20.7s,baz=358,slow=39							
SADO	Sadowa	26.72	350	P		P	18 24 58.9	-0.8
SADO	Sadowa	26.72	350	P		P	18 24 58.9	-0.8
	1.2nm,0.5s,baz=252,slow=6.4,SNR=2.8							
SADO				LR		LR	18 35 28.1	
	comp=Z,134nm,19.1s,baz=352,slow=36							
SAML	Samuel	28.88	160	eP		P	18 25 18.5	-0.8
	4.7nm,0.9s							
TXAR	Lajitas Array	30.14	297	P		P	18 25 30.6	+0.1
TXAR				PcP		PcP	18 28 34.0	+2.0
TXAR	Lajitas Array	30.14	297	P		P	18 25 30.6	+0.1
	0.9nm,1.0s,baz=106,slow=8.0,SNR=5.4							
TXAR				PcP		PcP	18 28 34.0	+2.0
	0.4nm,0.7s,baz=116,slow=4.2,SNR=4.4							
LPM	Los Pinos Moun	33.97	304	eP		P	18 26 03.9	-0.3
ANMO	Albuquerque	34.05	306	P		P	18 26 07.5	+2.7
ANMO	Albuquerque	34.05	306	P		P	18 26 07.5	+2.7
	1.5nm,1.0s,baz=137,slow=8.4,SNR=2.2							
LPAZ	La Paz	34.88	172	P		P	18 26 12.8	+0.1
LPAZ	La Paz	34.88	172	P		P	18 26 12.8	+0.1
	1.2nm,1.0s,baz=63,slow=4.5,SNR=3.1							
LPAZ				LR		LR	18 41 29.1	
	comp=Z,194nm,20.5s,baz=3.5,slow=38							
LPIG	La Paz	35.33	286	P		P	18 26 15.6	-0.2
LPIG	La Paz	35.33	286	P		P	18 26 15.6	-0.2
	11nm,0.3s,baz=27,slow=2.3,SNR=2.2							
SIV	San Ignacio	36.17	161	P		P	18 26 22.1	-1.0
SIV	San Ignacio	36.17	161	P		P	18 26 22.1	-1.0
	1.1nm,0.8s,baz=357,slow=10,SNR=2.8							
SIV				LR		LR	18 41 50.9	
	comp=Z,195nm,19.1s,baz=2.5,slow=37							
SCHQ	Schefferville	36.55	6	P		P	18 26 25.6	-0.3
SCHQ	Schefferville	36.55	6	P		P	18 26 25.6	-0.3
	3.9nm,0.8s,baz=203,slow=8.5,SNR=7.0							
SCHQ				LR		LR	18 41 10.7	
	comp=Z,143nm,19.9s,baz=242,slow=36							
ULM	Lac du Bonnet	36.65	335	P		P	18 26 28.0	+1.1
ULM	Lac du Bonnet	36.65	335	P		P	18 26 28.0	+1.1
	2.3nm,0.8s,baz=162,slow=12,SNR=4.2							
ULM				LR		LR	18 42 23.5	
	comp=Z,145nm,20.1s,baz=314,slow=38							
PDAR	Pinedale Array	39.36	316	P		P	18 26 51.7	+1.5
PDAR				PcP		PcP	18 28 59.5	+0.8
PDAR	Pinedale Array	39.36	316	P		P	18 26 51.7	+1.5
	0.5nm,0.6s,baz=120,slow=9.3,SNR=4.6							
PDAR				PcP		PcP	18 28 59.5	+0.8
	0.9nm,0.7s,baz=123,slow=3.3,SNR=5.3							
REDW	Red Top Meadow	40.48	316	eP		P	18 26 58.8	-0.6
	26nm,1.7s							
MOOW	Moose Ponds	40.58	317	eP		P	18 26 59.0	-1.2
	76nm,2.9s							
FXWY	Fox Creek	40.71	316	eP		P	18 27 00.3	-1.0
	14nm,1.6s							
BGU	Big Grassy Mou	41.01	312	eP		P	18 27 03.0	-0.7
	13nm,2.1s							
BDFB	Brasilia	41.79	143	P		P	18 27 10.8	+0.6
BDFB	Brasilia	41.79	143	P		P	18 27 10.8	+0.6
	2.5nm,0.6s,baz=336,slow=10.0,SNR=6.7							
BDFB				LR		LR	18 45 00.1	
	comp=Z,96nm,19.3s,baz=340,slow=37							
TPH	Tonopah	43.25	306	eP		P	18 27 21.5	-0.7
	35nm,2.3s							
NVAR	Mina Array Bea	44.16	306	P		P	18 27 29.4	-0.1
NVAR	Mina Array Bea	44.16	306	P		P	18 27 29.3	-0.1
	0.7nm,0.8s,baz=127,slow=3.9,SNR=4.3							
FRB	Frobisher Bay	45.30	3	LR		LR	18 45 08.1	
	comp=Z,143nm,21.4s,baz=176,slow=34							
NEW	Newport	46.52	320	P		P	18 27 49.2	+1.4
NEW	Newport	46.52	320	P		P	18 27 49.2	+1.4
	1.1nm,0.7s,baz=102,slow=9.3,SNR=3.8							
NEW				LR		LR	18 47 23.5	
	comp=Z,128nm,20.9s,baz=276,slow=36							
CPUP	Villa Florida	47.03	161	LR		LR	18 49 00.3	
	comp=Z,114nm,18.0s,baz=332,slow=38							
CFAA	Coronel Fontan	50.01	175	P		P	18 28 13.7	-1.2
CFAA	Coronel Fontan	50.01	175	P		P	18 28 13.7	-1.2
	0.2nm,0.8s,baz=346,slow=6.6,SNR=3.5							
SFJD	Kangerlussuaq	50.54	11	LR		LR	18 46 03.7	
	comp=Z,143nm,21.8s,baz=276,slow=32							
YKA	Yellowknife Ar	52.57	337	P		P	18 28 32.9	-0.8
YKA	Yellowknife Ar	52.57	337	P		P	18 28 32.9	-0.8
	2.3nm,0.8s,baz=120,slow=6.1,SNR=34							
BORG	Borgarnes	57.41	23	LR		LR	18 51 51.7	
	comp=Z,67nm,19.4s,baz=331,slow=34							
DLBC	Dease Lake	57.43	328	LR		LR	18 53 56.3	
	comp=Z,170nm,20.5s,baz=161,slow=36							
RES	Resolute Bay	57.47	353	P		P	18 29 08.7	-0.3
RES	Resolute Bay	57.47	353	P		P	18 29 08.7	-0.3
	0.6nm,0.5s,baz=159,slow=12,SNR=3.7							
RES				LR		LR	18 55 41.5	
	comp=Z,57nm,18.3s,baz=63,slow=38							
SUMG	Summit	57.52	12	iP		P	18 29 11.0	+1.1
	8.4nm,1.0s							
SUMG	Summit	57.52	12	eP		P	18 29 09.4	-0.5
PLCA	Paso Flores	58.97	178	P		P	18 29 18.8	-1.1
PLCA	Paso Flores	58.97	178	P		P	18 29 18.8	-1.1
	3.4nm,0.9s,baz=285,slow=2.3,SNR=5.4							
PAB	San Pablo	61.98	55	eP		P	18 29 40.1	-0.7
	28nm,1.7s							
MDT	Midelt	62.14	62	P		P	18 29 43.2	+1.2
MDT	Midelt	62.14	62	P		P	18 29 43.2	+1.2
	2.2nm,0.9s,baz=270,slow=6.1,SNR=3.2							
INK	Inuvik	62.27	339	LR		LR	18 57 46.1	
	comp=Z,83nm,19.7s,baz=153,slow=37							
ESDC	Sonseca Array	62.27	54	P		P	18 29 43.1	+0.4
ESDC	Sonseca Array	62.27	54	P		P	18 29 43.1	+0.4
	6.7nm,1.0s,baz=279,slow=6.7,SNR=19							
EKA	Eskdalemuir Ar	63.40	37	P		P	18 29 49.6	-0.2
EKA	Eskdalemuir Ar	63.40	37	P		P	18 29 49.6	-0.2
	4.3nm,1.0s,baz=260,slow=5.0,SNR=4.4							
ILAR	Eielson Array	66.65	333	P		P	18 30 12.6	+1.8
ILAR	Eielson Array	66.65	333	P		P	18 30 12.6	+1.8
	1.0nm,0.9s,baz=96,slow=4.8,SNR=9.2							
NOA	NORSAR Array B	71.10	31	LR		LR	18 57 21.5	
	comp=Z,25nm,20.5s,baz=245,slow=32							
TORD	Torodi Ar. Bea	71.41	82	P		P	18 30 39.9	-1.4
TORD	Torodi Ar. Bea	71.41	82	P		P	18 30 39.8	-1.4
	1.7nm,0.8s,baz=285,slow=3.6,SNR=9.7							
DAVOX	Davos/Dischmat	71.79	46	P		P	18 30 42.9	-0.4
DAVOX	Davos/Dischmat	71.79	46	P		P	18 30 42.9	-0.4
	0.7nm,0.4s,baz=309,slow=14,SNR=2.4							
NKC	Novy Kostel	72.99	42	eP		P	18 30 52.5	+2.3
CLL	Collm	73.18	41	e(P)		P	18 30 54.0	+2.8
KEST	Kesra	73.19	57	P		P	18 30 52.6	+0.9
KEST	Kesra	73.19	57	P		P	18 30 52.6	+0.9
	2.1nm,0.9s,baz=180,slow=3.0,SNR=5.4							
BRG	Berggiesshubel	73.83	41	eP		P	18 30 58.4	+3.4
	8.9nm,1.2s							
KHC	Kasperske Hory	73.89	43	eP		P	18 30 56.2	+0.7
KHC				epP		pP	18 30 58.5	+1.0
GERES	GERESS Array B	74.02	43	P		P	18 30 56.2	-0.1
GERES	GERESS Array B	74.02	43	P		P	18 30 56.2	-0.1
	5.1nm,0.9s,baz=268,slow=4.0,SNR=24							
PRU	Pruhonice	74.36	42	eP		P	18 31 00.5	+2.3
UPC	Upice	75.19	41	eP		P	18 31 06.2	+3.2
DPC	Dobruska-Polom	75.42	41	eP		P	18 31 05.2	+0.9
DPC				epP		pP	18 31 07.5	+1.2
ARCES	ARCESS Array B	75.69	21	P		P	18 31 04.0	-1.5
ARCES	ARCESS Array B	75.69	21	P		P	18 31 04.0	-1.5
	5.3nm,1.0s,baz=282,slow=8.4,SNR=5.7							
ARCES				LR		LR	18 57 06.9	
	comp=Z,80nm,20.0s,baz=256,slow=30							
VRAC	Vranov	75.80	42	P		P	18 31 07.5	+1.0
VRAC	Vranov	75.80	42	P		P	18 31 07.5	+1.0
	2.4nm,0.6s,baz=9.5,slow=6.1,SNR=3.8							
MORC	Moravsky Berou	76.30	42	⇓iP		P	18 31 13.2	+3.8
OKC	Ostrava-Krasne	76.67	42	eP		P	18 31 12.1	+0.7
FINES	FINESS Array B	78.08	29	LR		LR	19 00 59.3	
	comp=Z,48nm,20.8s,baz=314,slow=32							
STHS	Stebnicka Huta	78.73	42	eP		P	18 31 25.8	+2.8
CRVS	Cervenica-Dubn	79.00	42	eP		P	18 31 28.9	+4.4
KOLS	Kolonicke sedl	79.51	42	eP		P	18 31 31.0	+3.8
BZS	Buzias	80.00	45	⇑P

0.7nm,0.6s,baz=299,slow=8.1,SNR=23
ZALV Zalesovo Beam 49.63 353 P P 18 39 16.1 +0.4
0.9nm,0.4s,baz=178,slow=7.2,SNR=7.5
BVAR Borovoye Array 51.96 342 P P 18 39 33.2 -0.1
0.2nm,0.4s,baz=159,slow=8.5,SNR=2.2
BVAR pP **pP 18 39 46.0 -0.1**
0.9nm,0.8s,baz=150,slow=12,SNR=4.0
STKA Stephens Creek 57.89 132 LR LR 19 09 27.3
comp=Z,31nm,18.0s,baz=22,slow=40
BRTR Keskin Array B 64.58 312 P P 18 41 01.6 -0.4
0.3nm,0.5s,baz=80,slow=6.9,SNR=2.8
GERES GERESS Array B 80.23 319 P P 18 42 36.5 +1.5
0.4nm,0.6s,baz=86,slow=5.3,SNR=4.1
GERES pP **pP 18 42 49.6 +1.1**
0.8nm,0.8s,baz=93,slow=4.2,SNR=4.7
HFS Hagfors 81.20 330 P P 18 42 40.2 +0.5
1.5nm,0.8s,baz=89,slow=12,SNR=2.7

NIED ***17*** *18:52:00,43.80N×143.40E,h185km,Mw4.0 Best double couple: M0 9.82000×10^14 NP1:φs172.00000°, δ31.00000°, λ-12.00000°. NP2:φs272.00000°, δ84.00000°, λ-121.00000°.*
ISCJB ***17*** *18:52:48.7±0.2,43.76N±0.03×143.40E±0.05, h181km±2km, mb4.0/27, Error ellipse: s-maj=5.6km s-min=5.3km az=42.0*
MOS ***17*** *18:52:48.8±0.8,43.83N×143.34E,h182km, mb4.2/21, Error ellipse: s-maj=16.6km s-min=9.1km az=92.8*
SKHL ***17*** *18:52:48.6±0.1,43.70N×143.37E,h156km±5km, mb5.8/1, msh5.7/2*
JMA ***17*** *18:52:49.8±0.1,43.76N×143.36E,h179km±1km, M3.8*
IDC ***17*** *18:52:49.9±0.5,43.82N×143.37E,h176km±2km, mb3.8/24, mb1 3.9/28, mb1mx3.8/38, mbtmp4.3/28, Error ellipse: s-maj=11.8km s-min=9.8km az=101.0*
ISC 17 18:52:50.0±0.6, 43°78N±0.04× 143°40E±0.04, h178km±4km, n69, σ0°83/87, mb4.0/27, 6C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.23**	**353**	⇓P			**Pn**	**18 53 13.8**	**0.0**
JMP				*e*S			**Sn**	**18 53 31.7**	**-0.5**
JTKR	**Abashiri--Toko**	**0.41**	**62**	P			**Pn**	**18 53 14.5**	**+0.3**
JTKR				*e*S			**Sn**	**18 53 32.7**	**-0.2**
JKK2	**Kamakawa 2**	**0.48**	**282**	⇓P			**Pn**	**18 53 14.5**	**0.0**
JKK2				*e*S			**Sn**	**18 53 32.9**	**-0.5**
JAR	**Ashorobuto**	**0.55**	**151**	⇑P			**Pn**	**18 53 15.0**	**+0.2**
JAR				*e*S			**Sn**	**18 53 33.7**	**-0.2**
ASAJ	**Asahikawa**	**0.67**	**301**	⇓P			**Pn**	**18 53 15.5**	**+0.2**
ASAJ				*e*S			**Sn**	**18 53 34.9**	**-0.1**
ASAJ	**Asahikawa**	**0.67**	**301**	P			**Pn**	**18 53 15.6**	**+0.2**
	196nm,0.3s,baz=117,slow=6.8,SNR=982								
ASAJ				S			**Sn**	**18 53 34.8**	**-0.2**
	17nm,0.3s,baz=344,slow=31,SNR=17								
JFR	**Furan**	**0.85**	**224**	⇑P			**Pn**	**18 53 16.6**	**+0.1**
JCH	**Churui**	**1.16**	**181**	⇑P			**Pn**	**18 53 18.1**	**-0.7**
JCH				*e*S			**Sn**	**18 53 39.0**	**-2.0**
JHR	**Hokuryu**	**1.22**	**269**	⇓P			**Pn**	**18 53 19.1**	**-0.1**
JHR				*e*S			**Sn**	**18 53 41.8**	**0.0**
JAK	**Akkeshi**	**1.23**	**129**	⇑P			**Pn**	**18 53 18.8**	**-0.5**
JAK				*e*S			**Sn**	**18 53 41.1**	**-0.8**
JRA	**Rausu**	**1.25**	**82**	P			**Pn**	**18 53 20.2**	**+0.7**
JRA				*e*S			**Sn**	**18 53 43.9**	**+1.6**
JSE	**Soyaes**	**1.32**	**334**	⇓P			**Pn**	**18 53 19.8**	**-0.3**
JYG	**Yagishiri**	**1.56**	**295**	P			**Pn**	**18 53 21.6**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.57**	**198**	⇑P			**Pn**	**18 53 21.8**	**-0.7**
JNBK				*e*S			**Sn**	**18 53 46.0**	**-1.6**
JEW	**Eniwo**	**1.70**	**237**	⇑P			**Pn**	**18 53 23.8**	**0.0**
JEW				*e*S			**Sn**	**18 53 49.3**	**-0.7**
NEM2	**Nemuro 2**	**1.75**	**103**	P			**Pn**	**18 53 23.7**	**-0.6**
NEM2				*e*S			**Sn**	**18 53 49.0**	**-1.8**
JWK2	**Keihoku**	**1.88**	**326**	⇓P			**Pn**	**18 53 25.9**	**+0.4**
JSK	**Shakotan**	**2.17**	**260**	P			**Pn**	**18 53 28.2**	**-0.5**
SHO	**Shikotan**	**2.48**	**87**	*e*P			**Pn**	**18 53 31.3**	**-1.0**
SHO				*e*S			**Sn**	**18 54 03.4**	**-1.8**
SHO				A			A	18 54 04.8	
	2μm,0.8s								
NEVR	**Nevel'sk**	**3.10**	**340**	*e*P			**Pn**	**18 53 40.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**3.21**	**352**	⇓*i*PN			**Pn**	**18 53 40.2**	**-0.8**
YSS				*i* S			**Sn**	**18 54 19.0**	**-2.0**
YSS				pmax			pmax		
	comp=Z,70nm,0.8s								
YSS				smax			smax		
	comp=N,160nm,1.0s								
YSS				smax			smax		
	comp=E,110nm,1.1s								
YSS	**Yuzh-Sakhalins**	**3.21**	**352**	*e*P			**Pn**	**18 53 40.6**	**-0.4**
YSS				AMB			AMB	18 53 41.7	
	comp=E,926nm,0.6s								
YSS				*e*S			**Sn**	**18 54 19.6**	**-1.4**
YSS				A			A	18 54 21.1	
	comp=E,980nm,0.9s								
KHLM	**Kholmsk**	**3.41**	**344**	*e*P			**Pn**	**18 53 43.7**	**+0.2**
MAJO	**Matsushiro**	**8.24**	**211**	*e*P			**Pn**	**18 54 45.7**	**-0.8**
MAT	**Matsushiro**	**8.24**	**211**	P			**Pn**	**18 54 45.7**	**-0.8**
MJAR	**Matsushiro Arr**	**8.24**	**211**	P			**Pn**	**18 54 45.9**	**-0.7**
	comp=E,1.8nm,0.3s,baz=20,slow=14,SNR=43								
SKR	**Severo-Kuril's**	**11.06**	**47**	*e*P			**Pn**	**18 55 24.4**	**+1.3**
PETK	**Petropavlovsk-**	**13.29**	**40**	PN			**Pn**	**18 55 50.8**	**-0.9**
PETK				pmax			pmax		
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**13.29**	**40**	P			**Pn**	**18 55 50.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=216,slow=11,SNR=19								
JCJ	**Chichijima**	**16.67**	**184**	P			**Pn**	**18 56 33.6**	**+0.1**
	comp=Z,6.3nm,0.3s,baz=282,slow=18,SNR=3.1								
SEY	**Seymchan**	**19.89**	**12**	P			**P**	**18 57 06.3**	**-1.0**
SEY				pmax			pmax		
	comp=Z,1.0nm,0.3s								
SEY	**Seymchan**	**19.89**	**12**	P			**P**	**18 57 06.3**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=194,slow=8.3,SNR=84								
SONM	**Songino Array**	**25.95**	**292**	P			**P**	**18 58 06.4**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=87,slow=8.3,SNR=20								
ZAK	**Zakamensk**	**27.84**	**298**	*e*P			**P**	**18 58 21.9**	**-0.8**
ZAK				pmax			pmax		
	comp=Z,2.0nm,1.0s								
ZALV	**Zalesovo Beam**	**38.81**	**306**	P			**P**	**18 59 56.3**	**-0.8**
ZALV								19 05 36.3	
ZALV				pmax			pmax		
	comp=Z,2.0nm,0.4s								
ZALV				pmax			pmax		
	comp=N,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**38.81**	**306**	P			**P**	**18 59 56.3**	**-0.8**
	comp=N,1.6nm,0.4s,baz=87,slow=8.5,SNR=12								
ZALV				ScP			**ScP**		**19 05 36.3 +0.7**
	comp=N,0.6nm,0.6s,baz=73,slow=4.3,SNR=4.0								
MKAR	**Makanchi Array**	**42.15**	**296**	P			**P**	**19 00 24.7**	**0.0**
MKAR				pmax			pmax		
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**42.15**	**296**	P			**P**	**19 00 24.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=82,slow=11,SNR=12								
ILAR	**Eielson Array**	**43.07**	**36**	P			**P**	**19 00 31.6**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=268,slow=5.9,SNR=36								
KURK	**Kurchatov**	**43.25**	**303**	P			**P**	**19 00 33.7**	**+0.3**
KURK				pmax			pmax		
	comp=Z,3.0nm,0.6s								
KURBB	**Kurchatov Arra**	**43.33**	**303**	P			**P**	**19 00 33.7**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=70,slow=8.7,SNR=20								
JAY	**Jayapura**	**46.15**	**184**	P			**P**	**19 00 57.0**	**+0.3**
	comp=Z,11nm,0.7s,baz=313,slow=18,SNR=2.0								
BVAR	**Borovoye Array**	**47.37**	**308**	P			**P**	**19 01 06.1**	**+0.3**
BVAR	**Borovoye Array**	**47.37**	**308**	P			**P**	**19 01 06.1**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=75,slow=8.7,SNR=28								
INK	**Inuvik**	**47.74**	**30**	P			**P**	**19 01 08.6**	**+0.2**
	comp=Z,4.7nm,0.4s,baz=290,slow=5.9,SNR=39								
AAK	**Ala-Archa**	**48.88**	**294**	P			**P**	**19 01 18.0**	**+0.3**
AAK				pmax			pmax		
	comp=Z,1.0nm,0.4s								
AAK	**Ala-Archa**	**48.88**	**294**	P			**P**	**19 01 18.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=185,slow=12,SNR=2.7								
DLBC	**Dease Lake**	**52.47**	**41**	P			**P**	**19 01 47.0**	**+2.8**
	comp=Z,1.6nm,0.6s,baz=261,slow=8.6,SNR=6.6								
AKTO	**Aktyubinsk**	**55.44**	**309**	P			**P**	**19 02 05.5**	**-0.2**
AKTO				pmax			pmax		
	comp=Z,1.0nm,0.5s								
AKTO	**Aktyubinsk**	**55.44**	**309**	P			**P**	**19 02 05.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=55,slow=8.2,SNR=5.2								
YKA	**Yellowknife Ar**	**57.27**	**33**	P			**P**	**19 02 18.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=304,slow=6.8,SNR=44								
YKA				ScP			**ScP**		**19 06 53.1 0.0**
	comp=Z,1.4nm,0.8s,baz=309,slow=5.1,SNR=3.9								
YKA	**Yellowknife Ar**	**57.27**	**33**	ScP			**ScP**		**19 06 53.1 0.0**
ARCES	**ARCESS Array B**	**58.25**	**339**	P			**P**	**19 02 24.8**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=53,slow=8.1,SNR=5.2								
FINES	**FINESS Array B**	**63.59**	**332**	P			**P**		**19 03 00.5 -0.7**
	comp=Z,2.5nm,0.4s,baz=46,slow=7.8,SNR=32								
CTA	**Charters Tower**	**63.60**	**177**	P			**P**	**19 03 02.4**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=333,slow=4.5,SNR=2.1								
WRA	**Warramunga Arr**	**63.95**	**189**	P			**P**	**19 03 03.3**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=7.5,slow=6.8,SNR=10								
ASAR	**Alice Springs**	**67.67**	**189**	P			**P**	**19 03 29.2**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=10,slow=6.0,SNR=6.6								
KBZ	**Khabaz**	**67.72**	**310**	P			**P**	**19 03 28.7**	**+0.8**
KBZ				pmax			pmax		
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**67.72**	**310**	P			**P**	**19 03 28.7**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=32,slow=9.5,SNR=5.7								
NB2	**NORSAR Subarra**	**68.56**	**337**	P			**P**	**19 03 32.4**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=33,slow=6.5								
NOA	**NORSAR Array B**	**68.56**	**337**	P			**P**	**19 03 32.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=38,slow=6.2,SNR=5.7								
HFS	**Hagfors**		**68.58 336**	P			**P**	**19 03 32.2**	**-0.8**
	comp=Z,2.5nm,0.4s,baz=48,slow=6.6,SNR=25								
FRB	**Frobisher Bay**	**69.87**	**15**	P			**P**	**19 03 40.2**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=26,slow=18,SNR=12								
AKASG	**Malin Array Be**	**69.92**	**322**	P			**P**	**19 03 40.7**	**-0.7**
AKASG				pmax			pmax		
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**69.92**	**322**	P			**P**	**19 03 40.7**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=42,slow=6.4,SNR=16								
SCHQ	**Schefferville**		**78.45 17**	P			**P**	**19 04 30.3**	**-0.4**
	comp=Z,5.3nm,1.1s,baz=288,slow=13,SNR=3.6								
NWAO	**Narrogin (SRO)**	**79.99**	**202**	P			**P**	**19 04 39.8**	**+0.7**
	comp=Z,7.1nm,1.0s,baz=24,slow=12,SNR=2.2								
TXAR	**Lajitas Array**	**84.86**	**54**	P			**P**	**19 05 06.1**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=314,slow=3.5,SNR=5.9								
RPN	**Rapa Nui**	**120.28**	**100**	PKP			**PKPdf**	**19 11 18.9**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=54,slow=2.3,SNR=6.3								

NIED ***17*** *18:54:00,24.30N×123.50E,h41km,Mw4.5 Best double couple: M0 6.66000×10^15 NP1:φs264.00000°, δ30.00000°, λ102.00000°. NP2:φs71.00000°, δ61.00000°, λ83.00000°.*
IDC ***17*** *18:54:07.6±0.5,24.38N×123.46E, h0km, mb4.4/30, mb1 4.5/31, mb1mx4.4/37, mbtmp4.4/31, ML3.6/1, MS3.8/13, Ms1 3.8/13, ms1mx3.4/47, Error ellipse: s-maj=15.2km s-min=12.1km az=65.0*
BJI ***17*** *18:54:10.3,24.20N×123.27E, h12km, mB4.3/7, mb4.3/17, ML3.9/4, Ms3.9/5, Ms7 3.7/6*
MOS ***17*** *18:54:12.7±1.0,24.46N×123.47E, h49km, mb5.0/25, Error ellipse: s-maj=10.3km s-min=5.7km az=119.3*
NEIC ***17*** *18:54:13.6±0.8,24.38N×123.49E, h48km±6km, mb4.6/9, MW4.5(NIED), Error ellipse: s-maj=8.5km s-min=7.2km az=129.0*
NEIC Recorded [1 JMA] on Iriomote-jima and Yonaguni-jima.
JMA ***17*** *18:54:13.7±0.1,24.28N×123.48E, h47km±1km, M4.5*
JMA Felt I J1.
ISCJB ***17*** *18:54:13.1±0.2,24.36N±0.04×123.47E±0.02, h52km±2km, mb4.5/68, MS3.8/14, Error ellipse: s-maj=7.1km s-min=2.8km az=158.6*
ISC 17 18:54:13.4±0.5, 24°32N±0.04×123°49E±0.02, h43km±4km, n243, σ1°15/266, mb4.6/68, MS3.8/14, 15C-10D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.22**	**87**	P			**Pn**	**18 54 21.7**	**+0.6**
IRIF				S			**Sn**	**18 54 28.0**	**+1.5**
HATJ	**Hateruma jima**	**0.39**	**133**	P			**Pn**	**18 54 23.1**	**+0.2**
HATJ				S			**Sn**	**18 54 30.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.46**	**288**	*e*P			**Pn**	**18 54 24.4**	**+0.7**
YOJ				*e*				18 54 35.9	
YOJ	**Yonaguni jima**	**0.46**	**288**	P			**Pn**	**18 54 24.4**	**+0.7**
YOJ				S			**Sn**	**18 54 31.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.46**	**288**	*e*Pg			**Pn**	**18 54 24.4**	**+0.7**
YOJ				*e*Sn			**Sn**	**18 54 35.9**	**+4.8**
JKRS	**Kuro-shima**	**0.48**	**100**	P			**Pn**	**18 54 24.5**	**+0.5**
JKRS				S			**Sn**	**18 54 32.9**	**+1.4**
JIJ	**Ishigaki jima**	**0.59**	**86**	P			**Pn**	**18 54 26.0**	**+0.5**
JIJ				S			**Sn**	**18 54 34.8**	**+0.6**
JTJ	**Tarama**	**1.15**	**74**	P			**Pn**	**18 54 34.2**	**+1.2**
JTJ				S			**Sn**	**18 54 49.5**	**+2.0**
JMJ	**Miyako jima 2**	**1.71**	**73**	P			**Pn**	**18 54 42.9**	**+2.2**
JMJ				S			**Sn**	**18 55 04.4**	**+3.0**
NACB	**Ninganchiao**	**1.74**	**266**	*e*Pn			**Pn**	**18 54 41.7**	**+0.6**
JOGS	**Gusukube**	**1.80**	**76**	P			**Pn**	**18 54 44.1**	**+2.2**
JOGS				*e*S			**Sn**	**18 55 04.7**	**+1.2**
TATO	**Taipei**	**1.94**	**290**	*e*Pn			**Pn**	**18 54 44.8**	**+0.9**
YHNB	**Yeheng**	**1.96**	**281**	*e*Pn			**Pn**	**18 54 45.8**	**+1.5**
YHNB				*e*Sn			**Sn**	**18 55 12.9**	**+5.3**
YULB	**Yu-li**	**2.21**	**246**	*e*Pn			**Pn**	**18 54 47.3**	**-0.3**
YULB				*e*Sn			**Sn**	**18 55 16.1**	**+2.3**
SSLB	**Suanglung**	**2.38**	**258**	*e*Pn			**Pn**	**18 54 50.5**	**+0.6**
SSLB				*e*Sn			**Sn**	**18 55 17.4**	**-0.6**
TWG	**Pinlang**	**2.68**	**237**	*e*Pn			**Pn**	**18 54 52.7**	**-1.3**
TWG				*e*Sn			**Sn**	**18 55 27.1**	**+1.9**
TPUB	**Ta-pu**	**2.81**	**249**	*e*Pn			**Pn**	**18 54 57.3**	**+1.4**
TPUB				*e*Sn			**Sn**	**18 55 29.8**	**+1.3**
JKE	**Kume jima 2**	**3.59**	**56**	P			**Pn**	**18 55 08.2**	**+1.7**
JKE				*e*S			**Sn**	**18 55 48.8**	**+1.2**
JAGN	**Aguni-jima**	**4.07**	**56**	P			**Pn**	**18 55 15.8**	**+2.6**
JAGN				*e*S			**Sn**	**18 56 03.1**	**+3.5**
QZH	**Quanzhou**	**4.50**	**279**	⇑*i*Pn			**Pn**	**18 55 16.3**	**-2.8**
QZH				Sn			Sn	18 56 03.8	-6.4
QZH				smax			smax		
	comp=N,400nm,0.8s								
QZH				smax			smax		
	comp=E,250nm,0.7s								
JIH	**Iheya**	**4.86**	**55**	P			**Pn**	**18 55 25.0**	**+1.0**
JOW	**Kunigami**	**4.99**	**59**	P			**Pn**	**18 55 27.3**	**+1.5**
JTK	**Tokunoshima**	**6.00**	**54**	P			**Pn**	**18 55 39.4**	**-0.2**
JTK				*e*S			**Sn**	**18 56 47.9**	**+0.8**
JAMN	**Amaminishikomi**	**6.42**	**51**	P			**Pn**	**18 55 45.7**	**+0.3**
JAM	**Amami Oshima**	**6.83**	**52**	S			**Sn**	**18 57 08.7**	**+1.2**
JNU	**Nakatsue**	**10.90**	**35**	*e*Pn			Pn	18 56 40.5	-6.4
JNU	**Nakatsue**	**10.90**	**35**	Pn			Pn	18 56 50.1	+3.3
	0.3nm,0.3s,baz=177,slow=17,SNR=3.5								
KSRS	**Korea Array**	**13.63**	**15**	Pn			Pn	18 57 27.3	+3.3
	0.3nm,0.3s,baz=199,slow=12,SNR=18								
KSRS							LR	LR	19 02 56.3
	comp=Z,218nm,20.5s,baz=197,slow=39								
QIZ	**Qiongzhong**	**13.73**	**250**	P			**Pn**	**18 57 23.1**	**-2.5**
QIZ				S			**Sn**	**18 59 57.8**	**+1.0**
QIZ				pmax			pmax		
	comp=Z,28nm,2.0s								
GYA	**Guiyang**	**15.36**	**282**	⇑*i*P			**P**	**18 57 54.1**	**+2.7**
GYA				pmax			pmax		
	comp=Z,20nm,0.6s								
MJAR	**Matsushiro Arr**	**17.56**	**43**	Pn			**Pn**	**18 58 14.0**	**-1.0**
MJAR	**Matsushiro Arr**	**17.56**	**43**	Pn			**Pn**	**18 58 14.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=229,slow=9.7,SNR=4.4								
MJAR							LR	LR	19 05 08.3
	comp=Z,61nm,21.8s,baz=190,slow=38								
VLA	**Vladivostok**	**19.99**	**18**	⇓*i*P			**P**	**18 58 40.5**	**-1.6**
VLA				*i* S			**S**	**19 02 21.5**	**-3.0**
VLA				pmax			pmax		
	comp=Z,19nm,1.8s								
LZH	**Lanzhou**	**20.59**	**309**	*e*P			**P**	**18 58 49.8**	**+0.8**
LZH				pP			**pP**	**18 59 01.6**	**+2.1**
LZH				sP			**sP**	**18 59 05.4**	**+0.5**
LZH				pmax			pmax		
	comp=Z,17nm,1.0s								
USRK	**Ussuriysk Arra**	**21.01**	**17**	LR			LR	19 07 53.6	
	comp=Z,129nm,19.1s,baz=197,slow=39								
CHTO	**Chiang Mai**	**23.46**	**261**	*e*P			**P**	**18 59 18.0**	**-1.2**
CHTO				pmax			pmax		
	comp=Z,1.0nm,0.7s								
CHTO	**Chiang Mai**	**23.46**	**261**	*e*P			**P**	**18 59 18.0**	**-1.2**
	comp=Z,0.9nm,0.7s								
CM31	**Chiang Mai Arr**	**23.57**	**260**	*e*P			**P**	**18 59 19.7**	**-0.6**
	comp=Z,2.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**23.57**	**260**	P			**P**	**18 59 20.6**	**+0.3**
CMAR				PcP			**PcP**	**19 03 06.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**23.57**	**260**	P			**P**	**18 59 20.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=61,slow=8.2,SNR=15								
CMAR				PcP			**PcP**	**19 03 06.0**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=35,slow=0.7,SNR=6.1								
CMAR				LR			LR	19 09 19.7	
	comp=Z,109nm,19.5s,baz=82,slow=39								
GTA	**Gaotai**	**25.01**	**313**	*e*P			**P**	**18 59 33.5**	**+0.1**
GTA				pP			pP	18 59 37.9	-7.0
GTA				sP			sP	18 59 40.4	-10
GTA				S			S	19 04 04.6	+10
GTA				sS			**sS**	**19 04 11.5**	**-2.4**
GTA				pmax			pmax		
	comp=Z,5.0nm,1.3s								
GTA				pmax			pmax		
	comp=Z,46nm,4.3s								
GTA				LR			LR		
	comp=Z,130nm,16.2s								
GTA				LR			LR		
	comp=Z,140nm,15.7s								
GTA				LR			LR		
	comp=Z,160nm,14.2s								
ASAJ	**Asahikawa**	**25.18**	**34**	P			**P**	**18 59 34.0**	**-0.7**
ASAJ	**Asahikawa**	**25.18**	**34**	P			**P**	**18 59 34.0**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=263,slow=8.1,SNR=3.9								
ASAJ							LR	LR	19 09 22.0
	comp=Z,100nm,18.4s,baz=212,slow=36								
ULN	**Ulaanbaatar**	**26.88**	**335**	*e*P			**P**	**18 59 47.3**	**-3.0**
	comp=Z,3.4nm,0.5s								
SONM	**Songino Array**	**27.11**	**334**	P			**P**	**18 59 52.3**	**-0.1**
SONM				PcP			**PcP**	**19 03 12.2**	**-0.1**
SONM	**Songino Array**	**27.11**	**334**	P			**P**	**18 59 52.3**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=156,slow=12,SNR=28								
SONM				PcP			**PcP**	**19 03 12.2**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=129,slow=4.6,SNR=2.6								
SONM				LR			LR	19 11 58.7	
	comp=Z,225nm,18.6s,baz=181,slow=40								
LSA	**Lhasa**	**29.25**	**288**	*e*P			**P**	**19 00 11.4**	**-0.6**
LSA				pmax			pmax		
	comp=Z,20nm,0.6s								
LSA	**Lhasa**	**29.25**	**288**	*e*P			**P**	**19 00 11.4**	**-0.6**
	comp=Z,20nm,0.6s								
TLY	**Talaya**	**31.27**	**336**	*e*P			**P**	**19 00 27.3**	**-1.7**
TLY				pmax			pmax		
	comp=Z,5.0nm,0.5s								
TLY	**Talaya**	**31.27**	**336**	*e*P			**P**	**19 00 27.3**	**-1.7**
	comp=Z,4.9nm,0.5s								
PSI	**Prapat**	**31.94**	**232**	P			**P**	**19 00 36.0**	**+0.6**
PSI	**Prapat**	**31.94**	**232**	P			**P**	**19 00 36.0**	**+0.6**
	comp=Z,3.5nm,0.4s,baz=105,slow=4.0,SNR=5.0								
TAPN	**Taplejung**	**32.28**	**283**	*e*P			**P**	**19 00 40.2**	**+1.6**
	comp=Z,34nm,0.8s								
ODAN	**Odare**	**32.59**	**282**	*e*P			**P**	**19 00 42.6**	**+1.4**
	comp=Z,20nm,0.5s								
RAMN	**Ramite**	**33.29**	**283**	*e*P			**P**	**19 00 48.6**	**+1.3**
	comp=Z,11nm,0.4s								
JIRN	**Jiri**	**33.61**	**284**	*e*P			**P**	**19 00 51.5**	**+1.2**
	comp=Z,28nm,0.5s								
GUN	**Gumba**	**33.88**	**284**	*e*P			**P**	**19 00 53.7**	**+1.1**
	comp=Z,33nm,0.5s								
PKI	**Pulchoki**	**34.31**	**284**	*e*P			**P**	**19 00 57.0**	**+0.7**
	comp=Z,11nm,0.5s								
PKIN	**Phulchoki**	**34.32**	**284**	*e*P			**P**	**19 00 56.9**	**+0.6**
	comp=Z,7.7nm,0.4s								
KKN	**Kakani**	**34.41**	**284**	*e*P			**P**	**19 00 58.0**	**+0.9**
	comp=Z,10.0nm,0.4s								
DMN	**Daman**	**34.58**	**284**	*e*P			**P**	**19 00 59.5**	**+1.0**
	comp=Z,11nm,0.5s								
GKN	**Gorkha**	**34.97**	**285**	*e*P			**P**	**19 01 02.5**	**+0.7**
	comp=Z,12nm,0.4s								
HVS	**Khovu-Aksy**	**35.23**	**327**	⇓*e*P			**P**	**19 01 03.5**	**-0.1**
HVS				pmax			pmax		
	comp=Z,14nm,0.9s								
DANN	**Dangsing**	**35.72**	**285**	*e*P			**P**	**19 01 09.5**	**+1.1**
	comp=Z,26nm,0.6s								
KOLN	**Koldanda**	**35.90**	**284**	*e*P			**P**	**19 01 10.7**	**+0.9**
	comp=Z,31nm,0.9s								
YAK	**Yakutsk**	**37.93**	**5**	*e*P			**P**	**19 01 25.3**	**-1.0**
PETK	**Petropavlovsk-**	**38.59**	**33**	P			**P**	**19 01 31.5**	**-0.6**
PETK	**Petropavlovsk-**	**38.59**	**33**	P			**P**	**19 01 31.4**	**-0.6**
PETK	**Petropavlovsk-**	**38

AKTO	**Aktyubinsk**	**56.15**	**316**	P		**P**	**19 03 48.6**	**0.0**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKTO	**Aktyubinsk**	**56.15**	**316**	P		**P**	**19 03 48.9**	**+0.2**
AKTO	**Aktyubinsk**	**56.15**	**316**	P		**P**	**19 03 48.9**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=88,slow=9.9,SNR=6.9								
ARU	**Arti**	**56.27**	**323**	*d* P		**P**	**19 03 48.5**	**-0.8**
ARU							19 05 52.2		
ARU				S		**S**	**19 11 36.5**	**+0.4**
ARU				SS		**SS**	**19 15 18.8**	**-4.1**
ARU				pmax		pmax			
	comp=Z,9.0nm,0.6s								
STKA	**Stephens Creek**	**58.50**	**162**	P		**P**	**19 04 05.9**	**+0.6**
STKA	**Stephens Creek**	**58.50**	**162**	P		**P**	**19 04 05.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=338,slow=11,SNR=3.6								
DZM	**Mont Dzumac**	**62.20**	**134**	LR		LR	19 28 29.6		
	comp=Z,62nm,19.9s,baz=18,slow=33								
VRHR	**Novokhopersk**	**66.47**	**317**	*e*P		**P**	**19 04 56.9**	**-1.4**
VRHR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ZEI	**Tsey**	**66.51**	**308**	*e*P		**P**	**19 04 58.5**	**-0.6**
ZEI				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KBZ	**Khabaz**	**67.03**	**309**	P		**P**	**19 05 02.9**	**+0.8**
KBZ	**Khabaz**	**67.03**	**309**	P		**P**	**19 05 02.9**	**+0.8**
KBZ	**Khabaz**	**67.03**	**309**	P		**P**	**19 05 02.9**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=105,slow=5.9,SNR=9.4								
KIV	**Kislovodsk**	**67.14**	**309**	*e*P		**P**	**19 05 03.8**	**+0.9**
KIV				pmax		pmax			
	comp=Z,12nm,0.8s								
KIV				MLR		MLR			
	comp=Z,48nm,18.0s								
KIV	**Kislovodsk**	**67.14**	**309**	*e*P		**P**	**19 05 02.4**	**-0.5**
COLA	**College**	**67.70**	**27**⇓	*e*P		**P**	**19 05 08.5**	**+2.6**
COLA				pmax		pmax			
	comp=Z,28nm,1.4s								
VORD	**Divnogorie**	**67.94**	**317**	*e*P		**P**	**19 05 06.4**	**-1.3**
VORD				pmax		pmax			
	comp=N,8.0nm,0.8s								
VORD				pmax		pmax			
	comp=E,6.0nm,0.8s								
VORD				pmax		pmax			
	comp=Z,5.0nm,0.8s								
VSR	**Storozhevoye**	**67.97**	**318**	*e*P		**P**	**19 05 06.8**	**-1.0**
VSR				pmax		pmax			
	comp=N,2.0nm,0.6s								
VSR				pmax		pmax			
	comp=E,2.0nm,0.6s								
VSR				pmax		pmax			
	comp=Z,7.0nm,0.6s								
ILAR	**Eielson Array**	**68.12**	**28**	P		**P**	**19 05 08.3**	**-0.3**
ILAR	**Eielson Array**	**68.12**	**28**	P		**P**	**19 05 08.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=253,slow=4.6,SNR=14								
OBN	**Obninsk**	**68.69**	**322**⇑	*e*P		**P**	**19 05 12.3**	**0.0**
OBN				*e**PP		PcP	19 05 43.0	+6.1	
OBN				*e*			19 07 43.3		
OBN				*e*SS		SS	19 18 30.8	-5.9	
OBN				pmax		pmax			
	comp=Z,18nm,1.9s								
ARCES	**ARCESS Array B**	**70.19**	**338**	P		**P**	**19 05 22.0**	**+0.6**
ARCES	**ARCESS Array B**	**70.19**	**338**	P		**P**	**19 05 22.0**	**+0.6**
	comp=Z,8.8nm,1.1s,baz=49,slow=5.5,SNR=7.1								
ARCES				LR		LR	19 44 11.6		
	comp=Z,79nm,18.3s,baz=297,slow=43								
MZRK	**Al-Mazaregh**	**70.67**	**301**	*e*P		**P**	**19 05 26.2**	**+1.3**
INK	**Inuvik**	**72.30**	**22**	*e*P		**P**	**19 05 32.0**	**-2.0**
	comp=Z,5.1nm,0.8s								
FINES	**FINESS Array B**	**72.39**	**330**	P		**P**	**19 05 34.6**	**-0.1**
FINES	**FINESS Array B**	**72.39**	**330**	P		**P**	**19 05 34.6**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=58,slow=5.1,SNR=12								
FINES				LR		LR	19 40 50.2		
	comp=Z,161nm,18.3s,baz=32,slow=39								
RABH	**Abou Rabah**	**73.78**	**301**	*e*P		**P**	**19 05 44.1**	**+0.5**
KKH	**Kailua Kona**	**73.80**	**75**	*e*P		**P**	**19 05 41.5**	**-2.3**
KKH	**Kailua Kona**	**73.80**	**75**	*e*P		**P**	**19 05 41.5**	**-2.3**
BTCH	**Batrach**	**73.85**	**303**	*e*P		**P**	**19 05 44.2**	**+0.3**
ZALF	**Zalf**	**74.16**	**299**	*e*P		**P**	**19 05 44.8**	**-1.0**
AKASG	**Malin Array Be**	**74.16**	**319**	*ce*P		**P**	**19 05 44.7**	**-0.6**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.5s								
AKASG	**Malin Array Be**	**74.16**	**319**	P		**P**	**19 05 44.8**	**-0.6**
AKASG	**Malin Array Be**	**74.16**	**319**	P		**P**	**19 05 44.8**	**-0.6**
	comp=Z,3.7nm,0.5s,baz=58,slow=6.4,SNR=25								
KIEV	**Kiev**	**74.17**	**319**	*ce*P		**P**	**19 05 44.7**	**-0.7**
KIEV	**Kiev**	**74.17**	**319**	*e*P		P	19 05 41.5	-4.0	
AK02	**Malin Array Si**	**74.19**	**319**	*e*P		**P**	**19 05 43.3**	**-2.2**
MARH	**Ras Al Marh**	**74.48**	**301**	*e*P		**P**	**19 05 46.1**	**-1.8**
SALA	**Sala**	**74.71**	**299**	*e*P		**P**	**19 05 47.1**	**-2.1**
BRTR	**Keskin Array B**	**74.78**	**307**	P		**P**	**19 05 49.6**	**+0.2**
BRTR	**Keskin Array B**	**74.78**	**307**	P		**P**	**19 05 49.6**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=102,slow=6.7,SNR=23								
SUW	**Suwalki**	**76.45**	**323**	*e*P		P	19 05 55.0	-3.5	
SUW				pmax		pmax			
	comp=Z,42nm,0.8s								
SUW	**Suwalki**	**76.45**	**323**	*e*P		P	19 05 55.0	-3.5	
	comp=Z,42nm,0.8s								
CSS	**Prodhromos**	**76.61**	**302**	*e*P		**P**	**19 05 59.3**	**-0.5**
TESR	**Tescani**	**77.22**	**315**⇓	*i*P		**P**	**19 06 03.1**	**+0.1**
VRI	**Vrincioaia**	**77.41**	**315**⇓	*i*P		**P**	**19 06 04.4**	**+0.3**
BURAR	**Bucovina Array**	**77.72**	**317**⇑	*i*P		**P**	**19 06 06.7**	**+0.8**
ISP	**Isparta**	**77.72**	**306**⇓	*i*P		**P**	**19 06 06.0**	**-0.1**
DLBC	**Dease Lake**	**77.75**	**31**	P		**P**	**19 06 06.5**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=306,slow=14,SNR=3.2								
DOPR	**Dopca**	**78.24**	**315**⇓	*i*P		**P**	**19 06 09.7**	**+1.0**
HFS	**Hagfors**	**78.47**	**331**	P		**P**	**19 06 09.5**	**-0.2**
HFS	**Hagfors**	**78.47**	**331**	P		**P**	**19 06 09.5**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=75,slow=6.3,SNR=27								
HFS				LR		LR	19 43 49.8		
	comp=Z,159nm,18.1s,slow=38								
ARR	**Arges**	**78.96**	**315**⇑	*i*P		**P**	**19 06 13.8**	**+1.0**
HUMR	**Humele**	**79.07**	**314**⇓	*i*P		**P**	**19 06 13.5**	**+0.3**
NB2	**NORSAR Subarra**	**79.08**	**333**	P		**P**	**19 06 12.8**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=53,slow=5.9								
NOA	**NORSAR Array B**	**79.08**	**333**	P		**P**	**19 06 12.4**	**-0.6**
NOA	**NORSAR Array B**	**79.08**	**333**	P		**P**	**19 06 12.4**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=54,slow=5.7,SNR=16								
NOA				LR		LR	19 44 26.7		
	comp=Z,93nm,18.8s,baz=350,slow=38								
TRPA	**Tarpa**	**79.17**	**318**⇑	*i*P		**P**	**19 06 14.3**	**+0.6**
DRGR		**79.61**	**317**⇑	*i*P		**P**	**19 06 16.8**	**+0.5**
NIE	**Niedzica**	**79.96**	**320**	*e*P		**P**	**19 06 19.1**	**+1.0**
SIRR	**Siria**	**80.49**	**316**⇑	*i*P		**P**	**19 06 21.4**	**+0.4**
VTS	**Vitosha**	**81.03**	**313**⇓	*i*P		**P**	**19 06 25.1**	**+1.0**
OKC	**Ostrava-Krasne**	**81.04**	**321**	*e*P		**P**	**19 06 24.1**	**+0.3**
OKC	**Ostrava-Krasne**	**81.04**	**321**	*e*P		**P**	**19 06 24.1**	**+0.3**
MORC	**Moravsky Berou**	**81.41**	**321**⇑	*i*P		**P**	**19 06 26.1**	**+0.3**
KSP	**Ksiaz**	**81.62**	**322**	*e*P		**P**	**19 06 27.5**	**+0.6**
KRLC	**Kraliky**	**81.71**	**321**	*e*P		**P**	**19 06 27.8**	**+0.4**
KRLC	**Kraliky**	**81.71**	**321**	*e*P		**P**	**19 06 27.8**	**+0.4**
DPC	**Dobruska-Polom**	**81.84**	**322**	*e*P		**P**	**19 06 27.5**	**-0.6**
DPC	**Dobruska-Polom**	**81.84**	**322**	*e*P		**P**	**19 06 28.4**	**+0.3**
DPC	**Dobruska-Polom**	**81.84**	**322**	*e*P		**P**	**19 06 27.5**	**-0.6**
YKA	**Yellowknife Ar**	**82.02**	**23**	P		**P**	**19 06 29.2**	**+0.6**
YKA	**Yellowknife Ar**	**82.02**	**23**	P		**P**	**19 06 29.2**	**+0.6**
	comp=Z,8.2nm,0.6s,baz=304,slow=5.4,SNR=171								
VRAC	**Vranov**	**82.18**	**321**⇑	*i*P		**P**	**19 06 30.6**	**+0.8**
PKSM	**Moragy**	**82.39**	**317**⇑	*i*P		**P**	**19 06 31.3**	**+0.3**
SUMG	**Summit**	**82.58**	**355**	*i* P		**P**	**19 06 32.4**	**+0.5**
SUMG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SUMG	**Summit**	**82.58**	**355**	*i* P		**P**	**19 06 32.4**	**+0.5**
	comp=Z,2.9nm,0.8s								
TREC	**Trest**	**82.82**	**321**	*e*P		**P**	**19 06 33.7**	**+0.5**
TREC	**Trest**	**82.82**	**321**	*e*P		**P**	**19 06 33.7**	**+0.5**
BRG	**Berggiesshubel**	**82.91**	**323**	*e*P		**P**	**19 06 33.9**	**+0.3**
	comp=Z,4.0nm,0.8s								
BRG	**Berggiesshubel**	**82.91**	**323**	*e*P		**P**	**19 06 33.9**	**+0.3**
BRG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PRU	**Pruhonice**	**83.02**	**322**	*e*P		**P**	**19 06 34.5**	**+0.3**
PRU	**Pruhonice**	**83.02**	**322**	*e*P		**P**	**19 06 34.5**	**+0.3**
CLL	**Collm**	**83.20**	**324**	*i* P		**P**	**19 06 34.8**	**-0.3**
CLL				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CLL	**Collm**	**83.20**	**324**	*i* P		**P**	**19 06 34.8**	**-0.3**
	comp=Z,4.0nm,0.8s								
KHC	**Kasperske Hory**	**83.99**	**322**	*e*P		**P**	**19 06 38.3**	**-0.9**
KHC				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KHC	**Kasperske Hory**	**83.99**	**322**	*e*P		**P**	**19 06 39.9**	**+0.7**
	comp=Z,3.8nm,0.8s								
GERES	**GERESS Array B**	**84.06**	**321**	P		**P**	**19 06 39.9**	**+0.2**
GERES	**GERESS Array B**	**84.06**	**321**	P		**P**	**19 06 39.9**	**+0.2**
	comp=Z,5.3nm,0.7s,baz=53,slow=5.1,SNR=42								
PERS	**Pernice**	**84.34**	**319**	*i* P		**P**	**19 06 41.2**	**+0.1**
LEGS	**Legarje**	**84.56**	**318**	*e*P		**P**	**19 06 42.2**	**+0.1**
LJU	**Ljubljana**	**84.99**	**319**	*i* P		**P**	**19 06 44.4**	**+0.1**
KMBO	**Kilima Mbogo**	**87.03**	**267**	P		**P**	**19 06 56.1**	**+0.8**
KMBO	**Kilima Mbogo**	**87.03**	**267**	P		**P**	**19 06 56.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=48,slow=8.6,SNR=3.4								
CDF	**Champ du Feu**	**87.88**	**323**	*e*P		**P**	**19 06 58.5**	**-0.1**
HINF	**Hinteralfeld**	**88.46**	**323**	*e*P		**P**	**19 07 00.7**	**-0.5**
	comp=Z,5.5nm,0.7s								
PAGF	**Fort de Pagny**	**88.64**	**324**	*e*P		**P**	**19 07 02.1**	**+0.1**
	comp=Z,2.0nm,0.7s								
SFTF	**Sexfontaines**	**89.22**	**324**	*e*P		**P**	**19 07 04.6**	**-0.1**
	comp=Z,8.1nm,0.8s								
NEW	**Newport**	**89.68**	**36**	P		**P**	**19 07 08.2**	**+1.2**
	comp=Z,4.0nm,0.6s,baz=290,slow=6.2,SNR=10								
LPG	**La Plagne**	**89.86**	**321**	*e*P		**P**	**19 07 08.4**	**+0.2**
	comp=Z,19nm,0.9s								
LPG	**La Plagne**	**89.86**	**321**	*e*P		**P**	**19 07 08.4**	**+0.2**
LPG				pmax		pmax			
	comp=Z,19nm,0.9s								
LPG	**La Plagne**	**89.86**	**321**	*e*P		**P**	**19 07 08.4**	**+0.2**
	comp=Z,19nm,0.9s								
LPL	**La Plagne**	**89.86**	**321**	*e*P		**P**	**19 07 08.3**	**+0.2**
	comp=Z,8.7nm,0.7s								
LPL	**La Plagne**	**89.86**	**321**	*e*P		**P**	**19 07 08.3**	**+0.2**
LPL				pmax		pmax			
	comp=Z,9.0nm,0.7s								
LPL	**La Plagne**	**89.86**	**321**	*e*P		**P**	**19 07 08.3**	**+0.2**
	comp=Z,8.7nm,0.7s								
SBF	**Sospel**	**90.40**	**319**	*e*P		**P**	**19 07 09.4**	**-1.1**
SBF	**Sospel**	**90.40**	**319**	*e*P		**P**	**19 07 09.4**	**-1.1**
SBF	**Sospel**	**90.40**	**319**	*e*P		**P**	**19 07 09.4**	**-1.1**
LOR	**Lormes**	**90.42**	**324**	*e*P		**P**	**19 07 10.0**	**-0.4**
LOR	**Lormes**	**90.42**	**324**	*e*P		**P**	**19 07 10.0**	**-0.4**
ORIF	**Oris-en-Rattie**	**90.70**	**321**	*e*P		**P**	**19 07 11.8**	**0.0**
ORIF	**Oris-en-Rattie**	**90.70**	**321**	*e*P		**P**	**19 07 11.8**	**0.0**
ORIF	**Oris-en-Rattie**	**90.70**	**321**	*e*P		**P**	**19 07 11.8**	**0.0**
SMF	**Signal de Mont**	**90.81**	**323**	*e*P		**P**	**19 07 12.0**	**-0.2**
	comp=Z,18nm,1.0s								
SMF	**Signal de Mont**	**90.81**	**323**	*e*P		**P**	**19 07 12.0**	**-0.2**
SMF				pmax		pmax			
	comp=Z,18nm,1.0s								
SMF	**Signal de Mont**	**90.81**	**323**	*e*P		**P**	**19 07 12.0**	**-0.2**
	comp=Z,18nm,1.0s								
AVF	**Avril sur Loir**	**90.98**	**324**	*e*P		**P**	**19 07 12.8**	**-0.2**
	comp=Z,7.7nm,0.8s								
AVF	**Avril sur Loir**	**90.98**	**324**	*e*P		**P**	**19 07 12.8**	**-0.2**
AVF				pmax		pmax			
	comp=Z,8.0nm,0.8s								
AVF	**Avril sur Loir**	**90.98**	**324**	*e*P		**P**	**19 07 12.8**	**-0.2**
	comp=Z,7.7nm,0.8s								
VIVF	**Saint-Julien-l**	**91.42**	**321**	*e*P		**P**	**19 07 15.0**	**-0.1**
	comp=Z,12nm,0.9s								
VIVF	**Saint-Julien-l**	**91.42**	**321**	*e*P		**P**	**19 07 15.0**	**-0.1**
VIVF				pmax		pmax			
	comp=Z,12nm,0.9s								
VIVF	**Saint-Julien-l**	**91.42**	**321**	*e*P		**P**	**19 07 15.0**	**-0.1**
	comp=Z,12nm,0.9s								
FRB	**Frobisher Bay**	**91.72**	**5**	LR		LR	19 51 51.4		
	comp=Z,53nm,18.7s,baz=306,slow=38								
NVAR	**Mina Array Bea**	**94.88**	**44**	P		**P**	**19 07 32.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=312,slow=5.3,SNR=6.4								
LPIG	**La Paz**	**109.03**	**51**	PKiKP		**PKiKP**	**19 12 39.8**	**+0.8**
	comp=Z,12nm,0.3s,baz=124,slow=6.6,SNR=2.6								
TXAR	**Lajitas Array**	**110.00**	**43**	PKiKP		**PKiKP**	**19 12 41.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=283,slow=0.6,SNR=5.8								
TORD	**Torodi Ar. Bea**	**112.07**	**297**	PKiKP		**PKiKP**	**19 12 44.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**112.07**	**297**	PKiKP		**PKiKP**	**19 12 44.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=19,slow=3.7,SNR=3.8								
DBIC	**Dimbokro**	**121.00**	**295**	PKP		**PKPdf**	**19 13 01.9**	**-0.1**
DBIC	**Dimbokro**	**121.00**	**295**	PKP		**PKPdf**	**19 13 01.9**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=118,slow=4.9,SNR=3.6								

*ISCJB **17** 19:09:52.6±0.6,35.93°N±0.04°×70.94°E±0.08,h102km, mb3.2/4, Error ellipse: s-maj=10.2km s-min=3.9km az=160.4*
*IDC **17** 19:09:53.5±4.9,35.98°N×70.71E,h89km±41km, mb3.2/5, mb1 3.4/10,mb1mx3.2/31,mbtmp3.6/10, Error ellipse: s-maj=34.3km s-min=28.5km az=167.0*
*NNC **17** 19:09:58.8±5.0,36.46°N×70.17E,h44km±114km, mb4.1, mpv4.1, Error ellipse: s-maj=39.2km s-min=33.5km az=178.0*

ISC 17 19:09:53.9±0.8,35.95N±0.07°×70.83E±0.09,h102km,n43, σ1°59/47,mb3.2/4,8C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.44**	**127**	*e*P			**Pn**	**19 11 13.0**	**+0.2**
AML	**Almayashu** SNR=16	**6.56**	**19**	P			**Pn**	**19 11 28.5**	**+0.4**
SDNR	**Sundarnagar**	**6.77**	**129**	*e*P			**Pn**	**19 11 32.1**	**+1.4**
UCH	**Uchtor** SNR=6.7	**6.89**	**23**	P			**Pn**	**19 11 33.0**	**+0.3**
KZA	**Kyzart** SNR=7.7	**7.02**	**28**	P			Pn	19 11 27.6	-6.8
EKS2	**Erkin-Say** SNR=8.3	**7.08**	**18**	P			**Pn**	**19 11 35.4**	**+0.4**
SMLA	**Simla**	**7.15**	**130**	*e*P			**Pn**	**19 11 35.8**	**+0.1**
SMLA				*e*S			**Sn**	**19 12 53.5**	**-1.9**
KK31	**Karatay Array** 3.9nm,0.3s,baz=186,slow=13,SNR=272	**7.15**	**358**	⇑P			**Pn**	**19 11 35.0**	**-0.8**
KK31				⇑S			**Sn**	**19 12 49.9**	**-5.5**
	4.0nm,0.3s,baz=186,slow=26,SNR=5.1								
AAK	**Ala-Archa** 6.7nm,0.5s	**7.25**	**22**	⇓P			**Pn**	**19 11 37.7**	**+0.3**
AAK				⇑S			**Sn**	**19 12 57.3**	**-0.9**
	4.3nm,0.5s								
AAK	**Ala-Archa** SNR=18	**7.25**	**22**	P			**Pn**	**19 11 37.5**	**+0.2**
AAK	**Ala-Archa** 4.7nm,0.3s,baz=183,slow=5.9,SNR=70	**7.25**	**22**	P			**Pn**	**19 11 37.8**	**+0.5**
AAK				S			**Sn**	**19 12 57.5**	**-0.7**
	1.5nm,0.3s,baz=327,slow=21,SNR=8.0								
KBK	**Karagaybulak** SNR=7.7	**7.42**	**24**	P			**Pn**	**19 11 40.7**	**+1.2**
CHMS	**Chumysh** SNR=12	**7.67**	**22**	P			**Pn**	**19 11 42.8**	**0.0**
USP	**Ospenovka** SNR=6.7	**7.84**	**20**	P			**Pn**	**19 11 45.0**	**-0.2**
TKM2	**Tokmak 2** 7.3nm,0.6s	**7.88**	**26**	⇑P			**Pn**	**19 11 46.2**	**+0.3**
TKM2				⇓S			**Sn**	**19 13 12.4**	**-1.0**
	2.9nm,0.7s								
TKM2	**Tokmak 2** SNR=13	**7.88**	**26**	P			**Pn**	**19 11 46.1**	**+0.3**
KHET	**Khetri**	**8.91**	**150**	*e*P			**Pn**	**19 11 58.6**	**-1.2**
KHET				*e*S			Sn	19 13 30.3	-8.2
KHET					AML	AML	19 13 35.9		
	comp=N,106nm,0.1s								
KHET					AML	AML	19 13 36.3		
	comp=E,128nm,0.1s								
KUDL	**Kundal**	**9.14**	**147**	*e*P			**Pn**	**19 12 02.9**	**0.0**
KUDL				*e*S			Sn	19 13 36.6	-7.4
KUDL					AML	AML	19 13 43.0		
	comp=N,7.9nm,0.2s								
KUDL					AML	AML	19 13 46.2		
	comp=E,7.8nm,0.4s								
DANN	**Dangsing** comp=E,17nm,0.3s	**13.31**	**121**	*e*P			**Pn**	**19 12 56.9**	**-2.1**
KOLN	**Koldanda** comp=E,7.5nm,0.3s	**13.56**	**123**	*e*P			**Pn**	**19 12 59.9**	**-2.4**
MK31	**Makanchi Array** comp=E,0.4nm,0.5s,baz=212,slow=9.9,SNR=5.0	**13.82**	**35**	⇑P		P	**Pn**	**19 13 11.5**	**+1.3**
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=207,slow=9.2,SNR=3.6	**13.82**	**35**	P		P	**Pn**	**19 13 07.6**	**+2.3**
GKN	**Gorkha** comp=E,8.2nm,0.2s	**14.13**	**120**	*e*P			**Pn**	**19 13 07.0**	**-2.6**
DMN	**Daman** comp=E,14nm,0.4s	**14.70**	**120**	*e*P			**Pn**	**19 13 14.7**	**-2.3**
KKN	**Kakani** comp=E,7.1nm,0.3s	**14.71**	**120**	*e*P			**Pn**	**19 13 14.9**	**-2.2**
PKIN	**Phulchoki** comp=E,14nm,0.4s	**14.93**	**120**	*e*P			**Pn**	**19 13 17.9**	**-1.9**
PKI	**Pulchoki** comp=E,13nm,0.3s	**14.94**	**120**	*e*P			**Pn**	**19 13 18.1**	**-2.0**
GUN	**Gumba** comp=E,6.2nm,0.3s	**15.07**	**118**	*e*P			**Pn**	**19 13 19.2**	**-2.5**
JIRN	**Jiri** comp=E,19nm,0.3s	**15.44**	**118**	*e*P			**Pn**	**19 13 24.3**	**-2.1**
AB31	**Akbulak array** comp=E,1.1nm,0.3s,baz=157,slow=12,SNR=128	**15.51**	**332**	⇑P			**Pn**	**19 13 25.2**	**-1.5**
AB31				⇑S			Sn	19 16 08.1	-10
	comp=E,0.5nm,0.3s,baz=158,slow=22,SNR=7.2								
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=2.8	**15.69**	**18**	P			**Pn**	**19 13 29.3**	**+0.4**
RAMN	**Ramite** comp=E,7.3nm,0.3s	**16.16**	**119**	*e*P			**Pn**	**19 13 33.3**	**-1.9**
TAPN	**Taplejung** comp=E,11nm,0.3s	**16.72**	**116**	*e*P			**Pn**	**19 13 41.3**	**-0.9**
ODAN	**Odare** comp=E,11nm,0.5s	**16.77**	**118**	*e*P			**Pn**	**19 13 41.8**	**-1.0**
BVA0	**Borovoye Array** comp=E,0.7nm,0.6s,baz=172,slow=11,SNR=4.2	**17.08**	**359**	⇓P			**P**	**19 13 47.3**	**+1.0**
BVAR	**Borovoye Array** comp=E,0.3nm,0.3s,baz=164,slow=12,SNR=10	**17.08**	**359**	P			**Pn**	**19 13 45.8**	**-0.3**
AKTO	**Aktyubinsk** comp=E,9.1nm,0.8s	**17.19**	**331**	⇑P			**P**	**19 13 48.5**	**+0.9**
AKTO				⇓S			Sn	19 16 46.0	-13
	comp=E,1.4nm,0.6s								
AKTO	**Aktyubinsk** comp=E,0.7nm,0.3s,baz=147,slow=14,SNR=22	**17.19**	**331**	P			**Pn**	**19 13 46.8**	**-0.8**
ZALV	**Zalesovo Beam** comp=E,1.5nm,0.4s,baz=228,slow=10,SNR=13	**20.47**	**24**	P			**P**	**19 14 23.6**	**+0.3**
TORD	**Torodi Ar. Bea** comp=E,0.2nm,0.4s,baz=47,slow=6.0,SNR=6.2	**65.57**	**269**	P			**P**	**19 20 27.2**	**+0.2**
ILAR	**Eielson Array** comp=E,0.2nm,0.8s,baz=306,slow=5.4,SNR=3.5	**75.35**	**16**	P			**P**	**19 21 26.5**	**+0.8**
YKA	**Yellowknife Ar** comp=E,0.2nm,0.5s,baz=350,slow=5.6,SNR=7.3	**81.80**	**3**	P			**P**	**19 22 02.9**	**+1.8**
WRA	**Warramunga Arr** comp=E,0.2nm,0.4s,baz=324,slow=4.8,SNR=8.9	**81.82**	**122**	P			**P**	**19 22 03.3**	**+1.5**

DJA 17 19:22:52.1±0.4,1°N±3°×12°6E±°,h10km,M3.7/7,MLv3.7/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**97**	P			Pn	19 23 15.0	-1.0
TNTI				S			Sb	19 23 31.4	-1.3
LBMI	**Labuha**	**2.09**	**138**	P			Pn	19 23 26.1	-1.1
LBMI				S			Sb	19 23 54.8	-1.3
KMSI	**Cibinong**	**2.15**	**261**	P			Pn	19 23 26.5	-1.5
KMSI				S			Sn	19 23 56.0	+1.3
SGSI	**Sangihe**	**2.81**	**348**	P			Pn	19 23 37.8	+0.7
SANI	**Sanana**	**2.95**	**182**	P			Pn	19 23 37.5	-1.6
SANI				S			Sn	19 24 16.7	+2.1
LUWI	**Luwuk**	**3.86**	**240**	P			Pn	19 23 52.1	+0.6
LUWI				S			Sn	19 24 39.2	+2.3
NLAI	**Namlea**	**4.25**	**166**	P			Pn	19 23 56.2	-0.7

*IDC **17** 19:31:07.7±0.7,6.26S×152.55E, h0km, mb4.1/17, mb1 4.2/19,mb1mx4.1/36,mbtmp4.1/19,ML3.7/2,MS3.2/2, Ms1 3.2/2,ms1mx2.6/27, Error ellipse: s-maj=22.7km s-min=16.3km az=116.0*
*ISCJB **17** 19:31:12.1±0.5,6.19S±0.06°×152.42E±0.09, h38km, mb4.1/19, MS3.3/1, Error ellipse: s-maj=13.3km s-min=6.2km az=26.6*
*NEIC **17** 19:31:12.6±0.4,6.28S×152.55E, h35km, mb4.7/4, Error ellipse: s-maj=14.3km s-min=8.4km az=113.0*

ISC 17 19:31:13.0±0.6,6.25S±0.07°×152.61E±0.10,h38km,n59, σ0°91/54,mb4.1/19,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=2.0,SNR=11	**2.09**	**348**	P			**Pn**	**19 31 45.3**	**-0.3**
PMG

TOA0	**Torodi Ar. Sit**	**150.54**	**286**	*e*PKPbc	**PKPbc**	**19 51 01.9**	**0.0**
TORD	**Torodi Ar. Bea**	**150.54**	**286**	PKPbc	**PKPbc**	**19 51 02.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**150.54**	**286**	PKPbc	**PKPbc**	**19 51 02.5**	**+0.6**
	4.0nm,0.7s,baz=66,slow=2.6,SNR=25						

MDD ***17*** *19:33:40.8±1.5,38°32'N×13°68'W,h0km,mb4.4/28,Error ellipse: s-maj=14.0km s-min=11.1km az=71.0,PRXIMO*
INMG ***17*** *19:33:43.7±1.7,38°17'N×13°98'W,h10km,ML3.3,Error ellipse: s-maj=6.1km s-min=4.8km az=90.0*
CSEM ***17*** *19:33:45.7±0.3,38°43'N×13°22'W,h10km,ML4.0/8,Error ellipse: s-maj=6.5km s-min=5.1km az=74.0*

ISC 17 19:33:44.0±1.2,38°44'N±0°03'×13°35'W±0°05,h10km,n128,
σ1§24/219,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**3.23**	**80**	*e*Pn	Pn	19 34 36.6	+1.9
PMAFR				*e*Sn	**Sn**	**19 35 14.7**	**+1.5**
PMAFR				A	A	19 35 19.1	
	121nm,0.1s						
PMAFR	**Mafra**	**3.23**	**80**	P	**Pn**	**19 34 36.1**	**+1.4**
	22nm,0.1s,SNR=29						
PMAFR				S	**Sn**	**19 35 16.7**	**+3.5**
	94nm,0.1s,SNR=17						
PMAFR	**Mafra**	**3.23**	**80**	P	**Pn**	**19 34 36.1**	**+1.4**
	22nm,0.1s,SNR=29						
PMAFR	**Mafra**	**3.23**	**80**	*e*Pn	Pn	19 34 36.6	+1.9
PMAFR				*e*Sn	**Sn**	**19 35 14.7**	**+1.5**
	121nm,0.1s						
PTEO	**Sao Teotonio**	**3.76**	**102**	*e*Pn	**Pn**	**19 34 41.5**	**-0.6**
PTEO				*e*Sn	**Sn**	**19 35 25.3**	**-1.1**
PTEO				A	A	19 35 29.7	
	17nm,0.1s						
PTEO	**Sao Teotonio**	**3.76**	**102**	P	**Pn**	**19 34 41.5**	**-0.6**
PTEO				S	**Sn**	**19 35 25.3**	**-1.1**
	8.6nm,0.1s						
PTEO	**Sao Teotonio**	**3.76**	**102**	P	**Pn**	**19 34 41.5**	**-0.6**
PTEO				S	**Sn**	**19 35 25.3**	**-1.1**
	8.6nm,0.1s						
PNCL	**Nicolau / Gran**	**3.81**	**93**	*e*Pn	**Pn**	**19 34 42.7**	**0.0**
PNCL				*e*Sn	**Sn**	**19 35 27.6**	**0.0**
PNCL				A	A	19 35 31.4	
	32nm,0.1s						
PNCL	**Nicolau / Gran**	**3.81**	**93**	*e*Pn	**Pn**	**19 34 42.7**	**0.0**
PNCL				*e*Sn	**Sn**	**19 35 27.6**	**0.0**
	32nm,0.1s						
PFVI	**Vila Bisbo**	**3.82**	**109**	*e*Pn	**Pn**	**19 34 41.8**	**-1.0**
PFVI				*e*Sn	**Sn**	**19 35 25.4**	**-2.3**
PFVI				A	A	19 35 33.6	
	13nm,0.4s						
PFVI	**Vila Bisbo**	**3.82**	**109**	P	**Pn**	**19 34 41.7**	**-1.0**
	40nm,0.1s,SNR=74						
PFVI				S	**Sn**	**19 35 25.3**	**-2.4**
	9.2nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.82**	**109**	*e*Pn	**Pn**	**19 34 41.8**	**-1.0**
PFVI				*e*Sn	**Sn**	**19 35 25.4**	**-2.3**
	13nm,0.4s						
MORF	**Marmelete**	**3.89**	**105**	*e*Pn	**Pn**	**19 34 43.1**	**-0.8**
MORF				*e*Sn	**Sn**	**19 35 27.8**	**-1.8**
MORF				A	A	19 35 35.0	
	26nm,0.1s						
MORF	**Marmelete**	**3.89**	**105**	P	**Pn**	**19 34 43.1**	**-0.8**
MORF				S	**Sn**	**19 35 27.8**	**-1.8**
	26nm,0.1s						
MORF	**Marmelete**	**3.89**	**105**	P	**Pn**	**19 34 43.1**	**-0.8**
MORF				*e*Sn	**Sn**	**19 35 27.8**	**-1.8**
	26nm,0.1s						
PTOM	**Tomar**	**4.02**	**71**	*e*Pn	**Pn**	**19 34 47.0**	**+1.3**
PTOM				*e*Sn	**Sn**	**19 35 34.6**	**+1.7**
PTOM				A	A	19 35 39.0	
	42nm,0.1s						
PTOM	**Tomar**	**4.02**	**71**	P	**Pn**	**19 34 47.0**	**+1.3**
PTOM				S	**Sn**	**19 35 34.6**	**+1.7**
	21nm,0.1s						
PTOM	**Tomar**	**4.02**	**71**	P	**Pn**	**19 34 47.0**	**+1.3**
PTOM				S	**Sn**	**19 35 34.6**	**+1.7**
	21nm,0.1s						
PCAS	**Casmilo, Conde**	**4.10**	**65**	*e*Pn	**Pn**	**19 34 48.0**	**+1.3**
PCAS				*e*Sn	**Sn**	**19 35 36.4**	**+1.7**
PCAS				A	A	19 35 40.0	
	19nm,0.5s						
PCAS	**Casmilo, Conde**	**4.10**	**65**	*e*Pn	**Pn**	**19 34 48.0**	**+1.3**
PCAS				*e*Sn	**Sn**	**19 35 36.4**	**+1.7**
	19nm,0.5s						
EVO	**Evora**	**4.19**	**87**	*e*Pn	**Pn**	**19 34 48.6**	**+0.6**
EVO				*e*Sn	**Sn**	**19 35 37.7**	**+0.7**
EVO				A	A	19 35 43.4	
	41nm,0.1s						
EVO	**Evora**	**4.19**	**87**	P	**Pn**	**19 34 48.6**	**+0.6**
EVO				S	**Sn**	**19 35 37.7**	**+0.7**
	41nm,0.1s						
EVO	**Evora**	**4.19**	**87**	P	**Pn**	**19 34 48.6**	**+0.6**
EVO				S	**Sn**	**19 35 37.7**	**+0.7**
	41nm,0.1s						
PBEJ	**Beja**	**4.34**	**94**	*e*Pn	**Pn**	**19 34 50.5**	**+0.5**
PBEJ				*e*Sn	**Sn**	**19 35 39.9**	**-0.8**
PBEJ				A	A	19 35 43.5	
	18nm,0.5s						
PBEJ	**Beja**	**4.34**	**94**	P	**Pn**	**19 34 50.5**	**+0.5**
PBEJ				S	**Sn**	**19 35 39.9**	**-0.8**
	9.2nm,0.5s						
PBEJ	**Beja**	**4.34**	**94**	P	**Pn**	**19 34 50.5**	**+0.5**
PBEJ				S	**Sn**	**19 35 39.9**	**-0.8**
	9.2nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.46**	**104**	*e*Pn	**Pn**	**19 34 51.1**	**-0.5**
PBDV				*e*Sn	**Sn**	**19 35 42.2**	**-1.3**
PBDV				A	A	19 35 49.0	
	13nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.46**	**104**	P	**Pn**	**19 34 51.1**	**-0.5**
PBDV				S	**Sn**	**19 35 42.2**	**-1.3**
	13nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.46**	**104**	P	**Pn**	**19 34 51.1**	**-0.5**
PBDV				S	**Sn**	**19 35 42.2**	**-1.3**
	13nm,0.2s						
PESTR	**Estremoz**	**4.53**	**83**	*e*Pn	**Pn**	**19 34 53.5**	**+0.8**
PESTR				*e*Sn	**Sn**	**19 35 46.3**	**+0.9**
PESTR	**Estremoz**	**4.53**	**83**	*e*Pn	**Pn**	**19 34 53.5**	**+0.8**
PESTR				*e*Sn	**Sn**	**19 35 46.3**	**+0.9**
PTO	**Porto**	**4.54**	**52**	*e*Sn	**Sn**	**19 35 46.7**	**+1.1**
PTO				A	A	19 35 49.4	
	79nm,0.1s						
PTO	**Porto**	**4.54**	**52**	S	**Sn**	**19 35 46.7**	**+1.1**
	40nm,0.1s						
PTO	**Porto**	**4.54**	**52**	S	**Sn**	**19 35 46.7**	**+1.1**
	40nm,0.1s						
PVAQ	**Vaqueiros**	**4.58**	**101**	*e*Pn	**Pn**	**19 34 53.2**	**0.0**
PVAQ				*e*Sn	**Sn**	**19 35 45.7**	**-0.7**
PVAQ				A	A	19 35 51.0	
	16nm,0.2s						
PVAQ	**Vaqueiros**	**4.58**	**101**	P	**Pn**	**19 34 53.2**	**0.0**
PVAQ				S	**Sn**	**19 35 45.7**	**-0.7**
	16nm,0.2s						
PVAQ	**Vaqueiros**	**4.58**	**101**	P	**Pn**	**19 34 53.2**	**0.0**
PVAQ				S	**Sn**	**19 35 45.7**	**-0.7**
	16nm,0.2s						
EGRO	**El Granado**	**4.72**	**99**	P	**Pn**	**19 34 54.8**	**-0.5**
	14nm,0.1s,SNR=67						
EGRO				S	**Sn**	**19 35 48.6**	**-1.5**
	10nm,0.1s						
EGRO	**El Granado**	**4.72**	**99**	P	**Pn**	**19 34 54.8**	**-0.5**
	14nm,0.1s,SNR=67						
EGRO				S	**Sn**	**19 35 48.6**	**-1.5**
	10nm,0.1s						
PMRV	**Marv??o**	**4.75**	**76**	*e*Pn	**Pn**	**19 34 56.8**	**+1.1**
PMRV				*e*Sn	**Sn**	**19 35 52.1**	**+1.3**
PMRV				A	A	19 35 55.6	
	16nm,0.5s						
PMRV	**Marv??o**	**4.75**	**76**	P	**Pn**	**19 34 56.8**	**+1.1**
PMRV				S	**Sn**	**19 35 52.1**	**+1.3**
	16nm,0.5s						
PMRV	**Marv??o**	**4.75**	**76**	P	**Pn**	**19 34 56.8**	**+1.1**
PMRV				S	**Sn**	**19 35 52.1**	**+1.3**
	16nm,0.5s						
PCBR	**Castelo Branco**	**4.78**	**71**	*e*Pn	**Pn**	**19 34 57.0**	**+1.0**
PCBR				*e*Sn	**Sn**	**19 35 52.1**	**+0.7**
PCBR				A	A	19 35 54.7	
	14nm,0.2s						
PCBR	**Castelo Branco**	**4.78**	**71**	P	**Pn**	**19 34 57.0**	**+1.0**
PCBR				S	**Sn**	**19 35 52.1**	**+0.7**
	6.9nm,0.2s						
PCBR	**Castelo Branco**	**4.78**	**71**	P	**Pn**	**19 34 57.0**	**+1.0**
PCBR				S	**Sn**	**19 35 52.1**	**+0.7**
	6.9nm,0.2s						
PVIS	**Viseu**	**4.79**	**60**	*e*Pn	**Pn**	**19 34 57.7**	**+1.4**
PVIS				*e*Sn	**Sn**	**19 35 52.2**	**+0.4**
PVIS				A	A	19 35 55.0	
	51nm,0.1s						
PVIS	**Viseu**	**4.79**	**60**	P	**Pn**	**19 34 57.7**	**+1.4**
PVIS				S	**Sn**	**19 35 52.2**	**+0.4**
	26nm,0.1s						
PVIS	**Viseu**	**4.79**	**60**	P	**Pn**	**19 34 57.7**	**+1.4**
PVIS				S	**Sn**	**19 35 52.2**	**+0.4**
	26nm,0.1s						
MTE	**Manteigas**	**4.91**	**65**	*e*Pn	Pn	19 34 59.5	+1.7
MTE				*e*Sn	**Sn**	**19 35 55.8**	**+1.1**
MTE				A	A	19 36 00.8	
	25nm,0.5s						
MTE	**Manteigas**	**4.91**	**65**	P	Pn	19 34 59.5	+1.7
MTE				S	**Sn**	**19 35 55.8**	**+1.1**
	12nm,0.5s						
MTE	**Manteigas**	**4.91**	**65**	P	Pn	19 34 59.5	+1.7
MTE				S	**Sn**	**19 35 55.8**	**+1.1**
	12nm,0.5s						
EBAD	**Badajoz**	**4.98**	**84**	P	**Pn**	**19 34 59.3**	**+0.6**
	4.4nm,0.1s,SNR=62						
EBAD				S	**Sn**	**19 35 55.6**	**-0.8**
	9.2nm,0.1s,SNR=7.1						
EBAD	**Badajoz**	**4.98**	**84**	P	**Pn**	**19 34 59.3**	**+0.6**
	4.4nm,0.1s,SNR=62						
EBAD				S	**Sn**	**19 35 55.6**	**-0.8**
	9.2nm,0.1s,SNR=7.1						
EZAM	**Zamans**	**5.14**	**42**	P	**Pn**	**19 35 00.0**	**-1.0**
	3.2nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**19 35 57.3**	**-3.0**
	7.1nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**5.14**	**42**	P	**Pn**	**19 35 00.0**	**-1.0**
	3.2nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.18**	**55**	*e*Pn	**Pn**	**19 35 02.6**	**+1.0**
PVRL				*e*Sn	**Sn**	**19 36 01.1**	**-0.3**
PVRL				A	A	19 36 03.5	
	27nm,0.1s						
PVRL	**Vila Real**	**5.18**	**55**	P	**Pn**	**19 35 02.6**	**+1.0**
PVRL				S	**Sn**	**19 36 01.1**	**-0.3**
	14nm,0.1s						
PVRL	**Vila Real**	**5.18**	**55**	P	**Pn**	**19 35 02.6**	**+1.0**
PVRL				S	**Sn**	**19 36 01.1**	**-0.3**
	14nm,0.1s						
POLO	**Lamas de Olo**	**5.18**	**54**	*e*Pn	**Pn**	**19 35 02.5**	**+0.8**
POLO				*e*Sn	**Sn**	**19 36 00.7**	**-0.8**
POLO				A	A	19 36 04.4	
	6.0nm,0.6s						
POLO	**Lamas de Olo**	**5.18**	**54**	*e*Pn	**Pn**	**19 35 02.5**	**+0.8**
POLO				*e*Sn	**Sn**	**19 36 00.7**	**-0.8**
	6.0nm,0.6s						
PCAB	**Cabril**	**5.23**	**50**	*e*Pn	Pn	19 35 03.9	+1.6
PCAB				*e*Sn	**Sn**	**19 36 01.7**	**-0.9**
PCAB				A	A	19 36 06.6	
	26nm,0.1s						
PCAB	**Cabril**	**5.23**	**50**	P	Pn	19 35 03.9	+1.6
PCAB				S	**Sn**	**19 36 01.7**	**-0.9**
	13nm,0.1s						
PCAB	**Cabril**	**5.23**	**50**	P	Pn	19 35 03.9	+1.6
PCAB				S	**Sn**	**19 36 01.7**	**-0.9**
	13nm,0.1s						
PGAV	**Gavieira, Arco**	**5.25**	**46**	*e*Pn	**Pn**	**19 35 02.7**	**+0.1**
PGAV				*e*Sn	**Sn**	**19 36 01.4**	**-1.8**
PGAV				A	A	19 36 05.8	
	18nm,0.2s						
PGAV	**Gavieira, Arco**	**5.25**	**46**	*e*Pn	**Pn**	**19 35 02.7**	**+0.1**
PGAV				*e*Sn	**Sn**	**19 36 01.4**	**-1.8**
	18nm,0.2s						
ELOB	**Lobios**	**5.30**	**48**	P	**Pn**	**19 35 03.4**	**0.0**
	3.8nm,0.1s,SNR=24						
ELOB				S	**Sn**	**19 36 02.0**	**-2.5**
	5.4nm,0.1s,SNR=6.1						
ELOB	**Lobios**	**5.30**	**48**	P	**Pn**	**19 35 03.4**	**0.0**
	3.8nm,0.1s,SNR=24						
MVO	**Moncorvo**	**5.58**	**59**	*e*Pn	**Pn**	**19 35 08.0**	**+0.9**
MVO				*e*Sn	**Sn**	**19 36 10.8**	**-0.5**
MVO				A	A	19 36 12.4	
	22nm,0.2s						
MVO	**Moncorvo**	**5.58**	**59**	*e*Pn	**Pn**	**19 35 08.0**	**+0.9**
MVO				*e*Sn	**Sn**	**19 36 10.8**	**-0.5**
	22nm,0.2s						
EMAZ	**Mazaricos**	**5.60**	**35**	P	**Pn**	**19 35 05.7**	**-1.6**
	3.3nm,0.1s,SNR=22						
EMAZ				S	Sn	19 36 06.5	-5.2
	14nm,0.1s,SNR=5.3						
STS	**Santiago**	**5.75**	**38**	P	**Pn**	**19 35 08.5**	**-0.8**
	6.7nm,0.1s,SNR=7.9						
STS				S	**Sn**	**19 36 12.5**	**-2.8**
	7.7nm,0.1s,SNR=7.9						
STS	**Santiago**	**5.75**	**38**	P	**Pn**	**19 35 08.5**	**-0.8**
	6.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.87**	**72**	P	**Pn**	**19 35 12.1**	**+1.0**
	1.8nm,0.1s,SNR=8.9						
EPLA				S	**Sn**	**19 36 18.9**	**+0.4**
	8.3nm,0.1s,SNR=9.3						
EPLA	**Plasencia**	**5.87**	**72**	P	**Pn**	**19 35 12.1**	**+1.0**
	1.8nm,0.1s,SNR=8.9						
EPLA				S	**Sn**	**19 36 18.9**	**+0.4**
	8.3nm,0.1s,SNR=9.3						
PBRG	**Braganca**	**6.08**	**54**	*e*Pn	**Pn**	**19 35 14.9**	**+0.9**
PBRG				*e*Sn	**Sn**	**19 36 23.2**	**-0.4**
PBRG				A	A	19 36 25.9	
	9.8nm,0.1s						
PBRG	**Braganca**	**6.08**	**54**	P	**Pn**	**19 35 14.9**	**+0.9**
PBRG				S	**Sn**	**19 36 23.2**	**-0.4**
	4.9nm,0.1s						
PBRG	**Braganca**	**6.08**	**54**	P	**Pn**	**19 35 14.9**	**+0.9**
PBRG				S	**Sn**	**19 36 23.2**	**-0.4**
	4.9nm,0.1s						
ESPR	**Espera**	**6.15**	**102**	P	**Pn**	**19 35 15.6**	**+0.7**
	6.7nm,0.1s,SNR=28						
ESPR				S	**Sn**	**19 36 25.6**	**+0.3**
	19nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.15**	**102**	P	**Pn**	**19 35 15.6**	**+0.7**
	6.7nm,0.1s,SNR=28						
ESPR				S	**Sn**	**19 36 25.6**	**+0.3**
	19nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.15**	**53**	P	**Pn**	**19 35 16.0**	**+1.0**
	2.8nm,0.1s,SNR=12						
ECAL				S	**Sn**	**19 36 24.5**	**-1.0**
	12nm,0.2s,SNR=11						
ECAL	**Calabor**	**6.15**	**53**	P	**Pn**	**19 35 16.0**	**+1.0**
	2.8nm,0.1s,SNR=12						
ECAL				S	**Sn**	**19 36 24.5**	**-1.0**
	12nm,0.2s,SNR=11						
ECAB	**El Cabril**	**6.25**	**91**	P	**Pn**	**19 35 17.0**	**+0.6**
	6.7nm,0.1s,SNR=53						
ECAB				S	**Sn**	**19 36 25.7**	**-2.2**
	2.5nm,0.1s,SNR=6.8						
ECAB	**El Cabril**	**6.25**	**91**	P	**Pn**	**19 35 17.0**	**+0.6**
	6.7nm,0.1s,SNR=53						
ECAB				S	**Sn**	**19 36 25.7**	**-2.2**
	2.5nm,0.1s,SNR=6.8						
EPON	**Pontenova**	**6.78**	**42**	P	**Pn**	**19 35 22.5**	**-1.0**
	1.0nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**19 36 36.4**	**-4.3**
	3.5nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.78**	**42**	P	**Pn**	**19 35 22.5**	**-1.0**
	1.0nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**7.07**	**103**	P	**Pn**	**19 35 27.8**	**+0.2**
	0.8nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**19 36 47.2**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**7.07**	**103**	P	**Pn**	**19 35 27.8**	**+0.2**
	0.8nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**19 36 47.2**	**-0.8**
	0.4nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**7.23**	**94**	P	**Pn**	**19 35 30.9**	**+1.2**
	9.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**19 36 53.0**	**+1.1**
	3.2nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**7.23**	**94**	P	**Pn**	**19 35 30.9**	**+1.2**
	9.5nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.41**	**78**	P	**Pn**	**19 35 33.0**	**+0.8**
	3.8nm,0.2s,baz=264,slow=13,SNR=38						
ESDC				S	**Sn**	**19 36 55.8**	**-0.6**
	6.3nm,0.3s,baz=264,slow=23,SNR=12						
ESDC	**Sonseca Array**	**7.41**	**78**	P	**Pn**	**19 35 33.0**	**+0.8**
	3.8nm,0.2s,SNR=38						
ESDC				S	**Sn**	**19 36 55.8**	**-0.6**
	6.3nm,0.3s,SNR=12						
GUD	**Guadarrama**	**7.44**	**70**	P	**Pn**	**19 35 33.7**	**+1.0**
	0.4nm,0.2s,SNR=4.0						
GUD				S	**Sn**	**19 36 55.9**	**-1.4**
	1.4nm,0.2s,SNR=6.7						
GUD	**Guadarrama**	**7.44**	**70**	P	**Pn**	**19 35 33.7**	**+1.0**
	0.4nm,0.2s,SNR=4.0						
GUD				S	**Sn**	**19 36 55.9**	**-1.4**
	1.4nm,0.2s,SNR=6.7						
EARI	**Arriondas**	**7.85**	**49**	P	**Pn**	**19 35 39.3**	**+1.1**
	1.1nm,0.2s,SNR=17						
EARI				S	**Sn**	**19 37 05.5**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.85**	**49**	P	**Pn**	**19 35 39.3**	**+1.1**
	1.1nm,0.2s,SNR=17						
EARI				S	**Sn**	**19 37 05.5**	**-1.6**
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**8.13**	**91**	P	**Pn**	**19 35 42.1**	**-0.1**
	1.0nm,0.1s,SNR=17						
EQES				S	**Sn**	**19 37 14.1**	**-0.1**
	1.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**8.13**	**91**	P	**Pn**	**19 35 42.1**	**-0.1**
	1.0nm,0.1s,SNR=17						
EQES				S	**Sn**	**19 37 14.1**	**-0.1**
	1.2nm,0.1s,SNR=7.9						
EBER	**Berja**	**8.44**	**97**	P	**Pn**	**19 35 47.1**	**+0.6**
	0.9nm,0.2s,SNR=6.5						
EBER				S	**Sn**	**19 37 21.5**	**-0.4**
	0.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**8.44**	**97**	P	**Pn**	**19 35 47.1**	**+0.6**
	0.9nm,0.2s,SNR=6.5						
EBER				S	**Sn**	**19 37 21.5**	**-0.4**
	0.9nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**8.50**	**91**	P	**Pn**	**19 35 47.0**	**-0.3**
	0.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**19 37 21.4**	**-1.9**
	0.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**8.50**	**91**	P	**Pn**	**19 35 47.0**	**-0.3**
	0.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**19 37 21.4**	**-1.9**
	0.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**8.51**	**85**	P	**Pn**	**19 35 47.4**	**+0.1**
	3.3nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**19 37 21.0**	**-2.4**
	1.9nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**8.51**	**85**	P	**Pn**	**19 35 47.4**	**+0.1**
	3.3nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**19 37 21.0**	**-2.4**
	1.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.91**	**54**	P	**Pn**	**19 35 53.8**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**19 37 31.4**	**-1.7**
	2.8nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.91**	**54**	P	**Pn**	**19 35 53.8**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**19 37 31.4**	**-1.7**
	2.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**9.04**	**71**	P	Pn	19 35 56.3	+1.7
	4.5nm,0.2s,SNR=12						
ETOR				S	**Sn**	**19 37 35.6**	**-0.8**
	2.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**9.04**	**71**	P	Pn	19 35 56.3	+1.7
	4.5nm,0.2s,SNR=12						
ETOR				S	**Sn**	**19 37 35.6**	**-0.8**
	2.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**9.25**	**85**	P	**Pn**	**19 35 57.6**	**+0.1**
	1.3nm,0.2s,SNR=28						
ETOB				S	**Sn**	**19 37 40.1**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**9.25**	**85**	P	**Pn**	**19 35 57.7**	**+0.1**
	1.3nm,0.2s,SNR=28						
ETOB				S	**Sn**	**19 37 40.1**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**10.03**	**60**	S	**Sn**	**19 37 59.9**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**10.03**	**60**	S	**Sn**	**19 37 59.9**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**10.06**	**60**	P	Pn	19 36 10.8	+2.3
	0.2nm,0.1s,SNR=4.0						
IZUN				S	**Sn**	**19 37 60.0**	**-1.4**
	1.7nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**10.06**	**60**	P	Pn	19 36 10.8	+2.3
	0.2nm,0.1s,SNR=4.0						
IZUN				S	**Sn**	**19 38 00.0**	**-1.4**
	1.7nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**10.13**	**59**	P	Pn	19 36 11.1	+1.7
	0.6nm,0.2s,SNR=4.0						
ELIZ				S	**Sn**	**19 38 02.4**	**-0.7**
	0.5nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**10.13**	**59**	P	Pn	19 36 11.1	+1.7
	0.6nm,0.2s,SNR=4.0						
ELIZ				S	**Sn**	**19 38 02.4**	**-0.7**
	0.5nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**10.15**	**75**	P	**Pn**	**19 36 10.4**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**19 38 01.1**	**-2.8**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**10.15**	**75**	P	**Pn**	**19 36 10.4**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**19 38 01.1**	**-2.8**
	0.6nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**10.16**	**61**	P	Pn	19 36 11.8	+1.9
	0.3nm,0.2s,SNR=4.0						
IEPA				S	**Sn**	**19 38 02.4**	**-1.5**
	2.1nm,0.4s,SNR=7.9						
IEPA	**Eparoz**	**10.16**	**61**	P	Pn	19 36 11.8	+1.9
	0.3nm,0.2s,SNR=4.0						
IEPA				S	**Sn**	**19 38 02.4**	**-1.5**
	2.1nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**10.16**	**58**	S	**Sn**	**19 38 03.8**	**-0.1**
	1.3nm,0.2s,SNR=4.9						
EALK	**Alkurruntz**	**10.16**	**58**	S	**Sn**	**19 38 03.8**	**-0.1**
	1.3nm,0.2s,SNR=4.9						
IELO	**Elcoad**	**10.20**	**61**	P	Pn	19 36 12.2	+1.7
	0.3nm,0.2s,SNR=7.9				

NLAI	**Namlea**	**9.01**	**176**	P		**Pn**	**19 36 56.3**	**-2.1**
	40nm,0.3s,2μm0.3nm								
MTN	**Manton Dam**	**19.09**	**166**	P		**P**	**19 39 08.6**	**+0.3**
	baz=20,SNR=9.3								
KDU	**Kakadu**	**19.31**	**162**	P		**Pn**	**19 39 16.6**	**+4.3**
	baz=21,SNR=6.2								
SMRI	**Semarang**	**20.49**	**232**	P		**P**	**19 39 19.6**	**-3.9**
	baz=21,SNR=3.1								
KNRA	**Kununurra**	**21.46**	**174**	P		**P**	**19 39 34.5**	**+0.6**
	baz=23,SNR=18								
FITZ	**Fitzroy Crossi**	**23.77**	**182**	P		**P**	**19 40 00.5**	**+3.2**
	baz=25,SNR=4.3								
COEN	**Coen**	**25.68**	**140**	P		**P**	**19 40 15.1**	**+0.4**
	baz=27,SNR=7.0								
WRA	**Warramunga Arr**	**26.73**	**163**	P		**P**	**19 40 23.9**	**-0.2**
	3.7nm,0.4s,baz=342,slow=10,SNR=37								
QIS	**Mount Isa**	**29.20**	**154**	P		**P**	**19 40 47.0**	**+0.8**
	baz=30,SNR=7.6								
CMAR	**Chiang Mai Arr**	**29.67**	**297**	P		**P**	**19 40 48.5**	**-1.9**
	0.2nm,0.4s,baz=108,slow=9.4,SNR=3.3								
WRKA	**Warakurna**	**30.71**	**177**	P		**P**	**19 41 01.2**	**+1.7**
	baz=32,SNR=4.7								
MEEK	**Meekatharra**	**33.14**	**193**	P		**P**	**19 41 20.2**	**-0.7**
	baz=34,SNR=4.9								
BBOO	**Buckleboo**	**39.46**	**167**	P		**P**	**19 42 15.4**	**+0.8**
	baz=41,SNR=16								
STKA	**Stephens Creek**	**40.14**	**160**	P		**P**	**19 42 20.5**	**+0.2**
	4.9nm,0.7s,baz=351,slow=7.9,SNR=8.8								
STKA	**Stephens Creek**	**40.14**	**160**	P		**P**	**19 42 21.2**	**+0.9**
	baz=42,SNR=6.5								
HTT	**Hallett**	**40.76**	**164**	P		**P**	**19 42 27.3**	**+1.9**
	baz=42,SNR=3.8								
H11N1	**WAKE ISLAND Hy**	**41.62**	**67**	T		T	20 27 16.6		
	baz=249								
H11N2	**WAKE ISLAND Hy**	**41.63**	**67**	T		T	20 27 28.6		
	baz=249								
H11N3	**WAKE ISLAND Hy**	**41.64**	**67**	T		T	20 27 18.5		
	baz=249								
TAPN	**Taplejung**	**42.63**	**305**	*eP*		**P**	**19 42 40.3**	**-0.8**
	3.1nm,0.5s								
ODAN	**Odare**	**42.70**	**304**	*eP*		**P**	**19 42 41.0**	**-0.7**
	10nm,0.8s								
RAMN	**Ramite**	**43.39**	**304**	*eP*		**P**	**19 42 46.6**	**-0.6**
JIRN	**Jiri**	**43.99**	**304**	*eP*		**P**	**19 42 51.2**	**-1.0**
	5.9nm,0.6s								
GUN	**Gumba**	**44.34**	**304**	*eP*		**P**	**19 42 54.2**	**-0.8**
	7.1nm,0.5s								
PKIN	**Phulchoki**	**44.62**	**304**	*eP*		**P**	**19 42 56.5**	**-0.6**
ARPS	**Mount Arapiles**	**44.72**	**162**	P		**P**	**19 42 58.9**	**+1.5**
	baz=46,SNR=5.2								
SONM	**Songino Array**	**45.27**	**341**	P		**P**	**19 43 01.5**	**-0.2**
	0.4nm,0.6s,baz=159,slow=6.1,SNR=3.1								
SONM				PcP		**PcP**	**19 44 40.8**	**+0.2**
	0.9nm,0.8s,baz=157,slow=3.5,SNR=5.6								
GKN	**Gorkha**	**45.40**	**304**	*eP*		**P**	**19 43 02.1**	**-1.0**
KOLN	**Koldanda**	**46.17**	**303**	*eP*		**P**	**19 43 08.5**	**-0.8**
	4.6nm,0.3s								
DANN	**Dangsing**	**46.24**	**304**	*eP*		**P**	**19 43 08.9**	**-1.1**
	6.0nm,0.4s								
MKAR	**Makanchi Array**	**55.73**	**325**	P		**P**	**19 44 19.8**	**-0.7**
	1.2nm,0.5s,baz=124,slow=8.1,SNR=8.8								
ZALV	**Zalesovo Beam**	**58.65**	**333**	P		**P**	**19 44 41.3**	**+0.4**
	0.4nm,0.3s,baz=325,slow=40,SNR=2.7								
BVAR	**Borovoye Array**	**65.47**	**327**	P		**P**	**19 45 25.6**	**-1.0**
	0.8nm,0.5s,baz=88,slow=5.7,SNR=5.5								
AKTO	**Aktyubinsk**	**71.90**	**321**	P		**P**	**19 46 04.8**	**-1.9**
	1.6nm,0.6s,baz=104,slow=9.5,SNR=6.7								
ILAR	**Eielson Array**	**83.34**	**26**	P		**P**	**19 47 10.1**	**-0.1**
	0.8nm,1.1s,baz=261,slow=5.9,SNR=5.4								
ARCES	**ARCESS Array B**	**88.43**	**340**	P		**P**	**19 47 34.8**	**-0.4**
	4.6nm,0.9s,baz=79,slow=6.3,SNR=4.7								
FINES	**FINESS Array B**	**89.90**	**332**	P		**P**	**19 47 41.5**	**-0.7**
	1.3nm,0.6s,baz=46,slow=11,SNR=3.6								
TXAR	**Lajitas Array**	**120.50**	**51**	PKP		**PKPdf**	**19 53 36.4**	**+0.9**
	0.2nm,0.8s,baz=318,slow=2.4,SNR=2.8								
TORD	**Torodi Ar. Bea**	**122.03**	**289**	PKP		**PKPdf**	**19 53 38.1**	**-0.5**
	0.6nm,0.6s,baz=69,slow=1.7,SNR=6.0								
CFAA	**Coronel Fontan**	**150.86**	**154**	PKPbc		**PKPbc**	**19 54 37.7**	**+1.4**
	0.2nm,0.3s,baz=234,slow=1.5,SNR=4.4								

*ISCJB **17** 19:40:02.7±0.4, 73°.66N±0°.02×13°.8E±0°.1, h0km, mb3.4/8, MS3.1/1, Error ellipse: s-maj=5.6km s-min=3.6km az=6.5*
*CSEM **17** 19:40:03.5±0.3, 73°.74N×13°.03E, h1km, ML3.6, Error ellipse: s-maj=11.3km s-min=4.8km az=91.0, Suspected Mining explosion.*
*IDC **17** 19:40:05.0±0.8, 73°.70N×13°.31E, h0km, mb3.5/8, mb1 3.8/14, mb1mx3.6/33, mbtmp3.7/14, ML3.4/6, MS3.2/1, Ms1 3.1/1, ms1mx2.4/42, Error ellipse: s-maj=19.5km s-min=9.4km az=77.0*
*HEL **17** 19:40:06.5±0.3, 73°.78N×13°.61E, h15km, MD3.0(BER), ML2.8(BER), ML2.3(UPP)*
*BER **17** 19:40:07.1, 73°.79N×13°.25E, h15km, MD3.0, ML2.8, ML3.6(NAO)*
*NAO **17** 19:40:08.0±2.5, 73°.79N×14°.22E, h24km±17km, ML3.6*
*UPP **17** 19:40:13.9, 73°.37N×14°.80E, h0km, ML2.3, Suspected Mining explosion.*

ISC 17 19:40:03.9±0.6, 73°.72N±0°.03×13°.49E±0°.06, h0km, n129, σ1s99/157, mb3.5/8, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**1.71**	**60**	*i* P	**Pb**	**19 40 35.9**	**-0.2**
BJO1				*i* S	**Sn**	**19 40 55.4**	**-2.0**
BJO1				IAML		19 40 57.2	
	comp=Z,139nm,0.3s						
BJO1	**Bjornoya**	**1.71**	**60**	P	**Pb**	**19 40 35.9**	**-0.2**
BJO1				S	**Sn**	**19 40 55.3**	**-2.0**
BJO	**Bjornoya**	**1.75**	**61**	Pg	**Pn**	**19 40 35.9**	**+0.4**
BJO				Lg	Lg	19 40 55.2	
BJO	**Bjornoya**	**1.75**	**61**	*eP*	**Pn**	**19 40 35.9**	**+0.4**
BJO				*eS*	**Sn**	**19 40 55.4**	**-3.1**
BJO				IAML		19 40 57.2	
	comp=Z,139nm,0.3s						
BJO	**Bjornoya**	**1.75**	**61**	Lg	Lg	19 40 55.2	
HSP	**Hornsund**	**3.35**	**8**	Pn	**Pn**	**19 40 56.2**	**-1.2**
HSP				Sn	Sn	19 41 30.6	-7.2
HSP	**Hornsund**	**3.35**	**8**	*eP*	**Pn**	**19 40 56.1**	**-1.3**
HSP				*eS*	Sn	19 41 30.7	-7.0
HSP	**Hornsund**	**3.35**	**8**	Pn	**Pn**	**19 40 56.2**	**-1.2**
HSP				Sn	Sn	19 41 30.6	-7.2
HSP	**Hornsund**	**3.35**	**8**	*eP*	**Pn**	**19 40 56.2**	**-1.2**
HSP				*e*		19 41 30.6	
HSP	**Hornsund**	**3.35**	**8**	P	**Pn**	**19 40 56.2**	**-1.2**
HOPEN	**Hopen**	**4.08**	**41**	Pn	**Pn**	**19 41 08.7**	**+1.4**
HOPEN				Sn	**Sn**	**19 41 52.7**	**-3.0**
HOPEN	**Hopen**	**4.08**	**41**	*eP*	**Pn**	**19 41 08.8**	**+1.4**
HOPEN	**Hopen**	**4.08**	**41**	*eP*	**Pn**	**19 41 08.8**	**+1.4**
HOPEN	**Hopen**	**4.08**	**41**	*eP*	**Pn**	**19 41 08.8**	**+1.4**
	SNR=53						
TRO	**Tromso**	**4.45**	**155**	*eP*	Pn	19 41 16.6	+4.1
TRO				*eS*	**Sn**	**19 42 04.4**	**-0.6**
TRO				*eS*	**Sn**	**19 42 04.7**	**-0.2**
TRO				IAML		19 42 08.6	
	comp=Z,20nm,0.1s						
TRO	**Tromso**	**4.45**	**155**	*eP*	Pn	19 41 16.6	+4.1
TRO				*eS*	**Sn**	**19 42 04.4**	**-0.6**
TRO				*eS*	**Sn**	**19 42 04.7**	**-0.2**
TRO				IAML		19 42 08.6	
	comp=Z,20nm,0.1s						
TRO	**Tromso**	**4.45**	**155**	*eP*	Pn	19 41 16.6	+4.1
	SNR=53						
TRO				S	**Sn**	**19 42 04.3**	**-0.6**
SPA0	**Spitsbergen Ar**	**4.54**	**8**	Pn	**Pn**	**19 41 13.6**	**-0.1**
	baz=179,slow=14						
SPA0				Sn	**Sn**	**19 42 01.3**	**-5.7**
	baz=158,slow=22						
SPA0	**Spitsbergen Ar**	**4.54**	**8**	Pn	**Pn**	**19 41 13.6**	**-0.1**
	baz=179,slow=14						
SPA0				Sn	**Sn**	**19 42 01.3**	**-5.7**
	baz=158,slow=22						
SPA0	**Spitsbergen Ar**	**4.54**	**8**	*eP*	**Pn**	**19 41 13.6**	**-0.1**
SPA0				*eS*	**Sn**	**19 42 01.3**	**-5.7**
SPA0	**Spitsbergen Ar**	**4.54**	**8**	P	**Pn**	**19 41 13.6**	**-0.1**
SPA0				S	**Sn**	**19 42 01.3**	**-5.7**
SPITS	**Spitsbergen Ar**	**4.54**	**8**	Pn	**Pn**	**19 41 13.7**	**-0.1**
	baz=176,slow=15,SNR=463						
SPITS				Sn	**Sn**	**19 42 01.9**	**-5.1**
	baz=168,slow=30,SNR=2.5						
KBS	**Kingsbay**	**5.25**	**357**	*eP*	**Pn**	**19 41 22.6**	**-0.8**
KBS				IAML		19 42 21.9	
	comp=Z,30nm,0.5s						
KBS	**Kingsbay**	**5.25**	**357**	*eP*	**Pn**	**19 41 22.6**	**-0.8**
KBS				IAML		19 42 21.9	
	comp=Z,30nm,0.5s						
KBS	**Kingsbay**	**5.25**	**357**	*eP*	**Pn**	**19 41 22.6**	**-0.8**
	SNR=53						
KIF	**Kilpisjarvi**	**5.28**	**150**	*eP*	**Pn**	**19 41 23.9**	**-0.1**
KIF				*eS*	**Sn**	**19 42 22.1**	**-3.3**
KIF	**Kilpisjarvi**	**5.28**	**150**	*eP*	**Pn**	**19 41 24.0**	**0.0**
KIF				*eS*	**Sn**	**19 42 21.3**	**-4.1**
KIF	**Kilpisjarvi**	**5.28**	**150**	*eP*	**Pn**	**19 41 23.9**	**-0.1**
	SNR=53						
KIF				S	**Sn**	**19 42 21.3**	**-4.1**
LOF	**Lofoten**	**5.62**	**180**	*eP*	**Pg**	**19 41 50.2**	**-1.2**
LOF				*eS*	**Sb**	**19 42 49.6**	**-0.9**
LOF				IAML		19 42 51.4	
	comp=Z,32nm,0.2s						
ARA0	**ARCESS Array S**	**5.66**	**132**	Pn	**Pn**	**19 41 28.6**	**-0.5**
	baz=328,slow=12						
ARA0				Sn	**Sn**	**19 42 31.1**	**-3.5**
	baz=326,slow=22						
ARA0	**ARCESS Array S**	**5.66**	**132**	Pn	**Pn**	**19 41 28.6**	**-0.5**
	baz=328,slow=12						
ARA0				Sn	**Sn**	**19 42 31.1**	**-3.5**
	baz=326,slow=22						
ARA0	**ARCESS Array S**	**5.66**	**132**	*eP*	**Pn**	**19 41 28.6**	**-0.5**
ARA0				*eS*	**Sn**	**19 42 31.1**	**-3.5**
ARA0	**ARCESS Array S**	**5.66**	**132**	P	**Pn**	**19 41 28.6**	**-0.5**
ARCES	**ARCESS Array B**	**5.66**	**132**	Pn	**Pn**	**19 41 29.6**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=327,slow=12,SNR=169						
ARCES				Sn	**Sn**	**19 42 31.8**	**-2.8**
	comp=Z,6.8nm,0.3s,baz=339,slow=26,SNR=10						
ARE0	**ARCESS Array S**	**5.66**	**132**	*eP*	**Pn**	**19 41 29.3**	**+0.2**
ARE0	**ARCESS Array S**	**5.66**	**132**	*eP*	**Pn**	**19 41 29.3**	**+0.2**
ARE0	**ARCESS Array S**	**5.66**	**132**	*eP*	**Pn**	**19 41 29.3**	**+0.2**
	SNR=53						
KTK1	**Kautokeino**	**5.66**	**142**	*eP*	**Pn**	**19 41 30.2**	**+1.0**
KTK1				*eS*	**Sn**	**19 42 32.7**	**-2.1**
KTK1				IAML		19 42 34.0	
	comp=N,30nm,0.3s						
KTK1	**Kautokeino**	**5.66**	**142**	*eP*	**Pn**	**19 41 30.2**	**+1.0**
KTK1				*eS*	**Sn**	**19 42 32.7**	**-2.1**
KTK1				IAML		19 42 34.0	
	comp=N,30nm,0.3s						
KTK1	**Kautokeino**	**5.66**	**142**	P	**Pn**	**19 41 30.1**	**+1.0**
KEV	**Kevo**	**5.81**	**127**	*eP*	**Pn**	**19 41 31.5**	**+0.3**
KEV	**Kevo**	**5.81**	**127**	*eP*	**Pn**	**19 41 31.4**	**+0.3**
KEV				*eS*	**Sn**	**19 42 34.1**	**-4.3**
KEV	**Kevo**	**5.81**	**127**	*eP*	**Pn**	**19 41 31.5**	**+0.3**
	SNR=53						
STEI	**Steigen**	**5.85**	**174**	*eS*	**Sn**	**19 42 34.1**	**-5.3**
STEI	**Steigen**	**5.85**	**174**	*eS*	**Sn**	**19 42 34.1**	**-5.3**
NIKU	**Nikkaluokta**	**6.16**	**160**	*eP*	**Pn**	**19 41 37.5**	**+1.5**
NIKU				*eS*	**Sn**	**19 42 43.6**	**-3.4**
NIKU	**Nikkaluokta**	**6.16**	**160**	P	**Pn**	**19 41 37.5**	**+1.5**
NIKU	**Nikkaluokta**	**6.16**	**160**	P	**Pn**	**19 41 37.5**	**+1.5**
	baz=355						
NIKU				S	**Sn**	**19 42 43.6**	**-3.4**
KUA	**Kurravaara**	**6.21**	**155**	*eP*	**Pn**	**19 41 38.5**	**+1.8**
KUA				*eS*	**Sn**	**19 42 44.3**	**-4.0**
KUA	**Kurravaara**	**6.21**	**155**	P	**Pn**	**19 41 38.5**	**+1.8**
KUA	**Kurravaara**	**6.21**	**155**	P	**Pn**	**19 41 38.5**	**+1.8**
KUA				S	**Sn**	**19 42 44.3**	**-4.0**
HEF	**Hetta**	**6.27**	**143**	*eP*	**Pn**	**19 41 37.7**	**+0.1**
HEF	**Hetta**	**6.27**	**143**	P	**Pn**	**19 41 37.6**	**+0.1**
LANU	**Lannavaara**	**6.34**	**150**	*eP*	**Pn**	**19 41 39.4**	**+0.9**
LANU				*eS*	**Sn**	**19 42 47.8**	**-3.6**
LANU	**Lannavaara**	**6.34**	**150**	P	**Pn**	**19 41 39.3**	**+0.9**
LANU	**Lannavaara**	**6.34**	**150**	P	**Pn**	**19 41 39.4**	**+0.9**
LANU				S	**Sn**	**19 42 47.8**	**-3.6**
SALU	**Saltoluokta**	**6.59**	**163**	*eP*	**Pn**	**19 41 43.2**	**+1.4**
SALU				*eS*	**Sn**	**19 42 53.5**	**-4.0**
SALU	**Saltoluokta**	**6.59**	**163**	P	**Pn**	**19 41 43.2**	**+1.4**
SALU	**Saltoluokta**	**6.59**	**163**	P	**Pn**	**19 41 43.2**	**+1.4**
SALU				S	**Sn**	**19 42 53.5**	**-4.0**
MASU	**Masugnsbyn**	**6.89**	**152**	*eP*	**Pn**	**19 41 47.9**	**+1.8**
MASU	**Masugnsbyn**	**6.89**	**152**	P	**Pn**	**19 41 47.9**	**+1.8**
MASU	**Masugnsbyn**	**6.89**	**152**	P	**Pn**	**19 41 47.9**	**+1.8**
DUNU	**Dundret**	**7.04**	**157**	*eP*	**Pn**	**19 41 50.0**	**+1.9**
DUNU	**Dundret**	**7.04**	**157**	P	**Pn**	**19 41 50.0**	**+1.9**
DUNU	**Dundret**	**7.04**	**157**	P	**Pn**	**19 41 50.0**	**+1.9**
KONS	**Konsvik**	**7.26**	**181**	*eP*	**Pn**	**19 41 50.1**	**-0.9**
KONS				*eS*	Sn	19 43 05.4	-8.6
KONS				IAML		19 43 10.4	
	comp=Z,17nm,0.5s						
KONS	**Konsvik**	**7.26**	**181**	*eP*	**Pn**	**19 41 50.1**	**-0.9**
KONS				*eS*	Sn	19 43 05.4	-8.6
KONS				IAML		19 43 10.4	
	comp=Z,17nm,0.5s						
KONS	**Konsvik**	**7.26**	**181**	*eP*	**Pn**	**19 41 50.1**	**-0.9**
	SNR=51						
FLOS	**Flostrand**	**7.42**	**180**	*eP*	**Pn**	**19 41 52.7**	**-0.6**
FLOS	**Flostrand**	**7.42**	**180**	*eP*	**Pn**	**19 41 52.7**	**-0.6**
FLOS	**Flostrand**	**7.42**	**180**	*eP*	**Pn**	**19 41 52.7**	**-0.6**
	SNR=51						
STOK	**Stokkvaagen**	**7.43**	**181**	*eP*	**Pn**	**19 41 52.5**	**-0.8**
STOK				*eS*	Sn	19 43 10.0	-8.1
STOK				IAML		19 43 11.1	
	comp=N,11nm,0.7s						
STOK	**Stokkvaagen**	**7.43**	**181**	*eP*	**Pn**	**19 41 52.5**	**-0.8**
STOK				*eS*	Sn	19 43 10.0	-8.1
STOK				IAML		19 43 11.1	
	comp=N,11nm,0.7s						
STOK	**Stokkvaagen**	**7.43**	**181**	*eP*	**Pn**	**19 41 52.5**	**-0.8**
	SNR=51						
MOR8	**Moi Rana**	**7.59**	**177**	*eP*	**Pn**	**19 41 54.5**	**-1.2**
MOR8				*eS*	Sn	19 43 14.4	-7.9
MOR8				IAML		19 43 16.0	
	comp=Z,6.5nm,0.4s						
MOR8	**Moi Rana**	**7.59**	**177**	*eP*	**Pn**	**19 41 54.5**	**-1.2**
MOR8				*eS*	Sn	19 43 14.4	-7.9
MOR8				IAML		19 43 16.0	
	comp=Z,6.5nm,0.4s						
MOR8	**Moi Rana**	**7.59**	**177**	*eP*	**Pn**	**19 41 54.5**	**-1.2**
	SNR=51						
ERTU	**Ertsjaerv**	**7.77**	**153**	*eP*	**Pn**	**19 41 59.7**	**+1.6**
ERTU	**Ertsjaerv**	**7.77**	**153**	P	**Pn**	**19 41 59.7**	**+1.6**
ERTU	**Ertsjaerv**	**7.77**	**153**	P	**Pn**	**19 41 59.7**	**+1.6**
HARU	**Harads**	**8.01**	**158**	*eP*	**Pn**	**19 42 02.7**	**+1.3**
HARU	**Harads**	**8.01**	**158**	P	**Pn**	**19 42 02.6**	**+1.3**
HARU	**Harads**	**8.01**	**158**	P	**Pn**	**19 42 02.7**	**+1.3**
KALU	**Kalix**	**8.59**	**152**	*eP*	**Pn**	**19 42 10.4**	**+1.1**
KALU	**Kalix**	**8.59**	**152**	P	**Pn**	**19 42 10.3**	**+1.1**
KALU	**Kalix**	**8.59**	**152**	P	**Pn**	**19 42 10.4**	**+1.1**
SJUU	**Sjulsmark**	**8.71**	**157**	*eP*	**Pn**	**19 42 12.0**	**+1.1**
SJUU	**Sjulsmark**	**8.71**	**157**	P	**Pn**	**19 42 12.0**	**+1.1**
SJUU	**Sjulsmark**	**8.71**	**157**	P	**Pn**	**19 42 12.0**	**+1.1**
LILU	**Lilltraesk**	**8.76**	**162**	*eP*	**Pn**	**19 42 12.4**	**+0.8**
LILU	**Lilltraesk**	**8.76**	**162**	P	**Pn**	**19 42 12.4**	**+0.8**
LILU	**Lilltraesk**	**8.76**	**162**	P	**Pn**	**19 42 12.4**	**+0.8**
NSS	**Namsos**	**9.25**	**184**	*eP*	**Pn**	**19 42 18.6**	**+0.2**
NSS	**Namsos**	**9.25**	**184**	*eP*	**Pn**	**19 42 18.6**	**+0.2**
NSS	**Namsos**	**9.25**	**184**	P	**Pn**	**19 42 18.5**	**+0.2**
SVAU	**Svanoeiden**	**9.51**	**164**	*eP*	**Pn**	**19 42 23.2**	**+1.3**
SVAU	**Svanoeiden**	**9.51**	**164**	P	**Pn**	**19 42 23.2**	**+1.3**
SVAU	**Svanoeiden**	**9.51**	**164**	P	**Pn**	**19 42 23.2**	**+1.3**
BURU	**Burvik**	**9.59**	**159**	*eP*	**Pn**	**19 42 24.2**	**+1.3**
BURU	**Burvik**	**9.59**	**159**	P	**Pn**	**19 42 24.2**	**+1.3**
BURU	**Burvik**	**9.59**	**159**	P	**Pn**	**19 42 24.2**	**+1.3**
BREU	**Bredtraesk**	**10.04**	**167**	*eP*	**Pn**	**19 42 29.5**	**+0.3**
BREU	**Bredtraesk**	**10.04**	**167**	P	**Pn**	**19 42 29.5**	**+0.3**
BREU	**Bredtraesk**	**10.04**	**167**	P	**Pn**	**19 42 29.5**	**+0.3**
NB2	**NORSAR Subarra**	**12.77**	**185**	Pn	**Pn**	**19 43 06.3**	**-0.1**
	baz=5.4,slow=16						
NB2	**NORSAR Subarra**	**12.77**	**185**	Pn	**Pn**	**19 43 06.3**	**-0.1**
	baz=5.4,slow=16						
NB2	**NORSAR Subarra**	**12.77**	**185**	*eP*	**Pn**	**19 43 06.3**	**-0.1**
NB2	**NORSAR Subarra**	**12.77**	**185**	P	**Pn**	**19 43 06.3**	**-0.1**
NOA	**NORSAR Array B**	**12.77**	**185**	Pn	**Pn**	**19 43 05.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=10,slow=13,SNR=2.5						
FIA0	**FINESS Array S**	**13.18**	**153**	Pn	**Pn**	**19 43 12.0**	**0.0**
	baz=349,slow=14						
FIA0	**FINESS Array S**	**13.18**	**153**	Pn	**Pn**	**19 43 12.0**	**0.0**
	baz=349,slow=14						
FIA0	**FINESS Array S**	**13.18**	**153**	*eP*	**Pn**	**19 43 12.0**	**0.0**
FIA0	**FINESS Array S**	**13.18**	**153**	P	**Pn**	**19 43 12.0**	**0.0**
FINES	**FINESS Array B**	**13.18**	**153**	Pn	**Pn**	**19 43 11.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=12						
FINES				Sn	Sn	19 45 28.6	-11
	comp=Z,0.2nm,0.3s,baz=357,slow=24,SNR=3.9						
HFS	**Hagfors**	**13.65**	**180**	Pn	**Pn**	**19 43 17.6**	**-0.8**
	baz=11,slow=12						
HFS	**Hagfors**	**13.65**	**180**	Pn	**Pn**	**19 43 17.6**	**-0.8**
	baz=11,slow=12						
HFS	**Hagfors**	**13.65**	**180**	*eP*	**Pn**	**19 43 17.6**	**-0.8**
HFS	**Hagfors**	**13.65**	**180**	Pn	**Pn**	**19 43 18.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=17,slow=13,SNR=7.6						
HFS				Sn	Sn	19 45 41.4	-9.2
	comp=Z,0.1nm,0.3s,baz=12,slow=22,SNR=2.9						
HFS	**Hagfors**	**13.65**	**180**	Pn	**Pn**	**19 43 17.6**	**-0.8**
	SNR=7.5						
BORG	**Borgarnes**	**14.99**	**251**	Pn	**Pn**	**19 43 37.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=18,slow=3.2,SNR=2.4						
AKASG	**Malin Array Be**	**24.07**	**155**	P	**P**	**19 45 21.7**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=346,slow=9.7,SNR=4.6						
GERES	**GERESS Array B**	**24.96**	**180**	P	**P**	**19 45 30.6**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=6.7,slow=9.3,SNR=3.8						
KBZ	**Khabaz**	**32.97**	**139**	LR	LR	20 00 11.4	
	comp=Z,42nm,21.2s,baz=358,slow=37						
ZALV	**Zalesovo Beam**	**34.18**	**85**	P	**P**	**19 46 52.0**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=330,slow=10.0,SNR=2.3						
INK	**Inuvik**	**36.61**	**340**	P	**P**	**19 47 12.1**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=23,slow=10.0,SNR=3.2						
YKA	**Yellowknife Ar**	**39.74**	**325**	P	**P**	**19 47 38.6**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=13,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**39.90**	**93**	P	**P**	**19 47 41.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=305,slow=10.0,SNR=2.5						
ILAR	**Eielson Array**	**41.15**	**347**	P	**P**	**19 47 50.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=3.7,slow=6.9,SNR=6.1						
SONM	**Songino Array**	**45.63**	**70**	P	**P**	**19 48 27.7**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=339,slow=7.9,SNR=5.9						

*IDC **17** 19:44:21.7±0.5, 59°.59S×26°.12W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/19, mbtmp4.2/12, ML4.3/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/19, Error ellipse: s-maj=20.9km s-min=17.2km az=46.0*
*ISCJB **17** 19:44:25.9±0.6, 59°.75S±0°.10×26°.0W±0°.2, h40km, mb4.1/12, MS3.2/3, Error ellipse: s-maj=18.8km s-min=9.6km az=142.6*

ISC 17 19:44:27.6±0.5, 59°.7S±0°.1×26°.1W±0°.1, h40km, n52, σ0s98/41, mb4.2/11, MS3.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.22**	**153**	P	**Pn**	**19 47 30.9**	**-1.5**
VNA1	**Neumayer--Stat**	**13.22**	**153**	S	Sn	19 49 49.8	-7.9
VNA2	**Neumayer--Watz**	**13.62**	**153**	P	**Pn**	**19 47 35.9**	**-1.9**
VNA2	**Neumayer--Watz**	**13.62**	**153**	S	Sn	19 49 54.0	-14
SNAA	**Sanae**	**15.20**	**152**	P	**Pn**	**19 47 57.3**	**-1.9**
SNAA	**Sanae**	**15.20**	**152**	S	Sn	19 50 31.3	-15
SNAA	**Sanae**	**15.20**	**152**	Pn	**Pn**	**19 47 57.2**	**-1.9**
	1.3nm,0.3s,baz=319,slow=15,SNR=59						
SNAA				Sn	Sn	19 50 31.8	-14
	0.2nm,0.3s,baz=227,slow=19,SNR=3.2						
SNAA				LR	LR	19 52 29.5	
	comp=Z,54nm,19.9s,baz=228,slow=32						
PMSA	**Palmer Station**	**18.17**	**238**	LR	LR	19 54 40.8	
	comp=Z,175nm,18.3s,baz=126,slow=34						
USHA	**Ushuaia**	**23.09**	**263**	P	**P**	**19 49 30.2**	**+0.9**
	17nm,0.8s,baz=73,slow=12,SNR=6.4						
QSPA	**South Pole Qui**	**30.54**	**180**	P	**P**	**19 50 38.4**	**+1.5**
	4.5nm,0.6s,baz=206,slow=6.9,SNR=18						
QSPA				Pc

YKA	**Yellowknife Ar**	**52.83**	**337**	P	P	20 01 06.1	-0.6
	0.6nm,0.8s,baz=125,slow=7.4,SNR=11						
ILAR	**Eielson Array**	**66.90**	**333**	P	P	20 02 42.8	-0.8
	0.2nm,0.7s,baz=104,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**71.46**	**82**	P	P	20 03 12.4	-0.3
	0.3nm,0.7s,baz=295,slow=2.9,SNR=3.1						
GERES	**GERESS Array B**	**74.23**	**43**	P	P	20 03 29.3	+0.7
	1.1nm,0.8s,baz=302,slow=6.1,SNR=5.0						
FINES	**FINESS Array B**	**78.33**	**29**	P	P	20 03 52.0	+0.4
	1.8nm,0.8s,baz=277,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**154.32**	**262**	PKPbc	PKPbc	20 11 52.5	-0.4
	0.6nm,0.8s,baz=97,slow=7.7,SNR=4.5						

MEX 17 19:55:18.9±0.3, 15.98N×96.69W, h11km±8km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUIG	**Huatulco**	**0.60**	**111**	*i*	P	Pg	19 55 29.3	-1.3
HUIG				*e*	S	Sg	19 55 37.5	-1.0
VHO	**Vista Hermosa**	**1.09**	**358**	*i*	P	Pb	19 55 36.5	-3.5
VHO				*e*	S	Sb	19 55 50.1	-4.3
OXX	**Oaxaca**	**1.09**	**358**	*e*	P	Pb	19 55 40.1	0.0
OXX				*e*	S	Sb	19 55 54.6	-0.1
PNIG	**Pinotepa**	**1.44**	**287**	*i*	P	Pn	19 55 41.3	-3.6
PNIG				*e*	S	Sn	19 55 59.0	-4.9
TLIG	**Tlapa**	**2.39**	**311**	*i*	P	Pn	19 55 55.2	-3.0
TLIG				*e*	S	Sn	19 56 22.9	-4.7

WEL 17 20:02:55.8±0.4, 36.32S×177.04E, h33km, ML3.5/2, Error ellipse: s-maj=4.9km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HAZ	**Te Kaha**	**1.55**	**158**	P*		Pn	20 03 20.8	-0.3
HAZ				S*		Sn	20 03 39.3	-0.7
URZ	**Urewera**	**1.93**	**178**	P*		Pn	20 03 26.2	-0.1
URZ				S*		Sn	20 03 49.1	-0.4
MWZ	**Matawai**	**2.05**	**169**	P*		Pn	20 03 27.2	-0.8
MWZ				S*		Sn	20 03 51.9	-0.5
RIGZ	**Rimuhau**	**2.45**	**167**	PN		Pn	20 03 30.6	-2.9

MAN 17 20:11:14, 11.14N×122.48E, h59km, mb4.1, ML2.9, MS2.7, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RCP	**Roxas**	**0.49**	**32**	*e*	P	Pn	20 11 27.9	+2.1

SJA 17 20:15:29.0±1.3, 29.97S×69.99W, h164km±24km, MD3.5, ML3.8, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLL	**Cerro Villicun**	**1.88**	**137**	*i*	P		20 16 03.9	
RTLL				*e*	S		20 16 31.0	
RTLS	**Leoncito**	**1.92**	**162**	*i*	P		20 16 05.2	
RTLS				*i*	S		20 16 32.7	
CFAA	**Coronel Fontan**	**2.22**	**138**	*i*	P		20 16 07.8	
CFAA				*i*	P		20 16 07.8	
AVFE	**Valle Fertil**	**2.29**	**108**	AML			20 16 43.2	
	comp=Z,520nm,0.3s							
ASAL	**Salagasta**	**2.79**	**160**	*e*	P		20 16 16.1	
ARCO	**CERRO ARCO**	**3.00**	**163**	*e*	P		20 16 18.5	
ARCO				*e*	S		20 16 53.5	
ARCO				AML			20 17 11.6	
	comp=Z,126nm,0.7s							
ACAN	**Cantantal**	**3.32**	**134**	*e*	P		20 16 22.0	

ISK 17 20:16:01.6, 35.03N×27.53E, h36km, ML4.8
DDA 17 20:16:03.8, 35.29N×27.69E, h25km, ML5.1
BJI 17 20:16:03.0, 35.30N×27.60E, h20km, mB5.1/24, mb4.8/35, Ms4.8/21, Ms7 4.4/19
PDG 17 20:16:03.9±0.4, 35.20N×27.80E, h13km±11km, ML4.9/11, Error ellipse: s-maj=84.2km s-min=73.6km az=90.0
NEIC 17 20:16:04.1, 35.26N×27.86E, h29km, mb4.9/48, ML5.0(ATH), After ATH.
GCMT 17 20:16:04.1±0.3, 35.25N×27.69E, h22km±1km, MW4.9/75, Moment Tensor Solution. s21,c22; s75,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.33±.14; Mθθ-2.24±.10; Mφφ2.56±.11; Mrθ1.09±.20; Mrφ0.53±.10; Mθφ-0.19±.17; Best double couple: M◎2.70600×10^16 NP1:♢s324.00000°,δ74.00000°,λ-161.00000°. NP2: φs229.00000°,δ72.00000°,λ-16.00000°. Principal axes: T 2.6200, Plg2.0000°, Azm96.0000°; N 0.1680, Plg66.0000°, Azm2.0000°; P -2.7920, Plg24.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ATH 17 20:16:04.0, 35.22N×27.96E, h63km±2km, ML5.0
MOS 17 20:16:04.8±1.2, 35.30N×27.57E, h36km, mb5.0/52, MS4.0/27, Error ellipse: s-maj=4.7km s-min=2.9km az=105.0
HLW 17 20:16:05.1, 35.39N×27.88E, h31km±36km, Md4.6, Ml4.9
ISCJB 17 20:16:05.0±0.2, 35.22N±0.01×27.71E±0.01, h41km±2km, mb4.8/131, MS4.2/27, Error ellipse: s-maj=2.3km s-min=1.4km az=25.7
NIC 17 20:16:05.4±0.0, 35.26N×27.67E, h25km, mb4.7, ML4.3
THE 17 20:16:05.2, 35.28N×27.83E, h0km, ML5.0/11, Error ellipse: s-maj=2.1km s-min=0.9km az=182.0
CSEM 17 20:16:05.4±0.1, 35.19N×27.72E, h30km, mb5.0/81, Ms4.0, Mw4.9, Error ellipse: s-maj=3.4km s-min=2.2km az=23.0
IDC 17 20:16:05.6±1.6, 35.44N×27.62E, h22km±9km, mb4.5/31, mb1 4.6/40, mb1mx4.6/45, mbtmp4.6/40, ML4.7/6, MS4.1/21, Ms1 4.1/21, ms1mx4.0/35, Error ellipse: s-maj=11.4km s-min=9.2km az=150.0
NSSC 17 20:16:09.8±5.9, 35.02N×28.53E, h247km±420km, MD3.0, ML3.9
SZGRF 17 20:16:23.1, 36.44N×26.41E, h33km, mb4.7, MS3.9, Dodecanese Islands, Greece
BEO 17 20:16:30.5±1.6, 36.42N×26.60E, h52km±2km, ML4.1/1
ISC 17 20:16:05.8±0.3, 35.30N±0.03×27.77E±0.02, h27km±2km, h27km:pP-P, n1390, σ1.75/1516, mb4.9/131, MS4.3/29, 69C-87D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARG	**Arkhangelos**	**0.96**	**18**	*e*	P	**Pn**	**20 16 23.2**	**-0.4**
ARG				*e*	S	**Sn**	**20 16 37.1**	**+0.7**
ARG	**Arkhangelos**	**0.96**	**18**	*e*	Pn	**Pn**	**20 16 23.2**	**-0.4**
ARG				*e*	Sn	**Sn**	**20 16 37.1**	**+0.7**
ZKR	**Zakros**	**1.28**	**262**	P		**Pb**	**20 16 28.7**	**-0.6**
ZKR				S		**Sb**	**20 16 48.9**	**+3.5**
ZKR	**Zakros**	**1.28**	**262**	*e*	P	**Pn**	**20 16 28.4**	**+0.4**
ZKR				*e*	S	**Sb**	**20 16 47.3**	**+1.9**
ZKR	**Zakros**	**1.28**	**262**	*e*	Pn	**Pn**	**20 16 28.4**	**+0.4**
ZKR				*e*	Sn	**Sb**	**20 16 47.3**	**+1.9**
ZKR				S		**Sb**	**20 16 48.9**	**+3.5**
NIS1	**Nisyros Isl.**	**1.39**	**340**	P		**Pn**	**20 16 30.2**	**+0.8**
NIS1				S		**Sb**	**20 16 50.5**	**+2.1**
NIS1	**Nisyros Isl.**	**1.39**	**340**	P		**Pn**	**20 16 30.2**	**+0.8**
NIS1				S		**Sb**	**20 16 50.5**	**+2.1**
FETY	**Fethiye**	**1.71**	**38**	*e*	PN	**Pn**	**20 16 35.1**	**+1.2**
FETY	**Fethiye**	**1.71**	**38**	*e*	Pn	**Pn**	**20 16 35.1**	**+1.2**
TURN	**Turunc**	**1.71**	**23**	*i*	P	**Pn**	**20 16 32.7**	**-1.2**
TURN				*i*	S	**Sn**	**20 16 55.3**	**+0.5**
TURN	**Turunc**	**1.71**	**23**	*i*	P	**Pn**	**20 16 32.7**	**-1.2**
TURN				*i*	S	**Sn**	**20 16 55.3**	**+0.5**
AKAS	**Kas**	**1.76**	**57**	*i*	P	**Pn**	**20 16 35.9**	**+1.2**
AKAS				*i*	S	**Sb**	**20 16 58.4**	**-0.8**
AKAS	**Kas**	**1.76**	**57**	*i*	P	**Pn**	**20 16 35.9**	**+1.2**
AKAS				*i*	S	**Sb**	**20 16 58.4**	**-0.8**
NPS	**Neapolis**	**1.76**	**269**	*e*	P	**Pb**	**20 16 36.4**	**-1.1**
NPS				*e*	S	**Sb**	**20 16 58.9**	**-0.3**
NPS	**Neapolis**	**1.76**	**269**	*e*	Pb	**Pb**	**20 16 36.4**	**-1.1**
NPS				*e*	Sn	**Sb**	**20 16 58.9**	**-0.3**
BDRM	**Kayabasi**	**1.78**	**352**	*i*	P	**Pn**	**20 16 35.2**	**+0.3**
BDRM				*i*	S	**Sb**	**20 16 59.3**	**-0.5**
BDRM	**Kayabasi**	**1.78**	**352**	*i*	P	**Pn**	**20 16 35.2**	**+0.3**
BDRM				*i*	S	**Sb**	**20 16 59.3**	**-0.5**
BODT	**Bodrum**	**1.80**	**348**	*e*	PN	**Pn**	**20 16 35.2**	**+0.1**
BODT	**Bodrum**	**1.80**	**348**	*e*	Pn	**Pn**	**20 16 35.2**	**+0.1**
LAST	**Lasithi**	**1.88**	**266**	P		**Pb**	**20 16 38.8**	**-0.7**
LAST				S		**Sb**	**20 17 04.7**	**+2.1**
LAST	**Lasithi**	**1.88**	**266**	*e*	P	**Pn**	**20 16 37.8**	**+1.5**
LAST				*e*	S	**Sb**	**20 17 01.4**	**-1.2**
LAST	**Lasithi**	**1.88**	**266**	*e*	Pb	**Pn**	**20 16 37.8**	**+1.5**
LAST	**Lasithi**	**1.88**	**266**	P		**Pb**	**20 16 38.8**	**-0.7**
LAST				*e*	Sn	**Sb**	**20 17 01.4**	**-1.2**
LAST				S		**Sb**	**20 17 04.7**	**+2.1**
SANT	**Santorini**	**2.16**	**300**	P		**Pn**	**20 16 41.1**	**+1.0**
SANT				S		**Sb**	**20 17 09.4**	**-1.2**
SANT	**Santorini**	**2.16**	**300**	*e*	P	**Pn**	**20 16 41.1**	**+1.0**
SANT	**Santorini**	**2.16**	**300**	*e*	Pn	**Pn**	**20 16 41.0**	**+1.0**
SANT	**Santorini**	**2.16**	**300**	P		**Pn**	**20 16 41.1**	**+1.0**
SANT				S		**Sb**	**20 17 09.4**	**-1.2**
ELL	**Elmali**	**2.26**	**50**	*e*	PN	**Pn**	**20 16 42.8**	**+1.3**
ELL	**Elmali**	**2.26**	**50**	*e*	Pn	**Pn**	**20 16 42.8**	**+1.3**
IDI	**Anoyia**	**2.35**	**271**	P		**Pn**	**20 16 44.5**	**+1.7**
IDI				S		**Sn**	**20 17 13.7**	**-2.5**
IDI	**Anoyia**	**2.35**	**271**	P		**Pn**	**20 16 44.5**	**+1.7**
	116nm,0.3s,baz=68,slow=14,SNR=175							
IDI				S		**Sn**	**20 17 13.7**	**-2.5**
	213nm,0.3s,baz=94,slow=20,SNR=3.2							
IDI				LR		LR	20 17 13.8	
	comp=Z,2μm,20.1s,baz=94,slow=30							
IDI	**Anoyia**	**2.35**	**271**	P		**Pn**	**20 16 44.5**	**+1.7**
IDI				S		**Sn**	**20 17 13.7**	**-2.5**
GCAM	**G?zelcaml?**	**2.44**	**350**	*i*	P	**Pn**	**20 16 44.7**	**+0.9**
GCAM				*i*	S	**Sn**	**20 17 13.0**	**+0.3**
GCAM	**G?zelcaml?**	**2.44**	**350**	*i*	P	**Pn**	**20 16 44.7**	**+0.9**
GCAM				*i*	S	**Sn**	**20 17 13.0**	**+0.3**
APE	**Apeiranthos**	**2.53**	**315**	*c*	P	**Pn**	**20 16 45.8**	**+0.6**
APE	**Apeiranthos**	**2.53**	**315**	P	P	**Pn**	**20 16 46.0**	**+0.8**
APE	**Apeiranthos**	**2.53**	**315**	*i*	P	**Pn**	**20 16 45.8**	**+0.6**
DNZL	**Cakiroluk**	**2.60**	**23**	*i*	P	**Pn**	**20 16 47.2**	**+0.9**
DNZL				*i*	S	Sb	20 17 30.1	+6.7
DNZL	**Cakiroluk**	**2.60**	**23**	*i*	P	**Pn**	**20 16 47.2**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.65**	**2**	*e*	PN	**Pn**	**20 16 47.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.65**	**2**	*e*	Pn	**Pn**	**20 16 47.6**	**+0.8**
KORT	**Korkueli**	**2.69**	**50**	*i*	P	**Pn**	**20 16 49.6**	**+2.1**
KORT				*i*	S	**Sb**	**20 17 24.0**	**-2.0**
KORT	**Korkueli**	**2.69**	**50**	*i*	P	**Pn**	**20 16 49.6**	**+2.1**
KORT				*i*	S	**Sb**	**20 17 24.0**	**-2.0**
ANTB	**Antalya**	**2.83**	**55**	*e*	PN	**Pn**	**20 16 50.4**	**+1.2**
ANTB	**Antalya**	**2.83**	**55**	*e*	Pn	**Pn**	**20 16 50.4**	**+1.2**
IZM	**Izmir**	**3.12**	**353**	*e*	PN	**Pn**	**20 16 54.1**	**+0.8**
IZM	**Izmir**	**3.12**	**353**	*e*	Pn	**Pn**	**20 16 54.1**	**+0.8**
BCK	**Bucak**	**3.14**	**46**	*e*	PN	**Pn**	**20 16 55.7**	**+2.2**
BCK	**Bucak**	**3.14**	**46**	*e*	Pn	**Pn**	**20 16 55.7**	**+2.2**
BLCB	**Balcova**	**3.14**	**350**	*e*	PN	**Pn**	**20 16 53.9**	**+0.5**
BLCB	**Balcova**	**3.14**	**350**	*e*	Pn	**Pn**	**20 16 53.9**	**+0.5**
MANT	**Manisa**	**3.25**	**11**	*i*	P	**Pn**	**20 16 55.7**	**+0.5**
MANT	**Manisa**	**3.25**	**11**	*i*	P	**Pn**	**20 16 55.7**	**+0.5**
KULA	**Kula-Manisa**	**3.29**	**12**	*e*	PN	**Pn**	**20 16 56.5**	**+0.9**
KULA	**Kula-Manisa**	**3.29**	**12**	*e*	Pn	**Pn**	**20 16 56.5**	**+0.9**
KHL	**Karahalli**	**3.33**	**24**	*e*	PN	**Pn**	**20 16 58.0**	**+1.8**
KHL	**Karahalli**	**3.33**	**24**	*e*	Pn	**Pn**	**20 16 58.0**	**+1.8**
ISP	**Isparta**	**3.36**	**41**	P		**Pn**	**20 16 58.0**	**+1.5**
ISP				S		**Sn**	**20 17 40.6**	**+5.0**
ISP	**Isparta**	**3.36**	**41**	*d*	P	**Pn**	**20 16 57.5**	**+0.9**
ISP	**Isparta**	**3.36**	**41**	*j*	P	**Pn**	**20 16 58.1**	**+1.5**
ISP	**Isparta**	**3.36**	**41**	*e*	Pn	**Pn**	**20 16 57.7**	**+1.1**
ISP	**Isparta**	**3.36**	**41**	*e*	Pn	**Pn**	**20 16 57.7**	**+1.1**
ISP				S		**Sn**	**20 17 40.6**	**+5.0**
KHAL	**Karahalli**	**3.36**	**24**	*i*	P	**Pn**	**20 16 56.9**	**+0.2**
KHAL				*i*	S	**Sn**	**20 17 39.4**	**+3.6**
KHAL	**Karahalli**	**3.36**	**24**	*i*	P	**Pn**	**20 16 56.9**	**+0.2**
KHAL				*i*	S	**Sn**	**20 17 39.4**	**+3.6**
CHOS	**Chios island**	**3.38**	**336**	P		**Pn**	**20 16 58.2**	**+1.4**
CHOS	**Chios island**	**3.38**	**336**	*e*	P	**Pn**	**20 16 58.2**	**+1.4**
CHOS	**Chios island**	**3.38**	**336**	P		**Pn**	**20 16 58.2**	**+1.4**
SUTC	**Sutluce-Ispart**	**3.39**	**49**	*e*	PN	**Pn**	**20 16 59.4**	**+2.2**
SUTC	**Sutluce-Ispart**	**3.39**	**49**	*e*	Pn	**Pn**	**20 16 59.4**	**+2.2**
AKHS	**Akhisar**	**3.57**	**1**	*i*	P	**Pn**	**20 16 59.7**	**+0.2**
AKHS				*i*	S	**Sn**	**20 17 41.7**	**+0.8**
AKHS	**Akhisar**	**3.57**	**1**	*i*	P	**Pn**	**20 16 59.7**	**+0.2**
AKHS				*i*	S	**Sn**	**20 17 41.7**	**+0.8**
AKS	**Akhisar**	**3.57**	**1**	*e*	PN	**Pn**	**20 17 00.0**	**+0.5**
AKS	**Akhisar**	**3.57**	**1**	*e*	Pn	**Pn**	**20 17 00.0**	**+0.5**
AKMC	**Akamas**	**3.75**	**93**	P		**Pn**	**20 17 01.6**	**-0.3**
	baz=274							
AKMC	**Akamas**	**3.75**	**93**	P		**Pn**	**20 17 01.6**	**-0.3**
PPCY	**Paphos**	**3.77**	**95**	P		**Pn**	**20 17 02.0**	**-0.2**
	baz=276							
PPCY	**Paphos**	**3.77**	**95**	P		**Pn**	**20 17 02.0**	**-0.2**
DEMI	**Demirci**	**3.81**	**11**	*i*	P	**Pn**	**20 17 03.1**	**+0.3**
DEMI				*i*	S	**Sn**	**20 17 48.8**	**+2.0**
DEMI	**Demirci**	**3.81**	**11**	*i*	P	**Pn**	**20 17 03.1**	**+0.3**
DEMI				*i*	S	**Sn**	**20 17 48.8**	**+2.0**
GAZI	**Gazipasa**	**3.81**	**75**	*i*	P	**Pn**	**20 17 02.7**	**-0.1**
GAZI				*i*	S	**Sn**	**20 17 44.8**	**-2.0**
GAZI	**Gazipasa**	**3.81**	**75**	*i*	P	**Pn**	**20 17 02.7**	**-0.1**
GAZI				*i*	S	**Sn**	**20 17 44.8**	**-2.0**
SHUT	**Suhut-Afyon**	**3.94**	**34**	*e*	PN	**Pn**	**20 17 05.7**	**+1.1**
SHUT	**Suhut-Afyon**	**3.94**	**34**	*e*	Pn	**Pn**	**20 17 05.7**	**+1.1**
ALFC	**Alevga**	**3.96**	**91**	P		**Pn**	**20 17 04.7**	**-0.1**
	baz=272							
ALFC				S		**Sn**	**20 17 51.1**	**+0.8**
ALFC	**Alevga**	**3.96**	**91**	P		**Pn**	**20 17 04.7**	**-0.1**
ALFC				S		**Sn**	**20 17 51.1**	**+0.8**
MATC	**Matruh**	**3.97**	**187**	P		**Pn**	**20 17 05.3**	**+0.5**
	baz=188							
KYTH	**Kithira**	**3.97**	**286**	*e*	P	**Pn**	**20 17 06.3**	**+1.3**
KYTH	**Kithira**	**3.97**	**286**	*e*	Pn	**Pn**	**20 17 06.3**	**+1.3**
GDZ	**Gediz**	**4.02**	**19**	*i*	P	**Pn**	**20 17 06.0**	**+0.2**
GDZ				*i*	S	**Sb**	**20 18 04.6**	**+0.3**
GDZ	**Gediz**	**4.02**	**19**	*i*	P	**Pn**	**20 17 06.0**	**+0.2**
PRK	**Paraskevi**	**4.12**	**344**	*e*	P	**Pn**	**20 17 08.2**	**+1.3**
PRK	**Paraskevi**	**4.12**	**344**	*e*	Pn	**Pn**	**20 17 08.2**	**+1.3**
ALT	**Altintas**	**4.19**	**26**	*e*	PN	**Pn**	**20 17 09.1**	**+1.0**
ALT	**Altintas**	**4.19**	**26**	*e*	Pn	**Pn**	**20 17 09.1**	**+1.0**
SIGR	**SIGRI**	**4.19**	**339**	P		**Pn**	**20 17 09.6**	**+1.6**
SIGR	**SIGRI**	**4.19**	**339**	*e*	P	**Pn**	**20 17 09.6**	**+1.6**
SIGR	**SIGRI**	**4.19**	**339**	P		**Pn**	**20 17 09.6**	**+1.6**
LEF	**Lefka**	**4.20**	**91**	*e*	PN	**Pn**	**20 17 07.3**	**-0.8**
LEF	**Lefka**	**4.20**	**91**	*e*	Pn	**Pn**	**20 17 07.3**	**-0.8**
ATH	**Athens Observa**	**4.21**	**311**	*e*	P	**Pn**	**20 17 10.4**	**+2.2**
ATH	**Athens Observa**	**4.21**	**311**	*e*	Pn	**Pn**	**20 17 10.4**	**+2.2**
HMAT	**Matruh**	**4.23**	**188**	P		**Pn**	**20 17 08.9**	**+0.4**
	baz=189							
HMAT				S		**Sn**	**20 17 54.5**	**-2.6**
	baz=189							
HMAT	**Matruh**	**4.23**	**188**	P		**Pn**	**20 17 08.9**	**+0.4**
HMAT				S		**Sn**	**20 17 54.5**	**-2.6**
NAIG	**Nisos Aigina**	**4.23**	**307**	*e*	P	**Pn**	**20 17 10.9**	**+2.4**
NAIG	**Nisos Aigina**	**4.23**	**307**	*e*	Pn	**Pn**	**20 17 10.9**	**+2.4**
SZAC	**Souni-Zanaja**	**4.23**	**96**	P		**Pn**	**20 17 08.5**	**-0.1**
	baz=278							
SZAC				S		**Sn**	**20 17 57.9**	**+0.8**
SZAC	**Souni-Zanaja**	**4.23**	**96**	P		**Pn**	**20 17 08.5**	**-0.1**
SZAC				S		**Sn**	**20 17 57.9**	**+0.8**
AKDN	**Akdeniz- K¯–br**	**4.25**	**89**	*e*	PN	**Pn**	**20 17 09.3**	**+0.5**
AKDN	**Akdeniz- K¯–br**	**4.25**	**89**	*e*	Pn	**Pn**	**20 17 09.3**	**+0.5**
BOLV	**Bolvadin**	**4.26**	**36**	*i*	P	**Pn**	**20 17 10.0**	**+1.0**
BOLV				*i*	S	Sb	20 18 31.5	+20
BOLV	**Bolvadin**	**4.26**	**36**	*i*	P	**Pn**	**20 17 10.0**	**+1.0**
DID	**Didima**	**4.27**	**302**	P		**Pn**	**20 17 10.9**	**+1.8**
DID				S		**Sn**	**20 18 03.4**	**+5.4**
DID	**Didima**	**4.27**	**302**	*e*	P	**Pn**	**20 17 10.9**	**+1.8**
DID	**Didima**	**4.27**	**302**	P		**Pn**	**20 17 10.9**	**+1.8**
DID				S		**Sn**	**20 18 03.4**	**+5.4**
DURS	**Dursunbey**	**4.33**	**7**	*i*	P	**Pn**	**20 17 10.6**	**+0.6**
DURS				*i*	S	**Sn**	**20 18 03.1**	**+3.5**
DURS	**Dursunbey**	**4.33**	**7**	*i*	P	**Pn**	**20 17 10.6**	**+0.6**
DURS				*i*	S	**Sn**	**20 18 03.1**	**+3.5**
BALB	**Balikesir**	**4.33**	**1**	*e*	PN	**Pn**	**20 17 10.7**	**+0.8**
BALB	**Balikesir**	**4.33**	**1**	*e*	Pn	**Pn**	**20 17 10.7**	**+0.8**
SLUM		**4.36**	**210**	P		**Pn**	**20 17 10.5**	**+0.3**
	baz=211							
SLUM				S		**Sn**	**20 17 58.6**	**-1.5**
	baz=211							
SLUM		**4.36**	**210**	P		**Pn**	**20 17 10.5**	**+0.3**
SLUM				S		**Sn**	**20 17 58.7**	**-1.5**
TVSB	**Tavsanli**	**4.36**	**18**	*e*	PN	**Pn**	**20 17 11.5**	**+1.1**
TVSB	**Tavsanli**	**4.36**	**18**	*e*	Pn	**Pn**	**20 17 11.5**	**+1.1**
BALY	**Balya**	**4.44**	**359**	*i*	P	**Pn**	**20 17 11.8**	**+0.4**
BALY				*i*	S	**Sn**	**20 18 00.4**	**-1.8**
BALY	**Balya**	**4.44**	**359**	*i*	P	**Pn**	**20 17 11.8**	**+0.4**
BALY				*i*	S	**Sn**	**20 18 00.4**	**-1.8**
MAMC	**Mammari**	**4.46**	**90**	P		**Pn**	**20 17 11.6**	**-0.1**
	baz=272							
MAMC	**Mammari**	**4.46**	**90**	P		**Pn**	**20 17 11.6**	**-0.1**
KONT	**Konya--Tatoy**	**4.54**	**53**	*e*	PN	**Pn**	**20 17 15.3**	**+2.5**
KONT	**Konya--Tatoy**	**4.54**	**53**	*e*	Pn	**Pn**	**20 17 15.3**	**+2.5**
CSS	**Prodhromos**	**4.57**	**93**	P		**Pn**	**20 17 12.8**	**-0.4**
CSS				S		**Sn**	**20 18 05.7**	**+0.2**
CSS	**Prodhromos**	**4.57**	**93**	*e*	Pn	**Pn**	**20 17 12.5**	**-0.7**
CSS	**Prodhromos**	**4.57**	**93**	P		**Pn**	**20 17 12.8**	**-0.4**
CSS	**Prodhromos**	**4.57**	**93**	*e*	Pn	**Pn**	**20 17 13.2**	**0.0**
CSS				S		**Sn**	**20 18 05.7**	**+0.2**
LADK	**Ladik-KONYA**	**4.69**	**51**	*e*	PN	**Pn**	**20 17 17.3**	**+2.3**
LADK	**Ladik-KONYA**	**4.69**	**51**	*e*	Pn	**Pn**	**20 17 17.3**	**+2.3**
LFK	**Lefkose**	**4.71**	**89**	*e*	PN	**Pn**	**20 17 15.4**	**+0.2**
LFK	**Lefkose**	**4.71**	**89**	*e*	Pn	**Pn**	**20 17 15.4**	**+0.2**
LTK	**Loutraki**	**4.72**	**307**	P		**Pn**	**20 17 17.2**	**+1.9**
LTK	**Loutraki**	**4.72**	**307**	*e*	P	**Pn**	**20 17 17.6**	**+2.3**
LTK	**Loutraki**	**4.72**	**307**	P		**Pn**	**20 17 17.2**	**+1.9**
LTK	**Loutraki**	**4.72**	**307**	*e*	Pn	**Pn**	**20 17 17.6**	**+2.3**
GONE	**Gonen-Balikesi**	**4.74**	**359**	*e*	PN	**Pn**	**20 17 16.3**	**+0.8**
GONE	**Gonen-Balikesi**	**4.74**	**359**	*e*	Pn	**Pn**	**20 17 16.3**	**+0.8**
VLX	**Vlachokerasia**	**4.82**	**297**	P		**Pn**	**20 17 18.1**	**+1.4**
VLX				S		**Sn**	**20 18 15.6**	**+4.0**
VLX	**Vlachokerasia**	**4.82**	**297**	*e*	P	**Pn**	**20 17 18.8**	**+2.1**
VLX	**Vlachokerasia**	**4.82**	**297**	P		**Pn**	**20 17 18.1**	**+1.4**
VLX	**Vlachokerasia**	**4.82**	**297**	*e*	Pn	**Pn**	**20 17 18.8**	**+2.1**
VLX				S		**Sn**	**20 18 15.6**	**+4.0**
ORLT	**Orhaneli**	**4.82**	**10**	*e*	PN	**Pn**	**20 17 18.5**	**+1.8**
ORLT	**Orhaneli**	**4.82**	**10**	*e*	Pn	**Pn**	**20 17 18.5**	**+1.8**
SEYT	**Eskypehyr**	**4.88**	**29**	*i*	P	**Pn**	**20 17 17.9**	**+0.4**
SEYT	**Eskypehyr**	**4.88**	**29**	*i*	P	**Pn**	**20 17 17.9**	**+0.4**
IKL	**Isikli**	**4.90**	**77**	*e*	PN	**Pn**	**20 17 18.9**	**+1.2**
IKL	**Isikli**	**4.90**	**77**	*e*	Pn	**Pn**	**20 17 18.9**	**+1.2**
AOS	**Alonnisos**	**4.96**	**322**	P		**Pn**	**20 17 20.1**	**+1.6**
AOS	**Alonnisos**	**4.96**	**322**	P		**Pn**	**20 17 20.1**	**+1.6**
KCTX	**Karacabey (Bur**	**4.98**	**5**	*e*	PN	**Pn**	**20 17 20.2**	**+1.4**
KCTX	**Karacabey (Bur**	**4.98**	**5**	*e*	Pn	**Pn**	**20 17 20.2**	**+1.4**
LIA	**Limnos Island**	**5.03**	**337**	*e*	P	**Pn**	**20 17 21.5**	**+2.0**
LIA	**Limnos Island**	**5.03**	**337**	*e*	Pn	**Pn**	**20 17 21.5**	**+2.0**
EDC	**Edincik**	**5.04**	**1**	*e*	PN	**Pn**	**20 17 20.3**	**+0.7**
EDC	**Edincik**	**5.04**	**1**	*e*	Pn	**Pn**	**20 17 20.3**	**+0.7**
LKR	**Lokris**	**5.08**	**313**	*e*	P	**Pn**	**20 17 22.2**	**+2.1**
LKR	**Lokris**	**5.08**	**313**	*e*	Pn	**Pn**	**20 17 22.2**	**+2.1**
GUR	**Goura**	**5.10**	**303**	P		**Pn**	**20 17 22.7**	**+2.2**
GUR				S		**Sn**	**20 18 24.0**	**+5.5**
GUR	**Goura**	**5.10**	**303**	*e*	P	**Pn**	**20 17 23.0**	**+2.5**
GUR	**Goura**	**5.10**	**303**	P		**Pn**	**20 17 22.7**	**+2.2**
GUR	**Goura**	**5.10**	**303**	*e*	Pn	**Pn**	**20 17 23.0**	**+2.5**
GUR				S		**Sn**	**20 18 24.0**	**+5.5**
KRBG	**Karabiga-Canak**	**5.10**	**356**	*e*	PN	**Pn**	**20 17 21.2**	**+0

SQR 6.13 151 P Pn 20 17 34.5 -0.1
baz=152
SQR 6.13 151 P Pn 20 17 34.4 -0.1
NIG Nigde 6.17 61 ePN Pn 20 17 37.5 +2.1
NIG Nigde 6.17 61 ePn Pn 20 17 37.5 +2.1
CTYL Yal??k??y-??at 6.18 4 ePN Pn 20 17 37.0 +1.7
CTYL Yal??k??y-??at 6.18 4 ePn Pn 20 17 37.0 +1.7
KARA Karaisali 6.20 69 ePN Pn 20 17 37.5 +1.9
KARA Karaisali 6.20 69 ePn Pn 20 17 37.5 +1.9
PDO Prodromos 6.22 304 P Pn 20 17 38.2 +2.4
PDO S Sn 20 18 49.8 +3.8
PDO Prodromos 6.22 304 eP Pn 20 17 38.3 +2.4
PDO Prodromos 6.22 304 P Pn 20 17 38.2 +2.4
PDO S Sn 20 18 49.8 +3.8
KAVA Kavala 6.24 337 P Pn 20 17 37.5 +1.4
KAVA Kavala 6.24 337 eP Pn 20 17 38.0 +1.9
KAVA Kavala 6.24 337 P Pn 20 17 37.5 +1.4
KAVA Kavala 6.24 337 ePn Pn 20 17 38.0 +1.9
AYT Al 'Ayyat 6.27 152 P Pn 20 17 36.6 +0.1
baz=153
AYT Al 'Ayyat 6.27 152 P Pn 20 17 36.6 +0.1
KFL Anninata 6.27 299 P Pn 20 17 37.8 +1.3
KFL S Sn 20 18 48.7 +1.4
KFL Anninata 6.27 299 P Pn 20 17 37.8 +1.3
KFL S Sn 20 18 48.7 +1.4
PHSR Pinarhisar 6.33 358 ePN Pn 20 17 38.2 +0.9
PHSR Pinarhisar 6.33 358 ePn Pn 20 17 38.2 +0.9
SWA2 6.35 199 P Pn 20 17 38.6 +1.0
baz=200
SWA2 6.35 199 P Pn 20 17 38.6 +1.0
KOT Kottamia 6.36 146 P Pn 20 17 37.0 -0.8
baz=147
KOT S Sn 20 18 44.8 -4.7
baz=147
KOT Kottamia 6.36 146 P Pn 20 17 37.0 -0.8
LIT Litokhoron 6.36 320 P Pn 20 17 39.9 +2.1
LIT Litokhoron 6.36 320 P Pn 20 17 39.9 +2.1
BR131 Keskin Array S 6.42 45 ePn Pn 20 17 40.5 +1.7
BR131 Keskin Array S 6.42 45 ePn Pn 20 17 40.5 +1.7
BRTR Keskin Array B 6.42 45 Pn Pn 20 17 40.0 +1.2
BRTR Keskin Array B 6.42 45 Pn Pn 20 17 40.0 +1.2
5.5nm,0.3s,baz=220,slow=17,SNR=149
BRTR Sn Sn 20 18 56.0 +4.7
4.9nm,0.3s,baz=217,slow=27,SNR=8.0
BRTR ScP ScP 20 28 05.7 +0.9
0.0nm,0.3s,baz=209,slow=1.7,SNR=7.3
BRTR Keskin Array B 6.42 45 P Pn 20 17 40.0 +1.2
6.0nm,0.3s
HORT Hortiatis 6.45 327 P Pn 20 17 41.6 +2.5
HORT Hortiatis 6.45 327 P Pn 20 17 41.6 +2.5
HHAG Hagoal 6.46 144 P Pn 20 17 38.6 -0.6
baz=145
HHAG Hagoal 6.46 144 P Pn 20 17 38.6 -0.6
HSAF As Saff 6.50 149 P Pn 20 17 39.3 -0.5
baz=150
HSAF As Saff 6.50 149 P Pn 20 17 39.3 -0.5
AMAG Maghara 6.51 134 P Pn 20 17 38.3 -1.6
baz=135
AMAG Maghara 6.51 134 P Pn 20 17 38.3 -1.6
SOH Sokhos 6.52 329 P Pn 20 17 42.4 +2.4
SOH Sokhos 6.52 329 P Pn 20 17 42.4 +2.4
THE Thessaloniki 6.54 326 P Pn 20 17 43.0 +2.8
THE Thessaloniki 6.54 326 P Pn 20 17 43.0 +2.8
EDRB Edirne 6.59 353 ePN Pn 20 17 41.7 +0.8
EDRB Edirne 6.59 353 ePn Pn 20 17 41.7 +0.8
KDZ Kurdzhali 6.60 344 iP Pn 20 17 44.0 +2.9
KDZ Kurdzhali 6.60 344⇑iP Pn 20 17 43.5 +2.4
KDZ Kurdzhali 6.60 344 iP Pn 20 17 44.0 +2.9
GLL Jalalah 6.61 149 P Pn 20 17 40.8 -0.4
baz=149
GLL Jalalah 6.61 149 P Pn 20 17 40.8 -0.4
RSH 6.61 129 P Pn 20 17 39.8 -1.4
baz=130
RSH 6.61 129 P Pn 20 17 39.8 -1.4
BHL Bhannes 6.65 100 eP Pn 20 17 40.7 -1.2
BHL Bhannes 6.65 100 eP Pn 20 17 40.7 -1.2
LKD2 Lefkada island 6.67 304 P Pn 20 17 43.6 +1.6
LKD2 S Sn 20 18 59.1 +2.0
LKD2 Lefkada island 6.67 304 eP Pn 20 17 43.6 +1.6
LKD2 Lefkada island 6.67 304 P Pn 20 17 43.6 +1.6
LKD2 S Sn 20 18 59.1 +2.0
SRS Serrai 6.67 332 P Pn 20 17 44.3 +2.2
SRS Serrai 6.67 332 P Pn 20 17 44.3 +2.2
ARNB Al Arnab 6.71 83 eP Pn 20 17 42.5 -0.2
ARNB eS Sn 20 18 50.0 -8.2
ARNB AML AML 20 19 10.6
comp=E,237nm,0.6s
ARNB AML AML 20 19 10.8
comp=N,245nm,0.6s
ARNB AML AML 20 19 11.9
comp=Z,105nm,0.7s
ARNB Al Arnab 6.71 83 eP Pn 20 17 42.5 -0.2
SNR=108
MMAI Mount Meron Ar 6.73 108 Pn Pn 20 17 41.5 -1.4
MMAI Sn Sn 20 18 57.1 -1.5
MMAI Mount Meron Ar 6.73 108 Pn Pn 20 17 41.5 -1.4
comp=Z,27nm,0.3s,baz=323,slow=12,SNR=55
MMAI Sn Sn 20 18 57.1 -1.5
comp=Z,26nm,0.3s,baz=298,slow=28,SNR=3.1
MMAI Mount Meron Ar 6.73 108 Pn Pn 20 17 41.5 -1.4
MMAI Sn Sn 20 18 57.2 -1.5
NVR Nevrokopi 6.78 334 eP Pn 20 17 45.3 +1.8
NVR Nevrokopi 6.78 334 ePn Pn 20 17 45.3 +1.8
HWQ Hawqa 6.80 96 eP Pn 20 17 42.9 -1.2
HWQ Hawqa 6.80 96 eP Pn 20 17 42.8 -1.2
RZN Rozhen 6.81 340 iP Pn 20 17 46.9 +2.7
RZN Rozhen 6.81 340 iP Pn 20 17 46.9 +2.7
MEV Metsovon 6.86 313 P Pn 20 17 48.3 +3.6
MEV Metsovon 6.86 313 P Pn 20 17 48.3 +3.6
KZN Kozani 6.89 318 eP Pn 20 17 48.4 +3.2
KZN Kozani 6.89 318 ePn Pn 20 17 48.4 +3.2
RCY Rachaya 6.91 103 eP Pn 20 17 44.4 -1.0
RCY Rachaya 6.91 103 eP Pn 20 17 44.4 -1.0
SUZ 6.92 140 P Pn 20 17 45.5 0.0
baz=141
SUZ 6.92 140 P Pn 20 17 45.5 0.0
KNT Kendrikon 7.00 328 P Pn 20 17 49.3 +2.8
KNT Kendrikon 7.00 328 P Pn 20 17 49.3 +2.8
BIDA Albida 7.01 90 eP Pn 20 17 45.6 -1.2
BIDA eS Sn 20 18 57.4 -8.3
BIDA AML AML 20 19 06.5
comp=Z,726nm,0.4s
BIDA AML AML 20 19 09.9
comp=E,191nm,0.5s
BIDA AML AML 20 19 10.2
comp=N,747nm,0.4s
BIDA Albida 7.01 90 eP Pn 20 17 45.6 -1.2
SNR=107
JAN Janina 7.01 310 eP Pn 20 17 49.0 +2.3
JAN Janina 7.01 310 ePn Pn 20 17 49.0 +2.3
AWBH 7.02 172 P Pn 20 17 46.5 -0.4
baz=172
AWBH 7.02 172 P Pn 20 17 46.5 -0.4
BRBR Barbar 7.02 103 eP Pn 20 17 46.5 -0.6
BRBR eS Sn 20 18 55.4 -11
BRBR AML AML 20 19 08.4
comp=N,107nm,0.4s
BRBR AML AML 20 19 15.8
comp=E,294nm,0.6s
BRBR AML AML 20 19 16.6
comp=Z,314nm,0.7s
BRBR Barbar 7.02 103 eP Pn 20 17 46.5 -0.6
SNR=108
MMB Musomiste 7.04 334 iP Pn 20 17 55.9 +8.8
MMB Musomiste 7.04 334⇓iP Pn 20 17 49.3 +2.2
WRDH Warideh 7.06 86 eP Pn 20 17 47.0 -0.5
WRDH eS Sn 20 18 57.3 -10
WRDH AML AML 20 19 07.3
comp=Z,199nm,0.5s
WRDH AML AML 20 19 12.2
comp=N,85nm,0.3s
WRDH AML AML 20 19 22.7
comp=E,206nm,0.4s
WRDH Warideh 7.06 86 eP Pn 20 17 47.0 -0.5
SNR=107
SAFT Safranbolu 7.08 32 ePN Pn 20 17 50.2 +2.5
SAFT Safranbolu 7.08 32 ePn Pn 20 17 50.2 +2.5
BTCH Batrach 7.11 82 eP Pn 20 17 46.7 -1.5
BTCH eS Sn 20 19 00.4 -7.7
BTCH AML AML 20 19 17.0
comp=Z,244nm,0.5s
BTCH AML AML 20 19 20.1
comp=N,310nm,0.5s
BTCH AML AML 20 19 40.0
comp=E,317nm,0.6s
BTCH Batrach 7.11 82 eP Pn 20 17 46.7 -1.5
SNR=107
HAWK Haweek 7.14 94 eP Pn 20 17 47.5 -1.1
HAWK eS Sn 20 18 55.8 -13
HAWK AML AML 20 19 10.2
comp=N,118nm,0.5s
HAWK AML AML 20 19 16.2
comp=Z,311nm,0.6s
HAWK AML AML 20 19 21.5
comp=E,192nm,0.5s
HAWK Haweek 7.14 94 eP Pn 20 17 47.5 -1.1
SNR=107
FKH Fakeheh 7.19 96 eP Pn 20 17 48.6 -0.6
FKH Fakeheh 7.19 96 eP Pn 20 17 48.6 -0.6
PLD Plovdiv 7.21 342 P Pn 20 17 52.0 +2.7
PLD Plovdiv 7.21 342 P Pn 20 17 52.0 +2.7
JMB Yambol 7.22 353 P Pn 20 17 46.7 -2.8
JMB Yambol 7.22 353 iP Pn 20 17 47.9 -1.6
JMB Yambol 7.22 353⇑iP Pn 20 17 46.8 -2.8
QASN Qassioun 7.25 102 eP Pn 20 17 50.4 +0.3
QASN eS Sn 20 19 06.4 -5.2
QASN AML AML 20 19 28.5
comp=Z,188nm,0.6s
QASN AML AML 20 19 30.3
comp=N,378nm,0.5s
QASN AML AML 20 19 34.0
comp=E,472nm,0.6s
QASN Qassioun 7.25 102 eP Pn 20 17 50.3 +0.3
SNR=107
VAY Valandovo 7.27 327 P Pn 20 17 50.8 +0.6
VAY Valandovo 7.27 327 ePn Pn 20 17 53.2 +3.0
VAY Valandovo 7.27 327 P Pn 20 17 50.8 +0.6
VAY Valandovo 7.27 327 ePn Pn 20 17 53.2 +3.0
IGT Igoumenitsa 7.27 308 P Pn 20 17 51.6 +1.3
IGT S Sn 20 19 11.1 -0.8
IGT Igoumenitsa 7.27 308 P Pn 20 17 51.6 +1.3
MARH Ras Al Marh 7.29 98 eP Pn 20 17 50.6 -0.3
MARH eS Sn 20 19 04.2 -8.7
MARH AML AML 20 19 18.1
comp=N,180nm,0.6s
MARH AML AML 20 19 23.6
comp=Z,114nm,0.8s
MARH AML AML 20 19 26.8
comp=E,243nm,0.5s
MARH Ras Al Marh 7.29 98 eP Pn 20 17 50.6 -0.3
SNR=107
TCHB Talchebab 7.30 109 eP Pn 20 17 50.7 0.0
TCHB eS Sn 20 18 59.8 -13
TCHB eS Sn 20 19 07.4 -5.2
TCHB AML AML 20 19 24.7
comp=N,440nm,0.6s
TCHB AML AML 20 19 29.1
comp=E,174nm,0.6s
TCHB AML AML 20 19 35.4
comp=Z,318nm,0.5s
TCHB Talchebab 7.30 109 eP Pn 20 17 50.7 0.0
SNR=107
NEST Nestorio 7.37 316 P Pn 20 17 55.1 +3.4
NEST S Sn 20 19 18.7 +4.2
NEST Nestorio 7.37 316 P Pn 20 17 55.1 +3.4
NEST S Sn 20 19 18.7 +4.2
KFRA Kufra 7.39 88 eP Pn 20 17 50.6 -1.4
KFRA eS Sn 20 19 07.0 -7.9
KFRA AML AML 20 19 22.4
comp=N,698nm,0.5s
KFRA AML AML 20 19 25.6
comp=E,289nm,0.4s
KFRA AML AML 20 19 29.7
comp=Z,411nm,0.6s
KFRA Kufra 7.39 88 eP Pn 20 17 50.6 -1.4
SNR=106
TOTH TOTAH 7.42 103 eP Pn 20 17 52.3 -0.1
TOTH eS Sn 20 18 59.2 -17
TOTH AML AML 20 19 18.0
comp=N,160nm,1.0s
TOTH AML AML 20 19 23.8
comp=Z,204nm,0.8s
TOTH AML AML 20 19 34.5
comp=E,111nm,0.6s
TOTH TOTAH 7.42 103 eP Pn 20 17 52.3 -0.1
SNR=107
FNA Florina 7.44 319 P Pn 20 17 56.1 +3.4
FNA S Sn 20 19 20.5 +4.3
FNA Florina 7.44 319 P Pn 20 17 56.1 +3.4
FNA S Sn 20 19 20.5 +4.3
HNKL Nakhl 7.49 134 P Pn 20 17 52.0 -1.3
baz=134
HNKL Nakhl 7.49 134 P Pn 20 17 52.0 -1.3
KKB Krupnik 7.51 332 iP Pn 20 17 48.8 -4.8
BIA Bitola 7.64 320 P Pn 20 17 59.7 +4.3
BIA Bitola 7.64 320 P Pn 20 17 59.7 +4.3
KBN Korca 7.66 316 iPN Pn 20 17 54.3 -1.4
KBN Korca 7.66 316 P Pn 20 17 59.4 +3.8
KBN Korca 7.66 316 P Pn 20 17 59.4 +3.8
SRN Sarande 7.68 309 iPN Pn 20 17 59.0 +3.2
SRN Sarande 7.68 309 P Pn 20 17 56.5 +0.7
SRN Sarande 7.68 309 P Pn 20 17 56.5 +0.7
SRN Sarande 7.68 309 iPn Pn 20 17 59.0 +3.2
KEK Kerkira 7.71 307 eP Pn 20 17 55.8 -0.6
KEK Kerkira 7.71 307 ePn Pn 20 17 55.8 -0.6
RABH Abou Rabah 7.80 94 eP Pn 20 17 57.6 -0.1
RABH eS Sn 20 19 17.6 -7.6
RABH AML AML 20 19 28.1
comp=N,120nm,0.5s
RABH AML AML 20 19 41.7
comp=E,92nm,0.8s
RABH AML AML 20 19 48.1
comp=Z,56nm,0.5s
RABH Abou Rabah 7.80 94 eP Pn 20 17 57.6 -0.1
SNR=106
SALA Sala 7.88 107 eP Pn 20 17 58.7 -0.1
SALA eS Sn 20 19 17.6 -10
SALA AML AML 20 19 38.4
comp=E,14nm,0.6s
SALA AML AML 20 19 40.5
comp=N,145nm,0.6s
SALA AML AML 20 19 46.8
comp=Z,118nm,0.6s
SALA Sala 7.88 107 eP Pn 20 17 58.7 -0.1
SNR=106
VTS Vitosha 8.10 335 P Pn 20 18 03.4 +1.6
VTS Vitosha 8.10 335 eSn Sn 20 19 14.6 -18
VTS Vitosha 8.10 335 iP Pn 20 18 04.5 +2.7
VTS Vitosha 8.10 335⇓iP Pn 20 18 05.4 +3.6
VTS Vitosha 8.10 335 P Pn 20 18 03.4 +1.6
VTS eSn Sn 20 19 14.6 -18
ASF Jabal al Asfar 8.22 110 Pn Pn 20 18 03.6 +0.2
ASF Jabal al Asfar 8.22 110 Pn Pn 20 18 03.6 +0.2
comp=Z,3.0nm,0.3s,baz=232,slow=5.5,SNR=24
ASF Sn Sn 20 19 33.4 -1.9
comp=Z,1.4nm,0.3s,baz=258,slow=16,SNR=2.4
EIL Elat 8.26 131 Pn Pn 20 18 03.1 -0.7
EIL Sn Sn 20 19 30.6 -5.8
EIL Elat 8.26 131 Pn Pn 20 18 03.1 -0.7
comp=Z,9.4nm,0.3s,baz=331,slow=8.6,SNR=100
EIL Sn Sn 20 19 30.6 -5.8
comp=Z,15nm,0.3s,baz=6.0,slow=19,SNR=5.9
EIL Elat 8.26 131 Pn Pn 20 18 03.2 -0.7
EIL Sn Sn 20 19 30.6 -5.8
ZALF Zalf 8.28 104 eP Pn 20 18 03.4 -0.8
ZALF eS Sn 20 19 19.6 -17
ZALF AML AML 20 20 01.7
comp=N,49nm,0.7s
ZALF AML AML 20 20 05.4
comp=E,59nm,0.6s
ZALF AML AML 20 20 07.1
comp=Z,69nm,0.5s
ZALF Zalf 8.28 104 eP Pn 20 18 03.4 -0.8
SNR=105
SKO Skopje 8.30 325 ePn Pn 20 18 06.7 +2.3
SKO Skopje 8.30 325 ePn Pn 20 18 06.7 +2.3
VLO Vlora 8.33 311 iPN Pn 20 18 07.7 +2.9
VLO Vlora 8.33 311 iPn Pn 20 18 07.7 +2.9
HBST Basata 8.46 134 P Pn 20 18 06.5 -0.1
baz=134
HBST Basata 8.46 134 P Pn 20 18 06.5 -0.1
PHP Peshkopia 8.58 320 iPN Pn 20 18 11.4 +3.2
PHP Peshkopia 8.58 320 P Pn 20 18 11.3 +3.0
PHP S Sn 20 19 47.8 +3.6
PHP Peshkopia 8.58 320 P Pn 20 18 11.3 +3.0
PHP S Sn 20 19 47.8 +3.6
HQLS 8.59 132 P Pn 20 18 07.0 -1.5
MPEP Malo Peshtene 8.63 340 iP Pn 20 18 11.8 +2.9
AKCD Akcadag 8.68 67 iP Pn 20 18 10.2 +0.5
AKCD Akcadag 8.68 67 iP Pn 20 18 10.2 +0.5
HAQS Haql 8.69 134 P Pn 20 18 08.6 -1.2
baz=135
HAQS Haql 8.69 134 P Pn 20 18 09.0 -0.8
MSAB Monastry St. A 8.78 0⇓iP Pn 20 18 13.9 +3.0
ZAPS Zavoj 8.90 335⇑iPn Pn 20 18 17.0 +4.3
ZAPS eSn Sn 20 19 34.7 -17
PUK Puka 9.12 320 iPN Pn 20 18 18.4 +2.7
PUK Puka 9.12 320 iPn Pn 20 18 18.4 +2.7
RSHS 9.19 137 P Pn 20 18 15.5 -1.1
baz=139
RSHS 9.19 137 P Pn 20 18 16.0 -0.6
BCI Bajram Curri 9.27 322 iPN Pn 20 18 21.4 +3.8
BCI Bajram Curri 9.27 322 iPn Pn 20 18 21.4 +3.8
ULC Ulcinj 9.42 318 ePn Pn 20 18 22.0 +2.3
ULC eSn Sn 20 20 05.9 +1.2
ULC Ulcinj 9.42 318 ePn Pn 20 18 22.0 +2.3
ULC eSn Sn 20 20 05.9 +1.2
SELS Selova 9.44 329 ePn Pn 20 18 22.7 +2.7
HUMR Humele 9.46 348⇑iP Pn 20 18 22.5 +2.2
PVY Plav 9.49 322⇑iPn Pn 20 18 23.6 +2.8
PVY eSn Sn 20 20 07.8 +1.3
PVY Plav 9.49 322⇑iPn Pn 20 18 23.6 +2.8
PVY eSn Sn 20 20 07.8 +1.3
TIP Timpagrande 9.59 297 P Pn 20 18 20.7 -1.5
TIP Timpagrande 9.59 297 ePn Pn 20 18 20.3 -1.9
TIP Timpagrande 9.59 297 ePn Pn 20 18 20.3 -1.9
DRME Dracevica, Mon 9.60 318⇑iPn Pn 20 18 24.4 +2.2
DRME eSn Sn 20 20 10.2 +1.0
DRME Dracevica, Mon 9.60 318⇑iPn Pn 20 18 24.4 +2.2
DRME eSn Sn 20 20 10.2 +1.0
BOLS Boljevac 9.63 334 ePn Pn 20 18 24.5 +2.0
BOLS Boljevac 9.63 334 ePn Pn 20 18 24.5 +2.0
BEY Berane 9.72 323⇓iPn Pn 20 18 28.0 +4.0
BEY eSn Sn 20 20 13.4 +1.1
IVA Berane 9.72 323⇓iPn Pn 20 18 28.0 +4.0
IVA eSn Sn 20 20 13.4 +1.1
PDG Podgorica 9.73 320 P Pn 20 18 25.3 +1.3
PDG Podgorica 9.73 320 P Pn 20 18 25.3 +1.3
PDG Podgorica 9.73 320 ePn Pn 20 18 26.9 +2.9
PDG eSn Sn 20 20 14.4 +2.1
TTG Podgorica 9.73 320 ePn Pn 20 18 26.9 +2.9
TTG eSn Sn 20 20 14.4 +2.1
BUM Brajici-Budva 9.84 318⇑iPn Pn 20 18 27.2 +1.7
BUM eSn Sn 20 20 16.6 +1.5
BUM Brajici-Budva 9.84 318⇑iPn Pn 20 18 27.2 +1.7
BUM eSn Sn 20 20 16.6 +1.5
CFR Carcaliu 9.87 2⇓iP Pn 20 18 29.1 +3.2
TLCR 9.91 4⇑iP Pn 20 18 29.7 +3.3
CEL Celeste 9.97 291 ePn Pn 20 18 25.1 -2.3
CEL Celeste 9.97 291 ePn Pn 20 18 25.1 -2.3
SJES Sjenica 9.98 325 ePn Pn 20 18 29.1 +1.6
GRER 10.09 357⇑iP Pn 20 18 33.0 +4.1
NKME Niksic 10.13 320⇓iPn Pn 20 18 32.0 +2.6
NKME eSn Sn 20 20 23.6 +1.5
NKME Niksic 10.13 320⇓iPn Pn 20 18 32.0 +2.6
NKME eSn Sn 20 20 23.6 +1.5
NKY Niksic 10.14 320⇑iPn Pn 20 18 31.7 +2.1
NKY eSn Sn 20 20 23.3 +0.8
NKY Niksic 10.14 320⇑iPn Pn 20 18 31.7 +2.1
NKY eSn Sn 20 20 23.3 +0.8
IVAS Ivanjica 10.14 327 ePn Pn 20 18 32.6 +2.9
IVAS Ivanjica 10.14 327 ePn Pn 20 18 32.6 +2.9
GRUS Gruza 10.15 330 ePn Pn 20 18 32.5 +2.7
GRUS Gruza 10.15 330 ePn Pn 20 18 32.5 +2.7
HCY Herceg Novi 10.15 317⇑iPn Pn 20 18 30.4 +0.6
HCY eSn Sn 20 20 23.3 +0.5
HCY Herceg Novi 10.15 317⇑iPn Pn 20 18 30.4 +0.6
HCY eSn Sn 20 20 23.3 +0.5
TBKS Tabuk 10.27 131 P Pn 20 18 31.7 +0.2
baz=132
TBKS Tabuk 10.27 131 P Pn 20 18 32.0 +0.6
SVIS Svilajnac 10.27 333 ePn Pn 20 18 35.0 +3.6
MLR Muntele Rosu 10.28 353 Pn Pn 20 18 34.1 +2.5
MLR Muntele Rosu 10.28 353 Pn Pn 20 18 34.1 +2.5
comp=Z,0.2nm,0.3s,baz=191,slow=6.9,SNR=13
MLR LR LR 20 23 16.0
comp=Z,466nm,21.8s,baz=182,slow=42
MLR Muntele Rosu 10.28 353 P Pn 20 18 34.1 +2.5
comp=Z,15nm,28.6s
PLE Pljevlja 10.31 324⇑iPn Pn 20 18 34.9 +2.8
PLE eSn Sn 20 20 27.8 +1.0
PLE Pljevlja 10.31 324⇑iPn Pn 20 18 34.9 +2.8
PLE eSn Sn 20 20 27.8 +1.0
ARR Arges 10.34 348⇑iP Pn 20 18 35.0 +2.7
BRY Bratogost 10.44 319⇑iPn Pn 20 18 34.1 +0.3
BRY eSn Sn 20 20 30.6 +0.7
BRY Bratogost 10.44 319⇑iPn Pn 20 18 34.1 +0.3
BRY eSn Sn 20 20 30.6 +0.7
UPM Unac-Piva 10.46 322⇓iPn Pn 20 18 36.8 +2.7
UPM eSn Sn 20 20 31.1 +0.6
UPM Unac-Piva 10.46 322⇓iPn Pn 20 18 36.8 +2.7
UPM eSn Sn 20 20 31.1 +0.6
TRUS Trudelj 10.56 330⇑iPn Pn 20 18 37.2 +1.9
TRUS Trudelj 10.56 330⇑iPn Pn 20 18 37.2 +1.9
CUC Castrocucco 10.57 300 ePn Pn 20 18 33.7 -1.8
CUC Castrocucco 10.57 300 ePn Pn 20 18 33.7 -1.8
PLOR Plostina 10.58 356⇓iP Pn 20 18 39.0 +3.4
VRI Vrincioaia 10.59 356⇑iP Pn 20 18 39.6 +3.9
DIVS Divibare 10.63 328 P Pn 20 18 39.1 +2.7
DIVS Divibare 10.63 328 ePn Pn 20 18 38.5 +2.1
DIVS Divibare 10.63 328 ePn Pn 20 18 38.5 +2.1
DIVS Divibare 10.63 328 P Pn 20 18 39.1 +2.7
BBLS Lazići 10.71 326⇑iPn Pn 20 18 39.9 +2.4
BBLS Lazići 10.71 326⇑iPn Pn 20 18 39.9 +2.4
SIM Simferopol' 10.79 25 eP Pn 20 18 40.5 +2.0
SIM pmax pmax
comp=Z,35nm,0.9s
SIM MLR MLR
comp=Z,570nm,10.2s
SIM Simferopol' 10.79 25 eP Pn 20 18 40.5 +2.0
comp=Z,570nm,10.2s
WDD Wield Dalam 10.80 277 ePn Pn 20 18 36.0 -2.6
comp=Z,368nm,0.8s
WDD Wield Dalam 10.80 277 ePn Pn 20 18 36.0 -2.6
comp=Z,368nm,0.8s
DOPR Dopca 10.81 351⇑iP Pn 20 18 41.3 +2.5
STON Ston 10.88 317 ePn Pn 20 18 38.3 -1.3
STON Sn Sn 20 20 33.6 -6.8
BEO Beograd 11.02 332 ePn Pn 20 18 43.9 +2.3
TEKS Tekeris 11.19 328 ePn Pn 20 18 46.2 +2.2
TEKS Tekeris 11.19 328 ePn Pn 20 18 46.2 +2.2
TESR Tescani 11.23 356⇑iP Pn 20 18 48.3 +3.7
BANR Banloc 11.27 335⇑iP Pn 20 18 52.2 +7.2
BZS Buzias 11.32 337 ePn Pn 20 18 48.3 +2.6
BZS Buzias 11.32 337⇓iP Pn 20 18 47.7 +2.0
BZS Buzias 11.32 337 ePn Pn 20 18 48.3 +2.6
BIDS Bi'r al Bayda' 11.51 134 P Pn 20 18 47.8 -0.6
baz=135
BIDS Bi'r al Bayda' 11.51 134 P Pn 20 18 48.0 -0.4
FGSL Fruska Gora 11.57 331 ePn Pn 20 18 51.2 +2.1
FRGS Fruska Gora 11.57 331 ePn Pn 20 18 51.2 +2.1
CJR Cluj-Napoca 11.83 346⇓iP Pn 20 18 57.1 +4.4
SIRR Siria 11.89 339⇓iP Pn 20 18 56.4 +2.9
DRGR 12.10 343⇑iP Pn 20 18 59.4 +3.0
SOC Sochi 12.39 45 eP Pn 20 19 03.0 +2.7
SOC e
SOC pmax pmax 20 21 22.1
comp=Z,10.0nm,0.7s
SOC MLR MLR
comp=Z,1µm,11.0s
SOC MLR MLR
comp=N,2µm,11.0s
SOC MLR MLR
comp=E,465nm,11.0s
SOC Sochi 12.39 45 eP Pn 20 19 03.0 +2.7
comp=E,10.0nm,0.7s
BURAR Bucovina Array 12.45 352⇓iP Pn 20 19 05.2 +3.9
BUR08 Bucovina Ar. S 12.48 352 ePn Pn 20 19 00.2 -1.5
BUR08 Bucovina Ar. S 12.48 352 ePn Pn 20 19 00.2 -1.5
PKSM Moragy 12.90 330⇑iP Pn 20 19 08.4 +1.2
PKSM Moragy 12.90 330⇓ePn Pn 20 19 08.5 +1.2
PKSM Moragy 12.90 330⇓ePn Pn 20 19 08.5 +1.2
PKSN Nyarlorinc 13.02 335⇑ePn Pn 20 19 11.5 +2.6
PKSN Nyarlorinc 13.02 335⇑eP Pn 20 19 11.5 +2.6
AQU L'Aquila 13.22 306 ePn Pn 20 19 09.5 -2.3
AQU L'Aquila 13.22 306 ePn Pn 20 19 09.5 -2.3
PKS9 Tamasi 13.35 331⇓ePn Pn 20 19 14.1 +0.6
TRPA Tarpa 13.40 345⇑iP Pn 20 19 17.5 +3.4

NVLJ	**Novalja**	**13.53**	**317**	*e*Pn	**Pn**	**20 19 14.3**	**-1.7**
NVLJ				Sn	Sn	20 21 36.9	-8.4
BEHE	**Becsehely**	**13.90**	**327**⇑	*e*Pn	**Pn**	**20 19 23.0**	**+2.0**
PSZ	**Piszkesteto**	**13.91**	**337**	*e*P	**Pn**	**20 19 20.7**	**-0.4**
PSZ	**Piszkesteto**	**13.91**	**337**⇓	*i*P	Pn	20 19 24.3	+3.2
PSZ	**Piszkesteto**	**13.91**	**337**	*e*Pn	**Pn**	**20 19 20.7**	**-0.4**
PSZ	**Piszkesteto**	**13.91**	**337**	*e*pPn	**P**	**20 19 28.7**	**-0.3**
PSZ	**Piszkesteto**	**13.91**	**337**	*e*Pn	**Pn**	**20 19 20.7**	**-0.4**
PSZ	**Piszkesteto**	**13.91**	**337**	*e*P	**P**	**20 19 28.7**	**-0.3**
UZH	**Uzhgorod**	**13.93**	**345**	*e*P	P	20 19 25.5	-3.6
UZH				*e*S	Sn	20 22 00.9	+6.0
UZH	comp=N,2µm,12.5s			MLR	MLR		
UZH	comp=E,2µm,12.5s			MLR	MLR		
UZH	comp=Z,1µm,12.5s			MLR	MLR		
UZH	**Uzhgorod**	**13.93**	**345**	*e*P	P	20 19 25.5	-3.6
BOJS	**Bojanci**	**13.94**	**321**	*e*Pn	Pn	20 19 18.3	-3.3
PKSG		**13.97**	**333**⇓	*e*Pn	P	20 19 26.2	-3.4
PKSG		**13.97**	**333**⇓	*e*P	P	20 19 26.2	-3.4
CSKK	**Cs^‡kako**	**14.00**	**332**⇑	*e*Pn	P	20 19 26.1	-3.8
PKST	**T^'s**	**14.00**	**332**⇑	*e*Pn	**Pn**	**20 19 25.4**	**+3.1**
NEY	**Neytrino**	**14.03**	**51**⇓	*e*P	**Pn**	**20 19 25.5**	**+2.6**
KOLS	**Kolonicke sedl**	**14.22**	**345**	*e*P	**P**	**20 19 34.0**	**+1.6**
GNI	**Garni**	**14.28**	**65**	*e*Pn	Pn	20 19 21.4	-4.9
GNI				*e*Pn	**Pn**	**20 19 26.4**	**+0.1**
GNI	**Garni**	**14.28**	**65**	Pn	**P**	**20 19 31.1**	**-2.1**
GNI	comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=3.1			LR	LR	20 25 14.1	
GNI	comp=Z,498nm,20.7s,baz=288,slow=38 **Garni**	**14.28**	**65**	*e*Pn	**Pn**	**20 19 26.4**	**+0.1**
GNI	**Garni**	**14.28**	**65**	*e*P	**Pn**	**20 19 29.3**	**+3.0**
KIV	comp=Z,23nm,1.5s **Kislovodsk**	**14.37**	**49**	*e*P	**Pn**	**20 19 29.2**	**+1.8**
KIV				*e*S	**Sn**	**20 22 08.4**	**+2.5**
KIV	comp=Z,62nm,0.9s			pmax	pmax		
KIV	comp=Z,402nm,11.0s			MLR	MLR		
KIV	**Kislovodsk**	**14.37**	**49**	*e*Pn	**Pn**	**20 19 27.7**	**+0.3**
KIV	**Kislovodsk**	**14.37**	**49**	*e*Pn	**Pn**	**20 19 27.7**	**+0.3**
CRVS	**Cervenica-Dubn**	**14.37**	**343**	*e*P	**P**	**20 19 34.6**	**+0.5**
CRVS	comp=Z,800nm,17.7s			MLR	MLR		
CRVS	**Cervenica-Dubn**	**14.37**	**343**	*e*P	**P**	**20 19 34.6**	**+0.5**
CRVS	**Cervenica-Dubn**	**14.37**	**343**	*e*P	**P**	**20 19 34.6**	**+0.5**
KBZ	comp=Z,800nm,17.7s **Khabaz**	**14.38**	**50**	P	**P**	**20 19 31.5**	**-2.7**
KBZ	**Khabaz**	**14.38**	**50**	Pn	**P**	**20 19 31.4**	**-2.7**
KBZ	**Khabaz**	**14.38**	**50**	Pn	**P**	**20 19 31.4**	**-2.7**
KBZ	comp=Z,0.1nm,0.3s,baz=226,slow=15,SNR=6.4 **Khabaz**	**14.38**	**50**	P	**P**	**20 19 31.5**	**-2.7**
ZEI	**Tsey**	**14.58**	**54**	*e*P	**Pn**	**20 19 29.7**	**-0.8**
ZEI	comp=Z,43nm,1.0s			pmax	pmax		
LJU	**Ljubljana**	**14.68**	**321**	*i* Pn	**Pn**	**20 19 30.0**	**-1.6**
LJU	**Ljubljana**	**14.68**	**321**	*i* Pn	**Pn**	**20 19 30.0**	**-1.6**
NCK	**Nalchik**	**14.71**	**51**	*e*P	**Pn**	**20 19 33.9**	**+1.9**
NCK	**Nalchik**	**14.71**	**51**	*e*P	**Pn**	**20 19 33.9**	**+1.9**
IMRD	**Marand**	**14.73**	**71**	*e*P	**Pn**	**20 19 34.9**	**+2.4**
IMRD	**Marand**	**14.73**	**71**	*e*P	**Pn**	**20 19 34.9**	**+2.4**
LVV	**L'vov**	**14.77**	**350**	*e*P	**P**	**20 19 40.2**	**+1.7**
LVV	comp=E,800nm,10.0s			MLR	MLR		
LVV	comp=N,300nm,22.0s			MLR	MLR		
LVV	comp=Z,400nm,22.0s			MLR	MLR		
JAVS	**Javornik**	**14.82**	**320**	*e*Pn	**Pn**	**20 19 31.8**	**-1.8**
JAVS	**Javornik**	**14.82**	**320**	*e*Pn	**Pn**	**20 19 31.8**	**-1.8**
TRI	**Trieste**	**14.86**	**319**	*e*P	**Pn**	**20 19 32.1**	**-2.0**
TRI	**Trieste**	**14.86**	**319**	*e*Pn	**Pn**	**20 19 32.1**	**-2.0**
TRI	**Trieste**	**14.86**	**319**	*e*Pn	**Pn**	**20 19 32.1**	**-2.0**
SOKA	**Soboth**	**14.87**	**324**⇓	*i*Pn	**Pn**	**20 19 33.8**	**-0.4**
SOKA	SNR=33 **Soboth**	**14.87**	**324**	Pn	**Pn**	**20 19 33.8**	**-0.4**
STHS	SNR=33 **Stebnicka Huta**	**14.90**	**343**	*e*P	**P**	**20 19 40.3**	**+0.3**
SOP	**Sopron**	**14.93**	**329**⇑	*e*Pn	**Pn**	**20 19 36.6**	**+1.6**
SOP	**Sopron**	**14.93**	**329**⇑	*e*Pn	**Pn**	**20 19 36.6**	**+1.6**
OBKA	**Obir**	**14.99**	**322**⇓	*i*Pn	**Pn**	**20 19 34.8**	**-1.0**
OBKA	SNR=21 **Obir**	**14.99**	**322**	Pn	**Pn**	**20 19 34.8**	**-1.0**
KEST	SNR=21 **Kesra**	**15.01**	**277**	*e*Pn	**Pn**	**20 19 33.3**	**-2.9**
KEST				Sn	**Sn**	**20 22 16.1**	**-5.6**
KEST	**Kesra**	**15.01**	**277**	Pn	**Pn**	**20 19 35.0**	**-1.3**
KEST	comp=Z,0.2nm,0.3s,baz=15,slow=5.3,SNR=19			Sn	**Sn**	**20 22 16.1**	**-5.6**
KEST	comp=Z,0.1nm,0.3s,baz=102,slow=20,SNR=3.9			LR	LR	20 25 42.4	
KEST	comp=Z,154nm,20.7s,baz=26,slow=39 **Kesra**	**15.01**	**277**	*e*Pn	**Pn**	**20 19 33.3**	**-2.9**
KEST				Sn	**Sn**	**20 22 16.0**	**-5.6**
ITBZ	**Tabriz**	**15.02**	**73**	*e*P	**P**	**20 19 41.9**	**+0.3**
ARSA	**Arzberg**	**15.05**	**326**⇑	*i*Pn	**Pn**	**20 19 35.9**	**-0.8**
ARSA	SNR=13 **Arzberg**	**15.05**	**326**	Pn	**Pn**	**20 19 35.9**	**-0.8**
NIE	SNR=13 **Niedzica**	**15.14**	**341**	*e*P	**P**	**20 19 42.4**	**-0.2**
GOF	**Gofitskoye**	**15.19**	**45**	*e*P	**P**	**20 19 45.7**	**+2.5**
GOF	comp=Z,60nm,0.9s			pmax	pmax		
VSL	**Villasalto**	**15.20**	**291**	*e*Pn	**Pn**	**20 19 35.8**	**-2.8**
VSL	comp=Z,68nm,1.3s **Villasalto**	**15.20**	**291**	*e*Pn	**Pn**	**20 19 35.8**	**-2.8**
CADS	comp=Z,68nm,1.3s **Cadrg**	**15.21**	**320**	*e*Pn	**Pn**	**20 19 37.4**	**-1.4**
CADS	**Cadrg**	**15.21**	**320**	*e*Pn	**Pn**	**20 19 37.4**	**-1.4**
IDHR	**Dehrash**	**15.27**	**87**	*e*P	**Pn**	**20 19 41.5**	**+1.7**
IDHR	**Dehrash**	**15.27**	**87**	*e*P	**Pn**	**20 19 41.5**	**+1.7**
AK02	**Malin Array Si**	**15.39**	**3**	*e*Pn	**Pn**	**20 19 38.5**	**-2.4**
AK02	**Malin Array Si**	**15.39**	**3**	*e*Pn	**Pn**	**20 19 38.5**	**-2.4**
CONA	**Conrad Observa** SNR=6.6	**15.42**	**329**⇓	*i*Pn	**Pn**	**20 19 41.2**	**-0.3**
CONA	**Conrad Observa** SNR=6.6	**15.42**	**329**	Pn	**Pn**	**20 19 41.2**	**-0.3**
AK01	**Malin Array Si**	**15.42**	**3**	*e*Pn	**Pn**	**20 19 40.2**	**-1.2**
AK01	**Malin Array Si**	**15.42**	**3**	*e*Pn	**Pn**	**20 19 40.2**	**-1.2**
KIEV	**Kiev**	**15.42**	**3**⇓	*e*P	**Pn**	**20 19 42.7**	**+1.3**
KIEV	**Kiev**	**15.42**	**3**	*e*Pn	**Pn**	**20 19 41.4**	**0.0**
KIEV	comp=Z,24nm,0.8s **Kiev**	**15.42**	**3**	*e*Pn	**Pn**	**20 19 41.4**	**0.0**
KIEV	comp=Z,24nm,0.8s **Kiev**	**15.42**	**3**	*e*P	**Pn**	**20 19 42.7**	**+1.3**
AKASG	**Malin Array Be**	**15.43**	**3**	P	**Pn**	**20 19 40.8**	**-0.7**
AKASG	comp=Z,6.0nm,0.3s			pmax	pmax		
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax		
AKASG	**Malin Array Be**	**15.43**	**3**	Pn	**Pn**	**20 19 40.8**	**-0.7**
AKASG				PcP	**PcP**	**20 24 44.5**	**+0.5**
AKASG				ScP	**ScP**	**20 28 16.5**	**+0.2**
AKASG	**Malin Array Be**	**15.43**	**3**	Pn	**Pn**	**20 19 40.8**	**-0.7**
	comp=Z,5.6nm,0.3s,baz=196,slow=11,SNR=44						
AKASG	comp=Z,0.7nm,0.3s,baz=182,slow=0.2,SNR=4.9			PcP	**PcP**	**20 24 44.5**	**+0.5**
AKASG	comp=Z,0.1nm,0.3s,baz=179,slow=0.9,SNR=4.6			ScP	**ScP**	**20 28 16.5**	**+0.2**
AKASG	**Malin Array Be**	**15.43**	**3**	Pn	**Pn**	**20 19 40.8**	**-0.7**
AKASG	**Malin Array Be**	**15.43**	**3**	PcP	**PcP**	**20 24 44.5**	**+0.5**
AKBB	**Malin Array Si**	**15.43**	**3**	*e*P	**Pn**	**20 19 39.8**	**-1.7**
AKBB	**Malin Array Si**	**15.43**	**3**	*e*Pn	**Pn**	**20 19 39.8**	**-1.7**
AKBB	**Malin Array Si**	**15.43**	**3**	*e*Pn	**Pn**	**20 19 39.8**	**-1.7**
IGHG	**Ghaleghazi**	**15.48**	**88**	*e*P	**P**	**20 19 47.7**	**+1.0**
MYKA	**Terra Mystica** SNR=20	**15.53**	**321**⇑	*i*Pn	**Pn**	**20 19 42.0**	**-0.9**
MYKA	**Terra Mystica** SNR=20	**15.53**	**321**	Pn	**Pn**	**20 19 42.0**	**-0.9**
IBST	**Bostanabad**	**15.57**	**76**	*e*P	**Pn**	**20 19 45.2**	**+1.6**
IBST	**Bostanabad**	**15.57**	**76**	*e*P	**Pn**	**20 19 45.2**	**+1.6**
IVIS	**Veis**	**15.68**	**87**	*e*P	**Pn**	**20 19 46.4**	**+1.5**
IVIS	**Veis**	**15.68**	**87**	*e*P	**Pn**	**20 19 46.4**	**+1.5**
ILIN	**Lien**	**15.72**	**86**	*e*P	**Pn**	**20 19 46.9**	**+1.3**
ILIN	**Lien**	**15.72**	**86**	*e*P	**Pn**	**20 19 46.9**	**+1.3**
IHRS	**Heris**	**15.73**	**73**	*e*P	**Pn**	**20 19 46.8**	**+1.1**
IHRS	**Heris**	**15.73**	**73**	*e*P	**Pn**	**20 19 46.8**	**+1.1**
KBA	**Koelnbreinsper** SNR=36	**15.98**	**322**⇓	*i*Pn	**Pn**	**20 19 48.0**	**-0.8**
KBA	**Koelnbreinsper** SNR=36	**15.98**	**322**	Pn	**Pn**	**20 19 48.0**	**-0.8**
MOA	**Molln** SNR=12	**16.07**	**325**⇑	*i*Pn	**Pn**	**20 19 49.9**	**0.0**
MOA	**Molln** SNR=12	**16.07**	**325**	Pn	**Pn**	**20 19 49.9**	**0.0**
OKC	**Ostrava-Krasne**	**16.14**	**337**	*e*P	**Pn**	**20 19 51.9**	**+1.2**
OKC	comp=Z,2µm,10.8s			MLR	MLR		
OKC	**Ostrava-Krasne**	**16.14**	**337**⇑	*e*P	**Pn**	**20 19 51.9**	**+1.2**
OKC				*ex*	x	20 19 54.4	
OKC	comp=Z,2µm,10.8s			AMS	AMS	20 27 20.0	
OKC	**Ostrava-Krasne**	**16.14**	**337**	*e*P	**Pn**	**20 19 51.9**	**+1.2**
ISRB	comp=Z,2µm,10.8s **Sarab**	**16.19**	**75**	*e*P	**Pn**	**20 19 52.7**	**+1.1**
ISRB	**Sarab**	**16.19**	**75**	*e*P	**Pn**	**20 19 52.7**	**+1.1**
ABTA	**Abfaltersbach** SNR=20	**16.20**	**320**⇑	*i*Pn	**Pn**	**20 19 50.2**	**-1.3**
ABTA	**Abfaltersbach** SNR=20	**16.20**	**320**	Pn	**Pn**	**20 19 50.2**	**-1.3**
VRAC	**Vranov**	**16.23**	**333**⇑	*i*P	**P**	**20 19 54.0**	**-0.7**
VRAC	**Vranov**	**16.23**	**333**	Pn	**Pn**	**20 19 52.3**	**+0.4**
VRAC	**Vranov**	**16.23**	**333**	Pn	**Pn**	**20 19 52.3**	**+0.4**
VRAC	comp=Z,1.7nm,0.3s,baz=140,slow=10,SNR=24			LR	LR	20 26 49.0	
VRAC	comp=Z,981nm,19.2s,baz=150,slow=40 **Vranov**	**16.23**	**333**	P	**Pn**	**20 19 52.3**	**+0.4**
PGF	comp=Z,16nm,28.6s **Pioggiola**	**16.28**	**302**	*e*P	**Pn**	**20 19 51.0**	**-1.7**
PGF	**Pioggiola**	**16.28**	**302**	*e*P	**Pn**	**20 19 51.0**	**-1.7**
PGF	**Pioggiola**	**16.28**	**302**	*e*P	**Pn**	**20 19 51.0**	**-1.7**
MORC	**Moravsky Berou**	**16.29**	**336**	*e*P	**Pn**	**20 19 51.3**	**-1.3**
MORC	comp=Z,87nm,1.7s			pmax	pmax		
MORC	**Moravsky Berou**	**16.29**	**336**⇓	*i*P	**P**	**20 19 54.1**	**-1.3**
MORC	**Moravsky Berou**	**16.29**	**336**	*e*Pn	**Pn**	**20 19 51.3**	**-1.3**
MORC	comp=Z,87nm,1.7s **Moravsky Berou**	**16.29**	**336**	*e*Pn	**Pn**	**20 19 51.3**	**-1.3**
IBZA	comp=Z,87nm,1.7s **Bozab**	**16.51**	**87**	*e*P	**P**	**20 19 58.1**	**-0.1**
CMAH	**Djebel Manchou**	**16.53**	**281**	P	**Pn**	**20 19 56.0**	**+0.2**
CMAH	**Djebel Manchou**	**16.53**	**281**	P	**Pn**	**20 19 56.0**	**+0.2**
TREC	**Trest**	**16.65**	**331**	*e*P	**Pn**	**20 19 57.0**	**-0.1**
TREC	comp=Z,700nm,12.9s			MLR	MLR		
TREC	**Trest**	**16.65**	**331**⇑	*e*P	**Pn**	**20 19 57.0**	**-0.1**
TREC				AMS	AMS	20 27 10.0	
TREC	comp=Z,700nm,12.9s **Trest**	**16.65**	**331**	*e*P	**Pn**	**20 19 57.0**	**-0.1**
KRLC	comp=Z,700nm,12.9s **Kraliky**	**16.80**	**335**	*e*P	**Pn**	**20 19 59.9**	**+0.8**
KRLC	**Kraliky**	**16.80**	**335**⇑	*e*P	**Pn**	**20 19 59.9**	**+0.8**
KRLC				*ex*	x	20 20 01.7	
KRLC	**Kraliky**	**16.80**	**335**	*e*P	**Pn**	**20 19 59.9**	**+0.8**
WTTA	**Wattenberg** SNR=47	**16.99**	**320**⇑	*i*Pn	**Pn**	**20 20 00.7**	**-0.9**
WTTA	**Wattenberg** SNR=47	**16.99**	**320**	Pn	**Pn**	**20 20 00.7**	**-0.9**
GEC2	**GERESS Array S**	**17.06**	**327**	*e*P	**Pn**	**20 20 02.6**	**+0.2**
GEC2	**GERESS Array S**	**17.06**	**327**	*e*P	**Pn**	**20 20 02.6**	**+0.2**
GEC2	comp=Z,60nm,1.0s			*e*L	L	20 26 40.3	
GEC2	comp=Z,874nm,18.4s **GERESS Array S**	**17.06**	**327**	*e*Pn	**Pn**	**20 20 02.6**	**+0.2**
GEC2	**GERESS Array S**	**17.06**	**327**	*e*P	**Pn**	**20 20 02.6**	**+0.2**
GERES	comp=Z,60nm,1.0s **GERESS Array B**	**17.06**	**327**	Pn	**Pn**	**20 20 02.4**	**0.0**
GERES				PcP	**PcP**	**20 24 46.8**	**+0.1**
GERES				ScP	**ScP**	**20 28 20.4**	**+0.7**
GERES	**GERESS Array B**	**17.06**	**327**	Pn	**Pn**	**20 20 02.4**	**0.0**
GERES	comp=Z,2.4nm,0.3s,baz=138,slow=12,SNR=128			PcP	**PcP**	**20 24 46.8**	**+0.1**
GERES	comp=Z,0.1nm,0.3s,baz=146,slow=2.3,SNR=2.9			LR	LR	20 26 32.8	
GERES	comp=Z,370nm,18.9s,baz=136,slow=37			ScP	**ScP**	**20 28 20.4**	**+0.7**
GERES	comp=Z,0.1nm,0.3s,baz=222,slow=3.6,SNR=5.0 **GERESS Array B**	**17.06**	**327**	P	**Pn**	**20 20 02.4**	**0.0**
GERES	comp=Z,16nm,28.6s **GERESS Array B**	**17.06**	**327**	PcP	**PcP**	**20 24 46.8**	**+0.1**
WATA	**Walderalm** SNR=75	**17.06**	**320**⇓	*i*Pn	**Pn**	**20 20 01.8**	**-0.7**
WATA	**Walderalm** SNR=75	**17.06**	**320**	Pn	**Pn**	**20 20 01.8**	**-0.7**
MAK	**Makhachkala**	**17.09**	**57**	*e*P	**P**	**20 20 04.3**	**0.0**
MAK				*e*S	**S**	**20 23 18.2**	**-2.8**
MAK	comp=Z,373nm,1.2s			pmax	pmax		
MAK	comp=Z,496nm,13.0s			MLR	MLR		
MAK	**Makhachkala**	**17.09**	**57**	*e*P	**P**	**20 20 04.3**	**0.0**
CKFL	comp=Z,373nm,1.2s **Kef-Lekhel**	**17.10**	**280**	P	**Pn**	**20 20 02.0**	**-1.1**
CKFL	**Kef-Lekhel**	**17.10**	**280**	P	**Pn**	**20 20 02.0**	**-1.1**
DPC	**Dobruska-Polom**	**17.20**	**335**	*e*P	**Pn**	**20 20 03.8**	**-0.2**
DPC	**Dobruska-Polom**	**17.20**	**335**	*e*P	**Pn**	**20 20 04.2**	**+0.2**
DPC				*ex*	x	20 20 05.6	
DPC				AMS	AMS	20 27 20.0	
DPC	**Dobruska-Polom**	**17.20**	**335**	*e*Pn	**Pn**	**20 20 03.8**	**-0.2**
DPC	**Dobruska-Polom**	**17.20**	**335**	*e*P	**Pn**	**20 20 03.8**	**-0.2**
BEL	**Belsk**	**17.27**	**345**	*e*P	**P**	**20 20 05.9**	**-0.3**
BEL	**Belsk**	**17.27**	**345**	*e*P	**P**	**20 20 05.9**	**-0.3**
BEL	**Belsk**	**17.27**	**345**	*e*P	**P**	**20 20 05.9**	**-0.3**
CASM	**Ain Smara**	**17.29**	**279**	P	**Pn**	**20 20 04.5**	**-0.9**
CASM	**Ain Smara**	**17.29**	**279**	P	**Pn**	**20 20 04.5**	**-0.9**
MOTA	**Moosalm** SNR=26	**17.32**	**319**⇑	*i*P	**Pn**	**20 20 05.1**	**-0.7**
MOTA	**Moosalm** SNR=26	**17.32**	**319**	P	**Pn**	**20 20 05.1**	**-0.7**
KHC	**Kasperske Hory**	**17.32**	**327**⇑	*i*P	**Pn**	**20 20 05.2**	**-0.4**
KHC	comp=Z,2µm,10.2s			MLR	MLR		
KHC	**Kasperske Hory**	**17.32**	**327**⇑	*i*P	**Pn**	**20 20 05.2**	**-0.4**
KHC				*ex*	x	20 20 10.0	
KHC				*es*P	**sP**	**20 20 19.0**	**+1.5**
KHC	comp=Z,2µm,10.2s			AMS	AMS	20 27 40.0	
KHC	**Kasperske Hory**	**17.32**	**327**	*e*Pn	**Pn**	**20 20 04.1**	**-1.5**
KHC	comp=Z,72nm,0.9s **Kasperske Hory**	**17.32**	**327**	*e*Pn	**Pn**	**20 20 04.1**	**-1.5**
KHC	comp=Z,72nm,0.9s **Kasperske Hory**	**17.32**	**327**	*i* P	**Pn**	**20 20 05.2**	**-0.4**
FETA	comp=Z,2µm,10.2s **Feichten** SNR=64	**17.33**	**318**⇑	*i*Pn	**Pn**	**20 20 05.0**	**-0.8**
FETA	**Feichten** SNR=64	**17.33**	**318**	Pn	**Pn**	**20 20 05.0**	**-0.8**
UPC	**Upice**	**17.44**	**334**	*e*P	**Pn**	**20 20 07.5**	**+0.5**
UPC	**Upice**	**17.44**	**334**⇑	*e*P	**Pn**	**20 20 07.5**	**+0.5**
UPC	**Upice**	**17.44**	**334**	*e*P	**Pn**	**20 20 07.5**	**+0.5**
PRU	**Pruhonice**	**17.57**	**331**	*e*P	**Pn**	**20 20 07.5**	**-1.2**
PRU	comp=Z,1µm,13.4s			MLR	MLR		
PRU	**Pruhonice**	**17.57**	**331**⇑	*e*P	**Pn**	**20 20 07.5**	**-1.2**
PRU				*ex*	x	20 20 09.8	
PRU	comp=Z,1µm,13.4s			AMS	AMS	20 27 50.0	
PRU	**Pruhonice**	**17.57**	**331**	*e*P	**Pn**	**20 20 07.5**	**-1.2**
RETA	comp=Z,1µm,13.4s **Reutte** SNR=18	**17.59**	**319**⇑	*i*P	**Pn**	**20 20 08.2**	**-0.8**
RETA	**Reutte** SNR=18	**17.59**	**319**	P	**Pn**	**20 20 08.2**	**-0.8**
KSP	**Ksiaz**	**17.62**	**335**⇑	*e*P	**Pn**	**20 20 09.3**	**+0.1**
KSP	**Ksiaz**	**17.62**	**335**	*e*P	**Pn**	**20 20 09.4**	**+0.2**
KSP	**Ksiaz**	**17.62**	**335**⇑	*e*P	**Pn**	**20 20 09.3**	**+0.1**
DAVOX	**Davos/Dischmat**	**17.66**	**316**	Pn	**Pn**	**20 20 10.0**	**0.0**
DAVOX	**Davos/Dischmat**	**17.66**	**316**	Pn	**Pn**	**20 20 10.0**	**0.0**
DAVOX	comp=Z,1.9nm,0.3s,baz=131,slow=11,SNR=20			LR	LR	20 27 21.6	
DAVOX	comp=Z,1µm,19.9s,baz=101,slow=39 **Davos/Dischmat**	**17.66**	**316**	P	**Pn**	**20 20 10.0**	**0.0**
VORD	comp=Z,16nm,28.6s **Divnogorie**	**17.74**	**24**	*e*P	**P**	**20 20 12.2**	**+0.8**
VORD	comp=N,20nm,0.8s			pmax	pmax		
VORD	comp=E,20nm,0.8s			pmax	pmax		
VORD	comp=Z,20nm,0.8s			pmax	pmax		
VORD	comp=N,260nm,15.0s			MLR	MLR		
VORD	comp=E,310nm,15.0s			MLR	MLR		
VORD	comp=Z,450nm,15.0s			MLR	MLR		
FUR	**Furstenfeldbru** comp=Z,122nm,1.0s	**17.75**	**321**	*e*P	**Pn**	**20 20 10.1**	**-0.8**
FUR				*e*L	L	20 26 50.5	
FUR	comp=Z,716nm,20.3s **Furstenfeldbru** comp=Z,122nm,1.0s	**17.75**	**321**	*e*P	**Pn**	**20 20 10.1**	**-0.8**
DFRA	**Djebel Bou Aff**	**17.77**	**280**	P	P	20 20 19.0	+7.0
TUE	**Stuetta**	**17.80**	**314**	*e*Pn	**Pn**	**20 20 09.3**	**-2.5**
TUE	comp=Z,55nm,1.2s **Stuetta**	**17.80**	**314**	*e*Pn	**Pn**	**20 20 09.3**	**-2.5**
REVF	comp=Z,55nm,1.2s **Revere**	**17.82**	**304**⇓	*e*P	**P**	**20 20 12.8**	**+0.4**
REVF	**Revere**	**17.82**	**304**⇓	*e*P	**P**	**20 20 12.8**	**+0.4**
SBF	**Sospel**	**17.82**	**305**	*e*P	**Pn**	**20 20 09.9**	**-2.0**
SBF	comp=Z,172nm,0.7s **Sospel**	**17.82**	**305**	*e*P	**Pn**	**20 20 09.9**	**-2.0**
SBF	comp=Z,172nm,0.7s			pmax	pmax		
SBF	**Sospel**	**17.82**	**305**	*e*P	**Pn**	**20 20 09.9**	**-2.0**
SBF	comp=Z,172nm,0.7s **Sospel**	**17.82**	**305**	*e*P	**Pn**	**20 20 09.9**	**-2.0**
AUTN	comp=Z,86nm,0.7s **L'Aution**	**17.88**	**305**	*e*P	**Pn**	**20 20 08.4**	**-4.3**
LUCF	**Luceram**	**17.89**	**305**⇓	*e*P	**Pn**	**20 20 12.2**	**-0.6**
LUCF	**Luceram**	**17.89**	**305**⇓	*e*P	**Pn**	**20 20 12.2**	**-0.6**
VSR	**Storozhevoye**	**17.91**	**24**	*e*P	**P**	**20 20 13.6**	**+0.4**
VSR	comp=N,20nm,0.8s			pmax	pmax		
VSR	comp=E,10.0nm,0.8s			pmax	pmax		
VSR	comp=Z,30nm,0.8s			pmax	pmax		
VSR	comp=N,370nm,15.0s			MLR	MLR		
VSR	comp=E,420nm,15.0s			MLR	MLR		
VSR	comp=Z,500nm,15.0s			MLR	MLR		
VSR	**Storozhevoye**	**17.91**	**24**	*e*P	**P**	**20 20 13.6**	**+0.4**
DAVA	**Damuels** SNR=21	**17.95**	**317**	*i* P	**Pn**	**20 20 12.6**	**-1.0**
DAVA	**Damuels** SNR=21	**17.95**	**317**	P	**Pn**	**20 20 12.6**	**-1.0**
PVCC	**Panska Ves**	**17.99**	**332**	*e*P	**Pn**	**20 20 13.7**	**-0.1**
PVCC	comp=Z,1µm,8.6s			MLR	MLR		
PVCC	**Panska Ves**	**17.99**	**332**⇑	*e*P	**Pn**	**20 20 13.7**	**-0.1**
PVCC	comp=Z,1µm,8.6s			AMS	AMS	20 28 50.0	
PVCC	**Panska Ves**	**17.99**	**332**	*e*P	**Pn**	**20 20 13.7**	**-0.1**
TOUF	comp=Z,1µm,8.6s **Mont Tournerai**	**18.00**	**305**⇓	*e*P	**Pn**	**20 20 12.8**	**-1.4**
TOUF	**Mont Tournerai**	**18.00**	**305**⇓	*e*P	**Pn**	**20 20 12.8**	**-1.4**
MVIF	**Mont Vial**	**18.02**	**305**	*e*P	**Pn**	**20 20 11.5**	**-3.0**
MVIF	**Mont Vial**	**18.02**	**305**	*e*P	**Pn**	**20 20 11.5**	**-3.0**
IRAZ	**Razeghan**	**18.08**	**83**	*e*P	**P**	**20 20 16.8**	**+1.3**
CALN	**Calern**	**18.15**	**304**	*e*P	**Pn**	**20 20 14.8**	**-1.2**
CALN	**Calern**	**18.15**	**304**	*e*P	**Pn**	**20 20 14.8**	**-1.2**
SET	**Setif**	**18.18**	**279**	P	**Pn**	**20 20 15.0**	**-1.3**
SET	**Setif**	**18.18**	**279**	P	**Pn**	**20 20 15.0**	**-1.3**
IGZV	**Ghazvin**	**18.23**	**80**	*e*P	**P**	**20 20 18.3**	**+1.1**
ROTZ	**Rotzenmuhle** comp=Z,92nm,1.6s	**18.40**	**327**	*e*P	**P**	**20 20 18.7**	**0.0**
ROTZ	**Rotzenmuhle** comp=Z,92nm,1.6s	**18.40**	**327**	*e*P	**P**	**20 20 18.7**	**0.0**
BRG	**Berggiesshubel** comp=Z,14nm,0.9s	**18.50**	**332**	*e*P	**P**	**20 20 19.3**	**-0.5**
BRG	comp=N,1µm,12.0s			*e*L	L	20 27 04.3	
BRG	comp=E,1µm,12.9s			*e*L	L	20 27 04.3	
BRG	comp=Z,913nm,12.2s			*e*L	L	20 27 04.3	
BRG	**Berggiesshubel** comp=Z,14nm,0.9s	**18.50**	**332**	*e*P	**P**	**20 20 19.3**	**-0.5**
BRG	comp=N,1µm,12.0s			pmax	pmax		
BRG	comp=E,1µm,12.9s			MLR	MLR		
BRG	comp=Z,913nm,12.2s			MLR	MLR		
BRG	**Berggiesshubel** comp=Z,19nm,1.3s	**18.50**	**332**	*e*P	**P**	**20 20 19.9**	**+0.1**
BRG	comp=Z,479nm,22.0s			*e*L	L	20 27 04.3	
BRG	**Berggiesshubel** comp=Z,913nm,12.2s	**18.50**	**332**	*e*P	**P**	**20 20 19.3**	**-0.5**
OG22	**Abries**	**18.52**	**307**⇓	*e*P	**Pn**	**20 20 21.5**	**+1.0**
MBDF	**Montbardon** comp=Z,72nm,0.7s	**18.59**	**307**	*e*P	**P**	**20 20 18.3**	**-2.7**
MBDF	**Montbardon**	**18.59**	**307**	*e*P	**P**	**20 20 18.3**	**-2.7**
MBDF	comp=Z,72nm,0.7s			pmax	pmax		
MBDF	**Montbardon** comp=Z,72nm,0.7s	**18.59**	**307**	*e*P	**P**	**20 20 18.3**	**-2.7**
MBDF	**Montbardon** comp=Z,36nm,0.7s	**18.59**	**307**	*e*P	**P**	**20 20 18.3**	**-2.7**
NKC	**Novy Kostel**	**18.63**	**328**	*e*P	**P**	**20 20 20.6**	**-0.7**
NKC	com

SUW Suwalki 18.99 352 eP P 20 20 24.7 -0.4
SUW Suwalki 18.99 352 eP P 20 20 24.6 -0.5
SUW Suwalki 18.99 352 eP P 20 20 23.7 -1.3
comp=Z,70nm,1.0s
SUW Suwalki 18.99 352 eP P 20 20 23.7 -1.3
comp=Z,70nm,1.0s
SPAK Spaichingen-Ko 19.03 318⇓eP P 20 20 24.0 -1.7
LPSR Galich'ya Gora 19.03 21 eP P 20 20 25.8 +0.2
RSL Roselend 19.08 309⇓eP P 20 20 25.3 -1.1
RSL Roselend 19.08 309⇓eP P 20 20 25.3 -1.1
SMRF Simiane la Rot 19.12 304 eP P 20 20 25.0 -1.7
comp=Z,45nm,0.8s
SMRF Simiane la Rot 19.12 304 eP P 20 20 25.0 -1.7
comp=Z,45nm,0.8s
SMRF Simiane la Rot 19.12 304 eP P 20 20 25.0 -1.7
comp=Z,22nm,0.8s
MICGM Minsk 19.20 0 e P 20 20 16.0 -11
MNK Minsk 19.20 0 eP P 20 20 16.0 -11
STU Stuttgart 19.21 320 eP P 20 20 25.4 -2.1
STU pmax pmax
comp=Z,30nm,0.7s
STU Stuttgart 19.21 320 eL L 20 28 26.3
comp=Z,663nm,18.6s
STU Stuttgart 19.21 320 eP P 20 20 25.4 -2.1
comp=Z,30nm,0.7s
STU Stuttgart 19.21 320 eP P 20 20 25.4 -2.1
comp=Z,30nm,0.7s
CLL Collm 19.21 331⇓iP P 20 20 26.1 -1.5
CLL Collm 19.21 331 eP P 20 20 26.2 -1.4
comp=Z,49nm,1.0s
CLL eL L 20 27 35.4
comp=Z,561nm,22.0s
CLL Collm 19.21 331⇓iP P 20 20 26.1 -1.5
CLL ⇓iPmax 20 20 28.4
comp=Z,49nm,1.0s
CLL esS S 20 24 10.0 +6.5
CLL Lmax 20 29 00.0
CLL Collm 19.21 331 i P P 20 20 26.1 -1.5
ORIF Oris-en-Rattie 19.25 307 eP P 20 20 25.7 -2.5
comp=Z,33nm,0.5s
ORIF eR
comp=Z,1µm,22.5s
ORIF Oris-en-Rattie 19.25 307 eP P 20 20 25.7 -2.5
ORIF pmax pmax
comp=Z,33nm,0.5s
ORIF Oris-en-Rattie 19.25 307 eP P 20 20 25.7 -2.5
comp=Z,33nm,0.5s
ORIF Oris-en-Rattie 19.25 307 eP P 20 20 25.7 -2.5
comp=Z,16nm,0.5s
FELD Feldberg im Sc 19.34 317⇓eP P 20 20 28.8 -0.3
IPIR Pirpir 19.34 91 eP Pn 20 20 31.5 +0.8
BBS Basel-Blauen 19.40 315⇓eP P 20 20 28.5 -1.2
BFO Black Forest 19.41 318ceP P 20 20 29.3 -0.6
BFO Black Forest 19.41 318 eP P 20 20 29.2 -0.6
comp=Z,91nm,1.4s
BFO Black Forest 19.41 318 ePn P 20 20 26.9 -2.9
BFO Black Forest 19.41 318 eP P 20 20 29.2 -0.6
comp=Z,91nm,1.4s
GKP Gorka Klasztor 19.45 341 eP P 20 20 29.4 -0.7
GKP Gorka Klasztor 19.45 341 eP P 20 20 29.3 -0.8
GKP Gorka Klasztor 19.45 341 eP P 20 20 29.4 -0.7
QAM Ghamsar 19.56 88 eP Pn 20 20 36.1 +3.0
NACGM Naroch 19.61 358 e P 20 20 30.0 -1.9
LOMF Lomont 19.74 314⇓eP P 20 20 31.8 -1.6
LOMF Lomont 19.74 314⇓eP P 20 20 31.8 -1.6
IKLH Kolahrood 19.76 89 eP Pn 20 20 36.5 +0.9
IDMV Damavand 19.77 82 eP Pn 20 20 36.2 +0.5
MOF Molkenrain 19.82 316⇓eP P 20 20 32.6 -1.7
MOF Molkenrain 19.82 316⇓eP P 20 20 32.6 -1.7
CABF La Chapelle 19.83 311 eP P 20 20 32.2 -2.3
comp=Z,78nm,0.5s
CABF La Chapelle 19.83 311 eP P 20 20 32.2 -2.3
CABF pmax pmax
comp=Z,78nm,0.5s
CABF La Chapelle 19.83 311 eP P 20 20 32.2 -2.3
comp=Z,78nm,0.5s
CABF La Chapelle 19.83 311 eP P 20 20 32.2 -2.3
comp=Z,39nm,0.5s
RUE Ruedersdorf 19.85 334 eP P 20 20 30.9 -3.6
comp=Z,139nm,1.1s
TOD Tromm 19.93 322⇓eP P 20 20 34.1 -1.3
HINF Hinteralfeld 19.96 315 eP P 20 20 33.7 -2.1
comp=Z,25nm,0.5s
HINF Hinteralfeld 19.96 315 eP P 20 20 33.7 -2.1
HINF pmax pmax
comp=Z,25nm,0.5s
HINF Hinteralfeld 19.96 315 eP P 20 20 33.7 -2.1
comp=Z,25nm,0.5s
HINF Hinteralfeld 19.96 315 eP P 20 20 33.7 -2.1
comp=Z,13nm,0.5s
ECH Echery 20.00 316 eP P 20 20 32.6 -3.6
ECH pmax pmax
comp=Z,25nm,0.9s
ECH Echery 20.00 316 eP P 20 20 35.5 -0.7
ECH Echery 20.00 316 eP P 20 20 32.6 -3.6
comp=Z,25nm,0.9s
ECH Echery 20.00 316 eP P 20 20 35.5 -0.7
VIVF Saint-Julien-l 20.03 305 eP P 20 20 33.8 -2.8
comp=Z,61nm,0.5s
VIVF Saint-Julien-l 20.03 305 eP P 20 20 33.8 -2.8
VIVF pmax pmax
comp=Z,61nm,0.5s
VIVF Saint-Julien-l 20.03 305 eP P 20 20 33.8 -2.8
comp=Z,61nm,0.5s
VIVF Saint-Julien-l 20.03 305 eP P 20 20 33.8 -2.8
comp=Z,31nm,0.5s
IDID Didziasalis 20.03 358 eP P 20 20 34.7 -1.8
IDID AMB AMB 20 20 48.1
comp=Z,9.6nm,1.1s
IDID Didziasalis 20.03 358 eP P 20 20 34.7 -1.8
comp=Z,9.6nm,1.1s,SNR=33
CDF Champ du Feu 20.04 317 eP P 20 20 35.8 -0.9
comp=Z,70nm,0.8s
CDF Champ du Feu 20.04 317 eP P 20 20 35.8 -0.9
CDF pmax pmax
comp=Z,71nm,0.8s
CDF Champ du Feu 20.04 317 eP P 20 20 35.8 -0.9
comp=Z,70nm,0.8s
CDF Champ du Feu 20.04 317 eP P 20 20 35.8 -0.9
comp=Z,35nm,0.8s
LANF Langenberg 20.07 319⇓eP P 20 20 35.9 -1.1
LANF Langenberg 20.07 319⇓eP P 20 20 35.9 -1.1
IIGN Ignalina 20.08 357 eP P 20 20 35.3 -1.7
IIGN AMB AMB 20 20 50.1
comp=Z,13nm,1.1s
IIGN Ignalina 20.08 357 eP P 20 20 35.3 -1.7
comp=Z,13nm,1.1s,SNR=33
KTD Kalmit 20.12 320 eP P 20 20 36.3 -1.3
EMHD Djebel Mahouad 20.15 280 P Pn 20 20 39.5 -0.6
SSB Saint Sauveur 20.27 307 eP P 20 20 34.0 -5.2
SSB Saint Sauveur 20.27 307 eP P 20 20 34.0 -5.2
SSB Saint Sauveur 20.27 307 eP P 20 20 34.0 -5.2
ISAL Salakas 20.31 357 eP P 20 20 37.7 -1.8
ISAL AMB AMB 20 20 49.1
comp=Z,8.6nm,0.9s
ISAL Salakas 20.31 357 eP P 20 20 37.7 -1.8
comp=Z,8.6nm,0.9s,SNR=33
LASF Ste Croix 20.33 303 eP P 20 20 37.4 -2.4
comp=Z,74nm,0.7s
LASF Ste Croix 20.33 303 eP P 20 20 37.4 -2.4
comp=Z,74nm,0.7s
LASF Ste Croix 20.33 303 eP P 20 20 37.4 -2.4
comp=Z,37nm,0.7s
IFIR Firoozkooh 20.34 82 eP Pn 20 20 43.0 +0.5
HAU Haudompre 20.35 315 eP P 20 20 38.3 -1.7
comp=Z,89nm,0.8s
HAU eR
comp=Z,1µm,22.0s
HAU Haudompre 20.35 315 eP P 20 20 38.3 -1.7
HAU pmax pmax
comp=Z,89nm,0.8s
HAU Haudompre 20.35 315 eP P 20 20 38.3 -1.7
comp=Z,89nm,0.8s
HAU Haudompre 20.35 315 eP P 20 20 38.3 -1.7
comp=Z,44nm,0.8s
IZEF Zefreh 20.47 90 eP Pn 20 20 43.4 -0.6
TNS Taunus Mts 20.49 323 eP P 20 20 40.8 -0.8
comp=Z,110nm,0.8s
TNS Taunus Mts 20.49 323 eP P 20 20 40.8 -0.8
comp=Z,110nm,0.8s
ILAS Lasjerd 20.54 82 eP Pn 20 20 44.0 -0.8
THEF They Montfort 20.67 315⇓eP P 20 20 42.4 -1.1
THEF They Montfort 20.67 315⇓eP P 20 20 42.4 -1.1
OBN Obninsk 20.73 14⇑eP P 20 20 43.3 -0.7
OBN i S S 20 24 36.4 +2.4
OBN pmax pmax
comp=Z,32nm,0.5s
OBN MLR MLR
comp=Z,800nm,18.0s
OBN Obninsk 20.73 14 eP P 20 20 42.5 -1.5
comp=Z,68nm,0.4s
OBN Obninsk 20.73 14 P P 20 20 43.2 -0.9
comp=Z,53nm,0.4s,baz=231,slow=1.8,SNR=14
OBN Obninsk 20.73 14 eP P 20 20 42.5 -1.5
comp=Z,68nm,0.4s
ISHM Shahmirzad 20.76 81 eP Pn 20 20 46.6 -0.8
RUP Ruppelstein 20.89 320⇓eP P 20 20 44.5 -1.4
COLF Collangettes 20.91 307⇓eP P 20 20 45.4 -0.8
COLF Collangettes 20.91 307⇓eP P 20 20 45.4 -0.8
LRDF Laroque-de-Fa 20.96 299⇓eP P 20 20 44.6 -2.1
LRDF Laroque-de-Fa 20.96 299⇓eP P 20 20 44.6 -2.1
PAGF Fort de Pagny 20.99 316 eP P 20 20 45.1 -1.8
comp=Z,24nm,0.9s,baz=128
PAGF Fort de Pagny 20.99 316 eP P 20 20 45.1 -1.8
comp=Z,24nm,0.9s
PAGF Fort de Pagny 20.99 316 eP P 20 20 45.1 -1.8
comp=Z,12nm,0.9s
IKIA Kiasar 21.04 80 eP P 20 20 49.4 +1.6
LBL Lubilhac 21.11 305⇓eP P 20 20 47.3 -1.0
LBL Lubilhac 21.11 305⇓eP P 20 20 47.3 -1.0
PLDF La Plantade 21.12 308⇓eP P 20 20 46.5 -2.0
PLDF La Plantade 21.12 308⇓eP P 20 20 46.5 -2.0
IGLO Ghaloghah 21.13 79 eP P 20 20 50.3 +1.5
SFTF Sexfontaines 21.21 314 eP P 20 20 47.6 -1.7
comp=Z,184nm,0.9s,baz=119
SFTF Sexfontaines 21.21 314 eP P 20 20 47.6 -1.7
comp=Z,184nm,0.9s
SFTF Sexfontaines 21.21 314 eP P 20 20 47.6 -1.7
comp=Z,92nm,0.9s
VALF Valcebollere 21.22 297⇓eP P 20 20 48.9 -0.8
VALF Valcebollere 21.22 297⇓eP P 20 20 48.9 -0.8
SMF Signal de Mont 21.24 310 eP P 20 20 47.5 -2.2
comp=Z,113nm,0.4s
SMF Signal de Mont 21.24 310 eP P 20 20 47.5 -2.2
SMF pmax pmax
comp=Z,113nm,0.4s
SMF Signal de Mont 21.24 310 eP P 20 20 47.5 -2.2
comp=Z,113nm,0.4s
SMF Signal de Mont 21.24 310 eP P 20 20 47.5 -2.2
comp=Z,56nm,0.4s
EBNR Beni Rached 21.29 280 P P 20 20 48.0 -2.3
EBNR Beni Rached 21.29 280 P P 20 20 48.0 -2.3
MEZF Maizieres J'vi 21.35 315 eP P 20 20 49.2 -1.5
comp=Z,86nm,0.6s,baz=125
MEZF Maizieres J'vi 21.35 315 eP P 20 20 49.2 -1.5
comp=Z,43nm,0.6s
MEZF Maizieres J'vi 21.35 315 eP P 20 20 49.2 -1.5
comp=Z,43nm,0.6s
WLF Walferdange 21.35 319 P P 20 20 49.3 -1.5
comp=Z,21nm,1.2s
WLF Walferdange 21.35 319 eP P 20 20 47.9 -2.9
WLF pmax pmax
comp=Z,30nm,0.9s
WLF Walferdange 21.35 319 eP P 20 20 49.3 -1.5
WLF Walferdange 21.35 319 eP P 20 20 47.9 -2.9
comp=Z,30nm,0.9s
WLF Walferdange 21.35 319 eP P 20 20 47.9 -2.9
comp=Z,30nm,0.9s
ECHA Ech Chlef 21.43 280 P P 20 20 55.0 +3.2
PYM Petit Puy Mans 21.44 307⇓eP P 20 20 50.4 -1.5
PYM Petit Puy Mans 21.44 307⇓eP P 20 20 50.4 -1.5
AGO Saint Agoulin 21.47 308⇓eP P 20 20 50.8 -1.3
AGO Saint Agoulin 21.47 308⇓eP P 20 20 50.8 -1.3
LOR Lormes 21.49 311 eP P 20 20 50.0 -2.3
comp=Z,32nm,0.5s,baz=126
LOR eR
comp=Z,853nm,20.0s
LOR Lormes 21.49 311 eP P 20 20 50.0 -2.3
comp=Z,32nm,0.5s
LOR Lormes 21.49 311 eP P 20 20 50.0 -2.3
comp=Z,16nm,0.5s
MOS Moscow 21.53 15 eP P 20 20 52.2 -0.5
MOS e 20 21 13.5
MOS eS S 20 24 47.7 -2.2
MOS pmax pmax
comp=Z,40nm,0.9s
MOS MLR MLR
comp=Z,800nm,19.0s
MOS Moscow 21.53 15 eP P 20 20 52.2 -0.5
comp=Z,40nm,0.9s
ETRT Tiaret 21.57 278 P P 20 20 53.0 -0.5
ETRT Tiaret 21.57 278 P P 20 20 53.0 -0.5
AVF Avril sur Loir 21.61 310 eP P 20 20 51.4 -2.2
comp=Z,54nm,0.5s
AVF Avril sur Loir 21.61 310 eP P 20 20 51.4 -2.2
AVF pmax pmax
comp=Z,54nm,0.5s
AVF Avril sur Loir 21.61 310 eP P 20 20 51.4 -2.2
comp=Z,54nm,0.5s
AVF Avril sur Loir 21.61 310 eP P 20 20 51.4 -2.2
comp=Z,27nm,0.5s
FRNF Fournols 21.61 305⇓eP P 20 20 53.1 -0.6
FRNF Fournols 21.61 305⇓eP P 20 20 53.1 -0.6
SSF Saint Saulge 21.62 310 eP P 20 20 51.8 -1.9
comp=Z,200nm,0.7s
SSF Saint Saulge 21.62 310 eP P 20 20 51.8 -1.9
SSF pmax pmax
comp=Z,200nm,0.7s
SSF Saint Saulge 21.62 310 eP P 20 20 51.8 -1.9
comp=Z,200nm,0.7s
SSF Saint Saulge 21.62 310 eP P 20 20 51.8 -1.9
comp=Z,100nm,0.7s
EANR 'Ain N'Sour 21.67 280 P P 20 20 57.0 +2.6
BSD Bornholm Skovb 21.72 340 i P P 20 20 52.2 -2.5
BSD pmax pmax
comp=Z,13nm,0.4s
BSD Bornholm Skovb 21.72 340 i P P 20 20 52.2 -2.5
comp=Z,13nm,0.3s
BSD Bornholm Skovb 21.72 340 i P P 20 20 52.2 -2.5
comp=Z,13nm,0.4s
CAF Calviac 21.81 304 eP P 20 20 54.0 -1.8
comp=Z,25nm,0.5s
CAF Calviac 21.81 304 eP P 20 20 54.0 -1.8
CAF pmax pmax
comp=Z,25nm,0.5s
CAF Calviac 21.81 304 eP P 20 20 54.0 -1.8
comp=Z,25nm,0.5s
CAF Calviac 21.81 304 eP P 20 20 54.0 -1.8
comp=Z,13nm,0.5s
ISAD Sadrabad 21.83 91 eP P 20 20 58.4 +2.0
BGF Bois d'Agland 21.84 309 eP P 20 20 54.2 -1.9
comp=Z,109nm,0.6s
BGF Bois d'Agland 21.84 309 eP P 20 20 54.2 -1.9
BGF pmax pmax
comp=Z,109nm,0.6s
BGF Bois d'Agland 21.84 309 eP P 20 20 54.2 -1.9
comp=Z,109nm,0.6s
BGF Bois d'Agland 21.84 309 eP P 20 20 54.2 -1.9
comp=Z,54nm,0.6s
IPAR Pars 21.96 97 eP P 20 20 59.1 +1.2
MEM Membach 21.97 321 P P 20 20 56.4 -1.0
comp=Z,27nm,1.3s
MEM Membach 21.97 321 eP P 20 20 54.5 -2.9
MEM pmax pmax
comp=Z,48nm,0.9s
MEM Membach 21.97 321 eP P 20 20 54.5 -2.9
comp=Z,48nm,0.9s
MEM Membach 21.97 321 eP P 20 20 54.5 -2.9
comp=Z,48nm,0.9s
MLS Moulis 22.00 298⇓eP P 20 20 58.3 +0.5
MLS Moulis 22.00 298⇓eP P 20 20 58.3 +0.5
HGN Heimansgroeve 22.10 321 eP P 20 20 58.9 +0.1
TCF Toulx Ste Croi 22.15 307 eP P 20 20 57.2 -2.3
TCF Toulx Ste Croi 22.15 307 eP P 20 20 57.2 -2.3
TCF Toulx Ste Croi 22.15 307 eP P 20 20 57.2 -2.3
TCF Toulx Ste Croi 22.15 307 eP P 20 20 57.2 -2.3
ISRV Sarvestan 22.18 98 eP P 20 21 01.4 +1.2
BCLA Clavier 22.23 320 P P 20 20 58.4 -1.8
comp=Z,16nm,0.8s
BCLA Clavier 22.23 320 P P 20 20 58.4 -1.8
comp=Z,16nm,0.8s
HYF Humbligny 22.25 310 eP P 20 20 59.5 -0.9
HYF Humbligny 22.25 310 eP P 20 20 59.5 -0.9
HYF Humbligny 22.25 310 eP P 20 20 59.5 -0.9
RJF Les Rejaudoux 22.29 305 eP P 20 20 59.3 -1.6
comp=Z,44nm,0.6s
RJF eR
comp=Z,691nm,18.8s
RJF Les Rejaudoux 22.29 305 eP P 20 20 59.3 -1.6
RJF pmax pmax
comp=Z,44nm,0.6s
RJF Les Rejaudoux 22.29 305 eP P 20 20 59.3 -1.6
comp=Z,44nm,0.6s
RJF Les Rejaudoux 22.29 305 eP P 20 20 59.3 -1.6
comp=Z,22nm,0.6s
GIVF Givet 22.31 319 eP P 20 20 58.7 -2.4
comp=Z,32nm,0.5s
GIVF Givet 22.31 319 eP P 20 20 58.7 -2.4
GIVF pmax pmax
comp=Z,32nm,0.5s
GIVF Givet 22.31 319 eP P 20 20 58.7 -2.4
comp=Z,32nm,0.5s
GIVF Givet 22.31 319 eP P 20 20 58.7 -2.4
comp=Z,16nm,0.5s
ICHK Chekchek 22.33 90 eP P 20 21 03.0 +1.3
DOU Dourbes 22.43 318 P P 20 21 00.1 -2.2
comp=Z,16nm,1.1s
DOU Dourbes 22.43 318 P P 20 21 00.1 -2.2
comp=Z,16nm,1.1s
EPF Esparros 22.56 298 eP P 20 21 01.0 -2.9
comp=Z,25nm,0.6s
EPF Esparros 22.56 298 eP P 20 21 01.0 -2.9
EPF pmax pmax
comp=Z,25nm,0.6s
EPF Esparros 22.56 298 eP P 20 21 01.0 -2.9
comp=Z,25nm,0.6s
EPF Esparros 22.56 298 eP P 20 21 01.0 -2.9
comp=Z,12nm,0.6s
BAIF Baives 22.62 318 eP P 20 21 02.1 -2.3
comp=Z,33nm,0.5s
BAIF Baives 22.62 318 eP P 20 21 02.1 -2.3
BAIF pmax pmax
comp=Z,33nm,0.5s
BAIF Baives 22.62 318 eP P 20 21 02.1 -2.3
comp=Z,33nm,0.5s
BAIF Baives 22.62 318 eP P 20 21 02.1 -2.3
comp=Z,16nm,0.5s
LFF La Frestale 22.71 303 eP P 20 21 04.0 -1.4
comp=Z,62nm,0.7s
LFF La Frestale 22.71 303 eP P 20 21 04.0 -1.4
LFF pmax pmax
comp=Z,62nm,0.6s
LFF La Frestale 22.71 303 eP P 20 21 04.0 -1.4
comp=Z,62nm,0.6s
LFF La Frestale 22.71 303 eP P 20 21 04.0 -1.4
comp=Z,31nm,0.7s
IMEH Mehriz 22.73 92 eP P 20 21 07.7 +1.6
VIEF Viey 22.76 298⇓eP P 20 21 06.4 +0.4
VIEF Viey 22.76 298⇓eP P 20 21 06.4 +0.4
SNF Seneffe 22.82 319 P P 20 21 05.4 -1.0
SNF Seneffe 22.82 319 P P 20 21 05.4 -1.0
TAM Tamanrasset 23.04 243 eP P 20 21 05.9 -3.2
TAM pmax pmax
comp=Z,35nm,1.1s
TAM Tamanrasset 23.04 243 eP P 20 21 05.9 -3.2
comp=Z,35nm,1.1s
TAM Tamanrasset 23.04 243 eP P 20 21 05.9 -3.2
comp=Z,35nm,1.1s
ETSF Etsaut 23.18 298 eP P 20 21 09.6 -0.8
comp=Z,50nm,0.7s
ETSF Etsaut 23.18 298 eP P 20 21 09.6 -0.8
ETSF pmax pmax
comp=Z,50nm,0.7s
ETSF Etsaut 23.18 298 eP P 20 21 09.6 -0.8
comp=Z,50nm,0.7s
ETSF Etsaut 23.18 298 eP P 20 21 09.6 -0.8
comp=Z,25nm,0.7s
VSU Vasula 23.18 359 eP P 20 21 08.9 -1.2
VSU pmax pmax
comp=Z,46nm,0.8s
VSU MLR MLR
comp=Z,944nm,17.0s
VSU Vasula 23.18 359 eP P 20 21 08.9 -1.2
comp=Z,944nm,17.0s
ATE Arette 23.32 298⇓eP P 20 21 11.9 +0.2
ATE Arette 23.32 298⇓eP P 20 21 11.9 +0.2
IBAF Bafgh 23.46 91 eP P 20 21 15.6 +2.3
LARF Larrau 23.52 298⇓eP P 20 21 14.0 +0.4
LARF Larrau 23.52 298⇓eP P 20 21 14.0 +0.4
SJPF Ste Jean 23.70 298 eP P 20 21 13.8 -1.6
comp=Z,227nm,1.0s
SJPF Ste Jean 23.70 298 eP P 20 21 13.8 -1.6
SJPF pmax pmax
comp=Z,227nm,1.0s
SJPF Ste Jean 23.70 298 eP P 20 21 13.8 -1.6
comp=Z,227nm,1.0s
SJPF Ste Jean 23.70 298 eP P 20 21 13.8 -1.6
comp=Z,113nm,1.0s
OSSF Osses 23.75 298⇓eP P 20 21 15.1 -0.7
OSSF Osses 23.75 298⇓eP P 20 21 15.1 -0.7
MFF Saint Martin d 23.79 307 eP P 20 21 14.4 -1.8
comp=Z,50nm,0.5s
MFF Saint Martin d 23.79 307 eP P 20 21 14.4 -1.8
MFF pmax pmax
comp=Z,50nm,0.5s
MFF Saint Martin d 23.79 307 eP P 20 21 14.4 -1.8
comp=Z,50nm,0.5s
MFF Saint Martin d 23.79 307 eP P 20 21 14.4 -1.8
comp=Z,25nm,0.5s
MENF Mencas 24.00 317⇓eP P 20 21 16.5 -1.6
MENF Mencas 24.00 317⇓eP P 20 21 16.5 -1.6
LCHF La Chataignera 24.20 307⇓eP P 20 21 19.5 -0.5
LCHF La Chataignera 24.20 307⇓eP P 20 21 19.5 -0.5
ISFR Sfrayin 24.42 77 eP P 20 21 23.5 +1.0
LDF La Druitiere 24.47 311 eP P 20 21 20.3 -2.2
comp=Z,160nm,0.7s
LDF La Druitiere 24.47 311 eP P 20 21 20.3 -2.2
LDF pmax pmax
comp=Z,160nm,0.7s
LDF La Druitiere 24.47 311 eP P 20 21 20.3 -2.2
comp=Z,160nm,0.7s
LDF La Druitiere 24.47 311 eP P 20 21 20.3 -2.2
comp=Z,80nm,0.7s
PUL Pulkovo 24.54 3⇑eP P 20 21 22.4 -0.5
PUL pmax pmax
comp=Z,49nm,0.7s
PUL MLR MLR
comp=Z,505nm,19.0s
PUL Pulkovo 24.54 3 eP P 20 21 22.4 -0.5
comp=Z,505nm,19.0s
FLN La Foliniere 24.76 312 eP P 20 21 23.2 -1.8
comp=Z,152nm,0.5s,baz=113
FLN eR
comp=Z,848nm,22.8s
FLN La Foliniere 24.76 312 eP P 20 21 23.2 -1.8
FLN pmax pmax
comp=Z,152nm,0.5s
FLN La Foliniere 24.76 312 eP P 20 21 23.2 -1.8
comp=Z,152nm,0.5s
FLN La Foliniere 24.76 312 eP P 20 21 23.2 -1.8
comp=Z,76nm,0.5s
GRR Gorron 24.85 311 eP P 20 21 23.9 -2.0
comp=Z,153nm,0.5s
GRR Gorron 24.85 311 eP P 20 21 23.9 -2.0
GRR pmax pmax
comp=Z,153nm,0.5s
GRR Gorron 24.85 311 eP P 20 21 23.9 -2.0
comp=Z,153nm,0.5s
GRR Gorron 24.85 311 eP P 20 21 23.9 -2.0
comp=Z,76nm,0.5s
IKRD Kardeh 24.86 78 eP P 20 21 35.8 +9.4
IEMG Emamgholi 24.91 76 eP P 20 21 27.2 +0.3
IAKL Akhelmad 25.07 78 eP P 20 21 29.8 +1.4
IPAY Payeh 25.28 78 eP P 20 21 32.0 +1.8
ESDC Sonseca Array 25.48 289 P P 20 21 31.1 -0.7
ESDC ScP ScP 20 28 41.1 +0.6
ESDC Sonseca Array 25.48 289 P P 20 21 31.1 -0.7
comp=Z,11nm,0.4s,baz=76,slow=9.3,SNR=188
ESDC ScP ScP 20 28 41.1 +0.6
comp=Z,0.4nm,0.7s,baz=74,slow=2.7,SNR=3.7
ESDC Sonseca Array 25.48 289 P P 20 21 31.1 -0.7
ESDC ScP ScP 20 28 41.1 +0.6
ESLA Sonseca Array 25.48 289 eP P 20 21 28.3 -3.5
comp=Z,7.5nm,0.8s
ESLA Sonseca Array 25.48 289 eP P 20 21 28.3 -3.5
comp=Z,7.5nm,0.8s
IMOG Moghan 25.60 79 eP P 20 21 35.8 +2.7
PAB San Pablo 25.78 289 eP P 20 21 31.7 -2.8
PAB pmax pmax
comp=Z,7.0nm,0.8s
PAB San Pablo 25.78 289 eP P 20 21 31.7 -2.8
comp=Z,6.6nm,0.8s
PAB San Pablo 25.78 289 eP P 20 21 31.7 -2.8
comp=Z,6.6nm,0.8s
SGMF Saint Gilles 25.87 309 eP P 20 21 32.9 -2.2
comp=Z,75nm,0.6s

SGMF Saint Gilles 25.87 309 *e*P P 20 21 32.9 -2.2
SGMF pmax pmax
comp=Z,75nm,0.6s
SGMF Saint Gilles 25.87 309 *e*P P 20 21 32.9 -2.2
comp=Z,75nm,0.6s
SGMF Saint Gilles 25.87 309 *e*P P 20 21 32.9 -2.2
comp=Z,37nm,0.6s
IKOO Kooshah 26.04 87 *e*P P 20 21 40.0 +2.8
QUIF Quistinic 26.15 308 *e*P P 20 21 35.8 -1.9
comp=Z,134nm,0.5s
QUIF Quistinic 26.15 308 *e*P P 20 21 35.8 -1.9
QUIF pmax pmax
comp=Z,134nm,0.5s
QUIF Quistinic 26.15 308 *e*P P 20 21 35.8 -1.9
comp=Z,134nm,0.5s
QUIF Quistinic 26.15 308 *e*P P 20 21 35.8 -1.9
comp=Z,67nm,0.5s
IMYA Miami 26.18 78 *e*P P 20 21 40.3 +2.0
FINES FINESS Array B 26.19 358 P P 20 21 36.0 -1.8
FINES PcP PcP 20 25 04.7 +0.5
FINES ScP ScP 20 28 42.1 +0.1
FINES FINESS Array B 26.19 358 P P 20 21 36.0 -1.8
comp=Z,5.4nm,0.4s,baz=165,slow=11,SNR=54
FINES PcP PcP 20 25 04.7 +0.5
comp=Z,1.7nm,0.4s,baz=147,slow=1.8,SNR=4.2
FINES ScP ScP 20 28 42.1 +0.1
comp=Z,1.5nm,0.6s,baz=112,slow=2.1,SNR=5.3
FINES LR LR 20 32 40.3
comp=Z,551nm,19.9s,baz=189,slow=38
FINES FINESS Array B 26.19 358 P P 20 21 36.0 -1.8
FIA1 FINESS Array S 26.19 358 *e*P P 20 21 33.6 -4.2
ROSF Rostrenen 26.35 309 *e*P P 20 21 37.4 -2.1
comp=Z,114nm,0.5s
ROSF Rostrenen 26.35 309 *e*P P 20 21 37.4 -2.1
ROSF pmax pmax
comp=Z,114nm,0.5s
ROSF Rostrenen 26.35 309 *e*P P 20 21 37.4 -2.1
comp=Z,114nm,0.5s
ROSF Rostrenen 26.35 309 *e*P P 20 21 37.4 -2.1
comp=Z,57nm,0.5s
HFS Hagfors 26.48 344 P P 20 21 38.6 -1.9
HFS Hagfors 26.48 344 P P 20 21 38.6 -1.9
comp=Z,10nm,0.4s,baz=161,slow=13,SNR=115
HFS Hagfors 26.48 344 P P 20 21 38.6 -1.9
comp=Z,10.0nm,0.4s
AKTO Aktyubinsk 26.60 46 P P 20 21 41.7 -0.1
AKTO pmax pmax
comp=Z,11nm,0.6s
AKTO MLR MLR
comp=Z,330nm,18.8s
AKTO Aktyubinsk 26.60 46 P P 20 21 41.7 -0.1
AKTO Aktyubinsk 26.60 46 P P 20 21 41.7 -0.1
comp=Z,11nm,0.6s,baz=245,slow=7.5,SNR=29
AKTO LR LR 20 36 16.0
comp=Z,330nm,18.8s,baz=237,slow=46
AKTO Aktyubinsk 26.60 46 P P 20 21 41.7 -0.1
IDAH Dahanechah 26.67 86 *e*P P 20 21 45.1 +2.3
MDT Midelt 26.88 274 P P 20 21 44.3 -0.2
MDT Midelt 26.88 274 P P 20 21 44.3 -0.2
comp=Z,5.6nm,0.8s,baz=86,slow=12,SNR=9.7
MDT Midelt 26.88 274 P P 20 21 44.3 -0.2
KONO Kongsberg 27.10 340 *e*P P 20 21 44.6 -1.5
KONO Kongsberg 27.10 340 *e*P P 20 21 44.6 -1.5
ABKAR Akbulak array 27.35 49 *e*P P 20 21 49.5 +1.0
ABKAR Akbulak array 27.35 49 *e*P P 20 21 49.5 +1.0
PBRG Braganca 27.63 294 *e*P P 20 21 50.2 -0.9
comp=Z,46nm,1.0s
PBRG Braganca 27.63 294 *e*P P 20 21 50.2 -0.9
comp=Z,46nm,1.0s
NAO01 NORSAR Array S 27.77 342 *e*P P 20 21 48.8 -3.3
comp=Z,22nm,0.7s
NB2 NORSAR Subarra 27.86 343 P P 20 21 50.7 -2.2
comp=Z,4.2nm,0.5s,baz=159,slow=9.3
NB2 NORSAR Subarra 27.86 343 P P 20 21 50.7 -2.2
comp=Z,4.2nm,0.5s,SNR=1.1
NOA NORSAR Array B 27.86 343 P P 20 21 50.5 -2.4
NOA NORSAR Array B 27.86 343 P P 20 21 50.5 -2.4
comp=Z,9.2nm,0.8s,baz=150,slow=8.2,SNR=21
NOA LR LR 20 34 46.5
comp=Z,594nm,18.3s,baz=150,slow=40
NOA NORSAR Array B 27.86 343 P P 20 21 50.5 -2.4
comp=Z,594nm,18.3s
PMRV Marv??o 28.14 289 *e*P P 20 21 54.5 -1.1
comp=Z,69nm,1.5s
PMRV Marv??o 28.14 289 *e*P P 20 21 54.5 -1.1
comp=Z,69nm,1.5s
PCBR Castelo Branco 28.19 290 *e*P P 20 21 54.5 -1.5
comp=Z,52nm,1.6s
PCBR Castelo Branco 28.19 290 *e*P P 20 21 54.5 -1.5
comp=Z,52nm,1.6s
MTE Manteigas 28.22 291 *e*P P 20 21 55.4 -1.1
comp=Z,61nm,1.7s
MTE Manteigas 28.22 291 *e*P P 20 21 53.7 -2.8
comp=Z,32nm,0.8s
MTE Manteigas 28.22 291 *e*P P 20 21 53.7 -2.8
comp=Z,32nm,0.8s
PESTR Estremoz 28.32 288 *e*P P 20 21 56.2 -1.1
PESTR Estremoz 28.32 288 *e*P P 20 21 56.2 -1.1
PVRL Vila Real 28.35 293 *e*P P 20 21 56.8 -0.8
comp=Z,52nm,1.5s
PVRL Vila Real 28.35 293 *e*P P 20 21 56.8 -0.8
comp=Z,52nm,1.5s
POLO Lamas de Olo 28.41 293 *e*P P 20 21 57.3 -0.8
comp=Z,33nm,1.3s
POLO Lamas de Olo 28.41 293 *e*P P 20 21 57.3 -0.8
comp=Z,33nm,1.3s
PVIS Viseu 28.48 292 *e*P P 20 21 58.3 -0.5
comp=Z,78nm,1.4s
PVIS Viseu 28.48 292 *e*P P 20 21 58.3 -0.5
comp=Z,78nm,1.4s
PVAQ Vaqueiros 28.56 285 *e*P P 20 21 58.4 -1.0
comp=Z,67nm,1.4s
PVAQ Vaqueiros 28.56 285 *e*P P 20 21 58.4 -1.0
comp=Z,67nm,1.4s
PCAB Cabril 28.59 294 *e*P P 20 21 59.0 -0.7
comp=Z,84nm,1.7s
PCAB Cabril 28.59 294 *e*P P 20 21 59.0 -0.7
comp=Z,84nm,1.7s
PBEJ Beja 28.61 286 *e*P P 20 21 59.2 -0.6
comp=Z,62nm,1.5s
PBEJ Beja 28.61 286 *e*P P 20 21 59.2 -0.6
comp=Z,62nm,1.5s
EVO Evora 28.68 287 *e*P P 20 21 59.3 -1.2
comp=Z,48nm,1.5s
EVO Evora 28.68 287 *e*P P 20 21 59.3 -1.2
comp=Z,48nm,1.5s
PRGR Permogore 28.69 18 P P 20 21 59.3 -1.0
PRGR *e*PP pP 20 22 08.6 +0.4
PRGR 20 25 10.8
PRGR *e*S S 20 26 44.6 -2.8
PRGR pmax pmax
comp=Z,6.0nm,0.8s
PRGR Permogore 28.69 18 P P 20 21 59.3 -1.0
comp=Z,6.0nm,0.8s
PBDV Barranco-do-Ve 28.75 284 *e*P P 20 22 00.3 -0.8
comp=Z,86nm,1.5s
PBDV Barranco-do-Ve 28.75 284 *e*P P 20 22 00.3 -0.8
comp=Z,86nm,1.5s
PGAV Gavieira, Arco 28.77 294 *e*P P 20 22 01.1 -0.3
comp=Z,53nm,2.0s
PGAV Gavieira, Arco 28.77 294 *e*P P 20 22 01.1 -0.3
comp=Z,53nm,2.0s
PTOM Tomar 28.91 289 *e*P P 20 22 01.7 -0.8
comp=Z,66nm,1.3s
PTOM Tomar 28.91 289 *e*P P 20 22 01.7 -0.8
comp=Z,66nm,1.3s
PCAS Casmilo, Conde 28.96 290 *e*P P 20 22 02.6 -0.4
comp=Z,63nm,1.9s
PCAS Casmilo, Conde 28.96 290 *e*P P 20 22 02.6 -0.4
comp=Z,63nm,1.9s
PTO Porto 29.02 293 *e*P P 20 22 03.6 +0.2
comp=Z,59nm,1.8s
PNCL Nicolau / Gran 29.12 286 *e*P P 20 22 05.1 +0.7
comp=Z,49nm,1.5s
EKA Eskdalemuir Ar 29.19 323 P P 20 22 03.4 -1.4
EKA PcP PcP 20 25 12.1 +0.6
EKA ScP ScP 20 28 50.5 -0.8
EKA Eskdalemuir Ar 29.19 323 P P 20 22 03.4 -1.4
comp=Z,3.0nm,0.4s,baz=122,slow=10,SNR=46
EKA PcP PcP 20 25 12.1 +0.6
comp=Z,2.0nm,0.6s,baz=113,slow=2.8,SNR=4.5
EKA ScP ScP 20 28 50.5 -0.8
comp=Z,1.1nm,0.7s,baz=122,slow=6.3,SNR=3.9
EKA Eskdalemuir Ar 29.19 323 P P 20 22 03.3 -1.4
EKA Eskdalemuir Ar 29.19 323 PcP PcP 20 25 12.1 +0.6
ARU Arti 29.70 35 P P 20 22 12.0 +2.7
ARU S S 20 23 06.4
ARU S S 20 27 07.8 +4.5
ARU SS SnSn 20 28 40.0 +6.6
ARU Arti 29.70 35 *e*P P 20 22 10.0 +0.7
comp=Z,37nm,1.8s
ARU Arti 29.70 35 *e*P P 20 22 10.0 +0.7
comp=Z,37nm,1.8s
SVE Sverdlovsk 30.88 36 *e*P P 20 22 21.8 +2.1
SVE pmax pmax
comp=Z,11nm,1.0s
VAL Valentia 31.71 314 *e*P P 20 22 25.4 -1.6
TOA0 Torodi Ar. Sit 32.25 233 *e*P P 20 22 31.7 -0.5
TOA0 Torodi Ar. Sit 32.25 233 *e*P P 20 22 31.7 -0.5
TORD Torodi Ar. Bea 32.25 233 P P 20 22 32.2 +0.1
TORD PcP PcP 20 25 20.6 +0.4
TORD Torodi Ar. Bea 32.25 233 P P 20 22 32.2 +0.1
comp=Z,26nm,0.6s,baz=41,slow=8.4,SNR=356
TORD PcP PcP 20 25 20.6 +0.4
comp=Z,2.0nm,0.5s,baz=29,slow=3.0,SNR=5.8
TORD LR LR 20 38 33.8
comp=Z,660nm,19.9s,baz=45,slow=42
TORD Torodi Ar. Bea 32.25 233 P P 20 22 32.2 +0.1
APA Apatity 32.48 4⇑ *i*P P 20 22 32.6 -1.0
APA MLR MLR
comp=Z,800nm,12.0s
LVZ Lovozero 32.88 5 *e*P P 20 22 36.6 -0.6
LVZ pmax pmax
comp=Z,28nm,1.8s
LVZ MLR MLR
comp=Z,399nm,20.0s
KBL Kabul 33.68 79 *e*P P 20 22 43.5 -1.3
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 33.68 79 *e*P P 20 22 43.5 -1.3
comp=Z,3.8nm,0.8s
KBL Kabul 33.68 79 *e*P P 20 22 43.5 -1.3
comp=Z,3.8nm,0.8s
KKAR Karatay Array 33.73 64 *e*P P 20 22 44.5 -0.4
KKAR Karatay Array 33.73 64 *e*P P 20 22 44.5 -0.4
KKAR Karatay Array 33.73 64 *e*P P 20 22 44.5 -0.4
ARCES ARCESS Array B 34.31 359 P P 20 22 48.0 -1.7
ARCES PcP PcP 20 25 25.3 +0.1
ARCES ScP ScP 20 29 08.2 -0.2
ARCES ARCESS Array B 34.31 359 P P 20 22 48.0 -1.7
comp=Z,7.7nm,0.6s,baz=170,slow=7.2,SNR=40
ARCES PcP PcP 20 25 25.3 +0.1
comp=Z,1.0nm,0.3s,baz=194,slow=4.0,SNR=7.7
ARCES ScP ScP 20 29 08.1 -0.2
comp=Z,2.3nm,0.8s,baz=202,slow=4.6,SNR=3.7
ARCES LR LR 20 37 30.3
comp=Z,560nm,18.8s,baz=208,slow=38
ARCES ARCESS Array B 34.31 359 P P 20 22 48.0 -1.7
BVAR Borovoye Array 34.71 46 P P 20 22 54.1 +0.8
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 34.71 46 P P 20 22 54.1 +0.8
BVAR Borovoye Array 34.71 46 P P 20 22 54.1 +0.8
comp=Z,1.6nm,0.7s,baz=235,slow=5.2,SNR=6.1
BVAR Borovoye Array 34.71 46 P P 20 22 54.1 +0.8
EKS2 Erkin-Say 36.15 64 *e*P P 20 23 05.4 -0.5
EKS2 pmax pmax
comp=Z,10.0nm,1.1s
EKS2 Erkin-Say 36.15 64 *e*P P 20 23 05.4 -0.5
comp=Z,10nm,1.1s
EKS2 Erkin-Say 36.15 64 *e*P P 20 23 05.4 -0.5
comp=Z,10nm,1.1s
AAK Ala-Archa 36.68 64 P P 20 23 12.6 +2.1
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 36.68 64 *e*P P 20 23 09.8 -0.7
comp=Z,9.8nm,0.9s
AAK Ala-Archa 36.68 64 P P 20 23 12.6 +2.1
comp=Z,6.9nm,0.6s,baz=233,slow=5.0,SNR=36
AAK Ala-Archa 36.68 64 *e*P P 20 23 09.8 -0.7
comp=Z,9.8nm,0.9s
KMBO Kilima Mbogo 37.31 164 LR LR 20 41 04.9
comp=Z,404nm,18.7s,baz=288,slow=40
TKM2 Tokmak 2 37.47 64 *e*P P 20 23 16.9 -0.3
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 37.47 64 *e*P P 20 23 16.9 -0.3
comp=Z,7.9nm,0.8s
TKM2 Tokmak 2 37.47 64 *e*P P 20 23 16.9 -0.3
comp=Z,7.9nm,0.8s
KSH Kashi 38.16 69 *e*P P 20 23 23.3 +0.3
KSH *e*PP PnPn 20 24 53.3 +1.3
KSH *e*PcP PcP 20 25 39.0 +1.6
KSH *e*S S 20 29 13.3 -1.5
KSH *es*S sS 20 29 26.0 -2.0
KSH *e*SS SnSn 20 31 50.8 -8.5
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH pmax pmax
comp=Z,68nm,6.5s
KSH LR LR
comp=Z,340nm,19.2s
MSKU Masuku 39.08 203 P P 20 23 31.4 +0.7
MSKU Masuku 39.08 203 P P 20 23 31.4 +0.7
comp=Z,26nm,0.3s,baz=72,slow=2.1,SNR=17
MSKU Masuku 39.08 203 P P 20 23 31.4 +0.7
KURBB Kurchatov Arra 39.37 51 P P 20 23 33.7 +0.8
comp=Z,4.0nm,0.6s,baz=274,slow=8.6,SNR=13
KURBB PcP PcP 20 25 41.8 +1.0
comp=Z,2.0nm,0.6s,baz=275,slow=4.2,SNR=3.6
KURK Kurchatov 39.44 51 P P 20 23 33.7 +0.3
KURK 20 25 41.8
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 39.44 51 P P 20 23 33.7 +0.3
KURK PcP PcP 20 25 41.8 +0.8
KURK Kurchatov 39.44 51 P P 20 23 33.7 +0.3
DBIC Dimbokro 41.35 234 *e*P P 20 23 48.8 -0.8
DBIC Dimbokro 41.35 234 *e*P P 20 23 47.5 -2.1
comp=Z,12nm,0.6s
DBIC PcP PcP 20 25 48.6 +1.0
DBIC Dimbokro 41.35 234 P P 20 23 49.2 -0.3
comp=Z,9.6nm,0.3s,baz=23,slow=8.8,SNR=91
DBIC PcP PcP 20 25 48.6 +1.0
comp=Z,4.0nm,0.5s,baz=10,slow=11,SNR=3.6
DBIC LR LR 20 44 20.3
comp=Z,552nm,19.2s,baz=22,slow=41
DBIC Dimbokro 41.35 234 *e*P P 20 23 47.5 -2.1
comp=Z,12nm,0.6s
DBIC Dimbokro 41.35 234 PcP PcP 20 25 48.7 +1.0
TIC Toumodi 41.48 234 *e*P P 20 23 50.3 -0.4
KIC Kosan Boka 41.50 234 *e*P P 20 23 50.6 -0.3
comp=Z,43nm,0.4s
LIC Lamto 41.79 234 *e*P P 20 23 52.9 -0.3
comp=Z,21nm,0.6s
LIC *e*R
comp=Z,653nm,21.0s
LIC Lamto 41.79 234 *e*P P 20 23 52.8 -0.4
comp=Z,978nm,1.8s
LIC Lamto 41.79 234 *e*P P 20 23 52.9 -0.3
comp=Z,21nm,0.6s
MK31 Makanchi Array 41.91 57 *e*P P 20 23 48.7 -5.3
MK31 Makanchi Array 41.91 57 *e*P P 20 23 48.7 -5.3
MKAR Makanchi Array 41.91 57 P P 20 23 54.7 +0.7
MKAR 20 25 50.2
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=N,2.0nm,0.8s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 41.91 57 P P 20 23 54.7 +0.7
MKAR Makanchi Array 41.91 57 P P 20 23 54.7 +0.7
comp=Z,3.8nm,0.5s,baz=273,slow=7.4,SNR=29
MKAR PcP PcP 20 25 50.2 +1.1
comp=Z,2.7nm,0.8s,baz=268,slow=5.5,SNR=2.9
MKAR ScP ScP 20 29 37.4 -0.3
comp=Z,1.7nm,0.8s,baz=259,slow=3.0,SNR=6.5
MKAR LR LR 20 43 28.2
comp=Z,226nm,19.9s,baz=270,slow=39
MKAR Makanchi Array 41.91 57 P P 20 23 54.7 +0.7
NVS Novosibirsk 42.48 45 *e*P P 20 23 59.7 +1.3
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s
SPITS Spitsbergen Ar 43.26 357 P P 20 24 03.5 -0.9
SPITS PcP PcP 20 25 53.5 +0.4
SPITS Spitsbergen Ar 43.26 357 P P 20 24 03.5 -0.9
comp=Z,6.3nm,0.4s,baz=146,slow=10,SNR=65
SPITS PcP PcP 20 25 53.4 +0.4
comp=Z,2.4nm,0.4s,baz=129,slow=5.9,SNR=11
SPITS Spitsbergen Ar 43.26 357 P P 20 24 03.5 -0.9
ZAA0 Zalesovo Array 43.37 46 *e*P P 20 24 01.5 -4.1
ZALV Zalesovo Beam 43.37 46 P P 20 24 05.6 0.0
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV MLR MLR
comp=Z,255nm,20.4s
ZALV Zalesovo Beam 43.37 46 P P 20 24 05.6 0.0
ZALV ScP ScP 20 29 44.1 +0.8
ZALV Zalesovo Beam 43.37 46 P P 20 24 05.6 0.0
comp=Z,2.7nm,0.5s,baz=265,slow=8.8,SNR=13
ZALV ScP ScP 20 29 44.1 +0.8
comp=Z,0.4nm,0.5s,baz=270,slow=6.6,SNR=2.6
ZALV LR LR 20 46 07.3
comp=Z,255nm,20.4s,baz=254,slow=42
ZALV Zalesovo Beam 43.37 46 P P 20 24 05.6 0.0
ZALV ScP ScP 20 29 44.1 +0.8
SCO Scoresbysund 43.98 338 *i*P P 20 24 09.7 -0.6
SCO pmax pmax
comp=Z,6.0nm,0.8s
SCO Scoresbysund 43.98 338 *i*P P 20 24 09.7 -0.6
comp=Z,6.2nm,0.8s
SCO Scoresbysund 43.98 338 *i*P P 20 24 09.7 -0.6
comp=Z,6.2nm,0.8s
KBS Kingsbay 44.23 356 *e*P P 20 24 11.7 -0.5
comp=Z,11nm,0.9s,SNR=25
BBTS Babate 44.66 254 P P 20 24 18.4 +2.0
BBTS Babate 44.66 254 P P 20 24 18.4 +2.0
comp=Z,9.2nm,0.3s,baz=92,slow=4.7,SNR=3.6
WMQ Urumqi 46.08 60 P P 20 24 29.8 +2.3
WMQ pP pP 20 24 37.3 +1.7
WMQ sP sP 20 24 40.5 +1.6
WMQ PcP PcP 20 26 02.3 -1.2
WMQ PP PP 20 26 18.3 +2.7
WMQ ScP ScP 20 30 00.0 +5.2
WMQ ScS ScS 20 34 20.9 -0.4
WMQ SS SS 20 34 31.3 -5.1
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,210nm,5.8s
WMQ LR LR
comp=Z,610nm,29.0s
WMQ LR LR
comp=Z,300nm,37.4s
WMQ LR LR
comp=Z,170nm,27.0s
DANN Dangsing 47.55 82 *e*P P 20 24 41.1 +1.7
comp=Z,123nm,0.7s
KOLN Koldanda 47.65 83 *e*P P 20 24 41.4 +1.3
comp=Z,40nm,0.8s
HYB Hyderabad 48.33 98 *i*P P 20 24 45.0 -0.2
GKN Gorkha 48.40 82 *e*P P 20 24 46.9 +1.1
comp=Z,24nm,0.5s
DMN Daman 48.93 82 *e*P P 20 24 51.1 +1.0
comp=Z,57nm,0.9s
HVS Khovu-Aksy 48.94 50 *ce*P P 20 24 51.0 +1.4
HVS pmax pmax
comp=Z,17nm,0.8s
KKN Kakani 49.00 82 *e*P P 20 24 52.0 +1.4
comp=Z,24nm,0.6s
PKIN Phulchoki 49.18 82 *e*P P 20 24 53.3 +1.3
comp=Z,76nm,1.1s
PKI Pulchoki 49.20 82 *e*P P 20 24 53.2 +1.0
comp=Z,120nm,1.3s
GUN Gumba 49.44 82 *e*P P 20 24 54.9 +0.8
comp=Z,84nm,1.0s
SUMG Summit 49.62 339 *i*P P 20 24 53.4 -1.5
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 49.62 339 *i*P P 20 24 53.4 -1.5
comp=Z,5.9nm,1.0s
SUMG Summit 49.62 339 *e*P P 20 24 53.3 -1.5
comp=Z,193nm,2.8s
SUMG Summit 49.62 339 *e*P P 20 24 53.3 -1.5
comp=Z,193nm,2.8s
JIRN Jiri 49.79 82 *e*P P 20 24 57.5 +0.7
comp=Z,48nm,1.0s
LSZ Lusaka 50.30 179 *e*P P 20 25 01.1 +0.8
LSZ Lusaka 50.30 179 *e*P P 20 25 01.1 +0.8
RAMN Ramite 50.42 82 *e*P P 20 25 01.9 +0.5
comp=Z,39nm,1.0s
ODAN Odare 51.09 82 *e*P P 20 25 07.1 +0.6
comp=Z,31nm,1.1s
TAPN Taplejung 51.15 81 *e*P P 20 25 07.7 +0.7
comp=Z,59nm,1.1s
LSA Lhasa 52.95 77 P P 20 25 21.8 +1.2
LSA Lhasa 52.95 77 *e*P P 20 25 15.9 -4.7
LSA pmax pmax
comp=Z,22nm,1.3s
LSA Lhasa 52.95 77 *e*P P 20 25 15.9 -4.7
comp=Z,22nm,1.3s
LSA Lhasa 52.95 77 *e*P P 20 25 15.9 -4.7
comp=Z,22nm,1.3s
RUDU RUNDU 53.46 190 *e*P P 20 25 23.8 0.0
RUDU AMB AMB 20 25 34.3
comp=Z,25nm,5.5s
SFJD Kangerlussuaq 53.58 331 *i*P P 20 25 23.3 -0.7
SFJD Kangerlussuaq 53.58 331 *i*P P 20 25 23.4 -0.6
SNR=22
TLY Talaya 54.94 48 *e*P P 20 25 37.8 +3.6
TLY pmax pmax
comp=Z,12nm,1.4s
TLY MLR MLR
comp=Z,180nm,16.0s
TLY Talaya 54.94 48 *e*P P 20 25 34.8 +0.6
comp=Z,18nm,1.5s
TLY Talaya 54.94 48 *e*P P 20 25 34.8 +0.6
comp=Z,18nm,1.5s
ZAK Zakamensk 55.05 49 *e*P P 20 25 36.7 +1.6
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TSUM Tsumeb 55.06 192 *e*P P 20 25 35.5 +0.1
comp=Z,68nm,2.5s
TSUM Tsumeb 55.06 192 *e*P P 20 25 35.5 +0.1
comp=Z,68nm,2.5s
GTA Gaotai 56.01 63 *e*P P 20 25 43.3 +1.1
GTA pP pP 20 25 50.4 -0.1
GTA sP sP 20 25 54.1 +0.4
GTA S S 20 33 29.0 0.0
GTA sS sS 20 33 40.3 -2.3
GTA SS SS 20 37 14.8 -0.1
GTA pmax pmax
comp=Z,66nm,5.2s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,160nm,17.6s
GTA LR LR
comp=Z,200nm,18.0s
SONM Songino Array 57.74 51 P P 20 25 55.3 +0.9
SONM Songino Array 57.74 51 P P 20 25 55.3 +0.9
comp=Z,1.5nm,0.5s,baz=284,slow=7.6,SNR=15
SONM LR LR 20 53 51.5
comp=Z,304nm,21.3s,baz=282,slow=39
SONM Songino Array 57.74 51 P P 20 25 55.3 +0.9
ULN Ulaanbaatar 58.15 51 *e*P P 20 25 57.2 -0.1
comp=Z,23nm,1.5s
ULN Ulaanbaatar 58.15 51 *e*P P 20 25 57.2 -0.1
comp=Z,23nm,1.5s
LBTB Lobatse 60.02 182 *e*P P 20 26 12.6 +2.4
LBTB AMB AMB 20 26 46.0
comp=Z,28nm,6.3s
LBTB Lobatse 60.02 182 *e*P P 20 26 10.5 +0.2
comp=Z,60nm,2.0s
LBTB Lobatse 60.02 182 *e*P P 20 26 10.5 +0.2
comp=Z,60nm,2.0s
LZH Lanzhou 60.21 65 *e*P P 20 26 13.8 +2.0
LZH pP pP 20 26 20.3 +0.2
LZH sP sP 20 26 23.4 +0.1
LZH pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 60.28 21⇑ *e*P P 20 26 12.5 +1.1
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI MLR MLR
ERPM east rand prop 61.31 180 *e*P P 20 26 21.2 +2.1
ERPM AMB AMB 20 26 33.5
comp=Z,18nm,8.0s
BFSD Buffelsfontein 61.83 181 *e*P P 20 26 33.4 +11

SWZ	**Schweizer**	**62.19**	**182**	*e*P		**P**		**20 26 26.8**	**+1.9**
SWZ					AMB	AMB	20 26 29.3			
	comp=Z,30nm,4.7s									
CD2	**Chengdu**	**62.34**	**70**	*e*P		**P**		**20 26 27.0**	**+0.9**
CD2					sP	**sP**		**20 26 38.8**	**+1.2**
CD2					PP	**PP**		**20 28 46.1**	**+2.9**
CD2					S	**S**		**20 34 49.8**	**-1.2**
CD2					SS	**SS**		**20 38 55.3**	**+0.9**
CD2					pmax	pmax				
	comp=Z,20nm,1.0s									
CD2					pmax	pmax				
	comp=Z,80nm,4.8s									
CD2					LR	LR				
	comp=Z,270nm,21.4s									
CD2					LR	LR				
	comp=Z,230nm,20.2s									
BOSA	**Boshof**	**63.61**	**182**	*e*P		**P**		**20 26 35.2**	**+0.8**
BOSA					AMB	AMB	20 26 43.3			
	comp=Z,47nm,4.5s									
BOSA	**Boshof**	**63.61**	**182**	P		**P**		**20 26 36.2**	**+1.8**
BOSA	**Boshof**	**63.61**	**182**	P		**P**		**20 26 36.2**	**+1.8**
	comp=Z,4.9nm,0.6s,baz=8,2,slow=7.5,SNR=19									
HHC	**Hu-ho-hao-te**	**63.78**	**57**	*e*P		**P**		**20 26 37.8**	**+2.2**
HHC					sP	sP		20 26 53.8	+6.7
HHC					S	**S**		**20 35 05.8**	**-3.1**
HHC					pmax	pmax				
	comp=Z,19nm,1.0s									
HHC					pmax	pmax				
	comp=Z,160nm,3.4s									
HHC					LR	LR				
	comp=Z,530nm,17.3s									
HHC					LR	LR				
	comp=Z,240nm,11.2s									
KMI	**Kunming**	**64.20**	**77**	P		**P**		**20 26 41.8**	**+3.1**
KMI					pP	**pP**		**20 26 48.4**	**+1.2**
KMI					sP	**sP**		**20 26 51.1**	**+0.8**
KMI					PP	**PP**		**20 29 02.4**	**+2.5**
KMI					S	**S**		**20 35 15.9**	**+1.1**
KMI					sS	**sS**		**20 35 27.8**	**-0.9**
KMI					SS	**SS**		**20 39 23.9**	**-0.2**
KMI					pmax	pmax				
	comp=Z,4.0nm,1.1s									
KMI					pmax	pmax				
	comp=Z,210nm,4.2s									
KMI					LR	LR				
	comp=Z,220nm,22.2s									
KMI					LR	LR				
	comp=Z,120nm,22.9s									
KMI					LR	LR				
	comp=Z,130nm,22.2s									
CHTO	**Chiang Mai**	**64.25**	**84**	*e*P		**P**		**20 26 39.0**	**+0.2**
CHTO					pmax	pmax				
	comp=Z,2.0nm,1.2s									
CHTO	**Chiang Mai**	**64.25**	**84**	*e*P		**P**		**20 26 39.0**	**+0.2**
	comp=Z,2.3nm,1.2s									
CHTO	**Chiang Mai**	**64.25**	**84**	*e*P		**P**		**20 26 39.0**	**+0.2**
	comp=Z,2.2nm,1.2s									
CMAR	**Chiang Mai Arr**	**64.43**	**85**	P		**P**		**20 26 40.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**64.43**	**85**	P		**P**		**20 26 40.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=296,slow=8.2,SNR=11									
CMAR	**Chiang Mai Arr**	**64.43**	**85**	P		**P**		**20 26 40.3**	**+0.3**
SCHQ	**Schefferville**	**64.45**	**320**	*e*P		**P**		**20 26 38.6**	**-1.0**
	comp=Z,21nm,0.6s									
SCHQ	**Schefferville**	**64.45**	**320**	P		**P**		**20 26 38.6**	**-1.0**
	comp=Z,20nm,0.6s,baz=58,slow=6.7,SNR=46									
SCHQ					LR	LR	20 55 00.2			
	comp=Z,162nm,18.8s,baz=60,slow=36									
SCHQ	**Schefferville**	**64.45**	**320**	*e*P		**P**		**20 26 38.6**	**-1.0**
	comp=Z,21nm,0.6s									
YAK	**Yakutsk**	**64.68**	**31**	*e*P		**P**		**20 26 42.9**	**+2.0**
XAN	**Xi'an**	**64.85**	**65**	P		**P**		**20 26 43.8**	**+1.2**
XAN					pmax	pmax				
	comp=Z,1.0nm,0.6s									
XAN					pmax	pmax				
	comp=Z,17nm,4.1s									
GYA	**Guiyang**	**66.66**	**73**	*e*P		**P**		**20 26 54.3**	**-0.2**
GYA					pP	**pP**		**20 27 02.8**	**-0.1**
GYA					PP	**PP**		**20 29 23.0**	**+1.7**
GYA					ScP		20 31 27.4			
GYA					S	**S**		**20 35 42.0**	**-2.7**
GYA					sS	**sS**		**20 35 56.5**	**-2.1**
GYA					SS	**SS**		**20 40 01.0**	**-1.1**
GYA					pmax	pmax				
	comp=Z,10.0nm,1.0s									
GYA					pmax	pmax				
	comp=Z,90nm,5.2s									
GYA					LR	LR				
	comp=Z,430nm,18.1s									
GYA					LR	LR				
	comp=Z,350nm,19.8s									
GYA					LR	LR				
	comp=Z,400nm,18.6s									
ENH	**Enshi**	**67.02**	**68**	*e*P		**P**		**20 26 53.9**	**-2.7**
	comp=Z,4.4nm,0.6s									
ENH	**Enshi**	**67.02**	**68**	*e*P		**P**		**20 26 53.9**	**-2.7**
	comp=Z,4.4nm,0.6s									
BJI	**Beijing**	**67.29**	**56**	P		**P**		**20 26 57.8**	**-0.3**
BJI					S	**S**		**20 35 51.8**	**+0.2**
BJI					SS	**SS**		**20 40 11.8**	**+0.9**
BJI					pmax	pmax				
	comp=Z,6.0nm,0.5s									
BJI					pmax	pmax				
	comp=Z,120nm,4.2s									
BJI					LR	LR				
	comp=Z,260nm,28.4s									
BJI					LR	LR				
	comp=Z,250nm,25.5s									
BJI					LR	LR				
	comp=Z,170nm,24.8s									
CN2	**Changchun**	**71.48**	**49**	*e*P		**P**		**20 27 26.5**	**+2.5**
KLR	**Kul'dur**	**72.25**	**42**	*e*P		**P**		**20 27 26.1**	**-2.4**
SEY	**Seymchan**	**72.60**	**23**	*e*P		**P**		**20 27 32.5**	**+2.2**
QIZ	**Qiongzhong**	**72.95**	**79**	P		**P**		**20 27 33.1**	**-0.1**
QIZ					S	**S**		**20 36 59.4**	**+0.9**
QIZ					pmax	pmax				
	comp=Z,26nm,2.3s									
PSI	**Prapat**	**73.03**	**99**	P		**P**		**20 27 33.9**	**+0.1**
PSI	**Prapat**	**73.03**	**99**	P		**P**		**20 27 33.9**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=327,slow=15,SNR=7.1									
NJ2	**Nanjing**	**73.10**	**63**	*e*P		**P**		**20 27 31.6**	**-2.3**
NJ2					pmax	pmax				
	comp=Z,20nm,0.5s									
FRNY	**Flat Rock**	**73.17**	**313**	*e*P		**P**		**20 27 34.0**	**0.0**
	comp=Z,14nm,1.0s									
FRNY	**Flat Rock**	**73.17**	**313**	*e*P		**P**		**20 27 34.0**	**0.0**
	comp=Z,14nm,1.0s									
MDV	**Middlebury**	**73.38**	**312**	*e*P		**P**		**20 27 34.0**	**-1.3**
MDV	**Middlebury**	**73.38**	**312**	*e*P		**P**		**20 27 34.0**	**-1.3**
LONY	**Lake Ozonia**	**73.88**	**313**	*e*P		**P**		**20 27 37.2**	**-1.0**
	comp=Z,26nm,1.1s									
LONY	**Lake Ozonia**	**73.88**	**313**	*e*P		**P**		**20 27 37.2**	**-1.0**
	comp=Z,26nm,1.1s									
ACCN	**Adirondack Com**	**74.01**	**312**	*e*P		**P**		**20 27 38.2**	**-0.8**
	comp=Z,17nm,0.9s									
ACCN	**Adirondack Com**	**74.01**	**312**	*e*P		**P**		**20 27 38.2**	**-0.8**
	comp=Z,17nm,0.9s									
USRK	**Ussuriysk Arra**	**75.22**	**46**	P		**P**		**20 27 46.5**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=279,slow=6.0,SNR=17									
INK	**Inuvik**	**75.76**	**353**	*e*P		**P**		**20 27 47.8**	**-0.8**
	comp=Z,32nm,2.0s									
INK	**Inuvik**	**75.76**	**353**	*e*P		**P**		**20 27 47.8**	**-0.8**
	comp=Z,32nm,2.0s									
KSAR	**Wonju Array Be**	**76.47**	**54**	P		**P**		**20 27 54.4**	**+1.0**
KSAR	**Wonju Array Be**	**76.47**	**54**	P		**P**		**20 27 54.3**	**+1.0**
KSRS	**Korea Array**	**76.49**	**54**	P		**P**		**20 27 54.4**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=305,slow=4.6,SNR=11									
KSRS					LR	LR	21 04 59.8			
	comp=Z,190nm,21.3s,baz=303,slow=38									
COLD	**Coldfoot**	**77.78**	**359**	*e*P		**P**		**20 28 00.0**	**-0.1**
	comp=Z,17nm,1.5s									
COLD	**Coldfoot**	**77.78**	**359**	*e*P		**P**		**20 28 00.0**	**-0.1**
	comp=Z,17nm,1.5s									
YKA	**Yellowknife Ar**	**77.95**	**343**	P		**P**		**20 27 59.6**	**-1.4**
YKA	**Yellowknife Ar**	**77.95**	**343**	P		**P**		**20 27 59.6**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=30,slow=5.3,SNR=58									
YKA	**Yellowknife Ar**	**77.95**	**343**	P		**P**		**20 27 59.7**	**-1.4**
SDMD	**Soldier's Deli**	**78.23**	**310**	*e*P		**P**		**20 28 01.9**	**-1.2**
	comp=Z,28nm,1.1s									
SDMD	**Soldier's Deli**	**78.23**	**310**	*e*P		**P**		**20 28 01.9**	**-1.2**
	comp=Z,28nm,1.1s									
IM04	**Indian Mountai**	**79.05**	**1**	*e*P		**P**		**20 28 04.4**	**-2.7**
IM04	**Indian Mountai**	**79.05**	**1**	*e*P		**P**		**20 28 04.4**	**-2.7**
YSS	**Yuzh-Sakhalins**	**79.49**	**39**	*e*P		**P**		**20 28 11.0**	**+1.1**
COLA	**College**	**80.10**	**358**	*e*P		**P**		**20 28 12.7**	**-0.1**
COLA					pmax	pmax				
	comp=Z,66nm,2.0s									

ILAR	**Eielson Array**	**80.17**	**358**	P		**P**		**20 28 12.6**	**-0.6**
ILAR	**Eielson Array**	**80.17**	**358**	P		**P**		**20 28 12.6**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=341,slow=3.5,SNR=55									
ILAR	**Eielson Array**	**80.17**	**358**	P		**P**		**20 28 12.6**	**-0.6**
DAWY	**Dawson**	**80.45**	**354**	*e*P		P	20 28 11.2		-3.6
FFC	**Flin Flon**	**80.49**	**333**	*e*P		P	20 28 10.9		-4.2
FFC					pmax	pmax				
	comp=Z,11nm,0.8s									
FFC	**Flin Flon**	**80.49**	**333**	*e*P		P	20 28 10.9		-4.2	
	comp=Z,11nm,0.8s									
ULM	**Lac du Bonnet**	**81.37**	**327**	*e*P		**P**		**20 28 18.5**	**-1.4**
	comp=Z,140nm,2.9s									
ULM	**Lac du Bonnet**	**81.37**	**327**	P		**P**		**20 28 18.6**	**-1.3**
	comp=Z,5.1nm,0.4s,baz=47,slow=5.2,SNR=16									
ULM	**Lac du Bonnet**	**81.37**	**327**	*e*P		**P**		**20 28 18.5**	**-1.4**
	comp=Z,140nm,2.9s									
PETK	**Petropavlovsk-**	**81.81**	**28**	LR		LR	21 11 05.9			
	comp=Z,115nm,18.3s,baz=299,slow=40									
PPLA	**Purkeypile**	**82.14**	**360**	*e*P		**P**		**20 28 23.5**	**-0.4**
	comp=Z,59nm,1.7s									
PPLA	**Purkeypile**	**82.14**	**360**	*e*P		**P**		**20 28 23.5**	**-0.4**
	comp=Z,59nm,1.7s									
AGMN	**Agassiz Nation**	**82.78**	**326**	P		**P**		**20 28 25.6**	**-1.7**
	baz=83									
A30A	**Hoffart Farm,**	**83.40**	**328**	P		**P**		**20 28 29.1**	**-1.4**
	baz=83									
MJAR	**Matsushiro Arr**	**83.63**	**49**	P		**P**		**20 28 32.9**	**+0.9**
MJAR	**Matsushiro Arr**	**83.63**	**49**	P		**P**		**20 28 32.9**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=299,slow=3.5,SNR=6.2									
MJAR	**Matsushiro Arr**	**83.63**	**49**	P		**P**		**20 28 32.9**	**+0.9**
JFWS	**Jewell Farm**	**83.80**	**319**	*e*P		P	20 28 29.1		-3.6	
JFWS					pmax	pmax				
	comp=Z,13nm,1.0s									
JFWS	**Jewell Farm**	**83.80**	**319**	*e*P		P	20 28 29.1		-3.6	
	comp=Z,12nm,1.0s									
A29A	**Manning Farm,**	**83.82**	**328**	P		**P**		**20 28 31.3**	**-1.5**
	baz=84									
B29A	**Wagenman Farm,**	**84.22**	**328**	P		**P**		**20 28 33.6**	**-1.2**
	baz=84									
C30A	**Mose, Pekin**	**84.40**	**327**	P		**P**		**20 28 34.5**	**-1.3**
	baz=84									
D30A	**Buchanan**	**84.97**	**327**	P		**P**		**20 28 37.3**	**-1.3**
	baz=85									
A26A	**Wade Farm, Ken**	**85.03**	**329**	P		**P**		**20 28 37.8**	**-1.0**
	baz=85									
D29A	**Pettibone, Tap**	**85.39**	**327**	P		**P**		**20 28 39.8**	**-0.9**
	baz=85									
CPCT	**Cooper Cave**	**85.48**	**311**	*e*P		**P**		**20 28 42.6**	**+1.3**
CPCT	**Cooper Cave**	**85.48**	**311**	*e*P		**P**		**20 28 42.6**	**+1.3**
E30A	**Jud**	**85.50**	**326**	P		**P**		**20 28 40.3**	**-0.9**
	baz=85									
EDM	**Edmonton**	**85.60**	**338**	*e*P		**P**		**20 28 41.0**	**-0.6**
EDM	**Edmonton**	**85.60**	**338**	*e*P		**P**		**20 28 41.0**	**-0.6**
EDM	**Edmonton**	**85.60**	**338**	*e*P		**P**		**20 28 41.0**	**-0.6**
E29A	**Napoleon**	**85.78**	**327**	P		**P**		**20 28 41.8**	**-0.9**
	baz=86									
A24A	**Westby**	**85.81**	**330**	P		**P**		**20 28 42.0**	**-0.8**
	baz=86									
C26A	**Wahner Farm, P**	**85.89**	**329**	P		**P**		**20 28 42.4**	**-0.8**
	baz=86									
A23A	**Redstone**	**86.14**	**331**	P		**P**		**20 28 43.7**	**-0.7**
	baz=86									
E28A	**Huff**	**86.25**	**327**	P		**P**		**20 28 44.4**	**-0.6**
	baz=86									
ECSD	**EROS Data Cent**	**86.48**	**323**	*e*P		**P**		**20 28 44.5**	**-1.7**
	comp=Z,88nm,2.5s									
ECSD	**EROS Data Cent**	**86.48**	**323**	P		**P**		**20 28 45.1**	**-1.0**
	baz=86									
ECSD	**EROS Data Cent**	**86.48**	**323**	*e*P		**P**		**20 28 44.5**	**-1.7**
	comp=Z,88nm,2.5s									
A22A	**Carney Farms,**	**86.52**	**331**	P		**P**		**20 28 44.9**	**-1.4**
	baz=86									
B23A	**Brockton**	**86.58**	**331**	P		**P**		**20 28 45.5**	**-1.1**
	baz=86									
G30A	**Faulkton**	**86.64**	**325**	P		**P**		**20 28 45.6**	**-1.3**
	baz=86									
D26A	**Manning**	**86.65**	**328**	P		**P**		**20 28 46.3**	**-0.6**
	baz=86									
E27A	**Carson**	**86.74**	**328**	P		**P**		**20 28 46.5**	**-0.9**
	baz=86									
F27A	**Lemmon**	**87.37**	**327**	P		**P**		**20 28 49.5**	**-1.1**
	baz=87									
A20A	**Cobblestone Ra**	**87.38**	**333**	P		**P**		**20 28 50.1**	**-0.4**
	baz=87									
G28A	**Parade**	**87.50**	**326**	P		**P**		**20 28 50.3**	**-0.8**
	baz=87									
C22A	**Vida**	**87.51**	**331**	P		**P**		**20 28 49.9**	**-1.3**
	baz=87									
BDFB	**Brasilia**	**87.74**	**249**	P		**P**		**20 28 53.2**	**+0.5**
BDFB	**Brasilia**	**87.74**	**249**	P		**P**		**20 28 53.2**	**+0.5**
	comp=Z,7.6nm,0.7s,baz=50,slow=1.0,SNR=12									
BDFB					LR	LR	21 07 59.7			
	comp=Z,199nm,21.8s,baz=31,slow=36									
BDFB	**Brasilia**	**87.74**	**249**	P		**P**		**20 28 53.2**	**+0.5**
H28A	**Mission Ridge**	**87.85**	**326**	P		**P**		**20 28 52.3**	**-0.5**
	baz=88									
C20A	**Veseth Ranch,**	**88.37**	**332**	P		**P**		**20 28 55.0**	**-0.2**
	baz=88									
I28A	**Midland**	**88.44**	**326**	P		**P**		**20 28 54.8**	**-0.8**
	baz=88									
J29A	**Okreek**	**88.50**	**325**	P		**P**		**20 28 54.6**	**-1.3**
	baz=88									
G25A	**Newell**	**88.52**	**328**	P		**P**		**20 28 55.2**	**-0.8**
	baz=88									
EGMT	**Eagleton**	**88.78**	**333**	*e*P		**P**		**20 28 56.4**	**-0.8**
	comp=Z,52nm,1.6s									
EGMT	**Eagleton**	**88.78**	**333**	P		**P**		**20 28 55.9**	**-1.3**
	baz=88									
EGMT	**Eagleton**	**88.78**	**333**	*e*P		**P**		**20 28 56.4**	**-0.8**
	comp=Z,52nm,1.6s									
J28A	**Allard Ranch,**	**88.92**	**326**	P		**P**		**20 28 57.5**	**-0.4**
	baz=89									
YBMT	**Yellow Bay**	**90.43**	**335**	*e*P		**P**		**20 29 04.1**	**-0.9**
YBMT	**Yellow Bay**	**90.43**	**335**	*e*P		**P**		**20 29 04.1**	**-0.9**
JTMT	**Jette**	**90.62**	**335**	*e*P		**P**		**20 29 04.9**	**-1.0**
JTMT	**Jette**	**90.62**	**335**	*e*P		**P**		**20 29 04.9**	**-1.0**
SWMT	**Swartz Lake**	**90.73**	**335**	*e*P		**P**		**20 29 05.0**	**-1.4**
SWMT	**Swartz Lake**	**90.73**	**335**	*e*P		**P**		**20 29 05.0**	**-1.4**
NEW	**Newport**	**91.10**	**337**	P		**P**		**20 29 06.4**	**-1.6**
	baz=91									
I21A	**Big Trails, Te**	**91.28**	**329**	P		**P**		**20 29 06.8**	**-2.2**
	baz=91									
PHWY	**Pilot Hill**	**92.51**	**327**	*e*P		**P**		**20 29 14.1**	**-0.9**
	comp=Z,15nm,1.5s									
PHWY	**Pilot Hill**	**92.51**	**327**	*e*P		**P**		**20 29 14.1**	**-0.9**
	comp=Z,15nm,1.5s									
PDAR	**Pinedale Array**	**93.08**	**330**	P		**P**		**20 29 15.8**	**-1.6**
PDAR	**Pinedale Array**	**93.08**	**330**	P		**P**		**20 29 15.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=56,slow=4.3,SNR=4.8									
PDAR	**Pinedale Array**	**93.08**	**330**	P		**P**		**20 29 15.9**	**-1.6**
MFID	**Camas Ranch**	**94.92**	**334**	*e*P		**P**		**20 29 25.4**	**-0.4**
	comp=Z,105nm,3.0s									
MFID	**Camas Ranch**	**94.92**	**334**	*e*P		**P**		**20 29 25.4**	**-0.4**
	comp=Z,105nm,3.0s									
TXAR	**Lajitas Array**	**101.09**	**318**	P		**Pdif**		**20 29 53.0**	**-0.7**
TXAR	**Lajitas Array**	**101.09**	**318**	P		**Pdif**		**20 29 53.0**	**-0.7**
	comp=Z,0.4nm,1.0s,baz=64,slow=4.1,SNR=2.8									
TXAR	**Lajitas Array**	**101.09**	**318**	P		**Pdif**		**20 29 53.0**	**-0.7**
WRA	**Warramunga Arr**	**114.49**	**98**	PKP		PKPdf	20 34 43.4		-0.3	
WRA	**Warramunga Arr**	**114.49**	**98**	PKP		PKPdf	20 34 43.4		-0.3	
	comp=Z,0.3nm,0.6s,baz=319,slow=1.8,SNR=2.7									

IDC ***17*** *20:46:29.9±1.4, 15°.32S×173°.32W, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.0/30, mbtmp4.0/7, MS4.0/19, Ms1 4.0/19, ms1mx3.9/29, Error ellipse: s-maj=85.7km s-min=22.3km az=149.0*

ISC 17 20:46:38.3±2.5, 14°.6S±0°.7×173°.1W±0°.3, h35km, n40, σ1§32/10, mb4.0/7, MS4.0/17, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.42**	**60**	Pn	**Pn**	**20 47 00.4**	**-1.2**
	109nm,0.3s,baz=38,slow=0.8,SNR=136						
AFI				Sn	**Sn**	**20 47 19.3**	**+0.2**
	547nm,0.3s,baz=203,slow=13,SNR=20						
RAR	**Rarotonga**	**14.23**	**119**	LR	LR	20 53 43.7	
	comp=Z,490nm,20.7s,baz=45,slow=31						
RAO	**Raoul Island**	**15.25**	**196**	LR	LR	20 54 38.8	
	comp=Z,400nm,20.2s,baz=342,slow=34						
DZM	**Mont Dzumac**	**20.82**	**246**	*e*LR	LR	20 56 17.5	
	1µm,25.4s						
DZM	**Mont Dzumac**	**20.82**	**246**	LR	LR	20 57 54.8	
	comp=Z,637nm,21.2s,baz=35,slow=34						
PPT	**Papeete**	**22.74**	**101**	LR	LR	20 57 54.6	
	comp=Z,232nm,21.5s,baz=278,slow=30						

PPT2	**Papeete2**	**22.74**	**101**	*e*LR		LR	20 56 49.2			
	904nm,26.5s,baz=272									
PPT2	**Papeete2**	**22.74**	**101**	*e*T		T	21 14 35.4			
	4.3nm,0.3s									
PAE	**Paea**	**22.74**	**101**	*e*T		T	21 14 34.1			
	2.7nm,0.3s									
TVO	**Taravao**	**23.06**	**101**	*e*T		T	21 14 58.5			
	1.9nm,0.4s									
TBI	**Tubuai**	**23.91**	**115**	*e*LR		LR	20 57 23.6			
	814nm,26.8s,baz=287									
TBI	**Tubuai**	**23.91**	**115**	*e*T		T	21 15 53.1			
	13nm,0.4s									
URZ	**Urewera**	**25.11**	**198**	LR		LR	20 59 59.0			
	comp=Z,508nm,21.2s,baz=16,slow=33									
HNR	**Honiara**	**26.90**	**278**	LR		LR	21 01 18.6			
	comp=Z,314nm,18.9s,baz=118,slow=33									
RKT	**Rikitea**	**36.92**	**109**	*e*LR		LR	21 03 35.5			
	535nm,26.5s									
RKT	**Rikitea**	**36.92**	**109**	*e*T		T	21 32 11.6			
	3.6nm,0.3s									
H11S2	**WAKE ISLAND Hy**	**38.48**	**328**	T		T	21 35 23.0			
	baz=152,slow=77,SNR=16									
H11S3	**WAKE ISLAND Hy**	**38.49**	**328**	T		T	21 35 21.0			
	baz=152,slow=77,SNR=17									
H11S1	**WAKE ISLAND Hy**	**38.49**	**328**	T		T	21 35 23.0			
	baz=152,slow=77,SNR=37									
H11N3	**WAKE ISLAND Hy**	**39.41**	**329**	T		T	21 36 31.9			
	baz=228,slow=58,SNR=18									
H11N1	**WAKE ISLAND Hy**	**39.41**	**329**	T		T	21 36 29.0			
	baz=228,slow=58,SNR=32									
H11N2	**WAKE ISLAND Hy**	**39.42**	**329**	T		T	21 36 32.7			
	baz=228,slow=58,SNR=19									
STKA	**Stephens Creek**	**44.73**	**239**	P		P	20 54 39.5		-8.9	
	1.1nm,0.5s,baz=58,slow=9.5,SNR=4.0									
STKA					LR	LR	21 10 30.6			
	comp=Z,211nm,21.8s,baz=59,slow=33									
WRA	**Warramunga Arr**	**50.36**	**256**	P		P	20 55 26.2		-6.1	
	1.0nm,0.5s,baz=92,slow=6.9,SNR=11									
WRA					LR	LR	21 14 26.6			
	comp=Z,242nm,21.8s,baz=320,slow=34									
MJAR	**Matsushiro Arr**	**68.56**	**319**	LR		LR	21 21 03.9			
	comp=Z,58nm,21.9s,baz=330,slow=30									
H06E1	**SOCORRO T-PHAS**	**59.60**	**63**	T		T	22 14 12.7			
NVAR	**Mina Array Bea**	**73.52**	**42**	P		**P**	**20 58 09.9**		**+2.0**	
	0.5nm,0.5s,baz=232,slow=11,SNR=4.8									
NVAR					LR	LR	21 24 42.4			
	comp=Z,250nm,20.3s,baz=74,slow=31									
KSRS	**Korea Array**	**75.84**	**315**	LR		LR	21 25 58.5			
	comp=Z,32nm,21.8s,baz=345,slow=31									
USRK	**Ussuriysk Arra**	**76.97**	**323**	LR		LR	21 27 06.4			
	comp=Z,55nm,19.7s,baz=89,slow=32									
TXAR	**Lajitas Array**	**79.89**	**56**	P		**P**	**20 58 45.0**		**+1.0**	
	3.4nm,1.2s,baz=250,slow=6.1,SNR=14									
TXAR					LR	LR	21 28 51.0			
	comp=Z,118nm,19.0s,baz=0.0,slow=32									
PDAR	**Pinedale Array**	**81.46**	**42**	P		**P**	**20 58 52.1**		**-0.1**	
	2.1nm,1.0s,baz=209,slow=2.7,SNR=12									
PDAR					LR	LR	21 30 30.4			
	comp=Z,160nm,19.3s,baz=309,slow=32									
ILAR	**Eielson Array**	**81.61**	**11**	P		**P**	**20 58 52.6**		**+0.4**	
	1.0nm,0.8s,baz=219,slow=5.0,SNR=16									
ILAR					LR	LR	21 28 56.2			
	comp=Z,103nm,19.6s,baz=146,slow=31									
PSI	**Prapat**	**88.79**	**273**	LR		LR	21 38 56.5			
	comp=Z,66nm,18.5s,baz=166,slow=36									
YKA	**Yellowknife Ar**	**89.25**	**23**	P		**P**	**20 59 30.5**		**+0.2**	
	0.7nm,1.0s,baz=226,slow=4.8,SNR=6.8									
CMAR	**Chiang Mai Arr**	**92.69**	**288**	LR		LR	21 40 30.3			
	comp=Z,24nm,19.1s,baz=125,slow=35									
ULM	**Lac du Bonnet**	**93.11**	**39**	LR		LR	21 35 07.9			
	comp=Z,211nm,19.8s,baz=260,slow=31									
ROSC	**El Rosal**	**99.63**	**87**	LR		LR	21 35 55.2			
	comp=Z,44nm,19.2s,baz=244,slow=30									
MLR	**

KULA Kula-Manisa 3.29 11 ePn Pn 20 59 58.8 -0.1
KHL Karahalli 3.32 24 ePN Pn 21 00 00.4 +1.0
KHL Karahalli 3.32 24 ePn Pn 21 00 00.4 +1.0
ISP Isparta 3.33 40 P Pn 21 00 01.3 +1.8
ISP S Sn 21 00 40.9 +2.7
ISP Isparta 3.33 40⇓eP Pn 21 00 01.4 +1.9
ISP Isparta 3.33 40⇓iP Pn 21 00 01.8 +2.3
ISP Isparta 3.33 40 ePn Pn 21 00 01.6 +2.1
ISP Isparta 3.33 40 P Pn 21 00 01.3 +1.8
ISP Isparta 3.33 40 ePn Pn 21 00 01.6 +2.1
ISP S Sn 21 00 40.9 +2.7
SUTC Sutluce-Ispart 3.36 48 ePN Pn 20 59 60.0 0.0
SUTC Sutluce-Ispart 3.36 48 ePn Pn 21 00 00.0 0.0
CHOS Chios island 3.41 336 P Pn 21 00 01.2 +0.7
CHOS Chios island 3.41 336 ePN Pn 21 00 01.6 +1.1
CHOS Chios island 3.41 336 P Pn 21 00 01.2 +0.7
CHOS Chios island 3.41 336 P Pn 21 00 01.2 +0.7
CHOS Chios island 3.41 336 ePn Pn 21 00 01.6 +1.1
AKHS Akhisar 3.59 360 iP Pn 21 00 03.0 +0.1
AKHS iS Sn 21 00 44.0 -0.4
AKHS Akhisar 3.59 360 iP Pn 21 00 03.0 +0.1
AKHS iS Sn 21 00 44.0 -0.4
AKS Akhisar 3.59 360 ePN Pn 21 00 03.8 +0.8
AKS Akhisar 3.59 360 ePn Pn 21 00 03.8 +0.8
AKMC Akamas 3.69 93 ⇑P Pn 21 00 05.2 +0.8
baz=272
AKMC Akamas 3.69 93 ⇑P Pn 21 00 05.2 +0.8
PPCY Paphos 3.72 95 P Pn 21 00 05.8 +1.1
baz=275
PPCY Paphos 3.72 95 P Pn 21 00 05.8 +1.1
GAZI Gazipasa 3.77 74 iP Pn 21 00 06.4 +1.0
GAZI iS Sn 21 00 49.9 +1.1
GAZI Gazipasa 3.77 74 iP Pn 21 00 06.4 +1.0
GAZI iS Sn 21 00 49.9 +1.1
DEMI Demirci 3.82 10 iP Pn 21 00 06.6 +0.4
DEMI iS Sb 21 00 56.4 -5.3
DEMI Demirci 3.82 10 iP Pn 21 00 06.6 +0.4
ALFC Alevga 3.90 90 P Pn 21 00 08.1 +0.8
baz=270
ALFC S Sn 21 00 52.5 +0.3
ALFC Alevga 3.90 90 P Pn 21 00 08.1 +0.8
ALFC S Sn 21 00 52.5 +0.3
SHUT Suhut-Afyon 3.92 33 ePN Pn 21 00 08.2 +0.5
SHUT Suhut-Afyon 3.92 33 ePn Pn 21 00 08.2 +0.5
MATC Matruh 3.96 187 P Pn 21 00 09.1 +1.1
baz=189
KYTH Kithira 4.03 286 ePN Pn 21 00 09.9 +1.0
KYTH Kithira 4.03 286 ePn Pn 21 00 09.9 +1.0
LEF Lefka 4.14 91 ePN Pn 21 00 09.7 -0.8
LEF Lefka 4.14 91 ePn Pn 21 00 09.7 -0.8
PRK Paraskevi 4.15 343 ePN Pn 21 00 11.1 +0.5
PRK Paraskevi 4.15 343 ePn Pn 21 00 11.1 +0.5
SZAC Souni-Zanaja 4.18 96 P Pn 21 00 11.8 +0.7
baz=276
SZAC S Sn 21 00 58.4 -0.6
SZAC Souni-Zanaja 4.18 96 P Pn 21 00 11.8 +0.7
SZAC S Sn 21 00 58.4 -0.6
ALT Altintas 4.18 25 ePN Pn 21 00 12.8 +1.7
ALT Altintas 4.18 25 ePn Pn 21 00 12.8 +1.7
PTL Penteli 4.22 312 ePN Pn 21 00 13.3 +1.7
PTL Penteli 4.22 312 ePn Pn 21 00 13.3 +1.7
VLI Veliai 4.22 291 ePN Pn 21 00 12.1 +0.5
VLI Veliai 4.22 291 ePn Pn 21 00 12.1 +0.5
HMAT Matruh 4.22 189 P Pn 21 00 12.0 +0.3
baz=190
HMAT S Sn 21 00 58.5 -1.6
baz=190
HMAT Matruh 4.22 189 P Pn 21 00 12.0 +0.3
HMAT S Sn 21 00 58.5 -1.6
SIGR SIGRI 4.23 339 P Pn 21 00 12.8 +1.1
SIGR SIGRI 4.23 339 ePN Pn 21 00 13.2 +1.5
SIGR SIGRI 4.23 339 P Pn 21 00 12.8 +1.1
SIGR SIGRI 4.23 339 P Pn 21 00 12.8 +1.1
SIGR SIGRI 4.23 339 ePn Pn 21 00 13.2 +1.5
ATH Athens Observa 4.26 310 ePN Pn 21 00 15.0 +2.9
ATH Athens Observa 4.26 310 ePn Pn 21 00 15.0 +2.9
DID Didima 4.32 302 P Pn 21 00 14.2 +1.2
DID S Sn 21 01 04.8 +2.3
DID Didima 4.32 302 ePN Pn 21 00 14.6 +1.6
DID Didima 4.32 302 P Pn 21 00 14.2 +1.2
DID Didima 4.32 302 P Pn 21 00 14.2 +1.2
DID Didima 4.32 302 ePn Pn 21 00 14.6 +1.6
DID S Sn 21 01 04.8 +2.3
ERMK Ermenek 4.34 70 iP Pn 21 00 15.6 +2.2
ERMK iS Sn 21 01 07.3 +4.2
ERMK Ermenek 4.34 70 iP Pn 21 00 15.6 +2.2
ERMK iS Sn 21 01 07.3 +4.2
DURS Dursunbey 4.34 7 iP Pn 21 00 13.9 +0.6
DURS iS Sn 21 01 08.2 +5.2
DURS Dursunbey 4.34 7 iP Pn 21 00 13.9 +0.6
DURS iS Sn 21 01 08.2 +5.2
BALB Balikesir 4.35 0 ePN Pn 21 00 13.2 -0.1
BALB Balikesir 4.35 0 ePn Pn 21 00 13.2 -0.1
TVSB Tavsanli 4.36 17 ePN Pn 21 00 14.0 +0.4
TVSB Tavsanli 4.36 17 ePn Pn 21 00 14.0 +0.4
SLUM 4.37 211 P Pn 21 00 14.5 +0.8
baz=212
SLUM 4.37 211 P Pn 21 00 14.5 +0.8
MAMC Mammari 4.41 90 ⇓P Pn 21 00 14.9 +0.7
baz=270
MAMC Mammari 4.41 90 ⇓P Pn 21 00 14.9 +0.7
BALY Balya 4.45 358 iP Pn 21 00 14.8 0.0
BALY iS Sn 21 01 10.1 +4.3
BALY Balya 4.45 358 iP Pn 21 00 14.8 0.0
BALY iS Sn 21 01 10.1 +4.3
KONT Konya--Tatoy 4.51 53 ePN Pn 21 00 17.0 +1.4
KONT Konya--Tatoy 4.51 53 ePn Pn 21 00 17.0 +1.4
CSS Prodhromos 4.52 92 P Pn 21 00 16.4 +0.7
CSS S Sn 21 01 08.0 +0.7
CSS Prodhromos 4.52 92 P Pn 21 00 16.4 +0.7
CSS S Sn 21 01 10.8 +3.5
CSS Prodhromos 4.52 92 P Pn 21 00 16.4 +0.7
CSS S Sn 21 01 08.0 +0.7
LADK Ladik-KONYA 4.66 50 ePN Pn 21 00 18.7 +0.9
LADK Ladik-KONYA 4.66 50 ePn Pn 21 00 18.7 +0.9
LFK Lefkose 4.66 88 ePN Pn 21 00 18.3 +0.6
LFK Lefkose 4.66 88 ePn Pn 21 00 18.3 +0.6
EZN Ezine 4.69 346 ePN Pn 21 00 18.3 +0.3
EZN Ezine 4.69 346 ePn Pn 21 00 18.3 +0.3
GONE Gonen-Balikesi 4.76 359 ePN Pn 21 00 20.2 +1.3
GONE Gonen-Balikesi 4.76 359 ePn Pn 21 00 20.2 +1.3
LTK Loutraki 4.77 306 P Pn 21 00 21.1 +1.9
LTK Loutraki 4.77 306 ePN Pn 21 00 21.6 +2.4
LTK Loutraki 4.77 306 P Pn 21 00 21.1 +1.9
LTK Loutraki 4.77 306 P Pn 21 00 21.1 +1.9
LTK Loutraki 4.77 306 ePn Pn 21 00 21.6 +2.4
IKL Isikli 4.85 77 ePN Pn 21 00 21.7 +1.4
IKL Isikli 4.85 77 ePn Pn 21 00 21.7 +1.4
VLX Vlachokerasia 4.87 297 P Pn 21 00 22.6 +2.0
VLX S Sn 21 01 18.2 +2.1
VLX Vlachokerasia 4.87 297 ePN Pn 21 00 22.7 +2.1
VLX Vlachokerasia 4.87 297 P Pn 21 00 22.6 +2.0
VLX S Sn 21 01 18.2 +2.1
VLX Vlachokerasia 4.87 297 P Pn 21 00 22.6 +2.0
VLX S Sn 21 01 18.2 +2.1
KCTX Karacabey (Bur 4.99 5 ePN Pn 21 00 23.7 +1.5
KCTX Karacabey (Bur 4.99 5 ePn Pn 21 00 23.7 +1.5
LIA Limnos Island 5.06 336 ePN Pn 21 00 25.1 +1.9
LIA Limnos Island 5.06 336 ePn Pn 21 00 25.1 +1.9
LKR Lokris 5.12 312 ePN Pn 21 00 26.2 +2.2
LKR Lokris 5.12 312 ePn Pn 21 00 26.2 +2.2
ITM Ithomi 5.14 293 ePN Pn 21 00 26.3 +2.1
ITM Ithomi 5.14 293 ePn Pn 21 00 26.3 +2.1
GUR Goura 5.15 303 P Pn 21 00 26.3 +1.8
GUR S Sn 21 01 25.3 +2.3
GUR Goura 5.15 303 ePN Pn 21 00 26.5 +2.0
GUR Goura 5.15 303 P Pn 21 00 26.3 +1.8
GUR S Sn 21 01 25.3 +2.3
GUR Goura 5.15 303 P Pn 21 00 26.3 +1.8
GUR S Sn 21 01 25.3 +2.3
CAVI Cavuskoy 5.16 17 ePN Pn 21 00 25.8 +1.3
CAVI Cavuskoy 5.16 17 ePn Pn 21 00 25.8 +1.3
PYL PYLOS 5.19 290 P Pn 21 00 25.2 +0.3
PYL S Sn 21 01 24.2 +0.4
PYL PYLOS 5.19 290 ePN Pn 21 00 25.1 +0.2
PYL PYLOS 5.19 290 P Pn 21 00 25.2 +0.3
PYL S Sn 21 01 24.2 +0.4
PYL PYLOS 5.19 290 P Pn 21 00 25.2 +0.3
PYL S Sn 21 01 24.2 +0.4
GEMT Gemlik 5.25 11 ePN Pn 21 00 27.6 +1.8
GEMT Gemlik 5.25 11 ePn Pn 21 00 27.6 +1.8
DSF Desfina 5.28 308 P Pn 21 00 28.1 +1.9
DSF Desfina 5.28 308 ePN Pn 21 00 28.2 +2.0
DSF Desfina 5.28 308 P Pn 21 00 28.1 +1.9
DSF Desfina 5.28 308 P Pn 21 00 28.1 +1.9
KLV Kalavryta, Ach 5.33 303 ePN Pn 21 00 28.4 +1.4
KLV Kalavryta, Ach 5.33 303 ePn Pn 21 00 28.4 +1.4
SULT Sultanhani-AKS 5.41 56 ePN Pn 21 00 30.0 +1.9
SULT Sultanhani-AKS 5.41 56 ePn Pn 21 00 30.0 +1.9
AMT Artemida-Makis 5.42 296 P Pn 21 00 30.8 +2.6
AMT S Sn 21 01 31.9 +2.2
AMT Artemida-Makis 5.42 296 ePN Pn 21 00 29.7 +1.5
AMT Artemida-Makis 5.42 296 ePn Pn 21 00 29.7 +1.5
AMT Artemida-Makis 5.42 296 P Pn 21 00 30.8 +2.6
AMT S Sn 21 01 31.9 +2.2
NEO Neokhori 5.44 319 ePN Pn 21 00 30.5 +2.1
NEO Neokhori 5.44 319 ePn Pn 21 00 30.5 +2.1
XOR Xorichti 5.50 319 P Pn 21 00 30.8 +1.6
XOR Xorichti 5.50 319 P Pn 21 00 30.8 +1.6
XOR S Sn 21 01 30.6 -1.0
XOR Xorichti 5.50 319 P Pn 21 00 30.8 +1.6
DRO Drossia 5.60 300 P Pn 21 00 33.4 +2.8
DRO S Sn 21 01 36.4 +2.5
DRO Drossia 5.60 300 ePN Pn 21 00 34.6 +4.0
DRO Drossia 5.60 300 P Pn 21 00 33.4 +2.8
DRO Drossia 5.60 300 ePn Pn 21 00 34.6 +4.0
DRO S Sn 21 01 36.4 +2.5
EFP Efpalio 5.69 305 P Pn 21 00 33.4 +1.6
EFP S Sn 21 01 39.1 +2.8
EFP Efpalio 5.69 305 ePN Pn 21 00 35.0 +3.2
EFP Efpalio 5.69 305 P Pn 21 00 33.4 +1.6
EFP Efpalio 5.69 305 ePn Pn 21 00 35.0 +3.2
EFP S Sn 21 01 39.1 +2.8
AGG Agios Georgios 5.76 312 P Pn 21 00 35.6 +2.7
AGG Agios Georgios 5.76 312 P Pn 21 00 35.6 +2.7
AGG Agios Georgios 5.76 312 P Pn 21 00 35.6 +2.7
AGG Agios Georgios 5.76 312 P Pn 21 00 35.6 +2.7
ALN Alexandroupoli 5.78 346 P Pn 21 00 34.5 +1.5
ALN Alexandroupoli 5.78 346 P Pn 21 00 34.5 +1.5
ALN Alexandroupoli 5.78 346 P Pn 21 00 34.5 +1.5
ALN Alexandroupoli 5.78 346 P Pn 21 00 34.5 +1.5
RLS Riolos of Patr 5.82 300 ePN Pn 21 00 36.7 +3.2
RLS Riolos of Patr 5.82 300 ePn Pn 21 00 36.7 +3.2
AFSR Af¯ar-Bala (A 5.89 44 ePN Pn 21 00 36.5 +1.9
AFSR Af¯ar-Bala (A 5.89 44 ePn Pn 21 00 36.5 +1.9
GULE Gulek 5.95 68 iP Pn 21 00 38.7 +3.1
GULE iS Sn 21 01 47.1 +4.1
GULE Gulek 5.95 68 iP Pn 21 00 38.7 +3.1
EVR Evrytania 6.03 309 ePN Pn 21 00 39.5 +3.0
EVR Evrytania 6.03 309 ePn Pn 21 00 39.5 +3.0
ANTO Ankara 6.04 39 eP Pn 21 00 39.0 +2.4
ANTO pmax pmax
comp=Z,18nm,0.9s
ANTO Ankara 6.04 39⇓iP Pn 21 00 40.6 +4.0
ANTO Ankara 6.04 39 ePn Pn 21 00 39.0 +2.4
comp=Z,18nm,0.9s
ANTO Ankara 6.04 39 eP Pn 21 00 39.0 +2.4
comp=Z,18nm,0.9s
PVO Paravola 6.05 305 P Pn 21 00 40.8 +4.1
PVO S Sn 21 01 46.7 +1.7
PVO Paravola 6.05 305 P Pn 21 00 40.8 +4.1
PVO S Sn 21 01 46.7 +1.7
RDO Rodhopi 6.13 344 ePN Pn 21 00 39.7 +1.9
RDO Rodhopi 6.13 344 ePn Pn 21 00 39.7 +1.9
PDO Prodromos 6.27 304 P Pn 21 00 43.1 +3.4
PDO S Sn 21 01 53.7 +3.3
PDO Prodromos 6.27 304 ePN Pn 21 00 43.2 +3.5
PDO Prodromos 6.27 304 P Pn 21 00 43.1 +3.4
PDO S Sn 21 01 53.7 +3.3
KAVA Kavala 6.28 336 P Pn 21 00 40.6 +0.8
KAVA Kavala 6.28 336 P Pn 21 00 40.6 +0.8
KAVA Kavala 6.28 336 P Pn 21 00 40.6 +0.8
KOT Kottamia 6.32 147 P Pn 21 00 40.8 +0.3
baz=147
KOT Kottamia 6.32 147 P Pn 21 00 40.8 +0.3
KFL Anninata 6.32 299 P Pn 21 00 41.6 +1.1
KFL S Sn 21 01 52.8 +1.0
KFL Anninata 6.32 299 P Pn 21 00 41.6 +1.1
KFL S Sn 21 01 52.8 +1.0
SWA2 6.35 199 P Pn 21 00 42.0 +1.1
baz=200
SWA2 S Sn 21 01 50.8 -1.7
baz=200
SWA2 6.35 199 P Pn 21 00 42.0 +1.1
SWA2 S Sn 21 01 50.8 -1.7
BR131 Keskin Array S 6.40 44 ePn Pn 21 00 38.2 -3.5
comp=Z,3.6nm,0.5s
BRTR Keskin Array B 6.40 44 Pn Pn 21 00 43.5 +1.8
BRTR Sn Sn 21 01 53.6 -0.2
BRTR Keskin Array B 6.40 44 Pn Pn 21 00 43.5 +1.8
comp=Z,0.8nm,0.3s,baz=216,slow=15,SNR=31
BRTR Sn Sn 21 01 53.6 -0.2
comp=Z,0.8nm,0.3s,baz=218,slow=26,SNR=6.7
BRTR Keskin Array B 6.40 44 P Pn 21 00 43.5 +1.8
comp=Z,1.0nm,0.3s
BRTR S Sn 21 01 53.6 -0.2
comp=Z,1.0nm,0.3s
LIT Litokhoron 6.41 320 P Pn 21 00 43.6 +1.9
LIT Litokhoron 6.41 320 P Pn 21 00 43.6 +1.9
LIT Litokhoron 6.41 320 P Pn 21 00 43.6 +1.9
LIT Litokhoron 6.41 320 P Pn 21 00 43.6 +1.9
HSAF As Saff 6.46 150 P Pn 21 00 42.7 +0.2
baz=150
HSAF As Saff 6.46 150 P Pn 21 00 42.7 +0.2
AMAG Maghara 6.46 134 P Pn 21 00 41.8 -0.7
baz=134
AMAG Maghara 6.46 134 P Pn 21 00 41.8 -0.7
VLS Valsamata 6.49 299 ePN Pn 21 00 46.0 +3.2
VLS Valsamata 6.49 299 ePn Pn 21 00 46.0 +3.2
RSH 6.56 129 P Pn 21 00 43.5 -0.2
baz=130
RSH 6.56 129 P Pn 21 00 43.5 -0.2
GLL Jalalah 6.56 149 P Pn 21 00 44.4 +0.5
baz=149
GLL Jalalah 6.56 149 P Pn 21 00 44.3 +0.5
BHL Bhannes 6.59 100 eP Pn 21 00 43.9 -0.4
BHL Bhannes 6.59 100 eP Pn 21 00 43.9 -0.4
KDZ Kurdzhali 6.63 344⇑iP Pn 21 00 46.5 +1.7
MMAI Mount Meron Ar 6.67 108 Pn Pn 21 00 45.0 -0.4
MMAI Sn Sn 21 02 00.6 +0.1
MMAI Mount Meron Ar 6.67 108 Pn Pn 21 00 45.0 -0.4
comp=Z,7.6nm,0.3s,baz=306,slow=11,SNR=31
MMAI Sn Sn 21 02 00.6 +0.1
comp=Z,6.0nm,0.3s,baz=300,slow=26,SNR=4.5
MMAI Mount Meron Ar 6.67 108 Pn Pn 21 00 45.0 -0.4
MMAI Sn Sn 21 02 00.6 +0.1
SRS Serrai 6.71 331 P Pn 21 00 47.1 +1.3
SRS Serrai 6.71 331 P Pn 21 00 47.1 +1.3
SRS Serrai 6.71 331 P Pn 21 00 47.1 +1.3
SRS Serrai 6.71 331 P Pn 21 00 47.1 +1.3
LKD2 Lefkada island 6.72 303 P Pn 21 00 47.0 +1.0
LKD2 S Sn 21 02 02.9 +1.3
LKD2 Lefkada island 6.72 303 P Pn 21 00 47.0 +1.0
LKD2 Lefkada island 6.72 303 P Pn 21 00 47.0 +1.0
LKD2 S Sn 21 02 02.9 +1.3
HWQ Hawqa 6.75 96 eP Pn 21 00 46.4 -0.1
HWQ Hawqa 6.75 96 eP Pn 21 00 46.4 -0.1
RCY Rachaya 6.85 103 eP Pn 21 00 47.9 -0.1
RCY Rachaya 6.85 103 eP Pn 21 00 47.8 -0.1
MEV Metsovon 6.91 313 P Pn 21 00 51.2 +2.5
MEV Metsovon 6.91 313 P Pn 21 00 51.2 +2.5
MEV Metsovon 6.91 313 P Pn 21 00 51.2 +2.5
BIDA Albida 6.96 90 eP Pn 21 00 48.6 -0.7
BIDA eS Sn 21 02 01.2 -6.4
BIDA AML AML 21 02 09.7
comp=Z,213nm,0.4s
BIDA AML AML 21 02 10.8
comp=E,60nm,0.5s
BIDA AML AML 21 02 11.7
comp=N,201nm,0.5s
BIDA Albida 6.96 90 eP Pn 21 00 48.6 -0.7
SNR=45
BRBR Barbar 6.97 103 eP Pn 21 00 46.7 -2.9
BRBR eS Sn 21 01 58.9 -9.1
BRBR AML AML 21 02 10.1
comp=Z,67nm,0.5s
BRBR AML AML 21 02 12.1
comp=E,47nm,0.5s
BRBR AML AML 21 02 15.8
comp=N,29nm,0.6s
WRDH Warideh 7.01 86 eP Pn 21 00 49.6 -0.4
WRDH eS Sn 21 02 02.3 -6.5
WRDH AML AML 21 02 08.9
comp=Z,36nm,0.4s
WRDH AML AML 21 02 11.8
comp=N,23nm,0.6s
WRDH AML AML 21 02 14.0
comp=E,51nm,0.6s
WRDH Warideh 7.01 86 eP Pn 21 00 49.6 -0.4
SNR=45
KNT Kendrikon 7.04 328 P Pn 21 00 52.2 +1.9
KNT Kendrikon 7.04 328 P Pn 21 00 52.2 +1.9
KNT Kendrikon 7.04 328 P Pn 21 00 52.2 +1.9
KNT Kendrikon 7.04 328 P Pn 21 00 52.2 +1.9
BTCH Batrach 7.06 81 eP Pn 21 00 51.4 +0.7
BTCH eS Sn 21 02 09.9 -0.2
BTCH AML AML 21 02 21.6
comp=E,73nm,0.5s
BTCH AML AML 21 02 23.9
comp=N,107nm,0.6s
BTCH AML AML 21 02 28.1
comp=Z,40nm,0.6s
BTCH Batrach 7.06 81 eP Pn 21 00 51.4 +0.7
SNR=45
BTCH eS Sn 21 02 09.9 -0.2
comp=Z,40nm,0.6s,SNR=40
MMB Musomiste 7.07 334⇑iP Pn 21 00 53.0 +2.2
HAWK Haweek 7.08 94 eP Pn 21 00 49.6 -1.4
HAWK eS Sn 21 02 03.7 -7.0
HAWK AML AML 21 02 10.7
comp=Z,71nm,0.5s
HAWK AML AML 21 02 17.5
comp=N,37nm,0.5s
HAWK AML AML 21 02 20.1
comp=E,60nm,0.5s
HAWK Haweek 7.08 94 eP Pn 21 00 49.6 -1.4
SNR=45
MARH Ras Al Marh 7.24 98 eP Pn 21 00 50.9 -2.4
MARH eS Sn 21 02 06.8 -8.0
MARH AML AML 21 02 17.2
comp=E,44nm,0.5s
MARH AML AML 21 02 22.8
comp=Z,22nm,0.5s
MARH AML AML 21 02 31.6
comp=N,35nm,0.6s
TCHB Talchebab 7.24 109 eP Pn 21 00 49.3 -3.9
TCHB eS Sn 21 02 03.7 -11
TCHB AML AML 21 02 15.8
comp=N,91nm,0.6s
TCHB AML AML 21 02 18.6
comp=Z,103nm,0.6s
TCHB AML AML 21 02 21.3
comp=E,36nm,0.5s
IGT Igoumenitsa 7.32 308 P Pn 21 00 55.1 +0.9
IGT S Sn 21 02 13.6 -2.7
IGT Igoumenitsa 7.32 308 P Pn 21 00 55.1 +0.9
IGT S Sn 21 02 13.6 -2.7
IGT Igoumenitsa 7.32 308 P Pn 21 00 55.1 +0.9
IGT S Sn 21 02 13.6 -2.7
IGT Igoumenitsa 7.32 308 P Pn 21 00 55.1 +0.9
TOTH TOTAH 7.37 103 eP Pn 21 00 52.2 -2.7
TOTH eS Sn 21 02 10.4 -7.2
TOTH AML AML 21 02 20.5
comp=Z,42nm,0.5s
TOTH AML AML 21 02 26.2
comp=E,26nm,0.6s
TOTH AML AML 21 02 29.7
comp=N,35nm,0.7s
NEST Nestorio 7.42 316 P Pn 21 00 58.6 +3.0
NEST S Sn 21 02 21.7 +2.9
NEST Nestorio 7.42 316 P Pn 21 00 58.6 +3.0
NEST S Sn 21 02 21.7 +2.9
HNKL Nakhl 7.44 134 P Pn 21 00 55.6 -0.3
baz=134
HNKL Nakhl 7.44 134 P Pn 21 00 55.6 -0.3
FNA Florina 7.49 319 P Pn 21 00 59.6 +3.1
FNA Florina 7.49 319 P Pn 21 00 59.6 +3.1
FNA Florina 7.49 319 P Pn 21 00 59.6 +3.1
FNA Florina 7.49 319 P Pn 21 00 59.6 +3.1
RABH Abou Rabah 7.75 94 eP Pn 21 00 57.4 -2.8
RABH eS Sn 21 02 17.8 -9.2
RABH AML AML 21 02 29.0
comp=E,31nm,0.5s
RABH AML AML 21 02 31.2
comp=N,38nm,0.6s
RABH AML AML 21 02 38.3
comp=Z,12nm,0.4s
SALA Sala 7.82 107 eP Pn 21 00 58.4 -2.9
SALA eS Sn 21 02 18.9 -10
SALA AML AML 21 02 37.4
comp=Z,33nm,0.6s
SALA AML AML 21 02 42.5
comp=N,46nm,0.6s
SALA AML AML 21 02 42.5
comp=E,3.5nm,0.5s
HFRF Wahat Farafira 8.12 177 P Pn 21 01 05.6 +0.4
baz=177
HFRF Wahat Farafira 8.12 177 P Pn 21 01 05.6 +0.4
VTS Vitosha 8.14 335 P Pn 21 01 05.7 +0.2
VTS Vitosha 8.14 335⇓iP Pn 21 01 09.5 +4.0
VTS Vitosha 8.14 335 P Pn 21 01 05.7 +0.2
VTS Vitosha 8.14 335 P Pn 21 01 05.7 +0.2
ASF Jabal al Asfar 8.16 110 Pn Pn 21 01 06.5 +0.6
ASF Sn Sn 21 02 38.0 +0.8
ASF Jabal al Asfar 8.16 110 Pn Pn 21 01 06.5 +0.6
comp=E,0.5nm,0.3s,baz=234,slow=13,SNR=3.7
ASF Sn Sn 21 02 38.0 +0.8
comp=E,0.4nm,0.3s,baz=252,slow=20,SNR=2.3
EIL Elat 8.21 131 Pn Pn 21 01 07.2 +0.8
EIL Sn Sn 21 02 35.9 -2.4
EIL Elat 8.21 131 Pn Pn 21 01 07.2 +0.8
comp=E,3.1nm,0.3s,baz=332,slow=9.2,SNR=21
EIL Sn Sn 21 02 35.9 -2.4
comp=E,3.7nm,0.3s,baz=294,slow=19,SNR=6.3
EIL Elat 8.21 131 Pn Pn 21 01 07.2 +0.8
EIL Sn Sn 21 02 35.9 -2.4
HBST Basata 8.41 134 P Pn 21 01 09.9 +0.8
baz=134
HBST Basata 8.41 134 P Pn 21 01 09.9 +0.8
HKAT Jabal Katrina 8.53 140 P Pn 21 01 11.2 +0.2
baz=141
HKAT Jabal Katrina 8.53 140 P Pn 21 01 11.2 +0.2
TIP Timpagrande 9.65 297 ePn Pn 21 01 24.1 -2.1
IVAS Ivanjica 10.19 327 ePn Pn 21 01 37.2 +3.7
GRUS Gruza 10.20 330 ePn Pn 21 01 37.4 +3.8
MLR Muntele Rosu 10.30 353⇓iP Pn 21 01 37.4 +2.3
MLR Muntele Rosu 10.30 353 Pn Pn 21 01 36.6 +1.5
MLR Muntele Rosu 10.30 353 Pn Pn 21 01 36.6 +1.5
comp=E,0.0nm,0.3s,baz=165,slow=5.9,SNR=4.8
MLR LR LR 21 06 27.8
comp=E,64nm,18.1s,baz=256,slow=43
MLR Muntele Rosu 10.30 353 P Pn 21 01 36.6 +1.5
comp=E,14nm,28.6s
CUC Castrocucco 10.62 300 ePn Pn 21 01 37.9 -1.6
comp=E,15nm,0.6s
STON Ston 10.92 317 ePn Pn 21 01 41.7 -1.8
STON Sn Sn 21 03 38.8 -5.9
TEKS Tekeris 11.23 328 ePn Pn 21 01 50.6 +2.8
BZS Buzias 11.35 337⇑iP Pn 21 01 52.8 +3.4
BUR08 Bucovina Ar. S 12.51 352 ePn Pn 21 02 06.3 +1.0
BUR08 Bucovina Ar. S 12.51 352 ePn Pn 21 02 06.3 +1.0
PKSM Moragy 12.94 330⇓iP Pn 21 02 13.4 +2.3
NVLJ Novalja 13.58 317 i Pn Pn 21 02 17.8 -2.0
NVLJ Sn Sn 21 04 39.5 -10
PSZ Piszkesteto 13.94 337⇓iP Pn 21 02 28.4 +3.6
GNI Garni 14.23 65 LR LR 21 08 43.1
comp=E,36nm,20.3s,baz=288,slow=40
KOLS Kolonicke sedl 14.24 345 eP P 21 02 36.6 +0.7
KOLS Kolonicke sedl 14.24 345 eP P 21 02 36.6 +0.7
KOLS Kolonicke sedl 14.24 345 eP P 21 02 36.6 +0.7
KIV Kislovodsk 14.34 48 eP Pn 21 02 31.9 +1.6
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,11.0s
KBZ Khabaz 14.35 49 P P 21 02 39.6 +2.6
KBZ Khabaz 14.35 49 Pn P 21 02 39.6 +2.6
KBZ Khabaz 14.35 49 Pn P 21 02 39.6 +2.6
comp=Z,0.2nm,0.3s,baz=231,slow=9.0,SNR=7.2
CRVS Cervenica-Dubn 14.40 343 eP P 21 02 36.0 -1.6
CRVS Cervenica-Dubn 14.40 343 ePN P 21 02 36.0 -1.6
CRVS Cervenica-Dubn 14.40 343 eP P 21 02 36.0 -1.6
ZEI Tsey 14.55 54 eP P 21 02 40.7 +1.2
ZEI pmax pmax
comp=Z,5.0nm,1.0s
ZEI Tsey 14.55 54 eP P 21 02 40.7 +1.2

comp=Z,5.0nm,1.0s
NCK Nalchik 14.67 51 P P 21 02 39.1 -1.6
NCK Nalchik 14.67 51 P P 21 02 39.1 -1.6
SOKA Soboth 14.91 324 ⇓i Pn Pn 21 02 38.9 +0.9
SOKA Soboth 14.91 324 Pn Pn 21 02 38.9 +0.9
KEST Kesra 15.07 277 eP Pn Pn 21 02 42.7 +2.5
KEST Kesra 15.07 277 Pn Pn 21 02 39.7 -0.5
comp=Z,0.0nm,0.3s,baz=45,slow=20,SNR=3.2
KEST Kesra 15.07 277 eP Pn Pn 21 02 42.7 +2.5
AK01 Malin Array Si 15.43 3 eP Pn Pn 21 02 47.0 +2.2
AK01 Malin Array Si 15.43 3 eP Pn Pn 21 02 47.0 +2.2
KIEV Kiev 15.44 3 P P P 21 02 49.9 +0.8
KIEV Kiev 15.44 3 P P P 21 02 49.9 +0.8
AKASG Malin Array Be 15.44 3 P Pn Pn 21 02 45.4 +0.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.44 3 Pn Pn Pn 21 02 45.4 +0.5
AKASG Malin Array Be 15.44 3 Pn Pn Pn 21 02 45.4 +0.5
comp=Z,1.0nm,0.3s,baz=196,slow=12,SNR=9.0
AKASG Malin Array Be 15.44 3 Pn Pn 21 02 45.4 +0.5
OKC Ostrava-Krasne 16.18 337 eP P 21 02 57.5 +0.2
OKC Ostrava-Krasne 16.18 337 eP P 21 02 57.5 +0.2
OKC Ostrava-Krasne 16.18 337 eP P 21 02 57.5 +0.2
ABTA Abfaltersbach 16.24 319 ⇓i Pn Pn 21 02 54.1 -1.2
ABTA Abfaltersbach 16.24 319 Pn Pn 21 02 54.1 -1.2
VRAC Vranov 16.27 333 LR LR 21 09 07.2
comp=Z,90nm,18.9s,baz=152,slow=37
PGF Pioggiola 16.34 302 eP Pn 21 02 52.9 -3.7
PGF Pioggiola 16.34 302 eP Pn 21 02 52.9 -3.7
PGF Pioggiola 16.34 302 eP Pn 21 02 52.9 -3.7
GERES GERESS Array B 17.10 327 Pn Pn 21 03 05.8 -0.3
GERES GERESS Array B 17.10 327 Pn Pn 21 03 05.8 -0.3
comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=18
GERES GERESS Array B 17.10 327 P Pn 21 03 05.8 -0.3
DPC Dobruska-Polom 17.23 334 eP P 21 03 09.1 +0.1
DPC Dobruska-Polom 17.23 334 eP P 21 03 09.1 +0.1
DPC Dobruska-Polom 17.23 334 eP P 21 03 09.1 +0.1
KHC Kasperske Hory 17.36 327 eP Pn 21 03 08.6 -0.8
KHC Kasperske Hory 17.36 327 eP Pn 21 03 08.6 -0.8
KHC x 21 03 13.8
KHC Kasperske Hory 17.36 327 eP Pn 21 03 08.6 -0.8
MOTA Moosalm 17.37 319 ⇑i P Pn 21 03 09.4 -0.1
MOTA Moosalm 17.37 319 Pn Pn 21 03 09.4 -0.1
FETA Feichten 17.38 318 ⇑i P P 21 03 10.6 -0.2
FETA Feichten 17.38 318 Pn P 21 03 10.6 -0.2
UPC Upice 17.47 334 eP Pn 21 03 07.0 -3.7
UPC Upice 17.47 334 eP Pn 21 03 07.0 -3.7
PRU Pruhonice 17.61 331 eP Pn 21 03 10.9 -1.5
PRU Pruhonice 17.61 331 eP Pn 21 03 10.9 -1.5
PRU Pruhonice 17.61 331 eP Pn 21 03 10.9 -1.5
DAVOX Davos/Dischmat 17.71 316 Pn P 21 03 14.8 +0.2
DAVOX Davos/Dischmat 17.71 316 Pn P 21 03 14.8 +0.2
comp=Z,0.2nm,0.3s,baz=168,slow=19,SNR=6.0
DAVOX LR LR 21 11 20.8
comp=Z,97nm,18.1s,baz=321,slow=42
DAVOX Davos/Dischmat 17.71 316 P P 21 03 14.8 +0.2
comp=Z,15nm,28.6s
SBF Sospel 17.88 305 eP Pn 21 03 13.1 -2.6
comp=Z,83nm,1.1s
SBF Sospel 17.88 305 eP Pn 21 03 13.1 -2.6
SBF pmax pmax
comp=Z,83nm,1.1s
SBF Sospel 17.88 305 eP Pn 21 03 13.1 -2.6
comp=Z,83nm,1.1s
PVCC Panska Ves 18.03 332 eP Pn 21 03 15.6 -1.9
PVCC Panska Ves 18.03 332 eP Pn 21 03 15.6 -1.9
PVCC ex x 21 03 20.2
PVCC Panska Ves 18.03 332 eP Pn 21 03 15.6 -1.9
MBDF Montbardon 18.64 307 eP P 21 03 21.8 -3.0
comp=Z,7.8nm,0.6s
MBDF Montbardon 18.64 307 eP P 21 03 21.8 -3.0
MBDF pmax pmax
comp=Z,8.0nm,0.6s
MBDF Montbardon 18.64 307 eP P 21 03 21.8 -3.0
comp=Z,7.8nm,0.6s
NKC Novy Kostel 18.67 328 eP Pn 21 03 26.7 +1.3
NKC Novy Kostel 18.67 328 eP Pn 21 03 26.7 +1.3
NKC Novy Kostel 18.67 328 eP Pn 21 03 26.7 +1.3
LPG La Plagne 18.97 309 eP P 21 03 27.4 -1.1
comp=Z,16nm,0.6s
LPG La Plagne 18.97 309 eP P 21 03 27.4 -1.1
LPG pmax pmax
comp=Z,16nm,0.6s
LPG La Plagne 18.97 309 eP P 21 03 27.4 -1.1
comp=Z,16nm,0.6s
LPG La Plagne 18.97 309 eP P 21 03 27.4 -1.1
comp=Z,7.8nm,0.6s
LPL La Plagne 18.99 309 eP P 21 03 27.5 -1.2
comp=Z,14nm,0.4s
LPL La Plagne 18.99 309 eP P 21 03 27.5 -1.2
LPL pmax pmax
comp=Z,14nm,0.4s
LPL La Plagne 18.99 309 eP P 21 03 27.5 -1.2
comp=Z,14nm,0.4s
LPL La Plagne 18.99 309 eP P 21 03 27.5 -1.2
comp=Z,6.8nm,0.4s
SMRF Simiane la Rot 19.17 304 eP P 21 03 28.1 -2.4
comp=Z,18nm,1.1s
SMRF Simiane la Rot 19.17 304 eP P 21 03 28.1 -2.4
comp=Z,18nm,1.0s
SMRF Simiane la Rot 19.17 304 eP P 21 03 28.1 -2.4
comp=Z,9.2nm,1.1s
CLL Collm 19.25 331 eP Pn 21 03 32.0 -0.3
CLL Collm 19.25 331 eP max 21 03 32.0
comp=Z,5.0nm,0.7s
CLL Collm 19.25 331 eP Pn 21 03 32.0 -0.3
ORIF Oris-en-Rattie 19.30 307 eP P 21 03 29.1 -2.8
comp=Z,19nm,1.0s
ORIF eR
comp=Z,125nm,18.0s
ORIF Oris-en-Rattie 19.30 307 eP P 21 03 29.1 -2.8
ORIF pmax pmax
comp=Z,19nm,1.0s
ORIF Oris-en-Rattie 19.30 307 eP P 21 03 29.1 -2.8
comp=Z,19nm,1.0s
ORIF Oris-en-Rattie 19.30 307 eP P 21 03 29.1 -2.8
comp=Z,9.7nm,1.0s
CABF La Chapelle 19.88 311 eP P 21 03 35.2 -3.0
comp=Z,16nm,0.6s
CABF La Chapelle 19.88 311 eP P 21 03 35.2 -3.0
CABF pmax pmax
comp=Z,16nm,0.6s
CABF La Chapelle 19.88 311 eP P 21 03 35.2 -3.0
comp=Z,16nm,0.6s
HINF Hinteralfeld 20.01 315 eP P 21 03 37.1 -2.4
HINF Hinteralfeld 20.01 315 eP P 21 03 37.1 -2.4
HINF Hinteralfeld 20.01 315 eP P 21 03 37.1 -2.4
VIVF Saint-Julien-l 20.08 305 eP P 21 03 36.9 -3.5
comp=Z,5.9nm,0.4s
VIVF Saint-Julien-l 20.08 305 eP P 21 03 36.9 -3.5
VIVF pmax pmax
comp=Z,6.0nm,0.4s
VIVF Saint-Julien-l 20.08 305 eP P 21 03 36.9 -3.5
comp=Z,5.9nm,0.4s
CDF Champ du Feu 20.08 317 eP P 21 03 39.3 -1.1
comp=Z,12nm,0.9s
CDF Champ du Feu 20.08 317 eP P 21 03 39.3 -1.1
CDF pmax pmax
comp=Z,13nm,0.9s
CDF Champ du Feu 20.08 317 eP P 21 03 39.3 -1.1
comp=Z,12nm,0.9s
CDF Champ du Feu 20.08 317 eP P 21 03 39.3 -1.1
comp=Z,6.2nm,0.9s
LASF Ste Croix 20.38 303 eP P 21 03 40.2 -3.4
LASF Ste Croix 20.38 303 eP P 21 03 40.2 -3.4
HAU Haudompre 20.39 315 eP P 21 03 41.6 -2.1
HAU eR
comp=Z,146nm,18.5s
HAU Haudompre 20.39 315 eP P 21 03 41.6 -2.1
HAU Haudompre 20.39 315 eP P 21 03 41.6 -2.1
OBN Obninsk 20.73 14 ⇑i eP Pn 21 03 50.8 +1.1
OBN eS S 21 07 37.5 +0.4
OBN pmax pmax
comp=Z,4.0nm,0.5s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 20.73 14 P P 21 03 46.5 -0.7
OBN Obninsk 20.73 14 P P 21 03 46.5 -0.7
comp=Z,7.6nm,0.4s,baz=174,slow=19,SNR=2.0
OBN LR LR 21 12 58.3
comp=Z,103nm,19.0s,baz=269,slow=40
OBN Obninsk 20.73 14 P P 21 03 46.5 -0.7
PAGF Fort de Pagny 21.03 316 eP P 21 03 48.3 -2.3
comp=Z,2.3nm,0.7s
PAGF Fort de Pagny 21.03 316 eP P 21 03 48.3 -2.3
comp=Z,1.1nm,0.7s
SFTF Sexfontaines 21.26 314 eP P 21 03 51.1 -1.9
comp=Z,19nm,0.8s
SFTF Sexfontaines 21.26 314 eP P 21 03 51.1 -1.9
comp=Z,19nm,0.8s
SFTF Sexfontaines 21.26 314 eP P 21 03 51.1 -1.9
comp=Z,9.4nm,0.8s
SMF Signal de Mont 21.29 310 eP P 21 03 50.9 -2.5
comp=Z,21nm,0.4s
SMF Signal de Mont 21.29 310 eP P 21 03 50.9 -2.5
SMF pmax pmax
comp=Z,21nm,0.4s
SMF Signal de Mont 21.29 310 eP P 21 03 50.9 -2.5
comp=Z,21nm,0.4s
SMF Signal de Mont 21.29 310 eP P 21 03 50.9 -2.5
comp=Z,10nm,0.4s
MEZF Maizieres J'vi 21.39 315 eP P 21 03 52.5 -1.9
MEZF Maizieres J'vi 21.39 315 eP P 21 03 52.5 -1.9
MEZF Maizieres J'vi 21.39 315 eP P 21 03 52.5 -1.9
LOR Lormes 21.54 311 eP P 21 03 53.5 -2.6
comp=Z,3.9nm,0.4s
LOR eR
comp=Z,164nm,19.5s
LOR Lormes 21.54 311 eP P 21 03 53.5 -2.6
comp=Z,3.9nm,0.4s
LOR Lormes 21.54 311 eP P 21 03 53.5 -2.6
comp=Z,2.0nm,0.4s
AVF Avril sur Loir 21.66 310 eP P 21 03 54.7 -2.6
comp=Z,21nm,0.9s
AVF Avril sur Loir 21.66 310 eP P 21 03 54.7 -2.6
AVF pmax pmax
comp=Z,21nm,0.9s
AVF Avril sur Loir 21.66 310 eP P 21 03 54.7 -2.6
comp=Z,21nm,0.9s
AVF Avril sur Loir 21.66 310 eP P 21 03 54.7 -2.6
comp=Z,10nm,0.9s
SSF Saint Saulge 21.67 310 eP P 21 03 55.2 -2.3
comp=Z,35nm,0.7s
SSF Saint Saulge 21.67 310 eP P 21 03 55.2 -2.3
SSF pmax pmax
comp=Z,35nm,0.7s
SSF Saint Saulge 21.67 310 eP P 21 03 55.2 -2.3
comp=Z,35nm,0.7s
SSF Saint Saulge 21.67 310 eP P 21 03 55.2 -2.3
comp=Z,18nm,0.7s
CAF Calviac 21.86 304 eP P 21 03 57.3 -2.2
CAF Calviac 21.86 304 eP P 21 03 57.3 -2.2
CAF Calviac 21.86 304 eP P 21 03 57.3 -2.2
BGF Bois d'Agland 21.89 309 eP P 21 03 57.6 -2.2
comp=Z,17nm,0.6s
BGF Bois d'Agland 21.89 309 eP P 21 03 57.6 -2.2
BGF pmax pmax
comp=Z,17nm,0.6s
BGF Bois d'Agland 21.89 309 eP P 21 03 57.6 -2.2
comp=Z,17nm,0.6s
BGF Bois d'Agland 21.89 309 eP P 21 03 57.6 -2.2
comp=Z,8.7nm,0.6s
TCF Toulx Ste Croi 22.20 307 eP P 21 04 00.4 -2.8
comp=Z,2.5nm,0.5s
TCF Toulx Ste Croi 22.20 307 eP P 21 04 00.4 -2.8
TCF pmax pmax
comp=Z,3.0nm,0.5s
TCF Toulx Ste Croi 22.20 307 eP P 21 04 00.4 -2.8
comp=Z,2.5nm,0.5s
TCF Toulx Ste Croi 22.20 307 eP P 21 04 00.4 -2.8
comp=Z,1.2nm,0.5s
RJF Les Rejaudoux 22.34 305 eP P 21 04 02.5 -2.2
comp=Z,4.2nm,0.5s
RJF eR
comp=Z,116nm,17.0s
RJF Les Rejaudoux 22.34 305 eP P 21 04 02.5 -2.2
RJF pmax pmax
comp=Z,4.0nm,0.5s
RJF Les Rejaudoux 22.34 305 eP P 21 04 02.5 -2.2
comp=Z,4.2nm,0.5s
RJF Les Rejaudoux 22.34 305 eP P 21 04 02.5 -2.2
comp=Z,2.1nm,0.5s
EPF Esparros 22.61 298 eP P 21 04 04.3 -3.3
comp=Z,31nm,1.4s
EPF Esparros 22.61 298 eP P 21 04 04.3 -3.3
EPF pmax pmax
comp=Z,31nm,1.4s
EPF Esparros 22.61 298 eP P 21 04 04.3 -3.3
comp=Z,31nm,1.4s
BAIF Baives 22.66 318 eP P 21 04 05.4 -2.7
BAIF Baives 22.66 318 eP P 21 04 05.4 -2.7
BAIF Baives 22.66 318 eP P 21 04 05.4 -2.7
LFF La Frestale 22.76 303 eP P 21 04 07.6 -1.6
comp=Z,11nm,0.7s
LFF La Frestale 22.76 303 eP P 21 04 07.6 -1.6
LFF pmax pmax
comp=Z,11nm,0.7s
LFF La Frestale 22.76 303 eP P 21 04 07.6 -1.6
comp=Z,11nm,0.7s
LFF La Frestale 22.76 303 eP P 21 04 07.6 -1.6
comp=Z,5.7nm,0.7s
ETSF Etsaut 23.24 298 eP P 21 04 13.5 -0.6
comp=Z,7.0nm,0.7s
ETSF Etsaut 23.24 298 eP P 21 04 13.5 -0.6
ETSF pmax pmax
comp=Z,7.0nm,0.7s
ETSF Etsaut 23.24 298 eP P 21 04 13.5 -0.6
comp=Z,7.0nm,0.7s
ETSF Etsaut 23.24 298 eP P 21 04 13.5 -0.6
comp=Z,3.5nm,0.7s
SJPF Ste Jean 23.75 298 eP P 21 04 17.4 -1.7
comp=Z,67nm,1.3s
SJPF Ste Jean 23.75 298 eP P 21 04 17.4 -1.7
SJPF pmax pmax
comp=Z,67nm,1.3s
SJPF Ste Jean 23.75 298 eP P 21 04 17.4 -1.7
comp=Z,67nm,1.3s
SJPF Ste Jean 23.75 298 eP P 21 04 17.4 -1.7
comp=Z,33nm,1.3s
MFF Saint Martin d 23.84 307 eP P 21 04 17.9 -2.0
MFF Saint Martin d 23.84 307 eP P 21 04 17.9 -2.0
MFF Saint Martin d 23.84 307 eP P 21 04 17.9 -2.0
MFF Saint Martin d 23.84 307 eP P 21 04 17.9 -2.0
LDF La Druitiere 24.52 311 eP P 21 04 23.5 -2.6
comp=Z,14nm,0.6s
LDF La Druitiere 24.52 311 eP P 21 04 23.5 -2.6
LDF pmax pmax
comp=Z,14nm,0.6s
LDF La Druitiere 24.52 311 eP P 21 04 23.5 -2.6
comp=Z,14nm,0.6s
LDF La Druitiere 24.52 311 eP P 21 04 23.5 -2.6
comp=Z,6.9nm,0.6s
FLN La Foliniere 24.81 312 eP P 21 04 26.5 -2.2
comp=Z,12nm,0.5s
FLN eR
comp=Z,57nm,18.3s
FLN La Foliniere 24.81 312 eP P 21 04 26.5 -2.2
FLN pmax pmax
comp=Z,12nm,0.5s
FLN La Foliniere 24.81 312 eP P 21 04 26.5 -2.2
comp=Z,12nm,0.5s
GRR Gorron 24.90 311 eP P 21 04 27.5 -2.0
comp=Z,18nm,0.6s
GRR Gorron 24.90 311 eP P 21 04 27.5 -2.0
GRR pmax pmax
comp=Z,18nm,0.6s
GRR Gorron 24.90 311 eP P 21 04 27.5 -2.0
comp=Z,18nm,0.6s
GRR Gorron 24.90 311 eP P 21 04 27.5 -2.0
comp=Z,8.9nm,0.6s
ESDC Sonseca Array 25.54 289 P P 21 04 34.9 -0.6
ESDC Sonseca Array 25.54 289 P P 21 04 34.9 -0.6
comp=Z,3.1nm,0.7s,baz=78,slow=9.3,SNR=33
ESDC Sonseca Array 25.54 289 P P 21 04 34.8 -0.6
SGMF Saint Gilles 25.92 309 eP P 21 04 36.5 -2.3
SGMF Saint Gilles 25.92 309 eP P 21 04 36.5 -2.3
SGMF Saint Gilles 25.92 309 eP P 21 04 36.5 -2.3
SGMF Saint Gilles 25.92 309 eP P 21 04 36.5 -2.3
FINES FINESS Array B 26.20 358 P P 21 04 40.1 -1.1
FINES FINESS Array B 26.20 358 P P 21 04 40.1 -1.1
comp=Z,0.7nm,0.4s,baz=159,slow=11,SNR=7.3
FINES FINESS Array B 26.20 358 P P 21 04 40.1 -1.1
comp=Z,1.0nm,0.4s
QUIF Quistinic 26.20 308 eP P 21 04 39.2 -2.1
comp=Z,14nm,0.5s
QUIF Quistinic 26.20 308 eP P 21 04 39.2 -2.1
QUIF pmax pmax
comp=Z,15nm,0.5s
QUIF Quistinic 26.20 308 eP P 21 04 39.2 -2.1
comp=Z,14nm,0.5s
ROSF Rostrenen 26.40 309 eP P 21 04 40.5 -2.6
comp=Z,15nm,0.6s
ROSF Rostrenen 26.40 309 eP P 21 04 40.5 -2.6
ROSF pmax pmax
comp=Z,15nm,0.6s
ROSF Rostrenen 26.40 309 eP P 21 04 40.5 -2.6
comp=Z,15nm,0.6s
HFS Hagfors 26.50 344 P P 21 04 42.8 -1.1
HFS Hagfors 26.50 344 P P 21 04 42.8 -1.1
comp=Z,2.4nm,0.5s,baz=148,slow=9.8,SNR=16
HFS LR LR 21 16 18.6
comp=Z,83nm,19.1s,baz=38,slow=39
HFS Hagfors 26.50 344 P P 21 04 42.8 -1.1
comp=Z,83nm,19.1s
AKTK Aktyubinsk 26.58 46 P P 21 04 44.0 -0.7
comp=Z,75nm,18.4s
AKTO Aktyubinsk 26.58 46 P P 21 04 44.0 -0.7
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO MLR MLR
comp=Z,75nm,18.4s
AKTO Aktyubinsk 26.58 46 P P 21 04 44.0 -0.7
AKTO Aktyubinsk 26.58 46 P P 21 04 44.0 -0.7
comp=Z,0.6nm,0.5s,baz=266,slow=19,SNR=2.2
AKTO LR LR 21 19 51.7
comp=Z,75nm,18.4s,baz=347,slow=47
AKTO Aktyubinsk 26.58 46 P P 21 04 44.0 -0.7
MDT Midelt 26.93 274 LR LR 21 16 37.5
comp=Z,65nm,18.6s,baz=36,slow=39
ABKAR Akbulak array 27.32 49 eP P 21 04 54.1 +2.8
comp=Z,1.3nm,0.6s
NB2 NORSAR Subarra 27.89 343 P P 21 04 53.9 -2.5
comp=Z,1.2nm,0.6s,baz=159,slow=9.3
NOA NORSAR Array B 27.89 343 P P 21 04 57.4 +1.0
NOA NORSAR Array B 27.89 343 P P 21 04 57.4 +1.0
comp=Z,1.7nm,0.8s,baz=149,slow=8.1,SNR=4.7
NOA NORSAR Array B 27.89 343 P P 21 04 57.4 +1.0
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 29.23 323 P P 21 05 06.0 -2.4
EKA Eskdalemuir Ar 29.23 323 P P 21 05 06.0 -2.4
comp=Z,0.4nm,0.4s,baz=127,slow=9.9,SNR=3.1
TOA0 Torodi Ar. Sit 32.28 233 eP P 21 05 35.2 -0.4
TOA0 Torodi Ar. Sit 32.28 233 eP P 21 05 35.2 -0.4
TORD Torodi Ar. Bea 32.28 233 P P 21 05 35.6 0.0
TORD Torodi Ar. Bea 32.28 233 P P 21 05 35.6 0.0
comp=Z,2.5nm,0.7s,baz=39,slow=8.7,SNR=30
TORD LR LR 21 20 51.1
comp=Z,72nm,18.4s,baz=320,slow=40
TORD Torodi Ar. Bea 32.28 233 P P 21 05 35.6 0.0
ARCES ARCESS Array B 34.33 359 P P 21 05 51.6 -1.4
ARCES ARCESS Array B 34.33 359 P P 21 05 51.6 -1.4
comp=Z,1.1nm,0.6s,baz=181,slow=9.2,SNR=9.3
ARCES ARCESS Array B 34.33 359 P P 21 05 51.6 -1.4
comp=Z,1.0nm,0.6s
DBIC Dimbokro 41.38 234 P P 21 06 52.6 -0.4
DBIC Dimbokro 41.38 234 P P 21 06 52.6 -0.4
comp=Z,1.2nm,0.5s,baz=33,slow=7.5,SNR=8.3
DBIC Dimbokro 41.38 234 P P 21 06 52.7 -0.4
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 41.88 57 eP P 21 06 58.2 +1.3
MK31 Makanchi Array 41.88 57 eP P 21 06 58.1 +1.3
MKAR Makanchi Array 41.88 57 P P 21 06 58.2 +1.4
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 41.88 57 P P 21 06 58.2 +1.4
MKAR Makanchi Array 41.88 57 P P 21 06 58.2 +1.4
comp=Z,0.6nm,0.5s,baz=274,slow=7.3,SNR=21
ZALV Zalesovo Beam 43.34 46 P P 21 07 09.5 +0.9
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.34 46 P P 21 07 09.5 +0.9
ZALV Zalesovo Beam 43.34 46 P P 21 07 09.5 +0.9
comp=Z,0.5nm,0.5s,baz=259,slow=8.8,SNR=3.5
DANN Dangsing 47.50 82 eP P 21 07 44.2 +2.0
comp=Z,39nm,0.8s
KOLN Koldanda 47.60 83 eP P 21 07 44.4 +1.5
comp=Z,5.5nm,0.6s
GKN Gorkha 48.34 82 eP P 21 07 49.8 +1.2
comp=Z,6.2nm,0.6s
DMN Daman 48.88 82 eP P 21 07 54.2 +1.3
comp=Z,12nm,0.9s
KKN Kakani 48.95 82 eP P 21 07 54.6 +1.3
PKIN Phulchoki 49.13 82 eP P 21 07 56.2 +1.4
comp=Z,10nm,1.1s
PKI Pulchoki 49.14 82 eP P 21 07 56.1 +1.1
comp=Z,15nm,1.1s
GUN Gumba 49.39 82 eP P 21 07 58.1 +1.3
comp=Z,14nm,1.0s
JIRN Jiri 49.74 82 eP P 21 08 00.5 +0.9
comp=Z,6.9nm,0.7s
RAMN Ramite 50.37 82 eP P 21 08 05.3 +1.1
ODAN Odare 51.04 82 eP P 21 08 10.6 +1.3
TAPN Taplejung 51.10 81 eP P 21 08 11.5 +1.8
ZAK Zakamensk 55.02 49 eP P 21 08 43.8 +5.7
ZAK pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 57.71 51 P P 21 08 58.7 +1.4
SONM Songino Array 57.71 51 P P 21 08 58.7 +1.4
comp=Z,0.7nm,0.7s,baz=298,slow=5.1,SNR=3.2
CMAR Chiang Mai Arr 64.38 85 P P 21 09 44.4 +1.5
CMAR Chiang Mai Arr 64.38 85 P P 21 09 44.4 +1.5
comp=Z,0.8nm,0.9s,baz=302,slow=6.6,SNR=4.4
SCHQ Schefferville 64.50 320 P P 21 09 42.2 -0.9
SCHQ Schefferville 64.50 320 P P 21 09 42.2 -0.9
comp=Z,4.8nm,0.8s,baz=59,slow=5.2,SNR=8.5
SCHQ Schefferville 64.50 320 P P 21 09 42.2 -0.9
YKA Yellowknife Ar 77.98 343 P P 21 11 02.9 -1.6
YKA Yellowknife Ar 77.98 343 P P 21 11 02.8 -1.6
comp=Z,0.2nm,0.4s,baz=28,slow=5.1,SNR=7.1
YKA Yellowknife Ar 77.98 343 P P 21 11 02.8 -1.6
ILAR Eielson Array 80.19 358 P P 21 11 15.9 -0.6
ILAR Eielson Array 80.19 358 P P 21 11 15.9 -0.6
comp=Z,0.1nm,0.6s,baz=347,slow=3.7,SNR=4.7
ILAR Eielson Array 80.19 358 P P 21 11 15.9 -0.6

IDC 17 21:09:45.3±6.3, 1.58S×98.93E, h0km, mb3.5/5, mb1 3.6/4, mb1mx3.3/41, mbtmp3.5/4, Error ellipse: s-maj=309.9km s-min=26.1km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	39.13	120	P	P	21 17 14.9	-0.1
	0.3nm,0.5s,baz=302,slow=8.8,SNR=2.6						
MKAR	Makanchi Array	50.34	345	P	P	21 18 43.8	-0.2
	0.5nm,0.3s,baz=157,slow=8.7,SNR=22						
KURBB	Kurchatov Arra	54.85	344	P	P	21 19 17.3	+0.1
	0.1nm,0.4s,baz=159,slow=7.9,SNR=5.2						
BVAR	Borovoye Array	59.42	340	P	P	21 19 49.5	-0.1
	0.5nm,0.5s,baz=137,slow=7.7,SNR=7.5						
TXAR	Lajitas Array	145.00	36	PKPbc	PKPab	21 29 23.7	-1.0
	0.1nm,0.6s,baz=337,slow=2.7,SNR=2.9						

*NIED **17** 21:23:00.26˚50N×126˚10E,h110km, Mw4.4 Best double couple: M0•4.95000×10^15 NP1:φs117.00000°, δ37.00000°, λ-164.00000°. NP2:φs14.00000°, δ80.00000°, λ-54.00000°.*

*ISCJB **17** 21:23:23.8±0.2, 26˚39N±0˚04×126˚14E±0˚04, h118km±3km, mb4.2/36, Error ellipse: s-maj=8.7km s-min=3.1km az=143.2*

*NEIC **17** 21:23:25.1±0.5, 26˚40N×126˚12E, h116km±4km, mb4.3/17, Error ellipse: s-maj=5.4km s-min=4.6km az=116.0*

*IDC **17** 21:23:25.6±1.9, 26˚41N×126˚12E, h119km±15km, mb3.8/20, mb1 4.0/23, mb1mx3.8/50, mbtmp4.2/23, Error ellipse: s-maj=16.2km s-min=14.2km az=71.0*

*JMA **17** 21:23:25.4±0.2, 26˚38N×126˚15E, h113km±3km, M4.3 JMA Felt I J1.*

ISC 17 21:23:25.3±0.6, 26˚37N±0˚06×126˚17E±0˚04, h120km±5km, n103, σ0°90/147, mb4.1/35, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.55	94	P	Pn	21 23 43.4	-0.2
JKE				S	Sn	21 23 56.4	-1.0
JAGN	Aguni-jima	0.98	77	P	Pn	21 23 46.9	-0.3
JAGN				S	Sn	21 24 02.2	-1.5
JJT2	Tamagusuku 2	1.44	99	P	Pn	21 23 52.5	+0.5
JJT2				S	Sn	21 24 12.2	-0.1

JMJ	**Miyako jima 2**	**1.74**	**207**	P		**Pn**	**21 23 55.5**	**-0.1**
JMJ				S		**Sn**	**21 24 17.8**	**-0.8**
JIH	**Iheya**	**1.74**	**67**	P		**Pn**	**21 23 55.6**	**+0.1**
JIH				S		**Sn**	**21 24 17.9**	**-0.7**
JOGS	**Gusukube**	**1.74**	**203**	P		**Pn**	**21 23 55.7**	**+0.1**
JOGS				S		**Sn**	**21 24 18.6**	**-0.2**
JOW	**Kunigami**	**1.94**	**76**	P		**Pn**	**21 23 57.8**	**-0.2**
JOW				S		**Sn**	**21 24 20.9**	**-2.1**
JTJ	**Tarama**	**2.17**	**218**	P		**Pn**	**21 24 00.8**	**-0.1**
JTJ				S		**Sn**	**21 24 26.5**	**-1.7**
JIJ	**Ishigaki jima**	**2.71**	**223**	P		**Pn**	**21 24 06.5**	**-1.3**
JIJ				S		**Sn**	**21 24 37.4**	**-3.1**
JTK	**Tokunoshima**	**2.85**	**60**	P		**Pn**	**21 24 08.8**	**-0.8**
JTK				S		**Sn**	**21 24 41.8**	**-2.0**
JKRS	**Kuro-shima**	**2.89**	**223**	S		**Pn**	**21 24 09.2**	**-0.9**
JKRS				S		**Sn**	**21 24 42.6**	**-2.0**
IRIF	**Iriomote-Funau**	**3.00**	**228**	P		**Pn**	**21 24 10.7**	**-0.8**
IRIF				S		**Sn**	**21 24 44.9**	**-2.3**
HATJ	**Hateruma jima**	**3.15**	**223**	P		**Pn**	**21 24 13.8**	**+0.3**
HATJ				*e*S		**Sn**	**21 24 49.5**	**-1.2**
JAMN	**Amaminishikomi**	**3.26**	**54**	P		**Pn**	**21 24 14.0**	**-1.0**
JAMN				S		**Sn**	**21 24 51.0**	**-2.4**
YOJ	**Yonaguni jima**	**3.43**	**237**	P		**Pn**	**21 24 17.3**	**0.0**
YOJ				S		**Sn**	**21 24 58.5**	**+1.1**
YOJ	**Yonaguni jima**	**3.43**	**237**	*e*Pn		**Pn**	**21 24 17.5**	**+0.2**
YOJ				*e*Sn		**Sn**	**21 24 57.6**	**+0.2**
NACB	**Ninganchiao**	**4.68**	**243**	*e*Pn		**Pn**	**21 24 33.3**	**-0.7**
NACB				*e*Sn		**Sn**	**21 25 26.1**	**-1.4**
SSLB	**Suanglung**	**5.38**	**243**	*e*Pn		**Pn**	**21 24 42.4**	**-1.1**
	74nm,0.3s							
SSLB				*e*Sn		**Sn**	**21 25 41.2**	**-3.1**
JNU	**Nakatsue**	**7.88**	**30**	*e*Pn		**Pn**	**21 25 17.4**	**+0.4**
	16nm,0.7s							
JNU	**Nakatsue**	**7.88**	**30**	P		**Pn**	**21 25 17.5**	**+0.4**
	3.4nm,0.3s,baz=187,slow=6.2,SNR=42							
KSAR	**Wonju Array Be**	**11.14**	**7**	P		**Pn**	**21 26 03.4**	**+2.5**
KSRS	**Korea Array**	**11.15**	**7**	P		**Pn**	**21 26 03.4**	**+2.3**
	0.3nm,0.3s,baz=190,slow=13,SNR=18							
MJAR	**Matsushiro Arr**	**14.42**	**42**	P		**Pn**	**21 26 42.5**	**-1.2**
MJAR	**Matsushiro Arr**	**14.42**	**42**	P		**Pn**	**21 26 42.5**	**-1.2**
	0.4nm,0.3s,baz=244,slow=14,SNR=5.7							
ENH	**Enshi**	**15.20**	**289**	*e*Pn		**Pn**	**21 26 52.6**	**-0.9**
	8.1nm,1.3s							
USRK	**Ussuriysk Arra**	**18.41**	**13**	P		**P**	**21 27 30.9**	**0.0**
	0.2nm,0.3s,baz=188,slow=10.0,SNR=3.4							
ULN	**Ulaanbaatar**	**26.19**	**330**	*e*P		**P**	**21 28 48.1**	**-0.6**
	3.0nm,0.9s							
ULN				*e*PcP		**PcP**	**21 32 12.7**	**+0.2**
CHTO	**Chiang Mai**	**26.20**	**259**	*e*P		**P**	**21 28 47.9**	**-1.1**
	2.0nm,0.6s							
CM31	**Chiang Mai Arr**	**26.34**	**258**	P		**P**	**21 28 50.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**26.34**	**258**	P		**P**	**21 28 51.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**26.34**	**258**	P		**P**	**21 28 51.0**	**+0.9**
	1.6nm,0.9s,baz=60,slow=7.4,SNR=9.7							
SONM	**Songino Array**	**26.46**	**329**	P		**P**	**21 28 51.0**	**-0.2**
SONM				PcP		**PcP**	**21 32 14.6**	**+1.5**
SONM				ScP		**ScP**	**21 35 41.0**	**-1.0**
SONM	**Songino Array**	**26.46**	**329**	P		**P**	**21 28 51.0**	**-0.2**
	4.8nm,0.9s,baz=141,slow=8.2,SNR=19							
SONM				PcP		**PcP**	**21 32 14.6**	**+1.5**
	0.2nm,0.6s,baz=152,slow=2.3,SNR=4.0							
SONM				ScP		**ScP**	**21 35 41.0**	**-1.0**
	0.7nm,0.7s,baz=152,slow=4.2,SNR=6.0							
TLY	**Talaya**	**30.50**	**332**	*e*P		**P**	**21 29 26.2**	**-0.6**
LSA	**Lhasa**	**31.02**	**284**	*e*P		**P**	**21 29 31.3**	**-0.9**
	1.9nm,0.8s							
TAPN	**Taplejung**	**34.24**	**280**	*e*P		**P**	**21 30 01.2**	**+1.1**
	2.6nm,0.3s							
ODAN	**Odare**	**34.59**	**280**	*e*P		**P**	**21 30 03.9**	**+0.9**
	21nm,0.7s							
RAMN	**Ramite**	**35.27**	**280**	*e*P		**P**	**21 30 09.6**	**+0.7**
	5.9nm,0.6s							
JIRN	**Jiri**	**35.54**	**281**	*e*P		**P**	**21 30 11.8**	**+0.5**
	3.8nm,0.4s							
GUN	**Gumba**	**35.78**	**282**	*e*P		**P**	**21 30 14.3**	**+1.0**
	7.3nm,0.3s							
PKI	**Pulchoki**	**36.23**	**281**	*e*P		**P**	**21 30 17.8**	**+0.6**
	8.4nm,0.5s							
PKIN	**Phulchoki**	**36.24**	**281**	*e*P		**P**	**21 30 17.4**	**+0.2**
	6.4nm,0.4s							
KKN	**Kakani**	**36.32**	**282**	*e*P		**P**	**21 30 18.4**	**+0.6**
	9.0nm,0.4s							
DMN	**Daman**	**36.50**	**281**	*e*P		**P**	**21 30 19.6**	**+0.2**
GKN	**Gorkha**	**36.86**	**282**	*e*P		**P**	**21 30 22.5**	**+0.2**
	11nm,0.7s							
DANN	**Dangsing**	**37.58**	**283**	*e*P		**P**	**21 30 29.2**	**+0.6**
	15nm,0.4s							
KOLN	**Koldanda**	**37.80**	**282**	*e*P		**P**	**21 30 30.8**	**+0.5**
	12nm,0.7s							
MK31	**Makanchi Array**	**40.07**	**312**	*e*P		**P**	**21 30 48.2**	**-0.5**
MK31				*e*PcP		**PcP**	**21 32 51.9**	**+0.7**
MKAR	**Makanchi Array**	**40.07**	**312**	P		**P**	**21 30 48.2**	**-0.6**
MKAR				PcP		**PcP**	**21 32 52.1**	**+0.9**
MKAR				ScP		**ScP**	**21 36 28.7**	**-0.5**
MKAR	**Makanchi Array**	**40.07**	**312**	P		**P**	**21 30 48.2**	**-0.6**
	1.6nm,0.6s,baz=92,slow=10,SNR=24							
MKAR				PcP		**PcP**	**21 32 52.1**	**+0.9**
	3.2nm,0.7s,baz=86,slow=3.5,SNR=18							
MKAR				ScP		**ScP**	**21 36 28.7**	**-0.5**
	0.6nm,0.9s,baz=90,slow=4.9,SNR=3.1							
SEY	**Seymchan**	**40.45**	**18**	P		**P**	**21 30 52.3**	**+0.8**
SEY	**Seymchan**	**40.45**	**18**	P		**P**	**21 30 52.3**	**+0.8**
	0.3nm,0.3s,baz=217,slow=20,SNR=3.8							
ZALV	**Zalesovo Beam**	**41.03**	**323**	P		**P**	**21 30 55.5**	**-1.0**
ZALV				PcP		**PcP**	**21 32 54.3**	**+0.2**
ZALV				ScP		**ScP**	**21 36 32.0**	**-0.7**
ZALV	**Zalesovo Beam**	**41.03**	**323**	P		**P**	**21 30 55.5**	**-1.0**
	1.5nm,0.5s,baz=120,slow=7.6,SNR=10.0							
ZALV				PcP		**PcP**	**21 32 54.3**	**+0.2**
	2.1nm,0.7s,baz=118,slow=5.7,SNR=7.3							
ZALV				ScP		**ScP**	**21 36 32.0**	**-0.7**
	0.9nm,0.7s,baz=108,slow=3.3,SNR=4.4							
COEN	**Coen**	**43.36**	**156**	*e*P		**P**	**21 31 16.3**	**+0.5**
	25nm,0.7s							
KURK	**Kurchatov**	**43.45**	**317**	*e*P		**P**	**21 31 15.9**	**-0.3**
KURK				PcP		**PcP**	**21 33 02.8**	**+0.6**
KURBB	**Kurchatov Arra**	**43.48**	**317**	P		**P**	**21 31 15.9**	**-0.5**
	1.0nm,0.6s,baz=111,slow=15,SNR=16							
KURBB				PcP		**PcP**	**21 33 02.8**	**+0.5**
	2.0nm,0.7s,baz=108,slow=3.6,SNR=18							
TKM2	**Tokmak 2**	**44.09**	**305**	*e*P		**P**	**21 31 21.8**	**+0.1**
	7.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**44.21**	**181**	*e*P		**P**	**21 31 23.4**	**+0.9**
	2.2nm,0.6s							
AAK	**Ala-Archa**	**44.87**	**305**	*e*P		**P**	**21 31 27.6**	**-0.3**
	1.0nm,0.5s							
AAK				PcP		**PcP**	**21 33 08.2**	**+0.7**
AAK	**Ala-Archa**	**44.87**	**305**	P		**P**	**21 31 27.6**	**-0.3**
	0.8nm,0.4s,baz=90,slow=9.9,SNR=5.2							
AAK				PcP		**PcP**	**21 33 08.2**	**+0.7**
	2.8nm,0.8s,baz=125,slow=2.8,SNR=6.1							
EKS2	**Erkin-Say**	**45.40**	**305**	*e*P		**P**	**21 31 31.6**	**-0.4**
EKS2				*e*PcP		**PcP**	**21 33 09.4**	**+0.1**
WRAB	**Tennant Creek**	**46.71**	**169**	*e*P		**P**	**21 31 42.2**	**0.0**
	7.6nm,1.3s							
WRA	**Warramunga Arr**	**46.71**	**169**	P		**P**	**21 31 43.0**	**+0.7**
WRA	**Warramunga Arr**	**46.71**	**169**	P		**P**	**21 31 43.0**	**+0.7**
	1.7nm,0.8s,baz=357,slow=8.6,SNR=11							
KKAR	**Karatay Array**	**47.82**	**305**	*e*P		**P**	**21 31 50.5**	**-0.2**
	2.2nm,0.6s							
KKAR				*e*PcP		**PcP**	**21 33 18.3**	**+0.6**
BVAR	**Borovoye Array**	**48.94**	**319**	P		**P**	**21 31 59.3**	**+0.2**
BVAR				PcP		**PcP**	**21 33 22.4**	**+0.8**
BVAR	**Borovoye Array**	**48.94**	**319**	P		**P**	**21 31 59.3**	**+0.2**
	0.6nm,0.3s,baz=98,slow=8.8,SNR=9.2							
BVAR				PcP		**PcP**	**21 33 22.4**	**+0.8**
	8.1nm,0.7s,baz=110,slow=3.4,SNR=30							
BRVK	**Borovoye**	**49.01**	**319**	*e*P		**P**	**21 31 59.4**	**-0.3**
	2.9nm,0.8s							
BRVK				*e*PcP		**PcP**	**21 33 22.1**	**+0.4**
KBL	**Kabul**	**49.36**	**294**	*e*P		**P**	**21 32 02.5**	**-0.3**
	9.0nm,0.8s							
KBL				*e*PcP		**PcP**	**21 33 23.2**	**-0.5**
ABKAR	**Akbulak array**	**55.20**	**313**	*e*P		**P**	**21 32 45.5**	**0.0**
	6.1nm,0.6s							
ABKAR				*e*PcP		**PcP**	**21 33 44.6**	**-0.5**
ARU	**Arti**	**56.14**	**322**	*e*P		**P**	**21 32 51.7**	**-0.4**
	4.6nm,1.0s							
ARU				*e*PcP		**PcP**	**21 33 48.3**	**-0.2**
STKA	**Stephens Creek**	**59.76**	**165**	*e*P		**P**	**21 33 17.0**	**-0.6**
STKA	**Stephens Creek**	**59.76**	**165**	P		**P**	**21 33 17.1**	**-0.4**
	2.5nm,0.6s,baz=27,slow=3.9,SNR=5.5							
ILAR	**Eielson Array**	**65.19**	**28**	P		**P**	**21 33 53.5**	**+0.2**
ILAR	**Eielson Array**	**65.19**	**28**	P		**P**	**21 33 53.5**	**+0.2**
	0.6nm,0.6s,baz=254,slow=4.6,SNR=25							

KBZ	**Khabaz**	**67.64**	**309**	P		**P**	**21 34 09.8**	**+0.5**
KBZ	**Khabaz**	**67.64**	**309**	P		**P**	**21 34 09.8**	**+0.5**
	5.3nm,0.8s,baz=104,slow=1.9,SNR=11							
KIV	**Kislovodsk**	**67.72**	**309**	*e*P		**P**	**21 34 09.7**	**-0.2**
	5.7nm,0.6s							
FINES	**FINESS Array B**	**71.83**	**330**	P		**P**	**21 34 34.4**	**-0.2**
FINES	**FINESS Array B**	**71.83**	**330**	P		**P**	**21 34 34.4**	**-0.2**
	2.0nm,0.7s,baz=55,slow=6.2,SNR=10							
AKASG	**Malin Array Be**	**74.22**	**319**	P		**P**	**21 34 48.3**	**-0.6**
AKASG	**Malin Array Be**	**74.22**	**319**	P		**P**	**21 34 48.3**	**-0.6**
	2.6nm,0.6s,baz=56,slow=6.2,SNR=22							
BR131	**Keskin Array S**	**75.48**	**307**	*e*P		**P**	**21 34 55.7**	**-0.8**
	3.1nm,0.8s							
BRTR	**Keskin Array B**	**75.48**	**307**	P		**P**	**21 34 56.9**	**+0.3**
BRTR	**Keskin Array B**	**75.48**	**307**	P		**P**	**21 34 56.9**	**+0.3**
	3.9nm,0.8s,baz=92,slow=6.2,SNR=21							
BUR08	**Bucovina Ar. S**	**77.88**	**317**	*e*P		**P**	**21 35 10.5**	**+0.7**
NB2	**NORSAR Subarra**	**78.36**	**333**	P		**P**	**21 35 12.2**	**0.0**
	comp=Z,2.4nm,0.8s,baz=54,slow=6.2							
NOA	**NORSAR Array B**	**78.36**	**333**	P		**P**	**21 35 12.3**	**+0.2**
NOA	**NORSAR Array B**	**78.36**	**333**	P		**P**	**21 35 12.3**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=55,slow=5.5,SNR=4.7							
YKA	**Yellowknife Ar**	**79.17**	**24**	P		**P**	**21 35 17.6**	**+1.1**
YKA	**Yellowknife Ar**	**79.17**	**24**	P		**P**	**21 35 17.5**	**+1.1**
	comp=Z,4.5nm,0.8s,baz=304,slow=5.3,SNR=79							
BRG	**Berggiesshubel**	**82.72**	**324**	*e*(P)		**P**	**21 35 36.2**	**+0.6**
	comp=Z,5.7nm,1.3s							
CLL	**Collm**	**82.97**	**324**	*i* P		**P**	**21 35 37.2**	**+0.4**
	comp=Z,5.0nm,0.7s							
GERES	**GERESS Array B**	**83.97**	**322**	P		**P**	**21 35 42.3**	**+0.2**
GERES	**GERESS Array B**	**83.97**	**322**	P		**P**	**21 35 42.3**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=45,slow=4.2,SNR=6.2							
DAVOX	**Davos/Dischmat**	**87.26**	**322**	P		**P**	**21 35 58.8**	**+0.2**
DAVOX	**Davos/Dischmat**	**87.26**	**322**	P		**P**	**21 35 58.8**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=65,slow=9.9,SNR=6.7							
LPL	**La Plagne**	**89.76**	**322**	*e*P		**P**	**21 36 10.4**	**-0.1**
LPG	**La Plagne**	**89.77**	**322**	*e*P		**P**	**21 36 10.4**	**-0.1**
	comp=Z,12nm,1.0s							
MBDF	**Montbardon**	**90.23**	**322**	*e*P		**P**	**21 36 12.9**	**+0.3**
ESDC	**Sonseca Array**	**99.52**	**323**	P		**Pdif**	**21 36 54.5**	**-0.4**
ESDC	**Sonseca Array**	**99.52**	**323**	P		**Pdif**	**21 36 54.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=24,slow=4.2,SNR=4.4							

DDA **17** *21:36:54.7,34˚.61N×27˚.69E,h27km, MD3.7*
ISK **17** *21:36:58.0,34˚.90N×27˚.50E,h24km, ML3.8*
IDC **17** *21:37:01.3±1.1,35˚.54N×27˚.98E, h0km, mb3.8/7, mb1 3.9/13,mb1mx3.7/27,mbtmp3.7/13, ML3.6/6, MS3.0/4, Ms1 3.0/4, ms1mx2.6/47, Error ellipse: s-maj=16.7km s-min=4.7km az=148.0*
ATH **17** *21:37:04.3,35˚.29N×27˚.79E, h28km±4km, MD3.8/13*
CSEM **17** *21:37:04.5±0.1,35˚.21N×27˚.68E, h30km, mb4.0/4, Error ellipse: s-maj=4.4km s-min=3.8km az=35.0*
HLW **17** *21:37:07.1,35˚.11N×27˚.98E, h33km±29km, Ml3.4*
NIC **17** *21:37:07.3±0.2,34˚.99N×27˚.89E, h25km, mb4.2, ML3.8*
ISC 17 21:37:04.4±1.1**, 35˚27N**±0˚.03×**27˚.80E**±0˚.03**, h30**km±9km**,**
n235,σ1§60/248,mb3.8/17,2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.98**	**16**	*e*Pn	**Pb**	**21 37 23.0**	**+0.2**
ARG				*e*SN	**Sb**	**21 37 37.4**	**+2.0**
ARG	**Arkhangelos**	**0.98**	**16**	*e*Pn	**Pb**	**21 37 23.0**	**+0.2**
ARG				*e*Sn	**Sb**	**21 37 37.4**	**+2.0**
ZKR	**Zakros**	**1.30**	**264**	*e*PN	**Pb**	**21 37 27.9**	**-0.4**
ZKR				*e*SN	**Sb**	**21 37 45.7**	**+1.1**
ZKR	**Zakros**	**1.30**	**264**	*e*Pn	**Pb**	**21 37 27.9**	**-0.4**
ZKR				*e*Sn	**Sb**	**21 37 45.7**	**+1.1**
NIS1	**Nisyros Isl.**	**1.42**	**340**	*e*PB	**Pb**	**21 37 29.3**	**-1.0**
NIS1	**Nisyros Isl.**	**1.42**	**340**	*e*Pb	**Pb**	**21 37 29.3**	**-1.0**
FETY	**Fethiye**	**1.72**	**37**	*e*PN	**Pb**	**21 37 33.7**	**-1.6**
FETY				*e*SN	**Sb**	**21 38 00.3**	**+3.8**
FETY	**Fethiye**	**1.72**	**37**	*e*Pn	**Pb**	**21 37 33.7**	**-1.6**
TURN	**Turunc**	**1.73**	**22**	*i* P	**Pn**	**21 37 32.5**	**+0.1**
TURN				*i* S	**Sb**	**21 37 55.9**	**-0.9**
TURN	**Turunc**	**1.73**	**22**	*i* P	**Pn**	**21 37 32.5**	**+0.1**
TURN				*i* S	**Sb**	**21 37 55.9**	**-0.9**
AKAS	**Kas**	**1.76**	**56**	*i* P	**Pn**	**21 37 31.6**	**-1.3**
AKAS				*i* S	**Sb**	**21 37 56.2**	**-1.6**
AKAS	**Kas**	**1.76**	**56**	*i* P	**Pn**	**21 37 31.6**	**-1.3**
AKAS				*i* S	**Sb**	**21 37 56.2**	**-1.6**
NPS	**Neapolis**	**1.79**	**270**	*e*PB	**Pb**	**21 37 35.5**	**-1.0**
NPS	**Neapolis**	**1.79**	**270**	*e*Pb	**Pb**	**21 37 35.5**	**-1.0**
BDRM	**Kayabasi**	**1.81**	**351**	*i* P	**Pb**	**21 37 35.1**	**-1.9**
BDRM				*i* S	**Sb**	**21 38 02.4**	**+3.1**
BDRM	**Kayabasi**	**1.81**	**351**	*i* P	**Pb**	**21 37 35.1**	**-1.9**
BDRM				*i* S	**Sb**	**21 38 02.4**	**+3.1**
BODT	**Bodrum**	**1.83**	**348**	*e*PN	**Pn**	**21 37 34.1**	**+0.2**
BODT	**Bodrum**	**1.83**	**348**	*e*Pn	**Pn**	**21 37 34.1**	**+0.2**
LAST	**Lasithi**	**1.90**	**267**	*e*PB	**Pb**	**21 37 37.8**	**-0.7**
LAST	**Lasithi**	**1.90**	**267**	*e*Pb	**Pb**	**21 37 37.8**	**-0.7**
SANT	**Santorini**	**2.19**	**301**	*e*PB	**Pb**	**21 37 41.3**	**-2.1**
SANT	**Santorini**	**2.19**	**301**	*e*Pb	**Pb**	**21 37 41.3**	**-2.1**
ELL	**Elmali**	**2.26**	**49**	*e*PN	**Pn**	**21 37 41.4**	**+1.5**
ELL	**Elmali**	**2.26**	**49**	*e*Pn	**Pn**	**21 37 41.4**	**+1.5**
IDI	**Anoyia**	**2.38**	**271**	Pn	**Pb**	**21 37 43.8**	**-2.7**
	14nm,0.3s,baz=62,slow=15,SNR=49						
IDI				Sn	**Sb**	**21 38 16.9**	**+1.4**
	52nm,0.3s,baz=31,slow=19,SNR=8.6						
IDI				LR	LR	21 38 53.2	
	comp=Z,251nm,18.4s,baz=91,slow=44						
GCAM	**G?zelcaml?**	**2.47**	**350**	*i* P	**Pn**	**21 37 43.7**	**+1.2**
GCAM				*i* S	Sb	21 38 26.4	+8.4
GCAM	**G?zelcaml?**	**2.47**	**350**	*i* P	**Pn**	**21 37 43.7**	**+1.2**
APE	**Apeiranthos**	**2.56**	**315**	*e*PN	**Pn**	**21 37 45.5**	**+1.5**
APE	**Apeiranthos**	**2.56**	**315**	*e*Pn	**Pn**	**21 37 45.5**	**+1.5**
DNZL	**Cakiroluk**	**2.62**	**22**	*i* P	**Pn**	**21 37 46.5**	**+1.7**
DNZL				*i* S	Sb	21 38 29.2	+6.7
DNZL	**Cakiroluk**	**2.62**	**22**	*i* P	**Pn**	**21 37 46.5**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.67**	**2**	*e*PN	**Pn**	**21 37 46.8**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.67**	**2**	*e*Pn	**Pn**	**21 37 46.8**	**+1.3**
KORT	**Korkueli**	**2.69**	**49**	*i* P	**Pn**	**21 37 45.5**	**-0.3**
KORT				*i* S	**Sb**	**21 38 22.8**	**-1.8**
KORT	**Korkueli**	**2.69**	**49**	*i* P	**Pn**	**21 37 45.5**	**-0.3**
KORT				*i* S	**Sb**	**21 38 22.8**	**-1.8**
ANTB	**Antalya**	**2.83**	**54**	*e*PN	**Pn**	**21 37 48.6**	**+1.1**
ANTB	**Antalya**	**2.83**	**54**	*e*Pn	**Pn**	**21 37 48.6**	**+1.1**
VAM	**Vamos**	**2.94**	**274**	*e*PN	**Pn**	**21 37 51.7**	**+2.6**
VAM	**Vamos**	**2.94**	**274**	*e*Pn	**Pn**	**21 37 51.7**	**+2.6**
BCK	**Bucak**	**3.14**	**45**	*e*PN	**Pn**	**21 37 53.4**	**+1.5**
BCK	**Bucak**	**3.14**	**45**	*e*Pn	**Pn**	**21 37 53.4**	**+1.5**
IZM	**Izmir**	**3.15**	**352**	*e*PN	**Pn**	**21 37 52.7**	**+0.7**
IZM	**Izmir**	**3.15**	**352**	*e*Pn	**Pn**	**21 37 52.7**	**+0.7**
BLCB	**Balcova**	**3.17**	**349**	*e*PN	**Pn**	**21 37 52.5**	**+0.3**
BLCB	**Balcova**	**3.17**	**349**	*e*Pn	**Pn**	**21 37 52.5**	**+0.3**
MANT	**Manisa**	**3.27**	**11**	*i* P	**Pn**	**21 37 55.1**	**+1.2**
MANT				*i* S	**Sb**	**21 38 36.7**	**-4.6**
MANT	**Manisa**	**3.27**	**11**	*i* P	**Pn**	**21 37 55.1**	**+1.2**
MANT				*i* S	**Sb**	**21 38 36.7**	**-4.6**
KULA	**Kula-Manisa**	**3.31**	**12**	*e*PN	**Pn**	**21 37 55.5**	**+1.3**
KULA	**Kula-Manisa**	**3.31**	**12**	*e*Pn	**Pn**	**21 37 55.5**	**+1.3**
KHL	**Karahalli**	**3.35**	**24**	*e*PN	**Pn**	**21 37 56.0**	**+1.2**
KHL	**Karahalli**	**3.35**	**24**	*e*Pn	**Pn**	**21 37 56.0**	**+1.2**
KHAL	**Karahalli**	**3.38**	**23**	*i* P	**Pn**	**21 37 57.2**	**+2.0**
KHAL				*i* S	Sb	21 38 57.0	+12
KHAL	**Karahalli**	**3.38**	**23**	*i* P	**Pn**	**21 37 57.2**	**+2.0**
SUTC	**Sutluce-Ispart**	**3.40**	**49**	*e*PN	**Pn**	**21 37 58.1**	**+2.6**
SUTC	**Sutluce-Ispart**	**3.40**	**49**	*e*Pn	**Pn**	**21 37 58.1**	**+2.6**
CHOS	**Chios island**	**3.41**	**336**	*e*PN	**Pn**	**21 37 57.8**	**+2.2**
CHOS	**Chios island**	**3.41**	**336**	*e*Pn	**Pn**	**21 37 57.8**	**+2.2**
AKHS	**Akhisar**	**3.60**	**0**	*i* P	**Pn**	**21 38 00.4**	**+2.2**
AKHS				*i* S	**Sb**	**21 38 46.3**	**-4.3**
AKHS	**Akhisar**	**3.60**	**0**	*i* P	**Pn**	**21 38 00.4**	**+2.2**
AKS	**Akhisar**	**3.60**	**0**	*e*PN	**Pn**	**21 37 59.5**	**+1.3**
AKS	**Akhisar**	**3.60**	**0**	*e*Pn	**Pn**	**21 37 59.5**	**+1.3**
ANKY	**Antikythira Is**	**3.71**	**281**	*e*PN	Pn	21 38 02.7	+3.0
ANKY	**Antikythira Is**	**3.71**	**281**	*e*Pn	Pn	21 38 02.7	+3.0
AKMC	**Akamas**	**3.72**	**92**	⇓P	**Pn**	**21 38 01.0**	**+1.1**
	baz=270						
AKMC	**Akamas**	**3.72**	**92**	⇓P	**Pn**	**21 38 01.0**	**+1.1**
PPCY	**Paphos**	**3.75**	**95**	P	**Pn**	**21 38 01.5**	**+1.3**
	baz=272						
PPCY	**Paphos**	**3.75**	**95**	P	**Pn**	**21 38 01.5**	**+1.3**
GAZI	**Gazipasa**	**3.80**	**74**	*i* P	**Pn**	**21 38 01.8**	**+0.9**
GAZI				*i* S	**Sn**	**21 38 44.4**	**-0.2**
GAZI	**Gazipasa**	**3.80**	**74**	*i* P	**Pn**	**21 38 01.8**	**+0.9**
GAZI				*i* S	**Sn**	**21 38 44.4**	**-0.2**
ALFC	**Alevga**	**3.93**	**90**	P	**Pn**	**21 38 04.0**	**+1.2**
	baz=268						
ALFC				S	**Sn**	**21 38 49.1**	**+1.1**
ALFC	**Alevga**	**3.93**	**90**	P	**Pn**	**21 38 04.0**	**+1.2**

ALFC				S		**Sn**	**21 38 49.1**	**+1.1**
MATC	**Matruh**	**3.94**	**187**	P		**Pn**	**21 38 03.6**	**+0.7**
	baz=190							
SHUT	**Suhut-Afyon**	**3.95**	**33**	*e*PN		**Pn**	**21 38 05.2**	**+2.1**
SHUT	**Suhut-Afyon**	**3.95**	**33**	*e*Pn		**Pn**	**21 38 05.2**	**+2.1**
KYTH	**Kithira**	**4.00**	**286**	*e*PN		Pn	21 38 06.6	+2.9
KYTH	**Kithira**	**4.00**	**286**	*e*Pn		Pn	21 38 06.6	+2.9
PRK	**Paraskevi**	**4.15**	**343**	*e*PN		**Pn**	**21 38 07.7**	**+2.0**
PRK	**Paraskevi**	**4.15**	**343**	*e*Pn		**Pn**	**21 38 07.7**	**+2.0**
LEF	**Lefka**	**4.17**	**91**	*e*PN		**Pn**	**21 38 05.6**	**-0.4**
LEF	**Lefka**	**4.17**	**91**	*e*Pn		**Pn**	**21 38 05.6**	**-0.4**
VLI	**Veliai**	**4.20**	**292**	*e*PN		Pn	21 38 09.2	+2.9
VLI	**Veliai**	**4.20**	**292**	*e*Pn		Pn	21 38 09.2	+2.9
HMAT	**Matruh**	**4.21**	**188**	P		**Pn**	**21 38 07.4**	**+0.9**
	baz=191							
HMAT				S		**Sn**	**21 38 52.6**	**-2.1**
	baz=191							
HMAT	**Matruh**	**4.21**	**188**	P		**Pn**	**21 38 07.4**	**+0.9**
HMAT				S		**Sn**	**21 38 52.6**	**-2.1**
SZAC	**Souni-Zanaja**	**4.21**	**96**	P		**Pn**	**21 38 07.8**	**+1.3**
	baz=274							
SZAC				S		**Sn**	**21 38 54.7**	**0.0**
SZAC	**Souni-Zanaja**	**4.21**	**96**	P		**Pn**	**21 38 07.8**	**+1.3**
SZAC				S		**Sn**	**21 38 54.7**	**0.0**
AKDN	**Akdeniz- K¯–br**	**4.23**	**88**	*e*PN		**Pn**	**21 38 06.7**	**-0.1**

	comp=E,7.3nm,0.7s						
LPG	**La Plagne**	**18.96**	**309**	*e*P	**P**	**21 41 22.6**	**-0.8**
	comp=E,3.7nm,0.7s						
LPL	**La Plagne**	**18.98**	**309**	*e*P	**P**	**21 41 22.2**	**-1.3**
LPL	**La Plagne**	**18.98**	**309**	*e*P	**P**	**21 41 22.2**	**-1.3**
SMRF	**Simiane la Rot**	**19.16**	**304**	*e*P	**P**	**21 41 23.7**	**-1.6**
SMRF	**Simiane la Rot**	**19.16**	**304**	*e*P	**P**	**21 41 23.7**	**-1.6**
ORIF	**Oris-en-Rattie**	**19.29**	**307**	*e*P	**P**	**21 41 25.4**	**-1.4**
ORIF	**Oris-en-Rattie**	**19.29**	**307**	*e*P	**P**	**21 41 25.4**	**-1.4**
CABF	**La Chapelle**	**19.86**	**311**	*e*P	**P**	**21 41 31.7**	**-1.4**
	comp=E,12nm,0.7s						
CABF	**La Chapelle**	**19.86**	**311**	*e*P	**P**	**21 41 31.7**	**-1.4**
	comp=E,6.1nm,0.7s						
VIVF	**Saint-Julien-l**	**20.06**	**305**	*e*P	**P**	**21 41 33.2**	**-2.0**
VIVF	**Saint-Julien-l**	**20.06**	**305**	*e*P	**P**	**21 41 33.2**	**-2.0**
CDF	**Champ du Feu**	**20.07**	**317**	*e*P	**P**	**21 41 35.6**	**+0.3**
CDF	**Champ du Feu**	**20.07**	**317**	*e*P	**P**	**21 41 35.6**	**+0.3**
SMF	**Signal de Mont**	**21.28**	**310**	*e*P	**P**	**21 41 46.9**	**-1.4**
	comp=E,4.0nm,0.4s						
SMF	**Signal de Mont**	**21.28**	**310**	*e*P	**P**	**21 41 46.9**	**-1.4**
	comp=E,2.0nm,0.4s						
LOR	**Lormes**	**21.52**	**311**	*e*P	**P**	**21 41 48.9**	**-2.0**
	comp=E,7.5nm,0.8s						
LOR	**Lormes**	**21.52**	**311**	*e*P	**P**	**21 41 48.9**	**-2.0**
	comp=E,3.8nm,0.8s						
AVF	**Avril sur Loir**	**21.64**	**310**	*e*P	**P**	**21 41 49.7**	**-2.5**
AVF	**Avril sur Loir**	**21.64**	**310**	*e*P	**P**	**21 41 49.7**	**-2.5**
SSF	**Saint Saulge**	**21.66**	**310**	*e*P	**P**	**21 41 51.4**	**-0.9**
	comp=E,11nm,0.8s						
SSF	**Saint Saulge**	**21.66**	**310**	*e*P	**P**	**21 41 51.4**	**-0.9**
	comp=E,5.4nm,0.8s						
BGF	**Bois d'Agland**	**21.87**	**309**	*e*P	**P**	**21 41 53.6**	**-1.1**
BGF	**Bois d'Agland**	**21.87**	**309**	*e*P	**P**	**21 41 53.6**	**-1.1**
MFF	**Saint Martin d**	**23.83**	**307**	*e*P	**P**	**21 42 13.7**	**-1.0**
MFF	**Saint Martin d**	**23.83**	**307**	*e*P	**P**	**21 42 13.7**	**-1.0**
LDF	**La Druitiere**	**24.51**	**311**	*e*P	**P**	**21 42 19.2**	**-1.8**
LDF	**La Druitiere**	**24.51**	**311**	*e*P	**P**	**21 42 19.2**	**-1.8**
FLN	**La Foliniere**	**24.79**	**312**	*e*P	**P**	**21 42 22.1**	**-1.5**
	comp=E,6.8nm,0.6s						
FLN	**La Foliniere**	**24.79**	**312**	*e*P	**P**	**21 42 22.1**	**-1.5**
	comp=E,3.4nm,0.6s						
GRR	**Gorron**	**24.89**	**311**	*e*P	**P**	**21 42 22.9**	**-1.5**
GRR	**Gorron**	**24.89**	**311**	*e*P	**P**	**21 42 22.9**	**-1.5**
ESDC	**Sonseca Array**	**25.51**	**289**	P	**P**	**21 42 28.9**	**-1.4**
	comp=E,0.9nm,0.6s,baz=80,slow=9.3,SNR=12						
SGMF	**Saint Gilles**	**25.91**	**309**	*e*P	**P**	**21 42 32.6**	**-1.0**
SGMF	**Saint Gilles**	**25.91**	**309**	*e*P	**P**	**21 42 32.6**	**-1.0**
QUIF	**Quistinic**	**26.19**	**308**	*e*P	**P**	**21 42 35.1**	**-1.1**
QUIF	**Quistinic**	**26.19**	**308**	*e*P	**P**	**21 42 35.1**	**-1.1**
FINES	**FINESS Array B**	**26.21**	**358**	P	**P**	**21 42 36.1**	**-0.2**
	comp=E,1.4nm,0.7s,baz=146,slow=14,SNR=5.1						
ROSF	**Rostrenen**	**26.39**	**309**	*e*P	**P**	**21 42 36.8**	**-1.2**
ROSF	**Rostrenen**	**26.39**	**309**	*e*P	**P**	**21 42 36.8**	**-1.2**
HFS	**Hagfors**	**26.51**	**344**	P	**P**	**21 42 37.9**	**-1.1**
	comp=E,3.5nm,0.9s,baz=156,slow=11,SNR=7.9						
AKTO	**Aktyubinsk**	**26.61**	**46**	P	**P**		
	comp=E,0.7nm,0.6s,baz=197,slow=17,SNR=2.3					**21 42 41.3**	**+1.3**
NOA	**NORSAR Array B**	**27.89**	**343**	P	**P**	**21 42 49.0**	**-2.4**
	comp=E,0.6nm,0.7s,baz=147,slow=9.0,SNR=2.8						
NOA				LR	LR	21 56 03.0	
	comp=E,31nm,19.6s,baz=15,slow=41						
EKA	**Eskdalemuir Ar**	**29.22**	**323**	P	**P**	**21 43 02.7**	**-0.6**
	comp=E,2.8nm,1.0s,baz=118,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**32.25**	**233**	P	**P**	**21 43 30.7**	**+0.3**
	comp=E,0.9nm,0.5s,baz=43,slow=8.0,SNR=16						
TORD				LR	LR	21 58 24.9	
	comp=E,40nm,18.8s,baz=15,slow=40						
ARCES	**ARCESS Array B**	**34.34**	**359**	P	**P**	**21 43 48.0**	**0.0**
	comp=E,6.2nm,1.1s,baz=176,slow=8.3,SNR=7.8						
KURBB	**Kurchatov Arra**	**39.37**	**51**	P	**P**	**21 44 32.8**	**+1.8**
	comp=E,0.4nm,0.5s,baz=275,slow=8.7,SNR=11						
DBIC	**Dimbokro**	**41.35**	**234**	P	**P**	**21 44 47.4**	**-0.4**
	comp=E,1.3nm,0.7s,baz=43,slow=9.1,SNR=5.7						
MKAR	**Makanchi Array**	**41.91**	**57**	P	**P**	**21 44 53.9**	**+1.8**
	comp=E,0.2nm,0.5s,baz=282,slow=5.0,SNR=5.4						
SONM	**Songino Array**	**57.74**	**51**	P	**P**	**21 46 53.2**	**+0.7**
	comp=E,0.3nm,0.8s,baz=293,slow=4.9,SNR=3.5						
YKA	**Yellowknife Ar**	**77.99**	**343**	P	**P**	**21 48 59.9**	**+0.5**
	comp=E,0.1nm,0.5s,baz=30,slow=5.1,SNR=4.7						

NIED ***17*** *21:41:00,31.30N×141.90E,h17km,Mw3.9 Best double couple: M0 7.99000×10^14 NP1:φs=288.00000°,δ=25.00000°, λ=-125.00000°. NP2:φs=146.00000°,δ=70.00000°, λ=-75.00000°.*

IDC ***17*** *21:41:49.0±0.9,30.67N×141.66E,h0km,mb3.6/10, mb1 3.8/12,mb1mx3.6/39,mbtmp3.6/12,ML3.6/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/38,Error ellipse: s-maj=31.5km s-min=19.2km az=69.0*

ISCJB ***17*** *21:41:50.5±0.6,30.74N±0.05×141.7E±0.1,h23km, mb3.7/10,MS3.6/1,Error ellipse: s-maj=17.6km s-min=5.1km az=161.9*

JMA ***17*** *21:41:54.4±0.3,31.26N×141.90E,h0km,M4.2*

ISC 17 21:41:52.0±0.8,30.75N±0.06×141.9E±0.1,h23km,n30, σ1§74/31,mb3.7/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.93**	**324**	P	**Pn**	**21 42 38.2**	**+1.0**
JHJ2				*e*S	**Sn**	**21 43 09.9**	**-1.7**
JCJ	**Chichijima**	**3.65**	**175**	Pn	**Pn**	**21 42 46.1**	**-1.0**
	5.0nm,0.3s,baz=302,slow=19,SNR=2.6						
JCJ				Sn	**Sn**	**21 43 27.4**	**-2.1**
	20nm,0.3s,baz=274,slow=21,SNR=5.2						
BSO1	**Boso 1**	**3.96**	**349**	P	**Pn**	**21 42 51.5**	**+0.6**
JKO	**Kozu shima**	**4.13**	**327**	*e*S	**Sn**	**21 43 40.8**	**-0.5**
BSO3	**Boso 3**	**4.20**	**345**	P	**Pn**	**21 42 54.7**	**+0.3**
BSO4	**Boso 4**	**4.42**	**344**	*e*S	**Sn**	**21 43 46.5**	**-1.8**
JIM2	**Oshima 3**	**4.46**	**333**	*e*S	**Sn**	**21 43 46.9**	**-2.5**
JOD2	**Odawara 2**	**5.07**	**333**	P	**Pn**	**21 43 07.6**	**+0.9**
JOD2				*e*S	**Sn**	**21 44 02.2**	**-2.3**
JHU	**Hanno**	**5.53**	**338**	P	**Pn**	**21 43 13.7**	**+0.8**
JRY	**Ryogami san**	**5.81**	**336**	P	**Pn**	**21 43 18.5**	**+1.7**
JHO	**Hitachi**	**5.95**	**350**	P	**Pn**	**21 43 18.7**	**0.0**
JHO				S	**Sn**	**21 44 22.4**	**-3.7**
JAG	**Ashikaga**	**6.01**	**341**	P	**Pn**	**21 43 19.9**	**+0.4**
JAG				*e*S	**Sn**	**21 44 24.9**	**-2.7**
MJAR	**Matsushiro Arr**	**6.53**	**333**	Pn	**Pn**	**21 43 26.8**	**0.0**
	1.4nm,0.3s,baz=155,slow=11,SNR=13						
MJAR				Sn	**Sn**	**21 44 36.0**	**-4.5**
	baz=154,slow=16,SNR=2.1						
MAT	**Matsushiro**	**6.53**	**333**	P	**Pn**	**21 43 29.2**	**+2.4**
MAT				S	Sn	21 44 32.0	-8.6
JFK	**Kawauchi**	**6.65**	**353**	P	**Pn**	**21 43 27.6**	**-0.8**
JNU	**Nakatsue**	**9.63**	**287**	LR	LR	21 46 42.5	
	comp=Z,79nm,19.0s,baz=94,slow=31						
KSRS	**Korea Array**	**13.34**	**304**	LR	LR	21 50 25.6	
	comp=Z,46nm,18.1s,baz=104,slow=39						
H11S3	**WAKE ISLAND Hy**	**25.59**	**113**	T	T	22 14 01.0	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**25.59**	**113**	T	T	22 14 01.5	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**25.61**	**113**	T	T	22 14 00.3	
	baz=307						
SONM	**Songino Array**	**31.97**	**312**	P	**P**	**21 48 17.0**	**+0.6**
	0.3nm,0.6s,baz=122,slow=7.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**46.59**	**317**	P	**P**	**21 50 18.2**	**+0.1**
	0.2nm,0.4s,baz=71,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**47.99**	**307**	P	**P**	**21 50 28.9**	**-0.3**
	0.4nm,0.5s,baz=85,slow=9.9,SNR=9.2						
MKAR				LR	LR	22 09 52.2	
	comp=Z,63nm,18.5s,baz=0.5,slow=35						
KURBB	**Kurchatov Arra**	**50.33**	**312**	P	**P**	**21 50 46.0**	**-0.9**
	0.9nm,0.8s,baz=88,slow=7.4,SNR=9.9						
WRA	**Warramunga Arr**	**50.92**	**189**	P	**P**	**21 50 51.2**	**-0.4**
	1.0nm,0.5s,baz=4.0,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**54.67**	**30**	P	**P**	**21 51 20.3**	**+1.4**
	0.4nm,1.0s,baz=270,slow=7.2,SNR=2.9						
BVAR	**Borovoye Array**	**55.20**	**316**	P	**P**	**21 51 22.6**	**-0.3**
	0.2nm,0.3s,baz=98,slow=9.0,SNR=3.9						
FINES	**FINESS Array B**	**74.56**	**333**	P	**P**	**21 53 29.2**	**+0.5**
	1.2nm,0.7s,baz=59,slow=5.1,SNR=7.1						
AKASG	**Malin Array Be**	**79.52**	**323**	P	**P**	**21 53 57.1**	**+0.3**
	0.2nm,0.3s,baz=52,slow=5.7,SNR=3.3						
TXAR	**Lajitas Array**	**93.64**	**53**	P	**P**	**21 55 08.9**	**+1.9**
	0.3nm,0.8s,baz=266,slow=2.4,SNR=2.0						

IDC 17 21:53:58.9±7.2,19.61S×68.76W,h150km±48km,mb3.3/2, mb1 3.4/4,mb1mx3.0/38,mbtmp3.6/4,Error ellipse: s-maj=76.0km s-min=32.5km az=39.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.36**	**10**	P	Pn	21 54 52.0	+0.3
	0.8nm,0.3s,baz=194,slow=7.3,SNR=24						
LPAZ				S	Sn	21 55 32.6	+0.1
	baz=170,slow=13,SNR=2.4						
SIV	**San Ignacio**	**8.16**	**65**	P	Pn	21 55 53.7	-0.9
	1.0nm,0.3s,baz=232,slow=9.0,SNR=13						
H03N1	**Juan Fernandez**	**16.48**	**211**	T	T	22 13 57.4	
	baz=32						
H03N2	**Juan Fernandez**	**16.49**	**211**	T	T	22 13 57.9	
	baz=32						
H03N3	**Juan Fernandez**	**16.50**	**211**	T	T	22 13 59.1	
	baz=32						
TORD	**Torodi Ar. Bea**	**76.60**	**71**	P	P	22 05 33.9	+0.4
	0.2nm,0.4s,baz=256,slow=5.7,SNR=6.6						
YKA	**Yellowknife Ar**	**89.46**	**341**	P	P	22 06 37.9	-0.4
	0.4nm,0.7s,baz=134,slow=4.5,SNR=12						

GUC ***17*** *21:54:50.9±0.3,31.56S×69.72W,h135km±16km,ML3.1*

ISCJB ***17*** *21:54:51.3±0.9,31.56S±0.04×69.51W±0.05,h114km±8km, Error ellipse: s-maj=8.5km s-min=5.9km az=38.9*

SJA ***17*** *21:54:51.7±0.7,31.58S×69.44W,h106km±3km,MD3.5, ML2.7*

ISC 17 21:54:51.8±1.6,31.58S±0.05×69.52W±0.05, h110km±12km,n16,σ1§17/27,4C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.29**	**140**	*i* P	**Pn**	**21 55 08.2**	**+0.3**
RTLS				*i* S	**Sn**	**21 55 20.4**	**+0.5**
AUSP	**Uspallata**	**0.66**	**170**	*i* P	**Pn**	**21 55 10.5**	**+0.3**
AUSP				*i* S	**Sn**	**21 55 24.4**	**+0.4**
RTCV	**Cerro Valdivia**	**0.88**	**109**	*i* P	**Pn**	**21 55 12.1**	**+0.3**
RTLL	**Cerro Villicun**	**0.92**	**75**	*i* P	**Pn**	**21 55 12.1**	**-0.2**
RTLL				*i* S	**Sn**	**21 55 27.1**	**-0.6**
AMOG	**MOGNA**	**1.08**	**54**	*i* P	**Pn**	**21 55 14.0**	**0.0**
CFAA	**Coronel Fontan**	**1.09**	**92**	*i* P	**Pn**	**21 55 13.8**	**-0.2**
CFAA				*i* S	**Sn**	**21 55 30.1**	**-0.6**
CMCH	**Combarbala**	**1.33**	**287**	⇑*i* P	**Pn**	**21 55 16.2**	**-0.5**
CMCH				*i* S	**Sn**	**21 55 35.5**	**0.0**
CMCH				AML	AML	21 55 38.2	
	comp=E,253nm,0.6s						
ARCO	**CERRO ARCO**	**1.36**	**159**	*e*P	**Pn**	**21 55 17.5**	**+0.4**
ARCO				*i* S	**Sn**	**21 55 36.8**	**+0.5**
ARCO				AML	AML	21 55 38.6	
	comp=Z,190nm,0.2s						
AAGR	**Agrelo**	**1.61**	**159**	*e*P	**Pn**	**21 55 20.5**	**+0.4**
AAGR				*i* S	**Sn**	**21 55 41.6**	**0.0**
FCH	**Farellones**	**1.87**	**200**	⇑*i* P	Pn	21 55 17.1	-6.3
FCH				*i* S	**Sn**	**21 55 42.5**	**-5.0**
FCH				AML	AML	21 55 47.5	
	comp=E,143nm,0.2s						
AVFE	**Valle Fertil**	**1.99**	**63**	*i* P	**Pn**	**21 55 24.4**	**-0.3**
AVFE				AML	AML	21 55 52.1	
	comp=Z,25nm,0.5s						
CLCH	**Cerro Calan**	**2.01**	**205**	⇑*i* P	**Pn**	**21 55 25.3**	**+0.4**
CLCH				*i* S	**Sn**	**21 55 51.0**	**+0.7**
CLCH				AML	AML	21 55 53.8	
	comp=E,252nm,0.5s						
ACAN	**Cantantal**	**2.10**	**110**	*e*P	**Pn**	**21 55 25.9**	**-0.1**
AGUA	**GUANDACOL**	**2.26**	**23**	*i* P	**Pn**	**21 55 29.1**	**+0.8**
AGUA				*i* P	**Pn**	**21 55 29.1**	**+0.8**
CHCH	**Chadas Angostu**	**2.54**	**202**	⇑*i* P	**Pn**	**21 55 31.8**	**0.0**
CHCH				*i* S	**Sn**	**21 56 02.9**	**+0.4**
CACH	**El Canelo**	**2.69**	**199**	⇓*i* P	**Pn**	**21 55 34.4**	**+0.5**
CACH				*i* S	**Sn**	**21 56 07.5**	**+1.3**

NIC ***17*** *22:16:01.5±0.3,34.38N×32.00E,h11km,ML3.6*

ISK ***17*** *22:16:01.3,34.29N×32.16E,h6km,MD3.7,ML3.3*

IDC ***17*** *22:16:02.6±1.5,34.57N×32.17E,h0km,mb3.7/8, mb1 3.8/12,mb1mx3.6/27,mbtmp3.7/12,ML3.7/4,Error ellipse: s-maj=36.1km s-min=16.3km az=45.0*

DDA ***17*** *22:16:02.3,34.52N×32.09E,h5km,MD3.7*

CSEM ***17*** *22:16:04.0±0.1,34.43N×32.19E,h2km,ML3.6,Mw2.7, Error ellipse: s-maj=3.4km s-min=2.2km az=78.0*

ISCJB ***17*** *22:16:04.7±0.6,34.43N±0.02×32.14E±0.03,h25km±5km, mb3.5/7,Error ellipse: s-maj=4.2km s-min=2.6km az=152.1*

GII ***17*** *22:16:05.4±0.6,34.46N×32.29E,h10km,MD3.1/7, Mm2.7/5*

HLW ***17*** *22:16:07.6,34.40N×32.07E,h33km±37km,Md3.5,MI3.0*

NSSC ***17*** *22:16:08.3±1.5,34.53N×32.35E,h38km±196km,MD1.9, ML2.9*

ISC 17 22:16:04.0±1.6,34.42N±0.03×32.18E±0.03,h10km±10km, n152,σ1§42/195,mb3.5/7,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.48**	**16**	P	**Pg**	**22 16 12.8**	**-0.5**
	baz=209						
PPCY	**Paphos**	**0.48**	**16**	P	**Pg**	**22 16 12.8**	**-0.5**
AKMC	**Akamas**	**0.61**	**11**	P	**Pg**	**22 16 15.2**	**-0.7**
	baz=202						
AKMC	**Akamas**	**0.61**	**11**	P	**Pg**	**22 16 15.2**	**-0.7**
SZAC	**Souni-Zanaja**	**0.67**	**60**	P	**Pg**	**22 16 17.3**	**+0.4**
	baz=243						
SZAC				S	**Sb**	**22 16 28.1**	**+1.1**
SZAC	**Souni-Zanaja**	**0.67**	**60**	P	**Pg**	**22 16 17.3**	**+0.4**
SZAC				S	**Sb**	**22 16 28.1**	**+1.1**
ALFC	**Alevga**	**0.81**	**25**	P	**Pg**	**22 16 18.8**	**-0.8**
	baz=212						
ALFC				S	**Sb**	**22 16 31.6**	**+0.5**
ALFC	**Alevga**	**0.81**	**25**	P	**Pg**	**22 16 18.8**	**-0.8**
ALFC				S	**Sb**	**22 16 31.6**	**+0.5**
LEF	**Lefka**	**0.91**	**40**	*e*PG	**Pg**	**22 16 21.0**	**-0.4**
LEF				*e*SG	**Sb**	**22 16 35.0**	**+1.1**
LEF	**Lefka**	**0.91**	**40**	*e*Pg	**Pg**	**22 16 21.0**	**-0.4**
LEF				*e*Sg	**Sb**	**22 16 35.0**	**+1.1**
AKDN	**Akdeniz- K¯-br**	**1.08**	**36**	*e*PN	**Pg**	**22 16 24.4**	**-0.4**
AKDN	**Akdeniz- K¯-br**	**1.08**	**36**	*e*Pn	**Pg**	**22 16 24.4**	**-0.4**
CSS	**Prodhromos**	**1.09**	**60**	Pg	**Pg**	**22 16 23.9**	**-1.0**
CSS	**Prodhromos**	**1.09**	**60**	Pg	**Pg**	**22 16 23.9**	**-1.0**
MAMC	**Mammari**	**1.13**	**48**	P	**Pg**	**22 16 24.9**	**-0.8**
	baz=232						
MAMC	**Mammari**	**1.13**	**48**	P	**Pg**	**22 16 24.9**	**-0.8**
GAZI	**Gazipasa**	**1.81**	**3**	*i* P	Pn	22 16 32.4	-2.8
GAZI				*i* S	**Sn**	**22 16 57.5**	**-0.8**
GAZI	**Gazipasa**	**1.81**	**3**	*i* P	Pn	22 16 32.4	-2.8
GAZI				*i* S	**Sn**	**22 16 57.5**	**-0.8**
EREN	**Erenkoy**	**1.97**	**55**	*e*PN	**Pn**	**22 16 37.6**	**+0.2**
EREN	**Erenkoy**	**1.97**	**55**	*e*Pn	**Pn**	**22 16 37.6**	**+0.2**
IKL	**Isikli**	**2.19**	**34**	*e*PN	**Pn**	**22 16 40.8**	**+0.4**
IKL	**Isikli**	**2.19**	**34**	*e*Pn	**Pn**	**22 16 40.8**	**+0.4**
ERMK	**Ermenek**	**2.29**	**15**	*i* P	**Pn**	**22 16 42.9**	**+0.8**
ERMK				*i* S	**Sb**	**22 17 13.8**	**-0.2**
ERMK	**Ermenek**	**2.29**	**15**	*i* P	**Pn**	**22 16 42.9**	**+0.8**
ERMK				*i* S	**Sb**	**22 17 13.8**	**-0.2**
AKAS	**Kas**	**2.77**	**311**	*i* P	**Pn**	**22 16 47.1**	**-1.6**
AKAS	**Kas**	**2.77**	**311**	*i* P	**Pn**	**22 16 47.1**	**-1.6**
HNTI	**Hanita**	**2.83**	**117**	Pn	**Pn**	**22 16 49.4**	**+0.2**
HNTI				Sn	**Sn**	**22 17 22.7**	**-0.7**
HNTI	**Hanita**	**2.83**	**117**	Pn	**Pn**	**22 16 49.4**	**+0.2**
HNTI				Sn	**Sn**	**22 17 22.7**	**-0.7**
BHL	**Bhannes**	**2.92**	**99**	*e*P	**Pn**	**22 16 51.6**	**+1.0**
BHL	**Bhannes**	**2.92**	**99**	*e*P	**Pn**	**22 16 51.7**	**+1.0**
OFRI	**'Ofer**	**2.95**	**127**	Pn	**Pn**	**22 16 52.3**	**+1.3**
OFRI				Sn	**Sn**	**22 17 27.3**	**+0.8**
OFRI	**'Ofer**	**2.95**	**127**	Pn	**Pn**	**22 16 52.3**	**+1.3**
OFRI				Sn	**Sn**	**22 17 27.3**	**+0.8**
ELL	**Elmali**	**2.97**	**322**	*e*PN	**Pn**	**22 16 52.0**	**+0.7**
ELL	**Elmali**	**2.97**	**322**	*e*Pn	**Pn**	**22 16 52.0**	**+0.7**
MMC7	**Mount Meron ar**	**3.02**	**117**	Pn	**Pn**	**22 16 51.7**	**-0.2**
MMC7	**Mount Meron ar**	**3.02**	**117**	Pn	**Pn**	**22 16 51.7**	**-0.2**
BLGI	**Bet Lehem HaGe**	**3.02**	**123**	Pn	**Pn**	**22 16 52.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**3.02**	**123**	Pn	**Pn**	**22 16 52.1**	**+0.2**
MMA0B	**Mount Meron ar**	**3.03**	**117**	Pn	**Pn**	**22 16 52.0**	**-0.1**
MMA0B				Sn	**Sn**	**22 17 28.3**	**-0.1**
MMA0B	**Mount Meron ar**	**3.03**	**117**	Pn	**Pn**	**22 16 52.0**	**-0.1**
MMA0B				Sn	**Sn**	**22 17 28.3**	**-0.1**
MMAI	**Mount Meron Ar**	**3.03**	**117**	Pn	**Pn**	**22 16 52.4**	**+0.3**
	13nm,0.3s,baz=310,slow=12,SNR=70						
MMAI				Sn	**Sn**	**22 17 28.5**	**+0.1**
	25nm,0.3s,baz=318,slow=11,SNR=4.2						
MERS	**Mersin**	**3.09**	**37**	*e*PN	**Pn**	**22 16 53.8**	**+0.8**
MERS	**Mersin**	**3.09**	**37**	*e*Pn	**Pn**	**22 16 53.8**	**+0.8**
HWQ	**Hawqa**	**3.12**	**92**	*e*P	**Pn**	**22 16 53.4**	**+0.1**
HWQ	**Hawqa**	**3.12**	**92**	*e*P	**Pn**	**22 16 53.4**	**+0.1**

KSDI	**Kefar Szold**	**3.14**	**112**	Pn	**Pn**	**22 16 53.4**	**-0.2**
KSDI	**Kefar Szold**	**3.14**	**112**	Pn	**Pn**	**22 16 53.4**	**-0.2**
RCY	**Rachaya**	**3.17**	**106**	*e*P	**Pn**	**22 16 54.4**	**+0.3**
RCY	**Rachaya**	**3.17**	**106**	*e*P	**Pn**	**22 16 54.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.19**	**343**	*e*PN	**Pn**	**22 16 55.2**	**+0.8**
SUTC	**Sutluce-Ispart**	**3.19**	**343**	*e*Pn	**Pn**	**22 16 55.2**	**+0.8**
SLTI	**Sal'it**	**3.23**	**132**	Pn	**Pn**	**22 16 55.3**	**+0.5**
SLTI	**Sal'it**	**3.23**	**132**	Pn	**Pn**	**22 16 55.3**	**+0.5**
BRBR	**Barbar**	**3.29**	**107**	*e*P	**Pn**	**22 16 56.3**	**+0.5**
BRBR				*e*S	**Sn**	**22 17 32.4**	**-2.7**
BRBR				AML	AML	22 17 37.3	
	comp=E,143nm,0.8s						
BRBR				AML	AML	22 17 37.3	
	comp=Z,126nm,0.7s						
BRBR				AML	AML	22 17 38.0	
	comp=N,44nm,0.6s						
BRBR	**Barbar**	**3.29**	**107**	*e*P	**Pn**	**22 16 56.3**	**+0.5**
	SNR=57						
BRBR				*e*S	**Sn**	**22 17 32.4**	**-2.7**
	comp=N,44nm,0.6s,SNR=58						
BCK	**Bucak**	**3.29**	**337**	*e*PN	**Pn**	**22 16 56.3**	**+0.6**
BCK	**Bucak**	**3.29**	**337**	*e*Pn	**Pn**	**22 16 56.3**	**+0.6**
MMLI	**Mount Malkishu**	**3.35**	**125**	Pn	**Pn**	**22 16 57.8**	**+1.3**
MMLI				Sn	**Sn**	**22 17 37.5**	**+1.1**
MMLI	**Mount Malkishu**	**3.35**	**125**	Pn	**Pn**	**22 16 57.8**	**+1.3**
MMLI				Sn	**Sn**	**22 17 37.5**	**+1.1**
FETY	**Fethiye**	**3.36**	**312**	*e*PN	**Pn**	**22 16 57.0**	**+0.5**
FETY	**Fethiye**	**3.36**	**312**	*e*Pn	**Pn**	**22 16 57.0**	**+0.5**
KONT	**Konya--Tatoy**	**3.52**	**2**	*e*PN	**Pn**	**22 17 00.3**	**+1.5**
KONT	**Konya--Tatoy**	**3.52**	**2**	*e*Pn	**Pn**	**22 17 00.3**	**+1.5**
HMDT	**Nahal Hemdat**	**3.54**	**127**	Pn	**Pn**	**22 17 00.3**	**+1.3**
HMDT				Sn	**Sn**	**22 17 42.4**	**+1.5**
HMDT	**Nahal Hemdat**	**3.54**	**127**	Pn	**Pn**	**22 17 00.3**	**+1.3**
HMDT				Sn	**Sn**	**22 17 42.4**	**+1.5**
TCHB	**Talchebab**	**3.61**	**118**	*e*P	**Pn**	**22 17 01.5**	**+1.5**
TCHB				*e*S	**Sn**	**22 17 38.3**	**-4.4**
TCHB				AML	AML	22 17 46.8	
	comp=N,199nm,0.6s						
TCHB				AML	AML	22 17 47.5	
	comp=Z,130nm,0.5s						
TCHB				AML	AML	22 17 52.0	
	comp=E,78nm,0.6s						
TCHB	**Talchebab**	**3.61**	**118**	*e*P	**Pn**	**22 17 01.5**	**+1.5**
	SNR=57						
WRDH	**Warideh**	**3.64**	**72**	*e*P	**Pn**	**22 17 00.1**	**-0.3**
WRDH				*e*S	Sn	22 17 37.8	-5.7
WRDH				AML	AML	22 17 42.8	
	comp=Z,90nm,1.0s						
WRDH				AML	AML	22 17 43.8	
	comp=N,64nm,0.5s						
WRDH				AML	AML	22 17 43.9	
	comp=E,138nm,0.5s						
WRDH	**Warideh**	**3.64**	**72**	*e*P	**Pn**	**22 17 00.1**	**-0.3**
	SNR=57						
KARA	**Karaisali**	**3.67**	**39**	*e*PN	**Pn**	**22 17 01.9**	**+1.1**
KARA	**Karaisali**	**3.67**	**39**	*e*Pn	**Pn**	**22 17 01.9**	**+1.1**
RSH		**3.69**	**159**	P	**Pn**	**22 17 02.5**	**+1.4**
	baz=157						
RSH		**3.69**	**159**	P	**Pn**	**22 17 02.5**	**+1.4**
LADK	**Ladik-KONYA**	**3.77**	**2**	*e*PN	**Pn**	**22 17 03.9**	**+1.6**
LADK	**Ladik-KONYA**	**3.77

HMAT	**Matruh**	**5.42**	**234**	P		**Pn**	**22 17 25.2**	**+0.3**
	baz=234								
HMAT				S		**Sn**	**22 18 24.5**	**-2.9**
	baz=234								
HMAT	**Matruh**	**5.42**	**234**	P		**Pn**	**22 17 25.2**	**+0.3**
HBST	**Basata**	**5.63**	**157**	P		**Pn**	**22 17 30.3**	**+2.6**
	baz=155								
HBST	**Basata**	**5.63**	**157**	P		**Pn**	**22 17 30.3**	**+2.6**
SWA2		**7.71**	**230**	P		**Pn**	**22 17 56.4**	**+0.1**
	baz=230								
SWA2				S		**Sn**	**22 19 20.8**	**-2.9**
	baz=230								
SWA2		**7.71**	**230**	P		**Pn**	**22 17 56.4**	**+0.1**
HFRF	**Wahat Farafira**	**7.98**	**206**	P		**Pn**	**22 18 00.8**	**+0.8**
	baz=206								
HFRF	**Wahat Farafira**	**7.98**	**206**	P		**Pn**	**22 18 00.8**	**+0.8**
AKASG	**Malin Array Be**	**16.41**	**353**	Pn		**Pn**	**22 19 55.0**	**+0.7**
	comp=E,0.7nm,0.3s,baz=172,slow=9.6,SNR=23								
GERES	**GERESS Array B**	**19.89**	**322**	P		**P**	**22 20 35.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=138,slow=11,SNR=5.5								
DAVOX	**Davos/Dischmat**	**20.87**	**313**	P		**P**	**22 20 46.4**	**+0.1**
	comp=E,2.7nm,0.8s,baz=113,slow=7.7								
FINES	**FINESS Array B**	**27.32**	**354**	P		**P**	**22 21 46.7**	**-1.9**
	comp=E,4.1nm,1.1s,baz=170,slow=12,SNR=7.5								
NOA	**NORSAR Array B**	**29.86**	**340**	P		**P**	**22 22 09.6**	**-1.8**
	comp=E,0.6nm,0.7s,baz=143,slow=9.5,SNR=3.0								
ARCES	**ARCESS Array B**	**35.36**	**356**	P		**P**	**22 22 57.9**	**-1.4**
	comp=E,3.7nm,1.0s,baz=245,slow=2.6,SNR=4.4								
MKAR	**Makanchi Array**	**39.36**	**56**	P		**P**	**22 23 32.9**	**-0.7**
	comp=E,0.5nm,0.8s,baz=276,slow=5.4,SNR=3.5								
ZALV	**Zalesovo Beam**	**41.37**	**45**	P		**P**	**22 23 49.1**	**-0.9**
	comp=E,0.4nm,0.4s,baz=261,slow=9.6,SNR=2.9								
SONM	**Songino Array**	**55.43**	**52**	P		**P**	**22 25 39.7**	**+1.0**
	comp=E,0.3nm,0.6s,baz=284,slow=5.8,SNR=3.3								
YKA	**Yellowknife Ar**	**79.79**	**345**	P		**P**	**22 28 10.7**	**-1.3**
	comp=E,0.1nm,0.5s,baz=34,slow=5.0,SNR=3.4								

DDA ***17*** *22:23:17.0, 35°.20N×27°.48E, h19km, MD3.6*
CSEM ***17*** *22:23:18.8±0.3, 35°.21N×28°.01E, h20km, MD3.6, Error ellipse: s-maj=21.1km s-min=7.8km az=94.0*
ISCJB ***17*** *22:23:19.5±0.7, 34°.98N±0°.04×27°.9E±0°.2, h28km, Error ellipse: s-maj=18.5km s-min=5.5km az=3.0*
HLW ***17*** *22:23:23.0, 34°.93N×28°.06E, h33km±30km, Md3.7*
ISC 17 22:23:19.8±1.1, 35°.10N±0°.05×27°.92E±0°.09, h28km, n14, σ1§82/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
TURN	**Turunc**	**1.86**	**17**	*i*	P		**Pn**	**22 23 47.2**	**-2.6**
TURN				*i*	S		**Sb**	**22 24 16.4**	**+0.5**
TURN	**Turunc**	**1.86**	**17**	*i*	P		**Pn**	**22 23 47.2**	**-2.6**
TURN				*i*	S		**Sb**	**22 24 16.4**	**+0.5**
BDRM	**Kayabasi**	**2.00**	**349**	*i*	P		**Pn**	**22 23 51.3**	**-0.5**
BDRM				*i*	S		**Sb**	**22 24 20.0**	**-0.1**
BDRM	**Kayabasi**	**2.00**	**349**	*i*	P		**Pn**	**22 23 51.3**	**-0.5**
BDRM				*i*	S		**Sb**	**22 24 20.0**	**-0.1**
KHAL	**Karahalli**	**3.50**	**21**	*i*	P		**Pn**	**22 24 10.1**	**-2.4**
KHAL				*i*	S		**Sb**	**22 25 06.6**	**+3.3**
KHAL	**Karahalli**	**3.50**	**21**	*i*	P		**Pn**	**22 24 10.1**	**-2.4**
KHAL				*i*	S		**Sb**	**22 25 06.6**	**+3.3**
HMAT	**Matruh**	**4.05**	**190**	P			**Pn**	**22 24 21.4**	**+1.4**
	baz=193								
HMAT				S			**Sn**	**22 25 04.8**	**-1.7**
	baz=193								
HMAT	**Matruh**	**4.05**	**190**	P			**Pn**	**22 24 21.4**	**+1.4**
HMAT				S			**Sn**	**22 25 04.8**	**-1.7**
SWA2		**6.20**	**200**	P			**Pn**	**22 24 50.8**	**+1.3**
	baz=202								
SWA2		**6.20**	**200**	P			**Pn**	**22 24 50.8**	**+1.3**
HNKL	**Nakhl**	**7.26**	**134**	P			**Pn**	**22 25 04.9**	**+0.8**
	baz=133								
HNKL	**Nakhl**	**7.26**	**134**	P			**Pn**	**22 25 04.9**	**+0.8**
HFRF	**Wahat Farafira**	**7.93**	**177**	P			**Pn**	**22 25 13.9**	**+0.6**
	baz=178								
HFRF	**Wahat Farafira**	**7.93**	**177**	P			**Pn**	**22 25 13.9**	**+0.6**

BJI ***17*** *22:38:12.9, 32°.00S×177°.80W, h6km, mB5.7/21, mb5.2/29, Ms5.2/22, Ms7 4.7/21*
ISCJB ***17*** *22:38:13.4±0.1, 32°.16S±0°.04×177°.84W±0°.04, h10km, mb5.2/74, MS4.4/23, Error ellipse: s-maj=6.3km s-min=3.2km az=138.9*
IDC ***17*** *22:38:13.2±0.4, 31°.81S×177°.76W, h0km, mb5.0/19, mb1 5.1/23, mb1mx5.0/33, mbtmp5.0/23, ML4.6/4, MS4.3/20, Ms1 4.3/20, ms1mx4.2/39, Error ellipse: s-maj=15.4km s-min=13.8km az=97.0*
MOS ***17*** *22:38:18.1±1.5, 31°.64S×177°.85W, h33km, mb5.4/19, Error ellipse: s-maj=12.4km s-min=9.3km az=81.8*
NEIC ***17*** *22:38:19.9±1.2, 31°.96S×177°.89W, h46km±10km, mb5.2/47, Error ellipse: s-maj=7.3km s-min=5.5km az=165.0*
ISC 17 22:38:15.5±0.5, 32°.02S±0°.04×177°.78W±0°.05, h16km±2km, h15km:pP-P, n626, σ1§33/646, mb5.2/72, MS4.3/23, 89C-67D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RAO	**Raoul Island**	**2.76**	**358**	*e*	P	n	Pn	22 38 55.0	-4.1
RAO					Sn		**Sn**	**22 39 27.8**	**-4.3**
RAO	**Raoul Island**	**2.76**	**358**		Pn		Pn	22 38 55.2	-3.8
	329nm,0.3s,baz=256,slow=23,SNR=16								
RAO					Sn		**Sn**	**22 39 27.8**	**-4.3**
	648nm,0.3s,baz=170,slow=23,SNR=5.6								
RAO					LR		LR	22 40 16.7	
	comp=Z,7μm,18.6s,baz=142,slow=48								
HAZ	**Te Kaha**	**6.79**	**211**	*e*	PN		**Pn**	**22 39 53.6**	**-0.8**
HAZ				*e*	SN		**Sn**	**22 41 06.8**	**-4.5**
PUZ	**Puketiti**	**6.86**	**207**	*e*	PN		Pn	22 39 52.6	-2.8
PUZ					SN		**Sn**	**22 41 09.6**	**-3.6**
CNGZ	**Carnagh Statio**	**7.24**	**206**	*e*	PN		Pn	22 39 58.0	-2.6
MWZ	**Matawai**	**7.38**	**210**		PN		**Pn**	**22 40 00.9**	**-1.7**
URZ	**Urewera**	**7.50**	**212**	*e*	Pn		**Pn**	**22 40 03.8**	**-0.4**
URZ				*e*	Sn		**Sn**	**22 41 28.3**	**-0.6**
URZ	**Urewera**	**7.50**	**212**		Pn		**Pn**	**22 40 04.6**	**+0.4**
	2.5nm,0.3s,baz=23,slow=7.1,SNR=12								
URZ					Sn		**Sn**	**22 41 30.3**	**+1.4**
	11nm,0.3s,baz=177,slow=20,SNR=8.1								
URZ	**Urewera**	**7.50**	**212**		PN		Pn	22 40 01.4	-2.8
URZ					SN		Sn	22 41 24.2	-4.8
SNGZ	**Shannon Statio**	**7.83**	**209**		PN		**Pn**	**22 40 08.1**	**-0.7**
OUZ	**Omahuta**	**7.87**	**244**	*e*	Pn		Pn	22 40 15.2	+6.0
KNZ	**Kokohu**	**7.91**	**207**		PN		Pn	22 40 03.7	-6.0
BKZ	**Black Stump Fm**	**8.52**	**212**	*e*	Pn		**Pn**	**22 40 19.3**	**+1.1**
BFZ	**Birch Farm**	**9.89**	**207**	*e*	PN		Pn	22 40 32.1	-5.0
BFZ					SN		Sn	22 42 20.6	-7.1
MRZ	**Mangatainoka R**	**10.15**	**210**	*e*	PN		Pn	22 40 35.8	-4.7
MRZ					SN		Sn	22 42 26.8	-7.2
KHZ	**Kahutara**	**12.46**	**211**	*e*	Pn		**Pn**	**22 41 10.5**	**-1.7**
KHZ				*e*	Sn		Sn	22 43 22.4	-8.3
RPZ	**Rata Peaks**	**14.62**	**214**		Pn		Pn	22 41 38.5	-3.1
RPZ					Sn		Sn	22 44 12.3	-11
RPZ	**Rata Peaks**	**14.62**	**214**		Pn		Pn	22 41 38.5	-3.1
	1.9nm,0.3s,baz=215,slow=0.1,SNR=9.7								
RPZ					Sn		Sn	22 44 12.3	-11
	1.3nm,0.3s,baz=311,slow=19,SNR=6.6								
MSVF	**Nonsavu**	**14.71**	**344**		Pn		**Pn**	**22 41 41.3**	**-1.8**
	586nm,1.0s,SNR=18								
MSVF	**Nonsavu**	**14.71**	**344**	*e*	P		**Pn**	**22 41 41.5**	**-1.6**
MSVF	**Nonsavu**	**14.71**	**344**	*e*	Pn		**Pn**	**22 41 41.5**	**-1.6**
ODZ	**Otahua Downs**	**15.83**	**211**	*e*	Pn		**Pn**	**22 41 55.9**	**-1.7**
	37nm,0.9s								
DZM	**Mont Dzumac**	**17.18**	**301**	*e*	P		**P**	**22 42 17.7**	**+1.2**
	215nm,1.2s								
DZM				*e*	LR		LR	22 46 08.6	
	3μm,21.7s								
DZM	**Mont Dzumac**	**17.18**	**301**	*e*	Pn		**Pn**	**22 42 15.4**	**+0.4**
	90nm,1.0s								
DZM	**Mont Dzumac**	**17.18**	**301**		P		**P**	**22 42 17.1**	**+0.6**
	1.0nm,0.3s,baz=108,slow=15,SNR=14								
DZM					LR		LR	22 47 58.0	
	comp=Z,4μm,18.2s,baz=186,slow=34								
DZM	**Mont Dzumac**	**17.18**	**301**	*e*	P		**P**	**22 42 18.1**	**+1.6**
WHZ	**Wether Hill Ro**	**17.71**	**214**	*e*	Pn		**P**	**22 42 22.9**	**+0.7**
	72nm,1.5s								
DCZ	**Deep Cove**	**17.81**	**217**	*e*	Pn		**Pn**	**22 42 22.6**	**+0.1**
	156nm,2.4s								
AFI	**Afiamalu**	**18.85**	**18**	*e*	P		P	22 42 29.4	-5.5
	181nm,1.1s								
AFI	**Afiamalu**	**18.85**	**18**		P		**P**	**22 42 31.5**	**-3.4**
	2.4nm,0.3s,baz=21,slow=6.7,SNR=11								
RAR	**Rarotonga**	**19.34**	**61**		P		**P**	**22 42 38.2**	**-2.0**
RAR	**Rarotonga**	**19.34**	**61**		P		**P**	**22 42 38.2**	**-2.0**
	2.1nm,0.3s,baz=123,slow=0.0,SNR=3.8								
RAR					LR		LR	22 49 17.1	
	comp=Z,389nm,19.2s,baz=225,slow=34								
ARMA	**Armidale**	**26.17**	**265**	*e*	P		**P**	**22 43 51.8**	**+2.4**
	39nm,1.3s								
ARMA	**Armidale**	**26.17**	**265**		P		**P**	**22 43 53.4**	**+4.0**
	baz=26,SNR=9.2								
MGCD	**Mangrove Creek**	**26.19**	**259**		P		**P**	**22 43 53.6**	**+4.3**
	baz=26,SNR=6.1								
TBI	**Tubuai**	**26.46**	**78**	*e*	LQ		LQ	22 48 56.1	
	1μm,24.5s								
TBI				*e*	LR		LR	22 50 28.7	
	678nm,25.5s								
TBI	**Tubuai**	**26.46**	**78**	*e*	T		T	23 11 03.9	
	13nm,0.4s								
CNB	**Canberra Magne**	**27.47**	**254**		P		**P**	**22 44 04.0**	**+2.9**
	baz=28,SNR=11								
EIDS	**Eidsvold**	**28.04**	**276**	*e*	P		**P**	**22 44 07.3**	**+1.2**
	35nm,1.1s								
EIDS	**Eidsvold**	**28.04**	**276**		P		**P**	**22 44 08.3**	**+2.2**
	baz=28,SNR=3.3								
YNG	**Young**	**28.33**	**256**		P		**P**	**22 44 11.6**	**+2.9**
	baz=28,SNR=7.1								
PAE	**Paea**	**29.20**	**67**	*e*	T		T	23 14 31.4	
	3.2nm,0.3s								
PPT2	**Papeete2**	**29.25**	**67**	*e*	LQ		LQ	22 50 07.7	
	633nm,24.2s								
PPT2				*e*	LR		LR	22 51 25.4	
	568nm,27.8s								
PPT	**Papeete**	**29.26**	**67**		LR		LR	22 54 04.4	
	comp=Z,282nm,18.4s,baz=224,slow=33								
TIAR	**Tiarei**	**29.45**	**68**	*e*	P		**P**	**22 44 18.4**	**-0.3**
	28nm,0.9s								
RMQ	**Roma**	**29.64**	**272**		P		P	22 44 23.7	+3.4
	baz=30,SNR=26								
HNR	**Honiara**	**30.51**	**313**		LR		LR	22 55 40.7	
	comp=Z,835nm,18.3s,baz=158,slow=34								
TOO	**Toolangi**	**30.53**	**249**		P		**P**	**22 44 31.1**	**+2.9**
	baz=31,SNR=4.7								
CMSA	**Cobar Meteorol**	**30.96**	**261**		P		**P**	**22 44 33.9**	**+1.9**
	baz=31,SNR=44								
PMOR	**Pomariorio Ree**	**32.06**	**65**	*e*	P		**P**	**22 44 41.6**	**-0.2**
	92nm,1.3s								
VAH	**Vaihoa**	**32.13**	**66**	*e*	T		T	23 18 10.8	
	7.9nm,0.2s								
QLP	**Quilpie**	**33.45**	**269**		P		**P**	**22 44 55.2**	**+1.4**
	baz=34,SNR=19								
ARPS	**Mount Arapiles**	**33.48**	**251**		P		**P**	**22 44 55.3**	**+1.3**
	baz=34,SNR=9.0								
CTA	**Charters Tower**	**34.27**	**281**		P		**P**	**22 45 02.1**	**+1.0**
CTA	**Charters Tower**	**34.27**	**281**		P		**P**	**22 45 02.1**	**+1.0**
	75nm,0.9s,baz=105,slow=11,SNR=89								
CTAO	**Charters Tower**	**34.27**	**281**	*e*	P		**P**	**22 45 02.0**	**+1.0**
CTAO					pmax		pmax		
	comp=Z,97nm,1.0s								
CTAO	**Charters Tower**	**34.27**	**281**	*e*	P		**P**	**22 45 02.0**	**+1.0**
	comp=Z,97nm,1.0s								
STKA	**Stephens Creek**	**34.33**	**259**		P		**P**	**22 45 02.2**	**+0.7**
STKA	**Stephens Creek**	**34.33**	**259**		P		**P**	**22 45 02.2**	**+0.7**
	comp=Z,17nm,0.8s,baz=97,slow=9.4,SNR=23								
STKA					LR		LR	22 58 52.1	
	comp=Z,1μm,18.8s,baz=80,slow=36								
STKA	**Stephens Creek**	**34.33**	**259**		P		**P**	**22 45 03.2**	**+1.8**
	baz=34,SNR=16								
HTT	**Hallett**	**36.26**	**256**		P		**P**	**22 45 19.5**	**+1.4**
	baz=36,SNR=10								
BBOO	**Buckleboo**	**38.74**	**256**	*e*	P		**P**	**22 45 38.9**	**-0.2**
	comp=Z,441nm,0.8s								
BBOO	**Buckleboo**	**38.74**	**256**		P		**P**	**22 45 38.9**	**-0.2**
	baz=39,SNR=13								
QIS	**Mount Isa**	**39.65**	**276**		P		**P**	**22 45 47.7**	**+1.0**
	baz=40,SNR=6.9								
COEN	**Coen**	**39.92**	**288**	*e*	P		**P**	**22 45 49.8**	**+0.8**
	comp=Z,179nm,0.9s								
COEN	**Coen**	**39.92**	**288**		P		**P**	**22 45 49.9**	**+0.9**
	baz=40,SNR=17								
AS31	**Alice Springs**	**43.23**	**269**	*e*	P		**P**	**22 46 15.6**	**-0.6**
WRAB	**Tennant Creek**	**44.36**	**274**		P		**P**	**22 46 24.2**	**-1.1**
	comp=Z,319nm,0.8s,SNR=16								
WRAB	**Tennant Creek**	**44.36**	**274**	*e*	P		**P**	**22 46 24.3**	**-1.1**
WRAB					pmax		pmax		
	comp=Z,37nm,0.7s								
WRAB	**Tennant Creek**	**44.36**	**274**	*e*	P		**P**	**22 46 24.2**	**-1.1**
	comp=Z,37nm,0.7s								
WRA	**Warramunga Arr**	**44.37**	**274**		P		**P**	**22 46 24.3**	**-1.1**
WRA					ScP		**ScP**	**22 52 03.1**	**+2.3**
WRA	**Warramunga Arr**	**44.37**	**274**		P		**P**	**22 46 24.3**	**-1.1**
	comp=Z,38nm,0.7s,baz=114,slow=7.7,SNR=89								
WRA					ScP		**ScP**	**22 52 03.1**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=113,slow=3.8,SNR=6.3								
WRA					LR		LR	23 04 38.7	
	comp=Z,1μm,18.5s,baz=105,slow=36								
FORT	**Forrest**	**45.83**	**257**	*e*	P		**P**	**22 46 36.5**	**-0.4**
	comp=Z,65nm,0.9s								
FORT	**Forrest**	**45.83**	**257**		P		**P**	**22 46 36.7**	**-0.2**
	baz=46,SNR=9.5								
VNDA	**Vanda**	**46.51**	**186**		LR		LR	23 04 45.4	
	comp=Z,354nm,18.4s,baz=20,slow=34								
WRKA	**Warakurna**	**47.48**	**264**		P		**P**	**22 46 48.2**	**-1.7**
	baz=48,SNR=25								
JAY	**Jayapura**	**48.82**	**298**		LR		LR	23 06 11.7	
	comp=Z,171nm,19.3s,baz=170,slow=34								
KDU	**Kakadu**	**49.40**	**281**		P		**P**	**22 47 04.0**	**-0.7**
	baz=49,SNR=7.1								
MTN	**Manton Dam**	**50.44**	**280**		P		**P**	**22 47 12.7**	**+0.1**
	baz=50,SNR=7.8								
KNRA	**Kununurra**	**51.03**	**276**		P		**P**	**22 47 17.6**	**+0.5**
	baz=51,SNR=4.0								
CASY	**Casey**	**53.80**	**208**	*e*	P		**P**	**22 47 38.7**	**+1.7**
	comp=Z,36nm,0.8s								
KLBR	**Kellerberrin**	**54.02**	**252**		P		**P**	**22 47 37.9**	**-1.2**
	baz=54,SNR=6.7								
MEEK	**Meekatharra**	**55.02**	**258**		P		**P**	**22 47 45.6**	**-0.9**
	baz=55,SNR=5.9								
MBWA	**Marble Bar**	**56.25**	**265**	*e*	P		**P**	**22 47 54.1**	**-1.2**
	comp=Z,22nm,0.8s								
SOEI	**Soe**	**57.78**	**279**	*e*	P		**P**	**22 48 07.7**	**+1.3**
	comp=Z,88nm,1.1s								
SOEI	**Soe**	**57.78**	**279**		P		**P**	**22 48 08.2**	**+1.8**
	baz=58,SNR=3.7								
QSPA	**South Pole Qui**	**58.10**	**180**	*e*	P		**P**	**22 48 10.0**	**+2.0**
	comp=Z,23nm,0.7s								
QSPA	**South Pole Qui**	**58.10**	**180**		P		**P**	**22 48 10.3**	**+2.4**
	comp=Z,22nm,1.0s,baz=35,slow=3.6,SNR=36								
LUWI	**Luwuk**	**63.81**	**286**	*e*	P		**P**	**22 48 48.0**	**+0.6**
	comp=Z,30nm,0.8s								
MAW	**Mawson**	**70.86**	**201**		P		**P**	**22 49 32.7**	**+1.6**
MAW	**Mawson**	**70.86**	**201**		P		**P**	**22 49 32.7**	**+1.6**
	comp=Z,26nm,1.0s,baz=112,slow=4.4,SNR=4.9								
MAW					LR		LR	23 20 48.2	
	comp=Z,417nm,18.4s,baz=114,slow=36								
SBUM	**Sibu**	**74.46**	**283**	*e*	P		**P**	**22 49 53.6**	**+0.2**
SYO	**Syowa Base**	**75.58**	**193**	↑	P		**P**	**22 49 59.2**	**+0.2**
SYO	**Syowa Base**	**75.58**	**193**	↑ *e*	PcP		**PcP**	**22 50 10.8**	**-1.1**
SNAA	**Sanae**	**76.54**	**178**		P		**P**	**22 50 05.3**	**+0.7**
SNAA	**Sanae**	**76.54**	**178**	*e*	P		**P**	**22 50 05.2**	**+0.7**
	comp=Z,24nm,1.0s								
VNA2	**Neumayer--Watz**	**77.12**	**177**		P		**P**	**22 50 08.3**	**+0.6**
VNA1	**Neumayer--Stat**	**77.35**	**176**		P		**P**	**22 50 09.7**	**+0.7**
H03N3	**Juan Fernandez**	**79.62**	**123**		T		T	00 19 31.0	
	baz=241								
H03N2	**Juan Fernandez**	**79.62**	**123**		T		T	00 19 36.4	
	baz=241								
H03N1	**Juan Fernandez**	**79.64**	**123**		T		T	00 19 35.6	
	baz=241								
MJAR	**Matsushiro Arr**	**79.68**	**325**		P		**P**	**22 50 20.8**	**-1.4**
MJAR	**Matsushiro Arr**	**79.68**	**325**		P		**P**	**22 50 20.8**	**-1.4**
	comp=Z,6.9nm,1.1s,baz=166,slow=6.2,SNR=7.3								
MJAR					LR		LR	23 20 54.1	
	comp=Z,88nm,21.7s,baz=150,slow=32								
MAJO	**Matsushiro**	**79.68**	**325**		P		**P**	**22 50 20.8**	**-1.4**
MAT	**Matsushiro**	**79.68**	**325**		P		**P**	**22 50 21.0**	**-1.2**
MAT					S		**S**	**23 00 22.0**	**-2.0**
JNU	**Nakatsue**	**80.89**	**318**	*e*	P		**P**	**22 50 28.2**	**-0.7**
JNU	**Nakatsue**	**80.89**	**318**		P		**P**	**22 50 28.0**	**-0.9**
	comp=Z,11nm,0.9s,baz=56,slow=8.1,SNR=5.5								
PLCA	**Paso Flores**	**81.27**	**133**	*e*	P		**P**	**22 50 32.0**	**+0.9**
	comp=Z,30nm,1.1s								
PLCA	**Paso Flores**	**81.27**	**133**		P		**P**	**22 50 31.9**	**+0.9**
	comp=Z,18nm,1.0s,baz=225,slow=5.4,SNR=17								
PLCA					LR		LR	23 20 46.7	
	comp=Z,199nm,18.3s,baz=264,slow=31								
ASAJ	**Asahikawa**	**83.96**	**332**		P		**P**	**22 50 44.6**	**+0.1**
ASAJ	**Asahikawa**	**83.96**	**332**		P		**P**	**22 50 44.6**	**+0.1**
	comp=Z,31nm,1.1s,baz=236,slow=8.8,SNR=6.1								
LPIG	**La Paz**	**85.23**	**58**		LR		LR	23 21 24.5	
	comp=Z,262nm,18.9s,baz=205,slow=30								
KSRS	**Korea Array**	**85.70**	**320**		P		**P**	**22 50 53.9**	**+0.4**
	comp=Z,7.6nm,0.9s,baz=144,slow=5.3,SNR=18								
KSRS					LR		LR	23 25 38.3	
	comp=Z,90nm,19.7s,baz=112,slow=33								
KSAR	**Wonju Array Be**	**85.71**	**320**		P		**P**	**22 50 53.9**	**+0.3**
CIS	**Catalina Islan**	**85.83**	**46**		P		**P**	**22 50 54.3**	**+0.1**
	baz=86								
QIZ	**Qiongzhong**	**85.85**	**295**		P		**P**	**22 50 56.1**	**+1.4**
QIZ					S		**S**	**23 01 31.6**	**+4.0**
QIZ					pmax		pmax		
	comp=Z,170nm,6.5s								
GSI	**Gunungsitoli**	**86.14**	**274**	*e*	P		**P**	**22 50 56.0**	**-0.3**
	comp=Z,12nm,0.8s								
SMMC	**Simmler**	**86.17**	**44**	⇑	P		**P**	**22 50 57.5**	**+1.6**
	baz=86								
YSS	**Yuzh-Sakhalins**	**86.28**	**334**	⇑ *e*	P		**P**	**22 50 56.5**	**+0.4**
YSS					pmax		pmax		
	comp=Z,30nm,1.0s								
YSS	**Yuzh-Sakhalins**	**86.28**	**334**	*e*	P		**P**	**22 50 57.2**	**+1.1**
	comp=Z,28nm,0.8s								
OSI	**Osito Adit**	**86.45**	**45**	*e*	P		**P**	**22 50 58.5**	**+1.1**
	comp=Z,14nm,0.7s								
OSI	**Osito Adit**	**86.45**	**45**	⇑	P		**P**	**22 50 58.4**	**+1.1**
	baz=87								
MWC	**Mount Wilson**	**86.59**	**46**	*e*	P		**P**	**22 50 59.0**	**+0.8**
MWC					pmax		pmax		
	comp=Z,17nm,1.0s								
MWC	**Mount Wilson**	**86.59**	**46**	*e*	P		**P**	**22 50 59.0**	**+0.8**
	comp=Z,17nm,1.0s								
MURC	**Murrieta**	**86.70**	**47**	⇓	P		**P**	**22 50 59.8**	**+1.2**
	baz=87,SNR=8.3								
MONP	**Monument Peak**	**86.71**	**48**	⇑	P		**P**	**22 50 59.6**	**+0.7**
	baz=87,SNR=14								
ARVC	**Arvin**	**86.74**	**45**	⇑	P		**P**	**22 50 59.6**	**+0.9**
	baz=87								
BFSC	**Mount Baldy Ra**	**86.84**	**46**	⇑	P		**P**	**22 51 00.5**	**+1.0**
	baz=87,SNR=13								
EDW2	**Edwards Air Fo**	**87.08**	**45**	⇑	P		**P**	**22 51 01.1**	**+0.7**
	baz=87,SNR=10								
VES	**Vestal, Richgr**	**87.08**	**44**	⇓	P		**P**	**22 51 00.5**	**+0.2**
	baz=87,SNR=9.4								
SWSC	**Sam W. Stewart**	**87.14**	**48**		P		**P**	**22 51 01.0**	**+0.3**
	baz=87								
PFO	**Pinyon Flat Ob**	**87.17**	**47**		P		**P**	**22 51 01.9**	**+0.9**
	comp=Z,67nm,1.0s,SNR=5.6								
PFO	**Pinyon Flat Ob**	**87.17**	**47**	*e*	P		**P**	**22 51 02.0**	**+1.0**
PFO	**Pinyon Flat Ob**	**87.17**	**47**	⇓	P		**P**	**22 51 01.4**	**+0.4**
	baz=87								
PETK	**Petropavlovsk-**	**87.42**	**345**		P		**P**	**22 51 01.3**	**-0.3**
PETK	**Petropavlovsk-**	**87.42**	**345**		P		**P**	**22 51 01.3**	**-0.3**
PETK	**Petropavlovsk-**	**87.42**	**345**		P		**P**	**22 51 01.3**	**-0.3**
	comp=Z,24nm,0.8s,baz=140,slow=7.0,SNR=23								
NJ2	**Nanjing**	**87.44**	**311**	*e*	P		**P**	**22 51 04.4**	**+2.2**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.7s								
LRMC	**Laurel Mountai**	**87.66**	**45**	⇑	P		**P**	**22 51 04.0**	**+0.6**
	baz=88								
BELC	**Belle Mtn. Jos**	**87.71**	**47**	⇓	P		**P**	**22 51 04.7**	**+1.1**
	baz=88,SNR=17								
BC3	**Big Chuckawall**	**87.82**	**48**	⇓	P		**P**	**22 51 05.2**	**+1.0**
	baz=88,SNR=18								
GLA	**Glamis**	**87.82**	**48**	*e*	P		**P**

MOD Modoc 90.58 39 *e*P P 22 51 17.1 +0.1
comp=Z,6.8nm,1.0s
R11A Troy Canyon, C 90.83 44 *e*P P 22 51 18.7 +0.5
R11A Troy Canyon, C 90.83 44 ⇑P P 22 51 19.0 +0.7
baz=91
X16A Lo Mia Camp, P 90.86 49 ⇑P P 22 51 19.6 +1.1
baz=91,SNR=48
320A Kipp Ranch, An 90.89 53 ⇓P P 22 51 19.6 +1.0
baz=91,SNR=10.0
J05D Fort Rock, OR 91.06 38 ⇑P P 22 51 19.8 +0.6
baz=91
TIA Tai'an 91.21 313 ⇓P P 22 51 20.5 +0.7
TIA pmax pmax
comp=Z,20nm,1.3s
BMN Battle Mountai 91.27 42 *e*P P 22 51 18.4 -1.8
BMN pmax pmax
comp=Z,12nm,1.0s
BMN Battle Mountai 91.27 42 *e*P P 22 51 18.4 -1.8
comp=Z,12nm,1.0s
CN2 Changchun 91.54 323 *e*P P 22 51 21.1 0.0
CN2 *es*P **sP** 22 51 26.6 -1.7
CN2 *e*S **S** 23 02 18.9 -1.3
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
U15A North Rim 91.59 47 ⇑P P 22 51 23.1 +1.1
baz=92,SNR=32
WUAZ Wupatki 91.59 48 *e*P P 22 51 22.8 +1.0
comp=Z,19nm,0.9s
WUAZ Wupatki 91.59 48 ⇑P P 22 51 22.6 +0.8
baz=92,SNR=18
CCUT Cedar City 91.64 46 *e*P P 22 51 23.6 +1.5
comp=Z,11nm,0.9s
ARUT Antelope Range 91.75 46 *e*P P 22 51 23.2 +0.7
ARUT pmax pmax
comp=Z,125nm,0.9s
ARUT Antelope Range 91.75 46 *e*P P 22 51 23.2 +0.7
comp=Z,125nm,0.9s
I05D Terrebonne, OR 91.75 37 P P 22 51 22.8 +0.6
baz=92
221A Mesquite Ranch 91.81 53 ⇓P P 22 51 24.2 +1.3
baz=92
WVOR Wild Horse Val 91.84 39 *e*P P 22 51 23.3 +0.5
WVOR pmax pmax
comp=Z,8.0nm,0.9s
WVOR Wild Horse Val 91.84 39 *e*P P 22 51 23.3 +0.5
comp=Z,7.7nm,0.9s
X18A Snowflake 91.89 50 ⇓P P 22 51 24.1 +0.8
baz=92,SNR=9.9
121A Cookes Peak, D 92.12 53 ⇓P P 22 51 25.4 +1.1
baz=92
W18A Petrified Fore 92.40 50 ⇓P P 22 51 26.7 +1.1
baz=93
GYA Guiyang 92.52 300 P P 22 51 28.0 +1.7
GYA PP **PP** 22 55 11.8 +3.8
GYA SKS **SKSac** 23 02 01.3 +1.8
GYA S **S** 23 02 30.6 +0.5
GYA SS **SS** 23 08 45.6 +3.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,680nm,20.4s
GYA LR LR
comp=Z,520nm,21.8s
GYA LR LR
comp=Z,610nm,20.6s
I07A Izee 92.52 38 *e*P P 22 51 26.8 +1.0
comp=Z,178nm,2.8s
J08A Circle Bar Ran 92.56 39 *e*P P 22 51 26.5 +0.5
ELK Elko 92.61 42 *e*P P 22 51 26.9 +0.4
ENH Enshi 92.67 304 *e*P P 22 51 26.8 0.0
626A Big Bend Ranch 92.90 57 ⇓P P 22 51 28.7 +0.8
baz=93,SNR=9.9
LVC Limon Verde 92.99 119 *e*P P 22 51 30.6 +1.7
425A Indio Mountain 93.01 55 ⇓P P 22 51 29.0 +0.6
baz=93,SNR=5.6
Z22A Elephant Butte 93.10 52 ⇓P P 22 51 29.8 +1.0
baz=93,SNR=6.1
TXAR Lajitas Array 93.10 57 P P 22 51 29.4 +0.6
TXAR Lajitas Array 93.10 57 P P 22 51 29.4 +0.6
comp=Z,4.0nm,1.0s,baz=203,slow=6.1,SNR=25
TXAR LR LR 23 26 03.0
comp=Z,146nm,19.9s,baz=0.0,slow=31
526A Mary Lane Ranc 93.22 56 ⇓P P 22 51 30.3 +0.8
baz=94,SNR=10.0
MNTX Cornudas Mount 93.26 54 *e*P P 22 51 29.4 -0.1
comp=Z,2.8nm,0.8s
627A Terlingua Ranc 93.37 57 ⇑P P 22 51 30.5 +0.4
baz=94,SNR=16
527A Woodward Ranch 93.61 57 ⇓P P 22 51 31.5 +0.2
baz=94,SNR=11
426A McDonald Obser 93.61 56 ⇓P P 22 51 31.4 0.0
baz=94,SNR=10
G08A Pilot Rock 93.63 37 *e*P P 22 51 31.4 +0.4
comp=Z,12nm,1.1s
LAZ Ladron 93.67 51 *e*P P 22 51 32.0 +0.5
comp=Z,2.6nm,1.0s
628A Black Gap, Mar 93.75 58 ⇑P P 22 51 32.2 +0.4
baz=94,SNR=8.4
225A Deer Hill, Car 93.89 54 ⇑P P 22 51 33.3 +0.7
baz=94
MFID Camas Ranch 94.03 40 *e*P P 22 51 33.1 +0.3
comp=Z,9.0nm,0.8s
TMUT Trail Mountain 94.06 46 *e*P P 22 51 34.8 +1.4
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 94.11 289 P P 22 51 34.4 +0.7
CMAR PP **PP** 22 55 21.5 +1.1
CMAR Chiang Mai Arr 94.11 289 P P 22 51 34.4 +0.7
comp=Z,1.8nm,0.9s,baz=141,slow=3.3,SNR=8.1
CMAR PP **PP** 22 55 21.5 +1.1
comp=Z,2.9nm,1.0s,baz=138,slow=6.1,SNR=8.1
Y23A Lovelace Mesa, 94.11 52 ⇓P P 22 51 33.5 0.0
baz=94
ATAH Atahualpa 94.15 101 LR LR 23 24 10.1
comp=Z,53nm,20.0s,baz=246,slow=29
427A Hayter Ranch, 94.16 56 ⇑P P 22 51 33.9 +0.2
baz=94,SNR=15
528A Cox Ranch, San 94.20 57 ⇓P P 22 51 34.0 +0.1
baz=94,SNR=8.9
BJI Beijing 94.20 315 P P 22 51 35.8 +2.3
BJI S **S** 23 02 49.3 +5.3
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI pmax pmax
comp=Z,190nm,4.8s
BJI LR LR
comp=Z,100nm,26.1s
BJI LR LR
comp=Z,190nm,25.7s
BJI LR LR
comp=Z,85nm,28.5s
Z24A Sheeppen Canyo 94.23 53 ⇓P P 22 51 34.5 +0.4
baz=94
GDL2 Guadalupe Moun 94.26 55 *e*P P 22 51 35.0 +0.8
125A Gardner Draw, 94.32 54 ⇑P P 22 51 35.3 +0.8
baz=95
226B Tecolote Peak, 94.33 55 ⇓P P 22 51 34.6 +0.2
baz=95
SRU San Rafael 94.36 46 *e*P P 22 51 35.5 +0.9
SRU pmax pmax
comp=Z,12nm,0.9s
SRU San Rafael 94.36 46 *e*P P 22 51 35.5 +0.9
comp=Z,12nm,0.9s
ANMO Albuquerque 94.44 51 *e*P P 22 51 34.1 -1.0
comp=Z,8.0nm,1.2s
ANMO Albuquerque 94.44 51 LR LR 23 26 31.5
comp=Z,129nm,21.8s,baz=291,slow=31
MVCO Mesa Verde 94.46 49 ⇓P P 22 51 35.6 +0.4
baz=95
Y24A Capitan 94.53 53 ⇓P P 22 51 36.0 +0.6
baz=95,SNR=7.6
529A Stev Forest Ra 94.59 57 ⇑P P 22 51 35.7 0.0
baz=95
428A Kincaid Ranch, 94.59 57 ⇑P P 22 51 36.4 +0.7
baz=95
Z25A Roswell 94.64 54 ⇓P P 22 51 36.6 +0.7
baz=95
HVU Hansel Valley 94.69 43 *e*P P 22 51 36.4 +0.4
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 94.69 43 *e*P P 22 51 36.4 +0.4
comp=Z,11nm,0.9s
V22A San Miguel Ran 94.71 50 ⇓P P 22 51 37.1 +0.8
baz=95

KMI Kunming 94.71 297 P P 22 51 38.4 +1.8
KMI S **S** 23 02 50.8 +1.1
KMI sS **sS** 23 02 55.6 -2.8
KMI SS **SS** 23 09 14.6 +0.5
KMI pmax pmax
comp=Z,5.0nm,1.2s
KMI LR LR
comp=Z,110nm,12.9s
KMI LR LR
comp=Z,100nm,11.7s
KMI LR LR
comp=Z,120nm,21.0s
HLID Hailey 94.91 41 *e*P P 22 51 37.5 +0.6
HLID Hailey 94.91 41 ⇑P P 22 51 37.3 +0.4
baz=95
PV04 Paradox Valley 94.92 47 *e*P P 22 51 37.9 +0.8
PV01 Paradox Valley 94.97 48 *e*P P 22 51 37.4 -0.1
comp=Z,403nm,1.0s
F10A Beach Ranch, E 94.98 38 *e*P P 22 51 36.6 -0.6
comp=Z,161nm,2.8s
Y25A Mesa, Roswell 95.03 53 ⇑P P 22 51 37.9 +0.2
baz=95
429A Davenport Ranc 95.10 57 ⇑P P 22 51 38.0 0.0
baz=95,SNR=13
Z26A Caprock 95.14 54 ⇑P P 22 51 37.8 -0.4
baz=95,SNR=5.2
127A Arkansas Junct 95.23 55 ⇑P P 22 51 38.5 -0.1
baz=96
530A J-C Ranch, Com 95.23 58 ⇑P P 22 51 38.5 0.0
baz=96
W24A Lazy 6 Ranch, 95.29 52 ⇓P P 22 51 39.5 +0.6
baz=96
034A Hebbronville 95.48 62 ⇓P P 22 51 40.6 +0.9
baz=96
329A Wagon Wheel Ra 95.52 56 P P 22 51 39.6 -0.4
baz=96
Y26A Elida 95.62 53 P P 22 51 40.4 0.0
baz=96
833A Chaparral WMA, 95.64 60 ⇑P P 22 51 41.1 +0.7
baz=96
128A Castleberry Fa 95.80 55 ⇑P P 22 51 41.7 +0.5
baz=96
531A Rocksprings 95.81 58 ⇑P P 22 51 41.7 +0.4
baz=96,SNR=7.2
S22A 4UR Ranch, Cre 95.85 49 ⇓P P 22 51 42.1 +0.6
baz=96
W25A X Bar L Ranch, 95.93 52 ⇓P P 22 51 42.1 +0.4
baz=96
V25A Rancho No Teng 96.18 51 ⇑P P 22 51 43.4 +0.5
baz=96
Z28A Tucker Farm, M 96.25 55 ⇑P P 22 51 43.2 0.0
baz=96
532A Rocksprings 96.25 58 ⇓P P 22 51 43.3 0.0
baz=96
MSTX Muleshoe 96.36 54 ⇓P P 22 51 43.5 -0.2
baz=97
MCMT McKenzie Canyo 96.58 40 *e*P P 22 51 44.3 -0.3
U25A Circle Dot Ran 96.64 51 ⇑P P 22 51 45.1 +0.1
baz=97
Z29A Hungry Hill Ra 96.70 55 ⇑P P 22 51 44.9 -0.4
baz=97
N20A Spence Gulch, 96.78 46 ⇑P P 22 51 46.4 +0.7
baz=97
REDW Red Top Meadow 96.79 43 *e*P P 22 51 46.3 +0.7
comp=Z,4.7nm,0.9s
S24A Houchin Ranch, 96.83 50 ⇑P P 22 51 46.8 +0.8
baz=97
231A Bronte 96.95 57 ⇓P P 22 51 46.8 +0.4
baz=97
332A Millersview 97.06 57 ⇓P Pdif 22 51 47.4 +0.5
baz=97
Y29A Porterfield Fa 97.06 54 ⇑P Pdif 22 51 47.4 +0.4
baz=97
U26A Atchley Ranch, 97.08 51 ⇓P Pdif 22 51 47.8 +0.6
baz=97
CD2 Chengdu 97.10 302 *e*P Pdif 22 51 48.3 +1.1
CD2 sP sP 22 51 57.3 +3.1
CD2 PP **PP** 22 55 43.8 +0.2
CD2 SKS **SKSac** 23 02 23.5 -0.3
CD2 S **S** 23 03 09.9 +0.1
CD2 SS **SS** 23 09 49.3 +1.8
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,200nm,4.2s
CD2 LR LR
comp=Z,160nm,14.3s
CD2 LR LR
comp=Z,230nm,16.7s
Z30A Sanderson Ranc 97.12 55 ⇑P P 22 51 46.7 -0.4
baz=97
PDAR Pinedale Array 97.17 44 P P 22 51 47.0 -0.4
PDAR Pinedale Array 97.17 44 P P 22 51 46.9 -0.4
comp=Z,2.8nm,0.9s,baz=200,slow=3.7,SNR=14
PDAR LR LR 23 29 33.3
comp=Z,153nm,19.7s,baz=304,slow=32
534A Blanco 97.24 59 ⇑P Pdif 22 51 47.7 -0.1
baz=98
LPAZ La Paz 97.31 114 P Pdif 22 51 50.8 +1.5
LPAZ La Paz 97.31 114 P Pdif 22 51 50.8 +1.5
comp=Z,1.2nm,0.8s,baz=171,slow=4.8,SNR=5.6
LPAZ LR LR 23 29 11.0
comp=Z,48nm,18.6s,baz=266,slow=31
O22A Kremmling 97.44 47 ⇓P Pdif 22 51 49.5 +0.7
baz=98
HHC Hu-ho-hao-te 97.49 314 *e*P **P** 22 51 48.3 -0.4
HHC PP PP 22 55 53.3 +6.9
HHC SKS **SKSac** 23 02 26.1 +0.7
HHC S **S** 23 03 09.3 -3.4
HHC SS **SS** 23 09 51.8 -0.9
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.0s
HHC LR LR
comp=Z,200nm,17.8s
HHC LR LR
comp=Z,310nm,13.9s
HHC LR LR
comp=Z,170nm,14.4s
SEY Seymchan 97.59 347 *i*P **P** 22 51 48.0 -0.4
SEY Seymchan 97.59 347 P **P** 22 51 47.7 -0.7
SEY Seymchan 97.59 347 P **P** 22 51 47.7 -0.7
comp=Z,1.9nm,0.4s,baz=37,slow=23,SNR=15
U27A Thompson Grove 97.70 52 ⇓P Pdif 22 51 50.7 +0.8
baz=98
J19A Crowheart 97.77 43 ⇑P Pdif 22 51 50.8 +0.8
baz=98
Z31A Sharp Cattle R 97.83 56 ⇓P Pdif 22 51 51.0 +0.7
baz=98
334A Lometa 98.11 58 ⇑P Pdif 22 51 52.8 +1.2
baz=98
Q25A Bedland, Calha 98.18 49 ⇓P Pdif 22 51 52.8 +0.8
baz=98
I19A Meeteetse 98.27 43 ⇑P Pdif 22 51 53.3 +1.1
baz=98
H18A Shoshone NF, C 98.27 42 ⇓P Pdif 22 51 52.8 +0.5
baz=98
R26A Arlington 98.35 50 ⇓P Pdif 22 51 53.3 +0.6
baz=99
J20A Shoshoni 98.39 44 ⇓P Pdif 22 51 54.0 +1.2
baz=99
K21A Alcova 98.46 45 ⇑P Pdif 22 51 54.0 +0.9
baz=99
L22A Ellis Ranch, M 98.60 46 ⇓P Pdif 22 51 55.4 +1.6
baz=99
I20A Worland 98.72 43 ⇑P Pdif 22 51 55.4 +1.3
baz=99
J21A Lysite 98.76 44 ⇓P Pdif 22 51 55.7 +1.2
baz=99
CPUP Villa Florida 98.83 128 LR LR 23 34 37.6
comp=Z,80nm,18.1s,baz=196,slow=34
I21A Big Trails, Te 99.13 44 ⇓P **Pdif** 22 51 56.8 +0.8
baz=99
J22A Midwest 99.37 44 ⇓P **Pdif** 22 51 58.2 +1.1
baz=100
ILAR Eielson Array 99.46 13 P **Pdif** 22 51 55.4 -1.3
ILAR Eielson Array 99.46 13 P **Pdif** 22 51 55.4 -1.3
comp=Z,0.5nm,0.8s,baz=216,slow=4.3,SNR=5.0
LZH Lanzhou 99.83 306 *e*P **Pdif** 22 51 59.8 +0.5
LZH pP **pP** 22 52 03.0 -1.6
LZH sP **sP** 22 52 05.3 -1.2
LZH pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 104.46 318 Pdif **Pdif** 22 52 19.3 -0.3
SONM PKiKP **PKiKP** 22 56 33.1 -2.6
SONM Songino Array 104.46 318 Pdiff **Pdif** 22 52 19.3 -0.3
comp=Z,0.6nm,0.8s,baz=132,slow=5.6,SNR=3.4
SONM PKiKP **PKiKP** 22 56 33.1 -2.6
comp=Z,1.0nm,1.1s,baz=116,slow=5.1,SNR=4.1
INK Inuvik 105.29 16 PKiKP **PKiKP** 22 56 35.7 -0.7
INK Inuvik 105.29 16 PKiKP **PKiKP** 22 56 35.7 -0.7
comp=Z,1.4nm,0.9s,baz=218,slow=3.6,SNR=3.6
YKA Yellowknife Ar 106.82 26 PKiKP **PKiKP** 22 56 39.4 0.0
YKA PKKPbc **PKKPbc** 23 07 58.8 -0.7
YKA PKKPab **PKKPdf** 23 08 12.0 -0.6
YKA Yellowknife Ar 106.82 26 PKiKP **PKiKP** 22 56 39.4 0.0
comp=Z,0.7nm,0.9s,baz=247,slow=1.5,SNR=6.9
YKA PKKPbc **PKKPbc** 23 07 58.8 -0.7
YKA comp=Z,0.9nm,0.9s,baz=40,slow=3.3,SNR=12
PKKPab **PKKPdf** 23 08 12.0 -0.6
comp=Z,0.9nm,0.9s,baz=48,slow=3.6,SNR=8.1
ULM Lac du Bonnet 109.13 42 PKKPab PKKPab 23 08 02.4 +1.4
ULM Lac du Bonnet 109.13 42 PKKPab PKKPab 23 08 02.4 +1.4
comp=Z,3.2nm,0.7s,baz=76,slow=4.9,SNR=5.6
WMQ Urumqi 114.37 308 PKP PKPdf 22 56 54.9 +0.5
WMQ sPKP 22 56 59.9
WMQ PP **PP** 22 57 55.8 +4.9
WMQ PKS **PKSdf** 23 00 30.3 -0.7
WMQ SKS **SKSdf** 23 04 05.9 +0.1
WMQ SKKS **SKKSac** 23 04 48.8 -2.7
WMQ SS **SS** 23 13 45.3 +2.5
WMQ AMB AMB
comp=Z,21nm,9.2s
WMQ LR LR
comp=Z,99nm,22.6s
WMQ LR LR
comp=Z,41nm,20.8s
BOSA Boshof 115.84 202 PKP **PKPdf** 22 56 58.0 0.0
BOSA Boshof 115.84 202 PKP **PKPdf** 22 56 58.0 0.0
comp=Z,1.8nm,1.0s,baz=174,slow=1.6,SNR=3.8
RES Resolute Bay 118.73 18 PKP **PKPdf** 22 57 00.6 -1.1
RES Resolute Bay 118.73 18 PKP **PKPdf** 22 57 00.6 -1.1
comp=Z,4.0nm,0.9s,baz=317,slow=3.3,SNR=15
MK31 Makanchi Array 118.95 309 *e*PKiKP **PKPdf** 22 57 01.3 -1.8
MK31 Makanchi Array 118.95 309 *e*PKPdf **PKPdf** 22 57 01.3 -1.8
MKAR Makanchi Array 118.95 309 PKP **PKPdf** 22 57 02.0 -1.0
MKAR Makanchi Array 118.95 309 PKP **PKPdf** 22 57 02.0 -1.0
MKAR PKKPbc **PKKPab** 23 07 20.6 +2.4
MKAR Makanchi Array 118.95 309 PKP **PKPdf** 22 57 02.0 -1.0
comp=Z,2.9nm,0.8s,baz=70,slow=2.6,SNR=17
MKAR PKKPbc **PKKPab** 23 07 20.6 +2.4
comp=Z,1.1nm,0.8s,baz=322,slow=1.4,SNR=5.7
ZAA0 Zalesovo Array 119.36 318 *e*PKPdf **PKPdf** 22 57 03.2 -0.3
ZALV Zalesovo Beam 119.36 318 PKiKP **PKPdf** 22 57 02.6 -0.9
ZALV Zalesovo Beam 119.36 318 PKP **PKPdf** 22 57 02.6 -0.9
ZALV Zalesovo Beam 119.36 318 PKP **PKPdf** 22 57 02.6 -0.9
comp=Z,2.3nm,0.8s,baz=164,slow=1.1,SNR=8.5
NVS Novosibirsk 120.47 318 *e*PKiKP **PKPdf** 22 57 05.2 -0.4
KSH Kashi 121.21 300 *e*PKP **PKPdf** 22 57 08.6 +0.8
KSH *e*PP **PP** 22 58 43.3 +4.6
KSH *e*SKS **SKSdf** 23 04 15.8 -3.5
KSH *e*SKKS **SKKSac** 23 05 31.0 -6.3
KSH *e*SS **SS** 23 15 11.1 -1.0
KSH AMB AMB
comp=Z,67nm,3.6s
KSH LR LR
comp=Z,180nm,9.5s
KSH LR LR
comp=Z,110nm,5.9s
KSH LR LR
comp=Z,110nm,7.8s
KURK Kurchatov 122.29 313 *e*PKiKP **PKPdf** 22 57 07.9 -1.4
KURK Kurchatov 122.29 313 *e*PKPdf **PKPdf** 22 57 07.9 -1.4
KURK PKP **PKiKP** 22 57 08.4 -1.0
KURBB Kurchatov Arra 122.33 313 PKP **PKPdf** 22 57 08.4 -0.9
comp=Z,5.4nm,0.7s,baz=105,slow=1.9,SNR=49
TKM2 Tokmak 2 122.45 303 *e*PKiKP **PKPdf** 22 57 09.0 -1.2
TKM2 Tokmak 2 122.45 303 *e*PKPdf **PKPdf** 22 57 09.0 -1.2
AAK Ala-Archa 123.16 303 *e*PKiKP **PKPdf** 22 57 10.5 -1.0
AAK Ala-Archa 123.16 303 *e*PKPdf **PKPdf** 22 57 10.5 -1.0
AAK PKP **PKPdf** 22 57 11.3 -0.2
AAK Ala-Archa 123.16 303 PKP **PKPdf** 22 57 11.3 -0.2
comp=Z,2.4nm,0.6s,baz=224,slow=2.8,SNR=8.5
EKS2 Erkin-Say 123.67 303 *e*PKiKP **PKPdf** 22 57 11.5 -0.9
EKS2 Erkin-Say 123.67 303 *e*PKPdf **PKPdf** 22 57 11.5 -0.9
KBL Kabul 125.01 292 *e*PKiKP **PKPdf** 22 57 14.6 -0.8
KBL Kabul 125.01 292 *e*PKPdf **PKPdf** 22 57 14.6 -0.8
KKAR Karatay Array 126.11 303 *e*PKiKP **PKPdf** 22 57 15.7 -1.2
KKAR Karatay Array 126.11 303 *e*PKPdf **PKPdf** 22 57 15.7 -1.2
FRB Frobisher Bay 126.66 32 PKP **PKPdf** 22 57 16.7 -0.5
FRB Frobisher Bay 126.66 32 PKP **PKPdf** 22 57 16.7 -0.5
comp=Z,7.2nm,0.9s,baz=293,slow=1.0,SNR=6.8
SCHQ Schefferville 127.31 43 PKP **PKPdf** 22 57 18.5 -0.3
SCHQ Schefferville 127.31 43 PKP **PKPdf** 22 57 18.5 -0.3
comp=Z,14nm,1.0s,baz=325,slow=3.8,SNR=5.8
BVAR Borovoye Array 127.69 315 PKiKP **PKPdf** 22 57 19.5 0.0
BVAR Borovoye Array 127.69 315 PKP **PKPdf** 22 57 19.5 0.0
BVAR Borovoye Array 127.69 315 PKP **PKPdf** 22 57 19.5 0.0
comp=Z,6.4nm,0.7s,baz=141,slow=1.3,SNR=27
BRVK Borovoye 127.75 315 *e*PKiKP **PKPdf** 22 57 18.7 -1.0
BRVK Borovoye 127.75 315 *e*PKPdf **PKPdf** 22 57 18.7 -1.0
KMBO Kilima Mbogo 133.25 232 PKP **PKPdf** 22 57 34.0 +2.3
KMBO Kilima Mbogo 133.25 232 PKP **PKPdf** 22 57 34.0 +2.3
comp=Z,2.1nm,1.0s,baz=49,slow=23,SNR=5.8
ABKAR Akbulak array 134.09 310 *e*PKPdf **PKPdf** 22 57 32.2 +0.5
SUMG Summit 134.21 16 *i* PKiKP **PKPdf** 22 57 32.8 +0.9
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 134.21 16 *i* P **PKPdf** 22 57 32.8 +0.9
comp=Z,5.0nm,1.0s
ARU Arti 134.45 320 *i* PKiKP **PKPdf** 22 57 30.8 -1.4
ARU 23 00 03.4
ARU Arti 134.45 320 *e*PKPdf **PKPdf** 22 57 29.7 -2.5
PRGR Permogore 139.31 330 *e*PKiKP **PKPdf** 22 57 38.1 -3.0
PRGR pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 140.21 347 PKPpre PKPpre 22 57 37.5
ARCES PKP **PKiKP** 22 57 44.0 -1.1
ARCES ARCESS Array B 140.21 347 PKhKP PKPpre 22 57 37.5
comp=Z,4.7nm,0.8s,baz=83,slow=3.8,SNR=6.7
ARCES PKP **PKiKP** 22 57 44.0 -1.1
comp=Z,6.3nm,0.8s,baz=25,slow=3.2,SNR=5.9
JOF Joensuu 143.99 338 *e*PKiKP PKPbc 22 57 47.5 +0.2
JOF Joensuu 143.99 338 *e*p PKPbc 22 57 47.5 +0.2
DGRG David-gareji 144.47 298 P **PKPdf** 22 57 51.0 0.0
TBLG Delisi 144.94 298 P PKPbc 22 57 51.1 0.0
GNI Garni 144.96 296 *e*PKPdf **PKPdf** 22 57 51.7 -0.3
VRHR Novokhopersk 145.43 315 *e*PKP2 **PKPbc** 22 57 50.8 -1.5
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,40nm,0.9s
ZEI Tsey 145.50 300 *i* PKiKP **PKPab** 22 57 55.9 +2.6
ZEI pmax pmax
comp=Z,102nm,1.2s
CLDR Caldiran 145.59 294 *e*P **PKPdf** 22 57 53.0 -0.3
NCK Nalchik 145.67 301 *e*PKiKP **PKPbc** 22 57 53.3 0.0
CUKT Cukurca 145.75 290 *e*P **PKPbc** 22 57 53.8 -0.2
MOS Moscow 145.76 324 *e*PKiKP **PKPdf** 22 57 52.2 -0.5
MOS *e* 22 58 03.2
MOS pmax pmax
comp=Z,270nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.0s
GOF Gofitskoye 145.88 304 ⇑ *i* PKP2 **PKPab** 22 57 54.3 -0.1
GOF pmax pmax
comp=Z,150nm,1.0s
AKH Akhalkalaki 145.88 298 P **PKPab** 22 57 54.9 +0.1
KAF Kangasniemi 146.13 340 *e*PKP2 **PKPdf** 22 57 52.9 -0.2
KAF Kangasniemi 146.13 340 *e*p **PKPdf** 22 57 52.9 -0.2
KBZ Khabaz 146.15 302 PKP2 **PKPab** 22 57 55.2 -0.2
KBZ Khabaz 146.15 302 PKPbc **PKPab** 22 57 55.2 -0.2
KBZ Khabaz 146.15 302 PKPbc **PKPab** 22 57 55.2 -0.2
comp=Z,56nm,1.1s,baz=92,slow=3.6,SNR=47
KARS Kars 146.22 296 *e*P **PKPdf** 22 57 54.6 +0.4
KIV Kislovodsk 146.27 302 *i* PKP2 **PKPbc** 22 57 55.0 -0.3
KIV pmax pmax
comp=Z,43nm,1.1s
KIV Kislovodsk 146.27 302 *e*PKPdf **PKPdf** 22 57 54.2 +0.1
AGRB Hanur-Agry 146.31 295 *e*P **PKPab** 22 57 57.1 +0.6
NEY Neytrino 146.32 301 ⇑ *i* PKP2 **PKPbc** 22 57 55.8 +0.2
PUL Pulkovo 146.54 334 *i* PKP2 **PKPbc** 22 57 55.2 -0.2
OBN Obninsk 146.59 324 ⇓ *i* PKP2 **PKPdf** 22 57 54.8 +0.7
OBN *e* 23 01 27.9
OBN *e* 23 04 33.9
OBN pmax pmax
comp=Z,95nm,0.9s
OBN Obninsk 146.59 324 *e*PKPdf **PKPdf** 22 57 54.0 -0.1

VOR	Voronezh	146.64 317	ePKIKP	PKPdf	22 57 53.0	-1.3	
VOR			pmax	pmax			
	comp=Z,350nm,1.4s						
FIA1	FINESS Array S	146.72 339	ePKPdf	PKPdf	22 57 54.8	+0.6	
FINES	FINESS Array B	146.72 339	PKPbc	PKPbc	22 57 55.2	-0.7	
FINES	FINESS Array B	146.72 339	PKPbc	PKPbc	22 57 55.2	-0.7	
	comp=Z,86nm,0.8s,baz=64,slow=4.4,SNR=106						
CHVG	Ch'k'valeri	146.84 300	P	PKPab	22 57 57.6	-0.6	
VSR	Storozhevoye	146.84 316	ePKP2	PKPbc	22 57 55.7	-0.8	
VSR			pmax	pmax			
	comp=N,40nm,1.2s						
VSR			pmax	pmax			
	comp=E,100nm,1.2s						
VSR			pmax	pmax			
	comp=Z,160nm,1.2s						
VORD	Divnogorie	146.86 316	ePKP2	PKPdf	22 57 55.6	+0.9	
VORD			pmax	pmax			
	comp=N,20nm,1.2s						
VORD			pmax	pmax			
	comp=E,70nm,1.2s						
VORD			pmax	pmax			
	comp=Z,100nm,1.2s						
BCA	Borcka	147.29 298	eP	PKPdf	22 57 56.6	+0.8	
BTMT	Batman	147.47 292	eP	PKPdf	22 57 54.6	-1.7	
VRTB	Varto-Mus	147.50 294	eP	PKPbc	22 57 59.5	+0.5	
EZM	Erzurum	147.56 295	eP	PKPdf	22 57 55.8	-0.8	
MZRK	Al-Mazaregh	148.02 287	eP	PKPbc	22 58 00.9	+0.5	
MZRK	Al-Mazaregh	148.02 287	eP	PKPbc	22 58 01.0	+0.7	
MZRK	Al-Mazaregh	148.02 287	eP	PKPbc	22 58 01.0	+0.7	
	SNR=46						
BNGB	Bing¶ll	148.10 293	eP	PKPbc	22 57 59.9	-0.7	
KBSD	Kabsdagh	148.18 290	eP	PKPbc	22 58 01.9	+1.2	
KBSD	Kabsdagh	148.18 290	eP	PKPbc	22 58 00.7	0.0	
KBSD	Kabsdagh	148.18 290	eP	PKPbc	22 58 00.7	0.0	
	SNR=46						
SOC	Sochi	148.45 302	ePKP2	PKPbc	22 58 00.0	-1.2	
SOC			pmax	pmax			
	comp=Z,41nm,0.9s						
BAYT	Ayd¯ntepe-Bay	148.47 296	eP	PKPbc	22 57 59.9	-1.7	
SFNV	Sufian	148.50 289	eP	PKPbc	22 58 00.9	-0.8	
SFNV	Sufian	148.50 289	eP	PKPbc	22 58 01.7	+0.1	
SFNV	Sufian	148.50 289	eP	PKPbc	22 58 01.7	+0.1	
	SNR=46						
KTUT	Trabzon	148.72 297	eP	PKPdf	22 57 56.6	-1.5	
VSU	Vasula	148.77 335	ıPKP2	PKPbc	22 58 01.0	-0.5	
ERZN	Erzincan	148.83 295	eP	PKPbc	22 58 01.1	-1.4	
PTK	Pertek	149.11 293	eP	PKPdf	22 58 01.1	+2.0	
URFA	Urfa	149.57 290	eP	PKPbc	22 58 04.3	0.0	
ILIC	ilic-Erzincan	149.73 294	eP	PKPab	22 58 09.2	-0.8	
NB2	NORSAR Subarra	150.38 351	PKP	PKPbc	22 58 04.1	-1.3	
	comp=Z,1.2nm,0.7s,baz=30,slow=2.9						
NOA	NORSAR Array B	150.38 351	PKPbc	PKPbc	22 58 05.3	-0.1	
NOA	NORSAR Array B	150.38 351	PKPbc	PKPbc	22 58 05.3	-0.1	
	comp=Z,7.0nm,1.0s,baz=22,slow=4.8,SNR=26						
NAO01	NORSAR Array S	150.61 351	ePKPdf	PKPdf	22 57 59.8	-0.7	
DARE	Darende-Malaty	150.61 293	eP	PKPdf	22 58 01.5	+0.1	
RSDY	Resadiye-TOKAT	150.62 296	eP	PKPdf	22 58 03.9	+2.7	
RABH	Abou Rabah	150.72 284	eP	PKPbc	22 58 07.0	-0.1	
RABH	Abou Rabah	150.72 284	eP	PKPbc	22 58 04.5	-2.7	
RABH	Abou Rabah	150.72 284	eP	PKPbc	22 58 04.5	-2.7	
	SNR=46						
HFS	Hagfors	150.86 348	PKPbc	PKPbc	22 58 05.5	-1.1	
HFS	Hagfors	150.86 348	PKPbc	PKPbc	22 58 05.5	-1.1	
	comp=Z,32nm,0.8s,baz=146,slow=0.5,SNR=27						
SVSK	Karacayir	150.91 296	eP	PKPbc	22 58 08.8	+1.5	
SALA	Sala	150.91 281	eP	PKPbc	22 58 07.2	-0.7	
SALA	Sala	150.91 281	eP	PKPbc	22 58 08.2	+0.3	
SALA	Sala	150.91 281	eP	PKPbc	22 58 08.1	+0.3	
	SNR=46						
IDID	Didziasalis	151.01 331	eP	PKPbc	22 58 06.7	-0.3	
IDID			AMB	AMB	22 58 08.8		
	comp=Z,21nm,1.1s						
MICGM	Minsk	151.07 329	*e*	PKPbc	22 58 07.0	-0.2	
ISAL	Salakas	151.09 332	eP	PKPbc	22 58 06.9	-0.3	
ISAL			AMB	AMB	22 58 09.0		
	comp=Z,14nm,1.0s						
MNK	Minsk	151.09 329	ePKIKP	PKPbc	22 58 07.0	-0.2	
KMRS	Kahramanmaras	151.09 291	eP	PKPbc	22 58 07.2	-0.7	
IIGN	Ignalina	151.20 331	eP	PKPbc	22 58 07.1	-0.4	
IIGN			AMB	AMB	22 58 08.7		
	comp=Z,19nm,0.9s						
MARH	Ras Al Marh	151.28 283	eP	PKPbc	22 58 09.0	+0.2	
MARH	Ras Al Marh	151.28 283	eP	PKPdf	22 58 01.8	-1.0	
MARH	Ras Al Marh	151.28 283	eP	PKPdf	22 58 01.8	-1.0	
	SNR=46						
NACGM	Naroch	151.28 330	*e*	PKPbc	22 58 06.0	-1.7	
BTCH	Batrach	151.43 288	eP	PKPbc	22 58 08.6	-0.2	
BTCH	Batrach	151.43 288	eP	PKPbc	22 58 07.4	-1.4	
BTCH	Batrach	151.43 288	eP	PKPbc	22 58 07.4	-1.4	
	SNR=46						
BIDA	Albida	151.49 285	eP	PKPbc	22 58 08.5	-0.5	
KVT	Kavak	151.50 298	eP	PKPbc	22 58 08.4	-0.4	
BRBR	Barbar	151.65 282	eP	PKPbc	22 58 08.0	-1.6	
BNN	Bunyan	151.88 293	eP	PKPdf	22 58 03.5	+0.2	
KONO	Kongsberg	151.93 352	ePKIKP	PKPdf	22 58 03.0	+0.5	
KONO	Kongsberg	151.93 352	ePKPdf	PKPdf	22 58 03.0	+0.5	
KOZT	Kozan	151.95 291	eP	PKPbc	22 58 08.4	-1.4	
DIKM	Dikmen	152.01 299	eP	PKPbc	22 58 08.4	-1.4	
SIM	Simferopol'	152.08 307	*i* PKIKP	PKPbc	22 58 10.3	+0.4	
SIM			*i*		22 58 20.0		
SIM			pmax	pmax			
	comp=Z,29nm,1.0s						
KARA	Karaisali	152.57 290	eP	PKPbc	22 58 08.4	-2.8	
AKASG	Malin Array Be	152.69 321	PKIKP	PKPdf	22 58 02.8	-1.1	
AKASG					22 58 10.5		
AKASG					22 58 20.7		
AKASG	Malin Array Be	152.69 321	PKP	PKPdf	22 58 02.8	-1.1	
AKASG			PKPbc	PKPbc	22 58 10.5	-0.5	
AKASG			PKPab	PKPab	22 58 20.6	-1.1	
AKASG	Malin Array Be	152.69 321	PKP	PKPdf	22 58 02.8	-1.1	
	comp=Z,0.8nm,0.7s,baz=44,slow=1.8,SNR=5.6						
AKASG			PKPbc	PKPbc	22 58 10.5	-0.5	
	comp=Z,14nm,0.8s,baz=50,slow=2.5,SNR=31						
AKASG			PKPab	PKPab	22 58 20.6	-1.1	
	comp=Z,23nm,0.8s,baz=47,slow=4.9,SNR=30						
AKBB	Malin Array Si	152.69 321	ePKIKP	PKPbc	22 58 10.5	-0.5	
AKBB	Malin Array Si	152.69 321	ePKPbc	PKPbc	22 58 10.5	-0.5	
CORM	Corum	152.69 296	eP	PKPbc	22 58 10.4	-1.1	
AK01	Malin Array Si	152.70 321	ePKPdf	PKPbc	22 58 09.8	-1.2	
KIEV	Kiev	152.70 321	*d* iPKIKP	PKPbc	22 58 10.9	-0.1	
KIEV	Kiev	152.70 321	ePKPbc	PKPbc	22 58 10.0	-1.0	
AK02	Malin Array Si	152.72 321	ePKPbc	PKPbc	22 58 10.3	-0.8	
BZK	Bozkurt	152.88 300	eP	PKPbc	22 58 09.6	-2.1	
NIG	Nigde	152.89 292	eP	PKPbc	22 58 12.5	+0.2	
MERS	Mersin	153.00 289	eP	PKPbc	22 58 11.6	-0.6	
CANT	Cankiri	153.40 298	eP	PKPdf	22 58 09.2	+3.8	
SUW	Suwalki	153.40 332	ePKP2	PKPab	22 58 24.1	-0.6	
SUW	Suwalki	153.40 332	ePKP	PKPbc	22 58 11.7	-0.7	
SUW			ePKPbc	PKPab	22 58 24.0	-0.6	
SUW			ePKPab	PKiKP	22 58 35.5	+23	
SUW	Suwalki	153.40 332	ePKPbc	PKPbc	22 58 11.7	-0.7	
SUW			ePKPab	PKPab	22 58 23.3	-1.3	
LIC	Lamto	153.46 164	eP	PKPdf	22 58 03.9	-2.3	
	comp=Z,32nm,0.9s						
BR131	Keskin Array S	153.50 296	ePKPbc	PKPbc	22 58 13.4	0.0	
BRTR	Keskin Array B	153.50 296	PKP	PKPdf	22 58 04.8	-1.0	
BRTR			PKPbc	PKPbc	22 58 13.4	0.0	
BRTR			PKPab	PKPab	22 58 25.2	-0.6	
BRTR	Keskin Array B	153.50 296	PKP	PKPdf	22 58 04.8	-1.0	
	comp=Z,2.5nm,1.1s,baz=22,slow=4.0,SNR=4.1						
BRTR			PKPbc	PKPbc	22 58 13.4	0.0	
	comp=Z,7.0nm,0.6s,baz=141,slow=3.9,SNR=32						
BRTR			PKPab	PKPab	22 58 25.2	-0.6	
	comp=Z,7.6nm,0.9s,baz=138,slow=3.6,SNR=9.0						
KIC	Kosan Boka	153.66 164	eP	PKPdf	22 58 07.0	+0.5	
	comp=Z,36nm,1.0s						
SULT	Sultanhani-AKS	153.74 292	eP	PKPbc	22 58 18.1	+4.3	
TIC	Toumodi	153.87 163	eP	PKPdf	22 58 07.5	+0.7	
DBIC	Dimbokro	153.93 164	ePKPdf	PKPdf	22 58 07.3	+0.4	
DBIC			ePKPbc	PKiKP	22 58 15.3	+0.3	
DBIC	Dimbokro	153.93 164	PKP	PKPdf	22 58 07.0	+0.1	
	comp=Z,6.0nm,1.1s,baz=73,slow=1.4,SNR=6.0						
DBIC			PKPbc	PKiKP	22 58 15.3	+0.3	
	comp=Z,9.1nm,0.9s,baz=127,slow=3.9,SNR=11						
AFSR	Af¯ar-Bala (A	153.97 295	eP	PKPbc	22 58 13.3	-1.1	
SAFT	Safranbolu	153.98 299	eP	PKPbc	22 58 11.6	-2.6	
ANTO	Ankara	154.13 296	⇑PKIKP	PKPbc	22 58 14.7	+0.1	
ANTO	Ankara	154.13 296	⇑*i*P	PKPbc	22 58 14.6	0.0	
ANTO	Ankara	154.13 296	ePKPbc	PKPbc	22 58 14.3	-0.3	
LOD	Lodumlu	154.15 296	eP	PKPbc	22 58 12.5	-2.2	
KONT	Konya--Tatoy	154.67 292	eP	PKPdf	22 58 11.2	+4.0	
SUTC	Sutluce-Ispart	155.78 291	eP	PKPdf	22 58 12.5	+3.5	
LVV	L'vov	155.90 324	ePKP2	PKPab	22 58 34.7	-0.8	
TLB	Topalu	156.28 309	⇑PKP2	PKPab	22 58 38.5	+1.3	
TLB	Topalu	156.28 309	⇑*i*P	PKPab	22 58 38.5	+1.3	
ALT	Altintas	156.30 295	eP	PKPab	22 58 36.4	-1.3	
TESR	Tescani	156.31 315	⇑*i*P	PKPab	22 58 36.8	-0.6	
EKA	Eskdalemuir Ar	156.39 8	PKPab	PKPab	22 58 36.8	-0.5	
EKA	Eskdalemuir Ar	156.39 8	PKPab	PKPab	22 58 36.8	-0.5	
	comp=Z,3.0nm,1.1s,baz=320,slow=3.8,SNR=3.8						
VRI	Vrincioaia	156.57 313	⇑PKP2	PKPab	22 58 40.1	+1.6	
VRI	Vrincioaia	156.57 313	⇑*i*P	PKPab	22 58 40.1	+1.6	
BURAR	Bucovina Array	156.58 318	⇓PKP2	PKPab	22 58 38.5	-0.1	
BURAR	Bucovina Array	156.58 318	⇓*i*P	PKPab	22 58 38.5	-0.1	
PLOR	Plostina	156.62 313	⇑PKP2	PKPab	22 58 39.2	+0.4	
PLOR	Plostina	156.62 313	⇑*i*P	PKPab	22 58 39.2	+0.4	
KWP	Kalwaria Pacla	156.68 325	⇓PKP2	PKPab	22 58 38.7	-0.1	
KWP	Kalwaria Pacla	156.68 325	ePKP	PKPab	22 58 38.6	-0.2	
KWP	Kalwaria Pacla	156.68 325	⇓*i*P	PKPab	22 58 38.7	-0.1	
KWP	Kalwaria Pacla	156.68 325	ePKPab	PKPab	22 58 37.9	-0.9	
ELL	Elmali	156.71 289	eP	PKPdf	22 58 18.6	+8.4	
TVSB	Tavsanli	156.73 296	eP	PKPdf	22 58 18.1	+8.1	
MLR	Muntele Rosu	157.23 313	⇓*i*P	PKPab	22 58 41.5	0.0	
BSEG	Bad Segeberg	157.34 348	ePKPab	PKPab	22 58 41.0	-0.4	
DOPR	Dopca	157.34 315	⇓*i*P	PKPab	22 58 42.2	+0.4	
KOLS	Kolonicke sedl	157.35 324	ePKP2	PKPab	22 58 41.4	-0.3	
KOLS	Kolonicke sedl	157.35 324	ePKP	PKPab	22 58 41.4	-0.3	
KULA	Kula-Manisa	157.50 294	eP	PKPdf	22 58 12.5	+1.4	
STHS	Stebnicka Huta	157.52 326	ePKP2	PKPab	22 58 43.0	+0.5	
STHS	Stebnicka Huta	157.52 326	ePKP	PKPab	22 58 43.0	+0.5	
UZH	Uzhgorod	157.54 323	ePKIKP	PKPdf	22 58 25.2	+15	
UZH			*e*		22 58 29.7		
TRPA	Tarpa	157.73 322	⇑*i*P	PKPab	22 58 43.5	+0.2	
CRVS	Cervenica-Dubn	157.77 325	ePKP2	PKPab	22 58 43.2	-0.4	
CRVS	Cervenica-Dubn	157.77 325	ePKP	PKPab	22 58 43.2	-0.4	
NIE	Niedzica	157.96 327	ePKP	PKPab	22 58 44.2	-0.2	
CJR	Cluj-Napoca	158.00 318	⇑PKP2	PKPab	22 58 45.2	+0.5	
CJR	Cluj-Napoca	158.00 318	⇑*i*P	PKPab	22 58 45.2	+0.5	
ARR	Arges	158.10 314	⇑*i*P	PKPab	22 58 45.8	+0.6	
HUMR	Humele	158.28 312	⇑*i*P	PKPab	22 58 45.8	-0.1	
DRGR		158.45 319	⇑PKP2	PKPab	22 58 46.4	-0.3	
DRGR		158.45 319	⇑*i*P	PKPab	22 58 46.4	-0.3	
KSP	Ksiaz	158.50 335	ePKP2	PKPab	22 58 46.4	-0.2	
KSP	Ksiaz	158.50 335	ePKP	PKPab	22 58 46.3	-0.3	
OKC	Ostrava-Krasne	158.59 331	ePKP2	PKPab	22 58 46.3	-0.7	
OKC	Ostrava-Krasne	158.59 331	ePKPAB	PKPab	22 58 46.3	-0.7	
OKC			epPKP	pPKPab	22 58 56.8	+4.5	
NRDL	Niedersach Rie	158.75 347	ePKPab	PKPab	22 58 46.2	-1.3	
UPC	Upice	158.88 335	ePKP2	PKPab	22 58 47.4	-0.9	
UPC	Upice	158.88 335	ePKPAB	PKPab	22 58 47.4	-0.9	
DPC	Dobruska-Polom	158.90 334	ePKP2	PKPab	22 58 48.1	-0.3	
DPC	Dobruska-Polom	158.90 334	ePKPAB	PKPab	22 58 48.1	-0.3	
DPC			*ex*	x	22 58 52.9		
DPC			epPKP	pPKPab	22 59 00.0	+6.3	
KRLC	Kraliky	158.95 333	ePKP2	PKPab	22 58 47.9	-0.7	
KRLC	Kraliky	158.95 333	ePKPAB	PKPab	22 58 47.9	-0.7	
KRLC			*ex*	x	22 58 53.2		
CLL	Collm	159.15 341	*i* PKP2	PKPab	22 58 48.5	-0.9	
CLL			pmax	pmax			
	comp=Z,22nm,1.0s						
CLL	Collm	159.15 341	ePKPab	PKPab	22 58 48.5	-0.9	
CLL	Collm	159.15 341	*i* PKPab	PKPab	22 58 48.5	-0.9	
	comp=Z,22nm,1.0s						
CLL			epPKPab	pPKPab	22 59 02.0	+7.3	
PSZ	Piszkesteto	159.21 325	⇑PKP2	PKPab	22 58 49.1	-0.8	
PSZ	Piszkesteto	159.21 325	⇑*i*P	PKPab	22 58 49.1	-0.8	
BRG	Berggiesshubel	159.26 339	ePKP	PKPab	22 58 49.1	-0.8	
	comp=Z,21nm,1.1s						
BRG			*e*		22 59 02.1		
	comp=Z,10nm,0.9s						
BRG	Berggiesshubel	159.26 339	ePKP2	PKPab	22 58 49.1	-0.8	
BRG			pmax	pmax			
	comp=Z,21nm,1.1s						
BRG	Berggiesshubel	159.26 339	ePKPab	PKPab	22 58 49.3	-0.6	
CLZ	Clausthal	159.31 346	ePKPab	PKPab	22 58 50.0	-0.1	
SIRR	Siria	159.34 319	⇑*i*P	PKPab	22 58 50.5	0.0	
PVCC	Panska Ves	159.36 337	ePKP2	PKPab	22 58 50.5	+0.2	
PVCC	Panska Ves	159.36 337	ePKPAB	PKPab	22 58 50.5	+0.2	
PVCC			*ex*	x	22 58 53.8		
PVCC			epPKP	pPKPab	22 59 02.8	+7.2	
VRAC	Vranov	159.64 332	⇑*i*P	PKPab	22 58 51.8	+0.2	
VRAC	Vranov	159.64 332	PKPab	PKPab	22 58 50.9	-0.7	
VRAC	Vranov	159.64 332	PKPab	PKPab	22 58 50.9	-0.7	
	comp=Z,6.9nm,0.9s,baz=54,slow=5.8,SNR=6.1						
BZS	Buzias	159.75 318	⇓PKP2	PKPab	22 58 52.2	0.0	
BZS	Buzias	159.75 318	⇓*i*P	PKPab	22 58 52.2	0.0	
PRA	Prague	159.80 337	PKPAB	PKPab	22 58 53.0	+0.8	
PRU	Pruhonice	159.83 336	ePKP2	PKPab	22 58 52.3	-0.1	
PRU	Pruhonice	159.83 336	ePKPAB	PKPab	22 58 52.3	-0.1	
PRU			epPKP	pPKPab	22 59 02.4	+4.7	
TREC	Trest	160.07 334	ePKP2	PKPab	22 58 53.2	-0.3	
TREC	Trest	160.07 334	ePKPAB	PKPab	22 58 53.2	-0.3	
TREC			epPKP	pPKPab	22 59 03.8	+5.0	
TANN	Tannenbergstha	160.11 340	ePKPab	PKPab	22 58 53.5	0.1	
NKC	Novy Kostel	160.27 340	ePKP2	PKPab	22 58 54.3	0.0	
NKC	Novy Kostel	160.27 340	ePKPAB	PKPab	22 58 54.3	0.0	
NKC			epPKP	pPKPab	22 59 07.1	+7.5	
MMB	Musomiste	160.35 305	⇑PKP2	PKPab	22 58 55.6	+0.5	
MMB	Musomiste	160.35 305	⇑*i*P	PKPab	22 58 55.6	+0.5	
ROTZ	Rotzenmuhle	160.76 340	ePKPab	PKPab	22 58 56.7	+0.2	
KHC	Kasperske Hory	160.89 337	ePKP2	PKPab	22 58 57.0	-0.1	
KHC	Kasperske Hory	160.89 337	ePKPAB	PKPab	22 58 57.0	-0.1	
KHC			*ex*	x	22 59 01.5		
KHC			epPKP	pPKPab	22 59 07.0	+4.6	
PKSM	Moragy	161.00 323	⇑PKP2	PKPab	22 58 56.5	-1.1	
PKSM	Moragy	161.00 323	⇑*i*P	PKPab	22 58 56.5	-1.1	
CONA	Conrad Observa	161.03 331	⇑*i*PKPab	PKPab	22 58 57.3	-0.5	
	comp=Z,12nm,0.9s,SNR=6.1						
GEC2	GERESS Array S	161.09 336	ePKPab	PKPab	22 58 57.6	-0.5	
GERES	GERESS Array B	161.09 336	PKPab	PKPab	22 58 57.9	-0.1	
GERES	GERESS Array B	161.09 336	PKPab	PKPab	22 58 57.9	-0.1	
	comp=Z,3.1nm,0.8s,baz=40,slow=4.4,SNR=13						
GRF	Grafenberg Arr	161.10 342	ePKPab	PKPab	22 58 58.2	+0.2	
TOA0	Torodi Ar. Sit	161.21 178	ePKPdf	PKPdf	22 58 15.7	-0.2	
TORD	Torodi Ar. Bea	161.21 178	PKP	PKPdf	22 58 15.9	0.0	
TORD			PKPab	PKPab	22 58 59.6	+0.4	
TORD			PP	PP	23 02 42.9	+2.0	
TORD	Torodi Ar. Bea	161.21 178	PKP	PKPdf	22 58 15.9	0.0	
	comp=Z,2.6nm,1.0s,baz=283,slow=1.7,SNR=10						
TORD			PKPab	PKPab	22 58 59.6	+0.4	
	comp=Z,7.5nm,0.9s,baz=180,slow=2.8,SNR=16						
TORD			PP	PP	23 02 42.9	+2.0	
	comp=Z,2.4nm,1.2s,baz=226,slow=2.9,SNR=3.8						
TNS	Taunus Mts	161.23 347	ePKPab	PKPab	22 58 58.4	-0.1	
PERS	Pernice	162.35 330	*i* PKPab	PKPab	22 59 02.8	-0.8	
SOKA	Soboth	162.36 330	⇑*i*PKPab	PKPab	22 59 02.7	-1.0	
	comp=Z,9.7nm,1.0s,SNR=5.4						
STU	Stuttgart	162.46 345	ePKPab	PKPab	22 59 03.6	-0.3	
FUR	Furstenfeldbru	162.47 340	ePKPab	PKPab	22 59 03.9	-0.1	
GOLS	Golise	162.61 327	*i* PKPab	PKPab	22 59 03.5	-1.2	
BFO	Black Forest	163.06 346	ePKPab	PKPab	22 59 05.8	-0.8	
WTTA	Wattenberg	163.16 337	⇑*i*PKPab	PKPab	22 59 06.4	-0.9	
	comp=Z,11nm,0.9s						
RETA	Reutte	163.23 340	⇑*i*PKPab	PKPab	22 59 07.0	-0.4	
	comp=Z,22nm,1.2s,SNR=7.0						
MOTA	Moosalm	163.25 339	⇓*i*PKPab	PKPab	22 59 07.0	-0.6	
	comp=Z,26nm,1.0s,SNR=14						
ABTA	Abfaltersbach	163.30 335	*i* PKPab	PKPab	22 59 07.1	-0.7	
	comp=Z,15nm,1.1s,SNR=6.0						
JAVS	Javornik	163.39 330	*i* PKPab	PKPab	22 59 06.8	-1.4	
FETA	Feichten	163.66 339	*i* PKPab	PKPab	22 59 08.7	-0.7	
	comp=Z,18nm,1.0s,SNR=7.7						
DAVA	Damuels	163.66 341	⇑*i*PKPab	PKPab	22 59 07.5	-1.9	
	comp=Z,14nm,0.9s						
DAVOX	Davos/Dischmat	164.13 340	PKP	PKPdf	22 58 18.0	-0.1	
DAVOX			PKPab	PKPab	22 59 11.0	-0.5	
DAVOX	Davos/Dischmat	164.13 340	PKP	PKPdf	22 58 18.0	-0.1	
	comp=Z,1.9nm,0.9s,baz=74,slow=10,SNR=3.7						
DAVOX			PKPab	PKPab	22 59 11.0	-0.5	
	comp=Z,13nm,0.9s,baz=354,slow=1.8,SNR=16						
MTE	Manteigas	168.51 41	ePKPab	PKPab	22 59 30.7	-0.3	
PTOM	Tomar	168.52 46	ePKPdf	PKPdf	22 58 23.3	+1.8	
PTOM	Tomar	168.52 46	ePKPab	PKPab	22 59 31.1	+0.1	
PCBR	Castelo Branco	168.93 42	ePKPdf	PKPdf	22 58 23.3	+1.6	
PCBR	Castelo Branco	168.93 42	ePKPab	PKPab	22 59 32.1	-0.6	
PMRV	Marv??o	169.25 44	ePKPab	PKPab	22 59 33.6	-0.6	
EVO	Evora	169.41 49	ePKPdf	PKPdf	22 58 23.3	+1.2	
PESTR	Estremoz	169.48 47	ePKPdf	PKPdf	22 58 18.9	-3.3	
TAM	Tamanrasset	170.35 199	ePKIKP	PKPdf	22 58 23.6	+0.3	
TAM	Tamanrasset	170.35 199	ePKPdf	PKPdf	22 58 23.6	+0.3	
ESDC	Sonseca Array	170.86 32	PKP	PKPdf	22 58 23.4	+0.5	
ESDC			PKPab	PKPab	22 59 40.5	-0.8	
ESDC	Sonseca Array	170.86 32	PKP	PKPdf	22 58 23.4	+0.5	
	comp=Z,1.3nm,0.9s,baz=339,slow=1.7,SNR=6.8						
ESDC			PKPab	PKPab	22 59 40.5	-0.8	
	comp=Z,1.6nm,0.8s,baz=314,slow=4.4,SNR=7.4						
KEST	Kesra	173.01 304	PKPab	PKPab	22 59 52.4	+1.2	
KEST	Kesra	173.01 304	PKPab	PKPab	22 59 52.4	+1.2	
	comp=Z,1.7nm,1.0s,baz=12,slow=9.3,SNR=2.8						
MDT	Midelt	174.17 80	PKP	PKPdf	22 58 25.8	+1.1	
MDT			PKPab	PKPab	22 59 56.7	+0.2	
MDT	Midelt	174.17 80	PKP	PKPdf	22 58 25.8	+1.1	
	comp=Z,4.6nm,0.9s,baz=348,slow=3.1,SNR=7.2						
MDT			PKPab	PKPab	22 59 56.7	+0.2	
	comp=Z,2.3nm,1.0s,baz=273,slow=4.0,SNR=3.6						

NIED **17** *22:57:00.33'10N×141'.80E,h5km,Mw4.1 Best double couple: M0 1.52000×10^15 NP1:φ=225.00000°, δ21.00000°, λ171.00000°. NP2:φ=323.00000°, δ87.00000°, λ69.00000°.*
IDC **17** *22:57:41.4±0.8,32'.87N×141'.78E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.9/52,mbtmp3.9/14,ML4.0/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/35,Error ellipse: s-maj=26.0km s-min=18.4km az=63.0*
JMA **17** *22:57:42.1±0.3,33'.07N×141'.79E,h0km,M3.8*
ISCJB **17** *22:57:44.3±0.4,32'.96N±0'.04×141'.91E±0'.05,h40km, mb4.0/18,Error ellipse: s-maj=7.4km s-min=4.7km az=143.4*
NEIC **17** *22:57:46.5±0.4,32'.83N×141'.69E,h35km,mb4.1/5,Error ellipse: s-maj=12.2km s-min=7.2km az=59.0*

ISC 17 22:57:46.3±0.6, 32°.92N±0'.05×141°.91E±0'.07, h40km, n63, σ1§51/70, mb4.0/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	1.77	277	P	Pn	22 58 12.7	-1.7
JHJ2				S	Sn	22 58 35.0	-0.7
JHJ2	Mitsune	1.77	277	*e*Pn	Pn	22 58 12.6	-1.8
JHJ2				*e*Sn	Sn	22 58 33.8	-1.8
JHCJ	Hachijojimakas	1.78	275	P	Pn	22 58 13.0	-1.6
JHCJ				S	Sn	22 58 35.2	-0.8
BSO1	Boso 1	1.89	336	P	Pn	22 58 13.5	-2.1
BSO3	Boso 3	2.21	329	P	Pn	22 58 18.3	-1.9
BSO4	Boso 4	2.44	328	P	Pn	22 58 22.7	-0.9
BSO4				S	Sn	22 58 51.3	-0.8
JOD2	Odawara 2	3.31	316	P	Pn	22 58 33.4	-2.2
JOD2				*e*S	Sn	22 59 10.8	-2.8
TK02	Tokai 2	3.62	288	*e*S	Sn	22 59 22.2	+1.2
JHU	Hanno	3.64	324	*e*S	Sn	22 59 20.0	-1.9
JYN	Shimob	3

Ms1 3.3/2,ms1mx2.8/34,Error ellipse: s-maj=204.8km s-min=21.3km az=167.0

ISC 17 23:08:11.0±1.7,**43.50N**±0.10×**147.02E**±0.08,**h44**km±11km, **n38**,σ0.99/38,**mb3.8**/9,**1D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.40**	**340**	*eP*	**Pn**	**23 08 20.8**	**+0.2**
SHO				AMB	AMB	23 08 21.2	
	2μm,0.4s						
SHO				*eS*	**Sn**	**23 08 27.7**	**+0.3**
SHO				A	A	23 08 28.2	
	1μm,0.4s						
SHO				A	A	23 08 28.2	
	1μm,0.4s						
NEM2	**Nemuro 2**	**0.94**	**262**	P	**Pn**	**23 08 26.8**	**-0.9**
NEM2				*eS*	**Sn**	**23 08 38.5**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**1.00**	**303**	*d iPN*	**Pn**	**23 08 28.2**	**-0.3**
YUK				*i* S	**Sn**	**23 08 40.7**	**-0.6**
YUK				pmax	pmax		
	comp=Z,486nm,0.3s						
YUK				pmax	pmax		
	comp=N,309nm,0.1s						
YUK				pmax	pmax		
	comp=E,228nm,0.1s						
YUK				smax	smax		
	comp=E,617nm,0.2s						
YUK				smax	smax		
	comp=N,871nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.00**	**303**	*eP*	**Pn**	**23 08 28.2**	**-0.3**
YUK				AMB	AMB	23 08 29.6	
	comp=N,310nm,0.2s						
YUK				AMB	AMB	23 08 29.6	
	comp=N,228nm,0.2s						
YUK				AMB	AMB	23 08 29.6	
	comp=N,487nm,0.2s						
YUK				*eS*	**Sn**	**23 08 40.7**	**-0.6**
YUK				A	A	23 08 43.8	
	comp=N,871nm,0.3s						
YUK				A	A	23 08 43.8	
	comp=N,617nm,0.3s						
JRA	**Rausu**	**1.45**	**288**	P	**Pn**	**23 08 34.7**	**+0.1**
JRA				*eS*	**Sn**	**23 08 52.2**	**-0.1**
JNK	**Nakash**	**1.68**	**274**	P	**Pn**	**23 08 37.4**	**-0.4**
JAK	**Akkeshi**	**1.77**	**254**	P	**Pn**	**23 08 38.8**	**-0.3**
KUR	**Kuril'sk**	**1.84**	**19**	PN	Pn	23 08 49.0	+9.0
KUR	**Kuril'sk**	**1.84**	**19**	*eP*	**Pn**	**23 08 41.0**	**+1.0**
KUR				*eS*	**Sn**	**23 09 00.5**	**-1.5**
KUR				A	A	23 09 05.3	
	comp=N,390nm,0.3s						
KUR				A	A	23 09 05.3	
	comp=N,180nm,0.3s						
JTKR	**Abashiri--Toko**	**2.30**	**283**	P	**Pn**	**23 08 47.4**	**+1.0**
JAR	**Ashorobuto**	**2.38**	**266**	P	**Pn**	**23 08 47.9**	**+0.5**
JAR				*eS*	**Sn**	**23 09 15.2**	**-0.1**
JOB	**Onbets**	**2.40**	**257**	*eS*	**Sn**	**23 09 15.6**	**-0.3**
JMP	**Maruseppu**	**2.70**	**282**	P	**Pn**	**23 08 53.1**	**+1.2**
JCH	**Churui**	**2.82**	**253**	*eS*	**Sn**	**23 09 26.0**	**-0.3**
HRK	**Horoka**	**2.83**	**271**	*eP*	**Pn**	**23 08 55.1**	**+1.4**
JKK2	**Kamakawa 2**	**3.12**	**278**	P	**Pn**	**23 09 00.1**	**+2.5**
JFR	**Furan**	**3.25**	**266**	P	**Pn**	**23 09 01.0**	**+1.6**
JFR				*eS*	**Sn**	**23 09 39.0**	**+2.2**
ASAJ	**Asahikawa**	**3.26**	**282**	P	**Pn**	**23 09 01.5**	**+2.0**
	comp=N,2.6nm,0.3s,baz=117,slow=13,SNR=11						
ASAJ				LR	LR	23 10 16.9	
	comp=N,62nm,21.4s,baz=256,slow=40						
SONM	**Songino Array**	**28.48**	**293**	P	**P**	**23 14 01.4**	**-0.5**
	comp=N,0.5nm,0.5s,baz=89,slow=8.5,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.97**	**139**	T	T	23 44 43.9	
	baz=332,slow=76,SNR=115						
H11N1	**WAKE ISLAND Hy**	**28.98**	**139**	T	T	23 44 45.6	
	baz=332,slow=76,SNR=128						
H11N3	**WAKE ISLAND Hy**	**28.99**	**139**	T	T	23 44 44.4	
	baz=332,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**29.93**	**140**	T	T	23 45 54.3	
	baz=334,slow=77,SNR=213						
H11S3	**WAKE ISLAND Hy**	**29.94**	**140**	T	T	23 45 54.3	
	baz=334,slow=77,SNR=211						
H11S2	**WAKE ISLAND Hy**	**29.95**	**140**	T	T	23 45 54.3	
	baz=334,slow=77,SNR=129						
ILAR	**Eielson Array**	**41.75**	**36**	P	**P**	**23 15 56.4**	**+1.0**
	comp=N,1.2nm,1.2s,baz=261,slow=5.2,SNR=7.5						
MKAR	**Makanchi Array**	**44.62**	**298**	P	**P**		
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.62**	**298**	P	**P**	**23 16 18.5**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=80,slow=10,SNR=13						
INK	**Inuvik**	**46.67**	**30**	P	**P**	**23 16 35.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=284,slow=7.5,SNR=8.1						
YKA	**Yellowknife Ar**	**56.06**	**34**	P	**P**	**23 17 45.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=301,slow=6.9,SNR=4.2						
YBH	**Yreka Blue Hor**	**63.11**	**57**	LR	LR	23 40 03.6	
	comp=Z,225nm,21.8s,baz=36,slow=30						
FINES	**FINESS Array B**	**65.06**	**333**	P	**P**	**23 18 45.8**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=35,slow=7.9,SNR=13						
NB2	**NORSAR Subarra**	**69.80**	**339**	P	**P**	**23 19 16.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.80**	**339**	P	**P**	**23 19 15.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=33,slow=6.4,SNR=4.8						
KBZ	**Khabaz**	**69.89**	**312**	P	**P**	**23 19 17.0**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**69.89**	**312**	P	**P**	**23 19 17.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=41,slow=9.7,SNR=4.8						
AKASG	**Malin Array Be**	**71.73**	**324**	P	**P**	**23 19 27.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.73**	**324**	P	**P**	**23 19 27.8**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=40,slow=6.4,SNR=13						

DDA 17 23:09:10.2,34.90N×26.98E,h27km,MD3.4
ISK 17 23:09:12.0,35.12N×27.21E,h5km,MD3.5
ATH 17 23:09:17.8,35.10N×28.14E,h38km,MD3.2/3
CSEM 17 23:09:22.2±0.4,35.68N×27.59E,h5km,MD3.2, Error ellipse: s-maj=14.7km s-min=6.3km az=146.0

ISC 17 23:09:25.5±1.4,**35.59N**±0.07×**27.57E**±0.05,**h27**km±15km, **n25**,σ2.03/31,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.77**	**36**	*ePN*	**Pb**	**23 09 38.5**	**-1.7**
ARG				*eSN*	**Sn**	**23 09 53.8**	**+2.6**
ARG	**Arkhangelos**	**0.77**	**36**	*ePn*	**Pb**	**23 09 38.5**	**-1.7**
ARG				*eSn*	**Sn**	**23 09 53.8**	**+2.6**
ZKR	**Zakros**	**1.21**	**247**	*ePN*	**Pn**	**23 09 44.2**	**-2.4**
ZKR				*eSN*	**Sb**	**23 10 04.7**	**+1.9**
BDRM	**Kayabasi**	**1.47**	**356**	*i* P	**Pn**	**23 09 48.3**	**-2.0**
BDRM				*i* S	**Sb**	**23 10 13.8**	**+3.3**
BDRM	**Kayabasi**	**1.47**	**356**	*i* P	**Pn**	**23 09 48.3**	**-2.0**
BODT	**Bodrum**	**1.48**	**352**	*ePN*	**Pn**	**23 09 47.5**	**-2.9**
BODT	**Bodrum**	**1.48**	**352**	*ePn*	**Pn**	**23 09 47.5**	**-2.9**
TURN	**Turunc**	**1.52**	**33**	*i* P	Pn	23 09 47.2	-3.8
TURN				*i* S	**Sn**	**23 10 10.4**	**+0.5**
TURN	**Turunc**	**1.52**	**33**	*i* P	Pn	23 09 47.2	-3.8
TURN				*i* S	**Sn**	**23 10 10.4**	**+0.5**
FETY	**Fethiye**	**1.61**	**49**	*ePN*	**Pn**	**23 09 50.4**	**-1.7**
FETY				*eSN*	**Sb**	**23 10 18.3**	**+4.0**
FETY	**Fethiye**	**1.61**	**49**	*ePn*	**Pn**	**23 09 50.4**	**-1.7**
NPS	**Neapolis**	**1.63**	**259**	*ePN*	**Pn**	**23 09 52.0**	**-0.5**
NPS				*eSN*	**Sb**	**23 10 16.3**	**+1.2**
NPS	**Neapolis**	**1.63**	**259**	*ePn*	**Pn**	**23 09 52.0**	**-0.5**
LAST	**Lasithi**	**1.76**	**256**	*ePN*	**Pn**	**23 09 54.1**	**-0.2**
LAST	**Lasithi**	**1.76**	**256**	*ePn*	**Pn**	**23 09 54.1**	**-0.2**
ELL	**Elmali**	**2.21**	**58**	*ePN*	**Pn**	**23 09 58.6**	**-1.9**
ELL	**Elmali**	**2.21**	**58**	*ePn*	**Pn**	**23 09 58.7**	**-1.9**
AYDB	**Zeytinkoy-Aydi**	**2.36**	**6**	*ePN*	**Pn**	**23 10 00.8**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**2.36**	**6**	*ePn*	**Pn**	**23 10 00.8**	**-1.8**
DNZL	**Cakiroluk**	**2.41**	**29**	*i* P	**Pn**	**23 10 01.9**	**-1.3**
DNZL				*i* S	Sb	23 10 47.3	+10
DNZL	**Cakiroluk**	**2.41**	**29**	*i* P	**Pn**	**23 10 01.9**	**-1.3**
KULA	**Kula-Manisa**	**3.04**	**16**	*ePN*	**Pn**	**23 10 10.7**	**-1.2**
KULA	**Kula-Manisa**	**3.04**	**16**	*ePn*	**Pn**	**23 10 10.7**	**-1.2**
SUTC	**Sutluce-Ispart**	**3.34**	**55**	*ePN*	**Pn**	**23 10 14.8**	**-1.3**
SUTC	**Sutluce-Ispart**	**3.34**	**55**	*ePn*	**Pn**	**23 10 14.8**	**-1.3**

KRSC 17 23:19:49.4±1.6,55.08N×165.14E,h46km±17km,ML4.9
BJI 17 23:19:49.2,55.33N×165.47E,h47km,mB4.8/14,mb4.5/26, Ms4.5/14,Ms7 4.2/14
MOS 17 23:19:50.1±0.8,55.24N×165.33E,h46km,mb4.9/38,Error ellipse: s-maj=8.3km s-min=6.1km az=78.4
ISCJB 17 23:19:50.4±0.3,55.14N±0.02×165.28E±0.02,h52km±3km,

mb4.7/98,MS3.9/12,Error ellipse: s-maj=4.0km s-min=2.3km az=168.7
IDC 17 23:19:52.0±0.7,55.25N×165.32E,h46km±7km,mb4.0/29, mb1 4.2/32,mb1mx4.2/48,mbtmp4.2/32,ML3.7/3,MS3.8/7, Ms1 3.8/7,ms1mx3.4/31,Error ellipse: s-maj=13.6km s-min=7.5km az=164.0
NEIC 17 23:19:52.4±0.6,55.29N×165.24E,h50km±6km,mb5.0/56, Error ellipse: s-maj=6.4km s-min=3.1km az=165.0

ISC 17 23:19:52.0±0.3,**55.19N**±0.04×**165.30E**±0.02,**h49**km±2km, **h48**km:**pP-P**,**n425**,σ1.09/**08**/494,**mb4.8**/100,**MS4.0**/12,**3C**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.39**	**87**	PN	**Pn**	**23 20 01.2**	**-0.6**
BKI				S	**Sn**	**23 20 08.3**	**-0.5**
BKI	**Bering**	**0.39**	**87**	*i* P	**Pn**	**23 20 01.1**	**-0.7**
BKI				*i* S	**Sn**	**23 20 08.3**	**-0.5**
KBTR	**Krutoberegovo**	**1.74**	**307**	PN	**Pn**	**23 20 17.2**	**-2.5**
KBTR				S	**Sn**	**23 20 37.1**	**-3.5**
KBTR	**Krutoberegovo**	**1.74**	**307**	*i* P	**Pn**	**23 20 17.1**	**-2.6**
KBTR				*eS*	**Sn**	**23 20 37.1**	**-3.5**
KBG	**Krutoberegovo**	**1.82**	**307**	PN	**Pn**	**23 20 19.9**	**-0.8**
KBG				S	**Sn**	**23 20 39.6**	**-3.0**
KBG	**Krutoberegovo**	**1.82**	**307**	*eP*	**Pn**	**23 20 19.9**	**-0.8**
KBG				*eS*	**Sn**	**23 20 39.6**	**-3.0**
MKZ	**Mys Kozlova**	**2.16**	**254**	PN	**Pn**	**23 20 24.5**	**-0.9**
MKZ				S	**Sn**	**23 20 49.2**	**-1.7**
MKZ	**Mys Kozlova**	**2.16**	**254**	*i* P	**Pn**	**23 20 24.5**	**-0.9**
MKZ				*i* S	**Sn**	**23 20 49.2**	**-1.7**
SMKR	**Semkarok**	**2.57**	**304**	*eP*	**Pn**	**23 20 30.5**	**-0.7**
SMKR				*eS*	**Sn**	**23 21 00.7**	**-0.5**
BDR	**Baidarnaya**	**2.69**	**303**	*i* P	**Pn**	**23 20 32.5**	**-0.3**
BDR				*eS*	**Sn**	**23 21 04.3**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**2.72**	**288**	*eP*	**Pn**	**23 20 32.6**	**-0.7**
BZGR				*eS*	**Sn**	**23 21 06.1**	**+1.1**
SRKR	**Sorokina**	**2.75**	**304**	*eP*	**Pn**	**23 20 33.2**	**-0.4**
SRKR				*eS*	**Sn**	**23 21 06.0**	**+0.4**
BZMR	**Bezymyannaya**	**2.83**	**287**	*eP*	**Pn**	**23 20 36.1**	**+1.3**
BZMR				*eS*	Sn	23 21 01.0	-6.8
BZWR	**Bezymyannyi-We**	**2.84**	**288**	*eP*	**Pn**	**23 20 35.6**	**+0.7**
BZWR				*eS*	**Sn**	**23 21 08.3**	**+0.4**
KLY	**Klyuchi**	**2.86**	**295**	PN	**Pn**	**23 20 33.5**	**-1.5**
KLY				S	**Sn**	**23 21 05.4**	**-2.8**
KLY	**Klyuchi**	**2.86**	**295**	*eP*	**Pn**	**23 20 33.5**	**-1.5**
KLY				*eS*	**Sn**	**23 21 05.4**	**-2.8**
KRSR	**Krestovskiy**	**2.87**	**293**	*eP*	**Pn**	**23 20 35.4**	**+0.1**
KRSR				*eS*	**Sn**	**23 21 07.6**	**-1.1**
KZV	**Kizimen**	**2.88**	**271**	*eP*	**Pn**	**23 20 34.9**	**-0.5**
KIRR	**Kirishev**	**2.92**	**287**	*eP*	**Pn**	**23 20 35.9**	**-0.1**
KIRR				*eS*	**Sn**	**23 21 10.5**	**+0.6**
KMNR	**Kamenistaya**	**2.94**	**283**	*eP*	**Pn**	**23 20 37.6**	**+1.4**
KMNR				*eS*	**Sn**	**23 21 11.1**	**+0.8**
TUMR	**Tumrok**	**2.95**	**274**	*eP*	**Pn**	**23 20 36.6**	**+0.2**
TUMR				*eS*	**Sn**	**23 21 10.4**	**-0.3**
KPT	**Kopyto**	**2.99**	**287**	*eP*	**Pn**	**23 20 37.8**	**+0.9**
KOZR	**Kozyr**	**3.19**	**288**	PN	**Pn**	**23 20 41.2**	**+1.6**
KOZR				S	**Sn**	**23 21 18.8**	**+2.5**
KOZ	**Kozyrevsk**	**3.20**	**288**	*eP*	**Pn**	**23 20 41.2**	**+1.5**
KOZ				*i* S	**Sn**	**23 21 18.8**	**+2.2**
SRDR	**Sredinnyy**	**3.35**	**292**	*eP*	**Pn**	**23 20 42.5**	**+0.6**
SRDR				*eS*	**Sn**	**23 21 21.2**	**+0.8**
KII	**Karymskiy**	**3.59**	**254**	*eP*	**Pn**	**23 20 44.7**	**-0.5**
KII				*eS*	**Sn**	**23 21 24.6**	**-1.8**
SPN	**Mys Shipunski**	**3.74**	**238**	PN	**Pn**	**23 20 46.2**	**-1.0**
SPN	**Mys Shipunski**	**3.74**	**238**	*eP*	**Pn**	**23 20 46.1**	**-1.1**
SPN				*eS*	**Sn**	**23 21 25.8**	**-4.1**
ESO	**Esso**	**3.82**	**284**	PN	**Pn**	**23 20 50.2**	**+1.9**
ESO	**Esso**	**3.82**	**284**	*eP*	**Pn**	**23 20 50.2**	**+1.9**
NLC	**Nalytchevo**	**4.04**	**242**	PN	**Pn**	**23 20 50.2**	**-1.0**
NLC	**Nalytchevo**	**4.04**	**242**	*eP*	**Pn**	**23 20 50.2**	**-1.0**
NLC				*eS*	**Sn**	**23 21 33.9**	**-3.3**
SDLR	**Sedlovina**	**4.22**	**246**	*eP*	**Pn**	**23 20 54.2**	**+0.3**
SDLR				*eS*	**Sn**	**23 21 40.4**	**-1.5**
SMAR	**Somma**	**4.27**	**246**	*eP*	**Pn**	**23 20 54.1**	**-0.5**
SMAR				*eS*	**Sn**	**23 21 41.3**	**-2.0**
KRER	**Koryakskii**	**4.28**	**247**	*i* P	**Pn**	**23 20 55.1**	**+0.4**
KRER				*i* S	**Sn**	**23 21 42.5**	**-1.0**
UGLR	**Uglovaya**	**4.29**	**245**	*eP*	**Pn**	**23 20 54.7**	**-0.1**
UGLR				*eS*	**Sn**	**23 21 41.8**	**-1.7**
AVH	**Avacha**	**4.31**	**246**	*i* P	**Pn**	**23 20 55.7**	**+0.7**
AVH				*i* S	**Sn**	**23 21 42.9**	**-1.0**
KRX	**Arik**	**4.31**	**248**	*i* P	**Pn**	**23 20 55.4**	**+0.4**
KRX				*i* S	**Sn**	**23 21 42.4**	**-1.6**
KOK	**Koryaka**	**4.35**	**247**	*i* P	**Pn**	**23 20 56.0**	**+0.5**
KOK				*i* S	**Sn**	**23 21 43.4**	**-1.5**
PET	**Petropavlovsk**	**4.47**	**244**	*ePN*	**Pn**	**23 20 57.7**	**+0.6**
PET				pmax	pmax		
	comp=Z,133nm,0.5s						
PET				pmax	pmax		
	comp=Z,100nm,0.5s						
PET				MLR	MLR		
	comp=Z,700nm,18.0s						
PET	**Petropavlovsk**	**4.47**	**244**	*eP*	**Pn**	**23 20 56.2**	**-0.9**
PET				*eS*	**Sn**	**23 21 44.9**	**-2.9**
PET	**Petropavlovsk**	**4.47**	**244**	*ePn*	**Pn**	**23 20 57.6**	**+0.5**
GNL	**Ganaly**	**4.55**	**254**	*i* P	**Pn**	**23 20 59.0**	**+0.7**
GNL				*i* S	**Sn**	**23 21 50.2**	**+0.3**
RUS	**Russkaya**	**4.88**	**238**	PN	**Pn**	**23 21 02.3**	**-0.4**
RUS	**Russkaya**	**4.88**	**238**	*eP*	**Pn**	**23 21 02.3**	**-0.4**
RUS				*eS*	**Sn**	**23 21 54.2**	**-3.6**
PEA0	**Petropavlovsk-**	**4.93**	**248**	*ePn*	**Pn**	**23 21 04.2**	**+0.7**
PEA0				*eSn*	**Sn**	**23 21 58.2**	**-0.9**
PETK	**Petropavlovsk-**	**4.93**	**248**	PN	**Pn**	**23 21 04.0**	**+0.5**
PETK				pmax	pmax		
	comp=Z,22nm,0.3s						
PETK	**Petropavlovsk-**	**4.93**	**248**	P	**Pn**	**23 21 04.0**	**+0.5**
PETK				S	**Sn**	**23 21 58.5**	**-0.6**
PETK	**Petropavlovsk-**	**4.93**	**248**	P	**Pn**	**23 21 04.0**	**+0.5**
	comp=Z,22nm,0.3s,baz=81,slow=19,SNR=128						
PETK				S	**Sn**	**23 21 58.5**	**-0.6**
	comp=Z,47nm,0.3s,baz=3.1,slow=30,SNR=16						
MTVR	**Mutnovka**	**5.01**	**240**	*eP*	**Pn**	**23 21 04.7**	**0.0**
MTVR				*eS*	**Sn**	**23 21 58.4**	**-2.9**
GRL	**Gorelyy**	**5.03**	**241**	*i* P	**Pn**	**23 21 03.9**	**-1.0**
GRL				*i* S	**Sn**	**23 22 00.1**	**-1.6**
FX1	**Attu Island--F**	**5.18**	**113**	*ePn*	**Pn**	**23 21 06.6**	**-0.2**
FX1				*eSn*	**Sn**	**23 22 03.9**	**-1.3**
FX1	**Attu Island--F**	**5.18**	**113**	P	**Pn**	**23 21 06.5**	**-0.4**
	comp=Z,6.6nm,0.3s,baz=324,slow=19,SNR=14						
FX1				S	**Sn**	**23 22 04.3**	**-0.9**
	comp=Z,22nm,0.3s,baz=193,slow=20,SNR=6.7						
ASAK	**Asacha**	**5.21**	**240**	*eP*	**Pn**	**23 21 08.4**	**+1.0**
ASAK				*eS*	**Sn**	**23 22 04.9**	**-1.2**
APC	**Apacha**	**5.30**	**248**	*eP*	**Pn**	**23 21 09.4**	**+0.8**
APC				*i* S	**Sn**	**23 22 07.5**	**-0.8**
PAU	**Pauzhetka**	**6.30**	**237**	PN	**Pn**	**23 21 22.6**	**+0.3**
PAU	**Pauzhetka**	**6.30**	**237**	*eP*	**Pn**	**23 21 22.6**	**+0.3**
PAU				*eS*	**Sn**	**23 22 31.2**	**-1.7**
SKR	**Severo-Kuril's**	**7.15**	**235**	*ePN*	**Pn**	**23 21 31.5**	**-2.3**
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR	**Severo-Kuril's**	**7.15**	**235**	*eP*	**Pn**	**23 21 35.0**	**+1.2**
SKR				*eS*	**Sn**	**23 22 50.3**	**-3.3**
SEY	**Seymchan**	**10.21**	**325**	*ePN*	**Pn**	**23 22 16.5**	**+0.9**
GAMB	**Gambell**	**14.43**	**44**	*ePn*	**Pn**	**23 23 13.8**	**+0.8**
UNV	**Unalaska Valle**	**16.38**	**83**	*ePn*	**Pn**	**23 23 37.0**	**-1.2**
	comp=Z,163nm,1.6s						
TNA	**Tin City**	**16.67**	**41**	*ePn*	**Pn**	**23 23 42.3**	**+0.5**
	comp=Z,39nm,1.7s						
ASAJ	**Asahikawa**	**18.32**	**242**	P	**Pn**	**23 24 03.5**	**+1.2**
ASAJ	**Asahikawa**	**18.32**	**242**	P	**Pn**	**23 24 03.5**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=73,slow=9.4,SNR=4.0						
TIXI	**Tiksi**	**22.60**	**331**	*eP*	**P**	**23 24 46.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.1s						
RSO	**Redoubt South**	**22.64**	**59**	*eP*	**P**	**23 24 49.5**	**+0.8**
PPLA	**Purkeypile**	**22.80**	**53**	*eP*	**P**	**23 24 51.2**	**+0.9**
	comp=Z,50nm,1.4s						
CAST	**Castle Rocks**	**22.85**	**52**	*eP*	**P**	**23 24 52.2**	**+1.4**
	comp=Z,12nm,0.9s						
KDAK	**Kodiak Island**	**23.12**	**66**	*eP*	**P**	**23 24 52.2**	**-1.2**
	comp=Z,91nm,1.5s						
KTH	**Kantishna Hill**	**23.38**	**51**	*eP*	**P**	**23 24 56.7**	**+0.7**
	comp=Z,83nm,1.8s						
TRF	**Thorofare Moun**	**23.66**	**52**	*eP*	**P**	**23 24 58.6**	**-0.2**
	comp=Z,48nm,1.1s						
USRK	**Ussuriysk Arra**	**23.96**	**257**	P	**P**	**23 25 03.7**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=91,slow=14,SNR=6.2						
COLD	**Coldfoot**	**23.96**	**42**	*eP*	**P**	**23 25 00.9**	**-0.4**
	comp=Z,17nm,0.8s						
RC01	**Rabbit Creek A**	**24.05**	**57**	*eP*	**P**	**23 25 01.8**	**-0.3**
	comp=Z,223nm,2.4s						
MCK	**McKinley**	**24.26**	**51**	*eP*	**P**	**23 25 03.2**	**-0.9**
MCK				pmax	pmax		
	comp=Z,46nm,1.2s						
MCK	**McKinley**	**24.26**	**51**	*eP*	**P**	**23 25 03.2**	**-0.9**
	comp=Z,46nm,1.2s						
SEW	**Seward**	**24.32**	**60**	*eP*	**P**	**23 25 03.2**	**-1.3**
	comp=Z,227nm,1.8s						
COLA	**College**	**24.73**	**48**	*c iP*	**P**	**23 25 08.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,113nm,1.0s						
COLA	**College**	**24.73**	**48**	*eP*	**P**	**23 25 08.3**	**+0.1**
	comp=Z,9.8nm,0.4s						
IL1	**Eielson Array**	**25.15**	**48**	*eP*	**P**	**23 25 11.5**	**-0.6**
ILAR	**Eielson Array**	**25.15**	**48**	P	**P**	**23 25 11.5**	**-0.6**
ILAR				pP	**pP**	**23 25 24.3**	**-0.3**
ILAR	**Eielson Array**	**25.15**	**48**	P	**P**	**23 25 11.5**	**-0.6**
	comp=Z,15nm,0.8s,baz=261,slow=8.8,SNR=114						
ILAR				pP	**pP**	**23 25 24.3**	**-0.3**
	comp=Z,8.2nm,0.9s,baz=261,slow=9.8,SNR=8.0						
PAX	**Paxson**	**25.86**	**52**	*eP*	**P**	**23 25 18.2**	**-0.5**
PAX				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PAX	**Paxson**	**25.86**	**52**	*eP*	**P**	**23 25 18.2**	**-0.5**
	comp=Z,8.5nm,0.6s						
DIV	**Divide**	**25.95**	**57**	*eP*	**P**	**23 25 18.7**	**-0.8**
	comp=Z,33nm,1.3s						
MAJO	**Matsushiro**	**26.26**	**236**	*eP*	**P**	**23 25 23.7**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,64nm,0.9s						
MAT	**Matsushiro**	**26.26**	**236**	P	**P**	**23 25 22.4**	**0.0**
MJAR	**Matsushiro Arr**	**26.26**	**236**	P	**P**	**23 25 23.7**	**+1.3**
MJAR	**Matsushiro Arr**	**26.26**	**236**	P	**P**	**23 25 23.7**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=26,slow=7.3,SNR=8.6						
MJAR				LR	LR	23 36 11.6	
	comp=Z,96nm,19.4s,baz=90,slow=37						
DOT	**Dot Lake**	**26.43**	**51**	*eP*	**P**	**23 25 22.3**	**-1.5**
	comp=Z,36nm,1.8s						
BMRM	**Bremner River**	**26.54**	**57**	*eP*	**P**	**23 25 24.7**	**-0.1**
	comp=Z,119nm,2.0s						
EGAK	**Eagle**	**27.60**	**48**	*eP*	**P**	**23 25 33.2**	**-0.9**
	comp=Z,16nm,0.6s						
DAWY	**Dawson**	**28.44**	**49**	*eP*	**P**	**23 25 41.6**	**-0.1**
INK	**Inuvik**	**30.31**	**40**	*eP*	**P**	**23 25 58.2**	**0.0**
	comp=Z,59nm,2.2s						
INK	**Inuvik**	**30.31**	**40**	P	**P**	**23 25 58.5**	**+0.3**
	comp=Z,3.7nm,0.3s,baz=277,slow=6.3,SNR=55						
KSRS	**Korea Array**	**30.82**	**251**	P	**P**	**23 26 04.9**	**+1.9**
	comp=Z,2.5nm,0.6s,baz=39,slow=9.1,SNR=9.0						
KSRS				LR	LR	23 38 03.5	
	comp=Z,96nm,18.0s,baz=84,slow=35						
KSAR	**Wonju Array Be**	**30.86**	**251**	P	**P**	**23 26 04.9**	**+1.6**
DLBC	**Dease Lake**	**34.33**	**57**	*eP*	**P**	**23 26 34.9**	**+1.4**
DLBC	**Dease Lake**	**34.33**	**57**	P	**P**	**23 26 35.2**	**+1.6**
	comp=Z,3.2nm,0.5s,baz=333,slow=26,SNR=17						
H11N2	**WAKE ISLAND Hy**	**35.42**	**177**	T	T	00 04 31.2	
	baz=1.1,slow=76,SNR=385						
H11N3	**WAKE ISLAND Hy**	**35.43**	**177**	T	T	00 04 34.1	
	baz=1.1,slow=76,SNR=640						
H11N1	**WAKE ISLAND Hy**	**35.44**	**177**	T	T	00 04 32.4	
	baz=1.1,slow=76,SNR=266						
SONA1	**Songino Array**	**36.39**	**284**	*eP*	**P**	**23 26 52.1**	**+0.7**
SONM	**Songino Array**	**36.40**	**284**	P	**P**	**23 26 53.1**	**+1.6**
SONM	**Songino Array**	**36.40

CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,120nm,6.6s
CD2 LR LR
comp=Z,200nm,14.3s
CD2 LR LR
comp=Z,180nm,13.1s
FFC Flin Flon 49.34 50 *e*P **P 23 28 35.9 0.0**
FFC pmax pmax
comp=Z,97nm,2.6s
FFC Flin Flon 49.34 50 *e*P **P 23 28 35.9 0.0**
comp=Z,97nm,2.6s
FCC Fort Churchill 49.90 42 *e*P **P 23 28 40.0 0.0**
FCC Fort Churchill 49.90 42 *e*P **P 23 28 40.0 0.0**
HRY Holter Researc 49.95 63 *e*P **P 23 28 42.0 +1.2**
MKAR Makanchi Array 49.97 297 P **P 23 28 40.1 -0.7**
MKAR Makanchi Array 49.97 297 *e*P **P 23 28 38.6 -2.2**
MKAR Makanchi Array 49.97 297 P **P 23 28 40.1 -0.7**
comp=Z,0.3nm,0.4s,baz=51,slow=6.5,SNR=12
MK01 Makanchi Array 49.98 297 *e*P **P 23 28 40.1 -0.8**
A19A Klindworth Far 50.02 59 P **P 23 28 41.0 -0.2**
baz=50
EGMT Eagleton 50.12 61 *e*P **P 23 28 41.6 -0.5**
comp=Z,83nm,2.5s
EGMT Eagleton 50.12 61 P **P 23 28 41.5 -0.5**
baz=50
B19A Brinkman Farms 50.24 60 P **P 23 28 42.6 -0.3**
baz=50
A20A Cobblestone Ra 50.46 59 P **P 23 28 44.5 0.0**
baz=50
C19A Slack Wire Ran 50.67 60 P **P 23 28 46.1 -0.1**
baz=50
B20A Solberg Farm, 50.71 59 P **P 23 28 46.2 -0.2**
baz=50
HLID Hailey 50.73 68 P **P 23 28 46.8 0.0**
baz=50
A21A Bergtoll Ranch 50.87 58 P **P 23 28 47.6 0.0**
baz=51
GYA Guiyang 50.91 261 *e*P **P 23 28 49.4 +1.2**
GYA pP **pP 23 29 02.8 +1.3**
GYA PP **PP 23 30 46.5 +1.8**
GYA ScP **ScP 23 33 56.3 +0.3**
GYA S **S 23 36 01.8 +0.6**
GYA sS **sS 23 36 23.0 -0.5**
GYA SS **SS 23 39 31.8 -4.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=Z,380nm,20.2s
GYA LR LR
comp=Z,270nm,21.6s
GYA LR LR
comp=Z,340nm,20.1s
D19A Cripps Ranch, 51.14 61 P **P 23 28 49.5 -0.2**
baz=51
C20A Veseth Ranch, 51.20 60 P **P 23 28 50.5 +0.3**
baz=51
CMB Columbia Colle 51.31 77 *e*P **P 23 28 51.7 +0.6**
CMB pmax pmax
comp=Z,36nm,2.1s
CMB Columbia Colle 51.31 77 *e*P **P 23 28 51.7 +0.6**
comp=Z,36nm,2.1s
A22A Carney Farms, 51.36 57 P **P 23 28 51.4 +0.1**
baz=51
SUMG Summit 51.46 9 *i*P **P 23 28 51.7 -0.4**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 51.46 9 *i*P **P 23 28 51.7 -0.4**
comp=Z,4.2nm,0.9s
SUMG Summit 51.46 9 *e*P **P 23 28 51.4 -0.7**
comp=Z,173nm,2.9s
BRVK Borovoye 51.47 310 *e*P **P 23 28 52.5 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 51.47 310 *e*P **P 23 28 52.5 +0.5**
comp=Z,7.0nm,0.9s
D20A Manuel Ranch, 51.56 61 P **P 23 28 52.6 -0.2**
baz=51
E19A Rath Farm, Rou 51.67 62 P **P 23 28 53.6 -0.1**
baz=51
GCMT Greycliff 51.68 63 *e*P **P 23 28 54.9 +1.1**
KEV Kevo 51.76 343 *e*P **P 23 28 52.8 -1.1**
KEV pmax pmax
comp=Z,229nm,2.2s
KEV Kevo 51.76 343 *e*P **P 23 28 52.8 -1.1**
comp=Z,230nm,2.2s
E20A Meyer Farm, Mu 51.97 61 P **P 23 28 56.4 +0.5**
baz=52
D21A La Casta Ranch 52.15 60 P **P 23 28 57.0 -0.2**
baz=52
B23A Brockton 52.17 57 P **P 23 28 57.0 -0.2**
baz=52
NV01 Mina Array Sit 52.19 75 *e*P **P 23 28 58.4 +0.6**
NVAR Mina Array Bea 52.19 75 P **P 23 28 58.9 +1.1**
NVAR Mina Array Bea 52.19 75 P **P 23 28 58.9 +1.1**
comp=Z,1.4nm,0.5s,baz=303,slow=7.0,SNR=10.0
ARCES ARCESS Array B 52.20 343 P **P 23 28 56.3 -0.9**
ARCES ARCESS Array B 52.20 343 P **P 23 28 56.3 -0.9**
comp=Z,1.5nm,0.3s,baz=24,slow=8.9,SNR=16
RLMT Red Lodge 52.34 63 *e*P **P 23 28 59.8 +0.9**
comp=Z,6.3nm,0.6s
H18A Shoshone NF, C 52.45 64 P **P 23 29 00.3 +0.7**
baz=52
D22A Cohagen 52.49 59 P **P 23 29 00.3 +0.5**
baz=52
C23A Lambert 52.53 58 P **P 23 29 00.5 +0.5**
baz=52
A25A Svangastu Ranch 52.74 56 P **P 23 29 01.3 -0.1**
baz=52
H19A Powell 52.80 63 P **P 23 29 02.6 +0.4**
baz=53
G20A Bridger 52.81 62 P **P 23 29 02.3 +0.1**
baz=53
TPH Tonopah 53.04 75 *e*P **P 23 29 05.5 +1.4**
TPH pmax pmax
comp=Z,4.0nm,0.8s
TPH Tonopah 53.04 75 *e*P **P 23 29 05.5 +1.4**
comp=Z,3.9nm,0.8s
E22A Miles City 53.10 60 P **P 23 29 04.4 +0.2**
baz=53
I19A Meeteetse 53.24 64 P **P 23 29 05.1 -0.3**
baz=53
A26A Wade Farm, Ken 53.28 55 P **P 23 29 05.8 +0.3**
baz=53
C25A Freed Ranch, W 53.53 57 P **P 23 29 07.1 -0.2**
baz=53
B26A Jensen Ranch, 53.55 56 P **P 23 29 07.2 -0.3**
baz=53
CWC Cottonwood Cre 53.74 77 P **P 23 29 09.8 +0.7**
baz=54
I20A Worland 53.75 63 P **P 23 29 09.7 +0.6**
baz=54
R11A Troy Canyon, C 53.75 73 *e*P **P 23 29 10.0 +0.8**
comp=Z,36nm,2.5s
R11A Troy Canyon, C 53.75 73 P **P 23 29 10.2 +1.0**
baz=54
J19A Crowheart 53.75 65 P **P 23 29 09.8 +0.6**
baz=54
H21A Big Horn, Sher 53.82 62 P **P 23 29 10.2 +0.5**
baz=54
BW06 Boulder Array 53.84 65 *e*P **P 23 29 10.1 +0.2**
comp=Z,42nm,2.5s
PDAR Pinedale Array 53.84 65 P **P 23 29 10.5 +0.6**
PDAR pP **pP 23 29 22.9 -0.5**
PDAR Pinedale Array 53.84 65 P **P 23 29 10.5 +0.6**
comp=Z,1.5nm,0.4s,baz=352,slow=3.4,SNR=29
PDAR pP **pP 23 29 22.9 -0.5**
comp=Z,2.2nm,0.8s,baz=340,slow=2.3,SNR=8.8
F23A Volborg 53.87 60 P **P 23 29 10.3 +0.4**
baz=54
ARU Arti 53.88 319 *c i*P **P 23 29 09.0 -0.7**
ARU 23 30 12.0
ARU 23 31 14.7
ARU S **S 23 36 38.5 -2.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 53.88 319 *e*P **P 23 29 09.1 -0.6**
comp=Z,5.0nm,0.5s
DUG Dugway 53.94 70 P **P 23 29 10.5 0.0**
baz=54
C26A Wahner Farm, P 54.00 56 P **P 23 29 11.2 +0.4**
baz=54
A28A Rude Farm, Bot 54.10 54 P **P 23 29 11.4 -0.1**
baz=54

KMI Kunming 54.16 263 P **P 23 29 13.9 +1.4**
KMI pP **pP 23 29 28.8 +2.9**
KMI sP **sP 23 29 34.9 +3.4**
KMI pmax pmax
comp=Z,6.0nm,1.0s
J20A Shoshoni 54.19 64 P **P 23 29 12.7 +0.3**
baz=54
H22A Clearmont 54.20 62 P **P 23 29 12.2 -0.1**
baz=54
PRGR Permogore 54.25 329 *e*P **P 23 29 11.9 -0.4**
PRGR pmax pmax
comp=Z,8.0nm,0.8s
F24A Ekalaka 54.26 59 P **P 23 29 12.6 -0.2**
baz=54
E25A Miller Ranch, 54.31 58 P **P 23 29 13.8 +0.7**
baz=54
MPMC Manual Prospec 54.34 77 P **P 23 29 14.2 +0.6**
baz=54
B28A Dugan Ranch, T 54.38 55 P **P 23 29 14.0 +0.6**
baz=54
FURC Furnace Creek, 54.39 76 P **P 23 29 14.6 +0.9**
baz=54
D26A Manning 54.40 57 P **P 23 29 14.2 +0.5**
baz=54
A29A Manning Farm, 54.57 54 P **P 23 29 15.1 +0.3**
baz=54
I22A 9 Mile Ranch, 54.63 62 P **P 23 29 15.9 +0.4**
baz=54
D27A Center 54.78 57 P **P 23 29 16.5 0.0**
baz=54
E26A Carlson Angus 54.79 58 P **P 23 29 16.9 +0.4**
baz=54
B29A Wagenman Farm, 54.84 54 P **P 23 29 17.2 +0.4**
baz=55
J22A Midwest 54.97 63 P **P 23 29 18.1 +0.1**
baz=55
H24A Dirks Ranch, A 54.99 60 P **P 23 29 18.2 +0.2**
baz=55
QIZ Qiongzhong 55.03 252 P **P 23 29 21.1 +2.6**
QIZ S **S 23 36 59.1 +1.9**
QIZ pmax pmax
comp=Z,41nm,1.7s
SHOC Shoshone 55.13 76 P **P 23 29 19.6 +0.5**
baz=55
F26A Lodgepole 55.13 58 P **P 23 29 19.0 0.0**
baz=55
ULM Lac du Bonnet 55.13 51 *e*P **P 23 29 19.1 +0.3**
comp=Z,84nm,2.5s
ULM Lac du Bonnet 55.13 51 P **P 23 29 19.2 +0.3**
comp=Z,2.7nm,0.5s,baz=321,slow=6.4,SNR=6.3
SFJD Kangerlussuaq 55.20 16 *i*P **P 23 29 18.0 -1.0**
comp=Z,6.7nm,0.9s
SFJD Kangerlussuaq 55.20 16 *e*P **P 23 29 17.8 -1.2**
comp=Z,327nm,2.6s
GSC Goldstone 55.27 77 *e*P **P 23 29 21.5 +1.3**
GSC pmax pmax
comp=Z,24nm,1.1s
GSC Goldstone 55.27 77 *e*P **P 23 29 21.5 +1.3**
comp=Z,24nm,1.1s
GSC Goldstone 55.27 77 P **P 23 29 21.1 +0.9**
baz=55
SHPR Sheep Range 55.31 74 *e*P **P 23 29 22.0 +1.5**
F27A Lemmon 55.43 58 P **P 23 29 21.2 +0.1**
baz=55
TMUT Trail Mountain 55.45 69 *e*P **P 23 29 22.9 +1.2**
comp=Z,6.1nm,0.7s
CCUT Cedar City 55.54 72 *e*P **P 23 29 23.1 +0.8**
comp=Z,43nm,2.7s
BFSC Mount Baldy Ra 55.57 78 P **P 23 29 23.0 +0.5**
baz=55
RSSD Black Hills 55.70 61 *e*P **P 23 29 23.7 +0.4**
RSSD pmax pmax
comp=Z,28nm,1.9s
RSSD Black Hills 55.70 61 *e*P **P 23 29 23.7 +0.4**
comp=Z,28nm,1.9s
HEC Hector,Ludlow 55.88 77 P **P 23 29 25.3 +0.7**
baz=56
N20A Spence Gulch, 55.90 66 P **P 23 29 25.6 +0.8**
baz=56
SRU San Rafael 55.95 69 *e*P **P 23 29 25.8 +0.7**
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael 55.95 69 *e*P **P 23 29 25.8 +0.7**
comp=Z,8.1nm,0.7s
GMRC Granite Mounta 56.29 76 P **P 23 29 28.1 +0.5**
baz=56
L23A Garrett 56.30 63 P **P 23 29 27.7 +0.1**
baz=56
M22A Cedar Creek Ra 56.36 65 P **P 23 29 28.7 +0.6**
baz=56
O20A White River Ci 56.42 67 *e*P **P 23 29 29.4 +0.9**
O20A White River Ci 56.42 67 P **P 23 29 29.1 +0.7**
baz=56
AGMN Agassiz Nation 56.56 52 *e*P **P 23 29 29.5 +0.3**
comp=Z,6.7nm,1.0s
AGMN Agassiz Nation 56.56 52 P **P 23 29 29.3 +0.1**
baz=56
BELC Belle Mtn. Jos 56.68 77 P **P 23 29 30.8 +0.4**
baz=56
M23A Laramie 56.76 64 P **P 23 29 31.0 0.0**
baz=56
JOF Joensuu 56.90 337 *e*P **P 23 29 30.3 -1.0**
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 56.90 337 *e*p **P 23 29 30.3 -1.0**
comp=Z,2.9nm,0.4s
U15A North Rim 56.94 73 P **P 23 29 32.7 +0.3**
baz=57
IRM Iron Mountain 57.03 76 P **P 23 29 33.7 +0.9**
baz=57
W13A Hualapai Mount 57.04 75 P **P 23 29 33.3 +0.3**
baz=57
N23A Red Feather La 57.06 65 P **P 23 29 33.1 -0.1**
baz=57
PV04 Paradox Valley 57.33 69 *e*P **P 23 29 36.1 +1.2**
G30A Faulkton 57.36 57 P **P 23 29 34.8 0.0**
baz=57
PV05 Paradox Valley 57.46 69 *e*P **P 23 29 37.4 +1.4**
O23A Lake Granby, G 57.58 65 P **P 23 29 38.0 +1.2**
baz=57
PV01 Paradox Valley 57.70 69 *e*P **P 23 29 38.2 +0.6**
KSH Kashi 58.37 295 *e*P P 23 29 47.9 +5.7
KSH *e*PP PP 23 31 59.5 +8.2
KSH *e*PcS **PcS 23 34 37.1 +2.8**
KSH *e*S S 23 37 46.9 +5.7
KSH *es*S sS 23 38 09.0 +5.1
KSH pmax pmax
comp=Z,2.0nm,0.7s
KSH pmax pmax
comp=Z,67nm,3.1s
KSH LR LR
comp=Z,180nm,6.6s
KSH LR LR
comp=Z,130nm,9.0s
KSH LR LR
comp=Z,90nm,8.1s
KAF Kangasniemi 58.70 339 *e*P **P 23 29 43.1 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 58.70 339 *e*p **P 23 29 43.1 -0.8**
comp=Z,3.9nm,0.4s
ABKAR Akbulak array 58.71 312 *e*P **P 23 29 44.3 +0.1**
EYMN Ely 58.78 50 *e*P **P 23 29 44.8 +0.1**
comp=Z,7.1nm,0.6s
X16A Lo Mia Camp, P 58.90 74 P **P 23 29 46.8 +0.8**
baz=59
S22A 4UR Ranch, Cre 58.92 68 P **P 23 29 46.7 +0.5**
baz=59
FINES FINESS Array B 59.35 339 P **P 23 29 47.6 -0.8**
FINES FINESS Array B 59.35 339 P **P 23 29 47.6 -0.8**
comp=Z,2.9nm,0.4s,baz=17,slow=8.8,SNR=34
FINES LR LR 00 00 35.5
comp=Z,98nm,18.6s,baz=42,slow=41
ECSD EROS Data Cent 59.61 56 P **P 23 29 50.5 -0.1**
baz=59
X18A Snowflake 59.63 72 P **P 23 29 51.6 +0.6**
baz=59
L31A Butterfield Fa 59.70 59 P **P 23 29 51.6 +0.3**
baz=59
N29A Votaw Ranch, W 59.83 61 P **P 23 29 52.8 +0.6**
baz=60
R25A Fountain Ranch 59.96 66 P **P 23 29 53.4 +0.3**
baz=60
R26A Arlington 60.28 65 P **P 23 29 56.1 +0.8**
baz=60
U23A El Rito 60.31 68 P **P 23 29 55.8 0.0**
baz=60

O30A MW Ranch, Wils 60.60 61 P **P 23 29 57.5 +0.1**
baz=60
BGNE Belgrade 60.62 59 *e*P **P 23 29 58.0 +0.5**
comp=Z,20nm,0.9s
S26A Kim 60.78 65 P **P 23 29 58.8 +0.1**
baz=60
T26A Comanche Natio 61.05 66 P **P 23 30 00.6 -0.1**
baz=61
Q29A Oakley 61.10 63 P **P 23 30 01.0 +0.1**
baz=61
U25A Circle Dot Ran 61.20 67 P **P 23 30 01.9 +0.2**
baz=61
ANMO Albuquerque 61.21 70 P **P 23 30 02.7 +0.9**
ANMO Albuquerque 61.21 70 P **P 23 30 02.7 +0.9**
comp=Z,1.3nm,0.7s,baz=332,slow=9.0,SNR=5.3
COWI Conover 61.23 50 *e*P **P 23 30 01.3 -0.2**
comp=Z,203nm,3.0s
V25A Rancho No Teng 61.52 68 P **P 23 30 03.9 +0.1**
baz=61
CMAR Chiang Mai Arr 61.57 261 P **P 23 30 05.0 +0.8**
CMAR Chiang Mai Arr 61.57 261 P **P 23 30 05.0 +0.8**
comp=Z,1.2nm,0.3s,baz=24,slow=7.0,SNR=6.4
T27A Campo 61.59 65 P **P 23 30 04.4 +0.1**
baz=61
R30A Dighton 61.92 63 P **P 23 30 06.4 0.0**
baz=62
V26A Tequesquite Ra 61.99 67 P **P 23 30 07.3 +0.3**
baz=62
U27A Thompson Grove 62.02 66 P **P 23 30 06.9 -0.3**
baz=62
Y23A Lovelace Mesa, 62.20 70 P **P 23 30 09.3 +0.8**
baz=62
Z22A Elephant Butte 62.22 71 P **P 23 30 09.9 +1.3**
baz=62
Q32A Meitler Ranch, 62.25 61 P **P 23 30 09.4 +0.9**
baz=62
NB2 NORSAR Subarra 62.31 346 P **P 23 30 07.6 -1.0**
comp=Z,3.8nm,0.5s,baz=17,slow=6.9
NOA NORSAR Array B 62.31 346 P **P 23 30 08.0 -0.7**
NOA NORSAR Array B 62.31 346 P **P 23 30 08.0 -0.7**
comp=Z,4.0nm,0.5s,baz=18,slow=6.8,SNR=27
NOA LR LR 00 00 17.8
comp=Z,44nm,18.1s,baz=40,slow=39
SCHQ Schefferville 62.32 31 *e*P **P 23 30 08.1 -0.6**
comp=Z,457nm,3.0s
SCHQ Schefferville 62.32 31 P **P 23 30 08.1 -0.6**
comp=Z,5.2nm,0.7s,baz=346,slow=7.3,SNR=12
NBO02 NORSAR Array S 62.35 346 *e*P **P 23 30 07.9 -0.9**
U28A Mallet 62.37 66 P **P 23 30 09.4 -0.1**
baz=62
Y24A Capitan 62.53 70 P **P 23 30 11.6 +0.9**
baz=62
Q33A Connelly Farm, 62.61 61 P **P 23 30 10.9 -0.1**
baz=62
Y25A Mesa, Roswell 62.93 69 P **P 23 30 13.7 +0.4**
baz=63
Z26A Caprock 63.81 69 P **P 23 30 19.7 +0.6**
baz=64
KONO Kongsberg 63.88 347 *e*P **P 23 30 18.4 -0.5**
KONO pmax pmax
comp=Z,183nm,2.0s
KONO Kongsberg 63.88 347 *e*P **P 23 30 18.4 -0.5**
comp=Z,183nm,2.0s
Z27A Tatum 64.19 68 P **P 23 30 21.8 +0.2**
baz=64
MNTX Cornudas Mount 64.27 71 *e*P **P 23 30 22.9 +1.0**
comp=Z,32nm,2.6s
226B Tecolote Peak, 64.63 70 P **P 23 30 25.0 +0.5**
baz=64
Z29A Hungry Hill Ra 65.03 67 P **P 23 30 26.9 -0.1**
baz=65
128A Castleberry Fa 65.11 68 P **P 23 30 27.7 +0.2**
baz=65
425A Indio Mountain 65.18 71 P **P 23 30 28.2 +0.1**
baz=65
V34A Guthrie 65.21 63 P **P 23 30 27.8 -0.3**
baz=65
Z30A Sanderson Ranc 65.32 67 P **P 23 30 28.8 -0.1**
baz=65
326A Caldwell Ranch 65.32 70 P **P 23 30 29.2 +0.3**
baz=65
WMOK Wichita Mounta 65.42 64 *e*P **P 23 30 29.9 +0.5**
WMOK Wichita Mounta 65.42 64 *e*P **P 23 30 29.9 +0.5**
Y32A R-V Farms, Ver 65.64 65 P **P 23 30 30.7 -0.2**
baz=65
426A McDonald Obser 65.79 71 P **P 23 30 31.6 -0.5**
baz=66
Z31A Sharp Cattle R 65.81 66 P **P 23 30 31.5 -0.5**
baz=66
328A Wristen Ranch, 65.90 69 P **P 23 30 32.6 0.0**
baz=66
130A Snyder 65.94 67 P **P 23 30 33.1 +0.3**
baz=66
Y33A Hilltop Ranch, 66.07 65 P **P 23 30 33.2 -0.4**
baz=66
526A Mary Lane Ranc 66.23 71 P **P 23 30 35.0 +0.1**
baz=66
329A Wagon Wheel Ra 66.26 69 P **P 23 30 35.3 +0.3**
baz=66
230A Sterling City 66.41 68 P **P 23 30 36.1 +0.2**
baz=66
527A Woodward Ranch 66.43 71 P **P 23 30 35.9 -0.2**
baz=66
428A Kincaid Ranch, 66.47 70 P **P 23 30 37.0 +0.7**
baz=66
SADO Sadowa 66.50 44 P **P 23 30 35.0 -1.2**
SADO Sadowa 66.50 44 P **P 23 30 35.0 -1.2**
comp=Z,4.5nm,1.1s,baz=309,slow=3.5,SNR=4.1
626A Big Bend Ranch 66.60 72 P **P 23 30 37.7 +0.6**
baz=66
528A Cox Ranch, San 66.86 70 P **P 23 30 39.1 +0.2**
baz=67
TX31 Lajitas Ar. Si 67.03 71 *e*P **P 23 30 40.6 +0.7**
TXAR Lajitas Array 67.03 71 P **P 23 30 40.6 +0.8**
TXAR Lajitas Array 67.03 71 P **P 23 30 40.6 +0.8**
comp=Z,2.6nm,0.6s,baz=299,slow=4.2,SNR=43
627A Terlingua Ranc 67.09 71 P **P 23 30 41.0 +0.7**
baz=67
232A Coleman 67.19 67 P **P 23 30 40.7 -0.1**
baz=67
331A San Angelo 67.23 68 P **P 23 30 41.1 0.0**
baz=67
628A Black Gap, Mar 67.33 71 P **P 23 30 42.1 +0.3**
baz=67
332A Millersview 67.53 67 P **P 23 30 43.2 +0.3**
baz=67
431A Sonora 67.62 68 P **P 23 30 43.5 -0.1**
baz=67
530A J-C Ranch, Com 67.65 69 P **P 23 30 44.0 +0.3**
baz=67
432A Menard 67.90 68 P **P 23 30 45.4 +0.1**
baz=68
531A Rocksprings 68.06 69 P **P 23 30 46.6 +0.2**
baz=68
WHTX Lake Whitney 68.25 65 P **P 23 30 47.5 +0.1**
baz=68
AKASG Malin Array Be 68.31 332 P **P 23 30 46.4 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.31 332 P **P 23 30 46.4 -1.1**
AKASG Malin Array Be 68.31 332 P **P 23 30 46.4 -1.1**
comp=Z,1.1nm,0.5s,baz=28,slow=6.4,SNR=5.1
334A Lometa 68.36 66 P **P 23 30 48.2 0.0**
baz=68
433A Art 68.37 67 P **P 23 30 48.3 +0.1**
baz=68
532A Rocksprings 68.43 68 P **P 23 30 48.5 -0.2**
baz=68
631A Perdido Creek 68.64 69 P **P 23 30 49.9 0.0**
baz=68
MMNY Mt. Morris Dam 68.69 45 *e*P **P 23 30 49.0 -1.0**
comp=Z,274nm,2.3s
434A Burnet 68.76 67 P **P 23 30 50.5 -0.2**
baz=68
533A Kerrville 68.94 68 P **P 23 30 51.8 -0.1**
baz=69
632A Uvalde 68.98 68 P **P 23 30 52.1 0.0**
baz=69
534A Blanco 69.27 67 P **P 23 30 53.6 -0.3**
baz=69
ESK Eskdalemuir 69.45 353 *e*P **P 23 30 53.7 -0.8**
ESK pmax pmax
comp=Z,602nm,2.6s
ESK Eskdalemuir 69.45 353 *e*P **P 23 30 53.7 -0.8**
comp=Z,602nm,2.6s
732A Laxson Ranch, 69.50 69 P **P 23 30 55.7 +0.5**
baz=69
832A Faith Ranch, C 69.85 69 P **P 23 30 57.7 +0.3**

baz=70
KBZ **Khabaz** 70.03 319 P **P** 23 30 58.6 +0.3
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ MLR MLR
comp=Z,121nm,18.5s
KBZ Khabaz 70.03 319 P **P** 23 30 58.5 +0.3
KBZ Khabaz 70.03 319 P **P** 23 30 58.5 +0.3
comp=Z,2.7nm,0.9s,baz=323,slow=4.1,SNR=4.0
KBZ LR LR 00 04 35.2
comp=Z,121nm,18.5s,baz=31,slow=38
EMMW East Machias 70.92 37 *eP* **P** 23 31 03.1 -0.5
COEN Coen 71.37 203 *eP* **P** 23 31 07.0 +0.4
comp=Z,2µm,2.5s
SWET Sewanee 71.38 55 *eP* **P** 23 31 06.4 -0.3
comp=Z,176nm,2.4s
TZTN Tazewell 71.39 52 *eP* **P** 23 31 06.5 -0.2
comp=Z,103nm,1.9s
AFI Afiamalu 71.50 156 LR LR 23 55 00.8
comp=Z,59nm,20.8s,baz=172,slow=30
DPC Dobruska-Polom 71.69 340 *eP* **P** 23 31 08.4 +0.1
DPC Dobruska-Polom 71.69 340 *eP* **P** 23 31 08.4 +0.1
DPC *ex* x 23 31 14.5
CPCT Cooper Cave 71.85 54 *eP* **P** 23 31 09.7 +0.3
KRLC Kraliky 71.86 339 *eP* **P** 23 31 09.4 +0.1
KRLC Kraliky 71.86 339 *eP* **P** 23 31 09.4 +0.1
BUR04 Bucovina Ar. S 72.20 333 *eP* **P** 23 31 10.3 -1.2
TREC Trest 72.86 340 *eP* **P** 23 31 15.8 +0.5
TREC Trest 72.86 340 *eP* **P** 23 31 15.8 +0.5
JSRW J. Sargeant Re 72.93 48 *eP* **P** 23 31 15.2 -0.6
KHC Kasperske Hory 73.38 341 *eP* **P** 23 31 18.0 -0.4
KHC pmax pmax
comp=Z,41nm,3.0s
KHC Kasperske Hory 73.38 341 *eP* **P** 23 31 18.9 +0.5
GERES GERESS Array B 73.63 341 P **P** 23 31 19.7 -0.2
GERES GERESS Array B 73.63 341 P **P** 23 31 19.7 -0.2
comp=Z,0.5nm,0.4s,baz=96,slow=8.2,SNR=5.5
DYA Yadsworthy 74.36 353 *eP* **P** 23 31 23.7 -0.3
comp=Z,515nm,2.7s
FLN La Foliniere 75.73 350 *eP* **P** 23 31 31.4 -0.5
comp=Z,12nm,0.7s
FLN La Foliniere 75.73 350 *eP* **P** 23 31 31.4 -0.5
FLN pmax pmax
comp=Z,12nm,0.7s
FLN La Foliniere 75.73 350 *eP* **P** 23 31 31.4 -0.5
comp=Z,12nm,0.7s
LDF La Druitiere 75.87 350 *eP* **P** 23 31 32.1 -0.6
LDF La Druitiere 75.87 350 *eP* **P** 23 31 32.1 -0.6
LDF La Druitiere 75.87 350 *eP* **P** 23 31 32.1 -0.6
GRR Gorron 76.14 351 *eP* **P** 23 31 34.0 -0.3
comp=Z,11nm,0.6s
GRR Gorron 76.14 351 *eP* **P** 23 31 34.0 -0.3
GRR pmax pmax
comp=Z,11nm,0.6s
GRR Gorron 76.14 351 *eP* **P** 23 31 34.0 -0.3
comp=Z,11nm,0.6s
ROSF Rostrenen 76.40 352 *eP* **P** 23 31 35.5 -0.2
comp=Z,6.7nm,0.7s
ROSF Rostrenen 76.40 352 *eP* **P** 23 31 35.5 -0.2
ROSF pmax pmax
comp=Z,7.0nm,0.7s
ROSF Rostrenen 76.40 352 *eP* **P** 23 31 35.5 -0.2
comp=Z,6.7nm,0.7s
SGMF Saint Gilles 76.42 352 *eP* **P** 23 31 35.7 -0.2
comp=Z,14nm,0.9s
SGMF Saint Gilles 76.42 352 *eP* **P** 23 31 35.7 -0.2
SGMF pmax pmax
comp=Z,14nm,0.9s
SGMF Saint Gilles 76.42 352 *eP* **P** 23 31 35.7 -0.2
comp=Z,14nm,0.9s
BRTR Keskin Array B 76.85 324 P **P** 23 31 38.4 -0.3
BRTR Keskin Array B 76.85 324 P **P** 23 31 38.4 -0.3
comp=Z,0.6nm,0.6s,baz=204,slow=28,SNR=5.3
BRTR LR LR 00 11 46.0
comp=Z,78nm,18.1s,baz=154,slow=40
BR231 Keskin MP Arra 77.04 324 *eP* **P** 23 31 38.8 -0.8
AVF Avril sur Loir 77.26 347 *eP* **P** 23 31 40.2 -0.4
comp=Z,12nm,1.0s
AVF Avril sur Loir 77.26 347 *eP* **P** 23 31 40.2 -0.4
AVF pmax pmax
comp=Z,12nm,1.0s
AVF Avril sur Loir 77.26 347 *eP* **P** 23 31 40.2 -0.4
comp=Z,12nm,1.0s
VLC Villacollemand 78.76 342 *eP* **P** 23 31 47.9 -1.2
comp=Z,43nm,1.5s
WRA Warramunga Arr 79.35 210 P **P** 23 31 51.9 -0.4
WRA Warramunga Arr 79.35 210 P **P** 23 31 51.9 -0.4
comp=Z,2.6nm,0.7s,baz=18,slow=5.5,SNR=7.0
EPF Esparros 81.32 349 *eP* **P** 23 32 02.5 -0.4
comp=Z,4.8nm,0.8s
EPF Esparros 81.32 349 *eP* **P** 23 32 02.5 -0.4
EPF pmax pmax
comp=Z,5.0nm,0.8s
EPF Esparros 81.32 349 *eP* **P** 23 32 02.5 -0.4
comp=Z,4.8nm,0.8s
AS01 Alice Springs 82.99 209 *eP* **P** 23 32 12.1 +0.5
ES19 SONSECA Array 85.03 352 *eP* **P** 23 32 21.7 -0.4
ESDC Sonseca Array 85.06 352 P **P** 23 32 22.6 +0.4
ESDC Sonseca Array 85.06 352 P **P** 23 32 22.6 +0.4
comp=Z,1.1nm,0.6s,baz=2.6,slow=5.0,SNR=15
LPAZ La Paz 123.81 68 PKP **PKPdf** 23 38 42.7 -2.4
LPAZ La Paz 123.81 68 PKP **PKPdf** 23 38 42.7 -2.4
comp=Z,0.7nm,0.3s,baz=315,slow=5.7,SNR=4.3
QSPA South Pole Qui 144.94 180 PKPbc PKPbc 23 39 19.9 -1.5
QSPA South Pole Qui 144.94 180 PKPbc PKPbc 23 39 19.9 -1.5
comp=Z,3.4nm,0.8s,baz=21,slow=2.3,SNR=8.8

*IDC **17** 23:32:28.7±3.8, 35°.65S×178°.31E, h200km±26km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp4.4/5, Error ellipse: s-maj=51.0km s-min=19.6km az=46.0*
*ISCJB **17** 23:32:33.2±0.9, 36°.47S±0°.08×178°.0E±0°.1, h268km±6km, mb3.9/4, Error ellipse: s-maj=18.8km s-min=12.6km az=14.5*
*WEL **17** 23:32:34.2±0.3, 36°.11S×177°.98E, h215km±2km, ML4.7/21, Error ellipse: s-maj=3.5km s-min=3.4km az=90.0*
*NEIC **17** 23:32:34.1, 36°.11S×177°.97E, h216km, MG4.7(WEL), After WEL.*

ISC 17 23:32:34.8±1.0, 36°.30S±0°.10×177°.84E±0°.09, h240km±7km, n174, σ1§40/182, mb4.0/4, 8C-6D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.32**	**164**	PN	**Pn**	**23 33 09.2**	**-1.5**
MXZ				AML	AML	23 33 10.3	
MXZ				SN	**S**	**23 33 36.1**	**-2.9**
MXZ				AML	AML	23 33 38.7	
MXZ				AML	AML	23 33 38.7	
MXZ	**Matakaoa Point**	**1.32**	**164**	Pn	**Pn**	**23 33 09.2**	**-1.5**
WIZ	**White Island**	**1.34**	**203**	PN	**Pn**	**23 33 09.8**	**-1.1**
WIZ	**White Island**	**1.34**	**203**	Pn	**Pn**	**23 33 09.8**	**-1.1**
HAZ	**Te Kaha**	**1.46**	**182**	PN	**Pn**	**23 33 10.5**	**-1.2**
HAZ				SN	**S**	**23 33 39.0**	**-1.8**
PUZ	**Puketiti**	**1.80**	**170**	PN	**Pn**	**23 33 13.7**	**-0.9**
PUZ				SN	**S**	**23 33 43.7**	**-2.3**
PUZ				AML	AML	23 33 46.9	
PUZ	**Puketiti**	**1.80**	**170**	Pn	**Pn**	**23 33 13.7**	**-0.9**
OPRZ	**Ohinepanea**	**1.86**	**213**	PN	**Pn**	**23 33 14.7**	**-0.3**
OPRZ	**Ohinepanea**	**1.86**	**213**	Pn	**Pn**	**23 33 14.7**	**-0.3**
MARZ	**Manawahe**	**1.93**	**209**	*e*PN	**Pn**	**23 33 15.7**	**0.0**
MARZ	**Manawahe**	**1.93**	**209**	Pn	**Pn**	**23 33 15.8**	**0.0**
EDRZ	**Edgecumbe**	**2.01**	**206**	PN	**Pn**	**23 33 16.8**	**+0.3**
EDRZ	**Edgecumbe**	**2.01**	**206**	Pn	**Pn**	**23 33 16.9**	**+0.4**
URZ	**Urewera**	**2.04**	**196**	PN	**Pn**	**23 33 16.2**	**-0.6**
URZ				SN	**S**	**23 33 48.8**	**-1.0**
URZ				AML	AML	23 33 56.0	
URZ	**Urewera**	**2.04**	**196**	P	**Pn**	**23 33 16.3**	**-0.4**
URZ				S	**S**	**23 33 52.6**	**+2.8**
URZ	**Urewera**	**2.04**	**196**	P	**Pn**	**23 33 16.3**	**-0.4**
	96nm,0.3s,baz=25,slow=4.1,SNR=436						
URZ				S	**S**	**23 33 52.7**	**+2.8**
	83nm,0.3s,baz=49,slow=23,SNR=22						
MWZ	**Matawai**	**2.05**	**187**	⇓PN	**Pn**	**23 33 16.3**	**-0.6**
MWZ				SN	**S**	**23 33 48.8**	**-1.2**
MWZ				AML	AML	23 33 53.9	
MWZ				AML	AML	23 33 57.7	
MWZ				AML	AML	23 33 59.4	
MWZ	**Matawai**	**2.05**	**187**	Pn	**Pn**	**23 33 16.4**	**-0.4**
MWZ				Sn	**S**	**23 33 49.4**	**-0.7**
CNGZ	**Carnagh Statio**	**2.20**	**173**	⇑PN	**Pn**	**23 33 18.3**	**+0.1**
CNGZ	**Carnagh Statio**	**2.20**	**173**	Pn	**Pn**	**23 33 18.3**	**+0.1**
TARZ	**Mount Tarawera**	**2.21**	**208**	PN	**Pn**	**23 33 19.4**	**+0.9**
TARZ	**Mount Tarawera**	**2.21**	**208**	Pn	**Pn**	**23 33 19.4**	**+0.9**
RRRZ	**Republican Roa**	**2.30**	**207**	PN	**Pn**	**23 33 19.5**	**+0.3**
RRRZ	**Republican Roa**	**2.30**	**207**	Pn	**Pn**	**23 33 19.9**	**+0.6**
RIGZ	**Rimuhau**	**2.41**	**182**	⇑PN	**Pn**	**23 33 20.1**	**-0.2**
PRRZ	**Plateau Road**	**2.48**	**207**	⇑PN	**Pn**	**23 33 21.6**	**+0.6**
PRRZ	**Plateau Road**	**2.48**	**207**	Pn	**Pn**	**23 33 21.7**	**+0.6**
SNGZ	**Shannon Statio**	**2.51**	**189**	PN	**Pn**	**23 33 21.3**	**0.0**
ALRZ	**Allen Road**	**2.56**	**207**	PN	**Pn**	**23 33 22.4**	**+0.6**
ALRZ	**Allen Road**	**2.56**	**207**	Pn	**Pn**	**23 33 22.4**	**+0.6**
PRGZ	**Paritu Road**	**2.62**	**179**	PN	**Pn**	**23 33 22.4**	**-0.1**
PRGZ	**Paritu Road**	**2.62**	**179**	Pn	**Pn**	**23 33 22.4**	**-0.1**
RAHZ	**Arahi**	**2.68**	**193**	⇑PN	**Pn**	**23 33 23.4**	**+0.2**
RAHZ	**Arahi**	**2.68**	**193**	Pn	**Pn**	**23 33 23.4**	**+0.2**
KNZ	**Kokohu**	**2.72**	**183**	PN	**Pn**	**23 33 23.1**	**-0.4**
KNZ	**Kokohu**	**2.72**	**183**	Pn	**Pn**	**23 33 23.1**	**-0.4**
WHHZ	**Waihua**	**2.82**	**190**	PN	**Pn**	**23 33 24.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.85**	**179**	PN	**Pn**	**23 33 25.0**	**0.0**
MHGZ	**Mahia Peninsul**	**2.85**	**179**	Pn	**Pn**	**23 33 25.0**	**0.0**
NMHZ	**Naumai**	**2.92**	**196**	⇓PN	**Pn**	**23 33 26.4**	**+0.7**
NMHZ				SN	**S**	**23 34 06.8**	**+0.8**
NMHZ	**Naumai**	**2.92**	**196**	Pn	**Pn**	**23 33 26.4**	**+0.7**
NMHZ				Sn	**S**	**23 34 06.8**	**+0.8**
BKZ	**Black Stump Fm**	**3.06**	**200**	PN	**Pn**	**23 33 27.0**	**-0.3**
BKZ				AML	AML	23 34 10.8	
BKZ				AML	AML	23 34 13.4	
BKZ	**Black Stump Fm**	**3.06**	**200**	Pn	**Pn**	**23 33 26.8**	**-0.4**
MCHZ	**McNeill Hill**	**3.27**	**196**	PN	**Pn**	**23 33 29.7**	**+0.1**
MCHZ	**McNeill Hill**	**3.27**	**196**	Pn	**Pn**	**23 33 29.7**	**+0.1**
KRVZ	**Karewarewa**	**3.29**	**211**	PN	**Pn**	**23 33 30.5**	**+0.5**
KRVZ	**Karewarewa**	**3.29**	**211**	Pn	**Pn**	**23 33 30.5**	**+0.5**
WTVZ	**West Tongariro**	**3.33**	**212**	PN	**Pn**	**23 33 30.9**	**+0.5**
WTVZ	**West Tongariro**	**3.33**	**212**	Pn	**Pn**	**23 33 30.9**	**+0.3**
OTVZ	**Oturere**	**3.34**	**210**	PN	**Pn**	**23 33 30.9**	**+0.3**
OTVZ	**Oturere**	**3.34**	**210**	Pn	**Pn**	**23 33 30.9**	**+0.3**
TWVZ	**Taurewa**	**3.36**	**214**	PN	**Pn**	**23 33 31.1**	**+0.4**
TWVZ	**Taurewa**	**3.36**	**214**	Pn	**Pn**	**23 33 31.1**	**+0.4**
NGZ	**Ngauruhoe**	**3.38**	**211**	PN	**Pn**	**23 33 31.6**	**+0.6**
NGZ	**Ngauruhoe**	**3.38**	**211**	Pn	**Pn**	**23 33 31.5**	**+0.6**
CKHZ	**Cape Kidnapper**	**3.41**	**190**	PN	**Pn**	**23 33 31.1**	**0.0**
CKHZ	**Cape Kidnapper**	**3.41**	**190**	Pn	**Pn**	**23 33 31.1**	**0.0**
WPVZ	**Whakapapa**	**3.43**	**211**	PN	**Pn**	**23 33 31.7**	**+0.2**
WPVZ	**Whakapapa**	**3.43**	**211**	Pn	**Pn**	**23 33 32.1**	**+0.6**
TUVZ	**Tukino**	**3.44**	**210**	PN	**Pn**	**23 33 31.7**	**+0.1**
TUVZ	**Tukino**	**3.44**	**210**	Pn	**Pn**	**23 33 31.7**	**+0.1**
FWVZ	**Far West T-bar**	**3.47**	**211**	PN	**Pn**	**23 33 32.2**	**+0.1**
FWVZ	**Far West T-bar**	**3.47**	**211**	Pn	**Pn**	**23 33 32.2**	**+0.1**
WHVZ	**Whangaehu Hut**	**3.47**	**210**	PN	**Pn**	**23 33 32.3**	**+0.1**
DRZ	**Dome Shelter**	**3.48**	**211**	PN	**Pn**	**23 33 32.4**	**+0.1**
DRZ	**Dome Shelter**	**3.48**	**211**	Pn	**Pn**	**23 33 32.7**	**+0.4**
BHHZ	**Black Hill Sta**	**3.48**	**203**	PN	**Pn**	**23 33 31.5**	**-0.6**
BHHZ	**Black Hill Sta**	**3.48**	**203**	Pn	**Pn**	**23 33 31.5**	**-0.6**
TRVZ	**Turoa**	**3.51**	**211**	PN	**Pn**	**23 33 32.5**	**0.0**
TRVZ	**Turoa**	**3.51**	**211**	Pn	**Pn**	**23 33 32.5**	**0.0**
WNVZ	**Wahianoa**	**3.51**	**210**	PN	**Pn**	**23 33 32.4**	**-0.1**
WNVZ	**Wahianoa**	**3.51**	**210**	Pn	**Pn**	**23 33 32.4**	**-0.1**
MOVZ	**Moawhango**	**3.52**	**207**	PN	**Pn**	**23 33 31.9**	**-0.6**
MOVZ	**Moawhango**	**3.52**	**207**	Pn	**Pn**	**23 33 31.9**	**-0.6**
KAHZ	**Kahuranaki**	**3.58**	**192**	⇓PN	**Pn**	**23 33 33.2**	**+0.1**
KAHZ	**Kahuranaki**	**3.58**	**192**	Pn	**Pn**	**23 33 33.2**	**+0.1**
PKVZ	**Pokaka**	**3.58**	**213**	PN	**Pn**	**23 33 33.4**	**+0.2**
PKVZ	**Pokaka**	**3.58**	**213**	Pn	**Pn**	**23 33 33.4**	**+0.2**
MTVZ	**Mangateitei**	**3.61**	**211**	PN	**Pn**	**23 33 33.7**	**+0.2**
MTVZ	**Mangateitei**	**3.61**	**211**	Pn	**Pn**	**23 33 33.8**	**+0.2**
PXZ	**Pawanui**	**3.81**	**191**	PN	**Pn**	**23 33 35.2**	**-0.5**
PXZ				AML	AML	23 34 26.9	
PXZ				AML	AML	23 34 26.9	
PXZ				AML	AML	23 34 27.0	
PXZ				AML	AML	23 34 27.0	
PXZ	**Pawanui**	**3.81**	**191**	Pn	**Pn**	**23 33 35.2**	**-0.5**
PNHZ	**Pukenui**	**3.84**	**199**	PN	**Pn**	**23 33 35.3**	**-0.8**
PNHZ				SN	**S**	**23 34 23.8**	**-1.1**
PNHZ	**Pukenui**	**3.84**	**199**	Pn	**Pn**	**23 33 35.3**	**-0.8**
PNHZ				Sn	**S**	**23 34 23.8**	**-1.1**
WPHZ	**Waipukurau**	**3.92**	**196**	⇑PN	**Pn**	**23 33 36.7**	**-0.4**
WPHZ	**Waipukurau**	**3.92**	**196**	Pn	**Pn**	**23 33 36.3**	**-0.8**
TSZ	**Takapari Road**	**4.04**	**201**	PN	**Pn**	**23 33 37.5**	**-1.0**
TSZ				AML	AML	23 34 31.9	
TSZ				AML	AML	23 34 31.9	
TSZ	**Takapari Road**	**4.04**	**201**	Pn	**Pn**	**23 33 37.5**	**-1.0**
PRHZ	**Porangahau**	**4.08**	**193**	PN	**Pn**	**23 33 38.6**	**-0.4**
PRHZ	**Porangahau**	**4.08**	**193**	Pn	**Pn**	**23 33 38.6**	**-0.4**
WAZ	**Wanganui**	**4.12**	**212**	⇑PN	**Pn**	**23 33 39.7**	**+0.1**
WAZ	**Wanganui**	**4.12**	**212**	Pn	**Pn**	**23 33 39.6**	**+0.1**
DVHZ	**Dannevirke**	**4.21**	**198**	PN	**Pn**	**23 33 39.4**	**-1.2**
DVHZ	**Dannevirke**	**4.21**	**198**	Pn	**Pn**	**23 33 39.4**	**-1.2**
ANWZ	**Angora Road**	**4.29**	**194**	⇓PN	**Pn**	**23 33 40.9**	**-0.6**
POWZ	**Post Office Ro**	**4.40**	**201**	PN	**Pn**	**23 33 41.9**	**-0.9**
POWZ	**Post Office Ro**	**4.40**	**201**	Pn	**Pn**	**23 33 41.9**	**-0.9**
PRWZ	**Pori Road**	**4.50**	**199**	PN	**Pn**	**23 33 43.2**	**-0.8**
BFZ	**Birch Farm**	**4.55**	**195**	PN	**Pn**	**23 33 43.5**	**-1.2**
BFZ	**Birch Farm**	**4.55**	**195**	Pn	**Pn**	**23 33 43.5**	**-1.2**
MRZ	**Mangatainoka R**	**4.71**	**201**	PN	**Pn**	**23 33 45.0**	**-1.5**
MRZ				AML	AML	23 34 44.1	
MRZ				AML	AML	23 34 46.6	
MRZ	**Mangatainoka R**	**4.71**	**201**	Pn	**Pn**	**23 33 45.0**	**-1.5**
TIWZ	**Tintock**	**4.73**	**198**	⇓PN	**Pn**	**23 33 45.8**	**-1.1**
TIWZ				AML	AML	23 34 45.7	
TIWZ				AML	AML	23 34 46.6	
TIWZ	**Tintock**	**4.73**	**198**	Pn	**Pn**	**23 33 45.8**	**-1.1**
CPWZ	**Castlepoint**	**4.78**	**195**	PN	**Pn**	**23 33 47.3**	**-0.2**
HOWZ	**Holdsworth Sta**	**4.94**	**201**	PN	**Pn**	**23 33 47.7**	**-1.7**
HOWZ	**Holdsworth Sta**	**4.94**	**201**	Pn	**Pn**	**23 33 47.7**	**-1.7**
OGWZ	**Otaki Gorge**	**4.98**	**204**	⇓PN	**Pn**	**23 33 48.4**	**-1.5**
OGWZ	**Otaki Gorge**	**4.98**	**204**	Pn	**Pn**	**23 33 48.4**	**-1.5**
TMWZ	**Te Maipa**	**5.04**	**197**	PN	**Pn**	**23 33 49.4**	**-1.3**
TMWZ	**Te Maipa**	**5.04**	**197**	Pn	**Pn**	**23 33 49.4**	**-1.3**
KIW	**Kapiti Island**	**5.10**	**206**	PN	**Pn**	**23 33 49.6**	**-1.9**
KIW				AML	AML	23 34 53.2	
KIW				AML	AML	23 34 54.7	
KIW	**Kapiti Island**	**5.10**	**206**	Pn	**Pn**	**23 33 49.7**	**-1.8**
MTW	**Mount Morrison**	**5.19**	**200**	PN	**Pn**	**23 33 50.5**	**-2.0**
MTW				AML	AML	23 34 54.2	
MTW				AML	AML	23 34 54.2	
MTW	**Mount Morrison**	**5.19**	**200**	Pn	**Pn**	**23 33 50.5**	**-2.0**
CAW	**Cannon Point**	**5.27**	**203**	PN	**Pn**	**23 33 51.6**	**-1.9**
CAW				AML	AML	23 34 56.2	
CAW				AML	AML	23 34 58.4	
CAW	**Cannon Point**	**5.27**	**203**	Pn	**Pn**	**23 33 51.6**	**-1.9**
TRWZ	**Traveller**	**5.37**	**198**	PN	**Pn**	**23 33 53.2**	**-1.5**
TRWZ				AML	AML	23 34 59.1	
TRWZ				AML	AML	23 35 08.5	
TRWZ	**Traveller**	**5.37**	**198**	Pn	**Pn**	**23 33 53.2**	**-1.5**
PAWZ	**Paruwai Farm**	**5.42**	**200**	PN	**Pn**	**23 33 53.4**	**-1.9**
PAWZ				AML	AML	23 34 59.4	
PAWZ				AML	AML	23 35 01.6	
PAWZ	**Paruwai Farm**	**5.42**	**200**	Pn	**Pn**	**23 33 53.4**	**-1.9**
DUWZ	**D'Urville Isla**	**5.45**	**213**	PN	**Pn**	**23 33 53.7**	**-2.0**
DUWZ	**D'Urville Isla**	**5.45**	**213**	Pn	**Pn**	**23 33 53.7**	**-2.0**
MSWZ	**Moikau Station**	**5.50**	**201**	PN	**Pn**	**23 33 54.2**	**-2.0**
MSWZ				AML	AML	23 35 00.7	
MSWZ				AML	AML	23 35 02.0	
MSWZ	**Moikau Station**	**5.50**	**201**	Pn	**Pn**	**23 33 54.2**	**-2.0**
WEL	**Wellington**	**5.53**	**205**	PN	**Pn**	**23 33 54.8**	**-1.9**
WEL	**Wellington**	**5.53**	**205**	Pn	**Pn**	**23 33 54.8**	**-1.9**
SNZO	**South Karori**	**5.57**	**205**	⇑PN	**Pn**	**23 33 55.0**	**-2.2**
SNZO				AML	AML	23 35 03.4	
SNZO				AML	AML	23 35 04.2	
SNZO	**South Karori**	**5.57**	**205**	Pn	**Pn**	**23 33 55.0**	**-2.2**
BHW	**Baring Head**	**5.61**	**204**	PN	**Pn**	**23 33 55.4**	**-2.2**
BHW				AML	AML	23 35 03.4	
BHW				AML	AML	23 35 04.3	
BHW	**Baring Head**	**5.61**	**204**	Pn	**Pn**	**23 33 55.4**	**-2.2**
PLWZ	**Palliser**	**5.64**	**200**	PN	**Pn**	**23 33 55.8**	**-2.3**
PLWZ	**Palliser**	**5.64**	**200**	Pn	**Pn**	**23 33 55.8**	**-2.3**
TCW	**Tory Channel**	**5.64**	**209**	PN	**Pn**	**23 33 55.9**	**-2.2**
TCW				AML	AML	23 35 04.7	
TCW				AML	AML	23 35 08.5	
TCW	**Tory Channel**	**5.64**	**209**	Pn	**Pn**	**23 33 55.9**	**-2.2**
TUWZ	**Tuamarina**	**5.96**	**210**	PN	**Pn**	**23 33 59.7**	**-2.3**
TUWZ				AML	AML	23 35 11.7	
TUWZ				AML	AML	23 35 15.2	
TUWZ	**Tuamarina**	**5.96**	**210**	Pn	**Pn**	**23 33 59.7**	**-2.3**
NNZ	**Nelson**	**6.03**	**214**	*e*PN	**Pn**	**23 34 00.7**	**-2.2**
NNZ	**Nelson**	**6.03**	**214**	Pn	**Pn**	**23 34 01.0**	**-1.9**
QRZ	**Quartz Range**	**6.15**	**221**	*e*PN	**Pn**	**23 34 02.1**	**-2.4**
QRZ	**Quartz Range**	**6.15**	**221**	Pn	**Pn**	**23 34 02.1**	**-2.4**
BSWZ	**Blackbirch Sta**	**6.23**	**209**	PN	**Pn**	**23 34 03.5**	**-1.9**
BSWZ				AML	AML	23 35 20.2	
BSWZ	**Blackbirch Sta**	**6.23**	**209**	Pn	**Pn**	**23 34 03.5**	**-1.9**
THZ	**Tophouse**	**6.67**	**214**	Pn	**Pn**	**23 34 09.8**	**-1.3**
KHZ	**Kahutara**	**6.96**	**207**	PN	**Pn**	**23 34 12.4**	**-2.3**
KHZ				AML	AML	23 35 33.5	
KHZ	**Kahutara**	**6.96**	**207**	Pn	**Pn**	**23 34 12.4**	**-2.3**
LTZ	**Lake Taylor**	**7.78**	**212**	*e*PN	**Pn**	**23 34 22.6**	**-2.5**
LTZ	**Lake Taylor**	**7.78**	**212**	Pn	Pn	23 34 21.3	-3.8
OXZ	**Oxford**	**8.32**	**211**	PN	**Pn**	**23 34 29.2**	**-2.7**
MQZ	**McQueen's Vall**	**8.40**	**207**	⇑PN	**Pn**	**23 34 29.8**	**-3.2**
MQZ	**McQueen's Vall**	**8.40**	**207**	Pn	**Pn**	**23 34 29.8**	**-3.2**
CTZ	**Chatham Island**	**8.55**	**152**	Pn	Pn	23 34 43.0	+8.1
RPZ	**Rata Peaks**	**9.05**	**213**	Pn	**Pn**	**23 34 38.6**	**-2.7**
FOZ	**Fox Glacier**	**9.58**	**218**	PN	Pn	23 34 44.4	-3.5
FOZ	**Fox Glacier**	**9.58**	**218**	Pn	Pn	23 34 44.6	-3.4
ODZ	**Otahua Downs**	**10.30**	**210**	Pn	**Pn**	**23 34 55.9**	**-1.2**
JCZ	**Jackson Bay**	**10.42**	**219**	PN	**Pn**	**23 34 55.9**	**-2.8**
JCZ	**Jackson Bay**	**10.42**	**219**	Pn	**Pn**	**23 34 55.9**	**-2.8**
STKA	**Stephens Creek**	**30.23**	**268**	P	**P**	**23 38 25.1**	**+1.9**
STKA	**Stephens Creek**	**30.23**	**268**	P	**P**	**23 38 25.1**	**+1.9**
	1.1nm,0.4s,baz=99,slow=10,SNR=2.9						
CTA	**Charters Tower**	**32.00**	**292**	P	**P**	**23 38 37.1**	**-1.8**
CTA	**Charters Tower**	**32.00**	**292**	P	**P**	**23 38 37.1**	**-1.8**
	3.0nm,0.6s,baz=120,slow=7.3,SNR=6.9						
WRA	**Warramunga Arr**	**41.32**	**281**	P	**P**	**23 39 56.9**	**-0.4**
WRA	**Warramunga Arr**	**41.32**	**281**	P	**P**	**23 39 56.9**	**-0.4**
	9.4nm,0.5s,baz=121,slow=7.6,SNR=30						
QSPA	**South Pole Qui**	**53.83**	**180**	P	**P**	**23 41 35.6**	**+2.9**
QSPA	**South Pole Qui**	**53.83**	**180**	P	**P**	**23 41 35.6**	**+2.9**
	1.6nm,0.5s,baz=72,slow=3.2,SNR=4.0						
FINES	**FINESS Array B**	**149.19**	**334**	PKPbc	**PKPdf**	**23 51 51.3**	**+1.9**
FINES	**FINESS Array B**	**149.19**	**334**	PKPbc	**PKPdf**	**23 51 51.3**	**+1.9**
	1.1nm,0.6s,baz=48,slow=2.8,SNR=7.7						
DBIC	**Dimbokro**	**150.41**	**175**	PKPbc	**PKPbc**	**23 51 58.5**	**+0.2**
DBIC	**Dimbokro**	**150.41**	**175**	PKPbc	**PKPbc**	**23 51 58.5**	**+0.2**
	0.7nm,0.3s,baz=180,slow=6.0,SNR=5.9						
BRTR	**Keskin Array B**	**151.71**	**288**	PKPbc	**PKPbc**	**23 51 58.7**	**-2.0**
BRTR	**Keskin Array B**	**151.71**	**288**	PKPbc	**PKPbc**	**23 51 58.7**	**-2.0**
	0.5nm,0.6s,baz=150,slow=4.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**156.69**	**190**	PKPab	**PKPab**	**23 52 32.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**156.69**	**190**	PKPab	**PKPab**	**23 52 32.7**	**+0.7**
	0.5nm,0.4s,baz=167,slow=4.4,SNR=13						

*ISK **18** 00:43:01.3, 35°.13N×26°.91E, h5km, ML3.7*
*DDA **18** 00:43:03.6, 35°.13N×26°.95E, h28km, ML4.0*
*ATH **18** 00:43:10.7, 35°.55N×27°.08E, h27km±1km, MD3.4/8*
*NIC **18** 00:43:10.7±0.3, 36°.03N×27°.44E, h10km, mb4.3, ML3.8*
*CSEM **18** 00:43:10.0±0.2, 35°.38N×27°.23E, h20km, MD3.4, Error ellipse: s-maj=6.0km s-min=3.8km az=173.0*
*IDC **18** 00:43:11.9±1.0, 35°.19N×27°.44E, h43km±15km, mb3.3/6, mb1 3.4/12, mb1mx3.3/36, mbtmp3.5/12, ML3.3/6, Error ellipse: s-maj=18.1km s-min=7.6km az=3.0*

ISC 18 00:43:09.9±1.0, 35°.46N±0°.03×27°.14E±0°.02, h27km±9km, n104, σ1§67/115, mb3.4/6, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.83**	**246**	*e*PB	**Pn**	**00 43 26.2**	**+0.3**
ZKR				*e*SN	**Sn**	**00 43 38.8**	**+1.6**
ZKR	**Zakros**	**0.83**	**246**	*e*Pb	**Pn**	**00 43 26.2**	**+0.3**
ZKR				*e*Sn	**Sn**	**00 43 38.8**	**+1.6**
ARG	**Arkhangelos**	**1.10**	**46**	*e*PN	**Pb**	**00 43 31.8**	**+1.4**
AR

GONE	**Gonen-Balikesi**	**4.60**	**5**	*e*PN	**Pn**	00 44 19.4	+1.7
GONE	**Gonen-Balikesi**	**4.60**	**5**	*e*Pn	**Pn**	00 44 19.5	+1.7
SZAC	**Souni-Zanaja**	**4.76**	**97**	P	**Pn**	00 44 18.4	-1.6
	baz=287						
SZAC				S	**Sn**	00 45 11.6	-2.7
SZAC	**Souni-Zanaja**	**4.76**	**97**	P	**Pn**	00 44 18.4	-1.6
SZAC				S	**Sn**	00 45 11.6	-2.7
KONT	**Konya--Tatoy**	**4.88**	**58**	*e*PN	**Pn**	00 44 23.1	+1.5
KONT	**Konya--Tatoy**	**4.88**	**58**	*e*Pn	**Pn**	00 44 23.1	+1.5
KCTX	**Karacabey (Bur**	**4.90**	**11**	*e*PN	**Pn**	00 44 23.5	+1.7
KCTX	**Karacabey (Bur**	**4.90**	**11**	*e*Pn	**Pn**	00 44 23.5	+1.7
EDC	**Edincik**	**4.92**	**6**	*e*PN	**Pn**	00 44 23.9	+1.8
EDC	**Edincik**	**4.92**	**6**	*e*Pn	**Pn**	00 44 23.9	+1.8
GELI	**Tayfur-Gelibol**	**4.96**	**354**	*e*PN	**Pn**	00 44 24.0	+1.3
GELI	**Tayfur-Gelibol**	**4.96**	**354**	*e*Pn	**Pn**	00 44 24.0	+1.3
LADK	**Ladik-KONYA**	**5.01**	**55**	*e*PN	**Pn**	00 44 25.1	+1.7
LADK	**Ladik-KONYA**	**5.01**	**55**	*e*Pn	**Pn**	00 44 25.1	+1.7
MDNY	**Mudanya-Bursa**	**5.09**	**15**	*e*PN	Pn	00 44 26.7	+2.2
MDNY	**Mudanya-Bursa**	**5.09**	**15**	*e*Pn	Pn	00 44 26.7	+2.2
SVRH	**Sivrihisar-ESK**	**5.29**	**40**	*e*PN	**Pn**	00 44 29.4	+2.0
SVRH	**Sivrihisar-ESK**	**5.29**	**40**	*e*Pn	**Pn**	00 44 29.4	+2.0
BRTR	**Keskin Array B**	**6.69**	**49**	P	**Pn**	00 44 47.4	+0.8
	0.2nm,0.3s,baz=217,slow=15,SNR=7.2						
BRTR				S	**Sn**	**00 46 02.8**	**+0.8**
	0.2nm,0.3s,baz=216,slow=28,SNR=4.7						
MMAI	**Mount Meron Ar**	**7.26**	**107**	P	Pn	00 44 51.6	-2.8
	1.9nm,0.3s,baz=304,slow=14,SNR=3.4						
MMAI				S	Sn	00 46 10.0	-6.0
	2.9nm,0.3s,baz=307,slow=24,SNR=2.7						
ASF	**Jabal al Asfar**	**8.75**	**109**	P	Pn	00 45 12.2	-2.6
	0.1nm,0.3s,baz=243,slow=11,SNR=3.1						
ASF				S	Sn	00 46 46.4	-6.3
	0.2nm,0.3s,baz=347,slow=14,SNR=1.5						
EIL	**Elat**	**8.76**	**129**	P	Pn	00 45 12.3	-2.5
	0.2nm,0.3s,baz=0.6,slow=16,SNR=11						
EIL				S	Sn	00 46 43.6	-9.1
	1.2nm,0.3s,baz=8.4,slow=11,SNR=6.7						
AKASG	**Malin Array Be**	**15.31**	**5**	P	**P**	**00 46 48.7**	**0.0**
	0.5nm,0.3s,baz=194,slow=12,SNR=4.9						
ESDC	**Sonseca Array**	**24.94**	**289**	P	P	00 48 35.9	+4.8
	0.7nm,0.8s,baz=82,slow=9.2,SNR=4.4						
AKTO	**Aktyubinsk**	**26.87**	**47**	P	**P**	**00 48 47.5**	**-0.8**
	0.6nm,0.6s,baz=244,slow=15,SNR=2.9						
TORD	**Torodi Ar. Bea**	**31.93**	**232**	P	**P**	**00 49 33.0**	**-0.6**
	0.5nm,0.6s,baz=41,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**42.26**	**57**	P	**P**	**00 51 00.3**	**-0.6**
	0.6nm,0.7s,baz=282,slow=6.1,SNR=9.0						
ZALV	**Zalesovo Beam**	**43.63**	**46**	P	**P**	**00 51 11.3**	**-0.6**
	0.4nm,0.5s,baz=266,slow=10.0,SNR=3.3						
SONM	**Songino Array**	**58.04**	**51**	P	**P**	**00 53 00.5**	**-0.1**
	0.4nm,0.7s,baz=280,slow=7.2,SNR=4.8						

DDA ***18*** *00:49:00.4,35˚.45N×27˚.17E,h26km,MD3.4*
HLW ***18*** *00:49:00.9,35˚.43N×27˚.32E,h16km±10km,Md3.1*
ISK ***18*** *00:49:00.1,35˚.57N×27˚.24E,h5km,MD3.5*
CSEM ***18*** *00:49:00.9±0.2,35˚.32N×27˚.17E,h20km,MD3.3,Error ellipse: s-maj=6.3km s-min=3.7km az=98.0*
ATH ***18*** *00:49:02.7,35˚.58N×27˚.09E,h24km±3km,MD3.3/6*
ISC 18 00:49:01.8±1.3**,35˚.55N**±0˚.05×**27˚.15E**±0˚.04,**h9**km±11km,
n70,σ0°76/70,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.87**	**241**	*e*PB		**Pg**	**00 49 18.2**	**-0.5**
ZKR	**Zakros**	**0.87**	**241**	*e*Pb		**Pg**	**00 49 18.2**	**-0.5**
ARG	**Arkhangelos**	**1.04**	**50**	*e*PN		**Pn**	**00 49 23.3**	**+0.7**
ARG				*e*SN		**Sn**	**00 49 37.8**	**+0.5**
ARG	**Arkhangelos**	**1.04**	**50**	*e*Pn		**Pn**	**00 49 23.3**	**+0.7**
ARG				*e*Sn		**Sn**	**00 49 37.8**	**+0.5**
NIS1	**Nisyros Isl.**	**1.05**	**1**	*e*PN		**Pn**	**00 49 23.1**	**+0.2**
NIS1	**Nisyros Isl.**	**1.05**	**1**	*e*Pn		**Pn**	**00 49 23.1**	**+0.2**
NPS	**Neapolis**	**1.28**	**258**	*e*PN		**Pg**	**00 49 26.3**	**-0.2**
LAST	**Lasithi**	**1.42**	**255**	*e*PN		**Pg**	**00 49 28.5**	**-0.5**
LAST				*e*SN		**Sg**	**00 49 47.8**	**+0.4**
BODT	**Bodrum**	**1.52**	**5**	*e*PN		**Pn**	**00 49 29.5**	**+0.3**
BODT				*e*SN		**Sg**	**00 49 50.4**	**-0.3**
BODT	**Bodrum**	**1.52**	**5**	*e*Pn		**Pn**	**00 49 29.5**	**+0.3**
BODT				*e*Sn		**Sg**	**00 49 50.4**	**-0.3**
BDRM	**Kayabasi**	**1.53**	**9**	*i* P		**Pn**	**00 49 29.3**	**-0.2**
BDRM				*i* S		**Sg**	**00 49 52.1**	**+0.9**
BDRM	**Kayabasi**	**1.53**	**9**	*i* P		**Pn**	**00 49 29.3**	**-0.2**
BDRM				*i* S		**Sg**	**00 49 52.1**	**+0.9**
TURN	**Turunc**	**1.77**	**41**	*i* P		Pn	00 49 28.6	-4.1
TURN				*i* S		**Sn**	**00 49 52.8**	**-2.6**
TURN	**Turunc**	**1.77**	**41**	*i* P		Pn	00 49 28.6	-4.1
TURN				*i* S		**Sn**	**00 49 52.8**	**-2.6**
FETY	**Fethiye**	**1.91**	**55**	*e*PN		**Pn**	**00 49 34.1**	**-0.5**
FETY	**Fethiye**	**1.91**	**55**	*e*Pn		**Pn**	**00 49 34.1**	**-0.5**
APE	**Apeiranthos**	**2.00**	**320**	*e*PB		**Pn**	**00 49 36.2**	**+0.3**
APE				*e*SN		**Sn**	**00 50 01.4**	**+0.2**
APE	**Apeiranthos**	**2.00**	**320**	*e*Pb		**Pn**	**00 49 36.2**	**+0.3**
APE				*e*Sn		**Sn**	**00 50 01.4**	**+0.2**
SMG	**Samos**	**2.17**	**353**	*e*PN		**Pn**	**00 49 38.4**	**+0.2**
SMG	**Samos**	**2.17**	**353**	*e*Pn		**Pn**	**00 49 38.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.47**	**14**	*e*PN		**Pn**	**00 49 42.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.47**	**14**	*e*Pn		**Pn**	**00 49 42.3**	**-0.1**
ELL	**Elmali**	**2.54**	**61**	*e*PN		**Pn**	**00 49 43.2**	**-0.2**
ELL	**Elmali**	**2.54**	**61**	*e*Pn		**Pn**	**00 49 43.2**	**-0.2**
DNZL	**Cakiroluk**	**2.63**	**35**	*i* P		**Pn**	**00 49 43.8**	**-0.9**
DNZL				*i* S		**Sg**	**00 50 26.6**	**+0.3**
DNZL	**Cakiroluk**	**2.63**	**35**	*i* P		**Pn**	**00 49 43.8**	**-0.9**
BLCB	**Balcova**	**2.83**	**358**	*e*PN		**Pn**	**00 49 47.7**	**+0.4**
BLCB	**Balcova**	**2.83**	**358**	*e*Pn		**Pn**	**00 49 47.7**	**+0.4**
CHOS	**Chios island**	**2.97**	**343**	*e*PN		**Pn**	**00 49 49.8**	**+0.6**
CHOS				*e*SN		**Sn**	**00 50 24.1**	**-0.9**
CHOS	**Chios island**	**2.97**	**343**	*e*Pn		**Pn**	**00 49 49.8**	**+0.6**
CHOS				*e*Sn		**Sn**	**00 50 24.1**	**-0.9**
KORT	**Korkueli**	**2.97**	**60**	*i* P		**Pn**	**00 49 49.3**	**0.0**
KORT				*i* S		**Sn**	**00 50 26.6**	**+1.5**
KORT	**Korkueli**	**2.97**	**60**	*i* P		**Pn**	**00 49 49.3**	**0.0**
KORT				*i* S		**Sn**	**00 50 26.6**	**+1.5**
ANTB	**Antalya**	**3.14**	**64**	*e*PN		**Pn**	**00 49 51.5**	**0.0**
ANTB	**Antalya**	**3.14**	**64**	*e*Pn		**Pn**	**00 49 51.5**	**0.0**
KULA	**Kula-Manisa**	**3.20**	**22**	*e*PN		**Pn**	**00 49 52.9**	**+0.4**
KULA	**Kula-Manisa**	**3.20**	**22**	*e*Pn		**Pn**	**00 49 52.9**	**+0.4**
KHL	**Karahalli**	**3.36**	**34**	*e*PN		**Pn**	**00 49 55.2**	**+0.5**
KHL	**Karahalli**	**3.36**	**34**	*e*Pn		**Pn**	**00 49 55.2**	**+0.5**
BCK	**Bucak**	**3.37**	**54**	*e*PN		**Pn**	**00 49 54.6**	**-0.1**
BCK	**Bucak**	**3.37**	**54**	*e*Pn		**Pn**	**00 49 54.6**	**-0.1**
AKS	**Akhisar**	**3.37**	**9**	*e*PN		**Pn**	**00 49 55.1**	**+0.4**
AKS	**Akhisar**	**3.37**	**9**	*e*Pn		**Pn**	**00 49 55.1**	**+0.4**
DEMI	**Demirci**	**3.71**	**19**	*i* P		**Pn**	**00 50 00.3**	**+0.9**
DEMI				*i* S		**Sn**	**00 50 42.5**	**-0.8**
DEMI	**Demirci**	**3.71**	**19**	*i* P		**Pn**	**00 50 00.3**	**+0.9**
DEMI				*i* S		**Sn**	**00 50 42.5**	**-0.8**
SHUT	**Suhut-Afyon**	**4.05**	**41**	*e*PN		**Pn**	**00 50 04.6**	**+0.4**
SHUT	**Suhut-Afyon**	**4.05**	**41**	*e*Pn		**Pn**	**00 50 04.6**	**+0.4**
BALB	**Balikesir**	**4.13**	**8**	*e*PN		**Pn**	**00 50 06.3**	**+1.2**
BALB	**Balikesir**	**4.13**	**8**	*e*Pn		**Pn**	**00 50 06.3**	**+1.2**
ALT	**Altintas**	**4.22**	**33**	*e*PN		**Pn**	**00 50 07.2**	**+0.7**
ALT	**Altintas**	**4.22**	**33**	*e*Pn		**Pn**	**00 50 07.2**	**+0.7**
TVSB	**Tavsanli**	**4.31**	**25**	*e*PN		**Pn**	**00 50 08.6**	**+0.9**
TVSB	**Tavsanli**	**4.31**	**25**	*e*Pn		**Pn**	**00 50 08.6**	**+0.9**
SLUM		**4.36**	**202**	P		Pn	00 50 03.8	-4.4
	baz=205							
SLUM				S		Sn	00 50 49.8	-9.3
	baz=205							
SLUM		**4.36**	**202**	P		Pn	00 50 03.8	-4.4
SLUM				S		Sn	00 50 49.8	-9.3
HMAT	**Matruh**	**4.44**	**181**	P		Pn	00 50 03.9	-5.5
	baz=183							
HMAT				S		Sn	00 50 50.2	-11
	baz=183							
HMAT	**Matruh**	**4.44**	**181**	P		Pn	00 50 03.9	-5.5
HMAT				S		Sn	00 50 50.2	-11
KONT	**Konya--Tatoy**	**4.82**	**59**	*e*PN		**Pn**	**00 50 15.3**	**+0.6**
KONT	**Konya--Tatoy**	**4.82**	**59**	*e*Pn		**Pn**	**00 50 15.3**	**+0.6**
SWA2		**6.45**	**193**	P		Pn	00 50 32.7	-4.2
	baz=195							
SWA2		**6.45**	**193**	P		Pn	00 50 32.7	-4.2
GLL	**Jalalah**	**7.09**	**146**	P		Pn	00 50 40.7	-5.1
	baz=146							
GLL	**Jalalah**	**7.09**	**146**	P		Pn	00 50 40.7	-5.1
RSH		**7.16**	**128**	P		Pn	00 50 40.8	-5.9
	baz=127							
RSH		**7.16**	**128**	P		Pn	00 50 40.8	-5.9
SUZ		**7.44**	**138**	P		Pn	00 50 45.2	-5.4
	baz=138							
SUZ		**7.44**	**138**	P		Pn	00 50 45.2	-5.4
HNKL	**Nakhl**	**8.03**	**132**	P		Pn	00 50 53.0	-5.7
	baz=132							
HNKL	**Nakhl**	**8.03**	**132**	P		Pn	00 50 53.0	-5.7
HFRF	**Wahat Farafira**	**8.43**	**173**	P		Pn	00 50 59.0	-5.2
	baz=173							
HFRF	**Wahat Farafira**	**8.43**	**173**	P		Pn	00 50 59.0	-5.2

NIED ***18*** *01:02:00,46˚.50N×153˚.60E,h8km,Mw5.5 Best double couple: M0 2.26000×10^17 NP1:φs23.00000°,δ31.00000°, λ52.00000°. NP2:φs245.00000°,δ66.00000°,λ110.00000°.*
ISCJB ***18*** *01:02:14.7±0.7,46˚.44N±0˚.02×153˚.38E±0˚.02,h5km±4km, mb5.6/430,MS5.3/224, Error ellipse: s-maj=3.4km s-min=1.5km az=163.4*
IDC ***18*** *01:02:15.5±0.4,46˚.53N×153˚.37E,h0km,mb5.4/30, mb1 5.5/34,mb1mx5.4/37,mbtmp5.4/34,ML4.3/4, MS5.2/35, Ms1 5.2/35,ms1mx5.1/39,Error ellipse: s-maj=13.2km s-min=8.1km az=146.0*
JMA ***18*** *01:02:16.8±0.9,46˚.45N×153˚.62E,h30km,M5.8*
GCMT ***18*** *01:02:16.7±0.1,46˚.49N×153˚.53E,h15km,MW5.6/116, Moment Tensor Solution. s96,c182; s116,c311; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr2.21±.03; Mθθ-0.67±.02; Mφφ-1.54±.03; Mrθ0.76±.06; Mθφ-1.28±.02; Mφr1.18±.06; Best double couple: M0 2.72400×10^17 NP1:φs34.00000°,δ61.00000°, λ88.00000°. NP2:φs217.00000°,δ30.00000°,λ93.00000°. Principal axes: T 2.6010, Plg74.0000°, Azm300.0000°; N 0.2450, Plg1.0000°, Azm35.0000°; P -2.8470, Plg16.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***18*** *01:02:16.7±0.1,46˚.48N×153˚.26E,h7km,mb5.6/262, MS5.3/143,MW5.6,MW5.6 Error ellipse: s-maj=3.7km s-min=2.1km az=158.0,Moment Tensor Solution. s59 Moment tensor: Scale 10^17Nm; Mrr2.76; Mθθ-1.52; Mφφ-1.24; Mrθ1.03; Mθφ-0.61; Mφr0.73; Best double couple: M0 2.80000×10^17 NP1:φs231.00000°,δ31.00000°, λ88.00000°. NP2:φs53.00000°,δ59.00000°,λ91.00000°. Principal axes: T 3.0700, Plg76.0000°, Azm325.0000°; N -0.7600, Plg0.0000°, Azm232.0000°; P -2.3200, Plg13.0000°, Azm142.0000°;*
SKHL ***18*** *01:02:19.4±0.8,46˚.38N×153˚.57E,h57km±4km,mb6.4/9, mbh6.2/9,Ms5.8/10,msh5.9/8*
BJI ***18*** *01:02:19.0,46˚.58N×153˚.18E,h32km,mB5.9/61,mb5.7/64, Ms5.7/75,Ms7 5.4/70*
MOS ***18*** *01:02:20.3±1.1,46˚.52N×153˚.26E,h46km,mb5.8/140, MS5.4/77,Error ellipse: s-maj=5.6km s-min=4.2km az=102.3*
NEIC ***18*** *01:02:26.8±0.0,46˚.36N×153˚.53E,h10km,Moment Tensor Solution. s147 Moment tensor: Scale 10^17Nm; Mrr2.00; Mθθ-1.16; Mφφ-0.84; Mrθ1.89; Mθφ-0.85; Mφr1.58; Best double couple: M0 3.10000×10^17 NP1:φs230.00000°, δ19.00000°,λ90.00000°. NP2:φs50.00000°,δ71.00000°, λ90.00000°. Principal axes: T 3.2000, Plg64.0000°, Azm320.0000°; N -0.1400, Plg0.0000°, Azm50.0000°; P -3.0600, Plg25.0000°, Azm140.0000°;*
SZGRF ***18*** *01:02:30.8,47˚.69N×152˚.02E,h33km,mb5.9,Kuril Islands, Russia*
KMA ***18*** *01:02:33.4,45˚.85N×152˚.73E,h100km*
ISC 18 01:02:20.6±0.3**,46˚.44N**±0˚.03×**153˚.34E**±0˚.03**,h35**km±1km,
h35km**:pP-P,n1851,σ1s21**/1916**,mb5.7**/456**,MS5.3**/227**,**
481C-237D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.01**	**254**	⇑*i*	PN	**Pn**	**01 03 20.4**	**+0.9**
KUR				*i*	S	**Sn**	**01 04 05.5**	**+0.2**
KUR	comp=N,2μm,0.8s			pmax	pmax			
KUR	comp=Z,9μm,0.8s			pmax	pmax			
KUR	comp=E,3μm,1.0s			pmax	pmax			
KUR	comp=Z,29μm,6.0s			pmax	pmax			
KUR	comp=N,18μm,5.0s			pmax	pmax			
KUR	comp=E,20μm,5.0s			pmax	pmax			
KUR	comp=N,98μm,5.0s			smax	smax			
KUR	comp=E,25μm,2.0s			smax	smax			
KUR	comp=N,6μm,0.8s			smax	smax			
KUR	comp=E,19μm,1.0s			smax	smax			
KUR	**Kuril'sk**	**4.01**	**254**	*e*P		**Pn**	**01 03 20.4**	**+0.9**
KUR				AMB	AMB	01 03 22.0		
KUR	comp=E,2μm,0.9s			AMB	AMB	01 03 22.0		
KUR	comp=E,3μm,0.9s			AMB	AMB	01 03 22.0		
KUR	comp=E,9μm,0.9s			AMB	AMB	01 03 24.0		
KUR	comp=E,1μm,1.0s			*e*S		**Sn**	**01 04 05.5**	**+0.2**
KUR				A	A	01 04 19.0		
KUR	comp=E,6μm,0.5s			A	A	01 04 19.0		
KUR	comp=E,17μm,0.5s			A	A	01 04 26.0		
KUR	comp=E,74μm,6.0s			A	A	01 04 29.0		
KUR	comp=E,6μm,1.6s			A	A	01 04 29.0		
KUR	comp=E,25μm,1.6s			AMS	AMS	01 04 58.0		
KUR	comp=E,60μm,14.0s			AMS	AMS	01 04 58.0		
KUR	comp=E,56μm,14.0s							
SKR	**Severo-Kuril's**	**4.63**	**22**	*e*PN		**Pn**	**01 03 25.4**	**-2.6**
SKR	comp=N,6μm,4.0s			pmax	pmax			
SKR	comp=E,4μm,4.0s			pmax	pmax			
SKR	comp=Z,6μm,4.0s			pmax	pmax			
SKR	comp=Z,950nm,0.6s			pmax	pmax			
SKR	comp=N,520nm,0.5s			pmax	pmax			
SKR	comp=E,230nm,0.5s			MLR	MLR			
SKR	comp=E,61μm,14.0s			MLR	MLR			
SKR	comp=Z,31μm,14.0s			MLR	MLR			
SKR	comp=N,13μm,12.0s							
SKR	**Severo-Kuril's**	**4.63**	**22**	*e*P		**Pn**	**01 03 27.1**	**-0.9**
SKR				AMB	AMB	01 03 32.0		
SKR	comp=N,6μm,4.0s			AMB	AMB	01 03 32.0		
SKR	comp=N,4μm,4.0s			AMB	AMB	01 03 32.0		
SKR	comp=N,6μm,4.0s			AMB	AMB	01 03 33.5		
SKR	comp=N,520nm,0.6s			AMB	AMB	01 03 33.5		
SKR	comp=N,230nm,0.6s			AMB	AMB	01 03 33.5		
SKR	comp=N,950nm,0.6s			*e*S		**Sn**	**01 04 17.5**	**-2.9**
SKR				A	A	01 04 28.0		
SKR	comp=N,8μm,6.0s			A	A	01 04 28.0		
SKR	comp=N,46μm,6.0s			A	A	01 04 28.0		
SKR	comp=N,24μm,6.0s			A	A	01 04 28.0		
SKR	comp=N,8μm,6.0s			A	A	01 04 28.0		
SKR	comp=N,46μm,6.0s			A	A	01 04 28.0		
SKR	comp=N,23μm,6.0s			A	A	01 04 35.5		
SKR	comp=N,2μm,0.5s			AMS	AMS	01 05 24.0		
SKR	comp=N,13μm,13.0s			AMS	AMS	01 05 24.0		
SKR	comp=N,61μm,13.0s			AMS	AMS	01 05 24.0		
SKR	comp=N,31μm,13.0s			AMS	AMS	01 05 24.0		
SHO	**Shikotan**	**5.27**	**243**	*e*P		**Pn**	**01 03 35.4**	**-1.5**
SHO				AMB	AMB	01 03 47.3		
SHO	comp=N,2μm,0.6s			*e*S		**Sn**	**01 04 32.6**	**-3.8**
SHO				A	A	01 04 52.5		
PAU	**Pauzhetka**	**5.53**	**23**	*e*P		**Pn**	**01 03 39.8**	**-0.5**
PAU				AMB	AMB	01 03 56.9		
PAU	comp=N,2μm,0.7s			*e*S		**Sn**	**01 04 40.0**	**-2.5**
PAU				A	A	01 04 52.2		
PAU	comp=N,5μm,0.6s			A	A	01 04 52.2		
YUK	**Yuzh-Kuril'sk**	**5.80**	**248**	*c i*PN		**Pn**	**01 03 44.3**	**+0.2**
YUK	comp=N,5μm,0.6s			pmax	pmax			
YUK	comp=Z,5μm,4.8s			pmax	pmax			
YUK	comp=Z,2μm,1.1s			pmax	pmax			
YUK	comp=E,2μm,0.6s			pmax	pmax			
YUK	comp=N,2μm,0.4s			MLR	MLR			
YUK	comp=N,43μm,17.0s			MLR	MLR			
YUK	comp=E,20μm,17.0s			MLR	MLR			
YUK	comp=Z,25μm,17.0s							
YUK	**Yuzh-Kuril'sk**	**5.80**	**248**	*e*P		**Pn**	**01 03 44.4**	**+0.3**
YUK				AMB	AMB	01 03 54.9		
YUK	comp=Z,5μm,5.0s			AMB	AMB	01 03 56.7		
YUK	comp=Z,2μm,0.7s			AMB	AMB	01 03 56.7		
YUK	comp=Z,2μm,0.7s			AMB	AMB	01 03 56.7		
YUK	comp=Z,2μm,0.7s			*e*S		**Sn**	**01 04 49.0**	**-0.4**
YUK				A	A	01 04 56.9		
YUK	comp=Z,2μm,0.6s			A	A	01 04 56.9		
YUK	comp=Z,4μm,0.6s			A	A	01 05 02.5		
YUK	comp=Z,26μm,2.5s			A	A	01 05 02.5		
YUK	comp=Z,14μm,2.5s			AMS	AMS	01 06 01.0		
YUK	comp=Z,44μm,17.0s			AMS	AMS	01 06 01.0		
YUK	comp=Z,20μm,17.0s			AMS	AMS	01 06 01.0		
YUK	comp=Z,25μm,17.0s							
NEM2	**Nemuro 2**	**6.21**	**243**	P		**Pn**	**01 03 47.9**	**-1.8**
NEM2				*e*S		**Sn**	**01 04 55.8**	**-3.6**
JRA	**Rausu**	**6.32**	**250**	P		**Pn**	**01 03 52.2**	**+0.9**
JNK	**Nakash**	**6.75**	**248**	⇑P		**Pn**	**01 03 57.0**	**-0.1**
JAK	**Akkeshi**	**7.05**	**244**	P		**Pn**	**01 03 59.5**	**-1.8**
JAK				*e*S		**Sn**	**01 05 16.4**	**-3.8**
JTKR	**Abashiri--Toko**	**7.11**	**253**	⇑P		**Pn**	**01 04 03.2**	**+1.2**
PEA0B	**Petropavlovsk-**	**7.25**	**21**	*e*Pn		**Pn**	**01 04 03.5**	**-0.4**
PEA0B				*e*S		Sn	01 05 31.0	+6.2
PETK	**Petropavlovsk-**	**7.25**	**21**	PN		**Pn**	**01 04 03.0**	**-0.9**
PETK							01 05 33.6	
PETK	comp=Z,6.0nm,0.3s			pmax	pmax			
PETK	**Petropavlovsk-**	**7.25**	**21**	Pn		**Pn**	**01 04 03.0**	**-0.9**
PETK				Sn		Sn	01 05 33.6	+8.8
PETK	**Petropavlovsk-**	**7.25**	**21**	Pn		**Pn**	**01 04 03.0**	**-0.9**
PETK	comp=Z,6.1nm,0.3s,baz=182,slow=15,SNR=106			Sn		Sn	01 05 33.6	+8.8
PETK	baz=143,slow=15,SNR=1.0			LR		LR	01 06 45.7	
YSS	**Yuzh-Sakhalins**	**7.30**	**278**	⇑*i*	PN	**Pn**	**01 04 07.0**	**+2.4**
YSS				*e*			01 05 40.0	
YSS	comp=N,190nm,1.0s			pmax	pmax			
YSS	comp=E,500nm,1.0s			pmax	pmax			
YSS	comp=Z,470nm,1.0s			pmax	pmax			
YSS	comp=E,5μm,6.0s			pmax	pmax			
YSS	comp=Z,4μm,6.0s			MLR	MLR			
YSS	comp=N,18μm,16.0s			MLR	MLR			
YSS	comp=E,28μm,16.0s			MLR	MLR			
YSS	comp=Z,36μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.30**	**278**	*e*Pn		Pn	01 04 07.6	+2.9
YSS				*e*S		Sn	01 05 33.6	+7.3
YSS	**Yuzh-Sakhalins**	**7.30**	**278**	*e*P		**Pn**	**01 04 07.0**	**+2.4**
YSS				AMB	AMB	01 04 11.0		
YSS	comp=Z,190nm,1.0s			AMB	AMB	01 04 11.0		
YSS	comp=Z,500nm,1.0s			AMB	AMB	01 04 11.0		
YSS	comp=Z,470nm,1.0s			AMB	AMB	01 04 14.0		
YSS	comp=Z,5μm,6.0s			AMB	AMB	01 04 14.0		
YSS	comp=Z,4μm,6.0s			*e*S		**Sn**	**01 05 26.0**	**-0.2**
YSS				A	A	01 05 36.0		
YSS	comp=Z,1μm,5.0s			AMS	AMS	01 06 46.0		
YSS	comp=Z,18μm,16.0s			AMS	AMS	01 06 46.0		
YSS	comp=Z,28μm,16.0s			AMS	AMS	01 06 46.0		
YSS	comp=Z,36μm,16.0s			AMS	AMS	01 06 46.0		
YSS	comp=Z,15μm,16.0s			AMS	AMS	01 06 46.0		
YSS	comp=Z,26μm,16.0s			AMS	AMS	01 06 46.0		
YSS	comp=Z,40μm,16.0s							
PET	**Petropavlovsk**	**7.43**	**26**	*e*PN		**Pn**	**01 04 05.6**	**-0.8**
PET	comp=Z,500nm,4.9s			pmax	pmax			
PET	comp=Z,600nm,8.4s			pmax	pmax			
PET	comp=Z,151nm,0.8s			pmax	pmax			
PET	comp=Z,7μm,8.0s			MLR	MLR			
PET	**Petropavlovsk**	**7.43**	**26**	*e*Pn		**Pn**	**01 04 06.0**	**-0.5**
PET				*e*S		**Sn**	**01 05 29.6**	**+0.2**
PET	**Petropavlovsk**	**7.43**	**26**	*e*P		**Pn**	**01 04 05.9**	**-0.5**
PET				AMB	AMB	01 04 19.9		
PET	comp=Z,150nm,0.8s			*e*S		Sn	01 05 23.2	-6.2
PET				A	A	01 05 35.6		
PET	comp=Z,822nm,0.7s			AMS	AMS	01 06 17.2		
JMP	**Maruseppu**	**7.46**	**255**	P		**Pn**	**01 04 08.2**	**+1.3**
JAR	**Ashorobuto**	**7.49**	**249**	P		**Pn**	**01 04 07.6**	**+0.3**
JAR				*e*S		**Sn**	**01 05 28.5**	**-2.5**
JOB	**Onbets**	**7.64**	**246**	P		**Pn**	**01 04 08.4**	**-1.0**
JOB				*e*S		**Sn**	**01 05 31.5**	**-3.2**
JSE	**Soyaes**	**7.68**	**263**	P		**Pn**	**01 04 12.7**	**+2.9**
HRK	**Horoka**	**7.83**	**251**	*e*P		**Pn**	**01 04 12.8**	**+0.8**
JKK2	**Kamakawa 2**	**7.92**	**255**	P		**Pn**	**01 04 14.8**	**+1.6**
ASAJ	**Asahikawa**	**7.93**	**257**	P		**Pn**	**01 04 15.5**	**+2.2**
ASAJ	**Asahikawa**	**7.93**	**257**	*e*Pn		**Pn**	**01 04 15.5**	**+2.2**
ASAJ				*e*S		Sn	01 05 48.3	+6.6

UGL eS Sn 01 05 50.0 +5.5
UGL pmax pmax
comp=N,247nm,1.0s
UGL pmax pmax
comp=E,225nm,1.0s
UGL pmax pmax
comp=Z,1µm,1.0s
UGL pmax pmax
comp=N,4µm,6.0s
UGL pmax pmax
comp=E,8µm,6.0s
UGL pmax pmax
comp=Z,10µm,6.0s
UGL smax smax
comp=N,216nm,0.5s
UGL smax smax
comp=E,554nm,0.5s
UGL MLR MLR
comp=E,62µm,17.0s
UGL MLR MLR
comp=Z,102µm,17.0s
UGL MLR MLR
comp=N,14µm,14.0s
UGL Uglegorsk 8.04 293 eP Pn 01 04 18.5 +3.7
UGL AMB AMB 01 04 20.5
comp=N,250nm,1.0s
UGL AMB AMB 01 04 20.5
comp=N,230nm,1.0s
UGL AMB AMB 01 04 20.5
comp=N,1µm,1.0s
UGL AMB AMB 01 04 26.0
comp=N,4µm,6.0s
UGL AMB AMB 01 04 26.0
comp=N,8µm,6.0s
UGL AMB AMB 01 04 26.0
comp=N,10µm,6.0s
UGL eS **Sn 01 05 48.0 +3.5**
UGL A A 01 05 56.0
comp=N,216nm,0.5s
UGL A A 01 05 56.0
comp=N,550nm,0.5s
UGL AMS AMS 01 07 34.0
comp=N,14µm,15.0s
UGL AMS AMS 01 07 34.0
comp=N,62µm,15.0s
UGL AMS AMS 01 07 34.0
comp=N,102µm,15.0s
JWK2 Keihoku 8.07 266 P Pn 01 04 19.5 +4.3
JCH Churui 8.09 245 P **Pn 01 04 14.0 -1.5**
JCH eS **Sn 01 05 41.4 -4.3**
MYR Moyori 8.31 244 eP **Pn 01 04 17.0 -1.6**
JFR Furan 8.31 251 P **Pn 01 04 19.1 +0.5**
JSS Shosan 8.34 260 P Pn 01 04 22.9 +4.0
TYV Tymovskoe 8.34 306 eP **Pn 01 04 20.2 +1.3**
TYV AMB AMB 01 04 25.0
comp=N,209nm,0.8s
TYV AMB AMB 01 04 25.0
comp=N,317nm,0.8s
TYV AMB AMB 01 04 27.0
comp=N,6µm,6.0s
TYV AMB AMB 01 04 27.0
comp=N,6µm,6.0s
TYV AMB AMB 01 04 27.0
comp=N,8µm,6.0s
TYV eS **Sn 01 05 53.0 +1.2**
TYV A A 01 05 57.0
comp=N,7µm,21.0s
TYV A A 01 05 57.0
comp=N,6µm,21.0s
TYV A A 01 05 57.5
comp=N,273nm,1.0s
TYV AMS AMS 01 07 50.0
comp=N,50µm,16.0s
TYV AMS AMS 01 07 50.0
comp=N,58µm,16.0s
JAB Ashibetsu 8.41 254 P **Pn 01 04 21.9 +2.0**
JEM Erimo 8.54 242 P **Pn 01 04 21.4 -0.3**
ERM Erimo 8.54 242 Pn **Pn 01 04 21.7 0.0**
comp=N,5µm,0.6s,SNR=25
ERM Erimo 8.54 242 ePN **Pn 01 04 21.5 -0.3**
ERM pmax pmax
comp=Z,576nm,0.6s
ERM Erimo 8.54 242 ePn **Pn 01 04 21.4 -0.3**
comp=Z,576nm,0.6s
ERM eS **Sn 01 05 56.4 -0.5**
JBT2 Biratori 2 8.64 249 P **Pn 01 04 22.1 -1.0**
JBT2 eS **Sn 01 05 58.0 -1.3**
JHR Hokuryu 8.65 256 P **Pn 01 04 25.1 +1.9**
JNBK Urakawa-nobuka 8.65 245 P **Pn 01 04 21.4 -1.8**
JNBK eS **Sn 01 05 54.5 -4.9**
JEW Eniwo 9.21 251 P **Pn 01 04 31.3 +0.4**
JEW eS Sn 01 06 23.5 +10
JNB Noboribetsu 9.65 250 P **Pn 01 04 36.0 -0.9**
JNB eS **Sn 01 06 19.8 -4.2**
OKH Okha 9.77 321 *i* PN Pn 01 04 42.0 +3.6
OKH eS Sn 01 06 34.0 +7.2
OKH pmax pmax
comp=Z,13µm,5.2s
OKH smax smax
comp=N,2µm,4.0s
OKH Okha 9.77 321 eP **Pn 01 04 41.0 +2.6**
OKH AMB AMB 01 04 45.0
comp=N,7µm,6.0s
OKH AMB AMB 01 04 45.0
comp=N,9µm,6.0s
OKH eS **Sn 01 06 28.0 +1.2**
OKH A A 01 06 40.0
comp=N,2µm,4.0s
OKH AMS AMS 01 09 39.4
comp=N,25µm,14.0s
OKH AMS AMS 01 09 39.4
comp=N,36µm,14.0s
OKH AMS AMS 01 09 39.4
comp=N,27µm,14.0s
JKB Kayabe 9.94 247 P **Pn 01 04 39.3 -1.6**
JKB eS Sn 01 06 23.7 -7.5
JSH Shimam 10.22 253 P **Pn 01 04 44.7 0.0**
JYM2 Yakumo 2 10.26 250 P **Pn 01 04 44.2 -1.0**
JANG Nango 10.52 239 P Pn 01 04 44.9 -3.9
JANG eS Sn 01 06 34.7 -11
JSR Shiriuchi 10.52 247 P **Pn 01 04 46.6 -2.3**
JTM Tenmabayashi 10.54 242 P Pn 01 04 46.0 -3.0
JTM eS Sn 01 06 36.3 -9.5
NKL Nikolayevsk 10.58 314 eP **Pn 01 04 51.0 +1.5**
NKL AMB AMB 01 04 59.0
comp=N,160nm,1.0s
NKL AMB AMB 01 04 59.0
comp=N,200nm,1.0s
NKL AMB AMB 01 04 59.0
comp=N,360nm,1.0s
NKL AMB AMB 01 04 59.8
comp=N,4µm,6.0s
NKL AMB AMB 01 04 59.8
comp=N,8µm,6.0s
NKL AMB AMB 01 04 59.8
comp=N,8µm,6.0s
NKL eS Sn 01 06 57.0 +10
NKL A A 01 07 10.0
comp=N,2µm,6.0s
NKL AMS AMS 01 10 06.0
comp=N,45µm,14.0s
NKL AMS AMS 01 10 06.0
comp=N,27µm,14.0s
NKL AMS AMS 01 10 06.0
comp=N,63µm,14.0s
JTH Tanohata 10.60 236 P Pn 01 04 45.3 -4.6
JTH eS Sn 01 06 35.2 -12
JOSM Okushiri--Mats 10.86 251 P **Pn 01 04 52.5 -0.9**
OFUJ Ofunato 11.29 234 P Pn 01 04 55.0 -4.4
OFUJ eS Sn 01 06 53.1 -11
JRG Rokugo 11.67 237 P Pn 01 05 00.8 -3.7
JRG eS Sn 01 07 00.6 -13
TEY Ternei 11.78 269 eP **Pn 01 05 07.8 +1.7**
TEY AMB AMB 01 05 09.0
comp=N,6µm,7.0s
TEY AMB AMB 01 05 09.0
comp=N,9µm,7.0s
TEY AMB AMB 01 05 09.0
comp=N,67nm,1.0s
TEY AMB AMB 01 05 09.0
comp=N,2µm,1.0s
TEY AMS AMS 01 08 54.0
comp=N,10µm,17.0s
TEY AMS AMS 01 08 54.0
comp=N,5µm,17.0s
TEY AMS AMS 01 08 54.0
comp=N,10µm,17.0s
JIO Ouri 11.91 232 P Pn 01 05 03.2 -4.7
JIO eS Sn 01 07 05.6 -14
GRNR Gornyy 12.00 297 eP Pn 01 05 12.0 +2.9
GRNR AMB AMB 01 05 14.0
comp=N,39nm,0.5s
GRNR AMB AMB 01 05 14.0
comp=N,57nm,0.5s
GRNR eS Sn 01 07 10.3 -11
GRNR A A 01 07 11.0
comp=N,80nm,1.0s
HABR Khabarovsk 12.55 286 dPN **Pn 01 05 17.2 +0.7**
HABR eSS Sn 01 07 46.1 +11
HABR MLR MLR
comp=Z,27µm,16.0s
JYA Atsumi 12.74 237 P Pn 01 05 15.7 -3.4
JFK Kawauchi 12.96 230 eS Sn 01 07 32.2 -13
JFY Yanaizu 13.57 233 P Pn 01 05 26.8 -3.7
JSD Sado 13.96 238 P Pn 01 05 31.9 -3.9
JHK Hiroka 14.06 234 P Pn 01 05 33.6 -3.7
JKT Katashina 14.28 232 P Pn 01 05 37.3 -3.0
FX1 Attu Island--F 14.34 56 ePn Pn 01 05 37.2 -3.8
FX1 eS Sn 01 08 05.4 -13
FX1 Attu Island--F 14.34 56 Pn Pn 01 05 37.3 -3.6
comp=Z,18nm,0.3s,baz=310,slow=5.4,SNR=14
FX1 Sn Sn 01 08 05.2 -13
comp=Z,32nm,0.3s,baz=30,slow=20,SNR=9.4
FX1 LR LR 01 11 57.7
comp=Z,2µm,18.5s,baz=272,slow=41
JAG Ashikaga 14.42 231 P Pn 01 05 38.2 -4.0
EKMR Ekimchan 14.73 304 eP **Pn 01 05 43.5 -2.7**
EKMR AMB AMB 01 05 59.5
comp=Z,110nm,1.0s
EKMR AMB AMB 01 05 59.5
comp=Z,64nm,1.0s
EKMR AMB AMB 01 05 59.5
comp=Z,170nm,1.0s
KLR Kul'dur 14.76 289 ||*i*P **Pn 01 05 46.1 -0.5**
KLR pmax pmax
comp=E,550nm,2.6s
KLR pmax pmax
comp=Z,450nm,2.6s
KLR pmax pmax
comp=E,6µm,9.0s
KLR pmax pmax
comp=Z,12µm,9.0s
KLR MLR MLR
comp=E,19µm,14.0s
KLR MLR MLR
comp=Z,20µm,14.0s
KLR Kul'dur 14.76 289 eP **Pn 01 05 46.1 -0.5**
KLR AMB AMB 01 05 47.1
comp=Z,550nm,2.6s
KLR AMB AMB 01 05 47.1
comp=Z,450nm,2.6s
KLR AMB AMB 01 05 57.5
comp=Z,700nm,9.0s
KLR AMB AMB 01 05 57.5
comp=Z,12µm,9.0s
KLR AMS AMS 01 11 03.0
comp=Z,19µm,14.0s
KLR AMS AMS 01 11 03.0
comp=Z,20µm,14.0s
SMY Shemya 14.83 57 eP **Pn 01 05 44.5 -3.1**
SMY Shemya 14.83 57 ePn **Pn 01 05 44.5 -3.1**
MAJO Matsushiro 15.02 234*c i*P **Pn 01 05 46.5 -3.7**
MAJO Matsushiro 15.02 234 ePn **Pn 01 05 46.5 -3.7**
MAJO eS **Sn 01 08 42.3 +6.9**
MAT Matsushiro 15.02 234 P **Pn 01 05 46.7 -3.5**
MAT Matsushiro 15.02 234 P **Pn 01 05 45.9 -4.3**
MAT eS **Sn 01 08 37.4 +2.0**
MJAR Matsushiro Arr 15.02 234 Pn **Pn 01 05 46.3 -3.9**
MJAR Matsushiro Arr 15.02 234 Pn **Pn 01 05 46.3 -3.9**
comp=Z,1.9nm,0.3s,baz=28,slow=13,SNR=38
MJAR LR LR 01 13 04.5
comp=Z,4µm,18.8s,baz=45,slow=43
JNG Nsakai 15.18 234 P **Pn 01 05 48.9 -3.5**
USRK Ussuriysk Arra 15.18 269 Pn **Pn 01 05 51.5 -0.8**
comp=Z,6.1nm,0.3s,baz=80,slow=12,SNR=91
USRK LR LR 01 11 36.1
comp=Z,8µm,18.9s,baz=67,slow=37
VLA Vladivostok 15.59 265*c i*P **Pn 01 05 58.0 +0.5**
VLA S **Sn 01 08 50.1 +1.2**
VLA pmax pmax
comp=Z,180nm,1.2s
VLA Vladivostok 15.59 265 eP **Pn 01 05 58.0 +0.5**
JYN Shimob 15.61 231 P **Pn 01 05 55.3 -2.6**
JGN Niukaw 15.75 235 P **Pn 01 05 57.1 -2.7**
JIZS Izushimoda 16.03 228 P **Pn 01 06 01.6 -1.6**
JGF Kuroka 16.18 234 P **Pn 01 06 03.1 -2.1**
JYZW Yoshizawa 16.42 231 P **P 01 06 11.4 +0.7**
JAO Obara 16.48 233 P **Pn 01 06 06.7 -2.3**
HMMJ Hamamatsu 2 16.53 231 P **P 01 06 13.0 +1.1**
SEY Seymchan 16.54 358⇑eP **Pn 01 06 07.2 -2.3**
SEY Seymchan 16.54 358 Pn **Pn 01 06 07.7 -1.8**
SEY Seymchan 16.54 358 Pn **Pn 01 06 07.7 -1.8**
comp=Z,0.8nm,0.3s,baz=166,slow=8.6,SNR=21
SEY Seymchan 16.54 358 eP **Pn 01 06 07.2 -2.3**
MDJ Mudanjiang 16.73 272 P **Pn 01 06 11.4 -0.7**
MDJ pP **pP 01 06 23.3 +0.1**
MDJ sP **sP 01 06 28.8 +1.2**
MDJ S **Sn 01 09 13.3 -3.4**
MDJ PcP **PcP 01 11 00.6 +1.1**
MDJ ScP **ScP 01 14 31.1 -0.2**
MDJ PcS **PcS 01 14 36.0 +0.7**
MDJ ScS **ScS 01 18 11.3 +0.7**
MDJ pmax pmax
comp=Z,130nm,1.5s
MDJ pmax pmax
comp=Z,2µm,8.5s
MDJ LR LR
comp=Z,4µm,16.2s
MDJ LR LR
comp=Z,7µm,16.2s
MDJ LR LR
comp=Z,13µm,16.2s
MDJ Mudanjiang 16.73 272 ePn **Pn 01 06 11.4 -0.7**
comp=Z,244nm,0.9s
MDJ ePcP **PcP 01 11 00.1 +0.7**
JHJ2 Mitsune 16.86 223 eP **P 01 06 18.0 +2.5**
comp=Z,281nm,1.0s
JWT Wachi 17.52 237 P **Pn 01 06 20.8 -1.2**
BMKR Bomnak 17.55 307 eP **Pn 01 06 19.0 -3.3**
BMKR AMB AMB 01 06 24.9
comp=Z,110nm,0.8s
ZEA Zeya 18.19 303 eP **Pn 01 06 30.0 -0.1**
ZEA AMB AMB 01 06 38.0
comp=Z,2µm,6.0s
ZEA AMB AMB 01 06 38.0
comp=Z,5µm,6.0s
ZEA AMB AMB 01 06 38.0
comp=Z,7µm,6.0s
ZEA AMB AMB 01 06 39.1
comp=Z,130nm,1.0s
ZEA AMB AMB 01 06 39.1
comp=Z,200nm,1.0s
ZEA eS **Sn 01 09 54.0 +2.0**
ZEA A A 01 10 15.0
comp=Z,2µm,12.0s
ZEA A A 01 10 15.0
comp=Z,3µm,12.0s
ZEA AMS AMS 01 14 08.0
comp=Z,2µm,15.0s
ZEA AMS AMS 01 14 08.0
comp=Z,14µm,15.0s
ZEA AMS AMS 01 14 08.0
comp=Z,17µm,15.0s
KROS Kirovskiy 18.52 305 eP **P 01 06 30.0 -3.8**
KROS AMB AMB 01 06 38.2
comp=Z,64nm,0.9s
KROS AMB AMB 01 06 38.2
comp=Z,110nm,0.9s
KROS AMB AMB 01 06 38.2
comp=Z,160nm,0.9s
CN2 Changchun 19.82 272⇑P **P 01 06 44.8 -3.3**
CN2 eS **S 01 10 24.8 -4.5**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,1µm,6.0s
CN2 LR LR
comp=Z,8µm,16.0s
CN2 LR LR
comp=Z,9µm,16.0s
CN2 LR LR
comp=Z,11µm,18.0s
KSSKC Sokcho 20.01 255 P **P 01 06 50.0 -0.1**
SNR=12
KSJMJ Jumunjin 20.07 254 P Pn 01 06 52.8 0.0
SNR=9.3
SEHB SEOHWA 20.20 255 P Pn 01 06 54.8 +0.5
SNR=9.2
KSDGY Daegwallycong 20.23 253 P **P 01 06 52.8 +0.2**
SNR=17
ADK Adak 20.26 63 PFAKE 01 07 10.0 +15
ADK LR LR
comp=Z,5µm,21.0s
KSULJ Ulijin 20.31 250 P Pn 01 06 55.7 +0.1
SNR=6.4
CLNS Chul'man 20.34 311 eP Pn 01 06 54.9 -1.0
CLNS e 01 07 21.7
CLNS ePPP PPP 01 07 27.7
CLNS eS **S 01 10 40.0 +0.4**
CLNS pmax pmax
comp=Z,152nm,1.5s
CLNS pmax pmax
comp=E,68nm,1.2s
CLNS pmax pmax
comp=N,71nm,1.3s
CLNS pmax pmax
comp=Z,83nm,1.0s
CLNS pmax pmax
comp=N,141nm,1.1s
CLNS pmax pmax
comp=E,48nm,1.0s
CLNS smax smax
comp=E,952nm,13.9s
CLNS smax smax
comp=N,960nm,14.4s
CLNS MLR MLR
comp=N,13µm,17.0s
CLNS MLR MLR
comp=Z,22µm,15.0s
CLNS MLR MLR
comp=E,16µm,15.0s
KSTBA Taebaek 20.36 252 P Pn 01 06 56.1 -0.2
SNR=24
KSIJA INJE 20.44 255 P **P 01 06 55.8 +0.9**
SNR=14
YAK Yakutsk 20.67 328*d i*P **P 01 06 56.9 -0.2**
YAK *e* 01 07 13.9
YAK eS **S 01 10 46.4 +0.6**
YAK *e* 01 11 05.5
YAK eSS **SnSn 01 11 07.0 +0.9**
YAK eSSS SSS 01 11 25.9
YAK *e* 01 18 22.2
YAK pmax pmax
comp=N,59nm,0.9s
YAK pmax pmax
comp=Z,235nm,0.9s
YAK pmax pmax
comp=E,67nm,1.0s
YAK pmax pmax
comp=Z,117nm,0.9s
YAK pmax pmax
comp=E,105nm,1.0s
YAK pmax pmax
comp=N,70nm,1.0s
YAK smax smax
comp=N,1µm,3.8s
YAK smax smax
comp=E,1µm,3.8s
YAK MLR MLR
comp=Z,8µm,15.0s
YAK MLR MLR
comp=N,6µm,15.0s
YAK MLR MLR
comp=E,5µm,14.0s
YAK Yakutsk 20.67 328 eP **P 01 06 56.0 -1.0**
comp=E,240nm,0.9s
YAK eS **S 01 10 48.1 +2.3**
YAK LR LR
comp=Z,7µm,19.0s
KSCHC Chuncheon 20.75 255 P **P 01 06 59.1 +0.8**
SNR=11
KSCWO Cheorwon 20.79 256 P **P 01 06 59.6 +1.0**
SNR=12
KSWJU Wonju 20.80 253 P **P 01 06 59.9 +1.2**
SNR=23
KSRS Korea Array 20.86 254 P **P 01 06 59.8 +0.4**
comp=Z,148nm,1.0s,baz=58,slow=10,SNR=153
KSRS S Sn 01 10 57.5 +1.1
comp=Z,0.5nm,0.3s,baz=119,slow=18,SNR=1.3
KSRS PcP **PcP 01 11 08.2 +1.5**
comp=Z,9.6nm,0.9s,baz=9.8,slow=1.1,SNR=8.4
KSRS LR LR 01 14 00.1
comp=Z,5µm,20.4s,baz=64,slow=34
KSAR Wonju Array Be 20.89 254 P **P 01 06 59.8 +0.1**
KSAR S Sn 01 10 57.5 +0.3
KSAR PcP **PcP 01 11 08.2 +1.4**
KSCHJ Chungju 21.15 252 P **P 01 07 04.9 +2.4**
SNR=20
KSDDC Dongducheon 21.19 256 P **P 01 07 04.5 +1.6**
SNR=11
KSDAG Daegu 21.20 249 P **P 01 07 03.6 +0.5**
SNR=5.3
YNCB YEONCHEON 21.21 256 P **P 01 07 04.5 +1.4**
SNR=13
CBIJ Chichi jima 21.23 208 eP **P 01 07 04.0 +0.5**
comp=Z,104nm,0.9s
JCJ Chichijima 21.23 208 P **P 01 07 03.9 +0.4**
comp=Z,279nm,1.1s,baz=346,slow=10,SNR=4.3
JCJ LR LR 01 16 50.9
comp=Z,2µm,19.0s,baz=360,slow=41
KSICN Icheon 21.28 254 P **P 01 07 04.9 +1.0**
SNR=27
KSBUS Busan 21.38 247 P **P 01 07 05.7 +0.7**
SNR=8.5
KSMUS Musan 21.40 256 P **P 01 07 06.8 +1.6**
SNR=12
KSBON Boeun 21.48 252 P **P 01 07 07.5 +1.4**
SNR=46
KSSEO Seoul 21.51 255 P **P 01 07 07.4 +1.1**
SNR=12
KSCPR CHUPUNGNYEONG 21.53 251 P **P 01 07 08.0 +1.4**
SNR=37
KSSWO Suwon 21.60 254 P **P 01 07 08.1 +0.9**
SNR=30
KSCEA Cheonan 21.65 253 P **P 01 07 09.6 +1.8**
SNR=25
JNU Nakatsue 21.70 240 eP **P 01 07 09.3 +0.8**
comp=Z,74nm,1.0s
JNU S Sn 01 11 12.9 -3.9
JNU Nakatsue 21.70 240 P **P 01 07 09.2 +0.8**
comp=Z,138nm,1.0s,baz=58,slow=5.2,SNR=17
JNU S Sn 01 11 12.9 -3.9
comp=Z,8.4nm,0.3s,baz=34,slow=9.0,SNR=2.3
JNU LR LR 01 15 42.7
comp=Z,4µm,20.1s,baz=38,slow=37
INCN Inchon 21.70 255 eP **P 01 07 09.2 +0.8**
comp=Z,98nm,0.9s
INCN LR LR
comp=Z,4µm,19.0s
KSGAH Ganghwa 21.70 256 P **P 01 07 09.7 +1.3**
SNR=12
SNY Shenyang 21.79 269⇑P **P 01 07 08.5 -0.8**
SNY S S 01 10 56.8 -11
SNY pmax pmax
comp=Z,190nm,1.1s
SNY pmax pmax
comp=Z,4µm,8.8s
SNY LR LR
comp=Z,4µm,14.2s
SNY LR LR
comp=Z,8µm,17.1s
SNY LR LR
comp=Z,8µm,17.6s
TJN Taejon 21.84 252 *i* P **P 01 07 10.7 +0.9**
KSJEO Jeonju 22.14 251 P **P 01 07 14.6 +1.5**
SNR=51
KSSES Seosan 22.20 254 P **P 01 07 15.1 +1.3**
SNR=19
JUR Ureshino 22.28 242 P **P 01 07 15.8 +1.1**
KSGUS GUNSAN 22.42 252 P **P 01 07 17.0 +1.0**
SNR=45
JHD Hondo 22.60 240 P **P 01 07 19.1 +1.0**
HIA Hailar 22.62 290 eP **P 01 07 14.8 -3.4**
comp=Z,121nm,1.0s
HIA LR LR
comp=Z,10µm,19.0s
KSJEU Jeongeup 22.64 251 P **P 01 07 19.3 +0.8**
SNR=34

KSBAR **Backryungdo** 22.73 258 P **P** 01 07 20.4 +1.0
SNR=7.1
KSKWJ **Gwangju** 22.80 250 P **P** 01 07 20.8 +0.6
SNR=13
KSMOK **Mokpo** 23.21 249 P **P** 01 07 25.2 +0.9
SNR=18
JFU **Fukue jima 2** 23.31 243 P **P** 01 07 26.2 +0.8
KSHAN **Haenam** 23.44 249 P **P** 01 07 27.7 +1.2
SNR=18
KSWAN **Wando** 23.47 249 P **P** 01 07 27.9 +1.1
SNR=18
KSJDO **Jindo** 23.66 249 P **P** 01 07 29.8 +1.0
SNR=17
DL2 **Dalian** 24.38 263⇑ *i*P **P** 01 07 35.9 +0.5
DL2 pP **pP** 01 07 47.9 +2.6
DL2 S **S** 01 11 53.4 +0.9
DL2 pmax pmax
comp=Z,370nm,1.1s
DL2 pmax pmax
comp=Z,6μm,6.3s
DL2 LR LR
comp=Z,3μm,15.4s
GAMB **Gambell** 25.98 36 *e*P **P** 01 07 50.1 +0.5
comp=Z,36nm,0.9s
CIT **Chita** 26.33 297 *e*P **P** 01 07 51.4 -1.6
CIT *e* 01 07 58.2
CIT *e* 01 08 10.8
CIT *e* 01 08 35.5
CIT pmax pmax
comp=Z,133nm,1.1s
BJI **Beijing** 27.63 270 P **P** 01 08 05.0 +0.3
BJI PP **PnPn** 01 08 52.3 +1.5
BJI S **S** 01 12 44.8 +0.7
BJI pmax pmax
comp=Z,210nm,0.9s
BJI pmax pmax
comp=Z,2μm,5.7s
BJI LR LR
comp=Z,4μm,14.4s
BJI LR LR
comp=Z,10μm,17.6s
BJI LR LR
comp=Z,6μm,17.6s
BJT **Baijiatuau** 27.65 270 *e*P **P** 01 08 05.2 +0.3
comp=Z,194nm,0.9s
BJT LR LR
comp=Z,8μm,19.0s
TIXI **Tiksi** 27.81 344 PFAKE 01 08 20.0 +14
TIXI LR LR
comp=Z,6μm,19.0s
JOW **Kunigami** 27.87 234 *e*P **P** 01 08 06.5 -0.5
comp=Z,52nm,0.9s
TNA **Tin City** 28.20 33 *e*P **P** 01 08 09.9 +0.4
comp=Z,78nm,0.9s
TIA **Tai'an** 28.83 262 ⇑P **P** 01 08 16.3 +0.9
TIA pmax pmax
comp=Z,120nm,0.9s
TIA pmax pmax
comp=Z,3μm,9.5s
TIA LR LR
comp=Z,4μm,16.2s
TIA LR LR
comp=Z,4μm,17.5s
TIA LR LR
comp=Z,4μm,16.8s
H11N2 **WAKE ISLAND Hy** 28.87 153 T T 01 39 56.6
baz=342,slow=0.7,SNR=3809
H11N1 **WAKE ISLAND Hy** 28.89 153 T T 01 39 54.2
baz=342,slow=0.7,SNR=3000
H11N3 **WAKE ISLAND Hy** 28.89 153 T T 01 39 55.0
baz=342,slow=0.7,SNR=2310
SSE **Sheshan** 29.14 250 P **P** 01 08 19.3 +1.1
SSE pP **pP** 01 08 30.5 +2.3
SSE S **S** 01 13 10.6 +2.8
SSE pmax pmax
comp=Z,32nm,0.7s
SSE pmax pmax
comp=Z,1μm,6.1s
SSE LR LR
comp=Z,2μm,20.2s
SSE LR LR
comp=Z,3μm,20.2s
SSE LR LR
comp=Z,3μm,19.3s
MIDW **Midway** 29.31 118 PFAKE 01 08 30.0 +10
MIDW LR LR
comp=Z,7μm,21.0s
H11S1 **WAKE ISLAND Hy** 29.96 154 T T 01 41 16.6
baz=349,SNR=32
H11S3 **WAKE ISLAND Hy** 29.97 154 T T 01 41 20.9
baz=349,slow=0.7,SNR=933
H11S2 **WAKE ISLAND Hy** 29.98 154 T T 01 41 19.8
baz=349,slow=0.7,SNR=1025
NJ2 **Nanjing** 30.06 254 *e*P **P** 01 08 27.3 +0.9
NJ2 pP **pP** 01 08 37.6 +1.3
NJ2 sP **sP** 01 08 40.9 +0.3
NJ2 S **S** 01 13 24.5 +2.2
NJ2 sS **sS** 01 13 40.5 +1.7
NJ2 pmax pmax
comp=Z,40nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,5.6s
NJ2 LR LR
comp=Z,5μm,25.8s
NJ2 LR LR
comp=Z,4μm,26.6s
NJ2 LR LR
comp=Z,6μm,23.7s
HHC **Hu-ho-hao-te** 30.47 275 *i* P **P** 01 08 30.6 +0.5
HHC PP **PnPn** 01 09 30.4 +1.0
HHC S **S** 01 13 27.5 -1.5
HHC sS **sS** 01 13 43.4 -2.1
HHC SS **ScP** 01 15 07.4 -0.9
HHC ScS **ScS** 01 19 03.9 -0.6
HHC pmax pmax
comp=Z,520nm,0.8s
HHC pmax pmax
comp=Z,3μm,5.1s
HHC LR LR
comp=Z,8μm,16.5s
HHC LR LR
comp=Z,13μm,16.5s
HHC LR LR
comp=Z,16μm,16.5s
ULN **Ulaanbaatar** 31.15 290 *e*P **P** 01 08 35.0 -1.0
comp=Z,70nm,0.9s
ULN *e*PcP **PcP** 01 11 30.3 -0.1
ULN LR LR
comp=Z,9μm,19.0s
TIY **Taiyuan** 31.30 269 P **P** 01 08 39.3 +2.0
TIY PP **PnPn** 01 09 40.8 +0.7
TIY S **S** 01 13 44.5 +2.7
TIY pmax pmax
comp=Z,180nm,1.0s
TIY LR LR
comp=Z,1μm,15.3s
TIY LR LR
comp=Z,4μm,15.9s
TIY LR LR
comp=Z,4μm,18.6s
SONM **Songino Array** 31.59 290 P **P** 01 08 38.6 -1.2
SONM PcP **PcP** 01 11 31.9 +0.4
SONM **Songino Array** 31.59 290 P **P** 01 08 38.6 -1.2
comp=Z,20nm,0.9s,baz=68,slow=8.0,SNR=134
SONM PcP **PcP** 01 11 31.9 +0.4
comp=Z,17nm,0.9s,baz=104,slow=2.1,SNR=8.4
SONM LR LR 01 22 25.8
comp=Z,11μm,18.3s,baz=78,slow=38
BTO **Baotou** 31.64 275 *e*P **P** 01 08 39.1 -1.3
IRK **Irkutsk** 31.98 299 *e*P **P** 01 08 41.4 -1.7
IRK *e* 01 11 32.4
IRK *e*S S 01 13 58.0 +5.9
IRK pmax pmax
comp=Z,57nm,1.0s
TLY **Talaya** 32.46 298 P **P** 01 08 46.2 -1.2
comp=Z,343nm,0.9s,SNR=25
TLY **Talaya** 32.46 298 *c i*P **P** 01 08 46.0 -1.4
TLY *e* 01 09 50.2
TLY *e* 01 10 06.5
TLY *e* 01 11 33.9
TLY *e*SS SS 01 16 23.3 +3.7
TLY pmax pmax
comp=Z,72nm,1.0s
TLY MLR MLR
comp=Z,14μm,15.0s
TLY **Talaya** 32.46 298 *e*P **P** 01 08 46.7 -0.7
comp=Z,53nm,0.9s
TLY *e*PcP **PcP** 01 11 34.8 +1.1
TLY LR LR
comp=Z,10μm,19.0s
SVW2 **Sparrevohn** 32.60 45 *e*P **P** 01 08 49.8 +1.3
comp=Z,34nm,1.0s
ZAK **Zakamensk** 32.95 296⇑ *i*P **P** 01 08 51.1 -0.7
ZAK *e* 01 11 36.0
ZAK pmax pmax
comp=Z,42nm,1.1s
TATO **Taipei** 33.24 241 PFAKE 01 09 10.0 +16
TATO LR LR
comp=Z,3μm,20.0s
YHNB **Yeheng** 33.53 241 PFAKE 01 09 10.0 +13
YHNB LR LR
comp=Z,4μm,20.0s
OHAK **Old Harbor** 33.84 52 *e*P **P** 01 08 59.1 -0.2
comp=Z,61nm,1.2s
IM04 **Indian Mountai** 33.91 36 *e*P **P** 01 08 59.8 0.0
IM04 *e*PcP **PcP** 01 11 38.4 +0.9
IM04 *e*ScP **ScP** 01 15 20.0 +0.6
RSO **Redoubt South** 33.97 46 *e*P **P** 01 09 01.3 +0.6
WHN **Wuhan** 34.01 256 ⇑P **P** 01 09 01.5 +0.5
WHN S **S** 01 14 23.1 -0.8
WHN pmax pmax
comp=Z,160nm,0.8s
WHN LR LR
comp=Z,4μm,12.1s
WHN LR LR
comp=Z,7μm,15.8s
WHN LR LR
comp=Z,9μm,15.4s
MOY **Mondy** 34.08 298 *e*P **P** 01 08 59.5 -2.1
MOY pmax pmax
comp=Z,55nm,2.2s
KDAK **Kodiak Island** 34.18 51 P **P** 01 09 01.0 -1.2
comp=Z,328nm,0.7s,SNR=6.0
KDAK **Kodiak Island** 34.18 51 PFAKE 01 09 10.0 +7.8
KDAK LR LR
comp=Z,5μm,20.0s
PPLA **Purkeypile** 34.29 41 *e*P **P** 01 09 04.0 +0.7
comp=Z,180nm,1.3s
CAST **Castle Rocks** 34.37 40 *e*P **P** 01 09 05.3 +1.5
comp=Z,18nm,1.0s
SSLB **Suanglung** 34.45 240 *e*P **P** 01 09 05.1 +0.2
comp=Z,421nm,2.6s
YULB **Yu-li** 34.54 239 *e*P **P** 01 09 05.2 -0.5
comp=Z,43nm,1.1s
KTH **Kantishna Hill** 34.89 40 *e*P **P** 01 09 09.2 +0.8
comp=Z,608nm,1.1s
TPUB **Ta-pu** 35.01 240 *e*P **P** 01 09 10.5 +0.7
comp=Z,114nm,1.0s
QZH **Quanzhou** 35.04 244⇑ *i*P **P** 01 09 08.0 -2.0
QZH pP **pP** 01 09 20.3 +0.3
QZH S **S** 01 14 42.8 +2.9
QZH pmax pmax
comp=Z,200nm,1.2s
QZH pmax pmax
comp=Z,2μm,3.6s
QZH LR LR
comp=Z,3μm,17.2s
QZH LR LR
comp=Z,4μm,14.8s
QZH LR LR
comp=Z,4μm,16.6s
TWG **Pinlang** 35.11 239 *e*P **P** 01 09 13.2 +2.6
comp=Z,541nm,1.0s
TRF **Thorofare Moun** 35.17 41 *e*P **P** 01 09 11.1 +0.1
comp=Z,309nm,2.1s
RC01 **Rabbit Creek A** 35.44 45 *e*P **P** 01 09 12.4 -0.7
comp=Z,176nm,1.8s
RC01 *e*PcP **PcP** 01 11 42.5 +0.5
COLD **Coldfoot** 35.50 34 *e*P **P** 01 09 14.0 +0.5
comp=Z,33nm,0.8s
XAN **Xi'an** 35.65 266 P **P** 01 09 15.8 +0.6
XAN pP **pP** 01 09 27.5 +2.2
XAN sP **sP** 01 09 32.5 +3.0
XAN PP **PnPn** 01 10 34.5 -0.6
XAN S **S** 01 14 45.1 -4.1
XAN sS **sS** 01 15 05.0 -0.9
XAN SS **SnSn** 01 17 03.0 -8.9
XAN pmax pmax
comp=Z,18nm,1.3s
XAN pmax pmax
comp=Z,390nm,7.1s
XAN LR LR
comp=Z,2μm,15.6s
XAN LR LR
comp=Z,1μm,14.7s
XAN LR LR
comp=Z,1μm,16.5s
PMR **Palmer** 35.71 44 *e*P **P** 01 09 14.6 -0.8
PMR pmax pmax
comp=Z,83nm,1.4s
PMR **Palmer** 35.71 44 *e*P **P** 01 09 14.6 -0.8
comp=Z,83nm,1.4s
MCK **McKinley** 35.79 40 *e*P **P** 01 09 16.1 +0.1
MCK *e* 01 11 42.9
MCK pmax pmax
comp=Z,90nm,1.3s
MCK **McKinley** 35.79 40 *e*P **P** 01 09 16.1 +0.1
comp=Z,90nm,1.3s
MCK *e*PcP **PcP** 01 11 42.9 -0.1
COLA **College** 36.28 38 *c i*P **P** 01 09 20.9 +0.7
COLA pmax pmax
comp=Z,233nm,1.1s
COLA MLR MLR
comp=Z,9μm,18.0s
COLA **College** 36.28 38 *e*P **P** 01 09 20.8 +0.6
comp=Z,21nm,0.9s
COLA LR LR
comp=Z,2μm,20.0s
ILAR **Eielson Array** 36.69 38 P **P** 01 09 23.4 -0.4
ILAR ScP **ScP** 01 15 30.5 +1.0
ILAR **Eielson Array** 36.69 38 P **P** 01 09 23.4 -0.4
comp=Z,13nm,1.0s,baz=256,slow=6.8,SNR=70
ILAR ScP **ScP** 01 15 30.5 +1.0
comp=Z,1.8nm,1.1s,baz=190,slow=4.6,SNR=4.9
ILAR LR LR 01 24 41.7
comp=Z,2μm,20.8s,baz=300,slow=37
DIV **Divide** 37.36 44 *e*P **P** 01 09 29.9 +0.3
comp=Z,97nm,1.3s
PAX **Paxson** 37.36 41 *e*P **P** 01 09 30.2 +0.6
PAX *e* 01 11 48.2
PAX pmax pmax
comp=Z,26nm,1.0s
PAX **Paxson** 37.36 41 *e*P **P** 01 09 30.2 +0.6
comp=Z,26nm,1.0s
PAX *e*PcP **PcP** 01 11 48.2 +0.4
ENH **Enshi** 37.47 260 *e*P **P** 01 09 30.7 -0.1
comp=Z,46nm,0.8s
ENH *e*PcP **PcP** 01 11 49.2 +0.5
BMRM **Bremner River** 37.94 44 *e*P **P** 01 09 34.9 +0.4
comp=Z,76nm,1.0s
DOT **Dot Lake** 37.96 40 *e*P **P** 01 09 34.2 -0.3
comp=Z,27nm,0.9s
RAGM **Ragged Mountai** 37.97 45 *e*P **P** 01 09 36.4 +1.7
comp=Z,83nm,1.0s
LZH **Lanzhou** 38.06 272 ⇑P **P** 01 09 37.4 +1.6
LZH pP **pP** 01 09 47.6 +1.6
LZH sP **sP** 01 09 52.8 +2.7
LZH PP **PnPn** 01 11 10.0 +5.4
LZH S **S** 01 15 26.3 +0.2
LZH sS **sS** 01 15 46.0 +3.2
LZH SS SnSn 01 17 57.0 -13
LZH pmax pmax
comp=Z,510nm,1.0s
LZH pmax pmax
comp=Z,2μm,4.2s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,3μm,16.4s
HVS **Khovu-Aksy** 38.63 299 *c i*P **P** 01 09 39.7 -0.7
HVS pmax pmax
comp=Z,501nm,1.1s
EGAK **Eagle** 39.15 38 *e*P **P** 01 09 44.3 -0.1
comp=Z,55nm,0.9s
EGAK LR LR
comp=Z,2μm,19.0s
GTA **Gaotai** 39.17 280 ⇑P **P** 01 09 45.9 +0.8
GTA pP **pP** 01 09 51.8 -3.5
GTA sP **sP** 01 09 54.8 -4.7
GTA PP **PnPn** 01 11 20.0 +2.1
GTA PcP **PcP** 01 11 55.3 +1.3
GTA ScP **ScP** 01 15 41.5 +1.9
GTA S **S** 01 15 43.3 +0.4
GTA PcS **PcS** 01 15 44.9 +1.1
GTA sS sS 01 15 53.4 -6.2
GTA SS **SS** 01 18 27.1 -9.1
GTA ScS **ScS** 01 19 53.3 +2.0
GTA pmax pmax
comp=Z,130nm,1.1s
GTA pmax pmax
comp=Z,2μm,7.1s
GTA LR LR
comp=Z,5μm,13.8s
GTA LR LR
comp=Z,4μm,13.8s
GTA LR LR
comp=Z,5μm,14.7s
GZH **Guangzhou** 39.69 248 P P 01 09 44.9 -4.5
GZH PP **PnPn** 01 11 22.9 -1.2
GZH S **S** 01 15 45.3 -5.3
GZH LR LR
comp=Z,7μm,19.0s
GZH LR LR
comp=Z,4μm,17.5s
GZH LR LR
comp=Z,9μm,16.7s
DAWY **Dawson** 39.98 39 *e*P **P** 01 09 51.7 +0.3
CD2 **Chengdu** 41.01 266⇑ *i*P **P** 01 10 01.3 +1.0
CD2 sP **sP** 01 10 16.6 +1.9
CD2 PP **PnPn** 01 11 38.8 -0.8
CD2 PcP PcP 01 12 05.5 +5.6
CD2 S **S** 01 16 13.0 +2.7
CD2 SS **SS** 01 19 08.5 -4.4
CD2 ScS **ScS** 01 20 04.4 +2.2
CD2 pmax pmax
comp=Z,220nm,0.8s
CD2 pmax pmax
comp=Z,3μm,7.1s
CD2 LR LR
comp=Z,3μm,16.7s
CD2 LR LR
comp=Z,2μm,20.2s
CD2 LR LR
comp=Z,4μm,17.8s
GYA **Guiyang** 41.80 258⇑ *i*P **P** 01 10 07.5 +0.5
GYA pP **pP** 01 10 19.3 +2.1
GYA sP **sP** 01 10 25.6 +4.3
GYA PP **PnPn** 01 11 47.0 -2.0
GYA PcP **PcP** 01 12 05.4 +2.8
GYA ScP **ScP** 01 15 50.0 0.0
GYA S **S** 01 16 18.3 -3.9
GYA sS **sS** 01 16 41.8 +2.7
GYA SS SS 01 19 21.5 -7.4
GYA ScS **ScS** 01 20 05.9 -1.4
GYA pmax pmax
comp=Z,330nm,1.0s
GYA pmax pmax
comp=Z,1μm,7.2s
GYA LR LR
comp=Z,2μm,15.8s
GYA LR LR
comp=Z,2μm,17.1s
GYA LR LR
comp=Z,3μm,16.5s
INK **Inuvik** 41.83 32 *e*P **P** 01 10 07.3 +0.8
comp=Z,36nm,0.8s
INK **Inuvik** 41.83 32 P **P** 01 10 07.5 +1.0
comp=Z,39nm,0.9s,baz=289,slow=7.4,SNR=141
TGY **Tagaytay City** 42.15 231 P **P** 01 10 10.4 +0.6
TGY **Tagaytay City** 42.15 231 P **P** 01 10 10.4 +0.6
comp=Z,105nm,0.3s,baz=161,slow=18,SNR=4.2
ZAA0 **Zalesovo Array** 42.92 306 *e*P **P** 01 10 13.6 -1.9
ZAA0 *e*PcP **PcP** 01 12 05.8 +0.1
ZALV **Zalesovo Beam** 42.92 306 P **P** 01 10 13.8 -1.7
ZALV 01 12 06.2
ZALV pmax pmax
comp=Z,26nm,0.7s
ZALV MLR MLR
comp=Z,13μm,19.1s
ZALV **Zalesovo Beam** 42.92 306 P **P** 01 10 13.8 -1.7
ZALV PcP **PcP** 01 12 06.2 +0.5
ZALV **Zalesovo Beam** 42.92 306 P **P** 01 10 13.8 -1.7
comp=Z,26nm,0.7s,baz=64,slow=6.8,SNR=118
ZALV PcP **PcP** 01 12 06.2 +0.5
comp=Z,60nm,0.9s,baz=90,slow=3.0,SNR=15
ZALV LR LR 01 29 15.9
comp=Z,13μm,19.1s,baz=84,slow=38
QIZ **Qiongzhong** 44.87 247 PFAKE 01 10 40.0 +8.4
QIZ LR LR
comp=Z,2μm,20.0s
WMQ **Urumqi** 45.19 292 P **P** 01 10 34.8 +0.8
WMQ pP **pP** 01 10 44.8 +0.5
WMQ sP **sP** 01 10 48.6 +0.2
WMQ PP **PP** 01 12 23.3 +3.6
WMQ S **S** 01 17 10.5 -0.8
WMQ sS **sS** 01 17 26.9 -1.3
WMQ SS **ScS** 01 20 23.8 -4.1
WMQ ScS SS 01 20 26.8 -7.2
WMQ pmax pmax
comp=Z,58nm,0.8s
WMQ pmax pmax
comp=Z,140nm,6.7s
WMQ LR LR
comp=N,8μm,15.6s
WMQ LR LR
comp=E,7μm,17.1s
WMQ LR LR
comp=Z,5μm,16.3s
WMQ **Urumqi** 45.19 292 P **P** 01 10 34.3 +0.3
WMQ pP **pP** 01 10 44.1 -0.2
WMQ sP **sP** 01 10 48.0 -0.4
WMQ PcP **PcP** 01 12 15.4 +1.7
WMQ PP **PP** 01 12 20.3 +0.6
WMQ ScP **ScP** 01 16 04.1 +0.6
WMQ S S 01 17 05.6 -5.7
WMQ ScS **ScS** 01 20 23.3 -4.6
WMQ pmax pmax
comp=Z,54nm,1.2s
WMQ pmax pmax
comp=Z,1μm,7.6s
WMQ LR LR
comp=Z,8μm,16.2s
WMQ LR LR
comp=Z,5μm,16.2s
WMQ LR LR
comp=Z,5μm,18.5s
WRAK **Wrangell Islan** 45.21 49 *e*P **P** 01 10 36.7 +2.8
comp=Z,155nm,1.5s
KMI **Kunming** 45.34 260 P **P** 01 10 36.5 +0.9
KMI pP **pP** 01 10 46.3 +0.4
KMI sP **sP** 01 10 50.0 0.0
KMI PP **PP** 01 12 22.5 +0.6
KMI S **S** 01 17 13.6 -0.6
KMI sS **sS** 01 17 30.0 -1.1
KMI SS **ScS** 01 20 26.3 -3.4
KMI pmax pmax
comp=Z,160nm,1.0s
KMI pmax pmax
comp=Z,1μm,6.4s
KMI LR LR
comp=Z,2μm,17.8s
KMI LR LR
comp=Z,970nm,18.4s
KMI LR LR
comp=Z,2μm,19.2s
DLBC **Dease Lake** 45.70 46 *e*P **P** 01 10 39.8 +2.0
DAV **Davao City (W)** 45.92 220 PFAKE 01 10 50.0 +10
DAV LR LR
comp=Z,1μm,19.0s
KIP **Kipapa** 46.52 105 *e*P **P** 01 10 44.3 -0.4
KIP pmax pmax
comp=Z,43nm,1.0s
SLVN **Son La** 47.12 255 *e*P **P** 01 10 50.5 +1.1
comp=Z,96nm,0.9s
MK31 **Makanchi Array** 47.22 298 *e*P **P** 01 10 49.0 -0.9
MK31 *e* 01 12 21.5
MK31 **Makanchi Array** 47.22 298 *e*P **P** 01 10 49.0 -0.9
MK31 *e*PcP **PcP** 01 12 21.5 +0.7
MKAR **Makanchi Array** 47.22 298 P **P** 01 10 48.9 -1.0
MKAR 01 12 21.4
MKAR pmax pmax
comp=Z,144nm,0.9s
MKAR **Makanchi Array** 47.22 298 *e*P **P** 01 10 48.9 -1.0
MKAR PcP **PcP** 01 12 21.4 +0.6

MKAR e 01 48 33.2
MKAR Makanchi Array 47.22 298 P **P** **01 10 48.9 -1.0**
comp=Z,144nm,0.9s,baz=66,slow=7.5,SNR=564
MKAR PcP **PcP** **01 12 21.4 +0.6**
comp=Z,25nm,0.9s,baz=60,slow=4.7,SNR=4.1
MKAR LR LR 01 31 50.3
comp=Z,14μm,18.2s,baz=70,slow=38
MKAR P4KPbc 01 48 33.2
comp=Z,0.6nm,0.9s,baz=46,slow=4.2,SNR=2.8
KURK Kurchatov 47.67 304 P **P** **01 10 52.2 -1.0**
comp=Z,613nm,1.0s,SNR=24
KURK Kurchatov 47.67 304 *e*P **P** **01 10 52.1 -1.1**
KURK pmax pmax
comp=Z,94nm,0.9s
KURK MLR MLR
comp=Z,5μm,19.0s
KURK Kurchatov 47.67 304 *e*P **P** **01 10 52.1 -1.1**
comp=Z,94nm,0.9s
KURK *e* 01 48 35.0
KURK LR LR
comp=Z,5μm,19.0s
KURBB Kurchatov Arra 47.76 304 P4KPbc 01 48 35.0
comp=Z,0.4nm,0.8s,baz=67,slow=3.4,SNR=5.1
TARA Tarawa 48.06 153 PFAKE 01 11 10.0 +13
TARA LR LR
comp=Z,5μm,20.0s
POHA Pohakuloa 49.34 105 PFAKE 01 11 20.0 +13
POHA LR LR
comp=Z,3μm,20.0s
ALE Alert 50.03 6 P **P** **01 11 10.3 -0.7**
comp=Z,499nm,1.1s,SNR=49
CRAI Chiangrai 50.25 257 P **P** **01 11 14.6 +1.2**
comp=Z,218nm,1.0s
UBPT Khong Chiam 50.44 248 P x 01 11 15.1
comp=Z,77nm,2.4s
LSA Lhasa 50.45 274 P **P** **01 11 17.0 +1.6**
LSA PP **PP** **01 13 12.4 +1.4**
LSA S **S** **01 18 27.5 +0.5**
LSA pmax pmax
comp=Z,90nm,0.8s
LSA pmax pmax
comp=Z,1μm,7.8s
LSA LR LR
comp=Z,3μm,18.8s
LSA Lhasa 50.45 274 *e*P **P** **01 11 17.5 +2.1**
LSA pmax pmax
comp=Z,92nm,0.8s
LSA MLR MLR
comp=Z,3μm,19.0s
LSA Lhasa 50.45 274 *e*P **P** **01 11 17.4 +2.1**
comp=Z,92nm,0.8s
LSA LR LR
comp=Z,3μm,19.0s
SWI Sorong 50.95 209 P P 01 11 29.4 +11
YKA Yellowknife Ar 51.08 37 P **P** **01 11 19.6 +0.5**
YKA Yellowknife Ar 51.08 37 P **P** **01 11 19.5 +0.5**
comp=Z,32nm,0.8s,baz=296,slow=7.1,SNR=282
BVA0 Borovoye Array 51.18 310 *i* P **P** **01 11 18.4 -1.6**
BVA0 pmax pmax
comp=Z,85nm,1.0s
BVAR Borovoye Array 51.18 310 LR LR 01 35 10.8
comp=Z,7μm,18.3s,baz=66,slow=39
BRVK Borovoye 51.22 310 P **P** **01 11 19.3 -1.0**
comp=Z,780nm,0.8s,SNR=96
BRVK Borovoye 51.22 310 P **P** **01 11 18.6 -1.7**
BRVK pmax pmax
comp=Z,164nm,0.9s
BRVK Borovoye 51.22 310 *e*P **P** **01 11 19.1 -1.2**
comp=Z,108nm,0.9s
BRVK LR LR
comp=Z,8μm,19.0s
SDKM Sandakan 51.22 229 ⇓P **P** **01 11 21.5 +0.7**
KKM Kota Kinabalu 51.40 230 PFAKE 01 11 30.0 +7.8
KKM LR LR
comp=Z,1μm,21.0s
TSM Tawau 52.02 227 ⇑P **P** **01 11 27.8 +1.1**
LBMI Labuha 52.09 214 P **P** **01 11 29.1 +1.9**
comp=Z,100nm,1.1s,comp=Z,2μm
CMMT Chiang Mai 52.20 257 P **P** **01 11 30.6 +2.6**
comp=Z,4.4nm,0.7s,comp=Z,72nm
CHTO Chiang Mai 52.20 257 *e*P **P** **01 11 29.5 +1.5**
CHTO pmax pmax
comp=Z,51nm,0.9s
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 52.20 257 P **P** **01 11 29.1 +1.1**
comp=Z,1μm,1.1s,comp=Z,13μm
CHTO Chiang Mai 52.20 257 *e*P **P** **01 11 29.5 +1.5**
comp=Z,51nm,0.9s
CHTO LR LR
comp=Z,2μm,19.0s
PBKT Sadao Pong 52.44 253 P x 01 11 32.1
comp=Z,88nm,1.3s,comp=Z,2μm
PBKT Sadao Pong 52.44 253 P **P** **01 11 30.9 +1.1**
comp=Z,88nm,1.2s,comp=Z,2μm
CM31 Chiang Mai Arr 52.45 257 *e*P **P** **01 11 31.6 +1.7**
comp=Z,91nm,0.8s
CMAR Chiang Mai Arr 52.45 257 P **P** **01 11 31.5 +1.6**
CMAR PcP **PcP** **01 12 42.1 +1.9**
CMAR Chiang Mai Arr 52.45 257 P **P** **01 11 31.5 +1.6**
comp=Z,81nm,0.9s,baz=35,slow=7.7,SNR=252
CMAR PcP **PcP** **01 12 42.1 +1.9**
comp=Z,13nm,0.9s,baz=11,slow=2.7,SNR=4.6
CMAR LR LR 01 34 46.0
comp=Z,1μm,18.4s,baz=51,slow=37
SHL Shillong 52.52 269 ⇑*i*P **P** **01 11 30.0 -0.6**
SHL AMB AMB 01 11 33.5
comp=Z,196nm,1.2s
SHL *ex* x 01 18 52.0
GTOI Gorontalo 52.78 219 P **P** **01 11 35.2 +2.9**
comp=Z,61nm,1.4s,comp=Z,1μm
KBS Kingsbay 52.83 351 *e*P **P** **01 11 32.0 +0.1**
KBS pmax pmax
comp=Z,90nm,1.0s
KBS MLR MLR
comp=Z,2μm,20.0s
KBS Kingsbay 52.83 351 *e*P **P** **01 11 32.0 +0.1**
comp=Z,90nm,1.0s
KBS LR LR
comp=Z,2μm,20.0s
SPITS Spitsbergen Ar 52.95 350 LR LR 01 36 48.5
comp=Z,2μm,18.2s,baz=5.0,slow=39
ULHL Ulahol 53.24 295 *i* P **P** **01 11 36.1 +0.4**
ULHL Ulahol 53.24 295 P **P** **01 11 36.2 +0.4**
SNR=17
TKM2 Tokmak 2 53.28 296 P **P** **01 11 35.8 -0.2**
TKM2 pmax pmax
comp=Z,28nm,1.0s
TKM2 Tokmak 2 53.28 296 P **P** **01 11 36.1 +0.1**
SNR=77
TKM2 Tokmak 2 53.28 296 *e*P **P** **01 11 36.0 0.0**
comp=Z,75nm,0.9s
TKM2 LR LR
comp=Z,6μm,22.0s
MHMT Maesarieng 53.33 257 P **P** **01 11 38.2 +1.8**
comp=Z,83nm,1.0s
MRSI Marisa 53.40 220 P **P** **01 11 37.1 +0.2**
comp=Z,129nm,1.3s
CHMS Chumysh 53.76 297 *i* P **P** **01 11 39.1 -0.1**
CHMS Chumysh 53.76 297 P **P** **01 11 39.2 -0.1**
SNR=60
USP Ospenovka 53.77 297 *i* P **P** **01 11 39.2 -0.1**
USP Ospenovka 53.77 297 P **P** **01 11 39.3 -0.1**
SNR=182
KBK Karagaybulak 53.82 296 *i* P **P** **01 11 40.0 +0.1**
KBK Karagaybulak 53.82 296 P **P** **01 11 40.1 +0.1**
SNR=107
NLWA Neilton Lookou 53.91 57 PFAKE 01 11 50.0 +10
NLWA LR LR
comp=Z,1μm,20.0s
FRU Bishkek 53.93 297 *i* P **P** **01 11 41.0 +0.4**
FRU pmax pmax
comp=Z,180nm,1.1s
KZA Kyzart 53.95 296 *i* P **P** **01 11 42.0 +0.8**
KZA Kyzart 53.95 296 P **P** **01 11 42.0 +0.8**
SNR=112
SANI Sanana 53.97 215 P **P** **01 11 39.1 -1.9**
comp=Z,103nm,1.2s,comp=Z,1μm
A05A Maple Falls 54.08 54 *e*P **P** **01 11 41.9 +0.4**
comp=Z,264nm,2.5s
AAK Ala-Archa 54.11 297 P **P** **01 11 42.6 +0.5**
comp=Z,890nm,0.9s,SNR=91
AAK Ala-Archa 54.11 297 P **P** **01 11 41.3 -0.8**
AAK pmax pmax
comp=Z,130nm,1.0s
AAK Ala-Archa 54.11 297 P **P** **01 11 42.0 -0.1**
SNR=144

AAK Ala-Archa 54.11 297 *e*P **P** **01 11 41.9 -0.1**
comp=Z,136nm,0.9s
AAK Ala-Archa 54.11 297 LR LR 01 35 53.3
comp=Z,7μm,19.2s,baz=41,slow=37
SVE Sverdlovsk 54.16 317 *d*P **P** **01 11 41.0 -1.0**
SVE *e* 01 13 42.5
SVE *e*S **S** **01 19 11.4 -4.8**
SVE *e*SS **SKiKP** **01 22 51.4 +1.2**
SVE pmax pmax
comp=Z,87nm,0.9s
SVE MLR MLR
comp=E,3μm,14.0s
SVE MLR MLR
comp=Z,4μm,14.0s
TAPN Taplejung 54.27 274 *e*P **P** **01 11 45.0 +1.4**
comp=Z,332nm,0.8s
UCH Uchtor 54.33 296 *i* P **P** **01 11 44.2 +0.3**
UCH Uchtor 54.33 296 P **P** **01 11 44.2 +0.3**
SNR=16
CHBT CHBT 54.34 249 P x 01 11 45.5
comp=Z,109nm,0.9s
CHBT CHBT 54.34 249 P **P** **01 11 45.2 +1.4**
comp=Z,155nm,1.0s
LUWI Luwuk 54.39 219 P **P** **01 11 44.1 0.0**
comp=Z,103nm,1.2s
LUWI Luwuk 54.39 219 *e*P **P** **01 11 42.2 -1.9**
EKS2 Erkin-Say 54.54 297 *i* P **P** **01 11 44.8 -0.3**
EKS2 Erkin-Say 54.54 297 P **P** **01 11 44.8 -0.3**
SNR=108
EKS2 54.54 297 *e*P **P** **01 11 45.2 0.0**
comp=Z,135nm,0.9s
EKS2 LR LR
comp=Z,8μm,20.0s
APSI Ampana 54.77 220 P **P** **01 11 46.8 0.0**
comp=Z,167nm,1.2s,comp=Z,2μm
ODAN Odare 54.80 273 *e*P **P** **01 11 48.5 +1.1**
comp=Z,162nm,0.7s
AML Almayashu 54.88 297 *i* P **P** **01 11 48.3 +0.4**
AML Almayashu 54.88 297 P **P** **01 11 48.4 +0.4**
SNR=71
KSH Kashi 54.92 293 ⇑*i*P P 01 11 52.0 +4.1
KSH PP PP 01 13 58.3 +7.5
KSH PcS **PcS** **01 16 51.3 +1.8**
KSH *e*S **S** **01 19 31.4 +4.3**
KSH *es*S sS 01 19 51.8 +7.5
KSH pmax pmax
comp=Z,34nm,0.8s
KSH pmax pmax
comp=Z,910nm,3.8s
KSH LR LR
comp=Z,2μm,12.3s
KSH LR LR
comp=Z,3μm,14.7s
KSH LR LR
comp=Z,4μm,14.0s
JIRN Jiri 55.13 275 *e*P **P** **01 11 51.3 +1.4**
comp=Z,413nm,0.7s
PATY Pattaya 55.17 250 P **P** **01 11 52.3 +2.6**
comp=Z,25nm,1.0s,comp=Z,2μm
GUN Gumba 55.19 275 *e*P **P** **01 11 51.4 +1.2**
comp=Z,440nm,0.8s
SRDT SRDT 55.27 253 P **P** **01 11 51.9 +1.4**
comp=Z,248nm,1.6s,comp=Z,4μm
RAMN Ramite 55.29 274 *e*P **P** **01 11 52.0 +1.1**
comp=Z,792nm,0.8s
KHLT Khaolaem Dam 55.30 254 P **P** **01 11 52.6 +1.9**
comp=Z,40nm,0.9s,comp=Z,710nm
ARU Arti 55.35 318 P **P** **01 11 49.9 -0.7**
comp=Z,780nm,0.7s,SNR=49
ARU Arti 55.35 318 *c i*P **P** **01 11 49.3 -1.3**
ARU 01 12 48.1
ARU 01 13 49.1
ARU S **S** **01 19 32.0 -0.1**
ARU 01 21 37.7
ARU pmax pmax
comp=Z,145nm,1.2s
ARU MLR MLR
comp=Z,4μm,16.0s
ARU Arti 55.35 318 *e*P **P** **01 11 49.2 -1.3**
comp=Z,89nm,0.8s
ARU LR LR
comp=Z,4μm,19.0s
KKN Kakani 55.67 276 *e*P **P** **01 11 54.9 +1.3**
comp=Z,297nm,0.7s
PKI Pulchoki 55.72 275 *e*P **P** **01 11 55.2 +1.1**
comp=Z,164nm,0.7s
PKIN Phulchoki 55.73 275 *e*P **P** **01 11 55.1 +1.1**
comp=Z,162nm,0.7s
LTY Liberty 55.82 55 *e*P **P** **01 11 56.6 +2.4**
comp=Z,34nm,1.3s
PMG Port Moresby 55.87 187 PFAKE 01 12 10.0 +15
PMG LR LR
comp=Z,1μm,22.0s
DMN Daman 55.91 276 *e*P **P** **01 11 56.8 +1.5**
comp=Z,230nm,0.5s
B08A Colville Reser 55.96 54 *e*P **P** **01 11 55.9 +0.7**
comp=Z,53nm,1.3s
GKN Gorkha 55.98 276 *e*P **P** **01 11 57.0 +1.3**
comp=Z,517nm,0.8s
I03D Drain, OR 56.24 60 ⇓P **P** **01 11 57.7 +0.6**
baz=56
KK31 Karatay Array 56.29 299 *i* P **P** **01 11 56.7 -0.8**
KK31 pmax pmax
comp=Z,101nm,1.1s
KKAR Karatay Array 56.29 299 *e*P **P** **01 11 57.1 -0.4**
KKAR pmax pmax
comp=Z,45nm,0.8s
KKAR Karatay Array 56.29 299 *e*P **P** **01 11 57.1 -0.4**
comp=Z,46nm,0.8s
DANN Dangsing 56.37 277 *e*P **P** **01 12 00.4 +1.8**
comp=Z,347nm,0.5s
H04A Detroit Lake 56.38 59 *e*P **P** **01 11 59.4 +1.2**
comp=Z,118nm,1.5s
EDM Edmonton 56.41 46 *e*P **P** **01 11 58.5 +0.2**
EDM Edmonton 56.41 46 *e*P **P** **01 11 58.5 +0.2**
SBUM Sibu 56.55 232 *e*P **P** **01 12 00.5 +0.8**
comp=Z,21nm,1.0s
SBUM Sibu 56.55 232 ⇑P **P** **01 12 00.5 +0.8**
E07A Sunnyside 56.67 56 *e*P **P** **01 12 01.2 +1.0**
comp=Z,19nm,0.9s
KOLN Koldanda 56.84 277 *e*P **P** **01 12 03.5 +1.6**
comp=Z,435nm,0.9s
C09A Chrisman Ranch 56.86 54 *e*P **P** **01 12 02.2 +0.6**
comp=Z,32nm,1.0s
HAWA Hanford 56.95 56 *e*P **P** **01 12 01.6 -0.6**
comp=Z,31nm,1.0s
HAWA LR LR
comp=Z,1μm,19.0s
G06A Carlson Farm, 56.97 57 *e*P P 01 12 06.4 +4.0
comp=Z,142nm,2.0s
I05D Terrebonne, OR 57.07 58 ⇓P **P** **01 12 03.2 +0.1**
baz=57
NEW Newport 57.24 53 *e*P **P** **01 12 04.0 -0.2**
comp=Z,42nm,1.3s
NEW Newport 57.24 53 ⇑P **P** **01 12 04.4 +0.2**
baz=57,SNR=10
KULLO Kullorsuaq 57.54 9 ⇑*i*P **P** **01 12 05.2 -0.7**
KULLO pmax pmax
comp=Z,87nm,1.0s
KULLO MLR MLR
comp=Z,3μm,19.0s
KULLO Kullorsuaq 57.54 9 ⇑*i*P **P** **01 12 05.2 -0.7**
comp=Z,87nm,1.0s
KULLO
comp=Z,3μm,19.0s
E09A Wood Farm, Sta 57.67 55 *e*P **P** **01 12 08.2 +1.0**
comp=Z,49nm,1.1s
APA Apatity 57.68 337 ⇑*i*P **P** **01 12 06.6 -0.4**
APA *i* S S 01 19 55.0 -7.7
APA MLR MLR
comp=Z,4μm,17.0s
KEV Kevo 57.69 341 *e*P **P** **01 12 05.8 -1.2**
KEV pmax pmax
comp=Z,22nm,0.8s
KEV Kevo 57.69 341 *ep* **P** **01 12 05.8 -1.2**
comp=Z,22nm,0.8s
KEV Kevo 57.69 341 *e*P **P** **01 12 06.2 -0.8**
comp=Z,60nm,1.0s
KEV LR LR
comp=Z,3μm,19.0s
PRGR Permogore 57.71 327 ⇑*i*P **P** **01 12 06.6 -0.7**
PRGR pmax pmax
comp=Z,241nm,0.9s
J05D Fort Rock, OR 57.74 59 ⇑P **P** **01 12 08.1 +0.2**
baz=58
YBH Yreka Blue Hor 57.75 62 P **P** **01 12 09.6 +1.6**
YBH Yreka Blue Hor 57.75 62 P **P** **01 12 09.6 +1.6**

comp=Z,8.1nm,0.9s,baz=146,slow=4.8,SNR=6.0
BOK Bokaro 57.81 272 *e*P **P** **01 12 08.2 -0.4**
BOK AMB AMB 01 12 16.3
comp=Z,134nm,1.7s
G08A Pilot Rock 57.91 56 *e*P **P** **01 12 10.2 +1.1**
comp=Z,18nm,1.0s
LGTI Lohaghat 58.08 281 *e*P P 01 12 15.0 +4.7
ARCES ARCESS Array B 58.20 341 P **P** **01 12 10.2 -0.4**
ARCES ARCESS Array B 58.20 341 P **P** **01 12 10.2 -0.4**
comp=Z,49nm,0.8s,baz=38,slow=6.1,SNR=39
ARCES LR LR 01 40 33.6
comp=Z,3μm,20.7s,baz=32,slow=40
N02D Trinity Center 58.20 62 ⇓P **P** **01 12 12.7 +1.5**
baz=58
I07A Izee 58.30 58 *e*P **P** **01 12 13.2 +1.4**
comp=Z,159nm,2.3s
SPSI Sidrap Palu 58.32 220 P **P** **01 12 12.6 +0.5**
comp=Z,44nm,1.6s,comp=Z,901nm
KSM Kuching 58.41 233 *e*P **P** **01 12 14.2 +1.4**
comp=Z,60nm,0.9s
KSM LR LR
comp=Z,674nm,22.0s
KSM Kuching 58.41 233 ⇓P **P** **01 12 14.5 +1.7**
F10A Beach Ranch, E 58.50 55 *e*P **P** **01 12 15.8 +2.6**
comp=Z,41nm,1.3s
WALA Waterton Lakes 58.52 50 *e*P **P** **01 12 13.4 +0.1**
comp=Z,4.1nm,1.6s
WDC Whiskeytown Da 58.53 63 *e*P **P** **01 12 13.9 +0.6**
WDC pmax pmax
comp=Z,108nm,2.0s
WDC Whiskeytown Da 58.53 63 *e*P **P** **01 12 13.9 +0.6**
comp=Z,108nm,2.0s
BNSI Bone 58.55 220 P **P** **01 12 15.8 +2.1**
comp=Z,55nm,1.1s,comp=Z,1μm
AB31 Akbulak array 58.75 310 *e*P **P** **01 12 13.5 -1.2**
AB31 pmax pmax
comp=Z,30nm,0.4s
ABKAR Akbulak array 58.75 310 *e*P **P** **01 12 13.8 -0.9**
comp=Z,30nm,0.4s
BSMT Bassoo Peak 58.75 52 *e*P **P** **01 12 15.6 +0.6**
BLMT Blacktail Moun 58.89 52 *e*P **P** **01 12 16.0 0.0**
DHRM DHARAMSHALA 59.00 286 *e*P **P** **01 12 15.8 -1.2**
DHRM AMB AMB 01 12 26.7
comp=Z,350nm,2.0s
SDNR Sundarnagar 59.02 284 *e*P **P** **01 12 17.4 +0.5**
DDI Dehra Dun 59.02 283 *e*P **P** **01 12 16.7 -0.3**
DLH Dalhousie 59.05 286 *e*P **P** **01 12 17.0 -0.3**
AKTO Aktyubinsk 59.05 312 P **P** **01 12 15.2 -1.6**
AKTO pmax pmax
comp=Z,55nm,1.2s
AKTO Aktyubinsk 59.05 312 P **P** **01 12 15.8 -1.1**
AKTO Aktyubinsk 59.05 312 P **P** **01 12 15.8 -1.1**
comp=Z,14nm,0.5s,baz=67,slow=8.1,SNR=48
AKTO LR LR 01 40 11.5
comp=Z,12μm,18.2s,slow=39
JTMT Jette 59.09 52 *e*P **P** **01 12 18.4 +1.1**
MOD Modoc 59.11 60 *e*P **P** **01 12 19.1 +1.5**
comp=Z,6.2nm,1.0s
KTK1 Kautokeino 59.11 341 *e*P **P** **01 12 16.9 -0.1**
SMLA Simla 59.12 284 *e*P **P** **01 12 17.2 -0.3**
SMLA AMB AMB 01 12 18.8
comp=Z,611nm,0.0s
YBMT Yellow Bay 59.17 52 *e*P **P** **01 12 18.4 +0.6**
KAPI Kappang 59.26 220 *e*P **P** **01 12 17.7 -0.8**
comp=Z,454nm,1.5s
KAPI LR LR
comp=Z,459nm,19.0s
J08A Circle Bar Ran 59.33 58 *e*P **P** **01 12 20.1 +1.2**
comp=Z,18nm,0.8s
BKSI Bulukumba 59.37 219 P **P** **01 12 22.2 +2.9**
comp=Z,27nm,1.0s,comp=Z,610nm
SWMT Swartz Lake 59.39 52 *e*P **P** **01 12 20.0 +0.7**
BHK Bhakra 59.44 285 *ex* **P** **01 12 20.0 +0.2**
SURT Suratani 59.47 249 P **P** **01 12 22.5 +2.4**
comp=Z,35nm,1.2s,comp=Z,462nm
KTGM Kuala Trenggan 59.51 243 ⇓P **P** **01 12 22.0 +1.6**
TRO Tromso 59.52 343 ⇑*i*P P 01 12 23.2 +3.5
TRO IAmb IAmb 01 12 25.2
comp=Z,154nm,0.9s
WVOR Wild Horse Val 59.78 59 *e*P **P** **01 12 22.9 +0.7**
WVOR pmax pmax
comp=Z,27nm,0.9s
WVOR MLR MLR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 59.78 59 *e*P **P** **01 12 22.9 +0.7**
comp=Z,27nm,0.9s
WVOR LR LR
comp=Z,1μm,21.0s
SLMT Seeley Lake 59.82 52 *e*P **P** **01 12 22.8 +0.4**
MSO Missoula 59.83 52 *e*P **P** **01 12 23.3 +0.9**
comp=Z,66nm,1.1s
MSO Missoula 59.83 52 ⇓P **P** **01 12 22.8 +0.4**
baz=60,SNR=20
CHMT Chamberlain Mo 60.15 52 *e*P **P** **01 12 24.9 +0.1**
DGPR DIGLIPUR 60.25 257 *e*P **P** **01 12 24.4 -1.1**
DGPR AMB AMB 01 12 28.1
comp=Z,332nm,1.8s
BEKR Beckworth 60.30 62 *e*P **P** **01 12 25.4 -0.4**
comp=Z,7.7nm,0.9s
NDI New Delhi 60.62 282 *e*P **P** **01 12 27.0 -0.9**
comp=Z,27nm,0.6s
NDI *e*S **S** **01 20 44.0 +2.3**
COEN Coen 60.81 191 *e*P **P** **01 12 30.1 +1.0**
comp=Z,326nm,1.2s
MFID Camas Ranch 60.83 57 *e*P **P** **01 12 30.0 +0.7**
comp=Z,23nm,1.0s
FFC Flin Flon 60.87 40 P **P** **01 12 29.0 -0.2**
comp=Z,384nm,1.1s,SNR=30
FFC Flin Flon 60.87 40 *e*P **P** **01 12 29.9 +0.6**
FFC pmax pmax
comp=Z,31nm,1.0s
FFC MLR MLR
comp=Z,2μm,19.0s
FFC Flin Flon 60.87 40 *e*P **P** **01 12 29.9 +0.6**
comp=Z,31nm,1.0s
FFC LR LR
comp=Z,2μm,19.0s
PAHR Pah Rah Range 60.99 62 *e*P **P** **01 12 32.1 +1.6**
comp=Z,356nm,2.8s
SUMG Summit 61.00 4 *i* P **P** **01 12 30.7 +0.4**
SUMG pmax pmax
comp=Z,380nm,1.0s
SUMG MLR MLR
comp=Z,2μm,16.0s
SUMG Summit 61.00 4 *i* P **P** **01 12 30.7 +0.4**
comp=Z,385nm,1.0s
SUMG
comp=Z,2μm,15.0s
SUMG Summit 61.00 4 *e*P **P** **01 12 30.8 +0.4**
comp=Z,425nm,0.9s
HRY Holter Researc 61.05 52 *e*P **P** **01 12 31.6 +0.9**
KULM Kulim 61.08 245 P x 01 12 33.0
comp=Z,60nm,1.1s,comp=Z,1μm
KULM Kulim 61.08 245 *e*P **P** **01 12 32.5 +1.3**
comp=Z,46nm,1.0s
KULM LR LR
comp=Z,1μm,20.0s
KULM Kulim 61.08 245 ⇓P **P** **01 12 33.0 +1.8**
LRM Limekiln Ridge 61.26 53 *e*P **P** **01 12 33.0 +0.7**
A19A Klindworth Far 61.30 48 ⇓P **P** **01 12 32.5 +0.1**
baz=61,SNR=23
EGMT Eagleton 61.34 49 *e*P **P** **01 12 33.5 +0.9**
comp=Z,117nm,1.4s
EGMT LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 61.34 49 ⇑P **P** **01 12 32.9 +0.3**
baz=61,SNR=14
CMB Columbia Colle 61.40 64 *e*P **P** **01 12 34.2 +1.0**
CMB pmax pmax
comp=Z,91nm,2.0s
CMB Columbia Colle 61.40 64 *e*P **P** **01 12 34.2 +1.0**
comp=Z,92nm,2.0s
FCC Fort Churchill 61.44 33 *e*P **P** **01 12 32.8 -0.1**
FCC Fort Churchill 61.44 33 *e*P **P** **01 12 32.8 -0.1**
comp=Z,1.8nm,1.1s
DLMT Dillon 61.46 53 *e*P **P** **01 12 34.6 +1.0**
comp=Z,72nm,1.5s
PBA Port Blair 61.47 256 *e*P P 01 12 33.9 +0.1
IPM Ipoh 61.48 244 ⇓P **P** **01 12 34.6 +0.8**
B19A Brinkman Farms 61.49 49 ⇑P **P** **01 12 34.1 +0.5**
baz=61,SNR=18
XMAS Kiritimati 61.51 121 PFAKE 01 12 50.0 +16
XMAS LR LR
comp=Z,3μm,21.0s
HLID Hailey 61.55 56 *e*P **P** **01 12 34.9 +0.7**
comp=Z,21nm,1.0s

HLID LR LR
comp=Z,1µm,19.0s
HLID Hailey 61.55 56 ⇓P P 01 12 34.4 +0.1
baz=61,SNR=17
MCMT McKenzie Canyo 61.65 54 eP P 01 12 35.3 +0.3
comp=Z,12nm,1.2s
JOF Joensuu 61.68 334 eP P 01 12 32.0 -2.5
JOF pmax pmax
comp=Z,20nm,0.5s
JOF Joensuu 61.68 334 ep P 01 12 32.0 -2.5
comp=Z,20nm,0.5s
SOEI Soe 61.70 213 P P 01 12 42.4 +7.1
comp=Z,104nm,1.0s
SOEI Soe 61.70 213 eP P 01 12 35.3 -0.1
comp=Z,56nm,0.9s
WAKR Walker 61.70 63 eP P 01 12 35.5 +0.2
A20A Cobblestone Ra 61.75 48 ⇓P P 01 12 36.2 +0.8
baz=62,SNR=18
BOZ Bozeman (W) 61.82 52 eP P 01 12 36.6 +0.6
BOZ pmax pmax
comp=Z,100nm,1.4s
BOZ MLR MLR
comp=Z,1µm,21.0s
BOZ Bozeman (W) 61.82 52 eP P 01 12 36.6 +0.6
comp=Z,100nm,1.4s
BOZ LR LR
comp=Z,1µm,21.0s
BMN Battle Mountai 61.85 60 eP P 01 12 36.9 +0.6
BMN pmax pmax
comp=Z,21nm,0.8s
BMN Battle Mountai 61.85 60 eP P 01 12 36.9 +0.6
comp=Z,21nm,0.8s
MYKOM Kota Tinggi 61.88 240 P x 01 12 39.3
comp=Z,45nm,1.1s
C19A Slack Wire Ran 61.89 49 ⇓P P 01 12 37.2 +0.8
baz=62,SNR=17
B20A Solberg Farm, 61.98 48 ⇓P P 01 12 37.3 +0.4
baz=62,SNR=19
KGM Kluang 62.01 240 ⇓P P 01 12 39.2 +1.8
FRIM Kepong 62.08 242 ⇑P P 01 12 39.0 +1.1
A21A Bergtoll Ranch 62.19 47 ⇑P P 01 12 39.1 +0.8
baz=62,SNR=22
KBL Kabul 62.33 292 eP P 01 12 39.3 -0.4
KBL pmax pmax
comp=Z,207nm,0.9s
KBL Kabul 62.33 292 eP P 01 12 39.2 -0.4
comp=Z,207nm,0.9s
D19A Cripps Ranch, 62.34 50 ⇓P P 01 12 40.7 +1.3
baz=62,SNR=12
NVAR Mina Array Bea 62.44 62 P P **01 12 41.0 +0.6**
NVAR P'P' 01 41 48.7
NVAR Mina Array Bea 62.44 62 P P **01 12 41.0 +0.6**
comp=Z,19nm,1.1s,baz=288,slow=7.0,SNR=36
NVAR LR LR 01 39 45.0
comp=Z,317nm,18.5s,baz=56,slow=36
NVAR PKPPKP **P'P'df 01 41 48.7 -0.9**
comp=Z,0.9nm,0.8s,baz=163,slow=1.5,SNR=3.6
QLMT Earthquake Lak 62.44 53 eP P 01 12 40.9 +0.6
C20A Veseth Ranch, 62.45 49 ⇓P P 01 12 41.1 +1.0
baz=62,SNR=33
NV11 Mina Array Sit 62.53 62 eP P 01 12 41.9 +1.0
A22A Carney Farms, 62.70 47 ⇑P P 01 12 42.3 +0.5
baz=62,SNR=29
D20A Manuel Ranch, 62.78 49 ⇓P P 01 12 43.0 +0.7
baz=62,SNR=32
GCMT Greycliff 62.79 51 eP P 01 12 43.7 +1.2
comp=Z,57nm,1.4s
ELK Elko 62.83 59 eP P 01 12 44.2 +1.3
comp=Z,11nm,0.9s
E19A Rath Farm, Rou 62.84 50 ⇑P P 01 12 43.4 +0.7
baz=63,SNR=12
MTUM Tungsten Hills 62.95 63 eP P 01 12 45.7 +1.9
YFT Old Faithful 63.01 53 eP P 01 12 46.3 +2.3
comp=Z,34nm,1.0s
B22A Reddig Ranch S 63.11 47 ⇓P P 01 12 45.1 +0.6
baz=63
F19A Roth Farm, Mol 63.14 51 ⇑P P 01 12 45.1 +0.3
baz=63,SNR=22
E20A Meyer Farm, Mu 63.16 50 ⇑P P 01 12 45.3 +0.4
baz=63,SNR=8.7
LKWY Lake 63.17 53 eP P 01 12 47.3 +2.1
LKWY pmax pmax
comp=Z,55nm,1.4s
LKWY MLR MLR
comp=Z,2µm,19.0s
LKWY Lake 63.17 53 eP P 01 12 47.3 +2.1
comp=Z,56nm,1.4s
LKWY LR LR
comp=Z,2µm,19.0s
H17A Grant Village 63.19 53 eP P 01 12 47.6 +2.4
H17A Grant Village 63.19 53 ⇓P P 01 12 47.4 +2.1
baz=63,SNR=19
RCTC Rector, Farmer 63.19 65 ⇑P P 01 12 46.4 +1.3
baz=63
A23A Redstone 63.24 46 ⇓P P 01 12 45.7 +0.4
baz=63
ILULI Ilulissat 63.26 10 *i* P P **01 12 44.2 -0.8**
ILULI pmax pmax
comp=Z,45nm,0.8s
ILULI MLR MLR
comp=Z,2µm,17.0s
ILULI Ilulissat 63.26 10 *i* P P **01 12 44.2 -0.8**
comp=Z,45nm,0.8s
ILULI
comp=Z,2µm,17.0s
IMW Indian Meadow 63.30 54 eP P 01 12 47.5 +1.4
comp=Z,49nm,1.2s
FLWY Flagg Ranch 63.32 53 eP P 01 12 48.1 +2.0
comp=Z,154nm,2.0s
TPH Tonopah 63.32 62 eP P 01 12 46.9 +0.7
TPH pmax pmax
comp=Z,18nm,0.8s
TPH Tonopah 63.32 62 eP P 01 12 46.9 +0.7
comp=Z,18nm,0.8s
SCO Scoresbysund 63.34 358 *i* P P **01 12 46.0 +0.5**
SCO pmax pmax
comp=Z,100nm,0.9s
SCO Scoresbysund 63.34 358 *i* P P **01 12 46.0 +0.5**
comp=Z,103nm,0.9s
SMMC Simmler 63.34 66 ⇑P P 01 12 45.9 -0.3
baz=63
TIN Tinemaha 63.35 63 ⇑P P 01 12 47.1 +0.8
baz=63
MOR8 Moi Rana 63.36 343 eP P 01 12 44.1 -1.7
MOR8 IAmb IAmb 01 12 45.5
comp=Z,213nm,1.0s
D21A La Casta Ranch 63.40 49 ⇓P P 01 12 47.1 +0.7
baz=63,SNR=19
FXWY Fox Creek 63.42 54 eP P 01 12 48.1 +1.3
comp=Z,38nm,1.3s
RLMT Red Lodge 63.44 52 eP P 01 12 47.6 +0.8
comp=Z,40nm,1.1s
RLMT LR LR
comp=Z,1µm,22.0s
I17A Pilgrim Ck. 63.49 53 ⇑P P 01 12 48.3 +1.0
baz=63,SNR=14
MOOW Moose Ponds 63.51 54 eP P 01 12 48.5 +1.2
comp=Z,43nm,1.3s
H18A Shoshone NF, C 63.51 52 ⇑P P 01 12 48.3 +0.9
baz=63,SNR=13
B23A Brockton 63.51 47 ⇑P P 01 12 47.5 +0.4
baz=63,SNR=13
C22A Vida 63.53 48 ⇑P P 01 12 47.9 +0.7
baz=63,SNR=7.9
TPAW Teton Pass 63.56 54 eP P 01 12 49.1 +1.4
comp=Z,64nm,0.9s
VES Vestal, Richgr 63.58 65 ⇑P P 01 12 47.4 -0.2
baz=63
F20A Billings 63.60 51 ⇑P P 01 12 48.5 +0.7
baz=63,SNR=7.8
HVU Hansel Valley 63.61 56 eP P 01 12 48.7 +0.7
HVU pmax pmax
comp=Z,18nm,0.8s
HVU Hansel Valley 63.61 56 eP P 01 12 48.7 +0.7
comp=Z,18nm,0.8s
VIS Vishakhapatnam 63.65 268 eP P 01 12 47.9 -0.5
VIS AMB AMB 01 12 50.4
comp=Z,124nm,0.0s
LOHW Long Hollow 63.67 54 eP P 01 12 49.7 +1.2
comp=Z,53nm,1.3s
E21A Keefer Ranch, 63.69 49 ⇑P P 01 12 49.3 +1.0
baz=64
REDW Red Top Meadow 63.69 54 eP P 01 12 50.0 +1.4
comp=Z,92nm,1.3s
A24A Westby 63.70 46 ⇓P P 01 12 48.7 +0.4
baz=64,SNR=12
D22A Cohagen 63.76 48 ⇑P P 01 12 48.9 +0.1
baz=64,SNR=9.8
KAF Kangasniemi 63.79 335 eP P 01 12 46.5 -2.1
KAF pmax pmax
comp=Z,63nm,0.7s
KAF Kangasniemi 63.79 335 ep P 01 12 46.5 -2.1
comp=Z,63nm,0.7s,baz=37,slow=6.2
CWC Cottonwood Cre 63.83 64 ⇑P P 01 12 49.6 +0.1
baz=64
C23A Lambert 63.85 47 ⇑P P 01 12 49.9 +0.6
baz=64,SNR=9.4
H19A Powell 63.88 52 ⇓P P 01 12 50.8 +1.1
baz=64,SNR=14
DGMT Dagmar 63.91 46 eP P 01 12 49.8 +0.2
comp=Z,90nm,1.1s
DGMT LR LR
comp=Z,3µm,21.0s
DGMT Dagmar 63.91 46 ⇑P P 01 12 49.9 +0.2
baz=64,SNR=9.6
GRAC Grapevine Rang 63.91 63 ⇓P P 01 12 50.8 +0.9
baz=64,SNR=17
G20A Bridger 63.94 51 ⇑P P 01 12 50.6 +0.5
baz=64,SNR=12
BGU Big Grassy Mou 64.01 57 eP P 01 12 51.5 +0.8
comp=Z,46nm,2.3s
BHPL Bhopal 64.01 277 eP P 01 12 51.1 +0.4
SRBI Singaraja 64.04 223 P P 01 12 54.4 +3.6
comp=Z,108nm,1.1s
LAO LASA Array 64.04 49 eP P 01 12 51.5 +0.9
comp=Z,93nm,1.1s
LAO LR LR
comp=Z,2µm,22.0s
PSI Prapat 64.09 245 P x 01 12 54.4
SPUT South Promonto 64.10 57 eP P 01 12 52.2 +1.0
comp=Z,37nm,1.1s
A25A Svangstu Ranch 64.13 45 ⇓P P 01 12 51.4 +0.3
baz=64,SNR=6.5
F21A Alaska Mine, 64.14 50 ⇓P P 01 12 51.7 +0.4
baz=64,SNR=5.4
R11A Troy Canyon, C 64.14 61 eP P 01 12 52.0 +0.4
comp=Z,18nm,1.1s
R11A Troy Canyon, C 64.14 61 ⇑P P 01 12 52.1 +0.6
baz=64,SNR=18
ARVC Arvin 64.20 65 ⇑P P 01 12 52.5 +0.7
baz=64
D23A Lindsay 64.25 48 ⇑P P 01 12 52.2 +0.2
baz=64,SNR=11
ABJI Asena Bagus 64.25 224 P P **01 12 53.5 +1.3**
NGP Nagpur 64.29 274 eP P 01 12 52.5 0.0
NGP AMB AMB 01 12 53.2
comp=Z,159nm,1.0s
I19A Meeteetse 64.29 52 ⇑P P 01 12 53.4 +0.9
baz=64,SNR=11
E22A Miles City 64.35 49 ⇑P P 01 12 53.1 +0.4
baz=64,SNR=12
FINES FINESS Array B 64.39 335 P P **01 12 52.0 -0.5**
FINES FINESS Array B 64.39 335 P P **01 12 52.0 -0.5**
comp=Z,146nm,0.8s,baz=34,slow=7.5,SNR=445
FINES LR LR 01 43 54.7
comp=Z,4µm,19.2s,baz=34,slow=39
PUL Pulkovo 64.39 332 ⇓ *i* P P **01 12 52.4 -0.1**
PUL pmax pmax
comp=Z,182nm,1.0s
PUL MLR MLR
comp=Z,3µm,18.0s
C24A Savage 64.41 47 ⇑P P 01 12 53.1 +0.1
baz=64
BSC Santa Cruz Isl 64.42 67 ⇑P P 01 12 53.4 +0.2
baz=64
MPMC Manual Prospec 64.44 64 ⇓P P 01 12 53.9 +0.3
baz=64,SNR=16
G21A Lodge Grass 64.48 51 ⇑P P 01 12 53.7 +0.1
baz=64
H20A Greybull 64.54 52 ⇓P P 01 12 54.4 +0.5
baz=64
B25A Knox Farm, Ray 64.56 46 ⇑P P 01 12 54.5 +0.5
baz=64
FURC Furnace Creek, 64.57 63 ⇓P P 01 12 54.9 +0.8
baz=64,SNR=7.4
OSI Osito Adit 64.59 66 eP P 01 12 55.4 +1.0
comp=Z,36nm,0.8s
OSI Osito Adit 64.59 66 ⇓P P 01 12 55.1 +0.7
baz=64
DUG Dugway 64.61 58 eP P 01 12 55.5 +1.0
DUG pmax pmax
comp=Z,37nm,0.9s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 64.61 58 eP P 01 12 55.5 +1.0
comp=Z,37nm,0.9s
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 64.61 58 ⇓P P 01 12 55.2 +0.6
baz=64,SNR=30
F22A Rosebud 64.62 50 ⇓P P 01 12 54.8 +0.4
baz=64,SNR=18
A26A Wade Farm, Ken 64.69 45 ⇓P P 01 12 55.1 +0.4
baz=64
BKNI Bangkinang 64.73 241 P P **01 12 57.6 +2.2**
BKNI Bangkinang 64.73 241 eP P 01 12 57.0 +1.6
D24A Glendive 64.74 48 ⇓P P 01 12 55.9 +0.8
baz=64,SNR=18
J19A Crowheart 64.76 53 ⇓P P 01 12 56.6 +1.0
baz=64,SNR=24
MOS Moscow 64.78 326 eP P 01 12 52.4 -2.8
MOS *e* 01 13 24.2
MOS *e* 01 15 15.8
MOS *eS* **S 01 21 33.5 +0.3**
MOS pmax pmax
comp=Z,66nm,0.8s
MOS MLR MLR
comp=Z,3µm,16.0s
MOS MLR MLR
comp=N,3µm,14.0s
BW06 Boulder Array 64.80 54 eP P 01 12 56.0 +0.1
comp=N,35nm,0.9s
BW06 LR LR
comp=Z,917nm,20.0s
PDAR Pinedale Array 64.80 54 P P **01 12 56.1 +0.3**
PDAR P'P' 01 41 39.4
PDAR Pinedale Array 64.80 54 P P **01 12 56.1 +0.3**
comp=Z,18nm,0.9s,baz=294,slow=1.8,SNR=70
PDAR LR LR 01 38 37.1
comp=Z,549nm,21.4s,baz=348,slow=34
PDAR PKPPKP P'P'df 01 41 39.4 -6.9
comp=Z,0.9nm,1.0s,baz=116,slow=3.4,SNR=3.5
I20A Worland 64.82 52 ⇓P P 01 12 57.0 +1.1
baz=65,SNR=11
TCUT Toone Canyon 64.82 56 eP P 01 12 57.0 +1.0
comp=Z,64nm,1.3s
C25A Freed Ranch, W 64.88 47 ⇓P P 01 12 56.8 +0.7
baz=65
EDW2 Edwards Air Fo 64.89 65 ⇑P P 01 12 57.0 +0.7
baz=65,SNR=17
CTU Camp Tracy 64.90 57 eP P 01 12 57.4 +0.9
comp=Z,33nm,1.3s
B26A Jensen Ranch, 64.94 45 ⇑P P 01 12 57.1 +0.6
baz=65
H21A Big Horn, Sher 64.96 51 ⇑P P 01 12 57.4 +0.6
baz=65,SNR=20
G22A Birney 64.97 50 ⇓P P 01 12 57.1 +0.3
baz=65,SNR=7.5
A27A Ledoux Ranch, 65.04 45 ⇓P P 01 12 57.9 +0.9
baz=65
DECC Green Verdugo 65.08 66 ⇑P P 01 12 58.1 +0.5
baz=65
F23A Volborg 65.11 49 ⇑P P 01 12 58.2 +0.6
baz=65,SNR=26
JLU Jordanelle 65.14 57 eP P 01 12 58.9 +0.8
comp=Z,44nm,1.3s
NLU North Lily Min 65.19 58 eP P 01 12 59.3 +0.8
comp=Z,27nm,1.1s
D25A Fairfield 65.23 47 ⇓P P 01 12 58.8 +0.4
baz=65
J20A Shoshoni 65.23 53 ⇑P P 01 12 59.3 +0.8
baz=65,SNR=14
MWC Mount Wilson 65.27 66 eP P 01 12 59.2 +0.2
MWC pmax pmax
comp=Z,60nm,1.4s
MWC Mount Wilson 65.27 66 eP P 01 12 59.2 +0.2
comp=Z,60nm,1.4s
GSC Goldstone 65.35 64 eP P 01 12 59.8 +0.4
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone 65.35 64 eP P 01 12 59.8 +0.4
comp=Z,4.6nm,0.8s
GSC Goldstone 65.35 64 ⇓P P 01 12 59.9 +0.5
baz=65,SNR=7.6
I21A Big Trails, Te 65.36 52 ⇑P P 01 13 00.1 +0.7
baz=65,SNR=25
DAU Daniels Canyon 65.37 57 eP P 01 13 01.1 +1.4
DAU Daniels Canyon 65.37 57 eP P 01 13 01.1 +1.4
C26A Wahner Farm, P 65.38 46 ⇑P P 01 13 00.1 +0.8
baz=65,SNR=12
B27A Peters Farms, 65.40 45 ⇑P P 01 13 00.1 +0.7
baz=65
MPU Maple Canyon 65.41 57 eP P 01 13 00.5 +0.7
comp=Z,42nm,1.2s
SFJD Kangerlussuaq 65.43 10 ⇑ *i* P P 01 12 59.0 -0.2
comp=Z,34nm,0.9s
SFJD pmax pmax
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 65.43 10 eP P 01 12 58.3 -0.9
comp=Z,50nm,1.0s
SFJD LR LR
comp=Z,2µm,20.0s
G23A Biddle 65.46 50 ⇓P P 01 13 00.2 +0.3
baz=65,SNR=17
BFSC Mount Baldy Ra 65.51 66 ⇓P P 01 13 00.8 +0.4
baz=65,SNR=7.1
F24A Ekalaka 65.53 49 ⇓P P 01 13 00.7 +0.3
baz=65,SNR=24
A28A Rude Farm, Bot 65.54 44 ⇑P P 01 13 00.9 +0.6
baz=65,SNR=7.2
CIS Catalina Islan 65.58 67 ⇑P P 01 13 00.8 +0.1
baz=65
SHPR Sheep Range 65.59 62 eP P 01 13 01.5 +0.5
J21A Lysite 65.59 52 ⇑P P 01 13 01.4 +0.5
baz=65,SNR=8.2
E25A Miller Ranch, 65.62 48 ⇑P P 01 13 01.4 +0.5
baz=65,SNR=11
OBN Obninsk 65.65 326 P P **01 13 00.6 -0.2**
comp=Z,643nm,0.5s,SNR=7.1
OBN Obninsk 65.65 326 eP P 01 12 59.9 -0.9
comp=Z,70nm,0.8s
OBN Obninsk 65.65 326 LR LR 01 45 01.4
comp=Z,3µm,18.3s,baz=48,slow=39
I22A 9 Mile Ranch, 65.75 51 ⇓P P 01 13 02.4 +0.6
baz=66,SNR=12
C27A Sayler Ranch, 65.75 46 ⇑P P 01 13 02.4 +0.7
baz=66,SNR=12
D26A Manning 65.75 47 ⇑P P 01 13 02.0 +0.3
baz=66
ARUT Antelope Range 65.80 60 eP P 01 13 02.7 +0.4
ARUT pmax pmax
comp=Z,424nm,1.1s
ARUT Antelope Range 65.80 60 eP P 01 13 02.7 +0.4
comp=Z,424nm,1.1s
B28A Dugan Ranch, T 65.81 44 ⇑P P 01 13 02.6 +0.6
baz=66,SNR=9.5
TUQ Turquoise Moun 65.81 64 ⇑P P 01 13 02.9 +0.5
baz=66,SNR=15
H23A Clabaugh Cattl 65.88 50 ⇑P P 01 13 01.9 -0.8
baz=66
G24A Alzada 65.89 49 ⇓P P 01 13 02.6 0.0
baz=66,SNR=6.1
HEC Hector,Ludlow 65.96 64 ⇑P P 01 13 04.1 +0.8
baz=66,SNR=6.5
F25A Bowman 65.98 48 ⇓P P 01 13 03.7 +0.4
baz=66,SNR=7.5
CCUT Cedar City 66.00 60 eP P 01 13 04.4 +0.7
comp=Z,18nm,1.0s
A29A Manning Farm, 66.03 44 ⇑P P 01 13 03.8 +0.4
baz=66,SNR=24
J22A Midwest 66.07 52 ⇓P P 01 13 04.5 +0.5
baz=66,SNR=18
GSI Gunungsitoli 66.09 245 eP P 01 13 05.2 +0.9
comp=Z,20nm,0.8s
E26A Carlson Angus 66.12 47 ⇑P P 01 13 04.1 0.0
baz=66,SNR=10
D27A Center 66.16 46 ⇓P P 01 13 04.5 +0.1
baz=66
K21A Alcova 66.17 53 ⇓P P 01 13 04.7 +0.1
baz=66,SNR=15
H24A Dirks Ranch, A 66.21 50 ⇑P P 01 13 04.6 -0.2
baz=66,SNR=15
MURC Murrieta 66.21 66 ⇑P P 01 13 05.6 +0.7
baz=66,SNR=7.6
I23A Meade Ranch, G 66.25 51 ⇓P P 01 13 04.6 -0.5
baz=66
B29A Wagenman Farm, 66.28 44 ⇓P P 01 13 05.7 +0.6
baz=66,SNR=14
C28A Hausauer Farms 66.30 45 ⇑P P 01 13 06.0 +0.8
baz=66
GMRC Granite Mounta 66.41 64 ⇓P P 01 13 06.9 +0.7
baz=66,SNR=11
F26A Lodgepole 66.44 48 ⇓P P 01 13 06.6 +0.4
baz=66,SNR=24
A30A Hoffart Farm, 66.45 43 ⇑P P 01 13 06.1 -0.1
baz=66,SNR=19
VRHR Novokhopersk 66.47 320 eP P 01 13 04.0 -2.1
VRHR pmax pmax
comp=N,40nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,130nm,0.8s
VRHR MLR MLR
comp=N,2µm,25.0s
VRHR MLR MLR
comp=E,3µm,25.0s
VRHR MLR MLR
comp=Z,5µm,25.0s
G25A Newell 66.50 49 ⇓P P 01 13 07.1 +0.5
baz=66,SNR=5.5
CTAO Charters Tower 66.52 187 eP P 01 13 06.6 -0.2
CTAO pmax pmax
comp=Z,19nm,1.3s
CTAO MLR MLR
comp=Z,1µm,20.0s
CTAO Charters Tower 66.52 187 eP P 01 13 06.6 -0.2
comp=Z,19nm,1.3s
CTAO LR LR
comp=Z,1µm,20.0s
LDFC Landfair 66.55 63 eP P 01 13 07.5 +0.4
comp=Z,50nm,0.8s
K22A Casper 66.56 52 eP P 01 13 07.8 +0.7
K22A Casper 66.56 52 ⇓P P 01 13 07.4 +0.3
baz=66,SNR=12
VSU Vasula 66.56 333 *c i* P P **01 13 06.3 -0.3**
VSU pmax pmax
comp=Z,439nm,1.0s
VSU MLR MLR
comp=Z,6µm,15.0s
D28A Regan 66.57 46 ⇓P P 01 13 07.5 +0.5
baz=66
J23A Dilts Ranch, B 66.58 51 ⇑P P 01 13 07.4 +0.2
baz=66
MDND Maddock 66.59 45 eP P 01 13 07.6 +0.5
comp=Z,50nm,0.9s
MDND Maddock 66.59 45 ⇓P P 01 13 07.6 +0.5
baz=66
E27A Carson 66.60 47 ⇑P P 01 13 07.5 +0.3
baz=66,SNR=12
SRU San Rafael 66.65 57 eP P 01 13 08.5 +0.7
SRU pmax pmax
comp=Z,38nm,0.8s
SRU San Rafael 66.65 57 eP P 01 13 08.5 +0.7
comp=Z,38nm,0.8s
ULM Lac du Bonnet 66.65 41 eP P 01 13 06.8 -0.5
comp=Z,19nm,0.9s
ULM Lac du Bonnet 66.65 41 P P **01 13 07.2 -0.2**
comp=Z,19nm,0.8s,baz=312,slow=7.3,SNR=36
PFO Pinyon Flat Ob 66.68 65 eP P 01 13 08.0 0.0
comp=Z,5.8nm,1.0s
PFO LR LR
comp=Z,1µm,21.0s
PFO Pinyon Flat Ob 66.68 65 ⇓P P 01 13 08.3 +0.3
baz=66
BELC Belle Mtn. Jos 66.71 65 ⇑P P 01 13 08.4 +0.2
baz=66
109C Camp Elliot, M 66.74 66 ⇓P P 01 13 08.9 +0.7
baz=67
F27A Lemmon 66.75 47 ⇑P P 01 13 08.4 +0.2
baz=66,SNR=9.0
IMYA Miami 66.76 299 eP P 01 13 09.9 +1.4
I24A Kuemmerle Ranc 66.77 50 ⇓P P 01 13 08.2 -0.2
baz=66,SNR=5.8
B30A Myrvik Farm, E 66.78 43 ⇑P P 01 13 08.7 +0.4
baz=66,SNR=36
H25A Fruitdale 66.79 49 ⇑P P 01 13 08.5 +0.1
baz=66,SNR=9.8
N20A Spence Gulch, 66.80 55 ⇓P P 01 13 09.4 +0.6
baz=67,SNR=24
ABKT Ailbek 66.90 301 P P **01 13 09.1 -0.1**
comp=Z,497nm,0.5s,SNR=23

RSSD **Black Hills** 66.90 50 *e*P P 01 13 09.3 -0.1
RSSD pmax pmax
comp=Z,16nm,1.3s
RSSD **Black Hills** 66.90 50 *e*P P 01 13 09.2 -0.1
comp=Z,16nm,1.3s
IEMG **Emamgholi** 66.92 300 *e*P P 01 13 10.8 +1.1
E28A **Huff** 66.94 46 ⇓P P 01 13 09.5 +0.2
baz=67
L22A **Ellis Ranch, M** 67.02 53 ⇑P P 01 13 10.8 +0.6
baz=67,SNR=17
J24A **Dixon Ranch, L** 67.11 51 ⇑P P 01 13 10.5 -0.1
baz=67
IRM **Iron Mountain** 67.13 64 ⇑P P 01 13 11.1 +0.4
baz=67,SNR=18
G27A **Dupree** 67.14 48 ⇑P P 01 13 10.5 -0.1
baz=67,SNR=13
D29A **Pettibone, Tap** 67.14 45 ⇓P P 01 13 10.4 -0.2
baz=67,SNR=6.8
BAR **Barrett** 67.15 66 *e*P P 01 13 11.3 +0.4
comp=Z,15nm,0.9s
ISRO **Mashad** 67.16 299 *e*P P 01 13 11.8 +0.8
HYB **Hyderabad** 67.16 272 ⇑*i*P P 01 13 10.0 -1.1
HYB *e*PcP PcP 01 13 39.0 0.0
HYB *e*PP PP 01 15 42.0 +2.8
HYB *e*S S 01 22 00.0 -3.2
HYB *e*SKS SKiKP 01 23 12.0 +3.8
HYB *e* 01 26 40.0
HYB **Hyderabad** 67.16 272 *e*P P 01 13 09.6 -1.5
HYB AMB AMB 01 13 11.6
comp=Z,52nm,1.7s
MONP **Monument Peak** 67.17 66 ⇑P P 01 13 11.3 +0.1
baz=67
H26A **Fairpoint** 67.23 49 P P 01 13 10.8 -0.4
baz=67
C30A **Mose, Pekin** 67.24 44 ⇓P P 01 13 11.1 -0.1
baz=67,SNR=7.4
BC3 **Big Chuckawall** 67.27 65 ⇓P P 01 13 12.4 +0.6
baz=67
O20A **White River Ci** 67.28 55 *e*P P 01 13 11.8 0.0
O20M **White River Ci** 67.28 55 ⇑P P 01 13 12.3 +0.5
baz=67,SNR=8.6
W13A **Hualapai Mount** 67.29 63 ⇓P P 01 13 12.7 +0.7
baz=67,SNR=10
IPAY **Payeh** 67.35 299 *e*P P 01 13 13.5 +1.1
M22A **Cedar Creek Ra** 67.36 53 ⇑P P 01 13 12.5 +0.2
baz=67,SNR=23
L23A **Garrett** 67.37 52 ⇑P P 01 13 12.1 -0.3
baz=67,SNR=5.8
U15A **North Rim** 67.38 61 ⇓P P 01 13 13.2 +0.6
baz=67,SNR=18
F28A **McLaughlin** 67.39 47 ⇑P P 01 13 12.1 -0.1
baz=67
IAKL **Akhelmad** 67.40 300 *e*P P 01 13 13.9 +1.2
IKRD **Kardeh** 67.43 300 *e*P P 01 13 10.5 -2.4
K24A **Anderson Ranch** 67.44 51 ⇓P P 01 13 12.0 -0.7
baz=67
VSR **Storozhevoye** 67.45 322 *e*P P 01 13 11.6 -0.8
VSR pmax pmax
comp=N,20nm,0.7s
VSR pmax pmax
comp=E,20nm,0.7s
VSR pmax pmax
comp=Z,60nm,0.7s
VSR MLR MLR
comp=N,4μm,20.0s
VSR MLR MLR
comp=E,2μm,20.0s
VSR MLR MLR
comp=Z,6μm,20.0s
E29A **Napoleon** 67.46 46 ⇓P P 01 13 12.1 -0.6
baz=67
D30A **Buchanan** 67.52 45 ⇓P P 01 13 12.7 -0.3
baz=67,SNR=6.3
J25A **Sunshine Ranch** 67.52 50 ⇓P P 01 13 12.9 -0.3
baz=67,SNR=11
SWSC **Sam W. Stewart** 67.53 65 ⇓P P 01 13 13.3 0.0
baz=67
ISFR **Sfrayin** 67.55 300 *e*P P 01 13 14.7 +1.1
H27A **Howes** 67.58 48 ⇓P P 01 13 13.3 -0.1
baz=67,SNR=9.1
VORD **Divnogorie** 67.58 321 *e*P P 01 13 12.0 -1.2
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,60nm,0.7s
VORD MLR MLR
comp=N,3μm,18.0s
VORD MLR MLR
comp=E,3μm,18.0s
VORD MLR MLR
comp=Z,5μm,18.0s
I26A **New Underwood** 67.58 49 ⇑P P 01 13 13.7 +0.2
baz=67,SNR=6.2
MSVF **Nonsavu** 67.66 154 PFAKE 01 13 30.0 +16
MSVF LR LR
comp=Z,4μm,19.0s
PDMCI **Parker Dam,Lak** 67.66 63 ⇓P P 01 13 14.7 +0.7
baz=68,SNR=8.3
AFI **Afiamalu** 67.77 143 PFAKE 01 13 30.0 +15
AFI LR LR
comp=Z,2μm,22.0s
Y12C **Blythe** 67.79 64 ⇓P P 01 13 15.4 +0.5
baz=68,SNR=6.6
M23A **Laramie** 67.79 53 ⇑P P 01 13 15.4 +0.3
baz=68,SNR=6.6
L24A **Wheatland** 67.83 52 ⇑P P 01 13 15.4 +0.2
baz=68
N22A **Wattenberg Ran** 67.84 54 ⇓P P 01 13 15.8 +0.4
baz=68,SNR=13
G28A **Parade** 67.86 47 ⇑P P 01 13 15.2 0.0
baz=68,SNR=9.2
E30A **Jud** 67.87 45 ⇓P P 01 13 14.9 -0.3
baz=68,SNR=8.0
F29A **Eureka** 67.89 46 ⇑P P 01 13 14.9 -0.4
baz=68,SNR=5.5
MOL **Molde** 67.95 344 *e*P P 01 13 15.9 +0.5
MOL IAmb IAmb 01 13 18.4
comp=Z,154nm,1.2s
J26A **Sides Ranch, S** 67.96 50 ⇓P P 01 13 15.9 0.0
baz=68,SNR=8.9
I27A **Quinn** 67.98 49 ⇑P P 01 13 16.0 +0.1
baz=68,SNR=13
K25A **Mack Ranch, Ha** 68.02 51 ⇓P P 01 13 16.2 -0.2
baz=68
AGMN **Agassiz Nation** 68.05 42 *e*P P 01 13 16.0 -0.3
comp=Z,45nm,1.0s
AGMN LR LR
comp=Z,1μm,19.0s
AGMN **Agassiz Nation** 68.05 42 ⇓P P 01 13 16.0 -0.3
baz=68,SNR=23
PHWY **Pilot Hill** 68.05 53 *e*P P 01 13 17.1 +0.3
comp=Z,51nm,1.8s
N23A **Red Feather La** 68.06 53 ⇑P P 01 13 17.7 +0.9
baz=68,SNR=13
GLA **Glamis** 68.06 65 *e*P P 01 13 17.1 +0.4
GLA pmax pmax
comp=Z,5.0nm,0.9s
GLA **Glamis** 68.06 65 *e*P P 01 13 17.1 +0.4
comp=Z,5.4nm,0.9s
GLA **Glamis** 68.06 65 ⇑P P 01 13 17.3 +0.7
baz=68,SNR=7.9
PV04 **Paradox Valley** 68.07 57 *e*P P 01 13 17.1 +0.3
H28A **Mission Ridge** 68.09 48 ⇓P P 01 13 16.7 0.0
baz=68,SNR=26
O22A **Kremmling** 68.22 54 ⇑P P 01 13 18.1 +0.2
baz=68,SNR=9.3
WRAB **Tennant Creek** 68.26 199 P P 01 13 17.9 +0.1
comp=Z,276nm,1.0s,SNR=22
WRAB **Tennant Creek** 68.26 199 *e*P P 01 13 16.8 -0.9
WRAB pmax pmax
comp=Z,44nm,0.9s
WRAB MLR MLR
comp=Z,842nm,19.0s
WRAB **Tennant Creek** 68.26 199 *e*P P 01 13 16.8 -0.9
comp=Z,44nm,0.9s
WRAB LR LR
comp=Z,842nm,19.0s
WRA **Warramunga Arr** 68.27 199 P P 01 13 17.3 -0.5
WRA **Warramunga Arr** 68.27 199 P P 01 13 17.3 -0.5
comp=Z,36nm,0.9s,baz=17,slow=6.6,SNR=82
WRA LR LR 01 42 02.1
comp=Z,425nm,20.5s,baz=35,slow=35
L25A **Engebretsen Ra** 68.28 51 ⇓P P 01 13 18.5 +0.5
baz=68
G29A **Hoven** 68.29 47 ⇓P P 01 13 17.3 -0.5
baz=68
M24A **Cheyenne** 68.29 52 ⇓P P 01 13 18.7 +0.6
baz=68,SNR=7.6
K26A **Motz Farm, Whi** 68.33 50 ⇑P P 01 13 18.0 -0.2
baz=68
AKN **Aaknes** 68.42 344 *e*P P 01 13 18.9 +0.5
PV01 **Paradox Valley** 68.44 57 *e*P P 01 13 19.5 +0.3
comp=Z,1μm,0.9s
I28A **Midland** 68.48 48 ⇓P P 01 13 19.1 0.0
baz=68,SNR=17
P22A **Eagle** 68.49 55 ⇑P P 01 13 19.8 +0.4
baz=68,SNR=14
H29A **Onida** 68.54 47 ⇑P P 01 13 19.3 -0.1
baz=68,SNR=14
O23A **Lake Granby, G** 68.54 54 ⇑P P 01 13 20.4 +0.6
baz=68,SNR=18
WUAZ **Wupatki** 68.54 61 *e*P P 01 13 20.6 +0.9
WUAZ LR LR
comp=Z,28nm,1.0s
WUAZ **Wupatki** 68.54 61 ⇑P P 01 13 20.1 +0.4
comp=Z,850nm,20.0s
baz=68,SNR=7.8
J27A **Elkhorn Farm,** 68.57 49 ⇓P P 01 13 19.7 0.0
baz=68,SNR=7.2
NB2 **NORSAR Subarra** 68.57 341 P P 01 13 19.2 -0.1
comp=Z,106nm,0.7s,baz=27,slow=6.5
NB2 **NORSAR Subarra** 68.57 341 P P 01 13 19.2 -0.1
baz=27,slow=6.5
NOA **NORSAR Array B** 68.57 341 P P 01 13 19.2 -0.1
NOA **NORSAR Array B** 68.57 341 P P 01 13 19.2 -0.1
comp=Z,109nm,0.8s,baz=28,slow=6.4,SNR=218
NOA LR LR 01 47 58.4
comp=Z,2μm,18.1s,baz=20,slow=40
Y14A **Wickenburg** 68.61 63 ⇑P P 01 13 20.3 +0.2
baz=68,SNR=14
SMCO **Snowmass** 68.65 55 *e*P P 01 13 21.0 +0.4
comp=Z,25nm,0.9s
N24A **Carr** 68.69 53 ⇑P P 01 13 21.4 +0.8
baz=68
G30A **Faulkton** 68.72 46 ⇑P P 01 13 19.8 -0.7
baz=68,SNR=5.6
M25A **Palm-Egli Farm** 68.73 52 ⇓P P 01 13 21.7 +0.8
baz=68,SNR=7.8
HFS **Hagfors** 68.80 340 LR LR 01 46 22.8
comp=Z,μm,19.8s,baz=18,slow=38
NAO01 **NORSAR Array S** 68.82 341 *e*P P 01 13 20.5 -0.4
comp=Z,79nm,0.8s
K27A **Flueckinger Fa** 68.83 50 ⇑P P 01 13 21.0 -0.3
baz=69
L26A **Underwood Farm** 68.84 51 ⇑P P 01 13 21.5 0.0
baz=69
J28A **Allard Ranch,** 68.85 49 ⇓P P 01 13 21.4 0.0
baz=69,SNR=17
I29A **Vivian Onida** 68.92 48 ⇓P P 01 13 21.4 -0.4
baz=69,SNR=9.2
113A **Mohawk Valley,** 68.92 64 ⇑P P 01 13 22.2 +0.3
baz=69,SNR=7.0
ISCO **Idaho Springs** 68.99 54 *e*P P 01 13 22.9 +0.2
ISCO pmax pmax
comp=Z,137nm,1.9s
ISCO MLR MLR
comp=Z,1μm,20.0s
ISCO **Idaho Springs** 68.99 54 *e*P P 01 13 22.9 +0.2
comp=Z,137nm,1.9s
ISCO LR LR
comp=Z,1μm,20.0s
ISCO **Idaho Springs** 68.99 54 ⇓P P 01 13 23.2 +0.6
baz=69,SNR=22
Z14A **Wintersburg** 69.03 63 ⇑P P 01 13 23.3 +0.7
baz=69
O24A **Longmont** 69.07 54 ⇓P P 01 13 24.1 +1.1
baz=69
BORG **Borgarnes** 69.08 358 P P 01 13 24.7 +2.4
comp=Z,902nm,0.9s,SNR=5.5
BORG **Borgarnes** 69.08 358 *e*P P 01 13 24.1 +1.7
comp=Z,141nm,0.9s
IDID **Didziasalis** 69.09 331 *e*P P 01 13 22.4 -0.2
IDID AMB AMB 01 13 24.1
comp=Z,81nm,0.9s
ISAL **Salakas** 69.09 331 *e*P P 01 13 22.5 -0.1
ISAL AMB AMB 01 13 24.2
comp=Z,61nm,0.9s
MVCO **Mesa Verde** 69.11 58 *e*P P 01 13 23.8 +0.4
comp=Z,46nm,1.3s
MVCO LR LR
comp=Z,916nm,20.0s
MVCO **Mesa Verde** 69.11 58 ⇓P P 01 13 23.8 +0.4
baz=69,SNR=18
N25A **Grover** 69.14 52 ⇑P P 01 13 24.1 +0.7
baz=69,SNR=8.4
P23A **Jefferson** 69.16 55 ⇑P P 01 13 24.5 +0.7
baz=69
M26A **McRoberts Ranc** 69.20 51 ⇑P P 01 13 24.4 +0.6
baz=69
DZM **Mont Dzumac** 69.21 167 *e*S S 01 22 27.6 +0.3
comp=Z,358nm,24.6s
DZM **Mont Dzumac** 69.21 167 *e*LR LR 01 34 21.3
comp=Z,2μm,21.2s
DZM **Mont Dzumac** 69.21 167 P P 01 13 24.2 +0.4
DZM **Mont Dzumac** 69.21 167 P P 01 13 24.2 +0.4
comp=Z,11nm,1.0s,baz=56,slow=13,SNR=3.6
IIGN **Ignalina** 69.23 331 *e*P P 01 13 22.9 -0.6
IIGN AMB AMB 01 13 23.7
comp=Z,83nm,0.9s
X16A **Lo Mia Camp, P** 69.24 62 ⇓P P 01 13 25.0 +0.8
baz=69,SNR=22
BHJ **Bhuj** 69.30 282 *e*P P 01 13 23.8 -0.6
IDAH **Dahanechah** 69.30 296 *e*P P 01 13 25.4 +0.7
BRSD **Miller** 69.30 47 *e*P P 01 13 24.0 -0.1
comp=Z,52nm,1.0s
BRSD **Miller** 69.30 47 ⇓P P 01 13 23.6 -0.5
baz=69
FOO **Floro** 69.32 344 *e*P P 01 13 23.9 0.0
FOO IAmb IAmb 01 13 25.9
comp=Z,33nm,0.9s
J29A **Okreek** 69.34 48 ⇑P P 01 13 24.4 0.0
baz=69,SNR=19
MICGM **Minsk** 69.35 329 ⇑*i*P P 01 13 24.0 -0.2
MNK **Minsk** 69.36 330 ⇑*i*P P 01 13 24.0 -0.3
MNK MLR MLR
comp=Z,8μm,16.0s
MAK **Makhachkala** 69.39 311 *e*P P 01 13 25.9 +1.2
MAK *e* 01 13 47.7
MAK *e* 01 16 00.5
MAK *e*PPP PPP 01 17 40.8
MAK *e*S S 01 22 30.7 +1.7
MAK *e* 01 23 21.4
MAK pmax pmax
comp=Z,393nm,1.3s
MAK MLR MLR
comp=Z,11μm,18.0s
NACGM **Naroch** 69.41 330 *e*P P 01 13 22.0 -2.6
HYA **Hoyanger** 69.50 344 *e*P P 01 13 25.6 +0.6
HYA IAmb IAmb 01 13 28.1
comp=Z,154nm,0.8s
M27A **Reverse DX Ran** 69.57 51 ⇑P P 01 13 26.2 +0.3
baz=69,SNR=6.4
P24A **Kohler Place,** 69.58 54 ⇑P P 01 13 27.1 +0.9
baz=69
N26A **Koester Ranch,** 69.60 52 ⇑P P 01 13 26.6 +0.4
baz=69,SNR=9.9
O25A **Wiggins** 69.61 53 ⇑P P 01 13 26.8 +0.6
baz=69
POO **Poona** 69.65 276 *e*P P 01 13 25.8 -0.8
POO ⇑*i*P P 01 13 27.0 +0.3
OSL **Oslo** 69.67 341 *e*P P 01 13 26.8 +0.7
OSL IAmb IAmb 01 13 28.1
comp=Z,93nm,0.8s
L28A **Connealy Angus** 69.69 50 ⇓P P 01 13 26.6 -0.1
baz=70
S22A **4UR Ranch, Cre** 69.71 56 ⇓P P 01 13 28.0 +0.8
baz=70,SNR=32
K29A **Lazy Trails An** 69.80 49 ⇓P P 01 13 27.5 +0.2
baz=70,SNR=20
W18A **Petrified Fore** 69.80 60 *e*P P 01 13 28.1 +0.6
comp=Z,14nm,1.0s
W18A **Petrified Fore** 69.80 60 ⇓P P 01 13 28.2 +0.6
baz=70
J30A **Dallas** 69.82 48 ⇑P P 01 13 27.2 -0.2
baz=70,SNR=21
Q24A **Divide** 69.83 54 ⇓P P 01 13 28.1 +0.3
baz=70,SNR=6.2
SUE **Sulen** 69.88 344 *e*P P 01 13 28.2 +0.9
SUE IAmb IAmb 01 13 29.6
comp=Z,174nm,0.8s
O26A **Horse Wrangler** 69.96 52 ⇑P P 01 13 28.4 -0.1
baz=70
R23A **Moffat** 69.98 55 ⇓P P 01 13 29.7 +0.9
baz=70,SNR=18
N27A **Anderson Farm,** 69.99 52 ⇑P P 01 13 28.7 +0.2
baz=70,SNR=7.4
P25A **Willow Gulch B** 70.00 53 ⇑P P 01 13 29.1 +0.4
baz=70,SNR=12
IKOO **Kooshah** 70.05 296 *e*P P 01 13 30.1 +0.8
214A **Organ Pipe Nat** 70.06 64 *e*P P 01 13 29.5 +0.4
comp=Z,52nm,1.6s
214A **Organ Pipe Nat** 70.06 64 ⇓P P 01 13 29.4 +0.4
baz=70
X18A **Snowflake** 70.07 61 ⇓P P 01 13 30.1 +0.8
baz=70,SNR=9.9
GOF **Gofitskoye** 70.15 315 ⇑*i*P P 01 13 30.1 +0.8
GOF pmax pmax
comp=Z,160nm,0.9s
OGNE **Ogallala** 70.17 51 *e*P P 01 13 30.0 +0.3
comp=Z,95nm,1.0s
OGNE LR LR
comp=Z,928nm,19.0s
OGNE **Ogallala** 70.17 51 ⇓P P 01 13 29.9 +0.3
baz=70,SNR=17
KONO **Kongsberg** 70.18 341 *ce*P P 01 13 29.4 +0.1
KONO MLR MLR
comp=Z,16μm,17.0s
KONO **Kongsberg** 70.18 341 *e*P P 01 13 29.3 +0.1
KONO IAmb IAmb 01 13 31.3
comp=Z,117nm,0.8s
KONO **Kongsberg** 70.18 341 *e*P P 01 13 29.4 +0.1
comp=Z,27nm,0.8s
KONO LR LR
comp=Z,3μm,19.0s
M28A **Bar X Bar Ranc** 70.20 50 ⇓P P 01 13 29.7 -0.2
baz=70,SNR=7.2
L29A **Maesberg Ranch** 70.20 49 ⇑P P 01 13 29.5 -0.3
baz=70
S23A **Nye Farm, Mont** 70.21 56 ⇑P P 01 13 31.1 +0.9
baz=70,SNR=11
K30A **Basset** 70.22 49 ⇓P P 01 13 29.9 +0.1
baz=70,SNR=14
EYMN **Ely** 70.30 40 *e*P P 01 13 29.8 -0.4
comp=Z,42nm,1.0s
EYMN LR LR
comp=Z,2μm,20.0s
RUND **Rundenannen** 70.36 344 *e*P P 01 13 30.0 -0.3
R24A **Sanders Place,** 70.36 55 ⇑P P 01 13 31.9 +0.9
baz=70,SNR=9.1
Q25A **Bedland, Calha** 70.37 54 ⇓P P 01 13 31.2 +0.1
baz=70,SNR=23
IGLO **Ghaloghah** 70.38 302 *e*P P 01 13 32.3 +1.2
BER **Bergen** 70.39 344 *e*P P 01 13 31.1 +0.6
BER IAmb IAmb 01 13 32.4
comp=Z,190nm,0.8s
P26A **Davis Ranch, A** 70.42 53 ⇑P P 01 13 31.5 +0.3
baz=70,SNR=9.9
O27A **Beecher Island** 70.45 52 ⇑P P 01 13 31.6 +0.2
baz=70,SNR=7.9
SDCO **Great Sand Dun** 70.47 56 *e*P P 01 13 32.1 +0.3
comp=Z,25nm,1.4s
SDCO LR LR
comp=Z,749nm,20.0s
M29A **Burnside Ranch** 70.53 50 ⇓P P 01 13 31.7 -0.1
baz=70
ODD1 **Odda** 70.57 343 *e*P P 01 13 32.5 +0.8
ODD1 IAmb IAmb 01 13 34.0
comp=Z,22nm,0.9s
N28A **Pribbenno Ranch** 70.61 51 ⇑P P 01 13 31.9 -0.4
baz=70,SNR=5.3
U22A **Llaves** 70.64 57 ⇑P P 01 13 33.5 +0.8
baz=70,SNR=11
T23A **Casias Ranch,** 70.66 56 ⇑P P 01 13 33.3 +0.4
baz=70
IKIA **Kiasar** 70.67 302 *e*P P 01 13 33.6 +0.6
L30A **Spencer Herefo** 70.68 49 ⇑P P 01 13 32.2 -0.6
baz=70
S24A **Houchin Ranch,** 70.71 56 ⇑P P 01 13 33.8 +0.5
baz=70,SNR=8.1
Q26A **Hugo** 70.77 54 ⇑P P 01 13 33.7 +0.3
baz=70,SNR=6.1
P27A **Ficken Ranch,** 70.85 53 ⇓P P 01 13 33.4 -0.4
baz=71
O28A **Krutsinger Ran** 70.88 52 ⇑P P 01 13 33.6 -0.4
baz=71,SNR=5.7
R25A **Fountain Ranch** 70.88 55 ⇓P P 01 13 34.0 -0.1
baz=71,SNR=6.4
M30A **Dale-Ortello V** 70.90 50 ⇓P P 01 13 33.3 -0.7
baz=71
V22A **San Miguel Ran** 70.93 58 ⇓P P 01 13 35.0 +0.5
baz=71,SNR=14
L31A **Butterfield Fa** 70.98 48 ⇑P P 01 13 34.3 -0.2
baz=71,SNR=15
ECSD **EROS Data Cent** 70.99 46 *e*P P 01 13 33.9 -0.6
comp=Z,45nm,0.9s
ECSD LR LR
comp=Z,2μm,21.0s
ECSD **EROS Data Cent** 70.99 46 ⇑P P 01 13 34.2 -0.3
baz=71,SNR=28
N29A **Votaw Ranch, W** 71.01 50 ⇑P P 01 13 34.1 -0.6
baz=71
NCK **Nalchik** 71.01 314 ⇑*i*P P 01 13 35.4 +0.8
T24B **San Luis** 71.02 56 ⇑P P 01 13 36.2 +1.0
baz=71,SNR=6.7
IANJ **Anjilo** 71.05 302 *e*P P 01 13 36.7 +1.4
BLS5 **Blasjo** 71.05 343 *e*P P 01 13 34.8 +0.2
BLS5 IAmb IAmb 01 13 36.9
comp=Z,79nm,0.8s
U23A **El Rito** 71.06 57 ⇑P P 01 13 36.0 +0.7
baz=71,SNR=40
TUC **Tucson** 71.08 63 *e*P P 01 13 35.4 +0.1
TUC pmax pmax
comp=Z,53nm,1.8s
TUC MLR MLR
comp=Z,724nm,20.0s
TUC **Tucson** 71.08 63 *e*P P 01 13 35.4 +0.1
comp=Z,53nm,1.8s
TUC LR LR
comp=Z,724nm,20.0s
KIV **Kislovodsk** 71.13 314 P P 01 13 36.4 +1.0
comp=Z,386nm,0.9s,SNR=25
KIV **Kislovodsk** 71.13 314 *e*P P 01 13 36.1 +0.7
KIV *e* 01 13 55.6
KIV *e*PPP PPP 01 17 56.2
KIV *e*S S 01 22 51.5 +1.9
KIV pmax pmax
comp=Z,507nm,4.3s
KIV pmax pmax
comp=Z,65nm,1.1s
KIV MLR MLR
comp=Z,9μm,18.0s
KIV **Kislovodsk** 71.13 314 *e*P P 01 13 35.8 +0.4
comp=Z,58nm,0.8s
KIV *e*PP PP 01 16 06.8 -6.0
KIV LR LR
comp=Z,4μm,19.0s
S25A **Robets Cordova** 71.14 55 ⇓P P 01 13 35.8 0.0
baz=71
ISHM **Shahmirzad** 71.18 302 *e*P P 01 13 37.9 +1.8
KBZ **Khabaz** 71.19 314 P P 01 13 36.6 +0.9
KBZ pmax pmax
comp=Z,68nm,0.8s
KBZ **Khabaz** 71.19 314 P P 01 13 36.5 +0.9
KBZ **Khabaz** 71.19 314 P P 01 13 36.5 +0.9
comp=Z,68nm,0.8s,baz=66,slow=3.7,SNR=98
KBZ LR LR 01 48 49.2
comp=Z,4μm,18.4s,baz=33,slow=39
KSCO **Kaye Shedlock'** 71.20 53 *e*P P 01 13 35.6 -0.4
comp=Z,23nm,1.1s
KSCO **Kaye Shedlock'** 71.20 53 ⇑P P 01 13 36.1 0.0
baz=71
R26A **Arlington** 71.25 54 ⇑P P 01 13 36.5 +0.2
baz=71,SNR=14
IALA **Alasht** 71.27 303 *e*P P 01 13 37.7 +1.1
P28A **Saint Francis** 71.28 52 ⇑P P 01 13 36.4 -0.1
baz=71
SUW **Suwalki** 71.34 332 ⇑*e*P P 01 13 35.7 -0.7
SUW *e**SP sP 01 13 44.3 -6.9
SUW MLR MLR
comp=Z,3μm,19.0s
SUW **Suwalki** 71.34 332 *e*P P 01 13 35.7 -0.7
SUW *ep*P pP 01 13 41.0 -6.2
SUW *es*P sP 01 13 44.3 -6.9
SUW LMZ LR 01 48 24.9
SUW **Suwalki** 71.34 332 *e*P P 01 13 35.8 -0.7
comp=Z,332nm,1.0s
ZEI **Tsey** 71.37 313 *e*P P 01 13 35.2 -1.8
ZEI pmax pmax
comp=Z,48nm,1.1s

O29A	**4D Ranch, Culb**	**71.41**	**51**	⇑	P		**P**	**01 13 36.9**	**-0.3**
	baz=71,SNR=8.4								
IPRN	**Peran**	**71.43**	**303**		*e*P		**P**	**01 13 38.4**	**+1.0**
V23A	**Ortiz Mt. (NFS**	**71.47**	**58**	⇓	P		**P**	**01 13 38.9**	**+1.2**
	baz=71,SNR=15								
KMY	**Karmoy**	**71.49**	**343**		*e*P		**P**	**01 13 38.0**	**+0.8**
KMY					IAmb		IAmb	01 13 39.8	
	comp=Z,177nm,0.8s								
EIDS	**Eidsvold**	**71.50**	**182**		*e*P		**P**	**01 13 37.8**	**+0.2**
	comp=Z,111nm,0.9s								
M31A	**Lambtecht Ranc**	**71.51**	**49**	⇓	P		**P**	**01 13 37.1**	**-0.6**
	baz=71								
T25A	**Trinidad**	**71.52**	**55**	⇓	P		**P**	**01 13 38.3**	**+0.2**
	baz=71,SNR=14								
U24A	**Moreno Valley**	**71.53**	**56**	⇑	P		**P**	**01 13 38.7**	**+0.5**
	baz=71,SNR=8.1								
DGRG	**David-gareji**	**71.58**	**311**		P		**P**	**01 13 39.0**	**+0.9**
Q28A	**Sharon Springs**	**71.61**	**52**	⇑	P		**P**	**01 13 37.9**	**-0.5**
	baz=71								
IFIR	**Firoozkooh**	**71.61**	**302**		*e*P		**P**	**01 13 39.5**	**+0.9**
R27A	**Eads**	**71.62**	**54**	⇑	P		**P**	**01 13 38.4**	**-0.1**
	baz=71,SNR=6.5								
NEY	**Neytrino**	**71.63**	**314**		*ce*P		**P**	**01 13 39.5**	**+0.9**
NEY					pmax		pmax		
	comp=Z,106nm,3.2s								
NEY					MLR		MLR		
	comp=Z,9μm,17.0s								
ILAS	**Lasjerd**	**71.67**	**302**		*e*P		**P**	**01 13 40.7**	**+1.7**
HOMB	**Homborsund**	**71.67**	**341**		*e*P		**P**	**01 13 38.4**	**+0.2**
HOMB					IAmb		IAmb	01 13 40.6	
	comp=Z,71nm,0.9s								
NRS	**Narsarsuaq**	**71.68**	**9**		*i* P		**P**	**01 13 39.0**	**+0.7**
NRS					pmax		pmax		
	comp=Z,34nm,1.0s								
TBLG	**Delisi**	**71.71**	**312**		P		**P**	**01 13 40.1**	**+1.3**
S26A	**Kim**	**71.71**	**55**	⇑	P		**P**	**01 13 38.7**	**-0.4**
	baz=72,SNR=6.2								
P29A	**Atwood**	**71.71**	**52**	⇓	P		**P**	**01 13 38.5**	**-0.5**
	baz=72								
SPMN	**St. Paul**	**71.73**	**43**		*e*P		**P**	**01 13 38.6**	**-0.4**
	comp=Z,35nm,0.9s								
SPMN	**St. Paul**	**71.73**	**43**	⇓	P		**P**	**01 13 38.6**	**-0.4**
	baz=72,SNR=14								
ONI	**Oni**	**71.74**	**313**		P		**P**	**01 13 39.9**	**+0.8**
GOA	**Goa**	**71.76**	**273**		*e*P		**P**	**01 13 38.8**	**-0.7**
GOA					AMB		AMB	01 13 40.6	
	comp=Z,77nm,1.6s								
O30A	**MW Ranch, Wils**	**71.77**	**51**	⇑	P		**P**	**01 13 38.5**	**-0.8**
	baz=72,SNR=10.0								
LAZ	**Ladron**	**71.84**	**59**		*e*P		**P**	**01 13 41.1**	**+1.1**
	comp=Z,8.4nm,0.9s								
ANMO	**Albuquerque**	**71.86**	**58**		*e*P		**P**	**01 13 40.2**	**+0.1**
	comp=Z,13nm,0.9s								
ANMO					LR		LR		
	comp=Z,962nm,21.0s								
BGNE	**Belgrade**	**71.89**	**49**		*e*P		**P**	**01 13 39.7**	**-0.3**
	comp=Z,50nm,1.0s								
BGNE	**Belgrade**	**71.89**	**49**	⇑	P		**P**	**01 13 39.0**	**-1.0**
	baz=72								
AKASG	**Malin Array Be**	**71.89**	**326**		*ce*P		**P**	**01 13 39.2**	**-0.5**
AKASG					pmax		pmax		
	comp=Z,259nm,0.8s								
AKASG	**Malin Array Be**	**71.89**	**326**		P		**P**	**01 13 39.2**	**-0.5**
AKASG	**Malin Array Be**	**71.89**	**326**		P		**P**	**01 13 39.2**	**-0.5**
	comp=Z,259nm,0.8s,baz=33,slow=6.2,SNR=794								
AKASG					LR		LR	01 48 02.3	
	comp=Z,3μm,18.5s,baz=35,slow=38								
SNART	**Snartemo**	**71.89**	**342**		*e*P		**P**	**01 13 40.3**	**+0.6**
SNART					IAmb		IAmb	01 13 41.9	
	comp=Z,177nm,0.8s								
W23A	**Werner Place,**	**71.89**	**58**	⇑	P		**P**	**01 13 41.0**	**+0.7**
	baz=72,SNR=6.3								
KIEV	**Kiev**	**71.90**	**326**		*c i*P		**P**	**01 13 39.3**	**-0.6**
KIEV	**Kiev**	**71.90**	**326**		*e*P		**P**	**01 13 39.2**	**-0.6**
	comp=Z,234nm,0.8s								
KIEV					LR		LR		
	comp=Z,3μm,20.0s								
T26A	**Comanche Natio**	**71.96**	**55**	⇓	P		**P**	**01 13 40.3**	**-0.4**
	baz=72,SNR=28								
AS31	**Alice Springs**	**71.96**	**199**		*e*P		**P**	**01 13 40.8**	**+0.4**
V24A	**Rampart Ranch,**	**72.01**	**57**	⇓	P		**P**	**01 13 41.5**	**+0.4**
	baz=72,SNR=12								
U25A	**Circle Dot Ran**	**72.04**	**56**	⇓	P		**P**	**01 13 41.4**	**+0.3**
	baz=72,SNR=19								
IDMV	**Damavand**	**72.07**	**303**		*e*P		**P**	**01 13 42.5**	**+1.0**
LENM	**Lemitar**	**72.10**	**59**		*e*P		**P**	**01 13 42.4**	**+0.8**
P30A	**Selden**	**72.12**	**51**	⇓	P		**P**	**01 13 40.7**	**-0.7**
	baz=72,SNR=13								
R28A	**Tribune**	**72.13**	**53**	⇑	P		**P**	**01 13 41.1**	**-0.4**
	baz=72,SNR=6.3								
Q29A	**Oakley**	**72.19**	**52**	⇓	P		**P**	**01 13 41.4**	**-0.5**
	baz=72,SNR=12								
LPM	**Los Pinos Moun**	**72.20**	**59**		*e*P		**P**	**01 13 42.8**	**+0.7**
X23A	**Hourglass Bar**	**72.28**	**58**	⇓	P		**P**	**01 13 43.8**	**+1.1**
	baz=72,SNR=14								
N32A	**Stulken Farm,**	**72.28**	**49**	⇑	P		**P**	**01 13 42.6**	**+0.2**
	baz=72								
W24A	**Lazy 6 Ranch,**	**72.29**	**57**	⇓	P		**P**	**01 13 43.6**	**+0.9**
	baz=72,SNR=18								
V25A	**Rancho No Teng**	**72.31**	**57**	⇓	P		**P**	**01 13 43.1**	**+0.3**
	baz=72,SNR=6.3								
BNM	**Barren Site**	**72.32**	**59**		*e*P		**P**	**01 13 43.1**	**+0.1**
	comp=Z,25nm,1.5s								
CHVG	**Ch'k'valeri**	**72.33**	**314**		P		**P**	**01 13 44.0**	**+1.4**
U26A	**Atchley Ranch,**	**72.42**	**56**	⇓	P		**P**	**01 13 43.6**	**+0.2**
	baz=72,SNR=6.3								
R29A	**Marienthal**	**72.44**	**53**	⇓	P		**P**	**01 13 42.9**	**-0.5**
	baz=72,SNR=21								
T27A	**Campo**	**72.53**	**54**	⇑	P		**P**	**01 13 43.9**	**-0.1**
	baz=72								
Q30A	**Quinter**	**72.54**	**52**	⇑	P		**P**	**01 13 43.4**	**-0.6**
	baz=72,SNR=15								
AKH	**Akhalkalaki**	**72.58**	**312**		P		**P**	**01 13 46.3**	**+2.0**
P31A	**Stockton**	**72.61**	**51**	⇑	P		**P**	**01 13 43.5**	**-0.8**
	baz=72,SNR=20								
S28A	**Manter**	**72.61**	**54**	⇑	P		**P**	**01 13 44.3**	**-0.1**
	baz=72,SNR=8.7								
319A	**Douglas**	**72.64**	**63**	⇑	P		**P**	**01 13 45.4**	**+0.6**
	baz=72,SNR=16								
O32A	**Brockman Farm,**	**72.66**	**50**	⇓	P		**P**	**01 13 44.4**	**-0.2**
	baz=72								
IVRN	**Varamin**	**72.66**	**303**		*e*P		**P**	**01 13 46.0**	**+1.3**
X24A	**Lazy VL Ranch,**	**72.73**	**58**	⇑	P		**P**	**01 13 46.2**	**+0.9**
	baz=72								
IBAF	**Bafgh**	**72.74**	**298**		*e*P		**P**	**01 13 46.1**	**+0.7**
Z22A	**Elephant Butte**	**72.74**	**60**	⇓	P		**P**	**01 13 45.9**	**+0.5**
	baz=72,SNR=13								
121A	**Cookes Peak, D**	**72.75**	**61**		*e*P		**P**	**01 13 46.4**	**+0.9**
	comp=Z,45nm,1.3s								
121A	**Cookes Peak, D**	**72.75**	**61**	⇑	P		**P**	**01 13 46.6**	**+1.1**
	baz=73,SNR=15								
COWI	**Conover**	**72.75**	**40**		*e*P		**P**	**01 13 44.1**	**-0.9**
	comp=Z,25nm,1.0s								
IMHD	**Mahdasht**	**72.78**	**304**		*e*P		**P**	**01 13 47.1**	**+1.6**
PALK	**Pallekele**	**72.81**	**262**		P		**P**	**01 13 46.2**	**+0.4**
	comp=Z,625nm,0.9s,SNR=9.5								
PALK	**Pallekele**	**72.81**	**262**		*e*P		**P**	**01 13 46.3**	**+0.5**
	comp=Z,514nm,1.0s								
Y23A	**Lovelace Mesa,**	**72.81**	**59**	⇓	P		**P**	**01 13 46.5**	**+0.7**
	baz=73,SNR=19								
V26A	**Tequesquite Ra**	**72.82**	**56**	⇓	P		**P**	**01 13 46.0**	**+0.2**
	baz=73,SNR=6.9								
T28A	**Walsh**	**72.83**	**54**	⇑	P		**P**	**01 13 45.4**	**-0.4**
	baz=73,SNR=10								
W25A	**X Bar L Ranch,**	**72.84**	**57**	⇑	P		**P**	**01 13 46.3**	**+0.4**
	baz=73,SNR=23								
GNI	**Garni**	**72.85**	**311**		*e*P		**P**	**01 13 47.6**	**+1.7**
	comp=Z,89nm,0.9s								
GNI					LR		LR		
	comp=Z,3μm,21.0s								
SOC	**Sochi**	**72.85**	**316**		*c i*P		**P**	**01 13 43.8**	**-1.8**
SOC					*e**SP		**sP**	**01 13 58.2**	**-2.3**
SOC					*e*			01 14 01.7	
SOC					*e*			01 16 22.5	
SOC					*e*PPP		PPP	01 18 08.0	
SOC					*e*S		**S**	**01 23 06.5**	**-2.6**
SOC					*e*			01 23 51.6	
SOC					pmax		pmax		
	comp=Z,99nm,0.9s								
SOC					MLR		MLR		
	comp=Z,5μm,16.0s								
BSD	**Bornholm Skovb**	**72.90**	**336**	⇓	*i*P		**P**	**01 13 46.4**	**+0.7**
BSD					pmax		pmax		
	comp=Z,160nm,0.9s								
BSD					MLR		MLR		
	comp=Z,2μm,20.0s								
BSD	**Bornholm Skovb**	**72.90**	**336**	⇓	*i*P		**P**	**01 13 46.4**	**+0.7**
	comp=Z,164nm,0.9s								
BSD									
	comp=Z,2μm,20.0s								
U27A	**Thompson Grove**	**72.92**	**55**	⇓	P		**P**	**01 13 46.1**	**-0.3**
	baz=73,SNR=9.2								
IHRS	**Heris**	**72.94**	**308**		*e*P		**P**	**01 13 47.5**	**+0.9**
P32A	**Huiting Farm,**	**72.95**	**50**	⇓	P		**P**	**01 13 45.0**	**-1.3**
	baz=73,SNR=14								
Q31A	**Ellis**	**72.97**	**51**	⇓	P		**P**	**01 13 46.0**	**-0.5**
	baz=73								
ICHK	**Chekchek**	**72.99**	**299**		*e*P		**P**	**01 13 48.0**	**+1.0**
R30A	**Dighton**	**73.01**	**52**	⇑	P		**P**	**01 13 46.1**	**-0.7**
	baz=73,SNR=12								
S29A	**Ulysses**	**73.03**	**53**	⇓	P		**P**	**01 13 46.5**	**-0.4**
	baz=73,SNR=5.1								
COP	**Copenhagen**	**73.06**	**338**		*i* P		**P**	**01 13 47.3**	**+0.7**
COP					pmax		pmax		
	comp=Z,120nm,0.9s								
COP					MLR		MLR		
	comp=Z,910nm,19.0s								
COP	**Copenhagen**	**73.06**	**338**		*i* P		**P**	**01 13 47.3**	**+0.7**
	comp=Z,123nm,0.8s								
COP									
	comp=Z,910nm,19.0s								
221A	**Mesquite Ranch**	**73.12**	**61**	⇓	P		**P**	**01 13 48.5**	**+0.9**
	baz=73								
320A	**Kipp Ranch, An**	**73.13**	**62**	⇓	P		**P**	**01 13 48.5**	**+0.8**
	baz=73,SNR=8.8								
MUD	**Monsted U'grnd**	**73.17**	**340**		*i* P		**P**	**01 13 48.3**	**+1.1**
MUD					pmax		pmax		
	comp=Z,74nm,0.8s								
MUD					MLR		MLR		
	comp=Z,3μm,16.0s								
MUD	**Monsted U'grnd**	**73.17**	**340**		*i* P		**P**	**01 13 48.3**	**+1.1**
	comp=Z,74nm,0.8s								
MUD									
	comp=Z,3μm,16.0s								
Z23A	**Rita Site, Whi**	**73.17**	**59**	⇑	P		**P**	**01 13 48.5**	**+0.6**
	baz=73,SNR=6.6								
Y24A	**Capitan**	**73.18**	**58**	⇑	P		**P**	**01 13 48.2**	**+0.2**
	baz=73,SNR=19								
X25A	**Clemmons Ranch**	**73.21**	**58**	⇑	P		**P**	**01 13 49.0**	**+0.9**
	baz=73								
T29A	**Hugoton**	**73.26**	**54**	⇓	P		**P**	**01 13 47.5**	**-0.7**
	baz=73,SNR=5.3								
U28A	**Mallet**	**73.29**	**55**	⇓	P		**P**	**01 13 48.1**	**-0.4**
	baz=73								
W26A	**Owens Ranch, T**	**73.33**	**57**	⇓	P		**P**	**01 13 49.4**	**+0.6**
	baz=73								
KARS	**Kars**	**73.37**	**312**		*e*P		**P**	**01 13 50.5**	**+1.6**
S30A	**Montezuma**	**73.37**	**53**	⇑	P		**P**	**01 13 48.2**	**-0.7**
	baz=73,SNR=6.5								
V27A	**Dan Oppiter Fa**	**73.39**	**56**	⇓	P		**P**	**01 13 48.9**	**-0.2**
	baz=73								
IRAZ	**Razeghan**	**73.41**	**304**		*e*P		**P**	**01 13 50.9**	**+1.6**
R31A	**Burdett**	**73.42**	**52**	⇓	P		**P**	**01 13 48.1**	**-1.0**
	baz=73								
Q32A	**Meitler Ranch,**	**73.43**	**51**	⇓	P		**P**	**01 13 48.0**	**-1.2**
	baz=73,SNR=13								
LLD	**Lille Linde**	**73.43**	**338**		*i* P		**P**	**01 13 48.7**	**-0.1**
LLD					pmax		pmax		
	comp=Z,200nm,0.9s								
LLD	**Lille Linde**	**73.43**	**338**		*i* P		**P**	**01 13 48.7**	**-0.1**
	comp=Z,199nm,0.8s								
IMEH	**Mehriz**	**73.46**	**298**		*e*P		**P**	**01 13 49.7**	**-0.1**
IBST	**Bostanabad**	**73.47**	**307**		*e*P		**P**	**01 13 50.2**	**+0.6**
ITBZ	**Tabriz**	**73.49**	**308**		*e*P		**P**	**01 13 50.9**	**+1.2**
BCA	**Barcika**	**73.51**	**313**		*e*P		**P**	**01 13 50.2**	**+0.7**
SCHQ	**Schefferville**	**73.53**	**23**		*e*P		**P**	**01 13 49.8**	**+0.3**
SCHQ	**Schefferville**	**73.53**	**23**		P		**P**	**01 13 49.6**	**+0.1**
	comp=Z,20nm,1.0s,baz=352,slow=3.3,SNR=9.5								
SCHQ					LR		LR	01 50 27.2	
	comp=Z,1μm,18.7s,baz=347,slow=39								
P33A	**Williams Farm,**	**73.56**	**50**	⇓	P		**P**	**01 13 48.6**	**-1.3**
	baz=73								
123A	**Bell Site, Whi**	**73.60**	**60**	⇑	P		**P**	**01 13 50.1**	**-0.3**
	baz=73								
Y25A	**Mesa, Roswell**	**73.62**	**58**	⇓	P		**P**	**01 13 50.8**	**+0.3**
	baz=73,SNR=15								
Z24A	**Sheeppen Canyo**	**73.64**	**59**	⇓	P		**P**	**01 13 51.2**	**+0.4**
	baz=73,SNR=12								
ISAD	**Sadrabad**	**73.66**	**299**		*e*P		**P**	**01 13 51.2**	**+0.2**
X26A	**CR and CF Fran**	**73.69**	**57**	⇑	P		**P**	**01 13 51.4**	**+0.5**
	baz=74,SNR=5.1								
QAM	**Ghamsar**	**73.69**	**302**		*e*P		**P**	**01 13 53.5**	**+2.5**
V28A	**Channing**	**73.74**	**55**	⇑	P		**P**	**01 13 50.9**	**-0.2**
	baz=74								
BIGH	**Upper Bighouse**	**73.75**	**348**		*e*P		**P**	**01 13 50.4**	**-0.3**
BIGH					AMB		AMB	01 13 53.5	
	comp=Z,561nm,3.7s								
W27A	**Bowe Ranch, En**	**73.75**	**56**	⇑	P		**P**	**01 13 51.4**	**+0.2**
	baz=74								
R32A	**Long Quarter,**	**73.76**	**51**	⇓	P		**P**	**01 13 51.4**	**+0.3**
	baz=74								
U29A	**Oasis Ranch, S**	**73.78**	**54**	⇑	P		**P**	**01 13 50.9**	**-0.5**
	baz=74								
IZEF	**Zefreh**	**73.78**	**301**		*e*P		**P**	**01 13 52.8**	**+1.2**
Q33A	**Connelly Farm,**	**73.81**	**50**	⇓	P		**P**	**01 13 50.4**	**-1.0**
	baz=74,SNR=18								
MBWA	**Marble Bar**	**73.84**	**213**		PFAKE			01 14 00.0	+8.5
MBWA					LR		LR		
	comp=Z,459nm,21.0s								
RGN	**Rugen**	**73.84**	**337**		*e*P		**P**	**01 13 51.8**	**+0.6**
	comp=Z,159nm,0.7s								
GKP	**Gorka Klasztor**	**73.85**	**334**	⇑	*e*P		**P**	**01 13 51.4**	**+0.1**
GKP					pmax		pmax		
	comp=Z,100nm,0.8s								
GKP					MLR		MLR		
	comp=Z,6μm,19.0s								
GKP	**Gorka Klasztor**	**73.85**	**334**		*e*P		**P**	**01 13 51.3**	**0.0**
GKP					*ep*P		pP	01 13 56.6	-5.5
GKP					LMZ		LR	01 50 47.3	
MLA1	**Latheron**	**73.85**	**347**	⇑	*e*P		**P**	**01 13 52.0**	**+0.7**
S31A	**Mullinville**	**73.92**	**52**	⇑	P		**P**	**01 13 52.0**	**-0.1**
	baz=74								
IKLH	**Kolahrood**	**73.93**	**301**		*e*P		**P**	**01 13 53.9**	**+1.4**
BEL	**Belsk**	**73.96**	**332**	⇑	*e*P		**P**	**01 13 52.6**	**+0.6**
BEL					MLR		MLR		
	comp=Z,3μm,19.9s								
BEL	**Belsk**	**73.96**	**332**		*e*P		**P**	**01 13 52.5**	**+0.6**
BEL					*ep*P		pP	01 13 57.4	-5.4
BEL					LMZ		LR	01 50 16.5	
CLDR	**Caldiran**	**74.02**	**310**		*e*P		**P**	**01 13 54.9**	**+2.0**
SCIA	**State Center**	**74.02**	**45**		*e*P		**P**	**01 13 52.3**	**-0.2**
	comp=Z,68nm,0.8s								
SCIA					LR		LR		
	comp=Z,2μm,22.0s								
124A	**Stringfield Ra**	**74.03**	**59**	⇑	P		**P**	**01 13 53.4**	**+0.3**
	baz=74,SNR=11								
Z25A	**Roswell**	**74.06**	**58**	⇓	P		**P**	**01 13 53.6**	**+0.5**
	baz=74,SNR=7.9								
U30A	**WK&E Inc. Balk**	**74.07**	**54**	⇓	P		**P**	**01 13 53.0**	**0.0**
	baz=74,SNR=5.7								
W28A	**Vega**	**74.11**	**55**	⇓	P		**P**	**01 13 53.7**	**+0.4**
	baz=74								
Y26A	**Elida**	**74.12**	**57**	⇑	P		**P**	**01 13 53.7**	**+0.2**
	baz=74,SNR=6.1								
S32A	**Newby Ranch, P**	**74.16**	**52**	⇑	P		**P**	**01 13 52.7**	**-0.8**
	baz=74								
AGRB	**Hanur-Agry**	**74.19**	**311**		*e*P		**P**	**01 13 55.9**	**+2.1**
T31A	**Randall Ranch,**	**74.20**	**53**	⇑	P		**P**	**01 13 53.3**	**-0.4**
	baz=74								
R33A	**Olander Ranch,**	**74.23**	**51**	⇑	P		**P**	**01 13 52.5**	**-1.4**
	baz=74								
MVH1	**Achvaich**	**74.34**	**348**	⇑	*e*P		**P**	**01 13 53.8**	**-0.3**
KSU1	**Kansas State U**	**74.38**	**49**		*e*P		**P**	**01 13 53.2**	**-1.4**
	comp=Z,23nm,0.7s								
KSU1					LR		LR		
	comp=Z,2μm,19.0s								
KSU1	**Kansas State U**	**74.38**	**49**	⇓	P		**P**	**01 13 53.4**	**-1.3**
	baz=74,SNR=8.1								
SIM	**Simferopol'**	**74.41**	**320**		*e*P		**P**	**01 13 55.3**	**+0.6**
SIM					*e*S		**S**	**01 23 27.0**	**+0.4**
SIM					pmax		pmax		
	comp=Z,157nm,0.9s								
SIM					MLR		MLR		
	comp=N,2μm,16.8s								
Z26A	**Caprock**	**74.50**	**58**	⇑	P		**P**	**01 13 55.7**	**+0.1**
	baz=74,SNR=34								
TRD	**Trivandrum**	**74.50**	**266**		*e*P		**P**	**01 13 55.8**	**+0.1**
TRD					AMB		AMB	01 14 03.0	
	comp=Z,118nm,1.2s								
MCD	**Coleburn Disti**	**74.53**	**347**	⇑	*e*P		**P**	**01 13 54.5**	**-0.7**
125A	**Gardner Draw,**	**74.53**	**59**	⇑	P		**P**	**01 13 56.3**	**+0.5**
	baz=74,SNR=17								
Y27A	**Causey**	**74.54**	**57**	⇑	P		**P**	**01 13 56.1**	**+0.2**
	baz=74,SNR=24								
LVV	**L'vov**	**74.54**	**329**		*e*P		**P**	**01 13 55.3**	**-0.1**
LVV					*e*			01 16 47.9	
LVV					*e*S		**S**	**01 23 25.9**	**-2.1**
LVV					MLR		MLR		
	comp=N,2μm,15.0s								
LVV					MLR		MLR		
	comp=E,2μm,15.0s								
LVV					MLR		MLR		
	comp=Z,2μm,15.0s								
T32A	**Huddler Ranch,**	**74.55**	**52**	⇑	P		**P**	**01 13 54.7**	**-1.1**
	baz=74,SNR=6.9								
V30A	**Spur Ranch, Mi**	**74.60**	**54**	⇓	P		**P**	**01 13 55.8**	**-0.3**
	baz=74								
U31A	**Nine Bar Ranch**	**74.63**	**53**	⇓	P		**P**	**01 13 56.2**	**-0.1**
	baz=74								
X28A	**Dimmitt**	**74.64**	**56**	⇑	P		**P**	**01 13 56.3**	**-0.1**
	baz=74								
AMTX	**Amarillo**	**74.67**	**55**		*e*P		**P**	**01 13 57.4**	**+0.8**
	comp=Z,40nm,1.0s								
AMTX	**Amarillo**	**74.67**	**55**	⇑	P		**P**	**01 13 56.7**	**+0.1**
	baz=74								
JFWS	**Jewell Farm**	**74.69**	**43**		*e*P		**P**	**01 13 55.4**	**-1.0**
JFWS					pmax		pmax		
	comp=Z,24nm,1.0s								
JFWS					MLR		MLR		
	comp=Z,2μm,21.0s								
JFWS	**Jewell Farm**	**74.69**	**43**		*e*P		**P**	**01 13 55.4**	**-1.0**
	comp=Z,24nm,1.0s								
JFWS					LR		LR		
	comp=Z,2μm,21.0s								
MSTX	**Muleshoe**	**74.70**	**57**		*e*P		**P**	**01 13 57.2**	**+0.4**
	comp=Z,28nm,1.0s								
MSTX	**Muleshoe**	**74.70**	**57**	⇑	P		**P**	**01 13 56.7**	**-0.1**
	baz=74,SNR=13								
KTUT	**Trabzon**	**74.78**	**314**		*e*P		**P**	**01 13 55.9**	**-1.0**
IPIR	**Pirpir**	**74.78**	**301**		*e*P		**P**	**01 13 58.4**	**+0.8**
EZM	**Erzurum**	**74.78**	**312**		*e*P		**P**	**01 13 59.4**	**+2.0**
MNTX	**Cornudas Mount**	**74.78**	**60**		*e*P		**P**	**01 13 57.5**	**+0.3**
	comp=Z,38nm,1.5s								
MNTX					LR		LR		
	comp=Z,644nm,19.0s								
225A	**Deer Hill, Car**	**74.83**	**59**	⇑	P		**P**	**01 13 57.9**	**+0.2**
	baz=75,SNR=12								
MDO	**Dochfour**	**74.83**	**348**	⇑	*e*P		**P**	**01 13 56.5**	**-0.5**
KAC	**Achnashellach**	**74.91**	**348**	⇑	*e*P		**P**	**01 13 57.1**	**-0.3**
Z27A	**Tatum**	**74.92**	**58**	⇓	P		**P**	**01 13 57.7**	**-0.4**
	baz=75,SNR=34								
126A	**Clayton Basin,**	**74.92**	**58**	⇑	P		**P**	**01 13 57.8**	**-0.2**
	baz=75,SNR=7.3								
X29A	**Tulia**	**74.98**	**56**	⇑	P		**P**	**01 13 58.6**	**+0.3**
	baz=75,SNR=14								
IBND	**Bandar-abas**	**75.02**	**294**		*e*P		**P**	**01 13 59.4**	**+0.8**
KIS	**Kishinev**	**75.03**	**324**	α	*i*P		**P**	**01 13 58.0**	**-0.3**
KIS					*i*			01 16 48.0	
KIS					*e*PPP		PPP	01 18 29.0	
KIS					*e*S		**S**	**01 23 30.0**	**-3.5**
KIS					pmax		pmax		
	comp=Z,650nm,1.0s								
KIS					pmax		pmax		
	comp=Z,2μm,6.0s								
KIS					pmax		pmax		
	comp=Z,2μm,8.0s								
KIS					MLR		MLR		
	comp=N,4μm,16.0s								
KIS					MLR		MLR		
	comp=Z,5μm,16.0s								
KIS					MLR		MLR		
	comp=E,2μm,15.0s								
KIS					MLR		MLR		
	comp=Z,5μm,16.0s								
KIS	**Kishinev**	**75.03**	**324**	⇓	*i*P		**P**	**01 13 58.6**	**+0.3**
KIS	**Kishinev**	**75.03**	**324**	⇑	*i*P		**P**	**01 13 58.0**	**-0.3**
	comp=Z,700nm,1.0s								
KIS	**Kishinev**	**75.03**	**324**		*i* PP		PP	01 16 48.0	+2.3
GDL2	**Guadalupe Moun**	**75.03**	**59**		*e*P		**P**	**01 13 59.2**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**75.04**	**313**		*e*P		**P**	**01 14 00.3**	**+1.6**
Y28A	**McKinney Farm,**	**75.05**	**56**	⇑	P		**P**	**01 13 59.2**	**+0.4**
	baz=75

UZH eS S 01 23 40.1 -5.8
UZH ePS **PnS** **01 24 23.3 -2.4**
UZH MLR MLR
comp=N,2µm,14.0s
UZH MLR MLR
comp=E,2µm,14.0s
UZH MLR MLR
comp=Z,1µm,14.0s
NIE Niedzica 76.18 331 *i* P **P** **01 14 05.7 +0.8**
NIE epP **PcP** **01 14 16.7 -0.2**
NIE L L 01 51 36.0
comp=Z,2µm,18.9s
SVAN Silvan-Diyarba 76.18 311 *e*P **P** **01 14 06.2 +1.0**
129A Stewart Farms, 76.19 57 ⇑P **P** **01 14 05.0 -0.4**
baz=76,SNR=10
CRVS Cervenica-Dubn 76.22 330 *e*P **P** **01 14 05.3 +0.2**
CRVS pmax pmax
comp=Z,5µm,6.8s
CRVS Cervenica-Dubn 76.22 330 *e*P **P** **01 14 05.3 +0.2**
BANOM Banah 76.25 293 P **P** **01 14 06.5 +0.9**
SNR=97
BANOM P **P** **01 14 06.8 +1.1**
SNR=34
KSP Ksiaz 76.25 334⇑ *i*P **P** **01 14 05.4 +0.2**
KSP eS **S** **01 23 42.5 -4.4**
KSP MLR MLR
comp=Z,25µm,18.1s
KSP Ksiaz 76.25 334 *e*P **P** **01 14 05.5 +0.2**
KSP epP pP 01 14 10.8 -5.3
KSP LMZ LR 01 51 10.7
W33A Caddo, Fort Co 76.28 53 ⇑P **P** **01 14 06.0 +0.3**
baz=76,SNR=7.2
TESR Tescani 76.29 325⇑ *i*P **P** **01 14 05.6 +0.1**
V34A Guthrie 76.30 52 ⇓P **P** **01 14 05.5 -0.3**
baz=76,SNR=13
RAC Raciborz 76.31 332 *e*P **P** **01 14 06.2 +0.6**
RAC MLR MLR
comp=Z,3µm,20.2s
426A McDonald Obser 76.33 60 ⇑P **P** **01 14 06.3 0.0**
baz=76,SNR=16
X32A Elmer 76.36 54 ⇓P **P** **01 14 06.0 -0.1**
baz=76,SNR=12
WMOK Wichita Mounta 76.41 54 *e*P **P** **01 14 06.3 -0.2**
WMOK pmax pmax
comp=Z,19nm,0.9s
WMOK MLR MLR
comp=Z,971nm,20.0s
WMOK Wichita Mounta 76.41 54 *e*P **P** **01 14 06.3 -0.2**
comp=Z,18nm,0.9s
WMOK LR LR
comp=Z,971nm,20.0s
PGBU Glenifferbraes 76.42 347⇑ *e*P **P** **01 14 06.1 0.0**
RSDY Resadiye-TOKAT 76.43 315 *e*P **P** **01 14 08.0 +1.6**
DIKM Dikmen 76.45 317 *e*P **P** **01 14 08.4 +1.8**
TRPA Tarpa 76.49 329⇑ *i*P **P** **01 14 07.4 +0.8**
TRPA Tarpa 76.49 329⇑ *e*P **P** **01 14 07.4 +0.8**
TLCR 76.50 323 ⇓ *i*P **P** **01 14 07.3 +0.6**
ARMA Armidale 76.51 182 *e*P **P** **01 14 08.2 +1.3**
comp=Z,34nm,1.2s
KVT Kavak 76.52 316 *e*P **P** **01 14 08.9 +1.9**
BMR Baia Mare 76.53 328⇑ *i*P **P** **01 14 07.6 +0.7**
NRDL Niedersach Rie 76.53 338 *e*P **P** **01 14 07.1 +0.4**
comp=Z,98nm,0.9s
ILIC ilic-Erzincan 76.54 314 *e*P P 01 14 11.3 +4.1
OKC Ostrava-Krasne 76.54 332 *e*P **P** **01 14 07.3 +0.4**
OKC *e* 01 14 12.8
OKC eS **S** **01 23 53.8 +3.7**
OKC MLR MLR
comp=Z,3µm,19.4s
OKC Ostrava-Krasne 76.54 332⇑ *e*P **P** **01 14 07.3 +0.4**
OKC *ep*P **pP** **01 14 12.8 -4.9**
OKC *e*S **S** **01 23 53.8 +3.7**
OKC AMS AMS 01 52 20.0
comp=Z,3µm,19.4s
328A Wristen Ranch, 76.54 59 ⇓P **P** **01 14 07.7 +0.4**
baz=76,SNR=37
PTK Pertek 76.55 313 *e*P **P** **01 14 09.4 +2.0**
427A Hayter Ranch, 76.57 59 ⇑P **P** **01 14 07.7 +0.2**
baz=76,SNR=19
Y32A R-V Farms, Ver 76.58 55 ⇑P **P** **01 14 07.3 -0.1**
baz=76,SNR=7.9
UPC Upice 76.63 334 *e*P **P** **01 14 07.7 +0.3**
UPC Upice 76.63 334⇑ *e*P **P** **01 14 07.7 +0.3**
DPC Dobruska-Polom 76.67 333⇑ *i*P **P** **01 14 08.3 +0.6**
DPC *e*S **S** **01 23 53.6 +2.0**
DPC Dobruska-Polom 76.67 333⇑ *i*P **P** **01 14 08.3 +0.6**
DPC *e*S **S** **01 23 53.6 +2.0**
DPC AMS AMS 01 52 10.0
DPC Dobruska-Polom 76.67 333 *e*P **P** **01 14 08.4 +0.6**
EKA Eskdalemuir Ar 76.68 346 LR LR 01 53 44.0
comp=Z,1µm,18.2s,baz=15,slow=40
Z31A Sharp Cattle R 76.68 56 ⇑P **P** **01 14 07.8 -0.2**
baz=76,SNR=17
ESK Eskdalemuir 76.70 346 P **P** **01 14 09.7 +2.0**
comp=Z,251nm,1.2s,SNR=7.3
ESK Eskdalemuir 76.70 346 *e*P **P** **01 14 07.5 -0.2**
ESK pmax pmax
comp=Z,546nm,2.5s
ESK MLR MLR
comp=Z,2µm,19.0s
ESK Eskdalemuir 76.70 346⇑ *e*P **P** **01 14 07.3 -0.4**
ESK Eskdalemuir 76.70 346 *e*P **P** **01 14 07.5 -0.2**
comp=Z,546nm,2.5s
ESK LR LR
comp=Z,2µm,19.0s
PETR Petresti 76.70 324⇑ *i*P **P** **01 14 09.5 +1.7**
229A Bryant Ranch, 76.70 58 ⇓P **P** **01 14 08.4 +0.2**
baz=76,SNR=13
X33A Lawton 76.72 54 ⇑P **P** **01 14 08.0 -0.1**
baz=76
526A Mary Lane Ranc 76.73 60 ⇑P **P** **01 14 08.8 +0.3**
baz=76,SNR=27
130A Snyder 76.74 57 ⇑P **P** **01 14 08.5 +0.1**
baz=76
KRLC Kraliky 76.77 333⇑ *i*P **P** **01 14 08.6 +0.4**
KRLC *e* 01 14 14.1
KRLC Kraliky 76.77 333⇑ *i*P **P** **01 14 08.6 +0.4**
KRLC *ep*P **pP** **01 14 14.1 -5.0**
CFR Carcaliu 76.78 324⇑ *i*P **P** **01 14 08.5 +0.2**
MORC Moravsky Berou 76.79 332 *e*P **P** **01 14 08.8 +0.4**
MORC pmax pmax
comp=Z,110nm,0.9s
MORC Moravsky Berou 76.79 332⇑ *i*P **P** **01 14 08.9 +0.6**
MORC Moravsky Berou 76.79 332 *e*P **P** **01 14 08.8 +0.4**
comp=Z,110nm,0.9s
VRI Vrincioaia 76.79 325 ⇓ *i*P **P** **01 14 09.0 +0.6**
BZK Bozkurt 76.79 318 *e*P **P** **01 14 09.7 +1.3**
CLL Collm 76.81 336⇑ *i*P **P** **01 14 08.2 -0.2**
CLL *e* 01 14 20.0
CLL eS **S** **01 23 57.0 +4.0**
CLL pmax pmax
comp=Z,167nm,0.9s
CLL MLR MLR
comp=Z,3µm,18.0s
CLL Collm 76.81 336 *e*P **P** **01 14 08.4 0.0**
comp=Z,168nm,0.9s
CLL Collm 76.81 336⇑ *i*P **P** **01 14 08.2 -0.2**
comp=Z,167nm,0.9s
CLL *e* 01 14 14.0
CLL *e*PcP **PcP** **01 14 20.0 +0.5**
CLL *e*PP PP 01 16 54.0 -6.6
CLL *e*S **S** **01 23 57.0 +4.0**
CLL *e*SKSac **ScS** **01 24 26.0 +4.0**
CLL *e*(SS) 01 29 26.0
CLL *e*SSS SSS 01 32 12.0
CLL Lm MLR 01 54 00.0
comp=Z,3µm,18.0s
PLOR Plostina 76.83 325⇑ *i*P **P** **01 14 09.3 +0.6**
WBK Wadi Bani Khal 76.86 289 P **P** **01 14 11.3 +2.2**
SNR=32
WBK P **P** **01 14 11.5 +2.4**
SNR=28
DYBB Diyarbakir 76.88 312 *e*P **P** **01 14 10.9 +1.8**
BRG Berggiesshubel 76.93 335⇑ *i*P **P** **01 14 09.0 -0.1**
comp=Z,30nm,1.0s
BRG S **S** **01 23 59.0 +4.7**
BRG
comp=N,2µm,16.5s
BRG
comp=E,1µm,15.0s
BRG
comp=Z,3µm,13.6s
BRG Berggiesshubel 76.93 335 *e*P **P** **01 14 09.1 +0.1**
comp=Z,104nm,1.6s
329A Wagon Wheel Ra 76.95 58 ⇑P **P** **01 14 09.8 +0.1**
baz=77,SNR=17
527A Woodward Ranch 76.95 60 ⇓P **P** **01 14 09.6 -0.1**
baz=77,SNR=24
SVSK Karacayir 76.96 315 *e*P **P** **01 14 11.3 +2.0**
UOSS Wadi Hilu 77.00 292 P **P** **01 14 10.3 +0.4**
comp=Z,1µm,1.1s,SNR=77
131A Roby 77.01 56 ⇑P **P** **01 14 09.8 -0.1**
baz=77,SNR=7.5
Y33A Hilltop Ranch, 77.04 54 ⇓P **P** **01 14 09.6 -0.4**
baz=77,SNR=6.1
X34A Smith Ranch, M 77.04 53 ⇑P **P** **01 14 10.3 +0.3**
baz=77,SNR=8.7
PVCC Panska Ves 77.05 334 *e*P **P** **01 14 10.1 +0.4**
PVCC *e* 01 14 15.7
PVCC *e*S S 01 24 01.8 +6.2
PVCC MLR MLR
comp=Z,3µm,18.0s
PVCC Panska Ves 77.05 334⇓ *e*P **P** **01 14 10.1 +0.4**
PVCC *ep*P **pP** **01 14 15.7 -4.9**
PVCC *e*S S 01 24 01.8 +6.2
PVCC AMS AMS 01 51 20.0
comp=Z,3µm,18.0s
CLZ Clausthal 77.06 337 *e*P **P** **01 14 10.5 +0.7**
comp=Z,190nm,1.0s
626A Big Bend Ranch 77.07 61 ⇑P **P** **01 14 10.4 +0.1**
baz=77,SNR=34
Z32A Haskell 77.07 55 ⇑P **P** **01 14 09.9 -0.3**
baz=77,SNR=9.9
428A Kincaid Ranch, 77.09 59 ⇓P **P** **01 14 10.9 +0.5**
baz=77,SNR=17
MAZI Mazidag 77.09 311 *e*P **P** **01 14 11.9 +1.6**
SMDO Samad 77.14 290 P **P** **01 14 12.3 +1.4**
SNR=23
SMDO P **P** **01 14 12.5 +1.6**
SNR=19
230A Sterling City 77.17 57 ⇓P **P** **01 14 10.8 -0.1**
baz=77
TUL1 Tulsa 77.18 51 *e*P **P** **01 14 09.7 -1.0**
comp=Z,31nm,1.1s
TUL1 Tulsa 77.18 51 ⇓P **P** **01 14 10.4 -0.3**
baz=77,SNR=8.0
COCO West Island 77.20 237 PFAKE
COCO LR LR
comp=Z,691nm,19.0s
DOPR Dopca 77.23 326⇓ *i*P **P** **01 14 11.8 +0.9**
HOQ Hoqain 77.25 291 P **P** **01 14 12.2 +0.9**
SNR=53
HOQ P **P** **01 14 12.5 +1.2**
SNR=55
TIRR Tirgusor 77.25 323 *e*P **P** **01 14 11.1 +0.1**
TIRR pmax pmax
comp=Z,135nm,1.0s
TIRR Tirgusor 77.25 323 *e*P **P** **01 14 11.1 +0.1**
comp=Z,135nm,1.0s
HARR Harsova 77.26 323⇑ *i*P **P** **01 14 11.7 +0.7**
ASHO Ashiyiah 77.28 292 P **P** **01 14 12.5 +1.0**
SNR=29
CJR Cluj-Napoca 77.30 327⇓ *i*P **P** **01 14 12.1 +0.8**
IBBN Ibbenburen 77.30 339 *e*P **P** **01 14 11.6 +0.5**
comp=Z,198nm,1.0s
TLB Topalu 77.30 323⇑ *i*P **P** **01 14 11.8 +0.6**
TLB Topalu 77.30 323⇑ *i*P **P** **01 14 12.4 +1.2**
GAL1 Galloway 77.37 347 *e*P **P** **01 14 11.2 -0.2**
GAL1 AMB AMB 01 14 11.4
comp=Z,112nm,1.9s
KESW Keswick, Cumbr 77.38 346⇑ *e*P **P** **01 14 11.8 +0.3**
KESW AMB AMB 01 14 15.5
comp=Z,142nm,1.0s
KBSD Kabsdagh 77.39 311 *e*P **P** **01 14 13.2 +1.2**
MLR Muntele Rosu 77.41 325⇑ *i*P **P** **01 14 12.4 +0.4**
528A Cox Ranch, San 77.44 59 ⇑P **P** **01 14 12.9 +0.5**
baz=77
PGOR Pogoanele 77.47 324⇑ *i*P **P** **01 14 13.7 +1.5**
ISR Istrita 77.48 324⇑ *i*P **P** **01 14 13.3 +1.0**
MDB Medias 77.48 326⇑ *i*P **P** **01 14 13.4 +1.2**
ABTX Abilene, Hawle 77.48 56 *e*P **P** **01 14 12.4 0.0**
comp=Z,18nm,0.9s
ABTX Abilene, Hawle 77.48 56 ⇓P **P** **01 14 12.5 0.0**
baz=77,SNR=9.9
330A Mertzon 77.48 58 ⇓P **P** **01 14 12.3 -0.2**
baz=77,SNR=14
Z33A Whitaker Ranch 77.49 55 ⇑P **P** **01 14 12.0 -0.5**
baz=77
PRA Prague 77.49 334 ⇑P **P** **01 14 13.0 +0.8**
VRAC Vranov 77.50 333⇑ *i*P **P** **01 14 13.0 +0.7**
TXAR Lajitas Array 77.51 61 P **P** **01 14 13.0 +0.2**
TXAR PKKPbc **PKKPbc** **01 33 15.9 +1.6**
TXAR Lajitas Array 77.51 61 P **P** **01 14 13.0 +0.2**
comp=Z,31nm,0.9s,baz=294,slow=3.7,SNR=207
TXAR PKKPbc **PKKPbc** **01 33 15.9 +1.6**
comp=Z,0.3nm,0.8s,baz=134,slow=5.4,SNR=4.6
TOS Tosya 77.51 318 *e*P **P** **01 14 13.8 +1.2**
PRU Pruhonice 77.53 334⇑ *i*P **P** **01 14 12.7 +0.2**
PRU *e* 01 14 17.7
PRU eS **S** **01 23 59.3 -1.6**
PRU MLR MLR
comp=Z,4µm,17.8s
PRU Pruhonice 77.53 334⇑ *i*P **P** **01 14 12.7 +0.2**
PRU *ep*P pP 01 14 17.7 -5.6
PRU eS **S** **01 23 59.3 -1.6**
PRU AMS AMS 01 52 10.0
comp=Z,4µm,17.8s
DRGR 77.56 328⇑ *i*P **P** **01 14 12.8 0.0**
Y34A Reagan Ranch, 77.56 54 ⇑P **P** **01 14 12.6 -0.3**
baz=77,SNR=12
AMRR Amara 77.57 324⇓ *i*P **P** **01 14 14.1 +1.4**
627A Terlingua Ranc 77.59 60 ⇑P **P** **01 14 13.7 +0.4**
baz=77,SNR=23
JMDO Jabal Madar 77.59 289 P **P** **01 14 14.7 +1.4**
SNR=36
231A Bronte 77.60 57 ⇑P **P** **01 14 12.8 -0.4**
baz=77,SNR=11
PSZ Piszkesteto 77.61 330 *e*P **P** **01 14 13.5 +0.5**
PSZ pmax pmax
comp=Z,79nm,0.8s
PSZ MLR MLR
comp=Z,4µm,19.0s
PSZ Piszkesteto 77.61 330⇑ *i*P **P** **01 14 13.6 +0.5**
PSZ Piszkesteto 77.61 330 *e*P **P** **01 14 13.5 +0.5**
comp=Z,79nm,0.8s
PSZ LR LR
comp=Z,4µm,19.0s
PSZ Piszkesteto 77.61 330⇑ *e*P **P** **01 14 13.7 +0.7**
429A Davenport Ranc 77.63 59 ⇑P **P** **01 14 13.3 -0.2**
baz=77,SNR=11
HPK Haverah Park 77.73 345⇑ *e*P **P** **01 14 13.6 +0.1**
HPK AMB AMB 01 14 13.8
comp=Z,210nm,2.3s
SECR 77.74 325⇑ *i*P **P** **01 14 14.9 +1.2**
DARE Darende-Malaty 77.75 314 *e*P **P** **01 14 16.1 +2.0**
TANN Tannenbergstha 77.77 336 *e*P **P** **01 14 14.1 +0.3**
comp=Z,46nm,1.2s
MSAB Monastry St. A 77.80 323⇑ *i*P **P** **01 14 15.0 +1.0**
529A Stev Forest Ra 77.80 59 ⇓P **P** **01 14 14.6 +0.3**
baz=78,SNR=18
WTSB Winterswijk 77.85 340 *i* P **P** **01 14 14.3 +0.2**
comp=Z,193nm,0.9s
TREC Trest 77.86 333 *e*P **P** **01 14 14.6 +0.3**
TREC *e*S **S** **01 24 03.9 -0.6**
TREC MLR MLR
comp=Z,4µm,17.3s
TREC Trest 77.86 333⇑ *e*P **P** **01 14 14.6 +0.3**
TREC *e*S **S** **01 24 03.9 -0.6**
TREC AMS AMS 01 53 00.0
comp=Z,4µm,17.3s
628A Black Gap, Mar 77.86 60 ⇑P **P** **01 14 15.1 +0.3**
baz=78,SNR=12
CORM Corum 77.90 317 *e*P **P** **01 14 16.8 +1.9**
430A Baggett Ranch, 77.90 58 ⇓P **P** **01 14 14.7 -0.2**
baz=78,SNR=24
133A Hamilton Ranch 77.90 55 P **P** **01 14 14.6 -0.3**
baz=78
Z34A Collier Ranch, 77.91 54 ⇓P **P** **01 14 14.3 -0.5**
baz=78,SNR=8.9
NKC Novy Kostel 77.93 336⇑ *i*P **P** **01 14 15.0 +0.3**
NKC *e* 01 14 19.5
NKC Novy Kostel 77.93 336⇑ *i*P **P** **01 14 15.0 +0.3**
NKC *ep*P PcP 01 14 19.5 -4.9
ARQ Araqi 77.93 291 P **P** **01 14 16.3 +1.2**
SNR=48
URFA Urfa 77.94 312 *e*P **P** **01 14 14.4 -0.7**
SULR 77.96 324⇑ *i*P **P** **01 14 15.5 +0.6**
SAFT Safranbolu 77.97 318 *e*P **P** **01 14 16.5 +1.5**
MTUR Matau 77.98 325⇓ *i*P **P** **01 14 15.8 +0.7**
PSN Preselentsi 77.98 323⇓ *i*P **P** **01 14 16.4 +1.4**
331A San Angelo 77.99 57 ⇓P **P** **01 14 15.0 -0.4**
baz=78,SNR=15
232A Coleman 78.02 56 ⇑P **P** **01 14 15.5 -0.1**
baz=78,SNR=11
ARR Arges 78.03 326⇑ *i*P **P** **01 14 16.6 +1.2**
CANT Cankiri 78.04 317 *e*P **P** **01 14 15.9 +0.4**
SFNV Sufian 78.06 311 *e*P **P** **01 14 16.8 +1.1**
UBBA Unterbreizbach 78.08 337 *e*P **P** **01 14 15.7 +0.3**
comp=Z,124nm,1.6s
SFIN Scholer Farm 78.14 43 *e*P **P** **01 14 15.3 -0.6**
comp=Z,31nm,0.9s
SFIN Scholer Farm 78.14 43 ⇑P **P** **01 14 15.4 -0.6**
baz=78,SNR=9.7
LHO Holmfirth 78.17 345⇑ *e*P **P** **01 14 15.5 -0.4**
AAM Ann Arbor 78.17 39 *e*P **P** **01 14 16.0 -0.1**
AAM pmax pmax
comp=Z,33nm,0.9s
AAM MLR MLR
comp=Z,1µm,19.0s
AAM Ann Arbor 78.17 39 *e*P **P** **01 14 16.0 -0.1**
comp=Z,33nm,0.9s
AAM LR LR
comp=Z,1µm,19.0s
BUG Bochum--Univer 78.22 339 *e*P **P** **01 14 16.5 +0.3**
comp=Z,181nm,1.0s
MZRK Al-Mazaregh 78.22 310 *e*P **P** **01 14 17.9 +1.4**
BAPR Bucharest-Chil 78.24 324⇓ *i*P **P** **01 14 17.5 +1.1**
BUC Bucharest 78.24 324⇓ *i*P **P** **01 14 17.2 +0.8**
DEV Deva 78.25 327⇓ *i*P **P** **01 14 17.5 +1.0**
BUD Budapest 78.28 330⇑ *e*P **P** **01 14 17.5 +0.9**
LOT Lotru 78.29 326⇓ *i*P **P** **01 14 17.1 +0.2**
CIOR Ciorangarla 78.30 325⇓ *i*P **P** **01 14 17.3 +0.5**
530A J-C Ranch, Com 78.31 59 ⇑P **P** **01 14 17.6 +0.4**
baz=78,SNR=19
Z35A Perchaven, San 78.31 54 ⇑P **P** **01 14 16.2 -0.9**
baz=78,SNR=5.2
332A Millersview 78.33 57 ⇑P **P** **01 14 17.5 +0.2**
baz=78,SNR=21
GOLR 78.34 325⇑ *i*P **P** **01 14 17.1 +0.1**
431A Sonora 78.34 58 ⇓P **P** **01 14 17.0 -0.4**
baz=78,SNR=18
BNN Bunyan 78.35 315 *e*P **P** **01 14 16.4 -0.9**
233A Rising Star 78.35 56 ⇑P **P** **01 14 17.4 0.0**
baz=78,SNR=5.7
SIRR Siria 78.39 328⇑ *i*P **P** **01 14 17.8 +0.5**
KBI1 Birley Grange 78.39 345⇑ *e*P **P** **01 14 16.7 -0.5**
134A White-Moore Ra 78.40 55 ⇓P **P** **01 14 17.6 0.0**
baz=78,SNR=7.1
ROTZ Rotzenmuhle 78.42 335 *e*P **P** **01 14 18.1 +0.7**
comp=Z,99nm,0.9s
PKSN Nyarlorinc 78.49 329⇑ *e*P **P** **01 14 18.6 +0.8**
PKSG 78.58 331⇑ *e*P **P** **01 14 19.1 +0.8**
KHC Kasperske Hory 78.58 334⇑ *i*P **P** **01 14 18.9 +0.6**
KHC *e* 01 14 30.0
KHC eS S 01 24 18.0 +5.6
KHC MLR MLR
comp=Z,3µm,18.6s
KHC Kasperske Hory 78.58 334⇑ *i*P **P** **01 14 18.9 +0.6**
KHC *ep*P **PcP** **01 14 24.6 -2.7**
KHC *e*PCP **pP** **01 14 30.0 +0.7**
KHC eS S 01 24 18.0 +5.6
KHC AMS AMS 01 52 30.0
comp=Z,3µm,18.6s
KHC Kasperske Hory 78.58 334 *e*P **P** **01 14 19.0 +0.6**
comp=Z,103nm,0.8s
HUMR Humele 78.59 325⇑ *i*P **P** **01 14 18.3 -0.1**
PKS7 Kunszentmiklos 78.61 330⇑ *e*P **P** **01 14 19.0 +0.5**
CSKK Cs˘ˇkako 78.65 331⇑ *e*P **P** **01 14 19.4 +0.7**
STKA Stephens Creek 78.67 190 *e*P **P** **01 14 18.6 -0.1**
comp=Z,2.9nm,1.0s
STKA Stephens Creek 78.67 190 P **P** **01 14 18.8 0.0**
comp=Z,11nm,0.9s,baz=349,slow=6.6,SNR=14
STKA LR LR 01 48 40.2
comp=Z,622nm,20.0s,baz=9.7,slow=35
432A Menard 78.68 57 ⇑P **P** **01 14 18.9 -0.3**
baz=78,SNR=20
BRTR Keskin Array B 78.72 317 P **P** **01 14 20.1 +0.7**
BRTR PP **PP** **01 17 16.7 -0.5**
BRTR Keskin Array B 78.72 317 P **P** **01 14 20.1 +0.7**
comp=Z,65nm,1.0s,baz=60,slow=2.7,SNR=134
BRTR PP **PP** **01 17 16.7 -0.5**
comp=Z,11nm,0.9s,baz=53,slow=6.2,SNR=5.9
BRTR LR LR 01 55 11.1
comp=Z,2µm,18.2s,baz=38,slow=40
531A Rocksprings 78.76 58 ⇑P **P** **01 14 19.5 -0.2**
baz=79,SNR=22
GRF Gronfaerg Arr 78.77 336 *e*P **P** **01 14 20.2 +0.9**
comp=Z,271nm,1.0s
135A Vickery Place, 78.79 54 ⇑P **P** **01 14 19.3 -0.4**
baz=79,SNR=5.5
234A Clairette 78.79 55 ⇑P **P** **01 14 19.6 -0.2**
baz=79,SNR=7.6
WPM1 Penmaenmawr 78.80 346⇑ *e*P **P** **01 14 18.7 -0.7**
GEC2 GERESS Array S 78.80 334 *e*P **P** **01 14 19.9 +0.3**
comp=Z,62nm,1.0s
GERES GERESS Array B 78.80 334 P **P** **01 14 19.4 -0.2**
GERES GERESS Array B 78.80 334 P **P** **01 14 19.4 -0.2**
comp=Z,50nm,0.9s,baz=35,slow=4.9,SNR=109
GERES LR LR 01 52 55.9
comp=Z,4µm,18.1s,baz=24,slow=39
333A Richland Sprin 78.81 56 ⇓P **P** **01 14 19.6 -0.3**
baz=79,SNR=15
PKST T˜˜s 78.81 331⇑ *e*P **P** **01 14 20.0 +0.4**
WLF1 Llynfaes 78.84 347 *e*P **P** **01 14 21.6 +2.0**
KMRS Kahramanmaras 78.87 313 *e*P **P** **01 14 21.7 +1.6**
SOP Sopron 78.93 332⇑ *e*P **P** **01 14 21.2 +1.0**
CONA Conrad Observa 78.94 332 *i* pP **P** **01 14 21.3 +0.9**
comp=Z,102nm,0.8s,SNR=77
BZS Buzias 78.96 328⇑ *i*P **P** **01 14 20.3 -0.1**
JCT Junction City 78.96 57 *e*P **P** **01 14 20.7 -0.1**
JCT pmax pmax
comp=Z,42nm,1.0s
JCT MLR MLR
comp=Z,1µm,20.0s
JCT Junction City 78.96 57 *e*P **P** **01 14 20.7 -0.1**
comp=Z,42nm,1.0s
JCT LR LR
comp=Z,1µm,20.0s
JCT Junction City 78.96 57 ⇓P **P** **01 14 20.6 -0.1**
baz=79,SNR=16
LOD Lodumlu 79.00 318 *e*P **P** **01 14 22.3 +1.4**
ANTO Ankara 79.01 318 *e*P **P** **01 14 22.0 +1.1**
ANTO pmax pmax
comp=Z,242nm,1.6s
ANTO MLR MLR
comp=Z,1µm,20.0s
ANTO Ankara 79.01 318⇑ *i*P **P** **01 14 22.0 +1.1**
ANTO Ankara 79.01 318 *e*P **P** **01 14 22.0 +1.1**
comp=Z,242nm,1.6s
ANTO LR LR
comp=Z,1µm,20.0s
FOEL Foel Wylfa 79.03 346 *e*P **P** **01 14 20.3 -0.4**
TNS Taunus Mts 79.03 338 *e*P **P** **01 14 21.3 +0.5**
comp=Z,132nm,0.9s
ZIMR 79.16 324⇑ *i*P **P** **01 14 21.5 0.0**
532A Rocksprings 79.16 58 ⇑P **P** **01 14 21.6 -0.3**
baz=79,SNR=24
HGN Heimansgroeve 79.17 340 *i* P **P** **01 14 21.7 +0.3**
comp=Z,245nm,1.2s
HGN *e*S **S** **01 24 16.2 -2.2**
433A Art 79.17 57 ⇓P **P** **01 14 21.6 -0.3**
baz=79,SNR=21
WHTX Lake Whitney 79.19 55 *e*P **P** **01 14 21.9 0.0**
comp=Z,31nm,0.9s
WHTX Lake Whitney 79.19 55 ⇑P **P** **01 14 21.8 0.0**
baz=79,SNR=12
DSB Dublin 79.19 348 *e*P **P** **01 14 21.5 0.0**
comp=Z,36nm,0.8s
BEBN Eben Emael 79.20 340 P **P** **01 14 21.8 +0.2**
comp=Z,74nm,1.1s
SIUC Southern Illin 79.20 46 *e*P **P** **01 14 22.1 +0.2**
comp=Z,57nm,0.9s
AFSR Af˙ar-Bala (A 79.21 317 *e*P **P** **01 14 23.3 +1.2**
334A Lometa 79.23 56 ⇓P **P** **01 14 22.1 -0.1**
baz=79,SNR=23
SZH Strazhica 79.25 324 *i* P **P** **01 14 22.0 -0.1**
MDUB Mudurnu 79.26 319 *e*P **P** **01 14 23.4 +1.1**
MEM Membach 79.29 340 P **P** **01 14 22.2 +0.1**
comp=Z,158nm,1.1s
MEM Membach 79.29 340 *e*P **P** **01 14 22.6 +0.5**
MEM pmax pmax
comp=Z,266nm,1.0s
MEM Membach 79.29 340 *e*P **P** **01 14 22.6 +0.5**
comp=Z,266nm,1.0s
631A Perdido Creek 79.29 59 ⇑P **P** **01 14 22.5 0.0**
baz=79,SNR=48

PKS9 **Tamasi** 79.31 330⇑ *e*P P 01 14 22.2 -0.1
PBMO **Poplar Bluff** 79.33 47 *e*P P 01 14 22.3 -0.3
comp=Z,46nm,1.0s
BANR **Banloc** 79.34 328⇑ *i*P P 01 14 22.5 0.0
BLO **Bloomington** 79.36 43 *e*P P 01 14 22.4 -0.3
BLO pmax pmax
comp=Z,27nm,0.9s
BLO **Bloomington** 79.36 43 *e*P P 01 14 22.4 -0.3
comp=Z,27nm,0.9s
MIAR **Mount Ida** 79.40 51 *e*P P 01 14 22.2 -0.8
MIAR pmax pmax
comp=Z,41nm,1.2s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR **Mount Ida** 79.40 51 *e*P P 01 14 22.2 -0.8
comp=Z,41nm,1.2s
MIAR LR LR
comp=Z,2µm,20.0s
SILT **Sile** 79.41 320 *e*P P 01 14 22.6 -0.4
KOZT **Kozan** 79.42 314 *e*P P 01 14 24.7 +1.6
SPNC **Sapanca-Adapaz** 79.49 320 *e*P P 01 14 23.1 -0.3
JHLN **Al Jahlan** 79.50 311 *e*P P 01 14 26.7 +3.1
PKSM **Moragy** 79.51 330⇓ *i*P P 01 14 23.7 +0.3
PKSM **Moragy** 79.51 330⇓ *e*P P 01 14 23.1 -0.3
MOA **Molln** 79.52 333 *i* pP P 01 14 23.9 +0.4
comp=Z,87nm,0.9s,SNR=44
NIG **Nigde** 79.53 315 *e*P P 01 14 25.1 +1.1
RAR **Rarotonga** 79.56 136 PFAKE 01 14 40.0 +16
RAR LR LR
comp=Z,3µm,21.0s
KLYT **Kilyos** 79.59 321 *e*P P 01 14 26.7 +2.7
434A **Burnet** 79.60 56 ⇓P P 01 14 23.8 -0.4
baz=79,SNR=8.4
BCLA **Clavier** 79.64 340 P P 01 14 24.3 +0.3
comp=Z,94nm,1.1s
ARSA **Arzberg** 79.65 332 *i* pP P 01 14 24.9 +0.7
comp=Z,67nm,1.0s,SNR=45
JMB **Yambol** 79.65 323 P P 01 14 25.4 +1.2
JMB **Yambol** 79.65 323 P P 01 14 25.4 +1.2
JMB **Yambol** 79.65 323 ⇓*i*P P 01 14 25.5 +1.2
JMB **Yambol** 79.65 323 P P 01 14 25.4 +1.2
HRT **Hereke** 79.67 320 *e*P P 01 14 25.6 +1.1
632A **Uvalde** 79.69 58 ⇓P P 01 14 25.1 +0.4
baz=80,SNR=23
533A **Kerrville** 79.71 57 ⇓P P 01 14 24.9 0.0
baz=80,SNR=8.9
ISK **Istanbul-Kandi** 79.74 321 *e*P P 01 14 22.6 -2.2
CTYL **Yal??k??y-??at** 79.74 321 *e*P P 01 14 24.6 -0.1
PARMO **Parma** 79.76 47 *e*P P 01 14 24.9 0.0
BGKT **Bogazkoy** 79.77 321 *e*P P 01 14 22.1 -2.8
USIN **University of** 79.77 45 *e*P P 01 14 25.0 0.0
comp=Z,52nm,0.9s
SNF **Seneffe** 79.79 341 P P 01 14 25.1 +0.3
CEYT **Ceyhan** 79.83 314 *e*P P 01 14 25.1 -0.2
CTKS **Kestanelik-??a** 79.84 321 *e*P P 01 14 25.1 -0.1
MCH1 **Michaelchurch** 79.86 345⇑ *e*P P 01 14 24.4 -0.8
MCH1 AMB AMB 01 14 28.6
comp=Z,111nm,1.1s
ELSH **Elham, Standar** 79.88 343 *e*P P 01 14 24.6 -0.7
ELSH AMB AMB 01 14 29.0
comp=Z,164nm,0.9s
UALR **University of** 79.88 50 *e*P P 01 14 25.7 +0.1
comp=Z,50nm,1.5s
ERPA **Erie** 79.90 37 *e*P P 01 14 25.4 -0.2
comp=Z,64nm,1.2s
ERPA LR LR
comp=Z,2µm,19.0s
STRD **Stroud** 79.92 345⇑ *e*P P 01 14 25.8 +0.3
STRD AMB AMB 01 14 29.4
comp=Z,160nm,1.0s
BEHE **Becsehely** 79.92 331⇑ *e*P P 01 14 26.0 +0.3
LPW **Lampeter** 79.93 346⇑ *e*P P 01 14 25.2 -0.4
SVRH **Sivrihisar-ESK** 79.93 318 *e*P P 01 14 26.5 +0.5
LONY **Lake Ozonia** 79.94 33 PFAKE 01 14 40.0 +14
LONY LR LR
comp=Z,2µm,19.0s
PHSR **Pinarhisar** 79.94 322 *e*P P 01 14 28.7 +2.9
MONM **Monmouth** 79.97 345⇑ *e*P P 01 14 25.6 -0.2
MONM AMB AMB 01 14 27.3
comp=Z,111nm,1.0s
KARA **Karaisali** 79.98 314 *e*P P 01 14 26.1 0.0
GIVF **Givet** 80.05 340⇑ *i*P P 01 14 26.4 +0.2
comp=Z,155nm,1.2s
GIVF **Givet** 80.05 340⇑ *i*P P 01 14 26.4 +0.2
GIVF pmax pmax
comp=Z,155nm,1.2s
GIVF **Givet** 80.05 340⇑ *i*P P 01 14 26.4 +0.2
comp=Z,155nm,1.2s
534A **Blanco** 80.07 57 ⇑P P 01 14 26.6 -0.1
baz=80,SNR=25
633A **Saathoff Ranch** 80.08 58 ⇓P P 01 14 27.2 +0.4
baz=80,SNR=6.5
CAVI **Cavuskoy** 80.09 320 *e*P P 01 14 27.7 +1.0
EDRB **Edirne** 80.09 322 *e*P P 01 14 25.1 -1.5
OLDB **Oldbury-Upon-S** 80.10 345 *e*P P 01 14 26.2 -0.3
DOU **Dourbes** 80.11 340 P P 01 14 26.7 +0.2
comp=Z,35nm,1.4s
SWN1 **Swindon** 80.11 345⇑ *e*P P 01 14 27.1 +0.6
SWN1 AMB AMB 01 14 29.2
comp=Z,242nm,1.1s
FUR **Furstenfeldbru** 80.13 335 *e*P P 01 14 27.5 +0.7
comp=Z,218nm,1.0s
WLF **Walferdange** 80.13 339 P P 01 14 27.7 +1.0
comp=Z,39nm,1.6s
WLF **Walferdange** 80.13 339 *e*P P 01 14 27.5 +0.7
WLF pmax pmax
comp=Z,39nm,0.9s
WLF MLR MLR
comp=Z,2µm,20.0s
WLF **Walferdange** 80.13 339 *e*P P 01 14 27.4 +0.7
comp=Z,37nm,1.0s
WLF **Walferdange** 80.13 339 *e*P P 01 14 27.4 +0.7
comp=Z,39nm,0.9s
WLF LR LR
comp=Z,2µm,20.0s
ACSO **Alum Creek Sta** 80.14 40 *e*P P 01 14 26.8 -0.2
comp=Z,43nm,1.0s
ACSO LR LR
comp=Z,2µm,19.0s
732A **Laxson Ranch,** 80.15 59 ⇑P P 01 14 27.8 +0.5
baz=80,SNR=10
STU **Stuttgart** 80.16 337 *e*P P 01 14 27.1 +0.2
STU pmax pmax
comp=Z,128nm,0.9s
STU **Stuttgart** 80.16 337 *e*P P 01 14 27.4 +0.5
comp=Z,161nm,1.0s
STU **Stuttgart** 80.16 337 *e*P P 01 14 27.1 +0.2
comp=Z,128nm,0.9s
GNAR **Gosnell** 80.17 47 *e*P P 01 14 27.6 +0.5
comp=Z,1µm,1.1s
HGH **Gray Hill** 80.17 345⇑ *e*P P 01 14 25.7 -1.2
WOL **Wolverton** 80.19 344⇑ *e*P P 01 14 27.0 0.0
WOL AMB AMB 01 14 31.2
comp=Z,120nm,1.2s
FORT **Forrest** 80.19 202 *e*P P 01 14 27.7 +0.7
comp=Z,98nm,1.0s
ALLY **Alegheny Colle** 80.22 38 *e*P P 01 14 27.4 0.0
comp=Z,45nm,0.9s
MENF **Mencas** 80.22 342 *e*P P 01 14 27.5 +0.3
WCI **Wyandotte Cave** 80.22 44 *e*P P 01 14 27.0 -0.5
WCI pmax pmax
comp=Z,44nm,0.9s
WCI **Wyandotte Cave** 80.22 44 *e*P P 01 14 27.0 -0.5
comp=Z,44nm,0.9s
BAIF **Baives** 80.23 340⇑ *i*P P 01 14 27.6 +0.4
comp=Z,111nm,1.1s
BAIF **Baives** 80.23 340⇑ *i*P P 01 14 27.6 +0.4
BAIF pmax pmax
comp=Z,111nm,1.1s
BAIF **Baives** 80.23 340⇑ *i*P P 01 14 27.6 +0.4
comp=Z,111nm,1.1s
BTCH **Batrach** 80.23 313 *e*P P 01 14 28.1 +0.5
MMNY **Mt. Morris Dam** 80.25 36 *e*P P 01 14 27.1 -0.4
comp=Z,115nm,1.1s
CRLT **Corlu** 80.26 321 *e*P P 01 14 28.2 +0.6
HMNX **Herstmonceux** 80.31 343⇑ *e*P P 01 14 28.2 +0.6
HMNX AMB AMB 01 14 31.0
comp=Z,221nm,1.6s
SOKA **Soboth** 80.31 332 *i* pP P 01 14 28.1 +0.3
comp=Z,134nm,0.8s,SNR=113
PERS **Pernice** 80.32 332 *i*P P 01 14 28.1 +0.2
LANF **Langenberg** 80.34 338 *e*P P 01 14 28.2 +0.3
MDNY **Mudanya-Bursa** 80.38 320 *e*P P 01 14 28.7 +0.5
BBOO **Buckleboo** 80.42 195 *e*P P 01 14 28.1 -0.1
comp=Z,2µm,1.8s

UTMT **University of** 80.45 46 *e*P P 01 14 29.3 +0.6
comp=Z,98nm,1.0s
832A **Faith Ranch, C** 80.48 59 ⇑P P 01 14 29.1 +0.1
baz=80,SNR=16
KBA **Koelnbreinsper** 80.49 334 *i* pP P 01 14 29.6 +0.7
comp=Z,318nm,1.0s,SNR=170
LADK **Ladik-KONYA** 80.54 317 *e*P P 01 14 30.0 +0.7
MERS **Mersin** 80.55 315 *e*P P 01 14 26.1 -3.2
733A **Divot King Ran** 80.56 58 ⇓P P 01 14 29.7 +0.3
baz=80
PGB **Panagyurishte** 80.57 324 *i*P P 01 14 30.0 +0.7
OBKA **Obir** 80.62 333 *i* pP P 01 14 29.5 -0.1
comp=Z,45nm,0.8s,SNR=19
NCB **Newcomb** 80.63 33 *e*P P 01 14 28.4 -1.2
comp=Z,15nm,0.9s
NCB LR LR
comp=Z,2µm,19.0s
WRDH **Warideh** 80.67 313 *e*P P 01 14 32.9 +2.9
KCTX **Karacabey (Bur** 80.70 321 *e*P P 01 14 30.6 +0.7
STR **Strasbourg** 80.72 338 *e*P P 01 14 30.5 +0.6
PLD **Plovdiv** 80.72 324 P P 01 14 30.4 +0.4
PLD **Plovdiv** 80.72 324 P P 01 14 30.4 +0.4
PLD **Plovdiv** 80.72 324 P P 01 14 30.4 +0.4
KONT **Konya--Tatoy** 80.74 317 *e*P P 01 14 30.9 +0.6
PMOR **Pomariorio Ree** 80.75 123 *e*T T 02 43 11.9
comp=Z,31nm,0.2s
WATA **Walderalm** 80.79 335 *i* pP P 01 14 31.3 +0.8
comp=Z,152nm,0.8s,SNR=47
833A **Chaparral WMA,** 80.79 59 ⇓P P 01 14 31.2 +0.5
baz=81
MYKA **Terra Mystica** 80.80 333 *i* pP P 01 14 30.3 -0.1
comp=Z,66nm,1.0s,SNR=24
BFO **Black Forest** 80.80 337 P P 01 14 30.3 -0.1
comp=Z,755nm,0.9s,SNR=82
BFO **Black Forest** 80.80 337 *i*P P 01 14 30.5 +0.1
BFO **Black Forest** 80.80 337 *e*P P 01 14 30.7 +0.3
comp=Z,131nm,1.1s
BFO **Black Forest** 80.80 337 *e*P P 01 14 30.5 +0.1
comp=Z,139nm,1.0s
BFO LR LR
comp=Z,2µm,20.0s
KDZ **Kurdzhali** 80.81 323⇑ *i*P P 01 14 31.5 +1.0
WTTA **Wattenberg** 80.84 335 *i* pP P 01 14 31.7 +0.9
comp=Z,273nm,0.9s,SNR=103
EDC **Edincik** 80.85 321 *e*P P 01 14 31.7 +1.0
DIVS **Divibare** 80.86 328 P P 01 14 30.4 -0.4
RKY **Sarkoy-Tekirda** 80.86 322 *e*P P 01 14 31.5 +0.6
TVSB **Tavsanli** 80.87 319 *e*P P 01 14 31.8 +0.8
RETA **Reutte** 80.89 335 *i* pP P 01 14 31.5 +0.6
comp=Z,128nm,1.1s,SNR=54
HEX **Exmoor** 80.89 346⇑ *e*P P 01 14 31.0 +0.2
734A **La Parita Cree** 80.90 58 ⇓P P 01 14 31.6 +0.4
baz=81
ALT **Altintas** 80.90 319 *e*P P 01 14 31.5 +0.4
VTS **Vitosha** 80.91 325 P P 01 14 31.7 +0.4
VTS **Vitosha** 80.91 325 P P 01 14 31.7 +0.4
VTS **Vitosha** 80.91 325 *i*P P 01 14 31.5 +0.2
VTS **Vitosha** 80.91 325 ⇑*i*P P 01 14 31.7 +0.4
VTS **Vitosha** 80.91 325 P P 01 14 31.7 +0.4
MOTA **Moosalm** 80.92 335 *i* pP P 01 14 31.8 +0.5
comp=Z,262nm,1.0s,SNR=181
NATX **Nacogdoches** 80.92 53 *e*P P 01 14 32.2 +0.9
comp=Z,83nm,0.9s
SISC **Sisak** 80.94 331 P P 01 14 32.7 +1.7
WLS **Welschbruch** 80.98 338 *e*P P 01 14 31.4 0.0
VAL **Valentia** 80.99 350 ⇓*i*P P 01 14 32.1 +0.9
CDF **Champ du Feu** 81.00 338 ⇑*i*P P 01 14 31.8 +0.3
comp=Z,318nm,1.1s
CDF **Champ du Feu** 81.00 338 ⇑*i*P P 01 14 31.8 +0.3
CDF pmax pmax
comp=Z,318nm,1.1s
CDF **Champ du Feu** 81.00 338 ⇑*i*P P 01 14 31.8 +0.3
comp=Z,318nm,1.1s
LJU **Ljubljana** 81.04 332 *e*P P 01 14 31.0 -0.7
ABTA **Abfaltersbach** 81.04 334 *i* pP P 01 14 31.4 -0.3
comp=Z,87nm,1.1s,SNR=40
KRBG **Karabiga-Canak** 81.05 321 *e*P P 01 14 32.9 +1.1
RABH **Abou Rabah** 81.09 311 *e*P P 01 14 30.6 -1.6
BIDA **Albida** 81.10 312 *e*P P 01 14 31.4 -0.8
SHUT **Suhut-Afyon** 81.10 318 *e*P P 01 14 33.4 +1.1
VISS **Visnje** 81.15 332 *i*P P 01 14 31.9 -0.3
ERIK **Erikli-Kesan** 81.16 322 *e*P P 01 14 33.3 +1.0
GONE **Gonen-Balikesi** 81.17 321 *e*P P 01 14 33.2 +0.8
ALN **Alexandroupoli** 81.17 322 P P 01 14 32.4 0.0
ALN **Alexandroupoli** 81.17 322 P P 01 14 32.4 0.0
ALN **Alexandroupoli** 81.17 322 P P 01 14 32.4 0.0
ECH **Echery** 81.21 338 *e*P P 01 14 32.5 -0.1
ECH pmax pmax
comp=Z,116nm,1.1s
ECH MLR MLR
comp=Z,3µm,19.0s
ECH **Echery** 81.21 338 *e*P P 01 14 32.9 +0.3
ECH **Echery** 81.21 338 *e*P P 01 14 32.5 -0.1
comp=Z,116nm,1.1s
ECH LR LR
comp=Z,3µm,19.0s
LBNH **Lisbon** 81.23 31 PFAKE 01 14 40.0 +7.3
LBNH LR LR
comp=Z,2µm,19.0s
PKME **Peaks-Kenny Pk** 81.25 29 PFAKE 01 14 40.0 +7.2
PKME LR LR
comp=Z,2µm,21.0s
ENEZ **Enez** 81.26 322 *e*P P 01 14 31.3 -1.6
PAGF **Fort de Pagny** 81.27 339 ⇑*i*P P 01 14 33.6 +0.8
comp=Z,180nm,1.1s
PAGF **Fort de Pagny** 81.27 339 ⇑*i*P P 01 14 33.6 +0.8
comp=Z,180nm,1.1s
BOJS **Bojanci** 81.28 332 *i*P P 01 14 32.7 -0.2
LPK **Lapseki** 81.30 322 *e*P P 01 14 33.3 +0.1
JAVS **Javornik** 81.32 333 *i*P P 01 14 32.4 -0.9
FETA **Feichten** 81.32 335 *i* pP P 01 14 34.1 +0.7
comp=Z,83nm,1.0s,SNR=32
DAVA **Damuels** 81.32 336 *i* pP P 01 14 33.9 +0.6
comp=Z,118nm,0.9s,SNR=41
735A **Kenedy** 81.33 57 ⇓P P 01 14 34.6 +1.1
baz=81,SNR=15
ACCN **Adirondack Com** 81.34 33 *e*P P 01 14 32.9 -0.4
comp=Z,32nm,1.2s
933A **Laredo** 81.39 59 ⇑P P 01 14 34.9 +1.1
baz=81,SNR=29
GELI **Tayfur-Gelibol** 81.40 322 *e*P P 01 14 34.5 +0.8
BALB **Balikesir** 81.42 321 *e*P P 01 14 32.8 -1.0
834A **Tilden** 81.44 58 ⇑P P 01 14 35.1 +1.0
baz=81,SNR=10
HAWK **Haweek** 81.44 312 *e*P P 01 14 31.1 -3.0
BINY **Binghamton** 81.46 35 PFAKE 01 14 50.0 +16
BINY LR LR
comp=Z,1µm,20.0s
IKL **Isikli** 81.46 315 *e*P P 01 14 32.3 -1.7
MEZF **Maizieres J'vi** 81.48 339 ⇑*i*P P 01 14 34.6 +0.7
comp=Z,332nm,1.0s
MEZF **Maizieres J'vi** 81.48 339 ⇑*i*P P 01 14 34.6 +0.7
comp=Z,332nm,1.0s
CAN **Canberra** 81.48 184 PFAKE 01 14 50.0 +16
CAN LR LR
comp=Z,1µm,20.0s
THEF **They Montfort** 81.50 339 *e*P P 01 14 34.6 +0.5
DYA **Yadsworthy** 81.52 346⇑ *e*P P 01 14 33.6 -0.5
DYA AMB AMB 01 14 38.8
comp=Z,108nm,1.7s
MMB **Musomiste** 81.55 324 *i*P P 01 14 35.2 +0.7
MMB **Musomiste** 81.55 324 ⇑*i*P P 01 14 35.1 +0.6
MOF **Molkenrain** 81.56 338 *e*P P 01 14 34.7 +0.2
KKB **Krupnik** 81.58 325 *i*P P 01 14 35.5 +0.9
TRI **Trieste** 81.58 333 *e*P P 01 14 33.5 -1.0
TRI pmax pmax
comp=Z,69nm,1.0s
TRI **Trieste** 81.58 333 *e*P P 01 14 33.5 -1.0
comp=Z,69nm,1.0s
HAU **Haudompre** 81.62 338 ⇑*i*P P 01 14 34.9 +0.2
comp=Z,228nm,1.1s
HAU *e*R
comp=Z,3µm,17.5s
HAU **Haudompre** 81.62 338 ⇑*i*P P 01 14 34.9 +0.2
HAU pmax pmax
comp=Z,228nm,1.1s
HAU **Haudompre** 81.62 338 ⇑*i*P P 01 14 34.9 +0.2
comp=Z,228nm,1.1s
HKT **Hockley** 81.64 55 *e*P P 01 14 35.3 +0.3
HKT pmax pmax
comp=Z,186nm,3.0s
HKT **Hockley** 81.64 55 *e*P P 01 14 35.2 +0.3
comp=Z,186nm,3.0s
HINF **Hinteralfeld** 81.66 338 ⇑*i*P P 01 14 35.0 0.0
comp=Z,143nm,1.1s

HINF **Hinteralfeld** 81.66 338 ⇑*i*P P 01 14 35.0 0.0
HINF pmax pmax
comp=Z,143nm,1.1s
HINF **Hinteralfeld** 81.66 338 ⇑*i*P P 01 14 35.0 0.0
comp=Z,143nm,1.1s
ISP **Isparta** 81.70 318 *c i*P P 01 14 35.5 0.0
ISP pmax pmax
comp=Z,69nm,0.8s
ISP MLR MLR
comp=Z,1µm,23.0s
ISP **Isparta** 81.70 318 *e*P P 01 14 35.0 -0.4
comp=Z,42nm,0.8s
ISP LR LR
comp=Z,2µm,19.0s
KAVA **Kavala** 81.73 323 P P 01 14 35.6 +0.2
KAVA **Kavala** 81.73 323 P P 01 14 35.6 +0.2
835A **Beeville** 81.74 58 ⇓P P 01 14 36.9 +1.2
baz=82,SNR=5.9
PLE **Pljevlja** 81.74 328 ⇓*i*P P 01 14 35.4 -0.2
SFTF **Sexfontaines** 81.76 339 ⇑*i*P P 01 14 35.8 +0.4
comp=Z,472nm,1.1s
SFTF **Sexfontaines** 81.76 339 ⇑*i*P P 01 14 35.8 +0.4
comp=Z,472nm,1.0s
SUTC **Sutluce-Ispart** 81.76 317 *e*P P 01 14 36.2 +0.4
EREN **Erenkoy** 81.78 314 *e*P P 01 14 36.4 +0.7
934A **Benavides** 81.84 58 ⇑P P 01 14 37.1 +0.9
baz=82
PPT **Papeete** 81.85 126 LR LR 01 46 15.5
comp=Z,1µm,18.1s,baz=354,slow=32
PPT2 **Papeete2** 81.87 126 *e*S S 01 24 39.8 -7.6
comp=Z,266nm,23.1s
PPT2 **Papeete2** 81.87 126 *e*LR LR 01 40 11.2
comp=Z,4µm,24.8s,baz=324
EZN **Ezine** 81.94 322 *e*P P 01 14 36.8 +0.3
IVA **Berane** 81.95 327 ⇓*i*P P 01 14 36.5 -0.1
BCK **Bucak** 81.97 317 *e*P P 01 14 36.3 -0.5
KULA **Kula-Manisa** 81.99 319 *e*P P 01 14 37.5 +0.6
SRS **Serrai** 82.00 324 P P 01 14 36.8 -0.1
SRS **Serrai** 82.00 324 P P 01 14 36.8 -0.1
SRS **Serrai** 82.00 324 P P 01 14 36.8 -0.1
UPM **Unac-Piva** 82.03 328 ⇓*i*P P 01 14 36.4 -0.8
AKS **Akhisar** 82.07 320 *e*P P 01 14 37.7 +0.4
LOMF **Lomont** 82.10 338 *e*P P 01 14 37.9 +0.6
034A **Hebbronville** 82.15 59 ⇑P P 01 14 38.9 +1.1
baz=82,SNR=16
PVY **Plav** 82.16 327 ⇓*i*P P 01 14 37.6 -0.2
ZALF **Zalf** 82.20 310 *e*P P 01 14 36.3 -1.7
TUE **Stuetta** 82.22 336 *e*P P 01 14 38.8 +0.7
comp=Z,119nm,0.9s
TUE LR LR
comp=Z,2µm,20.0s
NVLJ **Novalja** 82.24 331 P P 01 14 36.6 -1.4
VAY **Valandovo** 82.24 325 P P 01 14 38.0 -0.1
VAY **Valandovo** 82.24 325 P P 01 14 38.0 -0.1
VAY **Valandovo** 82.24 325 P P 01 14 38.0 -0.1
KNT **Kendrikon** 82.25 325 P P 01 14 37.2 -0.9
KNT **Kendrikon** 82.25 325 P P 01 14 37.2 -0.9
KNT **Kendrikon** 82.25 325 P P 01 14 37.2 -0.9
KVTX **Kingsville** 82.25 58 PFAKE 01 14 50.0 +12
KVTX LR LR
comp=Z,880nm,19.0s
LFK **Lefkose** 82.30 314 *e*P P 01 14 38.0 -0.6
BCI **Bajram Curri** 82.32 327 *i*P P 01 14 38.6 +0.1
NKY **Niksic** 82.33 328 ⇓*i*P P 01 14 38.0 -0.7
SOH **Sokhos** 82.35 324 P P 01 14 38.0 -0.7
SOH **Sokhos** 82.35 324 P P 01 14 38.0 -0.7
SOH **Sokhos** 82.35 324 P P 01 14 38.0 -0.7
NKME **Niksic** 82.39 328 ⇓*i*P P 01 14 38.1 -0.8
BRY **Bratogost** 82.42 328 ⇓*i*P P 01 14 37.9 -1.3
FLN **La Foliniere** 82.48 343 ⇑*i*P P 01 14 39.3 +0.1
comp=Z,140nm,0.9s
FLN *e*R
comp=Z,3µm,18.0s
FLN **La Foliniere** 82.48 343 ⇑*i*P P 01 14 39.3 +0.1
FLN pmax pmax
comp=Z,140nm,0.9s
FLN **La Foliniere** 82.48 343 ⇑*i*P P 01 14 39.3 +0.1
comp=Z,140nm,0.9s
MAMC **Mammari** 82.54 314 P P 01 14 39.8 +0.1
LDF **La Druitiere** 82.56 343 ⇑*i*P P 01 14 39.7 +0.1
comp=Z,103nm,0.9s
LDF **La Druitiere** 82.56 343 ⇑*i*P P 01 14 39.7 +0.1
LDF pmax pmax
comp=Z,103nm,0.9s
LDF **La Druitiere** 82.56 343 ⇑*i*P P 01 14 39.7 +0.1
comp=Z,103nm,0.9s
PDG **Podgorica** 82.57 328 P P 01 14 40.0 +0.3
TTG **Podgorica** 82.57 328 ⇓*i*P P 01 14 39.2 -0.5
TTG **Podgorica** 82.57 328 P P 01 14 40.0 +0.3
TTG **Podgorica** 82.57 328 P P 01 14 40.0 +0.3
035A **Encino** 82.59 59 ⇑P P 01 14 41.4 +1.3
baz=82
CSS **Prodhromos** 82.65 314 *e*P P 01 14 40.1 -0.3
comp=Z,7.4nm,0.9s
CSS *e*PP PP 01 17 49.9 +0.3
CSS LR LR
comp=Z,457nm,19.0s
PUK **Puka** 82.66 327 *i*P P 01 14 40.2 -0.2
936A **North Padre Is** 82.69 58 ⇑P P 01 14 41.7 +1.1
baz=82
IZM **Izmir** 82.71 320 *e*P P 01 14 41.0 +0.3
LEF **Lefka** 82.74 315 *e*P P 01 14 40.5 -0.3
STON **Ston** 82.75 329 P P 01 14 39.7 -1.0
PHP **Peshkopia** 82.76 326 *i*P P 01 14 40.6 -0.3
PHP **Peshkopia** 82.76 326 P P 01 14 40.6 -0.3
PHP **Peshkopia** 82.76 326 P P 01 14 40.6 -0.3
PHP **Peshkopia** 82.76 326 P P 01 14 40.6 -0.3
SWET **Sewanee** 82.80 45 *e*P P 01 14 40.2 -0.9
comp=Z,45nm,0.9s
DRME **Dracevica, Mon** 82.80 327 ⇓*i*P P 01 14 40.0 -1.0
AYDB **Zeytinkoy-Aydi** 82.81 320 *e*P P 01 14 41.8 +0.5
BUM **Brajici-Budva** 82.81 328 *e*P P 01 14 40.0 -1.1
BLCB **Balcova** 82.82 320 *e*P P 01 14 41.1 -0.1
HCY **Herceg Novi** 82.83 328 ⇓*i*P P 01 14 40.1 -1.1
ALFC **Alevga** 82.85 315 P P 01 14 42.1 +0.7
ELL **Elmali** 82.86 318 *e*P P 01 14 40.5 -1.1
SENIN **Lac Senin/Sane** 82.88 337 *e*P P 01 14 42.1 +0.5
GRR **Gorron** 82.91 343 ⇑*i*P P 01 14 41.8 +0.4
comp=Z,266nm,0.9s
GRR **Gorron** 82.91 343 ⇑*i*P P 01 14 41.8 +0.4
GRR pmax pmax
comp=Z,266nm,0.9s
GRR **Gorron** 82.91 343 ⇑*i*P P 01 14 41.8 +0.4
comp=Z,266nm,0.9s
LOR **Lormes** 82.92 340 ⇑*i*P P 01 14 41.8 +0.2
comp=Z,140nm,1.0s
LOR *e*R
comp=Z,3µm,19.2s
LOR **Lormes** 82.92 340 ⇑*i*P P 01 14 41.8 +0.2
comp=Z,140nm,1.0s
035Z **Hargill** 82.96 59 ⇓P P 01 14 43.2 +1.2
baz=83
CABF **La Chapelle** 82.97 338 ⇑*i*P P 01 14 42.5 +0.6
comp=Z,92nm,1.0s
CABF **La Chapelle** 82.97 338 ⇑*i*P P 01 14 42.5 +0.6
CABF pmax pmax
comp=Z,92nm,1.0s
CABF **La Chapelle** 82.97 338 ⇑*i*P P 01 14 42.5 +0.6
comp=Z,92nm,1.0s
ULC **Ulcinj** 82.97 327 ⇓*i*P P 01 14 40.9 -1.0
SZAC **Souni-Zanaja** 83.03 314 P P 01 14 43.5 +1.1
AKMC **Akamas** 83.09 315 P P 01 14 42.3 -0.3
TCHB **Talchebab** 83.11 311 *e*P P 01 14 42.3 -0.5
FNA **Florina** 83.17 325 P P 01 14 42.5 -0.5
FNA **Florina** 83.17 325 P P 01 14 42.5 -0.5
FNA **Florina** 83.17 325 P P 01 14 42.5 -0.5
PPCY **Paphos** 83.20 315 P P 01 14 42.7 -0.4
SSF **Saint Saulge** 83.20 340 ⇑*i*P P 01 14 43.3 +0.3
comp=Z,99nm,0.9s
SSF **Saint Saulge** 83.20 340 ⇑*i*P P 01 14 43.3 +0.3
SSF pmax pmax
comp=Z,99nm,0.9s
SSF **Saint Saulge** 83.20 340 ⇑*i*P P 01 14 43.3 +0.3
comp=Z,99nm,0.9s
HYF **Humbligny** 83.21 340 ⇑*i*P P 01 14 43.8 +0.8
HYF **Humbligny** 83.21 340 ⇑*i*P P 01 14 43.8 +0.8
CPCT **Cooper Cave** 83.30 44 *e*P P 01 14 43.7 0.0
FETY **Fethiye** 83.34 318 *e*P P 01 14 43.6 -0.3
SGMF **Saint Gilles** 83.37 344 ⇑*i*P P 01 14 44.2 +0.4
comp=Z,166nm,0.9s
SGMF **Saint Gilles** 83.37 344 ⇑*i*P P 01 14 44.2 +0.4
SGMF pmax pmax
comp=Z,166nm,0.9s
SGMF **Saint Gilles** 83.37 344 ⇑*i*P P 01 14 44.2 +0.4

comp=Z,166nm,0.9s
ROSF Rostrenen 83.42 345⇑ iP P 01 14 44.5 +0.4
comp=Z,215nm,0.9s
ROSF Rostrenen 83.42 345⇑ iP P 01 14 44.5 +0.4
ROSF pmax pmax
comp=Z,215nm,0.9s
ROSF Rostrenen 83.42 345⇑ iP P 01 14 44.5 +0.4
comp=Z,215nm,0.9s
TKL Tuckaleechee C 83.49 43 eP P 01 14 44.0 -0.6
AVF Avril sur Loir 83.49 340⇑ iP P 01 14 45.0 +0.5
comp=Z,265nm,1.0s
AVF Avril sur Loir 83.49 340⇑ iP P 01 14 45.0 +0.5
AVF pmax pmax
comp=Z,265nm,1.0s
AVF Avril sur Loir 83.49 340⇑ iP P 01 14 45.0 +0.5
comp=Z,265nm,1.0s
SMF Signal de Mont 83.51 339⇑ iP P 01 14 45.1 +0.5
comp=Z,463nm,0.9s
SMF Signal de Mont 83.51 339⇑ iP P 01 14 45.1 +0.5
SMF Signal de Mont 83.51 339⇑ iP P 01 14 45.1 +0.5
comp=Z,463nm,0.9s
KBN Korca 83.54 326 i P P 01 14 43.5 -1.4
KBN Korca 83.54 326 P P 01 14 44.8 -0.1
KBN Korca 83.54 326 P P 01 14 44.8 -0.1
KBN Korca 83.54 326 P P 01 14 44.8 -0.1
RSL Roselend 83.69 337 eP P 01 14 46.3 +0.6
BLA Blacksburg 83.76 40 eP P 01 14 45.9 -0.2
BLA pmax pmax
comp=Z,46nm,1.0s
BLA MLR MLR
comp=Z,2µm,19.0s
BLA Blacksburg 83.76 40 eP P 01 14 45.9 -0.2
comp=Z,46nm,1.0s
BLA LR LR
comp=Z,2µm,19.0s
QUIF Quistinic 83.81 344⇑ iP P 01 14 46.3 +0.3
comp=Z,117nm,1.2s
QUIF Quistinic 83.81 344⇑ iP P 01 14 46.3 +0.3
QUIF pmax pmax
comp=Z,117nm,1.2s
QUIF Quistinic 83.81 344⇑ iP P 01 14 46.3 +0.3
comp=Z,117nm,1.2s
LPL La Plagne 83.82 337⇑ iP P 01 14 47.5 +1.0
comp=Z,142nm,1.0s
LPL La Plagne 83.82 337⇑ iP P 01 14 47.5 +1.0
LPL pmax pmax
comp=Z,142nm,1.0s
LPL La Plagne 83.82 337⇑ iP P 01 14 47.5 +1.0
comp=Z,142nm,1.0s
BGF Bois d'Agland 83.83 340⇑ iP P 01 14 46.6 +0.4
comp=Z,100nm,1.0s
BGF Bois d'Agland 83.83 340⇑ iP P 01 14 46.6 +0.4
BGF pmax pmax
comp=Z,100nm,1.0s
BGF Bois d'Agland 83.83 340⇑ iP P 01 14 46.6 +0.4
comp=Z,100nm,1.0s
LPG La Plagne 83.83 337⇑ iP P 01 14 47.7 +1.1
comp=Z,217nm,1.1s
LPG La Plagne 83.83 337⇑ iP P 01 14 47.7 +1.1
LPG pmax pmax
comp=Z,217nm,1.1s
LPG La Plagne 83.83 337⇑ iP P 01 14 47.7 +1.1
comp=Z,217nm,1.1s
VLC Villacollemand 84.02 334 eP P 01 14 47.8 +0.6
comp=Z,56nm,0.9s
VLC LR LR
comp=Z,2µm,19.0s
VLO Vlora 84.17 326 i P P 01 14 49.6 +1.6
PLDF La Plantade 84.19 339 eP P 01 14 48.9 +0.7
TCF Toulx Ste Croi 84.23 340⇑ iP P 01 14 48.8 +0.5
comp=Z,135nm,0.9s
TCF Toulx Ste Croi 84.23 340⇑ iP P 01 14 48.8 +0.5
TCF pmax pmax
comp=Z,135nm,0.9s
TCF Toulx Ste Croi 84.23 340⇑ iP P 01 14 48.8 +0.5
comp=Z,135nm,0.9s
BNI Bardonecchia 84.26 337 eP P 01 14 49.5 +0.9
BNI pmax pmax
comp=Z,33nm,0.8s
BNI MLR MLR
comp=Z,3µm,19.0s
BNI Bardonecchia 84.26 337 eP P 01 14 49.5 +0.9
comp=Z,33nm,0.8s
BNI LR LR
comp=Z,3µm,19.0s
CBN Corbin 84.27 38 eP P 01 14 48.4 -0.2
comp=Z,32nm,0.8s
CBN LR LR
comp=Z,1µm,20.0s
GDM Grand'Maison 84.27 337 eP P 01 14 49.6 +0.9
ABTO Aybut 84.32 289 P P 01 14 50.4 +1.1
SNR=6.0
GRN Grenoble 84.33 338 eP P 01 14 50.1 +1.2
MFF Saint Martin d 84.46 342⇑ iP P 01 14 49.4 0.0
comp=Z,145nm,1.2s
MFF Saint Martin d 84.46 342⇑ iP P 01 14 49.4 0.0
MFF pmax pmax
comp=Z,145nm,1.2s
MFF Saint Martin d 84.46 342⇑ iP P 01 14 49.4 0.0
comp=Z,145nm,1.2s
SRN Sarande 84.49 326 i P P 01 14 49.3 -0.4
MBDF Montbardon 84.54 337⇑ iP P 01 14 50.4 +0.4
comp=Z,135nm,1.0s
MBDF Montbardon 84.54 337⇑ iP P 01 14 50.4 +0.4
MBDF pmax pmax
comp=Z,135nm,1.0s
MBDF Montbardon 84.54 337⇑ iP P 01 14 50.4 +0.4
comp=Z,135nm,1.0s
PYM Petit Puy Mans 84.55 340 eP P 01 14 50.1 +0.1
APE Apeiranthos 84.58 321 ⇓ iP P 01 14 49.9 -0.4
ORIF Oris-en-Rattie 84.60 337⇑ iP P 01 14 51.3 +1.0
comp=Z,150nm,0.9s
ORIF eR
comp=Z,2µm,17.8s
ORIF Oris-en-Rattie 84.60 337⇑ iP P 01 14 51.3 +1.0
ORIF pmax pmax
comp=Z,150nm,0.9s
ORIF Oris-en-Rattie 84.60 337⇑ iP P 01 14 51.3 +1.0
comp=Z,150nm,0.9s
COLF Collangettes 84.60 339 eP P 01 14 51.9 +1.7
SSB Saint Sauveur 84.61 338 eP P 01 14 50.8 +0.5
SSB pmax pmax
comp=Z,94nm,0.9s
SSB MLR MLR
comp=Z,2µm,19.0s
SSB Saint Sauveur 84.61 338 eP P 01 14 51.0 +0.7
SSB Saint Sauveur 84.61 338 eP P 01 14 50.8 +0.5
comp=Z,94nm,0.9s
SSB LR LR
comp=Z,2µm,19.0s
AQU L'Aquila 84.69 331 eP P 01 14 51.0 +0.3
comp=Z,98nm,0.9s
AQU LR LR
comp=Z,2µm,20.0s
RAYN Ar Rayn 84.71 299 P P 01 14 51.0 -0.1
comp=Z,493nm,1.1s,SNR=54
SURF Saint Ours 84.75 337 eP P 01 14 52.0 +0.8
VIVF Saint-Julien-l 84.97 338⇑ iP P 01 14 53.0 +0.9
comp=Z,137nm,0.9s
VIVF Saint-Julien-l 84.97 338⇑ iP P 01 14 53.0 +0.9
VIVF pmax pmax
comp=Z,137nm,0.9s
VIVF Saint-Julien-l 84.97 338⇑ iP P 01 14 53.0 +0.9
comp=Z,137nm,0.9s
LBL Lubilhac 84.98 339 eP P 01 14 52.9 +0.7
FRNF Fournols 85.00 340 eP P 01 14 52.9 +0.7
AUTN L'Aution 85.03 336 eP P 01 14 53.3 +0.7
OG26 St.-Nazaire-De 85.07 338 eP P 01 14 53.8 +1.2
SBF Sospel 85.15 336⇑ iP P 01 14 53.0 0.0
comp=Z,213nm,1.0s
SBF Sospel 85.15 336⇑ iP P 01 14 53.0 0.0
SBF pmax pmax
comp=Z,213nm,1.0s
SBF Sospel 85.15 336⇑ iP P 01 14 53.0 0.0
comp=Z,213nm,1.0s
SANT Santorini 85.19 320 PFAKE 01 15 00.0 +6.7
SANT LR LR
comp=Z,1µm,20.0s
MVIF Mont Vial 85.20 336 eP P 01 14 51.7 -1.7
REVF Revere 85.28 336 eP P 01 14 53.5 -0.2
RJF Les Rejaudoux 85.32 340⇑ iP P 01 14 53.7 -0.1
comp=Z,105nm,1.1s
RJF eR
comp=Z,2µm,20.5s
RJF Les Rejaudoux 85.32 340⇑ iP P 01 14 53.7 -0.1
RJF pmax pmax
comp=Z,105nm,1.1s
RJF Les Rejaudoux 85.32 340⇑ iP P 01 14 53.7 -0.1
comp=Z,105nm,1.1s
CALN Calern 85.40 336 eP P 01 14 54.5 +0.1
GOGA Godfrey 85.45 45 PFAKE 01 15 10.0 +15
GOGA LR LR
comp=Z,1µm,21.0s
CAF Calvac 85.55 340⇑ iP P 01 14 55.3 +0.3
comp=Z,103nm,1.0s
CAF Calvac 85.55 340⇑ iP P 01 14 55.3 +0.3
CAF pmax pmax
comp=Z,103nm,1.0s
CAF Calvac 85.55 340⇑ iP P 01 14 55.3 +0.3
comp=Z,103nm,1.0s
SMRF Simiane la Rot 85.56 337⇑ iP P 01 14 56.0 +1.0
comp=Z,88nm,1.0s
SMRF Simiane la Rot 85.56 337⇑ iP P 01 14 56.0 +1.0
comp=Z,88nm,1.0s
BRAL Brewton 85.58 48 PFAKE 01 15 10.0 +15
BRAL LR LR
comp=Z,1µm,21.0s
LFF La Frestale 85.84 341⇑ iP P 01 14 56.4 0.0
comp=Z,63nm,0.8s
LFF La Frestale 85.84 341⇑ iP P 01 14 56.4 0.0
LFF pmax pmax
comp=Z,63nm,0.8s
LFF La Frestale 85.84 341⇑ iP P 01 14 56.4 0.0
comp=Z,63nm,0.8s
PGF Pioggiola 85.90 334⇑ iP P 01 14 56.9 +0.1
comp=Z,144nm,1.2s
PGF Pioggiola 85.90 334⇑ iP P 01 14 56.9 +0.1
PGF pmax pmax
comp=Z,145nm,1.2s
PGF Pioggiola 85.90 334⇑ iP P 01 14 56.9 +0.1
comp=Z,144nm,1.2s
LASF Ste Croix 85.91 338⇑ iP P 01 14 57.2 +0.5
comp=Z,94nm,1.1s
LASF Ste Croix 85.91 338⇑ iP P 01 14 57.2 +0.5
comp=Z,94nm,1.1s
CUC Castrocucco 85.95 329 eP P 01 14 55.7 -1.4
comp=Z,14nm,0.9s
CUC LR LR
comp=Z,3µm,19.0s
TIP Timpagrande 86.33 328 eP P 01 14 58.8 -0.2
comp=Z,53nm,1.2s
TIP LR LR
comp=Z,2µm,21.0s
CNNC Cliffs of the 86.53 40 PFAKE 01 15 10.0 +10
CNNC LR LR
comp=Z,2µm,20.0s
TBI Tubuai 86.58 129 eS S 01 25 30.8 -3.4
comp=Z,885nm,27.5s
TBI Tubuai 86.58 129 eLR LR 01 41 51.1
comp=Z,2µm,35.2s,baz=319
TBI Tubuai 86.58 129 eT T 02 50 28.7
comp=Z,21nm,0.3s
OSPF L'Ospedale 86.65 334 eP P 01 15 00.8 +0.3
NHSC New Hope 87.27 43 PFAKE 01 15 20.0 +16
NHSC LR LR
comp=Z,2µm,20.0s
LRDF Laroque-de-Fa 87.31 339 eP P 01 15 03.8 +0.2
CEL Celeste 87.45 328 eP P 01 15 03.5 -0.9
comp=Z,37nm,1.0s
CEL ePP PP 01 18 30.4 +1.9
CEL LR LR
comp=Z,2µm,19.0s
MLS Moulis 87.64 340 eP P 01 15 04.6 -0.6
SJAF Saint Jean de 87.65 339 eP P 01 15 07.2 +2.0
EPF Esparros 87.75 341⇑ iP P 01 15 04.8 -1.0
comp=Z,57nm,1.1s
EPF Esparros 87.75 341⇑ iP P 01 15 04.8 -1.0
EPF pmax pmax
comp=Z,57nm,1.1s
EPF Esparros 87.75 341⇑ iP P 01 15 04.8 -1.0
comp=Z,57nm,1.1s
VALF Valcebollere 87.94 339 eP P 01 15 07.0 +0.2
RESF Ens 87.96 340 eP P 01 15 07.2 +0.3
SJPF Ste Jean 88.02 342⇑ iP P 01 15 06.9 -0.1
comp=Z,18nm,0.9s
SJPF Ste Jean 88.02 342⇑ iP P 01 15 06.9 -0.1
SJPF pmax pmax
comp=Z,18nm,0.9s
SJPF Ste Jean 88.02 342⇑ iP P 01 15 06.9 -0.1
comp=Z,18nm,0.9s
ETSF Etsaut 88.08 341⇑ iP P 01 15 07.2 -0.2
comp=Z,45nm,1.0s
ETSF Etsaut 88.08 341⇑ iP P 01 15 07.2 -0.2
ETSF pmax pmax
comp=Z,45nm,1.0s
ETSF Etsaut 88.08 341⇑ iP P 01 15 07.2 -0.2
comp=Z,45nm,1.0s
VSL Villasalto 88.57 333 eP P 01 15 11.1 +1.4
comp=Z,48nm,1.0s
VSL LR LR
comp=Z,1µm,19.0s
DGAR Diego Garcia 89.08 258 PFAKE 01 15 20.0 +7.7
DGAR LR LR
comp=Z,519nm,21.0s
SNZO South Karori 89.42 164 PFAKE 01 15 30.0 +17
SNZO LR LR
comp=Z,1µm,20.0s
WDD Wield Dalam 90.08 328 PFAKE 01 15 30.0 +13
WDD LR LR
comp=Z,1µm,20.0s
PBRG Braganca 90.37 345 eP P 01 15 17.1 -1.0
comp=Z,35nm,1.7s
PGAV Gavieira, Arco 90.47 346 eP P 01 15 18.1 -0.5
comp=Z,70nm,1.5s
PGAV Gavieira, Arco 90.47 346 eLR LR 01 56 11.6
comp=Z,922nm,18.0s
POLO Lamas de Olo 90.97 346 eP P 01 15 20.3 -0.6
comp=Z,40nm,1.2s
PVRL Vila Real 91.05 346 eP P 01 15 20.8 -0.5
comp=Z,79nm,1.4s
PTO Porto 91.33 346 eP P 01 15 22.1 -0.4
comp=Z,66nm,1.7s
PVIS Viseu 91.62 346 eP P 01 15 23.5 -0.5
comp=Z,45nm,2.3s
CMAH Djebel Manchou 91.82 333 P P 01 15 24.0 -0.9
MTE Manteigas 91.87 346 eP P 01 15 22.8 -2.3
comp=Z,50nm,1.5s
MTE Manteigas 91.87 346 eLR LR 01 54 17.6
comp=Z,1µm,18.0s
MTE Manteigas 91.87 346 PFAKE 01 15 40.0 +15
MTE LR LR
comp=Z,2µm,22.0s
ESDC Sonseca Array 91.89 343 P P 01 15 24.0 -1.2
ESDC Sonseca Array 91.89 343 P P 01 15 24.0 -1.2
comp=Z,14nm,0.9s,baz=9.0,slow=3.9,SNR=52
ESDC LR LR 02 04 11.4
comp=Z,1µm,18.1s,baz=30,slow=40
ESLA Sonseca Array 91.89 343 eP P 01 15 24.1 -1.1
comp=Z,3.1nm,0.9s
KEST Kesra 92.02 331 eP P 01 15 26.0 +0.1
KEST Kesra 92.02 331 P P 01 15 26.3 +0.4
comp=Z,16nm,0.9s,baz=310,slow=3.7,SNR=26
KEST LR LR 02 01 16.9
comp=Z,986nm,18.1s,baz=338,slow=38
PAB San Pablo 92.10 343 eP P 01 15 24.8 -1.4
PAB pmax pmax
comp=Z,15nm,0.9s
PAB MLR MLR
comp=Z,2µm,20.0s
PAB San Pablo 92.10 343 eP P 01 15 24.8 -1.4
comp=Z,15nm,0.9s
PAB LR LR
comp=Z,2µm,20.0s
DAMY Dhamar 92.11 294 P P 01 15 28.4 +1.5
comp=Z,22nm,0.8s
ABSA Djebel Ababsia 92.12 333 P P 01 15 25.0 -1.4
CKFL Kef-Lekhel 92.24 334 P P 01 15 26.0 -1.0
PCAS Casmilo, Conde 92.37 346 eP P 01 15 26.6 -0.8
comp=Z,59nm,1.6s
PCBR Castelo Branco 92.40 345 eP P 01 15 26.9 -0.6
comp=Z,29nm,1.5s
CASM Ain Smara 92.44 334 P P 01 15 27.0 -0.8
PTOM Tomar 92.78 346 eP P 01 15 28.4 -0.8
comp=Z,41nm,2.0s
PMRV Marv??o 92.79 345 eP P 01 15 28.8 -0.5
comp=Z,33nm,2.0s
PMRV Marv??o 92.79 345 eLR LR 01 58 00.2
comp=Z,2µm,18.0s
SET Setif 92.83 335 P P 01 15 31.0 +1.4
PESTR Estremoz 93.37 345 eP P 01 15 31.2 -0.8
TEIG Tepich 93.47 56 PFAKE 01 15 40.0 +7.3
TEIG LR LR
comp=Z,738nm,19.0s
EVO Evora 93.77 345 eP P 01 15 33.3 -0.5
comp=Z,32nm,1.8s
LIS Lisbon 93.78 346 eP P 01 15 34.1 +0.3
LIS AMS AMS 02 05 32.4
comp=E,1µm,21.7s
LIS Lisbon 93.78 346 eP P 01 15 34.1 +0.3
PBEJ Beja 94.24 345 eP P 01 15 29.9 -6.1
comp=E,37nm,1.8s
PNCL Nicolau / Gran 94.27 346 eP P 01 15 35.5 -0.6
comp=E,55nm,1.5s
BBSR BB Station 94.36 32 PFAKE 01 15 50.0 +13
BBSR LR LR
comp=Z,670nm,19.0s
RKT Rikitea 94.70 119 ePS PS 01 28 03.1 -6.1
comp=Z,582nm,28.8s
RKT eSS SS 01 33 13.2 -0.4
comp=Z,370nm,23.8s
RKT Rikitea 94.70 119 eLR LR 01 45 45.7
comp=Z,2µm,33.2s,baz=318
PVAQ Vaqueiros 94.82 345 eP P 01 15 38.3 -0.3
comp=Z,24nm,1.5s
PVAQ Vaqueiros 94.82 345 eLR LR 01 58 42.4
comp=Z,1µm,20.0s
MORF Marmelete 95.08 346 eP P 01 15 39.6 -0.3
comp=Z,57nm,1.6s
MSEY Mahe Island 98.79 272 PFAKE 01 16 10.0 +13
MSEY LR LR
comp=Z,824nm,20.0s
TGUH Tegucigalpa,Un 98.91 59 PFAKE 01 16 10.0 +13
TGUH LR LR
comp=Z,779nm,19.0s
GTBY Guantanamo Bay 100.77 46 PFAKE 01 16 20.0 +14
GTBY LR LR
comp=Z,1µm,21.0s
MTDJ Mount Denham 100.96 49 PFAKE 01 16 20.0 +13
MTDJ LR LR
comp=Z,725nm,20.0s
GRTK Grand Turk 101.31 42 PFAKE 01 16 20.0 +12
GRTK LR LR
comp=Z,1µm,19.0s
JTS JuntasAbangare 103.27 59 PFAKE 01 16 30.0 +13
JTS LR LR
comp=Z,474nm,21.0s
SDDR Presa de Saban 103.42 43 PFAKE 01 16 30.0 +12
SDDR LR LR
comp=Z,694nm,20.0s
TAM Tamanrasset 105.18 329 PKPdf PKiKP 01 20 39.5 -0.2
TAM LR LR
comp=Z,1µm,21.0s
BCIP Isla Barro Col 107.15 56 PFAKE 01 21 00.0
BCIP LR LR
comp=Z,532nm,22.0s
KMBO Kilima Mbogo 108.55 289 PFAKE 01 21 00.0
KMBO LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 108.74 35 PFAKE 01 21 00.0
ANWB LR LR
comp=Z,457nm,20.0s
FDF Fort de France 111.65 36 PFAKE 01 21 00.0
FDF LR LR
comp=Z,809nm,20.0s
SDV Santo Domingo 112.39 48 PFAKE 01 21 10.0
SDV LR LR
comp=Z,42nm,21.0s
GRGR Grenville 113.78 38 PFAKE 01 21 10.0
GRGR LR LR
comp=Z,821nm,21.0s
ABPO Ambohimpanom 114.56 268 PFAKE 01 21 10.0 +13
ABPO LR LR
comp=Z,636nm,19.0s
OTAV Otavalo 115.13 60 PFAKE 01 21 10.0 +11
OTAV LR LR
comp=Z,342nm,20.0s
TOA0 Torodi Ar. Sit 115.44 329 ePKPdf PKPdf 01 20 58.5 -0.5
TORD Torodi Ar. Bea 115.44 329 Pdif Pdif 01 17 13.4 +2.4
TORD PKP PKiKP 01 20 58.5 -0.5
TORD PP PP 01 21 51.8 -7.8
TORD PKKPbc PKKPbc 01 31 29.1 -1.7
TORD PKKPab PKKPab 01 31 36.6 -3.8
TORD Torodi Ar. Bea 115.44 329 Pdiff Pdif 01 17 13.4 +2.4
comp=Z,0.8nm,0.9s,baz=8.0,slow=4.6,SNR=5.2
TORD PKP PKiKP 01 20 58.5 -0.5
comp=Z,6.1nm,0.7s,baz=19,slow=2.1,SNR=56
TORD PP PP 01 21 51.8 -7.8
comp=Z,7.2nm,1.1s,baz=21,slow=7.0,SNR=5.5
TORD PKKPbc PKKPbc 01 31 29.1 -1.7
comp=Z,1.4nm,1.2s,baz=177,slow=2.6,SNR=3.2
TORD PKKPab PKKPab 01 31 36.6 -3.8
comp=Z,1.2nm,0.9s,baz=210,slow=2.6,SNR=4.2
CASY Casey 117.09 198 PFAKE 01 21 10.0 +10
CASY LR LR
comp=Z,710nm,19.0s
DBIC Dimbokro 123.67 334 ePKPdf PKPdf 01 21 14.3 -0.6
DBIC PKP PKPdf 01 21 14.6 -0.3
DBIC PP PP 01 22 52.4 -3.8
DBIC ePP PP 01 22 52.6 -3.6
DBIC Dimbokro 123.67 334 PKP PKPdf 01 21 14.6 -0.3
comp=Z,44nm,0.9s,baz=14,slow=2.2,SNR=47
DBIC PP PP 01 22 52.4 -3.8
comp=Z,6.9nm,0.8s,baz=14,slow=9.0,SNR=3.8
TIC Toumodi 123.75 334 ePKP1 PKPdf 01 21 14.4 -0.6
VNDA Vanda 123.80 178 PKP PKPdf 01 21 12.7 -0.5
VNDA Vanda 123.80 178 PKP PKPdf 01 21 12.7 -0.5
comp=Z,2.8nm,0.8s,baz=314,slow=2.3,SNR=3.3
KIC Kosan Boka 123.93 333 ePKP1 PKPdf 01 21 14.9 -0.5
comp=Z,74nm,0.9s
LIC Lamto 124.15 334⇑ iPKIKP PKPdf 01 21 15.2 -0.5
comp=Z,81nm,1.0s
LIC eR
comp=Z,886nm,22.2s
LIC Lamto 124.15 334 ePKP1 PKPdf 01 21 15.3 -0.5
comp=Z,105nm,1.0s
LIC Lamto 124.15 334⇑ iPKPdf PKPdf 01 21 15.2 -0.5
LSZ Lusaka 124.99 286 ePKPdf PKPdf 01 21 18.3 +0.9
LSZ ePP PP 01 23 08.7 +2.5
LSZ LR LR
comp=Z,2µm,19.0s
NNA Nana 125.61 68 PFAKE 01 21 30.0 +11
NNA LR LR
comp=Z,415nm,20.0s
PTGA Pitinga 125.95 43 ePKPdf PKPdf 01 21 18.8 -0.4
PTGA LR LR
comp=Z,335nm,21.0s
SAML Samuel 131.35 52 ePKPdf PKPdf 01 21 29.3 -0.1
SAML LR LR
comp=Z,541nm,19.0s
MAW Mawson 132.02 211 PKP PKPdf 01 21 27.9 -1.0
MAW Mawson 132.02 211 PKP PKPdf 01 21 27.9 -1.0
comp=Z,7.3nm,0.9s,baz=54,slow=14,SNR=2.6
LBTB Lobatse 133.46 279 ePKPdf PKPdf 01 21 34.1 +0.9
LBTB ePP PP 01 23 56.8 -4.8
LPAZ La Paz 134.34 63 ePKPdf PKPdf 01 21 36.1 +0.3
LPAZ La Paz 134.34 63 PKP PKPdf 01 21 36.0 +0.3
comp=Z,4.0nm,0.7s,baz=355,slow=3.8,SNR=14
TSUM Tsumeb 134.78 292 ePKPdf PKPdf 01 21 35.1 -0.8
TSUM LR LR
comp=Z,980nm,20.0s
BOSA Boshof 135.99 275 PKPpre PKPpre 01 21 27.4
BOSA PKP PKPdf 01 21 36.7 -1.1
BOSA PP PP 01 24 10.0 -7.7
BOSA Boshof 135.99 275 PKhKP PKPpre 01 21 27.4
comp=Z,5.8nm,1.0s,baz=35,slow=5.2,SNR=4.5
BOSA PKP PKPdf 01 21 36.7 -1.1
comp=Z,12nm,1.0s,baz=111,slow=2.0,SNR=7.1
BOSA PP PP 01 24 10.0 -7.7
comp=Z,6.5nm,1.0s,baz=36,slow=3.4,SNR=3.8
QSPA South Pole Qui 136.18 180 ePKPdf PKPdf 01 21 36.7 -0.2
LVC Limon Verde 138.51 70 PKPdf PKPdf 01 21 43.4 +0.5
LVC LR LR
comp=Z,669nm,19.0s
H03N2 Juan Fernandez 138.59 91 T T 03 57 13.8
baz=303,slow=0.7,SNR=82
H03N1 Juan Fernandez 138.61 91 T T 03 57 13.8
baz=303,slow=0.7,SNR=9.2
H03N3 Juan Fernandez 138.61 91 T T 03 57 14.1
baz=303,slow=0.7,SNR=94
RCBR Riachuelo 138.76 14 PFAKE 01 22 00.0 +17
RCBR LR LR
comp=Z,506nm,19.0s
SYO Syowa Base 140.73 211⇑ eP PKPdf 01 21 40.8 -4.3
SUR Sutherland 141.31 274 PFAKE 01 22 00.0 +12
SUR LR LR
comp=Z,1µm,19.0s
LCO Las Campanas 141.62 79 PFAKE 01 22 00.0 +12
LCO LR LR

comp=Z,1μm,19.0s

BDFB	**Brasilia**	**144.49**	**37**	PKP	**PKPab**	**01 21 51.9**	**0.0**
BDFB	**Brasilia**	**144.49**	**37**	PKP	**PKPab**	**01 21 51.9**	**0.0**
	comp=Z,29nm,1.0s,baz=339,slow=4.7,SNR=23						
SHEL	**Horse Pasture**	**144.96**	**323**	*i* PKIKP	**PKPdf**	**01 21 55.9**	**+1.6**
PLCA	**Paso Flores**	**148.02**	**96**	*e*PKPdf	**PKPdf**	**01 21 58.8**	**0.0**
PLCA				*e*PKPbc	**PKPbc**	**01 22 02.1**	**+0.1**
PLCA	**Paso Flores**	**148.02**	**96**	PKPbc	**PKPbc**	**01 22 02.0**	**+0.1**
	comp=Z,39nm,0.9s,baz=280,slow=3.5,SNR=27						
CPUP	**Villa Florida**	**148.48**	**61**	PKPbc	**PKPbc**	**01 22 03.3**	**-0.1**
CPUP	**Villa Florida**	**148.48**	**61**	PKPbc	**PKPbc**	**01 22 03.3**	**-0.1**
	comp=Z,16nm,0.5s,baz=309,slow=2.8,SNR=46						
NVL	**N'lazarevskaya**	**149.42**	**204**	*i* PKP2	PKPab	01 22 24.7	+15
SNAA	**Sanae**	**152.30**	**196**	P	**PKPbc**	**01 22 11.0**	**-0.3**
SNAA	**Sanae**	**152.30**	**196**	*e*PKPdf	**PKPdf**	**01 22 03.6**	**-0.9**
SNAA				*e*PKPbc	**PKPbc**	**01 22 10.9**	**-0.3**
SNAA				*e*PKPab	**PKPab**	**01 22 21.8**	**+0.3**
VNA2	**Neumayer--Watz**	**153.74**	**194**	P	**PKPbc**	**01 22 14.2**	**-0.2**
VNA1	**Neumayer--Stat**	**154.13**	**194**	P	**PKPbc**	**01 22 15.4**	**+0.1**

IDC ***18*** *01:25:19.5±5.3, 37.30N×141.84E, h0km, mb3.3/3, mb1 3.2/4, mb1mx3.1/41, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=89.2km s-min=42.1km az=132.0*

JMA ***18*** *01:25:23.1±0.2, 37.07N×141.65E, h46km±3km, M3.2*

ISC 18 01:25:20.1±2.4, 37°11N±0.06×141°80E±0.09, h10km±11km, n20, σ1§21/24, mb3.3/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.78**	**289**	P	**Pb**	**01 25 36.4**	**+0.6**
JFK				S	**Sg**	**01 25 45.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.80**	**270**	⇓P	**Pb**	**01 25 36.4**	**+0.3**
ONAJ				S	**Sg**	**01 25 46.0**	**+0.1**
JMM	**Marumori**	**1.10**	**314**	⇓P	**Pg**	**01 25 41.4**	**+0.2**
JMM				*e*S	**Sb**	**01 25 54.5**	**-1.1**
JHO	**Hitachi**	**1.10**	**243**	P	**Pb**	**01 25 40.3**	**-1.0**
JHO				S	**Sb**	**01 25 53.2**	**-2.5**
JFT	**Otama**	**1.23**	**290**	⇓P	**Pg**	**01 25 43.8**	**0.0**
JFT				*e*S	**Sb**	**01 25 58.2**	**-1.3**
JIO	**Ouri**	**1.39**	**345**	⇓P	**Pb**	**01 25 46.0**	**-0.1**
JIO				*e*S	**Sn**	**01 26 02.2**	**-1.7**
JOU	**Okura**	**1.54**	**325**	P	**Pb**	**01 25 48.6**	**-0.2**
JOU				S	**Sn**	**01 26 07.8**	**0.0**
JFY	**Yanaizu**	**1.69**	**281**	P	**Pn**	**01 25 50.2**	**+0.4**
JYS	**Shirataka**	**1.77**	**309**	P	**Pb**	**01 25 51.9**	**-0.7**
JYS				*e*S	**Sn**	**01 26 13.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.93**	**260**	Pn	**Pn**	**01 26 08.1**	**+1.3**
	1.8nm,0.3s,baz=69,slow=9.6,SNR=6.2						
MJAR				Sn	**Sn**	**01 26 45.0**	**+2.9**
	2.0nm,0.3s,baz=73,slow=24,SNR=5.2						
MAT	**Matsushiro**	**2.94**	**260**	P	**Pn**	**01 26 06.8**	**0.0**
MAT				*e*S	**Sn**	**01 26 40.7**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**27.93**	**121**	T	T	02 00 39.1	
	baz=316,slow=0.7,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**27.93**	**121**	T	T	02 00 33.4	
	baz=316,slow=0.7,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**27.94**	**121**	T	T	02 00 41.6	
	baz=316,slow=0.7,SNR=4.9						
SONM	**Songino Array**	**28.00**	**304**	P	**P**	**01 31 12.7**	**+1.5**
	0.2nm,0.6s,baz=96,slow=10,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	02 01 33.6	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	02 01 36.6	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.66**	**124**	T	T	02 01 34.7	
	baz=318						
MKAR	**Makanchi Array**	**44.34**	**302**	P	**P**	**01 33 30.2**	**-0.1**
	0.4nm,0.8s,baz=85,slow=6.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.20**	**308**	P	**P**	**01 33 44.4**	**-0.6**
	0.2nm,0.4s,baz=83,slow=8.2,SNR=3.7						

ISK ***18*** *01:26:26.6, 34.68N×27.25E, h17km, MD3.8, ML3.7*

DDA ***18*** *01:26:27.8, 34.93N×27.16E, h3km, MD3.7*

HLW ***18*** *01:26:33.7, 35.37N×27.85E, h2km±5km, Md4.0*

ATH ***18*** *01:26:33.9, 35.18N×28.21E, h45km, MD3.5/7*

ISCJB ***18*** *01:26:35.0±1.0, 35.19N±0.02×27.86E±0.03, h9km±7km, mb3.4/6, Error ellipse: s-maj=3.6km s-min=3.4km az=176.3*

CSEM ***18*** *01:26:35.5±0.2, 35.23N×27.81E, h2km, MD3.5, Error ellipse: s-maj=4.8km s-min=4.2km az=72.0*

IDC ***18*** *01:26:35.6±0.9, 35.37N×27.73E, h0km, mb3.5/6, mb1 3.5/10, mb1mx3.4/45, mbtmp3.5/10, ML3.4/4, Error ellipse: s-maj=24.8km s-min=14.7km az=162.0*

NSSC ***18*** *01:26:39.8±0.7, 35.13N×28.39E, h0km±95km, ML2.9*

NIC ***18*** *01:26:39.2±0.2, 35.53N×27.84E, h64km, mb4.1, ML3.7*

ISC 18 01:26:35.3±1.4, 35°25N±0.03×27°76E±0.03, h3km±10km, n123, σ1§31/147, mb3.6/6, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.01**	**17**	*e*P	**Pg**	**01 26 53.2**	**-1.4**
ARG				*e*S	**Sg**	**01 27 07.1**	**-0.6**
ARG	**Arkhangelos**	**1.01**	**17**	*e*P	**Pg**	**01 26 53.2**	**-1.4**
ARG				*e*S	**Sg**	**01 27 07.1**	**-0.6**
ZKR	**Zakros**	**1.27**	**264**	*e*P	**Pb**	**01 27 00.9**	**+1.0**
ZKR	**Zakros**	**1.27**	**264**	*e*P	**Pb**	**01 27 00.9**	**+1.0**
FETY	**Fethiye**	**1.75**	**37**	*e*PN	**Pn**	**01 27 07.0**	**+0.4**
FETY				*e*SN	**Sg**	**01 27 36.9**	**+5.4**
FETY	**Fethiye**	**1.75**	**37**	*e*Pn	**Pn**	**01 27 07.0**	**+0.4**
TURN	**Turunc**	**1.76**	**23**	*i* P	Pn	01 27 02.8	-3.8
TURN				*i* S	**Sn**	**01 27 28.0**	**-1.6**
TURN	**Turunc**	**1.76**	**23**	*i* S	**Sn**	**01 27 28.0**	**-1.6**
NPS	**Neapolis**	**1.76**	**271**	*e*P	**Pb**	**01 27 08.8**	**+0.6**
NPS	**Neapolis**	**1.76**	**271**	*e*P	**Pb**	**01 27 08.8**	**+0.6**
AKAS	**Kas**	**1.79**	**56**	*i* P	**Pb**	**01 27 08.3**	**-0.5**
AKAS				*i* S	**Sn**	**01 27 30.3**	**-0.3**
AKAS	**Kas**	**1.79**	**56**	*i* P	**Pb**	**01 27 08.3**	**-0.5**
AKAS				*i* S	**Sn**	**01 27 30.3**	**-0.3**
BDRM	**Kayabasi**	**1.83**	**352**	*i* P	**Pn**	**01 27 04.8**	**-2.9**
BDRM				*i* S	**Sn**	**01 27 32.3**	**+0.9**
BDRM	**Kayabasi**	**1.83**	**352**	*i* P	**Pn**	**01 27 04.8**	**-2.9**
BDRM				*i* S	**Sn**	**01 27 32.3**	**+0.9**
BODT	**Bodrum**	**1.84**	**349**	*e*PN	**Pn**	**01 27 06.4**	**-1.5**
BODT				*e*SN	**Sg**	**01 27 34.7**	**+0.2**
BODT	**Bodrum**	**1.84**	**349**	*e*Pn	**Pn**	**01 27 06.4**	**-1.5**
BODT				*e*Sn	**Sg**	**01 27 34.7**	**+0.2**
LAST	**Lasithi**	**1.87**	**268**	*e*P	**Pb**	**01 27 09.9**	**-0.3**
LAST	**Lasithi**	**1.87**	**268**	*e*P	**Pb**	**01 27 09.9**	**-0.3**
ELL	**Elmali**	**2.29**	**49**	*e*PN	**Pn**	**01 27 14.6**	**+0.4**
ELL	**Elmali**	**2.29**	**49**	*e*Pn	**Pn**	**01 27 14.6**	**+0.4**
IDI	**Anoyia**	**2.35**	**272**	Pn	**Pn**	**01 27 15.5**	**+0.6**
	8.3nm,0.3s,baz=63,slow=15,SNR=26						
IDI				Sn	**Sb**	**01 27 47.5**	**-0.3**
	15nm,0.3s,baz=341,slow=12,SNR=4.4						
APE	**Apeiranthos**	**2.56**	**316**	*e*P	**Pn**	**01 27 19.2**	**+1.5**
APE	**Apeiranthos**	**2.56**	**316**	*e*P	**Pn**	**01 27 19.2**	**+1.5**
SMG	**Samos**	**2.56**	**343**	*e*P	**Pn**	**01 27 17.6**	**-0.2**
SMG	**Samos**	**2.56**	**343**	*e*P	**Pn**	**01 27 17.6**	**-0.2**
DNZL	**Cakiroluk**	**2.65**	**23**	*i* P	**Pn**	**01 27 18.9**	**-0.1**
DNZL				*i* S	**Sg**	**01 28 02.5**	**+2.2**
DNZL	**Cakiroluk**	**2.65**	**23**	*i* P	**Pn**	**01 27 18.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**2**	*e*PN	**Pn**	**01 27 19.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**2**	*e*Pn	**Pn**	**01 27 19.3**	**-0.3**
KORT	**Korkueli**	**2.73**	**49**	*i* P	**Pn**	**01 27 21.3**	**+1.1**
KORT				*i* S	**Sb**	**01 27 57.4**	**-1.3**
KORT	**Korkueli**	**2.73**	**49**	*i* P	**Pn**	**01 27 21.3**	**+1.1**
KORT				*i* S	**Sb**	**01 27 57.4**	**-1.3**
ANTB	**Antalya**	**2.86**	**54**	*e*PN	**Pn**	**01 27 22.7**	**+0.9**
ANTB	**Antalya**	**2.86**	**54**	*e*Pn	**Pn**	**01 27 22.7**	**+0.9**
IZM	**Izmir**	**3.17**	**353**	*e*PN	**Pn**	**01 27 25.0**	**-1.1**
IZM	**Izmir**	**3.17**	**353**	*e*Pn	**Pn**	**01 27 25.0**	**-1.1**
BCK	**Bucak**	**3.17**	**45**	*e*PN	**Pn**	**01 27 27.3**	**+1.1**
BCK	**Bucak**	**3.17**	**45**	*e*Pn	**Pn**	**01 27 27.3**	**+1.1**
BLCB	**Balcova**	**3.18**	**350**	*e*PN	**Pn**	**01 27 25.2**	**-1.1**
BLCB	**Balcova**	**3.18**	**350**	*e*Pn	**Pn**	**01 27 25.2**	**-1.1**
KULA	**Kula-Manisa**	**3.34**	**12**	*e*PN	**Pn**	**01 27 29.1**	**+0.6**
KULA	**Kula-Manisa**	**3.34**	**12**	*e*Pn	**Pn**	**01 27 29.1**	**+0.6**
KHL	**Karahalli**	**3.38**	**24**	*e*PN	**Pn**	**01 27 30.1**	**+1.1**
KHL	**Karahalli**	**3.38**	**24**	*e*Pn	**Pn**	**01 27 30.1**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.43**	**49**	*e*PN	**Pn**	**01 27 31.3**	**+1.5**
SUTC	**Sutluce-Ispart**	**3.43**	**49**	*e*Pn	**Pn**	**01 27 31.3**	**+1.5**
AKS	**Akhisar**	**3.62**	**1**	*e*PN	**Pn**	**01 27 32.0**	**-0.3**
AKS	**Akhisar**	**3.62**	**1**	*e*Pn	**Pn**	**01 27 32.0**	**-0.3**
AKMC	**Akamas**	**3.75**	**92**	P	**Pn**	**01 27 34.7**	**+0.6**
	baz=278						
AKMC	**Akamas**	**3.75**	**92**	P	**Pn**	**01 27 34.7**	**+0.6**
PPCY	**Paphos**	**3.78**	**94**	P	**Pn**	**01 27 35.6**	**+1.2**
	baz=281						
PPCY	**Paphos**	**3.78**	**94**	P	**Pn**	**01 27 35.6**	**+1.2**
ALFC	**Alevga**	**3.96**	**90**	⇑P	**Pn**	**01 27 37.6**	**+0.6**
	baz=276						
ALFC				S	**Sn**	**01 28 23.3**	**-0.8**
ALFC	**Alevga**	**3.96**	**90**	⇑P	**Pn**	**01 27 37.6**	**+0.6**
ALFC				S	**Sn**	**01 28 23.3**	**-0.8**
SHUT	**Suhut-Afyon**	**3.98**	**33**	*e*PN	**Pn**	**01 27 38.5**	**+1.1**
SHUT	**Suhut-Afyon**	**3.98**	**33**	*e*Pn	**Pn**	**01 27 38.5**	**+1.1**
VLI	**Veliai**	**4.18**	**292**	*e*P	**Pn**	**01 27 42.0**	**+2.1**
VLI	**Veliai**	**4.18**	**292**	*e*P	**Pn**	**01 27 42.0**	**+2.1**
HMAT	**Matruh**	**4.18**	**188**	P	**Pn**	**01 27 39.9**	**-0.1**
	baz=189						
HMAT				S	**Sn**	**01 28 28.6**	**-0.8**
	baz=189						
HMAT	**Matruh**	**4.18**	**188**	P	**Pn**	**01 27 39.9**	**-0.1**
HMAT				S	**Sn**	**01 28 28.6**	**-0.8**
LEF	**Lefka**	**4.20**	**90**	*e*PN	**Pn**	**01 27 37.7**	**-2.6**
LEF	**Lefka**	**4.20**	**90**	*e*Pn	**Pn**	**01 27 37.7**	**-2.6**
SZAC	**Souni-Zanaja**	**4.23**	**95**	P	**Pn**	**01 27 41.5**	**+0.7**
	baz=281						
SZAC				S	**Sn**	**01 28 30.9**	**+0.2**
SZAC	**Souni-Zanaja**	**4.23**	**95**	P	**Pn**	**01 27 41.5**	**+0.7**
SZAC				S	**Sn**	**01 28 30.9**	**+0.2**
ALT	**Altintas**	**4.24**	**26**	*e*PN	**Pn**	**01 27 42.5**	**+1.7**
ALT	**Altintas**	**4.24**	**26**	*e*Pn	**Pn**	**01 27 42.5**	**+1.7**
SLUM		**4.31**	**210**	P	**Pn**	**01 27 42.6**	**+0.8**
	baz=211						
SLUM				S	**Sn**	**01 28 31.7**	**-0.9**
	baz=211						
SLUM		**4.31**	**210**	P	**Pn**	**01 27 42.6**	**+0.8**
SLUM				S	**Sn**	**01 28 31.7**	**-0.9**
BALB	**Balikesir**	**4.38**	**1**	*e*PN	**Pn**	**01 27 43.2**	**+0.4**
BALB	**Balikesir**	**4.38**	**1**	*e*Pn	**Pn**	**01 27 43.2**	**+0.4**
TVSB	**Tavsanli**	**4.41**	**17**	*e*PN	**Pn**	**01 27 43.5**	**+0.4**
TVSB	**Tavsanli**	**4.41**	**17**	*e*Pn	**Pn**	**01 27 43.6**	**+0.4**
MAMC	**Mammari**	**4.47**	**89**	P	**Pn**	**01 27 44.8**	**+0.8**
	baz=276						
MAMC	**Mammari**	**4.47**	**89**	P	**Pn**	**01 27 44.8**	**+0.8**
KONT	**Konya--Tatoy**	**4.57**	**53**	*e*PN	**Pn**	**01 27 47.5**	**+2.0**
KONT	**Konya--Tatoy**	**4.57**	**53**	*e*Pn	**Pn**	**01 27 47.5**	**+2.0**
LFK	**Lefkose**	**4.72**	**88**	*e*PN	**Pn**	**01 27 45.7**	**-1.8**
LFK	**Lefkose**	**4.72**	**88**	*e*Pn	**Pn**	**01 27 45.7**	**-1.8**
LADK	**Ladik-KONYA**	**4.73**	**50**	*e*PN	**Pn**	**01 27 49.4**	**+1.8**
LADK	**Ladik-KONYA**	**4.73**	**50**	*e*Pn	**Pn**	**01 27 49.4**	**+1.8**
GONE	**Gonen-Balikesi**	**4.79**	**359**	*e*PN	**Pn**	**01 27 48.3**	**0.0**
GONE	**Gonen-Balikesi**	**4.79**	**359**	*e*Pn	**Pn**	**01 27 48.3**	**0.0**
IKL	**Isikli**	**4.92**	**77**	*e*PN	**Pn**	**01 27 50.5**	**+0.4**
IKL	**Isikli**	**4.92**	**77**	*e*Pn	**Pn**	**01 27 50.5**	**+0.4**
KCTX	**Karacabey (Bur**	**5.03**	**5**	*e*PN	**Pn**	**01 27 52.5**	**+0.9**
KCTX	**Karacabey (Bur**	**5.03**	**5**	*e*Pn	**Pn**	**01 27 52.5**	**+0.9**
EDC	**Edincik**	**5.09**	**1**	*e*PN	**Pn**	**01 27 53.0**	**+0.5**
EDC	**Edincik**	**5.09**	**1**	*e*Pn	**Pn**	**01 27 53.0**	**+0.5**
AFSR	**Af ar-Bala (A**	**5.95**	**44**	*e*PN	**Pn**	**01 28 06.6**	**+2.2**
AFSR	**Af ar-Bala (A**	**5.95**	**44**	*e*Pn	**Pn**	**01 28 06.6**	**+2.2**
SWA2		**6.30**	**199**	P	**Pn**	**01 28 09.0**	**-0.1**
	baz=199						
SWA2		**6.30**	**199**	P	**Pn**	**01 28 09.0**	**-0.1**
BRTR	**Keskin Array B**	**6.46**	**45**	Pn	**Pn**	**01 28 13.0**	**+1.5**
	0.2nm,0.3s,baz=216,slow=15,SNR=10						
BRTR				Sn	**Sn**	**01 29 25.9**	**+0.1**
	0.4nm,0.3s,baz=212,slow=27,SNR=8.3						
HSAF	**As Saff**	**6.47**	**149**	P	**Pn**	**01 28 11.1**	**-0.3**
	baz=150						
HSAF	**As Saff**	**6.47**	**149**	P	**Pn**	**01 28 11.1**	**-0.3**
AMAG	**Maghara**	**6.49**	**134**	P	**Pn**	**01 28 11.1**	**-0.6**
	baz=134						
AMAG	**Maghara**	**6.49**	**134**	P	**Pn**	**01 28 11.1**	**-0.6**
GLL	**Jalalah**	**6.57**	**148**	P	**Pn**	**01 28 12.5**	**-0.4**
	baz=149						
GLL	**Jalalah**	**6.57**	**148**	P	**Pn**	**01 28 12.5**	**-0.4**
RSH		**6.58**	**129**	P	**Pn**	**01 28 11.7**	**-1.3**
	baz=130						
RSH		**6.58**	**129**	P	**Pn**	**01 28 11.7**	**-1.3**
MMAI	**Mount Meron Ar**	**6.72**	**107**	Pn	**Pn**	**01 28 14.8**	**-0.1**
	3.5nm,0.3s,baz=299,slow=12,SNR=14						
MMAI				Sn	**Sn**	**01 29 28.9**	**-3.1**
	3.6nm,0.3s,baz=310,slow=25,SNR=4.0						
SUZ		**6.89**	**140**	P	**Pn**	**01 28 16.6**	**-0.6**
	baz=141						
SUZ		**6.89**	**140**	P	**Pn**	**01 28 16.6**	**-0.6**
BIDA	**Albida**	**7.02**	**89**	*e*P	**Pn**	**01 28 17.8**	**-1.3**
BIDA				*e*S	Sn	01 29 28.2	-11
BIDA				AML	AML	01 29 36.1	
	comp=Z,77nm,0.3s						
BIDA				AML	AML	01 29 39.6	
	comp=E,27nm,0.4s						
BIDA				AML	AML	01 29 40.0	
	comp=N,50nm,0.3s						
BIDA	**Albida**	**7.02**	**89**	*e*P	**Pn**	**01 28 17.8**	**-1.3**
	SNR=45						
BRBR	**Barbar**	**7.02**	**103**	*e*P	**Pn**	**01 28 17.4**	**-1.8**
BRBR				*e*S	Sn	01 29 28.4	-11
BRBR				AML	AML	01 29 40.3	
	comp=Z,19nm,0.6s						
BRBR				AML	AML	01 29 40.7	
	comp=E,15nm,0.9s						
BRBR				AML	AML	01 29 49.7	
	comp=N,9.0nm,0.6s						
BRBR	**Barbar**	**7.02**	**103**	*e*P	**Pn**	**01 28 17.4**	**-1.8**
	SNR=45						
WRDH	**Warideh**	**7.07**	**85**	*e*P	**Pn**	**01 28 18.0**	**-1.8**
WRDH				*e*S	Sn	01 29 29.5	-11
WRDH				AML	AML	01 29 41.2	
	comp=E,17nm,0.3s						
WRDH				AML	AML	01 29 41.8	
	comp=Z,18nm,0.3s						
WRDH				AML	AML	01 29 43.6	
	comp=N,9.3nm,0.3s						
WRDH	**Warideh**	**7.07**	**85**	*e*P	**Pn**	**01 28 18.0**	**-1.8**
	SNR=45						
BTCH	**Batrach**	**7.13**	**81**	*e*P	**Pn**	**01 28 19.7**	**-0.8**
BTCH				*e*S	Sn	01 29 32.0	-10
BTCH				AML	AML	01 29 43.5	
	comp=E,21nm,0.3s						
BTCH				AML	AML	01 29 46.6	
	comp=N,22nm,0.6s						
BTCH				AML	AML	01 29 51.0	
	comp=Z,13nm,0.4s						
BTCH	**Batrach**	**7.13**	**81**	*e*P	**Pn**	**01 28 19.7**	**-0.8**
	SNR=45						
HAWK	**Haweek**	**7.14**	**93**	*e*P	**Pn**	**01 28 19.3**	**-1.5**
HAWK				*e*S	Sn	01 29 31.5	-11
HAWK				AML	AML	01 29 40.5	
	comp=Z,18nm,0.6s						
HAWK				AML	AML	01 29 44.2	
	comp=N,11nm,0.5s						
HAWK				AML	AML	01 29 44.4	
	comp=E,19nm,0.3s						
HAWK	**Haweek**	**7.14**	**93**	*e*P	**Pn**	**01 28 19.3**	**-1.5**
	SNR=45						
HNKL	**Nakhl**	**7.46**	**134**	P	**Pn**	**01 28 24.4**	**-0.7**
	baz=134						
HNKL	**Nakhl**	**7.46**	**134**	P	**Pn**	**01 28 24.4**	**-0.7**
ASF	**Jabal al Asfar**	**8.21**	**109**	Sn	**Sn**	**01 30 07.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=90,slow=23,SNR=2.0						
EIL	**Elat**	**8.24**	**130**	Pn	**Pn**	**01 28 37.2**	**+1.5**
	comp=E,0.5nm,0.3s,baz=214,slow=20,SNR=19						
EIL				Sn	**Sn**	**01 30 04.9**	**-4.5**
	comp=E,0.5nm,0.3s,baz=326,slow=11,SNR=2.3						
ESDC	**Sonseca Array**	**25.49**	**289**	P	**P**	**01 32 05.0**	**+0.1**
	comp=E,0.5nm,0.5s,baz=78,slow=10,SNR=6.8						
HFS	**Hagfors**	**26.52**	**344**	P	**P**	**01 32 11.8**	**-2.1**
	comp=E,1.7nm,0.7s,baz=156,slow=11,SNR=5.5						
TORD	**Torodi Ar. Bea**	**32.22**	**233**	P	**P**	**01 33 06.3**	**+1.4**
	comp=E,0.4nm,0.3s,baz=35,slow=8.3,SNR=9.3						
DBIC	**Dimbokro**	**41.32**	**234**	P	**P**	**01 34 23.2**	**+0.9**
	comp=E,1.1nm,0.8s,baz=59,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**41.95**	**57**	P	**P**	**01 34 27.9**	**+0.6**
	comp=E,0.2nm,0.5s,baz=269,slow=8.4,SNR=6.6						
SONM	**Songino Array**	**57.77**	**51**	P	**P**	**01 36 28.8**	**+1.0**
	comp=E,0.1nm,0.4s,baz=291,slow=7.0,SNR=2.4						

IDC 18 01:32:04.3±13.0, 8°70S×126°74E, h240km±159km, mb3.1/3, mb1 3.3/4, mb1mx3.0/29, mbtmp3.8/4, Error ellipse: s-maj=131.9km s-min=72.4km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.38**	**147**	P	P	01 35 06.5	-0.5
	2.4nm,0.3s,baz=320,slow=14,SNR=26						
WRA				S	S	01 37 32.4	-1.3
	0.9nm,0.3s,baz=326,slow=23,SNR=6.2						
MKAR	**Makanchi Array**	**67.93**	**329**	P	P	01 42 37.6	+0.3
	0.6nm,0.8s,baz=122,slow=7.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**71.72**	**335**	P	P	01 42 59.8	-0.4
	0.3nm,0.4s,baz=166,slow=8.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**72.31**	**330**	P	P	01 43 03.9	+0.2
	0.1nm,0.3s,baz=140,slow=4.6,SNR=6.2						

DJA 18 02:52:55.5±1.0, 9°S±15°×11°5E±°, h89km±9km, M3.8/6, MLv3.8/6, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.34**	**67**	P	Pn	02 53 10.6	+1.6
JAGI	**Jajag, Banyuwa**	**0.80**	**295**	P	Pn	02 53 13.7	+0.7
JAGI				S	Sn	02 53 27.7	+1.6
ABJI	**Asem Bagus**	**1.20**	**327**	P	Pn	02 53 17.3	-0.2
GMJI	**Gumukmas**	**1.53**	**290**	P	Pn	02 53 21.8	+0.3
GMJI				S	Sn	02 53 42.7	+1.5
BLJI	**Banyuglugur**	**1.66**	**309**	P	Pn	02 53 23.5	+0.2
PWJI	**Pagerwojo**	**3.15**	**284**	P	Pn	02 53 42.1	-1.0

IDC ***18*** *02:55:09.4±0.8, 7.79N×93.84E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.9/37, mbtmp3.9/15, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/36, Error ellipse: s-maj=27.8km s-min=20.1km az=65.0*

ISCJB ***18*** *02:55:10.7±0.6, 7.80N±0.09×93.9E±0.1, h18km, mb4.0/15, Error ellipse: s-maj=18.6km s-min=10.9km az=154.4*

ISC 18 02:55:12.7±0.7, 7°8N±0.1×93°8E±0.1, h18km, n28, σ1§20/23, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.11**	**134**	Pn	**Pn**	**02 56 57.5**	**+1.4**
	1.1nm,0.3s,baz=303,slow=9.8,SNR=4.0						
PSI				LR	LR	02 59 54.8	
	comp=Z,192nm,18.8s,baz=291,slow=40						
CMAR	**Chiang Mai Arr**	**11.67**	**25**	Pn	**Pn**	**02 57 58.3**	**-0.2**
	baz=215,slow=15,SNR=2.2						
RAMN	**Ramite**	**20.22**	**341**	*e*P	Pn	02 59 48.8	-0.3
	37nm,0.9s						
TAPN	**Taplejung**	**20.27**	**344**	*e*P	Pn	02 59 49.3	-0.5
JIRN	**Jiri**	**21.01**	**341**	*e*P	**P**	**02 59 57.7**	**+1.9**
	16nm,0.8s						
PKI	**Pulchoki**	**21.20**	**339**	*e*P	**P**	**02 59 59.2**	**+1.4**
	7.8nm,0.5s						
GUN	**Gumba**	**21.35**	**340**	*e*P	**P**	**03 00 00.3**	**+0.9**
	11nm,0.6s						
KOLN	**Koldanda**	**22.07**	**335**	*e*P	**P**	**03 00 09.4**	**+2.3**
DANN	**Dangsing**	**22.52**	**336**	*e*P	**P**	**03 00 12.6**	**+0.6**
	19nm,1.0s						
H08S3	**Diego Garcia H**	**26.25**	**235**	T	T	03 27 32.9	
	baz=54,slow=0.7,SNR=89						
H08S2	**Diego Garcia H**	**26.25**	**235**	T	T	03 27 32.7	
	baz=54,slow=0.7,SNR=84						
H08S1	**Diego Carcia H**	**26.27**	**235**	T	T	03 27 34.1	
	baz=54,slow=0.7,SNR=7.5						
MKAR	**Makanchi Array**	**40.07**	**348**	P	**P**	**03 02 46.6**	**-0.4**
	0.5nm,0.6s,baz=153,slow=9.2,SNR=4.0						
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**03 02 57.0**	**0.0**
	1.3nm,0.8s,baz=190,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**46.56**	**353**	P	**P**	**03 03 39.5**	**+0.2**
	1.9nm,0.4s,baz=180,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**48.48**	**125**	P	**P**	**03 03 52.7**	**-2.0**
	0.8nm,0.5s,

mb1 4.1/29,mb1mx4.0/41,mbtmp4.0/29,ML3.9/5,MS3.0/1, Ms1 3.0/1,ms1mx2.5/36,Error ellipse: s-maj=18.9km s-min=10.3km az=170.0

TEH ***18*** *03:13:41.5,32°.37N×47°.03E,h11km,ML4.0*

CSEM ***18*** *03:13:41.8±0.2,32°.42N×47°.05E,h19km,mb4.4/29,Error ellipse: s-maj=5.1km s-min=3.5km az=178.0*

THR ***18*** *03:13:41.1±0.3,32°.25N×46°.94E,h46km±3km,ML4.0*

MOS ***18*** *03:13:42.2±1.2,32°.50N×47°.03E,h36km,mb4.5/29,Error ellipse: s-maj=7.7km s-min=5.1km az=108.8*

NEIC ***18*** *03:13:44.5±0.4,32°.45N×47°.09E,h43km±4km, mb4.4/16, Error ellipse: s-maj=5.5km s-min=3.4km az=187.0*

ISC 18 03:13:41.9±0.9, 32°.46N±0°.02×47°.06E±0°.03, h18km±4km, n365,σ1§13/398, mb4.3/43, 18C-15D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**1.15**	**304**	*e*Pb		**Pg**	**03 14 05.7**	**+1.5**
IBDR				*e*Sb		**Sb**	**03 14 17.2**	**-0.7**
IKFM	**Kafar-mosalman**	**1.25**	**32**	*e*Pg		**Pn**	**03 14 03.4**	**-1.0**
IKFM	**Kafar-mosalman**	**1.25**	**32**	*e*Pg		**Pn**	**03 14 03.4**	**-1.0**
SHGR	**Shooshtar-Gavs**	**1.51**	**103**	Pg		**Pb**	**03 14 10.0**	**+0.6**
SHGR				Sg		**Sg**	**03 14 31.0**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.51**	**103**	*e*Pg		**Pb**	**03 14 10.0**	**+0.6**
SHGR				*e*Sg		**Sg**	**03 14 31.0**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.51**	**103**	*e*Pg		**Pb**	**03 14 10.0**	**+0.6**
SHGR				*e*Sg		**Sg**	**03 14 31.2**	**+0.4**
SHGR				AML		AML	03 14 34.2	
	comp=E,2μm,0.8s							
SHGR				AML		AML	03 14 35.9	
	comp=N,1μm,0.7s							
IKMR	**Kamar-syah**	**1.53**	**46**	*e*Pn		**Pn**	**03 14 08.2**	**0.0**
IKMR	**Kamar-syah**	**1.53**	**46**	*e*Pn		**Pn**	**03 14 08.2**	**0.0**
IDOB	**Doab**	**1.62**	**35**	*e*Pn		**Pb**	**03 14 11.0**	**-0.3**
IDOB				*e*Sg		**Sb**	**03 14 33.5**	**+2.0**
IDOB	**Doab**	**1.62**	**35**	*e*Pn		**Pb**	**03 14 11.0**	**-0.3**
IDOB				*e*Sg		**Sb**	**03 14 33.5**	**+2.0**
NSR	**Nassriya**	**1.65**	**209**	*e*PN4		**Pg**	**03 14 13.2**	**-0.4**
NSR				*e*Pg		**Pg**	**03 14 14.0**	**+0.4**
NSR				*e*SN4		**Sn**	**03 14 30.7**	**+0.1**
NSR				*e*Sg		**Sg**	**03 14 37.0**	**+1.9**
IKOM	**Komasi**	**1.75**	**12**	*e*Pn		**Pb**	**03 14 13.1**	**-0.4**
IKOM				*e*Sg		**Sg**	**03 14 39.2**	**+0.9**
IKOM				*e*			03 14 40.4	
	comp=Z,55μm,0.4s							
IKOM	**Komasi**	**1.75**	**12**	Pn		**Pb**	**03 14 13.0**	**-0.4**
IKOM				Sg		**Sg**	**03 14 39.1**	**+0.9**
IKOM	**Komasi**	**1.75**	**12**	*e*Pn		**Pb**	**03 14 13.1**	**-0.4**
IKOM				*e*Sg		**Sg**	**03 14 39.2**	**+0.9**
IGHG	**Ghaleghazi**	**1.91**	**348**	*e*Pn		**Pb**	**03 14 15.4**	**-0.9**
IGHG				*e*			03 14 52.5	
	comp=Z,27μm,0.2s							
IGHG	**Ghaleghazi**	**1.91**	**348**	Pn		**Pb**	**03 14 15.6**	**-0.7**
IGHG	**Ghaleghazi**	**1.91**	**348**	*e*Pn		**Pb**	**03 14 15.4**	**-0.9**
IVIS	**Veis**	**2.06**	**355**	*e*Pn		**Pn**	**03 14 17.5**	**+1.7**
IVIS				*e*Sg		**Sg**	**03 14 48.7**	**+0.3**
IVIS				*e*			03 14 54.5	
	comp=Z,19μm,0.2s							
IVIS	**Veis**	**2.06**	**355**	Pn		**Pn**	**03 14 17.4**	**+1.7**
IVIS				Sn		**Sb**	**03 14 44.4**	**+0.1**
IVIS	**Veis**	**2.06**	**355**	*e*Pn		**Pn**	**03 14 17.5**	**+1.7**
IVIS				Sn		**Sb**	**03 14 44.4**	**+0.1**
IVIS				*e*Sg		**Sg**	**03 14 48.7**	**+0.3**
IBZA	**Bozab**	**2.11**	**18**	*e*Pn		**Pn**	**03 14 17.7**	**+1.2**
IBZA				*e*			03 14 50.8	
	comp=Z,13μm,0.3s							
IBZA	**Bozab**	**2.11**	**18**	Pn		**Pn**	**03 14 17.6**	**+1.2**
IBZA	**Bozab**	**2.11**	**18**	*e*Pn		**Pn**	**03 14 17.7**	**+1.2**
IDHR	**Dehrash**	**2.30**	**346**	*e*Pn		**Pn**	**03 14 20.6**	**+1.6**
IDHR				*e*			03 15 01.1	
	comp=Z,18μm,0.2s							
IDHR	**Dehrash**	**2.30**	**346**	Pn		**Pn**	**03 14 20.7**	**+1.6**
IDHR	**Dehrash**	**2.30**	**346**	*e*Pn		**Pn**	**03 14 20.6**	**+1.6**
BHD	**Baghdad**	**2.40**	**290**	*e*PN4		**Pn**	**03 14 19.5**	**-0.7**
BHD				*e*SN4		Sn	03 14 41.6	-7.5
BHD				*e*SG		**Sb**	**03 14 54.8**	**+1.1**
BHD	**Baghdad**	**2.40**	**290**	*e*Pn		**Pn**	**03 14 19.5**	**-0.7**
	SNR=39							
BHD				*e*Sn		Sn	03 14 41.6	-7.5
	SNR=39							
BHD				*e*Sg		**Sb**	**03 14 54.8**	**+1.1**
	SNR=90							
ILIN	**Lien**	**2.45**	**358**	*e*Pn		**Pn**	**03 14 22.8**	**+1.6**
ILIN				*e*			03 15 09.2	
	comp=Z,10μm,0.3s							
ILIN	**Lien**	**2.45**	**358**	Pn		**Pn**	**03 14 22.8**	**+1.6**
ILIN				Sn		**Sb**	**03 14 53.8**	**-1.7**
ILIN	**Lien**	**2.45**	**358**	*e*Pn		**Pn**	**03 14 22.8**	**+1.6**
ILIN				Sn		**Sb**	**03 14 53.8**	**-1.7**
SNGE	**Sanandaj**	**2.63**	**5**	Pn		**Pn**	**03 14 25.0**	**+1.3**
SNGE	**Sanandaj**	**2.63**	**5**	Pn		**Pn**	**03 14 25.0**	**+1.3**
SNGE	**Sanandaj**	**2.63**	**5**	*e*Pn		**Pn**	**03 14 25.5**	**+1.9**
SNGE				AML		AML	03 15 09.3	
	comp=N,446nm,0.5s							
KHMZ	**Khomeyn**	**2.74**	**62**	*e*Pn		**Pn**	**03 14 26.7**	**+1.5**
KHMZ	**Khomeyn**	**2.74**	**62**	*e*Pn		**Pn**	**03 14 26.7**	**+1.5**
ASAO	**Ashtian**	**3.23**	**49**	Pn		**Pn**	**03 14 33.0**	**+1.1**
ASAO				Sg		**Sg**	**03 15 26.0**	**+0.2**
ASAO	**Ashtian**	**3.23**	**49**	*e*Pn		**Pn**	**03 14 33.7**	**+1.8**
ASAO	**Ashtian**	**3.23**	**49**	*e*Pn		**Pn**	**03 14 33.7**	**+1.8**
ASAO				*e*Sg		**Sg**	**03 15 26.4**	**+0.6**
ASAO				AML		AML	03 15 30.4	
	comp=N,386nm,0.6s							
ASAO				AML		AML	03 15 32.5	
	comp=E,285nm,0.6s							
IPIR	**Pirpir**	**3.24**	**85**	*e*Pn		**Pn**	**03 14 32.9**	**+0.8**
IPIR				*e*			03 15 27.7	
	comp=Z,3μm,0.3s							
IPIR	**Pirpir**	**3.24**	**85**	Pn		**Pn**	**03 14 33.0**	**+0.9**
IPIR	**Pirpir**	**3.24**	**85**	*e*Pn		**Pn**	**03 14 32.9**	**+0.8**
IKRK	**Kirkuk**	**3.70**	**323**	*e*PN4		Pn	03 14 42.8	+4.6
IKRK				*e*SN4		**Sn**	**03 15 21.0**	**-0.3**
IRAZ	**Razeghan**	**3.78**	**38**	*e*Pn		**Pn**	**03 14 41.0**	**+1.6**
IRAZ				*e*			03 14 53.9	
	comp=Z,3μm,0.2s							
IRAZ	**Razeghan**	**3.78**	**38**	Pn		**Pn**	**03 14 41.2**	**+1.8**
IRAZ	**Razeghan**	**3.78**	**38**	*e*Pn		**Pn**	**03 14 41.0**	**+1.6**
IKLH	**Kolahrood**	**3.89**	**76**	*e*Pn		**Pn**	**03 14 42.4**	**+1.3**
IKLH				*e*			03 15 54.2	
	comp=Z,2μm,0.3s							
IKLH	**Kolahrood**	**3.89**	**76**	Pn		**Pn**	**03 14 42.3**	**+1.3**
IKLH	**Kolahrood**	**3.89**	**76**	*e*Pn		**Pn**	**03 14 42.4**	**+1.3**
QAM	**Ghamsar**	**3.89**	**69**	*e*Pn		Pn	03 14 44.9	+3.9
GHVR	**GHOM**	**4.07**	**59**	Pn		**Pn**	**03 14 44.0**	**+0.7**
GHVR	**GHOM**	**4.07**	**59**	*e*Pn		**Pn**	**03 14 44.5**	**+1.2**
	comp=Z,188nm,0.7s							
GHVR	**GHOM**	**4.07**	**59**	*e*Pn		**Pn**	**03 14 44.5**	**+1.2**
GHVR				AML		AML	03 15 54.7	
	comp=E,188nm,0.7s							
IMHD	**Mahdasht**	**4.39**	**42**	*e*Pn		**Pn**	**03 14 49.0**	**+1.3**
IMHD				*e*			03 15 16.3	
	comp=Z,1μm,0.3s							
IMHD	**Mahdasht**	**4.39**	**42**	Pn		**Pn**	**03 14 48.7**	**+1.0**
IMHD	**Mahdasht**	**4.39**	**42**	*e*Pn		**Pn**	**03 14 49.0**	**+1.3**
ZNJK	**Zanjan**	**4.40**	**17**	Pn		**Pn**	**03 14 50.0**	**+2.0**
ZNJK	**Zanjan**	**4.40**	**17**	Pn		**Pn**	**03 14 50.0**	**+2.0**
ZNJK	**Zanjan**	**4.40**	**17**	*e*Pn		**Pn**	**03 14 50.2**	**+2.2**
IZEF	**Zefreh**	**4.46**	**83**	*e*Pn		**Pn**	**03 14 49.4**	**+0.5**
IZEF				*e*			03 16 12.6	
	comp=Z,677nm,0.3s							
IZEF	**Zefreh**	**4.46**	**83**	Pn		**Pn**	**03 14 49.6**	**+0.8**
IZEF	**Zefreh**	**4.46**	**83**	*e*Pn		**Pn**	**03 14 49.4**	**+0.5**
IVRN	**Varamin**	**4.63**	**56**	*e*Pn		**Pn**	**03 14 52.0**	**+1.0**
IVRN				*e*			03 15 16.2	
	comp=Z,1μm,0.3s							
IVRN	**Varamin**	**4.63**	**56**	Pn		**Pn**	**03 14 51.6**	**+0.6**
IVRN	**Varamin**	**4.63**	**56**	*e*Pn		**Pn**	**03 14 52.0**	**+1.0**
IGZV	**Ghazvin**	**4.70**	**33**	*e*Pn		**Pn**	**03 14 53.4**	**+1.3**
IGZV				*e*			03 15 17.7	
	comp=Z,997nm,0.3s							
IGZV	**Ghazvin**	**4.70**	**33**	Pn		**Pn**	**03 14 53.4**	**+1.3**
IGZV	**Ghazvin**	**4.70**	**33**	*e*Pn		**Pn**	**03 14 53.4**	**+1.3**
NASN	**Na'in**	**4.86**	**85**	Pn		**Pn**	**03 14 55.0**	**+0.7**
NASN	**Na'in**	**4.86**	**85**	*e*Pn		**Pn**	**03 14 55.1**	**+0.7**
NASN	**Na'in**	**4.86**	**85**	*e*Pn		**Pn**	**03 14 55.1**	**+0.7**
IDMV	**Damavand**	**5.16**	**52**	*e*Pn		**Pn**	**03 14 59.0**	**+0.5**
IDMV				*e*			03 15 25.6	
	comp=Z,813nm,0.3s							
IDMV	**Damavand**	**5.16**	**52**	Pn		**Pn**	**03 14 59.0**	**+0.5**
IDMV	**Damavand**	**5.16**	**52**	*e*Pn		**Pn**	**03 14 59.0**	**+0.5**
IBST	**Bostanabad**	**5.23**	**359**	*e*Pn		**Pn**	**03 15 00.5**	**+1.2**
IBST	**Bostanabad**	**5.23**	**359**	Pn		**Pn**	**03 15 01.0**	**+1.7**
IBST	**Bostanabad**	**5.23**	**359**	*e*Pn		**Pn**	**03 15 00.5**	**+1.2**
IAZR	**Azarshahr**	**5.28**	**351**	*e*Pn		**Pn**	**03 15 01.1**	**+1.1**
IAZR				*e*			03 15 59.2	
	comp=Z,2μm,0.2s							
IAZR	**Azarshahr**	**5.28**	**351**	Pn		**Pn**	**03 15 01.1**	**+1.1**
IAZR	**Azarshahr**	**5.28**	**351**	*e*Pn		**Pn**	**03 15 01.1**	**+1.1**
CUKT	**Cukurca**	**5.55**	**330**	*e*P		**Pn**	**03 15 04.5**	**+0.8**
IFIR	**Firoozkooh**	**5.69**	**55**	*e*		Pb	03 15 17.5	-3.2
	comp=Z,331nm,0.2s							
IFIR				*e*Pn		**Pn**	**03 15 06.4**	**+0.7**
ILAS	**Lasjerd**	**5.70**	**58**	*e*		Pg	03 15 37.3	+6.3
	comp=Z,396nm,0.2s							
ILAS				*e*Pn		**Pn**	**03 15 04.0**	**-1.8**
RTB	**Rutbah**	**5.72**	**277**	*e*PN4		**Pn**	**03 15 05.4**	**-0.6**
RTB				*e*SN4		Sn	03 15 57.0	-14
RTB				*e*SG		Sg	03 16 54.6	+9.1
RTB	**Rutbah**	**5.72**	**277**	*e*Pn		**Pn**	**03 15 05.4**	**-0.6**
	SNR=39							
RTB				*e*Sn		Sn	03 15 57.0	-14
	SNR=39							
RTB				*e*Sg		Sg	03 16 54.6	+9.1
	SNR=90							
IPAR	**Pars**	**5.76**	**115**	*e*Pn		**Pn**	**03 15 06.0**	**-0.7**
IPAR				*e*			03 16 25.6	
	comp=Z,528nm,0.3s							
IPAR	**Pars**	**5.76**	**115**	Pn		**Pn**	**03 15 05.4**	**-1.3**
IPAR	**Pars**	**5.76**	**115**	*e*Pn		**Pn**	**03 15 06.0**	**-0.7**
HAKT	**HAKKARI**	**5.78**	**332**	*i* P		**Pn**	**03 15 07.2**	**+0.3**
HAKT				*i* S		**Sn**	**03 16 12.0**	**-0.9**
ITBZ	**Tabriz**	**5.80**	**353**	*e*			03 15 35.5	
	comp=Z,292nm,0.4s							
ITBZ				*e*Pn		**Pn**	**03 15 07.6**	**+0.3**
IHRS	**Heris**	**5.84**	**360**	*e*Pn		**Pn**	**03 15 08.8**	**+1.1**
IHRS				*e*			03 16 06.9	
	comp=Z,321nm,0.3s							
IHRS	**Heris**	**5.84**	**360**	Pn		**Pn**	**03 15 09.1**	**+1.3**
IHRS	**Heris**	**5.84**	**360**	*e*Pn		**Pn**	**03 15 08.8**	**+1.1**
IALA	**Alasht**	**5.97**	**51**	*e*Pn		**Pn**	**03 15 10.4**	**+0.8**
IALA	**Alasht**	**5.97**	**51**	Pn		**Pn**	**03 15 10.7**	**+1.1**
IALA	**Alasht**	**5.97**	**51**	*e*Pn		**Pn**	**03 15 10.4**	**+0.8**
ISRV	**Sarvestan**	**6.04**	**119**	*e*Pn		**Pn**	**03 15 10.0**	**-0.6**
ISRV				*e*			03 17 38.5	
	comp=Z,727nm,0.4s							
ISRV	**Sarvestan**	**6.04**	**119**	Pn		**Pn**	**03 15 11.1**	**+0.5**
ISRV	**Sarvestan**	**6.04**	**119**	*e*Pn		**Pn**	**03 15 10.0**	**-0.6**
ISHM	**Shahmirzad**	**6.15**	**55**	*e*Pn		**Pn**	**03 15 12.2**	**+0.2**
ISHM				*e*			03 15 43.6	
	comp=Z,680nm,0.2s							
ISHM	**Shahmirzad**	**6.15**	**55**	Pn		**Pn**	**03 15 12.2**	**+0.2**
ISHM	**Shahmirzad**	**6.15**	**55**	*e*Pn		**Pn**	**03 15 12.3**	**+0.2**
SIRN	**S¯¯rnak**	**6.31**	**324**	*i* P		**Pn**	**03 15 13.4**	**-0.6**
SIRN				*i* S		**Sn**	**03 16 23.0**	**-2.6**
IANJ	**Anjilo**	**6.43**	**60**	*e*Pn		**Pn**	**03 15 15.4**	**-0.5**
IANJ				*e*			03 15 46.9	
	comp=Z,393nm,0.3s							
IANJ	**Anjilo**	**6.43**	**60**	Pn		**Pn**	**03 15 15.3**	**-0.5**
IANJ	**Anjilo**	**6.43**	**60**	*e*Pn		**Pn**	**03 15 15.4**	**-0.5**
IKIA	**Kiasar**	**6.63**	**54**	*e*Pn		**Pn**	**03 15 19.4**	**+0.8**
IKIA				*e*			03 17 31.5	
	comp=Z,234nm,0.4s							
IKIA	**Kiasar**	**6.63**	**54**	Pn		**Pn**	**03 15 20.0**	**+1.4**
IKIA	**Kiasar**	**6.63**	**54**	*e*Pn		**Pn**	**03 15 19.4**	**+0.8**
TVAN	**Van**	**6.75**	**335**	*i* P		**Pn**	**03 15 20.3**	**+0.1**
TVAN				*i* S		**Sn**	**03 16 40.2**	**+3.6**
IGLO	**Ghaloghah**	**6.89**	**52**	*e*Pn		**Pn**	**03 15 22.8**	**+0.7**
IGLO				*e*			03 15 52.5	
	comp=Z,433nm,0.4s							
IGLO	**Ghaloghah**	**6.89**	**52**	Pn		**Pn**	**03 15 23.5**	**+1.4**
CLDR	**Calidiran**	**7.14**	**340**	*e*Pn		**Pn**	**03 15 25.7**	**+0.2**
BEST	**Besiri**	**7.20**	**320**	*i* P		**Pn**	**03 15 25.8**	**-0.4**
BEST				*i* S		**Sn**	**03 16 46.4**	**-1.1**
BTMT	**Batman**	**7.31**	**323**	*e*P		**Pn**	**03 15 27.5**	**-0.2**
MAZI	**Mazidag**	**7.37**	**314**	*e*P		Pb	03 15 39.8	-10
TUTA	**Tutak**	**7.73**	**335**	*i* P		**Pn**	**03 15 33.4**	**-0.3**
TUTA				*i* S		Sn	03 16 42.3	-19
AGRB	**Hanur-Agry**	**7.83**	**336**	*e*P		Pn	03 15 31.5	-3.5
DYBB	**Diyarbakir**	**7.88**	**316**	*e*P		Pn	03 15 42.5	+6.9
GNI	**Garni**	**7.89**	**347**	Pn		**Pn**	**03 15 38.2**	**+2.3**
GNI	**Garni**	**7.89**	**347**	P		**Pn**	**03 15 38.2**	**+2.3**
BNGB	**Bing¶ll**	**8.33**	**323**	*e*P		**Pn**	**03 15 40.2**	**-1.6**
ASF	**Jabal al Asfar**	**8.61**	**271**	Pn		**Pn**	**03 15 45.3**	**-0.4**
ASF				Lg		Lg	03 18 16.0	
ASF	**Jabal al Asfar**	**8.61**	**271**	Pn		**Pn**	**03 15 45.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=49,slow=11,SNR=8.0							
ASF				Lg		Lg	03 18 16.0	
	comp=Z,1.2nm,0.3s,baz=267,slow=17,SNR=2.8							
PTK	**Pertek**	**8.95**	**318**	*e*P		**Pn**	**03 15 52.4**	**+2.0**
ILIC	**ilic-Erzincan**	**9.80**	**318**	*e*P		**Pn**	**03 16 03.8**	**+1.9**
MMAI	**Mount Meron Ar**	**9.84**	**276**	Pn		**Pn**	**03 16 04.7**	**+2.2**
MMAI				Lg		Lg	03 18 57.5	
MMAI	**Mount Meron Ar**	**9.84**	**276**	Pn		**Pn**	**03 16 04.7**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=82,slow=15,SNR=2.5							
MMAI				Lg		Lg	03 18 57.5	
	comp=Z,1.5nm,0.3s,baz=92,slow=38,SNR=2.9							
EIL	**Elat**	**10.75**	**258**	Pn		**Pn**	**03 16 15.8**	**+0.9**
EIL				Lg		Lg	03 19 27.5	
EIL	**Elat**	**10.75**	**258**	Pn		**Pn**	**03 16 15.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=342,slow=15,SNR=4.8							
EIL				Lg		Lg	03 19 27.5	
	comp=Z,0.6nm,0.3s,baz=138,slow=22,SNR=2.0							
EIL	**Elat**	**10.75**	**258**	Pn		**Pn**	**03 16 15.9**	**+0.9**
KIV	**Kislovodsk**	**11.97**	**345**	*e*P		**Pn**	**03 16 33.3**	**+1.6**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,24nm,11.0s							
KIV	**Kislovodsk**	**11.97**	**345**	*e*P		**Pn**	**03 16 33.3**	**+1.6**
	comp=Z,24nm,11.0s							
SOC	**Sochi**	**12.51**	**335**	*e*P		**Pn**	**03 16 37.7**	**-1.3**
SOC				*e*			03 18 57.7	
SOC				pmax		pmax		
	comp=Z,2.0nm,0.4s							
SOC				MLR		MLR		
	comp=Z,157nm,14.0s							
SOC	**Sochi**	**12.51**	**335**	*e*P		**Pn**	**03 16 37.7**	**-1.3**
	comp=Z,2.0nm,0.4s							
SOC				*e*S		**Sn**	**03 18 57.7**	**-0.1**
	comp=Z,157nm,14.0s							
BRTR	**Keskin Array B**	**13.04**	**308**	Pn		**Pn**	**03 16 48.1**	**+1.7**
BRTR	**Keskin Array B**	**13.04**	**308**	Pn		**Pn**	**03 16 48.1**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=110,slow=12,SNR=4.9							
BRTR	**Keskin Array B**	**13.04**	**308**	P		**Pn**	**03 16 48.1**	**+1.7**
IDI	**Anoyia**	**18.62**	**285**	P		**Pn**	**03 18 00.9**	**+2.1**
IDI	**Anoyia**	**18.62**	**285**	P		**Pn**	**03 18 00.9**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=278,slow=4.5,SNR=5.6							
VRHR	**Novokhopersk**	**19.04**	**349**	*e*P		**P**	**03 18 02.3**	**-0.5**
VRHR				pmax		pmax		
	comp=N,20nm,0.9s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.9s							
VRHR				pmax		pmax		
	comp=Z,20nm,0.9s							
VRHR	**Novokhopersk**	**19.04**	**349**	*e*P		**P**	**03 18 02.3**	**-0.5**
AB31	**Akbulak array**	**19.35**	**26**	P		**P**	**03 18 05.9**	**-0.3**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**19.35**	**26**	P		**P**	**03 18 05.9**	**-0.3**
	comp=Z,1.0nm,0.3s							
ABKAR	**Akbulak array**	**19.35**	**26**	*e*P		**P**	**03 18 06.0**	**-0.2**
	comp=Z,3.4nm,0.6s							
ABKAR	**Akbulak array**	**19.35**	**26**	*e*P		**P**	**03 18 06.0**	**-0.2**
	comp=Z,3.4nm,0.6s							
KDZ	**Kurdzhali**	**19.52**	**304**	P		**Pn**	**03 18 10.1**	**+0.6**
KDZ	**Kurdzhali**	**19.52**	**304**	P		**Pn**	**03 18 10.1**	**+0.6**
KDZ	**Kurdzhali**	**19.52**	**304**	P		**Pn**	**03 18 10.1**	**+0.6**
VSR	**Storozhevoye**	**19.62**	**345**	*e*P		**P**	**03 18 07.9**	**-1.2**
VSR				pmax		pmax		
	comp=N,10.0nm,0.8s							
VSR				pmax		pmax		
	comp=E,10.0nm,0.8s							
VSR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
VSR	**Storozhevoye**	**19.62**	**345**	*e*P		**P**	**03 18 07.9**	**-1.2**
AKTK	**Aktyubinsk**	**19.70**	**21**	P		**P**	**03 18 09.4**	**-0.7**
	comp=Z,5.0nm,0.7s							
AKTO	**Aktyubinsk**	**19.70**	**21**	P		**P**	**03 18 09.4**	**-0.7**
AKTO				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AKTO	**Aktyubinsk**	**19.70**	**21**	P		**P**	**03 18 09.6**	**-0.5**
AKTO	**Aktyubinsk**	**19.70**	**21**	P		**P**	**03 18 09.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=207,slow=12,SNR=9.3							
AKTO				LR		LR	03 27 36.1	
	comp=Z,51nm,21.4s,baz=119,slow=43							
AKTO	**Aktyubinsk**	**19.70**	**21**	P		**P**	**03 18 09.6**	**-0.5**
MMB	**Musomiste**	**20.69**	**303**	P		**P**	**03 18 21.8**	**+0.9**
MMB	**Musomiste**	**20.69**	**303**	P		**P**	**03 18 21.8**	**+0.9**
MMB	**Musomiste**	**20.69**	**303**	P		**P**	**03 18 21.8**	**+0.9**
MLR	**Muntele Rosu**	**20.87**	**315**	P		Pn	03 18 24.8	-0.7
MLR	**Muntele Rosu**	**20.87**	**315**	P		Pn	03 18 24.8	-0.7
	comp=Z,0.9nm,0.8s,baz=100,slow=18,SNR=5.4							
MLR	**Muntele Rosu**	**20.87**	**315**	P		Pn	03 18 24.8	-0.7
	comp=Z,1.0nm,0.8s							
LPSR	**Galich'ya Gora**	**20.97**	**346**	*e*P		**P**	**03 18 22.2**	**-1.6**
TESR	**Tescani**	**21.01**	**318**	P		**P**	**03 18 25.6**	**+1.2**
TESR	**Tescani**	**21.01**	**318**	P		**P**	**03 18 25.6**	**+1.2**
KK31	**Karatay Array**	**21.29**	**53**	*e*P		**P**	**03 18 26.2**	**-1.2**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KK31	**Karatay Array**	**21.29**	**53**	*e*P		**P**	**03 18 26.2**	**-1.2**
	comp=Z,6.0nm,0.7s							
KKAR	**Karatay Array**	**21.29**	**53**	*e*P		**P**	**03 18 26.6**	**-0.8**
KKAR				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KKAR	**Karatay Array**	**21.29**	**53**	*e*P		**P**	**03 18 26.6**	**-0.8**
	comp=Z,7.8nm,0.8s							
KKAR	**Karatay Array**	**21.29**	**53**	*e*P		**P**	**03 18 26.6**	**-0.8**
	comp=Z,7.8nm,0.8s							
VTS	**Vitosha**	**21.39**	**305**	P		**P**	**03 18 27.5**	**-1.1**
VTS	**Vitosha**	**21.39**	**305**	P		**P**	**03 18 27.5**	**-1.1**
VTS	**Vitosha**	**21.39**	**305**	P		**P**	**03 18 27.5**	**-1.1**
DOPR	**Dopca**	**21.45**	**315**	P		**P**	**03 18 30.3**	**+1.2**
DOPR	**Dopca**	**21.45**	**315**	P		**P**	**03 18 30.3**	**+1.2**
ARR	**Arges**	**21.61**	**313**	P		**P**	**03 18 30.0**	**-0.8**
ARR	**Arges**	**21.61**	**313**	P		**P**	**03 18 30.0**	**-0.8**
PRAR	**RASCA**	**21.74**	**319**	P		**P**	**03 18 34.4**	**+2.2**
PRAR	**RASCA**	**21.74**	**319**	P		**P**	**03 18 34.4**	**+2.2**
LOT	**Lotru**	**22.18**	**312**	P		**P**	**03 18 37.2**	**+0.2**
LOT	**Lotru**	**22.18**	**312**	P		**P**	**03 18 37.2**	**+0.2**
BURAR	**Bucovina Array**	**22.45**	**319**	P		**P**	**03 18 40.5**	**+0.7**
BURAR	**Bucovina Array**	**22.45**	**319**	P		**P**	**03 18 40.5**	**+0.7**
BURAR	**Bucovina Array**	**22.45**	**319**	P		**P**	**03 18 40.5**	**+0.7**
BUR08	**Bucovina Ar. S**	**22.47**	**319**	*e*P		**P**	**03 18 40.6**	**+0.6**
BUR08	**Bucovina Ar. S**	**22.47**	**319**	*e*P		**P**	**03 18 40.7**	**+0.6**
AK01	**Malin Array Si**	**22.48**	**329**	P		**P**	**03 18 40.0**	**0.0**
AK01	**Malin Array Si**	**22.48**	**329**	P		**P**	**03 18 40.0**	**0.0**
AKASG	**Malin Array Be**	**22.48**	**329**	*ce*P		**P**	**03 18 38.7**	**-1.3**
AKASG				pmax		pmax		
	com

MKAR	Makanchi Array	30.39	52	P		P		03 19 53.1	+0.2
MKAR	Makanchi Array	30.39	52	P		P		03 19 53.1	+0.2
	comp=Z,3.7nm,0.7s,baz=248,slow=8.1,SNR=32								
MKAR	Makanchi Array	30.39	52	*e*P		P		03 19 53.0	+0.2
	comp=Z,4.0nm,0.7s								
CLL	Collm	31.19	317	*e*P		P		03 20 01.0	+1.2
CLL	Collm	31.19	317	*e*P		P		03 20 01.0	+1.2
CLL	Collm	31.19	317	*e*P		P		03 20 01.0	+1.2
KEST	Kesra	31.28	287	P		P		03 20 03.2	+2.4
KEST	Kesra	31.28	287	P		P		03 20 03.2	+2.4
	comp=Z,1.7nm,1.0s,baz=81,slow=3.5,SNR=6.2								
DANN	Dangsing	31.81	88	*e*P		P		03 20 06.3	+0.4
	comp=Z,42nm,0.8s								
KOLN	Koldanda	31.85	89	*e*P		P		03 20 05.9	-0.2
	comp=Z,20nm,1.2s								
FINES	FINESS Array B	32.03	341	P		P		03 20 06.8	-0.3
FINES	FINESS Array B	32.03	341	P		P		03 20 06.8	-0.3
	comp=Z,1.7nm,0.6s,baz=154,slow=11,SNR=9.5								
FINES	FINESS Array B	32.03	341	P		P		03 20 06.8	-0.3
JOF	Joensuu	32.08	346	*e*P		P		03 20 05.6	-1.8
JOF				pmax		pmax			
	comp=Z,2.0nm,0.6s								
JOF	Joensuu	32.08	346	*e*p		P		03 20 05.6	-1.8
	comp=Z,2.3nm,0.6s								
JOF	Joensuu	32.08	346	*e*P		P		03 20 05.6	-1.8
	comp=Z,2.0nm,0.6s								
KAF	Kangasniemi	32.53	342	*e*P		P		03 20 10.7	-0.7
KAF				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KAF	Kangasniemi	32.53	342	*e*p		P		03 20 10.7	-0.7
	comp=Z,3.1nm,0.7s,baz=138,slow=8.4								
KAF	Kangasniemi	32.53	342	*e*P		P		03 20 10.7	-0.7
	comp=Z,3.0nm,0.7s								
GKN	Gorkha	32.65	88	*e*P		P		03 20 13.2	+0.1
	comp=Z,35nm,0.8s								
SBF	Sospel	32.88	302	*e*P		P		03 20 14.0	-0.8
	comp=Z,24nm,0.8s								
SBF	Sospel	32.88	302	*e*P		P		03 20 14.0	-0.8
SBF				pmax		pmax			
	comp=Z,24nm,0.8s								
SBF	Sospel	32.88	302	*e*P		P		03 20 14.0	-0.8
	comp=Z,24nm,0.8s								
SBF	Sospel	32.88	302	*e*P		P		03 20 14.0	-0.8
	comp=Z,24nm,0.8s								
DMN	Daman	33.17	88	*e*P		P		03 20 17.9	+0.2
	comp=Z,28nm,0.8s								
KKN	Kakani	33.26	88	*e*P		P		03 20 18.5	0.0
	comp=Z,28nm,0.6s								
PKIN	Phulchoki	33.42	88	*e*P		P		03 20 20.0	0.0
	comp=Z,16nm,0.8s								
PKI	Pulchoki	33.44	88	*e*P		P		03 20 20.2	+0.1
	comp=Z,43nm,1.0s								
MBDF	Montbardon	33.46	303	*e*P		P		03 20 18.7	-1.2
	comp=Z,10.0nm,0.8s								
MBDF	Montbardon	33.46	303	*e*P		P		03 20 18.7	-1.2
MBDF				pmax		pmax			
	comp=Z,10.0nm,0.8s								
MBDF	Montbardon	33.46	303	*e*P		P		03 20 18.7	-1.2
	comp=Z,10.0nm,0.8s								
MBDF	Montbardon	33.46	303	*e*P		P		03 20 18.7	-1.2
	comp=Z,10.0nm,0.8s								
BNI	Bardonecchia	33.57	304	*e*P		P		03 20 20.9	0.0
BNI				pmax		pmax			
	comp=Z,2.0nm,0.5s								
BNI	Bardonecchia	33.57	304	*e*P		P		03 20 20.9	0.0
	comp=Z,2.2nm,0.5s								
BNI	Bardonecchia	33.57	304	*e*P		P		03 20 20.9	0.0
	comp=Z,2.2nm,0.5s								
LPG	La Plagne	33.58	305	*e*P		P		03 20 19.6	-1.6
	comp=Z,4.4nm,0.5s								
LPG	La Plagne	33.58	305	*e*P		P		03 20 19.6	-1.6
LPG				pmax		pmax			
	comp=Z,4.0nm,0.5s								
LPG	La Plagne	33.58	305	*e*P		P		03 20 19.6	-1.6
	comp=Z,4.4nm,0.5s								
LPG	La Plagne	33.58	305	*e*P		P		03 20 19.6	-1.6
	comp=Z,4.4nm,0.5s								
LPL	La Plagne	33.60	305	*e*P		P		03 20 19.9	-1.3
	comp=Z,4.5nm,0.6s								
LPL	La Plagne	33.60	305	*e*P		P		03 20 19.9	-1.3
LPL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
LPL	La Plagne	33.60	305	*e*P		P		03 20 19.9	-1.3
	comp=Z,4.5nm,0.6s								
LPL	La Plagne	33.60	305	*e*P		P		03 20 19.9	-1.3
	comp=Z,4.5nm,0.6s								
GUN	Gumba	33.73	87	*e*P		P		03 20 23.0	+0.3
	comp=Z,51nm,0.9s								
CDF	Champ du Feu	33.78	310	*e*P		P		03 20 20.9	-1.7
CDF	Champ du Feu	33.78	310	*e*P		P		03 20 20.9	-1.7
CDF	Champ du Feu	33.78	310	*e*P		P		03 20 20.9	-1.7
CDF	Champ du Feu	33.78	310	*e*P		P		03 20 20.9	-1.7
JIRN	Jiri	34.07	88	*e*P		P		03 20 25.9	+0.2
	comp=Z,28nm,0.6s								
CABF	La Chapelle	34.21	306	*e*P		P		03 20 25.3	-1.1
	comp=Z,9.4nm,0.7s								
CABF	La Chapelle	34.21	306	*e*P		P		03 20 25.3	-1.1
CABF				pmax		pmax			
	comp=Z,9.0nm,0.7s								
CABF	La Chapelle	34.21	306	*e*P		P		03 20 25.3	-1.1
	comp=Z,9.4nm,0.7s								
CABF	La Chapelle	34.21	306	*e*P		P		03 20 25.3	-1.1
	comp=Z,9.4nm,0.7s								
ZAA0	Zalesovo Array	34.31	40	*e*P		P		03 20 26.3	-0.8
ZAA0	Zalesovo Array	34.31	40	*e*P		P		03 20 26.3	-0.8
ZALV	Zalesovo Beam	34.31	40	P		P		03 20 25.6	-1.5
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ZALV	Zalesovo Beam	34.31	40	P		P		03 20 25.6	-1.5
ZALV	Zalesovo Beam	34.31	40	P		P		03 20 25.6	-1.5
	comp=Z,2.2nm,0.5s,baz=252,slow=7.6,SNR=15								
ZALV	Zalesovo Beam	34.31	40	P		P		03 20 25.6	-1.5
	comp=Z,2.0nm,0.5s								
RAMN	Ramite	34.64	89	*e*P		P		03 20 30.2	-0.3
	comp=Z,30nm,0.8s								
PAGF	Fort de Pagny	34.82	310	*e*P		P		03 20 30.6	-0.9
PAGF	Fort de Pagny	34.82	310	*e*P		P		03 20 30.6	-0.9
PAGF	Fort de Pagny	34.82	310	*e*P		P		03 20 30.6	-0.9
ODAN	Odare	35.33	88	*e*P		P		03 20 36.0	-0.5
TAPN	Taplejung	35.45	87	*e*P		P		03 20 37.8	+0.3
	comp=Z,6.6nm,0.3s								
SMF	Signal de Mont	35.75	306	*e*P		P		03 20 37.8	-1.8
	comp=Z,6.2nm,0.5s								
SMF	Signal de Mont	35.75	306	*e*P		P		03 20 37.8	-1.8
SMF				pmax		pmax			
	comp=Z,6.0nm,0.5s								
SMF	Signal de Mont	35.75	306	*e*P		P		03 20 37.8	-1.8
	comp=Z,6.2nm,0.5s								
SMF	Signal de Mont	35.75	306	*e*P		P		03 20 37.8	-1.8
	comp=Z,6.2nm,0.5s								
LOR	Lormes	35.82	307	*e*P		P		03 20 38.1	-2.1
LOR	Lormes	35.82	307	*e*P		P		03 20 38.1	-2.1
LOR	Lormes	35.82	307	*e*P		P		03 20 38.1	-2.1
SSF	Saint Saulge	36.03	307	*e*P		P		03 20 40.3	-1.7
	comp=Z,4.2nm,0.5s								
SSF	Saint Saulge	36.03	307	*e*P		P		03 20 40.3	-1.7
SSF				pmax		pmax			
	comp=Z,4.0nm,0.5s								
SSF	Saint Saulge	36.03	307	*e*P		P		03 20 40.3	-1.7
	comp=Z,4.2nm,0.5s								
SSF	Saint Saulge	36.03	307	*e*P		P		03 20 40.3	-1.7
	comp=Z,4.2nm,0.5s								
NOA	NORSAR Array B	36.85	332	P		P		03 20 48.4	-0.4
NOA	NORSAR Array B	36.85	332	P		P		03 20 48.4	-0.4
	comp=Z,0.6nm,0.6s,baz=131,slow=9.9,SNR=2.8								
NOA	NORSAR Array B	36.85	332	P		P		03 20 48.4	-0.4
	comp=Z,1.0nm,0.6s								
HVS	Khovu-Aksy	38.69	47	*e*P		P		03 21 04.7	+0.1
HVS				pmax		pmax			
	comp=Z,11nm,0.7s								
HVS	Khovu-Aksy	38.69	47	*e*P		P		03 21 04.7	+0.1
	comp=Z,11nm,0.7s								
ARCES	ARCESS Array B	39.05	348	P		P		03 21 07.4	+0.1
ARCES	ARCESS Array B	39.05	348	P		P		03 21 07.4	+0.1
	comp=Z,5.7nm,1.0s,baz=166,slow=9.3,SNR=3.7								
ARCES	ARCESS Array B	39.05	348	P		P		03 21 07.4	+0.1
	comp=Z,6.0nm,1.0s								
ESDC	Sonseca Array	41.41	295	P		P		03 21 27.3	+0.1
ESDC	Sonseca Array	41.41	295	P		P		03 21 27.3	+0.1
	comp=Z,0.4nm,0.5s,baz=72,slow=8.5,SNR=7.0								
ESDC	Sonseca Array	41.41	295	P		P		03 21 27.3	+0.1
TOA0	Torodi Ar. Sit	45.63	256	*e*P		P		03 22 01.5	0.0
TOA0	Torodi Ar. Sit	45.63	256	*e*P		P		03 22 01.5	0.0
TORD	Torodi Ar. Bea	45.63	256	P		P		03 22 01.8	+0.3
TORD	Torodi Ar. Bea	45.63	256	P		P		03 22 01.8	+0.3
	comp=Z,2.4nm,0.9s,baz=70,slow=7.5,SNR=34								
TORD	Torodi Ar. Bea	45.63	256	P		P		03 22 01.8	+0.3
SONM	Songino Array	46.74	53	P		P		03 22 09.8	-0.2
SONM				PcP		PcP		03 23 43.0	-0.2
SONM	Songino Array	46.74	53	P		P		03 22 09.8	-0.2
	comp=Z,0.5nm,0.6s,baz=290,slow=10,SNR=7.7								
SONM				PcP		PcP		03 23 43.0	-0.2
	comp=Z,0.4nm,0.9s,baz=260,slow=6.7,SNR=2.4								
SONM	Songino Array	46.74	53	P		P		03 22 09.8	-0.2
	comp=Z,1.0nm,0.6s								
SONM	Songino Array	46.74	53	PcP		PcP		03 23 43.0	-0.2
ULN	Ulaanbaatar	47.18	53	*e*P		P		03 22 13.7	+0.2
	comp=Z,3.0nm,0.8s								
CMAR	Chiang Mai Arr	48.44	94	P		P		03 22 22.7	-0.7
CMAR	Chiang Mai Arr	48.44	94	P		P		03 22 22.7	-0.7
	comp=Z,1.1nm,0.3s,baz=294,slow=9.8,SNR=6.4								
CMAR	Chiang Mai Arr	48.44	94	P		P		03 22 22.7	-0.7
	comp=Z,1.0nm,0.3s								
HIA	Hailar	55.35	49	*e*P		P		03 23 15.0	+0.4
	comp=Z,83nm,18.0s								
TIXI	Tiksi	56.98	22	*i*P		P		03 23 24.5	-1.3
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.7s								
TIXI				MLR		MLR			
	comp=Z,75nm,20.0s								
TIXI	Tiksi	56.98	22	*i* P		P		03 23 24.5	-1.3
	comp=Z,75nm,20.0s								
BOSA	Boshof	64.18	201	P		P		03 24 16.4	+0.9
BOSA	Boshof	64.18	201	P		P		03 24 16.4	+0.9
	comp=Z,2.4nm,0.9s,baz=56,slow=11,SNR=3.9								
BOSA	Boshof	64.18	201	P		P		03 24 16.4	+0.9
USRK	Ussuriysk Arra	64.85	52	P		P		03 24 18.4	-1.3
	comp=Z,2.9nm,0.6s,baz=287,slow=6.6,SNR=8.9								
SEY	Seymchan	68.11	28	*e*P		P		03 24 40.1	-0.1
SEY	Seymchan	68.11	28	P		P		03 24 40.4	+0.2
SEY	Seymchan	68.11	28	P		P		03 24 40.4	+0.2
	comp=Z,1.4nm,0.5s,baz=304,slow=7.3,SNR=9.2								
SEY	Seymchan	68.11	28	P		P		03 24 40.4	+0.2
ILAR	Eielson Array	82.47	6	P		P		03 26 02.4	-0.5
ILAR	Eielson Array	82.47	6	P		P		03 26 02.4	-0.5
	comp=Z,0.3nm,0.7s,baz=321,slow=5.1,SNR=4.3								
ILAR	Eielson Array	82.47	6	P		P		03 26 02.3	-0.5
YKA	Yellowknife Ar	84.23	352	P		P		03 26 11.2	-0.7
YKA	Yellowknife Ar	84.23	352	P		P		03 26 11.2	-0.7
	comp=Z,0.5nm,0.7s,baz=15,slow=5.7,SNR=7.8								
YKA	Yellowknife Ar	84.23	352	P		P		03 26 11.2	-0.7
ULM	Lac du Bonnet	91.35	337	P		P		03 26 45.9	-0.5
ULM	Lac du Bonnet	91.35	337	P		P		03 26 45.9	-0.5
	comp=Z,1.0nm,0.6s,baz=339,slow=3.3,SNR=3.7								
ULM	Lac du Bonnet	91.35	337	P		P		03 26 45.9	-0.5

KRSC ***18*** *03:17:53.2*$_{s}$*1.7,53.83*$_{N}$*×168.00E,h26*$_{km}$*±29*$_{km}$*,ML4.3*
IDC ***18*** *03:17:53.8*$_{s}$*0.9,54.32*$_{N}$*×168.07E,h0*$_{km}$*,mb3.7/8, mb1 4.0/10,mb1mx3.7/37,mbtmp3.7/10,ML3.7/2,MS3.1/2, Ms1 3.2/2,ms1mx2.8/32,Error ellipse: s-maj=31.3km s-min=12.7km az=16.0*
ISCJB ***18*** *03:17:55.6*$_{s}$*0.4,53.87*$_{N}$*±0.04×168.08E±0.04,h33*$_{km}$*, mb3.7/9,MS3.3/1,Error ellipse: s-maj=5.9km s-min=3.4km az=6.2*
MOS ***18*** *03:17:56.1*$_{s}$*1.1,54.03*$_{N}$*×168.09E,h34*$_{km}$*,mb4.2/4, Error ellipse: s-maj=13.2km s-min=11.4km az=31.9*

ISC 18 03:17:57.7$_{s}$**±0.7, 53.92**$_{N}$**±0.05×168.14E±0.05, h35**$_{km}$**, n82, σ1s03/108, mb3.6/9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BKI	Bering	1.80	316	PN	Pn	03 18 24.3		-1.9
BKI				S	Sn	03 18 47.0		-0.9
BKI	Bering	1.80	316	*i* P	Pn	03 18 24.3		-1.9
BKI				*i* S	Sn	03 18 47.0		-0.9
BKI	Bering	1.80	316	*i* P	Pn	03 18 24.3		-1.9
BKI				*i* S	Sn	03 18 47.0		-0.9
FX1	Attu Island--F	3.18	107	Pn	Pn	03 18 45.7		+0.5
	34nm,0.3s,baz=322,slow=6.8,SNR=38							
FX1				Sn	Sn	03 19 21.7		-0.1
	30nm,0.3s,baz=301,slow=21,SNR=1.9							
FX1				LR	LR	03 20 04.3		
	comp=Z,173nm,21.5s,baz=24,slow=39							
MKZ	Mys Kozlova	3.82	282	PN	Pn	03 18 52.6		-1.3
MKZ				S	Sn	03 19 36.4		-1.1
MKZ	Mys Kozlova	3.82	282	*e*P	Pn	03 18 52.6		-1.3
MKZ				*e*S	Sn	03 19 36.4		-1.1
MKZ	Mys Kozlova	3.82	282	*e*P	Pn	03 18 52.6		-1.3
MKZ				*e*S	Sn	03 19 36.4		-1.1
KBTR	Krutoberegovo	3.83	309	PN	Pn	03 18 53.1		-0.9
KBTR				S	Sn	03 19 37.2		-0.5
KBTR	Krutoberegovo	3.83	309	*e*P	Pn	03 18 53.1		-0.9
KBTR				*e*S	Sn	03 19 37.2		-0.5
KBTR	Krutoberegovo	3.83	309	*e*P	Pn	03 18 53.1		-0.9
KBTR				*e*S	Sn	03 19 37.2		-0.5
KBG	Krutoberegovo	3.90	309	*e*P	Pn	03 18 56.3		+1.2
KBG				*e*S	Sn	03 19 41.4		+1.8
KBG	Krutoberegovo	3.90	309	*e*S	Sn	03 19 41.4		+1.8
SMKR	Semkarok	4.66	308	*e*S	Sn	03 19 58.5		+0.2
SMKR	Semkarok	4.66	308	*e*S	Sn	03 19 58.5		+0.2
KZV	Kizimen	4.73	288	*e*P	Pn	03 19 06.3		-0.3
KZV	Kizimen	4.73	288	*e*P	Pn	03 19 06.3		-0.3
BDR	Baidarnaya	4.77	307	*e*P	Pn	03 19 08.0		+0.9
BDR				*e*S	Sn	03 20 01.5		+0.3
BDR	Baidarnaya	4.77	307	*e*P	Pn	03 19 08.0		+0.9
BDR				*e*S	Sn	03 20 01.5		+0.3
SRKR	Sorokina	4.84	307	*e*P	Pn	03 19 09.7		+1.7
SRKR	Sorokina	4.84	307	*e*P	Pn	03 19 09.7		+1.7
TUMR	Tumrok	4.85	290	*e*P	Pn	03 19 08.3		+0.1
TUMR				*e*S	Sn	03 20 04.5		+1.4
TUMR	Tumrok	4.85	290	*e*P	Pn	03 19 08.9		+0.7
TUMR				*e*S	Sn	03 20 04.5		+1.4
KLY	Klyuchi	4.92	302	*e*S	Sn	03 20 04.6		-0.1
KLY	Klyuchi	4.92	302	*e*S	Sn	03 20 04.6		-0.1
KMNR	Kamenistaya	4.93	295	*e*P	Pn	03 19 10.3		+1.1
KMNR				*e*S	Sn	03 20 07.4		+2.4
KMNR	Kamenistaya	4.93	295	*e*P	Pn	03 19 10.3		+1.1
KMNR				*e*S	Sn	03 20 07.4		+2.4
NLC	Nalytchevo	5.30	265	PN	Pn	03 19 13.9		-0.4
NLC	Nalytchevo	5.30	265	*e*P	Pn	03 19 13.9		-0.4
NLC	Nalytchevo	5.30	265	*e*P	Pn	03 19 13.9		-0.4
SRDR	Sredinnyy	5.40	300	*e*P	Pn	03 19 16.6		+0.9
SRDR	Sredinnyy	5.40	300	*e*P	Pn	03 19 16.6		+0.9
SDLR	Sedlovina	5.55	267	*e*P	Pn	03 19 17.3		-0.6
SDLR	Sedlovina	5.55	267	*e*P	Pn	03 19 17.3		-0.6
UGLR	Uglovaya	5.60	266	*e*P	Pn	03 19 18.3		-0.2
UGLR				*e*S	Sn	03 20 20.4		-1.2
UGLR	Uglovaya	5.60	266	*e*P	Pn	03 19 18.3		-0.2
UGLR				*e*S	Sn	03 20 21.0		-0.6
SMAR	Somma	5.60	267	*e*P	Pn	03 19 17.7		-0.9
SMAR	Somma	5.60	267	*e*P	Pn	03 19 17.7		-0.9
KRER	Koryakskii	5.63	267	*e*P	Pn	03 19 18.7		-0.3
KRER				*e*S	Sn	03 20 22.2		-0.2
KRER	Koryakskii	5.63	267	*e*P	Pn	03 19 18.7		-0.3
KRER				*e*S	Sn	03 20 22.2		-0.2
AVH	Avacha	5.64	267	*e*P	Pn	03 19 18.5		-0.5
AVH				*e*S	Sn	03 20 23.1		+0.5
AVH	Avacha	5.64	267	*e*P	Pn	03 19 18.5		-0.5
AVH				*e*S	Sn	03 20 23.1		+0.5
KRX	Arik	5.68	268	*e*P	Pn	03 19 19.3		-0.3
KRX	Arik	5.68	268	*e*P	Pn	03 19 19.3		-0.3
KOK	Koryaka	5.70	267	*e*P	Pn	03 19 19.4		-0.4
KOK				*e*S	Sn	03 20 23.2		-0.8
KOK	Koryaka	5.70	267	*e*P	Pn	03 19 19.4		-0.4
KOK				*e*S	Sn	03 20 23.2		-0.8
PET	Petropavlovsk	5.74	265	*e*PN	Pn	03 19 22.4		+2.1
PET				pmax	pmax			
	comp=Z,24nm,0.4s							
PET				MLR	MLR			
	comp=Z,100nm,10.0s							
RUS	Russkaya	5.98	259	PN	Pn	03 19 23.9		+0.3
RUS	Russkaya	5.98	259	*e*P	Pn	03 19 23.9		+0.3
RUS	Russkaya	5.98	259	*e*P	Pn	03 19 23.9		+0.3
GNL	Ganaly	6.05	272	*e*P	Pn	03 19 24.9		+0.2
GNL				*e*S	Sn	03 20 32.4		-0.3
GNL	Ganaly	6.05	272	*e*P	Pn	03 19 24.9		+0.2
GNL				*e*S	Sn	03 20 32.4		-0.3
MTVR	Mutnovka	6.16	261	*e*P	Pn	03 19 26.0		-0.2
MTVR	Mutnovka	6.16	261	*e*P	Pn	03 19 26.0		-0.2
PETK	Petropavlovsk-	6.29	267	PN	Pn	03 19 28.5		+0.7
PETK				pmax	pmax			
	comp=Z,4.0nm,0.3s							
PETK	Petropavlovsk-	6.29	267	Pn	Pn	03 19 28.5		+0.7
	comp=Z,3.9nm,0.3s,baz=87,slow=17,SNR=17							
PETK				Sn	Sn	03 20 36.9		-1.4
	comp=Z,2.7nm,0.3s,baz=312,slow=22,SNR=1.6							
ASAK	Asacha	6.35	260	*e*P	Pn	03 19 28.3		-0.5
ASAK				*e*S	Sn	03 20 39.6		-0.5
ASAK	Asacha	6.35	260	*e*P	Pn	03 19 28.3		-0.5
ASAK				*e*S	Sn	03 20 39.6		-0.5
APC	Apacha	6.64	266	*e*P	Pn	03 19 34.3		+1.6
APC				*e*S	Sn	03 20 47.6		+0.5
PAU	Pauzhetka	7.31	255	PN	Pn	03 19 42.0		+0.1
PAU	Pauzhetka	7.31	255	*e*P	Pn	03 19 42.0		+0.1
SKR	Severo-Kuril's	8.05	251	*e*P	Pn	03 19 52.6		+0.6
SKR				*e*S	Sn	03 21 18.3		-3.4
SEY	Seymchan	12.20	324	*i* PN	Pn	03 20 47.6		-1.1
COLA	College	24.39	46	*i* P	P	03 23 11.3		-0.9
TIXI	Tiksi	24.52	331	*i* P	P	03 23 14.3		+1.0
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ILAR	Eielson Array	24.79	46	P	P	03 23 14.4		-1.5
	comp=Z,5.5nm,0.6s,baz=252,slow=7.2,SNR=82							
ILAR				LR	LR	03 31 36.6		
	comp=Z,95nm,20.0s,baz=156,slow=34							
MAJO	Matsushiro	27.03	242	*i* P	P	03 23 38.2		+1.9
H11N2	WAKE ISLAND Hy	34.14	182	T	T	04 01 35.5		
	baz=3.8,slow=0.7,SNR=214							
H11N3	WAKE ISLAND Hy	34.15	182	T	T	04 01 36.7		
	baz=3.8,slow=0.7,SNR=95							
H11N1	WAKE ISLAND Hy	34.16	182	T	T	04 01 36.9		
	baz=3.8,slow=0.7,SNR=107							
H11S1	WAKE ISLAND Hy	35.36	182	T	T	04 03 00.4		
	baz=3.7,slow=0.7,SNR=80							
H11S3	WAKE ISLAND Hy	35.38	182	T	T	04 02 59.4		
	baz=3.7,slow=0.7,SNR=36							
H11S2	WAKE ISLAND Hy	35.38	182	T	T	04 03 01.7		
	baz=3.7,slow=0.7,SNR=40							
SONM	Songino Array	38.33	287	P	P	03 25 15.5		+0.6
	comp=Z,0.4nm,0.6s,baz=57,slow=7.6,SNR=3.9							
YKA	Yellowknife Ar	39.22	46	P	P	03 25 21.8		-0.2
	comp=Z,1.3nm,0.6s,baz=293,slow=8.1,SNR=24							
KURK	Kurchatov	51.28	305	P	P	03 26 57.6		-0.1
KURBB	Kurchatov Arra	51.38	305	P	P	03 26 57.6		-0.9
	comp=Z,0.3nm,0.5s,baz=56,slow=7.8,SNR=4.3							
MKAR	Makanchi Array	52.03	300	P	P	03 27 01.8		-1.7
MKAR	Makanchi Array	52.03	300	P	P	03 27 01.8		-1.7
	comp=Z,0.4nm,0.8s,baz=34,slow=5.9,SNR=2.9							
PDAR	Pinedale Array	52.85	66	P	P	03 27 10.1		+0.3
	comp=Z,0.3nm,0.7s,baz=104,slow=0.9,SNR=3.9							
BVAR	Borovoye Array	53.53	312	P	P	03 27 13.4		-1.0
BVAR	Borovoye Array	53.53	312	P	P	03 27 13.4		-1.0
	comp=Z,0.3nm,0.5s,baz=81,slow=8.9,SNR=2.9							
TXAR	Lajitas Array	65.84	73	P	P	03 28 40.4		+0.8
	comp=Z,1.0nm,0.7s,baz=301,slow=4.4,SNR=14							

BEO 18 03:45:13.1$_{s}$**±0.5, 43.48N×18.25E, h0**$_{km}$**, ML1.4/3, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
STON	Ston	0.73	214	*e*Pg	Pg	03 45 25.8		-1.3
STON				Sg	Sg	03 45 36.9		+0.4
STON	Ston	0.73	214	*e*Pg	Pg	03 45 25.6		-1.5
STON				*e*Sg	Sg	03 45 36.1		-0.4
BBLS	Lazići	0.92	65	*e*Pg	Pg	03 45 29.5		-1.4
BBLS				*e*Sg	Sg	03 45 42.1		-0.9
PDG	Podgorica	1.28	145	*e*Pg	Pg	03 45 37.0		-0.7
PDG				*e*Sg	Sg	03 45 53.9		-0.4
DIVS	Divibare	1.41	63	*e*Pg	Pn	03 45 38.6

BDFB	Brasilia	57.19	87	P	P	04 00 48.3	-0.3	
BDFB	Brasilia	57.19	87	P	P	04 00 48.3	-0.3	
	8.8nm,1.2s,baz=212,slow=9.5,SNR=5.9							
BDFB				LR	LR	04 23 23.5		
	comp=Z,513nm,18.3s,baz=237,slow=34							
URZ	Urewera	58.21	243	eP	P	04 00 56.2	+0.8	
	30nm,1.5s							
BKZ	Black Stump Fm	58.33	242	eP	P	04 00 56.0	-0.3	
	53nm,1.8s							
035Z	Hargill	61.94	11	⇑P	P	04 01 22.5	+1.6	
	baz=62							
035A	Encino	62.40	11	⇓P	P	04 01 25.6	+1.6	
	baz=63							
034A	Hebbronville	62.44	10	⇓P	P	04 01 25.9	+1.6	
	baz=63							
933A	Laredo	62.90	9	⇑P	P	04 01 28.4	+1.1	
	baz=63,SNR=7.7							
934A	Benavides	62.99	10	⇑P	P	04 01 28.7	+0.8	
	baz=63							
833A	Chaparral WMA,	63.59	9	⇑P	P	04 01 32.9	+1.0	
	baz=64							
835A	Beeville	63.77	11	⇓P	P	04 01 34.2	+1.1	
	baz=64							
733A	Divot King Ran	63.99	9	⇓P	P	04 01 36.2	+1.7	
	baz=64							
TXAR	Lajitas Array	64.17	5	P	P	04 01 35.0	-0.8	
TXAR	Lajitas Array	64.17	5	P	P	04 01 35.0	-0.8	
	1.2nm,0.8s,baz=181,slow=7.3,SNR=14							
TXAR				LR	LR	04 23 58.7		
	comp=Z,113nm,19.2s,baz=0.0,slow=31							
734A	La Parita Cree	64.21	10	⇓P	P	04 01 36.8	+0.8	
	baz=64							
627A	Terlingua Ranc	64.30	5	⇓P	P	04 01 37.2	+0.5	
	baz=65							
735A	Kenedy	64.33	10	⇓P	P	04 01 37.6	+0.9	
	baz=65							
626A	Big Bend Ranch	64.35	4	⇓P	P	04 01 37.7	+0.7	
	baz=65							
628A	Black Gap, Mar	64.37	5	⇑P	P	04 01 37.3	+0.2	
	baz=65							
631A	Perdido Creek	64.52	8	⇓P	P	04 01 37.6	-0.4	
	baz=65							
632A	Uvalde	64.70	8	⇑P	P	04 01 39.3	+0.1	
	baz=65,SNR=9.7							
633A	Saathoff Ranch	64.73	9	⇑P	P	04 01 40.3	+0.9	
	baz=65							
634A	China Grove, S	64.77	10	⇑P	P	04 01 40.3	+0.7	
	baz=65							
527A	Woodward Ranch	64.98	5	⇓P	P	04 01 41.2	+0.1	
	baz=65							
528A	Cox Ranch, San	65.05	6	⇑P	P	04 01 42.7	+1.1	
	baz=65							
529A	Stev Forest Ra	65.06	6	⇑P	P	04 01 42.0	+0.4	
	baz=65							
530A	J-C Ranch, Com	65.17	7	⇑P	P	04 01 43.1	+0.9	
	baz=65,SNR=16							
531A	Rocksprings	65.27	8	⇓P	P	04 01 42.6	-0.3	
	baz=66,SNR=10							
532A	Rocksprings	65.30	8	⇓P	P	04 01 43.6	+0.4	
	baz=66							
533A	Kerrville	65.36	9	⇑P	P	04 01 43.1	-0.3	
	baz=66							
534A	Blanco	65.39	10	⇓P	P	04 01 43.4	-0.2	
	baz=66							
426A	McDonald Obser	65.47	4	⇑P	P	04 01 44.2	-0.2	
	baz=66							
425A	Indio Mountain	65.53	3	⇑P	P	04 01 44.5	-0.2	
	baz=66							
429A	Davenport Ranc	65.59	6	⇑P	P	04 01 44.3	-0.7	
	baz=66							
428A	Kincaid Ranch,	65.62	6	⇑P	P	04 01 45.0	-0.2	
	baz=66							
536A	Bastrop	65.64	11	⇓P	P	04 01 44.9	-0.4	
	baz=66							
JCT	Junction City	65.66	8	eP	P	04 01 44.8	-0.7	
	12nm,0.8s							
JCT	Junction City	65.66	8	⇓P	P	04 01 45.5	0.0	
	baz=66,SNR=11							
427A	Hayter Ranch,	65.69	5	⇓P	P	04 01 45.5	-0.1	
	baz=66							
431A	Sonora	65.77	8	⇑P	P	04 01 46.1	-0.1	
	baz=66,SNR=12							
430A	Baggett Ranch,	65.81	7	⇑P	P	04 01 46.7	+0.3	
	baz=66							
320A	Kipp Ranch, An	66.00	0	⇑P	P	04 01 48.7	+1.0	
	baz=66							
433A	Art	66.02	9	⇑P	P	04 01 48.0	+0.2	
	baz=66,SNR=9.7							
319A	Douglas	66.04	359	⇑P	P	04 01 47.6	-0.3	
	baz=66							
432A	Menard	66.05	8	⇓P	P	04 01 48.4	+0.4	
	baz=66							
326A	Caldwell Ranch	66.12	4	⇓P	P	04 01 49.1	+0.7	
	baz=66							
434A	Burnet	66.19	10	⇑P	P	04 01 48.6	-0.2	
	baz=66,SNR=7.0							
327A	Balmorhea Ranc	66.20	5	⇓P	P	04 01 48.9	0.0	
	baz=66							
435B	Jarrell	66.25	10	⇓P	P	04 01 49.3	+0.1	
	baz=66							
328A	Wristen Ranch,	66.26	5	⇑P	P	04 01 49.7	+0.3	
	baz=66							
331A	San Angelo	66.41	8	⇑P	P	04 01 50.7	+0.5	
	baz=67							
330A	Mertzon	66.43	7	⇑P	P	04 01 50.4	0.0	
	baz=67							
329A	Wagon Wheel Ra	66.43	6	⇑P	P	04 01 50.1	-0.3	
	baz=67,SNR=6.0							
332A	Millersview	66.56	8	⇓P	P	04 01 50.9	-0.3	
	baz=67,SNR=11							
333A	Richland Sprin	66.60	9	⇓P	P	04 01 51.9	+0.5	
	baz=67							
221A	Mesquite Ranch	66.67	1	⇓P	P	04 01 52.2	+0.2	
	baz=67							
334A	Lometa	66.70	10	⇓P	P	04 01 51.3	-0.8	
	baz=67							
214A	Organ Pipe Nat	66.73	356	⇓P	P	04 01 52.5	+0.2	
	baz=67							
335A	Moody	66.77	10	⇓P	P	04 01 53.0	+0.5	
	baz=67							
225A	Deer Hill, Car	66.86	3	⇓P	P	04 01 53.2	-0.1	
	baz=67							
226B	Tecolote Peak,	66.86	4	⇑P	P	04 01 53.1	-0.1	
	baz=67							
230A	Sterling City	66.91	7	⇓P	P	04 01 53.2	-0.2	
	baz=67							
229A	Bryant Ranch,	66.92	6	⇓P	P	04 01 53.3	-0.3	
	baz=67							
TUC	Tucson	67.00	358	eP	P	04 01 53.1	-0.9	
	58nm,2.8s							
228A	UT Block 9, Go	67.01	6	⇑P	P	04 01 53.7	-0.4	
	baz=67							
231A	Bronte	67.04	8	⇑P	P	04 01 53.8	-0.4	
	baz=67							
232A	Coleman	67.07	8	⇓P	P	04 01 53.3	-1.1	
	baz=67							
121A	Cookes Peak, D	67.19	1	eP	P	04 01 55.9	+0.5	
121A	Cookes Peak, D	67.19	1	⇑P	P	04 01 55.7	+0.3	
	baz=68							
233A	Rising Star	67.29	9	⇓P	P	04 01 55.4	-0.4	
	baz=68							
123A	Bell Site, Whi	67.32	2	⇑P	P	04 01 56.0	-0.1	
	baz=68							
234A	Clairette	67.38	10	⇓P	P	04 01 55.9	-0.4	
	baz=68							
125A	Gardner Draw,	67.41	4	⇓P	P	04 01 55.7	-1.0	
	baz=68,SNR=6.1							
124A	Stringfield Ra	67.42	3	⇑P	P	04 01 56.7	-0.2	
	baz=68,SNR=6.8							
126A	Clayton Basin,	67.44	4	⇑P	P	04 01 56.4	-0.4	
	baz=68							
WHTX	Lake Whitney	67.46	10	eP	P	04 01 56.2	-0.7	
	13nm,0.9s							
WHTX	Lake Whitney	67.46	10	⇓P	P	04 01 56.4	-0.4	
	baz=68							
127A	Arkansas Junct	67.51	5	⇓P	P	04 01 57.0	-0.3	
	baz=68							
128A	Castleberry Fa	67.52	6	⇓P	P	04 01 57.5	+0.2	
	baz=68							
129A	Stewart Farms,	67.58	6	⇑P	P	04 01 57.7	0.0	
	baz=68							
113A	Mohawk Valley,	67.60	355	⇓P	P	04 01 57.8	+0.1	
	baz=68							
130A	Snyder	67.63	7	⇑P	P	04 01 58.5	+0.5	
	baz=68							
131A	Roby	67.76	7	⇑P	P	04 01 59.3	+0.5	
	baz=68							
ABTX	Abilene, Hawle	67.80	8	⇑P	P	04 01 59.8	+0.7	
	baz=68							
133A	Hamilton Ranch	67.87	9	⇓P	P	04 01 59.9	+0.4	
	baz=68							
Z22A	Elephant Butte	67.92	1	⇑P	P	04 01 59.9	-0.1	
	baz=68							
SWSC	Sam W. Stewart	67.93	353	⇓P	P	04 02 00.7	+0.9	
	baz=68							
134A	White-Moore Ra	67.94	10	⇓P	P	04 02 00.2	+0.3	
	baz=68							
MONP	Monument Peak	67.94	353	⇓P	P	04 02 00.2	0.0	
	baz=68							
Z23A	Rita Site, Whi	67.95	2	⇓P	P	04 02 01.0	+0.9	
	baz=68							
GLA	Glamis	67.96	354	⇓P	P	04 02 01.0	+1.0	
	baz=68							
109C	Camp Elliot, M	68.02	352	⇓P	P	04 02 01.5	+1.1	
	baz=68							
135A	Vickery Place,	68.02	10	⇓P	P	04 02 01.7	+1.3	
	baz=68							
Z25A	Roswell	68.03	3	⇑P	P	04 02 00.8	+0.3	
	baz=68							
Z24A	Sheeppen Canyo	68.05	3	⇓P	P	04 02 01.2	+0.4	
	baz=68							
Z26A	Caprock	68.06	4	⇑P	P	04 02 01.2	+0.4	
	baz=68,SNR=9.4							
Z14A	Wintersburg	68.14	356	⇑P	P	04 02 02.3	+1.1	
	baz=68							
Z27A	Tatum	68.15	5	⇓P	P	04 02 01.6	+0.2	
	baz=68,SNR=5.1							
Z28A	Tucker Farm, M	68.19	6	⇑P	P	04 02 02.5	+1.0	
	baz=68							
Z29A	Hungry Hill Ra	68.22	6	⇑P	P	04 02 02.4	+0.7	
	baz=68							
SCI	San Clemente I	68.28	351	⇑P	P	04 02 02.8	+0.8	
	baz=69							
Z30A	Sanderson Ranc	68.30	7	⇑P	P	04 02 02.8	+0.6	
	baz=69							
Z31A	Sharp Cattle R	68.43	8	⇓P	P	04 02 03.6	+0.6	
	baz=69							
Z32A	Haskell	68.49	8	⇑P	P	04 02 04.0	+0.6	
	baz=69							
Z33A	Whitaker Ranch	68.56	9	⇓P	P	04 02 04.5	+0.8	
	baz=69							
BC3	Big Chuckawall	68.61	354	⇑P	P	04 02 04.8	+0.6	
	baz=69							
Y23A	Lovelace Mesa,	68.62	2	⇑P	P	04 02 05.3	+0.9	
	baz=69							
Y12C	Blythe	68.63	355	⇑P	P	04 02 05.1	+0.9	
	baz=69							
Y24A	Capitan	68.64	3	⇑P	P	04 02 04.7	+0.2	
	baz=69,SNR=9.5							
PFO	Pinyon Flat Ob	68.66	353	eP	P	04 02 04.6	+0.1	
	4.4nm,0.9s							
PFO	Pinyon Flat Ob	68.66	353	⇑P	P	04 02 05.7	+1.2	
	baz=69							
Y25A	Mesa, Roswell	68.67	3	⇑P	P	04 02 05.6	+1.0	
	baz=69							
CIS	Catalina Islan	68.68	351	⇑P	P	04 02 05.4	+0.8	
	baz=69							
Y14A	Wickenburg	68.72	356	⇑P	P	04 02 05.6	+0.9	
	baz=69							
Y26A	Elida	68.72	4	⇑P	P	04 02 05.5	+0.6	
	baz=69							
Y27A	Causey	68.72	5	⇓P	P	04 02 05.6	+0.7	
	baz=69,SNR=7.0							
MURC	Murrieta	68.73	352	⇓P	P	04 02 06.2	+1.3	
	baz=69							
Y22D	IRIS PASSCAL I	68.74	1	⇓P	P	04 02 06.6	+1.5	
	baz=69							
Z34A	Collier Ranch,	68.75	10	⇓P	P	04 02 05.3	+0.3	
	baz=69							
Z35A	Percheven, San	68.81	10	⇑P	P	04 02 05.3	+0.1	
	baz=69							
Y28A	McKinney Farm,	68.81	6	⇓P	P	04 02 05.6	+0.1	
	baz=69							
Y29A	Porterfield Fa	68.81	6	⇑P	P	04 02 05.4	0.0	
	baz=69							
MSTX	Muleshoe	68.83	5	eP	P	04 02 04.9	-0.7	
	7.8nm,1.0s							
MSTX	Muleshoe	68.83	5	⇑P	P	04 02 05.9	+0.3	
	baz=69							
Y30A	Stafford Cattl	68.90	7	⇓P	P	04 02 06.7	+0.7	
	baz=69							
FMP	Fort Macarthur	68.97	351	⇓P	P	04 02 07.0	+0.7	
	baz=69							
BELC	Belle Mtn. Jos	69.00	353	⇓P	P	04 02 07.2	+0.6	
	baz=69							
Y31A	Rekieta Farm,	69.05	7	⇑P	P	04 02 07.8	+1.0	
	baz=69							
IRM	Iron Mountain	69.09	354	⇑P	P	04 02 08.0	+1.0	
	baz=69							
X16A	Lo Mia Camp, P	69.12	357	⇓P	P	04 02 08.4	+0.9	
	baz=69							
PDMCI	Parker Dam,Lak	69.15	355	⇓P	P	04 02 09.1	+1.7	
	baz=69							
Y32A	R-V Farms, Ver	69.18	8	⇓P	P	04 02 08.6	+1.0	
	baz=70							
X18A	Snowflake	69.19	359	⇓P	P	04 02 08.7	+0.8	
	baz=70							
X23A	Hourglass Bar	69.27	2	⇓P	P	04 02 09.3	+1.0	
	baz=70							
X25A	Clemmons Ranch	69.27	3	⇓P	P	04 02 09.3	+1.0	
	baz=70							
X24A	Lazy VL Ranch,	69.28	3	⇑P	P	04 02 09.8	+1.3	
	baz=70							
Y33A	Hilltop Ranch,	69.29	9	⇓P	P	04 02 09.0	+0.8	
	baz=70							
X26A	CR and CF Fran	69.34	4	⇓P	P	04 02 09.5	+0.8	
	baz=70							
Y34A	Reagan Ranch,	69.35	10	⇑P	P	04 02 10.1	+1.4	
	baz=70							
BBRC	Big Bear Solar	69.36	353	⇓P	P	04 02 09.8	+0.8	
	baz=70							
X29A	Tulia	69.39	6	⇑P	P	04 02 10.1	+1.0	
	baz=70							
BFSC	Mount Baldy Ra	69.41	352	⇑P	P	04 02 10.8	+1.6	
	baz=70							
BSC	Santa Cruz Isl	69.42	350	⇑P	P	04 02 10.9	+1.8	
	baz=70							
X28A	Dimmitt	69.42	6	⇑P	P	04 02 10.0	+0.8	
	baz=70							
BLG	Laguna Peak	69.46	351	⇓P	P	04 02 11.0	+1.6	
	baz=70							
X30A	Coker Ranch, T	69.47	7	⇑P	P	04 02 10.6	+1.1	
	baz=70							
X27A	F and S Farms,	69.48	5	⇑P	P	04 02 10.8	+1.2	
	baz=70							
DECC	Green Verdugo	69.50	351	⇑P	P	04 02 11.1	+1.4	
	baz=70							
X32A	Elmer	69.61	8	⇑P	P	04 02 12.0	+1.7	
	baz=70							
ANMO	Albuquerque	69.62	2	eP	P	04 02 11.2	+0.6	
	31nm,2.4s							
NEE2	Needles Airpor	69.65	355	⇓P	P	04 02 12.0	+1.5	
	baz=70							
X31A	McDonald Ranch	69.74	8	⇑P	P	04 02 12.2	+1.1	
	baz=70,SNR=5.7							
GMRC	Granite Mounta	69.75	354	⇑P	P	04 02 12.6	+1.4	
	baz=70							
X33A	Lawton	69.83	9	⇑P	P	04 02 12.9	+1.3	
	baz=70							
AMTX	Amarillo	69.83	6	⇓P	P	04 02 13.0	+1.3	
	baz=70							
W23A	Werner Place,	69.84	2	⇓P	P	04 02 12.7	+0.8	
	baz=70,SNR=6.5							
HEC	Hector,Ludlow	69.86	353	⇑P	P	04 02 12.8	+0.9	
	baz=70							
SBC	Santa Barbara	69.87	350	⇓P	P	04 02 13.4	+1.6	
	baz=70							
W26A	Owens Ranch, T	69.88	4	⇑P	P	04 02 13.0	+0.9	
	baz=70							
W27A	Bowe Ranch, En	69.90	5	⇓P	P	04 02 13.1	+0.9	
	baz=70							
W24A	Lazy 6 Ranch,	69.92	3	⇑P	P	04 02 12.9	+0.5	
	baz=70							
W13A	Hualapai Mount	69.92	355	⇑P	P	04 02 13.1	+0.7	
	baz=70							
W25A	X Bar L Ranch,	69.97	4	⇑P	P	04 02 13.3	+0.7	
	baz=70							
X34A	Smith Ranch, M	69.97	9	⇓P	P	04 02 13.5	+1.0	
	baz=70							
RRX	Edison Barstow	69.97	353	⇓P	P	04 02 13.6	+1.1	
	baz=70							
LDFC	Landfair	69.99	354	eP	P	04 02 13.5	+0.8	
	15nm,1.0s							
W29A	Amraillo	70.07	6	⇑P	P	04 02 14.2	+1.0	
	baz=70							
EDW2	Edwards Air Fo	70.08	352	⇑P	P	04 02 14.4	+1.2	
	baz=70							
TIGA	Tifton	70.15	23	⇓P	P	04 02 14.5	+0.9	
	baz=70							
W28A	Vega	70.16	6	⇑P	P	04 02 14.8	+1.0	
	baz=70							
WUAZ	Wupatki	70.21	358	⇑P	P	04 02 15.2	+1.0	
	baz=70							
W30A	Crocket Farms	70.23	7	⇓P	P	04 02 15.4	+1.3	
	baz=70							
W31A	Holland Ranch,	70.30	7	⇓P	P	04 02 15.8	+1.3	
	baz=71							
W32A	Sentinel	70.31	8	⇓P	P	04 02 15.8	+1.2	
	baz=71							
GSC	Goldstone	70.37	353	eP	P	04 02 15.2	+0.2	
	10nm,1.3s							
GSC	Goldstone	70.37	353	⇑P	P	04 02 16.1	+1.0	
	baz=71							
TUQ	Turquoise Moun	70.42	354	⇓P	P	04 02 16.4	+1.0	
	baz=71							
V23A	Ortiz Mt. (NFS	70.43	2	⇑P	P	04 02 16.9	+1.3	
	baz=71							
ARVC	Arvin	70.43	351	⇑P	P	04 02 16.6	+1.4	
	baz=71							
W33A	Caddo, Fort Co	70.43	9	⇑P	P	04 02 16.2	+0.9	
	baz=71							
V24A	Rampart Ranch,	70.44	3	⇓P	P	04 02 16.6	+1.0	
	baz=71							
V22A	San Miguel Ran	70.58	1	⇓P	P	04 02 16.0	-0.5	
	baz=71							
V25A	Rancho No Teng	70.58	3	⇑P	P	04 02 15.9	-0.6	
	baz=71							
V26A	Tequesquite Ra	70.58	4	⇓P	P	04 02 16.8	+0.4	
	baz=71							
V27A	Dan Oppiter Fa	70.61	5	⇑P	P	04 02 17.1	+0.6	
	baz=71							
W34A	Bridge Creek,	70.61	9	⇑P	P	04 02 16.6	+0.2	
	baz=71							
V28A	Channing	70.64	5	⇓P	P	04 02 18.2	+1.5	
	baz=71							
SMMC	Simmler	70.77	350	⇓P	P	04 02 18.6	+1.2	
	baz=71							
V30A	Spur Ranch, Mi	70.79	7	⇓P	P	04 02 18.8	+1.3	
	baz=71							
V29A	Stinnett	70.83	6	⇓P	P	04 02 19.2	+1.4	
	baz=71							
V31A	Spring Creek L	70.89	7	⇑P	P	04 02 19.2	+1.1	
	baz=71							
U23A	El Rito	71.01	2	⇓P	P	04 02 19.2	+0.2	
	baz=71,SNR=8.3							
U22A	Llaves	71.04	1	⇓P	P	04 02 19.3	0.0	
	baz=71							
V33A	Lossen Ranch,	71.12	9	⇑P	P	04 02 20.0	+0.6	
	baz=71							
U24A	Moreno Valley	71.12	3	⇑P	P	04 02 21.0	+1.1	
	baz=71							
U25A	Circle Dot Ran	71.15	4	⇑P	P	04 02 20.8	+0.9	
	baz=71							
U15A	North Rim	71.16	357	⇓P	P	04 02 20.9	+0.9	
	baz=72							
VES	Vestal, Richgr	71.17	351	⇓P	P	04 02 19.7	0.0	
	baz=72							
U26A	Atchley Ranch,	71.18	4	⇑P	P	04 02 19.8	-0.3	
	baz=72							
MPMC	Manual Prospec	71.19	352	⇓P	P	04 02 20.6	+0.5	
	baz=72,SNR=8.7							
V34A	Guthrie	71.23	9	⇑P	P	04 02 20.9	+0.8	
	baz=72							
U27A	Thompson Grove	71.27	5	⇓P	P	04 02 21.1	+0.6	
	baz=72							
U28A	Mallet	71.27	5	⇑P	P	04 02 21.4	+0.9	
	baz=72							
SHPR	Sheep Range	71.42	354	eP	P	04 02 21.1	-0.4	
U29A	Oasis Ranch, S	71.42	6	⇑P	P	04 02 22.5	+1.2	
	baz=72							
FURC	Furnace Creek,	71.53	353	⇓P	P	04 02 23.3	+1.4	
	baz=72							
TUL1	Tulsa	71.56	11	eP	P	04 02 21.6	-0.5	
	15nm,1.2s							
TUL1	Tulsa	71.56	11	⇑P	P	04 02 22.8	+0.7	
	baz=72							
U30A	WK&E Inc. Balk	71.56	7	⇓P	P	04 02 22.7	+0.5	
	baz=72							
U32A	Winter Ranch,	71.58	8	⇓P	P	04 02 23.0	+0.7	
	baz=72							
CWC	Cottonwood Cre	71.64	352	⇑P	P	04 02 23.7	+1.0	
	baz=72							
RCTC	Rector, Farmer	71.65	351	⇑P	P	04 02 24.0	+1.4	
	baz=72							
T23A	Casias Ranch,	71.72	2	⇑P	P	04 02 24.7	+1.3	
	baz=72							
U33A	Lingo Farm, Me	71.74	9	⇓P	P	04 02 24.6	+1.4	
	baz=72							
T24B	San Luis	71.77	3	⇑P	P	04 02 24.3	+0.6	
	baz=72							
U34A	Anderson Ranch	71.82	9	⇑P	P	04 02 24.7	+1.0	
	baz=72							
MVCO	Mesa Verde	71.85	0	⇓P	P	04 02 25.4	+1.2	
	baz=72							
T25A	Trinidad	71.89	3	⇑P	P	04 02 25.6	+1.3	
	baz=72							
T27A	Campo	71.91	5	⇑P	P	04 02 25.9	+1.5	
	baz=72							
T26A	Comanche Natio	71.97	4	⇓P	P	04 02 25.6	+0.8	
	baz=72							
T28A	Walsh	72.02	5	⇑P	P	04 02 26.0	+1.0	
	baz=72							
T30A	Plains	72.08	7	⇓P	P	04 02 26.1	+0.8	
	baz=72							
GRAC	Grapevine Rang	72.11	353	⇓P	P	04 02 27.0	+1.5	
	baz=72							
T29A	Hugoton	72.12	6	⇓P	P	04 02 26.1	+0.5	
	baz=72							
T31A	Randall Ranch,	72.22	7	⇑P	P	04 02 27.2	+1.1	
	baz=72							
TIN	Tinemaha	72.26	352	⇓P	P	04 02 27.9	+1.5	
	baz=73							
CCUT	Cedar City	72.33	356	eP	P	04 02 27.6	+0.6	
	65nm,2.7s							
S24A	Houchin Ranch,	72.35	3	⇓P	P	04 02 28.0	+0.8	
	baz=73							
T33A	Patterson Ranc	72.37	9	⇑P	P	04 02 27.8	+0.8	
	baz=73							
T32A	Huddler Ranch,	72.38	8	⇑P	P	04 02 28.4	+1.3	
	baz=73							
S25A	Robets Cordova	72.41	3	⇓P	P	04 02 27.3	-0.1	
	baz=73							
S22A	4UR Ranch, Cre	72.41	1	⇓P	P	04 02 28.1	+0.6	
	baz=73							
S26A	Kim	72.42	4	⇓P	P	04 02 28.6	+1.2	
	baz=73							
S28A	Manter	72.50	6	⇓P	P	04 02 28.6	+0.7	
	baz=73							
S27A	Las Animas	72.52	5	⇑P	P	04 02 28.7	+0.7	
	baz=73							
S29A	Ulysses	72.59	6	⇓P	P	04 02 29.4	+1.0	
	baz=73							
S30A	Montezuma	72.67	7	⇓P	P	04 02 29.9	+1.1	
	baz=73							
S31A	Mullinville	72.75	8	⇓P	P	04 02 31.1	+1.8	
	baz=73							
R23A	Moffat	72.88	2	⇑P	P	04 02 31.8	+1.5	
	baz=73							
S32A	Newby Ranch, P	72.89	8	⇑P	P	04 02 32.2	+2.1	
	baz=73	

144nm,2.6s
R31A Burdett 73.41 7 ⇓P P 04 02 33.7 +0.5
baz=74
Q23A Hartsel 73.59 2 ⇑P P 04 02 35.6 +1.0
baz=74
R33A Olander Ranch, 73.61 9 ⇑P P 04 02 36.2 +1.9
baz=74
NVAR Mina Array Bea 73.63 352 P P 04 02 34.8 +0.1
NVAR Mina Array Bea 73.63 352 P P 04 02 34.8 +0.1
4.7nm,0.8s,baz=183,slow=7.7,SNR=18
R32A Long Quarter, 73.63 8 ⇓P P 04 02 35.8 +1.4
baz=74
SYO Syowa Base 73.65 169 ⇓epP P 04 02 35.0 +0.8
Q25A Bedland, Calha 73.66 4 ⇑P P 04 02 35.6 +0.7
baz=74
Q24A Divide 73.67 3 ⇓P P 04 02 37.1 +2.0
baz=74
Q26A Hugo 73.71 4 ⇑P P 04 02 36.6 +1.6
baz=74
DZM Mont Dzumac 73.75 254 eS SKiKP 04 12 01.7 -3.8
194nm,24.4s
DZM Mont Dzumac 73.75 254 eLR LR 04 25 04.8
710nm,30.4s
DZM Mont Dzumac 73.75 254 LR LR 04 27 06.3
comp=Z,269nm,21.3s,baz=194,slow=29
SRU San Rafael 73.77 358 eP P 04 02 34.9 -0.6
30nm,1.9s
KSCO Kaye Shedlock' 73.86 5 ⇓P P 04 02 37.2 +1.4
baz=74
Q29A Oakley 73.87 6 ⇑P P 04 02 37.3 +1.5
baz=74
Q28A Sharon Springs 73.97 5 ⇑P P 04 02 38.2 +1.7
baz=74
TMUT Trail Mountain 73.98 358 eP P 04 02 35.2 -1.6
7.1nm,1.0s
Q30A Quinter 74.02 7 ⇑P P 04 02 37.4 +0.6
baz=74
P23A Jefferson 74.06 2 ⇓P P 04 02 38.4 +1.1
baz=74
Q31A Ellis 74.13 7 ⇓P P 04 02 38.9 +1.6
baz=74
Q32A Meitler Ranch, 74.21 8 ⇓P P 04 02 39.5 +1.7
baz=74
P24A Kohler Place, 74.23 3 ⇓P P 04 02 39.7 +1.5
baz=74
P22A Eagle 74.25 1 ⇑P P 04 02 39.1 +0.8
baz=75
P25A Willow Gulch B 74.26 4 ⇑P P 04 02 39.6 +1.3
baz=75
Q33A Connelly Farm, 74.31 9 ⇓P P 04 02 39.7 +1.4
baz=75
P26A Davis Ranch, A 74.36 4 ⇑P P 04 02 40.0 +1.2
baz=75
P27A Ficken Ranch, 74.40 5 ⇑P P 04 02 40.4 +1.4
baz=75
P28A Saint Francis 74.48 5 ⇑P P 04 02 41.0 +1.5
baz=75
ISCO Idaho Springs 74.49 2 ⇑P P 04 02 41.1 +1.4
baz=75
KSU1 Kansas State U 74.57 10 ⇓P P 04 02 41.2 +1.4
baz=75
P30A Selden 74.58 7 ⇑P P 04 02 41.2 +1.2
baz=75
P31A Stockton 74.65 7 ⇓P P 04 02 42.0 +1.7
baz=75
P33A Williams Farm, 74.75 9 ⇓P P 04 02 42.7 +1.7
baz=75
O20A White River Ci 74.78 0 ⇑P P 04 02 42.8 +1.5
baz=75
O22A Kremmling 74.82 2 ⇑P P 04 02 43.3 +1.6
baz=75
P32A Huiting Farm, 74.83 8 ⇓P P 04 02 43.3 +1.9
baz=75
O25A Wiggins 74.86 4 ⇓P P 04 02 43.3 +1.6
baz=75
O23A Lake Granby, G 74.89 2 ⇑P P 04 02 43.7 +1.6
baz=75
DUG Dugway 74.94 357 ⇓P P 04 02 43.8 +1.7
baz=75
O28A Krutsinger Ran 75.03 5 ⇑P P 04 02 44.6 +2.0
baz=75
O26A Horse Wrangler 75.04 4 ⇓P P 04 02 45.1 +2.4
baz=75
DAU Daniels Canyon 75.09 358 eP P 04 02 42.8 -0.5
O29A 4D Ranch, Culb 75.11 6 ⇓P P 04 02 45.4 +2.3
baz=75
O30A MW Ranch, Wils 75.23 7 ⇑P P 04 02 45.8 +2.1
baz=76
O31A Woolen Ranch, 75.28 7 ⇓P P 04 02 45.8 +1.8
baz=76
JLU Jordanelle 75.29 358 eP P 04 02 45.2 +0.9
73nm,2.7s
N22A Wattenberg Ran 75.47 2 ⇑P P 04 02 47.3 +1.9
baz=76
N20A Spence Gulch, 75.47 0 ⇓P P 04 02 46.8 +1.5
baz=76
BMN Battle Mountai 75.49 353 eP P 04 02 46.3 +1.0
9.8nm,1.1s
O32A Brockman Farm, 75.50 8 ⇑P P 04 02 47.2 +1.9
baz=76
N24A Carr 75.54 3 ⇑P P 04 02 47.2 +1.6
baz=76
N25A Grover 75.56 4 ⇑P P 04 02 47.7 +1.9
baz=76
N23A Red Feather La 75.57 2 ⇓P P 04 02 47.9 +1.9
baz=76
N28A Pribbeno Ranch 75.60 6 ⇑P P 04 02 47.3 +1.4
baz=76
N26A Koester Ranch, 75.63 4 ⇓P P 04 02 47.6 +1.5
baz=76
N27A Anderson Farm, 75.65 5 ⇑P P 04 02 47.9 +1.7
baz=76
N29A Votaw Ranch, W 75.81 6 ⇑P P 04 02 48.7 +1.7
baz=76
OGNE Ogallala 75.82 5 ⇓P P 04 02 48.7 +1.5
baz=76
N30A Hueftle Ranch, 75.84 7 ⇓P P 04 02 48.8 +1.6
baz=76
N31A Bailey Ranch, 75.98 8 ⇓P P 04 02 49.6 +1.6
baz=76
N32A Stulken Farm, 75.99 8 ⇑P P 04 02 49.6 +1.6
baz=76
M22A Cedar Creek Ra 76.06 2 ⇓P P 04 02 50.2 +1.5
baz=76
M23A Laramie 76.15 2 ⇑P P 04 02 50.6 +1.4
baz=76
M24A Cheyenne 76.18 3 ⇑P P 04 02 50.0 +0.7
baz=76
M28A Bar X Bar Ranc 76.32 6 ⇓P P 04 02 51.6 +1.6
baz=77
M29A Burnside Ranch 76.42 6 ⇓P P 04 02 52.7 +2.1
baz=77
M30A Dale-Ortello V 76.59 7 ⇑P P 04 02 53.2 +1.7
baz=77
BGNE Belgrade 76.65 8 ⇑P P 04 02 53.3 +1.6
baz=77
L22A Ellis Ranch, M 76.69 2 ⇑P P 04 02 53.7 +1.5
baz=77
L24A Wheatland 76.75 3 ⇓P P 04 02 53.9 +1.4
baz=77
L27A T5 Ranch, Ells 76.94 5 ⇓P P 04 02 54.8 +1.3
baz=77
L30A Spencer Herefo 77.02 7 ⇑P P 04 02 55.2 +1.4
baz=77
K21A Alcova 77.28 1 ⇑P P 04 02 56.6 +1.1
baz=78
K22A Casper 77.31 2 eP P 04 02 56.7 +1.0
132nm,2.6s
K22A Casper 77.31 2 ⇓P P 04 02 57.6 +2.0
baz=78
K25A Mack Ranch, Ha 77.37 4 ⇑P P 04 02 57.9 +1.9
baz=78
BW06 Boulder Array 77.41 359 eP P 04 02 55.0 -1.3
12nm,1.4s
PDAR Pinedale Array 77.41 359 P P 04 02 54.8 -1.5
PDAR Pinedale Array 77.41 359 P P 04 02 54.8 -1.5
3.3nm,0.9s,baz=159,slow=7.0,SNR=15
K23A Bowen Ranch, D 77.44 2 ⇑P P 04 02 57.3 +0.9
baz=78
K26A Motz Farm, Whi 77.50 4 ⇓P P 04 02 58.2 +1.6
baz=78
K27A Flueckinger Fa 77.56 5 ⇑P P 04 02 58.1 +1.2
baz=78
WVOR Wild Horse Val 77.62 352 eP P 04 02 57.5 +0.2
11nm,1.2s
J19A Crowheart 77.90 360 ⇓P P 04 02 59.8 +0.9
baz=78
J21A Lysite 77.99 1 ⇓P P 04 03 00.5 +1.1
baz=78
J23A Dilts Ranch, B 78.09 2 ⇑P P 04 03 00.9 +0.9
baz=78
J27A Elkhorn Farm, 78.12 5 ⇓P P 04 03 01.3 +1.2
baz=78
J25A Sunshine Ranch 78.15 4 ⇑P P 04 03 01.7 +1.5
baz=78
TPAW Teton Pass 78.16 358 eP P 04 02 59.8 -0.7
8.2nm,1.1s
FXWY Fox Creek 78.31 358 eP P 04 03 00.9 -0.4
63nm,3.0s
HLID Hailey 78.38 356 eP P 04 03 01.5 -0.1
10nm,1.1s
HLID Hailey 78.38 356 ⇑P P 04 03 02.8 +1.2
baz=79
J30A Dallas 78.40 7 ⇑P P 04 03 03.0 +1.5
baz=79
I21A Big Trails, Te 78.46 1 ⇓P P 04 03 02.6 +0.6
baz=79
I22A 9 Mile Ranch, 78.55 2 ⇑P P 04 03 03.0 +0.5
baz=79
IMW Indian Meadow 78.56 358 eP P 04 03 02.9 +0.2
71nm,2.9s
I17A Pilgrim Ck. 78.58 359 ⇓P P 04 03 03.7 +0.9
baz=79
I20A Worland 78.59 0 ⇑P P 04 03 03.2 +0.5
baz=79
I19A Meeteetse 78.67 360 ⇑P P 04 03 04.0 +0.8
baz=79
J05D Fort Rock, OR 78.78 351 ⇑P P 04 03 05.2 +1.4
baz=79
I26A New Underwood 78.84 4 ⇓P P 04 03 06.3 +2.3
baz=79
I27A Quinn 78.93 5 ⇓P P 04 03 05.6 +1.1
baz=79
ECSD EROS Data Cent 79.12 9 eP P 04 03 05.7 +0.2
143nm,2.7s
ECSD EROS Data Cent 79.12 9 ⇑P P 04 03 06.4 +0.9
baz=79
H20A Greybull 79.12 0 ⇑P P 04 03 07.1 +1.5
baz=79
H21A Big Horn, Sher 79.28 1 ⇓P P 04 03 07.6 +1.2
baz=80
H18A Shoshone NF, C 79.32 359 ⇑P P 04 03 07.3 +0.5
baz=80
I07A Izee 79.35 352 eP P 04 03 07.5 +0.7
17nm,1.3s
H25A Fruitdale 79.39 4 ⇓P P 04 03 08.0 +1.0
baz=80
F23A Volborg 80.41 2 ⇑P P 04 03 13.0 +0.6
baz=81
F22A Rosebud 80.44 2 ⇓P P 04 03 13.8 +1.1
baz=81
E19A Rath Farm, Rou 81.10 360 ⇑P P 04 03 16.3 +0.1
baz=81
E20A Meyer Farm, Mu 81.14 0 ⇑P P 04 03 16.8 +0.5
baz=81
MSO Missoula 81.61 356 ⇑P P 04 03 19.7 +0.8
baz=82
D20A Manuel Ranch, 81.73 0 ⇓P P 04 03 20.8 +1.3
baz=82
D22A Cohagen 81.81 2 ⇓P P 04 03 21.4 +1.5
baz=82
D30A Buchanan 82.22 7 ⇓P P 04 03 23.6 +1.6
baz=82
C20A Veseth Ranch, 82.35 0 ⇓P P 04 03 23.4 +0.7
baz=83
C19A Slack Wire Ran 82.37 360 ⇑P P 04 03 24.3 +1.4
baz=83
C22A Vida 82.42 2 ⇓P P 04 03 24.0 +0.9
baz=83
C26A Wahner Farm, P 82.67 4 ⇑P P 04 03 24.5 +0.2
baz=83
C30A Mose, Pekin 82.83 7 ⇑P P 04 03 26.0 +0.8
baz=83
NEW Newport 83.25 354 ⇓P P 04 03 27.8 +0.5
baz=84
B30A Myrvik Farm, E 83.59 7 ⇓P P 04 03 30.4 +1.4
baz=84
A21A Bergtoll Ranch 83.64 1 ⇓P P 04 03 29.5 +0.1
baz=84
A24A Westby 83.66 3 ⇓P P 04 03 29.8 +0.4
baz=84
A22A Carney Farms, 83.66 2 ⇑P P 04 03 30.5 +1.0
baz=84
ULM Lac du Bonnet 85.63 8 eP P 04 03 37.6 -1.7
ULM Lac du Bonnet 85.63 8 P P 04 03 37.5 -1.8
5.7nm,0.9s,baz=176,slow=4.1,SNR=8.7
HNR Honiara 85.88 261 LR LR 04 33 55.5
comp=Z,190nm,21.5s,baz=150,slow=30
STKA Stephens Creek 86.38 233 LR LR 04 35 50.0
comp=Z,209nm,18.9s,baz=162,slow=31
SCHQ Schefferville 96.40 23 LR LR 04 42 02.8
comp=Z,185nm,20.3s,baz=228,slow=32
YKA Yellowknife Ar 97.29 357 P P 04 04 30.7 -2.8
YKA Yellowknife Ar 97.29 357 P P 04 04 30.7 -2.8
0.3nm,0.8s,baz=173,slow=4.7,SNR=6.2
WRA Warramunga Arr 99.10 238 LR LR 04 45 56.9
comp=Z,256nm,18.2s,baz=175,slow=33
H01W1 Cape Leeuwin H 99.82 214 T T 05 56 51.7
baz=144,slow=0.7,SNR=18
H01W2 Cape Leeuwin H 99.82 214 T T 05 56 51.9
baz=144,slow=0.7,SNR=7.6
H01W3 Cape Leeuwin H 99.83 214 T T 05 56 53.9
baz=144,slow=0.7,SNR=5.0
TORD Torodi Ar. Bea 113.95 90 PKP PKiKP 04 09 40.4 -0.4
TORD Torodi Ar. Bea 113.95 90 PKP PKiKP 04 09 40.4 -0.4
1.3nm,1.2s,baz=75,slow=1.6,SNR=3.5
ESDC Sonseca Array 121.53 61 PKP PKPdf 04 09 53.2 -1.5
ESDC Sonseca Array 121.53 61 PKP PKPdf 04 09 53.2 -1.5
0.3nm,0.6s,baz=288,slow=0.9,SNR=4.1
CLL Collm 135.59 50 ePKPdf PKPdf 04 10 20.0 -1.0
CLL LmV 07 24 00.0
comp=Z,200nm,20.1s
AKASG Malin Array Be 145.83 50 PKPbc PKPdf 04 10 37.6 -1.8
AKASG Malin Array Be 145.83 50 PKPbc PKPdf 04 10 37.6 -1.8
comp=Z,1.2nm,0.5s,baz=274,slow=3.9,SNR=8.9
HHC Hu-ho-hao-te 148.02 293 ePKPbc PKPbc 04 10 45.4 -1.3
HHC PKS PKSdf 04 14 19.1 +0.3
HHC PP PP 04 14 20.6 +5.5
HHC SKS SKSdf 04 17 52.3 +0.1
HHC SKKS SKKSac 04 21 09.3 +2.9
HHC SS SS 04 33 25.3 +3.5
HHC AMB AMB
comp=Z,23nm,5.2s
HHC LR LR
comp=Z,200nm,19.0s
HHC LR LR
comp=Z,300nm,19.2s
HHC LR LR
comp=Z,170nm,20.4s
GYA Guiyang 148.67 264 ePKPbc PKPdf 04 10 44.3 -0.8
GYA PKPab PKPab 04 10 55.0 +2.5
GYA PP PP 04 14 21.8 +2.7
GYA AMB AMB
comp=Z,120nm,5.0s
OBN Obninsk 148.69 39 PKPbc PKPbc 04 10 46.6 -1.2
OBN Obninsk 148.69 39 PKPbc PKPbc 04 10 46.6 -1.2
comp=Z,11nm,0.4s,baz=166,slow=6.1,SNR=4.8
ANTO Ankara 149.10 69 ePKPbc PKPbc 04 10 49.1 -0.4
BR131 Keskin Array S 149.75 70 ePKPbc PKPbc 04 10 50.1 -1.1
BRTR Keskin Array B 149.75 70 PKPbc PKPbc 04 10 49.9 -1.4
BRTR Keskin Array B 149.75 70 PKPbc PKPbc 04 10 49.9 -1.4
comp=Z,5.0nm,1.0s,baz=222,slow=1.7,SNR=13
SONM Songino Array 151.08 307 PKPbc PKPbc 04 10 52.3 -1.8
SONM PKPab PKPab 04 11 01.5 -0.3
SONM Songino Array 151.08 307 PKPbc PKPbc 04 10 52.3 -1.8
comp=Z,2.7nm,1.0s,baz=74,slow=1.5,SNR=14
SONM PKPab PKPab 04 11 01.5 -0.3
comp=Z,1.6nm,0.9s,baz=115,slow=1.7,SNR=6.3
KMI Kunming 151.27 259 PKPbc PKPdf 04 10 45.9 -3.5
CD2 Chengdu 152.64 271 ePKPbc PKPdf 04 10 50.8 -0.3
CD2 PP PP 04 14 44.6 +2.7
CD2 SKKS 04 21 31.3
CD2 SS SS 04 34 12.8 -0.6
CD2 AMB AMB
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,290nm,14.2s
CD2 LR LR
comp=Z,250nm,22.6s
LZH Lanzhou 153.67 282 ePKPbc PKPdf 04 10 52.3 -0.2
LZH LR LR
comp=Z,130nm,18.5s
LZH LR LR
comp=Z,130nm,17.2s
LZH LR LR
comp=Z,170nm,20.1s
GTA Gaotai 157.02 289 ePKP PKPdf 04 10 53.5 -3.4
GTA PKPab PKPab 04 11 27.8 +0.5
BVAR Borovoye Array 161.97 2 PKPab PKPab 04 11 46.5 -1.6
BVAR Borovoye Array 161.97 2 PKPab PKPab 04 11 46.5 -1.6
comp=Z,1.3nm,0.9s,baz=5.0,slow=3.4,SNR=5.0
KURK Kurchatov 163.46 344 PKPab PKPab 04 11 53.8 -0.9
KURBB Kurchatov Arra 163.56 344 PKPab PKPab 04 11 53.7 -1.4
comp=Z,0.4nm,0.8s,baz=19,slow=4.1,SNR=4.4
WMQ Urumqi 164.68 310 PKP PKPdf 04 11 04.8 -0.2
WMQ PP PP 04 15 49.8 +2.9
WMQ LR LR
comp=Z,95nm,19.0s
WMQ LR LR
comp=Z,59nm,21.0s

IDC 18 04:05:02.3±1.2, 18°54S×177°17W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/32, mbtmp3.8/5, Error ellipse: s-maj=50.0km s-min=25.5km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.27	193	P	P	04 09 39.5	+0.1
	2.7nm,0.5s,baz=304,slow=3.6,SNR=5.6						
STKA	Stephens Creek	39.37	242	P	P	04 12 33.3	-0.4
	1.1nm,0.4s,baz=73,slow=7.5,SNR=4.2						
WRA	Warramunga Arr	45.68	260	P	P	04 13 25.3	0.0
	1.2nm,0.3s,baz=97,slow=6.0,SNR=10						
TXAR	Lajitas Array	85.34	57	P	P	04 17 42.2	+0.4
	0.1nm,0.7s,baz=220,slow=8.3,SNR=2.4						
ILAR	Eielson Array	86.24	13	P	P	04 17 45.1	-0.3
	0.2nm,0.4s,baz=219,slow=5.1,SNR=17						

ISCJB 18 04:11:11.9±0.7, 6.3S±0.1×127.9E±0.2, h350km, mb3.4/5, Error ellipse: s-maj=24.7km s-min=8.6km az=149.3
IDC 18 04:11:16.6±10.0, 6.06S×128.35E, h380km±132km, mb3.1/5, mb1 3.2/6, mb1mx3.0/33, mbtmp3.8/6, Error ellipse: s-maj=73.5km s-min=37.6km az=51.0

ISC 18 04:11:12.8±0.9, 6.4S±0.1×127.8E±0.2, h350km, n14, σ1§64/14, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.83	226	P	Pn	04 12 37.8	+7.0
	baz=4.6,SNR=11						
MTN	Manton Dam	7.20	153	P	Pn	04 12 57.9	+0.4
	baz=6.6,SNR=13						
KDU	Kakadu	7.77	144	P	Pn	04 13 03.6	-0.6
	baz=7.2,SNR=10						
KNRA	Kununurra	9.27	174	P	P	04 13 25.4	+1.2
	baz=8.7,SNR=11						
WRA	Warramunga Arr	14.89	155	P	Pn	04 14 28.0	-0.5
	0.8nm,0.3s,baz=340,slow=11,SNR=21						
WRA				S	S	04 17 06.5	-0.2
	0.3nm,0.3s,baz=334,slow=20,SNR=8.3						
COEN	Coen	16.89	118	P	P	04 14 45.6	-2.4
	baz=16,SNR=5.4						
QIS	Mount Isa	18.15	142	P	P	04 15 04.7	+3.2
	baz=18,SNR=4.5						
WRKA	Warakurna	18.54	179	P	P	04 15 03.2	-2.4
	baz=18,SNR=5.1						
CTA	Charters Tower	22.50	129	P	P	04 15 44.6	+0.8
	0.9nm,0.4s,baz=302,slow=9.5,SNR=3.9						
PMBI	Palembang	23.20	277	S	S	04 19 34.1	-1.7
	baz=24,SNR=4.3						
SONM	Songino Array	57.20	343	P	P	04 20 24.8	+0.3
	0.3nm,0.6s,baz=148,slow=5.2,SNR=4.5						
MKAR	Makanchi Array	66.54	328	P	P	04 21 27.1	+1.0
	0.6nm,0.5s,baz=125,slow=7.8,SNR=1.9						
ZALV	Zalesovo Beam	70.09	335	P	P	04 21 47.2	-0.5
	0.6nm,0.6s,baz=159,slow=4.5,SNR=3.9						
KURBB	Kurchatov Arra	70.87	329	P	P	04 21 53.3	+0.9
	0.7nm,0.5s,baz=130,slow=5.3,SNR=8.0						

ISK 18 05:19:49.0, 37.09N×30.91E, h57km, ML3.4
ISCJB 18 05:19:49.3±0.2, 37.08N±0.02×30.93E±0.02, h61km±4km, mb3.6/7, Error ellipse: s-maj=3.5km s-min=2.6km az=139.4
DDA 18 05:19:50.0, 37.25N×30.93E, h43km, MD3.5
IDC 18 05:19:50.1±1.4, 37.15N×30.92E, h41km±16km, mb3.4/7, mb1 3.6/11, mb1mx3.4/35, mbtmp3.7/11, ML3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.2/32, Error ellipse: s-maj=14.3km s-min=9.6km az=133.0
CSEM 18 05:19:50.7±0.1, 37.09N×30.92E, h40km, ML3.4, Error ellipse: s-maj=2.9km s-min=2.1km az=49.0
HLW 18 05:19:53.7, 36.70N×30.86E, h21km±15km, Md3.5
NIC 18 05:19:54.7±0.1, 36.58N×31.01E, h20km, ML3.4
NSSC 18 05:19:54.1±4.1, 37.00N×31.58E, h0km±192km, MD1.7, ML2.6

ISC 18 05:19:51.2±0.5, 37.13N±0.02×30.97E±0.02, h47km±7km, n166, σ1§50/201, mb3.6/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.34	228	PG	Pn	05 19 59.1	-1.3
ANTB	Antalya	0.34	228	*i* Pg	Pn	05 19 59.1	-1.3
SUTC	Sutluce-Ispart	0.35	4	PG	Pn	05 20 00.2	-0.6
SUTC				*e*SG	Sn	05 20 08.3	+0.8
SUTC	Sutluce-Ispart	0.35	4	*i* Pg	Pn	05 20 00.2	-0.6
SUTC				*e*Sg	Sn	05 20 08.3	+0.8
BCK	Bucak	0.45	318	*e*PG	Pn	05 20 00.6	-1.2
BCK	Bucak	0.45	318	*e*Pg	Pn	05 20 00.6	-1.2
KORT	Korkueli	0.51	256	*i* P	Pn	05 20 00.9	-1.6
KORT				*i* S	Sn	05 20 10.3	-0.3
KORT	Korkueli	0.51	256	*i* P	Pn	05 20 00.9	-1.6
KORT				*i* S	Sn	05 20 10.3	-0.3
ELL	Elmali	0.93	246	*e*PG	Pn	05 20 07.5	-0.5
ELL	Elmali	0.93	246	*e*Pg	Pn	05 20 07.5	-0.5
KONT	Konya--Tatoy	1.38	53	*e*PN	Pn	05 20 13.7	-0.4
KONT	Konya--Tatoy	1.38	53	*e*Pn	Pn	05 20 13.7	-0.4
GAZI	Gazipasa	1.40	129	*i* P	Pn	05 20 13.4	-1.0
GAZI				*i* S	Sn	05 20 35.8	+4.1
GAZI	Gazipasa	1.40	129	*i* P	Pn	05 20 13.4	-1.0
GAZI				*i* S	Sn	05 20 35.8	+4.1
AKAS	Kas	1.41	231	*i* P	Pn	05 20 16.7	+2.1
AKAS				*i* S	Sn	05 20 36.7	+4.6
AKAS	Kas	1.41	231	*i* P	Pn	05 20 16.7	+2.1
SHUT	Suhut-Afyon	1.46	347	*e*PN	Pn	05 20 14.5	-0.8
SHUT	Suhut-Afyon	1.46	347	*e*Pn	Pn	05 20 14.5	-0.8
LADK	Ladik-KONYA	1.54	46	*e*PN	Pn	05 20 16.0	-0.4
LADK	Ladik-KONYA	1.54	46	*e*Pn	Pn	05 20 16.0	-0.4
BOLV	Bolvadin	1.59	360	*i* P	Pn	05 20 17.0	-0.1
BOLV				*i* S	Sn	05 20 35.2	-1.3
BOLV	Bolvadin	1.59	360	*i* P	Pn	05 20 17.0	-0.1
BOLV				*i* S	Sn	05 20 35.2	-1.3
DNZL	Cakiroluk	1.63	291	*i* P	Pn	05 20 17.8	+0.1
DNZL				*i* S	Sn	05 20 38.7	+1.1
DNZL	Cakiroluk	1.63	291	*i* P	Pn	05 20 17.8	+0.1
ERMK	Ermenek	1.63	107	*i* P	Pn	05 20 19.5	+1.8
ERMK	Ermenek	1.63	107	*i* P	Pn	05 20 19.5	+1.8
KHL	Karahalli	1.66	317	*e*PN	Pn	05 20 16.8	-1.1
KHL	Karahalli	1.66	317	*e*Pn	Pn	05 20 16.8	-1.1
KHAL	Karahalli	1.71	317	*i* P	Pn	05 20 17.7	-0.9
KHAL				*i* S	Sn	05 20 38.4	-0.9
KHAL	Karahalli	1.71	317	*i* P	Pn	05 20 17.7	-0.9
ALT	Altintas	2.04	341	*e*PN	Pn	05 20 22.6	-0.6
ALT	Altintas	2.04	341	*e*Pn	Pn	05 20 22.6	-0.6
GDZ	Gediz	2.28	330	*i* P	Pn	05 20 26.5	-0.1
GDZ				*i* S	Sn	05 20 52.0	-1.6
GDZ	Gediz	2.28	330	*i* P	Pn	05 20 26.5	-0.1
GDZ				*i* S	Sn	05 20 52.0	-1.6
SULT	Sultanhani-AKS	2.29	61	*e*PN	Pn	05 20 26.4	-0.2
SULT	Sultanhani-AKS	2.29	61	*e*Pn	Pn	05 20 26.4	-0.2
KULA	Kula-Manisa	2.29	308	*e*PN	Pn	05 20 25.6	-1.1
KULA	Kula-Manisa	2.29	308	*e*Pn	Pn	05 20 25.6	-1.1
MANT	Manisa	2.34	306	*i* P	Pn	05 20 26.0	-1.5
MANT				*i* S	Sn	05 20 53.6	-1.6
MANT	Manisa	2.34	306	*i* P	Pn	05 20 26.0	-1.5
MANT				*i* S	Sn	05 20 53.6	-1.6
IKL	Isikli	2.36	111	*e*PN	Pn	05 20 27.8	+0.4
IKL	Isikli	2.36	111	*e*Pn	Pn	05 20 27.8	+0.4
SVRH	Sivrihisar-ESK	2.36	11	*e*PN	Pn	05 20 27.4	-0.2
SVRH	Sivrihisar-ESK	2.36	11	*e*Pn	Pn	05 20 27.4	-0.2
AKMC	Akamas	2.37	152	P	Pn	05 20 24.9	-2.7
	baz=325						
AKMC				S	Sn	05 20 48.0	-7.5
AKMC	Akamas	2.37	152	P	Pn	05 20 24.9	-2.7

ALFC	**Alevga**	**2.37**	**146**	P		**Pn**	**05 20 25.0**	**-2.6**
	baz=318							
ALFC				S		Sn	05 20 48.9	-6.6
ALFC	**Alevga**	**2.37**	**146**	P		**Pn**	**05 20 25.0**	**-2.6**
AKDN	**Akdeniz- K¯–br**	**2.44**	**138**	*e*PN		**Pn**	**05 20 27.6**	**-0.9**
AKDN	**Akdeniz- K¯–br**	**2.44**	**138**	*e*Pn		**Pn**	**05 20 27.6**	**-0.9**
LEF	**Lefka**	**2.54**	**142**	*e*PN		**Pn**	**05 20 27.3**	**-2.6**
LEF	**Lefka**	**2.54**	**142**	*e*Pn		**Pn**	**05 20 27.3**	**-2.6**
AYDB	**Zeytinkoy-Aydi**	**2.58**	**289**	*e*PN		**Pn**	**05 20 29.5**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**2.58**	**289**	*e*Pn		**Pn**	**05 20 29.5**	**-1.1**
TVSB	**Tavsanli**	**2.60**	**333**	*e*PN		**Pn**	**05 20 30.5**	**-0.4**
TVSB	**Tavsanli**	**2.60**	**333**	*e*Pn		**Pn**	**05 20 30.5**	**-0.4**
KIZK	**Mersin**	**2.63**	**103**	*i* P		**Pn**	**05 20 32.7**	**+1.5**
KIZK				*i* S		Sn	05 21 06.8	+4.9
KIZK	**Mersin**	**2.63**	**103**	*i* P		**Pn**	**05 20 32.7**	**+1.5**
KIZK				*i* S		Sn	05 21 06.8	+4.9
MAMC	**Mammari**	**2.67**	**136**	P		**Pn**	**05 20 30.3**	**-1.4**
	baz=308							
MAMC	**Mammari**	**2.67**	**136**	P		**Pn**	**05 20 30.3**	**-1.4**
LFK	**Lefkose**	**2.77**	**131**	*e*PN		**Pn**	**05 20 32.7**	**-0.6**
LFK	**Lefkose**	**2.77**	**131**	*e*Pn		**Pn**	**05 20 32.7**	**-0.6**
BORA	**Eskisehir**	**2.78**	**352**	*i* P		**Pn**	**05 20 33.2**	**-0.1**
BORA				*i* S		**Sn**	**05 21 04.8**	**-0.9**
BORA	**Eskisehir**	**2.78**	**352**	*i* P		**Pn**	**05 20 33.2**	**-0.1**
BORA				*i* S		**Sn**	**05 21 04.8**	**-0.9**
BDRM	**Kayabasi**	**2.82**	**270**	*i* P		**Pn**	**05 20 34.3**	**+0.5**
BDRM				*i* S		**Sn**	**05 21 06.2**	**-0.3**
BDRM	**Kayabasi**	**2.82**	**270**	*i* P		**Pn**	**05 20 34.3**	**+0.5**
BDRM				*i* S		**Sn**	**05 21 06.2**	**-0.3**
AFSR	**Af¯ar-Bala (A**	**2.85**	**35**	*e*PN		**Pn**	**05 20 34.3**	**0.0**
AFSR	**Af¯ar-Bala (A**	**2.85**	**35**	*e*Pn		**Pn**	**05 20 34.3**	**0.0**
MERS	**Mersin**	**2.86**	**94**	*e*PN		**Pn**	**05 20 34.4**	**0.0**
MERS	**Mersin**	**2.86**	**94**	*e*Pn		**Pn**	**05 20 34.4**	**0.0**
BODT	**Bodrum**	**2.92**	**270**	*e*PN		**Pn**	**05 20 34.1**	**-1.1**
BODT	**Bodrum**	**2.92**	**270**	*e*Pn		**Pn**	**05 20 34.2**	**-1.1**
EREN	**Erenkoy**	**3.04**	**121**	*e*PN		**Pn**	**05 20 36.5**	**-0.3**
EREN	**Erenkoy**	**3.04**	**121**	*e*Pn		**Pn**	**05 20 36.5**	**-0.3**
AKS	**Akhisar**	**3.04**	**306**	*e*PN		**Pn**	**05 20 36.3**	**-0.6**
AKS	**Akhisar**	**3.04**	**306**	*e*Pn		**Pn**	**05 20 36.3**	**-0.6**
NIG	**Nigde**	**3.06**	**70**	*e*PN		**Pn**	**05 20 37.5**	**+0.2**
NIG	**Nigde**	**3.06**	**70**	*e*Pn		**Pn**	**05 20 37.5**	**+0.2**
DURS	**Dursunbey**	**3.15**	**322**	*i* P		**Pn**	**05 20 37.9**	**-0.5**
DURS				*i* S		**Sn**	**05 21 13.4**	**-1.5**
DURS	**Dursunbey**	**3.15**	**322**	*i* P		**Pn**	**05 20 37.9**	**-0.5**
DURS				*i* S		**Sn**	**05 21 13.4**	**-1.5**
CAVI	**Cavuskoy**	**3.19**	**344**	*e*PN		**Pn**	**05 20 39.1**	**+0.1**
CAVI	**Cavuskoy**	**3.19**	**344**	*e*Pn		**Pn**	**05 20 39.1**	**+0.1**
IZM	**Izmir**	**3.20**	**295**	*e*PN		**Pn**	**05 20 38.1**	**-0.9**
IZM	**Izmir**	**3.20**	**295**	*e*Pn		**Pn**	**05 20 38.2**	**-0.9**
KARA	**Karaisali**	**3.27**	**86**	*e*PN		**Pn**	**05 20 40.2**	**+0.3**
KARA	**Karaisali**	**3.27**	**86**	*e*Pn		**Pn**	**05 20 40.2**	**+0.3**
BRTR	**Keskin Array B**	**3.34**	**38**	P		**Pn**	**05 20 41.0**	**-0.1**
	3.7nm,0.3s,baz=224,slow=12,SNR=146							
BRTR				S		**Sn**	**05 21 18.9**	**-0.6**
	13nm,0.3s,baz=215,slow=31,SNR=40							
MDUB	**Mudurnu**	**3.34**	**3**	*e*PN		**Pn**	**05 20 41.4**	**+0.3**
MDUB	**Mudurnu**	**3.34**	**3**	*e*Pn		**Pn**	**05 20 41.4**	**+0.3**
BLCB	**Balcova**	**3.35**	**293**	*e*PN		**Pn**	**05 20 40.6**	**-0.5**
BLCB	**Balcova**	**3.35**	**293**	*e*Pn		**Pn**	**05 20 40.6**	**-0.5**
BALB	**Balikesir**	**3.49**	**317**	*e*PN		**Pn**	**05 20 42.8**	**-0.2**
BALB	**Balikesir**	**3.49**	**317**	*e*Pn		**Pn**	**05 20 42.8**	**-0.2**
GEMT	**Gemlik**	**3.58**	**338**	*e*PN		**Pn**	**05 20 44.5**	**+0.2**
GEMT	**Gemlik**	**3.58**	**338**	*e*Pn		**Pn**	**05 20 44.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**3.62**	**334**	*e*PN		**Pn**	**05 20 44.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**3.62**	**334**	*e*Pn		**Pn**	**05 20 44.7**	**-0.1**
CDAG	**Cicekdag**	**3.66**	**46**	*i* P		**Pn**	**05 20 45.7**	**+0.3**
CDAG				*i* S		**Sn**	**05 21 27.1**	**-0.2**
CDAG	**Cicekdag**	**3.66**	**46**	*i* P		**Pn**	**05 20 45.7**	**+0.3**
CDAG				*i* S		**Sn**	**05 21 27.1**	**-0.2**
BALY	**Balya**	**3.70**	**316**	*i* P		**Pn**	**05 20 45.6**	**-0.4**
BALY				*i* S		**Sn**	**05 21 26.4**	**-2.0**
BALY	**Balya**	**3.70**	**316**	*i* P		**Pn**	**05 20 45.6**	**-0.4**
BALY				*i* S		**Sn**	**05 21 26.4**	**-2.0**
KCTX	**Karacabey (Bur**	**3.74**	**328**	*e*PN		**Pn**	**05 20 46.6**	**+0.1**
KCTX	**Karacabey (Bur**	**3.74**	**328**	*e*Pn		**Pn**	**05 20 46.6**	**+0.1**
BCAM	**Yenicaga**	**3.78**	**13**	*i* P		**Pn**	**05 20 47.1**	**0.0**
BCAM				*i* S		**Sn**	**05 21 29.4**	**-1.0**
BCAM	**Yenicaga**	**3.78**	**13**	*i* P		**Pn**	**05 20 47.1**	**0.0**
BCAM				*i* S		**Sn**	**05 21 29.4**	**-1.0**
GONE	**Gonen-Balikesi**	**3.89**	**320**	*e*PN		**Pn**	**05 20 48.3**	**-0.1**
GONE	**Gonen-Balikesi**	**3.89**	**320**	*e*Pn		**Pn**	**05 20 48.3**	**-0.1**
CORM	**Corum**	**4.18**	**42**	*e*PN		**Pn**	**05 20 53.5**	**+0.8**
CORM	**Corum**	**4.18**	**42**	*e*Pn		**Pn**	**05 20 53.5**	**+0.8**
ARNB	**Al Arnab**	**4.23**	**106**	*e*P		**Pn**	**05 20 53.9**	**+0.7**
ARNB				*e*S		**Sn**	**05 21 37.5**	**-3.8**
ARNB				AML	AML		05 21 45.6	
	comp=E,54nm,0.3s							
ARNB				AML	AML		05 21 46.5	
	comp=N,61nm,0.5s							
ARNB				AML	AML		05 21 46.6	
	comp=Z,23nm,0.5s							
ARNB	**Al Arnab**	**4.23**	**106**	*e*P		**Pn**	**05 20 53.9**	**+0.7**
	SNR=45							
ARNB				*e*S		**Sn**	**05 21 37.5**	**-3.8**
	comp=Z,23nm,0.5s,SNR=40							
YOZ	**Yozgat**	**4.24**	**52**	*e*PN		**Pn**	**05 20 54.2**	**+0.8**
YOZ	**Yozgat**	**4.24**	**52**	*e*Pn		**Pn**	**05 20 54.2**	**+0.8**
BTCH	**Batrach**	**4.55**	**102**	*e*P		**Pn**	**05 20 58.0**	**+0.4**
BTCH				*e*S		Sn	05 21 43.3	-6.0
BTCH				AML	AML		05 21 48.0	
	comp=E,68nm,0.3s							
BTCH				AML	AML		05 21 49.1	
	comp=Z,54nm,0.5s							
BTCH				AML	AML		05 21 56.4	
	comp=N,60nm,0.6s							
BTCH	**Batrach**	**4.55**	**102**	*e*P		**Pn**	**05 20 58.0**	**+0.4**
	SNR=45							
TOS	**Tosya**	**4.57**	**30**	*e*PN		**Pn**	**05 20 58.4**	**+0.5**
TOS	**Tosya**	**4.57**	**30**	*e*Pn		**Pn**	**05 20 58.4**	**+0.5**
WRDH	**Warideh**	**4.68**	**109**	*e*P		**Pn**	**05 20 59.4**	**-0.1**
WRDH				*e*S		**Sn**	**05 21 47.3**	**-5.3**
WRDH				AML	AML		05 21 53.1	
	comp=Z,35nm,0.3s							
WRDH				AML	AML		05 21 55.0	
	comp=N,15nm,0.2s							
WRDH				AML	AML		05 22 00.7	
	comp=E,38nm,0.4s							
WRDH	**Warideh**	**4.68**	**109**	*e*P		**Pn**	**05 20 59.4**	**-0.1**
	SNR=45							
BIDA	**Albida**	**4.82**	**114**	*e*P		**Pn**	**05 21 00.9**	**-0.5**
BIDA				*e*S		**Sn**	**05 21 51.0**	**-5.0**
BIDA				AML	AML		05 21 59.5	
	comp=N,68nm,0.4s							
BIDA				AML	AML		05 22 01.6	
	comp=E,25nm,0.5s							
BIDA				AML	AML		05 22 01.9	
	comp=Z,86nm,0.4s							
BIDA	**Albida**	**4.82**	**114**	*e*P		**Pn**	**05 21 00.9**	**-0.5**
	SNR=45							
BIDA				*e*S		**Sn**	**05 21 51.0**	**-5.0**
	comp=Z,86nm,0.4s,SNR=40							
HAWK	**Haweek**	**5.13**	**119**	*e*P		**Pn**	**05 21 05.8**	**+0.2**
HAWK				*e*S		Sn	05 21 56.4	-7.1
HAWK				AML	AML		05 22 04.9	
	comp=N,15nm,0.7s							
HAWK				AML	AML		05 22 05.4	
	comp=E,22nm,0.5s							
HAWK				AML	AML		05 22 06.5	
	comp=Z,40nm,0.6s							
HAWK	**Haweek**	**5.13**	**119**	*e*P		**Pn**	**05 21 05.8**	**+0.2**
	SNR=45							
IDI	**Anoyia**	**5.25**	**251**	P		**Pn**	**05 21 06.8**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=29,slow=9.0,SNR=10							
IDI				S		**Sn**	**05 22 03.9**	**-2.5**
	comp=Z,3.9nm,0.3s,baz=334,slow=12,SNR=2.6							
MARH	**Ras Al Marh**	**5.46**	**123**	*e*P		**Pn**	**05 21 10.0**	**-0.3**
MARH				*e*S		**Sn**	**05 22 06.3**	**-5.6**
MARH				AML	AML		05 22 16.1	
	comp=Z,13nm,0.5s							
MARH				AML	AML		05 22 17.3	
	comp=E,25nm,0.8s							
MARH				AML	AML		05 22 18.7	
	comp=N,19nm,0.5s							
MARH	**Ras Al Marh**	**5.46**	**123**	*e*P		**Pn**	**05 21 10.0**	**-0.3**
	SNR=45							
MMAI	**Mount Meron Ar**	**5.48**	**137**	P		**Pn**	**05 21 11.0**	**+0.6**
	comp=N,5.8nm,0.3s,baz=307,slow=11,SNR=13							
MMAI				S		**Sn**	**05 22 11.4**	**-0.8**
	comp=N,8.9nm,0.3s,baz=310,slow=22,SNR=8.1							
RABH	**Abou Rabah**	**5.74**	**116**	*e*P		**Pn**	**05 21 14.8**	**+0.9**
RABH				*e*S		Sn	05 22 12.2	-6.3
RABH				AML	AML		05 22 19.6	
	comp=N,12nm,0.6s							
RABH				AML	AML		05 22 19.8	
	comp=E,11nm,0.6s							
RABH				AML	AML		05 22 29.3	
	comp=Z,6.6nm,0.5s							
RABH	**Abou Rabah**	**5.74**	**116**	*e*P		**Pn**	**05 21 14.8**	**+0.9**
	SNR=45							
TOTH	**TOTAH**	**5.84**	**128**	*e*P		Pn	05 21 18.2	+2.9
TOTH				*e*S		Sn	05 22 11.1	-10
TOTH				AML	AML		05 22 24.5	
	comp=N,24nm,0.6s							
TOTH				AML	AML		05 22 29.7	
	comp=Z,18nm,0.8s							
TOTH				AML	AML		05 22 29.8	
	comp=E,13nm,0.6s							
TCHB	**Talchebab**	**6.05**	**136**	*e*P		**Pn**	**05 21 18.9**	**+0.7**
TCHB				*e*S		**Sn**	**05 22 24.2**	**-2.0**
TCHB				AML	AML		05 22 30.8	
	comp=E,12nm,0.3s							
TCHB				AML	AML		05 22 34.3	
	comp=Z,29nm,0.5s							
TCHB				AML	AML		05 22 35.0	
	comp=N,29nm,0.4s							
TCHB	**Talchebab**	**6.05**	**136**	*e*P		**Pn**	**05 21 18.9**	**+0.7**
	SNR=45							
TCHB				*e*S		**Sn**	**05 22 24.2**	**-2.0**
	comp=N,29nm,0.4s,SNR=40							
SALA	**Sala**	**6.47**	**131**	*e*P		**Pn**	**05 21 25.6**	**+1.6**
SALA				*e*S		**Sn**	**05 22 33.7**	**-2.9**
SALA				AML	AML		05 22 48.3	
	comp=N,9.8nm,0.6s							
SALA				AML	AML		05 22 48.8	
	comp=Z,8.4nm,0.5s							
SALA				AML	AML		05 22 49.3	
	comp=E,1.1nm,0.6s							
SALA	**Sala**	**6.47**	**131**	*e*P		**Pn**	**05 21 25.6**	**+1.6**
	SNR=45							
SALA				*e*S		**Sn**	**05 22 33.7**	**-2.9**
	comp=E,1.1nm,0.6s,SNR=40							
RSH		**6.56**	**159**	P		**Pn**	**05 21 24.0**	**-1.1**
	baz=156							
RSH		**6.56**	**159**	P		**Pn**	**05 21 24.0**	**-1.1**
AMAG	**Maghara**	**6.73**	**163**	P		**Pn**	**05 21 26.0**	**-1.5**
	baz=161							
AMAG	**Maghara**	**6.73**	**163**	P		**Pn**	**05 21 26.0**	**-1.5**
HMAT	**Matruh**	**6.82**	**209**	P		**Pn**	**05 21 27.3**	**-1.4**
	baz=211							
HMAT	**Matruh**	**6.82**	**209**	P		**Pn**	**05 21 27.3**	**-1.4**
ASF	**Jabal al Asfar**	**6.95**	**134**	P		Pn	05 21 34.3	+3.7
	comp=E,0.3nm,0.3s,baz=292,slow=16,SNR=1.7							
ASF				S		**Sn**	**05 22 51.2**	**+2.8**
	comp=E,0.2nm,0.3s,baz=84,slow=22,SNR=1.5							
KOT	**Kottamia**	**7.21**	**174**	P		**Pn**	**05 21 32.9**	**-1.3**
	baz=172							
KOT	**Kottamia**	**7.21**	**174**	P		**Pn**	**05 21 32.9**	**-1.3**
SLUM		**7.36**	**222**	P		**Pn**	**05 21 35.7**	**-0.4**
	baz=224							
SLUM		**7.36**	**222**	P		**Pn**	**05 21 35.7**	**-0.4**
SUZ		**7.43**	**167**	P		**Pn**	**05 21 36.2**	**-0.9**
	baz=165							
SUZ		**7.43**	**167**	P		**Pn**	**05 21 36.2**	**-0.9**
HSAF	**As Saff**	**7.50**	**176**	P		**Pn**	**05 21 36.9**	**-1.2**
	baz=175							
HSAF	**As Saff**	**7.50**	**176**	P		**Pn**	**05 21 36.9**	**-1.2**
GLL	**Jalalah**	**7.55**	**175**	P		**Pn**	**05 21 37.4**	**-1.4**
	baz=174							
GLL	**Jalalah**	**7.55**	**175**	P		**Pn**	**05 21 37.4**	**-1.4**
HNKL	**Nakhl**	**7.61**	**160**	P		**Pn**	**05 21 38.2**	**-1.3**
	baz=158							
HNKL				S		Sn	05 22 55.2	-9.2
	baz=158							
HNKL	**Nakhl**	**7.61**	**160**	P		**Pn**	**05 21 38.2**	**-1.3**
EIL	**Elat**	**8.15**	**155**	P		**Pn**	**05 21 47.1**	**+0.2**
	comp=E,0.9nm,0.3s,baz=330,slow=14,SNR=6.3							
EIL				S		**Sn**	**05 23 12.3**	**-5.3**
	comp=E,1.9nm,0.3s,baz=314,slow=17,SNR=5.4							
SWA2		**9.12**	**212**	P		**Pn**	**05 21 58.5**	**-1.6**
	baz=213							
SWA2		**9.12**	**212**	P		**Pn**	**05 21 58.5**	**-1.6**
HFRF	**Wahat Farafira**	**10.20**	**193**	P		**Pn**	**05 22 13.2**	**-1.8**
	baz=194							
HFRF	**Wahat Farafira**	**10.20**	**193**	P		**Pn**	**05 22 13.2**	**-1.8**
FINES	**FINESS Array B**	**24.54**	**354**	P		**P**	**05 25 05.0**	**-1.1**
	comp=E,1.7nm,0.9s,baz=163,slow=16,SNR=2.5							
ARCES	**ARCESS Array B**	**32.60**	**356**	P		**P**	**05 26 16.9**	**-1.0**
	comp=E,3.6nm,1.0s,baz=171,slow=6.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**35.41**	**235**	P		**P**	**05 26 42.2**	**-0.6**
	comp=E,0.4nm,0.9s,baz=37,slow=9.3,SNR=2.7							
KURBB	**Kurchatov Arra**	**36.21**	**53**	P		**P**	**05 26 48.8**	**-0.5**
	comp=E,1.1nm,0.6s,baz=274,slow=8.7,SNR=12							
MKAR	**Makanchi Array**	**38.75**	**59**	P		**P**	**05 27 10.1**	**-0.9**
	comp=E,0.5nm,0.5s,baz=276,slow=7.8,SNR=12							
ZALV	**Zalesovo Beam**	**40.23**	**48**	P		**P**	**05 27 21.9**	**-1.2**
	comp=E,0.6nm,0.5s,baz=284,slow=13,SNR=2.1							
DBIC	**Dimbokro**	**44.51**	**236**	LR		LR	05 49 08.1	
	comp=E,45nm,18.4s,baz=340,slow=40							
SONM	**Songino Array**	**54.58**	**53**	P		**P**	**05 29 15.4**	**+0.6**
	comp=E,0.2nm,0.5s,baz=245,slow=3.0,SNR=2.3							

IDC ***18*** *05:27:32.0±1.6, 11°.47S×166°.08E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/28, mbtmp4.0/7, ML3.6/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/29, Error ellipse: s-maj=48.3km s-min=26.4km az=113.0*

ISCJB ***18*** *05:27:35.5±0.7, 11°.64S±0°.07×166°.1E±0°.1, h37km, mb4.0/8, MS3.0/3, Error ellipse: s-maj=14.4km s-min=9.8km az=167.0*

NEIC ***18*** *05:27:37.1±0.5, 11°.54S×166°.12E, h35km, mb4.2/4, Error ellipse: s-maj=12.4km s-min=11.0km az=174.0*

ISC 18 05:27:37.3±0.8, 11°.56S±0°.09×166°.1E±0°.1, h37km, n20, σ0$47/18, mb4.0/8, MS3.1/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.46**	**178**	*e*Pn	**Pn**	**05 30 04.6**	**-0.2**
DZM				*e*Sn	**Sn**	**05 32 01.1**	**+0.2**
DZM	**Mont Dzumac**	**10.46**	**178**	Pn	**Pn**	**05 30 04.7**	**-0.2**
	0.5nm,0.3s,baz=9.1,slow=19,SNR=5.3						
DZM				LR	LR	05 32 45.1	
	comp=Z,45nm,19.6s,baz=7.5,slow=30						
PMG	**Port Moresby**	**18.75**	**275**	*e*P	**P**	**05 31 52.7**	**-0.5**
PMG	**Port Moresby**	**18.75**	**275**	LR	LR	05 38 34.5	
	comp=Z,125nm,20.7s,baz=104,slow=35						
CTAO	**Charters Tower**	**20.88**	**244**	*e*P	Pn	05 32 17.8	-1.3
	6.7nm,0.8s						
AFI	**Afiamalu**	**21.70**	**99**	*e*P	**P**	**05 32 25.2**	**-0.1**
	21nm,1.1s						
AFI	**Afiamalu**	**21.70**	**99**	LR	LR	05 38 13.0	
	comp=Z,24nm,19.2s,baz=276,slow=30						
STKA	**Stephens Creek**	**30.32**	**224**	*e*P	**P**	**05 33 45.7**	**+0.3**
	0.6nm,0.6s						
STKA	**Stephens Creek**	**30.32**	**224**	P	**P**	**05 33 45.9**	**+0.5**
	3.7nm,0.8s,baz=42,slow=7.2,SNR=5.9						
STKA				LR	LR	05 44 33.2	
	comp=Z,94nm,20.8s,baz=26,slow=34						
WRAB	**Tennant Creek**	**31.63**	**251**	*e*P	**P**	**05 33 57.1**	**0.0**
	3.9nm,0.9s						
WRA	**Warramunga Arr**	**31.64**	**251**	P	**P**	**05 33 56.8**	**-0.4**
WRA	**Warramunga Arr**	**31.64**	**251**	P	**P**	**05 33 56.8**	**-0.4**
	2.8nm,0.9s,baz=85,slow=8.9,SNR=17						
WRA				LR	LR	05 46 02.0	
	comp=Z,45nm,20.1s,baz=220,slow=35						
CMAR	**Chiang Mai Arr**	**72.64**	**294**	P	**P**	**05 39 02.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**72.64**	**294**	P	**P**	**05 39 02.5**	**+0.8**
	1.1nm,0.6s,baz=132,slow=4.5,SNR=5.6						
SONM	**Songino Array**	**79.28**	**324**	P	**P**	**05 39 39.2**	**+0.1**
SONM	**Songino Array**	**79.28**	**324**	P	**P**	**05 39 39.2**	**+0.1**
	0.3nm,0.8s,baz=138,slow=4.9,SNR=3.9						
ILAR	**Eielson Array**	**83.88**	**18**	P	**P**	**05 40 03.0**	**+0.1**
ILAR	**Eielson Array**	**83.88**	**18**	P	**P**	**05 40 02.9**	**+0.1**
	0.4nm,0.9s,baz=224,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**94.13**	**317**	P	**P**	**05 40 51.5**	**-0.6**
MKAR	**Makanchi Array**	**94.13**	**317**	P	**P**	**05 40 51.5**	**-0.6**
	1.3nm,0.8s,baz=99,slow=5.8,SNR=10						

IDC 18 05:52:00.5±4.2, 48°.83S×127°.04E, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/23, mbtmp4.0/2, Error ellipse: s-maj=112.6km s-min=74.2km az=132.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.88**	**321**	T	T	06 13 05.9	
	baz=144,slow=0.7,SNR=3.2						
H01W2	**Cape Leeuwin H**	**16.88**	**321**	T	T	06 13 05.9	
	baz=144,slow=0.7,SNR=7.2						
H01W3	**Cape Leeuwin H**	**16.90**	**321**	T	T	06 13 07.0	
	baz=144,slow=0.7,SNR=6.7						
ASAR	**Alice Springs**	**25.70**	**15**	P	P	05 57 32.2	0.0
	3.3nm,0.9s,baz=186,slow=9.3,SNR=22						
H08S2	**Diego Garcia H**	**61.37**	**293**	T	T	07 07 58.1	
	baz=142,slow=0.7,SNR=5.3						
H08S1	**Diego Garcia H**	**61.38**	**293**	T	T	07 08 01.7	
	baz=142						
H08S3	**Diego Garcia H**	**61.39**	**293**	T	T	07 07 57.6	
	baz=142,slow=0.7,SNR=6.2						
H08N1	**Diego Garcia H**	**63.30**	**293**	T	T	07 10 24.7	
	baz=165,SNR=5.2						
H08N3	**Diego Garcia H**	**63.31**	**293**	T	T	07 10 26.0	
	baz=165,SNR=5.0						
H08N2	**Diego Garcia H**	**63.32**	**293**	T	T	07 10 29.3	
	baz=165,SNR=5.2						
CMAR	**Chiang Mai Arr**	**71.52**	**332**	P	P	06 03 23.1	+0.1
	0.4nm,0.3s,baz=191,slow=9.0,SNR=5.3						
YKA	**Yellowknife Ar**	**144.15**	**44**	PKP	PKPdf	06 11 36.1	-0.7
	1.2nm,1.1s,baz=275,slow=2.6,SNR=8.9						

BJI ***18*** *06:00:23.5, 11°.66S×166°.77E, h32km, mB5.3/34, mb5.0/46, Ms5.0/32, Ms7 4.7/29*

MOS ***18*** *06:00:25.7±1.1, 11°.34S×166°.11E, h26km, mb5.3/17, Error ellipse: s-maj=10.4km s-min=10.1km az=134.7*

IDC ***18*** *06:00:29.7±0.5, 11°.56S×166°.32E, h53km±3km, mb4.4/24, mb1 4.5/27, mb1mx4.5/37, mbtmp4.6/27, MS4.3/22, Ms1 4.3/22, ms1mx4.3/23, Error ellipse: s-maj=12.4km s-min=10.7km az=120.0*

GCMT ***18*** *06:00:30.7±0.1, 11°.63S×166°.09E, h53km, MW5.3/99, Moment Tensor Solution. s99,c147; s90,c147; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.99±.02; Mθθ-0.03±.02; Mφφ-0.96±.02; Mrθ-0.12±.01; Mθφ0.16±.01; Mφr0.39±.01; Best double couple: Mo1.07400×1017 NP1φs348.00000°, δ56.00000°, λ87.00000°. NP2φs173.00000°, δ34.00000°, λ94.00000°. Principal axes: T 1.0760, Plg79.0000°, Azm247.0000°; N -0.0030, Plg2.0000°, Azm350.0000°; P -1.0720, Plg11.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***18*** *06:00:30.4±1.1, 11°.67S±0°.03×166°.17E±0°.03, h68km±9km, mb4.8/76 Error ellipse: s-maj=5.2km s-min=5.0km az=152.8*

NEIC ***18*** *06:00:30.7±0.2, 11°.54S×166°.24E, mb5.1/41, Error ellipse: s-maj=6.9km s-min=5.6km az=136.0*

ISC 18 06:00:29.0±0.3, 11°.67S±0°.04×166°.35E±0°.05, h44km±2km, h43km:pP-P, n253, σ1$61/338, mb5.0/77, MS4.4/34, 10C-17D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.67**	**289**	P	**Pn**	**06 02 06.5**	**+1.9**
HNR				S	**Sn**	**06 03 18.8**	**-0.6**
HNR	**Honiara**	**6.67**	**289**	P	**Pn**	**06 02 06.4**	**+1.9**
	63nm,0.3s,baz=204,slow=2.0,SNR=25						
HNR				S	**Sn**	**06 03 18.8**	**-0.6**
	38nm,0.3s,baz=25,slow=22,SNR=6.5						
HNR	**Honiara**	**6.67**	**289**	*e*P	**Pn**	**06 02 06.0**	**+1.5**
DZM	**Mont Dzumac**	**10.34**	**179**	*e*Pn	Pn	06 02 59.6	+4.7
	27nm,0.3s						
DZM				*e*LR	LR	06 05 22.5	
	6μm,25.8s						
DZM	**Mont Dzumac**	**10.34**	**179**	*e*Pn	Pn	06 02 59.0	+4.1
DZM				*e*Sn	**Sn**	**06 04 52.3**	**+2.8**
DZM	**Mont Dzumac**	**10.34**	**179**	P	Pn	06 02 58.7	+3.9
	3.3nm,0.3s,baz=30,slow=18,SNR=46						
DZM				S	**Sn**	**06 04 49.6**	**+0.1**
	5.7nm,0.3s,baz=315,slow=23,SNR=4.5						
NOUC	**Port Laguerre**	**10.37**	**180**	*e*P	**Pn**	**06 02 57.5**	**+2.4**
NOUC				*e*S	**Sn**	**06 04 48.4**	**-1.7**
MSVF	**Nonsavu**	**12.82**	**119**	*e*P	P	06 03 35.1	-3.7
MSVF	

comp=Z,266nm,1.2s,SNR=14
WRAB Tennant Creek 31.82 251 *e*P **P** **06 06 49.1 -0.8**
WRAB *e* 06 09 40.9
WRAB pmax pmax
comp=Z,73nm,1.2s
WRAB Tennant Creek 31.82 251 *e*P **P** **06 06 49.0 -0.8**
comp=Z,73nm,1.2s
WRAB *e*PcP **PcP** **06 09 40.9 +0.6**
WRA Warramunga Arr 31.83 251 P **P** **06 06 49.0 -0.9**
WRA PcP **PcP** **06 09 39.9 -0.4**
WRA ScP **ScP** **06 13 20.8 +0.4**
WRA Warramunga Arr 31.83 251 P **P** **06 06 49.0 -0.9**
comp=Z,40nm,0.9s,baz=85,slow=9.1,SNR=131
WRA PcP **PcP** **06 09 39.9 -0.4**
comp=Z,3.5nm,0.9s,baz=80,slow=2.5,SNR=6.6
WRA ScP **ScP** **06 13 20.8 +0.4**
comp=Z,2.4nm,1.1s,baz=84,slow=4.1,SNR=5.7
WRA LR LR 06 18 25.2
comp=Z,778nm,21.4s,baz=70,slow=34
TOO Toolangi 31.85 212 ⇑P **P** **06 06 51.0 +1.0**
baz=32,SNR=3.8
FOZ Fox Glacier 31.91 175 *e*PN **P** **06 06 50.1 -0.2**
OXZ Oxford 31.92 172 *e*PN **P** **06 06 51.0 +0.6**
RPZ Rata Peaks 32.19 174 *e*P **P** **06 06 54.0 +1.2**
comp=Z,344nm,2.5s
JCZ Jackson Bay 32.35 177 *e*PN **P** **06 06 55.8 +1.5**
MQZ McQueen's Vall 32.38 171 *e*PN **P** **06 06 54.9 +0.5**
AS31 Alice Springs 33.05 244 *e*P **P** **06 06 59.6 -1.0**
AS31 *e*PcP **PcP** **06 09 43.0 -0.6**
ASAR Alice Springs 33.05 244 P **P** **06 06 59.4 -1.3**
ASAR pP **pP** **06 07 15.0 +2.7**
ASAR PcP **PcP** **06 09 42.5 -1.1**
ASAR pPcP 06 09 58.0
ASAR ScP **ScP** **06 13 23.0 -1.5**
ASAR Alice Springs 33.05 244 P **P** **06 06 59.4 -1.3**
comp=Z,25nm,0.7s,baz=73,slow=9.5,SNR=223
ASAR pP **pP** **06 07 15.0 +2.7**
comp=Z,12nm,0.8s,baz=74,slow=9.5,SNR=8.6
ASAR PcP **PcP** **06 09 42.5 -1.1**
comp=Z,2.2nm,0.7s,baz=67,slow=2.6,SNR=6.9
ASAR pPcP 06 09 58.0
comp=Z,3.6nm,0.9s,baz=80,slow=3.3,SNR=5.9
ASAR ScP **ScP** **06 13 23.0 -1.5**
comp=Z,0.7nm,0.8s,baz=76,slow=3.9,SNR=4.3
ASAR LR LR 06 19 07.8
comp=Z,996nm,21.4s,baz=68,slow=34
KDU Kakadu 33.11 265 ⇓P **P** **06 07 00.3 -0.9**
baz=33,SNR=16
HTT Hallett 33.14 225 ⇓P **P** **06 07 02.1 +0.8**
baz=33,SNR=14
DCZ Deep Cove 33.70 179 *e*P **P** **06 07 07.5 +1.6**
comp=Z,27nm,1.0s
MTN Manton Dam 34.42 264 ⇓P **P** **06 07 12.4 -0.1**
baz=35,SNR=7.2
BBOO Buckleboo 34.84 228 *e*P **P** **06 07 17.0 +0.9**
comp=Z,2μm,1.6s
BBOO Buckleboo 34.84 228 ⇑P **P** **06 07 16.3 +0.3**
baz=35,SNR=9.3
KNRA Kununurra 36.70 259 ⇑P **P** **06 07 32.0 -0.1**
baz=37,SNR=5.3
WRKA Warakurna 38.34 244 ⇑P **P** **06 07 45.2 -0.8**
baz=38,SNR=24
FORT Forrest 40.17 236 *e*P **P** **06 08 01.3 +0.2**
comp=Z,71nm,1.1s
FORT Forrest 40.17 236 ⇓P **P** **06 08 00.6 -0.6**
baz=40,SNR=7.5
PPT Papeete 42.98 103 LR LR 06 23 58.5
comp=Z,363nm,18.9s,baz=266,slow=33
PPT2 Papeete2 42.98 103 *e*S S 06 15 00.7 +14
comp=Z,199nm,26.0s
PPT2 *e*LQ LQ 06 18 40.8
comp=Z,1μm,29.2s
PPT2 *e*LR LR 06 20 29.7
comp=Z,3μm,29.5s
TBI Tubuai 43.55 112 *e*LQ LQ 06 18 56.6
comp=Z,1μm,28.8s
TBI *e*LR LR 06 20 48.1
comp=Z,2μm,29.2s,baz=280
LUWI Luwuk 44.51 281 *e*P **P** **06 08 37.4 +0.8**
comp=Z,66nm,0.9s
JCJ Chichijima 45.11 329 LR LR 06 24 41.9
comp=Z,230nm,20.8s,baz=136,slow=32
KMBL Kambalda 45.40 237 ⇓P **P** **06 08 43.1 -0.5**
baz=46,SNR=13
MBWA Marble Bar 45.56 252 *e*P **P** **06 08 45.8 +0.9**
comp=Z,86nm,1.1s
MBWA *e*pP **pP** **06 09 01.6 +4.6**
MEEK Meekatharra 47.21 245 ⇓P **P** **06 08 57.6 -0.3**
baz=47,SNR=76
KLBR Kellerberin 48.88 238 ⇑P **P** **06 09 09.4 -1.2**
baz=49,SNR=6.6
BLDU Ballidu 49.55 240 ⇑P **P** **06 09 14.7 -1.1**
baz=50,SNR=14
MORW Morawa 49.84 242 ⇓P **P** **06 09 17.3 -0.8**
baz=50,SNR=18
JAGI Jajag, Banyuwa 51.43 268 *e*P **P** **06 09 28.9 -1.4**
MJAR Matsushiro Arr 54.80 332 P **P** **06 09 52.2 -2.4**
MJAR pP **pP** **06 10 08.0 +1.0**
MJAR Matsushiro Arr 54.80 332 P **P** **06 09 52.2 -2.4**
comp=Z,2.4nm,0.7s,baz=160,slow=8.4,SNR=6.7
MJAR pP **pP** **06 10 08.0 +1.0**
comp=Z,1.3nm,0.4s,baz=142,slow=5.0,SNR=2.8
MAJO Matsushiro 54.80 332 P **P** **06 09 51.9 -2.7**
MAJO pmax pmax
comp=Z,1μm,20.4s
JNU Nakatsue 55.93 324 *e*P **P** **06 10 01.3 -1.6**
comp=Z,7.2nm,1.0s
JNU *e*pP **pP** **06 10 17.9 +2.6**
RKT Rikitea 56.82 110 *e*LR LR 06 26 56.1
comp=Z,2μm,27.5s
YUK Yuzh-Kuril'sk 58.49 343 *c*/P pP 06 10 37.9 +4.8
ASAJ Asahikawa 59.58 340 P **P** **06 10 27.4 -0.9**
ASAJ pP **pP** **06 10 41.8 +1.1**
ASAJ Asahikawa 59.58 340 P **P** **06 10 27.4 -0.9**
comp=Z,1.7nm,0.4s,baz=139,slow=9.3,SNR=4.7
ASAJ pP **pP** **06 10 41.8 +1.1**
comp=Z,4.9nm,0.6s,baz=230,slow=16,SNR=3.1
KSRS Korea Array 60.73 325 P **P** **06 10 35.0 -1.2**
comp=Z,2.2nm,0.6s,baz=137,slow=7.4,SNR=9.6
KSRS LR LR 06 34 50.4
comp=Z,85nm,20.9s,baz=128,slow=34
KSAR Wonju Array Be 60.74 325 P **P** **06 10 35.0 -1.3**
YSS Yuzh-Sakhalins 62.06 342 *e*P **P** **06 10 44.5 -0.5**
NJ2 Nanjing 62.88 315 *e*P **P** **06 10 51.0 +0.2**
NJ2 pP **pP** **06 11 02.3 -1.1**
NJ2 sP **sP** **06 11 04.5 -3.9**
NJ2 S **S** **06 19 21.0 +3.5**
NJ2 sS **sS** **06 19 37.0 -1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,140nm,5.7s
NJ2 LR LR
comp=Z,3μm,27.1s
NJ2 LR LR
comp=Z,1μm,26.6s
QIZ Qiongzhong 63.49 298 P **P** **06 10 55.8 +0.7**
QIZ S **S** **06 19 27.8 +2.1**
QIZ pmax pmax
comp=Z,36nm,1.8s
QIZ LR LR
comp=Z,630nm,23.7s
USRK Ussuriysk Arra 63.77 333 P **P** **06 10 55.8 -0.6**
comp=Z,3.4nm,0.8s,baz=135,slow=4.3,SNR=9.8
USRK pP **pP** **06 11 09.8 +0.8**
comp=Z,5.3nm,1.0s,baz=123,slow=7.0,SNR=4.4
FX1 Attu Island--F 64.56 5 P **P** **06 11 01.9 +0.5**
FX1 Attu Island--F 64.56 5 P **P** **06 11 01.9 +0.5**
comp=Z,13nm,0.6s,baz=256,slow=9.8,SNR=4.6
PET Petropavlovsk 64.77 355 *e*P P 06 11 08.0 +5.2
PET *e*S **S** **06 19 44.3 +4.1**
PET pmax pmax
comp=Z,100nm,12.0s
PETK Petropavlovsk- 64.95 354 P **P** **06 11 02.9 -1.1**
PETK *PP **pP** **06 11 19.0 +2.4**
PETK Petropavlovsk- 64.95 354 P **P** **06 11 02.9 -1.1**
PETK pP **pP** **06 11 18.9 +2.4**
PETK Petropavlovsk- 64.95 354 P **P** **06 11 02.9 -1.1**
comp=Z,1.7nm,0.7s,baz=148,slow=8.7,SNR=3.6
PETK pP **pP** **06 11 18.9 +2.4**
comp=Z,3.1nm,0.8s,baz=155,slow=7.8,SNR=3.7
PETK LR LR 06 33 44.1
comp=Z,187nm,20.4s,baz=160,slow=31
MDJ Mudanjiang 65.18 332 P **P** **06 11 07.6 +2.0**
MDJ pP **pP** **06 11 16.8 -1.5**
MDJ sP **sP** **06 11 20.9 -2.4**
MDJ PcP **PcP** **06 11 39.6 +1.7**
MDJ PP **PP** **06 13 31.0 +1.4**
MDJ S **S** **06 19 49.8 +4.2**
MDJ SS **SS** **06 24 02.8 +3.7**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,51nm,6.0s
VNDA Vanda 65.88 181 *e*P **P** **06 11 10.6 +0.9**
comp=Z,28nm,1.7s
VNDA *e*pP **pP** **06 11 24.8 +2.4**
VNDA Vanda 65.88 181 P **P** **06 11 09.9 +0.1**
comp=Z,5.5nm,0.9s,baz=334,slow=7.0,SNR=8.1
VNDA pP **pP** **06 11 23.3 +0.9**
comp=Z,7.3nm,1.1s,baz=16,slow=7.6,SNR=4.6
VNDA LR LR 06 36 16.2
comp=Z,259nm,19.7s,baz=1.5,slow=32
CN2 Changchun 66.58 329 *e*P **P** **06 11 13.5 -1.2**
CN2 *e*S **S** **06 19 57.8 -4.9**
CN2 SS **SS** **06 24 17.8 -3.1**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
KLR Kul'dur 67.86 336 *e*P P 06 11 17.7 -5.0
PSI Prapat 68.54 278 ⇑P **P** **06 11 26.5 -1.3**
baz=69,SNR=7.0
GYA Guiyang 69.26 304 P **P** **06 11 33.8 +1.7**
GYA pP **pP** **06 11 44.6 -0.2**
GYA PP **PP** **06 14 09.0 +3.3**
GYA S **S** **06 20 35.8 +0.2**
GYA sS **sS** **06 20 53.3 -3.6**
GYA SKS **SKSac** **06 21 26.0 -3.1**
GYA SS **SS** **06 25 04.4 +1.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=Z,570nm,19.8s
GYA LR LR
comp=Z,480nm,20.1s
GYA LR LR
comp=Z,520nm,29.5s
BJI Beijing 69.34 321 P **P** **06 11 31.3 -0.8**
BJI S **S** **06 20 39.3 +3.5**
BJI SS **SS** **06 25 07.3 +3.6**
BJI pmax pmax
comp=Z,18nm,0.8s
BJI pmax pmax
comp=Z,180nm,6.7s
BJI LR LR
comp=Z,200nm,13.0s
BJI LR LR
comp=Z,190nm,16.1s
BJI LR LR
comp=Z,330nm,32.1s
GSI Gunungsitoli 69.51 276 *e*P **P** **06 11 33.6 -0.1**
comp=Z,21nm,0.6s
GSI *e*pP **pP** **06 11 48.3 +1.8**
SLVN Son La 69.52 298 *e*P **P** **06 11 34.1 +0.4**
comp=Z,3.0nm,0.6s
SLVN *e*pP **pP** **06 11 50.0 +3.6**
XAN Xi'an 70.98 312 P **P** **06 11 41.8 -0.6**
XAN pP **pP** **06 11 52.0 -3.1**
XAN S **S** **06 20 50.8 -4.5**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,38nm,9.0s
XAN LR LR
comp=Z,150nm,20.6s
XAN LR LR
comp=Z,120nm,21.9s
KMI Kunming 71.95 301 P **P** **06 11 48.8 +0.2**
KMI pP **pP** **06 12 01.6 +0.2**
KMI sP **sP** **06 12 05.3 -1.1**
KMI S **S** **06 21 08.3 +1.0**
KMI sS **SKiKP** **06 21 25.0 +2.1**
KMI SS **SS** **06 25 47.1 +2.2**
KMI pmax pmax
comp=Z,25nm,1.4s
KMI pmax pmax
comp=Z,210nm,4.2s
KMI LR LR
comp=Z,150nm,23.2s
KMI LR LR
comp=Z,300nm,23.2s
KMI LR LR
comp=Z,390nm,25.0s
HHC Hu-ho-hao-te 72.69 320 *e*P **P** **06 11 51.9 -0.7**
HHC PP **PP** **06 14 38.3 +3.4**
HHC S **S** **06 21 16.3 +1.4**
HHC SKS **SKSac** **06 21 52.3 -2.1**
HHC SS **SS** **06 25 58.3 +2.9**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,220nm,6.3s
HHC LR LR
comp=Z,380nm,15.7s
HHC LR LR
comp=Z,590nm,18.2s
HHC LR LR
comp=Z,730nm,22.4s
CM31 Chiang Mai Arr 72.90 294 *e*P **P** **06 11 55.4 +1.2**
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 72.90 294 P **P** **06 11 54.5 +0.3**
CMAR pP **PcP** **06 12 09.4 -1.7**
CMAR Chiang Mai Arr 72.90 294 P **P** **06 11 54.5 +0.3**
comp=Z,14nm,0.9s,baz=121,slow=4.4,SNR=51
CMAR pP **PcP** **06 12 09.4 -1.7**
comp=Z,6.7nm,0.9s,baz=114,slow=2.3,SNR=4.9
CMAR LR LR 06 45 29.0
comp=Z,92nm,19.1s,baz=131,slow=37
CHTO Chiang Mai 73.02 294 *e*P **P** **06 11 54.8 0.0**
CHTO *e* 06 12 09.9
CHTO pmax pmax
comp=Z,11nm,1.4s
CHTO Chiang Mai 73.02 294 *e*P **P** **06 11 54.8 0.0**
comp=Z,11nm,1.4s
CHTO *e*PcP **PcP** **06 12 09.9 -1.6**
CD2 Chengdu 73.45 307 ⇓/P **P** **06 11 57.4 +0.2**
CD2 pP **pP** **06 12 08.5 -1.5**
CD2 PP **PP** **06 14 43.3 +1.8**
CD2 S **S** **06 21 23.1 -0.7**
CD2 sS **sS** **06 21 41.6 -3.6**
CD2 ScS **SKSac** **06 21 58.3 -2.2**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,220nm,4.8s
CD2 LR LR
comp=Z,410nm,21.4s
CD2 LR LR
comp=Z,480nm,21.4s
SEY Seymchan 75.16 353 *e*P P 06 12 02.7 -3.7
SEY Seymchan 75.16 353 P **P** **06 12 04.6 -1.8**
SEY pP **pP** **06 12 19.4 +0.2**
SEY Seymchan 75.16 353 P **P** **06 12 04.6 -1.8**
comp=Z,0.7nm,0.5s,baz=159,slow=8.6,SNR=5.0
SEY pP **pP** **06 12 19.4 +0.2**
comp=Z,1.4nm,0.7s,baz=160,slow=7.3,SNR=3.3
LZH Lanzhou 75.61 312 *e*P **P** **06 12 09.4 -0.4**
LZH pP **PcP** **06 12 18.8 -3.7**
LZH sP sP 06 12 22.4 -5.2
LZH PP **PP** **06 15 01.3 +1.4**
LZH *e*S **S** **06 21 43.4 -4.7**
LZH SS SS 06 26 47.6 +7.3
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.1s
LZH LR LR
comp=Z,350nm,13.9s
LZH LR LR
comp=Z,480nm,15.5s
LZH LR LR
comp=Z,650nm,17.7s
QSPA South Pole Qui 78.33 180 *e*P **P** **06 12 23.9 -0.7**
comp=Z,42nm,1.1s
YAK Yakutsk 78.86 343 *e*P **P** **06 12 26.1 -1.1**
ULN Ulaanbaatar 79.15 324 *e*P **P** **06 12 28.8 -0.5**
comp=Z,17nm,1.1s
SONM Songino Array 79.52 324 P **P** **06 12 30.4 -0.9**
SONM pP **pP** **06 12 46.2 +1.9**
SONM Songino Array 79.52 324 P **P** **06 12 30.4 -0.9**
comp=Z,4.1nm,0.9s,baz=137,slow=4.9,SNR=25
SONM pP **pP** **06 12 46.2 +1.9**
comp=Z,5.0nm,1.0s,baz=134,slow=4.6,SNR=8.3
SONM LR LR 06 47 53.0
comp=Z,81nm,19.1s,baz=149,slow=36
GTA Gaotai 79.92 314 *e*P **P** **06 12 33.5 -0.2**
GTA pP **PcP** **06 12 43.9 +2.8**
GTA sP **sP** **06 12 48.1 -3.4**
GTA S **S** **06 22 34.3 0.0**
GTA SKS **SKSac** **06 22 43.3 -4.3**
GTA sS **SKKSac** **06 22 50.8 +1.4**
GTA SS **SS** **06 27 46.5 +1.6**
GTA pmax pmax
comp=Z,23nm,1.1s
GTA pmax pmax
comp=Z,190nm,7.6s
GTA LR LR
comp=Z,160nm,20.9s
GTA LR LR
comp=Z,210nm,20.4s
GTA LR LR
comp=Z,330nm,20.4s
ZAK Zakamensk 82.55 325 *e*P **P** **06 12 45.6 -1.8**
ZAK *e* 06 13 01.5
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 82.97 326 *e*P **P** **06 12 48.2 -1.2**
TLY *e* 06 13 04.2
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY MLR MLR
comp=Z,97nm,18.0s
TLY Talaya 82.97 326 *e*P **P** **06 12 47.9 -1.5**
comp=Z,59nm,2.1s
LSA Lhasa 83.19 302 P **P** **06 12 51.6 0.0**
COLA College 83.70 18⇓*e*P **P** **06 12 50.7 -2.1**
COLA pmax pmax
comp=Z,23nm,0.7s
COLA College 83.70 18 *e*P **P** **06 12 52.7 -0.1**
comp=Z,3.8nm,1.2s
YBH Yreka Blue Hor 83.91 45 P **P** **06 12 55.6 +1.0**
YBH Yreka Blue Hor 83.91 45 P **P** **06 12 55.6 +1.0**
comp=Z,4.6nm,0.7s,baz=292,slow=2.9,SNR=8.8
ILAR Eielson Array 83.92 18 P **P** **06 12 51.9 -2.1**
ILAR pP **pP** **06 13 07.2 +0.2**
ILAR Eielson Array 83.92 18 P **P** **06 12 51.9 -2.1**
comp=Z,2.1nm,0.7s,baz=242,slow=4.6,SNR=32
ILAR pP **pP** **06 13 07.2 +0.2**
comp=Z,1.0nm,0.6s,baz=262,slow=5.0,SNR=4.3
ILAR LR LR 06 48 33.7
comp=Z,96nm,18.5s,baz=192,slow=34
MOY Mondy 84.43 325 *e*P **P** **06 12 56.0 -1.0**
MWC Mount Wilson 84.87 54 *e*P **P** **06 13 00.0 +0.3**
MWC pmax pmax
comp=Z,44nm,1.8s
MWC Mount Wilson 84.87 54 *e*P **P** **06 13 00.0 +0.3**
comp=Z,44nm,1.8s
EDW2 Edwards Air Fo 85.12 53 P **P** **06 13 01.5 +0.7**
baz=85
WAKR Walker 85.16 49 *e*P **P** **06 13 02.0 +0.9**
BFSC Mount Baldy Ra 85.19 54 P **P** **06 13 01.8 +0.6**
baz=85
J05D Fort Rock, OR 85.48 44 P **P** **06 13 03.6 +1.0**
baz=86
PAHR Pah Rah Range 85.59 48 *e*P **P** **06 13 03.5 +0.4**
comp=Z,31nm,1.7s
EGAK Eagle 85.76 20 *e*P **P** **06 13 02.5 -0.7**
comp=Z,8.5nm,0.7s
I05D Terrebonne, OR 85.78 43 P **P** **06 13 04.8 +0.9**
baz=86
MONP Monument Peak 85.79 55 P **P** **06 13 04.8 +0.5**
baz=86
MPMC Manual Prospec 85.87 52 P **P** **06 13 05.2 +0.6**
baz=86
NVAR Mina Array Bea 85.98 50 P **P** **06 13 05.0 -0.2**
NVAR pP **pP** **06 13 20.8 +2.5**
NVAR Mina Array Bea 85.98 50 P **P** **06 13 05.0 -0.2**
comp=Z,2.3nm,0.7s,baz=231,slow=8.7,SNR=12
NVAR pP **pP** **06 13 20.8 +2.5**
comp=Z,4.1nm,1.1s,baz=241,slow=6.1,SNR=4.8
NVAR LR LR 06 43 14.0
comp=Z,521nm,21.8s,baz=86,slow=30
SWSC Sam W. Stewart 86.30 55 P **P** **06 13 06.9 +0.3**
baz=86
HEC Hector,Ludlow 86.41 54 P **P** **06 13 07.5 +0.3**
baz=86
BELC Belle Mtn. Jos 86.44 54 P **P** **06 13 07.6 +0.1**
baz=86
FURC Furnace Creek, 86.48 52 P **P** **06 13 07.9 +0.5**
baz=87
TPH Tonopah 86.68 50 *e*P **P** **06 13 08.9 +0.2**
TPH pmax pmax
comp=Z,24nm,1.8s
TPH Tonopah 86.68 50 *e*P **P** **06 13 08.8 +0.2**
comp=Z,24nm,1.8s
H06S1 SOCORRO T 86.91 70 T T 07 47 43.9
SNR=21
GMRC Granite Mounta 86.93 54 P **P** **06 13 10.5 +0.7**
baz=87
GLA Glamis 87.12 56 P **P** **06 13 11.4 +0.7**
baz=87
IRM Iron Mountain 87.16 54 P **P** **06 13 11.6 +0.8**
baz=87
LDFC Landfair 87.45 54 *e*P **P** **06 13 12.7 +0.3**
comp=Z,45nm,1.5s
SHPR Sheep Range 87.80 52 *e*P **P** **06 13 15.1 +1.0**
R11A Troy Canyon, C 87.99 50 P **P** **06 13 15.8 +0.9**
baz=88
PDMCI Parker Dam,Lak 88.00 55 P **P** **06 13 15.5 +0.7**
baz=88
HVS Khovu-Aksy 88.40 323⇓*e*P **P** **06 13 15.2 -1.2**
HVS pmax pmax
comp=Z,42nm,1.5s
214A Organ Pipe Nat 88.47 57 *e*P **P** **06 13 18.9 +1.7**
214A Organ Pipe Nat 88.47 57 P **P** **06 13 18.5 +1.4**
baz=89
F10A Beach Ranch, E 89.07 43 *e*P **P** **06 13 20.4 +0.6**
comp=Z,34nm,1.6s
CCUT Cedar City 89.47 52 *e*P **P** **06 13 23.5 +1.5**
comp=Z,26nm,1.7s
NEW Newport 89.83 41 P **P** **06 13 23.3 +0.1**
NEW Newport 89.83 41 P **P** **06 13 23.3 +0.1**
comp=Z,2.6nm,0.6s,baz=253,slow=5.2,SNR=9.9
NEW Newport 89.83 41 P **P** **06 13 23.6 +0.4**
baz=90
WMQ Urumqi 89.95 315 P **P** **06 13 24.5 +0.6**
WMQ pP **pP** **06 13 35.1 -1.9**
WMQ sP **sP** **06 13 39.0 -2.9**
WMQ LR LR
comp=Z,92nm,25.2s
WMQ LR LR
comp=Z,270nm,23.4s
WMQ LR LR
comp=Z,250nm,26.2s
U15A North Rim 90.01 53 P **P** **06 13 25.3 +0.7**
baz=90
X16A Lo Mia Camp, P 90.19 55 P **P** **06 13 26.4 +1.1**
baz=90
TUC Tucson 90.23 57 *e*P **P** **06 13 26.9 +1.5**
TUC pmax pmax
comp=Z,20nm,1.9s
TUC Tucson 90.23 57 *e*P **P** **06 13 26.9 +1.5**
comp=Z,20nm,1.9s
HLID Hailey 90.29 46 *e*P **P** **06 13 25.6 0.0**
comp=Z,20nm,1.8s
HLID Hailey 90.29 46 P **P** **06 13 25.6 0.0**
baz=90
DUG Dugway 90.56 49 *e*P **P** **06 13 27.2 +0.3**
DUG pmax pmax
comp=Z,13nm,1.5s
DUG Dugway 90.56 49 *e*P **P** **06 13 27.2 +0.3**
comp=Z,12nm,1.5s
DUG Dugway 90.56 49 P **P** **06 13 27.4 +0.5**
baz=91
BGU Big Grassy Mou 90.59 48 *e*P **P** **06 13 27.8 +0.7**
comp=Z,9.7nm,1.7s
HVU Hansel Valley 90.99 48 *e*P **P** **06 13 30.0 +1.1**
HVU pmax pmax

	comp=Z,58nm,1.9s							
HVU	**Hansel Valley**	**90.99**	**48**	*e*P		**P**	**06 13 30.0**	**+1.1**
	comp=Z,58nm,1.9s							
NLU	**North Lily Min**	**91.05**	**50**	*e*P		**P**	**06 13 30.6**	**+1.3**
	comp=Z,6.0nm,0.9s							
BSMT	**Bassoo Peak**	**91.21**	**41**	*e*P		**P**	**06 13 30.4**	**+0.6**
HYB	**Hyderabad**	**91.36**	**287**	*i* P		**P**	**06 13 29.5**	**-1.5**
HYB				*e*			06 13 44.0	
MSO	**Missoula**	**91.49**	**43**	P		**P**	**06 13 31.2**	**+0.2**
	baz=92							
MCMT	**McKenzie Canyo**	**91.71**	**45**	*e*P		**P**	**06 13 33.4**	**+1.1**
	comp=Z,1.0nm,0.7s							
320A	**Kipp Ranch, An**	**91.88**	**59**	P		**P**	**06 13 33.8**	**+0.6**
	baz=92							
CHMT	**Chamberlain Mo**	**91.97**	**43**	*e*P		**P**	**06 13 33.7**	**+0.3**
DLMT	**Dillon**	**92.02**	**44**	*e*P		**P**	**06 13 34.6**	**+1.1**
	comp=Z,5.8nm,1.0s							
FXWY	**Fox Creek**	**92.69**	**46**	*e*P		**P**	**06 13 38.3**	**+1.5**
	comp=Z,40nm,2.5s							
PDAR	**Pinedale Array**	**93.54**	**47**	P		**P**	**06 13 42.0**	**+1.3**
PDAR	**Pinedale Array**	**93.54**	**47**	P		**P**	**06 13 42.0**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=252,slow=2.3,SNR=7.3							
PDAR				LR		LR	06 47 18.6	
	comp=Z,153nm,21.8s,baz=275,slow=30							
Z22A	**Elephant Butte**	**93.57**	**57**	P		**P**	**06 13 41.6**	**+0.6**
	baz=94							
O20A	**White River Ci**	**93.96**	**50**	P		**P**	**06 13 42.6**	**-0.1**
	baz=94							
MK31	**Makanchi Array**	**94.38**	**317**	*e*P		**P**	**06 13 42.6**	**-1.6**
MK31	**Makanchi Array**	**94.38**	**317**	*e*P		**P**	**06 13 42.6**	**-1.6**
MKAR	**Makanchi Array**	**94.38**	**317**	P		**P**	**06 13 42.2**	**-2.1**
MKAR	**Makanchi Array**	**94.38**	**317**	P		**P**	**06 13 42.2**	**-2.1**
MKAR				pP		**pP**	**06 13 59.0**	**+1.6**
MKAR	**Makanchi Array**	**94.38**	**317**	P		**P**	**06 13 42.2**	**-2.1**
	comp=Z,9.5nm,0.8s,baz=98,slow=6.2,SNR=81							
MKAR				pP		**pP**	**06 13 59.0**	**+1.6**
	comp=Z,6.2nm,0.8s,baz=93,slow=6.1,SNR=6.9							
MKAR				LR		LR	06 59 48.6	
	comp=Z,35nm,18.0s,baz=104,slow=38							
ZAA0	**Zalesovo Array**	**94.41**	**324**	*e*P		**P**	**06 13 41.9**	**-2.2**
ZALV	**Zalesovo Beam**	**94.41**	**324**	P		**P**	**06 13 41.8**	**-2.3**
ZALV				*PP		**pP**	**06 13 56.9**	**-0.4**
ZALV	**Zalesovo Beam**	**94.41**	**324**	P		**P**	**06 13 41.8**	**-2.3**
ZALV				pP		**pP**	**06 13 56.9**	**-0.4**
ZALV	**Zalesovo Beam**	**94.41**	**324**	P		**P**	**06 13 41.8**	**-2.3**
	comp=Z,2.7nm,0.8s,baz=129,slow=4.0,SNR=13							
ZALV				pP		**pP**	**06 13 56.9**	**-0.4**
	comp=Z,4.0nm,1.1s,baz=121,slow=5.7,SNR=4.4							
ZALV				LR		LR	06 54 56.4	
	comp=Z,99nm,20.8s,baz=68,slow=35							
EGMT	**Eagleton**	**94.54**	**42**	P		**P**	**06 13 45.5**	**+0.5**
	baz=95							
D19A	**Cripps Ranch,**	**94.94**	**43**	P		**P**	**06 13 45.9**	**-1.0**
	baz=95							
P22A	**Eagle**	**94.97**	**51**	P		**P**	**06 13 47.4**	**0.0**
	baz=95							
YKA	**Yellowknife Ar**	**95.26**	**27**	P		**P**	**06 13 45.6**	**-2.2**
YKA	**Yellowknife Ar**	**95.26**	**27**	P		**P**	**06 13 45.6**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=258,slow=4.6,SNR=25							
I21A	**Big Trails, Te**	**95.38**	**47**	P		**P**	**06 13 49.5**	**+0.4**
	baz=96							
D20A	**Manuel Ranch,**	**95.42**	**43**	P		**P**	**06 13 49.6**	**+0.6**
	baz=96							
TXAR	**Lajitas Array**	**95.61**	**61**	P		**P**	**06 13 50.6**	**+0.2**
TXAR				PP		PP	06 17 48.0	+5.8
TXAR	**Lajitas Array**	**95.61**	**61**	P		**P**	**06 13 50.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=224,slow=5.5,SNR=7.2							
TXAR				PP		PP	06 17 48.0	+5.8
	comp=Z,0.4nm,1.0s,baz=252,slow=4.6,SNR=2.8							
TXAR				LR		LR	06 49 11.9	
	comp=Z,305nm,20.6s,baz=0.0,slow=31							
S25A	**Robets Cordova**	**96.41**	**53**	P		**P**	**06 13 53.8**	**-0.1**
	baz=96							
A21A	**Bergtoll Ranch**	**96.57**	**41**	P		**P**	**06 13 54.3**	**+0.1**
	baz=97							
D22A	**Cohagen**	**96.75**	**43**	P		**P**	**06 13 56.6**	**+1.5**
	baz=97							
KURK	**Kurchatov**	**97.50**	**320**	*e*P		**P**	**06 13 56.6**	**-1.7**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KURK	**Kurchatov**	**97.50**	**320**	*e*P		**P**	**06 13 56.6**	**-1.7**
	comp=Z,1.6nm,1.0s							
KSH	**Kashi**	**97.61**	**309**	*e*P		Pdif	06 14 02.1	+2.8
KSH				*e*PP		PP	06 18 06.0	+8.6
KSH				*e*SKS		**SKSac**	**06 24 36.3**	**+2.8**
KSH				*e*S		**S**	**06 25 20.5**	**-0.9**
KSH				*e*sS		sS	06 25 43.3	-0.3
KSH				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,85nm,8.5s							
KSH				LR		LR		
	comp=Z,140nm,7.4s							
KSH				LR		LR		
	comp=Z,120nm,6.1s							
KSH				LR		LR		
	comp=Z,79nm,6.4s							
BVAR	**Borovoye Array**	**102.81**	**322**	P		**Pdif**	**06 14 19.5**	**-2.4**
BVAR	**Borovoye Array**	**102.81**	**322**	P		**Pdif**	**06 14 19.5**	**-2.4**
BVAR	**Borovoye Array**	**102.81**	**322**	P		**Pdif**	**06 14 19.5**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=114,slow=3.6,SNR=4.2							
ARCES	**ARCESS Array B**	**117.09**	**346**	PKP		**PKPdf**	**06 19 07.4**	**-1.3**
ARCES	**ARCESS Array B**	**117.09**	**346**	PKP		**PKPdf**	**06 19 07.4**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=0.0,slow=2.4,SNR=8.0							
LPAZ	**La Paz**	**119.38**	**116**	PKP		**PKPdf**	**06 19 14.2**	**-1.2**
LPAZ				*e*PKPdf		**PKiKP**	**06 19 15.4**	**-0.1**
LPAZ	**La Paz**	**119.38**	**116**	PKP		**PKPdf**	**06 19 14.2**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=293,slow=1.9,SNR=6.0							
FINES	**FINESS Array B**	**122.57**	**339**	PKP		**PKPdf**	**06 19 19.0**	**-0.4**
FINES	**FINESS Array B**	**122.57**	**339**	PKP		**PKPdf**	**06 19 19.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=0.0,slow=3.8,SNR=5.5							
NOA	**NORSAR Array B**	**127.46**	**345**	PKP		**PKPdf**	**06 19 28.8**	**-0.1**
NOA	**NORSAR Array B**	**127.46**	**345**	PKP		**PKPdf**	**06 19 28.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=298,slow=8.5,SNR=3.4							
STHS	**Stebnicka Huta**	**132.61**	**329**	*e*PKIKP		**PKPdf**	**06 19 36.8**	**-2.2**
GERES	**GERESS Array B**	**136.53**	**334**	PKP		**PKPdf**	**06 19 46.5**	**+0.1**
GERES	**GERESS Array B**	**136.53**	**334**	PKP		**PKPdf**	**06 19 46.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=350,slow=3.0,SNR=4.0							
BFO	**Black Forest**	**139.10**	**338**	*i* PKIKP		**PKPdf**	**06 19 53.0**	**+1.9**
KEST	**Kesra**	**148.27**	**323**	*e*PKPbc		**PKPbc**	**06 20 10.3**	**-0.6**
KEST				*e*PKPab		**PKiKP**	**06 20 12.4**	**-0.2**
KEST	**Kesra**	**148.27**	**323**	PKPbc		**PKPbc**	**06 20 10.0**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=270,slow=5.1,SNR=6.0							
ESDC	**Sonseca Array**	**150.82**	**345**	PKPbc		**PKPbc**	**06 20 15.8**	**-1.3**
ESDC	**Sonseca Array**	**150.82**	**345**	PKPbc		**PKPbc**	**06 20 15.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=349,slow=2.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**164.94**	**277**	PKP		**PKPdf**	**06 20 28.5**	**-0.9**
TORD				pPKP		**pPKPdf**	**06 20 42.8**	**-0.2**
TORD				PKPab		**PKPab**	**06 21 24.7**	**-1.2**
TORD				pPKPab		**pPKPab**	**06 21 40.4**	**+1.3**
TORD				PP		**PP**	**06 25 12.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**164.94**	**277**	PKP		**PKPdf**	**06 20 28.5**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=158,slow=0.3,SNR=4.3							
TORD				pPKP		**pPKPdf**	**06 20 42.8**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=10,slow=0.9,SNR=4.2							
TORD				PKPab		**PKPab**	**06 21 24.7**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=69,slow=3.5,SNR=9.0							
TORD				pPKPab		**pPKPab**	**06 21 40.4**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=77,slow=4.4,SNR=4.6							
TORD				PP		**PP**	**06 25 12.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=89,slow=2.9,SNR=3.2							
DBIC	**Dimbokro**	**170.00**	**241**	PKPab		**PKPab**	**06 21 46.3**	**-1.9**
DBIC	**Dimbokro**	**170.00**	**241**	PKPab		**PKPab**	**06 21 46.3**	**-1.9**
	comp=Z,6.4nm,1.0s,baz=138,slow=5.1,SNR=5.8							

MEX 18 06:15:46.4±0.6, 17°.51N×106°.94W, h9km±999km, MD4.1, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R15V		**3.26**	**59**	*i* P	Pn	06 16 34.8	-3.0
R15V				*e*S	Sn	06 17 12.7	-4.1
MMIG	**Aquila**	**3.51**	**77**	*i* P	Pn	06 16 36.9	-4.3
EZ5V		**3.73**	**58**	*i* P	Pn	06 16 42.8	-1.7
EZ5V				*e*S	Sn	06 17 25.5	-3.3
SFJM	**Santa Fe**	**4.73**	**51**	*i* P	Pn	06 16 55.6	-2.6

MEX 18 06:22:02.0±0.3, 16°.08N×95°.70W, h20km±67km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.50**	**232**	*i* P	Pb	06 22 10.4	-1.7
HUIG				*e*S	Sb	06 22 17.1	-2.0
OXX	**Oaxaca**	**1.40**	**316**	*i* P	Pn	06 22 23.4	-3.4
OXX				*e*S	Sn	06 22 40.5	-4.3
VHO	**Vista Hermosa**	**1.40**	**315**	*i* P	Pn	06 22 23.5	-3.2
VHO				*e*S	Sn	06 22 39.8	-5.0
PNIG	**Pinotepa**	**2.35**	**278**	*i* P	Pn	06 22 37.2	-2.4
PNIG				*i* S	Sn	06 23 04.4	-3.6
PCIG		**2.41**	**99**	*i* P	Pb	06 22 43.8	-1.0
PCIG				*i* S	Sb	06 23 11.8	-2.3

*ISCJB **18** 06:38:48.3±0.7, 6°.22S±0°.08×151°.6E±0°.1, h41km, mb3.7/8, Error ellipse: s-maj=22.2km s-min=6.8km az=27.7*
*IDC **18** 06:38:50.2±5.1, 6°.07S×151°.47E, h46km±44km, mb3.6/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=46.7km s-min=24.9km az=105.0*
ISC 18 06:38:49.1±1.2, 6°.2S±0°.1×151°.7E±0°.2, h41km, n19, σ1§43/16, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.06**	**13**	P	**Pn**	**06 39 21.4**	**+0.1**
	baz=2.1,SNR=19						
RABL				S	**Sn**	**06 39 48.5**	**+2.8**
	baz=2.1,SNR=4.6						
PMG	**Port Moresby**	**5.51**	**235**	P	**Pn**	**06 40 10.0**	**+1.4**
	14nm,0.3s,baz=40,slow=9.3,SNR=24						
PMG				S	**Sn**	**06 41 09.1**	**-1.7**
	13nm,0.3s,baz=163,slow=19,SNR=3.8						
PMG				LR	LR	06 42 27.8	
	comp=Z,80nm,18.8s,baz=300,slow=40						
PMG	**Port Moresby**	**5.51**	**235**	P	**Pn**	**06 40 11.4**	**+2.8**
	baz=5.6,SNR=13						
KDU	**Kakadu**	**20.02**	**250**	P	Pn	06 43 22.2	+1.6
	baz=20,SNR=9.7						
RMQ	**Roma**	**20.36**	**188**	P	Pn	06 43 25.3	+0.8
	baz=20,SNR=5.6						
WRA	**Warramunga Arr**	**21.70**	**229**	P	**P**	**06 43 36.1**	**-0.6**
	2.2nm,0.8s,baz=58,slow=11,SNR=17						
WRA				PcP	**PcP**	**06 47 37.6**	**+0.7**
	0.4nm,0.6s,baz=53,slow=1.8,SNR=4.7						
PALU	**Palau**	**21.83**	**308**	S	Sn	06 47 50.5	+1.8
	baz=22,SNR=4.6						
ASAR	**Alice Springs**	**24.38**	**223**	P	**P**	**06 44 03.7**	**0.0**
	3.8nm,0.8s,baz=55,slow=9.4,SNR=32						
KNRA	**Kununurra**	**24.38**	**245**	P	P	06 44 08.7	+5.0
	baz=24,SNR=5.8						
STKA	**Stephens Creek**	**27.23**	**199**	P	**P**	**06 44 30.3**	**+1.0**
	1.5nm,0.6s,baz=35,slow=12,SNR=4.6						
WRKA	**Warakurna**	**29.20**	**228**	P	**P**	**06 44 46.4**	**-0.6**
	baz=29,SNR=3.2						
MEEK	**Meekatharra**	**37.48**	**233**	P	**P**	**06 45 59.5**	**+0.3**
	baz=38,SNR=4.1						
GIRL	**Giralia**	**39.63**	**242**	P	P	06 46 23.4	+6.2
	baz=40,SNR=3.2						
SONM	**Songino Array**	**66.94**	**329**	P	**P**	**06 49 37.0**	**-0.5**
	0.6nm,0.5s,baz=150,slow=4.9,SNR=4.8						
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**06 50 57.8**	**-0.1**
	0.3nm,0.6s,baz=108,slow=9.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**81.72**	**327**	P	**P**	**06 51 01.6**	**-1.7**
	0.4nm,0.5s,baz=99,slow=6.6,SNR=2.8						
ILAR	**Eielson Array**	**83.87**	**22**	P	**P**	**06 51 13.4**	**-0.9**
	1.3nm,0.8s,baz=252,slow=5.4,SNR=10.0						
YKA	**Yellowknife Ar**	**97.18**	**28**	P	Pdif	06 52 17.8	+0.7
	0.2nm,0.8s,baz=268,slow=3.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.66**	**285**	PKPbc	**PKPbc**	**06 58 34.8**	**-0.7**
	2.4nm,0.7s,baz=61,slow=3.0,SNR=16						

CASC 18 06:43:08.0±0.9, 11°.46N×86°.46W, h55km±16km, MD3.8, ML3.3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.73**	**350**	*e*P	Pn	06 43 22.4	0.0
COPN				*e*S	Sn	06 43 33.7	+0.9
HUEN		**0.92**	**18**	*e*P	Pn	06 43 24.9	0.0
CNGN	**Cerro Negro**	**1.06**	**347**	*e*P	Pn	06 43 26.6	-0.1
CNGN				*e*S	Sn	06 43 40.5	-0.1
GBS2	**Las Lilas**	**1.17**	**122**	*i* P	Pn	06 43 28.4	+0.2
LAPC	**Finca la Perla**	**1.22**	**124**	*i* P	Pn	06 43 28.7	-0.2
LAPC				*i* S	Sn	06 43 44.5	0.0
GB1A	**Borinquen Arri**	**1.22**	**121**	*i* P	Pn	06 43 28.8	-0.2
VCR	**Vista de Mar**	**1.56**	**148**	*e*P	Pn	06 43 33.8	+0.2
VCR				*e*S	Sn	06 43 52.9	+0.2
JCR	**Jicaral**	**2.08**	**140**	*e*P	Pn	06 43 41.1	+0.5
CNCH	**Conchagua**	**2.25**	**324**	*e*P	Pn	06 43 42.9	-0.1
CGA2	**Cerro Gallo 2**	**2.43**	**126**	*e*P	Pn	06 43 45.5	0.0
VSM	**San Miguel**	**2.64**	**318**	*e*P	Pn	06 43 49.0	+0.5
SNET	**Serv Nac Est T**	**3.49**	**310**	AML	AML	06 43 54.2	
	comp=Z,122nm,0.3s						

IDC 18 07:37:38.9±2.6, 52°.27N×157°.69E, h170km±9km, mb2.5/2, mb1 2.6/2, mb1mx2.5/34, mbtmp2.9/2, Error ellipse: s-maj=59.3km s-min=28.5km az=167.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**0.84**	**0**	P	Pn	07 38 05.0	+0.7
	11nm,0.3s,baz=157,slow=6.5,SNR=177						
PETK				S	Sn	07 38 24.3	+0.1
	1.3nm,0.3s,baz=216,slow=44,SNR=3.9						
YKA	**Yellowknife Ar**	**44.75**	**41**	P	P	07 45 34.4	-0.4
	0.1nm,0.6s,baz=302,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**47.18**	**295**	P	P	07 45 54.0	0.0
	0.2nm,0.5s,baz=64,slow=9.4,SNR=4.6						

*ISCJB **18** 07:46:20.7±0.6, 33°.08S±0°.04×179°.1W±0°.1, h45km, mb4.6/9, MS3.3/6, Error ellipse: s-maj=12.2km s-min=5.6km az=5.7*
*IDC **18** 07:46:22.7±2.2, 32°.84S×178°.93W, h58km±19km, mb4.4/8, mb1 4.5/11, mb1mx4.2/23, mbtmp4.7/11, ML4.1/3, MS3.4/8, Ms1 3.4/8, ms1mx3.2/26, Error ellipse: s-maj=20.1km s-min=13.7km az=120.0*
*NEIC **18** 07:46:22.6±1.2, 32°.82S×178°.92W, h58km±9km, mb4.9/2, Error ellipse: s-maj=13.7km s-min=10.4km az=125.0*
ISC 18 07:46:20.4±0.5, 33°.07S±0°.06×178°.81W±0°.08, h45km, n113, σ1§85/109, mb4.8/9, MS3.3/6, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.88**	**12**	*e*Pn	**Pn**	**07 47 16.2**	**-1.4**
RAO				*e*Sn	**Sn**	**07 47 59.4**	**-2.5**
RAO	**Raoul Island**	**3.88**	**12**	P	**Pn**	**07 47 16.1**	**-1.4**
	65nm,0.3s,baz=108,slow=21,SNR=1.6						
RAO				S	**Sn**	**07 48 00.0**	**-1.9**
	313nm,0.3s,baz=92,slow=22,SNR=5.2						
RAO				LR	LR	07 48 42.7	
	comp=Z,474nm,19.7s,baz=124,slow=38						
MXZ	**Matakaoa Point**	**5.06**	**207**	*e*PN	**Pn**	**07 47 35.1**	**+1.3**
MXZ				*e*SN	**Sn**	**07 48 31.6**	**+0.6**
HAZ	**Te Kaha**	**5.44**	**210**	*e*PN	**Pn**	**07 47 40.8**	**+1.9**
PUZ	**Puketiti**	**5.53**	**205**	*e*PN	**Pn**	**07 47 40.8**	**+0.6**
MWZ	**Matawai**	**6.04**	**209**	*e*SN	**Sn**	**07 48 58.0**	**+3.0**
URZ	**Urewera**	**6.15**	**212**	*e*Pn	**Pn**	**07 47 51.5**	**+2.9**
URZ				*e*Sn	**Sn**	**07 49 02.4**	**+4.7**
URZ	**Urewera**	**6.15**	**212**	P	**Pn**	**07 47 51.2**	**+2.6**
	5.4nm,0.3s,baz=228,slow=5.2,SNR=6.6						
URZ				S	**Sn**	**07 48 59.4**	**+1.7**
	11nm,0.3s,baz=141,slow=21,SNR=3.3						
URZ	**Urewera**	**6.15**	**212**	PN	**Pn**	**07 47 51.2**	**+2.6**
URZ				*e*SN	**Sn**	**07 48 58.0**	**+0.3**
SNGZ	**Shannon Statio**	**6.50**	**208**	*e*PN	Pn	07 47 57.0	+3.6
KNZ	**Kokohu**	**6.58**	**205**	*e*PN	**Pn**	**07 47 55.3**	**+0.7**
OUZ	**Omahuta**	**6.65**	**249**	*e*Pn	Pn	07 47 59.2	+3.8
	110nm,0.8s						
OUZ				*e*Sn	**Sn**	**07 49 12.5**	**+2.5**
OUZ	**Omahuta**	**6.65**	**249**	*e*PN	Pn	07 47 59.3	+3.8
OUZ				*e*SN	**Sn**	**07 49 11.8**	**+1.9**
WHHZ	**Waihua**	**6.79**	**207**	*e*PN	Pn	07 48 00.8	+3.3
PXZ	**Pawanui**	**7.77**	**205**	*e*PN	**Pn**	**07 48 11.3**	**+0.5**
PXZ				*e*SN	**Sn**	**07 49 35.7**	**-1.7**
BFZ	**Birch Farm**	**8.56**	**206**	*e*PN	**Pn**	**07 48 20.4**	**-1.4**
BFZ				*e*SN	**Sn**	**07 49 51.5**	**-5.5**
MRZ	**Mangatainoka R**	**8.81**	**209**	*e*PN	**Pn**	**07 48 23.1**	**-2.0**
MRZ				*e*SN	**Sn**	**07 49 59.0**	**-4.0**
HOWZ	**Holdsworth Sta**	**9.03**	**209**	*e*PN	**Pn**	**07 48 25.3**	**-2.9**
HOWZ				*e*SN	**Sn**	**07 50 03.8**	**-4.7**
OGWZ	**Otaki Gorge**	**9.11**	**210**	*e*PN	**Pn**	**07 48 26.9**	**-2.3**
TCW	**Tory Channel**	**9.82**	**212**	*e*PN	**Pn**	**07 48 35.8**	**-3.1**
NNZ	**Nelson**	**10.24**	**215**	*e*PN	**Pn**	**07 48 41.5**	**-3.1**
NNZ				*e*SN	**Sn**	**07 50 33.7**	**-4.4**
QRZ	**Quartz Range**	**10.38**	**219**	*e*PN	**Pn**	**07 48 44.3**	**-2.4**
QRZ				*e*SN	**Sn**	**07 50 36.7**	**-4.9**
THZ	**Tophouse**	**10.89**	**215**	*e*SN	**Sn**	**07 50 49.2**	**-4.8**
KHZ	**Kahutara**	**11.12**	**211**	*e*Pn	Pn	07 48 53.1	-3.5
	17nm,0.8s						
LTZ	**Lake Taylor**	**11.97**	**213**	*e*PN	Pn	07 49 05.0	-3.4
DZM	**Mont Dzumac**	**17.04**	**306**	*e*P	**Pn**	**07 50 14.0**	**-1.5**
	50nm,1.5s						
DZM				*e*LR	LR	07 54 03.1	
	637nm,24.9s						
DZM	**Mont Dzumac**	**17.04**	**306**	*e*Pn	**Pn**	**07 50 14.2**	**-1.3**
DZM	**Mont Dzumac**	**17.04**	**306**	P	**Pn**	**07 50 14.6**	**-0.9**
	0.1nm,0.3s,baz=152,slow=12,SNR=2.6						
DZM				LR	LR	07 55 16.3	
	comp=Z,407nm,21.1s,baz=191,slow=32						
AFI	**Afiamalu**	**20.12**	**20**	LR	LR	07 59 18.6	
	comp=Z,30nm,18.5s,baz=189,slow=39						
RAR	**Rarotonga**	**20.61**	**60**	LR	LR	07 56 57.2	
	comp=Z,52nm,20.1s,baz=45,slow=31						
EIDS	**Eidsvold**	**27.31**	**278**	P	**P**	**07 52 02.9**	**+2.0**
	baz=26,SNR=3.5						
TBI	**Tubuai**	**27.54**	**77**	*e*LR	LR	07 59 13.0	
	245nm,27.2s,baz=244						
TBI	**Tubuai**	**27.54**	**77**	*e*T	T	08 20 46.9	
	57nm,0.3s						
CMSA	**Cobar Meteorol**	**29.96**	**263**	P	**P**	**07 52 27.1**	**+2.7**
	baz=28,SNR=9.2						
PAE	**Paea**	**30.41**	**67**	*e*T	T	08 24 08.9	
	19nm,0.2s						
PPT2	**Papeete2**	**30.46**	**67**	*e*LR	LR	08 00 26.6	
	193nm,26.2s,baz=252						
PPT2	**Papeete2**	**30.46**	**67**	*e*T	T	08 24 12.9	
	28nm,0.3s						
PPT	**Papeete**	**30.47**	**67**	LR	LR	08 04 34.9	
	comp=Z,48nm,18.4s,baz=234,slow=36						
TVO	**Taravao**	**30.59**	**67**	*e*T	T	08 24 23.6	
	2.6nm,0.3s						
QLP	**Quilpie**	**32.59**	**272**	P	**P**	**07 52 49.1**	**+1.4**
	baz=31,SNR=3.1						
STKA	**Stephens Creek**	**33.29**	**261**	*e*P	**P**	**07 52 54.1**	**+0.4**
	0.4nm,1.1s						
STKA	**Stephens Creek**	**33.29**	**261**	P	**P**	**07 52 54.5**	**+0.7**
	1.7nm,0.7s,baz=84,slow=10,SNR=3.3						
STKA				LR	LR	08 05 11.4	
	comp=Z,155nm,18.9s,baz=33,slow=34						
PMOR	**Pomariorio Ree**	**33.30**	**65**	*e*T	T	08 27 42.4	
	10nm,0.3s						
VAH	**Vaihoa**	**33.36**	**65**	*e*T	T	08 27 47.4	
	38nm,0.2s						
CTA	**Charters Tower**	**33.65**	**284**	P	**P**	**07 52 58.3**	**+1.3**
CTA	**Charters Tower**	**33.65**	**284**	P	**P**	**07 52 58.3**	**+1.3**
	13nm,0.5s,baz=100,slow=12,SNR=32						
CTAO	**Charters Tower**	**33.65**	**284**	*e*P	**P**	**07 52 56.0**	**-1.0**
	13nm,0.6s						
HTT	**Hallett**	**35.17**	**258**	P	**P**	**07 53 11.3**	**+1.2**
	baz=33,SNR=3.2						
PMG	**Port Moresby**	**39.21**	**299**	*e*P	**P**	**07 53 44.7**	**+0.3**
PMG	**Port Moresby**	**39.21**	**299**	P	**P**	**07 53 44.7**	**+0.3**
	8.4nm,0.5s,baz=256,slow=4.2,SNR=4.5						
COEN	**Coen**	**39.43**	**290**	P	**P**	**07 53 47.3**	**+1.1**
	baz=38,SNR=28						
RKT	**Rikitea**	**39.68**	**87**	*e*T	T	08 36 09.0	
	2.5nm,0.4s						
AS31	**Alice Springs**	**42.35**	**270**	*e*P	**P**	**07 54 10.2**	**-0.2**
ASAR	**Alice Springs**	**42.35**	**270**	P	**P**	**07 54 10.1**	**-0.2**
ASAR				PcP	**PcP**	**07 56 01.9**	**-1.2**
ASAR				PKiKP	**PKiKP**	**08 03 07.2**	**-1.2**
ASAR	**Alice Springs**	**42.35**	**270**	P	**P**	**07 54 10.1**	**-0.2**
	14nm,0.8s,baz=110,slow=7.6,SNR=139						
ASAR				PcP	**PcP**	**07 56 02.0**	**-1.2**
	0.5nm,0.7s,baz=117,slow=4.5,SN

TIC	**Toumodi**	**153.08 166**	*e*PKIKP	**PKPbc**	**08 06 14.7**	**+1.0**
DBIC	**Dimbokro**	**153.13 167**	*e*PKPbc	**PKPbc**	**08 06 15.2**	**+1.4**
DBIC	**Dimbokro**	**153.13 167**	PKPbc	**PKPbc**	**08 06 15.3**	**+1.5**
	comp=Z,2.2nm,0.5s,baz=163,slow=4.0,SNR=8.2					
BRTR	**Keskin Array B**	**153.15 294**	PKPbc	**PKPbc**	**08 06 12.6**	**-0.7**
BRTR	**Keskin Array B**	**153.15 294**	PKPbc	**PKPbc**	**08 06 12.6**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=119,slow=3.2,SNR=11					
TORD	**Torodi Ar. Bea**	**160.16 181**	PKP	**PKPdf**	**08 06 17.0**	**+1.6**
TORD			PKPab	**PKPab**	**08 06 55.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**160.16 181**	PKP	**PKPdf**	**08 06 17.0**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=197,slow=1.5,SNR=5.5					
TORD			PKPab	**PKPab**	**08 06 55.2**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=170,slow=4.5,SNR=11					

WEL 18 07:57:44.5±0.5, 38.02S×176.06E, h150km±4km, ML3.6/6, 7C-4D, Error ellipse: s-maj=3.5km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.86**	**106**	PN	Pn	07 58 08.1	-0.1
URZ				SN	Sn	07 58 26.6	+0.3
URZ				AML	AML	07 58 27.6	
RATZ	**Rangitukua**	**0.88**	**195**	PN	Pn	07 58 08.6	+0.3
TWVZ	**Taurewa**	**1.16**	**205**	⇑PN	Pn	07 58 11.0	+0.2
OTVZ	**Oturere**	**1.18**	**195**	PN	Pn	07 58 11.3	+0.2
BKZ	**Black Stump Fm**	**1.20**	**164**	⇑PN	Pn	07 58 10.7	-0.4
BKZ				SN	Sn	07 58 30.4	-1.1
BKZ				AML	AML	07 58 32.3	
MWZ	**Matawai**	**1.20**	**106**	⇓PN	Pn	07 58 11.2	0.0
MWZ				SN	Sn	07 58 31.2	-0.3
MWZ				AML	AML	07 58 33.1	
RAHZ	**Arahi**	**1.21**	**138**	PN	Pn	07 58 11.8	+0.6
NMHZ	**Naumai**	**1.23**	**152**	PN	Pn	07 58 12.2	+0.7
WPVZ	**Whakapapa**	**1.25**	**199**	PN	Pn	07 58 11.7	0.0
SNGZ	**Shannon Statio**	**1.26**	**127**	PN	Pn	07 58 12.1	+0.4
TUVZ	**Tukino**	**1.29**	**194**	PN	Pn	07 58 12.0	-0.1
TRVZ	**Turoa**	**1.34**	**197**	PN	Pn	07 58 12.8	0.0
WNVZ	**Wahianoa**	**1.36**	**195**	PN	Pn	07 58 12.6	-0.2
HAZ	**Te Kaha**	**1.39**	**80**	PN	Pn	07 58 12.5	-0.4
HAZ				SN	Sn	07 58 34.4	-0.2
WHHZ	**Waihua**	**1.40**	**139**	PN	Pn	07 58 13.1	+0.1
MOVZ	**Moawhango**	**1.41**	**190**	PN	Pn	07 58 12.5	-0.7
BHHZ	**Black Hill Sta**	**1.47**	**180**	PN	Pn	07 58 13.0	-0.8
RIGZ	**Rimuhau**	**1.50**	**118**	PN	Pn	07 58 14.3	+0.1
MCHZ	**McNeill Hill**	**1.51**	**161**	PN	Pn	07 58 14.3	+0.1
KNZ	**Kokohu**	**1.61**	**129**	PN	Pn	07 58 15.1	-0.1
PUZ	**Puketiti**	**1.74**	**92**	⇓PN	Pn	07 58 16.2	-0.4
CNGZ	**Carnagh Statio**	**1.75**	**106**	PN	Pn	07 58 17.3	+0.5
CKHZ	**Cape Kidnapper**	**1.82**	**154**	⇓PN	Pn	07 58 17.2	-0.4
CKHZ				SN	Sn	07 58 41.5	-1.6
MHGZ	**Mahia Peninsul**	**1.84**	**129**	PN	Pn	07 58 17.6	-0.2
MXZ	**Matakaoa Point**	**1.84**	**76**	⇑PN	Pn	07 58 18.1	+0.4
KAHZ	**Kahuranaki**	**1.89**	**160**	PN	Pn	07 58 17.7	-0.7
TSZ	**Takapari Road**	**2.04**	**182**	PN	Pn	07 58 18.5	-1.6
WPHZ	**Waipukurau**	**2.06**	**172**	PN	Pn	07 58 19.0	-1.3
PXZ	**Pawanui**	**2.10**	**163**	PN	Pn	07 58 19.6	-1.2
PXZ				AML	AML	07 58 47.3	
PXZ				AML	AML	07 58 48.7	
PXZ				AML	AML	07 58 49.1	
PXZ				AML	AML	07 58 49.6	
DVHZ	**Dannevirke**	**2.28**	**178**	PN	Pn	07 58 20.9	-2.0
PRHZ	**Porangahau**	**2.29**	**169**	PN	Pn	07 58 21.6	-1.5
POWZ	**Post Office Ro**	**2.38**	**185**	PN	Pn	07 58 21.9	-2.2
ANWZ	**Angora Road**	**2.46**	**173**	⇑PN	Pn	07 58 23.3	-1.8
PRWZ	**Pori Road**	**2.53**	**181**	PN	Pn	07 58 23.9	-2.1
BFZ	**Birch Farm**	**2.66**	**177**	PN	Pn	07 58 25.1	-2.5
MRZ	**Mangatainoka R**	**2.67**	**188**	⇑PN	Pn	07 58 24.9	-2.7
MRZ				AML	AML	07 59 58.6	
MRZ				AML	AML	07 59 00.3	
TIWZ	**Tintock**	**2.76**	**183**	PN	Pn	07 58 26.1	-2.7
OGWZ	**Otaki Gorge**	**2.88**	**194**	PN	Pn	07 58 27.6	-2.7
HOWZ	**Holdsworth Sta**	**2.91**	**188**	⇑PN	Pn	07 58 27.5	-3.2
KIW	**Kapiti Island**	**2.98**	**197**	PN	Pn	07 58 28.4	-3.2
TMWZ	**Te Maipa**	**3.09**	**182**	PN	Pn	07 58 29.6	-3.3
MTW	**Mount Morrison**	**3.17**	**188**	⇑PN	Pn	07 58 30.3	-3.6
CAW	**Cannon Point**	**3.18**	**194**	⇓PN	Pn	07 58 30.7	-3.3
DUWZ	**D'Urville Isla**	**3.23**	**210**	PN	Pn	07 58 31.7	-3.2
TRWZ	**Traveller**	**3.39**	**185**	PN	Pn	07 58 33.0	-3.8
PAWZ	**Paruwai Farm**	**3.39**	**188**	PN	Pn	07 58 33.0	-3.9
WEL	**Wellington**	**3.41**	**197**	PN	Pn	07 58 33.3	-3.7
MSWZ	**Moikau Station**	**3.45**	**190**	PN	Pn	07 58 33.6	-4.0
SNZO	**South Karori**	**3.45**	**197**	PN	Pn	07 58 33.5	-4.0
TCW	**Tory Channel**	**3.47**	**203**	PN	Pn	07 58 34.1	-3.7
TCW				AML	AML	07 59 14.7	
TCW				AML	AML	07 59 14.8	
BHW	**Baring Head**	**3.51**	**195**	PN	Pn	07 58 34.2	-4.0
PLWZ	**Palliser**	**3.60**	**190**	PN	Pn	07 58 35.4	-4.2
NNZ	**Nelson**	**3.81**	**212**	PN	Pn	07 58 38.1	-4.0
QRZ	**Quartz Range**	**3.92**	**223**	PN	Pn	07 58 39.3	-4.2
BSWZ	**Blackbirch Sta**	**4.05**	**204**	PN	Pn	07 58 41.3	-4.1
THZ	**Tophouse**	**4.46**	**212**	*e*PN	Pn	07 58 46.2	-4.6
KHZ	**Kahutara**	**4.80**	**203**	PN	Pn	07 58 50.5	-4.6
DSZ	**Denniston Nort**	**4.96**	**220**	PN	Pn	07 58 52.1	-5.2
LTZ	**Lake Taylor**	**5.57**	**210**	PN	Pn	07 59 00.0	-5.4
OXZ	**Oxford**	**6.12**	**209**	*e*PN	Pn	07 59 06.7	-6.0

MEX 18 08:06:31.7±0.3, 16.60N×99.71W, h16km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.31**	**332**	*i* P	Pg	08 06 35.2	-3.1
ACX				*i* S	Sg	08 06 39.5	-3.2
TLIG	**Tlapa**	**1.45**	**48**	*e*P	Pn	08 06 53.7	-3.8
TLIG				*i* S	Sn	08 07 11.2	-5.2
ARIG	**Puente Sto Nin**	**1.78**	**340**	*i* P	Pn	08 06 58.8	-3.1
ARIG				*e*S	Sn	08 07 19.0	-5.3
PLIG	**Platanillo**	**1.80**	**6**	*i* P	Pn	08 06 58.6	-3.6
PLIG				*e*S	Sn	08 07 20.0	-4.8
ZIIG	**Zihuatanejo**	**1.96**	**301**	*i* P	Pn	08 07 01.4	-2.9
ZIIG				*e*S	Sn	08 07 23.2	-5.3
YAIG	**Yautepec**	**2.33**	**15**	*i* P	Pn	08 07 07.4	-2.3
YAIG				*i* S	Sn	08 07 33.6	-4.5

*ISCJB **18** 08:18:25.0±0.2, 6.34S±0.03×114.37E±0.02, h517km±2km, mb4.5/47, Error ellipse: s-maj=4.1km s-min=3.3km az=10.9*
*IDC **18** 08:18:25.5±0.6, 6.21S×114.35E, h513km±5km, mb3.6/19, mb1 3.7/20, mb1mx3.6/29, mbtmp4.5/20, Error ellipse: s-maj=11.1km s-min=7.4km az=62.0*
*DJA **18** 08:18:25.5±0.1, 6.3×11.4E±*, *h517km±2km, M4.9/45, mb5.0/45, mB5.4/26, MLv5.1/33, Mw(mB)4.8/26*
*NEIC **18** 08:18:25.5±0.4, 6.26S×114.33E, h518km±4km, mb4.9/19, Error ellipse: s-maj=9.0km s-min=6.6km az=197.0*

ISC 18 08:18:25.4±0.3, 6.35S±0.04×114.36E±0.04, h514km±3km, h515km: pP-P, n311, σ1.927/391, mb4.5/46, 24C-18D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMMI	**Kalianget**	**0.80**	**209**	P	**P**	**08 19 28.8**	**+1.2**
KMMI				S	**S**	**08 20 20.2**	**+2.2**
ABJI	**Asem Bagus**	**1.44**	**185**	P	**P**	**08 19 30.2**	**+0.8**
BLJI	**Banyuglugur**	**1.58**	**209**	P	**P**	**08 19 30.1**	**+0.2**
SRBI	**Singaraja**	**1.92**	**154**	P	**P**	**08 19 32.3**	**+0.9**
GRJI	**Gresik**	**1.95**	**253**	P	**P**	**08 19 32.5**	**+1.0**
GMJI	**Gumukmas**	**2.11**	**205**	P	**P**	**08 19 31.9**	**-0.4**
GMJI				S	**S**	**08 20 25.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**2.12**	**186**	P	**P**	**08 19 32.0**	**-0.3**
JAGI				S	**S**	**08 20 24.9**	**-1.8**
JAGI	**Jajag, Banyuwa**	**2.12**	**186**	*e*P	**P**	**08 19 31.8**	**-0.6**
JAGI				*e*S	**S**	**08 20 26.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**2.12**	**186**	⇑P	**P**	**08 19 31.3**	**-1.0**
	baz=2.2,SNR=51						
JAGI				⇑S	**S**	**08 20 24.5**	**-2.2**
	baz=2.2,SNR=9.6						
KRKI	**Karangkates**	**2.61**	**226**	P	x	08 19 36.6	
KRKI				S	x	08 20 32.5	
BBKI	**Banjar Baru**	**2.91**	**10**	P	**P**	**08 19 36.3**	**-0.7**
PWJI	**Pagerwojo**	**3.03**	**237**	P	**P**	**08 19 37.7**	**+0.1**
PWJI				S	**S**	**08 20 36.0**	**-0.4**
NGJI	**Ngawi**	**3.05**	**250**	P	**P**	**08 19 39.4**	**+1.6**
PCJI	**Pacitan**	**3.65**	**240**	P	**P**	**08 19 42.6**	**+0.6**
PCJI				S	**S**	**08 20 42.3**	**-2.1**
WOJI	**Wonogiri, Jawa**	**3.71**	**246**	P	**P**	**08 19 43.1**	**+0.6**
SMRI	**Semarang**	**3.95**	**260**	P	**P**	**08 19 45.6**	**+1.2**

SMRI	**Semarang**	**3.95**	**260**	*e*P	**P**	**08 19 45.6**	**+1.2**
SMRI				*e*S	**S**	**08 20 48.6**	**-0.1**
SMRI	**Semarang**	**3.95**	**260**	⇑P	**P**	**08 19 44.7**	**+0.3**
	baz=3.9,SNR=12						
UGM	**Wanagama**	**4.11**	**248**	P	**P**	**08 19 46.2**	**+0.5**
UGM				S	**S**	**08 20 49.6**	**-1.4**
UGM	**Wanagama**	**4.11**	**248**	*e*P	**P**	**08 19 46.7**	**+1.0**
UGM	**Wanagama**	**4.11**	**248**	⇓P	**P**	**08 19 45.6**	**0.0**
	baz=4.1,SNR=30						
UGM				⇓S	**S**	**08 20 49.7**	**-1.4**
	baz=4.1,SNR=6.3						
PBKI	**Pangkalan Bun**	**4.50**	**323**	P	**P**	**08 19 48.8**	**-0.1**
TGJI	**Tegal**	**5.23**	**264**	P	x	08 19 55.8	
	275nm,0.9s,4μm1.3nm						
MTKI	**Muara Teweh, K**	**5.40**	**6**	P	**P**	**08 19 56.7**	**-0.1**
	275nm,0.8s,2.3nm						
KPJI	**Karang Pucung**	**5.48**	**259**	P	**P**	**08 19 58.7**	**+1.3**
	177nm,0.9s,3.9nm						
KAPI	**Kappang**	**5.53**	**76**	P	**P**	**08 19 58.0**	**0.0**
	2μm,0.3s,SNR=58						
KAPI	**Kappang**	**5.53**	**76**	*e*P	**P**	**08 19 58.2**	**+0.3**
KAPI				*e*S	**S**	**08 21 12.4**	**-1.1**
BKB	**Balikpapan**	**5.66**	**27**	P	**P**	**08 20 01.3**	**+2.2**
	2μm,0.9s,16μm6.2nm						
MMSI	**Mamuju**	**5.81**	**51**	P	x	08 20 00.8	
	1μm,1.1s,11μm4.4nm						
BKSI	**Bulukumba**	**5.83**	**80**	P	**P**	**08 20 01.2**	**+0.5**
	533nm,1.1s,5μm1.7nm						
SPSI	**Sidrap Palu**	**5.89**	**67**	P	**P**	**08 20 00.9**	**-0.4**
	624nm,0.8s,5μm2.3nm						
CMJI	**Cimerak**	**6.04**	**256**	P	**P**	**08 20 01.8**	**-0.9**
	232nm,0.7s,5μm3.6nm						
BNSI	**Bone**	**6.04**	**72**	P	**P**	**08 20 03.8**	**+1.0**
	719nm,1.5s,8μm1.9nm						
JCJI	**Jatiwangi**	**6.05**	**268**	P	**P**	**08 20 04.4**	**+1.6**
	501nm,0.9s,3.0nm						
TTSI	**Tana Toraja**	**6.36**	**59**	P	**P**	**08 20 06.1**	**+0.3**
	397nm,1.1s,4μm1.3nm						
CISI	**Cisompet, Garu**	**6.60**	**259**	P	**P**	**08 20 08.3**	**+0.1**
	436nm,0.7s,16μm6.8nm						
CISI	**Cisompet, Garu**	**6.60**	**259**	*e*P	**P**	**08 20 07.8**	**-0.4**
CISI				*e*S	**S**	**08 21 32.7**	**+0.4**
CISI	**Cisompet, Garu**	**6.60**	**259**	⇑P	**P**	**08 20 07.5**	**-0.8**
	baz=6.6,SNR=24						
SGKI	**Sangatta, Kali**	**6.63**	**29**	P	P	08 20 18.8	+10
LEM	**Lembang**	**6.71**	**266**	P	**P**	**08 20 11.0**	**+1.6**
	134nm,0.8s,2.7nm						
LEM	**Lembang**	**6.71**	**266**	⇑P	**P**	**08 20 10.0**	**+0.5**
	baz=6.7,SNR=3.9						
CNJI	**Cibinong**	**7.24**	**262**	P	**P**	**08 20 14.6**	**+0.1**
	369nm,0.7s,6.3nm						
CBJI	**Citeko**	**7.46**	**269**	P	P	08 20 22.1	+5.4
	496nm,0.8s,6.9nm						
DBJI	**Dramaga**	**7.56**	**268**	P	P	08 20 21.0	+3.2
	143nm,0.7s,1.8nm						
KKSI	**Kolaka, Sulawe**	**7.58**	**74**	P	x	08 20 18.9	
	191nm,0.6s,0.8nm						
CGJI	**Cibinong**	**8.61**	**268**	P	**P**	**08 20 27.6**	**-0.9**
	146nm,0.7s,10μm						
APSI	**Ampana**	**9.06**	**54**	P	**P**	**08 20 33.2**	**0.0**
	856nm,0.9s,8μm						
XMI	**Christmas Isla**	**9.49**	**244**	⇑P	**P**	**08 20 36.9**	**-0.7**
	baz=9.5,SNR=7.9						
XMI				⇓S	**S**	**08 22 26.9**	**+0.6**
	baz=9.5,SNR=7.0						
XMIS	**Christmas Isla**	**9.54**	**244**	*e*P	**P**	**08 20 37.8**	**-0.3**
XMIS	**Christmas Isla**	**9.54**	**244**	⇓P	**P**	**08 20 37.1**	**-1.0**
	baz=9.6,SNR=22						
XMIS				⇑S	**S**	**08 22 27.2**	**0.0**
	baz=9.6,SNR=5.1						
TOLI	**Toli-Toli**	**9.82**	**41**	P	x	08 20 41.3	
	1μm,0.7s,11μm						
TOLI	**Toli-Toli**	**9.82**	**41**	*e*P	**P**	**08 20 41.2**	**+0.1**
	713nm,0.5s						
TOLI				*e*S	**S**	**08 22 30.4**	**-2.1**
KASI	**Kota Agung**	**9.84**	**274**	P	**P**	**08 20 39.9**	**-1.4**
	100nm,0.7s						
LUWI	**Luwuk**	**9.91**	**58**	P	**P**	**08 20 43.1**	**+1.1**
	888nm,1.0s,8μm						
LUWI	**Luwuk**	**9.91**	**58**	*e*P	**P**	**08 20 42.6**	**+0.6**
LUWI	**Luwuk**	**9.91**	**58**	⇑P	**P**	**08 20 43.0**	**+0.9**
	baz=9.9,SNR=20						
MRSI	**Marisa**	**10.16**	**48**	P	**P**	**08 20 43.2**	**-1.5**
	604nm,0.7s,6μm						
SOEI	**Soe**	**10.38**	**110**	P	**P**	**08 20 46.7**	**-0.4**
	232nm,0.9s						
SOEI	**Soe**	**10.38**	**110**	*e*P	**P**	**08 20 46.7**	**-0.4**
SOEI				*e*S	**S**	**08 22 38.1**	**-5.4**
SOEI	**Soe**	**10.38**	**110**	⇑P	**P**	**08 20 45.8**	**-1.3**
	baz=10,SNR=15						
GTOI	**Gorontalo**	**11.08**	**52**	P	**P**	**08 20 52.8**	**-1.5**
	428nm,1.0s,5μm						
MNAI	**Manna**	**11.52**	**279**	⇓P	**P**	**08 20 57.5**	**-1.5**
	baz=12,SNR=4.7						
KMSI	**Cibinong**	**11.81**	**55**	P	**P**	**08 21 02.9**	**+0.8**
	774nm,0.9s,7μm						
SANI	**Sanana**	**12.36**	**70**	P	**P**	**08 21 07.9**	**+0.1**
	79nm,1.1s,806nm						
MASI	**Mara Aman, Be**	**12.49**	**284**	P	**P**	**08 21 08.9**	**-0.3**
	202nm,0.9s						
NLAI	**Namlea**	**13.07**	**77**	P	**P**	**08 21 17.9**	**+2.6**
	208nm,0.7s,3μm						
LBMI	**Labuha**	**14.29**	**67**	P	**P**	**08 21 29.0**	**+0.9**
	310nm,1.0s,3μm						
TNTI	**Ternate**	**14.79**	**62**	P	**P**	**08 21 34.6**	**+1.3**
	159nm,0.4s						
TNTI	**Ternate**	**14.79**	**62**	*e*P	**P**	**08 21 33.6**	**+0.3**
TNTI				*e*S	**S**	**08 24 07.3**	**-1.0**
BKNI	**Bangkinang**	**14.86**	**296**	P	**P**	**08 21 35.7**	**+1.7**
	174nm,1.0s						
BKNI	**Bangkinang**	**14.86**	**296**	*e*P	**P**	**08 21 35.6**	**+1.7**
PDSI	**Padang**	**14.88**	**291**	P	**P**	**08 21 34.5**	**+0.2**
	36nm,0.6s,9μm						
MBWA	**Marble Bar**	**15.61**	**161**	*e*P	**P**	**08 21 42.1**	**+0.3**
	78nm,0.6s						
MBWA				*e*S	**S**	**08 24 26.5**	**+2.8**
MNSI	**Mandailing Nat**	**16.37**	**295**	P	**P**	**08 21 48.3**	**-1.4**
	40nm,0.9s,6μm						
KNRA	**Kunumura**	**16.89**	**124**	⇑P	**P**	**08 21 53.7**	**-1.2**
	baz=17,SNR=73						
SWI	**Sorong**	**17.72**	**73**	P	**P**	**08 22 02.9**	**+0.2**
	69nm,0.8s						
MTN	**Manton Dam**	**17.75**	**113**	⇑P	**P**	**08 22 01.6**	**-1.3**
	baz=18,SNR=71						
PSI	**Prapat**	**17.89**	**300**	P	x	08 22 04.4	
	83nm,1.1s,871nm						
PSI	**Prapat**	**17.89**	**300**	P	**P**	**08 22 04.2**	**-0.2**
	11nm,0.3s,baz=163,slow=6.9,SNR=37						
PSI				S	**S**	**08 25 00.9**	**-2.0**
	baz=286,slow=23,SNR=5.8						
PSI	**Prapat**	**17.89**	**300**	⇓P	**P**	**08 22 03.1**	**-1.3**
	baz=18,SNR=21						
FAKI	**Fak Fak**	**18.15**	**80**	*e*P	**P**	**08 22 05.3**	**-1.4**
	15nm,0.4s						
FAKI				*e*S	**S**	**08 25 07.5**	**+0.5**
FAKI	**Fak Fak**	**18.15**	**80**	⇓P	**P**	**08 22 05.1**	**-1.6**
	baz=18,SNR=14						
GSI	**Gunungsitoli**	**18.40**	**294**	P	**P**	**08 22 09.1**	**+0.2**
	63nm,0.8s						
GSI	**Gunungsitoli**	**18.40**	**294**	*e*P	**P**	**08 22 08.9**	**0.0**
	23nm,0.7s						
GSI				*e*S	**S**	**08 25 10.9**	**-0.1**
KDU	**Kakadu**	**18.93**	**111**	⇓P	**P**	**08 22 12.7**	**-1.0**
	baz=19,SNR=40						
KCSI	**Kotacane, Aceh**	**19.25**	**300**	P	**P**	**08 22 15.1**	**-1.5**
	41nm,0.6s,455nm						
TPTI	**Tapaktuan**	**19.63**	**299**	P	**P**	**08 22 21.5**	**+1.4**
	98nm,1.4s,18μm						
SNSI	**Sinabang, Aceh**	**20.00**	**295**	P	**P**	**08 22 24.5**	**+1.1**
	111nm,1.1s,5μm						
MEEK	**Meekatharra**	**20.58**	**169**	⇓P	**P**	**08 22 29.5**	**+0.9**
	baz=21,SNR=21						
MORW	**Morawa**	**22.65**	**176**	⇓P	**P**	**08 22 48.6**	**+1.4**
	baz=23,SNR=5.9						
WRKA	**Warakurna**	**22.88**	**146**	⇑P	**P**	**08 22 49.9**	**+0.5**
	baz=23,SNR=72						
WRA	**Warrumunga Arr**	**23.65**	**127**	P	**P**	**08 22 56.6**	**+0.3**
	49nm,0.7s,baz=308,slow=9.1,SNR=570						
WRA				PcP	**PcP**	**08 26 23.2**	**0.0**
	3.4nm,0.6s,baz=314,slow=1.8,SNR=5.1						
WRA				S	**S**	**08 26 34.6**	**0.0**
	5.0nm,0.7s,baz=316,slow=17,SNR=4.7						
WRA				ScP	**ScP**	**08 29 12.1**	**-0.8**
	2.0nm,0.5s,baz=304,slow=2.3,SNR=5.7						
WRAB	**Tennant Creek**	**23.65**	**127**	P	**P**	**08 22 56.0**	**-0.3**
	514nm,0.5s						
WRAB	**Tennant Creek**	**23.65**	**127**	*e*P	**P**	**08 22 56.8**	**+0.5**
	53nm,0.7s						
BLDU	**Ballidu**	**24.24**	**175**	P	**P**	**08 23 02.4**	**+1.0**
	baz=24,SNR=8.4						
KLBR	**Kellerberrin**	**25.31**	**173**	⇑P	**P**	**08 23 11.7**	**+0.9**
	baz=26,SNR=8.3						
ASAR	**Alice Springs**	**25.49**	**135**	P	**P**	**08 23 13.3**	**+0.7**
	56nm,0.6s,baz=310,slow=8.5,SNR=742						
ASAR				PcP	**PcP**	**08 26 27.4**	**0.0**
	7.0nm,0.6s,baz=337,slow=1.8,SNR=15						
ASAR				S	**S**	**08 27 03.6**	**+0.2**
	6.2nm,1.0s,baz=313,slow=14,SNR=7.6						
ASAR				ScP	**ScP**	**08 29 17.9**	**-0.2**
	2.2nm,0.5s,baz=316,slow=2.6,SNR=8.5						
AS31	**Alice Springs**	**25.49**	**135**	*e*P	**P**	**08 23 13.2**	**+0.6**
AS31				*e*PcP	**PcP**	**08 26 27.4**	**+0.1**
AS31				*e*S	**S**	**08 27 03.4**	**-0.1**
QIZ	**Qiongzhong**	**25.61**	**350**	P	**P**	**08 23 15.0**	**+1.4**
QIZ				S	**S**	**08 27 07.5**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,16nm,1.7s						
KMBL	**Kambalda**	**25.87**	**165**	⇓P	**P**	**08 23 16.0**	**+0.3**
	baz=26,SNR=19						
JAY	**Jayapura**	**26.54**	**83**	P	**P**	**08 23 21.1**	**-0.9**
	28nm,1.0s,baz=104,slow=18,SNR=6.8						
NWAO	**Narrogin (SRO)**	**26.58**	**175**	P	**P**	**08 23 23.1**	**+1.1**
	9.2nm,0.7s,baz=341,slow=8.9,SNR=5.9						
FORT	**Forrest**	**27.50**	**154**	*e*P	**P**	**08 23 31.6**	**+1.5**
	184nm,0.6s						
FORT	**Forrest**	**27.50**	**154**	⇓P	**P**	**08 23 31.2**	**+1.1**
	baz=28,SNR=121						
QIS	**Mount Isa**	**28.26**	**122**	P	**P**	**08 23 37.5**	**+0.5**
	baz=28,SNR=139						
CMAR	**Chiang Mai Arr**	**28.96**	**329**	P	**P**	**08 23 43.9**	**+0.8**
	1.6nm,0.5s,baz=154,slow=6.6,SNR=5.8						
CMAR				ScP	**ScP**	**08 29 28.6**	**0.0**
	2.8nm,0.6s,baz=180,slow=3.5,SNR=12						
COEN	**Coen**	**29.33**	**107**	*e*P	**P**	**08 23 46.4**	**0.0**
COEN				*e*PcP	**PcP**	**08 26 37.1**	**+0.2**
COEN	**Coen**	**29.33**	**107**	⇑P	**P**	**08 23 46.1**	**-0.3**
	baz=29,SNR=38						
PMG	**Port Moresby**	**32.62**	**97**	*e*P	**P**	**08 24 15.6**	**+0.9**
	34nm,0.9s						
PMG	**Port Moresby**	**32.62**	**97**	⇓P	**P**	**08 24 14.9**	**+0.2**
	baz=33,SNR=3.5						
BBOO	**Buckleboo**	**33.18**	**145**	*e*P	**P**	**08 24 19.9**	**+0.7**
	1μm,0.6s						
BBOO				*e*S	**S**	**08 29 03.3**	**+1.1**
BBOO	**Buckleboo**	**33.18**	**145**	⇓P	**P**	**08 24 19.6**	**+0.4**
	baz=33,SNR=66						
KMI	**Kunming**	**33.27**	**341**	P	**P**	**08 24 22.3**	**+2.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA	**Guiyang**	**33.46**	**347**	⇑*i*P	**P**	**08 24 22.8**	**+1.1**
GYA				PcP	**PcP**	**08 26 49.0**	**+0.9**
GYA				sP	**sP**	**08 26 51.4**	**+2.1**
GYA				S	**S**	**08 29 10.3**	**+3.6**
GYA				ScP	**ScP**	**08 29 43.4**	**-0.5**
GYA				PcS	**PcS**	**08 30 35.0**	**+0.1**
GYA				ScS	**ScS**	**08 33 45.6**	**-1.1**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
CTA	**Charters Tower**	**33.83**	**117**	P	**P**	**08 24 26.1**	**+1.3**
	35nm,0.8s,baz=295,slow=11,SNR=46						
CTA				PcP	**PcP**	**08 26 49.4**	**+0.1**
	4.6nm,0.6s,baz=295,slow=5.6,SNR=5.2						
CTAO	**Charters Tower**	**33.83**	**117**	*e*P	**P**	**08 24 25.8**	**+0.9**
	50nm,0.9s						
CTAO				*e*PcP	**PcP**	**08 26 49.6**	**+0.4**
QLP	**Quilpie**	**34.85**	**129**	⇑P	**P**	**08 24 34.1**	**+0.8**
	baz=35,SNR=75						
HTT	**Hallett**	**35.29**	**143**	⇑P	**P**	**08 24 38.0**	**+1.1**
	baz=36,SNR=70						
STKA	**Stephens Creek**	**35.94**	**138**	*e*P	**P**	**08 24 43.0**	**+0.7**
	17nm,0.8s	

DZM	Mont Dzumac	52.59	113	*e*P	P	08 26 51.7	+0.3
	30nm,1.1s						
USRK	Ussuriysk Arra	52.77	16	P	P	08 26 51.3	-0.9
	5.4nm,0.8s,baz=193,slow=5.8,SNR=13						
ULN	Ulaanbaatar	54.37	354	*e*P	P	08 27 01.5	-2.1
	5.6nm,0.9s						
SONM	Songino Array	54.41	353	P	P	08 27 03.2	-0.7
	4.4nm,0.7s,baz=170,slow=8.3,SNR=18						
SONM				PcP	PcP	08 27 58.9	-0.8
	1.4nm,0.4s,baz=182,slow=4.4,SNR=5.5						
SONM				pP	pP	08 28 44.0	0.0
	0.3nm,0.4s,baz=63,slow=34,SNR=2.7						
WMQ	Urumqi	55.45	337	P	P	08 27 12.5	+1.3
KSH	Kashi	57.79	325	*e*P	P	08 27 28.3	+0.9
KSH				*e*PP	PP	08 29 44.0	+0.5
KSH				*e*PcS	PcS	08 32 15.8	+0.5
KSH				*e*S	S	08 34 43.0	-4.4
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,79nm,4.6s						
TARA	Tarawa	58.96	85	*e*P	P	08 27 38.3	+2.6
	10nm,0.3s						
MK31	Makanchi Array	60.07	335	*e*P	P	08 27 41.6	-1.0
MK31				*e*PcP	PcP	08 28 21.4	-0.7
MKAR	Makanchi Array	60.07	335	P	P	08 27 41.5	-1.0
	2.3nm,0.4s,baz=149,slow=6.8,SNR=54						
MKAR				pP	pP	08 29 26.1	+0.6
	1.1nm,0.7s,baz=148,slow=6.9,SNR=2.9						
AAK	Ala-Archa	60.73	327	P	P	08 27 46.9	-0.2
	2.5nm,0.8s,baz=180,slow=3.5,SNR=5.1						
RPZ	Rata Peaks	61.88	137	*e*P	P	08 27 55.0	+0.5
	91nm,0.8s						
MSVF	Nonsavu	63.06	107	*e*P	P	08 28 03.9	+1.2
	86nm,1.5s						
KHZ	Kahutara	63.20	135	*e*P	P	08 28 03.5	+0.4
	16nm,0.4s						
URZ	Urewera	64.79	129	*e*P	P	08 28 13.0	-0.3
	24nm,0.7s						
ZALV	Zalesovo Beam	65.01	341	P	P	08 28 12.4	-1.8
	2.5nm,0.5s,baz=141,slow=5.0,SNR=13						
ZALV				pP	pP	08 29 58.4	-1.0
	4.4nm,0.7s,baz=134,slow=4.3,SNR=10.0						
OPO	Ambohidratompo	66.38	253	P	P	08 28 24.2	+0.4
	11nm,0.8s,baz=78,slow=5.3,SNR=9.7						
PETK	Petropavlovsk-	69.63	26	P	P	08 28 42.1	-0.6
	4.1nm,0.5s,baz=162,slow=2.6,SNR=27						
ABKAR	Akbulak array	72.78	326	*e*P	P	08 29 00.1	-1.2
	2.4nm,0.6s						
VNDA	Vanda	75.33	170	P	P	08 29 16.1	+0.9
	3.1nm,0.7s,baz=310,slow=8.5,SNR=12						
KMBO	Kilima Mbogo	77.06	270	P	P	08 29 26.3	-0.1
	1.8nm,0.5s,baz=42,slow=16,SNR=7.9						
SYO	Syowa Base	78.66	201	⇓*e*P	P	08 29 33.0	-0.5
QSPA	South Pole Qui	83.63	180	*e*P	P	08 30 00.0	+0.6
	19nm,1.3s						
LSZ	Lusaka	84.67	255	*e*P	P	08 30 05.4	-0.2
	6.0nm,0.5s						
BOSA	Boshof	86.21	242	P	P	08 30 13.2	+0.3
	1.7nm,0.4s,baz=46,slow=5.6,SNR=12						
BRTR	Keskin Array B	86.92	310	P	P	08 30 15.0	-0.9
	1.0nm,0.8s,baz=106,slow=6.6,SNR=5.9						
BRTR				pP	pP	08 32 07.5	-1.7
	0.6nm,0.6s,baz=141,slow=8.0,SNR=3.3						
AKASG	Malin Array Be	91.79	321	P	P	08 30 36.4	-1.7
	0.2nm,0.3s,baz=90,slow=4.5,SNR=5.7						
AKASG				pP	pP	08 32 30.6	-1.7
	0.6nm,0.6s,baz=85,slow=4.0,SNR=1.8						
ILAR	Eielson Array	99.45	25	P	Pdif	08 31 10.3	-2.0
	0.4nm,0.7s,baz=264,slow=4.2,SNR=6.3						
BFO	Black Forest	105.36	318	*e*Pdif	Pdif	08 31 36.6	-2.5
	5.3nm,0.4s						
TORD	Torodi Ar. Bea	113.45	282	PKiKP	PKiKP	08 36 04.9	-0.9
	0.8nm,0.5s,baz=68,slow=0.9,SNR=7.3						
YKA	Yellowknife Ar	113.60	22	PKiKP	PKiKP	08 36 03.8	-0.9
	0.8nm,0.5s,baz=313,slow=1.9,SNR=40						
YKA				SKP	SKPdf	08 38 50.9	-0.6
	0.6nm,0.8s,baz=309,slow=1.9,SNR=9.7						
DBIC	Dimbokro	119.64	274	PKP	PKPdf	08 36 16.6	-1.2
	0.9nm,0.5s,baz=14,slow=4.2,SNR=2.9						
YBMT	Yellow Bay	121.73	36	*e*PKPdf	PKPdf	08 36 24.7	+3.7
MSO	Missoula	122.27	37	P	PKPdf	08 36 22.0	-0.1
	baz=122						
NVAR	Mina Array Bea	122.79	48	PKP	PKPdf	08 36 24.2	+0.7
	1.7nm,0.7s,baz=234,slow=2.8,SNR=11						
HLID	Hailey	123.48	41	P	PKPdf	08 36 25.5	+0.9
	baz=123						
CWC	Cottonwood Cre	123.61	50	P	PKPdf	08 36 25.0	-0.1
	baz=124						
EGMT	Eagleton	124.09	34	P	PKPdf	08 36 25.8	+0.2
	baz=124						
A19A	Klindworth Far	124.14	33	P	PKPdf	08 36 25.3	-0.2
	baz=124						
EDW2	Edwards Air Fo	124.18	52	P	PKPdf	08 36 27.2	+1.2
	baz=124						
MPMC	Manual Prospec	124.19	50	P	PKPdf	08 36 26.8	+0.6
	baz=124						
CIS	Catalina Islan	124.29	54	P	PKPdf	08 36 26.6	+0.4
	baz=124						
FURC	Furnace Creek,	124.53	50	P	PKPdf	08 36 27.5	+0.9
	baz=124						
BFSC	Mount Baldy Ra	124.63	53	P	PKPdf	08 36 27.6	+0.6
	baz=125						
C19A	Slack Wire Ran	124.65	34	P	PKPdf	08 36 26.9	+0.4
	baz=124						
R11A	Troy Canyon, C	124.81	47	P	PKPdf	08 36 27.3	0.0
	baz=125						
B20A	Solberg Farm,	124.81	33	P	PKPdf	08 36 26.8	0.0
	baz=125						
GSC	Goldstone	124.96	51	P	PKPdf	08 36 28.5	+0.9
	baz=125						
D19A	Cripps Ranch,	125.06	35	P	PKPdf	08 36 27.5	+0.1
	baz=125						
SHOC	Shoshone	125.17	50	P	PKPdf	08 36 28.8	+1.0
	baz=125						
C20A	Veseth Ranch,	125.24	34	P	PKPdf	08 36 28.1	+0.5
	baz=125						
TUQ	Turquoise Moun	125.60	51	P	PKPdf	08 36 30.3	+1.4
	baz=126						
A22A	Carney Farms,	125.60	32	P	PKPdf	08 36 28.0	-0.4
	baz=126						
PFO	Pinyon Flat Ob	125.78	53	P	PKPdf	08 36 30.2	+1.0
	baz=126						
GMRC	Granite Mounta	126.02	51	P	PKPdf	08 36 31.2	+1.6
	baz=126						
MONP	Monument Peak	126.03	54	P	PKPdf	08 36 31.2	+1.3
	baz=126						
DUG	Dugway	126.03	44	P	PKPdf	08 36 30.5	+0.9
	baz=126						
D21A	La Casta Ranch	126.17	34	P	PKPdf	08 36 30.2	+0.7
	baz=126						
H19A	Powell	126.35	37	P	PKPdf	08 36 30.9	+0.9
	baz=126						
C22A	Vida	126.38	33	P	PKPdf	08 36 30.4	+0.6
	baz=126						
B23A	Brockton	126.41	32	P	PKPdf	08 36 29.9	0.0
	baz=126						
E21A	Keefer Ranch,	126.43	35	P	PKPdf	08 36 31.2	+1.2
	baz=126						
SWSC	Sam W. Stewart	126.51	53	P	PKPdf	08 36 31.7	+1.2
	baz=126						
G20A	Bridger	126.52	37	P	PKPdf	08 36 30.6	+0.3
	baz=126						
BC3	Big Chuckawall	126.56	52	P	PKPdf	08 36 32.1	+1.4
	baz=126						
D22A	Cohagen	126.58	34	P	PKPdf	08 36 31.4	+1.2
	baz=126						
IRM	Iron Mountain	126.63	52	P	PKPdf	08 36 31.5	+0.8
	baz=127						
A24A	Westby	126.63	31	P	PKPdf	08 36 31.2	+0.9
	baz=126						
I19A	Meeteetse	126.68	38	P	PKPdf	08 36 31.7	+0.9
	baz=127						
C23A	Lambert	126.72	32	P	PKPdf	08 36 31.4	+0.9
	baz=127						
PDAR	Pinedale Array	126.98	40	PKP	PKPdf	08 36 31.1	-0.3
	0.6nm,0.5s,baz=76,slow=1.1,SNR=7.5						
H20A	Greybull	127.05	37	P	PKPdf	08 36 31.3	0.0
	baz=127						
J19A	Crowheart	127.05	39	P	PKPdf	08 36 32.2	+0.8
	baz=127						
A25A	Svangstu Ranch	127.07	30	P	PKPdf	08 36 32.3	+1.3
	baz=127						
D23A	Lindsay	127.09	33	P	PKPdf	08 36 32.1	+0.9
	baz=127						
E22A	Miles City	127.12	34	P	PKPdf	08 36 32.5	+1.2
	baz=127						
I20A	Worland	127.26	38	P	PKPdf	08 36 32.6	+0.9
	baz=127						
C24A	Savage	127.29	32	P	PKPdf	08 36 32.4	+0.8
	baz=127						
J20A	Shoshoni	127.60	38	P	PKPdf	08 36 32.8	+0.3
	baz=128						
F23A	Volborg	127.86	35	P	PKPdf	08 36 33.4	+0.6
	baz=128						
E24A	Baker	127.95	33	P	PKPdf	08 36 33.6	+0.7
	baz=128						
J21A	Lysite	128.00	38	P	PKPdf	08 36 34.0	+0.7
	baz=128						
D25A	Fairfield	128.11	32	P	PKPdf	08 36 33.6	+0.4
	baz=128						
G23A	Biddle	128.17	35	P	PKPdf	08 36 34.0	+0.6
	baz=128						
C26A	Wahner Farm, P	128.31	31	P	PKPdf	08 36 34.3	+0.8
	baz=128						
F24A	Ekalaka	128.32	34	P	PKPdf	08 36 34.2	+0.5
	baz=128						
Y14A	Wickenburg	128.37	51	P	PKPdf	08 36 34.5	+0.4
	baz=128						
J22A	Midwest	128.55	38	P	PKPdf	08 36 34.0	-0.3
	baz=128						
B28A	Dugan Ranch, T	128.75	29	P	PKPdf	08 36 35.3	+1.0
	baz=129						
N20A	Spence Gulch,	128.79	41	P	PKPdf	08 36 35.6	+0.7
	baz=129						
H24A	Dirks Ranch, A	128.92	35	P	PKPdf	08 36 34.7	-0.1
	baz=129						
E26A	Carlson Angus	129.00	32	P	PKPdf	08 36 36.0	+1.1
	baz=129						
O20A	White River Ci	129.16	42	P	PKPdf	08 36 36.4	+0.9
	baz=129						
G25A	Newell	129.29	34	P	PKPdf	08 36 36.3	+0.8
	baz=129						
L22A	Ellis Ranch, M	129.34	39	P	PKPdf	08 36 36.6	+0.7
	baz=129						
X16A	Lo Mia Camp, P	129.40	50	P	PKPdf	08 36 37.5	+1.3
	baz=129						
ULM	Lac du Bonnet	129.46	25	SKPbc	SKPab	08 39 08.2	-1.1
	4.0nm,0.7s,baz=334,slow=4.6,SNR=6.3						
F27A	Lemmon	129.62	33	P	PKPdf	08 36 36.8	+0.7
	baz=130						
I25A	Rochford	129.82	35	P	PKPdf	08 36 37.2	+0.4
	baz=130						
K24A	Anderson Ranch	129.95	37	P	PKPdf	08 36 36.8	-0.2
	baz=130						
G27A	Dupree	129.99	33	P	PKPdf	08 36 37.1	+0.3
	baz=130						
C30A	Mose, Pekin	130.18	29	P	PKPdf	08 36 37.6	+0.6
	baz=130						
H27A	Howes	130.38	34	P	PKPdf	08 36 37.2	-0.4
	baz=130						
D30A	Buchanan	130.46	29	P	PKPdf	08 36 37.2	-0.4
	baz=130						
K25A	Mack Ranch, Ha	130.58	37	P	PKPdf	08 36 38.3	+0.2
	baz=130						
J26A	Sides Ranch, S	130.63	36	P	PKPdf	08 36 38.7	+0.6
	baz=130						
O23A	Lake Granby, G	130.65	41	P	PKPdf	08 36 38.7	+0.2
	baz=130						
G28A	Parade	130.73	33	P	PKPdf	08 36 38.0	-0.2
	baz=131						
I27A	Quinn	130.75	34	P	PKPdf	08 36 38.3	0.0
	baz=131						
G29A	Hoven	131.18	32	P	PKPdf	08 36 37.8	-1.2
	baz=131						
I28A	Midland	131.29	34	P	PKPdf	08 36 39.5	+0.2
	baz=131						
J28A	Allard Ranch,	131.62	35	P	PKPdf	08 36 39.9	-0.1
	baz=132						
G30A	Faulkton	131.63	32	P	PKPdf	08 36 39.5	-0.4
	baz=132						
SCHQ	Schefferville	131.65	1	SKPbc	SKPbc	08 39 15.9	-1.3
	10nm,1.1s,baz=294,slow=9.4,SNR=3.9						
R23A	Moffat	131.76	43	P	PKPdf	08 36 41.0	+0.4
	baz=132						
U22A	Llaves	131.94	46	P	PKPdf	08 36 41.6	+0.6
	baz=132						
320A	Kipp Ranch, An	132.85	53	P	PKPdf	08 36 43.4	+0.6
	baz=133						
ANMO	Albuquerque	132.89	47	PKP	PKPdf	08 36 43.9	+1.1
	1.3nm,0.7s,baz=180,slow=0.8,SNR=4.5						
ANMO				SKPbc	SKPbc	08 39 22.1	-0.2
	2.5nm,0.9s,baz=240,slow=3.9,SNR=7.6						
PLCA	Paso Flores	132.93	175	SKPbc	SKPbc	08 39 21.9	-0.3
	1.9nm,0.8s,baz=215,slow=19,SNR=4.7						
Z22A	Elephant Butte	133.27	49	P	PKPdf	08 36 43.8	+0.3
	baz=133						
V24A	Rampart Ranch,	133.37	46	P	PKPdf	08 36 44.0	+0.3
	baz=133						
T26A	Comanche Natio	133.80	43	P	PKPdf	08 36 44.7	+0.3
	baz=134						
U26A	Atchley Ranch,	134.11	44	P	PKPdf	08 36 45.1	0.0
	baz=134						
Q29A	Oakley	134.55	39	P	PKPdf	08 36 46.1	+0.4
	baz=134						
Y25A	Mesa, Roswell	134.66	47	P	PKPdf	08 36 45.8	-0.2
	baz=135						
BGNE	Belgrade	134.66	35	P	PKPdf	08 36 46.2	+0.5
	baz=134						
Z27A	Tatum	136.03	47	P	PKPdf	08 36 48.2	-0.4
	baz=136						
U30A	WK&E Inc. Balk	136.12	42	P	PKPdf	08 36 48.6	0.0
	baz=136						
Z29A	Hungry Hill Ra	137.15	46	P	PKPdf	08 36 50.5	-0.1
	baz=137						
527A	Woodward Ranch	137.19	52	P	PKPdf	08 36 50.8	-0.1
	baz=137						
328A	Wristen Ranch,	137.25	50	P	PKPdf	08 36 50.9	+0.1
	baz=137						
TXAR	Lajitas Array	137.50	53	PKhKP	PKPpre	08 36 41.4	
	0.2nm,0.5s,baz=321,slow=1.2,SNR=5.6						
TXAR				PKP	PKiKP	08 36 53.0	-0.5
	0.8nm,0.7s,baz=250,slow=0.2,SNR=7.6						
TXAR				SKPbc	SKPbc	08 39 36.9	+0.2
	1.6nm,0.9s,baz=228,slow=1.5,SNR=9.6						
Z30A	Sanderson Ranc	137.56	46	P	PKPdf	08 36 52.5	+1.1
	baz=137						
627A	Terlingua Ranc	137.67	52	P	PKPdf	08 36 51.8	+0.1
	baz=138						
528A	Cox Ranch, San	137.82	51	P	PKPdf	08 36 52.2	+0.2
	baz=138						
529A	Stev Forest Ra	138.28	51	P	PKPdf	08 36 53.2	+0.4
	baz=138						
X33A	Lawton	138.70	43	P	PKPdf	08 36 54.0	+0.6
	baz=139						
530A	J-C Ranch, Com	138.95	50	P	PKPdf	08 36 54.9	+0.9
	baz=139						
432A	Menard	139.76	48	P	PKPdf	08 36 55.5	+0.1
	baz=140						
JCT	Junction City	139.95	49	P	PKPdf	08 36 56.0	+0.3
	baz=140						
WHTX	Lake Whitney	140.86	45	P	PKPdf	08 36 52.1	-5.2
	baz=141						
633A	Saathoff Ranch	140.93	50	P	PKPdf	08 36 51.4	-6.1
	baz=141						
534A	Blanco	141.17	49	P	PKPdf	08 36 52.2	-5.7
	baz=141						
335A	Moody	141.27	46	P	PKPdf	08 36 54.0	-4.1
	baz=141						
833A	Chaparral WMA,	141.30	52	P	PKPdf	08 36 53.6	-4.6
	baz=141						
933A	Laredo	141.72	53	P	PKPdf	08 36 54.8	-4.2
	baz=142						
535A	Dale	141.84	48	P	PKPdf	08 36 54.9	-4.1
	baz=142						
MIAR	Mount Ida	141.90	39	*e*PKPdf	PKPdf	08 36 55.0	-4.1
834A	Tilden	142.05	51	P	PKPdf	08 36 56.5	-3.1
	baz=142						
934A	Benavides	142.32	52	P	PKPdf	08 36 57.6	-2.4
	baz=142						
034A	Hebbronville	142.44	53	P	PKPdf	08 36 58.5	-1.7
	baz=142						
UALR	University of	142.50	37	*e*PKPdf	PKPdf	08 36 57.2	-3.0
835A	Beeville	142.53	51	P	PKPdf	08 36 58.6	-1.7
	baz=142						
035A	Encino	142.96	53	P	PKPdf	08 37 00.7	-0.5
	baz=143						
WCI	Wyandotte Cave	143.15	28	*e*PKPdf	PKPab	08 36 58.5	-0.3
HKT	Hockley	143.15	47	*e*PKPdf	PKPbc	08 36 60.0	+0.6
035Z	Hargill	143.20	53	P	PKPdf	08 37 01.0	-0.5
	baz=143						
OXF	Oxford	144.40	35	*e*PKPbc	PKPbc	08 37 02.5	-0.8
LCO	Las Campanas	144.51	172	*e*PKPdf	PKPab	08 37 04.5	+0.1
SWET	Sewanee	145.73	30	*e*PKPdf	PKPdf	08 37 06.1	+0.3
SWET				*e*PKPbc	PKPbc	08 37 07.2	-0.1
SWET				*e*PKPab	PKPab	08 37 08.5	-0.2
TKL	Tuckaleechee C	146.41	27	*e*PKPbc	PKPbc	08 37 08.9	-0.2
TKL				*e*PKPab	PKPab	08 37 11.1	-0.3
CPUP	Villa Florida	146.53	194	*e*PKPdf	PKPdf	08 37 08.0	+0.7
CPUP				*e*PKPbc	PKPbc	08 37 10.0	+0.3
CPUP				*e*PKPab	PKPab	08 37 13.2	+1.2
CPUP	Villa Florida	146.53	194	PKPbc	PKPbc	08 37 10.1	+0.5
	7.5nm,0.4s,baz=152,slow=1.5,SNR=38						
LRAL	Lakeview Retre	146.85	34	*e*PKPbc	PKPbc	08 37 09.2	-1.1
LRAL				*e*PKPab	PKPab	08 37 13.6	+0.4
JSRW	J. Sargeant Re	146.87	18	*e*PKPbc	PKPbc	08 37 09.5	-0.8
JSRW				*e*PKPab	PKPab	08 37 13.2	+0.1
KMSC	Kings Mountain	147.91	25	*e*PKPdf	PKPdf	08 37 09.0	-0.3
KMSC				*e*PKPbc	PKPbc	08 37 12.6	-0.5
KMSC				*e*PKPab	PKPab	08 37 16.9	-0.5
KMSC	Kings Mountain	147.91	25	P	PKPbc	08 37 11.6	-1.5
	baz=148						
LVC	Limon Verde	151.04	174	*e*PKPdf	PKPdf	08 37 16.1	+1.1
LVC				*e*PKPbc	PKiKP	08 37 22.5	+0.8
LVC				*e*PKPab	PKPab	08 37 31.2	+0.3
BDFB	Brasilia	152.03	218	PKPbc	PKPbc	08 37 23.7	+0.2
	1.9nm,0.5s,baz=153,slow=5.6,SNR=7.8						
BDFB				PKPab	PKPab	08 37 35.6	+0.4
	1.8nm,0.5s,baz=5.0,slow=4.2,SNR=4.2						
LPAZ	La Paz	157.37	174	PKPab	PKPab	08 37 59.8	+1.2
	4.8nm,0.7s,baz=174,slow=4.3,SNR=17						

IDC 18 08:28:12.3±2.5, 7.70°S×118.95°E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=227.5km s-min=26.7km az=52.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.25	131	P		P	P	08 32 38.2	-0.4
	0.3nm,0.3s,baz=305,slow=12,SNR=19								
ASAR	Alice Springs	21.40	140	P		P	P	08 33 02.2	+0.3
	1.0nm,0.6s,baz=316,slow=8.9,SNR=18								
MKAR	Makanchi Array	63.28	333	P		P	P	08 38 42.9	-0.1
	0.2nm,0.4s,baz=150,slow=7.6,SNR=5.1								

IDC ***18*** *08:41:06.8±0.7, 36.98N×104.80W, h0km, mb4.0/5, mb1 4.1/11, mb1mx3.8/46, mbtmp3.9/11, ML4.1/5, MS3.2/2, Ms1 3.2/2, ms1mx2.7/44, Error ellipse: s-maj=18.0km s-min=8.9km az=73.0*

NEIC ***18*** *08:41:07.4±0.2, 36.85N×104.82W, h5km, ML4.0, MW3.8, Error ellipse: s-maj=2.9km s-min=2.5km az=56.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.92; $M_{\theta\theta}$=2.52; $M_{\phi\phi}$=6.45; $M_{r\theta}$=3.16; $M_{r\phi}$=-2.30; $M_{\theta\phi}$=2.35; Best double couple: M_w7.2 0000×10^{14} NP1: ϕ_s=133.0000°, δ=50.0000°, λ=-147.0000°. NP2: ϕ_s=20.0000°, δ=65.0000°, λ=-45.0000°. Principal axes: T 7.2500, Plg8.0000°, Azm79.0000°; N 0.0000, Plg39.0000°, Azm177.0000°; P -7.2400, Plg48.0000°, Azm339.0000°;*

NEIC Felt [II] at Raton. Also felt at Cimarron and Eagle Nest. Felt [II] at Trinidad, Colorado. Also felt at San Luis and Weston.

ISC 18 08:41:06.4±1.0, 36.85N±0.01×104.84W±0.01, h1km±6km, n155, σ1.5 24/207, mb4.0/6, 37C-38D, New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T25A	Trinidad	0.45	50	*e*P			Pg	08 41 15.7	+0.7
T25A	Trinidad	0.45	50	⇑P			Pg	08 41 15.6	+0.7
	baz=0.5								
T25A				⇓S			Sg	08 41 21.6	+0.8
	baz=0.5								
T24B	San Luis	0.48	296	⇑*i*P			Pg	08 41 15.7	+0.1
T24B	San Luis	0.48	296	⇓P			Pg	08 41 15.4	-0.3
	baz=0.5,SNR=1000								
U24A	Moreno Valley	0.57	219	*e*P			Pg	08 41 17.1	-0.1
U24A	Moreno Valley	0.57	219	P			Pg	08 41 16.8	-0.4
	baz=0.5,SNR=1000								
U24A				⇓S			Sg	08 41 24.1	-0.5
	baz=0.5								
U25A	Circle Dot Ran	0.57	142	*e*P			Pg	08 41 17.6	+0.4
U25A	Circle Dot Ran	0.57	142	P			Pg	08 41 17.5	+0.2
	baz=0.6,SNR=1000								
U25A				⇓S			Sg	08 41 25.1	+0.5
	baz=0.6								
S24A	Houchin Ranch,	0.84	339	⇓*i*P			Pg	08 41 22.5	0.0
S24A	Houchin Ranch,	0.84	339	P			Pg	08 41 22.3	-0.2
	baz=0.8,SNR=966								
S25A	Robets Cordova	0.87	22	⇑*i*P			Pg	08 41 23.1	0.0
S25A	Robets Cordova	0.87	22	⇓P			Pg	08 41 23.0	0.0
	baz=0.9								
S25A				⇑S			Sg	08 41 33.8	-0.5
	baz=0.9								
T23A	Casias Ranch,	0.98	281	⇑*i*P			Pg	08 41 24.7	-0.4
T23A	Casias Ranch,	0.98	281	⇓P			Pg	08 41 24.3	-0.9
	baz=1.0,SNR=1000								
T23A				⇓S			Sg	08 41 36.4	-1.4
	baz=1.0								
U26A	Atchley Ranch,	0.99	117	*e*P			Pg	08 41 25.4	-0.1
U26A	Atchley Ranch,	0.99	117	⇑P			Pg	08 41 25.3	-0.1
	baz=1.0,SNR=1000								
U26A				⇓S			Sg	08 41 38.4	+0.2
	baz=1.0								
V25A	Rancho No Teng	1.03	170	*e*P			Pg	08 41 25.8	-0.3
V25A	Rancho No Teng	1.03	170	P			Pg	08 41 25.6	-0.5
	baz=1.0,SNR=1000								
V25A				⇑S			Sg	08 41 38.6	-0.8
	baz=1.0								
SDCO	Great Sand Dun	1.04	330	*e*Pg			Pg	08 41 25.5	-0.7
SDCO				*e*Sg			Sg	08 41 38.8	-0.9
T26A	Comanche Natio	1.05	72	*e*P			Pg	08 41 26.6	+0.2
T26A	Comanche Natio	1.05	72	⇓Pg			Pg	08 41 26.6	+0.2
	baz=1.1								
T26A				⇓S			Sg	08 41 40.5	+0.5
	baz=1.1								
V24A	Rampart Ranch,	1.18	197	*e*P			Pg	08 41 28.1	-0.8
V24A	Rampart Ranch,	1.18	197	⇑Pg			Pg	08 41 28.2	-0.8
	baz=1.2,SNR=626								
V24A				⇑S			Sg	08 41 42.5	-1.8
	baz=1.2								
U23A	El Rito	1.21	245	⇑Pg			Pg	08 41 28.7	-0.8
	baz=1.2

baz=1.7
T27A Campo 1.71 82 ⇓Pg Pb 08 41 38.7 0.0
baz=1.7,SNR=1000
S27A Las Animas 1.76 61 ⇑*i*P Pb 08 41 39.3 -0.3
S27A Las Animas 1.76 61 ⇓Pg Pb 08 41 39.2 -0.3
baz=1.8,SNR=1000
S27A ⇓Sb Sb 08 42 02.7 +0.6
baz=1.8
R26A Arlington 1.82 37 ⇓Pg Pb 08 41 40.3 -0.2
baz=1.8,SNR=1000
R26A ⇓Sb Sb 08 42 04.0 +0.1
baz=1.8
S22A 4UR Ranch, Cre 1.82 300 ⇑*i*P Pn 08 41 40.1 +1.0
S22A 4UR Ranch, Cre 1.82 300 ⇓Pg Pn 08 41 40.1 +1.0
baz=1.8,SNR=676
V22A San Miguel Ran 1.92 241 ⇑Pg Pn 08 41 41.2 +0.8
baz=1.9,SNR=626
V27A Dan Oppiter Fa 1.95 123 ⇑*i*P Pb 08 41 42.0 -0.8
V27A Dan Oppiter Fa 1.95 123 ⇓P Pb 08 41 42.0 -0.8
baz=2.0,SNR=348
W26A Owens Ranch, T 1.96 153 ⇑*i*P Pb 08 41 42.7 -0.3
W26A Owens Ranch, T 1.96 153 ⇓Pg Pb 08 41 42.7 -0.3
baz=2.0,SNR=1000
W23A Werner Place, 2.00 213 ⇑*i*P Pn 08 41 42.7 +1.3
W23A Werner Place, 2.00 213 ⇑P Pn 08 41 42.7 +1.3
baz=2.0,SNR=440
Q25A Bedland, Calha 2.11 13 ⇓P Pb 08 41 45.3 -0.2
baz=2.1,SNR=334
Q24A Divide 2.12 353 ⇑P Pn 08 41 44.9 +1.6
baz=2.1,SNR=594
U28A Mallet 2.15 102 ⇓Pb Pn 08 41 44.8 +1.2
baz=2.2,SNR=1000
R27A Eads 2.16 48 ⇑*i*P Pn 08 41 44.6 +1.0
R27A Eads 2.16 48 ⇑Pb Pn 08 41 44.7 +1.0
baz=2.2,SNR=783
Q23A Hartsel 2.19 339 *i* P Pn 08 41 46.0 +1.7
Q23A Hartsel 2.19 339 ⇑Pb Pn 08 41 45.9 +1.7
baz=2.2,SNR=107
T28A Walsh 2.20 82 ⇑Pb Pn 08 41 45.3 +1.2
baz=2.2,SNR=1000
W27A Bowe Ranch, En 2.29 141 ⇑*i*P Pn 08 41 46.9 +1.4
W27A Bowe Ranch, En 2.29 141 ⇓Pb Pn 08 41 46.9 +1.4
baz=2.3,SNR=373
ANMO Albuquerque 2.31 215 *e*Pn Pn 08 41 46.9 +1.1
ANMO *e*Sn Sb 08 42 17.8 -0.3
ANMO Sn Sb 08 42 18.0 -0.2
ANMO Albuquerque 2.31 215 Pn Pn 08 41 46.9 +1.1
22nm,0.3s,baz=31,slow=13,SNR=221
ANMO Sn Sb 08 42 18.0 -0.2
83nm,0.3s,baz=129,slow=23,SNR=21
Q26A Hugo 2.32 26 ⇓Pb Pn 08 41 47.6 +1.8
baz=2.3,SNR=376
X24A Lazy VL Ranch, 2.33 192 ⇑P Pb 08 41 49.1 -0.3
baz=2.3
V28A Channing 2.38 117 ⇑*i*P Pn 08 41 47.9 +1.2
V28A Channing 2.38 117 ⇑Pb Pn 08 41 47.9 +1.2
baz=2.4,SNR=257
X26A CR and CF Fran 2.44 160 *e*P Pn 08 41 49.0 +1.4
X26A CR and CF Fran 2.44 160 ⇓Pb Pn 08 41 48.8 +1.3
baz=2.4,SNR=351
S28A Manter 2.46 72 Pb Pn 08 41 49.1 +1.4
baz=2.5,SNR=554
X27A F and S Farms, 2.62 147 *e*P Pn 08 41 51.0 +1.1
KSCO Kaye Shedlock' 2.77 38 *e*Pn Pn 08 41 53.8 +1.7
KSCO *e*Sg Sb 08 42 32.6 +1.2
SMCO Snowmass 2.87 325 *e*Pn Pn 08 41 55.0 +1.4
LPM Los Pinos Moun 2.93 210 *e*Pn Pn 08 41 54.5 +0.3
LPM *e*Sn Sb 08 42 35.9 +0.1
MVCO Mesa Verde 2.95 278 *e*Pn Pn 08 41 56.4 +1.8
MVCO *i* Pg Pb 08 42 00.8 +0.9
MVCO *e*Sg Sb 08 42 39.4 +2.8
ISCO Idaho Springs 3.00 349 *e*Pn Pn 08 41 57.0 +1.5
ISCO *e*Sn Sn 08 42 34.5 +2.3
BNM Barren Site 3.07 209 *e*Pn Pn 08 41 57.1 +0.9
BNM *e*Pg Pg 08 42 05.8 +0.6
BNM *e*Sn Sn 08 42 34.8 +1.2
LAZ Ladron 3.08 218 *e*Pn Pn 08 41 56.2 -0.2
LAZ *e*Pg Pg 08 42 05.7 +0.3
LAZ *e*Sn Sb 08 42 42.4 +2.2
LENM Lemitar 3.20 214 *e*Pn Pn 08 41 58.1 +0.2
LENM *e*Pg Pg 08 42 08.2 +0.5
LENM *e*Sn Sn 08 42 35.9 -0.9
AMTX Amarillo 3.23 127 *e*Pb Pn 08 41 59.8 +1.5
PV01 Paradox Valley 3.23 294 *e*Pn Pn 08 41 59.7 +1.2
PV01 *e*Pg Pb 08 42 06.4 +1.7
PV01 *e*Sn Sn 08 42 36.1 -1.6
PV01 *e*Sg Sg 08 42 48.8 -1.5
MSTX Muleshoe 3.33 149 *e*Pn Pn 08 42 00.8 +1.1
MSTX *e*Pg Pg 08 42 09.6 -0.7
MSTX *e*Sn Sn 08 42 41.3 +1.2
PV04 Paradox Valley 3.58 297 *e*Pn Pn 08 42 05.0 +1.8
PV04 *e*Pg Pg 08 42 14.8 -0.2
PV04 *e*Sn Sn 08 42 44.2 -1.9
O20A White River Ci 4.23 322 *e*Pn Pn 08 42 14.6 +2.5
O20A *e*Pg Pg 08 42 25.7 -1.7
O20A *e*Sn Sn 08 43 01.5 -0.7
O20A *e*Sg Sg 08 43 21.1 -1.1
W18A Petrified Fore 4.33 248 Pn Pn 08 42 16.6 +3.1
W18A *e*Sn Sn 08 43 03.5 -1.3
W18A *e*Sg Sg 08 43 25.8 +0.3
PHWY Pilot Hill 4.47 354 *e*Pn Pn 08 42 17.3 +1.8
OGNE Ogallala 4.63 27 *e*Pn Pn 08 42 19.2 +1.6
OGNE *e*Pg Pb 08 42 32.2 +3.7
OGNE *e*Sn Sn 08 43 12.0 -0.1
GDL2 Guadalupe Moun 4.66 175 *e*Pn Pn 08 42 21.2 +3.3
GDL2 *e*Pg Pb 08 42 32.0 +3.1
GDL2 *e*Sn Sn 08 43 12.9 +0.2
121A Cookes Peak, D 4.95 210 *e*Pn Pn 08 42 22.5 +0.5
121A *e*Pg Pg 08 42 39.9 -1.3
121A *e*Sn Sn 08 43 19.3 -0.6
121A *e*Sg Sg 08 43 43.6 -1.7
SRU San Rafael 5.03 298 *e*Pn Pn 08 42 23.8 +0.7
SRU *e*Pg Pb 08 42 39.7 +4.4
SRU *e*Sn Sn 08 43 21.6 -0.2
MNTX Cornudas Mount 5.16 185 Pn Pn 08 42 26.3 +1.5
MNTX *e*Pg Pb 08 42 40.6 +3.2
MNTX *e*Sg Sb 08 43 46.5 +6.6
RWWY Rawlins 5.17 340 *e*Pn Pn 08 42 21.8 -3.3
WMOK Wichita Mounta 5.36 111 *e*Pn Pn 08 42 28.2 +0.7
WMOK *e*Pb Pb 08 42 40.8 +0.1
WMOK *e*Pg Pg 08 42 46.8 -2.2
WMOK *e*Sg Sg 08 43 54.5 -4.0
WUAZ Wupatki 5.45 258 *e*Pn Pn 08 42 30.5 +1.6
WUAZ *e*Pg Pb 08 42 47.1 +4.6
WUAZ *e*Sn Sn 08 43 31.5 -0.9
TMUT Trail Mountain 5.59 298 *e*Pn Pn 08 42 33.0 +2.1
TMUT *e*Pg Pb 08 42 49.5 +4.6
TMUT *e*Sn Sn 08 43 35.3 -0.5
K22A Casper 5.94 348 *e*Pn Pn 08 42 36.0 +0.4
K22A *e*Pg Pg 08 42 59.2 -0.8
K22A *e*Sn Sn 08 43 43.5 -0.7
ABTX Abilene, Hawle 6.01 133 *e*Pn Pn 08 42 36.4 0.0
ABTX *e*Pg Pg 08 42 57.9 -3.6
ABTX *e*Sn Sn 08 43 45.7 -0.1
DAU Daniels Canyon 6.15 307 *e*Pn Pn 08 42 38.4 -0.3
JLU Jordanelle 6.38 308 *e*Pn Pn 08 42 41.3 -0.4
TUC Tucson 6.68 229 *e*Pn Pn 08 42 41.4 -4.2
TUC *e*Pg Pg 08 43 09.8 -4.6
CCUT Cedar City 6.84 278 *e*Pn Pn 08 42 49.1 +1.0
CCUT *e*Pg Pg 08 43 13.1 -4.3
KSU1 Kansas State U 6.88 68 *e*Pn Pn 08 42 48.0 -0.3
BGNE Belgrade 6.91 47 *e*Pn Pn 08 42 49.2 +0.5
BGNE *e*Pg Pg 08 43 14.1 -4.6
ARUT Antelope Range 6.92 280 *e*Pn Pn 08 42 49.4 +0.4
ARUT *e*Sg Sg 08 44 45.3 -3.3
BW06 Boulder Array 6.93 330 *e*Pn Pn 08 42 48.5 -0.8
BW06 *e*Pg Pg 08 43 16.2 -3.0
PDAR Pinedale Array 6.93 330 Pn Pn 08 42 50.8 +1.4
PDAR Pg Pg 08 43 16.4 -2.9
PDAR Lg Lg 08 44 41.9
PDAR Pinedale Array 6.93 330 Pn Pn 08 42 50.8 +1.4
0.4nm,0.3s,baz=131,slow=14,SNR=20
PDAR Pg Pg 08 43 16.4 -2.9
2.8nm,0.3s,baz=132,slow=16,SNR=33
PDAR Lg Lg 08 44 41.9
1.0nm,0.3s,baz=108,slow=26,SNR=4.0
RSSD Black Hills 7.29 5 *e*Pn Pn 08 42 53.6 -0.5
RSSD *e*Pg Pb 08 43 20.2 +6.5
TUL1 Tulsa 7.36 95 *e*Pn Pn 08 42 55.0 +0.1
TUL1 *e*Pg Pg 08 43 22.1 -5.2
TXAR Lajitas Array 7.56 172 Pn Pn 08 43 01.3 +3.4
TXAR Pg Pb 08 43 24.1 +5.7
TXAR Lg Lg 08 45 04.4
TXAR Lajitas Array 7.56 172 Pn Pn 08 43 01.3 +3.4
0.8nm,0.3s,baz=1.5,slow=10,SNR=38
TXAR Pg Pb 08 43 24.1 +5.7
2.3nm,0.3s,baz=352,slow=13,SNR=12
TXAR Lg Lg 08 45 04.4
5.2nm,0.3s,baz=335,slow=27,SNR=7.8
TXAR LR LR 08 45 50.8
comp=Z,79nm,18.1s,baz=0.0,slow=37
JCT Junction City 7.62 145 *e*Pn Pn 08 42 59.3 +0.7
JCT *e*Pg Pg 08 43 27.7 -4.6
JCT *e*Sg Sg 08 45 07.0 -3.9
LOHW Long Hollow 8.06 329 *e*Pn Pn 08 43 06.9 +2.2
FXWY Fox Creek 8.26 327 *e*Pn Pn 08 43 09.4 +1.8
R11A Troy Canyon, C 8.66 283 *e*Pn Pn 08 43 12.8 -0.2
BRSD Miller 8.80 29 *e*Pn Pn 08 43 14.9 +0.2
ECSD EROS Data Cent 9.31 40 *e*Pn Pn 08 43 21.7 0.0
MIAR Mount Ida 9.45 101 *e*Pn Pn 08 43 23.6 +0.1
GCMT Greycliff 9.64 339 Pn Pn 08 43 28.3 +2.0
GCMT *e*Lg Lg 08 46 09.5
LAO LASA Array 9.88 354 Pn Pn 08 43 30.0 +0.4
LAO *e*Sn Sn 08 45 21.2 +0.1
LAO *e*Lg Lg 08 46 20.3
NVAR Mina Array Bea 10.79 282 LR LR 08 48 37.2
comp=Z,233nm,18.7s,baz=40,slow=42
PBMO Poplar Bluff 11.55 86 *e*Pn Pn 08 43 51.3 -1.1
EGMT Eagleton 11.74 344 *e*Pn Pn 08 43 55.6 +0.6
SPMN St. Paul 12.34 44 *e*Pn Pn 08 44 00.7 -2.5
SIUC Southern Illin 12.47 81 *e*Pn Pn 08 44 00.7 -4.3
JFWS Jewell Farm 12.73 57 *e*Pn Pn 08 44 05.0 -3.5
AGMN Agassiz Nation 13.20 27 *e*Pn Pn 08 44 10.7 -4.2
USIN University of 13.70 80 *e*Pn Pn 08 44 18.0 -3.7
USIN *e*Lg Lg 08 48 14.0
BLO Bloomington 14.63 75 *e*Pn Pn 08 44 30.7 -3.7
YBH Yreka Blue Hor 14.67 295 Pn P 08 44 39.8 -1.8
YBH Yreka Blue Hor 14.67 295 Pn P 08 44 39.8 -1.8
0.4nm,0.3s,baz=104,slow=5.4,SNR=9.1
WCI Wyandotte Cave 14.78 79 *e*Pn Pn 08 44 33.7 -2.8
ULM Lac du Bonnet 14.87 23 Pn Pn 08 44 33.3 -4.3
ULM Lg Lg 08 48 47.1
ULM Lac du Bonnet 14.87 23 Pn Pn 08 44 33.3 -4.3
0.4nm,0.3s,baz=193,slow=12,SNR=3.6
ULM Lg Lg 08 48 47.1
0.7nm,0.3s,baz=258,slow=20,SNR=3.2
TKL Tuckaleechee C 17.03 88 Pn Pn 08 45 05.2 -0.6
TKL Lg Lg 08 49 54.5
TKL Tuckaleechee C 17.03 88 Pn Pn 08 45 05.2 -0.6
0.4nm,0.3s,baz=38,slow=18,SNR=5.8
TKL Lg Lg 08 49 54.5
0.5nm,0.3s,baz=14,slow=19,SNR=2.1
APG El Apazote 25.25 146 P P 08 46 34.6 +0.3
APG El Apazote 25.25 146 P P 08 46 34.6 +0.3
1.7nm,0.6s,baz=22,slow=13,SNR=4.6
YKA Yellowknife Ar 26.37 350 P P 08 46 43.5 -0.3
YKA Yellowknife Ar 26.37 350 P P 08 46 43.5 -0.3
0.6nm,0.6s,baz=158,slow=8.8,SNR=15
ILAR Eielson Array 37.36 332 P P 08 48 21.8 +1.6
ILAR Eielson Array 37.36 332 P P 08 48 21.8 +1.6
1.9nm,0.9s,baz=130,slow=7.1,SNR=24
ZALV Zalesovo Beam 89.18 354 P P 08 54 03.1 -0.4
ZALV Zalesovo Beam 89.18 354 P P 08 54 03.1 -0.4
0.8nm,0.6s,baz=15,slow=6.2,SNR=6.2
HHC Hu-ho-hao-te 95.78 333 *e*P P 08 54 35.6 +1.2
HHC PP PP 08 58 29.0 +4.0
HHC Hu-ho-hao-te 95.78 333 SKS SKSac 09 05 11.8 -0.2
HHC Hu-ho-hao-te 95.78 333 S S 09 05 50.5 -2.8
HHC Hu-ho-hao-te 95.78 333 SS SS 09 12 22.9 +2.1
HHC pmax pmax
comp=Z,35nm,1.2s
HHC pmax pmax
comp=Z,190nm,5.2s
HHC LR LR
comp=N,120nm,17.6s
HHC LR LR
comp=E,130nm,18.0s
HHC LR LR
comp=Z,160nm,18.4s
MKAR Makanchi Array 96.48 355 P P 08 54 36.8 -0.7
MKAR Makanchi Array 96.48 355 P P 08 54 36.8 -0.7
comp=Z,0.5nm,0.8s,baz=35,slow=4.4,SNR=4.8
WMQ Urumqi 98.90 351 *e*P Pdif 08 54 51.3 +2.9

IDC ***18*** *08:42:42.6±4.2, 13°.92S×75°.47W, h91km±28km, mb3.4/3, mb1 3.5/6, mb1mx3.3/38, mbtmpb3.7/6, MS2.8/1, Ms1 2.9/1, ms1mx2.6/15, Error ellipse: s-maj=68.8km s-min=25.3km az=36.0*

ISC 18 08:42:40.3±2.5, 13°.8S±0°.4×75°.6W±0°.3, h66km, n9, σ0s73/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**7.15**	**337**	P		Pn	08 44 28.5	+5.8
	0.2nm,0.3s,baz=37,slow=15,SNR=5.1							
ATAH				S		Sn	08 46 01.5	+18
	1.4nm,0.3s,baz=320,slow=22,SNR=6.4							
LPAZ	**La Paz**	**7.59**	**110**	P		**Pn**	**08 44 29.1**	**+0.2**
	0.8nm,0.3s,baz=283,slow=7.6,SNR=20							
LPAZ				LR		LR	08 48 13.1	
	comp=Z,72nm,19.9s,baz=326,slow=44							
SIV	**San Ignacio**	**14.17**	**101**	P		**Pn**	**08 45 57.1**	**-0.7**
	0.2nm,0.3s,baz=253,slow=11,SNR=3.0							
H03N1	**Juan Fernandez**	**19.84**	**188**	T		T	09 06 14.5	
	baz=12,slow=76,SNR=272							
H03N2	**Juan Fernandez**	**19.84**	**188**	T		T	09 06 17.2	
	baz=12,slow=76,SNR=208							
H03N3	**Juan Fernandez**	**19.85**	**188**	T		T	09 06 13.5	
	baz=12,slow=76,SNR=247							
PTGA	**Pitinga**	**20.13**	**51**	P		**P**	**08 47 09.5**	**+0.3**
	1.7nm,0.5s,baz=270,slow=5.1,SNR=3.9							
TORD	**Torodi Ar. Bea**	**81.05**	**74**	P		**P**	**08 54 49.3**	**+0.5**
	0.7nm,0.8s,baz=264,slow=4.5,SNR=4.3							
YKA	**Yellowknife Ar**	**81.89**	**343**	P		**P**	**08 54 51.8**	**-0.4**
	0.3nm,0.5s,baz=144,slow=6.0,SNR=6.7							

SOF ***18*** *08:45:38.2, 40°.36N×20°.49E, h2km, MD3.0*
BEO ***18*** *08:45:46.1±0.7, 40°.46N×21°.42E, h0km, ML3.0/1*
PDG ***18*** *08:45:48.9±0.2, 40°.70N×21°.36E, h11km, ML3.5/11, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
CSEM ***18*** *08:45:49.9±0.1, 40°.76N×21°.39E, h2km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.2km az=61.0*
THE ***18*** *08:45:49.7, 40°.76N×21°.28E, h14km, ML3.2/7, Error ellipse: s-maj=1.4km s-min=0.7km az=289.0*
SKO ***18*** *08:45:50.3, 40°.75N×21°.30E, h8km, M2.2, ML2.7*
ATH ***18*** *08:45:50.0, 40°.74N×21°.38E, h15km, MD3.4/24*

ISC 18 08:45:50.5±0.8, 40°.73N±0°.01×21°.37E±0°.01, h10km±4km, n134, σ1s18/236, 12C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.05**	**5**	P		**Pg**	**08 45 52.5**	**-0.1**
FNA				S		**Sg**	**08 45 54.7**	**+0.5**
FNA	**Florina**	**0.05**	**5**	*e*PB		**Pg**	**08 45 52.6**	**-0.1**
FNA				*e*SB		**Sg**	**08 45 54.9**	**+0.7**
FNA	**Florina**	**0.05**	**5**	P		**Pg**	**08 45 52.5**	**-0.1**
FNA				S		**Sg**	**08 45 54.7**	**+0.5**
BIA	**Bitola**	**0.29**	**353**	P		**Pg**	**08 45 55.1**	**-1.3**
BIA				S		**Sg**	**08 45 59.9**	**-0.4**
BIA	**Bitola**	**0.29**	**353**	P		**Pg**	**08 45 55.1**	**-1.3**
BIA				S		**Sg**	**08 45 59.9**	**-0.4**
NEST	**Nestorio**	**0.40**	**218**	P		**Pg**	**08 45 57.2**	**-1.2**
NEST				S		**Sg**	**08 46 02.9**	**-0.8**
NEST	**Nestorio**	**0.40**	**218**	*e*PB		**Pg**	**08 45 57.2**	**-1.2**
NEST				*e*SB		**Sg**	**08 46 03.8**	**+0.1**
NEST	**Nestorio**	**0.40**	**218**	P		**Pg**	**08 45 57.2**	**-1.2**
NEST				S		**Sg**	**08 46 02.9**	**-0.8**
NEST				*e*Sb		**Sg**	**08 46 03.8**	**+0.1**
KZN	**Kozani**	**0.52**	**144**	*e*PN		**Pg**	**08 46 00.1**	**-0.6**
KZN				*e*SN		**Sb**	**08 46 08.9**	**-0.5**
KZN	**Kozani**	**0.52**	**144**	*e*Pn		**Pg**	**08 46 00.1**	**-0.6**
KZN				*e*Sn		**Sb**	**08 46 08.9**	**-0.5**
GRG	**Griva**	**0.81**	**74**	P		**Pg**	**08 46 05.4**	**-0.8**
GRG				S		**Sb**	**08 46 18.6**	**+0.8**
GRG	**Griva**	**0.81**	**74**	*e*PN		**Pg**	**08 46 05.7**	**-0.5**
GRG				*e*SN		**Sg**	**08 46 16.5**	**-0.3**
GRG	**Griva**	**0.81**	**74**	P		**Pg**	**08 46 05.4**	**-0.8**
GRG	**Griva**	**0.81**	**74**	*e*Pn		**Pg**	**08 46 05.7**	**-0.5**
GRG				*e*Sn		**Sg**	**08 46 16.5**	**-0.3**
GRG				S		**Sb**	**08 46 18.6**	**+0.8**
MEV	**Metsovon**	**0.95**	**187**	P		**Pg**	**08 46 07.0**	**-1.8**
MEV	**Metsovon**	**0.95**	**187**	P		**Pg**	**08 46 07.0**	**-1.8**
LIT	**Litokhoron**	**1.06**	**126**	P		**Pb**	**08 46 10.1**	**-0.8**
LIT				S		**Sn**	**08 46 26.9**	**+0.7**
LIT	**Litokhoron**	**1.06**	**126**	*e*PN		**Pb**	**08 46 10.6**	**-0.3**
LIT				*e*SN		**Sg**	**08 46 24.9**	**+0.2**
LIT	**Litokhoron**	**1.06**	**126**	P		**Pb**	**08 46 10.1**	**-0.8**
LIT	**Litokhoron**	**1.06**	**126**	*e*Pn		**Pb**	**08 46 10.6**	**-0.3**
LIT				S		**Sn**	**08 46 26.9**	**+0.7**
VAY	**Valandovo**	**1.08**	**57**	P		**Pb**	**08 46 10.2**	**-1.0**
VAY				S		**Sb**	**08 46 25.5**	**+0.1**
VAY	**Valandovo**	**1.08**	**57**	*e*Pg		**Pb**	**08 46 09.5**	**-1.8**
VAY	**Valandovo**	**1.08**	**57**	P		**Pb**	**08 46 10.3**	**-1.0**
VAY	**Valandovo**	**1.08**	**57**	*e*Pg		**Pb**	**08 46 09.5**	**-1.8**
VAY	**Valandovo**	**1.08**	**57**	P		**Pb**	**08 46 10.2**	**-1.0**
VAY				S		**Sb**	**08 46 25.5**	**+0.1**
JAN	**Janina**	**1.15**	**200**	*e*PN		**Pb**	**08 46 11.2**	**-1.1**
JAN				*e*SN		**Sn**	**08 46 28.2**	**-0.1**
THE	**Thessaloniki**	**1.22**	**94**	*e*PN		**Pb**	**08 46 13.6**	**+0.1**
THE				*e*SN		**Sg**	**08 46 29.6**	**0.0**
THE	**Thessaloniki**	**1.22**	**94**	*e*Pn		**Pb**	**08 46 13.6**	**+0.1**
THE				*e*Sn		**Sg**	**08 46 29.6**	**0.0**
KNT	**Kendrikon**	**1.23**	**69**	P		**Pn**	**08 46 12.7**	**-1.1**
KNT				S		**Sb**	**08 46 29.7**	**-0.1**
KNT	**Kendrikon**	**1.23**	**69**	*e*PN		**Pn**	**08 46 13.5**	**-0.3**
KNT				*e*SN		**Sn**	**08 46 30.9**	**+0.4**
KNT	**Kendrikon**	**1.23**	**69**	P		**Pn**	**08 46 12.7**	**-1.1**
KNT	**Kendrikon**	**1.23**	**69**	*e*Pn		**Pn**	**08 46 13.5**	**-0.3**
KNT				S		**Sb**	**08 46 29.7**	**-0.1**
KNT				*e*Sn		**Sn**	**08 46 30.9**	**+0.4**
SKO	**Skopje**	**1.24**	**2**	P		**Pn**	**08 46 12.0**	**-1.9**
SKO				S		**Sb**	**08 46 28.5**	**-1.5**
SKO	**Skopje**	**1.24**	**2**	*e*Pg		**Pn**	**08 46 12.3**	**-1.6**
SKO				*e*Sg		**Sn**	**08 46 33.6**	**+3.0**
SKO	**Skopje**	**1.24**	**2**	P		**Pn**	**08 46 12.0**	**-1.9**
SKO	**Skopje**	**1.24**	**2**	*e*Pg		**Pn**	**08 46 12.3**	**-1.6**
SKO				S		**Sb**	**08 46 28.5**	**-1.5**
SKO				*e*Sg		**Sn**	**08 46 33.6**	**+3.0**
THL	**Klokotos Trika**	**1.27**	**157**	*e*PB		**Pn**	**08 46 12.8**	**-1.4**
THL				*e*SN		**Sg**	**08 46 31.7**	**+0.5**
THL	**Klokotos Trika**	**1.27**	**157**	*e*Pb		**Pn**	**08 46 12.8**	**-1.4**
THL				*e*Sn		**Sg**	**08 46 31.7**	**+0.5**
HORT	**Hortiatis**	**1.32**	**95**	P		**Pn**	**08 46 14.2**	**-0.8**
HORT				S		**Sg**	**08 46 33.5**	**+0.5**
HORT	**Hortiatis**	**1.32**	**95**	*e*PN		**Pn**	**08 46 14.5**	**-0.5**
HORT				*e*SN		**Sn**	**08 46 32.8**	**+0.1**
HORT	**Hortiatis**	**1.32**	**95**	P		**Pn**	**08 46 14.2**	**-0.8**
HORT	**Hortiatis**	**1.32**	**95**	*e*Pn		**Pn**	**08 46 14.5**	**-0.5**
HORT				*e*Sn		**Sn**	**08 46 32.8**	**+0.1**
HORT				S		**Sg**	**08 46 33.5**	**+0.5**
IGT	**Igoumenitsa**	**1.44**	**214**	*e*PN		**Pg**	**08 46 18.5**	**+0.5**
IGT				*e*SN		**Sg**	**08 46 37.9**	**+1.2**
IGT	**Igoumenitsa**	**1.44**	**214**	*e*Pn		**Pg**	**08 46 18.5**	**+0.5**
IGT				*e*Sn		**Sg**	**08 46 37.9**	**+1.2**
SOH	**Sokhos**	**1.51**	**86**	P		**Pn**	**08 46 17.1**	**-0.5**
SOH				S		**Sn**	**08 46 37.3**	**0.0**
SOH	**Sokhos**	**1.51**	**86**	*e*PN		**Pb**	**08 46 18.2**	**-0.4**
SOH				*e*SN		**Sg**	**08 46 38.6**	**-0.4**
SOH	**Sokhos**	**1.51**	**86**	P		**Pn**	**08 46 17.1**	**-0.5**
SOH	**Sokhos**	**1.51**	**86**	*e*Pn		**Pb**	**08 46 18.2**	**-0.4**
SOH				S		**Sn**	**08 46 37.3**	**0.0**
SOH				*e*Sn		**Sg**	**08 46 38.6**	**-0.4**
KEK	**Kerkira**	**1.57**	**230**	*e*PN		**Pb**	**08 46 20.0**	**+0.3**
KEK				*e*SN		**Sg**	**08 46 41.8**	**+0.7**
KEK	**Kerkira**	**1.57**	**230**	*e*Pn		**Pb**	**08 46 20.0**	**+0.3**
KEK				*e*Sn		**Sg**	**08 46 41.8**	**+0.7**
PLG	**Polygyros**	**1.62**	**102**	*e*PN		**Pn**	**08 46 19.4**	**+0.3**
PLG				*e*SN		**Sn**	**08 46 40.6**	**+0.5**
PLG	**Polygyros**	**1.62**	**102**	*e*Pn		**Pn**	**08 46 19.4**	**+0.3**
PLG				*e*Sn		**Sn**	**08 46 40.6**	**+0.5**
KKB	**Krupnik**	**1.72**	**48**	*i* P		**Pn**	**08 46 20.4**	**0.0**
KKB				S		**Sg**	**08 46 51.5**	**+5.8**
KKB	**Krupnik**	**1.72**	**48**	*i* P		**Pn**	**08 46 20.4**	**0.0**
SRS	**Serrai**	**1.73**	**76**	*e*PN		**Pn**	**08 46 21.0**	**+0.5**
SRS	**Serrai**	**1.73**	**76**	*e*Pn		**Pn**	**08 46 21.0**	**+0.5**
EVR	**Evrytania**	**1.84**	**169**	*e*PN		**Pb**	**08 46 24.0**	**-0.3**
EVR				*e*SN		**Sb**	**08 46 47.3**	**-0.1**
EVR	**Evrytania**	**1.84**	**169**	*e*Pn		**Pb**	**08 46 24.0**	**-0.3**
EVR				*e*Sn		**Sb**	**08 46 47.3**	**-0.1**
AGG	**Agios Georgios**	**1.86**	**156**	P		**Pn**	**08 46 22.0**	**-0.4**
AGG	**Agios Georgios**	**1.86**	**156**	*e*PB		**Pn**	**08 46 22.1**	**-0.4**
AGG	**Agios Georgios**	**1.86**	**156**	P		**Pn**	**08 46 22.0**	**-0.4**
PAIG	**Paliouri**	**1.94**	**114**	*e*PB		**Pn**	**08 46 22.6**	**-0.8**
PAIG				*e*SN		**Sb**	**08 46 50.7**	**+0.6**
XOR	**Xorichti**	**1.95**	**134**	P		**Pn**	**08 46 23.0**	**-0.7**
XOR				S		**Sn**	**08 46 49.1**	**+0.9**
XOR	**Xorichti**	**1.95**	**134**	*e*PB		**Pn**	**08 46 22.2**	**-0.5**
XOR	**Xorichti**	**1.95**	**134**	P		**Pn**	**08 46 23.0**	**-0.7**
XOR				S		**Sn**	**08 46 49.1**	**+0.9**
MMB	**Musomiste**	**1.98**	**64**	P		**Pn**	**08 46 24.7**	**+0.7**
MMB				S		**Sg**	**08 46 53.2**	**-0.8**
MMB	**Musomiste**	**1.98**	**64**	P		**Pn**	**08 46 24.7**	**+0.7**
MMB				S		**Sg**	**08 46 53.2**	**-0.8**
NVR	**Nevrokopi**	**1.98**	**71**	*e*PN		**Pn**	**08 46 24.9**	**+0.8**
NVR				*e*SN		**Sb**	**08 46 51.0**	**-0.4**
NVR	**Nevrokopi**	**1.98**	**71**	*e*Pn		**Pn**	**08 46 24.9**	**+0.8**
NVR				*e*Sn		**Sb**	**08 46 51.0**	**-0.4**
NEO	**Neokhori**	**2.01**	**134**	*e*PN		**Pb**	**08 46 26.0**	**-1.1**
NEO				*e*SN		**Sb**	**08 46 52.2**	**0.0**
NEO	**Neokhori**	**2.01**	**134**	*e*Pn		**Pb**	**08 46 26.0**	**-1.1**
NEO				*e*Sn		**Sb**	**08 46 52.2**	**0.0**
LKD2	**Lefkada island**	**2.02**	**196**	*e*PN		**Pn**	**08 46 25.5**	**+1.0**
LKD2				*e*SN		**Sb**	**08 46 51.9**	**-0.4**
LKD2	**Lefkada island**	**2.02**	**196**	*e*Pn		**Pn**	**08 46 25.5**	**+1.0**
LKD2				*e*Sn		**Sb**	**08 46 51.9**	**-0.4**
ULC	**Ulcinj**	**2.02**	**308**	⇑*i*Pn		**Pn**	**08 46 24.8**	**+0.2**
ULC				*e*SN		**Sb**	**08 46 52.0**	**-0.4**
ULC	**Ulcinj**	**2.02**	**308**	⇑*i*Pn		**Pn**	**08 46 24.8**	**+0.2**
ULC				*e*Sn		**Sb**	**08 46 52.0**	**-0.4**
OUR	**Ouranopolis**	**2.03**	**100**	*e*PB		**Pn**	**08 46 25.1**	**+0.4**
OUR				*e*SN		**Sb**	**08 46 52.7**	**0.0**
PDO	**Prodromos**	**2.13**	**184**	P		**Pn**	**08 46 25.6**	**-0.5**
PDO

NKY	**Niksic**	**2.74**	**320**	⇓*i*	Pn	**Pn**	**08 46 34.0**	**-0.5**
NKY				*e*	Sn	**Sn**	**08 47 08.5**	**+0.8**
KLV	**Kalavryta, Ach**	**2.75**	**167**	*e*	PN	**Pn**	**08 46 34.9**	**+0.2**
KLV	**Kalavryta, Ach**	**2.75**	**167**	*e*	Pn	**Pn**	**08 46 34.9**	**+0.2**
HCY	**Herceg Novi**	**2.75**	**309**	⇓*i*	Pn	**Pn**	**08 46 34.8**	**+0.1**
HCY				*e*	Sn	**Sn**	**08 47 09.3**	**+1.3**
DRO	**Drossia**	**2.79**	**174**	*e*	PN	**Pn**	**08 46 36.6**	**+1.5**
DRO	**Drossia**	**2.79**	**174**	*e*	Pn	**Pn**	**08 46 36.6**	**+1.5**
GUR	**Goura**	**2.89**	**165**	*e*	PN	**Pn**	**08 46 37.8**	**+1.2**
GUR	**Goura**	**2.89**	**165**	*e*	Pn	**Pn**	**08 46 37.8**	**+1.2**
IVAS	**Ivanjica**	**2.98**	**343**	*e*	Pn	**Pn**	**08 46 38.2**	**+0.3**
IVAS				*e*	Sn	**Sb**	**08 47 18.1**	**-2.1**
IVAS	**Ivanjica**	**2.98**	**343**	*e*	Pn	**Pn**	**08 46 38.2**	**+0.3**
IVAS				*e*	Sn	**Sb**	**08 47 18.1**	**-2.1**
PLE	**Pljevlja**	**2.99**	**331**	⇓*i*	Pn	**Pn**	**08 46 37.4**	**-0.6**
PLE				*e*	Sn	**Sn**	**08 47 15.1**	**+1.2**
PLE	**Pljevlja**	**2.99**	**331**	⇓*i*	Pn	**Pn**	**08 46 37.4**	**-0.6**
PLE				*e*	Sn	**Sn**	**08 47 15.1**	**+1.2**
BRY	**Bratogost**	**3.03**	**317**	⇓*i*	Pn	**Pn**	**08 46 38.6**	**0.0**
BRY				*e*	Sn	**Sn**	**08 47 16.3**	**+1.3**
BRY	**Bratogost**	**3.03**	**317**	⇓*i*	Pn	**Pn**	**08 46 38.6**	**0.0**
BRY				*e*	Sn	**Sn**	**08 47 16.3**	**+1.3**
UPM	**Unac-Piva**	**3.08**	**324**	⇑*i*	Pn	**Pn**	**08 46 39.1**	**-0.2**
UPM				*e*	Sn	**Sn**	**08 47 16.9**	**+0.7**
UPM	**Unac-Piva**	**3.08**	**324**	⇑*i*	Pn	**Pn**	**08 46 39.1**	**-0.2**
UPM				*e*	Sn	**Sn**	**08 47 16.9**	**+0.7**
GRUS	**Gruza**	**3.19**	**351**	⇑*i*	Pn	**Pn**	**08 46 40.3**	**-0.4**
GRUS				*e*	Sn	**Sn**	**08 47 22.0**	**+3.2**
GRUS	**Gruza**	**3.19**	**351**	⇑*i*	Pn	**Pn**	**08 46 40.3**	**-0.4**
GRUS				*e*	Sn	**Sn**	**08 47 22.0**	**+3.2**
BBLS	**Lazići**	**3.46**	**336**	*e*	Pn	**Pn**	**08 46 45.2**	**+0.9**
BBLS				*e*	Sn	**Sn**	**08 47 28.1**	**+2.8**
BBLS	**Lazići**	**3.46**	**336**	*e*	Pn	**Pn**	**08 46 45.2**	**+0.9**
BBLS				*e*	Sn	**Sn**	**08 47 28.1**	**+2.8**
STON	**Ston**	**3.48**	**309**	*i*	Pn	**Pn**	**08 46 43.9**	**-0.7**
STON					Sn	**Sn**	**08 47 24.4**	**-1.4**
STON	**Ston**	**3.48**	**309**	*i*	Pn	**Pn**	**08 46 43.9**	**-0.7**
STON					Sn	**Sn**	**08 47 24.3**	**-1.4**
DIVS	**Divibare**	**3.52**	**344**	*e*	Pn	**Pn**	**08 46 44.8**	**-0.4**
DIVS				*e*	Sn	**Sn**	**08 47 30.1**	**+3.2**
DIVS	**Divibare**	**3.52**	**344**	*e*	Pn	**Pn**	**08 46 44.8**	**-0.4**
DIVS				*e*	Sn	**Sn**	**08 47 30.1**	**+3.2**
DID	**Didima**	**3.53**	**155**	*e*	PN	**Pn**	**08 46 47.5**	**+2.1**
DID				*e*	SN	**Sn**	**08 47 28.3**	**+1.1**
DID	**Didima**	**3.53**	**155**	*e*	Pn	**Pn**	**08 46 47.5**	**+2.1**
DID				*e*	Sn	**Sn**	**08 47 28.3**	**+1.1**

SKO 18 08:46:41.7, 40.81N×21.33E, 7^{km}, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.21**	**359**	*i*	Pg	Pg	08 46 45.9	-0.1
BIA				*i*	Sg	Sg	08 46 50.8	+1.9
VAY	**Valandovo**	**1.07**	**61**	*i*	Pg	Pg	08 47 01.0	-1.2
VAY				*i*	Sg	Sg	08 47 13.7	-2.4
VAY	comp=E,38nm,0.9s			*i*	Lg	Lg	08 47 14.8	
VAY	comp=N,53nm,0.8s			*i*	Lg	Lg	08 47 16.0	
SKO	**Skopje**	**1.16**	**4**	*i*	Pg	Pg	08 47 03.4	-0.7
SKO				*i*	Sg	Sb	08 47 19.6	+0.1
SKO	comp=N,111nm,1.0s			*i*	Lg	Lg	08 47 20.6	
SKO	comp=E,108nm,1.3s			*i*	Lg	Lg	08 47 24.4	

IDC ***18*** *08:49:44.7±1.9, 53.52N×171.89E, h0^{km}, mb3.3/6, mb1 3.6/7, mb1mx3.4/44, mbtmp3.4/7, ML3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/29, Error ellipse: s-maj=68.6km s-min=20.0km az=0.0*

ISCJB ***18*** *08:49:45.5±1.5, 53.3N±0.4×171.6E±0.1, h23^{km}, mb3.3/6, Error ellipse: s-maj=55.0km s-min=9.6km az=176.1*

ISC 18 08:49:48.0±1.7, 53.5N±0.4×171.78E±0.09, h23^{km}, n13, σ1^{9}09/8, mb3.5/6, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**8.45**	**273**		Pn	**Pn**	**08 51 49.5**	**+0.7**
	2.5nm,0.3s,baz=72,slow=14,SNR=33							
PETK					Sn	**Sn**	**08 53 21.8**	**-1.6**
	0.5nm,0.3s,baz=98,slow=22,SNR=2.8							
PETK					LR	LR	08 54 19.6	
	comp=Z,37nm,20.9s,baz=62,slow=32							
ILAR	**Eielson Array**	**23.55**	**45**	P		**P**	**08 54 55.5**	**-0.7**
	0.3nm,0.8s,baz=257,slow=8.0,SNR=5.6							
H11N2	**WAKE ISLAND Hy**	**33.90**	**188**	T		T	09 32 02.9	
	baz=7.6,slow=76,SNR=133							
H11N3	**WAKE ISLAND Hy**	**33.91**	**188**	T		T	09 32 00.3	
	baz=7.6,slow=76,SNR=148							
H11N1	**WAKE ISLAND Hy**	**33.92**	**188**	T		T	09 32 04.3	
	baz=7.6,slow=76,SNR=162							
H11S1	**WAKE ISLAND Hy**	**35.13**	**188**	T		T	09 33 30.1	
	baz=6.8,slow=78,SNR=248							
H11S3	**WAKE ISLAND Hy**	**35.14**	**188**	T		T	09 33 36.4	
	baz=6.8,slow=78,SNR=195							
H11S2	**WAKE ISLAND Hy**	**35.15**	**188**	T		T	09 33 30.4	
	baz=6.8,slow=78,SNR=130							
SONM	**Songino Array**	**40.52**	**289**	P		**P**	**08 57 26.1**	**+1.0**
	0.3nm,0.4s,baz=67,slow=6.5,SNR=3.4							
NVAR	**Mina Array Bea**	**48.89**	**78**	P		**P**	**08 58 31.8**	**-0.2**
	0.2nm,0.4s,baz=291,slow=5.4,SNR=2.4							
MKAR	**Makanchi Array**	**54.11**	**302**	P		**P**	**08 59 09.9**	**-0.8**
	0.2nm,0.4s,baz=59,slow=6.6,SNR=5.1							
TXAR	**Lajitas Array**	**63.87**	**76**	P		**P**	**09 00 18.4**	**-0.3**
	0.2nm,0.6s,baz=304,slow=4.9,SNR=3.8							
AKASG	**Malin Array Be**	**71.52**	**336**	P		**P**	**09 01 07.3**	**+0.9**
	0.2nm,0.3s,baz=18,slow=5.5,SNR=2.7							

ISCJB ***18*** *09:03:18.4±0.7, 38.71N±0.02×119.47W±0.04, h5^{km}±5^{km}, Error ellipse: s-maj=5.4km s-min=3.9km az=11.3*

NEIC ***18*** *09:03:19.4, 38.68N×119.47W, h11^{km}, ML3.5(REN), After REN.*

NEIC Felt [IV] at Wellington and [II] at Gardnerville. Also felt at Fallon, Reno and Yerington. Felt at Camino, Coloville, Markleeville, South Lake Tahoe and Topaz, California.

ISC 18 09:03:18.9±1.2, 38.70N±0.03×119.43W±0.03, h6^{km}±10^{km}, n20, σ1^{9}15/32, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WAKR	**Walker**	**0.19**	**181**	*e*	Pg	**Pg**	**09 03 23.5**	**+0.7**
WAKR				*e*	Sg	**Sg**	**09 03 26.3**	**+1.0**
CMB	**Columbia Colle**	**1.00**	**229**	*e*	Pg	**Pg**	**09 03 37.1**	**-0.9**
CMB				*e*	Sg	**Sg**	**09 03 49.8**	**-1.2**
PAHR	**Pah Rah Range**	**1.01**	**2**	*e*	Pg	**Pb**	**09 03 38.6**	**-0.3**
PAHR				*e*	Sg	**Sg**	**09 03 52.0**	**+0.6**
NV11	**Mina Array Sit**	**1.03**	**104**	*e*	P	**Pb**	**09 03 39.1**	**-0.2**
NV11				*e*	S	**Sb**	**09 03 53.1**	**-0.1**
MLAC	**Mammoth Lakes**	**1.16**	**156**	P		**Pb**	**09 03 41.3**	**-0.3**
	baz=1.2							
TPH	**Tonopah**	**1.84**	**109**	*e*	Pn	**Pn**	**09 03 51.1**	**-0.2**
TPH				*e*	Sn	**Sn**	**09 04 15.0**	**-0.1**
TIN	**Tinemaha**	**1.90**	**149**	Sg		**Sg**	**09 04 21.2**	**+1.3**
	baz=1.9							
GRAC	**Grapevine Rang**	**2.35**	**135**	P		**Pn**	**09 03 59.0**	**+0.8**
	baz=2.4							
GRAC				Sb		**Sg**	**09 04 35.1**	**+0.6**
	baz=2.4							
RCTC	**Rector, Farmer**	**2.39**	**176**	Pb		**Pb**	**09 04 02.0**	**-0.3**
	baz=2.4							
RCTC				Sb		**Sg**	**09 04 33.3**	**-2.3**
	baz=2.4							
BMN	**Battle Mountai**	**2.43**	**44**	*e*	Pn	**Pn**	**09 03 59.0**	**-0.4**
BMN				*e*	Sn	**Sn**	**09 04 30.4**	**+0.9**
SAO	**San Andreas Ge**	**2.50**	**220**	*e*	Pn	**Pn**	**09 04 00.3**	**+0.1**
SAO				*e*	Sn	**Sn**	**09 04 30.2**	**-0.9**
SAC	**San Andreas**	**2.60**	**246**	*e*	Pn	**Pn**	**09 04 01.5**	**-0.1**
VES	**Vestal, Richgr**	**2.86**	**174**	Pb		**Pb**	**09 04 10.0**	**-0.5**
	baz=2.9							
VES				Sb		**Sb**	**09 04 47.6**	**+1.8**
	baz=2.9							
R11A	**Troy Canyon, C**	**3.04**	**95**	*e*	Pn	**Pn**	**09 04 07.5**	**-0.2**
R11A	**Troy Canyon, C**	**3.04**	**95**	P		**Pn**	**09 04 07.4**	**-0.4**
	baz=3.1							
R11A				Sb		**Sg**	**09 04 55.1**	**-1.3**
	baz=3.1							
WDC	**Whiskeytown Da**	**3.05**	**309**	*e*	Pn	**Pn**	**09 04 08.6**	**+0.9**
MOD	**Modoc**	**3.27**	**349**	*e*	Pn	**Pn**	**09 04 12.8**	**+1.9**
SHPR	**Sheep Range**	**4.04**	**122**	*e*	Pn	**Pn**	**09 04 22.1**	**+0.7**
DUG	**Dugway**	**5.34**	**72**	*e*	Pn	**Pn**	**09 04 40.2**	**+0.9**
HVU	**Hansel Valley**	**5.95**	**57**	*e*	Pn	**Pn**	**09 04 48.6**	**+0.9**
HVU				*i*	Pg	Pg	09 05 09.7	-3.1
HVU				*e*	Sg	**Sg**	**09 06 26.7**	**-3.3**

IDC ***18*** *09:12:59.3±2.8, 54.23N×87.11E, h0^{km}, mb1 3.1/2, mb1mx2.9/30, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=25.1km s-min=15.7km az=65.0*

NNC ***18*** *09:13:02.6±1.4, 54.04N×87.00E, h0^{km}, mb3.4, mpv3.1, Error ellipse: s-maj=13.3km s-min=9.4km az=162.0*

ISC 18 09:13:00.9±4.5, 54.4N±0.2×87.3E±0.2, h35^{km}, n7, σ1^{9}26/10, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**253**	*i*			09 20 30.0	
	baz=78,slow=357,SNR=3.9							
ZALV	**Zalesovo Beam**	**1.51**	**253**		Pg	**Pn**	**09 13 23.9**	**-1.5**
	1.9nm,0.3s,baz=74,slow=13,SNR=37							
ZALV					Lg	Lg	09 13 43.0	
	1.5nm,0.3s,baz=77,slow=26,SNR=14							
KURK	**Kurchatov**	**6.43**	**238**	⇓	Pn	**Pn**	**09 14 33.8**	**+0.8**
	0.7nm,0.7s							
KURK				⇑	Sn	**Sn**	**09 15 46.0**	**+0.8**
	1.5nm,0.8s							
KURK				⇑	Lg	Lg	09 16 17.3	
	2.4nm,0.8s							
KURBB	**Kurchatov Arra**	**6.54**	**238**	⇑	Pn	**Pn**	**09 14 35.2**	**+0.8**
	1.7nm,0.5s							
KURBB				⇓	Sn	**Sn**	**09 15 48.4**	**+0.7**
	4.4nm,0.7s							
KURBB				⇑	Lg	Lg	09 16 19.7	
	12nm,0.7s							
KURBB	**Kurchatov Arra**	**6.54**	**238**		Pn	**Pn**	**09 14 35.2**	**+0.8**
	0.3nm,0.3s,baz=56,slow=14,SNR=14							
KURBB					Lg	Lg	09 16 21.5	
	0.1nm,0.3s,baz=59,slow=33,SNR=5.4							
MK31	**Makanchi Array**	**8.25**	**205**		Pn	**Pn**	**09 14 59.0**	**+1.0**
	0.6nm,0.7s,baz=24,slow=14,SNR=11							
MK31					Sn	**Sn**	**09 16 28.4**	**-1.5**
	1.4nm,0.8s,baz=26,slow=26,SNR=5.0							
MK31					Lg	Lg	09 17 10.5	
	1.7nm,0.7s							
MKAR	**Makanchi Array**	**8.25**	**205**		Pn	**Pn**	**09 14 58.6**	**+0.6**
	0.2nm,0.3s,baz=27,slow=14,SNR=9.1							
MKAR					Sn	**Sn**	**09 16 28.4**	**-1.5**
	0.1nm,0.3s,baz=25,slow=28,SNR=9.3							
MKAR					Lg	Lg	09 17 16.6	
	0.1nm,0.3s,baz=26,slow=30,SNR=4.2							

IDC ***18*** *09:16:06.7±2.6, 3.09N×98.05E, h0^{km}, mb3.4/2, mb1 3.8/3, mb1mx3.3/33, mbtmp3.5/3, ML4.4/1, Error ellipse: s-maj=77.6km s-min=18.2km az=42.0*

ISCJB ***18*** *09:16:11.1±0.7, 3.35N±0.07×98.39E±0.05, h27^{km}±6^{km}, mb3.2/2, Error ellipse: s-maj=12.5km s-min=8.2km az=3.3*

DJA ***18*** *09:16:11.1±0.4, 3°N±4°×98°E±°, h10^{km}, M3.6/6, MLv3.6/6*

ISC 18 09:16:11.4±0.9, 3.49N±0.08×98.41E±0.05, h29^{km}±7^{km}, n12, σ1^{9}41/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**0.16**	**87**	P		**Pb**	**09 16 16.4**	**-0.6**
TSI				S		**Sb**	**09 16 22.5**	**+1.7**
KCSI	**Kotacane, Aceh**	**0.64**	**273**	P		**Pb**	**09 16 22.8**	**-1.3**
KCSI				S		**Sb**	**09 16 32.1**	**-0.6**
PSI	**Prapat**	**0.86**	**143**	P		x	09 16 25.1	
PSI	**Prapat**	**0.86**	**143**	Pg		**Pn**	**09 16 25.0**	**-2.7**
	65nm,0.3s,baz=304,slow=13,SNR=176							
PSI				Lg		Lg	09 16 35.4	
	113nm,0.3s,baz=142,slow=19,SNR=30							
TPTI		**1.25**	**259**	P		**Pn**	**09 16 32.6**	**-0.4**
LHMI	**Lhok Sumawe**	**2.26**	**320**	P		Pb	09 16 57.2	+5.6
GSI	**Gunungsitoli**	**2.33**	**201**	P		**Pn**	**09 16 48.0**	**+0.2**
SNSI	**Sinabang, Aceh**	**2.34**	**243**	P		**Pn**	**09 16 48.3**	**+0.3**
MNSI	**Mandailing Nat**	**2.92**	**156**	P		**Pb**	**09 17 03.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**14.88**	**2**	Pn		**P**	**09 19 44.9**	**-0.5**
	0.5nm,0.3s,baz=182,slow=13,SNR=2.7							
WRA	**Warramunga Arr**	**42.28**	**125**	P		**P**	**09 24 03.1**	**+0.2**
	0.7nm,0.7s,baz=302,slow=9.3,SNR=3.5							
MKAR	**Makanchi Array**	**45.35**	**344**	P		**P**	**09 24 28.7**	**+1.6**
	0.2nm,0.7s,baz=162,slow=9.1,SNR=3.3							

IDC ***18*** *09:17:28.6±2.6, 53.54N×87.65E, h0^{km}, mb1 3.3/3, mb1mx3.1/31, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=23.5km s-min=12.7km az=63.0*

NNC ***18*** *09:17:32.3±2.5, 53.38N×87.27E, h0^{km}, mb3.8, mpv3.4, Error ellipse: s-maj=19.7km s-min=15.8km az=16.0*

ISC 18 09:17:32.4±3.8, 53.6N±0.1×87.6E±0.2, h35^{km}, n8, σ0^{9}55/12, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**282**	*i*			09 30 21.3	
	baz=98,slow=357							
ZALV	**Zalesovo Beam**	**1.65**	**282**		Pg	**Pn**	**09 17 59.0**	**+0.1**
	3.7nm,0.3s,baz=104,slow=19,SNR=36							
ZALV					Lg	Lg	09 18 22.6	
	4.6nm,0.3s,baz=106,slow=24,SNR=14							
KURK	**Kurchatov**	**6.22**	**246**	⇑	Pn	**Pn**	**09 19 01.5**	**-0.1**
	2.8nm,1.3s							
KURK				⇑	Sn	**Sn**	**09 20 11.9**	**+0.5**
	0.8nm,0.8s							
KURK				⇑	Lg	Lg	09 20 43.0	
	6.6nm,0.7s							
KURBB	**Kurchatov Arra**	**6.32**	**245**	⇓	Pn	**Pn**	**09 19 03.1**	**+0.1**
	4.0nm,0.5s							
KURBB				⇓	Sn	**Sn**	**09 20 14.0**	**+0.2**
	5.8nm,0.6s							
KURBB				⇓	Lg	Lg	09 20 45.2	
	15nm,0.8s							
KURBB	**Kurchatov Arra**	**6.32**	**245**		Pn	**Pn**	**09 19 03.8**	**+0.8**
	0.4nm,0.3s,baz=62,slow=14,SNR=16							
KURBB					Lg	Lg	09 20 50.4	
	0.4nm,0.3s,baz=63,slow=33,SNR=11							
MK31	**Makanchi Array**	**7.62**	**208**	⇑	Pn	**Pn**	**09 19 21.0**	**+0.1**
	1.8nm,0.8s,baz=26,slow=11,SNR=12							
MK31				⇓	Sn	**Sn**	**09 20 45.6**	**-0.5**
	1.2nm,0.7s,baz=34,slow=26,SNR=3.0							
MK31				⇑	Lg	Lg	09 21 24.7	
	3.5nm,0.7s,baz=41,slow=32,SNR=7.2							
MKAR	**Makanchi Array**	**7.62**	**208**		Pn	**Pn**	**09 19 21.2**	**+0.2**
	0.2nm,0.3s,baz=31,slow=14,SNR=9.3							
MKAR					Sn	**Sn**	**09 20 46.4**	**+0.2**
	0.2nm,0.3s,baz=36,slow=28,SNR=6.5							
MKAR					Lg	Lg	09 21 28.4	
	0.1nm,0.3s,baz=37,slow=29,SNR=12							
BVAR	**Borovoye Array**	**10.29**	**274**		Pn	**Pn**	**09 19 57.9**	**+0.6**
	0.1nm,0.3s,baz=72,slow=14,SNR=3.3							
BVAR					Sn	**Sn**	**09 21 50.3**	**-1.0**
	0.1nm,0.3s,baz=80,slow=26,SNR=6.0							

ISCJB ***18*** *09:30:28.3±0.6, 14.51N±0.05×92.79W±0.04, h48^{km}±8^{km}, mb3.8/5, MS3.5/5, Error ellipse: s-maj=9.6km s-min=3.9km az=29.8*

MEX ***18*** *09:30:29.6±0.5, 14.46N×92.77W, h60^{km}±15^{km}, MD4.2*

CASC ***18*** *09:30:30.7±1.4, 14.46N×92.68W, h60^{km}±39^{km}, MD4.2, ML4.0*

IDC ***18*** *09:30:34.4±4.4, 14.67N×92.26W, h88^{km}±41^{km}, mb3.5/5, mb1 3.9/8, mb1mx3.5/32, mbtmp3.9/8, MS3.5/7, Ms1 3.5/7, ms1mx3.3/21, Error ellipse: s-maj=64.7km s-min=25.3km az=57.0*

ISC 18 09:30:30.1±1.2, 14.54N±0.06×92.77W±0.05, h44^{km}±13^{km}, n36, σ1^{9}05/43, mb3.8/5, MS3.6/5, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**0.61**	**53**	*i*	P	**Pn**	**09 30 41.7**	**-0.7**
THIG				*i*	S	**Sn**	**09 30 52.1**	**+0.7**
JAT	**Jato**	**1.12**	**101**	⇓*i*	eP	**Pn**	**09 30 49.6**	**+0.3**
PCIG		**1.24**	**340**	*i*	P	**Pn**	**09 30 50.3**	**-0.7**
PCIG				*e*	S	**Sn**	**09 31 05.8**	**-0.6**
PCG	**Pacaya**	**2.10**	**94**	*e*	P	**Pn**	**09 31 03.0**	**0.0**
PCG				*e*	S	**Sn**	**09 31 26.7**	**-1.4**
APG	**El Apazote**	**2.28**	**78**	P		**Pn**	**09 31 02.6**	**-2.9**
	40nm,0.3s,baz=260,slow=4.8,SNR=408							
APG				S		**Sn**	**09 31 32.6**	**+0.1**
	89nm,0.3s,baz=327,slow=19,SNR=20							
RBDL	**Robledal**	**3.02**	**98**	*e*	P	**Pn**	**09 31 15.9**	**+0.3**
MRL	**Marmol**	**3.03**	**80**	*e*	P	**Pn**	**09 31 16.8**	**+1.1**
RTR	**El Retiro**	**3.10**	**101**	*e*	P	**Pn**	**09 31 16.5**	**-0.2**
SBLS	**San Blas**	**3.13**	**102**	*e*	P	**Pn**	**09 31 16.8**	**-0.4**
SBLS				*e*	S	**Sn**	**09 31 54.3**	**+0.8**
SNJE	**San Jose**	**3.14**	**102**	*e*	P	**Pn**	**09 31 16.7**	**-0.6**
HUIG	**Huatulco**	**3.44**	**291**	*i*	P	**Pn**	**09 31 20.1**	**-1.1**
HUIG				*i*	S	**Sn**	**09 32 00.1**	**-0.8**
BOQS	**Boqueron**	**3.48**	**103**	*e*	P	**Pn**	**09 31 21.4**	**-0.6**
BOQS				*e*	S	**Sn**	**09 32 01.7**	**-0.3**
SNET	**Serv Nac Est T**	**3.54**	**103**	*e*	S	**Sn**	**09 32 01.9**	**-1.4**
SNET					AML	AML	09 32 16.4	
	comp=Z,739nm,0.1s							
LFU	**La Fuente**	**3.63**	**102**	*e*	P	**Pn**	**09 31 23.6**	**-0.3**
LBRS	**Las Brisas**	**3.70**	**102**	*e*	P	**Pn**	**09 31 24.6**	**-0.3**
LFRS	**El Faro**	**3.71**	**104**	*e*	P	**Pn**	**09 31 24.6**	**-0.5**
SNVI	**San Vicente**	**3.93**	**103**	*e*	P	**Pn**	**09 31 27.8**	**-0.2**
VHO	**Vista Hermosa**	**4.57**	**304**	*i*	P	**Pn**	**09 31 36.6**	**-0.3**
VHO				*i*	S	**Sn**	**09 32 28.5**	**-0.4**
SCIG	**Sabancuy**	**4.66**	**19**	*i*	P	**Pn**	**09 31 37.0**	**-1.0**
SCIG				*i*	S	**Sn**	**09 32 31.5**	**+0.7**
CNCH	**Conchagua**	**4.96**	**104**	*e*	P	**Pn**	**09 31 41.8**	**-0.4**
TGUH	**Tegucigalpa,Un**	**5.35**	**94**	*e*	P	**Pn**	**09 31 47.6**	**+0.2**
TEIG	**Tepich**	**7.10**	**37**	P		**Pn**	**09 32 11.1**	**-0.3**
	comp=Z,37nm,0.3s,baz=246,slow=4.5,SNR=107							
TEIG				S		**Sn**	**09 33 29.1**	**-1.8**
	comp=Z,2.8nm,0.3s,baz=295,slow=21,SNR=3.3							
TEIG				LR		LR	09 35 44.7	
	comp=Z,274nm,18.1s,baz=168,slow=46							
JTS	**JuntasAbangare**	**8.73**	**118**	P		**Pn**	**09 32 34.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=335,slow=19,SNR=4.5							
JTS				S		**Sn**	**09 34 11.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=338,slow=19,SNR=2.0							
TXAR	**Lajitas Array**	**17.84**	**327**	P		**P**	**09 34 37.7**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=20							
LPIG	**La Paz**	**19.07**	**303**	LR		LR	09 42 14.3	
	comp=Z,138nm,19.9s,baz=293,slow=36							
ROSC	**El Rosal**	**20.55**	**116**	LR		LR	09 43 40.7	
	comp=Z,54nm,19.4s,baz=236,slow=39							
ANMO	**Albuquerque**	**23.77**	**331**	P		**P**	**09 35 40.0**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=150,slow=13,SNR=8.2							
ATAH	**Athualpa**	**25.83**	**146**	LR		LR	09 44 40.7	
	comp=Z,61nm,19.0s,baz=360,slow=33							
PDAR	**Pinedale Array**	**31.63**	**336**	P		**P**	**09 36 50.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=163,slow=9.4,SNR=2.9							
PDAR				LR		LR	09 51 57.0	
	comp=Z,154nm,18.3s,baz=278,slow=40							
NVAR	**Mina Array Bea**	**32.79**	**321**	P		**P**	**09 37 01.6**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=139,slow=8.6,SNR=6.8							
YKA	**Yellowknife Ar**	**50.34**	**347**	P		**P**	**09 39 21.9**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=150,slow=7.6,SNR=50							
CPUP	**Villa Florida**	**53.27**	**140**	LR		LR	10 01 59.4	
	comp=Z,47nm,18.8s,baz=262,slow=36							
ILAR	**Eielson Array**	**62.05**	**337**	P		**P**	**09 40 45.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=121,slow=5.4,SNR=14							
ILAR				LR		LR	10 10 08.4	
	comp=Z,101nm,19.4s,baz=156,slow=38							
WRA	**Warramunga Arr**	**134.80**	**256**	PKP		**PKPdf**	**09 49 43.9**	**-1.1**
	comp=Z,0.7nm,1.0s,baz=92,slow=1.5,SNR=4.0							
ASAR	**Alice Springs**	**135.13**	**251**	PKP		**PKPdf**	**09 49 44.8**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=84,slow=2.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**145.24**	**340**	PKPbc		**PKPbc**	**09 50 01.6**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=349,slow=5.2,SNR=4.7							

DJA 18 09:34:11.5±1.1, 0°S±5°×122°4E±°, h101^{km}±14^{km}, M3.8/4, MLv3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.25**	**223**	P		Pn	09 34 36.2	+1.4
MRSI	**Marisa**	**1.79**	**290**	P		Pn	09 34 39.6	-1.9
MRSI				S		Sn	09 35 02.3	-2.0
APSI	**Ampana**	**2.13**	**249

SKO				*i* Lg	Lg	09 46 00.8			
	comp=E,100nm,0.8s								
SKO				*i* Lg	Lg	09 46 01.5			
	comp=N,118nm,0.7s								
SKO	**Skopje**	**1.49**	**80**	P	**Pn**	**09 45 34.9**	**-3.2**		
SKO	**Skopje**	**1.49**	**80**	*i* Pg	**Pn**	**09 45 37.8**	**-0.3**		
SKO				*i* Sg	**Sg**	**09 45 58.6**	**-0.5**		
SKO				*i* Lg	Lg	09 46 01.5			
	comp=N,118nm,0.7s								
UPM	**Unac-Piva**	**1.54**	**344**	⇑*i* Pg	**Pn**	**09 45 39.1**	**+0.2**		
UPM				*e*Sg	**Sg**	**09 46 02.2**	**+1.4**		
UPM	**Unac-Piva**	**1.54**	**344**	⇑*i* Pg	**Pn**	**09 45 39.1**	**+0.2**		
UPM	**Unac-Piva**	**1.54**	**344**	P	**Pg**	**09 45 40.4**	**-0.3**		
UPM				*e*Sg	**Sg**	**09 46 02.2**	**+1.4**		
BIA	**Bitola**	**1.56**	**116**	*i* Pg	**Pn**	**09 45 38.6**	**-0.4**		
BIA				*i* Sg	**Sg**	**09 46 02.9**	**+1.6**		
BIA	**Bitola**	**1.56**	**116**	*i* Pg	**Pn**	**09 45 38.6**	**-0.4**		
BIA				*i* Sg	**Sg**	**09 46 02.8**	**+1.5**		
SJES	**Sjenica**	**1.59**	**13**	*e*Pn	**Pn**	**09 45 39.8**	**+0.3**		
SJES				*e*Sn	**Sb**	**09 46 00.6**	**-0.2**		
SJES	**Sjenica**	**1.59**	**13**	*e*Pn	**Pn**	**09 45 39.8**	**+0.3**		
SJES				*e*Sn	**Sb**	**09 46 00.6**	**-0.2**		
SMRK	**Smrekonice**	**1.59**	**43**	P	**Pb**	**09 45 40.6**	**0.0**		
PLE	**Pljevlja**	**1.61**	**358**	⇓*i* Pn	**Pb**	**09 45 40.8**	**-0.3**		
PLE				*e*Sn	**Sg**	**09 46 04.0**	**+1.0**		
PLE	**Pljevlja**	**1.61**	**358**	⇓*i* Pn	**Pb**	**09 45 40.8**	**-0.3**		
PLE				*e*Sn	**Sg**	**09 46 04.0**	**+1.0**		
GJIK	**Gjilan**	**1.64**	**62**	P	**Pb**	**09 45 41.2**	**-0.3**		
GJIK				S	**Sg**	**09 46 05.7**	**+1.8**		
FNA	**Florina**	**1.71**	**122**	P	**Pn**	**09 45 41.4**	**+0.3**		
FNA	**Florina**	**1.71**	**122**	*e*P	**Pb**	**09 45 42.0**	**-0.8**		
FNA	**Florina**	**1.71**	**122**	P	**Pn**	**09 45 41.4**	**+0.3**		
STON	**Ston**	**1.75**	**312**	*e*Pn	**Pn**	**09 45 41.5**	**0.0**		
STON				Sn	**Sb**	**09 46 05.9**	**+0.6**		
STON	**Ston**	**1.75**	**312**	*e*Pn	**Pb**	**09 45 42.9**	**-0.4**		
STON				*e*Sn	**Sb**	**09 46 05.7**	**+0.4**		
STON	**Ston**	**1.75**	**312**	*e*Pn	**Pn**	**09 45 41.5**	**0.0**		
STON				*e*Sn	**Sb**	**09 46 05.7**	**+0.4**		
NEST	**Nestorio**	**1.77**	**137**	*e*P	**Pb**	**09 45 43.0**	**-0.7**		
IVAS	**Ivanjica**	**1.92**	**15**	⇑*i* Pn	**Pb**	**09 45 45.6**	**-0.8**		
IVAS				*e*Sn	**Sb**	**09 46 09.5**	**-1.0**		
IVAS	**Ivanjica**	**1.92**	**15**	⇑*i* Pn	**Pb**	**09 45 45.6**	**-0.8**		
IVAS				*e*Sn	**Sb**	**09 46 09.5**	**-1.0**		
SELS	**Selova**	**1.93**	**39**	⇓*i* Pn	**Pb**	**09 45 40.5**	**+0.9**		
SELS				*e*Sn	**Sb**	**09 46 09.4**	**+0.8**		
KEK	**Kerkira**	**2.02**	**173**	*e*P	**Pn**	**09 45 45.0**	**-0.3**		
BBLS	**Lazići**	**2.15**	**359**	*e*Pn	**Pb**	**09 45 48.7**	**-1.5**		
BBLS				*e*Sn	**Sn**	**09 46 15.0**	**+1.1**		
BBLS	**Lazići**	**2.15**	**359**	*e*Pn	**Pb**	**09 45 48.7**	**-1.5**		
BBLS				*e*Sn	**Sn**	**09 46 15.0**	**+1.1**		
IGT	**Igoumenitsa**	**2.28**	**163**	*e*P	**Pn**	**09 45 49.5**	**+0.6**		
GRG	**Griva**	**2.33**	**108**	*e*P	**Pn**	**09 45 50.5**	**+0.9**		
GRUS	**Gruza**	**2.35**	**22**	⇓*i* Pn	**Pn**	**09 45 51.4**	**+1.5**		
GRUS				*e*Sn	**Sn**	**09 46 19.7**	**+0.8**		
GRUS	**Gruza**	**2.35**	**22**	⇓*i* Pn	**Pn**	**09 45 51.4**	**+1.5**		
GRUS				*e*Sn	**Sn**	**09 46 19.7**	**+0.8**		
VAY	**Valandovo**	**2.36**	**99**	*i* Pn	**Pn**	**09 45 51.1**	**+1.1**		
VAY				*i* Sn	**Sn**	**09 46 20.4**	**+1.4**		
VAY				*i* Lg	Lg	09 46 29.7			
	comp=E,26nm,0.8s								
VAY				*i* Lg	Lg	09 46 30.3			
	comp=N,27nm,0.8s								
VAY	**Valandovo**	**2.36**	**99**	*i* Pn	**Pn**	**09 45 51.1**	**+1.1**		
VAY				*i* Sn	**Sn**	**09 46 20.3**	**+1.3**		
VAY				*i* Lg	Lg	09 46 30.3			
	comp=N,27nm,0.8s								
DIVS	**Divibare**	**2.41**	**9**	*e*Pn	**Pn**	**09 45 51.8**	**+1.1**		
DIVS				*e*Sn	**Sn**	**09 46 20.0**	**-0.4**		
DIVS	**Divibare**	**2.41**	**9**	*e*Pn	**Pn**	**09 45 51.8**	**+1.1**		
DIVS				*e*Sn	**Sn**	**09 46 20.0**	**-0.4**		
KNT	**Kendrikon**	**2.64**	**101**	*e*P	**Pn**	**09 45 54.0**	**+0.2**		
ZAPS	**Zavoj**	**2.81**	**55**	*e*Pn	**Pn**	**09 45 58.0**	**+1.8**		
ZAPS				*e*Sn	**Sn**	**09 46 30.4**	**+0.2**		
ZAPS	**Zavoj**	**2.81**	**55**	*e*Pn	**Pn**	**09 45 58.0**	**+1.8**		
VTS	**Vitosha**	**2.91**	**71**	⇑*i* P	**Pn**	**09 45 59.1**	**+1.4**		
VTS	**Vitosha**	**2.91**	**71**	S	**Sb**	**09 46 38.0**	**-1.0**		
VTS	**Vitosha**	**2.91**	**71**	⇑*i* P	**Pn**	**09 45 59.1**	**+1.4**		
HORT	**Hortiatis**	**2.96**	**111**	*e*P	**Pn**	**09 45 58.5**	**+0.2**		
LKD2	**Lefkada island**	**3.06**	**162**	*e*P	**Pn**	**09 45 59.5**	**-0.2**		
SRS	**Serrai**	**3.16**	**100**	*e*P	**Pn**	**09 46 01.5**	**+0.6**		
MMB	**Musomiste**	**3.19**	**91**	⇑*i* P	**Pn**	**09 46 03.6**	**+2.1**		
MMB	**Musomiste**	**3.19**	**91**	⇑*i* P	**Pn**	**09 46 03.6**	**+2.1**		
NVR	**Nevrokopi**	**3.32**	**95**	*e*P	**Pn**	**09 46 03.5**	**+0.3**		
EVR	**Evrytania**	**3.32**	**147**	*e*P	**Pn**	**09 46 04.5**	**+1.2**		
FGSL	**Fruska Gora**	**3.45**	**4**	*e*Pn	**Pn**	**09 46 05.3**	**+0.4**		
FGSL				*e*Sn	**Sn**	**09 46 45.9**	**0.0**		
FRGS	**Fruska Gora**	**3.45**	**4**	*e*Pn	**Pn**	**09 46 05.3**	**+0.4**		
FRGS				*e*Sn	**Sn**	**09 46 45.9**	**0.0**		
BLY	**Banja Luka**	**3.46**	**332**	*e*Pn	**Pn**	**09 46 06.3**	**+1.2**		
BLY				*e*Sn	**Sn**	**09 46 46.6**	**+0.5**		
BLY	**Banja Luka**	**3.46**	**332**	*e*Pn	**Pn**	**09 46 06.3**	**+1.2**		
BLY				*e*Sn	**Sn**	**09 46 46.6**	**+0.5**		
AGG	**Agios Georgios**	**3.47**	**140**	*e*P	**Pn**	**09 46 06.5**	**+1.3**		
VLS	**Valsamata**	**3.64**	**166**	*e*P	**Pn**	**09 46 08.0**	**+0.4**		
BZS	**Buzias**	**4.20**	**21**	*e*Pn	**Pn**	**09 46 15.0**	**-0.2**		
BZS				*e*Sn	**Sn**	**09 47 02.7**	**-1.6**		
BZS	**Buzias**	**4.20**	**21**	⇑*i* P	**Pn**	**09 46 16.2**	**+1.0**		
BZS	**Buzias**	**4.20**	**21**	S	**Sn**	**09 47 05.0**	**+0.7**		
BZS	**Buzias**	**4.20**	**21**	*e*Pn	**Pn**	**09 46 15.0**	**-0.2**		
BZS	**Buzias**	**4.20**	**21**	⇑*i* P	**Pn**	**09 46 16.2**	**+1.0**		
BZS				*e*Sn	**Sn**	**09 47 02.7**	**-1.6**		
BZS				S	**Sn**	**09 47 05.0**	**+0.7**		
NVLJ	**Novalja**	**4.41**	**312**	*e*Pn	**Pn**	**09 46 17.9**	**-0.2**		
NVLJ				Sn	**Sn**	**09 47 08.1**	**-1.3**		
NVLJ	**Novalja**	**4.41**	**312**	*e*Pn	**Pn**	**09 46 17.8**	**-0.2**		
NVLJ				Sn	**Sn**	**09 47 08.1**	**-1.3**		
SIRR	**Siria**	**4.81**	**18**	⇑*i* P	**Pn**	**09 46 25.3**	**+1.6**		
SIRR	**Siria**	**4.81**	**18**	S	**Sn**	**09 47 19.9**	**+0.3**		
SIRR	**Siria**	**4.81**	**18**	⇑*i* P	**Pn**	**09 46 25.3**	**+1.6**		
SIRR				S	**Sn**	**09 47 19.9**	**+0.3**		
BOJS	**Bojanci**	**4.87**	**322**	*e*Pn	**Pn**	**09 46 24.7**	**+0.3**		
BOJS				*e*Sn	**Sn**	**09 47 19.4**	**-1.5**		
BOJS	**Bojanci**	**4.87**	**322**	*e*Pn	**Pn**	**09 46 24.7**	**+0.3**		
BOJS				*e*Sn	**Sn**	**09 47 19.4**	**-1.5**		
CEY	**Cerknica**	**5.43**	**319**	*e*Pn	**Pn**	**09 46 32.2**	**0.0**		
CEY	**Cerknica**	**5.43**	**319**	*e*Pn	**Pn**	**09 46 32.2**	**0.0**		

*IDC **18** 09:45:09.2±2.8,53°.74N×90°.94E, h0km, mb1 3.5/4, mb1mx3.3/32, mbtmp3.5/4, ML2.9/4, Error ellipse: s-maj=24.2km s-min=18.7km az=57.0*
*NNC **18** 09:45:14.7±1.7,53°.59N×90°.23E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=14.2km s-min=12.1km az=5.0*
ISC 18 09:45:12.7±4.0,**53°.8N**±0°.1×**90°.5E**±0°.2,**h10**km,**n9,**
σ1ᵗ13/14,5C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.38**	**275**	*i*		10 09 30.0	
	baz=89,slow=358,SNR=1.5						
ZALV	**Zalesovo Beam**	**3.38**	**275**	Pn	**Pn**	**09 46 06.9**	**+1.5**
	0.5nm,0.3s,baz=91,slow=13,SNR=20						
ZALV				Pg	**Pb**	**09 46 11.9**	**-0.7**
	2.2nm,0.3s,baz=92,slow=16,SNR=42						
ZALV				Lg	Lg	09 47 02.2	
	5.8nm,0.3s,baz=90,slow=25,SNR=13						
KURK	**Kurchatov**	**7.92**	**252**	⇓Pn	**Pn**	**09 47 08.0**	**+0.2**
	4.5nm,0.9s						
KURK				⇓Sn	**Sn**	**09 48 37.2**	**-0.1**
	9.9nm,0.8s						
KURK				⇑Lg	Lg	09 49 18.2	
	37nm,1.0s						
KURBB	**Kurchatov Arra**	**8.01**	**252**	⇓Pn	**Pn**	**09 47 08.8**	**-0.2**
	11nm,0.8s						
KURBB				⇓Sn	**Sn**	**09 48 39.2**	**-0.4**
	30nm,0.8s						
KURBB				⇑Lg	Lg	09 49 23.2	
	43nm,0.8s						
KURBB	**Kurchatov Arra**	**8.01**	**252**	Pn	**Pn**	**09 47 09.4**	**+0.3**
	0.6nm,0.3s,baz=66,slow=15,SNR=18						
KURBB				Sn	**Sn**	**09 48 42.3**	**+2.6**
	0.3nm,0.3s,baz=66,slow=26,SNR=11						
KURBB				Lg	Lg	09 49 31.2	
	0.6nm,0.3s,baz=66,slow=32,SNR=8.5						
MK31	**Makanchi Array**	**8.75**	**220**	Pn	**Pn**	**09 47 19.1**	**-0.1**
	0.8nm,0.6s,baz=39,slow=11,SNR=14						
MK31				⇑Pg	Pg	09 47 50.9	-9.2
	5.2nm,0.8s,baz=41,slow=13,SNR=6.0						
MK31				⇑Sn	**Sn**	**09 48 56.5**	**-1.4**
	8.9nm,1.1s,baz=41,slow=25,SNR=4.0						
MK31				⇑Lg	Lg	09 49 44.1	
	30nm,1.1s,baz=39,slow=33,SNR=5.6						

MKAR	**Makanchi Array**	**8.75**	**220**	Pn	**Pn**	**09 47 19.6**	**+0.4**		
	0.3nm,0.3s,baz=41,slow=14,SNR=20								
MKAR				Sn	**Sn**	**09 48 58.9**	**+1.0**		
	0.3nm,0.3s,baz=31,slow=19,SNR=6.7								
MKAR				Lg	Lg	09 49 47.5			
	0.2nm,0.3s,baz=30,slow=26,SNR=5.2								
SONM	**Songino Array**	**11.67**	**114**	Lg	Lg	09 51 05.0			
	0.2nm,0.3s,baz=295,slow=26,SNR=9.3								
BVAR	**Borovoye Array**	**12.03**	**275**	Pn	**Pn**	**09 48 03.1**	**-1.0**		
	0.1nm,0.3s,baz=64,slow=10,SNR=3.0								
BVAR				Sn	**Sn**	**09 50 18.0**	**-0.3**		
	0.1nm,0.3s,baz=85,slow=19,SNR=3.6								
BVAR				Lg	Lg	09 51 42.1			
	0.1nm,0.3s,baz=74,slow=21,SNR=2.0								

*ISCJB **18** 09:54:07.1±0.6, 14°.4N±0°.1×92°.39W±0°.06, h67km±17km, Error ellipse: s-maj=24.4km s-min=3.8km az=22.0*
*CASC **18** 09:54:09.4±1.2, 14°.47N×92°.24W, h64km±16km, MD3.9, ML3.7*
*MEX **18** 09:54:09.7±0.3, 14°.31N×92°.47W, h14km±12km, MD4.2*
ISC 18 09:54:08.4±1.4,**14°.4N**±0°.1×**92°.37W**±0°.07,**h57**km±21km,
n20,σ0ˢ56/30,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.52**	**11**	*i* P	**Pn**	**09 54 19.9**	**-0.4**
THIG				*e*S	**Sn**	**09 54 28.9**	**0.0**
JAT	**Jato**	**0.71**	**96**	⇓*e*P	**Pn**	**09 54 23.3**	**+0.7**
PCIG		**1.54**	**328**	*i* P	**Pn**	**09 54 33.7**	**+0.1**
PCIG				*e*S	**Sn**	**09 54 52.1**	**-0.4**
PCG	**Pacaya**	**1.71**	**90**	*e*P	**Pn**	**09 54 36.2**	**+0.2**
PCG				*e*S	**Sn**	**09 54 56.3**	**-0.7**
NBG	**Las Nubes**	**1.97**	**84**	*e*P	**Pn**	**09 54 40.7**	**+1.0**
RBDL	**Robledal**	**2.62**	**96**	*e*P	**Pn**	**09 54 47.7**	**-0.7**
RBDL				*e*S	**Sn**	**09 55 19.1**	**0.0**
MRL	**Marmol**	**2.67**	**75**	*e*P	**Pn**	**09 54 49.0**	**-0.2**
RTR	**El Retiro**	**2.69**	**100**	*e*P	**Pn**	**09 54 49.4**	**0.0**
SBLS	**San Blas**	**2.72**	**101**	*e*P	**Pn**	**09 54 49.9**	**0.0**
SNJE	**San Jose**	**2.73**	**101**	*e*P	**Pn**	**09 54 49.8**	**-0.3**
BOQS	**Boqueron**	**3.07**	**102**	*e*P	**Pn**	**09 54 54.4**	**-0.2**
BOQS				*e*S	**Sn**	**09 55 29.9**	**-0.4**
SNET	**Serv Nac Est T**	**3.12**	**103**	*e*P	**Pn**	**09 54 55.9**	**+0.6**
SNET				*e*S	**Sn**	**09 55 31.1**	**-0.4**
SNET				AML	AML	09 55 47.1	
	comp=Z,379nm,0.3s						
LFU	**La Fuente**	**3.22**	**101**	*e*P	**Pn**	**09 54 56.2**	**-0.5**
LBRS	**Las Brisas**	**3.29**	**101**	*e*P	**Pn**	**09 54 57.2**	**-0.4**
LFRS	**El Faro**	**3.30**	**103**	*e*P	**Pn**	**09 54 58.2**	**+0.5**
SNVI	**San Vicente**	**3.51**	**102**	*e*P	**Pn**	**09 55 01.5**	**+0.8**
SNVI				*e*S	**Sn**	**09 55 41.5**	**+0.3**
HUIG	**Huatulco**	**3.86**	**291**	*i* P	**Pn**	**09 55 05.5**	**+0.2**
HUIG				*e*S	**Sn**	**09 55 48.9**	**-0.6**
VHO	**Vista Hermosa**	**4.97**	**303**	*i* P	**Pn**	**09 55 21.9**	**+1.1**
VHO				*i* S	**Sn**	**09 56 18.0**	**+0.9**
PNIG	**Pinotepa**	**5.90**	**290**	*i* P	**Pn**	**09 55 33.2**	**-0.1**
PNIG				*i* S	**Sn**	**09 56 39.0**	**-0.6**
COPN	**Copaltepe**	**6.04**	**111**	*e*P	**Pn**	**09 55 36.0**	**+0.7**

IDC 18 10:11:37.2±2.7,**54°.23N**×**86°.06E, h0**km,**mb1 2.6**/2,
mb1mx2.6/30,**mbtmp2.6**/2,**ML2.6**/2,**Error ellipse:**
s-maj=19.9km s-min=11.8km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**250**	*i*		10 16 20.0	
	baz=67,slow=353,SNR=5.5						
ZALV	**Zalesovo Beam**	**0.78**	**250**	Pg	Pg	10 11 50.5	-1.8
	0.5nm,0.3s,baz=66,slow=14,SNR=6.1						
ZALV				Lg	Lg	10 12 04.0	
	0.9nm,0.3s,baz=73,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**5.85**	**235**	Pn	Pn	10 13 06.6	+1.5
	0.1nm,0.3s,baz=50,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**7.82**	**199**	Pn	Pn	10 13 33.2	+1.0
	0.1nm,0.3s,baz=16,slow=11,SNR=6.4						

*IDC **18** 10:13:54.1±1.4, 9°.12S×112°.61E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/42, mbtmp3.8/7, Error ellipse: s-maj=100.0km s-min=17.1km az=50.0*
*ISCJB **18** 10:14:00.4±0.4, 9°.52S±0°.05×112°.66E±0°.04, h33km, mb3.8/7, Error ellipse: s-maj=7.1km s-min=4.5km az=26.0*
*DJA **18** 10:14:04.4±1.0, 9°S±17°×11°3E±°, h57km±25km, M4.1/11, MLv4.1/11*
ISC 18 10:14:01.4±0.7,**9°.44S**±0°.08×**112°.68E**±0°.04,**h35**km,**n31,**
σ1ᵗ64/30,mb3.8/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**1.30**	**350**	P	x	10 14 23.6	
GMJI	**Gumukmas**	**1.39**	**33**	P	**Pn**	**10 14 23.9**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.74**	**56**	P	**Pn**	**10 14 29.6**	**+0.4**
JAGI	**Jajag, Banyuwa**	**1.74**	**56**	P	**Pn**	**10 14 29.4**	**+0.2**
	baz=2.0,SNR=195						
BLJI	**Banyuglugur**	**1.91**	**28**	P	**Pn**	**10 14 32.7**	**+1.2**
PCJI	**Pacitan**	**1.94**	**310**	P	**Pn**	**10 14 32.9**	**+1.0**
ABJI	**Asem Bagus**	**2.24**	**43**	P	**Pn**	**10 14 38.1**	**+2.0**
NGJI	**Ngawi**	**2.39**	**330**	P	**Pn**	**10 14 35.8**	**-2.3**
UGM	**Wanagama**	**2.62**	**305**	P	**Pn**	**10 14 42.6**	**+1.3**
	baz=2.4,SNR=57						
UGM				S	**Sn**	**10 15 12.9**	**+0.9**
	baz=2.4,SNR=6.3						
SRBI	**Singaraja**	**2.84**	**62**	P	**Pn**	**10 14 45.7**	**+1.4**
KHKI	**Kahang-Kahang**	**3.08**	**70**	P	x	10 14 48.4	
BJII	**Banjamsegara**	**3.61**	**305**	P	x	10 14 57.7	
CISI	**Cisompet, Garu**	**5.17**	**291**	P	**Pn**	**10 15 17.5**	**+1.1**
	baz=4.9,SNR=5.4						
CISI				S	**Sn**	**10 16 12.9**	**-2.0**
	baz=4.9,SNR=6.5						
XMI	**Christmas Isla**	**6.96**	**261**	P	**Pn**	**10 15 41.5**	**+0.5**
	baz=6.7,SNR=8.7						
XMI				S	Sn	10 16 53.3	-5.8
	baz=6.7,SNR=4.8						
XMIS	**Christmas Isla**	**7.00**	**261**	P	**Pn**	**10 15 41.9**	**+0.3**
	baz=6.7,SNR=22						
XMIS				S	Sn	10 16 50.6	-9.4
	baz=6.7,SNR=5.7						
SOEI	**Soe**	**11.43**	**93**	P	**Pn**	**10 16 44.0**	**+1.7**
	baz=12,SNR=7.7						
GIRL	**Giralia**	**13.21**	**174**	P	**Pn**	**10 17 07.2**	**+0.7**
	baz=13,SNR=3.4						
GIRL				S	Sn	10 19 27.0	-5.3
	baz=13,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.23**	**126**	P	**Pn**	**10 17 33.1**	**-1.0**
	baz=16,SNR=6.5						
FITZ				S	Sn	10 20 08.2	-14
	baz=16,SNR=4.9						
KNRA	**Kunumurra**	**16.87**	**113**	P	**Pn**	**10 17 56.0**	**+1.1**
	baz=17,SNR=6.0						
MEEK	**Meekatharra**	**18.00**	**163**	P	**Pn**	**10 18 10.6**	**+1.6**
	baz=18,SNR=7.1						
MEEK				S	Sn	10 21 16.3	-13
	baz=18,SNR=7.2						
MTN	**Manton Dam**	**18.41**	**102**	P	**Pn**	**10 18 17.3**	**+3.2**
	baz=19,SNR=9.0						
MTN				S	**Sn**	**10 21 35.5**	**-3.4**
	baz=19,SNR=4.5						
FAKI	**Fak Fak**	**20.49**	**73**	P	**P**	**10 18 35.6**	**-1.0**
	baz=21,SNR=5.7						
FAKI				S	Sn	10 22 29.8	+0.6
	baz=21,SNR=3.8						
WRKA	**Warakurna**	**21.48**	**138**	P	**P**	**10 18 48.2**	**+1.1**
	baz=22,SNR=14						
WRKA				S	**S**	**10 22 40.3**	**-3.3**
	baz=22,SNR=9.8						
WRA	**Warramunga Arr**	**23.37**	**119**	P	**P**	**10 19 05.6**	**-1.5**
	0.4nm,0.4s,baz=291,slow=11,SNR=9.1						
WRA				PcP	**PcP**	**10 22 51.8**	**-1.6**
	0.5nm,0.7s,baz=305,slow=2.0,SNR=4.8						
ASAR	**Alice Springs**	**24.72**	**127**	P	**P**	**10 19 19.7**	**0.0**
	1.4nm,0.5s,baz=304,slow=9.2,SNR=35						
ASAR				PcP	**PcP**	**10 22 55.2**	**-1.1**
	0.4nm,0.5s,baz=309,slow=1.9,SNR=6.4						
STKA	**Stephens Creek**	**34.87**	**134**	P	**P**	**10 20 50.3**	**+0.7**
	3.7nm,0.7s,baz=311,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**34.87**	**134**	P	**P**	**10 20 50.5**	**+0.9**
	baz=35,SNR=8.6						
MKAR	**Makanchi Array**	**62.21**	**337**	P	P	10 24 15.8	-3.6
	0.7nm,0.4s,baz=153,slow=7.8,SNR=11						
KURBB	**Kurchatov Arra**	**66.77**	**337**	P	P	10 24 45.3	-3.9
	0.3nm,0.5s,baz=145,slow=5.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**67.41**	**343**	P	P	10 24 48.0	-5.1
	0.3nm,0.3s,baz=164,slow=6.0,SNR=3.5						
AKTO	**Aktyubinsk**	**76.14**	**327**	P	P	10 25 42.1	-3.6
	0.6nm,0.6s,baz=50,slow=6.0,SNR=4.1						

*IDC **18** 10:18:02.8±1.0, 9°.57S×113°.99E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.8/42, mbtmp4.0/13, Error ellipse: s-maj=51.8km s-min=15.7km az=51.0*
*ISCJB **18** 10:18:04.9±0.5, 9°.80S±0°.05×113°.74E±0°.06, h31km, mb4.0/15, Error ellipse: s-maj=8.7km s-min=7.0km az=9.6*
*NEIC **18** 10:18:08.3±1.1, 9°.72S×113°.91E, h42km±9km, mb4.3/2, Error ellipse: s-maj=14.7km s-min=5.6km az=63.0*
*DJA **18** 10:18:08.7±0.9, 10°S±6°×11°4E±°, h10km, M4.4/4, MLv4.4/4*
ISC 18 10:18:07.2±0.6,**9°.68S**±0°.06×**113°.91E**±0°.06,**h31**km,**n41,**
σ0ˢ68/43,mb4.1/15,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.23**	**11**	P	**Pb**	**10 18 29.6**	**-0.3**
JAGI				S	**Sb**	**10 18 46.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.23**	**11**	*e*Pn	**Pb**	**10 18 29.6**	**-0.3**
JAGI				*e*Sn	**Sn**	**10 18 43.8**	**0.0**
NBBI	**Negara**	**1.48**	**28**	P	x	10 18 35.1	
DNP	**Denpasar**	**1.63**	**52**	P	**Pb**	**10 18 35.5**	**-1.1**
DNP				S	**Sb**	**10 18 56.8**	**+0.1**
BLJI	**Banyuglugur**	**1.95**	**351**	P	**Pb**	**10 18 42.3**	**+0.2**
SRBI	**Singaraja**	**2.04**	**39**	P	**Pb**	**10 18 41.7**	**-2.0**
KRKI	**Karangkates**	**2.09**	**316**	P	x	10 18 44.7	
MTNI	**Mataram**	**2.46**	**65**	P	x	10 18 46.8	
PWJI	**Pagerwojo**	**2.66**	**308**	S	**Sb**	**10 19 24.6**	**-1.7**
KAPI	**Kappang**	**7.42**	**52**	Pn	**Pn**	**10 19 54.6**	**+1.2**
MBWA	**Marble Bar**	**12.71**	**155**	Pn	**Pn**	**10 21 06.0**	**0.0**
WRA	**Warramunga Arr**	**22.20**	**120**	P	**P**	**10 23 00.8**	**-0.4**
WRA	**Warramunga Arr**	**22.20**	**120**	P	**P**	**10 23 00.8**	**-0.4**
	0.7nm,0.5s,baz=294,slow=12,SNR=12						
WRAB	**Tennant Creek**	**22.21**	**120**	*e*P	**P**	**10 23 00.9**	**-0.3**
	18nm,1.8s						
AS31	**Alice Springs**	**23.62**	**129**	*e*P	**P**	**10 23 15.5**	**-0.4**
ASAR	**Alice Springs**	**23.62**	**129**	P	**P**	**10 23 15.2**	**-0.6**
ASAR				PcP	**PcP**	**10 27 01.4**	**+1.1**
ASAR	**Alice Springs**	**23.62**	**129**	P	**P**	**10 23 15.2**	**-0.6**
	1.1nm,0.7s,baz=302,slow=8.8,SNR=15						
ASAR				PcP	**PcP**	**10 27 01.4**	**+1.1**
	0.3nm,0.6s,baz=286,slow=1.3,SNR=4.3						
STKA	**Stephens Creek**	**33.84**	**135**	P	**P**	**10 24 47.6**	**+0.6**
STKA	**Stephens Creek**	**33.84**	**135**	P	**P**	**10 24 47.6**	**+0.6**
	1.5nm,0.6s,baz=308,slow=12,SNR=6.1						
USRK	**Ussuriysk Arra**	**56.08**	**16**	P	**P**	**10 27 42.4**	**-1.0**
	1.6nm,0.8s,baz=217,slow=7.2,SNR=5.1						
SONM	**Songino Array**	**57.65**	**354**	P	**P**	**10 27 54.7**	**+0.1**
SONM	**Songino Array**	**57.65**	**354**	P	**P**	**10 27 54.7**	**+0.1**
	2.1nm,0.4s,baz=172,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**62.91**	**336**	P	**P**	**10 28 30.7**	**+0.2**
**MKA

JSJ	**Shimokoshiki**	**8.74**	**292**	P	P	11 09 34.3	+5.6
KSRS	**Korea Array**	**12.85**	**315**	P	**P**	**11 10 16.8**	**+3.0**
	0.2nm,0.3s,baz=128,slow=10,SNR=18						
USRK	**Ussuriysk Arra**	**16.47**	**341**	P	**P**	**11 10 54.7**	**+2.1**
	0.5nm,0.3s,baz=160,slow=11,SNR=15						
SONM	**Songino Array**	**31.72**	**316**	P	**P**	**11 13 13.6**	**+1.2**
	4.4nm,0.6s,baz=129,slow=8.9,SNR=23						
SEY	**Seymchan**	**35.24**	**10**	P	**P**	**11 13 42.5**	**+0.5**
	1.1nm,0.7s,baz=13,slow=22,SNR=6.0						
TAPN	**Taplejung**	**45.20**	**281**	*eP*	**P**	**11 15 04.2**	**+0.8**
	3.8nm,0.4s						
ODAN	**Odare**	**45.60**	**281**	*eP*	**P**	**11 15 07.2**	**+0.8**
	9.9nm,0.3s						
RAMN	**Ramite**	**46.26**	**281**	*eP*	**P**	**11 15 12.4**	**+1.0**
	8.5nm,0.5s						
JIRN	**Jiri**	**46.44**	**282**	*eP*	**P**	**11 15 14.1**	**+1.2**
	20nm,0.6s						
ZALV	**Zalesovo Beam**	**46.53**	**319**	P	**P**	**11 15 12.3**	**-0.4**
	1.3nm,0.5s,baz=100,slow=6.6,SNR=9.4						
GUN	**Gumba**	**46.64**	**282**	*eP*	**P**	**11 15 15.6**	**+1.2**
	37nm,0.8s						
PKI	**Pulchoki**	**47.13**	**282**	*eP*	**P**	**11 15 18.5**	**+0.4**
PKIN	**Phulchoki**	**47.14**	**282**	*eP*	**P**	**11 15 18.1**	**0.0**
	5.5nm,0.4s						
KKN	**Kakani**	**47.18**	**282**	*eP*	**P**	**11 15 18.9**	**+0.5**
MKAR	**Makanchi Array**	**47.41**	**309**	P	**P**	**11 15 19.9**	**+0.2**
	3.1nm,0.7s,baz=93,slow=9.0,SNR=30						
MKAR				ScP	**ScP**	**11 19 50.1**	**-5.2**
	0.6nm,0.7s,baz=72,slow=5.4,SNR=4.5						
GKN	**Gorkha**	**47.68**	**283**	*eP*	**P**	**11 15 22.9**	**+0.8**
DANN	**Dangsing**	**48.34**	**284**	*eP*	**P**	**11 15 28.3**	**+1.0**
	7.0nm,0.2s						
KOLN	**Koldanda**	**48.63**	**283**	*eP*	**P**	**11 15 29.9**	**+0.6**
	14nm,0.7s						
WRA	**Warramunga Arr**	**48.64**	**186**	P	**P**	**11 15 28.1**	**-1.1**
	0.9nm,0.4s,baz=2.6,slow=7.8,SNR=30						
ASAR	**Alice Springs**	**52.37**	**186**	P	**P**	**11 15 55.5**	**-1.1**
	0.2nm,0.3s,baz=4.1,slow=7.8,SNR=8.6						
ILAR	**Eielson Array**	**57.53**	**29**	P	**P**	**11 16 30.6**	**-1.8**
	0.6nm,0.8s,baz=245,slow=5.1,SNR=8.9						
YKA	**Yellowknife Ar**	**71.92**	**28**	P	**P**	**11 18 02.7**	**-1.3**
	1.1nm,0.6s,baz=296,slow=5.9,SNR=24						
KBZ	**Khabaz**	**74.97**	**312**	P	**P**	**11 18 22.1**	**+0.3**
	3.3nm,0.8s,baz=180,slow=6.1,SNR=6.1						
FINES	**FINESS Array B**	**75.30**	**333**	P	**P**	**11 18 22.2**	**-1.2**
	1.0nm,0.6s,baz=72,slow=6.2,SNR=7.1						
NVAR	**Mina Array Bea**	**81.52**	**51**	P	**P**	**11 18 57.0**	**-0.7**
	1.5nm,0.7s,baz=293,slow=5.9,SNR=8.7						
BRTR	**Keskin Array B**	**82.96**	**312**	P	**P**	**11 19 04.7**	**-0.3**
	0.4nm,0.5s,baz=47,slow=6.3,SNR=2.5						
PDAR	**Pinedale Array**	**84.84**	**44**	P	**P**	**11 19 13.6**	**-0.9**
	0.7nm,1.0s,baz=280,slow=2.9,SNR=4.5						
TXAR	**Lajitas Array**	**96.66**	**52**	P	**P**	**11 20 08.2**	**-1.2**
	0.3nm,0.7s,baz=318,slow=2.7,SNR=3.9						
PLCA	**Paso Flores**	**152.89**	**124**	PKPbc	**PKPbc**	**11 26 32.0**	**-1.6**
	2.3nm,1.1s,baz=281,slow=8.4,SNR=3.0						

*ISCJB **18** 11:19:34.4±1.7,34°.1S±0°.3×70°.9W±0°.4,h98km,mb3.9/3, Error ellipse: s-maj=63.3km s-min=17.8km az=39.1*

*IDC **18** 11:19:35.5±5.6,34°.07S×70°.50W,h78km±44km,mb3.9/3, mb1 3.7/4,mb1mx3.5/22,mbtmp4.0/4,ML3.0/1,MS1.5/1, Ms1 1.5/1,ms1mx1.5/24,Error ellipse: s-maj=72.2km s-min=46.2km az=132.0*

ISC 18 11:19:37.1±1.5,34°.0S±0°.3×70°.7W±0°.4,h98km,n6,σ2s06/7, mb4.2/3,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.17**	**41**	P	**Pn**	**11 20 22.4**	**-2.8**
	1.8nm,0.3s,baz=321,slow=12,SNR=62						
CFAA				S	**Sn**	**11 21 05.0**	**+2.8**
	1.9nm,0.3s,baz=221,slow=20,SNR=8.9						
CFAA				LR	LR	11 21 58.3	
	comp=Z,7.1nm,18.6s,slow=46						
PTGA	**Pitinga**	**34.62**	**19**	P	**P**	**11 26 17.2**	**+0.3**
	1.7nm,0.6s,baz=335,slow=23,SNR=4.2						
DBIC	**Dimbokro**	**74.12**	**70**	P	**P**	**11 31 03.0**	**0.0**
	2.3nm,0.6s,baz=193,slow=5.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**83.16**	**69**	P	**P**	**11 31 52.9**	**+0.2**
	0.7nm,0.7s,baz=245,slow=5.3,SNR=4.9						
ASAR	**Alice Springs**	**118.04**	**206**	PKP	**PKPdf**	**11 38 14.0**	**+1.0**
	0.1nm,0.4s,baz=130,slow=1.6,SNR=6.3						
WRA	**Warramunga Arr**	**121.27**	**208**	PKP	**PKPdf**	**11 38 19.9**	**+0.6**
	0.5nm,0.5s,baz=154,slow=1.6,SNR=17						

IDC 18 11:33:08.9±333.0,64°.50N×40°.54E,h0km,Error ellipse: s-maj=166.4km s-min=126.3km az=25.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**7.98**	**193**	*i*		12 23 50.0	
	baz=4.8,slow=340,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**16.88**	**139**	*i*		13 17 01.6	
	baz=334,slow=334,SNR=2.9						
I46RU	**ZALESOVO INFRA**	**24.45**	**94**	*i*		14 00 47.4	
	baz=314,slow=345,SNR=1.0						
I18DK	**QAANAAQ INFRASO**	**24.04**	**337**	*i*		14 52 00.0	
	baz=43,slow=342,SNR=0.4						

*IDC **18** 11:35:15.9±0.7,43°.77N×86°.85E,h0km,mb3.8/10, mb1 4.0/15,mb1mx3.8/35,mbtmp3.9/15,ML3.7/5,MS3.0/4, Ms1 3.1/4,ms1mx2.7/42,Error ellipse: s-maj=21.0km s-min=11.2km az=46.0*

*ISCJB **18** 11:35:18.5±0.3,43°.85N±0°.04×86°.63E±0°.04,h30km, mb3.9/12,MS3.5/1,Error ellipse: s-maj=6.3km s-min=3.7km az=27.8*

*BJI **18** 11:35:18.8,43°.78N×86°.71E,h7km,mb4.1/5,ML3.8/9, Ms3.6/1*

*MOS **18** 11:35:18.6±1.3,43°.84N×86°.72E,h30km,mb4.2/7,Error ellipse: s-maj=14.6km s-min=8.3km az=116.6*

*NNC **18** 11:35:19.6±1.5,43°.90N×86°.52E,h0km,mb4.0,mpv3.9, Error ellipse: s-maj=13.5km s-min=9.1km az=87.0*

*NEIC **18** 11:35:21.0±0.5,43°.86N×86°.84E,h35km,mb4.1/1,Error ellipse: s-maj=11.3km s-min=7.6km az=215.0*

ISC 18 11:35:20.6±0.5,43°.83N±0°.06×86°.70E±0°.04,h30km,n69, σ1s76/81,mb4.0/12,12C-15D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.72**	**91**	Pg	**Pb**	**11 35 34.0**	**-0.7**
WMQ				Sg	**Sb**	**11 35 44.5**	**+0.1**
WMQ				smax	smax		
	comp=N,2μm,0.8s						
WMQ				smax	smax		
	comp=E,2μm,0.5s						
MK31	**Makanchi Array**	**4.29**	**315**	Pn	**Pn**	**11 36 25.6**	**+1.8**
	3.3nm,0.3s,baz=132,slow=14,SNR=194						
MK31				⇓Pg	**Pb**	**11 36 35.2**	**-0.2**
	6.6nm,0.4s,baz=128,slow=16,SNR=6.1						
MK31				⇑Sn	**Sn**	**11 37 15.3**	**+2.3**
	22nm,0.4s,baz=123,slow=18,SNR=4.6						
MK31				⇓Lg	Lg	11 37 31.3	
	94nm,0.7s,baz=136,slow=28,SNR=9.8						
MK31	**Makanchi Array**	**4.29**	**315**	*eP*	**Pn**	**11 36 25.7**	**+1.8**
MK31				*e*		11 37 12.7	
MK31	**Makanchi Array**	**4.29**	**315**	*ePn*	**Pn**	**11 36 25.7**	**+1.8**
MK31				*eSn*	**Sn**	**11 37 12.7**	**-0.3**
MKAR	**Makanchi Array**	**4.29**	**315**	P	**Pn**	**11 36 26.2**	**+2.3**
MKAR						11 37 16.8	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR				smax	smax		
	comp=N,18nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,15nm,28.6s						
MKAR	**Makanchi Array**	**4.29**	**315**	Pn	**Pn**	**11 36 26.2**	**+2.3**
MKAR				Sn	**Sn**	**11 37 16.8**	**+3.8**
MKAR				Lg	Lg	11 37 34.7	
MKAR	**Makanchi Array**	**4.29**	**315**	Pn	**Pn**	**11 36 26.2**	**+2.3**
	comp=Z,4.5nm,0.3s,baz=122,slow=15,SNR=198						
MKAR				Sn	**Sn**	**11 37 16.8**	**+3.8**
	comp=Z,18nm,0.3s,baz=128,slow=18,SNR=6.2						
MKAR				Lg	Lg	11 37 34.7	
	comp=Z,20nm,0.3s,baz=133,slow=27,SNR=10						
MKAR				LR	LR	11 38 20.4	
	comp=Z,83nm,21.2s,baz=116,slow=42						
TKM2	**Tokmak 2**	**8.14**	**267**	⇓Pn	**Pn**	**11 37 18.0**	**+1.2**
	comp=Z,3.5nm,0.8s						
TKM2				⇓Sn	**Sn**	**11 38 49.4**	**+1.4**
	comp=Z,4.3nm,0.6s						
TKM2				⇑Lg	Lg	11 39 31.7	
	comp=Z,23nm,1.0s						
TKM2	**Tokmak 2**	**8.14**	**267**	*eP*	**Pn**	**11 37 18.1**	**+1.2**
TKM2				*e*		11 38 51.5	
TKM2	**Tokmak 2**	**8.14**	**267**	*ePn*	**Pn**	**11 37 18.1**	**+1.2**
TKM2				*eSn*	**Sn**	**11 38 51.5**	**+3.6**
HVS	**Khovu-Aksy**	**8.71**	**30**	P	**Pn**	**11 37 25.5**	**+1.0**
KURBB	**Kurchatov Arra**	**8.77**	**324**	⇓Pn	**Pn**	**11 37 25.7**	**+0.4**
	comp=Z,17nm,0.5s						
KURBB				⇑Sn	**Sn**	**11 39 04.3**	**+1.3**
	comp=Z,21nm,0.6s						
KURBB				⇑Lg	Lg	11 39 52.2	
	comp=Z,119nm,0.7s						
KURBB	**Kurchatov Arra**	**8.77**	**324**	Pn	**Pn**	**11 37 25.1**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=130,slow=13,SNR=45						
KURBB				Lg	Lg	11 39 51.5	
	comp=Z,1.8nm,0.3s,baz=162,slow=30,SNR=5.9						
KURK	**Kurchatov**	**8.80**	**324**	⇑Pn	**Pn**	**11 37 25.5**	**-0.2**
	comp=Z,4.7nm,0.5s						
KURK				⇑Sn	**Sn**	**11 39 04.8**	**+0.9**
	comp=Z,2.4nm,0.4s						
KURK				⇓Lg	Lg	11 39 54.1	
	comp=Z,16nm,0.6s						
KURK	**Kurchatov**	**8.80**	**324**	⇑*i*P	**Pn**	**11 37 25.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**8.80**	**324**	Pn	**Pn**	**11 37 25.1**	**-0.6**
KURK				Lg	Lg	11 39 51.5	
AAK	**Ala-Archa**	**8.99**	**267**	⇓Pn	**Pn**	**11 37 30.7**	**+2.2**
	comp=Z,2.2nm,0.9s						
AAK				⇑Lg	Lg	11 40 00.8	
	comp=Z,16nm,0.7s						
AAK	**Ala-Archa**	**8.99**	**267**	P	Pn	11 37 32.1	+3.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**8.99**	**267**	Pn	Pn	11 37 32.1	+3.5
AAK				Lg	Lg	11 40 05.4	
AAK	**Ala-Archa**	**8.99**	**267**	Pn	Pn	11 37 32.1	+3.5
	comp=Z,0.5nm,0.3s,baz=45,slow=6.7,SNR=6.0						
AAK				Lg	Lg	11 40 05.4	
	baz=287,slow=19,SNR=3.1						
KSH	**Kashi**	**9.11**	**245**	*eP*	**Pn**	**11 37 27.6**	**-2.5**
KSH				*es*P		11 37 35.1	
KSH				*e*S	Sn	11 39 05.3	-6.4
KSH				*es*S		11 39 09.9	
KSH				LR	LR		
	comp=N,180nm,6.4s						
KSH				LR	LR		
	comp=E,260nm,7.7s						
KSH				LR	LR		
	comp=Z,170nm,5.2s						
ZAA0	**Zalesovo Array**	**10.20**	**354**	*ePn*	**Pn**	**11 37 44.0**	**-0.8**
ZAA0				*e*Sn	**Sn**	**11 39 34.6**	**-3.4**
ZALV	**Zalesovo Beam**	**10.20**	**354**	P	**Pn**	**11 37 44.3**	**-0.6**
ZALV						11 39 36.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				smax	smax		
	comp=N,2.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,15nm,28.6s						
ZALV	**Zalesovo Beam**	**10.20**	**354**	Pn	**Pn**	**11 37 44.3**	**-0.6**
ZALV				Sn	**Sn**	**11 39 36.9**	**-1.1**
ZALV				Lg	Lg	11 40 44.4	
ZALV	**Zalesovo Beam**	**10.20**	**354**	Pn	**Pn**	**11 37 44.3**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=178,slow=14,SNR=63						
ZALV				Sn	**Sn**	**11 39 36.9**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=175,slow=24,SNR=6.0						
ZALV				Lg	Lg	11 40 44.4	
	baz=174,slow=30,SNR=2.3						
ZALV				LR	LR	11 42 27.8	
	comp=Z,52nm,19.4s,baz=62,slow=42						
GTA	**Gaotai**	**10.76**	**110**	*eP*	Pn	11 37 56.3	+3.5
GTA				*e*P		11 37 59.8	
GTA				*e*P		11 38 02.3	
GTA				S	**Sn**	**11 39 56.4**	**+4.2**
GTA				sS		11 40 00.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				LR	LR		
	comp=Z,140nm,8.6s						
GTA				LR	LR		
	comp=Z,160nm,8.6s						
KK31	**Karatay Array**	**11.79**	**272**	⇓Lg	Lg	11 41 28.1	
	comp=Z,3.9nm,0.8s						
ZAK	**Zakamensk**	**13.04**	**54**	*eP*	**P**	**11 38 35.4**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
VOSK	**Vostochnaya**	**13.71**	**316**	⇓Pn	**Pn**	**11 38 32.1**	**-0.8**
	comp=Z,2.7nm,0.8s						
BVA0	**Borovoye Array**	**14.18**	**316**	⇓Pn	**Pn**	**11 38 39.4**	**+0.2**
	comp=Z,7.4nm,1.5s,baz=122,slow=11,SNR=9.7						
BVA0				⇓Sn	**Sn**	**11 41 11.2**	**-4.1**
	comp=Z,3.1nm,0.8s,baz=117,slow=22,SNR=4.3						
BVA0				⇓Lg	Lg	11 42 44.0	
	comp=Z,12nm,1.1s,baz=114,slow=25,SNR=4.8						
BVAR	**Borovoye Array**	**14.18**	**316**	P	**Pn**	**11 38 37.8**	**-1.4**
BVAR						11 41 10.5	
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,15nm,28.6s						
BVAR	**Borovoye Array**	**14.18**	**316**	Pn	**Pn**	**11 38 37.8**	**-1.4**
BVAR				Sn	**Sn**	**11 41 10.5**	**-4.9**
BVAR				Lg	Lg	11 42 44.1	
BVAR	**Borovoye Array**	**14.18**	**316**	Pn	**Pn**	**11 38 37.8**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=119,slow=12,SNR=9.1						
BVAR				Sn	**Sn**	**11 41 10.5**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=105,slow=23,SNR=3.7						
BVAR				Lg	Lg	11 42 44.1	
	baz=117,slow=31,SNR=2.4						
BVAR				LR	LR	11 44 32.5	
	comp=Z,76nm,19.9s,baz=53,slow=39						
BRVK	**Borovoye**	**14.25**	**316**	⇓Pn	**Pn**	**11 38 39.5**	**-0.6**
	comp=Z,4.9nm,0.7s						
BRVK				⇑Sn	Sn	11 41 09.1	-7.9
	comp=Z,3.8nm,0.6s						
BRVK				⇓Lg	Lg	11 42 45.7	
	comp=Z,24nm,1.2s						
BRVK	**Borovoye**	**14.25**	**316**	⇑*eP*	**Pn**	**11 38 38.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BRVK	**Borovoye**	**14.25**	**316**	*ePn*	**Pn**	**11 38 38.9**	**-1.2**
SONM	**Songino Array**	**14.30**	**67**	Lg	Lg	11 42 50.3	
	baz=273,slow=31,SNR=3.0						
ULN	**Ulaanbaatar**	**14.74**	**67**	Pn	**Pn**	**11 38 46.5**	**-0.5**
CEP	**Cherat**	**15.23**	**234**	P	**Pn**	**11 38 51.1**	**-2.6**
THW	**Thamme Wali**	**16.07**	**232**	P	**Pn**	**11 39 02.9**	**-1.5**
AB31	**Akbulak array**	**19.14**	**296**	⇓Pn	**P**	**11 39 41.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=101,slow=11,SNR=25						
ABKAR	**Akbulak array**	**19.14**	**296**	*eP*	**P**	**11 39 41.0**	**-0.1**
AKTO	**Aktyubinsk**	**20.52**	**299**	⇑Pn	Pn	11 39 59.0	+0.5
	comp=Z,1.6nm,0.8s						
AKTO	**Aktyubinsk**	**20.52**	**299**	P	**P**	**11 39 55.9**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**20.52**	**299**	P	**P**	**11 39 55.9**	**-0.3**
AKTO	**Aktyubinsk**	**20.52**	**299**	P	**P**	**11 39 55.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=109,slow=9.5,SNR=6.6						
ARU	**Arti**	**21.82**	**315**	*c*P	**P**	**11 40 10.2**	**+0.1**
ARU				S	**S**	**11 44 11.5**	**+1.9**
ARU				pmax	pmax		
	comp=Z,16nm,2.5s						
CMAR	**Chiang Mai Arr**	**27.32**	**154**	P	**P**	**11 41 01.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**27.32**	**154**	P	**P**	**11 41 01.7**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=329,slow=8.6,SNR=4.4						
QIZ	**Qiongzhong**	**31.44**	**135**	P	**P**	**11 41 38.8**	**-0.5**
QIZ				S	**S**	**11 46 48.1**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,22nm,1.7s						
FINES	**FINESS Array B**	**39.12**	**318**	P	**P**	**11 42 46.2**	**+1.3**
FINES	**FINESS Array B**	**39.12**	**318**	P	**P**	**11 42 46.2**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=57,slow=7.0,SNR=5.9						
ARCES	**ARCESS Array B**	**39.77**	**331**	P	**P**	**11 42 50.8**	**+0.6**
ARCES	**ARCESS Array B**	**39.77**	**331**	P	**P**	**11 42 50.8**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=91,slow=9.1,SNR=4.4						
NOA	**NORSAR Array B**	**46.28**	**319**	P	**P**	**11 43 43.2**	**+0.2**
NOA	**NORSAR Array B**	**46.28**	**319**	P	**P**	**11 43 43.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=76,slow=8.2,SNR=2.7						
NOA				LR	LR	12 02 30.4	
	comp=Z,48nm,18.6s,baz=320,slow=35						
ILAR	**Eielson Array**	**63.93**	**23**	P	**P**	**11 45 50.5**	**+0.2**
ILAR	**Eielson Array**	**63.93**	**23**	P	**P**	**11 45 50.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=308,slow=5.1,SNR=16						
YKA	**Yellowknife Ar**	**72.65**	**10**	P	**P**	**11 46 45.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=339,slow=6.0,SNR=21						
WRAB	**Tennant Creek**	**77.01**	**134**	P	**P**	**11 47 09.3**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**77.01**	**134**	P	**P**	**11 47 09.3**	**-1.3**
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**77.01**	**134**	P	**P**	**11 47 09.9**	**-0.6**
WRA	**Warramunga Arr**	**77.01**	**134**	P	**P**	**11 47 09.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=332,slow=4.8,SNR=6.6						
COEN	**Coen**	**77.14**	**124**	*eP*	**P**	**11 47 09.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**77.45**	**276**	P	**P**	**11 47 12.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**77.45**	**276**	P	**P**	**11 47 12.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=45,slow=4.9,SNR=10						
ASAR	**Alice Springs**	**79.90**	**137**	P	**P**	**11 47 26.0**	**-0.5**
ASAR	**Alice Springs**	**79.90**	**137**	P	**P**	**11 47 26.0**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=327,slow=5.5,SNR=13						

*IDC **18** 11:46:17.7±0.9,48°.31S×106°.69E,h0km,mb4.2/9, mb1 4.4/9,mb1mx4.1/26,mbtmp4.2/9,MS4.7/9,Ms1 4.8/9, ms1mx4.5/15,Error ellipse: s-maj=33.5km s-min=17.9km az=112.0*

*GCMT **18** 11:46:19.3±0.2,48°.64S×106°.68E,h12km,MW5.3/104, Moment Tensor Solution. s66,c92; s104,c167; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.13±.02; Mθθ0.72±.02; Mϕϕ-0.85±.02; Mrθ-0.17±.04; Mθϕ0.56±.02; Mϕr-0.26±.04; Best double couple: M0 1.02000×10^17 NP1:ϕs206.00000°,δ85.00000°, λ162.00000°. NP2:ϕs298.00000°,δ72.00000°,λ5.00000°. Principal axes: T 0.9730, Plg16.0000°, Azm161.0000°; N 0.0930, Plg71.0000°, Azm13.0000°; P -1.0660, Plg10.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 11:46:19.3±0.4,48°.295×106°.60E,h10km,mb5.2/4 Error ellipse: s-maj=19.8km s-min=9.6km az=122.0*

ISC 18 11:46:20.8±0.6,48°.5S±0°.1×107°.1E±0°.2,h10km,n142, σ2s50/124,mb4.4/13,MS4.8/9,41C-40D,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.53**	**24**	T	T	12 04 52.8	
	baz=199,slow=74						
H01W1	**Cape Leeuwin H**	**14.54**	**24**	T	T	12 04 45.6	
	baz=199,slow=74						
H01W3	**Cape Leeuwin H**	**14.54**	**24**	T	T	12 04 49.9	
	baz=199,slow=74						
FORT	**Forrest**	**23.81**	**50**	*eP*	**P**	**11 51 34.3**	**+0.6**
	134nm,1.4s						
BBOO	**Buckleboo**	**26.78**	**65**	*eP*	**P**	**11 52 01.4**	**+0.6**
	742nm,1.3s						
MAW	**Mawson**	**29.29**	**213**	LR	LR	12 01 09.3	
	comp=Z,970nm,21.2s,baz=67,slow=30						
STKA	**Stephens Creek**	**30.82**	**70**	P	**P**	**11 52 36.9**	**+0.2**
STKA	**Stephens Creek**	**30.82**	**70**	P	**P**	**11 52 36.9**	**+0.2**
	2.2nm,0.8s,baz=222,slow=12,SNR=2.8						
STKA				LR	LR	12 02 52.6	
	comp=Z,3μm,21.2s,baz=228,slow=32						
ASAR	**Alice Springs**	**32.60**	**50**	P	**P**	**11 52 51.4**	**-1.1**
ASAR	**Alice Springs**	**32.60**	**50**	P	**P**	**11 52 51.4**	**-1.1**
	2.3nm,0.7s,baz=210,slow=7.2,SNR=21						
ASAR				LR	LR	12 04 29.4	
	comp=Z,2μm,21.7s,baz=207,slow=33						
AS31	**Alice Springs**	**32.60**	**50**	*eP*	**P**	**11 52 51.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**33.84**	**33**	*eP*	P	11 53 08.0	+4.8
	122nm,2.2s						
VNDA	**Vanda**	**35.72**	**162**	P	**P**	**11 53 19.3**	**+0.3**
VNDA	**Vanda**	**35.72**	**162**	P	**P**	**11 53 19.3**	**+0.3**
	6.4nm,1.0s,baz=288,slow=13,SNR=5.0						
VNDA				LR	LR	12 06 55.1	
	comp=Z,3μm,18.2s,baz=298,slow=34						
WRA	**Warramunga Arr**	**35.94**	**47**	P	**P**	**11 53 20.5**	**-0.9**
WRA	**Warramunga Arr**	**35.94**	**47**	P	**P**	**11 53 20.5**	**-0.9**
	5.8nm,0.8s,baz=209,slow=8.2,SNR=16						
WRA				LR	LR	12 06 35.1	
	comp=Z,2μm,20.8s,baz=220,slow=34						
WRAB	**Tennant Creek**	**35.95**	**47**	*eP*	**P**	**11 53 20.8**	**-0.6**
	26nm,1.0s						
QSPA	**South Pole Qui**	**41.68**	**180**	P	**P**	**11 54 08.9**	**-0.3**
QSPA	**South Pole Qui**	**41.68**	**180**	P	**P**	**11 54 08.9**	**-0.3**
	4.5nm,1.0s,baz=311,slow=3.4,SNR=6.6						
CTA	**Charters Tower**	**42.29**	**62**	P	**P**	**11 54 14.3**	**-0.2**
CTA	**Charters Tower**	**42.29**	**62**	P	**P**	**11 54 14.3**	**-0.2**
	6.5nm,0.9s,baz=241,slow=12,SNR=5.5						
CTAO	**Charters Tower**	**42.29**	**62**	*eP*	**P**	**11 54 16.1**	**+1.6**
	25nm,1.3s						
H08S2	**Diego Garcia H**	**50.06**	**313**	T	T	12 48 58.0	
	baz=155						
H08S1	**Diego Carcia H**	**50.07**	**313**	T	T	12 48 57.6	
	baz=155						
H08S3	**Diego Garcia H**	**50.08**	**313**	T	T	12 48 59.5	
	baz=155						
SNAA	**Sanae**	**50.49**	**203**	*eP*	**P**	**11 55 17.1**	**-1.2**
SNAA	**Sanae**	**50.49**	**203**	P	**P**	**11 55 16.9**	**-1.5**
	2.1nm,1.0s,baz=131,slow=12,SNR=4.7						
PMG	**Port Moresby**	**51.

	baz=147							
SHPR	**Sheep Range**	147.05	95	*e*PKPbc	PKPbc	12 06 04.6	+1.0	
TUC	**Tucson**	147.35	106	*e*PKPdf	PKPdf	12 06 01.7	-0.3	
SCO	**Scoresbysund**	147.53	331	*i* P	PKPab	12 06 05.7	-0.1	
319A	**Douglas**	147.69	108	⇓P	PKPbc	12 06 04.8	-0.6	
	baz=148							
R11A	**Troy Canyon, C**	147.78	92	⇑P	PKPab	12 06 12.0	+4.0	
	baz=148							
320A	**Kipp Ranch, An**	148.14	109	⇓P	PKPbc	12 06 06.8	+0.1	
	baz=148							
X16A	**Lo Mia Camp, P**	148.26	102	⇓P	PKPab	12 06 11.1	+1.0	
	baz=149,SNR=7.9							
U15A	**North Rim**	148.90	98	⇑P	PKPab	12 06 13.5	+0.8	
	baz=149							
WUAZ	**Wupatki**	148.97	100	*e*PKPbc	PKPbc	12 06 07.4	-1.3	
WUAZ	**Wupatki**	148.97	100	⇑P	PKPab	12 06 13.1	+0.3	
	baz=149							
221A	**Mesquite Ranch**	149.07	109	⇓P	PKPbc	12 06 10.8	+1.8	
	baz=150							
X18A	**Snowflake**	149.30	103	⇑P	PKPab	12 06 13.2	-1.1	
	baz=150,SNR=7.6							
121A	**Cookes Peak, D**	149.41	108	⇓P	PKPbc	12 06 12.4	+2.5	
	baz=150							
626A	**Big Bend Ranch**	149.58	117	⇓P	PKPbc	12 06 12.0	+1.7	
	baz=150,SNR=9.3							
TXAR	**Lajitas Array**	149.69	118	PKPbc	PKPbc	12 06 09.2	-1.4	
TXAR				PKPab	PKPab	12 06 14.2	-1.7	
TXAR	**Lajitas Array**	149.69	118	PKPbc	PKPbc	12 06 09.2	-1.4	
	5.8nm,0.9s,baz=204,slow=2.7,SNR=12							
TXAR				PKPab	PKPab	12 06 14.2	-1.7	
	5.9nm,0.9s,baz=191,slow=4.3,SNR=34							
627A	**Terlingua Ranc**	149.94	118	⇓P	PKPbc	12 06 12.2	+0.9	
	baz=150,SNR=6.8							
425A	**Indio Mountain**	149.95	114	⇑P	PKPbc	12 06 12.2	+0.9	
	baz=150,SNR=6.6							
526A	**Mary Lane Ranc**	149.97	116	⇓P	PKPbc	12 06 12.9	+1.6	
	baz=150,SNR=7.3							
628A	**Black Gap, Mar**	150.26	119	⇑P	PKPbc	12 06 13.6	+1.6	
	baz=151,SNR=5.4							
527A	**Woodward Ranch**	150.32	117	⇑P	PKPbc	12 06 13.7	+1.5	
	baz=151,SNR=7.8							
MNTX	**Cornudas Mount**	150.35	112	*e*PKPbc	PKPbc	12 06 10.2	-1.9	
Z22A	**Elephant Butte**	150.41	108	⇑P	PKPbc	12 06 15.5	+3.2	
	baz=151,SNR=7.0							
426A	**McDonald Obser**	150.44	116	⇑P	PKPbc	12 06 14.1	+1.6	
	baz=151,SNR=7.8							
DUG	**Dugway**	150.58	91	*e*PKPbc	PKPbc	12 06 11.1	-1.4	
034A	**Hebbronville**	150.74	128	⇓P	PKPbc	12 06 13.9	+0.9	
	baz=151							
528A	**Cox Ranch, San**	150.82	118	⇑P	PKPbc	12 06 15.4	+2.1	
	baz=151,SNR=5.6							
933A	**Laredo**	150.86	126	⇓P	PKPbc	12 06 15.0	+1.7	
	baz=151							
Z23A	**Rita Site, Whi**	150.87	109	⇓P	PKPbc	12 06 17.2	+3.8	
	baz=151,SNR=5.5							
326A	**Caldwell Ranch**	150.94	115	⇓P	PKPbc	12 06 15.5	+2.0	
	baz=151							
427A	**Hayter Ranch,**	150.95	116	⇑P	PKPbc	12 06 14.9	+1.3	
	baz=151							
225A	**Deer Hill, Car**	150.97	112	⇓P	PKPbc	12 06 17.2	+3.5	
	baz=151							
124A	**Stringfield Ra**	150.98	111	⇓P	PKPbc	12 06 17.4	+3.6	
	baz=151							
832A	**Faith Ranch, C**	151.00	124	⇓P	PKPbc	12 06 14.8	+1.2	
	baz=151							
934A	**Benavides**	151.25	127	⇑P	PKPbc	12 06 16.9	+2.7	
	baz=152							
SUMG	**Summit**	151.27	339	*i* P	PKPbc	12 06 16.7	+3.3	
428A	**Kincaid Ranch,**	151.29	117	⇑P	PKPbc	12 06 16.3	+2.0	
	baz=152,SNR=8.5							
732A	**Laxson Ranch,**	151.35	124	⇓P	PKPbc	12 06 16.4	+1.9	
	baz=152							
833A	**Chaparral WMA,**	151.35	125	⇑P	PKPbc	12 06 16.3	+1.9	
	baz=152							
226B	**Tecolote Peak,**	151.35	113	⇓P	PKPbc	12 06 18.0	+3.5	
	baz=152							
Y23A	**Lovelace Mesa,**	151.42	108	⇑P	PKPbc	12 06 19.2	+4.5	
	baz=152,SNR=6.9							
125A	**Gardner Draw,**	151.45	112	⇓P	PKPbc	12 06 18.3	+3.6	
	baz=152							
Z24A	**Sheeppen Canyo**	151.46	110	⇓P	PKPbc	12 06 18.6	+3.7	
	baz=152							
530A	**J-C Ranch, Com**	151.65	120	⇓P	PKPbc	12 06 18.0	+2.9	
	baz=152							
328A	**Wristen Ranch,**	151.69	116	⇓P	PKPbc	12 06 18.7	+3.4	
	baz=152							
733A	**Divot King Ran**	151.72	125	⇓P	PKPbc	12 06 19.3	+4.1	
	baz=152							
X23A	**Hourglass Bar**	151.75	107	⇑P	PKPbc	12 06 19.8	+4.3	
	baz=152							
Y24A	**Capitan**	151.81	109	⇑P	PKPbc	12 06 20.0	+4.4	
	baz=152							
Z25A	**Roswell**	151.83	111	⇓P	PKPbc	12 06 19.1	+3.6	
	baz=152							
126A	**Clayton Basin,**	151.83	113	⇑P	PKPbc	12 06 18.3	+2.8	
	baz=152							
632A	**Uvalde**	152.05	123	⇓P	PKPbc	12 06 18.6	+2.6	
	baz=152							
531A	**Rocksprings**	152.12	121	⇓P	PKPbc	12 06 18.4	+2.1	
	baz=152							
W23A	**Werner Place,**	152.14	106	⇓P	PKPbc	12 06 21.2	+4.8	
	baz=152							
430A	**Baggett Ranch,**	152.18	119	⇓P	PKPbc	12 06 19.1	+2.7	
	baz=153							
X24A	**Lazy VL Ranch,**	152.22	108	⇑P	PKPbc	12 06 21.2	+4.7	
	baz=153							
127A	**Arkansas Junct**	152.26	113	⇑P	PKPbc	12 06 21.0	+4.4	
	baz=153							
Y25A	**Mesa, Roswell**	152.27	110	⇑P	PKPbc	12 06 21.7	+5.1	
	baz=153							
Z26A	**Caprock**	152.28	112	⇓P	PKPbc	12 06 20.9	+4.4	
	baz=153							
633A	**Seathoff Ranch**	152.35	124	⇑P	PKPbc	12 06 19.8	+3.1	
	baz=153							
532A	**Rocksprings**	152.46	122	⇑P	PKPbc	12 06 20.4	+3.4	
	baz=153							
431A	**Sonora**	152.47	120	⇑P	PKPbc	12 06 20.5	+3.5	
	baz=153							
V23A	**Ortiz Mt. (NFS**	152.48	105	⇓P	PKPab	12 06 22.9	-4.6	
	baz=153,SNR=6.4							
330A	**Mertzon**	152.67	118	⇑P	PKPbc	12 06 21.7	+4.2	
	baz=153							
128A	**Castleberry Fa**	152.75	115	⇓P	PKPbc	12 06 20.6	+3.0	
	baz=153							
JCT	**Junction City**	152.78	121	⇑P	PKPbc	12 06 21.0	+3.3	
	baz=153							
U23A	**El Rito**	152.83	104	⇑P	PKPab	12 06 23.8	-5.1	
	baz=153							
533A	**Kerrville**	152.90	123	⇑P	PKPbc	12 06 22.5	+4.6	
	baz=153							
KULLO	**Kullorsuaq**	152.93	351	*i* P	PKPbc	12 06 18.5	+1.9	
V24A	**Rampart Ranch,**	153.05	106	⇓P	PKPbc	12 06 24.4	+6.0	
	baz=154							
432A	**Menard**	153.08	121	⇓P	PKPbc	12 06 22.9	+4.5	
	baz=154							
YKA	**Yellowknife Ar**	153.10	43	PKPbc	PKPbc	12 06 15.2	-2.0	
YKA	**Yellowknife Ar**	153.10	43	PKPbc	PKPbc	12 06 15.3	-2.0	
	1.9nm,0.9s,baz=286,slow=2.1,SNR=14							
T23A	**Casias Ranch,**	153.35	103	⇑P	PKPab	12 06 30.0	-1.1	
	baz=154,SNR=5.2							
U24A	**Moreno Valley**	153.47	105	⇑P	PKPab	12 06 30.4	-1.3	
	baz=154,SNR=7.1							
V25A	**Rancho No Teng**	153.54	107	⇓P	PKPab	12 06 28.8	-3.1	
	baz=154							
PDAR	**Pinedale Array**	153.93	89	PKPbc	PKPbc	12 06 20.4	+0.3	
PDAR	**Pinedale Array**	153.93	89	PKPbc	PKPbc	12 06 20.4	+0.3	
	1.1nm,1.0s,baz=199,slow=3.1,SNR=5.8							
U25A	**Circle Dot Ran**	154.02	106	⇓P	PKPab	12 06 33.0	-1.0	
	baz=154,SNR=54							

*ISCJB **18** 11:48:09.3±0.8, 48.°7S±0.°1×107.°1E±0.°3, h10km, mb4.3/9, Error ellipse: s-maj=28.9km s-min=14.5km az=23.6*
*IDC **18** 11:48:09.9±0.8, 48.°69S×107.°03E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.2/26, mbtmp4.3/9, Error ellipse: s-maj=32.5km s-min=17.4km az=113.0*
ISC 18 11:48:11.3±0.8, 48.°7S±0.°1×107.°1E±0.°2, h10km, n23, σ0°50/15, mb4.3/9, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	14.76	23	T	T	12 06 42.5	
	baz=196						
H01W1	**Cape Leeuwin H**	14.77	23	T	T	12 06 43.1	
	baz=196						
H01W3	**Cape Leeuwin H**	14.77	23	T	T	12 06 40.9	
	baz=196						
STKA	**Stephens Creek**	30.91	70	P	P	11 54 27.9	-0.1
	2.2nm,0.7s,baz=241,slow=8.2,SNR=4.0						
ASAR	**Alice Springs**	32.76	50	P	P	11 54 44.5	+0.1
	4.7nm,0.7s,baz=214,slow=8.4,SNR=12						
ASAR				PcP	PcP	11 57 30.1	+0.5
	1.2nm,0.8s,baz=227,slow=1.1,SNR=3.5						
VNDA	**Vanda**	35.49	162	P	P	11 55 07.8	+0.2
	4.0nm,0.9s,baz=306,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	36.11	47	P	P	11 55 13.5	+0.1
	9.2nm,0.7s,baz=208,slow=10.0,SNR=11						
QSPA	**South Pole Qui**	41.43	180	P	P	11 55 57.4	-0.3
	3.9nm,1.1s,baz=302,slow=9.5,SNR=3.3						
CTA	**Charters Tower**	42.41	62	P	P	11 56 05.4	-0.6
	4.4nm,0.9s,baz=208,slow=15,SNR=3.1						
H08S2	**Diego Garcia H**	50.22	313	T	T	12 50 47.5	
	baz=142						
H08S1	**Diego Garcia H**	50.23	313	T	T	12 50 46.4	
	baz=142						
H08S3	**Diego Garcia H**	50.24	313	T	T	12 50 47.4	
	baz=142						
SNAA	**Sanae**	50.26	203	P	P	11 57 06.8	-0.4
	2.3nm,0.9s,baz=261,slow=2.6,SNR=3.8						
CMAR	**Chiang Mai Arr**	67.24	352	P	P	11 59 05.7	0.0
	2.8nm,0.8s,baz=191,slow=5.6,SNR=6.4						
SONM	**Songino Array**	96.15	360	P	P	12 01 38.3	-0.5
	0.8nm,0.5s,baz=71,slow=2.7,SNR=3.7						
H10S2	**ASCENSION HYDR**	103.18	240	T	T	13 58 01.5	
	baz=140						
H10S3	**ASCENSION HYDR**	103.20	240	T	T	13 58 00.6	
	baz=140						
H10S1	**ASCENSION HYDR**	103.20	240	T	T	13 58 00.1	
	baz=140						
GERES	**GERESS Array B**	126.01	305	PKP	PKPdf	12 07 13.1	+0.2
	0.5nm,0.7s,baz=167,slow=6.3,SNR=4.6						
ILAR	**Eielson Array**	139.05	39	PKP	PKPdf	12 07 37.8	+0.9
	0.6nm,0.8s,baz=226,slow=3.7,SNR=4.9						
NVAR	**Mina Array Bea**	146.03	90	PKPbc	PKPbc	12 07 51.3	+0.2
	1.8nm,0.8s,baz=219,slow=6.9,SNR=4.3						
TXAR	**Lajitas Array**	149.59	118	PKPbc	PKPbc	12 08 01.8	+0.9
	2.7nm,0.9s,baz=198,slow=2.5,SNR=6.8						
YKA	**Yellowknife Ar**	153.28	43	PKPbc	PKPbc	12 08 08.3	+0.1
	1.5nm,0.7s,baz=286,slow=2.2,SNR=9.0						

*ISCJB **18** 11:48:59.2±0.6, 48.°6S±0.°1×107.°4E±0.°2, h10km, mb4.5/14, Error ellipse: s-maj=17.9km s-min=12.7km az=34.1*
*IDC **18** 11:48:59.5±0.7, 48.°56S×107.°33E, h0km, mb4.5/11, mb1 4.6/11, mb1mx4.3/26, mbtmp4.5/11, Error ellipse: s-maj=25.6km s-min=18.3km az=117.0*
*GCMT **18** 11:49:00.4±0.3, 48.°67S×106.°64E, h12km, MW5.1/66, Moment Tensor Solution. s20,c23; s66,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.20; $M_{\theta\theta}$-4.12±.20; $M_{\phi\phi}$-4.04±.18; $M_{r\theta}$1.02±.68; $M_{r\phi}$2.71±.17; $M_{\theta\phi}$-0.82±.54; Best double couple: M_o5.07000×10^{16} NP1:ϕ_s298.00000°, δ87.00000°, λ-15.00000°. NP2: ϕ_s29.00000°, δ75.00000°, λ-177.00000°. Principal axes: T 5.0470, Plg8.0000°, Azm344.0000°; N 0.0510, Plg75.0000°, Azm108.0000°; P -5.0920, Plg12.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 11:49:00.4±0.4, 48.°58S×107.°28E, h10km, mb4.9/4 Error ellipse: s-maj=14.4km s-min=10.2km az=124.0*
ISC 18 11:49:00.7±0.6, 48.°6S±0.°1×107.°3E±0.°1, h10km, n49, σ0°73/44, mb4.5/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	14.57	23	T	T	12 07 33.9	
	baz=199,slow=74						
H01W1	**Cape Leeuwin H**	14.58	23	T	T	12 07 33.1	
	baz=199,slow=74						
H01W3	**Cape Leeuwin H**	14.58	23	T	T	12 07 33.5	
	baz=199,slow=74						
STKA	**Stephens Creek**	30.71	70	P	P	11 55 15.8	+0.1
STKA	**Stephens Creek**	30.71	70	P	P	11 55 15.8	+0.1
	4.7nm,0.9s,baz=230,slow=12,SNR=4.0						
ASAR	**Alice Springs**	32.55	50	P	P	11 55 31.9	0.0
ASAR				PcP	PcP	11 58 18.1	-0.3
ASAR	**Alice Springs**	32.55	50	P	P	11 55 31.9	0.0
	5.8nm,0.9s,baz=215,slow=8.3,SNR=8.4						
ASAR				PcP	PcP	11 58 18.1	-0.3
	2.4nm,1.0s,baz=196,slow=2.3,SNR=2.8						
AS31	**Alice Springs**	32.55	50	*e*P	P	11 55 31.9	-0.1
VNDA	**Vanda**	35.57	162	P	P	11 55 57.8	+0.2
VNDA	**Vanda**	35.57	162	P	P	11 55 57.8	+0.2
	10nm,0.9s,baz=279,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**	35.90	47	P	P	11 56 00.8	-0.1
WRA				PcP	PcP	11 58 27.7	-0.3
WRA	**Warramunga Arr**	35.90	47	P	P	11 56 00.8	-0.1
	9.3nm,0.9s,baz=208,slow=10,SNR=7.0						
WRA				PcP	PcP	11 58 27.7	-0.3
	2.5nm,0.9s,baz=228,slow=2.5,SNR=4.1						
WRAB	**Tennant Creek**	35.91	47	*e*P	P	11 56 01.1	0.0
	16nm,0.8s						
EIDS	**Eidsvold**	41.20	72	*e*P	P	11 56 44.8	-0.7
	7.8nm,1.0s						
QSPA	**South Pole Qui**	41.57	180	P	P	11 56 47.9	-0.4
QSPA	**South Pole Qui**	41.57	180	P	P	11 56 47.9	-0.4
	5.1nm,1.0s,baz=323,slow=10,SNR=3.7						
CTA	**Charters Tower**	42.21	62	P	P	11 56 54.0	+0.2
CTA	**Charters Tower**	42.21	62	P	P	11 56 54.0	+0.2
	8.2nm,0.8s,baz=234,slow=11,SNR=4.7						
URZ	**Urewera**	50.10	106	P	P	11 57 56.6	+0.9
URZ	**Urewera**	50.10	106	P	P	11 57 56.7	+0.9
	8.5nm,0.8s,baz=241,slow=7.4,SNR=6.4						
H08S2	**Diego Garcia H**	50.25	313	T	T	12 51 33.7	
	baz=147,slow=75						
H08S1	**Diego Garcia H**	50.26	313	T	T	12 51 36.2	
	baz=147						
H08S3	**Diego Garcia H**	50.27	313	T	T	12 51 35.2	
	baz=147,slow=75						
SNAA	**Sanae**	50.45	203	*e*P	P	11 57 58.4	+0.4
	13nm,1.0s						
SNAA	**Sanae**	50.45	203	P	P	11 57 59.6	+1.6
	1.9nm,0.7s,baz=134,slow=15,SNR=3.2						
CMAR	**Chiang Mai Arr**	67.14	351	P	P	11 59 55.8	+1.3
CMAR	**Chiang Mai Arr**	67.14	351	P	P	11 59 55.8	+1.3
	2.3nm,0.7s,baz=193,slow=5.9,SNR=5.5						
KMBO	**Kilima Mbogo**	76.04	284	P	P	12 00 48.4	-0.3
KMBO	**Kilima Mbogo**	76.04	284	P	P	12 00 48.4	-0.3
	0.8nm,0.3s,baz=217,slow=5.1,SNR=3.7						
KBL	**Kabul**	89.50	329	*e*P	P	12 01 56.9	-1.0
	14nm,1.1s						
SONM	**Songino Array**	96.02	359	P	P	12 02 28.1	+0.5
SONM	**Songino Array**	96.02	359	P	P	12 02 28.1	+0.5
	2.0nm,0.9s,baz=165,slow=2.0,SNR=5.6						
H10S2	**ASCENSION HYDR**	103.39	240	T	T	13 58 31.1	
	baz=143,slow=75						
H10S3	**ASCENSION HYDR**	103.41	240	T	T	13 58 34.5	
	baz=143,slow=75						
H10S1	**ASCENSION HYDR**	103.41	240	T	T	13 58 34.5	
	baz=143,slow=75						
ILAR	**Eielson Array**	138.85	39	PKP	PKPdf	12 08 25.2	-0.7
ILAR	**Eielson Array**	138.85	39	PKP	PKPdf	12 08 25.2	-0.7
	0.7nm,1.0s,baz=261,slow=2.3,SNR=3.3						
INK	**Inuvik**	144.52	34	*e*PKPdf	PKPab	12 08 33.5	-0.8
GLA	**Glamis**	145.04	101	*e*PKPbc	PKPbc	12 08 36.2	-1.1
WAKR	**Walker**	145.15	89	*e*PKPbc	PKPbc	12 08 36.8	-0.9
214A	**Organ Pipe Nat**	145.65	104	*e*PKPdf	PKPdf	12 08 38.9	-0.1
NVAR	**Mina Array Bea**	145.86	90	PKPbc	PKPdf	12 08 38.8	-0.6
NVAR	**Mina Array Bea**	145.86	90	PKPbc	PKPdf	12 08 38.8	-0.6
	4.5nm,0.9s,baz=270,slow=2.7,SNR=4.7						
TPH	**Tonopah**	146.39	91	*e*PKPdf	PKPdf	12 08 40.4	+0.1
WVOR	**Wild Horse Val**	147.62	83	*e*PKPdf	PKPdf	12 08 40.8	-1.3
TXAR	**Lajitas Array**	149.50	118	PKPbc	PKPbc	12 08 49.3	-0.7
TXAR	**Lajitas Array**	149.50	118	PKPbc	PKPbc	12 08 49.3	-0.7
	4.6nm,0.9s,baz=187,slow=6.3,SNR=3.7						
YKA	**Yellowknife Ar**	153.07	43	PKPbc	PKPbc	12 08 58.5	+1.3
YKA	**Yellowknife Ar**	153.07	43	PKPbc	PKPbc	12 08 58.5	+1.3
	3.9nm,1.1s,baz=289,slow=2.1,SNR=6.2						

*BJI **18** 12:19:08.4, 6.°57S×130.°80E, h125km, mB5.1/32, mb5.0/47*
*ISCJB **18** 12:19:12.3±0.3, 6.°28S±0.°02×130.°66E±0.°02, h135km±3km, mb4.8/75, Error ellipse: s-maj=4.0km s-min=3.1km az=150.6*
*NEIC **18** 12:19:13.4±0.5, 6.°25S×130.°63E, h128km±4km, mb5.0/23, Error ellipse: s-maj=5.4km s-min=3.7km az=53.0*
*IDC **18** 12:19:13.7±2.1, 6.°22S×130.°68E, h129km±19km, mb4.4/24, mb1 4.4/27, mb1mx4.4/33, mbtmp4.8/27, MS3.9/7, Ms1 3.9/7, ms1mx3.5/29, Error ellipse: s-maj=13.8km s-min=9.0km az=68.0*

*GCMT **18** 12:19:13.4±0.2, 6.°21S×130.°68E, h143km±2km, MW5.1/77, Moment Tensor Solution. s31,c34; s77,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.05±.22; $M_{\theta\theta}$0.05±.22; $M_{\phi\phi}$2.00±.27; $M_{r\theta}$0.34±.15; $M_{r\phi}$1.97±.27; $M_{\theta\phi}$5.10±.17; Best double couple: M_o5.83100×10^{16} NP1:ϕ_s186.00000°, δ78.00000°, λ-107.00000°. NP2: ϕ_s63.00000°, δ21.00000°, λ-35.00000°. Principal axes: T 6.0220, Plg31.0000°, Azm290.0000°; N -0.3800, Plg17.0000°, Azm189.0000°; P -5.6400, Plg53.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **18** 12:19:13.8±0.2, 6.°5S±2.°×13.°1E±.°, h120km±3km, M5.3/33, mb5.4/33, mB5.7/28, MLv5.7/15, Mw(mB)5.2/28*
ISC 18 12:19:13.1±0.3, 6.°28S±0.°03×130.°64E±0.°04, h127km±2km, h127km:pP-P, n319, σ1920/357, mb4.9/75, 14C-17D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	1.82	159	P	Pn	12 19 45.6	+0.9
SAUI				S	Sn	12 20 08.1	-0.8
SAUI	**Saumlaki**	1.82	159	*e*Pn	Pn	12 19 45.5	+0.7
BNDI	**Bandanaira**	1.89	337	P	Pn	12 19 46.9	+1.3
BNDI				S	Sn	12 20 12.6	+2.1
MSAI	**Masohi**	3.38	330	P	Pn	12 20 05.5	+0.9
MSAI				S	Sn	12 20 44.5	+0.1
FAKI	**Fak Fak**	3.70	26	P	Pn	12 20 07.9	-1.0
FAKI				S	Sn	12 20 49.4	-2.7
FAKI	**Fak Fak**	3.70	26	*e*Pn	Pn	12 20 07.8	-1.1
FAKI	**Fak Fak**	3.70	26	⇓P	Pn	12 20 07.7	-1.1
	baz=3.8,SNR=86						
NLAI	**Namlea**	4.64	310	P	Pn	12 20 23.2	+1.8
SWI	**Sorong**	5.41	7	P	Pn	12 20 30.8	-1.0
	186nm,0.5s,30µm6.8nm						
SWI				S	Sn	12 21 29.0	-4.0
	186nm,0.5s,30µm6.8nm						
SANI	**Sanana**	6.26	312	P	Pn	12 20 43.6	+0.5
	264nm,0.7s,3µm0.9nm						
SANI				S	Sn	12 21 51.6	-1.8
	264nm,0.7s,3µm0.9nm						
MWPI	**Manokwari, Pap**	6.30	33	P	x	12 20 44.6	
	427nm,1.1s,9µm12nm						
MWPI				S	x	12 21 53.7	
	427nm,1.1s,9µm12nm						
LBMI	**Labuha**	6.42	331	P	Pn	12 20 45.0	-0.3
	693nm,1.3s,12µm4.0nm						
LBMI				S	Sn	12 21 54.0	-3.3
	693nm,1.3s,12µm4.0nm						
MTN	**Manton Dam**	6.54	176	⇓P	Pn	12 20 45.6	-1.3
	baz=6.5,SNR=572						
KDU	**Kakadu**	6.62	164	⇓P	Pn	12 20 45.9	-2.0
	baz=6.6,SNR=431						
SRPI	**Serui, Papua**	7.10	52	P	Pn	12 20 54.6	+0.2
	261nm,1.0s,8µm3.3nm						
SOEI	**Soe**	7.20	241	P	Pn	12 20 56.0	+0.2
	421nm,1.1s,14µm7.3nm						
SOEI	**Soe**	7.20	241	*e*Pn	Pn	12 20 56.1	+0.2
SOEI	**Soe**	7.20	241	⇑S	Sn	12 22 12.1	-4.1
	baz=7.1,SNR=8.1						
BAKI	**Biak**	7.43	47	P	Pn	12 21 00.1	+1.1
	980nm,1.0s,10µm4.0nm						
TNTI	**Ternate**	7.73	335	P	Pn	12 21 02.5	-0.4
	337nm,1.1s,3µm1.2nm						
TNTI	**Ternate**	7.73	335	*e*Pn	Pn	12 21 02.4	-0.6
WAMI	**Wamena**	8.38	74	P	Pn	12 21 15.1	+3.3
	1µm,0.9s,7µm						
MMRI	**Maumere**	8.65	254	P	Pn	12 21 16.9	+1.5
	255nm,1.0s,4µm						
MMRI	**Maumere**	8.65	254	*e*Pn	Pn	12 21 16.1	+0.6
	100nm,0.4s						
MMRI				*e*Sn	Sn	12 22 52.0	+0.6
SMPI	**Sarmi**	9.11	62	P	Pn	12 21 22.0	+0.5
	112nm,1.1s,2µm						
LUWI	**Luwuk**	9.42	303	P	Pn	12 21 29.2	+3.5
LUWI	**Luwuk**	9.42	303	*e*Pn	Pn	12 21 27.8	+2.1
KMSI	**Cibinong**	9.51	315	P	Pn	12 21 26.7	-0.3
	321nm,1.4s,4µm						
KNRA	**Kununurra**	9.52	191	⇓P	Pn	12 21 25.0	-2.0
	baz=9.5,SNR=393						
GENI	**Genyem**	10.18	69	P	Pn	12 21 36.2	+0.2
	244nm,1.1s,3µm						
APSI	**Ampana**	10.44	300	P	Pn	12 21 41.7	+2.3
	442nm,1.3s,5µm						
BKSI	**Bulukumba**	10.51	275	P	Pn	12 21 43.0	+2.6
	71nm,1.2s,932nm						
BNSI	**Bone**	10.65	280	P	Pn	12 21 48.1	+5.8
JAY	**Jayapura**	10.71	70	P	Pn	12 21 44.2	+1.1
JAY				S	Sn	12 23 40.0	-1.3

CTA S **S** **12 27 20.6 -2.4**
CTA **Charters Tower** **20.45 134** P **P** **12 23 41.9 +1.2**
35nm,0.9s,baz=318,slow=13,SNR=28
CTA S **S** **12 27 20.6 -2.4**
8.0nm,0.7s,baz=53,slow=20,SNR=3.5
CTAO **Charters Tower** **20.45 134** *e*P **P** **12 23 42.2 +1.5**
88nm,1.1s
CMJI **Cimerak** **22.07 265** P **P** **12 23 58.8 +0.8**
208nm,0.9s
TGY **Tagaytay City** **22.42 335** P **P** **12 24 01.8 +0.2**
TGY **Tagaytay City** **22.42 335** P **P** **12 24 01.8 +0.2**
164nm,0.3s,baz=141,slow=3.8,SNR=7.6
CISI **Cisompet, Garu** **22.69 265** P **P** **12 24 02.5 -1.8**
430nm,1.1s,7µm
CISI **Cisompet, Garu** **22.69 265** *e*P **P** **12 24 02.8 -1.5**
CISI **Cisompet, Garu** **22.69 265** ⇓P **P** **12 24 02.2 -2.1**
baz=23,SNR=6.7
GIRL **Giralia** **22.70 223** ⇓P **P** **12 24 04.8 +0.6**
baz=23,SNR=7.3
LEM **Lembang** **22.88 267** ⇓P **P** **12 24 05.4 -0.8**
baz=23,SNR=3.4
MEEK **Meekatharra** **23.27 208** ⇓P **P** **12 24 08.9 -0.6**
baz=23,SNR=8.8
CNJI **Cibinong** **23.37 266** P **P** **12 24 08.1 -2.4**
723nm,1.2s,6µm
CBJI **Citeko** **23.64 268** P **P** **12 24 12.0 -1.0**
QLP **Quilpie** **23.99 149** ⇑P **P** **12 24 15.9 -0.1**
baz=24,SNR=45
FORT **Forrest** **24.50 185** *e*P **P** **12 24 20.5 -0.1**
97nm,0.8s
FORT **Forrest** **24.50 185** P **P** **12 24 20.7 +0.2**
baz=24,SNR=19
KMBL **Kambalda** **26.27 197** P **P** **12 24 37.1 +0.4**
baz=26,SNR=10
RMQ **Roma** **26.50 141** ⇓P **P** **12 24 39.7 +0.9**
baz=27,SNR=7.5
MORW **Morawa** **26.54 210** ⇓P **P** **12 24 39.1 0.0**
baz=26,SNR=5.3
BBOO **Buckleboo** **26.88 170** *e*P **P** **12 24 41.8 -0.3**
712nm,0.8s
BBOO **Buckleboo** **26.88 170** ⇑P **P** **12 24 41.5 -0.6**
baz=27,SNR=70
EIDS **Eidsvold** **27.25 136** *e*P **P** **12 24 45.1 -0.4**
110nm,1.4s
STKA **Stephens Creek** **27.45 159** *e*P **P** **12 24 47.3 +0.1**
7.6nm,0.8s
STKA **Stephens Creek** **27.45 159** P **P** **12 24 47.3 +0.1**
24nm,0.4s,baz=342,slow=7.9,SNR=116
STKA LR LR 12 36 59.3
comp=Z,566nm,19.2s,baz=335,slow=39
STKA **Stephens Creek** **27.45 159** ⇓P **P** **12 24 46.8 -0.4**
baz=28,SNR=58
BLDU **Ballidu** **27.52 207** ⇑P **P** **12 24 47.7 -0.2**
baz=28,SNR=9.5
KLBR **Kellerberrin** **27.92 204** ⇓P **P** **12 24 51.1 -0.3**
baz=28,SNR=8.1
HTT **Hallett** **28.09 165** P **P** **12 24 53.4 +0.5**
baz=28,SNR=24
CMSA **Cobar Meteorol** **28.81 153** P **P** **12 25 00.1 +0.9**
baz=29,SNR=28
HNR **Honiara** **29.19 98** LR LR 12 37 06.4
comp=Z,269nm,21.0s,baz=280,slow=37
NWAO **Narrogin (SRO)** **29.30 203** P **P** **12 25 04.2 +0.6**
NWAO **Narrogin (SRO)** **29.30 203** P **P** **12 25 04.2 +0.6**
5.6nm,0.6s,baz=31,slow=7.5,SNR=6.2
NWAO LR LR 12 38 58.6
comp=Z,185nm,18.4s,baz=38,slow=40
ARMA **Armidale** **31.08 143** ⇓P **P** **12 25 20.8 +1.3**
baz=31,SNR=7.8
ARPS **Mount Arapiles** **32.03 163** P **P** **12 25 28.6 +1.0**
baz=32,SNR=12
YNG **Young** **32.36 152** ⇓P **P** **12 25 31.4 +0.8**
baz=32,SNR=7.9
QIZ **Qiongzhong** **32.44 321** P **P** **12 25 31.6 +0.2**
QIZ S **S** **12 30 39.3 +2.5**
QIZ pmax pmax
comp=Z,15nm,1.0s
MGCD **Mangrove Creek** **32.86 147** P **P** **12 25 36.8 +1.9**
baz=33,SNR=6.8
UBPT **Khong Chiam** **32.88 311** P **P** **12 25 35.6 +0.4**
134nm,1.4s
PSI **Prapat** **32.93 285** P **P** **12 25 36.3 +0.5**
PSI **Prapat** **32.93 285** P **P** **12 25 36.3 +0.5**
31nm,0.8s,baz=121,slow=6.5,SNR=14
PSI LR LR 12 40 00.8
comp=Z,170nm,20.4s,baz=96,slow=38
CNB **Canberra Magne** **33.65 152** ⇑P **P** **12 25 42.9 +1.1**
baz=34,SNR=10
GSI **Gunungsitoli** **33.86 282** *e*P **P** **12 25 41.8 -2.0**
TOO **Toolangi** **33.96 159** P **P** **12 25 46.4 +2.0**
baz=34,SNR=22
CBIJ **Chichi jima** **35.01 18** P **P** **12 25 51.7 -1.8**
JCJ **Chichijima** **35.01 18** P **P** **12 25 51.7 -1.8**
32nm,0.4s,baz=180,slow=22,SNR=5.8
CHAI **Chaiyaphum** **35.92 308** P **P** **12 26 00.8 -0.7**
25nm,0.7s,396nm
PBKT **Sadao Pong** **37.10 308** P **P** **12 26 11.4 -0.1**
15nm,0.7s
SRDT **SRDT** **37.38 303** P **P** **12 26 14.8 +0.9**
103nm,1.1s
NOUC **Port Laguerre** **37.85 118** *e*P **P** **12 26 17.6 -0.1**
DZM **Mont Dzumac** **37.96 118** P **P** **12 26 19.5 +0.7**
DZM **Mont Dzumac** **37.96 118** P **P** **12 26 19.5 +0.7**
22nm,0.6s,baz=254,slow=9.0,SNR=37
DZM LR LR 12 44 36.2
comp=Z,116nm,18.1s,baz=256,slow=40
DZM **Mont Dzumac** **37.96 118** *e*P **P** **12 26 18.2 -0.7**
SLVN **Son La** **37.96 317** *e*P **P** **12 26 18.6 -0.2**
6.7nm,1.0s
KHLT **Khaolaem Dam** **38.06 304** P **P** **12 26 20.1 +0.6**
16nm,1.7s
MOO **Moorlands** **38.89 160** ⇓P **P** **12 26 27.3 +1.1**
baz=39,SNR=6.6
JNU **Nakatsue** **39.18 0** P **P** **12 26 28.8 0.0**
JNU **Nakatsue** **39.18 0** P **P** **12 26 28.8 0.0**
6.2nm,0.8s,baz=174,slow=11,SNR=5.2
NJ2 **Nanjing** **39.74 344** *e*P **P** **12 26 34.6 +1.3**
NJ2 S **S** **12 32 32.5 +4.8**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 LR LR
comp=N,680nm,17.4s
NJ2 LR LR
comp=E,510nm,16.6s
NJ2 LR LR
comp=Z,8µm,15.3s
CRAI **Chiangrai** **39.74 312** P **P** **12 26 33.9 +0.3**
80nm,1.0s,31µm
CM31 **Chiang Mai Arr** **39.77 309** *e*P **P** **12 26 33.8 0.0**
32nm,1.0s
CMAR **Chiang Mai Arr** **39.77 309** P **P** **12 26 33.9 +0.1**
CMAR ScP **ScP** **12 32 14.9 -0.1**
CMAR **Chiang Mai Arr** **39.77 309** P **P** **12 26 33.9 +0.1**
11nm,0.8s,baz=139,slow=7.4,SNR=71
CMAR ScP **ScP** **12 32 14.9 -0.1**
0.3nm,0.4s,baz=157,slow=3.2,SNR=4.1
CHTO **Chiang Mai** **39.97 309** P **P** **12 26 35.3 -0.2**
186nm,1.1s
CHTO **Chiang Mai** **39.97 309** *e*P **P** **12 26 35.5 0.0**
9.6nm,1.0s
GYA **Guiyang** **39.99 325** ⇑*i*P **P** **12 26 35.1 -0.6**
GYA pP **pP** **12 27 05.4 +1.2**
GYA sP **sP** **12 27 20.6 +2.0**
GYA PP **PnPn** **12 28 16.0 +1.1**
GYA ScP **ScP** **12 32 17.8 +1.9**
GYA S **S** **12 32 35.5 +3.5**
GYA sS **sS** **12 33 23.3 +1.8**
GYA SS **SS** **12 35 31.0 -3.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,470nm,17.8s
GYA LR LR
comp=E,420nm,18.0s
GYA LR LR
comp=Z,480nm,17.6s
MHMT **Maesarieng** **40.40 308** P **P** **12 26 39.4 +0.4**
18nm,1.0s,657nm
KMI **Kunming** **41.37 320** P **P** **12 26 47.4 +0.3**
KMI pP **pP** **12 27 15.9 +0.2**
KMI sP **sP** **12 27 28.9 -1.3**
KMI pmax pmax
comp=Z,16nm,1.4s
ENH **Enshi** **41.62 332** *e*P **P** **12 26 48.3 -0.6**
16nm,0.8s

MJAR **Matsushiro Arr** **43.18 9** P **P** **12 27 00.4 -1.0**
MJAR **Matsushiro Arr** **43.18 9** P **P** **12 27 00.4 -1.0**
4.1nm,0.9s,baz=187,slow=9.7,SNR=9.1
KSAR **Wonju Array Be** **43.57 357** P **P** **12 27 04.9 +0.5**
KSRS **Korea Array** **43.58 357** P **P** **12 27 04.9 +0.4**
1.5nm,0.6s,baz=175,slow=9.2,SNR=8.9
CD2 **Chengdu** **45.05 327** P **P** **12 27 15.8 -0.6**
CD2 pP **pP** **12 27 43.9 -1.5**
CD2 sP **sP** **12 27 57.3 -2.5**
CD2 PP **PP** **12 29 02.9 -1.4**
CD2 S **S** **12 33 42.3 -3.5**
CD2 SS **ScS** **12 37 03.6 +3.0**
CD2 pmax pmax
comp=Z,20nm,1.2s
XAN **Xi'an** **45.06 334** P **P** **12 27 15.5 -0.9**
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN pmax pmax
comp=Z,18nm,5.2s
MSVF **Nonsavu** **47.62 108** *e*P **P** **12 27 38.1 +1.4**
BJT **Baijiatuan** **47.96 345** *e*P **P** **12 27 38.4 -0.4**
BJI **Beijing** **47.98 345** P **P** **12 27 39.1 +0.1**
BJI pP **pP** **12 28 07.3 -1.1**
BJI S **S** **12 34 25.9 -1.3**
BJI pmax pmax
comp=Z,24nm,0.8s
BJI pmax pmax
comp=Z,110nm,3.9s
SNY **Shenyang** **48.31 353** ⇑P P 12 27 33.1 -8.4
SNY S S 12 34 04.6 -27
SNY ScS **ScS** **12 37 19.3 -2.1**
SNY pmax pmax
comp=Z,9.0nm,0.5s
SNY pmax pmax
comp=Z,150nm,5.3s
SNY LR LR
comp=N,230nm,20.6s
SNY LR LR
comp=E,240nm,18.0s
SNY LR LR
comp=Z,270nm,20.0s
OUZ **Omahuta** **48.85 132** *e*P **P** **12 27 48.1 +2.3**
comp=Z,34nm,1.0s
LZH **Lanzhou** **49.08 331** *e*P **P** **12 27 48.3 +0.6**
LZH pP **pP** **12 28 16.1 -1.1**
LZH sP **sP** **12 28 30.6 -0.8**
LZH *e*S **S** **12 34 41.1 -2.0**
LZH SS **SS** **12 38 16.0 -0.1**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,98nm,4.1s
LZH LR LR
comp=Z,480nm,14.0s
LZH LR LR
comp=Z,430nm,13.9s
LZH LR LR
comp=Z,510nm,14.5s
SHL **Shillong** **49.19 312** ⇑*i*P **P** **12 27 48.0 -0.8**
SHL AMB AMB 12 27 48.4
comp=Z,20nm,0.8s
CN2 **Changchun** **50.07 355** *e*P **P** **12 27 54.6 -0.3**
CN2 *e*pP **pP** **12 28 24.5 0.0**
CN2 *e*S **S** **12 34 55.6 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
USRK **Ussuriysk Arra** **50.26 1** P **P** **12 27 56.2 0.0**
comp=Z,3.3nm,0.6s,baz=184,slow=6.9,SNR=9.0
DCZ **Deep Cove** **50.26 147** *e*P **P** **12 27 58.2 +1.8**
comp=Z,16nm,0.9s
MDJ **Mudanjiang** **50.67 359** P **P** **12 27 59.5 +0.1**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,58nm,5.4s
WHZ **Wether Hill Ro** **50.95 147** *e*P **P** **12 28 02.2 +0.6**
ASAJ **Asahikawa** **51.31 11** P **P** **12 28 04.5 +0.3**
ASAJ **Asahikawa** **51.31 11** P **P** **12 28 04.5 +0.3**
comp=Z,3.8nm,0.5s,baz=252,slow=12,SNR=12
RPZ **Rata Peaks** **51.42 143** *e*P **P** **12 28 06.8 +1.7**
comp=Z,40nm,1.2s
LSA **Lhasa** **52.12 315** P **P** **12 28 10.9 -0.2**
LSA **Lhasa** **52.12 315** *e*P **P** **12 28 11.1 0.0**
comp=Z,11nm,0.4s
KHZ **Kahutara** **52.25 140** *e*P **P** **12 28 11.5 +0.3**
comp=Z,18nm,0.7s
VIS **Vishakhapatnam** **52.44 298** *e*P **P** **12 28 12.9 -0.1**
BKZ **Black Stump Fm** **52.66 135** *e*P **P** **12 28 14.4 0.0**
comp=Z,15nm,0.8s
BOK **Bokaro** **52.91 306** *e*P **P** **12 28 15.7 -0.8**
BOK AMB AMB 12 28 16.7
comp=Z,18nm,1.4s
ODAN **Odare** **53.27 310** *e*P **P** **12 28 19.1 -0.2**
comp=Z,37nm,0.4s
TAPN **Taplejung** **53.29 311** *e*P **P** **12 28 19.3 -0.2**
comp=Z,105nm,0.4s
GTA **Gaotai** **53.66 330** ⇑P **P** **12 28 22.4 +0.6**
GTA pP **pP** **12 28 51.4 -0.3**
GTA sP **sP** **12 29 05.8 0.0**
GTA PP **PP** **12 30 26.5 +2.5**
GTA ScP **ScP** **12 33 12.6 -0.1**
GTA S **S** **12 35 46.1 +0.2**
GTA sS **sS** **12 36 36.8 -0.8**
GTA ScS **ScS** **12 37 57.6 -1.2**
GTA SS **SS** **12 39 27.8 -0.7**
GTA pmax pmax
comp=Z,23nm,1.1s
GTA pmax pmax
comp=Z,99nm,4.3s
GTA LR LR
comp=Z,170nm,16.6s
GTA LR LR
comp=Z,180nm,16.6s
GTA LR LR
comp=Z,140nm,16.4s
RAMN **Ramite** **53.92 310** *e*P **P** **12 28 24.1 0.0**
comp=Z,175nm,0.4s
JIRN **Jiri** **54.60 310** *e*P **P** **12 28 28.9 -0.2**
comp=Z,56nm,0.5s
GUN **Gumba** **54.97 310** *e*P **P** **12 28 31.5 -0.2**
comp=Z,106nm,0.4s
PKI **Pulchoki** **55.15 310** *e*P **P** **12 28 32.4 -0.6**
PKIN **Phulchoki** **55.16 310** *e*P **P** **12 28 32.7 -0.3**
comp=Z,14nm,0.3s
KKN **Kakani** **55.36 310** *e*P **P** **12 28 34.1 -0.3**
comp=Z,42nm,0.4s
DMN **Daman** **55.40 310** *e*P **P** **12 28 34.5 -0.2**
comp=Z,50nm,0.4s
GKN **Gorkha** **55.96 310** *e*P **P** **12 28 38.3 -0.3**
comp=Z,90nm,0.4s
HYB **Hyderabad** **56.57 296** *i*P **P** **12 28 41.0 -2.0**
HYB *e*sP **sP** **12 29 30.0 +2.7**
HYB **Hyderabad** **56.57 296** *e*P **P** **12 28 40.9 -2.0**
HYB AMB AMB 12 28 42.2
comp=Z,28nm,1.8s
KOLN **Koldanda** **56.64 309** *e*P **P** **12 28 43.4 -0.1**
comp=Z,35nm,0.5s
DANN **Dangsing** **56.80 310** *e*P **P** **12 28 44.4 -0.3**
comp=Z,30nm,0.4s
ULN **Ulaanbaatar** **57.78 341** *e*P **P** **12 28 51.8 +0.7**
comp=Z,10nm,0.6s
SONM **Songino Array** **57.97 341** P **P** **12 28 53.2 +0.9**
SONM **Songino Array** **57.97 341** P **P** **12 28 53.2 +0.9**
comp=Z,3.4nm,0.4s,baz=162,slow=7.3,SNR=35
BHPL **Bhopal** **59.67 301** *e*P **P** **12 29 03.2 -1.3**
BHPL AMB AMB 12 29 04.2
comp=Z,20nm,0.8s
POO **Poona** **61.17 295** *e*P **P** **12 29 13.0 -1.7**
POO *e*P **P** **12 29 14.4 -0.3**
POO AMB AMB 12 29 20.5
comp=Z,9.0nm,0.8s
WMQ **Urumqi** **63.14 326** P **P** **12 29 28.4 +0.9**
WMQ pP **pP** **12 29 58.8 +0.5**
WMQ PcP **PcP** **12 30 04.6 +0.7**
WMQ sP **sP** **12 30 12.8 +0.6**
WMQ PP **PP** **12 31 50.3 +2.3**
WMQ ScP 12 33 53.8
WMQ sS **sS** **12 38 39.8 -2.1**
WMQ ScS **SKSac** **12 39 05.0 -3.4**

WMQ SS **SS** **12 41 56.6 -0.7**
WMQ pmax pmax
comp=Z,41nm,0.9s
WMQ pmax pmax
comp=Z,170nm,4.8s
WMQ LR LR
comp=Z,51nm,19.9s
WMQ LR LR
comp=Z,680nm,19.9s
SMLA **Simla** **63.16 309** *e*P **P** **12 29 27.8 +0.1**
SMLA AMB AMB 12 29 28.5
comp=Z,50nm,0.9s
PETK **Petropavlovsk-** **63.45 18** P **P** **12 29 29.8 +0.6**
PETK **Petropavlovsk-** **63.45 18** P **P** **12 29 29.8 +0.6**
comp=Z,5.4nm,0.6s,baz=179,slow=8.5,SNR=43
DHRM **DHARAMSHALA** **64.32 310** *e*P **P** **12 29 35.1 -0.5**
DHRM AMB AMB 12 29 36.0
comp=Z,40nm,0.4s
KSH **Kashi** **67.92 317** P **P** **12 30 00.0 +1.6**
KSH *e*PP **PP** **12 32 32.1 +2.2**
KSH *e*PcS 12 34 30.3
KSH *e*S **S** **12 38 44.0 -3.2**
KSH pmax pmax
comp=Z,19nm,1.1s
KSH pmax pmax
comp=Z,80nm,7.6s
KSH LR LR
comp=Z,270nm,7.8s
KSH LR LR
comp=Z,320nm,11.5s
KSH LR LR
comp=Z,90nm,4.0s
MK31 **Makanchi Array** **67.98 326** *e*P **P** **12 29 59.1 +0.7**
MKAR **Makanchi Array** **67.98 326** P **P** **12 29 59.4 +0.9**
MKAR **Makanchi Array** **67.98 326** P **P** **12 29 59.4 +0.9**
comp=Z,28nm,0.4s,baz=112,slow=9.1,SNR=408
KZA **Kyzart** **69.65 319** P **P** **12 30 10.7 +1.3**
SNR=16
TKM2 **Tokmak 2** **69.84 320** P **P** **12 30 11.2 +0.9**
SNR=16
TKM2 **Tokmak 2** **69.84 320** *e*P **P** **12 30 11.0 +0.7**
comp=Z,15nm,0.6s
KBK **Karagaybulak** **70.12 320** P **P** **12 30 13.1 +1.1**
SNR=9.9
UCH **Uchtor** **70.20 319** P **P** **12 30 14.1 +1.3**
SNR=21
AAK **Ala-Archa** **70.41 319** P **P** **12 30 15.0 +1.3**
comp=Z,142nm,1.1s,SNR=10
AAK **Ala-Archa** **70.41 319** P **P** **12 30 15.3 +1.6**
SNR=14
AAK **Ala-Archa** **70.41 319** *e*P **P** **12 30 14.7 +1.0**
comp=Z,26nm,1.1s
AAK **Ala-Archa** **70.41 319** P **P** **12 30 15.1 +1.4**
comp=Z,8.9nm,0.5s,baz=120,slow=5.0,SNR=25
CHMS **Chumysh** **70.42 320** P **P** **12 30 14.8 +1.2**
SNR=5.3
AML **Almayashu** **70.69 319** P **P** **12 30 16.9 +1.2**
SNR=25
USP **Ospenovka** **70.71 320** P **P** **12 30 16.2 +0.9**
SNR=21
KBL **Kabul** **70.79 310** *e*P **P** **12 30 16.7 +0.5**
EKS2 **Erkin-Say** **70.88 319** P **P** **12 30 17.8 +1.3**
SNR=16
EKS2 **Erkin-Say** **70.88 319** *e*P **P** **12 30 17.5 +1.0**
comp=Z,26nm,0.9s
SEY **Seymchan** **70.98 10** P **P** **12 30 15.6 -1.0**
SEY **Seymchan** **70.98 10** P **P** **12 30 15.6 -1.0**
comp=Z,6.4nm,0.9s,baz=44,slow=22,SNR=21
ZAA0 **Zalesovo Array** **71.22 333** *e*P **P** **12 30 17.6 -0.5**
ZALV **Zalesovo Beam** **71.22 333** P **P** **12 30 17.9 -0.3**
ZALV **Zalesovo Beam** **71.22 333** P **P** **12 30 17.9 -0.3**
comp=Z,3.9nm,0.4s,baz=119,slow=5.2,SNR=35
KURBB **Kurchatov Arra** **72.23 328** P **P** **12 30 24.6 +0.3**
comp=Z,5.5nm,0.4s,baz=127,slow=4.6,SNR=90
KURK **Kurchatov** **72.24 328** P **P** **12 30 24.8 +0.5**
comp=Z,47nm,0.6s,SNR=16
KURK **Kurchatov** **72.24 328** P **P** **12 30 24.6 +0.3**
VNDA **Vanda** **73.08 173** P **P** **12 30 29.6 +0.6**
VNDA **Vanda** **73.08 173** P **P** **12 30 29.6 +0.6**
comp=Z,2.9nm,0.5s,baz=305,slow=8.4,SNR=20
KKAR **Karatay Array** **73.22 318** *e*P **P** **12 30 31.1 +0.7**
IDAH **Dahanechah** **77.44 305** *e*P **P** **12 30 56.1 +1.1**
BVAR **Borovoye Array** **77.80 328** P **P** **12 30 56.3 +0.1**
BVAR **Borovoye Array** **77.80 328** P **P** **12 30 56.3 +0.1**
comp=Z,5.3nm,0.8s,baz=124,slow=9.3,SNR=30
BRVK **Borovoye** **77.87 328** P **P** **12 30 56.9 +0.3**
comp=Z,73nm,1.1s,SNR=5.9
BRVK **Borovoye** **77.87 328** *e*P **P** **12 30 56.9 +0.3**
comp=Z,12nm,1.0s
IKOO **Kooshah** **78.06 305** *e*P **P** **12 30 59.2 +0.7**
IMYA **Miami** **78.27 309** *e*P **P** **12 31 00.2 +0.8**
ABKAR **Akbulak array** **82.34 321** *e*P **P** **12 31 20.9 +0.2**
IPAR **Pars** **82.43 301** *e*P **P** **12 31 21.0 -1.0**
ISHM **Shahmirzad** **83.47 307** *e*P **P** **12 31 27.5 +0.3**
QSPA **South Pole Qui** **83.69 180** *e*P **P** **12 31 27.1 -0.4**
comp=Z,6.9nm,0.5s
AKTO **Aktyubinsk** **83.89 322** P **P** **12 31 28.9 +0.2**
AKTO **Aktyubinsk** **83.89 322** P **P** **12 31 28.9 +0.2**
comp=Z,1.6nm,0.5s,baz=135,slow=5.8,SNR=7.7
IKLH **Kolahrood** **84.34 304** *e*P **P** **12 31 32.3 +0.6**
SYO **Syowa Base** **84.56 201** ⇓*e*P **P** **12 31 31.0 -0.7**
IPIR **Pirpir** **84.79 304** *e*P **P** **12 31 33.7 -0.2**
ARU **Arti** **85.43 328** *e*P **P** **12 31 35.8 -0.5**
comp=Z,9.2nm,1.1s
ILAR **Eielson Array** **92.43 25** P **P** **12 32 07.4 -1.8**
ILAR **Eielson Array** **92.43 25** P **P** **12 32 07.4 -1.8**
comp=Z,0.8nm,0.6s,baz=262,slow=4.6,SNR=16
KMBO **Kilima Mbogo** **93.25 269** P **P** **12 32 14.4 +0.1**
KMBO **Kilima Mbogo** **93.25 269** P **P** **12 32 14.4 +0.1**
comp=Z,0.8nm,0.5s,baz=235,slow=23,SNR=3.5
FINES **FINESS Array B** **102.44 332** PKiKP **PKiKP** **12 37 14.9 -0.2**
FINES **FINESS Array B** **102.44 332** PKiKP **PKiKP** **12 37 15.0 -0.2**
comp=Z,0.8nm,0.6s,baz=98,slow=2.4,SNR=4.2
YKA **Yellowknife Ar** **106.83 26** PKiKP **PKiKP** **12 37 22.9 -0.3**
YKA **Yellowknife Ar** **106.83 26** PKiKP **PKiKP** **12 37 22.9 -0.3**
comp=Z,0.4nm,0.5s,baz=288,slow=1.9,SNR=11
NVAR **Mina Array Bea** **110.35 51** PKiKP **PKiKP** **12 37 32.5 +1.6**
NVAR **Mina Array Bea** **110.35 51** PKiKP **PKiKP** **12 37 32.5 +1.6**
comp=Z,0.2nm,0.3s,baz=288,slow=3.6,SNR=3.2
GERES **GERESS Array B** **112.28 320** PKiKP **PKiKP** **12 37 33.5 -0.5**
GERES **GERESS Array B** **112.28 320** PKiKP **PKiKP** **12 37 33.5 -0.5**
comp=Z,0.5nm,0.4s,baz=80,slow=1.5,SNR=5.1
DAVOX **Davos/Dischmat** **115.36 319** PKP **PKPdf** **12 37 40.3 +0.1**
DAVOX **Davos/Dischmat** **115.36 319** PKP **PKPdf** **12 37 40.3 +0.1**
comp=Z,1.1nm,0.4s,baz=335,slow=19,SNR=3.5
PDAR **Pinedale Array** **115.93 45** PKP **PKPdf** **12 37 41.5 +0.1**
PDAR **Pinedale Array** **115.93 45** PKP **PKPdf** **12 37 41.5 +0.1**
comp=Z,0.3nm,0.5s,baz=145,slow=2.4,SNR=4.7
EKA **Eskdalemuir Ar** **118.83 332** PKP **PKPdf** **12 37 47.0 +0.7**
EKA **Eskdalemuir Ar** **118.83 332** PKP **PKPdf** **12 37 47.0 +0.7**
comp=Z,0.2nm,0.4s,baz=31,slow=3.7,SNR=3.5
F27A **Lemmon** **119.93 40** P **PKPdf** **12 37 48.9 +0.1**
baz=120
T23A **Casias Ranch,** **120.14 51** P **PKPdf** **12 37 50.5 +0.7**
baz=120
G27A **Dupree** **120.19 40** P **PKPdf** **12 37 48.7 -0.6**
baz=120
Z22A **Elephant Butte** **120.37 55** P **PKPdf** **12 37 50.7 +0.5**
baz=120
H27A **Howes** **120.40 41** P **PKPdf** **12 37 49.4 -0.3**
baz=120
N25A **Grover** **120.43 46** P **PKPdf** **12 37 50.1 0.0**
baz=120
G28A **Parade** **120.97 40** P **PKPdf** **12 37 50.8 0.0**
baz=121
R25A **Fountain Ranch** **121.15 49** P **PKPdf** **12 37 51.9 +0.4**
baz=121
S25A **Robets Cordova** **121.18 50** P **PKPdf** **12 37 52.3 +0.6**
baz=121
I28A **Midland** **121.25 42** P **PKPdf** **12 37 51.2 -0.2**
baz=121
C30A **Mose, Pekin** **121.30 37** P **PKPdf** **12 37 50.8 -0.6**
baz=121
P26A **Davis Ranch, A** **121.38 47** P **PKPdf** **12 37 51.9 0.0**
baz=121
D30A **Buchanan** **121.42 37** P **PKPdf** **12 37 51.1 -0.5**
baz=121
Y24A **Capitan** **121.44 54** P **PKPdf** **12 37 52.8 +0.5**
baz=121
ULM **Lac du Bonnet** **121.50 33** PKP **PKPdf** **12 37 50.9 -0.7**
ULM **Lac du Bonnet** **121.50 33** PKP **PKPdf** **12 37 50.9 -0.7**
comp=Z,1.5nm,0.4s,baz=340,slow=4.1,SNR=7.1
V25A **Rancho No Teng** **121.58 52** P **PKPdf** **12 37 52.6 +0.1**
baz=122
124A **Stringfield Ra** **121.73 55** P **PKPdf** **12 37 53.3 +0.3**
baz=122

MNTX	**Cornudas Mount**	**122.03**	**56**	*e*PKPdf	**PKPdf**	**12 37 53.8**	**+0.5**
Y25A	**Mesa, Roswell**	**122.04**	**54**	P	**PKPdf**	**12 37 53.6**	**+0.2**
	baz=122						
J29A	**Okreek**	**122.05**	**42**	P	**PKPdf**	**12 37 52.4**	**-0.5**
	baz=122						
226B	**Tecolote Peak,**	**122.94**	**56**	P	**PKPdf**	**12 37 55.2**	**+0.2**
	baz=123						
T28A	**Walsh**	**123.11**	**49**	P	**PKPdf**	**12 37 55.2**	**0.0**
	baz=123						
526A	**Mary Lane Ranc**	**123.49**	**58**	P	**PKPdf**	**12 37 56.4**	**+0.2**
	baz=124						
527A	**Woodward Ranch**	**123.87**	**58**	P	**PKPdf**	**12 37 57.5**	**+0.5**
	baz=124						
427A	**Hayter Ranch,**	**123.88**	**57**	P	**PKPdf**	**12 37 57.3**	**+0.4**
	baz=124						
TXAR	**Lajitas Array**	**124.01**	**59**	PKP	**PKPdf**	**12 37 57.8**	**+0.6**
TXAR	**Lajitas Array**	**124.01**	**59**	PKP	**PKPdf**	**12 37 57.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=209,slow=2.4,SNR=12						
228A	**UT Block 9, Go**	**124.22**	**55**	P	**PKPdf**	**12 37 57.8**	**+0.3**
	baz=124						
627A	**Terlingua Ranc**	**124.22**	**59**	P	**PKPdf**	**12 37 58.2**	**+0.6**
	baz=124						
328A	**Wristen Ranch,**	**124.24**	**56**	P	**PKPdf**	**12 37 58.1**	**+0.6**
	baz=124						
P31A	**Stockton**	**124.26**	**46**	P	**PKPdf**	**12 37 57.8**	**+0.5**
	baz=124						
BGNE	**Belgrade**	**124.35**	**43**	P	**PKPdf**	**12 37 57.1**	**-0.3**
	baz=124						
Y29A	**Porterfield Fa**	**124.47**	**53**	P	**PKPdf**	**12 37 58.2**	**+0.2**
	baz=124						
628A	**Black Gap, Mar**	**124.64**	**58**	P	**PKPdf**	**12 37 58.7**	**+0.4**
	baz=125						
X30A	**Coker Ranch, T**	**124.92**	**52**	P	**PKPdf**	**12 37 59.0**	**+0.2**
	baz=125						
Q32A	**Meitler Ranch,**	**125.05**	**46**	P	**PKPdf**	**12 37 59.0**	**+0.2**
	baz=125						
R32A	**Long Quarter,**	**125.16**	**47**	P	**PKPdf**	**12 37 59.5**	**+0.4**
	baz=125						
429A	**Davenport Ranc**	**125.19**	**57**	P	**PKPdf**	**12 37 60.0**	**+0.6**
	baz=125						
V31A	**Spring Creek L**	**125.28**	**50**	P	**PKPdf**	**12 38 00.2**	**+0.8**
	baz=125						
W31A	**Holland Ranch,**	**125.40**	**51**	P	**PKPdf**	**12 37 59.6**	**-0.1**
	baz=125						
430A	**Baggett Ranch,**	**125.69**	**56**	P	**PKPdf**	**12 38 00.8**	**+0.5**
	baz=126						
530A	**J-C Ranch, Com**	**125.78**	**57**	P	**PKPdf**	**12 38 00.3**	**-0.2**
	baz=126						
Z32A	**Haskell**	**126.38**	**53**	P	**PKPdf**	**12 38 02.5**	**+1.0**
	baz=126						
531A	**Rocksprings**	**126.44**	**57**	P	**PKPdf**	**12 38 01.8**	**0.0**
	baz=126						
631A	**Perdido Creek**	**126.61**	**58**	P	**PKPdf**	**12 38 02.8**	**+0.7**
	baz=127						
232A	**Coleman**	**126.69**	**55**	P	**PKPdf**	**12 38 02.8**	**+0.6**
	baz=127						
JCT	**Junction City**	**126.97**	**56**	P	**PKPdf**	**12 38 02.3**	**-0.4**
	baz=127						
632A	**Uvalde**	**127.25**	**58**	P	**PKPdf**	**12 38 03.8**	**+0.5**
	baz=127						
732A	**Laxson Ranch,**	**127.30**	**59**	P	**PKPdf**	**12 38 04.4**	**+1.0**
	baz=127						
333A	**Richland Sprin**	**127.39**	**55**	P	**PKPdf**	**12 38 03.8**	**+0.3**
	baz=127						
832A	**Faith Ranch, C**	**127.41**	**59**	P	**PKPdf**	**12 38 04.5**	**+0.9**
	baz=127						
433A	**Art**	**127.47**	**56**	P	**PKPdf**	**12 38 04.5**	**+0.8**
	baz=127						
633A	**Saathoff Ranch**	**127.77**	**57**	P	**PKPdf**	**12 38 05.0**	**+0.7**
	baz=128						
833A	**Chaparral WMA,**	**127.89**	**59**	P	**PKPdf**	**12 38 05.2**	**+0.7**
	baz=128						
534A	**Blanco**	**128.20**	**57**	P	**PKPdf**	**12 38 05.4**	**+0.3**
	baz=128						
TORD	**Torodi Ar. Bea**	**129.29**	**282**	PKP	**PKPdf**	**12 38 07.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**129.29**	**282**	PKP	**PKPdf**	**12 38 07.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=58,slow=1.4,SNR=5.1						
JTS	**JuntasAbangare**	**144.57**	**81**	PKP	**PKPdf**	**12 38 36.0**	**+0.3**
JTS	**JuntasAbangare**	**144.57**	**81**	PKP	**PKPdf**	**12 38 36.0**	**+0.3**
	comp=Z,12nm,0.4s,baz=300,slow=2.4,SNR=8.5						
LPAZ	**La Paz**	**150.88**	**141**	PKPbc	**PKPbc**	**12 38 53.7**	**+1.1**
LPAZ	**La Paz**	**150.88**	**141**	PKPbc	**PKPbc**	**12 38 53.7**	**+1.1**
	comp=Z,7.3nm,0.4s,baz=12,slow=2.3,SNR=22						

CSEM ***18*** *12:24:38.3, 40˚.40N×21˚.92E, h7km, ML1.8/4, After THE SKO* ***18*** *12:24:39.5, 40˚.31N×21˚.78E, h7km*

THE 18 12:24:38.3, 40˚.40N×21˚.92E, h7km±2km, ML1.8/4, Error ellipse: s-maj=2.2km s-min=0.7km az=243.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
LIT	**Litokhoron**	**0.53**	**124**	P		Pg	12 24 48.4	-0.2
LIT				S		Sg	12 24 55.9	+0.3
LIT	**Litokhoron**	**0.53**	**124**	P		Pg	12 24 48.4	-0.2
LIT				S		Sg	12 24 55.9	+0.3
FNA	**Florina**	**0.56**	**313**	P		Pg	12 24 48.2	-1.1
FNA				S		Sg	12 24 57.5	+0.8
FNA	**Florina**	**0.56**	**313**	P		Pg	12 24 48.2	-1.1
FNA				S		Sg	12 24 57.5	+0.8
NEST	**Nestorio**	**0.66**	**272**	P		Pg	12 24 50.1	-1.1
NEST				S		Sg	12 25 00.7	+0.7
NEST	**Nestorio**	**0.66**	**272**	P		Pg	12 24 50.1	-1.1
NEST				S		Sg	12 25 00.7	+0.7
GRG	**Griva**	**0.67**	**33**	P		Pg	12 24 51.0	-0.3
GRG				S		Sg	12 25 00.9	+0.9
GRG	**Griva**	**0.67**	**33**	P		Pg	12 24 51.0	-0.3
GRG				S		Sg	12 25 00.9	+0.9
BIA	**Bitola**	**0.77**	**324**	*i* Pg		Pb	12 24 54.8	+0.8
BIA				*i* Sg		Sb	12 25 05.8	+1.1
MEV	**Metsovon**	**0.81**	**221**	P		Pg	12 24 54.3	+0.2
MEV	**Metsovon**	**0.81**	**221**	P		Pg	12 24 54.3	+0.2
KBN	**Korca**	**0.89**	**285**	*i* PG		Pg	12 24 53.0	-2.5
KBN				*i* SG		Sn	12 25 09.7	-0.8
VAY	**Valandovo**	**1.05**	**28**	*i* Pg		Pn	12 25 00.3	+0.9
VAY				*i* Sg		Sn	12 25 18.2	+4.0
VAY				*i* Lg		Lg	12 25 21.4	
	comp=N,51nm,1.2s							
VAY				*i* Lg		Lg	12 25 23.3	
	comp=E,42nm,1.0s							
SOH	**Sokhos**	**1.17**	**68**	P		Pg	12 25 00.2	-0.7
SOH				S		Sn	12 25 17.3	-0.2
SOH	**Sokhos**	**1.17**	**68**	P		Pg	12 25 00.2	-0.7
SOH				S		Sn	12 25 17.3	-0.2

MOS ***18*** *12:28:34.8±1.1, 31˚.26S×68˚.70W, h99km, mb5.5/33, Error ellipse: s-maj=12.6km s-min=6.7km az=100.1*

NEIC ***18*** *12:28:34.9±0.3, 31˚.36S×68˚.60W, h94km±2km, mb5.5/131, MW5.4, MD5.5(SJA), Error ellipse: s-maj=4.4km s-min=2.8km az=90.0*

NEIC Felt [IV] at San Juan and [III] at Mendoza. Felt [III] at Coquimbo, La Serena and Vicuna; [II] at Andacollo, Combarbala, Monte Patria, Ovalle, Punitaqui, Quillota, Rio Hurtado, San Felipe, Santiago, Valparaiso and Vina del Mar, Chile. Also felt at Copiapo, La Ligua and La Serena.

GCMT ***18*** *12:28:34.9±0.2, 31˚.48S×68˚.97W, h116km±1km, MW5.4/104, Moment Tensor Solution. s94,c139; s104,c168; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr-1.39±.03; Mθθ0.98±.04; Mϕϕ0.41±.04; Mrθ-0.42±.02; Mrϕ0.71±.03; Mθϕ-0.15±.03; Best double couple: M0 1.49200×1017 NP1:ϕs60.00000˚, δ54.00000˚, λ-85.00000˚. NP2:ϕs231.00000˚, δ37.00000˚, λ-97.00000˚. Principal axes: T 1.5210, Plg8.0000˚, Azm147.0000˚; N -0.0600, Plg4.0000˚, Azm237.0000˚; P -1.4630, Plg80.0000˚, Azm354.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

GUC ***18*** *12:28:35.5±0.6, 31˚.34S×68˚.81W, h105km±83km, ML5.7*

ISCJB ***18*** *12:28:35.2±0.2, 31˚.31S±0˚.02×68˚.72W±0˚.03, h104km±1km, mb5.4/161, Error ellipse: s-maj=4.3km s-min=3.5km az=180.0*

SJA ***18*** *12:28:35.6±1.1, 31˚.34S×68˚.84W, h100km±4km, MD4.2, ML5.3, MW4.6, Fault plane solution: NP1:ϕs49.00000˚, δ47.00000˚, λ-91.00000˚.*

IDC ***18*** *12:28:36.0±0.3, 31˚.34S×68˚.66W, h101km±2km, mb4.8/21, mb1 4.9/24, mb1mx4.9/25, mbtmp5.2/24, MS4.2/7, Ms1 4.2/7, ms1mx3.9/20, Error ellipse: s-maj=12.0km s-min=9.4km az=77.0*

NEIC ***18*** *12:28:51.1±0.0, 30˚.97S×67˚.99W, h93km, Moment Tensor Solution. s107 Moment tensor: Scale 1017Nm; Mrr-1.25; Mθθ1.29; Mϕϕ-0.04; Mrθ-0.22; Mrϕ0.85; Mθϕ0.23; Best double couple: M0 1.50000×1017 NP1:ϕs226.00000˚, δ46.00000˚, λ-115.00000˚. NP2:ϕs81.00000˚, δ50.00000˚, λ-64.00000˚. Principal axes: T 1.7100, Plg1.0000˚, Azm154.0000˚; N -0.3500, Plg18.0000˚, Azm244.0000˚; P -1.3600, Plg71.0000˚, Azm58.0000˚;*

ISC 18 12:28:35.8±0.3, 31˚.35S±0˚.03×68˚.78W±0˚.03, h103km±2km, h103km:pP-P, n1022, σ1§12/1148, mb5.4/162, 272C-231D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
SJA	**San Juan**	**0.25**	**133**	⇓*e*P		**Pn**	**12 28 51.6**	**+1.0**
SJA				*i* P		Pn	12 28 51.6	+1.0
SJA				*i* S		Sn	12 29 02.1	+0.3
SJA				*e*S		Sn	12 29 02.3	+0.6
SJA				IAML			12 29 07.1	
	comp=Z,62μm,0.3s							
RTLL	**Cerro Villicun**	**0.26**	**85**	⇓*e*P		**Pn**	**12 28 51.2**	**+0.5**
RTLL				*e*S		Sn	12 29 01.5	-0.3
RTLL				*i* S		Sn	12 29 02.7	+0.9
AMOG	**MOGNA**	**0.48**	**30**	⇑*e*P		**Pn**	**12 28 52.5**	**+0.6**
AMOG				*i* P		Pn	12 28 52.5	+0.6
CFAA	**Coronel Fontan**	**0.52**	**119**	P		**Pn**	**12 28 53.2**	**+1.1**
CFAA				S		Sn	12 29 05.6	+1.2
CFAA	**Coronel Fontan**	**0.52**	**119**	P		**Pn**	**12 28 53.2**	**+1.1**
	comp=Z,2μm,0.3s,baz=288,slow=9.0							
CFAA				S		Sn	12 29 05.6	+1.2
	comp=Z,3μm,0.3s,baz=196,slow=16,SNR=299							
CFAA	**Coronel Fontan**	**0.52**	**119**	⇓*e*P		**Pn**	**12 28 51.8**	**-0.4**
CFAA				*i* P		Pn	12 28 51.8	-0.4
CFAA				⇓*e*P		Pn	12 28 52.8	+0.6
CFAA				*e*P		Pn	12 28 53.0	+0.8
CFAA				*e*S		Sn	12 29 05.6	+1.2
CFAA				*i* S		Sn	12 29 05.8	+1.4
RTCV	**Cerro Valdivia**	**0.55**	**159**	*i* P		**Pn**	**12 28 53.0**	**+0.7**
RTCV				⇓*e*P		Pn	12 28 53.0	+0.7
RTLS	**Leoncito**	**0.63**	**225**	*i* P		**Pn**	**12 28 53.8**	**+0.6**
RTLS				⇑*e*P		Pn	12 28 53.9	+0.6
AUSP	**Uspallata**	**1.01**	**211**	⇓*i*P		**Pn**	**12 28 57.5**	**+0.5**
ASAL	**Salagasta**	**1.24**	**182**	⇑*i*P		**Pn**	**12 29 00.1**	**+0.8**
AVFE	**Valle Fertil**	**1.33**	**59**	⇓*i*P		**Pn**	**12 29 01.5**	**+1.3**
AVFE				IAML			12 29 23.5	
	comp=Z,22μm,0.5s							
ARCO	**CERRO ARCO**	**1.49**	**185**	⇑*i*P		**Pn**	**12 29 03.1**	**+0.8**
ARCO				*e*S		Sn	12 29 23.8	+1.4
ARCO				IAML			12 29 26.4	
	comp=Z,79μm,0.7s							
ACAN	**Cantantal**	**1.63**	**125**	⇑*i*P		**Pn**	**12 29 05.3**	**+1.3**
AAGR	**Agrelo**	**1.73**	**182**	⇑*i*P		**Pn**	**12 29 05.9**	**+0.7**
AAGR				*i* P		Pn	12 29 05.9	+0.7
ACHE	**Chepes**	**1.82**	**85**	⇑*i*P		**Pn**	**12 29 07.6**	**+1.3**
ACHE				*e*P		Pn	12 29 07.7	+1.3
CMCH	**Combarbala**	**1.92**	**275**	⇓*i*P		**Pn**	**12 29 07.4**	**-0.1**
CMCH				*i* S		Sn	12 29 31.6	-0.1
CMCH	**Combarbala**	**1.92**	**275**	⇓*i*P		**Pn**	**12 29 07.4**	**-0.1**
CMCH				*i* S		Sn	12 29 31.6	-0.1
JACH	**Jahuel**	**2.04**	**229**	*e*P		**Pn**	**12 29 09.6**	**+0.5**
JACH	**Jahuel**	**2.04**	**229**	*e*P		**Pn**	**12 29 09.6**	**+0.5**
AVIZ	**Vizcacheras**	**2.13**	**174**	*i* P		**Pn**	**12 29 11.0**	**+0.8**
AVIZ				⇑*e*P		Pn	12 29 11.1	+0.8
APLL	**PUNTA DE LOS L**	**2.15**	**64**	*i* P		**Pn**	**12 29 12.4**	**+1.9**
APLL				⇑*e*P		Pn	12 29 12.4	+1.9
PEL	**Peldehue**	**2.41**	**222**	⇓*i*P		**Pn**	**12 29 13.7**	**-0.2**
PEL				*e*S		Sn	12 29 43.2	+0.1
PEL				AML		AML	12 29 45.5	
	comp=E,56μm,0.5s							
CLCH	**Cerro Calan**	**2.53**	**216**	⇑*i*P		**Pn**	**12 29 15.8**	**+0.4**
CLCH				*e*S		Sn	12 29 45.8	0.0
CLCH				AML		AML	12 29 57.6	
	comp=E,39μm,0.4s							
SAN	**Santiago**	**2.63**	**217**	*e*P		**Pn**	**12 29 17.1**	**+0.3**
SAN	**Santiago**	**2.63**	**217**	*e*P		**Pn**	**12 29 17.1**	**+0.3**
SAN	**Santiago**	**2.63**	**217**	*e*P		**Pn**	**12 29 17.1**	**+0.3**
PCH	**Pirque**	**2.70**	**213**	*e*P		**Pn**	**12 29 17.6**	**-0.1**
PCH	**Pirque**	**2.70**	**213**	*e*P		**Pn**	**12 29 17.6**	**-0.1**
ANTU	**Antumapu**	**2.71**	**215**	*e*P		**Pn**	**12 29 18.2**	**+0.3**
ANTU				*e*S		Sn	12 29 50.4	+0.2
ANTU				AML		AML	12 29 54.9	
	comp=N,17μm,0.5s							
ANTU	**Antumapu**	**2.71**	**215**	*e*P		**Pn**	**12 29 18.2**	**+0.3**
ANTU				*e*S		Sn	12 29 50.4	+0.2
LCO	**Las Campanas**	**2.87**	**324**	⇑*i*P		**Pn**	**12 29 20.5**	**+0.3**
LCO				*e*S		Sn	12 29 54.4	+0.2
LCO	**Las Campanas**	**2.87**	**324**	⇑*i*P		**Pn**	**12 29 20.5**	**+0.3**
LCO				*e*S		Sn	12 29 54.4	+0.2
LCO	**Las Campanas**	**2.87**	**324**	⇑*i*P		**Pn**	**12 29 20.4**	**+0.3**
TACH	**Talagante**	**2.93**	**218**	*e*P		**Pn**	**12 29 20.1**	**-0.7**
TACH	**Talagante**	**2.93**	**218**	P		**Pn**	**12 29 20.1**	**-0.7**
CHCH	**Chadas Angostu**	**3.02**	**211**	*e*P		**Pn**	**12 29 22.1**	**+0.1**
CHCH	**Chadas Angostu**	**3.02**	**211**	*e*P		**Pn**	**12 29 22.1**	**+0.1**
CACH	**El Canelo**	**3.16**	**209**	⇑*e*P		**Pn**	**12 29 24.3**	**+0.5**
CACH	**El Canelo**	**3.16**	**209**	⇑*e*P		**Pn**	**12 29 24.3**	**+0.5**
VACH	**Vallenar**	**3.26**	**328**	*e*P		**Pn**	**12 29 25.2**	**+0.1**
VACH				*e*S		Sn	12 30 02.4	-0.8
VACH	**Vallenar**	**3.26**	**328**	*e*P		**Pn**	**12 29 25.2**	**+0.1**
VACH				*e*S		Sn	12 30 02.4	-0.8
LNV	**Longovilo**	**3.42**	**220**	*e*P		**Pn**	**12 29 25.1**	**-2.1**
LNV	**Longovilo**	**3.42**	**220**	P		**Pn**	**12 29 25.1**	**-2.1**
CYA	**Choya**	**3.88**	**42**	⇑*i*P		**Pn**	**12 29 33.6**	**+0.1**
CPCH	**Copiapo**	**4.21**	**341**	*e*P		**Pn**	**12 29 36.6**	**-1.3**
CPCH	**Copiapo**	**4.21**	**341**	P		**Pn**	**12 29 36.6**	**-1.3**
PB10	**Plate Boundary**	**7.97**	**348**	*e*P		**Pn**	**12 30 26.1**	**-2.8**
PB06	**Plate Boundary**	**8.64**	**355**	*e*P		**Pn**	**12 30 35.4**	**-2.8**
PB06	**Plate Boundary**	**8.64**	**355**	P		**Pn**	**12 30 35.4**	**-2.8**
LVC	**Limon Verde**	**8.71**	**359**	*e*Pn		**Pn**	**12 30 37.1**	**-2.0**
I14CL	**ROBINSON CRUSO**	**8.77**	**252**	*i*			13 20 00.0	
	baz=78,slow=310,SNR=0.1							
PB04	**Plate Boundary**	**9.07**	**356**	⇑*e*P		Pn	12 30 40.0	-3.9
PB04	**Plate Boundary**	**9.07**	**356**	P		Pn	12 30 40.0	-3.9
PLCA	**Paso Flores**	**9.47**	**188**	P		**Pn**	**12 30 47.2**	**-2.1**
PLCA				*e*Pn		Pn	12 30 47.9	-1.4
PLCA	**Paso Flores**	**9.47**	**188**	P		**Pn**	**12 30 47.2**	**-2.1**
	comp=N,4.1nm,0.3s,baz=4.8,slow=13,SNR=64							
PB09	**Plate Boundary**	**9.53**	**357**	*e*P		**Pn**	**12 30 48.0**	**-2.2**
PB09	**Plate Boundary**	**9.53**	**357**	P		**Pn**	**12 30 48.0**	**-2.2**
PB07	**Plate Boundary**	**9.64**	**354**	*e*P		Pn	12 30 47.3	-4.5
PB07	**Plate Boundary**	**9.64**	**354**	P		Pn	12 30 47.3	-4.5
LPA	**La Plata**	**9.76**	**114**	*e*P		**Pn**	**12 30 52.0**	**-1.1**
LPA				S		**Sn**	**12 32 37.0**	**-3.8**
LPA				PCP		**PcP**	**12 36 57.0**	**-0.9**
PB01	**Plate Boundary**	**10.29**	**356**	*e*P		Pn	12 30 56.2	-4.3
PB01	**Plate Boundary**	**10.29**	**356**	P		Pn	12 30 56.2	-4.3
PATCX	**Punta Patache**	**10.56**	**353**	*e*P		Pn	12 30 58.8	-5.4
CPUP	**Villa Florida**	**11.21**	**66**	*e*Pn		**Pn**	**12 31 10.2**	**-2.7**
	comp=N,4.7nm,0.4s							
CPUP				P		**Pn**	**12 31 10.8**	**-2.0**
CPUP	**Villa Florida**	**11.21**	**66**	P		**Pn**	**12 31 10.8**	**-2.0**
	comp=N,6.8nm,0.3s,baz=227,slow=12,SNR=29							
CPUP				LR		LR	12 35 59.4	
	comp=N,934nm,20.6s,baz=232,slow=40							
MNMC	**Minimini**	**12.19**	**356**	*e*P		Pn	12 31 21.0	-5.3
MNMC	**Minimini**	**12.19**	**356**	P		Pn	12 31 21.0	-5.3
LPAZ	**La Paz**	**15.01**	**2**	P		**Pn**	**12 32 01.8**	**-1.3**
LPAZ				*e*Pn		**P**	**12 32 02.6**	**-3.5**
LPAZ				S		**S**	**12 35 01.8**	**+1.8**
LPAZ	**La Paz**	**15.01**	**2**	P		**Pn**	**12 32 01.8**	**-1.3**
	comp=N,6.1nm,0.3s,baz=195,slow=6.5,SNR=104							
LPAZ				S		**S**	**12 35 01.8**	**+1.8**
	baz=151,slow=19,SNR=1.7							
LPAZ				LR		LR	12 38 34.6	
	comp=N,1μm,21.4s,baz=196,slow=40							
ARE	**Arequipa**	**15.03**	**350**	⇑*i*P		**Pn**	**12 32 03.5**	**+0.4**
ARE	**Arequipa**	**15.03**	**350**	⇑*i*P		**Pn**	**12 32 03.5**	**+0.4**
CHRN	**Cochrane**	**16.07**	**190**	*e*P		**Pn**	**12 32 11.5**	**-4.1**
SIV	**San Ignacio**	**16.83**	**26**	P		**Pn**	**12 32 23.6**	**-1.6**
SIV	**San Ignacio**	**16.83**	**26**	P		**Pn**	**12 32 23.6**	**-1.6**
	comp=N,4.8nm,0.3s,baz=230,slow=13,SNR=65							
NNA	**Nana**	**20.66**	**337**	*e*P		**P**	**12 33 08.9**	**+1.4**
	comp=N,418nm,1.7s							
SAML	**Samuel**	**22.89**	**14**	*e*P		**P**	**12 33 30.8**	**-0.1**
	comp=N,32nm,1.3s							
USHA	**Ushuaia**	**23.47**	**180**	P		**P**	**12 33 36.1**	**+0.2**
USHA				S		**S**	**12 37 46.8**	**+5.4**
USHA	**Ushuaia**	**23.47**	**180**	P		**P**	**12 33 36.1**	**+0.2**
	comp=N,226nm,1.0s,baz=341,slow=7.3,SNR=78							
USHA				S		**S**	**12 37 46.8**	**+5.4**
	comp=N,9.7nm,1.0s,baz=150,slow=20,SNR=3.2							
BDFB	**Brasilia**	**24.57**	**55**	P		**P**	**12 33 46.2**	**-0.1**
BDFB	**Brasilia**	**24.57**	**55**	P		**P**	**12 33 46.2**	**-0.1**
	comp=N,12nm,0.6s,baz=226,slow=6.8,SNR=11							
BDFB				LR		LR	12 43 32.3	
	comp=N,926nm,21.9s,baz=200,slow=37							
ATAH	**Atahualpa**	**25.72**	**338**	P		**P**	**12 33 58.5**	**+1.4**
ATAH	**Atahualpa**	**25.72**	**338**	P		**P**	**12 33 58.5**	**+1.4**
	comp=N,7.2nm,0.7s,baz=166,slow=12,SNR=6.1							
PTGA	**Pitinga**	**31.58**	**17**	*e*P		**P**	**12 34 47.5**	**-1.3**
	comp=N,12nm,1.0s							
PTGA				P		**P**	**12 34 48.7**	**0.0**
PTGA	**Pitinga**	**31.58**	**17**	P		**P**	**12 34 48.7**	**0.0**
	comp=N,33nm,0.8s,baz=195,slow=10,SNR=42							
OTAV	**Otavalo**	**32.73**	**342**	*e*P		**P**	**12 35 01.6**	**+2.2**
	comp=N,31nm,1.1s							
ROSC	**El Rosal**	**36.39**	**351**	*e*P		**P**	**12 35 31.7**	**+0.9**
ROSC				P		**P**	**12 35 32.0**	**+1.2**
ROSC	**El Rosal**	**36.39**	**351**	P		**P**	**12 35 32.0**	**+1.2**
	comp=N,8.8nm,0.5s,baz=255,slow=22,SNR=4.7							
RCBR	**Riachuelo**	**39.91**	**57**	P		**P**	**12 35 59.8**	**-0.2**
RCBR	**Riachuelo**	**39.91**	**57**	P		**P**	**12 35 59.8**	**-0.2**
	comp=N,19nm,1.0s,baz=218,slow=12,SNR=5.5							
BCIP	**Isla Barro Col**	**41.66**	**343**	*e*P		**P**	**12 36 15.5**	**+1.3**
	comp=N,80nm,0.8s							
GRGR	**Grenville**	**43.77**	**10**	*e*P		**P**	**12 36 30.9**	**-0.4**
	comp=N,302nm,0.8s							
JTS	**JuntasAbangare**	**44.22**	**337**	P		**P**	**12 36 37.2**	**+2.3**
	comp=N,311nm,1.0s,SNR=5.6							
JTS	**JuntasAbangare**	**44.22**	**337**	*e*P		**P**	**12 36 36.6**	**+1.8**
	comp=N,21nm,1.5s							
JTS	**JuntasAbangare**	**44.22**	**337**	P		**P**	**12 36 36.7**	**+1.8**
	comp=N,29nm,0.8s,baz=121,slow=2.7,SNR=20							
BIM	**Bigot**	**46.20**	**10**	*e*P		**P**	**12 36 49.5**	**-1.0**
TRMF	**Trois Ilets**	**46.22**	**10**	*e*P		**P**	**12 36 50.6**	**-0.1**
ZAM	**Aeronautique**	**46.26**	**10**	*e*P		**P**	**12 36 51.0**	**0.0**
MVM	**Montagne Vaucl**	**46.27**	**11**	*e*P		**P**	**12 36 51.2**	**+0.1**
LPMF	**Morne Lapointe**	**46.27**	**10**	*e*P		**P**	**12 36 50.1**	**-0.9**
FDF	**Fort de France**	**46.40**	**10**	*e*P		**P**	**12 36 50.9**	**-1.2**
FDF				pmax		pmax		
	comp=Z,213nm,0.9s							
FDF	**Fort de France**	**46.40**	**10**	*e*P		**P**	**12 36 51.7**	**-0.4**
FDF	**Fort de France**	**46.40**	**10**	*e*P		**P**	**12 36 50.9**	**-1.2**
	comp=Z,214nm,0.9s							
BVM	**Bellevue**	**46.42**	**10**	*e*P		**P**	**12 36 52.5**	**+0.2**
TGUH	**Tegucigalpa,Un**	**48.52**	**336**	*e*P		**P**	**12 37 09.9**	**+1.4**
	comp=Z,205nm,0.8s							
CDVI	**St. Croix**	**48.97**	**5**	*e*P		**P**	**12 37 11.4**	**-0.5**
	comp=Z,92nm,0.6s							
SABA	**Saba**	**48.98**	**7**	*e*P		**P**	**12 37 11.1**	**-0.8**
	comp=Z,165nm,0.9s							
CRPR	**Cabo Rojo, PR**	**49.10**	**2**	*e*P		**P**	**12 37 12.0**	**-0.9**
	comp=Z,148nm,0.9s							
OBIP	**Obispado Ponce**	**49.16**	**3**	*e*P		**P**	**12 37 12.4**	**-0.9**
	comp=Z,188nm,0.9s							
CELP	**Cerrillos**	**49.19**	**3**	*e*P		**P**	**12 37 12.6**	**-0.9**
LSP	**Las Mesas**	**49.27**	**2**	*e*P		**P**	**12 37 13.7**	**-0.5**
LRS	**Lares**	**49.39**	**2**	*e*P		**P**	**12 37 14.2**	**-0.9**
SDDR	**Presa de Saban**	**50.10**	**357**	*e*P		**P**	**12 37 22.4**	**+1.9**
	comp=Z,33nm,0.9s							
VNA1	**Neumayer--Stat**	**51.06**	**158**	P		**P**	**12 37 29.4**	**+2.3**
VNA2	**Neumayer--Watz**	**51.41**	**158**	P		**P**	**12 37 30.7**	**+0.9**
VNA2	**Neumayer--Watz**	**51.41**	**158**	P		**P**	**12 37 31.0**	**+1.2**
SNAA	**Sanae**	**53.02**	**159**	P		**P**	**12 37 42.4**	**+0.7**
SNAA	**Sanae**	**53.02**	**159**	⇓*i*P		**P**	**12 37 42.0**	**+0.3**
SNAA	**Sanae**	**53.02**	**159**	*e*P		**P**	**12 37 42.2**	**+0.5**

baz=68,SNR=23
CPCT **Cooper Cave** 68.08 346 eP P 12 39 25.3 +1.0
TKL **Tuckaleechee C** 68.13 347 eP P 12 39 24.4 -0.2
433A **Art** 68.14 332 ⇓P P 12 39 25.7 +0.9
baz=68,SNR=97
SWET **Sewanee** 68.15 345 eP P 12 39 25.0 +0.2
comp=Z,157nm,0.9s
JCT **Junction City** 68.19 331 eP P 12 39 26.0 +0.9
JCT pmax pmax
comp=Z,104nm,0.8s
JCT **Junction City** 68.19 331 eP P 12 39 26.0 +0.9
comp=Z,104nm,0.8s
JCT **Junction City** 68.19 331 ⇑P P 12 39 25.9 +0.9
baz=69,SNR=43
531A **Rocksprings** 68.22 331 ⇓P P 12 39 26.4 +1.1
baz=69,SNR=73
334A **Lometa** 68.31 333 ⇑P P 12 39 26.8 +0.9
baz=69,SNR=90
OXF **Oxford** 68.34 342 eP P 12 39 25.5 -0.4
OXF pmax pmax
comp=Z,261nm,1.1s
OXF **Oxford** 68.34 342 eP P 12 39 25.5 -0.4
comp=Z,261nm,1.1s
432A **Menard** 68.53 332 ⇓P P 12 39 28.1 +0.8
baz=69,SNR=22
530A **J-C Ranch, Com** 68.54 330 ⇑P P 12 39 29.0 +1.6
baz=69,SNR=56
333A **Richland Sprin** 68.60 332 ⇑P P 12 39 28.7 +1.1
baz=69,SNR=48
WHTX **Lake Whitney** 68.61 334 eP P 12 39 28.2 +0.6
WHTX **Lake Whitney** 68.61 334 ⇓P P 12 39 28.6 +1.0
baz=69,SNR=15
628A **Black Gap, Mar** 68.65 328 ⇓P P 12 39 29.3 +1.2
baz=69,SNR=83
431A **Sonora** 68.70 331 ⇓P P 12 39 29.3 +1.0
baz=69,SNR=26
627A **Terlingua Ranc** 68.85 328 ⇑P P 12 39 30.3 +1.0
baz=69,SNR=33
234A **Clairette** 68.87 333 ⇓P P 12 39 30.5 +1.2
baz=69,SNR=54
TXAR **Lajitas Array** 68.88 328 P P 12 39 30.5 +1.0
TXAR pP pP 12 39 57.1 +1.7
TXAR ⇑e 13 07 47.0
TXAR **Lajitas Array** 68.88 328 P P 12 39 30.5 +1.0
comp=Z,18nm,0.7s,baz=150,slow=8.2,SNR=181
TXAR pP pP 12 39 57.1 +1.7
comp=Z,7.2nm,0.8s,baz=146,slow=12,SNR=3.6
TXAR PKP2bc 13 07 47.0
comp=Z,0.5nm,1.0s,baz=318,slow=1.7,SNR=3.6
529A **Stev Forest Ra** 68.90 329 ⇑P P 12 39 31.1 +1.5
baz=69,SNR=115
TZTN **Tazewell** 68.95 347 eP P 12 39 29.7 0.0
comp=Z,422nm,2.6s
332A **Millersview** 68.95 332 ⇓P P 12 39 30.8 +1.0
baz=69,SNR=62
430A **Baggett Ranch,** 69.05 330 ⇑P P 12 39 31.8 +1.3
baz=69,SNR=82
BLA **Blacksburg** 69.07 350 eP P 12 39 30.4 -0.1
BLA pmax pmax
comp=Z,44nm,1.0s
BLA **Blacksburg** 69.07 350 eP P 12 39 30.4 -0.1
comp=Z,44nm,1.0s
135A **Vickery Place,** 69.09 334 ⇑P P 12 39 31.5 +0.9
baz=70,SNR=7.7
331A **San Angelo** 69.17 331 ⇓P P 12 39 32.2 +0.9
baz=70,SNR=47
233A **Rising Star** 69.18 333 ⇓P P 12 39 31.9 +0.6
baz=70,SNR=67
528A **Cox Ranch, San** 69.19 329 ⇑P P 12 39 32.5 +1.1
baz=70,SNR=11
429A **Davenport Ranc** 69.19 330 ⇑P P 12 39 33.1 +1.7
baz=70,SNR=66
JSRW **J. Sargeant Re** 69.21 352 eP P 12 39 31.9 +0.7
626A **Big Bend Ranch** 69.28 327 ⇓P P 12 39 33.6 +1.6
baz=70,SNR=73
134A **White-Moore Ra** 69.36 334 ⇑P P 12 39 33.3 +1.0
baz=70,SNR=14
232A **Coleman** 69.36 332 ⇓P P 12 39 33.4 +1.1
baz=70,SNR=47
UALR **University of** 69.42 339 eP P 12 39 33.1 +0.5
comp=Z,51nm,0.8s
527A **Woodward Ranch** 69.54 328 ⇓P P 12 39 34.8 +1.1
baz=70,SNR=58
330A **Mertzon** 69.56 331 ⇑P P 12 39 34.7 +1.0
baz=70,SNR=48
MIAR **Mount Ida** 69.58 338 eP P 12 39 33.8 +0.2
MIAR pmax pmax
comp=Z,101nm,1.3s
MIAR **Mount Ida** 69.58 338 eP P 12 39 33.8 +0.2
comp=Z,100nm,1.3s
428A **Kincaid Ranch,** 69.62 329 ⇓P P 12 39 35.5 +1.4
baz=70,SNR=38
HBAR **Harrisburg** 69.66 341 eP P 12 39 34.5 +0.5
231A **Bronte** 69.67 332 ⇓P P 12 39 35.1 +0.8
baz=70,SNR=52
526A **Mary Lane Ranc** 69.69 328 ⇓P P 12 39 36.3 +1.8
baz=70,SNR=69
133A **Hamilton Ranch** 69.71 333 ⇑P P 12 39 35.6 +1.1
baz=70,SNR=28
Z35A **Perchaven, San** 69.73 335 ⇓P P 12 39 35.7 +1.2
baz=70,SNR=42
GNAR **Gosnell** 69.87 342 eP P 12 39 36.5 +1.2
comp=Z,4µm,1.0s
UTMT **University of** 69.93 343 eP P 12 39 36.3 +0.6
comp=Z,453nm,0.8s
230A **Sterling City** 69.96 331 ⇑P P 12 39 36.3 +0.2
baz=70,SNR=10
GLAT **Glass** 69.97 342 eP P 12 39 36.1 +0.2
329A **Wagon Wheel Ra** 69.97 330 ⇓P P 12 39 36.7 +0.5
baz=70,SNR=62
ABTX **Abilene, Hawle** 70.01 333 ⇓P P 12 39 36.9 +0.5
baz=70,SNR=26
Z34A **Collier Ranch,** 70.01 334 ⇑P P 12 39 36.9 +0.6
baz=70,SNR=30
427A **Hayter Ranch,** 70.05 329 ⇑P P 12 39 37.6 +0.9
baz=70,SNR=32
426A **McDonald Obser** 70.17 328 ⇑P P 12 39 38.7 +1.0
baz=70,SNR=65
PVMO **Portageville** 70.21 342 eP P 12 39 38.1 +0.8
comp=Z,1µm,1.0s
328A **Wristen Ranch,** 70.24 329 ⇑P P 12 39 38.6 +0.8
baz=71,SNR=52
Z33A **Whitaker Ranch** 70.25 334 ⇓P P 12 39 38.5 +0.8
baz=71,SNR=72
229A **Bryant Ranch,** 70.32 331 ⇑P P 12 39 38.5 +0.3
baz=71,SNR=9.9
131A **Roby** 70.35 332 ⇑P P 12 39 38.9 +0.5
baz=71,SNR=41
PARMO **Parma** 70.46 342 eP P 12 39 39.8 +0.9
Y34A **Reagan Ranch,** 70.48 335 ⇑P P 12 39 39.5 +0.4
baz=71,SNR=27
130A **Snyder** 70.51 332 ⇓P P 12 39 39.9 +0.5
baz=71,SNR=22
327A **Balmorhea Ranc** 70.53 329 ⇓P P 12 39 40.7 +1.2
baz=71
Z32A **Haskell** 70.55 333 ⇑P P 12 39 40.1 +0.6
baz=71,SNR=35
TBI **Tubuai** 70.65 254 eS S 12 48 47.1 +0.4
comp=Z,145nm,26.0s
TBI **Tubuai** 70.65 254 eLR LR 13 01 18.2
comp=Z,566nm,37.0s
326A **Caldwell Ranch** 70.70 328 ⇓P P 12 39 41.6 +0.9
baz=71,SNR=42
425A **Indio Mountain** 70.71 327 ⇓P P 12 39 40.9 +0.1
baz=71,SNR=32
PBMO **Poplar Bluff** 70.75 342 eP P 12 39 40.8 +0.1
comp=Z,222nm,0.9s
228A **UT Block 9, Go** 70.78 330 ⇓P P 12 39 41.5 +0.4
baz=71,SNR=50
SDMD **Soldier's Deli** 70.80 353 eP P 12 39 42.1 +1.2
comp=Z,56nm,1.0s
Z31A **Sharp Cattle R** 70.82 333 ⇓P P 12 39 41.9 +0.6
baz=71,SNR=68
Y33A **Hilltop Ranch,** 70.84 334 ⇓P P 12 39 41.7 +0.3
baz=71,SNR=27
129A **Stewart Farms,** 70.92 331 ⇓P P 12 39 42.1 +0.2
baz=71,SNR=40
227A **Bennet, Jal** 70.99 329 ⇑P P 12 39 43.3 +0.9
baz=71,SNR=38
X34A **Smith Ranch, M** 71.08 335 ⇑P P 12 39 43.3 +0.5
baz=72,SNR=36
WCI **Wyandotte Cave** 71.13 345 eP P 12 39 42.4 -0.6
WCI pmax pmax
comp=Z,73nm,0.8s
WCI **Wyandotte Cave** 71.13 345 eP P 12 39 42.4 -0.6
comp=Z,73nm,0.8s
Y32A **R-V Farms, Ver** 71.15 333 ⇑P P 12 39 43.7 +0.5
baz=72,SNR=35
128A **Castleberry Fa** 71.17 330 ⇑P P 12 39 44.0 +0.5
baz=72,SNR=58
USIN **University of** 71.18 344 eP P 12 39 42.9 -0.4
comp=Z,90nm,0.8s
Z30A **Sanderson Ranc** 71.18 332 ⇓P P 12 39 43.7 +0.2
baz=72,SNR=40
X33A **Lawton** 71.27 334 ⇑P P 12 39 44.0 +0.1
baz=72,SNR=14
LIC **Lamto** 71.31 70 eP P 12 39 44.0 -0.6
comp=Z,105nm,0.9s
SIUC **Southern Illin** 71.31 343 eP P 12 39 43.7 -0.3
comp=Z,98nm,0.9s
MVL **Millersville** 71.34 354 eP P 12 39 43.9 -0.2
comp=Z,58nm,1.1s
Z29A **Hungry Hill Ra** 71.39 331 ⇓P P 12 39 45.0 +0.2
baz=72,SNR=53
Y31A **Rekieta Farm,** 71.43 333 ⇑P P 12 39 45.3 +0.4
baz=72,SNR=42
226B **Tecolote Peak,** 71.43 329 ⇑P P 12 39 46.2 +1.1
baz=72,SNR=50
X32A **Elmer** 71.46 334 ⇑P P 12 39 45.4 +0.3
baz=72,SNR=18
WMOK **Wichita Mounta** 71.55 334 eP P 12 39 45.4 -0.2
WMOK pmax pmax
comp=Z,41nm,1.1s
WMOK **Wichita Mounta** 71.55 334 eP P 12 39 45.4 -0.2
comp=Z,41nm,1.1s
TUL1 **Tulsa** 71.56 337 eP P 12 39 45.8 +0.2
TUL1 **Tulsa** 71.56 337 ⇑P P 12 39 45.8 +0.2
baz=72,SNR=29
TIC **Toumodi** 71.56 70 eP P 12 39 45.5 -0.7
127A **Arkansas Junct** 71.59 330 ⇓P P 12 39 46.5 +0.5
baz=72
Y30A **Stafford Cattl** 71.61 332 ⇓P P 12 39 46.3 +0.3
baz=72,SNR=6.5
KIC **Kosan Boka** 71.62 70 eP P 12 39 46.0 -0.5
comp=Z,149nm,0.9s
W34A **Bridge Creek,** 71.63 335 ⇑P P 12 39 46.2 +0.1
baz=72,SNR=13
MNTX **Cornudas Mount** 71.66 328 eP P 12 39 46.0 -0.3
comp=Z,34nm,0.8s
Z28A **Tucker Farm, M** 71.70 331 ⇓P P 12 39 46.9 +0.2
baz=72,SNR=42
DBIC **Dimbokro** 71.71 70 ⇓iP P 12 39 47.5 +0.5
DBIC **Dimbokro** 71.71 70 P P 12 39 47.2 +0.3
DBIC pP pP 12 40 12.2 -0.9
DBIC **Dimbokro** 71.71 70 P P 12 39 47.2 +0.3
comp=Z,44nm,0.7s,baz=210,slow=6.6,SNR=55
DBIC pP pP 12 40 12.2 -0.9
comp=Z,74nm,0.8s,baz=206,slow=7.1,SNR=17
DBIC LR LR 13 10 56.1
comp=Z,142nm,18.7s,baz=226,slow=36
225A **Deer Hill, Car** 71.75 328 ⇑P P 12 39 47.5 +0.5
baz=72,SNR=27
W33A **Caddo, Fort Co** 71.81 335 ⇓P P 12 39 48.0 +0.9
baz=72,SNR=44
126A **Clayton Basin,** 71.85 329 ⇑P P 12 39 48.4 +0.9
baz=72,SNR=50
Y29A **Porterfield Fa** 71.90 332 ⇑P P 12 39 48.4 +0.5
baz=72,SNR=61
X31A **McDonald Ranch** 71.91 333 ⇑P P 12 39 48.2 +0.4
baz=72,SNR=43
MEH **Mehetia** 71.98 260 eP P 12 39 49.6 +0.9
comp=Z,51nm,1.2s
W32A **Sentinel** 72.07 334 ⇑P P 12 39 49.2 +0.5
baz=72,SNR=65
Z27A **Tatum** 72.07 330 ⇓P P 12 39 49.2 +0.3
baz=72,SNR=31
V34A **Guthrie** 72.08 336 ⇑P P 12 39 49.0 +0.3
baz=72
BLO **Bloomington** 72.08 346 eP P 12 39 48.3 -0.3
BLO pmax pmax
comp=Z,100nm,0.6s
BLO **Bloomington** 72.08 346 eP P 12 39 48.3 -0.3
comp=Z,100nm,0.6s
X30A **Coker Ranch, T** 72.09 333 ⇑P P 12 39 49.1 +0.2
baz=72,SNR=30
125A **Gardner Draw,** 72.14 329 ⇓P P 12 39 49.6 +0.3
baz=72,SNR=54
Y28A **McKinney Farm,** 72.18 331 ⇑P P 12 39 49.9 +0.4
baz=73,SNR=22
V33A **Lossen Ranch,** 72.34 335 ⇑P P 12 39 50.8 +0.5
baz=73,SNR=39
Z26A **Caprock** 72.37 330 ⇓P P 12 39 51.0 +0.3
baz=73
W31A **Holland Ranch,** 72.39 334 ⇓P P 12 39 50.7 +0.1
baz=73,SNR=18
X29A **Tulia** 72.42 332 ⇓P P 12 39 51.2 +0.3
baz=73,SNR=33
ACSO **Alum Creek Sta** 72.43 349 eP P 12 39 50.7 0.0
comp=Z,116nm,0.8s
SLM **Saint Louis** 72.44 343 eP P 12 39 50.8 0.0
SLM pmax pmax
comp=Z,74nm,0.9s
SLM **Saint Louis** 72.44 343 eP P 12 39 50.8 0.0
comp=Z,74nm,0.9s
MSTX **Muleshoe** 72.45 331 ⇑P P 12 39 51.6 +0.5
baz=73,SNR=84
V32A **Arapaho** 72.52 335 ⇓P P 12 39 52.7 +1.3
baz=73,SNR=12
124A **Stringfield Ra** 72.53 328 ⇑P P 12 39 52.6 +0.8
baz=73,SNR=59
Y27A **Causey** 72.54 330 ⇓P P 12 39 52.4 +0.7
baz=73,SNR=15
U34A **Anderson Ranch** 72.62 336 ⇑P P 12 39 52.8 +0.8
baz=73,SNR=28
W30A **Crocket Farms** 72.62 333 ⇑P P 12 39 53.0 +0.9
baz=73
X28A **Dimmitt** 72.69 332 ⇑P P 12 39 53.5 +1.0
baz=73,SNR=20
Z25A **Roswell** 72.69 329 ⇓P P 12 39 53.5 +0.9
baz=73,SNR=36
AMTX **Amarillo** 72.80 332 eP P 12 39 53.4 +0.3
comp=Z,92nm,0.9s
AMTX **Amarillo** 72.80 332 ⇓P P 12 39 54.2 +1.0
baz=73
U33A **Lingo Farm, Me** 72.82 336 ⇓P P 12 39 54.0 +0.9
baz=73
123A **Bell Site, Whi** 72.85 327 ⇓P P 12 39 54.7 +1.2
baz=73,SNR=5.6
320A **Kipp Ranch, An** 72.85 325 ⇓P P 12 39 55.1 +1.5
baz=73,SNR=39
Y26A **Elida** 72.86 330 ⇓P P 12 39 53.9 +0.3
baz=73,SNR=13
V31A **Spring Creek L** 72.87 334 ⇓P P 12 39 54.8 +1.4
baz=73,SNR=24
W29A **Amraillo** 72.99 332 ⇓P P 12 39 54.8 +0.6
baz=73,SNR=18
TVO **Taravao** 73.02 259 eP P 12 39 55.9 +1.0
comp=Z,32nm,1.1s
Z24A **Sheeppen Canyo** 73.03 329 ⇑P P 12 39 55.5 +0.8
baz=73,SNR=55
221A **Mesquite Ranch** 73.04 326 ⇑P P 12 39 56.2 +1.5
baz=73,SNR=30
U32A **Winter Ranch,** 73.09 335 ⇑P P 12 39 55.2 +0.4
baz=74,SNR=20
X27A **F and S Farms,** 73.17 331 ⇑P P 12 39 55.7 +0.3
baz=74,SNR=10
V30A **Spur Ranch, Mi** 73.18 333 ⇓P P 12 39 56.6 +1.2
baz=74,SNR=7.2
Y25A **Mesa, Roswell** 73.23 329 ⇓P P 12 39 56.7 +1.0
baz=74,SNR=26
319A **Douglas** 73.25 325 ⇑P P 12 39 57.5 +1.6
baz=74,SNR=60
W28A **Vega** 73.33 332 ⇑P P 12 39 57.1 +0.8
baz=74,SNR=5.9
PAE **Paea** 73.35 259 eP P 12 39 57.6 +0.8
comp=Z,14nm,0.9s
Z23A **Rita Site, Whi** 73.36 328 ⇑P P 12 39 58.2 +1.6
baz=74,SNR=76
SFIN **Scholer Farm** 73.36 345 eP P 12 39 55.3 -0.9
SFIN **Scholer Farm** 73.36 345 ⇓P P 12 39 58.6 +2.4
baz=74,SNR=12
PPT2 **Papeete2** 73.38 259 eP P 12 39 58.1 +1.0
comp=Z,160nm,1.5s
PPT2 eS S 12 49 18.7 +0.5
comp=Z,519nm,26.0s
PPT2 **Papeete2** 73.38 259 eLR LR 13 02 36.2
comp=Z,374nm,34.7s
X26A **CR and CF Fran** 73.39 330 ⇓P P 12 39 57.5 +0.8
baz=74,SNR=65
ALLY **Alegheny Colle** 73.39 351 eP P 12 39 56.2 -0.2
comp=Z,22nm,0.6s
PPT **Papeete** 73.39 259 P P 12 39 58.1 +1.0
PPT **Papeete** 73.39 259 P P 12 39 58.1 +1.0
comp=Z,76nm,0.8s,baz=42,slow=3.3,SNR=11
U31A **Nine Bar Ranch** 73.40 334 ⇓P P 12 39 58.0 +1.4
baz=74,SNR=12
T33A **Patterson Ranc** 73.45 336 ⇑P P 12 39 58.0 +1.2
baz=74,SNR=18
121A **Cookes Peak, D** 73.47 326 eP P 12 39 58.5 +1.2
comp=Z,112nm,1.0s
121A **Cookes Peak, D** 73.47 326 ⇑P P 12 39 58.8 +1.5
baz=74,SNR=68
W27A **Bowe Ranch, En** 73.52 331 ⇑P P 12 39 58.4 +1.0
baz=74,SNR=50
Y24A **Capitan** 73.56 329 ⇓P P 12 39 59.0 +1.2
baz=74,SNR=18
V29A **Stinnett** 73.60 333 ⇓P P 12 39 58.5 +0.7
baz=74
SUR **Sutherland** 73.67 118 P P 12 40 00.1 +1.4
comp=Z,189nm,0.9s,SNR=13
SUR **Sutherland** 73.67 118 eP P 12 39 58.8 +0.1
comp=Z,21nm,0.7s
Z22A **Elephant Butte** 73.69 327 ⇑P P 12 40 00.1 +1.6
baz=74,SNR=37
X25A **Clemmons Ranch** 73.73 330 ⇑P P 12 39 59.5 +0.8
baz=74,SNR=44
V28A **Channing** 73.77 332 ⇓P P 12 39 59.8 +0.9
baz=74,SNR=16
T32A **Huddler Ranch,** 73.78 335 ⇓P P 12 39 59.8 +1.0
baz=74,SNR=19
S33A **Kaszmaul Farm,** 73.83 336 ⇓P P 12 39 59.6 +0.5
baz=74
W26A **Owens Ranch, T** 73.83 331 ⇑P P 12 40 00.2 +0.9
baz=74,SNR=63
ERPA **Erie** 73.83 351 eP P 12 39 59.5 +0.5
U30A **WK&E Inc. Balk** 73.84 334 ⇑P P 12 40 00.5 +1.3
baz=74,SNR=22
Y23A **Lovelace Mesa,** 73.84 328 ⇓P P 12 40 00.7 +1.3
baz=74,SNR=49
T31A **Randall Ranch,** 73.98 335 ⇑P P 12 40 01.1 +1.2
baz=74,SNR=10
U29A **Oasis Ranch, S** 74.01 333 ⇓P P 12 40 01.0 +0.8
baz=74,SNR=6
V27A **Dan Oppiter Fa** 74.02 332 ⇓P P 12 40 01.2 +0.9
baz=74,SNR=20
X24A **Lazy VL Ranch,** 74.10 329 ⇑P P 12 40 01.9 +1.0
baz=74,SNR=6.5
W25A **X Bar L Ranch,** 74.23 330 ⇓P P 12 40 02.3 +0.7
baz=75,SNR=47
S32A **Newby Ranch, P** 74.25 336 ⇓P P 12 40 02.0 +0.5
baz=75,SNR=16
T30A **Plains** 74.25 334 ⇓P P 12 40 02.7 +1.1
baz=75,SNR=5.8
BNM **Barren Site** 74.28 328 eP P 12 40 03.0 +1.0
comp=Z,27nm,1.0s
U28A **Mallet** 74.32 332 ⇓P P 12 40 02.7 +0.7
baz=75,SNR=21
Y22D **IRIS PASSCAL I** 74.35 328 ⇓P P 12 40 04.3 +2.0
baz=75
S31A **Mullinville** 74.37 335 ⇓P P 12 40 03.5 +1.2
baz=75,SNR=23
LPM **Los Pinos Moun** 74.42 328 eP P 12 40 04.0 +1.3
V26A **Tequesquite Ra** 74.44 331 ⇑P P 12 40 03.3 +0.5
baz=75,SNR=23
X23A **Hourglass Bar** 74.44 329 ⇓P P 12 40 04.3 +1.4
baz=75,SNR=56
LENM **Lemitar** 74.45 328 eP P 12 40 04.3 +1.4
R33A **Olander Ranch,** 74.46 337 ⇓P P 12 40 03.4 +0.7
baz=75,SNR=17
U27A **Thompson Grove** 74.59 332 ⇓P P 12 40 04.5 +0.9
baz=75,SNR=16
W24A **Lazy 6 Ranch,** 74.63 330 ⇑P P 12 40 04.9 +0.9
baz=75,SNR=37
T29A **Hugoton** 74.64 334 ⇓P P 12 40 04.6 +0.8
baz=75,SNR=9.1
LAZ **Ladron** 74.72 328 eP P 12 40 05.9 +1.3
comp=Z,30nm,1.0s
KSU1 **Kansas State U** 74.72 338 eP P 12 40 04.3 +0.2
comp=Z,80nm,0.8s
KSU1 **Kansas State U** 74.72 338 ⇓P P 12 40 04.7 +0.5
baz=75,SNR=17
S30A **Montezuma** 74.75 334 ⇓P P 12 40 05.3 +0.9
baz=75,SNR=16
TUC **Tucson** 74.76 324 eP P 12 40 04.7 0.0
TUC pmax pmax
comp=Z,139nm,2.1s
TUC **Tucson** 74.76 324 eP P 12 40 04.7 0.0
comp=Z,139nm,2.1s
R32A **Long Quarter,** 74.82 336 ⇑P P 12 40 05.5 +0.7
baz=75,SNR=21
V25A **Rancho No Teng** 74.83 330 ⇓P P 12 40 06.0 +0.9
baz=75,SNR=52
ANMO **Albuquerque** 74.87 329 eP P 12 40 06.5 +1.2
comp=Z,137nm,1.5s
MAW **Mawson** 74.91 163 eP P 12 40 05.0 +0.1
comp=Z,5.8nm,0.6s
MAW **Mawson** 74.91 163 P P 12 40 05.4 +0.5
comp=Z,36nm,0.7s,baz=228,slow=5.6,SNR=27
W23A **Werner Place,** 74.92 329 ⇑P P 12 40 07.0 +1.4
baz=75,SNR=89
T28A **Walsh** 74.92 333 ⇓P P 12 40 05.9 +0.4
baz=75,SNR=35
U26A **Atchley Ranch,** 74.94 331 ⇓P P 12 40 06.7 +1.0
baz=75,SNR=36
S29A **Ulysses** 74.97 334 ⇓P P 12 40 07.0 +1.3
baz=75,SNR=52
R31A **Burdett** 74.98 335 ⇓P P 12 40 06.2 +0.5
baz=75,SNR=34
V24A **Rampart Ranch,** 75.01 330 ⇑P P 12 40 06.7 +0.5
baz=75,SNR=8.7
Q33A **Connelly Farm,** 75.03 337 ⇑P P 12 40 06.5 +0.6
baz=75,SNR=16
MDV **Middlebury** 75.10 357 eP P 12 40 07.2 +1.0
T27A **Campo** 75.11 332 ⇓P P 12 40 07.1 +0.5
baz=76,SNR=48
U25A **Circle Dot Ran** 75.22 331 ⇑P P 12 40 08.6 +1.2
baz=76,SNR=53
S28A **Manter** 75.25 333 ⇓P P 12 40 08.0 +0.7
baz=76,SNR=45
R30A **Dighton** 75.25 335 ⇓P P 12 40 07.8 +0.6
baz=76,SNR=25
WIN **Windhoek** 75.26 108 eP P 12 40 08.7 +0.6
WIN AMB AMB 12 40 26.5
comp=Z,9.6nm,3.6s
Q32A **Meitler Ranch,** 75.27 336 ⇓P P 12 40 07.8 +0.4
baz=76,SNR=44
P33A **Williams Farm,** 75.38 337 ⇑P P 12 40 07.9 -0.1
baz=76,SNR=16
V23A **Ortiz Mt. (NFS** 75.42 329 ⇑P P 12 40 09.1 +0.5
baz=76,SNR=18
214A **Organ Pipe Nat** 75.52 322 eP P 12 40 10.2 +1.3
comp=Z,88nm,1.1s
214A **Organ Pipe Nat** 75.52 322 ⇑P P 12 40 09.8 +0.9
baz=76,SNR=36
T26A **Comanche Natio** 75.55 332 ⇓P P 12 40 09.5 +0.2
baz=76,SNR=28
Q31A **Ellis** 75.58 336 ⇑P P 12 40 10.1 +1.0
baz=76,SNR=38
U24A **Moreno Valley** 75.59 330 ⇓P P 12 40 11.1 +1.5
baz=76,SNR=7.3
R29A **Marienthal** 75.69 334 ⇓P P 12 40 10.7 +0.9
baz=76,SNR=33
S27A **Las Animas** 75.72 333 ⇓P P 12 40 10.9 +0.8
baz=76
LONY **Lake Ozonia** 75.79 356 eP P 12 40 11.1 +0.9
comp=Z,51nm,1.2s
Q30A **Quinter** 75.84 335 ⇓P P 12 40 11.4 +0.7
baz=76,SNR=38
P32A **Huiting Farm,** 75.85 337 ⇓P P 12 40 11.0 +0.3
baz=76,SNR=25
T25A **Trinidad** 75.85 331 ⇑P P 12 40 12.5 +1.5
baz=76,SNR=51
UPI **Upington** 75.86 115 eP P 12 40 11.9 +0.7
UPI AMB AMB 12 40 39.2
comp=Z,44nm,1.1s
R28A **Tribune** 75.87 334 ⇓P P 12 40 11.9 +1.0
baz=76,SNR=25
V22A **San Miguel Ran** 75.88 329 ⇑P P 12 40 12.9 +1.7
baz=76,SNR=174
S26A **Kim** 75.89 332 ⇑P P 12 40 11.9 +0.9
baz=76,SNR=49
U23A **El Rito** 75.92 330 ⇓P P 12 40 12.5 +1.2
baz=76,SNR=45
P31A **Stockton** 76.03 336 ⇓P P 12 40 12.4 +0.7
baz=76,SNR=51
Q29A **Oakley** 76.04 335 ⇑P P 12 40 12.5 +0.7
baz=76,SNR=31
X18A **Snowflake** 76.14 326 ⇓P P 12 40 14.1 +1.5
baz=76,SNR=24
T24B **San Luis** 76.19 331 ⇑P P 12 40 14.5 +1.5
baz=77,SNR=53
R27A **Eads** 76.20 333 ⇑P P 12 40 13.6 +0.8
baz=77,SNR=40
U22A **Llaves** 76.25 329 ⇓P P 12 40 15.0 +1.8

baz=77,SNR=56
PKME **Peaks-Kenny Pk** 76.25 360 *e*P P 12 40 14.2 +1.5
comp=Z,47nm,0.8s
SCIA **State Center** 76.30 341 *e*P P 12 40 13.1 0.0
comp=Z,83nm,0.8s
S25A **Robets Cordova** 76.31 332 ⇓P P 12 40 14.9 +1.3
baz=77,SNR=41
O32A **Brockman Farm,** 76.32 337 ⇑P P 12 40 13.5 +0.3
baz=77,SNR=48
P30A **Selden** 76.36 335 ⇓P P 12 40 14.3 +0.7
baz=77,SNR=22
T23A **Casias Ranch,** 76.45 330 ⇓P P 12 40 15.8 +1.4
baz=77,SNR=30
R26A **Arlington** 76.47 333 ⇑P P 12 40 15.5 +1.2
baz=77,SNR=31
JFWS **Jewell Farm** 76.49 344 *e*P P 12 40 14.1 -0.1
JFWS pmax pmax
comp=Z,335nm,1.8s
JFWS **Jewell Farm** 76.49 344 *e*P P 12 40 14.1 -0.1
comp=Z,335nm,1.8s
Q28A **Sharon Springs** 76.51 334 ⇑P P 12 40 15.3 +0.9
baz=77,SNR=27
W18A **Petrified Fore** 76.52 326 *e*P P 12 40 16.1 +1.3
W18A **Petrified Fore** 76.52 326 ⇑P P 12 40 16.0 +1.3
baz=77,SNR=36
O31A **Woolen Ranch,** 76.58 336 ⇑P P 12 40 15.4 +0.7
baz=77,SNR=36
S24A **Houchin Ranch,** 76.61 331 ⇓P P 12 40 16.2 +0.8
baz=77,SNR=52
113A **Mohawk Valley,** 76.65 322 ⇓P P 12 40 16.2 +1.0
baz=77,SNR=6.6
P29A **Atwood** 76.65 335 ⇑P P 12 40 16.2 +1.0
baz=77,SNR=25
R25A **Fountain Ranch** 76.67 332 ⇑P P 12 40 16.0 +0.6
baz=77,SNR=11
Z14A **Wintersburg** 76.69 323 ⇑P P 12 40 16.8 +1.2
baz=77,SNR=6.4
KSCO **Kaye Shedlock'** 76.76 334 *e*P P 12 40 17.4 +1.4
KSCO *e*pP pP 12 40 45.4 +3.0
KSCO **Kaye Shedlock'** 76.76 334 ⇑P P 12 40 16.9 +0.9
baz=77,SNR=14
X16A **Lo Mia Camp, P** 76.78 325 ⇑P P 12 40 17.4 +1.2
baz=77,SNR=99
N32A **Stulken Farm,** 76.78 337 ⇑P P 12 40 16.5 +0.6
baz=77,SNR=6.1
SDCO **Great Sand Dun** 76.82 331 *e*P P 12 40 17.2 +0.7
comp=Z,28nm,0.8s
O30A **MW Ranch, Wils** 76.85 336 ⇑P P 12 40 17.2 +0.9
baz=77,SNR=27
P28A **Saint Francis** 76.93 334 ⇑P P 12 40 18.0 +1.1
baz=77,SNR=15
S23A **Nye Farm, Mont** 77.00 330 ⇓P P 12 40 18.9 +1.4
baz=77,SNR=15
Q26A **Hugo** 77.03 333 ⇓P P 12 40 18.7 +1.2
baz=77,SNR=24
N31A **Bailey Ranch,** 77.05 337 ⇓P P 12 40 18.5 +1.1
baz=77,SNR=9.8
O29A **4D Ranch, Culb** 77.07 335 ⇓P P 12 40 18.5 +0.9
baz=78,SNR=7.8
R24A **Sanders Place,** 77.07 331 ⇑P P 12 40 18.9 +1.0
baz=78,SNR=32
Y14A **Wickenburg** 77.18 324 ⇑P P 12 40 19.5 +1.2
baz=78,SNR=35
P27A **Ficken Ranch,** 77.22 334 ⇓P P 12 40 19.6 +1.1
baz=78,SNR=9.3
TSUM **Tsumeb** 77.25 105 *e*P P 12 40 20.0 +0.7
comp=Z,40nm,1.0s
Q25A **Bedland, Calha** 77.31 332 ⇓P P 12 40 19.8 +0.7
baz=78,SNR=15
BGNE **Belgrade** 77.31 338 *e*P P 12 40 19.5 +0.6
BGNE **Belgrade** 77.31 338 ⇑P P 12 40 19.4 +0.6
baz=78,SNR=38
R23A **Moffat** 77.34 331 ⇓P P 12 40 20.5 +1.1
baz=78
S22A **4UR Ranch, Cre** 77.38 330 ⇓P P 12 40 20.4 +0.7
baz=78
N30A **Hueftle Ranch,** 77.42 336 ⇓P P 12 40 20.4 +0.9
baz=78,SNR=11
O28A **Krutsinger Ran** 77.42 335 ⇓P P 12 40 20.6 +1.1
baz=78,SNR=5.3
GLA **Glamis** 77.43 322 ⇓P P 12 40 21.0 +1.2
baz=78,SNR=16
P26A **Davis Ranch, A** 77.52 333 ⇑P P 12 40 20.9 +0.7
baz=78,SNR=16
M31A **Lambtecht Ranc** 77.53 337 ⇑P P 12 40 21.4 +1.3
baz=78,SNR=32
N29A **Votaw Ranch, W** 77.62 336 ⇑P P 12 40 22.0 +1.4
baz=78,SNR=19
WUAZ **Wupatki** 77.62 326 *e*P P 12 40 22.4 +1.5
comp=Z,76nm,0.9s
WUAZ **Wupatki** 77.62 326 ⇓P P 12 40 22.3 +1.5
baz=78,SNR=36
MVCO **Mesa Verde** 77.67 329 *e*P P 12 40 22.2 +1.1
comp=Z,128nm,1.4s
MVCO **Mesa Verde** 77.67 329 ⇑P P 12 40 22.4 +1.2
baz=78,SNR=38
Q24A **Divide** 77.72 332 ⇓P P 12 40 22.8 +1.3
baz=78,SNR=24
O27A **Beecher Island** 77.74 334 ⇑P P 12 40 22.6 +1.3
baz=78,SNR=40
P25A **Willow Gulch B** 77.79 333 ⇑P P 12 40 23.3 +1.6
baz=78,SNR=49
Y12C **Blythe** 77.81 322 ⇓P P 12 40 23.2 +1.4
baz=78,SNR=46
N28A **Pribbeno Ranch** 77.83 335 ⇑P P 12 40 23.2 +1.3
baz=78,SNR=19
SWSC **Sam W. Stewart** 77.86 321 ⇑P P 12 40 22.9 +0.8
baz=78,SNR=9.5
Q23A **Hartsel** 77.94 331 ⇑P P 12 40 24.0 +1.2
baz=78
M30A **Dale-Ortello V** 78.00 337 ⇓P P 12 40 24.4 +1.7
baz=78
HVD **Gariep Dam** 78.03 118 ⇓*i*P P 12 40 24.3 +0.8
HVD AMB AMB 12 40 25.2
comp=Z,50nm,3.0s
PDMCI **Parker Dam,Lak** 78.04 323 ⇓P P 12 40 24.6 +1.6
baz=78,SNR=9.6
P24A **Kohler Place,** 78.09 332 ⇓P P 12 40 24.9 +1.5
baz=78
O26A **Horse Wrangler** 78.09 334 ⇓P P 12 40 24.9 +1.5
baz=78,SNR=16
BAR **Barrett** 78.14 320 *e*P P 12 40 25.0 +1.3
MONP **Monument Peak** 78.16 321 ⇓P P 12 40 25.6 +1.6
baz=78,SNR=13
M29A **Burnside Ranch** 78.20 336 ⇓P P 12 40 25.0 +1.2
baz=79,SNR=12
L31A **Butterfield Fa** 78.23 338 ⇑P P 12 40 25.0 +1.1
baz=79,SNR=84
BC3 **Big Chuckawall** 78.23 322 ⇑P P 12 40 25.3 +1.0
baz=79,SNR=27
OGNE **Ogallala** 78.23 335 ⇑P P 12 40 25.0 +1.0
baz=79
O25A **Wiggins** 78.29 333 ⇓P P 12 40 26.0 +1.5
baz=79,SNR=26
N27A **Anderson Farm,** 78.30 334 ⇑P P 12 40 25.7 +1.3
baz=79,SNR=17
L30A **Spencer Herefo** 78.31 337 ⇑P P 12 40 25.7 +1.3
baz=79,SNR=19
P23A **Jefferson** 78.34 332 ⇑P P 12 40 26.1 +1.0
baz=79,SNR=9.9
M28A **Bar X Bar Ranc** 78.39 336 ⇑P P 12 40 26.3 +1.3
baz=79,SNR=7.7
IRM **Iron Mountain** 78.46 322 ⇑P P 12 40 26.5 +1.1
baz=79,SNR=17
PV01 **Paradox Valley** 78.46 329 *e*P P 12 40 26.6 +1.0
comp=Z,10μm,1.6s
109C **Camp Elliot, M** 78.54 320 ⇓P P 12 40 27.4 +1.6
baz=79
W13A **Hualapai Mount** 78.54 324 ⇑P P 12 40 27.4 +1.3
baz=79,SNR=22
N26A **Koester Ranch,** 78.57 334 ⇓P P 12 40 27.4 +1.5
baz=79,SNR=10
ISCO **Idaho Springs** 78.61 332 ⇓P P 12 40 27.5 +1.0
baz=79,SNR=44
SMCO **Snowmass** 78.65 331 *e*P P 12 40 28.3 +1.5
comp=Z,90nm,0.9s
NEE2 **Needles Airpor** 78.65 323 ⇑P P 12 40 27.4 +1.0
baz=79
L29A **Maesberg Ranch** 78.67 336 ⇑P P 12 40 27.2 +0.8
baz=79,SNR=12
O24A **Longmont** 78.67 332 ⇑P P 12 40 28.0 +1.4
baz=79,SNR=6.2
PFO **Pinyon Flat Ob** 78.73 321 P P 12 40 28.8 +1.8
comp=Z,294nm,1.0s,SNR=12
PFO **Pinyon Flat Ob** 78.73 321 *e*P P 12 40 28.3 +1.3
PFO **Pinyon Flat Ob** 78.73 321 ⇑P P 12 40 28.8 +1.8
baz=79,SNR=23
BELC **Belle Mtn. Jos** 78.78 322 ⇑P P 12 40 28.9 +1.5
baz=79,SNR=12
U15A **North Rim** 78.80 326 ⇓P P 12 40 29.3 +1.7
baz=79,SNR=44
BOSA **Boshof** 78.83 117 ⇓*i*P P 12 40 28.1 +0.2
BOSA AMB AMB 12 40 55.9
comp=Z,54nm,0.9s
BOSA **Boshof** 78.83 117 P P 12 40 27.5 -0.3
comp=Z,62nm,0.9s
BOSA pP pP 12 40 53.8 -0.6
BOSA **Boshof** 78.83 117 P P 12 40 28.2 +0.3
comp=Z,20nm,0.8s,baz=242,slow=5.3,SNR=41
BOSA pP pP 12 40 53.8 -0.6
comp=Z,55nm,0.9s,baz=234,slow=5.2,SNR=14
BOSA LR LR 13 12 43.6
comp=Z,102nm,18.2s,baz=239,slow=34
PV04 **Paradox Valley** 78.83 329 *e*P P 12 40 28.6 +1.1
M27A **Reverse DX Ran** 78.87 335 ⇑P P 12 40 29.1 +1.5
baz=79,SNR=28
N25A **Grover** 78.88 333 ⇑P P 12 40 29.3 +1.6
baz=79,SNR=9.0
P22A **Eagle** 78.91 331 ⇑P P 12 40 29.1 +1.1
baz=79,SNR=28
K30A **Basset** 78.93 337 ⇑P P 12 40 28.6 +0.8
baz=79,SNR=32
ECSD **EROS Data Cent** 78.95 340 *e*P P 12 40 27.8 0.0
comp=Z,130nm,0.8s
ECSD **EROS Data Cent** 78.95 340 ⇑P P 12 40 28.3 +0.5
baz=79,SNR=82
O23A **Lake Granby, G** 79.09 332 ⇑P P 12 40 30.5 +1.5
baz=80,SNR=33
M26A **McRoberts Ranc** 79.09 334 ⇑P P 12 40 29.8 +1.0
baz=80
MURC **Murrieta** 79.12 321 ⇑P P 12 40 30.3 +1.2
baz=80,SNR=22
LDFC **Landfair** 79.15 323 *e*P P 12 40 31.4 +2.1
comp=Z,50nm,0.9s
N24A **Carr** 79.20 333 ⇑P P 12 40 30.4 +0.9
baz=80,SNR=19
GMRC **Granite Mounta** 79.20 322 ⇑P P 12 40 30.4 +0.8
baz=80,SNR=42
K29A **Lazy Trails An** 79.24 337 ⇑P P 12 40 30.5 +1.0
baz=80,SNR=51
SPMN **St. Paul** 79.29 343 *e*P P 12 40 29.6 0.0
SPMN **St. Paul** 79.29 343 ⇑P P 12 40 29.5 0.0
baz=80,SNR=20
O22A **Kremmling** 79.30 331 ⇑P P 12 40 31.0 +0.8
baz=80,SNR=35
L27A **T5 Ranch, Ells** 79.33 335 ⇑P P 12 40 31.6 +1.6
baz=80,SNR=20
SCI **San Clemente I** 79.40 319 ⇑P P 12 40 31.7 +1.2
baz=80
M25A **Palm-Egli Farm** 79.41 334 ⇑P P 12 40 31.6 +1.0
baz=80,SNR=11
J30A **Dallas** 79.47 338 ⇑P P 12 40 31.5 +0.8
baz=80,SNR=14
BBRC **Big Bear Solar** 79.48 321 ⇓P P 12 40 32.2 +1.0
baz=80
K28A **Ten Mile Ranch** 79.55 336 ⇑P P 12 40 32.7 +1.5
baz=80
L26A **Underwood Farm** 79.57 335 ⇓P P 12 40 33.0 +1.7
baz=80,SNR=5.3
SWZ **Schweizer** 79.59 115 *e*P P 12 40 31.5 -0.5
SWZ AMB AMB 12 40 59.8
comp=Z,61nm,1.0s
HEC **Hecla Ludlow** 79.59 322 ⇓P P 12 40 33.1 +1.5
baz=80,SNR=36
CIS **Catalina Islan** 79.64 320 ⇓P P 12 40 32.7 +0.9
baz=80
RUDU **RUNDU** 79.65 105 ⇓*i*P P 12 40 33.4 +1.0
RUDU AMB AMB 12 41 01.7
comp=Z,97nm,0.9s
N23A **Red Feather La** 79.68 332 ⇓P P 12 40 33.3 +1.1
baz=80,SNR=25
M24A **Cheyenne** 79.73 333 ⇑P P 12 40 33.6 +1.2
baz=80,SNR=28
N22A **Wattenberg Ran** 79.81 332 ⇑P P 12 40 34.0 +1.1
baz=80,SNR=36
FMP **Fort Macarthur** 79.81 320 ⇑P P 12 40 34.0 +1.3
baz=80
J29A **Okreek** 79.81 337 ⇑P P 12 40 33.6 +1.0
baz=80,SNR=65
PHWY **Pilot Hill** 79.83 333 *e*P P 12 40 34.0 +0.9
TUQ **Turquoise Moun** 79.85 323 ⇓P P 12 40 34.3 +1.3
baz=80,SNR=22
K27A **Flueckinger Fa** 79.85 336 ⇓P P 12 40 34.1 +1.3
baz=80,SNR=43
BFSC **Mount Baldy Ra** 79.86 321 ⇑P P 12 40 34.2 +1.1
baz=80,SNR=14
O20A **White River Ci** 79.98 330 *e*P P 12 40 34.9 +1.1
O20A **White River Ci** 79.98 330 ⇑P P 12 40 34.7 +0.9
baz=80,SNR=19
RRX **Edison Barstow** 79.99 321 ⇑P P 12 40 35.0 +1.3
baz=80
L25A **Engebretsen Ra** 80.00 334 ⇑P P 12 40 34.8 +1.2
baz=80
MWC **Mount Wilson** 80.06 320 *e*P P 12 40 35.7 +1.4
MWC pmax pmax
comp=Z,42nm,0.8s
MWC **Mount Wilson** 80.06 320 *e*P P 12 40 35.7 +1.4
comp=Z,42nm,0.8s
M23A **Laramie** 80.08 333 ⇑P P 12 40 35.4 +1.2
baz=80
J28A **Allard Ranch,** 80.14 337 ⇑P P 12 40 35.1 +0.8
baz=80,SNR=30
SRU **San Rafael** 80.14 328 *e*P P 12 40 35.3 +0.7
SRU pmax pmax
comp=Z,58nm,0.9s
SRU **San Rafael** 80.14 328 *e*P P 12 40 35.3 +0.7
comp=Z,58nm,0.9s
K26A **Motz Farm, Whi** 80.18 335 ⇓P P 12 40 35.7 +1.0
baz=81
GSC **Goldstone** 80.21 322 *e*P P 12 40 36.2 +1.3
GSC pmax pmax
comp=Z,30nm,1.7s
GSC **Goldstone** 80.21 322 *e*P P 12 40 36.2 +1.3
comp=Z,30nm,1.7s
GSC **Goldstone** 80.21 322 ⇑P P 12 40 36.0 +1.1
baz=81,SNR=19
CCUT **Cedar City** 80.21 326 *e*P P 12 40 36.8 +1.7
comp=Z,73nm,0.9s
DECC **Green Verdugo** 80.23 320 ⇓P P 12 40 36.3 +1.3
baz=81
J27A **Elkhorn Farm,** 80.25 336 ⇓P P 12 40 36.4 +1.4
baz=81,SNR=55
L24A **Wheatland** 80.27 334 ⇑P P 12 40 36.4 +1.3
baz=81,SNR=15
SHPR **Sheep Range** 80.28 324 *e*P P 12 40 36.6 +1.2
BRSD **Miller** 80.30 339 *e*P P 12 40 35.3 +0.2
BRSD *e*pP pP 12 41 03.0 +1.3
BRSD **Miller** 80.30 339 ⇓P P 12 40 35.3 +0.2
baz=81,SNR=7.9
I29A **Vivian Onida** 80.36 338 ⇓P P 12 40 35.6 +0.2
baz=81,SNR=24
K25A **Mack Ranch, Ha** 80.36 334 ⇑P P 12 40 36.3 +0.7
baz=81,SNR=15
M22A **Cedar Creek Ra** 80.37 332 ⇓P P 12 40 36.9 +1.1
baz=81,SNR=21
SHOC **Shoshone** 80.39 323 ⇓P P 12 40 36.7 +0.9
baz=81,SNR=7.2
ARUT **Antelope Range** 80.44 326 *e*P P 12 40 37.4 +1.2
ARUT pmax pmax
comp=Z,4μm,1.7s
ARUT **Antelope Range** 80.44 326 *e*P P 12 40 37.4 +1.2
comp=Z,4μm,1.7s
EDW2 **Edwards Air Fo** 80.52 321 ⇑P P 12 40 37.1 +0.5
baz=81,SNR=22
BLG **Laguna Peak** 80.53 320 P P 12 40 37.8 +1.2
baz=81
N20A **Spence Gulch,** 80.58 331 ⇓P P 12 40 38.1 +1.1
baz=81,SNR=21
TMUT **Trail Mountain** 80.60 328 *e*P P 12 40 38.3 +1.1
comp=Z,484nm,2.6s
L23A **Tindett** 80.62 333 ⇓P P 12 40 38.0 +0.8
baz=81,SNR=23
I28A **Midland** 80.62 337 ⇑P P 12 40 37.4 +0.6
baz=81,SNR=35
J26A **Sides Ranch, S** 80.68 335 ⇑P P 12 40 38.3 +1.0
baz=81,SNR=34
TOA0 **Torodi Ar. Sit** 80.70 68 *e*P P 12 40 37.2 -0.7
TOA0 *e*pP pP 12 41 01.6 -2.9
TORD **Torodi Ar. Bea** 80.70 68 P P 12 40 37.9 0.0
TORD pP pP 12 41 03.2 -1.3
TORD PKKPbc PKKPbc 12 59 17.2 +1.0
TORD **Torodi Ar. Bea** 80.70 68 P P 12 40 37.9 0.0
comp=Z,51nm,0.7s,baz=264,slow=5.1,SNR=204
TORD pP pP 12 41 03.2 -1.3
comp=Z,31nm,0.8s,baz=250,slow=5.0,SNR=6.1
TORD PKKPbc PKKPbc 12 59 17.2 +1.0
comp=Z,1.0nm,0.6s,baz=64,slow=2.4,SNR=10
TORD LR LR 13 13 39.4
comp=Z,187nm,20.8s,baz=250,slow=34
OSI **Osito Adit** 80.72 320 ⇓P P 12 40 38.5 +0.9
baz=81
BSC **Santa Cruz Isl** 80.76 319 ⇑P P 12 40 39.0 +1.2
baz=81,SNR=5.3
K24A **Anderson Ranch** 80.81 334 ⇑P P 12 40 39.5 +1.5
baz=81,SNR=30
LRMC **Laurel Mountai** 80.81 321 ⇑P P 12 40 39.2 +1.0
baz=81
L22A **Ellis Ranch, M** 80.84 333 ⇑P P 12 40 39.5 +1.2
baz=81,SNR=17
RWWY **Rawlins** 80.86 332 *e*P P 12 40 47.2 +8.7
comp=Z,56nm,0.8s
H29A **Onida** 80.86 338 ⇓P P 12 40 38.8 +0.7
baz=81,SNR=28
LBTB **Lobatse** 80.88 114 ⇓*i*P P 12 40 39.0 +0.1
LBTB AMB AMB 12 41 06.9
comp=Z,47nm,1.0s
LBTB **Lobatse** 80.88 114 *e*P P 12 40 39.2 +0.3
comp=Z,66nm,1.1s
G30A **Faulkton** 80.98 339 ⇓P P 12 40 39.2 +0.5
baz=81,SNR=13
I27A **Quinn** 80.98 336 ⇓P P 12 40 39.6 +0.8
baz=81,SNR=20
J25A **Sunshine Ranch** 81.01 335 ⇓P P 12 40 40.3 +1.3
baz=81,SNR=26
FURC **Furnace Creek,** 81.12 323 ⇓P P 12 40 41.0 +1.3
baz=82,SNR=21
SBC **Santa Barbara** 81.14 319 ⇑P P 12 40 40.7 +0.9
baz=82
H28A **Mission Ridge** 81.17 337 ⇓P P 12 40 40.3 +0.5
baz=82,SNR=38
I26A **New Underwood** 81.23 336 ⇑P P 12 40 40.9 +0.8
baz=82,SNR=15
J24A **Dixon Ranch, L** 81.27 334 ⇑P P 12 40 41.6 +1.2
baz=82,SNR=54
G29A **Hoven** 81.28 338 ⇑P P 12 40 40.8 +0.5
baz=82,SNR=19
PRYS **Parys** 81.28 116 *e*P P 12 40 40.7 -0.4
PRYS AMB AMB 12 41 08.3
comp=Z,22nm,1.2s
MPU **Maple Canyon** 81.37 328 *e*P P 12 40 42.1 +1.0
comp=Z,35nm,0.9s
K22A **Casper** 81.40 333 *e*P P 12 40 42.2 +1.1
K22A **Casper** 81.40 333 ⇑P P 12 40 42.3 +1.1
baz=82,SNR=44
H27A **Howes** 81.49 337 ⇑P P 12 40 42.2 +0.7
baz=82,SNR=56
G28A **Parade** 81.49 338 ⇓P P 12 40 42.2 +0.7
baz=82,SNR=46
NLU **North Lily Min** 81.52 328 *e*P P 12 40 43.1 +1.1
comp=Z,65nm,1.4s
DAU **Daniels Canyon** 81.52 329 *e*P P 12 40 42.9 +0.8
DAU **Daniels Canyon** 81.52 329 *e*P P 12 40 42.9 +0.8
EYMN **Ely** 81.53 345 *e*P P 12 40 41.3 -0.3
comp=Z,68nm,1.0s
EYMN *e*pP pP 12 41 09.2 +1.0
F30A **Leola** 81.58 339 ⇓P P 12 40 42.5 +0.6
baz=82,SNR=24
J23A **Dilts Ranch, B** 81.67 334 ⇓P P 12 40 42.9 +0.3
baz=82
K21A **Alcova** 81.67 332 ⇓P P 12 40 43.5 +0.9
baz=82,SNR=92
H26A **Fairpoint** 81.71 336 ⇓P P 12 40 43.6 +1.0
baz=82,SNR=9.9
I24A **Kuemmerle Ranc** 81.71 335 ⇓P P 12 40 43.7 +1.0
baz=82,SNR=10
RSSD **Black Hills** 81.72 335 *e*P P 12 40 43.3 +0.4
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD **Black Hills** 81.72 335 *e*P P 12 40 43.3 +0.4
comp=Z,14nm,1.0s
JLU **Jordanelle** 81.76 329 *e*P P 12 40 44.1 +0.9
comp=Z,25nm,0.9s
GRAC **Grapevine Rang** 81.79 323 ⇓P P 12 40 44.5 +1.3
baz=82,SNR=14
F29A **Eureka** 81.82 339 ⇑P P 12 40 43.7 +0.5
baz=82,SNR=42
VES **Vestal, Richgr** 81.83 321 ⇓P P 12 40 44.6 +1.2
baz=82,SNR=38
R11A **Troy Canyon, C** 81.92 325 *e*P P 12 40 45.2 +1.1
R11A **Troy Canyon, C** 81.92 325 ⇓P P 12 40 45.3 +1.2
baz=82,SNR=70
SMMC **Simmler** 81.94 320 ⇓P P 12 40 45.2 +1.2
baz=82,SNR=13
CTU **Camp Tracy** 81.97 328 *e*P P 12 40 45.0 +0.7
comp=Z,15nm,0.8s
H25A **Fruitdale** 82.00 336 ⇓P P 12 40 45.3 +1.1
baz=82,SNR=33
J22A **Midwest** 82.03 333 ⇓P P 12 40 44.9 +0.4
baz=82,SNR=36
DUG **Dugway** 82.05 327 *e*P P 12 40 45.4 +0.7
DUG pmax pmax
comp=Z,209nm,1.9s
DUG **Dugway** 82.05 327 *e*P P 12 40 45.4 +0.7
comp=Z,210nm,1.9s
DUG **Dugway** 82.05 327 ⇑P P 12 40 45.5 +0.8
baz=82,SNR=33
G27A **Dupree** 82.10 337 ⇓P P 12 40 45.4 +0.8
baz=82,SNR=31
E30A **Jud** 82.14 340 ⇑P P 12 40 45.3 +0.5
baz=82,SNR=20
F28A **McLaughlin** 82.14 338 ⇑P P 12 40 45.4 +0.6
baz=82,SNR=30
TCUT **Toone Canyon** 82.16 329 *e*P P 12 40 45.7 +0.3
comp=Z,73nm,1.2s
OBSV **Observatory** 82.21 116 *e*P P 12 40 46.1 +0.1
OBSV AMB AMB 12 41 13.9
comp=Z,38nm,0.9s
ERPM **east rand prop** 82.26 116 *e*P P 12 40 46.8 +0.5
ERPM AMB AMB 12 41 14.5
comp=Z,38nm,2.8s
TIN **Tinemaha** 82.28 322 ⇑P P 12 40 47.5 +1.6
baz=83,SNR=13
J21A **Lysite** 82.35 333 ⇑P P 12 40 46.7 +0.5
baz=83,SNR=21
E29A **Napoleon** 82.42 339 ⇑P P 12 40 46.6 +0.3
baz=83,SNR=15
I22A **9 Mile Ranch,** 82.44 334 ⇑P P 12 40 47.3 +0.7
baz=83,SNR=108
G25A **Newell** 82.44 336 ⇓P P 12 40 47.0 +0.6
baz=83,SNR=55
H24A **Dirks Ranch, A** 82.45 335 ⇑P P 12 40 46.9 +0.3
baz=83,SNR=55
TPH **Tonopah** 82.54 323 *e*P P 12 40 48.3 +1.0
TPH pmax pmax
comp=Z,54nm,0.9s
TPH **Tonopah** 82.54 323 *e*P P 12 40 48.2 +1.0
comp=Z,54nm,0.9s
F27A **Lemmon** 82.56 337 ⇑P P 12 40 47.5 +0.4
baz=83,SNR=56
SLR **Silverton** 82.60 115 *e*P P 12 40 47.9 -0.2
SLR AMB AMB 12 41 17.4
comp=Z,75nm,1.0s
H23A **Clabaugh Cattl** 82.60 335 ⇑P P 12 40 47.8 +0.4
baz=83,SNR=10.0
J20A **Shoshoni** 82.61 332 ⇑P P 12 40 48.4 +1.0
baz=83,SNR=61
D30A **Buchanan** 82.64 340 ⇑P P 12 40 47.9 +0.5
baz=83,SNR=55
CASY **Casey** 82.68 180 *e*P P 12 40 48.4 +0.9
comp=Z,35nm,0.9s
CASY *e*pP pP 12 41 16.1 +2.0
I21A **Big Trails, Te** 82.68 333 ⇓P P 12 40 48.5 +0.7
baz=83,SNR=47
MTUM **Tungsten Hills** 82.68 322 *e*P P 12 40 49.2 +1.1
BW06 **Boulder Array** 82.72 331 *e*P P 12 40 48.3 +0.1
comp=Z,49nm,1.3s
PDAR **Pinedale Array** 82.72 331 P P 12 40 48.5 +0.3
PDAR pP pP 12 41 15.3 +0.4
PDAR PKKPbc PKKPbc 12 59 11.3 -2.4
PDAR **Pinedale Array** 82.72 331 P P 12 40 48.5 +0.3
comp=Z,17nm,0.7s,baz=133,slow=6.1,SNR=88
PDAR pP pP 12 41 15.3 +0.4
comp=Z,7.7nm,0.7s,baz=118,slow=4.9,SNR=4.9
PDAR PKKPbc PKKPbc 12 59 11.3 -2.4
comp=Z,0.5nm,0.7s,baz=115,slow=2.5,SNR=5.0
BGU **Big Grassy Mou** 82.73 328 *e*P P 12 40 49.0 +0.8
comp=Z,18nm,1.2s
E28A **Huff** 82.75 338 ⇑P P 12 40 48.6 +0.6
baz=83,SNR=38
F26A **Lodgepole** 82.76 337 ⇓P P 12 40 48.2 +0.1
baz=83,SNR=33
SPUT **South Promonto** 82.78 328 *e*P P 12 40 48.7 +0.2

comp=Z,103nm,1.4s
D29A Pettibone, Tap 82.85 339 ⇑P P 12 40 48.9 +0.4
baz=83,SNR=16
E27A Carson 82.90 338 ⇓P P 12 40 49.2 +0.4
baz=83,SNR=21
G24A Alzada 82.91 336 ⇑P P 12 40 49.4 +0.5
baz=83,SNR=50
AGMN Agassiz Nation 82.92 342 eP P 12 40 48.7 -0.1
comp=Z,44nm,0.8s
AGMN Agassiz Nation 82.92 342 ⇓P P 12 40 49.6 +0.9
baz=83,SNR=19
J19A Crowheart 82.92 332 ⇑P P 12 40 49.8 +0.6
baz=83,SNR=55
H22A Clearmont 82.98 334 ⇓P P 12 40 49.7 +0.3
baz=83,SNR=20
MLAC Mammoth Lakes 83.03 322 ⇓P P 12 40 50.9 +0.9
baz=83,SNR=16
F25A Bowman 83.09 336 ⇑P P 12 40 50.5 +0.7
baz=84,SNR=18
C30A Mose, Pekin 83.10 340 ⇑P P 12 40 50.4 +0.7
baz=84,SNR=52
I20A Worland 83.12 333 ⇓P P 12 40 50.9 +0.8
baz=84,SNR=17
G23A Biddle 83.15 335 ⇓P P 12 40 50.6 +0.4
baz=84,SNR=68
E26A Carlson Angus 83.23 337 ⇑P P 12 40 50.9 +0.4
baz=84,SNR=17
D28A Regan 83.27 339 ⇑P P 12 40 51.2 +0.6
baz=84,SNR=14
H21A Big Horn, Sher 83.27 334 ⇑P P 12 40 51.1 +0.3
baz=84,SNR=54
NV11 Mina Array Sit 83.28 323 eP P 12 40 51.4 +0.3
HVU Hansel Valley 83.30 328 eP P 12 40 51.3 +0.2
HVU pmax pmax
comp=Z,44nm,0.8s
HVU Hansel Valley 83.30 328 eP P 12 40 51.3 +0.2
comp=Z,44nm,0.8s
NVAR Mina Array Bea 83.36 323 P P 12 40 52.5 +1.0
NVAR Mina Array Bea 83.36 323 P P 12 40 52.5 +1.0
comp=Z,21nm,0.8s,baz=156,slow=5.5,SNR=113
F24A Ekalaka 83.36 336 ⇓P P 12 40 51.6 +0.3
baz=84,SNR=43
D27A Center 83.49 338 ⇓P P 12 40 52.9 +1.1
baz=84,SNR=13
G22A Birney 83.49 334 ⇑P P 12 40 52.3 +0.3
baz=84,SNR=34
H20A Greybull 83.52 333 ⇑P P 12 40 52.7 +0.6
baz=84,SNR=81
I19A Meeteetse 83.54 332 ⇓P P 12 40 52.8 +0.5
baz=84,SNR=20
MDND Maddock 83.56 340 eP P 12 40 53.1 +1.0
MDND Maddock 83.56 340 ⇑P P 12 40 52.6 +0.5
baz=84,SNR=8.5
E25A Miller Ranch, 83.57 337 ⇓P P 12 40 52.3 +0.1
baz=84,SNR=25
F23A Volborg 83.60 335 ⇑P P 12 40 52.7 +0.3
baz=84,SNR=54
ELK Elko 83.62 326 eP P 12 40 53.3 +0.4
comp=Z,29nm,0.8s
C28A Hausauer Farms 83.68 339 ⇑P P 12 40 53.2 +0.5
baz=84,SNR=14
D26A Manning 83.72 338 ⇓P P 12 40 53.5 +0.5
baz=84,SNR=26
B30A Myrvik Farm, E 83.73 341 ⇓P P 12 40 53.2 +0.2
baz=84,SNR=60
REDW Red Top Meadow 83.75 331 eP P 12 40 53.8 +0.3
G21A Lodge Grass 83.84 334 ⇑P P 12 40 54.2 +0.5
baz=84,SNR=33
LOHW Long Hollow 83.85 331 eP P 12 40 54.2 +0.2
TPAW Teton Pass 83.89 331 eP P 12 40 54.6 +0.4
comp=Z,22nm,1.0s
E24A Baker 83.94 336 ⇑P P 12 40 54.8 +0.6
baz=84,SNR=23
F22A Rosebud 83.96 335 ⇑P P 12 40 54.6 +0.3
baz=84,SNR=61
WAKR Walker 84.00 322 eP P 12 40 56.3 +1.5
MOOW Moose Ponds 84.02 331 eP P 12 40 54.9 +0.1
C27A Sayler Ranch, 84.02 338 ⇓P P 12 40 54.9 +0.4
baz=84,SNR=42
B29A Wagenman Farm, 84.04 340 ⇓P P 12 40 54.9 +0.4
baz=84,SNR=30
FXWY Fox Creek 84.05 331 eP P 12 40 55.3 +0.3
comp=Z,13nm,0.9s
H19A Powell 84.06 332 ⇓P P 12 40 55.5 +0.6
baz=84,SNR=27
I17A Pilgrim Ck. 84.09 331 ⇑P P 12 40 55.6 +0.4
baz=84,SNR=32
D25A Fairfield 84.11 337 ⇑P P 12 40 55.7 +0.7
baz=84,SNR=37
CMB Columbia Colle 84.16 322 eP P 12 40 56.3 +0.9
CMB Columbia Colle 84.16 322 eP P 12 40 56.3 +0.9
A30A Hoffart Farm, 84.17 341 ⇑P P 12 40 55.3 +0.2
baz=85,SNR=24
G20A Bridger 84.22 333 ⇑P P 12 40 55.6 -0.1
baz=85,SNR=71
IMW Indian Meadow 84.22 331 eP P 12 40 56.3 +0.4
comp=Z,86nm,1.5s
FLWY Flagg Ranch 84.27 331 eP P 12 40 56.4 +0.4
C26A Wahner Farm, P 84.31 338 ⇓P P 12 40 56.5 +0.6
baz=85,SNR=25
F21A Absaloka Mine, 84.31 334 ⇑P P 12 40 56.4 +0.3
baz=85,SNR=5.5
B28A Dugan Ranch, T 84.33 339 ⇓P P 12 40 56.5 +0.6
baz=85,SNR=27
BMN Battle Mountai 84.33 325 eP P 12 40 56.6 +0.2
BMN pmax pmax
comp=Z,7.0nm,0.9s
BMN Battle Mountai 84.33 325 eP P 12 40 56.6 +0.2
comp=Z,6.7nm,0.9s
H18A Shoshone NF, C 84.34 332 ⇑P P 12 40 56.8 +0.4
baz=85,SNR=76
E22A Miles City 84.41 335 ⇑P P 12 40 56.5 +0.1
baz=85,SNR=19
A29A Manning Farm, 84.42 340 ⇑P P 12 40 56.2 -0.2
baz=85,SNR=30
D24A Glendive 84.42 336 ⇑P P 12 40 57.5 +0.9
baz=85,SNR=16
H17A Grant Village 84.48 331 eP P 12 40 58.6 +1.4
H17A Grant Village 84.48 331 ⇑P P 12 40 58.1 +1.0
baz=85,SNR=8.5
RLMT Red Lodge 84.55 332 eP P 12 40 57.7 +0.3
comp=Z,22nm,0.6s
RLMT epP pP 12 41 22.9 -1.4
B27A Peters Farms, 84.56 339 ⇑P P 12 40 57.4 +0.3
baz=85
C25A Freed Ranch, W 84.58 337 ⇑P P 12 40 57.4 +0.1
baz=85,SNR=6.3
YFT Old Faithful 84.63 331 eP P 12 41 00.1 +2.2
comp=Z,34nm,0.8s
F20A Billings 84.68 334 ⇑P P 12 40 58.1 +0.2
baz=85,SNR=12
A28A Rude Farm, Bot 84.71 340 ⇑P P 12 40 58.3 +0.4
baz=85,SNR=5.8
LAO LASA Array 84.72 335 eP P 12 40 58.4 +0.3
comp=Z,64nm,0.8s
ULM Lac du Bonnet 84.72 343 eP P 12 40 57.5 -0.4
comp=Z,54nm,0.8s
ULM pP pP 12 41 24.1 -0.7
ULM Lac du Bonnet 84.72 343 P P 12 40 57.6 -0.3
comp=Z,50nm,0.8s,baz=153,slow=4.3,SNR=82
ULM pP pP 12 41 24.1 -0.7
comp=Z,17nm,0.8s,baz=162,slow=5.7,SNR=3.3
D23A Lindsay 84.78 336 ⇓P P 12 40 59.3 +1.0
baz=85,SNR=66
C24A Savage 84.81 337 ⇓P P 12 40 59.2 +0.7
baz=85,SNR=37
B26A Jensen Ranch, 84.84 338 ⇓P P 12 40 59.2 +0.6
baz=85,SNR=6.2
YMR Madison River 84.86 331 eP P 12 41 00.4 +1.3
comp=Z,89nm,0.9s
PAHR Pah Rah Range 84.87 323 eP P 12 41 00.3 +1.1
comp=Z,60nm,1.0s
E21A Keefer Ranch, 84.90 335 ⇑P P 12 40 59.7 +0.7
baz=85,SNR=33
F19A Roth Farm, Mol 85.03 333 ⇓P P 12 40 60.0 +0.3
baz=85,SNR=38
A27A Ledoux Ranch, 85.04 339 ⇑P P 12 41 00.2 +0.6
baz=85
B25A Knox Farm, Ray 85.04 338 ⇑P P 12 41 00.6 +0.9
baz=85,SNR=7.5
D22A Cohagen 85.10 335 ⇓P P 12 41 00.5 +0.5
baz=86,SNR=37
QLMT Earthquake Lak 85.19 331 eP P 12 41 01.9 +1.3
A26A Wade Farm, Ken 85.23 339 ⇑P P 12 41 01.1 +0.6
baz=86,SNR=16
E20A Meyer Farm, Mu 85.27 334 ⇓P P 12 41 01.3 +0.5
baz=86,SNR=69
C23A Lambert 85.31 336 ⇓P P 12 41 01.5 +0.6
baz=86,SNR=41
D21A La Casta Ranch 85.32 335 ⇓P P 12 41 02.0 +1.0
baz=86,SNR=26
HLID Hailey 85.45 329 eP P 12 41 02.5 +0.6
HLID Hailey 85.45 329 ⇑P P 12 41 03.0 +1.1
baz=86,SNR=104
E19A Rath Farm, Rou 85.48 334 ⇑P P 12 41 02.5 +0.6
baz=86,SNR=131
C22A Vida 85.50 336 ⇓P P 12 41 02.5 +0.5
baz=86,SNR=19
DGMT Dagmar 85.55 337 eP P 12 41 02.7 +0.6
comp=Z,145nm,0.8s
DGMT Dagmar 85.55 337 ⇓P P 12 41 02.9 +0.7
baz=86,SNR=55
A25A Svangstu Ranch 85.61 338 ⇑P P 12 41 03.5 +1.1
baz=86,SNR=11
OHCM Honcut 85.69 322 eP P 12 41 04.0 +1.0
D20A Manuel Ranch, 85.76 334 ⇑P P 12 41 03.9 +0.6
baz=86,SNR=97
MCMT McKenzie Canyo 85.78 330 P P 12 41 04.6 +1.0
B23A Brockton 85.81 337 ⇑P P 12 41 04.5 +1.0
baz=86,SNR=15
SCHQ Schefferville 85.85 1 eP P 12 41 03.3 -0.1
comp=Z,55nm,1.0s
SCHQ epP pP 12 41 31.8 +1.5
SCHQ Schefferville 85.85 1 P P 12 41 03.2 -0.1
comp=Z,26nm,0.9s,baz=182,slow=5.4,SNR=30
A24A Westby 85.88 338 ⇓P P 12 41 04.5 +0.8
baz=86,SNR=18
MFID Camas Ranch 85.98 328 eP P 12 41 05.0 +0.6
comp=Z,29nm,1.0s
B22A Reddig Ranch S 86.02 336 ⇑P P 12 41 04.8 +0.3
baz=86,SNR=21
D19A Cripps Ranch, 86.10 334 ⇓P P 12 41 05.1 +0.2
baz=86,SNR=40
DLMT Dillon 86.10 331 eP P 12 41 06.0 +0.9
A23A Redstone 86.20 337 ⇑P P 12 41 05.8 +0.5
baz=87
C20A Veseth Ranch, 86.23 335 ⇓P P 12 41 05.8 +0.2
baz=87,SNR=28
LRM Limekiln Ridge 86.41 331 eP P 12 41 07.4 +0.7
B21A Ellsworth Farm 86.48 336 ⇑P P 12 41 07.3 +0.6
baz=87,SNR=22
WVOR Wild Horse Val 86.55 325 eP P 12 41 07.8 +0.5
WVOR pmax pmax
comp=Z,45nm,1.2s
WVOR Wild Horse Val 86.55 325 eP P 12 41 07.8 +0.5
comp=Z,45nm,1.2s
A22A Carney Farms, 86.58 337 ⇑P P 12 41 07.5 +0.3
baz=87,SNR=42
C19A Slack Wire Ran 86.64 334 ⇑P P 12 41 07.7 +0.2
baz=87,SNR=36
B20A Solberg Farm, 86.85 335 ⇑P P 12 41 08.8 +0.3
baz=87,SNR=20
HRY Holter Researc 86.88 332 eP P 12 41 09.6 +0.8
KHZ Kahutara 86.93 221 eP P 12 41 10.8 +1.6
comp=Z,202nm,1.8s
A21A Bergvoll Ranch 86.93 336 ⇑P P 12 41 08.9 0.0
baz=87,SNR=36
MOD Modoc 86.97 324 eP P 12 41 10.2 +0.7
EGMT Eagleton 87.14 334 eP P 12 41 10.0 0.0
comp=Z,55nm,0.8s
EGMT Eagleton 87.14 334 ⇓P P 12 41 10.0 0.0
baz=88,SNR=31
WDC Whiskeytown Da 87.15 322 eP P 12 41 09.8 -0.3
WDC pmax pmax
comp=Z,27nm,0.8s
WDC Whiskeytown Da 87.15 322 eP P 12 41 09.8 -0.3
comp=Z,27nm,0.8s
A20A Cobblestone Ra 87.19 335 ⇑P P 12 41 10.5 +0.3
baz=88,SNR=77
B19A Brinkman Farms 87.20 335 ⇓P P 12 41 10.5 +0.3
baz=88,SNR=53
RPZ Rata Peaks 87.43 219 eP P 12 41 12.6 +0.9
comp=Z,94nm,1.4s
RPZ epP pP 12 41 41.9 +3.2
URZ Urewera 87.47 226 P P 12 41 12.6 +0.6
URZ Urewera 87.47 226 P P 12 41 12.6 +0.6
comp=Z,7.0nm,0.9s,baz=66,slow=3.9,SNR=3.3
KMRM Mail Ridge 87.52 321 eP P 12 41 14.1 +2.1
comp=Z,114nm,1.1s
A19A Klindworth Far 87.52 335 ⇑P P 12 41 12.3 +0.5
baz=88,SNR=34
N02D Trinity Center 87.52 322 ⇑P P 12 41 12.5 +0.5
baz=88
WHZ Wether Hill Ro 87.55 216 eP P 12 41 13.2 +0.9
comp=Z,59nm,1.3s
WHZ epP pP 12 41 42.1 +3.0
CHMT Chamberlain Mo 87.62 331 eP P 12 41 13.0 +0.5
M04C Macdoel 87.66 323 ⇑P P 12 41 13.4 +0.7
baz=88
MSO Missoula 87.84 331 eP P 12 41 13.1 -0.3
comp=Z,139nm,2.0s
MSO Missoula 87.84 331 ⇑P P 12 41 14.2 +0.9
baz=88,SNR=14
M02C Callahan 87.90 322 ⇓P P 12 41 14.8 +1.0
baz=88
HOG Hogback Mounta 87.93 324 P P 12 41 15.2 +1.2
LSZ Lusaka 87.97 107 eP P 12 41 15.2 +0.3
comp=Z,20nm,1.3s
SLMT Seeley Lake 87.98 331 eP P 12 41 14.7 +0.5
YBH Yreka Blue Hor 88.07 323 eP P 12 41 14.9 +0.3
comp=Z,25nm,1.0s
I07A Izee 88.20 326 eP P 12 41 16.3 +1.1
comp=Z,59nm,1.0s
SWMT Swartz Lake 88.40 331 eP P 12 41 16.6 +0.6
J05D Fort Rock, OR 88.45 325 ⇑P P 12 41 17.9 +1.4
baz=89
F10A Beach Ranch, E 88.59 329 eP P 12 41 17.4 +0.5
comp=Z,16nm,0.9s
YBMT Yellow Bay 88.69 331 eP P 12 41 18.1 +0.6
JTMT Jette 88.71 331 eP P 12 41 18.2 +0.7
L02D Cave Junction, 88.84 323 ⇑P P 12 41 18.9 +0.8
baz=89
G08A Pilot Rock 88.86 327 eP P 12 41 19.2 +0.9
comp=Z,102nm,2.0s
BLMT Blacktail Moun 88.95 331 eP P 12 41 19.3 +0.5
BSMT Bassoo Peak 89.00 331 eP P 12 41 19.2 +0.3
TAM Tamanrasset 89.18 63 eP P 12 41 19.0 -1.4
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 89.18 63 eP P 12 41 19.0 -1.4
comp=Z,7.1nm,0.9s
I05D Terrebonne, OR 89.28 325 ⇓P P 12 41 20.9 +0.8
baz=90
WALA Waterton Lakes 89.60 332 eP P 12 41 22.2 +0.5
BPO Bald Peter 89.68 325 P P 12 41 23.7 +1.5
I03D Drain, OR 89.81 324 ⇓P P 12 41 24.2 +1.6
baz=90
H2OWA Water 89.90 328 P P 12 41 23.9 +1.0
H04A Detroit Lake 89.95 325 eP P 12 41 24.0 +0.7
comp=Z,33nm,0.7s
HAWA Hanford 89.95 328 eP P 12 41 24.3 +1.1
comp=Z,33nm,0.9s
VFP Flag Point 90.06 326 P P 12 41 25.2 +1.2
D08A Wollman Farm, 90.17 328 eP P 12 41 24.9 +0.7
comp=Z,20nm,0.8s
E07A Sunnyside 90.22 328 eP P 12 41 24.6 +0.1
comp=Z,22nm,0.8s
NEW Newport 90.30 330 eP P 12 41 24.2 -0.6
comp=Z,67nm,2.0s
NEW Newport 90.30 330 ⇑P P 12 41 25.0 +0.2
baz=91
FFC Flin Flon 90.37 341 P P 12 41 25.9 +1.0
comp=Z,212nm,1.0s,SNR=10
FFC Flin Flon 90.37 341 eP P 12 41 24.6 -0.3
FFC pmax pmax
comp=Z,15nm,0.9s
FFC Flin Flon 90.37 341 eP P 12 41 24.6 -0.3
comp=Z,15nm,0.9s
C09A Chrisman Ranch 90.45 329 eP P 12 41 26.2 +0.7
comp=Z,30nm,0.9s
SAW Saint Andrews 90.87 329 P P 12 41 27.9 +0.4
LTY Liberty 91.11 328 eP P 12 41 29.2 +0.5
comp=Z,18nm,0.8s
WTV Waterville 91.12 328 P P 12 41 28.9 +0.3
B08A Colville Reser 91.33 329 eP P 12 41 29.6 0.0
comp=Z,7.8nm,0.9s
FCC Fort Churchill 92.22 347 eP P 12 41 33.5 +0.2
FCC pmax pmax
comp=Z,2.0nm,0.8s
FCC Fort Churchill 92.22 347 eP P 12 41 33.5 +0.2
comp=Z,2.0nm,0.8s
B06A Marblemount 92.41 328 eP P 12 41 34.5 0.0
comp=Z,33nm,0.7s
EDM Edmonton 92.71 335 eP P 12 41 35.1 -0.7
EDM Edmonton 92.71 335 eP P 12 41 35.1 -0.7
ESDC Sonseca Array 92.76 44 P P 12 41 37.0 +0.5
ESDC Sonseca Array 92.76 44 P P 12 41 37.0 +0.5
comp=Z,1.2nm,0.5s,baz=242,slow=3.7,SNR=7.5
A05A Maple Falls 93.04 328 eP P 12 41 37.8 +0.4
comp=Z,38nm,0.9s
VDB Vedder Mountai 93.06 328 P P 12 41 37.5 -0.1
KEST Kesra 99.08 54 LR LR 13 30 00.4
comp=Z,43nm,18.2s,baz=274,slow=37
YKA Yellowknife Ar 100.47 340 P Pdif 12 42 10.6 -0.2
YKA PP PP 12 46 19.4 +0.3
YKA PKiKP PKiKP 12 46 37.0 +0.2
YKA Yellowknife Ar 100.47 340 P Pdif 12 42 10.5 -0.2
comp=Z,2.7nm,0.7s,baz=142,slow=4.4,SNR=58
YKA PP PP 12 46 19.4 +0.3
comp=Z,1.1nm,0.8s,baz=142,slow=8.4,SNR=6.7
YKA PKiKP PKiKP 12 46 36.9 +0.2
comp=Z,0.3nm,0.4s,baz=150,slow=1.8,SNR=6.7
HFS Hagfors 113.09 33 PKiKP PKiKP 12 46 59.9 -0.4
HFS Hagfors 113.09 33 PKiKP PKiKP 12 46 59.9 -0.4
comp=Z,4.0nm,0.8s,baz=248,slow=1.6,SNR=4.5
ILAR Eielson Array 113.09 333 PKiKP PKiKP 12 46 59.9 -0.3
ILAR Eielson Array 113.09 333 PKiKP PKiKP 12 46 59.9 -0.3
comp=Z,1.8nm,0.7s,baz=150,slow=0.9,SNR=35
IM04 Indian Mountai 116.22 333 ePKPdf PKPdf 12 47 06.3 +0.2
BR131 Keskin Array S 118.13 59 ePKPdf PKPdf 12 47 09.9 -0.9
BRTR Keskin Array B 118.13 59 PKP PKPdf 12 47 10.4 -0.4
BRTR pPKP pPKPdf 12 47 38.0 -1.0
BRTR PKKPbc PKKPab 12 57 32.5 +0.7
BRTR Keskin Array B 118.13 59 PKP PKPdf 12 47 10.4 -0.4
comp=Z,4.0nm,0.7s,baz=193,slow=2.9,SNR=21
BRTR pPKP pPKPdf 12 47 38.0 -1.0
comp=Z,2.7nm,0.8s,baz=195,slow=3.4,SNR=6.4
BRTR PKKPbc PKKPab 12 57 32.5 +0.7
comp=Z,0.9nm,0.7s,baz=94,slow=5.1,SNR=4.1
AK02 Malin Array Si 118.35 46 ePKPdf PKPdf 12 47 09.8 -0.9
KIEV Kiev 118.37 46 ePKIKP PKPdf 12 47 09.7 -1.0
KIEV Kiev 118.37 46 ePKPdf PKPdf 12 47 09.7 -1.0
AK01 Malin Array Si 118.37 46 eP PKPdf 12 47 08.9 -1.8
AKASG Malin Array Be 118.38 46 PKIKP PKPdf 12 47 09.4 -1.3
AKASG 12 47 37.9
AKASG Malin Array Be 118.38 46 PKP PKPdf 12 47 09.4 -1.3
AKASG pPKP pPKPdf 12 47 37.9 -1.0
AKASG Malin Array Be 118.38 46 PKP PKPdf 12 47 09.4 -1.3
comp=Z,3.9nm,0.7s,baz=262,slow=2.7,SNR=23
AKASG pPKP pPKPdf 12 47 37.9 -1.0
comp=Z,3.5nm,0.8s,baz=261,slow=2.8,SNR=4.9
FINES FINESS Array B 119.26 33 PKP PKPdf 12 47 11.5 -0.5
FINES PKKP PKKPdf 12 57 54.4 -3.1
FINES FINESS Array B 119.26 33 PKP PKPdf 12 47 11.5 -0.5
comp=Z,4.2nm,0.8s,baz=111,slow=0.9,SNR=16
FINES PKKP PKKPdf 12 57 54.4 -3.1
comp=Z,1.5nm,0.7s,baz=150,slow=4.2,SNR=3.8
KAF Kangasniemi 119.51 33 ePKIKP PKPdf 12 47 11.4 -1.1
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 119.51 33 ep PKPdf 12 47 11.4 -1.1
comp=Z,5.7nm,0.5s
ARCES ARCESS Array B 120.47 24 PKP PKPdf 12 47 13.9 -0.3
ARCES PKKP PKKPdf 12 57 50.2 -5.1
ARCES ARCESS Array B 120.47 24 PKP PKPdf 12 47 13.9 -0.3
comp=Z,3.1nm,0.8s,baz=242,slow=2.7,SNR=15
ARCES PKKP PKKPdf 12 57 50.2 -5.1
comp=Z,2.9nm,0.7s,baz=74,slow=4.3,SNR=6.5
ASAR Alice Springs 121.14 204 PKP PKPdf 12 47 15.6 -1.5
ASAR PKKPbc PKKPbc 12 57 19.0 -0.1
ASAR Alice Springs 121.14 204 PKP PKPdf 12 47 15.6 -1.5
comp=Z,3.8nm,0.8s,baz=136,slow=1.8,SNR=34
ASAR PKKPbc PKKPbc 12 57 19.0 -0.1
comp=Z,3.0nm,0.8s,baz=340,slow=3.5,SNR=34
JOF Joensuu 121.93 32 ePKIKP PKPdf 12 47 16.2 -1.0
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 121.93 32 ep PKPdf 12 47 16.2 -1.0
comp=Z,4.4nm,0.5s
OBN Obninsk 123.63 42 ⇓ iPKIKP PKPdf 12 47 20.3 -0.3
OBN i 12 47 49.6
OBN e 12 54 22.1
OBN pmax pmax
comp=Z,62nm,1.6s
OBN Obninsk 123.63 42 PKP PKPdf 12 47 20.1 -0.6
OBN Obninsk 123.63 42 PKP PKPdf 12 47 20.1 -0.6
comp=Z,13nm,0.5s,baz=336,slow=13,SNR=5.4
MOS Moscow 124.31 41 ePKIKP PKPdf 12 47 35.9 +14
WRA Warramunga Arr 124.38 207 PKP PKPdf 12 47 22.3 -1.1
WRA pPKP pPKPdf 12 47 50.6 -0.9
WRA PKKPbc PKKPbc 12 57 07.4 +0.9
WRA Warramunga Arr 124.38 207 PKP PKPdf 12 47 22.3 -1.1
comp=Z,7.4nm,0.7s,baz=158,slow=1.7,SNR=67
WRA pPKP pPKPdf 12 47 50.6 -0.9
comp=Z,10nm,0.7s,baz=162,slow=1.6,SNR=11
WRA PKKPbc PKKPbc 12 57 07.4 +0.9
comp=Z,2.2nm,0.7s,baz=343,slow=4.3,SNR=21
WRAB Tennant Creek 124.39 207 ⇓ PKIKP PKPdf 12 47 22.0 -1.4
WRAB Tennant Creek 124.39 207 ePKPdf PKPdf 12 47 22.4 -1.0
VSR Storozhevoye 124.63 47 ePKIKP PKPdf 12 47 20.6 -2.1
VSR pmax pmax
comp=N,1.0nm,1.0s
VSR pmax pmax
comp=E,1.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 124.67 47 ePKIKP PKPdf 12 47 21.2 -1.6
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,3.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.9s
KIV Kislovodsk 125.74 56 i PKIKP PKPdf 12 47 25.5 +0.3
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,69nm,21.0s
KBZ Khabaz 125.85 56 PKIKP PKPdf 12 47 25.4 +0.1
KBZ Khabaz 125.85 56 PKP PKPdf 12 47 25.4 +0.1
KBZ Khabaz 125.85 56 PKP PKPdf 12 47 25.4 +0.1
comp=Z,6.3nm,0.9s,baz=192,slow=1.9,SNR=7.5
GOF Gofitskoye 126.20 55 ePKIKP PKPdf 12 47 26.9 +1.0
ZEI Tsey 126.39 58 i PKIKP PKPdf 12 47 26.1 -0.6
ZEI pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 126.45 61 PKP PKPdf 12 47 27.6 +0.8
GNI Garni 126.45 61 PKP PKPdf 12 47 27.6 +0.8
comp=Z,2.5nm,0.4s,baz=358,slow=17,SNR=3.7
PRGR Permogore 128.59 34 ePKIKP PKPdf 12 47 28.7 -1.2
PRGR e 12 47 58.6
PRGR pmax pmax
comp=Z,9.0nm,0.4s
BILL Bilibino 131.61 336 ⇑ iPKIKP PKPdf 12 47 36.5 +1.0
BILL e 12 49 58.6
BILL pmax pmax
comp=Z,152nm,1.2s
ARU Arti 135.95 39 i PKIKP PKPdf 12 47 44.5 +0.5
ARU 12 50 23.3
ARU SS SS 13 08 11.8 -3.7
ARU Arti 135.95 39 ePKPdf PKPdf 12 47 44.3 +0.3
AKTO Aktyubinsk 136.53 48 PKIKP PKPdf 12 47 45.6 +0.3
AKTO Aktyubinsk 136.53 48 PKP PKPdf 12 47 45.6 +0.3
AKTO Aktyubinsk 136.53 48 PKP PKPdf 12 47 45.6 +0.3
comp=Z,4.1nm,0.8s,baz=336,slow=3.3,SNR=12
AB31 Akbulak array 137.88 50 i PKHKP PKPpre 12 47 37.0
AB31 pmax pmax
comp=Z,3.0nm,0.4s
TIXI Tiksi 138.53 352 ⇑ PKIKP PKPdf 12 47 48.8 +0.5
SEY Seymchan 139.03 333 c iPKIKP PKPdf 12 47 50.7 +1.3
SEY Seymchan 139.03 333 PKPpre PKPpre 12 47 41.1
SEY PKP PKPdf 12 47 50.8 +1.3
SEY Seymchan 139.03 333 PKhKP PKPpre 12 47 41.1
comp=Z,4.3nm,0.8s,baz=35,slow=23,SNR=12
SEY PKP PKPdf 12 47 50.8 +1.3
comp=Z,23nm,0.7s,baz=111,slow=2.3,SNR=55
PETK Petropavlovsk- 140.20 317 PKIKP PKPdf 12 47 53.3 +1.4
PETK Petropavlovsk- 140.20 317 PKP PKPdf 12 47 53.3 +1.4
PETK Petropavlovsk- 140.20 317 PKP PKPdf 12 47 53.3 +1.4
comp=Z,8.7nm,0.8s,baz=75,slow=3.1,SNR=13
GOA Goa 142.44 106 eP PKPdf 12 47 55.4 -1.6
GOA AMS AMS 12 56 14.3
comp=Z,478nm,15.0s
KASI Kota Agung 142.77 169 P PKPdf 12 48 08.5 +11
comp=Z,71nm,1.1s
BRVK Borovoye 143.40 42 ePKIKP PKPbc 12 47 56.1 +0.9
BRVK Borovoye 143.40 42 ePKPdf PKPbc 12 47 56.1 +0.9
BNSI Bone 143.45 195 P PKPbc 12 47 56.2 -0.2
BVA0 Borovoye Array 143.47 42 i PKIKP PKPbc 12 47 55.3 -0.1

BVA0					pmax	pmax			
	comp=Z,17nm,1.0s								
BVAR	**Borovoye Array**	**143.47**	**42**		PKIKP	PKPbc	12 47 56.1	+0.7	
BVAR	**Borovoye Array**	**143.47**	**42**		PKP	PKPbc	12 47 56.1	+0.7	
BVAR	**Borovoye Array**	**143.47**	**42**		PKP	PKPbc	12 47 56.1	+0.7	
	comp=Z,2.0nm,0.3s,baz=305,slow=1.4,SNR=22								
MDSI	**Maura Dua**	**143.73**	**168**		P	PKPab	12 47 56.3	-0.1	
	comp=Z,57nm,1.0s,comp=Z,874nm								
SANI	**Sanana**	**143.94**	**206**		P	PKPab	12 47 56.6	-0.6	
SPSI	**Sidrap Palu**	**143.95**	**195**		P	PKPab	12 47 56.6	-0.6	
SPSI	**Sidrap Palu**	**143.95**	**195**		P	PKPab	12 47 57.0	-0.2	
POO	**Poona**	**143.96**	**102**	*e*P		PKPbc	12 47 57.6	-0.3	
LHSI	**Lahat**	**144.25**	**167**		P	PKPbc	12 47 59.3	+0.5	
	comp=Z,113nm,1.3s								
GUMO	**Guam**	**144.43**	**248**	*e*PKPdf		**PKPab**	**12 47 58.5**	**-0.5**	
LBMI	**Labuha**	**144.63**	**209**		P	**PKPab**	**12 47 59.4**	**-0.5**	
KBL	**Kabul**	**144.64**	**73**	*e*PKIKP		**PKPab**	**12 47 58.5**	**-1.1**	
KBL	**Kabul**	**144.64**	**73**	*e*PKPdf		**PKPab**	**12 47 58.5**	**-1.1**	
TTSI	**Tana Toraja**	**144.83**	**195**		P	**PKPab**	**12 47 58.5**	**-2.0**	
MMSI	**Mamuju**	**145.37**	**194**		P	x	12 48 01.3		
MMSI					S	x	12 48 32.3		
MMSI	**Mamuju**	**145.37**	**194**		P	x	12 48 02.4		
	comp=Z,210nm,1.5s,comp=Z,4μm								
KK31	**Karatay Array**	**145.84**	**58**	*i* PKP2		**PKPdf**	**12 48 02.0**	**-0.3**	
KK31					pmax	pmax			
	comp=Z,4.0nm,0.4s								
KKAR	**Karatay Array**	**145.84**	**58**	*e*PKP2		**PKPdf**	**12 48 02.5**	**+0.3**	
KKAR	**Karatay Array**	**145.84**	**58**	*e*PKPdf		**PKPdf**	**12 48 02.5**	**+0.3**	
TNTI	**Ternate**	**145.96**	**210**	*e*PKPdf		**PKPdf**	**12 48 02.8**	**-0.5**	
PDSI	**Padang**	**146.32**	**160**		P	**PKPbc**	**12 48 04.8**	**-0.5**	
	comp=Z,76nm,1.1s,comp=Z,939nm								
PPI	**Padang Panjang**	**146.74**	**160**		P	**PKPdf**	**12 48 05.3**	**+0.6**	
	comp=Z,48nm,0.9s,comp=Z,984nm								
YAK	**Yakutsk**	**147.06**	**344**	*e*PKIKP		**PKPdf**	**12 48 04.0**	**+0.4**	
YAK				*e*			12 48 33.2		
YAK				*e*			12 48 39.5		
YAK				*e*			12 51 29.3		
YAK				*e*SS		SS	13 10 29.6	+6.4	
YAK				*e*SSS		SSS	13 16 02.2		
YAK					pmax	pmax			
	comp=Z,156nm,0.8s								
YAK					pmax	pmax			
	comp=N,13nm,0.9s								
YAK					pmax	pmax			
	comp=E,10.0nm,0.8s								
YAK					pmax	pmax			
	comp=Z,41nm,1.8s								
YAK					pmax	pmax			
	comp=N,44nm,1.8s								
YAK					pmax	pmax			
	comp=E,31nm,2.0s								
YAK	**Yakutsk**	**147.06**	**344**	*e*PKPdf		**PKPdf**	**12 48 03.1**	**-0.5**	
KMSI	**Cibinong**	**147.09**	**204**		P	**PKPbc**	**12 48 08.2**	**+0.8**	
HYB	**Hyderabad**	**147.31**	**107**	*i* PKP		**PKPdf**	**12 48 05.5**	**0.0**	
HYB				*e*			12 48 35.0		
HYB				*e*sPKP			12 49 05.0		
HYB	**Hyderabad**	**147.31**	**107**	*e*P		**PKPdf**	**12 48 05.9**	**+0.4**	
HYB					AMB	AMB	12 48 09.2		
	comp=Z,63nm,1.5s								
GSI	**Gunungsitoli**	**147.44**	**154**	*e*PKPbc		**PKPbc**	**12 48 08.2**	**-0.2**	
GTOI	**Gorontalo**	**147.47**	**202**		P	**PKPbc**	**12 48 07.4**	**-1.1**	
GTOI	**Gorontalo**	**147.47**	**202**		P	**PKPdf**	**12 48 07.0**	**+1.1**	
MNSI	**Mandailing Nat**	**147.67**	**158**		P	**PKPbc**	**12 48 08.6**	**-0.4**	
	comp=Z,51nm,1.4s,comp=Z,3μm								
EKS2	**Erkin-Say**	**148.28**	**59**		P	**PKPdf**	**12 48 07.6**	**+1.1**	
	SNR=50								
AML	**Almayashu**	**148.29**	**60**		P	**PKPbc**	**12 48 11.5**	**+1.1**	
	SNR=25								
USP	**Ospenovka**	**148.70**	**57**		P	**PKPbc**	**12 48 11.3**	**+0.3**	
	SNR=46								
AAK	**Ala-Archa**	**148.80**	**58**	*e*PKIKP		**PKPdf**	**12 48 08.0**	**+0.6**	
AAK				*e*			12 48 11.6		
AAK	**Ala-Archa**	**148.80**	**58**		P	**PKPbc**	**12 48 12.4**	**+1.0**	
	SNR=42								
AAK	**Ala-Archa**	**148.80**	**58**	*e*PKPdf		**PKPdf**	**12 48 08.0**	**+0.6**	
AAK				*e*PKPbc		**PKPbc**	**12 48 11.6**	**+0.2**	
FRU	**Bishkek**	**148.86**	**58**	*e*PKIKP		**PKPdf**	**12 48 08.0**	**+0.7**	
FRU				*e*			12 48 38.0		
FRU					pmax	pmax			
	comp=Z,280nm,1.6s								
UCH	**Uchtor**	**148.88**	**59**		P	**PKPdf**	**12 48 09.2**	**+1.3**	
	SNR=52								
CHMS	**Chumysh**	**148.93**	**58**		P	**PKPbc**	**12 48 12.7**	**+1.2**	
	SNR=24								
BHPL	**Bhopal**	**148.99**	**97**	*e*P		**PKPdf**	**12 48 08.8**	**+0.7**	
KURBB	**Kurchatov Arra**	**149.06**	**42**		PKPbc	**PKPbc**	**12 48 09.7**	**-1.8**	
	comp=Z,23nm,0.7s,baz=295,slow=3.9,SNR=17								
KURK	**Kurchatov**	**149.07**	**42**	*e*PKIKP		**PKPdf**	**12 48 07.9**	**+0.6**	
KURK	**Kurchatov**	**149.07**	**42**	*e*PKPdf		**PKPdf**	**12 48 07.9**	**+0.6**	
KURK					PKPbc	**PKPbc**	**12 48 09.7**	**-1.9**	
KBK	**Karagaybulak**	**149.13**	**58**		P	**PKPbc**	**12 48 13.0**	**+0.8**	
	SNR=21								
NVS	**Novosibirsk**	**149.24**	**32**	*e*PKIKP		**PKPdf**	**12 48 06.8**	**-0.6**	
NVS				*e*			12 48 37.0		
NVS					pmax	pmax			
	comp=Z,196nm,1.6s								
NVS					pmax	pmax			
	comp=E,38nm,1.2s								
KZA	**Kyzart**	**149.44**	**59**		P	**PKPbc**	**12 48 14.9**	**+1.5**	
	SNR=14								
TKM2	**Tokmak 2**	**149.56**	**58**		P	**PKPdf**	**12 48 09.4**	**+0.8**	
	SNR=25								
TKM2	**Tokmak 2**	**149.56**	**58**	*e*PKPdf		**PKPdf**	**12 48 09.2**	**+0.5**	
TKM2				*e*PKPbc		**PKPbc**	**12 48 13.4**	**+0.1**	
TSI	**Tuntungan**	**149.84**	**154**		P	**PKPbc**	**12 48 14.9**	**+0.3**	
	comp=E,156nm,1.3s,comp=E,4μm								
ULHL	**Ulahol**	**150.14**	**59**		P	**PKPbc**	**12 48 15.9**	**+1.1**	
	SNR=8.4								
KSH	**Kashi**	**150.29**	**64**	*e*PKPbc		**PKPdf**	**12 48 10.8**	**+1.0**	
KSH				*ep*PKP		**pPKPdf**	**12 48 37.1**	**-1.0**	
KSH				*e*SKS		**SKSdf**	**12 55 09.0**	**+0.7**	
KSH					AMB	AMB			
	comp=E,130nm,6.4s								
KSH					LR	LR			
	comp=E,250nm,7.8s								
KSH					LR	LR			
	comp=E,340nm,13.5s								
KSH					LR	LR			
	comp=E,150nm,5.0s								
DHRM	**DHARAMSHALA**	**150.38**	**79**	*e*P		**PKPdf**	**12 48 07.1**	**-3.2**	
NDI	**New Delhi**	**150.50**	**86**	*e*P		**PKPdf**	**12 48 10.0**	**-0.3**	
ZAA0	**Zalesovo Array**	**150.52**	**32**	*e*PKPdf		**PKPdf**	**12 48 09.5**	**0.0**	
ZAA0				*e*PKPbc		**PKPbc**	**12 48 12.6**	**-2.3**	
ZALV	**Zalesovo Beam**	**150.52**	**32**	PKIKP		**PKPdf**	**12 48 09.6**	**+0.1**	
ZALV							12 48 41.6		
ZALV	**Zalesovo Beam**	**150.52**	**32**	PKP		**PKPdf**	**12 48 09.6**	**+0.1**	
ZALV				PKPbc		**PKPbc**	**12 48 15.2**	**+0.2**	
ZALV				pPKPbc		**pPKPbc**	**12 48 41.6**	**-1.4**	
ZALV	**Zalesovo Beam**	**150.52**	**32**	PKP		**PKPdf**	**12 48 09.6**	**+0.1**	
	comp=E,2.3nm,0.5s,baz=265,slow=2.7,SNR=14								
ZALV				PKPbc		**PKPbc**	**12 48 15.2**	**+0.2**	
	comp=E,68nm,0.5s,baz=308,slow=2.7,SNR=219								
ZALV				pPKPbc		**pPKPbc**	**12 48 41.6**	**-1.4**	
	comp=E,100nm,0.8s,baz=300,slow=3.3,SNR=10								
SMLA	**Simla**	**150.94**	**81**	*e*P		**PKPdf**	**12 48 10.9**	**+0.1**	
YSS	**Yuzh-Sakhalins**	**151.25**	**312**‖	*e*PKIKP		**PKPdf**	**12 48 11.3**	**+0.5**	
YSS				*e*			12 48 25.5		
YSS				*e*			12 48 45.0		
YSS					pmax	pmax			
	comp=E,30nm,0.8s								
YSS					pmax	pmax			
	comp=Z,70nm,0.8s								
YSS	**Yuzh-Sakhalins**	**151.25**	**312**	*e*PKPbc		**PKPbc**	**12 48 16.4**	**-0.5**	
VIS	**Vishakhapatnam**	**151.32**	**112**	*e*P		**PKPdf**	**12 48 12.9**	**+1.1**	
DDI	**Dehra Dun**	**151.56**	**83**	*e*P		**PKPdf**	**12 48 10.2**	**-1.7**	
ASAJ	**Asahikawa**	**152.29**	**306**	*e*PKPdf		**PKPdf**	**12 48 11.6**	**-0.9**	
ASAJ				*e*PKPbc		**PKPbc**	**12 48 19.3**	**-0.1**	
ASAJ				PKPbc		**PKPbc**	**12 48 19.6**	**+0.3**	
ASAJ	**Asahikawa**	**152.29**	**306**	PKPbc		**PKPbc**	**12 48 19.6**	**+0.3**	
	comp=Z,29nm,0.9s,baz=86,slow=14,SNR=8.0								
CBIJ	**Chichi jima**	**152.70**	**269**	PKPbc		**PKPbc**	**12 48 19.7**	**-1.1**	
JCJ	**Chichijima**	**152.70**	**269**	PKPbc		**PKPbc**	**12 48 19.7**	**-1.1**	
	comp=Z,44nm,0.5s,baz=252,slow=17,SNR=5.0								
CLNS	**Chul'man**	**152.80**	**343**	*e*PKIKP		**PKPbc**	**12 48 19.6**	**-0.5**	
CLNS					pmax	pmax			
	comp=Z,55nm,0.9s								
CLNS					pmax	pmax			
	comp=E,6.0nm,0.8s								
CLNS					pmax	pmax			
	comp=N,13nm,0.9s								
MK31	**Makanchi Array**	**152.95**	**47**	*e*PKIKP		**PKPdf**	**12 48 13.6**	**+0.2**	
MK31	**Makanchi Array**	**152.95**	**47**	*e*PKPdf		**PKPdf**	**12 48 13.6**	**+0.2**	
MK31				*e*PKPbc		**PKPbc**	**12 48 20.6**	**-0.2**	
MKAR	**Makanchi Array**	**152.95**	**47**	PKIKP		**PKPdf**	**12 48 13.5**	**0.0**	
MKAR							12 48 48.2		
MKAR	**Makanchi Array**	**152.95**	**47**	PKP		**PKPdf**	**12 48 13.5**	**0.0**	
MKAR				PKPbc		**PKPbc**	**12 48 20.7**	**-0.1**	
MKAR				PKPab		**PKPab**	**12 48 32.9**	**+0.4**	
MKAR				pPKPbc		**pPKPbc**	**12 48 48.2**	**-0.7**	
MKAR	**Makanchi Array**	**152.95**	**47**	PKP		**PKPdf**	**12 48 13.5**	**0.0**	
	comp=N,1.2nm,0.7s,baz=258,slow=1.7,SNR=14								
MKAR				PKPbc		**PKPbc**	**12 48 20.7**	**-0.1**	
	comp=N,26nm,0.8s,baz=3.3,slow=1.6,SNR=106								
MKAR				PKPab		**PKPab**	**12 48 32.9**	**+0.4**	
	comp=N,27nm,0.7s,baz=294,slow=3.9,SNR=24								
MKAR				pPKPbc		**pPKPbc**	**12 48 48.2**	**-0.7**	
	comp=N,23nm,0.8s,baz=298,slow=2.6,SNR=6.7								
KOLN	**Koldanda**	**155.73**	**91**	*e*P		**PKPdf**	**12 48 17.9**	**-0.3**	
	comp=N,14nm,0.8s								
DANN	**Dangsing**	**156.01**	**90**	*e*P		**PKPdf**	**12 48 18.7**	**+0.1**	
	comp=N,47nm,0.8s								
BOK	**Bokaro**	**156.35**	**102**	*e*P		**PKPdf**	**12 48 18.0**	**-0.8**	
KLR	**Kul'dur**	**156.38**	**325**	*e*PKIKP		PKPdf	12 48 12.6	-5.5	
KLR				*e*			12 48 41.3		
GKN	**Gorkha**	**156.68**	**91**	*e*P		**PKPdf**	**12 48 19.0**	**-0.3**	
DMN	**Daman**	**156.98**	**93**	*e*P		**PKPdf**	**12 48 19.7**	**-0.2**	
MJAR	**Matsushiro Arr**	**157.06**	**290**	PKP		**PKPdf**	**12 48 17.4**	**-2.0**	
MJAR				PKPab		**PKPab**	**12 48 51.0**	**+0.6**	
MJAR	**Matsushiro Arr**	**157.06**	**290**	PKP		**PKPdf**	**12 48 17.4**	**-2.0**	
	comp=N,2.5nm,0.9s,baz=82,slow=1.6,SNR=6.0								
MJAR				PKPab		**PKPab**	**12 48 51.0**	**+0.6**	
	comp=N,13nm,0.8s,baz=119,slow=2.6,SNR=20								
KKN	**Kakani**	**157.17**	**92**	*e*P		**PKPdf**	**12 48 19.8**	**-0.3**	
PKI	**Pulchoki**	**157.23**	**93**	*e*P		**PKPdf**	**12 48 19.7**	**-0.6**	
	comp=N,31nm,1.2s								
WMQ	**Urumqi**	**157.67**	**50**	PKP		**PKPdf**	**12 48 20.4**	**+0.4**	
WMQ				pPKP		**pPKPdf**	**12 48 49.9**	**+1.6**	
WMQ				sPKP			12 48 57.9		
WMQ				PKS		**PKSdf**	**12 51 52.9**	**-0.8**	
WMQ				PP		**PP**	**12 52 35.1**	**+2.5**	
WMQ				SKS		**SKSdf**	**12 55 14.8**	**-1.6**	
WMQ				SKKS		**SKKSac**	**12 59 12.1**	**+0.2**	
WMQ				SS		**SS**	**13 12 19.8**	**-1.8**	
WMQ				AMB		AMB			
	comp=N,29nm,10.7s								
WMQ				LR		LR			
	comp=N,180nm,20.7s								
WMQ				LR		LR			
	comp=N,150nm,39.8s								
GUN	**Gumba**	**157.72**	**92**	*e*P		**PKPdf**	**12 48 20.7**	**-0.2**	
	comp=N,128nm,1.8s								
JIRN	**Jiri**	**157.92**	**93**	*e*P		**PKPdf**	**12 48 20.8**	**-0.4**	
	comp=N,10nm,0.6s								
RAMN	**Ramite**	**158.07**	**95**	*e*P		**PKPdf**	**12 48 21.4**	**+0.2**	
	comp=N,56nm,1.0s								
MOY	**Mondy**	**158.34**	**17**	*e*PKIKP		**PKPdf**	**12 48 21.6**	**+1.0**	
MOY					pmax	pmax			
	comp=Z,48nm,3.0s								
ODAN	**Odare**	**158.71**	**96**	*e*P		**PKPdf**	**12 48 22.1**	**+0.1**	
	comp=Z,23nm,0.8s								
TLY	**Talaya**	**158.93**	**13**	*e*PKIKP		**PKPdf**	**12 48 22.3**	**+1.1**	
TLY				*e*			12 48 59.0		
TLY					pmax	pmax			
	comp=Z,12nm,1.3s								
TAPN	**Taplejung**	**159.13**	**95**	*e*P		**PKPdf**	**12 48 22.5**	**0.0**	
	comp=Z,44nm,1.3s								
USRK	**Ussuriysk Arra**	**159.24**	**314**	PKP		**PKPdf**	**12 48 20.6**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=72,slow=3.2,SNR=3.9								
USRK				PKPab		**PKPab**	**12 49 00.1**	**+0.6**	
	comp=Z,13nm,0.7s,baz=67,slow=2.7,SNR=23								
USRK				pPKPab		**pPKPab**	**12 49 27.7**	**+1.0**	
	comp=Z,4.6nm,0.7s,baz=77,slow=5.8,SNR=3.6								
ZAK	**Zakamensk**	**160.08**	**15**	*e*PKIKP		**PKPdf**	**12 48 22.4**	**-0.3**	
ZAK					pmax	pmax			
	comp=Z,8.0nm,1.5s								
MDJ	**Mudanjiang**	**160.44**	**318**	PKP		**PKPdf**	**12 48 22.3**	**-0.8**	
MDJ				pPKP		**pPKPdf**	**12 48 48.6**	**-2.9**	
MDJ				sPKP			12 48 58.3		
MDJ				PP		**PP**	**12 52 48.8**	**+1.5**	
MDJ				SS		SS	13 12 54.9	+4.6	
MDJ				AMB		AMB			
	comp=Z,150nm,6.1s								
MDJ				LR		LR			
	comp=Z,33nm,26.2s								
MDJ				LR		LR			
	comp=Z,73nm,36.7s								
MDJ				LR		LR			
	comp=Z,100nm,39.3s								
SHL	**Shillong**	**162.05**	**104**	*e*P		**PKPdf**	**12 48 25.3**	**-0.3**	
SHL				*ex*		x	12 48 27.0		
LSA	**Lhasa**	**162.62**	**90**	PKP		**PKPdf**	**12 48 22.5**	**-4.0**	
LSA	**Lhasa**	**162.62**	**90**	pPKIKP		**PKPdf**	**12 48 26.7**	**+0.3**	
LSA	**Lhasa**	**162.62**	**90**	*e*PKPdf		**PKPdf**	**12 48 26.7**	**+0.3**	
CMAR	**Chiang Mai Arr**	**163.02**	**136**	PKP		**PKPdf**	**12 48 26.9**	**+0.3**	
CMAR				PKPab		**PKPab**	**12 49 16.9**	**+0.3**	
CMAR				pPKPab		**pPKPab**	**12 49 42.3**	**-1.5**	
CMAR	**Chiang Mai Arr**	**163.02**	**136**	PKP		**PKPdf**	**12 48 26.9**	**+0.3**	
	comp=Z,3.8nm,1.0s,baz=225,slow=2.4,SNR=22								
CMAR				PKPab		**PKPab**	**12 49 16.9**	**+0.3**	
	comp=Z,1.8nm,0.8s,baz=225,slow=3.4,SNR=4.5								
CMAR				pPKPab		**pPKPab**	**12 49 42.3**	**-1.5**	
	comp=Z,4.1nm,0.8s,baz=236,slow=5.1,SNR=4.6								
SONM	**Songino Array**	**163.13**	**11**	PKP		**PKPdf**	**12 48 27.0**	**+1.1**	
SONM				PKPab		**PKPab**	**12 49 17.1**	**+0.7**	
SONM				pPKPab		**pPKPab**	**12 49 43.5**	**-0.2**	
SONM				PP		**PP**	**12 53 04.1**	**+3.0**	
SONM	**Songino Array**	**163.13**	**11**	PKP		**PKPdf**	**12 48 27.0**	**+1.1**	
	comp=Z,2.5nm,0.8s,baz=212,slow=1.4,SNR=12								
SONM				PKPab		**PKPab**	**12 49 17.1**	**+0.7**	
	comp=Z,12nm,0.7s,baz=326,slow=4.5,SNR=30								
SONM				pPKPab		**pPKPab**	**12 49 43.5**	**-0.2**	
	comp=Z,9.2nm,0.8s,baz=316,slow=4.5,SNR=7.7								
SONM				PP		**PP**	**12 53 04.1**	**+3.0**	
	comp=Z,1.2nm,1.0s,baz=356,slow=4.6,SNR=3.6								
ULN	**Ulaanbaatar**	**163.20**	**10**	*e*PKPdf		**PKPdf**	**12 48 25.3**	**-0.7**	
CN2	**Changchun**	**163.25**	**322**	*e*PKP		**PKPdf**	**12 48 27.6**	**+1.6**	
CN2				PP		**PP**	**12 53 06.8**	**+4.6**	
CN2				SKS		**SKSdf**	**12 55 22.0**	**+0.9**	
CN2				AMB		AMB			
	comp=Z,200nm,12.0s								
CHTO	**Chiang Mai**	**163.30**	**135**	*e*PKIKP		**PKPdf**	**12 48 26.6**	**-0.2**	
CHTO	**Chiang Mai**	**163.30**	**135**	*e*PKPdf		**PKPdf**	**12 48 26.6**	**-0.2**	
KSRS	**Korea Array**	**164.94**	**298**	PKP		**PKPdf**	**12 48 27.5**	**-0.2**	
	comp=Z,3.1nm,0.8s,baz=98,slow=0.1,SNR=18								
KSRS				pPKP		**pPKPdf**	**12 48 55.3**	**-0.8**	
	comp=Z,4.1nm,1.0s,baz=97,slow=0.4,SNR=5.0								
KSRS				PKPab		**PKPab**	**12 49 25.8**	**+1.1**	
	comp=Z,2.0nm,0.8s,baz=68,slow=5.0,SNR=6.8								
KSAR	**Wonju Array Be**	**164.97**	**298**	PKP		**PKPdf**	**12 48 27.5**	**-0.2**	
KSAR				pPKP		**pPKPdf**	**12 48 55.3**	**-0.9**	
KSAR				PKPab		**PKPab**	**12 49 25.8**	**+0.9**	
GTA	**Gaotai**	**167.71**	**46**	PKP		**PKPdf**	**12 48 30.3**	**+0.3**	
GTA				pPKP		**pPKPdf**	**12 48 57.4**	**-1.0**	
GTA				sPKP			12 49 07.9		
GTA				PKPab		**PKPab**	**12 49 38.1**	**+1.1**	
GTA				PP		**PP**	**12 53 28.1**	**+2.4**	
GTA				SKS		**SKSdf**	**12 55 22.9**	**-1.6**	
GTA				SKKS		**SKKSac**	**13 00 04.1**	**+0.7**	
GTA				SS		**SS**	**13 14 04.9**	**-0.5**	
GTA				AMB		AMB			
	comp=Z,180nm,6.7s								
GTA				LR		LR			
	comp=Z,120nm,17.1s								
GTA				LR		LR			
	comp=Z,98nm,17.1s								
GTA				LR		LR			
	comp=Z,100nm,17.3s								
KMI	**Kunming**	**170.28**	**128**	PKP		**PKPdf**	**12 48 32.1**	**-0.1**	
KMI				pPKP		**pPKPdf**	**12 49 01.8**	**+1.2**	
KMI				PP		PP	12 53 44.8	+5.8	
KMI				SS		SS	13 14 26.8	-4.8	
KMI				AMB		AMB			
	comp=Z,110nm,14.0s								
KMI				LR		LR			
	comp=Z,170nm,31.8s								
HHC	**Hu-ho-hao-te**	**170.52**	**358**	*e*PKP		**PKPdf**	**12 48 29.3**	**-2.4**	
HHC				SKS		**SKSdf**	**12 55 18.8**	**-7.0**	
HHC				SKKS		**SKKSac**	**13 00 12.8**	**-4.0**	
HHC				SS		**SS**	**13 14 34.3**	**+2.8**	
HHC				AMB		AMB			
	comp=Z,410nm,6.9s								
HHC				LR		LR			
	comp=Z,160nm,18.2s								
HHC				LR		LR			
	comp=Z,190nm,19.4s								
HHC				LR		LR			
	comp=Z,200nm,19.6s								
LZH	**Lanzhou**	**172.25**	**50**	*e*PKP		**PKPdf**	**12 48 33.8**	**+1.0**	
LZH					pPKP	**pPKPdf**	**12 49 01.3**	**+0.1**	
LZH					sPKP		12 49 12.1		
LZH					PP	**PP**	**12 53 49.1**	**+0.4**	
LZH					SKKS		13 00 27.3		
LZH				*e*SS		**SS**	**13 14 50.8**	**+0.1**	
LZH					AMB	AMB			
	comp=Z,250nm,4.9s								
LZH					LR	LR			
	comp=Z,600nm,17.8s								
LZH					LR	LR			
	comp=Z,630nm,18.6s								
LZH					LR	LR			
	comp=Z,730nm,20.2s								
CD2	**Chengdu**	**173.58**	**92**	*e*PKP		**PKPdf**	**12 48 33.0**	**-0.3**	
CD2				pPKP		**pPKPdf**	**12 49 01.8**	**0.0**	
CD2				sPKP			12 49 11.3		
CD2				PKPab		**PKPab**	**12 50 02.4**	**-0.9**	
CD2				PP		**PP**	**12 53 54.8**	**-1.1**	
CD2				SKS		**SKSdf**	**12 55 23.5**	**-3.7**	
CD2				SKKS		**SKKSac**	**13 00 31.3**	**-1.2**	
CD2				SS		**SS**	**13 15 01.3**	**-3.6**	
CD2				AMB		AMB			
	comp=Z,330nm,8.4s								
CD2				LR		LR			
	comp=Z,210nm,16.6s								
CD2				LR		LR			
	comp=Z,240nm,28.2s								
GYA	**Guiyang**	**173.69**	**140**	*e*PKP		**PKPdf**	**12 48 33.0**	**-0.6**	
GYA				pPKP		**pPKPdf**	**12 48 58.8**	**-3.2**	
GYA				sPKP			12 49 08.3		
GYA				PKPab		**PKPab**	**12 50 04.6**	**+0.8**	
GYA				PKS		**PKSdf**	**12 52 03.8**	**-2.2**	
GYA				PP		**PP**	**12 53 57.0**	**+1.7**	
GYA				SKKS			13 00 32.3		
GYA				SS		**SS**	**13 15 03.5**	**-0.5**	
GYA				AMB		AMB			
	comp=Z,140nm,8.0s								
GYA				LR		LR			
	comp=Z,160nm,24.3s								
GYA				LR		LR			
	comp=Z,130nm,25.5s								
GYA				LR		LR			
	comp=Z,140nm,24.8s								
XAN	**Xi'an**	**176.69**	**35**	PKP		**PKPdf**	**12 48 33.9**	**-0.2**	
XAN				pPKP		**pPKPdf**	**12 49 02.5**	**-0.1**	

DJA 18 12:31:10.1±0.9, 8°S±6′×107°E±°, h10km, M3.8/8, MLv3.8/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.84**	**35**	P	Pg	12 31 25.9	-0.5
CNJI	**Cibinong**	**0.96**	**348**	P	Pg	12 31 27.2	-1.3
CNJI				S	Sg	12 31 38.2	-2.2
CMJI	**Cimerak**	**1.20**	**67**	P	Pn	12 31 32.0	-1.0
LEM	**Lembang**	**1.44**	**11**	P	Pn	12 31 35.4	-1.1
SKJI	**Sukabumi**	**1.46**	**328**	P	Pn	12 31 32.1	-4.4
SKJI				S	Sg	12 31 58.2	+1.2
DBJI	**Dramaga**	**1.78**	**341**	P	Pn	12 31 39.1	-1.9
CGJI	**Cibinong**	**2.30**	**315**	P	Pn	12 31 49.0	+0.9

*ISCJB **18** 13:06:13.8±0.4, 25°.45N×0°.07×125°.31E±0°.06, h88km±6km, mb3.4/4, Error ellipse: s-maj=14.5km s-min=4.0km az=143.5*
*JMA **18** 13:06:14.7±0.1, 25°.49N×125°.23E, h80km±4km, MJ3.7*
*IDC **18** 13:06:18.9±5.9, 25°.42N×125°.16E, h117km±58km, mb3.1/4, mb1 3.3/5, mb1mx3.1/34, mbtmp3.5/5, Error ellipse: s-maj=41.7km s-min=19.8km az=81.0*

ISC 18 13:06:14.6±1.0, 25°.51N±0°.09×125°.26E±0°.07, h79km±11km, n22, σ0°.96/32, mb3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.69**	**178**	P	**

PMG	**Port Moresby**	**4.27 227**	P		Pn	13 44 37.6	-0.1
	baz=10,SNR=11						
WRA	**Warramunga Arr**	**20.49 228**	P		P	13 48 07.7	+0.3
	4.3nm,0.8s,baz=51,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.26 221**	P		P	13 48 36.8	+0.1
	0.9nm,0.5s,baz=58,slow=9.2,SNR=6.0						
STKA	**Stephens Creek**	**26.53 197**	P		P	13 49 05.3	-0.9
	3.4nm,1.0s,baz=45,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.44 284**	PKPbc		PKPbc	14 03 14.3	-0.3
	0.6nm,0.7s,baz=84,slow=2.5,SNR=4.4						

JMA 18 13:52:42.4±0.2, 37.30N×142.10E, h29km±4km, M1.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.98**	**274**	P	Pn	13 53 00.4	+0.1
JFK				S	Sn	13 53 12.8	-0.4
ONAJ	**Iwakimizuishiy**	**1.06**	**260**	S	Sn	13 53 14.6	-0.6
JMM	**Marumori**	**1.18**	**299**	P	Pn	13 53 03.1	+0.1
JMM				*e*S	Sn	13 53 18.2	+0.1
JIO	**Ouri**	**1.30**	**333**	*e*S	Sn	13 53 21.0	+0.1
JHO	**Hitachi**	**1.41**	**241**	P	Pn	13 53 06.6	+0.5
JFT	**Otama**	**1.42**	**279**	P	Pb	13 53 07.5	-0.8
JFT				*e*S	Sb	13 53 25.4	-0.6
JOU	**Okura**	**1.56**	**314**	P	Pn	13 53 09.1	+0.9
JOU				*e*S	Sb	13 53 28.9	-1.1

NIED ***18*** *13:53:00, 36.70N×141.30E, h32km, Mw3.5 Best double couple: M0 1.84000×10^14 NP1:ϕs15.00000°, δ12.00000°, λ-104.00000°. NP2:ϕs210.00000°, δ78.00000°, λ-87.00000°.*

IDC ***18*** *13:53:51.6±1.3, 36.52N×141.62E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.5/37, mbtmp3.5/8, ML2.9/3, Error ellipse: s-maj=25.5km s-min=24.7km az=175.0*

ISCJB ***18*** *13:53:53.4±1.5, 36.67N±0.05×141.50E±0.08, h17km±8km, mb3.4/5, Error ellipse: s-maj=11.5km s-min=6.6km az=32.1*

JMA ***18*** *13:53:56.3±0.1, 36.68N×141.26E, h47km±2km, M3.6*

ISC 18 13:53:53.5±2.1, 36.69N±0.06×141.49E±0.07, h9km±11km, n25, σ1§16/29, mb3.6/5, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.69**	**307**	∥P	**Pb**	**13 54 07.9**	**+0.2**
ONAJ				S	**Sg**	**13 54 15.8**	**0.0**
JHO	**Hitachi**	**0.74**	**264**	∥P	**Pg**	**13 54 08.0**	**+0.2**
JHO				S	**Sg**	**13 54 16.3**	**-1.2**
JFK	**Kawauchi**	**0.84**	**324**	∥P	**Pb**	**13 54 10.4**	**+0.2**
JFK				S	**Sg**	**13 54 20.5**	**0.0**
JFT	**Otama**	**1.24**	**312**	P	**Pn**	**13 54 16.7**	**-0.3**
JFT				S	**Sb**	**13 54 31.4**	**-1.7**
JMM	**Marumori**	**1.30**	**335**	P	**Pn**	**13 54 17.2**	**-0.6**
JMM				S	**Sb**	**13 54 33.0**	**-1.9**
JFY	**Yanaizu**	**1.60**	**297**	P	**Pn**	**13 54 21.8**	**-0.1**
JAG	**Ashikaga**	**1.66**	**261**	P	**Pn**	**13 54 21.3**	**-1.5**
JIO	**Ouri**	**1.77**	**356**	P	**Pn**	**13 54 24.1**	**-0.1**
JIO				S	**Sn**	**13 54 45.7**	**-1.1**
JOU	**Okura**	**1.80**	**339**	P	**Pn**	**13 54 25.6**	**+0.9**
JOU				S	**Sn**	**13 54 46.8**	**-0.8**
JYS	**Shiratake**	**1.90**	**324**	P	**Pn**	**13 54 27.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.64**	**268**	Pn	**Pn**	**13 54 36.3**	**0.0**
	4.7nm,0.3s,baz=89,slow=14,SNR=34						
MJAR				Sn	**Sn**	**13 55 09.4**	**+1.0**
	6.1nm,0.3s,baz=73,slow=25,SNR=7.4						
MAT	**Matsushiro**	**2.64**	**268**	P	**Pn**	**13 54 36.3**	**0.0**
MAT				S	**Sn**	**13 55 07.1**	**-1.4**
ASAJ	**Asahikawa**	**7.47**	**6**	Pn	**Pn**	**13 55 42.2**	**-0.3**
	0.4nm,0.3s,baz=225,slow=8.6,SNR=5.1						
ASAJ				Sn	**Sn**	**13 57 05.5**	**-1.8**
	0.3nm,0.3s,baz=239,slow=18,SNR=2.8						
USRK	**Ussuriysk Arra**	**10.42**	**319**	Pn	**Pn**	**13 56 24.6**	**+1.6**
	0.1nm,0.3s,baz=102,slow=14,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**27.92**	**120**	T	T	14 29 06.1	
	baz=316,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.93**	**120**	T	T	14 29 06.8	
	baz=316,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.94**	**120**	T	T	14 29 07.4	
	baz=316,slow=76,SNR=9.0						
SONM	**Songino Array**	**28.03**	**304**	P	**P**	**13 59 47.3**	**+2.3**
	0.8nm,0.6s,baz=98,slow=7.8,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**28.62**	**122**	T	T	14 30 44.2	
	baz=322,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.62**	**122**	T	T	14 30 22.5	
	baz=322,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.64**	**122**	T	T	14 29 58.2	
	baz=322						
ZALV	**Zalesovo Beam**	**42.19**	**313**	P	**P**	**14 01 47.5**	**+1.1**
	0.4nm,0.3s,baz=78,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**14 02 04.6**	**+0.6**
	0.5nm,0.8s,baz=81,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**14 03 35.8**	**-1.8**
	0.3nm,0.5s,baz=6.9,slow=7.5,SNR=6.6						
YKA	**Yellowknife Ar**	**64.08**	**30**	P	**P**	**14 04 27.7**	**+0.3**
	0.1nm,0.4s,baz=306,slow=7.0,SNR=3.6						

ISCJB ***18*** *13:55:38.0±0.9, 0.29S±0.08×18.75W±0.10, h10km, mb3.9/2, MS3.5/3, Error ellipse: s-maj=15.2km s-min=10.3km az=31.1*

IDC ***18*** *13:55:38.2±1.6, 0.20S×18.79W, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.6/35, mbtmp4.1/4, ML4.4/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/40, Error ellipse: s-maj=34.7km s-min=25.7km az=106.0*

ISC 18 13:55:39.6±1.3, 0.2S±0.1×18.8W±0.2, h10km, n16, σ1§18/10, MS3.9/3, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.71**	**150**	Pn	**Pn**	**13 57 45.6**	**+0.1**
H10N2				T	T	14 06 26.6	
	baz=329,slow=74,SNR=90						
H10N3	**ASCENSION HYDR**	**8.71**	**151**	Pn	**Pn**	**13 57 45.6**	**+0.1**
H10N3				T	T	14 06 26.5	
	baz=329,slow=74,SNR=140						
H10N1	**ASCENSION HYDR**	**8.73**	**150**	Pn	**Pn**	**13 57 45.9**	**+0.1**
H10N1				T	T	14 06 27.6	
	baz=329,slow=74,SNR=129						
H10S1	**ASCENSION HYDR**	**9.61**	**155**	T	T	14 07 31.0	
	baz=334,slow=74,SNR=29						
H10S3	**ASCENSION HYDR**	**9.62**	**155**	T	T	14 07 31.6	
	baz=334,slow=74,SNR=12						
H10S2	**ASCENSION HYDR**	**9.63**	**155**	T	T	14 07 35.4	
	baz=334,slow=74,SNR=21						
LIC	**Lamto**	**15.18**	**65**	*e*PKP1	**Pn**	**13 59 16.0**	**+1.8**
	37nm,1.4s						
TIC	**Toumodi**	**15.36**	**63**	*e*PKP1	**Pn**	**13 59 16.6**	**-0.1**
KIC	**Kosan Boka**	**15.49**	**65**	*e*PKP1	**Pn**	**13 59 17.0**	**-1.4**
	4.7nm,0.4s						
DBIC	**Dimbokro**	**15.52**	**64**	Pn	**Pn**	**13 59 17.1**	**-1.6**
	2.3nm,0.3s,baz=241,slow=14,SNR=24						
DBIC				Sn	Sn	14 01 56.2	-15
	0.2nm,0.3s,baz=143,slow=20,SNR=3.3						
DBIC				LR	LR	14 04 14.6	
	comp=Z,115nm,19.9s,baz=235,slow=33						
RCBR	**Riachuelo**	**17.94**	**252**	P	**P**	**13 59 49.7**	**-0.4**
	0.9nm,0.3s,baz=73,slow=17,SNR=9.0						
RCBR				S	Sn	14 02 54.3	-16
	0.2nm,0.3s,baz=162,slow=20,SNR=3.8						
TORD	**Torodi Ar. Bea**	**24.28**	**56**	P	**P**	**14 00 56.6**	**-0.9**
	1.8nm,0.7s,baz=234,slow=9.3,SNR=11						
TORD				LR	LR	14 09 25.9	
	comp=Z,28nm,18.9s,baz=310,slow=34						
MMAI	**Mount Meron Ar**	**60.71**	**51**	LR	LR	14 32 58.2	
	comp=Z,103nm,18.4s,baz=285,slow=37						
BRTR	**Keskin Array B**	**62.12**	**44**	P	**P**	**14 06 02.4**	**+1.2**
	1.6nm,1.0s,baz=243,slow=5.4,SNR=4.7						
AKASG	**Malin Array Be**	**65.02**	**31**	LR	LR	14 35 13.9	
	comp=Z,67nm,19.0s,baz=295,slow=37						
ASAR	**Alice Springs**	**144.43**	**134**	PKP	PKPbc	14 15 15.1	-0.6
	0.4nm,0.8s,baz=210,slow=2.4,SNR=5.1						

KRSC ***18*** *13:56:31.4±0.9, 53.71N×161.88E, h30km±17km, ML3.7*

ISCJB ***18*** *13:56:32.4±0.8, 53.72N±0.03×161.83E±0.05, h20km±7km, mb3.3/2, Error ellipse: s-maj=6.4km s-min=3.0km az=35.9*

IDC ***18*** *13:56:33.1±1.9, 53.32N×161.70E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/38, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=79.3km s-min=15.2km az=171.0*

ISC 18 13:56:31.5±1.8, 53.71N±0.04×161.83E±0.04, h7km±12km, n33, σ1§23/58, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.85**	**356**	*e*P	**Pg**	**13 56 47.8**	**0.0**
MKZ				*e*S	**Sg**	**13 56 58.3**	**-0.6**
SPN	**Mys Shipunski**	**1.24**	**241**	*e*P	**Pn**	**13 56 55.8**	**+0.6**
SPN				*e*S	**Sn**	**13 57 11.8**	**-0.4**
KII	**Karymskiy**	**1.45**	**284**	*e*P	**Pn**	**13 56 56.3**	**-1.8**
NLC	**Nalytchevo**	**1.58**	**251**	*e*P	**Pn**	**13 56 58.7**	**-1.1**
NLC				*e*S	**Sn**	**13 57 18.9**	**-1.6**
KZV	**Kizimen**	**1.67**	**328**	*e*P	**Pn**	**13 57 00.3**	**-1.0**
SDLR	**Sedlovina**	**1.81**	**257**	*e*P	**Pn**	**13 57 02.4**	**-0.7**
SDLR				*e*S	**Sn**	**13 57 26.1**	**-0.3**
TUMR	**Tumrok**	**1.86**	**329**	*e*P	**Pn**	**13 57 03.3**	**-0.5**
TUMR				*e*S	**Sn**	**13 57 25.6**	**-2.0**
SMAR	**Somma**	**1.86**	**257**	*e*P	**Pn**	**13 57 03.2**	**-0.8**
UGLR	**Uglovaya**	**1.86**	**256**	*e*P	**Pn**	**13 57 03.3**	**-0.6**
UGLR				*e*S	**Sn**	**13 57 25.9**	**-1.8**
KRER	**Koryakskii**	**1.88**	**259**	*e*P	**Pn**	**13 57 03.8**	**-0.4**
KRER				*e*S	**Sn**	**13 57 27.1**	**-1.2**
AVH	**Avacha**	**1.90**	**258**	*e*P	**Pn**	**13 57 03.7**	**-0.6**
AVH				*e*S	**Sn**	**13 57 27.7**	**-0.8**
KRX	**Arik**	**1.93**	**261**	*e*P	**Pn**	**13 57 04.0**	**-0.8**
KRX				*e*S	**Sn**	**13 57 27.8**	**-1.6**
KOK	**Koryaka**	**1.95**	**259**	*e*P	**Pn**	**13 57 04.2**	**-0.9**
KOK				*e*S	**Sn**	**13 57 29.3**	**-0.5**
PET	**Petropavlovsk**	**2.02**	**251**	*e*P	**Pn**	**13 57 05.3**	**-0.6**
PET				*e*S	**Sn**	**13 57 30.1**	**-1.3**
KMNR	**Kamenistaya**	**2.25**	**336**	*e*P	**Pn**	**13 57 09.7**	**+0.5**
KMNR				*e*S	**Sn**	**13 57 37.1**	**-0.1**
GNL	**Ganaly**	**2.31**	**271**	*i* P	**Pn**	**13 57 10.4**	**+0.4**
GNL				*e*S	**Sn**	**13 57 38.0**	**-0.7**
RUS	**Russkaya**	**2.37**	**239**	*e*P	**Pn**	**13 57 11.7**	**+1.0**
RUS				*e*S	**Sn**	**13 57 40.6**	**+0.6**
KIRR	**Kirishev**	**2.41**	**340**	*e*S	**Sn**	**13 57 41.8**	**+0.6**
MTVR	**Mutnovka**	**2.52**	**242**	*e*P	**Pn**	**13 57 14.1**	**+1.2**
MTVR				*e*S	**Sn**	**13 57 44.6**	**+0.8**
PETK	**Petropavlovsk-**	**2.54**	**258**	Pn	**Pn**	**13 57 13.6**	**+0.5**
	4.3nm,0.3s,baz=75,slow=18,SNR=135						
PETK				Sn	**Sn**	**13 57 45.5**	**+1.2**
	5.0nm,0.3s,baz=285,slow=10,SNR=7.3						
KBTR	**Krutoberegovo**	**2.57**	**12**	*e*P	**Pn**	**13 57 13.6**	**+0.1**
KBTR				*e*S	**Sn**	**13 57 44.8**	**-0.2**
KLY	**Klyuchi**	**2.70**	**346**	*e*S	**Sn**	**13 57 47.0**	**-1.1**
ASAK	**Asacha**	**2.72**	**242**	*e*P	**Pn**	**13 57 16.8**	**+1.2**
ASAK				*e*S	**Sn**	**13 57 49.8**	**+1.1**
BKI	**Bering**	**2.85**	**57**	*i* P	**Pn**	**13 57 17.7**	**+0.5**
BKI				*i* S	**Sn**	**13 57 48.8**	**-2.9**
ESO	**Esso**	**2.87**	**322**	*e*P	**Pn**	**13 57 13.3**	**-0.3**
ESO				*e*S	**Sn**	**13 57 51.6**	**-0.7**
SRDR	**Sredinnyy**	**2.88**	**336**	*e*P	**Pn**	**13 57 18.6**	**+0.8**
SMKR	**Semkarok**	**2.89**	**356**	*e*P	**Pn**	**13 57 19.5**	**+1.6**
SMKR				*e*S	**Sn**	**13 57 53.6**	**+0.7**
BDR	**Baidarnaya**	**2.89**	**353**	*e*P	**Pn**	**13 57 19.9**	**+2.0**
BDR				*e*S	**Sn**	**13 57 53.2**	**+0.3**
APC	**Apacha**	**2.91**	**256**	*e*P	**Pn**	**13 57 20.1**	**+2.0**
APC				*e*S	**Sn**	**13 57 54.1**	**+0.8**
SRKR	**Sorokina**	**2.98**	**353**	*e*P	**Pn**	**13 57 20.4**	**+1.3**
SRKR				*e*S	**Sn**	**13 57 53.8**	**-1.3**
FX1	**Attu Island--F**	**6.85**	**92**	Pn	**Pn**	**13 58 14.1**	**+1.9**
	6.4nm,0.3s,baz=263,slow=1.6,SNR=17						
FX1				Sn	**Sn**	**13 59 26.5**	**-3.8**
	2.4nm,0.3s,baz=114,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**77.08**	**206**	P	**P**	**14 08 25.8**	**+0.6**
	0.2nm,0.5s,baz=18,slow=6.0,SNR=4.9						
ASAR	**Alice Springs**	**80.75**	**206**	P	**P**	**14 08 46.1**	**+0.8**
	0.3nm,0.7s,baz=14,slow=6.4,SNR=4.2						

IDC ***18*** *14:02:59.4±10.0, 28.38S×178.44W, h106km±77km, mb3.5/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.9/5, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=82.9km s-min=29.6km az=47.0*

ISC 18 14:03:09.7±1.9, 29.01S±0.1×178.77W±0.3, h210km, n30, σ2§12/39, mb3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**8.91**	**196**	*e*PN	**Pn**	**14 05 15.8**	**+1.3**
MXZ				*e*SN	**S**	**14 06 57.0**	**+2.3**
HAZ	**Te Kaha**	**9.22**	**198**	*e*PN	**Pn**	**14 05 20.7**	**+2.0**
HAZ				*e*SN	**S**	**14 07 07.6**	**+5.4**
MWZ	**Matawai**	**9.84**	**198**	*e*PN	**Pn**	**14 05 26.5**	**-0.1**
MWZ				*e*SN	**S**	**14 07 20.0**	**+3.1**
URZ	**Urewera**	**9.88**	**200**	P	**Pn**	**14 05 27.7**	**+0.6**
	0.6nm,0.3s,baz=265,slow=4.0,SNR=8.2						
URZ				S	**S**	**14 07 20.1**	**+2.2**
	5.1nm,0.3s,baz=87,slow=18,SNR=13						
URZ	**Urewera**	**9.88**	**200**	*e*PN	**Pn**	**14 05 27.6**	**+0.4**
URZ				*e*SN	**S**	**14 07 21.0**	**+3.1**
BKZ	**Black Stump Fm**	**10.90**	**200**	*e*PN	**Pn**	**14 05 39.7**	**-0.5**
BKZ				*e*SN	**S**	**14 07 45.1**	**+2.8**
BHHZ	**Black Hill Sta**	**11.33**	**201**	*e*PN	**P**	**14 05 48.9**	**-2.3**
WNVZ	**Wahianoa**	**11.34**	**203**	*e*PN	**P**	**14 05 49.1**	**-2.2**
PXZ	**Pawanui**	**11.61**	**197**	*e*PN	**Pn**	**14 05 48.8**	**-0.4**
PXZ				*e*SN	**S**	**14 07 55.3**	**-2.2**
TSZ	**Takapari Road**	**11.88**	**200**	*e*SN	**S**	**14 08 06.3**	**+2.0**
BFZ	**Birch Farm**	**12.38**	**198**	*e*PN	**Pn**	**14 05 57.3**	**-1.6**
BFZ				*e*SN	**S**	**14 08 13.8**	**-2.2**
MRZ	**Mangatainoka R**	**12.55**	**200**	*e*PN	**Pn**	**14 05 59.0**	**-2.1**
MRZ				*e*SN	**S**	**14 08 17.4**	**-2.7**
TIWZ	**Tintock**	**12.57**	**199**	*e*PN	**Pn**	**14 06 01.3**	**0.0**
OGWZ	**Otaki Gorge**	**12.82**	**201**	*e*PN	**Pn**	**14 06 04.9**	**+0.4**
CAW	**Cannon Point**	**13.12**	**201**	*e*PN	**Pn**	**14 06 08.0**	**-0.2**
TCW	**Tory Channel**	**13.47**	**203**	*e*PN	**P**	**14 06 13.5**	**-1.4**
NNZ	**Nelson**	**13.80**	**206**	*e*PN	**P**	**14 06 17.6**	**-1.1**
NNZ				*e*SN	**S**	**14 08 50.3**	**+0.7**
QRZ	**Quartz Range**	**13.82**	**209**	*e*PN	**P**	**14 06 17.4**	**-1.3**
THZ	**Tophouse**	**14.46**	**206**	*e*PN	**Pn**	**14 06 23.1**	**-1.6**
THZ				*e*SN	**S**	**14 09 04.2**	**-0.7**
KHZ	**Kahutara**	**14.80**	**203**	PN	**Pn**	**14 06 28.2**	**-0.6**
DSZ	**Denniston Nort**	**14.88**	**209**	*e*PN	**Pn**	**14 06 29.7**	**-0.3**
DSZ				*e*SN	**S**	**14 09 13.3**	**-1.4**
OXZ	**Oxford**	**16.12**	**205**	*e*PN	**P**	**14 06 43.7**	**-0.5**
MQZ	**McQueen's Vall**	**16.24**	**203**	*e*SN	**S**	**14 09 39.0**	**-5.9**
JCZ	**Jackson Bay**	**18.08**	**210**	*e*PN	**Pn**	**14 07 07.9**	**-0.2**
STKA	**Stephens Creek**	**34.22**	**255**	P	P	14 09 40.0	+4.4
	0.9nm,0.4s,baz=101,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**42.59**	**266**	P	**P**	**14 10 46.9**	**+1.5**
	0.3nm,0.5s,baz=95,slow=7.2,SNR=17						
WRA	**Warramunga Arr**	**43.44**	**271**	P	**P**	**14 10 53.3**	**+1.1**
	0.6nm,0.4s,baz=109,slow=6.4,SNR=23						
JAY	**Jayapura**	**46.71**	**297**	LR	LR	14 29 21.0	
	comp=Z,32nm,20.6s,baz=179,slow=34						
VNDA	**Vanda**	**49.43**	**185**	P	P	14 11 43.0	+5.2
	2.0nm,0.6s,baz=54,slow=5.6,SNR=9.9						
FINES	**FINESS Array B**	**143.61**	**340**	PKP	**PKPdf**	**14 22 19.2**	**+0.6**
	2.0nm,0.9s,baz=46,slow=4.4,SNR=3.4						

ISK ***18*** *14:24:53.2, 35.15N×27.57E, h6km, ML4.0*

NSSC ***18*** *14:24:56.1±1.1, 35.36N×27.56E, h95km±495km, ML3.4*

MOS ***18*** *14:24:56.1±1.1, 35.04N×27.52E, h33km, mb4.4/17, Error ellipse: s-maj=8.2km s-min=4.4km az=116.5*

ATH ***18*** *14:24:57.3, 35.22N×27.77E, h28km±5km, MD4.1/56, ML4.1*

DDA ***18*** *14:24:57.6, 35.29N×27.79E, h24km, MD3.7*

ISCJB ***18*** *14:24:59.1±0.2, 35.24N±0.02×27.81E±0.02, h63km±3km, mb4.1/33, Error ellipse: s-maj=3.1km s-min=1.9km az=31.9*

CSEM ***18*** *14:25:00.0±0.1, 35.25N×27.79E, h30km, mb4.2/8, Ms3.0, Error ellipse: s-maj=4.1km s-min=2.7km az=28.0*

NIC ***18*** *14:25:00.9±0.1, 35.68N×27.96E, h25km, mb4.5, ML4.1*

HLW ***18*** *14:25:00.3, 35.30N×27.90E, h31km±21km, Ml3.7*

NEIC ***18*** *14:25:00.5±0.6, 35.31N×27.68E, h51km±6km, mb4.3/17, Error ellipse: s-maj=7.7km s-min=4.7km az=193.0*

IDC ***18*** *14:25:00.1±2.0, 35.38N×27.72E, h39km±20km, mb3.8/14, mb1 3.9/22, mb1mx3.8/40, mbtmp4.0/22, ML3.9/8, MS3.4/5, Ms1 3.4/5, ms1mx2.9/44, Error ellipse: s-maj=15.0km s-min=14.2km az=162.0*

THE ***18*** *14:25:01.0, 35.22N×27.79E, h33km±4km, ML4.0/6, Error ellipse: s-maj=4.5km s-min=1.3km az=41.0*

ISC 18 14:25:00.8±0.5, 35.27N±0.03×27.84E±0.03, h48km±6km, n583, σ1§56/635, mb4.2/33, 10C-7D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.98**	**14**	*e*PN	**Pn**	**14 25 17.7**	**-0.5**
ARG				*e*SN	**Sn**	**14 25 32.1**	**+1.2**
ARG	**Arkhangelos**	**0.98**	**14**	*e*Pn	**Pn**	**14 25 17.7**	**-0.5**
ARG				*e*Sn	**Sn**	**14 25 32.1**	**+1.2**
NIS1	**Nisyros Isl.**	**1.44**	**338**	P	**Pn**	**14 25 23.7**	**-0.7**
NIS1				S	**Sn**	**14 25 42.3**	**+0.1**
NIS1	**Nisyros Isl.**	**1.44**	**338**	*e*PN	**Pn**	**14 25 23.9**	**-0.5**
NIS1				*e*SB	**Sn**	**14 25 43.7**	**+1.5**
NIS1	**Nisyros Isl.**	**1.44**	**338**	*e*Pn	**Pn**	**14 25 23.9**	**-0.5**
NIS1				S	**Sn**	**14 25 42.3**	**+0.1**
NIS1				*e*Sb	**Sn**	**14 25 43.7**	**+1.5**
FETY	**Fethiye**	**1.70**	**36**	*e*PN	**Pn**	**14 25 27.6**	**-0.4**
FETY				*e*SN	**Sn**	**14 25 52.6**	**+4.0**
FETY	**Fethiye**	**1.70**	**36**	*e*Pn	**Pn**	**14 25 27.6**	**-0.4**
FETY				*e*Sn	**Sn**	**14 25 52.6**	**+4.0**
TURN	**Turunc**	**1.72**	**21**	*i* P	**Pn**	**14 25 26.4**	**-1.9**
TURN				*i* S	**Sn**	**14 25 49.5**	**+0.5**
TURN	**Turunc**	**1.72**	**21**	*i* P	**Pn**	**14 25 26.4**	**-1.9**
TURN				*i* S	**Sn**	**14 25 49.5**	**+0.5**
AKAS	**Kas**	**1.73**	**56**	*i* P	**Pn**	**14 25 29.8**	**+1.3**
AKAS				*i* S	**Sn**	**14 25 52.6**	**+3.1**
AKAS	**Kas**	**1.73**	**56**	*i* P	**Pn**	**14 25 29.8**	**+1.3**
AKAS				*i* S	**Sn**	**14 25 52.6**	**+3.1**
NPS	**Neapolis**	**1.82**	**271**	*e*PB	**Pn**	**14 25 29.1**	**-0.6**
NPS				*e*SN	**Sn**	**14 25 50.4**	**-1.2**
NPS	**Neapolis**	**1.82**	**271**	*e*Pb	**Pn**	**14 25 29.1**	**-0.6**
NPS				*e*Sn	**Sn**	**14 25 50.4**	**-1.2**
BDRM	**Kayabasi**	**1.82**	**350**	*i* P	**Pn**	**14 25 29.1**	**-0.6**
BDRM				*i* S	**Sn**	**14 25 54.8**	**+3.2**
BDRM	**Kayabasi**	**1.82**	**350**	*i* P	**Pn**	**14 25 29.1**	**-0.6**
BDRM				*i* S	**Sn**	**14 25 54.8**	**+3.2**
BODT	**Bodrum**	**1.84**	**347**	*e*PN	**Pn**	**14 25 28.1**	**-1.9**
BODT				*e*SN	**Sn**	**14 25 52.1**	**0.0**
BODT	**Bodrum**	**1.84**	**347**	*e*Pn	**Pn**	**14 25 28.1**	**-1.9**
BODT				*e*Sn	**Sn**	**14 25 52.1**	**0.0**
SANT	**Santorini**	**2.23**	**300**	P	**Pn**	**14 25 34.4**	**-0.9**
SANT				S	**Sn**	**14 26 00.8**	**-0.8**
SANT	**Santorini**	**2.23**	**300**	*e*PN	**Pn**	**14 25 34.2**	**-1.1**
SANT				*e*SN	**Sn**	**14 26 00.5**	**-1.1**
SANT	**Santorini**	**2.23**	**300**	*e*P	**Pn**	**14 25 33.9**	**-1.4**
SANT	**Santorini**	**2.23**	**300**	P	**Pn**	**14 25 34.4**	**-0.9**
SANT				*e*Sn	**Sn**	**14 26 00.5**	**-1.1**
ELL	**Elmali**	**2.24**	**48**	*e*PN	**Pn**	**14 25 36.4**	**+0.9**
ELL	**Elmali**	**2.24**	**48**	*e*Pn	**Pn**	**14 25 36.4**	**+0.9**
GOLH	**Golhisar**	**2.41**	**35**	*i* P	**Pn**	**14 25 39.7**	**+1.9**
GOLH	**Golhisar**	**2.41**	**35**	*i* P	**Pn**	**14 25 39.7**	**+1.9**
IDI	**Anoyia**	**2.41**	**271**	Pn	**Pn**	**14 25 38.5**	**+0.6**
IDI				Sn	**Sn**	**14 26 11.8**	**+5.7**
IDI	**Anoyia**	**2.41**	**271**	Pn	**Pn**	**14 25 38.5**	**+0.6**
	51nm,0.3s,baz=93,slow=11,SNR=101						
IDI				Sn	**Sn**	**14 26 11.9**	**+5.7**
	48nm,0.3s,baz=336,slow=24,SNR=9.6						
IDI				LR	LR	14 26 59.5	
	comp=Z,535nm,21.6s,baz=95,slow=52						
IDI	**Anoyia**	**2.41**	**271**	Pn	**Pn**	**14 25 38.5**	**+0.6**
GCAM	**G?zelcaml?**	**2.48**	**349**	*i* P	**Pn**	**14 25 38.5**	**-0.2**
GCAM	**G?zelcaml?**	**2.48**	**349**	*i* P	**Pn**	**14 25 38.5**	**-0.2**
SMG	**Samos**	**2.57**	**342**	*e*PN	**Pn**	**14 25 39.3**	**-0.6**
SMG	**Samos**	**2.57**	**342**	*e*Pn	**Pn**	**14 25 39.3**	**-0.6**
APE	**Apeiranthos**	**2.59**	**315**	*d* P	**Pn**	**14 25 39.6**	**-0.7**
APE	**Apeiranthos**	**2.59**	**315**	*e*PN	**Pn**	**14 25 39.0**	**-1.3**
APE				*e*SN	**Sn**	**14 26 10.2**	**-0.4**
APE	**Apeiranthos**	**2.59**	**315**	∥P	**Pn**	**14 25 39.0**	**-0.7**
APE	**Apeiranthos**	**2.59**	**315**	*e*Pn	**Pn**	**14 25 39.0**	**-1.3**
APE	**Apeiranthos**	**2.59**	**315**	*i

GONE	Gonen-Balikesi	4.78	359	*e*Pn	Pn	14 26 09.2	-0.9
LTK	Loutraki	4.79	307	P	Pn	14 26 10.8	+0.4
LTK	Loutraki	4.79	307	*e*PN	Pn	14 26 11.2	+0.8
LTK	Loutraki	4.79	307	P	Pn	14 26 10.8	+0.4
LTK	Loutraki	4.79	307	*e*Pn	Pn	14 26 11.2	+0.8
MRKA	Markates	4.83	317	P	Pn	14 26 11.1	+0.1
MRKA	Markates	4.83	317	*e*PN	Pn	14 26 11.1	+0.1
MRKA	Markates	4.83	317	P	Pn	14 26 11.1	+0.1
ORLT	Orhaneli	4.85	10	*e*PN	Pn	14 26 11.1	-0.1
ORLT	Orhaneli	4.85	10	*e*Pn	Pn	14 26 11.1	-0.1
VLX	Vlachokerasia	4.88	297	P	Pn	14 26 11.4	-0.4
VLX				S	Sn	14 27 06.6	-0.4
VLX	Vlachokerasia	4.88	297	*e*PN	Pn	14 26 11.4	-0.4
VLX	Vlachokerasia	4.88	297	P	Pn	14 26 11.4	-0.4
VLX				S	Sn	14 27 06.6	-0.4
HBRG	Burj al 'Arab baz=160	4.97	160	P	Pn	14 26 13.5	+0.6
KCTX	Karacabey (Bur	5.01	5	*e*PN	Pn	14 26 13.0	-0.4
KCTX	Karacabey (Bur	5.01	5	*e*Pn	Pn	14 26 13.0	-0.4
AOS	Alonnisos	5.02	322	*e*PN	Pn	14 26 13.7	+0.2
AOS	Alonnisos	5.02	322	*e*Pn	Pn	14 26 13.7	+0.2
EDC	Edincik	5.07	0	*e*PN	Pn	14 26 13.6	-0.6
EDC	Edincik	5.07	0	*e*Pn	Pn	14 26 13.6	-0.6
LIA	Limnos Island	5.08	336	*e*PN	Pn	14 26 14.9	+0.5
LIA	Limnos Island	5.08	336	*e*Pn	Pn	14 26 14.9	+0.5
SVRH	Sivrihisar-ESK	5.10	34	*e*PN	Pn	14 26 15.8	+1.1
SVRH	Sivrihisar-ESK	5.10	34	*e*Pn	Pn	14 26 15.8	+1.1
KRBG	Karabiga-Canak	5.14	355	*e*PN	Pn	14 26 14.3	-0.7
KRBG	Karabiga-Canak	5.14	355	*e*Pn	Pn	14 26 14.4	-0.7
LKR	Lokris	5.14	313	*e*PN	Pn	14 26 15.1	-0.1
LKR	Lokris	5.14	313	*e*Pn	Pn	14 26 15.1	-0.1
ITM	Ithomi	5.15	294	*e*PN	Pn	14 26 15.5	+0.2
ITM	Ithomi	5.15	294	*e*Pn	Pn	14 26 15.5	+0.2
GUR	Goura	5.16	303	P	Pn	14 26 15.6	0.0
GUR	Goura	5.16	303	*e*PN	Pn	14 26 15.7	+0.1
GUR	Goura	5.16	303	*e*Pn	Pn	14 26 15.7	+0.1
SMIA	Simia	5.17	316	P	Pn	14 26 16.2	+0.6
SMIA	Simia	5.17	316	*e*PN	Pn	14 26 16.0	+0.4
SMIA	Simia	5.17	316	*e*Pn	Pn	14 26 16.0	+0.4
LPK	Lapseki	5.17	351	*e*PN	Pn	14 26 14.9	-0.7
LPK	Lapseki	5.17	351	*e*Pn	Pn	14 26 14.9	-0.7
EREN	Erenkoy	5.18	85	*e*PN	Pn	14 26 17.3	+1.6
EREN	Erenkoy	5.18	85	*e*Pn	Pn	14 26 17.3	+1.6
PYL	PYLOS	5.20	290	P	Pn	14 26 14.7	-1.3
PYL	PYLOS	5.20	290	*e*PN	Pn	14 26 15.1	-0.9
PYL	PYLOS	5.20	290	P	Pn	14 26 14.7	-1.3
PYL	PYLOS	5.20	290	*e*Pn	Pn	14 26 15.1	-0.9
SKIA	Skiathos	5.23	319	P	Pn	14 26 17.0	+0.6
SKIA	Skiathos	5.23	319	*e*PN	Pn	14 26 17.2	+0.8
SKIA	Skiathos	5.23	319	P	Pn	14 26 17.0	+0.6
GELI	Tayfur-Gelibol	5.24	348	*e*PN	Pn	14 26 15.8	-0.7
GELI	Tayfur-Gelibol	5.24	348	*e*Pn	Pn	14 26 15.8	-0.7
KIZK	Mersin	5.26	75	*i* P	Pn	14 26 18.2	+1.4
KIZK	Mersin	5.26	75	*i* P	Pn	14 26 18.2	+1.4
DSF	Desfina	5.29	308	P	Pn	14 26 17.7	+0.4
DSF	Desfina	5.29	308	*e*PN	Pn	14 26 17.9	+0.6
DSF	Desfina	5.29	308	P	Pn	14 26 17.7	+0.4
KLV	Kalavryta, Ach	5.35	303	*e*PN	Pn	14 26 19.1	+1.0
KLV	Kalavryta, Ach	5.35	303	*e*Pn	Pn	14 26 19.1	+1.0
ARMT	Armutlu	5.35	8	*e*PN	Pn	14 26 18.3	+0.2
ARMT	Armutlu	5.35	8	*e*Pn	Pn	14 26 18.3	+0.2
SULT	Sultanhani-AKS	5.42	56	*e*PN	Pn	14 26 20.7	+1.6
SULT	Sultanhani-AKS	5.42	56	*e*Pn	Pn	14 26 20.7	+1.6
AMT	Artemida-Makis	5.44	296	P	Pn	14 26 19.3	0.0
AMT	Artemida-Makis	5.44	296	*e*PN	Pn	14 26 20.0	+0.7
AMT	Artemida-Makis	5.44	296	P	Pn	14 26 19.3	0.0
AMT	Artemida-Makis	5.44	296	*e*Pn	Pn	14 26 20.0	+0.7
RKY	Sarkoy-Tekirda	5.44	355	*e*PN	Pn	14 26 18.7	-0.6
RKY	Sarkoy-Tekirda	5.44	355	*e*Pn	Pn	14 26 18.7	-0.6
NEO	Neokhori	5.46	319	*e*PN	Pn	14 26 20.0	+0.4
NEO	Neokhori	5.46	319	*e*Pn	Pn	14 26 20.0	+0.4
ERIK	Erikli-Kesan	5.50	349	*e*PN	Pn	14 26 19.5	-0.6
ERIK	Erikli-Kesan	5.50	349	*e*Pn	Pn	14 26 19.5	-0.6
SMTH	Samothraki Isl	5.51	341	*e*PN	Pn	14 26 20.7	+0.5
SMTH	Samothraki Isl	5.51	341	*e*Pn	Pn	14 26 20.7	+0.5
XOR	Xorichti	5.52	319	P	Pn	14 26 21.0	+0.6
XOR	Xorichti	5.52	319	*e*PN	Pn	14 26 21.0	+0.6
XOR	Xorichti	5.52	319	P	Pn	14 26 21.0	+0.6
KALE	Kalithea	5.53	306	P	Pn	14 26 21.2	+0.6
KALE	Kalithea	5.53	306	*e*PN	Pn	14 26 21.0	+0.4
KALE	Kalithea	5.53	306	*e*Pn	Pn	14 26 21.0	+0.4
LAKA	Lakka	5.56	304	P	Pn	14 26 21.2	+0.2
LAKA	Lakka	5.56	304	*e*PN	Pn	14 26 22.6	+1.6
LAKA	Lakka	5.56	304	P	Pn	14 26 21.2	+0.2
LAKA	Lakka	5.56	304	*e*Pn	Pn	14 26 22.6	+1.6
DRO	Drossia	5.61	300	P	Pn	14 26 21.8	+0.1
DRO	Drossia	5.61	300	*e*PN	Pn	14 26 23.2	+1.5
DRO	Drossia	5.61	300	P	Pn	14 26 21.8	+0.1
DRO	Drossia	5.61	300	*e*Pn	Pn	14 26 23.2	+1.5
ENEZ	Enez	5.62	347	*e*PN	Pn	14 26 21.0	-0.7
ENEZ	Enez	5.62	347	*e*Pn	Pn	14 26 21.0	-0.7
MERS	Mersin	5.64	72	*e*PN	Pn	14 26 23.8	+1.7
MERS	Mersin	5.64	72	*e*Pn	Pn	14 26 23.8	+1.7
EFP	Efpalio	5.71	305	*e*PN	Pn	14 26 24.0	+1.0
EFP	Efpalio	5.71	305	*e*Pn	Pn	14 26 24.0	+1.0
AGG	Agios Georgios	5.78	312	P	Pn	14 26 24.1	+0.1
AGG	Agios Georgios	5.78	312	*e*PN	Pn	14 26 25.2	+1.2
AGG	Agios Georgios	5.78	312	P	Pn	14 26 24.1	+0.1
AGG	Agios Georgios	5.78	312	*e*Pn	Pn	14 26 25.2	+1.2
ALN	Alexandroupoli	5.80	346	P	Pn	14 26 24.8	+0.6
ALN	Alexandroupoli	5.80	346	*e*PN	Pn	14 26 25.0	+0.8
ALN	Alexandroupoli	5.80	346	P	Pn	14 26 24.8	+0.6
RLS	Riolos of Patr	5.83	300	*e*PN	Pn	14 26 25.7	+1.1
RLS	Riolos of Patr	5.83	300	*e*Pn	Pn	14 26 25.7	+1.1
AFSR	Af˙ar-Bala (A	5.90	43	*e*PN	Pn	14 26 27.3	+1.7
AFSR	Af˙ar-Bala (A	5.90	43	*e*Pn	Pn	14 26 27.3	+1.7
MAKR	Makrakomi, Fth	5.90	311	P	Pn	14 26 25.9	+0.3
MAKR	Makrakomi, Fth	5.90	311	*e*PN	Pn	14 26 26.9	+1.3
MAKR	Makrakomi, Fth	5.90	311	P	Pn	14 26 25.9	+0.3
MAKR	Makrakomi, Fth	5.90	311	*e*Pn	Pn	14 26 26.9	+1.3
OUR	Ouranopolis	5.91	330	*e*PN	Pn	14 26 26.1	+0.4
OUR	Ouranopolis	5.91	330	*e*Pn	Pn	14 26 26.1	+0.4
GULE	Gulek	5.96	68	*i* P	Pn	14 26 29.1	+2.6
GULE	Gulek	5.96	68	*i* P	Pn	14 26 29.1	+2.6
SLVT	Silivri	5.96	3	*e*PN	Pn	14 26 26.8	+0.4
SLVT	Silivri	5.96	3	*e*Pn	Pn	14 26 26.8	+0.4
CTKS	Kestanelik-??a	5.99	5	*e*PN	Pn	14 26 27.0	+0.3
CTKS	Kestanelik-??a	5.99	5	*e*Pn	Pn	14 26 27.0	+0.3
EVR	Evrytania	6.04	309	*e*PN	Pn	14 26 29.2	+1.6
EVR	Evrytania	6.04	309	*e*Pn	Pn	14 26 29.2	+1.6
SQR	baz=151	6.07	151	P	Pn	14 26 28.0	0.0
SQR		6.07	151	P	Pn	14 26 28.0	0.0
NIG	Nigde	6.14	60	*e*PN	Pn	14 26 30.9	+1.8
NIG	Nigde	6.14	60	*e*Pn	Pn	14 26 30.9	+1.8
RDO	Rodhopi	6.14	344	*e*PN	Pn	14 26 29.4	+0.5
RDO	Rodhopi	6.14	344	*e*Pn	Pn	14 26 29.4	+0.5
KARA	Karaisali	6.16	69	*e*PN	Pn	14 26 31.1	+1.9
KARA	Karaisali	6.16	69	*e*Pn	Pn	14 26 31.1	+1.9
FYM	Al Fayyum baz=153	6.18	153	P	Pn	14 26 29.8	+0.3
FYM	Al Fayyum	6.18	153	P	Pn	14 26 29.8	+0.3
PDO	Prodromos	6.28	304	P	Pn	14 26 31.1	+0.2
PDO	Prodromos	6.28	304	*e*PN	Pn	14 26 32.1	+1.2
PDO	Prodromos	6.28	304	P	Pn	14 26 31.1	+0.2
PDO	Prodromos	6.28	304	*e*Pn	Pn	14 26 32.1	+1.2
KAVA	Kavala	6.29	336	*e*PN	Pn	14 26 31.5	+0.5
KAVA	Kavala	6.29	336	*e*Pn	Pn	14 26 31.5	+0.5
KOT	Kottamia baz=147	6.30	147	P	Pn	14 26 31.5	+0.4
KOT				S	Sn	14 27 40.3	-1.5
KOT	baz=147 Kottamia	6.30	147	P	Pn	14 26 31.5	+0.4
KOT				S	Sn	14 27 40.3	-1.5
THL	Klokotos Trika	6.32	315	*e*PN	Pn	14 26 32.5	+1.2
THL	Klokotos Trika	6.32	315	*e*Pn	Pn	14 26 32.5	+1.2
SWA2	baz=200	6.33	199	P	Pn	14 26 32.7	+1.1
SWA2		6.33	199	P	Pn	14 26 32.7	+1.1
HHAG	Hagoal baz=145	6.40	145	P	Pn	14 26 33.2	+0.7
HHAG				S	Sn	14 27 43.6	-0.7
HHAG	baz=145 Hagoal	6.40	145	P	Pn	14 26 33.2	+0.7
HHAG				S	Sn	14 27 43.6	-0.7
BR131	Keskin Array S comp=N,3.1nm,0.4s	6.41	44	*e*P	Pn	14 26 34.5	+1.8
BR131	Keskin Array S comp=N,3.0nm,0.4s	6.41	44	*e*P	Pn	14 26 34.5	+1.8
BRTR	Keskin Array B	6.41	44	Pn	Pn	14 26 34.4	+1.7
BRTR				Sn	Sn	14 27 45.4	+0.8
BRTR	Keskin Array B comp=N,0.8nm,0.3s,baz=218,slow=15,SNR=18	6.41	44	Pn	Pn	14 26 34.4	+1.7
BRTR				Sn	Sn	14 27 45.4	+0.8
BRTR	Keskin Array B comp=N,1.5nm,0.3s,baz=210,slow=24,SNR=16	6.41	44	P	Pn	14 26 34.4	+1.7
BRTR				S	Sn	14 27 45.4	+0.8
LIT	Litokhoron comp=N,1.0nm,0.3s	6.42	320	*e*PN	Pn	14 26 33.7	+0.9
LIT	Litokhoron	6.42	320	*e*Pn	Pn	14 26 33.7	+0.9
HSAF	As Saff baz=150	6.45	150	P	Pn	14 26 33.3	+0.2
HSAF	As Saff	6.45	150	P	Pn	14 26 33.3	+0.2
AMAG	Maghara baz=134	6.45	134	P	Pn	14 26 33.5	+0.3
AMAG	Maghara	6.45	134	P	Pn	14 26 33.5	+0.3
VLS	Valsamata	6.51	299	*e*PN	Pn	14 26 34.6	+0.7
VLS	Valsamata	6.51	299	*e*Pn	Pn	14 26 34.6	+0.7
HORT	Hortiatis	6.51	326	*e*PN	Pn	14 26 35.6	+1.6
HORT	Hortiatis	6.51	326	*e*Pn	Pn	14 26 35.6	+1.6
RSH	baz=129	6.54	129	P	Pn	14 26 34.6	+0.2
RSH		6.54	129	P	Pn	14 26 34.6	+0.2
GLL	Jalalah baz=149	6.55	149	P	Pn	14 26 34.8	+0.3
GLL	Jalalah	6.55	149	P	Pn	14 26 34.8	+0.3
SOH	Sokhos	6.58	329	*e*PN	Pn	14 26 36.3	+1.4
SOH	Sokhos	6.58	329	*e*Pn	Pn	14 26 36.3	+1.4
CEYT	Ceyhan	6.63	72	*e*PN	Pn	14 26 37.5	+1.9
CEYT	Ceyhan	6.63	72	*e*Pn	Pn	14 26 37.5	+1.9
KDZ	Kurdzhali	6.65	344	⇓*i* P	Pn	14 26 37.1	+1.2
KDZ	Kurdzhali	6.65	344	⇓*i* P	Pn	14 26 37.1	+1.2
ARNB	Al Arnab	6.66	83	*e*P	Pn	14 26 35.6	-0.4
ARNB				*e*S	Sn	14 27 47.5	-3.1
ARNB	comp=N,74nm,0.6s			AML	AML	14 27 54.9	
ARNB	comp=E,63nm,0.3s			AML	AML	14 27 58.2	
ARNB	Al Arnab SNR=95	6.66	83	*e*P	Pn	14 26 35.6	-0.4
MMAI	Mount Meron Ar	6.66	108	Pn	Pn	14 26 35.1	-1.0
MMAI				Sn	Sn	14 27 51.6	+0.9
MMAI	Mount Meron Ar comp=E,7.1nm,0.3s,baz=302,slow=12,SNR=20	6.66	108	Pn	Pn	14 26 35.1	-1.0
MMAI	comp=E,14nm,0.3s,baz=324,slow=26,SNR=7.2			Sn	Sn	14 27 51.6	+0.9
MMAI	Mount Meron Ar	6.66	108	Pn	Pn	14 26 35.1	-1.0
MMAI				Sn	Sn	14 27 51.6	+0.9
SRS	Serrai	6.73	331	*e*PN	Pn	14 26 37.8	+0.8
SRS	Serrai	6.73	331	*e*Pn	Pn	14 26 37.8	+0.8
LKD2	Lefkada island	6.74	304	P	Pn	14 26 37.1	0.0
LKD2	Lefkada island	6.74	304	*e*PN	Pn	14 26 36.7	-0.4
LKD2	Lefkada island	6.74	304	*e*Pn	Pn	14 26 36.7	-0.4
LKD2	Lefkada island	6.74	304	P	Pn	14 26 37.1	0.0
NVR	Nevrokopi	6.83	334	*e*PN	Pn	14 26 39.0	+0.6
NVR	Nevrokopi	6.83	334	*e*Pn	Pn	14 26 39.0	+0.6
RCY	Rachaya	6.84	103	*e*P	Pn	14 26 38.1	-0.6
RCY	Rachaya	6.84	103	*e*P	Pn	14 26 38.1	-0.6
SUZ	baz=141	6.86	141	P	Pn	14 26 39.2	+0.4
SUZ		6.86	141	P	Pn	14 26 39.2	+0.4
BIDA	Albida SNR=94	6.95	90	*e*P	Pn	14 26 39.7	-0.4
BIDA				*e*S	Sn	14 27 54.7	-3.3
BIDA	comp=N,373nm,0.5s			AML	AML	14 27 58.2	
BIDA	comp=E,97nm,0.4s			AML	AML	14 28 00.6	
BIDA	Albida SNR=94	6.95	90	*e*P	Pn	14 26 39.7	-0.4
BRBR	Barbar	6.96	103	*e*P	Pn	14 26 40.4	0.0
BRBR				*e*S	Sn	14 27 56.9	-1.4
BRBR	comp=N,32nm,0.7s			AML	AML	14 28 06.2	
BRBR	comp=E,56nm,0.5s			AML	AML	14 28 11.3	
BRBR	Barbar SNR=94	6.96	103	*e*P	Pn	14 26 40.4	0.0
BRBR	comp=E,56nm,0.5s,SNR=94			*e*S	Sn	14 27 56.9	-1.4
KNT	Kendrikon	7.05	328	*e*PN	Pn	14 26 43.3	+1.9
KNT	Kendrikon	7.05	328	*e*Pn	Pn	14 26 43.3	+1.9
HAWK	Haweek	7.08	94	*e*P	Pn	14 26 41.9	+0.1
HAWK				*e*S	Sn	14 27 58.6	-2.5
HAWK	comp=N,48nm,0.3s			AML	AML	14 28 03.3	
HAWK	comp=E,76nm,0.6s			AML	AML	14 28 04.2	
HAWK	Haweek SNR=94	7.08	94	*e*P	Pn	14 26 41.9	+0.1
MMB	Musomiste	7.09	334	⇑*i* P	Pn	14 26 42.3	+0.4
GRG	Griva	7.12	325	*e*PN	Pn	14 26 43.9	+1.6
GRG	Griva	7.12	325	*e*Pn	Pn	14 26 43.9	+1.6
MARH	Ras Al Marh	7.23	97	*e*P	Pn	14 26 44.4	+0.2
MARH				*e*S	Sn	14 28 02.3	-2.7
MARH	comp=E,71nm,0.3s			AML	AML	14 28 09.1	
MARH	comp=N,47nm,0.4s			AML	AML	14 28 13.0	
MARH	Ras Al Marh SNR=94	7.23	97	*e*P	Pn	14 26 44.4	+0.2
HNKL	Nakhl baz=134	7.42	134	P	Pn	14 26 47.0	+0.4
HNKL	Nakhl	7.42	134	P	Pn	14 26 47.0	+0.4
NEST	Nestorio	7.43	316	P	Pn	14 26 47.6	+0.9
NEST	Nestorio	7.43	316	*e*PN	Pn	14 26 49.2	+2.5
NEST	Nestorio	7.43	316	P	Pn	14 26 47.6	+0.9
NEST	Nestorio	7.43	316	*e*Pn	Pn	14 26 49.2	+2.5
FNA	Florina	7.51	319	*e*PN	Pn	14 26 49.6	+1.9
FNA	Florina	7.51	319	*e*Pn	Pn	14 26 49.6	+1.9
RABH	Abou Rabah	7.74	93	*e*P	Pn	14 26 52.4	+1.4
RABH				*e*S	Sn	14 28 14.8	-2.5
RABH	comp=E,42nm,0.5s			AML	AML	14 28 20.3	
RABH	comp=N,37nm,0.5s			AML	AML	14 28 21.0	
RABH	Abou Rabah SNR=94	7.74	93	*e*P	Pn	14 26 52.4	+1.4
SALA	Sala	7.81	107	*e*P	Pn	14 26 52.2	+0.2
SALA				*e*S	Sn	14 28 15.6	-3.6
SALA	comp=N,28nm,0.4s			AML	AML	14 28 32.1	
SALA	comp=E,3.5nm,0.5s			AML	AML	14 28 38.0	
SALA	Sala SNR=94	7.81	107	*e*P	Pn	14 26 52.2	+0.2
HFRF	Wahat Farafira baz=177	8.10	177	P	Pn	14 26 56.8	+1.0
HFRF	Wahat Farafira	8.10	177	P	Pn	14 26 56.8	+1.0
ASF	Jabal al Asfar	8.15	110	Pn	Pn	14 26 57.4	+0.8
ASF				Sn	Sn	14 28 23.7	-3.6
ASF	Jabal al Asfar comp=E,0.6nm,0.3s,baz=229,slow=8.6,SNR=4.1	8.15	110	Pn	Pn	14 26 57.4	+0.8
ASF	comp=E,0.8nm,0.3s,baz=88,slow=10,SNR=1.9			Sn	Sn	14 28 23.7	-3.6
VTS	Vitosha	8.16	335	⇑*i* P	Pn	14 26 58.1	+1.5
VTS	Vitosha	8.16	335	⇑*i* P	Pn	14 26 58.1	+1.5
EIL	Elat	8.20	131	Pn	Pn	14 26 57.4	+0.3
EIL				Sn	Sn	14 28 23.5	-4.9
EIL	Elat comp=E,3.4nm,0.3s,baz=344,slow=7.7,SNR=16	8.20	131	Pn	Pn	14 26 57.4	+0.3
EIL	comp=E,2.6nm,0.3s,baz=320,slow=16,SNR=3.9			Sn	Sn	14 28 23.5	-4.9
EIL	Elat	8.20	131	Pn	Pn	14 26 57.4	+0.3
NUB	baz=135	8.48	135	P	Pn	14 27 01.8	+0.8
HKAT	Jabal Katrina baz=140	8.52	140	P	Pn	14 27 02.2	+0.5
HKAT	Jabal Katrina	8.52	140	P	Pn	14 27 02.2	+0.5
TIP	Timpagrande comp=E,10nm,0.4s	9.66	297	*e*P	Pn	14 27 13.8	-3.4
PDG	Podgorica	9.79	319	*e*Pn	Pn	14 27 20.1	+1.2
IVAS	Ivanjica	10.21	327	*e*Pn	Pn	14 27 27.0	+2.4
GRUS	Gruza	10.21	330	*e*Pn	Pn	14 27 26.9	+2.3
MLR	Muntele Rosu	10.32	353	⇑*i* P	Pn	14 27 29.2	+3.0
MLR	Muntele Rosu	10.32	353	Pn	Pn	14 27 25.2	-1.0
MLR	Muntele Rosu comp=E,0.1nm,0.3s,baz=163,slow=19,SNR=2.8	10.32	353	Pn	Pn	14 27 25.2	-1.0
MLR	Muntele Rosu	10.32	353	P	Pn	14 27 25.2	-1.0
PLOR	Plostina	10.61	355	⇑*i* P	Pn	14 27 33.9	+3.7
CUC	Castrocucco comp=E,14nm,0.5s	10.64	300	*e*P	Pn	14 27 28.6	-2.0
CUC	Castrocucco comp=E,14nm,0.5s	10.64	300	*e*P	Pn	14 27 28.5	-2.0
DOPR	Dopca	10.85	351	⇑*i* P	Pn	14 27 36.0	+2.6
DOPR	Dopca	10.85	351	⇑*i* P	Pn	14 27 36.0	+2.6
STON	Ston	10.94	317	*e*Pn	Pn	14 27 32.2	-2.3
TEKS	Tekeris	11.25	328	*e*PN	Pn	14 27 39.9	+1.1
TESR	Tescani	11.27	356	⇑*i* P	Pn	14 27 42.3	+3.2
DRGR		12.14	343	⇑*i* P	P	14 27 57.6	-4.9
BUR08	Bucovina Ar. S	12.52	352	*e*P	Pn	14 27 59.5	+3.2
BOJS	Bojanci	14.00	321	*i* Pn	Pn	14 28 13.7	-2.7
BOJS	Bojanci	14.00	321	Pn	Pn	14 28 13.7	-2.7
NEY	Neytrino	14.01	51	P	P	14 28 21.8	-1.5
NEY				pmax	pmax		
NEY	comp=Z,2.0nm,1.6s Neytrino	14.01	51	P	P	14 28 21.8	-1.5
KOLS	comp=Z,2.0nm,1.6s Kolonicke sedl	14.26	345	*e*P	P	14 28 28.2	+2.3
KOLS	Kolonicke sedl	14.26	345	*e*P	P	14 28 28.2	+2.3
KIV	Kislovodsk	14.35	48	*e*P	Pn	14 28 22.4	+1.3
KIV				pmax	pmax		
KIV	comp=Z,8.0nm,1.1s			MLR	MLR		
KBZ	comp=Z,35nm,11.0s Khabaz	14.36	49	P	P	14 28 30.3	+3.3
KBZ	Khabaz	14.36	49	Pn	P	14 28 30.3	+3.3
KBZ	Khabaz comp=Z,0.1nm,0.3s,baz=202,slow=9.3,SNR=9.0	14.36	49	Pn	P	14 28 30.3	+3.3
VISS	Visnje	14.42	321	*i* Pn	Pn	14 28 22.3	+0.3
VISS	Visnje	14.42	321	*i* Pn	Pn	14 28 22.3	+0.3
NCK	Nalchik	14.68	51	P	P	14 28 31.4	+0.8
JAVS	Javornik	14.88	320	*i* Pn	Pn	14 28 25.6	-2.6
JAVS	Javornik	14.88	320	*i* Pn	Pn	14 28 25.6	-2.6
STHS	Stebnicka Huta	14.95	343	*e*P	P	14 28 36.9	+3.3
STHS	Stebnicka Huta	14.95	343	*e*P	P	14 28 36.9	+3.3
KEST	Kesra	15.07	277	Pn	Pn	14 28 32.2	+1.5
KEST	Kesra comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=2.8	15.07	277	Pn	Pn	14 28 32.2	+1.5
KEST	Kesra	15.07	277	Pn	Pn	14 28 32.2	+1.5
KIEV	Kiev	15.45	3	P	P	14 28 38.1	-1.0
KIEV	Kiev	15.45	3	P	P	14 28 38.1	-1.0
AKASG	Malin Array Be	15.46	3	P	Pn	14 28 36.1	+0.6
AKASG				pmax	pmax		
AKASG	comp=Z,2.0nm,0.3s Malin Array Be	15.46	3	Pn	Pn	14 28 36.1	+0.6
AKASG	Malin Array Be comp=Z,1.5nm,0.3s,baz=194,slow=11,SNR=5.6	15.46	3	Pn	Pn	14 28 36.1	+0.6
AKASG	Malin Array Be comp=Z,2.0nm,0.3s	15.46	3	P	Pn	14 28 36.1	+0.6
ABTA	Abfaltersbach	16.26	320	⇓*i* Pn	Pn	14 28 42.8	-3.0
VRAC	Vranov	16.29	333	Pn	Pn	14 28 46.6	+0.6
VRAC	Vranov comp=Z,0.5nm,0.3s,baz=173,slow=8.1,SNR=3.2	16.29	333	Pn	Pn	14 28 46.6	+0.6
VRAC				LR	LR	14 35 23.2	
VRAC	comp=Z,86nm,18.5s,baz=152,slow=39 Vranov	16.29	333	P	Pn	14 28 46.6	+0.6
PGF	comp=Z,86nm,18.5s Pioggiola	16.35	302	*e*P	Pn	14 28 44.2	-2.8
PGF	Pioggiola	16.35	302	*e*P	Pn	14 28 44.2	-2.8
PGF	Pioggiola	16.35	302	*e*P	Pn	14 28 44.2	-2.8
KRLC	Kraliky	16.86	335	*e*P	P	14 28 55.8	+1.0
KRLC	Kraliky	16.86	335	*e*P	P	14 28 55.8	+1.0
KRLC	Kraliky	16.86	335	*e*P	P	14 28 55.8	+1.0
GERES	GERESS Array B	17.12	327	Pn	Pn	14 28 56.1	-0.4
GERES	GERESS Array B comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=19	17.12	327	Pn	Pn	14 28 56.1	-0.4
GERES	GERESS Array B	17.12	327	P	Pn	14 28 56.1	-0.4
DPC	Dobruska-Polom	17.25	334	*e*P	Pn	14 28 58.8	+0.7
DPC	Dobruska-Polom	17.25	334	*e*P	Pn	14 28 58.8	+0.7
DPC				*ex*	x	14 29 02.7	
DPC	Dobruska-Polom	17.25	334	*e*P	Pn	14 28 58.8	+0.7
KHC

comp=Z,9.0nm,0.4s
CABF La Chapelle 19.89 311 *e*P P **14 29 25.5 -2.7**
comp=Z,8.7nm,0.4s
CABF La Chapelle 19.89 311 *e*P P **14 29 25.5 -2.7**
comp=Z,4.3nm,0.4s
VIVF Saint-Julien-l 20.09 305 *e*P P **14 29 27.0 -3.3**
comp=Z,6.5nm,0.4s
VIVF Saint-Julien-l 20.09 305 *e*P P **14 29 27.0 -3.3**
VIVF pmax pmax
comp=Z,7.0nm,0.4s
VIVF Saint-Julien-l 20.09 305 *e*P P **14 29 27.0 -3.3**
comp=Z,6.5nm,0.4s
CDF Champ du Feu 20.10 317 *e*P P **14 29 29.2 -1.2**
CDF Champ du Feu 20.10 317 *e*P P **14 29 29.2 -1.2**
CDF Champ du Feu 20.10 317 *e*P P **14 29 29.2 -1.2**
CDF Champ du Feu 20.10 317 *e*P P **14 29 29.2 -1.2**
LASF Ste Croix 20.39 303 *e*P P **14 29 30.5 -3.1**
LASF Ste Croix 20.39 303 *e*P P **14 29 30.5 -3.1**
LASF Ste Croix 20.39 303 *e*P P **14 29 30.5 -3.1**
HAU Haudompre 20.41 315 *e*P P **14 29 31.8 -1.9**
comp=Z,6.9nm,0.4s
HAU *e*R
comp=Z,126nm,20.8s
HAU Haudompre 20.41 315 *e*P P **14 29 31.8 -1.9**
HAU pmax pmax
comp=Z,7.0nm,0.4s
HAU Haudompre 20.41 315 *e*P P **14 29 31.8 -1.9**
comp=Z,6.9nm,0.4s
HAU Haudompre 20.41 315 *e*P P **14 29 31.8 -1.9**
comp=Z,3.5nm,0.4s
SFTF Sexfontaines 21.27 314 *e*P P **14 29 40.7 -2.2**
comp=Z,21nm,0.6s
SFTF Sexfontaines 21.27 314 *e*P P **14 29 40.7 -2.2**
comp=Z,21nm,0.6s
SFTF Sexfontaines 21.27 314 *e*P P **14 29 40.7 -2.2**
comp=Z,10nm,0.6s
SMF Signal de Mont 21.31 310 *e*P P **14 29 40.9 -2.5**
comp=Z,21nm,0.4s
SMF Signal de Mont 21.31 310 *e*P P **14 29 40.9 -2.5**
SMF pmax pmax
comp=Z,21nm,0.4s
SMF Signal de Mont 21.31 310 *e*P P **14 29 40.9 -2.5**
comp=Z,21nm,0.4s
SMF Signal de Mont 21.31 310 *e*P P **14 29 40.9 -2.5**
comp=Z,10nm,0.4s
LOR Lormes 21.55 311 *e*P P **14 29 43.6 -2.4**
comp=Z,6.0nm,0.4s
LOR *e*R
comp=Z,91nm,17.2s
LOR Lormes 21.55 311 *e*P P **14 29 43.6 -2.4**
comp=Z,6.0nm,0.4s
LOR Lormes 21.55 311 *e*P P **14 29 43.6 -2.4**
comp=Z,3.0nm,0.4s
AVF Avril sur Loir 21.67 310 *e*P P **14 29 44.7 -2.5**
comp=Z,5.9nm,0.4s
AVF Avril sur Loir 21.67 310 *e*P P **14 29 44.7 -2.5**
AVF pmax pmax
comp=Z,6.0nm,0.4s
AVF Avril sur Loir 21.67 310 *e*P P **14 29 44.7 -2.5**
comp=Z,5.9nm,0.4s
AVF Avril sur Loir 21.67 310 *e*P P **14 29 44.7 -2.5**
comp=Z,3.0nm,0.4s
SSF Saint Saulge 21.69 310 *e*P P **14 29 44.9 -2.5**
comp=Z,23nm,0.7s
SSF Saint Saulge 21.69 310 *e*P P **14 29 44.9 -2.5**
SSF pmax pmax
comp=Z,23nm,0.7s
SSF Saint Saulge 21.69 310 *e*P P **14 29 44.9 -2.5**
comp=Z,23nm,0.7s
SSF Saint Saulge 21.69 310 *e*P P **14 29 44.9 -2.5**
comp=Z,11nm,0.7s
CAF Calviac 21.87 304 *e*P P **14 29 47.5 -1.9**
comp=Z,3.6nm,0.5s
CAF Calviac 21.87 304 *e*P P **14 29 47.5 -1.9**
CAF pmax pmax
comp=Z,4.0nm,0.5s
CAF Calviac 21.87 304 *e*P P **14 29 47.5 -1.9**
comp=Z,3.6nm,0.5s
CAF Calviac 21.87 304 *e*P P **14 29 47.5 -1.9**
comp=Z,1.8nm,0.5s
BGF Bois d'Agland 21.91 309 *e*P P **14 29 47.5 -2.2**
BGF Bois d'Agland 21.91 309 *e*P P **14 29 47.5 -2.2**
BGF Bois d'Agland 21.91 309 *e*P P **14 29 47.5 -2.2**
BGF Bois d'Agland 21.91 309 *e*P P **14 29 47.5 -2.2**
TCF Toulx Ste Croi 22.22 308 *e*P P **14 29 50.5 -2.6**
comp=Z,3.5nm,0.5s
TCF Toulx Ste Croi 22.22 308 *e*P P **14 29 50.5 -2.6**
TCF pmax pmax
comp=Z,4.0nm,0.5s
TCF Toulx Ste Croi 22.22 308 *e*P P **14 29 50.5 -2.6**
comp=Z,3.5nm,0.5s
TCF Toulx Ste Croi 22.22 308 *e*P P **14 29 50.5 -2.6**
comp=Z,1.8nm,0.5s
RJF Les Rejaudoux 22.36 305 *e*P P **14 29 52.7 -1.9**
comp=Z,3.4nm,0.4s
RJF *e*R
comp=Z,145nm,21.0s
RJF Les Rejaudoux 22.36 305 *e*P P **14 29 52.7 -1.9**
RJF pmax pmax
comp=Z,3.0nm,0.4s
RJF Les Rejaudoux 22.36 305 *e*P P **14 29 52.7 -1.9**
comp=Z,3.4nm,0.4s
RJF Les Rejaudoux 22.36 305 *e*P P **14 29 52.7 -1.9**
comp=Z,1.7nm,0.4s
BAIF Baives 22.68 318 *e*P P **14 29 55.1 -2.9**
BAIF Baives 22.68 318 *e*P P **14 29 55.1 -2.9**
BAIF Baives 22.68 318 *e*P P **14 29 55.1 -2.9**
LFF La Frestale 22.78 303 *e*P P **14 29 57.2 -1.9**
LFF La Frestale 22.78 303 *e*P P **14 29 57.2 -1.9**
LFF La Frestale 22.78 303 *e*P P **14 29 57.2 -1.9**
LFF La Frestale 22.78 303 *e*P P **14 29 57.2 -1.9**
ETSF Etsaut 23.25 298 *e*P P **14 30 03.0 -0.9**
ETSF Etsaut 23.25 298 *e*P P **14 30 03.0 -0.9**
ETSF Etsaut 23.25 298 *e*P P **14 30 03.0 -0.9**
ETSF Etsaut 23.25 298 *e*P P **14 30 03.0 -0.9**
MFF Saint Martin d 23.86 307 *e*P P **14 30 07.5 -2.0**
MFF Saint Martin d 23.86 307 *e*P P **14 30 07.5 -2.0**
MFF Saint Martin d 23.86 307 *e*P P **14 30 07.5 -2.0**
MFF Saint Martin d 23.86 307 *e*P P **14 30 07.5 -2.0**
LDF La Druitiere 24.54 311 *e*P P **14 30 13.3 -2.4**
comp=Z,9.1nm,0.5s
LDF La Druitiere 24.54 311 *e*P P **14 30 13.3 -2.4**
LDF pmax pmax
comp=Z,9.0nm,0.4s
LDF La Druitiere 24.54 311 *e*P P **14 30 13.3 -2.4**
comp=Z,9.1nm,0.4s
FLN La Foliniere 24.82 312 *e*P P **14 30 15.9 -2.4**
comp=Z,13nm,0.4s
FLN *e*R
comp=Z,106nm,23.0s
FLN La Foliniere 24.82 312 *e*P P **14 30 15.9 -2.4**
FLN pmax pmax
comp=Z,13nm,0.4s
FLN La Foliniere 24.82 312 *e*P P **14 30 15.9 -2.4**
comp=Z,13nm,0.4s
FLN La Foliniere 24.82 312 *e*P P **14 30 15.9 -2.4**
comp=Z,6.7nm,0.4s
GRR Gorron 24.92 311 *e*P P **14 30 17.1 -2.1**
comp=Z,19nm,0.4s
GRR Gorron 24.92 311 *e*P P **14 30 17.1 -2.1**
GRR pmax pmax
comp=Z,19nm,0.4s
GRR Gorron 24.92 311 *e*P P **14 30 17.1 -2.1**
comp=Z,19nm,0.4s
GRR Gorron 24.92 311 *e*P P **14 30 17.1 -2.1**
comp=Z,9.4nm,0.4s
ESDC Sonseca Array 25.55 289 P P **14 30 24.3 -0.8**
ESDC Sonseca Array 25.55 289 P P **14 30 24.3 -0.8**
comp=Z,2.5nm,0.5s,baz=80,slow=9.4,SNR=20
ESDC Sonseca Array 25.55 289 P P **14 30 24.3 -0.8**
SGMF Saint Gilles 25.94 309 *e*P P **14 30 26.0 -2.4**
comp=Z,7.8nm,0.4s
SGMF Saint Gilles 25.94 309 *e*P P **14 30 26.0 -2.4**
SGMF pmax pmax
comp=Z,8.0nm,0.4s
SGMF Saint Gilles 25.94 309 *e*P P **14 30 26.0 -2.4**
comp=Z,7.8nm,0.4s
SGMF Saint Gilles 25.94 309 *e*P P **14 30 26.0 -2.4**
comp=Z,3.9nm,0.4s
QUIF Quistinic 26.22 308 *e*P P **14 30 28.8 -2.2**
comp=Z,26nm,0.5s
QUIF Quistinic 26.22 308 *e*P P **14 30 28.8 -2.2**
QUIF pmax pmax
comp=Z,26nm,0.5s
QUIF Quistinic 26.22 308 *e*P P **14 30 28.8 -2.2**
comp=Z,26nm,0.5s
FINES FINESS Array B 26.22 358 P P **14 30 30.0 -0.8**
FINES FINESS Array B 26.22 358 P P **14 30 30.0 -0.8**
comp=Z,2.1nm,0.6s,baz=163,slow=11,SNR=13
FINES FINESS Array B 26.22 358 P P **14 30 30.0 -0.8**
comp=Z,2.0nm,0.6s
ROSF Rostrenen 26.42 309 *e*P P **14 30 29.7 -3.0**
comp=Z,19nm,0.6s
ROSF Rostrenen 26.42 309 *e*P P **14 30 29.7 -3.0**
ROSF pmax pmax
comp=Z,19nm,0.6s
ROSF Rostrenen 26.42 309 *e*P P **14 30 29.7 -3.0**
comp=Z,19nm,0.6s
ROSF Rostrenen 26.42 309 *e*P P **14 30 29.7 -3.0**
comp=Z,9.5nm,0.6s
HFS Hagfors 26.52 344 P P **14 30 31.6 -2.0**
HFS Hagfors 26.52 344 P P **14 30 31.6 -2.0**
comp=Z,2.9nm,0.5s,baz=152,slow=13,SNR=14
HFS LR LR 14 41 37.5
comp=Z,94nm,18.7s,baz=329,slow=38
AKTK Aktyubinsk 26.59 46 P P **14 30 35.9 +1.6**
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.59 46 P P **14 30 35.9 +1.6**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.59 46 P P **14 30 35.9 +1.6**
AKTO Aktyubinsk 26.59 46 P P **14 30 35.9 +1.6**
comp=Z,2.4nm,0.6s,baz=254,slow=9.7,SNR=11
AKTO Aktyubinsk 26.59 46 P P **14 30 35.9 +1.6**
KAF Kangasniemi 26.89 358 *e*P P **14 30 38.8 +2.0**
KAF Kangasniemi 26.89 358 *e*p P **14 30 38.8 +2.0**
ABKAR Akbulak array 27.33 49 *e*P P **14 30 42.9 +1.9**
comp=Z,0.8nm,0.4s
JOF Joensuu 27.76 3 *e*P P **14 30 42.8 -1.8**
JOF Joensuu 27.76 3 *e*p P **14 30 42.8 -1.8**
NOA NORSAR Array B 27.91 343 P P **14 30 43.8 -2.2**
NOA NORSAR Array B 27.91 343 P P **14 30 43.8 -2.2**
comp=Z,1.2nm,0.9s,baz=143,slow=7.3,SNR=3.5
EKA Eskdalemuir Ar 29.25 323 P P **14 30 56.5 -1.4**
EKA Eskdalemuir Ar 29.25 323 P P **14 30 56.5 -1.4**
comp=Z,0.3nm,0.3s,baz=120,slow=10,SNR=4.1
EKA Eskdalemuir Ar 29.25 323 P P **14 30 56.5 -1.4**
TOA0 Torodi Ar. Sit 32.28 233 *e*P P **14 31 25.2 +0.2**
TOA0 Torodi Ar. Sit 32.28 233 *e*P P **14 31 25.2 +0.2**
TORD Torodi Ar. Bea 32.28 233 P P **14 31 26.0 +0.9**
TORD Torodi Ar. Bea 32.28 233 P P **14 31 26.0 +0.9**
comp=Z,3.9nm,0.3s,baz=37,slow=8.4,SNR=107
TORD Torodi Ar. Bea 32.28 233 P P **14 31 26.0 +0.9**
ARCES ARCESS Array B 34.35 359 P P **14 31 41.5 -1.1**
ARCES PcP **PcP** **14 34 18.0 +0.6**
ARCES ARCESS Array B 34.35 359 P P **14 31 41.5 -1.1**
comp=Z,1.7nm,0.7s,baz=178,slow=8.1,SNR=13
ARCES PcP **PcP** **14 34 18.0 +0.6**
comp=Z,8.0nm,1.1s,baz=194,slow=2.6,SNR=4.0
ARCES LR LR 14 46 51.3
comp=Z,96nm,19.7s,baz=242,slow=38
ARCES ARCESS Array B 34.35 359 P P **14 31 41.5 -1.1**
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 34.35 359 PcP **PcP** **14 34 18.0 +0.6**
comp=Z,15nm,28.6s
DBIC Dimbokro 41.38 234 *e*P P **14 32 42.4 0.0**
comp=Z,40nm,1.8s
DBIC Dimbokro 41.38 234 P P **14 32 42.3 0.0**
comp=Z,2.0nm,0.3s,baz=35,slow=8.1,SNR=11
DBIC Dimbokro 41.38 234 *e*P P **14 32 42.4 0.0**
comp=Z,40nm,1.8s
TIC Toumodi 41.51 234 *e*P P **14 32 43.9 +0.4**
KIC Kosan Boka 41.53 234 *e*P P **14 32 43.7 0.0**
comp=Z,7.2nm,0.3s
LIC Lamto 41.82 234 *e*P P **14 32 46.4 +0.4**
comp=Z,2.6nm,0.3s
LIC Lamto 41.82 234 *e*P P **14 32 46.5 +0.4**
comp=Z,20nm,1.1s
LIC Lamto 41.82 234 *e*P P **14 32 46.4 +0.4**
comp=Z,2.6nm,0.3s
LIC Lamto 41.82 234 *e*P P **14 32 46.4 +0.4**
comp=Z,1.3nm,0.3s
MK31 Makanchi Array 41.88 57 *e*P P **14 32 47.9 +1.6**
MK31 Makanchi Array 41.88 57 *e*P P **14 32 47.9 +1.6**
MK31 Makanchi Array 41.88 57 *e*P P **14 32 47.8 +1.5**
MKAR Makanchi Array 41.88 57 P P **14 32 48.0 +1.7**
MKAR Makanchi Array 41.88 57 P P **14 32 48.0 +1.7**
MKAR Makanchi Array 41.88 57 P P **14 32 48.0 +1.7**
comp=Z,0.3nm,0.5s,baz=270,slow=8.3,SNR=9.0
NVS Novosibirsk 42.47 45 *e*P P 14 32 43.1 -7.7
ZALV Zalesovo Beam 43.35 46 P P **14 32 56.2 -1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 43.35 46 P P **14 32 56.2 -1.8**
ZALV Zalesovo Beam 43.35 46 P P **14 32 56.2 -1.8**
comp=Z,1.2nm,0.6s,baz=268,slow=8.8,SNR=3.8
HVS Khovu-Aksy 48.91 50 P P 14 33 47.5 +5.6
HVS pmax pmax
comp=Z,10.0nm,1.5s
YKA Yellowknife Ar 78.00 343 P P **14 36 52.9 -0.8**
YKA Yellowknife Ar 78.00 343 P P **14 36 52.9 -0.8**
comp=Z,0.1nm,0.3s,baz=325,slow=5.2,SNR=6.2
YKA Yellowknife Ar 78.00 343 P P **14 36 52.9 -0.8**
ILAR Eielson Array 80.21 358 P P **14 37 05.1 -0.6**
ILAR Eielson Array 80.21 358 P P **14 37 05.1 -0.6**
comp=Z,0.2nm,0.7s,baz=19,slow=2.6,SNR=4.1
ILAR Eielson Array 80.21 358 P P **14 37 05.1 -0.6**
ULM Lac du Bonnet 81.42 327 P P **14 37 10.8 -1.6**
ULM Lac du Bonnet 81.42 327 P P **14 37 10.8 -1.6**
comp=Z,1.0nm,0.4s,baz=17,slow=6.8,SNR=2.4

*BJI **18** 14:27:29.0,56.˙18S×26.˙82W,h28km,mB5.3/9,Ms5.2/5, Ms7 4.7/6*
*ISCJB **18** 14:27:31.4±0.3,56.˙04S±0.˙06×27.˙6W±0.˙1,h50km, mb4.6/21,MS3.8/20,Error ellipse: s-maj=10.3km s-min=7.8km az=140.0*
*AWI **18** 14:27:33.5,55.˙93S×27.˙21W*
*NEIC **18** 14:27:34.8±0.1,56.˙08S×27.˙66W,mb4.9/10,Error ellipse: s-maj=6.9km s-min=5.6km az=205.0*
*IDC **18** 14:27:36.1±0.7,55.˙99S×27.˙73W,h83km±5km,mb4.3/15, mb1 4.4/16,mb1mx4.3/25,mbtmp4.7/16,MS3.6/18, Ms1 3.6/18,ms1mx3.5/26,Error ellipse: s-maj=14.1km s-min=11.6km az=35.0*

ISC 18 14:27:32.6±0.3,56.˙12S±0.˙07×27.˙50W±0.˙07,h50km,n155, σ1s66/186,mb4.7/20,MS3.7/20,1C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.46**	**286**	P		P	Pn	14 28 45.9	-5.4
VNA1	**Neumayer--Stat**	**16.80**	**158**	P		P	**Pn**	**14 31 26.6**	**+2.7**
VNA2	**Neumayer--Watz**	**17.20**	**158**	P		P	**Pn**	**14 31 30.9**	**+2.0**
SNAA	**Sanae**	**18.75**	**156**	P		P	**P**	**14 31 49.4**	**+2.4**
SNAA	**Sanae**	**18.75**	**156**	P		P	**P**	**14 31 49.5**	**+2.4**
SNAA	**Sanae**	**18.75**	**156**	P		P	**P**	**14 31 49.5**	**+2.4**
	4.2nm,0.3s,baz=309,slow=9.4,SNR=171								
SNAA						LR	LR	14 38 34.6	
	comp=Z,63nm,18.7s,baz=14,slow=35								
PMSA	**Palmer Station**	**19.72**	**229**	*e*P		P		**14 31 57.9**	**+0.4**
PMSA	**Palmer Station**	**19.72**	**229**	P		P	**Pn**	**14 32 01.3**	**+1.9**
	3.0nm,0.3s,baz=43,slow=7.5,SNR=10.0								
PMSA						LR	LR	14 39 09.4	
	comp=Z,120nm,20.4s,baz=116,slow=35								
USHA	**Ushuaia**	**23.00**	**256**	P		P		**14 32 33.6**	**+0.9**
USHA	**Ushuaia**	**23.00**	**256**	P		P		**14 32 33.6**	**+0.9**
	12nm,0.8s,baz=96,slow=6.8,SNR=6.1								
USHA						LR	LR	14 39 32.5	
	comp=Z,140nm,20.5s,baz=34,slow=31								
SYO	**Syowa Base**	**31.64**	**141**	*e*P		P		**14 33 49.6**	**-0.7**
PLCA	**Paso Flores**	**31.84**	**280**	*e*P		P		**14 33 51.0**	**-1.6**
	2.5nm,0.8s								
PLCA						PcP	**PcP**	**14 36 41.6**	**-0.6**
PLCA						ScP	**ScP**	**14 40 15.0**	**-6.1**
PLCA	**Paso Flores**	**31.84**	**280**	P		P		**14 33 50.9**	**-1.6**
	1.4nm,0.7s,baz=141,slow=10,SNR=4.3								
PLCA						PcP	**PcP**	**14 36 41.6**	**-0.6**
	2.0nm,0.8s,baz=95,slow=4.4,SNR=3.7								
PLCA						ScP	**ScP**	**14 40 15.0**	**-6.1**
	1.1nm,0.7s,baz=146,slow=7.3,SNR=4.0								
PLCA						LR	LR	14 46 37.6	
	comp=Z,146nm,18.6s,baz=98,slow=36								
QSPA	**South Pole Qui**	**34.13**	**180**	PcP		PcP	**PcP**	**14 36 47.8**	**-0.5**
QSPA	**South Pole Qui**	**34.13**	**180**	PcP		PcP	**PcP**	**14 36 47.7**	**-0.5**
	baz=235,slow=5.2								
QSPA						LR	LR	14 47 13.4	
	comp=Z,171nm,20.7s,baz=190,slow=34								
CPUP	**Villa Florida**	**36.72**	**312**	*e*P		P		**14 34 34.1**	**-0.6**
	1.2nm,0.7s								
CPUP						pP	**pP**	**14 34 51.0**	**+3.2**
CPUP						pP	**pP**	**14 34 51.0**	**+3.2**
	10.0nm,0.7s,baz=134,slow=7.6,SNR=11								
CPUP						LR	LR	14 48 18.2	
	comp=Z,80nm,20.0s,baz=138,slow=34								
CFAA	**Coronel Fontan**	**37.42**	**294**	P		P		**14 34 39.2**	**-1.5**
CFAA						pP	**pP**	**14 34 57.1**	**+3.3**
CFAA						PcP	**PcP**	**14 36 58.1**	**-0.4**
CFAA	**Coronel Fontan**	**37.42**	**294**	P		P		**14 34 39.2**	**-1.5**
	0.9nm,0.7s,baz=149,slow=8.0,SNR=13								
CFAA						pP	**pP**	**14 34 57.1**	**+3.3**
	1.5nm,0.7s,baz=143,slow=7.6,SNR=6.7								
CFAA						PcP	**PcP**	**14 36 58.1**	**-0.4**
	0.3nm,0.5s,baz=50,slow=5.9,SNR=3.1								
CFAA						LR	LR	14 50 24.0	
	comp=Z,14nm,19.5s,baz=136,slow=37								
MAW	**Mawson**	**40.20**	**144**	*e*P		P		**14 35 05.2**	**+1.8**
	3.4nm,0.6s								
MAW	**Mawson**	**40.20**	**144**	P		P		**14 35 05.2**	**+1.8**
	22nm,0.7s,baz=245,slow=5.9,SNR=20								
MAW						LR	LR	14 49 28.4	
	comp=Z,96nm,21.2s,baz=250,slow=32								
LCO	**Las Campanas**	**40.77**	**293**	*e*P		P		**14 35 07.9**	**-1.0**
	16nm,1.0s								
SUR	**Sutherland**	**40.83**	**75**	*e*P		P		**14 35 11.0**	**+1.7**
SUR	**Sutherland**	**40.83**	**75**	LR		LR		14 47 58.2	
	comp=Z,157nm,19.3s,baz=200,slow=30								
BDFB	**Brasilia**	**43.33**	**331**	P		P		**14 35 31.1**	**+1.4**
BDFB	**Brasilia**	**43.33**	**331**	P		P		**14 35 31.1**	**+1.4**
	3.3nm,0.7s,baz=145,slow=7.3,SNR=4.2								
BDFB						LR	LR	14 50 37.3	
	comp=Z,68nm,20.8s,baz=186,slow=32								
LVC	**Limon Verde**	**45.18**	**301**	*e*P		P		**14 35 44.7**	**+0.1**
	17nm,0.8s								
BOSA	**Boshof**	**46.16**	**76**	P		P		**14 35 52.5**	**+0.3**
	2.0nm,0.7s								
BOSA						PcP	**PcP**	**14 37 28.1**	**+0.7**
BOSA	**Boshof**	**46.16**	**76**	P		P		**14 35 52.6**	**+0.5**
	2.4nm,0.6s,baz=249,slow=7.6,SNR=4.7								
BOSA						PcP	**PcP**	**14 37 28.1**	**+0.7**
	4.7nm,0.9s,baz=188,slow=6.7,SNR=3.6								
BOSA						LR	LR	14 51 42.8	
	comp=Z,145nm,18.9s,baz=218,slow=31								
VNDA	**Vanda**	**46.50**	**183**	*e*P		P		**14 35 55.9**	**+1.9**
	44nm,0.8s								
VNDA	**Vanda**	**46.50**	**183**	P		P		**14 35 56.1**	**+2.1**
	42nm,0.7s,baz=186,slow=6.2,SNR=105								
VNDA						LR	LR	14 53 06.6	
	comp=Z,76nm,20.2s,baz=198,slow=33								
SIV	**San Ignacio**	**47.49**	**314**	PcP		PcP		**14 37 32.2**	**+0.1**
SIV	**San Ignacio**	**47.49**	**314**	PcP		PcP		**14 37 32.2**	**+0.1**
	baz=184,slow=4.2								
SIV						LR	LR	14 56 45.3	
	comp=Z,28nm,19.2s,baz=122,slow=37								
H10S2	**ASCENSION HYDR**	**48.12**	**17**	T		T		15 28 54.3	
	baz=189,slow=75,SNR=44								
H10S3	**ASCENSION HYDR**	**48.12**	**17**	T		T		15 28 54.3	
	baz=189,slow=75,SNR=39								
H10S1	**ASCENSION HYDR**	**48.13**	**17**	T		T		15 28 55.3	
	baz=189,slow=75,SNR=44								
LBTB	**Lobatse**	**49.20**	**73**	*e*P		P		**14 36 16.1**	**+0.4**
	13nm,1.2s								
TSUM	**Tsumeb**	**49.87**	**61**	P		P		**14 36 22.0**	**+1.1**
TSUM	**Tsumeb**	**49.87**	**61**	P		P		**14 36 22.0**	**+1.1**
	5.0nm,0.8s,baz=201,slow=4.4,SNR=9.2								
TSUM						LR	LR	14 53 15.6	
	comp=Z,66nm,19.6s,baz=192,slow=31								
LPAZ	**La Paz**	**50.27**	**306**	*e*P		P		**14 36 24.9**	**+0.4**
	10nm,0.7s								
LPAZ	**La Paz**	**50.27**	**306**	P		P		**14 36 25.0**	**+0.5**
	6.6nm,0.5s,baz=155,slow=6.4,SNR=29								
LPAZ						LR	LR	14 59 50.0	
	comp=Z,34nm,18.8s,baz=158,slow=39								
SAML	**Samuel**	**54.72**	**315**	*e*P		P		**14 36 55.9**	**-0.8**
	23nm,1.1s								
SAML					*e*pP		**pP**	**14 37 13.7**	**+3.2**
DBIC	**Dimbokro**	**65.30**	**25**	P		P		**14 38 09.2**	**0.0**
DBIC	**Dimbokro**	**65.30**	**25**	P		P		**14 38 09.2**	**0.0**
	3.2nm,0.7s,baz=157,slow=6.7,SNR=5.3								
DBIC						LR	LR	15 00 48.0	
	comp=Z,75nm,18.3s,baz=226,slow=30								
ROSC	**El Rosal**	**71.81**	**310**	LR		LR		15 12 01.3	
	comp=Z,36nm,19.0s,baz=24,slow=37								
TOA0	**Torodi Ar. Sit**	**73.20**	**30**	*e*P		P		**14 38 58.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P		P		**14 38 58.5**	**+0.5**
TORD						pP	**PcP**	**14 39 19.2**	**+4.9**
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P		P		**14 38 58.5**	**+0.5**
	6.7nm,0.7s,baz=198,slow=6.5,SNR=46								
TORD						pP	**PcP**	**14 39 19.2**	**+4.9**
	6.9nm,0.6s,baz=199,slow=6.5,SNR=8.4								
TORD						LR	LR	15 04 05.2	
	comp=Z,51nm,21.3s,baz=160,slow=30								
URZ	**Urewera**	**83.68**	**199**	P		P		**14 39 55.6**	**0.0**
URZ	**Urewera**	**83.68**	**199**	P		P		**14 39 55.6**	**0.0**
	6.6nm,1.0s,baz=173,slow=10,SNR=2.4								
NWAO	**Narrogin (SRO)**	**86.36**	**151**	P		P		**14 40 08.0**	**-1.2**
NWAO	**Narrogin (SRO)**	**86.36**	**151**	P		P		**14 40 08.0**	**-1.2**
	10nm,0.9s,baz=170,slow=6.8,SNR=4.1								
MDT	**Midelt**	**90.71**	**19**	P		P		**14 40 31.3**	**+1.8**
MDT	**Midelt**	**90.71**	**19**	P		P		**14 40 31.3**	**+1.8**
	3.6nm,0.7s,baz=228,slow=5.2,SNR=4.4								
STKA	**Stephens Creek**	**91.86**	**171**	P		P		**14 40 35.2**	**0.0**
STKA	**Stephens Creek**	**91.86**	**171**	P		P		**14 40 35.2**	**0.0**
	3.5nm,0.7s,baz=176,slow=5.3,SNR=10.0								
ASAR	**Alice Springs**	**98.98**	**163**	P		**Pdif**		**14 41 07.0**	**-0.8**
ASAR				PP		PP		**14 45 05.9**	**-3.1**
ASAR				PKKP		PKKPbc		**14 57 31.9**	**+0.7**
ASAR	**Alice Springs**	**98.98**	**163**	P		**Pdif**		**14 41 07.0**	**-0.8**
	5.3nm,0.8s,baz=186,slow=4.2,SNR=49								
ASAR				PP		PP		**14 45 05.9**	**-3.1**
	3.4nm,1.0s,baz=187,slow=6.3,SNR=11								
ASAR				PKKP		PKKPbc		**14 57 31.9**	**+0.7**
	0.3nm,0.4s,baz=21,slow=2.6,SNR=9.7								
AS31	**Alice Springs**	**98.98**	**163**	*e*P		**Pdif**		**14 41 07.2**	**-0.5**
WRA	**Warramunga Arr**	**102.70**	**163**	P		**Pdif**		**14 41 23.4**	**-0.9**
WRA				PP		PP		14 45 33.5	-3.7
WRA				PKKPbc		**PKKPbc**		**14 57 21.5**	**+1.0**
WRA	**Warramunga Arr**	**102.70**	**163**	P		**Pdif**		**14 41 23.4**	**-0.9**
	1.2nm,0.7s,baz=196,slow=4.3,SNR=12								
WRA				PP		PP		14 45 33.5	-3.7
	1.1nm,0.9s,baz=191,slow=6.3,SNR=4.5								
WRA				PKKPbc		**PKKPbc**		**14 57 21.5**	**+1.0**
	0.2nm,0.3s,baz=357,slow=2.9,SNR=22								
AKASG	**Malin Array Be**	**116.36**	**36**	PKP		**PKPdf**		**14 46 07.8**	**-1.5**
AKASG	**Malin Array Be**	**116.36**	**36**	PKP		**PKPdf**		**14 46 07.8**	**-1.5**
	0.2nm,0.4s,baz=232,slow=1.6,SNR=3.4								
ULM	**Lac du Bonnet**	**120.17**	**316**	PKP		**PKPdf**		**14 46 14.9**	**-1.8**
ULM	**Lac du Bonnet**	**120.17**	**316**	PKP		**PKPdf**		**14 46 14.9**	**-1.8**
	1.8nm,0.6s,baz=135,slow=0.6,SNR=4.6								
PDAR	**Pinedale Array**	**120.23**	**302**	PKP		**PKPdf**		**14 46 15.8**	**-1.5**
PDAR	**Pinedale Array**	**120.23**	**302**	PKP		**PKPdf**		**14 46 15.8**	**-1.5**
	0.6nm,0.7s,baz=120,slow=3.7,SNR=5.9								
HFS	**Hagfors**	**120.42**	**22**	PKP		**PKPdf**		**14 46 14.9**	**-1.9**
HFS	**Hagfors**	**120.42**	**22**	PKP		**PKPdf**		**14 46 14.9**	**-1.9**
	3.0nm,0.9s,baz=123,slow=5.3,SNR=4.5								
NOA	**NORSAR Array B**	**120.73**	**21**	PKP		**PKPdf**		**14 46 15.8**	**-1.7**
NOA	**NORSAR Array B**	**120.73**	**21**	PKP		**PKPdf**		**14 46 15.8**	**-1.7**
	1.9nm,0.8s,baz=204,slow=2.0,SNR=3.9								
NVAR	**Mina Array Bea**	**121.26**	**293**	PKP		**PKPdf**		**14 46 19.9**	**+0.5**
NVAR	**Mina Array Bea**	**121.26**	**293**	PKP

28nm,0.6s
GUN Gumba 125.62 92 *e*P PKPdf 14 46 27.7 -0.6
12nm,0.7s
ODAN Odare 125.66 94 *e*P PKPdf 14 46 27.0 -1.3
7.7nm,0.5s
TAPN Taplejung 126.22 94 *e*P PKPdf 14 46 28.8 -0.6
JOF Joensuu 127.14 29 *e*p PKPdf 14 46 27.5 -2.1
AKTO Aktyubinsk 127.51 53 PKP PKPdf 14 46 29.8 -0.9
AKTO Aktyubinsk 127.51 53 PKP PKPdf 14 46 29.8 -0.9
3.3nm,0.8s,baz=117,slow=6.8,SNR=4.2
ABKAR Akbulak array 127.55 56 *e*PKPdf PKPdf 14 46 30.3 -0.6
KKAR Karatay Array 128.41 68 *e*PKPdf PKPdf 14 46 32.5 -0.2
KSH Kashi 128.75 75 *e*PKP PKPdf 14 46 33.0 -0.7
KSH *es*PKP 14 46 47.4
KSH *e*SKS **SKSdf** 14 53 40.0 -0.8
KSH AMB AMB
comp=Z,58nm,5.6s
KSH LR LR
comp=N,140nm,5.9s
KSH LR LR
comp=E,98nm,6.2s
KSH LR LR
comp=Z,91nm,4.2s
LSA Lhasa 129.94 95 *e*PKPdf **PKPdf** 14 46 36.4 -0.3
AAK Ala-Archa 130.16 71 PKP **PKPdf** 14 46 36.1 -0.2
AAK SKPbc **SKPab** 14 49 50.7 -3.8
AAK Ala-Archa 130.16 71 PKP **PKPdf** 14 46 36.1 -0.2
3.9nm,0.5s,baz=225,slow=2.9,SNR=7.0
AAK SKPbc **SKPab** 14 49 50.7 -3.8
3.4nm,1.1s,baz=188,slow=7.1,SNR=6.4
ARCES ARCESS Array B 131.07 22 PKP **PKPdf** 14 46 36.3 -0.6
ARCES SKPbc SKPbc 14 49 49.4 -7.6
ARCES ARCESS Array B 131.07 22 PKP **PKPdf** 14 46 36.3 -0.6
3.2nm,0.7s,baz=215,slow=1.5,SNR=24
ARCES SKPbc SKPbc 14 49 49.4 -7.6
6.5nm,1.1s,baz=198,slow=5.5,SNR=4.9
ARE0 ARCESS Array S 131.07 22 *e*PKPdf **PKPdf** 14 46 36.5 -0.5
BVAR Borovoye Array 134.97 58 PKP **PKPdf** 14 46 44.0 -0.8
BVAR SKPbc SKPbc 14 50 04.6 -6.2
BVAR Borovoye Array 134.97 58 PKP **PKPdf** 14 46 44.0 -0.8
4.7nm,0.8s,baz=232,slow=2.2,SNR=18
BVAR SKPbc SKPbc 14 50 04.6 -6.2
0.8nm,0.9s,baz=240,slow=2.9,SNR=3.6
YKA Yellowknife Ar 136.10 318 PKP **PKPdf** 14 46 45.5 -1.0
YKA SKPbc SKPbc 14 50 06.5 -7.4
YKA PKKP **PKKPdf** 14 56 24.6 -1.4
YKA Yellowknife Ar 136.10 318 PKP **PKPdf** 14 46 45.5 -1.0
2.7nm,0.7s,baz=127,slow=2.3,SNR=44
YKA SKPbc SKPbc 14 50 06.5 -7.4
0.8nm,0.6s,baz=130,slow=2.5,SNR=12
YKA PKKP **PKKPdf** 14 56 24.6 -1.4
0.3nm,0.8s,baz=314,slow=1.9,SNR=5.0
MKAR Makanchi Array 137.07 72 PKP **PKPdf** 14 46 48.2 -0.7
MKAR SKPbc SKPbc 14 50 11.2 -6.3
MKAR Makanchi Array 137.07 72 PKP **PKPdf** 14 46 48.2 -0.7
1.9nm,0.6s,baz=178,slow=0.4,SNR=5.5
MKAR SKPbc SKPbc 14 50 11.2 -6.3
0.9nm,0.6s,baz=242,slow=2.3,SNR=6.8
KURBB Kurchatov Arra 137.49 65 PKhKP PKPpre 14 46 40.1
0.6nm,0.6s,baz=264,slow=7.8,SNR=8.5
KURBB PKP **PKPdf** 14 46 47.9 -1.6
0.8nm,0.7s,baz=232,slow=2.4,SNR=7.5
KURBB SKPbc SKPbc 14 50 12.7 -5.8
0.7nm,0.6s,baz=239,slow=3.2,SNR=5.8
KURK Kurchatov 137.59 65 PKPpre PKPpre 14 46 40.1
KURK PKP **PKPdf** 14 46 47.9 -1.8
KURK SKPbc SKPbc 14 50 12.7 -6.1
CD2 Chengdu 137.81 106 *e*PKP **PKPdf** 14 46 52.1 +1.3
WMQ Urumqi 138.09 79 PKP **PKPdf** 14 46 52.9 +1.9
WMQ PP PP 14 49 46.3 +5.6
WMQ AMB AMB
comp=Z,33nm,7.2s
WMQ LR LR
comp=N,48nm,22.8s
WMQ LR LR
comp=E,150nm,39.9s
WMQ LR LR
comp=Z,43nm,20.3s
ENH Enshi 140.34 112 *e*PKPdf **PKPdf** 14 46 56.8 +1.3
LZH Lanzhou 141.77 101 *e*PKP **PKPdf** 14 46 59.6 +1.6
LZH sPKP 14 47 15.3
LZH LR LR
comp=N,140nm,17.2s
LZH LR LR
comp=E,150nm,19.1s
LZH LR LR
comp=Z,180nm,20.2s
GTA Gaotai 141.90 93 *e*PKP **PKPdf** 14 46 57.3 -0.8
GTA sPKP 14 47 11.5
GTA PP **PP** 14 50 07.8 +3.7
GTA SKS **SKSdf** 14 54 01.9 -1.7
GTA SKKS **SKKSac** 14 56 54.1 +1.8
GTA AMB AMB
comp=Z,52nm,5.7s
GTA LR LR
comp=N,80nm,14.7s
GTA LR LR
comp=E,78nm,15.4s
GTA LR LR
comp=Z,58nm,15.7s
ZAA0 Zalesovo Array 142.56 64 *e*PKPpre PKPpre 14 46 54.0
ZALV Zalesovo Beam 142.56 64 PKPpre PKPpre 14 46 52.7
ZALV SKPbc SKPbc 14 50 25.9 -6.0
ZALV Zalesovo Beam 142.56 64 PKhKP PKPpre 14 46 52.7
1.5nm,0.5s,baz=255,slow=2.9,SNR=9.7
ZALV SKPbc SKPbc 14 50 25.9 -6.0
0.4nm,0.4s,baz=224,slow=4.0,SNR=3.7
INK Inuvik 145.74 321 *e*PKPdf **PKPdf** 14 47 03.3 -0.4
DAWY Dawson 146.71 312 *e*PKPbc **PKPdf** 14 47 06.1 +0.5
BMRM Bremner River 147.96 305 *e*PKPbc **PKPdf** 14 47 10.4 +2.6
MENT Mentasta 148.20 309 *e*PKPbc **PKPbc** 14 47 11.0 -0.5
DIV Divide 148.55 305 *e*PKPbc **PKPbc** 14 47 11.9 -0.5
DIV *e*PKPab **PKiKP** 14 47 15.6 +1.7
DOT Dot Lake 148.55 310 *e*PKPbc **PKPbc** 14 47 11.9 -0.4
PAX Paxson 148.97 308 *e*PKPbc **PKPbc** 14 47 13.0 -0.5
HHC Hu-ho-hao-te 149.40 102 *e*PKPbc **PKPdf** 14 47 14.1 +3.3
HHC SKS **SKSdf** 14 54 09.5 -4.9
HHC SKKS **SKKSac** 14 57 34.4 -0.3
HHC SS **SS** 15 09 54.3 -4.0
HHC AMB AMB
comp=Z,110nm,5.8s
HHC LR LR
comp=N,170nm,19.6s
HHC LR LR
comp=E,170nm,18.4s
HHC LR LR
comp=Z,87nm,19.4s
SEW Seward 149.93 302 *e*PKPbc **PKPbc** 14 47 15.6 -0.2
ILAR Eielson Array 150.03 312 PKP **PKPdf** 14 47 07.5 -3.4
ILAR PKPbc **PKPbc** 14 47 15.1 -0.9
ILAR Eielson Array 150.03 312 PKP **PKPdf** 14 47 07.5 -3.4
1.0nm,0.8s,baz=301,slow=1.0,SNR=16
ILAR PKPbc **PKPbc** 14 47 15.1 -0.9
26nm,0.9s,baz=128,slow=2.5,SNR=168
RC01 Rabbit Creek A 150.37 304 *e*PKPbc **PKPbc** 14 47 16.1 -0.7
RC01 *e*PKPab **PKPab** 14 47 23.3 -0.2
COLA College 150.45 312 *e*PKPbc **PKPbc** 14 47 15.7 -1.2
COLA *e*PKPab **PKPab** 14 47 23.4 -0.3
MCK McKinley 150.68 309 *e*PKPbc **PKPbc** 14 47 16.8 -0.7
KDAK Kodiak Island 150.69 296 *e*PKPbc **PKPbc** 14 47 17.4 -0.2
SONM Songino Array 150.91 87 PKP **PKPdf** 14 47 12.3 -0.7
SONM PKPbc **PKPbc** 14 47 18.3 -0.4
SONM Songino Array 150.91 87 PKP **PKPdf** 14 47 12.3 -0.7
0.5nm,0.4s,baz=158,slow=1.6,SNR=5.3
SONM PKPbc **PKPbc** 14 47 18.3 -0.4
31nm,0.5s,baz=221,slow=3.5,SNR=119
TRF Thorofare Moun 151.21 308 *e*PKPbc **PKPbc** 14 47 18.0 -1.0
ULN Ulaanbaatar 151.29 87 *e*PKPbc **PKPbc** 14 47 18.9 -0.8
BJT Baijiatuau 151.30 109 *e*PKPbc **PKPbc** 14 47 19.2 -0.5
TLY Talaya 151.37 78 *e*PKPbc **PKPbc** 14 47 19.3 -0.3
KTH Kantishna Hill 151.51 308 *e*PKPbc **PKPbc** 14 47 18.6 -0.9
RSO Redoubt South 151.61 302 *e*PKPbc **PKPbc** 14 47 19.0 -1.0
COLD Coldfoot 151.75 316 *e*PKPbc **PKPbc** 14 47 19.6 -0.3
PPLA Purkeypile 151.93 307 *e*PKPbc **PKPbc** 14 47 19.7 -0.9
JNU Nakatsue 152.56 138 PKP **PKPdf** 14 47 15.7 -0.2
JNU PKPbc **PKPbc** 14 47 22.1 -0.8
JNU Nakatsue 152.56 138 PKP **PKPdf** 14 47 15.7 -0.2
3.5nm,0.7s,baz=121,slow=19,SNR=4.6
JNU PKPbc **PKPbc** 14 47 22.1 -0.8
18nm,0.8s,baz=190,slow=22,SNR=13
IM04 Indian Mountai 153.06 313 *e*PKPbc **PKPbc** 14 47 22.2 -0.7
KSAR Wonju Array Be 155.07 128 PKPab **PKPab** 14 47 44.2 +0.3
KSRS Korea Array 155.10 128 PKPab **PKPab** 14 47 44.2 +0.2
1.9nm,0.8s,baz=212,slow=4.0,SNR=6.5

MJAR Matsushiro Arr 158.16 148 PKPab **PKPab** 14 47 57.6 +0.3
MJAR Matsushiro Arr 158.16 148 PKPab **PKPab** 14 47 57.6 +0.3
3.9nm,0.9s,baz=184,slow=4.7,SNR=6.4
CN2 Changchun 158.84 114 *e*P **PKPab** 14 47 59.1 -1.0
USRK Ussuriysk Arra 162.34 124 PKPab **PKPab** 14 48 15.8 +0.5
1.5nm,0.5s,baz=232,slow=9.4,SNR=4.8
PETK Petropavlovsk- 175.73 227 PKPab **PKPab** 14 49 13.4 -0.9
PETK Petropavlovsk- 175.73 227 PKPab **PKPab** 14 49 13.4 -0.9
2.4nm,0.7s,baz=120,slow=8.8,SNR=4.1

CSEM 18 14:32:05.1, 45.95N×14.31E, h0km, ML0.8, Mining explosion. After LJU, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRNS	**Crni Vrh**	**0.14**	**345**	*i*	Pg	Pg	Pg	14 32 07.7	-0.1
CRNS	comp=Z,20nm,0.1s								
LJU	**Ljubljana**	**0.18**	**58**	*i*	Sg	Sg	Sg	14 32 12.3	+1.3
LJU	comp=Z,12nm,0.1s								
LJU	**Ljubljana**	**0.18**	**58**	*i*	Sg	Sg	Sg	14 32 12.3	+1.4
	comp=Z,12nm,0.1s								
JAVS	**Javornik**	**0.18**	**252**	*i*	Pg	Pg		14 32 08.4	-0.3
JAVS				*i*	Sg	Sg		14 32 11.6	+0.4
JAVS	**Javornik**	**0.18**	**252**	*i*	Pg	Pg		14 32 08.4	-0.3
JAVS				*i*	Sg	Sg		14 32 11.6	+0.4
CEY	**Cerknica**	**0.23**	**159**	*i*	Pg	Pg		14 32 09.1	-0.4
CEY				*i*	Sg	Sg		14 32 13.0	+0.5
CEY	comp=Z,15nm,0.2s								
CEY	**Cerknica**	**0.23**	**159**	*i*	Pg	Pg		14 32 09.1	-0.4
CEY				*i*	Sg	Sg		14 32 13.0	+0.5
	comp=Z,15nm,0.2s								
VOJS	**Vojsko**	**0.31**	**286**	*i*	Pg	Pg		14 32 10.7	-0.5
VOJS	**Vojsko**	**0.31**	**286**	*i*	Pg	Pg		14 32 10.7	-0.5
VNDS	**Vrh nad Dolski**	**0.31**	**61**	*i*	Pg	Pg		14 32 11.5	+0.3
VNDS				*e*	Sg	Sg		14 32 16.1	+0.9
VNDS	comp=Z,7.0nm,0.2s								
MOZS	**Mozjanca**	**0.36**	**15**	*i*	Pg	Pg		14 32 12.6	+0.5
MOZS	**Mozjanca**	**0.36**	**15**	*i*	Pg	Pg		14 32 12.6	+0.5
VISS	**Visnje**	**0.40**	**111**	*i*	Pg	Pg		14 32 12.8	+0.1
VISS				*i*	Sg	Sg		14 32 18.4	+0.4
VISS	comp=Z,5.0nm,0.2s								
VISS	**Visnje**	**0.40**	**111**	*i*	Pg	Pg		14 32 12.9	+0.1
VISS				*i*	Sg	Sg		14 32 18.4	+0.4
	comp=Z,5.0nm,0.2s								
SKDS	**Skadanscina**	**0.45**	**207**	*i*	Pg	Pg		14 32 13.1	-0.7
SKDS				*i*	Sg	Sg		14 32 20.3	+0.5
SKDS	**Skadanscina**	**0.45**	**207**	*i*	Pg	Pg		14 32 13.1	-0.8
SKDS				*i*	Sg	Sg		14 32 20.3	+0.5

*ISCJB **18** 14:32:26.7±3.4, 10.0S±0.2×165.2E±0.4, h33km, mb3.8/3, MS3.4/1, Error ellipse: s-maj=55.5km s-min=11.9km az=153.9*
*IDC **18** 14:32:36.8±19.0, 10.11S×163.65E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/35, mbtmpb3.9/4, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=332.5km s-min=48.7km az=44.0*
ISC 18 14:32:28.6±2.9, 9.9S±0.2×165.2E±0.3, h35km, n8, σ0.938/6, mb3.8/3, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**275**	P		P	**Pn**	**14 33 44.0**	**-0.1**
DZM	**Mont Dzumac**	**12.13**	**175**	Pn		P	**P**	**14 35 30.9**	**-0.3**
DZM	0.2nm,0.3s,baz=15,slow=20,SNR=7.5				Sn		**Sn**	**14 37 33.6**	**+0.4**
	0.1nm,0.3s,baz=165,slow=20,SNR=2.1				LR	LR		14 38 58.3	
DZM	comp=Z,124nm,20.0s,baz=15,slow=31								
PMG	**Port Moresby**	**17.80**	**270**	LR		LR		14 42 41.8	
	comp=Z,60nm,21.5s,baz=80,slow=37								
URZ	**Urewera**	**30.17**	**161**	LR		LR		14 50 04.1	
	comp=Z,80nm,18.0s,baz=2.5,slow=34								
STKA	**Stephens Creek**	**30.90**	**222**	P		P		14 38 47.0	+5.0
	1.9nm,1.0s,baz=42,slow=14,SNR=3.3								
WRA	**Warramunga Arr**	**31.39**	**248**	P		**P**	**14 38 46.4**		**-0.1**
	0.6nm,0.5s,baz=80,slow=9.1,SNR=11								
ASAR	**Alice Springs**	**32.84**	**241**	P		**P**	**14 38 59.0**		**-0.1**
	1.0nm,0.7s,baz=63,slow=9.6,SNR=22								
PVCP	**Virac**	**46.97**	**299**	*i*	P		**P**	**14 40 56.9**	**+0.3**

IDC 18 14:34:08.0±13.0, 12.55N×85.54W, h0km, mb3.2/1, mb1 3.8/1, mb1mx3.1/35, mbtmpb3.3/1, Error ellipse: s-maj=1095.0km s-min=78.2km az=58.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.72**	**318**	P		P		14 39 21.9	0.0
	0.6nm,0.7s,baz=141,slow=10,SNR=7.5								
ASAR	**Alice Springs**	**141.04**	**248**	PKP		PKPdf		14 53 40.5	-0.6
	0.4nm,0.8s,baz=84,slow=1.5,SNR=6.0								
WRA	**Warramunga Arr**	**141.09**	**254**	PKP		PKPdf		14 53 41.0	-0.3
	0.2nm,0.6s,baz=90,slow=2.4,SNR=6.3								

KRSC 18 14:34:15.2±1.5, 50.14N×156.74E, h85km±22km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.68**	**324**	*i*	P	Pn		14 34 31.3	+0.4
SKR				*i*	S	Sn		14 34 43.1	+0.5
SKR	**Severo-Kuril's**	**0.68**	**324**	*i*	P	Pn		14 34 42.9	+0.2
SKR				*i*	S	Sn		14 34 42.9	+0.3
PAU	**Pauzhetka**	**1.33**	**2**	*i*	P	Pn		14 34 40.5	+2.0
PAU				*i*	S	Sn		14 34 59.1	+3.0
PAU	**Pauzhetka**	**1.33**	**2**	*e*	P	Pn		14 34 40.3	+1.8
PAU				*e*	S	Sn		14 34 58.9	+2.8
MIPR	**Malaya Ipel'ka**	**2.14**	**0**	*e*	P	Pn		14 34 50.1	+1.0
MIPR	**Malaya Ipel'ka**	**2.14**	**0**	*e*	P	Pn		14 34 51.2	+2.1
MIPR				*e*	S	Sn		14 35 16.8	+1.8
ASAK	**Asacha**	**2.36**	**18**	*e*	P	Pn		14 34 53.4	+1.3
ASAK				*e*	S	Sn		14 35 23.6	+3.2
ASAK	**Asacha**	**2.36**	**18**	*e*	P	Pn		14 34 53.4	+1.3
ASAK				*e*	S	Sn		14 35 22.8	+2.4
MTVR	**Mutnovka**	**2.52**	**21**	*e*	P	Pn		14 34 57.1	+2.8
MTVR				*e*	S	Sn		14 35 27.9	+3.7
MTVR	**Mutnovka**	**2.52**	**21**	*e*	P	Pn		14 34 56.7	+2.4
MTVR				*e*	S	Sn		14 35 26.7	+2.5
RUS	**Russkaya**	**2.56**	**25**	*e*	P	Pn		14 34 56.8	+2.3
RUS				*e*	S	Sn		14 35 27.9	+3.2
RUS	**Russkaya**	**2.56**	**25**	*e*	P	Pn		14 34 56.2	+1.7
RUS				*e*	S	Sn		14 35 27.2	+2.5
APC	**Apacha**	**2.80**	**5**	*e*	P	Pn		14 35 00.0	+2.1
APC	**Apacha**	**2.80**	**5**	*e*	P	Pn		14 34 58.9	+1.0
PET	**Petropavlovsk**	**3.13**	**22**	*e*	P	Pn		14 35 05.2	+3.0
PET				*e*	S	Sn		14 35 44.2	+5.7
PET	**Petropavlovsk**	**3.13**	**22**	*i*	P	Pn		14 35 05.3	+3.1
PET				*e*	S	Sn		14 35 40.8	+2.3
UGLR	**Uglovaya**	**3.34**	**22**	*e*	P	Pn		14 35 08.4	+3.1
UGLR	**Uglovaya**	**3.34**	**22**	*e*	P	Pn		14 35 08.3	+3.0
AVH	**Avacha**	**3.37**	**21**	*e*	P	Pn		14 35 09.3	+3.6
AVH	**Avacha**	**3.37**	**21**	*e*	P	Pn		14 35 09.6	+3.9
KOK	**Koryaka**	**3.37**	**20**	*e*	P	Pn		14 35 09.2	+3.5
KOK	**Koryaka**	**3.37**	**20**	*e*	P	Pn		14 35 09.2	+3.5
SMAR	**Somma**	**3.38**	**22**	*e*	P	Pn		14 35 09.2	+3.2
SMAR	**Somma**	**3.38**	**22**	*e*	P	Pn		14 35 09.2	+3.2
KRER	**Koryakskii**	**3.41**	**21**	*e*	P	Pn		14 35 09.2	+2.9
KRER	**Koryakskii**	**3.41**	**21**	*e*	P	Pn		14 35 09.2	+2.9
SDLR	**Sedlovina**	**3.42**	**22**	*e*	P	Pn		14 35 09.0	+2.7
SDLR	**Sedlovina**	**3.42**	**22**	*e*	P	Pn		14 35 09.0	+2.7
KRX	**Arik**	**3.44**	**19**	*e*	P	Pn		14 35 10.1	+3.4
KRX	**Arik**	**3.44**	**19**	*e*	P	Pn		14 35 10.1	+3.4
NLC	**Nalytchevo**	**3.44**	**27**	*e*	P	Pn		14 35 08.0	+1.5
NLC				*e*	S	Sn		14 35 47.4	+1.2
GNL	**Ganaly**	**3.64**	**11**	*e*	P	Pn		14 35 11.0	+1.6
GNL	**Ganaly**	**3.64**	**11**	*e*	P	Pn		14 35 11.0	+1.6
MKZ	**Mys Kozlova**	**5.38**	**33**	*e*	P	Pn		14 35 34.0	+1.2
MKZ	**Mys Kozlova**	**5.38**	**33**	*e*	P	Pn		14 35 34.4	+1.6
TUMR	**Tumrok**	**5.55**	**21**	*e*	P	Pn		14 35 39.8	+4.4
TUMR	**Tumrok**	**5.55**	**21**	*e*	P	Pn		14 35 38.0	+2.6
KBTR	**Krutoberegovo**	**7.09**	**29**	*e*	P	Pn		14 35 58.8	+2.7
KBTR	**Krutoberegovo**	**7.09**	**29**	*e*	P	Pn		14 35 58.4	+2.3

*IDC **18** 15:34:56.6±0.8, 8.20S×118.53E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.0/39, mbtmp4.2/11, ML4.2/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/42, Error ellipse: s-maj=37.6km s-min=14.4km az=63.0*
*ISCJB **18** 15:35:00.0±0.3, 8.22S±0.03×118.50E±0.03, h33km, mb4.1/10, MS3.4/3, Error ellipse: s-maj=5.5km s-min=4.1km az=137.1*
*DJA **18** 15:35:01.6±1.4, 8.5±4.4×11.9E±.7, h15km±19km, M4.6/13, mb4.6/1, mB4.8/1, MLv4.6/13, Mw(mB)4.0/1*
ISC 18 15:35:01.8±0.5, 8.20S±0.05×118.51E±0.06, h35km, n56, σ1.940/54, mb4.2/10, MS3.4/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.39**	**102**	P		x		15 35 24.1	
LBFI				S		x		15 35 42.0	
WSI	**Waingapu**	**2.29**	**130**	P		**Pn**		**15 35 37.7**	**+0.6**
WSI	**Waingapu**	**2.29**	**130**	P		**Pn**		**15 35 37.5**	**+0.3**
	baz=2.2,SNR=8.1								
MTNI	**Mataram**	**2.36**	**259**	P		x		15 35 41.1	
MTNI				S		x		15 36 13.9	
KHKI	**Kahang-Kahang**	**2.88**	**266**	P		x		15 35 49.9	
SRBI	**Singaraja**	**3.27**	**272**	P		**Pn**		**15 35 51.3**	**+0.7**
BKSI	**Bulukumba**	**3.27**	**29**	P		**Pn**		**15 35 49.7**	**-0.9**
MMRI	**Maumere**	**3.71**	**97**	P		**Pn**		**15 35 56.3**	**-0.4**
BNSI	**Bone**	**4.09**	**23**	P		**Pn**		**15 36 01.8**	**-0.1**
ABJI	**Asem Bagus**	**4.26**	**275**	P		Pn		15 36 10.3	+6.1
JAGI	**Jajag, Banyuwa**	**4.32**	**266**	P		**Pn**		**15 36 05.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.32**	**266**	P		**Pn**		**15 36 04.9**	**-0.2**
	baz=4.3,SNR=8.7								
SPSI	**Sidrap Palu**	**4.38**	**17**	P		**Pn**		**15 36 05.1**	**-0.8**
KKSI	**Kolaka, Sulawe**	**5.07**	**38**	P		x		15 36 18.1	
TTSI	**Tana Toraja**	**5.28**	**14**	P		**Pn**		**15 36 18.5**	**+0.3**
SOEI	**Soe**	**5.89**	**106**	P		**Pn**		**15 36 28.9**	**+2.1**
	baz=5.9,SNR=13								
FITZ	**Fitzroy Crossi**	**12.04**	**146**	P		**Pn**		**15 37 49.8**	**-1.2**
	baz=12,SNR=22								
KNRA	**Kununurra**	**12.48**	**128**	P		**Pn**		**15 37 55.5**	**-1.5**
	baz=12,SNR=29								
MTN	**Manton Dam**	**13.24**	**111**	P		**Pn**		**15 38 06.4**	**-1.0**
	baz=13,SNR=5.0								
MTN				S		**Sn**		**15 40 36.7**	**+3.3**
	baz=13,SNR=4.5								
FAKI	**Fak Fak**	**14.64**	**70**	P		**P**		**15 38 30.9**	**-1.5**
	baz=15,SNR=7.8								
GIRL	**Giralia**	**14.94**	**196**	P		**Pn**		**15 38 29.7**	**-0.8**
	baz=15,SNR=5.8								
GIRL				S		**Sn**		**15 41 13.8**	**-1.1**
	baz=15,SNR=4.3								
MEEK	**Meekatharra**	**18.34**	**180**	P		**Pn**		**15 39 15.4**	**+1.9**
	baz=18,SNR=6.1								
MEEK				S		Sn		15 42 26.4	-11
	baz=18,SNR=5.4								
WRKA	**Warakurna**	**19.17**	**152**	P		**Pn**		**15 39 23.2**	**-0.4**
	baz=19,SNR=26								
WRKA				S		**S**		**15 42 57.4**	**-0.7**
	baz=19,SNR=5.4								
WRA	**Warramunga Arr**	**19.27**	**129**	P		**P**		**15 39 22.4**	**-1.2**
	0.8nm,0.3s,baz=302,slow=13,SNR=60								
WRA				S		**Sn**		**15 42 55.6**	**-4.2**
	0.3nm,0.3s,baz=322,slow=24,SNR=5.0								
MORW	**Morawa**	**20.89**	**186**	P		Pn		15 39 43.5	-0.3
	baz=21,SNR=5.0								
MORW				S		S		15 43 23.2	-9.1
	baz=21,SNR=12								
ASAR	**Alice Springs**	**21.31**	**138**	P		**P**		**15 39 45.1**	**-0.6**
	20nm,0.8s,baz=314,slow=10,SNR=107								
ASAR				S		Sn		15 43 47.5	-1.6
	3.1nm,0.8s,baz=316,slow=25,SNR=8.8								
ASAR				LR		LR		15 47 23.3	
	comp=Z,98nm,20.1s,baz=326,slow=35								
BLDU	**Ballidu**	**22.37**	**184**	P		**P**		**15 39 57.0**	**0.0**
	baz=22,SNR=7.8								
PSI	**Prapat**	**22.38**	**298**	LR		LR		15 49 31.9	
	comp=Z,274nm,18.6s,baz=132,slow=39								
KLBR	**Kellerberrin**	**23.29**	**182**	P		**P**		**15 40 06.2**	**-0.3**
	baz=23,SNR=4.2								
KLBR				S		**S**		**15 44 22.2**	**+5.6**
	baz=23,SNR=5.8								
QIS	**Mount Isa**	**23.80**	**123**	P		**P**		**15 40 11.1**	**-0.5**
	baz=24,SNR=7.2								
NWAO	**Narrogin (SRO)**	**24.64**	**183**	P		**P**		**15 40 18.9**	**-0.2**
	6.9nm,0.6s,baz=0.0,slow=8.1,SNR=6.1								
NWAO				LR		LR		15 49 55.0	
	comp=Z,125nm,21.7s,baz=26,slow=36								
COEN	**Coen**	**24.86**	**105**	P		**P**		**15 40 22.1**	**+0.7**
	baz=25,SNR=5.7								
CTA	**Charters Tower**	**29.33**	**117**	P		**P**		**15 41 01.3**	**-0.2**
	4.0nm,0.8s,baz=278,slow=14,SNR=5.1								
BBOO	**Buckeboo**	**29.40**	**149**	P		**P**		**15 41 01.7**	**-0.3**
	baz=29,SNR=8.3								
QLP	**Quilpie**	**30.50**	**130**	P		**P**		**15 41 12.2**	**+0.4**
	baz=30,SNR=3.8								
HTT	**Hallett**	**31.40**	**146**	P		**P**		**15 41 19.9**	**+0.2**
	baz=31,SNR=11								
STKA	**Stephens Creek**	**31.88**	**141**	P		**P**		**15 41 23.7**	**-0.2**
	10nm,0.8s,baz=308,slow=9.5,SNR=25								
STKA	**Stephens Creek**	**31.88**	**141**	P		**P**		**15 41 23.8**	**0.0**
	baz=32,SNR=15								
CMAR	**Chiang Mai Arr**	**32.78**	**324**	P		**P**		**15 41 33.4**	**+1.5**
	0.4nm,0.7s,baz=156,slow=7.8,SNR=4.8								
RMQ	**Roma**	**33.98**	**126**	P		**P**		**15 41 43.2**	**+0.9**
	baz=34,SNR=6.0								
CMSA	**Cobar Meteorol**	**34.35**	**136**	P		**P**		**15 41 45.9**	**+0.5**
	baz=34,SNR=12								
ODAN	**Odare**	**46.10**	**320**	*e*	P	**P**		**15 43 24.9**	**+1.8**
	12nm,0.9s								
TAPN	**Taplejung**	**46.24**	**321**	*e*	P	**P**		**15 43 24.4**	**+0.1**
	28nm,1.1s								
KSRS	**Korea Array**	**46.26**	**10**	P		**P**		**15 43 24.2**	**+0.5**
	2.0nm,0.9s,baz=192,slow=9.2,SNR=8.8								
RAMN	**Ramite**	**46.67**	**320**	*e*	P	**P**		**15 43 29.5**	**+2.0**
	5.9nm,0.6s								
JIRN	**Jiri**	**47.42**	**320**	*e*	P	**P**		**15 43 33.1**	**-0.5**
	6.1nm,0.5s								
GUN	**Gumba**	**47.79**	**320**	*e*	P	**P**		**15 43 36.0**	**-0.4**
	21nm,0.9s								
PKI	**Pulchoki**	**47.86**	**319**	*e*	P	**P**		**15 43 38.1**

Mixco, Quetzaltenango and Santa Catarina Pinula; [III] at Panajachel, Petapa and Villa Nueva, Guatemala. Felt throughout El Salvador and in much of Guatemala as far north as Cahabon and Coban. Felt [II] at Managua, Nicaragua. Also felt at El Crucero. Felt at Alajuela and San Jose, Costa Rica; Copan, Honduras; Tapachula and Tuxtla Gutierrez, Mexico.

ISCJB ***18*** *15:40:28.9±0.1, 13°.75N±0°.02×90°.32W±0°.02, h82km, mb5.2/198 Error ellipse: s-maj=3.5km s-min=1.6km az=40.4*

MOS ***18*** *15:40:28.7±1.2, 14°.16N×89°.88W, h74km, mb5.5/50, MS5.7/7, Error ellipse: s-maj=8.0km s-min=4.9km az=108.1*

IDC ***18*** *15:40:29.7±0.8, 14°.01N×89°.92W, h74km±5km, mb4.6/22, mb1 4.7/23, mb1mx4.6/32, mbtmp4.9/23, MS5.2/35, Ms1 5.2/35, ms1mx5.1/42, Error ellipse: s-maj=17.9km s-min=7.4km az=54.0*

CASC ***18*** *15:40:29.0±2.4, 13°.58N×90°.51W, h58km±22km, MD5.1, ML5.6*

MEX ***18*** *15:40:32.1±2.2, 13°.85N×90°.66W, h118km±28km, MD5.6*

ISC 18 15:40:27.8±0.3, 13°.67N±0°.03×90°.47W±0°.02, h63km±2km, h63km:pP-P,n1142,σ1s59/1156, mb5.3/199, 244C-249D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IXG	**Ixpaco**	**0.50**	**2**	*i* P		Pn	15 40 48.2	+7.9
PCG	**Pacaya**	**0.73**	**350**	⇓*i*P		**Pn**	**15 40 44.9**	**+1.9**
SONS	**Sonsonate**	**0.74**	**85**	*e*P		**Pn**	**15 40 43.7**	**+1.0**
SONS				*e*S		**Sn**	**15 40 55.2**	**+1.5**
SONS				AML		AML	15 40 57.6	
	comp=Z,347μm,0.4s							
RTR	**El Retiro**	**0.83**	**74**	⇓*i*P		**Pn**	**15 40 45.8**	**+1.7**
SBLS	**San Blas**	**0.84**	**79**	⇓*i*P		**Pn**	**15 40 45.7**	**+1.4**
SNJE	**San Jose**	**0.87**	**77**	⇓*i*P		**Pn**	**15 40 46.0**	**+1.5**
RBDL	**Robledal**	**0.88**	**60**	⇓*i*P		**Pn**	**15 40 46.2**	**+1.6**
GCG	**Guatemala City**	**0.91**	**356**	*e*P		**Pn**	**15 40 47.6**	**+2.6**
GCG				*e*S		**Sn**	**15 41 01.7**	**+3.9**
GCG				AML		AML	15 41 11.0	
	comp=N,168μm,0.5s							
NBG	**Las Nubes**	**0.92**	**8**	⇓*i*P		**Pn**	**15 40 48.1**	**+2.8**
BOQS	**Boqueron**	**1.16**	**87**	⇑*i*P		**Pn**	**15 40 49.9**	**+1.6**
SNET	**Serv Nac Est T**	**1.21**	**89**	*e*P		**Pn**	**15 40 50.3**	**+1.5**
SNET				*e*S		**Sn**	**15 41 07.4**	**+2.9**
SNET				AML		AML	15 41 12.4	
	comp=Z,243μm,0.4s							
JAT	**Jato**	**1.30**	**300**	⇓*e*P		**Pn**	**15 40 51.6**	**+1.7**
APG	**El Apazote**	**1.32**	**0**	P		**Pn**	**15 40 49.1**	**-1.4**
APG				S		**Sn**	**15 41 06.3**	**-1.1**
APG	**El Apazote**	**1.32**	**0**	P		**Pn**	**15 40 49.1**	**-1.4**
	comp=Z,1μm,0.3s,baz=174,slow=9.8,SNR=3715							
APG				S		**Sn**	**15 41 06.3**	**-1.1**
	comp=Z,3μm,0.3s,baz=121,slow=17,SNR=28							
APG				LR		LR	15 41 28.3	
	comp=Z,184μm,21.8s,baz=248,slow=52							
LFU	**La Fuente**	**1.32**	**87**	⇓*i*P		**Pn**	**15 40 51.9**	**+1.6**
LFRS	**El Faro**	**1.37**	**92**	⇓*i*P		**Pn**	**15 40 52.5**	**+1.5**
LBRS	**Las Brisas**	**1.39**	**87**	⇓*i*P		**Pn**	**15 40 52.8**	**+1.6**
AIES	**Las Flores**	**1.40**	**99**	⇑*i*P		**Pn**	**15 40 53.1**	**+1.8**
AIES				*e*S		**Sn**	**15 41 11.8**	**+2.9**
AIES				AML		AML	15 41 23.4	
	comp=Z,186μm,0.5s							
MRL	**Marmol**	**1.58**	**29**	⇑*i*P		Pn	15 40 56.9	+3.0
SNVI	**San Vicente**	**1.59**	**92**	*e*P		**Pn**	**15 40 55.6**	**+1.6**
THIG		**2.13**	**305**	*e*P		**Pn**	**15 41 02.1**	**+1.0**
THIG				*i* S		**Sn**	**15 41 26.9**	**+0.5**
THIG		**2.13**	**305**	*e*P		**Pn**	**15 41 02.1**	**+1.0**
THIG				*i* S		**Sn**	**15 41 26.9**	**+0.5**
CAHU	**Cacacuatique**	**2.20**	**87**	*e*P		**Pn**	**15 41 03.8**	**+1.5**
CNCH	**Conchagua**	**2.60**	**98**	*e*P		**Pn**	**15 41 09.4**	**+1.7**
TGUH	**Tegucigalpa,Un**	**3.13**	**83**	*e*Pn		**Pn**	**15 41 16.1**	**+1.3**
TGUH	**Tegucigalpa,Un**	**3.13**	**83**	⇓*i*Pn		**Pn**	**15 41 16.1**	**+1.3**
PCIG		**3.34**	**308**	*e*P		**Pn**	**15 41 19.1**	**+1.5**
PCIG				*e*S		**Sn**	**15 41 53.9**	**-2.2**
PCIG		**3.34**	**308**	*e*P		**Pn**	**15 41 19.1**	**+1.5**
PCIG				*e*S		**Sn**	**15 41 53.9**	**-2.2**
SCX	**San Cristobal**	**3.69**	**326**	*e*P		Pn	15 41 26.3	+3.8
SCX	**San Cristobal**	**3.69**	**326**	*e*P		Pn	15 41 26.3	+3.8
COPN	**Copaltepe**	**4.07**	**111**	*e*P		**Pn**	**15 41 28.6**	**+1.0**
SCIG	**Sabancuy**	**5.31**	**353**	*e*P		**Pn**	**15 41 45.7**	**+1.1**
SCIG				*e*S		**Sn**	**15 42 42.3**	**-2.1**
SCIG	**Sabancuy**	**5.31**	**353**	*e*P		**Pn**	**15 41 45.7**	**+1.1**
SCIG				*e*S		**Sn**	**15 42 42.3**	**-2.1**
HUIG	**Huatulco**	**5.84**	**292**	*e*P		**Pn**	**15 41 51.6**	**-0.3**
HUIG				*i* S		**Sn**	**15 42 54.2**	**-3.2**
HUIG	**Huatulco**	**5.84**	**292**	*e*P		**Pn**	**15 41 51.6**	**-0.3**
HUIG				*i* S		**Sn**	**15 42 54.2**	**-3.2**
VCR	**Vista de Mar**	**5.91**	**126**	⇓*e*P		**Pn**	**15 41 55.6**	**+2.7**
JTS	**JuntasAbangare**	**6.36**	**121**	Pn		**Pn**	**15 42 01.0**	**+1.9**
	comp=Z,8μm,0.5s							
JTS	**JuntasAbangare**	**6.36**	**121**	⇓*e*Pn		**Pn**	**15 42 01.1**	**+2.0**
JTS				S		**Sn**	**15 43 11.1**	**+0.7**
JTS	**JuntasAbangare**	**6.36**	**121**	P		**Pn**	**15 42 01.9**	**+2.9**
	comp=Z,126nm,0.3s,baz=290,slow=7.8,SNR=127							
JTS				S		**Sn**	**15 43 11.1**	**+0.7**
	comp=Z,78nm,0.3s,baz=288,slow=20,SNR=2.4							
JCR	**Jicaral**	**6.48**	**125**	*e*P		**Pn**	**15 42 03.5**	**+2.8**
JCR				*e*S		**Sn**	**15 43 08.0**	**-5.4**
CAO	**Cobano**	**6.58**	**126**	*e*P		**Pn**	**15 42 04.8**	**+2.9**
TEIG	**Tepich**	**6.85**	**18**	*e*P		**Pn**	**15 42 07.7**	**+2.0**
TEIG				*i* S		**Sn**	**15 43 21.4**	**-0.8**
TEIG	**Tepich**	**6.85**	**18**	⇓*e*Pn		**Pn**	**15 42 07.4**	**+1.7**
TEIG				S		**Sn**	**15 43 21.0**	**-1.2**
TEIG				*e*Sn		Sn	15 43 23.4	+1.2
TEIG	**Tepich**	**6.85**	**18**	P		**Pn**	**15 42 08.1**	**+2.5**
	comp=Z,124nm,0.3s,baz=197,slow=4.3,SNR=403							
TEIG				S		**Sn**	**15 43 21.0**	**-1.2**
	baz=221,slow=20,SNR=1.5							
TEIG				LR		LR	15 45 08.3	
	comp=Z,75μm,19.8s,baz=196,slow=44							
CGA2	**Cerro Gallo 2**	**6.91**	**121**	*e*P		Pn	15 42 10.3	+3.6
CGA2				*e*S		**Sn**	**15 43 23.7**	**-0.4**
OXX	**Oaxaca**	**6.92**	**300**	*e*P		Pn	15 42 12.1	+5.3
OXX	**Oaxaca**	**6.92**	**300**	*e*P		Pn	15 42 12.1	+5.3
VHO	**Vista Hermosa**	**6.92**	**300**	*e*P		**Pn**	**15 42 06.2**	**-0.6**
VHO				*i* S		**Sn**	**15 43 20.3**	**-4.0**
VHO	**Vista Hermosa**	**6.92**	**300**	*e*P		**Pn**	**15 42 06.2**	**-0.6**
VHO				*e*S		**Sn**	**15 43 20.3**	**-4.0**
SJS	**Escuela Geolog**	**7.30**	**120**	*e*P		Pn	15 42 17.1	+5.1
SJS				*e*S		**Sn**	**15 43 37.8**	**+4.2**
QCR	**Quepos**	**7.49**	**124**	⇓*e*P		Pn	15 42 18.1	+3.6
QCR				*e*S		**Sn**	**15 43 34.5**	**-3.4**
URSC	**Urasca**	**7.58**	**119**	*e*P		**Pn**	**15 42 16.7**	**+0.8**
BUS	**Buena Vista**	**7.75**	**121**	*e*P		Pn	15 42 22.5	+4.1
BUS				*e*S		**Sn**	**15 43 43.6**	**-1.4**
PNIG	**Pinotepa**	**7.87**	**291**	*e*P		**Pn**	**15 42 19.8**	**0.0**
PNIG				*i* S		**Sn**	**15 43 43.4**	**-4.0**
PNIG	**Pinotepa**	**7.87**	**291**	*e*P		**Pn**	**15 42 19.8**	**0.0**
PNIG				*i* S		**Sn**	**15 43 43.4**	**-4.0**
TPIG	**Tehuac#an**	**8.13**	**306**	*e*P		**Pn**	**15 42 22.8**	**-0.6**
TPIG				*i* S		**Sn**	**15 43 50.0**	**-4.0**
TPIG	**Tehuac#an**	**8.13**	**306**	*e*P		**Pn**	**15 42 22.8**	**-0.6**
TPIG				*i* S		**Sn**	**15 43 50.0**	**-4.0**
ACR	**Cerro Adams**	**8.73**	**124**	*e*P		Pn	15 42 34.6	+3.1
ACR				*e*S		**Sn**	**15 44 07.2**	**-1.4**
CNI	**Changuinola**	**8.87**	**118**	*e*P		**Pn**	**15 42 35.4**	**+2.0**
CNI				*e*S		Sn	15 44 25.5	+14
CTCR	**Cotoan**	**8.93**	**121**	*e*P		Pn	15 42 37.9	+3.5
CTCR				*e*S		**Sn**	**15 44 15.5**	**+1.8**
BRU2	**Volcan**	**9.04**	**122**	*e*P		**Pn**	**15 42 37.5**	**+1.6**
BRU2				*e*S		**Sn**	**15 44 18.2**	**+1.9**
BRU	**Baru**	**9.14**	**121**	*e*P		Pn	15 42 42.5	+4.9
BRU				*e*S		**Sn**	**15 44 22.8**	**+3.6**
ACX	**Acapulco**	**9.60**	**291**	*e*P		**Pn**	**15 42 45.3**	**+1.9**
ACX	**Acapulco**	**9.60**	**291**	*e*P		**Pn**	**15 42 45.3**	**+1.9**
BCIP	**Isla Barro Col**	**11.35**	**112**	*e*P		**Pn**	**15 43 08.4**	**+1.1**
BCIP	**Isla Barro Col**	**11.35**	**112**	*e*P		**Pn**	**15 43 07.5**	**+0.3**
ZANG	**Zanguenga, Cho**	**11.41**	**113**	*e*P		**Pn**	**15 43 08.8**	**+0.7**
UPA	**Univ. de Panam**	**11.70**	**112**	*e*P		**Pn**	**15 43 11.5**	**-0.5**
MCJ	**Malvern**	**13.01**	**69**	*i* P		**Pn**	**15 43 31.8**	**+1.8**
MCJ	**Malvern**	**13.01**	**69**	*i* P		**Pn**	**15 43 31.8**	**+1.8**
CVJ	**Coleyville**	**13.24**	**68**	*i* P		**Pn**	**15 43 35.4**	**+2.2**
CVJ	**Coleyville**	**13.24**	**68**	*i* P		**Pn**	**15 43 35.4**	**+2.2**
MTDJ	**Mount Denham**	**13.24**	**68**	*e*Pn		**Pn**	**15 43 33.4**	**+0.3**
SFJM	**Santa Fe**	**13.79**	**301**	*i* P		Pn	15 43 44.1	+3.5
STH	**Stony Hill**	**13.85**	**70**	*i* P		**Pn**	**15 43 42.9**	**+1.6**
STH	**Stony Hill**	**13.85**	**70**	*i* P		**Pn**	**15 43 42.9**	**+1.6**
STH	**Stony Hill**	**13.85**	**70**	*i* P		**Pn**	**15 43 42.9**	**+1.6**
HOJ	**Hope**	**13.89**	**70**	*i* P		**Pn**	**15 43 43.3**	**+1.6**
HOJ	**Hope**	**13.89**	**70**	*i* P		**Pn**	**15 43 43.3**	**+1.6**
GWJ	**Greenwich**	**13.93**	**70**	*i* P		**P**	**15 43 47.3**	**-1.3**
GWJ	**Greenwich**	**13.93**	**70**	*i* P		**P**	**15 43 47.3**	**-1.3**
YHJ	**Yallahs**	**14.09**	**71**	*i* P		**P**	**15 43 48.1**	**-2.2**
YHJ	**Yallahs**	**14.09**	**71**	*i* P		**P**	**15 43 48.1**	**-2.2**
PAYG	**Puerto Ayora**	**14.26**	**179**	*e*Pn		**Pn**	**15 43 48.6**	**+2.0**
	comp=Z,453nm,1.1s							
035Z	**Hargill**	**14.58**	**332**	⇓P		**Pn**	**15 43 52.5**	**+1.7**
	baz=15							
035A	**Encino**	**15.00**	**333**	⇓P		**Pn**	**15 43 58.5**	**+2.2**
	baz=15							
034A	**Hebbronville**	**15.38**	**331**	⇑P		**Pn**	**15 44 02.0**	**+1.0**
	baz=16,SNR=59							
KVTX	**Kingsville**	**15.44**	**334**	*e*Pn		**Pn**	**15 44 03.0**	**+1.1**
	comp=Z,632nm,1.4s							
934A	**Benavides**	**15.76**	**333**	⇑P		**Pn**	**15 44 07.1**	**+1.1**
	baz=16,SNR=30							
GTBY	**Guantanamo Bay**	**15.96**	**65**	⇑*i*P		**Pn**	**15 44 09.0**	**+0.4**
	comp=Z,542nm,1.5s							
835A	**Beeville**	**16.07**	**336**	⇓P		**P**	**15 44 11.5**	**-0.7**
	baz=16,SNR=85							
933A	**Laredo**	**16.12**	**331**	⇓P		**Pn**	**15 44 11.9**	**+1.4**
	baz=16,SNR=37							
834A	**Tilden**	**16.23**	**334**	⇓P		**P**	**15 44 13.6**	**-0.3**
	baz=16,SNR=39							
735A	**Kenedy**	**16.57**	**337**	⇓P		**P**	**15 44 17.8**	**+0.1**
	baz=17,SNR=11							
833A	**Chaparral WMA,**	**16.78**	**332**	⇑P		**Pn**	**15 44 19.7**	**+1.0**
	baz=17,SNR=80							
734A	**La Parita Cree**	**16.86**	**335**	⇑P		**Pn**	**15 44 20.4**	**+0.6**
	baz=17,SNR=14							
HKT	**Hockley**	**16.94**	**344**	⇓*i*P		**P**	**15 44 22.9**	**+1.2**
HKT				pmax		pmax		
	comp=Z,217nm,1.8s							
HKT	**Hockley**	**16.94**	**344**	*e*P		**P**	**15 44 22.1**	**+0.4**
	comp=Z,2μm,2.1s							
832A	**Faith Ranch, C**	**17.02**	**330**	⇑P		**P**	**15 44 22.6**	**0.0**
	baz=17,SNR=82							
635A	**Leesville**	**17.04**	**338**	⇓P		**P**	**15 44 22.9**	**+0.1**
	baz=17							
733A	**Divot King Ran**	**17.07**	**333**	⇓P		**P**	**15 44 23.6**	**+0.4**
	baz=17,SNR=81							
634A	**China Grove, S**	**17.25**	**336**	⇓P		**P**	**15 44 26.0**	**+0.7**
	baz=17,SNR=6.1							
732A	**Laxson Ranch,**	**17.39**	**331**	⇑P		**P**	**15 44 27.8**	**+1.1**
	baz=18,SNR=11							
536A	**Bastrop**	**17.42**	**341**	⇓P		**P**	**15 44 28.2**	**+1.1**
	baz=18							
BRAL	**Brewton**	**17.54**	**10**	*e*P		**P**	**15 44 31.1**	**+2.7**
	comp=Z,3μm,1.5s							
535A	**Dale**	**17.55**	**339**	⇑P		**P**	**15 44 29.2**	**+0.7**
	baz=18,SNR=34							
633A	**Saathoff Ranch**	**17.66**	**334**	⇓P		**P**	**15 44 30.9**	**+1.2**
	baz=18,SNR=76							
534A	**Blanco**	**17.88**	**337**	⇓P		**P**	**15 44 32.4**	**+0.3**
	baz=18,SNR=76							
OTAV	**Otavalo**	**17.89**	**137**	*e*P		**P**	**15 44 33.0**	**+0.2**
	comp=Z,56nm,0.9s							
632A	**Uvalde**	**17.96**	**333**	⇑P		**Pn**	**15 44 33.8**	**+0.5**
	baz=18,SNR=71							
533A	**Kerrville**	**18.14**	**336**	⇑P		**Pn**	**15 44 35.8**	**+0.4**
	baz=18,SNR=32							
ROSC	**El Rosal**	**18.17**	**117**	P		**Pn**	**15 44 39.0**	**+2.7**
	comp=Z,43nm,1.5s							
ROSC	**El Rosal**	**18.17**	**117**	P		**Pn**	**15 44 39.0**	**+2.7**
	comp=Z,1.5nm,0.3s,baz=94,slow=10,SNR=17							
435B	**Jarrell**	**18.25**	**340**	⇑P		**Pn**	**15 44 36.8**	**+0.1**
	baz=18							
631A	**Perdido Creek**	**18.25**	**331**	⇑P		**P**	**15 44 36.4**	**+0.2**
	baz=18,SNR=92							
NATX	**Nacogdoches**	**18.41**	**349**	*e*P		**Pn**	**15 44 39.1**	**+0.4**
	comp=Z,586nm,0.9s							
434A	**Burnet**	**18.51**	**338**	⇑P		**P**	**15 44 39.7**	**+0.6**
	baz=19,SNR=70							
532A	**Rocksprings**	**18.55**	**333**	⇑P		**Pn**	**15 44 40.6**	**+0.2**
	baz=19,SNR=149							
335A	**Moody**	**18.66**	**341**	⇓P		**Pn**	**15 44 41.8**	**+0.2**
	baz=19,SNR=53							
433A	**Art**	**18.76**	**336**	⇓P		**P**	**15 44 42.7**	**+0.8**
	baz=19,SNR=111							
TIGA	**Tifton**	**18.78**	**19**	*e*P		**Pn**	**15 44 43.4**	**+0.3**
	comp=Z,1μm,1.2s							
TIGA	**Tifton**	**18.78**	**19**	⇑P		**P**	**15 44 41.8**	**-0.2**
	baz=19,SNR=40							
JCT	**Junction City**	**18.81**	**334**	*e*P		**Pn**	**15 44 43.5**	**0.0**
JCT				pmax		pmax		
	comp=Z,183nm,1.1s							
JCT	**Junction City**	**18.81**	**334**	*e*P		**Pn**	**15 44 43.5**	**0.0**
	comp=Z,183nm,1.1s							
JCT	**Junction City**	**18.81**	**334**	⇓P		**P**	**15 44 43.1**	**+0.7**
	baz=19,SNR=37							
531A	**Rocksprings**	**18.87**	**332**	⇑P		**P**	**15 44 43.9**	**+0.9**
	baz=19,SNR=99							
334A	**Lometa**	**18.97**	**339**	⇓P		**P**	**15 44 45.0**	**+0.9**
	baz=19,SNR=104							
SDDR	**Presa de Saban**	**19.15**	**71**	P		**P**	**15 44 45.3**	**-0.9**
	comp=Z,148nm,1.2s							
432A	**Menard**	**19.15**	**335**	⇓P		**P**	**15 44 46.4**	**+0.3**
	baz=19,SNR=64							
530A	**J-C Ranch, Com**	**19.22**	**330**	⇓P		**Pn**	**15 44 48.4**	**-0.1**
	baz=19,SNR=133							
333A	**Richland Sprin**	**19.23**	**337**	⇓P		**P**	**15 44 48.1**	**+1.1**
	baz=19,SNR=156							
WHTX	**Lake Whitney**	**19.32**	**342**	*e*P		**P**	**15 44 48.8**	**+0.9**
	comp=Z,394nm,0.8s							
WHTX	**Lake Whitney**	**19.32**	**342**	⇓P		**P**	**15 44 48.6**	**+0.7**
	baz=20,SNR=84							
431A	**Sonora**	**19.34**	**333**	⇓P		**P**	**15 44 48.6**	**+0.5**
	baz=20,SNR=61							
628A	**Black Gap, Mar**	**19.49**	**326**	⇑P		**Pn**	**15 44 51.7**	**+0.1**
	baz=20,SNR=49							
LRAL	**Lakeview Retre**	**19.53**	**9**	*e*P		**Pn**	**15 44 51.8**	**-0.3**
	comp=Z,579nm,1.1s							
234A	**Clairette**	**19.55**	**340**	⇓P		**P**	**15 44 50.9**	**+0.5**
	baz=20,SNR=88							
332A	**Millersview**	**19.58**	**336**	⇑P		**P**	**15 44 51.5**	**+0.7**
	baz=20,SNR=96							
529A	**Stev Forest Ra**	**19.64**	**328**	⇓P		**Pn**	**15 44 53.2**	**-0.2**
	baz=20							
430A	**Baggett Ranch,**	**19.71**	**332**	⇑P		**Pn**	**15 44 53.7**	**-0.5**
	baz=20,SNR=34							
627A	**Terlingua Ranc**	**19.74**	**325**	⇑P		**Pn**	**15 44 55.3**	**+0.6**
	baz=20,SNR=96							
331A	**San Angelo**	**19.79**	**334**	⇑P		**P**	**15 44 54.0**	**+0.8**
	baz=20,SNR=66							
TXAR	**Lajitas Array**	**19.81**	**324**	P		**Pn**	**15 44 56.0**	**+0.6**
TXAR				ScP		**ScP**	**15 52 40.5**	**+0.4**
TXAR	**Lajitas Array**	**19.81**	**324**	P		**Pn**	**15 44 56.0**	**+0.6**
	comp=Z,3.8nm,0.3s,baz=146,slow=11,SNR=122							
TXAR				ScP		**ScP**	**15 52 40.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=134,slow=5.4,SNR=5.3							
233A	**Rising Star**	**19.83**	**338**	⇓P		**P**	**15 44 54.5**	**+1.0**
	baz=20,SNR=189							
135A	**Vickery Place,**	**19.84**	**343**	⇑P		**P**	**15 44 54.4**	**+0.8**
	baz=20,SNR=107							
429A	**Davenport Ranc**	**19.89**	**330**	⇓P		**P**	**15 44 54.9**	**+0.7**
	baz=20,SNR=77							
528A	**Cox Ranch, San**	**19.97**	**327**	⇑P		**P**	**15 44 56.1**	**+1.0**
	baz=20,SNR=33							
232A	**Coleman**	**19.99**	**337**	⇑P		**P**	**15 44 56.7**	**+1.4**
	baz=20,SNR=90							
GRTK	**Grand Turk**	**20.00**	**64**	*e*P		**P**	**15 44 55.2**	**-0.2**
134A	**White-Moore Ra**	**20.06**	**341**	⇓P		**P**	**15 44 56.2**	**+0.3**
	baz=20,SNR=61							
330A	**Mertzon**	**20.20**	**333**	⇑P		**P**	**15 44 58.7**	**+1.1**
	baz=20,SNR=82							
626A	**Big Bend Ranch**	**20.24**	**324**	⇑P		**P**	**15 44 59.2**	**+1.1**
	baz=20,SNR=134							
231A	**Bronte**	**20.29**	**335**	⇑P		**P**	**15 44 59.5**	**+0.9**
	baz=20,SNR=89							
428A	**Kincaid Ranch,**	**20.36**	**328**	⇓P		**P**	**15 44 59.9**	**+0.5**
	baz=21,SNR=20							
133A	**Hamilton Ranch**	**20.37**	**339**	⇑P		**P**	**15 45 00.2**	**+0.9**
	baz=20,SNR=246							
527A	**Woodward Ranch**	**20.40**	**326**	⇑P		**P**	**15 45 00.2**	**+0.4**
	baz=21,SNR=160							
Z35A	**Perchaven, San**	**20.52**	**344**	⇓P		**P**	**15 45 01.6**	**+0.7**
	baz=21,SNR=30							
230A	**Sterling City**	**20.59**	**333**	⇑P		**P**	**15 45 01.9**	**+0.1**
	baz=21,SNR=200							
526A	**Mary Lane Ranc**	**20.60**	**325**	⇓P		**P**	**15 45 02.2**	**+0.2**
	baz=21,SNR=149							
329A	**Wagon Wheel Ra**	**20.64**	**331**	⇓P		**P**	**15 45 03.0**	**+0.6**
	baz=21,SNR=17							
ABTX	**Abilene, Hawle**	**20.64**	**338**	*e*P		**P**	**15 45 02.3**	**0.0**
	comp=Z,540nm,1.4s							
ABTX	**Abilene, Hawle**	**20.64**	**338**	⇑P		**P**	**15 45 02.9**	**+0.6**
	baz=21,SNR=22							
GOGA	**Godfrey**	**20.66**	**17**	*e*P		**P**	**15 45 03.2**	**+0.7**
GOGA				pmax		pmax		
	comp=Z,518nm,1.3s							
GOGA	**Godfrey**	**20.66**	**17**	*e*P		**P**	**15 45 03.2**	**+0.7**
	comp=Z,518nm,1.3s							
Z34A	**Collier Ranch,**	**20.75**	**342**	⇑P		**P**	**15 45 03.9**	**+0.5**
	baz=21,SNR=19							
OXF	**Oxford**	**20.77**	**2**	*e*P		**P**	**15 45 03.7**	**+0.1**
OXF				pmax		pmax		
	comp=Z,1μm,1.3s							
OXF	**Oxford**	**20.77**	**2**	*e*P		**P**	**15 45 03.7**	**+0.1**
	comp=Z,1μm,1.3s							
427A	**Hayter Ranch,**	**20.83**	**327**	⇑P		**P**	**15 45 05.9**	**+1.5**
	baz=21,SNR=33							
Z33A	**Whitaker Ranch**	**20.93**	**340**	⇑P		**P**	**15 45 06.0**	**+0.6**
	baz=21,SNR=55							
328A	**Wristen Ranch,**	**20.96**	**329**	⇓P		**P**	**15 45 07.4**	**+1.6**
	baz=21,SNR=73							
229A	**Bryant Ranch,**	**20.96**	**332**	⇓P		**P**	**15 45 06.9**	**+1.1**
	baz=21,SNR=13							
MIAR	**Mount Ida**	**20.97**	**353**	*e*P		**P**	**15 45 05.6**	**-0.2**
MIAR				pmax		pmax		
	comp=Z,279nm,1.0s							
MIAR	**Mount Ida**	**20.97**	**353**	*e*P		**P**	**15 45 05.6**	**-0.2**
	comp=Z,280nm,1.0s							
131A	**Roby**	**20.97**	**336**	⇓P		**P**	**15 45 06.4**	**+0.5**
	baz=21,SNR=19							
426A	**McDonald Obser**	**21.03**	**326**	⇑P		**P**	**15 45 08.9**	**+2.2**
	baz=21,SNR=140							
UALR	**University of**	**21.08**	**356**	*e*P		**P**	**15 45 07.1**	**+0.1**
	comp=Z,516nm,1.2s							
130A	**Snyder**	**21.14**	**335**	⇓P		**P**	**15 45 08.0**	**+0.4**
	baz=21,SNR=25							
Z32A	**Haskell**	**21.20**	**339**	⇑P		**P**	**15 45 08.7**	**+0.5**
	baz=21,SNR=108							
Y34A	**Reagan Ranch,**	**21.25**	**343**	⇓P		**P**	**15 45 09.1**	**+0.3**
	baz=21,SNR=30							
327A	**Balmorhea Ranc**	**21.29**	**328**	⇓P		**P**	**15 45 09.9**	**+0.6**
	baz=22							
LPIG	**La Paz**	**21.41**	**302**	P		**P**	**15 45 14.2**	**+3.5**
LPIG				ScP		**ScP**	**15 52 45.4**	**+1.4**
LPIG	**La Paz**	**21.41**	**302**	P		**P**	**15 45 14.2**	**+3.5**
	comp=Z,50nm,0.3s,baz=14,slow=1.0,SNR=34							
LPIG				ScP		**ScP**	**15 52 45.4**	**+1.4**
	comp=Z,19nm,0.3s,baz=225,slow=1.4,SNR=8.7							
LPIG				LR		LR	15 54 46.4	
	comp=Z,4μm,19.8s,baz=116,slow=40							
Z31A	**Sharp Cattle R**	**21.45**	**337**	⇑P		**P**	**15 45 11.4**	**+0.5**
	baz=22,SNR=89							
228A	**UT Block 9, Go**	**21.45**	**331**	⇑P		**P**	**15 45 11.4**	**+0.3**
	baz=22,SNR=27							
NHSC	**New Hope**	**21.50**	**24**	*e*P		**P**	**15 45 11.2**	**-0.3**
	comp=Z,2μm,1.3s							
326A	**Caldwell Ranch**	**21.50**	**327**	⇑P		**P**	**15 45 13.1**	**+1.5**
	baz=22,SNR=111							
129A	**Stewart Farms,**	**21.55**	**333**	⇓P		**P**	**15 45 12.3**	**+0.2**
	baz=22,SNR=21							
Y33A	**Hilltop Ranch,**	**21.56**

baz=24,SNR=6.2
OBIP **Obispado Ponce** 23.36 76 eP P 15 45 29.1 -2.0
124A **Stringfield Ra** 23.36 327 ⇓P P 15 45 33.1 +2.0
baz=24,SNR=95
CELP **Cerrillos** 23.39 76 eP P 15 45 28.5 -2.8
AMTX **Amarillo** 23.42 336 ⇓P P 15 45 32.2 +0.6
baz=24
Z25A **Roswell** 23.44 329 ⇑P P 15 45 32.0 +0.3
baz=24,SNR=20
Y26A **Elida** 23.52 331 ⇑P P 15 45 33.0 +0.4
baz=24,SNR=18
U34A **Anderson Ranch** 23.54 346 ⇓P P 15 45 32.3 -0.2
baz=24,SNR=37
V31A **Spring Creek L** 23.57 341 ⇓P P 15 45 33.3 +0.4
baz=24,SNR=34
W29A **Amraillo** 23.62 337 ⇑P P 15 45 33.3 -0.1
baz=24,SNR=16
U33A **Lingo Farm, Me** 23.68 345 ⇓P P 15 45 33.8 +0.1
baz=24
123A **Bell Site, Whi** 23.75 325 ⇑P P 15 45 35.2 +0.5
baz=24,SNR=13
X27A **F and S Farms,** 23.80 333 ⇑P P 15 45 35.2 +0.2
baz=24
Z24A **Sheeppen Canyo** 23.81 328 ⇓P P 15 45 36.4 +1.2
baz=24,SNR=60
V30A **Spur Ranch, Mi** 23.84 339 ⇓P P 15 45 36.4 +1.1
baz=24
U32A **Winter Ranch,** 23.87 343 ⇓P P 15 45 35.9 +0.4
baz=24,SNR=7.0
ATAH **Atahualpa** 23.90 149 P P 15 45 39.4 +3.0
ATAH ScP ScP 15 52 53.0 +1.9
ATAH **Atahualpa** 23.90 149 P P 15 45 39.4 +3.0
comp=Z,98nm,0.9s,baz=343,slow=6.1,SNR=39
ATAH ScP ScP 15 52 53.0 +1.9
comp=Z,36nm,1.1s,baz=347,slow=2.6,SNR=6.6
ATAH LR LR 15 53 59.0
comp=Z,3µm,18.3s,baz=325,slow=34
Y25A **Mesa, Roswell** 23.94 330 ⇑P P 15 45 37.4 +1.1
baz=24,SNR=45
W28A **Vega** 23.96 336 ⇑P P 15 45 36.8 +0.4
baz=24,SNR=11
SIUC **Southern Illin** 23.97 2 eP P 15 45 35.8 -0.6
comp=Z,905nm,1.1s
X26A **CR and CF Fran** 24.04 332 ⇓P P 15 45 37.6 +0.4
baz=24,SNR=13
CBYP **Canovanas** 24.09 76 eP P 15 45 37.0 -0.8
U31A **Nine Bar Ranch** 24.12 341 ⇓P P 15 45 38.2 +0.4
baz=24,SNR=7.2
W27A **Bowe Ranch, En** 24.14 334 ⇑P P 15 45 38.3 +0.2
baz=24,SNR=22
320A **Kipp Ranch, An** 24.17 320 ⇓P P 15 45 39.5 +1.1
baz=24,SNR=32
221A **Mesquite Ranch** 24.17 322 ⇑P P 15 45 40.2 +1.7
baz=24,SNR=31
Z23A **Rita Site, Whi** 24.21 326 ⇑P P 15 45 41.1 +2.3
baz=24,SNR=43
V29A **Stinnett** 24.24 338 ⇑P P 15 45 39.2 +0.3
baz=24
Y24A **Capitan** 24.31 329 ⇑P P 15 45 40.1 +0.3
baz=24,SNR=32
PTP **Ponta Puerca** 24.32 76 eP x 15 42 43.3
USIN **University of** 24.32 5 eP P 15 45 39.6 0.0
comp=Z,631nm,0.9s
T33A **Patterson Ranc** 24.32 345 ⇑P P 15 45 39.4 -0.3
baz=24,SNR=14
MTP **Monte Pirata** 24.36 76 eP P 15 45 36.7 -3.5
comp=Z,65nm,0.8s
V28A **Channing** 24.39 336 ⇓P P 15 45 41.2 +0.8
baz=25
X25A **Clemmons Ranch** 24.41 331 ⇑P P 15 45 42.3 +1.6
baz=25
W26A **Owens Ranch, T** 24.47 333 ⇓P P 15 45 41.2 +0.1
baz=25,SNR=6.1
U30A **WK&E Inc. Balk** 24.52 340 ⇓P P 15 45 42.2 +0.7
baz=25,SNR=8.8
121A **Cookes Peak, D** 24.55 323 eP P 15 45 44.2 +2.3
comp=Z,274nm,1.0s
121A **Cookes Peak, D** 24.55 323 ⇓P P 15 45 42.3 +0.3
baz=25,SNR=140
T32A **Huddler Ranch,** 24.60 344 ⇓P P 15 45 43.0 +0.8
baz=25,SNR=57
Z22A **Elephant Butte** 24.61 325 ⇑P P 15 45 44.5 +2.1
baz=25,SNR=44
Y23A **Lovelace Mesa,** 24.64 328 ⇓P P 15 45 43.5 +0.8
baz=25,SNR=43
V27A **Dan Oppiter Fa** 24.64 335 ⇑P P 15 45 43.1 +0.4
baz=25,SNR=7.3
U29A **Oasis Ranch, S** 24.66 339 ⇑P P 15 45 43.7 +0.9
baz=25
319A **Douglas** 24.67 319 ⇓P P 15 45 44.5 +1.5
baz=25,SNR=49
T31A **Randall Ranch,** 24.74 342 ⇑P P 15 45 43.7 +0.3
baz=25,SNR=23
WCI **Wyandotte Cave** 24.74 8 eP P 15 45 42.9 -0.5
WCI pmax pmax
comp=Z,443nm,0.8s
WCI **Wyandotte Cave** 24.74 8 eP P 15 45 42.9 -0.5
comp=Z,443nm,0.8s
S33A **Kaszmaul Farm,** 24.75 346 ⇑P P 15 45 43.6 +0.1
baz=25,SNR=19
X24A **Lazy VL Ranch,** 24.82 330 ⇑P P 15 45 45.9 +1.4
baz=25,SNR=27
SLM **Saint Louis** 24.86 0 eP P 15 45 44.9 +0.4
SLM pmax pmax
comp=Z,165nm,1.0s
SLM **Saint Louis** 24.86 0 eP P 15 45 44.9 +0.4
comp=Z,165nm,1.0s
W25A **X Bar L Ranch,** 24.89 332 ⇑P P 15 45 46.4 +1.4
baz=25,SNR=18
U28A **Mallet** 24.95 337 ⇓P P 15 45 46.1 +0.7
baz=25
T30A **Plains** 24.96 341 ⇑P P 15 45 46.0 +0.6
baz=25,SNR=12
V26A **Tequesquite Ra** 25.07 334 ⇑P P 15 45 47.5 +0.9
baz=25,SNR=27
S32A **Newby Ranch, P** 25.09 344 ⇑P P 15 45 47.3 +0.7
baz=25,SNR=22
BNM **Barren Site** 25.11 327 eP P 15 45 48.5 +1.4
comp=Z,45nm,0.9s
S31A **Mullinville** 25.16 343 ⇓P P 15 45 48.4 +1.0
baz=25,SNR=24
X23A **Hourglass Bar** 25.21 328 ⇑P P 15 45 48.5 +0.5
baz=25,SNR=8.2
U27A **Thompson Grove** 25.22 336 ⇑P P 15 45 48.1 +0.2
baz=25,SNR=24
LPM **Los Pinos Moun** 25.23 327 eP P 15 45 48.9 +0.8
comp=Z,66nm,1.2s
LPM eScP ScP 15 52 55.2 +1.0
T29A **Hugoton** 25.31 339 ⇑P P 15 45 49.4 +0.8
baz=26,SNR=5.6
W24A **Lazy 6 Ranch,** 25.33 330 ⇓P P 15 45 49.4 +0.4
baz=26,SNR=16
R33A **Olander Ranch,** 25.43 346 ⇓P P 15 45 50.1 +0.4
baz=26,SNR=57
V25A **Rancho No Teng** 25.47 333 ⇑P P 15 45 50.8 +0.4
baz=26,SNR=13
S30A **Montezuma** 25.48 341 ⇑P P 15 45 50.6 +0.4
baz=26,SNR=14
T28A **Walsh** 25.56 338 ⇓P P 15 45 51.0 0.0
baz=26,SNR=5.4
U26A **Atchley Ranch,** 25.57 335 ⇓P P 15 45 51.3 +0.1
baz=26,SNR=69
LAZ **Ladron** 25.57 327 eP P 15 45 52.1 +0.9
comp=Z,71nm,1.4s
LAZ eScP ScP 15 52 55.7 +0.5
ANMO **Albuquerque** 25.63 328 eP P 15 45 52.6 +0.8
comp=Z,32nm,1.1s
ANMO **Albuquerque** 25.63 328 P P 15 45 53.5 +1.8
comp=Z,10.0nm,0.7s,baz=156,slow=12,SNR=19
ANMO LR LR 15 58 31.1
comp=Z,2µm,21.1s,baz=151,slow=42
BLO **Bloomington** 25.64 7 eP P 15 45 50.4 -1.1
BLO pmax pmax
comp=Z,177nm,0.9s
BLO **Bloomington** 25.64 7 eP P 15 45 50.4 -1.1
comp=Z,177nm,0.9s
W23A **Werner Place,** 25.65 329 ⇓P P 15 45 52.2 +0.3
baz=26,SNR=28
S29A **Ulysses** 25.67 340 ⇑P P 15 45 52.1 +0.2
baz=26,SNR=14
V24A **Rampart Ranch,** 25.68 331 ⇑P P 15 45 53.5 +1.2
baz=26
R32A **Long Quarter,** 25.71 345 ⇑P P 15 45 52.6 +0.3
baz=26,SNR=14
T27A **Campo** 25.74 337 ⇓P P 15 45 52.9 +0.3
baz=26
R31A **Burdett** 25.80 343 ⇑P P 15 45 53.4 +0.3
baz=26,SNR=25
U25A **Circle Dot Ran** 25.85 334 ⇑P P 15 45 54.3 +0.5
baz=26,SNR=22
KSU1 **Kansas State U** 25.90 349 eP P 15 45 52.9 -1.0
comp=Z,130nm,0.8s
KSU1 **Kansas State U** 25.90 349 ⇓P P 15 45 54.4 +0.5
baz=26,SNR=20
S28A **Manter** 25.90 339 ⇓P P 15 45 54.7 +0.6
baz=26
R30A **Dighton** 26.01 342 ⇑P P 15 45 55.2 +0.2
baz=26,SNR=33
Q33A **Connelly Farm,** 26.05 347 ⇑P P 15 45 55.9 +0.6
baz=26,SNR=29
V23A **Ortiz Mt. (NFS** 26.13 330 ⇓P P 15 45 57.6 +1.3
baz=26
T26A **Comanche Natio** 26.17 336 ⇑P P 15 45 57.0 +0.4
baz=26,SNR=7.4
Q32A **Meitler Ranch,** 26.21 346 ⇑P P 15 45 57.3 +0.5
baz=26,SNR=33
U24A **Moreno Valley** 26.25 332 ⇑P P 15 45 58.5 +1.1
baz=26
TUC **Tucson** 26.25 318 eP P 15 45 58.7 +1.4
TUC e 15 49 23.0
TUC pmax pmax
comp=Z,64nm,0.9s
TUC **Tucson** 26.25 318 eP P 15 45 58.7 +1.4
comp=Z,64nm,0.9s
TUC ePcP PcP 15 49 23.0 +0.5
TUC eScP ScP 15 52 57.9 +0.8
S27A **Las Animas** 26.35 337 ⇓P P 15 45 58.6 +0.4
baz=26
R29A **Marienthal** 26.41 341 ⇓P P 15 45 59.2 +0.6
baz=27,SNR=16
JSRW **J. Sargeant Re** 26.42 23 eP P 15 45 57.6 -1.0
Q31A **Ellis** 26.44 344 ⇓P P 15 45 59.1 +0.3
baz=27,SNR=12
P33A **Williams Farm,** 26.44 347 ⇑P P 15 45 59.2 +0.3
baz=27,SNR=32
T25A **Trinidad** 26.48 334 ⇓P P 15 45 59.6 +0.2
baz=27,SNR=16
S26A **Kim** 26.51 336 ⇓P P 15 45 59.2 -0.5
baz=27,SNR=8.7
R28A **Tribune** 26.55 340 ⇑P P 15 45 59.9 0.0
baz=27,SNR=30
U23A **El Rito** 26.60 331 ⇑P P 15 46 02.1 +1.5
baz=27,SNR=28
V22A **San Miguel Ran** 26.62 329 ⇓P P 15 46 02.2 +1.4
baz=27,SNR=12
Q30A **Quinter** 26.64 343 ⇑P P 15 46 01.1 +0.5
baz=27,SNR=7.4
SFIN **Scholer Farm** 26.77 6 eP P 15 46 00.1 -1.6
comp=Z,282nm,1.2s
SFIN **Scholer Farm** 26.77 6 ⇓P P 15 46 02.3 +0.6
baz=27,SNR=21
Q29A **Oakley** 26.78 342 ⇑P P 15 46 03.5 +1.6
baz=27
P32A **Hulting Farm,** 26.82 346 ⇓P P 15 46 02.7 +0.4
baz=27,SNR=8.6
T24B **San Luis** 26.83 333 ⇑P P 15 46 03.8 +1.0
baz=27
R27A **Eads** 26.84 338 ⇑P P 15 46 04.1 +1.5
baz=27
P31A **Stockton** 26.92 345 ⇓P P 15 46 04.2 +1.1
baz=27,SNR=5.7
S25A **Robets Cordova** 26.93 335 ⇑P P 15 46 05.1 +1.6
baz=27,SNR=24
CBN **Orbin** 27.06 23 P P 15 46 03.8 -0.6
comp=Z,43nm,0.7s
R26A **Arlington** 27.10 337 ⇑P P 15 46 05.7 +0.8
baz=27,SNR=11
T23A **Casias Ranch,** 27.11 332 ⇓P P 15 46 07.0 +1.8
baz=27
P30A **Selden** 27.17 343 ⇓P P 15 46 06.1 +0.6
baz=27,SNR=18
Q28A **Sharon Springs** 27.21 340 ⇓P P 15 46 06.4 +0.6
baz=27
X18A **Snowflake** 27.24 323 ⇑P P 15 46 06.6 +0.4
baz=28,SNR=23
S24A **Houchin Ranch,** 27.24 334 ⇑P P 15 46 07.8 +1.4
baz=27
ACSO **Alum Creek Sta** 27.26 13 eP P 15 46 05.3 -0.9
comp=Z,467nm,1.5s
R25A **Fountain Ranch** 27.29 336 ⇓P P 15 46 07.8 +1.2
baz=28,SNR=18
O32A **Brookman Farm,** 27.36 347 ⇑P P 15 46 08.1 +1.0
baz=28
214A **Organ Pipe Nat** 27.38 315 eP P 15 46 08.6 +1.2
comp=Z,236nm,1.5s
214A **Organ Pipe Nat** 27.38 315 ⇓P P 15 46 09.2 +1.9
baz=28,SNR=28
P29A **Atwood** 27.42 342 ⇓P P 15 46 09.1 +1.4
baz=28
KSCO **Kaye Shedlock'** 27.43 339 eP P 15 46 08.2 +0.4
comp=Z,151nm,1.3s
KSCO **Kaye Shedlock'** 27.43 339 ⇑P P 15 46 08.3 +0.4
baz=28
SDCO **Great Sand Dun** 27.45 334 eP P 15 46 09.2 +0.9
comp=Z,36nm,1.2s
O31A **Woolen Ranch,** 27.50 345 ⇑P P 15 46 09.0 +0.6
baz=28
W18A **Petrified Fore** 27.53 324 eP P 15 46 11.4 +2.5
comp=Z,219nm,1.6s
W18A **Petrified Fore** 27.53 324 ⇓P P 15 46 10.7 +1.8
baz=28,SNR=7.7
S23A **Nye Farm, Mont** 27.64 333 ⇑P P 15 46 11.3 +1.4
baz=28
P28A **Saint Francis** 27.65 341 ⇑P P 15 46 10.7 +1.0
baz=28
Q26A **Hugo** 27.67 338 ⇓P P 15 46 11.2 +1.1
baz=28,SNR=5.9
R24A **Sanders Place,** 27.70 335 ⇑P P 15 46 11.5 +1.2
baz=28
O30A **MW Ranch, Wils** 27.71 344 ⇑P P 15 46 11.0 +0.7
baz=28
N32A **Stulken Farm,** 27.84 347 ⇓P P 15 46 11.9 +0.5
baz=28
O29A **4D Ranch, Culb** 27.87 343 ⇓P P 15 46 12.2 +0.5
baz=28
P27A **Ficken Ranch,** 27.90 340 ⇑P P 15 46 12.3 +0.2
baz=28
Q25A **Bedland, Calha** 27.94 337 ⇑P P 15 46 13.3 +0.8
baz=28,SNR=7.2
R23A **Moffat** 27.97 334 ⇓P P 15 46 14.4 +1.6
baz=28,SNR=13
N31A **Bailey Ranch,** 28.05 346 ⇑P P 15 46 14.3 +1.1
baz=28
S22A **4UR Ranch, Cre** 28.05 332 ⇓P P 15 46 15.2 +1.6
baz=28,SNR=9.1
X16A **Lo Mia Camp, P** 28.05 321 ⇓P P 15 46 15.2 +1.7
baz=28,SNR=36
O28A **Krsinger Ran** 28.16 341 ⇓P P 15 46 15.7 +1.4
baz=28
P26A **Davis Ranch, A** 28.17 339 ⇓P P 15 46 16.0 +1.5
baz=28
SCIA **State Center** 28.23 356 eP P 15 46 11.8 -2.9
comp=Z,460nm,1.7s
N30A **Hueftle Ranch,** 28.30 344 ⇓P P 15 46 17.2 +1.7
baz=28
SDMD **Soldier's Deli** 28.32 23 eP P 15 46 14.7 -0.9
comp=Z,32nm,0.6s
Z14A **Wintersburg** 28.32 318 ⇓P P 15 46 17.4 +1.7
baz=29,SNR=9.4
Q24A **Divide** 28.34 335 ⇑P P 15 46 18.1 +1.9
baz=28
P25A **Willow Gulch B** 28.43 337 ⇑P P 15 46 18.8 +2.0
baz=29
MVCO **Mesa Verde** 28.43 329 eP P 15 46 18.6 +1.7
comp=Z,144nm,1.5s
MVCO pP pP 15 46 33.3 +0.9
MVCO **Mesa Verde** 28.43 329 ⇑P P 15 46 18.7 +1.7
baz=29,SNR=16
BGNE **Belgrade** 28.43 348 eP P 15 46 16.3 -0.4
comp=Z,117nm,0.8s
BGNE **Belgrade** 28.43 348 ⇓P P 15 46 18.3 +1.7
baz=29
O27A **Beecher Island** 28.44 340 ⇓P P 15 46 18.2 +1.4
baz=29
N29A **Votaw Ranch, W** 28.46 344 ⇓P P 15 46 18.9 +1.9
baz=29
113A **Mohawk Valley,** 28.51 316 ⇓P P 15 46 19.9 +2.5
baz=29,SNR=38
M31A **Lambtecht Ranc** 28.55 347 ⇑P P 15 46 19.5 +1.8
baz=29
Q23A **Hartsel** 28.57 334 ⇑P P 15 46 19.8 +1.6
baz=29
N28A **Pribbeno Ranch** 28.60 342 ⇓P P 15 46 19.7 +1.5
baz=29
P24A **Kohler Place,** 28.71 336 ⇓P P 15 46 20.9 +1.6
baz=29
Y14A **Wickenburg** 28.72 318 ⇓P P 15 46 21.7 +2.3
baz=29,SNR=16
WUAZ **Wupatki** 28.76 323 eP P 15 46 21.2 +1.4
comp=Z,51nm,0.9s
WUAZ **Wupatki** 28.76 323 ⇓P P 15 46 22.3 +2.5
baz=29,SNR=26
O26A **Horse Wrangler** 28.77 339 ⇓P P 15 46 20.9 +1.2
baz=29
NNA **Nana** 28.86 151 eP P 15 46 22.2 +1.6
comp=Z,29nm,1.1s
O25A **Wiggins** 28.94 338 ⇑P P 15 46 23.2 +1.9
baz=29
M30A **Dale-Ortello V** 28.94 345 ⇓P P 15 46 23.5 +2.3
baz=29
P23A **Jefferson** 28.97 335 ⇓P P 15 46 23.8 +2.0
baz=29,SNR=21
OGNE **Ogallala** 28.99 342 ⇓P P 15 46 23.1 +1.5
baz=29
N27A **Anderson Farm,** 29.02 341 ⇓P P 15 46 23.7 +1.8
baz=29
M29A **Burnside Ranch** 29.07 344 ⇑P P 15 46 23.6 +1.3
baz=29
AAM **Ann Arbor** 29.13 10 eP P 15 46 22.1 -0.7
AAM pmax pmax
comp=Z,52nm,0.6s
AAM **Ann Arbor** 29.13 10 eP P 15 46 22.1 -0.7
comp=Z,52nm,0.6s
JFWS **Jewell Farm** 29.14 0 P P 15 46 21.4 -1.5
JFWS pmax pmax
comp=Z,76nm,0.9s
JFWS **Jewell Farm** 29.14 0 P P 15 46 21.4 -1.5
comp=Z,76nm,0.9s
PV01 **Paradox Valley** 29.19 330 P P 15 46 25.3 +1.7
comp=Z,7µm,1.5s
M28A **Bar X Bar Ranc** 29.21 343 ⇑P P 15 46 25.3 +1.7
baz=29
ISCO **Idaho Springs** 29.24 336 eP P 15 46 25.3 +1.2
ISCO pmax pmax
comp=Z,15nm,1.0s
ISCO **Idaho Springs** 29.24 336 eP P 15 46 25.3 +1.2
comp=Z,15nm,1.0s
ISCO **Idaho Springs** 29.24 336 ⇓P P 15 46 25.5 +1.3
baz=29,SNR=8.1
N26A **Koester Ranch,** 29.26 340 ⇓P P 15 46 25.4 +1.3
baz=29
ALLY **Alegheny Colle** 29.29 16 eP P 15 46 22.6 -1.6
L30A **Spencer Herefo** 29.30 346 ⇑P P 15 46 26.3 +2.0
baz=29
O24A **Longmont** 29.30 337 ⇑P P 15 46 25.8 +1.3
baz=30
L31A **Butterfield Fa** 29.31 347 ⇑P P 15 46 26.3 +1.8
baz=29
GLA **Glamis** 29.40 315 eP P 15 46 27.9 +2.5
GLA pmax pmax
comp=Z,384nm,1.7s
GLA **Glamis** 29.40 315 eP P 15 46 27.9 +2.5
comp=Z,384nm,1.7s
GLA **Glamis** 29.40 315 ⇓P P 15 46 26.6 +1.2
baz=30,SNR=28
P22A **Eagle** 29.54 334 ⇓P P 15 46 28.3 +1.6
baz=30
N25A **Grover** 29.54 339 ⇑P P 15 46 28.2 +1.5
baz=30
PV04 **Paradox Valley** 29.55 330 eP P 15 46 27.9 +1.1
PV04 epP pP 15 46 42.1 -0.1
PV04 eScP ScP 15 53 07.3 +0.1
L29A **Maesberg Ranch** 29.59 345 ⇓P P 15 46 28.8 +1.8
baz=30
Y12C **Blythe** 29.60 317 ⇑P P 15 46 28.8 +1.7
baz=30,SNR=11
M27A **Reverse DX Ran** 29.63 342 ⇓P P 15 46 29.4 +2.0
baz=30
PDMCI **Parker Dam,Lak** 29.68 318 ⇓P P 15 46 29.8 +2.1
baz=30,SNR=21
O23A **Lake Granby, G** 29.71 336 ⇓P P 15 46 30.5 +2.2
baz=30
M26A **McRoberts Ranc** 29.81 341 ⇑P P 15 46 31.2 +2.3
baz=30
L28A **Connealy Angus** 29.82 343 ⇓P P 15 46 31.3 +2.3
baz=30
N24A **Carr** 29.84 338 ⇓P P 15 46 31.6 +2.2
baz=30
O22A **Kremmling** 29.92 335 ⇑P P 15 46 30.5 +0.3
baz=30
U15A **North Rim** 29.93 323 ⇓P P 15 46 31.6 +1.3
baz=30,SNR=35
K30A **Basset** 29.96 346 ⇓P P 15 46 30.7 +0.6
baz=30
SWSC **Sam W. Stewart** 30.01 314 ⇓P P 15 46 33.8 +3.1
baz=30,SNR=24
W13A **Hualapai Mount** 30.02 319 ⇑P P 15 46 33.8 +2.8
baz=30,SNR=25
M25A **Palm-Egli Farm** 30.08 339 ⇑P P 15 46 33.9 +2.5
baz=30
L27A **T5 Ranch, Ells** 30.12 342 ⇑P P 15 46 34.2 +2.5
baz=30
BC3 **Big Chuckawall** 30.18 316 ⇓P P 15 46 34.9 +2.6
baz=30,SNR=51
K29A **Lazy Trails An** 30.21 346 ⇑P P 15 46 34.3 +1.9
baz=30
IRM **Iron Mountain** 30.27 317 ⇑P P 15 46 35.0 +2.0
baz=30,SNR=40
NEE2 **Needles Airpor** 30.28 318 ⇓P P 15 46 35.6 +2.5
baz=30
N23A **Red Feather La** 30.30 336 ⇓P P 15 46 35.3 +1.7
baz=30
L26A **Underwood Farm** 30.30 341 ⇓P P 15 46 35.4 +2.0
baz=30
M24A **Cheyenne** 30.38 338 ⇑P P 15 46 36.2 +2.1
baz=31
ECSD **EROS Data Cent** 30.42 351 eP P 15 46 32.4 -1.8
comp=Z,70nm,1.0s
ECSD **EROS Data Cent** 30.42 351 ⇑P P 15 46 34.9 +0.7
baz=30,SNR=23
MONP **Monument Peak** 30.42 313 ⇓P P 15 46 36.8 +2.2
baz=31,SNR=28
N22A **Wattenberg Ran** 30.43 336 ⇑P P 15 46 36.6 +2.0
baz=31,SNR=9.0
K28A **Ten Mile Ranch** 30.43 344 ⇑P P 15 46 36.6 +2.2
baz=31
BAR **Barrett** 30.49 313 eP P 15 46 37.5 +2.6
comp=Z,128nm,1.5s
J30A **Dallas** 30.55 347 ⇑P P 15 46 37.5 +2.1
baz=31
O20A **White River Ci** 30.63 333 eP P 15 46 37.3 +1.0
comp=Z,38nm,1.0s
O20A **White River Ci** 30.63 333 ⇓P P 15 46 38.3 +1.9
baz=31
K27A **Flueckinger Fa** 30.66 343 ⇑P P 15 46 38.3 +1.8
baz=31
L25A **Engebretsen Ra** 30.70 340 ⇑P P 15 46 38.7 +1.9
baz=31
M23A **Laramie** 30.71 337 ⇑P P 15 46 39.0 +1.9
baz=31
BELC **Belle Mtn. Jos** 30.75 316 ⇑P P 15 46 40.1 +2.8
baz=31,SNR=23
LDFC **Landfair** 30.79 318 eP P 15 46 40.7 +3.0
comp=Z,148nm,1.1s
LDFC eScP ScP 15 53 12.2 +1.0
J29A **Okreek** 30.82 346 ⇑P P 15 46 40.2 +2.5
baz=31
PFO **Pinyon Flat Ob** 30.84 315 P P 15 46 41.0 +2.8
comp=Z,276nm,1.1s,SNR=15
PFO **Pinyon Flat Ob** 30.84 315 eP P 15 46 40.7 +2.5
comp=Z,138nm,1.5s
PFO eScP ScP 15 53 12.1 +0.7
PFO ScP ScP 15 53 12.8 +1.4
PFO **Pinyon Flat Ob** 30.84 315 ScP ScP 15 53 12.8 +1.4
comp=Z,19nm,1.1s,baz=142,slow=1.3,SNR=9.9
PFO LR LR 16 00 58.2
comp=Z,3µm,19.3s,baz=128,slow=40
PFO **Pinyon Flat Ob** 30.84 315 ⇑P P 15 46 41.2 +3.1
baz=31,SNR=17
109C **Camp Elliot, M** 30.91 313 ⇓P P 15 46 41.7 +3.1
baz=31,SNR=7.7
SRU **San Rafael** 30.91 329 eP P 15 46 39.7 +0.9
SRU pmax pmax
comp=Z,64nm,1.4s
SRU **San Rafael** 30.91 329 eP P 15 46 39.7 +0.9
comp=Z,64nm,1.4s
L24A **Wheatland** 30.93 339 ⇑P P 15 46 41.0 +2.1
baz=31
K26A **Motz Farm, Whi** 30.94 342 ⇓P P 15 46 40.5 +1.6
baz=31
GMRC **Granite Mounta** 30.97 317 ⇓P P 15 46 40.6 +1.2
baz=31,SNR=25
M22A **Cedar Creek Ra** 30.99 336 ⇓P P 15 46 41.0 +1.4
baz=31

J28A	**Allard Ranch,**	**31.06**	**345**	⇑P		**P**	**15 46 41.5**	**+1.6**
	baz=31							
BINY	**Binghamton**	**31.07**	**21**	*e*P		**P**	**15 46 38.7**	**-1.3**
	comp=Z,100nm,1.3s							
K25A	**Mack Ranch, Ha**	**31.08**	**341**	⇓P		**P**	**15 46 41.8**	**+1.6**
	baz=31							
J27A	**Elkhorn Farm,**	**31.11**	**344**	⇑P		**P**	**15 46 42.0**	**+1.7**
	baz=31							
N20A	**Spence Gulch,**	**31.21**	**333**	⇑P		**P**	**15 46 43.6**	**+2.1**
	baz=31,SNR=13							
L23A	**Garrett**	**31.27**	**338**	⇓P		**P**	**15 46 43.5**	**+1.5**
	baz=31,SNR=11							
CCUT	**Cedar City**	**31.32**	**324**	*e*P		**P**	**15 46 43.8**	**+1.3**
	comp=Z,88nm,1.4s							
CCUT				*e*pP		**pP**	**15 46 56.9**	**-1.1**
CCUT				*e*PcP		**PcP**	**15 49 37.0**	**+1.7**
CCUT				*e*ScP		**ScP**	**15 53 13.4**	**+0.3**
MURC	**Murrieta**	**31.35**	**314**	⇓P		**P**	**15 46 45.3**	**+2.7**
	baz=32,SNR=15							
I29A	**Vivian Onida**	**31.40**	**346**	⇓P		**P**	**15 46 44.4**	**+1.6**
	baz=32,SNR=7.5							
TMUT	**Trail Mountain**	**31.40**	**328**	*e*P		**P**	**15 46 44.0**	**+0.8**
	comp=Z,18nm,0.9s							
HEC	**Hector,Ludlow**	**31.45**	**317**	⇑P		**P**	**15 46 46.0**	**+2.5**
	baz=32,SNR=25							
J26A	**Sides Ranch, S**	**31.46**	**342**	⇑P		**P**	**15 46 45.2**	**+1.7**
	baz=32							
L22A	**Ellis Ranch, M**	**31.47**	**337**	⇓P		**P**	**15 46 45.5**	**+1.8**
	baz=32							
K24A	**Anderson Ranch**	**31.49**	**340**	⇓P		**P**	**15 46 45.4**	**+1.6**
	baz=32							
SPMN	**St. Paul**	**31.51**	**357**	*e*P		**P**	**15 46 42.5**	**-1.2**
	comp=Z,90nm,0.5s							
SPMN	**St. Paul**	**31.51**	**357**	⇓P		**P**	**15 46 44.7**	**+0.9**
	baz=32,SNR=14							
BRSD	**Miller**	**31.51**	**348**	⇑P		**P**	**15 46 45.3**	**+1.5**
	baz=32							
BBRC	**Big Bear Solar**	**31.52**	**315**	⇑P		**P**	**15 46 46.5**	**+2.2**
	baz=32							
ARUT	**Antelope Range**	**31.53**	**324**	*e*P		**P**	**15 46 46.4**	**+2.1**
ARUT				pmax		pmax		
	comp=Z,1μm,1.0s							
ARUT	**Antelope Range**	**31.53**	**324**	*e*P		**P**	**15 46 46.4**	**+2.1**
	comp=Z,1μm,1.0s							
TUQ	**Turquoise Moun**	**31.54**	**318**	⇓P		**P**	**15 46 47.0**	**+2.7**
	baz=32,SNR=8.3							
I28A	**Midland**	**31.58**	**345**	⇑P		**P**	**15 46 46.4**	**+2.0**
	baz=32							
SHPR	**Sheep Range**	**31.71**	**320**	*e*P		**P**	**15 46 47.5**	**+1.7**
	comp=Z,56nm,1.3s							
SHPR				*e*PcP		**PcP**	**15 49 37.3**	**+1.0**
SHPR				*e*ScP		**ScP**	**15 53 15.1**	**+0.8**
J25A	**Sunshine Ranch**	**31.76**	**341**	⇑P		**P**	**15 46 48.4**	**+2.3**
	baz=32,SNR=7.0							
I27A	**Quinn**	**31.87**	**344**	⇓P		**P**	**15 46 48.9**	**+1.8**
	baz=32							
RRX	**Edison Barstow**	**31.93**	**316**	⇑P		**P**	**15 46 50.2**	**+2.6**
	baz=32,SNR=5.5							
H29A	**Onida**	**31.95**	**347**	⇓P		**P**	**15 46 48.8**	**+1.1**
	baz=32,SNR=10							
J24A	**Dixon Ranch, L**	**31.98**	**340**	⇓P		**P**	**15 46 50.3**	**+2.3**
	baz=32							
BFSC	**Mount Baldy Ra**	**32.02**	**314**	⇓P		**P**	**15 46 51.6**	**+3.0**
	baz=32,SNR=17							
K22A	**Casper**	**32.03**	**337**	*e*P		**P**	**15 46 48.3**	**-0.3**
	comp=Z,62nm,1.4s							
K22A	**Casper**	**32.03**	**337**	⇓P		**P**	**15 46 50.6**	**+2.0**
	baz=32							
GSC	**Goldstone**	**32.04**	**317**	*e*P		**P**	**15 46 51.3**	**+2.6**
GSC				pmax		pmax		
	comp=Z,103nm,1.5s							
GSC	**Goldstone**	**32.04**	**317**	*e*P		**P**	**15 46 51.3**	**+2.6**
	comp=Z,103nm,1.5s							
GSC				*e*ScP		**ScP**	**15 53 15.9**	**+0.5**
GSC	**Goldstone**	**32.04**	**317**	⇑P		**P**	**15 46 51.4**	**+2.6**
	baz=32,SNR=13							
SHOC	**Shoshone**	**32.05**	**318**	⇓P		**P**	**15 46 51.1**	**+2.4**
	baz=32							
I26A	**New Underwood**	**32.06**	**343**	⇓P		**P**	**15 46 50.4**	**+1.7**
	baz=32							
CIS	**Catalina Islan**	**32.10**	**313**	⇑P		**P**	**15 46 50.8**	**+1.6**
	baz=32,SNR=7.9							
MPU	**Maple Canyon**	**32.16**	**329**	*e*P		**P**	**15 46 50.0**	**+0.3**
	comp=Z,56nm,1.2s							
MPU				*e*ScP		**ScP**	**15 53 16.2**	**+0.4**
H28A	**Mission Ridge**	**32.18**	**346**	⇑P		**P**	**15 46 51.4**	**+1.7**
	baz=32							
FMP	**Fort Macarthur**	**32.18**	**313**	⇑P		**P**	**15 46 51.7**	**+1.8**
	baz=32							
G30A	**Faulkton**	**32.21**	**348**	⇑P		**P**	**15 46 50.8**	**+0.9**
	baz=32,SNR=17							
DAU	**Daniels Canyon**	**32.27**	**330**	*e*P		**P**	**15 46 50.1**	**-0.7**
DAU				pmax		pmax		
	comp=Z,130nm,1.6s							
DAU	**Daniels Canyon**	**32.27**	**330**	*e*P		**P**	**15 46 50.1**	**-0.7**
	comp=Z,130nm,1.6s							
DAU				*e*ScP		**ScP**	**15 53 16.6**	**+0.3**
MWC	**Mount Wilson**	**32.29**	**314**	*e*P		**P**	**15 46 53.9**	**+2.9**
MWC				pmax		pmax		
	comp=Z,105nm,1.0s							
MWC	**Mount Wilson**	**32.29**	**314**	*e*P		**P**	**15 46 53.9**	**+2.9**
	comp=Z,105nm,1.0s							
MWC				*e*pP		**pP**	**15 47 06.4**	**-0.1**
K21A	**Alcova**	**32.30**	**337**	⇓P		**P**	**15 46 52.6**	**+1.7**
	baz=32							
NLU	**North Lily Min**	**32.34**	**328**	*e*ScP		**ScP**	**15 53 16.7**	**+0.2**
	comp=Z,90nm,1.6s							
J23A	**Dilts Ranch, B**	**32.34**	**339**	⇑P		**P**	**15 46 52.9**	**+1.6**
	baz=32							
PASC	**Pasadena Art C**	**32.35**	**314**	*e*P		**P**	**15 46 54.2**	**+2.9**
	comp=Z,341nm,1.6s							
H27A	**Howes**	**32.41**	**344**	⇓P		**P**	**15 46 53.0**	**+1.3**
	baz=32,SNR=5.0							
I24A	**Kuemmerle Ranc**	**32.44**	**341**	⇑P		**P**	**15 46 53.5**	**+1.4**
	baz=33,SNR=5.4							
RSSD	**Black Hills**	**32.49**	**342**	*e*P		**P**	**15 46 53.1**	**+0.5**
RSSD				*e*			15 49 38.3	
RSSD				pmax		pmax		
	comp=Z,9.0nm,0.6s							
RSSD	**Black Hills**	**32.49**	**342**	*e*P		**P**	**15 46 53.1**	**+0.5**
	comp=Z,9.4nm,0.6s							
RSSD				*e*PcP		**PcP**	**15 49 38.3**	**-0.1**
RSSD				*e*ScP		**ScP**	**15 53 15.2**	**-1.7**
DECC	**Green Verdugo**	**32.49**	**314**	⇑P		**P**	**15 46 54.0**	**+1.5**
	baz=33,SNR=8.0							
JLU	**Jordanelle**	**32.51**	**330**	*e*P		**P**	**15 46 53.8**	**+0.9**
	comp=Z,54nm,1.5s							
JLU				*e*ScP		**ScP**	**15 53 16.7**	**-0.4**
G28A	**Parade**	**32.53**	**346**	⇑P		**P**	**15 46 54.4**	**+1.6**
	baz=33							
H26A	**Fairpoint**	**32.58**	**344**	⇓P		**P**	**15 46 54.8**	**+1.6**
	baz=33							
EDW2	**Edwards Air Fo**	**32.60**	**315**	⇑P		**P**	**15 46 55.9**	**+2.4**
	baz=33,SNR=28							
J22A	**Midwest**	**32.68**	**338**	⇑P		**P**	**15 46 56.3**	**+2.1**
	baz=33							
CTU	**Camp Tracy**	**32.72**	**329**	*e*P		**P**	**15 46 56.0**	**+1.3**
	comp=Z,28nm,0.9s							
LRMC	**Laurel Mountai**	**32.73**	**316**	⇑P		**P**	**15 46 56.6**	**+1.9**
	baz=33,SNR=9.4							
FURC	**Furnace Creek,**	**32.77**	**319**	⇓P		**P**	**15 46 57.0**	**+2.1**
	baz=33,SNR=5.1							
I23A	**Meade Ranch, G**	**32.80**	**340**	⇓P		**P**	**15 46 57.6**	**+2.3**
	baz=33							
H25A	**Fruitdale**	**32.81**	**343**	⇓P		**P**	**15 46 57.6**	**+2.3**
	baz=33							
F30A	**Leola**	**32.87**	**349**	⇑P		**P**	**15 46 58.0**	**+2.3**
	baz=33							
DUG	**Dugway**	**32.89**	**328**	*e*P		**P**	**15 46 56.3**	**+0.2**
DUG				pmax		pmax		
	comp=Z,38nm,1.3s							
DUG	**Dugway**	**32.89**	**328**	*e*P		**P**	**15 46 56.3**	**+0.2**
	comp=Z,38nm,1.3s							
DUG				*e*ScP		**ScP**	**15 53 17.9**	**-0.4**
DUG	**Dugway**	**32.89**	**328**	⇑P		**P**	**15 46 57.9**	**+1.7**
	baz=33,SNR=6.2							
MPMC	**Manual Prospec**	**32.93**	**317**	⇓P		**P**	**15 46 58.4**	**+1.8**
	baz=33,SNR=48							
OSI	**Osito Adit**	**32.96**	**314**	*e*P		**P**	**15 46 59.0**	**+2.3**
	comp=Z,95nm,1.0s							
OSI	**Osito Adit**	**32.96**	**314**	⇓P		**P**	**15 46 58.7**	**+2.0**
	baz=33,SNR=9.2							
J21A	**Lysite**	**32.98**	**337**	⇓P		**P**	**15 46 58.8**	**+1.9**
	baz=33,SNR=13							
F29A	**Eureka**	**33.02**	**348**	⇓P		**P**	**15 46 59.2**	**+2.2**
	baz=33							
G27A	**Dupree**	**33.06**	**345**	⇑P		**P**	**15 46 59.1**	**+1.7**
	baz=33							
I22A	**9 Mile Ranch,**	**33.10**	**339**	⇑P		**P**	**15 46 59.5**	**+1.6**
	baz=33,SNR=16							
R11A	**Troy Canyon, C**	**33.16**	**322**	*e*P		**P**	**15 47 00.1**	**+1.6**
	comp=Z,120nm,1.5s							
R11A	**Troy Canyon, C**	**33.16**	**322**	⇑P		**P**	**15 46 58.9**	**+0.4**
	baz=33,SNR=48							
H24A	**Dirks Ranch, A**	**33.21**	**342**	⇓P		**P**	**15 47 00.5**	**+1.6**
	baz=33,SNR=12							
J20A	**Shoshoni**	**33.23**	**336**	⇑P		**P**	**15 47 01.0**	**+2.0**
	baz=33							
F28A	**McLaughlin**	**33.24**	**347**	⇓P		**P**	**15 47 00.3**	**+1.3**
	baz=33,SNR=9.4							
BSC	**Santa Cruz Isl**	**33.28**	**312**	⇓P		**P**	**15 47 00.5**	**+1.0**
	baz=34							
G25A	**Newell**	**33.29**	**343**	⇓P		**P**	**15 47 01.0**	**+1.6**
	baz=33,SNR=6.8							
ARVC	**Arvin**	**33.31**	**315**	⇑P		**P**	**15 47 01.5**	**+1.8**
	baz=34,SNR=18							
I21A	**Big Trails, Te**	**33.32**	**338**	⇑P		**P**	**15 47 01.9**	**+2.1**
	baz=34,SNR=7.5							
PDAR	**Pinedale Array**	**33.35**	**334**	P		**P**	**15 47 00.2**	**+0.1**
PDAR				PcP		**PcP**	**15 49 40.5**	**-0.4**
PDAR				ScP		**ScP**	**15 53 19.1**	**-0.8**
PDAR				PKiKP		**PKiKP**	**15 57 05.2**	**-1.1**
PDAR	**Pinedale Array**	**33.35**	**334**	P		**P**	**15 47 00.2**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=131,slow=10,SNR=24							
PDAR				PcP		**PcP**	**15 49 40.5**	**-0.4**
	comp=Z,6.0nm,0.8s,baz=137,slow=5.3,SNR=8.2							
PDAR				ScP		**ScP**	**15 53 19.1**	**-0.8**
	comp=Z,12nm,0.9s,baz=138,slow=5.9,SNR=16							
PDAR				PKiKP		**PKiKP**	**15 57 05.2**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=76,slow=3.8,SNR=6.0							
BW06	**Boulder Array**	**33.35**	**334**	*e*P		**P**	**15 46 59.6**	**-0.6**
	comp=Z,2μm,1.6s							
GRAC	**Grapevine Rang**	**33.41**	**319**	⇓P		**P**	**15 47 02.8**	**+2.2**
	baz=34,SNR=15							
PTGA	**Pitinga**	**33.45**	**113**	*e*P		**P**	**15 46 58.8**	**-2.3**
	comp=Z,66nm,0.9s							
PTGA				*e*PcP		**PcP**	**15 49 41.3**	**0.0**
PTGA				ScP		**ScP**	**15 53 21.3**	**+0.8**
PTGA	**Pitinga**	**33.45**	**113**	P		**P**	**15 46 59.3**	**-1.8**
	comp=Z,47nm,0.9s,baz=304,slow=10,SNR=28							
PTGA				ScP		**ScP**	**15 53 21.3**	**+0.8**
	comp=Z,9.1nm,0.8s,baz=332,slow=9.9,SNR=8.8							
PTGA				LR		LR	16 02 59.3	
	comp=Z,2μm,21.0s,baz=293,slow=41							
E30A	**Jud**	**33.49**	**349**	⇑P		**P**	**15 47 02.1**	**+1.1**
	baz=34							
SPUT	**South Promonto**	**33.54**	**329**	*e*P		**P**	**15 47 02.8**	**+1.0**
	comp=Z,61nm,1.3s							
BGU	**Big Grassy Mou**	**33.54**	**328**	*e*P		**P**	**15 47 02.9**	**+1.1**
	comp=Z,10.0nm,0.8s							
J19A	**Crowheart**	**33.55**	**335**	⇑P		**P**	**15 47 03.3**	**+1.4**
	baz=34,SNR=8.6							
F27A	**Lemmon**	**33.55**	**345**	⇑P		**P**	**15 47 03.2**	**+1.6**
	baz=34,SNR=5.6							
SBC	**Santa Barbara**	**33.57**	**313**	⇑P		**P**	**15 47 04.1**	**+2.2**
	baz=34							
H22A	**Clearmont**	**33.66**	**339**	⇑P		**P**	**15 47 04.4**	**+1.6**
	baz=34,SNR=9.1							
E29A	**Napoleon**	**33.69**	**349**	⇑P		**P**	**15 47 04.3**	**+1.4**
	baz=34							
LONY	**Lake Ozonia**	**33.69**	**21**	*e*P		**P**	**15 47 01.3**	**-1.6**
	comp=Z,72nm,1.1s							
F26A	**Lodgepole**	**33.69**	**345**	⇓P		**P**	**15 47 04.3**	**+1.4**
	baz=34,SNR=11							
G24A	**Alzada**	**33.70**	**342**	⇑P		**P**	**15 47 04.3**	**+1.3**
	baz=34,SNR=10							
I20A	**Worland**	**33.75**	**337**	⇓P		**P**	**15 47 04.9**	**+1.4**
	baz=34,SNR=24							
VES	**Vestal, Richgr**	**33.87**	**316**	⇓P		**P**	**15 47 05.9**	**+1.3**
	baz=34,SNR=58							
G23A	**Biddle**	**33.88**	**341**	⇑P		**P**	**15 47 06.0**	**+1.4**
	baz=34,SNR=7.6							
E28A	**Huff**	**33.91**	**347**	⇑P		**P**	**15 47 05.9**	**+1.2**
	baz=34,SNR=9.3							
H21A	**Big Horn, Sher**	**33.93**	**339**	⇓P		**P**	**15 47 06.6**	**+1.5**
	baz=34,SNR=12							
E27A	**Carson**	**33.96**	**346**	⇑P		**P**	**15 47 07.2**	**+1.9**
	baz=34							
F25A	**Bowman**	**33.97**	**344**	⇓P		**P**	**15 47 06.9**	**+1.5**
	baz=34,SNR=9.3							
TPH	**Tonopah**	**33.98**	**321**	*e*P		**P**	**15 47 07.4**	**+1.7**
TPH				pmax		pmax		
	comp=Z,193nm,1.7s							
TPH	**Tonopah**	**33.98**	**321**	*e*P		**P**	**15 47 07.4**	**+1.7**
	comp=Z,193nm,1.7s							
TIN	**Tinemaha**	**33.99**	**318**	⇓P		**P**	**15 47 07.3**	**+1.5**
	baz=34,SNR=11							
D30A	**Buchanan**	**34.05**	**350**	⇑P		**P**	**15 47 06.5**	**+0.6**
	baz=34,SNR=15							
HVU	**Hansel Valley**	**34.05**	**330**	*e*P		**P**	**15 47 06.9**	**+0.7**
HVU				pmax		pmax		
	comp=Z,72nm,1.2s							
HVU	**Hansel Valley**	**34.05**	**330**	*e*P		**P**	**15 47 06.8**	**+0.7**
	comp=Z,72nm,1.2s							
HVU				*e*ScP		**ScP**	**15 53 21.5**	**-0.8**
D29A	**Pettibone, Tap**	**34.15**	**349**	⇑P		**P**	**15 47 07.5**	**+0.7**
	baz=34							
H20A	**Greybull**	**34.16**	**337**	⇓P		**P**	**15 47 08.8**	**+1.8**
	baz=34,SNR=8.9							
I19A	**Meeteetse**	**34.16**	**336**	⇓P		**P**	**15 47 09.0**	**+1.8**
	baz=34,SNR=22							
F24A	**Ekalaka**	**34.18**	**343**	⇑P		**P**	**15 47 08.9**	**+1.8**
	baz=34,SNR=10							
EYMN	**Ely**	**34.18**	**359**	*e*P		**P**	**15 47 04.6**	**-2.5**
	comp=Z,40nm,0.9s							
G22A	**Birney**	**34.19**	**340**	⇓P		**P**	**15 47 08.8**	**+1.5**
	baz=34,SNR=6.3							
E26A	**Carlson Angus**	**34.22**	**345**	⇑P		**P**	**15 47 08.5**	**+1.1**
	baz=34							
SMMC	**Simler**	**34.22**	**314**	⇓P		**P**	**15 47 08.8**	**+1.2**
	baz=34,SNR=11							
RCTC	**Rector, Farmer**	**34.24**	**316**	⇑P		**P**	**15 47 09.9**	**+2.2**
	baz=34,SNR=18							
F23A	**Volborg**	**34.35**	**341**	⇑P		**P**	**15 47 10.3**	**+1.7**
	baz=34							
D28A	**Regan**	**34.47**	**348**	⇑P		**P**	**15 47 11.3**	**+1.7**
	baz=35							
E25A	**Miller Ranch,**	**34.49**	**344**	⇓P		**P**	**15 47 11.4**	**+1.7**
	baz=35,SNR=15							
G21A	**Lodge Grass**	**34.51**	**339**	⇓P		**P**	**15 47 11.2**	**+1.1**
	baz=35,SNR=8.5							
C30A	**Mose, Pekin**	**34.58**	**350**	⇑P		**P**	**15 47 11.0**	**+0.5**
	baz=35,SNR=31							
ELK	**Elko**	**34.58**	**326**	ScP		**ScP**	**15 53 29.2**	**+4.9**
ELK	**Elko**	**34.58**	**326**	ScP		**ScP**	**15 53 29.2**	**+4.9**
	comp=Z,23nm,0.9s,baz=181,slow=1.4,SNR=12							
ELK				LR		LR	16 03 40.4	
	comp=Z,2μm,19.4s,baz=180,slow=40							
D27A	**Center**	**34.59**	**347**	⇑P		**P**	**15 47 12.0**	**+1.3**
	baz=35							
F22A	**Rosebud**	**34.68**	**340**	⇑P		**P**	**15 47 13.0**	**+1.5**
	baz=35							
H19A	**Powell**	**34.69**	**337**	⇑P		**P**	**15 47 12.8**	**+1.1**
	baz=35							
I17A	**Pilgrim Ck.**	**34.72**	**334**	⇓P		**P**	**15 47 13.9**	**+1.8**
	baz=35,SNR=29							
MLAC	**Mammoth Lakes**	**34.72**	**319**	⇓P		**P**	**15 47 12.4**	**+0.2**
	baz=35,SNR=8.0							
D26A	**Manning**	**34.73**	**346**	⇓P		**P**	**15 47 13.3**	**+1.4**
	baz=35,SNR=14							
NV11	**Mina Array Sit**	**34.77**	**320**	*e*P		**P**	**15 47 14.5**	**+2.0**
E24A	**Baker**	**34.79**	**343**	⇓P		**P**	**15 47 13.2**	**+0.8**
	baz=35,SNR=18							
AGMN	**Agassiz Nation**	**34.81**	**354**	*e*P		**P**	**15 47 11.0**	**-1.5**
	comp=Z,76nm,0.7s							
AGMN	**Agassiz Nation**	**34.81**	**354**	⇓P		**P**	**15 47 13.0**	**+0.5**
	baz=35,SNR=6.6							
NVAR	**Mina Array Bea**	**34.86**	**320**	P		**P**	**15 47 16.1**	**+2.7**
NVAR				PcP		**PcP**	**15 49 46.4**	**+1.2**
NVAR				ScP		**ScP**	**15 53 26.3**	**+0.9**
NVAR	**Mina Array Bea**	**34.86**	**320**	P		**P**	**15 47 16.1**	**+2.7**
	comp=Z,67nm,0.8s,baz=134,slow=8.6,SNR=107							
NVAR				PcP		**PcP**	**15 49 46.4**	**+1.2**
	comp=Z,13nm,0.8s,baz=182,slow=2.7,SNR=5.0							
NVAR				ScP		**ScP**	**15 53 26.3**	**+0.9**
	comp=Z,17nm,0.8s,baz=137,slow=4.1,SNR=16							
NVAR				LR		LR	16 03 50.7	
	comp=Z,3μm,18.0s,baz=225,slow=40							
G20A	**Bridger**	**34.87**	**338**	⇓P		**P**	**15 47 13.9**	**+0.7**
	baz=35,SNR=13							
MDND	**Maddock**	**34.91**	**349**	*e*P		**P**	**15 47 12.4**	**-1.0**
	comp=Z,337nm,0.9s							
MDND	**Maddock**	**34.91**	**349**	⇓P		**P**	**15 47 14.1**	**+0.7**
	baz=35,SNR=21							
C28A	**Hausauer Farms**	**34.93**	**348**	⇑P		**P**	**15 47 15.1**	**+1.6**
	baz=35							
H18A	**Shoshone NF, C**	**34.96**	**336**	⇓P		**P**	**15 47 15.2**	**+1.1**
	baz=35,SNR=44							
F21A	**Absaloka Mine,**	**35.00**	**340**	⇑P		**P**	**15 47 15.7**	**+1.4**
	baz=35							
D25A	**Fairfield**	**35.07**	**345**	⇑P		**P**	**15 47 16.4**	**+1.7**
	baz=35,SNR=8.6							
H17A	**Grant Village**	**35.10**	**335**	*e*P		**P**	**15 47 17.3**	**+1.9**
	comp=Z,86nm,1.7s							
H17A	**Grant Village**	**35.10**	**335**	⇓P		**P**	**15 47 17.3**	**+1.9**
	baz=35,SNR=11							
C27A	**Sayler Ranch,**	**35.16**	**347**	⇑P		**P**	**15 47 16.7**	**+1.2**
	baz=35							
E22A	**Miles City**	**35.16**	**341**	⇓P		**P**	**15 47 16.3**	**+0.7**
	baz=35,SNR=9.1							
RLMT	**Red Lodge**	**35.18**	**337**	P		**P**	**15 47 15.8**	**-0.2**
	comp=Z,19nm,0.9s							
SAML	**Samuel**	**35.20**	**128**	*e*P		**P**	**15 47 15.3**	**-0.9**
	comp=Z,117nm,1.1s							
B30A	**Myrvik Farm, E**	**35.28**	**351**	⇓P		**P**	**15 47 17.0**	**+0.4**
	baz=35,SNR=23							
D24A	**Glendive**	**35.30**	**344**	⇑P		**P**	**15 47 17.6**	**+0.8**
	baz=35,SNR=17							
F20A	**Billings**	**35.34**	**338**	⇑P		**P**	**15 47 18.0**	**+0.8**
	baz=36,SNR=5.7							
C26A	**Wahner Farm, P**	**35.40**	**346**	⇑P		**P**	**15 47 18.3**	**+0.7**
	baz=36,SNR=7.9							
B29A	**Wagenman Farm,**	**35.46**	**350**	⇑P		**P**	**15 47 18.6**	**+0.5**
	baz=36,SNR=16							
LAO	**LASA Array**	**35.47**	**341**	*e*P		**P**	**15 47 18.0**	**-0.3**
	comp=Z,111nm,1.4s							
BMN	**Battle Mountai**	**35.48**	**324**	*e*P		**P**	**15 47 19.7**	**+1.1**
BMN				pmax		pmax		
	comp=Z,196nm,1.6s							
BMN	**Battle Mountai**	**35.48**	**324**	*e*P		**P**	**15 47 19.7**	**+1.1**
	comp=Z,196nm,1.6s							
YMR	**Madison River**	**35.49**	**335**	*e*P		**P**	**15 47 19.9**	**+1.3**
	comp=Z,43nm,0.9s							
YMR				*e*ScP		**ScP**	**15 53 27.2**	**-0.3**
C25A	**Freed Ranch, W**	**35.57**	**345**	⇓P		**P**	**15 47 19.7**	**+0.6**
	baz=36							
D23A	**Lindsay**	**35.60**	**343**	⇑P		**P**	**15 47 20.7**	**+1.3**
	baz=36,SNR=23							
E21A	**Keefer Ranch,**	**35.62**	**340**	⇓P		**P**	**15 47 20.1**	**+0.6**
	baz=36							
WAKR	**Walker**	**35.62**	**319**	*e*P		**P**	**15 47 22.1**	**+2.2**
	comp=Z,242nm,1.6s							
B28A	**Dugan Ranch, T**	**35.63**	**349**	⇑P		**P**	**15 47 19.6**	**+0.1**
	baz=36,SNR=30							
F19A	**Roth Farm, Mol**	**35.67**	**338**	⇑P		**P**	**15 47 20.8**	**+0.8**
	baz=36,SNR=15							
C24A	**Savage**	**35.71**	**344**	⇑P		**P**	**15 47 21.6**	**+1.3**
	baz=36,SNR=7.3							
A30A	**Hoffart Farm,**	**35.76**	**351**	⇓P		**P**	**15 47 21.0**	**+0.4**
	baz=36,SNR=57							
B27A	**Peters Farms,**	**35.77**	**348**	⇓P		**P**	**15 47 21.7**	**+1.0**
	baz=36							
QLMT	**Earthquake Lak**	**35.81**	**334**	*e*P		**P**	**15 47 23.2**	**+1.8**
	comp=Z,2.1nm,0.8s							
QLMT				*e*ScP		**ScP**	**15 53 28.9**	**+0.2**
D22A	**Cohagen**	**35.87**	**342**	⇑P		**P**	**15 47 22.1**	**+0.5**
	baz=36,SNR=27							
A29A	**Manning Farm,**	**35.88**	**350**	⇓P		**P**	**15 47 22.0**	**+0.3**
	baz=36,SNR=28							
GCMT	**Greycliff**	**35.89**	**337**	*e*P		**P**	**15 47 22.0**	**0.0**
	comp=Z,26nm,1.0s							
E20A	**Meyer Farm, Mu**	**35.94**	**339**	⇓P		**P**	**15 47 22.9**	**+0.6**
	baz=36,SNR=12							
B26A	**Jensen Ranch,**	**35.95**	**347**	⇓P		**P**	**15 47 22.8**	**+0.4**
	baz=36							
CMB	**Columbia Colle**	**35.96**	**318**	*e*P		**P**	**15 47 24.2**	**+1.6**
CMB				pmax		pmax		
	comp=Z,96nm,1.3s							
CMB	**Columbia Colle**	**35.96**	**318**	*e*P		**P**	**15 47 24.2**	**+1.6**
	comp=Z,96nm,1.3s							
SAO	**San Andreas Ge**	**35.98**	**315**	*e*P		**P**	**15 47 24.5**	**+1.8**
SAO				pmax		pmax		
	comp=Z,47nm,0.9s							
SAO	**San Andreas Ge**	**35.98**	**315**	*e*P		**P**	**15 47 24.5**	**+1.8**
	comp=Z,47nm,0.9s							
D21A	**

WVOR **Wild Horse Val** 37.60 325 *e*P P 15 47 37.8 +1.3
comp=Z,65nm,1.0s
WVOR *e*ScP **ScP** 15 53 35.5 +0.2
A21A Bergtoll Ranch 37.74 342 ⇓P P 15 47 38.1 +0.6
baz=38,SNR=31
EGMT Eagleton 37.81 339 *e*P P 15 47 38.5 +0.3
comp=Z,177nm,1.5s
EGMT Eagleton 37.81 339 ⇓P P 15 47 38.4 +0.2
baz=38,SNR=21
B19A Brinkman Farms 37.91 340 ⇓P P 15 47 39.6 +0.7
baz=38,SNR=21
A20A Cobblestone Ra 37.95 341 ⇓P P 15 47 40.1 +0.8
baz=38,SNR=32
MOD Modoc 38.21 323 *e*P P 15 47 42.5 +0.7
comp=Z,143nm,1.6s
MOD *e*PcP **PcP** 15 49 56.2 +1.0
CHMT Chamberlain Mo 38.24 335 *e*P P 15 47 42.2 +0.2
comp=Z,15nm,0.9s
A19A Klindworth Far 38.25 340 ⇓P P 15 47 42.4 +0.5
baz=38,SNR=18
MSO Missoula 38.47 334 ⇑P P 15 47 45.0 +1.2
baz=39,SNR=10
MNMC Minimini 38.54 147 ⇓*i*P P 15 47 46.5 +1.7
SLMT Seeley Lake 38.60 335 *e*P P 15 47 43.9 -1.1
comp=Z,15nm,0.9s
PSGC Pisagua 38.66 148 ⇑*i*P P 15 47 43.5 -2.1
SWMT Swartz Lake 39.03 335 *e*P P 15 47 49.6 +1.2
comp=Z,11nm,0.9s
SWMT *e*PcP **PcP** 15 49 57.5 -0.1
SWMT *e*ScP **ScP** 15 53 40.0 -0.5
PB11 Plate Boundary 39.03 148 *e*P P 15 47 48.9 +0.1
M04C Macdoel 39.05 322 ⇓P P 15 47 50.0 +1.3
baz=39
N02D Trinity Center 39.10 320 ⇑P P 15 47 48.9 -0.2
baz=39
YBMT Yellow Bay 39.31 335 *e*P P 15 47 51.4 +0.6
comp=Z,21nm,1.0s
YBMT *e*ScP **ScP** 15 53 40.9 -0.7
JTMT Jette 39.33 335 *e*P P 15 47 51.4 +0.3
comp=Z,16nm,1.2s
JTMT *e*PcP **PcP** 15 49 58.7 +0.2
JTMT *e*ScP **ScP** 15 53 41.2 -0.6
M02C Callahan 39.43 321 ⇓P P 15 47 52.5 +0.6
baz=40
YBH Yreka Blue Hor 39.54 321 *e*P P 15 47 52.5 -0.3
comp=Z,20nm,0.8s
YBH ScP **ScP** 15 53 42.7 0.0
YBH Yreka Blue Hor 39.54 321 ScP **ScP** 15 53 42.7 0.0
comp=Z,9.5nm,0.9s,baz=80,slow=5.5,SNR=5.9
YBH LR LR 16 05 56.9
comp=Z,3μm,21.6s,baz=140,slow=38
BLMT Blacktail Moun 39.57 335 *e*P P 15 47 53.7 +0.6
comp=Z,11nm,0.5s
J05D Fort Rock, OR 39.61 324 ⇓P P 15 47 54.8 +1.4
baz=40
BSMT Bassoo Peak 39.62 334 *e*P P 15 47 54.2 +0.6
comp=Z,8.2nm,0.8s
PATCX Punta Patache 39.67 149 *i*P P 15 47 55.9 +1.8
PB01 Plate Boundary 40.19 149 *e*P P 15 47 59.4 +1.0
WALA Waterton Lakes 40.22 336 *e*P P 15 47 59.0 +0.6
comp=Z,3.6nm,1.8s
L02D Cave Junction, 40.33 321 ⇓P P 15 47 59.1 -0.1
baz=40
I05D Terrebonne, OR 40.33 325 ⇑P P 15 48 00.7 +1.4
baz=40
PB07 Plate Boundary 40.57 150 *e*P P 15 48 00.9 -0.7
BPO Bald Peter 40.73 325 P P 15 48 04.9 +2.2
BROR Big Rock Looko 40.91 324 P P 15 48 05.2 +1.2
PB09 Plate Boundary 40.95 149 ⇑*i*P P 15 48 02.0 -2.6
NEW Newport 40.95 333 ScP **ScP** 15 53 46.8 -1.2
NEW Newport 40.95 333 ScP **ScP** 15 53 46.8 -1.2
baz=194,slow=4.2
NEW LR LR 16 09 20.6
comp=Z,1μm,20.2s,baz=135,slow=42
NEW Newport 40.95 333 ⇓P P 15 48 04.3 0.0
baz=41
OD2 Odessa Site #2 41.05 331 P P 15 48 05.4 +0.4
I03D Drain, OR 41.08 323 ⇑P P 15 48 05.6 +0.3
baz=41
VLL Laurance Lake 41.24 326 P P 15 48 09.1 +2.3
SIV San Ignacio 41.40 134 P P 15 48 09.3 +1.0
SIV PcP **PcP** 15 50 05.9 +0.4
SIV ScP **ScP** 15 53 52.2 +2.0
SIV San Ignacio 41.40 134 P P 15 48 09.3 +1.0
comp=Z,35nm,0.8s,baz=313,slow=8.3,SNR=21
SIV PcP **PcP** 15 50 05.9 +0.4
comp=Z,18nm,1.0s,baz=296,slow=4.7,SNR=2.5
SIV ScP **ScP** 15 53 52.2 +2.0
comp=Z,8.2nm,0.9s,baz=258,slow=9.3,SNR=7.2
SIV LR LR 16 04 47.0
comp=Z,4μm,20.4s,baz=319,slow=35
PB06 Plate Boundary 41.55 150 *i*P P 15 48 11.0 +1.4
SAW Saint Andrews 41.60 331 P P 15 48 10.9 +1.3
PB10 Plate Boundary 41.78 152 *i*P P 15 48 12.6 +1.4
LVC Limon Verde 41.80 149 *e*P P 15 48 13.2 +1.4
comp=Z,58nm,1.0s
FFC Flin Flon 41.94 350 P P 15 48 11.0 -1.2
comp=Z,379nm,0.8s,SNR=27
FFC Flin Flon 41.94 350 *e*P P 15 48 11.1 -1.2
FFC pmax pmax
comp=Z,78nm,1.0s
FFC Flin Flon 41.94 350 *e*P P 15 48 11.1 -1.1
comp=Z,78nm,1.0s
LON Longmire 42.15 328 *e*P P 15 48 14.6 +0.5
LON pmax pmax
comp=Z,38nm,0.9s
LON Longmire 42.15 328 *e*P P 15 48 14.6 +0.5
comp=Z,38nm,0.9s
EDM Edmonton 43.43 340 *e*P P 15 48 23.1 -1.3
EDM Edmonton 43.43 340 *e*P P 15 48 23.1 -1.3
EDM *e*ScP **ScP** 15 53 55.2 -2.6
SCHQ Schefferville 45.03 19 *e*P P 15 48 35.1 -2.0
comp=Z,46nm,0.6s
SCHQ ScP **ScP** 15 54 00.1 -4.2
SCHQ Schefferville 45.03 19 P P 15 48 35.2 -1.9
comp=Z,44nm,0.6s,baz=216,slow=7.0,SNR=74
SCHQ ScP **ScP** 15 54 00.1 -4.2
comp=Z,8.6nm,0.9s,baz=322,slow=3.5,SNR=4.0
SCHQ LR LR 16 08 00.1
comp=Z,9μm,20.9s,baz=216,slow=37
FCC Fort Churchill 45.09 357 *e*P P 15 48 35.5 -1.9
FCC pmax pmax
comp=Z,3.0nm,1.1s
FCC Fort Churchill 45.09 357 *e*P P 15 48 35.5 -1.9
comp=Z,2.6nm,1.1s
LCO Las Campanas 46.54 156 ⇓*i*P P 15 48 50.6 +1.0
LCO Las Campanas 46.54 156 *e*P P 15 48 50.2 +0.7
comp=Z,92nm,1.0s
H03N2 Juan Fernandez 48.12 167 T T 16 40 20.6
baz=346,slow=75,SNR=125
H03N1 Juan Fernandez 48.13 167 T T 16 40 18.8
baz=346,slow=75,SNR=145
H03N3 Juan Fernandez 48.14 167 T T 16 40 21.8
baz=346,slow=75,SNR=114
CFAA Coronel Fontan 49.82 155 LR LR 16 05 45.9
comp=Z,166nm,21.5s,baz=346,slow=30
ROCH El Roble 49.97 159 ⇑*i*P P 15 49 16.8 +0.8
BDFB Brasilia 51.10 123 P P 15 49 22.9 -1.7
BDFB PcP **PcP** 15 50 38.9 -0.7
BDFB Brasilia 51.10 123 P P 15 49 22.9 -1.7
comp=Z,6.9nm,0.5s,baz=292,slow=12,SNR=11
BDFB PcP **PcP** 15 50 38.9 -0.7
comp=Z,9.8nm,0.7s,baz=252,slow=3.2,SNR=3.8
BDFB LR LR 16 13 53.2
comp=Z,1μm,18.5s,baz=302,slow=39
CPUP Villa Florida 51.19 141 *e*P P 15 49 23.0 -1.9
comp=Z,2.9nm,1.0s
CPUP Villa Florida 51.19 141 P P 15 49 24.6 -0.4
comp=Z,17nm,1.0s,baz=318,slow=8.8,SNR=14
CPUP LR LR 16 09 57.3
comp=Z,1μm,21.9s,baz=304,slow=35
YKA Yellowknife Ar 51.69 346 P P 15 49 26.6 -1.6
YKA ScP **ScP** 15 54 30.2 -2.0
YKA P'P' 16 19 55.5
YKA Yellowknife Ar 51.69 346 P P 15 49 26.6 -1.6
comp=Z,3.2nm,0.6s,baz=138,slow=6.5,SNR=72
YKA ScP **ScP** 15 54 30.2 -2.0
comp=Z,1.9nm,0.7s,baz=145,slow=4.3,SNR=7.0
YKA PKPPKP P'P'df 16 19 55.5 -11
comp=Z,0.5nm,0.8s,baz=352,slow=2.7,SNR=4.7
DLBC Dease Lake 53.56 335 *e*P P 15 49 42.4 +0.2
TAOE Nuku Hiva Isla 54.15 248 *e*T T 16 47 24.8
comp=Z,103nm,0.2s
RKT Rikitea 56.87 230 *e*P P 15 50 08.4 +2.0
comp=Z,207nm,1.3s
RKT *e*S **S** 15 57 54.6 -1.0
comp=Z,3μm,29.5s
RKT *e*LQ LQ 16 04 23.4
comp=Z,2μm,30.2s
RKT *e*LR LR 16 06 47.0
comp=Z,10μm,28.8s,baz=47
RKT Rikitea 56.87 230 *e*T T 16 50 43.2
comp=Z,18nm,0.3s
PLCA Paso Flores 57.20 162 *e*P P 15 50 09.1 +0.6
comp=Z,104nm,1.2s
PLCA Paso Flores 57.20 162 P P 15 50 09.3 +0.8
comp=Z,55nm,1.1s,baz=346,slow=8.2,SNR=49
PLCA LR LR 16 09 06.7
comp=Z,3μm,21.5s,baz=349,slow=30
RCBR Riachuelo 57.53 106 *e*P P 15 50 08.7 -2.7
comp=Z,43nm,0.9s
RCBR Riachuelo 57.53 106 P P 15 50 09.1 -2.2
comp=Z,27nm,1.1s,baz=285,slow=7.6,SNR=4.9
RCBR LR LR 16 17 02.5
comp=Z,2μm,20.9s,slow=38
BMRM Bremner River 61.13 333 *e*P P 15 50 34.9 -0.6
comp=Z,18nm,0.7s
EGAK Eagle 61.57 338 *e*P P 15 50 36.9 -1.3
comp=Z,20nm,1.1s
MENT Mentasta 61.65 335 *e*P P 15 50 38.7 -0.2
DOT Dot Lake 62.12 336 *e*P P 15 50 40.6 -1.4
comp=Z,11nm,0.9s
PAX Paxson 62.38 335 *e*P P 15 50 42.1 -1.7
PAX pmax pmax
comp=Z,22nm,0.9s
PAX Paxson 62.38 335 *e*P P 15 50 42.1 -1.7
comp=Z,22nm,0.9s
PMR Palmer 63.38 333 P P 15 50 47.7 -2.7
PMR pmax pmax
comp=Z,90nm,1.5s
PMR Palmer 63.38 333 P P 15 50 47.7 -2.7
comp=Z,90nm,1.5s
VAH Vaihoa 63.41 245 *e*P P 15 50 53.2 +1.9
comp=Z,285nm,1.4s
RC01 Rabbit Creek A 63.47 332 *e*P P 15 50 53.0 -0.7
comp=Z,45nm,1.0s
PMOR Pomariorio Ree 63.55 245 *e*P P 15 50 54.3 +2.1
comp=Z,186nm,1.2s
PMOR Pomariorio Ree 63.55 245 *e*T T 16 59 08.1
comp=Z,10nm,0.2s
ILAR Eielson Array 63.73 337 P P 15 50 50.9 -1.8
ILAR Eielson Array 63.73 337 P P 15 50 50.9 -1.8
comp=Z,2.5nm,0.4s,baz=126,slow=5.0,SNR=52
ILAR LR LR 16 21 36.9
comp=Z,2μm,21.4s,baz=122,slow=39
MCK McKinley 64.11 335 *e*P P 15 50 54.6 -0.6
MCK pmax pmax
comp=Z,52nm,1.3s
MCK McKinley 64.11 335 *e*P P 15 50 54.6 -0.6
comp=Z,52nm,1.3s
COLA College 64.14 336 ⇓*e*P P 15 50 55.9 +0.6
COLA pmax pmax
comp=Z,84nm,1.7s
COLA College 64.14 336 *e*P P 15 50 54.3 -1.0
comp=Z,31nm,1.1s
KIP Kipapa 64.45 287 *ce*P P 15 51 00.6 +2.5
KIP pmax pmax
comp=Z,123nm,1.7s
TRF Thorofare Moun 64.57 335 *e*P P 15 50 57.6 -0.8
comp=Z,138nm,1.4s
RSO Redoubt South 64.66 331 *e*P P 15 50 57.3 -1.7
comp=Z,104nm,0.7s
KTH Kantishna Hill 64.87 335 *e*P P 15 50 58.1 -2.1
comp=Z,24nm,0.9s
MEH Mehetia 64.88 243 *e*P P 15 51 03.2 +2.2
comp=Z,86nm,1.3s
MEH Mehetia 64.88 243 *e*T T 17 00 46.9
comp=Z,18nm,0.2s
PPLA Purkeypile 65.18 334 *e*P P 15 50 60.0 -2.4
comp=Z,4.3nm,0.5s
PPLA *ep*P **pP** 15 51 17.3 -2.0
TIAR Tiarei 65.86 243 *e*P P 15 51 09.3 +2.0
comp=Z,49nm,1.0s
TVO Taravao 65.87 243 *e*P P 15 51 09.5 +2.1
comp=Z,55nm,1.3s
COLD Coldfoot 65.98 338 *e*P P 15 51 06.4 -0.8
comp=Z,32nm,1.2s
COLD *ep*P **pP** 15 51 24.4 +0.2
PPT Papeete 66.07 244 LR LR 16 12 00.0
comp=Z,2μm,19.2s,baz=1.0,slow=28
PPT2 Papeete2 66.08 244 *e*P P 15 51 10.8 +2.1
comp=Z,88nm,1.3s
PPT2 *e*S **S** 15 59 52.0 -0.6
comp=Z,2μm,25.9s
PPT2 *e*LQ LQ 16 07 45.2
comp=Z,3μm,30.5s
PPT2 *e*LR LR 16 10 52.9
comp=Z,14μm,27.8s,baz=57
PAE Paea 66.11 243 *e*P P 15 51 11.0 +2.2
comp=Z,49nm,1.2s
SUMG Summit 66.16 15 *i*P P 15 51 06.5 -2.3
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG MLR MLR
comp=Z,7μm,24.0s
SUMG Summit 66.16 15 *i*P P 15 51 06.5 -2.3
comp=Z,15nm,1.0s
SUMG
comp=Z,7μm,23.0s
SUMG Summit 66.16 15 *e*P P 15 51 05.1 -3.7
comp=Z,64nm,1.1s
IM04 Indian Mountai 66.86 337 *e*P P 15 51 11.1 -1.8
TBI Tubuai 68.42 238 *e*S S 16 00 20.3 -0.2
comp=Z,1μm,28.2s
TBI *e*LQ LQ 16 08 13.7
comp=Z,1μm,32.2s
TBI *e*LR LR 16 12 13.0
comp=Z,10μm,29.5s,baz=62
TBI Tubuai 68.42 238 *e*T T 17 05 10.6
comp=Z,13nm,0.3s
ALE Alert 69.79 4 P P 15 51 29.7 -1.3
comp=Z,66nm,0.9s,SNR=6.5
SCO Scoresbysund 70.07 19 *e*P P 15 51 30.4 -2.4
SCO pmax pmax
comp=Z,2.0nm,0.9s
SCO MLR MLR
comp=Z,6μm,27.0s
SCO Scoresbysund 70.07 19 *i*P P 15 51 30.4 -2.4
comp=Z,1.7nm,0.9s
SCO
comp=Z,6μm,27.0s
UNV Unalaska Valle 70.84 323 *e*P P 15 51 37.8 0.0
BBTS Babate 71.38 79 LR LR 16 22 44.1
comp=Z,883nm,18.1s,baz=298,slow=36
TNA Tin City 72.45 335 *e*P P 15 51 47.5 +0.2
comp=Z,21nm,1.1s
DAG Danmarks Havn 72.64 13 *i*P P 15 51 45.1 -3.1
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG MLR MLR
comp=Z,7μm,22.0s
DAG Danmarks Havn 72.64 13 *i*P P 15 51 45.1 -3.1
comp=Z,7.1nm,0.9s
DAG
comp=Z,6μm,22.0s
JMIC Jan Mayen 74.55 20 LR LR 16 24 22.8
comp=Z,3μm,21.9s,baz=250,slow=36
LIS Lisbon 74.87 53 *e*P P 15 52 01.0 -1.0
LIS AMb AMB 15 52 15.8
comp=Z,160nm,1.7s
LIS *e*S **S** 16 01 34.2 -0.2
LIS Lisbon 74.87 53 *e*P P 15 52 01.0 -1.0
LIS *e*S **S** 16 01 34.2 -0.2
MORF Marmelete 75.41 55 *e*P P 15 52 04.0 -1.2
MORF *e*S **S** 16 01 39.9 -0.6
ROSF Rostrenen 78.08 43 *e*P P 15 52 16.0 -3.9
ROSF Rostrenen 78.08 43 *e*P P 15 52 16.0 -3.9
ROSF Rostrenen 78.08 43 *e*P P 15 52 16.0 -3.9
QUIF Quistinic 78.20 43 *e*P P 15 52 16.7 -3.9
QUIF *ep*P pP 15 52 40.8 +2.8
QUIF Quistinic 78.20 43 *e*P P 15 52 16.7 -3.9
QUIF *e**PP pP 15 52 40.8 +2.8
QUIF Quistinic 78.20 43 *e*P P 15 52 16.7 -3.9
QUIF *ep*P pP 15 52 40.8 +2.8
PAB San Pablo 78.48 52 *e*P P 15 52 20.0 -2.5
PAB *e**PP **pP** 15 52 37.1 -2.8
PAB *e**SP **sP** 15 52 44.7 -2.2
PAB pmax pmax
comp=Z,35nm,1.5s
PAB San Pablo 78.48 52 *e*P P 15 52 20.0 -2.5
comp=Z,35nm,1.5s
PAB *ep*P **pP** 15 52 37.1 -2.8
PAB *es*P **sP** 15 52 44.6 -2.2
SGMF Saint Gilles 78.56 43 *e*P P 15 52 18.8 -3.8
SGMF Saint Gilles 78.56 43 *e*P P 15 52 18.8 -3.8
SGMF Saint Gilles 78.56 43 *e*P P 15 52 18.8 -3.8
ESDC Sonseca Array 78.75 52 P P 15 52 20.6 -3.4
ESDC Sonseca Array 78.75 52 P P 15 52 20.6 -3.4
comp=Z,4.4nm,0.6s,baz=289,slow=5.0,SNR=17
ESDC LR LR 16 22 38.4
comp=Z,788nm,21.2s,baz=300,slow=32
MDT Midelt 79.29 59 LR LR 16 20 58.4
comp=Z,2μm,21.1s,baz=286,slow=31
GRR Gorron 79.66 43 *e*P P 15 52 24.8 -3.8
comp=Z,26nm,0.8s
GRR *ep*P pP 15 52 48.6 +2.5
GRR Gorron 79.66 43 *e*P P 15 52 24.8 -3.8
GRR *e**PP pP 15 52 48.6 +2.5
GRR pmax pmax
comp=Z,27nm,0.8s
GRR Gorron 79.66 43 *e*P P 15 52 24.8 -3.8
comp=Z,26nm,0.8s
GRR *ep*P pP 15 52 48.6 +2.5
FLN La Foliniere 79.85 42 *e*P P 15 52 25.7 -3.9
comp=Z,20nm,0.8s
FLN *ep*P pP 15 52 49.9 +2.8
FLN *e*R
comp=Z,2μm,23.0s
FLN La Foliniere 79.85 42 *e*P P 15 52 25.7 -3.9
FLN *e**PP pP 15 52 49.9 +2.8
FLN pmax pmax
comp=Z,20nm,0.8s
FLN La Foliniere 79.85 42 *e*P P 15 52 25.7 -3.9
comp=Z,20nm,0.8s
FLN *ep*P pP 15 52 49.9 +2.8
SPITS Spitsbergen Ar 80.11 12 LR LR 16 29 25.2
comp=Z,4μm,20.4s,baz=215,slow=37
LDF La Druitiere 80.11 42 *e*P P 15 52 27.1 -4.0
comp=Z,9.4nm,0.7s
LDF *ep*P pP 15 52 51.3 +2.7
LDF La Druitiere 80.11 42 *e*P P 15 52 27.1 -4.0
LDF *e**PP pP 15 52 51.3 +2.7
LDF pmax pmax
comp=Z,9.0nm,0.7s
LDF La Druitiere 80.11 42 *e*P P 15 52 27.1 -4.0
comp=Z,9.4nm,0.7s
LDF *ep*P pP 15 52 51.3 +2.7
SJPF Ste Jean 80.25 48 *e*P P 15 52 28.1 -3.9
SJPF Ste Jean 80.25 48 *e*P P 15 52 28.1 -3.9
SJPF Ste Jean 80.25 48 *e*P P 15 52 28.1 -3.9
MFF Saint Martin d 80.43 44 *e*P P 15 52 28.8 -4.0
MFF Saint Martin d 80.43 44 *e*P P 15 52 28.8 -4.0
MFF Saint Martin d 80.43 44 *e*P P 15 52 28.8 -4.0
ETSF Etsaut 80.77 48 *e*P P 15 52 31.1 -3.7
ETSF Etsaut 80.77 48 *e*P P 15 52 31.1 -3.7
ETSF Etsaut 80.77 48 *e*P P 15 52 31.1 -3.7
MIDW Midway 80.97 297 P P 15 52 36.7 +0.7
LFF La Frestale 81.33 46 *e*P P 15 52 33.7 -3.9
LFF La Frestale 81.33 46 *e*P P 15 52 33.7 -3.9
LFF La Frestale 81.33 46 *e*P P 15 52 33.7 -3.9
EPF Esparros 81.40 48 *e*P P 15 52 33.9 -4.2
EPF Esparros 81.40 48 *e*P P 15 52 33.9 -4.2
EPF Esparros 81.40 48 *e*P P 15 52 33.9 -4.2
RJF Les Rejaudoux 81.80 45 *e*P P 15 52 36.2 -4.0
RJF *e*R
comp=Z,2μm,22.2s
RJF Les Rejaudoux 81.80 45 *e*P P 15 52 36.2 -4.0
RJF Les Rejaudoux 81.80 45 *e*P P 15 52 36.2 -4.0
TCF Toulx Ste Croi 82.09 44 *e*P P 15 52 37.2 -4.5
TCF Toulx Ste Croi 82.09 44 *e*P P 15 52 37.2 -4.5
TCF Toulx Ste Croi 82.09 44 *e*P P 15 52 37.2 -4.5
CAF Calviac 82.26 46 *e*P P 15 52 38.4 -4.2
CAF Calviac 82.26 46 *e*P P 15 52 38.4 -4.2
CAF Calviac 82.26 46 *e*P P 15 52 38.4 -4.2
BILL Bilibino 82.31 338 ⇑*e*P **P** 15 52 41.7 -0.6
BILL *e*S **S** 16 02 53.4 +0.5
BILL pmax pmax
comp=Z,130nm,1.5s
BILL MLR MLR
comp=Z,900nm,23.0s
BGF Bois d'Agland 82.46 44 *e*P P 15 52 39.4 -4.2
comp=Z,12nm,0.6s
BGF Bois d'Agland 82.46 44 *e*P P 15 52 39.4 -4.2
BGF pmax pmax
comp=Z,12nm,0.6s
BGF Bois d'Agland 82.46 44 *e*P P 15 52 39.4 -4.2
comp=Z,12nm,0.6s
BAIF Baives 82.62 40 *e*P P 15 52 39.9 -4.4
BAIF Baives 82.62 40 *e*P P 15 52 39.9 -4.4
BAIF Baives 82.62 40 *e*P P 15 52 39.9 -4.4
AVF Avril sur Loir 82.76 44 *e*P P 15 52 40.6 -4.5
comp=Z,8.3nm,0.9s
AVF Avril sur Loir 82.76 44 *e*P P 15 52 40.6 -4.5
AVF pmax pmax
comp=Z,8.0nm,0.9s
AVF Avril sur Loir 82.76 44 *e*P P 15 52 40.6 -4.5
comp=Z,8.3nm,0.9s
SSF Saint Saulge 82.80 43 *e*P P 15 52 41.5 -3.8
comp=Z,7.2nm,0.7s
SSF Saint Saulge 82.80 43 *e*P P 15 52 41.5 -3.8
SSF pmax pmax
comp=Z,7.0nm,0.6s
SSF Saint Saulge 82.80 43 *e*P P 15 52 41.5 -3.8
comp=Z,7.2nm,0.6s
LOR Lormes 82.99 43 *e*P P 15 52 42.3 -4.0
comp=Z,8.5nm,0.8s
LOR *e*R
comp=Z,2μm,22.8s
LOR Lormes 82.99 43 *e*P P 15 52 42.3 -4.0
comp=Z,8.5nm,0.8s
FX1 Attu Island--F 83.02 323 *e*P **P** 15 52 46.4 +0.1
SMF Signal de Mont 83.12 44 *e*P P 15 52 43.0 -4.0
SMF Signal de Mont 83.12 44 *e*P P 15 52 43.0 -4.0
SMF Signal de Mont 83.12 44 *e*P P 15 52 43.0 -4.0
MEZF Maizieres J'vi 83.50 42 *e*P P 15 52 44.7 -4.2
MEZF Maizieres J'vi 83.50 42 *e*P P 15 52 44.7 -4.2
LASF Ste Croix 83.69 46 *e*P P 15 52 45.9 -4.1
comp=Z,11nm,0.9s
LASF Ste Croix 83.69 46 *e*P P 15 52 45.9 -4.1
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 83.72 29 P **P** 15 52 47.9 -1.9
comp=Z,69nm,1.7s,baz=287,slow=5.3
NB2 NORSAR Subarra 83.72 29 P **P** 15 52 47.9 -1.9
baz=287,slow=5.3
NOA NORSAR Array B 83.72 29 P **P** 15 52 47.5 -2.4
NOA NORSAR Array B 83.72 29 P **P** 15 52 47.5 -2.4
comp=Z,2.7nm,0.8s,baz=288,slow=5.2,SNR=5.8
NOA LR LR 16 27 49.9
comp=Z,1μm,21.5s,baz=285,slow=34
VIVF Saint-Julien-l 84.08 45 *e*P P 15 52 47.9 -4.1
VIVF Saint-Julien-l 84.08 45 *e*P P 15 52 47.9 -4.1
VIVF Saint-Julien-l 84.08 45 *e*P P 15 52 47.9 -4.1
LIC Lamto 84.14 85 *e*P P 15 52 49.4 -3.4
comp=Z,37nm,0.9s,baz=282
LIC *e*R
comp=Z,5μm,22.8s
LIC Lamto 84.14 85 *e*P P 15 52 49.4 -3.4
comp=Z,37nm,0.9s
DBIC Dimbokro 84.21 85 *e*P P 15 52 49.8 -3.4
comp=Z,12nm,0.8s
DBIC pP PcP 15 53 03.8 +6.9
DBIC Dimbokro 84.21 85 P P 15 52 49.9 -3.2
comp=Z,9.2nm,0.6s,baz=266,slow=5.0,SNR=15
DBIC LR LR 16 26 07.6
comp=Z,2μm,21.9s,baz=272,slow=33
HAU Haudompre 84.46 42 *e*P P 15 52 49.6 -4.2
HAU *e*R
comp=Z,2μm,21.0s
HAU Haudompre 84.46 42 *e*P P 15 52 49.6 -4.2
HAU Haudompre 84.46 42 *e*P P 15 52 49.6 -4.2
HINF Hinteralfeld 84.84 42 *e*P P 15 52 51.6 -4.2
HINF Hinteralfeld 84.84 42 *e*P P 15 52 51.6 -4.2
HINF Hinteralfeld 84.84 42 *e*P P 15 52 51.6 -4.2
ORIF Oris-en-Rattie 84.90 45 *e*P P 15 52 52.3 -3.9
ORIF *e*R
comp=Z,2μm,22.8s
ORIF Oris-en-Rattie 84.90 45 *e*P P 15 52 52.3 -3.9
ORIF Oris-en-Rattie 84.90 45 *e*P P 15 52 52.3 -3.9
SMRF Simiane la Rot 84.92 46 *e*P P 15 52 51.9 -4.3
SMRF Simiane la Rot 84.92 46 *e*P P 15 52 51.9 -4.3
HFS Hagfors 85.17 29 LR LR 16 28 32.4
comp=Z,1μm,21.4s,baz=269,slow=34
BSEG Bad Segeberg 85.31 36 *e*P **P** 15 52 57.6 -0.3
comp=Z,76nm,1.6s
MBDF Montbardon 85.56 45 *e*P P 15 52 55.5 -4.1
comp=Z,10nm,0.8s
MBDF *ep*P pP 15 53 24.9 +7.6

MBDF	**Montbardon**	**85.56**	**45**	*e*P		P	15 52 55.5	-4.1	
MBDF				*e**PP		pP	15 53 24.9	+7.6	
MBDF				pmax		pmax			
	comp=Z,11nm,0.8s								
MBDF	**Montbardon**	**85.56**	**45**	*e*P		P	15 52 55.5	-4.1	
	comp=Z,10nm,0.8s								
MBDF				*e*pP		pP	15 53 24.9	+7.6	
NRDL	**Niedersach Rie**	**85.60**	**37**	*e*P		**P**	**15 52 57.9**	**-1.4**	
	comp=Z,52nm,2.1s								
BFO	**Black Forest**	**85.66**	**41**	*i* P		**P**	**15 53 00.2**	**+0.4**	
CLZ	**Clausthal**	**85.94**	**38**	*e*P		**P**	**15 52 59.6**	**-1.6**	
	comp=Z,70nm,1.8s								
ARCES	**ARCESS Array B**	**85.98**	**18**	P		**P**	**15 52 58.7**	**-2.2**	
ARCES	**ARCESS Array B**	**85.98**	**18**	P		**P**	**15 52 58.7**	**-2.2**	
	comp=Z,3.0nm,0.7s,baz=283,slow=4.4,SNR=11								
ARCES				LR		LR	16 31 26.6		
	comp=Z,2μm,20.4s,baz=260,slow=36								
UBBA	**Unterbreizbach**	**86.02**	**39**	*e*P		**P**	**15 53 00.0**	**-1.3**	
	comp=Z,28nm,1.6s								
STU	**Stuttgart**	**86.09**	**41**	*e*P		**P**	**15 53 00.9**	**-1.0**	
STU	**Stuttgart**	**86.09**	**41**	*e*P		**P**	**15 53 00.9**	**-1.0**	
TUE	**Stuetta**	**86.84**	**43**	*e*P		**P**	**15 53 02.9**	**-3.0**	
	comp=Z,6.7nm,0.6s								
DAVA	**Damuels**	**86.96**	**42**⇑	*i*PcP		**P**	**15 53 04.8**	**-1.6**	
	comp=Z,24nm,1.2s								
DAVOX	**Davos/Dischmat**	**87.10**	**43**	LR		LR	16 27 19.3		
	comp=Z,1μm,21.3s,baz=298,slow=32								
PLN	**Plauen**	**87.42**	**39**	*e*P		**P**	**15 53 06.3**	**-2.1**	
	comp=Z,34nm,1.5s								
PLN				*e*pP		**pP**	**15 53 30.4**	**+4.3**	
RETA	**Reutte**	**87.47**	**42**⇓	*i*P		**P**	**15 53 06.1**	**-2.7**	
	comp=Z,16nm,1.0s								
WERD	**Werda**	**87.53**	**39**	*e*P		**P**	**15 53 06.7**	**-2.2**	
GUNZ	**Gunzen**	**87.57**	**39**	*e*P		**P**	**15 53 07.3**	**-1.8**	
	comp=Z,126nm,2.7s								
FETA	**Feichten**	**87.59**	**42**⇑	*i*P		**P**	**15 53 06.6**	**-2.8**	
	comp=Z,8.2nm,0.8s								
WERN	**Wernitzgruen**	**87.62**	**39**	*e*P		**P**	**15 53 07.4**	**-2.0**	
TANN	**Tannenbergstha**	**87.63**	**39**	*e*P		**P**	**15 53 07.3**	**-2.2**	
	comp=Z,34nm,1.6s								
CLL	**Collm**	**87.67**	**38**	*e*P		**P**	**15 53 08.0**	**-1.5**	
CLL				*e**PP		**pP**	**15 53 30.0**	**+2.8**	
CLL				pmax		pmax			
	comp=Z,43nm,1.9s								
CLL	**Collm**	**87.67**	**38**	*e*P		**P**	**15 53 07.6**	**-1.9**	
	comp=Z,21nm,1.4s								
CLL	**Collm**	**87.67**	**38**	*e*P		**P**	**15 53 08.0**	**-1.5**	
	comp=Z,43nm,1.9s								
CLL				*e*pPcP			15 53 26.0		
CLL				*es*P		**pP**	**15 53 30.0**	**+2.8**	
CLL				*e*			15 53 39.0		
CLL				*e*PP		**PP**	**15 53 30.0**	**+0.8**	
CLL				*e*			16 00 36.0		
NKC	**Novy Kostel**	**87.68**	**39**	*e*P		**P**	**15 53 07.7**	**-1.9**	
NKC				*e*			15 53 31.1		
NKC	**Novy Kostel**	**87.68**	**39**	*e*P		**P**	**15 53 07.7**	**-1.9**	
NKC				*es*P		**sP**	**15 53 31.1**	**-3.2**	
ROTZ	**Rotzenmuhle**	**87.68**	**39**	*e*P		**P**	**15 53 07.7**	**-1.9**	
	comp=Z,24nm,1.5s								
PGF	**Pioggiola**	**87.71**	**47**	*e*P		P	15 53 06.0	-4.0	
	comp=Z,14nm,0.8s								
PGF	**Pioggiola**	**87.71**	**47**	*e*P		P	15 53 06.0	-4.0	
PGF				pmax		pmax			
	comp=Z,15nm,0.8s								
PGF	**Pioggiola**	**87.71**	**47**	*e*P		P	15 53 06.0	-4.0	
	comp=Z,14nm,0.8s								
FBE	**Freiberg**	**88.01**	**38**	*e*P		**P**	**15 53 10.0**	**-1.1**	
	comp=Z,54nm,1.8s								
WET	**Wettzell**	**88.30**	**40**	*e*P		**P**	**15 53 10.9**	**-1.7**	
	comp=Z,60nm,1.7s								
BRG	**Berggiesshubel**	**88.37**	**38**	*e*P		**P**	**15 53 10.9**	**-1.9**	
	comp=Z,20nm,1.5s								
BRG				pP		**pP**	**15 53 32.0**	**+1.4**	
BRG				PP		PP	15 56 33.0	-7.9	
BRG									
	comp=N,9μm,13.2s								
BRG									
	comp=E,12μm,12.8s								
BRG									
	comp=Z,1μm,13.0s								
BRG	**Berggiesshubel**	**88.37**	**38**	*e*P		**P**	**15 53 10.8**	**-2.1**	
	comp=Z,20nm,1.5s								
BRG				*e*pP		**pP**	**15 53 33.0**	**+2.4**	
KHC	**Kasperske Hory**	**88.73**	**40**	*e*P		P	15 53 11.4	-3.3	
KHC				*e*			15 53 35.5		
KHC				MLR		MLR			
	comp=Z,2μm,21.1s								
KHC	**Kasperske Hory**	**88.73**	**40**	*e*P		P	15 53 11.4	-3.3	
KHC				*ex*		x	15 53 14.0		
KHC				*es*P		sP	15 53 35.5	-3.8	
KHC				AMS		AMS	16 27 00.0		
	comp=Z,2μm,21.1s								
KHC	**Kasperske Hory**	**88.73**	**40**	*e*P		P	15 53 11.4	-3.3	
	comp=Z,15nm,1.4s								
KHC				*e*pP		pP	15 53 31.4	-1.0	
PVCC	**Panska Ves**	**88.86**	**38**	*e*P		**P**	**15 53 14.6**	**-0.6**	
PVCC				*e*			15 53 36.8		
PVCC				MLR		MLR			
	comp=Z,2μm,23.0s								
PVCC	**Panska Ves**	**88.86**	**38**	*e*P		**P**	**15 53 14.6**	**-0.6**	
PVCC				*es*P		**sP**	**15 53 36.8**	**-3.1**	
PVCC				*ex*		x	15 57 09.5		
PVCC				AMS		AMS	16 25 50.0		
	comp=Z,2μm,23.0s								
GEC2	**GERESS Array S**	**88.91**	**40**	*e*P		**P**	**15 53 13.2**	**-2.4**	
	comp=Z,33nm,1.8s								
GERES	**GERESS Array B**	**88.91**	**40**	P		**P**	**15 53 12.8**	**-2.7**	
GERES	**GERESS Array B**	**88.91**	**40**	P		**P**	**15 53 12.8**	**-2.7**	
	comp=Z,1.4nm,0.8s,baz=315,slow=0.8,SNR=12								
GERES				LR		LR	16 28 55.5		
	comp=Z,1μm,21.2s,baz=278,slow=33								
PRA	**Prague**	**88.94**	**39**	P		**P**	**15 53 14.0**	**-1.5**	
TORD	**Torodi Ar. Bea**	**89.01**	**77**	P		P	15 53 12.0	-4.6	
TORD	**Torodi Ar. Bea**	**89.01**	**77**	P		P	15 53 12.0	-4.6	
	comp=Z,1.0nm,0.5s,baz=289,slow=6.7,SNR=9.5								
TORD				LR		LR	16 30 49.2		
	comp=Z,963nm,20.7s,baz=290,slow=34								
PRU	**Pruhonice**	**89.03**	**39**	*e*P		**P**	**15 53 13.9**	**-2.1**	
PRU				*e*			15 53 38.5		
PRU				MLR		MLR			
	comp=Z,2μm,20.2s								
PRU	**Pruhonice**	**89.03**	**39**	*e*P		**P**	**15 53 13.9**	**-2.1**	
PRU				*es*P		**sP**	**15 53 38.5**	**-2.2**	
PRU				*ex*		x	15 57 08.9		
PRU				AMS		AMS	16 27 10.0		
	comp=Z,2μm,20.2s								
SEY	**Seymchan**	**89.66**	**336**⇑	*i*P		**P**	**15 53 19.2**	**+0.6**	
UPC	**Upice**	**89.73**	**38**	*e*P		**P**	**15 53 19.2**	**-0.1**	
UPC				*e*			15 53 40.5		
UPC	**Upice**	**89.73**	**38**	*e*P		**P**	**15 53 19.2**	**-0.1**	
UPC				*es*P		**sP**	**15 53 40.5**	**-3.5**	
KEST	**Kesra**	**89.90**	**53**	P		**P**	**15 53 19.3**	**-1.2**	
DPC	**Dobruska-Polom**	**89.98**	**38**	*e*P		**P**	**15 53 18.3**	**-2.2**	
DPC				*e*			15 53 44.3		
DPC	**Dobruska-Polom**	**89.98**	**38**	*e*P		**P**	**15 53 18.3**	**-2.2**	
DPC				*es*P		**sP**	**15 53 44.3**	**-0.9**	
DPC				*ex*		x	15 57 15.0		
DPC				AMS		AMS	16 33 40.0		
JAVS	**Javornik**	**90.13**	**43**	*i* P		**P**	**15 53 21.4**	**0.0**	
FINES	**FINESS Array B**	**90.16**	**25**	P		**P**	**15 53 20.1**	**-0.8**	
FINES	**FINESS Array B**	**90.16**	**25**	P		**P**	**15 53 20.1**	**-0.8**	
	comp=Z,1.7nm,0.9s,baz=2.9,slow=3.8,SNR=6.1								
KRLC	**Kraliky**	**90.35**	**38**	*e*P		**P**	**15 53 21.9**	**-0.3**	
KRLC				*e*			15 53 43.4		
KRLC	**Kraliky**	**90.35**	**38**	*e*P		**P**	**15 53 21.9**	**-0.3**	
KRLC				*es*P		**sP**	**15 53 43.4**	**-3.5**	
SOKA	**Soboth**	**90.49**	**42**	P		P	15 53 15.2	-7.8	
	comp=Z,6.0nm,0.9s								
VRAC	**Vranov**	**90.52**	**39**	LR		LR	16 30 57.1		
	comp=Z,1μm,20.5s,baz=292,slow=34								
CONA	**Conrad Observa**	**90.58**	**40**⇑	*i*P		**P**	**15 53 20.7**	**-2.7**	
	comp=Z,16nm,1.7s								
VISS	**Visnje**	**90.67**	**42**	*e*P		P	15 53 30.6	+6.8	
TIXI	**Tiksi**	**90.88**	**348**	*ce*P		**P**	**15 53 23.9**	**-0.2**	
TIXI				pmax		pmax			
	comp=Z,7.0nm,1.1s								
BOJS	**Bojanci**	**91.05**	**43**	*i* P		**P**	**15 53 23.2**	**-2.3**	
OKC	**Ostrava-Krasne**	**91.26**	**38**	*e*P		**P**	**15 53 24.6**	**-1.8**	
OKC				*e*			15 53 50.2		
OKC				MLR		MLR			
	comp=Z,1μm,19.8s								
OKC	**Ostrava-Krasne**	**91.26**	**38**	*e*P		**P**	**15 53 24.6**	**-1.8**	
OKC				*es*P		**sP**	**15 53 50.2**	**-0.9**	
OKC				AMS		AMS	16 33 30.0		
	comp=Z,1μm,19.8s								
PET	**Petropavlovsk**	**91.26**	**326**	*e*P		P	15 53 22.0	-4.3	
PET				*e*			15 57 11.3		
PET				*e*			16 03 45.8		
PET				*eS*		**S**	**16 04 15.7**	**-4.1**	
PET				*e*PS		**PS**	**16 05 35.0**	**-1.2**	
PET				*e*PPS		PPS	16 05 54.0		
PETK	**Petropavlovsk-**	**91.75**	**326**	P		**P**	**15 53 28.9**	**+0.3**	
PETK	**Petropavlovsk-**	**91.75**	**326**	P		**P**	**15 53 28.9**	**+0.3**	
PETK	**Petropavlovsk-**	**91.75**	**326**	P		**P**	**15 53 28.9**	**+0.3**	
	comp=Z,3.3nm,0.8s,baz=81,slow=8.9,SNR=10.0								
CRVS	**Cervenica-Dubn**	**93.62**	**38**	*e*P		P	15 53 32.5	-4.8	
CRVS				pmax		pmax			
	comp=Z,103nm,3.5s								
CRVS	**Cervenica-Dubn**	**93.62**	**38**	*e*P		P	15 53 32.5	-4.8	
KOLS	**Kolonicke sedl**	**94.09**	**38**	*e*P		P	15 53 34.7	-4.8	
KOLS				pmax		pmax			
	comp=Z,79nm,2.7s								
KOLS	**Kolonicke sedl**	**94.09**	**38**	*e*P		P	15 53 34.7	-4.8	
KOLS				*e*			16 01 54.2		
UZH	**Uzhgorod**	**94.23**	**38**	*e*P		**P**	**15 53 38.1**	**-2.0**	
UZH				*e*			15 53 58.3		
OBN	**Obninsk**	**98.29**	**28**	*e*P		**P**	**15 53 57.7**	**-0.6**	
OBN				*i*			15 54 21.6		
OBN				*i*			15 57 55.9		
OBN				pmax		pmax			
	comp=Z,11nm,1.3s								
OBN	**Obninsk**	**98.29**	**28**	LR		LR	16 36 40.7		
	comp=Z,1μm,20.9s,baz=346,slow=34								
VSR	**Storozhevoye**	**101.97**	**30**	*e*P		**Pdif**	**15 54 23.5**	**+8.6**	
VSR				pmax		pmax			
	comp=N,4.0nm,0.9s								
VSR				pmax		pmax			
	comp=E,5.0nm,0.9s								
VSR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BRTR	**Keskin Array B**	**105.72**	**42**	PKKPbc		PKKPbc	16 10 08.9	-0.5	
BRTR	**Keskin Array B**	**105.72**	**42**	PKKPbc		PKKPbc	16 10 08.9	-0.5	
	comp=Z,1.3nm,1.0s,baz=107,slow=5.8,SNR=4.8								
DZM	**Mont Dzumac**	**106.97**	**251**	*e*SKSac		**SKSac**	**16 05 14.5**	**+1.6**	
	comp=Z,756nm,37.0s								
DZM				*e*SP		**SP**	**16 08 18.6**	**0.0**	
	comp=Z,1μm,30.2s								
DZM	**Mont Dzumac**	**106.97**	**251**	*e*LR		LR	16 29 59.9		
	comp=Z,4μm,26.6s								
MAK	**Makhachkala**	**111.75**	**32**	*i* PKIKP		**PKiKP**	**15 58 53.3**	**-2.4**	
MAK				*e*			15 59 30.5		
MAK				*e*PPP		PPP	16 01 58.8		
MAK				*i*			16 05 33.4		
MAK				*e*SS		SS	16 15 11.1	+2.3	
MAK				*e*SSS		SSS	16 19 18.2		
MAK				pmax		pmax			
	comp=Z,769nm,2.0s								
MAK				MLR		MLR			
	comp=Z,3μm,23.0s								
ABKAR	**Akbulak array**	**112.11**	**20**	PKPdf		**PKiKP**	**15 58 55.2**	**-1.0**	
ZAAO	**Zalesovo Array**	**112.53**	**3**	*e*PKiKP		**PKiKP**	**15 58 55.6**	**-1.2**	
ZALV	**Zalesovo Beam**	**112.53**	**3**	PKiKP		**PKiKP**	**15 58 56.0**	**-0.9**	
ZALV	**Zalesovo Beam**	**112.53**	**3**	PKiKP		**PKiKP**	**15 58 56.0**	**-0.9**	
ZALV				PKKPbc		**PKKPab**	**16 09 53.2**	**-3.8**	
ZALV	**Zalesovo Beam**	**112.53**	**3**	PKiKP		**PKiKP**	**15 58 56.0**	**-0.9**	
	comp=Z,1.9nm,0.5s,baz=291,slow=2.8,SNR=11								
ZALV				PKKPbc		**PKKPab**	**16 09 53.2**	**-3.8**	
	comp=Z,1.7nm,0.9s,baz=90,slow=0.4,SNR=4.3								
ZAK	**Zakamensk**	**115.09**	**350**	*e*PKIKP		**PKPdf**	**15 59 00.2**	**-1.9**	
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.7s								
KURK	**Kurchatov**	**115.18**	**8**	PKIKP		**PKPdf**	**15 59 01.5**	**-0.6**	
KURK	**Kurchatov**	**115.18**	**8**	*e*PKIKP		**PKiKP**	**15 59 00.4**	**-1.6**	
KURK				PKKPbc		**PKKPbc**	**16 09 36.8**	**-2.2**	
KURBB	**Kurchatov Arra**	**115.26**	**8**	PKP		**PKPdf**	**15 59 01.8**	**-0.5**	
	baz=348,slow=2.3								
KURBB				PKKPbc		**PKKPbc**	**16 09 36.8**	**-2.0**	
	comp=Z,1.1nm,0.8s,baz=193,slow=3.2,SNR=4.4								
ULN	**Ulaanbaatar**	**116.77**	**347**	*e*PKPdf		**PKPdf**	**15 59 06.1**	**+0.6**	
SONM	**Songino Array**	**116.95**	**347**	PKP		**PKPdf**	**15 59 05.0**	**-0.8**	
SONM				SKP		**SKPdf**	**16 02 35.2**	**-0.7**	
SONM	**Songino Array**	**116.95**	**347**	PKP		**PKPdf**	**15 59 05.0**	**-0.8**	
	comp=Z,2.3nm,0.7s,baz=347,slow=2.2,SNR=9.4								
SONM				SKP		**SKPdf**	**16 02 35.2**	**-0.7**	
	comp=Z,0.8nm,0.6s,baz=17,slow=3.0,SNR=4.0								
KSRS	**Korea Array**	**117.65**	**326**	PKP		**PKPdf**	**15 59 07.2**	**+0.1**	
	comp=Z,5.5nm,0.7s,baz=11,slow=1.6,SNR=27								
KSAR	**Wonju Array Be**	**117.68**	**326**	PKP		**PKPdf**	**15 59 07.2**	**0.0**	
BOSA	**Boshof**	**118.88**	**115**	*e*PKPdf		**PKPdf**	**15 59 09.5**	**-0.4**	
BOSA				PKP		**PKPdf**	**15 59 09.8**	**-0.1**	
BOSA	**Boshof**	**118.88**	**115**	PKP		**PKPdf**	**15 59 09.8**	**-0.1**	
	comp=Z,18nm,0.8s,baz=245,slow=1.6,SNR=13								
LBTB	**Lobatse**	**119.10**	**111**	PKP		**PKPdf**	**15 59 10.4**	**0.0**	
LBTB				*e*PKPdf		**PKiKP**	**15 59 10.8**	**+0.3**	
LBTB	**Lobatse**	**119.10**	**111**	PKP		**PKPdf**	**15 59 10.4**	**0.0**	
MK31	**Makanchi Array**	**119.46**	**6**	*e*PKIKP		**PKPdf**	**15 59 08.3**	**-2.2**	
MK31	**Makanchi Array**	**119.46**	**6**	*e*PKPdf		**PKPdf**	**15 59 08.3**	**-2.2**	
MKAR	**Makanchi Array**	**119.46**	**6**c	*i*PKIKP		**PKPdf**	**15 59 08.6**	**-1.9**	
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**119.46**	**6**	PKP		**PKPdf**	**15 59 08.6**	**-1.9**	
MKAR	**Makanchi Array**	**119.46**	**6**	PKP		**PKPdf**	**15 59 08.6**	**-1.9**	
	comp=Z,1.7nm,0.5s,baz=339,slow=1.5,SNR=21								
LSZ	**Lusaka**	**120.76**	**100**	*e*PKPdf		**PKPdf**	**15 59 14.3**	**+0.4**	
BJI	**Beijing**	**121.09**	**336**	PKP		**PKPdf**	**15 59 13.5**	**-0.2**	
BJI				SS		SS	16 17 09.5	-0.8	
BJI				LR		LR			
	comp=Z,1μm,22.5s								
BJI				LR		LR			
	comp=Z,1μm,23.2s								
BJI				LR		LR			
	comp=Z,940nm,24.0s								
TKM2	**Tokmak 2**	**122.25**	**12**	*e*PKIKP		**PKPdf**	**15 59 16.2**	**0.0**	
TKM2	**Tokmak 2**	**122.25**	**12**	*e*PKPdf		**PKPdf**	**15 59 16.2**	**0.0**	
AAK	**Ala-Archa**	**122.29**	**13**	PKIKP		**PKPdf**	**15 59 15.6**	**-0.7**	
AAK	**Ala-Archa**	**122.29**	**13**	PKP		**PKPdf**	**15 59 15.6**	**-0.7**	
AAK	**Ala-Archa**	**122.29**	**13**	PKP		**PKPdf**	**15 59 15.6**	**-0.7**	
	comp=Z,3.7nm,0.8s,baz=98,slow=0.0								
WMQ	**Urumqi**	**122.76**	**2**	PKP		**PKPdf**	**15 59 16.8**	**-0.2**	
WMQ				PP		PP	16 00 59.1	+5.0	
WMQ				PKS		**PKSdf**	**16 02 52.3**	**-1.4**	
WMQ				SKS		**SKSdf**	**16 06 24.4**	**+0.7**	
WMQ				SKKS		**SKKSac**	**16 07 46.6**	**-2.3**	
WMQ				SS		**SS**	**16 17 36.6**	**+5.5**	
WMQ				AMB		AMB			
	comp=Z,73nm,10.0s								
WMQ				LR		LR			
	comp=Z,2μm,19.7s								
WMQ				LR		LR			
	comp=Z,770nm,17.8s								
WMQ				LR		LR			
	comp=Z,850nm,27.7s								
MAW	**Mawson**	**123.36**	**168**	PKP		**PKPdf**	**15 59 17.7**	**+0.5**	
MAW	**Mawson**	**123.36**	**168**	PKP		**PKPdf**	**15 59 17.7**	**+0.5**	
	comp=Z,14nm,1.1s,baz=338,slow=2.9,SNR=3.8								
TIA	**Tai'an**	**123.95**	**333**	PKP		**PKPdf**	**15 59 19.8**	**+0.4**	
CTA	**Charters Tower**	**125.55**	**255**	PKP		**PKPdf**	**15 59 22.5**	**-0.3**	
CTA	**Charters Tower**	**125.55**	**255**	PKP		**PKPdf**	**15 59 22.5**	**-0.3**	
	comp=Z,12nm,0.9s,baz=0.0,slow=0.0								
CTAO	**Charters Tower**	**125.55**	**255**	*e*PKIKP		**PKPdf**	**15 59 23.7**	**+0.9**	
CTAO	**Charters Tower**	**125.55**	**255**	*e*PKPdf		**PKPdf**	**15 59 23.7**	**+0.9**	
KSH	**Kashi**	**125.60**	**13**	*e*PKP		**PKPdf**	**15 59 23.1**	**+0.5**	
KSH				*e*SKS		**SKSdf**	**16 06 30.5**	**+1.1**	
KSH				AMB		AMB			
	comp=Z,140nm,6.0s								
KSH				LR		LR			
	comp=Z,1μm,21.0s								
KSH				LR		LR			
	comp=Z,720nm,18.2s								
KSH				LR		LR			
	comp=Z,590nm,16.2s								
GTA	**Gaotai**	**126.33**	**350**	*e*PKP		**PKPdf**	**15 59 23.8**	**-0.2**	
GTA				PP		**PP**	**16 01 22.9**	**+4.8**	
GTA				SKS		**SKSdf**	**16 06 30.5**	**-0.2**	
GTA				SKKS		**SKKSac**	**16 08 11.0**	**-1.0**	
GTA				SS		**SS**	**16 18 22.1**	**+5.9**	
GTA				AMB		AMB			
	comp=Z,120nm,6.9s								
GTA				LR		LR			
	comp=Z,1μm,25.2s								
GTA				LR		LR			
	comp=Z,1μm,24.2s								
GTA				LR		LR			
	comp=Z,2μm,24.7s								
KMBO	**Kilima Mbogo**	**126.82**	**81**	PKP		**PKPdf**	**15 59 26.6**	**+0.9**	
KMBO				*e*PKPdf		**PKiKP**	**15 59 26.8**	**+0.6**	
KMBO	**Kilima Mbogo**	**126.82**	**81**	PKP		**PKPdf**	**15 59 26.6**	**+0.9**	
	comp=Z,3.1nm,0.7s,baz=18,slow=4.0,SNR=7.3								
KBL	**Kabul**	**128.25**	**22**	PKIKP		**PKPdf**	**15 59 27.1**	**-0.8**	
KBL	**Kabul**	**128.25**	**22**	PKPdf		**PKPdf**	**15 59 27.1**	**-0.8**	
LZH	**Lanzhou**	**128.69**	**345**	*e*PKP		**PKPdf**	**15 59 30.1**	**+1.4**	
LZH				sPKP			15 59 52.8		
LZH				PP		PP	16 01 40.3	+6.5	
LZH				*e*SS		SS	16 18 48.3	+2.4	
LZH				AMB		AMB			
	comp=Z,240nm,5.0s								
LZH				LR		LR			
	comp=Z,910nm,17.2s								
LZH				LR		LR			
	comp=Z,790nm,16.4s								
LZH				LR		LR			
	comp=Z,1μm,19.6s								
XAN	**Xi'an**	**129.09**	**339**	PKP		**PKPdf**	**15 59 29.3**	**0.0**	
XAN				PKS		**PKSdf**	**16 03 04.4**	**-1.6**	
XAN				SKKS			16 08 22.3		
XAN				AMB		AMB			
	comp=Z,61nm,12.3s								
XAN				LR		LR			
	comp=Z,1μm,24.9s								
XAN				LR		LR			
	comp=Z,520nm,22.2s								
XAN				LR		LR			
	comp=Z,750nm,24.9s								
STKA	**Stephens Creek**	**129.18**	**240**	*e*PKPdf		**PKPdf**	**15 59 30.4**	**+0.9**	
STKA				SKPbc		SKPbc	16 02 51.1	+5.5	
STKA	**Stephens Creek**	**129.18**	**240**	PKP		**PKPdf**	**15 59 30.4**	**+0.9**	
	comp=Z,18nm,0.9s,baz=91,slow=2.0,SNR=18								
STKA				SKPbc		SKPbc	16 02 51.1	+5.5	
	comp=Z,2.9nm,0.8s,baz=0.0,slow=5.1,SNR=4.0								
WHN	**Wuhan**	**129.97**	**332**	PKP		**PKPdf**	**15 59 31.3**	**+0.3**	
WHN				PP		**PP**	**16 01 45.0**	**+2.8**	
WHN				SS		SS	16 19 02.3	+0.5	
WHN				LR		LR			
	comp=Z,3μm,17.1s								
WHN				LR		LR			
	comp=Z,3μm,20.0s								
WHN				LR		LR			
	comp=Z,4μm,21.4s								
SMPI	**Sarmi**	**130.02**	**279**	P		SKPdf	16 02 53.6	-7.9	
SSLB	**Suanglung**	**131.73**	**320**	PKPdf		**PKPdf**	**15 59 34.5**	**0.0**	
ENH	**Enshi**	**132.27**	**336**	*e*PKPdf		**PKPdf**	**15 59 36.1**	**+0.6**	
CD2	**Chengdu**	**133.61**	**343**	*e*PKP		**PKPdf**	**15 59 37.5**	**-0.5**	
CD2				PP		**PP**	**16 02 09.5**	**+4.1**	
CD2				PKS		**PKSdf**	**16 03 09.8**	**-4.7**	
CD2				SKS		**SKSdf**	**16 06 43.8**	**-0.4**	
CD2				SKKS		**SKKSac**	**16 08 55.8**	**-1.4**	
CD2				AMB		AMB			
	comp=Z,230nm,10.4s								
CD2				LR		LR			
	comp=Z,1μm,21.4s								
CD2				LR		LR			
	comp=Z,2μm,17.8s								
CD2				LR		LR			
	comp=Z,2μm,23.8s								
BBOO	**Buckleboo**	**133.61**	**238**	*e*PKPdf		**PKPdf**	**15 59 38.2**	**+0.4**	
WRAB	**Tennant Creek**	**136.74**	**255**c	*i*PKIKP		**PKPdf**	**15 59 46.2**	**+2.2**	
WRAB				pmax		pmax			
	comp=Z,52nm,0.8s								
WRAB	**Tennant Creek**	**136.74**	**255**	*e*PKPdf		**PKPdf**	**15 59 44.7**	**+0.7**	
WRA	**Warramunga Arr**	**136.75**	**255**	PKPpre		PKPpre	15 59 32.3		
WRA				PKP		**PKPdf**	**15 59 44.8**	**+0.8**	
WRA				SKPbc		**SKPbc**	**16 03 13.2**	**+1.8**	
WRA				SKKPbc		**SKKPbc**	**16 12 04.1**	**-1.0**	
WRA	**Warramunga Arr**	**136.75**	**255**	PKhKP		PKPpre	15 59 32.3		
	comp=Z,2.7nm,0.8s,baz=85,slow=2.9,SNR=12								
WRA				PKP		**PKPdf**	**15 59 44.8**	**+0.8**	
	comp=Z,17nm,0.8s,baz=88,slow=1.6,SNR=31								
WRA				SKPbc		**SKPbc**	**16 03 13.2**	**+1.8**	
	comp=Z,13nm,1.0s,baz=85,slow=3.0,SNR=11								
WRA				SKKPbc		**SKKPbc**	**16 12 04.1**	**-1.0**	
	comp=Z,1.3nm,0.8s,baz=279,slow=3.0,SNR=6.7

comp=Z,770nm,26.3s
QIZ LR LR
comp=Z,560nm,20.0s
QIZ LR LR
comp=Z,1μm,24.4s
SLVN Son La 142.46 338 *e*PKPpre PKPpre 15 59 51.6
KMSI Cibinong 143.05 290 P pPKPdf 16 00 16.6 +2.5
comp=Z,160nm,1.1s
LUWI Luwuk 144.79 288 P PKPdf 16 00 08.8 +10
comp=Z,124nm,1.0s,comp=Z,2μm
LUWI Luwuk 144.79 288 *e*PKP PKPbc 15 59 58.3 +0.6
MRSI Marisa 144.94 291 P **PKPdf 15 59 59.1 +0.2**
comp=Z,46nm,1.4s,comp=Z,1μm
FITZ Fitzroy Crossi 145.03 258 *e*PKP **PKPdf 15 59 59.1 +0.2**
FITZ Fitzroy Crossi 145.03 258 PKPbc **PKPdf 15 59 59.5 +0.6**
MSEY Mahe Island 145.26 78 *e*PKP **PKPab 15 59 59.4 -0.1**
APSI Ampana 145.77 289 P **PKPab 16 00 03.6 +2.3**
comp=Z,245nm,1.4s,comp=Z,4μm
SOEI Soe 145.78 273 *e*PKPbc **PKPab 16 00 02.0 +0.5**
CHTO Chiang Mai 146.41 344 *e*PKIKP **PKPdf 16 00 00.8 -0.5**
CHTO Chiang Mai 146.41 344 *e*PKPdf **PKPdf 16 00 00.8 -0.5**
CM31 Chiang Mai Arr 146.75 344 *e*PKPdf **PKPdf 16 00 02.4 +0.5**
CMAR Chiang Mai Arr 146.75 344 PKPbc **PKPdf 16 00 02.2 +0.3**
CMAR SKPbc **SKPbc 16 03 35.7 -1.3**
CMAR Chiang Mai Arr 146.75 344 PKPbc **PKPdf 16 00 02.2 +0.3**
comp=Z,27nm,0.7s,baz=337,slow=3.0,SNR=161
CMAR SKPbc **SKPbc 16 03 35.7 -1.3**
comp=Z,8.7nm,1.0s,baz=328,slow=2.4,SNR=6.1
RER Riviere de l'E 146.97 108 *e*PKPbc **PKPbc 16 00 05.0 +0.7**
HYB Hyderabad 147.26 20 *i* PKP **PKPdf 16 00 02.0 -0.8**
HYB *es*PKP 16 00 42.0
HYB *e* 16 01 44.0
HYB *e*PP **PP 16 03 28.0 -1.1**
TTSI Tana Toraja 148.27 287 P pPKPbc 16 00 26.9 +0.6
NWAO Narrogin (SRO) 148.30 228 PKPbc **PKPbc 16 00 07.7 +0.2**
NWAO Narrogin (SRO) 148.30 228 PKPbc **PKPbc 16 00 07.7 +0.2**
baz=132,slow=7.1
SPSI Sidrap Palu 148.64 285 P **PKPbc 16 00 09.3 +0.4**
comp=Z,62nm,1.0s,comp=Z,1μm
MMSI Mamuju 148.98 288 P x 16 00 08.4
KAPI Kappang 148.99 283 *e*PKPbc **PKPbc 16 00 11.8 +2.0**
MBWA Marble Bar 150.27 251 *e*PKPdf **PKPdf 16 00 08.5 +1.0**
MBWA *e*PKPbc **PKPbc 16 00 12.7 0.0**
PSI Prapat 161.16 330 P x 16 00 22.2
comp=Z,47nm,1.7s,comp=Z,1μm
PSI Prapat 161.16 330 PKP **PKPdf 16 00 22.1 -0.3**
PSI Prapat 161.16 330 PKP **PKPdf 16 00 22.1 -0.3**
comp=Z,14nm,0.9s,baz=240,slow=4.6
MNSI Mandailing Nat 162.51 324 P **PKPdf 16 00 24.4 +0.8**
comp=Z,27nm,0.7s,comp=Z,845nm
KLI Kotabumi 162.53 299 P **PKPdf 16 00 26.6 +3.0**
comp=Z,81nm,0.9s
MDSI Maura Dua 162.91 301 P **PKPdf 16 00 23.5 -0.4**
comp=Z,47nm,1.5s,comp=Z,793nm
PPI Padang Panjang 163.02 320 P **PKPdf 16 00 23.7 -0.4**
comp=Z,47nm,1.1s,comp=Z,829nm
GSI Gunungsitoli 163.12 331 *e*PKPdf **PKPdf 16 00 24.1 -0.1**
PDSI Padang 163.33 319 P **PKPdf 16 00 24.2 -0.2**
comp=Z,38nm,1.3s,comp=Z,662nm

CASC 18 15:46:48.0±1.7, 13°.58N×90°.49W, h53km±28km, MD3.6, ML4.4, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.82**	**352**	*e*P	Pn	15 47 03.5	-0.3
PCG				*e*S	Sn	15 47 13.6	-1.7
RTR	**El Retiro**	**0.88**	**69**	*i* P	Pn	15 47 04.8	+0.4
SBLS	**San Blas**	**0.88**	**73**	*i* P	Pn	15 47 04.5	0.0
SNJE	**San Jose**	**0.91**	**71**	*i* P	Pn	15 47 05.1	+0.2
RBDL	**Robledal**	**0.94**	**56**	*i* P	Pn	15 47 05.1	-0.2
NBG	**Las Nubes**	**1.01**	**8**	*e*P	Pn	15 47 06.7	+0.3
NBG				*e*S	Sn	15 47 20.8	+0.9
BOQS	**Boqueron**	**1.19**	**82**	*i* P	Pn	15 47 09.0	+0.4
SNET	**Serv Nac Est T**	**1.23**	**85**	*i* P	Pn	15 47 07.3	-1.7
SNET				*e*S	Sn	15 47 24.0	-0.6
SNET				AML	AML	15 47 33.1	
comp=Z,8μm,0.7s							
JAT	**Jato**	**1.34**	**304**	*e*P	Pn	15 47 10.4	0.0
LFU	**La Fuente**	**1.35**	**83**	*e*P	Pn	15 47 11.3	+0.7
LFRS	**El Faro**	**1.39**	**88**	*i* P	Pn	15 47 12.0	+0.8
LBRS	**Las Brisas**	**1.41**	**83**	*i* P	Pn	15 47 12.2	+0.7
MRL	**Marmol**	**1.67**	**27**	*e*P	Pn	15 47 15.5	+0.4

IDC 18 15:51:25.6±2.8, 17°.92N×72°.43W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.6/54, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=59.6km s-min=41.4km az=148.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**15.16**	**281**	Pn	Pn	15 55 01.4	+0.3
0.6nm,0.3s,baz=105,slow=12,SNR=2.8							
TXAR	**Lajitas Array**	**30.70**	**298**	P	P	15 57 43.1	+0.7
0.6nm,0.8s,baz=108,slow=8.6,SNR=2.8							
SCHQ	**Schefferville**	**37.10**	**5**	P	P	15 58 37.9	+0.4
3.9nm,0.8s,baz=232,slow=17,SNR=2.9							
PDAR	**Pinedale Array**	**40.02**	**316**	P	P	15 59 01.9	-0.7
0.2nm,0.5s,baz=106,slow=9.5,SNR=2.7							
YKA	**Yellowknife Ar**	**53.24**	**337**	P	P	16 00 45.4	-0.3
0.5nm,0.7s,baz=125,slow=7.3,SNR=5.4							
ILAR	**Eielson Array**	**67.32**	**333**	P	P	16 02 21.9	-0.2
0.2nm,0.7s,baz=140,slow=3.4,SNR=6.7							
WRA	**Warramunga Arr**	**154.61**	**261**	PKPbc	PKPbc	16 11 29.3	0.0
0.5nm,0.7s,baz=84,slow=3.1,SNR=5.8							

*CSEM **18** 15:55:41.5, 38°.41N×21°.92E, h8km, ML2.5, After ATH*
ATH 18 15:55:41.5, 38°.41N×21°.92E, h8km±2km, ML2.5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.02**	**327**	*e*PG	Pg	15 55 42.7	-0.3
EFP				*e*SG	Sg	15 55 43.8	-0.2
EFP	**Efpalio**	**0.02**	**327**	*e*Pg	Pg	15 55 42.7	-0.3
EFP				*e*Sg	Sg	15 55 43.8	-0.2
KALE	**Kalithea**	**0.17**	**96**	*e*PG	Pg	15 55 45.3	+0.1
KALE				*e*SG	Sg	15 55 48.8	+1.1
KALE	**Kalithea**	**0.17**	**96**	*e*Pg	Pg	15 55 45.3	+0.1
KALE				*e*Sg	Sg	15 55 48.8	+1.1
LAKA	**Lakka**	**0.18**	**165**	*e*PG	Pg	15 55 45.4	+0.2
LAKA	**Lakka**	**0.18**	**165**	*e*Pg	Pg	15 55 45.4	+0.2
KLV	**Kalavryta, Ach**	**0.41**	**154**	*e*PB	Pg	15 55 49.3	-0.3
KLV				*e*SB	Sg	15 55 56.2	+1.2
KLV	**Kalavryta, Ach**	**0.41**	**154**	*e*Pb	Pg	15 55 49.3	-0.3
KLV				*e*Sb	Sg	15 55 56.2	+1.2
DSF	**Desfina**	**0.48**	**90**	*e*PB	Pg	15 55 50.1	-0.8
DSF				*e*SB	Sg	15 55 56.8	-0.4
DSF	**Desfina**	**0.48**	**90**	*e*Pb	Pg	15 55 50.1	-0.8
DSF				*e*Sb	Sg	15 55 56.8	-0.4
DRO	**Drossia**	**0.49**	**200**	*e*PB	Pg	15 55 50.9	-0.1
DRO	**Drossia**	**0.49**	**200**	*e*Pb	Pg	15 55 50.9	-0.1
RLS	**Riolos of Patr**	**0.50**	**226**	*e*PB	Pg	15 55 51.3	+0.1
RLS				*e*SB	Sb	15 55 59.1	-0.9
RLS	**Riolos of Patr**	**0.50**	**226**	*e*Pb	Pg	15 55 51.3	+0.1
RLS				*e*Sb	Sb	15 55 59.1	-0.9
EVR	**Evrytania**	**0.51**	**350**	*e*PG	Pg	15 55 51.2	-0.4
EVR				*e*SB	Sg	15 55 59.5	+1.0
EVR	**Evrytania**	**0.51**	**350**	*e*Pg	Pg	15 55 51.2	-0.4
EVR				*e*Sb	Sg	15 55 59.5	+1.0
GUR	**Goura**	**0.58**	**145**	*e*PB	Pg	15 55 52.1	-0.7
GUR				*e*SB	Sg	15 56 01.2	+0.7
GUR	**Goura**	**0.58**	**145**	*e*Pb	Pg	15 55 52.1	-0.7
GUR				*e*Sb	Sg	15 56 01.2	+0.7
PDO	**Prodromos**	**0.61**	**288**	*e*PB	Pb	15 55 54.0	-0.4
PDO	**Prodromos**	**0.61**	**288**	*e*Pb	Pb	15 55 54.0	-0.4
MAKR	**Makrakomi, Fth**	**0.62**	**15**	*e*PB	Pg	15 55 53.6	-0.1
MAKR				*e*SB	Sb	15 56 03.3	-0.4
MAKR	**Makrakomi, Fth**	**0.62**	**15**	*e*Pb	Pg	15 55 53.6	-0.1
MAKR				*e*Sb	Sb	15 56 03.3	-0.4
AGG	**Agios Georgios**	**0.69**	**28**	*e*PB	Pg	15 55 53.6	-1.3
AGG	**Agios Georgios**	**0.69**	**28**	*e*Pb	Pg	15 55 53.6	-1.3
LKR	**Lokris**	**0.88**	**74**	*e*PG	Pg	15 55 58.1	-0.3
LKR	**Lokris**	**0.88**	**74**	*e*Pg	Pg	15 55 58.1	-0.3
AMT	**Artemida-Makis**	**0.89**	**191**	*e*PB	Pg	15 55 58.5	-0.2
AMT	**Artemida-Makis**	**0.89**	**191**	*e*Pb	Pg	15 55 58.5	-0.2
LTK	**Loutraki**	**0.91**	**115**	*e*PB	Pg	15 55 59.1	0.0
LTK	**Loutraki**	**0.91**	**115**	*e*Pb	Pg	15 55 59.1	0.0
LKD2	**Lefkada island**	**1.06**	**291**	*e*PG	Pg	15 56 00.7	-1.2
LKD2	**Lefkada island**	**1.06**	**291**	*e*Pg	Pg	15 56 00.7	-1.2
VLS	**Valsamata**	**1.07**	**258**	*e*PG	Pg	15 56 01.0	-1.1
VLS	**Valsamata**	**1.07**	**258**	*e*Pg	Pg	15 56 01.0	-1.1
VLX	**Vlachokerasia**	**1.10**	**161**	*e*PB	Pg	15 56 00.1	-2.7
VLX	**Vlachokerasia**	**1.10**	**161**	*e*Pb	Pg	15 56 00.1	-2.7
SMIA	**Simia**	**1.11**	**65**	*e*PG	Pg	15 56 01.9	-1.0
SMIA	**Simia**	**1.11**	**65**	*e*Pg	Pg	15 56 01.9	-1.0
THL	**Klokotos Trika**	**1.16**	**4**	*e*PN	Pg	15 56 03.1	-0.6
THL	**Klokotos Trika**	**1.16**	**4**	*e*Pn	Pg	15 56 03.1	-0.6
ITM	**Ithomi**	**1.23**	**180**	*e*PG	Pb	15 56 04.5	-0.5
ITM	**Ithomi**	**1.23**	**180**	*e*Pg	Pb	15 56 04.5	-0.5
MRKA	**Markates**	**1.34**	**77**	*e*PG	Pn	15 56 06.1	-0.5
MRKA	**Markates**	**1.34**	**77**	*e*Pg	Pn	15 56 06.1	-0.5
XOR	**Xorichti**	**1.38**	**46**	*e*PB	Pg	15 56 08.3	+0.3
XOR	**Xorichti**	**1.38**	**46**	*e*Pb	Pg	15 56 08.3	+0.3
NAIG	**Nisos Aigina**	**1.40**	**117**	*e*PB	Pn	15 56 05.2	-2.1
NAIG	**Nisos Aigina**	**1.40**	**117**	*e*Pb	Pn	15 56 05.2	-2.1
ATH	**Athens Observa**	**1.48**	**107**	*e*PB	Pg	15 56 10.3	+0.4
ATH	**Athens Observa**	**1.48**	**107**	*e*Pb	Pg	15 56 10.3	+0.4
PYL	**PYLOS**	**1.52**	**185**	*e*PN	Pn	15 56 08.8	-0.2
PYL	**PYLOS**	**1.52**	**185**	*e*Pn	Pn	15 56 08.8	-0.2
VLI	**Veliai**	**1.87**	**154**	*e*PN	Pb	15 56 15.3	-0.7
VLI	**Veliai**	**1.87**	**154**	*e*Pn	Pb	15 56 15.3	-0.7
KYTH	**Kithira**	**2.30**	**157**	*e*PN	Pb	15 56 22.8	-0.6
KYTH	**Kithira**	**2.30**	**157**	*e*Pn	Pb	15 56 22.8	-0.6

*PDG **18** 15:56:02.1±0.4, 37°.91N×22°.15E, h4km±1km, MD5.0/3, ML4.9/10, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0*
*SOF **18** 15:56:03.9, 38°.00N×22°.00E, h5km, MD4.5*
*BJI **18** 15:56:07.0, 38°.40N×21°.70E, h15km, mB5.5/40, mb4.9/53, Ms5.2/34, Ms7 4.9/33*
*IDC **18** 15:56:09.0±0.3, 38°.50N×22°.12E, h0km, mb4.9/44, mb1 5.0/54, mb1mx4.9/61, mbtmp4.9/54, ML4.5/7, MS4.9/26, Ms1 4.9/26, ms1mx4.7/50, Error ellipse: s-maj=9.0km s-min=8.0km az=91.0*
*CSEM **18** 15:56:09.5±0.1, 38°.39N×21°.93E, h5km, mb5.3/99, Ms4.9, Mw5.5, Error ellipse: s-maj=2.0km s-min=1.5km az=27.0*
*ISCJB **18** 15:56:09.9±0.1, 38°.436N±0°.009×22°.019E±0°.009, h10km, mb5.2/210, MS5.0/39, Error ellipse: s-maj=1.4km s-min=1.0km az=18.0*
*THE **18** 15:56:09.0, 38°.40N×21°.96E, h1km, ML5.1/13, Error ellipse: s-maj=0.9km s-min=0.3km az=284.0*
*ATH **18** 15:56:09.2, 38°.41N×21°.95E, h20km, ML5.2*
*NEIC **18** 15:56:09.0, 38°.40N×21°.96E, h1km, mb5.3/138, MS4.9/8, ML5.1(TTG), ML5.1(TIR), ML5.1(THE), After THE.*
NEIC Felt [II] at Palaio Faliro. Also felt at Athens, Nafpaktos, Patrai and Rion.
*GCMT **18** 15:56:09.0±0.2, 38°.32N×22°.05E, h14km, MW5.5/105, Moment Tensor Solution. s60,c77; s105,c212; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=1.73±.06; Mθθ2.03±.04; Mφφ-0.30±.04; Mrθ0.22±.07; Mθφ-0.38±.03; Mrφ-0.50±.10; Best double couple: M0 1.99300×10^17 NP1:φ296.00000°, δ49.00000°, λ-66.00000°. NP2:φ82.00000°, δ46.00000°, λ-115.00000°. Principal axes: T 2.0930, Plg2.0000°, Azm9.0000°; N -0.2040, Plg18.0000°, Azm100.0000°; P -1.8920, Plg72.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*VIE **18** 15:56:11.6±0.7, 38°.47N×21°.84E, h15km, mb4.4/16, Ms5.2/16 Error ellipse: s-maj=6.9km s-min=4.6km az=37.0*
*MOS **18** 15:56:12.0±1.2, 38°.49N×21°.97E, h32km, mb5.3/76, MS4.8/23, Error ellipse: s-maj=4.3km s-min=2.7km az=106.7*
*HLW **18** 15:56:13.8, 38°.31N×22°.65E, h19km±17km, Ml5.0*
*TIR **18** 15:56:13.7, 38°.23N×22°.16E, h0km, ML5.2*
*DDA **18** 15:56:45.5, 38°.44N×25°.15E, h45km*
*SZGRF **18** 15:56:52.0, 40°.99N×20°.38E, h10km, mb5.2, Greece-Albania border region*

ISC 18 15:56:10.2±0.4, 38°.41N±0°.01×21°.95E±0°.01, h8km±2km, n2057, σ1s32/2188, mb5.2/212, MS5.0/41, 282C-279D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**294**	P	Pg	15 56 10.0	-1.7
EFP				S	Sg	15 56 10.9	-1.9
EFP	**Efpalio**	**0.04**	**294**	P	Pg	15 56 10.0	-1.7
EFP				S	Sg	15 56 10.9	-1.9
EFP	**Efpalio**	**0.04**	**294**	P	Pg	15 56 10.0	-1.7
KALE	**Kalithea**	**0.15**	**98**	P	Pg	15 56 12.3	-1.1
KALE				S	Sg	15 56 14.5	-1.2
KALE	**Kalithea**	**0.15**	**98**	*e*PB	Pg	15 56 13.2	-0.2
KALE				*e*SB	Sg	15 56 16.8	+1.1
KALE	**Kalithea**	**0.15**	**98**	P	Pg	15 56 12.3	-1.1
KALE				S	Sg	15 56 14.5	-1.2
KALE	**Kalithea**	**0.15**	**98**	P	Pg	15 56 12.3	-1.1
KALE	**Kalithea**	**0.15**	**98**	*e*Pb	Pg	15 56 13.2	-0.2
KALE				S	Sg	15 56 14.5	-1.2
KALE				*e*Sb	Sg	15 56 16.8	+1.1
LAKA	**Lakka**	**0.17**	**172**	P	Pg	15 56 12.6	-1.2
LAKA	**Lakka**	**0.17**	**172**	*e*PB	Pg	15 56 13.0	-0.8
LAKA	**Lakka**	**0.17**	**172**	P	Pg	15 56 12.6	-1.2
LAKA	**Lakka**	**0.17**	**172**	P	Pg	15 56 12.6	-1.2
LAKA	**Lakka**	**0.17**	**172**	*e*Pb	Pg	15 56 13.0	-0.8
UPR	**University Cam**	**0.18**	**225**	P	Pg	15 56 12.6	-1.3
UPR				S	Sg	15 56 15.1	-1.3
UPR	**University Cam**	**0.18**	**225**	P	Pg	15 56 12.6	-1.3
UPR				S	Sg	15 56 15.1	-1.3
UPR	**University Cam**	**0.18**	**225**	P	Pg	15 56 12.7	-1.2
UPR				S	Sg	15 56 16.3	-0.1
PVO	**Paravola**	**0.39**	**302**	P	Pg	15 56 16.5	-1.3
PVO				S	Sg	15 56 22.5	-0.4
PVO	**Paravola**	**0.39**	**302**	P	Pg	15 56 15.9	-1.9
PVO				S	Sb	15 56 23.9	-1.6
KLV	**Kalavryta, Ach**	**0.40**	**156**	*e*PB	Pg	15 56 17.0	-1.0
KLV				*e*SB	Sb	15 56 24.0	-1.9
KLV	**Kalavryta, Ach**	**0.40**	**156**	P	Pg	15 56 16.5	-1.5
KLV	**Kalavryta, Ach**	**0.40**	**156**	*e*Pb	Pg	15 56 17.0	-1.0
KLV				*e*Sb	Sb	15 56 24.0	-1.9
DSF	**Desfina**	**0.46**	**90**	P	Pg	15 56 17.6	-1.5
DSF				S	Sg	15 56 24.6	-0.4
DSF	**Desfina**	**0.46**	**90**	*e*PB	Pg	15 56 18.5	-0.5
DSF				*e*SB	Sb	15 56 25.7	-1.8
DSF	**Desfina**	**0.46**	**90**	P	Pg	15 56 17.6	-1.5
DSF				S	Sg	15 56 24.6	-0.4
DSF	**Desfina**	**0.46**	**90**	P	Pg	15 56 17.5	-1.5
DSF	**Desfina**	**0.46**	**90**	*e*Pb	Pg	15 56 18.5	-0.5
DSF				S	Sb	15 56 25.3	-2.2
DRO	**Drossia**	**0.50**	**202**	P	Pg	15 56 18.1	-1.7
DRO				S	Sg	15 56 25.8	-0.5
DRO	**Drossia**	**0.50**	**202**	P	Pg	15 56 18.2	-1.6
DRO				S	Sg	15 56 25.7	-0.5
EVR	**Evrytania**	**0.52**	**348**	*e*PN	Pg	15 56 19.1	-1.1
EVR				*e*SN	Sb	15 56 28.0	-1.3
EVR	**Evrytania**	**0.52**	**348**	P	Pg	15 56 18.4	-1.8
EVR	**Evrytania**	**0.52**	**348**	*e*Pn	Pg	15 56 19.1	-1.1
EVR				S	Sg	15 56 26.7	-0.3
EVR				*e*Sn	Sb	15 56 28.0	-1.3
RLS	**Riolos of Patr**	**0.52**	**227**	*e*PN	Pg	15 56 19.4	-0.8
RLS	**Riolos of Patr**	**0.52**	**227**	P	Pg	15 56 18.6	-1.6
RLS	**Riolos of Patr**	**0.52**	**227**	*e*Pn	Pg	15 56 19.4	-0.8
GUR	**Goura**	**0.57**	**147**	P	Pg	15 56 19.5	-1.7
GUR				S	Sg	15 56 27.8	-0.8
GUR	**Goura**	**0.57**	**147**	*e*PN	Pg	15 56 20.1	-1.1
GUR				*e*SN	Sb	15 56 29.0	-1.8
GUR	**Goura**	**0.57**	**147**	P	Pg	15 56 19.5	-1.7
GUR				S	Sg	15 56 27.8	-0.8
GUR	**Goura**	**0.57**	**147**	P	Pg	15 56 19.5	-1.7
GUR	**Goura**	**0.57**	**147**	*e*Pn	Pg	15 56 20.1	-1.1
GUR				S	Sg	15 56 27.8	-0.8
GUR				*e*Sn	Sb	15 56 29.0	-1.8
MAKR	**Makrakomi, Fth**	**0.62**	**13**	P	Pg	15 56 20.9	-1.2
MAKR				S	Sg	15 56 29.8	-0.4
MAKR	**Makrakomi, Fth**	**0.62**	**13**	*e*PN	Pb	15 56 22.2	-1.1
MAKR				*e*SN	Sg	15 56 30.6	+0.4
MAKR	**Makrakomi, Fth**	**0.62**	**13**	P	Pg	15 56 20.9	-1.2
MAKR				S	Sg	15 56 29.8	-0.4
MAKR	**Makrakomi, Fth**	**0.62**	**13**	P	Pg	15 56 20.9	-1.2
MAKR	**Makrakomi, Fth**	**0.62**	**13**	*e*Pn	Pb	15 56 22.2	-1.1
MAKR				S	Sg	15 56 29.8	-0.4
MAKR				*e*Sn	Sg	15 56 30.6	+0.4
PDO	**Prodromos**	**0.63**	**287**	P	Pg	15 56 21.3	-1.0
PDO	**Prodromos**	**0.63**	**287**	*e*PB	Pg	15 56 21.4	-0.9
PDO				*e*SN	Sg	15 56 30.9	+0.4
PDO	**Prodromos**	**0.63**	**287**	P	Pg	15 56 20.2	-2.1
PDO	**Prodromos**	**0.63**	**287**	*e*Pb	Pg	15 56 21.4	-0.9
PDO				S	Sg	15 56 29.9	-0.6
PDO				*e*Sn	Sg	15 56 30.9	+0.4
AXAR	**Agios Charalam**	**0.66**	**57**	P	Pg	15 56 21.5	-1.4
AXAR				S	Sg	15 56 30.9	-0.7
AXAR	**Agios Charalam**	**0.66**	**57**	P	Pg	15 56 21.5	-1.4
AXAR				S	Sg	15 56 30.9	-0.7
AGG	**Agios Georgios**	**0.68**	**26**	P	Pg	15 56 21.5	-1.8
AGG	**Agios Georgios**	**0.68**	**26**	*e*PN	Pb	15 56 23.4	-0.9
AGG	**Agios Georgios**	**0.68**	**26**	P	Pg	15 56 21.4	-1.8
AGG	**Agios Georgios**	**0.68**	**26**	*e*Pn	Pb	15 56 23.4	-0.9
VTN	**Vitineika**	**0.78**	**231**	P	Pg	15 56 23.9	-1.3
VTN	**Vitineika**	**0.78**	**231**	P	Pg	15 56 23.9	-1.3
LKR	**Lokris**	**0.86**	**74**	*e*PN	Pb	15 56 26.1	-1.3
LKR	**Lokris**	**0.86**	**74**	P	Pg	15 56 24.4	-2.3
LKR	**Lokris**	**0.86**	**74**	*e*Pn	Pb	15 56 26.1	-1.3
LTK	**Loutraki**	**0.89**	**116**	P	Pg	15 56 26.0	-1.3
LTK	**Loutraki**	**0.89**	**116**	*e*PN	Pg	15 56 26.2	-1.1
LTK				*e*SN	Sb	15 56 38.8	-1.2
LTK	**Loutraki**	**0.89**	**116**	*e*Pn	Pg	15 56 26.2	-1.1
LTK				*e*Sn	Sb	15 56 38.8	-1.2
LTK				S	Sg	15 56 39.1	+0.2
AMT	**Artemida-Makis**	**0.90**	**192**	P	Pg	15 56 25.9	-1.6
AMT				S	Sb	15 56 38.9	-1.3
AMT	**Artemida-Makis**	**0.90**	**192**	P	Pg	15 56 25.6	-1.9
AMT				S	Sb	15 56 38.9	-1.3
KFL	**Anninata**	**0.96**	**252**	P	Pg	15 56 26.7	-2.0
KFL	**Anninata**	**0.96**	**252**	P	Pg	15 56 26.7	-2.0
LKD2	**Lefkada island**	**1.08**	**291**	P	Pg	15 56 29.0	-1.9
LKD2				S	Sb	15 56 45.8	+0.4
LKD2	**Lefkada island**	**1.08**	**291**	*e*PB	Pg	15 56 29.0	-1.9
LKD2	**Lefkada island**	**1.08**	**291**	P	Pg	15 56 28.3	-2.6
LKD2	**Lefkada island**	**1.08**	**291**	*e*Pb	Pg	15 56 29.0	-1.9
LKD2				S	Sb	15 56 45.8	+0.4
SMIA	**Simia**	**1.09**	**64**	P	Pg	15 56 29.6	-1.6
SMIA	**Simia**	**1.09**	**64**	*e*PN	Pg	15 56 30.1	-1.1
SMIA	**Simia**	**1.09**	**64**	P	Pg	15 56 29.6	-1.6
SMIA	**Simia**	**1.09**	**64**	*e*Pn	Pg	15 56 30.1	-1.1
VLS	**Valsamata**	**1.09**	**258**	*e*PB	Pg	15 56 28.4	-2.8
VLS				*e*SN	Sb	15 56 46.0	+0.2
VLS	**Valsamata**	**1.09**	**258**	*e*Pb	Pg	15 56 28.4	-2.8
VLS				*e*Sn	Sb	15 56 46.0	+0.2
VLX	**Vlachokerasia**	**1.09**	**162**	P	Pg	15 56 29.4	-1.8
VLX				S	Sg	15 56 44.7	-0.7
VLX	**Vlachokerasia**	**1.09**	**162**	*e*PN	Pb	15 56 30.5	-1.0
VLX	**Vlachokerasia**	**1.09**	**162**	P	Pg	15 56 28.9	-2.3
VLX	**Vlachokerasia**	**1.09**	**162**	*e*Pn	Pb	15 56 30.5	-1.0
VLX				S	Sn	15 56 46.6	-0.7
THL	**Klokotos Trika**	**1.15**	**3**	P	Pg	15 56 29.8	-2.5
ITM	**Ithomi**	**1.23**	**181**	*e*PB	Pg	15 56 31.6	-2.2
ITM	**Ithomi**	**1.23**	**181**	P	Pg	15 56 31.2	-2.6
ITM	**Ithomi**	**1.23**	**181**	*e*Pb	Pg	15 56 31.6	-2.2
FYTO	**Fytoko, Volos**	**1.26**	**38**	P	Pg	15 56 32.4	-2.0
FYTO	**Fytoko, Volos**	**1.26**	**38**	P	Pg	15 56 32.4	-2.0
MRKA	**Markates**	**1.32**	**77**	P	Pg	15 56 33.2	-2.3
MRKA				S	Sb	15 56 52.1	-0.2
MRKA	**Markates**	**1.32**	**77**	*e*PN	Pg	15 56 34.1	-1.4
MRKA				*e*SN	Sg	15 56 51.5	-1.1
MRKA	**Markates**	**1.32**	**77**	P	Pg	15 56 33.2	-2.3
MRKA	**Markates**	**1.32**	**77**	*e*Pn	Pg	15 56 34.1	-1.4
MRKA				*e*Sn	Sg	15 56 51.5	-1.1
MRKA				S	Sb	15 56 52.1	-0.2
NEO	**Neokhori**	**1.34**	**48**	*e*PN	Pb	15 56 35.1	-0.5
NEO	**Neokhori**	**1.34**	**48**	*e*Pn	Pb	15 56 35.1	-0.5
XOR	**Xorichti**	**1.36**	**45**	P	Pg	15 56 34.5	-1.8
XOR	**Xorichti**	**1.36**	**45**	*e*PN	Pg	15 56 35.4	-0.6
XOR	**Xorichti**	**1.36**	**45**	P	Pg	15 56 34.5	-1.8
XOR	**Xorichti**	**1.36**	**45**	*e*Pn	Pb	15 56 35.4	-0.6
DID	**Didima**	**1.36**	**131**	P	Pg	15 56 34.4	-1.9
DID				S	Sn	15 56 53.7	-0.2
DID	**Didima**	**1.36**	**131**	P	Pg	15 56 34.2	-2.1
DID				S	Sb	15 56 53.3	-0.3
SFD	**Strofades**	**1.37**	**213**	*e*PN	Pb	15 56 35.9	-0.2
SFD	**Strofades**	**1.37**	**213**	*e*Pn	Pb	15 56 35.9	-0.2
**NA

GRG	Griva	2.56	8	P	Pn	15 56 51.6	-0.5
GRG	Griva	2.56	8	ePN	Pn	15 56 51.8	-0.3
GRG	Griva	2.56	8	ePn	Pn	15 56 51.8	-0.3
SOH	Sokhos	2.64	24	P	Pn	15 56 52.3	-0.9
SOH	Sokhos	2.64	24	ePN	Pn	15 56 53.0	-0.2
SOH	Sokhos	2.64	24	P	Pn	15 56 52.3	-0.9
SOH	Sokhos	2.64	24	ePn	Pn	15 56 53.0	-0.2
BIA	Bitola	2.65	350	P	Pn	15 56 53.8	+0.5
BIA	Bitola	2.65	350	i Pn	Pn	15 56 55.2	+1.8
BIA				i Pg	Pb	15 56 58.8	+0.9
BIA				eSn	Sg	15 57 35.5	+0.2
BIA	Bitola	2.65	350	P	Pn	15 56 53.8	+0.5
BIA	Bitola	2.65	350	i Pn	Pn	15 56 55.1	+1.8
ANKY	Antikythira Is	2.76	157	ePB	Pn	15 56 55.3	+0.5
ANKY	Antikythira Is	2.76	157	ePb	Pn	15 56 55.3	+0.5
VLO	Vlora	2.80	318	i PN	Pb	15 56 59.4	-1.0
VLO	Vlora	2.80	318	i Pn	Pb	15 56 59.4	-1.0
KNT	Kendrikon	2.84	15	P	Pn	15 56 55.4	-0.5
KNT	Kendrikon	2.84	15	ePN	Pn	15 56 55.7	-0.2
KNT	Kendrikon	2.84	15	P	Pn	15 56 55.4	-0.5
KNT	Kendrikon	2.84	15	ePn	Pn	15 56 55.7	-0.2
LIA	Limnos Island	2.92	58	ePN	Pn	15 56 56.6	-0.3
LIA	Limnos Island	2.92	58	ePn	Pn	15 56 56.6	-0.3
VAY	Valandovo	2.94	9	P	Pn	15 56 57.1	-0.2
VAY	Valandovo	2.94	9	P	Pn	15 56 57.9	+0.6
VAY	Valandovo	2.94	9	i Pn	Pn	15 56 56.9	-0.5
VAY				i Pg	Pb	15 57 01.4	-1.5
VAY				eSn	Sn	15 57 34.1	+1.3
VAY	Valandovo	2.94	9	i Pn	Pn	15 56 56.8	-0.5
VAY	Valandovo	2.94	9	P	Pn	15 56 57.9	+0.6
VAY				eSn	Sn	15 57 34.1	+1.3
SRS	Serrai	2.98	25	P	Pn	15 56 56.9	-1.0
SRS	Serrai	2.98	25	ePN	Pn	15 56 57.6	-0.3
SRS	Serrai	2.98	25	P	Pn	15 56 56.9	-1.0
SRS	Serrai	2.98	25	ePn	Pn	15 56 57.6	-0.3
APE	Apeiranthos	3.14	114	i P	Pn	15 57 00.2	+0.2
APE	Apeiranthos	3.14	114	ePN	Pn	15 56 59.7	-0.3
APE	Apeiranthos	3.14	114	⇑iP	Pn	15 56 59.6	-0.4
APE	Apeiranthos	3.14	114	ePn	Pn	15 56 59.7	-0.3
SIGR	SIGRI	3.15	74	P	Pn	15 56 59.3	-0.9
SIGR	SIGRI	3.15	74	ePN	Pn	15 56 59.8	-0.4
SIGR	SIGRI	3.15	74	P	Pn	15 56 59.3	-0.9
SIGR	SIGRI	3.15	74	ePn	Pn	15 56 59.8	-0.4
CHOS	Chios island	3.23	89	P	Pn	15 57 00.8	-0.5
CHOS	Chios island	3.23	89	ePN	Pn	15 57 00.9	-0.4
CHOS	Chios island	3.23	89	ePn	Pn	15 57 00.9	-0.4
KAVA	Kavala	3.25	37	P	Pn	15 57 00.5	-1.0
KAVA	Kavala	3.25	37	ePN	Pn	15 57 01.6	+0.1
KAVA	Kavala	3.25	37	P	Pn	15 57 00.5	-1.0
KAVA	Kavala	3.25	37	ePn	Pn	15 57 01.6	+0.1
NVR	Nevrokopi	3.28	26	ePN	Pn	15 57 02.6	+0.6
NVR	Nevrokopi	3.28	26	ePn	Pn	15 57 02.6	+0.6
MMB	Musomiste	3.46	23	P	Pn	15 57 04.5	+0.1
MMB	Musomiste	3.46	23	⇑iP	Pn	15 57 04.4	+0.1
MMB	Musomiste	3.46	23	⇑iP	Pn	15 57 04.4	+0.1
SANT	Santorini	3.46	125	P	Pn	15 57 04.1	-0.3
SANT	Santorini	3.46	125	ePN	Pn	15 57 05.2	+0.8
SANT	Santorini	3.46	125	ePN	Pn	15 57 04.6	+0.1
SANT	Santorini	3.46	125	eP	Pn	15 57 04.5	+0.1
SANT	Santorini	3.46	125	ePn	Pn	15 57 04.6	+0.1
PHP	Peshkopia	3.47	341	i PN	Pn	15 57 06.7	+2.2
PHP				i SG	Sb	15 57 54.9	+0.7
PHP	Peshkopia	3.47	341	P	Pn	15 57 06.1	+1.6
PHP	Peshkopia	3.47	341	P	Pn	15 57 06.1	+1.6
PHP	Peshkopia	3.47	341	i Pn	Pn	15 57 06.7	+2.2
PRK	Paraskevi	3.48	75	ePN	Pn	15 57 04.5	-0.1
PRK	Paraskevi	3.48	75	ePn	Pn	15 57 04.5	-0.1
VAM	Vamos	3.50	148	ePN	Pn	15 57 04.6	-0.4
VAM	Vamos	3.50	148	ePn	Pn	15 57 04.6	-0.4
KKB	Krupnik	3.56	14	P	Pn	15 57 05.9	+0.1
KKB	Krupnik	3.56	14	P	Pn	15 57 05.9	+0.1
SKO	Skopje	3.58	354	P	Pn	15 57 06.2	+0.2
SKO	Skopje	3.58	354	i Pn	Pn	15 57 07.8	+1.7
SKO				i Pg	Pb	15 57 14.2	+0.5
SKO	Skopje	3.58	354	P	Pn	15 57 06.2	+0.2
SKO	Skopje	3.58	354	i Pn	Pn	15 57 07.7	+1.7
EZN	Ezine	3.69	66	eP	Pn	15 57 07.1	-0.4
EZN	Ezine	3.69	66	eP	Pn	15 57 07.1	-0.4
RDO	Rodhopi	3.89	44	ePN	Pn	15 57 09.8	-0.4
RDO	Rodhopi	3.89	44	ePn	Pn	15 57 09.8	-0.4
RZN	Rozhen	3.90	32	P	Pn	15 57 11.1	+0.5
RZN	Rozhen	3.90	32	P	Pn	15 57 11.1	+0.5
IDI	Anoyia	3.91	142	Pn	Pn	15 57 10.5	-0.2
IDI				Sn	Sn	15 57 55.9	-0.9
IDI	Anoyia	3.91	142	Pn	Pn	15 57 10.5	-0.2
	22nm,0.3s,baz=310,slow=13,SNR=35						
IDI				Sn	Sn	15 57 55.9	-0.9
	95nm,0.3s,baz=314,slow=18,SNR=7.9						
IDI	Anoyia	3.91	142	Pn	Pn	15 57 10.5	-0.2
IDI				Sn	Sn	15 57 55.9	-0.9
PUK	Puka	3.95	337	i PG	Pn	15 57 13.8	+2.6
ENEZ	Enez	3.99	53	eP	Pn	15 57 10.9	-0.8
ENEZ	Enez	3.99	53	eP	Pn	15 57 10.9	-0.8
BLCB	Balcova	4.00	89	eP	Pn	15 57 12.1	+0.3
BLCB	Balcova	4.00	89	eP	Pn	15 57 12.1	+0.3
ALN	Alexandroupoli	4.02	51	P	Pn	15 57 11.0	-1.1
ALN	Alexandroupoli	4.02	51	ePN	Pn	15 57 12.9	+0.8
ALN	Alexandroupoli	4.02	51	P	Pn	15 57 11.0	-1.1
ALN	Alexandroupoli	4.02	51	ePn	Pn	15 57 12.9	+0.8
GELI	Tayfur-Gelibol	4.03	59	eP	Pn	15 57 10.9	-1.3
GELI	Tayfur-Gelibol	4.03	59	eP	Pn	15 57 10.9	-1.3
ULC	Ulcinj	4.11	331	⇑iPn	Pn	15 57 14.7	+1.4
ULC				eSn	Sb	15 58 10.0	-2.6
ULC	Ulcinj	4.11	331	⇑iPn	Pn	15 57 14.7	+1.4
TIP	Timpagrande	4.13	282	P	Pn	15 57 13.1	-0.5
TIP	Timpagrande	4.13	282	eP	Pn	15 57 13.1	-0.5
TIP	Timpagrande	4.13	282	P	Pn	15 57 13.1	-0.5
IZM	Izmir	4.17	89	eP	Pn	15 57 14.8	+0.5
IZM	Izmir	4.17	89	eP	Pn	15 57 14.8	+0.5
TAR1	Taranto	4.18	302	ePn	Pn	15 57 14.8	+0.5
ERIK	Erikli-Kesan	4.19	56	eP	Pn	15 57 14.0	-0.4
ERIK	Erikli-Kesan	4.19	56	eP	Pn	15 57 14.0	-0.4
KDZ	Kurdzhali	4.19	38	P	Pn	15 57 13.5	-0.9
KDZ				S	Sn	15 58 02.0	-1.6
KDZ	Kurdzhali	4.19	38	⇑iP	Pn	15 57 13.3	-1.1
KDZ	Kurdzhali	4.19	38	⇑iP	Pn	15 57 13.3	-1.1
KDZ				S	Sn	15 58 02.0	-1.6
BCI	Bajram Curri	4.20	341	i PN	Pn	15 57 17.2	+2.6
BCI	Bajram Curri	4.20	341	i Pn	Pn	15 57 17.2	+2.6
LPK	Lapseki	4.21	61	eP	Pn	15 57 14.0	-0.7
LPK	Lapseki	4.21	61	eP	Pn	15 57 14.0	-0.7
GCAM	G?zelcaml?	4.23	98	i P	Pn	15 57 15.1	+0.1
GCAM	G?zelcaml?	4.23	98	i P	Pn	15 57 15.1	+0.1
PE1	Pezze di Greco	4.23	306	ePn	Pn	15 57 15.1	+0.1
PLD	Plovdiv	4.25	29	P	Pn	15 57 15.1	-0.1
PLD	Plovdiv	4.25	29	P	Pn	15 57 17.5	+2.3
PLD	Plovdiv	4.25	29	P	Pn	15 57 17.5	+2.3
VTS	Vitosha	4.28	13	P	Pn	15 57 15.8	-0.1
VTS	Vitosha	4.28	13	P	Pn	15 57 16.8	+0.9
VTS	Vitosha	4.28	13	⇑iP	Pn	15 57 16.4	+0.5
VTS	Vitosha	4.28	13	⇑iP	Pn	15 57 16.4	+0.5
NPS	Neapolis	4.30	136	ePN	Pn	15 57 16.6	+0.6
NPS	Neapolis	4.30	136	ePn	Pn	15 57 16.6	+0.6
LAST	Lasithi	4.31	138	ePN	Pn	15 57 16.0	-0.1
LAST	Lasithi	4.31	138	ePN	Pn	15 57 16.2	+0.1
LAST	Lasithi	4.31	138	ePn	Pn	15 57 16.2	+0.1
DRME	Dracevica, Mon	4.32	332	⇓iPn	Pn	15 57 17.4	+1.2
DRME				eSn	Sb	15 58 15.2	-3.5
DRME	Dracevica, Mon	4.32	332	⇓iPn	Pn	15 57 17.4	+1.2
PVY	Plav	4.44	341	⇓iPn	Pn	15 57 20.2	+2.2
PVY				eSn	Sb	15 58 18.3	-4.1
PVY	Plav	4.44	341	⇓iPn	Pn	15 57 20.2	+2.2
BODT	Bodrum	4.46	106	eP	Pn	15 57 20.1	+1.9
BODT	Bodrum	4.46	106	eP	Pn	15 57 20.1	+1.9
PGB	Panagyurishte	4.47	22	P	Pn	15 57 20.1	+1.8
PGB	Panagyurishte	4.47	22	P	Pn	15 57 20.1	+1.8
PDG	Podgorica	4.51	334	P	Pn	15 57 19.6	+0.8
PDG	Podgorica	4.51	334	P	Pn	15 57 19.6	+0.8
PDG	Podgorica	4.51	334	⇓iPn	Pn	15 57 20.2	+1.4
TTG	Podgorica	4.51	334	⇓iPn	Pn	15 57 20.2	+1.4
TTG				eSn	Sb	15 58 19.2	-4.9
BUM	Brajici-Budva	4.53	330	⇓iPn	Pn	15 57 20.0	+0.8
BUM				eSn	Sb	15 58 20.2	-4.6
BUM	Brajici-Budva	4.53	330	⇓iPn	Pn	15 57 20.0	+0.8
NIS1	Nisyros Isl.	4.53	112	ePN	Pn	15 57 20.4	+1.2
NIS1	Nisyros Isl.	4.53	112	ePn	Pn	15 57 20.4	+1.2
DIM	Dimitrovgrad	4.55	36	P	Pn	15 57 20.7	+1.3
DIM				S	Sg	15 58 40.8	+4.4
DIM	Dimitrovgrad	4.55	36	P	Pn	15 57 20.7	+1.3

BDRM	Kayabasi	4.56	105	i P	Pn	15 57 19.9	+0.4
BDRM	Kayabasi	4.56	105	i P	Pn	15 57 19.9	+0.4
KRBG	Karabiga-Canak	4.59	63	eP	Pn	15 57 19.1	-0.8
KRBG	Karabiga-Canak	4.59	63	eP	Pn	15 57 19.1	-0.8
BALY	Balya	4.61	72	i P	Pn	15 57 21.4	+1.2
BALY	Balya	4.61	72	i P	Pn	15 57 21.4	+1.2
AKS	Akhisar	4.62	82	eP	Pn	15 57 21.6	+1.3
AKS	Akhisar	4.62	82	eP	Pn	15 57 21.6	+1.3
RKY	Sarkoy-Tekirda	4.64	59	eP	Pn	15 57 20.9	+0.3
RKY	Sarkoy-Tekirda	4.64	59	eP	Pn	15 57 20.9	+0.3
SART	Tekirdag	4.64	59	i P	Pn	15 57 21.6	+0.9
SART	Tekirdag	4.64	59	i P	Pn	15 57 21.6	+0.9
AYDB	Zeytinkoy-Aydi	4.71	94	eP	Pn	15 57 22.1	+0.5
AYDB	Zeytinkoy-Aydi	4.71	94	eP	Pn	15 57 22.1	+0.5
BEY	Berane	4.72	341	⇑iPn	Pn	15 57 22.8	+1.0
IVA	Berane	4.72	341	⇑iPn	Pn	15 57 22.8	+1.0
IVA				eSn	Sb	15 58 24.2	-6.1
SG1	Sgolgore (BA)	4.74	302	ePn	Pn	15 57 22.7	+0.7
GONE	Gonen-Balikesi	4.75	68	eP	Pn	15 57 22.2	+0.2
GONE	Gonen-Balikesi	4.75	68	eP	Pn	15 57 22.2	+0.2
ZKR	Zakros	4.75	133	ePN	Pn	15 57 23.1	+0.9
ZKR	Zakros	4.75	133	ePn	Pn	15 57 23.1	+0.9
CEL	Celeste	4.76	270	eP	Pn	15 57 22.1	-0.3
CEL	Celeste	4.76	270	eP	Pn	15 57 22.1	-0.3
BALB	Balikesir	4.78	73	eP	Pn	15 57 23.5	+1.0
BALB	Balikesir	4.78	73	eP	Pn	15 57 23.5	+1.0
HCY	Herceg Novi	4.81	328	⇑iPn	Pn	15 57 23.6	+0.6
HCY				eSn	Sb	15 58 26.6	-6.3
HCY	Herceg Novi	4.81	328	⇑iPn	Pn	15 57 23.6	+0.6
NKME	Niksic	4.91	333	⇓iPn	Pn	15 57 26.4	+2.0
NKME				eSn	Sb	15 58 28.9	-6.8
NKME	Niksic	4.91	333	⇓iPn	Pn	15 57 26.4	+2.0
NKY	Niksic	4.94	334	⇑iPn	Pn	15 57 26.4	+1.6
NKY				eSn	Sn	15 58 28.9	+6.7
NKY	Niksic	4.94	334	⇑iPn	Pn	15 57 26.4	+1.6
EDC	Edincik	4.97	65	eP	Pn	15 57 26.0	+0.8
EDC	Edincik	4.97	65	eP	Pn	15 57 26.0	+0.8
CUC	Castrocucco	5.02	290	eP	Pn	15 57 27.1	+1.2
	255nm,0.7s						
CUC	Castrocucco	5.02	290	eP	Pn	15 57 27.1	+1.2
	255nm,0.7s						
EDRB	Edirne	5.03	45	eP	Pn	15 57 26.6	+0.7
EDRB	Edirne	5.03	45	eP	Pn	15 57 26.6	+0.7
CDT	Castel del Mon	5.12	303	ePn	Pn	15 57 27.3	+0.1
MPEP	Malo Peshtene	5.12	15	P	Pn	15 57 28.7	+1.5
MPEP				S	Sb	15 58 40.0	-1.7
MPEP	Malo Peshtene	5.12	15	P	Pn	15 57 28.7	+1.5
BRY	Bratogost	5.18	331	⇓iPn	Pn	15 57 29.4	+1.2
BRY				eSn	Sn	15 58 35.2	+7.0
BRY	Bratogost	5.18	331	⇓iPn	Pn	15 57 29.4	+1.2
MANT	Manisa	5.19	87	i P	Pn	15 57 29.1	+0.7
MANT	Manisa	5.19	87	i P	Pn	15 57 29.1	+0.7
CRLT	Corlu	5.22	57	eP	Pn	15 57 29.1	+0.5
CRLT	Corlu	5.22	57	eP	Pn	15 57 29.1	+0.5
DURS	Dursunbey	5.22	75	i P	Pn	15 57 29.0	+0.3
DURS	Dursunbey	5.22	75	i P	Pn	15 57 29.0	+0.3
BOVS	Bovan	5.22	358	ePn	Pn	15 57 30.1	+1.5
KULA	Kula-Manisa	5.27	87	eP	Pn	15 57 30.4	+1.0
KULA	Kula-Manisa	5.27	87	eP	Pn	15 57 30.4	+1.0
PLE	Pljevlja	5.28	339	⇓iPn	Pn	15 57 30.5	+1.0
PLE				eSn	Sn	15 58 37.5	+6.9
PLE	Pljevlja	5.28	339	⇓iPn	Pn	15 57 30.5	+1.0
KCTX	Karacabey (Bur	5.30	68	eP	Pn	15 57 29.8	+0.1
KCTX	Karacabey (Bur	5.30	68	eP	Pn	15 57 29.8	+0.1
UPM	Unac-Piva	5.31	335	⇑iPn	Pn	15 57 32.0	+2.0
UPM				eSn	Sn	15 58 38.9	+7.4
UPM	Unac-Piva	5.31	335	⇑iPn	Pn	15 57 32.0	+2.0
DEMI	Demirci	5.33	81	i P	Pn	15 57 31.1	+0.9
DEMI	Demirci	5.33	81	i P	Pn	15 57 31.1	+0.9
IVAS	Ivanjica	5.33	346	ePn	Pn	15 57 31.4	+1.2
PHSR	Pinarhisar	5.35	51	eP	Pn	15 57 31.0	+0.6
PHSR	Pinarhisar	5.35	51	eP	Pn	15 57 31.0	+0.6
JMB	Yambol	5.38	40	P	Pn	15 57 31.2	+0.5
JMB	Yambol	5.38	40	⇑iP	Pn	15 57 32.2	+1.5
JMB	Yambol	5.38	40	⇑iP	Pn	15 57 32.2	+1.5
ARG	Arkhangelos	5.39	112	ePN	Pn	15 57 32.4	+1.5
ARG	Arkhangelos	5.39	112	ePn	Pn	15 57 32.4	+1.5
BOLS	Boljevac	5.41	0	ePn	Pn	15 57 31.2	0.0
PVL	Pavlikeni	5.44	27	P	Pn	15 57 31.0	-0.6
PVL	Pavlikeni	5.44	27	P	Pn	15 57 31.0	-0.6
TURN	Turunc	5.50	104	i P	Pn	15 57 30.2	-2.2
STON	Ston	5.50	325	ePn	Pn	15 57 31.9	-0.6
STON				Sn	Sn	15 58 34.2	-1.7
STON	Ston	5.50	325	ePn	Pn	15 57 31.8	-0.6
STON				Sn	Sn	15 58 34.1	-1.7
GRUS	Gruza	5.55	351	ePn	Pn	15 57 34.1	+1.0
SLVT	Silivri	5.58	58	eP	Pn	15 57 33.5	0.0
SLVT	Silivri	5.58	58	eP	Pn	15 57 33.5	0.0
ORLT	Orhaneli	5.64	71	eP	Pn	15 57 35.2	+0.8
ORLT	Orhaneli	5.64	71	eP	Pn	15 57 35.2	+0.8
DNZL	Cakiroluk	5.65	95	i P	Pn	15 57 36.0	+1.4
SZH	Strazhica	5.71	31	P	Pn	15 57 36.6	+1.2
SZH	Strazhica	5.71	31	P	Pn	15 57 36.6	+1.2
MDNY	Mudanya-Bursa	5.72	68	eP	Pn	15 57 36.0	+0.6
MDNY	Mudanya-Bursa	5.72	68	eP	Pn	15 57 36.0	+0.6
ARMT	Armutlu	5.76	66	eP	Pn	15 57 36.4	+0.3
ARMT	Armutlu	5.76	66	eP	Pn	15 57 36.4	+0.3
BBLS	Lazići	5.78	341	ePn	Pn	15 57 35.9	-0.4
CTKS	Kestanelik-??a	5.78	59	eP	Pn	15 57 37.3	+1.0
CTKS	Kestanelik-??a	5.78	59	eP	Pn	15 57 37.3	+1.0
ULDT	Uludag	5.84	71	i P	Pn	15 57 37.9	+0.7
TRUS	Trudelj	5.92	349	ePn	Pn	15 57 37.7	-0.5
GDZ	Gediz	5.93	81	i P	Pn	15 57 39.9	+1.4
KHAL	Karahalli	5.93	88	i P	Pn	15 57 39.9	+1.5
BGKT	Bogazkoy	5.94	60	eP	Pn	15 57 38.6	+0.2
BGKT	Bogazkoy	5.94	60	eP	Pn	15 57 38.6	+0.2
FETY	Fethiye	5.94	105	eP	Pn	15 57 41.5	+3.0
FETY	Fethiye	5.94	105	eP	Pn	15 57 41.5	+3.0
TVSB	Tavsanli	5.95	78	eP	Pn	15 57 39.8	+1.1
TVSB	Tavsanli	5.95	78	eP	Pn	15 57 39.8	+1.1
KHL	Karahalli	5.95	89	eP	Pn	15 57 40.1	+1.4
KHL	Karahalli	5.95	89	eP	Pn	15 57 40.1	+1.4
GEMT	Gemlik	5.96	68	eP	Pn	15 57 39.2	+0.5
GEMT	Gemlik	5.96	68	eP	Pn	15 57 39.2	+0.5
ISK	Istanbul-Kandi	6.09	62	eP	Pn	15 57 41.1	+0.6
ISK	Istanbul-Kandi	6.09	62	eP	Pn	15 57 41.1	+0.6
GOLH	Golhisar	6.14	99	i P	Pn	15 57 44.0	+2.6
KLYT	Kilyos	6.15	60	eP	Pn	15 57 42.3	+1.0
KLYT	Kilyos	6.15	60	eP	Pn	15 57 42.3	+1.0
CAVI	Cavuskoy	6.38	71	eP	Pn	15 57 45.6	+1.1
CAVI	Cavuskoy	6.38	71	eP	Pn	15 57 45.6	+1.1
TEKS	Tekeris	6.39	344	ePn	Pn	15 57 44.5	-0.2
ALT	Altintas	6.41	82	eP	Pn	15 57 46.1	+1.0
ALT	Altintas	6.41	82	eP	Pn	15 57 46.1	+1.0
HRT	Hereke	6.43	66	eP	Pn	15 57 45.5	+0.3
HRT	Hereke	6.43	66	eP	Pn	15 57 45.5	+0.3
WDD	Wield Dalam	6.45	249	eP	Pn	15 57 43.9	-1.6
	643nm,0.9s						
WDD	Wield Dalam	6.45	249	eP	Pn	15 57 43.9	-1.6
	643nm,0.9s						
AKAS	Kas	6.48	107	i P	Pn	15 57 49.1	+3.1
SILT	Sile	6.53	63	eP	Pn	15 57 46.7	+0.2
SILT	Sile	6.53	63	eP	Pn	15 57 46.7	+0.2
ELL	Elmali	6.54	102	eP	Pn	15 57 49.2	+2.5
ELL	Elmali	6.54	102	eP	Pn	15 57 49.3	+2.5
GPA	Golpazari	6.75	71	eP	Pn	15 57 50.7	+1.1
GPA	Golpazari	6.75	71	eP	Pn	15 57 50.7	+1.1
SHUT	Suhut-Afyon	6.75	86	eP	Pn	15 57 50.5	+0.8
SHUT	Suhut-Afyon	6.75	86	eP	Pn	15 57 50.5	+0.8
BORA	Eskisehir	6.77	75	i P	Pn	15 57 50.9	+1.0
ISP	Isparta	6.79	92	P	Pn	15 57 51.2	+1.0
ISP	Isparta	6.79	92	c iP	Pn	15 57 51.9	+1.7
ISP	Isparta	6.79	92	⇑iP	Pn	15 57 51.7	+1.5
ISP	Isparta	6.79	92	eP	Pn	15 57 51.6	+1.5
	116nm,0.6s						
ISP	Isparta	6.79	92	eP	Pn	15 57 51.6	+1.4
	116nm,0.6s						
KORT	Korkueli	6.81	99	i P	Pn	15 57 54.4	+3.9
SPNC	Sapanca-Adapaz	6.85	68	eP	Pn	15 57 51.8	+0.9
SPNC	Sapanca-Adapaz	6.85	68	eP	Pn	15 57 51.8	+0.9
BCK	Bucak	6.90	95	eP	Pn	15 57 53.7	+2.0
BCK	Bucak	6.90	95	eP	Pn	15 57 53.7	+2.0
FGSL	Fruska Gora	6.93	347	ePn	Pn	15 57 51.5	-0.5
SEYT	Eskypehyr	7.03	78	i P	Pn	15 57 54.8	+1.3
BOLV	Bolvadin	7.06	85	i P	Pn	15 57 56.3	+2.3
PSN	Preselentsi	7.06	40	⇑iP	Pn	15 57 54.3	+0.4
PSN	Preselentsi	7.06	40	⇑iP	Pn	15 57 54.3	+0.4
ANTB	Antalya	7.07	100	eP	Pn	15 57 56.8	+2.8
ANTB	Antalya	7.07	100	eP	Pn	15 57 56.8	+2.8
LOT	Lotru	7.16	10	⇑iP	Pn	15 57 56.4	+1.1

LOT	Lotru	7.16	10	⇑iP	Pn	15 57 56.4	+1.1
MTUR	Matau	7.19	18	⇑iP	Pn	15 57 58.1	+2.3
MTUR	Matau	7.19	18	⇑iP	Pn	15 57 58.1	+2.3
BZS	Buzias	7.20	358	⇑iP	Pn	15 57 58.7	+2.9
SUTC	Sutluce-Ispart	7.21	95	eP	Pn	15 57 57.4	+1.3
SUTC	Sutluce-Ispart	7.21	95	eP	Pn	15 57 57.4	+1.3
ARR	Arges	7.23	15	⇑iP	Pn	15 57 58.3	+2.0
ARR	Arges	7.23	15	⇑iP	Pn	15 57 58.3	+2.0
SECR		7.30	24	⇓iP	Pn	15 58 00.2	+3.1
SECR		7.30	24	⇓iP	Pn	15 58 00.2	+3.1
BTAS	Taskesti	7.33	70	i P	Pn	15 58 00.3	+2.7
SLUM		7.41	158	P	Pn	15 57 57.7	-0.9
	baz=162						
SLUM				S	Sn	15 59 16.1	-6.7
	baz=162						
SLUM		7.41	158	P	Pn	15 57 57.7	-0.9
MDUB	Mudurnu	7.45	71	eP	Pn	15 58 00.6	+1.3
MDUB	Mudurnu	7.45	71	eP	Pn	15 58 00.6	+1.3
ISR	Istrita	7.53	26	⇓iP	Pn	15 58 03.4	+3.1
ISR	Istrita	7.53	26	⇓iP	Pn	15 58 03.4	+3.1
SVRH	Sivrihisar-ESK	7.54	79	eP	Pn	15 58 01.2	+0.8
SVRH	Sivrihisar-ESK	7.54	79	eP	Pn	15 58 01.2	+0.8
AQU	L'Aquila	7.62	304	eP	Pn	15 58 03.2	+1.7
	475nm,0.9s						
AQU	L'Aquila	7.62	304	eP	Pn	15 58 03.2	+1.7
	475nm,0.9s						
UDBI	Udbina	7.67	325	ePn	Pn	15 58 02.3	0.0
UDBI				Sn	Sn	15 59 29.7	+0.3
UDBI	Udbina	7.67	325	ePn	Pn	15 58 02.3	0.0
UDBI				Sn	Sn	15 59 29.7	+0.3
MLR	Muntele Rosu	7.67	22	⇑iP	Pn	15 58 05.0	+2.6
MLR	Muntele Rosu	7.67	22	Pn	Pn	15 58 03.3	+0.9
MLR	Muntele Rosu	7.67	22	Pn	Pn	15 58 03.3	+0.9
	2.0nm,0.3s,baz=176,slow=7.5,SNR=54						
MLR				LR	LR	16 01 46.9	
	comp=Z,6µm,18.4s,baz=196,slow=45						
MLR	Muntele Rosu	7.67	22	P	Pn	15 58 03.3	+0.9
	6µm,18.4s						
HARR	Harsova	7.71	34	⇑iP	Pn	15 58 04.4	+1.7
HARR	Harsova	7.71	34	⇑iP	Pn	15 58 04.4	+1.7
TIRR	Tirgusor	7.75	37	eP	Pn	15 58 04.0	+0.8
TIRR	Tirgusor	7.75	37	ePn	Pn	15 58 04.0	+0.8
TIRR	Tirgusor	7.75	37	eP	Pn	15 58 04.0	+0.8
SIRR	Siria	7.85	359	⇑iP	Pn	15 58 06.5	+1.8
SIRR	Siria	7.85	359	⇑iP	Pn	15 58 06.5	+1.8
DOPR	Dopca	7.97	18	⇑iP	Pn	15 58 08.2	+1.9
DOPR	Dopca	7.97	18	⇑iP	Pn	15 58 08.2	+1.9
NVLJ	Novalja	8.12	321	ePn	Pn	15 58 07.2	-1.1
NVLJ				Sn	Sn	15 59 38.7	-1.6
NVLJ	Novalja	8.12	321	ePn	Pn	15 58 07.2	-1.1
NVLJ				Sn	Sn	15 59 38.7	-1.6
PKSM	Moragy	8.17	344	⇑iP	Pn	15 58 11.3	+2.3
PKSM	Moragy	8.17	344	⇓ePn	Pn	15 58 08.3	-0.7
PKSM	Moragy	8.17	344	⇓eP	Pn	15 58 08.3	-0.7
CFR	Carcaliu	8.19	32	⇑iP	Pn	15 58 12.1	+2.8
CFR	Carcaliu	8.19	32	⇑iP	Pn	15 58 12.1	+2.8
LADK	Ladik-KONYA	8.19	88	eP	Pn	15 58 11.3	+1.8
LADK	Ladik-KONYA	8.19	88	eP	Pn	15 58 11.3	+1.8
PLOR	Plostina	8.21	24	⇑iP	Pn	15 58 11.8	+2.1
PLOR	Plostina	8.21	24	⇑iP	Pn	15 58 11.8	+2.1
KONT	Konya--Tatoy	8.21	90	eP	Pn	15 58 10.6	+0.9
KONT	Konya--Tatoy	8.21	90	eP	Pn	15 58 10.6	+0.9
VRI	Vrincioaia	8.25	24	⇑iP	Pn	15 58 12.6	+2.4
VRI	Vrincioaia	8.25	24	⇑iP	Pn	15 58 12.6	+2.4
PETR	Petresti	8.29	27	⇑iP	Pn	15 58 13.3	+2.6
PETR	Petresti	8.29	27	⇑iP	Pn	15 58 13.3	+2.6
DRGR		8.39	4	⇓iP	Pn	15 58 15.6	+3.4
TLCR		8.49	35	⇑iP	Pn	15 58 15.4	+2.0
TLCR		8.49	35	⇑iP	Pn	15 58 15.4	+2.0
GAZI	Gazipasa	8.54	102	i P	Pn	15 58 18.1	+3.9
ANTO	Ankara	8.55	77	eP	Pn	15 58 15.2	+0.8
ANTO				pmax	pmax		
	comp=Z,32nm,0.9s						
ANTO	Ankara	8.55	77	⇑iP	Pn	15 58 15.6	+1.2
ANTO	Ankara	8.55	77	eP	Pn	15 58 15.2	+0.8
	comp=Z,32nm,0.9s						
ANTO	Ankara	8.55	77	eP	Pn	15 58 15.2	+0.8
	comp=Z,32nm,0.9s						
PKS9	Tamasi	8.61	343	⇓ePn	Pn	15 58 13.5	-1.5
PKS9	Tamasi	8.61	343	⇓eP	Pn	15 58 13.5	-1.5
PKSN	Nyarlorinc	8.62	350	⇓epPn	Pn	15 58 17.8	+2.6
PKSN	Nyarlorinc	8.62	350	⇓eP	Pn	15 58 17.8	+2.6
BOJS	Bojanci	8.66	327	i Pn	Pn	15 58 16.4	+0.6
BOJS				i Sn	Sn	15 59 53.3	-0.3
BOJS	Bojanci	8.66	327	i Pn	Pn	15 58 16.4	+0.6
BOJS				i Sn	Sn	15 59 53.3	-0.3
SAFT	Safranbolu	8.73	68	eP	Pn	15 58 16.3	-0.5
SAFT	Safranbolu	8.73	68	eP	Pn	15 58 16.3	-0.5
TESR	Tescani	8.81	22	⇓iP	Pn	15 58 20.9	+3.1
PKS7	Kunszentmiklos	8.87	348	⇓epPn	Pn	15 58 21.6	+3.0
BEHE	Becsehely	8.91	336	⇓ePn	Pn	15 58 18.2	-1.0
BEHE	Becsehely	8.91	336	⇓eP	Pn	15 58 18.2	-1.0
VISS	Visnje	9.08	327	ePn	Pn	15 58 21.4	-0.1
VISS				i Sn	Sn	16 00 01.6	-2.3
VISS	Visnje	9.08	327	ePn	Pn	15 58 21.4	-0.1
VISS				i Sn	Sn	16 00 01.6	-2.3
SULT	Sultanhani-AKS	9.10	88	eP	Pn	15 58 23.2	+1.3
SULT	Sultanhani-AKS	9.10	88	eP	Pn	15 58 23.2	+1.3
BR131	Keskin Array S	9.19	78	ePn	Pn	15 58 24.5	+1.3
BR131	Keskin Array S	9.19	78	ePn	Pn	15 58 24.5	+1.3
BRTR	Keskin Array B	9.19	78	Pn	Pn	15 58 24.2	+1.1
BRTR				Sn	Sn	16 00 03.5	-3.4
BRTR	Keskin Array B	9.19	78	Pn	Pn	15 58 24.2	+1.1
	comp=Z,9.7nm,0.3s,baz=261,slow=12,SNR=111						
BRTR				Sn	Sn	16 00 03.4	-3.4
	baz=253,slow=24,SNR=2.1						
BRTR				LR	LR	16 02 03.5	
	comp=Z,3µm,20.9s,baz=258,slow=39						
BRTR	Keskin Array B	9.19	78	Pn	Pn	15 58 24.2	+1.1
SKDS	Skadanscina	9.25	323	i Pn	Pn	15 58 23.8	-0.1
SKDS	Skadanscina	9.25	323	i Pn	Pn	15 58 23.8	-0.1
CANT	Cankiri	9.28	73	eP	Pn	15 58 25.1	+0.7
PKST	Tˆ's	9.30	343	ePKiKP	Pn	15 58 26.2	+1.7
PKST	Tˆ's	9.30	343	eP	Pn	15 58 26.2	+1.7
BUD	Budapest	9.32	348	e	Pn	15 58 29.7	+5.0
BMR	Baia Mare	9.33	6	⇑iP	Pn	15 58 28.0	+3.1
CSKK	Csˆ‡kako	9.35	344	⇓e	Pn	15 58 26.8	+1.6
CSKK	Csˆ‡kako	9.35	344	⇓eP	Pn	15 58 26.8	+1.6
PKSG		9.35	345	ePn	Pn	15 58 26.0	+0.9
PKSG		9.35	345	eP	Pn	15 58 26.0	+0.9
LJU	Ljubljana	9.40	327	ePn	Pn	15 58 27.8	+1.9
JAVS	Javornik	9.49	324	i Pn	Pn	15 58 26.9	-0.3
JAVS	Javornik	9.49	324	i Pn	Pn	15 58 26.9	-0.3
JAVS				i Sn	Sn	16 00 12.1	-2.0
TRI	Trieste	9.49	323	eP	Pn	15 58 26.3	-0.9
TRI				pmax	pmax		
	comp=Z,72nm,0.6s						
TRI	Trieste	9.49	323	eP	Pn	15 58 26.3	-0.9
	comp=Z,72nm,0.6s						
TRI	Trieste	9.49	323	eP	Pn	15 58 26.3	-0.9
	comp=Z,72nm,0.6s						
BURAR	Bucovina Array	9.50	14	⇑iP	Pn	15 58 29.2	+1.8
BURAR	Bucovina Array	9.50	14	⇑iP	Pn	15 58 29.2	+1.8
BUR08	Bucovina Ar. S	9.53	13	eP	Pn	15 58 28.9	+1.1
BUR08	Bucovina Ar. S	9.53	13	eP	Pn	15 58 28.9	+1.1
SWA2		9.60	161	P	Pn	15 58 28.2	-0.5
	baz=164						
SWA2				AMP		16 00 00.0	
	comp=E,690µm,0.8s,logA/T=6.0,baz=164						
SWA2		9.60	161	P	Pn	15 58 28.2	-0.5
PSZ	Piszkesteto	9.62	352	eP	Pn	15 58 29.8	+0.8
PSZ				pmax	pmax		
	comp=Z,149nm,0.8s						
PSZ	Piszkesteto	9.62	352	⇓iP	Pn	15 58 30.3	+1.3
PSZ	Piszkesteto	9.62	352	eP	Pn	15 58 29.8	+0.8
	comp=Z,149nm,0.8s						
PSZ	Piszkesteto	9.62	352	⇓e	Pn	15 58 30.3	+1.3
PSZ	Piszkesteto	9.62	352	eP	Pn	15 58 29.8	+0.8
	comp=Z,149nm,0.8s						
PERS	Pernice	9.64	331	i Pn	Pn	15 58 29.5	+0.3
PERS	Pernice	9.64	331	i Pn	Pn	15 58 29.5	+0.3
PERS				i Sn	Sn	16 00 14.9	-2.8
TOS	Tosya	9.66	70	eP	Pn	15 58 29.5	-0.2
TOS	Tosya	9.66	70	eP	Pn	15 58 29.5	-0.2
SOKA	Soboth	9.71	331	⇑iPn	Pn	15 58 28.9	-1.3
	SNR=26						
SOKA				⇓iSn	Sn	16 00 16.2	-3.2
SOKA	Soboth	9.71	331	Pn	Pn	15 58 28.9	-1.3
	SNR=26						
SOKA				Sn	Sn	16 00 16.2	-3.2
TRPA	Tarpa	9.72	2	⇑iP	Pn	15 58 33.4	+3.1
OBKA	Obir	9.76	328	ePn	Pn	15 58 32.6	+1.7

OBKA	**Obir**	**9.76**	**328**	⇑*i*	Pn	**Pn**	**15 58 30.3**	**-0.7**
OBKA				⇑*i*	Sn	**Sn**	**16 00 21.7**	**+0.9**
OBKA	**Obir**	**9.76**	**328**	*e*	Pn	**Pn**	**15 58 32.6**	**+1.7**
OBKA					Sn	**Sn**	**16 00 21.7**	**+0.9**
VSL	**Villasalto** comp=Z,70nm,1.0s	**9.85**	**280**	*e*	P	**Pn**	**15 58 32.5**	**+0.3**
VSL	**Villasalto** comp=Z,70nm,1.0s	**9.85**	**280**	*e*	P	**Pn**	**15 58 32.5**	**+0.3**
KIS	**Kishinev**	**9.96**	**28**	*e*	P	Pn	15 58 37.0	+3.5
KIS				*e*	S	Sn	16 00 32.0	+6.6
KIS	comp=Z,240nm,2.2s				pmax	pmax		
KIS	comp=N,10μm,12.0s				MLR	MLR		
KIS	comp=Z,12μm,12.0s				MLR	MLR		
KIS	comp=E,9μm,11.0s				MLR	MLR		
KIS	comp=Z,11μm,14.0s				MLR	MLR		
KIS	**Kishinev** comp=Z,200nm,2.2s	**9.96**	**28**	*e*	P	Pn	15 58 37.0	+3.5
KIS	**Kishinev**	**9.96**	**28**	*e*	PP	PP	15 58 45.0	
KIS				*e*	S	Sn	16 00 32.0	+6.6
KIS				*i*	Li		16 00 59.0	
KIS				*i*	Lg1		16 01 18.0	
KIS				*i*	Lg2		16 01 40.0	
KIS				*i*	Rg	Rg	16 02 22.0	
KIS	comp=Z,10μm,12.0s				LRM	MLR	16 03 10.0	
NIG	**Nigde**	**9.96**	**88**	*e*	P	**Pn**	**15 58 34.5**	**+0.6**
NIG	**Nigde**	**9.96**	**88**	*e*	P	**Pn**	**15 58 34.6**	**+0.6**
CORM	**Corum**	**9.99**	**76**	*e*	P	**Pn**	**15 58 34.5**	**+0.4**
CORM	**Corum**	**9.99**	**76**	*e*	P	**Pn**	**15 58 34.6**	**+0.4**
ARSA	**Arzberg**	**10.01**	**334**	*e*	Pn	**Pn**	**15 58 34.0**	**-0.3**
ARSA	**Arzberg** SNR=19	**10.01**	**334**	⇓*i*	Pn	**Pn**	**15 58 33.3**	**-1.0**
ARSA	**Arzberg**	**10.01**	**334**	*e*	Pn	**Pn**	**15 58 34.0**	**-0.3**
MERS	**Mersin**	**10.09**	**95**	*e*	P	**Pn**	**15 58 37.1**	**+1.6**
MERS	**Mersin**	**10.09**	**95**	*e*	P	**Pn**	**15 58 37.1**	**+1.6**
UZH	**Uzhgorod**	**10.22**	**1**	*e*	P	**Pn**	**15 58 36.7**	**-0.4**
UZH				*e*	S	**Sn**	**16 00 31.3**	**-0.5**
UZH	comp=N,6μm,10.0s				MLR	MLR		
UZH	comp=E,8μm,10.0s				MLR	MLR		
UZH	comp=Z,5μm,10.0s				MLR	MLR		
UZH	**Uzhgorod**	**10.22**	**1**	*e*	P	**Pn**	**15 58 36.7**	**-0.4**
MYKA	**Terra Mystica** SNR=5.2	**10.24**	**326**	⇑*i*	Pn	**Pn**	**15 58 36.7**	**-0.8**
MYKA				⇓*i*	Sn	**Sn**	**16 00 31.3**	**-1.2**
MYKA	**Terra Mystica** SNR=5.2	**10.24**	**326**		Pn	**Pn**	**15 58 36.7**	**-0.8**
MYKA					Sn	**Sn**	**16 00 31.3**	**-1.2**
KEST	**Kesra**	**10.42**	**259**	*e*	P	Pn	15 58 43.8	+3.8
KEST					Sn	**Sn**	**16 00 33.3**	**-3.7**
KEST	**Kesra** comp=Z,0.2nm,0.3s,baz=22,slow=2.4,SNR=7.9	**10.42**	**259**		Pn	Pn	15 58 43.1	+3.2
KEST	comp=Z,0.1nm,0.3s,baz=277,slow=8.1,SNR=2.1				Sn	**Sn**	**16 00 33.3**	**-3.7**
KEST	comp=Z,950nm,19.1s,baz=7.0,slow=44				LR	LR	16 03 58.4	
KEST	**Kesra**	**10.42**	**259**		Sn	**Sn**	**16 00 33.3**	**-3.7**
VLC	**Villacollemand**	**10.42**	**307**	*e*	P	Pn	15 58 43.7	+3.8
KARA	**Karaisali**	**10.43**	**92**	*e*	P	**Pn**	**15 58 40.9**	**+0.8**
KARA	**Karaisali**	**10.43**	**92**	*e*	P	**Pn**	**15 58 40.9**	**+0.8**
CRVS	**Cervenica-Dubn**	**10.49**	**358**	*e*	P	**Pn**	**15 58 41.4**	**+0.5**
CRVS	**Cervenica-Dubn**	**10.49**	**358**	*e*	PN	**Pn**	**15 58 41.4**	**+0.5**
CRVS				*e*			16 01 55.2	
CRVS	**Cervenica-Dubn**	**10.49**	**358**	*e*	P	**Pn**	**15 58 41.4**	**+0.5**
CONA	**Conrad Observa** SNR=10	**10.49**	**337**	⇑*i*	Pn	**Pn**	**15 58 40.2**	**-0.8**
CONA				⇑*i*	Sn	**Sn**	**16 00 38.6**	**-0.1**
CONA	**Conrad Observa** SNR=10	**10.49**	**337**		Pn	**Pn**	**15 58 40.2**	**-0.8**
CONA					Sn	**Sn**	**16 00 38.7**	**-0.1**
KOLS	**Kolonicke sedl**	**10.52**	**1**	*e*	P	Pn	15 58 45.9	+4.6
KOLS	**Kolonicke sedl**	**10.52**	**1**	*e*		Pn	15 58 45.9	+4.6
PGF	**Pioggiola** comp=Z,218nm,1.0s	**10.69**	**297**	*e*	P	**Pn**	**15 58 45.3**	**+1.6**
PGF	**Pioggiola** comp=Z,218nm,1.0s	**10.69**	**297**	*e*	P	**Pn**	**15 58 45.3**	**+1.6**
PGF					pmax	pmax		
PGF	**Pioggiola** comp=Z,218nm,1.0s	**10.69**	**297**	*e*	P	**Pn**	**15 58 45.3**	**+1.6**
PGF	**Pioggiola** comp=Z,109nm,1.0s	**10.69**	**297**	*e*	P	**Pn**	**15 58 45.3**	**+1.6**
KBA	**Koelnbreinsper**	**10.72**	**327**	*e*	Pn	**Pn**	**15 58 45.6**	**+1.5**
KBA	**Koelnbreinsper** SNR=11	**10.72**	**327**	⇑*i*	Pn	**Pn**	**15 58 44.0**	**-0.2**
KBA				⇓*i*	Sn	**Sn**	**16 00 42.7**	**-1.7**
KBA	**Koelnbreinsper**	**10.72**	**327**	*e*	Pn	**Pn**	**15 58 45.6**	**+1.5**
KBA					Sn	**Sn**	**16 00 42.7**	**-1.7**
ABTA	**Abfaltersbach** SNR=18	**10.85**	**323**	⇓*i*	Pn	**Pn**	**15 58 44.8**	**-1.0**
ABTA				⇑*i*	Sn	**Sn**	**16 00 47.2**	**-0.1**
ABTA	**Abfaltersbach** SNR=18	**10.85**	**323**		Pn	**Pn**	**15 58 44.8**	**-1.0**
ABTA					Sn	**Sn**	**16 00 47.2**	**-0.1**
BNN	**Bunyan**	**10.88**	**83**	*e*	P	**Pn**	**15 58 46.5**	**+0.1**
BNN	**Bunyan**	**10.88**	**83**	*e*	P	**Pn**	**15 58 46.5**	**+0.1**
MOA	**Molln**	**10.97**	**332**	*e*	Pn	**Pn**	**15 58 49.4**	**+2.0**
MOA	**Molln** SNR=22	**10.97**	**332**	⇓*i*	Pn	**Pn**	**15 58 47.0**	**-0.5**
MOA				⇑*i*	Sn	**Sn**	**16 00 50.5**	**+0.2**
MOA	**Molln**	**10.97**	**332**	*e*	Pn	**Pn**	**15 58 49.4**	**+2.0**
MOA					Sn	**Sn**	**16 00 50.5**	**+0.2**
KOZT	**Kozan**	**11.00**	**91**	*e*	P	**Pn**	**15 58 49.0**	**+1.1**
KOZT	**Kozan**	**11.00**	**91**	*e*	P	**Pn**	**15 58 49.0**	**+1.1**
STHS	**Stebnicka Huta**	**11.01**	**358**	*e*	P	Pn	15 58 55.6	+7.6
STHS	comp=Z,100nm,2.5s				MLR	MLR		
STHS	**Stebnicka Huta**	**11.01**	**358**	*e*		Pn	15 58 55.6	+7.6
STHS				*e*			16 02 04.0	
CEYT	**Ceyhan**	**11.02**	**93**	*e*	P	**Pn**	**15 58 49.0**	**+0.8**
CEYT	**Ceyhan**	**11.02**	**93**	*e*	P	**Pn**	**15 58 49.0**	**+0.8**
NIE	**Niedzica**	**11.07**	**354**	*e*	P	Pn	15 58 58.6	+10
NIE				*e*	S	Sn	16 01 04.6	+12
NIE	comp=Z,13μm,16.0s				L	L	16 03 38.0	
SIM	**Simferopol'**	**11.19**	**50**	*e*	P	Pn	15 58 55.9	+5.4
SIM	comp=Z,28nm,0.9s				pmax	pmax		
SIM	comp=N,3μm,16.0s				MLR	MLR		
KWP	**Kalwaria Pacla**	**11.23**	**3**	*e*	P	**Pn**	**15 58 53.4**	**+2.4**
KWP	comp=Z,107nm,1.1s				pmax	pmax		
KWP	**Kalwaria Pacla**	**11.23**	**3**	*e*	P	Pn	15 58 57.3	+6.3
KWP				*e*	SS	SS	16 01 08.9	
KWP	**Kalwaria Pacla** comp=Z,107nm,1.1s	**11.23**	**3**	*e*	P	**Pn**	**15 58 53.4**	**+2.4**
KWP	**Kalwaria Pacla** comp=Z,107nm,1.1s	**11.23**	**3**	*e*	P	**Pn**	**15 58 53.4**	**+2.4**
LVV	**L'vov**	**11.50**	**7**	*e*	P	Pn	15 59 00.5	+5.8
LVV				*e*	S	Sn	16 01 11.4	+8.1
LVV	comp=Z,3μm,11.7s				MLR	MLR		
VRAC	**Vranov**	**11.55**	**342**	⇑*i*	P	**Pn**	**15 58 56.5**	**+1.1**
VRAC	**Vranov**	**11.55**	**342**		Pn	**Pn**	**15 58 54.7**	**-0.7**
VRAC	**Vranov** baz=177,slow=14	**11.55**	**342**		Pn	**Pn**	**15 58 54.7**	**-0.7**
VRAC	**Vranov**	**11.55**	**342**	*e*	Pn	**Pn**	**15 58 54.1**	**-1.3**
VRAC	**Vranov**	**11.55**	**342**		P	**Pn**	**15 58 54.7**	**-0.7**
AWBH	baz=150	**11.62**	**148**		P	**Pn**	**15 58 54.9**	**-1.5**
AWBH		**11.62**	**148**		P	**Pn**	**15 58 54.9**	**-1.5**
WTTA	**Wattenberg**	**11.63**	**323**	*e*	Pn	**Pn**	**15 58 58.5**	**+1.9**
WTTA	**Wattenberg** SNR=15	**11.63**	**323**	⇑*i*	Pn	**Pn**	**15 58 55.5**	**-1.2**
WTTA				⇓*i*	Sn	**Sn**	**16 01 02.9**	**-3.9**
WTTA	**Wattenberg**	**11.63**	**323**	*e*	Pn	**Pn**	**15 58 58.5**	**+1.9**
WTTA					Sn	**Sn**	**16 01 02.9**	**-3.9**
WATA	**Walderalm** SNR=23	**11.71**	**323**	⇑*i*	Pn	**Pn**	**15 58 56.1**	**-1.6**
WATA				⇑*i*	Sn	**Sn**	**16 01 08.2**	**-0.5**
WATA	**Walderalm** SNR=23	**11.71**	**323**		Pn	**Pn**	**15 58 56.1**	**-1.6**
WATA					Sn	**Sn**	**16 01 08.2**	**-0.5**
OKC	**Ostrava-Krasne**	**11.74**	**348**	*e*	P	**Pn**	**15 58 58.7**	**+0.8**
OKC	comp=Z,9μm,12.4s				MLR	MLR		
OKC	**Ostrava-Krasne**	**11.74**	**348**	*e*	P	**Pn**	**15 58 58.7**	**+0.8**
OKC				*ex*		x	15 59 16.2	
OKC					AMS	AMS	16 04 10.0	
OKC	**Ostrava-Krasne** baz=135	**11.74**	**348**		P	**Pn**	**15 58 58.7**	**+0.8**
KOT	**Kottamia**	**11.77**	**133**		P	**Pn**	**15 58 55.8**	**-2.6**
SVSK	**Karacayir**	**11.78**	**78**	*e*	P	**Pn**	**15 58 58.5**	**0.0**
SVSK	**Karacayir**	**11.78**	**78**	*e*	P	**Pn**	**15 58 58.5**	**0.0**
MORC	**Moravsky Berou**	**11.79**	**346**	*e*	P	**Pn**	**15 59 01.4**	**+2.7**
MORC	comp=Z,17nm,0.9s				pmax	pmax		
MORC	**Moravsky Berou**	**11.79**	**346**	⇑*i*	P	Pn	15 59 01.6	+2.9
MORC	**Moravsky Berou** comp=Z,17nm,0.9s	**11.79**	**346**	*e*	P	**Pn**	**15 59 01.4**	**+2.7**
TREC	**Trest**	**11.83**	**339**	*e*	P	**Pn**	**15 58 58.2**	**-1.0**
TREC	comp=Z,11μm,17.2s				MLR	MLR		
TREC	**Trest**	**11.83**	**339**	*e*	P	**Pn**	**15 58 58.2**	**-1.0**
TREC				*ex*		x	15 59 09.5	
TREC	comp=Z,11μm,17.2s				AMS	AMS	16 04 40.0	
TREC	**Trest**	**11.83**	**339**		P	**Pn**	**15 58 58.2**	**-1.0**
FETA	**Feichten** SNR=20	**11.91**	**320**	⇑*i*	Pn	**Pn**	**15 58 59.0**	**-1.4**
FETA	**Feichten** SNR=20	**11.91**	**320**		Pn	**Pn**	**15 58 59.0**	**-1.4**
MOTA	**Moosalm** SNR=39	**11.95**	**322**	⇓*i*	Pn	**Pn**	**15 58 59.7**	**-1.2**
MOTA				⇓*i*	Sn	**Sn**	**16 01 10.9**	**-3.5**
MOTA	**Moosalm** SNR=39	**11.95**	**322**		Pn	**Pn**	**15 58 59.7**	**-1.2**
MOTA					Sn	**Sn**	**16 01 10.9**	**-3.5**
GLL	**Jalalah** baz=136	**11.96**	**135**		P	**Pn**	**15 58 59.0**	**-2.1**
GLL	**Jalalah**	**11.96**	**135**		P	**Pn**	**15 58 59.0**	**-2.1**
RAC	**Raciborz**	**11.97**	**348**	*e*	P	Pn	15 59 04.1	+3.0
RAC				*e*	S	**Sn**	**16 01 19.7**	**+4.9**
RAC	comp=Z,10μm,15.8s				MLR	MLR		
GERES	**GERESS Array B**	**12.01**	**333**		Pn	**Pn**	**15 59 02.1**	**+0.4**
GERES					Sn	**Sn**	**16 01 14.8**	**-1.0**
GERES					ScP	**ScP**	**16 08 20.5**	**+0.1**
GERES	**GERESS Array B** comp=Z,0.7nm,0.3s,baz=155,slow=13,SNR=23	**12.01**	**333**		Pn	**Pn**	**15 59 02.1**	**+0.4**
GERES	comp=Z,1.1nm,0.3s,baz=153,slow=20,SNR=5.2				Sn	**Sn**	**16 01 14.9**	**-1.0**
GERES	comp=Z,21μm,21.4s,baz=145,slow=42				LR	LR	16 04 26.9	
GERES	comp=Z,0.0nm,0.3s,baz=211,slow=1.1,SNR=3.2				ScP	**ScP**	**16 08 20.5**	**+0.1**
GERES	**GERESS Array B** comp=Z,1.0nm,0.3s	**12.01**	**333**		P	**Pn**	**15 59 02.1**	**+0.4**
GERES					Sn	**Sn**	**16 01 14.9**	**-1.0**
AMAG	**Maghara** baz=128	**12.09**	**127**		P	**Pn**	**15 59 00.7**	**-2.1**
DARE	**Darende-Malaty**	**12.18**	**84**	*e*	P	**Pn**	**15 59 04.1**	**0.0**
DARE	**Darende-Malaty**	**12.18**	**84**	*e*	P	**Pn**	**15 59 04.1**	**0.0**
SAOF	**Saorge**	**12.18**	**302**	*e*	P	**Pn**	**15 59 06.8**	**+2.8**
MMAI	**Mount Meron Ar**	**12.19**	**112**		Pn	**Pn**	**15 59 03.3**	**-0.9**
MMAI					Sn	Sn	16 01 13.1	-7.2
MMAI	**Mount Meron Ar** comp=Z,4.2nm,0.3s,baz=310,slow=12,SNR=16	**12.19**	**112**		Pn	**Pn**	**15 59 03.3**	**-0.9**
MMAI	comp=Z,1.2nm,0.3s,baz=302,slow=22,SNR=2.4				Sn	Sn	16 01 13.0	-7.2
MMAI	comp=Z,2μm,20.8s,baz=295,slow=43				LR	LR	16 04 44.3	
MMAI	**Mount Meron Ar**	**12.19**	**112**		Pn	**Pn**	**15 59 03.3**	**-0.9**
DAVOX	**Davos/Dischmat**	**12.20**	**317**		Sn	**Sn**	**16 01 16.0**	**-4.6**
DAVOX	**Davos/Dischmat** comp=Z,1.2nm,0.3s,baz=43,slow=18,SNR=3.0	**12.20**	**317**		Sn	**Sn**	**16 01 16.0**	**-4.6**
DAVOX	comp=Z,4μm,18.2s,baz=118,slow=46				LR	LR	16 05 26.4	
RSH	baz=125	**12.21**	**124**		P	**Pn**	**15 59 01.5**	**-2.9**
RETA	**Reutte** SNR=6.5	**12.21**	**322**	⇑*i*	Pn	**Pn**	**15 59 04.0**	**-0.5**
RETA				⇓*i*	Sn	**Sn**	**16 01 19.2**	**-1.6**
RETA	**Reutte** SNR=6.5	**12.21**	**322**		Pn	**Pn**	**15 59 04.0**	**-0.5**
RETA					Sn	**Sn**	**16 01 19.2**	**-1.6**
SBF	**Sospel** comp=Z,223nm,1.2s	**12.22**	**301**	*e*	P	**Pn**	**15 59 06.4**	**+1.9**
SBF	**Sospel** comp=Z,223nm,1.2s	**12.22**	**301**	*e*	P	**Pn**	**15 59 06.4**	**+1.9**
SBF					pmax	pmax		
SBF	**Sospel** comp=Z,223nm,1.2s	**12.22**	**301**	*e*	P	**Pn**	**15 59 06.4**	**+1.9**
SBF	**Sospel** comp=Z,112nm,1.2s	**12.22**	**301**	*e*	P	**Pn**	**15 59 06.4**	**+1.9**
REVF	**Revere**	**12.22**	**300**	*e*	P	**Pn**	**15 59 06.4**	**+1.9**
REVF	**Revere**	**12.22**	**300**	*e*	P	**Pn**	**15 59 06.4**	**+1.9**
KRLC	**Kraliky**	**12.23**	**344**	*e*	P	**Pn**	**15 59 03.6**	**-1.1**
KRLC				*e*	S	**Sn**	**16 01 20.7**	**-0.5**
KRLC	**Kraliky**	**12.23**	**344**	*e*	P	**Pn**	**15 59 03.6**	**-1.1**
KRLC				*ex*		x	15 59 11.4	
KRLC				*ex*		x	15 59 22.0	
KRLC				*e*	S	**Sn**	**16 01 20.7**	**-0.5**
KRLC	**Kraliky**	**12.23**	**344**		P	**Pn**	**15 59 03.6**	**-1.1**
KRLC					S	**Sn**	**16 01 20.7**	**-0.5**
AUTN	**L'Aution**	**12.27**	**302**	*e*	P	Pn	15 59 10.0	+4.6
CKFL	**Kef-Lekhel**	**12.28**	**265**		P	**Pn**	**15 59 08.0**	**+2.5**
KHC	**Kasperske Hory**	**12.29**	**333**	*e*	P	**Pn**	**15 59 05.4**	**-0.2**
KHC				*e*	S	**Sn**	**16 01 21.6**	**-1.1**
KHC	comp=Z,23μm,18.9s				MLR	MLR		
KHC	**Kasperske Hory**	**12.29**	**333**	*e*	P	**Pn**	**15 59 05.4**	**-0.2**
KHC				*ex*		x	15 59 11.3	
KHC				*ex*		x	15 59 27.1	
KHC				*e*	S	**Sn**	**16 01 21.6**	**-1.1**
KHC				*ex*		x	16 01 52.5	
KHC	comp=Z,23μm,18.9s				AMS	AMS	16 04 10.0	
KHC	**Kasperske Hory** comp=Z,48nm,1.1s	**12.29**	**333**	*e*	P	**Pn**	**15 59 04.7**	**-0.8**
KHC	**Kasperske Hory** comp=Z,48nm,1.1s	**12.29**	**333**	*e*	P	**Pn**	**15 59 04.7**	**-0.8**
KHC					S	**Sn**	**16 01 21.6**	**-1.1**
TUE	**Stuetta** comp=Z,35nm,0.8s	**12.30**	**315**	*e*	P	**Pn**	**15 59 05.0**	**-0.7**
TUE	**Stuetta** comp=Z,35nm,0.8s	**12.30**	**315**	*e*	P	**Pn**	**15 59 05.0**	**-0.7**
TOUF	**Mont Tournerai**	**12.40**	**301**	*e*	P	**Pn**	**15 59 09.9**	**+2.8**
SUZ	baz=132	**12.42**	**130**		P	**Pn**	**15 59 04.9**	**-2.4**
MVIF	**Mont Vial**	**12.42**	**301**	*e*	P	**Pn**	**15 59 09.8**	**+2.4**
HFRF	**Wahat Farafira** baz=155	**12.44**	**153**		P	**Pn**	**15 59 06.6**	**-0.9**
HFRF	**Wahat Farafira**	**12.44**	**153**		P	**Pn**	**15 59 06.6**	**-0.9**
CASM	**Ain Smara**	**12.49**	**265**		P	Pn	15 59 11.5	+3.2
DAVA	**Damuels**	**12.52**	**319**	*e*	Pn	Pn	15 59 13.4	+4.7
DAVA	**Damuels** SNR=9.1	**12.52**	**319**	⇓*i*	Pn	**Pn**	**15 59 08.3**	**-0.5**
DAVA				⇓*i*	Sn	**Sn**	**16 01 26.0**	**-2.5**
DAVA	**Damuels**	**12.52**	**319**	*e*	Pn	Pn	15 59 13.4	+4.7
DAVA					Sn	**Sn**	**16 01 26.0**	**-2.5**
CALN	**Calern**	**12.55**	**300**	*e*	P	Pn	15 59 12.5	+3.4
DPC	**Dobruska-Polom**	**12.59**	**343**	*e*	P	**Pn**	**15 59 08.3**	**-1.3**
DPC	**Dobruska-Polom**	**12.59**	**343**	*e*	P	**Pn**	**15 59 08.3**	**-1.3**
DPC				*ex*		x	15 59 22.1	
DPC					AMS	AMS	16 05 30.0	
DPC	**Dobruska-Polom**	**12.59**	**343**		P	**Pn**	**15 59 08.3**	**-1.3**
FRF	**La Foret Royal** comp=Z,51nm,0.9s	**12.65**	**299**	*e*	P	**Pn**	**15 59 10.5**	**+0.1**
FRF	**La Foret Royal**	**12.65**	**299**	*e*	P	**Pn**	**15 59 10.5**	**+0.1**
FRF	comp=Z,51nm,0.9s				pmax	pmax		
FRF	**La Foret Royal** comp=Z,51nm,0.9s	**12.65**	**299**	*e*	P	**Pn**	**15 59 10.5**	**+0.1**
FRF	**La Foret Royal** comp=Z,25nm,0.9s	**12.65**	**299**	*e*	P	**Pn**	**15 59 10.5**	**+0.1**
PRU	**Pruhonice**	**12.72**	**338**	*e*	P	**Pn**	**15 59 10.1**	**-1.3**
PRU	comp=Z,12μm,14.0s				MLR	MLR		
PRU	**Pruhonice**	**12.72**	**338**	*e*	P	**Pn**	**15 59 10.1**	**-1.3**
PRU				*ex*		x	15 59 21.0	
PRU				*ex*		x	15 59 27.3	
PRU	comp=Z,12μm,14.0s				AMS	AMS	16 05 10.0	
PRU	**Pruhonice**	**12.72**	**338**		P	**Pn**	**15 59 10.1**	**-1.3**
UPC	**Upice**	**12.81**	**343**	*e*	P	**Pn**	**15 59 12.5**	**0.0**
UPC	**Upice**	**12.81**	**343**	*e*	P	**Pn**	**15 59 12.5**	**0.0**
UPC	**Upice**	**12.81**	**343**		P	**Pn**	**15 59 12.5**	**0.0**
PRA	**Prague**	**12.83**	**338**		P	**Pn**	**15 59 10.0**	**-2.8**
DFRA	**Djebel Bou Aff**	**12.90**	**267**		P	Pn	15 59 17.4	+3.4
ILIC	**ilic-Erzincan**	**12.99**	**80**	*e*	P	**Pn**	**15 59 14.8**	**-0.3**
ILIC	**ilic-Erzincan**	**12.99**	**80**	*e*	P	**Pn**	**15 59 14.8**	**-0.3**
MBDF	**Montbardon** comp=Z,57nm,0.8s	**12.99**	**304**	*e*	P	**Pn**	**15 59 16.6**	**+1.4**
MBDF	**Montbardon**	**12.99**	**304**	*e*	P	**Pn**	**15 59 16.6**	**+1.4**
MBDF	comp=Z,57nm,0.8s				pmax	pmax		
MBDF	**Montbardon** comp=Z,57nm,0.8s	**12.99**	**304**	*e*	P	**Pn**	**15 59 16.6**	**+1.4**
MBDF	**Montbardon** comp=Z,28nm,0.8s	**12.99**	**304**	*e*	P	**Pn**	**15 59 16.6**	**+1.4**
KSP	**Ksiaz**	**13.06**	**344**	*e*	P	Pn	15 59 18.8	+2.9
KSP				*e*	S	**Sn**	**16 01 45.0**	**+3.7**
KSP	**Ksiaz**	**13.06**	**344**	*e*	P	Pn	15 59 19.8	+3.9
KSP				*e*	S	**Sn**	**16 01 38.6**	**-2.7**
KSP				*e*	SS	**S**	**16 02 07.4**	**+0.6**
HNKL	**Nakhl** baz=128	**13.06**	**127**		P	**Pn**	**15 59 13.8**	**-2.3**
BNI	**Bardonecchia**	**13.18**	**305**	*e*	P	Pn	15 59 20.7	+2.9
BNI	comp=Z,22nm,0.8s				pmax	pmax		
BNI	**Bardonecchia** comp=Z,22nm,0.8s	**13.18**	**305**	*e*	P	Pn	15 59 20.7	+2.9
PVCC	**Panska Ves**	**13.20**	**339**	*e*	P	**Pn**	**15 59 18.4**	**+0.5**
PVCC	comp=Z,8μm,13.1s				MLR	MLR		
PVCC	**Panska Ves**	**13.20**	**339**	*e*	P	**Pn**	**15 59 18.4**	**+0.5**
PVCC				*ex*		x	15 59 28.2	
PVCC				*ex*		x	15 59 37.3	
PVCC	comp=Z,8μm,13.1s				AMS	AMS	16 05 30.0	
PVCC	**Panska Ves**	**13.20**	**339**		P	**Pn**	**15 59 18.4**	**+0.5**
AK02	**Malin Array Si**	**13.28**	**20**	*e*	P	**Pn**	**15 59 18.1**	**-0.9**
AK02	**Malin Array Si**	**13.28**	**20**	*e*	P	**Pn**	**15 59 18.1**	**-0.9**
OG25	**Le Caire**	**13.31**	**302**	*e*	P	**Pn**	**15 59 21.8**	**+2.3**
AK01	**Malin Array Si**	**13.31**	**20**	*e*	P	**Pn**	**15 59 19.6**	**+0.2**
AK01	**Malin Array Si**	**13.31**	**20**	*e*	P	**Pn**	**15 59 19.6**	**+0.2**
KIEV	**Kiev**	**13.32**	**20**	⇑*i*	P	**Pn**	**15 59 20.1**	**+0.7**
KIEV	**Kiev** comp=Z,55nm,1.3s	**13.32**	**20**	*e*	P	**Pn**	**15 59 17.3**	**-2.2**
KIEV	**Kiev**	**13.32**	**20**	*i*	P	**Pn**	**15 59 20.1**	**+0.7**
AKASG	**Malin Array Be**	**13.33**	**20**		P	**Pn**	**15 59 18.5**	**-1.1**
AKASG	comp=Z,1.0nm,0.3s				pmax	pmax		
AKASG	comp=Z,17nm,28.6s				MLR	MLR		
AKASG	**Malin Array Be**	**13.33**	**20**		Pn	**Pn**	**15 59 18.5**	**-1.1**
AKASG					ScP	**ScP**	**16 08 20.6**	**-1.7**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.3s,baz=206,slow=13,SNR=15	**13.33**	**20**		Pn	**Pn**	**15 59 18.5**	**-1.1**
AKASG	comp=Z,8μm,20.4s,baz=200,slow=41				LR	LR	16 05 14.7	
AKASG	comp=Z,0.1nm,0.3s,baz=238,slow=1.3,SNR=7.8				ScP	**ScP**	**16 08 20.6**	**-1.7**
AKASG	**Malin Array Be** comp=Z,17nm,28.6s	**13.33**	**20**		P	**Pn**	**15 59 18.5**	**-1.1**
AKASG					ScP	**ScP**	**16 08 20.6**	**-1.7**
AKBB	**Malin Array Si**	**13.33**	**20**	*e*	P	**Pn**	**15 59 18.9**	**-0.7**
AKBB	**Malin Array Si**	**13.33**	**20**	*e*	P	**Pn**	**15 59 18.9**	**-0.7**
AKBB	**Malin Array Si**	**13.33**	**20**	*e*	P	**Pn**	**15 59 18.9**	**-0.7**
LPG	**La Plagne** comp=Z,98nm,0.8s	**13.33**	**307**	*e*	P	**Pn**	**15 59 21.9**	**+1.9**
LPG	**La Plagne**	**13.33**	**307**	*e*	P	**Pn**	**15 59 21.9**	**+1.9**
LPG	comp=Z,98nm,0.8s				pmax	pmax		
LPG	**La Plagne** comp=Z,98nm,0.8s	**13.33**	**307**	*e*	P	**Pn**	**15 59 21.9**	**+1.9**
LPG	**La Plagne** comp=Z,49nm,0.8s	**13.33**	**307**	*e*	P	**Pn**	**15 59 21.9**	**+1.9**
LPL	**La Plagne** comp=Z,69nm,0.9s	**13.35**	**307**	*e*	P	**Pn**	**15 59 21.5**	**+1.3**
LPL	**La Plagne**	**13.35**	**307**	*e*	P	**Pn**	**15 59 21.5**	**+1.3**
LPL	comp=Z,69nm,0.9s				pmax	pmax		
LPL	**La Plagne** comp=Z,69nm,0.9s	**13.35**	**307**	*e*	P	**Pn**	**15 59 21.5**	**+1.3**
LPL	**La Plagne** comp=Z,34nm,0.9s	**13.35**	**307**	*e*	P	**Pn**	**15 59 21.5**	**+1.3**
SET	**Setif**	**13.36**	**266**		P	**P**	**15 59 30.0**	**+0.1**
BEL	**Belsk**	**13.45**	**357**	*e*	P	**Pn**	**15 59 21.2**	**0.0**
BEL	**Belsk**	**13.45**	**357**	*e*	P	**Pn**	**15 59 21.1**	**-0.1**
BEL				*e*	PP	**P**	**15 59 32.5**	**+1.8**
BEL				*e*	S	S	16 02 22.8	+8.0
BEL	**Belsk**	**13.45**	**357**	*e*	P	**Pn**	**15 59 21.2**	**0.0**
RSL	**Roselend**	**13.50**	**307**	*e*	P	Pn	15 59 25.7	+3.6
SMRF	**Simiane la Rot** comp=Z,63nm,1.0s	**13.52**	**299**	*e*	P	**Pn**	**15 59 21.4**	**-0.9**
SMRF	**Simiane la Rot** comp=Z,63nm,1.0s	**13.52**	**299**	*e*	P	**Pn**	**15 59 21.4**	**-0.9**
SMRF	**Simiane la Rot** comp=Z,32nm,1.0s	**13.52**	**299**	*e*	P	**Pn**	**15 59 21.4**	**-0.9**
MANZ	**Manzenberg**	**13.54**	**332**	*e*	Pn	**Pn**	**15 59 23.7**	**+1.2**
**M

CLL	**Collm**	**14.35**	**337**	*e*P		**Pn**	**15 59 34.0**	**+0.4**
CLL				*e*PP		**PnPn**	**15 59 41.0**	**-0.5**
	comp=Z,58nm,1.2s							
CLL				*i*			15 59 46.8	
CLL				*i* (SS)			16 02 34.9	
CLL				Lmax			16 06 00.0	
SOC	**Sochi**	**14.37**	**63**	*e*P		**Pn**	**15 59 33.7**	**-0.2**
SOC				*e*			16 02 14.0	
SOC				pmax	pmax			
	comp=Z,21nm,1.0s							
SOC				MLR	MLR			
	comp=Z,948nm,13.0s							
SOC				MLR	MLR			
	comp=N,1μm,13.0s							
SOC				MLR	MLR			
	comp=E,1μm,13.0s							
VIVF	**Saint-Julien-l**	**14.42**	**302**	*e*P		**Pn**	**15 59 34.9**	**+0.3**
	comp=E,56nm,1.0s							
VIVF	**Saint-Julien-l**	**14.42**	**302**	*e*P		**Pn**	**15 59 34.9**	**+0.3**
VIVF				pmax	pmax			
	comp=Z,56nm,1.0s							
VIVF	**Saint-Julien-l**	**14.42**	**302**	*e*P		**Pn**	**15 59 34.9**	**+0.3**
	comp=Z,56nm,1.0s							
HINF	**Hinteralfeld**	**14.46**	**315**	*e*P		**Pn**	**15 59 34.3**	**-0.9**
	comp=Z,93nm,1.0s							
HINF	**Hinteralfeld**	**14.46**	**315**	*e*P		**Pn**	**15 59 34.3**	**-0.9**
HINF				pmax	pmax			
	comp=Z,93nm,1.0s							
HINF	**Hinteralfeld**	**14.46**	**315**	*e*P		**Pn**	**15 59 34.3**	**-0.9**
	comp=Z,93nm,1.0s							
ECH	**Echery**	**14.53**	**317**	*e*P		**Pn**	**15 59 35.2**	**-0.9**
ECH				pmax	pmax			
	comp=Z,23nm,0.8s							
ECH	**Echery**	**14.53**	**317**	*e*P		**Pn**	**15 59 35.2**	**-0.9**
	comp=Z,23nm,0.8s							
CDF	**Champ du Feu**	**14.59**	**318**	*e*P		**Pn**	**15 59 36.4**	**-0.6**
	comp=Z,62nm,1.0s							
CDF	**Champ du Feu**	**14.59**	**318**	*e*P		**Pn**	**15 59 36.4**	**-0.6**
CDF				pmax	pmax			
	comp=Z,62nm,1.0s							
CDF	**Champ du Feu**	**14.59**	**318**	*e*P		**Pn**	**15 59 36.4**	**-0.6**
	comp=Z,62nm,1.0s							
BNGB	**Bing'‖l**	**14.64**	**82**	*e*P		**Pn**	**15 59 36.8**	**-0.9**
SSB	**Saint Sauveur**	**14.66**	**303**	*e*P		**Pn**	**15 59 38.0**	**+0.1**
SSB				pmax	pmax			
	comp=Z,13nm,0.8s							
SSB	**Saint Sauveur**	**14.66**	**303**	*e*P		**Pn**	**15 59 38.0**	**+0.1**
	comp=Z,13nm,0.8s							
LASF	**Ste Croix**	**14.73**	**298**	*e*P		**Pn**	**15 59 38.0**	**-0.8**
	comp=Z,61nm,1.1s							
LASF	**Ste Croix**	**14.73**	**298**	*e*P		**Pn**	**15 59 38.0**	**-0.8**
	comp=Z,61nm,1.1s							
HHRG	**Al Ghardaqah**	**14.82**	**135**	P		**Pn**	**15 59 39.1**	**-1.0**
	baz=137							
HAU	**Haudompre**	**14.85**	**315**	*e*P		**Pn**	**15 59 41.1**	**+0.6**
	comp=Z,108nm,0.9s							
HAU				*e*R				
	comp=Z,5μm,18.5s							
HAU	**Haudompre**	**14.85**	**315**	*e*P		**Pn**	**15 59 41.1**	**+0.6**
HAU				pmax	pmax			
	comp=Z,108nm,0.9s							
HAU	**Haudompre**	**14.85**	**315**	*e*P		**Pn**	**15 59 41.1**	**+0.6**
	comp=Z,108nm,0.9s							
SVAN	**Silvan-Diyarba**	**15.12**	**85**	*e*P		**Pn**	**15 59 43.8**	**-0.4**
RUE	**Ruedersdorf**	**15.18**	**341**	P		**Pn**	**15 59 44.7**	**0.0**
	comp=Z,40nm,0.4s							
GKP	**Gorka Klasztor**	**15.21**	**349**	*e*P		**P**	**15 59 49.6**	**-0.7**
GKP	**Gorka Klasztor**	**15.21**	**349**	*e*P		**P**	**15 59 49.5**	**-0.7**
GKP				*e*S		**S**	**16 02 47.9**	**-2.9**
GKP	**Gorka Klasztor**	**15.21**	**349**	*e*P		**P**	**15 59 49.6**	**-0.7**
EMHD	**Djebel Mahouad**	**15.28**	**268**	P		**P**	**15 59 50.0**	**-1.3**
COLF	**Collangettes**	**15.30**	**303**	*e*P		**P**	**15 59 53.6**	**+2.2**
LBL	**Lubilhac**	**15.50**	**302**	*e*P		**P**	**15 59 55.9**	**+2.3**
PAGF	**Fort de Pagny**	**15.51**	**316**	*e*P		**Pn**	**15 59 50.7**	**+1.6**
	comp=Z,46nm,1.1s							
PAGF	**Fort de Pagny**	**15.51**	**316**	*e*P		**Pn**	**15 59 50.7**	**+1.6**
	comp=Z,46nm,1.1s							
PLDF	**La Plantade**	**15.52**	**305**	*e*P		**P**	**15 59 54.1**	**+0.3**
PLDF	**La Plantade**	**15.52**	**305**	*e*P		**P**	**15 59 54.1**	**+0.3**
SUW	**Suwalki**	**15.63**	**3**	*e*P		**P**	**15 59 53.0**	**-1.9**
SUW				*e*S		**Sn**	**16 02 41.6**	**-2.3**
SUW	**Suwalki**	**15.63**	**3**	*e*P		**P**	**15 59 52.9**	**-1.9**
SUW				*e*S		**Sn**	**16 02 41.6**	**-2.3**
SUW	**Suwalki**	**15.63**	**3**	*e*P		**Pn**	**15 59 49.2**	**-1.4**
	comp=Z,343nm,0.8s							
SUW	**Suwalki**	**15.63**	**3**	*e*P		**P**	**15 59 53.0**	**-1.9**
SMF	**Signal de Mont**	**15.65**	**307**	*e*P		**Pn**	**15 59 51.5**	**+0.4**
	comp=Z,134nm,0.9s							
SMF	**Signal de Mont**	**15.65**	**307**	*e*P		**Pn**	**15 59 51.5**	**+0.4**
SMF				pmax	pmax			
	comp=Z,134nm,0.9s							
SMF	**Signal de Mont**	**15.65**	**307**	*e*P		**Pn**	**15 59 51.5**	**+0.4**
	comp=Z,134nm,0.9s							
VALF	**Valcebollere**	**15.69**	**291**	*e*P		**P**	**15 59 57.6**	**+1.7**
VALF	**Valcebollere**	**15.69**	**291**	*e*P		**P**	**15 59 57.6**	**+1.7**
SFTF	**Sexfontaines**	**15.69**	**314**	*e*P		**Pn**	**15 59 52.7**	**+1.1**
SFTF	**Sexfontaines**	**15.69**	**314**	*e*P		**Pn**	**15 59 52.7**	**+1.1**
PYM	**Petit Puy Mans**	**15.84**	**304**	*e*P		**P**	**15 59 59.6**	**+2.2**
MEZF	**Maizieres J'vi**	**15.85**	**315**	*e*P		**P**	**15 59 56.7**	**-0.7**
	comp=Z,139nm,1.0s,baz=119							
MEZF	**Maizieres J'vi**	**15.85**	**315**	*e*P		**P**	**15 59 56.7**	**-0.7**
	comp=Z,139nm,1.0s							
MEZF	**Maizieres J'vi**	**15.85**	**315**	*e*P		**P**	**15 59 56.7**	**-0.7**
	comp=Z,70nm,1.0s							
AGO	**Saint Agoulin**	**15.87**	**305**	*e*P		**P**	**15 59 58.6**	**+1.0**
AGO	**Saint Agoulin**	**15.87**	**305**	*e*P		**P**	**15 59 58.6**	**+1.0**
LOR	**Lormes**	**15.92**	**310**	*e*P		**Pn**	**15 59 54.0**	**-0.5**
	comp=Z,266nm,1.5s,baz=120							
LOR				*e*R				
	comp=Z,4μm,18.0s							
LOR	**Lormes**	**15.92**	**310**	*e*P		**Pn**	**15 59 54.0**	**-0.5**
	comp=Z,266nm,1.5s							
WLF	**Walferdange**	**15.95**	**320**	P		**Pn**	**15 59 55.5**	**+0.7**
	comp=Z,84nm,1.5s							
WLF	**Walferdange**	**15.95**	**320**	*e*P		**Pn**	**15 59 54.7**	**-0.1**
WLF				pmax	pmax			
	comp=Z,127nm,1.2s							
WLF	**Walferdange**	**15.95**	**320**	*e*P		**Pn**	**15 59 54.7**	**-0.1**
	comp=Z,127nm,1.2s							
AVF	**Avril sur Loir**	**16.02**	**307**	*e*P		**P**	**15 59 58.1**	**-1.2**
	comp=Z,215nm,1.2s							
AVF	**Avril sur Loir**	**16.02**	**307**	*e*P		**P**	**15 59 58.1**	**-1.2**
AVF				pmax	pmax			
	comp=Z,215nm,1.2s							
AVF	**Avril sur Loir**	**16.02**	**307**	*e*P		**P**	**15 59 58.1**	**-1.2**
	comp=Z,215nm,1.2s							
AVF	**Avril sur Loir**	**16.02**	**307**	*e*P		**P**	**15 59 58.1**	**-1.2**
	comp=Z,108nm,1.2s							
SSF	**Saint Saulge**	**16.04**	**308**	*e*P		**Pn**	**15 59 57.7**	**+1.6**
	comp=Z,240nm,1.0s							
SSF	**Saint Saulge**	**16.04**	**308**	*e*P		**Pn**	**15 59 57.7**	**+1.6**
SSF				pmax	pmax			
	comp=Z,240nm,1.0s							
SSF	**Saint Saulge**	**16.04**	**308**	*e*P		**Pn**	**15 59 57.7**	**+1.6**
	comp=Z,240nm,1.0s							
SSF	**Saint Saulge**	**16.04**	**308**	*e*P		**Pn**	**15 59 57.7**	**+1.6**
	comp=Z,120nm,1.0s							
CAF	**Calviac**	**16.20**	**300**	*e*P		**P**	**16 00 00.6**	**-0.8**
	comp=Z,114nm,1.3s							
CAF	**Calviac**	**16.20**	**300**	*e*P		**P**	**16 00 00.6**	**-0.8**
CAF				pmax	pmax			
	comp=Z,114nm,1.3s							
CAF	**Calviac**	**16.20**	**300**	*e*P		**P**	**16 00 00.6**	**-0.8**
	comp=Z,114nm,1.3s							
CAF	**Calviac**	**16.20**	**300**	*e*P		**P**	**16 00 00.6**	**-0.8**
	comp=Z,57nm,1.3s							
BGF	**Bois d'Agland**	**16.25**	**306**	*e*P		**Pn**	**15 59 57.6**	**-1.1**
	comp=Z,204nm,1.2s							
BGF	**Bois d'Agland**	**16.25**	**306**	*e*P		**Pn**	**15 59 57.6**	**-1.1**
BGF				pmax	pmax			
	comp=Z,204nm,1.2s							
BGF	**Bois d'Agland**	**16.25**	**306**	*e*P		**Pn**	**15 59 57.6**	**-1.1**
	comp=Z,204nm,1.2s							
AGRB	**Hanur-Agry**	**16.40**	**79**	*e*P		**Pn**	**16 00 01.6**	**+0.7**
MLS	**Moulis**	**16.45**	**293**	*e*P		**P**	**16 00 03.7**	**-0.4**
MLS	**Moulis**	**16.45**	**293**	*e*P		**P**	**16 00 03.7**	**-0.4**
KIV	**Kislovodsk**	**16.55**	**64**	*e*P		**P**	**16 00 04.6**	**-0.7**
KIV				*e*S		**Sn**	**16 03 08.2**	**+1.6**
KIV				pmax	pmax			
	comp=Z,28nm,1.0s							
KIV				MLR	MLR			
	comp=Z,806nm,13.0s							
KIV	**Kislovodsk**	**16.55**	**64**	P		**Pn**	**16 00 02.8**	**+0.1**
	comp=Z,79nm,1.1s							
KIV	**Kislovodsk**	**16.55**	**64**	*e*P		**P**	**16 00 04.6**	**-0.7**
	comp=Z,28nm,1.0s							

TCF	**Toulx Ste Croi**	**16.55**	**305**	*e*P		**P**	**16 00 03.9**	**-1.3**
TCF	**Toulx Ste Croi**	**16.55**	**305**	*e*P		**P**	**16 00 03.9**	**-1.3**
TCF	**Toulx Ste Croi**	**16.55**	**305**	*e*P		**P**	**16 00 03.9**	**-1.3**
TCF	**Toulx Ste Croi**	**16.55**	**305**	*e*P		**P**	**16 00 03.9**	**-1.3**
MNK	**Minsk**	**16.59**	**12‖**	*e*P		**Pn**	**16 00 03.0**	**+0.1**
MNK				*e*S		Sn	16 03 00.0	-7.1
MNK				MLR	MLR			
	comp=Z,35μm,10.0s							
MNK				MLR	MLR			
	comp=Z,14μm,10.0s							
MNK				MLR	MLR			
	comp=N,8μm,10.0s							
MNK				MLR	MLR			
	comp=E,14μm,10.0s							
MICGM	**Minsk**	**16.59**	**12‖**	*e*P		**Pn**	**16 00 03.0**	**0.0**
MEM	**Membach**	**16.63**	**322**	P		**Pn**	**16 00 04.0**	**+0.5**
	comp=Z,24nm,1.4s							
MEM	**Membach**	**16.63**	**322**	P		**Pn**	**16 00 04.0**	**+0.5**
	comp=Z,24nm,1.4s							
KBZ	**Khabaz**	**16.65**	**65**	P		**P**	**16 00 07.8**	**+1.5**
KBZ				MLR	MLR			
	comp=Z,17nm,28.6s							
KBZ	**Khabaz**	**16.65**	**65**	Pn		**P**	**16 00 07.8**	**+1.5**
KBZ	**Khabaz**	**16.65**	**65**	Pn		**P**	**16 00 07.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=279,slow=15,SNR=11							
KBZ				LR	LR		16 07 43.1	
	comp=Z,2μm,19.1s,baz=262,slow=42							
KBZ	**Khabaz**	**16.65**	**65**	P		**P**	**16 00 07.8**	**+1.5**
	comp=Z,17nm,28.6s							
HYF	**Humbligny**	**16.66**	**308**	*e*P		**P**	**16 00 07.7**	**+1.2**
HYF	**Humbligny**	**16.66**	**308**	*e*P		**P**	**16 00 07.7**	**+1.2**
HYF	**Humbligny**	**16.66**	**308**	*e*P		**P**	**16 00 07.7**	**+1.2**
MELF	**Melles**	**16.68**	**292**	*e*P		**P**	**16 00 10.8**	**+4.1**
RJF	**Les Rejaudoux**	**16.68**	**301**	*e*P		**Pn**	**16 00 04.0**	**-0.3**
	comp=Z,105nm,1.3s							
RJF				*e*R				
	comp=Z,7μm,18.2s							
RJF	**Les Rejaudoux**	**16.68**	**301**	*e*P		**Pn**	**16 00 04.0**	**-0.3**
RJF				pmax	pmax			
	comp=Z,105nm,1.3s							
RJF	**Les Rejaudoux**	**16.68**	**301**	*e*P		**Pn**	**16 00 04.0**	**-0.3**
	comp=Z,105nm,1.3s							
RJF	**Les Rejaudoux**	**16.68**	**301**	*e*P		**Pn**	**16 00 04.0**	**-0.3**
	comp=Z,52nm,1.3s							
ETRT	**Tiaret**	**16.79**	**266**	P		**Pn**	**16 00 05.0**	**-0.8**
EANR	**'Ain N'Sour**	**16.79**	**268**	P		**P**	**16 00 07.0**	**-1.0**
NACGM	**Naroch**	**16.82**	**10**	*e*P		**Pn**	**16 00 06.0**	**+0.1**
BCLA	**Clavier**	**16.85**	**321**	P		**P**	**16 00 09.4**	**+0.9**
	comp=Z,29nm,1.7s							
BCLA	**Clavier**	**16.85**	**321**	P		**P**	**16 00 09.3**	**+0.9**
	comp=Z,29nm,1.7s							
ONI	**Oni**	**16.87**	**69**	P		P	16 00 15.8	+6.9
ONI				S		**S**	**16 03 26.4**	**+1.5**
GIVF	**Givet**	**16.89**	**319**	*e*P		**P**	**16 00 08.6**	**-0.4**
	comp=Z,76nm,1.0s							
GIVF	**Givet**	**16.89**	**319**	*e*P		**P**	**16 00 08.6**	**-0.4**
GIVF				pmax	pmax			
	comp=Z,76nm,1.0s							
GIVF	**Givet**	**16.89**	**319**	*e*P		**P**	**16 00 08.6**	**-0.4**
	comp=Z,76nm,1.0s							
GIVF	**Givet**	**16.89**	**319**	*e*P		**P**	**16 00 08.6**	**-0.4**
	comp=Z,38nm,1.0s							
RESF	**Ens**	**16.98**	**292**	*e*P		**Pn**	**16 00 09.0**	**+0.9**
RESF	**Ens**	**16.98**	**292**	*e*P		**Pn**	**16 00 09.0**	**+0.9**
EPF	**Esparros**	**17.00**	**293**	*e*P		**P**	**16 00 10.9**	**+0.6**
	comp=Z,26nm,0.9s							
EPF	**Esparros**	**17.00**	**293**	*e*P		**P**	**16 00 10.9**	**+0.6**
EPF				pmax	pmax			
	comp=Z,26nm,0.9s							
EPF	**Esparros**	**17.00**	**293**	*e*P		**P**	**16 00 10.9**	**+0.6**
	comp=Z,26nm,0.9s							
EPF	**Esparros**	**17.00**	**293**	*e*P		**P**	**16 00 10.9**	**+0.6**
	comp=Z,13nm,0.9s							
DOU	**Dourbes**	**17.01**	**319**	P		**Pn**	**16 00 08.7**	**+0.3**
	comp=Z,25nm,1.7s							
DOU	**Dourbes**	**17.01**	**319**	P		**Pn**	**16 00 08.6**	**+0.3**
	comp=Z,25nm,1.7s							
GOF	**Gofitskoye**	**17.06**	**60**	*e*P		**Pn**	**16 00 08.9**	**-0.2**
GOF	**Gofitskoye**	**17.06**	**60**	*e*P		**Pn**	**16 00 08.9**	**-0.2**
LFF	**La Frestale**	**17.11**	**299**	*e*P		**P**	**16 00 11.5**	**+0.1**
	comp=Z,96nm,1.2s							
LFF	**La Frestale**	**17.11**	**299**	*e*P		**P**	**16 00 11.5**	**+0.1**
LFF				pmax	pmax			
	comp=Z,96nm,1.2s							
LFF	**La Frestale**	**17.11**	**299**	*e*P		**P**	**16 00 11.5**	**+0.1**
	comp=Z,96nm,1.2s							
LFF	**La Frestale**	**17.11**	**299**	*e*P		**P**	**16 00 11.5**	**+0.1**
	comp=Z,48nm,1.2s							
CLDR	**Caldiran**	**17.15**	**81**	*e*P		**P**	**16 00 11.5**	**-0.6**
CLDR	**Caldiran**	**17.15**	**81**	*e*P		**P**	**16 00 11.5**	**-0.6**
BAIF	**Baives**	**17.19**	**318**	*e*P		**P**	**16 00 12.5**	**+0.3**
	comp=Z,77nm,0.8s							
BAIF	**Baives**	**17.19**	**318**	*e*P		**P**	**16 00 12.5**	**+0.3**
BAIF				pmax	pmax			
	comp=Z,77nm,0.8s							
BAIF	**Baives**	**17.19**	**318**	*e*P		**P**	**16 00 12.5**	**+0.3**
	comp=Z,77nm,0.8s							
BAIF	**Baives**	**17.19**	**318**	*e*P		**P**	**16 00 12.5**	**+0.3**
	comp=Z,38nm,0.8s							
IIGN	**Ignalina**	**17.19**	**8**	*e*P		**P**	**16 00 11.4**	**-0.8**
IIGN				AMB	AMB		16 00 22.4	
	comp=Z,28nm,1.3s							
IIGN				*e*S		**S**	**16 03 27.0**	**-4.2**
IIGN	**Ignalina**	**17.19**	**8**	*e*P		**P**	**16 00 11.4**	**-0.8**
	comp=Z,28nm,1.3s,SNR=40							
IDID	**Didziasalis**	**17.22**	**9**	*e*P		**P**	**16 00 11.6**	**-0.8**
IDID				AMB	AMB		16 00 19.6	
	comp=Z,18nm,0.9s							
IDID	**Didziasalis**	**17.22**	**9**	*e*P		**P**	**16 00 11.6**	**-0.8**
	comp=Z,18nm,0.9s,SNR=40							
ZEI	**Tsey**	**17.22**	**68**	*e*P		**P**	**16 00 13.7**	**+0.8**
ZEI				pmax	pmax			
	comp=Z,102nm,1.9s							
ZEI	**Tsey**	**17.22**	**68**	*e*P		**P**	**16 00 13.7**	**+0.8**
	comp=Z,102nm,1.9s							
BSD	**Bornholm Skovb**	**17.37**	**346**	*i* P		**Pn**	**16 00 12.5**	**-0.3**
BSD				pmax	pmax			
	comp=Z,26nm,0.9s							
BSD	**Bornholm Skovb**	**17.37**	**346**	*i* P		**Pn**	**16 00 12.5**	**-0.3**
	comp=Z,26nm,0.8s							
BSD	**Bornholm Skovb**	**17.37**	**346**	*i* P		**Pn**	**16 00 12.5**	**-0.3**
	comp=Z,26nm,0.9s							
ISAL	**Salakas**	**17.39**	**8**	*e*P		**P**	**16 00 13.9**	**-0.5**
ISAL				AMB	AMB		16 00 25.0	
	comp=Z,26nm,1.3s							
ISAL	**Salakas**	**17.39**	**8**	*e*P		**P**	**16 00 13.9**	**-0.5**
	comp=Z,26nm,1.3s,SNR=35							
SNF	**Seneffe**	**17.42**	**320**	P		**P**	**16 00 16.2**	**+1.4**
SNF	**Seneffe**	**17.42**	**320**	P		**P**	**16 00 16.1**	**+1.4**
GUDG	**Gudauri**	**17.61**	**70**	P		P	16 00 24.5	+7.4
VSR	**Storozhevoye**	**17.64**	**38**	*e*P		**Pn**	**16 00 16.3**	**+0.1**
VSR				*e*S		**Sn**	**16 03 31.2**	**-1.5**
VSR				pmax	pmax			
	comp=N,60nm,1.0s							
VSR				pmax	pmax			
	comp=E,50nm,1.0s							
VSR				pmax	pmax			
	comp=Z,30nm,1.0s							
VSR				pmax	pmax			
	comp=N,90nm,1.0s							
VSR				pmax	pmax			
	comp=E,90nm,1.0s							
VSR				pmax	pmax			
	comp=Z,50nm,1.0s							
VSR				smax	smax			
	comp=N,310nm,3.0s							
VSR				smax	smax			
	comp=E,100nm,3.0s							
VSR				smax	smax			
	comp=Z,180nm,3.0s							
VSR				MLR	MLR			
	comp=N,4μm,13.0s							
VSR				MLR	MLR			
	comp=E,5μm,13.0s							
VSR				MLR	MLR			
	comp=Z,8μm,13.0s							
VSR	**Storozhevoye**	**17.64**	**38**	*e*P		**Pn**	**16 00 16.3**	**+0.1**
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**Pn**	**16 00 16.6**	**+0.2**
	comp=Z,107nm,1.5s							
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**Pn**	**16 00 16.6**	**+0.2**
ETSF				pmax	pmax			
	comp=Z,107nm,1.5s							
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**Pn**	**16 00 16.6**	**+0.2**
	comp=Z,107nm,1.5s							
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**Pn**	**16 00 16.6**	**+0.2**
	comp=Z,54nm,1.5s							

GNI	**Garni**	**17.73**	**77**	*e*P		**Pn**	**16 00 17.3**	**-0.2**
	comp=Z,256nm,1.8s							
GNI	**Garni**	**17.73**	**77**	P		**P**	**16 00 20.0**	**+1.6**
	baz=131,slow=20							
GNI				LR	LR		16 07 03.1	
	comp=Z,2μm,18.5s,baz=289,slow=37							
GNI	**Garni**	**17.73**	**77**	*e*P		**Pn**	**16 00 17.3**	**-0.2**
	comp=Z,256nm,1.8s							
DUS	**Dusheti**	**17.74**	**71**	P		**P**	**16 00 22.8**	**+4.3**
TBLG	**Delisi**	**17.75**	**72**	P		**P**	**16 00 19.4**	**+1.0**
TBLG				S		**S**	**16 03 41.7**	**-1.1**
ATE	**Arette**	**17.77**	**292**	*e*P		**P**	**16 00 19.1**	**+0.4**
ATE	**Arette**	**17.77**	**292**	*e*P		**P**	**16 00 19.1**	**+0.4**
SEAG	**Tbilisi Sea**	**17.80**	**72**	P		**P**	**16 00 19.2**	**+0.1**
VOR	**Voronezh**	**17.99**	**37**	P		**Pn**	**16 00 20.0**	**-0.5**
VOR				pmax	pmax			
	comp=Z,280nm,2.0s							
VOR	**Voronezh**	**17.99**	**37**	P		**Pn**	**16 00 20.0**	**-0.5**
	comp=Z,280nm,2.0s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**	**16 00 23.1**	**+0.2**
	comp=Z,72nm,1.1s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**	**16 00 23.1**	**+0.2**
SJPF				pmax	pmax			
	comp=Z,72nm,1.1s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**	**16 00 23.1**	**+0.2**
	comp=Z,72nm,1.1s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**	**16 00 23.1**	**+0.2**
	comp=Z,36nm,1.1s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**	**16 00 23.7**	**+0.4**
	comp=Z,301nm,1.3s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**	**16 00 23.7**	**+0.4**
MFF				pmax	pmax			
	comp=Z,301nm,1.3s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**	**16 00 23.7**	**+0.4**
	comp=Z,301nm,1.3s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**	**16 00 23.7**	**+0.4**
	comp=Z,151nm,1.3s							
DGRG	**David-gareji**	**18.21**	**73**	P		**P**	**16 00 25.9**	**+2.3**
DGRG				S		**S**	**16 03 59.0**	**+6.8**
LPSR	**Galich'ya Gora**	**18.45**	**34**	*e*P		**P**	**16 00 26.3**	**+0.2**
YRHR	**Novokhopersk**	**18.80**	**41**	*e*P		**Pn**	**16 00 32.4**	**+2.1**
VRHR				*e*S		**Sn**	**16 03 58.2**	**-2.4**
VRHR				pmax	pmax			
	comp=N,20nm,0.8s							
VRHR				pmax	pmax			
	comp=E,20nm,0.8s							
VRHR				pmax	pmax			
	comp=Z,40nm,0.8s							
VRHR				smax	smax			
	comp=E,480nm,3.5s							
VRHR				smax	smax			
	comp=Z,560nm,3.5s							
VRHR				smax	smax			
	comp=N,60nm,1.8s							
VRHR				MLR	MLR			
	comp=N,2μm,13.0s							
VRHR				MLR	MLR			
	comp=E,2μm,13.0s							
VRHR				MLR	MLR			
	comp=Z,3μm,13.0s							
VRHR	**Novokhopersk**	**18.80**	**41**	*e*P		**Pn**	**16 00 32.4**	**+2.1**
LDF	**La Druitiere**	**18.91**	**310**	*e*P		**Pn**	**16 00 33.3**	**+1.6**
	comp=Z,110nm,1.0s							
LDF	**La Druitiere**	**18.91**	**310**	*e*P		**Pn**	**16 00 33.3**	**+1.6**
LDF				pmax	pmax			
	comp=Z,110nm,1.0s							
LDF	**La Druitiere**	**18.91**	**310**	*e*P		**Pn**	**16 00 33.3**	**+1.6**
	comp=Z,110nm,1.0s							
LDF	**La Druitiere**	**18.91**	**310**	*e*P		**Pn**	**16 00 33.3**	**+1.6**
	comp=Z,55nm,1.0s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**	**16 00 35.9**	**+0.7**
	comp=Z,319nm,1.4s,baz=117							
FLN				*e*R				
	comp=Z,4μm,19.2s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**	**16 00 35.9**	**+0.7**
FLN				pmax	pmax			
	comp=Z,319nm,1.4s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**	**16 00 35.9**	**+0.7**
	comp=Z,319nm,1.4s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**	**16 00 35.9**	**+0.7**
	comp=Z,159nm,1.4s							
GRR	**Gorron**	**19.27**	**308**	*e*P		**Pn**	**16 00 35.8**	**-0.4**
	comp=Z,131nm,1.0s							
GRR	**Gorron**	**19.27**	**308**	*e*P		**Pn**	**16 00 35.8**	**-0.4**
GRR				pmax	pmax			
	comp=Z,131nm,1.0s							
GRR	**Gorron**	**19.27**	**308**	*e*P		**Pn**	**16 00 35.8**	**-0.4**
	comp=Z,131nm,1.0s							
GRR	**Gorron**	**19.27**	**308**	*e*P		**Pn**	**16 00 35.8**	**-0.4**
	comp=Z,65nm,1.0s							
OBN	**Ob

PAB pmax pmax
comp=Z,120nm,1.1s
PAB San Pablo 20.45 281 *eP* **P 16 00 48.3 +0.1**
comp=Z,120nm,1.1s
PAB San Pablo 20.45 281 *eP* **P 16 00 48.3 +0.1**
comp=Z,120nm,1.1s
QUIF Quistinic 20.56 306 *eP* **P 16 00 48.8 -0.3**
comp=Z,97nm,0.8s
QUIF Quistinic 20.56 306 *eP* **P 16 00 48.8 -0.3**
QUIF pmax pmax
comp=Z,97nm,0.8s
QUIF Quistinic 20.56 306 *eP* **P 16 00 48.8 -0.3**
comp=Z,97nm,0.8s
QUIF Quistinic 20.56 306 *eP* **P 16 00 48.8 -0.3**
comp=Z,49nm,0.8s
ROSF Rostrenen 20.76 307 *eP* **P 16 00 50.6 -0.8**
comp=Z,99nm,0.7s
ROSF Rostrenen 20.76 307 *eP* **P 16 00 50.6 -0.8**
ROSF pmax pmax
comp=Z,99nm,0.7s
ROSF Rostrenen 20.76 307 *eP* **P 16 00 50.6 -0.8**
comp=Z,99nm,0.7s
ROSF Rostrenen 20.76 307 *eP* **P 16 00 50.6 -0.8**
comp=Z,50nm,0.7s
TAM Tamanrasset 20.98 227 *eP* Pn 16 00 55.8 -0.9
TAM pmax pmax
comp=Z,32nm,1.0s
TAM Tamanrasset 20.98 227 *eP* Pn 16 00 55.8 -0.9
comp=Z,32nm,1.0s
TAM Tamanrasset 20.98 227 *eP* Pn 16 00 55.8 -0.9
comp=Z,32nm,1.0s
IKOM Komasi 21.01 94 *eP* **P 16 00 54.4 0.0**
IKOM Komasi 21.01 94 *eP* **P 16 00 54.4 0.0**
STRD Stroud 21.51 316 *eP* **P 16 01 00.4 +0.9**
STRD AMB AMB 16 01 08.0
comp=Z,124nm,1.1s
STRD Stroud 21.51 316 *eP* **P 16 01 00.4 +0.9**
MONM Monmouth 21.89 316 *eP* **P 16 01 02.4 -1.1**
MONM AMB AMB 16 01 10.5
comp=Z,125nm,1.3s
MONM Monmouth 21.89 316 *eP* **P 16 01 02.4 -1.1**
DYA Yadsworthy 21.92 312 *eP* **P 16 01 02.5 -1.3**
DYA AMB AMB 16 01 10.7
comp=Z,108nm,1.2s
DYA Yadsworthy 21.92 312 *eP* **P 16 01 02.5 -1.3**
KBI1 Birley Grange 21.94 320 *eP* **P 16 01 02.2 -1.9**
KBI1 Birley Grange 21.94 320 *eP* **P 16 01 02.2 -1.9**
PUL Pulkovo 22.03 11 *eP* **P 16 01 05.2 +0.3**
PUL pmax pmax
comp=Z,197nm,0.9s
PUL Pulkovo 22.03 11 *eP* **P 16 01 05.2 +0.3**
comp=Z,197nm,0.9s
MCH1 Michaelchurch 22.07 316 *eP* **P 16 01 03.6 -1.9**
MCH1 AMB AMB 16 01 14.6
comp=Z,134nm,1.2s
MCH1 Michaelchurch 22.07 316 *eP* **P 16 01 03.6 -1.9**
SNART Snartemo 22.12 339 *eP* **P 16 01 07.4 +1.5**
SNART IAmb IAmb 16 01 13.9
comp=Z,83nm,1.1s
SNART Snartemo 22.12 339 *eP* **P 16 01 07.4 +1.5**
SNR=35
PBRG Braganca 22.16 288 *eP* **P 16 01 07.8 +1.3**
comp=Z,57nm,1.6s
STNC Stoke 22.20 319 *eP* **P 16 01 06.5 -0.3**
STNC AMB AMB 16 01 16.4
comp=Z,218nm,2.1s
STNC Stoke 22.20 319 *eP* **P 16 01 06.5 -0.3**
LHO Holmfirth 22.27 321 *eP* **P 16 01 09.0 +1.5**
LHO Holmfirth 22.27 321 *eP* **P 16 01 09.0 +1.5**
MDT Midelt 22.27 264 P **P 16 01 09.5 +1.6**
MDT Midelt 22.27 264 P **P 16 01 09.5 +1.6**
comp=Z,20nm,0.9s,baz=84,slow=13,SNR=14
MDT Midelt 22.27 264 P **P 16 01 09.5 +1.6**
HFS Hagfors 22.36 349 P **P 16 01 07.6 -0.9**
HFS Hagfors 22.36 349 P **P 16 01 07.6 -0.9**
comp=Z,38nm,0.7s,baz=159,slow=13,SNR=26
HFS LR LR 16 11 14.5
comp=Z,4µm,20.0s,baz=171,slow=41
HFS Hagfors 22.36 349 P **P 16 01 07.6 -0.9**
comp=Z,17nm,28.6s
IRAZ Razeghan 22.54 89 *eP* **P 16 01 11.8 +0.9**
IRAZ Razeghan 22.54 89 *eP* **P 16 01 11.8 +0.9**
FOEL Foel Wylfa 22.61 318 *eP* **P 16 01 10.2 -1.0**
FOEL Foel Wylfa 22.61 318 *eP* **P 16 01 10.2 -1.0**
KONO Kongsberg 22.67 344 *⇓iP* **P 16 01 11.0 -0.8**
KONO pmax pmax
comp=Z,485nm,1.2s
KONO Kongsberg 22.67 344 *eP* **P 16 01 10.8 -0.9**
KONO Kongsberg 22.67 344 *eP* **P 16 01 09.6 -2.2**
comp=Z,89nm,1.1s
KONO LR LR
comp=Z,3µm,20.0s
KONO Kongsberg 22.67 344 *eP* **P 16 01 10.8 -0.9**
SNR=34
OSL Oslo 22.70 345 *eP* **P 16 01 11.0 -1.0**
OSL Oslo 22.70 345 *eP* **P 16 01 11.0 -1.0**
SNR=34
PMRV Marv??o 22.81 282 *eP* **P 16 01 15.3 +1.8**
comp=Z,85nm,1.4s
MTE Manteigas 22.83 284 *eP* **P 16 01 15.1 +1.4**
comp=Z,10nm,0.6s
MTE A A 16 01 28.4
comp=Z,90nm,1.3s
MTE Manteigas 22.83 284 *eP* **P 16 01 14.1 +0.4**
comp=Z,70nm,1.2s
MTE Manteigas 22.83 284 *eP* **P 16 01 14.1 +0.4**
comp=Z,70nm,1.2s
PCBR Castelo Branco 22.83 283 *eP* **P 16 01 14.8 +1.2**
comp=Z,63nm,1.6s
PVRL Vila Real 22.91 287 *eP* P 16 01 21.6 +7.1
comp=Z,53nm,1.9s
POLO Lamas de Olo 22.96 287 *eP* **P 16 01 19.4 +4.3**
comp=Z,21nm,1.3s
PESTR Estremoz 23.04 280 *eP* **P 16 01 16.9 +1.1**
PVIS Viseu 23.07 285 *eP* **P 16 01 16.7 +0.5**
comp=Z,96nm,1.7s
PCAB Cabril 23.12 288 *eP* **P 16 01 18.3 +1.6**
comp=Z,96nm,1.6s
WPM1 Penmaenmawr 23.17 318 *eP* **P 16 01 16.7 -0.3**
WPM1 Penmaenmawr 23.17 318 *eP* **P 16 01 16.7 -0.3**
FINES FINESS Array B 23.20 5 P **P 16 01 15.2 -2.0**
FINES PcP **PcP 16 05 05.0 -0.1**
FINES ScP **ScP 16 08 43.5 +0.3**
FINES FINESS Array B 23.20 5 P **P 16 01 15.2 -2.0**
comp=Z,9.7nm,0.6s,baz=182,slow=5.8,SNR=32
FINES PcP **PcP 16 05 05.0 -0.1**
comp=Z,3.6nm,0.5s,baz=164,slow=2.4,SNR=7.1
FINES ScP **ScP 16 08 43.5 +0.3**
comp=Z,2.0nm,0.8s,baz=86,slow=1.8,SNR=3.6
FINES LR LR 16 11 09.4
comp=Z,6µm,18.1s,baz=190,slow=39
FINES FINESS Array B 23.20 5 P **P 16 01 15.2 -2.0**
comp=Z,10.0nm,0.6s
FINES FINESS Array B 23.20 5 PcP **PcP 16 05 04.9 -0.1**
FIA1 FINESS Array S 23.20 5 *eP* **P 16 01 16.3 -0.9**
FIA1 FINESS Array S 23.20 5 *eP* **P 16 01 16.3 -0.9**
BLS5 Blasjo 23.25 340 *eP* **P 16 01 18.5 +0.7**
BLS5 IAmb IAmb 16 01 24.7
comp=Z,17nm,0.7s
BLS5 Blasjo 23.25 340 *eP* **P 16 01 18.5 +0.7**
SNR=34
YRE Yr Eifl 23.31 317 *eP* **P 16 01 17.1 -1.3**
YRE Yr Eifl 23.31 317 *eP* **P 16 01 17.1 -1.3**
IR3 Iran Long-Peri 23.38 88 *eP* **P 16 01 19.5 0.0**
IR3 Iran Long-Peri 23.38 88 *eP* **P 16 01 19.5 0.0**
PBEJ Beja 23.38 278 *eP* **P 16 01 20.7 +1.3**
comp=Z,50nm,1.9s
PVAQ Vaqueiros 23.39 277 *eP* **P 16 01 21.6 +2.2**
comp=Z,66nm,1.2s
EVO Evora 23.41 280 *eP* **P 16 01 20.4 +0.8**
comp=Z,44nm,1.2s
WME Myndd Eilian 23.44 318 *eP* **P 16 01 20.7 +0.9**
WME Myndd Eilian 23.44 318 *eP* **P 16 01 20.7 +0.9**
KESW Keswick, Cumbr 23.46 322 *eP* **P 16 01 19.3 -0.6**
KESW Keswick, Cumbr 23.46 322 *eP* **P 16 01 19.3 -0.6**
NAO01 NORSAR Array S 23.50 346 *eP* **P 16 01 17.9 -2.5**
comp=Z,116nm,0.9s
PTOM Tomar 23.57 282 *eP* **P 16 01 23.6 +2.4**
comp=Z,105nm,1.1s
PTO Porto 23.58 286 *eP* P 16 01 28.7 +7.5
comp=Z,62nm,1.4s
PBDV Barranco-do-Ve 23.59 276 *eP* **P 16 01 22.1 +0.7**
comp=Z,85nm,1.0s
PCAS Casmilo, Conde 23.59 284 *eP* **P 16 01 23.1 +1.7**
comp=Z,63nm,1.3s
ODD1 Odda 23.62 341 *eP* **P 16 01 22.1 +0.6**

ODD1 Odda 23.62 341 *eP* **P 16 01 22.1 +0.6**
SNR=34
NB2 NORSAR Subarra 23.63 347 P **P 16 01 19.6 -2.0**
comp=Z,47nm,0.7s,baz=159,slow=11
NB2 NORSAR Subarra 23.63 347 P **P 16 01 19.6 -2.0**
comp=Z,47nm,0.7s,SNR=37
NOA NORSAR Array B 23.63 347 P **P 16 01 19.9 -1.7**
NOA PcP **PcP 16 05 06.9 +0.9**
NOA ScP **ScP 16 08 45.4 +0.9**
NOA NORSAR Array B 23.63 347 P **P 16 01 19.9 -1.7**
comp=Z,38nm,0.9s,baz=153,slow=9.4,SNR=48
NOA PcP **PcP 16 05 06.9 +0.9**
comp=Z,4.6nm,0.9s,baz=138,slow=2.5,SNR=4.1
NOA ScP **ScP 16 08 45.4 +0.9**
comp=Z,4.0nm,1.0s,baz=137,slow=3.0,SNR=3.5
NOA LR LR 16 12 48.3
comp=Z,3µm,18.9s,baz=155,slow=42
NOA NORSAR Array B 23.63 347 P **P 16 01 19.9 -1.7**
comp=Z,38nm,0.9s
NOA NORSAR Array B 23.63 347 PcP **PcP 16 05 06.9 +0.9**
comp=Z,3µm,18.9s
KAF Kangasniemi 23.88 5 *eP* **P 16 01 23.0 -0.9**
KAF Kangasniemi 23.88 5 *ep* **P 16 01 23.0 -0.9**
KAF Kangasniemi 23.88 5 *eP* **P 16 01 23.0 -0.9**
PNCL Nicolau / Gran 23.88 279 *eP* **P 16 01 25.1 +0.9**
comp=Z,52nm,0.9s
EKA Eskdalemuir Ar 23.90 323 P **P 16 01 22.8 -1.4**
EKA PcP **PcP 16 05 07.6 +1.0**
EKA Eskdalemuir Ar 23.90 323 P **P 16 01 22.8 -1.4**
comp=Z,49nm,0.8s,baz=123,slow=10,SNR=41
EKA PcP **PcP 16 05 07.6 +1.0**
comp=Z,1.8nm,0.6s,baz=84,slow=2.9,SNR=5.1
EKA Eskdalemuir Ar 23.90 323 P **P 16 01 22.8 -1.4**
comp=Z,49nm,0.8s
EKA Eskdalemuir Ar 23.90 323 PcP **PcP 16 05 07.6 +1.0**
comp=Z,2.0nm,0.6s
ESK Eskdalemuir 23.91 323 P **P 16 01 23.9 -0.4**
comp=Z,956nm,1.0s,SNR=8.0
ESK Eskdalemuir 23.91 323 *eP* **P 16 01 22.2 -2.1**
ESK pmax pmax
comp=Z,151nm,0.9s
ESK MLR MLR
comp=Z,6µm,20.0s
ESK Eskdalemuir 23.91 323 *eP* **P 16 01 22.5 -1.9**
ESK Eskdalemuir 23.91 323 *eP* **P 16 01 22.2 -2.1**
comp=Z,151nm,0.9s
ESK LR LR
comp=Z,6µm,20.0s
ESK Eskdalemuir 23.91 323 *eP* **P 16 01 22.2 -2.1**
comp=Z,6µm,20.0s
EBL Broad Law 24.10 324 *eP* **P 16 01 27.4 +1.3**
EBL Broad Law 24.10 324 *eP* **P 16 01 27.4 +1.3**
PTEO Sao Teotonio 24.14 278 *eP* **P 16 01 28.5 +1.8**
comp=Z,105nm,1.2s
IDMV Damavand 24.14 87 *eP* **P 16 01 27.9 +0.8**
IDMV Damavand 24.14 87 *eP* **P 16 01 27.9 +0.8**
IPIR Pirpir 24.18 95 *eP* **P 16 01 25.8 -1.6**
IPIR Pirpir 24.18 95 *eP* **P 16 01 25.8 -1.6**
QAM Ghamsar 24.23 92 *eP* **P 16 01 29.4 +1.7**
BER Bergen 24.36 340 *eP* **P 16 01 28.5 +0.1**
BER Bergen 24.36 340 *eP* **P 16 01 28.5 +0.1**
SNR=34
RUND Rundenannen 24.38 340 *eP* **P 16 01 27.4 -1.3**
RUND Rundenannen 24.38 340 *eP* **P 16 01 27.4 -1.3**
SNR=34
DSB Dublin 24.48 317 *eP* **P 16 01 28.0 -1.6**
comp=Z,27nm,0.8s
DSB Dublin 24.48 317 *eP* **P 16 01 28.0 -1.6**
comp=Z,27nm,0.8s
IKLH Kolahrood 24.49 93 *eP* **P 16 01 30.3 +0.1**
IKLH Kolahrood 24.49 93 *eP* **P 16 01 30.3 +0.1**
IFIR Firoozkooh 24.69 87 *eP* **P 16 01 32.7 +0.7**
IFIR Firoozkooh 24.69 87 *eP* **P 16 01 32.7 +0.7**
HYA Hoyanger 24.81 342 *eP* **P 16 01 32.1 -0.4**
HYA IAmb IAmb 16 01 38.8
comp=Z,149nm,0.9s
HYA Hoyanger 24.81 342 *eP* **P 16 01 32.1 -0.4**
SNR=34
ILAS Lasjerd 24.93 87 *eP* **P 16 01 34.1 +0.1**
ILAS Lasjerd 24.93 87 *eP* **P 16 01 34.2 +0.1**
EAB Aberfoyle 24.93 324 *eP* **P 16 01 34.0 +0.3**
EAB Aberfoyle 24.93 324 *eP* **P 16 01 34.0 +0.3**
DOMB Dombas 24.95 346 *eP* **P 16 01 36.6 +2.8**
DOMB Dombas 24.95 346 *eP* **P 16 01 36.7 +2.8**
SNR=34
RAYN Ar Rayn 24.97 120 P **P 16 01 34.5 +0.2**
comp=Z,181nm,1.1s,SNR=10
MME1 Meikle Cairn 25.00 327 *eP* **P 16 01 33.3 -0.9**
MME1 Meikle Cairn 25.00 327 *eP* **P 16 01 33.3 -0.9**
ISHM Shahmirzad 25.07 86 *eP* **P 16 01 36.2 +0.7**
ISHM Shahmirzad 25.07 86 *eP* **P 16 01 36.2 +0.7**
JOF Joensuu 25.19 10 *eP* **P 16 01 33.7 -2.2**
JOF Joensuu 25.19 10 *ep* **P 16 01 33.7 -2.2**
IZEF Zefreh 25.23 93 *eP* **P 16 01 35.5 -1.4**
IZEF Zefreh 25.23 93 *eP* **P 16 01 35.5 -1.4**
MCD Coleburn Disti 25.29 328 *eP* **P 16 01 36.2 -0.7**
MCD Coleburn Disti 25.29 328 *eP* **P 16 01 36.2 -0.7**
IGLO Ghaloghah 25.32 84 *eP* **P 16 01 39.4 +1.7**
AKN Aaknes 25.51 344 *eP* **P 16 01 41.5 +2.7**
AKN Aaknes 25.51 344 *eP* **P 16 01 41.5 +2.7**
SNR=33
MOL Molde 25.74 345 *eP* P 16 01 45.7 +4.9
MOL IAmb IAmb 16 01 50.1
comp=Z,62nm,1.1s
ISAD Sadrabad 26.66 94 *eP* **P 16 01 49.5 -0.4**
ISAD Sadrabad 26.66 94 *eP* **P 16 01 49.5 -0.4**
PRGR Permogore 27.48 25 *eP* **P 16 01 54.8 -1.8**
PRGR pmax pmax
comp=Z,33nm,0.8s
PRGR Permogore 27.48 25 *eP* **P 16 01 54.8 -1.8**
comp=Z,33nm,0.8s
AKTK Aktyubinsk 28.14 53 P **P 16 02 01.3 -1.4**
comp=Z,17nm,28.6s
AKTO Aktyubinsk 28.14 53 P **P 16 02 01.3 -1.4**
AKTO pmax pmax
comp=Z,6.0nm,0.7s
AKTO MLR MLR
comp=Z,17nm,28.6s
AKTO Aktyubinsk 28.14 53 P **P 16 02 01.3 -1.4**
AKTO Aktyubinsk 28.14 53 P **P 16 02 01.3 -1.4**
comp=Z,6.0nm,0.7s,baz=261,slow=9.7,SNR=12
AKTO LR LR 16 15 04.0
comp=Z,1µm,18.3s,baz=261,slow=41
AKTO Aktyubinsk 28.14 53 P **P 16 02 01.3 -1.4**
AB31 Akbulak array 29.18 56 *eP* **P 16 02 12.8 +0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 29.18 56 *eP* **P 16 02 12.8 +0.9**
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 29.18 56 *eP* **P 16 02 11.1 -0.8**
comp=Z,5.7nm,0.7s
ABKAR Akbulak array 29.18 56 *eP* **P 16 02 11.1 -0.8**
comp=Z,5.7nm,0.7s
APA Apatity 29.91 9 *⇓iP* **P 16 02 18.0 -0.1**
APA *i* S **S 16 07 10.0 -5.3**
APA MLR MLR
comp=Z,8µm,17.0s
APA Apatity 29.91 9 *i* P **P 16 02 18.0 -0.1**
ARU Arti 30.14 41 P **P 16 02 20.6 +0.3**
comp=Z,111nm,0.5s,SNR=6.4
ARU Arti 30.14 41 *d iP* **P 16 02 21.0 +0.7**
ARU 16 03 14.9
ARU 16 05 20.9
ARU S **S 16 07 21.6 +2.4**
ARU SS **SnSn 16 08 52.5 +0.7**
ARU pmax pmax
comp=Z,32nm,1.7s
ARU MLR MLR
comp=Z,4µm,17.0s
ARU Arti 30.14 41 *eP* **P 16 02 17.8 -2.5**
comp=Z,9.6nm,0.6s
ARU LR LR
comp=Z,3µm,21.0s
ARU Arti 30.14 41 *i* P **P 16 02 21.0 +0.7**
comp=Z,32nm,1.7s
ARU Arti 30.14 41 PcP **PcP 16 05 20.9 -0.5**
ARU S **S 16 07 21.6 +2.4**
comp=Z,4µm,17.0s
TOA0 Torodi Ar. Sit 30.93 221 *eP* **P 16 02 26.4 -1.2**
TOA0 Torodi Ar. Sit 30.93 221 *eP* **P 16 02 26.5 -1.2**
TORD Torodi Ar. Bea 30.93 221 P **P 16 02 27.3 -0.4**
TORD Torodi Ar. Bea 30.93 221 P **P 16 02 27.3 -0.4**
comp=Z,14nm,0.6s,baz=32,slow=8.1,SNR=58
TORD Torodi Ar. Bea 30.93 221 P **P 16 02 27.3 -0.4**
DAMY Dhamar 30.94 134 *eP* **P 16 02 29.6 +1.5**
comp=Z,51nm,1.1s
DAMY Dhamar 30.94 134 *eP* **P 16 02 29.6 +1.5**
comp=Z,51nm,1.1s
ARCES ARCESS Array B 31.24 2 P **P 16 02 28.5 -1.4**
ARCES PcP **PcP 16 05 24.4 +0.3**
ARCES ARCESS Array B 31.24 2 P **P 16 02 28.5 -1.4**
comp=Z,8.3nm,0.7s,baz=188,slow=9.3,SNR=22
ARCES PcP **PcP 16 05 24.4 +0.3**
comp=Z,6.4nm,1.0s,baz=197,slow=2.8,SNR=3.8
ARCES ARCESS Array B 31.24 2 P **P 16 02 28.5 -1.4**
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 31.24 2 PcP **PcP 16 05 24.4 +0.3**
comp=Z,6.0nm,1.0s
SVE Sverdlovsk 31.36 41 *eP* **P 16 02 30.2 -0.8**
SVE *eS* **S 16 07 41.8 +3.6**
SVE pmax pmax
comp=Z,36nm,0.8s
SVE MLR MLR
comp=Z,4µm,14.0s
SVE Sverdlovsk 31.36 41 *eP* **P 16 02 30.2 -0.8**
comp=Z,36nm,0.8s
BRVK Borovoye 36.05 50 P **P 16 03 11.8 -0.1**
comp=Z,111nm,1.1s,SNR=8.0
BRVK Borovoye 36.05 50 *⇑eP* **P 16 03 12.7 +0.8**
BRVK pmax pmax
comp=Z,16nm,0.8s
BRVK Borovoye 36.05 50 *eP* **P 16 03 10.9 -1.0**
comp=Z,17nm,0.9s
BRVK LR LR
comp=Z,1µm,20.0s
BRVK Borovoye 36.05 50 *eP* **P 16 03 10.9 -1.0**
comp=Z,17nm,0.9s
BVA0 Borovoye Array 36.11 50 *i* P **P 16 03 12.1 -0.3**
BVA0 pmax pmax
comp=Z,12nm,1.0s
BVA0 Borovoye Array 36.11 50 *i* P **P 16 03 12.1 -0.3**
comp=Z,12nm,1.0s
BVAR Borovoye Array 36.11 50 PKKP PKKPdf 16 27 36.9 -7.8
comp=Z,0.7nm,0.6s,baz=106,slow=2.1,SNR=4.3
KK31 Karatay Array 36.67 67 *i* P **P 16 03 16.9 -0.5**
KK31 pmax pmax
comp=Z,16nm,0.6s
KK31 Karatay Array 36.67 67 *i* P **P 16 03 16.9 -0.5**
comp=Z,16nm,0.6s
KKAR Karatay Array 36.67 67 *eP* **P 16 03 16.2 -1.2**
KKAR pmax pmax
comp=Z,19nm,0.6s
KKAR Karatay Array 36.67 67 *eP* **P 16 03 16.2 -1.2**
comp=Z,19nm,0.6s
KKAR Karatay Array 36.67 67 *eP* **P 16 03 16.2 -1.2**
comp=Z,19nm,0.6s
EKS2 Erkin-Say 39.11 67 *eP* **P 16 03 37.7 -0.5**
EKS2 pmax pmax
comp=Z,37nm,0.9s
EKS2 Erkin-Say 39.11 67 *eP* **P 16 03 37.7 -0.5**
comp=Z,37nm,0.9s
EKS2 Erkin-Say 39.11 67 *eP* **P 16 03 37.7 -0.5**
comp=Z,37nm,0.9s
SCO Scoresbysund 39.38 338 *i* P **P 16 03 41.4 +1.6**
SCO pmax pmax
comp=Z,13nm,0.8s
SCO Scoresbysund 39.38 338 *i* P **P 16 03 41.4 +1.6**
comp=Z,13nm,0.8s
SCO Scoresbysund 39.38 338 *i* P **P 16 03 41.4 +1.6**
comp=Z,13nm,0.8s
AAK Ala-Archa 39.64 67 P **P 16 03 41.9 -0.7**
AAK 16 09 37.6
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK pmax pmax
comp=N,6.0nm,0.9s
AAK MLR MLR
comp=Z,2µm,18.9s
AAK Ala-Archa 39.64 67 *eP* **P 16 03 41.9 -0.7**
comp=Z,30nm,0.9s
AAK ScP **ScP 16 09 37.6 -0.9**
AAK Ala-Archa 39.64 67 P **P 16 03 41.9 -0.7**
comp=Z,5.8nm,0.6s,baz=254,slow=1.9
AAK ScP **ScP 16 09 37.6 -0.9**
comp=Z,5.8nm,0.9s,baz=237,slow=3.4,SNR=6.8
AAK LR LR 16 23 23.5
comp=Z,2µm,18.9s,baz=266,slow=41
AAK Ala-Archa 39.64 67 P **P 16 03 41.9 -0.7**
comp=Z,6.0nm,0.6s
AAK ScP **ScP 16 09 37.6 -0.9**
DBIC Dimbokro 39.84 224 *eP* **P 16 03 44.2 0.0**
comp=Z,23nm,0.9s
DBIC Dimbokro 39.84 224 P **P 16 03 44.6 +0.4**
comp=Z,55nm,1.3s,baz=11,slow=9.8,SNR=16
DBIC Dimbokro 39.84 224 *eP* **P 16 03 44.2 0.0**
comp=Z,23nm,0.9s
SPITS Spitsbergen Ar 39.94 358 P **P 16 03 43.9 -0.6**
SPITS Spitsbergen Ar 39.94 358 P **P 16 03 43.9 -0.6**
comp=Z,12nm,0.6s,baz=156,slow=11,SNR=15
SPITS Spitsbergen Ar 39.94 358 P **P 16 03 43.9 -0.6**
comp=Z,12nm,0.6s
LIC Lamto 40.30 224 *eP* **P 16 03 47.9 -0.2**
comp=Z,81nm,1.0s
LIC *eR*
comp=Z,5µm,22.8s
LIC Lamto 40.30 224 *eP* **P 16 03 47.9 -0.2**
comp=Z,81nm,1.0s
LIC Lamto 40.30 224 *eP* **P 16 03 47.9 -0.2**
comp=Z,41nm,1.0s
TKM2 Tokmak 2 40.37 66 *eP* **P 16 03 48.3 -0.4**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
TKM2 Tokmak 2 40.37 66 *eP* **P 16 03 48.3 -0.4**
comp=Z,9.9nm,0.9s
TKM2 Tokmak 2 40.37 66 *eP* **P 16 03 48.3 -0.4**
comp=Z,10.0nm,0.9s
KBS Kingsbay 40.83 357 *c iP* **P 16 03 53.2 +1.4**
KBS pmax pmax
comp=Z,96nm,1.7s
KBS Kingsbay 40.83 357 *eP* **P 16 03 51.6 -0.2**
comp=Z,89nm,1.4s
KBS Kingsbay 40.83 357 *eP* **P 16 03 51.6 -0.2**
comp=Z,89nm,1.4s
KURBB Kurchatov Arra 41.19 54 P **P 16 03 54.1 -0.9**
comp=Z,28nm,0.8s,baz=282,slow=8.6,SNR=54
KURBB PcP **PcP 16 05 54.5 +0.5**
comp=Z,3.1nm,0.7s,baz=263,slow=3.8,SNR=4.5
KURBB ScP **ScP 16 09 42.0 -2.2**
comp=Z,2.0nm,0.9s,baz=276,slow=4.7,SNR=6.3
KURK Kurchatov 41.23 54 P **P 16 03 54.3 -1.2**
comp=Z,113nm,1.0s,SNR=13
KURK Kurchatov 41.23 54 *eP* **P 16 03 54.0 -1.5**
KURK 16 05 54.5
KURK pmax pmax
comp=Z,22nm,1.0s
KURK MLR MLR
comp=Z,649nm,19.0s
KURK Kurchatov 41.23 54 *eP* **P 16 03 54.0 -1.5**
comp=Z,22nm,1.0s
KURK PcP **PcP 16 05 54.5 +0.3**
KURK ScP **ScP 16 09 42.0 -2.4**
KURK LR LR
comp=Z,649nm,19.0s
KURK Kurchatov 41.23 54 *eP* **P 16 03 54.0 -1.5**
comp=Z,22nm,1.0s
BBTS Babate 41.34 246 P **P 16 03 58.9 +2.3**
BBTS Babate 41.34 246 P **P 16 03 58.9 +2.3**
comp=Z,11nm,0.4s,baz=313,slow=2.9,SNR=3.9
KSH Kashi 41.49 71 *⇑iP* **P 16 03 55.8 -2.1**
KSH *ePP* **PP 16 05 33.9 +0.4**
KSH *ePcS* **PcS 16 09 45.8 -1.0**
KSH *eS* S 16 10 07.0 -6.6
KSH *eSS* SS 16 13 04.1 -14
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,280nm,4.4s
KSH LR LR
comp=Z,2µm,16.4s
KSH LR LR
comp=Z,590nm,11.2s
KSH LR LR
comp=Z,350nm,7.8s
KMBO Kilima Mbogo 41.80 157 P **P 16 04 01.2 +0.5**
comp=Z,10nm,1.3s
KMBO Kilima Mbogo 41.80 157 P **P 16 04 01.9 +1.2**
comp=Z,2.6nm,0.7s,baz=14,slow=11,SNR=4.9
KMBO LR LR 16 24 29.4
comp=Z,1µm,19.9s,baz=334,slow=41
KMBO Kilima Mbogo 41.80 157 P **P 16 04 01.2 +0.5**
comp=Z,10.0nm,1.3s
DAG Danmarks Havn 42.31 347 *i* P **P 16 04 03.5 -0.4**

DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 42.31 347 *i* P **P 16 04 03.5 -0.4**
comp=Z,9.7nm,0.9s
NVS Novosibirsk 43.69 47 *e*P **P 16 04 14.0 -1.4**
NVS *e* 16 05 55.9
NVS *i* S **S 16 10 41.8 -3.6**
NVS pmax pmax
comp=Z,51nm,1.2s
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,21nm,1.1s
NVS pmax pmax
comp=Z,82nm,2.3s
NVS pmax pmax
comp=E,16nm,1.8s
NVS smax smax
comp=N,29nm,1.7s
NVS Novosibirsk 43.69 47 *e*P **P 16 04 14.0 -1.4**
comp=N,11nm,1.3s
MK31 Makanchi Array 44.22 59 *i* P **P 16 04 18.4 -1.4**
MK31 pmax pmax
comp=Z,8.0nm,0.3s
MK31 Makanchi Array 44.22 59 *e*P **P 16 04 18.4 -1.4**
MK31 Makanchi Array 44.22 59 *i* P **P 16 04 18.4 -1.4**
comp=Z,8.0nm,0.3s
MKAR Makanchi Array 44.22 59 P **P 16 04 18.5 -1.3**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR pmax pmax
comp=N,8.0nm,0.9s
MKAR MLR MLR
comp=Z,843nm,19.0s
MKAR Makanchi Array 44.22 59 P **P 16 04 18.4 -1.3**
MKAR ScP **ScP 16 09 55.1 -1.5**
MKAR Makanchi Array 44.22 59 P **P 16 04 18.4 -1.3**
comp=Z,17nm,0.7s,baz=280,slow=7.2,SNR=109
MKAR ScP **ScP 16 09 55.1 -1.5**
comp=Z,7.5nm,0.8s,baz=304,slow=2.2,SNR=13
MKAR LR LR 16 27 02.5
comp=Z,843nm,19.0s,baz=279,slow=42
MKAR Makanchi Array 44.22 59 P **P 16 04 18.5 -1.3**
comp=Z,843nm,19.0s
MKAR ScP **ScP 16 09 55.1 -1.5**
ZAA0 Zalesovo Array 44.70 48 *e*P **P 16 04 21.5 -1.9**
ZAA0 Zalesovo Array 44.70 48 *e*P **P 16 04 21.5 -1.9**
ZALV Zalesovo Beam 44.70 48 P **P 16 04 21.9 -1.6**
ZALV pmax pmax
comp=Z,19nm,0.5s
ZALV Zalesovo Beam 44.70 48 P **P 16 04 21.9 -1.6**
ZALV Zalesovo Beam 44.70 48 P **P 16 04 21.9 -1.6**
comp=Z,19nm,0.5s,baz=276,slow=8.2,SNR=54
ZALV Zalesovo Beam 44.70 48 P **P 16 04 21.9 -1.6**
comp=Z,19nm,0.5s
SUMG Summit 45.02 338 *i* P **P 16 04 27.4 +1.1**
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 45.02 338 *i* P **P 16 04 27.4 +1.1**
comp=Z,19nm,0.9s
SUMG Summit 45.02 338 *e*P **P 16 04 24.8 -1.5**
comp=Z,24nm,1.0s
SUMG Summit 45.02 338 *e*P **P 16 04 24.8 -1.5**
comp=Z,24nm,1.0s
WMQ Urumqi 48.66 62 P **P 16 04 55.0 +0.2**
WMQ pP pP 16 04 59.5 +2.3
WMQ sP sP 16 05 02.0 +3.8
WMQ PcP **PcP 16 06 20.9 +0.8**
WMQ PP **PP 16 06 48.0 +0.4**
WMQ ScP **ScP 16 10 14.1 -1.1**
WMQ ScS **ScS 16 14 44.3 -3.5**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,500nm,4.0s
WMQ LR LR
comp=Z,2μm,18.9s
WMQ LR LR
comp=Z,1μm,11.1s
WMQ LR LR
comp=Z,880nm,27.0s
HVS Khovu-Aksy 50.55 51⇑ *i*P **P 16 05 09.6 +0.5**
HVS pmax pmax
comp=Z,52nm,1.1s
HVS Khovu-Aksy 50.55 51 *i* P **P 16 05 09.6 +0.5**
comp=Z,52nm,1.1s
ALE Alert 51.42 350 P **P 16 05 14.6 -0.5**
comp=Z,188nm,0.9s,SNR=15
DANN Dangsing 51.73 82 *e*P **P 16 05 16.5 -2.0**
comp=Z,51nm,0.6s
KOLN Koldanda 51.88 82 *e*P **P 16 05 17.2 -2.3**
comp=Z,27nm,0.8s
GKN Gorkha 52.58 82 *e*P **P 16 05 22.1 -2.6**
comp=Z,39nm,0.9s
MSEY Mahe Island 52.94 136 *e*P **P 16 05 28.9 +1.6**
comp=Z,28nm,0.9s
MSEY Mahe Island 52.94 136 *e*P **P 16 05 28.9 +1.6**
comp=Z,28nm,0.9s
DMN Daman 53.13 82 *e*P **P 16 05 26.1 -2.8**
comp=Z,35nm,0.8s
KKN Kakani 53.18 82 *e*P **P 16 05 26.8 -2.4**
comp=Z,17nm,0.7s
PKIN Phulchoki 53.37 82 *e*P **P 16 05 29.4 -1.3**
comp=Z,9.6nm,0.7s
PKI Pulchoki 53.38 82 *e*P **P 16 05 29.2 -1.6**
comp=Z,22nm,1.0s
GUN Gumba 53.59 81 *e*P **P 16 05 31.2 -1.1**
comp=Z,32nm,0.8s
LSZ Lusaka 53.72 173 *e*P **P 16 05 32.9 -0.1**
comp=Z,7.8nm,0.8s
LSZ Lusaka 53.72 173 P **P 16 05 33.2 +0.2**
comp=Z,6.9nm,0.8s,baz=13,slow=9.4,SNR=8.3
LSZ Lusaka 53.72 173 *e*P **P 16 05 32.9 -0.1**
comp=Z,8.0nm,0.8s
JIRN Jiri 53.95 81 *e*P **P 16 05 32.8 -2.2**
comp=Z,26nm,0.7s
RAMN Ramite 54.61 82 *e*P **P 16 05 37.0 -2.7**
comp=Z,52nm,0.8s
MOY Mondy 54.76 48 *e*P **P 16 05 41.0 +0.8**
MOY pmax pmax
comp=Z,59nm,3.8s
MOY Mondy 54.76 48 *e*P **P 16 05 41.0 +0.8**
comp=Z,59nm,3.8s
ODAN Odare 55.27 81 *e*P **P 16 05 42.0 -2.5**
TAPN Taplejung 55.28 81 *e*P **P 16 05 43.9 -0.7**
comp=Z,24nm,0.8s
TLY Talaya 56.30 48 P **P 16 05 51.7 +0.4**
comp=Z,96nm,1.0s,SNR=7.1
TLY Talaya 56.30 48 *d i*P **P 16 05 50.1 -1.2**
TLY pmax pmax
comp=Z,29nm,1.4s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 56.30 48 *e*P **P 16 05 49.7 -1.6**
comp=Z,21nm,1.1s
TLY Talaya 56.30 48 *e*P **P 16 05 49.7 -1.6**
comp=Z,21nm,1.1s
IRK Irkutsk 56.46 47 *e*P **P 16 05 50.2 -2.2**
IRK pmax pmax
comp=Z,59nm,2.3s
ZAK Zakamensk 56.56 49 *e*P P 16 05 48.0 -5.2
ZAK pmax pmax
comp=Z,9.0nm,1.7s
LSA Lhasa 56.79 76 P **P 16 05 54.4 -1.2**
LSA Lhasa 56.79 76 *e*P **P 16 05 53.9 -1.7**
LSA Lhasa 56.79 76 *e*P **P 16 05 53.9 -1.7**
LSA Lhasa 56.79 76 *e*P **P 16 05 53.8 -1.8**
TSUM Tsumeb 57.45 185 *e*P **P 16 05 59.4 -0.4**
comp=Z,8.5nm,1.3s
TSUM Tsumeb 57.45 185 *e*P **P 16 05 59.4 -0.4**
comp=Z,8.5nm,1.3s
GTA Gaotai 58.72 62 *e*P **P 16 06 07.8 -0.9**
GTA pP pP 16 06 12.4 +1.3
GTA sP sP 16 06 14.9 +2.8
GTA PP **PP 16 08 19.5 +1.3**
GTA S **S 16 14 11.1 -2.7**
GTA SS **SS 16 18 06.5 +0.1**
GTA pmax pmax
comp=Z,14nm,1.4s
GTA pmax pmax
comp=Z,290nm,4.5s
GTA LR LR
comp=Z,940nm,18.0s
GTA LR LR
comp=Z,680nm,17.6s
GTA LR LR
comp=Z,780nm,18.5s
SCHQ Schefferville 59.05 318 P **P 16 06 09.7 -0.8**
SCHQ Schefferville 59.05 318 P **P 16 06 09.7 -0.8**
comp=Z,19nm,0.6s,baz=68,slow=6.4,SNR=29
SCHQ LR LR 16 30 40.2
comp=Z,1μm,21.3s,baz=50,slow=35
SCHQ Schefferville 59.05 318 P **P 16 06 09.7 -0.8**
SONM Songino Array 59.44 51 P **P 16 06 12.3 -1.2**
SONM ScP **ScP 16 11 00.9 -1.4**
SONM Songino Array 59.44 51 P **P 16 06 12.3 -1.2**
comp=Z,9.8nm,0.9s,baz=288,slow=8.9,SNR=18
SONM ScP **ScP 16 11 00.9 -1.4**
comp=Z,2.0nm,0.9s,baz=266,slow=4.4,SNR=4.3
SONM Songino Array 59.44 51 P **P 16 06 12.3 -1.2**
comp=Z,2.0nm,0.9s
SONM ScP **ScP 16 11 00.9 -1.4**
ULN Ulaanbaatar 59.83 51 *e*P **P 16 06 14.1 -2.1**
comp=Z,12nm,0.9s
ULN LR LR
comp=Z,846nm,19.0s
ULN Ulaanbaatar 59.83 51 *e*P **P 16 06 14.1 -2.1**
comp=Z,12nm,0.9s
OPO Ambohidratompo 61.43 153 P **P 16 06 28.1 +0.8**
OPO Ambohidratompo 61.43 153 P **P 16 06 28.1 +0.8**
comp=Z,22nm,0.7s,baz=341,slow=5.1,SNR=12
OPO LR LR 16 35 43.5
comp=Z,445nm,19.1s,baz=5.0,slow=39
OPO Ambohidratompo 61.43 153 P **P 16 06 28.1 +0.8**
LZH Lanzhou 63.09 64 P **P 16 06 40.0 +1.5**
LZH pP pP 16 06 42.9 +1.9
LZH sP sP 16 06 45.1 +3.2
LZH PP **PP 16 09 00.1 +3.2**
LZH *e*S **S 16 15 07.0 -2.7**
LZH sS sS 16 15 17.0 +3.2
LZH SS **SS 16 19 13.1 -1.9**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.1s
LZH LR LR
comp=Z,540nm,14.0s
LZH LR LR
comp=Z,620nm,15.6s
LZH LR LR
comp=Z,720nm,16.6s
LBTB Lobatse 63.19 176 *e*P **P 16 06 39.1 +0.2**
comp=Z,12nm,0.8s
LBTB Lobatse 63.19 176 P **P 16 06 39.6 +0.7**
comp=Z,11nm,0.8s,baz=358,slow=7.6,SNR=8.7
LBTB Lobatse 63.19 176 *e*P **P 16 06 39.1 +0.2**
comp=Z,12nm,0.8s
YAK Yakutsk 64.35 30 *e*P **P 16 06 47.3 +1.2**
YAK *e* 16 07 02.1
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=Z,4μm,25.0s
YAK MLR MLR
comp=N,3μm,21.0s
YAK MLR MLR
comp=E,681nm,11.0s
YAK Yakutsk 64.35 30 P **P 16 06 44.2 -1.9**
comp=E,10nm,0.7s
YAK Yakutsk 64.35 30 P **P 16 06 44.2 -1.9**
comp=E,10nm,0.7s
CD2 Chengdu 65.64 69 *e*P **P 16 06 53.8 -1.3**
CD2 pP pP 16 06 57.3 -0.3
CD2 PcP **PcP 16 07 27.3 +0.7**
CD2 PP **PP 16 09 17.8 -1.5**
CD2 S **S 16 15 36.3 -4.9**
CD2 SS **SS 16 19 52.9 -1.8**
CD2 pmax pmax
comp=E,20nm,1.2s
CD2 pmax pmax
comp=E,240nm,4.8s
CD2 LR LR
comp=E,510nm,17.8s
CD2 LR LR
comp=E,460nm,19.0s
HHC Hu-ho-hao-te 65.97 56 SS SS 16 19 51.6 -8.0
HHC AMB AMB
comp=Z,190nm,5.4s
HIA Hailar 66.56 45 *e*P **P 16 06 59.9 -0.8**
comp=Z,18nm,0.9s
HIA Hailar 66.56 45 *e*P **P 16 06 59.9 -0.8**
comp=Z,18nm,0.9s
BOSA Boshof 66.75 177 P **P 16 07 02.1 +0.1**
BOSA Boshof 66.75 177 P **P 16 07 02.1 +0.1**
comp=Z,7.8nm,0.7s,baz=348,slow=6.0,SNR=16
BOSA LR LR 16 39 07.5
comp=Z,3μm,18.9s,baz=327,slow=39
BOSA Boshof 66.75 177 P **P 16 07 02.2 +0.1**
comp=Z,17nm,28.6s
XAN Xi'an 67.72 64 P **P 16 07 08.3 0.0**
XAN pmax pmax
comp=Z,3.0nm,1.4s
XAN pmax pmax
comp=Z,31nm,4.0s
KMI Kunming 67.96 75 P P 16 07 06.4 -3.8
KMI pP pP 16 07 16.1 +3.4
KMI sP sP 16 07 18.3 +4.7
KMI PP **PP 16 09 38.6 -1.2**
KMI S **S 16 16 06.4 -3.4**
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI pmax pmax
comp=Z,260nm,6.7s
KMI LR LR
comp=Z,400nm,20.1s
KMI LR LR
comp=Z,470nm,18.7s
KMI LR LR
comp=Z,430nm,25.4s
CHTO Chiang Mai 68.54 83 *e*P **P 16 07 12.7 -0.9**
CHTO Chiang Mai 68.54 83 *e*P **P 16 07 12.7 -0.9**
CHTO Chiang Mai 68.54 83 *e*P **P 16 07 12.7 -0.9**
CMAR Chiang Mai Arr 68.75 83 P **P 16 07 12.9 -2.0**
CMAR Chiang Mai Arr 68.75 83 P **P 16 07 12.9 -2.0**
comp=Z,2.7nm,0.7s,baz=300,slow=7.5,SNR=22
CMAR Chiang Mai Arr 68.75 83 P **P 16 07 12.9 -2.0**
comp=Z,3.0nm,0.7s
RCBR Riachuelo 69.30 244 P **P 16 07 20.8 +2.4**
RCBR Riachuelo 69.30 244 P **P 16 07 20.8 +2.4**
comp=Z,8.7nm,0.9s,baz=16,slow=5.3,SNR=4.4
RCBR LR LR 16 36 52.3
comp=Z,1μm,21.2s,baz=43,slow=35
BJI Beijing 69.39 55 P **P 16 07 18.3 -0.2**
BJI S **S 16 16 24.3 -1.4**
BJI SS **SS 16 20 51.0 -1.1**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI pmax pmax
comp=Z,200nm,6.2s
BJI LR LR
comp=Z,1μm,22.2s
BJI LR LR
comp=Z,1μm,17.4s
BJI LR LR
comp=Z,870nm,33.9s
FCC Fort Churchill 69.61 330 *e*P **P 16 07 19.3 -0.3**
FCC pmax pmax
comp=Z,1.0nm,1.3s
FCC Fort Churchill 69.61 330 *e*P **P 16 07 19.3 -0.3**
comp=Z,1.1nm,1.3s
FCC Fort Churchill 69.61 330 *e*P **P 16 07 19.3 -0.3**
comp=Z,1.0nm,1.3s
ENH Enshi 70.15 67 *e*P **P 16 07 22.1 -1.5**
comp=Z,8.1nm,0.8s
ENH Enshi 70.15 67 *e*P **P 16 07 22.0 -1.5**
comp=Z,8.1nm,0.8s
GYA Guiyang 70.18 72⇑ *i*P **P 16 07 23.6 -0.2**
GYA PcP **PcP 16 07 46.8 +1.1**
GYA PP **PP 16 10 01.0 +2.1**
GYA S **S 16 16 33.0 -2.8**
GYA SKS SKSac 16 17 19.4 -6.5
GYA SS **SS 16 21 03.8 -1.5**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,760nm,19.6s
GYA LR LR
comp=Z,630nm,20.2s
GYA LR LR
comp=Z,750nm,18.4s
BILL Bilibino 70.53 13⇑ *e*P **P 16 07 24.6 -0.5**
BILL *e*S **S 16 16 40.8 +2.5**
BILL pmax pmax
comp=Z,95nm,1.3s
BILL Bilibino 70.53 13 *e*P **P 16 07 24.6 -0.5**
comp=Z,95nm,1.3s
BILL *e*S **S 16 16 40.8 +2.5**
SEY Seymchan 71.51 22⇑ *i*P P 16 07 34.3 +3.2
SEY Seymchan 71.51 22 P **P 16 07 30.4 -0.8**
SEY Seymchan 71.51 22 P **P 16 07 30.4 -0.8**
comp=Z,7.5nm,1.0s,baz=31,slow=23,SNR=11
SEY Seymchan 71.51 22 P **P 16 07 30.4 -0.8**
INK Inuvik 72.02 351 *e*P **P 16 07 32.3 -1.8**
comp=Z,16nm,1.2s
INK Inuvik 72.02 351 *e*P **P 16 07 32.3 -1.8**
comp=Z,16nm,1.2s
TIA Tai'an 72.14 58⇓ P **P 16 07 35.5 +0.1**
TIA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 72.90 47 *e*P **P 16 07 38.3 -1.5**
CN2 *e*S **S 16 17 03.8 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,13.0s
KLR Kul'dur 72.97 40 *e*P P 16 07 35.3 -4.8
SNY Shenyang 72.98 50⇑ P **P 16 07 38.9 -1.4**
SNY S S 16 16 59.6 -7.7
SNY pmax pmax
comp=Z,11nm,1.5s
SNY pmax pmax
comp=Z,200nm,4.2s
SNY LR LR
comp=Z,650nm,24.4s
SNY LR LR
comp=Z,740nm,23.9s
SNY LR LR
comp=Z,490nm,33.3s
ERPA Erie 72.99 310 *e*P **P 16 07 40.8 +0.4**
comp=Z,73nm,0.8s
ERPA Erie 72.99 310 *e*P **P 16 07 40.8 +0.4**
comp=Z,73nm,0.8s
YKA Yellowknife Ar 73.55 341 P **P 16 07 42.6 -0.7**
YKA Yellowknife Ar 73.55 341 P **P 16 07 42.6 -0.7**
comp=Z,13nm,1.0s,baz=36,slow=5.5,SNR=48
YKA Yellowknife Ar 73.55 341 *i* P **P 16 07 42.5 -0.7**
comp=Z,13nm,1.0s
JSRW J. Sargeant Re 74.31 306 P **P 16 07 49.8 +1.6**
JSRW J. Sargeant Re 74.31 306 P **P 16 07 49.8 +1.6**
COLD Coldfoot 74.52 357 *e*P **P 16 07 49.4 +0.5**
comp=Z,41nm,1.2s
COLD Coldfoot 74.52 357 *e*P **P 16 07 49.4 +0.5**
comp=Z,41nm,1.2s
MDJ Mudanjiang 74.75 45 P **P 16 07 50.4 -0.2**
MDJ pmax pmax
comp=Z,7.0nm,1.7s
MDJ pmax pmax
comp=Z,110nm,6.9s
AAM Ann Arbor 75.04 312 *e*P **P 16 07 52.6 +0.3**
AAM Ann Arbor 75.04 312 *e*P **P 16 07 52.6 +0.3**
AAM Ann Arbor 75.04 312 *e*P **P 16 07 52.6 +0.3**
HABR Khabarovsk 75.12 39 *e*P **P 16 07 51.8 -0.9**
HABR *e* 16 08 05.3
HABR 16 10 39.5
HABR PPP PPP 16 12 25.6
HABR *e*S **S 16 17 30.3 -0.9**
HABR *e* 16 18 03.9
HABR *e*SS **SS 16 22 20.1 +0.8**
HABR pmax pmax
comp=N,32nm,2.5s
HABR pmax pmax
comp=E,40nm,2.5s
HABR pmax pmax
comp=Z,21nm,2.5s
HABR MLR MLR
comp=Z,2μm,22.0s
HABR Khabarovsk 75.12 39 *e*P **P 16 07 51.8 -0.9**
comp=Z,21nm,2.5s
HABR Khabarovsk 75.12 39 *e*PcP **PcP 16 08 05.3 -1.0**
HABR *e*S **S 16 17 30.3 -0.9**
FFC Flin Flon 75.54 330 P **P 16 07 56.0 +1.0**
comp=Z,75nm,1.0s,SNR=6.3
NJ2 Nanjing 75.73 60 *e*P **P 16 07 56.0 -0.4**
NJ2 pmax pmax
comp=Z,20nm,0.5s
IM04 Indian Mountai 75.89 358 *e*P **P 16 07 56.9 +0.1**
IM04 Indian Mountai 75.89 358 *e*P **P 16 07 56.9 +0.1**
ACSO Alum Creek Sta 75.93 310 *e*P **P 16 07 56.2 -1.3**
comp=Z,54nm,0.9s
ACSO Alum Creek Sta 75.93 310 *e*P **P 16 07 56.2 -1.3**
comp=Z,54nm,0.9s
TNA Tin City 76.07 4 *e*P **P 16 07 56.7 -1.1**
comp=Z,55nm,1.0s
TNA Tin City 76.07 4 *e*P **P 16 07 56.7 -1.1**
comp=Z,55nm,1.0s
ULM Lac du Bonnet 76.17 324 *e*P **P 16 07 56.8 -1.9**
comp=Z,56nm,0.9s
ULM Lac du Bonnet 76.17 324 P **P 16 07 58.7 0.0**
comp=Z,60nm,0.9s,baz=48,slow=5.0,SNR=29
ULM LR LR 16 41 51.8
comp=Z,2μm,20.4s,baz=39,slow=36
ULM Lac du Bonnet 76.17 324 *e*P **P 16 07 56.8 -1.9**
comp=Z,56nm,0.9s
USRK Ussuriysk Arra 76.33 44 P **P 16 07 58.7 -1.0**
comp=Z,12nm,0.9s,baz=256,slow=5.9,SNR=16
COLA College 76.74 356⇑ *i*P **P 16 08 03.6 +2.0**
COLA pmax pmax
comp=Z,88nm,1.3s
COLA College 76.74 356 *e*P **P 16 08 01.2 -0.4**
comp=Z,28nm,1.3s
COLA College 76.74 356 *e*P **P 16 08 01.2 -0.4**
comp=Z,28nm,1.3s
ILAR Eielson Array 76.78 355 P **P 16 08 01.9 0.0**
ILAR PP **PP 16 10 51.5 -2.3**
ILAR Eielson Array 76.78 355 P **P 16 08 01.9 0.0**
comp=Z,7.3nm,1.0s,baz=349,slow=3.1,SNR=44
ILAR PP **PP 16 10 51.5 -2.3**
comp=Z,1.5nm,1.0s,baz=357,slow=9.2,SNR=4.5
ILAR Eielson Array 76.78 355 P **P 16 08 01.9 0.0**
comp=Z,7.0nm,1.0s
DAWY Dawson 76.80 352 *e*P **P 16 08 02.2 +0.1**
DAWY Dawson 76.80 352 *e*P **P 16 08 02.2 +0.1**
QIZ Qiongzhong 76.83 76 P **P 16 07 59.8 -3.1**
QIZ S **S 16 17 50.3 -0.7**
QIZ pmax pmax
comp=Z,47nm,2.2s
QIZ pmax pmax
comp=Z,340nm,5.0s
QIZ LR LR
comp=Z,1μm,17.1s
QIZ LR LR
comp=Z,870nm,18.8s
VLA Vladivostok 76.98 45⇓ *e*P **P 16 08 04.3 +0.9**
VLA pmax pmax
comp=Z,13nm,0.9s
VLA Vladivostok 76.98 45 *e*P **P 16 08 04.3 +0.9**
comp=Z,13nm,0.9s
AGMN Agassiz Nation 77.53 323⇓ P **P 16 08 06.7 +0.2**
baz=77
GAMB Gambell 77.57 6 *e*P **P 16 08 07.0 +0.8**
comp=Z,7.4nm,0.9s
GAMB Gambell 77.57 6 *e*P **P 16 08 07.1 +0.8**
comp=Z,7.4nm,0.9s
SSE Sheshan 77.89 60 P **P 16 08 06.1 -2.6**
SSE S S 16 17 56.1 -6.0
SSE ScS **SKSac 16 18 22.5 -0.6**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,120nm,5.0s
SSE LR LR
comp=Z,730nm,15.8s
SSE LR LR
comp=Z,900nm,15.8s
SSE LR LR
comp=Z,1μm,22.9s
MCK McKinley 77.94 356 *e*P **P 16 08 08.5 +0.1**
MCK pmax pmax

comp=Z,67nm,1.2s
MCK **McKinley** 77.94 356 *e*P P 16 08 08.5 +0.1
comp=Z,67nm,1.2s
MCK **McKinley** 77.94 356 *e*P P 16 08 08.5 +0.1
comp=Z,67nm,1.2s
PSI **Prapat** 78.06 96 P P 16 08 09.6 -0.4
PSI **Prapat** 78.06 96 P P 16 08 09.6 -0.4
comp=Z,5.2nm,0.4s,baz=270,slow=3.0,SNR=5.2
KMSC **Kings Mountain** 78.07 305 *e*P P 16 08 10.7 +1.0
comp=Z,33nm,1.0s
KMSC **Kings Mountain** 78.07 305 ⇑P P 16 08 09.5 -0.2
baz=78
KMSC **Kings Mountain** 78.07 305 *e*P P 16 08 10.7 +1.0
comp=Z,33nm,1.0s
SPMN **St. Paul** 78.15 319 P P 16 08 09.7 -0.2
comp=Z,35nm,0.6s
SPMN **St. Paul** 78.15 319 ⇓P P 16 08 09.4 -0.5
baz=78
SPMN **St. Paul** 78.15 319 P P 16 08 09.7 -0.2
comp=Z,35nm,0.6s
A30A **Hoffart Farm,** 78.21 324 ⇓P P 16 08 10.1 -0.1
baz=78,SNR=38
SFIN **Scholer Farm** 78.26 312 *e*P P 16 08 09.8 -0.8
comp=Z,50nm,0.9s
SFIN **Scholer Farm** 78.26 312 ⇑P P 16 08 10.3 -0.3
baz=78
SFIN **Scholer Farm** 78.26 312 *e*P P 16 08 09.8 -0.8
comp=Z,50nm,0.9s
TRF **Thorofare Moun** 78.29 356 P P 16 08 09.5 -1.1
comp=Z,38nm,1.3s
TRF **Thorofare Moun** 78.29 356 P P 16 08 09.5 -1.1
comp=Z,38nm,1.3s
KSAR **Wonju Array Be** 78.29 51 P P 16 08 09.1 -1.7
KSAR **Wonju Array Be** 78.29 51 P P 16 08 09.1 -1.7
KSRS **Korea Array** 78.31 51 P P 16 08 09.1 -1.8
comp=Z,9.4nm,0.9s,baz=310,slow=4.9,SNR=31
KSRS **Korea Array** 78.31 51 P P 16 08 09.1 -1.8
comp=Z,9.0nm,0.9s
MENT **Mentasta** 78.34 353 *e*P P 16 08 11.8 +1.2
MENT **Mentasta** 78.34 353 *e*P P 16 08 11.9 +1.2
JFWS **Jewell Farm** 78.36 316 *e*P P 16 08 09.6 -1.5
JFWS pmax pmax
comp=Z,59nm,0.9s
JFWS **Jewell Farm** 78.36 316 *e*P P 16 08 09.6 -1.5
comp=Z,59nm,0.9s
JFWS **Jewell Farm** 78.36 316 *e*P P 16 08 09.6 -1.5
comp=Z,59nm,0.9s
B30A **Myrvik Farm, E** 78.58 324 ⇑P P 16 08 11.8 -0.5
baz=78,SNR=12
A29A **Manning Farm,** 78.65 325 ⇓P P 16 08 12.1 -0.5
baz=78,SNR=46
BLO **Bloomington** 78.71 311 *e*P P 16 08 13.4 +0.3
BLO pmax pmax
comp=Z,87nm,0.8s
BLO **Bloomington** 78.71 311 *e*P P 16 08 13.4 +0.3
comp=Z,87nm,0.8s
BLO **Bloomington** 78.71 311 *e*P P 16 08 13.4 +0.3
comp=Z,87nm,0.8s
PPLA **Purkeypile** 78.92 357 *e*P P 16 08 13.4 -0.6
comp=Z,29nm,1.7s
PPLA **Purkeypile** 78.92 357 *e*P P 16 08 13.4 -0.6
comp=Z,29nm,1.7s
B29A **Wagenman Farm,** 79.04 325 ⇑P P 16 08 14.6 -0.1
baz=79,SNR=15
A28A **Rude Farm, Bot** 79.12 325 ⇑P P 16 08 15.2 0.0
baz=79,SNR=9.2
WCI **Wyandotte Cave** 79.19 310 *e*P P 16 08 15.1 -0.7
WCI pmax pmax
comp=Z,29nm,0.8s
WCI **Wyandotte Cave** 79.19 310 *e*P P 16 08 15.1 -0.7
comp=Z,29nm,0.8s
WCI **Wyandotte Cave** 79.19 310 *e*P P 16 08 15.1 -0.7
comp=Z,29nm,0.8s
C30A **Mose, Pekin** 79.19 324 ⇑P P 16 08 15.6 0.0
baz=79,SNR=20
TKL **Tuckaleechee C** 79.30 307 *e*P P 16 08 16.1 -0.3
TKL **Tuckaleechee C** 79.30 307 P P 16 08 16.6 +0.3
comp=Z,26nm,1.0s,baz=93,slow=5.8,SNR=12
TKL **Tuckaleechee C** 79.30 307 *e*P P 16 08 16.1 -0.3
B28A **Dugan Ranch, T** 79.51 325 ⇓P P 16 08 17.2 -0.1
baz=79,SNR=5.1
A27A **Ledoux Ranch,** 79.52 326 ⇓P P 16 08 17.4 0.0
baz=79
MDND **Maddock** 79.60 324 P P 16 08 18.9 +1.0
comp=Z,82nm,1.2s
MDND **Maddock** 79.60 324 ⇓P P 16 08 17.7 -0.2
baz=79,SNR=7.9
MDND **Maddock** 79.60 324 P P 16 08 18.9 +1.0
comp=Z,82nm,1.2s
D30A **Buchanan** 79.75 323 ⇑P P 16 08 19.0 +0.3
baz=80,SNR=25
YSS **Yuzh-Sakhalins** 79.91 37⇑ *i*P P 16 08 22.2 +2.7
YSS *e**PP PcP 16 08 27.2 +0.1
YSS *e* 16 08 31.9
YSS *e*S S 16 18 23.0 -0.2
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS **Yuzh-Sakhalins** 79.91 37 *e*P P 16 08 18.5 -1.0
comp=N,48nm,1.0s
YSS **Yuzh-Sakhalins** 79.91 37 *e*P P 16 08 18.5 -1.0
comp=N,48nm,1.0s
YSS **Yuzh-Sakhalins** 79.91 37 *e*PcP PcP 16 08 27.2 +0.1
YSS *e*S S 16 18 23.0 -0.2
comp=N,2μm,18.0s
A26A **Wade Farm, Ken** 79.92 326 ⇓P P 16 08 19.8 +0.3
baz=80,SNR=36
B27A **Peters Farms,** 79.94 326 ⇑P P 16 08 20.1 +0.5
baz=80
C28A **Hausauer Farms** 80.06 325 ⇑P P 16 08 20.8 +0.5
baz=80
PMR **Palmer** 80.08 356 P P 16 08 19.9 -0.2
PMR pmax pmax
comp=Z,47nm,1.3s
PMR **Palmer** 80.08 356 P P 16 08 19.9 -0.2
comp=Z,46nm,1.3s
PMR **Palmer** 80.08 356 P P 16 08 19.9 -0.2
comp=Z,47nm,1.3s
D29A **Pettibone, Tap** 80.18 324 ⇑P P 16 08 21.5 +0.5
baz=80,SNR=32
E30A **Jud** 80.27 323 ⇓P P 16 08 22.1 +0.6
baz=80,SNR=9.4
A25A **Svangstu Ranch** 80.35 327 ⇑P P 16 08 22.5 +0.6
baz=80,SNR=8.4
BMRM **Bremner River** 80.36 353 *e*P P 16 08 22.5 +0.8
comp=Z,54nm,1.2s
BMRM **Bremner River** 80.36 353 *e*P P 16 08 22.5 +0.8
comp=Z,54nm,1.2s
B26A **Jensen Ranch,** 80.39 326 ⇓P P 16 08 21.8 -0.3
baz=80
D28A **Regan** 80.53 324 ⇓P P 16 08 23.3 +0.4
baz=80
E29A **Napoleon** 80.56 323 ⇑P P 16 08 22.4 -0.7
baz=80,SNR=36
C27A **Sayler Ranch,** 80.56 325 ⇓P P 16 08 23.0 -0.1
baz=80
RC01 **Rabbit Creek A** 80.62 356 *e*P P 16 08 22.5 -0.6
comp=Z,72nm,1.3s
RC01 **Rabbit Creek A** 80.62 356 *e*P P 16 08 22.5 -0.6
comp=Z,72nm,1.3s
SCIA **State Center** 80.65 317 *e*P P 16 08 22.6 -1.0
comp=Z,40nm,0.8s
SCIA **State Center** 80.65 317 *e*P P 16 08 22.6 -1.0
comp=Z,40nm,0.8s
A24A **Westby** 80.74 327 ⇓P P 16 08 24.2 +0.2
baz=80,SNR=8.5
C26A **Wahner Farm, P** 80.75 326 ⇑P P 16 08 24.7 +0.6
baz=80,SNR=7.1
F30A **Leola** 80.81 323 ⇓P P 16 08 24.9 +0.5
baz=80,SNR=6.0
EDM **Edmonton** 80.87 335 *e*P P 16 08 23.7 -1.0
EDM **Edmonton** 80.87 335 *e*P P 16 08 23.6 -1.0
EDM **Edmonton** 80.87 335 *e*P P 16 08 23.6 -1.0
B25A **Knox Farm, Ray** 80.88 326 ⇑P P 16 08 25.5 +0.7
baz=81,SNR=7.3
D27A **Center** 81.03 325 ⇑P P 16 08 26.1 +0.5
baz=81
E28A **Huff** 81.05 324 ⇓P P 16 08 26.0 +0.4
baz=81,SNR=8.2
A23A **Redstone** 81.08 328 ⇑P P 16 08 26.2 +0.4
baz=81,SNR=8.4
PETK **Petropavlovsk-** 81.12 25 P P 16 08 25.0 -0.9
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK **Petropavlovsk-** 81.12 25 P P 16 08 25.0 -0.9
comp=Z,2.4nm,0.9s,baz=279,slow=2.8,SNR=3.8
PETK **Petropavlovsk-** 81.12 25 P P 16 08 25.0 -0.9
comp=Z,2.0nm,0.9s
ECSD **EROS Data Cent** 81.14 320 *e*P P 16 08 25.9 -0.3
comp=Z,62nm,0.9s
ECSD **EROS Data Cent** 81.14 320 ⇑P P 16 08 26.7 +0.5
baz=81,SNR=34
ECSD **EROS Data Cent** 81.14 320 *e*P P 16 08 25.9 -0.3
comp=Z,62nm,0.9s
DGMT **Dagmar** 81.17 327 ⇑P P 16 08 26.9 +0.6
baz=81
F29A **Eureka** 81.19 323 ⇓P P 16 08 26.9 +0.5
baz=81
SLM **Saint Louis** 81.23 313 P P 16 08 27.2 +0.4
SLM pmax pmax
comp=Z,91nm,1.0s
SLM **Saint Louis** 81.23 313 P P 16 08 27.2 +0.4
comp=Z,91nm,1.0s
SLM **Saint Louis** 81.23 313 P P 16 08 27.2 +0.4
comp=Z,91nm,1.0s
SIUC **Southern Illin** 81.26 312 *e*P P 16 08 26.5 -0.4
comp=Z,88nm,1.0s
SIUC **Southern Illin** 81.26 312 *e*P P 16 08 26.5 -0.4
comp=Z,88nm,1.0s
C25A **Freed Ranch, W** 81.34 326 ⇑P P 16 08 28.1 +0.9
baz=81
G30A **Faulkton** 81.38 322 ⇓P P 16 08 27.7 +0.2
baz=81,SNR=33
RSO **Redoubt South** 81.38 357 *e*P P 16 08 27.1 -0.3
comp=Z,90nm,1.1s
RSO **Redoubt South** 81.38 357 *e*P P 16 08 27.1 -0.3
comp=Z,90nm,1.1s
A22A **Carney Farms,** 81.49 328 ⇓P P 16 08 27.5 -0.5
baz=81,SNR=22
D26A **Island** 81.50 325 ⇑P P 16 08 27.4 -0.7
baz=81,SNR=6.4
B23A **Brockton** 81.51 327 ⇑P P 16 08 28.0 -0.2
baz=81,SNR=19
E27A **Carson** 81.56 324 ⇑P P 16 08 28.3 -0.1
baz=81
F28A **McLaughlin** 81.64 324 ⇓P P 16 08 29.0 +0.2
baz=81,SNR=10.0
G29A **Hoven** 81.71 323 ⇓P P 16 08 28.7 -0.5
baz=81
BRSD **Miller** 81.79 322 P P 16 08 29.9 +0.3
comp=Z,182nm,0.9s
BRSD **Miller** 81.79 322 ⇓P P 16 08 30.0 +0.3
baz=82
BRSD **Miller** 81.79 322 P P 16 08 29.9 +0.3
comp=Z,182nm,0.9s
D25A **Fairfield** 81.80 326 ⇑P P 16 08 30.0 +0.3
baz=82
TIGA **Tifton** 81.88 304 ⇓P P 16 08 29.6 -0.7
baz=82
A21A **Bergtoll Ranch** 81.91 329 ⇓P P 16 08 30.6 +0.4
baz=82
E26A **Carlson Angus** 81.93 325 ⇓P P 16 08 30.5 +0.1
baz=82
C24A **Savage** 81.99 327 ⇓P P 16 08 30.5 -0.2
baz=82,SNR=9.0
B22A **Reddig Ranch S** 82.06 328 ⇓P P 16 08 30.2 -0.9
baz=82
C23A **Lambert** 82.11 327 ⇓P P 16 08 31.0 -0.3
baz=82,SNR=17
F27A **Lemmon** 82.18 324 ⇑P P 16 08 31.6 -0.2
baz=82,SNR=6.1
H29A **Onida** 82.27 322 ⇓P P 16 08 32.8 +0.7
baz=82
G28A **Parade** 82.27 323 ⇑P P 16 08 32.5 +0.3
baz=82
D24A **Glendive** 82.27 326 ⇑P P 16 08 32.3 +0.1
baz=82,SNR=9.9
E25A **Miller Ranch,** 82.33 325 ⇓P P 16 08 33.7 +1.1
baz=82
A20A **Cobblestone Ra** 82.40 329 ⇑P P 16 08 33.4 +0.6
baz=82,SNR=18
C22A **Vida** 82.45 327 ⇑P P 16 08 34.0 +1.0
baz=82,SNR=20
F26A **Lodgepole** 82.50 325 ⇑P P 16 08 34.7 +1.4
baz=82,SNR=12
G27A **Dupree** 82.51 324 ⇑P P 16 08 35.3 +1.9
baz=82
D23A **Lindsay** 82.61 327 ⇑P P 16 08 34.9 +0.9
baz=82,SNR=15
H28A **Mission Ridge** 82.61 323 ⇑P P 16 08 34.2 +0.3
baz=82,SNR=18
A19A **Klindworth Far** 82.69 330 ⇑P P 16 08 33.4 -0.9
baz=82
E24A **Baker** 82.69 326 ⇑P P 16 08 34.8 +0.4
baz=82
I29A **Vivian Onida** 82.76 322 ⇑P P 16 08 35.6 +0.9
baz=82,SNR=7.9
B20A **Solberg Farm,** 82.79 329 ⇓P P 16 08 35.8 +0.9
baz=82,SNR=12
F25A **Bowman** 82.80 325 ⇑P P 16 08 36.3 +1.3
baz=82,SNR=5.4
J30A **Dallas** 82.88 321 ⇓P P 16 08 36.3 +0.9
baz=83,SNR=12
GNAR **Gosnell** 82.91 311 *e*P P 16 08 36.1 +0.5
comp=Z,2μm,1.1s
GNAR **Gosnell** 82.91 311 *e*P P 16 08 36.1 +0.5
comp=Z,2μm,1.1s
LRAL **Lakeview Retre** 83.02 307 *e*P P 16 08 36.0 -0.2
comp=Z,66nm,1.0s
LRAL **Lakeview Retre** 83.02 307 *e*P P 16 08 36.0 -0.2
comp=Z,66nm,1.0s
D22A **Cohagen** 83.04 327 ⇑P P 16 08 37.5 +1.3
baz=83,SNR=18
B19A **Brinkman Farms** 83.14 330 ⇓P P 16 08 38.2 +1.5
baz=83,SNR=7.1
H27A **Howes** 83.14 323 ⇓P P 16 08 35.7 -1.1
baz=83,SNR=9.6
I28A **Midland** 83.19 323 ⇓P P 16 08 37.8 +0.8
baz=83,SNR=10
J29A **Okreek** 83.22 322 ⇑P P 16 08 38.3 +1.1
baz=83,SNR=18
F24A **Ekalaka** 83.30 325 ⇑P P 16 08 38.7 +1.1
baz=83,SNR=20
G25A **Newell** 83.34 325 ⇑P P 16 08 38.6 +0.9
baz=83,SNR=9.7
C20A **Veseth Ranch,** 83.36 329 ⇑P P 16 08 38.7 +0.9
baz=83,SNR=33
L31A **Butterfield Fa** 83.40 320 ⇓P P 16 08 38.9 +0.8
baz=83
K30A **Basset** 83.42 321 ⇓P P 16 08 39.2 +1.0
baz=83,SNR=20
LAO **LASA Array** 83.42 327 *e*P P 16 08 39.0 +0.8
comp=Z,97nm,1.1s
LAO **LASA Array** 83.42 327 *e*P P 16 08 39.0 +0.8
comp=Z,97nm,1.1s
D21A **La Casta Ranch** 83.45 328 ⇓P P 16 08 38.8 +0.4
baz=83,SNR=20
H26A **Fairpoint** 83.48 324 ⇑P P 16 08 39.6 +1.1
baz=83,SNR=5.3
E22A **Miles City** 83.50 327 ⇓P P 16 08 39.2 +0.6
baz=83,SNR=7.1
OXF **Oxford** 83.53 309 *e*P P 16 08 37.9 -0.9
OXF pmax pmax
comp=Z,85nm,1.3s
OXF **Oxford** 83.53 309 *e*P P 16 08 37.9 -0.9
comp=Z,85nm,1.3s
OXF **Oxford** 83.53 309 *e*P P 16 08 37.9 -0.9
comp=Z,85nm,1.3s
I27A **Quinn** 83.56 323 ⇑P P 16 08 39.2 +0.3
baz=83,SNR=6.7
BGNE **Belgrade** 83.61 319 *e*P P 16 08 37.5 -1.7
comp=Z,280nm,1.0s
BGNE **Belgrade** 83.61 319 ⇑P P 16 08 40.5 +1.4
baz=83,SNR=28
BGNE **Belgrade** 83.61 319 *e*P P 16 08 37.5 -1.7
comp=Z,280nm,1.0s
J28A **Allard Ranch,** 83.65 322 ⇓P P 16 08 40.4 +1.0
baz=83,SNR=9.4
G24A **Alzada** 83.69 325 ⇓P P 16 08 40.6 +1.0
baz=83,SNR=15
K29A **Lazy Trails An** 83.70 321 ⇓P P 16 08 40.9 +1.2
baz=83,SNR=20
C19A **Slack Wire Ran** 83.76 329 ⇓P P 16 08 41.7 +1.8
baz=84,SNR=22
EGMT **Eagleton** 83.81 330 *e*P P 16 08 39.8 -0.4
comp=Z,114nm,1.0s
EGMT **Eagleton** 83.81 330 ⇓P P 16 08 41.3 +1.2
baz=84,SNR=38
EGMT **Eagleton** 83.81 330 *e*P P 16 08 39.8 -0.4
comp=Z,114nm,1.0s
F23A **Volborg** 83.82 326 ⇓P P 16 08 40.8 +0.6
baz=84,SNR=31
H25A **Fruitdale** 83.86 324 ⇑P P 16 08 41.6 +1.1
baz=84,SNR=11
E21A **Keefer Ranch,** 83.90 327 ⇑P P 16 08 42.0 +1.4
baz=84,SNR=8.7
D20A **Manuel Ranch,** 83.91 328 ⇑P P 16 08 41.8 +1.2
baz=84,SNR=24
I26A **New Underwood** 83.97 323 ⇑P P 16 08 42.0 +1.0
baz=84
L30A **Spencer Herefo** 84.01 320 ⇓P P 16 08 41.9 +0.7
baz=84
M31A **Lambtecht Ranc** 84.08 320 ⇑P P 16 08 42.6 +1.0
baz=84,SNR=33
PTGA **Pitinga** 84.11 264 *e*P P 16 08 44.3 +2.2
comp=Z,6.5nm,0.9s
PTGA **Pitinga** 84.11 264 P P 16 08 44.3 +2.2
comp=Z,4.0nm,0.8s,baz=343,slow=20,SNR=5.8
F22A **Rosebud** 84.15 326 ⇑P P 16 08 42.6 +0.7
baz=84,SNR=10
N32A **Stulken Farm,** 84.15 319 ⇓P P 16 08 42.7 +0.7
baz=84,SNR=7.9
D19A **Cripps Ranch,** 84.15 329 ⇓P P 16 08 42.1 +0.2
baz=84,SNR=8.9
J27A **Elkhorn Farm,** 84.15 322 ⇓P P 16 08 43.0 +1.0
baz=84,SNR=6.5
H24A **Dirks Ranch, A** 84.20 325 ⇓P P 16 08 43.1 +0.9
baz=84,SNR=12
G23A **Biddle** 84.22 326 ⇑P P 16 08 43.5 +1.2
baz=84,SNR=24
K28A **Ten Mile Ranch** 84.25 322 ⇑P P 16 08 44.3 +1.8
baz=84
L29A **Maesberg Ranch** 84.30 321 ⇑P P 16 08 44.8 +2.0
baz=84,SNR=9.1
E20A **Meyer Farm, Mu** 84.37 328 ⇑P P 16 08 44.4 +1.4
baz=85,SNR=7.6
M30A **Dale-Ortello F** 84.39 320 ⇓P P 16 08 44.6 +1.4
baz=84,SNR=11
RSSD **Black Hills** 84.44 324 *e*P P 16 08 44.0 +0.4
RSSD pmax pmax
comp=Z,24nm,0.9s
RSSD **Black Hills** 84.44 324 *e*P P 16 08 44.0 +0.4
comp=Z,24nm,0.9s
RSSD **Black Hills** 84.44 324 *e*P P 16 08 44.0 +0.4
comp=Z,24nm,0.9s
N31A **Bailey Ranch,** 84.45 319 ⇓P P 16 08 44.7 +1.2
baz=84,SNR=9.3
KSU1 **Kansas State U** 84.47 317 *e*P P 16 08 43.6 0.0
comp=Z,153nm,0.9s
KSU1 **Kansas State U** 84.47 317 ⇑P P 16 08 44.8 +1.2
baz=84,SNR=18
KSU1 **Kansas State U** 84.47 317 *e*P P 16 08 43.6 0.0
comp=Z,153nm,0.9s
F21A **Absaloka Mine,** 84.49 327 ⇑P P 16 08 45.3 +1.6
baz=84
O32A **Brockman Farm,** 84.51 318 ⇓P P 16 08 44.8 +1.0
baz=84,SNR=12
WALA **Waterton Lakes** 84.54 333 *e*P P 16 08 43.2 -0.7
comp=Z,1.3nm,1.0s
WALA **Waterton Lakes** 84.54 333 *e*P P 16 08 43.2 -0.7
comp=Z,1.3nm,1.0s
G22A **Birney** 84.60 326 ⇑P P 16 08 44.9 +0.6
baz=84,SNR=9.4
J26A **Sides Ranch, S** 84.61 323 ⇑P P 16 08 45.6 +1.3
baz=84
BDFB **Brasilia** 84.63 245 P P 16 08 46.4 +1.7
BDFB **Brasilia** 84.63 245 P P 16 08 46.4 +1.7
comp=Z,3.6nm,0.7s,baz=13,slow=0.7,SNR=4.6
BDFB LR LR 16 47 58.1
comp=Z,914nm,18.2s,baz=49,slow=37
BDFB **Brasilia** 84.63 245 P P 16 08 46.4 +1.7
comp=Z,914nm,18.3s
K27A **Flueckinger Fa** 84.68 322 ⇑P P 16 08 46.9 +2.2
baz=84
E19A **Rath Farm, Rou** 84.68 328 ⇓P P 16 08 45.4 +0.8
baz=84,SNR=26
H23A **Clabaugh Cattl** 84.72 325 ⇓P P 16 08 46.0 +1.2
baz=84
P33A **Williams Farm,** 84.80 317 ⇑P P 16 08 46.4 +1.1
baz=84,SNR=48
L28A **Connealy Angus** 84.86 321 ⇑P P 16 08 47.0 +1.4
baz=85
M29A **Burnside Ranch** 84.87 321 ⇓P P 16 08 47.3 +1.6
baz=85
J25A **Sunshine Ranch** 84.90 324 ⇓P P 16 08 47.7 +1.9
baz=85,SNR=16
I24A **Kuemmerle Ranc** 84.92 324 ⇑P P 16 08 46.5 +0.6
baz=85,SNR=10
F20A **Billings** 84.94 328 ⇑P P 16 08 47.0 +1.0
baz=85,SNR=13
G21A **Lodge Grass** 85.00 327 ⇓P P 16 08 47.9 +1.6
baz=85,SNR=14
MAJO **Matsushiro** 85.01 46⇓ *e*P P 16 08 46.9 +0.5
MAJO pmax pmax
comp=Z,92nm,1.5s
MAJO **Matsushiro** 85.01 46 *e*P P 16 08 46.9 +0.5
comp=Z,92nm,1.5s
MJAR **Matsushiro Arr** 85.02 46 P P 16 08 45.3 -1.1
MJAR **Matsushiro Arr** 85.02 46 P P 16 08 45.3 -1.1
comp=Z,7.7nm,0.9s,baz=304,slow=5.3,SNR=9.9
MJAR **Matsushiro Arr** 85.02 46 P P 16 08 45.3 -1.1
comp=Z,8.0nm,1.0s
N30A **Hueftle Ranch,** 85.05 320 ⇓P P 16 08 48.3 +1.8
baz=85,SNR=7.5
UALR **University of** 85.11 311 *e*P P 16 08 46.6 -0.2
comp=Z,37nm,0.8s
UALR **University of** 85.11 311 *e*P P 16 08 46.6 -0.2
comp=Z,37nm,0.8s
H22A **Clearmont** 85.12 326 ⇑P P 16 08 48.6 +1.7
baz=85,SNR=13
K26A **Motz Farm, Whi** 85.13 323 ⇓P P 16 08 48.8 +1.8
baz=85
O31A **Woolen Ranch,** 85.13 319 ⇓P P 16 08 48.8 +1.8
baz=85,SNR=14
P32A **Huiting Farm,** 85.15 318 ⇑P P 16 08 48.5 +1.5
baz=85,SNR=22
L27A **T5 Ranch, Ells** 85.19 322 ⇑P P 16 08 48.5 +1.2
baz=85,SNR=7.1
Q33A **Connelly Farm,** 85.20 317 ⇑P P 16 08 47.7 +0.4
baz=85,SNR=45
I23A **Meade Ranch, G** 85.22 325 ⇑P P 16 08 48.8 +1.4
baz=85
F19A **Roth Farm, Mol** 85.23 328 ⇑P P 16 08 49.1 +1.6
baz=85,SNR=31
M28A **Bar X Bar Ranc** 85.24 321 ⇑P P 16 08 48.3 +0.7
baz=85,SNR=8.6
N29A **Votaw Ranch, W** 85.30 320 ⇓P P 16 08 48.0 +0.1
baz=85,SNR=6.9
J24A **Dixon Ranch, L** 85.34 324 ⇑P P 16 08 48.2 +0.1
baz=85,SNR=8.5
H21A **Big Horn, Sher** 85.40 326 ⇓P P 16 08 48.6 +0.3
baz=85,SNR=15
G20A **Bridger** 85.43 327 ⇓P P 16 08 48.9 +0.4
baz=85,SNR=31
O30A **MW Ranch, Wils** 85.49 319 ⇑P P 16 08 49.4 +0.6
baz=85,SNR=11
K25A **Mack Ranch, Ha** 85.53 323 ⇑P P 16 08 49.3 +0.3
baz=85,SNR=6.6
YBMT **Yellow Bay** 85.57 332 *e*P P 16 08 48.9 -0.2
comp=Z,41nm,1.1s
YBMT **Yellow Bay** 85.57 332 *e*P P 16 08 48.9 -0.2
comp=Z,41nm,1.1s
BLMT **Blacktail Moun** 85.58 332 P P 16 08 47.9 -1.4
comp=Z,10nm,0.2s
BLMT **Blacktail Moun** 85.58 332 P P 16 08 47.9 -1.4
comp=Z,10nm,0.2s
Q32A **Meitler Ranch,** 85.59 318 ⇓P P 16 08 49.7 +0.4
baz=85,SNR=16
L26A **Underwood Farm** 85.59 322 ⇓P P 16 08 49.1 -0.2
baz=85
P31A **Stockton** 85.63 318 ⇓P P 16 08 49.6 +0.2
baz=85,SNR=40
M27A **Reverse DX Ran** 85.64 322 ⇓P P 16 08 50.0 +0.5
baz=85
J23A **Dilts Ranch, B** 85.69 325 ⇓P P 16 08 50.4 +0.6
baz=85
HRY **Holter Researc** 85.70 330 *e*P P 16 08 49.8 0.0
comp=Z,44nm,1.0s
HRY **Holter Researc** 85.70 330 *e*P P 16 08 49.8 0.0
comp=Z,44nm,1.0s
I22A **9 Mile Ranch,** 85.73 325 ⇓P P 16 08 51.2 +1.2
baz=85,SNR=19
JTMT **Jette** 85.77 332 *e*P P 16 08 50.0 -0.1
comp=Z,28nm,0.9s
JTMT **Jette** 85.77 332 *e*P P 16 08 50.0 -0.1
comp=Z,28nm,0.9s
R33A **Olander Ranch,** 85.78 317 ⇑P P 16 08 51.5 +1.3
baz=86,SNR=21
N28A **Pribbeno Ranch** 85.86 321 ⇓P P 16 08 52.6 +2.0

baz=86
SWMT **Swartz Lake** 85.86 332 *e*P P 16 08 50.7 +0.1
comp=Z,61nm,1.2s
SWMT **Swartz Lake** 85.86 332 *e*P P 16 08 50.7 +0.1
comp=Z,61nm,1.2s
BSMT **Bassoo Peak** 85.87 332 *e*P P 16 08 50.6 -0.1
comp=Z,24nm,1.4s
BSMT **Bassoo Peak** 85.87 332 *e*P P 16 08 50.6 -0.1
comp=Z,24nm,1.4s
K24A **Anderson Ranch** 85.88 324 ⇑P P 16 08 53.4 +2.6
baz=86
SLMT **Seeley Lake** 85.90 331 *e*P P 16 08 51.1 +0.3
comp=Z,28nm,1.1s
SLMT **Seeley Lake** 85.90 331 *e*P P 16 08 51.1 +0.3
comp=Z,28nm,1.1s
O29A **4D Ranch, Culb** 85.91 320 ⇓P P 16 08 52.2 +1.4
baz=86
OGNE **Ogallala** 85.91 321 P P 16 08 51.2 +0.3
comp=Z,20nm,0.9s
OGNE **Ogallala** 85.91 321 ⇑P P 16 08 51.6 +0.7
baz=86
OGNE **Ogallala** 85.91 321 P P 16 08 51.2 +0.3
comp=Z,20nm,0.9s
L25A **Engebretsen Ra** 85.92 323 ⇑P P 16 08 52.3 +1.3
baz=86
H20A **Greybull** 85.92 327 ⇑P P 16 08 52.3 +1.4
baz=86,SNR=9.6
RLMT **Red Lodge** 85.96 328 *e*P P 16 08 51.7 +0.5
comp=Z,36nm,1.3s
RLMT **Red Lodge** 85.96 328 *e*P P 16 08 51.7 +0.5
comp=Z,36nm,1.3s
MIAR **Mount Ida** 85.99 312 *e*P P 16 08 52.2 +0.9
MIAR pmax pmax
comp=Z,97nm,1.1s
MIAR **Mount Ida** 85.99 312 *e*P P 16 08 52.2 +0.9
comp=Z,97nm,1.1s
MIAR **Mount Ida** 85.99 312 *e*P P 16 08 52.2 +0.9
comp=Z,97nm,1.1s
Q31A **Ellis** 86.02 318 ⇓P P 16 08 52.7 +1.3
baz=86,SNR=13
M26A **McRoberts Ranc** 86.06 322 ⇑P P 16 08 52.3 +0.6
baz=86
P30A **Selden** 86.06 319 ⇑P P 16 08 53.0 +1.4
baz=86,SNR=5.3
CHMT **Chamberlain Mo** 86.08 331 *e*P P 16 08 50.6 -1.2
comp=Z,14nm,1.2s
CHMT **Chamberlain Mo** 86.08 331 *e*P P 16 08 50.6 -1.2
comp=Z,14nm,1.2s
R32A **Long Quarter,** 86.08 317 ⇑P P 16 08 52.7 +1.0
baz=86,SNR=12
J22A **Midwest** 86.11 325 ⇓P P 16 08 52.5 +0.6
baz=86,SNR=9.7
I21A **Big Trails, Te** 86.15 326 ⇓P P 16 08 52.9 +0.8
baz=86,SNR=24
H19A **Powell** 86.20 327 ⇑P P 16 08 53.3 +1.0
baz=86,SNR=35
K23A **Bowen Ranch, D** 86.23 324 ⇑P P 16 08 52.5 0.0
baz=86
TUL1 **Tulsa** 86.30 314 *e*P P 16 08 52.8 0.0
comp=Z,118nm,0.9s
TUL1 **Tulsa** 86.30 314 ⇑P P 16 08 54.3 +1.5
baz=86,SNR=14
TUL1 **Tulsa** 86.30 314 *e*P P 16 08 52.8 0.0
comp=Z,118nm,0.9s
S33A **Kaszmaul Farm,** 86.31 316 ⇓P P 16 08 55.3 +2.5
baz=86,SNR=5.6
NEW **Newport** 86.34 334 *e*P P 16 08 52.5 -0.3
comp=Z,46nm,1.0s
NEW **Newport** 86.34 334 P P 16 08 52.9 +0.1
comp=Z,35nm,1.0s,baz=34,slow=5.1,SNR=19
NEW **Newport** 86.34 334 ⇑P P 16 08 53.7 +0.9
baz=86
NEW **Newport** 86.34 334 *e*P P 16 08 52.5 -0.3
comp=Z,46nm,1.0s
P29A **Atwood** 86.37 319 ⇑P P 16 08 54.8 +1.6
baz=86
O28A **Krutsinger Ran** 86.40 320 ⇓P P 16 08 54.2 +0.9
baz=86
I20A **Worland** 86.41 326 ⇓P P 16 08 53.8 +0.4
baz=86,SNR=42
MSO **Missoula** 86.41 331 ⇑P P 16 08 55.1 +1.9
baz=86,SNR=10
L24A **Wheatland** 86.47 323 ⇑P P 16 08 56.3 +2.6
baz=86
Q30A **Quinter** 86.47 319 ⇑P P 16 08 55.0 +1.4
baz=86,SNR=8.4
H18A **Shoshone NF, C** 86.48 328 ⇓P P 16 08 54.4 +0.6
baz=86,SNR=39
BOZ **Bozeman (W)** 86.50 329 *e*P P 16 08 53.8 0.0
BOZ pmax pmax
comp=Z,32nm,1.1s
BOZ MLR MLR
comp=Z,2μm,21.0s
BOZ **Bozeman (W)** 86.50 329 *e*P P 16 08 53.8 0.0
comp=Z,32nm,1.1s
BOZ LR LR
comp=Z,2μm,21.0s
BOZ **Bozeman (W)** 86.50 329 *e*P P 16 08 53.8 0.0
comp=Z,2μm,21.0s
M25A **Palm-Egli Farm** 86.52 322 ⇓P P 16 08 56.1 +2.1
baz=86,SNR=7.6
N26A **Koester Ranch,** 86.58 322 ⇑P P 16 08 55.3 +1.1
baz=86
J21A **Lysite** 86.59 326 ⇓P P 16 08 55.4 +1.1
baz=86,SNR=14
R31A **Burdett** 86.62 318 ⇑P P 16 08 55.5 +1.2
baz=86,SNR=11
LRM **Limekiln Ridge** 86.68 330 *e*P P 16 08 54.8 0.0
comp=Z,217nm,1.0s
LRM **Limekiln Ridge** 86.68 330 *e*P P 16 08 54.8 0.0
comp=Z,217nm,1.0s
I19A **Meeteetse** 86.71 327 ⇓P P 16 08 55.8 +0.8
baz=86,SNR=43
K22A **Casper** 86.72 325 *e*P P 16 08 53.7 -1.3
comp=Z,46nm,1.0s
K22A **Casper** 86.72 325 ⇓P P 16 08 55.7 +0.7
baz=86,SNR=11
K22A **Casper** 86.72 325 *e*P P 16 08 53.7 -1.3
comp=Z,46nm,1.0s
S32A **Newby Ranch, P** 86.74 317 ⇑P P 16 08 56.2 +1.3
baz=86
L23A **Garrett** 86.77 324 ⇑P P 16 08 56.2 +0.9
baz=86,SNR=8.3
P28A **Saint Francis** 86.81 320 ⇓P P 16 08 57.5 +2.2
baz=86
T33A **Patterson Ranc** 86.82 316 ⇓P P 16 08 57.4 +2.1
baz=87
M24A **Cheyenne** 86.86 323 ⇓P P 16 08 57.7 +2.0
baz=87,SNR=6.3
J20A **Shoshoni** 86.87 326 ⇑P P 16 08 57.0 +1.4
baz=87,SNR=23
U34A **Anderson Ranch** 86.90 315 ⇑P P 16 08 57.6 +1.9
baz=87,SNR=7.1
Q29A **Oakley** 86.92 319 ⇓P P 16 08 57.2 +1.4
baz=87
R30A **Dighton** 87.01 318 ⇓P P 16 08 58.0 +1.7
baz=87,SNR=12
N25A **Grover** 87.02 322 ⇓P P 16 08 58.3 +1.9
baz=87,SNR=8.3
YMR **Madison River** 87.03 328 *e*P P 16 08 56.0 -0.5
comp=Z,442nm,0.3s
YMR **Madison River** 87.03 328 *e*P P 16 08 56.0 -0.5
comp=Z,442nm,0.3s
K21A **Alcova** 87.07 325 ⇓P P 16 08 56.6 -0.1
baz=87,SNR=11
QLMT **Earthquake Lak** 87.09 329 *e*P P 16 08 57.3 +0.5
comp=Z,2.6nm,0.3s
QLMT **Earthquake Lak** 87.09 329 *e*P P 16 08 57.3 +0.5
comp=Z,2.6nm,0.3s
S31A **Mullinville** 87.09 317 ⇑P P 16 08 57.5 +0.8
baz=87
H17A **Grant Village** 87.09 328 *e*P P 16 08 58.6 +1.8
comp=Z,11nm,0.3s
H17A **Grant Village** 87.09 328 ⇑P P 16 09 00.4 +3.5
baz=87,SNR=18
H17A **Grant Village** 87.09 328 *e*P P 16 08 58.6 +1.8
comp=Z,11nm,0.3s
T32A **Huddler Ranch,** 87.11 317 ⇑P P 16 08 59.0 +2.2
baz=87,SNR=5.7
L22A **Ellis Ranch, M** 87.17 324 ⇓P P 16 08 59.0 +1.8
baz=87,SNR=9.8
U33A **Lingo Farm, Me** 87.22 316 ⇓P P 16 08 59.4 +2.1
baz=87,SNR=5.4
Q28A **Sharon Springs** 87.23 320 ⇑P P 16 08 58.4 +1.0
baz=87
P27A **Ficken Ranch,** 87.23 320 ⇑P P 16 08 58.1 +0.7
baz=87
M23A **Laramie** 87.28 323 ⇓P P 16 08 59.1 +1.3
baz=87
V34A **Guthrie** 87.33 315 ⇓P P 16 08 59.8 +2.0
baz=87
R29A **Marienthal** 87.36 319 ⇓P P 16 08 59.2 +1.2
baz=87,SNR=5.2
J19A **Crowheart** 87.36 327 ⇓P P 16 08 58.5 +0.4
baz=87,SNR=21
N24A **Carr** 87.39 323 ⇓P P 16 08 59.7 +1.4
baz=87,SNR=9.4
I17A **Pilgrim Ck.** 87.48 328 ⇓P P 16 09 00.4 +1.8
baz=87,SNR=18
O25A **Wiggins** 87.57 322 ⇓P P 16 09 00.9 +1.8
baz=87
T31A **Randall Ranch,** 87.58 317 ⇑P P 16 08 59.8 +0.8
baz=87,SNR=6.8
S30A **Montezuma** 87.59 318 ⇑P P 16 09 01.8 +2.7
baz=87,SNR=7.5
SAW **Saint Andrews** 87.60 335 P P 16 08 59.4 +0.4
SAW **Saint Andrews** 87.60 335 P P 16 08 59.4 +0.4
P26A **Davis Ranch, A** 87.61 321 ⇓P P 16 08 57.8 -1.5
baz=87
MCMT **McKenzie Canyo** 87.66 330 *e*P P 16 09 00.2 +0.6
comp=Z,2.3nm,0.3s
MCMT **McKenzie Canyo** 87.66 330 *e*P P 16 09 00.2 +0.6
comp=Z,2.3nm,0.3s
KSCO **Kaye Shedlock'** 87.67 320 ⇑P P 16 08 58.0 -1.6
baz=87
M22A **Cedar Creek Ra** 87.74 324 ⇑P P 16 09 01.0 +1.0
baz=88,SNR=19
U32A **Winter Ranch,** 87.74 316 ⇓P P 16 09 02.9 +3.1
baz=88
V33A **Lossen Ranch,** 87.76 315 ⇓P P 16 09 01.1 +1.2
baz=88,SNR=6.4
R28A **Tribune** 87.77 319 ⇑P P 16 09 01.9 +1.9
baz=88
WTV **Waterville** 87.79 335 P P 16 09 01.1 +1.2
WTV **Waterville** 87.79 335 P P 16 09 01.1 +1.2
N23A **Red Feather La** 87.84 323 ⇓P P 16 09 01.6 +1.1
baz=88,SNR=20
W34A **Bridge Creek,** 87.91 315 ⇓P P 16 09 03.4 +2.8
baz=88
S29A **Ulysses** 87.95 318 ⇓P P 16 09 01.8 +0.9
baz=88,SNR=9.1
BW06 **Boulder Array** 87.98 327 *e*P P 16 08 59.2 -1.9
comp=Z,13nm,0.9s
BW06 **Boulder Array** 87.98 327 *e*P P 16 08 59.2 -1.9
comp=Z,13nm,0.9s
PDAR **Pinedale Array** 87.98 327 P P 16 09 00.5 -0.7
PDAR **Pinedale Array** 87.98 327 P P 16 09 00.5 -0.7
comp=Z,12nm,0.9s,baz=68,slow=4.8,SNR=36
PDAR LR LR 16 48 28.5
comp=Z,2μm,21.7s,baz=0.0,slow=36
PDAR **Pinedale Array** 87.98 327 P P 16 09 00.4 -0.7
O24A **Longmont** 88.02 322 ⇑P P 16 09 04.0 +2.8
baz=88
P25A **Willow Gulch B** 88.06 321 ⇓P P 16 09 03.0 +1.5
baz=88,SNR=15
T30A **Plains** 88.06 318 ⇓P P 16 09 03.6 +2.2
baz=88
N22A **Wattenberg Ran** 88.15 323 ⇓P P 16 09 03.6 +1.6
baz=88,SNR=11
Q26A **Hugo** 88.19 321 ⇓P P 16 09 02.6 +0.5
baz=88
U31A **Nine Bar Ranch** 88.21 317 ⇑P P 16 09 02.6 +0.5
baz=88
V32A **Arapaho** 88.25 316 ⇓P P 16 09 05.6 +3.3
baz=88,SNR=6.8
R27A **Eads** 88.31 320 ⇑P P 16 09 04.4 +1.8
baz=88
W33A **Caddo, Fort Co** 88.35 315 ⇑P P 16 09 05.6 +2.9
baz=88
O23A **Lake Granby, G** 88.36 323 ⇓P P 16 09 03.4 +0.4
baz=88,SNR=6.6
S28A **Manter** 88.38 319 ⇑P P 16 09 04.0 +1.1
baz=88,SNR=25
T29A **Hugoton** 88.39 318 ⇓P P 16 09 04.8 +1.9
baz=88,SNR=12
X34A **Smith Ranch, M** 88.40 314 ⇓P P 16 09 05.1 +2.1
baz=88,SNR=7.7
U30A **WK&E Inc. Balk** 88.52 317 ⇓P P 16 09 03.6 0.0
baz=88
ISCO **Idaho Springs** 88.54 322 *e*P P 16 09 03.1 -0.8
ISCO pmax pmax
comp=Z,11nm,0.8s
ISCO **Idaho Springs** 88.54 322 *e*P P 16 09 03.1 -0.8
comp=Z,11nm,0.8s
ISCO **Idaho Springs** 88.54 322 ⇑P P 16 09 04.0 +0.1
baz=88,SNR=15
ISCO **Idaho Springs** 88.54 322 *e*P P 16 09 03.1 -0.8
comp=Z,11nm,0.8s
Q25A **Bedland, Calha** 88.56 321 ⇓P P 16 09 03.1 -0.8
baz=88
R26A **Arlington** 88.63 320 ⇓P P 16 09 04.9 +0.8
baz=88,SNR=11
V31A **Spring Creek L** 88.65 316 ⇓P P 16 09 06.8 +2.6
baz=88
O22A **Kremmling** 88.70 323 ⇓P P 16 09 06.1 +1.4
baz=88,SNR=12
HAWA **Hanford** 88.79 334 *e*P P 16 09 04.9 +0.3
comp=Z,40nm,1.0s
HAWA **Hanford** 88.79 334 *e*P P 16 09 04.9 +0.3
comp=Z,40nm,1.0s
W32A **Seiniel** 88.80 315 ⇓P P 16 09 06.4 +1.6
baz=88,SNR=11
X33A **Lawton** 88.82 315 ⇓P P 16 09 06.5 +1.6
baz=89
S27A **Las Animas** 88.82 319 ⇓P P 16 09 06.3 +1.3
baz=89
Y34A **Reagan Ranch,** 88.83 314 ⇑P P 16 09 05.8 +0.8
baz=89
WMOK **Wichita Mounta** 88.83 315 *e*P P 16 09 05.5 +0.5
WMOK pmax pmax
comp=Z,53nm,0.9s
WMOK **Wichita Mounta** 88.83 315 *e*P P 16 09 05.5 +0.5
comp=Z,53nm,0.9s
WMOK **Wichita Mounta** 88.83 315 *e*P P 16 09 05.5 +0.5
comp=Z,53nm,0.9s
T28A **Walsh** 88.85 319 ⇓P P 16 09 06.1 +1.0
baz=89,SNR=12
N20A **Spence Gulch,** 88.96 325 ⇓P P 16 09 07.0 +1.2
baz=89,SNR=23
Q24A **Divide** 88.96 322 ⇓P P 16 09 07.3 +1.4
baz=89
P23A **Jefferson** 88.98 322 ⇓P P 16 09 07.2 +1.1
baz=89,SNR=18
Z35A **Perchaven, San** 89.00 313 ⇓P P 16 09 07.7 +1.9
baz=89
V30A **Spur Ranch, Mi** 89.12 317 ⇓P P 16 09 07.9 +1.5
baz=89,SNR=5.5
W31A **Holland Ranch,** 89.14 316 ⇑P P 16 09 07.7 +1.3
baz=89,SNR=5.8
S26A **Kim** 89.16 320 ⇑P P 16 09 08.1 +1.4
baz=89
R25A **Fountain Ranch** 89.17 321 ⇑P P 16 09 08.5 +1.8
baz=89,SNR=6.0
T27A **Campo** 89.21 319 ⇓P P 16 09 08.1 +1.3
baz=89,SNR=5.4
P22A **Eagle** 89.24 323 ⇑P P 16 09 08.0 +0.8
baz=89,SNR=11
Y33A **Hilltop Ranch,** 89.28 314 ⇑P P 16 09 09.5 +2.4
baz=89,SNR=11
HLID **Hailey** 89.33 330 ⇑P P 16 09 08.1 +0.7
baz=89
X32A **Elmer** 89.34 315 ⇓P P 16 09 09.5 +2.1
baz=89,SNR=23
Z34A **Collier Ranch,** 89.35 313 ⇑P P 16 09 09.5 +2.0
baz=89
U28A **Mallet** 89.47 318 ⇓P P 16 09 09.3 +1.2
baz=89,SNR=9.9
O20A **White River Ci** 89.51 324 *e*P P 16 09 07.8 -0.5
comp=Z,52nm,1.0s
O20A **White River Ci** 89.51 324 ⇓P P 16 09 09.3 +1.0
baz=89,SNR=20
O20A **White River Ci** 89.51 324 *e*P P 16 09 07.8 -0.5
comp=Z,52nm,1.0s
R24A **Sanders Place,** 89.51 321 ⇑P P 16 09 09.9 +1.5
baz=89
T26A **Comanche Natio** 89.57 319 ⇑P P 16 09 10.0 +1.4
baz=89
X31A **McDonald Ranch** 89.57 316 ⇓P P 16 09 10.0 +1.5
baz=89,SNR=11
S25A **Robets Cordova** 89.62 320 ⇑P P 16 09 09.8 +0.9
baz=89,SNR=5.7
Y32A **R-V Farms, Ver** 89.74 315 ⇓P P 16 09 10.3 +1.1
baz=90,SNR=28
U27A **Thompson Grove** 89.75 319 ⇑P P 16 09 10.3 +0.9
baz=90,SNR=5.7
Z33A **Whitaker Ranch** 89.89 314 ⇓P P 16 09 11.6 +1.6
baz=90,SNR=7.7
R23A **Moffat** 89.90 321 ⇓P P 16 09 11.1 +0.8
baz=90,SNR=5.5
T25A **Trinidad** 90.01 320 ⇓P P 16 09 12.0 +1.2
baz=90,SNR=6.1
134A **White-Moore Ra** 90.02 313 ⇑P P 16 09 13.1 +2.5
baz=90
S24A **Houchin Ranch,** 90.02 321 ⇑P P 16 09 12.1 +1.2
baz=90
SDCO **Great Sand Dun** 90.08 321 *e*P P 16 09 09.6 -1.6
comp=Z,17nm,1.0s
SDCO **Great Sand Dun** 90.08 321 *e*P P 16 09 09.6 -1.6
comp=Z,17nm,1.0s
WHTX **Lake Whitney** 90.09 312 *e*P P 16 09 13.0 +2.1
comp=Z,34nm,1.0s
WHTX **Lake Whitney** 90.09 312 ⇓P P 16 09 12.8 +1.9
baz=90
TCUT **Toone Canyon** 90.12 327 *e*P P 16 09 10.0 -1.2
comp=Z,14nm,0.7s
TCUT **Toone Canyon** 90.12 327 *e*P P 16 09 10.0 -1.2
comp=Z,14nm,0.7s
X30A **Coker Ranch, T** 90.20 316 ⇑P P 16 09 12.9 +1.4
baz=90,SNR=15
Y31A **Rekieta Farm,** 90.23 315 ⇓P P 16 09 13.3 +1.7
baz=90,SNR=10
U26A **Atchley Ranch,** 90.25 319 ⇑P P 16 09 12.8 +1.0
baz=90,SNR=20
V27A **Dan Oppiter Fa** 90.26 318 ⇑P P 16 09 13.4 +1.6
baz=90
Z32A **Haskell** 90.28 314 ⇑P P 16 09 13.5 +1.7
baz=90,SNR=56
W28A **Vega** 90.31 317 ⇓P P 16 09 14.1 +2.1
baz=90,SNR=7.2
AMTX **Amarillo** 90.31 317 ⇓P P 16 09 12.9 +0.9
baz=90
234A **Clairette** 90.47 313 ⇓P P 16 09 15.3 +2.6
baz=90,SNR=11
133A **Hamilton Ranch** 90.47 314 ⇑P P 16 09 14.9 +2.2
baz=90,SNR=13
T24B **San Luis** 90.56 320 ⇓P P 16 09 14.7 +1.3
baz=90,SNR=12
JLU **Jordanelle** 90.56 326 *e*P P 16 09 12.3 -1.0
comp=Z,21nm,0.9s
JLU **Jordanelle** 90.56 326 *e*P P 16 09 12.3 -1.0
comp=Z,21nm,0.9s
U25A **Circle Dot Ran** 90.58 319 ⇓P P 16 09 15.2 +1.9
baz=90,SNR=22
335A **Moody** 90.58 312 ⇑P P 16 09 16.0 +2.8
baz=90
HKT **Hockley** 90.60 310 ⇓*i*P P 16 09 14.7 +1.5
HKT pmax pmax
comp=Z,20nm,1.0s
HKT **Hockley** 90.60 310 *e*P P 16 09 14.3 +1.1
comp=Z,34nm,1.3s
HKT **Hockley** 90.60 310 *e*P P 16 09 14.3 +1.1
comp=Z,34nm,1.3s
DAU **Daniels Canyon** 90.64 326 *e*P P 16 09 13.6 -0.1
DAU pmax pmax
comp=Z,30nm,1.3s
DAU **Daniels Canyon** 90.64 326 *e*P P 16 09 13.6 -0.1
comp=Z,30nm,1.3s
DAU **Daniels Canyon** 90.64 326 *e*P P 16 09 13.6 -0.1
comp=Z,30nm,1.3s
Y30A **Stafford Cattl** 90.64 316 ⇓P P 16 09 15.9 +2.3
baz=90
Z31A **Sharp Cattle R** 90.64 315 ⇓P P 16 09 15.0 +1.5
baz=90,SNR=17
X29A **Tulia** 90.65 317 ⇓P P 16 09 15.9 +2.3
baz=90
V26A **Tequesquite Ra** 90.73 319 ⇑P P 16 09 15.5 +1.5
baz=90,SNR=8.6
S22A **4UR Ranch, Cre** 90.73 322 ⇑P P 16 09 15.0 +0.8
baz=90,SNR=29
X28A **Dimmitt** 90.86 317 ⇓P P 16 09 17.3 +2.7
baz=91
ABTX **Abilene, Hawle** 90.88 314 *e*P P 16 09 13.9 -0.7
comp=Z,82nm,1.0s
ABTX **Abilene, Hawle** 90.88 314 ⇑P P 16 09 16.3 +1.7
baz=91,SNR=20
ABTX **Abilene, Hawle** 90.88 314 *e*P P 16 09 13.9 -0.7
comp=Z,82nm,1.0s
233A **Rising Star** 90.90 313 ⇓P P 16 09 16.9 +2.2
baz=91,SNR=20
T23A **Casias Ranch,** 90.91 321 ⇓P P 16 09 17.2 +2.3
baz=91,SNR=6.9
W27A **Bowe Ranch, En** 90.91 318 ⇑P P 16 09 16.6 +1.8
baz=91,SNR=7.2
BGU **Big Grassy Mou** 90.97 328 *e*P P 16 09 15.0 -0.1
comp=Z,14nm,1.0s
BGU **Big Grassy Mou** 90.97 328 *e*P P 16 09 15.0 -0.1
comp=Z,14nm,1.0s
334A **Lometa** 91.02 312 ⇑P P 16 09 17.3 +2.0
baz=91,SNR=30
435B **Jarrell** 91.04 312 ⇓P P 16 09 18.2 +2.9
baz=91
Y29A **Porterfield Fa** 91.08 316 ⇓P P 16 09 17.0 +1.4
baz=91
V25A **Rancho No Teng** 91.12 319 ⇓P P 16 09 17.2 +1.2
baz=91
I05D **Terrebonne, OR** 91.20 335 ⇑P P 16 09 17.9 +1.9
baz=91
PV04 **Paradox Valley** 91.21 324 *e*P P 16 09 16.1 -0.1
PV04 **Paradox Valley** 91.21 324 *e*P P 16 09 16.1 -0.1
Z30A **Sanderson Ranc** 91.21 315 ⇓P P 16 09 17.4 +1.2
baz=91,SNR=14
131A **Roby** 91.26 315 ⇑P P 16 09 18.9 +2.5
baz=91
PV01 **Paradox Valley** 91.26 323 *e*P P 16 09 16.4 -0.1
comp=Z,4μm,1.0s
PV01 **Paradox Valley** 91.26 323 *e*P P 16 09 16.4 -0.1
comp=Z,4μm,1.0s
W26A **Owens Ranch, T** 91.26 318 ⇓P P 16 09 18.7 +2.2
baz=91,SNR=7.3
NLU **North Lily Min** 91.37 326 *e*P P 16 09 16.6 -0.4
comp=Z,12nm,0.9s
NLU **North Lily Min** 91.37 326 *e*P P 16 09 16.6 -0.4
comp=Z,12nm,0.9s
SRU **San Rafael** 91.37 325 *e*P P 16 09 15.8 -1.2
SRU pmax pmax
comp=Z,43nm,1.0s
SRU **San Rafael** 91.37 325 *e*P P 16 09 15.8 -1.2
comp=Z,43nm,1.0s
SRU **San Rafael** 91.37 325 *e*P P 16 09 15.8 -1.2
comp=Z,43nm,1.0s
434A **Burnet** 91.42 312 ⇑P P 16 09 19.4 +2.3
baz=91,SNR=10
232A **Coleman** 91.42 314 ⇑P P 16 09 19.2 +2.1
baz=91,SNR=27
333A **Richland Sprin** 91.46 313 ⇑P P 16 09 19.6 +2.3
baz=91,SNR=19
DUG **Dugway** 91.49 327 *e*P P 16 09 16.6 -0.9
DUG pmax pmax
comp=Z,27nm,1.0s
DUG MLR MLR
comp=Z,4μm,20.0s
DUG **Dugway** 91.49 327 *e*P P 16 09 16.6 -0.9
comp=Z,27nm,1.0s
DUG LR LR
comp=Z,4μm,20.0s
DUG **Dugway** 91.49 327 ⇓P P 16 09 19.3 +1.8
baz=91
DUG **Dugway** 91.49 327 *e*P P 16 09 16.6 -0.9
comp=Z,4μm,20.0s
W25A **X Bar L Ranch,** 91.52 319 ⇓P P 16 09 19.6 +1.8
baz=91,SNR=7.7
TMUT **Trail Mountain** 91.53 326 *e*P P 16 09 18.0 +0.1
comp=Z,22nm,1.0s
TMUT **Trail Mountain** 91.53 326 *e*P P 16 09 18.0 +0.1
comp=Z,22nm,1.0s
U23A **El Rito** 91.54 321 ⇓P P 16 09 18.7 +0.8
baz=91
V24A **Rampart Ranch,** 91.54 320 ⇓P P 16 09 18.8 +0.8
baz=91,SNR=5.9
Z29A **Hungry Hill Ra** 91.55 316 ⇑P P 16 09 18.9 +1.1
baz=91,SNR=11
MSTX **Muleshoe** 91.59 317 *e*P P 16 09 19.2 +1.2
comp=Z,32nm,1.3s
MSTX **Muleshoe** 91.59 317 ⇑P P 16 09 19.3 +1.3
baz=91
MSTX **Muleshoe** 91.59 317 *e*P P 16 09 19.2 +1.2
comp=Z,32nm,1.3s
130A **Snyder** 91.64 315 ⇓P P 16 09 20.3 +2.1
baz=91
X26A **CR and CF Fran** 91.70 318 ⇓P P 16 09 19.7 +1.2
baz=91
231A **Bronte** 91.77 314 ⇓P P 16 09 21.1 +2.3
baz=92,SNR=8.7
U22A **Llaves** 91.83 321 ⇓P P 16 09 20.5 +1.3

	baz=92,SNR=19							
332A	**Millersview**	91.85	313	⇓	P		P	16 09 19.9 +0.8
	baz=92,SNR=24							
Y27A	**Causey**	91.86	317	⇑	P		P	16 09 19.9 +0.6
	baz=92,SNR=7.2							
433A	**Art**	91.94	312	⇑	P		P	16 09 20.6 +1.1
	baz=92,SNR=19							
MVCO	**Mesa Verde**	91.97	323	*e*P	P		P	16 09 18.8 -1.0
	comp=Z,18nm,1.0s							
MVCO	**Mesa Verde**	91.97	323	⇑	P		P	16 09 20.7 +0.9
	baz=92,SNR=7.0							
MVCO	**Mesa Verde**	91.97	323	*e*P	P		P	16 09 18.8 -1.0
	comp=Z,18nm,1.0s							
V23A	**Ortiz Mt. (NFS**	91.99	320	⇓	P		P	16 09 20.5 +0.6
	baz=92							
W24A	**Lazy 6 Ranch,**	92.02	319	⇓	P		P	16 09 21.6 +1.6
	baz=92,SNR=6.2							
ELK	**Elko**	92.04	329	P	P		P	16 09 17.9 -2.2
ELK	**Elko**	92.04	329	P	P		P	16 09 17.9 -2.2
	comp=Z,7.9nm,0.9s,baz=12,slow=3.3,SNR=21							
ELK	**Elko**	92.04	329	P	P		P	16 09 17.9 -2.2
	comp=Z,8.0nm,1.0s							
J05D	**Fort Rock, OR**	92.09	334	⇓	P		P	16 09 22.0 +1.8
	baz=92							
129A	**Stewart Farms,**	92.11	315	⇓	P		P	16 09 20.5 +0.2
	baz=92							
534A	**Blanco**	92.11	312	⇑	P		P	16 09 22.1 +1.7
	baz=92							
X25A	**Clemmons Ranch**	92.16	318	⇑	P		P	16 09 20.7 0.0
	baz=92							
635A	**Leesville**	92.17	311	⇑	P		P	16 09 24.5 +3.9
	baz=92							
Y26A	**Elida**	92.19	318	⇑	P		P	16 09 24.2 +3.4
	baz=92							
V22A	**San Miguel Ran**	92.22	321	⇑	P		P	16 09 24.5 +3.4
	baz=92,SNR=10							
230A	**Sterling City**	92.25	314	⇑	P		P	16 09 24.6 +3.5
	baz=92							
432A	**Menard**	92.26	313	⇓	P		P	16 09 23.1 +2.0
	baz=92,SNR=6.3							
331A	**San Angelo**	92.30	314	⇓	P		P	16 09 24.4 +3.1
	baz=92							
Z27A	**Tatum**	92.33	317	⇑	P		P	16 09 24.9 +3.4
	baz=92							
533A	**Kerrville**	92.41	312	⇓	P		P	16 09 24.9 +3.2
	baz=92							
W23A	**Werner Place,**	92.43	320	⇓	P		P	16 09 25.0 +3.0
	baz=92							
I03D	**Drain, OR**	92.43	336	⇓	P		P	16 09 24.9 +3.4
	baz=92							
128A	**Castleberry Fa**	92.46	316	⇑	P		P	16 09 24.8 +2.8
	baz=92							
X24A	**Lazy VL Ranch,**	92.53	319	⇑	P		P	16 09 25.5 +3.0
	baz=92							
JCT	**Junction City**	92.56	313	*e*P	P		P	16 09 23.7 +1.2
JCT				pmax	pmax			
	comp=Z,14nm,1.0s							
JCT	**Junction City**	92.56	313	*e*P	P		P	16 09 23.7 +1.2
	comp=Z,14nm,1.0s							
JCT	**Junction City**	92.56	313	⇑	P		P	16 09 25.8 +3.4
	baz=92							
JCT	**Junction City**	92.56	313	*e*P	P		P	16 09 23.7 +1.2
	comp=Z,14nm,1.0s							
735A	**Kenedy**	92.58	310	⇑	P		P	16 09 24.0 +1.5
	baz=92							
229A	**Bryant Ranch,**	92.58	315	⇓	P		P	16 09 24.7 +2.2
	baz=92							
Y25A	**Mesa, Roswell**	92.64	318	⇑	P		P	16 09 24.1 +1.1
	baz=92							
330A	**Mertzon**	92.65	314	⇓	P		P	16 09 24.6 +1.8
	baz=92,SNR=12							
ANMO	**Albuquerque**	92.76	320	P	P		P	16 09 23.4 -0.1
ANMO	**Albuquerque**	92.76	320	P	P		P	16 09 23.4 -0.1
	comp=Z,4.0nm,0.8s,baz=63,slow=3.3,SNR=9.7							
ANMO	**Albuquerque**	92.76	320	P	P			16 09 23.4 -0.1
Z26A	**Caprock**	92.77	317	⇑	P		P	16 09 25.5 +2.1
	baz=92,SNR=17							
431A	**Sonora**	92.87	313	⇑	P		P	16 09 26.1 +2.2
	baz=93,SNR=12							
532A	**Rocksprings**	92.88	313	⇓	P		P	16 09 25.9 +2.0
	baz=93,SNR=11							
127A	**Arkansas Junct**	92.89	316	⇓	P		P	16 09 25.2 +1.2
	baz=93							
228A	**UT Block 9, Go**	92.90	316	⇓	P		P	16 09 25.7 +1.7
	baz=93							
X23A	**Hourglass Bar**	92.91	319	⇑	P		P	16 09 25.4 +1.2
	baz=93							
633A	**Saathoff Ranch**	92.94	312	⇓	P		P	16 09 26.5 +2.3
	baz=93							
835A	**Beeville**	93.00	310	⇓	P		P	16 09 27.3 +2.8
	baz=93							
734A	**La Parita Cree**	93.03	311	⇓	P		P	16 09 26.7 +2.1
	baz=93							
Y24A	**Capitan**	93.03	319	⇓	P		P	16 09 26.3 +1.5
	baz=93,SNR=7.5							
329A	**Wagon Wheel Ra**	93.04	315	⇑	P		P	16 09 26.4 +1.7
	baz=93,SNR=9.8							
430A	**Baggett Ranch,**	93.15	314	⇓	P		P	16 09 27.8 +2.6
	baz=93,SNR=14							
Z25A	**Roswell**	93.15	318	⇓	P		P	16 09 28.0 +2.7
	baz=93,SNR=8.9							
531A	**Rocksprings**	93.22	313	⇓	P		P	16 09 27.7 +2.2
	baz=93,SNR=11							
632A	**Uvalde**	93.27	312	⇑	P		P	16 09 28.4 +2.7
	baz=93,SNR=6.2							
126A	**Clayton Basin,**	93.27	317	⇑	P		P	16 09 28.1 +2.3
	baz=93							
936A	**North Padre Is**	93.32	309	⇓	P		P	16 09 29.9 +4.0
	baz=93							
Y23A	**Lovelace Mesa,**	93.35	319	⇓	P		P	16 09 28.2 +1.9
	baz=93,SNR=6.9							
227A	**Bennet, Jal**	93.36	316	⇓	P		P	16 09 29.9 +3.7
	baz=93							
Z24A	**Sheeppen Canyo**	93.46	318	⇓	P		P	16 09 29.1 +2.4
	baz=93,SNR=13							
834A	**Tilden**	93.56	310	⇓	P		P	16 09 28.7 +1.7
	baz=93							
733A	**Divot King Ran**	93.56	311	⇑	P		P	16 09 30.0 +3.0
	baz=93							
328A	**Wristen Ranch,**	93.58	315	⇓	P		P	16 09 29.1 +1.9
	baz=93,SNR=7.1							
M04C	**Macdoel**	93.63	334	⇑	P		P	16 09 31.6 +4.3
	baz=93							
429A	**Davenport Ranc**	93.64	314	⇓	P		P	16 09 28.1 +0.6
	baz=93							
530A	**J-C Ranch, Com**	93.68	313	⇑	P		P	16 09 29.4 +1.8
	baz=93,SNR=16							
ARUT	**Antelope Range**	93.76	326	*e*P	P		P	16 09 28.9 +0.9
ARUT				pmax	pmax			
	comp=Z,151nm,0.9s							
ARUT	**Antelope Range**	93.76	326	*e*P	P		P	16 09 28.9 +0.9
	comp=Z,151nm,0.9s							
ARUT	**Antelope Range**	93.76	326	*e*P	P		P	16 09 28.9 +0.9
	comp=Z,151nm,0.9s							
226B	**Tecolote Peak,**	93.79	317	⇑	P		P	16 09 29.8 +1.6
	baz=94,SNR=7.7							
631A	**Perdido Creek**	93.80	312	⇑	P		P	16 09 29.5 +1.4
	baz=94,SNR=35							
L02D	**Cave Junction,**	93.89	335	⇑	P		P	16 09 30.3 +1.9
	baz=94							
833A	**Chaparral WMA,**	93.91	311	⇓	P		P	16 09 31.2 +2.5
	baz=94,SNR=6.0							
934A	**Benavides**	93.92	310	⇑	P		P	16 09 31.3 +2.6
	baz=94							
732A	**Laxson Ranch,**	93.95	312	⇓	P		P	16 09 31.4 +2.5
	baz=94							
Z23A	**Rita Site, Whi**	93.96	319	⇓	P		P	16 09 31.7 +2.7
	baz=94,SNR=8.8							
327A	**Balmorhea Ranc**	93.96	316	⇑	P		P	16 09 31.3 +2.4
	baz=94							
YBH	**Yreka Blue Hor**	93.97	334	P	P		P	16 09 30.2 +1.3
YBH	**Yreka Blue Hor**	93.97	334	P	P		P	16 09 30.2 +1.3
	comp=Z,4.4nm,1.0s,baz=274,slow=3.8,SNR=3.7							
YBH	**Yreka Blue Hor**	93.97	334	P	P		P	16 09 30.2 +1.3
	comp=Z,4.0nm,1.0s							
124A	**Stringfield Ra**	93.99	318	⇓	P		P	16 09 30.5 +1.2
	baz=94,SNR=5.5							
428A	**Kincaid Ranch,**	94.01	315	⇓	P		P	16 09 30.9 +1.7
	baz=94							
225A	**Deer Hill, Car**	94.11	317	⇓	P		P	16 09 31.1 +1.3
	baz=94							
035A	**Encino**	94.15	309	⇓	P		P	16 09 31.7 +1.9
	baz=94							
529A	**Stev Forest Ra**	94.20	314	⇑	P		P	16 09 31.1 +1.0
	baz=94							
R11A	**Troy Canyon, C**	94.20	328	⇑	P		P	16 09 31.0 +0.9
	baz=94							
W18A	**Petrified Fore**	94.24	322	⇑	P		P	16 09 31.5 +1.2
	baz=94							
326A	**Caldwell Ranch**	94.27	316	⇓	P		P	16 09 31.4 +1.0
	baz=94,SNR=11							
832A	**Faith Ranch, C**	94.28	311	⇓	P		P	16 09 31.6 +1.2
	baz=94							
427A	**Hayter Ranch,**	94.31	315	⇓	P		P	16 09 32.7 +2.1
	baz=94,SNR=8.8							
M02C	**Callahan**	94.33	334	⇑	P		P	16 09 31.2 +0.7
	baz=94							
Z22A	**Elephant Butte**	94.34	319	⇓	P		P	16 09 30.7 -0.1
	baz=94,SNR=7.8							
933A	**Laredo**	94.36	310	⇓	P		P	16 09 33.5 +2.8
	baz=94							
U15A	**North Rim**	94.37	325	⇑	P		P	16 09 32.0 +1.0
	baz=94							
034A	**Hebbronville**	94.41	310	⇓	P		P	16 09 32.2 +1.2
	baz=94							
SIV	**San Ignacio**	94.45	253	P	P		P	16 09 38.3 +7.1
SIV	**San Ignacio**	94.45	253	P	P		P	16 09 38.3 +7.1
	comp=Z,1.8nm,0.8s,baz=88,slow=7.6,SNR=3.5							
123A	**Bell Site, Whi**	94.47	318	⇑	P		P	16 09 33.1 +1.8
	baz=94							
035Z	**Hargill**	94.47	309	⇑	P		P	16 09 33.2 +1.9
	baz=94							
528A	**Cox Ranch, San**	94.49	314	⇑	P		P	16 09 32.4 +1.0
	baz=94,SNR=23							
N02D	**Trinity Center**	94.65	334	⇓	P		P	16 09 32.9 +1.0
	baz=94							
WUAZ	**Wupatki**	94.69	323	*e*P	P		P	16 09 32.6 +0.2
	comp=Z,25nm,1.0s							
WUAZ	**Wupatki**	94.69	323	⇓	P		P	16 09 33.1 +0.8
	baz=94,SNR=12							
WUAZ	**Wupatki**	94.69	323	*e*P	P		P	16 09 32.6 +0.2
	comp=Z,25nm,1.0s							
MNTX	**Cornudas Mount**	94.73	317	*e*P	P		P	16 09 31.2 -1.2
	comp=Z,13nm,0.9s							
MNTX	**Cornudas Mount**	94.73	317	*e*P	P		P	16 09 31.2 -1.2
	comp=Z,13nm,0.9s							
426A	**McDonald Obser**	94.80	316	⇓	P		P	16 09 32.0 -1.0
	baz=94,SNR=32							
X18A	**Snowflake**	94.82	322	⇑	P		P	16 09 32.4 -0.6
	baz=94							
527A	**Woodward Ranch**	94.97	315	⇓	P		P	16 09 33.0 -0.7
	baz=95,SNR=12							
628A	**Black Gap, Mar**	95.06	314	⇓	P		P	16 09 34.8 +0.8
	baz=95,SNR=8.4							
425A	**Indio Mountain**	95.23	316	⇑	P		P	16 09 35.5 +0.7
	baz=95							
NVAR	**Mina Array Bea**	95.24	330	P	P		P	16 09 35.6 +0.8
NVAR	**Mina Array Bea**	95.24	330	P	P		P	16 09 35.6 +0.8
	comp=Z,3.6nm,0.9s,baz=52,slow=4.2,SNR=8.7							
NVAR	**Mina Array Bea**	95.24	330	P	P		P	16 09 35.7 +0.8
526A	**Mary Lane Ranc**	95.30	315	⇑	P		P	16 09 37.2 +2.0
	baz=95,SNR=12							
121A	**Cookes Peak, D**	95.34	319	⇓	P		P	16 09 36.4 +1.0
	baz=95,SNR=5.4							
627A	**Terlingua Ranc**	95.37	314	⇓	P		P	16 09 37.1 +1.6
	baz=95,SNR=18							
SHPR	**Sheep Range**	95.58	327	*e*P	P		P	16 09 37.1 +0.7
	comp=Z,12nm,1.1s							
SHPR	**Sheep Range**	95.58	327	*e*P	P		P	16 09 37.1 +0.7
	comp=Z,12nm,1.1s							
TXAR	**Lajitas Array**	95.62	314	P	P		P	16 09 37.3 +0.7
TXAR	**Lajitas Array**	95.62	314	P	P		P	16 09 37.3 +0.7
	comp=Z,15nm,1.0s,baz=56,slow=3.7,SNR=42							
TXAR	**Lajitas Array**	95.62	314	P	P		P	16 09 37.3 +0.7
	comp=Z,15nm,1.0s							
X16A	**Lo Mia Camp, P**	95.62	323	⇑	P		P	16 09 39.1 +2.5
	baz=95,SNR=10							
626A	**Big Bend Ranch**	95.71	315	⇑	P		P	16 09 40.2 +3.2
	baz=96,SNR=7.1							
221A	**Mesquite Ranch**	95.75	319	⇓	P		P	16 09 38.9 +1.7
	baz=96							
GRAC	**Grapevine Rang**	96.09	328	⇑	P		P	16 09 40.9 +2.4
	baz=96							
MLAC	**Mammoth Lakes**	96.14	330	⇑	P		P	16 09 40.7 +1.7
	baz=96							
W13A	**Hualapai Mount**	96.19	325	⇑	P		P	16 09 41.2 +2.0
	baz=96							
FURC	**Furnace Creek,**	96.33	328	⇓	P		P	16 09 41.8 +2.3
	baz=96							
TIN	**Tinemaha**	96.40	329	⇓	P		P	16 09 41.6 +1.6
	baz=96							
SHOC	**Shoshone**	96.57	327	⇓	P		P	16 09 42.9 +2.2
	baz=96							
320A	**Kipp Ranch, An**	96.67	319	⇑	P		P	16 09 43.5 +2.1
	baz=96,SNR=7.1							
Y14A	**Wickenburg**	96.75	324	⇑	P		P	16 09 42.9 +1.3
	baz=96							
LDFC	**Landfair**	96.76	326	*e*P	P		P	16 09 41.9 +0.2
	comp=Z,16nm,1.0s							
LDFC	**Landfair**	96.76	326	*e*P	P		P	16 09 41.9 +0.2
	comp=Z,16nm,1.0s							
NEE2	**Needles Airpor**	96.80	325	⇓	P		P	16 09 43.5 +1.8
	baz=96							
TUQ	**Turquoise Moun**	96.81	327	⇓	P		P	16 09 43.5 +1.6
	baz=96							
MPMC	**Manual Prospec**	96.95	328	⇑	P		P	16 09 44.1 +1.5
	baz=97							
PDMCI	**Parker Dam,Lak**	96.97	325	⇑	P		P	16 09 43.2 +0.7
	baz=97							
319A	**Douglas**	97.02	320	⇑	P		Pdif	16 09 45.8 +2.7
	baz=97							
TUC	**Tucson**	97.02	321	*e*P	P		P	16 09 42.6 -0.3
TUC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
TUC	**Tucson**	97.02	321	*e*P	P		P	16 09 42.6 -0.3
	comp=Z,7.7nm,0.9s							
TUC	**Tucson**	97.02	321	*e*P	P		P	16 09 42.6 -0.3
	comp=Z,8.0nm,0.9s							
Z14A	**Winkersburg**	97.20	323	⇑	P		Pdif	16 09 46.0 +2.4
	baz=97							
GMRC	**Granite Mounta**	97.25	326	⇓	P		Pdif	16 09 45.7 +1.7
	baz=97							
GSC	**Goldstone**	97.31	327	⇓	P		Pdif	16 09 46.9 +2.6
	baz=97							
HEC	**Hector,Ludlow**	97.50	326	⇓	P		Pdif	16 09 47.3 +2.2
	baz=97							
IRM	**Iron Mountain**	97.55	325	⇑	P		Pdif	16 09 46.9 +1.6
	baz=97							
Y12C	**Blythe**	97.61	325	⇑	P		Pdif	16 09 48.1 +2.6
	baz=97							
BELC	**Belle Mtn. Jos**	98.06	326	⇓	P		Pdif	16 09 49.6 +1.9
	baz=98							
BC3	**Big Chuckawall**	98.11	325	⇑	P		Pdif	16 09 50.5 +2.7
	baz=98							
CPUP	**Villa Florida**	98.15	243	LR	LR			16 56 30.0
	comp=Z,657nm,18.7s,baz=22,slow=37							
EDW2	**Edwards Air Fo**	98.17	328	⇑	P		Pdif	16 09 50.3 +2.2
	baz=98							
GLA	**Glamis**	98.33	324	⇓	P		Pdif	16 09 49.5 +0.7
	baz=98							
BFSC	**Mount Baldy Ra**	98.58	327	⇑	P		Pdif	16 09 50.3 +0.4
	baz=98							
PFO	**Pinyon Flat Ob**	98.59	326	P	P		Pdif	16 09 51.6 +1.6
PFO	**Pinyon Flat Ob**	98.59	326	P	P		Pdif	16 09 51.6 +1.6
	comp=Z,8.7nm,1.0s,baz=11,slow=2.5,SNR=5.7							
PFO	**Pinyon Flat Ob**	98.59	326	⇓	P		Pdif	16 09 50.8 +0.8
	baz=98							
PFO	**Pinyon Flat Ob**	98.59	326	P	P		Pdif	16 09 51.6 +1.6
	comp=Z,9.0nm,1.0s							
SWSC	**Sam W. Stewart**	98.86	325	⇓	P		P	16 09 50.7 -0.3
	baz=99							
MURC	**Murrieta**	98.92	326	⇑	P		P	16 09 50.5 -0.8
	baz=99							
WRA	**Warramunga Arr**	119.43	93	PKP			PKPdf	16 15 00.8 +0.2
WRA	**Warramunga Arr**	119.43	93	PKP			PKPdf	16 15 00.8 +0.2
	comp=Z,1.6nm,0.7s,baz=316,slow=1.5,SNR=12							
ASAR	**Alice Springs**	121.08	97	PKP			PKPdf	16 15 02.2 -1.5
ASAR	**Alice Springs**	121.08	97	PKP			PKPdf	16 15 02.2 -1.5
	comp=Z,1.0nm,0.7s,baz=300,slow=1.5,SNR=20							
MSVF	**Nonsavu**	150.68	52	PKIKP			PKPbc	16 16 05.0 +1.6
MSVF	**Nonsavu**	150.68	52	PKPbc			PKPbc	16 16 05.0 +1.6

CASC 18 15:56:54.5±0.9, 13°57N×90°55W, h33km±34km, MD3.7, ML3.9, 6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	0.82	356	⇓	*e*P		Pn	15 57 10.0	-0.1
RTR	**El Retiro**	0.94	70	⇓	*i*P		Pn	15 57 11.4	-0.2
SBLS	**San Blas**	0.94	73	⇓	*i*P		Pn	15 57 11.2	-0.5
SNJE	**San Jose**	0.96	72	⇓	*i*P		Pn	15 57 11.6	-0.4
RBDL	**Robledal**	1.00	57	*i*	P		Pn	15 57 12.0	-0.4
NBG	**Las Nubes**	1.03	11	*e*P			Pn	15 57 13.3	+0.3
BOQS	**Boqueron**	1.24	82	⇓	*i*P		Pn	15 57 15.7	-0.2
BOQS					*e*S		Sb	15 57 33.2	-0.5
SNET	**Serv Nac Est T**	1.29	85	*i*	P		Pn	15 57 16.4	+0.1
SNET					*e*S		Sn	15 57 33.0	+0.6
SNET					AML		AML	15 57 38.6	
	comp=Z,2μm,0.3s								
JAT	**Jato**	1.29	305	*e*P			Pn	15 57 16.6	+0.4
LFU	**La Fuente**	1.41	83	*i*	P		Pn	15 57 18.2	+0.3
LFRS	**El Faro**	1.45	88	⇓	*i*P		Pn	15 57 18.6	+0.1
LBRS	**Las Brisas**	1.47	83	*i*	P		Pn	15 57 19.0	+0.2
SNVI	**San Vicente**	1.66	88	*i*	P		Pn	15 57 21.7	+0.2
SNVI					*e*S		Sn	15 57 42.9	+1.0
MRL	**Marmol**	1.70	29	*e*P			Pn	15 57 22.1	-0.1
VSM	**San Miguel**	2.22	93	*i*	P		Pn	15 57 30.1	+0.8

CSEM ***18*** *15:58:20.0, 61°.35N×4°.01E, h12km, ML1.4, After BER*
BER 18 15:58:20.0±1.0, 61°.35N×4°.01E, h12km±13km, MD2.3, ML1.4, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUE	**Sulen**	0.47	129	*e*P			Pg	15 58 28.3	-0.9
SUE				*e*S			Sg	15 58 34.9	-0.5
SUE				IAML				15 58 35.1	
	comp=Z,761nm,0.0s								
SUE	**Sulen**	0.47	129	*e*P			Pg	15 58 28.3	-0.9
SUE				*e*Sg			Sg	15 58 34.9	-0.5
SUE				IAML				15 58 35.2	
	comp=Z,39nm,0.1s								
SUE	**Sulen**	0.47	129	*e*P			Pg	15 58 28.3	-0.8
	SNR=90								
SUE				*e*Sg			Sg	15 58 34.9	-0.4
	SNR=90								
FOO	**Floro**	0.56	63	*e*P			Pg	15 58 29.7	-1.1
FOO	**Floro**	0.56	63	*e*P			Pg	15 58 29.7	-1.1
FOO				*e*S			Sg	15 58 37.4	-0.7
FOO	**Floro**	0.56	63	*e*P			Pg	15 58 29.7	-1.1
	SNR=90								
FOO				*e*S			Sg	15 58 37.4	-0.8
	SNR=90								
ASK	**Askoy**	1.04	146	*e*P			Pb	15 58 38.1	-1.8
ASK				*e*S			Sb	15 58 52.2	-1.3
ASK				IAML				15 58 52.5	
	comp=Z,14nm,0.2s								
ASK	**Askoy**	1.04	146	*e*P			Pb	15 58 38.2	-1.8
ASK				*e*S			Sb	15 58 52.0	-1.5
ASK				IAML				15 58 52.5	
	comp=Z,13nm,0.1s								
HYA	**Hoyanger**	1.07	99	*e*P			Pb	15 58 38.1	-2.2
HYA				*e*Pg			Pg	15 58 38.7	-1.8
HYA				*e*S			Sb	15 58 52.7	-1.5
HYA				IAML				15 58 53.5	
	comp=Z,9.5nm,0.3s								
HYA	**Hoyanger**	1.07	99	*e*P			Pb	15 58 38.0	-2.3
HYA				*e*S			Sb	15 58 52.6	-1.6
HYA				IAML				15 58 55.1	
	comp=Z,9.9nm,0.1s								
HYA	**Hoyanger**	1.07	99	*e*P			Pb	15 58 38.0	-2.3
	SNR=90								
HYA				*e*S			Sb	15 58 52.6	-1.6
	SNR=90								
RUND	**Rundenannen**	1.15	144	*e*P			Pb	15 58 39.0	-2.8
RUND				*e*S			Sb	15 58 54.0	-2.8
RUND	**Rundenannen**	1.15	144	*e*S			Sb	15 58 54.3	-2.4
RUND	**Rundenannen**	1.15	144	*e*S			Sb	15 58 54.3	-2.4
	SNR=90								
AKN	**Aaknes**	1.65	58	*e*P			Pn	15 58 48.0	-0.8
AKN				*e*S			Sn	15 59 09.5	-0.3
AKN				IAML				15 59 11.4	
	comp=Z,20nm,0.1s								
AKN	**Aaknes**	1.65	58	*e*P			Pn	15 58 48.0	-0.8
AKN				*e*Sg			Sn	15 59 09.5	-0.3
AKN	**Aaknes**	1.65	58	*e*P			Pn	15 58 48.0	-0.7
	SNR=55								
AKN				*e*Sg			Sn	15 59 09.5	-0.3
	SNR=90								
ODD1	**Odda**	1.93	137	*e*P			Pn	15 58 51.3	-1.4
ODD1				*e*S			Sn	15 59 18.0	+1.0
ODD1				IAML				15 59 18.7	
	comp=Z,12nm,0.3s								
ODD1	**Odda**	1.93	137	*e*Pg			Pn	15 58 53.0	+0.2
ODD1				*e*Sg			Sn	15 59 17.9	+0.9
ODD1				IAML				15 59 18.7	
	comp=Z,12nm,0.3s								
ODD1	**Odda**	1.93	137	*e*Pg			Pn	15 58 53.0	+0.3
	SNR=90								
ODD1				*e*Sg			Sn	15 59 17.9	+0.9
	SNR=90								
MOL	**Molde**	2.07	52	*e*Sg			Sn	15 59 21.3	+1.1
MOL	**Molde**	2.07	52	*e*Sg			Sn	15 59 21.3	+1.1
	SNR=90								
KMY	**Karmoy**	2.23	163	*e*Sg			Sb	15 59 26.8	-0.9
KMY	**Karmoy**	2.23	163	*e*Sg			Sb	15 59 26.8	-0.9
	SNR=90								
BLS5	**Blasjo**	2.28	147	*e*Pg			Pn	15 58 59.1	+1.6
BLS5				*e*Sg			Sb	15 59 28.3	-1.0
BLS5				IAML				15 59 31.4	
	comp=Z,3.3nm,

DZM **Mont Dzumac** 9.49 178 *e*P **Pn** **16 11 32.1 -0.3**
NOUC **Port Laguerre** 9.52 179 *e*P **Pn** **16 11 34.1 +1.4**
NOUC *e*S Sn 16 13 41.1 +22
NOUC AMP 16 13 52.8
comp=Z,38nm,2.8s
MSVF **Nonsavu** 12.60 116 *e*P **Pn** **16 12 17.6 +2.5**
MSVF pmax pmax
comp=Z,293nm,1.5s
MSVF **Nonsavu** 12.60 116 *e*P **Pn** **16 12 17.6 +2.5**
comp=Z,293nm,1.5s
PMG **Port Moresby** 18.89 278 *e*P **P** **16 13 35.0 -1.2**
comp=Z,178nm,1.5s
PMG **Port Moresby** 18.89 278 P **P** **16 13 35.4 -0.8**
comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=3.3
PMG LR LR 16 19 56.8
comp=Z,7μm,19.5s,baz=122,slow=34
PMG **Port Moresby** 18.89 278 ⇓P **P** **16 13 35.7 -0.6**
baz=19,SNR=4.9
EIDS **Eidsvold** 19.10 226 *e*P **Pn** **16 13 40.3 +0.9**
comp=Z,60nm,0.7s
EIDS **Eidsvold** 19.10 226 ⇓P **Pn** **16 13 40.5 +1.2**
baz=19,SNR=26
CTA **Charters Tower** 20.50 246 P **P** **16 13 54.9 +1.1**
CTA **Charters Tower** 20.50 246 P **P** **16 13 54.9 +1.1**
comp=Z,21nm,0.7s,baz=72,slow=14,SNR=21
CTA LR LR 16 21 24.2
comp=Z,12μm,18.4s,baz=60,slow=35
CTAO **Charters Tower** 20.50 246 *e*P Pn 16 13 55.5 -0.5
CTAO pmax pmax
comp=Z,224nm,1.4s
CTAO **Charters Tower** 20.50 246 *e*P Pn 16 13 55.5 -0.5
comp=Z,224nm,1.4s
RMQ **Roma** 21.44 227 ⇓P **P** **16 14 04.8 +1.0**
baz=22,SNR=38
AFI **Afiamalu** 21.54 96 P **P** **16 14 04.2 -0.9**
AFI **Afiamalu** 21.54 96 P **P** **16 14 07.5 +2.4**
comp=Z,42nm,0.9s,baz=100,slow=17,SNR=4.1
ARMA **Armidale** 22.30 215 *e*P **P** **16 14 13.7 +0.5**
comp=Z,111nm,1.2s
ARMA **Armidale** 22.30 215 ⇑P **P** **16 14 13.6 +0.5**
baz=22,SNR=3.9
COEN **Coen** 22.40 264 *e*P **P** **16 14 16.2 +2.0**
comp=Z,214nm,0.8s
COEN **Coen** 22.40 264 ⇑P **P** **16 14 16.8 +2.5**
baz=22,SNR=5.6
OUZ **Omahuta** 23.58 165 *e*P **P** **16 14 27.4 +1.2**
comp=Z,80nm,1.5s
MGCD **Mangrove Creek** 24.75 211 ⇑P **P** **16 14 39.1 +2.0**
baz=25,SNR=7.4
QLP **Quilpie** 24.87 233 ⇑P **P** **16 14 38.9 +0.6**
baz=25,SNR=24
QIS **Mount Isa** 26.63 249 ⇓P **P** **16 14 56.2 +1.9**
baz=27,SNR=7.3
CMSA **Cobar Meteorol** 26.69 222 ⇓P **P** **16 14 55.5 +0.8**
baz=27,SNR=32
JAY **Jayapura** 27.08 290 LR LR 16 27 10.0
comp=Z,4μm,18.6s,baz=76,slow=40
URZ **Urewera** 27.42 161 P **P** **16 14 59.2 -2.0**
URZ **Urewera** 27.42 161 P **P** **16 14 59.2 -2.0**
comp=Z,2.1nm,0.5s,baz=27,slow=2.3,SNR=4.0
STKA **Stephens Creek** 29.66 226 *e*PKPdf **P** **16 15 22.5 +1.3**
STKA **Stephens Creek** 29.66 226 P **P** **16 15 23.2 +1.9**
STKA **Stephens Creek** 29.66 226 P **P** **16 15 23.2 +1.9**
comp=Z,19nm,0.7s,baz=47,slow=7.8,SNR=50
STKA LR LR 16 27 22.5
comp=Z,12μm,18.6s,baz=61,slow=37
STKA **Stephens Creek** 29.66 226 ⇑P **P** **16 15 22.7 +1.4**
baz=30,SNR=44
TOO **Toolangi** 31.03 213 ⇑P **P** **16 15 35.7 +2.4**
baz=31
WRAB **Tennant Creek** 31.36 252 P **P** **16 15 37.2 +0.8**
comp=Z,64nm,0.9s,SNR=6.8
WRAB **Tennant Creek** 31.36 252 ⇑*i*P **P** **16 15 37.0 +0.6**
WRAB pmax pmax
comp=Z,54nm,1.7s
WRAB **Tennant Creek** 31.36 252 *e*P **P** **16 15 36.8 +0.3**
comp=Z,19nm,1.0s
WRAB LR LR
comp=Z,4μm,20.0s
RPZ **Rata Peaks** 31.36 173 *e*P **P** **16 15 35.2 -0.9**
comp=Z,297nm,1.7s
WRA **Warramunga Arr** 31.37 252 P **P** **16 15 36.8 +0.3**
WRA PcP **PcP** **16 18 29.9 -0.4**
WRA **Warramunga Arr** 31.37 252 P **P** **16 15 36.8 +0.3**
comp=Z,9.7nm,0.8s,baz=81,slow=9.2,SNR=37
WRA PcP **PcP** **16 18 29.9 -0.4**
comp=Z,3.1nm,0.8s,baz=85,slow=3.6,SNR=4.6
WRA LR LR 16 27 29.7
comp=Z,4μm,19.6s,baz=70,slow=35
HTT **Hallett** 32.40 226 ⇑P **P** **16 15 46.1 +0.6**
baz=32,SNR=16
AS31 **Alice Springs** 32.50 246 *e*P **P** **16 15 46.2 -0.3**
ASAR **Alice Springs** 32.50 246 P **P** **16 15 46.2 -0.3**
ASAR PcP **PcP** **16 18 33.9 +0.5**
ASAR ScP **ScP** **16 22 18.8 +2.0**
ASAR **Alice Springs** 32.50 246 P **P** **16 15 46.2 -0.3**
comp=Z,20nm,0.8s,baz=70,slow=9.2,SNR=74
ASAR PcP **PcP** **16 18 33.9 +0.5**
comp=Z,2.3nm,0.9s,baz=76,slow=5.1,SNR=3.0
ASAR ScP **ScP** **16 22 18.8 +2.0**
comp=Z,1.2nm,1.0s,baz=77,slow=4.1,SNR=4.9
ASAR LR LR 16 28 22.3
comp=Z,7μm,19.6s,baz=81,slow=35
BBOO **Buckleboo** 34.12 229 *e*P **P** **16 16 01.8 +1.3**
comp=Z,1μm,1.1s
BBOO **Buckleboo** 34.12 229 ⇓P **P** **16 16 00.6 +0.1**
baz=34,SNR=14
KNRA **Kununurra** 36.36 261 ⇑P **P** **16 16 20.2 +0.3**
baz=36,SNR=7.4
WRKA **Warakurna** 37.79 245 ⇓P **P** **16 16 31.1 -1.0**
baz=38,SNR=33
FITZ **Fitzroy Crossi** 39.40 257 *e*P **P** **16 16 47.2 +1.6**
comp=Z,77nm,1.4s
FORT **Forrest** 39.53 237 *e*P **P** **16 16 47.2 +0.7**
comp=Z,108nm,1.3s
PPT **Papeete** 42.98 102 LR LR 16 32 45.7
comp=Z,3μm,18.6s,baz=272,slow=33
PPT2 **Papeete2** 42.98 102 *e*S **S** **16 23 41.2 +1.0**
comp=Z,3μm,27.2s
PPT2 *e*LQ LQ 16 27 28.4
comp=Z,9μm,27.0s
PPT2 *e*LR LR 16 29 21.5
comp=Z,7μm,26.2s,baz=274
TBI **Tubuai** 43.43 111 *e*S **S** **16 23 49.5 +3.0**
comp=Z,928nm,27.8s
TBI *e*LQ LQ 16 27 41.0
comp=Z,5μm,32.0s
TBI *e*LR LR 16 29 29.1
comp=Z,2μm,30.5s
MBWA **Marble Bar** 45.11 253 *e*P **P** **16 17 34.2 +2.0**
comp=Z,62nm,1.3s
MEEK **Meekatharra** 46.66 245 ⇑P **P** **16 17 43.2 -1.2**
baz=47,SNR=12
KLBR **Kellerberrin** 48.26 239 ⇑P **P** **16 17 57.3 +0.6**
baz=48,SNR=6.2
NWAO **Narrogin (SRO)** 48.97 237 P **P** **16 18 02.1 0.0**
NWAO **Narrogin (SRO)** 48.97 237 P **P** **16 18 02.1 0.0**
comp=Z,16nm,0.8s,baz=81,slow=2.5,SNR=7.6
NWAO LR LR 16 38 44.8
comp=Z,7μm,19.2s,baz=87,slow=36
MORW **Morawa** 49.27 242 ⇓P **P** **16 18 04.7 +0.2**
baz=49,SNR=12
JAGI **Jajag, Banyuwa** 51.22 269 ⇑P **P** **16 18 20.2 +0.7**
baz=51,SNR=3.6
MJAR **Matsushiro Arr** 55.46 333 P **P** **16 18 49.2 -1.0**
MJAR **Matsushiro Arr** 55.46 333 P **P** **16 18 49.2 -1.0**
comp=Z,39nm,0.8s,baz=166,slow=8.6,SNR=70
MAJO **Matsushiro** 55.46 333 ⇓*i*P **P** **16 18 49.9 -0.4**
MAJO pmax pmax
comp=Z,563nm,1.1s
MAJO **Matsushiro** 55.46 333 *e*P **P** **16 18 49.0 -1.3**
comp=Z,61nm,0.8s
MAJO LR LR
comp=Z,1μm,19.0s
MAT **Matsushiro** 55.46 333 P **P** **16 18 49.2 -1.1**
MAT S **S** **16 26 38.4 +3.7**
JNU **Nakatsue** 56.51 324 *e*P **P** **16 18 56.9 -1.0**
comp=Z,18nm,0.8s
JNU **Nakatsue** 56.51 324 P **P** **16 18 58.1 +0.3**
comp=Z,44nm,0.9s,baz=75,slow=4.3,SNR=28
RKT **Rikitea** 56.72 109 *e*S **S** **16 26 54.5 +2.5**
comp=Z,2μm,30.5s
RKT *e*SS **SS** **16 30 43.4 +3.4**
comp=Z,936nm,30.0s
RKT *e*LQ LQ 16 33 14.4
comp=Z,3μm,31.2s
RKT *e*LR LR 16 35 41.0
comp=Z,2μm,30.8s
TPUB **Ta-pu** 57.02 309 *e*P **P** **16 19 02.9 +1.2**
comp=Z,53nm,1.1s
YUK **Yuzh-Kuril'sk** 59.25 343 *d*/*i*P **P** **16 19 14.5 -2.3**
YUK *i* 16 21 26.3
YUK *i* S S 16 27 15.3 -8.8
YUK *i* SSS SSS 16 33 48.5
YUK pmax pmax
comp=Z,1μm,4.1s
QZH **Quanzhou** 59.48 309 ⇑*i*P **P** **16 19 16.3 -2.5**
QZH S **S** **16 27 26.0 -1.8**
QZH ScS **ScS** **16 29 07.3 -1.5**
QZH pmax pmax
comp=Z,1μm,5.5s
QZH LR LR
comp=Z,870nm,12.4s
QZH LR LR
comp=Z,2μm,18.9s
QZH LR LR
comp=Z,2μm,24.9s
ASAJ **Asahikawa** 60.32 341 *e*P **P** **16 19 24.4 +0.3**
ASAJ **Asahikawa** 60.32 341 P **P** **16 19 24.2 +0.1**
comp=Z,13nm,0.5s,baz=204,slow=9.0,SNR=33
ASAJ LR LR 16 43 01.3
comp=Z,2μm,19.1s,baz=166,slow=34
SSE **Sheshan** 61.19 316 P **P** **16 19 31.6 +1.2**
SSE S **S** **16 27 51.8 +2.3**
SSE pmax pmax
comp=Z,30nm,0.8s
SSE pmax pmax
comp=Z,510nm,9.8s
SSE LR LR
comp=Z,750nm,19.4s
SSE LR LR
comp=Z,890nm,19.0s
SSE LR LR
comp=Z,1μm,19.7s
KSRS **Korea Array** 61.32 326 P **P** **16 19 31.5 +0.4**
comp=Z,9.2nm,0.8s,baz=146,slow=6.6,SNR=33
KSAR **Wonju Array Be** 61.33 326 P **P** **16 19 31.5 +0.3**
INCN **Inchon** 62.05 325 *e*P **P** **16 19 36.9 +0.8**
comp=Z,18nm,0.6s
YSS **Yuzh-Sakhalins** 62.81 342 *a*/*i*P **P** **16 19 41.8 +0.8**
YSS *i* 16 19 48.6
YSS *e*S **S** **16 28 09.0 -0.5**
YSS *e*PS **PnS** **16 28 24.0 -2.0**
YSS *e* 16 29 32.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,500nm,6.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS **Yuzh-Sakhalins** 62.81 342 *e*P **P** **16 19 39.8 -1.1**
comp=Z,193nm,1.5s
NJ2 **Nanjing** 63.35 316 *e*P **P** **16 19 45.1 +0.3**
NJ2 pP **pP** **16 19 50.1 -0.1**
NJ2 S **S** **16 28 17.0 +0.3**
NJ2 ScS **ScS** **16 29 40.0 +2.4**
NJ2 SS **SS** **16 32 26.5 +2.6**
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 pmax pmax
comp=Z,740nm,7.8s
NJ2 LR LR
comp=Z,4μm,22.0s
NJ2 LR LR
comp=Z,3μm,22.6s
NJ2 LR LR
comp=Z,2μm,21.8s
SKR **Severo-Kuril's** 63.55 353 *e*P **P** **16 19 45.0 -0.8**
SKR MLR MLR
comp=N,3μm,18.0s
SKR MLR MLR
comp=E,3μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s
VLA **Vladivostok** 63.63 333 ⇓*e*P **P** **16 19 46.8 +0.3**
VLA pmax pmax
comp=Z,58nm,1.2s
QIZ **Qiongzhong** 63.72 299 P **P** **16 19 47.0 -0.6**
QIZ S **S** **16 28 22.5 +0.6**
QIZ sS **sS** **16 28 28.8 -2.0**
QIZ pmax pmax
comp=Z,28nm,1.8s
QIZ pmax pmax
comp=Z,750nm,9.8s
QIZ LR LR
comp=Z,1μm,30.9s
USRK **Ussuriysk Arra** 64.44 333 P **P** **16 19 52.1 +0.3**
comp=Z,29nm,0.7s,baz=123,slow=7.0,SNR=61
VNDA **Vanda** 65.02 181 *e*P **P** **16 19 54.8 -0.3**
comp=Z,126nm,2.2s
VNDA **Vanda** 65.02 181 P **P** **16 19 55.2 0.0**
comp=Z,1.9nm,0.6s,baz=43,slow=13,SNR=9.6
FX1 **Attu Island--F** 65.43 5 *e*P **P** **16 19 58.1 +0.1**
FX1 **Attu Island--F** 65.43 5 P **P** **16 19 58.2 +0.2**
comp=Z,13nm,0.6s,baz=293,slow=5.5,SNR=6.4
FX1 LR LR 16 43 18.3
comp=Z,885nm,20.2s,baz=206,slow=31
WHN **Wuhan** 65.67 312 P P 16 20 03.3 +3.3
WHN S **S** **16 28 45.1 -0.4**
WHN LR LR
comp=Z,3μm,17.1s
WHN LR LR
comp=Z,3μm,20.0s
WHN LR LR
comp=Z,3μm,21.3s
PETK **Petropavlovsk-** 65.78 354 P **P** **16 20 00.5 +0.2**
PETK **Petropavlovsk-** 65.78 354 P **P** **16 20 00.5 +0.2**
PETK **Petropavlovsk-** 65.78 354 P **P** **16 20 00.5 +0.2**
comp=Z,3.6nm,0.9s,baz=129,slow=12,SNR=3.7
PETK LR LR 16 43 30.0
comp=Z,2μm,21.8s,baz=166,slow=31
MDJ **Mudanjiang** 65.84 332 P **P** **16 20 01.5 +0.6**
MDJ pP **pP** **16 20 04.8 -1.5**
MDJ sP **sP** **16 20 06.0 -2.3**
MDJ PcP **PcP** **16 20 31.9 +0.1**
MDJ PP **PP** **16 22 25.9 -0.2**
MDJ S **S** **16 28 51.0 +4.0**
MDJ ScS **ScS** **16 29 57.4 +1.2**
MDJ SS **SS** **16 33 05.8 +3.5**
MDJ pmax pmax
comp=Z,48nm,1.1s
MDJ pmax pmax
comp=Z,700nm,6.4s
MDJ LR LR
comp=Z,860nm,24.3s
MDJ LR LR
comp=Z,1μm,24.3s
MDJ LR LR
comp=Z,2μm,19.2s
MDJ **Mudanjiang** 65.84 332 *e*P **P** **16 20 01.1 +0.2**
comp=Z,69nm,1.1s
DL2 **Dalian** 65.89 323 P **P** **16 20 03.4 +2.1**
DL2 S **S** **16 28 50.8 +2.9**
DL2 LR LR
comp=Z,730nm,13.8s
DL2 LR LR
comp=Z,870nm,20.9s
HABR **Khabarovsk** 66.70 338 *e*P **P** **16 20 05.5 -0.8**
HABR *e**PP **pP** **16 20 16.6 +4.9**
HABR *e**SP sP 16 20 21.6 +7.9
HABR *e* 16 20 33.3
HABR *e* 16 22 31.7
HABR PPP PPP 16 24 08.9
HABR *e*S **S** **16 28 55.2 -2.1**
HABR *e* 16 29 58.1
HABR *e*SS **SS** **16 33 13.1 -2.4**
HABR pmax pmax
comp=E,26nm,2.5s
HABR pmax pmax
comp=N,27nm,1.3s
HABR pmax pmax
comp=Z,103nm,1.3s
HABR MLR MLR
comp=Z,1μm,16.0s
SNY **Shenyang** 66.78 327 ⇑P **P** **16 20 08.0 +1.1**
SNY S **S** **16 28 56.4 -2.2**
SNY pmax pmax
comp=Z,30nm,2.5s
SNY pmax pmax
comp=Z,680nm,9.0s
SNY LR LR
comp=Z,2μm,21.8s
SNY LR LR
comp=Z,860nm,19.8s
SNY LR LR
comp=Z,2μm,22.4s
TIA **Tai'an** 66.98 318 ⇓P **P** **16 20 09.8 +1.4**
TIA pmax pmax
comp=Z,10.0nm,1.4s
TIA pmax pmax
comp=Z,690nm,9.1s
TIA LR LR
comp=Z,2μm,17.6s
TIA LR LR
comp=Z,2μm,21.8s
CN2 **Changchun** 67.21 329 *e*P **P** **16 20 10.1 +0.4**
CN2 *e*S **S** **16 29 01.3 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,14.0s
PSI **Prapat** 68.46 278 P **P** **16 20 18.5 +0.2**
PSI **Prapat** 68.46 278 P **P** **16 20 18.5 +0.2**
comp=Z,2.2nm,0.3s,baz=140,slow=7.9,SNR=3.5
PSI LR LR 16 55 47.9
comp=Z,623nm,18.3s,baz=128,slow=41
PSI **Prapat** 68.46 278 ⇓P **P** **16 20 17.7 -0.6**
baz=68,SNR=5.2
KLR **Kul'dur** 68.57 337 *e*P P 16 20 14.7 -3.4
KLR *e*S **S** **16 29 17.5 -2.3**
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s
KLR pmax pmax
comp=Z,2μm,10.0s
KLR MLR MLR
comp=E,2μm,17.0s
ENH **Enshi** 69.13 309 *e*P **P** **16 20 21.8 -0.3**
comp=E,34nm,1.3s
GSI **Gunungsitoli** 69.40 276 *e*P **P** **16 20 25.4 +1.4**
GYA **Guiyang** 69.57 305 ⇑*i*P **P** **16 20 26.4 +1.4**
GYA PcP **PcP** **16 20 48.8 +0.8**
GYA PP **PP** **16 23 01.4 +2.3**
GYA S **S** **16 29 33.5 +0.7**
GYA SKS **SKSac** **16 30 22.4 -3.0**
GYA SS **SS** **16 34 02.9 +1.8**
GYA pmax pmax
comp=E,60nm,1.0s
GYA pmax pmax
comp=E,180nm,5.3s
GYA LR LR
comp=E,960nm,19.3s
GYA LR LR
comp=E,830nm,20.0s
GYA LR LR
comp=E,950nm,18.8s
SLVN **Son La** 69.75 298 *e*P **P** **16 20 25.5 -0.6**
BJI **Beijing** 69.88 321 P **P** **16 20 26.8 +0.4**
BJI S **S** **16 29 37.1 +1.5**
BJI SS **SS** **16 34 08.1 +3.1**
BJI pmax pmax
comp=E,29nm,1.2s
BJI pmax pmax
comp=E,750nm,6.2s
BJI LR LR
comp=E,2μm,28.0s
BJI LR LR
comp=E,2μm,23.8s
BJI LR LR
comp=E,3μm,25.2s
TIY **Taiyuan** 70.91 317 P **P** **16 20 35.1 +2.2**
TIY S S 16 29 55.8 +7.8
TIY pmax pmax
comp=E,820nm,8.0s
TIY LR LR
comp=E,1μm,17.1s
TIY LR LR
comp=E,1μm,15.1s
TIY LR LR
comp=E,2μm,21.3s
XAN **Xi'an** 71.41 313 P **P** **16 20 35.9 -0.1**
XAN pP **pP** **16 20 40.0 -1.4**
XAN PP **PP** **16 23 16.8 +2.1**
XAN S **S** **16 29 53.3 -0.5**
XAN sS **sS** **16 30 01.3 -1.4**
XAN SS **SS** **16 34 30.6 +1.7**
XAN pmax pmax
comp=E,6.0nm,1.5s
XAN pmax pmax
comp=E,180nm,6.7s
XAN LR LR
comp=E,1μm,21.7s
XAN LR LR
comp=E,390nm,21.7s
XAN LR LR
comp=E,590nm,20.3s
MIR **Mirnyy** 71.88 204 ⇑*i*P P 16 20 44.0 +5.8
MIR pmax pmax
comp=Z,94nm,1.5s
KMI **Kunming** 72.22 302 P **P** **16 20 43.4 +2.1**
KMI pP **pP** **16 20 48.1 +1.4**
KMI sP **sP** **16 20 49.3 +0.6**
KMI S **S** **16 30 04.4 +0.5**
KMI SKS **SKSac** **16 30 41.4 -4.3**
KMI SS **SS** **16 34 39.4 -2.7**
KMI pmax pmax
comp=Z,25nm,1.6s
KMI pmax pmax
comp=Z,640nm,6.6s
KMI LR LR
comp=Z,460nm,17.8s
KMI LR LR
comp=Z,780nm,24.9s
KMI LR LR
comp=Z,1μm,22.5s
CM31 **Chiang Mai Arr** 73.06 294 *e*P **P** **16 20 46.9 +0.8**
comp=Z,15nm,0.8s
CMAR **Chiang Mai Arr** 73.06 294 P **P** **16 20 47.1 +1.0**
CMAR **Chiang Mai Arr** 73.06 294 P **P** **16 20 47.1 +1.0**
comp=Z,10nm,1.0s,baz=123,slow=4.3,SNR=52
CHTO **Chiang Mai** 73.18 294 P **P** **16 20 46.5 -0.3**
CHTO pmax pmax
comp=Z,37nm,1.3s
CHTO **Chiang Mai** 73.18 294 P **P** **16 20 46.5 -0.3**
comp=Z,37nm,1.3s
HHC **Hu-ho-hao-te** 73.21 320 *e*P **P** **16 20 48.3 +1.6**
HHC PP **PP** **16 23 35.0 +5.0**
HHC S **S** **16 30 11.6 -2.7**
HHC SKS **SKSac** **16 30 45.3 -6.9**
HHC SS **SS** **16 34 56.8 +0.4**
HHC pmax pmax
comp=E,58nm,1.2s
HHC pmax pmax
comp=Z,1μm,5.4s
HHC LR LR
comp=Z,2μm,18.8s
HHC LR LR
comp=Z,1μm,19.6s
HHC LR LR
comp=Z,4μm,20.6s
CD2 **Chengdu** 73.81 308 P **P** **16 20 51.8 +1.5**
CD2 PcP **PcP** **16 21 07.3 +1.4**
CD2 PP **PP** **16 23 36.0 +0.7**
CD2 S **S** **16 30 21.5 +0.1**
CD2 sS **sS** **16 30 28.3 -2.1**
CD2 ScS **SKKSac** **16 30 57.8 +0.6**
CD2 SS **SS** **16 35 05.3 -0.5**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,790nm,7.2s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,2μm,19.0s
CD2 LR LR
comp=Z,1μm,27.4s
HIA **Hailar** 73.85 330 *e*P **P** **16 20 49.3 -0.8**
comp=Z,60nm,1.0s
HIA LR LR
comp=Z,2μm,21.0s

BTO	**Baotou**	**74.06**	**319**	*e*P		**P**	**16 20 52.8**	**+1.1**
	comp=Z,4.8nm,0.7s,baz=10,slow=23,SNR=20								
SEY	**Seymchan**	**75.99**	**354**	⇑*i*P		**P**	**16 21 01.8**	**-0.3**
SEY	**Seymchan**	**75.99**	**354**	P		**P**	**16 21 01.2**	**-0.9**
SEY	**Seymchan**	**75.99**	**354**	P		**P**	**16 21 01.2**	**-0.9**
	comp=Z,4.8nm,0.7s,baz=10,slow=23,SNR=20								
LZH	**Lanzhou**	**76.04**	**312**	⇑P		**P**	**16 21 06.3**	**+3.0**
LZH				pP		**pP**	**16 21 11.0**	**+2.3**
LZH				sP		**sP**	**16 21 13.3**	**+2.6**
LZH				PP		**PP**	**16 23 58.3**	**+4.1**
LZH				S		**S**	**16 30 49.0**	**+2.7**
LZH				sS		**sS**	**16 30 56.1**	**+0.8**
LZH				SS		**SS**	**16 35 43.0**	**+3.3**
LZH				pmax	pmax				
	comp=Z,33nm,1.0s								
LZH				pmax	pmax				
	comp=Z,220nm,4.1s								
LZH				LR	LR				
	comp=Z,790nm,16.4s								
LZH				LR	LR				
	comp=Z,670nm,15.2s								
LZH				LR	LR				
	comp=Z,1µm,18.5s								
CLNS	**Chul'man**	**77.09**	**338**	*e*P		**P**	**16 21 09.4**	**+0.8**
CLNS				pmax	pmax				
	comp=Z,26nm,1.1s								
CLNS				pmax	pmax				
	comp=N,11nm,1.2s								
CLNS				pmax	pmax				
	comp=E,7.0nm,1.0s								
QSPA	**South Pole Qui**	**77.48**	**180**	*e*P		**P**	**16 21 09.1**	**-1.7**
	comp=E,374nm,2.0s								
GAMB	**Gambell**	**77.96**	**10**	*e*P		**P**	**16 21 11.2**	**-2.0**
	comp=E,4.3nm,0.5s								
CIT	**Chita**	**78.64**	**330**	*e*P		**P**	**16 21 17.9**	**+0.6**
CIT				*e*			16 21 24.6		
CIT				*e*			16 21 34.7		
YAK	**Yakutsk**	**79.62**	**343**	*e*P		**P**	**16 21 21.9**	**-0.5**
YAK				*e*			16 21 28.2		
YAK				*e*			16 21 40.1		
YAK				pmax	pmax				
	comp=Z,16nm,0.9s								
YAK				pmax	pmax				
	comp=N,6.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.0s								
YAK				MLR	MLR				
	comp=Z,2µm,18.0s								
YAK				MLR	MLR				
	comp=E,777nm,17.0s								
YAK				MLR	MLR				
	comp=N,1µm,18.0s								
YAK	**Yakutsk**	**79.62**	**343**	*e*P		**P**	**16 21 20.3**	**-2.1**
	comp=N,29nm,0.7s								
ULN	**Ulaanbaatar**	**79.72**	**324**	*e*P		**P**	**16 21 23.1**	**-0.4**
	comp=N,55nm,1.0s								
ULN				LR	LR				
	comp=Z,1µm,20.0s								
SONM	**Songino Array**	**80.09**	**324**	P		**P**	**16 21 25.4**	**0.0**
SONM	**Songino Array**	**80.09**	**324**	P		**P**	**16 21 25.4**	**0.0**
	comp=Z,25nm,1.1s,baz=141,slow=4.8,SNR=48								
BILL	**Bilibino**	**80.36**	**0**	⇑*i*P		**P**	**16 21 25.7**	**-0.6**
BILL				*i*			16 21 32.7		
BILL				pmax	pmax				
	comp=Z,62nm,0.9s								
BILL				MLR	MLR				
	comp=Z,300nm,17.0s								
GTA	**Gaotai**	**80.36**	**314**	⇑P		**P**	**16 21 27.8**	**+0.7**
GTA				pP		**pP**	**16 21 32.8**	**+0.2**
GTA				sP		**sP**	**16 21 35.0**	**+0.4**
GTA				PP		**PP**	**16 24 35.1**	**+4.8**
GTA				S		**S**	**16 31 35.6**	**+3.0**
GTA				SKS		**SKSac**	**16 31 41.4**	**-3.2**
GTA				sS		**sS**	**16 31 42.9**	**+1.2**
GTA				pmax	pmax				
	comp=Z,35nm,1.6s								
GTA				pmax	pmax				
	comp=Z,800nm,5.5s								
GTA				LR	LR				
	comp=Z,1µm,20.9s								
GTA				LR	LR				
	comp=Z,1µm,21.9s								
GTA				LR	LR				
	comp=Z,2µm,21.9s								
SHL	**Shillong**	**81.56**	**298**	*e*P		**P**	**16 21 35.0**	**+1.1**
SHL				*e*S		**S**	**16 31 44.0**	**-1.8**
ZAK	**Zakamensk**	**83.14**	**325**	⇑*i*P		**P**	**16 21 40.8**	**-0.7**
ZAK				pmax	pmax				
	comp=Z,49nm,1.5s								
LSA	**Lhasa**	**83.47**	**302**	P		**P**	**16 21 43.3**	**-0.8**
LSA				LR	LR				
	comp=Z,2µm,47.6s								
LSA	**Lhasa**	**83.47**	**302**	*e*P		**P**	**16 21 44.1**	**0.0**
LSA				pmax	pmax				
	comp=Z,44nm,1.4s								
LSA	**Lhasa**	**83.47**	**302**	*e*P		**P**	**16 21 44.1**	**0.0**
	comp=Z,44nm,1.4s								
MAW	**Mawson**	**83.50**	**202**	P		**P**	**16 21 42.2**	**-0.8**
MAW	**Mawson**	**83.50**	**202**	P		**P**	**16 21 42.2**	**-0.8**
	comp=Z,7.5nm,0.7s,baz=121,slow=8.5,SNR=11								
IRK	**Irkutsk**	**83.51**	**327**	*e*P		**P**	**16 21 40.1**	**-3.1**
IRK				pmax	pmax				
	comp=Z,155nm,2.2s								
TLY	**Talaya**	**83.57**	**326**	P		**P**	**16 21 43.2**	**-0.4**
	comp=Z,255nm,1.0s,SNR=24								
TLY	**Talaya**	**83.57**	**326**	*c i*P		**P**	**16 21 42.7**	**-0.8**
TLY				pmax	pmax				
	comp=Z,107nm,1.6s								
TLY	**Talaya**	**83.57**	**326**	*e*P		**P**	**16 21 42.8**	**-0.8**
	comp=Z,43nm,1.0s								
KHMM	**Horse Mountain**	**83.62**	**46**	*e*P		**P**	**16 21 44.1**	**-0.1**
	comp=Z,133nm,0.5s								
COLA	**College**	**84.57**	**18**	*d i*P		**P**	**16 21 47.0**	**-1.3**
COLA				pmax	pmax				
	comp=Z,31nm,1.4s								
COLA	**College**	**84.57**	**18**	*e*P		**P**	**16 21 46.4**	**-1.9**
	comp=Z,4.9nm,0.7s								
COLA				LR	LR				
	comp=Z,3µm,20.0s								
ILAR	**Eielson Array**	**84.79**	**18**	P		**P**	**16 21 47.2**	**-2.3**
ILAR	**Eielson Array**	**84.79**	**18**	P		**P**	**16 21 47.2**	**-2.3**
	comp=Z,3.5nm,0.8s,baz=240,slow=3.5,SNR=48								
ILAR				LR	LR		16 57 04.8		
	comp=Z,968nm,19.0s,baz=242,slow=34								
HUMO	**Hull Mountain**	**84.81**	**44**	P		**P**	**16 21 51.0**	**+0.9**
MOY	**Mondy**	**85.02**	**325**	*e*P		**P**	**16 21 50.9**	**-0.1**
MOY				pmax	pmax				
	comp=Z,142nm,2.5s								
TAPN	**Taplejung**	**85.66**	**299**	*e*P		**P**	**16 21 55.3**	**+0.2**
	comp=Z,230nm,1.6s								
ODAN	**Odare**	**85.80**	**299**	*e*P		**P**	**16 21 55.6**	**-0.1**
	comp=Z,420nm,1.8s								
J05D	**Fort Rock, OR**	**86.23**	**44**	P		**P**	**16 21 58.9**	**+1.6**
	baz=86								
RAMN	**Ramite**	**86.50**	**298**	*e*P		**P**	**16 21 58.6**	**-0.6**
	comp=Z,134nm,1.5s								
MPMC	**Manual Prospec**	**86.55**	**52**	P		**P**	**16 22 00.4**	**+1.2**
	baz=86								
NVAR	**Mina Array Bea**	**86.68**	**50**	P		**P**	**16 21 58.7**	**-1.1**
NVAR	**Mina Array Bea**	**86.68**	**50**	P		**P**	**16 21 58.7**	**-1.1**
	comp=Z,3.0nm,0.6s,baz=234,slow=8.6,SNR=16								
JIRN	**Jiri**	**87.05**	**299**	*e*P		**P**	**16 22 01.6**	**-0.4**
	comp=Z,158nm,1.5s								
HEC	**Hector,Ludlow**	**87.08**	**54**	P		**P**	**16 22 02.0**	**+0.4**
	baz=87								
GUN	**Gumba**	**87.38**	**299**	*e*P		**P**	**16 22 03.1**	**-0.4**
	comp=Z,42nm,0.8s								
BC3	**Big Chuckawall**	**87.43**	**55**	P		**P**	**16 22 03.7**	**+0.3**
	baz=87								
TIXI	**Tiksi**	**87.61**	**349**	⇓*e*P		**P**	**16 22 04.2**	**+1.0**
TIXI				pmax	pmax				
	comp=Z,13nm,1.6s								
PKI	**Pulchoki**	**87.69**	**299**	*e*P		**P**	**16 22 04.4**	**-0.6**
	comp=Z,179nm,1.5s								
PKIN	**Phulchoki**	**87.70**	**299**	*e*P		**P**	**16 22 04.7**	**-0.3**
	comp=Z,44nm,1.1s								
IRM	**Iron Mountain**	**87.82**	**54**	P		**P**	**16 22 06.4**	**+1.2**
	baz=88								
KKN	**Kakani**	**87.86**	**299**	*e*P		**P**	**16 22 05.3**	**-0.4**
DMN	**Daman**	**87.96**	**299**	*e*P		**P**	**16 22 05.9**	**-0.3**
	comp=Z,160nm,1.2s								
LDFC	**Landfair**	**88.11**	**54**	P		**P**	**16 22 07.6**	**+1.0**
	comp=Z,6.3nm,0.6s								
GKN	**Gorkha**	**88.46**	**299**	*e*P		**P**	**16 22 07.3**	**-1.2**
	comp=Z,98nm,1.1s								
HVS	**Khovu-Aksy**	**88.96**	**323**	⇑*i*P		**P**	**16 22 09.7**	**-0.5**
HVS				pmax	pmax				
	comp=Z,169nm,1.3s								
KOLN	**Koldanda**	**89.29**	**299**	*e*P		**P**	**16 22 11.2**	**-1.2**
	comp=Z,76nm,1.2s								
DANN	**Dangsing**	**89.30**	**299**	*e*P		**P**	**16 22 11.3**	**-1.3**
	comp=Z,87nm,1.2s								
ARUT	**Antelope Range**	**90.16**	**51**	*e*P		**P**	**16 22 18.5**	**+2.3**
ARUT				pmax	pmax				
	comp=Z,36nm,0.8s								
ARUT	**Antelope Range**	**90.16**	**51**	*e*P		**P**	**16 22 18.5**	**+2.3**
	comp=Z,36nm,0.8s								
WMQ	**Urumqi**	**90.41**	**315**	P		**P**	**16 22 17.1**	**0.0**
WMQ				pP		**pP**	**16 22 21.9**	**-0.8**
WMQ				sP		**sP**	**16 22 24.1**	**-0.6**
WMQ				PP		**PP**	**16 25 53.9**	**+2.1**
WMQ				SKS		**SKSac**	**16 32 46.0**	**-2.0**
WMQ				SS		**SS**	**16 39 12.9**	**+0.6**
WMQ				pmax	pmax				
	comp=Z,33nm,2.2s								
WMQ				pmax	pmax				
	comp=Z,820nm,5.0s								
WMQ				LR	LR				
	comp=Z,2µm,23.5s								
WMQ				LR	LR				
	comp=Z,1µm,19.9s								
WMQ				LR	LR				
	comp=Z,2µm,19.2s								
SYO	**Syowa Base**	**90.48**	**197**	⇑*i*P		**P**	**16 22 15.6**	**-1.3**
SYO	**Syowa Base**	**90.48**	**197**	⇓*i*PcP		**P**	**16 22 17.0**	**+0.1**
U15A	**North Rim**	**90.69**	**53**	P		**P**	**16 22 19.3**	**+0.4**
	baz=91								
HLID	**Hailey**	**91.03**	**46**	P		**P**	**16 22 20.4**	**+0.2**
	baz=91								
DUG	**Dugway**	**91.27**	**49**	PFAKE			16 22 30.0	+8.7	
DUG				LR	LR				
	comp=Z,4µm,20.0s								
DUG	**Dugway**	**91.27**	**49**	P		**P**	**16 22 20.7**	**-0.7**
	baz=91								
HYB	**Hyderabad**	**91.43**	**287**	*i* P		**P**	**16 22 23.0**	**+0.6**
320A	**Kipp Ranch, An**	**92.50**	**59**	P		**P**	**16 22 27.2**	**0.0**
	baz=92								
121A	**Cookes Peak, D**	**93.38**	**58**	P		**P**	**16 22 31.2**	**-0.1**
	baz=93								
PDAR	**Pinedale Array**	**94.27**	**47**	P		**P**	**16 22 37.2**	**+2.0**
PDAR	**Pinedale Array**	**94.27**	**47**	P		**P**	**16 22 37.2**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=193,slow=3.7,SNR=7.7								
MK31	**Makanchi Array**	**94.86**	**317**	*e*P		**P**	**16 22 36.6**	**-1.0**
MK31	**Makanchi Array**	**94.86**	**317**	*e*P		**P**	**16 22 36.6**	**-1.0**
MKAR	**Makanchi Array**	**94.86**	**317**	P		**P**	**16 22 36.7**	**-0.9**
MKAR	**Makanchi Array**	**94.86**	**317**	P		**P**	**16 22 36.7**	**-0.9**
MKAR				PKKP		**PKKPbc**	**16 39 33.3**	**-2.2**
MKAR	**Makanchi Array**	**94.86**	**317**	P		**P**	**16 22 36.7**	**-0.9**
	comp=Z,29nm,1.1s,baz=94,slow=3.1,SNR=74								
MKAR				PKKP		**PKKPbc**	**16 39 33.3**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=279,slow=3.2,SNR=4.5								
ZAA0	**Zalesovo Array**	**94.98**	**324**	*e*P		**P**	**16 22 36.0**	**-1.9**
ZALV	**Zalesovo Beam**	**94.98**	**324**	*i* P		**P**	**16 22 36.5**	**-1.4**
ZALV				pmax	pmax				
	comp=Z,18nm,0.8s								
ZALV	**Zalesovo Beam**	**94.98**	**324**	P		**P**	**16 22 36.5**	**-1.4**
ZALV	**Zalesovo Beam**	**94.98**	**324**	P		**P**	**16 22 36.5**	**-1.4**
	comp=Z,18nm,0.8s,baz=117,slow=5.2,SNR=61								
POO	**Poona**	**96.04**	**288**	⇓*i*P		P	16 22 48.0	+4.4	
	comp=Z,107nm,1.5s								
NVS	**Novosibirsk**	**96.09**	**325**	⇓*i*P		**P**	**16 22 40.9**	**-2.0**
NVS				pmax	pmax				
	comp=Z,95nm,2.1s								
NVS				pmax	pmax				
	comp=N,17nm,1.8s								
NVS				pmax	pmax				
	comp=E,35nm,1.8s								
YKA	**Yellowknife Ar**	**96.11**	**27**	P		**P**	**16 22 40.6**	**-2.2**
YKA	**Yellowknife Ar**	**96.11**	**27**	P		**P**	**16 22 40.6**	**-2.2**
	comp=E,0.3nm,0.4s,baz=259,slow=4.7,SNR=12								
TXAR	**Lajitas Array**	**96.20**	**61**	P		**P**	**16 22 46.8**	**+2.6**
TXAR	**Lajitas Array**	**96.20**	**61**	P		**P**	**16 22 46.8**	**+2.6**
	comp=E,0.8nm,0.6s,baz=224,slow=4.7,SNR=10								
TXAR				LR	LR		16 57 41.6		
	comp=E,1µm,20.4s,baz=0.0,slow=30								
KSH	**Kashi**	**97.98**	**309**	*e*P		Pdif	16 22 52.9	+0.8	
KSH				*e*PP		**PP**	**16 26 54.3**	**+3.2**
KSH				*e*SKS		**SKSac**	**16 33 28.3**	**-1.1**
KSH				*e*S		**S**	**16 34 15.3**	**-3.1**
KSH				*e*SS		**SS**	**16 41 02.3**	**+1.7**
KSH				pmax	pmax				
	comp=E,2.0nm,0.5s								
KSH				pmax	pmax				
	comp=E,210nm,5.9s								
KSH				LR	LR				
	comp=E,990nm,15.0s								
KSH				LR	LR				
	comp=E,840nm,23.0s								
KSH				LR	LR				
	comp=E,250nm,10.3s								
KURK	**Kurchatov**	**98.02**	**320**	⇓*i*P		Pdif	16 22 51.8	0.0	
KURK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**98.02**	**320**	*e*P		**P**	**16 22 50.5**	**-1.2**
	comp=Z,16nm,1.5s								
KURBB	**Kurchatov Arra**	**98.06**	**320**	P		**P**	**16 22 51.7**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=98,slow=3.3,SNR=19								
BVAR	**Borovoye Array**	**103.35**	**322**	P		**Pdif**	**16 23 15.6**	**+0.1**
BVAR	**Borovoye Array**	**103.35**	**322**	Pdif		**Pdif**	**16 23 15.6**	**+0.1**
BVAR	**Borovoye Array**	**103.35**	**322**	Pdiff		**Pdif**	**16 23 15.6**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=106,slow=5.4,SNR=11								
APA	**Apatity**	**116.96**	**342**	*i* PKIKP		**PKPdf**	**16 27 57.6**	**-2.1**
APA				MLR	MLR				
	comp=Z,2µm,22.0s								
ARCES	**ARCESS Array B**	**117.86**	**345**	PKP		**PKPdf**	**16 27 59.6**	**-1.9**
ARCES				PKKPbc		**PKKPab**	**16 38 24.9**	**+0.1**
ARCES	**ARCESS Array B**	**117.86**	**345**	PKP		**PKPdf**	**16 27 59.6**	**-1.9**
	comp=Z,1.8nm,0.6s,baz=72,slow=2.0,SNR=18								
ARCES				PKKPbc		**PKKPab**	**16 38 24.9**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=280,slow=0.7,SNR=8.4								
JOF	**Joensuu**	**120.45**	**338**	*e*PKIKP		**PKPdf**	**16 28 04.9**	**-1.7**
JOF	**Joensuu**	**120.45**	**338**	*e*p		**PKPdf**	**16 28 04.9**	**-1.7**
VRHR	**Novokhopersk**	**121.08**	**323**	*e*PKIKP		**PKPdf**	**16 28 05.6**	**-2.5**
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VRHR				pmax	pmax				
	comp=N,5.0nm,0.9s								
VRHR				pmax	pmax				
	comp=E,8.0nm,0.8s								
DGRG	**David-gareji**	**121.18**	**311**	P		**PKPdf**	**16 28 08.7**	**0.0**
GNI	**Garni**	**121.90**	**310**	*e*PKPdf		**PKPdf**	**16 28 08.6**	**-1.7**
GNI				PKP		**PKPdf**	**16 28 10.4**	**+0.1**
GNI	**Garni**	**121.90**	**310**	PKP		**PKPdf**	**16 28 10.4**	**+0.1**
	comp=E,8.6nm,0.8s,baz=2.1,slow=3.1,SNR=7.1								
ZEI	**Tsey**	**121.97**	**313**	*i* PKIKP		**PKPdf**	**16 28 08.5**	**-1.9**
ZEI				pmax	pmax				
	comp=Z,14nm,1.3s								
OBN	**Obninsk**	**122.27**	**328**	*i* PKIKP		**PKPdf**	**16 28 09.8**	**-0.5**
OBN				*e*			16 29 47.5		
OBN				pmax	pmax				
	comp=Z,18nm,1.3s								
OBN				MLR	MLR				
	comp=Z,600nm,19.0s								
KBZ	**Khabaz**	**122.45**	**314**	PKIKP		**PKPdf**	**16 28 10.7**	**-0.3**
KBZ	**Khabaz**	**122.45**	**314**	PKP		**PKPdf**	**16 28 10.7**	**-0.3**
KBZ	**Khabaz**	**122.45**	**314**	PKP		**PKPdf**	**16 28 10.7**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=89,slow=5.9,SNR=4.8								
VSR	**Storozhevoye**	**122.48**	**323**	*e*PKIKP		**PKPdf**	**16 28 07.6**	**-3.2**
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=N,4.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,7.0nm,0.9s								
KIV	**Kislovodsk**	**122.54**	**314**	*i* PKIKP		**PKPdf**	**16 28 07.8**	**-3.5**
KIV				pmax	pmax				
	comp=Z,12nm,1.0s								
KAF	**Kangasniemi**	**122.76**	**339**	*e*PKIKP		**PKPdf**	**16 28 10.1**	**-0.9**
KAF	**Kangasniemi**	**122.76**	**339**	*e*p		**PKPdf**	**16 28 10.1**	**-0.9**
FINES	**FINESS Array B**	**123.29**	**338**	PKP		**PKPdf**	**16 28 10.4**	**-1.6**
FINES	**FINESS Array B**	**123.29**	**338**	PKP		**PKPdf**	**16 28 10.4**	**-1.6**
	comp=Z,5.2nm,1.0s,baz=225,slow=1.6,SNR=8.1								
BOSA	**Boshof**	**124.29**	**222**	PKP		**PKPdf**	**16 28 14.6**	**-0.6**
BOSA	**Boshof**	**124.29**	**222**	PKP		**PKPdf**	**16 28 14.6**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=103,slow=10,SNR=3.9								
SOC	**Sochi**	**124.71**	**315**	*i* PKIKP		**PKPdf**	**16 28 14.9**	**-0.4**
SOC				*e*			16 30 02.2		
SOC				pmax	pmax				
	comp=Z,19nm,0.9s								
NB2	**NORSAR Subarra**	**128.23**	**345**	PKPdf		**PKPdf**	**16 28 21.9**	**+0.3**
	comp=Z,13nm,1.4s,baz=32,slow=1.9								
NOA	**NORSAR Array B**	**128.23**	**345**	PKP		**PKPdf**	**16 28 21.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=33,slow=2.0,SNR=5.4								
AKASG	**Malin Array Be**	**128.31**	**326**	PKIKP		**PKPdf**	**16 28 20.7**	**-1.3**
AKASG	**Malin Array Be**	**128.31**	**326**	PKP		**PKPdf**	**16 28 20.7**	**-1.3**
AKASG	**Malin Array Be**	**128.31**	**326**	PKP		**PKPdf**	**16 28 20.7**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=55,slow=1.6,SNR=15								
HFS	**Hagfors**	**128.31**	**343**	PKP		**PKPdf**	**16 28 21.4**	**-0.3**
HFS	**Hagfors**	**128.31**	**343**	PKP		**PKPdf**	**16 28 21.4**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=111,slow=7.9,SNR=2.8								
KONO	**Kongsberg**	**129.84**	**345**	PFAKE			16 28 40.0	+15	
KONO				LR	LR				
	comp=Z,1µm,19.0s								
BRTR	**Keskin Array B**	**130.24**	**312**	PKP		**PKPdf**	**16 28 25.7**	**-0.5**
BRTR	**Keskin Array B**	**130.24**	**312**	PKP		**PKPdf**	**16 28 25.7**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=134,slow=3.0,SNR=11								
BURAR	**Bucovina Array**	**132.19**	**325**	⇓*i*P		**PKPdf**	**16 28 29.8**	**+0.2**
KOLS	**Kolonicke sedl**	**133.01**	**328**	*e*PKIKP		**PKPdf**	**16 28 33.2**	**+2.2**
KOLS	**Kolonicke sedl**	**133.01**	**328**	*e*PKP		**PKPdf**	**16 28 33.2**	**+2.2**
UZH	**Uzhgorod**	**133.19**	**328**	*i* PKIKP		**PKPdf**	**16 28 34.1**	**+2.8**
STHS	**Stebnicka Huta**	**133.24**	**329**	*e*PKIKP		**PKPdf**	**16 28 33.6**	**+2.2**
STHS	**Stebnicka Huta**	**133.24**	**329**	*e*PKP		**PKPdf**	**16 28 33.6**	**+2.2**
CRVS	**Cervenica-Dubn**	**133.45**	**328**	*e*PKIKP		**PKPdf**	**16 28 33.8**	**+2.0**
CRVS	**Cervenica-Dubn**	**133.45**	**328**	*e*PKP		**PKPdf**	**16 28 33.8**	**+2.0**
ARR	**Arges**	**133.76**	**323**	⇑*i*P		**PKPdf**	**16 28 32.8**	**+0.2**
OKC	**Ostrava-Krasne**	**134.46**	**331**	*e*PKIKP		**PKPdf**	**16 28 34.5**	**+0.8**
OKC				MLR	MLR				
	comp=Z,1µm,20.5s								
OKC	**Ostrava-Krasne**	**134.46**	**331**	*e*PKPdf		**PKPdf**	**16 28 34.5**	**+0.8**
OKC				AMS	AMS		17 31 30.0		
	comp=Z,1µm,20.5s								
KSP	**Ksiaz**	**134.59**	**333**	*e*PKIKP		**PKPdf**	**16 28 33.8**	**-0.1**
KSP				MLR	MLR				
	comp=Z,5µm,20.3s								
MORC	**Moravsky Berou**	**134.79**	**332**	⇑*i*P		**PKPdf**	**16 28 35.6**	**+1.2**
KRLC	**Kraliky**	**134.93**	**332**	*e*PKIKP		PKPdf	16 28 40.9	+6.3	
KRLC				*e*			16 31 08.8		
KRLC	**Kraliky**	**134.93**	**332**	*e*pPKP		**PKPdf**	**16 28 40.9**	**+6.3**
KRLC				*e*PP		**PP**	**16 31 08.8**	**+0.3**
DPC	**Dobruska-Polom**	**134.94**	**333**	*e*PKIKP		**PKPdf**	**16 28 34.4**	**-0.2**
DPC				*e*			16 28 43.4		
DPC				*e*			16 31 08.3		
DPC	**Dobruska-Polom**	**134.94**	**333**	*e*PKPdf		**PKPdf**	**16 28 34.4**	**-0.2**
DPC				*ex*		x	16 28 43.4		
DPC				*e*PP		**PP**	**16 31 08.3**	**-0.3**
DPC				AMS	AMS		17 28 40.0		
UPC	**Upice**	**134.96**	**333**	*e*PKIKP		PKPdf	16 28 43.0	+8.4	
UPC				*e*			16 31 09.8		
UPC	**Upice**	**134.96**	**333**	*e*PP		PP	16 31 09.8	+1.1	
SIRR	**Siria**	**134.96**	**325**	⇓*i*P		**PKPdf**	**16 28 35.5**	**+0.7**
BZS	**Buzias**	**135.37**	**325**	⇑*i*P		**PKPdf**	**16 28 34.6**	**-0.9**
PVCC	**Panska Ves**	**135.57**	**334**	*e*PKIKP		**PKPdf**	**16 28 36.2**	**+0.5**
PVCC				MLR	MLR				
	comp=Z,1µm,19.8s								
PVCC	**Panska Ves**	**135.57**	**334**	*e*PKPdf		**PKPdf**	**16 28 36.2**	**+0.5**
PVCC				AMS	AMS		17 33 40.0		
	comp=Z,1µm,19.8s								
BRG	**Berggiesshubel**	**135.57**	**335**	*e*PKP		**PKPdf**	**16 28 36.9**	**+1.2**
	comp=Z,43nm,1.9s								
BRG				*e*			16 32 18.6		
	comp=Z,11nm,1.2s								
BRG				pmax	pmax				
	comp=N,1µm,19.9s								
BRG				pmax	pmax				
	comp=E,409nm,21.7s								
BRG				pmax	pmax				
	comp=Z,1µm,21.6s								
CLL	**Collm**	**135.61**	**336**	*e*PKIKP		**PKPdf**	**16 28 36.0**	**+0.2**
CLL				*e*			16 28 41.0		
CLL				MLR	MLR				
	comp=Z,800nm,19.0s								
CLL	**Collm**	**135.61**	**336**	*e*PKPdf		**PKPdf**	**16 28 36.0**	**+0.2**
CLL				*e*pPKiKP		**pPKiKP**	**16 28 41.0**	**-2.0**
CLL				*e*			16 28 45.0		
CLL				*e*PP		**PP**	**16 31 11.0**	**-1.7**
CLL				LmV			17 33 00.0		
	comp=Z,800nm,19.0s								
PRA	**Prague**	**135.97**	**334**	PKPdf		**PKPdf**	**16 28 36.0**	**-0.5**
PRU	**Pruhonice**	**135.98**	**334**	*e*PKIKP		**PKPdf**	**16 28 36.2**	**-0.3**
PRU				*e*			16 28 45.1		
PRU				MLR	MLR				
	comp=Z,1µm,18.4s								
PRU	**Pruhonice**	**135.98**	**334**	*e*PKPdf		**PKPdf**	**16 28 36.2**	**-0.3**
PRU				*ex*		x	16 28 45.1		
PRU				AMS	AMS		17 30 30.0		
	comp=Z,1µm,18.4s								
TREC	**Trest**	**136.07**	**332**	*e*PKIKP		**PKPdf**	**16 28 35.6**	**-1.2**
TREC				MLR	MLR				
	comp=Z,1µm,21.6s								
TREC	**Trest**	**136.07**	**332**	*e*PKPdf		**PKPdf**	**16 28 35.6**	**-1.2**
TREC				AMS	AMS		17 29 00.0		
	comp=Z,1µm,21.6s								
EKA	**Eskdalemuir Ar**	**136.49**	**351

ESDC	**Sonseca Array**	**151.59**	**344**	PKPbc	**PKPbc**	**16**	**29**	**09.2**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=14,slow=2.8,SNR=15								
MTE	**Manteigas**	**151.69**	**350**	*e*PKPbc	**PKPbc**	**16**	**29**	**11.8**	**+1.4**
PAB	**San Pablo**	**151.81**	**344**	*e*PKIKP	**PKPbc**	**16**	**29**	**10.1**	**-0.6**
PAB	**San Pablo**	**151.81**	**344**	*e*PKPbc	**PKPbc**	**16**	**29**	**10.1**	**-0.6**
PCAS	**Casmilo, Conde**	**152.18**	**351**	*e*PKPab	**PKPab**	**16**	**29**	**17.6**	**-3.4**
PCBR	**Castelo Branco**	**152.22**	**349**	*e*PKPbc	**PKPbc**	**16**	**29**	**11.6**	**+0.1**
PMRV	**Marv??o**	**152.61**	**349**	*e*PKPbc	**PKPbc**	**16**	**29**	**12.8**	**+0.4**
MDT	**Midelt**	**158.10**	**339**	PKPab	**PKPab**	**16**	**29**	**46.5**	**-0.1**
MDT	**Midelt**	**158.10**	**339**	PKPab	**PKPab**	**16**	**29**	**46.5**	**-0.1**
	comp=Z,5.0nm,1.2s,baz=97,slow=4.2,SNR=4.3								
TORD	**Torodi Ar. Bea**	**164.82**	**274**	PKP	**PKPdf**	**16**	**29**	**17.9**	**-2.6**
TORD				PKPab	**PKPab**	**16**	**30**	**15.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**164.82**	**274**	PKP	**PKPdf**	**16**	**29**	**17.9**	**-2.6**
	comp=Z,0.8nm,0.7s,baz=353,slow=2.0,SNR=4.5								
TORD				PKPab	**PKPab**	**16**	**30**	**15.9**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=82,slow=3.2,SNR=10								
KIC	**Kosan Boka**	**169.12**	**237**	*e*P	**PKPab**	**16**	**30**	**36.0**	**+0.6**
	comp=Z,136nm,1.5s								
LIC	**Lamto**	**169.27**	**235**	*e*P	**PKPab**	**16**	**30**	**36.3**	**+0.2**
	comp=Z,65nm,1.3s								
DBIC	**Dimbokro**	**169.39**	**238**	PKPab	**PKPab**	**16**	**30**	**35.5**	**-1.1**
DBIC	**Dimbokro**	**169.39**	**238**	PKPab	**PKPab**	**16**	**30**	**35.5**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=101,slow=5.2,SNR=3.6								
TIC	**Toumodi**	**169.51**	**237**	*e*P	**PKPab**	**16**	**30**	**33.9**	**-3.2**

TIR ***18*** *16:16:07.6,38°.31N×22°.16E,h2km,ML3.4*
CSEM ***18*** *16:16:14.8±0.1,38°.42N×21°.96E,h2km,ML3.7, Error ellipse: s-maj=3.3km s-min=3.0km az=82.0*
ISCJB ***18*** *16:16:14.6±0.3,38°.44N±0°.02×21°.96E±0°.02,h5km±3km, mb3.7/6, Error ellipse: s-maj=2.8km s-min=2.6km az=157.1*
ATH ***18*** *16:16:14.6,38°.44N×21°.96E,h3km,ML3.4*
IDC ***18*** *16:16:14.0±1.0,38°.28N×22°.03E,h0km, mb3.6/7, mb1 3.7/10,mb1mx3.5/51,mbtmp3.6/10,ML2.9/3, Error ellipse: s-maj=20.9km s-min=17.9km az=80.0*
THE ***18*** *16:16:16.0,38°.42N×22°.03E,h2km±2km,ML3.7/8, Error ellipse: s-maj=2.4km s-min=0.9km az=230.0*

ISC 18 16:16:15.0±0.9,38°.41N±0°.01×21°.98E±0°.01,h7km±6km, n126,σ1§03/154,mb3.8/6,4C-6D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.13**	**99**	P	**Pg**	**16 16 17.5**	**-0.3**
KALE				S	**Sg**	**16 16 19.8**	**+0.2**
KALE	**Kalithea**	**0.13**	**99**	*e*PG	**Pg**	**16 16 17.5**	**-0.3**
KALE				*e*SG	**Sg**	**16 16 20.1**	**+0.5**
KALE	**Kalithea**	**0.13**	**99**	P	**Pg**	**16 16 17.5**	**-0.3**
KALE				S	**Sg**	**16 16 19.8**	**+0.2**
KALE				*e*Sg	Sg	16 16 20.1	+0.3
LAKA	**Lakka**	**0.17**	**181**	P	**Pg**	**16 16 18.4**	**-0.1**
LAKA	**Lakka**	**0.17**	**181**	*e*PG	**Pg**	**16 16 18.1**	**-0.4**
LAKA	**Lakka**	**0.17**	**181**	*e*Pg	**Pg**	**16 16 18.1**	**-0.4**
LAKA	**Lakka**	**0.17**	**181**	P	**Pg**	**16 16 18.4**	**-0.1**
UPR	**University Cam**	**0.20**	**230**	P	**Pg**	**16 16 19.1**	**+0.1**
KLV	**Kalavryta, Ach**	**0.39**	**160**	*e*PG	**Pb**	**16 16 23.3**	**-1.0**
KLV				*e*SG	**Sb**	**16 16 29.5**	**-1.1**
KLV	**Kalavryta, Ach**	**0.39**	**160**	*e*Pg	**Pb**	**16 16 23.3**	**-1.0**
KLV				*e*Sg	**Sb**	**16 16 29.5**	**-1.1**
PVO	**Paravola**	**0.41**	**300**	P	**Pg**	**16 16 20.8**	**-2.2**
PVO				S	**Sg**	**16 16 28.6**	**+0.1**
DSF	**Desfina**	**0.43**	**90**	*e*PG	**Pb**	**16 16 23.9**	**-1.1**
DSF				*e*SG	**Sg**	**16 16 29.5**	**+0.5**
DSF	**Desfina**	**0.43**	**90**	P	**Pg**	**16 16 20.2**	**-3.2**
DSF	**Desfina**	**0.43**	**90**	*e*Pg	**Pb**	**16 16 23.9**	**-1.1**
DSF				*e*Sg	**Sg**	**16 16 29.5**	**+0.5**
DRO	**Drossia**	**0.51**	**205**	P	**Pg**	**16 16 25.9**	**-0.4**
DRO	**Drossia**	**0.51**	**205**	*e*PG	**Pg**	**16 16 24.2**	**-0.6**
DRO	**Drossia**	**0.51**	**205**	*e*Pg	**Pg**	**16 16 24.2**	**-0.6**
DRO	**Drossia**	**0.51**	**205**	P	**Pb**	**16 16 25.9**	**-0.4**
DRO				S	**Sb**	**16 16 33.3**	**-0.5**
EVR	**Evrytania**	**0.52**	**345**	*e*PG	**Pg**	**16 16 23.6**	**-1.6**
EVR				*e*SG	**Sg**	**16 16 31.1**	**-0.9**
EVR	**Evrytania**	**0.52**	**345**	P	**Pg**	**16 16 23.7**	**-1.5**
EVR				*e*Sg	**Sg**	**16 16 31.1**	**-0.9**
RLS	**Riolos of Patr**	**0.54**	**229**	*e*PG	**Pg**	**16 16 25.1**	**-0.3**
RLS				*e*SG	**Sg**	**16 16 32.5**	**+0.1**
RLS	**Riolos of Patr**	**0.54**	**229**	P	**Pg**	**16 16 24.6**	**-0.8**
RLS	**Riolos of Patr**	**0.54**	**229**	*e*Pg	**Pg**	**16 16 25.1**	**-0.3**
RLS				*e*Sg	**Sg**	**16 16 32.5**	**+0.1**
GUR	**Goura**	**0.55**	**149**	P	**Pg**	**16 16 25.0**	**-0.7**
GUR				S	**Sb**	**16 16 34.5**	**-0.8**
GUR	**Goura**	**0.55**	**149**	P	**Pg**	**16 16 25.0**	**-0.7**
GUR				S	**Sb**	**16 16 34.5**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.61**	**11**	P	**Pb**	**16 16 27.4**	**-0.7**
MAKR				S	**Sb**	**16 16 35.6**	**-1.4**
MAKR	**Makrakomi, Fth**	**0.61**	**11**	*e*PG	**Pg**	**16 16 25.8**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.61**	**11**	*e*Pg	**Pg**	**16 16 25.8**	**-1.1**
MAKR				S	**Sb**	**16 16 35.6**	**-1.4**
AXAR	**Agios Charalam**	**0.64**	**56**	P	**Pg**	**16 16 27.1**	**-0.3**
AXAR				S	**Sb**	**16 16 37.6**	**-0.1**
AXAR	**Agios Charalam**	**0.64**	**56**	P	**Pg**	**16 16 27.1**	**-0.3**
AXAR				S	**Sb**	**16 16 37.6**	**-0.1**
PDO	**Prodromos**	**0.65**	**287**	P	**Pb**	**16 16 28.6**	**-0.2**
PDO				S	**Sb**	**16 16 38.9**	**+0.8**
PDO	**Prodromos**	**0.65**	**287**	*e*PB	**Pg**	**16 16 27.1**	**-0.6**
PDO	**Prodromos**	**0.65**	**287**	P	**Pg**	**16 16 27.0**	**-0.6**
PDO				S	**Sb**	**16 16 38.4**	**+0.3**
AGG	**Agios Georgios**	**0.67**	**24**	P	**Pg**	**16 16 27.7**	**-0.2**
AGG	**Agios Georgios**	**0.67**	**24**	P	**Pg**	**16 16 27.7**	**-0.2**
VTN	**Vitineika**	**0.80**	**232**	P	**Pn**	**16 16 32.2**	**-0.5**
VTN	**Vitineika**	**0.80**	**232**	P	**Pn**	**16 16 32.2**	**+0.0**
LKR	**Lokris**	**0.83**	**73**	*e*PB	**Pg**	**16 16 30.8**	**-0.3**
LKR	**Lokris**	**0.83**	**73**	*e*Pb	**Pg**	**16 16 30.8**	**-0.3**
LTK	**Loutraki**	**0.87**	**116**	P	**Pb**	**16 16 32.6**	**+0.1**
LTK	**Loutraki**	**0.87**	**116**	*e*PG	**Pb**	**16 16 32.5**	**+0.1**
LTK	**Loutraki**	**0.87**	**116**	*e*Pg	**Pb**	**16 16 32.5**	**+0.1**
AMT	**Artemida-Makis**	**0.90**	**194**	P	**Pb**	**16 16 32.9**	**-0.2**
AMT				S	**Sn**	**16 16 47.8**	**+0.3**
AMT	**Artemida-Makis**	**0.90**	**194**	P	**Pb**	**16 16 32.9**	**-0.2**
SMIA	**Simia**	**1.07**	**64**	P	**Pb**	**16 16 35.8**	**-0.1**
SMIA				S	**Sb**	**16 16 50.1**	**0.0**
SMIA	**Simia**	**1.07**	**64**	P	**Pb**	**16 16 35.8**	**-0.1**
SMIA				S	**Sb**	**16 16 50.1**	**0.0**
VLX	**Vlachokerasia**	**1.09**	**163**	P	**Pg**	**16 16 34.7**	**-1.2**
VLX				S	**Sn**	**16 16 52.7**	**+0.6**
VLX	**Vlachokerasia**	**1.09**	**163**	*e*PN	**Pn**	**16 16 36.6**	**-0.2**
VLX	**Vlachokerasia**	**1.09**	**163**	P	**Pn**	**16 16 34.7**	**-1.2**
VLX	**Vlachokerasia**	**1.09**	**163**	*e*Pn	**Pn**	**16 16 36.6**	**-0.2**
VLX				S	**Sn**	**16 16 52.7**	**+0.6**
LKD2	**Lefkada island**	**1.10**	**290**	P	**Pb**	**16 16 36.3**	**-0.2**
LKD2				S	**Sn**	**16 16 55.3**	**+2.8**
LKD2	**Lefkada island**	**1.10**	**290**	*e*PG	**Pg**	**16 16 35.5**	**-0.7**
LKD2	**Lefkada island**	**1.10**	**290**	*e*Pg	**Pg**	**16 16 35.5**	**-0.7**
LKD2	**Lefkada island**	**1.10**	**290**	P	**Pb**	**16 16 36.3**	**-0.2**
VLS	**Valsamata**	**1.12**	**258**	*e*PB	**Pg**	**16 16 34.3**	**-2.2**
VLS	**Valsamata**	**1.12**	**258**	*e*Pb	**Pg**	**16 16 34.3**	**-2.2**
ITM	**Ithomi**	**1.23**	**182**	*e*PG	**Pg**	**16 16 38.0**	**-0.6**
ITM	**Ithomi**	**1.23**	**182**	*e*Pg	**Pg**	**16 16 38.0**	**-0.6**
MRKA	**Markates**	**1.29**	**76**	P	**Pb**	**16 16 39.7**	**0.0**
MRKA	**Markates**	**1.29**	**76**	*e*PN	**Pb**	**16 16 40.0**	**+0.3**
MRKA	**Markates**	**1.29**	**76**	P	**Pb**	**16 16 39.7**	**0.0**
MRKA	**Markates**	**1.29**	**76**	*e*Pn	**Pb**	**16 16 40.0**	**+0.3**
DID	**Didima**	**1.34**	**132**	P	**Pb**	**16 16 41.1**	**+0.6**
DID				S	**Sn**	**16 16 59.2**	**+0.8**
DID	**Didima**	**1.34**	**132**	P	**Pb**	**16 16 41.1**	**+0.6**
DID				S	**Sn**	**16 16 59.2**	**+0.8**
XOR	**Xorichti**	**1.34**	**44**	P	**Pb**	**16 16 40.7**	**+0.1**
XOR	**Xorichti**	**1.34**	**44**	P	**Pb**	**16 16 40.7**	**+0.1**
NAIG	**Nisos Aigina**	**1.36**	**118**	*e*PB	**Pb**	**16 16 40.6**	**-0.2**
NAIG	**Nisos Aigina**	**1.36**	**118**	*e*Pb	**Pb**	**16 16 40.6**	**-0.2**
SKIA	**Skiathos**	**1.38**	**57**	*e*PG	**Pn**	**16 16 40.5**	**-0.3**
SKIA	**Skiathos**	**1.38**	**57**	*e*Pg	**Pn**	**16 16 40.5**	**-0.3**
ERET	**Eretria**	**1.43**	**88**	P	**Pn**	**16 16 41.3**	**-0.2**
ERET	**Eretria**	**1.43**	**88**	P	**Pn**	**16 16 41.3**	**-0.2**
ATH	**Athens Observa**	**1.44**	**107**	*e*PB	**Pn**	**16 16 40.8**	**-0.7**
ATH	**Athens Observa**	**1.44**	**107**	*e*Pb	**Pn**	**16 16 40.8**	**-0.7**
JAN	**Janina**	**1.52**	**325**	*e*PN	**Pn**	**16 16 43.1**	**+0.3**
JAN	**Janina**	**1.52**	**325**	*e*Pn	**Pn**	**16 16 43.1**	**+0.3**
PYL	**PYLOS**	**1.52**	**187**	P	**Pg**	**16 16 44.0**	**-0.2**
PYL	**PYLOS**	**1.52**	**187**	*e*PB	**Pg**	**16 16 44.1**	**-0.2**
PYL	**PYLOS**	**1.52**	**187**	P	**Pg**	**16 16 44.0**	**-0.2**
PTL	**Penteli**	**1.53**	**103**	*e*PB	**Pn**	**16 16 42.8**	**0.0**
PTL	**Penteli**	**1.53**	**103**	*e*Pb	**Pn**	**16 16 42.8**	**0.0**
IGT	**Igoumenitsa**	**1.71**	**312**	P	**Pb**	**16 16 46.4**	**-0.3**
IGT	**Igoumenitsa**	**1.71**	**312**	P	**Pb**	**16 16 46.4**	**-0.3**
LIT	**Litokhoron**	**1.73**	**13**	P	**Pb**	**16 16 46.8**	**-0.4**
LIT	**Litokhoron**	**1.73**	**13**	P	**Pb**	**16 16 46.8**	**-0.4**
SRN	**Sarande**	**2.13**	**314**	*i* PN	**Pn**	**16 16 51.2**	**+0.2**
SRN	**Sarande**	**2.13**	**314**	*i* Pn	**Pn**	**16 16 51.2**	**+0.2**
KEK	**Kerkira**	**2.14**	**308**	*e*PG	**Pb**	**16 16 53.5**	**-0.6**
KEK	**Kerkira**	**2.14**	**308**	*e*Pg	**Pb**	**16 16 53.5**	**-0.6**
KYTH	**Kithira**	**2.29**	**158**	*e*PB	**Pb**	**16 16 55.2**	**-1.5**
KYTH	**Kithira**	**2.29**	**158**	*e*Pb	**Pb**	**16 16 55.2**	**-1.5**
KBN	**Korca**	**2.40**	**338**	*i* PN	Pn	16 16 43.0	-12
FNA	**Florina**	**2.42**	**349**	P	**Pn**	**16 16 55.2**	**+0.2**
FNA	**Florina**	**2.42**	**349**	P	**Pn**	**16 16 55.2**	**+0.2**
APE	**Apeiranthos**	**3.12**	**114**	*i*P	**Pn**	**16 17 07.1**	**+2.4**
APE	**Apeiranthos**	**3.12**	**114**	*i*P	**Pn**	**16 17 07.1**	**+2.4**
MMB	**Musomiste**	**3.45**	**22**	P	**Pn**	**16 17 08.0**	**-1.2**
MMB	**Musomiste**	**3.45**	**22**	*i*P	**Pn**	**16 17 08.4**	**-0.8**
MMB	**Musomiste**	**3.45**	**22**	P	**Pn**	**16 17 08.0**	**-1.2**
KKB	**Krupnik**	**3.55**	**13**	P	**Pn**	**16 17 11.9**	**+1.3**
KKB	**Krupnik**	**3.55**	**13**	P	**Pn**	**16 17 11.9**	**+1.3**
IDI	**Anoyia**	**3.89**	**142**	Pn	**Pn**	**16 17 15.1**	**-0.2**
	0.4nm,0.3s,baz=311,slow=19,SNR=3.6								
IDI				Sn	**Sn**	**16 17 59.9**	**-1.4**
	2.3nm,0.3s,baz=68,slow=19,SNR=3.8								
VTS	**Vitosha**	**4.28**	**12**	P	**Pn**	**16 17 23.0**	**+2.3**
VTS	**Vitosha**	**4.28**	**12**	*i*P	**Pn**	**16 17 23.0**	**+2.3**
VTS	**Vitosha**	**4.28**	**12**	P	**Pn**	**16 17 23.0**	**+2.3**
IVAS	**Ivanjica**	**5.34**	**346**	*e*Pn	**Pn**	**16 17 37.7**	**+2.4**
DIVS	**Divibare**	**5.88**	**346**	*e*Pn	**Pn**	**16 17 40.9**	**-1.7**
TRUS	**Trudelj**	**5.93**	**349**	*e*Pn	**Pn**	**16 17 45.1**	**+1.9**
MLR	**Muntele Rosu**	**7.67**	**21**	*i*P	**Pn**	**16 18 08.8**	**+1.6**
MLR	**Muntele Rosu**	**7.67**	**21**	Pn	Pn	16 18 11.4	+4.2
	0.1nm,0.3s,baz=171,slow=14,SNR=3.5								
MLR	**Muntele Rosu**	**7.67**	**21**	*i*P	**Pn**	**16 18 08.8**	**+1.6**
PLOR	**Plostina**	**8.20**	**23**	*i*P	**Pn**	**16 18 14.7**	**+0.2**
PLOR	**Plostina**	**8.20**	**23**	*i*P	**Pn**	**16 18 14.7**	**+0.2**
VRI	**Vrincioaia**	**8.24**	**24**	*i*P	**Pn**	**16 18 15.6**	**+0.6**
VRI	**Vrincioaia**	**8.24**	**24**	*i*P	**Pn**	**16 18 15.6**	**+0.6**
BRTR	**Keskin Array B**	**9.16**	**78**	Pn	**Pn**	**16 18 30.6**	**+2.8**
	0.3nm,0.3s,baz=256,slow=12,SNR=7.6								
ESDC	**Sonseca Array**	**20.17**	**282**	P	**P**	**16 20 50.1**	**-0.1**
	0.6nm,0.5s,baz=80,slow=11,SNR=4.3								
HFS	**Hagfors**	**22.37**	**349**	P	**P**	**16 21 15.8**	**+2.3**
	2.2nm,0.8s,baz=169,slow=8.8,SNR=5.6								
FINES	**FINESS Array B**	**23.20**	**5**	P	**P**	**16 21 21.9**	**-0.3**
	2.2nm,0.8s,baz=228,slow=16,SNR=2.3								
NB2	**NORSAR Subarra**	**23.63**	**347**	P	**P**	**16 21 25.0**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=160,slow=11								
NB2	**NORSAR Subarra**	**23.63**	**347**	P	**P**	**16 21 25.0**	**-1.6**
	comp=Z,2.4nm,0.8s,SNR=2.6								
NOA	**NORSAR Array B**	**23.63**	**347**	P	**P**	**16 21 26.3**	**-0.3**
	comp=Z,7.7nm,1.1s,baz=161,slow=8.0,SNR=4.0								
EKA	**Eskdalemuir Ar**	**23.92**	**323**	P	**P**	**16 21 32.5**	**+3.2**
	comp=Z,4.4nm,1.0s,baz=115,slow=10,SNR=4.7								
TORD	**Torodi Ar. Bea**	**30.95**	**221**	P	**P**	**16 22 32.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=32,slow=8.7,SNR=4.1								
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**16 24 23.6**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=268,slow=7.1,SNR=7.9								
ASAR	**Alice Springs**	**121.06**	**97**	PKP	**PKPdf**	**16 35 08.2**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=327,slow=2.1,SNR=2.8								

IDC ***18*** *16:16:20.4±1.7,8°.91S×157°.94E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.7/34,mbtmp3.9/6,ML3.6/1,Error ellipse: s-maj=55.7km s-min=25.0km az=122.0*
ISCJB ***18*** *16:16:22.3±1.7,8°.9S±0°.2×157°.9E±0°.4,h23km,mb3.7/5, Error ellipse: s-maj=57.5km s-min=21.3km az=31.2*

ISC 18 16:16:23.8±1.9,9°.0S±0°.3×158°.0E±0°.4,h23km,n6,σ0§86/6, mb3.9/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.84**	**225**	Pn	**Pn**	**16 20 05.8**	**+0.2**
	0.2nm,0.3s,baz=47,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**25.34**	**242**	P	**P**	**16 21 48.7**	**-0.6**
	2.5nm,0.6s,baz=68,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**27.29**	**235**	P	**P**	**16 22 05.8**	**-1.1**
	0.8nm,0.8s,baz=65,slow=9.5,SNR=4.4						
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**	**16 22 08.4**	**+0.6**
	2.0nm,0.7s,baz=42,slow=7.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**64.33**	**295**	P	**P**	**16 26 58.7**	**+0.5**
	0.9nm,0.8s,baz=116,slow=6.1,SNR=4.3						
ILAR	**Eielson Array**	**84.15**	**21**	P	**P**	**16 28 52.6**	**-0.2**
	0.2nm,0.5s,baz=261,slow=5.3,SNR=12						

IDC ***18*** *16:25:25.6±0.9,8°.24N×125°.88E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.6/49,mbtmp3.8/7,Error ellipse: s-maj=71.0km s-min=17.3km az=72.0*
ISCJB ***18*** *16:25:30.3±0.5,8°.23N±0°.05×125°.98E±0°.04,h49km±5km, mb3.8/7,Error ellipse: s-maj=8.2km s-min=6.5km az=39.1*
MAN ***18*** *16:25:30,8°.24N×125°.92E,h25km,mb4.6,ML3.5,MS3.5*

ISC 18 16:25:31.5±1.0,8°.25N±0°.04×125°.97E±0°.05,h40km±11km, n22,σ1§33/26,mb3.9/7,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.39**	**99**	*e*P	**Pn**	**16 25 40.3**	**-0.5**
BIPH				*i* S	**Sn**	**16 25 47.1**	**-0.4**
BUKP	**Musuan**	**0.97**	**248**	*e*P	**Pn**	**16 25 47.1**	**-1.6**
BUKP				*e*S	**Sn**	**16 26 00.2**	**-1.0**
DMPH	**Davao City--Mi**	**1.24**	**202**	*e*P	**Pn**	**16 25 53.0**	**+0.6**
DMPH				*e*S	**Sn**	**16 26 12.2**	**+4.3**
CGP	**Cagayan de Oro**	**1.28**	**279**	*i*P	**Pn**	**16 25 51.4**	**-1.5**
CGP				*i* S	**Sn**	**16 26 09.6**	**+0.8**
MATI	**Mati**	**1.32**	**167**	*e*P	**Pn**	**16 25 53.0**	**-0.4**
SCPH	**Surigao**	**1.60**	**343**	*e*P	**Pn**	**16 25 57.1**	**-0.2**
CTBH	**Cotabato--PC H**	**1.99**	**239**	*i*P	**Pn**	**16 26 02.3**	**-0.4**
MSLP	**Maasin**	**2.17**	**330**	*e*P	**Pn**	**16 26 04.3**	**-0.8**
TBP	**Tagbilaran**	**2.53**	**305**	*e*P	**Pn**	**16 26 10.0**	**-0.1**
PAGZ	**Pagadian**	**2.59**	**261**	*e*P	Pn	16 26 07.5	-3.4
LLP	**Lapu-Lapu**	**2.85**	**316**	*e*P	**Pn**	**16 26 14.0**	**-0.5**
LLP				*e*S	**Sn**	**16 26 50.0**	**+2.3**
PLP	**Palo**	**3.06**	**342**	*e*P	**Pn**	**16 26 17.9**	**+0.5**
OCLP	**Ormoc**	**3.09**	**334**	*e*P	**Pn**	**16 26 19.6**	**+1.8**
GUIM	**Jordan**	**4.09**	**306**	*e*P	**Pn**	**16 26 32.0**	**+0.5**
WRA	**Warramunga Arr**	**29.20**	**164**	P	**P**	**16 31 29.1**	**-0.3**
	0.2nm,0.5s,baz=343,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**32.65**	**166**	P	**P**	**16 31 59.8**	**-0.1**
	0.5nm,0.5s,baz=339,slow=7.0,SNR=20						
USRK	**Usuriysk Arra**	**36.20**	**7**	P	**P**	**16 32 30.2**	**0.0**
	2.2nm,0.5s,baz=185,slow=8.3,SNR=7.2						
STKA	**Stephens Creek**	**42.60**	**160**	P	**P**	**16 33 24.3**	**+0.5**
	2.1nm,0.9s,baz=333,slow=4.5,SNR=3.2						
MKAR	**Makanchi Array**	**53.46**	**324**	P	**P**	**16 34 48.3**	**+0.6**
	1.3nm,0.7s,baz=124,slow=8.1,SNR=13						
ZALV	**Zalesovo Beam**	**56.26**	**332**	P	**P**	**16 35 07.2**	**-0.5**
	0.6nm,0.6s,baz=101,slow=7.5,SNR=3.2						
FINES	**FINESS Array B**	**87.52**	**332**	P	**P**	**16 38 13.7**	**-1.2**
	0.9nm,0.7s,baz=57,slow=7.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**120.72**	**291**	PKP	**PKPdf**	**16 44 19.4**	**-0.7**
	0.1nm,0.5s,baz=64,slow=2.4,SNR=2.3						

IDC ***18*** *16:29:03.9±0.8,38°.47N×22°.09E,h0km,mb4.0/15, mb1 4.0/19,mb1mx3.9/46,mbtmp3.9/19,ML3.4/4,Error ellipse: s-maj=18.3km s-min=13.7km az=123.0*
ATH ***18*** *16:29:04.4,38°.42N×22°.02E,h19km,ML3.7*
ISCJB ***18*** *16:29:05.0±0.4,38°.43N±0°.01×21°.99E±0°.02,h15km±3km, mb4.0/16,Error ellipse: s-maj=2.2km s-min=2.0km az=153.0*
THE ***18*** *16:29:05.0,38°.42N×22°.02E,h1km±1km,ML3.9/13,Error ellipse: s-maj=1.5km s-min=0.4km az=290.0*
CSEM ***18*** *16:29:05.2±0.1,38°.42N×22°.02E,h8km,ML3.7, Error ellipse: s-maj=2.2km s-min=2.1km az=53.0*
NEIC ***18*** *16:29:09.4±0.7,38°.48N×22°.07E,h41km±7km,mb4.1/6, Error ellipse: s-maj=7.3km s-min=5.7km az=182.0*

ISC 18 16:29:05.3±0.7,38°.42N±0°.01×22°.01E±0°.01,h10km±4km, n335,σ0§93/400,mb4.0/16,15C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.11**	**107**	P	**Pg**	**16 29 06.9**	**-1.1**
KALE				S	**Sg**	**16 29 09.3**	**-0.7**
KALE	**Kalithea**	**0.11**	**107**	*e*PB	**Pg**	**16 29 07.9**	**-0.1**
KALE				*e*SB	**Sg**	**16 29 10.7**	**+0.7**
KALE	**Kalithea**	**0.11**	**107**	P	**Pg**	**16 29 07.5**	**-0.5**
KALE	**Kalithea**	**0.11**	**107**	*e*Pb	**Pg**	**16 29 07.9**	**-0.1**
KALE				S	**Sg**	**16 29 10.0**	**0.0**
LAKA	**Lakka**	**0.18**	**188**	P	**Pg**	**16 29 08.6**	**-0.6**
LAKA	**Lakka**	**0.18**	**188**	*e*PB	**Pg**	**16 29 08.8**	**-0.4**
LAKA	**Lakka**	**0.18**	**188**	*e*Pb	**Pg**	**16 29 08.8**	**-0.4**
UPR	**University Cam**	**0.22**	**232**	P	**Pg**	**16 29 09.5**	**-0.4**
UPR				S	**Sg**	**16 29 13.1**	**0.0**
UPR	**University Cam**	**0.22**	**232**	P	**Pg**	**16 29 09.5**	**-0.4**
UPR				S	**Sg**	**16 29 13.1**	**0.0**
KLV	**Kalavryta, Ach**	**0.39**	**164**	*e*PB	**Pg**	**16 29 12.7**	**-0.4**
KLV				*e*SB	**Sg**	**16 29 19.1**	**+0.8**
KLV	**Kalavryta, Ach**	**0.39**	**164**	*e*Pb	**Pg**	**16 29 12.7**	**-0.4**
KLV				*e*Sb	**Sg**	**16 29 19.1**	**+0.8**
DSF	**Desfina**	**0.41**	**91**	P	**Pg**	**16 29 12.8**	**-0.5**
DSF				S	**Sg**	**16 29 19.1**	**+0.4**
DSF	**Desfina**	**0.41**	**91**	P	**Pg**	**16 29 12.8**	**-0.5**
DSF				S	**Sg**	**16 29 19.1**	**+0.4**
EVR	**Evrytania**	**0.52**	**342**	*e*PN	**Pg**	**16 29 14.1**	**-1.4**
EVR				*e*SN	**Sg**	**16 29 22.5**	**+0.2**
EVR	**Evrytania**	**0.52**	**342**	P	**Pg**	**16 29 14.3**	**-1.2**
EVR				*e*Sn	**Sg**	**16 29 22.5**	**+0.2**
DRO	**Drossia**	**0.53**	**207**	P	**Pg**	**16 29 14.6**	**-1.0**
DRO				S	**Sg**	**16 29 22.5**	**0.0**
DRO	**Drossia**	**0.53**	**207**	*e*PN	**Pg**	**16 29 14.8**	**-0.8**
DRO	**Drossia**	**0.53**	**207**	*e*Pn	**Pg**	**16 29 14.8**	**-0.8**
DRO				S	**Sg**	**16 29 22.4**	**0.0**
GUR	**Goura**	**0.55**	**152**	P	**Pg**	**16 29 15.5**	**-0.6**
GUR				S	**Sg**	**16 29 23.2**	**-0.1**
GUR	**Goura**	**0.55**	**152**	*e*PN	**Pg**	**16 29 15.5**	**-0.6**
GUR	**Goura**	**0.55**	**152**	P	**Pg**	**16 29 15.5**	**-0.6**
GUR				S	**Sg**	**16 29 23.2**	**-0.1**
RLS	**Riolos of Patr**	**0.56**	**230**	*e*PN	**Pg**	**16 29 15.5**	**-0.7**
RLS				*e*SN	**Sg**	**16 29 24.1**	**+0.5**
RLS	**Riolos of Patr**	**0.56**	**230**	*e*Pn	**Pg**	**16 29 15.5**	**-0.7**
RLS				*e*Sn	**Sg**	**16 29 24.

NEST	Nestorio	2.12	340	ePN	Pn	16 29 41.7	+0.7
NEST	Nestorio	2.12	340	P	Pn	16 29 41.3	+0.3
NEST	Nestorio	2.12	340	ePn	Pn	16 29 41.7	+0.7
SRN	Sarande	2.14	314	iPN	Pb	16 29 43.2	-0.9
SRN				iSN	Sg	16 30 13.6	-0.4
SRN	Sarande	2.14	314	iPn	Pb	16 29 43.2	-0.9
KEK	Kerkira	2.15	308	ePN	Pn	16 29 41.8	+0.5
KEK	Kerkira	2.15	308	ePn	Pn	16 29 41.8	+0.5
PLG	Polygyros	2.24	29	ePN	Pn	16 29 41.9	-0.7
PLG	Polygyros	2.24	29	ePn	Pn	16 29 41.9	-0.7
KYTH	Kithira	2.29	159	ePN	Pn	16 29 44.9	+1.7
KYTH	Kithira	2.29	159	ePn	Pn	16 29 44.9	+1.7
THE	Thessaloniki	2.33	18	ePB	Pn	16 29 42.9	-0.8
HORT	Hortiatis	2.33	21	ePN	Pn	16 29 43.2	-0.6
HORT	Hortiatis	2.33	21	ePn	Pn	16 29 43.2	-0.6
KBN	Korca	2.39	337	iPN	Pb	16 29 48.5	-0.1
KBN				iSN	Sg	16 30 20.9	-1.3
KBN	Korca	2.39	337	iPn	Pb	16 29 48.5	-0.1
FNA	Florina	2.41	348	P	Pn	16 29 45.2	+0.3
FNA	Florina	2.41	348	ePB	Pn	16 29 45.4	+0.5
FNA	Florina	2.41	348	P	Pn	16 29 45.2	+0.3
OUR	Ouranopolis	2.44	38	P	Pn	16 29 44.9	-0.4
OUR	Ouranopolis	2.44	38	ePN	Pn	16 29 44.8	-0.5
OUR	Ouranopolis	2.44	38	P	Pn	16 29 44.9	-0.4
GRG	Griva	2.55	7	P	Pn	16 29 46.5	-0.2
GRG	Griva	2.55	7	ePN	Pn	16 29 46.6	-0.2
GRG	Griva	2.55	7	ePn	Pn	16 29 46.6	-0.2
SOH	Sokhos	2.61	23	P	Pn	16 29 47.7	0.0
SOH	Sokhos	2.61	23	ePN	Pn	16 29 47.9	+0.2
SOH	Sokhos	2.61	23	P	Pn	16 29 47.7	0.0
BIA	Bitola	2.65	349	ePn	Pb	16 29 52.6	-0.3
ANKY	Antikythira Is	2.75	158	ePB	Pn	16 29 51.0	+1.5
KNT	Kendrikon	2.82	14	P	Pn	16 29 50.9	+0.4
KNT	Kendrikon	2.82	14	ePN	Pn	16 29 50.7	+0.2
KNT	Kendrikon	2.82	14	ePn	Pn	16 29 50.7	+0.2
LIA	Limnos Island	2.87	58	ePN	Pn	16 29 51.2	0.0
LIA	Limnos Island	2.87	58	ePn	Pn	16 29 51.2	0.0
VAY	Valandovo	2.93	8	P	Pn	16 29 53.6	+1.7
VAY	Valandovo	2.93	8	ePn	Pn	16 29 52.2	+0.3
VAY	Valandovo	2.93	8	P	Pn	16 29 53.6	+1.7
SRS	Serrai	2.96	24	P	Pn	16 29 52.0	-0.3
SRS	Serrai	2.96	24	ePN	Pn	16 29 52.1	-0.3
SRS	Serrai	2.96	24	ePn	Pn	16 29 52.1	-0.3
APE	Apeiranthos	3.10	115	ePN	Pn	16 29 54.8	+0.4
APE	Apeiranthos	3.10	115	iP	Pn	16 29 54.6	+0.2
APE	Apeiranthos	3.10	115	iP	Pn	16 29 54.6	+0.2
CHOS	Chios island	3.18	89	ePN	Pn	16 29 55.9	+0.4
CHOS	Chios island	3.18	89	ePn	Pn	16 29 55.9	+0.4
KAVA	Kavala	3.21	36	ePN	Pn	16 29 55.0	-0.9
KAVA	Kavala	3.21	36	ePn	Pn	16 29 55.0	-0.9
NVR	Nevrokopi	3.25	25	ePN	Pn	16 29 56.4	-0.1
NVR	Nevrokopi	3.25	25	ePn	Pn	16 29 56.4	-0.1
MMB	Musomiste	3.43	22	P	Sg	16 30 59.1	+3.7
MMB	Musomiste	3.43	22	iP	Pn	16 29 59.2	+0.3
MMB	Musomiste	3.43	22	iP	Pn	16 29 59.2	+0.3
PRK	Paraskevi	3.43	75	ePN	Pn	16 29 58.8	0.0
PRK	Paraskevi	3.43	75	ePn	Pn	16 29 58.8	0.0
VAM	Vamos	3.48	149	ePN	Pn	16 30 00.3	+0.7
VAM	Vamos	3.48	149	ePn	Pn	16 30 00.3	+0.7
KKB	Krupnik	3.54	13	P	Pn	16 30 03.6	+3.2
KKB				S	Sn	16 30 42.6	+0.3
KKB	Krupnik	3.54	13	P	Pn	16 30 03.6	+3.2
KKB				S	Sn	16 30 42.6	+0.3
SKO	Skopje	3.57	353	ePn	Pn	16 30 01.5	+0.6
EZN	Ezine	3.64	66	eP	Pn	16 29 59.7	-2.0
EZN	Ezine	3.64	66	eP	Pn	16 29 59.7	-2.0
RDO	Rodhopi	3.84	44	ePN	Pn	16 30 05.4	+0.9
RDO	Rodhopi	3.84	44	ePn	Pn	16 30 05.4	+0.9
RZN	Rozhen	3.87	32	P	Pn	16 30 06.9	+1.9
RZN	Rozhen	3.87	32	P	Pn	16 30 06.9	+1.9
SMG	Samos	3.88	99	ePN	Pn	16 30 05.6	+0.6
SMG	Samos	3.88	99	ePn	Pn	16 30 05.6	+0.6
IDI	Anoyia	3.89	143	Pn	Pn	16 30 06.4	+1.2
IDI				Sn	Sn	16 30 49.7	-1.3
IDI	Anoyia	3.89	143	Pn	Pn	16 30 06.4	+1.2
	3.1nm,0.3s,baz=306,slow=15,SNR=16						
IDI				Sn	Sn	16 30 49.7	-1.3
	8.0nm,0.3s,baz=69,slow=23,SNR=7.4						
IDI	Anoyia	3.89	143	Pn	Pn	16 30 06.4	+1.2
IDI				Sn	Sn	16 30 49.7	-1.3
ENEZ	Enez	3.95	53	eP	Pn	16 30 06.7	+0.7
ENEZ	Enez	3.95	53	eP	Pn	16 30 06.7	+0.7
BLCB	Balcova	3.95	89	eP	Pn	16 30 05.5	-0.6
BLCB	Balcova	3.95	89	eP	Pn	16 30 05.5	-0.6
GELI	Tayfur-Gelibol	3.98	59	eP	Pn	16 30 04.9	-1.5
GELI	Tayfur-Gelibol	3.98	59	eP	Pn	16 30 04.9	-1.5
IZM	Izmir	4.12	89	eP	Pn	16 30 07.8	-0.7
IZM	Izmir	4.12	89	eP	Pn	16 30 07.8	-0.7
ERIK	Erikli-Kesan	4.14	56	eP	Pn	16 30 08.4	-0.2
ERIK	Erikli-Kesan	4.14	56	eP	Pn	16 30 08.4	-0.2
KDZ	Kurdzhali	4.15	38	iP	Pn	16 30 09.2	+0.4
KDZ	Kurdzhali	4.15	38	iP	Pn	16 30 09.2	+0.4
LPK	Lapseki	4.16	61	eP	Pn	16 30 08.9	0.0
LPK	Lapseki	4.16	61	eP	Pn	16 30 08.9	0.0
TIP	Timpagrande	4.17	282	eP	Pn	16 30 10.1	+1.0
TIP	Timpagrande	4.17	282	eP	Pn	16 30 10.1	+1.0
VTS	Vitosha	4.26	12	P	Pn	16 30 12.4	+1.9
VTS				S	Sn	16 31 00.0	-0.4
VTS	Vitosha	4.26	12	iP	Pn	16 30 13.1	+2.6
VTS	Vitosha	4.26	12	P	Pn	16 30 12.4	+1.9
VTS				S	Sn	16 31 00.0	-0.4
LAST	Lasithi	4.28	138	ePN	Pn	16 30 11.6	+0.9
LAST	Lasithi	4.28	138	ePn	Pn	16 30 11.6	+0.9
BODT	Bodrum	4.41	106	eP	Pn	16 30 13.7	+1.3
BODT	Bodrum	4.41	106	eP	Pn	16 30 13.7	+1.3
PDG	Podgorica	4.52	333	ePn	Pn	16 30 13.8	-0.1
KRBG	Karabiga-Canak	4.54	63	eP	Pn	16 30 14.9	+0.8
KRBG	Karabiga-Canak	4.54	63	eP	Pn	16 30 14.9	+0.8
AYDB	Zeytinkoy-Aydi	4.66	94	eP	Pn	16 30 16.2	+0.4
AYDB	Zeytinkoy-Aydi	4.66	94	eP	Pn	16 30 16.3	+0.4
GONE	Gonen-Balikesi	4.70	68	eP	Pn	16 30 15.6	-0.6
GONE	Gonen-Balikesi	4.70	68	eP	Pn	16 30 15.6	-0.6
BALB	Balikesir	4.73	73	eP	Pn	16 30 16.9	+0.2
BALB	Balikesir	4.73	73	eP	Pn	16 30 16.9	+0.2
MPEP	Malo Peshtene	5.10	14	P	Pn	16 30 23.7	+1.9
KULA	Kula-Manisa	5.22	87	eP	Pn	16 30 23.0	+0.3
KULA	Kula-Manisa	5.22	87	eP	Pn	16 30 23.9	+0.3
IVAS	Ivanjica	5.34	345	ePn	Pn	16 30 25.2	+0.1
STON	Ston	5.52	325	ePn	Pn	16 30 27.5	-0.1
STON				Sn	Sn	16 31 30.2	-0.9
STON	Ston	5.52	325	ePn	Pn	16 30 27.4	-0.1
STON				Sn	Sn	16 31 30.2	-0.9
GRUS	Gruza	5.55	350	ePn	Pn	16 30 29.0	+1.0
BBLS	Lazići	5.78	341	ePn	Pn	16 30 32.2	+0.9
FETY	Fethiye	5.90	105	eP	Pn	16 30 34.7	+1.9
FETY	Fethiye	5.90	105	eP	Pn	16 30 34.7	+1.9
TVSB	Tavsanli	5.90	78	eP	Pn	16 30 32.8	-0.1
TVSB	Tavsanli	5.90	78	eP	Pn	16 30 32.8	-0.1
TRUS	Trudelj	5.92	349	ePn	Pn	16 30 32.0	-1.1
ALT	Altintas	6.36	82	eP	Pn	16 30 39.1	-0.2
ALT	Altintas	6.36	82	eP	Pn	16 30 39.1	-0.2
TEKS	Tekeris	6.40	344	ePn	Pn	16 30 39.9	+0.2
FGSL	Fruska Gora	6.93	347	ePn	Pn	16 30 47.7	+0.8
BZS	Buzias	7.20	358	iP	Pn	16 30 55.5	+4.9
MLR	Muntele Rosu	7.65	21	iP	Pn	16 30 59.0	+2.1
MLR	Muntele Rosu	7.65	21	Pn	Pn	16 30 57.3	+0.4
MLR	Muntele Rosu	7.65	21	Pn	Pn	16 30 57.3	+0.4
	0.2nm,0.3s,baz=154,slow=15,SNR=8.2						
MLR	Muntele Rosu	7.65	21	Pn	Pn	16 30 57.3	+0.4
MLR	Muntele Rosu	7.65	21	iP	Pn	16 30 59.0	+2.1
UDBI	Udbina	7.69	324	ePn	Pn	16 30 58.7	+1.2
UDBI				Sn	Sn	16 32 24.7	0.0
UDBI	Udbina	7.69	324	ePn	Pn	16 30 58.6	+1.2
UDBI				Sn	Sn	16 32 24.7	0.0
DOPR	Dopca	7.95	17	iP	Pn	16 31 03.5	+2.6
NVLJ	Novalja	8.14	321	iPn	Pn	16 31 04.1	+0.5
NVLJ				Sn	Sn	16 32 34.6	-1.0
NVLJ	Novalja	8.14	321	iPn	Pn	16 31 04.1	+0.5
NVLJ				Sn	Sn	16 32 34.6	-1.0
PLOR	Plostina	8.18	23	iP	Pn	16 31 06.3	+2.1
PLOR	Plostina	8.18	23	iP	Pn	16 31 06.3	+2.1
VRI	Vrincioaia	8.22	24	iP	Pn	16 31 06.8	+2.1
VRI	Vrincioaia	8.22	24	iP	Pn	16 31 06.8	+2.1
BRTR	Keskin Array B	9.14	78	Pn	Pn	16 31 19.4	+2.0
BRTR	Keskin Array B	9.14	78	Pn	Pn	16 31 19.4	+2.0
	1.0nm,0.3s,baz=258,slow=13,SNR=37						
BRTR	Keskin Array B	9.14	78	Pn	Pn	16 31 19.4	+2.0
BURAR	Bucovina Array	9.48	13	iP	Pn	16 31 24.4	+2.4
BURAR	Bucovina Array	9.48	13	iP	Pn	16 31 24.4	+2.4
PGF	Pioggiola	10.73	297	eP	Pn	16 31 41.5	+2.3
	29nm,1.2s						
PGF	Pioggiola	10.73	297	eP	Pn	16 31 41.5	+2.3
	29nm,1.2s						
PGF	Pioggiola	10.73	297	eP	Pn	16 31 41.5	+2.3
	29nm,1.2s						
MBDF	Montbardon	13.03	304	eP	Pn	16 32 12.0	+1.5
MBDF	Montbardon	13.03	304	eP	Pn	16 32 12.0	+1.5
MBDF	Montbardon	13.03	304	eP	Pn	16 32 12.0	+1.5
AKASG	Malin Array Be	13.30	20	Pn	Pn	16 32 14.2	0.0
AKASG	Malin Array Be	13.30	20	Pn	Pn	16 32 14.2	0.0
	0.1nm,0.3s,baz=208,slow=12,SNR=2.5						
AKASG	Malin Array Be	13.30	20	Pn	Pn	16 32 14.1	0.0
CLL	Collm	14.36	337	ePP	P	16 32 38.0	+2.3
AVF	Avril sur Loir	16.05	307	eP	P	16 32 53.9	-0.6
	13nm,1.1s						
AVF	Avril sur Loir	16.05	307	eP	P	16 32 53.9	-0.6
	13nm,1.0s						
AVF	Avril sur Loir	16.05	307	eP	P	16 32 53.9	-0.6
	13nm,1.0s						
SSF	Saint Saulge	16.07	308	eP	P	16 32 53.6	-1.2
	9.1nm,0.8s						
SSF	Saint Saulge	16.07	308	eP	P	16 32 53.6	-1.2
	9.1nm,0.8s						
SSF	Saint Saulge	16.07	308	eP	P	16 32 53.6	-1.2
	9.1nm,0.8s						
BGF	Bois d'Agland	16.28	306	eP	Pn	16 32 53.4	-0.6
	6.4nm,0.6s						
BGF	Bois d'Agland	16.28	306	eP	Pn	16 32 53.4	-0.6
	6.4nm,0.6s						
ESDC	Sonseca Array	20.19	282	P	P	16 33 41.0	+0.8
ESDC	Sonseca Array	20.19	282	P	P	16 33 41.0	+0.8
	1.2nm,0.5s,baz=76,slow=10.0,SNR=7.6						
ESDC	Sonseca Array	20.19	282	P	P	16 33 41.0	+0.8
ROSF	Rostrenen	20.79	307	eP	P	16 33 46.1	-0.5
	12nm,0.8s						
ROSF	Rostrenen	20.79	307	eP	P	16 33 46.1	-0.5
	12nm,0.8s						
ROSF	Rostrenen	20.79	307	eP	P	16 33 46.1	-0.5
	12nm,0.8s						
HFS	Hagfors	22.36	349	P	P	16 34 02.4	-0.9
HFS	Hagfors	22.36	349	P	P	16 34 02.4	-0.9
	3.7nm,0.6s,baz=159,slow=14,SNR=12						
HFS	Hagfors	22.36	349	P	P	16 34 02.4	-0.9
FINES	FINESS Array B	23.19	5	P	P	16 34 10.6	-1.3
FINES	FINESS Array B	23.19	5	P	P	16 34 10.6	-1.3
	1.5nm,0.6s,baz=168,slow=9.8,SNR=12						
FINES	FINESS Array B	23.19	5	P	P	16 34 10.6	-1.3
NB2	NORSAR Subarra	23.63	347	P	P	16 34 15.7	-0.7
	comp=Z,2.2nm,0.6s,baz=153,slow=10						
NB2	NORSAR Subarra	23.63	347	P	P	16 34 15.7	-0.7
	comp=Z,2.2nm,0.6s,SNR=8.2						
NOA	NORSAR Array B	23.63	347	P	P	16 34 15.8	-0.7
NOA	NORSAR Array B	23.63	347	P	P	16 34 15.8	-0.7
	comp=Z,3.1nm,1.0s,baz=154,slow=9.4,SNR=12						
NOA	NORSAR Array B	23.63	347	P	P	16 34 15.8	-0.7
KAF	Kangasniemi	23.87	5	ep	P	16 34 16.1	-2.5
EKA	Eskdalemuir Ar	23.92	323	P	P	16 34 19.1	-0.1
EKA	Eskdalemuir Ar	23.92	323	P	P	16 34 19.1	-0.1
	comp=Z,3.4nm,0.8s,baz=118,slow=10,SNR=7.9						
EKA	Eskdalemuir Ar	23.92	323	P	P	16 34 19.1	-0.1
TORD	Torodi Ar. Bea	30.97	221	P	P	16 35 23.3	+0.5
TORD	Torodi Ar. Bea	30.97	221	P	P	16 35 23.3	+0.5
	comp=Z,2.1nm,0.6s,baz=31,slow=9.2,SNR=14						
TORD	Torodi Ar. Bea	30.97	221	P	P	16 35 23.3	+0.5
ARCES	ARCESS Array B	31.23	2	P	P	16 35 23.9	-0.7
ARCES	ARCESS Array B	31.23	2	P	P	16 35 23.9	-0.7
	comp=Z,2.5nm,0.8s,baz=193,slow=10,SNR=3.7						
ARCES	ARCESS Array B	31.23	2	P	P	16 35 24.0	-0.7
KKAR	Karatay Array	36.62	67	eP	P	16 36 11.0	-0.8
	comp=Z,1.4nm,0.5s						
KKAR	Karatay Array	36.62	67	eP	P	16 36 11.0	-0.8
	comp=Z,1.4nm,0.5s						
DBIC	Dimbokro	39.88	224	P	P	16 36 40.7	+1.3
DBIC	Dimbokro	39.88	224	P	P	16 36 40.7	+1.3
	comp=Z,2.3nm,0.7s,baz=2.4,slow=9.8,SNR=2.8						
DBIC	Dimbokro	39.88	224	P	P	16 36 40.7	+1.3
SPITS	Spitsbergen Ar	39.94	358	P	P	16 36 39.7	+0.5
SPITS	Spitsbergen Ar	39.94	358	P	P	16 36 39.7	+0.5
	comp=Z,24nm,1.1s,baz=154,slow=7.5,SNR=6.3						
SPITS	Spitsbergen Ar	39.94	358	P	P	16 36 39.7	+0.5
LIC	Lamto	40.34	224	eP	P	16 36 43.7	+0.5
	comp=Z,3.8nm,0.5s						
LIC	Lamto	40.34	224	eP	P	16 36 43.7	+0.5
	comp=Z,3.8nm,0.4s						
LIC	Lamto	40.34	224	eP	P	16 36 43.7	+0.5
	comp=Z,3.8nm,0.4s						
MK31	Makanchi Array	44.17	59	eP	P	16 37 13.6	-0.6
MK31	Makanchi Array	44.17	59	eP	P	16 37 13.6	-0.6
MKAR	Makanchi Array	44.17	59	P	P	16 37 13.6	-0.7
MKAR	Makanchi Array	44.17	59	P	P	16 37 13.6	-0.7
	comp=Z,1.8nm,0.4s,baz=275,slow=7.4,SNR=59						
MKAR	Makanchi Array	44.17	59	P	P	16 37 13.6	-0.7
ZALV	Zalesovo Beam	44.65	48	P	P	16 37 17.2	-0.7
ZALV	Zalesovo Beam	44.65	48	P	P	16 37 17.2	-0.7
	comp=Z,2.3nm,0.5s,baz=283,slow=7.4,SNR=12						
ZALV	Zalesovo Beam	44.65	48	P	P	16 37 17.2	-0.7
SONM	Songino Array	59.40	51	P	P	16 39 06.9	-1.1
SONM	Songino Array	59.40	51	P	P	16 39 06.9	-1.1
	comp=Z,1.3nm,1.0s,baz=302,slow=8.5,SNR=3.8						
SONM	Songino Array	59.40	51	P	P	16 39 06.9	-1.1
YKA	Yellowknife Ar	73.56	341	P	P	16 40 38.4	+0.3
YKA	Yellowknife Ar	73.56	341	P	P	16 40 38.4	+0.3
	comp=Z,0.3nm,0.6s,baz=37,slow=4.6,SNR=5.4						
YKA	Yellowknife Ar	73.56	341	P	P	16 40 38.4	+0.3
KSAR	Wonju Array Be	78.25	51	P	P	16 41 03.5	-1.8
KSAR	Wonju Array Be	78.25	51	P	P	16 41 03.5	-1.8
KSRS	Korea Array	78.27	51	P	P	16 41 03.5	-1.9
	comp=Z,0.6nm,0.7s,baz=306,slow=4.8,SNR=4.3						
PDAR	Pinedale Array	88.00	327	P	P	16 41 56.4	+0.4
PDAR	Pinedale Array	88.00	327	P	P	16 41 56.4	+0.4
	comp=Z,0.3nm,0.7s,baz=58,slow=11,SNR=3.0						
PDAR	Pinedale Array	88.00	327	P	P	16 41 56.4	+0.4
MTN	Manton Dam	5.75	155	P	Pn	16 47 35.1	-2.7
	baz=5.5,SNR=29						
KDU	Kakadu	6.31	143	P	Pn	16 47 41.5	-3.8
	baz=6.1,SNR=32						
KNRA	Kununurra	8.01	179	P	Pn	16 48 04.9	-3.0
	baz=7.7,SNR=167						
KNRA				S	Sn	16 49 37.2	0.0
	baz=7.7,SNR=4.7						
FITZ	Fitzroy Crossi	10.81	195	P	Pn	16 48 41.1	-4.0
	baz=10,SNR=28						
FITZ				S	S	16 50 46.8	+0.9
	baz=10,SNR=4.0						
WRA	Warramunga Arr	13.45	156	Pn	Pn	16 49 15.7	-3.7
	1.4nm,0.3s,baz=338,slow=13,SNR=51						
WRA				Sn	Sn	16 51 46.9	-1.4
	1.2nm,0.3s,baz=329,slow=22,SNR=8.1						
COEN	Coen	15.63	115	P	P	16 49 50.6	+2.9
	baz=16,SNR=3.8						
QIS	Mount Isa	16.69	142	P	Pn	16 50 03.6	+4.0
	baz=16,SNR=5.1						
ASAR	Alice Springs	16.74	163	P	Pn	16 50 00.5	+0.2
	0.6nm,0.3s,baz=335,slow=9.4,SNR=41						
ASAR				S	Sn	16 53 05.9	-1.5
	0.3nm,0.3s,baz=346,slow=25,SNR=4.3						
WRKA	Warakurna	17.32	181	P	Pn	16 50 07.2	0.0
	baz=17,SNR=9.7						
MEEK	Meekatharra	21.16	205	P	P	16 50 51.2	+3.4
	baz=21,SNR=5.3						
QLP	Quilpie	24.00	144	P	P	16 51 22.3	+7.0
	baz=24,SNR=6.9						
STKA	Stephens Creek	27.00	155	P	P	16 51 45.7	+3.4
	1.8nm,1.0s,baz=326,slow=6.3,SNR=3.2						
KSRS	Korea Array	44.84	359	P	P	16 54 12.0	-1.5
	0.5nm,0.6s,baz=171,slow=7.2,SNR=4.0						
USRK	Ussuriysk Arra	51.67	3	P	P	16 55 04.8	-0.9
	1.3nm,0.6s,baz=179,slow=7.0,SNR=4.9						
MKAR	Makanchi Array	68.00	328	P	P	16 56 57.5	+0.2
	1.0nm,0.7s,baz=125,slow=8.2,SNR=8.9						
ZALV	Zalesovo Beam	71.53	334	P	P	16 57 18.9	+0.2
	0.6nm,0.5s,baz=123,slow=7.1,SNR=3.3						
KURBB	Kurchatov Arra	72.32	329	P	P	16 57 23.5	0.0
	0.6nm,0.6s,baz=133,slow=5.0,SNR=6.6						

CSEM ***18*** *16:38:09.3,38°.43N×21°.90E,h3km,ML2.4/4, After THE*
THE 18 16:38:09.3,38°.43N×21°.90E,h3km±1km,ML2.4/4,Error ellipse: s-maj=1.3km s-min=0.8km az=359.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.01	74	P	Pg	16 38 09.6	-0.3
EFP				S	Sg	16 38 10.9	+0.7
EFP	Efpalio	0.01	74	P	Pg	16 38 09.6	-0.3
EFP				S	Sg	16 38 10.9	+0.7
UPR	University Cam	0.17	212	P	Pg	16 38 12.7	+0.2
UPR				S	Sg	16 38 15.6	+0.9
UPR	University Cam	0.17	212	P	Pg	16 38 12.7	+0.2
UPR				S	Sg	16 38 15.6	+0.9
KALE	Kalithea	0.19	100	P	Pg	16 38 12.5	-0.7
KALE				S	Sg	16 38 16.1	+0.3
KALE	Kalithea	0.19	100	P	Pg	16 38 12.5	-0.7
KALE				S	Sg	16 38 16.1	+0.3
LAKA	Lakka	0.20	161	P	Pg	16 38 12.6	-0.5
LAKA	Lakka	0.20	161	P	Pg	16 38 12.6	-0.5
PVO	Paravola	0.35	303	P	Pg	16 38 15.7	-0.4
PVO				S	Sg	16 38 21.4	+0.8
PVO	Paravola	0.35	303	P	Pg	16 38 15.7	-0.4
PVO				S	Sg	16 38 21.4	+0.8
DRO	Drossia	0.49	197	P	Pg	16 38 18.2	-0.7
DRO				S	Sg	16 38 25.8	+0.5
DRO	Drossia	0.49	197	P	Pg	16 38 18.2	-0.7
DRO				S	Sg	16 38 25.8	+0.5
GUR	Goura	0.60	144	P	Pg	16 38 20.0	-1.0
GUR				S	Sg	16 38 29.9	+1.0
GUR	Goura	0.60	144	P	Pg	16 38 20.0	-1.0
GUR				S	Sg	16 38 29.9	+1.0
AMT	Artemida-Makis	0.90	190	P	Pg	16 38 25.9	-0.8
AMT	Artemida-Makis	0.90	190	P	Pg	16 38 25.9	-0.8
DID	Didima	1.40	131	P	Pn	16 38 34.9	-0.9
DID				S	Sn	16 38 55.5	+0.7
DID	Didima	1.40	131	P	Pn	16 38 34.9	-0.9
DID				S	Sn	16 38 55.5	+0.7

IDC ***18*** *16:45:58.6±1.0,7°.30S×128°.37E,h0km,mb3.9/6, mb1 4.0/8,mb1mx3.7/33,mbtmp3.9/8,ML4.2/2,Error ellipse: s-maj=76.1km s-min=19.4km az=70.0*
ISC 18 16:46:14.4±0.9,7°.62S±0°.07×128°.6E±0°.2,h151km,n18, σ2°.08/16,mb3.6/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.78	243	P	Pn	16 47 18.9	-6.2
	baz=4.6,SNR=4.9						

ISCJB ***18*** *16:58:01.7±0.9,13°.63N±0°.09×90°.48W±0°.07,h85km±6km, mb3.7/4,Error ellipse: s-maj=17.4km s-min=6.7km az=36.5*
CASC ***18*** *16:58:01.6±1.6,13°.50N×90°.50W,h19km±7km,MD3.8, ML4.1*
IDC ***18*** *16:58:04.3±2.2,14°.06N×90°.04W,h66km±15km,mb3.5/4, mb1 3.7/6,mb1mx3.3/37,mbtmp3.7/6,Error ellipse: s-maj=41.5km s-min=24.1km az=45.0*
ISC 18 16:58:03.4±1.2,13°.71N±0°.09×90°.44W±0°.07,h74km±9km, n25,σ1°.50/31,mb3.9/4,4C-6D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.70	347	eP	Pn	16 58 18.2	-0.6
PCG				eS	Sn	16 58 31.6	+1.4
RTR	El Retiro	0.80	76	iP	Pn	16 58 19.0	-0.8
SBLS	San Blas	0.81	81	iP	Pn	16 58 18.8	-1.2
SNJE	San Jose	0.83	79	iP	Pn	16 58 19.1	-1.1
RBDL	Robledal	0.84	61	iP	Pn	16 58 19.4	-0.9
NBG	Las Nubes	0.88	6	eP	Pn	16 58 21.4	+0.5
NBG				eS	Sn	16 58 36.8	+2.9
BOQS	Boqueron	1.13	89	iP	Pn	16 58 23.2	-0.7
BOQS				eS	Sn	16 58 38.5	-0.7
SNET	Serv Nac Est T	1.18	91	iP	Pn	16 58 24.1	-0.2
SNET				eS

GUR	**Goura**	0.55	151	*e*PN	**Pg**	16 59 17.7	-0.6
GUR	**Goura**	0.55	151	*e*Pn	**Pg**	16 59 17.7	-0.6
GUR	**Goura**	0.55	151	P	**Pg**	16 59 18.1	-0.2
GUR				S	**Sg**	16 59 25.9	+0.4
RLS	**Riolos of Patr**	0.56	230	*e*PN	**Pg**	16 59 18.2	-0.2
RLS				*e*SN	**Sg**	16 59 26.9	+1.2
RLS	**Riolos of Patr**	0.56	230	P	**Pg**	16 59 17.9	-0.5
RLS	**Riolos of Patr**	0.56	230	*e*Pn	**Pg**	16 59 18.2	-0.2
RLS				*e*Sn	**Sg**	16 59 26.9	+1.2
MAKR	**Makrakomi, Fth**	0.60	9	P	**Pg**	16 59 19.1	-0.1
MAKR				S	**Sg**	16 59 28.0	+0.9
MAKR	**Makrakomi, Fth**	0.60	9	*e*PN	**Pg**	16 59 19.2	0.0
MAKR	**Makrakomi, Fth**	0.60	9	P	**Pg**	16 59 19.1	-0.1
MAKR				S	**Sg**	16 59 28.0	+0.9
AXAR	**Agios Charalam**	0.62	56	P	**Pg**	16 59 19.1	-0.4
AXAR				S	**Sg**	16 59 28.1	+0.5
AXAR	**Agios Charalam**	0.62	56	P	**Pg**	16 59 19.1	-0.4
AXAR				S	**Sg**	16 59 28.1	+0.5
AGG	**Agios Georgios**	0.65	23	P	**Pg**	16 59 19.6	-0.6
AGG	**Agios Georgios**	0.65	23	*e*PN	**Pg**	16 59 20.2	0.0
AGG	**Agios Georgios**	0.65	23	P	**Pg**	16 59 19.6	-0.6
AGG	**Agios Georgios**	0.65	23	*e*Pn	**Pg**	16 59 20.2	0.0
PDO	**Prodromos**	0.67	286	P	**Pg**	16 59 20.4	-0.1
PDO				S	**Sg**	16 59 29.6	+0.4
PDO	**Prodromos**	0.67	286	*e*PN	**Pg**	16 59 20.5	-0.1
PDO				*e*SN	**Sg**	16 59 30.3	+1.1
PDO	**Prodromos**	0.67	286	P	**Pg**	16 59 20.3	-0.2
PDO				S	**Sg**	16 59 29.6	+0.4
PDO				*e*Sn	**Sg**	16 59 30.3	+1.1
LKR	**Lokris**	0.81	73	*e*PN	**Pg**	16 59 22.7	-0.5
LKR	**Lokris**	0.81	73	*e*Pn	**Pg**	16 59 22.7	-0.5
LTK	**Loutraki**	0.85	117	P	**Pg**	16 59 24.1	+0.1
LTK				S	**Sb**	16 59 36.6	+0.3
LTK	**Loutraki**	0.85	117	*e*PN	**Pg**	16 59 23.3	-0.7
LTK	**Loutraki**	0.85	117	*e*Pn	**Pg**	16 59 23.3	-0.7
LTK	**Loutraki**	0.85	117	P	**Pg**	16 59 24.1	+0.1
LTK				S	**Sb**	16 59 36.6	+0.3
AMT	**Artemida-Makis**	0.92	195	P	**Pg**	16 59 25.2	0.0
AMT				S	**Sb**	16 59 39.0	+0.8
AMT	**Artemida-Makis**	0.92	195	*e*PN	**Pg**	16 59 24.9	-0.3
AMT	**Artemida-Makis**	0.92	195	*e*Pn	**Pg**	16 59 24.9	-0.3
AMT	**Artemida-Makis**	0.92	195	P	**Pg**	16 59 25.2	0.0
AMT				S	**Sb**	16 59 39.0	+0.8
SMIA	**Simia**	1.05	64	P	**Pg**	16 59 27.0	-0.7
SMIA	**Simia**	1.05	64	*e*PN	**Pg**	16 59 27.0	-0.7
SMIA	**Simia**	1.05	64	P	**Pg**	16 59 27.0	-0.7
VLX	**Vlachokerasia**	1.09	164	P	**Pg**	16 59 27.6	-0.9
VLX				S	**Sn**	16 59 43.8	-0.8
VLX	**Vlachokerasia**	1.09	164	*e*PB	**Pg**	16 59 27.1	-1.4
VLX	**Vlachokerasia**	1.09	164	*e*Pb	**Pg**	16 59 27.1	-1.4
VLX	**Vlachokerasia**	1.09	164	P	**Pg**	16 59 27.6	-0.9
VLX				S	**Sn**	16 59 43.8	-0.8
LKD2	**Lefkada island**	1.12	290	P	**Pb**	16 59 28.4	-0.8
LKD2	**Lefkada island**	1.12	290	*e*PN	**Pb**	16 59 28.1	-1.1
LKD2	**Lefkada island**	1.12	290	*e*Pn	**Pb**	16 59 28.1	-1.1
LKD2	**Lefkada island**	1.12	290	P	**Pb**	16 59 28.4	-0.8
VLS	**Valsamata**	1.14	258	*e*PB	**Pb**	16 59 27.6	-2.0
VLS	**Valsamata**	1.14	258	*e*Pb	**Pb**	16 59 27.6	-2.0
THL	**Klokotos Trika**	1.14	0	*e*PN	**Pb**	16 59 29.3	-0.3
THL	**Klokotos Trika**	1.14	0	*e*Pn	**Pb**	16 59 29.3	-0.3
ITM	**Ithomi**	1.24	183	*e*PN	**Pn**	16 59 30.3	-1.0
ITM	**Ithomi**	1.24	183	*e*Pn	**Pn**	16 59 30.3	-1.0
MRKA	**Markates**	1.27	77	P	**Pb**	16 59 31.7	-0.1
MRKA	**Markates**	1.27	77	*e*PN	**Pn**	16 59 31.5	-0.2
MRKA	**Markates**	1.27	77	*e*Pn	**Pn**	16 59 31.5	-0.2
NEO	**Neokhori**	1.30	47	*e*PN	**Pn**	16 59 31.9	-0.2
NEO	**Neokhori**	1.30	47	*e*Pn	**Pn**	16 59 31.9	-0.2
XOR	**Xorichti**	1.32	44	P	**Pn**	16 59 32.0	-0.4
XOR	**Xorichti**	1.32	44	*e*PN	**Pn**	16 59 32.0	-0.4
XOR	**Xorichti**	1.32	44	P	**Pn**	16 59 32.0	-0.4
DID	**Didima**	1.33	133	P	**Pb**	16 59 32.8	-0.1
DID	**Didima**	1.33	133	*e*PN	**Pn**	16 59 32.5	-0.1
DID	**Didima**	1.33	133	*e*Pn	**Pn**	16 59 32.5	-0.1
DID	**Didima**	1.33	133	P	**Pb**	16 59 32.8	-0.1
NAIG	**Nisos Aigina**	1.34	119	*e*PN	**Pb**	16 59 32.9	-0.1
NAIG	**Nisos Aigina**	1.34	119	*e*Pn	**Pb**	16 59 32.9	-0.1
SKIA	**Skiathos**	1.36	56	*e*PN	**Pn**	16 59 32.7	-0.3
SKIA	**Skiathos**	1.36	56	*e*Pn	**Pn**	16 59 32.7	-0.3
ATH	**Athens Observa**	1.42	108	*e*PN	**Pb**	16 59 34.2	-0.1
ATH	**Athens Observa**	1.42	108	*e*Pn	**Pb**	16 59 34.2	-0.1
MEV	**Metsovon**	1.49	336	P	**Pb**	16 59 35.7	0.0
MEV	**Metsovon**	1.49	336	P	**Pb**	16 59 35.7	0.0
PTL	**Penteli**	1.51	104	*e*PN	**Pn**	16 59 35.2	+0.2
PTL	**Penteli**	1.51	104	*e*Pn	**Pn**	16 59 35.2	+0.2
JAN	**Janina**	1.53	324	*e*PN	**Pb**	16 59 36.7	+0.5
JAN	**Janina**	1.53	324	*e*Pn	**Pb**	16 59 36.7	+0.5
PYL	**PYLOS**	1.54	188	P	**Pn**	16 59 35.2	-0.1
PYL	**PYLOS**	1.54	188	*e*PN	**Pn**	16 59 35.5	+0.2
PYL	**PYLOS**	1.54	188	P	**Pn**	16 59 35.2	-0.1
PYL	**PYLOS**	1.54	188	*e*Pn	**Pn**	16 59 35.5	+0.2
LIT	**Litokhoron**	1.72	12	P	**Pn**	16 59 37.8	-0.1
LIT	**Litokhoron**	1.72	12	*e*PB	**Pn**	16 59 37.6	-0.3
LIT	**Litokhoron**	1.72	12	P	**Pn**	16 59 37.8	-0.1
VLI	**Veliai**	1.85	156	*e*PN	**Pn**	16 59 40.2	+0.5
VLI	**Veliai**	1.85	156	*e*Pn	**Pn**	16 59 40.2	+0.5
KZN	**Kozani**	1.89	355	*e*PN	**Pn**	16 59 40.5	+0.2
KZN	**Kozani**	1.89	355	*e*Pn	**Pn**	16 59 40.5	+0.2
NEST	**Nestorio**	2.12	340	*e*PN	**Pb**	16 59 45.4	-1.0
NEST	**Nestorio**	2.12	340	*e*Pn	**Pb**	16 59 45.4	-1.0
KEK	**Kerkira**	2.15	308	*e*PN	**Pb**	16 59 45.8	-1.0
KEK	**Kerkira**	2.15	308	*e*Pn	**Pb**	16 59 45.8	-1.0
PLG	**Polygyros**	2.25	29	*e*PN	**Pn**	16 59 44.1	-1.1
PLG	**Polygyros**	2.25	29	*e*Pn	**Pn**	16 59 44.1	-1.1
KYTH	**Kithira**	2.29	159	*e*PN	**Pb**	16 59 47.9	-1.3
KYTH	**Kithira**	2.29	159	*e*Pn	**Pb**	16 59 47.9	-1.3
HORT	**Hortiatis**	2.33	21	*e*PB	**Pn**	16 59 45.8	-0.6
HORT	**Hortiatis**	2.33	21	*e*Pb	**Pn**	16 59 45.8	-0.6
FNA	**Florina**	2.41	349	P	**Pn**	16 59 47.9	+0.5
FNA	**Florina**	2.41	349	*e*PN	**Pn**	16 59 48.1	+0.7
FNA	**Florina**	2.41	349	P	**Pn**	16 59 47.9	+0.5
OUR	**Ouranopolis**	2.45	38	*e*PN	**Pn**	16 59 47.3	-0.6
OUR	**Ouranopolis**	2.45	38	*e*Pn	**Pn**	16 59 47.3	-0.6
GRG	**Griva**	2.55	7	*e*PN	**Pn**	16 59 48.9	-0.4
GRG	**Griva**	2.55	7	*e*Pn	**Pn**	16 59 48.9	-0.4
SOH	**Sokhos**	2.61	23	*e*PN	**Pn**	16 59 49.9	-0.3
SOH	**Sokhos**	2.61	23	*e*Pn	**Pn**	16 59 49.9	-0.3
SRS	**Serrai**	2.96	24	*e*PN	**Pn**	16 59 54.1	-0.8
SRS	**Serrai**	2.96	24	*e*Pn	**Pn**	16 59 54.1	-0.8
CHOS	**Chios island**	3.18	89	*e*PN	**Pn**	16 59 58.5	+0.5
CHOS	**Chios island**	3.18	89	*e*Pn	**Pn**	16 59 58.5	+0.5
IDI	**Anoyia**	3.89	143	Pn	**Pn**	17 00 08.1	+0.4
	0.4nm,0.3s,baz=3.4,slow=19,SNR=4.5						
IDI				Sn	**Sn**	17 00 52.5	-1.2
	0.9nm,0.3s,baz=353,slow=18,SNR=2.8						
BRTR	**Keskin Array B**	9.14	78	Pn	**Pn**	17 01 21.6	+1.7
	0.2nm,0.3s,baz=255,slow=13,SNR=5.1						
TORD	**Torodi Ar. Bea**	30.97	221	P	**P**	17 05 25.6	+0.2
	0.3nm,0.5s,baz=40,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	44.18	59	P	**P**	17 07 17.1	+0.2
	0.3nm,0.4s,baz=270,slow=9.0,SNR=4.5						

TIR ***18*** *17:10:12.1,38˙44N×22˙09E,h5km,ML3.7*
IDC ***18*** *17:10:12.9±0.9,38˙39N×22˙03E,h0km,mb3.8/14, mb1 3.9/18,mb1mx3.7/45,mbtmp3.8/18,ML3.2/4,Error ellipse: s-maj=16.6km s-min=16.1km az=154.0*
CSEM ***18*** *17:10:13.5±0.1,38˙42N×22˙00E,h2km,ML3.7,Error ellipse: s-maj=2.4km s-min=2.1km az=69.0*
ATH ***18*** *17:10:13.4,38˙42N×22˙00E,h17km±1km,ML3.7*
SOF ***18*** *17:10:13.8,38˙50N×21˙98E,h2km,MD3.0*
THE ***18*** *17:10:13.5,38˙44N×21˙99E,h0km±1km,ML3.8/12,Error ellipse: s-maj=1.6km s-min=0.5km az=303.0*
ISCJB ***18*** *17:10:13.3±0.3,38˙43N±0˙01×21˙98E±0˙02,h11km±2km, mb3.7/14,Error ellipse: s-maj=2.3km s-min=2.0km az=141.4*

ISC 18 17:10:14.3±0.8,38˚43N±0˙01×21˚99E±0˙01,h8km±5km, n273,σ1§02/330,mb3.8/14,17C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.12**	**106**	P	**Pg**	**17 10 16.4**	**-0.6**
KALE				S	**Sg**	**17 10 18.3**	**-0.6**
KALE	**Kalithea**	**0.12**	**106**	*e*PB	**Pg**	**17 10 17.0**	**0.0**
KALE				*e*SB	**Sg**	**17 10 19.4**	**+0.5**
KALE	**Kalithea**	**0.12**	**106**	P	**Pg**	**17 10 16.4**	**-0.6**
KALE	**Kalithea**	**0.12**	**106**	*e*Pb	**Pg**	**17 10 17.0**	**0.0**
KALE				S	**Sg**	**17 10 18.3**	**-0.6**
KALE				*e*Sb	**Sg**	**17 10 19.4**	**+0.5**
LAKA	**Lakka**	**0.18**	**183**	P	**Pg**	**17 10 16.9**	**-1.2**
LAKA	**Lakka**	**0.18**	**183**	*e*PB	**Pg**	**17 10 17.5**	**-0.6**
LAKA	**Lakka**	**0.18**	**183**	P	**Pg**	**17 10 16.9**	**-1.2**
LAKA	**Lakka**	**0.18**	**183**	*e*Pb	**Pg**	**17 10 17.5**	**-0.6**
UPR	**University Cam**	**0.21**	**229**	P	**Pg**	**17 10 18.0**	**-0.6**
UPR				S	**Sg**	**17 10 21.3**	**-0.2**
UPR	**University Cam**	**0.21**	**229**	P	**Pg**	**17 10 18.0**	**-0.6**
UPR				S	**Sg**	**17 10 21.3**	**-0.2**
KLV	**Kalavryta, Ach**	**0.40**	**162**	*e*PB	**Pg**	**17 10 21.5**	**-0.6**
KLV				*e*SB	**Sg**	**17 10 27.7**	**+0.3**
KLV	**Kalavryta, Ach**	**0.40**	**162**	*e*Pb	**Pg**	**17 10 21.5**	**-0.6**
KLV				*e*Sb	**Sg**	**17 10 27.7**	**+0.3**
PVO	**Paravola**	**0.41**	**298**	P	**Pg**	**17 10 21.2**	**-1.1**
PVO	**Paravola**	**0.41**	**298**	P	**Pg**	**17 10 21.2**	**-1.1**
DSF	**Desfina**	**0.42**	**92**	P	**Pg**	**17 10 21.5**	**-1.0**
DSF				S	**Sg**	**17 10 27.6**	**-0.5**
DSF	**Desfina**	**0.42**	**92**	*e*PB	**Pg**	**17 10 21.9**	**-0.6**
DSF				*e*SB	**Sg**	**17 10 28.4**	**+0.3**
DSF	**Desfina**	**0.42**	**92**	P	**Pg**	**17 10 21.5**	**-1.0**
DSF	**Desfina**	**0.42**	**92**	*e*Pb	**Pg**	**17 10 21.9**	**-0.6**
DSF				S	**Sg**	**17 10 27.6**	**-0.5**
DSF				*e*Sb	**Sg**	**17 10 28.4**	**+0.3**
EVR	**Evrytania**	**0.51**	**344**	*e*PN	**Pg**	**17 10 23.2**	**-1.0**
EVR	**Evrytania**	**0.51**	**344**	P	**Pg**	**17 10 23.0**	**-1.2**
EVR				S	**Sg**	**17 10 31.0**	**+0.1**
DRO	**Drossia**	**0.52**	**205**	P	**Pg**	**17 10 23.2**	**-1.2**
DRO				S	**Sg**	**17 10 31.4**	**+0.2**
DRO	**Drossia**	**0.52**	**205**	*e*PN	**Pg**	**17 10 23.8**	**-0.6**
DRO				*e*SN	**Sg**	**17 10 31.3**	**+0.1**
DRO	**Drossia**	**0.52**	**205**	P	**Pg**	**17 10 23.2**	**-1.2**
DRO	**Drossia**	**0.52**	**205**	*e*Pn	**Pg**	**17 10 23.8**	**-0.6**
DRO				*e*Sn	**Sg**	**17 10 31.3**	**+0.1**
RLS	**Riolos of Patr**	**0.55**	**229**	*e*PN	**Pg**	**17 10 24.2**	**-0.8**
RLS				*e*SN	**Sg**	**17 10 32.0**	**+0.2**
RLS	**Riolos of Patr**	**0.55**	**229**	P	**Pg**	**17 10 24.2**	**-0.8**
RLS	**Riolos of Patr**	**0.55**	**229**	*e*Pn	**Pg**	**17 10 24.5**	**-0.5**
RLS				*e*Sn	**Sg**	**17 10 32.0**	**-0.2**
GUR	**Goura**	**0.56**	**150**	P	**Pg**	**17 10 24.1**	**-1.1**
GUR				S	**Sg**	**17 10 32.4**	**-0.1**
GUR	**Goura**	**0.56**	**150**	*e*PN	**Pg**	**17 10 24.4**	**-0.8**
GUR				*e*SN	**Sg**	**17 10 32.0**	**-0.5**
GUR	**Goura**	**0.56**	**150**	P	**Pg**	**17 10 24.1**	**-1.1**
GUR	**Goura**	**0.56**	**150**	*e*Pn	**Pg**	**17 10 24.4**	**-0.8**
GUR				*e*Sn	**Sg**	**17 10 32.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	P	**Pg**	**17 10 24.8**	**-1.1**
MAKR				S	**Sg**	**17 10 33.3**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	*e*PN	**Pg**	**17 10 25.3**	**-0.6**
MAKR				*e*SN	**Sg**	**17 10 34.5**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	P	**Pg**	**17 10 24.8**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	*e*Pn	**Pg**	**17 10 25.3**	**-0.6**
MAKR				*e*Sn	**Sg**	**17 10 34.5**	**+0.8**
AXAR	**Agios Charalam**	**0.62**	**57**	P	**Pg**	**17 10 25.4**	**-1.0**
AXAR				S	**Sg**	**17 10 34.7**	**+0.2**
AXAR	**Agios Charalam**	**0.62**	**57**	P	**Pg**	**17 10 25.4**	**-1.0**
AXAR				S	**Sg**	**17 10 34.7**	**+0.2**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**17 10 25.8**	**-1.1**
AGG	**Agios Georgios**	**0.65**	**24**	*e*PB	**Pg**	**17 10 26.0**	**-0.9**
AGG				*e*SN	**Sg**	**17 10 34.8**	**-0.6**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**17 10 25.8**	**-1.1**
AGG				*e*Sn	**Sg**	**17 10 34.8**	**-0.6**
PDO	**Prodromos**	**0.66**	**285**	P	**Pg**	**17 10 25.3**	**-1.7**
PDO	**Prodromos**	**0.66**	**285**	*e*PN	**Pg**	**17 10 26.5**	**-0.5**
PDO				*e*SN	**Sg**	**17 10 36.0**	**+0.4**
PDO	**Prodromos**	**0.66**	**285**	P	**Pg**	**17 10 25.3**	**-1.7**
PDO	**Prodromos**	**0.66**	**285**	*e*Pn	**Pg**	**17 10 26.5**	**-0.5**
PDO				S	**Sg**	**17 10 35.9**	**+0.4**
VTN	**Vitineika**	**0.81**	**232**	P	**Pg**	**17 10 29.1**	**-0.8**
VTN	**Vitineika**	**0.81**	**232**	P	**Pg**	**17 10 29.1**	**-0.8**
LKR	**Lokris**	**0.82**	**74**	*e*PN	**Pg**	**17 10 29.5**	**-0.6**
LKR				*e*SN	**Sb**	**17 10 41.4**	**-0.7**
LKR	**Lokris**	**0.82**	**74**	*e*Pn	**Pg**	**17 10 29.5**	**-0.6**
LKR				*e*Sn	**Sb**	**17 10 41.4**	**-0.7**
LTK	**Loutraki**	**0.87**	**117**	P	**Pg**	**17 10 30.1**	**-0.9**
LTK				S	**Sb**	**17 10 43.1**	**-0.3**
LTK	**Loutraki**	**0.87**	**117**	*e*PN	**Pg**	**17 10 30.5**	**-0.5**
LTK	**Loutraki**	**0.87**	**117**	P	**Pg**	**17 10 30.1**	**-0.9**
LTK	**Loutraki**	**0.87**	**117**	*e*Pn	**Pg**	**17 10 30.5**	**-0.5**
LTK				S	**Sb**	**17 10 43.1**	**-0.3**
AMT	**Artemida-Makis**	**0.92**	**194**	P	**Pg**	**17 10 31.1**	**-0.9**
AMT				S	**Sb**	**17 10 44.9**	**0.0**
AMT	**Artemida-Makis**	**0.92**	**194**	*e*PN	**Pg**	**17 10 31.5**	**-0.5**
AMT				*e*SN	**Sg**	**17 10 44.2**	**+0.3**
AMT	**Artemida-Makis**	**0.92**	**194**	P	**Pg**	**17 10 31.1**	**-0.9**
AMT	**Artemida-Makis**	**0.92**	**194**	*e*Pn	**Pg**	**17 10 31.5**	**-0.5**
AMT				S	**Sb**	**17 10 44.9**	**0.0**
KFL	**Anninata**	**1.00**	**252**	P	**Pg**	**17 10 31.9**	**-1.6**
KFL	**Anninata**	**1.00**	**252**	P	**Pg**	**17 10 31.9**	**-1.6**
SMIA	**Simia**	**1.05**	**64**	P	**Pg**	**17 10 33.3**	**-1.3**
SMIA	**Simia**	**1.05**	**64**	*e*PN	**Pg**	**17 10 33.6**	**-1.0**
SMIA				*e*SN	**Sb**	**17 10 48.6**	**-0.3**
SMIA	**Simia**	**1.05**	**64**	P	**Pg**	**17 10 33.3**	**-1.3**
SMIA	**Simia**	**1.05**	**64**	*e*Pn	**Pg**	**17 10 33.6**	**-1.0**
SMIA				*e*Sn	**Sb**	**17 10 48.6**	**-0.3**
VLX	**Vlachokerasia**	**1.10**	**164**	P	**Pg**	**17 10 33.8**	**-1.6**
VLX				S	**Sn**	**17 10 51.2**	**-0.3**
VLX	**Vlachokerasia**	**1.10**	**164**	*e*PN	**Pg**	**17 10 34.1**	**-1.3**
VLX	**Vlachokerasia**	**1.10**	**164**	P	**Pg**	**17 10 33.8**	**-1.6**
VLX	**Vlachokerasia**	**1.10**	**164**	*e*Pn	**Pg**	**17 10 34.1**	**-1.3**
VLX				S	**Sn**	**17 10 51.2**	**-0.3**
LKD2	**Lefkada island**	**1.11**	**290**	P	**Pg**	**17 10 33.9**	**-1.6**
LKD2				S	**Sg**	**17 10 50.0**	**+0.1**
LKD2	**Lefkada island**	**1.11**	**290**	*e*PN	**Pg**	**17 10 34.2**	**-1.3**
LKD2	**Lefkada island**	**1.11**	**290**	P	**Pg**	**17 10 34.2**	**-1.6**
LKD2	**Lefkada island**	**1.11**	**290**	*e*Pn	**Pg**	**17 10 34.2**	**-1.3**
LKD2				S	**Sg**	**17 10 50.0**	**+0.1**
VLS	**Valsamata**	**1.13**	**258**	*e*PB	**Pg**	**17 10 33.9**	**-2.1**
VLS	**Valsamata**	**1.13**	**258**	*e*Pb	**Pg**	**17 10 33.9**	**-2.1**
THL	**Klokotos Trika**	**1.14**	**1**	*e*PN	**Pg**	**17 10 34.9**	**-1.3**
THL	**Klokotos Trika**	**1.14**	**1**	*e*Pn	**Pg**	**17 10 34.9**	**-1.3**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pb**	**17 10 36.9**	**-0.9**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pb**	**17 10 36.9**	**-0.9**
ITM	**Ithomi**	**1.25**	**182**	*e*PN	**Pn**	**17 10 36.9**	**-1.2**
ITM	**Ithomi**	**1.25**	**182**	*e*Pn	**Pn**	**17 10 36.9**	**-1.2**
MRKA	**Markates**	**1.28**	**77**	P	**Pn**	**17 10 37.6**	**-1.0**
MRKA				S	**Sn**	**17 10 56.0**	**0.0**
MRKA	**Markates**	**1.28**	**77**	*e*PN	**Pn**	**17 10 37.5**	**-1.0**
MRKA	**Markates**	**1.28**	**77**	P	**Pn**	**17 10 37.6**	**-1.0**
MRKA				S	**Sn**	**17 10 56.0**	**0.0**
NEO	**Neokhori**	**1.30**	**47**	*e*PN	**Pn**	**17 10 38.7**	**-0.2**
NEO	**Neokhori**	**1.30**	**47**	*e*Pn	**Pn**	**17 10 38.7**	**-0.2**
XOR	**Xorichti**	**1.33**	**45**	P	**Pn**	**17 10 38.2**	**-1.0**
XOR	**Xorichti**	**1.33**	**45**	*e*PN	**Pn**	**17 10 38.2**	**-1.0**
XOR	**Xorichti**	**1.33**	**45**	P	**Pn**	**17 10 38.2**	**-1.0**
DID	**Didima**	**1.35**	**133**	P	**Pn**	**17 10 38.8**	**-0.7**
DID				S	**Sn**	**17 10 58.2**	**+0.6**
DID	**Didima**	**1.35**	**133**	*e*PN	**Pn**	**17 10 39.0**	**-0.5**
DID	**Didima**	**1.35**	**133**	P	**Pn**	**17 10 38.8**	**-0.7**
DID				S	**Sn**	**17 10 58.2**	**+0.6**
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*PN	**Pn**	**17 10 39.5**	**-0.1**
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*Pn	**Pn**	**17 10 39.5**	**-0.1**
SKIA	**Skiathos**	**1.37**	**57**	P	**Pn**	**17 10 39.1**	**-0.7**
SKIA	**Skiathos**	**1.37**	**57**	*e*PN	**Pn**	**17 10 39.1**	**-0.7**
SKIA	**Skiathos**	**1.37**	**57**	P	**Pn**	**17 10 39.1**	**-0.7**
ERET	**Eretria**	**1.43**	**89**	P	**Pn**	**17 10 40.3**	**-0.3**
ERET	**Eretria**	**1.43**	**89**	P	**Pn**	**17 10 40.3**	**-0.3**
ATH	**Athens Observa**	**1.43**	**108**	*e*PN	**Pn**	**17 10 40.7**	**+0.1**
ATH	**Athens Observa**	**1.43**	**108**	*e*Pn	**Pn**	**17 10 40.7**	**+0.1**
MEV	**Metsovon**	**1.48**	**337**	P	**Pn**	**17 10 40.4**	**-1.1**
MEV	**Metsovon**	**1.48**	**337**	P	**Pn**	**17 10 40.4**	**-1.1**
ATHU	**Athens Univers**	**1.48**	**107**	P	**Pn**	**17 10 40.9**	**-0.5**
ATHU				S	**Sb**	**17 11 01.3**	**+0.1**
ATHU	**Athens Univers**	**1.48**	**107**	P	**Pn**	**17 10 40.9**	**-0.5**
ATHU				S	**Sb**	**17 11 01.3**	**+0.1**
JAN	**Janina**	**1.52**	**325**	*e*PN	**Pb**	**17 10 43.0**	**+0.2**
JAN	**Janina**	**1.52**	**325**	*e*Pn	**Pb**	**17 10 43.0**	**+0.2**
PTL	**Penteli**	**1.52**	**104**	*e*PN	**Pn**	**17 10 42.0**	**+0.1**
PTL	**Penteli**	**1.52**	**104**	*e*Pn	**Pn**	**17 10 42.0**	**+0.1**
PYL	**PYLOS**	**1.54**	**187**	P	**Pn**	**17 10 41.8**	**-0.3**
PYL	**PYLOS**	**1.54**	**187**	*e*PN	**Pn**	**17 10 42.0**	**-0.1**
PYL	**PYLOS**	**1.54**	**187**	*e*Pn	**Pn**	**17 10 42.0**	**-0.1**
AOS	**Alonnisos**	**1.65**	**63**	*e*PN	**Pn**	**17 10 42.9**	**-0.8**
AOS	**Alonnisos**	**1.65**	**63**	*e*Pn	**Pn**	**17 10 42.9**	**-0.8**
IGT	**Igoumenitsa**	**1.70**	**311**	P	**Pb**	**17 10 45.8**	**-0.1**
IGT	**Igoumenitsa**	**1.70**	**311**	*e*PN	**Pb**	**17 10 45.1**	**-0.8**
IGT	**Igoumenitsa**	**1.70**	**311**	*e*Pn	**Pb**	**17 10 45.1**	**-0.8**
IGT	**Igoumenitsa**	**1.70**	**311**	P	**Pb**	**17 10 45.8**	**-0.1**
LIT	**Litokhoron**	**1.72**	**13**	P	**Pn**	**17 10 43.6**	**-1.0**
LIT	**Litokhoron**	**1.72**	**13**	*e*PB	**Pn**	**17 10 43.9**	**-0.7**
LIT	**Litokhoron**	**1.72**	**13**	P	**Pn**	**17 10 43.6**	**-1.0**
LIT	**Litokhoron**	**1.72**	**13**	*e*Pb	**Pn**	**17 10 43.9**	**-0.7**
VLI	**Veliai**	**1.86**	**156**	*e*PN	**Pn**	**17 10 46.4**	**-0.2**
VLI	**Veliai**	**1.86**	**156**	*e*Pn	**Pn**	**17 10 46.4**	**-0.2**
KZN	**Kozani**	**1.89**	**355**	*e*PN	**Pn**	**17 10 47.2**	**+0.2**
KZN	**Kozani**	**1.89**	**355**	*e*Pn	**Pn**	**17 10 47.2**	**+0.2**
PAIG	**Paliouri**	**1.99**	**41**	P	**Pn**	**17 10 47.1**	**-1.3**
PAIG	**Paliouri**	**1.99**	**41**	*e*PB	**Pn**	**17 10 47.0**	**-1.3**
PAIG	**Paliouri**	**1.99**	**41**	P	**Pn**	**17 10 47.1**	**-1.3**
NEST	**Nestorio**	**2.12**	**340**	P	**Pn**	**17 10 51.0**	**+0.8**
NEST	**Nestorio**	**2.12**	**340**	*e*PN	**Pb**	**17 10 52.2**	**-0.8**
NEST	**Nestorio**	**2.12**	**340**	P	**Pn**	**17 10 51.0**	**+0

2.1nm,0.7s,baz=163,slow=11,SNR=8.1
FINES FINESS Array B 23.18 5 P P 17 15 19.4 -1.8
1.7nm,0.7s,baz=191,slow=11,SNR=4.4
NB2 NORSAR Subarra 23.62 347 P P 17 15 24.7 -1.0
comp=Z,0.8nm,0.6s,baz=160,slow=11
NB2 NORSAR Subarra 23.62 347 P P 17 15 24.7 -1.0
comp=Z,0.8nm,0.6s,SNR=4.5
NOA NORSAR Array B 23.62 347 P P 17 15 25.5 -0.2
comp=Z,1.7nm,1.0s,baz=163,slow=12,SNR=3.8
EKA Eskdalemuir Ar 23.91 323 P P 17 15 28.7 +0.2
comp=Z,5.2nm,0.9s,baz=125,slow=10,SNR=9.2
TORD Torodi Ar. Bea 30.96 221 P P 17 16 32.0 -0.1
comp=Z,1.2nm,0.7s,baz=36,slow=8.7,SNR=11
ARCES ARCESS Array B 31.23 2 P P 17 16 34.0 0.0
comp=Z,2.8nm,1.0s,baz=190,slow=9.1,SNR=3.4
KURBB Kurchatov Arra 41.15 54 P P 17 17 58.1 -0.8
comp=Z,0.7nm,0.7s,baz=280,slow=8.6,SNR=4.8
MKAR Makanchi Array 44.19 59 P P 17 18 21.7 -2.0
comp=Z,1.2nm,0.4s,baz=274,slow=7.4,SNR=14
ZALV Zalesovo Beam 44.66 48 P P 17 18 26.4 -1.0
comp=Z,1.4nm,0.8s,baz=308,slow=7.3,SNR=6.1
SCHQ Schefferville 59.06 318 P P 17 20 14.3 -0.4
comp=Z,4.4nm,1.0s,baz=65,slow=12,SNR=2.7
SONM Songino Array 59.40 51 P P 17 20 18.3 +0.9
comp=Z,0.8nm,0.6s,baz=280,slow=8.5,SNR=3.4
YKA Yellowknife Ar 73.55 341 P P 17 21 47.5 +0.1
comp=Z,0.4nm,0.7s,baz=34,slow=5.2,SNR=7.7
ILAR Eielson Array 76.77 355 P P 17 22 08.6 +2.6
comp=Z,0.4nm,0.9s,baz=352,slow=4.0,SNR=3.8
KSRS Korea Array 78.28 51 P P 17 22 15.3 +0.5
comp=Z,0.2nm,0.4s,baz=309,slow=6.3,SNR=4.3

*ATH **18** 17:20:11.5,38°.41N×22°.03E,h17km±1km, ML3.4*
*ISCJB **18** 17:20:11.3±0.3,38°.41N±0°.01×21°.99E±0°.02,h10km±2km, mb3.5/4, Error ellipse: s-maj=2.4km s-min=2.3km az=3.6*
*CSEM **18** 17:20:11.6±0.1,38°.40N×22°.02E,h5km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.2km az=87.0*
*IDC **18** 17:20:11.3±1.2,38°.50N×22°.13E,h0km, mb3.5/4, mb1 3.5/7,mb1mx3.3/51,mbtmp3.4/7, ML2.9/3, Error ellipse: s-maj=25.4km s-min=20.0km az=109.0*
*THE **18** 17:20:11.5,38°.41N×22°.00E,h0km±1km, ML3.6/12, Error ellipse: s-maj=1.6km s-min=0.4km az=242.0*
*TIR **18** 17:20:14.3,38°.64N×21°.91E,h7km, ML3.3*
ISC 18 17:20:11.9±0.8,38°.40N±0°.01×22°.00E±0°.01,h9km±5km, n193,σ0§74/239,mb3.6/4,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EFP	**Efpalio**	**0.08**	**288**	P		**Pg**	**17 20 13.3**	**-0.8**
KALE	**Kalithea**	**0.11**	**96**	P		**Pg**	**17 20 14.2**	**-0.4**
KALE				S		**Sg**	**17 20 16.1**	**-0.4**
KALE	**Kalithea**	**0.11**	**96**	*e*PB		**Pg**	**17 20 14.5**	**-0.2**
KALE				*e*SB		**Sg**	**17 20 16.8**	**+0.3**
KALE	**Kalithea**	**0.11**	**96**	P		**Pg**	**17 20 14.4**	**-0.2**
KALE				S		**Sg**	**17 20 16.6**	**+0.1**
LAKA	**Lakka**	**0.16**	**186**	P		**Pg**	**17 20 15.3**	**-0.1**
LAKA	**Lakka**	**0.16**	**186**	*e*PB		**Pg**	**17 20 15.5**	**0.0**
LAKA	**Lakka**	**0.16**	**186**	P		**Pg**	**17 20 15.4**	**0.0**
UPR	**University Cam**	**0.20**	**235**	P		**Pg**	**17 20 15.5**	**-0.6**
UPR				S		**Sg**	**17 20 19.0**	**0.0**
UPR	**University Cam**	**0.20**	**235**	P		**Pg**	**17 20 16.3**	**+0.2**
UPR				S		**Sg**	**17 20 19.0**	**0.0**
KLV	**Kalavryta, Ach**	**0.38**	**162**	*e*PB		**Pg**	**17 20 19.3**	**-0.1**
KLV				*e*SB		**Sg**	**17 20 24.2**	**-0.1**
KLV	**Kalavryta, Ach**	**0.38**	**162**	P		**Pg**	**17 20 19.3**	**-0.1**
KLV				*e*Sb		**Sg**	**17 20 24.2**	**-0.1**
DSF	**Desfina**	**0.41**	**89**	P		**Pg**	**17 20 19.3**	**-0.8**
DSF				S		**Sg**	**17 20 25.5**	**0.0**
DSF	**Desfina**	**0.41**	**89**	*e*PB		**Pg**	**17 20 19.5**	**-0.6**
DSF				*e*SB		**Sg**	**17 20 25.5**	**0.0**
DSF	**Desfina**	**0.41**	**89**	*e*Pb		**Pg**	**17 20 19.5**	**-0.6**
DSF				S		**Sg**	**17 20 25.5**	**0.0**
PVO	**Paravola**	**0.43**	**300**	P		**Pg**	**17 20 19.1**	**-1.2**
PVO	**Paravola**	**0.43**	**300**	P		**Pg**	**17 20 19.7**	**-0.6**
PVO				S		**Sg**	**17 20 26.4**	**+0.4**
DRO	**Drossia**	**0.50**	**207**	P		**Pg**	**17 20 21.2**	**-0.5**
DRO				S		**Sg**	**17 20 28.5**	**+0.2**
DRO	**Drossia**	**0.50**	**207**	*e*PN		**Pg**	**17 20 20.8**	**-0.9**
DRO				*e*SN		**Sb**	**17 20 29.8**	**-0.7**
DRO	**Drossia**	**0.50**	**207**	*e*Pn		**Pg**	**17 20 20.8**	**-0.9**
DRO	**Drossia**	**0.50**	**207**	P		**Pg**	**17 20 21.5**	**-0.2**
DRO				S		**Sg**	**17 20 28.5**	**+0.2**
DRO				*e*Sn		**Sb**	**17 20 29.8**	**-0.7**
EVR	**Evrytania**	**0.54**	**344**	*e*PN		**Pg**	**17 20 21.9**	**-0.4**
EVR				*e*SN		**Sg**	**17 20 30.4**	**+1.0**
EVR	**Evrytania**	**0.54**	**344**	P		**Pg**	**17 20 21.6**	**-0.7**
EVR	**Evrytania**	**0.54**	**344**	*e*Pn		**Pg**	**17 20 21.9**	**-0.4**
EVR				S		**Sg**	**17 20 30.0**	**+0.6**
GUR	**Goura**	**0.54**	**150**	P		**Pg**	**17 20 21.9**	**-0.5**
GUR				S		**Sg**	**17 20 30.1**	**+0.6**
GUR	**Goura**	**0.54**	**150**	*e*PN		**Pg**	**17 20 22.3**	**-0.1**
GUR				*e*SN		**Sg**	**17 20 30.0**	**+0.6**
GUR	**Goura**	**0.54**	**150**	P		**Pg**	**17 20 21.9**	**-0.5**
GUR	**Goura**	**0.54**	**150**	*e*Pn		**Pg**	**17 20 22.3**	**-0.1**
GUR				S		**Sg**	**17 20 29.7**	**+0.2**
GUR				*e*Sn		**Sg**	**17 20 30.0**	**+0.6**
RLS	**Riolos of Patr**	**0.54**	**231**	*e*PN		**Pg**	**17 20 22.7**	**+0.3**
RLS				*e*SN		**Sb**	**17 20 31.1**	**-0.4**
RLS	**Riolos of Patr**	**0.54**	**231**	P		**Pg**	**17 20 22.2**	**-0.2**
RLS	**Riolos of Patr**	**0.54**	**231**	*e*Pn		**Pg**	**17 20 22.7**	**+0.3**
RLS				*e*Sn		**Sb**	**17 20 31.1**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	P		**Pg**	**17 20 23.6**	**-0.3**
MAKR				S		**Sg**	**17 20 32.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*PN		**Pg**	**17 20 23.4**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*Pn		**Pg**	**17 20 23.4**	**-0.5**
MAKR				S		**Sg**	**17 20 32.8**	**+0.8**
AXAR	**Agios Charalam**	**0.63**	**55**	P		**Pg**	**17 20 23.1**	**-1.1**
AXAR				S		**Sb**	**17 20 33.4**	**-0.8**
AXAR	**Agios Charalam**	**0.63**	**55**	P		**Pg**	**17 20 23.1**	**-1.1**
AXAR				S		**Sg**	**17 20 32.8**	**+0.4**
PDO	**Prodromos**	**0.67**	**287**	P		**Pg**	**17 20 23.5**	**-1.4**
PDO	**Prodromos**	**0.67**	**287**	*e*PN		**Pg**	**17 20 24.8**	**-0.1**
PDO	**Prodromos**	**0.67**	**287**	P		**Pg**	**17 20 24.6**	**-0.3**
PDO				S		**Sb**	**17 20 35.0**	**-0.2**
AGG	**Agios Georgios**	**0.67**	**23**	P		**Pg**	**17 20 23.8**	**-1.1**
AGG	**Agios Georgios**	**0.67**	**23**	*e*PB		**Pg**	**17 20 23.8**	**-1.1**
AGG	**Agios Georgios**	**0.67**	**23**	P		**Pg**	**17 20 23.8**	**-1.1**
VTN	**Vitineika**	**0.80**	**233**	P		**Pg**	**17 20 27.0**	**-0.4**
VTN	**Vitineika**	**0.80**	**233**	P		**Pg**	**17 20 27.0**	**-0.4**
LKR	**Lokris**	**0.82**	**72**	*e*PN		**Pg**	**17 20 27.1**	**-0.7**
LKR	**Lokris**	**0.82**	**72**	*e*Pn		**Pg**	**17 20 27.1**	**-0.7**
LTK	**Loutraki**	**0.85**	**116**	P		**Pg**	**17 20 27.8**	**-0.5**
LTK	**Loutraki**	**0.85**	**116**	*e*PN		**Pg**	**17 20 27.8**	**-0.5**
LTK	**Loutraki**	**0.85**	**116**	*e*Pn		**Pg**	**17 20 27.8**	**-0.5**
LTK	**Loutraki**	**0.85**	**116**	P		**Pg**	**17 20 28.2**	**-0.1**
AMT	**Artemida-Makis**	**0.90**	**195**	P		**Pg**	**17 20 28.9**	**-0.3**
AMT				S		**Sb**	**17 20 42.6**	**+0.8**
AMT	**Artemida-Makis**	**0.90**	**195**	*e*PN		**Pg**	**17 20 29.5**	**+0.3**
AMT	**Artemida-Makis**	**0.90**	**195**	P		**Pg**	**17 20 28.9**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**195**	*e*Pn		**Pg**	**17 20 29.5**	**+0.3**
AMT				S		**Sb**	**17 20 42.4**	**+0.6**
KFL	**Anninata**	**1.00**	**253**	P		**Pg**	**17 20 30.2**	**-0.9**
KFL	**Anninata**	**1.00**	**253**	P		**Pg**	**17 20 30.2**	**-0.9**
SMIA	**Simia**	**1.06**	**63**	P		**Pg**	**17 20 31.6**	**-0.7**
SMIA				S		**Sb**	**17 20 46.8**	**+0.3**
SMIA	**Simia**	**1.06**	**63**	*e*PN		**Pg**	**17 20 31.8**	**-0.5**
SMIA	**Simia**	**1.06**	**63**	P		**Pg**	**17 20 31.6**	**-0.7**
SMIA				S		**Sb**	**17 20 46.8**	**+0.3**
VLX	**Vlachokerasia**	**1.07**	**164**	P		**Pg**	**17 20 31.6**	**-1.0**
VLX				S		**Sb**	**17 20 47.6**	**+0.7**
VLX	**Vlachokerasia**	**1.07**	**164**	*e*PN		**Pg**	**17 20 31.2**	**-1.4**
VLX	**Vlachokerasia**	**1.07**	**164**	*e*Pn		**Pg**	**17 20 31.2**	**-1.4**
VLX	**Vlachokerasia**	**1.07**	**164**	P		**Pg**	**17 20 31.6**	**-1.0**
VLX				S		**Sb**	**17 20 47.6**	**+0.7**
LKD2	**Lefkada island**	**1.12**	**291**	P		**Pg**	**17 20 32.4**	**-1.0**
LKD2				S		**Sn**	**17 20 49.4**	**0.0**
LKD2	**Lefkada island**	**1.12**	**291**	*e*PN		**Pg**	**17 20 33.2**	**-0.2**
LKD2	**Lefkada island**	**1.12**	**291**	P		**Pg**	**17 20 32.4**	**-1.0**
LKD2	**Lefkada island**	**1.12**	**291**	*e*Pn		**Pg**	**17 20 33.2**	**-0.2**
LKD2				S		**Sn**	**17 20 49.4**	**0.0**
VLS	**Valsamata**	**1.13**	**259**	*e*PB		**Pb**	**17 20 32.4**	**-1.3**
VLS	**Valsamata**	**1.13**	**259**	*e*Pb		**Pb**	**17 20 32.4**	**-1.3**
THL	**Klokotos Trika**	**1.16**	**1**	*e*PN		**Pb**	**17 20 33.1**	**-1.1**
THL	**Klokotos Trika**	**1.16**	**1**	*e*Pn		**Pb**	**17 20 33.1**	**-1.1**
ITM	**Ithomi**	**1.22**	**183**	*e*PN		**Pn**	**17 20 34.6**	**-0.7**
ITM	**Ithomi**	**1.22**	**183**	*e*Pn		**Pn**	**17 20 34.6**	**-0.7**
MRKA	**Markates**	**1.28**	**76**	P		**Pn**	**17 20 35.6**	**-0.5**
MRKA				S		**Sn**	**17 20 53.7**	**+0.3**
MRKA	**Markates**	**1.28**	**76**	*e*PN		**Pn**	**17 20 35.7**	**-0.4**
MRKA	**Markates**	**1.28**	**76**	P		**Pn**	**17 20 35.6**	**-0.5**
MRKA				S		**Sn**	**17 20 53.7**	**+0.3**
NEO	**Neokhori**	**1.31**	**46**	*e*PN		**Pn**	**17 20 36.4**	**-0.2**
NEO	**Neokhori**	**1.31**	**46**	*e*Pn		**Pn**	**17 20 36.4**	**-0.2**
DID	**Didima**	**1.33**	**132**	P		**Pb**	**17 20 36.9**	**-0.1**
DID	**Didima**	**1.33**	**132**	*e*PN		**Pb**	**17 20 37.2**	**+0.2**
DID	**Didima**	**1.33**	**132**	P		**Pb**	**17 20 36.9**	**-0.1**
DID	**Didima**	**1.33**	**132**	*e*Pn		**Pb**	**17 20 37.2**	**+0.2**
XOR	**Xorichti**	**1.34**	**44**	P		**Pn**	**17 20 36.0**	**-0.9**
XOR				S		**Sg**	**17 20 55.2**	**+0.2**
XOR	**Xorichti**	**1.34**	**44**	*e*PN		**Pn**	**17 20 36.5**	**-0.4**
XOR	**Xorichti**	**1.34**	**44**	P		**Pn**	**17 20 36.0**	**-0.9**
XOR	**Xorichti**	**1.34**	**44**	*e*Pn		**Pn**	**17 20 36.5**	**-0.4**
XOR				S		**Sg**	**17 20 55.2**	**+0.2**
NAIG	**Nisos Aigina**	**1.34**	**118**	*e*PN		**Pb**	**17 20 37.2**	**0.0**
NAIG	**Nisos Aigina**	**1.34**	**118**	*e*Pn		**Pb**	**17 20 37.2**	**0.0**
SKIA	**Skiathos**	**1.38**	**56**	P		**Pn**	**17 20 37.2**	**-0.2**
SKIA	**Skiathos**	**1.38**	**56**	*e*PN		**Pn**	**17 20 37.4**	**0.0**
SKIA	**Skiathos**	**1.38**	**56**	*e*Pn		**Pn**	**17 20 37.4**	**0.0**
ATH	**Athens Observa**	**1.42**	**107**	*e*PN		**Pn**	**17 20 38.0**	**+0.1**
ATH				*e*SN		**Sg**	**17 20 57.5**	**-0.1**
ATH	**Athens Observa**	**1.42**	**107**	*e*Pn		**Pn**	**17 20 38.0**	**+0.1**
ATH				*e*Sn		**Sg**	**17 20 57.5**	**-0.1**
ERET	**Eretria**	**1.42**	**88**	P		**Pn**	**17 20 38.1**	**+0.1**
ERET	**Eretria**	**1.42**	**88**	P		**Pn**	**17 20 38.1**	**+0.1**
MEV	**Metsovon**	**1.50**	**337**	P		**Pn**	**17 20 39.4**	**+0.1**
MEV	**Metsovon**	**1.50**	**337**	P		**Pn**	**17 20 39.4**	**+0.1**
PTL	**Penteli**	**1.51**	**103**	*e*PN		**Pn**	**17 20 39.3**	**+0.1**
PTL	**Penteli**	**1.51**	**103**	*e*Pn		**Pn**	**17 20 39.3**	**+0.1**
PYL	**PYLOS**	**1.52**	**188**	P		**Pn**	**17 20 39.5**	**+0.2**
PYL	**PYLOS**	**1.52**	**188**	*e*PN		**Pn**	**17 20 39.6**	**+0.2**
PYL	**PYLOS**	**1.52**	**188**	P		**Pn**	**17 20 39.5**	**+0.2**
JAN	**Janina**	**1.54**	**325**	*e*PN		**Pg**	**17 20 42.3**	**+0.8**
JAN	**Janina**	**1.54**	**325**	*e*Pn		**Pg**	**17 20 42.3**	**+0.8**
AOS	**Alonnisos**	**1.66**	**62**	*e*PN		**Pn**	**17 20 40.9**	**-0.3**
AOS	**Alonnisos**	**1.66**	**62**	*e*Pn		**Pn**	**17 20 40.9**	**-0.3**
IGT	**Igoumenitsa**	**1.72**	**311**	P		**Pb**	**17 20 43.3**	**-0.5**
IGT	**Igoumenitsa**	**1.72**	**311**	*e*PN		**Pb**	**17 20 43.6**	**-0.2**
IGT	**Igoumenitsa**	**1.72**	**311**	P		**Pb**	**17 20 43.3**	**-0.5**
IGT	**Igoumenitsa**	**1.72**	**311**	*e*Pn		**Pb**	**17 20 43.6**	**-0.2**
LIT	**Litokhoron**	**1.74**	**13**	P		**Pn**	**17 20 42.2**	**-0.1**
LIT				S		**Sb**	**17 21 06.2**	**+0.2**
LIT	**Litokhoron**	**1.74**	**13**	*e*PN		**Pn**	**17 20 42.3**	**-0.1**
LIT	**Litokhoron**	**1.74**	**13**	P		**Pn**	**17 20 42.2**	**-0.1**
LIT				S		**Sb**	**17 21 06.2**	**+0.2**
VLI	**Veliai**	**1.84**	**156**	*e*PN		**Pn**	**17 20 44.0**	**+0.3**
VLI	**Veliai**	**1.84**	**156**	*e*Pn		**Pn**	**17 20 44.0**	**+0.3**
KZN	**Kozani**	**1.91**	**355**	*e*PN		**Pn**	**17 20 45.2**	**+0.4**
KZN	**Kozani**	**1.91**	**355**	*e*Pn		**Pn**	**17 20 45.2**	**+0.4**
PAIG	**Paliouri**	**2.01**	**40**	P		**Pn**	**17 20 45.2**	**-0.8**
PAIG	**Paliouri**	**2.01**	**40**	*e*PB		**Pn**	**17 20 44.9**	**-1.1**
PAIG	**Paliouri**	**2.01**	**40**	*e*Pb		**Pn**	**17 20 44.9**	**-1.1**
PAIG	**Paliouri**	**2.01**	**40**	P		**Pn**	**17 20 45.2**	**-0.8**
NEST	**Nestorio**	**2.14**	**340**	P		**Pn**	**17 20 47.5**	**-0.5**
NEST	**Nestorio**	**2.14**	**340**	*e*PN		**Pb**	**17 20 50.9**	**-0.1**
NEST	**Nestorio**	**2.14**	**340**	P		**Pn**	**17 20 47.5**	**-0.5**
NEST	**Nestorio**	**2.14**	**340**	*e*Pn		**Pb**	**17 20 50.9**	**-0.1**
SRN	**Sarande**	**2.14**	**314**	*i* PN		**Pn**	**17 20 47.3**	**-0.6**
SRN				*i* SN		**Sg**	**17 21 20.7**	**-0.1**
SRN	**Sarande**	**2.14**	**314**	*i* Pn		**Pn**	**17 20 47.3**	**-0.6**
KEK	**Kerkira**	**2.16**	**308**	*e*PN		**Pb**	**17 20 50.5**	**-0.7**
KEK	**Kerkira**	**2.16**	**308**	*e*Pn		**Pb**	**17 20 50.5**	**-0.7**
PLG	**Polygyros**	**2.27**	**29**	*e*PN		**Pn**	**17 20 49.2**	**-0.4**
PLG	**Polygyros**	**2.27**	**29**	*e*Pn		**Pn**	**17 20 49.2**	**-0.4**
KYTH	**Kithira**	**2.27**	**158**	*e*PN		**Pb**	**17 20 51.7**	**-1.5**
KYTH	**Kithira**	**2.27**	**158**	*e*Pn		**Pb**	**17 20 51.7**	**-1.5**
HORT	**Hortiatis**	**2.35**	**21**	*e*PB		**Pn**	**17 20 50.2**	**-0.7**
HORT	**Hortiatis**	**2.35**	**21**	*e*Pb		**Pn**	**17 20 50.2**	**-0.7**
KBN	**Korca**	**2.41**	**337**	*i* PN		**Pb**	**17 20 56.0**	**+0.5**
KBN	**Korca**	**2.41**	**337**	*i* Pn		**Pb**	**17 20 56.0**	**+0.5**
FNA	**Florina**	**2.43**	**349**	P		**Pn**	**17 20 52.1**	**+0.2**
FNA	**Florina**	**2.43**	**349**	*e*PB		**Pn**	**17 20 52.9**	**+1.0**
FNA	**Florina**	**2.43**	**349**	P		**Pn**	**17 20 52.1**	**+0.2**
FNA	**Florina**	**2.43**	**349**	*e*Pb		**Pn**	**17 20 52.9**	**+1.0**
OUR	**Ouranopolis**	**2.47**	**38**	P		**Pn**	**17 20 52.0**	**-0.3**
OUR	**Ouranopolis**	**2.47**	**38**	*e*PN		**Pn**	**17 20 51.8**	**-0.5**
OUR	**Ouranopolis**	**2.47**	**38**	P		**Pn**	**17 20 52.0**	**-0.3**
GRG	**Griva**	**2.57**	**7**	P		**Pn**	**17 20 53.6**	**-0.2**
GRG	**Griva**	**2.57**	**7**	*e*PN		**Pn**	**17 20 54.1**	**+0.3**
GRG	**Griva**	**2.57**	**7**	P		**Pn**	**17 20 53.6**	**-0.2**
GRG	**Griva**	**2.57**	**7**	*e*Pn		**Pn**	**17 20 54.1**	**+0.3**
SOH	**Sokhos**	**2.63**	**23**	P		**Pn**	**17 20 54.3**	**-0.4**
SOH	**Sokhos**	**2.63**	**23**	*e*PN		**Pn**	**17 20 55.0**	**+0.3**
SOH	**Sokhos**	**2.63**	**23**	P		**Pn**	**17 20 54.3**	**-0.4**
SOH	**Sokhos**	**2.63**	**23**	*e*Pn		**Pn**	**17 20 55.0**	**+0.3**
BIA	**Bitola**	**2.67**	**349**	*e*PN		**Pb**	**17 20 59.7**	**-0.2**
KNT	**Kendrikon**	**2.84**	**14**	*e*PN		**Pn**	**17 20 57.8**	**+0.3**
KNT	**Kendrikon**	**2.84**	**14**	*e*Pn		**Pn**	**17 20 57.8**	**+0.3**
LIA	**Limnos Island**	**2.89**	**58**	*e*PN		**Pn**	**17 20 57.6**	**-0.6**
LIA	**Limnos Island**	**2.89**	**58**	*e*Pn		**Pn**	**17 20 57.6**	**-0.6**
VAY	**Valandovo**	**2.95**	**8**	P		**Pn**	**17 20 59.3**	**+0.3**
VAY	**Valandovo**	**2.95**	**8**	*e*PN		**Pn**	**17 20 59.2**	**+0.2**
VAY	**Valandovo**	**2.95**	**8**	P		**Pn**	**17 20 59.3**	**+0.3**
SRS	**Serrai**	**2.98**	**24**	P		**Pn**	**17 20 59.4**	**0.0**
SRS	**Serrai**	**2.98**	**24**	*e*PN		**Pn**	**17 20 59.6**	**+0.2**
SRS	**Serrai**	**2.98**	**24**	P		**Pn**	**17 20 59.4**	**0.0**
CHOS	**Chios island**	**3.19**	**89**	*e*PN		**Pn**	**17 21 02.8**	**+0.5**
CHOS	**Chios island**	**3.19**	**89**	*e*Pn		**Pn**	**17 21 02.8**	**+0.5**
KAVA	**Kavala**	**3.24**	**36**	*e*PN		**Pn**	**17 21 02.4**	**-0.5**
KAVA	**Kavala**	**3.24**	**36**	*e*Pn		**Pn**	**17 21 02.4**	**-0.5**
NVR	**Nevrokopi**	**3.27**	**25**	*e*PN		**Pn**	**17 21 03.6**	**+0.1**
NVR	**Nevrokopi**	**3.27**	**25**	*e*Pn		**Pn**	**17 21 03.6**	**+0.1**
MMB	**Musomiste**	**3.45**	**22**	P		**Pn**	**17 21 06.1**	**+0.2**
MMB	**Musomiste**	**3.45**	**22**	P		**Pn**	**17 21 06.1**	**+0.2**
VAM	**Vamos**	**3.47**	**149**	*e*PN		**Pn**	**17 21 07.4**	**+1.2**
VAM	**Vamos**	**3.47**	**149**	*e*Pn		**Pn**	**17 21 07.4**	**+1.2**
IDI	**Anoyia**	**3.88**	**142**	Pn		**Pn**	**17 21 12.6**	**+0.8**
	1.3nm,0.3s,baz=256,slow=21,SNR=7.4							
LAST	**Lasithi**	**4.27**	**138**	*e*PN		**Pn**	**17 21 17.8**	**+0.5**
LAST	**Lasithi**	**4.27**	**138**	*e*Pn		**Pn**	**17 21 17.8**	**+0.5**
VTS	**Vitosha**	**4.29**	**12**	P		**Pn**	**17 21 19.8**	**+2.3**
VTS	**Vitosha**	**4.29**	**12**	P		**Pn**	**17 21 19.8**	**+2.3**
IVAS	**Ivanjica**	**5.35**	**345**	*e*Pn		**Pn**	**17 21 32.2**	**+0.1**
GRUS	**Gruza**	**5.57**	**350**	*e*Pn		**Pn**	**17 21 35.0**	**+0.1**
DIVS	**Divibare**	**5.89**	**346**	*e*Pn		**Pn**	**17 21 41.6**	**+2.1**
TRUS	**Trudelj**	**5.94**	**349**	*e*Pn		**Pn**	**17 21 40.6**	**+0.5**
TEKS	**Tekeris**	**6.42**	**344**	*e*Pn		**Pn**	**17 21 47.9**	**+1.3**
FGSL	**Fruska Gora**	**6.94**	**347**	*e*Pn		**Pn**	**17 21 55.6**	**+1.7**
MLR	**Muntele Rosu**	**7.67**	**21**	Pn		**Pn**	**17 22 03.2**	**-0.7**
	0.1nm,0.3s,baz=170,slow=17,SNR=2.6							
NVLJ	**Novalja**	**8.15**	**321**	*i* Pn		**Pn**	**17 22 09.2**	**-1.2**
NVLJ					Sn	**Sn**	**17 23 38.5**	**-4.2**
NVLJ	**Novalja**	**8.15**	**321**	*i* Pn		**Pn**	**17 22 09.2**	**-1.2**
BRTR	**Keskin Array B**	**9.15**	**78**	Pn		**Pn**	**17 22 26.1**	**+1.8**
	0.2nm,0.3s,baz=257,slow=12,SNR=5.5							
NB2	**NORSAR Subarra**	**23.64**	**347**	P		**P**	**17 25 21.8**	**-1.6**
	comp=Z,5.4nm,1.4s,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	**23.64**	**347**	P		**P**	**17 25 21.8**	**-1.6**
	comp=Z,5.4nm,1.4s,SNR=2.5							
NOA	**NORSAR Array B**	**23.64**	**347**	P		**P**	**17 25 22.6**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=151,slow=10,SNR=3.6							
EKA	**Eskdalemuir Ar**	**23.93**	**323**	P		**P**	**17 25 28.1**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=123,slow=12,SNR=4.0							
TORD	**Torodi Ar. Bea**	**30.95**	**221**	P		**P**	**17 26 30.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=36,slow=9.2,SNR=3.6							
MKAR	**Makanchi Array**	**44.19**	**59**	P		**P**	**17 28 20.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=280,slow=7.3,SNR=9.1							

*NEIC **18** 17:22:41.2, 19°.33N×68°.69W, h69km, MD3.7(RSPR), After RSPR.*
NEIC Felt [II] at San Juan, Puerto Rico.
RSPR 18 17:22:41.2,19°.33N×68°.69W,h69km±9km,MD3.7/13, 30C-4D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DR12	**Loma Pena Alta**	**0.84**	**231**	*i* P		Pn	17 22 56.9	-0.9
DR12				*e*S		Sn	17 23 09.3	-0.8
DR12	**Loma Pena Alta**	**0.84**	**231**	*i* Pu		Pn	17 22 56.9	-0.9
DR12				*e*S		Sn	17 23 09.3	-0.8
PCDR	**Punta Cana, DR**	**0.86**	**160**	P		Pn	17 22 56.6	-1.3
PCDR	**Punta Cana, DR**	**0.86**	**160**	P		Pn	17 22 56.6	-1.3
PCDR				*e*S		Sn	17 23 09.9	-0.4
IMO	**Isla Mona**	**1.42**	**148**	P		Pn	17 23 01.5	-3.6
IMO	**Isla Mona**	**1.42**	**148**	P		Pn	17 23 01.5	-3.6
IDE	**Isla Desecheo**	**1.49**	**129**	P		Pn	17 23 04.2	-1.8
IDE	**Isla Desecheo**	**1.49**	**129**	P		Pn	17 23 04.2	-1.8
IDE				*e*S		Sn	17 23 26.1	+1.5
AGPR	**Aguadilla, PR**	**1.73**	**119**	P		Pn	17 23 10.7	+1.6
AGPR	**Aguadilla, PR**	**1.73**	**119**	P		Pn	17 23 10.7	+1.6
AGPR				*e*S		Sn	17 23 32.4	+2.1
LSP	**Las Mesas**	**1.91**	**127**	P		Pn	17 23 10.6	-1.0
LSP	**Las Mesas**	**1.91**	**127**	P		Pn	17 23 10.6	-1.0
LSP				*e*S		Sn	17 23 34.5	-0.2
CRPR	**Cabo Rojo, PR**	**2.00**	**131**	P		Pn	17 23 09.8	-3.0
CRPR	**Cabo Rojo, PR**	**2.00**	**131**	P		Pn	17 23 09.8	-3.0
LRS	**Lares**	**2.03**	**120**	P		Pn	17 23 12.7	-0.7
LRS				*e*S		Sn	17 23 37.8	0.0
LRS	**Lares**	**2.03**	**120**	P		Pn	17 23 12.7	-0.7
LRS				*e*S		Sn	17 23 37.8	0.0
AOPR	**Arecibo Observ**	**2.08**	**118**	P		Pn	17 23 13.6	-0.3
AOPR	**Arecibo Observ**	**2.08**	**118**	P		Pn	17 23 13.6	-0.3
AOPR				*e*S		Sn	17 23 38.9	0.0
GBPR	**Guanica, Bosqu**	**2.18**	**128**	P		Pn	17 23 14.6	-0.7
GBPR	**Guanica, Bosqu**	**2.18**	**128**	P		Pn	17 23 14.6	-0.7
GBPR				*e*

LKD2	Lefkada island	1.09	289		P	Pg	17 27 27.3	-0.6
LKD2					S	Sn	17 27 45.9	+2.2
LKD2	Lefkada island	1.09	289	*e*PN	Pg		17 27 27.4	-0.5
LKD2	Lefkada island	1.09	289		P	Pg	17 27 27.3	-0.6
LKD2					S	Sn	17 27 45.9	+2.2
VLX	Vlachokerasia	1.12	163		P	Pg	17 27 26.9	-1.6
VLX					S	Sn	17 27 44.1	-0.4
VLX	Vlachokerasia	1.12	163	*e*PB	Pg		17 27 26.8	-1.7
VLX				*e*Sn	Sb		17 27 43.4	+0.1
VLX	Vlachokerasia	1.12	163	*e*Pb	Pg		17 27 26.8	-1.7
VLX				*e*Sn	Sb		17 27 43.4	+0.1
VLX					S	Sn	17 27 44.1	-0.4
VLS	Valsamata	1.12	257	*e*PB	Pg		17 27 26.6	-1.9
VLS	Valsamata	1.12	257	*e*Pb	Pg		17 27 26.6	-1.9
THL	Klokotos Trika	1.12	2	*e*PN	Pg		17 27 27.7	-0.9
THL	Klokotos Trika	1.12	2	*e*Pn	Pg		17 27 27.7	-0.9
FYTO	Fytoko, Volos	1.23	38		P	Pb	17 27 30.2	-0.2
FYTO					S	Sg	17 27 46.7	+0.2
ITM	Ithomi	1.26	182	*e*PN	Pn		17 27 29.9	-1.0
ITM	Ithomi	1.26	182	*e*Pn	Pn		17 27 29.9	-1.0
MRKA	Markates	1.29	78		P	Pn	17 27 31.1	-0.2
MRKA					S	Sn	17 27 49.9	+1.1
MRKA	Markates	1.29	78		P	Pn	17 27 31.1	-0.2
MRKA					S	Sn	17 27 49.9	+1.1
NEO	Neokhori	1.30	48	*e*PN	Pn		17 27 31.4	-0.1
NEO				*e*SN	Sb		17 27 48.5	-0.1
XOR	Xorichti	1.33	45		P	Pn	17 27 31.4	-0.4
XOR	Xorichti	1.33	45	*e*PN	Pn		17 27 31.8	0.0
DID	Didima	1.37	133		P	Pn	17 27 32.5	+0.1
DID					S	Sg	17 27 50.9	-0.1
DID	Didima	1.37	133	*e*PN	Pb		17 27 32.7	-0.1
DID				*e*SN	Sg		17 27 51.1	+0.1
SKIA	Skiathos	1.37	58		P	Pn	17 27 33.1	-0.3
SKIA					S	Sg	17 27 51.8	+0.6
NAIG	Nisos Aigina	1.38	119	*e*PN	Pn		17 27 32.0	-0.5
SFD	Strofades	1.41	213	*e*PN	Pb		17 27 33.7	+0.2
SFD	Strofades	1.41	213	*e*Pn	Pb		17 27 33.7	+0.2
ERET	Eretria	1.44	89		P	Pn	17 27 33.5	+0.1
ERET					S	Sg	17 27 53.2	-0.2
ERET	Eretria	1.44	89		P	Pn	17 27 33.5	+0.1
ERET					S	Sg	17 27 53.2	-0.2
ATH	Athens Observa	1.45	108	*e*PN	Pn		17 27 33.6	+0.1
MEV	Metsovon	1.46	337		P	Pn	17 27 33.9	+0.1
MEV	Metsovon	1.46	337		P	Pn	17 27 33.9	+0.1
JAN	Janina	1.50	325	*e*PN	Pg		17 27 35.9	+0.2
JAN	Janina	1.50	325	*e*Pn	Pg		17 27 35.9	+0.2
ATHU	Athens Univers	1.50	108		P	Pg	17 27 35.5	-0.4
ATHU					S	Sg	17 27 56.2	+0.8
PTL	Penteli	1.54	104	*e*PN	Pn		17 27 35.0	+0.3
PYL	PYLOS	1.55	187		P	Pn	17 27 35.2	+0.3
PYL					S	Sg	17 27 57.4	+0.4
PYL	PYLOS	1.55	187	*e*PN	Pn		17 27 34.9	0.0
PYL	PYLOS	1.55	187	*e*Pn	Pn		17 27 34.9	0.0
PYL	PYLOS	1.55	187		P	Pn	17 27 35.2	+0.3
PYL					S	Sg	17 27 57.4	+0.4
AOS	Alonnisos	1.66	63		P	Pn	17 27 36.1	-0.2
AOS					S	Sg	17 27 59.5	-0.9
AOS	Alonnisos	1.66	63	*e*PN	Pn		17 27 36.2	-0.1
IGT	Igoumenitsa	1.68	311	*e*PN	Pb		17 27 38.3	+0.2
IGT	Igoumenitsa	1.68	311	*e*Pn	Pb		17 27 38.3	+0.2
LIT	Litokhoron	1.71	13		P	Pn	17 27 37.1	+0.1
LIT					S	Sb	17 28 00.1	-0.1
LIT	Litokhoron	1.71	13	*e*PN	Pn		17 27 37.1	+0.1
LIT	Litokhoron	1.71	13		P	Pn	17 27 37.1	+0.1
LIT					S	Sb	17 28 00.1	-0.1
KZN	Kozani	1.87	355	*e*PN	Pn		17 27 40.2	+0.9
KZN	Kozani	1.87	355	*e*Pn	Pn		17 27 40.2	+0.9
VLI	Veliai	1.88	156	*e*PN	Pn		17 27 39.8	+0.4
VLI	Veliai	1.88	156	*e*Pn	Pn		17 27 39.8	+0.4
PAIG	Paliouri	1.99	41		P	Pn	17 27 40.1	-0.8
PAIG					S	Sb	17 28 08.2	-0.1
PAIG	Paliouri	1.99	41	*e*PN	Pn		17 27 41.5	+0.6
PAIG	Paliouri	1.99	41		P	Pn	17 27 40.1	-0.8
PAIG	Paliouri	1.99	41	*e*Pn	Pn		17 27 41.5	+0.6
PAIG					S	Sb	17 28 08.2	-0.1
NEST	Nestorio	2.10	340	*e*PN	Pb		17 27 44.2	-1.1
NEST	Nestorio	2.10	340	*e*Pn	Pb		17 27 44.2	-1.1
SRN	Sarande	2.10	314	*i* PN	Pb		17 27 44.5	-0.8
SRN	Sarande	2.10	314	P	Pb		17 27 44.5	-0.8
SRN	Sarande	2.10	314	P	Pb		17 27 44.5	-0.8
KEK	Kerkira	2.12	308	*e*PN	Pn		17 27 44.1	+1.5
KEK	Kerkira	2.12	308	*e*Pn	Pn		17 27 44.1	+1.5
KYTH	Kithira	2.32	158	*e*PN	Pn		17 27 46.5	+1.1
KYTH	Kithira	2.32	158	*e*Pn	Pn		17 27 46.5	+1.1
THE	Thessaloniki	2.32	19	*e*PB	Pn		17 27 45.9	+0.5
THE	Thessaloniki	2.32	19	*e*Pb	Pn		17 27 45.9	+0.5
HORT	Hortiatis	2.32	22	P	Pn		17 27 45.1	-0.5
HORT	Hortiatis	2.32	22	*e*PB	Pn		17 27 46.0	+0.4
HORT	Hortiatis	2.32	22	P	Pn		17 27 45.1	-0.5
HORT	Hortiatis	2.32	22	*e*Pb	Pn		17 27 46.0	+0.4
FNA	Florina	2.38	349	P	Pn		17 27 47.3	+0.9
FNA					S	Sb	17 28 19.0	-0.7
FNA	Florina	2.38	349	*e*PN	Pn		17 27 47.6	+1.2
FNA	Florina	2.38	349	P	Pn		17 27 47.3	+0.9
FNA	Florina	2.38	349	*e*Pn	Pn		17 27 47.6	+1.2
FNA					S	Sb	17 28 19.0	-0.7
OUR	Ouranopolis	2.45	39	P	Pn		17 27 47.0	-0.2
OUR					S	Sn	17 28 17.3	0.0
OUR	Ouranopolis	2.45	39	*e*PB	Pn		17 27 49.0	+1.8
OUR	Ouranopolis	2.45	39	P	Pn		17 27 47.0	-0.2
OUR	Ouranopolis	2.45	39	*e*Pb	Pn		17 27 49.0	+1.8
OUR					S	Sn	17 28 17.3	0.0
GRG	Griva	2.53	7	P	Pn		17 27 48.2	+0.6
GRG					S	Sb	17 28 22.4	-1.6
GRG	Griva	2.53	7	*e*PN	Pn		17 27 48.6	+0.2
GRG	Griva	2.53	7	*e*Pn	Pn		17 27 48.6	+0.2
GRG	Griva	2.53	7	P	Pn		17 27 49.0	+0.6
GRG					S	Sb	17 28 22.4	-1.6
SOH	Sokhos	2.61	24	P	Pn		17 27 49.8	+0.4
SOH					S	Sn	17 28 22.5	+1.3
SOH	Sokhos	2.61	24	*e*PN	Pn		17 27 50.0	+0.6
SOH	Sokhos	2.61	24	*e*Pn	Pn		17 27 50.0	+0.6
SOH					S	Sn	17 28 22.5	+1.3
BIA	Bitola	2.62	349	P	Pn		17 27 50.9	+1.2
BIA	Bitola	2.62	349	*e*Pn	Pn		17 27 51.3	+1.7
BIA	Bitola	2.62	349	P	Pn		17 27 50.9	+1.2
ANKY	Antikythira Is	2.78	157	*e*PN	Pn		17 27 52.7	+0.9
ANKY	Antikythira Is	2.78	157	*e*Pn	Pn		17 27 52.7	+0.9
KNT	Kendrikon	2.81	14	P	Pn		17 27 52.6	+0.4
KNT	Kendrikon	2.81	14	*e*PN	Pn		17 27 52.6	+0.4
KNT	Kendrikon	2.81	14	P	Pn		17 27 52.6	+0.4
VAY	Valandovo	2.91	9	P	Pn		17 27 53.7	+0.1
VAY					S	Sn	17 28 29.3	+0.6
VAY	Valandovo	2.91	9	P	Pn		17 27 54.0	+0.4
VAY	Valandovo	2.91	9	*i* Pn	Pn		17 27 54.1	+0.6
VAY	Valandovo	2.91	9	P	Pn		17 27 54.0	+0.4
VAY					S	Sn	17 28 29.3	+0.6
SRS	Serrai	2.95	25	P	Pn		17 27 54.1	0.0
SRS					S	Sn	17 28 30.8	+1.1
SRS	Serrai	2.95	25	*e*PN	Pn		17 27 54.3	+0.2
SRS	Serrai	2.95	25	*e*Pn	Pn		17 27 54.3	+0.2
SRS					S	Sn	17 28 30.8	+1.1
SIGR	SIGRI	3.13	75	*e*PN	Pn		17 27 56.8	+0.3
SIGR	SIGRI	3.13	75	*e*Pn	Pn		17 27 56.8	+0.3
APE	Apeiranthos	3.13	115	⇑*i* P	Pn		17 27 57.2	+0.5
APE	Apeiranthos	3.13	115	⇑*i* P	Pn		17 27 57.2	+0.5
CHOS	Chios island	3.21	90	*e*PN	Pn		17 27 58.6	+0.9
CHOS	Chios island	3.21	90	*e*Pn	Pn		17 27 58.6	+0.9
KAVA	Kavala	3.22	37	*e*PN	Pn		17 27 59.0	+1.2
KAVA	Kavala	3.22	37	*e*Pn	Pn		17 27 59.0	+1.2
MMB	Musomiste	3.42	23	P	Pn		17 28 00.6	0.0
MMB	Musomiste	3.42	23	⇑*i* P	Pn		17 28 01.1	+0.5
MMB	Musomiste	3.42	23	P	Pn		17 28 00.6	0.0
VAM	Vamos	3.52	149	*e*PN	Pn		17 28 03.1	+1.2
VAM	Vamos	3.52	149	*e*Pn	Pn		17 28 03.1	+1.2
KKB	Krupnik	3.52	14	P	Pn		17 28 02.2	+0.2
KKB					S	Sn	17 28 44.8	+0.9
KKB	Krupnik	3.52	14	P	Pn		17 28 02.2	+0.2
KKB					S	Sn	17 28 44.8	+0.9
SKO	Skopje	3.55	354	*i* Pn	Pn		17 28 03.9	+1.5
RZN	Rozhen	3.87	32	P	Pn		17 28 07.3	+0.4
RZN					S	Sn	17 28 53.5	+1.0
RZN	Rozhen	3.87	32	P	Pn		17 28 07.3	+0.4
RZN					S	Sn	17 28 53.5	+1.0
IDI	Anoyia	3.92	142		Pn	Pn	17 28 08.0	+0.5
	2.1nm,0.3s,baz=314,slow=16,SNR=12							
IDI					S	Sn	17 28 51.9	-1.9
	2.6nm,0.3s,baz=90,slow=20,SNR=3.1							
ENEZ	Enez	3.96	53	*e*P	Pn		17 28 03.0	-5.0
ENEZ	Enez	3.96	53	*e*P	Pn		17 28 06.5	-1.4
BLCB	Balcova	3.98	89	*e*P	Pn		17 28 08.0	-0.3
GELI	Tayfur-Gelibol	4.00	59	*e*P	Pn		17 28 07.1	-1.3
GELI	Tayfur-Gelibol	4.00	59	*e*P	Pn		17 28 07.7	-0.7
TIP	Timpagrande	4.14	282	P	Pn		17 28 10.9	+0.4
TIP	Timpagrande	4.14	282	P	Pn		17 28 10.9	+0.4
KDZ	Kurdzhali	4.15	38	⇓*i* P	Pn		17 28 11.4	+0.7
KDZ	Kurdzhali	4.15	38	⇓*i* P	Pn		17 28 11.4	+0.7
IZM	Izmir	4.16	89	*e*P	Pn		17 28 10.0	-0.7
IZM	Izmir	4.16	89	*e*P	Pn		17 28 10.0	-0.7
ERIK	Erikli-Kesan	4.16	56	*e*P	Pn		17 28 09.7	-1.0
ERIK	Erikli-Kesan	4.16	56	*e*P	Pn		17 28 09.7	-1.0
VTS	Vitosha	4.25	12	P	Pn		17 28 13.7	+1.6
VTS	Vitosha	4.25	12	P	Pn		17 28 13.3	+1.2
VTS	Vitosha	4.25	12	⇑*i* P	Pn		17 28 13.6	+1.5
VTS	Vitosha	4.25	12	P	Pn		17 28 13.3	+1.2
LAST	Lasithi	4.32	138	*e*PN	Pn		17 28 13.7	+0.7
LAST	Lasithi	4.32	138	*e*Pn	Pn		17 28 13.7	+0.7
BODT	Bodrum	4.45	106	*e*P	Pn		17 28 09.8	-5.0
BODT	Bodrum	4.45	106	*e*P	Pn		17 28 12.2	-2.5
PDG	Podgorica	4.49	333	*e*Pn	Pn		17 28 14.8	-0.5
AYDB	Zeytinkoy-Aydi	4.69	94	*e*P	Pn		17 28 17.4	-0.7
AYDB	Zeytinkoy-Aydi	4.69	94	*e*P	Pn		17 28 17.4	-0.7
GONE	Gonen-Balikesi	4.72	68	*e*P	Pn		17 28 18.4	0.0
GONE	Gonen-Balikesi	4.72	68	*e*P	Pn		17 28 18.4	0.0
BALB	Balikesir	4.75	74	*e*P	Pn		17 28 19.0	+0.2
ZKR	Zakros	4.76	133	*e*PN	Pn		17 28 20.6	+1.7
ZKR	Zakros	4.76	133	*e*Pn	Pn		17 28 20.6	+1.7
MPEP	Malo Peshtene	5.09	15	P	Pn		17 28 24.5	+1.0
MPEP	Malo Peshtene	5.09	15	P	Pn		17 28 24.5	+1.0
KULA	Kula-Manisa	5.25	87	*e*P	Pn		17 28 25.4	-0.4
IVAS	Ivanjica	5.31	346	*e*Pn	Pn		17 28 27.1	+0.5
STON	Ston	5.49	325	*i* Pn	Pn		17 28 28.4	-0.5
STON				Sn	Sn		17 29 28.4	-3.7
STON	Ston	5.49	325	*i* Pn	Pn		17 28 28.4	-0.5
GRUS	Gruza	5.52	351	*e*Pn	Pn		17 28 31.5	+2.0
SZH	Strazhica	5.68	31	P	Pn		17 28 32.5	+0.9
SZH	Strazhica	5.68	31	P	Pn		17 28 32.5	+0.9
DIVS	Divibare	5.84	346	*e*Pn	Pn		17 28 35.3	+1.3
TRUS	Trudelj	5.90	349	*e*Pn	Pn		17 28 34.8	+0.2
TVSB	Tavsanli	5.92	78	*e*P	Pn		17 28 34.8	-0.3
TVSB	Tavsanli	5.92	78	*e*P	Pn		17 28 34.8	-0.3
ALT	Altintas	6.39	82	*e*P	Pn		17 28 42.6	+1.1
ALT	Altintas	6.39	82	*e*P	Pn		17 28 42.6	+1.1
ELL	Elmali	6.52	103	*e*P	Pn		17 28 40.6	-2.7
FGSL	Fruska Gora	6.90	347	*e*Pn	Pn		17 28 48.9	+0.5
BZS	Buzias	7.17	358	⇑*i* P	Pn		17 28 53.1	+1.0
BZS	Buzias	7.17	358	⇑*i* P	Pn		17 28 53.1	+1.0
SUTC	Sutluce-Ispart	7.20	95	*e*P	Pn		17 28 50.8	-1.8
MDUB	Mudurnu	7.42	71	*e*P	Pn		17 28 55.5	-0.1
MLR	Muntele Rosu	7.64	22	⇑*i* P	Pn		17 28 59.8	+1.2
MLR	Muntele Rosu	7.64	22	Pn	Pn		17 28 59.7	+1.2
	0.2nm,0.3s,baz=297,slow=7.9,SNR=6.5							
MLR	Muntele Rosu	7.64	22	⇑*i* P	Pn		17 28 59.8	+1.2
DOPR	Dopca	7.94	18	⇑*i* P	Pn		17 29 04.0	+1.4
DOPR	Dopca	7.94	18	⇑*i* P	Pn		17 29 04.0	+1.4
NVLJ	Novalja	8.11	321	*e*Pn	Pn		17 29 04.9	0.0
NVLJ				Sn	Sn		17 30 32.3	-4.4
NVLJ	Novalja	8.11	321	*e*Pn	Pn		17 29 04.9	0.0
PKSM	Moragy	8.15	343	⇑*i* P	Pn		17 29 05.5	+0.1
PKSM	Moragy	8.15	343	⇑*i* P	Pn		17 29 05.5	+0.1
PLOR	Plostina	8.18	24	⇑*i* P	Pn		17 29 07.8	+1.9
PLOR	Plostina	8.18	24	⇑*i* P	Pn		17 29 07.8	+1.9
VRI	Vrincioaia	8.21	24	⇓*i* P	Pn		17 29 07.3	+0.9
VRI	Vrincioaia	8.21	24	⇓*i* P	Pn		17 29 07.3	+0.9
BRTR	Keskin Array B	9.16	78	Pn	Pn		17 29 21.4	+1.8
	0.8nm,0.3s,baz=259,slow=12,SNR=24							
BURAR	Bucovina Array	9.47	13	⇑*i* P	Pn		17 29 25.5	+1.8
BURAR	Bucovina Array	9.47	13	⇑*i* P	Pn		17 29 25.5	+1.8
PSZ	Piszkesteto	9.59	352	⇑*i* P	Pn		17 29 27.2	+1.9
PSZ	Piszkesteto	9.59	352	⇑*i* P	Pn		17 29 27.2	+1.9
AKASG	Malin Array Be	13.29	20	Pn	Pn		17 30 16.0	+0.2
	0.5nm,0.3s,baz=208,slow=13,SNR=6.2							
CLL	Collm	14.33	337	*e*(PP)	P		17 30 37.0	-0.2
ESDC	Sonseca Array	20.16	282	P	P		17 31 42.6	+0.9
	1.2nm,0.6s,baz=75,slow=10,SNR=12							
MDT	Midelt	22.20	264	P	P		17 32 07.3	+2.5
	1.5nm,0.8s,baz=39,slow=6.5,SNR=4.2							
HFS	Hagfors	22.34	349	P	P		17 32 04.1	-0.9
	1.6nm,0.7s,baz=134,slow=10,SNR=6.6							
FINES	FINESS Array B	23.17	5	P	P		17 32 11.8	-1.9
	0.6nm,0.4s,baz=190,slow=7.1,SNR=5.4							
NB2	NORSAR Subarra	23.60	347	P	P		17 32 18.0	-0.1
	comp=Z,1.5nm,0.6s,baz=158,slow=11							
NB2	NORSAR Subarra	23.60	347	P	P		17 32 18.0	-0.1
	comp=Z,1.5nm,0.6s,SNR=4.9							
NOA	NORSAR Array B	23.60	347	P	P		17 32 17.9	-0.1
	comp=Z,1.3nm,0.6s,baz=156,slow=8.2,SNR=7.0							
EKA	Eskdalemuir Ar	23.89	323	P	P		17 32 20.7	-0.1
	comp=Z,2.4nm,0.8s,baz=120,slow=10.0,SNR=5.5							
TORD	Torodi Ar. Bea	30.96	221	P	P		17 33 24.9	+0.3
	comp=Z,1.2nm,0.7s,baz=32,slow=9.3,SNR=7.8							
ARCES	ARCESS Array B	31.21	2	P	P		17 33 24.9	-1.5
	comp=Z,12nm,1.2s,baz=185,slow=9.7,SNR=3.6							
MKAR	Makanchi Array	44.19	59	P	P		17 35 16.1	-0.1
	comp=Z,1.2nm,0.4s,baz=275,slow=7.4,SNR=30							
ZALV	Zalesovo Beam	44.66	48	P	P		17 35 19.4	-0.5
	comp=Z,1.2nm,0.4s,baz=280,slow=8.9,SNR=6.2							
YKA	Yellowknife Ar	73.53	341	P	P		17 38 39.9	+0.1
	comp=Z,0.1nm,0.4s,baz=40,slow=5.3,SNR=5.6							
ILAR	Eielson Array	76.75	355	P	P		17 38 59.2	+0.9
	comp=Z,0.4nm,0.8s,baz=347,slow=2.4,SNR=4.2							

IDC ***18*** *17:34:25.9± 1.3, 8.59N× 86.66E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/47, mbtmp3.8/9, Error ellipse: s-maj=55.5km s-min=19.4km az=56.0*

ISC 18 17:34:32.6± 1.4, 9.0N± 0.2× 87.1E± 0.3, h35km, n15, σ2s 13/16, mb3.7/9, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	18.26	2	*e*P		Pn	17 38 39.9	-3.6
PKI	Pulchoki	18.54	355	*e*P		P	17 38 46.4	-0.2
	6.6nm,0.6s							
JIRN	Jiri	18.58	358	*e*P		P	17 38 43.3	-3.8
DMN	Daman	18.60	355	*e*P		Pn	17 38 47.6	0.0
	11nm,0.6s							
KOLN	Koldanda	18.95	351	*e*P		Pn	17 38 53.7	+1.8
	5.9nm,0.5s							
GKN	Gorkha	19.04	353	*e*P		P	17 38 49.3	-2.6
MKAR	Makanchi Array	37.88	355	P		P	17 41 48.3	+2.1
	0.3nm,0.5s,baz=177,slow=8.8,SNR=4.0							
SONM	Songino Array	42.02	19	P		P	17 42 23.0	+2.3
	1.0nm,0.7s,baz=224,slow=6.2,SNR=3.9							
SONM				PcP		PcP	17 44 13.7	-1.7
	0.6nm,0.8s,baz=215,slow=4.6,SNR=2.9							
KURBB	Kurchatov Arra	42.09	352	P		P	17 42 23.0	+2.0
	0.9nm,0.9s,baz=173,slow=7.7,SNR=9.7							
ZALV	Zalesovo Beam	44.86	358	P		P	17 42 45.2	+2.0
	1.6nm,0.6s,baz=196,slow=8.8,SNR=9.4							
WRA	Warramunga Arr	54.70	122	P		P	17 43 58.2	-0.6
	0.5nm,0.7s,baz=303,slow=7.3,SNR=8.7							
ASAR	Alice Springs	56.12	126	P		P	17 44 08.8	-0.1
	0.7nm,0.6s,baz=296,slow=7.4,SNR=15							
FINES	FINESS Array B	68.50	333	P		P	17 45 30.8	-0.3
	2.2nm,0.9s,baz=131,slow=7.8,SNR=5.7							
GERES	GERESS Array B	72.33	318	P		P	17 45 54.2	-0.7
	0.9nm,0.7s,baz=103,slow=5.9,SNR=7.0							
ILAR	Eielson Array	96.24	20	P		P	17 47 57.6	+0.6
	0.1nm,0.5s,baz=299,slow=4.0,SNR=3.1							

ISCJB ***18*** *17:35:36.6± 0.3, 38.45N± 0.01× 21.96E± 0.02, h6km± 2km, mb3.4/4, Error ellipse: s-maj=2.7km s-min=2.3km az=13.4*

IDC ***18*** *17:35:36.1± 1.4, 38.21N× 22.13E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/50, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=40.5km s-min=24.3km az=140.0*

ATH ***18*** *17:35:36.9, 38.44N× 21.98E, h12km± 4km, ML2.9*

CSEM ***18*** *17:35:37.0± 0.1, 38.44N× 21.98E, h5km, ML3.2, Error ellipse: s-maj=2.7km s-min=2.4km az=91.0*

THE ***18*** *17:35:37.4, 38.45N× 22.01E, h0km± 2km, ML3.2/13, Error ellipse: s-maj=2.7km s-min=0.8km az=257.0*

ISC 18 17:35:37.1± 0.9, 38.46N± 0.01× 21.97E± 0.01, h3km± 7km, n98, σ0 95/152, mb3.5/4, 3C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.06	241	P		Pg	17 35 38.0	-0.4
EFP				S		Sg	17 35 39.4	+0.2
EFP	Efpalio	0.06	241	P		Pg	17 35 38.0	-0.4
EFP				S		Sg	17 35 39.2	0.0
KALE	Kalithea	0.15	116	P		Pg	17 35 39.5	-0.4
KALE				S		Sg	17 35 42.1	+0.2
KALE	Kalithea	0.15	116	*e*PG		Pg	17 35 39.6	-0.4
KALE				*e*SG		Sg	17 35 42.4	+0.5
KALE	Kalithea	0.15	116	*e*Pg		Pg	17 35 39.6	-0.4
KALE				S		Sg	17 35 42.1	+0.2
LAKA	Lakka	0.22	179	P		Pg	17 35 40.4	-0.8
LAKA	Lakka	0.22	179	*e*PG		Pg	17 35 40.5	-0.8
LAKA	Lakka	0.22	179	*e*Pg		Pg	17 35 40.5	-0.8
UPR	University Cam	0.23	221	P		Pg	17 35 41.0	-0.5
UPR				S		Sg	17 35 46.1	+1.6
UPR	University Cam	0.23	221	P		Pg	17 35 41.0	-0.5
UPR				S		Sg	17 35 44.2	-0.3
PVO	Paravola	0.39	295	P		Pg	17 35 44.0	-0.6
PVO				S		Sb	17 35 52.4	-0.6
PVO	Paravola	0.39	295	P		Pg	17 35 44.2	-0.4
PVO				S		Sg	17 35 51.0	+1.4
KLV	Kalavryta, Ach	0.43	161	*e*PG		Pg	17 35 44.5	-1.0
KLV				*e*SB		Sg	17 35 51.6	+0.5
KLV	Kalavryta, Ach	0.43	161	*e*Pg		Pg	17 35 44.5	-1.0
KLV				*e*Sb		Sg	17 35 51.6	+0.5
DSF	Desfina	0.44	96	P		Pg	17 35 44.4	-1.1
DSF				S		Sg	17 35 51.5	+0.3
DSF	Desfina	0.44	96	*e*PB		Pg	17 35 45.2	-0.3
DSF	Desfina	0.44	96	P		Pg	17 35 44.4	-1.1
DSF	Desfina	0.44	96	*e*Pb		Pg	17 35 45.2	-0.3
DSF				S		Sg	17 35 51.5	+0.3
EVR	Evrytania	0.48	344	*e*PB		Pg	17 35 45.9	-0.4
EVR				*e*SB		Sb	17 35 54.6	-1.2
EVR	Evrytania	0.48	344	*e*Pb		Pg	17 35 45.9	-0.4
EVR				S		Sg	17 35 54.0	+1.4
DRO	Drossia	0.54	203	P		Pg	17 35 46.2	-1.2
DRO				S		Sg	17 35 55.0	+0.4
DRO	Drossia	0.54	203	*e*PB		Pg	17 35 46.2	-1.4
DRO				*e*SB		Sg	17 35 55.5	+0.9
DRO	Drossia	0.54	203	P		Pg	17 35 46.4	-1.2
DRO				S		Sg	17 35 54.5	-0.1
DRO				*e*Sb		Sg	17 35 55.5	+0.9
RLS	Riolos of Patr	0.56	225	*e*PB		Pg	17 35 47.3	-0.6
RLS				*e*SB		Sg	17 35 56.5	+1.3
RLS	Riolos of Patr	0.56	225	P		Pg	17 35 46.9	-1.0
RLS	Riolos of Patr	0.56	225	*e*Pb		Pg	17 35 47.3	-0.6
RLS				*e*Sb		Sg	17 35 56.

ISC 18 17:52:21.0±1.1, 0.°4N±0.°3×29.°2W±0.°3, h10km, n14, σ0§22/8, mb4.3/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.12**	**227**	Pn	Pn	17 54 37.9	+5.1
RCBR	1.8nm,0.3s,baz=33,slow=15,SNR=17			Sn	Sn	**17 56 15.7**	**0.0**
H10N3	0.1nm,0.3s,baz=252,slow=20,SNR=2.7 **ASCENSION HYDR**	**16.81**	**120**	T	T	18 13 48.0	
H10N2	baz=300,slow=75,SNR=85 **ASCENSION HYDR**	**16.81**	**119**	T	T	18 13 44.3	
H10N1	baz=300,slow=75,SNR=96 **ASCENSION HYDR**	**16.83**	**120**	T	T	18 14 00.4	
H10S3	baz=300,slow=75,SNR=84 **ASCENSION HYDR**	**17.23**	**123**	T	T	18 14 32.2	
H10S1	baz=303,slow=75,SNR=70 **ASCENSION HYDR**	**17.23**	**123**	T	T	18 14 30.4	
H10S2	baz=303,slow=75,SNR=66 **ASCENSION HYDR**	**17.25**	**123**	T	T	18 14 33.7	
LIC	baz=303,slow=75,SNR=55 **Lamto**	**24.81**	**76**	*eP*	**P**	**17 57 43.9**	**+0.3**
TIC	33nm,1.1s **Toumodi**	**24.91**	**75**	*eP*	**P**	**17 57 44.3**	**-0.2**
DBIC	**Dimbokro**	**25.07**	**75**	P	**P**	**17 57 45.8**	**-0.1**
KIC	9.5nm,1.0s,baz=237,slow=12,SNR=8.3 **Kosan Boka**	**25.12**	**76**	*eP*	**P**	**17 57 46.4**	**+0.1**
TORD	49nm,1.6s **Torodi Ar. Bea**	**33.12**	**66**	P	**P**	**17 58 57.6**	**-0.1**
GERES	0.8nm,0.8s,baz=253,slow=9.1,SNR=4.8 **GERESS Array B**	**60.70**	**31**	P	**P**	**18 02 32.5**	**-0.2**
AKASG	0.7nm,0.9s,baz=238,slow=5.5,SNR=3.6 **Malin Array Be**	**70.21**	**35**	P	**P**	**18 03 34.3**	**+0.2**
	1.5nm,0.7s,baz=244,slow=6.6,SNR=4.9						

IDC 18 17:56:04.4±8.2, 60.°86S×155.°37E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/20, mbtmp3.6/3, ML3.9/1, MS3.9/7, Ms1 3.9/7, ms1mx3.8/13, Error ellipse: s-maj=522.8km s-min=37.7km az=75.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.87**	**175**	Pn	Pn	18 00 01.6	+0.1
VNDA	0.4nm,0.3s,baz=350,slow=12,SNR=16			Sn	Sn	18 02 58.1	-11
VNDA	0.0nm,0.3s,baz=42,slow=14,SNR=1.8			LR	LR	18 05 54.0	
URZ	comp=Z,375nm,19.1s,baz=327,slow=35 **Urewera**	**26.41**	**41**	LR	LR	18 12 12.2	
STKA	comp=Z,191nm,19.6s,baz=242,slow=37 **Stephens Creek**	**30.38**	**336**	LR	LR	18 11 33.0	
H01W1	comp=Z,147nm,21.7s,baz=169,slow=31 **Cape Leeuwin H**	**36.95**	**296**	T	T	18 41 40.3	
H01W2	baz=146,slow=75,SNR=29 **Cape Leeuwin H**	**36.95**	**296**	T	T	18 41 42.6	
H01W3	baz=146,slow=75,SNR=30 **Cape Leeuwin H**	**36.96**	**296**	T	T	18 41 41.2	
MAW	baz=146,slow=75,SNR=27 **Mawson**	**37.13**	**219**	LR	LR	18 17 54.5	
ASAR	comp=Z,348nm,19.1s,baz=152,slow=35 **Alice Springs**	**40.03**	**329**	P	P	18 03 41.4	+0.4
WRA	0.5nm,0.8s,baz=161,slow=6.5,SNR=5.0 **Warramunga Arr**	**43.50**	**331**	P	P	18 04 08.8	-0.6
WRA	0.8nm,0.8s,baz=166,slow=7.0,SNR=5.1			LR	LR	18 21 47.1	
JAY	comp=Z,126nm,18.2s,baz=150,slow=36 **Jayapura**	**59.27**	**343**	LR	LR	18 31 24.9	
CMAR	comp=Z,107nm,19.4s,baz=64,slow=36 **Chiang Mai Arr**	**91.01**	**308**	LR	LR	18 49 29.9	
	comp=Z,38nm,18.0s,baz=295,slow=35						

IDC 18 18:30:31.9±1.9, 6.°55S×128.°55E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, ML3.5/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=110.2km s-min=30.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.46**	**158**	Pn	Pn	18 33 57.2	-0.8
WRA	0.2nm,0.3s,baz=336,slow=13,SNR=17			Sn	Sn	18 36 24.7	-15
ASAR	0.4nm,0.3s,baz=330,slow=22,SNR=10 **Alice Springs**	**17.79**	**164**	P	Pn	18 34 41.4	+0.3
ASAR	0.2nm,0.3s,baz=348,slow=10,SNR=30			S	Sn	18 37 48.7	-11
USRK	0.1nm,0.3s,baz=352,slow=26,SNR=5.7 **Ussuriysk Arra**	**50.60**	**3**	LR	LR	18 59 10.9	
ASAJ	comp=Z,58nm,21.5s,baz=345,slow=34 **Asahikawa**	**52.00**	**13**	LR	LR	19 00 31.9	
MKAR	comp=Z,107nm,20.4s,baz=352,slow=35 **Makanchi Array**	**67.06**	**327**	P	P	18 41 27.1	0.0
	0.3nm,0.4s,baz=114,slow=7.1,SNR=8.5						

*ISCJB **18** 19:08:12.8±0.2, 43.°76N±0.°02×105.°31W±0.°02, h0km, Error ellipse: s-maj=2.5km s-min=2.2km az=161.9*
*IDC **18** 19:08:13.4±1.9, 43.°84N×105.°44W, h0km, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=46.4km s-min=9.0km az=149.0*
*NEIC **18** 19:08:13.5±0.3, 43.°80N×105.°24W, h0km, ML3.2, Error ellipse: s-maj=5.5km s-min=4.5km az=154.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 18 19:08:13.2±0.8, 43.°76N±0.°02×105.°30W±0.°02, h0km, n124, σ1§08/127, 29C-36D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.23**	**329**	⇑P	**Pg**	**19 08 19.0**	**+1.4**
J23A	baz=0.2,SNR=299 **Dilts Ranch, B**	**0.40**	**207**	P	**Pg**	**19 08 21.5**	**+0.7**
I24A	baz=0.5,SNR=66 **Kuemmerle Ranc**	**0.50**	**78**	P	**Pg**	**19 08 23.2**	**+0.5**
J24A	baz=0.4,SNR=504 **Dixon Ranch, L**	**0.63**	**133**	P	**Pg**	**19 08 25.5**	**+0.2**
H23A	baz=0.6,SNR=101 **Clabaugh Cattl**	**0.80**	**355**	P	**Pg**	**19 08 29.0**	**+0.5**
I22A	baz=0.8,SNR=68 **9 Mile Ranch,**	**0.87**	**279**	P	**Pg**	**19 08 30.3**	**+0.6**
J22A	baz=0.9,SNR=606 **Midwest**	**0.93**	**248**	P	**Pg**	**19 08 30.8**	**-0.1**
RSSD	baz=1.0,SNR=44 **Black Hills**	**0.98**	**68**	*eP*	**Pg**	**19 08 31.4**	**-0.6**
K24A	**Anderson Ranch**	**1.10**	**161**	⇓P	**Pg**	**19 08 34.3**	**+0.1**
H24A	baz=1.1,SNR=59 **Dirks Ranch, A**	**1.12**	**28**	⇓P	**Pg**	**19 08 34.3**	**-0.4**
H22A	baz=1.1 **Clearmont**	**1.12**	**318**	P	**Pg**	**19 08 35.1**	**+0.4**
J25A	baz=1.1,SNR=226 **Sunshine Ranch**	**1.15**	**108**	⇓P	**Pg**	**19 08 35.0**	**-0.2**
K22A	baz=1.1,SNR=382 **Casper**	**1.43**	**219**	*eP*	**Pn**	**19 08 39.4**	**-1.1**
K22A	**Casper**	**1.43**	**219**	P	**Pn**	**19 08 39.6**	**-0.9**
G23A	baz=1.5,SNR=93 **Biddle**	**1.44**	**357**	P	**Pn**	**19 08 40.2**	**-0.4**
I21A	baz=1.4,SNR=311 **Big Trails, Te**	**1.44**	**273**	P	**Pn**	**19 08 39.5**	**-1.2**
I21A	baz=1.5,SNR=284			⇑S	**Sb**	**19 08 59.5**	**-0.5**
H25A	baz=1.5 **Fruitdale**	**1.50**	**54**	⇑P	**Pn**	**19 08 41.1**	**-0.2**
H21A	baz=1.4,SNR=101 **Big Horn, Sher**	**1.52**	**305**	⇓P	**Pb**	**19 08 42.0**	**-0.3**
K25A	baz=1.5,SNR=180 **Mack Ranch, Ha**	**1.55**	**137**	⇓P	**Pn**	**19 08 42.4**	**+0.2**
J21A	baz=1.6,SNR=112 **Lysite**	**1.61**	**256**	P	**Pn**	**19 08 42.6**	**-0.5**
G22A	baz=1.7,SNR=89 **Birney**	**1.62**	**334**	⇓Pb	**Pb**	**19 08 43.8**	**-0.3**
L23A	baz=1.6,SNR=71 **Garrett**	**1.67**	**190**	⇓P	**Pn**	**19 08 43.6**	**-0.4**
L23A	baz=1.7,SNR=317			S	**Sn**	**19 09 06.5**	**+0.3**
J26A	baz=1.7 **Sides Ranch, S**	**1.68**	**105**	⇓P	**Pn**	**19 08 44.1**	**+0.2**
J26A	baz=1.6,SNR=90			S	**Sb**	**19 09 07.5**	**+0.8**
G24A	baz=1.6 **Alzada**	**1.69**	**22**	⇓P	**Pn**	**19 08 44.6**	**+0.5**
L24A	baz=1.6,SNR=74 **Wheatland**	**1.74**	**171**	⇑P	**Pn**	**19 08 44.7**	**0.0**
I26A	baz=1.8,SNR=23 **New Underwood**	**1.79**	**80**	⇑P	**Pn**	**19 08 45.9**	**+0.6**
K21A	baz=1.7,SNR=52 **Alcova**	**1.82**	**232**	⇓Pb	**Pn**	**19 08 46.4**	**+0.5**
	baz=1.9,SNR=137						
K26A	**Motz Farm, Whi**	**1.88**	**124**	⇑P	**Pn**	**19 08 47.0**	**+0.4**
L25A	baz=1.9,SNR=65 **Engebretsen Ra**	**1.88**	**148**	⇓Pb	**Pn**	**19 08 47.8**	**+1.1**
L22A	baz=1.9 **Ellis Ranch, M**	**1.92**	**206**	⇑Pb	**Pn**	**19 08 48.0**	**+0.7**
F23A	baz=2.0 **Volborg**	**1.96**	**358**	⇓P	**Pn**	**19 08 48.4**	**+0.6**
G25A	baz=1.9,SNR=158 **Newell**	**1.97**	**43**	⇓P	**Pn**	**19 08 49.0**	**+1.2**
G21A	baz=1.9,SNR=82 **Lodge Grass**	**2.00**	**318**	⇓P	**Pn**	**19 08 49.0**	**+0.6**
I20A	baz=2.0,SNR=180 **Worland**	**2.05**	**276**	⇑P	**Pn**	**19 08 50.1**	**+1.0**
J20A	baz=2.1,SNR=205 **Shoshoni**	**2.06**	**260**	Pb	**Pb**	**19 08 51.4**	**-0.2**
H20A	baz=2.1 **Greybull**	**2.07**	**291**	⇑P	**Pn**	**19 08 49.7**	**+0.4**
F22A	baz=2.1,SNR=27 **Rosebud**	**2.13**	**342**	P	**Pn**	**19 08 50.5**	**+0.5**
F24A	baz=2.1,SNR=174 **Ekalaka**	**2.17**	**16**	⇑P	**Pn**	**19 08 51.7**	**+1.1**
M23A	baz=2.1,SNR=32 **Laramie**	**2.31**	**188**	⇑P	**Pn**	**19 08 54.5**	**+1.7**
M24A	baz=2.4,SNR=45 **Cheyenne**	**2.32**	**171**	P	**Pn**	**19 08 54.5**	**+1.8**
F21A	baz=2.4,SNR=114 **Absaloka Mine,**	**2.44**	**328**	⇑P	**Pn**	**19 08 54.6**	**+0.3**
G20A	baz=2.4,SNR=11 **Bridger**	**2.54**	**306**	P	**Pn**	**19 08 56.0**	**+0.1**
E22A	baz=2.6,SNR=224 **Miles City**	**2.72**	**350**	⇑P	**Pn**	**19 08 58.3**	**+0.2**
M26A	baz=2.7,SNR=6.5 **McRoberts Ranc**	**2.79**	**144**	⇓P	**Pn**	**19 08 59.0**	**-0.2**
H19A	baz=2.8,SNR=6.9 **Powell**	**2.80**	**290**	P	**Pn**	**19 09 00.6**	**+1.2**
F20A	baz=2.8,SNR=55 **Billings**	**2.88**	**316**	P	**Pn**	**19 09 00.6**	**+0.2**
E24A	baz=2.9,SNR=21 **Baker**	**2.89**	**14**	P	**Pn**	**19 09 01.9**	**+1.5**
G27A	baz=2.8,SNR=14 **Dupree**	**2.90**	**55**	⇑P	**Pn**	**19 09 01.5**	**+0.8**
N23A	baz=2.8,SNR=20 **Red Feather La**	**2.91**	**190**	⇓P	**Pn**	**19 09 02.2**	**+1.3**
LAO	baz=3.0,SNR=8.9 **LASA Array**	**3.00**	**348**	*eP*	**Pn**	**19 09 01.6**	**-0.4**
E21A	**Keefer Ranch,**	**3.05**	**336**	⇑P	**Pn**	**19 09 02.1**	**-0.6**
N22A	baz=3.0,SNR=12 **Wattenberg Ran**	**3.08**	**197**	⇓P	**Pn**	**19 09 05.6**	**+2.3**
RLMT	baz=3.1,SNR=14 **Red Lodge**	**3.15**	**297**	*eP*	**Pn**	**19 09 04.6**	**+0.4**
BW06	**Boulder Array**	**3.27**	**254**	*eP*	**Pn**	**19 09 07.0**	**+1.2**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**19 09 08.1**	**+2.3**
PDAR				Lg	Lg	19 09 52.9	
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**19 09 08.1**	**+2.3**
PDAR	3.9nm,0.3s,baz=73,slow=16,SNR=65			Lg	Lg	19 09 52.9	
H18A	11nm,0.3s,baz=70,slow=31,SNR=7.7 **Shoshone NF, C**	**3.27**	**288**	⇓P	**Pn**	**19 09 06.3**	**+0.5**
F19A	baz=3.3,SNR=36 **Roth Farm, Mol**	**3.33**	**310**	P	**Pn**	**19 09 07.7**	**+1.0**
E26A	baz=3.3,SNR=67 **Carlson Angus**	**3.37**	**36**	⇑P	**Pn**	**19 09 08.3**	**+1.1**
G28A	baz=3.3 **Parade**	**3.40**	**66**	⇓P	**Pn**	**19 09 08.6**	**+1.0**
D23A	baz=3.3 **Lindsay**	**3.41**	**1**	⇓P	**Pn**	**19 09 08.8**	**+1.1**
D24A	baz=3.4,SNR=29 **Glendive**	**3.42**	**11**	⇓P	**Pn**	**19 09 09.4**	**+1.6**
D22A	baz=3.4,SNR=32 **Cohagen**	**3.44**	**350**	⇓P	**Pn**	**19 09 08.8**	**+0.7**
O23A	baz=3.4,SNR=5.3 **Lake Granby, G**	**3.58**	**188**	⇑P	**Pn**	**19 09 12.8**	**+2.6**
E19A	baz=3.6,SNR=10.0 **Rath Farm, Rou**	**3.66**	**319**	⇓P	**Pn**	**19 09 11.2**	**+0.2**
OGNE	baz=3.6,SNR=14 **Ogallala**	**3.71**	**138**	*eP*	**Pn**	**19 09 12.2**	**+0.3**
GCMT	**Greycliff**	**3.71**	**305**	*eP*	**Pn**	**19 09 12.7**	**+0.8**
O22A	**Kremmling**	**3.71**	**195**	⇓P	**Pn**	**19 09 13.5**	**+1.4**
O25A	baz=3.8,SNR=10 **Wiggins**	**3.75**	**166**	⇑P	**Pn**	**19 09 14.4**	**+2.0**
E27A	baz=3.8,SNR=5.6 **Carson**	**3.76**	**43**	P	**Pn**	**19 09 14.6**	**+2.2**
C24A	baz=3.7,SNR=5.9 **Savage**	**3.82**	**9**	⇓P	**Pn**	**19 09 14.9**	**+1.6**
F28A	baz=3.8,SNR=32 **McLaughlin**	**3.82**	**55**	⇓P	**Pn**	**19 09 14.1**	**+0.8**
H17A	baz=3.8 **Grant Village**	**3.85**	**281**	*eP*	**Pn**	**19 09 16.4**	**+2.4**
D20A	**Manuel Ranch,**	**3.88**	**330**	⇑P	**Pn**	**19 09 14.4**	**+0.3**
L29A	baz=3.9,SNR=59 **Maesberg Ranch**	**3.93**	**114**	⇓P	**Pn**	**19 09 15.4**	**+0.6**
ISCO	baz=3.9 **Idaho Springs**	**3.97**	**183**	*eP*	**Pn**	**19 09 16.3**	**+0.8**
ISCO	**Idaho Springs**	**3.97**	**183**	⇓P	**Pn**	**19 09 16.8**	**+1.3**
C22A	baz=4.0,SNR=10 **Vida**	**4.00**	**354**	P	**Pn**	**19 09 17.5**	**+1.7**
C23A	baz=4.0,SNR=70 **Lambert**	**4.04**	**1**	P	**Pn**	**19 09 17.9**	**+1.6**
G29A	baz=4.0,SNR=102 **Hoven**	**4.11**	**68**	⇑P	**Pn**	**19 09 18.1**	**+0.9**
O27A	baz=4.0 **Beecher Island**	**4.14**	**149**	⇓P	**Pn**	**19 09 18.5**	**+0.8**
N28A	baz=4.2 **Pribbeno Ranch**	**4.15**	**136**	⇓P	**Pn**	**19 09 18.3**	**+0.4**
C25A	baz=4.1 **Freed Ranch, W**	**4.20**	**19**	⇑P	**Pn**	**19 09 20.4**	**+1.9**
D19A	baz=4.1,SNR=8.1 **Cripps Ranch,**	**4.23**	**325**	⇑P	**Pn**	**19 09 20.1**	**+1.1**
E28A	baz=4.2 **Huff**	**4.30**	**48**	⇑P	**Pn**	**19 09 20.8**	**+0.9**
P25A	baz=4.2,SNR=10.0 **Willow Gulch B**	**4.33**	**168**	⇓P	**Pn**	**19 09 21.0**	**+0.6**
C20A	baz=4.4,SNR=5.9 **Veseth Ranch,**	**4.38**	**335**	P	**Pn**	**19 09 21.7**	**+0.7**
P23A	baz=4.4,SNR=11 **Jefferson**	**4.40**	**185**	⇑P	**Pn**	**19 09 22.9**	**+1.3**
C26A	baz=4.5,SNR=9.3 **Wahner Farm, P**	**4.64**	**28**	⇑P	**Pn**	**19 09 26.1**	**+1.6**
P27A	baz=4.6,SNR=5.7 **Ficken Ranch,**	**4.67**	**153**	P	**Pn**	**19 09 25.5**	**+0.5**
B23A	baz=4.7,SNR=15 **Brockton**	**4.71**	**3**	P	**Pn**	**19 09 27.0**	**+1.6**
B25A	baz=4.7,SNR=20 **Knox Farm, Ray**	**4.75**	**18**	P	**Pn**	**19 09 27.8**	**+1.7**
C19A	baz=4.7,SNR=10 **Slack Wire Ran**	**4.76**	**328**	P	**Pn**	**19 09 27.6**	**+1.3**
DGMT	baz=4.7,SNR=34 **Dagmar**	**4.77**	**9**	*eP*	**Pn**	**19 09 27.1**	**+0.8**
DGMT	**Dagmar**	**4.77**	**9**	⇓P	**Pn**	**19 09 27.9**	**+1.5**
BOZ	baz=4.7,SNR=9.9 **Bozeman (W)**	**4.89**	**295**	*eP*	**Pn**	**19 09 27.4**	**-0.6**
Q25A	**Bedland, Calha**	**4.91**	**170**	⇑P	**Pn**	**19 09 29.0**	**+0.6**
P28A	baz=4.9,SNR=6.9 **Saint Francis**	**4.96**	**146**	⇓P	**Pn**	**19 09 29.1**	**+0.1**
Q26A	baz=5.0,SNR=7.8 **Hugo**	**5.02**	**164**	⇑P	**Pn**	**19 09 30.2**	**+0.4**
B20A	baz=5.0,SNR=7.5 **Solberg Farm,**	**5.05**	**339**	⇓P	**Pn**	**19 09 31.0**	**+0.9**
A23A	baz=5.0,SNR=13 **Redstone**	**5.21**	**3**	⇑P	**Pn**	**19 09 33.2**	**+0.9**
TCUT	baz=5.2,SNR=12 **Toone Canyon**	**5.24**	**242**	*eP*	**Pn**	**19 09 33.5**	**+0.6**
EGMT	20nm,0.7s **Eagleton**	**5.28**	**325**	*eP*	**Pn**	**19 09 33.0**	**-0.3**
HRY	16nm,0.5s **Holter Researc**	**5.47**	**305**	*eP*	**Pn**	**19 09 35.9**	**-0.2**
LRM	11nm,0.4s **Limekiln Ridge**	**5.49**	**295**	*eP*	**Pn**	**19 09 37.3**	**+0.9**
MCMT	8.2nm,0.3s **McKenzie Canyo**	**5.52**	**284**	Pn	**Pn**	**19 09 37.4**	**+0.5**
BGNE	1.6nm,0.5s **Belgrade**	**5.78**	**112**	*eP*	**Pn**	**19 09 40.6**	**+0.5**
HVU	**Hansel Valley**	**5.85**	**253**	*eP*	**Pn**	**19 09 42.2**	**+1.0**
PV04	7.2nm,0.9s **Paradox Valley**	**6.01**	**208**	*eP*	**Pn**	**19 09 45.8**	**+2.2**
R28A	**Tribune**	**6.02**	**153**	⇓P	**Pn**	**19 09 43.4**	**-0.2**
SRU	baz=6.0,SNR=8.1 **San Rafael**	**6.08**	**222**	*eP*	**Pn**	**19 09 44.4**	**0.0**
S25A	46nm,0.9s **Roberts Cordova**	**6.13**	**174**	⇓P	**Pn**	**19 09 45.2**	**+0.1**
S26A	baz=6.2,SNR=6.3 **Kim**	**6.29**	**167**	⇑P	**Pn**	**19 09 47.4**	**+0.1**
ECSD	baz=6.3,SNR=8.7 **EROS Data Cent**	**6.29**	**87**	*eP*	**Pn**	**19 09 47.9**	**+0.7**
BGU	5.4nm,0.3s **Big Grassy Mou**	**6.39**	**246**	*eP*	**Pn**	**19 09 50.5**	**+1.8**
	0.7nm,0.3s						
CHMT	**Chamberlain Mo**	**6.43**	**302**	*eP*	**Pn**	**19 09 49.8**	**+0.6**
DUG	2.2nm,0.6s **Dugway**	**6.63**	**240**	*eP*	**Pn**	**19 09 52.9**	**+0.8**
AGMN	1.9nm,0.4s **Agassiz Nation**	**7.98**	**52**	*eP*	**Pn**	**19 10 09.3**	**-1.0**
ARUT	9.5nm,0.4s **Antelope Range**	**8.58**	**229**	*eP*	**Pn**	**19 10 18.7**	**-0.1**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**19 10 24.1**	**-2.1**
ULM				Lg	Lg	19 12 54.7	
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**19 10 24.1**	**-2.1**
ULM	1.5nm,0.3s,baz=230,slow=10,SNR=11			Lg	Lg	19 12 54.7	
FFC	0.3nm,0.3s,baz=155,slow=17,SNR=2.1 **Flin Flon**	**11.19**	**10**	*eP*	**Pn**	**19 10 51.9**	**-2.3**
YKA	20nm,1.6s **Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**19 12 43.0**	**-0.1**
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**19 12 43.0**	**-0.1**
	0.1nm,0.3s,baz=164,slow=12,SNR=4.9						

IGQ 18 19:11:54±0.6, 2.°79S×76.°31W, h21km±123km, Mb4.1, 4C-8D, Error ellipse: s-maj=9.6km s-min=6.3km az=103.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPAT	**Tungurahua Vol**	**2.47**	**301**	⇓P	Pn	19 12 33.1	-0.6
BPAT	**Tungurahua Vol**	**2.47**	**301**	⇓S	Sn	19 13 03.1	-0.7
PAT1	**Patacocha**	**2.48**	**301**	P	Pn	19 12 33.3	-0.5
ULBA	**Ulba**	**2.48**	**302**	⇓S	Sn	19 13 02.5	-1.1
ULBA	**Ulba**	**2.48**	**302**	⇓P	Pn	19 12 34.7	+1.0
BULB	**Ulba Tungurahu**	**2.49**	**303**	⇑S	Sn	19 13 02.4	-1.4
BULB	**Ulba Tungurahu**	**2.49**	**303**	⇑P	Pn	19 12 34.7	+1.0
ARRY	**Arrayan**	**2.49**	**301**	P	Pn	19 12 34.5	+0.7
BRUN	**Tungurahua Vol**	**2.50**	**303**	⇑P	Pn	19 12 34.4	+0.5
BRUN	**Tungurahua Vol**	**2.50**	**303**	⇑S	Sn	19 13 03.7	-0.4
BMAS	**Trigal station**	**2.51**	**301**	⇓P	Pn	19 12 34.2	+0.1
BMAS	**Trigal station**	**2.51**	**301**	⇓S	Sn	19 13 02.4	-2.1
IGUA	**Igualata**	**2.66**	**299**	P	Pn	19 12 38.0	+1.6
IGUA	**Igualata**	**2.66**	**299**	S	Sn	19 13 06.1	-2.4
PISA	**Pisayambo**	**2.69**	**310**	P	Pn	19 12 36.4	-0.4
BTAM	**Cotopaxi Volca**	**2.96**	**315**	⇓P	Pn	19 12 40.4	-0.1
BMOR	**Cotopaxi Volca**	**2.96**	**314**	P	Pn	19 12 40.4	-0.1
BVC2	**Cotopaxi Volca**	**2.98**	**315**	⇓P	Pn	19 12 41.9	+1.1
VC1	**Cotopaxi 1**	**2.98**	**316**	P	Pn	19 12 40.5	-0.3
BREF	**Cotopaxi Volca**	**2.99**	**315**	P	Pn	19 12 41.3	+0.2
PITA	**Cotopaxi Volc**	**3.07**	**316**	P	Pn	19 12 42.9	+1.1

*ISCJB **18** 19:17:54.3±0.5, 55.°69S±0.°08×30.°0W±0.°2, h10km, mb4.5/12, MS3.8/13, Error ellipse: s-maj=17.3km s-min=10.0km az=151.7*
*IDC **18** 19:17:54.5±0.7, 55.°73S×29.°99W, h0km, mb4.4/9, mb1 4.4/10, mb1mx4.2/24, mbtmp4.3/10, ML3.2/1, MS3.8/14, Ms1 3.7/14, ms1mx3.6/25, Error ellipse: s-maj=25.2km s-min=16.6km az=59.0*
*NEIC **18** 19:17:55.2±7.5, 55.°69S×29.°98W, h5km±45km, mb4.8/5, Error ellipse: s-maj=16.4km s-min=10.7km az=51.0*
*AWI **18** 19:18:02.3, 54.°32S×32.°44W*

ISC 18 19:17:56.1±0.5, 55.°7S±0.°1×30.°0W±0.°1, h10km, n57, σ1§02/47, mb4.5/12, MS3.8/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.76**	**156**	P	**P**	**19 22 04.4**	**+0.6**
VNA2	**Neumayer--Watz**	**18.16**	**156**	P	**P**	**19 22 12.0**	**+3.8**
SNAA	**Sanae**	**19.74**	**155**	P	**P**	**19 22 25.0**	**-0.7**
SNAA	**Sanae**	**19.74**	**155**	P	**P**	**19 22 25.3**	**-0.3**
SNAA	**Sanae**	**19.74**	**155**	P	**P**	**19 22 25.3**	**-0.3**
SNAA	0.1nm,0.3s,baz=326,slow=13,SNR=5.6			LR	LR	19 28 27.7	
USHA	comp=Z,70nm,20.6s,baz=318,slow=32 **Ushuaia**	**21.73**	**256**	LR	LR	19 29 45.9	
PLCA	comp=Z,163nm,18.3s,baz=79,slow=33 **Paso Flores**	**30.37**	**282**	LR	LR	19 36 07.6	
QSPA	comp=Z,300nm,20.3s,baz=99,slow=36 **South Pole Qui**	**34.57**	**180**	*eP*	**P**	**19 24 45.0**	**+0.3**
QSPA	17nm,1.3s **South Pole Qui**	**34.57**	**180**	P	**P**	**19 24 43.5**	**-1.2**
CPUP	1.4nm,0.3s,baz=206,slow=3.1,SNR=5.0 **Villa Florida**	**35.40**	**315**	*eP*	**P**	**19 24 51.0**	**-0.9**
CPUP	1.5nm,1.2s **Villa Florida**	**35.40**	**315**	P	**P**	**19 24 51.0**	**-0.9**
CPUP	5.6nm,0.8s,baz=141,slow=9.0,SNR=7.1			LR	LR	19 37 40.4	
MAW	comp=Z,164nm,20.8s,baz=145,slow=34 **Mawson**	**41.38**	**145**	P	**P**	**19 25 40.7**	**-1.1**
MAW	**Mawson**	**41.38**	**145**	P	**P**	**19 25 40.7**	**-1.1**
MAW	9.9nm,1.0s,baz=238,slow=9.5,SNR=3.0			LR	LR	19 40 59.6	
BDFB	comp=Z,164nm,18.7s,baz=263,slow=34 **Brasilia**	**42.29**	**334**	P	**P**	**19 25 50.8**	**+1.0**
BDFB	**Brasilia**	**42.29**	**334**	P	**P**	**19 25 50.8**	**+1.0**
BDFB	2.6nm,0.6s,baz=159,slow=8.6,SNR=3.7			LR	LR	19 40 17.7	
LVC	comp=Z,135nm,21.3s,baz=166,slow=32 **Limon Verde**	**43.75**	**303**	*eP*	**P**	**19 26 01.9**	**+0.1**
SIV	18nm,1.1s **San Ignacio**	**46.19**	**317**	LR	LR	19 44 31.4	
VNDA	comp=Z,64nm,20.0s,baz=108,slow=34 **Vanda**	**46.86**	**184**	P	**P**	**19 26 25.8**	**+0.2**
VNDA	**Vanda**	**46.86**	**184**	P	**P**	**19 26 25.8**	**+0.2**
BOSA	2.4nm,0.8s,baz=203,slow=4.2,SNR=5.3 **Boshof**	**47.44**	**79**	P	**P**	**19 26 31.2**	**+0.4**
BOSA	**Boshof**	**47.44**	**79**	P	**P**	**19 26 31.2**	**+0.4**
BOSA	2.3nm,0.8s,baz=252,slow=6.4,SNR=3.1			LR	LR	19 43 42.2	
H10S2	comp=Z,98nm,18.0s,baz=230,slow=33 **ASCENSION HYDR**	**48.16**	**21**	T	T	20 18 37.1	
H10S3	baz=192,slow=75,SNR=3.0 **ASCENSION HYDR**	**48.16**	**21**	T	T	20 18 34.0	
H10S1	baz=192,slow=75,SNR=10 **ASCENSION HYDR**	**48.17**	**21**	T	T	20 18 33.1	
LPAZ	baz=192,slow=75,SNR=7.6 **La Paz**	**48.88**	**308**	P	**P**	**19 26 42.8**	**+0.2**
LPAZ	**La Paz**	**48.88**	**308**	P	**P**	**19 26 42.8**	**+0.2**
LPAZ	4.9nm,0.6s,baz=153,slow=6.5,SNR=24			LR	LR	19 48 29.2	
LBTB	comp=Z,64nm,19.5s,baz=184,slow=38 **Lobatse**	**50.44**	**76**	*eP*	**P**	**19 26 52.8**	**-1.1**
LBTB	22nm,1.3s **Lobat

COLA	College	149.11	313	*e*PKPab	PKPab	19 37 47.2	-0.1
MCK	McKinley	149.31	310	*e*PKPab	PKPab	19 37 50.0	+1.7
TRF	Thorofare Moun	149.83	309	*e*PKPbc	PKPbc	19 37 44.6	-0.4
PPLA	Purkeypile	150.55	308	*e*PKPbc	PKPbc	19 37 45.3	-1.4
IM04	Indian Mountai	151.74	314	*e*PKPbc	PKPbc	19 37 50.6	+1.3
SONM	Songino Array	152.29	88	PKPbc	PKPbc	19 37 50.6	-0.7
SONM	Songino Array	152.29	88	PKPbc	PKPbc	19 37 50.6	-0.7

0.9nm,0.7s,baz=242,slow=3.1,SNR=4.0

ISCJB ***18*** *19:35:56.5±0.3, 13°.71N±0'.04×90°.45W±0'.03, h72km±2km, mb4.3/21, Error ellipse: s-maj=6.9km s-min=3.0km az=29.8*

CASC ***18*** *19:35:56.9±1.1, 13°.57N×90°.49W, h34km±5km, MD4.2, ML4.6*

NEIC ***18*** *19:35:56.5±0.5, 13°.71N×90°.34W, mb4.3/11, MD4.8(MEX), MD4.8(SNET), Error ellipse: s-maj=11.8km s-min=6.7km az=220.0*

NEIC Felt [III] at San Salvador, El Salvador.

IDC ***18*** *19:35:57.7±1.1, 13°.94N×90°.02W, h79km±9km, mb4.0/13, mb1 4.1/14, mb1mx3.8/36, mbtmp4.3/14, MS3.7/20, Ms1 3.7/20, ms1mx3.5/44, Error ellipse: s-maj=28.0km s-min=11.4km az=61.0*

MEX ***18*** *19:35:58.3±0.2, 13°.97N×90°.29W, h48km±70km, MD4.9*

ISC 18 19:35:57.0±0.7, 13.75N±0'.05×90.39W±0'.04, h72km±6km, n235, σ1°47/240, mb4.4/21, 59C-80D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.67**	**342**	*e*P	**Pn**	**19 36 12.3**	**+0.2**
RTR	**El Retiro**	**0.74**	**79**	⇓*i*P	**Pn**	**19 36 13.1**	**+0.4**
SBLS	**San Blas**	**0.75**	**83**	⇓*i*P	**Pn**	**19 36 12.8**	**-0.1**
SNJE	**San Jose**	**0.77**	**81**	⇓*i*P	**Pn**	**19 36 13.2**	**+0.1**
RBDL	**Robledal**	**0.77**	**62**	⇓*i*P	**Pn**	**19 36 13.5**	**+0.5**
NBG	**Las Nubes**	**0.83**	**3**	*e*P	**Pn**	**19 36 15.6**	**+1.7**
GCG	**Guatemala City**	**0.84**	**351**	*e*P	**Pn**	**19 36 15.3**	**+1.4**
GCG				*e*S	**Sn**	**19 36 29.3**	**+3.0**
BOQS	**Boqueron**	**1.08**	**91**	⇓*i*P	**Pn**	**19 36 17.2**	**+0.4**
SNET	**Serv Nac Est T**	**1.13**	**93**	*i* P	**Pn**	**19 36 17.7**	**+0.4**
SNET				*e*S	**Sn**	**19 36 34.1**	**+1.6**
SNET				AML	AML	19 36 39.9	

comp=Z,15μm,0.3s

LFU	**La Fuente**	**1.24**	**90**	⇓*i*P	**Pn**	**19 36 19.4**	**+0.7**
APG	**El Apazote**	**1.25**	**357**	P	**Pn**	**19 36 16.7**	**-2.3**
APG				S	**Sn**	**19 36 34.6**	**-0.8**
APG	**El Apazote**	**1.25**	**357**	P	**Pn**	**19 36 16.7**	**-2.3**

comp=Z,299nm,0.3s,baz=164,slow=7.0,SNR=1738

APG				S	**Sn**	**19 36 34.6**	**-0.8**

comp=Z,498nm,0.3s,baz=100,slow=17,SNR=31

LFRS	**El Faro**	**1.30**	**95**	⇑*i*P	**Pn**	**19 36 19.8**	**+0.3**
LBRS	**Las Brisas**	**1.31**	**90**	⇑*i*P	**Pn**	**19 36 20.2**	**+0.5**
JAT	**Jato**	**1.33**	**295**	⇓*i*P	**Pn**	**19 36 19.2**	**-0.6**
MRL	**Marmol**	**1.47**	**27**	*e*P	**Pn**	**19 36 24.2**	**+2.3**
SNVI	**San Vicente**	**1.52**	**95**	*i* P	**Pn**	**19 36 23.4**	**+0.9**
VSM	**San Miguel**	**2.08**	**99**	*i* P	**Pn**	**19 36 31.4**	**+1.2**
CAHU	**Cacacuatique**	**2.12**	**89**	*i* P	**Pn**	**19 36 31.6**	**+1.1**
THIG		**2.15**	**303**	*i* P	**Pn**	**19 36 29.9**	**-0.8**
THIG				*e*S	**Sn**	**19 36 54.7**	**-1.7**
THIG		**2.15**	**303**	*i* P	**Pn**	**19 36 29.9**	**-0.8**
THIG				*e*S	**Sn**	**19 36 54.7**	**-1.7**
CNCH	**Conchagua**	**2.53**	**100**	*i* P	**Pn**	**19 36 36.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**3.04**	**84**	*e*P	**Pn**	**19 36 43.0**	**+0.2**
PCIG		**3.35**	**306**	*i* P	**Pn**	**19 36 46.6**	**-0.5**
PCIG				*e*S	**Sn**	**19 37 23.9**	**-1.9**
PCIG		**3.35**	**306**	*i* P	**Pn**	**19 36 46.6**	**-0.5**
PCIG				*e*S	**Sn**	**19 37 23.9**	**-1.9**
HUIG	**Huatulco**	**5.88**	**291**	*i* P	**Pn**	**19 37 22.6**	**+1.0**
HUIG				*e*S	**Sn**	**19 38 28.8**	**+1.1**
HUIG	**Huatulco**	**5.88**	**291**	*i* P	**Pn**	**19 37 22.6**	**+1.0**
HUIG				*e*S	**Sn**	**19 38 28.8**	**+1.1**
JTS	**JuntasAbangare**	**6.34**	**122**	*e*P	**Pn**	**19 37 27.5**	**-0.4**
JTS				S	**Sn**	**19 38 36.0**	**-2.9**
JTS				*e*S	**Sn**	**19 38 39.3**	**+0.4**
JTS	**JuntasAbangare**	**6.34**	**122**	P	**Pn**	**19 37 28.5**	**+0.6**

comp=Z,6.8nm,0.3s,baz=299,slow=21,SNR=18

JTS				S	**Sn**	**19 38 36.0**	**-2.9**

baz=254,slow=17,SNR=1.2

TEIG	**Tepich**	**6.75**	**17**	P	**Pn**	**19 37 35.9**	**+2.4**
TEIG				S	**Sn**	**19 38 50.4**	**+1.5**
TEIG	**Tepich**	**6.75**	**17**	P	**Pn**	**19 37 35.9**	**+2.4**

comp=Z,34nm,0.3s,baz=200,slow=2.1,SNR=112

TEIG				S	**Sn**	**19 38 50.4**	**+1.5**

baz=90,slow=20,SNR=3.2

TEIG				LR	LR	19 40 36.3	

comp=Z,902nm,19.9s,baz=329,slow=43

CGA2	**Cerro Gallo 2**	**6.89**	**122**	*e*P	**Pn**	**19 37 37.7**	**+2.2**
OXX	**Oaxaca**	**6.95**	**299**	*i* P	**Pn**	**19 37 37.4**	**+1.1**
OXX				*e*S	**Sn**	**19 38 53.6**	**-0.4**
OXX	**Oaxaca**	**6.95**	**299**	*i* P	**Pn**	**19 37 37.4**	**+1.1**
OXX				*e*S	**Sn**	**19 38 53.6**	**-0.4**
VHO	**Vista Hermosa**	**6.95**	**299**	*i* P	**Pn**	**19 37 37.6**	**+1.2**
VHO				*e*S	**Sn**	**19 38 54.2**	**+0.1**
VHO	**Vista Hermosa**	**6.95**	**299**	*i* P	**Pn**	**19 37 37.6**	**+1.2**
VHO				*e*S	**Sn**	**19 38 54.2**	**+0.1**
BUS	**Buena Vista**	**7.72**	**122**	⇑*e*P	**Pn**	**19 37 48.5**	**+1.3**
BUS				*e*S	**Sn**	**19 39 11.8**	**-1.6**
TPIG	**Tehuac#an**	**8.15**	**306**	*i* P	**Pn**	**19 37 54.1**	**+1.3**
TPIG				*e*S	**Sn**	**19 39 24.4**	**+0.9**
TPIG	**Tehuac#an**	**8.15**	**306**	*i* P	**Pn**	**19 37 54.1**	**+1.3**
TPIG				*e*		19 39 24.4	
LVIG	**Laguna Verde**	**8.28**	**317**	*e*P	**Pn**	**19 37 54.2**	**-0.2**
LVIG				*e*S	**Sn**	**19 39 26.1**	**-0.3**
ACR	**Cerro Adams**	**8.71**	**125**	*e*P	**Pn**	**19 38 01.9**	**+1.5**
YAIG	**Yautepec**	**9.75**	**303**	*e*P	**Pn**	**19 38 16.4**	**+1.6**
YAIG				*e*S	**Sn**	**19 40 03.7**	**+1.0**
ARIG	**Puente Sto Nin**	**10.58**	**296**	*e*P	**Pn**	**19 38 27.1**	**+1.2**
ARIG				*e*S	**Sn**	**19 40 23.2**	**+0.6**
034A	**Hebbronville**	**15.35**	**331**	⇓P	**P**	**19 39 31.7**	**-1.0**

baz=16

934A	**Benavides**	**15.73**	**332**	⇑P	**P**	**19 39 36.5**	**-0.5**

baz=16

835A	**Beeville**	**16.03**	**336**	⇑P	**P**	**19 39 39.4**	**-0.9**

baz=16

933A	**Laredo**	**16.09**	**330**	⇓P	**P**	**19 39 40.3**	**-0.6**

baz=16

833A	**Chaparral WMA,**	**16.75**	**331**	⇓P	**P**	**19 39 49.4**	**+1.2**

baz=17

832A	**Faith Ranch, C**	**16.99**	**330**	⇓P	**P**	**19 39 52.3**	**+1.4**

baz=17

733A	**Divot King Ran**	**17.04**	**332**	⇓P	**P**	**19 39 52.2**	**+0.8**

baz=17

732A	**Laxson Ranch,**	**17.36**	**331**	⇓P	**P**	**19 39 57.4**	**+2.5**

baz=18

633A	**Saathoff Ranch**	**17.62**	**334**	⇓P	**P**	**19 39 59.8**	**+1.9**

baz=18

534A	**Blanco**	**17.84**	**337**	⇓P	**Pn**	**19 40 02.0**	**+1.5**

baz=18

OTAV	**Otavalo**	**17.89**	**138**	*e*P	**Pn**	**19 40 02.7**	**+1.0**

comp=Z,8.6nm,1.0s

632A	**Uvalde**	**17.93**	**332**	⇑P	**Pn**	**19 40 02.2**	**+0.6**

baz=18,SNR=5.4

533A	**Kerrville**	**18.10**	**335**	⇓P	**Pn**	**19 40 04.1**	**+0.4**

baz=18

631A	**Perdido Creek**	**18.22**	**330**	⇓P	**Pn**	**19 40 05.7**	**+0.7**

baz=18

434A	**Burnet**	**18.47**	**338**	⇑P	**P**	**19 40 07.4**	**+0.2**

baz=19,SNR=8.0

532A	**Rocksprings**	**18.52**	**333**	⇓P	**Pn**	**19 40 09.7**	**+1.0**

baz=19,SNR=11

433A	**Art**	**18.72**	**336**	⇓P	**Pn**	**19 40 11.2**	**0.0**

baz=19,SNR=5.3

JCT	**Junction City**	**18.77**	**334**	*e*P	**Pn**	**19 40 12.0**	**+0.2**

comp=Z,11nm,0.9s

JCT	**Junction City**	**18.77**	**334**	⇑P	**Pn**	**19 40 12.2**	**+0.4**

baz=19

531A	**Rocksprings**	**18.83**	**332**	⇑P	**Pn**	**19 40 14.2**	**+1.7**

baz=19

334A	**Lometa**	**18.93**	**339**	⇑P	**P**	**19 40 12.7**	**+0.5**

baz=19,SNR=9.2

432A	**Menard**	**19.11**	**335**	⇓P	**Pn**	**19 40 15.7**	**-0.2**

baz=19

333A	**Richland Sprin**	**19.19**	**337**	⇓P	**Pn**	**19 40 16.3**	**-0.4**

baz=19,SNR=14

530A	**J-C Ranch, Com**	**19.20**	**330**	⇑P	**Pn**	**19 40 18.1**	**+1.3**

baz=19

WHTX	**Lake Whitney**	**19.27**	**342**	⇑P	**Pn**	**19 40 16.8**	**-0.9**

baz=19

431A	**Sonora**	**19.30**	**332**	⇑P	**Pn**	**19 40 18.2**	**+0.1**

baz=19

628A	**Black Gap, Mar**	**19.47**	**326**	⇑P	**Pn**	**19 40 21.6**	**+1.6**

baz=20,SNR=5.8

234A	**Clairette**	**19.50**	**340**	⇑P	**P**	**19 40 19.4**	**+0.8**

baz=20,SNR=11

332A	**Millersview**	**19.54**	**335**	⇑P	**Pn**	**19 40 20.3**	**-0.6**

baz=20

529A	**Stev Forest Ra**	**19.62**	**328**	⇓P	**Pn**	**19 40 22.2**	**+0.4**

baz=20

430A	**Baggett Ranch,**	**19.68**	**331**	⇓P	**Pn**	**19 40 22.7**	**+0.2**

baz=20

627A	**Terlingua Ranc**	**19.72**	**324**	⇓P	**Pn**	**19 40 24.8**	**+1.7**

baz=20

331A	**San Angelo**	**19.76**	**334**	⇓P	**Pn**	**19 40 22.4**	**-1.0**

baz=20,SNR=5.6

233A	**Rising Star**	**19.78**	**338**	⇑P	**P**	**19 40 22.5**	**+0.9**

baz=20,SNR=24

135A	**Vickery Place,**	**19.79**	**342**	⇓P	**P**	**19 40 22.2**	**+0.6**

baz=20,SNR=7.8

TXAR	**Lajitas Array**	**19.79**	**324**	P	**Pn**	**19 40 24.0**	**+0.1**
TXAR	**Lajitas Array**	**19.79**	**324**	P	**Pn**	**19 40 24.0**	**+0.1**

comp=Z,1.0nm,0.3s,baz=148,slow=11,SNR=57

528A	**Cox Ranch, San**	**19.94**	**327**	⇑P	**Pn**	**19 40 28.4**	**+2.8**

baz=20

232A	**Coleman**	**19.95**	**336**	⇑P	**P**	**19 40 24.2**	**+0.8**

baz=20,SNR=14

134A	**White-Moore Ra**	**20.01**	**341**	⇓P	**P**	**19 40 24.9**	**+0.9**

baz=20,SNR=11

330A	**Mertzon**	**20.17**	**332**	⇓P	**Pn**	19 40 27.1	-1.2

baz=20,SNR=7.3

626A	**Big Bend Ranch**	**20.23**	**323**	⇓P	**Pn**	19 40 30.6	+1.6

baz=20,SNR=6.0

231A	**Bronte**	**20.26**	**335**	⇑P	**P**	**19 40 27.8**	**+1.1**

baz=20

133A	**Hamilton Ranch**	**20.32**	**339**	⇓P	**P**	**19 40 28.0**	**+0.6**

baz=20,SNR=24

428A	**Kincaid Ranch,**	**20.34**	**328**	⇑P	**Pn**	19 40 30.3	0.0

baz=20

527A	**Woodward Ranch**	**20.38**	**325**	⇓P	**Pn**	19 40 31.2	+0.3

baz=20

Z35A	**Perchaven, San**	**20.47**	**343**	⇓P	**P**	**19 40 29.9**	**+1.0**

baz=21

526A	**Mary Lane Ranc**	**20.58**	**324**	⇑P	**Pn**	19 40 32.6	-0.6

baz=21,SNR=7.3

OXF	**Oxford**	**20.69**	**2**	*e*P	**P**	**19 40 32.4**	**+1.1**

comp=Z,24nm,0.5s

328A	**Wristen Ranch,**	**20.93**	**329**	⇓P	**P**	**19 40 35.5**	**+1.5**

baz=21,SNR=5.4

131A	**Roby**	**20.93**	**336**	⇑P	**P**	**19 40 35.0**	**+1.0**

baz=21

426A	**McDonald Obser**	**21.01**	**325**	⇓P	**P**	**19 40 37.5**	**+2.4**

baz=21

Z32A	**Haskell**	**21.15**	**339**	⇑P	**P**	**19 40 37.3**	**+1.0**

baz=21,SNR=7.7

Y34A	**Reagan Ranch,**	**21.20**	**343**	⇑P	**P**	**19 40 36.4**	**-0.4**

baz=21

Z31A	**Sharp Cattle R**	**21.41**	**337**	⇓P	**P**	**19 40 40.4**	**+1.3**

baz=22,SNR=8.1

Y33A	**Hilltop Ranch,**	**21.51**	**341**	⇑P	**P**	**19 40 40.1**	**0.0**

baz=22

425A	**Indio Mountain**	**21.63**	**324**	⇓P	**P**	**19 40 43.6**	**+2.0**

baz=22,SNR=5.1

SWET	**Sewanee**	**21.75**	**10**	*e*P	**P**	**19 40 44.0**	**+1.3**

comp=Z,22nm,0.6s

Y32A	**R-V Farms, Ver**	**21.77**	**339**	⇓P	**P**	**19 40 43.4**	**+0.5**

baz=22

X34A	**Smith Ranch, M**	**21.82**	**343**	⇓P	**P**	**19 40 43.7**	**+0.3**

baz=22

Z29A	**Hungry Hill Ra**	**21.98**	**334**	⇑P	**P**	**19 40 46.1**	**+0.8**

baz=22

Y31A	**Rekieta Farm,**	**22.02**	**338**	⇑P	**P**	**19 40 46.7**	**+1.0**

baz=22,SNR=7.5

X32A	**Elmer**	**22.10**	**340**	⇑P	**P**	**19 40 47.0**	**+0.6**

baz=22

226B	**Tecolote Peak,**	**22.18**	**328**	⇓P	**P**	**19 40 50.5**	**+3.1**

baz=22

Y30A	**Stafford Cattl**	**22.19**	**336**	⇑P	**P**	**19 40 48.6**	**+1.1**

baz=22

W34A	**Bridge Creek,**	**22.40**	**344**	⇓P	**P**	**19 40 49.6**	**-0.1**

baz=22,SNR=6.6

W33A	**Caddo, Fort Co**	**22.52**	**343**	⇓P	**P**	**19 40 50.7**	**-0.3**

baz=23

X31A	**McDonald Ranch**	**22.52**	**339**	⇓P	**P**	**19 40 51.5**	**+0.5**

baz=23

MNTX	**Comudas Mount**	**22.54**	**325**	*e*P	**P**	**19 40 50.8**	**-0.4**

comp=Z,4.4nm,0.8s

225A	**Deer Hill, Car**	**22.55**	**327**	⇑P	**P**	**19 40 53.6**	**+2.1**

baz=23

TUL1	**Tulsa**	**22.59**	**349**	⇑P	**P**	**19 40 50.4**	**-1.3**

baz=23,SNR=7.3

TKL	**Tuckaleechee C**	**22.61**	**14**	P	**P**	**19 40 52.6**	**+0.7**
TKL	**Tuckaleechee C**	**22.61**	**14**	P	**P**	**19 40 52.6**	**+0.7**

comp=Z,24nm,0.6s,baz=183,slow=11,SNR=25

TKL				LR	LR	19 50 18.6	

comp=Z,209nm,21.0s,baz=192,slow=38

X30A	**Coker Ranch, T**	**22.68**	**337**	⇓P	**P**	**19 40 53.7**	**+1.0**

baz=23,SNR=6.8

Z27A	**Tatum**	**22.71**	**331**	⇓P	**P**	**19 40 54.0**	**+0.9**

baz=23

W32A	**Sentinel**	**22.73**	**341**	⇑P	**P**	**19 40 53.4**	**+0.1**

baz=23

KMSC	**Kings Mountain**	**22.81**	**19**	*e*P	**P**	**19 40 55.1**	**+1.1**
125A	**Gardner Draw,**	**22.89**	**328**	⇓P	**P**	**19 40 57.0**	**+2.1**

baz=23

V34A	**Guthrie**	**22.90**	**345**	⇑P	**P**	**19 40 54.6**	**-0.4**

baz=23,SNR=8.9

V33A	**Lossen Ranch,**	**23.09**	**343**	⇓P	**P**	**19 40 56.7**	**-0.2**

baz=23

Y27A	**Causey**	**23.16**	**332**	⇑P	**P**	**19 40 58.1**	**+0.5**

baz=23

V32A	**Arapaho**	**23.22**	**342**	⇑P	**P**	**19 40 58.0**	**-0.1**

baz=23

AMTX	**Amarillo**	**23.38**	**336**	⇑P	**P**	**19 41 00.4**	**+0.8**

baz=24

Z25A	**Roswell**	**23.41**	**329**	⇓P	**P**	**19 41 03.2**	**+3.3**

baz=24

U34A	**Anderson Ranch**	**23.48**	**345**	⇓P	**P**	**19 41 00.1**	**-0.4**

baz=24

V31A	**Spring Creek L**	**23.52**	**340**	⇓P	**P**	**19 41 01.3**	**+0.5**

baz=24

W29A	**Amraillo**	**23.58**	**336**	⇑P	**P**	**19 41 03.3**	**+1.9**

baz=24

U33A	**Lingo Farm, Me**	**23.62**	**344**	⇓P	**P**	**19 41 01.4**	**-0.4**

baz=24

Z24A	**Sheeppen Canyo**	**23.78**	**328**	⇑P	**P**	**19 41 06.5**	**+3.1**

baz=24

U32A	**Winter Ranch,**	**23.82**	**343**	⇑P	**P**	**19 41 04.5**	**+0.9**

baz=24

Y25A	**Mesa, Roswell**	**23.91**	**330**	⇑P	**P**	**19 41 06.6**	**+2.1**

baz=24

ATAH	**Atahualpa**	**23.93**	**149**	P	**P**	**19 41 06.5**	**+1.4**

comp=Z,14nm,0.8s,baz=354,slow=6.2,SNR=7.6

ATAH				LR	LR	19 49 43.7	

comp=Z,41nm,19.5s,baz=350,slow=34

W27A	**Bowe Ranch, En**	**24.11**	**334**	⇓P	**P**	**19 41 07.5**	**+1.3**

baz=24

320A	**Kipp Ranch, An**	**24.16**	**319**	⇓P	**P**	**19 41 10.2**	**+3.4**

baz=24

U30A	**WK&E Inc. Balk**	**24.48**	**340**	⇑P	**P**	**19 41 11.1**	**+1.6**

baz=25

121A	**Cookes Peak, D**	**24.54**	**323**	*e*P	**P**	**19 41 11.7**	**+1.5**

comp=Z,11nm,1.0s

121A	**Cookes Peak, D**	**24.54**	**323**	⇓P	**P**	**19 41 14.1**	**+3.9**

baz=25

T32A	**Huddler Ranch,**	**24.54**	**343**	⇓P	**P**	**19 41 11.7**	**+1.7**

baz=25

Z22A	**Elephant Butte**	**24.59**	**325**	⇑P	**P**	**19 41 13.7**	**+3.0**

baz=25

Y23A	**Lovelace Mesa,**	**24.61**	**327**	⇓P	**P**	**19 41 12.9**	**+2.0**

baz=25

319A	**Douglas**	**24.67**	**318**	⇑P	**P**	**19 41 14.6**	**+3.3**

baz=25

T31A	**Randall Ranch,**	**24.68**	**342**	⇑P	**P**	**19 41 13.3**	**+2.0**

baz=25

S33A	**Kaszmaul Farm,**	**24.69**	**345**	⇑P	**P**	**19 41 12.3**	**+0.9**

baz=25

W25A	**X Bar L Ranch,**	**24.86**	**332**	⇓P	**P**	**19 41 15.1**	**+2.0**

baz=25

T30A	**Plains**	**24.91**	**340**	⇑P	**P**	**19 41 15.4**	**+2.0**

baz=25

S32A	**Newby Ranch, P**	**25.04**	**344**	⇓P	**P**	**19 41 15.3**	**+0.8**

baz=25

BNM	**Barren Site**	**25.08**	**327**	*e*P	**P**	**19 41 14.9**	**-0.4**

comp=Z,6.3nm,1.1s

S31A	**Mullinville**	**25.11**	**343**	⇓P	**P**	**19 41 17.6**	**+2.4**

baz=25

R33A	**Olander Ranch,**	**25.37**	**346**	⇑P	**P**	**19 41 19.2**	**+1.6**

baz=26

S30A	**Montezuma**	**25.43**	**341**	⇑P	**P**	**19 41 19.2**	**+1.1**

baz=26

U26A	**Atchley Ranch,**	**25.53**	**334**	⇓P	**P**	**19 41 21.0**	**+1.8**

baz=26

ANMO	**Albuquerque**	**25.61**	**328**	LR	LR	19 52 00.2	

comp=Z,126nm,19.9s,baz=171,slow=38

R32A	**Long Quarter,**	**25.66**	**345**	⇑P	**P**	**19 41 22.1**	**+1.9**

baz=26

R31A	**Burdett**	**25.75**	**343**	⇑P	**P**	**19 41 22.9**	**+1.8**

baz=26

U25A	**Circle Dot Ran**	**25.82**	**333**	⇓P	**P**	**19 41 24.6**	**+2.7**

baz=26

R30A	**Dighton**	**25.96**	**342**	⇓P	**P**	**19 41 25.2**	**+2.3**

baz=26,SNR=6.6

Q33A	**Connelly Farm,**	**25.99**	**347**	⇓P	**P**	**19 41 24.6**	**+1.4**

baz=26

T26A	**Comanche Natio**	**26.14**	**336**	⇑P	**P**	**19 41 27.3**	**+2.6**

baz=26

Q32A	**Meitler Ranch,**	**26.16**	**345**	⇓P	**P**	**19 41 26.0**	**+1.3**

baz=26,SNR=5.8

R29A	**Marienthal**	**26.36**	**341**	⇓P	**P**	**19 41 28.3**	**+1.8**

baz=26

P33A	**Williams Farm,**	**26.38**	**347**	⇑P	**P**	**19 41 28.6**	**+1.9**

baz=26

T25A	**Trinidad**	**26.44**	**334**	⇓P	**P**	**19 41 30.1**	**+2.6**

baz=27

| | | | | |

mb2.8/1,**mb1 2.8**/4,**mb1mx2.6**/35,**mbtmp3.5**/4,**MS2.5**/1,
Ms1 2.5/1,**ms1mx2.3**/6,**1C-1D**,**Error ellipse:**
s-maj=114.7km s-min=64.0km az=137.0,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.31**	**348**	⇑Pn	Pn	19 38 18.1	-1.7
	0.4nm,0.4s,baz=172,slow=13,SNR=11						
KK31				⇓Sn	S	19 39 20.3	-12
	2.2nm,0.3s,baz=170,slow=20,SNR=5.7						
MKAR	**Makanchi Array**	**12.30**	**34**	P	Pn	19 39 36.9	+0.1
	0.1nm,0.3s,baz=211,slow=14,SNR=5.2						
MKAR				LR	LR	19 43 37.8	
	comp=Z,20nm,19.7s,baz=350,slow=33						
BVAR	**Borovoye Array**	**16.13**	**356**	P	P	19 40 22.7	-0.3
	0.2nm,0.3s,baz=162,slow=10,SNR=5.2						
ZALV	**Zalesovo Beam**	**19.06**	**23**	P	P	19 40 54.9	0.0
	0.7nm,0.3s,baz=223,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**66.82**	**269**	P	P	19 47 17.9	0.0
	0.1nm,0.4s,baz=42,slow=5.5,SNR=7.4						

IDC ***18*** *19:39:20.4±2.5,23˚.53S×69˚.65W,h0km,mb3.9/2,*
mb1 3.9/4,mb1mx3.6/34,mbtmp3.7/4,ML3.5/2,MS3.6/2,
Ms1 3.6/2,ms1mx3.1/22,Error ellipse: s-maj=56.6km
s-min=54.9km az=52.0

GUC ***18*** *19:39:33.9±0.6,22˚.63S×69˚.42W,h78km±3km,ML4.0*

ISC 18 19:39:35.9±1.0,22˚.53S±0˚.04×69˚.72W±0˚.08,h87km±7km,
n28,σ2ᵗ14/23,4C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**0.23**	**142**	⇓*i*P	Pn	19 39 45.9	-3.0
PB06				*i* S	**Sn**	**19 39 54.4**	**-4.1**
MACH	**Maria Elena**	**0.33**	**354**	⇓*i*P	**Pn**	**19 39 48.7**	**-0.8**
MACH				*i* S	**Sn**	**19 39 59.2**	**-0.4**
PB04	**Plate Boundary**	**0.34**	**40**	⇓*i*P	**Pn**	**19 39 50.5**	**+1.3**
PB04				*i* S	**Sn**	**19 40 02.9**	**+3.8**
PB04				AML	AML	19 40 04.3	
	comp=N,5μm,0.5s						
PB07	**Plate Boundary**	**0.81**	**349**	*e*P	**Pn**	**19 39 53.4**	**-0.1**
PB09	**Plate Boundary**	**0.85**	**32**	⇓*i*P	**Pn**	**19 39 52.6**	**-1.3**
PB09				*i* S	**Sn**	**19 40 06.2**	**-1.2**
PB09				AML	AML	19 40 12.2	
	comp=N,20μm,0.6s						
CEN1	**Los Morros**	**0.97**	**207**	⇑*i*P	**Pn**	**19 39 56.9**	**+1.7**
CEN1				*i* S	**Sn**	**19 40 14.3**	**+4.8**
PB10	**Plate Boundary**	**1.25**	**218**	⇓*i*P	**Pn**	**19 39 58.1**	**-0.2**
PB10				AML	AML	19 40 24.6	
	comp=N,2μm,0.7s						
ANCH	**Antofagasta**	**1.31**	**209**	⇑*i*P	**Pn**	**19 39 57.8**	**-1.3**
ANCH				*i* S	**Sn**	**19 40 16.2**	**-0.5**
SPCH	**San Pedro de A**	**1.46**	**105**	*i* P	Pn	19 40 06.3	+5.0
SPCH				*i* S	**Sn**	**19 40 23.0**	**+2.6**
PB01	**Plate Boundary**	**1.49**	**8**	⇑*i*P	**Pn**	**19 40 01.9**	**+0.3**
PB01				*i* S	**Sn**	**19 40 22.2**	**+1.4**
PB01				AML	AML	19 40 23.6	
	comp=E,5μm,0.2s						
PATCX	**Punta Patache**	**1.74**	**347**	⇑*i*P	**Pn**	**19 40 05.3**	**+0.6**
PATCX				AML	AML	19 40 38.0	
	comp=N,1μm,1.2s						
PB11	**Plate Boundary**	**2.75**	**1**	*e*P	**Pn**	**19 40 17.9**	**-0.3**
PB11				*e*S	**Sn**	**19 40 52.3**	**+1.6**
MNMC	**Minimini**	**3.38**	**2**	*e*P	**Pn**	**19 40 26.4**	**-0.4**
LPAZ	**La Paz**	**6.38**	**14**	Pn	**Pn**	**19 41 10.1**	**+2.2**
	comp=N,0.3nm,0.3s,baz=196,slow=8.1,SNR=6.3						
SIV	**San Ignacio**	**10.44**	**53**	Pn	Pn	19 41 58.7	-4.0
	comp=N,0.5nm,0.3s,baz=248,slow=13,SNR=7.7						
H03N1	**Juan Fernandez**	**13.56**	**215**	T	T	19 55 22.9	
	baz=38,SNR=5.3						
H03N2	**Juan Fernandez**	**13.57**	**215**	T	T	19 57 09.5	
	baz=38,slow=75,SNR=6.5						
H03N3	**Juan Fernandez**	**13.58**	**215**	T	T	19 56 45.9	
	baz=38,slow=75,SNR=8.5						
TEIG	**Tepich**	**46.19**	**336**	LR	LR	20 05 34.2	
	comp=N,44nm,20.2s,baz=351,slow=33						
TKL	**Tuckaleechee C**	**59.38**	**347**	LR	LR	20 16 29.8	
	comp=N,76nm,20.3s,baz=160,slow=37						
TORD	**Torodi Ar. Bea**	**78.41**	**70**	P	**P**	**19 51 25.2**	**-2.3**
	comp=N,0.6nm,0.4s,baz=253,slow=5.4,SNR=18						
YKA	**Yellowknife Ar**	**91.90**	**341**	P	**P**	**19 52 34.3**	**+0.4**
	comp=N,0.2nm,0.5s,baz=134,slow=5.4,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**127.25**	**277**	T	T	22 18 33.4	
	baz=108						
H11S1	**WAKE ISLAND Hy**	**127.26**	**277**	T	T	22 18 35.4	
	baz=108						
H11S3	**WAKE ISLAND Hy**	**127.27**	**277**	T	T	22 18 35.8	
	baz=108						
H11N3	**WAKE ISLAND Hy**	**127.36**	**278**	T	T	22 18 43.3	
	baz=102						
H11N2	**WAKE ISLAND Hy**	**127.38**	**278**	T	T	22 18 46.3	
	baz=102						
H11N1	**WAKE ISLAND Hy**	**127.38**	**278**	T	T	22 18 44.7	
	baz=102						

ISCJB ***18*** *19:50:55.1±1.4,54˚.59N±0˚.07×77˚.62E±0˚.08,h0km±8km,*
mb3.5/1,MS3.5/1,Error ellipse: s-maj=13.7km
s-min=6.4km az=25.8

IDC ***18*** *19:50:56.6±1.5,54˚.75N×77˚.79E,h0km,mb3.4/1,*
mb1 3.3/5,mb1mx3.2/47,mbtmp3.3/5,ML3.0/4,MS3.5/1,
Ms1 3.5/1,ms1mx2.4/34,Error ellipse: s-maj=17.3km
s-min=9.6km az=26.0

NNC ***18*** *19:51:01.7±2.9,54˚.50N×77˚.30E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=28.5km s-min=9.5km az=23.0

ISC 18 19:50:58.4±2.2,54˚.59N±0˚.09×77˚.57E±0˚.07,h8km±13km,
n14,σ1ᵗ73/19,9C-11D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**3.93**	**170**	⇓Pn	Pb	19 52 03.7	-4.2
	2.1nm,0.4s						
KURK				⇑Pg	**Pg**	**19 52 13.0**	**-0.7**
	4.2nm,0.8s						
KURK				⇓Lg	Lg	19 53 07.1	
	29nm,1.1s						
KURBB	**Kurchatov Arra**	**4.02**	**171**	⇓Pn	Pn	19 52 04.9	+4.7
	4.0nm,0.3s,baz=2.5,slow=12						
KURBB				⇑Pg	**Pg**	**19 52 14.6**	**-0.7**
	11nm,0.5s,baz=355,slow=15						
KURBB				⇓Lg	Lg	19 53 08.1	
	51nm,0.5s						
KURBB	**Kurchatov Arra**	**4.02**	**171**	Pn	**Pn**	**19 51 60.0**	**-0.3**
	0.4nm,0.3s,baz=0.4,slow=12,SNR=16						
KURBB				Sn	**Sn**	**19 52 48.7**	**+1.3**
	2.0nm,0.3s,baz=342,slow=18,SNR=5.0						
KURBB				Lg	Lg	19 53 10.7	
	4.1nm,0.3s,baz=338,slow=29,SNR=10						
ZALV	**Zalesovo Beam**	**4.30**	**96**	Pn	**Pn**	**19 52 03.2**	**-0.9**
	1.6nm,0.3s,baz=287,slow=15,SNR=19						
ZALV				Sn	Sn	19 52 47.9	-6.5
	3.4nm,0.3s,baz=284,slow=24,SNR=12						
ZALV				Lg	Lg	19 53 08.2	
	2.1nm,0.3s,baz=280,slow=28,SNR=8.3						
BVA0	**Borovoye Array**	**4.53**	**253**	Pn	Pn	19 52 10.4	+3.0
	2.0nm,0.3s,baz=62,slow=14,SNR=130						
BVA0				⇓Sn	**Sn**	**19 53 01.2**	**+1.0**
	5.5nm,0.6s,baz=67,slow=26,SNR=5.0						
BVA0				⇑Lg	Lg	19 53 20.7	
	17nm,0.8s,baz=78,slow=26,SNR=4.1						
BVAR	**Borovoye Array**	**4.53**	**253**	Pn	Pn	19 52 10.5	+3.2
	3.2nm,0.3s,baz=68,slow=14,SNR=110						
BVAR				Sn	**Sn**	**19 53 00.9**	**+0.7**
	2.9nm,0.3s,baz=65,slow=24,SNR=10						
BVAR				Lg	Lg	19 53 26.3	
	3.9nm,0.3s,baz=78,slow=28,SNR=7.0						
BRVK	**Borovoye**	**4.58**	**253**	⇑Pn	**Pn**	**19 52 10.7**	**+2.8**
	3.2nm,0.4s						
BRVK				⇓Sn	**Sn**	**19 53 02.8**	**+1.5**
	9.8nm,0.5s						
BRVK				⇓Lg	Lg	19 53 21.4	
	43nm,1.1s						
MK31	**Makanchi Array**	**8.36**	**157**	⇑Pn	**Pn**	**19 53 00.0**	**+0.2**
	0.7nm,0.5s,baz=348,slow=13,SNR=39						
MK31				⇑Sn	**Sn**	**19 54 36.1**	**+1.7**
	2.2nm,0.6s						
MK31				⇑Lg	Lg	19 55 27.4	
	4.6nm,0.6s,baz=332,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**8.36**	**157**	Pn	**Pn**	**19 53 00.1**	**+0.3**
	0.2nm,0.3s,baz=339,slow=11,SNR=14						
MKAR				Sn	**Sn**	**19 54 35.5**	**+1.2**
	0.4nm,0.3s,baz=338,slow=25,SNR=5.0						
MKAR				Lg	Lg	19 55 23.1	
	0.4nm,0.3s,baz=341,slow=27,SNR=2.9						
AB31	**Akbulak array**	**12.11**	**251**	⇓Pn	**Pn**	**19 53 51.3**	**+0.2**
	0.3nm,0.5s,baz=53,slow=11,SNR=20						
AB31				⇑Sn	**Sn**	**19 56 02.2**	**-4.0**
	0.4nm,0.6s						
KK31	**Karatay Array**	**12.39**	**205**	⇓Pn	**Pn**	**19 53 56.6**	**+1.6**
	0.9nm,0.9s						
KK31				⇓Sn	**Sn**	**19 56 10.7**	**-2.4**
	1.2nm,0.8s						
KK31				⇓Lg	Lg	19 57 30.4	
	1.5nm,0.6s						
AKTO	**Aktyubinsk**	**12.60**	**259**	⇑Pn	**Pn**	**19 53 58.3**	**+0.4**
	1.4nm,0.7s						
JNU	**Nakatsue**	**42.77**	**98**	LR	LR	20 16 47.7	
	comp=Z,61nm,18.6s,baz=48,slow=36						
TORD	**Torodi Ar. Bea**	**71.20**	**266**	P	**P**	**20 02 16.8**	**-1.1**
	0.2nm,0.5s,baz=20,slow=4.7,SNR=6.1						

IDC ***18*** *20:01:24.9±1.6,5˚.80S×148˚.38E,h170km±15km,mb3.4/4,*
mb1 3.6/7,mb1mx3.3/32,mbtmp4.0/7,Error ellipse:
s-maj=43.7km s-min=11.5km az=117.0

ISC 18 20:01:25.8±1.5,5˚.8S±0˚.1×148˚.2E±0˚.3,h167km,n9,
σ1ᵗ37/11,mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.76**	**196**	P	**Pn**	**20 02 24.4**	**+0.9**
	3.8nm,0.3s,baz=313,slow=6.4,SNR=14						
PMG				S	**Sn**	**20 03 07.3**	**-1.2**
	12nm,0.3s,baz=35,slow=21,SNR=9.3						
PMG	**Port Moresby**	**3.76**	**196**	P	**Pn**	**20 02 24.5**	**+1.0**
	baz=7.2,SNR=12						
CTA	**Charters Tower**	**14.36**	**187**	P	**Pn**	**20 04 41.9**	**+0.2**
	0.7nm,0.3s,baz=14,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**19.49**	**222**	P	**Pn**	**20 05 41.9**	**-1.4**
	1.3nm,0.3s,baz=47,slow=11,SNR=42						
WRA				S	**S**	**20 09 11.1**	**-0.4**
	0.1nm,0.3s,baz=54,slow=16,SNR=3.0						
ASAR	**Alice Springs**	**22.49**	**216**	P	**P**	**20 06 12.9**	**+1.4**
	4.7nm,0.6s,baz=51,slow=8.7,SNR=97						
ASAR				S	**S**	**20 10 08.0**	**+2.0**
	1.5nm,0.9s,baz=29,slow=20,SNR=7.7						
STKA	**Stephens Creek**	**26.70**	**193**	P	**P**	**20 06 48.8**	**-0.8**
	0.7nm,0.6s,baz=1.9,slow=10,SNR=4.0						
KSRS	**Korea Array**	**46.97**	**338**	P	**P**	**20 09 40.4**	**+0.4**
	0.9nm,0.6s,baz=161,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**84.80**	**23**	P	P	20 13 38.8	-2.4
	0.5nm,0.5s,baz=254,slow=5.1,SNR=10						
TORD	**Torodi Ar. Bea**	**146.17**	**285**	PKPbc	**PKPdf**	**20 20 44.6**	**-1.6**
	0.1nm,0.3s,baz=77,slow=2.8,SNR=6.5						

KRSC ***18*** *20:01:52.6±1.5,49˚.94N×156˚.94E,h44km±26km,ML3.8*
SKHL ***18*** *20:01:53.0±0.3,49˚.84N×156˚.48E,h59km,mb4.9/1*

ISC 18 20:01:53.3±4.0,49˚.9N±0˚.2×156˚.47E±0˚.10,h55km,n22,
σ1ᵗ14/35,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.85**	**344**	*i* P	**Pn**	**20 02 08.4**	**-0.7**
SKR				*i* S	**Sn**	**20 02 20.5**	**-0.2**
SKR	**Severo-Kuril's**	**0.85**	**344**	*e*P	**Pn**	**20 02 08.4**	**-0.7**
SKR				AMB	AMB	20 02 09.0	
	1μm,0.4s						
SKR				*e*S	**Sn**	**20 02 20.2**	**-0.5**
SKR				A	A	20 02 21.0	
	4μm,0.3s						
PAU	**Pauzhetka**	**1.61**	**8**	*i* P	**Pn**	**20 02 19.1**	**-0.3**
PAU				*i* S	**Sn**	**20 02 38.7**	**-0.4**
PAU	**Pauzhetka**	**1.61**	**8**	*e*P	**Pn**	**20 02 19.2**	**-0.2**
PAU				*e*S	**Sn**	**20 02 38.6**	**-0.5**
MIPR	**Malaya Ipel'ka**	**2.42**	**4**	*e*P	**Pn**	**20 02 30.4**	**0.0**
MIPR				*e*S	**Sn**	**20 02 59.2**	**+0.4**
ASAK	**Asacha**	**2.67**	**19**	*e*P	**Pn**	**20 02 34.6**	**+0.7**
ASAK				*i* S	**Sn**	**20 03 04.6**	**-0.5**
MTVR	**Mutnovka**	**2.83**	**22**	*e*P	**Pn**	**20 02 35.2**	**-0.9**
MTVR				*e*S	**Sn**	**20 03 08.5**	**-0.6**
RUS	**Russkaya**	**2.87**	**26**	*e*P	**Pn**	**20 02 35.1**	**-1.4**
RUS				*e*S	**Sn**	**20 03 08.1**	**-1.7**
APC	**Apacha**	**3.09**	**8**	*e*P	**Pn**	**20 02 40.2**	**+0.7**
APC				*e*S	**Sn**	**20 03 15.6**	**+0.4**
PET	**Petropavlovsk**	**3.44**	**23**	*e*S	**Sn**	**20 03 23.4**	**-0.4**
PET	**Petropavlovsk**	**3.44**	**23**	*e*S	**Sn**	**20 03 23.0**	**-0.8**
PET				A	A	20 03 29.0	
	6μm,0.6s						
PET				A	A	20 03 29.0	
	5μm,0.6s						
UGLR	**Uglovaya**	**3.65**	**23**	*e*P	**Pn**	**20 02 49.1**	**+1.7**
AVH	**Avacha**	**3.68**	**22**	*e*P	**Pn**	**20 02 49.4**	**+1.7**
AVH				*i* S	**Sn**	**20 03 29.5**	**-0.4**
KOK	**Koryaka**	**3.68**	**21**	*e*P	**Pn**	**20 02 49.3**	**+1.5**
KOK				*e*S	**Sn**	**20 03 29.8**	**-0.1**
SMAR	**Somma**	**3.70**	**22**	*e*P	**Pn**	**20 02 49.4**	**+1.3**
KRER	**Koryakskii**	**3.72**	**22**	*e*P	**Pn**	**20 02 50.0**	**+1.6**
SDLR	**Sedlovina**	**3.73**	**23**	*e*P	**Pn**	**20 02 48.8**	**+0.4**
SDLR				*e*S	**Sn**	**20 03 29.2**	**-1.9**
KRX	**Arik**	**3.75**	**20**	*e*P	**Pn**	**20 02 50.1**	**+1.4**
KRX				*e*S	**Sn**	**20 03 30.5**	**-1.1**
GNL	**Ganaly**	**3.94**	**13**	*e*P	**Pn**	**20 02 53.3**	**+2.0**
MKZ	**Mys Kozlova**	**5.70**	**33**	*i* P	**Pn**	**20 03 14.6**	**-0.6**
TUMR	**Tumrok**	**5.87**	**21**	*e*P	**Pn**	**20 03 19.9**	**+2.2**
KBTR	**Krutoberegovo**	**7.41**	**29**	*e*P	**Pn**	**20 03 40.0**	**+1.3**

NIED ***18*** *20:02:00,45˚.70N×152˚.30E,h20km,Mw4.1 Best double*
couple: Mo1.87000×10¹⁵ NP1:φ=244.00000°,δ=43.00000°,
λ=125.00000°. NP2:φ=20.00000°,δ=56.00000°,λ=62.00000°.

IDC ***18*** *20:02:48.7±0.6,45˚.89N×151˚.93E,h0km,mb4.1/21,*
mb1 4.2/27,mb1mx4.1/53,mbtmp4.0/27,ML3.4/6,MS3.4/5,
Ms1 3.4/5,ms1mx3.0/38,Error ellipse: s-maj=18.1km
s-min=12.9km az=25.0

NEIC ***18*** *20:02:49.6±3.4,45˚.85N×151˚.96E,h3km±20km,mb4.9/19,*
Error ellipse: s-maj=13.1km s-min=7.4km az=136.0

JMA ***18*** *20:02:51.3±0.9,45˚.70N×152˚.29E,h30km,M4.6*

ISCJB ***18*** *20:02:51.2±0.4,45˚.64N±0˚.05×152˚.09E±0˚.06,h30km,*
mb4.3/40,MS3.7/2,Error ellipse: s-maj=8.5km
s-min=3.1km az=144.5

SKHL ***18*** *20:02:52.0±0.7,45˚.51N×152˚.31E,h45km±5km,mb4.7/6*

MOS ***18*** *20:02:54.0±1.4,45˚.85N×151˚.92E,h45km,mb4.7/22,Error*
ellipse: s-maj=9.3km s-min=7.0km az=87.4

ISC 18 20:02:52.4±0.5,45˚.63N±0˚.07×152˚.12E±0˚.06,h30km,n203,
σ1ᵗ41/204,mb4.6/40,9C-5D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.02**	**264**	*e*PN	**Pn**	**20 03 40.0**	**+1.8**
KUR				*e*S	**Sn**	**20 04 15.5**	**+2.2**
KUR				pmax	pmax		
	comp=N,160nm,0.8s						
KUR				pmax	pmax		
	comp=E,120nm,0.8s						
KUR				pmax	pmax		
	comp=Z,270nm,0.8s						
KUR				smax	smax		
	comp=N,4μm,1.8s						
KUR				smax	smax		
	comp=N,610nm,0.5s						
KUR				smax	smax		
	comp=E,1μm,0.8s						
KUR	**Kuril'sk**	**3.02**	**264**	*e*P	**Pn**	**20 03 40.0**	**+1.8**
KUR				AMB	AMB	20 03 43.0	
KUR				AMB	AMB	20 03 43.0	
	comp=E,160nm,0.8s						
KUR				AMB	AMB	20 03 43.0	
	comp=E,120nm,0.8s						
KUR				AMB	AMB	20 03 43.0	
	comp=E,270nm,0.8s						
KUR				*e*S	**Sn**	**20 04 15.5**	**+2.2**
KUR				A	A	20 04 21.0	
	comp=E,4μm,1.8s						
KUR				A	A	20 04 25.5	
	comp=E,610nm,0.6s						
KUR				A	A	20 04 25.5	
	comp=E,1μm,0.6s						
SHO	**Shikotan**	**4.16**	**247**	*e*P	**Pn**	**20 03 54.0**	**+0.2**
SHO				*e*S	**Sn**	**20 04 41.0**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**4.73**	**253**	*d*PN	**Pn**	**20 04 03.7**	**+2.1**
YUK				*i* S	**Sn**	**20 04 57.6**	**+2.2**
YUK				pmax	pmax		
	comp=N,37nm,0.4s						
YUK				pmax	pmax		
	comp=E,95nm,0.4s						
YUK				pmax	pmax		
	comp=Z,157nm,0.4s						
YUK				smax	smax		
	comp=E,165nm,0.4s						
YUK				smax	smax		
	comp=N,329nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.73**	**253**	*e*P	**Pn**	**20 04 03.8**	**+2.1**
YUK				AMB	AMB	20 04 09.0	
	comp=N,37nm,0.4s						
YUK				AMB	AMB	20 04 09.0	
	comp=N,96nm,0.4s						
YUK				AMB	AMB	20 04 09.0	
	comp=N,157nm,0.4s						
YUK				*e*S	**Sn**	**20 04 57.7**	**+2.3**
YUK				A	A	20 05 18.6	
	comp=N,329nm,0.5s						
YUK				A	A	20 05 18.6	
	comp=N,165nm,0.5s						
NEM2	**Nemuro 2**	**5.09**	**246**	P	**Pn**	**20 04 06.6**	**0.0**
NEM2				*e*S	**Sn**	**20 05 02.9**	**-1.5**
JRA	**Rausu**	**5.26**	**254**	P	**Pn**	**20 04 11.3**	**+2.4**
JRA				*e*S	**Sn**	**20 05 12.4**	**+3.8**
JNK	**Nakash**	**5.67**	**251**	P	**Pn**	**20 04 16.3**	**+1.8**
SKR	**Severo-Kuril's**	**5.72**	**26**	*e*PN	**Pn**	**20 04 15.0**	**-0.1**
SKR				*e*		20 05 20.5	
SKR	**Severo-Kuril's**	**5.72**	**26**	*e*P	**Pn**	**20 04 15.0**	**-0.1**
SKR				*e*S	**Sn**	**20 05 20.5**	**+0.8**
JAK	**Akkeshi**	**5.94**	**246**	P	**Pn**	**20 04 18.3**	**0.0**
JAK				*e*S	**Sn**	**20 05 22.9**	**-2.4**
JTKR	**Abashiri--Toko**	**6.08**	**257**	P	**Pn**	**20 04 22.4**	**+2.3**
JAR	**Ashorobuto**	**6.42**	**252**	P	**Pn**	**20 04 26.5**	**+1.7**
JAR				*e*S	**Sn**	**20 05 38.6**	**+1.6**
JMP	**Maruseppu**	**6.44**	**259**	P	**Pn**	**20 04 28.1**	**+2.9**
JOB	**Onbets**	**6.55**	**248**	P	**Pn**	**20 04 27.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**6.62**	**285**	*e*PN	**Pn**	**20 04 29.9**	**+2.3**
YSS				*e*S	**Sn**	**20 05 44.4**	**+2.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.62**	**285**	*e*P	Pn	20 04 23.4	-4.3
	comp=Z,22nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.62**	**285**	*e*P	**Pn**	**20 04 29.9**	**+2.3**
YSS				AMB	AMB	20 04 32.7	
	comp=Z,20nm,0.6s						
YSS				*e*rx	rx	20 04 33.6	
YSS				*e*S	**Sn**	**20 05 44.4**	**+2.3**
YSS				AMS	AMS	20 06 39.0	
	comp=Z,300nm,16.0s						
JSE	**Soyaes**	**6.76**	**268**	P	Pn	20 04 33.3	+3.8
JKK2	**Kamakawa 2**	**6.90**	**259**	P	**Pn**	**20 04 34.1**	**+2.6**
ASAJ	**Asahikawa**	**6.94**	**261**	Pn	**Pn**	**20 04 32.4**	**+0.5**
ASAJ	**Asahikawa**	**6.94**	**261**	Pn	**Pn**	**20 04 32.4**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=82,slow=13,SNR=17						
ASAJ				LR	LR	20 07 22.9	
	comp=Z,270nm,18.4s,baz=44,slow=40						
JCH	**Churui**	**6.99**	**248**	P	**Pn**	**20 04 33.4**	**+0.8**
JCH				*e*S	**Sn**	**20 05 48.3**	**-2.7**
JWK2	**Keihoku**	**7.20**	**271**	P	Pn	20 04 41.0	+5.5
MYR	**Moyori**	**7.20**	**245**	*e*P	**Pn**	**20 04 36.1**	**+0.6**
JFR	**Furan**	**7.26**	**254**	P	**Pn**	**20 04 37.4**	**+1.0**
JEM	**Erimo**	**7.42**	**244**	P	**Pn**	**20 04 38.6**	**0.0**
ERM	**Erimo**	**7.42**	**244**	⇑*i*PN	**Pn**	**20 04 41.6**	**+3.0**
ERM	**Erimo**	**7.42**	**244**	*e*P	**Pn**	**20 04 40.7**	**+2.1**
	comp=Z,65nm,0.6s						
JNBK	**Urakawa-nobuka**	**7.54**	**247**	P	**Pn**	**20 04 40.3**	**0.0**
JBT2	**Biratori 2**	**7.57**	**251**	P	**Pn**	**20 04 41.4**	**+0.8**
TYV	**Tymovskoe**	**8.20**	**313**	*e*P	**Pn**	**20 04 51.0**	**+1.8**
TYV				AMB	AMB	20 04 53.5	
	comp=Z,22nm,1.0s						
TYV				AMB	AMB	20 04 53.5	
	comp=Z,26nm,1.0s						
PETK	**Petropavlovsk-**	**8.32**	**24**	PN	**Pn**	**20 04 49.2**	**-1.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.32**	**24**	Pn	**Pn**	**20 04 49.1**	**-1.7**
PETK	**Petropavlovsk-**	**8.32**	**24**	Pn	**Pn**	**20 04 49.1**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=181,slow=14,SNR=4.8						
JKB	**Kayabe**	**8.86**	**249**	P	**Pn**	**20 04 58.6**	**+0.4**
JKB				*e*S	**Sn**	**20 06 31.9**	**-5.0**
JYM2	**Yakumo 2**	**9.19**	**252**	P	**Pn**	**20 05 03.7**	**+0.9**
JTM	**Tenmabayashi**	**9.41**	**243**	P	**Pn**	**20 05 05.2**	**-0.7**
JTH	**Tanohata**	**9.44**	**237**	*e*S	Sn	20 06 42.7	-8.7
OFUJ	**Ofunato**	**10.13**	**233**	*e*S	Sn	20 07 00.0	-8.2
NKL	**Nikolayevsk**	**10.59**	**319**	*e*P	Pn	20 05 25.0	+3.2
NKL				AMB	AMB	20 05 26.9	
	comp=Z,20nm,1.1s						
NKL				AMB	AMB	20 05 26.9	
	comp=Z,30nm,1.1s						
NKL				AMS	AMS	20 10 30.0	
	comp=Z,300nm,15.0s						
NKL				AMS	AMS	20 10 30.0	
	comp=Z,400nm,15.0s						
JIO	**Ouri**	**10.75**	**232**	*e*S	Sn	20 07 13.9	-9.4
MJAR	**Matsushiro Arr**	**13.86**	**234**	Pn	**Pn**	**20 06 05.2**	**-1.6**
MJAR	**Matsushiro Arr**	**13.86**	**234**	Pn	**Pn**	**20 06 05.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=4.5						
MJAR				LR	LR	20 12 54.7	
	comp=Z,67nm,18.4s,baz=45,slow=44				

ZALV PcP **PcP** **20 12 37.7 +0.1**
comp=Z,2.1nm,0.9s,baz=112,slow=1.6,SNR=6.6
INK Inuvik 42.96 32 *eP* **P** **20 10 49.2 +1.1**
INK Inuvik 42.96 32 P **P** **20 10 46.5 -1.7**
comp=Z,1.1nm,0.5s,baz=276,slow=8.6,SNR=8.6
MK31 Makanchi Array 46.85 298 *eP* **P** **20 11 18.3 -1.1**
MK31 Makanchi Array 46.85 298 *eP* **P** **20 11 18.3 -1.1**
MKAR Makanchi Array 46.85 298 P **P** **20 11 17.2 -2.2**
MKAR 20 12 52.8
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.85 298 P **P** **20 11 17.2 -2.2**
MKAR PcP **PcP** **20 12 52.8 +0.8**
MKAR Makanchi Array 46.85 298 P **P** **20 11 17.2 -2.2**
comp=Z,1.2nm,0.5s,baz=74,slow=7.6,SNR=17
MKAR PcP **PcP** **20 12 52.8 +0.8**
comp=Z,0.8nm,0.8s,baz=53,slow=4.9,SNR=4.1
LSA Lhasa 49.65 273 *eP* **P** **20 11 44.0 +2.2**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 49.65 273 *eP* **P** **20 11 44.0 +2.2**
comp=Z,5.5nm,0.6s
CHTO Chiang Mai 51.19 257 *eP* **P** **20 11 54.5 +1.5**
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO Chiang Mai 51.19 257 *eP* **P** **20 11 54.5 +1.5**
comp=Z,2.6nm,1.0s
CMAR Chiang Mai Arr 51.44 256 P **P** **20 11 56.6 +1.8**
CMAR Chiang Mai Arr 51.44 256 P **P** **20 11 56.6 +1.8**
comp=Z,0.7nm,0.7s,baz=28,slow=8.5,SNR=7.0
RES Resolute Bay 52.11 18 P **P** **20 11 59.1 0.0**
RES Resolute Bay 52.11 18 P **P** **20 11 59.1 0.0**
comp=Z,0.6nm,0.4s,baz=325,slow=4.9,SNR=5.4
YKA Yellowknife Ar 52.23 36 P **P** **20 12 01.5 +1.3**
YKA Yellowknife Ar 52.23 36 P **P** **20 12 01.5 +1.3**
comp=Z,0.7nm,0.7s,baz=296,slow=7.0,SNR=12
TAPN Taplejung 53.48 273 *eP* **P** **20 12 12.7 +2.5**
comp=Z,8.6nm,0.7s
ODAN Odare 54.00 273 *eP* **P** **20 12 16.1 +2.1**
comp=Z,7.2nm,0.7s
JIRN Jiri 54.35 275 *eP* **P** **20 12 18.0 +1.3**
comp=Z,7.2nm,0.3s
GUN Gumba 54.41 275 *eP* **P** **20 12 18.4 +1.3**
comp=Z,8.9nm,0.5s
RAMN Ramite 54.50 274 *eP* **P** **20 12 18.3 +0.7**
comp=Z,7.1nm,0.3s
KKN Kakani 54.91 275 *eP* **P** **20 12 21.9 +1.4**
PKI Pulchoki 54.95 275 *eP* **P** **20 12 21.0 0.0**
comp=Z,5.8nm,0.6s
DMN Daman 55.14 275 *eP* **P** **20 12 22.7 +0.4**
comp=Z,10nm,0.6s
GKN Gorkha 55.23 276 *eP* **P** **20 12 23.4 +0.6**
comp=Z,10nm,0.4s
DANN Dangsing 55.62 277 *eP* **P** **20 12 26.7 +0.9**
comp=Z,19nm,0.6s
KKAR Karatay Array 55.94 299 *eP* **P** **20 12 26.8 -0.7**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 55.94 299 *eP* **P** **20 12 26.8 -0.7**
comp=Z,1.1nm,0.5s
KOLN Koldanda 56.09 277 *eP* **P** **20 12 29.3 +0.3**
comp=Z,15nm,0.8s
ABKAR Akbulak array 58.62 310 *eP* **P** **20 12 44.9 -1.3**
comp=Z,2.0nm,0.4s
KBL Kabul 61.84 292 *eP* **P** **20 13 08.3 -0.5**
KBL pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 61.84 292 *eP* **P** **20 13 08.3 -0.5**
comp=Z,15nm,1.0s
SUMG Summit 61.86 4 *eP* **P** **20 13 09.0 +0.4**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 61.86 4 *eP* **P** **20 13 09.0 +0.4**
comp=Z,6.0nm,0.8s
FINES FINESS Array B 64.76 335 P **P** **20 13 26.2 -1.2**
FINES FINESS Array B 64.76 335 P **P** **20 13 26.2 -1.2**
comp=Z,2.9nm,0.6s,baz=35,slow=6.5,SNR=14
WRA Warramunga Arr 67.23 198 P **P** **20 13 44.5 +0.7**
WRA Warramunga Arr 67.23 198 P **P** **20 13 44.5 +0.7**
comp=Z,1.0nm,1.0s,baz=17,slow=6.7,SNR=5.9
PFO Pinyon Flat Ob 67.79 64 P **P** **20 13 48.4 +0.9**
PFO Pinyon Flat Ob 67.79 64 P **P** **20 13 48.4 +0.9**
comp=Z,3.6nm,0.6s,baz=49,slow=11,SNR=3.5
NB2 NORSAR Subarra 69.06 341 P **P** **20 13 54.7 -0.2**
comp=Z,2.0nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 69.06 341 P **P** **20 13 54.6 -0.3**
NOA NORSAR Array B 69.06 341 P **P** **20 13 54.6 -0.3**
comp=Z,2.0nm,0.4s,baz=28,slow=6.4,SNR=17
HFS Hagfors 69.26 339 P **P** **20 13 54.4 -1.7**
HFS Hagfors 69.26 339 P **P** **20 13 54.4 -1.7**
comp=Z,4.5nm,0.4s,baz=53,slow=5.7,SNR=42
ASAR Alice Springs 70.93 198 P **P** **20 14 09.1 +2.3**
ASAR Alice Springs 70.93 198 P **P** **20 14 09.1 +2.3**
comp=Z,0.3nm,0.5s,baz=11,slow=5.4,SNR=7.2
KBZ Khabaz 71.14 314 P **P** **20 14 07.6 -0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 71.14 314 P **P** **20 14 07.5 -0.3**
KBZ Khabaz 71.14 314 P **P** **20 14 07.5 -0.3**
comp=Z,5.9nm,0.9s,baz=38,slow=5.0,SNR=8.0
AKASG Malin Array Be 72.09 326 *eP* **P** **20 14 12.5 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 72.09 326 P **P** **20 14 12.6 -0.9**
AKASG Malin Array Be 72.09 326 P **P** **20 14 12.6 -0.9**
comp=Z,3.6nm,0.6s,baz=34,slow=6.1,SNR=18
AKASG LR LR 20 47 14.9
comp=Z,55nm,19.4s,baz=265,slow=37
GNI Garni 72.73 310 P **P** **20 14 18.1 +0.5**
GNI Garni 72.73 310 P **P** **20 14 18.1 +0.5**
comp=Z,2.2nm,0.5s,baz=165,slow=19,SNR=4.2
BURAR Bucovina Array 76.14 326 ⇑*iP* **P** **20 14 37.6 +0.3**
TESR Tescani 76.46 325 ⇑*iP* **P** **20 14 39.4 +0.4**
TRPA Tarpa 76.73 328 ||*iP* **P** **20 14 41.1 +0.6**
DPC Dobruska-Polom 77.01 333 *eP* **P** **20 14 43.1 +1.0**
DPC Dobruska-Polom 77.01 333 *eP* **P** **20 14 43.1 +1.0**
KRLC Kraliky 77.10 332 *eP* **P** **20 14 43.0 +0.4**
KRLC Kraliky 77.10 332 *eP* **P** **20 14 43.0 +0.4**
MORC Moravsky Berou 77.10 332 ⇑*iP* **P** **20 14 43.0 +0.4**
CLL Collm 77.19 335 ⇑*iP* **P** **20 14 42.8 -0.2**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 77.19 335 ⇑*iP* **P** **20 14 42.8 -0.2**
comp=Z,7.0nm,1.0s
EKA Eskdalemuir Ar 77.26 346 P **P** **20 14 41.8 -1.5**
EKA Eskdalemuir Ar 77.26 346 P **P** **20 14 41.8 -1.5**
comp=Z,0.6nm,0.4s,baz=19,slow=4.9,SNR=7.8
PVCC Panska Ves 77.41 334 *eP* **P** **20 14 44.3 +0.1**
PVCC Panska Ves 77.41 334 *eP* **P** **20 14 44.3 +0.1**
VRAC Vranov 77.82 332 ||*iP* **P** **20 14 47.8 +1.2**
PRU Pruhonice 77.89 334 *eP* **P** **20 14 47.6 +0.7**
PRU Pruhonice 77.89 334 *eP* **P** **20 14 47.6 +0.7**
ARR Arges 78.21 325 ⇑*iP* **P** **20 14 50.6 +1.7**
NKC Novy Kostel 78.31 335 *eP* **P** **20 14 47.4 -1.9**
NKC Novy Kostel 78.31 335 *eP* **P** **20 14 47.4 -1.9**
TXAR Lajitas Array 78.64 60 P **P** **20 14 53.4 +1.7**
TXAR Lajitas Array 78.64 60 P **P** **20 14 53.4 +1.7**
comp=Z,1.0nm,0.5s,baz=298,slow=2.7,SNR=6.2
BRTR Keskin Array B 78.73 316 P **P** **20 14 52.8 +0.8**
BRTR Keskin Array B 78.73 316 P **P** **20 14 52.8 +0.8**
comp=Z,1.1nm,0.7s,baz=59,slow=4.8,SNR=6.4
KHC Kasperske Hory 78.94 334 *eP* **P** **20 14 53.7 +0.9**
KHC Kasperske Hory 78.94 334 *eP* **P** **20 14 53.7 +0.9**
GERES GERESS Array B 79.15 333 P **P** **20 14 53.3 -0.8**
GERES GERESS Array B 79.15 333 P **P** **20 14 53.3 -0.8**
comp=Z,0.4nm,0.5s,baz=36,slow=5.6,SNR=7.1
BZS Buzias 79.18 327 ⇑*iP* P 20 14 46.8 -7.4
VTS Vitosha 81.09 324 ||*iP* **P** **20 15 05.4 +0.7**
PAGF Fort de Pagny 81.71 338 *eP* **P** **20 15 08.5 +0.8**
comp=Z,8.6nm,0.8s
PAGF Fort de Pagny 81.71 338 *eP* **P** **20 15 08.5 +0.8**
comp=Z,3.6nm,0.8s
SFTF Sexfontaines 82.21 338 *eP* **P** **20 15 10.7 +0.4**
comp=Z,7.9nm,0.7s
SFTF Sexfontaines 82.21 338 *eP* **P** **20 15 10.7 +0.4**
comp=Z,7.9nm,0.7s
LDF La Druitiere 83.07 342 *eP* **P** **20 15 15.8 +1.0**
LDF La Druitiere 83.07 342 *eP* **P** **20 15 15.8 +1.0**
LDF La Druitiere 83.07 342 *eP* **P** **20 15 15.8 +1.0**
LOR Lormes 83.38 339 *eP* **P** **20 15 16.9 +0.5**
comp=Z,7.2nm,0.7s
LOR *eR*
comp=Z,102nm,19.5s
LOR Lormes 83.38 339 *eP* **P** **20 15 16.9 +0.5**
comp=Z,7.2nm,0.7s
GRR Gorron 83.43 342 *eP* **P** **20 15 17.6 +1.0**
comp=Z,10nm,0.7s
GRR Gorron 83.43 342 *eP* **P** **20 15 17.6 +1.0**
GRR pmax pmax
comp=Z,10.0nm,0.7s
GRR Gorron 83.43 342 *eP* **P** **20 15 17.6 +1.0**
comp=Z,10nm,0.7s
AVF Avril sur Loir 83.95 339 *eP* **P** **20 15 19.9 +0.6**
comp=Z,1.7nm,0.4s
AVF Avril sur Loir 83.95 339 *eP* **P** **20 15 19.9 +0.6**
AVF pmax pmax
comp=Z,2.0nm,0.4s
AVF Avril sur Loir 83.95 339 *eP* **P** **20 15 19.9 +0.6**
comp=Z,1.7nm,0.4s
SMF Signal de Mont 83.96 339 *eP* **P** **20 15 20.1 +0.7**
comp=Z,16nm,1.1s
SMF Signal de Mont 83.96 339 *eP* **P** **20 15 20.1 +0.7**
SMF pmax pmax
comp=Z,16nm,1.1s
SMF Signal de Mont 83.96 339 *eP* **P** **20 15 20.1 +0.7**
comp=Z,16nm,1.1s
LPL La Plagne 84.22 336 *eP* **P** **20 15 22.8 +1.8**
LPL La Plagne 84.22 336 *eP* **P** **20 15 22.8 +1.8**
LPL La Plagne 84.22 336 *eP* **P** **20 15 22.8 +1.8**
LPG La Plagne 84.24 336 *eP* **P** **20 15 23.0 +1.8**
comp=Z,18nm,1.1s
LPG La Plagne 84.24 336 *eP* **P** **20 15 23.0 +1.8**
LPG pmax pmax
comp=Z,18nm,1.1s
LPG La Plagne 84.24 336 *eP* **P** **20 15 23.0 +1.8**
comp=Z,18nm,1.1s
MBDF Montbardon 84.94 336 *eP* **P** **20 15 25.3 +0.7**
MBDF Montbardon 84.94 336 *eP* **P** **20 15 25.3 +0.7**
MBDF Montbardon 84.94 336 *eP* **P** **20 15 25.3 +0.7**
MFF Saint Martin d 84.96 341 *eP* **P** **20 15 25.1 +0.7**
comp=Z,12nm,0.8s
MFF Saint Martin d 84.96 341 *eP* **P** **20 15 25.1 +0.7**
MFF pmax pmax
comp=Z,12nm,0.8s
MFF Saint Martin d 84.96 341 *eP* **P** **20 15 25.1 +0.7**
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 85.01 337 *eP* **P** **20 15 25.8 +0.9**
comp=Z,6.4nm,0.7s
ORIF *eR*
comp=Z,148nm,17.5s
ORIF Oris-en-Rattie 85.01 337 *eP* **P** **20 15 25.8 +0.9**
ORIF pmax pmax
comp=Z,6.0nm,0.7s
ORIF Oris-en-Rattie 85.01 337 *eP* **P** **20 15 25.8 +0.9**
comp=Z,6.4nm,0.7s
VIVF Saint-Julien-l 85.40 337 *eP* **P** **20 15 27.8 +1.1**
VIVF Saint-Julien-l 85.40 337 *eP* **P** **20 15 27.8 +1.1**
VIVF Saint-Julien-l 85.40 337 *eP* **P** **20 15 27.8 +1.1**
SBF Sospel 85.53 335 *eP* **P** **20 15 28.1 +0.6**
comp=Z,26nm,1.1s
SBF Sospel 85.53 335 *eP* **P** **20 15 28.1 +0.6**
SBF pmax pmax
comp=Z,26nm,1.1s
SBF Sospel 85.53 335 *eP* **P** **20 15 28.1 +0.6**
comp=Z,26nm,1.1s
ETSF Etsaut 88.56 340 *eP* **P** **20 15 42.8 +0.6**
comp=Z,16nm,1.2s
ETSF Etsaut 88.56 340 *eP* **P** **20 15 42.8 +0.6**
ETSF pmax pmax
comp=Z,16nm,1.2s
ETSF Etsaut 88.56 340 *eP* **P** **20 15 42.8 +0.6**
comp=Z,16nm,1.2s
PLCA Paso Flores 148.78 96 PKPbc **PKPbc** **20 22 37.6 +1.1**
PLCA Paso Flores 148.78 96 PKPbc **PKPbc** **20 22 37.6 +1.1**
comp=Z,1.1nm,0.7s,baz=200,slow=18,SNR=2.6

*CSEM **18** 20:07:45.0, 40.75N×15.18E, h7km, MD1.9/4, Error ROM*
ROM 18 20:07:45.0±1.0, 40.75N×15.18E, h7km±9km, Md1.9/4, Ml1.1/2, Error ellipse: s-maj=6.6km s-min=4.3km az=135.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRV	**Calabrutti - M**	**0.03**	**347**	Pg	Pg	20 07 46.5	-0.1
MCRV				Sg	Sg	20 07 48.0	+0.2
	809nm,0.1s						
MCRV	**Calabrutti - M**	**0.03**	**347**	Pg	Pg	20 07 46.5	-0.1
MCRV				Sg	Sg	20 07 48.0	+0.2
	809nm,0.1s						
SGO	**Sicignano**	**0.21**	**152**	Pg	Pg	20 07 50.5	+1.1
	24nm,0.3s						
SGO	**Sicignano**	**0.21**	**152**	Pg	Pg	20 07 50.5	+1.1
	24nm,0.3s						
MRLC	**Muro Lucano**	**0.24**	**88**	Pg	Pg	20 07 49.9	+0.1
MRLC				Sg	Sg	20 07 54.8	+1.8
	34nm,0.3s						
MRLC	**Muro Lucano**	**0.24**	**88**	Pg	Pg	20 07 49.9	+0.1
MRLC				Sg	Sg	20 07 54.8	+1.8
	34nm,0.3s						
CDRU	**Civita di Ruta**	**0.28**	**160**	Pg	Pb	20 07 51.9	-0.6
CDRU				Sg	Sg	20 07 55.5	+1.1
	21nm,0.2s						
CDRU	**Civita di Ruta**	**0.28**	**160**	Pg	Pb	20 07 51.9	-0.6
CDRU				Sg	Sg	20 07 55.5	+1.1
	21nm,0.2s						

*IDC **18** 20:36:54.9±0.6, 38.45N×22.08E, h0km, mb4.1/20, mb1 4.1/30, mb1mx4.1/41, mbtmp4.0/30, ML3.6/10, MS3.4/14, Ms1 3.4/14, ms1mx3.1/52, Error ellipse: s-maj=12.5km s-min=11.6km az=57.0*
*ISCJB **18** 20:36:56.0±0.2, 38.45N±0.01×21.99E±0.01, h11km±1km, mb4.1/33, MS3.5/8, Error ellipse: s-maj=1.8km s-min=1.6km az=41.8*
*PDG **18** 20:36:56.6±0.4, 38.22N×22.10E, h38km±5km, ML3.9/11, Error ellipse: s-maj=3.3km s-min=1.9km az=90.0*
*SOF **18** 20:36:56.4, 38.25N×22.03E, h35km, MD3.5*
*THE **18** 20:36:56.7, 38.44N×22.00E, h2km, ML4.2/20, Error ellipse: s-maj=0.9km s-min=0.3km az=218.0*
*ATH **18** 20:36:56.3, 38.43N×21.99E, h10km, ML4.0*
*NEIC **18** 20:36:56.7, 38.44N×22.00E, h2km, mb4.3/11, ML4.2(THE), After THE.*
*CSEM **18** 20:36:56.7±0.1, 38.42N×22.02E, h8km, mb4.3/23, Ms2.8, Error ellipse: s-maj=2.2km s-min=2.0km az=38.0*
*TIR **18** 20:36:57.1, 38.49N×21.95E, h22km, ML4.2*
*MOS **18** 20:36:58.5±0.9, 38.46N×21.93E, h33km, mb4.3/23, Error ellipse: s-maj=5.2km s-min=3.4km az=100.2*
ISC 18 20:36:56.6±0.6, 38.43N±0.01×21.99E±0.01, h10km±3km, n648, σ1°07/757, mb4.2/33, MS3.5/8, 27C-33D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m	ISC
EFP	**Efpalio**	**0.06**	**265**	P	**Pg**	**20 36 58.3**	**-0.5**
EFP	**Efpalio**	**0.06**	**265**	*e*PG	**Pg**	**20 36 58.4**	**-0.4**
EFP				*e*SG	**Sg**	**20 36 59.8**	**-0.5**
EFP	**Efpalio**	**0.06**	**265**	*e*Pg	**Pg**	**20 36 58.4**	**-0.4**
EFP				*e*Sg	**Sg**	**20 36 59.8**	**-0.5**
KALE	**Kalithea**	**0.13**	**109**	P	**Pg**	**20 36 59.8**	**+0.1**
KALE				S	**Sg**	**20 37 01.6**	**-0.3**
KALE	**Kalithea**	**0.13**	**109**	*e*PG	**Pg**	**20 36 59.9**	**+0.2**
KALE				*e*SG	**Sg**	**20 37 02.0**	**+0.1**
KALE	**Kalithea**	**0.13**	**109**	P	**Pg**	**20 36 59.8**	**+0.1**
KALE	**Kalithea**	**0.13**	**109**	P	**Pg**	**20 36 59.8**	**+0.1**
KALE				S	**Sg**	**20 37 01.6**	**-0.3**
KALE				*e*Sg	Sg	20 37 02.0	+0.1
LAKA	**Lakka**	**0.19**	**182**	P	**Pg**	**20 37 00.7**	**0.0**
LAKA	**Lakka**	**0.19**	**182**	*e*PG	**Pg**	**20 37 00.8**	**0.0**
LAKA	**Lakka**	**0.19**	**182**	P	**Pg**	**20 37 00.7**	**0.0**
LAKA	**Lakka**	**0.19**	**182**	P	**Pg**	**20 37 00.7**	**0.0**
UPR	**University Cam**	**0.22**	**227**	P	**Pg**	**20 37 01.2**	**+0.1**
UPR				S	**Sg**	**20 37 04.7**	**+0.6**
UPR	**University Cam**	**0.22**	**227**	P	**Pg**	**20 37 01.2**	**+0.1**
UPR				S	**Sg**	**20 37 04.7**	**+0.6**
PVO	**Paravola**	**0.41**	**297**	P	**Pg**	**20 37 04.2**	**-0.4**
PVO				S	**Sg**	**20 37 10.5**	**+0.5**
PVO	**Paravola**	**0.41**	**297**	P	**Pg**	**20 37 04.2**	**-0.4**
PVO				S	**Sg**	**20 37 10.5**	**+0.5**
KLV	**Kalavryta, Ach**	**0.41**	**162**	P	**Pg**	**20 37 04.2**	**-0.5**
KLV				S	**Sg**	**20 37 10.4**	**+0.3**
KLV	**Kalavryta, Ach**	**0.41**	**162**	*e*PB	**Pg**	**20 37 04.3**	**-0.5**
KLV				*e*SB	**Sg**	**20 37 11.1**	**+1.0**
KLV	**Kalavryta, Ach**	**0.41**	**162**	P	**Pg**	**20 37 04.2**	**-0.5**
KLV				S	**Sg**	**20 37 10.4**	**+0.3**
KLV	**Kalavryta, Ach**	**0.41**	**162**	*e*Pb	**Pg**	**20 37 04.3**	**-0.5**
KLV				S	**Sg**	**20 37 10.4**	**+0.3**
KLV				*e*Sb	**Sg**	**20 37 11.1**	**+1.0**
DSF	**Desfina**	**0.42**	**93**	P	**Pg**	**20 37 04.7**	**-0.3**
DSF				S	**Sg**	**20 37 11.5**	**+0.9**
DSF	**Desfina**	**0.42**	**93**	*e*PB	**Pg**	**20 37 04.7**	**-0.3**
DSF				*e*SB	**Sg**	**20 37 11.1**	**+0.5**
DSF	**Desfina**	**0.42**	**93**	P	**Pg**	**20 37 04.7**	**-0.3**
DSF				S	**Sg**	**20 37 11.5**	**+0.9**
DSF	**Desfina**	**0.42**	**93**	P	**Pg**	**20 37 04.7**	**-0.3**
DSF				*e*Sb	**Sg**	**20 37 11.1**	**+0.5**
EVR	**Evrytania**	**0.50**	**344**	P	**Pg**	**20 37 06.0**	**-0.4**
EVR				S	**Sg**	**20 37 13.7**	**+0.6**
EVR	**Evrytania**	**0.50**	**344**	*e*PB	**Pg**	**20 37 06.1**	**-0.4**
EVR				*e*SB	**Sg**	**20 37 13.8**	**+0.6**
EVR	**Evrytania**	**0.50**	**344**	P	**Pg**	**20 37 06.0**	**-0.4**
EVR				S	**Sg**	**20 37 13.7**	**+0.6**
EVR	**Evrytania**	**0.50**	**344**	*e*Pb	**Pg**	**20 37 06.1**	**-0.4**
EVR				S	**Sg**	**20 37 13.7**	**+0.6**
DRO	**Drossia**	**0.53**	**204**	P	**Pg**	**20 37 06.7**	**-0.2**
DRO				S	**Sg**	**20 37 14.1**	**+0.3**
DRO	**Drossia**	**0.53**	**204**	*e*PB	**Pg**	**20 37 06.5**	**-0.4**
DRO	**Drossia**	**0.53**	**204**	P	**Pg**	**20 37 06.7**	**-0.2**
DRO				S	**Sg**	**20 37 14.1**	**+0.3**
RLS	**Riolos of Patr**	**0.55**	**228**	P	**Pg**	**20 37 07.5**	**+0.1**
RLS				S	**Sb**	**20 37 15.8**	**-0.6**
RLS	**Riolos of Patr**	**0.55**	**228**	*e*PB	**Pg**	**20 37 07.3**	**-0.1**
RLS				*e*SB	**Sg**	**20 37 15.6**	**+0.9**
RLS	**Riolos of Patr**	**0.55**	**228**	P	**Pg**	**20 37 07.5**	**+0.1**
RLS				S	**Sb**	**20 37 15.8**	**-0.6**
RLS	**Riolos of Patr**	**0.55**	**228**	P	**Pg**	**20 37 07.5**	**+0.1**
RLS				*e*Sb	**Sg**	**20 37 15.6**	**+0.9**
GUR	**Goura**	**0.57**	**150**	P	**Pg**	**20 37 07.4**	**-0.3**
GUR				S	**Sg**	**20 37 15.3**	**+0.1**
GUR	**Goura**	**0.57**	**150**	*e*PG	**Pg**	**20 37 07.0**	**-0.7**
GUR	**Goura**	**0.57**	**150**	P	**Pg**	**20 37 07.4**	**-0.3**
GUR				S	**Sg**	**20 37 15.3**	**+0.1**
GUR	**Goura**	**0.57**	**150**	*e*Pg	**Pg**	**20 37 07.0**	**-0.7**
GUR	**Goura**	**0.57**	**150**	P	**Pg**	**20 37 07.4**	**-0.3**
GUR				S	**Sg**	**20 37 15.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	**Pg**	**20 37 08.2**	**+0.1**
MAKR				S	**Sg**	**20 37 16.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	*e*PB	**Pg**	**20 37 07.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	**Pg**	**20 37 08.2**	**+0.1**
MAKR				S	**Sg**	**20 37 16.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	*e*Pb	**Pg**	**20 37 07.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	**Pg**	**20 37 08.2**	**+0.1**
MAKR				S	**Sg**	**20 37 16.5**	**+0.6**
AXAR	**Agios Charalam**	**0.62**	**57**	P	**Pg**	**20 37 08.4**	**-0.3**
AXAR				S	**Sg**	**20 37 17.5**	**+0.6**
AXAR	**Agios Charalam**	**0.62**	**57**	P	**Pg**	**20 37 08.4**	**-0.3**
AXAR				S	**Sg**	**20 37 17.5**	**+0.6**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**20 37 08.3**	**-0.9**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**20 37 08.3**	**-0.9**
AGG	**Agios Georgios**	**0.65**	**24**	*e*PG	**Pg**	**20 37 08.6**	**-0.6**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**20 37 08.3**	**-0.9**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**20 37 08.3**	**-0.9**
AGG	**Agios Georgios**	**0.65**	**24**	*e*Pg	**Pg**	**20 37 08.6**	**-0.6**
PDO	**Prodromos**	**0.65**	**285**	P	**Pg**	**20 37 08.9**	**-0.4**
PDO				S	**Sb**	**20 37 19.4**	**+0.2**
PDO	**Prodromos**	**0.65**	**285**	*e*PB	**Pg**	**20 37 09.1**	**-0.2**
PDO	**Prodromos**	**0.65**	**285**	*e*Pb	**Pg**	**20 37 09.1**	**-0.2**
PDO				S	**Sb**	**20 37 19.4**	**+0.2**
VTN	**Vitineika**	**0.81**	**231**	P	**Pg**	**20 37 12.3**	**0.0**
VTN				S	**Sb**	**20 37 23.7**	**-0.2**
LKR	**Lokris**	**0.82**	**74**	P	**Pg**	**20 37 11.7**	**-0.8**
LKR				S	**Sb**	**20 37 23.8**	**-0.4**
LKR	**Lokris**	**0.82**	**74**	*e*PG	**Pg**	**20 37 11.9**	**-0.9**
LKR	**Lokris**	**0.82**	**74**	P	**Pg**	**20 37 11.7**	**-0.8**
LKR				S	**Sb**	**20 37 23.8**	**-0.4**
LKR	**Lokris**	**0.82**	**74**	P	**Pg**	**20 37 11.7**	**-0.8**
LKR				S	**Sb**	**20 37 23.8**	**-0.4**
LTK	**Loutraki**	**0.87**	**118**	P	**Pg**	**20 37 13.3**	**-0.2**
LTK				S	**Sb**	**20 37 26.2**	**+0.5**
LTK	**Loutraki**	**0.87**	**118**	*e*PB	**Pg**	**20 37 13.5**	**0.0**
LTK	**Loutraki**	**0.87**	**118**	P	**Pg**	**20 37 13.3**	**-0.2**
LTK				S	**Sb**	**20 37 26.2**	**+0.5**
LTK	**Loutraki**	**0.87**	**118**	*e*Pb	**Pg**	**20 37 13.5**	**0.0**
LTK				S	**Sb**	**20 37 26.2**	**+0.5**
AMT	**Artemida-Makis**	**0.93**	**194**	P	**Pg**	**20 37 14.1**	**-0.3**
AMT				S	**Sb**	**20 37 27.7**	**+0.6**
AMT	**Artemida-Makis**	**0.93**	**194**	*e*PB	**Pg**	**20 37 14.3**	**-0.1**
AMT	**Artemida-Makis**	**0.93**	**194**	*e*PB	**Pg**	**20 37 14.3**	**-0.1**
AMT	**Artemida-Makis**	**0.93**	**194**	*e*Pb	**Pg**	**20 37 14.3**	**-0.1**
AMT				S	**Sb**	**20 37 27.7**	**+0.6**
KFL	**Anninata**	**1.00**	**252**	P	**Pg**	**20 37 15.1**	**-0.7**
KFL				S	**Sb**	**20 37 29.8**	**-0.6**
SMIA	**Simia**	**1.06**	**65**	P	**Pg**	**20 37 16.4**	**-0.6**
SMIA				S	**Sb**	**20 37 31.5**	**+0.6**
SMIA	**Simia**	**1.06**	**65**	*e*PB	**Pg**	**20 37 16.4**	**-0.6**
SMIA	**Simia**	**1.06**	**65**	P	**Pg**	**20 37 16.4**	**-0.6**
SMIA				S	**Sb**	**20 37 31.5**	**+0.6**
LKD2	**Lefkada island**	**1.10**	**289**	P	**Pb**	**20 37 17.2**	**-0.6**
LKD2				S	**Sn**	**20 37 33.7**	**+0.3**
LKD2	**Lefkada island**	**1.10**	**289**	P	**Pb**	**20 37 17.2**	**-0.6**
LKD2				S	**Sn**	**20 37 33.7**	**+0.3**
LKD2	**Lefkada island**	**1.10**	**289**	P	**Pb**	**20 37 17.2**	**-0.6**
LKD2				S	**Sn**	**20 37 33.7**	**+0.3**
VLX	**Vlachokerasia**	**1.10**	**164**	P	**Pb**	**20 37 17.0**	**-0.9**
VLX				S	**Sn**	**20 37 33.7**	**+0.1**
VLX	**Vlachokerasia**	**1.10**	**164**	*e*PG	**Pb**	**20 37 16.9**	**-0.9**
VLX	**Vlachokerasia**	**1.10**	**164**	P	**Pb**	**20 37 17.0**	**-0.9**
VLX				S	**Sn**	**20 37 33.7**	**+0.1**
VLX	**Vlachokerasia**	**1.10**	**164**	*e*Pg	**Pb**	**20 37 16.9**	**-0.9**
VLX				S	**Sn**	**20 37 33.7**	**+0.1**
VLS	**Valsamata**	**1.13**	**257**	P	**Pb**	**20 37 16.9**	**-1.3**
VLS	**Valsamata**	**1.13**	**257**	P	**Pb**	**20 37 16.9**	**-1.3**
VLS	**Valsamata**	**1.13**	**257**	*e*PN	**Pb**	**20 37 17.6**	**-0.6**
VLS	**Valsamata**	**1.13**	**257**	P	**Pb**	**20 37 16.9**	**-1.3**
VLS	**Valsamata**	**1.13**	**257**	P	**Pb**	**20 37 16.9**	**-1.3**
VLS	**Valsamata**	**1.13**	**257**	*e*Pn	**Pb**	**20 37 17.6**	**-0.6**
THL	**Klokotos Trika**	**1.13**	**1**	P	**Pb**	**20 37 17.4**	**-0.9**
THL	**Klokotos Trika**	**1.13**	**1**	*e*PB	**Pb**	**20 37 17.8**	**-0.5**
THL	**Klokotos Trika**	**1.13**	**1**	P	**Pb**	**20 37 17.4**	**-0.9**
THL	**Klokotos Trika**	**1.13**	**1**	*e*Pb	**Pb**	**20 37 17.8**	**-0.5**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pn**	**20 37 19.7**	**-0.1**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pn**	**20 37 19.7**	**-0.1**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pn**	**20 37 19.7**	**-0.1**
ITM	**

ATH Athens Observa 1.44 108 ePB Pb 20 37 23.3 -0.2
ATH Athens Observa 1.44 108 P Pb 20 37 23.3 -0.2
ATH S Sg 20 37 43.7 +0.8
ATH Athens Observa 1.44 108 P Pb 20 37 23.3 -0.2
ATH S Sg 20 37 43.7 +0.8
MEV Metsovon 1.47 337 P Pn 20 37 23.7 +0.3
MEV Metsovon 1.47 337 P Pn 20 37 23.7 +0.3
MEV Metsovon 1.47 337 P Pn 20 37 23.7 +0.3
ATHU Athens Univers 1.49 108 P Pb 20 37 23.9 -0.5
ATHU Athens Univers 1.49 108 P Pb 20 37 23.9 -0.5
ATHU Athens Univers 1.49 108 P Pb 20 37 23.9 -0.5
JAN Janina 1.51 324 P Pb 20 37 24.8 0.0
JAN Janina 1.51 324 P Pb 20 37 24.8 0.0
JAN Janina 1.51 324 ePB Pb 20 37 25.0 +0.2
JAN Janina 1.51 324 P Pb 20 37 24.8 0.0
JAN Janina 1.51 324 P Pb 20 37 24.8 0.0
PTL Penteli 1.53 104 P Pb 20 37 24.5 -0.6
PTL Penteli 1.53 104 ePB Pb 20 37 24.4 -0.6
PTL Penteli 1.53 104 P Pb 20 37 24.5 -0.6
PTL Penteli 1.53 104 P Pb 20 37 24.5 -0.6
PYL PYLOS 1.55 187 P Pn 20 37 24.4 +0.2
PYL S Sb 20 37 45.7 +0.7
PYL PYLOS 1.55 187 ePG Pn 20 37 24.7 +0.5
PYL PYLOS 1.55 187 P Pn 20 37 24.4 +0.2
PYL S Sb 20 37 45.7 +0.7
PYL PYLOS 1.55 187 ePg Pn 20 37 24.7 +0.5
PYL S Sb 20 37 45.7 +0.7
AOS Alonnisos 1.65 63 P Pn 20 37 25.4 -0.3
AOS S Sb 20 37 47.8 -0.3
AOS Alonnisos 1.65 63 ePG Pb 20 37 26.5 -0.7
AOS Alonnisos 1.65 63 P Pn 20 37 25.4 -0.3
AOS S Sb 20 37 47.8 -0.3
AOS Alonnisos 1.65 63 P Pn 20 37 25.4 -0.3
AOS Alonnisos 1.65 63 ePg Pb 20 37 26.5 -0.7
AOS S Sb 20 37 47.8 -0.3
IGT Igoumenitsa 1.69 311 P Pb 20 37 27.7 -0.2
IGT Igoumenitsa 1.69 311 P Pb 20 37 27.7 -0.2
IGT Igoumenitsa 1.69 311 P Pb 20 37 27.7 -0.2
IGT Igoumenitsa 1.69 311 P Pb 20 37 27.7 -0.2
LIT Litokhoron 1.71 13 P Pn 20 37 26.4 -0.2
LIT S Sb 20 37 50.5 +0.7
LIT Litokhoron 1.71 13 P Pn 20 37 26.4 -0.2
LIT S Sb 20 37 50.5 +0.7
LIT Litokhoron 1.71 13 ePG Pb 20 37 27.8 -0.4
LIT Litokhoron 1.71 13 P Pn 20 37 26.4 -0.2
LIT S Sb 20 37 50.5 +0.7
LIT Litokhoron 1.71 13 P Pn 20 37 26.4 -0.2
LIT Litokhoron 1.71 13 ePg Pb 20 37 27.8 -0.4
LIT S Sb 20 37 50.5 +0.7
VLI Veliai 1.87 156 P Pn 20 37 29.2 +0.5
VLI Veliai 1.87 156 ePN Pb 20 37 29.9 -1.0
VLI Veliai 1.87 156 P Pn 20 37 29.2 +0.5
VLI Veliai 1.87 156 P Pn 20 37 29.2 +0.5
VLI Veliai 1.87 156 ePn Pb 20 37 29.9 -1.0
KZN Kozani 1.88 355 P Pn 20 37 29.2 +0.3
KZN Kozani 1.88 355 P Pn 20 37 29.2 +0.3
KZN Kozani 1.88 355 ePN Pn 20 37 29.6 +0.7
KZN Kozani 1.88 355 P Pn 20 37 29.2 +0.3
KZN Kozani 1.88 355 P Pn 20 37 29.2 +0.3
KZN Kozani 1.88 355 ePn Pn 20 37 29.6 +0.7
PAIG Paliouri 1.99 41 P Pn 20 37 29.7 -0.6
PAIG Paliouri 1.99 41 P Pn 20 37 29.7 -0.6
PAIG Paliouri 1.99 41 ePN Pb 20 37 31.8 -1.1
PAIG Paliouri 1.99 41 P Pn 20 37 29.7 -0.6
PAIG Paliouri 1.99 41 P Pn 20 37 29.7 -0.6
PAIG Paliouri 1.99 41 ePn Pb 20 37 31.8 -1.1
NEST Nestorio 2.11 340 P Pb 20 37 34.5 -0.5
NEST Nestorio 2.11 340 P Pb 20 37 34.5 -0.5
SRN Sarande 2.12 314 i PN Pn 20 37 33.2 +1.2
SRN i SN Sn 20 37 56.6 -1.8
SRN Sarande 2.12 314 i Pn Pn 20 37 33.2 +1.2
SRN i Sn Sn 20 37 56.6 -1.8
KEK Kerkira 2.13 308 ePN Pb 20 37 34.8 -0.5
KEK Kerkira 2.13 308 ePn Pb 20 37 34.8 -0.5
PLG Polygyros 2.24 30 P Pn 20 37 33.7 -0.2
PLG Polygyros 2.24 30 P Pn 20 37 33.7 -0.2
PLG Polygyros 2.24 30 P Pn 20 37 33.7 -0.2
PLG Polygyros 2.24 30 P Pn 20 37 33.7 -0.2
THE Thessaloniki 2.32 19 P Pn 20 37 34.6 -0.3
THE Thessaloniki 2.32 19 P Pn 20 37 34.6 -0.3
THE Thessaloniki 2.32 19 P Pn 20 37 34.6 -0.3
THE Thessaloniki 2.32 19 P Pn 20 37 34.6 -0.3
HORT Hortiatis 2.33 21 P Pn 20 37 34.9 -0.2
HORT Hortiatis 2.33 21 P Pn 20 37 34.9 -0.2
HORT Hortiatis 2.33 21 P Pn 20 37 34.9 -0.2
KBN Korca 2.38 337 i PN Pg 20 37 42.6 +0.5
FNA Florina 2.40 349 P Pn 20 37 36.7 +0.7
FNA Florina 2.40 349 P Pn 20 37 36.7 +0.7
FNA Florina 2.40 349 P Pn 20 37 36.7 +0.7
FNA Florina 2.40 349 P Pn 20 37 36.7 +0.7
OUR Ouranopolis 2.45 39 P Pn 20 37 36.5 -0.1
OUR Ouranopolis 2.45 39 P Pn 20 37 36.5 -0.1
OUR Ouranopolis 2.45 39 P Pn 20 37 36.5 -0.1
OUR Ouranopolis 2.45 39 P Pn 20 37 36.5 -0.1
GRG Griva 2.54 7 P Pn 20 37 38.1 +0.1
GRG Griva 2.54 7 P Pn 20 37 38.1 +0.1
GRG Griva 2.54 7 P Pn 20 37 38.1 +0.1
GRG Griva 2.54 7 P Pn 20 37 38.1 +0.1
SOH Sokhos 2.61 23 P Pn 20 37 39.3 +0.4
SOH Sokhos 2.61 23 P Pn 20 37 39.3 +0.4
SOH Sokhos 2.61 23 ePB Pn 20 37 40.5 +1.6
SOH Sokhos 2.61 23 P Pn 20 37 39.3 +0.4
SOH Sokhos 2.61 23 P Pn 20 37 39.3 +0.4
BIA Bitola 2.63 349 i Pn Pb 20 37 42.6 -1.3
BIA Bitola 2.63 349 i Pn Pb 20 37 42.6 -1.3
ANKY Antikythira Is 2.77 157 P Pn 20 37 42.0 +1.0
ANKY Antikythira Is 2.77 157 P Pn 20 37 42.0 +1.0
ANKY Antikythira Is 2.77 157 P Pn 20 37 42.0 +1.0
KNT Kendrikon 2.81 14 P Pn 20 37 42.1 +0.4
KNT Kendrikon 2.81 14 P Pn 20 37 42.1 +0.4
KNT Kendrikon 2.81 14 P Pn 20 37 42.1 +0.4
KNT Kendrikon 2.81 14 P Pn 20 37 42.1 +0.4
VAY Valandovo 2.92 9 P Pn 20 37 43.9 +0.8
VAY Valandovo 2.92 9 P Pn 20 37 43.9 +0.8
VAY Valandovo 2.92 9 P Pn 20 37 43.2 +0.1
VAY Valandovo 2.92 9 i Pn Pn 20 37 44.0 +0.8
VAY Valandovo 2.92 9 P Pn 20 37 43.9 +0.8
VAY Valandovo 2.92 9 i Pn Pn 20 37 43.9 +0.8
SRS Serrai 2.95 24 P Pn 20 37 43.6 0.0
SRS Serrai 2.95 24 P Pn 20 37 43.6 0.0
SRS Serrai 2.95 24 P Pn 20 37 43.6 0.0
SRS Serrai 2.95 24 P Pn 20 37 43.6 0.0
APE Apeiranthos 3.12 115 d iP Pn 20 37 47.0 +1.0
APE Apeiranthos 3.12 115 ⇓iP Pn 20 37 46.8 +0.8
APE Apeiranthos 3.12 115 S Sn 20 38 22.8 -0.5
APE Apeiranthos 3.12 115 i P Pn 20 37 47.0 +1.0
NVR Nevrokopi 3.25 26 P Pn 20 37 47.6 -0.1
NVR Nevrokopi 3.25 26 P Pn 20 37 47.6 -0.1
NVR Nevrokopi 3.25 26 P Pn 20 37 47.6 -0.1
MMB Musomiste 3.42 22 P Pn 20 37 50.7 +0.6
MMB S Sn 20 38 31.6 +0.8
MMB Musomiste 3.42 22 ⇑iP Pn 20 37 50.1 0.0
MMB Musomiste 3.42 22 S Sn 20 38 29.6 -1.2
MMB Musomiste 3.42 22 P Pn 20 37 50.7 +0.6
MMB S Sn 20 38 31.6 +0.8
KKB Krupnik 3.53 13 P Pn 20 37 52.8 +1.2
KKB S Sn 20 38 33.6 +0.2
KKB Krupnik 3.53 13 P Pn 20 37 52.8 +1.2
KKB S Sn 20 38 33.6 +0.2
SKO Skopje 3.56 353 i Pn Pb 20 37 56.0 -3.7
SKO Skopje 3.56 353 i Pn Pb 20 37 56.0 -3.7
EZN Ezine 3.65 66 eP Pn 20 37 51.9 -1.2
EZN Ezine 3.65 66 eP Pn 20 37 51.9 -1.2
RDO Rodhopi 3.85 44 P Pn 20 37 55.7 -0.2
RDO Rodhopi 3.85 44 P Pn 20 37 55.7 -0.2
RDO Rodhopi 3.85 44 P Pn 20 37 55.7 -0.2
RZN Rozhen 3.87 32 P Pn 20 37 57.1 +0.8
RZN Rozhen 3.87 32 P Pn 20 37 57.1 +0.8
IDI Anoyia 3.91 143 Pn Pn 20 37 57.7 +0.9
IDI Sn Sn 20 38 43.3 +0.6
IDI Anoyia 3.91 143 Pn Pn 20 37 57.7 +0.9
4.9nm,0.3s,baz=333,slow=12,SNR=21
IDI Sn Sn 20 38 43.3 +0.6
11nm,0.3s,baz=315,slow=16,SNR=6.4
IDI Anoyia 3.91 143 Pn Pn 20 37 57.7 +0.9
IDI Sn Sn 20 38 43.3 +0.6
ENEZ Enez 3.96 53 eP Pn 20 37 56.3 -1.1
ENEZ Enez 3.96 53 eP Pn 20 37 56.3 -1.1
BLCB Balcova 3.97 89 eP Pn 20 37 57.2 -0.4

BLCB Balcova 3.97 89 eP Pn 20 37 57.2 -0.4
GELI Tayfur-Gelibol 3.99 59 eP Pn 20 37 56.8 -1.0
GELI Tayfur-Gelibol 3.99 59 eP Pn 20 37 56.8 -1.0
ULC Ulcinj 4.10 330 ⇓iPn Pn 20 38 01.1 +1.7
ULC eSn Sn 20 38 49.4 +1.9
ULC Ulcinj 4.10 330 ⇓iPn Pn 20 38 01.1 +1.7
ULC eSn Sn 20 38 49.4 +1.9
TIP Timpagrande 4.15 282 P Pn 20 38 01.9 +1.8
TIP Timpagrande 4.15 282 P Pn 20 38 01.9 +1.8
TIP Timpagrande 4.15 282 P Pn 20 38 01.9 +1.8
ERIK Erikli-Kesan 4.15 56 eP Pn 20 37 59.9 -0.2
ERIK Erikli-Kesan 4.15 56 eP Pn 20 37 59.9 -0.2
KDZ Kurdzhali 4.15 38 P Pn 20 38 00.2 +0.1
KDZ Kurdzhali 4.15 38 ⇓iP Pn 20 37 59.4 -0.7
KDZ Kurdzhali 4.15 38 P Pn 20 38 00.2 +0.1
LPK Lapseki 4.17 61 eP Pn 20 37 59.4 -1.0
LPK Lapseki 4.17 61 eP Pn 20 37 59.4 -1.0
TAR1 Taranto 4.20 301 ePn Pn 20 38 02.2 +1.6
PE1 Pezze di Greco 4.25 305 ePn Pn 20 38 02.7 +1.4
VTS Vitosha 4.26 12 P Pn 20 38 03.0 +1.3
VTS S Sn 20 38 52.2 +0.7
VTS Vitosha 4.26 12 ⇑iP Pn 20 38 02.3 +0.6
VTS Vitosha 4.26 12 S Sn 20 38 51.9 +0.4
VTS Vitosha 4.26 12 P Pn 20 38 03.0 +1.3
VTS S Sn 20 38 52.2 +0.7
DRME Dracevica, Mon 4.32 331 ⇓iPn Pn 20 38 04.4 +2.0
DRME eSn Sn 20 38 54.2 +1.4
DRME Dracevica, Mon 4.32 331 ⇓iPn Pn 20 38 04.4 +2.0
DRME eSn Sn 20 38 54.2 +1.4
PVY Plav 4.43 340 ⇓iPn Pn 20 38 05.6 +1.5
PVY eSn Sn 20 38 57.3 +1.5
PVY Plav 4.43 340 ⇓iPn Pn 20 38 05.6 +1.5
PVY eSn Sn 20 38 57.3 +1.5
BODT Bodrum 4.44 106 eP Pn 20 38 05.2 +1.2
BODT Bodrum 4.44 106 eP Pn 20 38 05.2 +1.2
PDG Podgorica 4.50 333 ⇑iPn Pn 20 38 06.1 +1.2
PDG eSn Sn 20 38 59.1 +1.8
TTG Podgorica 4.50 333 ⇑iPn Pn 20 38 06.1 +1.2
TTG eSn Sn 20 38 59.1 +1.8
BUM Brajici-Budva 4.53 330 ⇑iPn Pn 20 38 06.4 +1.1
BUM eSn Sn 20 38 59.7 +1.7
BUM Brajici-Budva 4.53 330 ⇑iPn Pn 20 38 06.4 +1.1
BUM eSn Sn 20 38 59.7 +1.7
KRBG Karabiga-Canak 4.56 63 eP Pn 20 38 04.3 -1.3
KRBG Karabiga-Canak 4.56 63 eP Pn 20 38 04.3 -1.3
AYDB Zeytinkoy-Aydi 4.68 94 eP Pn 20 38 07.6 +0.2
AYDB Zeytinkoy-Aydi 4.68 94 eP Pn 20 38 07.6 +0.2
GONE Gonen-Balikesi 4.71 68 eP Pn 20 38 06.9 -0.8
GONE Gonen-Balikesi 4.71 68 eP Pn 20 38 06.9 -0.8
BEY Berane 4.71 341 ePn Pn 20 38 09.2 +1.4
BEY eSn Sn 20 39 03.9 +1.3
IVA Berane 4.71 341 ePn Pn 20 38 09.2 +1.4
IVA eSn Sn 20 39 03.9 +1.3
BALB Balikesir 4.75 73 eP Pn 20 38 07.8 -0.4
BALB Balikesir 4.75 73 eP Pn 20 38 07.8 -0.4
BAI Bari 4.76 306 ePn Pn 20 38 09.7 +1.4
CEL Celeste 4.79 270 eP Pn 20 38 09.4 +0.5
CEL Celeste 4.79 270 eP Pn 20 38 09.4 +0.5
HCY Herceg Novi 4.81 328 ⇑iPn Pn 20 38 10.2 +1.0
HCY eSn Sn 20 39 06.2 +1.2
HCY Herceg Novi 4.81 328 ⇑iPn Pn 20 38 10.2 +1.0
HCY eSn Sn 20 39 06.2 +1.2
NKME Niksic 4.91 333 ⇓iPn Pn 20 38 11.9 +1.4
NKME eSn Sn 20 39 08.4 +1.1
NKME Niksic 4.91 333 ⇓iPn Pn 20 38 11.9 +1.4
NKME eSn Sn 20 39 08.4 +1.1
NKY Niksic 4.93 333 ⇓iPn Pn 20 38 12.7 +1.8
NKY eSn Sn 20 39 09.2 +1.1
NKY Niksic 4.93 333 ⇓iPn Pn 20 38 12.7 +1.8
NKY eSn Sn 20 39 09.2 +1.1
EDRB Edirne 4.99 45 eP Pn 20 38 11.1 -0.5
EDRB Edirne 4.99 45 eP Pn 20 38 11.1 -0.5
CUC Castrocucco 5.04 290 eP Pn 20 38 15.3 +3.0
30nm,0.7s
CUC Castrocucco 5.04 290 eP Pn 20 38 15.3 +3.0
30nm,0.7s
MPEP Malo Peshtene 5.09 15 P Pn 20 38 15.3 +2.3
MPEP Malo Peshtene 5.09 15 P Pn 20 38 15.3 +2.3
CDT Castel del Mon 5.14 303 ePn Pn 20 38 12.6 -1.0
BRY Bratogost 5.18 331 ePn Pn 20 38 15.5 +1.2
BRY eSn Sn 20 39 15.2 +1.1
BRY Bratogost 5.18 331 ePn Pn 20 38 15.5 +1.2
BRY eSn Sn 20 39 15.2 +1.1
KULA Kula-Manisa 5.24 87 eP Pn 20 38 14.8 -0.2
KULA Kula-Manisa 5.24 87 eP Pn 20 38 14.9 -0.2
PLE Pljevlja 5.27 339 ⇓iPn Pn 20 38 17.3 +1.7
PLE eSn Sn 20 39 16.7 +0.2
PLE Pljevlja 5.27 339 ⇓iPn Pn 20 38 17.3 +1.7
PLE eSn Sn 20 39 16.7 +0.2
UPM Unac-Piva 5.31 335 ⇑iPn Pn 20 38 17.5 +1.4
UPM eSn Sn 20 39 18.1 +0.7
UPM Unac-Piva 5.31 335 ⇑iPn Pn 20 38 17.5 +1.4
UPM eSn Sn 20 39 18.1 +0.7
IVAS Ivanjica 5.32 345 ePn Pn 20 38 18.3 +2.1
JMB Yambol 5.34 40 ⇓iP Pn 20 38 20.0 +3.6
JMB Yambol 5.34 40 ⇓iP Pn 20 38 20.0 +3.6
BOLS Boljevac 5.39 360 ePn Pn 20 38 17.9 +0.8
STON Ston 5.50 325 ePn Pn 20 38 19.1 +0.5
STON Sn Sn 20 39 19.3 -2.6
STON Ston 5.50 325 ePn Pn 20 38 19.1 +0.5
ZIMR 5.81 25 ⇓iP Pn 20 38 25.3 +2.5
TVSB Tavsanli 5.92 78 eP Pn 20 38 24.5 +0.1
FETY Fethiye 5.92 105 eP Pn 20 38 26.2 +1.8
KHL Karahalli 5.92 89 eP Pn 20 38 25.4 +0.9
ALT Altintas 6.38 82 eP Pn 20 38 31.0 +0.2
HUMR Humele 6.49 19 ⇓iP Pn 20 38 36.7 +4.5
ELL Elmali 6.51 103 eP Pn 20 38 33.4 +0.8
ISP Isparta 6.76 93 P Pn 20 38 38.9 +2.9
BCK Bucak 6.87 95 eP Pn 20 38 38.2 +0.8
PSN Preselentsi 7.03 40 ⇑iP Pn 20 38 41.8 +2.2
LOT Lotru 7.13 10 ⇑iP Pn 20 38 39.6 -1.5
MTUR Matau 7.17 18 ⇓iP Pn 20 38 44.0 +2.5
BZS Buzias 7.18 358 ⇑iP Pn 20 38 44.4 +2.7
SUTC Sutluce-Ispart 7.19 95 eP Pn 20 38 42.2 +0.3
ARR Arges 7.21 15 ⇑iP Pn 20 38 44.4 +2.3
SECR 7.27 24 ⇓iP Pn 20 38 45.5 +2.6
MDUB Mudurnu 7.41 71 eP Pn 20 38 44.3 -0.6
SVRH Sivrihisar-ESK 7.50 79 eP Pn 20 38 45.7 -0.5
AQU L'Aquila 7.63 304 eP Pn 20 38 48.6 +0.8
35nm,0.8s
AQU L'Aquila 7.63 304 eP Pn 20 38 48.7 +0.8
35nm,0.8s
MLR Muntele Rosu 7.64 21 ⇑iP Pn 20 38 50.7 +2.6
MLR Muntele Rosu 7.64 21 Pn Pn 20 38 49.5 +1.4
MLR Muntele Rosu 7.64 21 Pn Pn 20 38 49.5 +1.4
0.2nm,0.3s,baz=222,slow=5.6,SNR=13
MLR LR LR 20 42 28.9
comp=Z,129nm,18.1s,baz=173,slow=44
MLR Muntele Rosu 7.64 21 P Pn 20 38 49.5 +1.4
15nm,28.6s
UDBI Udbina 7.67 325 i Pn Pn 20 38 50.9 +2.5
UDBI Sn Sn 20 40 13.7 -1.7
UDBI Udbina 7.67 325 i Pn Pn 20 38 50.9 +2.5
SIRR Siria 7.83 358 ⇑iP Pn 20 38 52.9 +2.3
DOPR Dopca 7.94 17 ⇑iP Pn 20 38 53.9 +1.8
NVLJ Novalja 8.12 321 i Pn Pn 20 38 55.0 +0.5
NVLJ Sn Sn 20 40 19.8 -6.6
NVLJ Novalja 8.12 321 i Pn Pn 20 38 55.0 +0.5
PKSM Moragy 8.16 343 ⇓iP Pn 20 38 55.7 +0.7
PKSM Moragy 8.16 343 ⇓ePn Pn 20 38 55.0 0.0
PLOR Plostina 8.18 24 ⇑iP Pn 20 38 58.1 +2.7
VRI Vrincioaia 8.22 24 ⇓iP Pn 20 38 58.2 +2.3
DRGR 8.37 3 ⇓iP Pn 20 39 00.8 +2.7
BOJS Bojanci 8.66 327 i Pn Pn 20 39 02.9 +0.9
BOJS i Sn Sn 20 40 38.8 -0.9
SAFT Safranbolu 8.70 68 eP Pn 20 39 01.6 -0.9
TESR Tescani 8.78 22 ⇑iP Pn 20 39 14.0 +10
CRES Cresnjev 8.84 329 i Pn Pn 20 39 05.4 +1.0
VISS Visnje 9.08 327 i Pn Pn 20 39 09.4 +1.7
VISS i Sn Sn 20 40 47.2 -2.7
BR131 Keskin Array S 9.15 78 eP Pn 20 39 11.3 +2.4
2.9nm,0.5s
BR131 Keskin Array S 9.15 78 eP Pn 20 39 11.3 +2.4
2.9nm,0.5s
BRTR Keskin Array B 9.15 78 Pn Pn 20 39 11.6 +2.7
BRTR Keskin Array B 9.15 78 Pn Pn 20 39 11.6 +2.7
1.0nm,0.3s,baz=255,slow=12,SNR=28
BRTR Keskin Array B 9.15 78 P Pn 20 39 11.6 +2.7
1.0nm,0.3s
LEOM Leova 9.27 28 ⇓iP Pn 20 39 14.1 +3.8

BURAR Bucovina Array 9.48 13 ⇓iP Pn 20 39 15.9 +2.7
BURAR Bucovina Array 9.48 13 ⇓iP Pn 20 39 15.9 +2.7
JAVS Javornik 9.49 324 i Pn Pn 20 39 14.0 +0.6
JAVS i Sn Sn 20 40 58.5 -1.7
BUR08 Bucovina Ar. S 9.50 13 eP Pn 20 39 14.3 +0.7
BUR08 Bucovina Ar. S 9.50 13 eP Pn 20 39 14.3 +0.7
PSZ Piszkesteto 9.60 352 eP Pn 20 39 16.8 +1.9
PSZ pmax pmax
comp=Z,13nm,0.8s
PSZ Piszkesteto 9.60 352 ⇓iP Pn 20 39 14.3 -0.6
PSZ Piszkesteto 9.60 352 eP Pn 20 39 16.8 +1.9
comp=Z,13nm,0.8s
PSZ Piszkesteto 9.60 352 ⇓ePn Pn 20 39 17.2 +2.3
PSZ Piszkesteto 9.60 352 eP Pn 20 39 16.8 +1.9
comp=Z,13nm,0.8s
PERS Pernice 9.63 330 ePn Pn 20 39 16.5 +1.2
PERS Pernice 9.63 330 ePn Pn 20 39 16.5 +1.2
TRPA Tarpa 9.70 2 ⇑iP Pn 20 39 21.6 +5.4
UZH Uzhgorod 10.20 1 eP Pn 20 39 25.3 +2.3
UZH eS Sn 20 41 20.9 +3.6
UZH Uzhgorod 10.20 1 eP Pn 20 39 25.3 +2.3
CRVS Cervenica-Dubn 10.47 358 eP Pn 20 39 28.0 +1.2
CRVS Cervenica-Dubn 10.47 358 ePN Pn 20 39 28.0 +1.2
CRVS Cervenica-Dubn 10.47 358 eP Pn 20 39 28.0 +1.2
KOLS Kolonicke sedl 10.50 1 eP Pn 20 39 33.7 +6.6
KOLS Kolonicke sedl 10.50 1 e Pn 20 39 33.7 +6.6
PGF Pioggiola 10.71 297 eP Pn 20 39 31.2 +1.1
comp=Z,32nm,1.1s
PGF Pioggiola 10.71 297 eP Pn 20 39 31.2 +1.1
PGF pmax pmax
comp=Z,33nm,1.1s
PGF Pioggiola 10.71 297 eP Pn 20 39 31.2 +1.1
comp=Z,32nm,1.1s
PGF Pioggiola 10.71 297 eP Pn 20 39 31.2 +1.1
comp=Z,16nm,1.1s
MOA Molln 10.97 332 ⇑iPn Pn 20 39 33.3 -0.2
MOA Molln 10.97 332 Pn Pn 20 39 33.3 -0.2
KWP Kalwaria Pacla 11.21 2 ⇓iP Pn 20 39 43.1 +6.3
VRAC Vranov 11.54 342 ⇑iP Pn 20 39 42.5 +1.1
VRAC Vranov 11.54 342 Pn Pn 20 39 42.6 +1.2
VRAC Vranov 11.54 342 Pn Pn 20 39 42.6 +1.2
comp=Z,0.1nm,0.3s,baz=179,slow=15,SNR=3.0
VRAC LR LR 20 45 42.1
comp=Z,108nm,18.2s,baz=175,slow=46
VRAC Vranov 11.54 342 P Pn 20 39 42.6 +1.2
comp=Z,108nm,18.2s
MORC Moravsky Berou 11.78 346 ⇑iP Pn 20 39 53.7 +9.0
TREC Trest 11.82 339 AMS AMS 20 44 50.0
comp=Z,600nm,10.2s
MOTA Moosalm 11.95 322 ⇓iPn Pn 20 39 49.3 +2.2
MOTA Moosalm 11.95 322 Pn Pn 20 39 49.3 +2.2
GERES GERESS Array B 12.01 333 Pn Pn 20 39 50.0 +2.2
GERES GERESS Array B 12.01 333 Pn Pn 20 39 50.0 +2.2
comp=Z,0.2nm,0.3s,baz=148,slow=13,SNR=6.8
GERES LR LR 20 45 27.6
comp=Z,313nm,20.6s,baz=118,slow=43
GERES GERESS Array B 12.01 333 Pn Pn 20 39 50.0 +2.2
MMAI Mount Meron Ar 12.16 112 Pn Pn 20 39 49.9 -0.2
MMAI Mount Meron Ar 12.16 112 Pn Pn 20 39 49.9 -0.2
comp=Z,0.3nm,0.3s,baz=302,slow=14,SNR=2.7
MMAI LR LR 20 46 31.8
comp=Z,54nm,18.1s,baz=175,slow=48
MMAI Mount Meron Ar 12.16 112 Pn Pn 20 39 49.8 -0.2
DAVOX Davos/Dischmat 12.20 317 Pn Pn 20 39 52.6 +2.0
DAVOX Sn Sn 20 42 08.8 +2.1
DAVOX Davos/Dischmat 12.20 317 Pn Pn 20 39 52.6 +2.0
comp=Z,0.1nm,0.3s,baz=311,slow=20,SNR=2.3
DAVOX Sn Sn 20 42 08.8 +2.1
comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=3.8
DAVOX LR LR 20 46 17.4
comp=Z,98nm,18.2s,baz=36,slow=46
DAVOX Davos/Dischmat 12.20 317 P Pn 20 39 52.6 +2.0
comp=Z,15nm,28.6s
DAVOX S Sn 20 42 08.8 +2.1
SBF Sospel 12.23 301 eP Pn 20 39 51.7 +0.8
comp=Z,18nm,0.8s
SBF Sospel 12.23 301 eP Pn 20 39 51.7 +0.8
SBF pmax pmax
comp=Z,18nm,0.8s
SBF Sospel 12.23 301 eP Pn 20 39 51.7 +0.8
comp=Z,18nm,0.8s
SBF Sospel 12.23 301 eP Pn 20 39 51.7 +0.8
comp=Z,8.9nm,0.8s
KHC Kasperske Hory 12.29 333 eP Pn 20 39 53.9 +2.2
KHC MLR MLR
comp=Z,600nm,13.2s
KHC Kasperske Hory 12.29 333 eP Pn 20 39 53.9 +2.2
KHC ex x 20 40 04.9
KHC ex x 20 40 13.8
KHC AMS AMS 20 45 10.0
comp=Z,600nm,13.2s
KHC Kasperske Hory 12.29 333 P Pn 20 39 53.9 +2.2
DPC Dobruska-Polom 12.58 343 eP Pn 20 39 57.7 +2.1
DPC Dobruska-Polom 12.58 343 eP Pn 20 39 57.7 +2.1
DPC Dobruska-Polom 12.58 343 P Pn 20 39 57.7 +2.1
FRF La Foret Royal 12.67 299 eP Pn 20 39 56.0 -0.8
comp=Z,15nm,1.1s
FRF La Foret Royal 12.67 299 eP Pn 20 39 56.0 -0.8
FRF pmax pmax
comp=Z,15nm,1.1s
FRF La Foret Royal 12.67 299 eP Pn 20 39 56.0 -0.8
comp=Z,15nm,1.1s
FRF La Foret Royal 12.67 299 eP Pn 20 39 56.0 -0.8
comp=Z,7.5nm,1.1s
PRU Pruhonice 12.72 338 AMS AMS 20 45 20.0
comp=Z,500nm,14.4s
MBDF Montbardon 13.00 304 eP Pn 20 40 02.4 +0.9
MBDF Montbardon 13.00 304 eP Pn 20 40 02.4 +0.9
MBDF Montbardon 13.00 304 eP Pn 20 40 02.4 +0.9
MBDF Montbardon 13.00 304 eP Pn 20 40 02.4 +0.9
PVCC Panska Ves 13.19 339 AMS AMS 20 45 40.0
comp=Z,600nm,9.2s
KIEV Kiev 13.29 20 ⇑eP Pn 20 40 06.0 +0.8
KIEV Kiev 13.29 20 eP Pn 20 40 06.0 +0.8
AKASG Malin Array Be 13.30 20 P Pn 20 40 04.2 -1.1
AKASG Malin Array Be 13.30 20 Pn Pn 20 40 04.2 -1.1
AKASG Malin Array Be 13.30 20 Pn Pn 20 40 04.2 -1.1
comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=5.1
AKASG Malin Array Be 13.30 20 P Pn 20 40 04.2 -1.1
LPG La Plagne 13.34 307 eP Pn 20 40 07.6 +1.3
comp=Z,14nm,1.0s
LPG La Plagne 13.34 307 eP Pn 20 40 07.6 +1.3
LPG pmax pmax
comp=Z,14nm,1.0s
LPG La Plagne 13.34 307 eP Pn 20 40 07.6 +1.3
comp=Z,14nm,1.0s
LPG La Plagne 13.34 307 eP Pn 20 40 07.6 +1.3
comp=Z,7.0nm,1.0s
SMRF Simiane la Rot 13.53 299 eP Pn 20 40 07.5 -1.2
SMRF Simiane la Rot 13.53 299 eP Pn 20 40 07.5 -1.2
SMRF Simiane la Rot 13.53 299 eP Pn 20 40 07.5 -1.2
EIL Elat 13.84 125 Pn Pn 20 40 13.3 +0.4
EIL Elat 13.84 125 Pn Pn 20 40 13.3 +0.4
comp=Z,0.1nm,0.3s,baz=347,slow=18,SNR=3.1
EIL Elat 13.84 125 Pn Pn 20 40 13.3 +0.4
CABF La Chapelle 14.27 310 eP Pn 20 40 18.0 -0.8
CABF La Chapelle 14.27 310 eP Pn 20 40 18.0 -0.8
CABF La Chapelle 14.27 310 eP Pn 20 40 18.0 -0.8
CLL Collm 14.35 337 eP P 20 40 27.0 +0.2
CLL Collm 14.35 337 e P 20 40 27.0 +0.2
CLL i PP PnPn 20 40 29.5 +1.9
CLL Lmax 20 46 00.0
CLL Collm 14.35 337 eP P 20 40 27.0 +0.2
VIVF Saint-Julien-l 14.44 302 eP Pn 20 40 21.1 +0.1
VIVF Saint-Julien-l 14.44 302 eP Pn 20 40 21.1 +0.1
VIVF Saint-Julien-l 14.44 302 eP Pn 20 40 21.1 +0.1
HINF Hinteralfeld 14.47 315 eP Pn 20 40 20.9 -0.6
HINF Hinteralfeld 14.47 315 eP Pn 20 40 20.9 -0.6
HINF Hinteralfeld 14.47 315 eP Pn 20 40 20.9 -0.6
CDF Champ du Feu 14.60 318 eP Pn 20 40 22.2 -1.0
CDF Champ du Feu 14.60 318 eP Pn 20 40 22.2 -1.0
CDF Champ du Feu 14.60 318 eP Pn 20 40 22.2 -1.0
HAU Haudompre 14.86 315 eP Pn 20 40 26.6 -0.1
HAU eR
comp=Z,111nm,17.4s
HAU Haudompre 14.86 315 eP Pn 20 40 26.6 -0.1
HAU Haudompre 14.86 315 eP Pn 20 40 26.6 -0.1
SUW Suwalki 15.61 3 eP P 20 40 39.0 -1.7
SUW pmax pmax
comp=Z,66nm,1.0s
SUW Suwalki 15.61 3 eP P 20 40 40.4 -0.3
SUW Suwalki 15.61 3 eP P 20 40 39.0 -1.7
comp=Z,66nm,1.0s
SUW Suwalki 15.61 3 eP P 20 40 39.0 -1.7

comp=Z,66nm,1.0s
SMF Signal de Mont 15.67 307 *e*P Pn 20 40 37.1 -0.3
comp=Z,7.9nm,0.7s
SMF Signal de Mont 15.67 307 *e*P Pn 20 40 37.1 -0.3
SMF pmax pmax
comp=Z,8.0nm,0.7s
SMF Signal de Mont 15.67 307 *e*P Pn 20 40 37.1 -0.3
comp=Z,7.9nm,0.7s
LOR Lormes 15.93 309 *e*P Pn 20 40 39.7 -1.1
LOR *e*R
comp=Z,102nm,19.5s
LOR Lormes 15.93 309 *e*P Pn 20 40 39.7 -1.1
AVF Avril sur Loir 16.03 307 *e*P P 20 40 43.8 -1.7
comp=Z,18nm,1.1s
AVF Avril sur Loir 16.03 307 *e*P P 20 40 43.8 -1.7
AVF pmax pmax
comp=Z,18nm,1.1s
AVF Avril sur Loir 16.03 307 *e*P P 20 40 43.8 -1.7
comp=Z,18nm,1.1s
SSF Saint Saulge 16.05 308 *e*P Pn 20 40 43.4 +1.0
comp=Z,36nm,1.2s
SSF Saint Saulge 16.05 308 *e*P Pn 20 40 43.4 +1.0
SSF pmax pmax
comp=Z,36nm,1.2s
SSF Saint Saulge 16.05 308 *e*P Pn 20 40 43.4 +1.0
comp=Z,36nm,1.2s
CAF Calviac 16.22 300 *e*P P 20 40 46.6 -1.1
CAF Calviac 16.22 300 *e*P P 20 40 46.6 -1.1
CAF Calviac 16.22 300 *e*P P 20 40 46.6 -1.1
CAF Calviac 16.22 300 *e*P P 20 40 46.6 -1.1
BGF Bois d'Agland 16.26 306 *e*P Pn 20 40 43.6 -1.4
comp=Z,62nm,1.3s
BGF Bois d'Agland 16.26 306 *e*P Pn 20 40 43.6 -1.4
BGF pmax pmax
comp=Z,63nm,1.3s
BGF Bois d'Agland 16.26 306 *e*P Pn 20 40 43.6 -1.4
comp=Z,62nm,1.3s
TCF Toulx Ste Croi 16.56 305 *e*P P 20 40 50.3 -1.2
TCF Toulx Ste Croi 16.56 305 *e*P P 20 40 50.3 -1.2
TCF Toulx Ste Croi 16.56 305 *e*P P 20 40 50.3 -1.2
TCF Toulx Ste Croi 16.56 305 *e*P P 20 40 50.3 -1.2
GOF Gofitskoye 17.03 60 *e*P P 20 40 59.6 +3.0
BAIF Baives 17.19 318 *e*P P 20 40 57.6 -0.8
BAIF Baives 17.19 318 *e*P P 20 40 57.6 -0.8
BAIF Baives 17.19 318 *e*P P 20 40 57.6 -0.8
BAIF Baives 17.19 318 *e*P P 20 40 57.6 -0.8
VORD Divnogorie 17.50 39 *e*P P 20 41 02.7 +0.9
VORD pmax pmax
comp=Z,3.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 17.50 39 *e*P P 20 41 02.7 +0.9
comp=E,10.0nm,0.6s
VSR Storozhevoye 17.60 38 *e*P P 20 41 02.4 -0.5
VSR pmax pmax
comp=Z,4.0nm,0.9s
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR Storozhevoye 17.60 38 *e*P P 20 41 02.4 -0.5
comp=E,4.0nm,0.9s
ETSF Etsaut 17.66 292 *e*P Pn 20 41 02.6 -0.2
ETSF Etsaut 17.66 292 *e*P Pn 20 41 02.6 -0.2
ETSF Etsaut 17.66 292 *e*P Pn 20 41 02.6 -0.2
ETSF Etsaut 17.66 292 *e*P Pn 20 41 02.6 -0.2
GNI Garni 17.69 77 LR LR 20 47 33.9
comp=E,70nm,18.6s,baz=287,slow=36
SJPF Ste Jean 18.17 292 *e*P P 20 41 09.2 -0.1
SJPF Ste Jean 18.17 292 *e*P P 20 41 09.2 -0.1
SJPF Ste Jean 18.17 292 *e*P P 20 41 09.2 -0.1
SJPF Ste Jean 18.17 292 *e*P P 20 41 09.2 -0.1
LPSR Galich'ya Gora 18.42 34 *e*P Pn 20 41 14.3 +2.4
comp=E,8.0nm,1.8s
VRHR Novokhopersk 18.76 41 *e*P Pn 20 41 19.1 +3.0
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=N,30nm,1.8s
VRHR pmax pmax
comp=E,30nm,1.7s
FLN La Foliniere 19.20 310 *e*P Pn 20 41 21.7 +0.3
FLN *e*R
comp=E,60nm,18.8s
FLN La Foliniere 19.20 310 *e*P Pn 20 41 21.7 +0.3
FLN La Foliniere 19.20 310 *e*P Pn 20 41 21.7 +0.3
FLN La Foliniere 19.20 310 *e*P Pn 20 41 21.7 +0.3
GRR Gorron 19.28 308 *e*P P 20 41 21.5 +0.1
comp=E,28nm,1.1s
GRR Gorron 19.28 308 *e*P P 20 41 21.5 +0.1
GRR pmax pmax
comp=Z,28nm,1.1s
GRR Gorron 19.28 308 *e*P P 20 41 21.5 +0.1
comp=Z,28nm,1.1s
GRR Gorron 19.28 308 *e*P P 20 41 21.5 +0.1
comp=Z,14nm,1.1s
OBN Obninsk 19.38 26⇑ *e*P Pn 20 41 25.0 +1.5
OBN pmax pmax
comp=Z,21nm,1.6s
OBN Obninsk 19.38 26 P P 20 41 22.5 +0.2
OBN Obninsk 19.38 26 P P 20 41 22.5 +0.2
comp=Z,1.3nm,0.3s,baz=330,slow=18,SNR=3.3
OBN Obninsk 19.38 26 P P 20 41 22.5 +0.2
ESDC Sonseca Array 20.17 282 P P 20 41 32.1 +0.9
ESDC Sonseca Array 20.17 282 P P 20 41 32.1 +0.9
comp=Z,5.2nm,0.8s,baz=76,slow=11,SNR=22
ESDC Sonseca Array 20.17 282 P P 20 41 32.1 +0.9
ESLA Sonseca Array 20.17 282 *e*P P 20 41 31.9 +0.6
comp=Z,5.6nm,1.2s
ESLA Sonseca Array 20.17 282 *e*P P 20 41 31.9 +0.6
comp=Z,5.6nm,1.2s
VSU Vasula 20.28 7 *c i*P Pn 20 41 34.0 -0.1
VSU pmax pmax
comp=Z,74nm,0.9s
VSU Vasula 20.28 7 *i* P Pn 20 41 34.0 -0.1
comp=Z,74nm,0.9s
SGMF Saint Gilles 20.29 307 *e*P P 20 41 32.9 +0.5
SGMF Saint Gilles 20.29 307 *e*P P 20 41 32.9 +0.5
SGMF Saint Gilles 20.29 307 *e*P P 20 41 32.9 +0.5
SGMF Saint Gilles 20.29 307 *e*P P 20 41 32.9 +0.5
QUIF Quistinic 20.57 306 *e*P P 20 41 35.6 +0.2
QUIF Quistinic 20.57 306 *e*P P 20 41 35.6 +0.2
QUIF Quistinic 20.57 306 *e*P P 20 41 35.6 +0.2
QUIF Quistinic 20.57 306 *e*P P 20 41 35.6 +0.2
ROSF Rostrenen 20.77 307 *e*P P 20 41 38.5 +0.9
comp=Z,12nm,0.7s
ROSF Rostrenen 20.77 307 *e*P P 20 41 38.5 +0.9
ROSF pmax pmax
comp=Z,12nm,0.7s
ROSF Rostrenen 20.77 307 *e*P P 20 41 38.5 +0.9
comp=Z,12nm,0.7s
ROSF Rostrenen 20.77 307 *e*P P 20 41 38.5 +0.9
comp=Z,5.8nm,0.7s
TAM Tamanrasset 21.01 227 *e*P P 20 41 42.7 +2.1
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 21.01 227 *e*P P 20 41 42.7 +2.1
comp=Z,4.1nm,1.0s
TAM Tamanrasset 21.01 227 *e*P P 20 41 42.7 +2.1
comp=Z,4.1nm,1.0s
MDT Midelt 22.30 264 P P 20 41 54.5 +0.2
MDT Midelt 22.30 264 P P 20 41 54.5 +0.2
comp=Z,2.5nm,0.8s,baz=90,slow=12,SNR=5.0
MDT Midelt 22.30 264 P P 20 41 54.5 +0.2
HFS Hagfors 22.35 349 P P 20 41 53.5 -0.9
HFS Hagfors 22.35 349 P P 20 41 53.5 -0.9
comp=Z,5.9nm,0.9s,baz=141,slow=9.6,SNR=9.8
HFS LR LR 20 52 15.3
comp=Z,110nm,21.2s,baz=210,slow=41
HFS Hagfors 22.35 349 P P 20 41 53.5 -0.9
comp=Z,15nm,28.6s
KONO Kongsberg 22.66 344 P P 20 42 00.0 +2.2
KONO pmax pmax
comp=Z,66nm,1.6s
KONO Kongsberg 22.66 344 P P 20 42 00.0 +2.2
comp=Z,66nm,1.6s
FINES FINESS Array B 23.18 5 P P 20 42 02.0 -1.1
FINES FINESS Array B 23.18 5 P P 20 42 02.0 -1.1
comp=Z,2.3nm,0.6s,baz=192,slow=6.7,SNR=8.7
FINES LR LR 20 51 59.5
comp=Z,193nm,18.5s,baz=214,slow=39
FINES FINESS Array B 23.18 5 P P 20 42 02.0 -1.1
comp=Z,193nm,18.5s
NOA NORSAR Array B 23.61 347 P P 20 42 06.1 -1.4
NOA NORSAR Array B 23.61 347 P P 20 42 06.1 -1.4
comp=Z,2.0nm,0.6s,baz=172,slow=12,SNR=15
KAF Kangasniemi 23.86 5 *e*P P 20 42 08.4 -1.4
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 23.86 5 *ep* P 20 42 08.4 -1.4
comp=Z,5.3nm,0.7s
KAF Kangasniemi 23.86 5 *e*P P 20 42 08.4 -1.4
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 23.90 323 P P 20 42 10.3 0.0
EKA Eskdalemuir Ar 23.90 323 P P 20 42 10.3 0.0
comp=Z,10nm,0.9s,baz=121,slow=10,SNR=20
EKA Eskdalemuir Ar 23.90 323 P P 20 42 10.3 0.0
comp=Z,10.0nm,0.9s
JOF Joensuu 25.16 10 *e*P P 20 42 19.0 -2.8
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 25.16 10 *ep* P 20 42 19.0 -2.8
comp=Z,4.5nm,0.8s
AKTO Aktyubinsk 28.11 53 LR LR 20 55 34.0
comp=Z,43nm,18.5s,baz=314,slow=40
ARU Arti 30.11 41 P P 20 43 05.5 -0.6
ARU Arti 30.11 41 P P 20 43 05.5 -0.6
TOA0 Torodi Ar. Sit 30.96 221 *e*P P 20 43 14.9 +0.8
TOA0 Torodi Ar. Sit 30.96 221 *e*P P 20 43 14.9 +0.8
TORD Torodi Ar. Bea 30.96 221 P P 20 43 14.7 +0.6
TORD Torodi Ar. Bea 30.96 221 P P 20 43 14.7 +0.6
comp=Z,2.7nm,0.7s,baz=33,slow=9.0,SNR=22
TORD LR LR 20 56 04.3
comp=Z,38nm,18.6s,baz=320,slow=37
TORD Torodi Ar. Bea 30.96 221 P P 20 43 14.6 +0.6
ARCES ARCESS Array B 31.22 2 P P 20 43 14.6 -1.2
ARCES ARCESS Array B 31.22 2 P P 20 43 14.6 -1.2
comp=Z,5.4nm,1.0s,baz=182,slow=11,SNR=4.6
ARCES LR LR 20 56 50.6
comp=Z,104nm,20.8s,baz=236,slow=38
ARCES ARCESS Array B 31.22 2 P P 20 43 14.6 -1.2
comp=Z,105nm,20.8s
SVE Sverdlovsk 31.32 41 *e*P P 20 43 17.1 +0.3
SVE pmax pmax
comp=Z,7.0nm,0.8s
SVE Sverdlovsk 31.32 41 *e*P P 20 43 17.1 +0.3
comp=Z,7.0nm,0.8s
BRVK Borovoye 36.01 50⇑ *i*P P 20 43 58.5 +0.8
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 36.01 50 *i* P P 20 43 58.5 +0.8
comp=Z,9.0nm,1.7s
KKAR Karatay Array 36.64 67 *e*P P 20 44 02.6 -0.6
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 36.64 67 *e*P P 20 44 02.6 -0.6
comp=Z,2.0nm,0.6s
KKAR Karatay Array 36.64 67 *e*P P 20 44 02.6 -0.6
comp=Z,2.0nm,0.6s
AAK Ala-Archa 39.60 67 P P 20 44 29.0 +0.6
AAK pmax pmax
comp=Z,12nm,1.2s
AAK Ala-Archa 39.60 67 P P 20 44 29.0 +0.6
comp=Z,12nm,1.2s
DBIC Dimbokro 39.87 224 P P 20 44 31.6 +1.0
DBIC Dimbokro 39.87 224 P P 20 44 31.6 +1.0
comp=Z,2.1nm,0.6s,baz=2.5,slow=9.8,SNR=6.6
DBIC Dimbokro 39.87 224 P P 20 44 31.6 +1.0
comp=Z,2.0nm,0.6s
LIC Lamto 40.33 224 *e*P P 20 44 34.6 +0.1
comp=Z,9.6nm,0.6s
LIC Lamto 40.33 224 *e*P P 20 44 34.6 +0.1
comp=Z,9.6nm,0.6s
LIC Lamto 40.33 224 *e*P P 20 44 34.6 +0.1
comp=Z,4.8nm,0.6s
KURK Kurchatov 41.20 54⇓ *i*P P 20 44 41.5 +0.3
KURK pmax pmax
comp=Z,4.0nm,1.7s
KURK Kurchatov 41.20 54 *i* P P 20 44 41.5 +0.3
comp=Z,4.0nm,1.7s
NVS Novosibirsk 43.66 47 *e*P P 20 45 00.4 -0.8
NVS pmax pmax
comp=Z,11nm,1.5s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS Novosibirsk 43.66 47 *e*P P 20 45 00.4 -0.8
comp=E,11nm,1.5s
MK31 Makanchi Array 44.19 59 *e*P P 20 45 05.0 -0.6
MK31 Makanchi Array 44.19 59 *e*P P 20 45 05.0 -0.6
MK31 Makanchi Array 44.19 59 *e*P P 20 45 05.0 -0.6
MKAR Makanchi Array 44.19 59 P P 20 45 05.6 0.0
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 44.19 59 P P 20 45 05.6 0.0
MKAR ScP ScP 20 50 40.4 -1.8
MKAR Makanchi Array 44.19 59 P P 20 45 05.6 0.0
comp=Z,4.1nm,0.6s,baz=279,slow=6.9,SNR=30
MKAR ScP ScP 20 50 40.4 -1.8
comp=Z,0.3nm,0.8s,baz=300,slow=3.6,SNR=4.4
MKAR Makanchi Array 44.19 59 P P 20 45 05.6 0.0
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 44.66 48 *e*P P 20 45 08.7 -0.6
ZAA0 Zalesovo Array 44.66 48 *e*P P 20 45 08.7 -0.6
ZALV Zalesovo Beam 44.66 48 P P 20 45 09.0 -0.3
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 44.66 48 P P 20 45 08.9 -0.3
ZALV Zalesovo Beam 44.66 48 P P 20 45 08.9 -0.3
comp=Z,7.1nm,0.7s,baz=275,slow=8.8,SNR=26
ZALV Zalesovo Beam 44.66 48 P P 20 45 09.0 -0.3
comp=Z,7.0nm,0.7s
HVS Khovu-Aksy 50.51 51 P P 20 45 56.8 +1.9
HVS pmax pmax
comp=Z,24nm,1.3s
HVS Khovu-Aksy 50.51 51 P P 20 45 56.8 +1.9
comp=Z,24nm,1.3s
ZAK Zakamensk 56.52 49 *e*P P 20 46 34.8 -4.2
ZAK pmax pmax
comp=Z,1.0nm,1.3s
SONM Songino Array 59.40 51 P P 20 46 57.1 -2.2
SONM Songino Array 59.40 51 P P 20 46 57.1 -2.2
comp=Z,1.1nm,0.7s,baz=282,slow=8.8,SNR=5.7
SONM Songino Array 59.40 51 P P 20 46 57.1 -2.2
ULN Ulaanbaatar 59.79 51 *i* P P 20 47 04.1 +2.1
comp=Z,6.0nm,2.5s
RES Resolute Bay 59.84 344 LR LR 21 14 23.9
comp=Z,67nm,18.9s,baz=14,slow=38
BOSA Boshof 66.77 177 LR LR 21 17 35.7
comp=Z,63nm,18.7s,baz=346,slow=37
CMAR Chiang Mai Arr 68.71 83 P P 20 47 58.6 -2.2
CMAR Chiang Mai Arr 68.71 83 P P 20 47 58.6 -2.2
comp=Z,0.3nm,0.7s,baz=270,slow=5.4,SNR=3.2
CMAR Chiang Mai Arr 68.71 83 P P 20 47 58.6 -2.2
YKA Yellowknife Ar 73.54 341 P P 20 48 28.7 -0.6
YKA Yellowknife Ar 73.54 341 P P 20 48 28.7 -0.6
comp=Z,0.8nm,0.8s,baz=36,slow=5.3,SNR=15
YKA Yellowknife Ar 73.54 341 P P 20 48 28.7 -0.6
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 76.17 324 P P 20 48 43.0 -1.7
ULM Lac du Bonnet 76.17 324 P P 20 48 43.0 -1.7
comp=Z,2.9nm,0.8s,baz=83,slow=3.4,SNR=4.1
ULM Lac du Bonnet 76.17 324 P P 20 48 43.0 -1.7
USRK Ussuriysk Arra 76.30 44 P P 20 48 44.3 -1.3
comp=Z,2.2nm,0.8s,baz=280,slow=7.4,SNR=5.6
ILAR Eielson Array 76.76 355 P P 20 48 48.3 +0.5
ILAR Eielson Array 76.76 355 P P 20 48 48.3 +0.5
comp=Z,0.7nm,0.8s,baz=348,slow=3.4,SNR=7.5
ILAR LR LR 21 29 00.6
comp=Z,30nm,18.2s,baz=164,slow=41
ILAR Eielson Array 76.76 355 P P 20 48 48.3 +0.5
comp=Z,15nm,28.6s
KSAR Wonju Array Be 78.26 51 P P 20 48 56.1 -0.6
KSAR Wonju Array Be 78.26 51 P P 20 48 56.1 -0.6
KSRS Korea Array 78.27 51 P P 20 48 56.1 -0.6
comp=Z,1.8nm,0.8s,baz=306,slow=5.8,SNR=6.0
KSRS Korea Array 78.27 51 P P 20 48 56.1 -0.6
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 84.98 46 P P 20 49 31.5 -0.8
MJAR Matsushiro Arr 84.98 46 P P 20 49 31.5 -0.8
comp=Z,1.0nm,0.8s,baz=306,slow=4.5,SNR=3.7
MJAR Matsushiro Arr 84.98 46 P P 20 49 31.5 -0.8
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 95.62 315 P P 20 50 24.3 +1.6
TXAR Lajitas Array 95.62 315 P P 20 50 24.3 +1.6
comp=Z,0.6nm,0.8s,baz=41,slow=4.0,SNR=3.9
TXAR Lajitas Array 95.62 315 P P 20 50 24.3 +1.6
comp=Z,1.0nm,0.8s
ASAR Alice Springs 121.06 97 PKP **PKPdf** 20 55 49.6 -0.2
ASAR Alice Springs 121.06 97 PKP **PKPdf** 20 55 49.6 -0.2
comp=Z,0.2nm,0.8s,baz=354,slow=0.9,SNR=3.1
ASAR Alice Springs 121.06 97 PKIKP **PKPdf** 20 55 49.6 -0.2

CSEM ***18*** *20:38:09.2, 38.42N×21.97E, h5km, ML3.5, After ATH*
ATH 18 20:38:09.2, 38.42N×21.97E, h5km±4km, ML3.5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.14**	**102**	*e*PG	Pg	20 38 11.7	-0.4
KALE				*e*SG	Sg	20 38 14.1	+0.1
KALE	**Kalithea**	**0.14**	**102**	*e*Pg	Pg	20 38 11.7	-0.4
KALE				*e*Sg	Sg	20 38 14.1	+0.1
LAKA	**Lakka**	**0.18**	**178**	*e*PG	Pg	20 38 12.2	-0.6
LAKA	**Lakka**	**0.18**	**178**	*e*Pg	Pg	20 38 12.2	-0.6
KLV	**Kalavryta, Ach**	**0.40**	**159**	*e*PB	Pg	20 38 17.0	-0.1
KLV	**Kalavryta, Ach**	**0.40**	**159**	*e*Pb	Pg	20 38 17.0	-0.1
DSF	**Desfina**	**0.44**	**91**	*e*PG	Pg	20 38 16.9	-0.9
DSF				*e*SB	Sg	20 38 23.6	+0.1
DSF	**Desfina**	**0.44**	**91**	*e*Pg	Pg	20 38 16.9	-0.9
DSF				*e*Sb	Sg	20 38 23.6	+0.1
DRO	**Drossia**	**0.51**	**204**	*e*PB	Pg	20 38 18.6	-0.5
DRO	**Drossia**	**0.51**	**204**	*e*Pb	Pg	20 38 18.6	-0.5
EVR	**Evrytania**	**0.51**	**346**	*e*PB	Pg	20 38 18.1	-1.1
EVR				*e*SB	Sg	20 38 26.6	+0.6
EVR	**Evrytania**	**0.51**	**346**	*e*Pb	Pg	20 38 18.1	-1.1
EVR				*e*Sb	Sg	20 38 26.6	+0.6
RLS	**Riolos of Patr**	**0.54**	**228**	*e*PG	Pg	20 38 19.5	0.0
RLS				*e*SB	Sg	20 38 27.2	+0.7
RLS	**Riolos of Patr**	**0.54**	**228**	*e*Pg	Pg	20 38 19.5	0.0
RLS				*e*Sb	Sg	20 38 27.2	+0.7
GUR	**Goura**	**0.56**	**149**	*e*PB	Pg	20 38 20.2	0.0
GUR				*e*SB	Sg	20 38 27.3	-0.4
GUR	**Goura**	**0.56**	**149**	*e*Pb	Pg	20 38 20.2	0.0
GUR				*e*Sb	Sg	20 38 27.3	-0.4
MAKR	**Makrakomi, Fth**	**0.61**	**12**	*e*PB	Pg	20 38 21.0	+0.1
MAKR				*e*SB	Sg	20 38 30.0	+1.1
MAKR	**Makrakomi, Fth**	**0.61**	**12**	*e*Pb	Pg	20 38 21.0	+0.1
MAKR				*e*Sb	Sg	20 38 30.0	+1.1
PDO	**Prodromos**	**0.64**	**286**	*e*PG	Pg	20 38 21.4	-0.2
PDO	**Prodromos**	**0.64**	**286**	*e*Pg	Pg	20 38 21.4	-0.2
AGG	**Agios Georgios**	**0.66**	**25**	*e*PB	Pg	20 38 21.0	-1.1
AGG	**Agios Georgios**	**0.66**	**25**	*e*Pb	Pg	20 38 21.0	-1.1
LKR	**Lokris**	**0.84**	**74**	*e*PB	Pb	20 38 25.9	-0.4
LKR				*e*SB	Sg	20 38 36.8	+0.5
LKR	**Lokris**	**0.84**	**74**	*e*Pb	Pb	20 38 25.9	-0.4
LKR				*e*Sb	Sg	20 38 36.8	+0.5
LTK	**Loutraki**	**0.88**	**116**	*e*PB	Pb	20 38 26.9	-0.1
LTK	**Loutraki**	**0.88**	**116**	*e*Pb	Pb	20 38 26.9	-0.1
AMT	**Artemida-Makis**	**0.91**	**193**	*e*PB	Pg	20 38 26.9	+0.2
AMT				*e*SB	Sb	20 38 39.8	-0.2
AMT	**Artemida-Makis**	**0.91**	**193**	*e*Pb	Pg	20 38 26.9	+0.2
AMT				*e*Sb	Sb	20 38 39.8	-0.2
SMIA	**Simia**	**1.07**	**64**	*e*PG	Pg	20 38 28.9	-1.0
SMIA	**Simia**	**1.07**	**64**	*e*Pg	Pg	20 38 28.9	-1.0
VLX	**Vlachokerasia**	**1.10**	**163**	*e*PN	Pb	20 38 30.8	0.0
VLX	**Vlachokerasia**	**1.10**	**163**	*e*Pn	Pb	20 38 30.8	0.0
THL	**Klokotos Trika**	**1.14**	**2**	*e*PG	Pg	20 38 30.1	-1.1
THL	**Klokotos Trika**	**1.14**	**2**	*e*Pg	Pg	20 38 30.1	-1.1
MRKA	**Markates**	**1.30**	**77**	*e*PB	Pg	20 38 34.6	+0.4
MRKA	**Markates**	**1.30**	**77**	*e*Pb	Pg	20 38 34.6	+0.4
NEO	**Neokhori**	**1.32**	**47**	*e*PB	Pn	20 38 34.0	-0.4
NEO	**Neokhori**	**1.32**	**47**	*e*Pb	Pn	20 38 34.0	-0.4
XOR	**Xorichti**	**1.34**	**45**	*e*PB	Pn	20 38 34.3	-0.4
XOR	**Xorichti**	**1.34**	**45**	*e*Pb	Pn	20 38 34.3	-0.4
DID	**Didima**	**1.35**	**132**	*e*PB	Pg	20 38 35.2	0.0
DID				*e*SB	Sn	20 38 53.6	+0.4
DID	**Didima**	**1.35**	**132**	*e*Pb	Pg	20 38 35.2	0.0
DID				*e*Sb	Sn	20 38 53.6	+0.4
NAIG	**Nisos Aigina**	**1.37**	**118**	*e*PB	Pn	20 38 34.9	-0.1
NAIG	**Nisos Aigina**	**1.37**	**118**	*e*Pb	Pn	20 38 34.9	-0.1
SKIA	**Skiathos**	**1.39**	**57**	*e*PB	Pg	20 38 36.4	+0.6
SKIA	**Skiathos**	**1.39**	**57**	*e*Pb	Pg	20 38 36.4	+0.6
ATH	**Athens Observa**	**1.45**	**107**	*e*PB	Pg	20 38 37.0	+0.1
ATH				*e*SB	Sb	20 38 55.1	-0.2
ATH	**Athens Observa**	**1.45**	**107**	*e*Pb	Pg	20 38 37.0	+0.1
ATH				*e*Sb	Sb	20 38 55.1	-0.2
JAN	**Janina**	**1.51**	**325**	*e*PB	Pb	20 38 38.0	+0.2
JAN	**Janina**	**1.51**	**325**	*e*Pb	Pb	20 38 38.0	+0.2
PTL	**Penteli**	**1.54**	**103**	*e*PG	Pb	20 38 37.8	-0.4
PTL				*e*SB	Sn	20 38 57.4	-0.3
PTL	**Penteli**	**1.54**	**103**	*e*Pg	Pb	20 38 37.8	-0.4
PTL				*e*Sb	Sn	20 38 57.4	-0.3
LIT	**Litokhoron**	**1.73**	**13**	*e*PG	Pb	20 38 40.9	-0.6
LIT	**Litokhoron**	**1.73**	**13**	*e*Pg	Pb	20 38 40.9	-0.6
VLI	**Veliai**	**1.86**	**155**	*e*PN	Pb	20 38 43.6	-0.2
VLI	**Veliai**	**1.86**	**155**	*e*Pn	Pb	20 38 43.6	-0.2
KYTH	**Kithira**	**2.30**	**158**	*e*PN	Pb	20 38 49.6	-1.6
KYTH	**Kithira**	**2.30**	**158**	*e*Pn	Pb	20 38 49.6	-1.6

ISCJB ***18*** *20:51:03.1±0.7, 6.89N±0.07×73.10W±0.09, h166km, mb3.2/1, Error ellipse: s-maj=14.0km s-min=6.6km az=35.5*
FUNV ***18*** *20:51:04.8, 6.80N×73.10W, h168km, MW3.5*
IDC ***18*** *20:51:05.1±6.4, 6.51N×73.03W, h186km±39km, mb2.8/1, mb1 3.2/2, mb1mx2.8/32, mbtmp3.4/2, Error ellipse: s-maj=153.4km s-min=42.8km az=98.0*
ISC 18 20:51:03.5±1.1, 6.84N±0.07×73.07W±0.09, h166km, n12, σ1§10/16, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**36**⇑ *i*P		**Pn**	**20 51 33.5**	**+1.2**
CAPV				*e*S	**Sn**	**20 51 54.5**	**-0.1**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**20 51 43.8**	**-0.1**
ROSC	19nm,0.3s,baz=296,slow=8.8,SNR=14			S	**Sn**	**20 52 14.6**	**-0.5**
	22nm,0.3s,baz=85,slow=17,SNR=9.6						
SOCV	**Socops**	**2.62**	**57**	*e*P	**Pn**	**20 51 47.5**	**+0.6**
SOCV				*e*S	**Sn**	**20 52 19.8**	**-0.9**
ELOV	**Elorza**	**3.57**	**87**	*e*P	**Pn**	**20 51 59.5**	**+0.8**
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P	**Pn**	**20 52 00.7**	**+0.3**
VIRV				*e*S	**Sn**	**20 52 42.4**	**-2.4**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**20 52 10.0**	**+0.6**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**20 52 10.3**	**+0.7**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**20 52 21.7**	**-0.8**
MONV	**Montecano**	**5.93**	**31**	*e*P	**Pn**	**20 52 29.7**	**+0.1**
TURV	**Turiamo**	**6.29**	**55**	*e*P	**Pn**	**20 52 34.1**	**-0.2**
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**21 01 15.7**	**+1.6**
	0.2nm,0.5s,baz=132,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**21 10 34.8**	**-1.5**
	0.2nm,0.7s,baz=104,slow=3.5,SNR=3.0						

ISCJB ***18*** *21:27:08.5±0.5, 20.21S±0.03×69.24W±0.08, h107km±6km, mb4.1/3, Error ellipse: s-maj=13.3km s-min=4.8km az=169.5*
IDC ***18*** *21:27:09.8±1.2, 20.21S×69.08W, h104km±7km, mb3.3/3, mb1 3.5/6, mb1mx3.3/32, mbtmp3.7/6, MS2.3/1, Ms1 2.4/1, ms1mx2.1/10, Error ellipse: s-maj=31.4km s-min=24.7km az=84.0*
GUC ***18*** *21:27:09.4±0.5, 20.22S×69.34W, h99km±3km, ML4.3*
NEIC ***18*** *21:27:09.4, 20.22S×69.34W, h99km, MG4.2(GUC), After GUC.*
ISC 18 21:27:08.8±0.7, 20.23S±0.04×69.30W±0.07, h104km±6km, n33, σ1§36/45, mb3.7/3, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**Plate Boundary**	**0.58**	**324**⇑ *i*P		**Pn**	**21 27 25.8**	**+0.1**
PB11				*i* S	**Sn**	**21 27 38.2**	**-0.3**
PB11	**Plate Boundary**	**0.58**	**324**⇑ *i*P		**Pn**	**21 27 25.8**	**+0.1**
PB11				*i* S	**Sn**	**21 27 38.2**	**-0.3**
PB01	**Plate Boundary**	**0.82**	**192**⇑ *i*P		**Pn**	**21 27 28.5**	**+0.7**
PB01				*i* S	**Sn**	**21 27 42.8**	**+0.7**
PB01				AML	AML	21 27 44.0	
	comp=N,15μm,0.2s						
PB01	**Plate Boundary**	**0.82**	**192**⇑ *i*P		**Pn**	**21 27 28.5**	**+0.7**
PB01				*i* S	**Sn**	**21 27 42.8**	**+0.7**
PATCX	**Punta Patache**	**0.99**	**234**⇓ *i*P		**Pn**	**21 27 30.2**	**+0.7**
PATCX				*i* S	**Sn**	**21 27 45.6**	**+0.4**
PSGC	**Pisagua**	**1.00**	**309**⇑ *i*P		**Pn**	**21 27 29.7**	**0.0**
PSGC				*i* S	**Sn**	**21 27 45.5**	**+0.1**
PSGC	**Pisagua**	**1.00**	**309**⇑ *i*P		**Pn**	**21 27 29.7**	**0.0**
PSGC				*i* S	**Sn**	**21 27 45.5**	**+0.1**
MNMC	**Minimini**	**1.13**	**346**	*e*P	**Pn**	**21 27 31.8**	**+0.5**
MNMC				*i* S	**Sn**	**21 27 48.6**	**+0.4**
MNMC				AML	AML	21 27 50.9	
	comp=E,13μm,0.5s						

	MNMC	**Minimini**		**1.13**	**346**	⇑*iP*		**Pn**	**21 27 31.8 +0.5**
	MNMC					*i* S		**Sn**	**21 27 49.3 +1.1**
	PB09	**Plate Boundary**		**1.56**	**178**	⇑*iP*		**Pn**	**21 27 37.6 +1.4**
	PB09					*e*S		**Sn**	**21 27 58.7 +1.8**
	PB09					AML		AML	21 28 01.6
		comp=N,7μm,0.9s							
	PB09	**Plate Boundary**		**1.56**	**178**	⇑*iP*		**Pn**	**21 27 37.6 +1.4**
	PB09					*e*S		**Sn**	**21 27 58.7 +1.8**
	PB07	**Plate Boundary**		**1.58**	**200**	*eP*		**Pn**	**21 27 37.6 +1.1**
	PB07					*i* S		**Sn**	**21 27 59.1 +1.6**
	PB07					AML		AML	21 28 02.0
		comp=E,3μm,0.3s							
	PB07	**Plate Boundary**		**1.58**	**200**	*eP*		**Pn**	**21 27 37.6 +1.1**
	PB07					*i* S		**Sn**	**21 27 59.1 +1.6**
	ARCH	**Arica**		**1.97**	**331**	*eP*		**Pn**	**21 27 41.5 +0.3**
	ARCH	**Arica**		**1.97**	**331**	*eP*		**Pn**	**21 27 41.5 +0.3**
	MACH	**Maria Elena**		**2.00**	**192**	*eP*		**Pn**	**21 27 43.0 +1.3**
	MACH	**Maria Elena**		**2.00**	**192**	*eP*		**Pn**	**21 27 43.0 +1.3**
	PB04	**Plate Boundary**		**2.03**	**185**	*eP*		Pn	21 27 46.1 +4.2
	PB04					AML		AML	21 28 28.4
		comp=N,1μm,0.6s							
	PB04	**Plate Boundary**		**2.03**	**185**	*eP*		Pn	21 27 46.1 +4.2
	LVC	**Limon Verde**		**2.40**	**171**	*e*Pn		**Pn**	**21 27 48.7 +1.8**
	LVC					*e*Sn		**Sn**	**21 28 14.6 -1.4**
	LPAZ	**La Paz**		**4.08**	**16**	*e*Pn		**Pn**	**21 28 11.5 +1.8**
	LPAZ	**La Paz**		**4.08**	**16**	P		**Pn**	**21 28 11.4 +1.7**
		comp=N,1.3nm,0.3s,baz=189,slow=8.3,SNR=91							
	LPAZ					LR		LR	21 30 26.9
		comp=N,39nm,19.1s,baz=34,slow=49							
	ARE	**Arequipa**		**4.29**	**331**	*eP*		**Pn**	**21 28 13.0 +0.7**
	ARE					*i* S		**Sn**	**21 29 03.0 +1.5**
	LCO	**Las Campanas**		**8.83**	**188**	*e*Pn		Pn	21 29 09.7 -4.1
		comp=N,16nm,0.7s							
	LCO					*e*Sn		**Sn**	**21 30 46.8 -4.9**
	SIV	**San Ignacio**		**8.89**	**63**	P		**Pn**	**21 29 12.0 -2.4**
		comp=N,0.4nm,0.3s,baz=261,slow=11,SNR=7.2							
	CPUP	**Villa Florida**		**12.56**	**121**	P		**Pn**	**21 30 03.0 -0.7**
		comp=N,0.4nm,0.3s,baz=287,slow=14,SNR=4.2							
	H03N1	**Juan Fernandez**		**15.69**	**211**	T		T	21 46 08.4
		baz=33,slow=75,SNR=5.8							
	H03N2	**Juan Fernandez**		**15.70**	**211**	T		T	21 46 08.4
		baz=33,slow=75,SNR=2.5							
	H03N3	**Juan Fernandez**		**15.71**	**211**	T		T	21 46 09.5
		baz=33,SNR=3.6							
	PLCA	**Paso Flores**		**20.46**	**183**	P		Pn	21 31 40.1 -1.1
		comp=N,1.4nm,0.8s,baz=0.9,slow=18,SNR=3.4							
	BLA	**Blacksburg**		**58.09**	**350**	*eP*		**P**	**21 36 49.5 -1.8**
		comp=N,25nm,0.7s							
	TORD	**Torodi Ar. Bea**		**77.28**	**71**	P		**P**	**21 38 52.3 0.0**
		comp=N,0.5nm,0.8s,baz=255,slow=6.0,SNR=3.8							
	TORD					pP		**pP**	**21 39 18.9 -0.1**
		comp=N,1.1nm,0.6s,baz=254,slow=5.4,SNR=7.2							
	TORD					sP		**sP**	**21 39 29.8 -0.3**
		comp=N,0.6nm,0.7s,baz=252,slow=4.9,SNR=3.3							
	YKA	**Yellowknife Ar**		**89.88**	**341**	P		**P**	**21 39 56.1 +0.6**
		comp=N,0.4nm,0.7s,baz=132,slow=4.9,SNR=8.6							
	YKA					pP		**pP**	**21 40 23.8 +1.0**
		comp=N,0.2nm,0.7s,baz=133,slow=4.7,SNR=3.1							

IDC ***18*** *21:35:16.8±0.5, 18°.35S×173°.06W, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.5/28, mbtmp4.4/18, ML3.5/1, MS5.0/31, Ms1 5.0/31, ms1mx4.9/40, Error ellipse: s-maj=20.7km s-min=15.3km az=134.0*

NEIC ***18*** *21:35:23.1±0.2, 18°.32S×173°.22W, h35km, mb5.3/50, Error ellipse: s-maj=11.8km s-min=6.3km az=129.0*

MOS ***18*** *21:35:25.6±1.8, 17°.79S×173°.96W, h33km, mb5.4/20, MS5.2/11, Error ellipse: s-maj=13.7km s-min=11.8km az=121.7*

ISCJB ***18*** *21:35:26.3±0.2, 18°.54S±0°.05×173°.02W±0°.04, h80km, mb4.9/81, Error ellipse: s-maj=7.7km s-min=4.2km az=148.9*

BJI ***18*** *21:35:27.7, 18°.39S×173°.03W, h85km, mB5.6/42, mb4.9/36, Ms5.4/41, Ms7 5.1/42*

GCMT ***18*** *21:35:31.5±0.1, 18°.41S×172°.50W, h12km, MW5.4/113, Moment Tensor Solution. s79,c126; s113,c211; Duration: 1ś2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.23±.02; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$-1.28±.01; $M_{r\theta}$0.31±.05; $M_{\theta\phi}$-0.24±.01; $M_{r\phi}$0.95±.04; Best double couple: $M_0$1.62400×10^{17} NP1:ϕ_s15.0000°,δ64.00000°, λ95.00000°. NP2:ϕ_s184.00000°,δ26.00000°,λ80.00000°. Principal axes: T 1.5820, Plg70.0000°, Azm296.0000°; N 0.0800, Plg4.0000°, Azm193.0000°; P -1.6650, Plg19.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 21:35:28.1±0.4, **18°.46S**±0°.05×**173°.08W**±0°.05, **h80**km±2km, **h80**km:**pP-P, n410,** σ1ś**56**/442, **mb5.1**/81, **24C-25D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.69**	**16**	*e*Pn	Pn	21 36 22.0	-15
AFI				Sn	Sn	21 37 10.3	-20
AFI				TT		21 41 01.2	
AFI	**Afiamalu**	**4.69**	**16**	Pn	Pn	21 36 23.2	-13
	23nm,0.3s,baz=156,slow=6.0,SNR=11						
AFI				Sn	Sn	21 37 10.3	-20
	52nm,0.3s,baz=22,slow=19,SNR=6.6						
AFI				T	T	21 41 01.2	
	45nm,0.3s,baz=227,slow=23,SNR=6.4						
MSVF	**Nonsavu**	**8.47**	**273**	Pn	**Pn**	**21 37 30.0 +1.8**	
	767nm,0.9s,SNR=21						
MSVF	**Nonsavu**	**8.47**	**273**	*e*P	**Pn**	**21 37 30.3 +2.1**	
MSVF	**Nonsavu**	**8.47**	**273**	*e*Pn	**Pn**	**21 37 30.3 +2.1**	
RAO	**Raoul Island**	**11.62**	**201**	LR	LR	21 42 28.7	
	comp=Z,4μm,18.2s,baz=24,slow=37						
RAR	**Rarotonga**	**12.82**	**105**	*e*Pn	Pn	21 38 12.0	-15
RAR	**Rarotonga**	**12.82**	**105**	Pn	Pn	21 38 11.1	-16
	5.0nm,0.3s,baz=2.8,slow=0.0,SNR=11						
RAR				LR	LR	21 41 51.9	
	comp=Z,6μm,18.5s,baz=45,slow=31						
DZM	**Mont Dzumac**	**19.54**	**256**	*e*P	**P**	**21 39 49.3 -0.3**	
	132nm,1.6s						
DZM				*e*LR	LR	21 44 24.1	
	8μm,26.6s						
DZM	**Mont Dzumac**	**19.54**	**256**	*e*P	**P**	**21 39 48.9 -0.7**	
DZM	**Mont Dzumac**	**19.54**	**256**	P	**P**	**21 39 46.3 -3.2**	
	0.1nm,0.3s,baz=73,slow=11,SNR=4.3						
DZM				LR	LR	21 46 22.1	
	comp=Z,3μm,20.0s,baz=84,slow=34						
DZM	**Mont Dzumac**	**19.54**	**256**	*e*P	**P**	**21 39 50.3 +0.7**	
OUZ	**Omahuta**	**20.46**	**213**	*e*P	**P**	**21 39 59.7 +0.5**	
	23nm,1.3s						
URZ	**Urewera**	**21.51**	**201**	*e*P	**P**	**21 40 09.3 -1.2**	
	37nm,0.7s						
URZ				S	**S**	**21 44 05.9 +1.3**	
URZ	**Urewera**	**21.51**	**201**	P	**P**	**21 40 08.9 -1.6**	
	19nm,0.5s,baz=40,slow=5.7,SNR=16						
URZ				S	**S**	**21 44 05.9 +1.3**	
	3.9nm,0.5s,baz=81,slow=19,SNR=4.8						
PAE	**Paea**	**22.35**	**92**	*e*T	T	22 02 46.7	
	12nm,0.3s						
PPT2	**Papeete2**	**22.36**	**91**	*e*S	**S**	**21 44 22.5 +1.8**	
	3μm,23.5s						
PPT2				*e*LR	LR	21 45 22.4	
	12μm,26.5s,baz=260						
PPT	**Papeete**	**22.37**	**91**	LR	LR	21 47 16.0	
	comp=Z,6μm,18.1s,baz=233,slow=32						
BKZ	**Black Stump Fm**	**22.54**	**202**	*e*P	**P**	**21 40 22.0 +0.5**	
	28nm,0.9s						
TBI	**Tubuai**	**22.58**	**106**	*e*S	**S**	**21 44 24.7 +0.7**	
	6μm,25.0s						
TBI				*e*LR	LR	21 45 20.3	
	9μm,29.8s,baz=278						
TVO	**Taravao**	**22.65**	**92**	*e*T	T	22 02 51.2	
	3.7nm,0.4s						
BFZ	**Birch Farm**	**23.98**	**200**	*e*P	**P**	**21 40 36.9 +1.7**	
	36nm,0.8s						
SNZO	**South Karori**	**25.07**	**202**	*e*Pn	**P**	**21 40 45.0 -0.1**	
	99nm,1.0s						
KHZ	**Kahutara**	**26.46**	**203**	*e*P	**P**	**21 41 02.4 +4.8**	
	40nm,1.1s						
HNR	**Honiara**	**27.64**	**285**	LR	LR	21 51 55.6	
	comp=Z,3μm,19.4s,baz=119,slow=36						
RPZ	**Rata Peaks**	**28.51**	**205**	*e*P	**P**	**21 41 16.4 +0.5**	
	87nm,1.3s						
ODZ	**Otahua Downs**	**29.79**	**204**	*e*P	**P**	**21 41 28.3 +1.0**	
	40nm,1.2s						
WHZ	**Wether Hill Ro**	**31.56**	**206**	*e*P	**P**	**21 41 42.9 0.0**	
	25nm,1.0s						
KWAJ	**Kwajalein Atol**	**33.12**	**323**	*e*P	**P**	**21 41 57.9 +1.1**	
KWAJ				pmax	pmax		
	comp=Z,164nm,0.9s						
KWAJ	**Kwajalein Atol**	**33.12**	**323**	*e*P	**P**	**21 41 57.9 +1.1**	
	comp=Z,164nm,0.9s						
TAOE	**Nuku Hiva Isla**	**33.34**	**78**	*e*T	T	22 16 29.1	
	comp=Z,184nm,0.3s						
EIDS	**Eidsvold**	**33.88**	**252**	*eP*	**P**	**21 42 01.8 -1.6**	
	comp=Z,105nm,2.0s						
RKT	**Rikitea**	**35.86**	**104**	*e*S	S	21 47 59.7 +7.1	
	comp=Z,549nm,25.2s						
RKT				*e*LQ	LQ	21 50 21.4	
	comp=Z,942nm,27.2s						
RKT				*e*LR	LR	21 51 26.9	
	comp=Z,6μm,28.5s,baz=274						
RMQ	**Roma**	**36.06**	**250**	P	**P**	**21 42 23.0 +0.9**	
	baz=36,SNR=8.3						
CTAO	**Charters Tower**	**38.36**	**261**	*eP*	**P**	**21 42 39.4 -2.3**	
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
CTAO	**Charters Tower**	**38.36**	**261**	*eP*	**P**	**21 42 39.4 -2.3**	
	comp=Z,22nm,0.8s						
CMSA	**Cobar Meteorol**	**39.35**	**243**	P	**P**	**21 42 49.1 -0.7**	
	baz=40,SNR=5.5						
QLP	**Quilpie**	**40.11**	**250**	P	**P**	**21 42 54.9 -1.3**	
	baz=40,SNR=6.1						
QLP				S	**S**	**21 48 58.5 +1.6**	
	baz=40,SNR=5.6						
COEN	**Coen**	**42.17**	**269**	*eP*	**P**	**21 43 12.3 -1.0**	
	comp=Z,154nm,1.9s						
COEN	**Coen**	**42.17**	**269**	P	**P**	**21 43 12.7 -0.6**	
	baz=42,SNR=4.2						
KIP	**Kipapa**	**42.29**	**21**	P	**P**	**21 43 15.8 +1.8**	
STKA	**Stephens Creek**	**42.85**	**243**	*eP*	**P**	**21 43 17.8 -0.8**	
	comp=Z,12nm,1.5s						
STKA	**Stephens Creek**	**42.85**	**243**	P	**P**	**21 43 17.6 -1.0**	
	comp=Z,16nm,1.2s,baz=94,slow=7.5,SNR=12						
STKA				LR	LR	22 00 34.5	
	comp=Z,2μm,18.1s,baz=74,slow=35						
STKA	**Stephens Creek**	**42.85**	**243**	P	**P**	**21 43 17.8 -0.8**	
	baz=43,SNR=9.2						
HTT	**Hallett**	**45.28**	**241**	P	**P**	**21 43 38.6 +0.5**	
	baz=46,SNR=4.5						
BBOO	**Buckleboo**	**47.61**	**242**	*eP*	**P**	**21 43 55.6 -0.6**	
	comp=Z,119nm,1.7s						
BBOO	**Buckleboo**	**47.61**	**242**	P	**P**	**21 43 55.7 -0.5**	
	baz=48,SNR=6.8						
WRAB	**Tennant Creek**	**49.50**	**259**	P	**P**	**21 44 08.0 -3.0**	
	comp=Z,105nm,0.7s,SNR=19						
WRAB	**Tennant Creek**	**49.50**	**259**	⇑*eP*	**P**	**21 44 08.8 -2.2**	
WRAB				pmax	pmax		
	comp=Z,62nm,1.4s						
WRAB	**Tennant Creek**	**49.50**	**259**	*eP*	**P**	**21 44 08.5 -2.5**	
	comp=Z,57nm,1.4s						
WRA	**Warramunga Arr**	**49.51**	**259**	P	**P**	**21 44 07.9 -3.2**	
WRA				S	**S**	**21 51 14.2 +1.1**	
WRA	**Warramunga Arr**	**49.51**	**259**	P	**P**	**21 44 07.9 -3.2**	
	comp=Z,6.8nm,0.5s,baz=96,slow=8.6,SNR=68						
WRA				S	**S**	**21 51 14.2 +1.1**	
	comp=Z,0.7nm,0.8s,baz=90,slow=13,SNR=4.2						
WRA				LR	LR	22 03 11.5	
	comp=Z,2μm,21.8s,baz=85,slow=34						
AS31	**Alice Springs**	**49.52**	**254**	*eP*	**P**	**21 44 08.8 -2.3**	
ASAR	**Alice Springs**	**49.52**	**254**	P	**P**	**21 44 08.1 -3.0**	
ASAR				S	**S**	**21 51 14.9 +1.7**	
ASAR	**Alice Springs**	**49.52**	**254**	P	**P**	**21 44 08.1 -3.0**	
	comp=Z,12nm,0.8s,baz=92,slow=7.2,SNR=66						
ASAR				S	**S**	**21 51 14.9 +1.7**	
	comp=Z,0.6nm,0.7s,baz=90,slow=16,SNR=5.8						
ASAR				LR	LR	22 03 50.9	
	comp=Z,767nm,20.7s,baz=97,slow=35						
KDU	**Kakadu**	**52.61**	**268**	P	**P**	**21 44 32.9 -1.4**	
	baz=52,SNR=5.1						
WRKA	**Warakurna**	**54.50**	**252**	P	**P**	**21 44 46.2 -1.9**	
	baz=55,SNR=12						
KNRA	**Kununurra**	**55.47**	**263**	P	**P**	**21 44 54.7 -0.4**	
	baz=55,SNR=9.1						
FITZ	**Fitzroy Crossi**	**57.93**	**260**	P	**P**	**21 45 12.2 -0.3**	
	baz=58,SNR=3.2						
SBA	**Scott Base**	**60.25**	**185**	*eP*	**P**	**21 45 25.7 -1.9**	
SBA				pmax	pmax		
	comp=Z,15nm,0.8s						
SBA	**Scott Base**	**60.25**	**185**	*eP*	**P**	**21 45 25.7 -1.9**	
	comp=Z,15nm,0.8s						
VNDA	**Vanda**	**60.38**	**186**	*eP*	**P**	**21 45 29.9 +1.4**	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**60.38**	**186**	P	**P**	**21 45 28.2 -0.3**	
	comp=Z,3.7nm,0.9s,baz=10,slow=7.7,SNR=7.5						
VNDA				LR	LR	22 08 20.8	
	comp=Z,481nm,19.6s,baz=16,slow=33						
SOEI	**Soe**	**61.13**	**269**	*eP*	**P**	**21 45 36.5 +1.7**	
	comp=Z,76nm,1.1s						
MBWA	**Marble Bar**	**62.85**	**255**	*eP*	**P**	**21 45 43.4 -2.6**	
	comp=Z,79nm,1.6s						
MEEK	**Meekatharra**	**62.98**	**249**	P	**P**	**21 45 47.2 +0.4**	
	baz=63,SNR=3.2						
KLBR	**Kelleberrin**	**63.12**	**243**	P	**P**	**21 45 47.7 0.0**	
	baz=63,SNR=4.1						
MORW	**Morawa**	**64.90**	**246**	P	**P**	**21 46 00.1 +0.7**	
	baz=65,SNR=3.5						
MJAR	**Matsushiro Arr**	**71.47**	**320**	P	**P**	**21 46 39.0 -1.2**	
MJAR	**Matsushiro Arr**	**71.47**	**320**	P	**P**	**21 46 39.0 -1.2**	
	comp=Z,2.6nm,0.8s,baz=160,slow=9.9,SNR=3.8						
MJAR				LR	LR	22 14 36.5	
	comp=Z,651nm,20.6s,baz=105,slow=33						
MAJO	**Matsushiro**	**71.47**	**320**	⇓*eP*	**P**	**21 46 40.3 +0.1**	
MAJO				pmax	pmax		
	comp=Z,68nm,1.7s						
QSPA	**South Pole Qui**	**71.60**	**180**	*eP*	**P**	**21 46 41.1 +0.3**	
	comp=Z,22nm,1.2s						
YUK	**Yuzh-Kuril'sk**	**72.65**	**330**	*d* iP	P	21 46 43.4 -3.6	
YUK				*i*		21 49 33.1	
YUK				*i* SS	SS	22 00 42.1 -5.0	
YUK				pmax	pmax		
	comp=Z,787nm,2.6s						
YUK				pmax	pmax		
	comp=E,167nm,1.5s						
YUK				pmax	pmax		
	comp=Z,195nm,1.5s						
YUK				pmax	pmax		
	comp=N,22nm,0.8s						
PTRM	**Twissleman Ran**	**73.50**	**43**	*eP*	**P**	**21 46 53.9 +1.5**	
PTRM				*e*pP	**pP**	**21 47 15.4 +1.9**	
SKR	**Severo-Kuril's**	**73.99**	**340**	*eP*	P	21 46 46.0 -8.8	
SKR				*e*		21 56 10.0	
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
PFO	**Pinyon Flat Ob**	**74.79**	**46**	LR	LR	22 14 17.3	
	comp=Z,1μm,18.7s,baz=296,slow=31						
PET	**Petropavlovsk**	**75.27**	**343**	*eP*	P	21 46 55.6 -6.5	
PET				*e*S	**S**	**21 56 34.6 -0.2**	
PET				MLR	MLR		
	comp=N,500nm,20.0s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
MPMC	**Manual Prospec**	**75.51**	**44**	P	**P**	**21 47 03.6 -0.6**	
	baz=76						
PETK	**Petropavlovsk-**	**75.62**	**342**	P	**P**	**21 47 02.3 -1.9**	
PETK	**Petropavlovsk-**	**75.62**	**342**	P	**P**	**21 47 02.2 -1.9**	
PETK	**Petropavlovsk-**	**75.62**	**342**	P	**P**	**21 47 02.2 -1.9**	
	comp=Z,7.4nm,0.9s,baz=140,slow=9.4,SNR=6.8						
PETK				LR	LR	22 17 36.7	
	comp=Z,398nm,19.4s,baz=166,slow=34						
YBH	**Yreka Blue Hor**	**75.85**	**36**	LR	LR	22 15 38.4	
	comp=Z,1μm,18.7s,baz=230,slow=32						
GMRC	**Granite Mounta**	**75.99**	**46**	P	**P**	**21 47 06.0 -0.9**	
	baz=76						
GRAC	**Grapevine Rang**	**76.14**	**43**	P	**P**	**21 47 07.2 -0.4**	
	baz=76						
113A	**Mohawk Valley,**	**76.19**	**48**	P	**P**	**21 47 06.4 -1.5**	
	baz=76						
YSS	**Yuzh-Sakhalins**	**76.28**	**331**	⇑*eP*	**P**	**21 47 08.2 +0.2**	
YSS				*e*		21 47 16.0	
YSS				*e*PS	**SKSac**	**21 57 12.0 +0.1**	
YSS				*e*PS	**PnS**	**21 57 38.0 +3.7**	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**76.28**	**331**	*eP*	**P**	**21 47 07.5 -0.5**	
	comp=Z,18nm,0.8s						
NVAR	**Mina Array Bea**	**76.40**	**41**	P	**P**	**21 47 06.8 -2.5**	
NVAR	**Mina Array Bea**	**76.40**	**41**	P	**P**	**21 47 06.8 -2.5**	
	comp=Z,2.0nm,0.8s,baz=224,slow=10.0,SNR=6.3						
NVAR				LR	LR	22 15 47.3	
	comp=Z,1μm,19.3s,baz=138,slow=32						
214A	**Organ Pipe Nat**	**76.44**	**49**	P	**P**	**21 47 11.4 +2.0**	
	baz=77						
KSSSP	**Seongsanpo**	**77.04**	**312**	P	P	21 47 03.0 -10	
	SNR=6.8						
Z14A	**Wintersburg**	**77.09**	**48**	P	**P**	**21 47 12.5 -0.5**	
	baz=77						
W13A	**Hualapai Mount**	**77.38**	**46**	P	**P**	**21 47 13.7 -1.2**	
	baz=78						
KSKWJ	**Gwangju**	**77.92**	**314**	P	**P**	**21 47 19.7 +2.1**	
	SNR=5.8						
TUC	**Tucson**	**78.09**	**50**	*eP*	**P**	**21 47 17.6 -1.1**	
TUC				pmax	pmax		
	comp=Z,124nm,2.8s						
TUC	**Tucson**	**78.09**	**50**	*eP*	**P**	**21 47 17.6 -1.1**	
	comp=Z,124nm,2.8s						
KSRS	**Korea Array**	**78.55**	**316**	P	**P**	**21 47 19.8 -1.2**	
	comp=Z,3.3nm,1.0s,baz=126,slow=5.5,SNR=13						
KSRS				LR	LR	22 19 09.8	
	comp=Z,454nm,18.9s,baz=124,slow=34						
KSAR	**Wonju Array Be**	**78.57**	**316**	P	**P**	**21 47 19.8 -1.3**	
KSSKC	**Sokcho**	**78.63**	**317**	P	P	21 47 24.9 +3.6	
	SNR=5.6						
X16A	**Lo Mia Camp, P**	**78.71**	**48**	P	**P**	**21 47 21.2 -1.0**	
	baz=79						
SEHB	**SEOHWA**	**78.79**	**317**	P	**P**	**21 47 25.4 +3.1**	
	SNR=5.8						
KSCHC	**Chuncheon**	**78.80**	**316**	P	**P**	**21 47 25.3 +2.9**	
	SNR=6.6						
G05D	**Wamic, OR**	**78.91**	**34**	P	**P**	**21 47 23.3 +0.5**	
	baz=79						
KSSWO	**Suwon**	**79.08**	**315**	P	**P**	**21 47 26.7 +2.9**	
	SNR=6.3						
U15A	**North Rim**	**79.19**	**46**	P	**P**	**21 47 24.0 -0.8**	
	baz=80						
KSSEO	**Seoul**	**79.24**	**315**	P	**P**	**21 47 27.7 +3.0**	
	SNR=7.3						
QZH	**Quanzhou**	**79.27**	**301**	P	**P**	**21 47 22.3 -2.9**	
QZH				S	**S**	**21 57 13.6 -5.7**	
QZH				SKS	SKSac	21 57 24.5 -10	
QZH				LR	LR		
	comp=Z,1μm,25.2s						
YNCB	**YEONCHEON**	**79.53**	**316**	P	**P**	**21 47 27.5 +1.2**	
	SNR=6.2						
USRK	**Ussuriysk Arra**	**80.00**	**323**	P	**P**	**21 47 28.2 -0.5**	
	comp=Z,0.5nm,0.5s,baz=111,slow=10,SNR=9.8						
USRK				LR	LR	22 19 27.4	
	comp=Z,1μm,19.7s,baz=121,slow=33						
SSE	**Sheshan**	**80.04**	**307**	P	**P**	**21 47 30.3 +1.1**	
SSE				S	**S**	**21 57 27.3 0.0**	
SSE				sS	**sS**	**21 58 03.0 -0.7**	
SSE				SS	**SS**	**22 02 40.8 +1.3**	
SSE				pmax	pmax		
	comp=Z,30nm,0.7s						
SSE				pmax	pmax		
	comp=Z,260nm,8.3s						
SSE				LR	LR		
	comp=Z,220nm,20.1s						
SSE				LR	LR		
	comp=Z,130nm,20.3s						
SSE				LR	LR		
	comp=Z,310nm,20.2s						
G08A	**Pilot Rock**	**80.22**	**35**	*eP*	**P**	**21 47 29.6 -0.4**	
	comp=Z,118nm,2.6s						
121A	**Cookes Peak, D**	**80.40**	**51**	P	**P**	**21 47 31.1 -0.3**	
	baz=81						
BBB	**Bella Bella**	**80.47**	**26**	LR	LR	22 17 09.5	
	comp=Z,927nm,18.5s,baz=228,slow=31						
MFID	**Camas Ranch**	**80.87**	**38**	*eP*	**P**	**21 47 34.3 +0.7**	
	comp=Z,102nm,2.1s						
HABR	**Khabarovsk**	**81.08**	**328**	*eP*	**P**	**21 47 33.3 -1.0**	
HABR				*e*		21 47 39.3	
HABR				*e*S	**S**	**21 57 35.7 -1.6**	
HABR				*e*SS	**sS**	**21 58 12.6 -1.2**	
HABR				*e*SS	**SS**	**22 02 51.9 -2.3**	
HABR				pmax	pmax		
	comp=Z,54nm,1.7s						
HABR				MLR	MLR		
	comp=Z,429nm,17.0s						
D08A	**Wollman Farm,**	**81.35**	**34**	*eP*	**P**	**21 47 36.6 +0.8**	
	comp=Z,207nm,2.8s						
Z22A	**Elephant Butte**	**81.36**	**51**	P	**P**	**21 47 35.7 -0.7**	
	baz=82						
E09A	**Wood Farm, Sta**	**81.43**	**35**	*eP*	**P**	**21 47 35.5 -0.8**	
TMUT	**Trail Mountain**	**81.44**	**44**	*eP*	**P**	**21 47 39.1 +2.1**	
	comp=Z,213nm,2.6s						
F10A	**Beach Ranch, E**	**81.60**	**36**	*eP*	**P**	**21 47 38.8 +1.5**	
	comp=Z,162nm,2.8s						
MDJ	**Mudanjiang**	**81.62**	**323**	P	**P**	**21 47 37.9 +0.5**	
MDJ				pP	**pP**	**21 47 58.5 -0.3**	
MDJ				sP	**sP**	**21 48 07.9 +0.5**	
MDJ				PP	**PP**	**21 50 43.8 -1.5**	
MDJ				SS	**SS**	**22 03 00.8 -1.8**	
MDJ				pmax	pmax		
	comp=Z,14nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,350nm,6.6s						
MDJ				LR	LR		
	comp=Z,330nm,18.7s						
MDJ				LR	LR		
	comp=Z,460nm,19.4s						
MDJ				LR	LR		
	comp=Z,1μm,20.0s						
MDJ	**Mudanjiang**	**81.62**	**323**	*eP*	**P**	**21 47 36.5 -0.9**	
	comp=Z,102nm,2.1s						
425A	**Indio Mountain**	**81.69**	**54**	P	**P**	**21 47 38.3 0.0**	
	baz=82						
HLID	**Hailey**	**81.79**	**39**	*eP*	**P**	**21 47 37.8 -0.7**	
	comp=Z,66nm,2.3s						
HLID	**Hailey**	**81.79**	**39**	P	**P**	**21 47 37.3 -1.3**	
	baz=82						
626A	**Big Bend Ranch**	**81.80**	**55**	P	**P**	**21 47 38.3 -0.4**	
	baz=82						
GAMB	**Gambell**	**81.97**	**1**	*eP*	**P**	**21 47 39.0 +0.3**	
	comp=Z,46nm,1.8s						
526A	**Mary Lane Ranc**	**82.06**	**55**	P	**P**	**21 47 39.2 -1.0**	
	baz=

CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,600nm,16.0s
328A Wristen Ranch, 83.63 54 P **P** 21 47 46.4 -1.7
baz=84
TNA Tin City 83.85 2 *e*P **P** 21 47 49.8 +1.5
comp=Z,40nm,1.7s
FXWY Fox Creek 83.88 40 *e*P **P** 21 47 50.9 +1.5
comp=Z,21nm,1.7s
429A Davenport Ranc 84.01 55 P **P** 21 47 48.9 -1.2
baz=84
MCK McKinley 84.05 11 *e*P **P** 21 47 50.3 +0.8
MCK pmax pmax
comp=Z,110nm,2.1s
MCK McKinley 84.05 11 *e*P **P** 21 47 50.3 +0.8
comp=Z,110nm,2.1s
BSMT Bassoo Peak 84.06 35 *e*P **P** 21 47 51.7 +1.6
IMW Indian Meadow 84.07 40 *e*P **P** 21 47 49.7 -0.7
comp=Z,68nm,2.4s
W25A X Bar L Ranch, 84.11 50 P **P** 21 47 50.5 -0.1
baz=84
MOOW Moose Ponds 84.11 40 *e*P **P** 21 47 52.5 +2.0
comp=Z,45nm,2.3s
LOHW Long Hollow 84.13 40 *e*P P 21 47 54.7 +4.1
comp=Z,60nm,2.3s
SMCO Snowmass 84.21 46 *e*P **P** 21 47 51.4 0.0
comp=Z,75nm,2.1s
530A J-C Ranch, Com 84.24 56 P **P** 21 47 50.5 -0.8
baz=84
V25A Rancho No Teng 84.28 49 P **P** 21 47 50.9 -0.7
baz=85
X26A CR and CF Fran 84.28 51 P **P** 21 47 51.2 -0.3
baz=85
T24B San Luis 84.30 48 P **P** 21 47 51.5 -0.3
baz=85
FLWY Flagg Ranch 84.32 40 *e*P **P** 21 47 51.2 -0.4
comp=Z,38nm,1.5s
QIZ Qiongzhong 84.33 292 P **P** 21 47 50.8 -1.1
QIZ pP **pP** 21 48 12.9 -0.5
QIZ sP **sP** 21 48 20.3 -1.8
QIZ S **SKSac** 21 58 09.6 +0.7
QIZ sS **sS** 21 58 46.9 -1.5
QIZ pmax pmax
comp=Z,24nm,2.2s
QIZ pmax pmax
comp=Z,330nm,4.3s
QIZ LR LR
comp=Z,700nm,12.4s
BW06 Boulder Array 84.33 41 *e*P **P** 21 47 50.3 -1.4
comp=Z,16nm,1.4s
PDAR Pinedale Array 84.33 41 P **P** 21 47 49.6 -2.1
PDAR Pinedale Array 84.33 41 P **P** 21 47 49.6 -2.1
comp=Z,2.3nm,0.8s,baz=218,slow=3.4,SNR=13
PDAR LR LR 22 20 39.3
comp=Z,691nm,19.6s,baz=256,slow=32
DLBC Dease Lake 84.42 21 *e*P **P** 21 47 51.2 -0.3
DLBC Dease Lake 84.42 21 P **P** 21 47 49.6 -2.0
comp=Z,5.0nm,1.1s,baz=202,slow=10,SNR=4.2
DLBC LR LR 22 21 08.4
comp=Z,506nm,18.1s,baz=224,slow=33
R23A Moffat 84.52 47 P **P** 21 47 51.4 -1.5
baz=85
631A Perdido Creek 84.53 57 P **P** 21 47 51.4 -1.3
baz=85
832A Faith Ranch, C 84.55 58 P **P** 21 47 51.1 -1.7
baz=85
H17A Grant Village 84.56 40 P **P** 21 47 52.3 -0.6
baz=85
S24A Houchin Ranch, 84.69 48 P **P** 21 47 53.3 -0.5
baz=85
531A Rocksprings 84.87 56 P **P** 21 47 53.3 -1.2
baz=85
DOT Dot Lake 84.91 13 *e*P P 21 47 57.1 +3.2
comp=Z,14nm,1.2s
J19A Crowheart 84.91 41 P **P** 21 47 53.2 -1.4
baz=85
MAW Mawson 85.01 199 LR LR 22 25 34.2
comp=Z,1μm,18.3s,baz=114,slow=36
W27A Bowe Ranch, En 85.06 51 P **P** 21 47 54.8 -0.6
baz=85
WHN Wuhan 85.06 304 P **P** 21 47 56.8 +1.5
WHN LR LR
comp=Z,2μm,17.4s
WHN LR LR
comp=Z,860nm,14.4s
WHN LR LR
comp=Z,1μm,18.4s
U26A Atchley Ranch, 85.16 49 P **P** 21 47 55.3 -0.7
baz=85
632A Uvalde 85.20 57 P **P** 21 47 56.2 +0.1
baz=86
COLA College 85.29 11 *ce*P **P** 21 47 57.3 +1.6
COLA pmax pmax
comp=Z,41nm,1.0s
COLA College 85.29 11 *e*P **P** 21 47 54.2 -1.5
comp=Z,4.8nm,1.0s
532A Rocksprings 85.36 56 P **P** 21 47 56.2 -0.7
baz=86
ILAR Eielson Array 85.37 11 P **P** 21 47 55.0 -1.0
ILAR Eielson Array 85.37 11 P **P** 21 47 55.0 -1.0
comp=Z,1.3nm,0.6s,baz=229,slow=6.0,SNR=22
ILAR LR LR 22 21 10.3
comp=Z,676nm,19.5s,baz=210,slow=32
TIA Tai'an 85.41 310 ⇓P **P** 21 47 58.8 +1.8
TIA pmax pmax
comp=Z,10.0nm,2.4s
TIA pmax pmax
comp=Z,630nm,9.1s
TIA LR LR
comp=Z,500nm,18.8s
TIA LR LR
comp=Z,780nm,17.8s
TIA LR LR
comp=Z,820nm,18.2s
IM04 Indian Mountai 85.43 8 *e*P **P** 21 47 56.4 +0.1
SEY Seymchan 85.53 345 ⇓*i*P **P** 21 47 57.8 +0.9
834A Tilden 85.64 59 P **P** 21 47 58.1 -0.2
baz=86
633A Saathoff Ranch 85.67 57 P **P** 21 47 58.4 0.0
baz=86
Z30A Sanderson Ranc 85.73 53 P **P** 21 47 58.3 -0.4
baz=86
231A Bronte 85.78 55 P **P** 21 47 57.0 -2.0
baz=86
AMTX Amarillo 86.00 51 P **P** 21 47 58.1 -2.0
baz=86
R26A Arlington 86.23 48 P **P** 21 47 59.1 -2.1
baz=86
433A Art 86.26 56 P **P** 21 47 59.8 -1.5
baz=86
534A Blanco 86.45 57 P **P** 21 48 01.1 -1.2
baz=87
Z31A Sharp Cattle R 86.49 53 P **P** 21 48 01.1 -1.3
baz=87
EGAK Eagle 86.51 13 *e*P **P** 21 48 03.8 +2.1
comp=Z,72nm,2.0s
333A Richland Sprin 86.57 56 P **P** 21 48 01.2 -1.7
baz=87
ABTX Abilene, Hawle 86.59 54 *e*P **P** 21 48 02.5 -0.4
ABTX Abilene, Hawle 86.59 54 P **P** 21 48 01.8 -1.1
baz=87
I22A 9 Mile Ranch, 86.84 42 P **P** 21 48 02.6 -1.4
baz=87
434A Burnet 86.93 56 P **P** 21 48 03.0 -1.6
baz=87
Z32A Haskell 86.99 54 P **P** 21 48 03.1 -1.7
baz=87
COLD Coldfoot 87.10 9 *e*P P 21 48 08.0 +3.5
comp=Z,118nm,2.8s
133A Hamilton Ranch 87.14 54 P **P** 21 48 05.1 -0.5
baz=87
334A Lometa 87.16 56 P **P** 21 48 04.4 -1.3
baz=87
PLCA Paso Flores 87.24 132 P **P** 21 48 05.3 -0.8
PLCA Paso Flores 87.24 132 P **P** 21 48 05.3 -0.8
comp=Z,3.0nm,1.0s,baz=256,slow=8.3,SNR=3.0
PLCA LR LR 22 20 40.9
comp=Z,828nm,18.2s,baz=270,slow=31
Y32A R-V Farms, Ver 87.31 53 P **P** 21 48 05.2 -1.1
baz=88

234A Clairette 87.50 55 P **P** 21 48 07.0 -0.4
baz=88
BILL Bilibino 87.56 352 ⇓*i*P **P** 21 48 06.8 +0.1
BILL *i* 21 48 15.8
BILL *e* 21 58 50.0
BILL pmax pmax
comp=Z,25nm,1.4s
BILL Bilibino 87.56 352 *e*P **P** 21 48 06.2 -0.5
comp=Z,16nm,1.1s
BJI Beijing 87.79 314 P **P** 21 48 08.6 +0.2
BJI S **S** 21 58 40.9 -3.6
BJI SS **SS** 22 04 32.8 -0.7
BJI pmax pmax
comp=Z,21nm,1.6s
BJI pmax pmax
comp=Z,730nm,3.8s
BJI LR LR
comp=Z,390nm,20.0s
BJI LR LR
comp=Z,650nm,20.0s
BJI LR LR
comp=Z,460nm,20.0s
EDM Edmonton 87.92 31 *e*P **P** 21 48 07.7 -1.2
EDM Edmonton 87.92 31 *e*P **P** 21 48 07.7 -1.2
A20A Cobblestone Ra 88.46 37 P **P** 21 48 09.9 -1.6
baz=89
HKT Hockley 88.53 58⇑ *e*P **P** 21 48 14.9 +2.8
HKT pmax pmax
comp=Z,3.0nm,1.5s
ENH Enshi 88.81 302 *e*P **P** 21 48 12.4 -1.1
comp=Z,6.2nm,0.9s
PSI Prapat 88.98 273 P **P** 21 48 16.3 +1.4
baz=89,SNR=8.0
TIY Taiyuan 89.45 310 *e*P **P** 21 48 19.3 +2.8
TIY S **S** 21 59 03.8 +3.3
TIY pmax pmax
comp=Z,420nm,4.1s
SYO Syowa Base 89.68 191 ⇓*e*P **P** 21 48 16.6 -0.3
GYA Guiyang 89.74 298 ⇓*i*P **P** 21 48 20.6 +2.5
GYA pP **pP** 21 48 40.8 +1.0
GYA sP **sP** 21 48 51.3 +2.8
GYA PP **PP** 21 51 52.9 +1.3
GYA SKS **SKSac** 21 58 38.0 -4.0
GYA S **SKKSac** 21 58 58.5 +3.4
GYA sS **sS** 21 59 38.3 -2.6
GYA SS **SS** 22 05 00.1 -2.7
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,560nm,19.2s
GYA LR LR
comp=Z,490nm,20.4s
GYA LR LR
comp=Z,550nm,18.9s
XAN Xi'an 90.66 306 P **P** 21 48 23.0 +0.8
XAN pP **pP** 21 48 45.0 +1.1
XAN PP **PP** 21 52 03.0 +4.4
XAN SKS **SKSac** 21 58 45.6 -1.3
XAN S **S** 21 59 09.3 -2.5
XAN SS **SS** 22 05 16.3 +0.7
XAN pmax pmax
comp=Z,3.0nm,1.5s
XAN pmax pmax
comp=Z,57nm,4.5s
XAN LR LR
comp=Z,170nm,17.5s
XAN LR LR
comp=Z,100nm,17.5s
XAN LR LR
comp=Z,120nm,18.1s
CLNS Chul'man 91.04 331 *e*P **P** 21 48 22.5 -0.9
CLNS *e**PP pP 21 48 37.6 -7.5
CLNS *e*S **SKSac** 21 58 49.1 +1.1
CLNS *e*SS **SS** 22 05 21.0 +0.8
CLNS pmax pmax
comp=Z,15nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,1.4s
CLNS pmax pmax
comp=E,6.0nm,1.4s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=N,3.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax smax
comp=N,359nm,12.9s
CLNS smax smax
comp=E,224nm,13.0s
CLNS MLR MLR
comp=Z,320nm,17.0s
CLNS MLR MLR
comp=E,781nm,16.0s
CLNS MLR MLR
comp=N,217nm,14.0s
INK Inuvik 91.15 14 *e*P **P** 21 48 25.8 +2.3
comp=N,133nm,2.5s
INK Inuvik 91.15 14 LR LR 22 24 01.2
comp=N,609nm,18.6s,baz=202,slow=32
HHC Hu-ho-hao-te 91.32 313 *e*P **P** 21 48 26.3 +1.2
HHC PP **PP** 21 52 07.0 +3.2
HHC S **S** 21 59 22.8 +5.2
HHC SS **SS** 22 05 25.9 +0.9
HHC pmax pmax
comp=N,34nm,1.2s
HHC pmax pmax
comp=N,510nm,5.2s
HHC LR LR
comp=N,620nm,16.5s
HHC LR LR
comp=N,380nm,17.3s
HHC LR LR
comp=N,490nm,17.5s
KMI Kunming 92.62 295 P **P** 21 48 32.0 +0.3
KMI pP **pP** 21 48 55.8 +2.4
KMI sP **sP** 21 49 03.4 +1.4
KMI PP **PP** 21 52 16.4 +1.9
KMI S **S** 21 59 28.5 -1.7
KMI SS **SS** 22 05 47.5 +3.0
KMI pmax pmax
comp=N,14nm,2.0s
KMI pmax pmax
comp=N,320nm,4.3s
KMI LR LR
comp=N,200nm,18.4s
KMI LR LR
comp=N,420nm,19.3s
KMI LR LR
comp=N,490nm,17.5s
YKA Yellowknife Ar 92.77 23 P **P** 21 48 28.9 -2.2
YKA Yellowknife Ar 92.77 23 P **P** 21 48 28.9 -2.2
comp=N,0.7nm,0.9s,baz=239,slow=4.0,SNR=13
CD2 Chengdu 93.66 301 *e*P **P** 21 48 35.8 -0.3
CD2 pP **pP** 21 48 58.3 +0.5
CD2 sP **sP** 21 49 07.4 +1.0
CD2 PP **PP** 21 52 23.3 +1.0
CD2 SS **SS** 22 05 55.8 -3.0
CD2 pmax pmax
comp=N,10.0nm,1.2s
CD2 pmax pmax
comp=N,240nm,9.5s
CD2 LR LR
comp=N,540nm,16.7s
CD2 LR LR
comp=N,790nm,16.7s
CD2 LR LR
comp=N,620nm,19.0s
CM31 Chiang Mai Arr 93.86 288 *e*P **P** 21 48 36.5 -0.7
CMAR Chiang Mai Arr 93.86 288 P **P** 21 48 37.0 -0.2
CMAR Chiang Mai Arr 93.86 288 P **P** 21 48 37.0 -0.2
comp=N,6.2nm,1.4s,baz=113,slow=2.6,SNR=9.7
CMAR LR LR 22 30 29.5
comp=N,343nm,18.8s,baz=100,slow=35
CHTO Chiang Mai 93.97 288 *e*P **P** 21 48 37.8 +0.1
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 93.97 288 *e*P **P** 21 48 37.8 +0.1
comp=Z,4.3nm,0.9s
LZH Lanzhou 95.27 306 *e*P **P** 21 48 44.5 +1.0
LZH sP **sP** 21 49 12.4 -1.5
LZH PP **PP** 21 52 34.3 -0.6
LZH S **S** 21 59 48.1 -4.8

LZH SS **SS** 22 06 22.0 +0.1
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,99nm,4.1s
LZH LR LR
comp=Z,440nm,16.4s
LZH LR LR
comp=Z,590nm,15.5s
LZH LR LR
comp=Z,760nm,17.3s
ULM Lac du Bonnet 96.10 39 LR LR 22 28 25.8
comp=Z,1μm,18.6s,baz=250,slow=33
SONM Songino Array 97.31 318 LR LR 22 29 49.0
comp=Z,291nm,19.1s,baz=100,slow=34
TIXI Tiksi 98.01 344 P **P** 21 48 54.7 -0.2
LPAZ La Paz 98.48 110 LR LR 22 25 18.3
comp=Z,792nm,18.8s,baz=233,slow=30
TIGA Tifton 98.98 60 *e*P Pdif 21 49 02.6 +2.4
GTA Gaotai 99.32 308 *e*P **Pdif** 21 49 08.5 +6.8
GTA pP pP 21 49 30.9 +7.4
GTA sP sP 21 49 40.0 +7.9
GTA PP PKiKP 21 53 21.6 -10
GTA Gaotai 99.32 308 S S 22 00 34.4 +7.2
GTA Gaotai 99.32 308 SS SS 22 07 37.9 +19
GTA pmax pmax
comp=Z,3.0nm,2.0s
GTA pmax pmax
comp=Z,78nm,5.7s
GTA LR LR
comp=N,360nm,17.6s
GTA LR LR
comp=E,560nm,19.5s
GTA LR LR
comp=Z,810nm,19.5s
ROSC El Rosal 99.81 88 LR LR 22 26 35.1
comp=Z,159nm,18.5s,baz=222,slow=31
ZALV Zalesovo Beam 111.81 322 PKiKP **PKiKP** 21 53 53.2 -0.3
ZALV Zalesovo Beam 111.81 322 PKiKP **PKiKP** 21 53 53.2 -0.3
comp=Z,0.4nm,0.4s,baz=40,slow=2.5,SNR=3.9
KURK Kurchatov 115.62 318 PKiKP **PKPdf** 21 54 00.9 0.0
KURK Kurchatov 115.62 318 PKP **PKPdf** 21 54 00.9 0.0
KURBB Kurchatov Arra 115.68 318 PKP **PKPdf** 21 54 00.9 -0.1
comp=Z,0.6nm,0.8s,baz=95,slow=1.6,SNR=7.5
KSH Kashi 117.51 305 *e*PKP **PKPdf** 21 54 05.1 0.0
KSH *es*PKP 21 54 41.8
KSH SKS **SKSdf** 22 01 06.3 -4.0
KSH AMB AMB
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,220nm,15.9s
KSH LR LR
comp=Z,370nm,18.2s
KSH LR LR
comp=Z,180nm,7.7s
BVAR Borovoye Array 120.46 321 PKiKP **PKPdf** 21 54 10.7 +0.5
BVAR Borovoye Array 120.46 321 PKP **PKPdf** 21 54 10.7 +0.5
BVAR Borovoye Array 120.46 321 PKP **PKPdf** 21 54 10.7 +0.5
comp=Z,2.0nm,0.7s,baz=135,slow=1.6,SNR=13
BRVK Borovoye 120.52 321⇑ *i*PKiKP **PKPdf** 21 54 10.9 +0.6
BRVK Borovoye 120.52 321 *e*PKPdf **PKPdf** 21 54 08.4 -1.9
KBL Kabul 122.96 300 *e*PKiKP **PKPdf** 21 54 15.8 -0.1
KBL Kabul 122.96 300 *e*PKPdf **PKPdf** 21 54 15.8 -0.1
SVE Sverdlovsk 124.87 327 *i* PKiKP **PKPdf** 21 54 20.9 +2.4
SVE pmax pmax
comp=Z,10.0nm,1.2s
SVE MLR MLR
comp=Z,752nm,20.0s
ARU Arti 126.08 327 PKiKP **PKPdf** 21 54 24.8 +4.0
ABKAR Akbulak array 127.72 319 *e*PKPdf **PKPdf** 21 54 23.9 -0.3
FINES FINESS Array B 134.98 347 PKPpre PKPpre 21 54 33.1
FINES FINESS Array B 134.98 347 PKhKP PKPpre 21 54 33.1
comp=Z,2.8nm,0.9s,baz=0.0,slow=4.3,SNR=2.3
OBN Obninsk 137.01 335 *i* PKiKP **PKPdf** 21 54 45.0 +3.5
OBN pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 140.71 318 *i* PKiKP **PKPdf** 21 54 49.3 +0.5
KIV *e* 21 57 46.6
KIV *es*SS SS 22 16 05.5 -3.5
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,489nm,22.0s
AKASG Malin Array Be 143.26 336 PKiKP **PKPdf** 21 54 51.9 -1.1
AKASG Malin Array Be 143.26 336 PKP **PKPdf** 21 54 51.9 -1.1
AKASG Malin Array Be 143.26 336 PKP **PKPdf** 21 54 51.9 -1.1
comp=Z,1.4nm,0.7s,baz=35,slow=2.7,SNR=10
KMBO Kilima Mbogo 144.39 240 *e*PKPdf **PKPdf** 21 54 56.1 -0.3
KMBO PKP PKPbc 21 54 57.5 +2.5
KMBO Kilima Mbogo 144.39 240 PKP **PKPdf** 21 54 57.5 +1.1
comp=Z,10nm,1.0s,baz=99,slow=3.6,SNR=26
BEL Belsk 144.94 345 *e*PKiKP **PKPdf** 21 54 56.6 +0.7
BEL Belsk 144.94 345 *e*PKP **PKPdf** 21 54 56.5 +0.7
SIM Simferopol' 145.19 325 *e*PKiKP **PKPdf** 21 54 59.3 +2.7
SIM pmax pmax
comp=Z,29nm,0.9s
LVV L'vov 145.83 340 *e*PKiKP **PKPbc** 21 54 58.3 +0.2
IBBN Ibbenburen 146.22 359 *e*PKP **PKPbc** 21 54 59.6 +0.4
KIS Kishinev 146.33 333 *e*PKP2 **PKPbc** 21 55 00.0 +0.3
KIS pmax pmax
comp=Z,190nm,1.8s
KIS MLR MLR
comp=Z,500nm,19.0s
KIS MLR MLR
comp=Z,500nm,19.0s
KIS Kishinev 146.33 333 *e*PKP **PKPbc** 21 55 00.0 +0.3
comp=Z,200nm,1.8s
KIS *e*L L 22 59 20.0
KIS LRM MLR 23 02 48.0
comp=Z,500nm,19.0s
KWP Kalwaria Pacla 146.41 341⇑ PKiKP **PKPbc** 21 55 00.2 +0.3
KWP Kalwaria Pacla 146.41 341 *e*PKP **PKPab** 21 55 01.1 +0.2
KWP Kalwaria Pacla 146.41 341⇑ *i*P **PKPbc** 21 55 00.2 +0.3
KWP Kalwaria Pacla 146.41 341 *e*PKPdf **PKPbc** 21 54 59.2 -0.7
CLZ Clausthal 146.58 356 *e*PKP **PKPab** 21 55 01.0 -0.5
KSP Ksiaz 146.84 349 *e*PKP2 **PKPab** 21 55 01.9 -0.6
KSP *es*SS SS 22 17 16.0 -1.5
KSP MLR MLR
comp=Z,4μm,19.6s
KSP Ksiaz 146.84 349 *e*PKP **PKPbc** 21 55 01.5 +0.4
CLL Collm 146.87 353 *e*PKiKP **PKPbc** 21 55 01.0 -0.1
CLL *i* 21 55 04.4
CLL *i* 21 55 15.9
CLL pmax pmax
comp=Z,26nm,1.3s
CLL MLR MLR
comp=Z,700nm,19.1s
CLL Collm 146.87 353 *e*PKP **PKPbc** 21 55 01.5 +0.4
CLL Collm 146.87 353 *e*PKPbc **PKPbc** 21 55 01.0 -0.1
comp=Z,26nm,1.3s
CLL *i* (PKiKP) 21 55 04.4
comp=Z,154nm,1.9s
CLL *i* 21 55 15.9
CLL *e* 21 55 23.0
CLL *ep*PKiKP pPKiKP 21 55 35.0 +8.7
CLL *e* 21 55 52.0
CLL *e*PP PP 21 58 42.0 +17
CLL *e*PSKS 22 08 49.0
CLL *e*SS SS 22 17 21.0 +3.2
CLL *e*PSPS 22 18 40.0
CLL *e*SSS SSS 22 22 42.0
CLL *e* 22 28 35.0
CLL Lm MLR 23 04 00.0
comp=N,400nm,19.3s
CLL Lm MLR 23 04 00.0
comp=E,300nm,20.4s
CLL Lm MLR 23 04 00.0
comp=Z,700nm,19.1s
LEOM Leova 146.99 333 ⇓PKP2 **PKPab** 21 55 04.0 +0.8
LEOM Leova 146.99 333 ⇓*i*P **PKPab** 21 55 04.0 +0.8
STHS Stebnicka Huta 147.03 343 *e*PKP2 **PKPab** 21 55 02.7 -0.6
STHS Stebnicka Huta 147.03 343 *e*PKP **PKPab** 21 55 02.7 -0.6
BUG Bochum--Univer 147.09 360 *e*PKP **PKPab** 21 55 03.3 -0.1
KOLS Kolonicke sedl 147.16 341 *e*PKiKP **PKPdf** 21 55 00.6 +0.8
KOLS Kolonicke sedl 147.16 341 *e* **PKPdf** 21 55 00.6 +0.8
BRG Berggiesshubel 147.18 352 *e*PKP **PKPbc** 21 55 02.6 +0.6
comp=Z,19nm,1.0s
BRG *e* 21 55 05.9
comp=Z,190nm,2.2s
BRG *e* 21 55 38.2
comp=Z,27nm,1.4s
BRG SS SS 22 17 28.0 +6.7
BRG
comp=N,351nm,18.8s

BRG								
	comp=E,229nm,22.2s							
BRG								
	comp=Z,503nm,18.8s							
BRG	**Berggiesshubel**	**147.18**	**352**	*e*PKP	**PKPbc**	**21 55 02.8**	**+0.8**
UPC	**Upice**	**147.21**	**349**	*e*PKP2	**PKPab**	**21 55 03.5**	**-0.5**
UPC	**Upice**	**147.21**	**349**	*e*PKP	**PKPab**	**21 55 03.5**	**-0.5**
BUR08	**Bucovina Ar. S**	**147.28**	**337**	*e*PKPdf	**PKPdf**	**21 54 58.8**	**-1.4**
NIE	**Niedzica**	**147.28**	**344**	*e*PKP	**PKPdf**	**21 55 01.0**	**+1.0**
BURAR	**Bucovina Array**	**147.30**	**337**	⇑PKP2	**PKPab**	**21 55 06.4**	**+1.9**
BURAR	**Bucovina Array**	**147.30**	**337**	⇑*i*P	**PKPab**	**21 55 06.4**	**+1.9**
DPC	**Dobruska-Polom**	**147.31**	**349**	*e*PKIKP	**PKPbc**	**21 55 01.7**	**-0.8**
DPC	**Dobruska-Polom**	**147.31**	**349**	*e*PKP	**PKPbc**	**21 55 01.7**	**-0.8**
DPC				AMS	AMS	23 01 00.0	
OKC	**Ostrava-Krasne**	**147.42**	**346**	*e*PKP2	**PKPab**	**21 55 04.0**	**-0.8**
OKC	**Ostrava-Krasne**	**147.42**	**346**	*e*PKP	**PKPab**	**21 55 04.0**	**-0.8**
OKC				*ex*	x	21 55 07.1	
OKC				*ex*	x	22 17 36.5	
UZH	**Uzhgorod**	**147.42**	**341**	*e*PKP2	**PKPbc**	**21 55 03.1**	**+0.3**
PVCC	**Panska Ves**	**147.43**	**351**	*e*PKIKP	**PKPbc**	**21 55 02.5**	**-0.2**
PVCC	**Panska Ves**	**147.43**	**351**	*e*PKP	**PKPbc**	**21 55 02.5**	**-0.2**
CRVS	**Cervenica-Dubn**	**147.43**	**342**	*e*PKP2	**PKPbc**	**21 55 03.5**	**+0.7**
CRVS	**Cervenica-Dubn**	**147.43**	**342**	*e*PKP	**PKPbc**	**21 55 03.5**	**+0.7**
KRLC	**Kraliky**	**147.48**	**348**	*e*PKP2	**PKPbc**	**21 55 04.0**	**+1.0**
KRLC	**Kraliky**	**147.48**	**348**	*e*PKP	**PKPbc**	**21 55 04.0**	**+1.0**
KRLC				*ex*	x	21 55 07.3	
MORC	**Moravsky Berou**	**147.61**	**347**	⇓*i*P	**PKPbc**	**21 55 04.3**	**+1.0**
MORC	**Moravsky Berou**	**147.61**	**347**	*e*PKPdf	**PKPdf**	**21 55 00.8**	**+0.3**
UBBA	**Unterbreizbach**	**147.62**	**356**	*e*PKP	**PKPbc**	**21 55 03.2**	**+0.1**
TESR	**Tescani**	**147.64**	**334**	⇑*i*P	**PKPab**	**21 55 05.6**	**-0.2**
TRPA	**Tarpa**	**147.78**	**340**	⇑*i*P	**PKPbc**	**21 55 04.5**	**+0.8**
TRPA	**Tarpa**	**147.78**	**340**	*e*PKPdf	**PKPbc**	**21 55 04.3**	**+0.6**
TANN	**Tannenbergstha**	**147.81**	**353**	*e*PKP	**PKPbc**	**21 55 03.8**	**-0.1**
BMR	**Baia Mare**	**147.86**	**339**	⇓PKP2	**PKPbc**	**21 55 04.4**	**+0.4**
BMR	**Baia Mare**	**147.86**	**339**	⇓*i*P	**PKPbc**	**21 55 04.3**	**+0.3**
PRA	**Prague**	**147.89**	**351**	PKP	**PKPbc**	**21 55 05.0**	**+1.0**
MEM	**Membach**	**147.91**	**1**	PKP	**PKPbc**	**21 55 04.1**	**+0.1**
SNF	**Seneffe**	**147.95**	**3**	PKP	**PKPbc**	**21 55 04.1**	**0.0**
PRU	**Pruhonice**	**147.96**	**351**	*e*PKP2	**PKPbc**	**21 55 05.3**	**+1.1**
PRU				*e*SS	SS	22 17 27.2	-2.8
PRU				MLR	MLR		
	comp=Z,700nm,17.2s						
PRU	**Pruhonice**	**147.96**	**351**	*e*PKP	**PKPbc**	**21 55 05.3**	**+1.1**
PRU				*e*SS	SS	22 17 27.2	-2.8
PRU				AMS	AMS	23 09 00.0	
	comp=Z,700nm,17.2s						
NKC	**Novy Kostel**	**147.99**	**353**	*e*PKP2	**PKPbc**	**21 55 05.5**	**+1.2**
NKC	**Novy Kostel**	**147.99**	**353**	*e*PKP	**PKPbc**	**21 55 05.5**	**+1.2**
NKC				*ex*	x	21 55 08.8	
BCLA	**Clavier**	**148.09**	**2**	PKP	**PKPdf**	**21 54 56.1**	**-5.1**
VRI	**Vrincioaia**	**148.12**	**333**	⇓PKP2	**PKPbc**	**21 55 05.9**	**+1.1**
VRI	**Vrincioaia**	**148.12**	**333**	⇓*i*P	**PKPbc**	**21 55 05.8**	**+1.0**
VRAC	**Vranov**	**148.25**	**348**	⇑*i*P	**PKPbc**	**21 55 05.3**	**+0.3**
VRAC	**Vranov**	**148.25**	**348**	PKPbc	**PKPbc**	**21 55 05.1**	**+0.1**
VRAC	**Vranov**	**148.25**	**348**	PKPbc	**PKPbc**	**21 55 05.1**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=66,slow=4.6,SNR=5.7						
DOU	**Dourbes**	**148.38**	**3**	PKP	**PKPbc**	**21 55 03.8**	**-1.4**
TREC	**Trest**	**148.47**	**349**	*e*PKP2	**PKPbc**	**21 55 06.9**	**+1.3**
TREC				MLR	MLR		
	comp=Z,700nm,17.5s						
TREC	**Trest**	**148.47**	**349**	*e*PKP	**PKPbc**	**21 55 06.9**	**+1.3**
TREC				*ex*	x	21 55 09.8	
TREC				*e*SS	SS	22 17 45.2	+9.3
TREC				AMS	AMS	23 07 00.0	
	comp=Z,700nm,17.5s						
ROTZ	**Rotzenmuhle**	**148.48**	**353**	*e*PKP	**PKPbc**	**21 55 06.5**	**+0.9**
TLB	**Topalu**	**148.52**	**330**	⇓*i*P	**PKPab**	**21 55 08.4**	**-1.0**
DOPR	**Dopca**	**148.59**	**335**	⇑*i*P	**PKPbc**	**21 55 06.9**	**+0.9**
GRF	**Grafenberg Arr**	**148.65**	**355**	*e*PKP	**PKPab**	**21 55 09.4**	**-0.3**
CJR	**Cluj-Napoca**	**148.65**	**338**	⇓*i*P	**PKPab**	**21 55 08.1**	**-1.8**
BR131	**Keskin Array S**	**148.67**	**318**	*e*PKPdf	**PKPdf**	**21 55 02.3**	**-0.4**
BRTR	**Keskin Array B**	**148.67**	**318**	*e*PKPbc	**PKPbc**	**21 55 07.5**	**+0.9**
BRTR	**Keskin Array B**	**148.67**	**318**	PKPbc	**PKPbc**	**21 55 07.5**	**+0.9**
	comp=Z,8.6nm,1.0s,baz=126,slow=1.7,SNR=13						
MLR	**Muntele Rosu**	**148.75**	**334**	⇑*i*P	**PKPbc**	**21 55 07.9**	**+1.3**
MLR	**Muntele Rosu**	**148.75**	**334**	PKPbc	**PKPbc**	**21 55 07.4**	**+0.8**
MLR	**Muntele Rosu**	**148.75**	**334**	PKPbc	**PKPbc**	**21 55 07.4**	**+0.8**
	comp=Z,2.7nm,1.1s,baz=338,slow=2.4,SNR=7.5						
PSZ	**Piszkesteto**	**148.76**	**343**	⇑*i*P	**PKPbc**	**21 55 07.2**	**+0.7**
PSZ	**Piszkesteto**	**148.76**	**343**	*e*PKPdf	**PKPdf**	**21 55 02.5**	**-0.1**
PSZ	**Piszkesteto**	**148.76**	**343**	*e*PKPdf	**PKPbc**	**21 55 06.9**	**+0.4**
WLF	**Walferdange**	**148.86**	**1**	PKP	**PKPbc**	**21 55 07.0**	**+0.4**
DRGR		**148.90**	**339**	⇓*i*P	**PKPbc**	**21 55 08.1**	**+1.3**
KHC	**Kasperske Hory**	**148.93**	**352**	*e*PKIKP	**PKPbc**	**21 55 07.2**	**+0.4**
KHC				*e*		21 55 11.1	
KHC				*e*SS	SS	22 17 47.1	+6.0
KHC				MLR	MLR		
	comp=Z,500nm,17.2s						
KHC	**Kasperske Hory**	**148.93**	**352**	*e*PKP	**PKPdf**	**21 55 04.5**	**+1.8**
KHC				*ex*	x	21 55 07.2	
KHC				*ex*	x	21 55 11.1	
KHC				*e*SS	SS	22 17 47.1	+6.0
KHC				AMS	AMS	23 01 10.0	
	comp=Z,500nm,17.2s						
KHC	**Kasperske Hory**	**148.93**	**352**	*e*PKPdf	**PKPdf**	**21 55 03.0**	**+0.3**
WET	**Wettzell**	**149.01**	**352**	*e*PKP	**PKPbc**	**21 55 08.0**	**+1.0**
ANTO	**Ankara**	**149.12**	**319**	⇑PKIKP	**PKPdf**	**21 55 05.0**	**+1.6**
ANTO	**Ankara**	**149.12**	**319**	⇑*i*P	**PKPdf**	**21 55 05.0**	**+1.6**
ANTO	**Ankara**	**149.12**	**319**	*e*PKPdf	**PKPdf**	**21 55 03.5**	**+0.1**
GE2	**GERESS Array S**	**149.19**	**351**	*e*PKP	**PKPbc**	**21 55 08.2**	**+0.7**
GERES	**GERESS Array B**	**149.19**	**351**	PKPbc	**PKPbc**	**21 55 07.9**	**+0.3**
GERES	**GERESS Array B**	**149.19**	**351**	PKPbc	**PKPbc**	**21 55 07.9**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=14,slow=2.8,SNR=18						
MTUR	**Matau**	**149.33**	**334**	⇓*i*P	**PKPab**	**21 55 13.2**	**+0.4**
ARR	**Arges**	**149.38**	**335**	⇓*i*P	**PKPbc**	**21 55 09.6**	**+1.5**
LANF	**Langenberg**	**149.54**	**359**	PKP	**PKPab**	**21 55 11.4**	**-2.0**
PKSG		**149.65**	**344**	*e*	**PKPbc**	**21 55 09.8**	**+1.3**
CSKK	**Cs¨‡kako**	**149.71**	**345**	*e*	**PKPbc**	**21 55 09.8**	**+1.1**
SIRR	**Siria**	**149.71**	**340**	⇓*i*P	**PKPbc**	**21 55 10.3**	**+1.5**
CONA	**Conrad Observa**	**149.71**	**348**	⇑*i*PKiKP	**PKiKP**	**21 55 09.8**	**0.0**
	comp=Z,44nm,1.4s,SNR=17						
PKS7	**Kunszentmiklos**	**149.76**	**343**	*e*	**PKPbc**	**21 55 09.8**	**+1.0**
SOP	**Sopron**	**149.80**	**347**	*e*	**PKPab**	**21 55 13.0**	**-1.5**
PKT	**T¨s**	**149.86**	**345**	*e*PKPdf	**PKPbc**	**21 55 08.7**	**-0.4**
WLS	**Welschbruch**	**150.12**	**359**	PKP	**PKPbc**	**21 55 10.1**	**+0.4**
FUR	**Furstenfeldbru**	**150.16**	**354**	*e*PKP	**PKPbc**	**21 55 10.4**	**+0.6**
BFO	**Black Forest**	**150.18**	**358**	*e*PKIKP	**PKPdf**	**21 55 04.2**	**-0.5**
BFO	**Black Forest**	**150.18**	**358**	*e*PKPdf	**PKPdf**	**21 55 04.2**	**-0.5**
BZS	**Buzias**	**150.29**	**339**	⇓*i*P	**PKPbc**	**21 55 10.6**	**+0.4**
THEF	**They Montfort**	**150.30**	**1**	PKP	**PKPbc**	**21 55 10.7**	**+0.6**
ECH	**Echery**	**150.32**	**360**	PKP	**PKPbc**	**21 55 13.3**	**+3.1**
RJOB	**Jochberg**	**150.40**	**352**	*e*PKP	**PKPbc**	**21 55 10.9**	**+0.4**
PKSM	**Moragy**	**150.67**	**343**	⇑PKIKP	**PKPdf**	**21 55 05.3**	**-0.2**
PKSM	**Moragy**	**150.67**	**343**	⇑*i*P	**PKPdf**	**21 55 05.3**	**-0.2**
PKSM	**Moragy**	**150.67**	**343**	*e*	**PKPbc**	**21 55 11.4**	**+0.4**
JMB	**Yambol**	**150.82**	**329**	⇓*i*P	**PKPbc**	**21 55 15.0**	**+3.5**
MOTA	**Moosalm**	**150.99**	**354**	⇑*i*PKiKP	**PKPbc**	**21 55 12.1**	**+0.1**
	comp=Z,15nm,1.1s						
WTTA	**Wattenberg**	**151.01**	**353**	⇓*i*PKiKP	**PKPbc**	**21 55 12.1**	**0.0**
	comp=Z,42nm,1.8s,SNR=9.0						
SOKA	**Soboth**	**151.07**	**348**	⇑*i*PKiKP	**PKPbc**	**21 55 11.7**	**-0.4**
	comp=Z,17nm,1.5s						
PERS	**Pernice**	**151.10**	**348**	*i* PKPdf	**PKPbc**	**21 55 11.8**	**-0.3**
LOMF	**Lomont**	**151.18**	**0**	PKP	**PKPbc**	**21 55 13.5**	**+1.2**
FETA	**Feichten**	**151.34**	**355**	⇑*i*PKiKP	**PKiKP**	**21 55 13.2**	**-0.1**
	comp=Z,18nm,1.2s						
ABTA	**Abfaltersbach**	**151.41**	**352**	*i* PKiKP	**PKPbc**	**21 55 12.8**	**-0.1**
	comp=Z,12nm,0.9s,SNR=7.1						
VISS	**Visnje**	**151.95**	**348**	*i* PKPdf	**PKPbc**	**21 55 14.9**	**+0.8**
KDZ	**Kurdzhali**	**152.00**	**330**	⇑*i*P	**PKPbc**	**21 55 15.5**	**+1.2**
JAVS	**Javornik**	**152.01**	**349**	*i* PKPdf	**PKPbc**	**21 55 14.7**	**+0.4**
BOJS	**Bojanci**	**152.15**	**347**	*i* PKPdf	**PKPbc**	**21 55 16.1**	**+1.6**
VTS	**Vitosha**	**152.25**	**334**	⇓*i*P	**PKPbc**	**21 55 16.3**	**+1.3**
PLDF	**La Plantade**	**152.43**	**5**	PKP	**PKPbc**	**21 55 15.4**	**+0.2**
PYM	**Petit Puy Mans**	**152.59**	**6**	PKP	**PKPbc**	**21 55 15.9**	**+0.3**
MMB	**Musomiste**	**152.84**	**332**	⇓*i*P	**PKPbc**	**21 55 14.9**	**-1.3**
LBL	**Lubilhac**	**153.13**	**6**	PKP	**PKPbc**	**21 55 14.3**	**-2.5**
TORD	**Torodi Ar. Bea**	**172.71**	**136**	PKP	**PKPdf**	**21 55 29.4**	**+0.6**
TORD				PKPab	**PKPab**	**21 56 54.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**172.71**	**136**	PKP	**PKPdf**	**21 55 29.4**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=288,slow=1.7,SNR=3.9						
TORD				PKPab	**PKPab**	**21 56 54.1**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=252,slow=4.4,SNR=5.0						

PGC 18 21:59:28.1±8.7, 48°08'N×128°18'W, h10km, ML3.0/8, Mw3.6,6D,204km Wsw of Tofino, Bc Vancouver Island Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDR	**Gold River**	**2.21**	**39**	⇓Pn	Pn	22 00 03.5	-1.3
BTB	**Buttle Lake**	**2.24**	**51**	⇑Pn	Pn	22 00 03.3	-2.1
BTB				⇑Sn	Sn	22 00 29.1	-4.2
WOSB	**Woss**	**2.33**	**26**	Pn	Pn	22 00 05.2	-1.4
WOSB				⇓Sn	Sn	22 00 31.4	-4.1
MAYB	**Maynard**	**2.42**	**16**	Pn	Pn	22 00 06.1	-1.7
MAYB				⇓Sn	Sn	22 00 33.7	-3.9
MGB	**Mount Grey**	**2.49**	**67**	⇓Pn	Pn	22 00 06.7	-2.2
ALB	**Alberni**	**2.52**	**61**	⇑Pn	Pn	22 00 07.3	-1.7
PFB	**Port Renfrew**	**2.54**	**78**	Pn	Pn	22 00 07.0	-2.5
PFB				⇑Sn	Sn	22 00 36.6	-3.9
PHC	**Port Hardy**	**2.67**	**10**	⇓Pn	Pn	22 00 09.4	-1.7
PHC				⇑Sn	Sn	22 00 39.8	-3.7
YOUB	**Youbou, Lake C**	**2.73**	**71**	⇓Pn	Pn	22 00 10.2	-1.9
BBB	**Bella Bella**	**4.11**	**1**	⇑Pn	Pn	22 00 29.7	-1.2
BBB				⇑Sn	Sn	22 01 14.1	-4.8

*ISCJB **18** 22:04:12.2±1.1, 55°.75N±0°.06×161°.59W±0°.07, h4km±8km, mb3.8/9, MS4.5/1, Error ellipse: s-maj=11.6km s-min=4.2km az=153.7*
*NEIC **18** 22:04:14.1, 55°.56N×161°.48W, h9km, ML3.7(AEIC), After AEIC.*
*IDC **18** 22:04:26.3±5.0, 56°.19N×161°.41W, h109km±45km, mb3.5/9, mb1 3.6/11, mb1mx3.3/52, mbtmp3.8/11, MS4.5/1, Ms1 4.4/1, ms1mx3.3/33, Error ellipse: s-maj=34.4km s-min=16.7km az=15.0*

ISC 18 22:04:13.4±1.4, 55°.67N±0°.06×161°.55W±0°.05, h10km±11km, n39, σ1§36/42, mb3.8/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVV	**Pavlof Volcano**	**0.33**	**205**	P	**Pb**	**22 04 20.6**	**-0.7**
PS4A	**Pavlof South-4**	**0.37**	**208**	P	**Pb**	**22 04 21.3**	**-0.7**
HAG	**Hague Volcano**	**0.41**	**210**	P	**Pb**	**22 04 22.2**	**-0.5**
DTNA	**Dutton South F**	**0.66**	**218**	P	**Pb**	**22 04 26.6**	**-0.3**
SDPT	**Sand Point**	**0.69**	**117**	P	**Pg**	**22 04 26.8**	**+0.1**
SDPT				S	**Sb**	**22 04 36.3**	**-0.8**
DT1	**Dutton Round H**	**0.70**	**217**	P	**Pg**	**22 04 27.1**	**+0.3**
DT1				S	**Sb**	**22 04 36.7**	**-0.7**
FALS	**False Pass**	**1.34**	**233**	P	**Pn**	**22 04 37.6**	**-0.6**
FALS				S	**Sg**	**22 04 56.2**	**-0.3**
VNHG	**Veniaminof 1**	**1.45**	**67**	P	**Pn**	**22 04 40.1**	**+0.2**
VNSG	**Veniaminof 6**	**1.46**	**71**	P	**Pn**	**22 04 40.2**	**+0.3**
SSLN	**Shishaldin Nor**	**1.64**	**239**	P	**Pn**	**22 04 42.6**	**+0.2**
SSLN				S	**Sg**	**22 05 05.5**	**-0.6**
SSLW	**Shishaldin Wes**	**1.73**	**240**	P	**Pn**	**22 04 42.9**	**-0.7**
SSBA	**Shishaldin**	**1.73**	**240**	P	**Pn**	**22 04 43.0**	**-0.6**
CHGN	**Chignik**	**1.87**	**69**	*e*Pn	**Pn**	**22 04 45.2**	**-0.3**
CHGN				*e*Sn	**Sb**	**22 05 10.3**	**-0.9**
ANPB	**Aniakchak Plen**	**2.15**	**57**	P	**Pn**	**22 04 49.1**	**-0.2**
ANPK	**Aniakchak Peak**	**2.24**	**57**	P	**Pb**	**22 04 52.7**	**-1.3**
ANPK				S	**Sb**	**22 05 22.8**	**+0.9**
TRF	**Thorofare Moun**	**9.66**	**32**	*e*Pn	**Pn**	**22 06 33.6**	**+1.2**
	6.1nm,1.0s						
ILAR	**Eielson Array**	**11.65**	**33**	P	**Pn**	**22 07 01.3**	**+1.8**
ILAR	**Eielson Array**	**11.65**	**33**	P	**Pn**	**22 07 01.3**	**+1.8**
	0.1nm,0.3s,baz=222,slow=13,SNR=7.6						
INK	**Inuvik**	**18.03**	**34**	P	**P**	**22 08 24.0**	**-0.2**
INK	**Inuvik**	**18.03**	**34**	P	**P**	**22 08 24.0**	**-0.2**
	0.1nm,0.3s,baz=232,slow=14,SNR=9.5						
PETK	**Petropavlovsk-**	**23.62**	**281**	P	**P**	**22 09 27.4**	**+3.1**
PETK	**Petropavlovsk-**	**23.62**	**281**	P	**P**	**22 09 27.4**	**+3.1**
	1.1nm,0.5s,baz=105,slow=15,SNR=4.7						
SEY	**Seymchan**	**24.14**	**306**	P	**P**	**22 09 29.9**	**+0.8**
SEY	**Seymchan**	**24.14**	**306**	P	**P**	**22 09 29.9**	**+0.8**
	3.2nm,0.8s,baz=20,slow=23,SNR=8.3						
YKA	**Yellowknife Ar**	**24.58**	**55**	P	**P**	**22 09 33.1**	**0.0**
YKA	**Yellowknife Ar**	**24.58**	**55**	P	**P**	**22 09 33.1**	**0.0**
	1.2nm,0.6s,baz=276,slow=10.0,SNR=28						
NVAR	**Mina Array Bea**	**33.47**	**103**	P	**P**	**22 10 55.2**	**+2.4**
NVAR	**Mina Array Bea**	**33.47**	**103**	P	**P**	**22 10 55.2**	**+2.4**
	0.3nm,0.4s,baz=294,slow=8.7,SNR=2.7						
PDAR	**Pinedale Array**	**35.47**	**89**	P	**P**	**22 11 11.4**	**+1.3**
PDAR	**Pinedale Array**	**35.47**	**89**	P	**P**	**22 11 11.4**	**+1.3**
	0.5nm,0.7s,baz=316,slow=5.1,SNR=6.0						
SCHQ	**Schefferville**	**49.82**	**49**	LR	LR	22 37 36.7	
	comp=Z,409nm,18.1s,baz=263,slow=40						
FINES	**FINESS Array B**	**63.07**	**356**	P	**P**	**22 14 39.0**	**-1.3**
FINES	**FINESS Array B**	**63.07**	**356**	P	**P**	**22 14 39.0**	**-1.3**
	2.0nm,0.9s,baz=322,slow=16,SNR=3.4						
HFS	**Hagfors**	**64.48**	**3**	P	P	22 14 46.1	-3.5
HFS	**Hagfors**	**64.48**	**3**	P	P	22 14 46.1	-3.5
	4.7nm,1.0s,baz=319,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	**64.71**	**317**	P	**P**	**22 14 49.9**	**-1.6**
MKAR	**Makanchi Array**	**64.71**	**317**	P	**P**	**22 14 49.9**	**-1.6**
	0.2nm,0.7s,baz=72,slow=6.2,SNR=2.4						
AKASG	**Malin Array Be**	**73.62**	**353**	P	**P**	**22 15 44.1**	**-2.3**
AKASG	**Malin Array Be**	**73.62**	**353**	P	**P**	**22 15 44.1**	**-2.3**
	1.2nm,0.6s,baz=5.7,slow=5.5,SNR=5.5						

*IDC **18** 22:06:38.4±1.8, 6°.47S×130°.00E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/33, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=147.1km s-min=25.6km az=67.0*
*ISCJB **18** 22:06:55.0±0.7, 7°.52S±0°.05×128°.73E±0°.05, h131km, mb3.4/2, Error ellipse: s-maj=6.8km s-min=6.3km az=152.2*

ISC 18 22:06:56.4±1.0, 7°.60S±0°.07×128°.75E±0°.07, h131km, n11, σ2§07/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.92**	**244**	P	**Pn**	**22 08 08.8**	**+0.3**
	baz=4.9,SNR=5.8						
SOEI				S	**Sn**	**22 09 04.2**	**-0.5**
	baz=4.9,SNR=4.4						
MTN	**Manton Dam**	**5.71**	**156**	P	**Pn**	**22 08 21.7**	**+2.6**
	baz=5.9,SNR=30						
MTN				S	**Sn**	**22 09 24.9**	**+1.3**
	baz=5.9,SNR=8.8						
FAKI	**Fak Fak**	**5.81**	**37**	P	**Pn**	**22 08 19.9**	**-0.6**
	baz=5.8,SNR=6.2						
FAKI				S	**Sn**	**22 09 24.2**	**-1.8**
	baz=5.8,SNR=4.2						
KDU	**Kakadu**	**6.24**	**144**	P	**Pn**	**22 08 28.7**	**+2.5**
	baz=6.4,SNR=112						
KDU				S	**Sn**	**22 09 37.5**	**+1.1**
	baz=6.4,SNR=6.2						
KNRA	**Kununurra**	**8.03**	**180**	P	**Pn**	**22 08 51.0**	**+0.8**
	baz=8.2,SNR=3.5						
KNRA				S	**Sn**	**22 10 15.8**	**-3.7**
	baz=8.2,SNR=5.4						
WSI	**Waingapu**	**8.60**	**256**	S	**Sn**	**22 10 34.0**	**+0.5**
	baz=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**13.41**	**157**	Pn	**Pn**	**22 10 00.2**	**-1.4**
	0.4nm,0.3s,baz=342,slow=12,SNR=4.2						
WRA				Sn	Sn	22 12 23.6	-6.2
	0.8nm,0.3s,baz=333,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**16.72**	**163**	P	**P**	**22 10 44.4**	**+1.3**
	0.2nm,0.3s,baz=339,slow=9.8,SNR=9.1						
ASAR				S	**Sn**	**22 13 45.5**	**-4.0**
	0.2nm,0.3s,baz=317,slow=19,SNR=6.8						
WRKA	**Warakurna**	**17.34**	**181**	P	**Pn**	**22 10 51.9**	**+1.3**
	baz=18,SNR=9.1						
STKA	**Stephens Creek**	**26.96**	**155**	P	**P**	**22 12 26.0**	**+0.3**
	0.6nm,0.4s,baz=314,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**68.05**	**328**	P	P	22 17 38.3	-3.5
	0.3nm,0.5s,baz=123,slow=7.8,SNR=8.9						

*ISCJB **18** 22:18:13.8±0.6, 18°.38S±0°.10×173°.1W±0°.1, h19km, mb4.1/14, Error ellipse: s-maj=17.3km s-min=10.7km az=42.6*
*IDC **18** 22:18:13.3±0.8, 18°.31S×173°.12W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/38, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=32.9km s-min=18.0km az=132.0*
*NEIC **18** 22:18:18.2±0.4, 18°.47S×173°.10W, h35km, mb4.5/5, Error ellipse: s-maj=13.2km s-min=10.1km az=147.0*

ISC 18 22:18:15.7±0.5, 18°.4S±0°.1×173°.1W±0°.1, h19km, n46, σ1§21/44, mb4.2/14, 5C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.59**	**16**	*e*Pn	**Pn**	**22 19 22.6**	**-1.7**
AFI				*e*Sn	Sn	22 20 10.7	-6.5
AFI	**Afiamalu**	**4.59**	**16**	Pn	**Pn**	**22 19 22.6**	**-1.7**
	4.6nm,0.3s,baz=232,slow=17,SNR=4.3						
AFI				Sn	Sn	22 20 06.5	-11
	16nm,0.3s,baz=178,slow=22,SNR=4.8						
MSVF	**Nonsavu**	**8.49**	**273**	*e*Pn	**Pn**	**22 20 18.3**	**+0.4**
	48nm,1.0s						
URZ	**Urewera**	**21.61**	**201**	*e*P	**P**	**22 23 04.4**	**-0.2**
	23nm,1.1s						
URZ	**Urewera**	**21.61**	**201**	P	**P**	**22 23 06.3**	**+1.7**
	3.1nm,0.4s,baz=12,slow=4.9,SNR=5.7						
PPT2	**Papeete2**	**22.34**	**92**	*e*LR	LR	22 28 05.2	
	343nm,26.0s						
TBI	**Tubuai**	**22.58**	**107**	*e*LR	LR	22 28 16.8	
	284nm,29.5s						
RKT	**Rikitea**	**35.85**	**104**	*e*LR	LR	22 34 24.6	
	214nm,27.8s						
CTAO	**Charters Tower**	**38.40**	**261**	*e*P	**P**	**22 25 35.4**	**-0.9**
	8.5nm,1.1s						
STKA	**Stephens Creek**	**42.92**	**243**	P	**P**	**22 26 12.8**	**-0.7**
	0.6nm,0.3s,baz=126,slow=18,SNR=2.3						
WRAB	**Tennant Creek**	**49.55**	**259**	*e*P	**P**	**22 27 05.3**	**-0.5**
	10nm,1.1s						
WRA	**Warramunga Arr**	**49.56**	**259**	P	**P**	**22 27 05.0**	**-1.0**
WRA	**Warramunga Arr**	**49.56**	**259**	P	**P**	**22 27 05.0**	**-1.0**
	1.3nm,0.5s,baz=96,slow=6.0,SNR=6.1						
ASAR	**Alice Springs**	**49.58**	**254**	P	**P**	**22 27 05.8**	**-0.2**
ASAR	**Alice Springs**	**49.58**	**254**	P	**P**	**22 27 05.8**	**-0.2**
	1.7nm,0.5s,baz=94,slow=7.3,SNR=24						
FITZ	**Fitzroy Crossi**	**57.98**	**260**	*e*P	**P**	**22 28 07.3**	**-0.3**
	3.5nm,1.0s						
VNDA	**Vanda**	**60.48**	**186**	*e*P	**P**	**22 28 23.9**	**-0.1**
	4.0nm,1.2s						
QSPA	**South Pole Qui**	**71.70**	**180**	*e*P	**P**	**22 29 34.1**	**-2.2**
PETK	**Petropavlovsk-**	**75.54**	**342**	P	**P**	**22 29 59.6**	**+0.9**
PETK	**Petropavlovsk-**	**75.54**	**342**	P	**P**	**22 29 59.6**	**+0.9**
	2.6nm,0.9s,baz=100,slow=7.5,SNR=3.2						
TXAR	**Lajitas Array**	**81.98**	**56**	P	**P**	**22 30 35.6**	**+0.8**
TXAR	**Lajitas Array**	**81.98**	**56**	P	**P**	**22 30 35.6**	**+0.8**
	0.4nm,0.9s,baz=199,slow=2.5,SNR=3.2						
PDAR	**Pinedale Array**	**84.24**	**41**	P	**P**	**22 30 46.0**	**-0.4**
PDAR	**Pinedale Array**	**84.24**	**41**	P	**P**	**22 30 46.0**	**-0.4**
	0.6nm,0.7s,baz=191,slow=3.0,SNR=5.4						
ILAR	**Eielson Array**	**85.

comp=E,7.7nm,0.5s,baz=252,slow=11,SNR=16
PTGA **Pitinga** 23.41 27 *e*P P 22 27 25.1 -1.6
comp=E,2.8nm,0.7s
PTGA **Pitinga** 23.41 27 P P 22 27 25.3 -1.4
comp=E,9.3nm,0.4s,baz=202,slow=17,SNR=14
CBYP **Canovanas** 40.20 7 *e*P P 22 29 52.2 -1.9
TIGA **Tifton** 54.53 346 ⇑P P 22 31 46.5 +1.1
baz=55
035Z **Hargill** 55.04 330 ⇓P P 22 31 51.0 +1.8
baz=55
035A **Encino** 55.45 330 ⇑P P 22 31 54.0 +1.8
baz=56
936A **North Padre Is** 55.50 331 ⇑P P 22 31 54.5 +1.9
baz=56
034A **Hebbronville** 55.84 329 ⇓P P 22 31 56.1 +1.2
baz=56
934A **Benavides** 56.21 330 ⇑P P 22 31 58.7 +1.1
baz=56
835A **Beeville** 56.48 331 ⇓P P 22 32 00.9 +1.3
baz=57
933A **Laredo** 56.58 329 ⇑P P 22 32 01.3 +1.0
baz=57
H06E1 **SOCORRO T-PHAS** 56.60 313 T T 23 33 37.0
SNR=11
834A **Tilden** 56.67 330 ⇓P P 22 32 02.3 +1.4
baz=57
735A **Kenedy** 56.96 331 ⇓P P 22 32 04.2 +1.3
baz=57
833A **Chaparral WMA,** 57.23 330 ⇑P P 22 32 05.7 +0.9
baz=58
832A **Faith Ranch, C** 57.48 329 ⇓P P 22 32 07.3 +0.7
baz=58
KMSC **Kings Mountain** 57.68 349 ⇑P P 22 32 09.3 +1.4
baz=58
536A **Bastrop** 57.69 333 ⇓P P 22 32 09.4 +1.4
baz=58
732A **Laxson Ranch,** 57.85 329 ⇓P P 22 32 10.5 +1.4
baz=58
535A **Dale** 57.86 332 ⇓P P 22 32 10.8 +1.5
baz=58
633A **Saathoff Ranch** 58.09 330 ⇑P P 22 32 11.8 +0.9
baz=58
534A **Blanco** 58.26 331 ⇑P P 22 32 12.0 -0.1
baz=58
632A **Uvalde** 58.41 330 ⇑P P 22 32 13.3 +0.2
baz=59
533A **Kerrville** 58.55 331 ⇓P P 22 32 15.0 +0.9
baz=59
631A **Perdido Creek** 58.70 329 ⇑P P 22 32 15.6 +0.4
baz=59
434A **Burnet** 58.84 332 ⇑P P 22 32 17.1 +0.9
baz=59
335A **Moody** 58.88 333 ⇓P P 22 32 17.1 +0.7
baz=59
532A **Rocksprings** 58.99 330 ⇓P P 22 32 17.8 +0.6
baz=59
JCT **Junction City** 59.24 331 ⇑P P 22 32 19.3 +0.4
baz=60
334A **Lometa** 59.27 332 ⇓P P 22 32 19.2 +0.1
baz=60
531A **Rocksprings** 59.32 330 ⇑P P 22 32 20.0 +0.5
baz=60
WHTX **Lake Whitney** 59.51 333 ⇑P P 22 32 22.2 +1.5
baz=60
432A **Menard** 59.57 331 ⇑P P 22 32 21.6 +0.4
baz=60
333A **Richland Sprin** 59.59 332 ⇑P P 22 32 21.2 -0.2
baz=60
530A **J-C Ranch, Com** 59.68 329 ⇓P P 22 32 22.7 +0.7
baz=60
431A **Sonora** 59.78 330 ⇓P P 22 32 22.9 +0.1
baz=60
234A **Clairette** 59.81 333 ⇓P P 22 32 22.9 +0.1
baz=60
628A **Black Gap, Mar** 59.90 327 ⇑P P 22 32 24.2 +0.7
baz=60
332A **Millersview** 59.98 331 ⇑P P 22 32 24.2 +0.2
baz=60
135A **Vickery Place,** 59.99 334 ⇑P P 22 32 24.4 +0.4
baz=60
529A **Stev Forest Ra** 60.09 328 ⇑P P 22 32 25.8 +0.9
baz=60
627A **Terlingua Ranc** 60.12 327 ⇑P P 22 32 25.9 +0.7
baz=60
430A **Baggett Ranch,** 60.16 329 ⇑P P 22 32 25.7 +0.4
baz=60
TXAR **Lajitas Array** 60.17 327 P P 22 32 25.6 +0.2
TXAR **Lajitas Array** 60.17 327 P P 22 32 25.6 +0.2
comp=E,0.8nm,0.6s,baz=162,slow=8.8,SNR=10.0
331A **San Angelo** 60.23 330 ⇓P P 22 32 26.1 +0.4
baz=60
MIAR **Mount Ida** 60.30 338 *e*P P 22 32 26.2 +0.1
comp=E,7.6nm,0.6s
429A **Davenport Ranc** 60.34 329 ⇓P P 22 32 27.1 +0.5
baz=61
232A **Coleman** 60.37 331 ⇓P P 22 32 26.9 +0.2
baz=61
528A **Cox Ranch, San** 60.40 328 ⇓P P 22 32 27.4 +0.4
baz=61
626A **Big Bend Ranch** 60.59 326 ⇓P P 22 32 29.4 +1.1
baz=61
133A **Hamilton Ranch** 60.66 333 ⇓P P 22 32 28.9 +0.3
baz=61
231A **Bronte** 60.70 331 ⇓P P 22 32 29.9 +0.9
baz=61
527A **Woodward Ranch** 60.80 327 ⇑P P 22 32 30.5 +0.7
baz=61
428A **Kincaid Ranch,** 60.81 328 ⇓P P 22 32 30.9 +1.2
baz=61
Z34A **Collier Ranch,** 60.90 334 ⇑P P 22 32 31.8 +1.6
baz=61
526A **Mary Lane Ranc** 60.97 327 ⇑P P 22 32 31.8 +0.8
baz=61
ABTX **Abilene, Hawle** 60.99 332 ⇓P P 22 32 31.8 +0.9
baz=61
230A **Sterling City** 61.03 330 ⇑P P 22 32 31.7 +0.5
baz=61
329A **Wagon Wheel Ra** 61.10 329 ⇑P P 22 32 32.6 +0.9
baz=61
Z33A **Whitaker Ranch** 61.18 333 ⇑P P 22 32 32.7 +0.6
baz=62
427A **Hayter Ranch,** 61.26 328 ⇓P P 22 32 33.3 +0.5
baz=62
Y34A **Reagan Ranch,** 61.35 334 ⇓P P 22 32 33.9 +0.6
baz=62
PBMO **Poplar Bluff** 61.35 342 *e*P P 22 32 32.5 -0.7
comp=E,228nm,2.7s
131A **Roby** 61.36 331 ⇑P P 22 32 34.0 +0.6
baz=62
328A **Wristen Ranch,** 61.41 329 ⇑P P 22 32 34.7 +0.9
baz=62
229A **Bryant Ranch,** 61.42 330 ⇑P P 22 32 34.4 +0.5
baz=62
426A **McDonald Obser** 61.43 327 ⇑P P 22 32 34.7 +0.5
baz=62
Z32A **Haskell** 61.50 332 ⇓P P 22 32 34.4 0.0
baz=62
130A **Snyder** 61.56 331 ⇑P P 22 32 34.7 0.0
baz=62
327A **Balmorhea Ranc** 61.73 328 ⇑P P 22 32 36.5 +0.5
baz=62
Y33A **Hilltop Ranch,** 61.75 334 ⇑P P 22 32 36.4 +0.4
baz=62
Z31A **Sharp Cattle R** 61.80 332 ⇑P P 22 32 36.6 +0.2
baz=62
228A **UT Block 9, Go** 61.91 329 ⇑P P 22 32 37.4 +0.1
baz=62
326A **Caldwell Ranch** 61.93 328 ⇓P P 22 32 37.8 +0.5
baz=62
X34A **Smith Ranch, M** 61.94 335 ⇓P P 22 32 38.0 +0.8
baz=62
129A **Stewart Farms,** 62.00 330 ⇓P P 22 32 38.2 +0.4
baz=62
425A **Indio Mountain** 62.01 326 ⇓P P 22 32 38.4 +0.4
baz=62
X33A **Lawton** 62.16 334 ⇓P P 22 32 40.3 +1.6
baz=62
227A **Bennet, Jal** 62.16 329 ⇓P P 22 32 39.4 +0.5
baz=62
Z30A **Sanderson Ranc** 62.21 331 ⇑P P 22 32 39.5 +0.3
baz=62
128A **Castleberry Fa** 62.28 330 ⇑P P 22 32 41.0 +1.3
baz=63
TUL1 **Tulsa** 62.32 337 ⇓P P 22 32 40.3 +0.6
baz=63
X32A **Elmer** 62.38 333 ⇓P P 22 32 41.1 +0.9
baz=63
Y31A **Rekieta Farm,** 62.40 332 ⇑P P 22 32 41.1 +0.7
baz=63
Z29A **Hungry Hill Ra** 62.45 331 ⇓P P 22 32 41.3 +0.5
baz=63
W34A **Bridge Creek,** 62.47 335 ⇑P P 22 32 42.5 +1.7
baz=63
Y30A **Stafford Cattl** 62.61 332 ⇑P P 22 32 42.9 +1.1
baz=63
226B **Tecolote Peak,** 62.64 328 ⇓P P 22 32 43.2 +1.1
baz=63
W33A **Caddo, Fort Co** 62.68 334 ⇓P P 22 32 43.5 +1.4
baz=63
127A **Arkansas Junct** 62.74 329 ⇑P P 22 32 43.6 +0.8
baz=63
Z28A **Tucker Farm, M** 62.78 330 ⇓P P 22 32 44.0 +1.0
baz=63
X31A **McDonald Ranch** 62.85 333 ⇓P P 22 32 43.8 +0.4
baz=63
V34A **Guthrie** 62.90 335 ⇑P P 22 32 44.1 +0.4
baz=63
ACSO **Alum Creek Sta** 62.92 349 *e*P P 22 32 43.0 -0.7
comp=E,12nm,0.8s
W32A **Sentinel** 62.97 334 ⇑P P 22 32 45.0 +0.9
baz=63
225A **Deer Hill, Car** 62.99 327 ⇓P P 22 32 45.4 +0.8
baz=63
126A **Clayton Basin,** 63.03 328 ⇓P P 22 32 45.4 +0.7
baz=63
V33A **Lossen Ranch,** 63.19 335 ⇑P P 22 32 46.0 +0.4
baz=64
Z27A **Tatum** 63.19 329 ⇑P P 22 32 45.9 +0.1
baz=64
Y28A **McKinney Farm,** 63.24 331 ⇓P P 22 32 46.8 +0.8
baz=64
W31A **Holland Ranch,** 63.31 333 ⇓P P 22 32 47.6 +1.2
baz=64
U34A **Anderson Ranch** 63.43 336 ⇑P P 22 32 47.9 +0.7
baz=64
X29A **Tulia** 63.44 331 ⇓P P 22 32 47.8 +0.4
baz=64
Z26A **Caprock** 63.52 329 ⇑P P 22 32 48.6 +0.6
baz=64
MSTX **Muleshoe** 63.53 330 *e*P P 22 32 48.0 0.0
comp=E,129nm,2.7s
MSTX **Muleshoe** 63.53 330 ⇓P P 22 32 48.0 0.0
baz=64
Y27A **Causey** 63.64 330 ⇑P P 22 32 49.1 +0.4
baz=64
U33A **Lingo Farm, Me** 63.65 335 ⇑P P 22 32 49.8 +1.2
baz=64
X28A **Dimmitt** 63.73 331 ⇓P P 22 32 49.6 +0.3
baz=64
V31A **Spring Creek L** 63.77 334 ⇓P P 22 32 50.1 +0.6
baz=64
AMTX **Amarillo** 63.80 332 ⇑P P 22 32 50.1 +0.3
baz=64
Z25A **Roswell** 63.89 328 ⇑P P 22 32 50.6 +0.2
baz=64
SFIN **Scholer Farm** 63.89 346 *e*P P 22 32 50.1 +0.1
SFIN **Scholer Farm** 63.89 346 ⇓P P 22 32 51.0 +1.0
baz=64
U32A **Winter Ranch,** 63.95 335 ⇓P P 22 32 51.1 +0.5
baz=64
Y26A **Elida** 63.98 329 ⇓P P 22 32 52.3 +1.3
baz=64
Z24A **Sheeppen Canyo** 64.24 328 ⇑P P 22 32 53.6 +0.7
baz=64,SNR=6.8
T33A **Patterson Ranc** 64.27 336 ⇓P P 22 32 53.6 +0.9
baz=65
U31A **Nine Bar Ranch** 64.29 334 ⇑P P 22 32 53.1 +0.2
baz=65
320A **Kipp Ranch, An** 64.32 324 ⇓P P 22 32 54.2 +0.9
baz=65
W28A **Vega** 64.35 331 ⇓P P 22 32 54.1 +0.7
baz=65
Y25A **Mesa, Roswell** 64.40 329 ⇓P P 22 32 54.4 +0.7
baz=65
X26A **CR and CF Fran** 64.49 330 ⇓P P 22 32 55.2 +0.8
baz=65
V29A **Stinnett** 64.57 332 ⇑P P 22 32 55.9 +1.2
baz=65
W27A **Bowe Ranch, En** 64.57 331 ⇓P P 22 32 55.9 +1.1
baz=65
T32A **Huddler Ranch,** 64.62 335 ⇓P P 22 32 56.1 +1.1
baz=65
Z23A **Rita Site, Whi** 64.62 327 ⇑P P 22 32 56.3 +1.1
baz=65
319A **Douglas** 64.76 324 ⇓P P 22 32 57.7 +1.6
baz=65
V28A **Channing** 64.77 332 ⇑P P 22 32 57.7 +1.6
baz=65
121A **Cocos Peak, D** 64.85 326 ⇑P P 22 32 57.5 +0.8
baz=65
T31A **Randall Ranch,** 64.85 334 ⇑P P 22 32 57.4 +0.9
baz=65
X25A **Clemmons Ranch** 64.87 329 ⇓P P 22 32 57.5 +0.6
baz=65
W26A **Owens Ranch, T** 64.91 330 ⇑P P 22 32 58.4 +1.3
baz=65
U29A **Oasis Ranch, S** 64.95 333 ⇑P P 22 32 58.5 +1.3
baz=65
Z22A **Elephant Butte** 64.99 327 ⇑P P 22 32 59.2 +1.5
baz=65,SNR=7.3
V27A **Dan Oppiter Fa** 65.05 331 ⇑P P 22 32 59.3 +1.4
baz=65
Y23A **Lovelace Mesa,** 65.07 328 ⇑P P 22 32 59.5 +1.4
baz=65
R33A **Olander Ranch,** 65.25 336 ⇑P P 22 33 00.3 +1.2
baz=66
W25A **X Bar L Ranch,** 65.34 330 ⇑P P 22 33 00.4 +0.5
baz=66
V26A **Tequesquite Ra** 65.51 331 ⇓P P 22 33 01.6 +0.7
baz=66
W24A **Lazy 6 Ranch,** 65.78 329 ⇓P P 22 33 04.1 +1.3
baz=66
Q33A **Connelly Farm,** 65.80 337 ⇑P P 22 33 03.4 +0.8
baz=66
R31A **Burdett** 65.82 335 ⇓P P 22 33 03.2 +0.4
baz=66
S29A **Ulysses** 65.88 334 ⇓P P 22 33 04.2 +1.0
baz=66
V25A **Rancho No Teng** 65.92 330 ⇑P P 22 33 04.3 +0.6
baz=66
U26A **Atchley Ranch,** 65.98 331 ⇓P P 22 33 04.6 +0.6
baz=66
Q32A **Meitler Ranch,** 66.06 336 ⇓P P 22 33 04.7 +0.4
baz=66
ANMO **Albuquerque** 66.08 328 *e*P P 22 33 05.7 +1.0
comp=E,4.8nm,1.1s
T27A **Campo** 66.09 332 ⇓P P 22 33 04.8 +0.2
baz=66
R30A **Dighton** 66.11 335 ⇓P P 22 33 05.4 +0.8
baz=66
P33A **Williams Farm,** 66.14 337 ⇑P P 22 33 05.5 +0.7
baz=66
V24A **Rampart Ranch,** 66.14 329 ⇓P P 22 33 06.1 +1.0
baz=66
S28A **Manter** 66.18 333 ⇑P P 22 33 05.6 +0.5
baz=66
U25A **Circle Dot Ran** 66.29 331 ⇓P P 22 33 06.6 +0.6
baz=67
T26A **Comanche Natio** 66.56 332 ⇑P P 22 33 08.5 +0.8
baz=67
R29A **Marienthal** 66.58 334 ⇑P P 22 33 08.0 +0.3
baz=67
V23A **Ortiz Mt. (NFS** 66.59 329 ⇑P P 22 33 09.5 +1.5
baz=67
Q30A **Quinter** 66.69 335 ⇑P P 22 33 09.1 +0.8
baz=67
U24A **Moreno Valley** 66.70 330 ⇓P P 22 33 10.2 +1.4
baz=67
P31A **Stockton** 66.83 336 ⇓P P 22 33 09.6 +0.3
baz=67
S26A **Kim** 66.88 332 ⇓P P 22 33 10.6 +0.9
baz=67
T25A **Trinidad** 66.90 331 ⇑P P 22 33 10.8 +0.9
baz=67
SCIA **State Center** 66.91 342 *e*P P 22 33 09.3 -0.3
comp=E,31nm,1.2s
Q29A **Oakley** 66.91 334 ⇑P P 22 33 10.5 +0.7
baz=67
V22A **San Miguel Ran** 67.07 328 ⇑P P 22 33 12.8 +1.8
baz=67,SNR=9.9
O32A **Brockman Farm,** 67.08 337 ⇑P P 22 33 11.9 +1.2
baz=67
R27A **Eads** 67.15 333 ⇑P P 22 33 12.6 +1.3
baz=68
214A **Organ Pipe Nat** 67.18 322 ⇓P P 22 33 12.6 +1.0
baz=67
T24B **San Luis** 67.28 330 ⇑P P 22 33 14.0 +1.6
baz=68
S25A **Robets Cordova** 67.34 331 ⇑P P 22 33 13.7 +1.1
baz=68
O31A **Woolen Ranch,** 67.36 336 ⇓P P 22 33 14.0 +1.4
baz=68
Q28A **Sharon Springs** 67.40 334 ⇓P P 22 33 14.4 +1.4
baz=68
U22A **Llaves** 67.42 329 ⇓P P 22 33 15.0 +1.8
baz=68
R26A **Arlington** 67.44 332 ⇑P P 22 33 14.4 +1.2
baz=68
P29A **Atwood** 67.50 335 ⇓P P 22 33 15.4 +1.8
baz=68
N32A **Stulken Farm,** 67.53 337 ⇓P P 22 33 15.5 +1.9
baz=68
T23A **Casias Ranch,** 67.56 330 ⇑P P 22 33 16.0 +1.8
baz=68
O30A **MW Ranch, Wils** 67.66 336 ⇑P P 22 33 15.6 +1.1
baz=68
S24A **Houchin Ranch,** 67.67 331 ⇓P P 22 33 16.2 +1.3
baz=68
P28A **Saint Francis** 67.81 334 ⇑P P 22 33 17.5 +2.1
baz=68
O29A **4D Ranch, Culb** 67.90 335 ⇑P P 22 33 18.3 +2.3
baz=68
BGNE **Belgrade** 68.04 338 *e*P P 22 33 17.0 +0.2
comp=E,31nm,0.7s
BGNE **Belgrade** 68.04 338 ⇓P P 22 33 17.6 +0.7
baz=68
S23A **Nye Farm, Mont** 68.09 330 ⇓P P 22 33 18.4 +0.9
baz=68
R24A **Sanders Place,** 68.11 331 ⇓P P 22 33 18.8 +1.3
baz=68
X16A **Lo Mia Camp, P** 68.24 324 ⇓P P 22 33 19.9 +1.5
baz=68
Z14A **Wintersburg** 68.29 323 ⇑P P 22 33 20.1 +1.6
baz=69
Q25A **Bedland, Calha** 68.30 332 ⇑P P 22 33 20.5 +1.8
baz=69
R23A **Moffat** 68.40 331 ⇑P P 22 33 20.8 +1.3
baz=69
P26A **Davis Ranch, A** 68.45 333 ⇓P P 22 33 21.2 +1.6
baz=69
S22A **4UR Ranch, Cre** 68.50 330 ⇓P P 22 33 21.7 +1.5
baz=69
Q24A **Divide** 68.73 332 ⇓P P 22 33 22.9 +1.4
baz=69
Y14A **Wickenburg** 68.75 323 ⇑P P 22 33 23.7 +2.3
baz=69
P25A **Willow Gulch B** 68.76 333 ⇑P P 22 33 22.9 +1.4
baz=69
MVCO **Mesa Verde** 68.88 328 *e*P P 22 33 23.8 +1.4
comp=E,8.9nm,0.9s
MVCO **Mesa Verde** 68.88 328 ⇑P P 22 33 23.7 +1.3
baz=69,SNR=6.1
L31A **Butterfield Fa** 68.96 338 ⇑P P 22 33 23.8 +1.2
baz=69
WUAZ **Wupatki** 69.04 325 ⇓P P 22 33 24.5 +1.1
baz=69
P24A **Kohler Place,** 69.08 332 ⇑P P 22 33 25.0 +1.4
baz=69
M28A **Bar X Bar Ranc** 69.22 336 ⇓P P 22 33 26.3 +2.1
baz=70
O25A **Wiggins** 69.24 333 ⇑P P 22 33 26.1 +1.6
baz=70
P23A **Jefferson** 69.37 331 ⇑P P 22 33 27.1 +1.5
baz=70
Y12C **Blythe** 69.47 322 ⇓P P 22 33 27.7 +1.8
baz=70
ECSD **EROS Data Cent** 69.61 340 *e*P P 22 33 26.2 -0.3
comp=E,133nm,2.8s
ISCO **Idaho Springs** 69.62 332 ⇑P P 22 33 28.0 +0.9
baz=70
PDMCI **Parker Dam,Lak** 69.65 322 ⇑P P 22 33 28.6 +1.6
baz=70
K30A **Basset** 69.67 337 ⇓P P 22 33 27.8 +0.9
baz=70
M27A **Reverse DX Ran** 69.72 335 ⇑P P 22 33 28.4 +1.0
baz=70
SMCO **Snowmass** 69.73 330 *e*P P 22 33 29.4 +1.6
comp=E,52nm,2.3s
N25A **Grover** 69.81 333 ⇑P P 22 33 29.3 +1.3
baz=70
LIC **Lamto** 69.89 74 *e*P P 22 33 27.4 -1.5
comp=E,24nm,1.0s
BC3 **Big Chuckawall** 69.94 321 ⇓P P 22 33 30.5 +1.5
baz=70
P22A **Eagle** 69.97 331 ⇓P P 22 33 30.1 +1.0
baz=70
M26A **McRoberts Ranc** 69.97 334 ⇑P P 22 33 31.1 +2.1
baz=70
MONP **Monument Peak** 69.97 320 ⇑P P 22 33 31.4 +2.1
baz=70
K29A **Lazy Trails An** 70.00 337 ⇑P P 22 33 29.9 +0.8
baz=70
TIC **Toumodi** 70.08 74 *e*P P 22 33 29.0 -1.1
O23A **Lake Granby, G** 70.09 332 ⇑P P 22 33 31.1 +1.2
baz=70
W13A **Hualapai Mount** 70.09 323 ⇓P P 22 33 31.7 +1.7
baz=70
IRM **Iron Mountain** 70.13 322 ⇑P P 22 33 31.7 +1.8
baz=70
KIC **Kosan Boka** 70.20 74 *e*P P 22 33 29.6 -1.2
comp=E,15nm,0.8s
J30A **Dallas** 70.20 338 ⇓P P 22 33 31.4 +1.2
baz=70
U15A **North Rim** 70.21 325 ⇑P P 22 33 32.6 +1.8
baz=70
DBIC **Dimbokro** 70.23 74 P P 22 33 30.0 -1.0
DBIC **Dimbokro** 70.23 74 P P 22 33 30.0 -1.0
comp=E,7.6nm,0.7s,baz=209,slow=4.7,SNR=14
NEE2 **Needles Airpor** 70.26 322 ⇓P P 22 33 32.7 +2.0
baz=70
M25A **Palm-Egli Farm** 70.31 334 ⇓P P 22 33 32.4 +1.3
baz=71
O22A **Kremmling** 70.33 331 ⇑P P 22 33 32.6 +1.2
baz=71
PFO **Pinyon Flat Ob** 70.50 320 ⇓P P 22 33 33.9 +1.5
baz=71
J29A **Okreek** 70.57 337 ⇑P P 22 33 33.0 +0.5
baz=71
M24A **Cheyenne** 70.66 333 ⇑P P 22 33 34.6 +1.4
baz=71
N23A **Red Feather La** 70.66 332 ⇓P P 22 33 34.5 +1.1
baz=71
K27A **Flueckinger Fa** 70.67 336 ⇓P P 22 33 34.3 +1.1
baz=71
N22A **Wattenberg Ran** 70.81 332 ⇑P P 22 33 35.4 +1.1
baz=71
GMRC **Granite Mounta** 70.87 322 ⇑P P 22 33 36.3 +1.8
baz=71
J28A **Allard Ranch,** 70.91 337 ⇑P P 22 33 35.3 +0.7
baz=71
MURC **Murrieta** 70.94 320 ⇓P P 22 33 36.2 +1.3
baz=71
K26A **Motz Farm, Whi** 71.03 335 ⇑P P 22 33 37.4 +2.1
baz=71
J27A **Elkhorn Farm,** 71.05 336 ⇓P P 22 33 37.2 +1.7
baz=71
O20A **White River Ci** 71.08 330 ⇓P P 22 33 37.6 +1.8
baz=71
I29A **Vivian Onida** 71.10 338 ⇓P P 22 33 37.3 +1.7
baz=71
SRU **San Rafael** 71.36 328 *e*P P 22 33 38.9 +1.4
comp=E,7.6nm,0.7s
M22A **Cedar Creek Ra** 71.36 332 ⇓P P 22 33 39.2 +1.6
baz=72
I28A **Midland** 71.39 337 ⇓P P 22 33 39.2 +1.8
baz=72
J26A **Sides Ranch, S** 71.51 335 ⇓P P 22 33 40.1 +1.9
baz=72
CCUT **Cedar City** 71.62 325 *e*P P 22 33 41.8 +2.6
comp=E,9.5nm,1.0s
N20A **Spence Gulch,** 71.64 331 ⇑P P 22 33 40.5 +1.3
baz=72
FMP **Fort Macarthur** 71.67 319 ⇓P P 22 33 41.5 +2.2
baz=72
K24A **Anderson Ranch** 71.70 334 ⇓P P 22 33 41.4 +1.9
baz=72
I27A **Quinn** 71.77 337 ⇓P P 22 33 41.2 +1.5
baz=72
ARUT **Antelope Range** 71.84 325 *e*P P 22 33 38.8 -1.6
comp=E,163nm,0.9s
J25A **Sunshine Ranch** 71.86 335 ⇓P P 22 33 41.2 +0.8
baz=72
H28A **Mission Ridge** 71.92 338 ⇑P P 22 33 41.2 +0.6
baz=72

I26A	New Underwood	72.04	336	⇓	P		P	22	33	41.8 +0.5
	baz=72									
K23A	Bowen Ranch, D	72.06	334	⇓	P		P	22	33	42.8 +1.2
	baz=72									
DECC	Green Verdugo	72.06	320	⇓	P		P	22	33	42.3 +0.7
	baz=72									
J24A	Dixon Ranch, L	72.15	334	⇓	P		P	22	33	44.0 +1.9
	baz=72									
K22A	Casper	72.35	333	⇑	P		P	22	33	45.0 +1.6
	baz=73									
RSSD	Black Hills	72.56	335	*e*	P		P	22	33	45.5 +0.8
	comp=E,3.7nm,0.7s									
J23A	Dilts Ranch, B	72.57	334	⇑	P		P	22	33	46.7 +2.0
	baz=73									
I24A	Kuemmerle Ranc	72.58	335	⇓	P		P	22	33	45.5 +0.9
	baz=73									
K21A	Alcova	72.65	332	⇑	P		P	22	33	46.6 +1.4
	baz=73,SNR=6.4									
FURC	Furnace Creek,	72.75	322	⇑	P		P	22	33	47.1 +1.5
	baz=73									
H25A	Fruitdale	72.82	336	⇓	P		P	22	33	46.9 +0.9
	baz=73									
G27A	Dupree	72.85	337	⇓	P		P	22	33	47.1 +1.0
	baz=73									
F28A	McLaughlin	72.86	338	⇑	P		P	22	33	47.8 +1.6
	baz=73									
J22A	Midwest	72.96	333	⇓	P		P	22	33	48.6 +1.6
	baz=73									
JLU	Jordanelle	72.96	329	*e*	P		P	22	33	48.8 +1.7
	comp=E,6.1nm,0.9s									
H24A	Dirks Ranch, A	73.29	335	⇑	P		P	22	33	49.4 +0.6
	baz=74									
D30A	Buchanan	73.30	340	⇑	P		P	22	33	49.3 +0.6
	baz=74									
F27A	Lemmon	73.31	338	⇑	P		P	22	33	49.6 +0.8
	baz=74									
DUG	Dugway	73.32	327	*e*	P		P	22	33	50.9 +1.7
	comp=E,5.6nm,1.0s									
DUG	Dugway	73.32	327	⇓	P		P	22	33	50.8 +1.7
	baz=74,SNR=6.0									
I22A	9 Mile Ranch,	73.35	334	⇑	P		P	22	33	50.3 +1.1
	baz=74									
R11A	Troy Canyon, C	73.40	324	⇓	P		P	22	33	51.7 +2.0
	baz=74									
F26A	Lodgepole	73.52	337	⇓	P		P	22	33	51.1 +1.0
	baz=74,SNR=7.9									
J20A	Shoshoni	73.59	332	⇓	P		P	22	33	52.1 +1.4
	baz=74									
VES	Vestal, Richgr	73.60	321	⇓	P		P	22	33	52.5 +1.8
	baz=74									
I21A	Big Trails, Te	73.62	333	⇓	P		P	22	33	51.7 +0.8
	baz=74,SNR=7.5									
E27A	Carson	73.63	338	⇑	P		P	22	33	52.7 +1.9
	baz=74									
C30A	Mose, Pekin	73.74	341	⇑	P		P	22	33	51.7 +0.4
	baz=74									
PDAR	Pinedale Array	73.77	331	P			P	22	33	52.1 +0.3
PDAR	Pinedale Array	73.77	331	P			P	22	33	52.1 +0.3
	comp=E,1.0nm,0.6s,baz=140,slow=7.3,SNR=9.6									
F25A	Bowman	73.87	337	⇑	P		P	22	33	53.1 +1.0
	baz=74									
H22A	Clearmont	73.88	334	⇑	P		P	22	33	53.5 +1.2
	baz=74									
J19A	Crowheart	73.94	332	⇑	P		P	22	33	53.4 +0.7
	baz=74									
E26A	Carlson Angus	73.98	338	⇑	P		P	22	33	54.0 +1.2
	baz=74									
BGU	Big Grassy Mou	73.98	328	*e*	P		P	22	33	54.2 +1.2
	comp=E,34nm,2.7s									
G23A	Biddle	74.00	335	⇑	P		P	22	33	53.8 +0.8
	baz=74									
I20A	Worland	74.09	333	⇑	P		P	22	33	54.5 +1.0
	baz=74									
PTRM	Twissleman Ran	74.15	320	*e*	P		P	22	33	48.0 -6.0
F24A	Ekalaka	74.17	336	⇑	P		P	22	33	54.5 +0.6
	baz=74									
H21A	Big Horn, Sher	74.19	334	⇑	P		P	22	33	55.0 +0.9
	baz=74									
E25A	Miller Ranch,	74.34	337	⇑	P		P	22	33	56.0 +1.1
	baz=75									
B30A	Myrvik Farm, E	74.36	341	⇓	P		P	22	33	55.2 +0.3
	baz=75									
G22A	Birney	74.37	335	⇓	P		P	22	33	56.0 +0.9
	baz=75									
F23A	Volborg	74.44	335	⇓	P		P	22	33	56.3 +0.8
	baz=75									
D26A	Manning	74.45	338	⇓	P		P	22	33	55.9 +0.4
	baz=75									
H20A	Greybull	74.47	333	⇓	P		P	22	33	56.5 +0.8
	baz=75									
HVU	Hansel Valley	74.50	328	*e*	P		P	22	33	57.3 +1.2
	comp=E,4.8nm,0.8s									
I19A	Meeteetse	74.53	332	⇓	P		P	22	33	57.6 +1.3
	baz=75,SNR=5.8									
B29A	Wagenman Farm,	74.69	341	⇑	P		P	22	33	57.3 +0.5
	baz=75									
G21A	Lodge Grass	74.74	334	⇑	P		P	22	33	58.2 +0.9
	baz=75									
A30A	Hoffart Farm,	74.79	341	⇓	P		P	22	33	58.7 +1.3
	baz=75									
F22A	Rosebud	74.82	335	⇑	P		P	22	33	58.5 +0.8
	baz=75									
D25A	Fairfield	74.87	337	⇓	P		P	22	33	59.4 +1.5
	baz=75									
LOHW	Long Hollow	74.91	331	*e*	P		P	22	33	59.3 +0.8
	comp=E,3.6nm,0.8s									
NVAR	Mina Array Bea	74.95	323	P			P	22	33	59.6 +0.8
NVAR	Mina Array Bea	74.95	323	P			P	22	33	59.6 +0.8
	comp=E,1.6nm,0.7s,baz=166,slow=9.0,SNR=5.5									
TPAW	Teton Pass	74.97	331	*e*	P		P	22	34	00.0 +1.2
	comp=E,1.06nm,2.8s									
B28A	Dugan Ranch, T	74.99	340	⇑	P		P	22	33	59.6 +1.0
	baz=75									
C26A	Wahner Farm, P	75.02	339	⇓	P		P	22	34	00.3 +1.5
	baz=75									
H19A	Powell	75.03	333	⇑	P		P	22	34	00.2 +1.1
	baz=75									
A29A	Manning Farm,	75.06	341	⇑	P		P	22	33	59.1 +0.1
	baz=75,SNR=5.4									
MOOW	Moose Ponds	75.08	331	*e*	P		P	22	34	00.1 +0.7
	comp=E,72nm,3.0s									
I17A	Pilgrim Ck.	75.13	331	⇓	P		P	22	34	01.4 +1.6
	baz=75									
G20A	Bridger	75.15	333	⇓	P		P	22	34	00.7 +1.0
	baz=76									
D24A	Glendive	75.20	337	⇑	P		P	22	34	01.3 +1.5
	baz=76									
E22A	Miles City	75.24	335	⇓	P		P	22	34	00.7 +0.6
	baz=76									
ULM	Lac du Bonnet	75.30	343	P			P	22	33	59.4 -0.9
ULM	Lac du Bonnet	75.30	343	P			P	22	33	59.4 -0.9
	comp=E,2.9nm,0.7s,baz=155,slow=7.3,SNR=5.9									
FLWY	Flagg Ranch	75.32	331	*e*	P		P	22	34	02.5 +1.7
	comp=E,191nm,2.8s									
C25A	Freed Ranch, W	75.32	338	⇓	P		P	22	34	01.4 +0.9
	baz=76									
H18A	Shoshone NF, C	75.33	332	⇓	P		P	22	34	02.0 +1.1
	baz=76,SNR=12									
H17A	Grant Village	75.51	332	⇓	P		P	22	34	04.0 +2.0
	baz=76									
RLMT	Red Lodge	75.52	333	*e*	P		P	22	33	59.4 -2.6
	comp=E,8.4nm,1.1s									
LAO	LASA Array	75.56	335	*e*	P		P	22	34	02.8 +0.9
	comp=E,187nm,2.9s									
D23A	Lindsay	75.57	336	⇓	P		P	22	34	03.3 +1.3
	baz=76									
C24A	Savage	75.59	337	⇓	P		P	22	34	03.3 +1.2
	baz=76,SNR=5.1									
F20A	Billings	75.59	334	⇓	P		P	22	34	03.6 +1.4
	baz=76									
B25A	Knox Farm, Ray	75.77	338	⇑	P		P	22	34	04.4 +1.4
	baz=76									
D22A	Cohagen	75.92	336	⇓	P		P	22	34	05.3 +1.3
	baz=76,SNR=5.7									
F19A	Roth Farm, Mol	75.97	333	⇓	P		P	22	34	05.6 +1.2
	baz=76									
C23A	Lambert	76.09	337	⇑	P		P	22	34	06.2 +1.2
	baz=76									
E20A	Meyer Farm, Mu	76.16	334	⇑	P		P	22	34	06.8 +1.4
	baz=76,SNR=6.7									
D21A	La Casta Ranch	76.17	335	⇓	P		P	22	34	06.8 +1.4
	baz=76,SNR=7.0									
VNDA	Vanda	76.19	190	*e*	P		P	22	34	06.2 +1.1
VNDA	Vanda	76.19	190	P			P	22	34	05.0 -0.2
	comp=E,1.8nm,1.0s,baz=283,slow=2.9,SNR=3.8									
DGMT	Dagmar	76.30	338	*e*	P		P	22	34	07.3 +1.2
	comp=E,15nm,0.8s									
DGMT	Dagmar	76.30	338	⇓	P		P	22	34	07.5 +1.4
	baz=77									
C22A	Vida	76.30	336	⇑	P		P	22	34	07.4 +1.2
	baz=77									
A25A	Svangstu Ranch	76.32	339	⇑	P		P	22	34	07.6 +1.4
	baz=77									
E19A	Rath Farm, Rou	76.39	334	⇓	P		P	22	34	07.9 +1.2
	baz=77,SNR=10									
SCHQ	Schefferville	76.50	2	P			P	22	34	05.6 -1.5
SCHQ	Schefferville	76.50	2	P			P	22	34	05.6 -1.5
	comp=E,3.2nm,0.8s,baz=196,slow=7.4,SNR=3.8									
B23A	Brockton	76.58	337	⇑	P		P	22	34	08.9 +1.2
	baz=77									
SYO	Syowa Base	76.61	160	⇑	*e*P		P	22	34	06.5 -1.1
SYO	Syowa Base	76.61	160	⇑	*e*pP		P	22	34	11.2 +3.6
A24A	Westby	76.62	338	⇓	P		P	22	34	09.0 +1.1
	baz=77									
D20A	Manuel Ranch,	76.64	335	⇓	P		P	22	34	09.3 +1.2
	baz=77,SNR=6.9									
HLID	Hailey	76.64	329	*e*	P		P	22	34	10.1 +1.8
	comp=E,4.9nm,1.0s									
HLID	Hailey	76.64	329	⇓	P		P	22	34	10.1 +1.8
	baz=77									
B22A	Reddig Ranch S	76.81	337	⇓	P		P	22	34	10.8 +1.8
	baz=77									
D19A	Cripps Ranch,	76.99	334	⇑	P		P	22	34	11.1 +1.0
	baz=77									
C20A	Veseth Ranch,	77.09	335	⇓	P		P	22	34	11.3 +0.7
	baz=77									
B21A	Ellsworth Farm	77.30	336	⇑	P		P	22	34	12.9 +1.2
	baz=78									
A22A	Carney Farms,	77.36	337	⇑	P		P	22	34	13.4 +1.3
	baz=78,SNR=5.9									
C19A	Slack Wire Ran	77.52	334	⇓	P		P	22	34	13.9 +0.8
	baz=78									
B20A	Solberg Farm,	77.69	335	⇓	P		P	22	34	15.0 +1.1
	baz=78									
A21A	Bergtoll Ranch	77.73	336	⇓	P		P	22	34	14.8 +0.6
	baz=78									
A20A	Cobblestone Ra	78.01	336	⇓	P		P	22	34	16.8 +1.1
	baz=78,SNR=6.0									
EGMT	Eagleton	78.04	334	⇑	P		P	22	34	17.2 +1.3
	baz=78									
B19A	Brinkman Farms	78.06	335	⇓	P		P	22	34	17.2 +1.2
	baz=78									
A19A	Klindworth Far	78.36	335	⇓	P		P	22	34	18.6 +0.9
	baz=79									
TOA0	Torodi Ar. Sit	78.85	71	*e*	P		P	22	34	19.6 -1.4
TORD	Torodi Ar. Bea	78.85	71	P			P	22	34	20.0 -1.1
TORD	Torodi Ar. Bea	78.85	71	P			P	22	34	20.0 -1.1
	comp=E,5.1nm,0.5s,baz=256,slow=5.2,SNR=104									
SWMT	Swartz Lake	79.43	332	*e*	P		P	22	34	22.3 -1.4
	comp=E,3.9nm,1.0s									
F10A	Beach Ranch, E	79.77	329	*e*	P		P	22	34	26.8 +1.2
	comp=E,119nm,2.6s									
WALA	Waterton Lakes	80.57	333	*e*	P		P	22	34	30.7 +0.9
	comp=E,3.9nm,2.6s									
I05D	Terrebonne, OR	80.69	326	⇑	P		P	22	34	32.0 +1.5
	baz=81									
G05D	Wamic, OR	81.29	326	⇑	P		P	22	34	36.0 +2.4
	baz=82									
TSUM	Tsumeb	81.29	107	*e*	P		P	22	34	35.0 +0.6
	comp=E,5.7nm,0.8s									
I03D	Drain, OR	81.33	324	⇑	P		P	22	34	35.7 +2.0
	baz=82									
C09A	Carlsman Ranch	81.59	330	*e*	P		P	22	34	36.3 +1.2
	comp=E,12nm,1.0s									
EDM	Edmonton	83.54	336	*e*	P		P	22	34	44.5 -0.7
BOSA	Boshof	84.52	118	P			P	22	34	50.2 -0.8
BOSA	Boshof	84.52	118	P			P	22	34	50.2 -0.8
	comp=E,3.0nm,0.6s,baz=261,slow=8.8,SNR=8.2									
TAM	Tamanrasset	86.29	64	*e*	P		P	22	34	57.8 -2.1
	comp=E,3.4nm,1.0s									
YKA	Yellowknife Ar	91.11	341	P			P	22	35	21.2 -0.3
YKA	Yellowknife Ar	91.11	341	P			P	22	35	21.2 -0.3
	comp=E,1.7nm,0.5s,baz=138,slow=4.4,SNR=52									
H11S2	WAKE ISLAND Hyl	26.50	277		T		T	01	00	58.4
	baz=107,slow=73,SNR=243									
H11S1	WAKE ISLAND Hyl	26.51	277		T		T	01	00	44.7
	baz=107,slow=73,SNR=178									
H11S3	WAKE ISLAND Hyl	26.52	277		T		T	01	00	47.9
	baz=107,slow=73,SNR=152									
H11N3	WAKE ISLAND Hyl	26.60	279		T		T	01	01	04.5
	baz=107,slow=75,SNR=155									
H11N2	WAKE ISLAND Hyl	26.61	279		T		T	01	01	05.6
	baz=107,slow=75,SNR=121									
H11N1	WAKE ISLAND Hyl	26.62	279		T		T	01	01	05.8
	baz=107,slow=75,SNR=107									
ASAR	Alice Springs	128.86	209		PKP		PKPdf	22	41	24.6 -1.1
ASAR	Alice Springs	128.86	209		PKP		PKPdf	22	41	24.6 -1.1
	comp=E,0.6nm,0.8s,baz=134,slow=2.1,SNR=4.3									
SEY	Seymchan	129.91	336		PKP		PKPdf	22	41	26.4 +0.1
SEY	Seymchan	129.91	336		PKP		PKPdf	22	41	26.4 +0.1
	comp=E,2.9nm,0.8s,baz=76,slow=8.3,SNR=15									
WRA	Warramunga Arr	131.85	212		PKP		PKPdf	22	41	31.1 -0.3
WRA	Warramunga Arr	131.85	212		PKP		PKPdf	22	41	31.1 -0.3
	comp=E,1.1nm,0.5s,baz=149,slow=1.6,SNR=4.8									
BVAR	Borovoye Array	136.95	34		PKP		PKPdf	22	41	40.5 +0.6
BVAR	Borovoye Array	136.95	34		PKP		PKPdf	22	41	40.5 +0.6
	comp=E,1.3nm,0.9s,baz=327,slow=2.5,SNR=5.3									
KURK	Kurchatov	142.46	32		PKPpre		PKPpre	22	41	43.3
KURK					PKP		PKPdf	22	41	50.0 +0.1
KURBB	Kurchatov Arra	142.47	33		PKhKP		PKPpre	22	41	43.3
	comp=E,0.3nm,0.5s,baz=288,slow=3.7,SNR=3.1									
KURBB					PKP		PKPdf	22	41	50.0 0.0
	comp=E,0.4nm,0.6s,baz=306,slow=3.2,SNR=5.7									
ZAAO	Zalesovo Array	142.93	24	*e*	PKPdf		PKPdf	22	41	48.8 -1.9
ZALV	Zalesovo Beam	142.93	24		PKP		PKPdf	22	41	49.4 -1.4
ZALV	Zalesovo Beam	142.93	24		PKP		PKPdf	22	41	49.4 -1.4
	comp=E,3.0nm,0.7s,baz=270,slow=3.0,SNR=12									
AAK	Ala-Archa	144.24	46		PKPdf		PKPbc	22	41	52.2 +0.3
AAK	Ala-Archa	144.24	46		PKP		PKPbc	22	41	52.1 +0.3
	comp=E,5.2nm,1.0s,baz=203,slow=5.3,SNR=5.5									
ASAJ	Asahikawa	144.89	317		PKPbc		PKPab	22	41	53.6 0.0
ASAJ	Asahikawa	144.89	317		PKPbc		PKPab	22	41	53.6 0.0
	comp=E,7.1nm,0.8s,baz=167,slow=7.5,SNR=4.0									
KSH	Kashi	146.48	51	*e*	PKPbc		PKPdf	22	41	58.1 +0.5
KSH				*es*	PKP			22	42	12.0
KSH				*e*	SKS		SKSdf	22	49	02.1 -3.3
KSH					AMB		AMB			
	comp=E,160nm,6.2s									
KSH					LR		LR			
	comp=E,68nm,10.8s									
KSH					LR		LR			
	comp=E,87nm,6.1s									
KSH					LR		LR			
	comp=E,83nm,6.8s									
MK31	Makanchi Array	146.81	35	*e*	PKPdf		PKPdf	22	41	56.4 -1.3
MKAR	Makanchi Array	146.81	35		PKPbc		PKPdf	22	41	57.8 +0.1
MKAR	Makanchi Array	146.81	35		PKPbc		PKPdf	22	41	57.8 +0.1
	comp=E,3.2nm,0.7s,baz=322,slow=1.9,SNR=25									
HYB	Hyderabad	150.50	93	*i*	PKP		PKPbc	22	42	09.0 -0.9
USRK	Ussuriysk Arra	151.06	325		PKPbc		PKPbc	22	42	10.1 -0.3
	comp=E,5.4nm,0.8s,baz=29,slow=0.9,SNR=7.9									
USRK					PKPab		PKPab	22	42	18.8 +0.8
	comp=E,1.2nm,0.6s,baz=218,slow=1.1,SNR=4.2									
MJAR	Matsushiro Arr	151.19	307		PKPbc		PKPbc	22	42	10.2 -0.8
MJAR					PKPab		PKPab	22	42	19.3 +0.4
MJAR	Matsushiro Arr	151.19	307		PKPbc		PKPbc	22	42	10.2 -0.8
	comp=E,4.1nm,0.8s,baz=87,slow=1.7,SNR=7.8									
MJAR					PKPab		PKPab	22	42	19.3 +0.4
	comp=E,3.1nm,0.8s,baz=112,slow=1.7,SNR=6.2									
WMQ	Urumqi	151.63	35		PKPbc		PKPdf	22	42	06.5 +0.9
WMQ					PP		PP	22	45	55.4 +4.1
WMQ					AMB		AMB			
	comp=E,66nm,14.6s									
WMQ					LR		LR			
	comp=E,410nm,23.8s									
WMQ					LR		LR			
	comp=E,420nm,22.2s									
WMQ					LR		LR			
	comp=E,570nm,25.4s									
MDJ	Mudanjiang	151.98	329		PKPbc		PKPdf	22	42	06.4 +0.4
MDJ					AMB		AMB			
	comp=E,49nm,3.7s									
SONM	Songino Array	154.02	5		PKP		PKPdf	22	42	09.3 +0.2
SONM					PKPbc		PKiKP	22	42	17.5 +0.3
SONM	Songino Array	154.02	5		PKP		PKPdf	22	42	09.3 +0.2
	comp=E,0.5nm,0.5s,baz=318,slow=2.0,SNR=3.5									
SONM					PKPbc		PKiKP	22	42	17.5 +0.3
	comp=E,1.1nm,0.6s,baz=302,slow=2.7,SNR=3.5									
GTA	Gaotai	160.69	23		PKP		PKPdf	22	42	18.8 +1.1
GTA					sPKP			22	42	25.8
GTA					PKPab		PKPab	22	43	02.0 +2.6
GTA					PP		PP	22	46	44.9 +3.6
GTA					SKS		SKSdf	22	49	22.0 +0.2
GTA					SKKS		SKKSac	22	53	32.4 +2.9
GTA					SS		SS	23	06	54.3 +1.9
GTA					AMB		AMB			
	comp=E,140nm,6.4s									
GTA					LR		LR			
	comp=E,340nm,19.5s									
GTA					LR		LR			
	comp=E,500nm,21.8s									
GTA					LR		LR			
	comp=E,700nm,22.3s									
HHC	Hu-ho-hao-te	161.05	355	*e*	PKP		PKPdf	22	42	19.8 +1.8
HHC					PKS		PKSdf	22	45	52.6 +1.2
HHC					PP		PP	22	46	48.8 +5.9
HHC					SKKS			22	53	34.8
HHC					SS		SS	23	06	58.3 +2.8
HHC					AMB		AMB			
	comp=E,170nm,5.5s									
HHC					LR		LR			
	comp=E,610nm,19.4s									
HHC					LR		LR			
	comp=E,320nm,15.6s									
HHC					LR		LR			
	comp=E,620nm,17.6s									
LZH	Lanzhou	165.03	18	*e*	PKP		PKPdf	22	42	19.3 -2.8
LZH					pPKP		pPKPdf	22	42	30.1 +0.6
LZH					sPKP			22	42	34.3
LZH					LR		LR			
	comp=E,160nm,17.8s									
LZH					LR		LR			
	comp=E,170nm,18.6s									
LZH					LR		LR			
	comp=E,190nm,20.1s									
CD2	Chengdu	169.66	29	*e*	PKP		PKPdf	22	42	25.8 +0.4
KMI	Kunming	172.99	62		PKP		PKPdf	22	42	26.0 -1.5
GYA	Guiyang	174.77	30	*e*	PKP		PKPdf	22	42	27.8 -0.2
GYA					PKPab		PKPab	22	44	02.6 +0.7
GYA					PKS		PKSdf	22	45	59.0 -1.4
GYA					PP		PP	22	47	55.4 +2.0
GYA					AMB		AMB			
	comp=E,120nm,8.0s									

IDC 18 22:28:18.4±6.9, 18°.38S×66°.99W, h248km±33km, mb3.0/2, mb1 3.1/4, mb1mx2.9/27, mbtmp3.5/4, Error ellipse: s-maj=137.5km s-min=26.8km az=18.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LPAZ	La Paz	2.34	332	P		Pn	22	29	04.7	-0.1
	4.1nm,0.3s,baz=174,slow=5.7,SNR=108									
LPAZ				S		S	22	29	41.4	+0.1
	1.0nm,0.3s,baz=145,slow=22,SNR=3.8									
SIV	San Ignacio	6.13	68	P		Pn	22	29	49.0	+0.8
	0.6nm,0.3s,baz=268,slow=18,SNR=4.7									
TORD	Torodi Ar. Bea	74.60	70	P		P	22	39	30.5	-0.4
	0.2nm,0.4s,baz=255,slow=6.4,SNR=3.0									
YKA	Yellowknife Ar	88.87	340	P		P	22	40	44.6	+0.6
	0.2nm,0.6s,baz=130,slow=4.5,SNR=5.9									

*IDC **18** 22:30:53.9±0.6, 8°.81S×157°.68E, h0km, mb4.6/23, mb1 4.7/27, mb1mx4.6/37, mbtmp4.6/27, ML4.0/3, MS4.1/17, Ms1 4.1/17, ms1mx3.9/32, Error ellipse: s-maj=19.7km s-min=13.0km az=114.0*

*ISCJB **18** 22:30:55.5±0.2, 8°.81S±0°.04×157°.62E±0°.04, h17km, mb4.8/53, MS4.4/22, Error ellipse: s-maj=6.1km s-min=4.8km az=28.1*

*NEIC **18** 22:30:57.6±1.9, 8°.80S×157°.60E, h22km±14km, mb4.9/18, Error ellipse: s-maj=6.0km s-min=4.7km az=175.0*

*BJI **18** 22:30:59.8, 8°.28S×157°.78E, h34km, mB5.2/29, mb4.9/41, Ms4.9/25, Ms7 4.7/17*

ISC 18 22:30:57.1±0.3, 8°.81S±0°.05×157°.69E±0°.05, h17km, n189, σ1s41/188, mb4.9/53, MS4.5/23, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
HNR	Honiara	2.31	106	*e*Pn		Pn	22	31	35.5	+1.0
HNR				*e*Sn		Sb	22	32	08.9	+2.1
HNR	Honiara	2.31

comp=Z,517nm,20.3s,baz=28,slow=35
STKA Stephens Creek 27.39 211 P **P** **22 36 41.8 0.0**
baz=28,SNR=57
H11S3 WAKE ISLAND Hy 28.55 18 T T 23 05 28.9
baz=200,slow=78,SNR=142
H11S2 WAKE ISLAND Hy 28.55 18 T T 23 05 23.3
baz=200,slow=78,SNR=172
H11S1 WAKE ISLAND Hy 28.57 18 T T 23 05 26.2
baz=200,slow=78,SNR=110
KNRA Kununurra 29.05 254 P **P** **22 36 56.9 +0.1**
baz=29,SNR=4.1
H11N1 WAKE ISLAND Hy 29.76 18 T T 23 07 16.1
baz=197,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 29.77 18 T T 23 07 25.4
baz=197,slow=75,SNR=30
H11N2 WAKE ISLAND Hy 29.78 18 T T 23 07 16.2
baz=197,slow=75,SNR=25
HTT Hallett 30.00 213 P **P** **22 37 04.9 -0.2**
baz=30,SNR=7.0
AFI Afiamalu 30.35 102 LR LR 22 46 49.6
comp=Z,510nm,18.2s,baz=279,slow=32
TOO Toolangi 30.68 199 P **P** **22 37 12.3 +1.2**
baz=31,SNR=4.5
LBMI Labuha 31.14 283 P P 22 37 24.6 +9.3
BBOO Buckleboo 31.15 217 *eP* **P** **22 37 14.9 -0.3**
217nm,0.8s
BBOO Buckleboo 31.15 217 P **P** **22 37 14.6 -0.6**
baz=31,SNR=18
WRKA Warakurna 32.30 236 P **P** **22 37 23.9 -1.6**
baz=32,SNR=30
FORT Forrest 35.22 228 *eP* **P** **22 37 50.2 -0.5**
64nm,1.0s
FORT Forrest 35.22 228 P **P** **22 37 50.4 -0.4**
baz=35,SNR=6.8
RPZ Rata Peaks 36.67 164 *eP* **P** **22 38 03.2 +0.2**
315nm,2.9s
KAPI Kappang 37.83 273 *eP* **P** **22 38 13.8 +0.6**
73nm,1.0s
MBWA Marble Bar 38.55 247 *eP* **P** **22 38 18.2 -1.0**
43nm,1.1s
JCJ Chichijima 38.73 338 LR LR 22 52 21.3
comp=Z,186nm,18.4s,baz=50,slow=33
KMBL Kambalda 40.14 231 P **P** **22 38 32.3 -0.1**
baz=40,SNR=9.1
MEEK Meekatharra 41.01 239 P **P** **22 38 39.2 -0.5**
baz=41,SNR=11
JAGI Jajag, Banyuwa 43.02 267 *eP* **P** **22 38 53.8 -2.5**
JAGI Jajag, Banyuwa 43.02 267 P **P** **22 38 54.5 -1.8**
baz=43,SNR=6.6
KLBR Kellerberrin 43.44 233 P **P** **22 38 58.6 -0.8**
baz=44,SNR=7.9
BLDU Ballidu 43.91 235 P **P** **22 39 02.7 -0.6**
baz=44,SNR=7.1
MORW Morawa 43.94 237 P **P** **22 39 02.9 -0.6**
baz=44,SNR=5.6
NWAO Narrogin (SRO) 44.37 231 P **P** **22 39 05.0 -1.9**
NWAO Narrogin (SRO) 44.37 231 P **P** **22 39 05.0 -1.9**
8.8nm,0.8s,baz=46,slow=6.1,SNR=5.1
MJAR Matsushiro Arr 48.69 339 P **P** **22 39 39.0 -1.7**
MJAR Matsushiro Arr 48.69 339 P **P** **22 39 39.0 -1.7**
3.2nm,0.7s,baz=167,slow=9.0,SNR=11
MJAR LR LR 22 59 21.5
comp=Z,58nm,18.9s,baz=110,slow=35
JNU Nakatsue 48.89 330 *eP* **P** **22 39 42.2 0.0**
14nm,0.7s
JNU Nakatsue 48.89 330 P **P** **22 39 42.1 -0.2**
14nm,0.7s,baz=115,slow=4.2,SNR=11
LEM Lembang 49.62 269 P **P** **22 39 48.8 +0.4**
baz=50,SNR=3.4
PPT Papeete 51.94 105 LR LR 23 00 15.4
comp=Z,189nm,18.8s,baz=289,slow=34
PPT2 Papeete2 51.94 105 *eLR* LR 22 55 10.6
479nm,25.5s
TBI Tubuai 52.52 113 *eLR* LR 22 55 24.2
486nm,28.8s
KSRS Korea Array 53.80 331 P **P** **22 40 18.9 0.0**
2.8nm,0.6s,baz=144,slow=6.8,SNR=9.1
KSAR Wonju Array Be 53.81 331 P **P** **22 40 18.9 -0.1**
KS01 Wonju Array Si 53.83 331 *eP* **P** **22 40 18.3 -0.9**
QIZ Qiongzhong 54.68 301 P **P** **22 40 26.0 +0.3**
QIZ S **S** **22 48 03.8 -1.7**
QIZ pmax pmax
comp=Z,18nm,1.4s
NJ2 Nanjing 55.01 319 *eP* **P** **22 40 28.6 +0.7**
NJ2 pmax pmax
comp=Z,20nm,0.5s
USRK Ussuriysk Arra 57.67 338 P **P** **22 40 46.6 0.0**
4.3nm,1.0s,baz=144,slow=8.3,SNR=8.5
MDJ Mudanjiang 58.93 337 P **P** **22 40 56.0 +0.6**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,150nm,5.5s
PSI Prapat 59.70 278 P **P** **22 40 59.8 -1.8**
PSI Prapat 59.70 278 P **P** **22 40 59.8 -1.8**
3.2nm,0.6s,baz=191,slow=5.2,SNR=2.9
CN2 Changchun 59.98 334 *eP* **P** **22 41 02.4 -0.3**
CN2 *ep*P **pP** **22 41 12.5 +4.3**
CN2 *es*S **S** **22 49 11.5 -2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
ENH Enshi 60.42 312 *eP* **P** **22 41 05.2 -0.9**
7.4nm,0.8s
GYA Guiyang 60.67 307 P **P** **22 41 08.8 +0.9**
GYA pP pP 22 41 20.4 +7.0
GYA PP **PP** **22 43 25.0 +3.1**
GYA ScP **ScP** **22 45 49.5 -3.4**
GYA S **S** **22 49 21.3 -2.9**
GYA sS sS 22 49 40.0 +6.8
GYA SS **SS** **22 53 21.8 -1.3**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.3s
GYA LR LR
comp=N,580nm,18.7s
GYA LR LR
comp=E,520nm,19.4s
GYA LR LR
comp=Z,570nm,18.9s
SLVN Son La 60.70 300 *eP* **P** **22 41 07.5 -0.7**
5.5nm,0.9s
GSI Gunungsitoli 60.73 276 *eP* **P** **22 41 06.6 -1.8**
PBKT Sadao Pong 61.51 294 P P 22 41 19.3 +5.7
15nm,0.9s
PHET Kaeng Krachan 61.57 290 P P 22 41 20.7 +6.6
PEA0 Petropavlovsk- 61.68 0 *eP* **P** **22 41 13.5 -0.6**
PETK Petropavlovsk- 61.68 0 P **P** **22 41 13.3 -0.7**
PETK Petropavlovsk- 61.68 0 P **P** **22 41 13.3 -0.7**
3.4nm,0.6s,baz=175,slow=8.7,SNR=6.9
PETK LR LR 23 04 20.4
comp=Z,94nm,21.9s,baz=160,slow=32
BJI Beijing 61.92 325 P **P** **22 41 17.3 +1.3**
BJI S **S** **22 49 40.1 +0.7**
BJI pmax pmax
comp=Z,7.0nm,0.4s
BJI pmax pmax
comp=Z,100nm,7.3s
BJI LR LR
comp=N,210nm,18.8s
BJI LR LR
comp=E,220nm,14.7s
SRDT SRDT 62.48 291 P P 22 41 26.1 +5.9
59nm,0.8s
FX1 Attu Island--F 62.86 10 *eP* **P** **22 41 20.3 -1.7**
FX1 Attu Island--F 62.86 10 P **P** **22 41 21.4 -0.6**
32nm,0.6s,baz=158,slow=0.9,SNR=16
XAN Xi'an 62.86 315 P **P** **22 41 22.0 -0.5**
XAN pmax pmax
comp=Z,18nm,6.2s
KMI Kunming 63.24 304 P **P** **22 41 28.3 +2.9**
KMI pP pP 22 41 37.9 +7.0
KMI sP sP 22 41 42.3 +9.4
KMI S **S** **22 49 56.1 -0.8**
KMI sS sS 22 50 14.6 +8.6
KMI SS **SS** **22 54 01.3 -2.3**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,220nm,6.6s
KMI LR LR
comp=N,190nm,13.6s
KMI LR LR
comp=E,110nm,15.5s
KMI LR LR
comp=Z,210nm,15.1s
CRAI Chiangrai 63.33 298 P **P** **22 41 26.4 +0.6**
150nm,0.7s,13μm
CM01 Chiang Mai Arr 63.94 295 *eP* **P** **22 41 30.2 +0.4**
CM31 Chiang Mai Arr 63.97 295 *eP* **P** **22 41 29.6 -0.5**
13nm,0.8s
CMAR Chiang Mai Arr 63.97 295 P **P** **22 41 30.9 +0.9**
CMAR Chiang Mai Arr 63.97 295 P **P** **22 41 30.9 +0.9**
4.5nm,0.8s,baz=117,slow=5.0,SNR=27
CMAR LR LR 23 10 13.5
comp=Z,72nm,18.8s,baz=112,slow=37
CHTO Chiang Mai 64.09 296 P **P** **22 41 31.7 +0.9**
82nm,1.1s
CHTO Chiang Mai 64.09 296 *eP* **P** **22 41 31.5 +0.7**
3.7nm,0.9s
MHMT Maesarieng 64.78 295 P P 22 41 40.9 +5.6
6.9nm,1.0s,316nm
CD2 Chengdu 65.02 310 *eP* **P** **22 41 37.6 +0.9**
CD2 sP sP 22 41 53.3 +9.0
CD2 PP **PP** **22 44 02.6 +2.6**
CD2 S **S** **22 50 15.1 -3.3**
CD2 Chengdu 65.02 310 SS SS 22 54 29.3 -1.6
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=N,250nm,16.7s
CD2 LR LR
comp=Z,400nm,17.8s
HHC Hu-ho-hao-te 65.14 323 *eP* **P** **22 41 40.3 +2.9**
HHC PP **PP** **22 44 05.8 +4.9**
HHC PcS 22 46 15.3
HHC S **S** **22 50 19.5 -0.1**
HHC ScS **SKSac** **22 51 29.0 -2.9**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,98nm,5.1s
HHC LR LR
comp=Z,190nm,16.9s
HHC LR LR
comp=Z,330nm,17.7s
HHC LR LR
comp=Z,280nm,18.4s
RKT Rikitea 65.80 111 *e*LR LR 23 01 34.3
comp=Z,193nm,30.8s
LZH Lanzhou 67.48 315 *eP* P 22 41 56.8 +4.2
LZH pP pP 22 42 05.3 +7.2
LZH sP sP 22 42 09.4 +9.2
LZH *es*S **S** **22 50 49.0 +0.6**
LZH sS sS 22 51 06.1 +8.6
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,230nm,5.2s
LZH LR LR
comp=Z,540nm,14.3s
LZH LR LR
comp=Z,770nm,16.2s
LZH LR LR
comp=Z,850nm,17.2s
VNDA Vanda 68.72 179 P **P** **22 41 59.5 +0.1**
VNDA Vanda 68.72 179 P **P** **22 41 59.5 +0.1**
comp=Z,2.4nm,1.0s,baz=344,slow=4.4,SNR=3.2
VNDA LR LR 23 06 12.7
comp=Z,95nm,19.2s,baz=342,slow=31
SEY Seymchan 71.65 357 P **P** **22 42 17.3 -0.2**
SEY Seymchan 71.65 357 P **P** **22 42 17.3 -0.2**
comp=Z,2.5nm,0.8s,baz=40,slow=23,SNR=6.3
GTA Gaotai 71.88 316 *eP* **P** **22 41 21.9 +2.3**
GTA pP PcP 22 42 32.4 -6.0
GTA sP sP 22 42 36.5 +9.2
GTA S **S** **22 51 41.5 +1.4**
GTA sS **SKiKP** **22 51 58.6 +1.4**
GTA SKS **SKSac** **22 52 19.6 -3.6**
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,210nm,5.5s
GTA LR LR
comp=Z,200nm,18.8s
GTA LR LR
comp=Z,170nm,17.3s
ULN Ulaanbaatar 71.97 327 *eP* **P** **22 42 19.4 -0.6**
SONM Songino Array 72.31 327 P **P** **22 42 21.9 -0.1**
SONM Songino Array 72.31 327 P **P** **22 42 21.9 -0.1**
comp=Z,2.2nm,0.7s,baz=133,slow=6.5,SNR=5.3
LSA Lhasa 74.49 304 P **P** **22 42 36.6 +0.9**
LSA Lhasa 74.49 304 *eP* **P** **22 42 34.3 -1.4**
comp=Z,11nm,1.1s
GAMB Gambell 76.02 13 *eP* **P** **22 42 43.0 -0.1**
TAPN Taplejung 76.62 301 *eP* **P** **22 42 48.1 +0.4**
comp=Z,36nm,1.1s
ODAN Odare 76.75 300 *eP* **P** **22 42 48.8 +0.4**
comp=Z,27nm,1.0s
JIRN Jiri 78.00 301 *eP* **P** **22 42 55.4 -0.2**
comp=Z,23nm,1.1s
GUN Gumba 78.33 301 *eP* **P** **22 42 56.7 -0.7**
comp=Z,38nm,1.1s
TNA Tin City 78.41 14 *eP* **P** **22 42 56.7 +0.2**
PKI Pulchoki 78.64 300 *eP* **P** **22 42 59.2 +0.1**
SVW2 Sparrevohn 78.69 21 *eP* **P** **22 42 58.4 +0.2**
KKN Kakani 78.81 301 *eP* **P** **22 43 00.2 +0.3**
DMN Daman 78.91 300 *eP* **P** **22 43 01.1 +0.7**
comp=Z,52nm,1.0s
GKN Gorkha 79.42 301 *eP* **P** **22 43 02.4 -0.7**
comp=Z,30nm,0.9s
KOLN Koldanda 80.24 300 *eP* **P** **22 43 07.5 -0.1**
comp=Z,25nm,0.9s
DANN Dangsing 80.25 301 *eP* **P** **22 43 08.0 +0.2**
comp=Z,31nm,1.1s
RC01 Rabbit Creek A 80.86 23 *eP* **P** **22 43 09.6 -0.3**
PMR Palmer 81.40 23 *eP* **P** **22 43 12.0 -0.8**
CAST Castle Rocks 81.46 20 *eP* **P** **22 43 12.5 -0.6**
KTH Kantishna Hill 81.95 21 *eP* **P** **22 43 14.8 -1.0**
WMQ Urumqi 81.97 317 P **P** **22 43 17.1 +0.8**
WMQ pP pP 22 43 27.5 +5.6
WMQ sP sP 22 43 31.4 +7.4
WMQ LR LR
comp=Z,130nm,19.8s
TRF Thorofare Moun 82.11 21 *eP* **P** **22 43 15.6 -1.1**
MCK McKinley 82.76 21 *eP* **P** **22 43 19.0 -0.9**
MAW Mawson 83.75 203 LR LR 23 18 24.5
comp=Z,152nm,18.1s,baz=119,slow=34
ILAR Eielson Array 84.10 21 P **P** **22 43 24.9 -1.8**
ILAR Eielson Array 84.10 21 P **P** **22 43 24.9 -1.8**
comp=Z,5.2nm,0.6s,baz=253,slow=5.2,SNR=99
ILAR LR LR 23 20 46.8
comp=Z,79nm,18.8s,baz=244,slow=36
COLD Coldfoot 84.49 18 *eP* **P** **22 43 29.4 +0.7**
EGAK Eagle 86.17 22 *eP* **P** **22 43 37.5 +0.3**
MKAR Makanchi Array 86.53 318 P **P** **22 43 38.8 -0.6**
MKAR Makanchi Array 86.53 318 P **P** **22 43 38.8 -0.6**
comp=Z,0.8nm,0.5s,baz=104,slow=5.5,SNR=8.0
ZALV Zalesovo Beam 87.17 326 P **P** **22 43 41.0 -1.3**
ZALV Zalesovo Beam 87.17 326 P **P** **22 43 41.0 -1.3**
comp=Z,0.4nm,0.4s,baz=39,slow=9.3,SNR=2.3
DLBC Dease Lake 88.36 30 LR LR 23 19 04.0
comp=Z,217nm,18.4s,baz=242,slow=33
KSH Kashi 89.21 310 *eP* **P** **22 43 54.0 +1.5**
KSH *ePP* **PP** **22 47 26.3 +3.1**
KSH *es*SKS **SKSac** **22 54 18.8 -3.3**
KSH *es*S **SKKSac** **22 54 37.0 +2.9**
KSH *es*S **sS** **22 54 54.5 +3.6**
KSH pmax pmax
comp=Z,2.0nm,1.1s
KSH pmax pmax
comp=Z,39nm,3.6s
KSH LR LR
comp=Z,210nm,11.7s
KSH LR LR
comp=Z,260nm,14.9s
KSH LR LR
comp=Z,180nm,17.3s
KURK Kurchatov 89.90 321 P **P** **22 43 54.2 -1.1**
KURBB Kurchatov Arra 89.94 321 P **P** **22 43 54.2 -1.2**
comp=Z,0.5nm,1.0s,baz=99,slow=4.9,SNR=3.4
MWC Mount Wilson 90.19 56 *eP* **P** **22 43 58.2 +0.9**
WORM Onyx Ranch 90.31 54 *eP* **P** **22 43 58.0 +0.3**
NVAR Mina Array Bea 90.76 51 P **P** **22 43 59.9 0.0**
NVAR Mina Array Bea 90.76 51 P **P** **22 43 59.9 0.0**
comp=Z,6.6nm,0.8s,baz=243,slow=6.5,SNR=17
WVOR Wild Horse Val 91.25 47 *eP* **P** **22 44 02.9 +0.9**
PFO Pinyon Flat Ob 91.39 56 LR LR 23 15 19.9
comp=Z,207nm,21.2s,baz=303,slow=29
SYO Syowa Base 91.47 199 *ePcP* **PcP** **22 44 04.8 +1.6**
TPH Tonopah 91.53 52 *eP* **P** **22 44 04.4 +1.0**
NEW Newport 93.32 42 LR LR 23 19 45.6
comp=Z,156nm,19.2s,baz=264,slow=31
HLID Hailey 94.48 47 *eP* **P** **22 44 18.0 +1.1**
BVAR Borovoye Array 95.35 323 P **P** **22 44 20.2 -0.2**
BVAR Borovoye Array 95.35 323 P **P** **22 44 20.2 -0.2**
comp=Z,0.7nm,0.7s,baz=127,slow=9.3,SNR=3.5
HVU Hansel Valley 95.46 49 *eP* **P** **22 44 22.7 +1.3**
YKA Yellowknife Ar 96.69 28 P **P** **22 44 25.6 -0.6**
YKA Yellowknife Ar 96.69 28 P **P** **22 44 25.6 -0.6**
comp=Z,0.7nm,0.7s,baz=262,slow=4.7,SNR=13
PDAR Pinedale Array 97.93 48 P **P** **22 44 32.1 -0.6**
PDAR Pinedale Array 97.93 48 P **P** **22 44 32.1 -0.6**
comp=Z,1.6nm,0.8s,baz=220,slow=1.9,SNR=11
STHS Stebnicka Huta 125.66 326 *e* PKPdf 22 50 03.1 +5.2
CRVS Cervenica-Dubn 125.82 326 *e*PKP **PKPdf** **22 49 59.5 +1.3**
GERES GERESS Array B 129.97 330 PKP **PKPdf** **22 50 05.8 -0.4**
GERES GERESS Array B 129.97 330 PKP **PKPdf** **22 50 05.8 -0.4**
comp=Z,0.2nm,0.5s,baz=129,slow=2.7,SNR=3.3
BDFB Brasilia 144.81 134 PKP **PKPab** **22 50 33.2 -0.1**
BDFB Brasilia 144.81 134 PKP **PKPab** **22 50 33.2 -0.1**
comp=Z,15nm,1.0s,baz=240,slow=2.9,SNR=12
ESDC Sonseca Array 145.16 335 PKPbc **PKPbc** **22 50 32.1 -1.7**
ESDC Sonseca Array 145.16 335 PKPbc **PKPbc** **22 50 32.1 -1.7**
comp=Z,0.3nm,0.6s,baz=15,slow=3.9,SNR=2.5
TORD Torodi Ar. Bea 156.05 283 PKP **PKPdf** **22 50 51.1 -0.6**
TORD PKPbc PKPbc 22 51 01.1
TORD Torodi Ar. Bea 156.05 283 PKP **PKPdf** **22 50 51.1 -0.6**
comp=Z,0.5nm,1.0s,baz=163,slow=1.5,SNR=2.9
TORD PKPbc PKPbc 22 51 01.1
comp=Z,1.6nm,1.0s,baz=36,slow=1.4,SNR=5.8

MEX 18 22:40:15.8±0.4, 16.18N×100.23W, h12km±21km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.77**	**27**	*i* P	Pg	22 40 28.4	-2.5
ACX				*e*S	Sg	22 40 38.3	-2.8
ZIIG	**Zihuatanejo**	**1.85**	**320**	*i* P	Pn	22 40 44.2	-3.2
ZIIG				*i* S	Sn	22 41 04.2	-6.5
PNIG	**Pinotepa**	**2.03**	**84**	*i* P	Pn	22 40 47.2	-2.7
PNIG				*i* S	Sn	22 41 10.6	-4.7
ARIG	**Puente Sto Nin**	**2.09**	**357**	*i* P	Pn	22 40 46.6	-4.2
ARIG				*e*S	Sn	22 41 12.2	-4.6
TLIG	**Tlapa**	**2.10**	**49**	*i* P	Pn	22 40 47.4	-3.6
TLIG				*i* S	Sn	22 41 12.1	-5.2
PLIG	**Platanillo**	**2.31**	**17**	*i* P	Pn	22 40 50.9	-2.9
PLIG				*e*S	Sn	22 41 17.3	-5.0
YAIG	**Yautepec**	**2.89**	**22**	*i* P	Pn	22 40 58.4	-3.5
YAIG				*i* S	Sn	22 41 32.0	-4.8

IDC 18 22:49:26.3±3.5, 8.40S×156.51E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=103.6km s-min=39.8km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.54**	**107**	P	Pn	22 49 56.0	-27
WRA	**Warramunga Arr**	**24.33**	**240**	P	P	22 54 45.8	-0.3
	0.5nm,0.3s,baz=67,slow=9.3,SNR=5.0						
STKA	**Stephens Creek**	**27.17**	**209**	P	P	22 55 12.1	+0.5
	1.5nm,0.8s,baz=35,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**85.45**	**318**	P	P	23 02 05.9	-0.1
	0.1nm,0.6s,baz=115,slow=6.8,SNR=3.5						

*IDC **18** 23:01:32.0±18.0, 19.02N×156.15W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/45, mbtmp3.6/4, Error ellipse: s-maj=371.6km s-min=56.3km az=35.0*
*ISCJB **18** 23:01:33.3±2.8, 19.2N±0.1×155.59W±0.09, h3km±14km, mb3.5/4, Error ellipse: s-maj=20.3km s-min=9.8km az=32.5*
*NEIC **18** 23:01:35.0, 19.23N×155.53W, h6km, MD4.3(HVO), After HVO.*
NEIC Felt [V] at Pahala; [III] at Honaunau, Waikoloa and Waimea; [II] at Captain Cook, Hawaii National Park, Hilo, Holualoa, Kailua Kona, Laupahoehoe, Na'alehu, Pepeekeo and Volcano. Also felt Honoka'a, Honomu, Kealakekua, Mountain View, Ninole, Pahoa and Papa'ikou.

ISC 18 23:01:36.1±3.7, 19.3N±0.1×155.5W±0.1, h2km±16km, n16, σ1s26/15, mb3.5/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.31**	**75**	*e*P	**Pg**	**23 01 41.8**	**-0.3**
PUH				*e*S	**Sg**	**23 01 46.1**	**0.0**
STCH	**Steam Cracks**	**0.40**	**76**	*e*P	**Pg**	**23 01 42.8**	**-0.9**
STCH				*e*S	**Sg**	**23 01 49.8**	**+0.9**
POHA	**Pohakuloa**	**0.46**	**360**	*e*P	**Pg**	**23 01 45.4**	**+0.4**
POHA				*e*S	**Sb**	**23 01 53.7**	**-0.8**
HON	**Honolulu**	**3.08**	**312**	*e*Pn	Pn	23 02 20.0	-5.6
HON				*e*S	**Sn**	**23 03 02.5**	**-0.5**
KIP	**Kipapa**	**3.15**	**313**	*e*Pn	Pn	23 02 19.4	-7.3
KIP				*e*Sn	Sn	23 02 56.1	-8.7
H11S2	**WAKE ISLAND Hy**	**35.69**	**275**	T	T	23 45 38.6	
	baz=84,slow=73,SNR=120						
H11S1	**WAKE ISLAND Hy**	**35.70**	**275**	T	T	23 45 38.6	
	baz=84,slow=73,SNR=13						
H11S3	**WAKE ISLAND Hy**	**35.71**	**275**	T	T	23 45 38.6	
	baz=84,slow=73,SNR=53						
PDAR	**Pinedale Array**	**45.12**	**48**	P	P	**23 09 56.2**	**+2.0**
PDAR	**Pinedale Array**	**45.12**	**48**	P	P	**23 09 56.2**	**+2.0**
	0.7nm,1.1s,baz=246,slow=6.8,SNR=2.4						
ILAR	**Eielson Array**	**45.82**	**5**	P	P	**23 09 58.3**	**-0.8**
ILAR	**Eielson Array**	**45.82**	**5**	P	P	**23 09 58.3**	**-0.8**
	0.6nm,0.7s,baz=193,slow=7.4,SNR=9.3						
TXAR	**Lajitas Array**	**47.98**	**68**	P	P	**23 10 17.6**	**+0.8**
TXAR	**Lajitas Array**	**47.98**	**68**	P	P	**23 10 17.6**	**+0.8**
	0.3nm,0.8s,baz=260,slow=10.0,SNR=4.6						
YKA	**Yellowknife Ar**	**51.52**	**23**	P	P	**23 10 41.6**	**-1.4**
YKA	**Yellowknife Ar**	**51.52**	**23**	P	P	**23 10 41.6**	**-1.4**
	0.2nm,0.5s,baz=232,slow=7.4,SNR=5.9						

*IDC **18** 23:11:00.3±0.5, 8.96S×158.13E, h0km, mb4.5/23, mb1 4.6/26, mb1mx4.5/42, mbtmp4.5/26, ML3.7/2, MS4.8/6, Ms1 4.8/6, ms1mx4.4/14, Error ellipse: s-maj=18.4km s-min=13.5km az=101.0*
*NEIC **18** 23:11:03.9±2.9, 9.04S×158.08E, h22km±20km, mb4.9/24, Error ellipse: s-maj=8.8km s-min=6.8km az=174.0*
*GCMT **18** 23:11:03.9±0.2, 9.05S×158.20E, h19km, MW5.2/85, Moment Tensor Solution. s48,c70; s85,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.71±.28; $M_{\theta\theta}$-0.54±.20; $M_{\phi\phi}$5.25±.22; $M_{r\theta}$-2.92±.49; $M_{\theta\phi}$4.19±.17; $M_{\phi r}$-0.88±.45; Best double couple: M_o7.08900×10^{16} NP1:ϕ_s54.00000°,δ61.00000°,λ-55.00000°. NP2: ϕ_s179.00000°,δ44.00000°,λ-136.00000°. Principal axes: T 7.8240, Plg10.0000°, Azm120.0000°; N -1.4730, Plg30.0000°, Azm216.0000°; P -6.3530, Plg58.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **18** 23:11:04.4±0.2, 9.02S±0.04×158.03E±0.04, h33km, mb4.8/56, MS4.8/15 Error ellipse: s-maj=5.5km s-min=5.4km az=141.8*
*BJI **18** 23:11:05.8, 9.10S×157.90E, h30km, mB5.2/33, mb4.7/39, Ms5.1/30, Ms7 4.9/32*
ISC 18 23:11:06.0±0.4, 9.04S±0.05×158.17E±0.05, h33km±2km, n173, σ1s65/209, mb4.8/56, MS4.8/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.80**	**103**	*e*Pn	**Pn**	**23 11 32.0**	**-2.7**
HNR				*e*Sn	**Sb**	**23 12 00.5**	**0.0**
HNR	**Honiara**	**1.80**	**103**	LR	LR	23 12 30.6	
	comp=Z,24μm,20.8s,baz=300,slow=49						
HNR	**Honiara**	**1.80**	**103**	*i* P	Pn	23 11 30.0	-4.7
DZM	**Mont Dzumac**	**15.20**	**149**	*e*P	**Pn**	**23 14 39.7**	**+1.2**
	40nm,1.3s						
DZM				*e*LR	LR	23 18 01.9	

7μm,26.3s
DZM Mont Dzumac 15.20 149 *e*Pn **Pn** **23 14 38.3 -0.2**
48nm,1.1s
DZM Mont Dzumac 15.20 149 Pn **Pn** **23 14 37.9 -0.6**
0.1nm,0.3s,baz=323,slow=20,SNR=3.2
DZM LR LR 23 19 34.7
comp=Z,5μm,18.1s,baz=18,slow=34
COEN Coen 15.48 250 *e*Pn **Pn** **23 14 41.0 -1.1**
4μm,2.6s
COEN Coen 15.48 250 P P 23 14 51.7 +5.5
baz=16,SNR=5.0
PATS Pohnpei 15.77 1 P Pn 23 14 36.5 -9.3
baz=15,SNR=3.2
CTA Charters Tower 15.92 225 Pn **Pn** **23 14 45.6 -2.1**
CTA Charters Tower 15.92 225 Pn **Pn** **23 14 45.6 -2.1**
0.7nm,0.3s,baz=55,slow=16,SNR=6.1
CTAO Charters Tower 15.92 225 *e*Pn **Pn** **23 14 46.0 -1.6**
19nm,1.1s
EIDS Eidsvold 17.59 202 *e*Pn **Pn** **23 15 07.6 -1.0**
48nm,1.4s
EIDS Eidsvold 17.59 202 P **P** **23 15 12.1 +2.7**
baz=18,SNR=4.2
JAY Jayapura 18.54 289 P **P** **23 15 18.9 -1.2**
JAY Jayapura 18.54 289 P **P** **23 15 18.9 -1.2**
10nm,0.3s,baz=77,slow=4.3,SNR=23
JAY Jayapura 18.54 289 P **Pn** **23 15 22.7 +2.3**
baz=19,SNR=9.4
RMQ Roma 19.51 206 P **Pn** **23 15 34.0 +2.0**
baz=20,SNR=8.5
MSVF Nonsavu 21.16 116 *e*P **P** **23 15 49.5 +0.8**
50nm,1.1s
QIS Mount Isa 21.27 235 P **P** **23 15 52.2 +2.5**
baz=22,SNR=4.7
QLP Quilpie 21.88 215 P **P** **23 16 00.1 +3.8**
baz=23,SNR=8.0
ARMA Armidale 22.13 195 *e*P **P** **23 15 58.8 -0.2**
26nm,0.8s
ARMA Armidale 22.13 195 P **P** **23 16 01.2 +2.2**
baz=23,SNR=6.8
CMSA Cobar Meteorol 25.22 206 P **P** **23 16 30.1 +1.2**
baz=26,SNR=9.3
WRAB Tennant Creek 25.44 242 P **P** **23 16 31.2 +0.1**
136nm,0.9s,SNR=11
WRAB Tennant Creek 25.44 242 *e*Pn **P** **23 16 30.2 -0.9**
18nm,0.8s
WRA Warramunga Arr 25.46 242 P **P** **23 16 30.2 -0.9**
WRA Warramunga Arr 25.46 242 P **P** **23 16 30.2 -0.9**
13nm,0.9s,baz=66,slow=9.4,SNR=24
KDU Kakadu 25.49 260 P **P** **23 16 32.1 +0.6**
baz=26,SNR=10
MTN Manton Dam 26.81 259 P **P** **23 16 46.0 +2.6**
baz=28,SNR=4.0
AS01 Alice Springs 27.35 235 *e*P **P** **23 16 46.4 -1.9**
CNB Canberra Magne 27.37 196 P **P** **23 16 52.9 +4.6**
baz=28,SNR=6.1
AS31 Alice Springs 27.39 235 *e*P **P** **23 16 46.6 -2.0**
ASAR Alice Springs 27.39 235 P **P** **23 16 46.8 -1.8**
ASAR Alice Springs 27.39 235 P **P** **23 16 46.8 -1.8**
4.1nm,0.9s,baz=64,slow=8.7,SNR=18
STKA Stephens Creek 27.45 212 *e*P **P** **23 16 47.7 -1.3**
7.2nm,1.4s
STKA Stephens Creek 27.45 212 P **P** **23 16 48.4 -0.6**
4.0nm,0.5s,baz=39,slow=14,SNR=20
STKA LR LR 23 27 20.9
comp=Z,1μm,20.5s,baz=37,slow=36
STKA Stephens Creek 27.45 212 P **P** **23 16 50.0 +0.9**
baz=28,SNR=18
H11S3 WAKE ISLAND Hy 28.62 17 T T 23 47 08.7
baz=198,slow=77,SNR=112
H11S2 WAKE ISLAND Hy 28.62 17 T T 23 47 12.8
baz=198,slow=77,SNR=13
H11S1 WAKE ISLAND Hy 28.64 17 T T 23 47 21.6
baz=198,slow=77,SNR=10
KNRA Kununurra 29.45 254 P P 23 17 13.3 +6.3
baz=30,SNR=3.3
AFI Afiamalu 29.83 102 LR LR 23 28 06.0
comp=Z,2μm,19.3s,baz=280,slow=34
HTT Hallett 30.07 213 P **P** **23 17 13.3 +0.9**
baz=31,SNR=6.4
BBOO Buckleboo 31.26 218 *e*P **P** **23 17 22.0 -0.9**
263nm,1.0s
BBOO Buckleboo 31.26 218 P **P** **23 17 21.8 -1.1**
baz=32,SNR=41
ARPS Mount Arapiles 31.34 206 P **P** **23 17 25.1 +1.6**
baz=32,SNR=11
WRKA Warakurna 32.58 237 P **P** **23 17 34.4 -0.2**
baz=34,SNR=12
URZ Urewera 33.72 153 *e*P **P** **23 17 43.3 -1.0**
17nm,1.1s
URZ Urewera 33.72 153 P **P** **23 17 45.2 +0.9**
2.9nm,0.4s,baz=330,slow=8.1,SNR=3.9
URZ LR LR 23 28 50.2
comp=Z,2μm,21.5s,baz=337,slow=32
BKZ Black Stump Fm 34.20 154 *e*P **P** **23 17 48.6 0.0**
13nm,0.9s
FORT Forrest 35.43 228 *e*P **P** **23 17 57.8 -1.5**
21nm,0.8s
KAPI Kappang 38.33 273 P P 23 18 18.8 -5.3
2μm,0.4s,SNR=15
MBWA Marble Bar 38.91 248 *e*P **P** **23 18 26.8 -2.2**
20nm,1.1s
MEEK Meekatharra 41.30 240 P **P** **23 18 49.2 +0.4**
baz=42,SNR=6.1
RAR Rarotonga 42.23 112 LR LR 23 34 26.8
comp=Z,884nm,18.6s,baz=227,slow=33
JAGI Jajag, Banyuwa 43.49 267 *e*P **P** **23 19 04.6 -2.1**
25nm,0.8s
MORW Morawa 44.22 237 P P 23 19 17.5 +5.1
baz=45,SNR=3.3
NWAO Narrogin (SRO) 44.60 232 P **P** **23 19 14.5 -0.8**
NWAO Narrogin (SRO) 44.60 232 P **P** **23 19 14.5 -0.8**
7.0nm,0.7s,baz=90,slow=5.8,SNR=6.6
MJAR Matsushiro Arr 49.07 339 P **P** **23 19 50.2 0.0**
MJAR Matsushiro Arr 49.07 339 P **P** **23 19 50.2 0.0**
0.5nm,0.4s,baz=161,slow=7.7,SNR=2.7
QZH Quanzhou 51.27 312 P P 23 20 10.8 +3.8
QZH S **S** **23 27 24.8 +0.9**
QZH LR LR
comp=Z,2μm,25.4s
PPT Papeete 51.42 105 LR LR 23 38 49.3
comp=Z,683nm,19.7s,baz=254,slow=32
PPT2 Papeete2 51.42 105 *e*S **S** **23 27 28.5 +2.1**
476nm,30.5s
PPT2 *e*LR LR 23 34 49.3
1μm,23.0s,baz=284
TBI Tubuai 51.99 113 *e*S **S** **23 27 36.4 +2.4**
399nm,32.0s
TBI *e*LQ LQ 23 32 53.8
2μm,31.5s
TBI *e*LR LR 23 35 05.2
2μm,30.8s,baz=293
SSE Sheshan 53.37 320 P **P** **23 20 23.8 +1.3**
SSE pP **pP** **23 20 34.5 +2.1**
SSE PcP **PcP** **23 21 27.8 -1.8**
SSE S **S** **23 27 55.3 +2.8**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,140nm,6.3s
SSE LR LR
comp=N,370nm,22.1s
SSE LR LR
comp=E,250nm,22.1s
SSE LR LR
comp=Z,660nm,20.6s
KSRS Korea Array 54.23 330 P **P** **23 20 28.9 +0.2**
1.0nm,0.4s,baz=156,slow=9.5,SNR=6.6
KSAR Wonju Array Be 54.24 330 P **P** **23 20 28.9 +0.1**
QIZ Qiongzhong 55.20 301 P **P** **23 20 36.0 -0.1**
QIZ S **S** **23 28 17.0 -0.6**
QIZ pmax pmax
comp=Z,34nm,2.5s
QIZ pmax pmax
comp=Z,350nm,4.0s
QIZ LR LR
comp=Z,1μm,25.6s
NJ2 Nanjing 55.49 319 *e*P **P** **23 20 39.6 +1.7**
NJ2 S **S** **23 28 24.5 +3.4**
NJ2 pmax pmax
comp=Z,20nm,1.1s
NJ2 LR LR
comp=N,910nm,21.4s
NJ2 LR LR
comp=E,720nm,24.1s
NJ2 LR LR
comp=Z,6μm,26.1s
USRK Ussuriysk Arra 58.05 338 P **P** **23 20 54.9 -0.9**
3.3nm,0.8s,baz=134,slow=7.1,SNR=6.0
MDJ Mudanjiang 59.32 337 P **P** **23 21 06.0 +1.3**
MDJ pP **pP** **23 21 15.0 +0.3**
MDJ sP **sP** **23 21 19.3 +0.7**
MDJ PcP **PcP** **23 21 53.4 +0.9**
MDJ PP **PP** **23 23 17.0 +0.9**
MDJ ScP **ScP** **23 25 52.0 +1.0**
MDJ PcS **PcS** **23 25 55.8 +1.4**
MDJ S **S** **23 29 10.5 -0.5**
MDJ ScS **ScS** **23 30 53.6 +1.2**
MDJ SS **SS** **23 33 08.6 +2.2**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,110nm,5.3s
MDJ LR LR
comp=N,350nm,24.7s
MDJ LR LR
comp=E,340nm,21.5s
MDJ LR LR
comp=Z,780nm,18.7s
CN2 Changchun 60.39 333 *e*P **P** **23 21 12.3 +0.2**
CN2 *e*pP **pP** **23 21 22.5 +0.3**
CN2 PcP **PcP** **23 21 57.3 +0.5**
CN2 *e*S **S** **23 29 23.5 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,400nm,19.0s
ENH Enshi 60.93 312 *e*P **P** **23 21 14.3 -1.8**
GYA Guiyang 61.19 307 P **P** **23 21 20.3 +2.3**
GYA pP **pP** **23 21 30.6 +2.5**
GYA PP **PP** **23 23 36.0 +2.9**
GYA ScP **ScP** **23 25 59.8 -0.1**
GYA S **S** **23 29 34.5 -1.3**
GYA sS **sS** **23 29 51.3 -1.2**
GYA SS **SS** **23 33 36.6 +0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,540nm,18.9s
GYA LR LR
comp=E,490nm,19.0s
GYA LR LR
comp=Z,560nm,18.6s
PETK Petropavlovsk- 61.90 360 P **P** **23 21 21.7 -0.4**
PETK Petropavlovsk- 61.90 360 P **P** **23 21 21.7 -0.4**
3.1nm,0.9s,baz=184,slow=4.3,SNR=6.9
KMI Kunming 63.76 304 P **P** **23 21 35.5 +0.2**
KMI pP **pP** **23 21 47.9 +2.4**
KMI S **S** **23 30 11.0 +2.5**
KMI SS **SS** **23 34 17.4 +0.4**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI pmax pmax
comp=Z,120nm,4.9s
KMI LR LR
comp=N,160nm,14.7s
KMI LR LR
comp=E,710nm,23.6s
KMI LR LR
comp=Z,1μm,21.7s
CM01 Chiang Mai Arr 64.47 295 *e*P **P** **23 21 39.2 -0.7**
CMAR Chiang Mai Arr 64.50 295 P **P** **23 21 39.1 -0.9**
CMAR Chiang Mai Arr 64.50 295 P **P** **23 21 39.1 -0.9**
4.4nm,0.8s,baz=117,slow=5.2,SNR=17
CHTO Chiang Mai 64.62 296 *e*P **P** **23 21 40.7 -0.1**
CHTO *e*PcP **PcP** **23 22 16.1 +1.5**
RKT Rikitea 65.27 111 *e*S **S** **23 30 27.9 +1.1**
128nm,33.8s
RKT *e*LQ LQ 23 38 30.1
533nm,33.8s
RKT *e*LR LR 23 41 15.0
1μm,30.8s,baz=276
CD2 Chengdu 65.53 310 *e*P **P** **23 21 46.0 -0.6**
CD2 pP **pP** **23 21 57.8 +1.1**
CD2 sP sP 23 22 02.9 +2.3
CD2 PcP **PcP** **23 22 16.8 -1.4**
CD2 PP **PP** **23 24 12.5 +1.3**
CD2 S **S** **23 30 27.6 -2.1**
CD2 sS **sS** **23 30 42.9 -3.6**
CD2 ScS **SKSac** **23 31 37.0 -2.9**
CD2 SS **SS** **23 34 38.3 -5.8**
CD2 pmax pmax
comp=Z,10.0nm,1.1s
CD2 pmax pmax
comp=Z,120nm,7.2s
CD2 LR LR
comp=N,590nm,17.8s
CD2 LR LR
comp=E,700nm,21.4s
CD2 LR LR
comp=Z,770nm,21.4s
HHC Hu-ho-hao-te 65.60 323 *e*P **P** **23 21 47.9 +1.0**
HHC PP **PP** **23 24 15.4 +3.7**
HHC PcS 23 26 23.3
HHC S **S** **23 30 30.3 -0.1**
HHC ScS **SKSac** **23 31 38.0 -2.2**
HHC SS **SS** **23 34 46.0 +1.0**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.4s
HHC LR LR
comp=N,570nm,17.6s
HHC LR LR
comp=E,810nm,17.7s
HHC LR LR
comp=Z,620nm,16.3s
VNDA Vanda 68.48 179 P **P** **23 22 04.9 +0.4**
VNDA Vanda 68.48 179 P **P** **23 22 04.9 +0.4**
3.2nm,0.9s,baz=359,slow=6.2,SNR=6.3
SEY Seymchan 71.89 357 P **P** **23 22 24.2 -1.2**
SEY Seymchan 71.89 357 P **P** **23 22 24.2 -1.2**
1.3nm,0.3s,baz=70,slow=23,SNR=3.6
GTA Gaotai 72.38 316 *e*P **P** **23 22 31.4 +2.3**
GTA pP **pP** **23 22 41.6 +2.2**
GTA sP sP 23 22 45.8 +2.6
GTA S **S** **23 31 54.0 +3.3**
GTA sS sS 23 32 10.6 +2.9
GTA SKS **SKSac** **23 32 29.6 -2.0**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,180nm,5.2s
GTA LR LR
comp=N,340nm,19.5s
GTA LR LR
comp=E,500nm,21.4s
GTA LR LR
comp=Z,700nm,21.9s
ULN Ulaanbaatar 72.42 327 *e*P **P** **23 22 29.5 +0.3**
14nm,1.0s
SONM Songino Array 72.76 326 P **P** **23 22 30.8 -0.4**
SONM Songino Array 72.76 326 P **P** **23 22 30.8 -0.4**
5.6nm,0.9s,baz=130,slow=5.4,SNR=11
SONA1 Songino Array 72.76 326 *e*P **P** **23 22 31.0 -0.2**
SHL Shillong 73.04 300 *e*P **P** **23 22 34.0 +0.7**
TAPN Taplejung 77.14 301 *e*P **P** **23 22 56.1 -1.1**
39nm,1.1s
ODAN Odare 77.27 300 *e*P **P** **23 22 55.4 -2.4**
24nm,1.0s
RAMN Ramite 77.97 300 *e*P P 23 22 59.0 -2.7
JIRN Jiri 78.53 301 *e*P **P** **23 23 03.8 -1.1**
20nm,1.0s
GUN Gumba 78.86 301 *e*P **P** **23 23 05.6 -1.2**
19nm,0.8s
PKI Pulchoki 79.17 300 *e*P **P** **23 23 07.0 -1.4**
DMN Daman 79.43 300 *e*P **P** **23 23 08.6 -1.2**
43nm,1.1s
GKN Gorkha 79.94 301 *e*P **P** **23 23 11.0 -1.4**
49nm,1.3s
KOLN Koldanda 80.76 300 *e*P **P** **23 23 15.1 -1.8**
30nm,0.9s
DANN Dangsing 80.78 301 *e*P **P** **23 23 15.4 -1.7**
18nm,0.9s
QSPA South Pole Qui 80.95 180 *e*P **P** **23 23 16.3 -0.8**
11nm,1.0s
WMQ Urumqi 82.46 317 P **P** **23 23 25.6 +0.3**
WMQ pP **pP** **23 23 36.0 +0.2**
WMQ sP **sP** **23 23 39.9 +0.4**
WMQ PP **PP** **23 26 36.1 +1.2**
WMQ SS **SS** **23 39 00.5 -1.0**
WMQ pmax pmax
comp=Z,2.0nm,0.5s
WMQ LR LR
comp=N,380nm,15.6s
WMQ LR LR
comp=E,360nm,22.9s
WMQ LR LR
comp=Z,570nm,24.9s
MCK McKinley 82.80 21 *e*P **P** **23 23 25.9 -0.7**
33nm,1.2s
TIXI Tiksi 82.83 351 *e*P **P** **23 23 25.0 -1.5**
6.7nm,0.3s
COLA College 83.86 20 *e*P **P** **23 23 31.7 -0.2**
4.0nm,0.9s
IL1 Eielson Array 84.14 21 *e*P **P** **23 23 31.1 -2.3**
ILAR Eielson Array 84.14 21 P **P** **23 23 32.1 -1.3**
ILAR Eielson Array 84.14 21 P **P** **23 23 32.1 -1.3**
3.7nm,1.0s,baz=269,slow=4.2,SNR=15
DAWY Dawson 86.51 23 *e*P **P** **23 23 46.9 +1.5**
MK01 Makanchi Array 87.00 318 *e*P **P** **23 23 46.7 -1.4**
MK31 Makanchi Array 87.01 318 *e*P **P** **23 23 46.2 -2.0**
MKAR Makanchi Array 87.01 318 *e*P **P** **23 23 46.8 -1.4**
MKAR Makanchi Array 87.01 318 P **P** **23 23 46.8 -1.4**
4.8nm,0.7s,baz=97,slow=5.1,SNR=67
ZAA0 Zalesovo Array 87.63 325 *e*P **P** **23 23 49.7 -1.2**
ZALV Zalesovo Beam 87.63 325 P **P** **23 23 48.3 -2.6**
ZALV Zalesovo Beam 87.63 325 P **P** **23 23 48.3 -2.6**
2.9nm,0.9s,baz=124,slow=6.3,SNR=11
KSH Kashi 89.72 310 *e*P **P** **23 24 02.3 +1.0**
KSH *e*PP **PP** **23 27 33.8 -0.1**
KSH *e*SKS **SKSac** **23 34 27.5 -2.3**
KSH *e*S **SKKSac** **23 34 48.3 +5.6**
KSH *e*sS **sS** **23 35 05.3 -3.2**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,49nm,5.0s
KSH LR LR
comp=N,140nm,7.8s
KSH LR LR
comp=E,120nm,6.8s
KSH LR LR
comp=Z,170nm,7.9s
MWC Mount Wilson 89.92 55 *e*P **P** **23 24 05.0 +2.5**
464nm,2.3s
KURK Kurchatov 90.38 321 P **P** **23 24 02.0 -1.9**
KURBB Kurchatov Arra 90.41 321 P **P** **23 24 02.0 -2.0**
1.0nm,0.9s,baz=107,slow=3.0,SNR=13
NV01 Mina Array Sit 90.52 51 *e*P **P** **23 24 06.5 +1.3**
NVAR Mina Array Bea 90.52 51 P **P** **23 24 05.3 +0.1**
NVAR Mina Array Bea 90.52 51 P **P** **23 24 05.3 +0.1**
4.0nm,1.0s,baz=242,slow=6.0,SNR=7.1
INK Inuvik 90.52 20 *e*P **P** **23 24 04.7 +0.5**
42nm,2.1s
INK Inuvik 90.52 20 P **P** **23 24 02.9 -1.3**
4.7nm,1.2s,baz=232,slow=5.9,SNR=4.9
TPH Tonopah 91.29 52 *e*P P 23 24 14.7 +5.9
15nm,1.3s
AAK Ala-Archa 91.44 313 P **P** **23 24 09.5 +0.2**
AAK Ala-Archa 91.44 313 P **P** **23 24 09.5 +0.2**
0.6nm,0.6s,baz=177,slow=11,SNR=4.2
R11A Troy Canyon, C 92.61 52 *e*P **P** **23 24 17.1 +2.3**
8.2nm,1.3s
HLID Hailey 94.29 47 *e*P **P** **23 24 24.2 +1.8**
10nm,1.4s
HVU Hansel Valley 95.24 49 *e*P **P** **23 24 29.0 +2.1**
132nm,2.9s
BVAR Borovoye Array 95.81 323 P **P** **23 24 26.3 -2.7**
BVAR Borovoye Array 95.81 323 P **P** **23 24 26.3 -2.7**
2.8nm,0.8s,baz=104,slow=6.3,SNR=16
BRVK Borovoye 95.88 323 *e*P **P** **23 24 28.0 -1.2**
7.2nm,1.2s
BOZ Bozeman (W) 96.53 45 *e*P **P** **23 24 32.8 +0.2**
80nm,2.3s
YKA Yellowknife Ar 96.66 28 P **P** **23 24 31.5 -1.1**
YKA Yellowknife Ar 96.66 28 P **P** **23 24 31.5 -1.1**
1.6nm,1.0s,baz=259,slow=4.5,SNR=13
YKB5 Yellowknife Ar 96.66 28 *e*P **P** **23 24 32.2 -0.4**
PDAR Pinedale Array 97.72 48 P **P** **23 24 37.2 -1.0**
PDAR Pinedale Array 97.72 48 P **P** **23 24 37.2 -1.0**
1.0nm,0.8s,baz=238,slow=2.8,SNR=6.2
TEIG Tepich 115.11 72 PKiKP **PKPdf** **23 29 43.9 -0.8**
AKASG Malin Array Be 121.02 325 PKP **PKPdf** **23 29 53.5 -1.7**
AKASG Malin Array Be 121.02 325 PKP **PKPdf** **23 29 53.5 -1.7**
0.4nm,0.4s,baz=57,slow=2.0,SNR=4.3
LPAZ La Paz 127.72 119 PKP **PKPdf** **23 30 10.2 +0.4**
LPAZ La Paz 127.72 119 PKP **PKPdf** **23 30 10.2 +0.4**
0.8nm,0.7s,baz=323,slow=10,SNR=3.3
BRG Berggiesshubel 128.94 332 *e*PKP PKPdf 23 30 17.4 +7.0
5.7nm,1.2s
BRG *e* 23 31 59.1
11nm,1.5s
GERES GERESS Array B 130.41 330 PKP **PKPdf** **23 30 12.7 -0.7**
GERES GERESS Array B 130.41 330 PKP **PKPdf** **23 30 12.7 -0.7**
0.3nm,0.5s,baz=106,slow=2.1,SNR=3.2
BDFB Brasilia 144.31 133 PKP **PKPab** **23 30 37.2 -0.6**
BDFB Brasilia 144.31 133 PKP **PKPab** **23 30 37.2 -0.6**
9.0nm,1.0s,baz=36,slow=0.7,SNR=9.1
PGAV Gavieira, Arco 145.09 342 *e*PKP **PKPbc** **23 30 39.7 -0.2**
MVO Moncorvo 145.42 340 *e*PKP **PKPab** **23 30 41.8 +0.6**
POLO Lamas de Olo 145.48 341 *e*PKP **PKPdf** **23 30 41.7 +0.5**
ESDC Sonseca Array 145.57 335 PKPbc **PKPdf** **23 30 39.4 -2.0**
ESDC Sonseca Array 145.57 335 PKPbc **PKPdf** **23 30 39.4 -2.0**
2.8nm,0.8s,baz=27,slow=3.3,SNR=13
PVIS Viseu 146.11 341 *e*PKP **PKPdf** **23 30 42.2 0.0**
PCBR Castelo Branco 146.76 340 *e*PKP **PKPdf** **23 30 43.3 0.0**
PMRV Marv??o 147.10 339 *e*PKP **PKPbc** **23 30 46.7 +0.7**
EVO Evora 148.11 339 *e*PKP **PKPbc** **23 30 49.9 +1.1**
PBEJ Beja 148.51 339 *e*PKP **PKPbc** **23 30 52.0 +2.2**
PBDV Barranco-do-Ve 149.23 338 *e*PKP **PKPbc** **23 30 53.9 +2.2**
TAM Tamanrasset 150.43 301 *e*PKPdf **PKPdf** **23 30 50.0 0.0**
MDT Midelt 151.48 329 PKPbc **PKPbc** **23 30 55.2 -2.2**
MDT Midelt 151.48 329 PKPbc **PKPbc** **23 30 55.2 -2.2**
3.8nm,0.9s,baz=28,slow=3.9,SNR=7.7
TORD Torodi Ar. Bea 156.56 282 PKP **PKPdf** **23 30 58.1 -0.6**
TORD PKPab **PKPab** **23 31 27.7 0.0**
TORD Torodi Ar. Bea 156.56 282 PKP **PKPdf** **23 30 58.1 -0.6**
1.4nm,1.1s,baz=119,slow=1.9,SNR=3.6
TORD PKPab **PKPab** **23 31 27.7 0.0**
1.0nm,0.8s,baz=91,slow=4.8,SNR=6.9
DBIC Dimbokro 163.02 263 PKPab **PKPab** **23 31 56.5 +0.7**
1.2nm,0.8s,baz=265,slow=2.7,SNR=3.7

ISCJB ***18*** *23:12:05.0±0.2, 38.41N±0.02×21.95E±0.02, h9km±2km, mb3.3/2, MS3.7/1, Error ellipse: s-maj=2.7km s-min=2.6km az=157.5*

IDC ***18*** *23:12:05.5±1.6, 37.99N×22.20E, h0km, mb3.5/2, mb1 3.3/5, mb1mx3.1/52, mbtmp3.2/5, ML2.7/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/39, Error ellipse: s-maj=37.5km s-min=22.7km az=120.0*

CSEM ***18*** *23:12:05.0±0.1, 38.41N×21.97E, h5km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.8km az=77.0*

THE ***18*** *23:12:05.6, 38.40N×21.96E, h0km±1km, ML3.3/11, Error ellipse: s-maj=1.6km s-min=0.5km az=285.0*

ATH ***18*** *23:12:05.1, 38.41N×21.95E, h8km, MD3.0/24, ML2.9*

ISC 18 23:12:05.2±0.8, 38.41N±0.01×21.96E±0.01, h8km±4km, n94, σ0.76/132, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**292**	P		**Pg**	**23 12 06.7**	**-0.1**
EFP				S		**Sg**	**23 12 07.8**	**-0.2**
EFP	**Efpalio**	**0.04**	**292**	*e*PG		**Pg**	**23 12 06.7**	**-0.1**
EFP				*e*SG		**Sg**	**23 12 07.7**	**-0.2**
EFP	**Efpalio**	**0.04**	**292**	P		**Pg**	**23 12 06.7**	**-0.1**
EFP				*e*Sg		**Sg**	**23 12 07.7**	**-0.2**
KALE	**Kalithea**	**0.15**	**98**	P		**Pg**	**23 12 08.7**	**+0.4**
KALE				S		**Sg**	**23 12 11.4**	**+0.9**
KALE	**Kalithea**	**0.15**	**98**	*e*PG		**Pg**	**23 12 08.8**	**+0.4**
KALE				*e*SG		**Sg**	**23 12 11.0**	**+0.5**
KALE	**Kalithea**	**0.15**	**98**	P		**Pg**	**23 12 08.7**	**+0.4**
KALE				S		**Sg**	**23 12 11.0**	**+0.5**
LAKA	**Lakka**	**0.17**	**174**	P		**Pg**	**23 12 09.1**	**+0.3**
LAKA	**Lakka**	**0.17**	**174**	*e*PG		**Pg**	**23 12 09.1**	**+0.3**
LAKA	**Lakka**	**0.17**	**174**	P		**Pg**	**23 12 09.1**	**+0.3**
UPR	**University Cam**	**0.18**	**226**	P		**Pg**	**23 12 09.4**	**+0.5**

UPR				S	Sg	23 12 12.7	+1.2
UPR	**University Cam**	**0.18**	**226**	P	Pg	23 12 09.3	+0.4
UPR				S	Sg	23 12 11.8	+0.3
PVO	**Paravola**	**0.39**	**301**	P	Pg	23 12 12.8	-0.1
PVO				S	Sb	23 12 19.9	-0.8
PVO	**Paravola**	**0.39**	**301**	P	Pg	23 12 12.8	-0.1
PVO				S	Sg	23 12 19.6	+1.5
KLV	**Kalavryta, Ach**	**0.40**	**157**	*e*PB	Pg	23 12 12.8	-0.2
KLV	**Kalavryta, Ach**	**0.40**	**157**	P	Pg	23 12 12.8	-0.2
KLV				S	Sg	23 12 19.5	+1.3
DSF	**Desfina**	**0.45**	**90**	P	Pg	23 12 13.7	-0.2
DSF				S	Sg	23 12 21.2	+1.4
DSF	**Desfina**	**0.45**	**90**	*e*PB	Pg	23 12 13.8	-0.2
DSF				*e*SB	Sg	23 12 20.7	+0.9
DSF	**Desfina**	**0.45**	**90**	P	Pg	23 12 13.6	-0.3
DSF				S	Sg	23 12 20.5	+0.7
DRO	**Drossia**	**0.50**	**203**	P	Pg	23 12 14.9	+0.1
DRO				S	Sb	23 12 23.3	-0.4
DRO	**Drossia**	**0.50**	**203**	*e*PB	Pg	23 12 14.8	0.0
DRO	**Drossia**	**0.50**	**203**	P	Pg	23 12 14.8	0.0
DRO				S	Sg	23 12 22.1	+0.8
EVR	**Evrytania**	**0.52**	**347**	P	Pg	23 12 15.1	-0.1
EVR				S	Sg	23 12 23.6	+1.6
EVR	**Evrytania**	**0.52**	**347**	*e*PB	Pg	23 12 15.2	0.0
EVR				*e*SB	Sg	23 12 22.1	+0.1
EVR	**Evrytania**	**0.52**	**347**	*e*Pb	Pg	23 12 15.2	0.0
EVR				*e*Sb	Sg	23 12 22.1	+0.1
RLS	**Riolos of Patr**	**0.52**	**228**	P	Pg	23 12 15.4	+0.1
RLS				S	Sb	23 12 23.7	-0.6
RLS	**Riolos of Patr**	**0.52**	**228**	*e*PB	Pg	23 12 15.3	0.0
RLS				*e*SB	Sg	23 12 22.9	+0.8
RLS	**Riolos of Patr**	**0.52**	**228**	*e*Pb	Pg	23 12 15.3	0.0
RLS				*e*Sb	Sg	23 12 22.9	+0.8
RLS				S	Sb	23 12 23.5	-0.8
GUR	**Goura**	**0.56**	**147**	P	Pg	23 12 15.8	-0.3
GUR				S	Sg	23 12 24.0	+0.5
GUR	**Goura**	**0.56**	**147**	*e*PB	Pg	23 12 15.6	-0.5
GUR	**Goura**	**0.56**	**147**	P	Pg	23 12 15.8	-0.3
GUR				S	Sg	23 12 23.0	-0.5
MAKR	**Makrakomi, Fth**	**0.62**	**13**	P	Pg	23 12 17.4	+0.3
MAKR				S	Sb	23 12 27.5	+0.3
MAKR	**Makrakomi, Fth**	**0.62**	**13**	*e*PB	Pg	23 12 17.4	+0.3
MAKR	**Makrakomi, Fth**	**0.62**	**13**	P	Pg	23 12 17.3	+0.2
MAKR				S	Sg	23 12 26.1	+0.9
PDO	**Prodromos**	**0.63**	**287**	P	Pg	23 12 18.1	+0.7
PDO				S	Sb	23 12 27.9	+0.3
PDO	**Prodromos**	**0.63**	**287**	*e*PB	Pg	23 12 17.4	0.0
PDO	**Prodromos**	**0.63**	**287**	*e*Pb	Pg	23 12 17.4	0.0
PDO	**Prodromos**	**0.63**	**287**	P	Pg	23 12 17.8	+0.4
PDO				S	Sb	23 12 27.9	+0.3
AXAR	**Agios Charalam**	**0.66**	**57**	P	Pg	23 12 17.6	-0.3
AXAR				S	Sb	23 12 28.3	0.0
AXAR	**Agios Charalam**	**0.66**	**57**	P	Pg	23 12 17.6	-0.3
AXAR				S	Sg	23 12 27.4	+1.0
AGG	**Agios Georgios**	**0.68**	**26**	P	Pg	23 12 17.8	-0.5
AGG	**Agios Georgios**	**0.68**	**26**	P	Pg	23 12 17.8	-0.5
LKR	**Lokris**	**0.85**	**73**	*e*PG	Pg	23 12 21.2	-0.4
LKR	**Lokris**	**0.85**	**73**	*e*Pg	Pg	23 12 21.2	-0.4
LTK	**Loutraki**	**0.89**	**116**	P	Pg	23 12 22.6	+0.3
LTK				S	Sn	23 12 36.4	-0.7
LTK	**Loutraki**	**0.89**	**116**	*e*PG	Pg	23 12 21.6	-0.6
LTK	**Loutraki**	**0.89**	**116**	*e*Pg	Pg	23 12 21.6	-0.6
LTK	**Loutraki**	**0.89**	**116**	P	Pg	23 12 22.5	+0.3
LTK				S	Sn	23 12 36.4	-0.7
AMT	**Artemida-Makis**	**0.90**	**193**	P	Pg	23 12 22.4	-0.1
AMT				S	Sn	23 12 37.6	+0.2
AMT	**Artemida-Makis**	**0.90**	**193**	*e*PB	Pg	23 12 22.4	-0.1
AMT	**Artemida-Makis**	**0.90**	**193**	P	Pg	23 12 22.4	-0.1
AMT				S	Sn	23 12 37.6	+0.2
LKD2	**Lefkada island**	**1.08**	**291**	P	Pg	23 12 25.8	-0.2
LKD2	**Lefkada island**	**1.08**	**291**	P	Pg	23 12 25.8	-0.2
SMIA	**Simia**	**1.09**	**64**	*e*PB	Pg	23 12 25.7	-0.4
SMIA	**Simia**	**1.09**	**64**	*e*Pb	Pg	23 12 25.7	-0.4
VLX	**Vlachokerasia**	**1.09**	**162**	P	Pg	23 12 25.1	-1.1
VLX	**Vlachokerasia**	**1.09**	**162**	*e*PG	Pg	23 12 25.4	-0.8
VLX	**Vlachokerasia**	**1.09**	**162**	P	Pg	23 12 25.1	-1.1
VLX	**Vlachokerasia**	**1.09**	**162**	*e*Pg	Pg	23 12 25.4	-0.8
VLS	**Valsamata**	**1.10**	**258**	P	Pg	23 12 25.4	-0.8
VLS	**Valsamata**	**1.10**	**258**	*e*PG	Pg	23 12 25.5	-0.8
VLS	**Valsamata**	**1.10**	**258**	*e*Pg	Pg	23 12 25.5	-0.8
THL	**Klokotos Trika**	**1.15**	**2**	P	Pg	23 12 26.9	-0.4
THL				S	Sn	23 12 43.9	+0.2
THL	**Klokotos Trika**	**1.15**	**2**	*e*PG	Pg	23 12 26.3	-1.0
THL	**Klokotos Trika**	**1.15**	**2**	*e*Pg	Pg	23 12 26.3	-1.0
THL	**Klokotos Trika**	**1.15**	**2**	P	Pg	23 12 26.9	-0.4
THL				S	Sn	23 12 43.9	+0.2
ITM	**Ithomi**	**1.23**	**181**	P	Pb	23 12 27.8	-0.9
ITM				S	Sn	23 12 47.8	+2.2
ITM	**Ithomi**	**1.23**	**181**	*e*PG	Pb	23 12 28.1	-0.6
ITM	**Ithomi**	**1.23**	**181**	P	Pb	23 12 27.8	-0.9
ITM	**Ithomi**	**1.23**	**181**	*e*Pg	Pb	23 12 28.1	-0.6
ITM				S	Sn	23 12 47.8	+2.2
MRKA	**Markates**	**1.31**	**77**	*e*PB	Pb	23 12 30.5	+0.3
MRKA	**Markates**	**1.31**	**77**	*e*Pb	Pb	23 12 30.5	+0.3
NEO	**Neokhori**	**1.33**	**48**	*e*PG	Pn	23 12 30.0	-0.2
NEO	**Neokhori**	**1.33**	**48**	*e*Pg	Pn	23 12 30.0	-0.2
DID	**Didima**	**1.36**	**131**	P	Pn	23 12 30.6	+0.1
DID				S	Sg	23 12 50.4	+1.6
DID	**Didima**	**1.36**	**131**	*e*PB	Pn	23 12 30.8	+0.3
DID	**Didima**	**1.36**	**131**	*e*Pb	Pn	23 12 30.8	+0.3
DID				S	Sg	23 12 50.4	+1.6
ATH	**Athens Observa**	**1.46**	**107**	*e*PB	Pb	23 12 32.6	0.0
ATH	**Athens Observa**	**1.46**	**107**	*e*Pb	Pb	23 12 32.6	0.0
JAN	**Janina**	**1.51**	**326**	*e*PB	Pn	23 12 33.2	+0.5
JAN	**Janina**	**1.51**	**326**	*e*Pb	Pn	23 12 33.2	+0.5
PYL	**PYLOS**	**1.52**	**186**	*e*PG	Pn	23 12 33.4	+0.6
PYL	**PYLOS**	**1.52**	**186**	*e*Pg	Pn	23 12 33.4	+0.6
PTL	**Penteli**	**1.55**	**103**	*e*PB	Pn	23 12 33.6	+0.5
PTL	**Penteli**	**1.55**	**103**	*e*Pb	Pn	23 12 33.6	+0.5
VLI	**Veliai**	**1.86**	**155**	*e*PN	Pb	23 12 38.8	-0.7
VLI	**Veliai**	**1.86**	**155**	*e*Pn	Pb	23 12 38.8	-0.7
KZN	**Kozani**	**1.90**	**356**	*e*PN	Pb	23 12 39.7	-0.5
KZN	**Kozani**	**1.90**	**356**	*e*Pn	Pb	23 12 39.7	-0.5
IDI	**Anoyia**	**3.91**	**142**	Pn	Pn	23 13 02.0	-3.6
	0.1nm,0.3s,baz=298,slow=15,SNR=2.1						
IDI				Sn	**Sn**	**23 13 47.3**	**-4.4**
	0.7nm,0.3s,baz=108,slow=20,SNR=2.1						
MLR	**Muntele Rosu**	**7.67**	**22**	Pn	Pn	23 14 05.8	+8.4
	0.1nm,0.3s,baz=173,slow=17,SNR=4.3						
BRTR	**Keskin Array B**	**9.18**	**78**	Pn	Pn	23 14 22.1	+4.0
	0.1nm,0.3s,baz=263,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**30.93**	**221**	P	**P**	**23 18 22.8**	**0.0**
	1.0nm,1.2s,baz=30,slow=9.0,SNR=5.1						
ARCES	**ARCESS Array B**	**31.24**	**2**	LR	LR	23 31 50.3	
	comp=Z,165nm,19.1s,baz=239,slow=37						
MKAR	**Makanchi Array**	**44.22**	**59**	P	**P**	**23 20 14.8**	**0.0**
	0.2nm,0.4s,baz=279,slow=7.1,SNR=8.7						

IDC ***18*** *23:12:37.9±0.6,8.˙98S×158.˙12E,h0km,mb4.7/21, mb1 4.8/24,mb1mx4.6/43,mbtmp4.7/24,ML4.0/3,MS4.5/4, Ms1 4.5/4,ms1mx4.2/15,Error ellipse: s-maj=21.4km s-min=14.6km az=112.0*

ISCJB ***18*** *23:12:40.1±0.3,8.˙97S±0.˙05×158.˙05E±0.˙04,h23km, mb4.8/52,MS4.7/11,Error ellipse: s-maj=6.5km s-min=5.8km az=0.7*

BJI ***18*** *23:12:40.0,8.˙97S×158.˙29E,h32km,mB5.1/29,mb4.8/36, Ms5.1/24,Ms7 4.8/24*

MOS ***18*** *23:12:41.9±1.1,9.˙02S×158.˙10E,h33km,mb4.9/13,Error ellipse: s-maj=9.7km s-min=8.7km az=171.1*

NEIC ***18*** *23:12:41.2±0.7,8.˙95S×158.˙10E,h19km±4km,mb5.0/16, Error ellipse: s-maj=7.2km s-min=5.5km az=133.0*

GCMT ***18*** *23:12:41.2±0.2,8.˙99S×158.˙21E,h18km±1km,MW5.1/82, Moment Tensor Solution. s42,c64; s82,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.81±.23; Mθθ2.55±.19; Mφφ0.25±.19; Mrθ-1.92±.39; Mφθ4.45±.15; Mφr-2.12±.45; Best double couple: Mo5.38300×10¹⁶ NP1:φ=27.00000°,δ68.00000°,λ-124.00000°. NP2: φ=268.00000°,δ40.00000°,λ-36.00000°. Principal axes: T 6.8230, Plg16.0000°, Azm141.0000°; N -2.8870, Plg31.0000°, Azm41.0000°; P -3.9420, Plg54.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 23:12:42.1±0.3,8.˙98S±0.˙06×158.˙06E±0.˙05,h23km,n138, σ1§76/166,mb4.9/52,MS4.8/12,7C-2D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.92**	**104**	*e*Pn	**Pn**	**23 13 11.2**	**-2.2**
HNR				*e*Sn	**Sn**	**23 13 35.4**	**-1.4**
PMG	**Port Moresby**	**10.77**	**267**	Pn	**Pn**	**23 15 14.7**	**-0.4**
PMG	**Port Moresby**	**10.77**	**267**	Pn	**Pn**	**23 15 14.7**	**-0.4**
	2.4nm,0.3s,baz=35,slow=16,SNR=3.2						
COEN	**Coen**	**15.40**	**250**	*e*Pn	**Pn**	**23 16 18.6**	**+0.4**
	639nm,1.0s						
CTA	**Charters Tower**	**15.88**	**225**	Pn	**Pn**	**23 16 24.2**	**-0.1**
CTA	**Charters Tower**	**15.88**	**225**	Pn	**Pn**	**23 16 24.2**	**-0.1**
	0.4nm,0.3s,baz=52,slow=15,SNR=7.2						
CTAO	**Charters Tower**	**15.88**	**225**	*e*P	**Pn**	**23 16 23.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,149nm,1.6s						
CTAO	**Charters Tower**	**15.88**	**225**	*e*Pn	**Pn**	**23 16 23.8**	**-0.5**
	comp=Z,149nm,1.6s						
EIDS	**Eidsvold**	**17.60**	**201**	*e*Pn	**P**	**23 16 46.9**	**+0.1**
	comp=Z,54nm,1.1s						
JAY	**Jayapura**	**18.41**	**289**	P	**Pn**	**23 16 56.2**	**+0.1**
JAY	**Jayapura**	**18.41**	**289**	P	**Pn**	**23 16 56.2**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=127,slow=5.2,SNR=2.9						
JAY				LR	LR	23 23 42.7	
	comp=Z,4μm,18.7s,baz=62,slow=36						
MSVF	**Nonsavu**	**21.29**	**116**	*e*P	**P**	**23 17 27.0**	**-0.3**
MSVF				pmax	pmax		
	comp=Z,86nm,1.3s						
MSVF	**Nonsavu**	**21.29**	**116**	*e*P	**P**	**23 17 27.0**	**-0.3**
	comp=Z,86nm,1.3s						
ARMA	**Armidale**	**22.16**	**195**	*e*P	**P**	**23 17 36.2**	**-0.4**
	comp=Z,33nm,0.9s						
WRAB	**Tennant Creek**	**25.37**	**242**	P	**P**	**23 18 08.1**	**+0.3**
	comp=Z,356nm,0.8s,SNR=5.3						
WRAB	**Tennant Creek**	**25.37**	**242**	⇑P	**P**	**23 18 09.4**	**+1.6**
WRAB				pmax	pmax		
	comp=Z,254nm,1.7s						
WRAB	**Tennant Creek**	**25.37**	**242**	*e*P	**P**	**23 18 08.9**	**+1.1**
	comp=Z,48nm,0.8s						
WRA	**Warramunga Arr**	**25.39**	**242**	P	**P**	**23 18 08.5**	**+0.5**
WRA	**Warramunga Arr**	**25.39**	**242**	P	**P**	**23 18 08.5**	**+0.5**
	comp=Z,28nm,0.8s,baz=67,slow=9.0,SNR=11						
WRA				LR	LR	23 27 33.9	
	comp=Z,2μm,20.2s,baz=55,slow=35						
AS01	**Alice Springs**	**27.29**	**235**	*e*P	**P**	**23 18 24.8**	**-0.3**
ASAR	**Alice Springs**	**27.33**	**235**	P	**P**	**23 18 24.4**	**-1.2**
ASAR	**Alice Springs**	**27.33**	**235**	P	**P**	**23 18 24.4**	**-1.2**
	comp=Z,9.8nm,0.9s,baz=62,slow=9.4,SNR=8.6						
ASAR				LR	LR	23 28 46.5	
	comp=Z,1μm,21.3s,baz=64,slow=35						
STKA	**Stephens Creek**	**27.44**	**212**	P	**P**	**23 18 25.9**	**-0.4**
STKA	**Stephens Creek**	**27.44**	**212**	P	**P**	**23 18 25.9**	**-0.4**
	comp=Z,23nm,0.8s,baz=4.9,slow=9.1,SNR=5.6						
BBOO	**Buckleboo**	**31.24**	**217**	*e*P	**P**	**23 18 59.9**	**-0.2**
	comp=Z,622nm,1.0s						
SOEI	**Soe**	**33.34**	**266**	*e*P	**P**	**23 19 18.8**	**-0.1**
	comp=Z,168nm,1.0s						
JAGI	**Jajag, Banyuwa**	**43.38**	**267**	*e*P	**P**	**23 20 41.6**	**-1.7**
NWAO	**Narrogin (SRO)**	**44.55**	**232**	P	**P**	**23 20 51.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**44.55**	**232**	P	**P**	**23 20 51.4**	**-1.0**
	comp=Z,18nm,1.0s,baz=60,slow=9.5,SNR=4.3						
MJAR	**Matsushiro Arr**	**48.98**	**339**	P	**P**	**23 21 25.5**	**-1.4**
MJAR	**Matsushiro Arr**	**48.98**	**339**	P	**P**	**23 21 25.5**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=164,slow=9.0,SNR=3.3						
MJAR				LR	LR	23 42 10.4	
	comp=Z,166nm,19.5s,baz=175,slow=36						
JNU	**Nakatsue**	**49.22**	**330**	P	**P**	**23 21 29.5**	**+0.7**
JNU	**Nakatsue**	**49.22**	**330**	P	**P**	**23 21 29.5**	**+0.7**
	comp=Z,10nm,0.8s,baz=108,slow=11,SNR=3.0						
KSRS	**Korea Array**	**54.12**	**330**	P	**P**	**23 22 05.0**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=146,slow=8.5,SNR=6.3						
KSAR	**Wonju Array Be**	**54.13**	**330**	P	**P**	**23 22 05.0**	**-0.5**
KS01	**Wonju Array Si**	**54.16**	**330**	*e*P	**P**	**23 22 05.7**	**+0.1**
NJ2	**Nanjing**	**55.38**	**319**	*e*P	**P**	**23 22 15.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**57.33**	**348**	*e*P	**P**	**23 22 29.0**	**+0.8**
YSS				MLR	MLR		
	comp=Z,900nm,18.0s						
YSS	**Yuzh-Sakhalins**	**57.33**	**348**	*e*P	**P**	**23 22 29.0**	**+0.8**
WHN	**Wuhan**	**57.47**	**315**	*e*P	P	23 22 35.8	+6.2
WHN				S	S	23 30 17.1	-8.7
WHN				LR	LR		
	comp=Z,3μm,19.7s						
USRK	**Ussuriysk Arra**	**57.96**	**338**	P	**P**	**23 22 33.1**	**+0.5**
	comp=Z,12nm,1.0s,baz=141,slow=5.9,SNR=7.2						
MDJ	**Mudanjiang**	**59.22**	**337**	P	**P**	**23 22 41.0**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,60nm,6.0s						
CN2	**Changchun**	**60.29**	**333**	*e*P	**P**	**23 22 50.0**	**+1.1**
CN2				*e*S	**S**	**23 31 00.0**	**-1.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
GYA	**Guiyang**	**61.06**	**307**	⇑*i*P	**P**	**23 22 54.8**	**+0.1**
GYA				pP	**pP**	**23 23 04.3**	**+2.3**
GYA				PP	**PP**	**23 25 11.0**	**+1.6**
GYA				ScP	**ScP**	**23 27 34.3**	**-3.7**
GYA				S	**S**	**23 31 09.1**	**-3.6**
GYA				sS	**sS**	**23 31 28.4**	**+3.7**
GYA				SS	**SS**	**23 35 09.8**	**-3.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,510nm,18.8s						
GYA				LR	LR		
	comp=Z,480nm,19.4s						
GYA				LR	LR		
	comp=Z,530nm,18.5s						
SLVN	**Son La**	**61.10**	**300**	*e*P	**P**	**23 22 55.1**	**+0.1**
	comp=Z,5.3nm,1.0s						
GSI	**Gunungsitoli**	**61.11**	**276**	*e*P	**P**	**23 22 53.9**	**-1.2**
	comp=Z,27nm,0.8s						
PEA0	**Petropavlovsk-**	**61.84**	**360**	*e*P	**P**	**23 22 59.8**	**+0.5**
PETK	**Petropavlovsk-**	**61.84**	**360**	P	**P**	**23 22 59.8**	**+0.6**
PETK	**Petropavlovsk-**	**61.84**	**360**	P	**P**	**23 22 59.8**	**+0.6**
PETK	**Petropavlovsk-**	**61.84**	**360**	P	**P**	**23 22 59.8**	**+0.6**
	comp=Z,15nm,1.0s,baz=140,slow=5.8,SNR=6.6						
PBKT	**Sadao Pong**	**61.91**	**294**	P	P	23 23 05.8	+5.4
	comp=Z,13nm,0.9s						
XAN	**Xi'an**	**63.24**	**315**	P	**P**	**23 23 09.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,22nm,6.8s						
KMI	**Kunming**	**63.63**	**304**	P	**P**	**23 23 13.0**	**+1.0**
KMI				pP	**pP**	**23 23 20.6**	**+1.2**
KMI				sP	**sP**	**23 23 24.4**	**+2.3**
KMI				S	**S**	**23 31 40.8**	**-4.5**
KMI				SS	**SS**	**23 35 49.8**	**-3.6**
KMI				pmax	pmax		
	comp=Z,12nm,1.1s						
KMI				pmax	pmax		
	comp=Z,96nm,3.7s						
KMI				LR	LR		
	comp=Z,330nm,19.3s						
KMI				LR	LR		
	comp=Z,550nm,19.8s						
KMI				LR	LR		
	comp=Z,660nm,19.3s						
CRAI	**Chiangrai**	**63.73**	**298**	P	P	23 23 17.3	+4.8
	comp=Z,59nm,0.8s						
CM01	**Chiang Mai Arr**	**64.34**	**295**	*e*P	**P**	**23 23 17.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**64.37**	**295**	P	**P**	**23 23 17.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**64.37**	**295**	P	**P**	**23 23 17.4**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=123,slow=5.3,SNR=4.2						
CHTO	**Chiang Mai**	**64.49**	**296**	*e*P	**P**	**23 23 18.5**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CHTO	**Chiang Mai**	**64.49**	**296**	P	**P**	**23 23 20.6**	**+3.1**
	comp=Z,64nm,1.4s						
CHTO	**Chiang Mai**	**64.49**	**296**	*e*P	**P**	**23 23 18.5**	**+1.0**
	comp=Z,5.0nm,1.2s						
CD2	**Chengdu**	**65.41**	**310**	*e*P	**P**	**23 23 23.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**65.49**	**323**	*e*P	**P**	**23 23 23.0**	**-0.7**
HHC				PP	**PP**	**23 25 50.6**	**+2.5**
HHC				PcS		23 27 59.1	
HHC				S	**S**	**23 32 04.9**	**-2.5**
HHC				ScS	**SKSac**	**23 33 13.5**	**-4.4**
HHC				SS	**SS**	**23 36 20.0**	**-1.5**
HHC				pmax	pmax		
	comp=Z,27nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
HHC				LR	LR		
	comp=Z,650nm,18.0s						
HHC				LR	LR		
	comp=Z,360nm,16.1s						
HHC				LR	LR		
	comp=Z,460nm,18.4s						
HIA	**Hailar**	**67.01**	**334**	*e*P	**P**	**23 23 32.5**	**-0.6**
	comp=Z,5.7nm,0.5s						
LZH	**Lanzhou**	**67.85**	**315**	*e*P	**P**	**23 23 40.8**	**+1.8**
LZH				pP	**pP**	**23 23 49.1**	**+2.7**
LZH				sP	**sP**	**23 23 53.9**	**+4.8**
LZH				PP	**PP**	**23 26 12.5**	**+3.6**
LZH				*e*S	**S**	**23 32 32.5**	**-3.9**
LZH				sS	**sS**	**23 32 49.1**	**+0.6**
LZH				SS	**SS**	**23 36 57.0**	**-1.5**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,4.8s						
LZH				LR	LR		
	comp=Z,410nm,14.1s						
LZH				LR	LR		
	comp=Z,590nm,16.2s						
LZH				LR	LR		
	comp=Z,680nm,16.6s						
VNDA	**Vanda**	**68.54**	**179**	*e*P	**P**	**23 23 43.9**	**+1.5**
	comp=Z,17nm,1.4s						
VNDA	**Vanda**	**68.54**	**179**	P	**P**	**23 23 42.5**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=338,slow=5.4,SNR=3.0						
SEY	**Seymchan**	**71.83**	**357**	⇑*e*P	**P**	**23 24 02.3**	**-0.4**
SEY	**Seymchan**	**71.83**	**357**	P	**P**	**23 24 02.2**	**-0.4**
SEY	**Seymchan**	**71.83**	**357**	P	**P**	**23 24 02.2**	**-0.4**
	comp=Z,2.2nm,0.2s,baz=52,slow=19,SNR=4.3						
GTA	**Gaotai**	**72.26**	**316**	*e*P	**P**	**23 24 07.6**	**+1.7**
GTA				pP	**pP**	**23 24 18.0**	**+4.7**
GTA				sP	sP	23 24 22.3	+6.2
GTA				S	**S**	**23 33 30.3**	**+2.5**
GTA				sS	**SKiKP**	**23 33 46.8**	**+5.8**
GTA				SKS	**SKSac**	**23 34 05.8**	**-3.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,140nm,5.9s						
GTA				LR	LR		
	comp=Z,280nm,19.9s						
GTA				LR	LR		
	comp=Z,400nm,19.2s						
GTA				LR	LR		
	comp=Z,570nm,20.4s						
ULN	**Ulaanbaatar**	**72.31**	**327**	*e*P	**P**	**23 24 05.5**	**-0.5**
	comp=Z,18nm,1.3s						
SONM	**Songino Array**	**72.65**	**326**	P	**P**	**23 24 09.0**	**+0.9**
SONM	**Songino Array**	**72.65**	**326**	P	**P**	**23 24 09.0**	**+0.9**
	comp=Z,6.4nm,0.8s,baz=152,slow=4.8,SNR=4.8						
SONA1	**Songino Array**	**72.65**	**326**	*e*P	**P**	**23 24 10.6**	**+2.5**
LSA	**Lhasa**	**74.89**	**304**	P	**P**	**23 24 19.4**	**-2.6**
TLY	**Talaya**	**76.32**	**329**	*e*P	**P**	**23 24 30.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BILL	**Bilibino**	**77.05**	**3**	⇓*i*P	**P**	**23 24 34.4**	**+1.5**
BILL				pmax	pmax		
	comp=Z,16nm,1.3s						
QSPA	**South Pole Qui**	**81.01**	**180**	*e*P	**P**	**23 24 55.5**	**+0.6**
	comp=Z,23nm,1.3s						
HVS	**Khovu-Aksy**	**81.44**	**325**	⇑*e*P	**P**	**23 24 59.5**	**+2.1**
HVS				pmax	pmax		
	comp=Z,30nm,1.1s						
KTH	**Kantishna Hill**	**81.97**	**21**	*e*P	**P**	**23 24 59.7**	**-0.2**
WMQ	**Urumqi**	**82.34**	**317**	P	**P**	**23 25 01.6**	**-0.7**
WMQ				pP	**pP**	**23 25 12.0**	**+2.2**
WMQ				sP	**sP**	**23 25 15.9**	**+3.4**
WMQ				PP	**PP**	**23 28 11.5**	**+0.2**
WMQ				SS	**SS**	**23 40 34.5**	**-3.6**
WMQ				pmax	pmax		
	comp=Z,11nm,1.4s						
WMQ				LR	LR		
	comp=Z,310nm,12.7s						
WMQ				LR	LR		
	comp=Z,350nm,18.0s						
WMQ				LR	LR		
	comp=Z,540nm,25.4s						
TIXI	**Tiksi**	**82.76**	**351**	⇑*i*P	**P**	**23 25 04.9**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
HYB	**Hyderabad**	**82.78**	**289**	*i*P	**P**	**23 25 03.0**	**-2.1**
MCK	**McKinley**	**82.78**	**21**	*e*P	**P**	**23 25 03.7**	**-0.4**
MCK				pmax	pmax		
	comp=Z,33nm,1.2s						
MCK	**McKinley**	**82.78**

GERES	**GERESS Array B**	**130.30**	**330**	PKP		**PKPdf**	**23**	**31**	**51.5**	**+0.6**
GERES	**GERESS Array B**	**130.30**	**330**	PKP		**PKPdf**	**23**	**31**	**51.5**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=45,slow=0.6,SNR=3.9									
BDFB	**Brasilia**	**144.43**	**133**	*e*PKPdf		**PKPdf**	**23**	**32**	**17.7**	**-0.1**
BDFB	**Brasilia**	**144.43**	**133**	PKP	PKPbc		23	32	16.2	+0.1
	comp=Z,13nm,0.8s,baz=216,slow=2.8,SNR=3.6									
PBRG	**Braganca**	**144.66**	**340**	*e*PKP		**PKPdf**	**23**	**32**	**20.7**	**+3.4**
MVO	**Moncorvo**	**145.33**	**340**	*e*PKP		**PKPbc**	**23**	**32**	**16.1**	**-2.2**
POLO	**Lamas de Olo**	**145.39**	**341**	*e*PKP		**PKPab**	**23**	**32**	**19.1**	**+0.4**
ES19	**SONSECA Array**	**145.42**	**335**	*e*PKPdf		**PKPab**	**23**	**32**	**19.5**	**+0.7**
ESDC	**Sonseca Array**	**145.47**	**335**	PKPbc		**PKPbc**	**23**	**32**	**17.1**	**-1.6**
ESDC	**Sonseca Array**	**145.47**	**335**	PKPbc		**PKPbc**	**23**	**32**	**17.1**	**-1.6**
	comp=Z,2.6nm,0.9s,baz=8.4,slow=2.3,SNR=5.0									
PTO	**Porto**	**145.86**	**342**	*e*PKP		**PKPab**	**23**	**32**	**21.6**	**+1.3**
PVIS	**Viseu**	**146.02**	**341**	*e*PKP		**PKPbc**	**23**	**32**	**20.2**	**-0.3**
MTE	**Manteigas**	**146.19**	**340**	*e*PKP		**PKPab**	**23**	**32**	**22.2**	**+0.5**
PCBR	**Castelo Branco**	**146.66**	**340**	*e*PKP		**PKPab**	**23**	**32**	**23.0**	**-0.4**
PMRV	**Marv??o**	**147.00**	**339**	*e*PKP		**PKPbc**	**23**	**32**	**23.1**	**-0.2**
MDT	**Midelt**	**151.37**	**328**	PKPbc		**PKPbc**	**23**	**32**	**34.1**	**-0.7**
MDT	**Midelt**	**151.37**	**328**	PKPbc		**PKPbc**	**23**	**32**	**34.1**	**-0.7**
	comp=Z,5.4nm,1.2s,baz=18,slow=7.9,SNR=3.4									
TORD	**Torodi Ar. Bea**	**156.44**	**282**	PKP		**PKPdf**	**23**	**32**	**36.8**	**+0.6**
TORD				PKPbc	PKPbc		23	32	47.7	
TORD	**Torodi Ar. Bea**	**156.44**	**282**	PKP		**PKPdf**	**23**	**32**	**36.8**	**+0.6**
	comp=Z,1.6nm,1.1s,baz=68,slow=3.7,SNR=2.8									
TORD				PKPbc	PKPbc		23	32	47.7	
	comp=Z,1.2nm,1.0s,baz=79,slow=2.0,SNR=2.9									

IDC ***18*** *23:17:27.5±0.6,2˚.26S×120˚.92E, h0km, mb4.2/13, mb1 4.3/13,mb1mx4.0/51,mbtmp4.2/13, Error ellipse: s-maj=42.1km s-min=13.8km az=57.0*

NEIC ***18*** *23:17:29.6±3.5, 2˚.24S×120˚.98E, h14km±23km, mb4.4/5, Error ellipse: s-maj=10.6km s-min=7.6km az=75.0*

ISCJB ***18*** *23:17:31.2±0.4, 2˚.27S±0˚.02×121˚.06E±0˚.02, h44km±5km, mb4.3/18, Error ellipse: s-maj=4.8km s-min=3.5km az=135.1*

DJA ***18*** *23:17:32.3±0.2, 2˚S±2˚×12˚1E±˚, h59km±9km, M4.9/19, mb4.9/8, mB5.4/3, MLv5.0/19, Mw(mB)4.8/3*

ISC 18 23:17:32.6±1.5, 2˚.23S±0˚.04×121˚.02E±0˚.04, h32km±11km, n74, σ1s34/79, mb4.3/18, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
TTSI	**Tana Toraja**	**1.45**	**236**	P		**Pn**	**23**	**17**	**54.5**	**-2.1**
TTSI				S		**Sn**	**23**	**18**	**13.7**	**-0.8**
APSI	**Ampana**	**1.45**	**26**	P		**Pb**	**23**	**17**	**58.0**	**-1.0**
KKSI	**Kolaka, Sulawe**	**2.03**	**162**	P		x	23	18	04.0	
KKSI				S		x	23	18	29.0	
LUWI	**Luwuk**	**2.11**	**56**	P		**Pn**	**23**	**18**	**05.5**	**-0.2**
LUWI				S		**Sn**	**23**	**18**	**32.9**	**+2.0**
LUWI	**Luwuk**	**2.11**	**56**	*e*Pn		**Pn**	**23**	**18**	**05.0**	**-0.7**
LUWI				*e*Sn		**Sn**	**23**	**18**	**31.5**	**+0.6**
LUWI	**Luwuk**	**2.11**	**56**	P		**Pn**	**23**	**18**	**04.9**	**-0.8**
	baz=37,SNR=44									
SPSI	**Sidrap Palu**	**2.13**	**216**	P		**Pn**	**23**	**18**	**05.2**	**-0.8**
SPSI				S		**Sn**	**23**	**18**	**31.6**	**+0.3**
MMSI	**Mamuju**	**2.16**	**258**	P		x	23	18	06.2	
MMSI				S		x	23	18	32.2	
BNSI	**Bone**	**2.34**	**203**	P		**Pn**	**23**	**18**	**08.2**	**-0.7**
BNSI				S		**Sn**	**23**	**18**	**35.8**	**-0.8**
MRSI	**Marisa**	**2.84**	**19**	P		**Pn**	**23**	**18**	**15.8**	**0.0**
MRSI				S		**Sn**	**23**	**18**	**50.6**	**+1.7**
KAPI	**Kappang**	**3.04**	**205**	*e*Pn		**Pn**	**23**	**18**	**17.8**	**-0.7**
KAPI				*e*Sn		**Sn**	**23**	**18**	**57.1**	**+3.2**
BKSI	**Bulukumba**	**3.20**	**196**	P		**Pn**	**23**	**18**	**20.1**	**-0.6**
BKSI				S		**Sn**	**23**	**18**	**56.6**	**-1.2**
TOLI	**Toli-Toli**	**3.33**	**356**	P		x	23	18	23.8	
TOLI				S		x	23	19	02.3	
TOLI	**Toli-Toli**	**3.33**	**356**	*e*Pn		**Pn**	**23**	**18**	**21.5**	**-1.1**
TOLI				*e*Sn		**Sn**	**23**	**19**	**02.5**	**+1.4**
GTOI	**Gorontalo**	**3.47**	**35**	P		**Pn**	**23**	**18**	**25.7**	**+1.2**
KMSI	**Cibinong**	**4.06**	**47**	P		**Pn**	**23**	**18**	**32.3**	**-0.3**
KMSI				S		**Sn**	**23**	**19**	**19.8**	**+0.7**
BKB	**Balikpapan**	**4.23**	**283**	P		**Pn**	**23**	**18**	**35.8**	**+0.9**
BKB				S		**Sn**	**23**	**19**	**24.3**	**+1.1**
KBKI	**Kotabaru**	**4.96**	**257**	P		**Pn**	**23**	**18**	**44.4**	**-0.5**
SANI	**Sanana**	**4.97**	**88**	P		**Pn**	**23**	**18**	**42.3**	**-2.8**
SANI				S		**Sn**	**23**	**19**	**38.5**	**-3.0**
NLAI	**Namlea**	**6.16**	**100**	P		**Pn**	**23**	**19**	**00.7**	**-0.7**
	92nm,0.7s,1μm0.3nm									
BBKI	**Banjar Baru**	**6.29**	**259**	P		**Pn**	**23**	**19**	**02.0**	**-1.2**
	84nm,1.7s,0.5nm									
LBFI	**Labuhan Bajo,**	**6.31**	**190**	P		x	23	19	01.8	
	95nm,0.8s,0.6nm									
MMRI	**Maumere**	**6.48**	**169**	P		**Pn**	**23**	**19**	**04.2**	**-1.6**
	97nm,1.2s,9μm0.7nm									
LBMI	**Labuha**	**6.67**	**76**	P		**Pn**	**23**	**19**	**08.2**	**-0.2**
	208nm,0.6s,2μm0.9nm									
LBMI				S		**Sn**	**23**	**20**	**23.9**	**+0.5**
	208nm,0.6s,2μm0.9nm									
TNTI	**Ternate**	**7.01**	**65**	*e*P		**Pn**	**23**	**19**	**12.5**	**-0.7**
WSI	**Waingapu**	**7.43**	**186**	S		**Sb**	**23**	**21**	**13.1**	**+4.1**
	baz=7.4,SNR=4.2									
SOEI	**Soe**	**8.15**	**157**	P		**Pn**	**23**	**19**	**27.1**	**-1.7**
	185nm,1.0s									
SOEI	**Soe**	**8.15**	**157**	P		Pn	23	19	33.2	+4.3
	baz=31,SNR=4.7									
SWI	**Sorong**	**10.33**	**83**	P		**Pn**	**23**	**19**	**58.8**	**+0.2**
	37nm,0.9s									
FAKI	**Fak Fak**	**11.24**	**94**	P		**Pn**	**23**	**20**	**10.3**	**-0.9**
FAKI	**Fak Fak**	**11.24**	**94**	P		**Pn**	**23**	**20**	**12.2**	**+1.1**
	baz=11,SNR=5.1									
PALU	**Palau**	**16.45**	**55**	S		Sn	23	24	15.8	-7.2
	baz=17,SNR=7.7									
WRAB	**Tennant Creek**	**21.89**	**144**	*e*P		**P**	**23**	**22**	**21.9**	**-1.2**
	8.8nm,0.6s									
WRA	**Warramunga Arr**	**21.90**	**144**	P		**P**	**23**	**22**	**22.5**	**-0.7**
WRA	**Warramunga Arr**	**21.90**	**144**	P		**P**	**23**	**22**	**22.5**	**-0.7**
	8.2nm,0.9s,baz=318,slow=11,SNR=6.4									
PSI	**Prapat**	**22.64**	**283**	P		**P**	**23**	**22**	**30.1**	**-1.4**
PSI	**Prapat**	**22.64**	**283**	P		**P**	**23**	**22**	**30.1**	**-1.4**
	11nm,0.5s,baz=101,slow=4.6,SNR=9.7									
PSI	**Prapat**	**22.64**	**283**	P		**P**	**23**	**22**	**33.0**	**+1.6**
	baz=23,SNR=5.8									
WRKA	**Warakurna**	**23.74**	**163**	P		P	23	22	48.8	+6.6
	baz=24,SNR=3.1									
MEEK	**Meekatharra**	**24.38**	**185**	P		P	23	22	53.3	+5.2
	baz=24,SNR=4.0									
ASAR	**Alice Springs**	**24.70**	**151**	P		**P**	**23**	**22**	**50.4**	**-0.7**
ASAR				PcP		**PcP**	**23**	**26**	**27.3**	**-0.6**
ASAR	**Alice Springs**	**24.70**	**151**	P		**P**	**23**	**22**	**50.4**	**-0.7**
	7.9nm,0.8s,baz=323,slow=7.4,SNR=17									
ASAR				PcP		**PcP**	**23**	**26**	**27.3**	**-0.6**
	0.5nm,0.4s,baz=351,slow=2.0,SNR=6.1									
QIS	**Mount Isa**	**25.71**	**136**	P		**P**	**23**	**23**	**03.8**	**+3.6**
	baz=26,SNR=3.2									
SRDT	**SRDT**	**27.24**	**308**	P		**P**	**23**	**23**	**14.8**	**+0.7**
	62nm,1.0s									
KHLT	**Khaolaem Dam**	**27.92**	**308**	P		**P**	**23**	**23**	**20.0**	**-0.1**
	9.3nm,1.2s									
HTT	**Hallett**	**35.28**	**154**	P		**P**	**23**	**24**	**25.4**	**+0.7**
	baz=35,SNR=4.1									
STKA	**Stephens Creek**	**35.30**	**149**	*e*P		**P**	**23**	**24**	**24.0**	**-0.8**
	1.8nm,0.6s									
STKA	**Stephens Creek**	**35.30**	**149**	P		**P**	**23**	**24**	**24.6**	**-0.2**
	10.0nm,0.7s,baz=321,slow=9.7,SNR=20									
STKA	**Stephens Creek**	**35.30**	**149**	P		P	23	24	28.6	+3.8
	baz=35,SNR=5.4									
PATS	**Pohnpei**	**38.30**	**76**	P		P	23	24	58.5	+7.9
	baz=38,SNR=3.4									
SONM	**Songino Array**	**51.47**	**347**	P		**P**	**23**	**26**	**34.5**	**-0.6**
SONM	**Songino Array**	**51.47**	**347**	P		**P**	**23**	**26**	**34.5**	**-0.6**
	0.8nm,0.6s,baz=158,slow=12,SNR=2.5									
MK31	**Makanchi Array**	**59.50**	**330**	*e*P		**P**	**23**	**27**	**32.1**	**-0.6**
MKAR	**Makanchi Array**	**59.50**	**330**	P		**P**	**23**	**27**	**32.6**	**-0.1**
MKAR	**Makanchi Array**	**59.50**	**330**	P		**P**	**23**	**27**	**32.6**	**-0.1**
	4.2nm,0.6s,baz=122,slow=10,SNR=15									
KBL	**Kabul**	**60.90**	**312**	*e*P		**P**	**23**	**27**	**41.0**	**-1.8**
	4.6nm,0.4s									
AAK	**Ala-Archa**	**61.23**	**322**	*e*P		**P**	**23**	**27**	**44.2**	**-0.6**
	1.0nm,0.4s									
AAK	**Ala-Archa**	**61.23**	**322**	P		**P**	**23**	**27**	**44.4**	**-0.4**
	1.1nm,0.4s,baz=145,slow=7.5,SNR=6.7									
ZALV	**Zalesovo Beam**	**63.55**	**337**	P		**P**	**23**	**27**	**58.7**	**-1.2**
ZALV	**Zalesovo Beam**	**63.55**	**337**	P		**P**	**23**	**27**	**58.7**	**-1.2**
	2.4nm,0.7s,baz=126,slow=5.8,SNR=6.0									
KURBB	**Kurchatov Arra**	**63.92**	**331**	P		**P**	**23**	**28**	**01.6**	**-0.8**
	0.8nm,0.4s,baz=134,slow=6.6,SNR=17									
KURK	**Kurchatov**	**63.94**	**332**	*e*P		**P**	**23**	**28**	**01.3**	**-1.2**
	1.8nm,0.7s									
BVAR	**Borovoye Array**	**69.38**	**330**	P		**P**	**23**	**28**	**35.9**	**-1.4**
BVAR	**Borovoye Array**	**69.38**	**330**	P		**P**	**23**	**28**	**35.9**	**-1.4**
	0.6nm,0.6s,baz=139,slow=9.4,SNR=4.2									
AKTO	**Aktyubinsk**	**74.91**	**324**	P		**P**	**23**	**29**	**11.4**	**+1.1**
AKTO	**Aktyubinsk**	**74.91**	**324**	P		**P**	**23**	**29**	**11.4**	**+1.1**
	1.5nm,0.7s,baz=104,slow=6.2,SNR=4.2									
BRTR	**Keskin Array B**	**89.39**	**310**	P		**P**	**23**	**30**	**27.8**	**+1.1**
BRTR	**Keskin Array B**	**89.39**	**310**	P		**P**	**23**	**30**	**27.8**	**+1.1**
	0.9nm,0.9s,baz=93,slow=4.9,SNR=3.8									
ILAR	**Eielson Array**	**92.90**	**25**	P		**P**	**23**	**30**	**44.4**	**+2.2**
ILAR	**Eielson Array**	**92.90**	**25**	P		**P**	**23**	**30**	**44.4**	**+2.2**
	0.2nm,0.8s,baz=266,slow=5.4,SNR=3.1									
TORD	**Torodi Ar. Bea**	**119.04**	**284**	PKP		**PKPdf**	**23**	**36**	**18.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**119.04**	**284**	PKP		**PKPdf**	**23**	**36**	**18.1**	**-1.1**
	0.5nm,0.9s,baz=58,slow=1.2,SNR=2.3									
LPAZ	**La Paz**	**159.50**	**154**	PKPab		**PKPab**	**23**	**38**	**07.8**	**+0.1**
LPAZ	**La Paz**	**159.50**	**154**	PKPab		**PKPab**	**23**	**38**	**07.8**	**+0.1**
	2.6nm,0.4s,baz=239,slow=5.5,SNR=16									

IDC ***18*** *23:17:53.8±0.9, 38˚.42N×21˚.99E, h0km, mb3.7/10, mb1 3.8/13, mb1mx3.6/55, mbtmp3.6/13, ML2.8/3, Error ellipse: s-maj=19.2km s-min=17.6km az=99.0*

ISCJB ***18*** *23:17:54.4±0.2, 38˚.41N±0˚.01×21˚.95E±0˚.02, h10km±2km, mb3.6/9, Error ellipse: s-maj=2.6km s-min=2.4km az=160.3*

CSEM ***18*** *23:17:54.7±0.1, 38˚.39N×21˚.96E, h2km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.4km az=87.0*

ATH ***18*** *23:17:54.6, 38˚.40N×21˚.96E, h8km±1km, MD3.2/19, ML3.3*

THE ***18*** *23:17:55.0, 38˚.40N×21˚.98E, h0km±1km, ML3.6/14, Error ellipse: s-maj=1.9km s-min=0.6km az=301.0*

SOF ***18*** *23:17:58.6, 38˚.61N×22˚.07E, h2km, MD3.0*

ISC 18 23:17:54.9±0.7, 38˚.41N±0˚.01×21˚.97E±0˚.01, h7km±4km, n165, σ1s04/219, mb3.8/9, 11C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
EFP	**Efpalio**	**0.05**	**286**	P		**Pg**	**23**	**17**	**56.2**	**-0.2**
EFP				S		**Sg**	**23**	**17**	**57.2**	**-0.4**
EFP	**Efpalio**	**0.05**	**286**	*e*PG		**Pg**	**23**	**17**	**56.2**	**-0.2**
EFP				*e*SG		**Sg**	**23**	**17**	**57.4**	**-0.2**
EFP	**Efpalio**	**0.05**	**286**	P		**Pg**	**23**	**17**	**56.2**	**-0.2**
EFP				S		**Sg**	**23**	**17**	**57.2**	**-0.4**
KALE	**Kalithea**	**0.13**	**99**	P		**Pg**	**23**	**17**	**58.1**	**+0.4**
KALE				S		**Sg**	**23**	**18**	**00.8**	**+1.1**
KALE	**Kalithea**	**0.13**	**99**	*e*PG		**Pg**	**23**	**17**	**58.2**	**+0.5**
KALE				*e*SG		**Sg**	**23**	**18**	**00.1**	**+0.4**
KALE	**Kalithea**	**0.13**	**99**	P		**Pg**	**23**	**17**	**58.1**	**+0.4**
KALE				*e*Sg		**Sg**	**23**	**18**	**00.1**	**+0.4**
LAKA	**Lakka**	**0.17**	**178**	P		**Pg**	**23**	**17**	**58.5**	**+0.1**
LAKA	**Lakka**	**0.17**	**178**	*e*PG		**Pg**	**23**	**17**	**58.6**	**+0.1**
LAKA	**Lakka**	**0.17**	**178**	P		**Pg**	**23**	**17**	**58.5**	**+0.1**
UPR	**University Cam**	**0.19**	**229**	P		**Pg**	**23**	**17**	**58.8**	**0.0**
UPR				S		**Sg**	**23**	**18**	**01.4**	**0.0**
UPR	**University Cam**	**0.19**	**229**	P		**Pg**	**23**	**17**	**58.8**	**0.0**
UPR				S		**Sg**	**23**	**18**	**01.4**	**0.0**
KLV	**Kalavryta, Ach**	**0.39**	**159**	*e*PB		**Pg**	**23**	**18**	**02.3**	**-0.3**
KLV	**Kalavryta, Ach**	**0.39**	**159**	P		**Pg**	**23**	**18**	**02.3**	**-0.3**
PVO	**Paravola**	**0.41**	**300**	P		**Pg**	**23**	**18**	**02.4**	**-0.4**
PVO				S		**Sg**	**23**	**18**	**09.3**	**+1.2**
PVO	**Paravola**	**0.41**	**300**	P		**Pg**	**23**	**18**	**02.4**	**-0.4**
PVO				S		**Sg**	**23**	**18**	**09.0**	**+0.9**
DSF	**Desfina**	**0.44**	**90**	P		**Pg**	**23**	**18**	**02.9**	**-0.4**
DSF				S		**Sg**	**23**	**18**	**09.5**	**+0.4**
DSF	**Desfina**	**0.44**	**90**	*e*PG		**Pg**	**23**	**18**	**03.0**	**-0.4**
DSF				*e*SB		**Sg**	**23**	**18**	**10.0**	**+0.9**
DSF	**Desfina**	**0.44**	**90**	P		**Pg**	**23**	**18**	**03.0**	**-0.4**
DSF				S		**Sg**	**23**	**18**	**09.5**	**+0.4**
DSF				*e*Sb		**Sg**	**23**	**18**	**10.0**	**+0.9**
DRO	**Drossia**	**0.50**	**204**	P		**Pg**	**23**	**18**	**04.3**	**-0.3**
DRO				S		**Sg**	**23**	**18**	**11.3**	**+0.1**
DRO	**Drossia**	**0.50**	**204**	*e*PB		**Pg**	**23**	**18**	**04.3**	**-0.3**
DRO	**Drossia**	**0.50**	**204**	P		**Pg**	**23**	**18**	**04.3**	**-0.3**
DRO				S		**Sg**	**23**	**18**	**11.3**	**+0.1**
EVR	**Evrytania**	**0.52**	**346**	P		**Pg**	**23**	**18**	**04.5**	**-0.5**
EVR				S		**Sg**	**23**	**18**	**13.1**	**+1.3**
EVR	**Evrytania**	**0.52**	**346**	*e*PG		**Pg**	**23**	**18**	**04.5**	**-0.5**
EVR				*e*SB		**Sg**	**23**	**18**	**12.7**	**+0.9**
EVR	**Evrytania**	**0.52**	**346**	P		**Pg**	**23**	**18**	**04.5**	**-0.5**
EVR				S		**Sg**	**23**	**18**	**12.0**	**+0.2**
RLS	**Riolos of Patr**	**0.53**	**228**	P		**Pg**	**23**	**18**	**04.9**	**-0.3**
RLS				S		**Sg**	**23**	**18**	**13.2**	**+1.1**
RLS	**Riolos of Patr**	**0.53**	**228**	*e*PB		**Pg**	**23**	**18**	**04.8**	**-0.4**
RLS	**Riolos of Patr**	**0.53**	**228**	P		**Pg**	**23**	**18**	**04.9**	**-0.3**
RLS				S		**Sg**	**23**	**18**	**13.2**	**+1.1**
GUR	**Goura**	**0.56**	**148**	P		**Pg**	**23**	**18**	**05.1**	**-0.6**
GUR				S		**Sg**	**23**	**18**	**13.5**	**+0.5**
GUR	**Goura**	**0.56**	**148**	*e*PB		**Pg**	**23**	**18**	**04.9**	**-0.8**
GUR	**Goura**	**0.56**	**148**	P		**Pg**	**23**	**18**	**05.1**	**-0.6**
GUR				S		**Sg**	**23**	**18**	**13.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.61**	**12**	P		**Pg**	**23**	**18**	**06.5**	**-0.2**
MAKR				S		**Sb**	**23**	**18**	**17.0**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.61**	**12**	*e*PB		**Pg**	**23**	**18**	**06.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.61**	**12**	P		**Pg**	**23**	**18**	**06.5**	**-0.2**
MAKR				S		**Sg**	**23**	**18**	**15.7**	**+1.0**
AXAR	**Agios Charalam**	**0.65**	**57**	P		**Pg**	**23**	**18**	**06.8**	**-0.5**
AXAR				S		**Sb**	**23**	**18**	**17.8**	**0.0**
AXAR	**Agios Charalam**	**0.65**	**57**	P		**Pg**	**23**	**18**	**06.8**	**-0.5**
AXAR				S		**Sb**	**23**	**18**	**17.8**	**0.0**
PDO	**Prodromos**	**0.65**	**287**	P		**Pg**	**23**	**18**	**06.3**	**-1.0**
PDO				S		**Sb**	**23**	**18**	**17.7**	**-0.1**
PDO	**Prodromos**	**0.65**	**287**	*e*PB		**Pg**	**23**	**18**	**07.4**	**+0.1**
PDO	**Prodromos**	**0.65**	**287**	P		**Pg**	**23**	**18**	**06.6**	**-0.7**
PDO	**Prodromos**	**0.65**	**287**	*e*Pb		**Pg**	**23**	**18**	**07.4**	**+0.1**
PDO				S		**Sb**	**23**	**18**	**17.7**	**-0.1**
AGG	**Agios Georgios**	**0.67**	**25**	P		**Pg**	**23**	**18**	**06.9**	**-0.9**
AGG	**Agios Georgios**	**0.67**	**25**	P		**Pg**	**23**	**18**	**06.9**	**-0.9**
LKR	**Lokris**	**0.84**	**73**	*e*PG		**Pg**	**23**	**18**	**10.3**	**-0.8**
LKR	**Lokris**	**0.84**	**73**	*e*Pg		**Pg**	**23**	**18**	**10.3**	**-0.8**
LTK	**Loutraki**	**0.88**	**116**	P		**Pg**	**23**	**18**	**11.2**	**-0.5**
LTK				S		**Sn**	**23**	**18**	**26.0**	**-0.7**
LTK	**Loutraki**	**0.88**	**116**	*e*PB		**Pg**	**23**	**18**	**11.9**	**+0.2**
LTK	**Loutraki**	**0.88**	**116**	P		**Pg**	**23**	**18**	**11.5**	**-0.2**
LTK	**Loutraki**	**0.88**	**116**	*e*Pb		**Pg**	**23**	**18**	**11.9**	**+0.2**
LTK				S		**Sn**	**23**	**18**	**26.0**	**-0.7**
AMT	**Artemida-Makis**	**0.90**	**193**	P		**Pg**	**23**	**18**	**11.2**	**-1.0**
AMT				S		**Sn**	**23**	**18**	**27.1**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**193**	*e*PB		**Pg**	**23**	**18**	**11.9**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**193**	P		**Pg**	**23**	**18**	**11.5**	**-0.7**
AMT	**Artemida-Makis**	**0.90**	**193**	*e*Pb		**Pg**	**23**	**18**	**11.9**	**-0.3**
AMT				S		**Sn**	**23**	**18**	**27.1**	**-0.3**
KFL	**Anninata**	**0.98**	**252**	P		**Pg**	**23**	**18**	**13.0**	**-0.7**
KFL				S		**Sn**	**23**	**18**	**29.8**	**+0.5**
KFL	**Anninata**	**0.98**	**252**	P		**Pg**	**23**	**18**	**13.0**	**-0.7**
KFL				S		**Sn**	**23**	**18**	**29.8**	**+0.5**
SMIA	**Simia**	**1.07**	**64**	P		**Pg**	**23**	**18**	**14.8**	**-0.7**
SMIA				S		**Sn**	**23**	**18**	**31.5**	**-0.2**
SMIA	**Simia**	**1.07**	**64**	*e*PB		**Pg**	**23**	**18**	**15.2**	**-0.3**
SMIA	**Simia**	**1.07**	**64**	P		**Pg**	**23**	**18**	**14.8**	**-0.7**
SMIA	**Simia**	**1.07**	**64**	*e*Pb		**Pg**	**23**	**18**	**15.2**	**-0.3**
SMIA				S		**Sn**	**23**	**18**	**31.5**	**-0.2**
VLX	**Vlachokerasia**	**1.09**	**163**	P		**Pg**	**23**	**18**	**14.5**	**-1.3**
VLX				S		**Sb**	**23**	**18**	**31.4**	**+0.8**
VLX	**Vlachokerasia**	**1.09**	**163**	*e*PG		**Pg**	**23**	**18**	**14.9**	**-0.9**
VLX	**Vlachokerasia**	**1.09**	**163**	P		**Pg**	**23**	**18**	**14.5**	**-1.3**
VLX	**Vlachokerasia**	**1.09**	**163**	*e*Pg		**Pg**	**23**	**18**	**14.9**	**-0.9**
VLX				S		**Sb**	**23**	**18**	**31.4**	**+0.8**
LKD2	**Lefkada island**	**1.10**	**290**	P		**Pg**	**23**	**18**	**15.1**	**-0.8**
LKD2				S		**Sn**	**23**	**18**	**34.0**	**+1.8**
LKD2	**Lefkada island**	**1.10**	**290**	P		**Pg**	**23**	**18**	**15.1**	**-0.8**
LKD2				S		**Sn**	**23**	**18**	**34.0**	**+1.8**
VLS	**Valsamata**	**1.11**	**258**	P		**Pg**	**23**	**18**	**14.6**	**-1.6**
VLS				S		**Sn**	**23**	**18**	**32.7**	**+0.1**
VLS	**Valsamata**	**1.11**	**258**	*e*PG		**Pg**	**23**	**18**	**15.3**	**-0.9**
VLS	**Valsamata**	**1.11**	**258**	P		**Pg**	**23**	**18**	**14.6**	**-1.6**
VLS	**Valsamata**	**1.11**	**258**	*e*Pg		**Pg**	**23**	**18**	**15.3**	**-0.9**
VLS				S		**Sn**	**23**	**18**	**32.7**	**+0.1**
THL	**Klokotos Trika**	**1.15**	**2**	P		**Pg**	**23**	**18**	**15.9**	**-1.1**
THL				S		**Sn**	**23**	**18**	**33.8**	**+0.3**
THL	**Klokotos Trika**	**1.15**	**2**	*e*PB		**Pg**	**23**	**18**	**16.5**	**-0.5**
THL	**Klokotos Trika**	**1.15**	**2**	P		**Pg**	**23**	**18**	**15.9**	**-1.1**
THL	**Klokotos Trika**	**1.15**	**2**	*e*Pb		**Pg**	**23**	**18**	**16.5**	**-0.5**
THL				S		**Sn**	**23**	**18**	**33.8**	**+0.3**
ITM	**Ithomi**	**1.23**	**182**	P		**Pb**	**23**	**18**	**17.3**	**-1.2**
ITM				S		**Sn**	**23**	**18**	**37.4**	**+1.9**
ITM	**Ithomi**	**1.23**	**182**	*e*PG		**Pb**	**23**	**18**	**17.4**	**-1.1**
ITM	**Ithomi**	**1.23**	**182**	P		**Pb**	**23**	**18**	**17.3**	**-1.2**
ITM				S		**Sn**	**23**	**18**	**37.4**	**+1.9**
FYTO	**Fytoko, Volos**	**1.25**	**37**	P		**Pn**	**23**	**18**	**18.6**	**-0.2**
FYTO	**Fytoko, Volos**	**1.25**	**37**	P		**Pn**	**23**	**18**	**18.6**	**-0.2**
MRKA	**Markates**	**1.30**	**76**	*e*PB		**Pg**	**23**	**18**	**20.2**	**+0.4**
MRKA	**Markates**	**1.30**	**76**	*e*Pb		**Pg**	**23**	**18**	**20.2**	**+0.4**
NEO	**Neokhori**	**1.32**	**47**	*e*PB		**Pn**	**23**	**18**	**19.8**	**-0.1**
NEO	**Neokhori**	**1.32**	**47**	*e*Pb		**Pn**	**23**	**18**	**19.8**	**-0.1**
XOR	**Xorichti**	**1.35**	**45**	P		**Pn**	**23**	**18**	**20.2**	**0.0**
XOR	**Xorichti**	**1.35**	**45**	P		**Pn**	**23**	**18**	**20.2**	**0.0**
DID	**Didima**	**1.35**	**132**	P		**Pn**	**23**	**18**	**19.5**	**-0.7**
DID				S		**Sn**	**23**	**18**	**39.6**	**+1.2**
DID	**Didima**	**1.35**	**132**	*e*PB		**Pg**	**23**	**18**	**21.0**	**+0.2**
DID	**Didima**	**1.35**	**132**	P		**Pn**	**23**	**18**	**19.5**	**-0.7**
DID	**Didima**	**1.35**	**132**	*e*P

GOLS	**Golise**	**1.02**	**76**	*i* Pg	Pg	23 18 15.7	+0.3
GOLS				*i* Sg	Sn	23 18 29.8	+0.4
GOLS	**Golise**	**1.02**	**76**	*i* Pg	Pg	23 18 15.7	+0.3
GOLS				*i* Sg	Sn	23 18 29.8	+0.3
NVLJ	**Novalja**	**1.30**	**159**	*e*Pg	Pg	23 18 20.7	0.0
NVLJ				Sg	Sg	23 18 39.2	+1.6
NVLJ	**Novalja**	**1.30**	**159**	*e*Pg	Pg	23 18 20.7	0.0
NVLJ				Sg	Sg	23 18 39.2	+1.5

*ISCJB **18** 23:21:37.1±1.4, 43°.85N±0°.08×145°.73E±0°.08, h121km±10km, Error ellipse: s-maj=13.9km s-min=8.4km az=164.0*
*JMA **18** 23:21:37.4±0.3, 43°.88N×145°.74E, h120km±2km, M2.3*
*SKHL **18** 23:21:37.3±0.1, 44°.40N×145°.99E, h120km±8km, mb4.9/2, msh5.3/2*

ISC 18 23:21:36.9±2.9, 43°.87N±0°.10×145°.76E±0°.07, h125km±18km, n11, σ0°.43/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.18**	**24**	*e*P		**Pn**	**23 21 54.4**	**+0.4**
YUK				AMB		AMB	23 21 56.3	
	35nm,0.2s							
YUK				AMB		AMB	23 21 56.3	
	93nm,0.2s							
YUK				*e*S		**Sn**	**23 22 07.3**	**+0.4**
YUK				A		A	23 22 07.8	
	680nm,0.6s							
YUK				A		A	23 22 07.8	
	260nm,0.6s							
JRA	**Rausu**	**0.47**	**279**	P		**Pn**	**23 21 55.0**	**-0.1**
NEM2	**Nemuro 2**	**0.50**	**181**	P		**Pn**	**23 21 55.4**	**+0.1**
NEM2				*e*S		**Sn**	**23 22 08.7**	**-0.5**
SHO	**Shikotan**	**0.78**	**89**	*e*P		**Pn**	**23 21 57.3**	**+0.1**
SHO				AMB		AMB	23 21 57.5	
	2µm,0.3s							
SHO				*e*S		**Sn**	**23 22 12.2**	**-0.4**
SHO				A		A	23 22 13.0	
	2µm,0.4s							
SHO				A		A	23 22 13.0	
	2µm,0.4s							
JNK	**Nakash**	**0.80**	**250**	P		**Pn**	**23 21 57.6**	**+0.1**
JAK	**Akkeshi**	**1.16**	**222**	P		**Pn**	**23 22 01.1**	**+0.2**
JAK				*e*S		**Sn**	**23 22 19.0**	**-0.1**
JTKR	**Abashiri--Toko**	**1.34**	**275**	P		**Pn**	**23 22 02.6**	**-0.1**
JTKR				*e*S		**Sn**	**23 22 22.6**	**+0.2**
JAR	**Ashorobuto**	**1.55**	**249**	P		**Pn**	**23 22 05.7**	**+0.5**
JOB	**Onbets**	**1.70**	**236**	P		**Pn**	**23 22 07.5**	**+0.6**
JOB				*e*S		**Sn**	**23 22 29.8**	**0.0**
JMP	**Maruseppu**	**1.74**	**275**	P		**Pn**	**23 22 07.3**	**-0.1**
JMP				*e*S		**Sn**	**23 22 30.3**	**-0.3**
JCH	**Churui**	**2.15**	**235**	P		**Pn**	**23 22 12.6**	**+0.2**
JCH				*e*S		**Sn**	**23 22 38.6**	**-1.0**

*IDC **18** 23:26:30.4±1.0, 8°.65S×157°.92E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/33, mbtmp4.0/10, ML3.8/1, Error ellipse: s-maj=42.0km s-min=18.9km az=129.0*
*ISCJB **18** 23:26:34.1±0.9, 8°.6S±0°.2×157°.8E±0°.2, h33km, mb3.9/9, Error ellipse: s-maj=38.5km s-min=13.4km az=36.4*

ISC 18 23:26:35.8±1.1, 8°.7S±0°.2×157°.9E±0°.3, h35km, n15, σ0°.59/10, mb4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**15.96**	**223**	Pn		**Pn**	**23 30 17.4**	**-0.5**
	0.2nm,0.3s,baz=59,slow=12,SNR=1.8							
WRA	**Warramunga Arr**	**25.36**	**241**	P		**P**	**23 31 59.5**	**-0.3**
	3.0nm,0.6s,baz=67,slow=9.4,SNR=9.6							
ASAR	**Alice Springs**	**27.35**	**234**	P		**P**	**23 32 18.1**	**+0.3**
	0.4nm,0.6s,baz=69,slow=8.8,SNR=5.7							
STKA	**Stephens Creek**	**27.60**	**211**	P		**P**	**23 32 20.7**	**+0.8**
	1.6nm,0.7s,baz=59,slow=15,SNR=4.4							
H11S3	**WAKE ISLAND Hy**	**28.36**	**18**	T		T	00 01 00.5	
	baz=200,slow=77,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.36**	**18**	T		T	00 00 55.7	
	baz=200,slow=77,SNR=10							
H11S1	**WAKE ISLAND Hy**	**28.38**	**18**	T		T	00 01 06.0	
	baz=200,slow=77,SNR=9.1							
PETK	**Petropavlovsk-**	**61.54**	**360**	P		**P**	**23 36 49.8**	**+0.6**
	1.6nm,0.8s,baz=81,slow=11,SNR=6.6							
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P		**P**	**23 37 07.1**	**+0.4**
	0.8nm,0.4s,baz=118,slow=5.1,SNR=7.6							
ILAR	**Eielson Array**	**83.90**	**21**	P		**P**	**23 39 01.3**	**-0.4**
	1.1nm,0.4s,baz=258,slow=5.4,SNR=29							
MKAR	**Makanchi Array**	**86.53**	**318**	P		**P**	**23 39 14.7**	**-0.7**
	0.5nm,0.6s,baz=96,slow=6.3,SNR=10							
NVAR	**Mina Array Bea**	**90.53**	**51**	P		**P**	**23 39 34.5**	**-0.3**
	0.7nm,0.7s,baz=253,slow=5.6,SNR=2.7							
YKA	**Yellowknife Ar**	**96.48**	**28**	P		**P**	**23 40 01.6**	**+0.3**
	0.1nm,0.4s,baz=264,slow=5.2,SNR=2.8							
BDFB	**Brasilia**	**144.78**	**133**	PKP		PKPbc	23 46 08.6	-0.6
	2.1nm,0.7s,baz=170,slow=7.3,SNR=4.7							
TORD	**Torodi Ar. Bea**	**156.19**	**283**	PKPbc		PKPdf	23 46 35.9	+8.1
	0.2nm,0.7s,baz=12,slow=1.9,SNR=2.7							

IDC 18 23:27:41.2±1.5, 13°.95N×93°.81W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/40, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=213.9km s-min=28.4km az=69.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TXAR	**Lajitas Array**	**17.83**	**331**	P		Pn	23 31 50.5	-0.5
	0.0nm,0.3s,baz=148,slow=14,SNR=3.4							
YKA	**Yellowknife Ar**	**50.69**	**348**	P		P	23 36 41.8	-0.5
	0.2nm,0.7s,baz=154,slow=7.4,SNR=3.6							
PLCA	**Paso Flores**	**58.52**	**159**	P		P	23 37 39.4	-0.1
	3.7nm,1.1s,baz=333,slow=14,SNR=3.2							
INK	**Inuvik**	**60.00**	**344**	P		P	23 37 49.8	+0.5
	0.7nm,0.9s,baz=132,slow=12,SNR=3.1							
ILAR	**Eielson Array**	**62.20**	**337**	P		P	23 38 04.5	+0.1
	0.6nm,0.9s,baz=145,slow=5.3,SNR=6.7							

*ROM **18** 23:28:36.1±0.1, 46°.45N×12°.98E, h10km±1km, Md1.6/5, Ml1.3/3, Error ellipse: s-maj=2.2km s-min=0.8km az=61.0*
*LJU **18** 23:28:56.0, 45°.83N×13°.99E, h12km, ML1.4*

CSEM 18 23:28:37.0±0.3, 46°.46N×12°.98E, h10km, MD1.5, 8C-4D, Error ellipse: s-maj=8.9km s-min=4.8km az=51.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FUSE	**Fusea**	**0.05**	**166**	⇑*i*Pg		Pg	23 28 39.3	+0.2
FUSE				*i* Sg		Sg	23 28 41.4	+0.8
FUSE	**Fusea**	**0.05**	**166**	⇑*i*Pg		Pg	23 28 39.3	+0.2
FUSE				*i* Sg		Sg	23 28 41.3	+0.8
ZOU	**Zoufplan**	**0.10**	**356**	⇑*i*Pg		Pg	23 28 40.0	+0.1
ZOU				*i* Sg		Sg	23 28 42.7	+0.8
ZOU	**Zoufplan**	**0.10**	**356**	⇑*i*Pg		Pg	23 28 40.1	+0.3
ZOU				*i* Sg		Sg	23 28 42.9	+1.0
ZOU	**Zoufplan**	**0.10**	**356**	⇑*i*Pg		Pg	23 28 40.0	+0.2
ZOU				*i* Sg		Sg	23 28 42.7	+0.8
BOO	**Bordano**	**0.16**	**151**	⇓*i*Pg		Pg	23 28 40.3	-0.3
BOO	**Bordano**	**0.16**	**151**	⇓*i*Pg		Pg	23 28 40.3	-0.3
FVI	**Forni Avoltri**	**0.19**	**314**	Pg		Pg	23 28 41.2	-0.1
FVI				Sg		Sg	23 28 44.7	+0.5
	52nm,0.2s							
FVI	**Forni Avoltri**	**0.19**	**314**	Pg		Pg	23 28 41.2	-0.1
FVI				Sg		Sg	23 28 44.7	+0.5
	52nm,0.2s							
GEPF	**Gemona**	**0.22**	**150**	Pg		Pg	23 28 40.8	-0.7
GEPF				Sg		Sg	23 28 44.7	+0.2
GEPF	**Gemona**	**0.22**	**150**	Pg		Pg	23 28 40.8	-0.7
GEPF				Sg		Sg	23 28 44.7	+0.2
PTCC	**Patocco-Chiusa**	**0.26**	**102**	Pg		Pg	23 28 41.9	-0.5
PTCC				Sg		Sg	23 28 46.3	+0.2
PTCC	**Patocco-Chiusa**	**0.26**	**102**	Pg		Pg	23 28 41.9	-0.5
PTCC				Sg		Sg	23 28 46.3	+0.2
BAD	**Bernadia**	**0.29**	**141**	⇓*e*Pg		Pg	23 28 42.1	-0.8
BAD				*e*Sg		Sg	23 28 46.8	0.0
BAD	**Bernadia**	**0.29**	**141**	⇓*e*Pg		Pg	23 28 42.1	-0.8
BAD				*e*Sg		Sg	23 28 46.8	0.0
VINO	**Villanova**	**0.29**	**135**	⇑*e*Pg		Pg	23 28 42.0	-1.0
VINO				*e*Sg		Sg	23 28 46.8	-0.1
VINO	**Villanova**	**0.29**	**135**	⇑*e*Pg		Pg	23 28 42.0	-0.9
VINO				*e*Sg		Sg	23 28 46.8	-0.1
ACOM	**Acomizza, Ital**	**0.38**	**77**	⇑*e*Pg		Pg	23 28 44.4	-0.3
ACOM				*e*Sg		Sg	23 28 50.2	+0.3
ACOM	**Acomizza, Ital**	**0.38**	**77**	Pg		Pg	23 28 44.2	-0.5
ACOM				*e*Sg		Sg	23 28 50.2	+0.3
VOJS	**Vojsko**	**0.76**	**124**	*i* Pg		Pn	23 29 00.7	+6.8
VOJS				*i* Sg		Sn	23 29 04.4	-1.2
VOJS	**Vojsko**	**0.76**	**124**	*i* Pg		Pn	23 29 00.7	+6.8
VOJS				*i* Sg		Sn	23 29 04.4	-1.1
JAVS	**Javornik**	**0.94**	**127**	*i* Pg		Pn	23 28 58.9	+2.4
JAVS				*i* Sg		Sg	23 29 00.8	-6.9
JAVS								
	comp=Z,84nm,0.1s							
JAVS	**Javornik**	**0.94**	**127**	*i* Pg		Pn	23 28 58.9	+2.5
JAVS				*i* Sg		Sg	23 29 00.8	-6.9
	comp=Z,84nm,0.1s							
CRNS	**Crni Vrh**	**0.96**	**113**	*i* Pg		Pn	23 29 02.5	+5.8
CRNS				*e*Sg		Sg	23 29 07.3	-1.0
CRNS								
	comp=Z,8.0nm,0.1s							
SKDS	**Skadanscina**	**1.16**	**142**	*i* Pg		Pg	23 29 01.8	+2.4
SKDS				*i* Sg		Sb	23 29 06.5	-7.9
SKDS								
	comp=Z,13nm,0.1s							
SKDS	**Skadanscina**	**1.16**	**142**	*i* Pg		Pg	23 29 01.8	+2.4
SKDS				*i* Sg		Sb	23 29 06.5	-8.0
	comp=Z,13nm,0.1s							
NVLJ	**Novalja**	**2.32**	**144**	*e*Pn		Pg	23 29 22.4	+1.0
NVLJ						Sn	23 29 42.9	-0.7

*CSEM **18** 23:37:06.5±0.9, 45°.71N×14°.30E, h15km, ML0.9, Error ellipse: s-maj=24.1km s-min=18.4km az=45.0*

LJU 18 23:37:07.4, 45°.78N×14°.21E, h15km, ML0.9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAVS	**Javornik**	**0.15**	**320**	*i* Pg		Pg	23 37 11.6	0.0
JAVS				*i* Sg		Sg	23 37 14.4	+0.1
JAVS								
	comp=Z,10.0nm,0.1s							
JAVS	**Javornik**	**0.15**	**320**	*i* Pg		Pg	23 37 11.6	0.0
JAVS				*i* Sg		Sg	23 37 14.4	+0.1
	comp=Z,10.0nm,0.1s							
CEY	**Cerknica**	**0.16**	**103**	*i* Pg		Pg	23 37 11.5	0.0
CEY				*i* Sg		Sg	23 37 14.6	+0.3
CEY	**Cerknica**	**0.16**	**103**	*i* Pg		Pg	23 37 11.5	0.0
CEY				*i* Sg		Sg	23 37 14.6	+0.4
SKDS	**Skadanscina**	**0.27**	**211**	*i* Pg		Pg	23 37 13.0	-0.2
SKDS				*i* Sg		Sg	23 37 17.5	+0.4
SKDS								
	comp=Z,4.0nm,0.1s							
SKDS	**Skadanscina**	**0.27**	**211**	*i* Pg		Pg	23 37 13.0	-0.2
SKDS				*i* Sg		Sg	23 37 17.5	+0.4
	comp=Z,4.0nm,0.1s							
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg		Pg	23 37 14.5	-0.1
VOJS				*i* Sg		Sg	23 37 19.9	+0.4
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg		Pg	23 37 14.5	-0.1
VOJS				*i* Sg		Sg	23 37 20.0	+0.5

IDC 18 23:40:21.8±3.7, 8°.84S×157°.62E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/30, mbtmp3.9/5, MS3.7/4, Ms1 3.7/4, ms1mx3.2/35, Error ellipse: s-maj=109.7km s-min=29.9km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**2.37**	**105**	LR		LR	23 41 47.5	
	comp=Z,1µm,18.7s,baz=286,slow=36							
DZM	**Mont Dzumac**	**15.66**	**148**	LR		LR	23 48 52.5	
	comp=Z,296nm,18.1s,baz=11,slow=33							
WRA	**Warramunga Arr**	**25.07**	**241**	P		P	23 45 49.4	+1.2
	2.1nm,0.7s,baz=65,slow=9.3,SNR=6.0							
ASAR	**Alice Springs**	**27.06**	**234**	P		P	23 46 05.5	-0.8
	0.8nm,0.8s,baz=67,slow=9.0,SNR=7.0							
STKA	**Stephens Creek**	**27.33**	**211**	P		P	23 46 07.9	-0.7
	1.9nm,0.9s,baz=39,slow=13,SNR=3.1							
AFI	**Afiamalu**	**30.41**	**102**	LR		LR	23 55 58.5	
	comp=Z,100nm,18.6s,baz=342,slow=31							
PSI	**Prapat**	**59.64**	**278**	LR		LR	00 19 47.6	
	comp=Z,131nm,18.2s,baz=340,slow=40							
SONM	**Songino Array**	**72.29**	**327**	P		P	23 51 49.8	+0.4
	1.6nm,0.8s,baz=126,slow=7.5,SNR=4.9							
MKAR	**Makanchi Array**	**86.50**	**318**	P		P	23 53 06.5	-0.2
	0.6nm,0.6s,baz=99,slow=5.8,SNR=6.6							

*CSEM **18** 23:51:38.6, 50°.13N×19°.04E, h0km, After GFU*

PRU 18 23:51:37.5, 50°.16N×19°.08E, h0km, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHZP	**Chorzow**	**0.14**	**337**	*e*Pg		Pg	23 51 43.0	+2.7
CHZP				*e*Sg		Sg	23 51 46.1	+3.9
OKC	**Ostrava-Krasne**	**0.68**	**242**	*e*PG		Pg	23 51 50.4	-0.2
OKC				*e*SG		Sg	23 51 59.4	-0.1
	comp=Z,8.0nm,0.6s							
OKC	**Ostrava-Krasne**	**0.68**	**242**	Pg		Pg	23 51 50.4	-0.2
OKC				Sg		Sg	23 51 59.4	-0.1
	8.0nm,0.6s							
MORC	**Moravsky Berou**	**1.06**	**249**	⇑*i*P		Pg	23 51 58.0	0.0
MORC	**Moravsky Berou**	**1.06**	**249**	S		Sb	23 52 13.5	+0.1
NIE	**Niedzica**	**1.09**	**132**	*e*Pg		Pg	23 51 57.8	-0.7
NIE				*e*Sg		Sg	23 52 11.7	-1.0
KRLC	**Kraliky**	**1.48**	**268**	*e*PG		Pn	23 52 04.5	-1.0
KRLC				*e*SG		Sg	23 52 25.0	-0.3
KRLC	**Kraliky**	**1.48**	**268**	Pg		Pn	23 52 04.5	-1.0
KRLC				Sg		Sg	23 52 25.0	-0.3
STHS	**Stebnicka Huta**	**1.59**	**117**	*e*PG		Pn	23 52 06.7	-0.2
STHS				*e*SN		Sn	23 52 27.1	-1.1
DPC	**Dobruska-Polom**	**1.78**	**277**	*e*PG		Pn	23 52 09.9	+0.3
DPC				*e*SG		Sb	23 52 34.4	+0.4
DPC	**Dobruska-Polom**	**1.78**	**277**	Pg		Pn	23 52 09.9	+0.3
DPC				Sg		Sb	23 52 34.4	+0.4
VRAC	**Vranov**	**1.82**	**243**	⇓*i*P		Pb	23 52 11.4	-0.4
VRAC	**Vranov**	**1.82**	**243**	S		Sg	23 52 36.7	+0.5
UPC	**Upice**	**2.00**	**281**	*e*SG		Sg	23 52 41.2	-0.5
	comp=Z,0.8nm,0.2s							
UPC	**Upice**	**2.00**	**281**	Sg		Sg	23 52 41.2	-0.5
	0.8nm,0.2s							
TREC	**Trest**	**2.49**	**251**	*e*SG		Sg	23 52 56.4	-1.1
	comp=Z,2.1nm,0.4s							
TREC	**Trest**	**2.49**	**251**	Sg		Sg	23 52 56.4	-1.1
	2.1nm,0.4s							
PVCC	**Panska Ves**	**2.91**	**279**	*e*SG		Sg	23 53 10.6	-0.5
	comp=Z,3.7nm,0.3s							
PVCC	**Panska Ves**	**2.91**	**279**	Sg		Sg	23 53 10.6	-0.5
	3.7nm,0.3s							
PRU	**Pruhonice**	**2.93**	**268**	*e*SG		Sg	23 53 10.7	-0.9
PRU	**Pruhonice**	**2.93**	**268**	Sg		Sg	23 53 10.7	-0.9
KHC	**Kasperske Hory**	**3.72**	**256**	*e*SG		Sg	23 53 35.4	-1.8
	comp=Z,2.1nm,0.7s							
KHC	**Kasperske Hory**	**3.72**	**256**	Sg		Sg	23 53 35.4	-1.8
	2.1nm,0.7s							

*TIR **18** 23:51:33.3, 43°.26N×18°.67E, h20km, ML3.4*
*BEO **18** 23:52:59.8±0.3, 43°.00N×18°.70E, h13km±4km, ML3.1/9*
*CSEM **18** 23:53:00.0±0.2, 43°.03N×18°.75E, h2km, ML3.3, Ms3.3, Error ellipse: s-maj=4.3km s-min=3.7km az=57.0*
*PDG **18** 23:53:00.1±0.6, 43°.05N×18°.73E, h5km±1km, MD3.3/8, ML3.3/11, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*LDG **18** 23:53:00.0±0.1, 43°.05N×18°.82E, h5km, Ml3.1/5*
*PRU **18** 23:53:01.4, 43°.03N×18°.74E, h0km*
*VIE **18** 23:53:01.2±0.5, 43°.12N×18°.95E, h10km, mb2.8/6, ML2.9/4, Ms3.3/2, Error ellipse: s-maj=5.3km s-min=4.1km az=57.0*
90 km SSE of Sarajevo

ISC 18 23:53:00.0±1.0, 43°.03N±0°.02×18°.73E±0°.02, h4km±8km, n123, σ1°.35/159, 37C-39D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BRY	**Bratogost**	**0.19**	**227**	⇓*i*Pg		**Pg**	**23 53 03.7**	**-0.1**
BRY				*e*Sg		**Sg**	**23 53 07.2**	**+1.0**
BRY	**Bratogost**	**0.19**	**227**	⇓*i*Pg		**Pg**	**23 53 03.7**	**-0.1**
BRY				*e*Sg		**Sg**	**23 53 07.2**	**+1.0**
UPM	**Unac-Piva**	**0.22**	**37**	⇓*i*Pg		**Pg**	**23 53 03.9**	**-0.4**
UPM				*e*Sg		**Sg**	**23 53 07.5**	**+0.3**
UPM	**Unac-Piva**	**0.22**	**37**	⇓*i*Pg		**Pg**	**23 53 03.9**	**-0.4**
UPM				*e*Sg		**Sg**	**23 53 07.5**	**+0.3**
NKY	**Niksic**	**0.29**	**138**	⇑*i*Pg		**Pg**	**23 53 06.0**	**+0.3**
NKY				*e*Sg		**Sg**	**23 53 11.0**	**+1.5**
NKY	**Niksic**	**0.29**	**138**	⇑*i*Pg		**Pg**	**23 53 06.0**	**+0.3**
NKME	**Niksic**	**0.31**	**148**	⇑*i*Pg		**Pg**	**23 53 06.2**	**+0.2**
NKME				*e*Sg		**Sg**	**23 53 11.6**	**+1.5**
NKME	**Niksic**	**0.31**	**148**	⇑*i*Pg		**Pg**	**23 53 06.2**	**+0.2**
PLE	**Pljevlja**	**0.57**	**58**	⇓*i*Pg		**Pg**	**23 53 10.7**	**-0.3**
PLE				*e*Sg		**Sg**	**23 53 19.1**	**+0.7**
PLE	**Pljevlja**	**0.57**	**58**	⇓*i*Pg		**Pg**	**23 53 10.7**	**-0.3**
PLE				*e*Sg		**Sg**	**23 53 19.1**	**+0.7**
HCY	**Herceg Novi**	**0.61**	**197**	⇓*i*Pg		**Pg**	**23 53 11.3**	**-0.4**
HCY				*e*Sg		**Sb**	**23 53 21.8**	**-0.2**
HCY	**Herceg Novi**	**0.61**	**197**	⇓*i*Pg		**Pg**	**23 53 11.3**	**-0.4**
PDG	**Podgorica**	**0.71**	**147**	⇑*i*Pg		**Pg**	**23 53 12.9**	**-0.8**
PDG	**Podgorica**	**0.71**	**147**	⇑*i*Pg		**Pg**	**23 53 12.9**	**-0.8**
TTG	**Podgorica**	**0.71**	**147**	⇑*i*Pg		**Pg**	**23 53 12.9**	**-0.8**
TTG				*e*Sg		**Sb**	**23 53 24.6**	**-0.5**
BUM	**Brajici-Budva**	**0.74**	**170**	⇑*i*Pg		**Pg**	**23 53 13.7**	**-0.5**
BUM				*e*Sg		**Sb**	**23 53 26.5**	**+0.6**
BUM	**Brajici-Budva**	**0.74**	**170**	⇑*i*Pg		**Pg**	**23 53 13.7**	**-0.5**
STON	**Ston**	**0.77**	**259**	*e*Pg		**Pg**	**23 53 13.8**	**-1.1**
STON				Sg		**Sg**	**23 53 25.0**	**+0.1**
STON	**Ston**	**0.77**	**259**	⇓*i*Pg		**Pg**	**23 53 13.2**	**-1.6**
STON				*i* Sg		**Sg**	**23 53 24.9**	**+0.1**
STON	**Ston**	**0.77**	**259**	⇓*i*Pg		**Pg**	**23 53 13.2**	**-1.6**
STON				Sg		**Sg**	**23 53 24.9**	**+0.1**
BEY	**Berane**	**0.87**	**100**	⇑*i*Pg		**Pg**	**23 53 16.2**	**-0.5**
IVA	**Berane**	**0.87**	**100**	⇑*i*Pg		**Pg**	**23 53 16.2**	**-0.5**
IVA				*e*Sg		**Sb**	**23 53 29.9**	**+0.2**
DRME	**Dracevica, Mon**	**0.91**	**158**	⇑*i*Pg		**Pg**	**23 53 16.9**	**-0.5**
DRME				*e*Sg		**Sn**	**23 53 32.1**	**-0.9**
DRME	**Dracevica, Mon**	**0.91**	**158**	⇑*i*Pg		**Pg**	**23 53 16.9**	**-0.5**
SJES	**Sjenica**	**0.94**	**75**	⇑*i*Pg		**Pg**	**23 53 16.3**	**-1.8**
BBLS	**Lazići**	**0.97**	**30**	⇑*i*Pg		**Pg**	**23 53 17.9**	**-0.8**
BBLS	**Lazići**	**0.97**	**30**	⇑*i*Pg		**Pg**	**23 53 17.9**	**-0.8**
PVY	**Plav**	**1.00**	**115**	⇓*i*Pg		**Pb**	**23 53 20.0**	**0.0**
PVY				*e*Sg		**Sn**	**23 53 35.9**	**+0.3**
ULC	**Ulcinj**	**1.13**	**160**	⇑*i*Pg		**Pg**	**23 53 21.2**	**-0.5**
ULC				*e*Sg		**Sn**	**23 53 39.8**	**+1.2**
ULC	**Ulcinj**	**1.13**	**160**	⇑*i*Pg		**Pg**	**23 53 21.2**	**-0.5**
IVAS	**Ivanjica**	**1.18**	**62**	⇓*i*Pg		**Pg**	**23 53 21.7**	**-0.9**
IVAS	**Ivanjica**	**1.18**	**62**	⇓*i*Pg		**Pg**	**23 53 21.7**	**-0.9**
PUK	**Puka**	**1.31**	**138**	*i* PN		**Pn**	**23 53 22.5**	**-2.6**
PUK	**Puka**	**1.31**	**138**	*i* Pn		**Pn**	**23 53 22.5**	**-2.6**
DIVS	**Divibare**	**1.41**	**40**	⇑*i*Pg		**Pn**	**23 53 25.7**	**-0.8**
TEKS	**Tekeris**	**1.63**	**21**	*e*Pn		**Pn**	**23 53 28.8**	**-0.6**
TEKS				*e*Sg		**Sg**	**23 53 52.6**	**+0.3**
TEKS	**Tekeris**	**1.63**	**21**	*e*Pn		**Pn**	**23 53 28.8**	**-0.6**
TEKS				*e*Sg		**Sg**	**23 53 52.6**	**+0.3**
GRUS	**Gruza**	**1.68**	**59**	*e*Pn		**Pn**	**23 53 29.8**	**-0.4**
GRUS				*e*Sg		**Sg**	**23 53 54.9**	**+0.8**
TRUS	**Trudelj**	**1.71**	**45**	*e*Pn		**Pn**	**23 53 28.8**	**-1.7**
TRUS	**Trudelj**	**1.71**	**45**	*e*Pn		**Pn**	**23 53 28.8**	**-1.7**
PHP	**Peshkopia**	**1.85**	**136**	*i* PN		**Pg**	**23 53 35.5**	**+0.1**
PHP				*i* SN		Sg	23 54 07.7	+8.3
PHP	**Peshkopia**	**1.85**	**136**	*i* Pn		**Pg**	**23 53 35.5**	**+0.1**
FGSL	**Fruska Gora**	**2.27**	**20**	⇑*i*Pn		**Pn**	**23 53 37.1**	**-1.1**
FRGS	**Fruska Gora**	**2.27**	**20**	⇑*i*Pn		**Pn**	**23 53 37.1**	**-1.1**
SKO	**Skopje**	**2.27**	**117**	*e*Pn		**Pb**	**23 53 40.1**	**-1.4**
SKO	**Skopje**	**2.27**	**117**	*e*Pn		**Pb**	**23 53 40.1**	**-1.4**
UDBI	**Udbina**	**2.62**	**306**	*e*Pn		**Pb**	**23 53 46.1**	**-1.4**
UDBI				Sn		**Sb**	**23 54 21.7**	**+1.8**
UDBI	**Udbina**	**2.62**	**306**	*e*Pn		**Pb**	**23 53 46.1**	**-1.4**
BIA	**Bitola**	**2.79**	**135**	*e*Pn		**Pb**	**23 53 48.1**	**-2.3**
BIA	**Bitola**	**2.79**	**135**	*e*Pn		**Pb**	**23 53 48.0**	**-2.3**
ZAVS	**Cavoj**	**2.87**	**84**	*e*Pn		**Pn**	**23 53 46.3**	**-0.1**
**

MBDF	**Montbardon**	**8.80 285**	*e*Pn	**Pn**	**23 55 07.1**	**-1.0**
MBDF			*e*Sn	Sn	23 56 40.4	-7.4
	0.7nm,0.3s					
MBDF	**Montbardon**	**8.80 285**	*e*Pn	**Pn**	**23 55 07.1**	**-1.0**
FRF	**La Foret Royal**	**8.83 278**	*e*Pn	**Pn**	**23 55 06.9**	**-1.4**
FRF	**La Foret Royal**	**8.83 278**	*e*Pn	**Pn**	**23 55 06.9**	**-1.4**
LPG	**La Plagne**	**8.94 290**	*e*Pn	**Pn**	**23 55 08.9**	**-1.2**
LPG			*e*Sn	Sn	23 56 44.2	-7.2
	3.4nm,0.6s					
LPG	**La Plagne**	**8.94 290**	*e*Pn	**Pn**	**23 55 08.9**	**-1.2**
ORIF	**Oris-en-Rattie**	**9.46 286**	*e*P	**Pn**	**23 55 20.0**	**+3.0**
ORIF	**Oris-en-Rattie**	**9.46 286**	*e*P	**Pn**	**23 55 20.0**	**+3.0**
HINF	**Hinteralfeld**	**9.62 304**	*e*Pn	**Pn**	**23 55 16.9**	**-2.3**
HINF			*e*Sn	Sn	23 57 00.2	-7.5
	0.6nm,0.3s					

*BKK **19** 00:02:58.0±5.8,21˚N±26˚×9˚4E±4˚3, h0km, M4.8/4, mb4.5/2, mB5.3/2, MLv4.9/4, Mw(mB)4.7/2*
*ISCJB **19** 00:03:06.0±0.4,20˚.73N±0˚.04×94˚.71E±0˚.03, h91km±5km, mb4.2/37, Error ellipse: s-maj=7.0km s-min=3.9km az=33.6*
*IDC **19** 00:03:08.8±0.5,20˚.76N×94˚.86E, h98km±3km, mb3.9/27, mb1 4.1/29, mb1mx4.0/46, mbtmp4.3/29, Error ellipse: s-maj=13.9km s-min=7.7km az=46.0*
*NEIC **19** 00:03:08.6±0.2,20˚.72N×94˚.81E, mb4.6/9, Error ellipse: s-maj=7.5km s-min=4.8km az=47.0*

ISC 19 00:03:08.5±0.4, 20.72N±0˚.05×94.76E±0˚.05, h99km±3km, h99km:pP-P,n146,σ0s99/200,mb4.2/37,4C-4D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**3.92**	**130**	P		**Pn**	**00 04 06.1**	**-0.5**
CMAI	**Chiengmai2**	**4.10**	**100**	P		**Pn**	**00 04 09.5**	**+0.3**
CHTO	**Chiang Mai**	**4.37**	**115**	P		**Pn**	**00 04 12.8**	**0.0**
CM31	**Chiang Mai Arr**	**4.54**	**119**	*e*Pn		**Pn**	**00 04 14.8**	**-0.3**
CM31				*e*Sn		Sn	**00 05 05.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**4.54**	**119**	P		**Pn**	**00 04 15.1**	**0.0**
CMAR				S		**Sn**	**00 05 06.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**4.54**	**119**	P		**Pn**	**00 04 15.1**	**0.0**
	24nm,0.3s,baz=293,slow=14,SNR=542							
CMAR				S		**Sn**	**00 05 06.9**	**+0.1**
	10nm,0.3s,baz=293,slow=25,SNR=5.1							
LAMP	**Lampang**	**5.09**	**115**	P		**Pn**	**00 04 22.4**	**-0.1**
	38nm,0.7s,503nm0.3nm							
CRAI	**Chiangrai**	**5.29**	**94**	P		**Pn**	**00 04 25.1**	**-0.1**
SHL	**Shillong**	**5.50**	**332**	⇓*i*P		**Pn**	**00 04 28.0**	**-0.3**
SHL				*ex*		x	00 05 25.3	
KHLT	**Khaolaem Dam**	**6.93**	**148**	P		**Pn**	**00 04 46.3**	**-1.2**
PBKT	**Sadao Pong**	**7.19**	**124**	P		**Pn**	**00 04 51.6**	**+0.6**
DGPR	**DIGLIPUR**	**7.70**	**193**	*e*P		**Pn**	**00 04 55.9**	**-2.1**
DGPR					AMB	AMB	00 04 57.5	
	comp=Z,108nm,0.1s							
GTK	**Gangtok**	**8.65**	**321**	*ex*		Pn	00 05 05.5	-5.6
BOK	**Bokaro**	**8.77**	**292**	*e*P		**Pn**	**00 05 10.5**	**-2.0**
BOK					AMB	AMB	00 05 13.9	
	comp=Z,107nm,0.8s							
ODAN	**Odare**	**9.10**	**314**	*e*Pn		**Pn**	**00 05 15.1**	**-2.2**
ODAN				*e*Sn		Sn	00 06 48.7	-9.4
	comp=Z,534nm,0.5s							
PBA	**Port Blair**	**9.21**	**192**	*e*P		Pn	00 05 17.8	-0.8
PBA					AMB	AMB	00 05 18.6	
	comp=Z,98nm,0.1s							
TAPN	**Taplejung**	**9.22**	**317**	*e*Pn		**Pn**	**00 05 17.0**	**-2.0**
TAPN				*e*Sn		Sn	00 06 52.1	-9.0
	comp=Z,570nm,0.8s							
RAMN	**Ramite**	**9.71**	**311**	*e*Pn		**Pn**	**00 05 23.4**	**-2.1**
RAMN				*e*Sn		Sn	00 07 03.2	-10
	comp=Z,359nm,0.6s							
JIRN	**Jiri**	**10.43**	**313**	*e*Pn		**Pn**	**00 05 33.7**	**-1.8**
JIRN				*e*Sn		Sn	00 07 21.2	-9.5
	comp=Z,433nm,0.6s							
GUN	**Gumba**	**10.80**	**313**	*e*Pn		**Pn**	**00 05 38.2**	**-2.3**
GUN				*e*Sn		Sn	00 07 30.6	-9.1
	comp=Z,376nm,0.7s							
PKI	**Pulchoki**	**10.92**	**310**	*e*Pn		**Pn**	**00 05 39.7**	**-2.4**
PKI				*e*Sn		Sn	00 07 32.3	-11
	comp=Z,257nm,0.6s							
PKIN	**Phulchoki**	**10.94**	**310**	*e*Pn		**Pn**	**00 05 39.7**	**-2.6**
PKIN				*e*Sn		Sn	00 07 32.0	-11
	comp=Z,215nm,0.6s							
KKN	**Kakani**	**11.15**	**311**	*e*Pn		**Pn**	**00 05 42.4**	**-2.6**
KKN				*e*Sn		Sn	00 07 37.4	-11
	comp=Z,121nm,0.4s							
DMN	**Daman**	**11.16**	**310**	*e*Pn		**Pn**	**00 05 42.7**	**-2.6**
DMN				*e*Sn		Sn	00 07 37.7	-11
	comp=Z,364nm,0.8s							
VIS	**Vishakhapatnam**	**11.20**	**257**		AMB	AMB	00 05 44.3	
	comp=Z,32nm,0.9s							
VIS				⇑*e*P		**Pn**	**00 05 45.1**	**-0.5**
GKN	**Gorkha**	**11.73**	**310**	*e*Pn		**Pn**	**00 05 50.1**	**-2.7**
GKN				*e*Sn		Sn	00 07 51.4	-11
	comp=Z,178nm,0.4s							
KOLN	**Koldanda**	**12.36**	**307**	*e*Pn		**Pn**	**00 05 58.9**	**-2.3**
KOLN				*e*Sn		Sn	00 08 06.7	-11
	comp=Z,250nm,0.5s							
DANN	**Dangsing**	**12.56**	**309**	*e*Pn		Pn	00 06 00.7	-3.3
DANN				*e*Sn		Sn	00 08 11.7	-11
	comp=Z,177nm,0.5s							
CMBY	**CAMPBELL BAY**	**13.65**	**183**	*e*P		**Pn**	**00 06 18.2**	**+0.2**
HYB	**Hyderabad**	**15.66**	**261**	*i* P		**Pn**	**00 06 43.5**	**-0.3**
HYB				*e*S		**Sn**	**00 09 36.0**	**-1.1**
HYB	**Hyderabad**	**15.66**	**261**	*e*P		**Pn**	**00 06 43.5**	**-0.3**
HYB				*e*S		Sn	00 09 25.5	-12
LQTI	**Lohaghat**	**15.75**	**306**	*e*P		**P**	**00 06 46.5**	**-0.1**
BHPL	**Bhopal**	**16.27**	**282**	*e*P		**Pn**	**00 06 50.5**	**-0.9**
BHPL					AMB	AMB	00 06 54.5	
	comp=Z,34nm,0.5s							
ENH	**Enshi**	**16.34**	**51**	*e*Pn		**Pn**	**00 06 51.2**	**-0.8**
	comp=Z,9.1nm,0.6s							
ENH				*e*Sn		**Sn**	**00 09 51.7**	**-1.5**
NDI	**New Delhi**	**17.79**	**300**	*ex*		**P**	**00 07 06.5**	**-2.7**
NDI				*ex*		x	00 10 09.0	
DDI	**Dehra Dun**	**17.83**	**306**	*e*P		**P**	**00 07 09.8**	**+0.1**
DDI					AMB	AMB	00 07 13.0	
	comp=Z,63nm,0.8s							
PSI	**Prapat**	**18.26**	**167**	P		**Pn**	**00 07 15.5**	**-0.2**
PSI	**Prapat**	**18.26**	**167**	P		**Pn**	**00 07 15.5**	**-0.2**
	comp=Z,2.8nm,0.3s,baz=346,slow=12,SNR=40							
SMLA	**Simla**	**18.89**	**307**	*e*P		**P**	**00 07 20.8**	**-0.5**
SMLA				*e*P		**Pn**	**00 07 22.5**	**-0.4**
SMLA				*ex*		x	00 10 36.9	
GSI	**Gunungsitoli**	**19.49**	**172**	*e*P		**P**	**00 07 26.5**	**-1.4**
	comp=Z,23nm,0.5s							
BHK	**Bhakra**	**19.59**	**307**	*ex*		**P**	**00 07 30.5**	**+1.6**
POO	**Poona**	**19.81**	**267**	*e*P		**Pn**	**00 07 33.0**	**-0.9**
	comp=Z,57nm,1.2s							
DHRM	**DHARAMSHALA**	**20.09**	**309**	*e*P		**P**	**00 07 33.6**	**-0.9**
DHRM					AMB	AMB	00 07 36.0	
	comp=Z,50nm,1.3s							
DLH	**Dalhousie**	**20.48**	**309**	*e*P		**P**	**00 07 38.5**	**-0.2**
GOA	**Goa**	**20.56**	**259**	*e*S		**S**	**00 11 22.9**	**-1.0**
KBL	**Kabul**	**26.53**	**307**	*e*P		**P**	**00 08 37.4**	**+0.2**
	comp=Z,21nm,0.6s							
AAK	**Ala-Archa**	**27.70**	**327**	*e*P		**P**	**00 08 47.9**	**+0.3**
	comp=Z,17nm,1.1s							
AAK					ScP	**ScP**	**00 15 35.0**	**+1.0**
AAK	**Ala-Archa**	**27.70**	**327**	P		**P**	**00 08 49.2**	**+1.7**
	comp=Z,6.7nm,0.9s,baz=138,slow=5.7,SNR=13							
AAK					ScP	**ScP**	**00 15 35.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=21,slow=1.8,SNR=7.0							
MK31	**Makanchi Array**	**27.93**	**342**	*e*P		**P**	**00 08 49.7**	**+0.3**
MK31				*e*PcP		**PcP**	**00 12 02.6**	**+0.2**
MK31				*e*ScP		**ScP**	**00 15 35.2**	**+0.9**
MKAR	**Makanchi Array**	**27.93**	**342**	P		**P**	**00 08 49.8**	**+0.4**
MKAR				S		**S**	**00 13 25.6**	**-0.3**
MKAR				ScP		**ScP**	**00 15 35.1**	**+0.7**
MKAR	**Makanchi Array**	**27.93**	**342**	P		**P**	**00 08 49.8**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=149,slow=10,SNR=58							
MKAR				S		**S**	**00 13 25.6**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=172,slow=14,SNR=3.4							
MKAR				ScP		**ScP**	**00 15 35.1**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=151,slow=2.8,SNR=7.5							
EKS2	**Erkin-Say**	**28.09**	**326**	*e*P		**P**	**00 08 51.2**	**+0.1**
	comp=Z,4.8nm,0.7s							
SONM	**Songino Array**	**28.64**	**16**	P		**P**	**00 08 55.8**	**0.0**
SONM				ScP		**ScP**	**00 15 35.8**	**-0.9**
SONM	**Songino Array**	**28.64**	**16**	P		**P**	**00 08 55.8**	**0.0**
	comp=Z,0.7nm,0.5s,baz=168,slow=7.4,SNR=2.4							
SONM				ScP		**ScP**	**00 15 35.8**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=302,slow=2.7,SNR=3.7							
KKAR	**Karatay Array**	**30.16**	**323**	*e*P		**P**	**00 09 09.3**	**+0.1**
	comp=Z,0.5nm,0.4s							

KURBB	**Kurchatov Arra**	**32.48**	**341**	P		**P**	**00 09 29.7**	**+0.3**
	comp=Z,4.7nm,0.7s,baz=145,slow=9.6,SNR=43							
KURBB				pP		**pP**	**00 09 51.3**	**-0.4**
	comp=Z,4.4nm,0.6s,baz=147,slow=9.5,SNR=6.0							
KURBB				PcP		**PcP**	**00 12 14.7**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=151,slow=2.6,SNR=18							
KURBB				S		**S**	**00 14 36.0**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=149,slow=16,SNR=5.6							
KURBB				ScP		**ScP**	**00 15 49.9**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=155,slow=2.9,SNR=6.1							
KURK	**Kurchatov**	**32.53**	**341**	P		**P**	**00 09 29.7**	**-0.1**
KURK				pP		**pP**	**00 09 51.3**	**-0.9**
KURK				PcP		**PcP**	**00 12 14.7**	**+0.4**
KURK				S		**S**	**00 14 36.0**	**-1.7**
KURK				ScP		**ScP**	**00 15 49.9**	**+0.7**
KSAR	**Wonju Array Be**	**33.19**	**53**	P		**P**	**00 09 34.8**	**-1.0**
KSRS	**Korea Array**	**33.22**	**53**	P		**P**	**00 09 34.8**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=230,slow=9.6,SNR=5.0							
ZAA0	**Zalesovo Array**	**34.04**	**349**	*e*P		**P**	**00 09 42.0**	**-1.0**
ZAA0				*e*pP		**pP**	**00 10 05.8**	**+0.4**
ZALV	**Zalesovo Beam**	**34.04**	**349**	P		**P**	**00 09 43.3**	**+0.4**
ZALV				pP		**pP**	**00 10 06.1**	**+0.7**
ZALV				PcP		**PcP**	**00 12 18.4**	**-0.1**
ZALV				S		**S**	**00 15 01.4**	**+0.4**
ZALV				ScP		**ScP**	**00 15 54.4**	**0.0**
ZALV	**Zalesovo Beam**	**34.04**	**349**	P		**P**	**00 09 43.3**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=169,slow=8.0,SNR=21							
ZALV				pP		**pP**	**00 10 06.1**	**+0.7**
	comp=Z,12nm,0.7s,baz=176,slow=9.8,SNR=11							
ZALV				PcP		**PcP**	**00 12 18.4**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=169,slow=3.1,SNR=5.0							
ZALV				S		**S**	**00 15 01.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=185,slow=14,SNR=4.1							
ZALV				ScP		**ScP**	**00 15 54.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=195,slow=3.4,SNR=2.6							
BVAR	**Borovoye Array**	**37.31**	**336**	P		**P**	**00 10 10.8**	**-0.2**
BVAR				pP		**pP**	**00 10 34.2**	**+0.5**
BVAR				PP		**PnPn**	**00 11 39.9**	**+0.2**
BVAR				PcP		**PcP**	**00 12 29.1**	**+0.9**
BVAR				S		**S**	**00 15 50.2**	**-1.0**
BVAR				ScP		**ScP**	**00 16 08.0**	**+1.6**
BVAR	**Borovoye Array**	**37.31**	**336**	P		**P**	**00 10 10.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=142,slow=12,SNR=7.9							
BVAR				pP		**pP**	**00 10 34.2**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=137,slow=6.7,SNR=6.1							
BVAR				PP		**PnPn**	**00 11 39.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=139,slow=12,SNR=4.3							
BVAR				PcP		**PcP**	**00 12 29.1**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=160,slow=3.5,SNR=14							
BVAR				S		**S**	**00 15 50.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=147,slow=15,SNR=4.3							
BVAR				ScP		**ScP**	**00 16 08.0**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=173,slow=3.7,SNR=5.8							
USRK	**Ussuriysk Arra**	**38.70**	**44**	P		**P**	**00 10 21.4**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=257,slow=7.7,SNR=5.5							
ABKAR	**Akbulak array**	**39.72**	**324**	*e*P		**P**	**00 10 31.9**	**+0.8**
	comp=Z,8.1nm,0.6s							
ABKAR				*e*pP		**pP**	**00 10 55.6**	**+1.6**
MJAR	**Matsushiro Arr**	**40.91**	**58**	P		**P**	**00 10 40.5**	**-0.7**
MJAR				PcP		**PcP**	**00 12 40.5**	**+0.5**
MJAR	**Matsushiro Arr**	**40.91**	**58**	P		**P**	**00 10 40.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=222,slow=9.1,SNR=5.1							
MJAR				PcP		**PcP**	**00 12 40.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=251,slow=3.5,SNR=4.1							
AKTO	**Aktyubinsk**	**41.40**	**325**	P		**P**	**00 10 45.5**	**+0.5**
AKTO				PcP		**PcP**	**00 12 42.1**	**+0.8**
AKTO				ScP		**ScP**	**00 16 23.1**	**+0.7**
AKTO	**Aktyubinsk**	**41.40**	**325**	P		**P**	**00 10 45.5**	**+0.5**
	comp=Z,10.0nm,0.7s,baz=121,slow=8.3,SNR=35							
AKTO				PcP		**PcP**	**00 12 42.1**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=108,slow=6.4,SNR=3.9							
AKTO				ScP		**ScP**	**00 16 23.1**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=124,slow=2.5,SNR=11							
ARU	**Arti**	**44.59**	**332**	*e*P		**P**	**00 11 10.6**	**-0.1**
	comp=Z,7.2nm,0.9s							
GNI	**Garni**	**46.61**	**306**	P		**P**	**00 11 29.3**	**+2.3**
GNI	**Garni**	**46.61**	**306**	P		**P**	**00 11 29.3**	**+2.3**
	comp=Z,1.1nm,0.4s,baz=190,slow=11,SNR=3.1							
KBZ	**Khabaz**	**48.60**	**311**	P		**P**	**00 11 43.5**	**+1.4**
KBZ	**Khabaz**	**48.60**	**311**	P		**P**	**00 11 43.5**	**+1.4**
	comp=Z,4.2nm,1.2s,baz=141,slow=14,SNR=3.7							
KIV	**Kislovodsk**	**48.79**	**311**	*e*P		**P**	**00 11 43.5**	**-0.2**
	comp=Z,8.2nm,0.8s							
KIV				*e*pP		**pP**	**00 12 07.7**	**+0.3**
BRTR	**Keskin Array B**	**55.07**	**305**	P		**P**	**00 12 30.8**	**+0.3**
BRTR				pP		**pP**	**00 12 56.2**	**+1.6**
BRTR	**Keskin Array B**	**55.07**	**305**	P		**P**	**00 12 30.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=111,slow=9.4,SNR=5.2							
BRTR				pP		**pP**	**00 12 56.2**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=99,slow=7.6,SNR=3.1							
WRA	**Warramunga Arr**	**55.98**	**134**	P		**P**	**00 12 36.8**	**-0.2**
WRA				PcP		**PcP**	**00 13 34.4**	**+0.1**
WRA	**Warramunga Arr**	**55.98**	**134**	P		**P**	**00 12 36.8**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=319,slow=7.5,SNR=20							
WRA				PcP		**PcP**	**00 13 34.4**	**+0.1**
	comp=Z,6.1nm,0.6s,baz=326,slow=3.6,SNR=19							
AS31	**Alice Springs**	**58.31**	**137**	*e*P		**P**	**00 12 52.8**	**-0.6**
AS31				*e*PcP		**PcP**	**00 13 42.9**	**-0.5**
ASAR	**Alice Springs**	**58.31**	**137**	P		**P**	**00 12 53.5**	**+0.1**
ASAR				PcP		**PcP**	**00 13 43.8**	**+0.3**
ASAR	**Alice Springs**	**58.31**	**137**	P		**P**	**00 12 53.5**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=316,slow=6.9,SNR=40							
ASAR				PcP		**PcP**	**00 13 43.8**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=320,slow=3.9,SNR=29							
AKASG	**Malin Array Be**	**58.80**	**317**	P		**P**	**00 12 55.5**	**-0.9**
AKASG	**Malin Array Be**	**58.80**	**317**	P		**P**	**00 12 55.5**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=84,slow=6.4,SNR=14							
AK01	**Malin Array Si**	**58.81**	**317**	*e*P		**P**	**00 12 55.4**	**-1.1**
ARR	**Argeo**	**61.72**	**311**	⇓*i*P		pP	00 13 42.9	+1.8
FINES	**FINESS Array B**	**61.84**	**329**	P		**P**	**00 13 17.3**	**+0.4**
FINES				pP		**pP**	**00 13 41.8**	**+0.3**
FINES	**FINESS Array B**	**61.84**	**329**	P		**P**	**00 13 17.3**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=109,slow=6.4,SNR=9.9							
FINES				pP		**pP**	**00 13 41.8**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=88,slow=6.5,SNR=4.2							
CJR	**Cluj-Napoca**	**62.41**	**313**	⇑*i*P		P	00 13 15.3	-5.8
KWP	**Kalwaria Pacla**	**62.95**	**316**	⇓*i*P		**P**	**00 13 24.7**	**+0.1**
DRGR		**63.01**	**313**	⇓*i*P		**P**	**00 13 25.8**	**+0.7**
ARCES	**ARCESS Array B**	**63.52**	**338**	P		**P**	**00 13 28.0**	**0.0**
ARCES	**ARCESS Array B**	**63.52**	**338**	P		**P**	**00 13 28.0**	**0.0**
	comp=Z,2.1nm,0.8s,baz=96,slow=9.9,SNR=5.5							
BZS	**Buzias**	**63.83**	**312**	⇑*i*P		pP	00 13 55.3	+0.1
PKSM	**Moragy**	**65.86**	**312**	⇑*i*P		**P**	**00 13 43.8**	**+0.3**
BRG	**Berggiesshubel**	**68.48**	**318**	*e*P		**pP**	**00 14 26.2**	**+1.1**
	comp=Z,12nm,1.4s							
BRG								
	comp=N,374nm,16.6s							
BRG								
	comp=E,164nm,11.9s							
BRG								
	comp=Z,429nm,16.9s							
GERES	**GERESS Array B**	**68.89**	**316**	P		**P**	**00 14 03.0**	**+0.2**
GERES				pP		**PcP**	**00 14 26.9**	**+0.4**
GERES	**GERESS Array B**	**68.89**	**316**	P		**P**	**00 14 03.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=78,slow=6.2,SNR=12							
GERES				pP		**PcP**	**00 14 26.9**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=77,slow=5.9,SNR=8.9							
STKA	**Stephens Creek**	**68.90**	**138**	P		**P**	**00 14 03.2**	**+0.4**
STKA	**Stephens Creek**	**68.90**	**138**	P		**P**	**00 14 03.2**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=315,slow=7.7,SNR=16							
NB2	**NORSAR Subarra**	**69.00**	**329**	P		**P**	**00 14 02.6**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=87,slow=6.2							
NOA	**NORSAR Array B**	**69.00**	**329**	P		**P**	**00 14 03.0**	**-0.2**
NOA				pP		**pP**	**00 14 27.9**	**-0.3**
NOA	**NORSAR Array B**	**69.00**	**329**	P		**P**	**00 14 03.0**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=90,slow=6.1,SNR=4.2							
NOA				pP		**pP**	**00 14 27.9**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=86,slow=6.0,SNR=5.0							
CLL	**Collm**	**69.02**	**318**	*e*pP		pP	00 14 29.0	+0.5
LPG	**La Plagne**	**74.16**	**313**	*e*P		P	00 14 29.8	-5.0
LPL	**La Plagne**	**74.17**	**313**	*e*P		P	00 14 29.9	-4.8
	comp=Z,0.8nm,0.4s							
LPL				*e*pP		pP	00 15 00.3	+0.2
KEST	**Kesra**	**74.61**	**303**	P		**P**	**00 14 38.5**	**+1.3**
KEST	**Kesra**	**74.61**	**303**	P		**P**	**00 14 38.5**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=45,slow=5.7,SNR=3.3							
DAG	**Danmarks Havn**	**75.14**	**347**	*i* P		**P**	**00 14 38.4**	**-1.0**
	comp=Z,1.9nm,0.7s							
DAG								
	comp=Z,630nm,24.0s							
SMF	**Signal de Mont**	**75.84**	**315**	*e*pP		pP	00 15 09.2	-0.3
SMF	**Signal de Mont**	**75.84**	**315**	*e*P		P	00 14 38.9	-5.1
SSF	**Saint Saulge**	**75.96**	**315**	*e*P		P	00 14 39.6	-5.1
AVF	**Avril sur Loir**	**76.13**	**315**	*e*pP		pP	00 15 10.8	-0.3
AVF	**Avril sur Loir**	**76.13**	**315**	*e*P		P	00 14 40.5	-5.1

SUMG	**Summit**	**81.82**	**347**	*i* P		**P**	**00 15 16.7**	**0.0**
	comp=Z,3.9nm,0.7s							
ILAR	**Eielson Array**	**82.69**	**22**	P		**P**	**00 15 19.4**	**-1.5**
ILAR				pP		**pP**	**00 15 46.8**	**0.0**
ILAR	**Eielson Array**	**82.69**	**22**	P		**P**	**00 15 19.4**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=298,slow=5.1,SNR=8.9							
ILAR				pP		**pP**	**00 15 46.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=303,slow=5.0,SNR=5.8							
BOSA	**Boshof**	**83.07**	**236**	P		**P**	**00 15 23.4**	**-0.2**
BOSA				pP		**pP**	**00 15 50.0**	**+0.6**
BOSA	**Boshof**	**83.07**	**236**	P		**P**	**00 15 23.4**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=77,slow=9.0,SNR=13							
BOSA				pP		**pP**	**00 15 50.0**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=98,slow=4.9,SNR=3.9							
RES	**Resolute Bay**	**84.62**	**3**	P		**P**	**00 15 29.9**	**-0.7**
RES	**Resolute Bay**	**84.62**	**3**	P		**P**	**00 15 29.8**	**-0.7**
	comp=Z,6.3nm,0.8s,baz=341,slow=5.0,SNR=16							
BMRM	**Bremner River**	**85.74**	**25**	*e*P		**P**	**00 15 36.2**	**-0.3**
	comp=Z,18nm,1.0s							
TORD	**Torodi Ar. Bea**	**88.24**	**283**	P		**P**	**00 15 49.9**	**+0.6**
TORD				pP		**pP**	**00 16 15.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**88.24**	**283**	P		**P**	**00 15 49.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=85,slow=5.0,SNR=3.4							
TORD				pP		**pP**	**00 16 15.9**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=71,slow=4.4,SNR=6.7							
YKA	**Yellowknife Ar**	**93.86**	**13**	P		**P**	**00 16 13.9**	**-0.6**
YKA	**Yellowknife Ar**	**93.86**	**13**	P		**P**	**00 16 14.0**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=331,slow=4.2,SNR=13							
NVAR	**Mina Array Bea**	**113.49**	**28**	PKiKP		**PKiKP**	**00 21 36.8**	**+1.1**
NVAR	**Mina Array Bea**	**113.49**	**28**	PKiKP		**PKiKP**	**00 21 36.8**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=312,slow=2.2,SNR=7.9							
ANMO	**Albuquerque**	**121.09**	**20**	PKP		**PKPdf**	**00 21 51.9**	**+1.6**
ANMO	**Albuquerque**	**121.09**	**20**	PKP		**PKPdf**	**00 21 51.9**	**+1.6**
	comp=Z,3.5nm,0.8s,baz=101,slow=13,SNR=5.4							
TKL	**Tuckaleechee C**	**123.92**	**359**	PKP		**PKPdf**	**00 21 55.6**	**+0.1**
TKL	**Tuckaleechee C**	**123.92**	**359**	PKP		**PKPdf**	**00 21 55.6**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=85,slow=3.2,SNR=6.7							
TXAR	**Lajitas Array**	**127.17**	**20**	PKP		**PKPdf**	**00 22 03.0**	**+0.9**
TXAR	**Lajitas Array**	**127.17**	**20**	PKP		**P

ISCJB ***19*** *00:16:11.4±0.5, 24˚.75N±0˚.05×109˚.31W±0˚.04, h10km, mb3.5/3, MS3.1/2, Error ellipse: s-maj=7.1km s-min=5.5km az=169.3*

IDC ***19*** *00:16:11.1±2.0, 24˚.75N×109˚.32W, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/43, mbtmp3.5/7, ML3.4/4, MS3.3/3, Ms1 3.3/3, ms1mx3.0/31, Error ellipse: s-maj=42.9km s-min=9.7km az=135.0*

MEX ***19*** *00:16:19.1±1.0, 24˚.16N×109˚.39W, h5km, MD4.6*

ISC 19 00:16:12.2±0.7, 24˚.62N±0˚.05×109˚.31W±0˚.04, h10km, n19, σ1§68/20, mb3.8/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LPIG	**La Paz**	**1.05**	**240**	*i* P		**Pb**	**00 16 32.7**	**+0.2**
LPIG				*i* S		**Sg**	**00 16 46.0**	**-0.1**
LPIG	**La Paz**	**1.05**	**240**	Pg		**Pn**	**00 16 33.0**	**0.0**
	114nm,0.3s,baz=70,slow=4.4,SNR=45							
LPIG				LR		LR	00 16 35.5	
	comp=Z,103nm,19.4s,baz=70,slow=22							
LPIG				Lg		Lg	00 16 46.8	
	222nm,0.3s,baz=336,slow=20,SNR=18							
MAIG	**Mazatlaan**	**3.00**	**118**	*i* P		**Pb**	**00 17 03.1**	**-2.7**
MAIG				*i* S		**Sn**	**00 17 37.4**	**+1.4**
HPIG		**4.01**	**54**	*i* P		**Pb**	**00 17 23.6**	**+0.4**
HPIG				*e*S		**Sb**	**00 18 13.7**	**+1.9**
HSIG		**4.62**	**342**	*i* P		**Pb**	**00 17 33.1**	**-0.2**
HSIG				*i* S		**Sb**	**00 18 31.7**	**+2.6**
CGIG		**5.84**	**11**	*i* P		Pb	00 17 51.6	-2.7
CGIG				*i* S		**Sb**	**00 19 03.5**	**-0.9**
ZAIG	**Zacatecas**	**6.45**	**105**	*i* P		**Pn**	**00 17 50.4**	**+2.8**
ZAIG				*i* S		**Sn**	**00 19 03.6**	**+2.1**
TXAR	**Lajitas Array**	**6.88**	**46**	Pn		**Pn**	**00 17 51.8**	**-1.6**
	0.5nm,0.3s,baz=228,slow=13,SNR=58							
TXAR				Sn		**Sn**	**00 19 08.8**	**-2.9**
	5.8nm,0.3s,baz=229,slow=24,SNR=19							
TXAR				Lg		Lg	00 19 46.0	
	1.8nm,0.3s,baz=228,slow=20,SNR=5.3							
ANMO	**Albuquerque**	**10.58**	**13**	Pn		**Pn**	**00 18 44.7**	**+0.6**
	0.1nm,0.3s,baz=198,slow=15,SNR=5.3							
ANMO				LR		LR	00 23 10.6	
	comp=Z,204nm,20.4s,baz=222,slow=40							
NVAR	**Mina Array Bea**	**15.74**	**333**	Pn		**Pn**	**00 19 55.1**	**+0.8**
	0.1nm,0.3s,baz=159,slow=13,SNR=4.8							
PDAR	**Pinedale Array**	**18.10**	**359**	P		**Pn**	**00 20 22.8**	**-1.2**
	0.0nm,0.3s,baz=205,slow=7.9,SNR=3.4							
APG	**El Apazote**	**20.13**	**115**	LR		LR	00 29 55.2	
	comp=Z,42nm,19.1s,baz=305,slow=41							
NEW	**Newport**	**24.39**	**347**	P		**P**	**00 21 30.0**	**-0.7**
	2.7nm,0.7s,baz=148,slow=12,SNR=6.1							
TKL	**Tuckaleechee C**	**24.60**	**57**	LR		LR	00 31 09.9	
	comp=Z,92nm,18.3s,baz=282,slow=37							
YKA	**Yellowknife A**	**38.02**	**356**	P		**P**	**00 23 29.5**	**-0.8**
	0.3nm,0.9s,baz=167,slow=6.5,SNR=3.7							
ILAR	**Eielson Array**	**46.88**	**339**	P		**P**	**00 24 42.1**	**-0.3**
	0.8nm,1.0s,baz=149,slow=7.3,SNR=6.1							
H03N2	**Juan Fernandez**	**64.58**	**152**	T		T	01 37 08.8	
	baz=330,slow=75,SNR=60							
H03N1	**Juan Fernandez**	**64.59**	**152**	T		T	01 37 09.2	
	baz=330,slow=75,SNR=85							
H03N3	**Juan Fernandez**	**64.60**	**152**	T		T	01 37 10.0	
	baz=330,slow=75,SNR=85							

IDC ***19*** *00:16:55.2±0.4, 8˚.93S×158˚.14E, h0km, mb4.6/25, mb1 4.7/29, mb1mx4.6/42, mbtmp4.6/29, ML3.7/3, Error ellipse: s-maj=13.3km s-min=10.4km az=28.0*

ISCJB ***19*** *00:16:58.6±0.2, 8˚.97S±0˚.04×158˚.10E±0˚.04, h33km, mb4.9/74, MS5.3/10, Error ellipse: s-maj=6.0km s-min=5.9km az=12.5*

NEIC ***19*** *00:16:58.5±1.9, 8˚.95S×158˚.13E, h23km±13km, mb5.1/33, Error ellipse: s-maj=5.9km s-min=5.4km az=175.0*

MOS ***19*** *00:16:59.0±1.1, 8˚.95S×158˚.05E, h33km, mb5.1/21, MS5.4/4, Error ellipse: s-maj=8.4km s-min=7.7km az=124.5*

BJI ***19*** *00:16:59.3, 8˚.57S×158˚.35E, h34km, mB5.1/27, mb4.8/38, Ms5.6/20, Ms7 5.3/19*

ISC 19 00:17:00.4±0.4, 8˚.95S±0˚.05×158˚.14E±0˚.05, h35km±1km, h35km:pP-P, n247, σ1§10/277, mb4.9/74, MS5.4/11, 11C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
HNR	**Honiara**	**1.85**	**105**	Pn		**Pn**	**00 17 27.4**	**-2.2**
HNR				Lg		Lg	00 17 54.9	
HNR	**Honiara**	**1.85**	**105**	Pn		**Pn**	**00 17 27.4**	**-2.2**
	234nm,0.3s,baz=258,slow=3.7,SNR=24							
HNR				Lg		Lg	00 17 54.9	
	696nm,0.3s,baz=270,slow=20,SNR=8.2							
HNR	**Honiara**	**1.85**	**105**	*i* P		Pn	00 17 26.0	-3.6
HNR				*i* S		**Sb**	**00 17 59.0**	**+2.7**
PMG	**Port Moresby**	**10.85**	**267**	Pn		**Pn**	**00 19 33.9**	**+0.5**
PMG	**Port Moresby**	**10.85**	**267**	Pn		**Pn**	**00 19 33.9**	**+0.5**
	1.2nm,0.3s,baz=112,slow=11,SNR=1.8							
DZM	**Mont Dzumac**	**15.29**	**149**	Pn		**Pn**	**00 20 34.3**	**+0.4**
DZM	**Mont Dzumac**	**15.29**	**149**	Pn		**Pn**	**00 20 34.3**	**+0.4**
	0.3nm,0.3s,baz=14,slow=11,SNR=4.6							
CTA	**Charters Tower**	**15.96**	**225**	Pn		**Pn**	**00 20 41.3**	**-1.1**
CTA	**Charters Tower**	**15.96**	**225**	Pn		**Pn**	**00 20 41.3**	**-1.1**
	0.4nm,0.3s,baz=61,slow=16,SNR=5.2							
CTAO	**Charters Tower**	**15.96**	**225**	*e*P		**Pn**	**00 20 40.3**	**-2.1**
CTAO				pmax		pmax		
	comp=Z,249nm,1.4s							
CTAO	**Charters Tower**	**15.96**	**225**	*e*Pn		**Pn**	**00 20 40.3**	**-2.1**
	comp=Z,249nm,1.4s							
JAY	**Jayapura**	**18.48**	**289**	P		**P**	**00 21 13.6**	**-0.1**
JAY	**Jayapura**	**18.48**	**289**	P		**P**	**00 21 13.6**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=95,slow=12,SNR=12							
ARMA	**Armidale**	**22.21**	**195**	*e*P		**P**	**00 21 54.2**	**+0.2**
	comp=Z,26nm,1.0s							
WRAB	**Tennant Creek**	**25.46**	**242**	P		**P**	**00 22 25.0**	**-0.4**
	comp=Z,168nm,0.7s,SNR=12							
WRAB	**Tennant Creek**	**25.46**	**242**	⇑*i*P		**P**	**00 22 25.8**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,85nm,1.6s							
WRAB	**Tennant Creek**	**25.46**	**242**	*e*P		**P**	**00 22 24.9**	**-0.4**
	comp=Z,152nm,1.1s							
WRA	**Warramunga Arr**	**25.47**	**242**	P		**P**	**00 22 25.2**	**-0.2**
WRA	**Warramunga Arr**	**25.47**	**242**	P		**P**	**00 22 25.2**	**-0.2**
	comp=Z,20nm,0.8s,baz=67,slow=9.1,SNR=22							
AS31	**Alice Springs**	**27.41**	**235**	*e*P		**P**	**00 22 42.3**	**-0.7**
ASAR	**Alice Springs**	**27.41**	**235**	P		**P**	**00 22 42.2**	**-0.8**
ASAR	**Alice Springs**	**27.41**	**235**	P		**P**	**00 22 42.2**	**-0.8**
	comp=Z,10nm,0.9s,baz=65,slow=9.4,SNR=22							
STKA	**Stephens Creek**	**27.51**	**212**	*e*P		**P**	**00 22 43.6**	**-0.1**
	comp=Z,23nm,1.1s							
STKA	**Stephens Creek**	**27.51**	**212**	P		**P**	**00 22 43.4**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=18,slow=9.2,SNR=8.9							
CAN	**Canberra**	**27.55**	**196**	*e*P		**P**	**00 22 44.5**	**+0.4**
CAN				pmax		pmax		
	comp=Z,55nm,1.5s							
CAN	**Canberra**	**27.55**	**196**	*e*P		**P**	**00 22 44.5**	**+0.4**
	comp=Z,55nm,1.5s							
AFI	**Afiamalu**	**29.88**	**102**	P		**P**	**00 23 05.7**	**+0.6**
AFI	**Afiamalu**	**29.88**	**102**	P		**P**	**00 23 05.7**	**+0.6**
	comp=Z,8.6nm,0.3s,baz=288,slow=13,SNR=2.7							
BBOO	**Buckleboo**	**31.32**	**218**	*e*P		**P**	**00 23 16.9**	**-0.7**
	comp=Z,712nm,0.8s							
URZ	**Urewera**	**33.81**	**153**	P		**P**	**00 23 39.5**	**+0.2**
URZ	**Urewera**	**33.81**	**153**	P		**P**	**00 23 39.5**	**+0.2**
	comp=Z,2.4nm,0.4s,baz=0.0,slow=3.0,SNR=3.9							
KAPI	**Kappang**	**38.29**	**273**	*e*P		**P**	**00 24 18.6**	**+0.6**
	comp=Z,248nm,1.4s							
MJAR	**Matsushiro Arr**	**48.98**	**339**	P		**P**	**00 25 43.8**	**+0.2**
MJAR	**Matsushiro Arr**	**48.98**	**339**	P		**P**	**00 25 43.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=124,slow=7.2,SNR=3.3							
MAJO	**Matsushiro**	**48.98**	**339**	*e*P		**P**	**00 25 44.1**	**+0.5**
MAJO	**Matsushiro**	**48.98**	**339**	*e*P		**P**	**00 25 44.1**	**+0.5**
JNU	**Nakatsue**	**49.24**	**330**	P		**P**	**00 25 46.3**	**+0.6**
JNU	**Nakatsue**	**49.24**	**330**	P		**P**	**00 25 46.3**	**+0.6**
	comp=Z,2.3nm,0.2s,baz=170,slow=14,SNR=3.6							
DLV	**T Lat**	**53.55**	**292**	*e*P		**P**	**00 26 17.9**	**-0.5**
TJN	**Taejon**	**53.58**	**329**	*e*P		**P**	**00 26 17.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**53.90**	**349**	*c* *i*P		**P**	**00 26 18.1**	**-2.1**
YUK				*i*			00 28 18.8	
YUK				*i* PPP		PPP	00 29 27.7	
YUK				*i* S		**S**	**00 33 50.7**	**-2.4**
KSRS	**Korea Array**	**54.14**	**330**	P		**P**	**00 26 21.9**	**-0.3**
	comp=Z,4.6nm,1.1s,baz=147,slow=7.4,SNR=11							
KSAR	**Wonju Array Be**	**54.15**	**330**	P		**P**	**00 26 21.9**	**-0.4**
ASAJ	**Asahikawa**	**54.66**	**346**	P		P	00 26 22.9	-2.9
ASAJ	**Asahikawa**	**54.66**	**346**	P		P	00 26 22.9	-2.9
	comp=Z,2.7nm,0.2s,baz=138,slow=13,SNR=2.9							
QIZ	**Qiongzhong**	**55.13**	**301**	P		**P**	**00 26 30.3**	**+0.6**
QIZ				S		**S**	**00 34 11.9**	**+1.2**
QIZ				pmax		pmax		
	comp=Z,12nm,1.1s							
QIZ				pmax		pmax		
	comp=Z,210nm,5.8s							
QIZ				LR		LR		
	comp=Z,2μm,25.8s							
QIZ				LR		LR		
	comp=Z,1μm,30.6s							
QIZ				LR		LR		
	comp=Z,7μm,26.7s							
NJ2	**Nanjing**	**55.41**	**319**	*e*P		**P**	**00 26 33.1**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,20nm,0.6s							
YSS	**Yuzh-Sakhalins**	**57.32**	**348**	*e*P		**P**	**00 26 45.0**	**+0.2**
USRK	**Ussuriysk Arra**	**57.96**	**338**	P		**P**	**00 26 50.0**	**+0.7**
	comp=Z,7.2nm,1.0s,baz=143,slow=6.7,SNR=13							
MDJ	**Mudanjiang**	**59.23**	**337**	P		**P**	**00 26 58.4**	**+0.2**
MDJ				pP		**pP**	**00 27 07.3**	**-1.4**
MDJ				sP		**sP**	**00 27 11.0**	**-1.8**
MDJ				PP		**PP**	**00 29 08.6**	**-0.8**
MDJ				PcS		**PcS**	**00 31 43.5**	**-4.6**
MDJ				S		**S**	**00 35 00.8**	**-2.9**
MDJ				ScS		**ScS**	**00 36 45.8**	**+0.2**
MDJ				SS		**SS**	**00 38 58.4**	**-0.5**
MDJ				pmax		pmax		
	comp=Z,13nm,1.5s							
MDJ				pmax		pmax		
	comp=Z,84nm,5.3s							
MDJ				LR		LR		
	comp=Z,3μm,19.4s							
MDJ				LR		LR		
	comp=Z,2μm,20.6s							
MDJ				LR		LR		
	comp=Z,2μm,22.2s							
MDJ	**Mudanjiang**	**59.23**	**337**	*e*P		**P**	**00 26 58.1**	**-0.1**
	comp=Z,23nm,1.3s							
CN2	**Changchun**	**60.30**	**333**	⇑P		**P**	**00 27 06.3**	**+0.7**
CN2				*e*pP		**pP**	**00 27 16.9**	**+0.7**
CN2				*e*S		**S**	**00 35 17.8**	**+0.2**
CN2				pmax		pmax		
	comp=Z,20nm,1.3s							
CN2				pmax		pmax		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=Z,2μm,18.0s							
CN2				LR		LR		
	comp=Z,900nm,18.0s							
CN2				LR		LR		
	comp=Z,1μm,18.0s							
HABR	**Khabarovsk**	**60.70**	**343**	*e*P		**P**	**00 27 06.8**	**-1.4**
HABR				*e**SP		**sP**	**00 27 21.0**	**-1.8**
HABR							00 27 51.1	
HABR				*e*			00 29 20.3	
HABR				*e*S		**S**	**00 35 20.7**	**-1.7**
HABR				*e*			00 36 54.5	
HABR				*e*SS		**SS**	**00 39 19.6**	**-2.2**
HABR				pmax		pmax		
	comp=Z,50nm,2.0s							
HABR				MLR		MLR		
	comp=Z,3μm,18.0s							
GYA	**Guiyang**	**61.11**	**307**	P		P	00 27 14.8	+3.2
GYA				pP		pP	00 27 23.0	+0.8
GYA				PP		**PP**	**00 29 30.4**	**+3.8**
GYA				ScP		**ScP**	**00 31 52.8**	**-0.7**
GYA				S		**S**	**00 35 29.0**	**+0.2**
GYA				sS		sS	00 35 45.6	-0.7
GYA				SS		**SS**	**00 39 30.3**	**+1.0**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,5.2s							
GYA				LR		LR		
	comp=Z,520nm,18.4s							
GYA				LR		LR		
	comp=Z,490nm,19.0s							
GYA				LR		LR		
	comp=Z,560nm,18.8s							
SLVN	**Son La**	**61.16**	**300**	*e*P		**P**	**00 27 11.3**	**-0.7**
	comp=Z,16nm,1.3s							
GSI	**Gunungsitoli**	**61.19**	**276**	*e*P		**P**	**00 27 10.6**	**-1.6**
	comp=Z,38nm,1.1s							
PETK	**Petropavlovsk-**	**61.82**	**360**	P		**P**	**00 27 15.5**	**-0.2**
PETK	**Petropavlovsk-**	**61.82**	**360**	P		**P**	**00 27 15.4**	**-0.2**
PETK	**Petropavlovsk-**	**61.82**	**360**	P		**P**	**00 27 15.4**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=111,slow=8.1,SNR=5.7							
KLR	**Kul'dur**	**62.39**	**341**	*e*P		P	00 27 16.0	-3.6
KLR				MLR		MLR		
	comp=E,800nm,13.5s							
KLR				MLR		MLR		
	comp=Z,2μm,13.5s							
XAN	**Xi'an**	**63.27**	**315**	P		**P**	**00 27 25.4**	**-0.5**
XAN				pmax		pmax		
	comp=Z,1.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,53nm,6.4s							
KMI	**Kunming**	**63.69**	**304**	P		**P**	**00 27 30.6**	**+1.6**
KMI				pP		pP	00 27 43.6	+4.0
KMI				pmax		pmax		
	comp=Z,18nm,1.6s							
CMAR	**Chiang Mai Arr**	**64.43**	**295**	P		**P**	**00 27 35.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**64.43**	**295**	P		**P**	**00 27 35.2**	**+1.4**
	comp=Z,2.4nm,0.3s,baz=112,slow=4.7,SNR=29							
CHTO	**Chiang Mai**	**64.55**	**296**	*e*P		**P**	**00 27 34.6**	**0.0**
CHTO				pmax		pmax		
	comp=Z,32nm,1.4s							
CHTO	**Chiang Mai**	**64.55**	**296**	*e*P		**P**	**00 27 34.5**	**0.0**
	comp=Z,32nm,1.4s							
CD2	**Chengdu**	**65.45**	**310**	P		**P**	**00 27 41.0**	**+0.8**
CD2				pP		**pP**	**00 27 51.8**	**+0.9**
CD2				sP		**sP**	**00 27 55.0**	**+0.1**
CD2				PP		**PP**	**00 30 05.1**	**+0.5**
CD2				pmax		pmax		
	comp=Z,20nm,1.4s							
CD2				pmax		pmax		
	comp=Z,190nm,9.5s							
LZH	**Lanzhou**	**67.89**	**315**	*e*P		**P**	**00 27 58.6**	**+2.8**
LZH				pP		**pP**	**00 28 07.1**	**+0.6**
LZH				sP		**sP**	**00 28 10.3**	**-0.2**
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
VNDA	**Vanda**	**68.57**	**179**	*e*P		**P**	**00 27 57.5**	**-1.7**
	comp=Z,3.7nm,0.9s							
VNDA	**Vanda**	**68.57**	**179**	P		**P**	**00 27 59.8**	**+0.7**
	comp=Z,2.2nm,1.1s,baz=332,slow=6.9,SNR=3.3							
SEY	**Seymchan**	**71.81**	**357**	⇑*i*P		**P**	**00 28 19.6**	**+0.5**
SEY	**Seymchan**	**71.81**	**357**	P		**P**	**00 28 19.4**	**+0.3**
SEY	**Seymchan**	**71.81**	**357**	P		**P**	**00 28 19.4**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=179,slow=7.2,SNR=12							
GTA	**Gaotai**	**72.29**	**316**	⇑P		**P**	**00 28 24.4**	**+1.7**
GTA				pP		**pP**	**00 28 34.8**	**+1.3**
GTA				sP		sP	00 28 38.6	+1.1
GTA				PP		**PP**	**00 31 06.5**	**+2.6**
GTA				S		**S**	**00 37 46.0**	**+2.3**
GTA				sS		**SKiKP**	**00 38 02.8**	**+6.5**
GTA				SKS		**SKSac**	**00 38 23.3**	**-1.7**
GTA				pmax		pmax		
	comp=Z,9.0nm,1.6s							
GTA				pmax		pmax		
	comp=Z,150nm,5.0s							
GTA				LR		LR		
	comp=Z,2μm,20.9s							
GTA				LR		LR		
	comp=Z,2μm,20.9s							
GTA				LR		LR		
	comp=Z,3μm,23.8s							
ULN	**Ulaanbaatar**	**72.33**	**327**	*e*P		**P**	**00 28 23.2**	**+0.4**
	comp=Z,64nm,1.1s							
SONM	**Songino Array**	**72.67**	**326**	P		**P**	**00 28 25.2**	**+0.4**
SONM	**Songino Array**	**72.67**	**326**	P		**P**	**00 28 25.2**	**+0.4**
	comp=Z,6.7nm,0.8s,baz=131,slow=5.6,SNR=20							
YAK	**Yakutsk**	**74.15**	**346**	*e*P		**P**	**00 28 33.8**	**+0.9**
LSA	**Lhasa**	**74.94**	**304**	P		**P**	**00 28 38.4**	**-0.5**
LSA	**Lhasa**	**74.94**	**304**	*e*P		**P**	**00 28 38.8**	**-0.1**
LSA				pmax		pmax		
	comp=Z,14nm,1.4s							
LSA	**Lhasa**	**74.94**	**304**	*e*P		**P**	**00 28 38.8**	**-0.1**
	comp=Z,14nm,1.4s							
ZAK	**Zakamensk**	**75.80**	**327**	⇓*i*P		**P**	**00 28 43.2**	**+0.3**
ZAK				pmax		pmax		
	comp=Z,11nm,1.4s							
TLY	**Talaya**	**76.33**	**329**	*d* *i*P		**P**	**00 28 46.2**	**+0.3**
TLY				pmax		pmax		
	comp=Z,18nm,1.5s							
TLY	**Talaya**	**76.33**	**329**	*e*P		**P**	**00 28 46.1**	**+0.3**
	comp=Z,22nm,1.5s							
BILL	**Bilibino**	**77.02**	**3**	⇑*i*P		**P**	**00 28 49.9**	**+0.6**
BILL				*i*			00 29 00.0	
BILL				*e*SS		SS	00 43 34.8	+2.0
BILL				pmax		pmax		
	comp=Z,10.0nm,1.1s							
TAPN	**Taplejung**	**77.07**	**301**	*e*P		**P**	**00 28 51.2**	**+0.3**
	comp=Z,67nm,1.3s							
ODAN	**Odare**	**77.20**	**300**	*e*P		**P**	**00 28 51.9**	**+0.3**
	comp=Z,109nm,1.5s							
MOY	**Mondy**	**77.71**	**328**	*e*P		**P**	**00 28 54.6**	**+0.9**
MOY				pmax		pmax		
	comp=Z,28nm,2.9s							
RAMN	**Ramite**	**77.90**	**300**	*e*P		**P**	**00 28 55.5**	**0.0**
	comp=Z,29nm,1.1s							
TNA	**Tin City**	**78.44**	**14**	*e*P		**P**	**00 28 57.1**	**-0.1**
	comp=Z,4.2nm,0.9s							
JIRN	**Jiri**	**78.45**	**301**	*e*P		**P**	**00 28 59.0**	**+0.3**
	comp=Z,67nm,1.4s							
GUN	**Gumba**	**78.79**	**301**	*e*P		**P**	**00 29 00.9**	**+0.4**
	comp=Z,56nm,1.2s							
PKI	**Pulchoki**	**79.09**	**300**	*e*P		**P**	**00 29 02.1**	**-0.1**
	comp=Z,81nm,1.5s							
PKIN	**Phulchoki**	**79.11**	**300**	*e*P		**P**	**00 29 02.2**	**0.0**
	comp=Z,86nm,1.7s							
KKN	**Kakani**	**79.27**	**300**	*e*P		**P**	**00 29 03.2**	**+0.2**
	comp=Z,89nm,1.6s							
DMN	**Daman**	**79.36**	**300**	*e*P		**P**	**00 29 03.9**	**+0.4**
	comp=Z,103nm,1.3s							
GKN	**Gorkha**	**79.87**	**301**	*e*P		**P**	**00 29 06.3**	**+0.1**
	comp=Z,144nm,1.4s							
KOLN	**Koldanda**	**80.69**	**300**	*e*P		**P**	**00 29 10.4**	**-0.3**
	comp=Z,131nm,1.5s							
DANN	**Dangsing**	**80.71**	**301**	*e*P		**P**	**00 29 10.4**	**-0.4**
	comp=Z,85nm,1.4s							
QSPA	**South Pole Qui**	**81.04**	**180**	*e*P		**P**	**00 29 11.7**	**0.0**
	comp=Z,20nm,1.3s							
QSPA	**South Pole Qui**	**81.04**	**180**	P		**P**	**00 29 12.2**	**+0.6**
	comp=Z,5.7nm,0.9s,baz=359,slow=3.1,SNR=7.3							
PPLA	**Purkeypile**	**81.06**	**21**	*e*P		**P**	**00 29 12.2**	**+0.5**
	comp=Z,22nm,1.5s							
PMR	**Palmer**	**81.35**	**23**	P		**P**	**00 29 12.1**	**-1.0**
PMR				pmax		pmax		
	comp=Z,113nm,1.8s							
PMR	**Palmer**	**81.35**	**23**	P		**P**	**00 29 12.1**	**-1.0**
	comp=Z,113nm,1.8s							
HVS	**Khovu-Aksy**	**81.46**	**325**	*c* *i*P		**P**	**00 29 14.7**	**+0.7**
HVS				pmax		pmax		
	comp=Z,71nm,1.6s							
KTH	**Kantishna Hill**	**81.92**	**21**	*e*P		**P**	**00 29 15.3**	**-0.9**
	comp=Z,21nm,1.3s							
TRF	**Thorofare Moun**	**82.08**	**21**	*e*P		**P**	**00 29 16.9**	**-0.3**
	comp=Z,25nm,1.0s							
WMQ	**Urumqi**	**82.37**	**317**	P		**P**	**00 29 19.6**	**+0.6**
WMQ				pP		**pP**	**00 29 30.0**	**+0.1**
WMQ				sP		**sP**	**00 29 33.9**	**0.0**
WMQ				PP		**PP**	**00 32 30.1**	**+1.8**
WMQ				SS		**SS**	**00 44 54.5**	**+0.2**
WMQ				pmax		pmax		
	comp=Z,21nm,2.0s							
WMQ				pmax		pmax		
	comp=Z,430nm,4.0s							
WMQ				LR		LR		
	comp=Z,2μm,23.0s							
WMQ				LR		LR		
	comp=Z,1μm,26.0s							
WMQ				LR		LR		
	comp=Z,3μm,27.0s							
IM04	**Indian Mountai**	**82.57**	**18**	*e*P		**P**	**00 29 18.1**	**-1.4**
MCK	**McKinley**	**82.73**	**21**	*e*P		**P**	**00 29 20.1**	**-0.2**
MCK				pmax		pmax		
	comp=Z,159nm,1.3s							
MCK	**McKinley**	**82.73**	**21**	*e*P		**P**	**00 29 20.1**	**-0.2**
	comp=Z,159nm,1.3s							
TIXI	**Tiksi**	**82.74**	**351**	⇑*i*P		**P**	**00 29 19.9**	**-0.3**
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.3s							
TIXI	**Tiksi**	**82.74**	**351**	*e*P		**P**	**00 29 19.3**	**-0.9**
	comp=Z,5.1nm,1.0s							
HYB	**Hyderabad**	**82.85**	**289**	*i* P		**P**	**00 29 21.0**	**-1.0**
COLA	**College**	**83.79**	**20**	⇑*i*P		**P**	**00 29 25.5**	**-0.2**
COLA				pmax		pmax		
	comp=Z,67nm,1.1s							
COLA	**College**	**83.79**	**20**	*e*P		**P**	**00 29 25.1**	**-0.7**
	comp=Z,74nm,1.1s							
ILAR	**Eielson Array**	**84.06**	**21**	P		**P**	**00 29 26.1**	**-1.0**
ILAR	**Eielson Array**	**84.06**	**21**	P		**P**	**00 29 26.1**	**-1.0**
	comp=Z,5.8nm,1.0s,baz=256,slow=4.4,SNR=31							
DOT	**Dot Lake**	**84.45**	**22**	*e*P		**P**	**00 29 28.7**	**-0.5**
	comp=Z,20nm,1.4s							
COLD	**Coldfoot**	**84.48**	**18**	*e*P		**P**	**00 29 29.2**	**0.0**
	comp=Z,2.3nm,0.9s							
SKAG	**Skagway**	**86.10**	**28**	*e*P		**P**	**00 29 37.3**	**-0.1**
	comp=Z,46nm,1.2s							
EGAK	**Eagle**	**86.13**	**22**	*e*P		**P**	**00 29 37.9**	**+0.4**
DAWY	**Dawson**	**86.44**	**23**	*e*P		**P**	**00 29 39.0**	**-0.1**
MK31	**Makanchi Array**	**86.93**	**318**	*e*P		**P**	**00 29 41.4**	**-0.5**
MK31	**Makanchi Array**	**86.93**	**318**	*e*P		**P**	**00 29 41.4**	**-0.5**
MKAR	**Makanchi Array**	**86.93**	**318**	P		**

HLID	**Hailey**	**94.25**	**47**	P		**P**	**00 30 17.1**	**+0.7**
	baz=94								
KBL	**Kabul**	**94.27**	**304**	*e*P		**P**	**00 30 14.7**	**-2.1**
KBL				pmax		pmax			
	comp=Z,6.0nm,1.2s								
KBL	**Kabul**	**94.27**	**304**	*e*P		**P**	**00 30 14.7**	**-2.1**
	comp=Z,6.1nm,1.2s								
KKAR	**Karatay Array**	**94.32**	**313**	*e*P		**P**	**00 30 15.2**	**-1.3**
KKAR				pmax		pmax			
	comp=Z,7.0nm,1.4s								
KKAR	**Karatay Array**	**94.32**	**313**	*e*P		**P**	**00 30 15.2**	**-1.3**
	comp=Z,7.2nm,1.4s								
BVAR	**Borovoye Array**	**95.73**	**323**	P		**P**	**00 30 21.7**	**-1.0**
BVAR	**Borovoye Array**	**95.73**	**323**	P		**P**	**00 30 21.7**	**-1.0**
BVAR	**Borovoye Array**	**95.73**	**323**	P		**P**	**00 30 21.7**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=116,slow=6.8,SNR=9.0								
BRVK	**Borovoye**	**95.79**	**323**	*i*P		**P**	**00 30 22.6**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
YKA	**Yellowknife Ar**	**96.60**	**28**	P		**P**	**00 30 26.3**	**-0.1**
YKA				PKKPbc	**PKKPbc**		**00 47 10.1**	**-2.6**
YKA	**Yellowknife Ar**	**96.60**	**28**	P		**P**	**00 30 26.3**	**-0.1**
	comp=Z,2.8nm,1.1s,baz=262,slow=4.6,SNR=18								
YKA				PKKPbc	**PKKPbc**		**00 47 10.1**	**-2.6**
	comp=Z,0.4nm,0.9s,baz=86,slow=2.9,SNR=5.2								
PDAR	**Pinedale Array**	**97.69**	**48**	P		**P**	**00 30 32.2**	**0.0**
PDAR	**Pinedale Array**	**97.69**	**48**	P		**P**	**00 30 32.2**	**0.0**
	comp=Z,1.2nm,1.0s,baz=238,slow=4.8,SNR=7.4								
F19A	**Roth Farm, Mol**	**98.38**	**45**	P		Pdif	00 30 36.0	+0.9	
	baz=98								
J20A	**Shoshoni**	**98.81**	**47**	P		Pdif	00 30 37.8	+0.7	
	baz=99								
Z22A	**Elephant Butte**	**98.92**	**58**	P		Pdif	00 30 39.0	+1.2	
	baz=99								
E20A	**Meyer Farm, Mu**	**98.98**	**44**	P		Pdif	00 30 38.5	+0.9	
	baz=99								
A21A	**Bergtoll Ranch**	**99.92**	**42**	P		**Pdif**	**00 30 41.9**	**+0.2**
	baz=100								
H22A	**Clearmont**	**100.13**	**46**	P		**Pdif**	**00 30 42.5**	**-0.4**
	baz=100								
TXAR	**Lajitas Array**	**101.44**	**62**	PKKPbc	PKKPbc		00 46 58.9	+0.9	
TXAR	**Lajitas Array**	**101.44**	**62**	PKKPbc	PKKPbc		00 46 58.9	+0.9	
	comp=Z,0.3nm,0.8s,baz=104,slow=5.3,SNR=4.2								
KIV	**Kislovodsk**	**114.43**	**314**	*i* PKIKP		PKPdf	00 35 35.1	-1.9	
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,987nm,20.0s								
FINES	**FINESS Array B**	**116.97**	**336**	PKP		**PKPdf**	**00 35 42.0**	**+0.8**	
FINES	**FINESS Array B**	**116.97**	**336**	PKP		**PKPdf**	**00 35 42.0**	**+0.8**	
	comp=Z,1.7nm,0.8s,baz=63,slow=3.8,SNR=2.4								
KMBO	**Kilima Mbogo**	**120.27**	**263**	PKP		**PKPdf**	**00 35 50.1**	**+0.8**	
KMBO	**Kilima Mbogo**	**120.27**	**263**	PKP		**PKPdf**	**00 35 50.1**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=44,slow=22,SNR=3.1								
AKASG	**Malin Array Be**	**120.93**	**325**	PKIKP		**PKPdf**	**00 35 48.7**	**-0.5**	
AKASG	**Malin Array Be**	**120.93**	**325**	PKP		**PKPdf**	**00 35 48.6**	**-0.5**	
AKASG				PKKPbc		**PKKPab**	**00 45 54.0**	**+0.5**	
AKASG	**Malin Array Be**	**120.93**	**325**	PKP		**PKPdf**	**00 35 48.6**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=55,slow=2.3,SNR=7.0								
AKASG				PKKPbc		**PKKPab**	**00 45 54.0**	**+0.5**	
	comp=Z,0.1nm,0.2s,baz=272,slow=2.0,SNR=4.6								
BOSA	**Boshof**	**121.17**	**229**	PKP		**PKPdf**	**00 35 50.6**	**+0.1**	
BOSA	**Boshof**	**121.17**	**229**	PKP		**PKPdf**	**00 35 50.6**	**+0.1**	
	comp=Z,3.5nm,1.0s,baz=142,slow=3.0,SNR=3.0								
BRTR	**Keskin Array B**	**122.00**	**311**	PKP		**PKPdf**	**00 35 52.1**	**+0.4**	
BRTR	**Keskin Array B**	**122.00**	**311**	PKP		**PKPdf**	**00 35 52.1**	**+0.4**	
	comp=Z,0.5nm,0.7s,baz=129,slow=2.0,SNR=3.4								
LSZ	**Lusaka**	**124.88**	**244**	*e*PKPdf		**PKPdf**	**00 35 57.0**	**-0.9**	
KWP	**Kalwaria Pacla**	**125.11**	**326**	*e*PKIKP		**PKPdf**	**00 35 56.6**	**-0.6**	
KWP	**Kalwaria Pacla**	**125.11**	**326**	*e*PKPdf		**PKPdf**	**00 35 56.6**	**-0.6**	
KOLS	**Kolonicke sedl**	**125.72**	**326**	*e*PKIKP		**PKPdf**	**00 35 58.5**	**+0.1**	
KOLS	**Kolonicke sedl**	**125.72**	**326**	*e*PKP		**PKPdf**	**00 35 58.5**	**+0.1**	
KOLS				*e*			00 36 46.8		
UZH	**Uzhgorod**	**125.87**	**325**	*e*PKHKP	PKPpre		00 35 44.3		
STHS	**Stebnicka Huta**	**126.03**	**327**	*e*PKIKP		**PKPdf**	**00 35 59.7**	**+0.7**	
STHS	**Stebnicka Huta**	**126.03**	**327**	*e*PKP		**PKPdf**	**00 35 59.7**	**+0.7**	
STHS				*e*			00 36 48.2		
CRVS	**Cervenica-Dubn**	**126.19**	**326**	*e*PKIKP		**PKPdf**	**00 35 59.8**	**+0.5**	
CRVS	**Cervenica-Dubn**	**126.19**	**326**	*e*PKP		**PKPdf**	**00 35 59.8**	**+0.5**	
CRVS				*e*			00 36 47.3		
LPAZ	**La Paz**	**127.79**	**119**	PKP		**PKPdf**	**00 36 04.3**	**+0.3**	
LPAZ	**La Paz**	**127.79**	**119**	PKP		**PKPdf**	**00 36 04.3**	**+0.3**	
	comp=Z,1.3nm,0.7s,baz=115,slow=9.6,SNR=3.6								
BRG	**Berggiesshubel**	**128.85**	**332**	*e*PKP		**PKPdf**	**00 36 04.8**	**+0.5**	
	comp=Z,22nm,1.5s								
BRG				*ep*PKP		**pPKPdf**	**00 36 18.3**	**+2.6**	
	comp=Z,10nm,1.5s								
BRG				PKS		PKSdf	00 39 32.0	-8.7	
BRG									
	comp=N,1μm,16.8s								
BRG									
	comp=E,753nm,24.2s								
BRG									
	comp=Z,2μm,22.5s								
BRG	**Berggiesshubel**	**128.85**	**332**	*e*PKIKP		**PKPdf**	**00 36 04.8**	**+0.5**	
BRG				*e*			00 36 18.3		
BRG				pmax		pmax			
	comp=Z,22nm,1.5s								
BRG				pmax		pmax			
	comp=Z,10.0nm,1.5s								
BRG				pmax		pmax			
	comp=Z,32nm,1.4s								
BRG				pmax		pmax			
	comp=Z,16nm,1.8s								
BRG				MLR		MLR			
	comp=N,1μm,16.8s								
BRG				MLR		MLR			
	comp=E,753nm,24.2s								
BRG				MLR		MLR			
	comp=Z,2μm,22.5s								
GERES	**GERESS Array B**	**130.31**	**330**	PKP		**PKPdf**	**00 36 07.8**	**+0.5**	
GERES	**GERESS Array B**	**130.31**	**330**	PKP		**PKPdf**	**00 36 07.8**	**+0.5**	
	comp=Z,0.4nm,0.5s,baz=316,slow=3.7,SNR=6.2								
GIVF	**Givet**	**133.37**	**337**	*e*PKIKP		**PKPdf**	**00 36 13.8**	**+0.9**	
GIVF	**Givet**	**133.37**	**337**	*e*PKIKP		**PKPdf**	**00 36 13.8**	**+0.9**	
GIVF	**Givet**	**133.37**	**337**	*e*PKPdf		**PKPdf**	**00 36 13.8**	**+0.9**	
BAIF	**Baives**	**133.65**	**337**	*e*PKIKP		**PKPdf**	**00 36 13.3**	**-0.1**	
BAIF	**Baives**	**133.65**	**337**	*e*PKIKP		**PKPdf**	**00 36 13.3**	**-0.1**	
BAIF	**Baives**	**133.65**	**337**	*e*PKPdf		**PKPdf**	**00 36 13.3**	**-0.1**	
CDF	**Champ du Feu**	**133.65**	**333**	*e*PKIKP		**PKPdf**	**00 36 14.1**	**+0.5**	
CDF	**Champ du Feu**	**133.65**	**333**	*e*PKIKP		**PKPdf**	**00 36 14.1**	**+0.5**	
CDF	**Champ du Feu**	**133.65**	**333**	*e*PKPdf		**PKPdf**	**00 36 14.1**	**+0.5**	
HINF	**Hinteralfeld**	**134.28**	**333**	*e*PKIKP		**PKPdf**	**00 36 15.1**	**+0.3**	
HINF	**Hinteralfeld**	**134.28**	**333**	*e*PKIKP		**PKPdf**	**00 36 15.1**	**+0.3**	
HINF	**Hinteralfeld**	**134.28**	**333**	*e*PKPdf		**PKPdf**	**00 36 15.1**	**+0.3**	
HAU	**Haudompre**	**134.36**	**334**	*e*PKIKP		**PKPdf**	**00 36 15.6**	**+0.7**	
HAU	**Haudompre**	**134.36**	**334**	*e*PKIKP		**PKPdf**	**00 36 15.6**	**+0.7**	
HAU	**Haudompre**	**134.36**	**334**	*e*PKPdf		**PKPdf**	**00 36 15.6**	**+0.7**	
MEZF	**Maizieres J'vi**	**134.54**	**335**	*e*PKIKP		**PKPdf**	**00 36 16.5**	**+1.3**	
MEZF	**Maizieres J'vi**	**134.54**	**335**	*e*PKPdf		**PKPdf**	**00 36 16.5**	**+1.3**	
CABF	**La Chapelle**	**135.53**	**333**	*e*PKIKP		**PKPdf**	**00 36 18.2**	**+1.0**	
	comp=Z,20nm,1.1s								
CABF	**La Chapelle**	**135.53**	**333**	*e*PKIKP		**PKPdf**	**00 36 18.2**	**+1.0**	
CABF	**La Chapelle**	**135.53**	**333**	*e*PKPdf		**PKPdf**	**00 36 18.2**	**+1.0**	
LOR	**Lormes**	**136.00**	**335**	*e*PKIKP		**PKPdf**	**00 36 18.4**	**+0.4**	
	comp=Z,8.6nm,0.9s								
LOR	**Lormes**	**136.00**	**335**	*e*PKPdf		**PKPdf**	**00 36 18.4**	**+0.4**	
LPG	**La Plagne**	**136.05**	**331**	*e*PKIKP		**PKPdf**	**00 36 18.9**	**+0.4**	
	comp=Z,4.8nm,0.9s								
SMF	**Signal de Mont**	**136.50**	**334**	*e*PKIKP		**PKPdf**	**00 36 19.1**	**+0.2**	
	comp=Z,36nm,1.6s								
SBF	**Sospel**	**136.88**	**329**	*e*PKIKP		**PKPdf**	**00 36 19.2**	**-0.6**	
	comp=Z,35nm,1.2s								
SBF	**Sospel**	**136.88**	**329**	*e*PKIKP		**PKPdf**	**00 36 19.2**	**-0.6**	
SBF	**Sospel**	**136.88**	**329**	*e*PKPdf		**PKPdf**	**00 36 19.2**	**-0.6**	
PGF	**Pioggiola**	**136.96**	**326**	*e*PKIKP		**PKPdf**	**00 36 20.1**	**+0.1**	
	comp=Z,31nm,1.2s								
PGF	**Pioggiola**	**136.96**	**326**	*e*PKIKP		**PKPdf**	**00 36 20.1**	**+0.1**	
PGF	**Pioggiola**	**136.96**	**326**	*e*PKPdf		**PKPdf**	**00 36 20.1**	**+0.1**	
BGF	**Bois d'Agland**	**136.99**	**335**	*e*PKIKP		**PKPdf**	**00 36 20.2**	**+0.4**	
	comp=Z,21nm,1.0s								
BGF	**Bois d'Agland**	**136.99**	**335**	*e*PKIKP		**PKPdf**	**00 36 20.2**	**+0.4**	
BGF	**Bois d'Agland**	**136.99**	**335**	*e*PKPdf		**PKPdf**	**00 36 20.2**	**+0.4**	
BDFB	**Brasilia**	**144.39**	**133**	PKP		**PKPab**	**00 36 32.8**	**+0.5**	
BDFB	**Brasilia**	**144.39**	**133**	PKP		**PKPab**	**00 36 32.8**	**+0.5**	
	comp=Z,6.5nm,0.8s,baz=192,slow=1.5,SNR=8.0								
ESDC	**Sonseca Array**	**145.48**	**335**	PKPbc		**PKPdf**	**00 36 35.3**	**0.0**	
ESDC	**Sonseca Array**	**145.48**	**335**	PKPbc		**PKPdf**	**00 36 35.3**	**0.0**	
	comp=Z,2.4nm,0.8s,baz=16,slow=4.0,SNR=16								
PAB	**San Pablo**	**145.74**	**336**	*e*PKP2		**PKPdf**	**00 36 35.4**	**-0.4**	
PAB	**San Pablo**	**145.74**	**336**	*e*PKPdf		**PKPdf**	**00 36 35.4**	**-0.4**	
TAM	**Tamanrasset**	**150.36**	**301**	*e*PKIKP		**PKPdf**	**00 36 44.0**	**0.0**	
TAM	**Tamanrasset**	**150.36**	**301**	*e*PKPdf		**PKPdf**	**00 36 44.0**	**0.0**	
TORD	**Torodi Ar. Bea**	**156.52**	**282**	PKP		**PKPdf**	**00 36 51.2**	**-1.5**	
TORD				PKPab		**PKPab**	**00 37 21.8**	**+0.2**	
TORD	**Torodi Ar. Bea**	**156.52**	**282**	PKP		**PKPdf**	**00 36 51.2**	**-1.5**	
	comp=Z,1.7nm,1.2s,baz=289,slow=4.4,SNR=4.8								
TORD				PKPab		**PKPab**	**00 37 21.8**	**+0.2**	
	comp=Z,10nm,1.3s,baz=78,slow=3.8,SNR=9.4								

ISCJB ***19*** *00:17:45.7±1.1, 9.°00S±0.°03×158.°08E±0.°02, h26km±7km, mb5.4/162, MS5.4/102, Error ellipse: s-maj=5.1km s-min=3.8km az=178.9*

MOS ***19*** *00:17:47.4±1.1, 8.°86S×158.°02E, h33km, mb5.6/37, MS5.4/22, Error ellipse: s-maj=8.3km s-min=7.3km az=113.4*

IDC ***19*** *00:17:47.9±2.1, 8.°96S×158.°19E, h31km±15km, mb5.0/30, mb1 5.1/32, mb1mx5.0/41, mbtmp5.2/32, ML4.4/2, MS5.2/9, Ms1 5.2/9, ms1mx5.0/12, Error ellipse: s-maj=11.9km s-min=10.6km az=59.0*

NEIC ***19*** *00:17:49.0±0.1, 9.°00S×158.°07E, mb5.5/91, MS5.4/64, Error ellipse: s-maj=4.3km s-min=3.8km az=150.0*

NEIC Felt at Honiara.

GCMT ***19*** *00:17:49.0±0.1, 8.°94S×158.°22E, h12km, MW5.6/108, Moment Tensor Solution. s95,c169; s108,c207; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr-2.31±.04; Mθθ0.16±.04; Mϕϕ2.15±.04; Mrθ-0.09±.11; Mθϕ2.19±.04; Mϕr-0.98±.11; Best double couple: M=3.14000×10^17 NP1:ϕs16.00000°, δ56.00000°, λ-112.00000°. NP2:ϕs232.00000°, δ40.00000°, λ-61.00000°. Principal axes: T 3.6890, Plg8.0000°, Azm122.0000°; N -1.1010, Plg18.0000°, Azm29.0000°; P -2.5900, Plg70.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***19*** *00:17:50.1, 8.°63S×158.°08E, h55km, mB5.5/61, mb5.3/55, Ms5.7/69, Ms7 5.4/65*

ISC 19 00:17:49.8±0.3, 8.°92S±0.°04×158.°24E±0.°03, h49km±1km, h49km:pP-P, n648, σ1s55/679, mb5.4/158, MS5.4/103, 44C-29D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.76**	**107**	*e*Pn	**Pn**	**00 18 19.2**	**+1.4**
HNR				*e*Sn	**Sn**	**00 18 41.9**	**+2.9**
HNR	**Honiara**	**1.76**	**107**	Pn	**Pn**	**00 18 17.0**	**-0.8**
	964nm,0.3s,baz=188,slow=19,SNR=4.0						
HNR				Lg	Lg	00 18 45.2	
	3μm,0.3s,baz=242,slow=22,SNR=6.5						
HNR				LR	LR	00 19 12.5	
	comp=Z,170μm,20.9s,baz=334,slow=47						
PMG	**Port Moresby**	**10.95**	**267**	P	x	00 20 30.7	
PMG	**Port Moresby**	**10.95**	**267**	*e*Pn	Pn	00 20 30.1	+6.2
PMG				Sn	**Sn**	**00 22 29.8**	**+4.6**
PMG	**Port Moresby**	**10.95**	**267**	Pn	**Pn**	**00 20 25.2**	**+1.2**
	0.6nm,0.3s,baz=112,slow=5.4,SNR=2.6						
PMG				Sn	**Sn**	**00 22 29.8**	**+4.6**
	1.0nm,0.3s,baz=243,slow=16,SNR=1.4						
PMG				LR	LR	00 23 37.8	
	comp=Z,10μm,21.5s,baz=76,slow=32						
NOUC	**Port Laguerre**	**15.22**	**150**	*e*P	**Pn**	**00 21 19.9**	**-1.8**
DZM	**Mont Dzumac**	**15.27**	**150**	*e*LR	LR	00 24 46.8	
	49μm,26.3s						
DZM	**Mont Dzumac**	**15.27**	**150**	Pn	**Pn**	**00 21 20.9**	**-1.4**
DZM	**Mont Dzumac**	**15.27**	**150**	Pn	**Pn**	**00 21 20.9**	**-1.4**
	0.4nm,0.3s,baz=12,slow=14,SNR=7.8						
DZM				LR	LR	00 26 16.5	
	comp=Z,36μm,18.1s,baz=330,slow=33						
DZM	**Mont Dzumac**	**15.27**	**150**	*e*P	**Pn**	**00 21 19.7**	**-2.6**
COEN	**Coen**	**15.59**	**250**	*e*Pn	**P**	**00 21 28.3**	**-1.6**
	2μm,1.1s						
PATS	**Pohnpei**	**15.65**	**0**	⇓P	**Pn**	**00 21 26.0**	**-1.3**
	baz=16,SNR=4.4						
CTA	**Charters Tower**	**16.05**	**225**	Pn	**Pn**	**00 21 28.1**	**-4.2**
CTA				Sn	Sn	00 24 16.3	-13
CTA	**Charters Tower**	**16.05**	**225**	Pn	**Pn**	**00 21 28.1**	**-4.2**
	1.5nm,0.3s,baz=55,slow=14,SNR=14						
CTA				Sn	Sn	00 24 16.3	-13
	0.1nm,0.3s,baz=65,slow=18,SNR=2.5						
CTA				LR	LR	00 26 51.4	
	comp=Z,6μm,21.4s,baz=42,slow=34						
EIDS	**Eidsvold**	**17.72**	**202**	*e*Pn	**Pn**	**00 21 51.9**	**-1.2**
	88nm,1.0s						
EIDS	**Eidsvold**	**17.72**	**202**	⇑P	**Pn**	**00 21 50.0**	**-3.0**
	baz=18,SNR=8.9						
JAY	**Jayapura**	**18.57**	**289**	P	**Pn**	**00 22 03.4**	**-0.1**
JAY				S	**S**	**00 25 37.6**	**+5.4**
JAY	**Jayapura**	**18.57**	**289**	P	**Pn**	**00 22 03.4**	**-0.1**
	6.4nm,0.3s,baz=47,slow=0.7,SNR=20						
JAY				S	**S**	**00 25 37.6**	**+5.4**
	0.3nm,0.3s,baz=75,slow=19,SNR=2.1						
JAY				LR	LR	00 28 55.5	
	comp=Z,11μm,19.2s,baz=79,slow=36						
JAY	**Jayapura**	**18.57**	**289**	⇑P	**P**	**00 22 02.4**	**-0.5**
	baz=19,SNR=6.1						
GENI	**Genyem**	**19.04**	**288**	P	**Pn**	**00 22 10.8**	**+1.6**
	345nm,1.3s,9μm						
RMQ	**Roma**	**19.65**	**206**	⇓P	**P**	**00 22 14.4**	**-0.2**
	baz=20,SNR=11						
KWAJ	**Kwajalein Atol**	**19.93**	**28**	*e*P	**Pn**	**00 22 21.1**	**+1.5**
KWAJ	**Kwajalein Atol**	**19.93**	**28**	*e*P	**Pn**	**00 22 21.1**	**+1.5**
KWAJ				*ep*P	**pP**	**00 22 29.1**	**+0.1**
SMPI	**Sarmi**	**20.62**	**288**	P	**P**	**00 22 26.4**	**+1.2**
	489nm,0.9s,7μm						
MSVF	**Nonsavu**	**21.15**	**116**	*e*P	**P**	**00 22 32.9**	**+1.9**
MSVF				pmax	pmax		
	comp=Z,152nm,1.1s						
MSVF	**Nonsavu**	**21.15**	**116**	*e*P	**P**	**00 22 32.9**	**+1.9**
	comp=Z,152nm,1.1s						
QIS	**Mount Isa**	**21.39**	**235**	⇓P	**P**	**00 22 31.2**	**-2.3**
	baz=22,SNR=5.6						
QLP	**Quilpie**	**22.02**	**215**	⇑P	**P**	**00 22 39.5**	**-0.6**
	baz=22,SNR=20						
ARMA	**Armidale**	**22.26**	**195**	*e*P	**P**	**00 22 42.0**	**-0.8**
	comp=Z,101nm,0.8s						
ARMA	**Armidale**	**22.26**	**195**	⇑P	**P**	**00 22 40.4**	**-2.4**
	baz=22,SNR=12						
BAKI	**Biak**	**23.33**	**288**	P	**P**	**00 22 58.5**	**+4.6**
CMSA	**Cobar Meteorol**	**25.35**	**206**	⇑P	**P**	**00 23 10.0**	**-2.3**
	baz=26,SNR=7.1						
WRAB	**Tennant Creek**	**25.56**	**242**	P	**P**	**00 23 13.5**	**-0.8**
	comp=Z,692nm,0.9s,SNR=8.5						
WRAB	**Tennant Creek**	**25.56**	**242**	*e*P	**P**	**00 23 13.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,111nm,0.9s						
WRAB	**Tennant Creek**	**25.56**	**242**	*e*P	**P**	**00 23 13.9**	**-0.4**
	comp=Z,111nm,0.9s						
WRA	**Warramunga Arr**	**25.57**	**242**	P	**P**	**00 23 13.5**	**-0.9**
WRA				PcP	**PcP**	**00 26 45.4**	**+0.5**
WRA				S	**S**	**00 27 45.3**	**+6.1**
WRA				ScP	**ScP**	**00 30 19.7**	**-0.6**
WRA	**Warramunga Arr**	**25.57**	**242**	P	**P**	**00 23 13.5**	**-0.9**
	comp=Z,108nm,0.9s,baz=67,slow=9.4,SNR=20						
WRA				PcP	**PcP**	**00 26 45.4**	**+0.5**
	comp=Z,21nm,1.0s,baz=59,slow=2.1,SNR=7.2						
WRA				S	**S**	**00 27 45.3**	**+6.1**
	comp=Z,3.3nm,1.2s,baz=63,slow=17,SNR=2.5						
WRA				ScP	**ScP**	**00 30 19.7**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=97,slow=2.3,SNR=3.2						
WRA				LR	LR	00 33 01.0	
	comp=Z,6μm,19.8s,baz=55,slow=36						
KDU	**Kakadu**	**25.58**	**259**	⇑P	**P**	**00 23 13.6**	**-0.9**
	baz=26,SNR=7.8						
GUMO	**Guam**	**26.01**	**329**	PFAKE		00 23 30.0	+12
GUMO				LR	LR		
	comp=Z,9μm,21.0s						
FAKI	**Fak Fak**	**26.52**	**281**	P	**P**	**00 23 26.0**	**+2.9**
	comp=Z,94nm,1.2s,comp=Z,2μm						
FAKI	**Fak Fak**	**26.52**	**281**	*e*P	**P**	**00 23 21.6**	**-1.5**
	comp=Z,63nm,0.8s						
FAKI	**Fak Fak**	**26.52**	**281**	⇓P	**P**	**00 23 22.4**	**-0.7**
	baz=27,SNR=3.6						
SAUI	**Saumlaki**	**26.66**	**270**	P	P	00 23 29.8	+5.4
YNG	**Young**	**26.83**	**198**	⇓P	**P**	**00 23 22.2**	**-3.4**
	baz=27,SNR=6.2						
MTN	**Manton Dam**	**26.90**	**259**	⇓P	**P**	**00 23 25.7**	**-0.8**
	baz=27,SNR=6.5						
ASAR	**Alice Springs**	**27.51**	**235**	P	**P**	**00 23 30.5**	**-1.4**
ASAR				PcP	**PcP**	**00 26 50.1**	**+0.8**
ASAR				S	**S**	**00 28 14.7**	**+5.0**
ASAR				ScP	**ScP**	**00 30 28.8**	**+2.8**
ASAR	**Alice Springs**	**27.51**	**235**	P	**P**	**00 23 30.5**	**-1.4**
	comp=Z,33nm,1.0s,baz=72,slow=9.3,SNR=14						
ASAR				PcP	**PcP**	**00 26 50.1**	**+0.8**
	comp=Z,11nm,0.9s,baz=78,slow=2.4,SNR=6.8						
ASAR				S	**S**	**00 28 14.7**	**+5.0**
	comp=Z,1.7nm,1.0s,baz=58,slow=16,SNR=2.5						
ASAR				ScP	**ScP**	**00 30 28.8**	**+2.8**
	comp=Z,1.0nm,0.9s,baz=90,slow=3.7,SNR=3.4						
ASAR				LR	LR	00 34 03.8	
	comp=Z,4μm,21.0s,baz=60,slow=36						
STKA	**Stephens Creek**	**27.58**	**212**	P	**P**	**00 23 31.7**	**-0.7**
STKA				PcP	**PcP**	**00 26 49.5**	**+0.2**
STKA	**Stephens Creek**	**27.58**	**212**	P	**P**	**00 23 31.7**	**-0.7**
	comp=Z,71nm,1.0s,baz=20,slow=10.0,SNR=11						
STKA				PcP	**PcP**	**00 26 49.5**	**+0.2**
	comp=Z,24nm,1.0s,baz=25,slow=6.8,SNR=2.9						
STKA	**Stephens Creek**	**27.58**	**212**	⇓P	**P**	**00 23 31.8**	**-0.7**
	baz=28,SNR=9.6						
CAN	**Canberra**	**27.60**	**196**	*e*P	**P**	**00 23 31.8**	**-0.8**
CAN				pmax	pmax		
	comp=Z,59nm,0.9s						
CAN				MLR	MLR		
	comp=Z,3μm,19.0s						
CAN	**Canberra**	**27.60**	**196**	*e*P	**P**	**00 23 31.8**	**-0.8**
	comp=Z,60nm,0.9s						
CAN				LR	LR		
	comp=Z,3μm,19.0s						
BNDI	**Bandanaira**	**28.47**	**277**	P	**P**	**00 23 41.2**	**+0.7**
	comp=Z,369nm,1.2s,comp=Z,6μm						
KNRA	**Kununurra**	**29.55**	**254**	⇑P	**P**	**00 23 49.5**	**-0.6**
	baz=30,SNR=7.0						
MSAI	**Masohi**	**29.66**	**279**	P	P	00 24 00.5	+9.4
OUZ	**Omahuta**	**29.71**	**154**	*e*P	**P**	**00 23 52.2**	**+1.0**
	comp=Z,55nm,1.5s						
AFI	**Afiamalu**	**29.79**	**102**	*e*P	**P**	**00 23 52.5**	**+0.3**
AFI				LR	LR		
	comp=Z,13μm,19.0s						
AFI	**Afiamalu**	**29.79**	**102**	P	**P**	**00 23 51.4**	**-0.9**
	comp=Z,12nm,0.3s,baz=319,slow=3.7,SNR=3.1						
HTT	**Hallett**	**30.21**	**213**	⇓P	**P**	**00 23 54.0**	**-1.8**
	baz=30,SNR=19						
TOO	**Toolangi**	**30.77**	**200**	⇓P	**P**	**00 23 59.8**	**-0.8**
	baz=31,SNR=6.3						
BBOO	**Buckleboo**	**31.40**	**218**	*e*P	**P**	**00 24 04.6**	**-1.6**
	comp=Z,2μm,0.9s						
BBOO	**Buckleboo**	**31.40**	**218**	⇑P	**P**	**00 24 04.5**	**-1.8**
	baz=32,SNR=22						
ARPS	**Mount Arapiles**	**31.47**	**206**	⇑P	**P**	**00 24 05.6**	**-1.2**
	baz=32,SNR=15						
LBMI	**Labuha**	**31.69**	**283**	P	P	00 24 15.6	+6.5
WRKA	**Warakurna**	**32.70**	**237**	⇓P	**P**	**00 24 15.4**	**-2.5**
	baz=33,SNR=13						
SANI	**Sanana**	**32.80**	**280**	P	**P**	**00 24 19.6**	**+0.8**
	comp=Z,179nm,1.2s,comp=Z,3μm						
SOEI	**Soe**	**33.53**	**266**	P	**P**	**00 24 27.3**	**+2.0**
	comp=Z,99nm,1.6s,comp=Z,3μm						
SOEI	**Soe**	**33.53**	**266**	*e*P	**P**	**00 24 23.6**	**-1.7**
	comp=Z,141nm,1.4s						
SOEI	**Soe**	**33.53**	**266**	⇓P	**P**	**00 24 24.3**	**-0.9**
	baz=34,SNR=3.2

comp=Z,8μm,23.4s
QZH LR LR
comp=Z,4μm,19.4s
QZH LR LR
comp=Z,10μm,22.7s
PPT Papeete 51.38 105 P **P** **00 26 51.3 +1.2**
PPT Papeete 51.38 105 P **P** **00 26 51.3 +1.2**
comp=Z,33nm,0.5s,baz=342,slow=12,SNR=3.7
PPT2 Papeete2 51.38 105 *e*S **S** **00 34 08.2 +1.6**
comp=Z,3μm,29.8s
PPT2 *e*LQ LQ 00 39 28.8
comp=Z,5μm,26.8s
PPT2 *e*LR LR 00 41 38.8
comp=Z,10μm,23.5s,baz=274
TIAR Tiarei 51.60 105 *e*P **P** **00 26 53.1 +1.4**
comp=Z,18nm,0.8s
TBI Tubuai 51.97 113 *e*S **S** **00 34 15.4 +1.0**
comp=Z,2μm,29.8s
TBI *e*LQ LQ 00 39 43.1
comp=Z,10μm,30.2s
TBI *e*LR LR 00 41 57.5
comp=Z,13μm,28.5s,baz=287
ERM Erimo 52.54 346 PFAKE 00 27 10.0 +12
ERM LR LR
comp=Z,5μm,19.0s
PMOR Pomariorio Ree 52.94 102 *e*P **P** **00 27 03.4 +1.8**
comp=Z,179nm,1.1s
SSE Sheshan 53.33 320 P **P** **00 27 01.8 -2.4**
SSE PcP **PcP** **00 28 09.1 -2.2**
SSE PP **PP** **00 29 02.4 -2.6**
SSE S **S** **00 34 34.1 +1.5**
SSE pmax pmax
comp=Z,25nm,0.7s
SSE pmax pmax
comp=Z,400nm,7.0s
SSE LR LR
comp=Z,2μm,21.5s
SSE LR LR
comp=Z,2μm,21.8s
SSE LR LR
comp=Z,3μm,23.9s
KSRS Korea Array 54.16 330 P **P** **00 27 11.4 +1.2**
comp=Z,24nm,1.1s,baz=148,slow=7.9,SNR=19
KSAR Wonju Array Be 54.17 330 P **P** **00 27 11.4 +1.1**
KS01 Wonju Array Si 54.20 330 *e*P **P** **00 27 10.7 +0.3**
KS01 *e*pP **pP** **00 27 23.3 -0.6**
ASAJ Asahikawa 54.66 346 P **P** **00 27 14.9 +1.3**
ASAJ Asahikawa 54.66 346 P **P** **00 27 14.9 +1.3**
comp=Z,7.9nm,0.8s,baz=225,slow=18,SNR=4.2
INCN Inchon 54.83 329 PFAKE 00 27 30.0 +15
INCN LR LR
comp=Z,3μm,20.0s
QIZ Qiongzhong 55.20 301 P **P** **00 27 18.6 +0.5**
QIZ pP **pP** **00 27 34.8 +3.2**
QIZ sP **sP** **00 27 39.1 +1.8**
QIZ S **S** **00 34 58.0 -0.3**
QIZ pmax pmax
comp=Z,72nm,1.3s
QIZ pmax pmax
comp=Z,580nm,6.2s
QIZ LR LR
comp=Z,2μm,26.0s
QIZ LR LR
comp=Z,2μm,26.8s
QIZ LR LR
comp=Z,7μm,25.0s
QIZ Qiongzhong 55.20 301 *e*P **P** **00 27 18.0 -0.1**
comp=Z,105nm,1.1s
NJ2 Nanjing 55.45 319 *e*P **P** **00 27 21.3 +1.7**
NJ2 pP **pP** **00 27 35.3 +2.1**
NJ2 sP **sP** **00 27 41.3 +2.5**
NJ2 PP **PP** **00 29 27.8 +3.7**
NJ2 S **S** **00 35 04.5 +3.3**
NJ2 sS **sS** **00 35 25.5 +1.6**
NJ2 pmax pmax
comp=Z,710nm,11.4s
NJ2 LR LR
comp=Z,4μm,25.9s
NJ2 LR LR
comp=Z,3μm,22.1s
NJ2 LR LR
comp=Z,4μm,24.8s
YSS Yuzh-Sakhalins 57.31 347 *αe*P **P** **00 27 33.0 +0.4**
YSS *e**PP **pP** **00 27 47.0 +0.8**
YSS *e* 00 29 48.0
YSS *e*S **S** **00 35 24.0 -1.3**
YSS *e*SS **SS** **00 39 15.0 -0.6**
YSS *e*SSS SSS 00 41 34.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,3μm,19.0s
YSS MLR MLR
comp=N,3μm,18.0s
YSS Yuzh-Sakhalins 57.31 347 *e*P **P** **00 27 32.1 -0.5**
comp=N,31nm,0.9s
WHN Wuhan 57.56 315 P **P** **00 27 34.9 +0.2**
WHN S **S** **00 35 28.5 -0.7**
WHN LR LR
comp=N,3μm,14.0s
WHN LR LR
comp=N,5μm,19.0s
WHN LR LR
comp=N,12μm,23.4s
BKNI Bangkinang 57.70 276 *e*P **P** **00 27 35.7 -0.3**
USRK Ussuriysk Arra 57.97 338 P **P** **00 27 37.9 +0.6**
comp=N,50nm,1.0s,baz=158,slow=6.5,SNR=18
DL2 Dalian 58.51 327 P **P** **00 27 41.9 +0.8**
DL2 S **S** **00 35 41.8 +0.6**
DL2 pmax pmax
comp=N,32nm,1.0s
DL2 pmax pmax
comp=N,400nm,6.7s
DL2 LR LR
comp=N,1μm,15.7s
DL2 LR LR
comp=N,1μm,15.2s
DL2 LR LR
comp=N,1μm,16.3s
MDJ Mudanjiang 59.24 337 P **P** **00 27 45.9 -0.2**
MDJ pP **pP** **00 27 59.8 0.0**
MDJ sP **sP** **00 28 05.5 +0.1**
MDJ PcP **PcP** **00 28 33.8 -0.2**
MDJ PP **PP** **00 29 52.5 -5.1**
MDJ PcS **PcS** **00 32 35.9 +0.1**
MDJ S **S** **00 35 51.8 +1.2**
MDJ sS **sS** **00 36 13.3 -0.2**
MDJ ScS **ScS** **00 37 30.8 -1.3**
MDJ pmax pmax
comp=N,33nm,1.3s
MDJ pmax pmax
comp=N,340nm,5.6s
MDJ LR LR
comp=N,3μm,20.5s
MDJ LR LR
comp=N,2μm,21.5s
MDJ LR LR
comp=N,4μm,22.5s
MDJ Mudanjiang 59.24 337 *e*P **P** **00 27 46.2 +0.1**
comp=N,40nm,1.0s
TIA Tai'an 59.25 322 ⇑P **P** **00 27 46.6 +0.3**
TIA pP **pP** **00 28 01.6 +1.6**
TIA sP **sP** **00 28 05.9 +0.3**
TIA S **S** **00 35 53.1 +2.1**
TIA ScS **ScS** **00 37 31.5 -1.0**
TIA pmax pmax
comp=N,20nm,1.0s
TIA pmax pmax
comp=N,780nm,5.8s
TIA LR LR
comp=N,2μm,17.8s
TIA LR LR
comp=N,2μm,17.8s
TIA LR LR
comp=N,3μm,23.6s
SKR Severo-Kuril's 59.39 358 *e*P P 00 27 42.0 -4.9
SKR *e* 00 35 47.0
SNY Shenyang 59.67 330 ⇑P **P** **00 27 50.1 +1.0**
SNY S **S** **00 35 59.6 +3.5**
SNY pmax pmax
comp=N,16nm,2.5s
SNY pmax pmax
comp=N,580nm,9.9s
SNY LR LR
comp=N,3μm,18.4s
SNY LR LR
comp=N,1μm,19.2s
SNY LR LR
comp=N,3μm,17.1s
PSI Prapat 60.26 278 P **P** **00 27 51.9 -2.0**
baz=60,SNR=7.6
CN2 Changchun 60.32 333 ⇑P **P** **00 27 54.0 +0.4**
CN2 *e*sP **sP** **00 28 15.0 +2.1**
CN2 *e*S **S** **00 36 04.5 0.0**
CN2 pmax pmax
comp=N,60nm,1.0s
CN2 pmax pmax
comp=N,200nm,7.0s
CN2 LR LR
comp=N,3μm,16.0s
CN2 LR LR
comp=N,2μm,16.0s
CN2 LR LR
comp=N,2μm,17.0s
COCO West Island 60.35 261 PFAKE 00 28 10.0 +16
COCO LR LR
comp=Z,1μm,22.0s
ENH Enshi 60.91 312 *e*P **P** **00 27 57.5 -0.4**
comp=Z,28nm,1.0s
ENH LR LR
comp=Z,84nm,19.0s
GYA Guiyang 61.17 307 ⇑*i*P **P** **00 28 01.8 +1.9**
GYA pP **pP** **00 28 17.3 +3.7**
GYA PP **PP** **00 30 20.0 +4.8**
GYA ScP **ScP** **00 32 39.5 -0.5**
GYA S **S** **00 36 17.9 +1.6**
GYA sS **sS** **00 36 41.4 +2.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.8s
GYA LR LR
comp=Z,860nm,18.8s
GYA LR LR
comp=Z,790nm,19.5s
GYA LR LR
comp=Z,960nm,18.6s
SLVN Son La 61.23 300 *e*P **P** **00 27 60.0 -0.3**
comp=Z,20nm,1.0s
GSI Gunungsitoli 61.29 276 *e*P **P** **00 27 58.4 -2.4**
comp=Z,164nm,1.1s
PET Petropavlovsk 61.70 0 *e*P **P** **00 28 03.4 +0.7**
PET *e*S **S** **00 36 18.6 -3.1**
PET *e*SS **SS** **00 40 22.1 -2.2**
PET pmax pmax
comp=Z,50nm,1.2s
PET Petropavlovsk 61.70 0 *e*P **P** **00 28 02.9 +0.2**
comp=Z,71nn,1.2s
PEA0 Petropavlovsk- 61.79 360 *e*P **P** **00 28 03.9 +0.5**
PEA0B Petropavlovsk- 61.79 360 *e*P **P** **00 28 04.0 +0.7**
PETK Petropavlovsk- 61.79 360 P **P** **00 28 04.1 +0.8**
PETK Petropavlovsk- 61.79 360 P **P** **00 28 04.1 +0.8**
PETK Petropavlovsk- 61.79 360 P **P** **00 28 04.1 +0.8**
comp=Z,57nn,1.1s,baz=128,slow=4.3,SNR=9.6
SURT Suratani 61.81 285 P **P** **00 28 04.5 +0.3**
comp=Z,18nm,0.8s,comp=Z,323nm
PBKT Sadao Pong 62.06 294 P **P** **00 28 06.5 +0.7**
comp=Z,37nn,1.1s
BJT Baijiatuan 62.32 324 PFAKE 00 28 20.0 +13
BJT LR LR
comp=Z,2μm,19.0s
BJI Beijing 62.33 324 P **P** **00 28 07.3 +0.1**
BJI S S 00 36 20.0 -10
BJI pmax pmax
comp=Z,15nm,2.1s
BJI pmax pmax
comp=Z,560nm,7.6s
BJI LR LR
comp=Z,2μm,23.0s
BJI LR LR
comp=Z,2μm,21.8s
BJI LR LR
comp=Z,4μm,28.0s
SRDT SRDT 63.03 291 P **P** **00 28 13.3 +1.0**
comp=Z,252nm,0.9s
XAN Xi'an 63.32 315 P **P** **00 28 11.8 -2.2**
XAN pP **pP** **00 28 25.3 -2.5**
XAN PP **PP** **00 30 37.8 +3.9**
XAN S **S** **00 36 44.1 +1.1**
XAN pmax pmax
comp=Z,110nm,7.2s
XAN LR LR
comp=Z,2μm,24.6s
XAN LR LR
comp=Z,1μm,22.1s
XAN LR LR
comp=Z,1μm,22.1s
KHLT Khaolaem Dam 63.66 291 P **P** **00 28 17.4 +0.9**
comp=Z,24nm,1.1s,comp=Z,600nm
KMI Kunming 63.76 304 P **P** **00 28 17.5 +0.2**
KMI pP **pP** **00 28 26.9 -4.2**
KMI pmax pmax
comp=Z,51nm,1.2s
KMI pmax pmax
comp=Z,590nm,8.7s
KMI LR LR
comp=Z,900nm,18.0s
KMI LR LR
comp=Z,3μm,21.7s
KMI LR LR
comp=Z,4μm,24.7s
ADK Adak 64.29 17 PFAKE 00 28 30.0 +10
ADK LR LR
comp=Z,2μm,20.0s
CM01 Chiang Mai Arr 64.48 295 *e*P **P** **00 28 22.1 +0.2**
CM31 Chiang Mai Arr 64.51 295 *e*P **P** **00 28 21.7 -0.4**
comp=Z,44nm,0.9s
CMAR Chiang Mai Arr 64.51 295 P **P** **00 28 23.1 +1.0**
CMAR Chiang Mai Arr 64.51 295 P **P** **00 28 23.1 +1.0**
comp=Z,46nm,0.9s,baz=116,slow=4.8,SNR=33
CMAR LR LR 00 54 29.8
comp=Z,749nm,21.7s,baz=119,slow=34
CHTO Chiang Mai 64.63 296 *e*P **P** **00 28 23.2 +0.4**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 64.63 296 P **P** **00 28 23.4 +0.5**
comp=Z,288nm,1.2s,comp=Z,5μm
CHTO Chiang Mai 64.63 296 *e*P **P** **00 28 23.2 +0.4**
comp=Z,18nn,1.1s
CHTO LR LR
comp=Z,2μm,22.0s
RKT Rikitea 65.25 111 *e*S **S** **00 37 07.9 +0.9**
comp=Z,2μm,36.2s
RKT *e*SS **SS** **00 41 22.5 +1.9**
comp=Z,1μm,31.0s
RKT *e*LQ LQ 00 45 19.3
comp=Z,3μm,33.8s
RKT *e*LR LR 00 48 04.2
comp=Z,8μm,31.2s,baz=275
MHMT Maesarieng 65.33 295 P **P** **00 28 28.1 +0.8**
comp=Z,22nm,1.5s,comp=Z,696nm
CD2 Chengdu 65.51 310 ⇑*i*P **P** **00 28 28.5 +0.1**
CD2 pP **pP** **00 28 43.1 +0.9**
CD2 sP **sP** **00 28 49.3 +1.5**
CD2 PcP **PcP** **00 29 03.1 +3.2**
CD2 PP **PP** **00 30 53.3 +0.2**
CD2 S **S** **00 37 07.0 -3.0**
CD2 ScS **SKSac** **00 38 19.0 -1.1**
CD2 SS **SS** **00 41 24.0 -0.7**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,720nm,11.8s
CD2 LR LR
comp=Z,2μm,22.6s
CD2 LR LR
comp=Z,4μm,23.8s
CD2 LR LR
comp=Z,4μm,27.4s
HHC Hu-ho-hao-te 65.55 323 *e*P **P** **00 28 26.3 -2.2**
HHC pP **pP** **00 28 41.9 -0.5**
HHC sP **sP** **00 28 49.3 +1.4**
HHC S **S** **00 37 08.4 -2.0**
HHC sS **sS** **00 37 32.1 -1.4**
HHC SS **SS** **00 41 24.9 -0.2**
HHC pmax pmax
comp=Z,40nm,0.8s
HHC pmax pmax
comp=Z,1μm,8.0s
HHC LR LR
comp=Z,3μm,20.0s
HHC LR LR
comp=Z,3μm,17.6s
HHC LR LR
comp=Z,4μm,19.7s
CASY Casey 65.80 199 PFAKE 00 28 40.0 +10
CASY LR LR
comp=Z,2μm,19.0s
HIA Hailar 67.04 334 *e*P **P** **00 28 37.8 0.0**
comp=Z,37nn,0.9s
HIA LR LR
comp=Z,2μm,21.0s
LZH Lanzhou 67.94 315 ⇓P **P** **00 28 44.6 +0.7**
LZH pP **pP** **00 28 56.3 -1.6**
LZH sP **sP** **00 29 03.6 +0.2**
LZH PP **PP** **00 31 14.5 +0.1**
LZH S **S** **00 37 38.0 -1.5**
LZH sS **sS** **00 38 01.0 -1.8**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.2s
LZH LR LR
comp=Z,1μm,15.4s
LZH LR LR
comp=Z,2μm,17.2s
LZH LR LR
comp=Z,2μm,17.6s
DGPR DIGLIPUR 68.47 288 *e*P **P** **00 28 47.2 -0.1**
VNDA Vanda 68.60 179 *e*P **P** **00 28 48.1 +0.9**
comp=Z,17nn,1.0s
VNDA Vanda 68.60 179 P **P** **00 28 48.1 +0.9**
comp=Z,9.1nm,0.9s,baz=330,slow=4.8,SNR=13
CLNS Chul'man 71.04 341 *e*P **P** **00 29 03.3 +0.8**
CLNS *e**PP **pP** **00 29 13.5 -2.9**
CLNS *e* 00 29 26.0
CLNS *e* 00 31 41.5
CLNS *e*S S 00 38 21.5 +6.6
CLNS *e* 00 39 07.6
CLNS *e*SS **SS** **00 42 47.0 -2.2**
CLNS pmax pmax
comp=Z,57nm,1.0s
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS smax smax
comp=E,715nm,13.0s
CLNS smax smax
comp=N,887nm,13.0s
CLNS MLR MLR
comp=N,997nm,15.0s
CLNS MLR MLR
comp=E,569nm,14.0s
CLNS MLR MLR
comp=Z,1μm,19.0s
CIT Chita 71.77 333 *e*P **P** **00 29 04.7 -2.2**
CIT *e* 00 29 34.1
CIT *e* 00 38 28.5
SEY Seymchan 71.78 357 P **P** **00 29 06.3 -0.4**
SEY Seymchan 71.78 357 P **P** **00 29 06.3 -0.4**
SEY Seymchan 71.78 357 P **P** **00 29 06.3 -0.4**
comp=Z,23nm,1.1s,baz=152,slow=7.3,SNR=14
MIR Mirnyy 72.13 202 *e*P **P** **00 29 10.0 +1.2**
MIR pmax pmax
comp=Z,84nm,1.0s
GTA Gaotai 72.34 316 P **P** **00 29 11.3 +0.5**
GTA pP **pP** **00 29 21.8 -3.0**
GTA PP **PP** **00 31 54.5 +2.2**
GTA S **S** **00 38 31.4 +0.6**
GTA sS sS 00 38 48.8 -5.5
GTA SKS **SKSac** **00 39 08.8 -2.9**
GTA pmax pmax
comp=Z,23nm,1.9s
GTA pmax pmax
comp=Z,620nm,7.4s
GTA LR LR
comp=Z,2μm,20.9s
GTA LR LR
comp=Z,2μm,21.9s
GTA LR LR
comp=Z,3μm,24.7s
SONM Songino Array 72.70 326 P **P** **00 29 13.8 +1.1**
SONM Songino Array 72.70 326 P **P** **00 29 13.8 +1.1**
comp=Z,46nm,0.9s,baz=135,slow=5.6,SNR=25
SHL Shillong 73.04 300 *e*P **P** **00 29 14.2 -1.1**
SHL AMB AMB 00 29 16.1
comp=Z,73nm,1.1s
SHL *i*S **S** **00 38 40.0 +0.6**
YAK Yakutsk 74.14 346 *e*P **P** **00 29 20.3 -0.4**
YAK *e**PP **pP** **00 29 30.8 -4.0**
YAK *e* 00 29 33.9
YAK *e* 00 32 14.7
YAK *e*PPP PPP 00 33 47.2
YAK *e*S **S** **00 38 55.1 +5.1**
YAK *e* 00 39 27.9
YAK *e*SS **SS** **00 43 30.5 -5.8**
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,53nm,1.1s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,352nm,5.3s
YAK smax smax
comp=N,158nm,2.8s
YAK smax smax
comp=E,734nm,6.6s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK Yakutsk 74.14 346 *e*P **P** **00 29 20.2 -0.5**
comp=N,35nm,0.7s
LSA Lhasa 75.01 304 P **P** **00 29 26.9 -0.2**
LSA S **S** **00 39 00.5 -1.5**
LSA LR LR
comp=N,1μm,24.8s
LSA LR LR
comp=N,3μm,22.0s
LSA Lhasa 75.01 304 *e*P **P** **00 29 26.9 -0.2**
LSA pmax pmax
comp=Z,47nm,1.1s
LSA Lhasa 75.01 304 *e*P **P** **00 29 26.9 -0.2**
comp=Z,47nn,1.1s
GAMB Gambell 76.00 13 *e*P **P** **00 29 32.2 +0.9**
comp=Z,27nn,1.4s
IRK Irkutsk 76.36 329 *e*P **P** **00 29 32.0 -1.7**
IRK pmax pmax
comp=Z,164nm,1.5s
TLY Talaya 76.36 329 P **P** **00 29 34.8 +1.0**
comp=Z,164nm,1.1s,SNR=6.8
TLY Talaya 76.36 329 *d*P **P** **00 29 33.0 -0.8**
TLY *e*S **S** **00 39 20.2 +5.1**
TLY *e* 00 39 49.7
TLY *e* 00 40 09.4
TLY *e*SS **SS** **00 44 13.3 +2.8**
TLY pmax pmax
comp=Z,48nm,1.3s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 76.36 329 *e*P P 00 29 27.0 -6.8
comp=Z,42nn,1.2s
BILL Bilibino 76.98 3 *i*S **S** **00 39 19.8 -1.4**
TAPN Taplejung 77.14 301 *e*P **P** **00 29 39.5 +0.4**
comp=Z,214nm,1.1s
ODAN Odare 77.28 300 *e*P **P** **00 29 40.2 +0.5**
comp=Z,189nm,1.0s
KDAK Kodiak Island 77.53 25 PFAKE 00 29 50.0 +10
KDAK LR LR
comp=Z,1μm,19.0s
BOK Bokaro 77.73 297 *e*P **P** **00 29 41.8 -0.3**
BOK AMB AMB 00 29 43.6
comp=Z,55nm,1.4s
RAMN Ramite 77.98 300 *e*P **P** **00 29 44.0 +0.4**
comp=Z,85nm,1.1s
TNA Tin City 78.38 14 *e*P **P** **00 29 45.5 +0.8**
comp=Z,27nm,1.1s
JIRN Jiri 78.53 301 *e*P **P** **00 29 47.2 +0.4**

comp=Z,125nm,1.2s
VIS Vishakhapatnam 78.55 290 *e*P **P 00 29 46.3 -0.3**
SVW2 Sparrevohn 78.60 21 *e*P **P 00 29 47.6 +1.6**
comp=Z,24nm,1.0s
GUN Gumba 78.86 301 *e*P **P 00 29 48.8 +0.2**
comp=Z,225nm,1.2s
PALK Pallekele 78.92 279 *e*P **P 00 29 50.1 +1.2**
comp=Z,88nm,1.0s
PKI Pulchoki 79.17 300 *e*P **P 00 29 50.4 +0.1**
comp=Z,177nm,1.2s
PKIN Phulchoki 79.18 300 *e*P **P 00 29 50.2 -0.1**
comp=Z,57nm,1.0s
KKN Kakani 79.34 300 *e*P **P 00 29 51.3 +0.2**
comp=Z,138nm,1.2s
DMN Daman 79.44 300 *e*P **P 00 29 52.2 +0.5**
comp=Z,325nm,1.1s
GKN Gorkha 79.94 301 *e*P **P 00 29 54.5 +0.2**
comp=Z,380nm,1.2s
MDRS Chennai 80.47 285 *ex* x 00 30 14.2
MDRS *ex* x 00 33 10.2
MDRS *ex* S 00 39 50.2 -10
MDRS *ex* x 00 43 18.2
MDRS *ex* x 00 49 30.2
KOLN Koldanda 80.77 300 *e*P **P 00 29 58.7 -0.1**
DANN Dangsing 80.78 301 *e*P **P 00 29 58.7 -0.3**
comp=Z,386nm,1.5s
PPLA Purkeypile 81.00 21 *e*P **P 00 29 59.8 +0.7**
comp=Z,60nm,1.4s
QSPA South Pole Qui 81.07 180 *e*P **P 00 29 59.5 0.0**
comp=Z,78nm,1.3s
QSPA South Pole Qui 81.07 180 P **P 00 29 59.8 +0.2**
comp=Z,36nm,1.0s,baz=340,slow=1.6,SNR=15
PMR Palmer 81.29 23 *e*P **P 00 30 00.9 +0.4**
PMR pmax pmax
comp=Z,70nm,1.5s
PMR Palmer 81.29 23 *e*P **P 00 30 00.9 +0.4**
comp=Z,70nm,1.5s
CAST Castle Rocks 81.37 20 *e*P **P 00 30 01.6 +0.7**
comp=Z,24nm,1.1s
KTH Kantishna Hill 81.86 21 *e*P **P 00 30 03.2 -0.4**
comp=Z,275nm,1.2s
WMQ Urumqi 82.42 316 P **P 00 30 08.8 +1.8**
WMQ pP **pP 00 30 22.0 +0.7**
WMQ sP **sP 00 30 27.3 +0.6**
WMQ PP **PP 00 33 20.0 +3.3**
WMQ S **SKSac 00 40 22.5 -1.6**
WMQ sS **sS 00 40 42.5 -1.3**
WMQ pmax pmax
comp=Z,920nm,4.5s
WMQ LR LR
comp=Z,2μm,20.1s
WMQ LR LR
comp=Z,1μm,24.8s
WMQ LR LR
comp=Z,2μm,27.0s
IM04 Indian Mountai 82.52 18 *e*P **P 00 30 05.8 -1.2**
BMRM Bremner River 82.71 24 *e*P **P 00 30 09.5 +1.4**
comp=Z,38nm,1.2s
TIXI Tiksi 82.73 351 *e*P **P 00 30 07.5 -0.4**
TIXI pmax pmax
comp=Z,31nm,1.4s
TIXI Tiksi 82.73 351 *e*P **P 00 30 07.5 -0.4**
comp=Z,31nm,1.4s
TRD Trivandrum 82.79 280⇑ *e*P **P 00 30 07.7 -1.8**
TRD *e*P **PcP 00 30 10.3 -3.9**
TRD AMB AMB 00 30 11.6
comp=Z,48nm,1.1s
HYB Hyderabad 82.94 289 *i* P **P 00 30 09.5 -0.7**
HYB *e*pP **pP 00 30 22.0 -2.4**
HYB Hyderabad 82.94 289 *e*P **P 00 30 09.5 -0.7**
HYB AMB AMB 00 30 10.7
comp=Z,50nm,1.2s
NGP Nagpur 83.24 293 *e*P **P 00 30 10.8 -0.9**
NGP *e*S **S 00 40 28.5 -0.4**
PAX Paxson 83.48 22 *e*P **P 00 30 13.2 +1.1**
PAX pmax pmax
comp=Z,26nm,1.2s
PAX Paxson 83.48 22 *e*P **P 00 30 13.2 +1.1**
comp=Z,26nm,1.2s
COLA College 83.73 20 *e*P **P 00 30 13.0 -0.2**
COLA pmax pmax
comp=Z,21nm,1.1s
COLA MLR MLR
comp=Z,1μm,19.0s
COLA College 83.73 20 *e*P **P 00 30 13.0 -0.2**
comp=Z,21nm,1.1s
COLA LR LR
comp=Z,1μm,19.0s
MAW Mawson 83.86 203 *e*P **P 00 30 13.9 0.0**
comp=Z,27nm,1.6s
MAW Mawson 83.86 203 P **P 00 30 13.0 -0.9**
comp=Z,22nm,1.0s,baz=97,slow=10,SNR=5.8
ILAR Eielson Array 84.00 21 P **P 00 30 14.0 -0.6**
ILAR Eielson Array 84.00 21 P **P 00 30 14.0 -0.6**
comp=Z,38nm,1.1s,baz=254,slow=4.3,SNR=22
LGTI Lohaghat 84.04 301 *ex* P 00 30 19.0 +3.5
DOT Dot Lake 84.39 22 *e*P **P 00 30 17.5 +0.8**
comp=Z,56nm,1.1s
COLD Coldfoot 84.42 18 *e*P **P 00 30 18.1 +1.5**
comp=Z,42nm,1.6s
COLD *e*S **S 00 40 40.4 +1.5**
DGAR Diego Garcia 84.74 263 PFAKE 00 30 30.0 +11
DGAR LR LR
comp=Z,928nm,21.0s
BHPL Bhopal 85.15 294 *e*P **P 00 30 19.3 -2.0**
BHPL AMB AMB 00 30 21.5
comp=Z,73nm,1.4s
SKAG Skagway 86.03 28 *e*P **P 00 30 26.3 +1.5**
comp=Z,41nm,1.1s
EGAK Eagle 86.06 22 *e*P **P 00 30 26.4 +1.5**
comp=Z,72nm,1.4s
EGAK LR LR
comp=Z,2μm,19.0s
DDI Dehra Dun 86.09 301 *e*P **P 00 30 25.3 -0.6**
DDI AMB AMB 00 30 26.6
comp=Z,104nm,1.4s
DAWY Dawson 86.38 23 *e*P **P 00 30 28.1 +1.5**
NDI New Delhi 86.45 300 *e*P **P 00 30 25.0 -2.7**
MK31 Makanchi Array 86.97 318 *e*P **P 00 30 29.4 -0.4**
MK31 Makanchi Array 86.97 318 *e*P **P 00 30 29.4 -0.4**
MKAR Makanchi Array 86.97 318 P **P 00 30 29.7 -0.1**
MKAR Makanchi Array 86.97 318 P **P 00 30 29.7 -0.1**
MKAR Makanchi Array 86.97 318 P **P 00 30 29.7 -0.1**
comp=Z,26nm,0.8s,baz=105,slow=5.6,SNR=28
SMLA Simla 87.01 302 *e*P **P 00 30 29.0 -1.3**
SMLA AMB AMB 00 30 30.7
comp=Z,91nm,0.8s
POO Poona 87.54 289 *e*P **P 00 30 31.4 -1.8**
POO AMB AMB 00 30 33.5
comp=Z,52nm,1.4s
ZAA0 Zalesovo Array 87.57 325 *e*P **P 00 30 30.9 -1.6**
ZALV Zalesovo Beam 87.57 325 P **P 00 30 31.3 -1.2**
ZALV Zalesovo Beam 87.57 325 P **P 00 30 31.3 -1.2**
ZALV Zalesovo Beam 87.57 325 P **P 00 30 31.3 -1.2**
comp=Z,14nm,0.9s,baz=108,slow=4.8,SNR=27
YBH Yreka Blue Hor 87.80 47 P **P 00 30 35.0 +1.0**
YBH Yreka Blue Hor 87.80 47 P **P 00 30 35.0 +1.0**
comp=Z,8.5nm,1.1s,baz=318,slow=12,SNR=2.6
DHRM DHARAMSHALA 87.96 303 *e*P **P 00 30 33.9 -1.3**
DHRM AMB AMB 00 30 34.9
comp=Z,91nm,1.3s
DLBC Dease Lake 88.17 30 *e*P **P 00 30 36.7 +1.3**
NVS Novosibirsk 88.73 326 *e*P **P 00 30 36.2 -1.7**
NVS pmax pmax
comp=Z,34nm,1.2s
KSH Kashi 89.70 310⇑ *i*P **P 00 30 45.0 +1.9**
KSH *e*PP **PP 00 34 16.8 +1.0**
KSH *e*SKS **SKSac 00 41 09.4 -0.5**
KSH *e*S **S 00 41 28.4 -2.8**
KSH sS **sS 00 41 58.4 +2.9**
KSH *e*SS **SS 00 47 24.3 -4.7**
KSH pmax pmax
comp=Z,10.0nm,0.5s
KSH pmax pmax
comp=Z,410nm,3.6s
KSH LR LR
comp=Z,440nm,15.9s
KSH LR LR
comp=Z,2μm,23.5s
KSH LR LR
comp=Z,250nm,7.3s
PAHR Pah Rah Range 89.82 50 *e*P **P 00 30 46.0 +2.3**
comp=Z,107nm,1.8s
EDW2 Edwards Air Fo 89.97 55 P **P 00 30 45.6 +1.2**
baz=90

LRMC Laurel Mountai 90.33 54 P **P 00 30 47.5 +1.4**
baz=91
KURK Kurchatov 90.33 321 *e*P **P 00 30 44.8 -0.8**
KURK MLR MLR
comp=Z,948nm,21.0s
KURK Kurchatov 90.33 321 *e*P **P 00 30 44.8 -0.8**
KURK LR LR
comp=Z,948nm,21.0s
KURBB Kurchatov Arra 90.36 321 P **P 00 30 44.6 -1.1**
comp=Z,1.5nm,0.3s,baz=114,slow=2.3,SNR=20
INK Inuvik 90.39 20 *e*P **P 00 30 46.1 +0.7**
comp=Z,26nm,1.3s
NV01 Mina Array Sit 90.39 51 *e*P **P 00 30 47.6 +1.1**
NVAR Mina Array Bea 90.39 51 P **P 00 30 48.3 +1.8**
NVAR Mina Array Bea 90.39 51 P **P 00 30 48.3 +1.8**
comp=Z,19nm,1.0s,baz=245,slow=6.5,SNR=14
NV11 Mina Array Sit 90.51 51 *e*P **P 00 30 47.7 +0.8**
MPMC Manual Prospec 90.59 54 P **P 00 30 49.2 +1.8**
baz=91
I07A Izee 90.62 46 *e*P **P 00 30 48.6 +1.4**
comp=Z,19nm,1.1s
TKM2 Tokmak 2 90.67 313 *e*P **P 00 30 47.0 -0.6**
TKM2 pmax pmax
comp=Z,11nm,1.1s
TKM2 Tokmak 2 90.67 313 *e*P **P 00 30 47.0 -0.6**
comp=Z,11nm,1.1s
KZA Kyzart 90.75 312 P **P 00 30 49.2 +1.0**
SNR=8.5
SNDA S'aunders Pla 90.85 56 *e*PKiKP **PKiKP 00 35 44.5 +2.3**
WVOR Wild Horse Val 90.91 47 *e*P **P 00 30 50.4 +1.7**
WVOR pmax pmax
comp=Z,77nm,1.8s
WVOR Wild Horse Val 90.91 47 *e*P **P 00 30 50.4 +1.7**
comp=Z,77nm,1.8s
HAWA Hanford 91.07 43 *e*P **P 00 30 50.3 +1.2**
comp=Z,35nm,1.6s
HAWA LR LR
comp=Z,2μm,20.0s
FURC Furnace Creek, 91.17 53 P **P 00 30 51.1 +1.3**
baz=91
TPH Tonopah 91.17 52 *e*P **P 00 30 51.9 +1.8**
TPH pmax pmax
comp=Z,35nm,1.4s
TPH Tonopah 91.17 52 *e*P **P 00 30 51.9 +1.8**
comp=Z,35nm,1.4s
CHMS Chumysh 91.29 313 P **P 00 30 50.3 +0.1**
SNR=8.2
HEC Hector,Ludlow 91.31 55 P **P 00 30 51.0 +0.4**
baz=92
UCH Uchtor 91.32 312 P **P 00 30 51.5 +0.5**
SNR=8.9
AAK Ala-Archa 91.41 313 *e*P **P 00 30 51.8 +0.8**
AAK pmax pmax
comp=Z,13nm,1.1s
AAK MLR MLR
comp=Z,1μm,21.0s
AAK Ala-Archa 91.41 313 *e*P **P 00 30 51.8 +0.8**
comp=Z,13nm,1.1s
AAK LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 91.41 313 P **P 00 30 50.4 -0.6**
comp=Z,6.7nm,1.0s,baz=70,slow=3.3,SNR=9.4
USP Ospenovka 91.52 313 P **P 00 30 51.2 -0.2**
SNR=6.7
SYO Syowa Base 91.55 198⇑ *e*P **P 00 30 47.9 -3.0**
BMN Battle Mountai 91.59 49 *e*P **P 00 30 53.7 +1.8**
BMN pmax pmax
comp=Z,59nm,1.8s
BMN Battle Mountai 91.59 49 *e*P **P 00 30 53.7 +1.8**
comp=Z,59nm,1.8s
B08A Colville Reser 91.60 41 *e*P **P 00 30 51.7 +0.1**
comp=Z,18nm,1.4s
D08A Wollman Farm, 91.61 43 *e*P **P 00 30 52.4 +0.7**
comp=Z,107nm,2.5s
GMRC Granite Mounta 91.84 55 P **P 00 30 54.6 +1.4**
baz=92
AML Almayashu 91.90 312 P **P 00 30 53.5 0.0**
SNR=10
EKS2 Erkin-Say 91.93 313 *e*P **P 00 30 52.3 -1.1**
EKS2 pmax pmax
comp=Z,9.0nm,1.3s
EKS2 MLR MLR
comp=Z,1μm,21.0s
EKS2 Erkin-Say 91.93 313 *e*P **P 00 30 52.3 -1.1**
comp=Z,8.9nm,1.3s
EKS2 LR LR
comp=Z,1μm,21.0s
E09A Wood Farm, Sta 92.03 43 *e*P **P 00 30 54.5 +0.9**
comp=Z,23nm,1.3s
IRM Iron Mountain 92.16 56 P **P 00 30 55.9 +1.4**
baz=92
BHJ Bhuj 92.18 293 *e*P **P 00 30 54.2 -0.6**
BHJ AMB AMB 00 30 55.5
comp=Z,70nm,0.7s
R11A Troy Canyon, C 92.48 52 *e*P **P 00 30 57.8 +1.7**
comp=Z,29nm,1.4s
R11A Troy Canyon, C 92.48 52 P **P 00 30 57.8 +1.7**
baz=93
SHPR Sheep Range 92.52 54 *e*P **P 00 30 58.4 +2.1**
PDMCI Parker Dam,Lak 93.00 56 P **P 00 31 00.3 +1.9**
baz=93
NEW Newport 93.03 42 *e*P **P 00 30 58.4 +0.2**
comp=Z,68nm,2.2s
NEW Newport 93.03 42 P **P 00 30 58.3 +0.2**
comp=Z,7.2nm,1.1s,baz=239,slow=4.2,SNR=6.3
NEW Newport 93.03 42 P **P 00 30 58.4 +0.2**
baz=93
ELK Elko 93.13 49 *e*P **P 00 31 00.3 +1.2**
comp=Z,16nm,1.3s
ELK Elko 93.13 49 P P 00 30 55.5 -3.6
comp=Z,6.0nm,1.0s,baz=206,slow=3.8,SNR=8.0
ARUT Antelope Range 94.07 53 *e*P **P 00 31 06.2 +2.8**
ARUT Antelope Range 94.07 53 *e*P **P 00 31 06.2 +2.8**
CCUT Cedar City 94.10 53 *e*P **P 00 31 06.5 +2.9**
comp=Z,52nm,2.0s
HLID Hailey 94.16 47 *e*P **P 00 31 05.3 +1.6**
comp=Z,27nm,1.4s
HLID LR LR
comp=Z,829nm,21.0s
HLID Hailey 94.16 47 P **P 00 31 05.3 +1.6**
baz=94
KBL Kabul 94.33 304 *e*P **P 00 31 04.0 -0.7**
KBL pmax pmax
comp=Z,25nm,1.3s
KBL Kabul 94.33 304 *e*P **P 00 31 04.0 -0.7**
comp=Z,25nm,1.3s
KBL Kabul 94.33 304 P **P 00 31 04.0 -0.7**
baz=95,SNR=6.5
KKAR Karatay Array 94.37 313 *e*P **P 00 31 03.7 -0.8**
KKAR Karatay Array 94.37 313 *e*P **P 00 31 03.7 -0.8**
KNB Kanab 94.45 53 *e*P **P 00 31 07.5 +2.3**
KNB pmax pmax
comp=Z,125nm,2.4s
KNB Kanab 94.45 53 *e*P **P 00 31 07.5 +2.3**
comp=Z,125nm,2.4s
BGU Big Grassy Mou 94.81 49 *e*P **P 00 31 08.3 +1.6**
comp=Z,15nm,1.7s
DUG Dugway 94.88 50 *e*P **P 00 31 08.7 +1.6**
DUG pmax pmax
comp=Z,32nm,1.8s
DUG MLR MLR
comp=Z,1μm,19.0s
DUG Dugway 94.88 50 *e*P **P 00 31 08.7 +1.6**
comp=Z,32nm,1.8s
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway 94.88 50 P **P 00 31 08.6 +1.6**
baz=95
HVU Hansel Valley 95.11 49 *e*P **P 00 31 09.8 +1.7**
HVU pmax pmax
comp=Z,28nm,1.3s
HVU Hansel Valley 95.11 49 *e*P **P 00 31 09.8 +1.7**
comp=Z,28nm,1.3s
SPUT South Promonto 95.30 49 *e*P **P 00 31 11.2 +2.2**
comp=Z,15nm,1.2s
NLU North Lily Min 95.41 51 *e*P **P 00 31 11.9 +2.3**
comp=Z,11nm,1.2s
MCMT McKenzie Canyo 95.44 46 *e*P **P 00 31 10.3 +0.7**
DLMT Dillon 95.69 45 *e*P **P 00 31 12.1 +1.5**
comp=Z,85nm,2.5s
BVA0 Borovoye Array 95.77 323 *i* P **P 00 31 08.6 -2.0**
BVA0 pmax pmax
comp=Z,26nm,1.3s
BVAR Borovoye Array 95.77 323 P **P 00 31 10.0 -0.6**
BVAR Borovoye Array 95.77 323 P **P 00 31 10.0 -0.6**
BVAR Borovoye Array 95.77 323 P **P 00 31 10.0 -0.6**
comp=Z,12nm,0.8s,baz=108,slow=4.8,SNR=22

BRVK Borovoye 95.83 323 P **P 00 31 09.2 -1.7**
comp=Z,74nm,1.0s,SNR=5.6
BRVK Borovoye 95.83 323 *e*P **P 00 31 09.7 -1.1**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK MLR MLR
comp=Z,3μm,21.0s
BRVK Borovoye 95.83 323 *e*P **P 00 31 09.7 -1.1**
comp=Z,19nm,1.2s
BRVK LR LR
comp=Z,3μm,21.0s
JLU Jordanelle 95.97 50 *e*P **P 00 31 14.4 +2.3**
comp=Z,16nm,1.3s
EDM Edmonton 96.12 37 *e*P **P 00 31 12.2 0.0**
EDM Edmonton 96.12 37 *e*P **P 00 31 12.2 0.0**
BOZ Bozeman (W) 96.39 45 *e*P **P 00 31 15.5 +1.7**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ MLR MLR
comp=Z,2μm,21.0s
BOZ Bozeman (W) 96.39 45 *e*P **P 00 31 15.5 +1.7**
comp=Z,8.1nm,0.9s
BOZ *e*PKiKP **PKiKP 00 35 51.7 +0.3**
BOZ LR LR
comp=Z,2μm,21.0s
QLMT Earthquake Lak 96.45 46 *e*P **P 00 31 15.4 +1.2**
comp=Z,1.9nm,1.2s
YKA Yellowknife Ar 96.53 28 P **P 00 31 14.1 +0.3**
YKA Yellowknife Ar 96.53 28 P **P 00 31 14.0 +0.3**
comp=Z,6.7nm,1.1s,baz=260,slow=4.7,SNR=14
YKA PKKPbc **PKKPbc 00 47 58.3 -2.2**
comp=Z,1.5nm,0.9s,baz=84,slow=2.9,SNR=14
YKB5 Yellowknife Ar 96.53 28 *e*P **P 00 31 12.8 -1.0**
FXWY Fox Creek 96.61 47 *e*P **P 00 31 16.3 +1.4**
comp=Z,62nm,2.6s
TPAW Teton Pass 96.65 47 *e*P **P 00 31 17.1 +2.0**
comp=Z,133nm,2.8s
IMW Indian Meadow 96.70 47 *e*P **P 00 31 16.8 +1.4**
comp=Z,105nm,3.0s
REDW Red Top Meadow 96.71 47 *e*P **P 00 31 16.7 +1.3**
comp=Z,23nm,1.6s
YMR Madison River 96.76 46 *e*P P 00 31 19.3 +3.7
comp=Z,34nm,0.5s
YMR *e*S **S 00 42 34.6 +0.8**
MOOW Moose Ponds 96.82 47 *e*P **P 00 31 17.1 +1.2**
comp=Z,103nm,3.0s
LOHW Long Hollow 96.91 47 *e*P **P 00 31 18.0 +1.7**
comp=Z,15nm,1.6s
I17A Pilgrim Ck. 96.96 47 P **P 00 31 17.5 +0.9**
baz=97
H17A Grant Village 97.01 46 *e*P Pdif 00 31 19.7 +2.8
H17A *e*pP pP 00 31 32.6 +1.3
H17A Grant Village 97.01 46 P Pdif 00 31 18.0 +1.2
baz=97
BW06 Boulder Array 97.59 48 *e*P Pdif 00 31 19.7 +0.2
comp=Z,110nm,3.0s
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 97.59 48 P Pdif 00 31 19.6 +0.2
PDAR Pinedale Array 97.59 48 P Pdif 00 31 19.6 +0.2
comp=Z,4.2nm,0.9s,baz=247,slow=1.9,SNR=12
H18A Shoshone NF, C 97.68 46 P Pdif 00 31 20.3 +0.5
baz=98
EGMT Eagleton 97.90 43 PFAKE 00 31 30.0 +10
EGMT LR LR
comp=Z,1μm,20.0s
RLMT Red Lodge 98.00 46 *e*P Pdif 00 31 23.3 +2.0
comp=Z,56nm,2.2s
I19A Meeteetse 98.11 47 P Pdif 00 31 23.1 +1.3
baz=98
H19A Powell 98.17 46 P Pdif 00 31 23.7 +1.8
baz=98
F19A Roth Farm, Mol 98.28 45 P Pdif 00 31 23.1 +0.8
baz=98
C19A Slack Wire Ran 98.35 43 P **P 00 31 22.2 -0.2**
baz=99
O20A White River Ci 98.36 51 P Pdif 00 31 24.7 +1.8
baz=99
N20A Spence Gulch, 98.40 50 P Pdif 00 31 24.6 +1.5
baz=99
D19A Cripps Ranch, 98.42 44 P Pdif 00 31 23.2 +0.3
baz=99
E19A Rath Farm, Rou 98.44 44 P Pdif 00 31 23.6 +0.7
baz=99
B19A Brinkman Farms 98.47 42 P Pdif 00 31 23.5 +0.5
baz=99
A19A Klindworth Far 98.63 42 P Pdif 00 31 24.5 +0.7
baz=99
F20A Billings 98.83 45 P Pdif 00 31 26.9 +2.1
baz=99
E20A Meyer Farm, Mu 98.89 44 P Pdif 00 31 26.1 +1.2
baz=99
C20A Veseth Ranch, 99.05 43 P **Pdif 00 31 26.2 +0.6**
baz=99
A20A Cobblestone Ra 99.17 42 P **Pdif 00 31 26.5 +0.4**
baz=99
J21A Lysite 99.18 47 P **Pdif 00 31 26.8 +0.3**
baz=99
I21A Big Trails, Te 99.32 47 P **Pdif 00 31 27.6 +0.5**
baz=100
ANMO Albuquerque 99.37 56 PFAKE 00 31 40.0 +12
ANMO LR LR
comp=Z,1μm,20.0s
G21A Lodge Grass 99.46 46 P **Pdif 00 31 28.8 +1.2**
baz=100
E21A Keefer Ranch, 99.62 44 P **Pdif 00 31 29.4 +1.2**
baz=100
O22A Kremmling 99.66 51 P **Pdif 00 31 30.4 +1.6**
baz=100
A21A Bergtoll Ranch 99.83 42 P **Pdif 00 31 29.3 +0.3**
baz=100
G22A Birney 100.11 46 P **Pdif 00 31 32.5 +2.1**
baz=100
LAO LASA Array 100.22 44 *e*Pdif **Pdif 00 31 32.0 +1.2**
G23A Biddle 100.74 46 P **Pdif 00 31 34.1 +0.8**
baz=101
F23A Volborg 100.75 45 P **Pdif 00 31 34.2 +1.0**
baz=101
B23A Brockton 101.10 42 P **Pdif 00 31 35.5 +0.8**
baz=101
H24A Dirks Ranch, A 101.33 46 P **Pdif 00 31 36.8 +0.9**
baz=102
TXAR Lajitas Array 101.33 62 PP PP 00 35 49.6 +3.4
comp=Z,1.9nm,0.9s,baz=258,slow=6.3,SNR=9.5
TXAR PKKPbc **PKKPbc 00 47 46.1 +0.2**
comp=Z,1.1nm,0.9s,baz=106,slow=3.1,SNR=7.5
SVE Sverdlovsk 101.57 326 *e*P **Pdif 00 31 35.8 -0.7**
DGMT Dagmar 101.63 42 PFAKE 00 31 50.0 +13
DGMT LR LR
comp=Z,885nm,20.0s
H25A Fruitdale 102.00 46 P **Pdif 00 31 40.4 +1.6**
baz=102
AB31 Akbulak array 102.11 318 *i* P **Pdif 00 31 37.4 -1.7**
ABKAR Akbulak array 102.11 318 *e*Pdif **Pdif 00 31 37.9 -1.2**
ARU Arti 102.73 326 PFAKE 00 31 50.0 +8.3
ARU LR LR
comp=Z,2μm,19.0s
FFC Flin Flon 102.88 36 PFAKE 00 31 50.0 +7.6
FFC LR LR
comp=Z,2μm,19.0s
C26A Wahner Farm, P 103.04 43 P **Pdif 00 31 44.8 +1.5**
baz=103
H27A Howes 103.09 46 P **Pdif 00 31 45.2 +1.6**
baz=103
ABPO Ambohimpanom 106.58 247 PFAKE 00 36 20.0
ABPO LR LR
comp=Z,787nm,20.0s
ECSD EROS Data Cent 107.05 47 PFAKE 00 36 20.0
ECSD LR LR
comp=Z,943nm,19.0s
AGMN Agassiz Nation 107.18 42 PFAKE 00 36 20.0
AGMN LR LR
comp=Z,1μm,19.0s
EYMN Ely 110.13 42 PFAKE 00 36 30.0
EYMN LR LR
comp=Z,1μm,19.0s
APA Apatity 111.03 340 *e*PKiKP **PKiKP 00 36 18.0 +0.7**
GNI Garni 113.64 310 PFAKE 00 36 40.0
GNI LR LR
comp=Z,607nm,20.0s
KIV Kislovodsk 114.48 314 PFAKE 00 36 40.0 +15
KIV LR LR
comp=Z,1μm,20.0s
BRAL Brewton 115.69 60 PFAKE 00 36 40.0 +13
BRAL LR LR
comp=Z,1μm,20.0s
HOPE Hope Point 115.82 170 PFAKE 00 36 40.0 +13

HOPE					LR	LR			
	comp=Z,1.0nm,21.0s								
AAM	**Ann Arbor**	**116.65**	**47**		PFAKE			00 36 40.0	+11
AAM					LR	LR			
	comp=Z,2μm,21.0s								
FINES	**FINESS Array B**	**116.99**	**336**		PKP	**PKPdf**		**00 36 29.0**	**+0.2**
FINES	**FINESS Array B**	**116.99**	**336**		PKP	**PKPdf**		**00 36 29.0**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=42,slow=2.5,SNR=2.7								
ACSO	**Alum Creek Sta**	**117.60**	**49**		PFAKE			00 36 40.0	+9.3
ACSO					LR	LR			
	comp=Z,2μm,19.0s								
JTS	**JuntasAbangare**	**117.76**	**83**		PFAKE			00 36 40.0	+8.2
JTS					LR	LR			
	comp=Z,1μm,19.0s								
GOGA	**Godfrey**	**118.43**	**57**		PFAKE			00 36 40.0	+7.5
GOGA					LR	LR			
	comp=Z,2μm,20.0s								
ERPA	**Erie**	**119.34**	**47**		PFAKE			00 36 50.0	+16
ERPA					LR	LR			
	comp=Z,2μm,20.0s								
ALLY	**Alegheny Colle**	**119.35**	**47**		*e*PKPdf	**PKPdf**		**00 36 35.1**	**+1.0**
KMSC	**Kings Mountain**	**119.89**	**55**		*e*PKPdf	**PKPdf**		**00 36 35.4**	**+0.2**
BLA	**Blacksburg**	**120.20**	**52**		PFAKE			00 36 50.0	+14
BLA					LR	LR			
	comp=Z,1μm,20.0s								
KMBO	**Kilima Mbogo**	**120.37**	**263**		*e*PKPdf	**PKPdf**		**00 36 38.5**	**+1.4**
KMBO	**Kilima Mbogo**	**120.37**	**263**		PKP	**PKPdf**		**00 36 38.8**	**+1.7**
	comp=Z,4.0nm,1.0s,baz=47,slow=6.4,SNR=7.8								
AKASG	**Malin Array Be**	**120.96**	**325**		PKIKP	**PKPdf**		**00 36 36.2**	**-0.6**
AKASG	**Malin Array Be**	**120.96**	**325**		PKP	**PKPdf**		**00 36 36.2**	**-0.6**
AKASG	**Malin Array Be**	**120.96**	**325**		PKP	**PKPdf**		**00 36 36.2**	**-0.6**
	comp=Z,8.1nm,0.9s,baz=62,slow=2.4,SNR=18								
AK01	**Malin Array Si**	**120.97**	**325**		*e*PKPdf	**PKPdf**		**00 36 35.9**	**-0.9**
KIEV	**Kiev**	**120.97**	**325**		*e*PKIKP	**PKPdf**		**00 36 37.1**	**+0.2**
KIEV	**Kiev**	**120.97**	**325**		*e*PKPdf	**PKPdf**		**00 36 37.0**	**+0.2**
AK11	**Malin Array Si**	**121.00**	**325**		*e*PKPdf	**PKPdf**		**00 36 36.4**	**-0.6**
BOSA	**Boshof**	**121.26**	**229**		PKP	**PKPdf**		**00 36 39.4**	**+1.0**
BOSA	**Boshof**	**121.26**	**229**		PKP	**PKPdf**		**00 36 39.4**	**+1.0**
	comp=Z,10nm,1.1s,baz=138,slow=9.5,SNR=6.5								
BRTR	**Keskin Array B**	**122.06**	**311**		PKP	**PKPdf**		**00 36 39.5**	**0.0**
BRTR	**Keskin Array B**	**122.06**	**311**		PKP	**PKPdf**		**00 36 39.5**	**0.0**
	comp=Z,2.6nm,1.0s,baz=90,slow=4.9,SNR=6.6								
BINY	**Binghamton**	**122.16**	**45**		PFAKE			00 36 50.0	+11
BINY					LR	LR			
	comp=Z,1μm,20.0s								
CBN	**Corbin**	**122.31**	**50**		PFAKE			00 36 50.0	+10
CBN					LR	LR			
	comp=Z,2μm,19.0s								
SUW	**Suwalki**	**122.49**	**330**		*e*PKIKP	**PKPdf**		**00 36 39.6**	**-0.1**
SUW	**Suwalki**	**122.49**	**330**		*e*PKP	**PKPdf**		**00 36 39.4**	**-0.3**
SUW	**Suwalki**	**122.49**	**330**		*e*PKPdf	**PKPdf**		**00 36 39.6**	**-0.1**
NB2	**NORSAR Subarra**	**122.55**	**342**		PKPdf	**PKPdf**		**00 36 39.9**	**+0.2**
	comp=Z,4.3nm,1.2s,baz=39,slow=1.9								
NOA	**NORSAR Array B**	**122.55**	**342**		PKP	**PKPdf**		**00 36 39.6**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=40,slow=1.9,SNR=3.9								
NOA					PKKPbc	**PKKPab**		**00 46 34.9**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=208,slow=2.5,SNR=3.4								
CNNC	**Cliffs of the**	**122.63**	**54**		PFAKE			00 36 50.0	+10
CNNC					LR	LR			
	comp=Z,2μm,19.0s								
ANTO	**Ankara**	**122.64**	**312**		PFAKE			00 36 50.0	+9.5
ANTO					LR	LR			
	comp=Z,503nm,20.0s								
BR231	**Keskin MP Arra**	**122.67**	**312**		*e*PKPdf	**PKPdf**		**00 36 40.3**	**-0.3**
BCIP	**Isla Barro Col**	**122.70**	**85**		PFAKE			00 36 50.0	+8.8
BCIP					LR	LR			
	comp=Z,1μm,21.0s								
LBTB	**Lobatse**	**122.86**	**233**		*e*PKPdf	**PKPdf**		**00 36 42.7**	**+1.2**
CSS	**Prodhromos**	**123.53**	**306**		PFAKE			00 36 50.0	+7.7
CSS					LR	LR			
	comp=Z,230nm,21.0s								
BURAR	**Bucovina Array**	**124.72**	**323**	⇓	PKIKP	**PKPdf**		**00 36 43.8**	**-0.5**
BURAR	**Bucovina Array**	**124.72**	**323**	⇓	*i*P	**PKPdf**		**00 36 43.8**	**-0.5**
BUR04	**Bucovina Ar. S**	**124.72**	**323**		*e*PKPdf	**PKPdf**		**00 36 45.8**	**+1.5**
ISP	**Isparta**	**124.95**	**310**		PFAKE			00 37 00.0	+15
ISP					LR	LR			
	comp=Z,567nm,20.0s								
LSZ	**Lusaka**	**124.98**	**244**		*e*PKPdf	**PKPdf**		**00 36 46.8**	**+1.1**
ISR	**Istrita**	**125.04**	**320**	⇓	PKIKP	**PKPdf**		**00 36 44.5**	**-0.4**
ISR	**Istrita**	**125.04**	**320**	⇓	*i*P	**PKPdf**		**00 36 44.5**	**-0.4**
KWP	**Kalwaria Pacla**	**125.14**	**326**	⇓	PKIKP	**PKPdf**		**00 36 45.4**	**+0.5**
KWP	**Kalwaria Pacla**	**125.14**	**326**	⇓	*i*P	**PKPdf**		**00 36 45.4**	**+0.5**
KWP	**Kalwaria Pacla**	**125.14**	**326**		*e*PKPdf	**PKPdf**		**00 36 44.7**	**-0.2**
MLR	**Muntele Rosu**	**125.26**	**320**	⇑	*i*P	**PKPdf**		**00 36 46.0**	**+0.6**
DOPR	**Dopca**	**125.39**	**321**	⇑	*i*P	**PKPdf**		**00 36 46.7**	**+1.2**
BMR	**Baia Mare**	**125.71**	**324**	⇑	PKIKP	**PKPdf**		**00 36 47.6**	**+1.6**
BMR	**Baia Mare**	**125.71**	**324**	⇑	*i*P	**PKPdf**		**00 36 47.6**	**+1.6**
TRPA	**Tarpa**	**126.03**	**325**	⇑	*i*P	**PKPdf**		**00 36 47.6**	**+1.0**
ARR	**Arges**	**126.14**	**321**	⇑	*i*P	**PKPdf**		**00 36 47.7**	**+0.7**
HUMR	**Humele**	**126.30**	**320**	⇑	*i*P	**PKPdf**		**00 36 48.3**	**+1.0**
DRGR		**126.61**	**323**	⇑	PKIKP	**PKPdf**		**00 36 48.9**	**+1.0**
DRGR		**126.61**	**323**	⇑	*i*P	**PKPdf**		**00 36 48.9**	**+1.0**
DEV	**Deva**	**126.95**	**322**	⇑	PKIKP	**PKPdf**		**00 36 50.5**	**+2.0**
DEV	**Deva**	**126.95**	**322**	⇑	*i*P	**PKPdf**		**00 36 50.5**	**+2.0**
GTBY	**Guantanamo Bay**	**127.38**	**72**		PFAKE			00 37 00.0	+10
GTBY					LR	LR			
	comp=Z,529nm,19.0s								
OKC	**Ostrava-Krasne**	**127.46**	**328**		*e*PKIKP	**PKPdf**		**00 36 49.9**	**+0.6**
OKC					*e*			00 36 56.6	
OKC					*e*SS	SS		00 56 13.9	+18
OKC					MLR	MLR			
	comp=Z,2μm,18.8s								
OKC	**Ostrava-Krasne**	**127.46**	**328**		*e*PKPdf	**PKPdf**		**00 36 49.9**	**+0.6**
OKC					*ex*	x		00 36 56.6	
OKC					*ex*	x		00 56 13.9	
OKC					AMS	AMS		01 35 30.0	
	comp=Z,2μm,18.8s								
PSZ	**Piszkesteto**	**127.63**	**326**	⇑	PKIKP	**PKPdf**		**00 36 51.0**	**+1.2**
PSZ	**Piszkesteto**	**127.63**	**326**	⇑	*i*P	**PKPdf**		**00 36 51.0**	**+1.2**
PSZ	**Piszkesteto**	**127.63**	**326**		*e*PKPdf	**PKPdf**		**00 36 50.6**	**+0.8**
LPAZ	**La Paz**	**127.72**	**119**		PKP	**PKPdf**		**00 36 51.5**	**-0.1**
LPAZ	**La Paz**	**127.72**	**119**		PKP	**PKPdf**		**00 36 51.5**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=226,slow=4.1,SNR=5.7								
KSP	**Ksiaz**	**127.77**	**330**		*e*PKIKP	**PKPdf**		**00 36 50.5**	**+0.6**
KSP					*e*			00 38 53.5	
KSP					*e*SP	SP		00 48 55.0	+3.4
KSP					MLR	MLR			
	comp=Z,10μm,22.8s								
KSP	**Ksiaz**	**127.77**	**330**		*e*PKP	**PKPdf**		**00 36 50.7**	**+0.8**
MORC	**Moravsky Berou**	**127.81**	**329**	⇑	PKIKP	**PKPdf**		**00 36 51.5**	**+1.4**
MORC	**Moravsky Berou**	**127.81**	**329**	⇑	*i*P	**PKPdf**		**00 36 51.5**	**+1.4**
MORC	**Moravsky Berou**	**127.81**	**329**		*e*PKPdf	**PKPdf**		**00 36 51.1**	**+1.1**
BZS	**Buzias**	**127.87**	**322**	⇓	PKIKP	**PKPdf**		**00 36 50.4**	**+0.2**
BZS	**Buzias**	**127.87**	**322**	⇓	*i*P	**PKPdf**		**00 36 50.4**	**+0.2**
KRLC	**Kraliky**	**128.01**	**329**		*e*PKIKP	**PKPdf**		**00 36 51.7**	**+1.3**
KRLC					*e*			00 36 59.0	
KRLC	**Kraliky**	**128.01**	**329**		*e*PKPdf	**PKPdf**		**00 36 51.7**	**+1.3**
KRLC					*ex*	x		00 36 59.0	
DPC	**Dobruska-Polom**	**128.07**	**330**		*e*PKIKP	**PKPdf**		**00 36 50.6**	**+0.1**
DPC					*e*SS	SS		00 56 08.9	+5.2
DPC	**Dobruska-Polom**	**128.07**	**330**		*e*PKPdf	**PKPdf**		**00 36 50.6**	**+0.1**
DPC					*e*SS	SS		00 56 08.9	+5.2
DPC					AMS	AMS		01 36 20.0	
DPC	**Dobruska-Polom**	**128.07**	**330**		*e*PKPdf	**PKPdf**		**00 36 50.3**	**-0.3**
UPC	**Upice**	**128.12**	**330**		*e*PKIKP	**PKPdf**		**00 36 52.0**	**+1.4**
UPC					*e*			00 36 59.6	
UPC	**Upice**	**128.12**	**330**		*e*PKPdf	**PKPdf**		**00 36 52.0**	**+1.4**
UPC					*ep*PKP	**pPKPdf**		**00 36 59.6**	**-5.9**
BSEG	**Bad Segeberg**	**128.26**	**336**		*e*PKP	**PKPdf**		**00 36 51.4**	**+0.7**
VTS	**Vitosha**	**128.33**	**318**	⇑	PKIKP	**PKPdf**		**00 36 52.1**	**+0.7**
VTS	**Vitosha**	**128.33**	**318**	⇑	*i*P	**PKPdf**		**00 36 52.1**	**+0.7**
VRAC	**Vranov**	**128.58**	**329**	⇑	*i*P	**PKPdf**		**00 36 53.0**	**+1.5**
PVCC	**Panska Ves**	**128.81**	**331**		*e*PKIKP	**PKPdf**		**00 36 52.0**	**+0.1**
PVCC					MLR	MLR			
	comp=Z,2μm,19.3s								
PVCC	**Panska Ves**	**128.81**	**331**		*e*PKPdf	**PKPdf**		**00 36 52.0**	**+0.1**
PVCC					AMS	AMS		01 36 20.0	
	comp=Z,2μm,19.3s								
BRG	**Berggiesshubel**	**128.87**	**332**		*e*PKP	**PKPdf**		**00 36 51.9**	**-0.1**
BRG	**Berggiesshubel**	**128.87**	**332**		*e*	**PKPdf**		**00 36 52.4**	**+0.4**
	comp=Z,32nm,1.4s								
BRG					*e*PP	PP		00 38 44.4	-14
	comp=Z,16nm,1.8s								
BRG					SS	SS		00 56 26.0	+13
CLL	**Collm**	**129.01**	**333**		*i* PKIKP	**PKPdf**		**00 36 51.4**	**-0.8**
CLL					pmax	pmax			
	comp=Z,17nm,1.3s								
CLL					MLR	MLR			
	comp=Z,2μm,20.4s								
CLL	**Collm**	**129.01**	**333**		*e*PKP	**PKPdf**		**00 36 51.7**	**-0.5**
CLL	**Collm**	**129.01**	**333**		*i* PKPdf	**PKPdf**		**00 36 51.4**	**-0.8**
	comp=Z,17nm,1.3s								
CLL					*i*			00 37 19.8	
CLL					*e*			00 38 39.0	
CLL					*e*PPS	PPS		00 50 44.0	
CLL					*e*SS	SS		00 56 21.0	+6.0
CLL					*e*SSS	SSS		01 00 55.0	
CLL					*e*SSSS			01 04 59.0	
CLL					Lm	MLR		01 35 00.0	
	comp=N,2μm,20.6s								
CLL					Lm	MLR		01 35 00.0	
	comp=E,1μm,20.7s								
CLL					Lm	MLR		01 35 00.0	
	comp=Z,2μm,20.4s								
TREC	**Trest**	**129.15**	**329**		*e*PKIKP	**PKPdf**		**00 36 53.1**	**+0.5**
TREC					*e*			00 37 01.4	
TREC					*e*SS	SS		00 56 14.7	-2.4
TREC					MLR	MLR			
	comp=Z,1μm,20.0s								
TREC	**Trest**	**129.15**	**329**		*e*PKPdf	**PKPdf**		**00 36 53.1**	**+0.5**
TREC					*ep*PKP	**pPKPdf**		**00 37 01.4**	**-6.1**
TREC					*e*SS	SS		00 56 14.7	-2.4
TREC					AMS	AMS		01 34 50.0	
	comp=Z,1μm,20.0s								
PRA	**Prague**	**129.17**	**331**		PKPdf	**PKPdf**		**00 36 53.0**	**+0.4**
PRU	**Pruhonice**	**129.17**	**330**		*e*PKIKP	**PKPdf**		**00 36 52.5**	**-0.1**
PRU					*e*SS	SS		00 56 21.8	+4.6
PRU					MLR	MLR			
	comp=Z,2μm,17.3s								
PRU	**Pruhonice**	**129.17**	**330**		*e*PKPdf	**PKPdf**		**00 36 52.5**	**-0.1**
PRU					*e*SS	SS		00 56 21.8	+4.6
PRU					AMS	AMS		01 37 20.0	
	comp=Z,2μm,17.3s								
PKSM	**Moragy**	**129.30**	**324**	⇑	PKIKP	**PKPdf**		**00 36 53.5**	**+0.6**
PKSM	**Moragy**	**129.30**	**324**	⇑	*i*P	**PKPdf**		**00 36 53.5**	**+0.6**
NRDL	**Niedersach Rie**	**129.42**	**335**		*e*PKP	**PKPdf**		**00 36 53.2**	**+0.3**
CLZ	**Clausthal**	**129.79**	**335**		*e*PKP	**PKPdf**		**00 36 54.0**	**+0.2**
CONA	**Conrad Observa**	**129.82**	**328**		*i* PKIKP	**PKiKP**		**00 36 55.1**	**+0.3**
	comp=Z,15nm,1.2s,SNR=5.6								
NKC	**Novy Kostel**	**130.01**	**332**		*e*PKIKP	**PKPdf**		**00 36 54.7**	**+0.5**
NKC					*e*			00 37 01.9	
NKC	**Novy Kostel**	**130.01**	**332**		*e*PKPdf	**PKPdf**		**00 36 54.7**	**+0.5**
NKC					*ex*	x		00 37 01.9	
KHC	**Kasperske Hory**	**130.21**	**330**		*e*PKIKP	**PKPdf**		**00 36 54.5**	**-0.2**
KHC					*e*			00 37 03.3	
KHC					MLR	MLR			
	comp=Z,2μm,18.2s								
KHC	**Kasperske Hory**	**130.21**	**330**		*e*PKPdf	**PKPdf**		**00 36 54.5**	**-0.2**
KHC					*ep*PKP	**pPKPdf**		**00 37 03.3**	**-6.3**
KHC					*es*PKP			00 37 13.5	
KHC					AMS	AMS		01 38 00.0	
	comp=Z,2μm,18.2s								
KHC	**Kasperske Hory**	**130.21**	**330**		*e*PKPdf	**PKPdf**		**00 36 54.9**	**+0.3**
GEC2	**GERESS Array S**	**130.34**	**330**		*e*PKIKP	**PKPdf**		**00 36 54.6**	**-0.4**
GEC2	**GERESS Array S**	**130.34**	**330**		*e*PKP	**PKPdf**		**00 36 54.8**	**-0.2**
GEC2	**GERESS Array S**	**130.34**	**330**		*e*PKPdf	**PKPdf**		**00 36 54.6**	**-0.4**
GEC2					*e*PKPdf	**PKiKP**		**00 36 55.3**	**-0.5**
GERES	**GERESS Array B**	**130.34**	**330**		PKP	**PKPdf**		**00 36 55.0**	**0.0**
GERES	**GERESS Array B**	**130.34**	**330**		PKP	**PKPdf**		**00 36 55.0**	**0.0**
	comp=Z,6.3nm,1.1s,baz=90,slow=1.3,SNR=15								
ROTZ	**Rotzenmuhle**	**130.44**	**332**		*e*PKP	**PKPdf**		**00 36 55.2**	**+0.2**
WET	**Wettzell**	**130.54**	**331**		*e*PKP	**PKPdf**		**00 36 55.4**	**+0.1**
GRTK	**Grand Turk**	**130.94**	**69**		PFAKE			00 37 10.0	+13
GRTK					LR	LR			
	comp=Z,585nm,19.0s								
ESK	**Eskdalemuir**	**131.44**	**346**		PFAKE			00 37 10.0	+13
ESK					LR	LR			
	comp=Z,1μm,20.0s								
SDV	**Santo Domingo**	**131.74**	**86**		*e*PKPdf	**PKPdf**		**00 36 59.4**	**+0.6**
TSUM	**Tsumeb**	**132.21**	**234**		*e*PKPdf	**PKPdf**		**00 37 00.5**	**+1.1**
MOTA	**Moosalm**	**132.64**	**330**	⇑	*i*PKiKP	**PKPdf**		**00 36 59.4**	**-0.1**
	comp=Z,5.3nm,0.7s								
FETA	**Feichten**	**133.05**	**330**	⇑	*i*PKiKP	**PKPdf**		**00 37 00.7**	**+0.4**
	comp=Z,11nm,1.0s								
BFO	**Black Forest**	**133.26**	**333**		PFAKE			00 37 10.0	+10
BFO					LR	LR			
	comp=Z,1μm,21.0s								
GIVF	**Givet**	**133.38**	**337**		*e*PKIKP	**PKPdf**		**00 37 01.0**	**+0.4**
BAIF	**Baives**	**133.66**	**337**		*e*PKIKP	**PKPdf**		**00 37 01.6**	**+0.5**
CDF	**Champ du Feu**	**133.67**	**333**		*e*PKIKP	**PKPdf**		**00 37 01.3**	**0.0**
	comp=Z,19nm,1.3s								
ECH	**Echery**	**133.87**	**333**		PFAKE			00 37 10.0	+8.4
ECH					LR	LR			
	comp=Z,943nm,19.0s								
BBSR	**BB Station**	**133.96**	**53**		PFAKE			00 37 10.0	+7.8
BBSR					LR	LR			
	comp=Z,1μm,20.0s								
TUE	**Stuetta**	**134.11**	**330**		*e*PKPdf	**PKPdf**		**00 37 01.8**	**-0.6**
HINF	**Hinterzarten**	**134.30**	**333**		*e*PKIKP	**PKPdf**		**00 37 02.6**	**+0.2**
	comp=Z,17nm,1.1s								
HAU	**Haudompre**	**134.38**	**334**		*e*PKIKP	**PKPdf**		**00 37 02.9**	**+0.3**
	comp=Z,36nm,1.3s								
CUC	**Castrocucco**	**134.45**	**319**		PFAKE			00 37 10.0	+7.1
CUC					LR	LR			
	comp=Z,688nm,20.0s								
MEZF	**Maizieres J'vi**	**134.55**	**335**		*e*PKIKP	**PKPdf**		**00 37 03.9**	**+1.1**
	comp=Z,45nm,1.2s								
AQU	**L'Aquila**	**134.60**	**323**		PFAKE			00 37 20.0	+17
AQU					LR	LR			
	comp=Z,2μm,22.0s								
SAML	**Samuel**	**135.08**	**112**		*e*PKPdf	**PKPdf**		**00 37 05.7**	**+0.9**
CEL	**Celeste**	**135.31**	**317**		PFAKE			00 37 20.0	+15
CEL					LR	LR			
	comp=Z,548nm,19.0s								
CABF	**La Chapelle**	**135.55**	**333**		*e*PKIKP	**PKPdf**		**00 37 04.8**	**-0.1**
	comp=Z,73nm,1.3s								
LOR	**Lormes**	**136.02**	**335**		*e*PKIKP	**PKPdf**		**00 37 06.4**	**+0.8**
	comp=Z,28nm,1.2s								
LPL	**La Plagne**	**136.07**	**331**		*e*PKIKP	**PKPdf**		**00 37 06.8**	**+0.8**
	comp=Z,29nm,1.2s								
LPG	**La Plagne**	**136.07**	**331**		*e*PKIKP	**PKPdf**		**00 37 06.8**	**+0.7**
	comp=Z,38nm,1.3s								
SSF	**Saint Saulge**	**136.33**	**335**		*e*PKIKP	**PKPdf**		**00 37 06.9**	**+0.7**
	comp=Z,32nm,1.4s								
BNI	**Bardonecchia**	**136.43**	**331**		*e*PKIKP	**PKPdf**		**00 37 07.2**	**+0.6**
BNI					MLR	MLR			
	comp=Z,2μm,19.0s								
BNI	**Bardonecchia**	**136.43**	**331**		*e*PKPdf	**PKPdf**		**00 37 07.2**	**+0.6**
BNI					LR	LR			
	comp=Z,2μm,19.0s								
FLN	**La Foliniere**	**136.45**	**340**		*e*PKIKP	**PKPdf**		**00 37 06.7**	**+0.4**
	comp=Z,29nm,1.2s								
LDF	**La Druitiere**	**136.47**	**339**		*e*PKIKP	**PKPdf**		**00 37 06.9**	**+0.5**
	comp=Z,48nm,1.4s								
SMF	**Signal de Mont**	**136.52**	**334**		*e*PKIKP	**PKPdf**		**00 37 07.1**	**+0.5**
	comp=Z,34nm,1.3s								
HYF	**Humbligny**	**136.52**	**336**		*e*PKIKP	**PKPdf**		**00 37 06.8**	**+0.3**
AVF	**Avril sur Loir**	**136.61**	**335**		*e*PKIKP	**PKPdf**		**00 37 07.2**	**+0.5**
	comp=Z,12nm,1.1s								
GRR	**Gorron**	**136.90**	**340**		*e*PKIKP	**PKPdf**		**00 37 07.8**	**+0.6**
	comp=Z,68nm,1.5s								
SBF	**Sospel**	**136.91**	**329**		*e*PKIKP	**PKPdf**		**00 37 07.6**	**+0.2**
	comp=Z,50nm,1.2s								
ORIF	**Oris-en-Rattie**	**136.91**	**331**		*e*PKIKP	**PKPdf**		**00 37 07.0**	**-0.5**
	comp=Z,13nm,1.1s								
PGF	**Pioggiola**	**136.99**	**326**		*e*PKIKP	**PKPdf**		**00 37 08.0**	**+0.3**
	comp=Z,100nm,1.3s								
BGF	**Bois d'Agland**	**137.01**	**335**		*e*PKIKP	**PKPdf**		**00 37 07.1**	**-0.4**
	comp=Z,34nm,1.3s								
TCF	**Toulx Ste Croi**	**137.49**	**335**		*e*PKIKP	**PKPdf**		**00 37 08.1**	**-0.3**
	comp=Z,46nm,1.4s								
FRF	**La Foret Royal**	**137.53**	**329**		*e*PKIKP	**PKPdf**		**00 37 07.9**	**-0.6**
	comp=Z,38nm,1.4s								
VIVF	**Saint-Julien-l**	**137.53**	**332**		*e*PKIKP	**PKPdf**		**00 37 08.2**	**-0.3**
	comp=Z,23nm,1.2s								
SMRF	**Simiane la Rot**	**137.76**	**330**		*e*PKIKP	**PKPdf**		**00 37 08.8**	**-0.2**
	comp=Z,52nm,1.4s								
MFF	**Saint Martin d**	**138.16**	**338**		*e*PKIKP	**PKPdf**		**00 37 10.4**	**+0.8**
	comp=Z,71nm,1.3s								
LASF	**Ste Croix**	**138.50**	**332**		*e*PKIKP	**PKPdf**		**00 37 10.2**	**-0.1**
	comp=Z,31nm,1.2s								
RJF	**Les Rejaudoux**	**138.57**	**335**		*e*PKIKP	**PKPdf**		**00 37 09.9**	**-0.5**
LFF	**La Frestale**	**139.18**	**335**		*e*PKIKP	**PKPdf**		**00 37 11.1**	**-0.4**
ANWB	**Willy Bob**	**140.16**	**73**		PFAKE			00 37 30.0	+16
ANWB					LR	LR			
	comp=Z,651nm,20.0s								
GRGR	**Grenville**	**140.67**	**82**		PFAKE			00 37 30.0	+15
GRGR					LR	LR			
	comp=Z,562nm,21.0s								
PTGA	**Pitinga**	**140.75**	**102**		*e*PKPdf	**PKPdf**		**00 37 15.3**	**+0.1**
EPF	**Esparros**	**140.90**	**334**		*e*PKIKP	**PKPdf**		**00 37 14.5**	**-0.3**
	comp=Z,43nm,1.6s								
FDF	**Fort de France**	**141.05**	**78**		PFAKE			00 37 30.0	+14
FDF					LR	LR			
	comp=Z,579nm,19.0s								
KEST	**Kesra**	**141.07**	**318**		PKP	**PKPdf**		**00 37 15.6**	**+0.3**
KEST	**Kesra**	**141.07**	**318**		PKP	**PKPdf**		**00 37 15.6**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=10,slow=11,SNR=3.1								
ETSF	**Etsaut**	**141.39**	**335**		*e*PKIKP	**PKPdf**		**00 37 15.8**	**+0.1**
	comp=Z,28nm,1.1s								
SJPF	**Ste Jean**	**141.49**	**336**		*e*PKIKP	**PKPdf**		**00 37 15.6**	**-0.2**
	comp=Z,35nm,1.2s								
BDFB	**Brasilia**	**144.33**	**133**		*e*PKPdf	PKPbc		00 37 20.3	+0.2
BDFB	**Brasilia**	**144.33**	**133**		PKP	PKPbc		00 37 20.1	+0.1
	comp=Z,31nm,1.0s,baz=219,slow=3.6,SNR=11								
PBRG	**Braganca**	**144.67**	**340**		*e*PKP	**PKPab**		**00 37 20.2**	**+0.1**
PGAV	**Gavieira, Arco**	**145.00**	**342**		*e*PKP	**PKPbc**		**00 37 20.9**	**-0.5**
PGAV	**Gavieira, Arco**	**145.00**	**342**		*e*LR	LR		01 27 27.8	
	comp=Z,832nm,20.0s								
PCAB	**Cabril**	**145.16**	**342**		*e*PKP	**PKPdf**		**00 37 22.2**	**-0.1**
MVO	**Moncorvo**	**145.34**	**340**		*e*PKP	**PKPab**		**00 37 22.9**	**+0.2**
MVO	**Moncorvo**	**145.34**	**340**		*e*LR	LR		01 27 41.3	
	comp=Z,1μm,22.0s								
POLO	**Lamas de Olo**	**145.40**	**341**		*e*PKP	**PKPab**		**00 37 23.1**	**+0.2**
ES19	**SONSECA Array**	**145.44**	**335**		*e*PKPdf	**PKPab**		**00 37 23.2**	**+0.1**
ES19					*e*PP	**PP**		**00 40 39.4**	**-2.7**
PVRL	**Vila Real**	**145.46**	**341**		*e*PKP	**PKPab**		**00 37 23.3**	**+0.2**
ESDC	**Sonseca Array**	**145.49**	**335**		PKPbc	**PKPab**		**00 37 23.2**	**0.0**
ESDC					PP	**PP**		**00 40 41.8**	**-0.6**
ESDC	**Sonseca Array**	**145.49**	**335**		PKPbc	**PKPab**		**00 37 23.2**	**0.0**
	comp=Z,20nm,0.9s,baz=22,slow=3.5,SNR=28								
ESDC					PP	**PP**		**00 40 41.8**	**-0.6**
	comp=Z,5.2nm,1.2s,baz=26,slow=6.2,SNR=4.4								
ESLA	**Sonseca Array**	**145.49**	**335**		*e*PKPdf	**PKPdf**		**00 37 22.9**	**0.0**
PAB	**San Pablo**

IDC ***19*** *01:00:17.6±0.6,8.81S×157.71E,h0km,mb4.4/16, mb1 4.6/19,mb1mx4.5/31,mbtmp4.4/19,ML4.1/3,MS4.0/6, Ms1 4.0/6,ms1mx3.6/29,Error ellipse: s-maj=16.3km s-min=13.5km az=12.0*

ISCJB ***19*** *01:00:19.8±0.3,8.87S±0.04×157.77E±0.05,h23km, mb4.7/45,MS4.4/12,Error ellipse: s-maj=8.3km s-min=5.4km az=26.8*

MOS ***19*** *01:00:21.2±0.8,8.85S×157.74E,h33km,mb4.5/8,Error ellipse: s-maj=12.0km s-min=9.5km az=141.5*

BJI ***19*** *01:00:22.8,8.21S×158.16E,h26km,mB5.3/22,mb4.9/36, Ms5.1/20,Ms7 4.7/20*

NEIC ***19*** *01:00:22.4±2.8,8.87S×157.78E,h32km±21km,mb5.1/20, Error ellipse: s-maj=10.7km s-min=6.9km az=142.0*

ISC 19 01:00:21.8±0.4,8.96S±0.06×157.90E±0.06,h23km,n124, σ1§83/131,mb4.7/46,MS4.4/12,2C-3D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.08**	**103**	Pn	**Pn**	**01 00 56.5**	**+1.2**
HNR				Sn	Sn	01 01 14.3	-6.2
HNR				Lg	Lg	01 01 30.9	
HNR	**Honiara**	**2.08**	**103**	Pn	**Pn**	**01 00 55.1**	**-0.1**
	125nm,0.3s,baz=261,slow=5.2,SNR=16						
HNR				Lg	Lg	01 01 30.9	
	189nm,0.3s,baz=246,slow=20,SNR=15						
HNR				LR	LR	01 01 51.9	
	comp=Z,2μm,19.5s,baz=138,slow=41						
HNR	**Honiara**	**2.08**	**103**	*i* P	**Pn**	**01 00 56.0**	**+0.7**
HNR				*i* S	Sb	01 01 32.0	+7.8
COEN	**Coen**	**15.26**	**250**	*e*Pn	**Pn**	**01 03 57.5**	**+1.5**
	256nm,1.0s						
COEN	**Coen**	**15.26**	**250**	P	**P**	**01 04 01.9**	**+1.2**
	baz=17,SNR=6.3						
DZM	**Mont Dzumac**	**15.41**	**149**	Pn	**Pn**	**01 03 58.5**	**+0.5**
DZM	**Mont Dzumac**	**15.41**	**149**	Pn	**Pn**	**01 03 58.5**	**+0.5**
	0.1nm,0.3s,baz=105,slow=17,SNR=2.1						
CTA	**Charters Tower**	**15.78**	**224**	Pn	**Pn**	**01 04 00.6**	**-2.2**
CTA	**Charters Tower**	**15.78**	**224**	Pn	**Pn**	**01 04 00.6**	**-2.2**
	0.7nm,0.3s,baz=44,slow=13,SNR=6.7						
CTAO	**Charters Tower**	**15.78**	**224**	*e*P	**Pn**	**01 04 04.3**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,66nm,1.3s						
CTAO	**Charters Tower**	**15.78**	**224**	*e*Pn	**Pn**	**01 04 04.3**	**+1.5**
	comp=Z,66nm,1.3s						
EIDS	**Eidsvold**	**17.56**	**201**	*e*Pn	**Pn**	**01 04 24.8**	**-0.5**
	comp=Z,61nm,1.1s						
EIDS	**Eidsvold**	**17.56**	**201**	P	**P**	**01 04 28.2**	**+2.0**
	baz=18,SNR=5.0						
RMQ	**Roma**	**19.47**	**205**	P	**Pn**	**01 04 49.4**	**+1.0**
	baz=20,SNR=21						
KWAJ	**Kwajalein Atol**	**20.12**	**29**	*e*P	Pn	01 04 56.2	-0.1
KWAJ				pmax	pmax		
	comp=Z,187nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.12**	**29**	*e*Pn	Pn	01 04 56.1	-0.1
	comp=Z,187nm,0.9s						
QIS	**Mount Isa**	**21.09**	**235**	P	**P**	**01 05 05.6**	**+0.8**
	baz=22,SNR=12						
QLP	**Quilpie**	**21.79**	**215**	P	**P**	**01 05 12.5**	**+0.2**
	baz=23,SNR=7.6						
ARMA	**Armidale**	**22.14**	**194**	*e*P	**P**	**01 05 17.7**	**+1.6**
	comp=Z,32nm,1.0s						
ARMA	**Armidale**	**22.14**	**194**	P	**P**	**01 05 19.2**	**+3.1**
	baz=23,SNR=5.4						
CMSA	**Cobar Meteorol**	**25.17**	**205**	P	**P**	**01 05 46.3**	**+0.7**
	baz=26,SNR=16						
KDU	**Kakadu**	**25.24**	**259**	P	**P**	**01 05 44.9**	**-1.5**
	baz=27,SNR=10						
WRAB	**Tennant Creek**	**25.24**	**242**	P	**P**	**01 05 44.9**	**-1.5**
	comp=Z,212nm,0.8s,SNR=24						
WRAB	**Tennant Creek**	**25.24**	**242**	⇑*i*P	**P**	**01 05 45.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,102nm,1.1s						
WRAB	**Tennant Creek**	**25.24**	**242**	*e*P	**P**	**01 05 44.9**	**-1.5**
	comp=Z,53nm,1.1s						
WRA	**Warramunga Arr**	**25.25**	**242**	P	**P**	**01 05 45.0**	**-1.5**
WRA	**Warramunga Arr**	**25.25**	**242**	P	**P**	**01 05 45.0**	**-1.5**
	comp=Z,22nm,0.8s,baz=67,slow=9.4,SNR=90						
WRA				LR	LR	01 15 19.1	
	comp=Z,444nm,18.9s,baz=75,slow=36						
FAKI	**Fak Fak**	**26.20**	**282**	P	**P**	**01 05 54.8**	**-0.3**
	baz=28,SNR=3.8						
AS31	**Alice Springs**	**27.21**	**235**	*e*P	**P**	**01 06 02.1**	**-2.1**
ASAR	**Alice Springs**	**27.21**	**235**	P	**P**	**01 06 02.5**	**-1.8**
ASAR	**Alice Springs**	**27.21**	**235**	P	**P**	**01 06 02.5**	**-1.8**
	comp=Z,5.5nm,0.8s,baz=64,slow=8.6,SNR=30						
ASAR				LR	LR	01 15 57.8	
	comp=Z,548nm,18.1s,baz=50,slow=35						
STKA	**Stephens Creek**	**27.37**	**211**	*e*P	**P**	**01 06 05.4**	**-0.1**
	comp=Z,3.8nm,0.8s						
STKA	**Stephens Creek**	**27.37**	**211**	P	**P**	**01 06 05.4**	**-0.1**
	comp=Z,16nm,0.7s,baz=29,slow=11,SNR=30						
STKA				LR	LR	01 16 52.3	
	comp=Z,276nm,18.3s,baz=31,slow=36						
STKA	**Stephens Creek**	**27.37**	**211**	P	**P**	**01 06 06.0**	**+0.5**
	baz=28,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.63**	**18**	T	T	01 34 49.5	
	baz=199,slow=77,SNR=98						
H11S2	**WAKE ISLAND Hy**	**28.63**	**18**	T	T	01 34 52.5	
	baz=199,slow=77,SNR=131						
H11S1	**WAKE ISLAND Hy**	**28.64**	**18**	T	T	01 34 46.7	
	baz=199,slow=77,SNR=62						
KNRA	**Kununurra**	**29.21**	**254**	P	**P**	**01 06 20.8**	**-1.3**
	baz=31,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**29.84**	**17**	T	T	01 36 45.6	
	baz=198,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**29.85**	**17**	T	T	01 36 38.3	
	baz=198,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**29.86**	**17**	T	T	01 36 39.3	
	baz=198,slow=75,SNR=10						
HTT	**Hallett**	**29.99**	**213**	P	**P**	**01 06 29.6**	**+0.7**
	baz=31,SNR=4.7						
AFI	**Afiamalu**	**30.11**	**102**	LR	LR	01 16 33.4	
	comp=Z,280nm,20.0s,baz=277,slow=32						
BBOO	**Buckleboo**	**31.16**	**217**	*e*P	**P**	**01 06 38.3**	**-0.9**
	comp=Z,378nm,1.0s						
BBOO	**Buckleboo**	**31.16**	**217**	P	**P**	**01 06 38.5**	**-0.6**
	baz=32,SNR=10						
ARPS	**Mount Arapiles**	**31.29**	**205**	P	**P**	**01 06 41.0**	**+0.8**
	baz=32,SNR=5.9						
WRKA	**Warakurna**	**32.40**	**237**	P	**P**	**01 06 47.2**	**-3.0**
	baz=34,SNR=7.7						
WRKA				S	**S**	**01 12 01.9**	**-1.6**
	baz=34,SNR=7.0						
FORT	**Forrest**	**35.28**	**228**	*e*P	**P**	**01 07 14.1**	**-1.0**
	comp=Z,34nm,1.0s						
MBWA	**Marble Bar**	**38.69**	**247**	*e*Pn	**P**	**01 07 42.5**	**-1.7**
MEEK	**Meekatharra**	**41.11**	**240**	P	**P**	**01 08 02.9**	**-1.5**
	baz=43,SNR=5.1						
JAGI	**Jajag, Banyuwa**	**43.23**	**267**	*e*P	P	01 08 18.0	-3.8
	comp=Z,50nm,0.7s						
JAGI	**Jajag, Banyuwa**	**43.23**	**267**	P	**P**	**01 08 18.6**	**-3.1**
	baz=45,SNR=5.9						
KLBR	**Kellerberrin**	**43.52**	**233**	S	S	01 14 59.4	+7.7
	baz=45,SNR=8.0						
MJAR	**Matsushiro Arr**	**48.90**	**339**	P	P	01 09 02.1	-4.0
MJAR	**Matsushiro Arr**	**48.90**	**339**	P	P	01 09 02.1	-4.0
	comp=Z,1.5nm,0.6s,baz=158,slow=8.1,SNR=3.6						
JNU	**Nakatsue**	**49.12**	**330**	P	**P**	**01 09 05.5**	**-2.4**
JNU	**Nakatsue**	**49.12**	**330**	P	**P**	**01 09 05.5**	**-2.4**
	comp=Z,6.7nm,0.4s,baz=66,slow=8.9,SNR=3.6						
KSRS	**Korea Array**	**54.03**	**331**	P	**P**	**01 09 42.3**	**-2.1**
	comp=Z,1.4nm,0.9s,baz=141,slow=8.1,SNR=6.2						
KSAR	**Wonju Array Be**	**54.04**	**331**	P	**P**	**01 09 42.3**	**-2.2**
QIZ	**Qiongzhong**	**54.93**	**301**	P	**P**	**01 09 50.8**	**-0.6**
NJ2	**Nanjing**	**55.26**	**319**	*e*P	**P**	**01 09 54.4**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
USRK	**Ussuriysk Arra**	**57.88**	**338**	P	**P**	**01 10 09.8**	**-2.1**
	comp=Z,3.1nm,1.0s,baz=159,slow=11,SNR=4.1						
MDJ	**Mudanjiang**	**59.14**	**337**	P	**P**	**01 10 19.3**	**-1.4**
MDJ				pP	**pP**	**01 10 28.4**	**+0.4**
MDJ				sP	**sP**	**01 10 32.3**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,250nm,8.1s						
CN2	**Changchun**	**60.20**	**333**	*e*P	**P**	**01 10 30.8**	**+2.8**
CN2				*e*S	**S**	**01 18 41.1**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,800nm,17.0s						
CN2				LR	LR		
	comp=Z,600nm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
GYA	**Guiyang**	**60.92**	**307**	P	**P**	**01 10 33.8**	**+0.3**
GYA				pP	**pP**	**01 10 44.8**	**+4.0**
GYA				PP	**PP**	**01 12 51.0**	**+3.0**
GYA				ScP	**ScP**	**01 15 14.8**	**-2.4**
GYA				S	**S**	**01 18 48.4**	**-2.3**
GYA				sS	**sS**	**01 19 06.3**	**+3.6**
GYA				SS	**SS**	**01 22 49.3**	**-1.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=Z,540nm,18.5s						
GYA				LR	LR		
	comp=Z,480nm,19.8s						
GYA				LR	LR		
	comp=Z,530nm,18.6s						
PETK	**Petropavlovsk-**	**61.83**	**360**	P	**P**	**01 10 37.9**	**-1.0**
PETK	**Petropavlovsk-**	**61.83**	**360**	P	**P**	**01 10 37.9**	**-1.0**
PETK	**Petropavlovsk-**	**61.83**	**360**	P	**P**	**01 10 37.9**	**-1.0**
	comp=Z,5.8nm,0.9s,baz=153,slow=8.0,SNR=5.1						
PETK				LR	LR	01 34 17.4	
	comp=Z,74nm,21.5s,baz=184,slow=33						
KMI	**Kunming**	**63.49**	**304**	P	P	01 10 54.3	+3.4
KMI				pP	pP	01 11 04.0	+5.8
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
CMAR	**Chiang Mai Arr**	**64.22**	**295**	P	**P**	**01 10 53.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**64.22**	**295**	P	**P**	**01 10 53.5**	**-2.0**
	comp=Z,1.4nm,0.4s,baz=112,slow=4.0,SNR=9.6						
CHTO	**Chiang Mai**	**64.34**	**296**	*e*P	**P**	**01 10 55.1**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CHTO	**Chiang Mai**	**64.34**	**296**	*e*P	**P**	**01 10 55.1**	**-1.2**
	comp=Z,3.5nm,1.1s						
CD2	**Chengdu**	**65.27**	**310**	*e*P	**P**	**01 11 02.9**	**+0.7**
CD2				sP	sP	01 11 18.0	+5.7
CD2				PP	**PP**	**01 13 28.8**	**+2.7**
CD2				S	**S**	**01 19 42.5**	**-2.3**
CD2				SS	**SS**	**01 23 57.3**	**-0.8**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				LR	LR		
	comp=Z,350nm,16.6s						
CD2				LR	LR		
	comp=Z,330nm,15.5s						
CASY	**Casey**	**65.66**	**199**	*e*P	**P**	**01 11 04.5**	**+0.5**
	comp=Z,28nm,0.7s						
LZH	**Lanzhou**	**67.73**	**315**	*e*P	**P**	**01 11 18.4**	**+0.5**
LZH				pP	**pP**	**01 11 28.3**	**+3.0**
LZH				sP	**sP**	**01 11 32.8**	**+4.7**
LZH				PP	**PP**	**01 13 50.0**	**+2.4**
LZH				*e*S	**S**	**01 20 12.5**	**-2.1**
LZH				sS	**sS**	**01 20 30.4**	**+3.6**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,4.9s						
LZH				LR	LR		
	comp=Z,380nm,13.8s						
LZH				LR	LR		
	comp=Z,410nm,15.2s						
LZH				LR	LR		
	comp=Z,540nm,15.8s						
SEY	**Seymchan**	**71.81**	**357**	⇓*i*P	**P**	**01 11 41.4**	**-0.8**
GTA	**Gaotai**	**72.14**	**316**	*e*P	P	01 11 49.1	+4.2
GTA				pP	**PcP**	**01 11 59.4**	**-3.8**
GTA				sP	sP	01 12 03.3	+8.2
GTA				S	**S**	**01 21 11.8**	**+5.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,170nm,5.0s						
GTA				LR	LR		
	comp=Z,190nm,17.1s						
GTA				LR	LR		
	comp=Z,310nm,17.1s						
GTA				LR	LR		
	comp=Z,180nm,17.6s						
ULN	**Ulaanbaatar**	**72.20**	**327**	*e*P	**P**	**01 11 45.0**	**-0.2**
	comp=Z,4.3nm,1.1s						
SONM	**Songino Array**	**72.54**	**326**	P	**P**	**01 11 45.9**	**-1.3**
SONM	**Songino Array**	**72.54**	**326**	P	**P**	**01 11 45.8**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=116,slow=5.6,SNR=3.0						
ZAK	**Zakamensk**	**75.68**	**327**	*e*P	**P**	**01 12 04.0**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GAMB	**Gambell**	**76.12**	**13**	*e*P	**P**	**01 12 07.0**	**-0.5**
	comp=Z,5.8nm,1.0s						
TLY	**Talaya**	**76.22**	**329**	*e*P	P	01 12 11.8	+3.5
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**77.04**	**3**	⇓*i*P	**P**	**01 12 12.0**	**-0.6**
BILL				*i*		01 12 23.3	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BILL	**Bilibino**	**77.04**	**3**	*e*P	**P**	**01 12 11.9**	**-0.7**
	comp=Z,12nm,1.1s						
TNA	**Tin City**	**78.50**	**14**	*e*P	**P**	**01 12 20.4**	**-0.4**
	comp=Z,5.7nm,0.8s						
KTH	**Kantishna Hill**	**82.01**	**21**	*e*P	**P**	**01 12 37.8**	**-2.0**
	comp=Z,164nm,2.9s						
TRF	**Thorofare Moun**	**82.17**	**21**	*e*P	**P**	**01 12 39.1**	**-1.7**
	comp=Z,79nm,2.1s						
WMQ	**Urumqi**	**82.22**	**317**	P	**P**	**01 12 41.6**	**+0.2**
WMQ				pP	**pP**	**01 12 52.0**	**+3.1**
WMQ				sP	**sP**	**01 12 55.9**	**+4.3**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,61nm,8.1s						
WMQ				LR	LR		
	comp=Z,140nm,16.8s						
WMQ				LR	LR		
	comp=Z,85nm,17.8s						
WMQ				LR	LR		
	comp=Z,110nm,20.5s						
IM04	**Indian Mountai**	**82.66**	**18**	*e*P	**P**	**01 12 42.1**	**-1.0**
TIXI	**Tiksi**	**82.71**	**351**	⇓*e*P	**P**	**01 12 42.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.8s						
MCK	**McKinley**	**82.82**	**21**	*e*P	**P**	**01 12 42.4**	**-1.6**
MCK				pmax	pmax		
	comp=Z,27nm,0.9s						
MCK	**McKinley**	**82.82**	**21**	*e*P	**P**	**01 12 42.4**	**-1.6**
	comp=Z,27nm,0.9s						
COLA	**College**	**83.89**	**20**	⇑*i*P	**P**	**01 12 48.8**	**-0.6**
COLA				pmax	pmax		
	comp=Z,84nm,1.1s						
COLA	**College**	**83.89**	**20**	*e*P	**P**	**01 12 47.8**	**-1.6**
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**84.16**	**21**	P	**P**	**01 12 49.2**	**-1.6**
ILAR	**Eielson Array**	**84.16**	**21**	P	**P**	**01 12 49.2**	**-1.6**
	comp=Z,3.6nm,0.9s,baz=255,slow=5.3,SNR=45						
DOT	**Dot Lake**	**84.55**	**22**	*e*P	**P**	**01 12 52.8**	**-0.2**
	comp=Z,9.5nm,0.8s						
EGAK	**Eagle**	**86.23**	**22**	*e*P	**P**	**01 13 01.0**	**-0.2**
	comp=Z,128nm,3.0s						
MK31	**Makanchi Array**	**86.77**	**318**	*e*P	**P**	**01 13 02.7**	**-1.6**
MK31	**Makanchi Array**	**86.77**	**318**	*e*P	**P**	**01 13 02.7**	**-1.6**
MKAR	**Makanchi Array**	**86.77**	**318**	*i* P	**P**	**01 13 02.5**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**86.77**	**318**	*e*P	**P**	**01 13 03.0**	**-1.3**
MKAR	**Makanchi Array**	**86.77**	**318**	P	**P**	**01 13 01.9**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=101,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**87.41**	**326**	P	**P**	**01 13 05.2**	**-2.0**
ZALV	**Zalesovo Beam**	**87.41**	**326**	P	**P**	**01 13 05.2**	**-2.0**
ZALV	**Zalesovo Beam**	**87.41**	**326**	P	**P**	**01 13 05.2**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=188,slow=7.9,SNR=3.0						
KSH	**Kashi**	**89.47**	**310**	*e*P	**P**	**01 13 17.4**	**-0.1**
KSH				*e*PP	**PP**	**01 16 50.1**	**+1.1**
KSH				*e*SKS	**SKSac**	**01 23 42.4**	**-4.3**
KSH				*e*S	**SKKSac**	**01 24 01.0**	**+1.9**
KSH				*e*sS	**sS**	**01 24 18.6**	**-0.9**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,45nm,4.0s						
KSH				LR	LR		
	comp=Z,390nm,17.8s						
KSH				LR	LR		
	comp=Z,300nm,16.3s						
KSH				LR	LR		
	comp=Z,120nm,7.2s						
NVAR	**Mina Array Bea**	**90.68**	**51**	P	**P**	**01 13 24.6**	**+1.3**
NVAR	**Mina Array Bea**	**90.68**	**51**	P	**P**	**01 13 24.6**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=235,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**01 13 49.4**	**-0.8**
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**01 13 49.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=263,slow=4.7,SNR=9.9						
PDAR	**Pinedale Array**	**97.87**	**48**	P	**P**	**01 13 55.8**	**-0.4**
PDAR	**Pinedale Array**	**97.87**	**48**	P	**P**	**01 13 55.8**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=226,slow=2.7,SNR=5.8						
MICGM	**Minsk**		**119.75**	**329**	*e*LR	LR	01 28 26.0
GERES	**GERESS Array B**		**130.20**	**330**	PKP	**PKPdf**	**01 19 30.7**	**+0.3**
GERES	**GERESS Array B**		**130.20**	**330**	PKP	**PKPdf**	**01 19 30.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=3.8,SNR=2.3						
BDFB	**Brasilia**		**144.56**	**133**	PKP	PKPbc	01 19 56.9	+0.6
BDFB	**Brasilia**		**144.56**	**133**	PKP	PKPbc	01 19 56.9	+0.6
	comp=Z,3.7nm,0.7s,baz=206,slow=8.0,SNR=5.4						
ESDC	**Sonseca Array**		**145.39**	**335**	PKPbc	**PKPbc**	**01 19 57.0**	**-1.2**
ESDC	**Sonseca Array**		**145.39**	**335**	PKPbc	**PKPbc**	**01 19 57.0**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=34,slow=3.9,SNR=3.0						
TAM	**Tamanrasset**		**150.16**	**301**	*e*PKP2	**PKPbc**	**01 20 11.8**	**-0.2**
TAM	**Tamanrasset**		**150.16**	**301**	*e*PKPbc	**PKPbc**	**01 20 11.8**	**-0.2**

IDC ***19*** *01:02:33.0±0.7,18.17S×173.32W,h0km,mb4.2/12, mb1 4.4/13,mb1mx4.2/32,mbtmp4.2/13,ML3.6/1,MS4.1/6, Ms1 4.1/6,ms1mx3.7/32,Error ellipse: s-maj=26.0km s-min=17.4km az=139.0*

SZGRF ***19*** *01:02:37.9,18.45S×169.87W,h35km,Tonga Islands region*

NEIC ***19*** *01:02:38.4±0.4,18.20S×173.35W,h35km,mb4.6/4,Error ellipse: s-maj=14.6km s-min=9.2km az=135.0*

ISC 19 01:02:38.3±0.5,17.96S±0.10×173.4W±0.1,h37km,n103, σ1§13/99,mb4.3/14,MS4.1/4,8C-11D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.32**	**21**	*e*Pn	Pn	01 03 35.9	-5.6
AFI				*e*S	**Sn**	**01 04 28.1**	**-2.6**
AFI	**Afiamalu**	**4.32**	**21**	Pn	**Pn**	**01 03 40.1**	**-1.5**
	10nm,0.3s,baz=116,slow=7.4,SNR=4.6						
AFI				Sn	**Sn**	**01 04 29.1**	**-1.6**
	23nm,0.3s,baz=283,slow=22,SNR=5.7						
RAR	**Rarotonga**	**13.22**	**106**	*e*Pn	Pn	01 05 31.4	-12
RAR	**Rarotonga**	**13.22**	**106**	LR	LR	01 08 57.1	
	comp=Z,752nm,21.5s,baz=225,slow=29						
DZM	**Mont Dzumac**	**19.39**	**255**	*e*P	Pn	01 07 08.7	+6.0
	78nm,1.5s						
DZM				*e*LR	LR	01 12 00.9	
	737nm,26.4s						
DZM	**Mont Dzumac**	**19.39**	**255**	P	**Pn**	**01 07 02.2**	**-0.4**
DZM	**Mont Dzumac**	**19.39**	**255**	P	**Pn**	**01 07 02.2**	**-0.4**
	0.2nm,0.3s,baz=180,slow=20,SNR=2.5						
DZM				LR	LR	01 13 50.6	
	comp=Z,409nm,20.0s,baz=50,slow=35						
URZ	**Urewera**	**21.86**	**200**	*e*P	**P**	**01 07 25.0**	**-2.8**
	28nm,1.0s						
URZ	**Urewera**	**21.86**	**200**	P	**P**	**01 07 25.2**	**-2.6**
	5.9nm,0.5s,baz=33,slow=6.5,SNR=6.0						
PPT2	**Papeete2**	**22.67**	**93**	*e*LR	LR	01 12 38.0	
	1μm,26.8s						
PPT	**Papeete**	**22.67**	**93**	LR	LR	01 14 31.1	
	comp=Z,484nm,18.5s,baz=246,slow=32						
TBI	**Tubuai**	**23.00**	**108**	*e*LR	LR	01 12 33.3	
	816nm,32.8s						
HNR	**Honiara**	**27.24**	**285**	LR	LR	01 17 26.4	
	comp=Z,501nm,18.8s,baz=67,slow=33						
RPZ	**Rata Peaks**	**28.84**	**204**	P	**P**	**01 08 32.1**	**-1.1**
	12nm,0.6s						
RKT	**Rikitea**	**36.26**	**105**	*e*LR	LR	01 18 41.3	
	553nm,28.0s						
CTA	**Charters Tower**	**38.16**	**260**	P	**P**	**01 09 54.2**	**-0.3**
CTA	**Charters Tower**	**38.16**	**260**	P	**P**	**01 09 54.2**	**-0.3**
	4.1nm,0.6s,baz=91,slow=12,SNR=7.6						
CTAO	**Charters Tower**	**38.16**	**260**	*e*P	**P**	**01 09 54.4**	**-0.1**
	3.2nm,0.6s						
STKA	**Stephens Creek**	**42.82**	**242**	*e*P	**P**	**01 10 32.8**	**0.0**
STKA	**Stephens Creek**	**42.82**	**242**	P	**P**	**01 10 31.6**	**-1.3**
	4.2nm,1.0s,baz=71,slow=7.5,SNR=4.2						
STKA				LR	LR	01 27 45.0	
	comp=Z,259nm,18.7s,baz=34,slow=35						
WRAB	**Tennant Creek**	**49.31**	**259**	*e*P	**P**	**01 11 23.9**	**-0.3**
	4.3nm,0.7s						
WRA	**Warramunga Arr**	**49.32**	**259**	P	**P**	**01 11 23.7**	**-0.5**
WRA				PcP	**PcP**	**01 12 47.7**	**+1.0**
WRA	**Warramunga Arr**	**49.32**	**259**	P	**P**	**01 11 23.7**	**-0.5**
	2.7nm,0.6s,baz=97,slow=8.4,SNR=14						
WRA				PcP	**PcP**	**01 12 47.7**	**+1.0**
	2.3nm,0.9s,baz=91,slow=3.2,SNR=3.6						
ASAR	**Alice Springs**	**49.38**	**254**	P	**P**	**01 11 23.8**	**-0.9**
ASAR				PcP	**PcP**	**01 12 48.2**	**+1.4**
ASAR	**Alice Springs**	**49.38**	**254**	P	**P**	**01 11 23.8**	**-0.9**
	7.5nm,1.0s,baz=85,slow=8.7,SNR=15						
ASAR				PcP	**PcP**	**01 12 48.2**	**+1.4**
	2.4nm,0.9s,baz=91,slow=5.0,SNR=2.4						
VNDA	**Vanda**	**60.84**	**186**	P	**P**	**01 12 45.8**	**-0.7**
VNDA	**Vanda**	**60.84**	**186**	P	**P**	**01 12 45.8**	**-0.7**
	3.5nm,1.0s,baz=12,slow=8.5,SNR=4.0						
NWAO	**Narrogin (SRO)**	**63.40**	**242**	LR	LR	01 36 51.7	
	comp=Z,126nm,21.7s,slow=32						
MJAR	**Matsushiro Arr**	**70.91**	**320**	P	P	01 13 55.3	+3.4
MJAR	**Matsushiro Arr**	**70.91**	**320**	P	P	01 13 55.3	+3

VRAC	**Vranov**	**147.71**	**348**	PKPbc	**PKPab**	**01 22 21.2**	**-0.1**
VRAC	**Vranov**	**147.71**	**348**	PKPbc	**PKPab**	**01 22 21.2**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=20,slow=2.8,SNR=4.6						
TREC	**Trest**	**147.93**	**349**	*e*PKP	**PKPab**	**01 22 21.7**	**-0.5**
TREC				*ep*PKP	**pPKPdf**	**01 22 26.6**	**-2.0**
ROTZ	**Rotzenmuhle**	**147.96**	**353**	*e*PKPbc	**PKPab**	**01 22 21.8**	**-0.5**
CJR	**Cluj-Napoca**	**148.09**	**338**	⇑*i*P	**PKPab**	**01 22 23.0**	**0.0**
BR131	**Keskin Array S**	**148.11**	**318**	*e*PKPbc	**PKPbc**	**01 22 20.4**	**-0.1**
BR131				*e*PKPab	**PKPab**	**01 22 23.5**	**+0.1**
BRTR	**Keskin Array B**	**148.11**	**318**	PKPbc	**PKPbc**	**01 22 21.2**	**+0.7**
BRTR	**Keskin Array B**	**148.11**	**318**	PKPbc	**PKPbc**	**01 22 21.3**	**+0.7**
	comp=Z,5.1nm,1.1s,baz=327,slow=2.1,SNR=11						
PSZ	**Piszkesteto**	**148.21**	**343**	*e*PKPbc	**PKPab**	**01 22 22.3**	**-1.2**
PSZ	**Piszkesteto**	**148.21**	**343**	⇓*e*	**PKPab**	**01 22 22.5**	**-0.9**
DRGR		**148.33**	**339**	⇓*i*P	**PKPab**	**01 22 22.9**	**-1.1**
KHC	**Kasperske Hory**	**148.40**	**351**	*e*PKP	**PKPab**	**01 22 22.9**	**-1.2**
KHC	**Kasperske Hory**	**148.40**	**351**	*e*PKPbc	**PKPbc**	**01 22 22.1**	**+1.2**
WET	**Wettzell**	**148.49**	**352**	*e*PKPbc	**PKPab**	**01 22 24.4**	**0.0**
GEC2	**GERESS Array S**	**148.66**	**351**	*e*PKPbc	**PKPab**	**01 22 23.4**	**-1.9**
GERES	**GERESS Array B**	**148.66**	**351**	PKPbc	**PKPbc**	**01 22 21.5**	**-0.1**
GERES	**GERESS Array B**	**148.66**	**351**	PKPbc	**PKPbc**	**01 22 21.5**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=38,slow=2.4,SNR=16						
ARR	**Arges**	**148.82**	**335**	⇓*i*P	**PKPab**	**01 22 25.1**	**-0.9**
CONA	**Conrad Observa**	**149.17**	**348**	⇓*i*PKiKP	**PKiKP**	**01 22 25.2**	**+1.0**
	comp=Z,22nm,1.3s						
PKS7	**Kunszentmiklos**	**149.21**	**343**	⇓*e*	**PKPbc**	**01 22 25.0**	**+2.1**
SOP	**Sopron**	**149.26**	**347**	⇓*e*PKPdf	**PKPbc**	**01 22 25.4**	**-2.2**
BFO	**Black Forest**	**149.68**	**358**	*e*PKPbc	**PKPbc**	**01 22 25.5**	**+1.4**
BFO	**Black Forest**	**149.68**	**358**	*e*PKPbc	**PKPbc**	**01 22 25.9**	**+1.7**
BZS	**Buzias**	**149.73**	**339**	⇓*i*P	**PKPbc**	**01 22 26.2**	**+1.9**
RJOB	**Jochberg**	**149.88**	**352**	*e*PKPbc	**PKPbc**	**01 22 26.1**	**+1.4**
PKSM	**Moragy**	**150.12**	**343**	⇓*i*P	**PKPbc**	**01 22 26.8**	**+1.6**
PKSM	**Moragy**	**150.12**	**343**	⇓*e*PKPdf	**PKPbc**	**01 22 26.8**	**+1.6**
MOTA	**Moosalm**	**150.47**	**354**	⇑*i*PKiKP	**PKiKP**	**01 22 27.4**	**+0.5**
	comp=Z,8.5nm,1.0s						
SOKA	**Soboth**	**150.53**	**348**	⇑*i*PKiKP	**PKiKP**	**01 22 27.5**	**+0.5**
	comp=Z,9.0nm,1.2s						
ABTA	**Abfaltersbach**	**150.89**	**352**	⇓*i*PKiKP	**PKiKP**	**01 22 28.3**	**+0.5**
	comp=Z,14nm,1.1s						
TORD	**Torodi Ar. Bea**	**173.26**	**135**	PKPab	**PKPab**	**01 24 12.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**173.26**	**135**	PKPab	**PKPab**	**01 24 12.8**	**+0.3**
	comp=Z,1.3nm,1.2s,baz=259,slow=4.0,SNR=3.1						

BEO 19 01:05:49.6±0.3, 42.99N×18.74E, h0km, ML1.6/6, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.68**	**146**	⇑*i*Pg		Pg	01 06 02.3	-0.3
PDG				*i* Sg		Sg	01 06 11.6	+0.3
STON	**Ston**	**0.77**	**262**	*e*Pg		Pg	01 06 02.8	-1.6
STON				Sg		Sg	01 06 14.4	0.0
STON	**Ston**	**0.77**	**262**	*e*Pg		Pg	01 06 02.9	-1.5
STON				*i* Sg		Sg	01 06 13.5	-0.9
SJES	**Sjenica**	**0.94**	**73**	*e*Pg		Pg	01 06 06.7	-1.2
SJES				*i* Sg		Sg	01 06 18.2	-2.0
BBLS	**Lazići**	**1.00**	**29**	*e*Pg		Pg	01 06 08.1	-0.8
BBLS				*e*Sg		Sg	01 06 22.3	+0.3
IVAS	**Ivanjica**	**1.19**	**60**	*i* Sg		Sg	01 06 26.1	-1.8
DIVS	**Divibare**	**1.43**	**39**	*e*Pg		Pn	01 06 15.4	-1.6
DIVS				*i* Sg		Sg	01 06 35.8	-0.2
TRUS	**Trudelj**	**1.73**	**44**	*e*Pg		Pn	01 06 20.9	0.0

*ISCJB **19** 01:20:03.2±0.3, 38°41N±0°02×22°01E±0°02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=8.2*
*ATH **19** 01:20:03.5, 38°40N×22°01E, h12km±1km, ML2.4*
*THE **19** 01:20:03.9, 38°41N×22°01E, h10km±1km, ML2.4/6, Error ellipse: s-maj=1.4km s-min=0.5km az=7.0*
*CSEM **19** 01:20:03.2±0.1, 38°41N×22°01E, h10km, ML2.4, Error ellipse: s-maj=2.4km s-min=2.1km az=78.0*

ISC 19 01:20:03.4±0.8, 38°41N±0°01×22°01E±0°02, h11km±4km, n91, σ0°56/124, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.08**	**281**	*e*PG		**Pg**	**01 20 05.8**	**-0.1**
EFP				*e*SG		**Sg**	**01 20 07.2**	**-0.4**
EFP	**Efpalio**	**0.08**	**281**	*e*Pg		**Pg**	**01 20 05.8**	**-0.1**
EFP				*e*Sg		**Sg**	**01 20 07.2**	**-0.4**
KALE	**Kalithea**	**0.11**	**101**	P		**Pg**	**01 20 06.2**	**+0.2**
KALE				S		**Sg**	**01 20 08.5**	**+0.2**
KALE	**Kalithea**	**0.11**	**101**	*e*PG		**Pg**	**01 20 06.5**	**+0.2**
KALE				*e*SG		**Sg**	**01 20 08.9**	**+0.6**
KALE	**Kalithea**	**0.11**	**101**	P		**Pg**	**01 20 06.5**	**+0.2**
KALE				S		**Sg**	**01 20 08.5**	**+0.2**
LAKA	**Lakka**	**0.17**	**187**	P		**Pg**	**01 20 07.5**	**+0.3**
LAKA	**Lakka**	**0.17**	**187**	*e*PG		**Pg**	**01 20 07.5**	**+0.3**
LAKA	**Lakka**	**0.17**	**187**	P		**Pg**	**01 20 07.5**	**+0.3**
UPR	**University Cam**	**0.21**	**233**	P		**Pg**	**01 20 08.3**	**+0.4**
UPR				S		**Sg**	**01 20 11.6**	**+0.6**
UPR	**University Cam**	**0.21**	**233**	P		**Pg**	**01 20 08.3**	**+0.4**
UPR				S		**Sg**	**01 20 11.6**	**+0.6**
KLV	**Kalavryta, Ach**	**0.39**	**163**	*e*PB		**Pg**	**01 20 11.1**	**0.0**
KLV	**Kalavryta, Ach**	**0.39**	**163**	*e*Pb		**Pg**	**01 20 11.1**	**0.0**
DSF	**Desfina**	**0.41**	**90**	P		**Pg**	**01 20 11.3**	**-0.2**
DSF				S		**Sg**	**01 20 17.9**	**+0.9**
DSF	**Desfina**	**0.41**	**90**	*e*PB		**Pg**	**01 20 11.3**	**-0.2**
DSF				*e*SB		**Sg**	**01 20 18.3**	**-0.7**
DSF	**Desfina**	**0.41**	**90**	P		**Pg**	**01 20 11.3**	**-0.2**
DSF				S		**Sg**	**01 20 17.9**	**+0.9**
DSF				*e*Sb		**Sb**	**01 20 18.3**	**-0.7**
PVO	**Paravola**	**0.43**	**299**	P		**Pg**	**01 20 11.7**	**-0.2**
PVO				S		**Sb**	**01 20 18.9**	**-0.6**
PVO	**Paravola**	**0.43**	**299**	P		**Pg**	**01 20 11.7**	**-0.2**
PVO				S		**Sb**	**01 20 18.9**	**-0.6**
DRO	**Drossia**	**0.52**	**207**	P		**Pg**	**01 20 13.5**	**0.0**
DRO				S		**Sb**	**01 20 21.9**	**-0.1**
DRO	**Drossia**	**0.52**	**207**	*e*PB		**Pg**	**01 20 13.4**	**0.0**
DRO				*e*SB		**Sg**	**01 20 20.9**	**+0.6**
DRO	**Drossia**	**0.52**	**207**	*e*Pb		**Pg**	**01 20 13.4**	**0.0**
DRO				*e*Sb		**Sg**	**01 20 20.9**	**+0.6**
DRO				S		**Sb**	**01 20 21.9**	**-0.1**
EVR	**Evrytania**	**0.53**	**343**	*e*PG		**Pg**	**01 20 13.5**	**-0.2**
EVR				*e*SB		**Sg**	**01 20 22.0**	**+1.3**
EVR	**Evrytania**	**0.53**	**343**	*e*Pg		**Pg**	**01 20 13.5**	**-0.2**
EVR				*e*Sb		**Sg**	**01 20 22.0**	**+1.3**
GUR	**Goura**	**0.54**	**151**	P		**Pg**	**01 20 14.1**	**+0.1**
GUR				S		**Sg**	**01 20 21.9**	**+0.7**
GUR	**Goura**	**0.54**	**151**	*e*PB		**Pg**	**01 20 14.1**	**+0.1**
GUR	**Goura**	**0.54**	**151**	P		**Pg**	**01 20 14.1**	**+0.1**
GUR				S		**Sg**	**01 20 21.9**	**+0.7**
RLS	**Riolos of Patr**	**0.55**	**230**	*e*PB		**Pg**	**01 20 14.5**	**+0.3**
RLS	**Riolos of Patr**	**0.55**	**230**	*e*Pb		**Pg**	**01 20 14.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.61**	**9**	P		**Pg**	**01 20 15.5**	**+0.2**
MAKR				S		**Sb**	**01 20 24.9**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.61**	**9**	*e*PB		**Pg**	**01 20 15.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.61**	**9**	P		**Pg**	**01 20 15.5**	**+0.2**
MAKR				S		**Sb**	**01 20 24.9**	**+0.2**
AXAR	**Agios Charalam**	**0.62**	**55**	P		**Pg**	**01 20 15.4**	**-0.1**
AXAR				S		**Sb**	**01 20 25.9**	**+0.8**
AXAR	**Agios Charalam**	**0.62**	**55**	P		**Pg**	**01 20 15.4**	**-0.1**
AXAR				S		**Sb**	**01 20 25.9**	**+0.8**
AGG	**Agios Georgios**	**0.66**	**23**	P		**Pg**	**01 20 15.6**	**-0.4**
AGG	**Agios Georgios**	**0.66**	**23**	*e*PB		**Pg**	**01 20 15.6**	**-0.6**
AGG	**Agios Georgios**	**0.66**	**23**	P		**Pg**	**01 20 15.8**	**-0.4**
PDO	**Prodromos**	**0.67**	**286**	P		**Pg**	**01 20 16.7**	**+0.3**
PDO				S		**Sb**	**01 20 27.1**	**+0.6**
PDO	**Prodromos**	**0.67**	**286**	*e*PB		**Pg**	**01 20 16.7**	**+0.3**
PDO				*e*SB		**Sg**	**01 20 26.0**	**+0.7**
PDO	**Prodromos**	**0.67**	**286**	P		**Pg**	**01 20 16.7**	**+0.3**
PDO				*e*Sb		**Sg**	**01 20 26.0**	**+0.7**
PDO				S		**Sb**	**01 20 27.1**	**+0.6**
LKR	**Lokris**	**0.81**	**73**	*e*PG		**Pg**	**01 20 18.9**	**-0.2**
LKR	**Lokris**	**0.81**	**73**	*e*Pg		**Pg**	**01 20 18.9**	**-0.2**
LTK	**Loutraki**	**0.85**	**117**	P		**Pb**	**01 20 20.5**	**+0.3**
LTK	**Loutraki**	**0.85**	**117**	*e*PB		**Pb**	**01 20 20.3**	**+0.1**
LTK	**Loutraki**	**0.85**	**117**	*e*Pb		**Pb**	**01 20 20.3**	**+0.1**
AMT	**Artemida-Makis**	**0.91**	**195**	P		**Pb**	**01 20 21.3**	**+0.1**
AMT				S		**Sb**	**01 20 33.9**	**+0.5**
AMT	**Artemida-Makis**	**0.91**	**195**	*e*PB		**Pg**	**01 20 20.8**	**-0.1**
AMT	**Artemida-Makis**	**0.91**	**195**	*e*Pb		**Pg**	**01 20 20.8**	**-0.1**
AMT	**Artemida-Makis**	**0.91**	**195**	P		**Pb**	**01 20 21.3**	**+0.1**
AMT				S		**Sb**	**01 20 33.9**	**+0.5**
SMIA	**Simia**	**1.05**	**63**	*e*PN		**Pn**	**01 20 24.6**	**+0.4**
SMIA	**Simia**	**1.05**	**63**	*e*Pn		**Pn**	**01 20 24.6**	**+0.4**
VLX	**Vlachokerasia**	**1.08**	**164**	P		**Pb**	**01 20 23.7**	**-0.5**
VLX				S		**Sn**	**01 20 39.5**	**-0.2**
VLX	**Vlachokerasia**	**1.08**	**164**	*e*PN		**Pb**	**01 20 24.0**	**-0.2**
VLX	**Vlachokerasia**	**1.08**	**164**	*e*PG		**Pb**	**01 20 23.5**	**-0.7**
VLX	**Vlachokerasia**	**1.08**	**164**	P		**Pb**	**01 20 23.7**	**-0.5**
VLX	**Vlachokerasia**	**1.08**	**164**	*e*Pn		**Pb**	**01 20 24.0**	**-0.2**
VLX				S		**Sn**	**01 20 39.5**	**-0.2**
LKD2	**Lefkada island**	**1.12**	**290**	*e*PB		**Pb**	**01 20 23.8**	**-1.1**
LKD2	**Lefkada island**	**1.12**	**290**	*e*Pb		**Pb**	**01 20 23.8**	**-1.1**
VLS	**Valsamata**	**1.14**	**259**	*e*PN		**Pb**	**01 20 24.8**	**-0.3**
VLS	**Valsamata**	**1.14**	**259**	*e*Pn		**Pb**	**01 20 24.8**	**-0.3**
THL	**Klokotos Trika**	**1.15**	**0**	*e*PB		**Pb**	**01 20 25.6**	**+0.3**
THL	**Klokotos Trika**	**1.15**	**0**	*e*Pb		**Pb**	**01 20 25.6**	**+0.3**
ITM	**Ithomi**	**1.23**	**183**	*e*PG		**Pn**	**01 20 26.3**	**-0.3**
ITM	**Ithomi**	**1.23**	**183**	*e*Pg		**Pn**	**01 20 26.3**	**-0.3**
MRKA	**Markates**	**1.27**	**76**	*e*PB		**Pn**	**01 20 26.0**	**-1.2**
MRKA	**Markates**	**1.27**	**76**	*e*Pb		**Pn**	**01 20 26.0**	**-1.2**
NEO	**Neokhori**	**1.30**	**46**	*e*PB		**Pg**	**01 20 28.9**	**+0.4**
NEO	**Neokhori**	**1.30**	**46**	*e*Pb		**Pg**	**01 20 28.9**	**+0.4**
DID	**Didima**	**1.33**	**133**	*e*PG		**Pn**	**01 20 28.0**	**0.0**
DID	**Didima**	**1.33**	**133**	*e*Pg		**Pn**	**01 20 28.0**	**0.0**
XOR	**Xorichti**	**1.33**	**44**	*e*PB		**Pg**	**01 20 29.0**	**+0.1**
XOR	**Xorichti**	**1.33**	**44**	*e*Pb		**Pg**	**01 20 29.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.34**	**119**	*e*PG		**Pn**	**01 20 28.3**	**+0.2**
NAIG	**Nisos Aigina**	**1.34**	**119**	*e*Pg		**Pn**	**01 20 28.3**	**+0.2**
ATH	**Athens Observa**	**1.42**	**108**	*e*PB		**Pn**	**01 20 26.9**	**-2.2**
PTL	**Penteli**	**1.51**	**103**	*e*PN		**Pn**	**01 20 30.2**	**-0.2**
PTL	**Penteli**	**1.51**	**103**	*e*Pn		**Pn**	**01 20 30.2**	**-0.2**
PYL	**PYLOS**	**1.53**	**188**	*e*PG		**Pb**	**01 20 31.9**	**+0.1**
PYL	**PYLOS**	**1.53**	**188**	*e*Pg		**Pb**	**01 20 31.9**	**+0.1**
JAN	**Janina**	**1.53**	**324**	*e*PB		**Pg**	**01 20 32.8**	**-0.1**
JAN	**Janina**	**1.53**	**324**	*e*Pb		**Pg**	**01 20 32.8**	**-0.1**
IGT	**Igoumenitsa**	**1.72**	**311**	*e*PG		**Pn**	**01 20 36.6**	**+0.2**
IGT	**Igoumenitsa**	**1.72**	**311**	*e*Pg		**Pn**	**01 20 36.6**	**+0.2**
LIT	**Litokhoron**	**1.73**	**12**	*e*PN		**Pn**	**01 20 32.9**	**-0.6**
LIT	**Litokhoron**	**1.73**	**12**	*e*Pn		**Pn**	**01 20 32.9**	**-0.6**
VLI	**Veliai**	**1.85**	**156**	*e*PN		**Pb**	**01 20 36.6**	**-0.6**
VLI	**Veliai**	**1.85**	**156**	*e*Pn		**Pb**	**01 20 36.6**	**-0.6**
NEST	**Nestorio**	**2.13**	**340**	*e*PG		**Pb**	**01 20 43.0**	**+0.8**
NEST	**Nestorio**	**2.13**	**340**	*e*Pg		**Pb**	**01 20 43.0**	**+0.8**
FNA	**Florina**	**2.42**	**349**	*e*PN		**Pn**	**01 20 42.9**	**-0.1**
FNA	**Florina**	**2.42**	**349**	*e*Pn		**Pn**	**01 20 42.9**	**-0.1**
GRG	**Griva**	**2.56**	**7**	*e*PN		**Pn**	**01 20 43.3**	**-1.6**
GRG	**Griva**	**2.56**	**7**	*e*Pn		**Pn**	**01 20 43.3**	**-1.6**

IDC 19 01:20:58.1±1.7, 4.55N×121.84E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/48, mbtmp3.5/3, Error ellipse: s-maj=216.7km s-min=25.6km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.27**	**154**	P		P	01 26 43.3	-1.2
	0.2nm,0.3s,baz=331,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**30.42**	**158**	P		P	01 27 13.8	+1.3
	0.4nm,0.4s,baz=336,slow=7.7,SNR=5.4							
MKAR	**Makanchi Array**	**54.16**	**327**	P		P	01 30 25.2	-0.1
	0.2nm,0.4s,baz=119,slow=6.7,SNR=8.0							

MAN 19 01:22:35, 10.03N×122.54E, h21km, mb4.1, ML2.9, MS2.7, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.60**	**5**	*e*P		Pn	01 22 47.6	-0.7
GUIM				*e*S		Sn	01 22 56.3	-1.1
SNPH	**Sibulan**	**0.97**	**134**	⇑*i*P		Pb	01 22 49.2	-3.9
SNPH				*i* S		Sb	01 23 02.0	-3.5
TBP	**Tagbilaran**	**1.35**	**104**	*e*P		Pb	01 23 00.0	+0.5
TBP				*e*S		Sb	01 23 16.5	+0.1
LLP	**Lapu-Lapu**	**1.44**	**78**	*e*P		Pb	01 23 00.7	-0.4
LLP				*e*S		Sb	01 23 18.6	-0.3
RCP	**Roxas**	**1.54**	**8**	*e*P		Pn	01 23 01.8	+0.5
RCP				*e*S		Sb	01 23 23.6	+1.7
CUYO	**Cuyo Island**	**1.70**	**299**	*e*P		Pn	01 23 03.4	-0.2
IPIL	**Ipil**	**2.22**	**179**	⇓*e*P		Pn	01 23 12.0	+1.3
PAGZ	**Pagadian**	**2.32**	**159**	*e*P		Pn	01 23 13.9	+2.0

*IDC **19** 01:25:39.9±0.8, 8.58S×157.79E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/32, mbtmp4.0/8, ML4.3/1, Error ellipse: s-maj=25.1km s-min=15.0km az=19.0*
*ISCJB **19** 01:25:41.3±0.7, 8.65S±0.1×157.7E±0.1, h16km, mb3.9/7, Error ellipse: s-maj=21.2km s-min=16.1km az=8.9*

ISC 19 01:25:42.9±0.8, 8.65S±0.2×157.7E±0.1, h16km, n10, σ1°03/9, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.37**	**110**	Pn		**Pn**	**01 26 21.0**	**-0.1**
	73nm,0.3s,baz=261,slow=2.1,SNR=10							
HNR				Lg		Lg	01 26 52.2	
	104nm,0.3s,baz=252,slow=23,SNR=14							
HNR	**Honiara**	**2.37**	**110**	*e*P		**Pn**	**01 26 22.0**	**+0.9**
WRA	**Warramunga Arr**	**25.24**	**241**	P		**P**	**01 31 07.2**	**-1.2**
	2.0nm,0.7s,baz=67,slow=9.6,SNR=6.1							
STKA	**Stephens Creek**	**27.57**	**211**	P		**P**	**01 31 30.2**	**+1.0**
	1.9nm,0.8s,baz=37,slow=15,SNR=3.2							
CMAR	**Chiang Mai Arr**	**63.89**	**295**	P		**P**	**01 36 16.2**	**+0.8**
	1.5nm,0.3s,baz=125,slow=4.6,SNR=2.9							
SONM	**Songino Array**	**72.14**	**326**	P		**P**	**01 37 07.5**	**+0.6**
	0.7nm,0.7s,baz=123,slow=5.3,SNR=2.9							
ILAR	**Eielson Array**	**83.90**	**21**	P		**P**	**01 38 11.1**	**-0.6**
	0.8nm,0.6s,baz=254,slow=5.0,SNR=15							
MKAR	**Makanchi Array**	**86.37**	**318**	P		**P**	**01 38 24.3**	**-0.2**
	0.3nm,0.5s,baz=104,slow=6.3,SNR=8.0							
YKA	**Yellowknife Ar**	**96.50**	**28**	P		P	01 39 09.2	-2.1
	0.2nm,0.8s,baz=269,slow=5.1,SNR=3.8							
BDFB	**Brasilia**	**144.94**	**133**	PKP		**PKPab**	**01 45 18.3**	**-1.4**
	2.3nm,0.7s,baz=121,slow=8.9,SNR=5.2							

*IDC **19** 01:28:25.3±0.6, 1.85S×139.12E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.1/36, mbtmp4.2/13, ML4.2/2, MS3.9/6, Ms1 3.8/6, ms1mx3.3/34, Error ellipse: s-maj=25.3km s-min=13.5km az=67.0*
*DJA **19** 01:28:27.2±1.1, 2°S±11'×13°9E±7', h10km, M4.7/4, MLv4.7/4*
*ISCJB **19** 01:28:28.2±0.4, 1°93S±0°04×139°02E±0°04, h29km, mb4.2/15, MS3.8/4, Error ellipse: s-maj=6.5km s-min=5.6km az=20.0*
*NEIC **19** 01:28:30.6±0.5, 1°92S×139°13E, h35km, mb4.4/4, Error ellipse: s-maj=13.2km s-min=8.9km az=72.0*

ISC 19 01:28:30.1±0.5, 1°92S±0°06×139°11E±0°04, h29km, n67, σ1°67/63, mb4.2/14, MS3.7/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.40**	**260**	P		**Pb**	**01 28 36.8**	**-2.2**
GENI	**Genyem**	**1.25**	**122**	P		**Pn**	**01 28 51.6**	**-0.1**
JAY	**Jayapura**	**1.70**	**110**	Pn		**Pn**	**01 28 56.5**	**-1.5**
JAY				Sn		**Sn**	**01 29 19.6**	**+0.7**
JAY	**Jayapura**	**1.70**	**110**	Pn		**Pn**	**01 28 56.5**	**-1.5**
	33nm,0.3s,baz=266,slow=7.2,SNR=87							
JAY				Sn		**Sn**	**01 29 19.6**	**+0.7**
	99nm,0.3s,baz=114,slow=20,SNR=14							
BAKI	**Biak**	**3.08**	**284**	P		**Pn**	**01 29 15.3**	**-1.6**
FAKI	**Fak Fak**	**6.92**	**262**	*e*Pn		**Pn**	**01 30 09.4**	**-0.3**
	32nm,0.7s							
FAKI				*e*S		**Sn**	**01 31 28.1**	**+0.5**
FAKI	**Fak Fak**	**6.92**	**262**	P		**Pn**	**01 30 09.9**	**+0.2**
	baz=6.8,SNR=12							
FAKI				S		**Sn**	**01 31 32.6**	**+5.0**
	baz=6.8,SNR=3.0							
MANU	**Manus Island**	**8.26**	**91**	S		Sn	01 31 47.3	-13
	baz=8.4,SNR=4.8							
PMG	**Port Moresby**	**10.93**	**133**	LR		LR	01 35 43.9	
	comp=Z,461nm,18.1s,baz=348,slow=40							
KDU	**Kakadu**	**12.55**	**211**	P		**Pn**	**01 31 25.1**	**-1.7**
	baz=12,SNR=4.3							
MTN	**Manton Dam**	**13.42**	**216**	P		**Pn**	**01 31 37.6**	**-1.1**
	baz=13,SNR=14							
SOEI	**Soe**	**16.68**	**242**	P		**Pn**	**01 32 20.3**	**-1.8**
	baz=17,SNR=3.4							
KNRA	**Kununurra**	**17.05**	**216**	P		**Pn**	**01 32 25.6**	**-1.0**
	baz=17,SNR=3.8							
KNRA				S		**Sn**	**01 35 29.7**	**-5.7**
	baz=17,SNR=3.0							
WRAB	**Tennant Creek**	**18.49**	**194**	*e*Pn		**P**	**01 32 43.1**	**-1.0**
	19nm,0.8s							
WRAB				*e*S		Sn	01 35 56.9	-14
WRA	**Warramunga Arr**	**18.51**	**194**	P		**P**	**01 32 43.0**	**-1.2**
WRA				S		Sn	01 35 58.5	-12
	1.3nm,0.3s,baz=16,slow=12,SNR=21							
WRA				S		Sn	01 35 58.5	-12
	0.3nm,0.3s,baz=17,slow=22,SNR=3.4							
WRA				LR		LR	01 40 34.5	
	comp=Z,480nm,20.8s,baz=355,slow=39							
QIS	**Mount Isa**	**18.53**	**179**	P		Pn	01 32 49.8	+5.0
	baz=19,SNR=3.9							
CTA	**Charters Tower**	**19.36**	**159**	P		**P**	**01 32 53.5**	**-0.1**
CTA	**Charters Tower**	**19.36**	**159**	P		**P**	**01 32 53.5**	**-0.1**
	0.2nm,0.3s,baz=331,slow=13,SNR=5.5							
AS31	**Alice Springs**	**22.19**	**193**	*e*P		**P**	**01 33 23.6**	**-0.6**
ASAR	**Alice Springs**	**22.20**	**193**	P		**P**	**01 33 23.8**	**-0.5**
ASAR				S		**S**	**01 37 27.6**	**+0.3**
ASAR	**Alice Springs**	**22.20**	**193**	P		**P**	**01 33 23.8**	**-0.5**
	16nm,0.9s,baz=22,slow=10,SNR=39							
ASAR				S		**S**	**01 37 27.7**	**+0.3**
	2.1nm,0.8s,baz=19,slow=23,SNR=4.5							
ASAR				LR		LR	01 41 54.5	
	comp=Z,146nm,18.3s,baz=9.5,slow=36							
QLP	**Quilpie**	**25.01**	**169**	P		**P**	**01 33 52.5**	**+0.8**
	baz=25,SNR=6.5							
WRKA	**Warakurna**	**25.24**	**204**	P		**P**	**01 33 54.5**	**+0.7**
	baz=25,SNR=16							
JAGI	**Jajag, Banyuwa**	**25.67**	**254**	*e*P		**P**	**01 33 57.5**	**-0.4**
	202nm,0.4s							
JAGI	**Jajag, Banyuwa**	**25.67**	**254**	P		**P**	**01 33 57.4**	**-0.5**
	baz=26,SNR=85							
EIDS	**Eidsvold**	**26.01**	**155**	*e*P		**P**	**01 34 03.1**	**+2.2**
	29nm,1.1s							
EIDS	**Eidsvold**	**26.01**	**155**	P		**P**	**01 34 04.8**	**+4.0**
	baz=26,SNR=3.2							
RMQ	**Roma**	**26.12**	**160**	P		**P**	**01 34 05.4**	**+3.6**
	baz=26,SNR=5.6							
UGM	**Wanagama**	**29.08**	**257**	P		P	01 34 42.5	+14
	baz=29,SNR=6.7							
STKA	**Stephens Creek**	**29.89**	**176**	*e*P		**P**	**01 34 36.5**	**+1.1**
	4.8nm,1.6s							
STKA	**Stephens Creek**	**29.89**	**176**	P		**P**	**01 34 36.1**	**+0.7**
	2.5nm,0.7s,baz=350,slow=10,SNR=7.2							
STKA				LR		LR	01 47 45.8	
	comp=Z,341nm,20.4s,baz=357,slow=39							
STKA	**Stephens Creek**	**29.89**	**176**	P		**P**	**01 34 37.0**	**+1.6**
	baz=30,SNR=5.6							
HTT	**Hallett**	**31.34**	**180**	P		**P**	**01 34 49.5**	**+1.2**
	baz=32,SNR=9.8							
MGCD	**Mangrove Creek**	**33.10

KNZ	**Kokohu**	**1.32 263**	PN	Pn	01 33 11.2	-0.7	
MWZ	**Matawai**	**1.53 290**	PN	Pn	01 33 13.7	-1.2	
MWZ			AML	AML	01 33 34.9		
MWZ			AML	AML	01 33 38.3		
MWZ			AML	AML	01 33 38.3		
MWZ			AML	AML	01 33 45.2		
MXZ	**Matakaoa Point**	**1.55 327**	*e*PN	Pn	01 33 14.1	-1.1	
MXZ			AML	AML	01 33 34.5		
MXZ			AML	AML	01 33 35.1		
MXZ			AML	AML	01 33 35.1		
MXZ			AML	AML	01 33 35.6		
WHHZ	**Waihua**	**1.67 263**	PN	Pn	01 33 16.5	-0.3	
HAZ	**Te Kaha**	**1.67 312**	*e*PN	Pn	01 33 15.9	-0.9	
HAZ			S	Sn	01 33 36.3	-0.8	
RAHZ	**Arahi**	**1.77 268**	*e*PN	Pn	01 33 18.1	-0.2	
URZ	**Urewera**	**1.87 289**	PN	Pn	01 33 19.6	+0.2	
URZ			AML	AML	01 33 44.7		
URZ			AML	AML	01 33 44.8		
KAHZ	**Kahuranaki**	**2.13 244**	PN	Pn	01 33 21.8	-1.3	
MCHZ	**McNeill Hill**	**2.15 254**	PN	Pn	01 33 23.3	0.0	
MCHZ			*e*SN	Sn	01 33 49.0	+0.2	
PXZ	**Pawanui**	**2.25 238**	PN	Pn	01 33 22.6	-2.1	
PXZ			AML	AML	01 33 52.1		
PXZ			AML	AML	01 33 53.6		
BKZ	**Black Stump Fm**	**2.25 262**	*e*PN	Pn	01 33 23.7	-1.1	
BKZ			SN	Sn	01 33 50.8	-0.7	
BKZ			AML	AML	01 33 56.0		
TARZ	**Mount Tarawera**	**2.33 285**	*e*PN	Pn	01 33 26.0	0.0	
OPRZ	**Ohinepanea**	**2.43 294**	PN	Pn	01 33 26.0	-1.2	
BHHZ	**Black Hill Sta**	**2.63 256**	*e*PN	Pn	01 33 29.2	-0.9	
TSZ	**Takapari Road**	**2.88 245**	*e*SN	Sn	01 34 05.0	-2.1	
TSZ			AML	AML	01 34 09.4		
MRZ	**Mangatainoka R**	**3.41 237**	*e*PN	Pn	01 33 35.9	-4.8	
MRZ			SN	Sn	01 34 16.5	-3.5	
MRZ			AML	AML	01 34 21.9		
CTZ	**Chatham Island**	**5.72 149**	PN	Pn	01 34 08.7	-3.7	

IDC 19 01:33:02.6±3.0, 9°56S×118°41E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/45, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=231.3km s-min=24.1km az=50.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.53 126**		P	Pn	01 37 21.2	+0.3
	0.5nm,0.3s,baz=291,slow=13,SNR=3.5						
WRA				S	Sn	01 40 39.2	-10
	0.1nm,0.3s,baz=291,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**20.40 135**		P	P	01 37 42.0	+0.6
	2.3nm,0.8s,baz=317,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**64.69 333**		P	P	01 43 42.7	+0.2
	0.9nm,0.6s,baz=153,slow=7.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**69.21 334**		P	P	01 44 11.5	+0.4
	0.4nm,0.2s,baz=156,slow=5.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**69.35 340**		P	P	01 44 11.9	0.0
	1.2nm,0.6s,baz=163,slow=5.6,SNR=5.1						
YKA	**Yellowknife Ar**	**114.94 24**		PKP	PKiKP	01 51 43.6	-1.6
	0.1nm,0.5s,baz=299,slow=2.0,SNR=5.8						

*NEIC **19** 01:46:21.1, 38°.97S×179°.86E, h32km, ML4.2(WEL), After WEL.*

WEL 19 01:46:23.5±0.5, 38°.92S×179°.61E, h33km, ML4.1/24, 1C-4D, Error ellipse: s-maj=5.4km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.19 291**		PN	Pn	01 46 43.3	-0.4
CNGZ	**Carnagh Statio**	**1.19 291**		Pn	Pn	01 46 43.4	-0.4
MHGZ	**Mahia Peninsul**	**1.35 260**		PN	Pn	01 46 45.4	-0.6
PRGZ	**Paritu Road**	**1.35 269**		PN	Pn	01 46 45.3	-0.8
PUZ	**Puketiti**	**1.36 308**		PN	Pn	01 46 45.0	-1.2
PUZ				AML	AML	01 47 15.1	
PUZ				AML	AML	01 47 17.2	
PUZ	**Puketiti**	**1.36 308**		Pn	Pn	01 46 45.0	-1.2
RIGZ	**Rimuhau**	**1.46 278**		PN	Pn	01 46 47.0	-0.7
KNZ	**Kokohu**	**1.52 266**		PN	Pn	01 46 47.5	-0.7
KNZ	**Kokohu**	**1.52 266**		Pn	Pn	01 46 47.5	-0.7
MXZ	**Matakaoa Point**	**1.70 322**	⇓	PN	Pn	01 46 50.5	-0.4
MXZ				AML	AML	01 47 11.6	
MXZ				AML	AML	01 47 11.6	
MXZ				AML	AML	01 47 12.2	
MXZ				AML	AML	01 47 12.2	
MXZ	**Matakaoa Point**	**1.70 322**		Pn	Pn	01 46 50.5	-0.4
MWZ	**Matawai**	**1.74 289**	⇓	PN	Pn	01 46 50.5	-0.9
MWZ				*e*SN	Sn	01 47 10.8	-1.6
MWZ				AML	AML	01 47 11.9	
MWZ				AML	AML	01 47 11.9	
MWZ				AML	AML	01 47 18.4	
MWZ	**Matawai**	**1.74 289**		Pn	Pn	01 46 50.5	-0.9
SNGZ	**Shannon Statio**	**1.78 274**		PN	Pn	01 46 51.3	-0.7
HAZ	**Te Kaha**	**1.85 308**	⇑	PN	Pn	01 46 52.2	-0.7
HAZ				*e*SN	Sn	01 47 14.7	-0.5
WHHZ	**Waihua**	**1.86 265**		PN	Pn	01 46 53.3	+0.2
RAHZ	**Arahi**	**1.97 269**		PN	Pn	01 46 54.7	+0.1
RAHZ	**Arahi**	**1.97 269**		Pn	Pn	01 46 54.7	+0.1
RAHZ				P	Sn	01 47 17.1	-1.1
URZ	**Urewera**	**2.07 288**		PN	Pn	01 46 56.1	+0.2
URZ				AML	AML	01 47 21.2	
URZ				AML	AML	01 47 22.9	
URZ	**Urewera**	**2.07 288**		*e*Pn	Pn	01 46 55.9	0.0
URZ				*e*S	Sn	01 47 23.0	+2.4
CKHZ	**Cape Kidnapper**	**2.10 249**		PN	Pn	01 46 55.9	-0.4
CKHZ	**Cape Kidnapper**	**2.10 249**		Pn	Pn	01 46 56.0	-0.4
NMHZ	**Naumai**	**2.19 265**	⇓	PN	Pn	01 46 57.8	+0.1
NMHZ	**Naumai**	**2.19 265**		Pn	Pn	01 46 57.8	+0.1
KAHZ	**Kahuranaki**	**2.29 247**		PN	Pn	01 46 58.5	-0.6
KAHZ	**Kahuranaki**	**2.29 247**		Pn	Pn	01 46 58.5	-0.6
MCHZ	**McNeill Hill**	**2.33 256**		PN	Pn	01 46 59.6	+0.1
MCHZ	**McNeill Hill**	**2.33 256**		Pn	Pn	01 46 59.6	+0.1
MCHZ				S	Sn	01 47 27.7	+0.8
EDRZ	**Edgecumbe**	**2.40 289**		PN	Pn	01 47 00.6	+0.1
EDRZ				AML	AML	01 47 36.4	
EDRZ				AML	AML	01 47 40.4	
EDRZ	**Edgecumbe**	**2.40 289**		Pn	Pn	01 47 00.6	+0.1
PXZ	**Pawanui**	**2.40 242**		PN	Pn	01 46 59.3	-1.1
PXZ				AML	AML	01 47 31.0	
PXZ				AML	AML	01 47 32.8	
PXZ				AML	AML	01 47 32.8	
PXZ				AML	AML	01 47 34.8	
PXZ	**Pawanui**	**2.40 242**		Pn	Pn	01 46 59.3	-1.1
BKZ	**Black Stump Fm**	**2.44 263**		PN	Pn	01 47 00.8	-0.3
BKZ				*e*SN	Sn	01 47 27.9	-2.0
BKZ				AML	AML	01 47 31.1	
BKZ	**Black Stump Fm**	**2.44 263**		Pn	Pn	01 47 00.8	-0.3
RRRZ	**Republican Roa**	**2.50 282**		PN	Pn	01 47 02.5	+0.7
RRRZ	**Republican Roa**	**2.50 282**		Pn	Pn	01 47 02.5	+0.7
TARZ	**Mount Tarawera**	**2.53 285**		PN	Pn	01 47 02.7	+0.3
TARZ	**Mount Tarawera**	**2.53 285**		Pn	Pn	01 47 02.7	+0.3
ALRZ	**Allen Road**	**2.58 277**		PN	Pn	01 47 03.1	+0.1
ALRZ	**Allen Road**	**2.58 277**		Pn	Pn	01 47 03.1	+0.1
OPRZ	**Ohinepanea**	**2.63 293**		PN	Pn	01 47 02.9	-0.7
OPRZ	**Ohinepanea**	**2.63 293**		Pn	Pn	01 47 02.9	-0.7
PRHZ	**Porangahau**	**2.67 239**		PN	Pn	01 47 02.5	-1.6
PRHZ	**Porangahau**	**2.67 239**		Pn	Pn	01 47 02.5	-1.6
WPHZ	**Waipukurau**	**2.71 244**		PN	Pn	01 47 04.1	-0.6
WPHZ	**Waipukurau**	**2.71 244**		Pn	Pn	01 47 04.1	-0.6
BHHZ	**Black Hill Sta**	**2.82 257**	⇓	PN	Pn	01 47 05.7	-0.5
BHHZ	**Black Hill Sta**	**2.82 257**		Pn	Pn	01 47 05.8	-0.5
PNHZ	**Pukenui**	**2.82 248**		PN	Pn	01 47 05.5	-0.8
PNHZ	**Pukenui**	**2.82 248**		Pn	Pn	01 47 05.5	-0.8
ANWZ	**Angora Road**	**2.87 237**		PN	Pn	01 47 05.2	-1.7
RITZ	**Rihia Road**	**2.93 268**		PN	Pn	01 47 07.9	+0.1
RITZ				AML	AML	01 47 48.8	
RITZ				AML	AML	01 47 55.6	
RITZ	**Rihia Road**	**2.93 268**		Pn	Pn	01 47 07.9	+0.1
DVHZ	**Dannevirke**	**3.00 242**		PN	Pn	01 47 07.3	-1.4
DVHZ	**Dannevirke**	**3.00 242**		Pn	Pn	01 47 07.3	-1.4
MOVZ	**Moawhango**	**3.04 260**		PN	Pn	01 47 09.5	+0.1
MOVZ				AML	AML	01 47 45.1	
MOVZ				AML	AML	01 47 45.9	
MOVZ	**Moawhango**	**3.04 260**		Pn	Pn	01 47 09.5	+0.1
TSZ	**Takapari Road**	**3.05 247**		PN	Pn	01 47 08.1	-1.3
TSZ				*e*SN	Sn	01 47 42.0	-2.8
TSZ				AML	AML	01 47 47.7	
TSZ	**Takapari Road**	**3.05 247**		Pn	Pn	01 47 08.1	-1.3
OTVZ	**Oturere**	**3.08 264**		PN	Pn	01 47 10.3	+0.3
OTVZ				AML	AML	01 47 48.9	
OTVZ				AML	AML	01 47 58.7	
OTVZ	**Oturere**	**3.08 264**		Pn	Pn	01 47 10.3	+0.3
KRVZ	**Karewarewa**	**3.10 266**		PN	Pn	01 47 10.0	-0.2
KRVZ				AML	AML	01 47 45.1	
KRVZ				AML	AML	01 47 48.6	
KRVZ	**Karewarewa**	**3.10 266**		Pn	Pn	01 47 10.0	-0.2
BFZ	**Birch Farm**	**3.13 235**		PN	Pn	01 47 07.9	-2.7
BFZ	**Birch Farm**	**3.13 235**		Pn	Pn	01 47 07.9	-2.7
NGZ	**Ngauruhoe**	**3.13 264**		PN	Pn	01 47 10.7	0.0
NGZ				AML	AML	01 47 46.8	
NGZ				AML	AML	01 47 51.2	
NGZ	**Ngauruhoe**	**3.13 264**		Pn	Pn	01 47 10.7	0.0
WNVZ	**Wahianoa**	**3.15 261**		PN	Pn	01 47 10.9	-0.1
WNVZ				AML	AML	01 47 53.2	
WNVZ				AML	AML	01 47 55.0	
WNVZ	**Wahianoa**	**3.15 261**		Pn	Pn	01 47 10.9	-0.1
WPVZ	**Whakapapa**	**3.18 264**		PN	Pn	01 47 11.1	-0.2
WPVZ				AML	AML	01 47 50.4	
WPVZ				AML	AML	01 47 56.3	
WPVZ	**Whakapapa**	**3.18 264**		Pn	Pn	01 47 11.2	-0.2
TRVZ	**Turoa**	**3.19 262**		PN	Pn	01 47 11.2	-0.4
TRVZ				AML	AML	01 47 49.7	
TRVZ				AML	AML	01 47 52.4	
TRVZ	**Turoa**	**3.19 262**		Pn	Pn	01 47 11.2	-0.4
PRWZ	**Pori Road**	**3.25 239**		PN	Pn	01 47 10.8	-1.3
POWZ	**Post Office Ro**	**3.31 242**		PN	Pn	01 47 12.1	-0.8
POWZ	**Post Office Ro**	**3.31 242**		Pn	Pn	01 47 12.2	-0.8
TIWZ	**Tintock**	**3.42 236**		PN	Pn	01 47 12.7	-1.7
TIWZ				AML	AML	01 47 55.2	
TIWZ				AML	AML	01 48 02.4	
TIWZ	**Tintock**	**3.42 236**		Pn	Pn	01 47 12.7	-1.7
MRZ	**Mangatainoka R**	**3.56 240**		PN	Pn	01 47 14.3	-2.1
MRZ				SN	Sn	01 47 52.9	-4.4
MRZ				AML	AML	01 47 56.2	
MRZ	**Mangatainoka R**	**3.56 240**		Pn	Pn	01 47 14.3	-2.1
TMWZ	**Te Maipa**	**3.60 231**		PN	Pn	01 47 14.3	-2.7
TMWZ	**Te Maipa**	**3.60 231**		Pn	Pn	01 47 14.3	-2.7
HOWZ	**Holdsworth Sta**	**3.72 237**		PN	Pn	01 47 16.4	-2.2
HOWZ	**Holdsworth Sta**	**3.72 237**		Pn	Pn	01 47 16.4	-2.2
HIZ	**Hauiti**	**3.75 275**		PN	Pn	01 47 19.4	+0.5
HIZ	**Hauiti**	**3.75 275**		Pn	Pn	01 47 19.4	+0.5
MTW	**Mount Morrison**	**3.87 233**		PN	Pn	01 47 17.9	-2.7
MTW				AML	AML	01 48 04.4	
MTW				AML	AML	01 48 05.7	
MTW	**Mount Morrison**	**3.87 233**		Pn	Pn	01 47 17.9	-2.7
OGWZ	**Otaki Gorge**	**3.91 240**		PN	Pn	01 47 19.5	-1.6
OGWZ	**Otaki Gorge**	**3.91 240**		Pn	Pn	01 47 19.5	-1.6
MKAZ	**Moumakai**	**3.95 296**		PN	Pn	01 47 21.1	-0.7
MKAZ	**Moumakai**	**3.95 296**		Pn	Pn	01 47 21.1	-0.7
PAWZ	**Paruwai Farm**	**4.04 231**		PN	Pn	01 47 20.5	-2.5
PAWZ				AML	AML	01 48 06.1	
PAWZ				AML	AML	01 48 09.9	
PAWZ	**Paruwai Farm**	**4.04 231**		Pn	Pn	01 47 20.5	-2.5
KIW	**Kapiti Island**	**4.11 240**		PN	Pn	01 47 22.7	-1.2
KIW	**Kapiti Island**	**4.11 240**		Pn	Pn	01 47 22.7	-1.2
CAW	**Cannon Point**	**4.12 237**		PN	Pn	01 47 21.9	-2.1
CAW				AML	AML	01 48 11.1	
CAW				AML	AML	01 48 12.9	
CAW	**Cannon Point**	**4.12 237**		Pn	Pn	01 47 21.9	-2.1
MSWZ	**Moikau Station**	**4.17 232**		PN	Pn	01 47 21.8	-3.0
MSWZ				AML	AML	01 48 10.8	
MSWZ				AML	AML	01 48 14.0	
MSWZ	**Moikau Station**	**4.17 232**		Pn	Pn	01 47 21.8	-3.0
PLWZ	**Palliser**	**4.26 230**		PN	Pn	01 47 23.5	-2.5
PLWZ	**Palliser**	**4.26 230**		Pn	Pn	01 47 23.5	-2.5
SNZO	**South Karori**	**4.46 236**		Pn	Pn	01 47 27.7	-0.9
SNZO				*e*S	Sn	01 48 13.6	-5.8
TCW	**Tory Channel**	**4.69 239**		PN	Pn	01 47 30.1	-1.8
TCW				AML	AML	01 48 24.4	
TCW				AML	AML	01 48 24.4	
TCW	**Tory Channel**	**4.69 239**		Pn	Pn	01 47 30.1	-1.8
CTZ	**Chatham Island**	**5.58 151**		PN	Pn	01 47 45.6	+1.5
CTZ	**Chatham Island**	**5.58 151**		Pn	Pn	01 47 45.6	+1.5
QRZ	**Quartz Range**	**5.77 249**		Pn	Pn	01 47 44.0	-2.7
THZ	**Tophouse**	**5.86 239**		PN	Pn	01 47 46.0	-2.0
THZ				AML	AML	01 48 56.9	
THZ	**Tophouse**	**5.86 239**		Pn	Pn	01 47 46.0	-2.0
LTZ	**Lake Taylor**	**6.77 233**		PN	Pn	01 47 57.9	-2.7
LTZ	**Lake Taylor**	**6.77 233**		Pn	Pn	01 47 57.9	-2.7

WEL 19 01:52:26.1±0.5, 38°.90S×179°.45E, h33km, ML3.5/7, 2C, Error ellipse: s-maj=5.3km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.06 293**		*e*PN	Pn	01 52 44.6	-0.1
PRGZ	**Paritu Road**	**1.23 268**		*e*PN	Pn	01 52 45.8	-1.2
MHGZ	**Mahia Peninsul**	**1.23 258**		PN	Pn	01 52 46.5	-0.5
RIGZ	**Rimuhau**	**1.34 278**		PN	Pn	01 52 48.3	-0.2
KNZ	**Kokohu**	**1.39 264**		PN	Pn	01 52 48.8	-0.4
KNZ				SN	Sn	01 53 05.1	-1.3
MWZ	**Matawai**	**1.61 290**	⇑	PN	Pn	01 52 51.4	-0.9
MWZ				SN	Sn	01 53 11.5	-0.4
MWZ				AML	AML	01 53 12.6	
MXZ	**Matakaoa Point**	**1.61 326**		*e*PN	Pn	01 52 51.4	-0.8
MXZ				AML	AML	01 53 12.6	
HAZ	**Te Kaha**	**1.74 310**		PN	Pn	01 52 53.2	-0.7
URZ	**Urewera**	**1.94 288**		*e*PN	Pn	01 52 56.7	0.0
URZ				SN	Sn	01 53 21.1	+1.0
URZ				AML	AML	01 53 22.4	
MCHZ	**McNeill Hill**	**2.21 255**		PN	Pn	01 53 00.6	+0.1
PXZ	**Pawanui**	**2.30 240**		AML	AML	01 53 28.5	
BKZ	**Black Stump Fm**	**2.32 262**		PN	Pn	01 53 01.6	-0.4
BHHZ	**Black Hill Sta**	**2.70 256**		PN	Pn	01 53 06.5	-0.8
PNHZ	**Pukenui**	**2.72 247**		PN	Pn	01 53 06.1	-1.4
BFZ	**Birch Farm**	**3.04 233**		PN	Pn	01 53 08.9	-3.0
MRZ	**Mangatainoka R**	**3.46 238**	⇑	PN	Pn	01 53 15.1	-2.7
MRZ				SN	Sn	01 53 54.0	-3.6
CTZ	**Chatham Island**	**5.66 150**		PN	Pn	01 53 46.2	-1.7
KHZ	**Kahutara**	**5.71 230**		AML	AML	01 54 54.3	

IDC 19 01:53:21.3±10.0, 3°.94S×124°.01E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.5/27, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=177.9km s-min=146.5km az=61.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.83 148**		P	P	01 57 41.4	-1.4
	0.4nm,0.3s,baz=325,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.82 155**		P	P	01 58 15.0	-0.4
	1.7nm,0.5s,baz=330,slow=9.2,SNR=15						
STKA	**Stephens Creek**	**32.33 151**		P	P	01 59 53.4	+1.0
	0.6nm,0.3s,baz=349,slow=10,SNR=4.6						

*INMG **19** 01:58:30.7±1.1, 34°.87N×4°.34W, h23km±16km, ML2.3, Error ellipse: s-maj=11.0km s-min=4.6km az=13.0*
*CSEM **19** 01:58:30.9±0.4, 34°.80N×4°.39W, h40km, mb3.5, Error ellipse: s-maj=10.5km s-min=4.5km az=6.0*
*CNRM **19** 01:58:30.4, 34°.75N×4°.46W, h31km, MD2.4*
*MDD **19** 01:58:30.8±1.1, 34°.74N×4°.39W, h50km±15km, mb3.5/7, Error ellipse: s-maj=12.9km s-min=6.4km az=17.0, PRXIMO*

ISC 19 01:58:26.8±1.4, 34°.70N±0°.07×4°.46W±0°.03, h10km, n52, σ2s 18/84, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.64**	**66**	P	**Pb**	**01 58 42.5**	**+2.4**
TOU				S	**Sb**	**01 58 51.5**	**+2.4**
TOU	**Touzarine**	**0.64**	**66**	P	**Pb**	**01 58 42.5**	**+2.4**
TOU				S	**Sb**	**01 58 51.5**	**+2.4**
MPAL	**Palemas**	**0.67**	**39**	P	**Pb**	**01 58 43.0**	**+2.3**
MPAL				S	**Sb**	**01 58 52.0**	**+1.9**
MPAL	**Palemas**	**0.67**	**39**	P	**Pb**	**01 58 43.0**	**+2.3**
MPAL				S	**Sb**	**01 58 52.0**	**+1.9**
EMEL	**Melilla**	**1.37**	**64**	P	**Pn**	**01 58 51.4**	**-0.6**
	17nm,0.1s,SNR=7.7						
EMEL				S	**Sb**	**01 59 06.4**	**-3.7**
	85nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.38**	**64**	P	**Pn**	**01 58 51.4**	**-0.7**
	17nm,0.1s,SNR=7.7						
EMLI				S	**Sb**	**01 59 06.4**	**-3.9**
	85nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**1.41 328**		P	**Pn**	**01 58 53.0**	**+0.5**
	2.3nm,0.1s,SNR=14						
ECEU				S	**Sn**	**01 59 09.6**	**-1.5**
	5.3nm,0.1s,SNR=6.6						
ECEU	**Ceuta**	**1.41 328**		P	**Pn**	**01 58 53.0**	**+0.5**
	2.3nm,0.1s,SNR=14						
ECEU				S	**Sn**	**01 59 09.6**	**-1.5**
	5.3nm,0.1s,SNR=6.6						
ZAI	**Zaio**	**1.44 79**		P	**Pn**	**01 58 53.0**	**0.0**
ZAI				S	**Sn**	**01 59 10.0**	**-1.9**
ZAI	**Zaio**	**1.44 79**		P	**Pn**	**01 58 53.0**	**0.0**
ZAI				S	**Sn**	**01 59 10.0**	**-1.9**
ESPR	**Espera**	**2.44 333**		P	**Pn**	**01 59 08.2**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 59 35.7**	**-0.9**
	1.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.44 333**		P	**Pn**	**01 59 08.2**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 59 35.7**	**-0.9**
	1.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.54 30**		P	**Pn**	**01 59 06.7**	**-1.5**
	1.2nm,0.2s,SNR=15						
EBER				S	Sn	01 59 34.2	-5.0
	9.2nm,0.4s,SNR=7.0						
EBER	**Berja**	**2.54 30**		P	**Pn**	**01 59 06.7**	**-1.5**
	1.2nm,0.2s,SNR=15						
EBER				S	Sn	01 59 34.2	-5.0
	9.2nm,0.4s,SNR=7.0						
ECOG	**Cogollos-Vega**	**2.67 16**		P	**Pn**	**01 59 11.1**	**+1.1**
	2.0nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**01 59 39.3**	**-3.1**
	2.0nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.67 16**		P	**Pn**	**01 59 11.1**	**+1.1**
	2.0nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**01 59 39.3**	**-3.1**
	2.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.29 20**		P	**Pn**	**01 59 19.7**	**+1.2**
	2.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 59 55.3**	**-2.4**
	0.5nm,0.1s,SNR=32						
EQES	**Quesada**	**3.29 20**		P	**Pn**	**01 59 19.7**	**+1.2**
	2.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 59 55.3**	**-2.4**
	0.5nm,0.1s,SNR=32						
ECAB	**El Cabril**	**3.45 347**		P	**Pn**	**01 59 22.4**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**01 59 57.5**	**-4.1**
	0.7nm,0.0s,SNR=7.9						
ECAB	**El Cabril**	**3.45 347**		P	**Pn**	**01 59 22.4**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**01 59 57.5**	**-4.1**
	0.7nm,0.0s,SNR=7.9						
EHUE	**Huescar**	**3.45 25**		P	**Pn**	**01 59 21.9**	**+1.2**
	1.9nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**01 59 59.7**	**-2.0**
	0.6nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.45 25**		P	**Pn**	**01 59 21.9**	**+1.2**
	1.9nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**01 59 59.7**	**-2.0**
	0.6nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.77 317**		*e*Pn	**Pn**	**01 59 25.5**	**+0.5**
PVAQ				*e*Sn	**Sn**	**02 00 05.5**	**-3.9**
PVAQ				A	A	02 00 06.0	
	3.4nm,0.2s						
PVAQ	**Vaqueiros**	**3.77 317**		P	**Pn**	**01 59 25.5**	**+0.5**
PVAQ				S	**Sn**	**02 00 05.5**	**-3.9**
	3.4nm,0.2s						
PVAQ	**Vaqueiros**	**3.77 317**		P	**Pn**	**01 59 25.5**	**+0.5**
PVAQ				*e*Sn	**Sn**	**02 00 05.5**	**-3.9**
	3.4nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.79 313**		*e*Pn	**Pn**	**01 59 26.0**	**+0.7**
PBDV				*e*Sn	**Sn**	**02 00 06.0**	**-3.9**
PBDV				A	A	02 00 07.8	
	3.8nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.79 313**		P	**Pn**	**01 59 26.0**	**+0.7**
PBDV				S	**Sn**	**02 00 06.0**	**-3.9**
	3.8nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.79 313**		P	**Pn**	**01 59 26.0**	**+0.7**
PBDV				*e*Sn	**Sn**	**02 00 06.0**	**-3.9**
	3.8nm,0.5s						
MORF	**Marmelete**	**4.28 309**		*e*Pn	**Pn**	**01 59 33.5**	**+1.5**
MORF				*e*Sn	**Sn**	**02 00 19.4**	**-2.6**
MORF				A	A	02 00 23.7	
	3.1nm,0.2s						
MORF	**Marmelete**	**4.28 309**		P	**Pn**	**01 59 33.5**	**+1.5**
MORF				S	**Sn**	**02 00 19.4**	**-2.6**
	3.1nm,0.2s						
MORF	**Marmelete**	**4.28 309**		P	**Pn**	**01 59 33.5**	**+1.5**
MORF				*e*Sn	**Sn**	**02 00 19.4**	**-2.6**
	3.1nm,0.2s						
PFVI	**Vila Bisbo**	**4.29 306**		*e*Pn	**Pn**	**01 59 33.9**	**+1.7**
PFV

KUR smax smax
comp=E,3µm,0.5s
KUR smax smax
comp=E,5µm,2.0s
KUR smax smax
comp=N,8µm,1.0s
KUR Kuril'sk 1.01 343 *e*P Pn 02 10 34.8 -2.5
KUR AMB AMB 02 10 35.0
comp=N,240nm,0.4s
KUR AMB AMB 02 10 35.0
comp=N,330nm,0.4s
KUR AMB AMB 02 10 35.0
comp=N,730nm,0.4s
KUR *e*S S 02 10 46.5 -4.3
KUR A A 02 10 48.0
comp=N,1µm,0.5s
KUR A A 02 10 48.0
comp=N,3µm,0.5s
KUR A A 02 10 50.0
comp=N,8µm,2.0s
KUR A A 02 10 50.0
comp=N,5µm,2.0s
SHO Shikotan 1.12 250 *e*P **Pn 02 10 37.6 -1.1**
SHO AMB AMB 02 10 37.9
comp=N,281nm,0.5s
SHO *e*S **Sn 02 10 50.8 -2.5**
SHO A A 02 10 56.2
comp=N,1µm,0.4s
SHO A A 02 10 56.2
comp=N,1µm,0.4s
YUK Yuzh-Kuril'sk 1.76 263*c i*PN **Pn 02 10 47.0 -0.2**
YUK *i* S **Sn 02 11 07.5 -1.0**
YUK pmax pmax
comp=N,117nm,0.1s
YUK pmax pmax
comp=E,61nm,0.1s
YUK pmax pmax
comp=Z,537nm,0.1s
YUK smax smax
comp=N,864nm,0.4s
YUK smax smax
comp=E,727nm,0.5s
YUK Yuzh-Kuril'sk 1.76 263 *e*P **Pn 02 10 47.1 -0.1**
YUK AMB AMB 02 10 48.6
comp=E,117nm,0.1s
YUK AMB AMB 02 10 48.6
comp=E,61nm,0.1s
YUK AMB AMB 02 10 48.6
comp=E,540nm,0.1s
YUK *e*S **Sn 02 11 07.6 -0.9**
YUK A A 02 11 18.0
comp=E,864nm,0.5s
YUK A A 02 11 18.0
comp=E,727nm,0.5s
NEM2 Nemuro 2 2.05 245 P **Pn 02 10 50.2 -0.9**
NEM2 *e*S **Sn 02 11 13.6 -2.0**
JRA Rausu 2.30 263 P **Pn 02 10 55.2 +0.7**
JRA *e*S **Sn 02 11 22.7 +1.0**
JNK Nakash 2.66 256 P **Pn 02 10 59.9 +0.4**
JNK *e*S **Sn 02 11 30.8 +0.2**
JAK Akkeshi 2.90 245 P **Pn 02 11 02.5 -0.2**
JAK *e*S **Sn 02 11 35.3 -1.0**
JTKR Abashiri--Toko 3.16 266 P **Pn 02 11 06.9 +0.6**
JAR Ashorobuto 3.41 255 P **Pn 02 11 10.9 +1.2**
JAR *e*S **Sn 02 11 50.3 +1.4**
JCH Churui 3.94 247 *e*S **Sn 02 12 02.1 +0.1**
JKK2 Kamakawa 2 4.01 266 P **Pn 02 11 20.2 +2.3**
JKA Kamikawa-asahi 4.09 270 *e*P **Pn 02 11 20.6 +1.6**
ASAJ Asahikawa 4.09 270 P **Pn 02 11 20.6 +1.5**
comp=E,4.0nm,0.3s,baz=54,slow=14,SNR=13
ASAJ S **Sn 02 12 10.8 +5.2**
comp=E,2.0nm,0.3s,baz=89,slow=18,SNR=2.3
ASAJ LR LR 02 12 53.3
comp=E,106nm,20.6s,baz=352,slow=38
ERM Erimo 4.37 241‖ *e*PN **Pn 02 11 25.6 +2.7**
ERM Erimo 4.37 241 *e*P **Pn 02 11 25.6 +2.7**
JNBK Urakawa-nobuka 4.50 246 P **Pn 02 11 25.6 +1.0**
JWK2 Keihoku 4.67 285 P **Pn 02 11 29.0 +2.2**
YSS Yuzh-Sakhalins 4.72 307 *e*P **Pn 02 11 27.0 -0.6**
YSS AMB AMB 02 11 29.0
comp=E,20nm,0.6s
YSS *e*rx rx 02 11 38.0
YSS *e*S **Sn 02 12 19.8 -1.1**
YSS A A 02 12 21.8
comp=E,20nm,0.7s
JKB Kayabe 5.82 248 P **Pn 02 11 43.7 +1.1**
JKB *e*S **Sn 02 12 46.9 -1.0**
JOT Ohata 6.05 244 P **Pn 02 11 46.3 +0.5**
PETK Petropavlovsk- 10.81 32 PN **Pn 02 12 52.8 +2.0**
PETK Petropavlovsk- 10.81 32 P **Pn 02 12 52.8 +2.0**
comp=E,0.3nm,0.3s,baz=206,slow=13,SNR=3.2
SEY Seymchan 18.85 6‖ *e*P **P 02 14 31.6 -2.1**
H11N2 WAKE ISLAND Hy 28.98 142 T T
baz=335,slow=76,SNR=267 02 46 55.6
H11N1 WAKE ISLAND Hy 28.99 142 T T
baz=335,slow=76,SNR=210 02 47 06.1
H11N3 WAKE ISLAND Hy 29.00 142 T T
baz=335,slow=76,SNR=256 02 47 06.4
H11S1 WAKE ISLAND Hy 29.97 143 T T
baz=337,slow=77,SNR=588 02 48 13.7
H11S3 WAKE ISLAND Hy 29.98 143 T T
baz=337,slow=77,SNR=8.8 02 48 16.3
H11S2 WAKE ISLAND Hy 29.99 143 T T
baz=337,slow=77,SNR=337 02 48 16.7
ILAR Eielson Array 40.59 37 P **P 02 17 52.3 +0.2**
comp=E,0.3nm,0.4s,baz=264,slow=8.7,SNR=6.9
ZALV Zalesovo Beam 41.34 307 PcP **PcP 02 19 55.5 -0.1**
comp=E,0.9nm,0.4s,baz=41,slow=3.1,SNR=4.3
MKAR Makanchi Array 45.07 298 P **P 02 18 28.6 0.0**
MKAR 02 20 06.6
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 45.07 298 P **P 02 18 28.6 0.0**
comp=Z,0.8nm,0.7s,baz=80,slow=8.6,SNR=10.0
MKAR PcP **PcP 02 20 06.6 -1.8**
comp=Z,0.2nm,0.3s,baz=58,slow=3.6,SNR=9.1
INK Inuvik 45.54 31 P **P 02 18 31.9 -0.1**
comp=Z,0.3nm,0.4s,baz=293,slow=7.3,SNR=4.7
KURK Kurchatov 45.92 304 ‖P **P 02 18 33.8 -1.4**
YKA Yellowknife Ar 54.92 34 P **P 02 19 43.2 +0.3**
comp=Z,0.5nm,0.6s,baz=301,slow=7.2,SNR=12
FINES FINESS Array B 64.78 333 P **P 02 20 49.1 -1.4**
comp=Z,1.9nm,0.8s,baz=43,slow=8.6,SNR=4.6
WRA Warramunga Arr 65.16 194 P **P 02 20 54.8 +1.3**
comp=Z,0.6nm,1.2s,baz=20,slow=7.0,SNR=2.8
FRB Frobisher Bay 68.45 17 P **P 02 21 12.8 -1.1**
comp=Z,0.8nm,0.4s,baz=324,slow=8.7,SNR=4.0
PDAR Pinedale Array 68.95 50 P **P 02 21 17.9 +0.2**
comp=Z,0.5nm,1.0s,baz=243,slow=3.6,SNR=3.1
NOA NORSAR Array B 69.41 339 P **P 02 21 18.9 -1.1**
comp=Z,0.8nm,0.8s,baz=24,slow=4.9,SNR=6.5
AKASG Malin Array Be 71.64 324 P **P 02 21 32.3 -1.4**
AKASG Malin Array Be 71.64 324 P **P 02 21 32.3 -1.4**
comp=Z,0.3nm,0.4s,baz=40,slow=6.4,SNR=3.0
DPC Dobruska-Polom 76.92 331 *e*P **P 02 22 05.6 +1.2**
DPC Dobruska-Polom 76.92 331 *e*P **P 02 22 05.6 +1.2**
KHC Kasperske Hory 78.90 332 *e*P **P 02 22 15.6 +0.2**
KHC Kasperske Hory 78.90 332 *e*P **P 02 22 15.6 +0.2**
GERES GERESS Array B 79.10 331 P **P 02 22 15.9 -0.7**
comp=Z,0.2nm,0.4s,baz=39,slow=6.4,SNR=3.6
TXAR Lajitas Array 81.68 57 P **P 02 22 31.5 +0.7**
comp=Z,0.3nm,0.5s,baz=299,slow=4.9,SNR=5.6
H03N2 Juan Fernandez 142.15 90 T T
baz=301,slow=75,SNR=5.2 05 08 35.8
H03N3 Juan Fernandez 142.16 90 T T
baz=301,slow=75,SNR=4.4 05 08 19.2
H03N1 Juan Fernandez 142.16 90 T T
baz=301,slow=75,SNR=11 05 08 23.4

MEX 19 02:59:21.6±0.4, 17°91N×100°40W, h61km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.37**	**7**	*i* P	Pn	02 59 31.0	-1.4
ARIG				*i* S	Sn	02 59 38.5	-1.8
PLIG	**Platanillo**	**0.98**	**61**	*i* P	Pn	02 59 38.0	-1.5
PLIG				*e*S	Sn	02 59 50.8	-1.9
ZIIG	**Zihuatanejo**	**1.06**	**254**	*i* P	Pn	02 59 39.8	-0.7
ZIIG				*e*S	Sn	02 59 52.1	-2.3
ACX	**Acapulco**	**1.16**	**153**	*i* P	Pn	02 59 40.0	-1.7
ACX				*e*S	Sn	02 59 53.6	-3.2
YAIG	**Yautepec**	**1.58**	**53**	*i* P	Pn	02 59 45.6	-2.0
YAIG				*e*S	Sn	03 00 04.6	-2.6
TLIG	**Tlapa**	**1.78**	**101**	*i* P	Pn	02 59 49.4	-0.9
TLIG				*i* S	Sn	03 00 10.6	-1.4
PNIG	**Pinotepa**	**2.65**	**124**	*i* P	Pn	03 00 01.2	-0.8
PNIG				*i* S	Sn	03 00 31.4	-1.5

NNC 19 03:01:09.7±11.0, 37.43N×70.14E, h0km, mb3.7, mpv3.4, 2C-2D, Error ellipse: s-maj=107.3km s-min=75.3km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.67**	**3**	P	Pn	03 02 38.5	+3.1
	1.1nm,0.3s,baz=171,slow=12,SNR=23						
KK31				⇓S	Sn	03 03 39.9	-1.3
	1.5nm,0.4s,baz=193,slow=23,SNR=4.2						
AAK	**Ala-Archa**	**6.18**	**31**	Pn	Pn	03 02 41.5	-0.9
AAK				Sn	Sn	03 03 57.5	+3.6
TKM2	**Tokmak 2**	**6.89**	**36**	⇓P	Pn	03 02 51.0	-1.3
	1.5nm,0.4s						
TKM2				⇑Sn	Sn	03 04 12.1	+0.5
	5.9nm,1.2s						
AB31	**Akbulak array**	**13.94**	**331**	⇑Pn	Pn	03 04 24.6	-3.9
	0.2nm,0.3s,baz=157,slow=12,SNR=28						

*SJA **19** 03:09:43.3±0.8, 24.27S×67.05W, h203km±7km, ML2.6, MW3.1*
*ISCJB **19** 03:09:44.6±0.7, 24.22S±0.07×67.06W±0.07, h181km, mb3.2/2, Error ellipse: s-maj=11.9km s-min=6.0km az=42.2*
*IDC **19** 03:09:54.7±5.8, 23.39S×66.48W, h248km±33km, mb3.1/2, mb1 3.1/4, mb1mx3.0/17, mbtmp3.4/4, Error ellipse: s-maj=106.3km s-min=23.9km az=50.0*
ISC 19 03:09:44.6±1.0, 24.19S±0.08×67.04W±0.07, h181km, n11, σ1§56/16, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.50**	**111**	*e*P	**Pn**	**03 10 18.1**	**+1.4**
SLA				*e*S	**Sn**	**03 10 43.2**	**+1.6**
SLA				IAML		03 10 44.8	
	comp=Z,31nm,0.8s						
AZAP	**Zapla**	**1.80**	**92**	*i* P	**Pn**	**03 10 20.8**	**+0.9**
AZAP				IAML		03 10 21.4	
	comp=Z,28nm,0.3s						
AZAP				*i* S	**Sn**	**03 10 49.1**	**+1.9**
LVC	**Limon Verde**	**2.33**	**312**	*i* P	**Pn**	**03 10 27.0**	**+1.4**
LVC				*i* S	**Sn**	**03 10 59.3**	**+1.8**
ASTB	**Santa Barbara**	**2.35**	**85**	*i* P	**Pn**	**03 10 26.8**	**+1.1**
ASTB				*e*S4		03 11 01.0	
ALOL	**LOMAS DE OLMED**	**2.83**	**83**	*i* P	**Pn**	**03 10 31.6**	**+0.4**
ALOL				*e*S	**Sn**	**03 11 08.3**	**+0.7**
AHML	**Horco Molle**	**3.01**	**150**	*e*P	**Pn**	**03 10 33.4**	**-0.1**
AHML				*i* S	**Sn**	**03 11 09.9**	**-1.8**
AHML				IAML		03 11 12.4	
	comp=Z,8.9nm,0.8s						
LPAZ	**La Paz**	**7.92**	**352**	P	**Pn**	**03 11 38.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.6,SNR=3.1						
LPAZ				S	**Sn**	**03 13 04.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=21,SNR=1.0						
CPUP	**Villa Florida**	**9.04**	**106**	P	Pn	03 11 58.7	+7.1
	comp=Z,0.4nm,0.3s,baz=253,slow=9.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**03 21 14.1**	**-1.9**
	comp=Z,0.8nm,1.1s,baz=252,slow=5.7,SNR=2.1						
YKA	**Yellowknife Ar**	**94.29**	**340**	P	**P**	**03 22 42.4**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=127,slow=5.1,SNR=2.8						
MKAR	**Makanchi Array**	**146.69**	**40**	PKPbc	**PKPdf**	**03 29 04.4**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=328,slow=4.3,SNR=3.8						

*ISCJB **19** 03:34:19.3±0.2, 38.44N±0.01×21.95E±0.02, h8km±2km, mb3.5/5, Error ellipse: s-maj=2.3km s-min=2.1km az=174.1*
*THE **19** 03:34:19.9, 38.43N×21.95E, h2km±1km, ML3.5/11, Error ellipse: s-maj=1.2km s-min=0.3km az=279.0*
*ATH **19** 03:34:19.7, 38.42N×21.97E, h16km, ML3.2*
*IDC **19** 03:34:19.3±1.1, 38.48N×22.05E, h0km, mb3.4/6, mb1 3.5/8, mb1mx3.4/30, mbtmp3.5/8, ML3.1/2, Error ellipse: s-maj=25.0km s-min=21.0km az=174.0*
*CSEM **19** 03:34:19.6±0.1, 38.43N×21.96E, h3km, ML3.2, Error ellipse: s-maj=2.4km s-min=2.1km az=81.0*
ISC 19 03:34:19.8±0.8, 38.44N±0.01×21.96E±0.01, h4km±5km, n167, σ0§74/234, mb3.5/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.04**	**255**	P	**Pg**	**03 34 20.5**	**-0.3**
EFP				S	**Sg**	**03 34 21.3**	**-0.3**
EFP	**Efpalio**	**0.04**	**255**	P	**Pg**	**03 34 20.5**	**-0.3**
EFP				S	**Sg**	**03 34 21.3**	**-0.3**
KALE	**Kalithea**	**0.15**	**108**	P	**Pg**	**03 34 23.2**	**+0.4**
KALE				S	**Sg**	**03 34 25.6**	**+0.8**
KALE	**Kalithea**	**0.15**	**108**	*e*PB	**Pg**	**03 34 23.2**	**+0.4**
KALE				*e*SB	**Sg**	**03 34 26.5**	**+1.7**
KALE	**Kalithea**	**0.15**	**108**	P	**Pg**	**03 34 23.2**	**+0.4**
KALE				S	**Sg**	**03 34 25.6**	**+0.8**
KALE				*e*Sb	**Sg**	**03 34 26.5**	**+1.7**
LAKA	**Lakka**	**0.20**	**175**	P	**Pg**	**03 34 23.7**	**+0.1**
LAKA	**Lakka**	**0.20**	**175**	*e*PB	**Pg**	**03 34 23.5**	**-0.1**
LAKA	**Lakka**	**0.20**	**175**	*e*Pb	**Pg**	**03 34 23.5**	**-0.1**
UPR	**University Cam**	**0.20**	**221**	P	**Pg**	**03 34 23.5**	**-0.2**
UPR				S	**Sg**	**03 34 27.3**	**+0.9**
UPR	**University Cam**	**0.20**	**221**	P	**Pg**	**03 34 23.5**	**-0.2**
UPR				S	**Sg**	**03 34 27.7**	**+0.7**
PVO	**Paravola**	**0.38**	**298**	P	**Pg**	**03 34 26.6**	**-0.6**
PVO				S	**Sg**	**03 34 32.8**	**+0.6**
PVO	**Paravola**	**0.38**	**298**	P	**Pg**	**03 34 26.6**	**-0.6**
PVO				S	**Sg**	**03 34 31.4**	**-0.8**
KLV	**Kalavryta, Ach**	**0.42**	**159**	P	**Pg**	**03 34 27.7**	**-0.2**
KLV				S	**Sg**	**03 34 33.7**	**+0.3**
KLV	**Kalavryta, Ach**	**0.42**	**159**	*e*PB	**Pg**	**03 34 27.7**	**-0.2**
KLV				*e*SB	**Sg**	**03 34 34.5**	**+1.1**
KLV	**Kalavryta, Ach**	**0.42**	**159**	P	**Pg**	**03 34 27.7**	**-0.2**
KLV				S	**Sg**	**03 34 33.7**	**+0.3**
KLV				*e*Sb	**Sg**	**03 34 34.5**	**+1.1**
DSF	**Desfina**	**0.45**	**93**	P	**Pg**	**03 34 28.0**	**-0.4**
DSF				S	**Sg**	**03 34 35.7**	**+1.4**
DSF	**Desfina**	**0.45**	**93**	*e*PB	**Pg**	**03 34 28.0**	**-0.4**
DSF				*e*SB	**Sg**	**03 34 35.7**	**+1.4**
DSF	**Desfina**	**0.45**	**93**	P	**Pg**	**03 34 28.0**	**-0.4**
DSF				S	**Sg**	**03 34 35.7**	**+1.2**
EVR	**Evrytania**	**0.49**	**346**	P	**Pg**	**03 34 28.7**	**-0.6**
EVR				S	**Sg**	**03 34 36.7**	**+1.0**
EVR	**Evrytania**	**0.49**	**346**	*e*PN	**Pg**	**03 34 28.9**	**-0.4**
EVR				*e*SN	**Sb**	**03 34 37.7**	**-1.0**
EVR	**Evrytania**	**0.49**	**346**	*e*Pn	**Pg**	**03 34 28.9**	**-0.4**
EVR				S	**Sg**	**03 34 36.7**	**+1.0**
EVR				*e*Sn	**Sb**	**03 34 37.7**	**-1.0**
DRO	**Drossia**	**0.52**	**202**	P	**Pg**	**03 34 29.2**	**-0.6**
DRO				S	**Sg**	**03 34 37.4**	**+0.8**
DRO	**Drossia**	**0.52**	**202**	*e*PN	**Pg**	**03 34 29.1**	**-0.7**
DRO				*e*SN	**Sg**	**03 34 37.3**	**+0.7**
DRO	**Drossia**	**0.52**	**202**	P	**Pg**	**03 34 29.2**	**-0.6**
DRO				S	**Sg**	**03 34 37.3**	**+0.7**
RLS	**Riolos of Patr**	**0.54**	**226**	P	**Pg**	**03 34 29.7**	**-0.5**
RLS				S	**Sg**	**03 34 37.9**	**+0.7**
RLS	**Riolos of Patr**	**0.54**	**226**	*e*PN	**Pg**	**03 34 29.7**	**-0.5**
RLS	**Riolos of Patr**	**0.54**	**226**	P	**Pg**	**03 34 29.7**	**-0.5**
RLS				S	**Sg**	**03 34 37.6**	**+0.4**
GUR	**Goura**	**0.59**	**149**	P	**Pg**	**03 34 30.6**	**-0.5**
GUR				S	**Sg**	**03 34 39.2**	**+0.6**
GUR	**Goura**	**0.59**	**149**	*e*PN	**Pg**	**03 34 30.5**	**-0.5**
GUR				*e*SN	**Sg**	**03 34 38.7**	**+0.1**
GUR	**Goura**	**0.59**	**149**	P	**Pg**	**03 34 30.6**	**-0.5**
GUR				*e*Sn	**Sg**	**03 34 38.7**	**+0.1**
GUR				S	**Sg**	**03 34 39.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.59**	**13**	P	**Pg**	**03 34 30.9**	**-0.3**
MAKR				S	**Sg**	**03 34 39.9**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.59**	**13**	*e*PN	**Pg**	**03 34 31.4**	**+0.2**
MAKR				*e*SN	**Sb**	**03 34 40.9**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.59**	**13**	P	**Pg**	**03 34 30.9**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.59**	**13**	*e*Pn	**Pg**	**03 34 31.4**	**+0.2**
MAKR				S	**Sg**	**03 34 39.5**	**+0.7**
MAKR				*e*Sn	**Sb**	**03 34 40.9**	**-0.6**
PDO	**Prodromos**	**0.63**	**285**	P	**Pg**	**03 34 31.8**	**0.0**
PDO				S	**Sb**	**03 34 41.5**	**-1.0**
PDO	**Prodromos**	**0.63**	**285**	*e*PN	**Pg**	**03 34 32.0**	**+0.2**
PDO				*e*SN	**Sg**	**03 34 40.8**	**+0.8**
PDO	**Prodromos**	**0.63**	**285**	P	**Pg**	**03 34 31.1**	**-0.7**
PDO	**Prodromos**	**0.63**	**285**	*e*Pn	**Pg**	**03 34 32.0**	**+0.2**
PDO				S	**Sg**	**03 34 40.6**	**+0.6**
AXAR	**Agios Charalam**	**0.64**	**59**	P	**Pg**	**03 34 31.7**	**-0.4**
AXAR				S	**Sb**	**03 34 41.8**	**-1.1**
AXAR	**Agios Charalam**	**0.64**	**59**	P	**Pg**	**03 34 31.7**	**-0.4**
AXAR				S	**Sb**	**03 34 41.8**	**-1.1**
AGG	**Agios Georgios**	**0.65**	**26**	P	**Pg**	**03 34 32.0**	**-0.3**
AGG	**Agios Georgios**	**0.65**	**26**	*e*PN	**Pb**	**03 34 33.3**	**-0.5**
AGG				*e*SN	**Sb**	**03 34 42.2**	**-1.1**
AGG	**Agios Georgios**	**0.65**	**26**	P	**Pg**	**03 34 31.8**	**-0.5**
AGG	**Agios Georgios**	**0.65**	**26**	*e*Pn	**Pb**	**03 34 33.3**	**-0.5**
AGG				*e*Sn	**Sb**	**03 34 42.2**	**-1.1**
LKR	**Lokris**	**0.84**	**75**	P	**Pg**	**03 34 35.2**	**-0.8**
LKR				S	**Sb**	**03 34 48.3**	**-0.4**
LKR	**Lokris**	**0.84**	**75**	*e*PN	**Pg**	**03 34 35.8**	**-0.2**
LKR				*e*SN	**Sg**	**03 34 47.5**	**+0.5**
LKR	**Lokris**	**0.84**	**75**	P	**Pg**	**03 34 35.2**	**-0.8**
LKR	**Lokris**	**0.84**	**75**	*e*Pn	**Pg**	**03 34 35.8**	**-0.2**
LKR				*e*Sn	**Sg**	**03 34 47.5**	**+0.5**
LKR				S	**Sb**	**03 34 48.3**	**-0.4**
LTK	**Loutraki**	**0.90**	**117**	P	**Pg**	**03 34 36.8**	**-0.2**
LTK	**Loutraki**	**0.90**	**117**	*e*PN	**Pb**	**03 34 37.6**	**-0.3**
LTK				*e*SN	**Sg**	**03 34 49.1**	**+0.5**
LTK	**Loutraki**	**0.90**	**117**	P	**Pg**	**03 34 36.7**	**-0.2**
LTK	**Loutraki**	**0.90**	**117**	*e*Pn	**Pb**	**03 34 37.6**	**-0.3**
LTK				*e*Sn	**Sg**	**03 34 49.1**	**+0.5**
AMT	**Artemida-Makis**	**0.93**	**192**	P	**Pg**	**03 34 37.3**	**-0.2**
AMT				S	**Sg**	**03 34 49.9**	**+0.4**
AMT	**Artemida-Makis**	**0.93**	**192**	*e*PN	**Pg**	**03 34 37.2**	**-0.2**
AMT	**Artemida-Makis**	**0.93**	**192**	P	**Pg**	**03 34 37.3**	**-0.2**
AMT				S	**Sg**	**03 34 49.9**	**+0.4**
KFL	**Anninata**	**0.98**	**251**	P	**Pg**	**03 34 38.2**	**-0.3**
KFL	**Anninata**	**0.98**	**251**	*e*P	**Pg**	**03 34 38.2**	**-0.3**
SMIA	**Simia**	**1.07**	**65**	P	**Pg**	**03 34 40.0**	**-0.4**
SMIA	**Simia**	**1.07**	**65**	*e*PN	**Pg**	**03 34 40.6**	**+0.2**
SMIA				*e*SN	**Sb**	**03 34 55.2**	**-0.2**
SMIA	**Simia**	**1.07**	**65**	P	**Pg**	**03 34 40.0**	**-0.4**
SMIA	**Simia**	**1.07**	**65**	*e*Pn	**Pg**	**03 34 40.6**	**+0.2**
SMIA				*e*Sn	**Sb**	**03 34 55.2**	**-0.2**
LKD2	**Lefkada island**	**1.08**	**289**	P	**Pg**	**03 34 40.3**	**-0.1**
LKD2	**Lefkada island**	**1.08**	**289**	*e*PN	**Pb**	**03 34 40.8**	**-0.2**
LKD2	**Lefkada island**	**1.08**	**289**	P	**Pg**	**03 34 40.3**	**-0.1**
LKD2	**Lefkada island**	**1.08**	**289**	*e*Pn	**Pb**	**03 34 40.8**	**-0.2**
VLS	**Valsamata**	**1.11**	**257**	P	**Pg**	**03 34 39.8**	**-1.2**
VLS				S	**Sb**	**03 34 56.7**	**+0.4**
VLS	**Valsamata**	**1.11**	**257**	*e*PN	**Pg**	**03 34 41.1**	**+0.1**
VLS	**Valsamata**	**1.11**	**257**	P	**Pg**	**03 34 39.8**	**-1.2**
VLS	**Valsamata**	**1.11**	**257**	*e*Pn	**Pg**	**03 34 41.1**	**+0.1**
VLS				S	**Sb**	**03 34 56.7**	**+0.4**
VLX	**Vlachokerasia**	**1.12**	**162**	P	**Pg**	**03 34 40.5**	**-0.7**
VLX				S	**Sb**	**03 34 56.5**	**-0.2**
VLX	**Vlachokerasia**	**1.12**	**162**	*e*PN	**Pg**	**03 34 40.9**	**-0.3**
VLX	**Vlachokerasia**	**1.12**	**162**	P	**Pg**	**03 34 40.5**	**-0.7**
VLX	**Vlachokerasia**	**1.12**	**162**	*e*Pn	**Pg**	**03 34 40.9**	**-0.3**
VLX				S	**Sb**	**03 34 56.5**	**-0.2**
THL	**Klokotos Trika**	**1.13**	**2**	P	**Pg**	**03 34 40.9**	**-0.5**
THL	**Klokotos Trika**	**1.13**	**2**	*e*PB	**Pg**	**03 34 40.7**	**-0.7**
THL	**Klokotos Trika**	**1.13**	**2**	P	**Pg**	**03 34 40.9**	**-0.5**
ITM	**Ithomi**	**1.26**	**181**	P	**Pg**	**03 34 43.2**	**-0.6**
ITM				S	**Sn**	**03 35 01.4**	**-0.1**
ITM	**Ithomi**	**1.26**	**181**	*e*PN	**Pg**	**03 34 43.3**	**-0.6**
ITM	**Ithomi**	**1.26**	**181**	P	**Pg**	**03 34 43.2**	**-0.6**
ITM				S	**Sn**	**03 35 01.4**	**-0.1**
MRKA	**Markates**	**1.31**	**78**	*e*PN	**Pg**	**03 34 43.9**	**-0.9**
MRKA				*e*SN	**Sg**	**03 35 01.5**	**-0.3**
MRKA	**Markates**	**1.31**	**78**	*e*Pn	**Pg**	**03 34 43.9**	**-0.9**
MRKA				*e*Sn	**Sg**	**03 35 01.5**	**-0.3**
NEO	**Neokhori**	**1.32**	**48**	*e*PB	**Pn**	**03 34 43.5**	**-1.5**
NEO				*e*SN	**Sn**	**03 35 03.6**	**+0.6**
NEO	**Neokhori**	**1.32**	**48**	*e*Pb	**Pn**	**03 34 43.5**	**-1.5**
NEO				*e*Sn	**Sn**	**03 35 03.6**	**+0.6**
XOR	**Xorichti**	**1.34**	**46**	P	**Pb**	**03 34 45.5**	**0.0**
XOR	**Xorichti**	**1.34**	**46**	*e*PN	**Pb**	**03 34 45.5**	**0.0**
XOR				*e*SN	**Sn**	**03 35 04.3**	**+0.7**
XOR	**Xorichti**	**1.34**	**46**	P	**Pb**	**03 34 45.5**	**0.0**
XOR				*e*Sn	**Sn**	**03 35 04.3**	**+0.7**
DID	**Didima**	**1.37**	**132**	P	**Pn**	**03 34 45.4**	**-0.4**
DID				S	**Sb**	**03 35 04.1**	**+0.1**
DID	**Didima**	**1.37**	**132**	*e*PN	**Pn**	**03 34 45.8**	**0.0**
DID	**Didima**	**1.37**	**132**	P	**Pn**	**03 34 45.4**	**-0.4**
DID	**Didima**	**1.37**	**132**	*e*Pn	**Pn**	**03 34 45.8**	**0.0**
DID				S	**Sb**	**03 35 04.1**	**+0.1**
NAIG	**Nisos Aigina**	**1.39**	**119**	*e*PN	**Pn**	**03 34 45.6**	**-0.3**
NAIG	**Nisos Aigina**	**1.39**	**119**	*e*Pn	**Pn**	**03 34 45.6**	**-0.3**
SKIA	**Skiathos**	**1.39**	**58**	*e*PN	**Pn**	**03 34 45.5**	**-0.4**
SKIA	**Skiathos**	**1.39**	**58**	*e*Pn	**Pn**	**03 34 45.5**	**-0.4**
ATH	**Athens Observa**	**1.46**	**108**	P	**Pn**	**03 34 46.6**	**-0.4**
ATH	**Athens Observa**	**1.46**	**108**	*e*PN	**Pn**	**03 34 46.6**	**-0.4**
ATH				*e*SN	**Sb**	**03 35 06.3**	**-0.2**
ATH	**Athens Observa**	**1.46**	**108**	P	**Pn**	**03 34 46.6**	**-0.4**
ATH				*e*Sn	**Sb**	**03 35 06.3**	**-0.2**
JAN	**Janina**	**1.49**	**325**	*e*PN	**Pb**	**03 34 48.2**	**+0.1**
JAN	**Janina**	**1.49**	**325**	*e*Pn	**Pb**	**03 34 48.2**	**+0.1**
PYL	**PYLOS**	**1.55**	**186**	P	**Pn**	**03 34 48.0**	**-0.1**
PYL	**PYLOS**	**1.55**	**186**	*e*PN	**Pn**	**03 34 48.1**	**-0.1**
PYL	**PYLOS**	**1.55**	**186**	*e*Pn	**Pn**	**03 34 48.1**	**-0.1**
PTL	**Penteli**	**1.55**	**104**	P	**Pn**	**03 34 47.8**	**-0.4**
PTL	**Penteli**	**1.55**	**104**	*e*PN	**Pn**	**03 34 47.9**	**-0.3**
PTL	**Penteli**	**1.55**	**104**	*e*Pn	**Pn**	**03 34 47.9**	**-0.3**
AOS	**Alonnisos**	**1.67**	**63**	*e*PN	**Pn**	**03 34 49.5**	**-0.4**
AOS	**Alonnisos**	**1.67**	**63**	*e*Pn	**Pn**	**03 34 49.5**	**-0.4**
IGT	**Igoumenitsa**	**1.67**	**311**	*e*PN	**Pb**	**03 34 51.2**	**0.0**
IGT	**Igoumenitsa**	**1.67**	**311**	*e*Pn	**Pb**	**03 34 51.2**	**0.0**
LIT	**Litokhoron**	**1.71**	**14**	P	**Pn**	**03 34 50.0**	**-0.4**
LIT	**Litokhoron**	**1.71**	**14**	*e*PB	**Pn**	**03 34 50.1**	**-0.4**
LIT	**Litokhoron**	**1.71**	**14**	P	**Pn**	**03 34 50.0**	**-0.4**
KZN	**Kozani**	**1.

HFS	**Hagfors**	**22.34**	**349**	P	**P**	**03 39 19.5**	**+1.1**
	3.1nm,1.0s,baz=150,slow=9.6,SNR=3.0								
EKA	**Eskdalemuir Ar**	**23.88**	**323**	P	**P**	**03 39 33.0**	**-1.2**
	1.1nm,0.8s,baz=116,slow=9.6,SNR=3.6								
TORD	**Torodi Ar. Bea**	**30.95**	**221**	P	**P**	**03 40 38.7**	**+0.7**
	0.5nm,0.8s,baz=34,slow=10.0,SNR=4.7								
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**03 42 28.6**	**-1.3**
	0.5nm,0.7s,baz=268,slow=8.0,SNR=6.7								
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	**03 42 32.8**	**-0.6**
	0.5nm,0.4s,baz=291,slow=8.5,SNR=2.3								

*ISCJB **19** 03:35:08.3±0.5, 38.42N±0.03×21.96E±0.05, h22km±4km, mb3.4/2, Error ellipse: s-maj=7.0km s-min=5.1km az=19.6*
*IDC **19** 03:35:08.5±1.5, 38.35N×22.08E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/27, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=58.7km s-min=24.5km az=160.0*
*CSEM **19** 03:35:09.4, 38.41N×22.01E, h15km, MD2.9, After ATH*
*ATH **19** 03:35:09.4, 38.41N×22.01E, h15km±1km, MD2.9/11*
ISC 19 03:35:10.1±0.9, 38.43N±0.02×22.00E±0.03, h10km±6km, n26, σ0°71/42, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.12**	**107**	*e*PB	**Pg**	**03 35 12.6**	**-0.4**
KALE				*e*SB	**Sg**	**03 35 15.4**	**+0.3**
KALE	**Kalithea**	**0.12**	**107**	*e*Pb	**Pg**	**03 35 12.6**	**-0.4**
KALE				*e*Sb	**Sg**	**03 35 15.4**	**+0.3**
LAKA	**Lakka**	**0.18**	**185**	*e*PB	**Pg**	**03 35 13.5**	**-0.6**
LAKA	**Lakka**	**0.18**	**185**	*e*Pb	**Pg**	**03 35 13.5**	**-0.6**
KLV	**Kalavryta, Ach**	**0.40**	**163**	*e*PB	**Pg**	**03 35 17.3**	**-0.7**
KLV				*e*SB	**Sg**	**03 35 22.4**	**-0.8**
KLV	**Kalavryta, Ach**	**0.40**	**163**	*e*Pb	**Pg**	**03 35 17.3**	**-0.7**
KLV				*e*Sb	**Sg**	**03 35 22.4**	**-0.8**
DSF	**Desfina**	**0.41**	**92**	*e*PB	**Pg**	**03 35 17.4**	**-0.9**
DSF				*e*SB	**Sg**	**03 35 23.8**	**0.0**
DSF	**Desfina**	**0.41**	**92**	*e*Pb	**Pg**	**03 35 17.4**	**-0.9**
DSF				*e*Sb	**Sg**	**03 35 23.8**	**0.0**
EVR	**Evrytania**	**0.51**	**343**	*e*PN	**Pg**	**03 35 19.0**	**-1.1**
EVR				*e*SN	**Sg**	**03 35 27.0**	**+0.1**
EVR	**Evrytania**	**0.51**	**343**	*e*Pn	**Pg**	**03 35 19.0**	**-1.1**
EVR				*e*Sn	**Sg**	**03 35 27.0**	**+0.1**
DRO	**Drossia**	**0.52**	**206**	*e*PN	**Pg**	**03 35 19.6**	**-0.7**
DRO	**Drossia**	**0.52**	**206**	*e*Pn	**Pg**	**03 35 19.6**	**-0.7**
RLS	**Riolos of Patr**	**0.56**	**229**	*e*PN	**Pg**	**03 35 20.2**	**-0.7**
RLS				*e*SN	**Sg**	**03 35 28.5**	**+0.3**
RLS	**Riolos of Patr**	**0.56**	**229**	*e*Pn	**Pg**	**03 35 20.2**	**-0.7**
RLS				*e*Sn	**Sg**	**03 35 28.5**	**+0.3**
GUR	**Goura**	**0.56**	**151**	*e*PN	**Pg**	**03 35 20.3**	**-0.6**
GUR				*e*SN	**Sg**	**03 35 28.1**	**-0.2**
GUR	**Goura**	**0.56**	**151**	*e*Pn	**Pg**	**03 35 20.3**	**-0.6**
GUR				*e*Sn	**Sg**	**03 35 28.1**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.60**	**10**	*e*PB	**Pg**	**03 35 21.1**	**-0.6**
MAKR				*e*SN	**Sb**	**03 35 30.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.60**	**10**	*e*Pb	**Pg**	**03 35 21.1**	**-0.6**
MAKR				*e*Sn	**Sb**	**03 35 30.4**	**-0.7**
AGG	**Agios Georgios**	**0.65**	**23**	*e*PN	**Pg**	**03 35 22.4**	**-0.3**
AGG	**Agios Georgios**	**0.65**	**23**	*e*Pn	**Pg**	**03 35 22.4**	**-0.3**
LKR	**Lokris**	**0.82**	**74**	*e*PB	**Pg**	**03 35 24.6**	**-1.2**
LKR				*e*SN	**Sg**	**03 35 36.6**	**+0.1**
LKR	**Lokris**	**0.82**	**74**	*e*Pb	**Pg**	**03 35 24.6**	**-1.2**
LKR				*e*Sn	**Sg**	**03 35 36.6**	**+0.1**
BRTR	**Keskin Array B**	**9.15**	**78**	Pn	**Pn**	**03 37 24.0**	**+1.8**
	0.2nm,0.3s,baz=261,slow=12,SNR=4.9								
ESDC	**Sonseca Array**	**20.18**	**282**	P	**P**	**03 39 45.3**	**+0.6**
	0.4nm,0.6s,baz=84,slow=12,SNR=3.6								
TORD	**Torodi Ar. Bea**	**30.97**	**221**	P	**P**	**03 41 27.5**	**+0.1**
	0.5nm,0.7s,baz=29,slow=9.3,SNR=4.3								
MKAR	**Makanchi Array**	**44.18**	**59**	P	**P**	**03 43 18.5**	**-0.5**
	0.3nm,0.5s,baz=273,slow=8.1,SNR=4.1								

*IDC **19** 03:37:18.6±2.3, 38.72N×21.81E, h0km, mb3.2/2, mb1 3.1/4, mb1mx3.1/28, mbtmp3.1/4, ML2.7/2, Error ellipse: s-maj=56.7km s-min=29.8km az=144.0*
*ISCJB **19** 03:37:20.1±0.3, 38.42N±0.01×21.99E±0.02, h7km±2km, mb3.1/2, Error ellipse: s-maj=2.6km s-min=2.3km az=23.9*
*ATH **19** 03:37:20.6, 38.42N×21.99E, h8km±2km, ML2.7*
*THE **19** 03:37:20.4, 38.43N×21.99E, h0km±1km, ML3.2/8, Error ellipse: s-maj=1.2km s-min=0.4km az=303.0*
*CSEM **19** 03:37:20.3±0.1, 38.42N×22.00E, h0km, ML3.2, Error ellipse: s-maj=2.4km s-min=2.0km az=121.0*
ISC 19 03:37:20.6±0.8, 38.43N±0.01×21.98E±0.01, h7km±5km, n96, σ0°68/144, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**269**	P	**Pg**	**03 37 21.9**	**-0.4**
EFP				S	**Sg**	**03 37 23.3**	**-0.1**
EFP	**Efpalio**	**0.06**	**269**	P	**Pg**	**03 37 21.9**	**-0.4**
EFP				S	**Sg**	**03 37 23.3**	**-0.1**
KALE	**Kalithea**	**0.13**	**106**	P	**Pg**	**03 37 23.3**	**-0.1**
KALE				S	**Sg**	**03 37 25.2**	**-0.1**
KALE	**Kalithea**	**0.13**	**106**	*e*PG	**Pg**	**03 37 23.3**	**-0.1**
KALE				*e*SG	**Sg**	**03 37 25.9**	**+0.6**
KALE	**Kalithea**	**0.13**	**106**	P	**Pg**	**03 37 23.3**	**-0.1**
KALE				S	**Sg**	**03 37 25.2**	**-0.1**
LAKA	**Lakka**	**0.19**	**181**	P	**Pg**	**03 37 24.2**	**-0.2**
LAKA	**Lakka**	**0.19**	**181**	*e*PG	**Pg**	**03 37 24.2**	**-0.2**
LAKA	**Lakka**	**0.19**	**181**	P	**Pg**	**03 37 24.2**	**-0.2**
UPR	**University Cam**	**0.21**	**227**	P	**Pg**	**03 37 25.2**	**+0.4**
UPR				S	**Sg**	**03 37 28.3**	**+0.7**
UPR	**University Cam**	**0.21**	**227**	P	**Pg**	**03 37 25.2**	**+0.4**
UPR				S	**Sg**	**03 37 28.3**	**+0.7**
PVO	**Paravola**	**0.40**	**298**	P	**Pg**	**03 37 28.1**	**-0.3**
PVO				S	**Sg**	**03 37 34.3**	**+0.6**
PVO	**Paravola**	**0.40**	**298**	P	**Pg**	**03 37 28.1**	**-0.3**
PVO				S	**Sg**	**03 37 34.3**	**+0.6**
KLV	**Kalavryta, Ach**	**0.41**	**161**	P	**Pg**	**03 37 27.9**	**-0.5**
KLV				S	**Sg**	**03 37 33.6**	**-0.2**
KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*PG	**Pg**	**03 37 28.0**	**-0.5**
KLV				*e*SB	**Sg**	**03 37 33.7**	**-0.1**
KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*Pg	**Pg**	**03 37 28.0**	**-0.5**
KLV				S	**Sg**	**03 37 33.6**	**-0.2**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**03 37 28.1**	**-0.8**
DSF				S	**Sg**	**03 37 35.1**	**+0.5**
DSF	**Desfina**	**0.43**	**92**	*e*PG	**Pg**	**03 37 28.2**	**-0.7**
DSF				*e*SB	**Sg**	**03 37 35.3**	**+0.7**
DSF	**Desfina**	**0.43**	**92**	*e*Pg	**Pg**	**03 37 28.2**	**-0.7**
DSF				S	**Sg**	**03 37 35.1**	**+0.5**
EVR	**Evrytania**	**0.51**	**345**	P	**Pg**	**03 37 29.8**	**-0.6**
EVR				S	**Sg**	**03 37 38.0**	**+1.0**
EVR	**Evrytania**	**0.51**	**345**	*e*PB	**Pg**	**03 37 29.7**	**-0.6**
EVR				*e*SB	**Sg**	**03 37 38.2**	**+1.2**
EVR	**Evrytania**	**0.51**	**345**	P	**Pg**	**03 37 29.8**	**-0.6**
EVR				S	**Sg**	**03 37 38.0**	**+1.0**
DRO	**Drossia**	**0.52**	**204**	P	**Pg**	**03 37 30.3**	**-0.3**
DRO				S	**Sg**	**03 37 38.1**	**+0.7**
DRO	**Drossia**	**0.52**	**204**	*e*PG	**Pg**	**03 37 30.4**	**-0.2**
DRO				*e*SB	**Sg**	**03 37 38.5**	**+1.1**
DRO	**Drossia**	**0.52**	**204**	P	**Pg**	**03 37 30.3**	**-0.3**
DRO				S	**Sg**	**03 37 38.1**	**+0.7**
RLS	**Riolos of Patr**	**0.55**	**228**	P	**Pg**	**03 37 30.9**	**-0.2**
RLS				S	**Sg**	**03 37 39.0**	**+0.7**
RLS	**Riolos of Patr**	**0.55**	**228**	*e*PG	**Pg**	**03 37 30.9**	**-0.2**
RLS				*e*SB	**Sg**	**03 37 39.1**	**+0.7**
RLS	**Riolos of Patr**	**0.55**	**228**	P	**Pg**	**03 37 30.9**	**-0.2**
RLS				S	**Sg**	**03 37 39.0**	**+0.7**
GUR	**Goura**	**0.57**	**150**	P	**Pg**	**03 37 31.0**	**-0.5**
GUR				S	**Sg**	**03 37 39.5**	**+0.5**
GUR	**Goura**	**0.57**	**150**	*e*PB	**Pg**	**03 37 31.2**	**-0.3**
GUR	**Goura**	**0.57**	**150**	*e*Pb	**Pg**	**03 37 31.2**	**-0.3**
GUR				S	**Sg**	**03 37 39.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	P	**Pg**	**03 37 31.9**	**-0.2**
MAKR				S	**Sg**	**03 37 41.2**	**+1.3**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	*e*PG	**Pg**	**03 37 32.0**	**-0.2**
MAKR				*e*SB	**Sg**	**03 37 40.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	P	**Pg**	**03 37 31.9**	**-0.2**
MAKR				*e*Sb	**Sg**	**03 37 40.7**	**+0.8**
MAKR				S	**Sg**	**03 37 41.2**	**+1.3**
AXAR	**Agios Charalam**	**0.63**	**57**	P	**Pg**	**03 37 32.0**	**-0.7**
AXAR				S	**Sg**	**03 37 41.7**	**+0.7**
AXAR	**Agios Charalam**	**0.63**	**57**	P	**Pg**	**03 37 32.0**	**-0.7**
AXAR				S	**Sg**	**03 37 41.7**	**+0.7**
PDO	**Prodromos**	**0.65**	**285**	P	**Pg**	**03 37 33.0**	**0.0**
PDO				S	**Sb**	**03 37 43.1**	**-0.4**
PDO	**Prodromos**	**0.65**	**285**	*e*PG	**Pg**	**03 37 33.1**	**0.0**
PDO				*e*SB	**Sb**	**03 37 42.9**	**-0.6**
PDO	**Prodromos**	**0.65**	**285**	P	**Pg**	**03 37 33.0**	**0.0**
PDO				*e*Sb	**Sb**	**03 37 42.9**	**-0.6**
AGG	**Agios Georgios**	**0.65**	**25**	P	**Pg**	**03 37 32.2**	**-1.0**
AGG	**Agios Georgios**	**0.65**	**25**	*e*PB	**Pg**	**03 37 32.4**	**-0.8**
AGG				*e*SB	**Sg**	**03 37 42.3**	**+0.6**
AGG	**Agios Georgios**	**0.65**	**25**	*e*Pb	**Pg**	**03 37 32.4**	**-0.8**
AGG				*e*Sb	**Sg**	**03 37 42.3**	**+0.6**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**03 37 35.7**	**-0.8**
LKR	**Lokris**	**0.83**	**74**	*e*PG	**Pg**	**03 37 36.0**	**-0.5**
LKR				*e*SB	**Sg**	**03 37 48.0**	**+0.7**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**03 37 35.7**	**-0.8**
LKR	**Lokris**	**0.83**	**74**	*e*Pg	**Pg**	**03 37 36.0**	**-0.5**
LKR				*e*Sb	**Sg**	**03 37 48.0**	**+0.7**
LTK	**Loutraki**	**0.88**	**117**	P	**Pg**	**03 37 37.3**	**-0.1**
LTK	**Loutraki**	**0.88**	**117**	*e*PB	**Pg**	**03 37 37.6**	**+0.2**
LTK	**Loutraki**	**0.88**	**117**	P	**Pg**	**03 37 37.3**	**-0.1**
LTK	**Loutraki**	**0.88**	**117**	*e*Pb	**Pg**	**03 37 37.6**	**+0.2**
AMT	**Artemida-Makis**	**0.92**	**194**	P	**Pg**	**03 37 37.9**	**-0.3**
AMT				S	**Sb**	**03 37 51.7**	**+0.4**
AMT	**Artemida-Makis**	**0.92**	**194**	*e*PB	**Pg**	**03 37 38.0**	**-0.3**
AMT				*e*SB	**Sb**	**03 37 51.3**	**0.0**
AMT	**Artemida-Makis**	**0.92**	**194**	P	**Pg**	**03 37 37.9**	**-0.3**
AMT				*e*Sb	**Sb**	**03 37 51.3**	**0.0**
KFL	**Anninata**	**0.99**	**252**	P	**Pg**	**03 37 38.6**	**-1.0**
KFL	**Anninata**	**0.99**	**252**	P	**Pg**	**03 37 38.6**	**-1.0**
SMIA	**Simia**	**1.06**	**65**	*e*PB	**Pg**	**03 37 40.6**	**-0.4**
SMIA				*e*SB	**Sb**	**03 37 55.5**	**+0.1**
SMIA	**Simia**	**1.06**	**65**	*e*Pb	**Pg**	**03 37 40.6**	**-0.4**
SMIA				*e*Sb	**Sb**	**03 37 55.5**	**+0.1**
VLX	**Vlachokerasia**	**1.10**	**163**	P	**Pg**	**03 37 40.5**	**-1.2**
VLX				S	**Sb**	**03 37 57.4**	**+0.8**
VLX	**Vlachokerasia**	**1.10**	**163**	*e*PG	**Pg**	**03 37 40.6**	**-1.2**
VLX				*e*SB	**Sb**	**03 37 57.2**	**+0.6**
VLX	**Vlachokerasia**	**1.10**	**163**	*e*Pg	**Pg**	**03 37 40.6**	**-1.2**
VLX				*e*Sb	**Sb**	**03 37 57.2**	**+0.6**
VLS	**Valsamata**	**1.12**	**258**	P	**Pg**	**03 37 40.6**	**-1.5**
VLS	**Valsamata**	**1.12**	**258**	*e*PB	**Pg**	**03 37 40.4**	**-1.7**
VLS	**Valsamata**	**1.12**	**258**	P	**Pg**	**03 37 40.6**	**-1.5**
THL	**Klokotos Trika**	**1.14**	**1**	P	**Pg**	**03 37 41.5**	**-0.9**
THL	**Klokotos Trika**	**1.14**	**1**	*e*PG	**Pg**	**03 37 42.0**	**-0.4**
THL	**Klokotos Trika**	**1.14**	**1**	P	**Pg**	**03 37 41.5**	**-0.9**
THL	**Klokotos Trika**	**1.14**	**1**	*e*Pg	**Pg**	**03 37 42.0**	**-0.4**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pg**	**03 37 43.8**	**-0.4**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pg**	**03 37 43.8**	**-0.4**
ITM	**Ithomi**	**1.25**	**182**	P	**Pg**	**03 37 43.3**	**-1.2**
ITM	**Ithomi**	**1.25**	**182**	*e*PN	**Pg**	**03 37 43.3**	**-1.2**
ITM	**Ithomi**	**1.25**	**182**	P	**Pg**	**03 37 43.3**	**-1.2**
MRKA	**Markates**	**1.29**	**77**	*e*PB	**Pn**	**03 37 44.6**	**-0.5**
MRKA	**Markates**	**1.29**	**77**	*e*Pb	**Pn**	**03 37 44.6**	**-0.5**
NEO	**Neokhori**	**1.31**	**47**	*e*PN	**Pn**	**03 37 44.6**	**-0.7**
NEO				*e*SB	**Sn**	**03 38 03.3**	**+0.2**
NEO	**Neokhori**	**1.31**	**47**	*e*Pn	**Pn**	**03 37 44.6**	**-0.7**
NEO				*e*Sb	**Sn**	**03 38 03.3**	**+0.2**
DID	**Didima**	**1.35**	**132**	P	**Pn**	**03 37 45.7**	**-0.2**
DID	**Didima**	**1.35**	**132**	*e*PB	**Pn**	**03 37 45.9**	**0.0**
DID	**Didima**	**1.35**	**132**	*e*Pb	**Pn**	**03 37 45.9**	**0.0**
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*PB	**Pg**	**03 37 46.7**	**-0.1**
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*Pb	**Pg**	**03 37 46.7**	**-0.1**
ATH	**Athens Observa**	**1.44**	**108**	*e*PG	**Pn**	**03 37 46.7**	**-0.4**
ATH	**Athens Observa**	**1.44**	**108**	*e*Pg	**Pn**	**03 37 46.7**	**-0.4**
PYL	**PYLOS**	**1.54**	**187**	*e*PG	**Pn**	**03 37 48.8**	**+0.3**
PYL	**PYLOS**	**1.54**	**187**	*e*Pg	**Pn**	**03 37 48.8**	**+0.3**
IGT	**Igoumenitsa**	**1.69**	**311**	*e*PN	**Pg**	**03 37 53.6**	**+0.5**
IGT	**Igoumenitsa**	**1.69**	**311**	*e*Pn	**Pg**	**03 37 53.6**	**+0.5**
LIT	**Litokhoron**	**1.72**	**13**	*e*PN	**Pb**	**03 37 52.8**	**+0.3**
LIT	**Litokhoron**	**1.72**	**13**	*e*Pn	**Pb**	**03 37 52.8**	**+0.3**
VLI	**Veliai**	**1.87**	**156**	P	**Pn**	**03 37 53.3**	**+0.3**
VLI	**Veliai**	**1.87**	**156**	P	**Pn**	**03 37 53.3**	**+0.3**
KYTH	**Kithira**	**2.30**	**158**	*e*PN	**Pn**	**03 38 00.7**	**+1.7**
KYTH	**Kithira**	**2.30**	**158**	*e*Pn	**Pn**	**03 38 00.7**	**+1.7**
IDI	**Anoyia**	**3.91**	**142**	Pn	**Pn**	03 38 25.0	+3.9
	0.3nm,0.3s,baz=322,slow=17,SNR=1.0								
BRTR	**Keskin Array B**	**9.16**	**78**	Pn	**Pn**	**03 39 34.8**	**+1.5**
	0.1nm,0.3s,baz=262,slow=13,SNR=1.4								
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**03 43 38.3**	**-0.1**
	0.2nm,0.5s,baz=37,slow=7.8,SNR=1.8								
MKAR	**Makanchi Array**	**44.19**	**59**	P	**P**	**03 45 29.2**	**-0.8**
	0.1nm,0.4s,baz=280,slow=9.9,SNR=1.7								

*IDC **19** 03:37:43.9±2.5, 38.55N×21.96E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/27, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=136.2km s-min=26.4km az=146.0*
*ISCJB **19** 03:37:45.5±0.6, 38.43N±0.02×22.01E±0.05, h12km±4km, mb3.3/2, Error ellipse: s-maj=6.3km s-min=3.7km az=12.1*
*ATH **19** 03:37:45.8, 38.42N×22.02E, h13km±2km, ML2.8*
*CSEM **19** 03:37:45.8, 38.42N×22.02E, h13km, ML2.8, After ATH*
ISC 19 03:37:46.1±0.8, 38.43N±0.02×22.00E±0.03, h11km±6km, n33, σ0°65/51, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.12**	**109**	*e*PG	**Pg**	**03 37 48.6**	**-0.4**
KALE				*e*SG	**Sg**	**03 37 51.3**	**+0.2**
KALE	**Kalithea**	**0.12**	**109**	*e*Pg	**Pg**	**03 37 48.6**	**-0.4**
KALE				*e*Sg	**Sg**	**03 37 51.3**	**+0.2**
LAKA	**Lakka**	**0.19**	**185**	*e*PG	**Pg**	**03 37 49.8**	**-0.4**
LAKA	**Lakka**	**0.19**	**185**	*e*Pg	**Pg**	**03 37 49.8**	**-0.4**
KLV	**Kalavryta, Ach**	**0.40**	**163**	*e*PB	**Pg**	**03 37 53.5**	**-0.5**
KLV				*e*SB	**Sg**	**03 37 59.0**	**-0.4**
KLV	**Kalavryta, Ach**	**0.40**	**163**	*e*Pb	**Pg**	**03 37 53.5**	**-0.5**
KLV				*e*Sb	**Sg**	**03 37 59.0**	**-0.4**
DSF	**Desfina**	**0.41**	**92**	*e*PB	**Pg**	**03 37 53.6**	**-0.7**
DSF	**Desfina**	**0.41**	**92**	*e*Pb	**Pg**	**03 37 53.6**	**-0.7**
EVR	**Evrytania**	**0.51**	**343**	*e*PB	**Pg**	**03 37 55.1**	**-1.0**
EVR				*e*SB	**Sg**	**03 38 03.6**	**+0.7**
EVR	**Evrytania**	**0.51**	**343**	*e*Pb	**Pg**	**03 37 55.1**	**-1.0**
EVR				*e*Sb	**Sg**	**03 38 03.6**	**+0.7**
DRO	**Drossia**	**0.53**	**206**	*e*PG	**Pg**	**03 37 55.9**	**-0.5**
DRO				*e*SB	**Sg**	**03 38 03.3**	**0.0**
DRO	**Drossia**	**0.53**	**206**	*e*Pg	**Pg**	**03 37 55.9**	**-0.5**
DRO				*e*Sb	**Sg**	**03 38 03.3**	**0.0**
GUR	**Goura**	**0.56**	**151**	*e*PB	**Pg**	**03 37 56.9**	**-0.1**
GUR	**Goura**	**0.56**	**151**	*e*Pb	**Pg**	**03 37 56.9**	**-0.1**
RLS	**Riolos of Patr**	**0.56**	**229**	*e*PB	**Pg**	**03 37 56.4**	**-0.6**
RLS				*e*SB	**Sg**	**03 38 04.9**	**+0.5**
RLS	**Riolos of Patr**	**0.56**	**229**	*e*Pb	**Pg**	**03 37 56.4**	**-0.6**
RLS				*e*Sb	**Sg**	**03 38 04.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.59**	**10**	*e*PB	**Pg**	**03 37 57.4**	**-0.2**
MAKR				*e*SB	**Sg**	**03 38 06.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.59**	**10**	*e*Pb	**Pg**	**03 37 57.4**	**-0.2**
MAKR				*e*Sb	**Sg**	**03 38 06.2**	**+0.7**
AGG	**Agios Georgios**	**0.65**	**23**	*e*PB	**Pg**	**03 37 57.6**	**-1.0**
AGG				*e*SB	**Sg**	**03 38 07.5**	**+0.3**
AGG	**Agios Georgios**	**0.65**	**23**	*e*Pb	**Pg**	**03 37 57.6**	**-1.0**
AGG				*e*Sb	**Sg**	**03 38 07.5**	**+0.3**
PDO	**Prodromos**	**0.66**	**285**	*e*PB	**Pb**	**03 37 59.6**	**-0.1**
PDO	**Prodromos**	**0.66**	**285**	*e*Pb	**Pb**	**03 37 59.6**	**-0.1**
LKR	**Lokris**	**0.81**	**74**	*e*PG	**Pg**	**03 38 00.7**	**-1.1**
LKR	**Lokris**	**0.81**	**74**	*e*Pg	**Pg**	**03 38 00.7**	**-1.1**
AMT	**Artemida-Makis**	**0.92**	**195**	*e*PB	**Pg**	**03 38 03.4**	**-0.5**
AMT				*e*SB	**Sg**	**03 38 16.1**	**+0.2**
AMT	**Artemida-Makis**	**0.92**	**195**	*e*Pb	**Pg**	**03 38 03.4**	**-0.5**
AMT				*e*Sb	**Sg**	**03 38 16.1**	**+0.2**
VLX	**Vlachokerasia**	**1.10**	**164**	*e*PN	**Pn**	**03 38 07.2**	**-0.4**
VLX				*e*SB	**Sb**	**03 38 21.7**	**+0.1**
VLX	**Vlachokerasia**	**1.10**	**164**	*e*Pn	**Pn**	**03 38 07.2**	**-0.4**
VLX				*e*Sb	**Sb**	**03 38 21.7**	**+0.1**
ATH	**Athens Observa**	**1.43**	**108**	*e*PB	**Pg**	**03 38 13.2**	**-0.3**
ATH	**Athens Observa**	**1.43**	**108**	*e*Pb	**Pg**	**03 38 13.2**	**-0.3**
BRTR	**Keskin Array B**	**9.14**	**78**	Pn	**Pn**	**03 40 00.2**	**+2.1**
	0.1nm,0.3s,baz=262,slow=12,SNR=2.5								
TORD	**Torodi Ar. Bea**	**30.97**	**221**	P	**P**	**03 44 03.5**	**+0.1**
	0.4nm,0.8s,baz=42,slow=8.9,SNR=2.5								
MKAR	**Makanchi Array**	**44.18**	**59**	P	**P**	**03 45 53.8**	**-1.1**
	0.3nm,0.4s,baz=272,slow=6.9,SNR=3.5								

WEL 19 03:38:39.4±0.2, 38.90S×179.61E, h33km, ML3.6/6, 1C,
Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**1.17**	**290**	PN	Pn	03 38 59.2	-0.3
MHGZ	**Mahia Peninsul**	**1.35**	**259**	PN	Pn	03 39 01.3	-0.6
RIGZ	**Rimuhau**	**1.46**	**277**	*e*PN	Pn	03 39 03.0	-0.5
RIGZ				*e*SN	Sn	03 39 20.4	-1.1
KNZ	**Kokohu**	**1.52**	**265**	PN	Pn	03 39 03.6	-0.6
MXZ	**Matakaoa Point**	**1.68**	**322**	PN	Pn	03 39 05.9	-0.6
MXZ				AML	AML	03 39 27.3	
MXZ				AML	AML	03 39 39.3	
MWZ	**Matawai**	**1.73**	**288**	⇑PN	Pn	03 39 06.3	-0.9
MWZ				*e*SN	Sn	03 39 26.9	-1.3
MWZ				AML	AML	03 39 30.9	
HAZ	**Te Kaha**	**1.84**	**308**	PN	Pn	03 39 07.8	-0.8
RAHZ	**Arahi**	**1.97**	**269**	*e*PN	Pn	03 39 10.3	-0.2
URZ	**Urewera**	**2.06**	**287**	PN	Pn	03 39 11.6	-0.1
URZ				SN	Sn	03 39 35.6	-0.7
URZ				AML	AML	03 39 36.7	
NMHZ	**Naumai**	**2.19**	**264**	PN	Pn	03 39 13.2	-0.5
KAHZ	**Kahuranaki**	**2.30**	**246**	PN	Pn	03 39 14.4	-0.7
PXZ	**Pawanui**	**2.41**	**241**	PN	Pn	03 39 14.7	-1.8
PXZ				SN	Sn	03 39 41.9	-2.9
BKZ	**Black Stump Fm**	**2.44**	**263**	PN	Pn	03 39 16.5	-0.6
BKZ				AML	AML	03 39 46.2	
BKZ				AML	AML	03 39 48.6	
TARZ	**Mount Tarawera**	**2.52**	**284**	PN	Pn	03 39 18.3	+0.1
BHHZ	**Black Hill Sta**	**2.82**	**257**	PN	Pn	03 39 21.5	-0.8
MOVZ	**Moawhango**	**3.04**	**259**	PN	Pn	03 39 25.4	+0.1
TSZ	**Takapari Road**	**3.05**	**247**	*e*PN	Pn	03 39 23.7	-1.7
BFZ	**Birch Farm**	**3.14**	**234**	PN	Pn	03 39 23.7	-2.9
WNVZ	**Wahianoa**	**3.15**	**261**	PN	Pn	03 39 27.3	+0.4
MRZ	**Mangatainoka R**	**3.57**	**239**	PN	Pn	03 39 29.7	-2.7
MRZ				*e*SN	Sn	03 40 08.5	-5.1
MRZ				AML	AML	03 40 11.4	
TMWZ	**Te Maipa**	**3.61**	**231**	PN	Pn	03 39 29.6	-3.4
HOWZ	**Holdsworth Sta**	**3.73**	**236**	PN	Pn	03 39 31.4	-3.3
MTW	**Mount Morrison**	**3.88**	**233**	PN	Pn	03 39 33.4	-3.3
CTZ	**Chatham Island**	**5.60**	**151**	*e*PN	Pn	03 40 00.1	-0.3
CTZ				*e*SN	Sn	03 40 57.5	-6.0
KHZ	**Kahutara**	**5.80**	**231**	*e*PN	Pn	03 40 00.1	-2.9
MQZ	**McQueen's Vall**	**7.11**	**225**	*e*PN	Pn	03 40 17.1	-3.9

*THE **19** 03:45:55.9, 38.43N×21.99E, h0km±1km, ML3.6/11, Error ellipse: s-maj=1.6km s-min=0.5km az=326.0*
*ISCJB **19** 03:45:55.6±0.2, 38

SMIA	**Simia**	**1.03**	**65**	P	**Pg**	**03 46 15.1**	**-0.9**
SMIA	**Simia**	**1.03**	**65**	*e*Pn	**Pb**	**03 46 16.2**	**-0.3**
SMIA				*e*Sb	**Sn**	**03 46 31.6**	**-0.4**
LKD2	**Lefkada island**	**1.11**	**288**	P	**Pg**	**03 46 16.4**	**-1.0**
LKD2				S	**Sb**	**03 46 33.3**	**+0.8**
LKD2	**Lefkada island**	**1.11**	**288**	*e*PB	**Pg**	**03 46 16.5**	**-1.0**
LKD2				*e*SB	**Sn**	**03 46 34.3**	**+0.4**
LKD2	**Lefkada island**	**1.11**	**288**	*e*Pb	**Pg**	**03 46 16.5**	**-1.0**
LKD2				S	**Sb**	**03 46 33.3**	**+0.8**
LKD2				*e*Sb	**Sn**	**03 46 34.3**	**+0.4**
VLX	**Vlachokerasia**	**1.11**	**165**	P	**Pg**	**03 46 16.3**	**-1.2**
VLX				S	**Sn**	**03 46 33.7**	**-0.4**
VLX	**Vlachokerasia**	**1.11**	**165**	*e*PN	**Pb**	**03 46 17.2**	**-0.7**
VLX				*e*SN	**Sb**	**03 46 32.6**	**0.0**
VLX	**Vlachokerasia**	**1.11**	**165**	P	**Pg**	**03 46 16.3**	**-1.2**
VLX	**Vlachokerasia**	**1.11**	**165**	*e*Pn	**Pb**	**03 46 17.2**	**-0.7**
VLX				*e*Sn	**Sb**	**03 46 32.6**	**0.0**
VLX				S	**Sn**	**03 46 33.7**	**-0.4**
THL	**Klokotos Trika**	**1.12**	**0**	*e*PN	**Pg**	**03 46 16.7**	**-0.8**
THL	**Klokotos Trika**	**1.12**	**0**	*e*Pn	**Pg**	**03 46 16.8**	**-0.8**
THL				*e*SB	**Sn**	**03 46 34.7**	**+0.7**
VLS	**Valsamata**	**1.15**	**257**	*e*PN	**Pg**	**03 46 15.1**	**-3.0**
VLS				*e*SB	**Sn**	**03 46 36.0**	**+1.2**
VLS	**Valsamata**	**1.15**	**257**	*e*Pn	**Pg**	**03 46 15.1**	**-3.0**
VLS				*e*Sb	**Sn**	**03 46 36.0**	**+1.2**
FYTO	**Fytoko, Volos**	**1.21**	**37**	P	**Pb**	**03 46 18.9**	**-0.5**
MRKA	**Markates**	**1.27**	**78**	P	**Pg**	**03 46 19.4**	**-1.0**
MRKA	**Markates**	**1.27**	**78**	*e*PN	**Pg**	**03 46 19.6**	**-0.8**
MRKA				*e*SB	**Sn**	**03 46 38.5**	**+0.8**
MRKA	**Markates**	**1.27**	**78**	P	**Pg**	**03 46 19.4**	**-1.0**
MRKA				*e*Sb	**Sn**	**03 46 38.5**	**+0.8**
ITM	**Ithomi**	**1.27**	**183**	P	**Pb**	**03 46 20.2**	**-0.2**
ITM	**Ithomi**	**1.27**	**183**	*e*PN	**Pn**	**03 46 20.2**	**-0.2**
ITM				*e*SB	**Sn**	**03 46 38.3**	**+0.6**
ITM	**Ithomi**	**1.27**	**183**	P	**Pb**	**03 46 19.9**	**-0.5**
ITM	**Ithomi**	**1.27**	**183**	*e*Pn	**Pn**	**03 46 20.2**	**-0.2**
ITM				*e*Sb	**Sn**	**03 46 38.3**	**+0.6**
NEO	**Neokhori**	**1.28**	**47**	P	**Pb**	**03 46 20.2**	**-0.5**
NEO	**Neokhori**	**1.28**	**47**	*e*PN	**Pg**	**03 46 19.8**	**-0.9**
NEO				*e*SN	**Sn**	**03 46 37.8**	**-0.3**
NEO	**Neokhori**	**1.28**	**47**	*e*Pn	**Pg**	**03 46 19.8**	**-0.9**
NEO				*e*Sn	**Sn**	**03 46 37.8**	**-0.3**
XOR	**Xorichti**	**1.30**	**45**	P	**Pn**	**03 46 20.7**	**-0.2**
XOR	**Xorichti**	**1.30**	**45**	*e*PN	**Pn**	**03 46 20.7**	**-0.2**
SKIA	**Skiathos**	**1.35**	**57**	*e*PN	**Pn**	**03 46 21.2**	**-0.3**
SKIA	**Skiathos**	**1.35**	**57**	*e*Pn	**Pn**	**03 46 21.2**	**-0.3**
DID	**Didima**	**1.35**	**134**	P	**Pn**	**03 46 21.1**	**-0.5**
DID				S	**Sn**	**03 46 40.9**	**+1.1**
DID	**Didima**	**1.35**	**134**	*e*PN	**Pb**	**03 46 21.2**	**-0.7**
DID				*e*SB	**Sn**	**03 46 40.5**	**+0.7**
DID	**Didima**	**1.35**	**134**	P	**Pg**	**03 46 20.7**	**-1.3**
DID	**Didima**	**1.35**	**134**	*e*Pn	**Pb**	**03 46 21.2**	**-0.7**
DID				*e*Sb	**Sn**	**03 46 40.5**	**+0.7**
NAIG	**Nisos Aigina**	**1.35**	**120**	*e*PN	**Pb**	**03 46 21.4**	**-0.5**
NAIG	**Nisos Aigina**	**1.35**	**120**	*e*Pn	**Pn**	**03 46 21.4**	**-0.5**
ATH	**Athens Observa**	**1.43**	**109**	P	**Pg**	**03 46 22.6**	**-1.0**
ATH	**Athens Observa**	**1.43**	**109**	*e*PN	**Pg**	**03 46 22.5**	**-1.0**
ATH				*e*SN	**Sn**	**03 46 41.7**	**+0.1**
ATH	**Athens Observa**	**1.43**	**109**	*e*Pn	**Pg**	**03 46 22.5**	**-1.0**
ATH				*e*Sn	**Sn**	**03 46 41.7**	**+0.1**
MEV	**Metsovon**	**1.47**	**336**	P	**Pn**	**03 46 23.2**	**-0.1**
MEV	**Metsovon**	**1.47**	**336**	P	**Pn**	**03 46 23.2**	**-0.1**
JAN	**Janina**	**1.51**	**324**	P	**Pn**	**03 46 23.8**	**+0.1**
JAN	**Janina**	**1.51**	**324**	*e*PN	**Pb**	**03 46 24.5**	**0.0**
JAN	**Janina**	**1.51**	**324**	P	**Pn**	**03 46 23.8**	**+0.1**
JAN	**Janina**	**1.51**	**324**	*e*Pn	**Pb**	**03 46 24.5**	**0.0**
PTL	**Penteli**	**1.52**	**105**	P	**Pn**	**03 46 23.6**	**-0.3**
PTL	**Penteli**	**1.52**	**105**	*e*PN	**Pb**	**03 46 23.9**	**-0.8**
PTL				*e*SN	**Sg**	**03 46 44.3**	**-0.5**
PTL	**Penteli**	**1.52**	**105**	P	**Pn**	**03 46 23.5**	**-0.3**
PTL	**Penteli**	**1.52**	**105**	*e*Pn	**Pb**	**03 46 23.9**	**-0.8**
PTL				*e*Sn	**Sg**	**03 46 44.3**	**-0.5**
PYL	**PYLOS**	**1.56**	**188**	P	**Pn**	**03 46 24.5**	**+0.1**
PYL	**PYLOS**	**1.56**	**188**	*e*PB	**Pn**	**03 46 23.9**	**-0.5**
PYL				*e*SB	**Sg**	**03 46 46.9**	**+0.6**
PYL	**PYLOS**	**1.56**	**188**	*e*Pb	**Pn**	**03 46 23.9**	**-0.5**
PYL	**PYLOS**	**1.56**	**188**	P	**Pn**	**03 46 24.5**	**+0.1**
PYL				*e*Sb	**Sg**	**03 46 46.9**	**+0.6**
AOS	**Alonnisos**	**1.63**	**63**	*e*PB	**Pn**	**03 46 23.3**	**-2.1**
AOS	**Alonnisos**	**1.63**	**63**	*e*Pb	**Pn**	**03 46 23.3**	**-2.1**
LIT	**Litokhoron**	**1.69**	**13**	P	**Pn**	**03 46 26.1**	**-0.2**
LIT	**Litokhoron**	**1.69**	**13**	*e*PN	**Pn**	**03 46 26.2**	**-0.1**
LIT	**Litokhoron**	**1.69**	**13**	*e*Pn	**Pn**	**03 46 26.2**	**-0.1**
IGT	**Igoumenitsa**	**1.70**	**310**	P	**Pb**	**03 46 28.2**	**+0.5**
IGT	**Igoumenitsa**	**1.70**	**310**	*e*PN	**Pb**	**03 46 28.2**	**+0.5**
IGT	**Igoumenitsa**	**1.70**	**310**	P	**Pb**	**03 46 28.2**	**+0.5**
KZN	**Kozani**	**1.87**	**354**	P	**Pn**	**03 46 28.5**	**-0.2**
KZN	**Kozani**	**1.87**	**354**	*e*PN	**Pn**	**03 46 29.6**	**+0.9**
KZN	**Kozani**	**1.87**	**354**	P	**Pn**	**03 46 28.5**	**-0.2**
KZN	**Kozani**	**1.87**	**354**	*e*Pn	**Pn**	**03 46 29.6**	**+0.9**
VLI	**Veliai**	**1.88**	**157**	P	**Pn**	**03 46 28.2**	**-0.6**
VLI	**Veliai**	**1.88**	**157**	*e*PB	**Pn**	**03 46 28.2**	**-0.6**
VLI	**Veliai**	**1.88**	**157**	P	**Pn**	**03 46 28.2**	**-0.6**
PAIG	**Paliouri**	**1.97**	**41**	*e*PB	**Pn**	**03 46 28.7**	**-1.3**
PAIG	**Paliouri**	**1.97**	**41**	*e*Pb	**Pn**	**03 46 28.7**	**-1.3**
NEST	**Nestorio**	**2.10**	**340**	P	**Pn**	**03 46 31.4**	**-0.6**
NEST	**Nestorio**	**2.10**	**340**	*e*PN	**Pn**	**03 46 33.4**	**+1.4**
NEST	**Nestorio**	**2.10**	**340**	P	**Pn**	**03 46 31.4**	**-0.6**
NEST	**Nestorio**	**2.10**	**340**	*e*Pn	**Pn**	**03 46 33.4**	**+1.4**
SRN	**Sarande**	**2.12**	**313**	*i* PN	**Pb**	**03 46 34.8**	**-0.1**
SRN				*i* SN	**Sn**	**03 46 55.7**	**-3.0**
SRN	**Sarande**	**2.12**	**313**	*i* Pn	**Pb**	**03 46 34.8**	**-0.1**
SRN				*i* Sn	**Sn**	**03 46 55.7**	**-3.0**
KEK	**Kerkira**	**2.13**	**307**	*e*PN	**Pb**	**03 46 34.7**	**-0.5**
KEK	**Kerkira**	**2.13**	**307**	*e*Pn	**Pb**	**03 46 34.7**	**-0.5**
PLG	**Polygyros**	**2.22**	**30**	*e*PB	**Pn**	**03 46 33.7**	**+0.1**
PLG	**Polygyros**	**2.22**	**30**	*e*Pb	**Pn**	**03 46 33.7**	**+0.1**
THE	**Thessaloniki**	**2.31**	**18**	*e*PN	**Pn**	**03 46 35.5**	**+0.9**
THE	**Thessaloniki**	**2.31**	**18**	*e*Pn	**Pn**	**03 46 35.5**	**+0.9**
HORT	**Hortiatis**	**2.31**	**21**	*e*PN	**Pn**	**03 46 36.3**	**+1.5**
HORT	**Hortiatis**	**2.31**	**21**	*e*Pn	**Pn**	**03 46 36.3**	**+1.5**
KYTH	**Kithira**	**2.31**	**159**	*e*PN	**Pn**	**03 46 36.0**	**+1.2**
KYTH	**Kithira**	**2.31**	**159**	*e*Pn	**Pn**	**03 46 36.0**	**+1.2**
KBN	**Korca**	**2.37**	**337**	*i* PN	**Pn**	**03 46 37.5**	**+1.9**
KBN	**Korca**	**2.37**	**337**	*i* Pn	**Pn**	**03 46 37.5**	**+1.9**
FNA	**Florina**	**2.38**	**348**	P	**Pn**	**03 46 36.1**	**+0.2**
FNA	**Florina**	**2.38**	**348**	*e*PB	**Pn**	**03 46 36.0**	**+0.2**
FNA	**Florina**	**2.38**	**348**	P	**Pn**	**03 46 36.1**	**+0.2**
OUR	**Ouranopolis**	**2.43**	**38**	*e*PB	**Pn**	**03 46 35.8**	**-0.5**
OUR	**Ouranopolis**	**2.43**	**38**	*e*Pb	**Pn**	**03 46 35.8**	**-0.5**
GRG	**Griva**	**2.53**	**7**	*e*PN	**Pn**	**03 46 38.6**	**+0.9**
GRG	**Griva**	**2.53**	**7**	*e*Pn	**Pn**	**03 46 38.6**	**+0.9**
SOH	**Sokhos**	**2.59**	**23**	*e*PN	**Pn**	**03 46 38.5**	**-0.1**
SOH	**Sokhos**	**2.59**	**23**	*e*Pn	**Pn**	**03 46 38.5**	**-0.1**
BIA	**Bitola**	**2.62**	**349**	*e*Pn	**Pb**	**03 46 42.5**	**-1.2**
BIA	**Bitola**	**2.62**	**349**	*e*Pn	**Pb**	**03 46 42.4**	**-1.2**
ANKY	**Antikythira Is**	**2.77**	**158**	*e*PB	**Pn**	**03 46 42.7**	**+1.6**
ANKY	**Antikythira Is**	**2.77**	**158**	*e*Pb	**Pn**	**03 46 42.7**	**+1.6**
KNT	**Kendrikon**	**2.80**	**14**	*e*PN	**Pn**	**03 46 41.4**	**0.0**
KNT	**Kendrikon**	**2.80**	**14**	*e*Pn	**Pn**	**03 46 41.4**	**0.0**
VAY	**Valandovo**	**2.90**	**8**	*e*Pn	**Pn**	**03 46 44.9**	**+2.0**
VAY	**Valandovo**	**2.90**	**8**	*e*Pn	**Pn**	**03 46 44.9**	**+2.0**
SRS	**Serrai**	**2.93**	**24**	*e*PN	**Pn**	**03 46 42.8**	**-0.5**
SRS	**Serrai**	**2.93**	**24**	*e*Pn	**Pn**	**03 46 42.8**	**-0.5**
SIGR	**SIGRI**	**3.10**	**75**	*e*PN	**Pn**	**03 46 47.1**	**+1.5**
SIGR	**SIGRI**	**3.10**	**75**	*e*Pn	**Pn**	**03 46 47.1**	**+1.5**
APE	**Apeiranthos**	**3.11**	**115**	*e*PN	**Pn**	**03 46 45.4**	**-0.4**
APE	**Apeiranthos**	**3.11**	**115**	*e*Pn	**Pn**	**03 46 45.4**	**-0.4**
CHOS	**Chios island**	**3.18**	**90**	*e*PN	**Pn**	**03 46 46.7**	**-0.1**
CHOS	**Chios island**	**3.18**	**90**	*e*Pn	**Pn**	**03 46 46.7**	**-0.1**
KAVA	**Kavala**	**3.20**	**36**	*e*PN	**Pn**	**03 46 48.7**	**+1.8**
KAVA	**Kavala**	**3.20**	**36**	*e*Pn	**Pn**	**03 46 48.7**	**+1.8**
NVR	**Nevrokopi**	**3.23**	**26**	*e*PN	**Pn**	**03 46 46.8**	**-0.6**
NVR	**Nevrokopi**	**3.23**	**26**	*e*Pn	**Pn**	**03 46 46.8**	**-0.6**
VAM	**Vamos**	**3.50**	**149**	*e*PN	**Pn**	**03 46 52.6**	**+1.4**
VAM	**Vamos**	**3.50**	**149**	*e*Pn	**Pn**	**03 46 52.6**	**+1.4**
SKO	**Skopje**	**3.55**	**353**	*e*PN	**Pb**	**03 46 56.3**	**-3.0**
SKO	**Skopje**	**3.55**	**353**	*e*Pn	**Pb**	**03 46 56.3**	**-3.0**
IDI	**Anoyia**	**3.91**	**143**	Pn	**Pn**	**03 46 56.7**	**-0.1**
	0.5nm,0.3s,baz=311,slow=11,SNR=9.5						
IDI				Sn	**Sn**	**03 47 40.9**	**-2.1**
	2.1nm,0.3s,baz=282,slow=20,SNR=2.9						
IVAS	**Ivanjica**	**5.31**	**345**	*e*Pn	**Pn**	**03 47 18.9**	**+2.8**
STON	**Ston**	**5.50**	**325**	*e*Pn	**Pn**	**03 47 19.9**	**+1.4**
STON				Sn	**Sn**	**03 48 19.6**	**-2.5**
STON	**Ston**	**5.50**	**325**	*e*Pn	**Pn**	**03 47 19.9**	**+1.4**
TRUS	**Trudelj**	**5.90**	**349**	*e*Pn	**Pn**	**03 47 25.0**	**+1.0**
BRTR	**Keskin Array B**	**9.14**	**78**	Pn	**Pn**	**03 48 10.1**	**+1.5**
	0.4nm,0.3s,baz=259,slow=12,SNR=15						

ESDC	**Sonseca Array**	**20.19**	**282**	P	**P**	**03 50 31.4**	**-0.1**
	1.4nm,0.7s,baz=80,slow=11,SNR=8.1						
HFS	**Hagfors**	**22.34**	**349**	P	**P**	**03 50 55.7**	**+1.3**
	0.9nm,0.5s,baz=156,slow=11,SNR=6.2						
FINES	**FINESS Array B**	**23.16**	**5**	P	**P**	**03 51 03.9**	**+0.8**
	3.9nm,1.0s,baz=186,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**23.60**	**347**	P	**P**	**03 51 07.6**	**+0.1**
	0.7nm,0.9s,baz=161,slow=9.8,SNR=4.5						
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P	**P**	**03 51 11.7**	**+1.3**
	1.8nm,0.8s,baz=131,slow=8.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**30.99**	**221**	P	**P**	**03 52 13.8**	**-0.5**
	0.7nm,0.5s,baz=31,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**44.16**	**59**	P	**P**	**03 54 04.6**	**-0.9**
	0.6nm,0.4s,baz=274,slow=7.4,SNR=16						
ZALV	**Zalesovo Beam**	**44.64**	**48**	P	**P**	**03 54 09.8**	**+0.6**
	0.8nm,0.4s,baz=280,slow=8.2,SNR=3.9						
YKA	**Yellowknife Ar**	**73.53**	**341**	P	**P**	**03 57 29.8**	**+0.4**
	0.2nm,0.7s,baz=34,slow=5.0,SNR=3.9						

*ISCJB **19** 03:50:55.4±0.5, 38˚.44N±0.˚03×21˚.87E±0.˚04, h18km±5km, mb3.2/2, Error ellipse: s-maj=5.2km s-min=4.6km az=179.7*
*ATH **19** 03:50:55.5, 38˚.43N×21˚.90E, h18km±1km, ML2.9*
*CSEM **19** 03:50:55.5, 38˚.43N×21˚.90E, h18km, ML2.9, After ATH*
*IDC **19** 03:50:55.3±2.0, 38˚.51N×21˚.99E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/28, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=53.0km s-min=26.5km az=144.0*

ISC 19 03:50:55.4±0.9, 38˚.43N±0.˚02×21˚.90E±0.˚02, h14km±7km, n46, σ0s53/60, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KALE	**Kalithea**	**0.19**	**102**	*e*PB	**Pg**	**03 50 59.6**	**-0.3**
KALE				*e*SB	**Sg**	**03 51 03.3**	**+0.4**
KALE	**Kalithea**	**0.19**	**102**	*e*Pb	**Pg**	**03 50 59.6**	**-0.3**
KALE				*e*Sb	**Sg**	**03 51 03.3**	**+0.4**
LAKA	**Lakka**	**0.20**	**162**	*e*PB	**Pb**	**03 51 00.0**	**-0.9**
LAKA	**Lakka**	**0.20**	**162**	*e*Pb	**Pb**	**03 51 00.0**	**-0.9**
KLV	**Kalavryta, Ach**	**0.43**	**153**	*e*PB	**Pg**	**03 51 03.8**	**-0.3**
KLV				*e*SB	**Sb**	**03 51 11.5**	**+0.3**
KLV	**Kalavryta, Ach**	**0.43**	**153**	*e*Pb	**Pg**	**03 51 03.8**	**-0.3**
KLV				*e*Sb	**Sb**	**03 51 11.5**	**+0.3**
EVR	**Evrytania**	**0.49**	**352**	*e*PB	**Pg**	**03 51 04.9**	**-0.2**
EVR				*e*SB	**Sb**	**03 51 13.0**	**+0.1**
EVR	**Evrytania**	**0.49**	**352**	*e*Pb	**Pg**	**03 51 04.9**	**-0.2**
EVR				*e*Sb	**Sb**	**03 51 13.0**	**+0.1**
DSF	**Desfina**	**0.49**	**92**	*e*PB	**Pg**	**03 51 04.5**	**-0.6**
DSF				*e*SB	**Sb**	**03 51 12.8**	**-0.1**
DSF	**Desfina**	**0.49**	**92**	*e*Pb	**Pg**	**03 51 04.5**	**-0.6**
DSF				*e*Sb	**Sb**	**03 51 12.8**	**-0.1**
DRO	**Drossia**	**0.50**	**198**	*e*PB	**Pb**	**03 51 05.4**	**-0.6**
DRO				*e*SB	**Sb**	**03 51 13.6**	**+0.5**
DRO	**Drossia**	**0.50**	**198**	*e*Pb	**Pb**	**03 51 05.4**	**-0.6**
DRO				*e*Sb	**Sb**	**03 51 13.6**	**+0.5**
RLS	**Riolos of Patr**	**0.51**	**223**	*e*PN	**Pb**	**03 51 05.6**	**-0.4**
RLS				*e*SN	**Sb**	**03 51 13.7**	**+0.5**
RLS	**Riolos of Patr**	**0.51**	**223**	*e*Pn	**Pb**	**03 51 05.6**	**-0.4**
RLS				*e*Sn	**Sb**	**03 51 13.7**	**+0.5**
PDO	**Prodromos**	**0.59**	**287**	*e*PN	**Pb**	**03 51 07.5**	**+0.1**
PDO	**Prodromos**	**0.59**	**287**	*e*Pn	**Pb**	**03 51 07.5**	**+0.1**
GUR	**Goura**	**0.60**	**145**	*e*PB	**Pg**	**03 51 06.8**	**-0.5**
GUR				*e*SN	**Sb**	**03 51 16.6**	**+0.4**
GUR	**Goura**	**0.60**	**145**	*e*Pb	**Pg**	**03 51 06.8**	**-0.5**
GUR				*e*Sn	**Sb**	**03 51 16.6**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.61**	**17**	*e*PN	**Pb**	**03 51 07.5**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.61**	**17**	*e*Pn	**Pb**	**03 51 07.5**	**-0.3**
AGG	**Agios Georgios**	**0.68**	**30**	*e*PN	**Pn**	**03 51 09.6**	**-1.0**
AGG	**Agios Georgios**	**0.68**	**30**	*e*Pn	**Pn**	**03 51 09.6**	**-1.0**
LKR	**Lokris**	**0.89**	**75**	*e*PN	**Pb**	**03 51 12.4**	**-0.2**
LKR	**Lokris**	**0.89**	**75**	*e*Pn	**Pb**	**03 51 12.4**	**-0.2**
AMT	**Artemida-Makis**	**0.91**	**190**	*e*PN	**Pn**	**03 51 13.2**	**-0.6**
AMT	**Artemida-Makis**	**0.91**	**190**	*e*Pn	**Pn**	**03 51 13.2**	**-0.6**
LKD2	**Lefkada island**	**1.04**	**290**	*e*PN	**Pn**	**03 51 15.2**	**-0.2**
LKD2	**Lefkada island**	**1.04**	**290**	*e*Pn	**Pn**	**03 51 15.3**	**-0.2**
VLS	**Valsamata**	**1.06**	**257**	*e*PB	**Pb**	**03 51 14.9**	**-0.6**
VLS	**Valsamata**	**1.06**	**257**	*e*Pb	**Pb**	**03 51 14.9**	**-0.6**
THL	**Klokotos Trika**	**1.14**	**4**	*e*PN	**Pg**	**03 51 16.9**	**-0.4**
THL	**Klokotos Trika**	**1.14**	**4**	*e*Pn	**Pg**	**03 51 16.9**	**-0.4**
ITM	**Ithomi**	**1.25**	**179**	*e*PN	**Pg**	**03 51 18.8**	**-0.7**
ITM	**Ithomi**	**1.25**	**179**	*e*Pn	**Pg**	**03 51 18.8**	**-0.7**
DID	**Didima**	**1.40**	**131**	*e*PN	**Pg**	**03 51 21.8**	**-0.6**
DID	**Didima**	**1.40**	**131**	*e*Pn	**Pg**	**03 51 21.8**	**-0.6**
ATH	**Athens Observa**	**1.50**	**107**	*e*PN	**Pb**	**03 51 22.8**	**-0.2**
ATH				*e*SB	**Sg**	**03 51 44.7**	**+0.9**
ATH	**Athens Observa**	**1.50**	**107**	*e*Pn	**Pb**	**03 51 22.8**	**-0.2**
ATH				*e*Sb	**Sg**	**03 51 44.7**	**+0.9**
PTL	**Penteli**	**1.59**	**103**	*e*PN	**Pb**	**03 51 24.2**	**-0.4**
PTL	**Penteli**	**1.59**	**103**	*e*Pn	**Pb**	**03 51 24.2**	**-0.4**
VLI	**Veliai**	**1.90**	**154**	*e*PN	**Pb**	**03 51 29.4**	**-0.4**
VLI	**Veliai**	**1.90**	**154**	*e*Pn	**Pb**	**03 51 29.4**	**-0.4**
IDI	**Anoyia**	**3.95**	**142**	Pn	**Pn**	**03 51 56.9**	**+1.3**
	0.4nm,0.3s,baz=340,slow=18,SNR=2.0						
BRTR	**Keskin Array B**	**9.22**	**78**	Pn	Pn	03 53 12.4	+4.4
	0.1nm,0.3s,baz=262,slow=12,SNR=6.2						
TORD	**Torodi Ar. Bea**	**30.92**	**221**	P	P	03 57 15.0	+3.2
	0.4nm,0.9s,baz=28,slow=9.6,SNR=3.0						
MKAR	**Makanchi Array**	**44.24**	**59**	P	**P**	**03 59 04.8**	**+0.6**
	0.2nm,0.4s,baz=276,slow=6.9,SNR=4.9						

*ISCJB **19** 04:04:38.6±0.8, 54˚.4N±0.˚2×35˚.1W±0.˚2, h10km, mb3.4/7, MS3.3/9, Error ellipse: s-maj=33.3km s-min=15.8km az=26.3*
*IDC **19** 04:04:38.9±0.9, 54˚.38N×35˚.14W, h0km, mb3.4/7, mb1 3.7/7, mb1mx3.5/43, mbtmp3.4/7, MS3.3/11, Ms1 3.3/11, ms1mx3.1/33, Error ellipse: s-maj=39.6km s-min=19.6km az=26.0*

ISC 19 04:04:40.3±0.9, 54˚.4N±0.˚2×35˚.1W±0.˚2, h10km, n19, σ1s05/9, mb3.3/7, MS3.2/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SFJD	**Kangerlussuaq**	**14.70**	**336**	LR	LR	04 12 43.9	
	comp=Z,67nm,19.9s,baz=256,slow=33						
SCHQ	**Schefferville**	**18.30**	**284**	LR	LR	04 14 23.9	
	comp=Z,201nm,20.3s,baz=210,slow=32						
NOA	**NORSAR Array B**	**25.18**	**56**	LR	LR	04 18 15.4	
	comp=Z,28nm,18.7s,baz=15,slow=32						
ESDC	**Sonseca Array**	**25.56**	**112**	P	**P**	**04 10 10.9**	**+1.7**
	0.4nm,0.6s,baz=316,slow=8.6,SNR=3.9						
HFS	**Hagfors**	**26.51**	**58**	LR	LR	04 19 15.4	
	comp=Z,76nm,19.7s,baz=290,slow=33						
DAVOX	**Davos/Dischmat**	**29.14**	**86**	LR	LR	04 21 52.1	
	comp=Z,83nm,18.0s,baz=283,slow=35						
SADO	**Sadowa**	**29.67**	**269**	LR	LR	04 21 34.9	
	comp=Z,146nm,18.0s,baz=176,slow=34						
GERES	**GERESS Array B**	**30.31**	**80**	LR	LR	04 22 48.5	
	comp=Z,43nm,18.5s,baz=306,slow=36						
FINES	**FINESS Array B**	**32.16**	**52**	LR	LR	04 22 13.3	
	comp=Z,26nm,20.3s,baz=168,slow=33						
YKA	**Yellowknife Ar**	**39.85**	**315**	P	**P**	**04 12 13.2**	**-0.1**
	0.4nm,0.6s,baz=61,slow=9.0,SNR=6.8						
YKA				PcP	**PcP**	**04 14 18.4**	**-0.5**
	0.5nm,1.0s,baz=60,slow=3.4,SNR=6.5						
BRTR	**Keskin Array B**	**47.18**	**79**	LR	LR	04 33 04.1	
	comp=Z,19nm,19.5s,baz=347,slow=36						
PDAR	**Pinedale Array**	**48.38**	**288**	P	**P**	**04 13 21.7**	**-0.6**
	0.4nm,1.0s,baz=70,slow=8.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**50.23**	**131**	P	**P**	**04 13 35.2**	**-1.2**
	0.8nm,0.8s,baz=332,slow=9.2,SNR=4.5						
ILAR	**Eielson Array**	**50.24**	**329**	P	**P**	**04 13 36.2**	**+0.3**
	0.2nm,0.6s,baz=52,slow=6.0,SNR=3.2						
DBIC	**Dimbokro**	**53.44**	**141**	LR	LR	04 33 44.2	
	comp=Z,47nm,20.4s,baz=316,slow=33						
TXAR	**Lajitas Array**	**54.40**	**272**	P	**P**	**04 14 08.5**	**+1.1**
	0.2nm,0.7s,baz=64,slow=8.1,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.60**	**42**	P	**P**	**04 14 57.5**	**+0.1**
	0.5nm,0.7s,baz=321,slow=8.3,SNR=6.1						
AAK	**Ala-Archa**	**66.28**	**49**	LR	LR	04 43 43.5	
	comp=Z,40nm,18.6s,baz=34,slow=35						
ASAR	**Alice Springs**	**148.26**	**19**	PKPbc	**PKPbc**	**04 24 25.8**	**-0.6**
	1.0nm,0.6s,baz=353,slow=2.2,SNR=7.4						

*IDC **19** 04:23:53.5±1.0, 0.˚90N×97.˚19E, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.2/38, mbtmp4.3/16, ML4.2/2, MS3.6/11, Ms1 3.6/11, ms1mx3.3/39, Error ellipse: s-maj=27.3km s-min=19.4km az=43.0*
*ISCJB **19** 04:23:57.0±0.5, 1.˚10N±0.˚05×97.˚30E±0.˚05, h25km, mb4.3/23, MS3.6/9, Error ellipse: s-maj=9.6km s-min=5.4km az=136.0*
*NEIC **19** 04:23:59.0±0.5, 1.˚02N×97.˚30E, h35km, mb4.4/4, Error ellipse: s-maj=12.4km s-min=8.6km az=224.0*
*DJA **19** 04:24:01.3±2.0, 1.˚N×5˚.9˚7E±˚, h28km±30km, M4.2/6, mb4.5/1, mB5.3/1, MLv4.2/6, Mw(mB)4.7/1*

ISC 19 04:23:58.2±0.6, 1.˚04N±0.˚06×97.˚17E±0.˚06, h25km, n85, σ1s30/74, mb4.5/23, MS3.6/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SNSI	**Sinabang, Aceh**	**1.60**	**328**	P	**Pn**	**04 24 25.4**	**+0.5**
SNSI				S	**Sn**	**04 24 44.9**	**+0.2**
TPTI		**2.21**	**0**	P	**Pn**	**04 24 32.1**	**-1.1**
TPTI				S	**Sn**	**04 24 57.3**	**-2.4**
MNSI	**Mandailing Nat**	**2.42**	**96**	P	**Pn**	**04 24 35.1**	**-1.1**
PSI	**Prapat**	**2.48**	**45**	P	x	04 24 35.3	
PSI	**Prapat**	**2.48**	**45**	Pn	**Pn**	**04 24 35.5**	**-1.6**
PSI				Sn	**Sb**	**04 25 15.7**	**+3.4**
PSI	**Prapat**	**2.48**	**45**	Pn	**Pn**	**04 24 35.5**	**-1.6**
	7.1nm,0.3s,baz=239,slow=5.3,SNR=28						
PSI				LR	LR	04 25 13.3	
	comp=Z,448nm,21.5s,baz=281,slow=32

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.5nm,0.8s,baz=100,slow=4.3,SNR=13						
KHC	Kasperske Hory	85.01	319	eP	P	04 36 33.2	+1.5
NB2	NORSAR Subarra	87.13	331	P	P	04 36 41.9	0.0
	comp=Z,1.1nm,0.8s,baz=95,slow=4.8						
NOA	NORSAR Array B	87.13	331	P	P	04 36 41.6	-0.2
NOA	NORSAR Array B	87.13	331	P	P	04 36 41.6	-0.2
	comp=Z,1.5nm,0.8s,baz=95,slow=4.7,SNR=5.5						
TXAR	Lajitas Array	143.82	32	PKP	PKPab	04 43 29.7	+0.6
TXAR	Lajitas Array	143.82	32	PKP	PKPab	04 43 29.7	+0.6
	comp=Z,0.3nm,0.7s,baz=191,slow=2.8,SNR=6.2						

DJA 19 04:29:12.0±0.3**, 4°S**±3°×**12°.3E**±°**, h84**km±34km**, M4.2**/17**, mb4.6**/2**, MLv4.0**/17**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKSI	Kolaka, Sulawe	1.78	256	P	x	04 29 42.3	
BBSI	Bau Bau	1.91	205	P	Pn	04 29 42.7	-0.2
LUWI	Luwuk	2.76	347	P	Pn	04 29 54.4	+0.2
LUWI				S	Sn	04 30 27.7	+1.1
SANI	Sanana	3.10	57	P	Pn	04 29 57.5	-1.2
APSI	Ampana	3.31	328	P	Pn	04 30 02.7	+1.0
BNSI	Bone	3.34	259	P	Pn	04 30 01.7	-0.3
BNSI				S	Sn	04 30 38.1	-2.5
BKSI	Bulukumba	3.61	244	P	Pn	04 30 05.1	-0.6
BKSI				S	Sn	04 30 47.3	0.0
SPSI	Sidrap Palu	3.62	267	P	Pn	04 30 05.1	-0.7
TTSI	Tana Toraja	3.63	281	P	Pn	04 30 06.6	+0.6
NLAI	Namlea	3.74	82	P	Pn	04 30 06.4	-1.0
KMSI	Cibinong	4.34	8	P	Pn	04 30 17.3	+1.7
GTOI	Gorontalo	4.37	355	P	Pn	04 30 18.6	+2.5
MRSI	Marisa	4.44	341	P	Pn	04 30 16.8	-0.2
PCI	Palu	4.54	308	P	Pn	04 30 13.5	-4.8
MMSI	Mamuju	4.59	283	P	x	04 30 19.6	
LBFI	Labuhan Bajo,	5.85	216	P	x	04 30 36.8	
	42nm,1.4s,0.3nm						
TNTI	Ternate	6.00	42	P	Pn	04 30 38.2	0.0

*IDC **19** 04:36:09.8±1.2, 34°.69N×72°.99E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.5/44, mbtmp3.6/10, ML3.5/5, Error ellipse: s-maj=29.4km s-min=22.3km az=100.0*
*ISCJB **19** 04:36:13.3±0.7, 34°.89N±0°.05×72°.9E±0°.1, h24km, mb3.7/4, Error ellipse: s-maj=13.5km s-min=4.0km az=150.9*
*NDI **19** 04:36:13.5±2.1, 34°.79N×72°.68E, h10km, ML3.8*
*NNC **19** 04:36:23.1±6.7, 35°.18N×72°.72E, h71km±89km, mb3.6, mpv3.9, Error ellipse: s-maj=57.0km s-min=48.0km az=88.0*
ISC 19 04:36:14.1±0.8**, 34°.82N**±0°.07×**72°.8E**±0°.1**, h24**km**, n22,** σ**2**s**.12**/26**, mb3.8**/4**, 5C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	3.50	130	eP	Pn	04 37 08.0	+0.8
DLH				eS	Sn	04 37 49.0	+1.0
DHRM	DHARAMSHALA	3.91	130	eP	Pn	04 37 14.1	+1.4
DHRM				eS	Sn	04 37 59.0	+1.1
DHRM				AML	AML	04 38 02.8	
	comp=E,334nm,0.2s						
DHRM				AML	AML	04 38 03.0	
	comp=N,477nm,0.4s						
BHK	Bhakra	4.57	137	ex	Pb	04 37 37.8	+4.3
SDNR	Sundarnagar	4.83	132	eP	Pn	04 37 28.0	+2.7
SDNR				eS	Sn	04 38 20.6	0.0
SMLA	Simla	5.21	134	eP	Pn	04 37 31.0	+0.5
SMLA				eS	Sn	04 38 28.9	-0.9
SMLA				AML	AML	04 38 52.5	
	comp=E,174nm,0.4s						
SMLA				AML	AML	04 38 52.9	
	comp=N,152nm,0.6s						
NDI	New Delhi	7.19	147	ex	Pn	04 37 52.0	-5.7
NDI				eS	Sn	04 39 13.0	-5.7
AAK	Ala-Archa	7.92	9	⇑P	Pn	04 38 11.5	+3.7
	comp=N,1.5nm,0.5s						
AAK				⇑S	Sn	04 39 37.3	+0.6
	comp=N,13nm,1.0s						
AAK	Ala-Archa	7.92	9	Pn	Pn	04 38 11.2	+3.4
	comp=N,0.5nm,0.3s,baz=167,slow=6.0,SNR=8.3						
AAK				Sn	Sn	04 39 37.7	+0.9
	comp=N,0.2nm,0.3s,baz=300,slow=21,SNR=5.8						
TKM2	Tokmak 2	8.38	14	P	Pn	04 38 15.6	+1.3
TKM2				S	Sn	04 39 45.2	-3.1
KK31	Karatay Array	8.46	349	P	Pn	04 38 18.4	+3.4
	comp=N,5.6nm,0.4s,baz=170,slow=13,SNR=90						
KK31				⇓S	Sn	04 39 50.9	+1.1
	comp=N,3.5nm,0.6s,baz=186,slow=23,SNR=9.7						
BHPL	Bhopal	12.23	159	eS	Sn	04 41 14.2	-8.2
MKAR	Makanchi Array	13.95	28	Pn	Pn	04 39 29.3	-0.9
	comp=N,0.1nm,0.3s,baz=114,slow=7.3,SNR=5.1						
KURBB	Kurchatov Arra	16.34	13	Pn	Pn	04 39 58.5	-3.3
	comp=N,0.1nm,0.3s,baz=131,slow=6.3,SNR=11						
AB31	Akbulak array	17.25	331	⇑P	P	04 40 15.0	+0.4
	comp=N,0.4nm,0.5s,baz=153,slow=12,SNR=11						
AB31				⇑S	Sn	04 43 19.7	-4.7
	comp=N,0.8nm,0.7s						
BVAR	Borovoye Array	18.28	355	P	P	04 40 27.6	+1.7
	comp=N,0.2nm,0.3s,baz=161,slow=12,SNR=7.9						
AKTO	Aktyubinsk	18.95	330	⇑P	Pn	04 40 35.5	+1.4
	comp=N,4.8nm,0.7s						
AKTO	Aktyubinsk	18.95	330	P	Pn	04 40 35.8	+1.7
	comp=N,0.5nm,0.3s,baz=135,slow=12,SNR=16						
ZALV	Zalesovo Beam	20.92	20	P	P	04 40 53.9	-0.8
	comp=N,1.9nm,0.5s,baz=216,slow=13,SNR=8.2						
ARCES	ARCESS Array B	43.24	338	P	P	04 44 14.1	+1.1
	comp=N,2.3nm,0.8s,baz=112,slow=8.9,SNR=8.4						
TORD	Torodi Ar. Bea	67.14	270	P	P	04 47 06.6	+0.3
	comp=N,0.7nm,0.5s,baz=50,slow=5.7,SNR=17						
WRA	Warramunga Arr	79.88	123	P	P	04 48 19.9	-1.0
	comp=N,0.4nm,0.9s,baz=305,slow=8.9,SNR=3.0						
YKA	Yellowknife Ar	82.84	3	P	P	04 48 36.0	-0.1
	comp=N,0.3nm,0.5s,baz=349,slow=5.4,SNR=7.4						

IDC 19 04:40:47.0±4.1**, 6°.15S**×**150°.78E, h0**km**, mb2.8**/2**, mb1 3.2**/2**, mb1mx3.1**/17**, mbtmp2.9**/2**, Error ellipse: s-maj=177.2km s-min=51.6km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.05	228	P	P	04 45 34.3	+1.5
	0.8nm,1.1s,baz=52,slow=10,SNR=1.6						
ASAR	Alice Springs	23.81	221	P	P	04 46 00.1	-1.8
	0.1nm,0.4s,baz=57,slow=8.7,SNR=2.1						
TORD	Torodi Ar. Bea	148.77	285	PKPbc	PKPbc	05 00 37.4	-0.2
	0.3nm,0.6s,baz=70,slow=2.4,SNR=5.9						

AUST 19 05:21:22.3, 12°.00S×**122°.49E, h0**km**, South of Timor**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.83	38	P	Pb	05 22 12.2	-1.8
	baz=2.8,SNR=17						
SOEI				S	Sb	05 22 47.6	-1.7
	baz=2.8,SNR=3.4						
KNRA	Kununurra	7.10	122	P	Pn	05 23 10.8	+3.2
	baz=7.1,SNR=5.4						
MTN	Manton Dam	8.48	97	P	Pn	05 23 27.8	+1.2
	baz=8.5,SNR=4.9						
MTN				S	Sn	05 24 58.6	-4.5
	baz=8.5,SNR=4.9						
JAGI	Jajag, Banyuwa	8.93	292	S	Sn	05 25 04.8	-9.2
	baz=8.9,SNR=3.8						
GIRL	Giralia	13.19	216	P	Pn	05 24 30.5	-0.6
	baz=13,SNR=4.9						
WRKA	Warakurna	14.08	158	P	Pn	05 24 43.2	-0.1
	baz=14,SNR=4.2						
WRKA				S	Sn	05 26 58.7	-22
	baz=14,SNR=4.6						
MEEK	Meekatharra	15.01	194	P	Pn	05 24 55.4	-0.6
	baz=15,SNR=50						
MEEK				S	Sn	05 27 30.0	-13
	baz=15,SNR=3.4						
MORW	Morawa	18.02	199	P	Pn	05 25 34.2	-0.1
	baz=18,SNR=6.2						
BLDU	Ballidu	19.28	195	P	Pn	05 25 52.1	+2.4
	baz=19,SNR=6.8						
PALU	Palau	22.61	32	S	S	05 30 37.1	+3.3
	baz=23,SNR=5.4						
RKGY	Rocky Gully	23.06	192	P	P	05 26 27.2	-2.2
	baz=23,SNR=6.8						
MANU	Manus Island	26.57	70	S	S	05 31 38.2	0.0
	baz=27,SNR=8.3						
PATS	Pohnpei	40.24	64	S	S	05 34 58.2	-11
	baz=40,SNR=3.4						

*BJI **19** 05:36:53.6, 32°.40S×70°.30W, h77km, mB4.7/3, Ms4.9/2, Ms7 4.7/1*
*ISCJB **19** 05:36:53.5±0.2, 32°.46S±0°.02×70°.41W±0°.03, h98km±2km, mb4.5/33, Error ellipse: s-maj=4.9km s-min=3.2km az=34.5*
*GUC **19** 05:36:53.6±0.4, 32°.47S×70°.51W, h100km±2km, ML5.0*
*NEIC **19** 05:36:53.6, 32°.47S×70°.51W, h100km, mb4.6/21, MD4.6(SJA), After GUC.*
NEIC Felt [III] at Santiago and [II] at Chacabuco, Maipo, Quillota, Valparaiso and Vina del Mar. Also felt at La Ligua.
*IDC **19** 05:36:54.1±2.0, 32°.49S×70°.27W, h98km±17km, mb4.2/12, mb1 4.2/16, mb1mx4.0/29, mbtmp4.4/16, MS3.0/1, Ms1 3.2/1, ms1mx2.7/27, Error ellipse: s-maj=20.1km s-min=13.5km az=79.0*
*SJA **19** 05:36:55.3±0.8, 32°.42S×70°.20W, h100km±6km, MD4.5, ML4.8, MW4.2*
ISC 19 05:36:53.4±0.6**, 32°.46S**±0°.03×**70°.40W**±0°.03**, h93**km±4km**, n428,** σ**1**s**.26**/462**, mb4.5**/33**, 163C-162D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.28	217	⇑iP	Pn	05 37 08.2	+0.9
JACH	Jahuel	0.28	217	⇑iP	Pn	05 37 08.2	+0.9
PEL	Peldehue	0.72	200	⇑iP	Pn	05 37 11.1	+0.6
PEL				iS	Sn	05 37 24.3	+1.0
PEL				AML	AML	05 37 25.2	
	comp=E,103μm,0.4s						
AUSP	Uspallata	0.89	75	⇓iP	Pn	05 37 13.8	+1.4
AUSP				iS	Sn	05 37 28.3	+1.7
CLCH	Cerro Calan	0.94	187	⇓iP	Pn	05 37 13.6	+0.8
CLCH				iS	Sn	05 37 28.8	+1.5
CLCH				AML	AML	05 37 30.3	
	comp=E,62μm,0.5s						
CLCH				AML	AML	05 37 30.8	
	comp=E,72μm,0.6s						
LACH	Col Las Americ	0.99	187	iP	Pn	05 37 14.3	+0.9
LACH				iS	Sn	05 37 29.8	+1.5
LACH	Col Las Americ	0.99	187	iP	Pn	05 37 14.3	+0.9
LACH				iS	Sn	05 37 29.8	+1.5
SAN	Santiago	1.01	193	⇑iP	Pn	05 37 14.2	+0.7
SAN				iS	Sn	05 37 29.9	+1.2
SAN	Santiago	1.01	193	⇑iP	Pn	05 37 14.2	+0.7
SAN				iS	Sn	05 37 29.9	+1.2
ANTU	Antumapu	1.12	190	⇓iP	Pn	05 37 15.5	+0.7
ANTU				eS	Sn	05 37 32.0	+1.1
ANTU				AML	AML	05 37 33.1	
	comp=E,28μm,0.2s						
ANTU	Antumapu	1.12	190	⇓iP	Pn	05 37 15.5	+0.7
ANTU				eS	Sn	05 37 32.0	+1.1
RTLS	Leoncito	1.14	55	iP	Pn	05 37 17.0	+1.7
PCH	Pirque	1.16	185	⇑iP	Pn	05 37 16.1	+0.8
PCH				iS	Sn	05 37 33.1	+1.4
PCH	Pirque	1.16	185	⇑iP	Pn	05 37 16.1	+0.8
PCH				iS	Sn	05 37 33.1	+1.4
IHA	Instituto Hidr	1.19	242	eP	Pn	05 37 15.5	0.0
IHA				iS	Sn	05 37 31.7	-0.5
IHA	Instituto Hidr	1.19	242	eP	Pn	05 37 15.5	0.0
IHA				iS	Sn	05 37 31.7	-0.5
TACH	Talagante	1.27	201	⇑iP	Pn	05 37 16.9	+0.4
TACH				iS	Sn	05 37 34.7	+0.7
TACH	Talagante	1.27	201	⇑iP	Pn	05 37 16.9	+0.4
TACH				iS	Sn	05 37 34.7	+0.7
ARCO	CERRO ARCO	1.29	107	iP	Pn	05 37 18.7	+1.8
ARCO				iS	Sn	05 37 36.0	+1.3
ARCO				AML	AML	05 37 39.6	
	comp=Z,20μm,0.6s						
ASAL	Salagasta	1.32	96	iP	Pn	05 37 19.1	+1.9
CMCH	Combarbala	1.39	338	iP	Pn	05 37 18.7	+0.7
CMCH				eS	Sn	05 37 37.7	+1.2
CMCH	Combarbala	1.39	338	iP	Pn	05 37 18.7	+0.7
CMCH				eS	Sn	05 37 37.7	+1.2
LCCH	Las Cruces	1.41	224	⇑iP	Pn	05 37 19.0	+0.8
LCCH				iS	Sn	05 37 37.5	+0.5
LCCH	Las Cruces	1.41	224	⇑iP	Pn	05 37 19.0	+0.8
LCCH				iS	Sn	05 37 37.5	+0.5
AAGR	Agrelo	1.46	116	iP	Pn	05 37 20.6	+1.7
CHCH	Chadas Angostu	1.48	188	⇑iP	Pn	05 37 19.8	+0.6
CHCH				iS	Sn	05 37 39.7	+1.0
CHCH	Chadas Angostu	1.48	188	⇑iP	Pn	05 37 19.8	+0.6
CHCH				iS	Sn	05 37 39.7	+1.0
CACH	El Canelo	1.66	186	⇓iP	Pn	05 37 22.5	+1.0
CACH				iS	Sn	05 37 45.0	+2.2
CACH	El Canelo	1.66	186	⇓iP	Pn	05 37 22.5	+1.0
CACH				iS	Sn	05 37 45.0	+2.2
RTCV	Cerro Valdivia	1.68	70	iP	Pn	05 37 23.2	+1.5
RTCV				iS	Sn	05 37 43.4	+0.2
LNV	Longovilo	1.72	209	iP	Pn	05 37 21.9	-0.2
LNV				⇑iS	Sn	05 37 43.9	+0.1
LNV	Longovilo	1.72	209	iP	Pn	05 37 21.9	-0.2
LNV				iS	Sn	05 37 43.9	+0.1
SJA	San Juan	1.82	60	iP	Pn	05 37 24.9	+1.5
SJA				iS	Sn	05 37 46.2	-0.1
RTLL	Cerro Villicun	1.98	56	iP	Pn	05 37 27.1	+1.5
CFAA	Coronel Fontan	2.02	66	P	Pn	05 37 27.0	+0.9
CFAA				S	Sn	05 37 52.3	+1.3
CFAA	Coronel Fontan	2.02	66	P	Pn	05 37 27.0	+0.9
	comp=Z,16nm,0.3s,baz=233,slow=12,SNR=1626						
CFAA				S	Sn	05 37 52.3	+1.3
	comp=Z,96nm,0.3s,baz=125,slow=19,SNR=3.6						
ACAN	Cantantal	2.72	87	iP	Pn	05 37 36.2	+0.9
ACAN				iS	Sn	05 38 06.6	-0.9
AVFE	Valle Fertil	3.09	55	iP	Pn	05 37 41.3	+1.1
AVFE				AML	AML	05 38 21.3	
	comp=Z,1μm,0.5s						
LCO	Las Campanas	3.45	356	ePn	Pn	05 37 45.7	+0.4
LCO				eSn	Sn	05 38 25.5	+0.1
VACH	Vallenar	3.89	355	iP	Pn	05 37 51.5	+0.5
VACH				iS	Sn	05 38 36.1	+0.5
VACH	Vallenar	3.89	355	iP	Pn	05 37 51.5	+0.5
VACH				iS	Sn	05 38 36.1	+0.5
H03N1	Juan Fernandez	7.22	260	T	T	05 45 30.3	
	baz=82,slow=74,SNR=309						
H03N3	Juan Fernandez	7.24	260	T	T	05 45 26.8	
	baz=82,slow=74,SNR=267						
H03N2	Juan Fernandez	7.24	260	T	T	05 45 29.1	
	baz=82,slow=74,SNR=324						
PLCA	Paso Flores	8.26	181	P	Pn	05 38 48.9	-1.5
PLCA				ePn	Pn	05 38 49.8	-0.6
PLCA	Paso Flores	8.26	181	P	Pn	05 38 48.9	-1.5
	comp=Z,0.8nm,0.3s,baz=360,slow=10,SNR=20						
TRQA	Tornquist	8.86	131	ePn	Pn	05 38 57.7	-0.9
TRQA				eSn	Sn	05 40 31.6	-5.0
LVC	Limon Verde	9.90	8	ePn	Pn	05 39 09.0	-4.1
CPUP	Villa Florida	12.92	65	P	Pn	05 39 50.9	-2.6
CPUP				ePn	Pn	05 39 51.4	-2.1
CPUP				S	Sn	05 42 03.3	-12
CPUP	Villa Florida	12.92	65	P	Pn	05 39 50.9	-2.6
	comp=Z,0.9nm,0.3s,baz=205,slow=10.0,SNR=6.3						
CPUP				S	Sn	05 42 03.3	-12
	comp=Z,1.0nm,0.3s,baz=90,slow=20,SNR=1.6						
LPAZ	La Paz	16.23	8	P	Pn	05 40 37.0	+0.4
LPAZ				eP	P	05 40 37.2	-0.8
LPAZ	La Paz	16.23	8	P	Pn	05 40 37.0	+0.4
	comp=Z,0.8nm,0.3s,baz=178,slow=8.4,SNR=37						
LPAZ				LR	LR	05 47 02.3	
	comp=Z,57nm,19.7s,baz=152,slow=37						
SIV	San Ignacio	18.45	29	P	P	05 41 01.6	-0.3
SIV	San Ignacio	18.45	29	P	P	05 41 01.6	-0.3
	comp=Z,1.2nm,0.3s,baz=219,slow=10,SNR=52						
USHA	Ushuaia	22.41	177	P	P	05 41 44.6	+0.5
USHA	Ushuaia	22.41	177	P	P	05 41 44.6	+0.5
	comp=Z,25nm,1.0s,baz=348,slow=11,SNR=6.6						
BB16B	Bebedouro	22.51	65	⇑eP	P	05 41 39.8	-5.8
BB16B				i		05 41 49.0	
BB16B				i		05 41 50.4	
BB16B				i		05 42 09.5	
SAML	Samuel	24.33	18	eP	P	05 42 03.3	+0.8
	comp=Z,2.7nm,0.6s						
BDFB	Brasilia	26.33	56	P	P	05 42 20.3	-0.6
BDFB	Brasilia	26.33	56	P	P	05 42 20.3	-0.6
	comp=Z,3.5nm,1.0s,baz=236,slow=7.3,SNR=4.1						
OTAV	Otavalo	33.40	345	eP	P	05 43 23.5	-0.2
	comp=Z,26nm,1.8s						
VNA2	Neumayer--Watz	50.90	158	P	P	05 45 45.0	+0.5
SNAA	Sanae	52.49	158	P	P	05 45 56.8	+0.3
SNAA	Sanae	52.49	158	P	P	05 45 56.5	+0.1
SNAA	Sanae	52.49	158	P	P	05 45 56.5	+0.1
	comp=Z,3.6nm,0.7s,baz=272,slow=10,SNR=19						
TEIG	Tepich	55.12	339	P	P	05 46 16.8	+0.8
TEIG	Tepich	55.12	339	P	P	05 46 16.8	+0.8
	comp=Z,24nm,0.6s,baz=197,slow=0.7,SNR=18						
034A	Hebbronville	65.04	332	⇑P	P	05 47 25.8	+2.1
	baz=65						
934A	Benavides	65.45	333	⇓P	P	05 47 29.0	+2.6
	baz=66						
933A	Laredo	65.76	332	⇓P	P	05 47 30.5	+2.1
	baz=66						
835A	Beeville	65.80	334	⇓P	P	05 47 31.6	+2.9
	baz=66						
834A	Tilden	65.93	333	⇓P	P	05 47 31.8	+2.3
	baz=66						
735A	Kenedy	66.31	334	⇑P	P	05 47 33.8	+2.0
	baz=67						
833A	Chaparral WMA,	66.44	332	⇑P	P	05 47 34.3	+1.5
	baz=67,SNR=6.9						
734A	La Parita Cree	66.58	333	⇓P	P	05 47 35.3	+1.7
	baz=67						
832A	Faith Ranch, C	66.64	332	⇑P	P	05 47 35.2	+1.3
	baz=67,SNR=7.7						
635A	Leesville	66.78	334	⇓P	P	05 47 36.0	+1.2
	baz=67						
732A	Laxson Ranch,	67.03	332	⇓P	P	05 47 37.9	+1.4
	baz=67,SNR=9.5						
535A	Dale	67.28	335	⇑P	P	05 47 39.3	+1.2
	baz=68						
633A	Saathoff Ranch	67.37	333	⇓P	P	05 47 39.9	+1.3
	baz=68						
534A	Blanco	67.61	334	⇑P	P	05 47 41.0	+0.8
	baz=68						
632A	Uvalde	67.65	332	⇓P	P	05 47 41.9	+1.5
	baz=68,SNR=5.8						
533A	Kerrville	67.86	333	⇑P	P	05 47 42.8	+1.0
	baz=68,SNR=5.3						
631A	Perdido Creek	67.88	332	⇑P	P	05 47 42.7	+0.9
	baz=68						
KMSC	Kings Mountain	68.03	350	⇓P	P	05 47 43.3	+0.7
	baz=68						
434A	Burnet	68.25	334	⇑P	P	05 47 45.1	+0.9
	baz=68,SNR=7.5						
532A	Rocksprings	68.25	333	⇓P	P	05 47 45.7	+1.5
	baz=68,SNR=10						
335A	Moody	68.36	335	⇓P	P	05 47 46.1	+1.3
	baz=69						
433A	Art	68.50	334	⇓P	P	05 47 46.6	+0.9
	baz=69,SNR=9.6						
JCT	Junction City	68.52	333	eP	P	05 47 46.9	+1.0
	comp=Z,8.9nm,0.9s						
JCT	Junction City	68.52	333	⇓P	P	05 47 46.9	+1.0
	baz=69						
531A	Rocksprings	68.53	332	⇑P	P	05 47 47.7	+1.7
	baz=69						
334A	Lometa	68.70	335	⇑P	P	05 47 47.9	+1.0
	baz=69,SNR=6.5						
530A	J-C Ranch, Com	68.83	331	⇓P	P	05 47 49.3	+1.5
	baz=69						
432A	Menard	68.87	333	⇓P	P	05 47 49.1	+1.0
	baz=69						
628A	Black Gap, Mar	68.89	330	⇑P	P	05 47 50.0	+1.8
	baz=69,SNR=6.2						
TKL	Tuckaleechee C	68.92	348	P	P	05 47 47.9	-0.3
TKL	Tuckaleechee C	68.92	348	P	P	05 47 47.9	-0.3
	comp=Z,5.7nm,0.6s,baz=163,slow=7.8,SNR=11						
333A	Richland Sprin	68.97	334	⇑P	P	05 47 49.6	+1.0
	baz=69						
431A	Sonora	69.01	332	⇓P	P	05 47 49.8	+0.9
	baz=69						
WHTX	Lake Whitney	69.02	336	⇓P	P	05 47 50.1	+1.3
	baz=69						
627A	Terlingua Ranc	69.08	329	⇑P	P	05 47 50.3	+0.9
	baz=69						
TXAR	Lajitas Array	69.10	329	P	P	05 47 50.6	+1.1
TXAR	Lajitas Array	69.10	329	P	P	05 47 50.6	+1.1
	comp=Z,2.0nm,0.6s,baz=154,slow=8.5,SNR=40						
234A	Clairette	69.27	335	⇑P	P	05 47 51.3	+0.9
	baz=70,SNR=8.9						
332A	Millersview	69.30	333	⇑P	P	05 47 51.6	+0.9
	baz=70						
430A	Baggett Ranch,	69.36	332	⇓P	P	05 47 51.9	+0.9
	baz=70,SNR=7.0						
528A	Cox Ranch, San	69.44	330	⇓P	P	05 47 52.4	+0.8
	baz=70,SNR=5.7						
429A	Davenport Ranc	69.48	331	⇓P	P	05 47 53.2	+1.3
	baz=70,SNR=5.9						
626A	Big Bend Ranch	69.49	329	⇓P	P	05 47 53.7	+1.8
	baz=70,SNR=7.4						
331A	San Angelo	69.50	333	⇓P	P	05 47 52.7	+0.8
	baz=70,SNR=5.2						
135A	Vickery Place,	69.52	336	⇑P	P	05 47 52.5	+0.5
	baz=70						
233A	Rising Star	69.56	334	⇑P	P	05 47 53.2	+1.0
	baz=70,SNR=8.7						
232A	Coleman	69.72	334	⇓P	P	05 47 54.1	+0.8
	baz=70						
527A	Woodward Ranch	69.78	330	⇓P	P	05 47 54.8	+1.1
	baz=70,SNR=5.6						
330A	Mertzon	69.88	332	⇓P	P	05 47 55.1	+0.9
	baz=70						
428A	Kincaid Ranch,	69.89	331	⇑P	P	05 47 55.4	+1.1
	baz=70						
526A	Mary Lane Ranc	69.91	329	⇑P	P	05 47 56.0	+1.4
	baz=70,SNR=6.8						
231A	Bronte	70.02	333	⇑P	P	05 47 55.6	+0.6
	baz=70,SNR=5.3						
133A	Hamilton Ranch	70.10	335	⇓P	P	05 47 56.5	+1.0
	baz=70						
JSRW	J. Sargeant Re	70.14	354	P	P	05 47 56.2	+0.6
Z35A	Perchaven, San	70.17	336	⇓P	P	05 47 57.3	+1.4
	baz=70						
329A	Wagon Wheel Ra	70.27	332	⇑P	P	05 47 57.7	+1.0
	baz=70,SNR=5.2						
230A	Sterling City	70.28	333	⇑P	P	05 47 57.8	+1.1
	baz=71						
427A	Hayter Ranch,	70.30	330	⇑P	P	05 47 58.2	+1.3
	baz=71						
ABTX	Abilene, Hawle	70.38	334	eP	P	05 47 58.0	+0.7
	comp=Z,8.3nm,0.8s						
ABTX	Abilene, Hawle	70.38	334	⇑P	P	05 47 58.2	+1.0
	baz=71						
426A	McDonald Obser	70.41	330	⇓P	P	05 47 59.1	+1.4
	baz=71,SNR=6.2						
Z34A	Collier Ranch,	70.43	336	⇓P	P	05 47 58.7	+1.2
	baz=71						
328A	Wristen Ranch,	70.52	331	⇓P	P	05 47 58.9	+0.7
	baz=71						
229A	Bryant Ranch,	70.62	332	⇑P	P	05 47 59.6	+0.8
	baz=71						
Z33A	Whitaker Ranch	70.66	335	⇓P	P	05 47 59.8	+0.9
	baz=71,SNR=7.3						
131A	Roby	70.70	333	⇓P	P	05 48 00.0	+0.8
	baz=71						
130A	Snyder	70.85	333	⇓P	P	05 48 01.2	+1.1
	baz=71						
Y34A	Reagan Ranch,	70.91	336	⇑P	P	05 48 01.2	+0.8
	baz=71						
Z32A	Haskell	70.93	334	⇑P	P	05 48 01.7	+1.1
	baz=71,SNR=5.5						
326A	Caldwell Ranch	70.95	330	⇑P	P	05 48 01.9	+1.1
	baz=71						
228A	UT Block 9, Go	71.07	331	⇓P	P	05 48 02.5	+1.0
	baz=71						
Z31A	Sharp Cattle R	71.19	334	⇑P	P	05 48 03.0	+0.8
	baz=72,SNR=8.3						
129A	Stewart Farms,	71.23	332	⇑P	P	05 48 03.1	+0.6
	baz=72						
Y33A	Hilltop Ranch,	71.26	335	⇓P	P	05 48 03.3	+0.8
	baz=72						
227A	Bennet, Jal	71.26	331	⇑P	P	05 48 04.4	+1.7
	baz=72						
PBMO	Poplar Bluff	71.39	343	eP	P	05 48 03.5	+0.3
	comp=Z,9.8nm,0.6s						
128A	Castleberry Fa	71.47	332	⇓P	P	05 48 04.9	+1.0
	baz=72						
X34A	Smith Ranch, M	71.52	336	⇑P	P	05 48 05.1	+1.1
	baz=72						
Z30A	Sanderson Ranc	71.53	333	⇓P	P	05 48 04.8	+0.6
	baz=72						
Y32A	R-V Farms, Ver	71.54	335	⇑P	P	05 48 05.1	+0.9
	baz=72,SNR=5.3						
226B	Tecolote Peak,	71.69	330	⇑P	P	05 48 06.9	+1.7
	baz=72						
X33A	Lawton	71.70	336	⇑P	P	05 48 05.3	+0.2
	baz=72						
Z29A	Hungry Hill Ra	71.72	333	⇑P	P	05 48 05.8	+0.4

baz=72,SNR=6.0
Y31A **Rekieta Farm,** 71.80 334 ⇑P P 05 48 06.9 +1.1
baz=72
X32A **Elmer** 71.86 335 ⇑P P 05 48 06.9 +0.8
baz=72
127A **Arkansas Junct** 71.87 331 ⇓P P 05 48 07.4 +1.1
baz=72
Y30A **Stafford Cattl** 71.96 334 ⇑P P 05 48 07.5 +0.7
baz=72
Z28A **Tucker Farm, M** 72.02 332 ⇑P P 05 48 07.7 +0.5
baz=72
TUL1 **Tulsa** 72.06 339 ⇑P P 05 48 08.1 +0.9
baz=72
W34A **Bridge Creek,** 72.08 337 ⇑P P 05 48 08.1 +0.7
baz=72
126A **Clayton Basin,** 72.12 331 ⇓P P 05 48 09.0 +1.2
baz=72,SNR=5.3
W33A **Caddo, Fort Co** 72.24 336 ⇑P P 05 48 09.8 +1.4
baz=72,SNR=5.9
Y29A **Porterfield Fa** 72.24 333 ⇑P P 05 48 09.5 +1.0
baz=72,SNR=9.2
X31A **McDonald Ranch** 72.30 335 ⇑P P 05 48 09.8 +1.0
baz=73,SNR=5.8
Z27A **Tatum** 72.37 332 ⇓P P 05 48 09.8 +0.5
baz=73
125A **Gardner Draw,** 72.39 330 ⇓P P 05 48 10.0 +0.5
baz=73,SNR=5.3
X30A **Coker Ranch, T** 72.46 334 ⇑P P 05 48 10.6 +0.8
baz=73
W32A **Sentinel** 72.48 335 ⇓P P 05 48 10.7 +0.9
baz=73,SNR=6.6
Y28A **McKinney Farm,** 72.51 333 ⇓P P 05 48 10.7 +0.6
baz=73
V34A **Guthrie** 72.54 337 ⇓P P 05 48 10.7 +0.6
baz=73
Z26A **Caprock** 72.64 331 ⇓P P 05 48 12.3 +1.3
baz=73,SNR=14
MSTX **Muleshoe** 72.77 332 *e*P P 05 48 12.6 +0.9
comp=Z,9.3nm,0.8s
MSTX **Muleshoe** 72.77 332 ⇑P P 05 48 12.8 +1.1
baz=73,SNR=5.5
X29A **Tulia** 72.77 333 ⇓P P 05 48 12.6 +0.9
baz=73
V33A **Lossen Ranch,** 72.78 337 ⇑P P 05 48 12.4 +0.8
baz=73
W31A **Holland Ranch,** 72.79 335 ⇓P P 05 48 12.5 +0.9
baz=73
Y27A **Causey** 72.85 332 ⇑P P 05 48 12.6 +0.5
baz=73
V32A **Arapaho** 72.95 336 ⇓P P 05 48 13.4 +0.8
baz=73
Z25A **Roswell** 72.96 330 ⇓P P 05 48 13.9 +1.0
baz=73
320A **Kipp Ranch, An** 72.99 326 ⇓P P 05 48 14.0 +0.9
baz=73
U34A **Anderson Ranch** 73.10 337 ⇓P P 05 48 13.8 +0.3
baz=73
AMTX **Amarillo** 73.15 334 ⇓P P 05 48 14.8 +0.9
baz=73
Z24A **Sheeppen Canyo** 73.27 330 ⇑P P 05 48 16.3 +1.6
baz=74,SNR=6.9
V31A **Spring Creek L** 73.28 335 ⇓P P 05 48 16.3 +1.7
baz=74
W29A **Amarillo** 73.35 334 ⇓P P 05 48 15.9 +0.8
baz=74
319A **Douglas** 73.38 326 ⇑P P 05 48 17.3 +1.9
baz=74
DBIC **Dimbokro** 73.38 71 P P 05 48 14.9 -0.7
DBIC **Dimbokro** 73.38 71 P P 05 48 14.9 -0.7
comp=Z,2.4nm,0.7s,baz=232,slow=7.2,SNR=5.9
X27A **F and S Farms,** 73.49 332 ⇑P P 05 48 17.8 +1.8
baz=74
Y25A **Mesa, Roswell** 73.50 331 ⇓P P 05 48 16.7 +0.7
baz=74
U32A **Winter Ranch,** 73.53 336 ⇓P P 05 48 17.2 +1.2
baz=74
Z23A **Rita Site, Whi** 73.58 329 ⇓P P 05 48 18.7 +2.1
baz=74,SNR=5.6
121A **Cookes Peak, D** 73.65 328 ⇓P P 05 48 19.2 +2.2
baz=74,SNR=5.8
X26A **CR and CF Fran** 73.69 332 ⇓P P 05 48 18.6 +1.4
baz=74
Y24A **Capitan** 73.81 330 ⇑P P 05 48 19.0 +1.1
baz=74
U31A **Nine Bar Ranch** 73.82 336 ⇑P P 05 48 19.2 +1.5
baz=74
W27A **Bowe Ranch, En** 73.84 333 ⇓P P 05 48 19.0 +1.0
baz=74
Z22A **Elephant Butte** 73.90 329 ⇑P P 05 48 20.1 +1.7
baz=74
T33A **Patterson Ranc** 73.92 337 ⇓P P 05 48 19.3 +1.1
baz=74
Y23A **Lovelace Mesa,** 74.08 330 ⇑P P 05 48 21.6 +2.1
baz=74
V28A **Channing** 74.13 334 ⇓P P 05 48 21.1 +1.5
baz=74
W26A **Owens Ranch, T** 74.14 332 ⇑P P 05 48 21.2 +1.5
baz=74
U30A **WK&E Inc. Balk** 74.24 335 ⇓P P 05 48 21.6 +1.3
baz=74
V27A **Dan Oppiter Fa** 74.36 333 ⇑P P 05 48 22.4 +1.4
baz=75
X24A **Lazy VL Ranch,** 74.36 331 ⇓P P 05 48 22.5 +1.3
baz=75
W25A **X Bar L Ranch,** 74.53 332 ⇓P P 05 48 23.1 +1.1
baz=75
U28A **Mallet** 74.68 334 ⇑P P 05 48 23.7 +0.9
baz=75
X23A **Hourglass Bar** 74.69 330 ⇓P P 05 48 24.6 +1.6
baz=75
V26A **Tequesquite Ra** 74.77 332 ⇓P P 05 48 24.4 +1.1
baz=75
S31A **Mullinville** 74.82 336 ⇓P P 05 48 24.8 +1.3
baz=75
W24A **Lazy 6 Ranch,** 74.91 331 ⇓P P 05 48 25.6 +1.3
baz=75,SNR=6.3
U27A **Thompson Grove** 74.94 333 ⇓P P 05 48 25.7 +1.4
baz=75
LAZ **Ladron** 74.95 329 *e*P P 05 48 25.4 +0.9
comp=Z,1.3nm,1.0s
ANMO **Albuquerque** 75.12 330 *e*P P 05 48 27.0 +1.5
comp=Z,11nm,1.5s
V25A **Rancho No Teng** 75.13 332 ⇓P P 05 48 26.9 +1.4
baz=75,SNR=6.7
S30A **Montezuma** 75.17 336 ⇑P P 05 48 26.8 +1.2
baz=76
W23A **Warner Place,** 75.17 330 ⇑P P 05 48 27.4 +1.6
baz=75,SNR=6.6
KSU1 **Kansas State U** 75.25 339 ⇑P P 05 48 26.3 +0.4
baz=76
U26A **Atchley Ranch,** 75.27 333 ⇓P P 05 48 28.0 +1.6
baz=76
R32A **Long Quarter,** 75.29 337 ⇑P P 05 48 27.2 +1.1
baz=76
T28A **Walsh** 75.30 334 ⇑P P 05 48 27.1 +0.8
baz=76
V24A **Rampart Ranch,** 75.30 331 ⇑P P 05 48 27.9 +1.3
baz=76
S29A **Ulysses** 75.38 335 ⇑P P 05 48 28.1 +1.4
baz=76,SNR=5.2
R31A **Burdett** 75.44 337 ⇓P P 05 48 28.1 +1.1
baz=76
T27A **Campo** 75.47 334 ⇓P P 05 48 28.5 +1.1
baz=76
U25A **Circle Dot Ran** 75.54 332 ⇑P P 05 48 29.5 +1.6
baz=76,SNR=5.8
S28A **Manter** 75.64 335 ⇑P P 05 48 29.7 +1.4
baz=76
R30A **Dighton** 75.69 336 ⇓P P 05 48 29.7 +1.3
baz=76
Q32A **Meitler Ranch,** 75.75 338 ⇓P P 05 48 29.8 +1.0
baz=76,SNR=5.3
T26A **Comanche Natio** 75.90 333 ⇑P P 05 48 31.3 +1.4
baz=76
Q31A **Ellis** 76.04 337 ⇓P P 05 48 31.7 +1.3
baz=76
R29A **Marienthal** 76.11 336 ⇑P P 05 48 32.3 +1.4
baz=76
V22A **San Miguel Ran** 76.14 330 ⇑P P 05 48 33.6 +2.3
baz=76,SNR=12
T25A **Trinidad** 76.18 333 ⇑P P 05 48 33.3 +1.7
baz=76,SNR=7.2
U23A **El Rito** 76.19 331 ⇑P P 05 48 33.7 +2.1
baz=76,SNR=6.6
S26A **Kim** 76.25 334 ⇑P P 05 48 33.4 +1.6
baz=76
R28A **Tribune** 76.27 335 ⇓P P 05 48 33.3 +1.5
baz=77
Q30A **Quinter** 76.29 336 ⇑P P 05 48 33.4 +1.5
baz=77
X18A **Snowflake** 76.31 327 ⇓P P 05 48 33.8 +1.5
baz=77
P32A **Huiting Farm,** 76.34 338 ⇓P P 05 48 33.2 +1.1
baz=77
Q29A **Oakley** 76.47 336 ⇓P P 05 48 33.7 +0.8
baz=77
T24B **San Luis** 76.50 332 ⇑P P 05 48 35.7 +2.3
baz=77,SNR=6.2
P31A **Stockton** 76.50 337 ⇓P P 05 48 34.2 +1.2
baz=77,SNR=5.3
U22A **Llaves** 76.51 330 ⇓P P 05 48 35.5 +2.1
baz=77
R27A **Eads** 76.58 334 ⇓P P 05 48 34.7 +1.0
baz=77
S25A **Robets Cordova** 76.65 333 ⇓P P 05 48 35.6 +1.5
baz=77
T23A **Casias Ranch,** 76.74 331 ⇓P P 05 48 36.3 +1.5
baz=77
R26A **Arlington** 76.83 334 ⇑P P 05 48 36.4 +1.4
baz=77
X16A **Lo Mia Camp, P** 76.91 326 ⇑P P 05 48 37.4 +1.8
baz=77
S24A **Houchin Ranch,** 76.93 332 ⇑P P 05 48 38.0 +2.1
baz=77,SNR=7.0
R25A **Fountain Ranch** 77.01 333 ⇑P P 05 48 37.6 +1.5
baz=77
O31A **Woolen Ranch,** 77.06 338 ⇓P P 05 48 37.1 +1.0
baz=77
P29A **Atwood** 77.09 336 ⇓P P 05 48 37.8 +1.4
baz=77
KSCO **Kaye Shedlock'** 77.16 335 ⇑P P 05 48 38.5 +1.7
baz=78
Y14A **Wickenburg** 77.27 325 ⇓P P 05 48 39.1 +1.6
baz=78
P28A **Saint Francis** 77.35 336 ⇓P P 05 48 38.8 +1.0
baz=78
R24A **Sanders Place,** 77.41 333 ⇑P P 05 48 40.5 +2.1
baz=78,SNR=8.0
Q26A **Hugo** 77.41 334 ⇑P P 05 48 39.8 +1.5
baz=78
GLA **Glamis** 77.47 323 ⇓P P 05 48 40.0 +1.4
baz=78
O29A **4D Ranch, Culb** 77.52 337 ⇓P P 05 48 40.4 +1.7
baz=78
N31A **Bailey Ranch,** 77.55 338 ⇑P P 05 48 40.5 +1.6
baz=78
P27A **Ficken Ranch,** 77.62 335 ⇓P P 05 48 40.7 +1.3
baz=78
R23A **Moffat** 77.65 332 ⇓P P 05 48 41.2 +1.4
baz=78
Q25A **Bedland, Calha** 77.67 334 ⇑P P 05 48 41.2 +1.4
baz=78
S22A **4UR Ranch, Cre** 77.67 331 ⇑P P 05 48 41.3 +1.4
baz=78
O28A **Krutsinger Ran** 77.85 336 ⇑P P 05 48 41.7 +1.1
baz=78
P26A **Davis Ranch, A** 77.91 335 ⇓P P 05 48 41.8 +0.7
baz=78
MVCO **Mesa Verde** 77.91 330 *e*P P 05 48 43.0 +1.8
comp=Z,6.5nm,0.9s
MVCO **Mesa Verde** 77.91 330 ⇓P P 05 48 42.5 +1.3
baz=78
M31A **Lambtecht Ranc** 78.03 338 ⇑P P 05 48 43.0 +1.5
baz=78,SNR=5.1
Q24A **Divide** 78.06 333 ⇑P P 05 48 43.9 +1.8
baz=78,SNR=5.7
N29A **Votaw Ranch, W** 78.08 337 ⇑P P 05 48 43.0 +1.2
baz=78
O27A **Beecher Island** 78.15 335 ⇓P P 05 48 44.4 +2.1
baz=78
P25A **Willow Gulch B** 78.17 334 ⇓P P 05 48 44.7 +2.2
baz=78
N28A **Pribbeno Ranch** 78.27 336 ⇑P P 05 48 44.2 +1.2
baz=79
O26A **Horse Wrangler** 78.49 335 ⇑P P 05 48 45.6 +1.4
baz=79
IRM **Iron Mountain** 78.51 323 ⇓P P 05 48 46.1 +1.7
baz=79
W13A **Hualapai Mount** 78.63 325 ⇓P P 05 48 46.9 +1.7
baz=79
O25A **Wiggins** 78.67 334 ⇑P P 05 48 47.5 +2.2
baz=79
P23A **Jefferson** 78.68 333 ⇓P P 05 48 47.5 +2.0
baz=79
N27A **Anderson Farm,** 78.72 336 ⇓P P 05 48 46.6 +1.2
baz=79
L31A **Butterfield Fa** 78.74 339 ⇓P P 05 48 46.7 +1.2
baz=79,SNR=7.9
L30A **Spencer Herefo** 78.81 338 ⇓P P 05 48 47.1 +1.3
baz=79
SMCO **Snowmass** 78.96 332 *e*P P 05 48 48.8 +1.7
comp=Z,5.8nm,0.8s
ISCO **Idaho Springs** 78.96 333 *e*P P 05 48 48.5 +1.4
comp=Z,21nm,1.9s
ISCO **Idaho Springs** 78.96 333 ⇑P P 05 48 48.2 +1.1
baz=79
P22A **Eagle** 79.23 332 ⇑P P 05 48 50.2 +1.8
baz=80
GMRC **Granite Mounta** 79.25 323 ⇓P P 05 48 50.2 +1.6
baz=80
O23A **Lake Granby, G** 79.43 333 ⇑P P 05 48 50.6 +1.0
baz=80
K30A **Basset** 79.43 339 ⇑P P 05 48 50.7 +1.5
baz=80
ECSD **EROS Data Cent** 79.53 341 *e*P P 05 48 49.9 +0.2
comp=Z,8.0nm,0.6s
ECSD **EROS Data Cent** 79.53 341 ⇓P P 05 48 50.3 +0.7
baz=80,SNR=7.7
BOSA **Boshof** 79.55 117 P P 05 48 50.0 -0.5
BOSA **Boshof** 79.55 117 P P 05 48 50.0 -0.5
comp=Z,5.3nm,0.9s,baz=249,slow=5.7,SNR=5.4
O22A **Kremmling** 79.63 333 ⇓P P 05 48 51.8 +1.1
baz=80
K29A **Lazy Trails An** 79.73 338 ⇑P P 05 48 51.9 +1.0
baz=80
BFSC **Mount Baldy Ra** 79.86 322 ⇑P P 05 48 53.0 +1.2
baz=80
J30A **Dallas** 79.99 339 ⇑P P 05 48 52.8 +0.6
baz=80
K28A **Ten Mile Ranch** 80.03 337 ⇑P P 05 48 54.3 +1.9
baz=80
N23A **Red Feather La** 80.03 333 ⇓P P 05 48 54.1 +1.3
baz=80
M24A **Cheyenne** 80.12 334 ⇑P P 05 48 54.8 +1.7
baz=80
N22A **Wattenberg Ran** 80.15 333 ⇓P P 05 48 55.2 +1.8
baz=80
O20A **White River Ci** 80.28 331 ⇓P P 05 48 55.5 +1.5
baz=81
K27A **Flueckinger Fa** 80.31 337 ⇓P P 05 48 55.3 +1.3
baz=81
J29A **Okreek** 80.32 338 ⇓P P 05 48 55.0 +1.1
baz=81,SNR=5.6
SRU **San Rafael** 80.37 329 *e*P P 05 48 55.4 +0.8
comp=Z,3.9nm,0.7s
J28A **Allard Ranch,** 80.62 338 ⇑P P 05 48 56.8 +1.2
baz=81
BSC **Santa Cruz Isl** 80.72 320 ⇓P P 05 48 56.9 +0.6
baz=81
J27A **Elkhorn Farm,** 80.72 337 ⇓P P 05 48 57.9 +1.7
baz=81
I29A **Vivian Onida** 80.87 339 ⇑P P 05 48 57.5 +0.6
baz=81
I28A **Midland** 81.12 338 ⇓P P 05 48 58.9 +0.7
baz=81
J26A **Sides Ranch, S** 81.13 336 ⇓P P 05 49 00.1 +1.7
baz=81
L22A **Ellis Ranch, M** 81.20 334 ⇑P P 05 49 00.5 +1.6
baz=82
H29A **Onida** 81.39 339 ⇑P P 05 49 00.3 +0.7
baz=82
J25A **Sunshine Ranch** 81.44 336 ⇑P P 05 49 01.5 +1.4
baz=82
I27A **Quinn** 81.46 338 ⇑P P 05 49 01.3 +1.3
baz=82
K23A **Bowen Ranch, D** 81.53 335 ⇓P P 05 49 01.9 +1.3
baz=82
J24A **Dixon Ranch, L** 81.69 335 ⇓P P 05 49 02.9 +1.5
baz=82
I26A **New Underwood** 81.69 337 ⇑P P 05 49 02.4 +1.1
baz=82
K22A **Casper** 81.77 334 ⇑P P 05 49 03.3 +1.4
baz=82
VES **Vestal, Richgr** 81.83 322 ⇓P P 05 49 03.5 +1.4
baz=82
H27A **Howes** 81.97 338 ⇓P P 05 49 03.6 +0.9
baz=82
G28A **Parade** 82.01 339 ⇑P P 05 49 03.4 +0.6
baz=82
K21A **Alcova** 82.03 333 ⇑P P 05 49 04.2 +1.0
baz=82,SNR=5.2
R11A **Troy Canyon, C** 82.05 326 ⇑P P 05 49 05.3 +1.8
baz=82
I24A **Kuemmerle Ranc** 82.14 336 ⇑P P 05 49 05.1 +1.4
baz=82
DUG **Dugway** 82.26 329 ⇑P P 05 49 05.8 +1.3
baz=82
TORD **Torodi Ar. Bea** 82.39 69 P P 05 49 05.2 -0.3
TORD **Torodi Ar. Bea** 82.39 69 P P 05 49 05.2 -0.3
comp=Z,1.3nm,0.5s,baz=273,slow=5.7,SNR=26
J22A **Midwest** 82.41 334 ⇑P P 05 49 05.6 +0.5
baz=83
H25A **Fruitdale** 82.46 337 ⇑P P 05 49 06.1 +0.9
baz=83
F28A **McLaughlin** 82.67 339 ⇑P P 05 49 07.5 +1.2
baz=83
J21A **Lysite** 82.71 334 ⇓P P 05 49 07.5 +0.8
baz=83
I22A **9 Mile Ranch,** 82.83 335 ⇓P P 05 49 08.0 +0.7
baz=83
H24A **Dirks Ranch, A** 82.89 336 ⇑P P 05 49 08.4 +0.8
baz=83
G25A **Newell** 82.91 337 ⇓P P 05 49 08.6 +1.0
baz=83,SNR=9.9
J20A **Shoshoni** 82.96 333 ⇓P P 05 49 09.6 +1.6
baz=83
PDAR **Pinedale Array** 83.03 332 P P 05 49 08.8 +0.2
PDAR **Pinedale Array** 83.03 332 P P 05 49 08.8 +0.2
comp=Z,1.3nm,0.7s,baz=134,slow=6.5,SNR=11
I21A **Big Trails, Te** 83.06 334 ⇑P P 05 49 09.2 +0.7
baz=83
F27A **Lemmon** 83.06 338 ⇑P P 05 49 09.3 +0.9
baz=83
D30A **Buchanan** 83.22 341 ⇓P P 05 49 10.0 +0.9
baz=84
F26A **Lodgepole** 83.25 338 ⇓P P 05 49 10.2 +0.9
baz=84
J19A **Crowheart** 83.26 333 ⇓P P 05 49 10.6 +1.0
baz=84
E28A **Huff** 83.29 339 ⇑P P 05 49 10.6 +1.1
baz=84
G24A **Alzada** 83.36 337 ⇑P P 05 49 10.9 +0.9
baz=84
H22A **Clearmont** 83.39 335 ⇓P P 05 49 11.0 +0.9
baz=84
E27A **Carson** 83.42 339 ⇓P P 05 49 11.2 +1.0
baz=84
NVAR **Mina Array Bea** 83.43 324 P P 05 49 12.2 +1.5
NVAR **Mina Array Bea** 83.43 324 P P 05 49 12.2 +1.5
comp=Z,2.7nm,0.8s,baz=147,slow=5.4,SNR=13
I20A **Worland** 83.48 334 ⇑P P 05 49 11.7 +1.1
baz=84,SNR=5.1
HVU **Hansel Valley** 83.54 330 *e*P P 05 49 11.4 +0.4
comp=Z,4.7nm,0.8s
AGMN **Agassiz Nation** 83.57 343 ⇓P P 05 49 11.3 +0.5
baz=84
F25A **Bowman** 83.57 337 ⇓P P 05 49 11.7 +0.7
baz=84
G23A **Biddle** 83.58 336 ⇑P P 05 49 11.4 +0.3
baz=84
C30A **Mose, Pekin** 83.69 341 ⇑P P 05 49 12.0 +0.5
baz=84
ELK **Elko** 83.79 327 *e*P P 05 49 12.9 +0.4
comp=Z,3.4nm,0.8s
ELK **Elko** 83.79 327 LR LR 06 23 37.8
comp=Z,981nm,19.2s,baz=180,slow=33
F24A **Ekalaka** 83.82 337 ⇓P P 05 49 13.1 +0.8
baz=84
H20A **Greybull** 83.90 334 ⇓P P 05 49 13.2 +0.5
baz=84
G22A **Birney** 83.91 335 ⇑P P 05 49 13.3 +0.5
baz=84
F23A **Volborg** 84.04 336 ⇑P P 05 49 13.8 +0.5
baz=84
E25A **Miller Ranch,** 84.06 338 ⇑P P 05 49 14.4 +1.0
baz=84
LOHW **Long Hollow** 84.16 332 *e*P P 05 49 14.7 +0.5
comp=Z,66nm,2.9s
G21A **Lodge Grass** 84.24 335 ⇓P P 05 49 14.9 +0.5
baz=84
B30A **Myrvik Farm, E** 84.34 342 ⇓P P 05 49 15.3 +0.6
baz=85
FXWY **Fox Creek** 84.35 332 *e*P P 05 49 12.9 -2.3
comp=Z,72nm,2.8s
F22A **Rosebud** 84.38 336 ⇓P P 05 49 16.3 +1.2
baz=85
E24A **Baker** 84.41 337 ⇓P P 05 49 16.5 +1.3
baz=85
H19A **Powell** 84.42 333 ⇑P P 05 49 16.2 +0.8
baz=85
IMW **Indian Meadow** 84.53 332 *e*P P 05 49 17.2 +1.0
comp=Z,16nm,1.8s
C27A **Sayler Ranch,** 84.56 339 ⇓P P 05 49 17.1 +1.2
baz=85
FLWY **Flagg Ranch** 84.59 332 *e*P P 05 49 17.3 +0.9
comp=Z,102nm,2.8s
G20A **Bridger** 84.60 334 ⇓P P 05 49 16.8 +0.4
baz=85
D25A **Fairfield** 84.61 338 ⇓P P 05 49 17.4 +1.2
baz=85
H18A **Shoshone NF, C** 84.69 333 ⇑P P 05 49 17.8 +0.9
baz=85
C26A **Wahner Farm, P** 84.84 339 ⇑P P 05 49 18.0 +0.7
baz=85
E22A **Miles City** 84.85 336 ⇓P P 05 49 18.1 +0.7
baz=85
B28A **Dugan Ranch, T** 84.89 340 ⇑P P 05 49 18.5 +1.0
baz=85
D24A **Glendive** 84.90 337 ⇓P P 05 49 18.6 +1.0
baz=85
A29A **Manning Farm,** 85.01 341 ⇑P P 05 49 18.8 +0.7
baz=85
D23A **Lindsay** 85.24 337 ⇓P P 05 49 20.7 +1.3
baz=86
C24A **Savage** 85.30 338 ⇑P P 05 49 20.9 +1.2
baz=86,SNR=5.6
ULM **Lac du Bonnet** 85.39 344 P P 05 49 19.1 -0.8
ULM **Lac du Bonnet** 85.39 344 P P 05 49 19.1 -0.8
comp=Z,3.2nm,0.9s,baz=167,slow=6.5,SNR=5.1
F19A **Roth Farm, Mol** 85.41 334 ⇑P P 05 49 21.3 +1.0
baz=86
D22A **Cohagen** 85.55 336 ⇓P P 05 49 21.3 +0.5
baz=86
E20A **Meyer Farm, Mu** 85.67 335 ⇓P P 05 49 22.5 +1.0
baz=86
HLID **Hailey** 85.69 330 *e*P P 05 49 23.5 +1.6
comp=Z,42nm,2.6s
HLID **Hailey** 85.69 330 ⇑P P 05 49 23.0 +1.1
baz=86
D21A **La Casta Ranch** 85.75 336 ⇓P P 05 49 23.0 +1.0
baz=86
C23A **Lambert** 85.78 337 ⇑P P 05 49 22.6 +0.6
baz=86
E19A **Rath Farm, Rou** 85.87 335 ⇓P P 05 49 23.4 +0.9
baz=86
DGMT **Dagmar** 86.06 338 ⇓P P 05 49 24.7 +1.4
baz=86
MCMT **McKenzie Canyo** 86.07 331 *e*P P 05 49 24.5 +0.7
comp=Z,2.4nm,0.8s
D20A **Manuel Ranch,** 86.17 335 ⇓P P 05 49 25.0 +1.0
baz=86
B23A **Brockton** 86.30 338 ⇑P P 05 49 25.8 +1.2
baz=87
A24A **Westby** 86.40 339 ⇑P P 05 49 26.1 +1.1
baz=87
B22A **Reddig Ranch S** 86.49 337 ⇑P P 05 49 26.7 +1.2
baz=87
D19A **Cripps Ranch,** 86.50 335 ⇑P P 05 49 26.2 +0.6
baz=87
C20A **Veseth Ranch,** 86.66 336 ⇑P P 05 49 26.9 +0.6
baz=87
LRM **Linnekiln Ridge** 86.73 332 *e*P P 05 49 28.1 +1.1
B21A **Ellsworth Farm** 86.94 337 ⇑P P 05 49 28.5 +0.8
baz=87
C19A **Slack Wire Ran** 87.05 335 ⇑P P 05 49 29.0 +0.7
baz=87
A22A **Carney Farms,** 87.06 337 ⇓P P 05 49 29.3 +1.1
baz=87
B20A **Solberg Farm,** 87.29 336 ⇑P P 05 49 30.1 +0.8
baz=88
A21A **Bergtoll Ranch** 87.39 337 ⇓P P 05 49 30.3 +0.4
baz=88
EGMT **Eagleton** 87.54 335 ⇑P P 05 49 31.2 +0.6
baz=88

N02D	**Trinity Center**	**87.57**	**323**	⇓P		**P**	**05 49 31.6**	**+0.7**
	baz=88								
B19A	**Brinkman Farms**	**87.62**	**335**	⇑P		**P**	**05 49 31.7**	**+0.8**
	baz=88								
A20A	**Cobblestone Ra**	**87.63**	**336**	⇓P		**P**	**05 49 31.6**	**+0.6**
	baz=88								
A19A	**Klindworth Far**	**87.95**	**336**	⇓P		**P**	**05 49 32.9**	**+0.4**
	baz=88								
YKA	**Yellowknife Ar**	**101.06**	**341**	P		**Pdif**	**05 50 31.8**	**-0.2**
YKA	**Yellowknife Ar**	**101.06**	**341**	P		**Pdif**	**05 50 31.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=143,slow=4.5,SNR=10								
WRA	**Warramunga Arr**	**122.77**	**208**	PKP		**PKPdf**	**05 55 38.4**	**-0.7**
WRA	**Warramunga Arr**	**122.77**	**208**	PKP		**PKPdf**	**05 55 38.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=151,slow=1.8,SNR=6.2								
H11S2	**WAKE ISLAND Hyl**	**27.17**	**269**	T		T	08 15 22.1		
	baz=121,slow=74,SNR=23								
H11S1	**WAKE ISLAND Hyl**	**27.18**	**269**	T		T	08 15 22.7		
	baz=121,slow=74,SNR=33								
H11S3	**WAKE ISLAND Hyl**	**27.19**	**269**	T		T	08 15 23.4		
	baz=121,slow=74,SNR=35								
H11N3	**WAKE ISLAND Hyl**	**27.54**	**271**	T		T	08 15 51.7		
	baz=126								
H11N1	**WAKE ISLAND Hyl**	**27.56**	**271**	T		T	08 15 47.4		
	baz=126								
H11N2	**WAKE ISLAND Hyl**	**27.56**	**271**	T		T	08 15 52.9		
	baz=126								
KSH	**Kashi**	**152.01**	**66**	*e*PKPbc		**PKPbc**	**05 56 38.3**	**+0.5**
KSH				*e*SKS		**SKSdf**	**06 03 35.0**	**+4.8**
KSH				AMB		AMB			
	comp=Z,40nm,6.0s								
KSH				LR		LR			
	comp=Z,21nm,7.3s								
ZAA0	**Zalesovo Array**	**152.19**	**32**	*e*PKPbc		**PKPbc**	**05 56 37.5**	**-0.1**
ZALV	**Zalesovo Beam**	**152.19**	**32**	PKPbc		**PKPbc**	**05 56 37.8**	**+0.2**
ZALV	**Zalesovo Beam**	**152.19**	**32**	PKPbc		**PKPbc**	**05 56 37.8**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=284,slow=3.8,SNR=13								
MKAR	**Makanchi Array**	**154.72**	**48**	PKPab		**PKPab**	**05 56 59.0**	**+0.3**
MKAR	**Makanchi Array**	**154.72**	**48**	PKPab		**PKPab**	**05 56 59.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=271,slow=4.1,SNR=3.8								
WMQ	**Urumqi**	**159.44**	**50**	PKP		**PKPdf**	**05 56 40.5**	**-0.4**
HHC	**Hu-ho-hao-te**	**171.48**	**350**	*e*PKP		**PKPdf**	**05 56 50.0**	**-1.0**
HHC				pPKP		**pPKPdf**	**05 57 17.8**	**+0.8**
HHC				sPKP			05 57 28.0		
HHC				PP		**PP**	**06 02 03.0**	**+0.6**
HHC				SKS		**SKSdf**	**06 03 42.9**	**-3.0**
HHC				SS		**SS**	**06 23 02.1**	**+1.4**
HHC				AMB		AMB			
	comp=Z,54nm,7.4s								
HHC				LR		LR			
	comp=Z,130nm,18.5s								
HHC				LR		LR			
	comp=Z,230nm,18.5s								
HHC				LR		LR			
	comp=Z,140nm,21.0s								
GYA	**Guiyang**	**173.49**	**156**	*e*PKP		**PKPdf**	**05 56 51.0**	**-1.3**
GYA				pPKP		**pPKPdf**	**05 57 12.8**	**-5.5**
GYA				PKPab		**PKPab**	**05 58 21.5**	**0.0**
GYA				PKS		**PKSdf**	**06 00 21.5**	**-3.2**
GYA				PP		**PP**	**06 02 14.9**	**+2.3**
GYA				AMB		AMB			
	comp=Z,80nm,8.0s								

CASC 19 05:44:45.7±1.3, 13°.08N×89°.13W, h34^{km}±4^{km}, MD3.9, ML4.1, 2C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.55**	**7**	⇓	*i*P		Pn	05 44 57.1	-0.1
SNVI	**San Vicente**	**0.60**	**28**	⇓	*i*P		Pn	05 44 57.8	-0.1
SNVI					*e*S		Sb	05 45 08.2	+1.4
SNET	**Serv Nac Est T**	**0.61**	**350**	⇓	*i*P		Pn	05 44 58.1	0.0
SNET					AML		AML	05 44 58.8	
	comp=Z,7μm,0.2s								
SNET					*e*S		Sb	05 45 07.9	+0.9
LBRS	**Las Brisas**	**0.66**	**7**	⇓	*i*P		Pn	05 44 58.9	+0.1
LFU	**La Fuente**	**0.67**	**1**	⇓	*i*P		Pn	05 44 58.9	+0.1
BOQS	**Boqueron**	**0.67**	**347**	⇑	*i*P		Pn	05 44 59.1	+0.1
BOQS					*e*S		Sb	05 45 09.4	+0.6
SBLS	**San Blas**	**0.90**	**328**	⇓	*i*P		Pn	05 45 02.1	-0.1
VSM	**San Miguel**	**0.90**	**67**	⇓	*e*P		Pn	05 45 02.2	-0.1
SNJE	**San Jose**	**0.92**	**329**	⇓	*i*P		Pn	05 45 02.3	-0.1
SNJE					*e*S		Sn	05 45 15.0	+0.4
RTR	**El Retiro**	**0.96**	**328**		*e*P		Pn	05 45 02.9	-0.1
CAHU	**Cacacuatique**	**1.13**	**52**		*e*P		Pn	05 45 05.2	-0.1
CAHU					*e*S		Sn	05 45 20.0	+0.1
RBDL	**Robledal**	**1.17**	**332**	⇓	*i*P		Pn	05 45 05.4	-0.5
CNCH	**Conchagua**	**1.27**	**81**		*e*P		Pn	05 45 06.8	-0.4
NBG	**Las Nubes**	**1.91**	**322**		*e*P		Pn	05 45 17.1	+0.8
MRL	**Marmol**	**2.05**	**345**	⇑	*i*P		Pn	05 45 17.8	-0.2
COPN	**Copaltepe**	**2.63**	**110**		*e*P		Pn	05 45 25.7	-0.1
JAT	**Jato**	**2.73**	**297**		*e*P		Pn	05 45 27.0	-0.2

NIED ***19*** *06:09:00,23°.80N×121°.60E,h38^{km},Mw4.9 Best double couple: M$_o$2.34000×10^{16} NP1:φ$_s$239.00000°,δ35.00000°, λ129.00000°. NP2:φ$_s$14.00000°,δ64.00000°,λ66.00000°.*

BJI ***19*** *06:09:23.7,23°.95N×121°.57E,h6^{km},mB4.8/36,mb4.5/45, ML5.1/9,Ms4.5/49,Ms7 4.3/48*

MOS ***19*** *06:09:24.4±1.2,23°.88N×121°.78E,h33^{km},mb5.0/44, MS4.0/8,Error ellipse: s-maj=8.3km s-min=4.7km az=115.2*

TAP ***19*** *06:09:26.8,23°.82N×121°.68E,h41^{km},ML5.6,B*

ISCJB ***19*** *06:09:26.7±0.1,23°.81N±0°.01×121°.71E±0°.01,h52^{km}±1^{km}, mb4.8/115,MS4.1/32,Error ellipse: s-maj=2.3km s-min=1.7km az=35.8*

JMA ***19*** *06:09:26.2,23°.79N×121°.64E,h41^{km}±1^{km},M5.1*

NEIC ***19*** *06:09:27.2±0.5,23°.77N×121°.66E,h45^{km}±4^{km},mb4.9/43, Error ellipse: s-maj=5.4km s-min=4.4km az=136.0*

NEIC Felt [II] at Hsin-tien, T'ai-chung and Taipei. Also felt at Chung-ho, Chu-pei, Pan-ch'aio, Pei-kang and Ta-li. Recorded [4 TAP] in Hua-lien; [3 TAP] in Chang-hua, I-lan, Nan-t'ou and T'ai-tung; [2 TAP] in Kao-hsiung and T'ai-nan; [1 TAP] in Hsin-chu, Miao-li, P'eng-hu, P'ing-tung, T'ai-pei and T'ao-yuan.

IDC ***19*** *06:09:29.0±1.9,23°.83N×121°.70E,h61^{km}±16^{km},mb4.3/27, mb1 4.5/30,mb1mx4.4/35,mbtmp4.6/30,MS4.1/21, Ms1 4.1/21,ms1mx3.9/33,Error ellipse: s-maj=13.7km s-min=11.3km az=95.0*

MAN ***19*** *06:10:30, 19°.24N×121°.06E,h56^{km},mb4.8,ML3.7,MS3.7*

ISC 19 06:09:27.0±0.3, 23°.82N±0°.02×121°.70E±0°.02, h41^{km}±2^{km}, h41^{km}:pP-P, n450, σ1§64/561, mb4.8/112, MS4.1/32, 44C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.18**	**332**	⇓	*i*P		**Pn**	**06 09 34.1**	**-0.2**
	baz=340								
TEGC	**Jichi Village**	**0.18**	**233**		*e*P		**Pn**	**06 09 35.1**	**+0.9**
	baz=221								
TEGC					*e*S		**Sn**	**06 09 40.5**	**+1.3**
	baz=221								
ESF	**Shoufeng Towns**	**0.18**	**287**		*e*P		**Pn**	**06 09 34.7**	**+0.5**
	baz=288								
ESF					S		**Sn**	**06 09 39.6**	**+0.3**
	baz=288								
ESL	**Shilin**	**0.24**	**269**	⇑	*i*P		**Pn**	**06 09 34.2**	**-0.5**
	baz=267								
ESL					*e*S		**Sn**	**06 09 38.8**	**-1.4**
	baz=267								
TWD	**Chiawan**	**0.28**	**340**	⇓	*i*P		**Pn**	**06 09 34.8**	**-0.3**
	baz=353								
TWD					S		**Sn**	**06 09 41.2**	**+0.4**
	baz=353								
NACB	**Ninganchiao**	**0.37**	**345**		*e*Pn		**Pn**	**06 09 35.5**	**-0.6**
NACB					*e*Sn		**Sn**	**06 09 42.1**	**-0.4**
EHY	**Hungye**	**0.46**	**228**	⇑	*i*P		**Pn**	**06 09 36.6**	**-0.7**
	baz=234								
EHP	**Heping Village**	**0.49**	**5**		P		**Pn**	**06 09 38.0**	**+0.3**
	baz=15								
EHP					S		**Sn**	**06 09 46.2**	**+1.0**
	baz=15								
WHF	**Hehuan Shan**	**0.51**	**309**	⇑	*i*P		**Pn**	**06 09 37.6**	**-0.8**
	baz=311								
YULB	**Yu-li**	**0.56**	**221**		*e*Pn		**Pn**	**06 09 37.6**	**-1.0**
YULB					*e*Sn		**Sn**	**06 09 45.2**	**-1.6**
TWF1	**Yuli**	**0.59**	**219**	⇑	*i*P		**Pn**	**06 09 38.4**	**-0.6**
	baz=223								
TWF1					*e*S		**Sn**	**06 09 47.3**	**-0.3**
	baz=223								
ENA	**Nanau**	**0.61**	**4**	⇑	*e*P		**Pn**	**06 09 39.2**	**0.0**
	baz=15								
ENA					*e*S		**Sn**	**06 09 48.5**	**+0.5**
	baz=15								
TWT	**Tachien**	**0.65**	**312**	⇑	*i*P		**Pn**	**06 09 39.9**	**0.0**
	baz=317								
SSLB	**Suanglung**	**0.68**	**268**		*e*Pn		**Pn**	**06 09 39.7**	**-0.5**
SSLB					*e*Sn		**Sn**	**06 09 48.7**	**-1.1**
NNS	**Nan Shan**	**0.69**	**334**	⇑	P		**Pn**	**06 09 40.1**	**-0.3**
	baz=337								
NNS					*e*S		**Sn**	**06 09 50.4**	**+0.4**
	baz=337								
SMLT	**Sun Moon Lake**	**0.73**	**275**	⇑	*i*P		**Pn**	**06 09 40.9**	**-0.1**
	baz=277								
SMLT					S		**Sn**	**06 09 51.1**	**0.0**
	baz=277								
YUS	**Yu-Shan**	**0.76**	**245**	⇑	*i*P		**Pn**	**06 09 41.9**	**+0.2**
	baz=251								
TYC	**Yuchr**	**0.78**	**277**	⇑	*i*P		**Pn**	**06 09 41.3**	**-0.2**
	baz=276								
CHKT	**Chengkung**	**0.78**	**203**	⇑	P		**Pn**	**06 09 41.4**	**-0.1**
	baz=189								
CHKT					S		**Sn**	**06 09 52.5**	**+0.5**
	baz=189								
TWC	**Suao**	**0.80**	**10**	⇑	*e*P		**Pn**	**06 09 42.4**	**+0.6**
	baz=16								
ENTT	**Nioudou**	**0.83**	**352**	⇑	*i*P		**Pn**	**06 09 42.2**	**0.0**
	baz=354								
ALS	**Alishan**	**0.88**	**250**	⇑	*i*P		**Pn**	**06 09 43.6**	**+0.5**
	baz=247								
ALS					*e*S		**Sn**	**06 09 54.9**	**+0.1**
	baz=247								
ELDTW	**Lidau**	**0.89**	**225**	⇓	*i*P		**Pn**	**06 09 42.5**	**-0.6**
	baz=217								
ELDTW					*e*S		**Sn**	**06 09 55.0**	**+0.2**
	baz=217								
YHNB	**Yeheng**	**0.90**	**341**		*e*Pn		**Pn**	**06 09 43.2**	**0.0**
YHNB					*e*Sn		**Sn**	**06 09 54.5**	**-0.6**
TWE	**Neicheng**	**0.90**	**358**	⇑	P		**Pn**	**06 09 43.3**	**+0.2**
	baz=353								
TWE					S		**Sn**	**06 09 55.9**	**+0.9**
	baz=353								
NSK	**Sanguang**	**0.91**	**340**	⇑	*i*P		**Pn**	**06 09 43.5**	**+0.1**
	baz=343								
NSK					S		**Sn**	**06 09 54.5**	**-0.9**
	baz=343								
WNT	**Mingjian**	**0.93**	**274**	⇑	*i*P		**Pn**	**06 09 44.6**	**+1.0**
	baz=273								
WNT					S		**Sn**	**06 09 56.8**	**+1.1**
	baz=273								
ILA	**Ilan**	**0.94**	**3**		*e*P		**Pn**	**06 09 44.4**	**+0.6**
	baz=357								
ILA					S		**Sn**	**06 09 58.1**	**+2.0**
	baz=357								
CHN5	**Tsauling**	**0.96**	**257**	⇑	*i*P		**Pn**	**06 09 44.9**	**+0.8**
	baz=256								
TCU	**Taichung**	**0.99**	**290**	⇑	*i*P		**Pn**	**06 09 45.7**	**+1.3**
	baz=289								
TWQ1	**Liyutan**	**1.00**	**302**	⇑	*i*P		**Pn**	**06 09 45.7**	**+1.1**
	baz=303								
TWQ1					*e*S		**Sn**	**06 09 59.5**	**+2.1**
	baz=303								
NSTT	**Nanjuang**	**1.03**	**322**	⇑	*i*P		**Pn**	**06 09 46.1**	**+1.2**
	baz=309								
NSTT					*e*S		**Sn**	**06 09 57.9**	**-0.3**
	baz=309								
NSY	**Sanyi**	**1.04**	**305**	⇑	P		**Pn**	**06 09 46.3**	**+1.2**
	baz=306								
NSY					*e*S		**Sn**	**06 09 60.0**	**+1.4**
	baz=306								
EGS		**1.04**	**12**	⇑	*e*P		**Pn**	**06 09 46.4**	**+1.2**
	baz=16								
EGS					*e*S		**Sn**	**06 10 02.0**	**+3.4**
	baz=16								
WGK	**Gukeng**	**1.05**	**263**	⇑	P		**Pn**	**06 09 46.3**	**+1.1**
	baz=261								
WGK					*e*S		**Sn**	**06 10 00.1**	**+1.5**
	baz=261								
STYT	**Tauyuan**	**1.08**	**233**	⇓	*e*P		**Pn**	**06 09 46.5**	**+0.7**
	baz=224								
TPUB	**Ta-pu**	**1.11**	**243**		*e*Pn		**Pn**	**06 09 47.1**	**+1.1**
TPUB					*e*Sn		**Sn**	**06 10 00.9**	**+0.7**
CHN4	**Tsaushan**	**1.12**	**246**	⇑	*i*P		**Pn**	**06 09 47.6**	**+1.4**
	baz=244								
TWG	**Pinlang**	**1.15**	**210**		*e*Pn		**Pn**	**06 09 45.4**	**-1.2**
TWG					*e*Sn		**Sn**	**06 09 59.3**	**-1.8**
TWG	**Pinlang**	**1.15**	**210**	⇓	*i*P		**Pn**	**06 09 45.6**	**-1.0**
	baz=199								
WTP	**Ta-pu**	**1.15**	**240**	⇑	P		**Pn**	**06 09 47.7**	**+1.1**
	baz=238								
CHN2	**Minshiung**	**1.16**	**256**	⇑	*e*P		**Pn**	**06 09 47.9**	**+1.3**
	baz=255								
TWA	**Mucha**	**1.16**	**355**	⇑	P		**Pn**	**06 09 47.5**	**+0.7**
	baz=351								
TWA					S		**Sn**	**06 10 02.9**	**+1.4**
	baz=351								
TATO	**Taipei**	**1.17**	**351**		*e*Pn		**Pn**	**06 09 47.1**	**+0.3**
TTN	**Taitung**	**1.17**	**206**		*e*P		**Pn**	**06 09 46.9**	**0.0**
	baz=203								
HSN	**Hsinchu**	**1.18**	**326**	⇑	P		**Pn**	**06 09 48.5**	**+1.5**
	baz=330								
HSN					*e*S		**Sn**	**06 10 04.1**	**+2.1**
	baz=330								
CHY	**Chiayi**	**1.21**	**255**	⇑	*e*P		**Pn**	**06 09 48.7**	**+1.2**
	baz=253								
CHY					*e*S		**Sn**	**06 10 02.5**	**-0.1**
	baz=253								
TWB1	**Santiao Chiao**	**1.21**	**13**		*e*P		**Pn**	**06 09 48.8**	**+1.3**
	baz=17								
TWB1					S		**Sn**	**06 10 04.4**	**+1.6**
	baz=17								
TAP1	**Taipei**	**1.23**	**353**		*e*P		**Pn**	**06 09 48.2**	**+0.5**
	baz=356								
TAP1					*e*S		**Sn**	**06 10 03.1**	**+0.1**
	baz=356								
TAP	**Taipei**	**1.23**	**352**		*e*P		**Pn**	**06 09 48.2**	**+0.6**
	baz=356								
TAP					*e*S		**Sn**	**06 10 03.7**	**+0.7**
	baz=356								
NCU	**National Centr**	**1.24**	**338**	⇑	*e*P		**Pn**	**06 09 48.9**	**+1.1**
	baz=340								
NCU					*e*S		**Sn**	**06 10 05.7**	**+2.4**
	baz=340								
TWK	**Hsinying**	**1.24**	**244**	⇓	P		**Pn**	**06 09 48.9**	**+1.1**
	baz=240								
TWK					*e*S		**Sn**	**06 10 05.0**	**+1.6**
	baz=240								
CHN1	**Nanshi**	**1.25**	**240**	⇓	*e*P		**Pn**	**06 09 49.1**	**+1.2**
	baz=237								
CHN1					*e*S		**Sn**	**06 10 05.4**	**+1.9**
	baz=237								
NWF	**Wu-fen Shan**	**1.25**	**3**		P		**Pn**	**06 09 48.9**	**+0.8**
	baz=355								
NWF					*e*S		**Sn**	**06 10 06.6**	**+2.9**
	baz=355								
SGST	**Jiashian**	**1.26**	**235**	⇓	*e*P		**Pn**	**06 09 49.7**	**+1.6**
	baz=231								
SGST					*e*S		**Sn**	**06 10 05.8**	**+1.9**
	baz=231								
WTCT	**Ta-ch'eng**	**1.30**	**272**		*e*P		**Pn**	**06 09 49.7**	**+1.1**
	baz=271								
WTCT					*e*S		**Sn**	**06 10 05.7**	**+0.9**
	baz=271								
TWS1	**Kuangyinshan**	**1.30**	**349**	⇓	*e*P		**Pn**	**06 09 49.7**	**+1.0**
	baz=353								
TWS1					*e*S		**Sn**	**06 10 07.0**	**+2.1**
	baz=353								
YOJ	**Yonaguni jima**	**1.36**	**62**		*e*P		**Pn**	**06 09 50.5**	**+1.0**
YOJ	**Yonaguni jima**	**1.36**	**62**		P		**Pn**	**06 09 50.4**	**+1.0**
YOJ					S		**Sn**	**06 10 07.7**	**+1.4**
YOJ	**Yonaguni jima**	**1.36**	**62**		*e*Pn		**Pn**	**06 09 50.5**	**+1.0**
YOJ	**Yonaguni jima**	**1.36**	**62**	⇓	P		**Pn**	**06 09 50.7**	**+1.3**
	baz=64								
YOJ					*i* S		**Sn**	**06 10 07.5**	**+1.2**
	baz=64								
WSF	**Szhu**	**1.36**	**263**		*e*P		**Pn**	**06 09 50.6**	**+1.1**
	baz=261								
WSF					*e*S		**Sn**	**06 10 08.4**	**+2.0**
	baz=261								
ECL	**Taimali**	**1.40**	**210**		*e*P		**Pn**	**06 09 48.8**	**-1.1**
	baz=200								
CHN3	**Shinhua**	**1.43**	**239**		P		**Pn**	**06 09 52.9**	**+2.5**
	baz=236								
CHN3					S		**Sn**	**06 10 12.3**	**+4.3**
	baz=236								
CHN8	**Yiju**	**1.44**	**251**		*e*P		**Pn**	**06 09 51.5**	**+0.9**
	baz=249								
CHN8					*e*S		**Sn**	**06 10 09.8**	**+1.5**
	baz=249								
SSD	**Sandimen**	**1.45**	**223**	⇓	P		**Pn**	**06 09 51.2**	**+0.5**
	baz=218								
SSD					*e*S		**Sn**	**06 10 12.4**	**+3.9**
	baz=218								
TWY	**Chenhua**	**1.45**	**356**		*e*P		**Pn**	**06 09 51.5**	**+0.7**
	baz=359								
SCLT	**Jiali**	**1.52**	**245**		*e*P		**Pn**	**06 09 52.6**	**+0.9**
	baz=242								
SCLT					*e*S		**Sn**	**06 10 12.3**	**+2.1**
	baz=242								
TWM1	**Shoushan**	**1.54**	**230**	⇓	*i*P		**Pn**	**06 09 54.6**	**+2.7**
	baz=228								
SGLT	**Jiouru**	**1.55**	**226**	⇓	*e*P		**Pn**	**06 09 55.0**	**+2.9**
	baz=207								
SGLT					*e*S		**Sn**	**06 10 15.5**	**+4.4**
	baz=207								
TAI1	**Yung-k'ang**	**1.56**	**240**	⇓	*e*P		**Pn**	**06 09 53.9**	**+1.8**
	baz=251								
TAI1					*e*S		**Sn**	**06 10 13.3**	**+2.2**
	baz=251								
EAST	**Anshuo**	**1.63**	**209**	⇓	*i*P		**Pn**	**06 09 52.5**	**-0.7**
	baz=200								
TAW	**Tawu**	**1.63**	**207**		*e*P		**Pn**	**06 09 52.5**	**-0.7**
	baz=195								
TAW					*e*S		**Sn**	**06 10 13.0**	**+0.1**
	baz=195								
SCZT	**Fangliau**	**1.75**	**215**	⇑	P		**Pn**	**06 09 55.7**	**+0.9**
	baz=209								
SCZT					*e*S		**Sn**	**06 10 18.8**	**+2.9**
	baz=209								
LAY	**Lan-yu**	**1.78**	**184**	⇑	P		**Pn**	**06 09 54.6**	**-0.6**
	baz=174								
LAY					*e*S		**Sn**	**06 10 15.1**	**-1.5**
	baz=174								
KAU	**Kaohsiung**	**1.79**	**226**		*e*P		**Pn**	**06 09 57.3**	**+2.0**
	baz=240								
TWP	**Hsiaoliuchiu**	**1.91**	**220**		*e*P		**Pn**	**06 09 59.6**	**+2.5**
	baz=218								
IRIF	**Iriomote-Funau**	**1.93**	**74**		P		**Pn**	**06 09 58.8**	**+1.6**
IRIF					S		**Sn**	**06 10 22.2**	**+1.9**
HATJ	**Hateruma jima**	**1.94**	**83**		P		**Pn**	**06 09 58.9**	**+1.4**
HATJ					S		**Sn**	**06 10 22.4**	**+1.8**
WDGT	**Dungji**	**1.95**	**254**	⇓	*i*P		**Pn**	**06 09 57.9**	**+0.3**
	baz=252								
WDGT					*e*S		**Sn**	**06 10 19.9**	**-1.0**
	baz=252								
PNG	**Penghu**	**1.98**	**263**	⇓	P		**Pn**	**06 09 58.4**	**+0.4**
	baz=261								
PNG					*e*S		**Sn**	**06 10 21.1**	**-0.5**
	baz=261								
HEN	**Hengchun**	**2.01**	**206**		*e*P		**Pn**	**06 10 00.1**	**+1.7**
	baz=202								
HEN					*e*S		**Sn**	**06 10 26.6**	**+4.3**
	baz=202								
TWK1	**Hengchun**	**2.04**	**204**		*e*P		**Pn**	**06 09 58.1**	**-0.7**
	baz=198								
TWK1					*e*S		**Sn**	**06 10 25.7**	**+2.6**
	baz=198								
TSEB	**Hengchuen, Pin**	**2.05**	**201**	⇓	*e*P		**Pn**	**06 10 00.2**	**+1.3**
	baz=197								
TSEB					*e*S		**Sn**	**06 10 24.5**	**+1.3**
	baz=197								
JKRS	**Kuro-shima**	**2.15**	**78**		P		**Pn**	**06 10 01.9**	**+1.5**
JKRS					S		**Sn**	**06 10 27.9**	**+2.0**
JIJ	**Ishigaki jima**	**2.30**	**76**		P		**Pn**	**06 10 03.2**	**+0.8**
JIJ					S		**Sn**	**06 10 30.1**	**+0.6**
JTJ	**Tarama**	**2.86**	**73**		P		**Pn**	**06 10 11.4**	**+1.3**
JTJ					S		**Sn**	**06 10 43.9**	**+0.6**
KNM	**Kinmen**	**3.04**	**282**	⇓	*e*P		**Pn**	**06 10 14.0**	**+1.4**
	baz=281								
KNM					*e*S		**Sn**	**06 10 48.4**	**+0.6**
	baz=281								
QZH	**Quanzhou**	**3.05**	**292**	⇓	*i*Pn		**Pn**	06 10 08.3	-4.3
QZH					Sn		**Sn**	06 10 41.3	-6.6
QZH					smax		smax		
	comp=N,8μm,0.9s								
QZH					smax		smax		
	comp=E,7μm,0.7s								
JMJ	**Miyako jima 2**	**3.43**	**72**		P		**Pn**	**06 10 19.0**	**+1.1**
JMJ					S		**Sn**	**06 10 58.5**	**+1.2**
JMJ	**Miyako jima 2**	**3.43**	**72**		*e*P		**Pn**	**06 10 18.7**	**+0.8**
	baz=75								
JMJ					*e*S		**Sn**	**06 10 58.7**	**+1.5**
	baz=75								
JOGS	**Gusukube**	**3.51**	**74**		P		**Pn**	**06 10 20.6**	**+1.6**
JOGS					S		**Sn**	**06 11 01.0**	**+1.7**
JKE	**Kume jima 2**	**5.25**	**61**		P		**Pn**	**06 10 43.7**	**+0.8**
JKE					S		**Sn**	**06 11 41.8**	**-0.3**
PIP	**Pasuquin**	**5.56**	**191**	⇓	*i*P		**Pn**	**06 10 48.6**	**+1.5**
PIP					*e*S		**Sn**	**06 11 47.0**	**-2.8**
JAGN	**Aguni-jima**	**5.73**	**60**		P		**Pn**	**06 10 50.3**	**+0.8**
APYP	**Conner**	**5.94**	**184**		*e*P		**Pn**	**06 10 54.6**	**+2.1**
APYP					*e*S		Px	06 11 10.9	
CVP	**Callao Caves**	**6.08**	**179**		*e*P		**Pn**	**06 10 54.2**	**-0.2**
CVP					*e*S		**Sn**	**06 12 02.4**	**-0.5**
ABRA	**Dolores**	**6.21**	**189**		*e*P		**Pn**	**06 10 58.2**	**+2.1**
SZP	**Santa**	**6.34**	**191**		*e*Pn		**Pn**	**06 11 00.6**	**+2.6**
JIH	**Iheya**	**6.51**	**59**		P		**Pn**	**06 11 00.2**	**0.0**
JIH					*e*S		**Sn**	**06 12 10.3**	**-2.9**
JOW	**Kunigami**	**6.

TIA LR LR
comp=N,790nm,4.8s
TIA LR LR
comp=E,1μm,6.0s
TIA LR LR
comp=Z,1μm,15.7s
TJN Taejon 13.44 20 *e*P **Pn 06 12 34.8 -0.3**
GYA Guiyang 13.87 284‖ *i*P **Pn 06 12 39.9 -1.2**
GYA pP **P 06 12 50.3 +1.7**
GYA S **Sn 06 15 14.9 +1.0**
GYA sS S 06 15 27.3 -7.2
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.5s
GYA LR LR
comp=Z,740nm,9.6s
GYA LR LR
comp=Z,2μm,13.0s
GYA LR LR
comp=Z,2μm,15.8s
KSAR Wonju Array Be 14.58 20 P **P 06 12 53.5 -2.8**
KSRS Korea Array 14.60 20 P **Pn 06 12 53.5 +2.6**
comp=Z,0.9nm,0.3s,baz=200,slow=13,SNR=24
KSRS LR LR 06 19 21.4
comp=Z,598nm,18.3s,baz=202,slow=41
XAN Xi'an 15.11 315 P **Pn 06 12 57.9 +0.2**
XAN pP **P 06 13 05.4 +3.1**
XAN S **Sn 06 15 42.1 -1.9**
XAN sS **S 06 15 54.3 -5.5**
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN LR LR
comp=Z,580nm,10.2s
XAN LR LR
comp=Z,380nm,9.7s
XAN LR LR
comp=Z,360nm,15.2s
SLVN Son La 16.62 265 *e*P **P 06 13 21.9 +2.8**
BJI Beijing 16.83 345 P **P 06 13 21.3 +0.1**
BJI S **Sn 06 16 28.3 +2.8**
BJI pmax pmax
comp=Z,9.0nm,0.6s
BJI pmax pmax
comp=Z,160nm,5.0s
BJI LR LR
comp=Z,480nm,17.4s
BJI LR LR
comp=Z,880nm,17.0s
BJI LR LR
comp=Z,280nm,23.2s
KMI Kunming 17.31 278 P **P 06 13 27.4 +0.5**
KMI pP **pP 06 13 35.3 -1.6**
KMI S **Sn 06 16 33.8 -3.9**
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,220nm,5.2s
KMI LR LR
comp=Z,470nm,6.8s
KMI LR LR
comp=Z,1μm,10.0s
KMI LR LR
comp=Z,1μm,11.7s
CD2 Chengdu 17.42 298 *e*P **Pn 06 13 27.0 0.0**
CD2 pP **pP 06 13 35.4 -2.5**
CD2 PP PP 06 13 42.1
CD2 S **Sn 06 16 37.8 -2.2**
CD2 sS **S 06 16 49.9 +2.9**
CD2 SS **SnSn 06 17 00.3 +6.6**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,190nm,5.4s
CD2 LR LR
comp=Z,1μm,16.6s
CD2 LR LR
comp=Z,2μm,20.2s
CD2 LR LR
comp=Z,2μm,13.7s
JCJ Chichijima 18.78 76 LR LR 06 20 27.1
comp=Z,364nm,18.3s,baz=288,slow=35
HHC Hu-ho-hao-te 18.99 336 *e*P **Pn 06 13 48.5 +2.3**
HHC PP **PnPn 06 14 05.3 +5.9**
HHC S **Sn 06 17 15.8 -2.2**
HHC SS **SnSn 06 17 41.6 +9.1**
HHC pmax pmax
comp=Z,70nm,0.7s
HHC pmax pmax
comp=Z,240nm,6.1s
HHC LR LR
comp=Z,980nm,14.8s
HHC LR LR
comp=Z,850nm,16.0s
HHC LR LR
comp=Z,940nm,16.5s
MAJO Matsushiro 19.06 44 *e*P **Pn 06 13 46.9 0.0**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 19.06 44 *e*P **Pn 06 13 46.9 0.0**
comp=Z,12nm,0.9s
MJAR Matsushiro Arr 19.06 45 P **P 06 13 44.6 -1.2**
MJAR Matsushiro Arr 19.06 45 P **P 06 13 44.6 -1.2**
comp=Z,0.4nm,0.3s,baz=230,slow=9.4,SNR=6.3
MJAR LR LR 06 21 28.1
comp=Z,422nm,21.2s,baz=190,slow=38
LZH Lanzhou 19.68 312 *e*P **Pn 06 13 56.9 +2.4**
LZH S **S 06 17 33.3 +0.6**
LZH pmax pmax
comp=Z,88nm,1.3s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=Z,850nm,10.8s
LZH LR LR
comp=Z,1μm,11.4s
LZH LR LR
comp=Z,1μm,12.1s
CN2 Changchun 20.17 8 *e*P Pn 06 13 59.6 -0.4
CN2 *es*P sP 06 14 13.6 +0.4
CN2 *e*S **S 06 17 41.4 -0.6**
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,400nm,18.0s
MDJ Mudanjiang 21.73 15 P **P 06 14 16.8 +2.2**
MDJ pP **pP 06 14 24.8 -0.1**
MDJ sP **sP 06 14 28.9 -1.1**
MDJ S **S 06 18 16.8 +4.0**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,54nm,4.0s
MDJ LR LR
comp=Z,410nm,17.9s
MDJ LR LR
comp=Z,680nm,17.6s
MDJ LR LR
comp=Z,550nm,16.1s
CHTO Chiang Mai 21.77 261 *e*P **P 06 14 17.3 +2.0**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 21.77 261 *e*P **P 06 14 17.3 +2.0**
comp=Z,5.6nm,0.9s
CM31 Chiang Mai Arr 21.87 260 *e*P **P 06 14 17.3 +0.8**
comp=Z,6.8nm,0.6s
CMAR Chiang Mai Arr 21.87 260 P **P 06 14 18.1 +1.7**
CMAR Chiang Mai Arr 21.87 260 P **P 06 14 18.1 +1.7**
comp=Z,9.4nm,0.9s,baz=59,slow=8.4,SNR=28
CMAR LR LR 06 23 36.7
comp=Z,488nm,18.8s,baz=79,slow=39
USRK Ussuriysk Arra 22.01 20 P **P 06 14 17.7 0.0**
comp=Z,2.8nm,0.5s,baz=200,slow=9.1,SNR=12
USRK LR LR 06 24 20.3
comp=Z,271nm,18.1s,baz=182,slow=40
GTOI Gorontalo 23.08 177 P **P 06 14 25.6 -3.6**
comp=Z,73nm,0.7s,comp=Z,961nm
MRSI Marisa 23.20 179 P **P 06 14 32.0 +1.6**
comp=Z,60nm,0.8s,comp=Z,2μm
GTA Gaotai 24.18 315⇑ P **P 06 14 39.9 +0.3**
GTA pP **pP 06 14 49.3 -1.4**
GTA sP **sP 06 14 53.3 -2.4**
GTA PcP **PcP 06 18 20.6 +1.0**
GTA S **S 06 18 53.3 -1.9**
GTA sS **sS 06 19 08.8 -4.8**
GTA SS **SnSn 06 19 46.5 +7.1**
GTA ScP **ScP 06 21 55.8 +0.8**
GTA pmax pmax
comp=Z,9.0nm,2.2s
GTA pmax pmax
comp=Z,170nm,4.8s
GTA LR LR
comp=Z,400nm,17.1s
GTA LR LR
comp=Z,740nm,16.2s
GTA LR LR
comp=Z,810nm,15.7s
HIA Hailar 25.45 357 *e*P **P 06 14 50.5 -0.4**
comp=Z,9.2nm,0.8s
SANI Sanana 26.05 170 P **P 06 14 54.8 -1.8**
comp=Z,29nm,1.1s
MMSI Mamuju 26.49 186 P x 06 15 00.3
comp=Z,75nm,0.8s
ASAJ Asahikawa 26.52 35 P **P 06 14 59.9 -0.7**
ASAJ Asahikawa 26.52 35 P **P 06 14 59.9 -0.7**
comp=Z,4.6nm,0.5s,baz=258,slow=10,SNR=6.4
ASAJ LR LR 06 26 29.5
comp=Z,652nm,19.2s,baz=330,slow=38
KLR Kul'dur 26.57 15 *e*P **P 06 14 56.8 -4.2**
KLR MLR MLR
comp=E,500nm,11.0s
KLR MLR MLR
comp=Z,1μm,11.0s
ULN Ulaanbaatar 26.68 338 *e*P **P 06 15 02.1 -0.2**
comp=Z,17nm,0.8s
HABR Khabarovsk 26.78 20 *e*P P 06 15 10.2 +7.3
HABR *e*PPP PPP 06 15 51.2
HABR *e* 06 18 23.6
HABR *e*S **S 06 19 34.3 -1.8**
HABR *e**SS sS 06 19 51.0 -3.7
HABR *e*SS **SnSn 06 20 40.3 -2.4**
HABR pmax pmax
comp=Z,14nm,0.9s
HABR MLR MLR
comp=Z,325nm,19.0s
SONM Songino Array 26.89 337 P **P 06 15 04.2 +0.1**
SONM Songino Array 26.89 337 P **P 06 15 04.2 +0.1**
comp=Z,10nm,0.7s,baz=157,slow=10,SNR=26
SONM LR LR 06 27 00.5
comp=Z,623nm,18.4s,baz=156,slow=39
SHL Shillong 27.12 280 *e*P **P 06 15 06.0 -0.5**
NLAI Namlea 27.40 168 P **P 06 15 11.9 +3.1**
comp=Z,84nm,0.7s
KKSI Kolaka, Sulawe 27.82 180 P x 06 15 15.6
comp=Z,290nm,0.4s,comp=Z,8μm
LSA Lhasa 27.85 289 P **P 06 15 16.5 +3.2**
LSA LR LR
comp=Z,1μm,19.4s
LSA Lhasa 27.85 289 *e*P **P 06 15 14.6 +1.3**
LSA pmax pmax
comp=Z,15nm,0.6s
LSA Lhasa 27.85 289 *e*P **P 06 15 14.6 +1.3**
comp=Z,15nm,0.6s
YUK Yuzh-Kuril'sk 28.26 39*c* *i*P P 06 15 12.4 -3.8
YUK *i* 06 16 02.1
YUK *i* PPP PPP 06 16 13.0
YUK *i* 06 18 23.8
YUK *i* S **S 06 19 57.7 -1.7**
YUK *i* SS **SnSn 06 21 16.2 -2.5**
YUK *i* 06 25 57.7
YUK MLR MLR
comp=N,371nm,22.0s
YUK MLR MLR
comp=E,631nm,22.0s
YUK MLR MLR
comp=Z,370nm,22.0s
YSS Yuzh-Sakhalins 28.59 31 *e*P **P 06 15 17.2 -2.0**
YSS MLR MLR
comp=E,300nm,19.0s
YSS MLR MLR
comp=Z,300nm,19.0s
YSS MLR MLR
comp=N,300nm,17.0s
TPI Tanjungpandan 29.74 209 P **P 06 15 30.2 +0.6**
comp=N,91nm,1.4s
ZAK Zakamensk 30.14 336 *e*P **P 06 15 31.5 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
PSI Prapat 30.35 230 P x 06 15 34.6
comp=Z,40nm,1.2s
TAPN Taplejung 30.80 284 *e*P **P 06 15 40.8 +1.5**
comp=Z,70nm,0.7s
TLY Talaya 31.09 338 *e*P **P 06 15 41.2 -0.1**
TLY *e*S **S 06 20 38.0 -5.8**
TLY *e*SS **SnSn 06 22 22.1 -5.4**
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY MLR MLR
comp=Z,389nm,17.0s
TLY Talaya 31.09 338 *e*P **P 06 15 41.3 +0.1**
comp=Z,7.9nm,0.7s
ODAN Odare 31.10 283 *e*P **P 06 15 42.9 +1.0**
comp=Z,48nm,0.8s
MNSI Mandailing Nat 31.36 226 P **P 06 15 45.8 +1.8**
comp=Z,82nm,1.0s
PPI Padang Panjang 31.78 224 P **P 06 15 50.2 +2.5**
comp=Z,48nm,1.2s
RAMN Ramite 31.80 283 *e*P **P 06 15 49.1 +1.0**
comp=Z,54nm,0.7s
PDSI Padang 32.09 223 P **P 06 15 52.2 +1.8**
comp=Z,23nm,0.2s,comp=Z,13μm
JIRN Jiri 32.15 284 *e*P **P 06 15 52.2 +1.0**
comp=Z,80nm,0.9s
GUN Gumba 32.42 285 *e*P **P 06 15 54.6 +1.0**
comp=Z,88nm,0.9s
NGJI Ngawi 32.57 199 P **P 06 15 56.3 +1.8**
comp=Z,80nm,0.9s
LHSI Lahat 32.69 215 P **P 06 15 56.8 +1.2**
comp=Z,71nm,1.0s,comp=Z,2μm
PKI Pulchoki 32.84 284 *e*P **P 06 15 57.6 +0.3**
comp=Z,20nm,0.5s
PKIN Phulchoki 32.85 284 *e*P **P 06 15 57.6 +0.3**
comp=Z,17nm,0.5s
MDSI Maura Dua 32.91 214 P **P 06 15 58.2 +0.7**
comp=Z,70nm,0.8s
KKN Kakani 32.95 285 *e*P **P 06 15 58.7 +0.6**
comp=Z,77nm,0.9s
PWJI Pagerwojo 33.09 198 P **P 06 15 59.3 +0.2**
comp=Z,137nm,0.8s
BJII Banjamegara 33.10 202 P x 06 16 02.5
comp=Z,39nm,1.5s
DMN Daman 33.11 284 *e*P **P 06 16 00.2 +0.6**
comp=Z,73nm,0.9s
KPJI Karang Pucung 33.38 203 P **P 06 16 04.5 +2.9**
comp=Z,56nm,1.5s,comp=Z,3μm
LWLI Liwa 33.43 213 P **P 06 16 03.6 +1.4**
comp=Z,143nm,0.7s
GKN Gorkha 33.51 285 *e*P **P 06 16 03.4 +0.4**
comp=Z,65nm,0.8s
WMQ Urumqi 34.25 314 P **P 06 16 11.3 +2.3**
WMQ pP **pP 06 16 20.9 +0.6**
WMQ sP **sP 06 16 24.8 -0.4**
WMQ PP **PP 06 17 26.4 -0.6**
WMQ PcP PcP 06 18 50.3 +5.4
WMQ ScP **ScP 06 22 29.0 +2.2**
WMQ ScS **ScS 06 26 29.8 +0.6**
WMQ pmax pmax
comp=Z,5.0nm,1.2s
WMQ pmax pmax
comp=Z,28nm,11.7s
WMQ LR LR
comp=Z,260nm,13.8s
WMQ LR LR
comp=Z,380nm,9.0s
WMQ LR LR
comp=Z,170nm,15.6s
DANN Dangsing 34.28 286 *e*P **P 06 16 10.4 +0.6**
comp=Z,82nm,1.0s
KOLN Koldanda 34.44 285 *e*P **P 06 16 11.7 +0.7**
comp=Z,88nm,0.9s
HVS Khovu-Aksy 34.78 329 P **P 06 16 14.8 +1.2**
HVS pmax pmax
comp=Z,27nm,1.5s
MK31 Makanchi Array 38.93 316 *e*P **P 06 16 49.2 +0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 38.93 316 *e*P **P 06 16 49.1 +0.3**
MKAR Makanchi Array 38.93 316 P **P 06 16 49.0 +0.2**
MKAR 06 18 57.6
MKAR 06 22 41.3
MKAR Makanchi Array 38.93 316 P **P 06 16 49.0 +0.2**
MKAR PcP **PcP 06 18 57.6 -1.2**
MKAR ScP **ScP 06 22 41.3 -2.7**
MKAR Makanchi Array 38.93 316 P **P 06 16 49.0 +0.2**
comp=Z,6.8nm,0.7s,baz=97,slow=9.9,SNR=28
MKAR PcP **PcP 06 18 57.6 -1.2**
comp=Z,2.8nm,0.7s,baz=97,slow=3.7,SNR=3.7
MKAR ScP **ScP 06 22 41.3 -2.7**
comp=Z,1.7nm,1.0s,baz=126,slow=2.1,SNR=6.4
MKAR LR LR 06 34 22.9
comp=Z,410nm,18.1s,baz=102,slow=38
PETK Petropavlovsk- 39.91 34 P **P 06 16 58.3 +1.5**
PETK Petropavlovsk- 39.91 34 P **P 06 16 58.3 +1.5**
PETK Petropavlovsk- 39.91 34 P **P 06 16 58.3 +1.5**
comp=Z,1.7nm,0.7s,baz=199,slow=8.4,SNR=4.8
PETK LR LR 06 33 23.9
comp=Z,220nm,20.4s,baz=222,slow=36
NDI New Delhi 40.02 287 *ex* **P 06 16 58.0 -0.1**
HYB Hyderabad 40.76 269 *i* P **P 06 17 05.0 +0.6**
HYB *es*P **sP 06 17 23.0 +2.3**
ZAA0 Zalesovo Array 40.81 327 *e*P **P 06 17 03.3 -1.0**
ZALV Zalesovo Beam 40.81 327 P **P 06 17 03.5 -0.8**
ZALV 06 19 02.7
ZALV Zalesovo Beam 40.81 327 P **P 06 17 03.5 -0.8**
ZALV PcP **PcP 06 19 02.7 -2.0**
ZALV ScP **ScP 06 22 49.4 -1.7**
ZALV Zalesovo Beam 40.81 327 P **P 06 17 03.5 -0.8**
comp=Z,14nm,0.7s,baz=119,slow=8.0,SNR=66
ZALV PcP **PcP 06 19 02.7 -2.0**
comp=Z,2.6nm,0.5s,baz=103,slow=3.7,SNR=4.9
ZALV ScP **ScP 06 22 49.4 -1.7**
comp=Z,0.6nm,0.5s,baz=131,slow=5.9,SNR=3.6
ZALV LR LR 06 35 14.3
comp=Z,367nm,18.9s,baz=88,slow=38
KSH Kashi 41.49 303 *i* P P 06 17 14.3 +4.0
KSH *e*PP **PnPn 06 18 54.8 +3.3**
KSH *e*PcS **PcS 06 23 00.8 +2.0**
KSH *e*S S 06 23 29.3 +6.1
KSH *es*S sS 06 23 45.4 +3.2
KSH *e*SS **SS 06 26 30.3 +1.7**
KSH pmax pmax
comp=Z,11nm,0.9s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,310nm,14.6s
KSH LR LR
comp=Z,510nm,14.7s
KSH LR LR
comp=Z,450nm,13.7s
H11N1 WAKE ISLAND Hy 42.04 87 T T 07 02 26.1
baz=286,slow=75,SNR=65
H11N2 WAKE ISLAND Hy 42.04 87 T T 07 02 29.6
baz=286,slow=75,SNR=79
H11N3 WAKE ISLAND Hy 42.05 87 T T 07 02 30.6
baz=286,slow=75,SNR=62
NVS Novosibirsk 42.07 328 *e*P **P 06 17 11.8 -2.8**
NVS *e*PPP PPP 06 19 11.1
NVS *e*S **S 06 23 27.9 -3.0**
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS smax smax
comp=E,23nm,2.8s
H11S3 WAKE ISLAND Hy 42.16 88 T T 07 02 33.7
baz=287,slow=73,SNR=85
H11S1 WAKE ISLAND Hy 42.17 88 T T 07 02 32.9
baz=287,slow=73,SNR=74
H11S2 WAKE ISLAND Hy 42.18 88 T T 07 02 30.8
baz=287,slow=73,SNR=82
TKM2 Tokmak 2 42.36 308 P **P 06 17 18.9 +1.5**
TKM2 pmax pmax
comp=Z,10.0nm,1.0s
TKM2 Tokmak 2 42.36 308 P **P 06 17 18.6 +1.2**
SNR=11
TKM2 Tokmak 2 42.36 308 *e*P **P 06 17 18.5 +1.1**
comp=Z,16nm,0.9s
KZA Kyzart 42.45 307 *i* P **P 06 17 20.7 +2.3**
KZA Kyzart 42.45 307 P **P 06 17 20.8 +2.3**
SNR=6.5
KURK Kurchatov 42.67 320*c* *i*P **P 06 17 19.5 -0.1**
KURK pmax pmax
comp=Z,13nm,1.7s
KURK Kurchatov 42.67 320 *e*P **P 06 17 19.1 -0.5**
comp=Z,4.2nm,0.6s
KBK Karagaybulak 42.78 308 *i* P **P 06 17 22.7 +1.9**
KBK Karagaybulak 42.78 308 P **P 06 17 22.8 +1.9**
SNR=6.5
CHMS Chumysh 42.98 308 *i* P **P 06 17 23.7 +1.4**
CHMS Chumysh 42.98 308 P **P 06 17 23.7 +1.4**
SNR=9.8
UCH Uchtor 43.02 307 *i* P **P 06 17 25.4 +2.4**
UCH Uchtor 43.02 307 P **P 06 17 25.4 +2.4**
SNR=18
AAK Ala-Archa 43.10 308 *e*P **P 06 17 23.6 +0.2**
AAK pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 43.10 308 *e*P **P 06 17 23.6 +0.2**
comp=Z,10nm,1.1s
AML Almayashu 43.60 307 *i* P **P 06 17 29.5 +1.8**
AML Almayashu 43.60 307 P **P 06 17 29.6 +1.8**
SNR=9.8
EKS2 Erkin-Say 43.63 307 *e*P **P 06 17 27.0 -0.6**
EKS2 pmax pmax
comp=Z,10.0nm,1.1s
EKS2 Erkin-Say 43.63 307 *e*P **P 06 17 27.0 -0.6**
comp=Z,9.8nm,1.1s
SEY Seymchan 44.16 20‖ *e*P **P 06 17 32.4 +1.0**
SEY Seymchan 44.16 20 P **P 06 17 30.9 -0.5**
SEY Seymchan 44.16 20 P **P 06 17 30.9 -0.5**
comp=Z,1.2nm,0.5s,baz=225,slow=13,SNR=8.5
MBWA Marble Bar 44.75 183 *e*P **P 06 17 34.4 -2.1**
POO Poona 44.77 273 *ex* **P 06 17 37.0 +0.1**
WRAB Tennant Creek 45.20 163*d* *i*P **P 06 17 39.6 -0.6**
WRAB pmax pmax
comp=Z,113nm,2.5s
WRAB Tennant Creek 45.20 163 *e*P **P 06 17 39.2 -0.9**
comp=Z,14nm,0.7s
WRA Warramunga Arr 45.21 163 P **P 06 17 39.2 -1.0**
WRA Warramunga Arr 45.21 163 P **P 06 17 39.2 -1.0**
comp=Z,12nm,0.6s,baz=345,slow=8.7,SNR=87
KK31 Karatay Array 46.07 308 *i* P **P 06 17 47.5 +0.6**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 46.07 308 *e*P **P 06 17 47.9 +1.0**
KKAR Karatay Array 46.07 308 *e*P **P 06 17 47.9 +1.0**
KBL Kabul 46.74 296 *e*P **P 06 17 53.9 +1.3**
KBL pmax pmax
comp=Z,37nm,0.8s
KBL Kabul 46.74 296 *e*P **P 06 17 53.9 +1.3**
comp=Z,37nm,0.8s
TIXI Tiksi 48.03 3⇑ *i*P **P 06 18 01.0 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 48.03 3 *e*P **P 06 18 00.5 -1.2**
comp=Z,12nm,1.1s
BVA0 Borovoye Array 48.25 321 *i* P **P 06 18 03.1 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
FX1 Attu Island--F 48.30 39 P **P 06 18 04.8 +0.7**
FX1 Attu Island--F 48.30 39 P **P 06 18 04.8 +0.7**
comp=Z,5.5nm,0.5s,baz=250,slow=20,SNR=5.5
FX1 LR LR 06 40 50.9
comp=Z,74nm,18.9s,baz=266,slow=39
BRVK Borovoye 48.32 321‖ *i*P **P 06 18 04.8 +0.5**
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 48.32 321 *e*P **P 06 18 04.2 0.0**
comp=Z,12nm,0.9s
AS31 Alice Springs 48.66 165 *e*P **P 06 18 06.8 -0.4**
ASAR Alice Springs 48.67 165 P **P 06 18 06.7 -0.5**
ASAR Alice Springs 48.67 165 P **P 06 18 06.7 -0.5**
comp=Z,4.5nm,0.5s,baz=338,slow=6.7,SNR=49
CTAO Charters Tower 49.77 149 *e*P **P 06 18 15.5 -0.2**
CTAO pmax pmax
comp=Z,9.0nm,0.7s
CTAO Charters Tower 49.77 149 *e*P **P 06 18 15.5 -0.2**
comp=Z,8.6nm,0.7s
BILL Bilibino 51.87 20⇑ *i*P **P 06 18 31.8 +0.9**
BILL *e* 06 19 48.2
BILL *i* 06 20 31.0
BILL pmax pmax

comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,100nm,17.0s
IMYA Miami 53.94 299 *eP* **P 06 18 47.8 +0.9**
AB31 Akbulak array 54.03 315 P **P 06 18 48.0 +0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 54.03 315 *eP* **P 06 18 47.3 +0.2**
ISRO Mashad 54.45 299 *eP* **P 06 18 50.1 -0.4**
SVE Sverdlovsk 54.62 324 *eP* **P 06 18 51.0 -0.2**
SVE pmax pmax
comp=Z,18nm,0.6s
FORT Forrest 54.63 173 *eP* **P 06 18 51.0 -0.5**
IKRD Kardeh 55.17 299 *eP* P 06 18 51.8 -4.2
AKTO Aktyubinsk 55.36 316 P **P 06 18 56.4 -0.4**
AKTO pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 55.68 323*c iP* **P 06 18 59.3 +0.4**
ARU 06 21 00.2
ARU S **S 06 26 43.4 +1.2**
ARU SS **SS 06 30 25.2 -2.4**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 55.68 323 *eP* **P 06 18 58.6 -0.3**
comp=Z,15nm,0.6s
BBOO Buckleboo 57.95 166 *eP* **P 06 19 15.2 -0.1**
comp=Z,224nm,0.7s
STKA Stephens Creek 58.56 160 *eP* **P 06 19 19.2 -0.2**
comp=Z,2.5nm,0.5s
STKA Stephens Creek 58.56 160 P **P 06 19 19.3 -0.2**
comp=Z,12nm,0.5s,baz=339,slow=6.1,SNR=75
STKA LR LR 06 45 58.8
comp=Z,36nm,20.6s,baz=29,slow=37
GAMB Gambell 58.58 29 *eP* **P 06 19 20.6 +1.4**
comp=Z,5.7nm,0.7s
IFIR Firoozkooh 59.94 299 *eP* **P 06 19 29.4 -0.1**
TNA Tin City 60.45 27 *eP* **P 06 19 34.6 +2.4**
IDMV Damavand 60.53 299 *eP* **P 06 19 33.6 +0.1**
IPAR Pars 60.76 292 *eP* **P 06 19 35.0 -0.2**
ZEI Tsey 65.53 308 *eP* **P 06 20 05.7 -0.9**
ZEI pmax pmax
comp=Z,16nm,0.9s
VRHR Novokhopersk 65.72 317 *eP* **P 06 20 05.2 -2.2**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.7s
KBZ Khabaz 66.08 309 P **P 06 20 10.2 +0.4**
KBZ Khabaz 66.08 309 P **P 06 20 10.2 +0.4**
KBZ Khabaz 66.08 309 P **P 06 20 10.2 +0.4**
comp=E,8.6nm,0.9s,baz=123,slow=6.2,SNR=11
KBZ LR LR 06 53 22.4
comp=E,115nm,18.7s,baz=66,slow=40
KIV Kislovodsk 66.18 309 *eP* **P 06 20 11.6 +1.0**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,105nm,17.0s
KIV Kislovodsk 66.18 309 *eP* **P 06 20 10.8 +0.1**
IM04 Indian Mountai 66.28 26 *eP* **P 06 20 11.3 +0.5**
NEY Neytrino 66.29 308⇑ *eP* **P 06 20 12.8 +1.4**
VORD Divnogorie 67.19 317 *eP* **P 06 20 14.7 -2.1**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 67.23 317 *eP* **P 06 20 15.0 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
CAST Castle Rocks 67.31 29 *eP* **P 06 20 19.1 +1.8**
PPLA Purkeypile 67.33 30 *eP* **P 06 20 19.4 +1.7**
RSO Redoubt South 67.42 32 *eP* P 06 20 24.8 +6.4
COLD Coldfoot 67.56 25 *eP* **P 06 20 20.4 +1.5**
comp=E,8.3nm,1.1s
KTH Kantishna Hill 67.80 29 *eP* **P 06 20 21.7 +1.2**
comp=E,75nm,0.8s
OBN Obninsk 68.08 322 *eP* **P 06 20 22.5 +0.2**
OBN *i* 06 20 43.6
OBN pmax pmax
comp=Z,23nm,1.6s
OBN MLR MLR
comp=Z,100nm,17.0s
TRF Thorofare Moun 68.10 29 *eP* **P 06 20 23.7 +1.2**
MCK McKinley 68.65 29 *eP* **P 06 20 26.4 +0.7**
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 68.65 29 *eP* **P 06 20 26.4 +0.7**
comp=Z,15nm,1.1s
RC01 Rabbit Creek A 68.77 31 *eP* **P 06 20 26.6 +0.1**
COLA College 68.90 27 *eP* **P 06 20 26.7 -0.5**
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA College 68.90 27 *eP* **P 06 20 26.6 -0.5**
comp=Z,4.4nm,0.9s
PMR Palmer 68.96 31 *eP* **P 06 20 28.1 +0.4**
PMR pmax pmax
comp=Z,31nm,1.2s
PMR Palmer 68.96 31 *eP* **P 06 20 28.1 +0.4**
comp=Z,30nm,1.2s
JOF Joensuu 69.25 331 *eP* **P 06 20 27.8 -1.7**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 69.25 331 *ep* **P 06 20 27.8 -1.7**
comp=Z,2.8nm,0.5s
ILAR Eielson Array 69.32 27 P **P 06 20 29.4 -0.5**
ILAR Eielson Array 69.32 27 P **P 06 20 29.4 -0.5**
comp=Z,4.7nm,0.7s,baz=286,slow=6.0,SNR=94
ILAR LR LR 06 56 53.3
comp=Z,96nm,19.2s,baz=231,slow=41
KEV Kevo 69.49 338 *eP* **P 06 20 29.8 -1.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 69.49 338 *ep* **P 06 20 29.8 -1.0**
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 70.05 338 P **P 06 20 33.5 -0.8**
ARCES ARCESS Array B 70.05 338 P **P 06 20 33.6 -0.8**
comp=Z,3.6nm,0.7s,baz=60,slow=5.3,SNR=7.0
ARCES LR LR 06 55 52.9
comp=Z,72nm,18.1s,baz=70,slow=40
PAX Paxson 70.33 29 *eP* **P 06 20 37.1 +0.8**
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 70.33 29 *eP* **P 06 20 37.1 +0.8**
comp=Z,7.1nm,0.8s
MENT Mentasta 71.12 29 *eP* **P 06 20 41.2 +0.3**
BMRM Bremner River 71.23 31 *eP* **P 06 20 43.8 +2.1**
EGAK Eagle 71.70 27 *eP* **P 06 20 45.0 +0.6**
comp=Z,18nm,0.8s
KAF Kangasniemi 71.70 330 *eP* **P 06 20 42.9 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 71.70 330 *ep* **P 06 20 42.9 -1.5**
comp=Z,2.3nm,0.4s
FINES FINESS Array B 72.00 330 P **P 06 20 45.4 -0.8**
FINES FINESS Array B 72.00 330 P **P 06 20 45.4 -0.8**
comp=Z,3.2nm,0.4s,baz=76,slow=5.9,SNR=34
FINES LR LR 06 55 12.3
comp=Z,175nm,19.8s,baz=71,slow=38
DAWY Dawson 72.65 27 *eP* **P 06 20 50.3 +0.2**
INK Inuvik 73.39 22 *eP* **P 06 20 54.5 +0.2**
INK Inuvik 73.39 22 P **P 06 20 54.1 -0.2**
comp=Z,13nm,0.8s,baz=303,slow=5.8,SNR=68
AKASG Malin Array Be 73.45 318 *i P* **P 06 20 54.4 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.45 318 P **P 06 20 53.9 -1.2**
AKASG Malin Array Be 73.45 318 P **P 06 20 53.9 -1.2**
comp=Z,0.8nm,0.4s,baz=60,slow=5.6,SNR=9.5
AK01 Malin Array Si 73.47 318 *eP* **P 06 20 54.0 -1.1**
NACGM Naroch 73.59 323 *e* **P 06 20 54.0 -1.8**
BR131 Keskin Array S 73.77 307 *eP* **P 06 20 57.2 -0.1**
comp=Z,1.3nm,0.4s
BRTR Keskin Array B 73.77 307 P **P 06 20 57.4 +0.1**
BRTR Keskin Array B 73.77 307 P **P 06 20 57.4 +0.1**
comp=Z,7.2nm,0.9s,baz=107,slow=4.6,SNR=25
BRTR LR LR 06 56 27.0
comp=Z,44nm,19.8s,baz=46,slow=38

SUW Suwalki 75.87 323 *eP* **P 06 21 09.0 0.0**
SUW Suwalki 75.87 323 *eP* **P 06 21 08.9 0.0**
SKAG Skagway 76.10 31 *eP* **P 06 21 12.7 +2.6**
KWP Kalwaria Pacla 77.76 319 *eP* **P 06 21 20.2 +0.4**
KWP Kalwaria Pacla 77.76 319 *eP* **P 06 21 20.2 +0.4**
KWP Kalwaria Pacla 77.76 319 *eP* **P 06 21 19.6 -0.1**
comp=Z,33nm,1.3s
NB2 NORSAR Subarra 78.77 332 P **P 06 21 25.4 +0.2**
comp=Z,4.2nm,0.7s,baz=61,slow=5.6
NOA NORSAR Array B 78.77 332 P **P 06 21 23.7 -1.5**
NOA NORSAR Array B 78.77 332 P **P 06 21 23.7 -1.5**
comp=Z,4.1nm,0.9s,baz=62,slow=5.2,SNR=9.4
NOA LR LR 06 59 41.5
comp=Z,313nm,18.3s,baz=75,slow=38
CRVS Cervenica-Dubn 78.79 319 *eP* **P 06 21 26.1 +0.6**
CRVS pmax pmax
comp=Z,17nm,1.6s
CRVS Cervenica-Dubn 78.79 319 *eP* **P 06 21 26.1 +0.6**
RES Resolute Bay 78.95 9 P **P 06 21 24.6 -1.2**
RES Resolute Bay 78.95 9 P **P 06 21 24.6 -1.2**
comp=Z,1.4nm,0.6s,baz=256,slow=4.2,SNR=5.9
DLBC Dease Lake 79.02 31 P **P 06 21 27.8 +1.1**
DLBC Dease Lake 79.02 31 P **P 06 21 27.8 +1.1**
comp=Z,3.2nm,0.6s,baz=292,slow=4.8,SNR=11
NIE Niedzica 79.28 319 *eP* **P 06 21 28.7 +0.5**
NIE Niedzica 79.28 319 *eP* **P 06 21 28.7 +0.5**
OKC Ostrava-Krasne 80.38 320 *eP* **P 06 21 34.6 +0.5**
OKC Ostrava-Krasne 80.38 320 *eP* **P 06 21 34.6 +0.5**
KSP Ksiaz 81.01 322 *eP* **P 06 21 38.0 +0.6**
KSP Ksiaz 81.01 322 *eP* **P 06 21 38.1 +0.6**
DPC Dobruska-Polom 81.21 321 *eP* **P 06 21 38.0 -0.6**
DPC Dobruska-Polom 81.21 321 *eP* **P 06 21 38.0 -0.6**
DPC Dobruska-Polom 81.21 321 *eP* **P 06 21 38.0 -0.6**
PRU Pruhonice 82.40 322 *eP* **P 06 21 45.0 +0.2**
PRU *e* 06 22 03.0
PRU Pruhonice 82.40 322 *eP* **P 06 21 45.0 +0.2**
PRU *es*P **sP 06 21 03.0 +1.2**
CLL Collm 82.63 323⇓ *iP* **P 06 21 45.7 -0.2**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,200nm,18.8s
CLL Collm 82.63 323⇓ *iP* **P 06 21 45.7 -0.2**
comp=Z,8.0nm,1.1s
CLL *e*(sP) **sP 06 22 07.0 +4.0**
CLL Lm MLR 07 02 00.0
comp=Z,200nm,18.8s
YKW3 Yellowknife Ar 83.08 23 *eP* **P 06 21 47.5 -0.5**
comp=Z,0.1nm,0.6s
YKA Yellowknife Ar 83.12 23 P **P 06 21 47.8 -0.5**
YKA PKKPbc **PKKPbc 06 40 06.2 -4.3**
YKA Yellowknife Ar 83.12 23 P **P 06 21 47.7 -0.5**
comp=Z,4.4nm,0.6s,baz=312,slow=4.9,SNR=176
YKA PKKPbc **PKKPbc 06 40 06.2 -4.3**
comp=Z,0.3nm,0.4s,baz=134,slow=2.5,SNR=14
KHC Kasperske Hory 83.36 321⇑ *iP* **P 06 21 50.7 +0.9**
KHC pmax pmax
comp=Z,37nm,1.7s
KHC Kasperske Hory 83.36 321 *eP* **P 06 21 49.4 -0.4**
KHC Kasperske Hory 83.36 321 *eP* **P 06 21 50.4 +0.6**
GERES GERESS Array B 83.42 321 P **P 06 21 50.8 +0.5**
GERES GERESS Array B 83.42 321 P **P 06 21 50.8 +0.5**
comp=Z,3.8nm,0.6s,baz=59,slow=5.2,SNR=32
MOA Molln 83.57 320⇑ *i* PcP **P 06 21 52.0 +1.1**
comp=Z,9.0nm,0.8s
SOKA Soboth 83.66 318⇓ *iP* **P 06 21 51.2 -0.3**
comp=Z,9.8nm,1.2s
ABTA Abfaltersbach 85.15 319⇑ *iP* **P 06 21 57.6 -1.5**
comp=Z,4.5nm,0.6s
KMBO Kilima Mbogo 85.37 267 *eP* **P 06 22 01.3 +0.4**
comp=Z,8.3nm,0.8s
KMBO Kilima Mbogo 85.37 267 P **P 06 22 01.4 +0.5**
comp=Z,7.0nm,0.8s,baz=43,slow=8.5,SNR=21
CEL Celeste 87.06 311 *eP* **P 06 22 08.8 +0.2**
CDF Champ du Feu 87.30 323 *eP* **P 06 22 08.4 -1.2**
comp=Z,4.2nm,0.6s
CDF Champ du Feu 87.30 323 *eP* **P 06 22 08.4 -1.2**
CDF pmax pmax
comp=Z,4.0nm,0.6s
CDF Champ du Feu 87.30 323 *eP* **P 06 22 08.4 -1.2**
comp=Z,4.2nm,0.6s
BAIF Baives 88.02 325 *eP* **P 06 22 12.0 -0.9**
BAIF Baives 88.02 325 *eP* **P 06 22 12.0 -0.9**
BAIF Baives 88.02 325 *eP* **P 06 22 12.0 -0.9**
HAU Haudompre 88.04 323 *eP* **P 06 22 11.7 -1.4**
HAU *e*R
comp=Z,196nm,21.2s
HAU Haudompre 88.04 323 *eP* **P 06 22 11.7 -1.4**
HAU Haudompre 88.04 323 *eP* **P 06 22 11.7 -1.4**
PAGF Fort de Pagny 88.07 323 *eP* **P 06 22 12.4 -0.8**
PAGF Fort de Pagny 88.07 323 *eP* **P 06 22 12.4 -0.8**
ESK Eskdalemuir 88.28 332 *i P* **P 06 22 15.0 +1.9**
SFTF Sexfontaines 88.65 323 *eP* **P 06 22 14.9 -1.0**
comp=Z,14nm,0.7s
SFTF Sexfontaines 88.65 323 *eP* **P 06 22 14.9 -1.0**
comp=Z,14nm,0.7s
LPG La Plagne 89.21 320 *eP* **P 06 22 18.3 -0.7**
comp=Z,15nm,0.6s
LPG La Plagne 89.21 320 *eP* **P 06 22 18.3 -0.7**
LPG pmax pmax
comp=Z,15nm,0.6s
LPG La Plagne 89.21 320 *eP* **P 06 22 18.3 -0.7**
comp=Z,15nm,0.6s
LPL La Plagne 89.21 320 *eP* **P 06 22 18.2 -0.7**
comp=Z,14nm,0.5s
LPL La Plagne 89.21 320 *eP* **P 06 22 18.2 -0.7**
LPL pmax pmax
comp=Z,14nm,0.5s
LPL La Plagne 89.21 320 *eP* **P 06 22 18.2 -0.7**
comp=Z,14nm,0.5s
PGF Pioggiola 89.46 317 *eP* **P 06 22 19.2 -0.8**
comp=Z,25nm,0.8s
PGF Pioggiola 89.46 317 *eP* **P 06 22 19.2 -0.8**
PGF pmax pmax
comp=Z,25nm,0.8s
PGF Pioggiola 89.46 317 *eP* **P 06 22 19.2 -0.8**
comp=Z,25nm,0.8s
MBDF Montbardon 89.63 320 *eP* **P 06 22 19.2 -1.6**
comp=Z,6.8nm,0.6s
MBDF Montbardon 89.63 320 *eP* **P 06 22 19.2 -1.6**
MBDF pmax pmax
comp=Z,7.0nm,0.6s
MBDF Montbardon 89.63 320 *eP* **P 06 22 19.2 -1.6**
comp=Z,6.8nm,0.6s
LOR Lormes 89.84 323 *eP* **P 06 22 20.2 -1.3**
comp=Z,9.0nm,0.8s
LOR *e*R
comp=Z,140nm,19.2s
LOR Lormes 89.84 323 *eP* **P 06 22 20.2 -1.3**
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 90.05 320 *eP* **P 06 22 21.7 -0.9**
comp=Z,9.2nm,0.7s
ORIF *e*R
comp=Z,174nm,22.0s
ORIF Oris-en-Rattie 90.05 320 *eP* **P 06 22 21.7 -0.9**
ORIF pmax pmax
comp=Z,9.0nm,0.7s
ORIF Oris-en-Rattie 90.05 320 *eP* **P 06 22 21.7 -0.9**
comp=Z,9.2nm,0.7s
SSF Saint Saulge 90.16 323 *eP* **P 06 22 21.8 -1.2**
SSF Saint Saulge 90.16 323 *eP* **P 06 22 21.8 -1.2**
SSF Saint Saulge 90.16 323 *eP* **P 06 22 21.8 -1.2**
SMF Signal de Mont 90.22 322 *eP* **P 06 22 22.2 -1.1**
comp=Z,20nm,0.7s
SMF Signal de Mont 90.22 322 *eP* **P 06 22 22.2 -1.1**
SMF pmax pmax
comp=Z,20nm,0.7s
SMF Signal de Mont 90.22 322 *eP* **P 06 22 22.2 -1.1**
comp=Z,20nm,0.7s
AVF Avril sur Loir 90.40 323 *eP* **P 06 22 22.9 -1.2**
comp=Z,14nm,0.7s
AVF Avril sur Loir 90.40 323 *eP* **P 06 22 22.9 -1.2**
AVF pmax pmax
comp=Z,14nm,0.7s
AVF Avril sur Loir 90.40 323 *eP* **P 06 22 22.9 -1.2**
comp=Z,14nm,0.7s
HYF Humbligny 90.51 323 *eP* **P 06 22 24.2 -0.4**
HYF Humbligny 90.51 323 *eP* **P 06 22 24.2 -0.4**
VIVF Saint-Julien-l 90.78 321 *eP* **P 06 22 24.9 -1.1**
comp=Z,8.0nm,0.8s
VIVF Saint-Julien-l 90.78 321 *eP* **P 06 22 24.9 -1.1**
VIVF pmax pmax
comp=Z,8.0nm,0.8s
VIVF Saint-Julien-l 90.78 321 *eP* **P 06 22 24.9 -1.1**
comp=Z,8.0nm,0.8s

NEW Newport 91.03 35 P **P 06 22 27.4 +0.3**
NEW Newport 91.03 35 P **P 06 22 27.4 +0.3**
comp=Z,1.6nm,0.5s,baz=304,slow=5.3,SNR=7.2
TCF Toulx Ste Croi 91.33 323 *eP* **P 06 22 27.7 -0.8**
TCF Toulx Ste Croi 91.33 323 *eP* **P 06 22 27.7 -0.8**
TCF Toulx Ste Croi 91.33 323 *eP* **P 06 22 27.7 -0.8**
CAF Calviac 92.24 322 *eP* **P 06 22 32.3 -0.4**
CAF Calviac 92.24 322 *eP* **P 06 22 32.3 -0.4**
CAF Calviac 92.24 322 *eP* **P 06 22 32.3 -0.4**
RJF Les Rejaudoux 92.32 322 *eP* **P 06 22 32.7 -0.4**
comp=Z,22nm,0.7s
RJF *e*R
comp=Z,94nm,20.2s
RJF Les Rejaudoux 92.32 322 *eP* **P 06 22 32.7 -0.4**
RJF pmax pmax
comp=Z,23nm,0.7s
RJF Les Rejaudoux 92.32 322 *eP* **P 06 22 32.7 -0.4**
comp=Z,22nm,0.7s
MFF Saint Martin d 92.42 324 *eP* **P 06 22 32.1 -1.4**
MFF Saint Martin d 92.42 324 *eP* **P 06 22 32.1 -1.4**
MFF Saint Martin d 92.42 324 *eP* **P 06 22 32.1 -1.4**
BSMT Bassoo Peak 92.51 34 *eP* **P 06 22 35.1 +1.0**
comp=Z,2.2nm,0.7s
FFC Flin Flon 93.28 24 *i* P P **06 22 38.6 +1.3**
EPF Esparros 94.38 321 *eP* **P 06 22 41.9 -0.8**
EPF Esparros 94.38 321 *eP* **P 06 22 41.9 -0.8**
EPF Esparros 94.38 321 *eP* **P 06 22 41.9 -0.8**
MCMT McKenzie Canyo 95.50 36 P P 06 22 44.3 -3.7
comp=Z,3.1nm,0.3s
NVAR Mina Array Bea 96.38 43 P **P 06 22 53.2 +1.2**
NVAR Mina Array Bea 96.38 43 P **P 06 22 53.2 +1.2**
comp=Z,1.2nm,0.7s,baz=297,slow=4.0,SNR=7.4
PDAR Pinedale Array 98.65 36 LR LR 07 10 14.6
comp=Z,72nm,19.6s,baz=272,slow=37
ULM Lac du Bonnet 99.10 23 LR LR 07 14 01.8
comp=Z,86nm,18.8s,baz=350,slow=39
TORD Torodi Ar. Bea 110.81 296 PKiKP **PKiKP 06 27 54.2 -2.1**
TORD Torodi Ar. Bea 110.81 296 PKiKP **PKiKP 06 27 54.2 -2.1**
comp=Z,0.1nm,0.3s,baz=58,slow=1.8,SNR=3.7
TXAR Lajitas Array 111.48 42 PKiKP **PKiKP 06 27 56.5 -0.9**
TXAR PKKPbc **PKKPbc 06 38 51.5 -0.6**
TXAR Lajitas Array 111.48 42 PKiKP **PKiKP 06 27 56.5 -0.9**
comp=Z,0.1nm,0.4s,baz=14,slow=1.1,SNR=4.1
TXAR PKKPbc **PKKPbc 06 38 51.5 -0.6**
comp=Z,0.1nm,0.4s,baz=131,slow=4.4,SNR=4.4
DBIC Dimbokro 119.70 293 PKP **PKPdf 06 28 12.1 -1.4**
DBIC Dimbokro 119.70 293 PKP **PKPdf 06 28 12.1 -1.4**
comp=Z,0.8nm,0.4s,baz=102,slow=2.9,SNR=4.3

ISC 19 06:38:54.8±1.1,**7.84S**±0.06×**107.30E**±0.05,**h62**km,**n19,**
σ1♀**38**/16,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.55**	**343**	P	**Pn**		**06 39 06.3**	**-1.2**
CISI	**Cisompet, Garu**	**0.59**	**62**	P	**Pn**		**06 39 07.4**	**-0.5**
CISI	**Cisompet, Garu**	**0.59**	**62**	P	**Pn**		**06 39 07.5**	**-0.5**
	baz=0.9,SNR=71							
LEM	**Lembang**	**1.05**	**18**	P	**Pn**		**06 39 13.9**	**+0.1**
LEM	**Lembang**	**1.05**	**18**	S	Sn		06 39 14.6	-13
	baz=0.9,SNR=41							
SKJI	**Sukabumi**	**1.10**	**318**	P	**Pn**		**06 39 14.8**	**+0.5**
CMJI	**Cimerak**	**1.14**	**87**	P	**Pn**		**06 39 15.6**	**+0.8**
DBJI	**Dramaga**	**1.38**	**337**	P	**Pn**		**06 39 17.6**	**-0.5**
JCJI	**Jatiwangi**	**1.65**	**36**	P	**Pn**		**06 39 19.9**	**-1.7**
CGJI	**Cibinong**	**2.00**	**307**	P	**Pn**		**06 39 28.3**	**+2.0**
SBJI	**Serang**	**2.06**	**326**	P	Pn		06 39 44.5	+17
BJII	**Banjamegara**	**2.45**	**78**	P	x		06 39 36.2	
XMI	**Christmas Isla**	**3.04**	**211**	P	**Pn**		**06 39 40.5**	**-0.1**
	baz=3.3,SNR=9.7							
XMI				S	**Sn**		**06 40 14.7**	**-1.2**
	baz=3.3,SNR=3.4							
XMIS	**Christmas Isla**	**3.09**	**212**	P	**Pn**		**06 39 40.7**	**-0.5**
	baz=3.3,SNR=31							
XMIS				S	**Sn**		**06 40 14.1**	**-2.8**
	baz=3.3,SNR=5.8							
UGM	**Wanagama**	**3.20**	**92**	P	**Pn**		**06 39 43.4**	**+0.6**
	baz=3.6,SNR=14							
PWJI	**Pagerwojo**	**4.47**	**93**	P	Pn		06 40 05.6	+5.5
JAGI	**Jajag, Banyuwa**	**6.82**	**96**	P	Pn		06 40 36.4	+4.1
	baz=7.3,SNR=3.2							
PALU	**Palau**	**31.01**	**62**	P	**P**		**06 45 06.3**	**-0.5**
	baz=31,SNR=3.4							
STKA	**Stephens Creek**	**39.87**	**132**	P	**P**		**06 46 24.8**	**+2.2**
	baz=40,SNR=7.7							

*NNC **19** 06:45:50.8±7.7,54.61N×86.60E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=55.5km s-min=40.0km az=52.0*
*IDC **19** 06:45:53.4±2.4,54.25N×86.61E,h0km,mb1 3.5/3, mb1mx3.2/31,mbtmp3.5/3,ML3.1/3, Error ellipse: s-maj=19.3km s-min=11.7km az=59.0*

ISC 19 06:45:47.7±4.5,**54.9N**±0.3×**87.0E**±0.2,**h35**km,**n9,**
σ2♀**96**/13,**9C-3D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**234**	*i*			06 52 58.2	
	baz=71,slow=349,SNR=10							
ZALV	**Zalesovo Beam**	**1.57**	**234**	Pg	**Pn**		**06 46 13.2**	**+0.2**
	2.3nm,0.3s,baz=70,slow=17,SNR=68							
ZALV				Lg	Lg		06 46 29.5	
	2.4nm,0.3s,baz=75,slow=26,SNR=18							
KURK	**Kurchatov**	**6.56**	**234**	⇓Pn	**Pn**		**06 47 24.5**	**+2.9**
	5.5nm,1.0s							
KURK				⇑Sn	**Sn**		**06 48 38.6**	**+3.6**
	5.7nm,0.8s							
KURK				⇓Lg	Lg		06 49 10.9	
	25nm,1.0s							
KURBB	**Kurchatov Arra**	**6.66**	**234**	⇑Pn	**Pn**		**06 47 25.9**	**+2.8**
	10nm,0.9s,baz=55,slow=14							
KURBB				⇑Sn	**Sn**		**06 48 39.4**	**+1.8**
	18nm,0.7s							
KURBB				⇑Lg	Lg		06 49 13.3	
	40nm,0.9s,baz=42,slow=32							
KURBB	**Kurchatov Arra**	**6.66**	**234**	Pn	**Pn**		**06 47 25.8**	**+2.8**
	0.6nm,0.3s,baz=55,slow=14,SNR=33							
KURBB				Sn	**Sn**		**06 48 36.9**	**-0.8**
	0.1nm,0.3s,baz=54,slow=24,SNR=3.1							
KURBB				Lg	Lg		06 49 09.7	
	0.2nm,0.3s,baz=59,slow=30,SNR=8.3							
MK31	**Makanchi Array**	**8.62**	**202**	⇑Pn	**Pn**		**06 47 50.3**	**+0.4**
	2.3nm,0.8s,baz=35,slow=13,SNR=9.5							
MK31				⇑Sn	**Sn**		**06 49 22.9**	**-2.9**
	6.4nm,0.8s,baz=31,slow=26,SNR=6.7							
MK31				⇑Lg	Lg		06 50 13.6	
	26nm,1.0s,baz=28,slow=29,SNR=9.1							
MKAR	**Makanchi Array**	**8.62**	**202**	Pn	**Pn**		**06 47 50.6**	**+0.7**
	0.3nm,0.3s,baz=24,slow=14,SNR=9.3							
MKAR				Sn	**Sn**		**06 49 20.1**	**-5.8**
	0.2nm,0.3s,baz=13,slow=26,SNR=6.0							
MKAR				Lg	Lg		06 50 07.8	
	0.1nm,0.3s,baz=19,slow=31,SNR=8.9							
VOSK	**Vostochnaya**	**9.70**	**264**	⇑Pn	Pn		06 48 11.4	+6.7
	2.9nm,0.8s							
VOSK				⇓Sn	**Sn**		**06 49 54.1**	**+1.8**
	12nm,0.9s							
VOSK				⇑Lg	Lg		06 50 52.7	
	11nm,1.1s							
BVAR	**Borovoye Array**	**9.95**	**266**	Pn	Pn		06 48 14.7	+6.7
	0.1nm,0.3s,baz=78,slow=14,SNR=5.0							
BVAR				Sn	**Sn**		**06 49 58.4**	**+0.1**
	0.2nm,0.3s,baz=74,slow=21,SNR=6.6							

*IDC **19** 06:50:36.9±1.9,6.95S×129.40E,h0km,mb3.8/2, mb1 4.0/4,mb1mx3.6/26,mbtmp3.9/4,ML4.1/2,Error ellipse: s-maj=135.0km s-min=28.0km az=65.0*
*ISCJB **19** 06:50:48.7±0.7,7.32S±0.05×129.61E±0.06,h79km, mb3.5/2,Error ellipse: s-maj=8.8km s-min=6.5km az=18.5*

ISC 19 06:50:50.6±0.9,**7.34S**±0.06×**129.54E**±0.07,**h79**km,**n12,**
σ2♀**02**/15,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.15**	**32**	P	**Pn**		**06 52 06.0**	**+0.6**
	baz=5.1,SNR=5.7							
FAKI				S	**Sn**		**06 53 01.7**	**-1.8**
	baz=5.1,SNR=9.2							
MTN	**Manton Dam**	**5.69**	**164**	P	**Pn**		**06 52 15.6**	**+3.0**
	baz=5.8,SNR=60							
MTN				S	**Sn**		**06 53 17.4**	**+0.7**
	baz=5.8,SNR=9.5							
SOEI	**Soe**	**5.74**	**245**	P	**Pn**		**06 52 15.1**	**+1.6**

baz=5.9,SNR=4.4
SOEI S Sn 06 53 19.8 +1.7
baz=5.9,SNR=6.9
KDU Kakadu 6.05 152 P Pn 06 52 20.4 +2.8
baz=6.1,SNR=67
KDU S Sn 06 53 26.4 +1.0
baz=6.1,SNR=8.8
KNRA Kununurra 8.32 185 P Pn 06 52 49.0 +0.4
baz=8.5,SNR=16
KNRA S Sn 06 54 17.4 -3.7
baz=8.5,SNR=16
WRA Warramunga Arr 13.37 160 Pn Pn 06 53 54.0 -3.1
1.1nm,0.3s,baz=342,slow=13,SNR=46
WRA Sn Sn 06 56 14.8 -9.4
2.6nm,0.3s,baz=329,slow=23,SNR=11
ASAR Alice Springs 16.77 166 P Pn 06 54 40.3 -0.4
0.6nm,0.3s,baz=345,slow=10,SNR=29
ASAR S Sn 06 57 34.4 -12
0.3nm,0.3s,baz=344,slow=25,SNR=5.1
WRKA Warakurna 17.64 184 P P 06 54 50.5 -0.7
baz=18,SNR=18
QLP Quilpie 23.70 146 P P 06 55 55.1 -0.3
baz=24,SNR=5.3
BBOO Buckleboo 26.06 167 P P 06 56 14.8 -2.0
baz=26,SNR=7.5
STKA Stephens Creek 26.88 157 P P 06 56 22.3 -1.9
1.3nm,0.7s,baz=333,slow=9.3,SNR=3.9
MKAR Makanchi Array 68.26 327 P P 07 01 37.3 -5.8
0.3nm,0.5s,baz=142,slow=7.3,SNR=3.5

MEX 19 06:55:51.8±0.8, 18°38N×100°77W, h29km±9km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.42**	**104**	*i*	P		Pb	06 55 58.7	-2.2
ARIG				*i*	S		Sb	06 56 06.0	-1.1
ZIIG	**Zihuatanejo**	**1.01**	**221**	*i*	P		Pn	06 56 07.1	-3.0
ZIIG				*i*	S		Sn	06 56 20.8	-2.6
PLIG	**Platanillo**	**1.21**	**89**	*eP*			Pn	06 56 10.3	-2.6
PLIG				*i*	S		Sn	06 56 24.7	-3.6
MOIG	**Morelia**	**1.35**	**343**	*eP*			Pb	06 56 16.3	-0.5
MOIG				*eS*			Sn	06 56 29.5	-2.7
YAIG	**Yautepec**	**1.69**	**73**	*eP*			Pn	06 56 17.9	-1.7
YAIG				*eS*			Sn	06 56 37.5	-2.9
ACP2	**Acapulco**	**1.72**	**150**	*i*	P		Pn	06 56 17.7	-2.2
ACP2				*i*	S		Sn	06 56 38.4	-2.5
ACX	**Acapulco**	**1.74**	**150**	*i*	P		Pn	06 56 17.1	-3.0
ACX				*i*	S		Sn	06 56 38.4	-3.0
TLIG	**Tlapa**	**2.25**	**111**	*eP*			Pn	06 56 25.8	-1.5
TLIG				*i*	S		Sn	06 56 51.6	-2.7
PNIG	**Pinotepa**	**3.21**	**128**	*i*	P		Pn	06 56 39.0	-1.4
PNIG				*i*	S		Sn	06 57 15.1	-2.6
TPIG	**Tehuac#an**	**3.24**	**89**	*eP*			Pn	06 56 39.9	-1.1
TPIG				*eS*			Sn	06 57 16.1	-2.7

*IDC **19** 07:06:23.9±2.4, 7°.88N×82°.68W, h0km, mb3.9/6, mb1 4.3/8, mb1mx3.8/30, mbtmp4.0/8, ML4.3/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/35, Error ellipse: s-maj=79.8km s-min=39.5km az=41.0*
*CASC **19** 07:06:31.5±2.7, 8°.31N×82°.92W, h9km±10km, MD4.4*
*NEIC **19** 07:06:37.7±0.9, 8°.71N×82°.76W, h49km±8km, mb4.5/25, Error ellipse: s-maj=13.2km s-min=7.9km az=221.0*
NEIC Felt at Desamparados, Golfito, San Antonio, San Jose and San Pedro, Costa Rica and at Alanje, Boquete, Portrerillos Arriba and Puerto Armuelles, Panama.

ISC 19 07:06:34.1±1.4, 8°.41N±0°.08×82°.92W±0°.04, h29km±7km, n263, σ1°16/263, mb4.5/34, MS3.9/5, 89C-91D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.34**	**314**	⇑	*eP*		**Pb**	**07 06 40.4**	**-1.7**
BRU2	**Volcan**	**0.44**	**31**	⇓	*iP*		**Pb**	**07 06 42.2**	**-1.5**
BRU2					*eS*		**Sb**	**07 06 50.0**	**-0.1**
TBS2		**0.46**	**34**		*eP*		**Pb**	**07 06 43.7**	**-0.2**
TBS2					*eS*		**Sn**	**07 06 52.8**	**+0.6**
BRU	**Baru**	**0.53**	**42**	⇑	*iP*		**Pb**	**07 06 42.5**	**-2.7**
CNI	**Changuinola**	**1.07**	**22**	⇓	*iP*		**Pn**	**07 06 51.6**	**-1.6**
CNI					*eS*		**Sb**	**07 07 10.1**	**+2.3**
BUS	**Buena Vista**	**1.41**	**324**	⇑	*iP*		**Pn**	**07 06 58.0**	**-0.2**
BUS					*eS*		**Sb**	**07 07 17.6**	**-0.2**
QCR	**Quepos**	**1.59**	**309**	⇑	*eP*		**Pn**	**07 07 00.0**	**-0.3**
QCR					*eS*		**Sb**	**07 07 21.7**	**-0.9**
SJS	**Escuela Geolog**	**1.89**	**324**		*eP*		**Pn**	**07 07 06.5**	**+1.9**
SJS					*eS*		**Sb**	**07 07 30.9**	**-0.3**
CGA2	**Cerro Gallo 2**	**2.21**	**316**		*eP*		**Pn**	**07 07 10.1**	**+1.1**
CGA2					*eS*		**Sb**	**07 07 38.6**	**-1.9**
JCR	**Jicaral**	**2.59**	**304**		*eP*		**Pn**	**07 07 14.8**	**+0.5**
JTS	**JuntasAbangare**	**2.74**	**313**		*eP*	n	**Pn**	**07 07 18.5**	**+2.3**
JTS					*eS*	n	**Sb**	**07 07 57.0**	**+1.4**
JTS	**JuntasAbangare**	**2.74**	**313**		*eP*	n	**Pn**	**07 07 17.1**	**+0.8**
JTS					*eS*	n	**Sb**	**07 07 57.0**	**+1.4**
JTS	**JuntasAbangare**	**2.74**	**313**		P	n	**Pn**	**07 07 17.2**	**+1.0**
47nm,0.3s,baz=116,slow=12,SNR=117									
JTS					S	n	**Sn**	**07 07 50.4**	**+2.0**
92nm,0.3s,baz=342,slow=20,SNR=12									
JTS					L	g	Lg	07 07 56.9	
150nm,0.3s,baz=292,slow=19,SNR=19									
JTS					L	R	LR	07 08 37.6	
comp=Z,1μm,19.1s,baz=118,slow=41									
ZANG	**Zanguenga, Cho**	**3.07**	**80**		*eP*		**Pn**	**07 07 20.0**	**-0.6**
BCIP	**Isla Barro Col**	**3.14**	**76**		*eP*		**Pn**	**07 07 21.9**	**+0.3**
BCIP					*eS*		**Sn**	**07 07 59.8**	**+1.6**
BCIP	**Isla Barro Col**	**3.14**	**76**		*eP*	n	**Pn**	**07 07 19.9**	**-1.7**
VCR	**Vista de Mar**	**3.17**	**303**		*eP*		**Pn**	**07 07 22.3**	**+0.1**
UPA	**Univ. de Panam**	**3.39**	**80**		*eP*		**Pn**	**07 07 26.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**7.05**	**323**		*eP*	n	**Pn**	**07 08 18.6**	**+3.1**
OTAV	**Otavalo**	**9.26**	**151**		*eP*	n	Pn	07 08 52.3	+6.0
15nm,1.4s									
APG	**El Apazote**	**9.87**	**312**		P	n	**Pn**	**07 08 54.1**	**-0.3**
APG	**El Apazote**	**9.87**	**312**		P	n	**Pn**	**07 08 54.1**	**-0.3**
1.3nm,0.3s,baz=137,slow=9.0,SNR=46									
APG					L	R	LR	07 13 14.0	
comp=Z,286nm,18.0s,baz=126,slow=39									
MTDJ	**Mount Denham**	**11.07**	**28**		*eP*	n	**Pn**	**07 09 10.6**	**-0.1**
SDV	**Santo Domingo**	**12.16**	**87**		*eP*	n	**Pn**	**07 09 25.9**	**+0.3**
SDV	**Santo Domingo**	**12.16**	**87**		*eP*	n	**Pn**	**07 09 25.9**	**+0.3**
TEIG	**Tepich**	**12.84**	**337**		L	R	LR	07 14 38.6	
comp=Z,338nm,18.5s,baz=86,slow=37									
ATAH	**Atahualpa**	**16.09**	**164**		L	R	LR	07 15 52.4	
comp=Z,221nm,19.5s,baz=353,slow=37									
PTP	**Ponta Puerca**	**19.45**	**58**	⇑	*iP*		x	07 06 35.0	
PTP					*eS*		x	07 06 36.5	
NNA	**Nana**	**21.15**	**163**		*eP*		P	07 11 22.8	+5.7
59nm,1.5s									
034A	**Hebbronville**	**23.82**	**323**	⇑	P		**P**	**07 11 45.7**	**+0.9**
baz=24									
934A	**Benavides**	**24.12**	**324**	⇓	P		**P**	**07 11 48.4**	**+0.8**
baz=24									
834A	**Tilden**	**24.54**	**325**	⇑	P		**P**	**07 11 51.4**	**0.0**
baz=24									
933A	**Laredo**	**24.57**	**323**	⇓	P		**P**	**07 11 52.2**	**+0.4**
baz=24									
PTGA	**Pitinga**	**24.61**	**111**		L	R	LR	07 21 40.1	
comp=Z,80nm,18.6s,baz=297,slow=38									
LRAL	**Lakeview Retre**	**24.79**	**352**		*eP*		**P**	**07 11 55.1**	**+1.5**
30nm,1.2s									
GOGA	**Godfrey**	**24.88**	**359**		*eP*		**P**	**07 11 53.8**	**-0.7**
19nm,1.1s									
833A	**Chaparral WMA,**	**25.17**	**324**	⇓	P		**P**	**07 11 57.5**	**+0.3**
baz=25									
832A	**Faith Ranch, C**	**25.48**	**323**	⇑	P		**P**	**07 12 00.3**	**+0.2**
baz=25									
732A	**Laxson Ranch,**	**25.81**	**324**	⇑	P		**P**	**07 12 02.8**	**-0.2**
baz=26									
633A	**Saathoff Ranch**	**25.91**	**326**	⇑	P		**P**	**07 12 05.8**	**+1.9**
baz=26									
534A	**Blanco**	**25.98**	**328**	⇓	P		**P**	**07 12 06.9**	**+2.4**
baz=26									
632A	**Uvalde**	**26.29**	**325**	⇑	P		**P**	**07 12 07.7**	**+0.4**
baz=26									
533A	**Kerrville**	**26.31**	**327**	⇓	P		**P**	**07 12 10.1**	**+2.6**
baz=26									
KMSC	**Kings Mountain**	**26.64**	**3**	⇓	P		P	07 12 19.0	+8.6
baz=26									
SWET	**Sewanee**	**26.82**	**355**		*eP*		**P**	**07 12 11.5**	**-0.6**
5.4nm,0.8s									
532A	**Rocksprings**	**26.83**	**326**	⇓	P		**P**	**07 12 12.3**	**+0.1**
baz=27									
433A	**Art**	**26.88**	**328**	⇑	P		**P**	**07 12 13.1**	**+0.5**
baz=27									
JCT	**Junction City**	**27.04**	**327**	⇓	P		**P**	**07 12 14.7**	**+0.5**
baz=27									
TKL	**Tuckaleechee C**	**27.13**	**358**		L	R	LR	07 22 17.6	
comp=Z,179nm,20.4s,baz=217,slow=34									
531A	**Rocksprings**	**27.22**	**325**	⇓	P		**P**	**07 12 16.1**	**+0.3**
baz=27									
234A	**Clairette**	**27.41**	**331**	⇑	P		**P**	**07 12 18.3**	**+0.9**
baz=27									
530A	**J-C Ranch, Com**	**27.66**	**324**	⇑	P		**P**	**07 12 20.5**	**+0.8**
baz=28									
233A	**Rising Star**	**27.79**	**330**	⇓	P		**P**	**07 12 21.1**	**+0.3**
baz=28									
MIAR	**Mount Ida**	**27.79**	**341**		*eP*		**P**	**07 12 20.0**	**-0.7**
12nm,1.3s									
429A	**Davenport Ranc**	**28.34**	**324**	⇑	P		**P**	**07 12 26.0**	**+0.3**
baz=28									
627A	**Terlingua Ranc**	**28.42**	**320**	⇑	P		**P**	**07 12 27.5**	**+1.0**
baz=28									
TXAR	**Lajitas Array**	**28.51**	**320**		P		**P**	**07 12 25.9**	**-1.4**
TXAR	**Lajitas Array**	**28.51**	**320**		P		**P**	**07 12 25.9**	**-1.4**
0.4nm,1.1s,baz=135,slow=12,SNR=3.3									
428A	**Kincaid Ranch,**	**28.88**	**323**	⇓	P		**P**	**07 12 31.6**	**+1.0**
baz=29									
626A	**Big Bend Ranch**	**28.96**	**319**	⇓	P		**P**	**07 12 31.6**	**+0.3**
baz=29									
Z32A	**Haskell**	**29.12**	**331**	⇓	P		**P**	**07 12 32.2**	**-0.4**
baz=29									
328A	**Wristen Ranch,**	**29.42**	**324**	⇓	P		**P**	**07 12 35.6**	**+0.2**
baz=29									
X34A	**Smith Ranch, M**	**29.45**	**334**	⇓	P		**P**	**07 12 35.6**	**+0.1**
baz=29									
X33A	**Lawton**	**29.69**	**333**	⇑	P		**P**	**07 12 36.6**	**-1.0**
baz=30									
TUL1	**Tulsa**	**29.79**	**339**	⇑	P		**P**	**07 12 37.2**	**-1.3**
baz=30									
WCI	**Wyandotte Cave**	**29.84**	**355**		*eP*		**P**	**07 12 38.7**	**-0.3**
13nm,1.1s									
BLO	**Bloomington**	**30.80**	**355**		*eP*		**P**	**07 12 47.0**	**-0.4**
9.0nm,0.7s									
125A	**Gardner Draw,**	**31.43**	**323**	⇓	P		**P**	**07 12 54.2**	**+1.0**
baz=31									
Z25A	**Roswell**	**31.91**	**324**	⇑	P		**P**	**07 12 57.6**	**+0.2**
baz=32									
U30A	**WK&E Inc. Balk**	**32.31**	**333**	⇑	P		**P**	**07 13 01.0**	**+0.2**
baz=32									
Y25A	**Mesa, Roswell**	**32.36**	**325**	⇑	P		**P**	**07 13 02.2**	**+0.9**
baz=32									
R33A	**Olander Ranch,**	**32.72**	**338**	⇓	P		**P**	**07 13 03.8**	**-0.5**
baz=33									
KSU1	**Kansas State U**	**32.94**	**340**		*eP*		**P**	**07 13 05.3**	**-0.9**
13nm,0.8s									
KSU1	**Kansas State U**	**32.94**	**340**	⇑	P		**P**	**07 13 05.6**	**-0.6**
baz=33									
320A	**Kipp Ranch, An**	**33.01**	**317**	⇑	P		**P**	**07 13 09.1**	**+2.0**
baz=33									
R32A	**Long Quarter,**	**33.10**	**337**	⇓	P		**P**	**07 13 07.7**	**+0.1**
baz=33									
Y23A	**Lovelace Mesa,**	**33.16**	**323**	⇑	P		**P**	**07 13 09.9**	**+1.5**
baz=33									
U27A	**Thompson Grove**	**33.26**	**330**	⇓	P		**P**	**07 13 09.1**	**-0.1**
baz=33									
Q33A	**Connelly Farm,**	**33.27**	**339**	⇓	P		**P**	**07 13 08.8**	**-0.3**
baz=33									
121A	**Cookes Peak, D**	**33.27**	**320**	⇓	P		**P**	**07 13 10.9**	**+1.4**
baz=33									
R31A	**Burdett**	**33.30**	**336**	⇓	P		**P**	**07 13 09.6**	**+0.1**
baz=33									
Q32A	**Meitler Ranch,**	**33.53**	**338**	⇑	P		**P**	**07 13 10.5**	**-0.9**
baz=33									
R30A	**Dighton**	**33.61**	**335**	⇓	P		**P**	**07 13 12.4**	**+0.2**
baz=34									
P33A	**Williams Farm,**	**33.61**	**339**	⇑	P		**P**	**07 13 12.1**	**0.0**
baz=34									
V25A	**Rancho No Teng**	**33.73**	**327**	⇓	P		**P**	**07 13 14.1**	**+0.7**
baz=34									
Q31A	**Ellis**	**33.87**	**337**	⇓	P		**P**	**07 13 14.6**	**+0.2**
baz=34									
P32A	**Huiting Farm,**	**34.10**	**338**	⇑	P		**P**	**07 13 15.5**	**-0.8**
baz=34									
ANMO	**Albuquerque**	**34.10**	**324**		*eP*		**P**	**07 13 17.1**	**+0.4**
1.1nm,0.8s									
Q30A	**Quinter**	**34.17**	**336**	⇑	P		**P**	**07 13 17.3**	**+0.2**
baz=34									
P31A	**Stockton**	**34.31**	**337**	⇓	P		**P**	**07 13 18.0**	**-0.2**
baz=34									
R28A	**Tribune**	**34.32**	**333**	⇓	P		**P**	**07 13 17.9**	**-0.5**
baz=34									
Q29A	**Oakley**	**34.42**	**335**	⇓	P		**P**	**07 13 19.2**	**0.0**
baz=34									
P30A	**Selden**	**34.67**	**336**	⇑	P		**P**	**07 13 21.0**	**-0.3**
baz=35									
O31A	**Woolen Ranch,**	**34.84**	**338**	⇓	P		**P**	**07 13 22.3**	**-0.5**
baz=35									
Q28A	**Sharon Springs**	**34.93**	**334**	⇓	P		**P**	**07 13 23.6**	**0.0**
baz=35									
P29A	**Atwood**	**35.00**	**335**	⇓	P		**P**	**07 13 23.9**	**-0.3**
baz=35									
S25A	**Robets Cordova**	**35.02**	**330**	⇓	P		**P**	**07 13 24.8**	**+0.2**
baz=35									
T23A	**Casias Ranch,**	**35.38**	**327**	⇓	P		**P**	**07 13 28.6**	**+0.8**
baz=35									
P27A	**Ficken Ranch,**	**35.66**	**334**	⇓	P		**P**	**07 13 29.6**	**-0.4**
baz=36									
O28A	**Krutsinger Ran**	**35.79**	**335**	⇓	P		**P**	**07 13 31.5**	**+0.5**
baz=36									
R23A	**Moffat**	**36.14**	**329**	⇓	P		**P**	**07 13 35.1**	**+0.9**
baz=36									
N28A	**Pribbeno Ranch**	**36.16**	**336**	⇑	P		**P**	**07 13 34.3**	**+0.2**
baz=36									
P25A	**Willow Gulch B**	**36.35**	**332**	⇑	P		**P**	**07 13 36.1**	**+0.2**
baz=36									
L31A	**Butterfield Fa**	**36.44**	**340**	⇑	P		**P**	**07 13 36.1**	**-0.4**
baz=36									
M29A	**Burnside Ranch**	**36.47**	**337**	⇑	P		**P**	**07 13 36.5**	**-0.2**
baz=36									
OGNE	**Ogallala**	**36.58**	**335**	⇑	P		**P**	**07 13 37.8**	**0.0**
baz=36									
X16A	**Lo Mia Camp, P**	**36.83**	**319**	⇓	P		**P**	**07 13 41.2**	**+1.1**
baz=37									
P23A	**Jefferson**	**37.05**	**330**	⇓	P		**P**	**07 13 41.8**	**-0.2**
baz=37									
K30A	**Basset**	**37.15**	**339**	⇑	P		**P**	**07 13 42.0**	**-0.5**
baz=37									
ECSD	**EROS Data Cent**	**37.16**	**343**	⇓	P		**P**	**07 13 41.7**	**-0.9**
baz=37									
ISCO	**Idaho Springs**	**37.26**	**331**	⇑	P		**P**	**07 13 43.8**	**-0.1**
baz=37									
N25A	**Greer**	**37.35**	**333**	⇑	P		**P**	**07 13 44.4**	**0.0**
baz=37									
K29A	**Lazy Trails An**	**37.48**	**339**	⇓	P		**P**	**07 13 44.6**	**-0.6**
baz=37									
P22A	**Eagle**	**37.67**	**329**	⇑	P		**P**	**07 13 47.4**	**+0.2**
baz=38									
J30A	**Dallas**	**37.69**	**340**	⇑	P		**P**	**07 13 45.5**	**-1.5**
baz=38,SNR=8.4									
N24A	**Carr**	**37.73**	**332**	⇓	P		**P**	**07 13 47.7**	**+0.1**
baz=38									
O23A	**Lake Granby, G**	**37.73**	**331**	⇑	P		**P**	**07 13 47.8**	**0.0**
baz=38									
M25A	**Palm-Egli Farm**	**37.84**	**334**	⇓	P		**P**	**07 13 47.7**	**-0.9**
baz=38									
O22A	**Kremmling**	**38.00**	**330**	⇓	P		**P**	**07 13 50.0**	**-0.1**
baz=38									
J29A	**Okreek**	**38.04**	**339**	⇓	P		**P**	**07 13 49.0**	**-1.0**
baz=38									
K27A	**Flueckinger Fa**	**38.15**	**337**	⇓	P		**P**	**07 13 50.6**	**-0.4**
baz=38									
M24A	**Cheyenne**	**38.21**	**333**	⇓	P		**P**	**07 13 51.7**	**0.0**
baz=38									
N23A	**Red Feather La**	**38.27**	**331**	⇑	P		**P**	**07 13 52.4**	**+0.1**
baz=38									
GLA	**Glamis**	**38.35**	**314**	⇓	P		**P**	**07 13 54.4**	**+1.6**
baz=38									
J28A	**Allard Ranch,**	**38.38**	**338**	⇓	P		**P**	**07 13 52.2**	**-0.8**
baz=38									
Y12C	**Blythe**	**38.52**	**315**	⇑	P		**P**	**07 13 55.9**	**+1.8**
baz=38									
J27A	**Elkhorn Farm,**	**38.52**	**337**	⇓	P		**P**	**07 13 54.0**	**-0.1**
baz=38									
PDMCI	**Parker Dam,Lak**	**38.56**	**316**	⇓	P		**P**	**07 13 55.9**	**+1.4**
baz=38									
W13A	**Hualapai Mount**	**38.85**	**318**	⇑	P		**P**	**07 13 59.1**	**+1.9**
baz=39									
I28A	**Midland**	**38.86**	**339**	⇓	P		**P**	**07 13 56.4**	**-0.5**
baz=39									
J26A	**Sides Ranch, S**	**38.99**	**336**	⇑	P		**P**	**07 13 58.2**	**+0.1**
baz=39									
L23A	**Garrett**	**39.12**	**333**	⇓	P		**P**	**07 13 59.6**	**+0.2**
baz=39									
G30A	**Faulkton**	**39.18**	**342**	⇓	P		**P**	**07 13 58.4**	**-1.2**
baz=39									
I27A	**Quinn**	**39.24**	**338**	⇓	P		**P**	**07 13 59.5**	**-0.6**
baz=39									
SRU	**San Rafael**	**39.34**	**325**		*eP*		**P**	**07 14 01.5**	**+0.3**
10nm,1.3s									
L22A	**Ellis Ranch, M**	**39.39**	**332**	⇑	P		**P**	**07 14 01.8**	**+0.2**
baz=39									
H28A	**Mission Ridge**	**39.40**	**340**	⇓	P		**P**	**07 14 00.5**	**-0.9**
baz=39									
J24A	**Dixon Ranch, L**	**39.65**	**335**	⇑	P		**P**	**07 14 03.9**	**+0.3**
baz=40									
BELC	**Belle Mtn. Jos**	**39.68**	**315**	⇑	P		**P**	**07 14 04.8**	**+0.7**
baz=40									
H27A	**Howes**	**39.73**	**338**	⇓	P		**P**	**07 14 03.5**	**-0.8**
baz=40									
F30A	**Leola**	**39.78**	**342**	⇑	P		**P**	**07 14 03.1**	**-1.5**
baz=40									
GMRC	**Granite Mounta**	**39.87**	**316**	⇓	P		**P**	**07 14 06.9**	**+1.3**
baz=40									
K22A	**Casper**	**39.92**	**333**	⇑	P		**P**	**07 14 04.7**	**-1.2**
baz=40									
H26A	**Fairpoint**	**39.98**	**338**	⇑	P		**P**	**07 14 05.9**	**-0.3**
baz=40									
RSSD	**Black Hills**	**40.05**	**336**		*eP*		**P**	**07 14 07.3**	**+0.3**
4.0nm,1.1s									
K21A	**Alcova**	**40.24**	**332**	⇓	P		**P**	**07 14 08.0**	**-0.7**
baz=40									
H25A	**Fruitdale**	**40.29**	**337**	⇑	P		**P**	**07 14 09.1**	**+0.3**
baz=40									
F28A	**McLaughlin**	**40.35**	**341**	⇓	P		**P**	**07 14 08.3**	**-1.0**
baz=40									
HEC	**Hector,Ludlow**	**40.36**	**316**	⇑	P		**P**	**07 14 11.9**	**+2.3**
baz=40									
TUQ	**Turquoise Moun**	**40.41**	**317**	⇑	P		**P**	**07 14 11.7**	**+1.7**
baz=40									
J22A	**Midwest**	**40.50**	**333**	⇓	P		**P**	**07 14 10.5**	**-0.2**
baz=40									
G25A	**Newell**	**40.71**	**338**	⇓	P		**P**	**07 14 11.8**	**-0.5**
baz=41									
H24A	**Dirks Ranch, A**	**40.77**	**336**	⇑	P		**P**	**07 14 12.6**	**-0.3**
baz=41,SNR=5.0									
F27A	**Lemmon**	**40.79**	**340**	⇓	P		**P**	**07 14 11.9**	**-1.0**
baz=41									
D30A	**Buchanan**	**40.86**	**343**	⇑	P		**P**	**07 14 12.7**	**-0.7**
baz=41									
I22A	**9 Mile Ranch,**	**40.88**	**334**	⇓	P		**P**	**07 14 13.8**	**-0.1**
baz=41									
GSC	**Goldstone**	**40.94**	**316**	⇑	P		**P**	**07 14 15.2**	**+0.8**
baz=41									
BFSC	**Mount Baldy Ra**	**40.98**	**314**	⇑	P		**P**	**07 14 16.0**	**+1.2**
baz=41									
F26A	**Lodgepole**	**40.99**	**339**	⇑	P		**P**	**07 14 14.4**	**-0.3**
baz=41									
CTU	**Camp Tracy**	**41.11**	**326**		*eP*		**P**	**07 14 15.7**	**-0.2**
16nm,1.5s									
E27A	**Carson**	**41.12**	**340**	⇓	P		**P**	**07 14 15.2**	**-0.4**
baz=41									
I21A	**Big Trails, Te**	**41.18**	**333**	⇑	P		**P**	**07 14 14.6**	**-1.8**
baz=41									
J20A	**Shoshoni**	**41.18**	**332**	⇑	P		**P**	**07 14 16.2**	**-0.1**
baz=41									
G24A	**Alzada**	**41.20**	**337**	⇑	P		**P**	**07 14 15.8**	**-0.6**
baz=41									
AGMN	**Agassiz Nation**	**41.23**	**347**	⇓	P		**P**	**07 14 15.4**	**-1.1**
baz=41									
PDAR	**Pinedale Array**	**41.45**	**330**		P		**P**	**07 14 17.6**	**-1.1**
PDAR	**Pinedale Array**	**41.45**	**330**		P		**P**	**07 14 17.6**	**-1.1**
1.5nm,1.0s,baz=145,slow=9.9,SNR=8.9									
J19A	**Crowheart**	**41.58**	**331**	⇑	P		**P**	**07 14 19.7**	**0.0**
baz=42									
FURC	**Furnace Creek,**	**41.61**	**317**	⇑	P		**P**	**07 14 21.9**	**+2.1**
baz=42									
F24A	**Ekalaka**	**41.65**	**337**	⇑	P		**P**	**07 14 20.0**	**0.0**
baz=42									
I20A	**Worland**	**41.66**	**332**	⇓	P		**P**	**07 14 20.6**	**+0.3**
baz=42									
E25A	**Miller Ranch,**	**41.81**	**339**	⇑	P		**P**	**07 14 21.0**	**-0.4**
baz=42									
F23A	**Volborg**	**41.92**	**336**	⇑	P		**P**	**07 14 22.0**	**-0.2**
baz=42									
D26A	**Manning**	**41.93**	**340**	⇑	P		**P**	**07 14 21.9**	**-0.4**
baz=42									
H20A	**Greybull**	**42.02**	**333**	⇑	P		**P**	**07 14 23.2**	**+0.1**
baz=42									
I19A	**Meeteetse**	**42.13**	**332**	⇑	P		**P**	**07 14 24.2**	**0.0**
baz=42									
E24A	**Baker**	**42.20**	**338**	⇑	P		**P**	**07 14 24.6**	**+0.1**
baz=42									
C27A	**Sayler Ranch,**	**42.23**	**341**	⇓	P		**P**	**07 14 23

	2.2nm,0.8s								
HLID	**Hailey**	**44.52**	**327**	⇑P		**P**		**07 14 43.7**	**+0.3**
	baz=44								
C20A	**Veseth Ranch,**	**44.58**	**336**	⇓P		**P**		**07 14 43.6**	**-0.1**
	baz=44								
MCMT	**McKenzie Canyo**	**44.58**	**330**	*e*P		**P**		**07 14 44.6**	**+0.6**
	2.7nm,1.1s								
A22A	**Carney Farms,**	**44.83**	**339**	⇓P		**P**		**07 14 45.4**	**-0.3**
	baz=45,SNR=7.4								
DLMT	**Dillon**	**44.84**	**330**	*e*P		**P**		**07 14 47.0**	**+1.1**
	91nm,2.8s								
C19A	**Slack Wire Ran**	**45.02**	**335**	⇓P		**P**		**07 14 46.9**	**-0.3**
	baz=45,SNR=7.5								
B20A	**Solberg Farm,**	**45.17**	**337**	⇓P		**P**		**07 14 48.3**	**-0.1**
	baz=45,SNR=6.6								
A21A	**Bergtoll Ranch**	**45.20**	**338**	⇓P		**P**		**07 14 48.7**	**+0.1**
	baz=45								
A20A	**Cobblestone Ra**	**45.49**	**337**	⇓P		**P**		**07 14 50.8**	**-0.1**
	baz=45,SNR=5.3								
EGMT	**Eagleton**	**45.54**	**335**	⇑P		**P**		**07 14 51.1**	**-0.3**
	baz=45								
B19A	**Brinkman Farms**	**45.55**	**336**	⇓P		**P**		**07 14 51.1**	**-0.3**
	baz=45,SNR=5.4								
WVOR	**Wild Horse Val**	**46.18**	**323**	*e*P		**P**		**07 14 57.0**	**+0.4**
	25nm,1.1s								
MSO	**Missoula**	**46.54**	**331**	*e*P		**P**		**07 14 59.0**	**-0.3**
	72nm,2.5s								
MSO	**Missoula**	**46.54**	**331**	⇑P		**P**		**07 14 59.2**	**-0.1**
	baz=46								
F10A	**Beach Ranch, E**	**47.62**	**328**	*e*P		**P**		**07 15 08.5**	**+0.8**
	158nm,2.9s								
E09A	**Wood Farm, Sta**	**48.45**	**328**	*e*P		**P**		**07 15 13.8**	**-0.2**
	54nm,2.1s								
NEW	**Newport**	**49.09**	**330**	⇑P		**P**		**07 15 18.5**	**-0.4**
	baz=49								
G05D	**Wamic, OR**	**49.41**	**325**	⇓P		**P**		**07 15 22.4**	**+1.0**
	baz=49								
FCC	**Fort Churchill**	**50.96**	**353**	*e*P		**P**		**07 15 31.5**	**-1.3**
	0.2nm,1.0s								
EDM	**Edmonton**	**51.02**	**337**	*e*P		**P**		**07 15 31.6**	**-1.9**
YKA	**Yellowknife Ar**	**58.69**	**343**	P		**P**		**07 16 27.1**	**-1.7**
YKA	**Yellowknife Ar**	**58.69**	**343**	P		**P**		**07 16 27.1**	**-1.7**
	0.8nm,0.9s,baz=140,slow=6.9,SNR=15								
INK	**Inuvik**	**68.38**	**342**	*e*P		**P**		**07 17 31.9**	**-0.8**
	7.0nm,1.2s								
SUMG	**Summit**	**69.43**	**13**	*i* P		P		07 17 45.7	+6.0
	7.4nm,0.9s								
SUMG	**Summit**	**69.43**	**13**	*e*P		**P**		**07 17 38.2**	**-1.5**
	293nm,3.0s								
ILAR	**Eielson Array**	**71.49**	**336**	P		**P**		**07 17 50.3**	**-1.6**
ILAR	**Eielson Array**	**71.49**	**336**	P		**P**		**07 17 50.3**	**-1.6**
	1.3nm,0.8s,baz=120,slow=4.2,SNR=15								
DAG	**Danmarks Havn**	**76.09**	**12**	*i* P		P		07 18 23.7	+5.0
	1.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**82.92**	**78**	P		**P**		**07 18 54.9**	**-2.1**
TORD	**Torodi Ar. Bea**	**82.92**	**78**	P		**P**		**07 18 54.9**	**-2.1**
	0.9nm,0.9s,baz=263,slow=4.0,SNR=4.2								
CASY	**Casey**	**121.48**	**186**	*e*PKPdf		**PKPdf**		**07 25 27.0**	**+2.6**
CN2	**Changchun**	**122.01**	**336**	*e*PKP		**PKPdf**		**07 25 27.1**	**+0.9**
WMQ	**Urumqi**	**127.32**	**9**	PKP		**PKPdf**		**07 25 40.9**	**+4.4**
KSH	**Kashi**	**128.45**	**21**	*e*PKP		**PKPdf**		**07 25 39.0**	**+0.2**
KSH				*e*SKS		SKSdf		07 32 39.3	-10
KSH				AMB		AMB			
	comp=Z,63nm,6.8s								
KSH				LR		LR			
	comp=N,20nm,4.0s								
KSH				LR		LR			
	comp=E,34nm,7.7s								
HHC	**Hu-ho-hao-te**	**129.20**	**346**	*e*PKP		**PKPdf**		**07 25 40.3**	**+0.1**
HHC				sPKP				07 25 57.3	
HHC				PP		**PP**		**07 27 51.9**	**+4.6**
HHC				SKS		**SKSdf**		**07 32 46.6**	**-3.6**
HHC				SKKS		**SKKSac**		**07 34 40.1**	**-3.9**
HHC				SS		**SS**		**07 45 06.5**	**+1.2**
HHC				AMB		AMB			
	comp=Z,63nm,7.4s								
HHC				LR		LR			
	comp=Z,120nm,18.5s								
GTA	**Gaotai**	**132.35**	**357**	*e*PKP		**PKPdf**		**07 25 45.6**	**-0.7**
NJ2	**Nanjing**	**134.71**	**334**	*e*PKP		**PKPdf**		**07 25 49.1**	**-1.6**
LZH	**Lanzhou**	**135.28**	**352**	*e*PKP		**PKPdf**		**07 25 49.3**	**-2.6**
LZH				sPKP				07 26 09.3	
LZH				LR		LR			
	comp=N,140nm,18.0s								
LZH				LR		LR			
	comp=E,170nm,17.5s								
LZH				LR		LR			
	comp=Z,180nm,19.8s								
ASAR	**Alice Springs**	**141.64**	**242**	PKP		PKPdf		07 25 55.6	-8.0
ASAR	**Alice Springs**	**141.64**	**242**	PKP		PKPdf		07 25 55.6	-8.0
	0.4nm,0.6s,baz=119,slow=3.6,SNR=4.9								
WRA	**Warramunga Arr**	**142.19**	**248**	PKP		PKPdf		07 25 58.0	-6.7
WRA	**Warramunga Arr**	**142.19**	**248**	PKP		PKPdf		07 25 58.0	-6.7
	1.4nm,0.9s,baz=106,slow=3.2,SNR=6.8								
GYA	**Guiyang**	**144.11**	**345**	*e*PKP		**PKPab**		**07 26 04.8**	**-0.8**
GYA				pPKP		pPKP		07 26 22.4	
GYA				PP		**PP**		**07 29 21.3**	**+0.5**
GYA				AMB		AMB			
	comp=Z,80nm,7.6s								
HYB	**Hyderabad**	**148.47**	**35**	*i* PKP		PKPab		07 26 28.0	+5.6
CMAR	**Chiang Mai Arr**	**153.24**	**356**	PKPbc		**PKPdf**		**07 26 26.3**	**+3.4**
CMAR	**Chiang Mai Arr**	**153.24**	**356**	PKPbc		**PKPdf**		**07 26 26.3**	**+3.4**
	1.3nm,0.3s,baz=353,slow=3.6,SNR=6.3								

MEX 19 07:17:15.3±0.3,**17°.45N**×**101°.20W**,**h10**km,**MD3.8**,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.30**	**302**	*i* P	Pg	07 17 21.0	-0.4
ZIIG				*e*S	Sg	07 17 25.8	+0.3
ARIG	**Puente Sto Nin**	**1.16**	**44**	*i* P	Pb	07 17 33.9	-3.6
ARIG				*e*S	Sb	07 17 48.6	-4.1
ACX	**Acapulco**	**1.40**	**114**	*i* P	Pn	07 17 36.0	-5.0
ACX				*e*S	Sn	07 17 53.9	-5.6
PLIG	**Platanillo**	**1.87**	**59**	*i* P	Pn	07 17 43.8	-3.7
PLIG				*e*S	Sn	07 18 07.4	-3.9
YAIG	**Yautepec**	**2.47**	**55**	*i* P	Pn	07 17 52.3	-3.5
YAIG				*i* S	Sn	07 18 21.2	-5.0
TLIG	**Tlapa**	**2.51**	**87**	*i* P	Pn	07 17 53.5	-2.9
TLIG				*i* S	Sn	07 18 22.6	-4.7

NDI ***19*** *07:17:50.0±1.6,34°.74N×71°.50E,h10km,ML3.7*
IDC ***19*** *07:17:56.5±1.1,34°.63N×73°.02E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.5/43,mbtmp3.6/10,ML3.4/4,Error ellipse: s-maj=31.3km s-min=23.5km az=88.0*
NNC ***19*** *07:18:05.6±4.6,34°.91N×73°.10E,h75km±61km,mb3.4, mpv3.7,Error ellipse: s-maj=51.0km s-min=32.9km az=105.0*

ISC 19 07:18:00.3±0.7,**34°.72N**±0°.06×**72°.8E**±0°.1,**h21**km,**n22,** σ1ᵍ**75**/31,**mb3.7**/6,**6C-3D**,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.43**	**128**	*e*P	**Pn**	**07 18 55.0**	**+2.3**
DLH				*e*S	**Sb**	**07 19 44.0**	**+2.2**
SDNR	**Sundarnagar**	**4.76**	**131**	*e*P	**Pn**	**07 19 08.0**	**-2.8**
SDNR				*e*S	**Sn**	**07 20 08.0**	**+2.6**
RTK	**Rohtak**	**6.45**	**150**	*e*P	**Pn**	**07 19 33.2**	**-0.9**
RTK				*e*S	**Sn**	**07 20 49.2**	**+2.2**
KHET	**Khetri**	**7.11**	**158**	*e*P	Pn	07 19 39.6	-3.5
KHET				*e*S	**Sn**	**07 21 01.2**	**-2.1**
KHET				AML	AML	07 21 52.4	
	comp=E,70nm,0.1s						
KHET				AML	AML	07 21 52.7	
	comp=N,66nm,0.0s						
SONA	**Sohna**	**7.42**	**149**	*e*P	**Pn**	**07 19 45.6**	**-1.7**
SONA				*e*S	**Sn**	**07 21 10.1**	**-0.8**
SONA				AML	AML	07 21 13.3	
	comp=N,19nm,0.2s						
SONA				AML	AML	07 21 14.3	
	comp=E,38nm,0.2s						
AAK	**Ala-Archa**	**8.02**	**9**	⇑Pn	**Pn**	**07 19 57.4**	**+1.8**
	comp=E,1.8nm,0.8s						
AAK				⇓Sn	**Sn**	**07 21 25.4**	**-0.3**
	comp=E,12nm,1.4s						
AAK	**Ala-Archa**	**8.02**	**9**	Pn	**Pn**	**07 19 57.5**	**+1.9**
	comp=E,0.2nm,0.3s,baz=170,slow=6.1,SNR=2.8						
AAK				Sn	**Sn**	**07 21 25.6**	**-0.1**
	comp=E,0.3nm,0.3s,baz=90,slow=20,SNR=4.2						
TKM2	**Tokmak 2**	**8.48**	**14**	⇓Pn	**Pn**	**07 20 00.4**	**-1.7**
	comp=E,5.2nm,1.5s						
TKM2				⇑Sn	**Sn**	**07 21 33.0**	**-4.1**
	comp=E,3.6nm,0.8s						
KK31	**Karatay Array**	**8.56**	**349**	⇑Pn	**Pn**	**07 20 05.6**	**+2.7**
	comp=E,2.1nm,0.3s,baz=161,slow=11,SNR=84						
KK31				⇑Sn	**Sn**	**07 21 38.1**	**-0.7**
	comp=E,4.2nm,0.6s,baz=162,slow=23,SNR=13						
AGRA	**Agra**	**8.68**	**148**	*e*P	**Pn**	**07 20 03.9**	**-0.6**
AGRA				*e*S	**Sn**	**07 21 40.0**	**-1.8**
AGRA				AML	AML	07 22 03.8	
	comp=E,64nm,0.3s						
AGRA				AML	AML	07 22 04.8	
	comp=N,42nm,0.2s						
KURBB	**Kurchatov Arra**	**16.44**	**13**	Pn	**Pn**	**07 21 47.6**	**-1.9**
	comp=N,0.0nm,0.3s,baz=202,slow=11,SNR=3.2						
AB31	**Akbulak array**	**17.34**	**331**	⇓Pn	**Pn**	**07 22 00.9**	**0.0**
	comp=N,0.6nm,0.7s,baz=156,slow=11,SNR=9.4						
BVA0	**Borovoye Array**	**18.38**	**355**	⇑Pn	**Pn**	**07 22 14.2**	**+0.5**
	comp=N,0.9nm,0.8s,baz=157,slow=10,SNR=6.9						
BVAR	**Borovoye Array**	**18.38**	**355**	P	**Pn**	**07 22 14.4**	**+0.8**
	comp=N,2.7nm,0.7s,baz=116,slow=8.1,SNR=7.7						
TORD	**Torodi Ar. Bea**	**67.16**	**270**	P	**P**	**07 28 53.6**	**+0.7**
	comp=N,0.7nm,0.6s,baz=51,slow=5.9,SNR=8.2						
INK	**Inuvik**	**75.42**	**10**	P	**P**	**07 29 42.4**	**+0.4**
	comp=N,0.5nm,0.4s,baz=358,slow=7.1,SNR=7.7						
WRA	**Warramunga Arr**	**79.81**	**123**	P	**P**	**07 30 06.1**	**-1.1**
	comp=N,0.1nm,0.5s,baz=322,slow=4.6,SNR=2.6						
YKA	**Yellowknife Ar**	**82.94**	**3**	P	**P**	**07 30 22.8**	**-0.4**
	comp=N,0.2nm,0.5s,baz=347,slow=5.2,SNR=7.5						

CSEM ***19*** *07:31:05.6,42°.36N×13°.45E,h9km,MD1.7/6,After ROM*
ROM 19 07:31:05.6±0.3,**42°.36N**×**13°.45E**,**h9**km±1km,**Md1.7/6, Ml1.2/2,Error ellipse: s-maj=4.1km s-min=1.6km az=123.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.03**	**268**	Pg	Pg	07 31 07.6	+0.2
AQU				Sg	Sg	07 31 08.4	-0.3
AQU	**L'Aquila**	**0.03**	**268**	Pg	Pg	07 31 07.6	+0.2
AQU				Sg	Sg	07 31 08.4	-0.3
T0104	**Madonna delle**	**0.08**	**274**	Pg	Pg	07 31 08.5	+0.6
T0104				Sg	Sg	07 31 10.1	+0.5
CAMP	**Campotosto**	**0.18**	**351**	Pg	Pg	07 31 10.3	+0.7
CAMP				Sg	Sg	07 31 13.4	+1.0
CAMP	**Campotosto**	**0.18**	**351**	Pg	Pg	07 31 10.3	+0.7
CAMP				Sg	Sg	07 31 13.4	+1.0
FIAM	**Fiamignano**	**0.26**	**251**	Pg	Pb	07 31 11.9	-0.7
FIAM				Sg	Sb	07 31 16.0	-1.3
	33nm,0.6s						
FIAM	**Fiamignano**	**0.26**	**251**	Pg	Pb	07 31 11.9	-0.7
FIAM				Sg	Sb	07 31 16.0	-1.3
	33nm,0.6s						
SMA1	**SAN MARTINO**	**0.29**	**343**	Pg	Pg	07 31 12.0	+0.5
SMA1				Sg	Sg	07 31 16.5	+1.0
	38nm,0.2s						
NRCA	**Norcia**	**0.54**	**333**	Pg	Pg	07 31 16.5	+0.3
NRCA				Sg	Sb	07 31 24.8	-0.5
NRCA	**Norcia**	**0.54**	**333**	Pg	Pg	07 31 16.5	+0.3
NRCA				Sg	Sb	07 31 24.8	-0.5

ISCJB ***19*** *07:31:53.4±0.4,38°.41N±0°.02×21°.91E±0°.03,h11km±2km, Error ellipse: s-maj=3.7km s-min=3.2km az=14.8*
CSEM ***19*** *07:31:53.8±0.2,38°.39N×21°.94E,h10km,ML3.4,Error ellipse: s-maj=3.4km s-min=3.1km az=97.0*
ATH ***19*** *07:31:53.8,38°.38N×21°.94E,h19km±1km,ML3.0*
THE ***19*** *07:31:54.2,38°.40N×21°.94E,h0km±2km,ML3.4/5,Error ellipse: s-maj=2.2km s-min=0.6km az=288.0*

ISC 19 07:31:53.7±0.8,**38°.40N**±0°.02×**21°.93E**±0°.02,**h9**km±4km, **n53,** σ0ᵍ**77**/90,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.03**	**327**	P	**Pg**	**07 31 54.1**	**-1.2**
EFP				S	**Sg**	**07 31 56.3**	**-0.2**
EFP	**Efpalio**	**0.03**	**327**	*e*PB	**Pg**	**07 31 56.5**	**+1.2**
EFP	**Efpalio**	**0.03**	**327**	P	**Pg**	**07 31 54.1**	**-1.2**
EFP				S	**Sg**	**07 31 56.3**	**-0.2**
EFP	**Efpalio**	**0.03**	**327**	*e*Pb	**Pg**	**07 31 56.5**	**+1.2**
LAKA	**Lakka**	**0.17**	**166**	*e*PB	**Pg**	**07 31 57.9**	**+0.7**
LAKA	**Lakka**	**0.17**	**166**	*e*Pb	**Pg**	**07 31 57.9**	**+0.7**
KALE	**Kalithea**	**0.17**	**93**	P	**Pg**	**07 31 57.8**	**+0.5**
KALE				S	**Sg**	**07 32 00.7**	**+1.0**
KALE	**Kalithea**	**0.17**	**93**	*e*PB	**Pg**	**07 31 57.8**	**+0.5**
KALE				*e*SB	**Sg**	**07 32 01.2**	**+1.5**
KALE	**Kalithea**	**0.17**	**93**	P	**Pg**	**07 31 57.8**	**+0.5**
KALE				S	**Sg**	**07 32 00.7**	**+1.0**
KALE				*e*Sb	**Sg**	**07 32 01.2**	**+1.5**
KLV	**Kalavryta, Ach**	**0.40**	**154**	*e*PB	**Pg**	**07 32 01.7**	**+0.2**
KLV				*e*SB	**Sg**	**07 32 07.7**	**+1.0**
KLV	**Kalavryta, Ach**	**0.40**	**154**	*e*Pb	**Pg**	**07 32 01.7**	**+0.2**
KLV				*e*Sb	**Sg**	**07 32 07.7**	**+1.0**
DSF	**Desfina**	**0.47**	**89**	P	**Pg**	**07 32 02.9**	**0.0**
DSF				S	**Sb**	**07 32 10.2**	**-1.1**
DSF	**Desfina**	**0.47**	**89**	*e*PB	**Pg**	**07 32 03.5**	**+0.6**
DSF				*e*SB	**Sb**	**07 32 10.5**	**-0.8**
DSF	**Desfina**	**0.47**	**89**	P	**Pg**	**07 32 02.9**	**0.0**
DSF	**Desfina**	**0.47**	**89**	*e*Pb	**Pg**	**07 32 03.5**	**+0.6**
DSF				S	**Sb**	**07 32 10.2**	**-1.1**
DRO	**Drossia**	**0.48**	**201**	P	**Pg**	**07 32 03.3**	**+0.3**
DRO				S	**Sb**	**07 32 10.6**	**-0.9**
DRO	**Drossia**	**0.48**	**201**	*e*PB	**Pg**	**07 32 02.7**	**-0.3**
DRO				*e*SB	**Sg**	**07 32 09.8**	**+0.5**
DRO	**Drossia**	**0.48**	**201**	*e*Pb	**Pg**	**07 32 02.7**	**-0.3**
DRO	**Drossia**	**0.48**	**201**	P	**Pg**	**07 32 03.3**	**+0.3**
DRO				*e*Sb	**Sg**	**07 32 09.8**	**+0.5**
DRO				S	**Sb**	**07 32 10.6**	**-0.9**
RLS	**Riolos of Patr**	**0.50**	**227**	*e*PB	**Pg**	**07 32 04.1**	**+0.7**
RLS				*e*SB	**Sg**	**07 32 11.6**	**-0.4**
RLS	**Riolos of Patr**	**0.50**	**227**	*e*Pb	**Pg**	**07 32 04.1**	**+0.7**
RLS				*e*Sb	**Sb**	**07 32 11.6**	**-0.4**
EVR	**Evrytania**	**0.52**	**350**	P	**Pg**	**07 32 03.9**	**0.0**
EVR				S	**Sg**	**07 32 12.1**	**+1.3**
EVR	**Evrytania**	**0.52**	**350**	*e*PN	**Pg**	**07 32 04.2**	**+0.3**
EVR				*e*SN	**Sg**	**07 32 12.2**	**+1.4**
EVR	**Evrytania**	**0.52**	**350**	P	**Pg**	**07 32 03.9**	**0.0**
EVR	**Evrytania**	**0.52**	**350**	*e*Pn	**Pg**	**07 32 04.2**	**+0.3**
EVR				S	**Sg**	**07 32 12.1**	**+1.3**
GUR	**Goura**	**0.57**	**145**	P	**Pg**	**07 32 04.9**	**+0.2**
GUR				S	**Sg**	**07 32 12.6**	**+0.4**
GUR	**Goura**	**0.57**	**145**	*e*PN	**Pg**	**07 32 04.1**	**-0.6**
GUR	**Goura**	**0.57**	**145**	*e*Pn	**Pg**	**07 32 04.1**	**-0.6**
GUR	**Goura**	**0.57**	**145**	P	**Pg**	**07 32 04.9**	**+0.2**
GUR				S	**Sg**	**07 32 12.6**	**+0.4**
PDO	**Prodromos**	**0.62**	**289**	P	**Pb**	**07 32 06.8**	**+0.2**
PDO	**Prodromos**	**0.62**	**289**	*e*PN	**Pb**	**07 32 07.1**	**+0.5**
PDO	**Prodromos**	**0.62**	**289**	P	**Pb**	**07 32 06.8**	**+0.2**
PDO	**Prodromos**	**0.62**	**289**	*e*Pn	**Pb**	**07 32 07.1**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	P	**Pg**	**07 32 06.4**	**+0.5**
MAKR				S	**Sg**	**07 32 15.1**	**+0.9**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	*e*PN	**Pg**	**07 32 06.4**	**+0.5**
MAKR				*e*SN	**Sb**	**07 32 16.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	P	**Pg**	**07 32 06.4**	**+0.5**
MAKR				S	**Sg**	**07 32 15.1**	**+0.9**
MAKR				*e*Sn	**Sb**	**07 32 16.6**	**+0.7**
AXAR	**Agios Charalam**	**0.68**	**57**	P	**Pg**	**07 32 06.6**	**-0.2**
AXAR				S	**Sb**	**07 32 17.5**	**+0.2**
AXAR	**Agios Charalam**	**0.68**	**57**	P	**Pg**	**07 32 06.6**	**-0.2**
AXAR				S	**Sb**	**07 32 17.5**	**+0.2**
LKR	**Lokris**	**0.88**	**73**	*e*PN	**Pg**	**07 32 10.7**	**+0.1**
LKR				*e*SN	**Sb**	**07 32 23.4**	**+0.5**
LKR	**Lokris**	**0.88**	**73**	*e*Pn	**Pg**	**07 32 10.7**	**+0.1**
LKR				*e*Sn	**Sb**	**07 32 23.4**	**+0.5**
LTK	**Loutraki**	**0.90**	**114**	*e*PN	**Pb**	**07 32 11.5**	**0.0**
LTK	**Loutraki**	**0.90**	**114**	*e*Pn	**Pb**	**07 32 11.5**	**0.0**
SMIA	**Simia**	**1.11**	**64**	*e*PN	**Pb**	**07 32 15.0**	**-0.1**
SMIA				*e*SN	**Sn**	**07 32 30.9**	**-0.1**
SMIA	**Simia**	**1.11**	**64**	*e*Pn	**Pb**	**07 32 15.0**	**-0.1**
SMIA				*e*Sn	**Sn**	**07 32 30.9**	**-0.1**
DID	**Didima**	**1.37**	**130**	P	**Pg**	**07 32 20.1**	**+0.2**
DID				S	**Sg**	**07 32 38.9**	**+1.2**
DID	**Didima**	**1.37**	**130**	P	**Pg**	**07 32 20.1**	**+0.2**
DID				S	**Sg**	**07 32 38.9**	**+1.2**
ATH	**Athens Observa**	**1.47**	**106**	*e*PN	**Pn**	**07 32 20.2**	**-0.2**
ATH				*e*SN	**Sg**	**07 32 40.4**	**-0.7**
ATH	**Athens Observa**	**1.47**	**106**	*e*Pn	**Pn**	**07 32 20.2**	**-0.2**
ATH				*e*Sn	**Sg**	**07 32 40.4**	**-0.7**
VLI	**Veliai**	**1.86**	**154**	*e*PB	**Pn**	**07 32 25.8**	**0.0**
VLI	**Veliai**	**1.86**	**154**	*e*Pb	**Pn**	**07 32 25.8**	**0.0**
VAY	**Valandovo**	**2.96**	**9**	*e*Pn	**Pb**	**07 32 44.7**	**-1.9**
VAY	**Valandovo**	**2.96**	**9**	*e*Pn	**Pb**	**07 32 46.3**	**-0.3**
VAY				*e*Sn	**Sb**	**07 33 20.8**	**-2.0**
VAY	**Valandovo**	**2.96**	**9**	*e*Sn	**Sb**	**07 33 20.8**	**-2.0**

TIF ***19*** *07:40:06.6,43°.55N×46°.22E,h27km±2km*
CSEM ***19*** *07:40:07.6±0.4,43°.22N×46°.51E,h2km,mb4.1,Error ellipse: s-maj=10.7km s-min=4.6km az=27.0*
MOS ***19*** *07:40:07.0±1.2,43°.12N×46°.57E,h10km,mb4.1/1,Error ellipse: s-maj=17.6km s-min=8.8km az=13.2*

ISC 19 07:40:07.4±1.2,**43°.19N**±0°.03×**46°.50E**±0°.03,**h5**km±10km, **n36,** σ0ᵍ**92**/70,**2C-3D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.29**	**125**	⇓*i* Pg	**Pg**	**07 40 12.9**	**-0.2**
DBC				*i* S	**Sb**	**07 40 19.7**	**-0.6**
DBC	**Dubki**	**0.29**	**125**	*i* Pg	**Pg**	**07 40 12.9**	**-0.2**
DBC				*i* Sg	**Sb**	**07 40 19.7**	**-0.6**
BTLR	**Botlikh**	**0.56**	**202**	⇓*i* PG	**Pg**	**07 40 17.0**	**-1.2**
BTLR				*e*S	**Sg**	**07 40 25.5**	**0.0**
BTLR				pmax	pmax		
	comp=Z,44nm,0.3s						
BTLR	**Botlikh**	**0.56**	**202**	*i* Pg	**Pg**	**07 40 17.0**	**-1.2**
	comp=Z,44nm,0.3s						
BTLR				*e*Sg	**Sg**	**07 40 25.5**	**0.0**
GRO	**Groznyy**	**0.57**	**284**	*e*PG	**Pg**	**07 40 18.2**	**-0.1**
GRO				*i* S	**Sg**	**07 40 25.6**	**0.0**
GRO	**Groznyy**	**0.57**	**284**	*e*Pg	**Pg**	**07 40 18.2**	**-0.1**
GRO				*i* Sg	**Sg**	**07 40 25.6**	**0.0**
BUJR	**Buynaksk**	**0.57**	**129**	*e*PG	**Pg**	**07 40 18.5**	**+0.1**
BUJR				*e*S	**Sb**	**07 40 29.5**	**+1.1**
BUJR	**Buynaksk**	**0.57**	**129**	*e*Pg	**Pg**	**07 40 18.5**	**+0.1**
BUJR				*e*Sg	**Sb**	**07 40 29.5**	**+1.1**
VLKR	**Vladikavkaz**	**1.34**	**265**	*e*PG	**Pb**	**07 40 32.9**	**-0.2**
VLKR				*e*S	**Sn**	**07 40 51.1**	**0.0**
VLKR	**Vladikavkaz**	**1.34**	**265**	*e*Pg	**Pb**	**07 40 32.9**	**-0.2**
VLKR				*e*Sg	**Sn**	**07 40 51.1**	**0.0**
TRKR	**Terskaya**	**1.40**	**293**	⇓*i* PG	**Pn**	**07 40 32.3**	**-1.2**
TRKR				*e*S	**Sg**	**07 40 52.8**	**+0.5**
TRKR	**Terskaya**	**1.40**	**293**	*i* Pg	**Pn**	**07 40 32.3**	**-1.2**
TRKR				*e*Sg	**Sg**	**07 40 52.8**	**+0.5**
BTKR	**Batakoyurt**	**1.44**	**278**	*e*PG	**Pg**	**07 40 35.7**	**+0.6**
BTKR				*i* S	**Sg**	**07 40 55.9**	**+2.1**
BTKR	**Batakoyurt**	**1.44**	**278**	*e*Pg	**Pg**	**07 40 35.7**	**+0.6**
BTKR				*i* Sg	**Sg**	**07 40 55.9**	**+2.1**
ARNR	**Ardon**	**1.62**	**270**	*e*PN	**Pb**	**07 40 37.9**	**+0.1**
ARNR				*e*S	**Sg**	**07 40 59.8**	**+0.3**
ARNR	**Ardon**	**1.62**	**270**	*e*Pn	**Pb**	**07 40 37.9**	**+0.1**
ARNR				*e*Sg	**Sg**	**07 40 59.8**	**+0.3**
GUDG	**Gudauri**	**1.66**	**245**	P	**Pn**	**07 40 36.5**	**-0.8**
GUDG				S	**Sn**	**07 40 58.3**	**-0.8**
GUDG	**Gudauri**	**1.66**	**245**	P	**Pn**	**07 40 36.5**	**-0.8**
GUDG				S	**Sn**	**07 40 58.3**	**-0.8**
DUS	**Dusheti**	**1.72**	**231**	P	**Pb**	**07 40 39.2**	**-0.4**
DUS				S	**Sg**	**07 41 03.9**	**+1.1**
DUS	**Dusheti**	**1.72**	**231**	P	**Pb**	**07 40 39.2**	**-0.4**
DUS				S	**Sg**	**07 41 03.9**	**+1.1**
KORR	**Kora**	**1.79**	**268**	*e*PN	**Pb**	**07 40 40.1**	**-0.5**
KORR				*i* S	**Sg**	**07 41 03.8**	**-1.0**
KORR	**Kora**	**1.79**	**268**	*e*Pn	**Pb**	**07 40 40.1**	**-0.5**
KORR				*i* Sg	**Sg**	**07 41 03.8**	**-1.0**
STDR	**Stavd-Durt**	**1.79**	**277**	⇑*i* PN	**Pb**	**07 40 40.8**	**+0.1**
STDR				*e*S	**Sg**	**07 41 05.0**	**+0.1**
STDR	**Stavd-Durt**	**1.79**	**277**	*i* Pn	**Pb**	**07 40 40.8**	**+0.1**
STDR				*e*Sg	**Sg**	**07 41 05.0**	**+0.1**

TARZ	Mount Tarawera	1.23 199	Pn	Pn	08 00 21.4	+0.9		
UTU	Utuhina	1.28 211	⇑PN	Pn	08 00 22.0	+1.3		
UTU	Utuhina	1.28 211	Pn	Pn	08 00 22.1	+1.3		
HLRZ	Highlands Stat	1.29 204	⇑PN	Pn	08 00 21.9	+1.1		
MWZ	Matawai	1.32 163	PN	Pn	08 00 20.7	-0.3		
MWZ			SN	S	08 00 49.0	-0.6		
MWZ			AML	AML	08 00 56.2			
MWZ			AML	AML	08 00 56.4			
MWZ			AML	AML	08 00 56.5			
MWZ	Matawai	1.32 163	Pn	Pn	08 00 20.7	-0.3		
MWZ			Sn	S	08 00 49.0	-0.6		
RRRZ	Republican Roa	1.33 198	⇑PN	Pn	08 00 21.8	+0.7		
RRRZ	Republican Roa	1.33 198	Pn	Pn	08 00 21.8	+0.7		
TOZ	Tahuroa Road	1.38 241	⇑PN	Pn	08 00 21.9	+0.5		
TOZ	Tahuroa Road	1.38 241	Pn	Pn	08 00 21.4	0.0		
PUZ	Puketiti	1.40 136	PN	Pn	08 00 20.9	-0.7		
PUZ			SN	S	08 00 48.3	-2.3		
PUZ			AML	AML	08 00 52.5			
PUZ	Puketiti	1.40 136	Pn	Pn	08 00 20.9	-0.7		
HRRZ	Handcock Road	1.44 204	PN	Pn	08 00 23.0	+1.1		
HRRZ	Handcock Road	1.44 204	Pn	Pn	08 00 23.1	+1.1		
GRRZ	Galatos Road	1.46 209	⇑PN	Pn	08 00 23.3	+1.2		
MKAZ	Moumakai	1.48 268	⇓PN	Pn	08 00 21.9	-0.3		
MKAZ	Moumakai	1.48 268	ePn	Pn	08 00 20.7	-1.5		
PRRZ	Plateau Road	1.51 199	⇑PN	Pn	08 00 23.1	+0.7		
PRRZ	Plateau Road	1.51 199	Pn	Pn	08 00 23.1	+0.7		
ALRZ	Allen Road	1.58 200	PN	Pn	08 00 23.8	+0.9		
ALRZ	Allen Road	1.58 200	Pn	Pn	08 00 23.8	+0.9		
CNGZ	Carnagh Statio	1.69 147	⇑PN	Pn	08 00 24.7	+0.9		
CNGZ	Carnagh Statio	1.69 147	Pn	Pn	08 00 24.7	+0.9		
KBAZ	Karaka Road Bo	1.71 269	⇑PN	Pn	08 00 24.0	+0.1		
MTAZ	Motutapu	1.72 279	⇓PN	Pn	08 00 23.6	-0.5		
MTAZ	Motutapu	1.72 279	Pn	Pn	08 00 23.6	-0.5		
TLZ	Tolley Road	1.72 223	PN	Pn	08 00 25.2	+1.1		
SNGZ	Shannon Statio	1.72 172	⇑PN	Pn	08 00 24.8	+0.7		
RIGZ	Rimuhau	1.73 160	⇑PN	Pn	08 00 25.0	+0.8		
WHTZ	Whakaora	1.80 208	PN	Pn	08 00 26.4	+1.5		
WHTZ	Whakaora	1.80 208	Pn	Pn	08 00 26.4	+1.5		
ABAZ	Army Bay	1.82 284	⇓PN	Pn	08 00 24.2	-0.8		
RAHZ	Arahi	1.84 178	⇑PN	Pn	08 00 26.1	+0.9		
RAHZ	Arahi	1.84 178	Pn	Pn	08 00 26.1	+0.9		
HBAZ	Herne Bay Bore	1.85 276	⇓PN	Pn	08 00 24.7	-0.6		
WATZ	Wairara	1.93 212	⇑PN	Pn	08 00 27.3	+1.4		
WATZ	Wairara	1.93 212	Pn	Pn	08 00 27.3	+1.4		
HATZ	Hinemaiaia	1.96 202	PN	Pn	08 00 26.9	+0.7		
HATZ	Hinemaiaia	1.96 202	Pn	Pn	08 00 26.9	+0.7		
WTAZ	Waiatarua	1.97 273	⇑PN	Pn	08 00 25.9	-0.4		
WTAZ	Waiatarua	1.97 273	Pn	Pn	08 00 25.9	-0.4		
PRGZ	Paritu Road	1.97 160	⇑PN	Pn	08 00 26.7	+0.4		
PRGZ	Paritu Road	1.97 160	Pn	Pn	08 00 26.7	+0.4		
RVAZ	Riverhead Bore	1.98 278	⇓PN	Pn	08 00 25.5	-0.9		
WHHZ	Waihua	2.00 175	⇑PN	Pn	08 00 27.6	+1.0		
KNZ	Kokohu	2.01 165	⇑PN	Pn	08 00 27.1	+0.5		
KNZ			SN	S	08 00 59.1	-0.5		
KNZ	Kokohu	2.01 165	Pn	Pn	08 00 26.9	+0.3		
NMHZ	Naumai	2.03 185	PN	Pn	08 00 28.1	+1.2		
NMHZ	Naumai	2.03 185	Pn	Pn	08 00 28.1	+1.2		
RATZ	Rangitukua	2.05 209	⇑PN	Pn	08 00 28.1	+1.0		
RATZ	Rangitukua	2.05 209	Pn	Pn	08 00 28.1	+1.0		
RITZ	Rihia Road	2.11 205	PN	Pn	08 00 28.9	+1.3		
RITZ	Rihia Road	2.11 205	Pn	Pn	08 00 28.9	+1.3		
BKZ	Black Stump Fm	2.13 191	PN	Pn	08 00 28.1	+0.2		
BKZ			eSN	S	08 01 00.9	-1.0		
BKZ			AML	AML	08 01 05.3			
BKZ	Black Stump Fm	2.13 191	Pn	Pn	08 00 27.8	0.0		
KATZ	Kakaramea	2.17 209	⇓PN	Pn	08 00 29.3	+1.0		
KATZ	Kakaramea	2.17 209	Pn	Pn	08 00 29.3	+1.0		
MHGZ	Mahia Peninsul	2.19 162	PN	Pn	08 00 29.1	+0.7		
MHGZ	Mahia Peninsul	2.19 162	Pn	Pn	08 00 29.1	+0.7		
HIZ	Hauiti	2.24 229	PN	Pn	08 00 30.2	+1.4		
HIZ	Hauiti	2.24 229	Pn	Pn	08 00 30.2	+1.4		
KRVZ	Karewarewa	2.29 208	PN	Pn	08 00 30.4	+1.0		
KRVZ	Karewarewa	2.29 208	Pn	Pn	08 00 30.4	+1.0		
WTVZ	West Tongariro	2.33 209	⇓PN	Pn	08 00 30.9	+1.0		
WTVZ	West Tongariro	2.33 209	Pn	Pn	08 00 30.9	+1.0		
OTVZ	Oturere	2.34 207	⇑PN	Pn	08 00 31.1	+1.1		
OTVZ	Oturere	2.34 207	Pn	Pn	08 00 31.1	+1.1		
TWVZ	Taurewa	2.35 212	PN	Pn	08 00 31.5	+1.4		
TWVZ	Taurewa	2.35 212	Pn	Pn	08 00 31.1	+1.1		
MCHZ	McNeill Hill	2.38 186	PN	Pn	08 00 31.2	+1.0		
MCHZ	McNeill Hill	2.38 186	Pn	Pn	08 00 31.2	+1.0		
COVZ	Chateau Observ	2.42 208	⇑PN	Pn	08 00 31.6	+0.9		
WPVZ	Whakapapa	2.42 208	PN	Pn	08 00 31.6	+0.8		
WPVZ	Whakapapa	2.42 208	Pn	Pn	08 00 31.6	+0.8		
WCZ	Waipu Caves	2.44 297	⇓PN	Pn	08 00 28.3	-2.6		
WCZ	Waipu Caves	2.44 297	Pn	Pn	08 00 28.3	-2.6		
TUVZ	Tukino	2.44 206	PN	Pn	08 00 31.8	+0.9		
TUVZ	Tukino	2.44 206	Pn	Pn	08 00 31.9	+0.9		
FWVZ	Far West T-bar	2.47 208	PN	Pn	08 00 32.0	+0.7		
FWVZ	Far West T-bar	2.47 208	Pn	Pn	08 00 32.0	+0.7		
WHVZ	Whangaehu Hut	2.48 207	⇑PN	Pn	08 00 32.3	+0.9		
DRZ	Dome Shelter	2.48 207	Pn	Pn	08 00 32.8	+1.3		
TRVZ	Turoa	2.51 207	⇑PN	Pn	08 00 32.6	+0.9		
TRVZ	Turoa	2.51 207	Pn	Pn	08 00 32.6	+0.9		
WNVZ	Wahianoa	2.51 206	PN	Pn	08 00 32.5	+0.7		
WNVZ	Wahianoa	2.51 206	Pn	Pn	08 00 32.5	+0.7		
BHHZ	Black Hill Sta	2.53 197	⇑PN	Pn	08 00 32.1	+0.3		
BHHZ	Black Hill Sta	2.53 197	Pn	Pn	08 00 32.1	+0.3		
MOVZ	Moawhango	2.54 203	⇑PN	Pn	08 00 32.1	+0.2		
MOVZ	Moawhango	2.54 203	Pn	Pn	08 00 32.1	+0.2		
PKVZ	Pokaka	2.58 210	PN	Pn	08 00 33.2	+1.0		
PKVZ	Pokaka	2.58 210	Pn	Pn	08 00 33.2	+1.0		
CKHZ	Cape Kidnapper	2.58 179	⇓PN	Pn	08 00 33.1	+0.9		
CKHZ	Cape Kidnapper	2.58 179	Pn	Pn	08 00 33.1	+0.9		
MTVZ	Mangateitei	2.61 207	PN	Pn	08 00 33.7	+1.0		
MTVZ	Mangateitei	2.61 207	Pn	Pn	08 00 33.7	+1.0		
VRZ	Vera Road	2.72 220	Pn	Pn	08 00 35.5	+1.9		
KAHZ	Kahuranaki	2.72 182	PN	Pn	08 00 34.6	+0.8		
KAHZ	Kahuranaki	2.72 182	Pn	Pn	08 00 34.6	+0.8		
PNHZ	Pukenui	2.91 193	PN	Pn	08 00 35.8	+0.1		
PNHZ	Pukenui	2.91 193	Pn	Pn	08 00 35.8	+0.1		
MHEZ	Mangahewa	2.92 226	PN	Pn	08 00 38.7	+2.9		
MHEZ	Mangahewa	2.92 226	Pn	Pn	08 00 38.8	+2.9		
PXZ	Pawanui	2.96 182	⇓PN	Pn	08 00 36.4	+0.2		
PXZ			AML	AML	08 01 20.0			
PXZ			AML	AML	08 01 20.1			
PXZ			AML	AML	08 01 22.8			
PXZ			AML	AML	08 01 22.8			
PXZ	Pawanui	2.96 182	Pn	Pn	08 00 36.4	+0.2		
WPHZ	Waipukurau	3.02 189	⇓PN	Pn	08 00 37.1	+0.2		
WPHZ	Waipukurau	3.02 189	Pn	Pn	08 00 37.1	+0.2		
RAEZ	Rainy Point	3.03 222	⇑PN	Pn	08 00 41.5	+4.5		
RAEZ	Rainy Point	3.03 222	Pn	Pn	08 00 41.5	+4.5		
TSZ	Takapari Road	3.10 195	PN	Pn	08 00 37.9	+0.1		
TSZ			AML	AML	08 01 25.1			
TSZ			AML	AML	08 01 25.1			
TSZ	Takapari Road	3.10 195	Pn	Pn	08 00 37.9	+0.1		
NEZ	North Egmont	3.18 226	⇓PN	Pn	08 00 41.3	+2.5		
NEZ	North Egmont	3.18 226	Pn	Pn	08 00 41.3	+2.5		
PKE	Pukeiti	3.19 228	PN	Pn	08 00 41.3	+2.4		
PKE	Pukeiti	3.19 228	Pn	Pn	08 00 41.4	+2.4		
PRHZ	Porangahau	3.20 185	PN	Pn	08 00 39.1	+0.2		
PRHZ	Porangahau	3.20 185	Pn	Pn	08 00 39.1	+0.2		
DFE	Dawson Falls	3.22 225	⇑PN	Pn	08 00 41.5	+2.3		
DFE	Dawson Falls	3.22 225	Pn	Pn	08 00 41.5	+2.3		
KHEZ	Kahui Hut	3.25 226	PN	Pn	08 00 41.8	+2.3		
DVHZ	Dannevirke	3.29 191	PN	Pn	08 00 39.7	-0.2		
DVHZ			SN	S	08 01 22.9	-0.7		
DVHZ	Dannevirke	3.29 191	Pn	Pn	08 00 39.7	-0.2		
DVHZ			Sn	S	08 01 22.9	-0.7		
NWEZ	Newall Road	3.32 228	PN	Pn	08 00 42.9	+2.7		
NWEZ	Newall Road	3.32 228	Pn	Pn	08 00 42.9	+2.7		
OUZ	Omahuta	3.33 303	⇓PN	Pn	08 00 38.7	-1.8		
OUZ	Omahuta	3.33 303	ePn	Pn	08 00 38.7	-1.8		
NMEZ	Namu Road	3.40 226	PN	Pn	08 00 43.2	+2.0		
ANWZ	Angora Road	3.41 187	⇑PN	Pn	08 00 41.4	+0.2		
POWZ	Post Office Ro	3.46 196	⇑PN	Pn	08 00 41.7	-0.1		
POWZ	Post Office Ro	3.46 196	Pn	Pn	08 00 41.7	-0.1		
PRWZ	Pori Road	3.57 193	⇑PN	Pn	08 00 43.3	+0.2		
BFZ	Birch Farm	3.65 189	⇓PN	Pn	08 00 43.8	-0.3		
BFZ			eSN	S	08 01 29.5	-1.6		
BFZ	Birch Farm	3.65 189	Pn	Pn	08 00 43.8	-0.3		
MRZ	Mangatainoka R	3.75 197	⇓PN	Pn	08 00 44.7	-0.5		
MRZ			SN	S	08 01 32.7	-0.5		
MRZ			AML	AML	08 01 35.0			
MRZ	Mangatainoka R	3.75 197	Pn	Pn	08 00 44.7	-0.5		
TIWZ	Tintock	3.80 193	⇓PN	Pn	08 00 45.7	-0.1		
TIWZ			AML	AML	08 01 37.8			
TIWZ			AML	AML	08 01 39.8			
TIWZ	Tintock	3.80 193	Pn	Pn	08 00 45.7	-0.1		
CPWZ	Castlepoint	3.88 189	PN	Pn	08 00 47.3	+0.6		
HOWZ	Holdsworth Sta	4.00 197	⇑PN	Pn	08 00 47.4	-0.7		
HOWZ	Holdsworth Sta	4.00 197	Pn	Pn	08 00 47.4	-0.7		
OGWZ	Otaki Gorge	4.01 201	⇓PN	Pn	08 00 47.7	-0.5		
OGWZ	Otaki Gorge	4.01 201	Pn	Pn	08 00 47.7	-0.5		
TMWZ	Te Maipa	4.12 192	⇓PN	Pn	08 00 49.1	-0.5		
TMWZ	Te Maipa	4.12 192	Pn	Pn	08 00 49.1	-0.5		
KIW	Kapiti Island	4.12 203	⇑PN	Pn	08 00 48.8	-0.8		
KIW			AML	AML	08 01 42.2			
KIW			AML	AML	08 01 42.9			
KIW	Kapiti Island	4.12 203	Pn	Pn	08 00 48.8	-0.8		
MTW	Mount Morrison	4.25 196	PN	Pn	08 00 50.0	-1.0		
MTW			AML	AML	08 01 45.0			
MTW			AML	AML	08 01 50.8			
MTW	Mount Morrison	4.25 196	Pn	Pn	08 00 50.0	-1.0		
CAW	Cannon Point	4.30 200	⇓PN	Pn	08 00 50.8	-1.0		
CAW			AML	AML	08 01 47.9			
CAW			AML	AML	08 01 48.1			
CAW	Cannon Point	4.30 200	Pn	Pn	08 00 50.8	-1.0		
DUWZ	D'Urville Isla	4.44 212	PN	Pn	08 00 52.6	-0.8		
DUWZ	D'Urville Isla	4.44 212	Pn	Pn	08 00 52.6	-0.8		
TRWZ	Traveller	4.44 193	PN	Pn	08 00 52.6	-0.8		
TRWZ			AML	AML	08 01 48.6			
TRWZ			AML	AML	08 01 49.6			
TRWZ	Traveller	4.44 193	Pn	Pn	08 00 52.6	-0.8		
PAWZ	Paruwai Farm	4.48 196	⇓PN	Pn	08 00 52.7	-1.1		
PAWZ			AML	AML	08 01 49.6			
PAWZ			AML	AML	08 01 51.0			
PAWZ	Paruwai Farm	4.48 196	Pn	Pn	08 00 52.7	-1.1		
MSWZ	Moikau Station	4.55 197	PN	Pn	08 00 53.4	-1.3		
MSWZ			AML	AML	08 01 52.5			
MSWZ			AML	AML	08 01 57.5			
MSWZ	Moikau Station	4.55 197	Pn	Pn	08 00 53.4	-1.3		
WEL	Wellington	4.55 202	⇑PN	Pn	08 00 53.8	-0.9		
WEL	Wellington	4.55 202	Pn	Pn	08 00 53.9	-0.9		
SNZO	South Karori	4.60 202	⇑PN	Pn	08 00 54.0	-1.2		
SNZO			AML	AML	08 01 52.1			
SNZO			AML	AML	08 01 54.9			
SNZO	South Karori	4.60 202	ePn	Pn	08 00 54.0	-1.2		
SNZO			eS	S	08 01 50.6	-0.7		
BHW	Baring Head	4.64 200	⇑PN	Pn	08 00 54.5	-1.2		
BHW			AML	AML	08 01 52.9			
BHW			AML	AML	08 01 55.8			
BHW	Baring Head	4.64 200	Pn	Pn	08 00 54.5	-1.2		
TCW	Tory Channel	4.65 206	PN	Pn	08 00 54.9	-1.0		
TCW			AML	AML	08 01 54.5			
TCW			AML	AML	08 01 57.7			
TCW	Tory Channel	4.65 206	Pn	Pn	08 00 55.0	-1.0		
PLWZ	Palliser	4.69 196	PN	Pn	08 00 55.2	-1.2		
PLWZ	Palliser	4.69 196	Pn	Pn	08 00 55.2	-1.2		
TUWZ	Tuamarina	4.96 208	PN	Pn	08 00 58.6	-1.1		
TUWZ			AML	AML	08 02 01.7			
TUWZ			AML	AML	08 02 01.7			
TUWZ	Tuamarina	4.96 208	Pn	Pn	08 00 58.6	-1.1		
NNZ	Nelson	5.01 213	⇓PN	Pn	08 00 58.9	-1.4		
NNZ	Nelson	5.01 213	Pn	Pn	08 00 58.9	-1.4		
QRZ	Quartz Range	5.13 222	PN	Pn	08 01 00.3	-1.5		
QRZ	Quartz Range	5.13 222	Pn	Pn	08 01 00.3	-1.5		
CMWZ	Cape Campbell	5.15 204	AML	AML	08 02 12.7			
CMWZ			AML	AML	08 02 13.7			
CMWZ	Cape Campbell	5.15 204	Pn	Pn	08 01 02.1	+0.1		
BSWZ	Blackbirch Sta	5.24 207	PN	Pn	08 01 02.3	-0.8		
BSWZ			AML	AML	08 02 09.7			
BSWZ			AML	AML	08 02 10.8			
BSWZ	Blackbirch Sta	5.24 207	Pn	Pn	08 01 02.3	-0.8		
THZ	Tophouse	5.67 213	PN	Pn	08 01 06.9	-1.6		
THZ	Tophouse	5.67 213	Pn	Pn	08 01 06.9	-1.6		
KHZ	Kahutara	5.97 206	PN	Pn	08 01 11.3	-1.0		
KHZ			AML	AML	08 02 24.4			
KHZ			AML	AML	08 02 24.9			
KHZ	Kahutara	5.97 206	ePn	Pn	08 01 11.4	-0.8		
KHZ			eS	S	08 02 21.1	-1.0		
DSZ	Denniston Nort	6.17 219	⇑PN	Pn	08 01 12.4	-2.4		
DSZ	Denniston Nort	6.17 219	Pn	Pn	08 01 12.4	-2.4		
LTZ	Lake Taylor	6.77 211	PN	Pn	08 01 20.6	-1.7		
LTZ	Lake Taylor	6.77 211	Pn	Pn	08 01 20.6	-1.7		
CRLZ	Canterbury Las	7.31 206	⇑PN	Pn	08 01 27.3	-1.8		
CRLZ	Canterbury Las	7.31 206	Pn	Pn	08 01 27.3	-1.8		
OXZ	Oxford	7.32 210	PN	Pn	08 01 26.9	-2.3		
MQZ	McQueen's Vall	7.42 205	⇓PN	Pn	08 01 28.2	-2.3		
MQZ	McQueen's Vall	7.42 205	Pn	Pn	08 01 28.2	-2.3		
WVZ	Waitaha Valley	7.69 217	⇓PN	Pn	08 01 32.3	-1.7		
WVZ	Waitaha Valley	7.69 217	Pn	Pn	08 01 32.2	-1.7		
RPZ	Rata Peaks	8.04 213	PN	Pn	08 01 36.5	-2.0		
RPZ	Rata Peaks	8.04 213	ePn	Pn	08 01 36.5	-2.0		
RPZ			eS	S	08 03 04.7	-5.3		
CTZ	Chatham Island	8.23 146	PN	Pn	08 01 43.0	+2.2		
CTZ	Chatham Island	8.23 146	Pn	Pn	08 01 41.8	+1.0		
FOZ	Fox Glacier	8.56 219	ePN	Pn	08 01 40.9	-4.1		
FOZ	Fox Glacier	8.56 219	Pn	Pn	08 01 42.0	-3.0		
LBZ	Lake Benmore	8.96 213	PN	Pn	08 01 48.6	-1.5		
LBZ	Lake Benmore	8.96 213	Pn	Pn	08 01 49.1	-1.0		
ODZ	Otahua Downs	9.30 209	PN	Pn	08 01 52.9	-1.5		
ODZ	Otahua Downs	9.30 209	ePn	Pn	08 01 53.6	-0.8		
ODZ			eS	S	08 03 28.2	-11		
JCZ	Jackson Bay	9.40 219	PN	Pn	08 01 52.8	-3.0		
JCZ	Jackson Bay	9.40 219	Pn	Pn	08 01 52.8	-3.0		
WKZ	Wanaka	9.83 215	PN	Pn	08 01 58.2	-2.9		
WKZ	Wanaka	9.83 215	Pn	Pn	08 01 58.2	-2.9		
EAZ	Earnscleugh	10.01 213	PN	Pn	08 02 01.1	-2.2		
EAZ	Earnscleugh	10.01 213	Pn	Pn	08 02 01.1	-2.2		
HHSZ	Highcliff Hill	10.03 207	ePN	Pn	08 02 03.5	-0.1		
MSZ	Milford Sound	10.24 219	PN	Pn	08 02 04.5	-1.8		
MSZ	Milford Sound	10.24 219	Pn	Pn	08 02 04.5	-1.8		
TUZ	Tuapeka	10.46 210	PN	Pn	08 02 09.0	+0.1		
TUZ	Tuapeka	10.46 210	Pn	Pn	08 02 09.0	+0.1		
MLZ	Mavora Lakes	10.61 216	Pn	Pn	08 02 11.1	+0.1		
WHZ	Wether Hill Ro	11.13 215	ePn	Pn	08 02 15.8	-1.6		
WHZ			eS	S	08 04 15.5	-5.8		
SYZ	Scrubby Hill	11.13 209	PN	Pn	08 02 17.5	+0.1		
SYZ	Scrubby Hill	11.13 209	Pn	Pn	08 02 17.5	+0.1		
DCZ	Deep Cove	11.20 218	PN	Pn	08 02 15.8	-2.5		
DCZ	Deep Cove	11.20 218	ePn	Pn	08 02 18.2	-0.1		
APZ	The Paps	11.84 212	PN	Pn	08 02 25.3	-1.0		
APZ	The Paps	11.84 212	Pn	Pn	08 02 25.3	-1.0		
PYZ	Puysegur Point	11.92 217	PN	Pn	08 02 26.3	-1.1		
PYZ	Puysegur Point	11.92 217	Pn	Pn	08 02 26.3	-1.1		
DZM	Mont Dzumac	17.54 326	P	P	08 03 32.1	-0.8		
DZM	Mont Dzumac	17.54 326	P	P	08 03 32.1	-0.8		
ARMA	Armidale 98nm,1.8s	22.10 280	eP	P	08 04 22.5	+2.2		
MILA	Mila baz=22	22.21 262	⇑P	P	08 04 24.5	+3.2		
CAN	Canberra baz=22	22.65 266	⇓P	P	08 04 28.6	+3.3		
TAU	Tasmania Unive 40nm,1.0s	23.42 246	eP	P	08 04 34.4	+2.3		
EIDS	Eidsvold 20nm,0.9s	24.98 290	eP	P	08 04 47.4	+1.0		
STKA	Stephens Creek 4.7nm,1.0s	29.55 270	eP	P	08 05 29.0	+2.0		
STKA	Stephens Creek 20nm,0.9s,baz=109,slow=8.4,SNR=35	29.55 270	P	P	08 05 28.7	+1.7		
HTT	Hallett baz=31,SNR=15	31.19 265	⇑P	P	08 05 42.8	+1.4		
CTA	Charters Tower	31.69 294	P	P	08 05 46.2	+0.4		
CTA	Charters Tower 11nm,0.5s,baz=136,slow=12,SNR=22	31.69 294	P	P	08 05 46.2	+0.4		
CTA	Charters Tower baz=31	31.69 294	⇓P	P	08 05 46.1	+0.2		
CTAO	Charters Tower 29nm,1.1s	31.69 294	eP	P	08 05 46.6	+0.7		
BBOO	Buckleboo 170nm,0.4s	33.66 265	eP	P	08 06 03.5	+0.7		
BBOO	Buckleboo baz=33,SNR=48	33.66 265	⇓P	P	08 06 03.6	+0.8		
MTSU	Mount Surprise baz=34	34.34 294	⇓P	P	08 06 09.2	+0.4		
QIS	Mount Isa baz=36,SNR=22	36.41 286	⇓P	P	08 06 26.4	+0.1		
COEN	Coen 402nm,1.0s	37.93 298	eP	P	08 06 39.3	+0.2		
COEN	Coen baz=37,SNR=61	37.93 298	⇑P	P	08 06 39.0	-0.1		
AS31	Alice Springs	39.21 278	eP	P	08 06 49.9	+0.2		
ASAR	Alice Springs	39.21 278	P	P	08 06 50.1	+0.4		
ASAR			ScP	ScP	08 12 14.8	-3.8		
ASAR	Alice Springs 59nm,0.8s,baz=122,slow=8.3,SNR=692	39.21 278	P	P	08 06 50.1	+0.4		
ASAR			ScP	ScP	08 12 14.8	-3.8		
FORT	Forrest 1.7nm,0.7s,baz=119,slow=4.1,SNR=8.7	40.75 264	eP	P	08 07 02.9	+0.7		
FORT	Forrest 160nm,0.6s	40.75 264	⇑P	P	08 07 03.1	+0.9		
WRAB	Tennant Creek baz=40,SNR=129	40.83 283	eP	P	08 07 02.9	-0.1		
WRA	Warramunga Arr 38nm,0.8s	40.83 283	P	P	08 07 02.6	-0.4		
WRA			PcP	PcP	08 08 57.5	-1.5		
WRA			ScP	ScP	08 12 22.7	-2.3		
WRA	Warramunga Arr 26nm,0.4s,baz=121,slow=7.9,SNR=409	40.83 283	P	P	08 07 02.6	-0.4		
WRA			PcP	PcP	08 08 57.5	-1.5		
WRA			ScP	ScP	08 12 22.7	-2.3		
VNDA	Vanda 13nm,1.4s	41.08 185	eP	P	08 07 08.8	+4.6		
VNDA	Vanda 4.1nm,0.7s,baz=8.8,slow=8.6,SNR=18	41.08 185	P	P	08 07 09.1	+4.9		
SBA	Scott Base 19nm,0.9s	41.12 183	eP	P	08 07 10.5	+5.9		
WRKA	Warakurna baz=42,SNR=162	43.01 272	⇓P	P	08 07 19.5	-1.1		
KMBL	Kambalda baz=45,SNR=25	45.42 260	⇑P	P	08 07 39.9	+0.4		
KDU	Kakadu baz=46	46.59 290	⇓P	P	08 07 48.3	-0.4		
MTN	Manton Dam baz=47,SNR=9.5	47.51 288	⇑P	P	08 07 54.8	-1.0		
KNRA	Kununurra baz=47,SNR=9.5	47.62 283	⇑P	P	08 07 56.7	+0.1		
JAY	Jayapura	47.94 307	P	P	08 07 58.8	-0.4		
JAY	Jayapura 26nm,0.9s,baz=202,slow=10,SNR=7.9	47.94 307	P	P	08 07 58.8	-0.4		
NWAO	Narrogin (SRO)	48.45 256	P	P	08 08 02.9	0.0		
NWAO	Narrogin (SRO) 14nm,0.5s,baz=121,slow=8.4,SNR=24	48.45 256	P	P	08 08 02.9	0.0		
KLBR	Kellerberrin baz=48,SNR=32	48.57 258	⇑P	P	08 08 03.9	+0.1		
FITZ	Fitzroy Crossi 37nm,0.7s	48.69 278	eP	P	08 08 05.1	+0.3		
FITZ	Fitzroy Crossi baz=48,SNR=34	48.69 278	⇓P	P	08 08 05.3	+0.5		
BLDU	Balliduu baz=49,SNR=24	49.78 259	⇓P	P	08 08 13.2	+0.2		
MEEK	Meekatharra baz=50,SNR=46	50.01 264	⇑P	P	08 08 14.3	-0.5		
MORW	Morawa baz=50,SNR=14	50.97 260	⇑P	P	08 08 22.0	+0.1		
MBWA	Marble Bar 30nm,0.8s	51.77 271	eP	P	08 08 27.0	-0.9		
QSPA	South Pole Qui	53.05 180	P	P	08 08 40.7	+4.0		
QSPA	South Pole Qui 39nm,0.4s,baz=30,slow=11,SNR=164	53.05 180	P	P	08 08 40.7	+4.0		
GIRL	Giralia baz=55,SNR=9.9	55.41 266	⇑P	P	08 08 54.7	+0.5		
SWI	Sorong baz=55	55.47 300	⇑P	P	08 08 53.6	-1.0		
JAGI	Jajag, Banyuwa baz=63	63.35 280	⇑P	P	08 09 48.0	-0.4		
MAW	Mawson	64.59 203	P	P	08 09 56.4	+0.8		
MAW	Mawson 2.9nm,0.5s,baz=126,slow=8.0,SNR=4.1	64.59 203	P	P	08 09 56.4	+0.8		
UGM	Wanagama

WMQ				LR	LR			
	comp=Z,25nm,19.1s							
MK31	**Makanchi Array**	**118.78**	**309**	*e*PKPdf	**PKPdf**	**08**	**18**	**00.8 -2.7**
MKAR	**Makanchi Array**	**118.78**	**309**	PKP	**PKPdf**	**08**	**18**	**01.1 -2.5**
MKAR	**Makanchi Array**	**118.78**	**309**	PKP	**PKPdf**	**08**	**18**	**01.1 -2.5**
	1.0nm,0.6s,baz=117,slow=1.6,SNR=14							
KSH	**Kashi**	**119.94**	**299**	*e*PKP	**PKPdf**	**08**	**18**	**10.3 +4.2**
KSH				*es*PKP		08	19	30.9
KSH				*e*SKS	**SKSdf**	**08**	**24**	**59.0 +4.3**
KSH				AMB	AMB			
	comp=Z,59nm,5.3s							
KSH				LR	LR			
	comp=N,30nm,8.5s							
KSH				LR	LR			
	comp=E,75nm,5.0s							
KSH				LR	LR			
	comp=Z,71nm,6.6s							
ZALV	**Zalesovo Beam**	**120.16**	**317**	PKP	**PKPdf**	**08**	**18**	**03.1 -2.7**
ZALV	**Zalesovo Beam**	**120.16**	**317**	PKP	**PKPdf**	**08**	**18**	**03.1 -2.7**
	0.7nm,0.7s,baz=90,slow=1.4,SNR=4.1							
KURK	**Kurchatov**	**122.53**	**312**	*e*PKPdf	**PKPdf**	**08**	**18**	**08.3 -2.2**
RES	**Resolute Bay**	**124.86**	**19**	*e*PKPdf	**PKPdf**	**08**	**18**	**13.0 -1.4**
KKAR	**Karatay Array**	**125.11**	**301**	*e*PKPdf	**PKPdf**	**08**	**18**	**14.4 -1.4**
DUS	**Dusheti**	**143.29**	**293**	P	PKPab	08	18	46.7 +0.4
KEV	**Kevo**	**143.50**	**343**	*e*pkp	PKPab	08	18	45.2 -1.0
GUDG	**Gudauri**	**143.51**	**294**	P	PKPab	08	18	47.4 0.0
ARCES	**ARCESS Array B**	**144.01**	**343**	PKP	**PKPab**	**08**	**18**	**47.1 -1.2**
ARCES	**ARCESS Array B**	**144.01**	**343**	PKP	**PKPab**	**08**	**18**	**47.1 -1.2**
	7.7nm,0.6s,baz=50,slow=3.2,SNR=53							
ARE0	**ARCESS Array S**	**144.02**	**343**	*e*PKPdf	**PKPab**	**08**	**18**	**48.4 +0.1**
ONI	**Oni**	**144.28**	**294**	P	**PKPab**	**08**	**18**	**49.8 -0.3**
CHVG	**Ch'k'valeri**	**145.29**	**294**	P	**PKPab**	**08**	**18**	**53.7 -0.2**
JOF	**Joensuu**	**146.74**	**332**	*e*pkp	**PKPdf**	**08**	**18**	**54.5 -0.4**
	4.1nm,0.3s							
KAF	**Kangasniemi**	**149.07**	**333**	*e*pkp	**PKPdf**	**08**	**19**	**00.1 +1.4**
	4.8nm,0.3s							
LIC	**Lamto**	**149.24**	**176**	*e*PKP2	**PKPbc**	**08**	**19**	**04.5 -0.6**
	16nm,0.3s							
KIC	**Kosan Boka**	**149.39**	**177**	*e*PKP2	**PKPbc**	**08**	**19**	**04.7 -0.7**
	8.5nm,0.3s							
FIA1	**FINESS Array S**	**149.58**	**333**	*e*PKPbc	**PKPdf**	**08**	**19**	**02.0 +2.5**
FINES	**FINESS Array B**	**149.59**	**333**	PKPbc	**PKPbc**	**08**	**19**	**02.6 -1.8**
FINES	**FINESS Array B**	**149.59**	**333**	PKPbc	**PKPbc**	**08**	**19**	**02.6 -1.8**
	8.4nm,0.5s,baz=44,slow=4.2,SNR=64							
TIC	**Toumodi**	**149.65**	**176**	*e*PKP2	**PKPbc**	**08**	**19**	**06.2 +0.1**
DBIC	**Dimbokro**	**149.69**	**176**	PKPbc	**PKPbc**	**08**	**19**	**05.7 -0.4**
DBIC	**Dimbokro**	**149.69**	**176**	PKPbc	**PKPbc**	**08**	**19**	**05.7 -0.4**
	3.8nm,0.4s,baz=152,slow=3.4,SNR=13							
BRTR	**Keskin Array B**	**151.31**	**287**	PKPbc	**PKPbc**	**08**	**19**	**07.9 -1.5**
BRTR	**Keskin Array B**	**151.31**	**287**	PKPbc	**PKPbc**	**08**	**19**	**07.9 -1.5**
	6.6nm,0.6s,baz=138,slow=4.3,SNR=30							
BR131	**Keskin Array S**	**151.31**	**287**	*e*PKPbc	**PKPbc**	**08**	**19**	**08.0 -1.4**
AKASG	**Malin Array Be**	**153.33**	**311**	PKPbc	**PKPbc**	**08**	**19**	**10.8 -2.6**
AKASG				PKPab	**PKPab**	**08**	**19**	**25.2 -1.2**
AKASG	**Malin Array Be**	**153.33**	**311**	PKPbc	**PKPbc**	**08**	**19**	**10.8 -2.6**
	2.6nm,0.6s,baz=66,slow=3.0,SNR=10							
AKASG				PKPab	**PKPab**	**08**	**19**	**25.2 -1.2**
	2.4nm,0.6s,baz=57,slow=4.0,SNR=7.1							
NB2	**NORSAR Subarra**	**154.39**	**344**	PKPdf	**PKPbc**	**08**	**19**	**13.4 -2.0**
	comp=Z,2.1nm,0.8s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**154.39**	**344**	PKPbc	**PKPbc**	**08**	**19**	**13.3 -2.1**
NOA	**NORSAR Array B**	**154.39**	**344**	PKPbc	**PKPbc**	**08**	**19**	**13.3 -2.1**
	comp=Z,2.2nm,0.8s,baz=36,slow=2.1,SNR=6.3							
TOA0	**Torodi Ar. Sit**	**155.81**	**191**	*e*PKPdf	**PKPdf**	**08**	**19**	**09.5 -0.6**
TORD	**Torodi Ar. Bea**	**155.81**	**191**	PKP	**PKPdf**	**08**	**19**	**08.6 -1.5**
TORD				PKPab	**PKPab**	**08**	**19**	**37.8 -0.1**
TORD	**Torodi Ar. Bea**	**155.81**	**191**	PKP	**PKPdf**	**08**	**19**	**08.6 -1.5**
	comp=Z,0.5nm,1.0s,baz=149,slow=1.5,SNR=3.4							
TORD				PKPab	**PKPab**	**08**	**19**	**37.8 -0.1**
	comp=Z,3.3nm,0.4s,baz=158,slow=4.3,SNR=22							
CLL	**Collm**	**161.79**	**326**	*e*PKPab	**PKPab**	**08**	**20**	**06.0 +3.0**

IDC ***19*** *08:08:40.9±0.6, 10.10S×161.03E, h0km, mb4.3/21, mb1 4.5/23, mb1mx4.4/37, mbtmp4.4/23, ML4.1/2, MS4.2/19, Ms1 4.2/19, ms1mx4.1/26, Error ellipse: s-maj=22.4km s-min=13.6km az=102.0*

MOS ***19*** *08:08:45.0±1.2, 10.05S×160.98E, h33km, mb5.1/17, Error ellipse: s-maj=9.7km s-min=8.8km az=81.5*

BJI ***19*** *08:08:46.7,9.39S×161.52E, h26km, mB5.1/27, mb4.7/35, Ms4.9/23, Ms7 4.5/24*

NEIC ***19*** *08:08:47.0±0.2, 10.10S×161.02E, h35km, mb5.0/30, Error ellipse: s-maj=7.9km s-min=5.6km az=121.0*

GCMT ***19*** *08:08:47.0±0.3, 10.25S×160.81E, h34km, MW5.0/62, Moment Tensor Solution. s50,c56; s62,c78; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.87±.20; Mθθ-0.34±.14; Mφφ-3.53±.14; Mrθ-0.10±.17; Mθφ1.48±.12; Mφr-1.90±.15; Best double couple: M○4.42500×10^16 NP1:φs169.00000°, δ58.00000°, λ102.00000°. NP2: φs328.00000°, δ34.00000°, λ72.00000°. Principal axes: T 4.3740, Plg74.0000°, Azm112.0000°; N 0.0990, Plg10.0000°, Azm343.0000°; P -4.4760, Plg12.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***19*** *08:08:52.8±0.2, 10.17S±0.04×160.87E±0.05, h100km, mb4.6/64 Error ellipse: s-maj=7.7km s-min=5.1km az=33.9*

ISC 19 08:08:49.9±0.3, 10°20S±0°05×161°20E±0°06, h67km, n171, σ1 81/181, mb 4.7/64, 4C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.45**	**302**	Pn		Pn	08 09 07.0	-7.1
HNR				Sn		**Sn**	**08 09 26.6**	**-5.8**
HNR	**Honiara**	**1.45**	**302**	LR		LR	08 09 25.1	
	comp=Z,816nm,21.7s,baz=202,slow=35							
HNR	**Honiara**	**1.45**	**302**	*i* P		**Pn**	**08 09 15.0**	**+0.9**
DZM	**Mont Dzumac**	**12.83**	**158**	*e*P		**Pn**	**08 11 51.7**	**+2.2**
	139nm,1.6s							
DZM				*e*LR		LR	08 14 41.6	
	2μm,24.8s							
DZM	**Mont Dzumac**	**12.83**	**158**	Pn		**Pn**	**08 11 48.6**	**-0.8**
DZM				Sn		**Sn**	**08 14 09.6**	**-1.0**
DZM	**Mont Dzumac**	**12.83**	**158**	Pn		**Pn**	**08 11 48.6**	**-0.8**
	0.4nm,0.3s,baz=259,slow=10,SNR=20							
DZM				Sn		**Sn**	**08 14 09.6**	**-1.0**
	baz=143,slow=20,SNR=1.6							
DZM				LR		LR	08 16 06.6	
	comp=Z,1μm,18.9s,baz=10,slow=34							
PMG	**Port Moresby**	**13.86**	**272**	*e*Pn		**Pn**	**08 12 01.1**	**-2.1**
PMG	**Port Moresby**	**13.86**	**272**	LR		LR	08 16 57.5	
	comp=Z,2μm,19.9s,baz=102,slow=36							
CTA	**Charters Tower**	**17.44**	**234**	P		**Pn**	**08 12 46.4**	**-2.4**
CTA	**Charters Tower**	**17.44**	**234**	P		**Pn**	**08 12 46.4**	**-2.4**
	0.8nm,0.3s,baz=56,slow=13,SNR=19							
CTA				LR		LR	08 19 19.0	
	comp=Z,2μm,18.6s,baz=60,slow=37							
CTAO	**Charters Tower**	**17.44**	**234**	*e*P		**Pn**	**08 12 47.1**	**-1.7**
CTAO				pmax		pmax		
	comp=Z,361nm,1.9s							
CTAO	**Charters Tower**	**17.44**	**234**	*e*P		**Pn**	**08 12 47.1**	**-1.7**
	comp=Z,361nm,1.9s							
EIDS	**Eidsvold**	**17.88**	**211**	*e*P		**Pn**	**08 12 54.6**	**+0.5**
	comp=Z,58nm,1.0s							
EIDS	**Eidsvold**	**17.88**	**211**	P		**Pn**	**08 12 55.2**	**+1.1**
	baz=16,SNR=5.7							
COEN	**Coen**	**18.01**	**256**	*e*P		**P**	**08 12 55.0**	**-0.5**
	comp=Z,592nm,1.5s							
RMQ	**Roma**	**20.01**	**214**	P		**P**	**08 13 18.3**	**+1.0**
	baz=18,SNR=45							
JAY	**Jayapura**	**21.74**	**289**	P		P	08 13 46.6	+11
	baz=21,SNR=3.7							
ARMA	**Armidale**	**22.00**	**203**	*e*P		**P**	**08 13 38.3**	**-0.4**
	comp=Z,28nm,1.0s							
ARMA	**Armidale**	**22.00**	**203**	P		**P**	**08 13 41.9**	**+3.3**
	baz=20,SNR=6.4							
QLP	**Quilpie**	**22.85**	**222**	P		**P**	**08 13 47.9**	**+0.1**
	baz=21,SNR=7.4							
QIS	**Mount Isa**	**23.20**	**241**	P		**P**	**08 13 50.0**	**-1.2**
	baz=21,SNR=13							
CMSA	**Cobar Meteorol**	**25.64**	**212**	P		**P**	**08 14 14.0**	**+0.7**
	baz=24,SNR=6.0							
AFI	**Afiamalu**	**26.68**	**101**	LR		LR	08 22 47.6	
	comp=Z,982nm,21.2s,baz=266,slow=32							
OUZ	**Omahuta**	**27.35**	**158**	*e*P		**P**	**08 14 30.7**	**+2.1**
	comp=Z,20nm,1.2s							
WRAB	**Tennant Creek**	**27.63**	**246**	*i*P		**P**	**08 14 30.7**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,94nm,2.5s							
WRAB	**Tennant Creek**	**27.63**	**246**	*e*P		**P**	**08 14 31.6**	**+0.2**
	comp=Z,118nm,1.8s							
WRA	**Warramunga Arr**	**27.64**	**246**	P		**P**	**08 14 29.4**	**-2.2**
WRA				PcP		**PcP**	**08 17 47.4**	**-0.1**
WRA	**Warramunga Arr**	**27.64**	**246**	P		**P**	**08 14 29.4**	**-2.2**
	comp=Z,3.0nm,0.6s,baz=76,slow=9.2,SNR=5.6							
WRA				PcP		**PcP**	**08 17 47.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=71,slow=3.3,SNR=2.6							
WRA				LR		LR	08 24 45.0	
	comp=Z,458nm,21.3s,baz=65,slow=35							
STKA	**Stephens Creek**	**28.18**	**217**	*e*P		**P**	**08 14 37.8**	**+1.6**
	comp=Z,2.6nm,0.9s							
STKA	**Stephens Creek**	**28.18**	**217**	P		**P**	**08 14 36.1**	**0.0**
	comp=Z,3.7nm,1.0s,baz=10.0,slow=10,SNR=10							
STKA	**Stephens Creek**	**28.18**	**217**	P		**P**	**08 14 35.5**	**-0.7**
	baz=26,SNR=4.7							
AS31	**Alice Springs**	**29.27**	**239**	*e*P		**P**	**08 14 45.6**	**-0.3**
ASAR	**Alice Springs**	**29.27**	**239**	P		**P**	**08 14 43.0**	**-3.0**
ASAR				PcP		**PcP**	**08 17 53.9**	**+2.3**
ASAR	**Alice Springs**	**29.27**	**239**	P		**P**	**08 14 43.0**	**-3.0**
	comp=Z,2.4nm,0.7s,baz=68,slow=9.0,SNR=17							
ASAR				PcP		**PcP**	**08 17 53.9**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=81,slow=2.9,SNR=1.1							
ASAR				LR		LR	08 26 18.1	
	comp=Z,2μm,18.4s,baz=72,slow=36							
TOO	**Toolangi**	**30.70**	**205**	P		**P**	**08 14 59.7**	**+1.2**
	baz=29,SNR=4.6							
HTT	**Hallett**	**30.88**	**218**	P		**P**	**08 14 59.9**	**-0.2**
	baz=29,SNR=6.2							
HTT				S		S	08 19 39.3	-20
	baz=29,SNR=4.7							
URZ	**Urewera**	**31.38**	**156**	LR		LR	08 25 13.9	
	comp=Z,247nm,21.6s,baz=338,slow=32							
BKZ	**Black Stump Fm**	**31.91**	**157**	*e*P		**P**	**08 15 10.6**	**+1.5**
	comp=Z,15nm,1.0s							
KNRA	**Kununurra**	**32.05**	**257**	P		P	08 15 17.5	+7.0
	baz=30,SNR=4.6							
BBOO	**Buckleboo**	**32.29**	**222**	*e*P		**P**	**08 15 11.3**	**-1.2**
	comp=Z,336nm,0.8s							
BBOO	**Buckleboo**	**32.29**	**222**	P		**P**	**08 15 11.3**	**-1.2**
	baz=30,SNR=13							
WRKA	**Warakurna**	**34.53**	**240**	P		**P**	**08 15 32.7**	**+0.6**
	baz=32,SNR=5.0							
FITZ	**Fitzroy Crossi**	**35.31**	**253**	*e*P		**P**	**08 15 36.8**	**-2.0**
	comp=Z,16nm,1.0s							
FITZ	**Fitzroy Crossi**	**35.31**	**253**	P		**P**	**08 15 39.3**	**+0.5**
	baz=33,SNR=4.0							
JCJ	**Chichijima**	**41.41**	**334**	LR		LR	08 32 35.9	
	comp=Z,365nm,19.2s,baz=110,slow=35							
MEEK	**Meekatharra**	**43.35**	**242**	P		**P**	**08 16 46.4**	**+0.7**
	baz=41,SNR=4.8							
BLDU	**Ballidu**	**46.00**	**237**	P		**P**	**08 17 09.0**	**+2.2**
	baz=44,SNR=6.4							
MORW	**Morawa**	**46.15**	**239**	P		P	08 17 11.8	+3.8
	baz=44,SNR=6.0							
PPT	**Papeete**	**48.24**	**104**	LR		LR	08 33 06.6	
	comp=Z,349nm,21.2s,baz=256,slow=30							
PPT2	**Papeete2**	**48.24**	**104**	*e*S		**S**	**08 24 14.4**	**-5.1**
	comp=Z,144nm,29.2s							
PPT2				*e*LR		LR	08 30 42.6	
	comp=Z,665nm,22.8s							
TBI	**Tubuai**	**48.79**	**112**	*e*S		**S**	**08 24 22.7**	**-4.3**
	comp=Z,114nm,31.5s							
TBI				*e*LR		LR	08 30 58.4	
	comp=Z,494nm,26.5s,baz=286							
MJAR	**Matsushiro Arr**	**51.28**	**336**	P		**P**	**08 17 44.4**	**-2.8**
MJAR	**Matsushiro Arr**	**51.28**	**336**	P		**P**	**08 17 44.4**	**-2.8**
	comp=Z,1.3nm,0.7s,baz=169,slow=9.0,SNR=4.8							
MJAR				LR		LR	08 37 20.2	
	comp=Z,84nm,21.6s,baz=145,slow=34							
MAJO	**Matsushiro**	**51.29**	**336**	*i*P		**P**	**08 17 45.0**	**-2.2**
MAJO				pmax		pmax		
	comp=Z,125nm,2.5s							
ERM	**Erimo**	**54.54**	**344**	*e*P		**P**	**08 18 10.1**	**-0.9**
ERM				pmax		pmax		
	comp=Z,60nm,1.7s							
TJN	**Taejon**	**56.22**	**327**	*e*P		**P**	**08 18 22.2**	**-1.0**
ASAJ	**Asahikawa**	**56.64**	**344**	*e*P		**P**	**08 18 26.6**	**+0.6**
	comp=Z,5.6nm,0.9s							
ASAJ	**Asahikawa**	**56.64**	**344**	P		**P**	**08 18 25.9**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=153,slow=11,SNR=2.3							
ASAJ				LR		LR	08 40 55.1	
	comp=Z,367nm,20.8s,baz=158,slow=34							
KSRS	**Korea Array**	**56.74**	**329**	P		**P**	**08 18 25.4**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=150,slow=7.3,SNR=7.7							
KSRS				LR		LR	08 40 05.6	
	comp=Z,138nm,21.6s,baz=144,slow=33							
KSAR	**Wonju Array Be**	**56.76**	**328**	P		**P**	**08 18 25.4**	**-1.6**
NJ2	**Nanjing**	**58.34**	**318**	*e*P		**P**	**08 18 40.4**	**+2.2**
NJ2				pP		pP	08 18 48.8	-6.9
NJ2				sP		sP	08 18 52.8	-10
NJ2				S		S	08 26 43.0	+7.1
NJ2				sS		sS	08 26 56.0	-10
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,180nm,6.8s							
NJ2				LR		LR		
	comp=Z,260nm,22.8s							
NJ2				LR		LR		
	comp=Z,230nm,27.5s							
NJ2				LR		LR		
	comp=Z,240nm,26.6s							
QIZ	**Qiongzhong**	**58.36**	**300**	P		**P**	**08 18 38.4**	**-0.3**
QIZ				pP		pP	08 18 47.3	-8.9
QIZ				S		**S**	**08 26 39.8**	**+3.1**
QIZ				pmax		pmax		
	comp=Z,7.0nm,1.0s							
QIZ				pmax		pmax		
	comp=Z,290nm,4.3s							
QIZ				LR		LR		
	comp=Z,370nm,31.4s							
YSS	**Yuzh-Sakhalins**	**59.24**	**345**	*e*P		**P**	**08 18 44.0**	**-0.1**
YSS				*e*S		**S**	**08 26 43.0**	**-4.0**
YSS				MLR		MLR		
	comp=Z,400nm,18.0s							
USRK	**Ussuriysk Arra**	**60.28**	**336**	P		**P**	**08 18 50.2**	**-1.1**
	comp=Z,5.7nm,0.8s,baz=155,slow=7.2,SNR=10							
USRK				LR		LR	08 42 30.8	
	comp=Z,147nm,21.6s,baz=148,slow=34							
MDJ	**Mudanjiang**	**61.60**	**335**	P		**P**	**08 18 59.8**	**-0.6**
MDJ				pP		pP	08 19 09.0	-9.0
MDJ				sP		sP	08 19 12.9	-13
MDJ				PP		**PP**	**08 21 14.9**	**-1.9**
MDJ				S		**S**	**08 27 15.9**	**-1.5**
MDJ				sS		sS	08 27 33.8	-14
MDJ				ScS		**ScS**	**08 28 48.9**	**+3.0**
MDJ				SS		**SS**	**08 31 18.9**	**-1.2**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.3s							
MDJ				pmax		pmax		
	comp=Z,93nm,6.2s							
MDJ				LR		LR		
	comp=Z,120nm,17.9s							
MDJ				LR		LR		
	comp=Z,130nm,19.8s							
MDJ				LR		LR		
	comp=Z,210nm,19.2s							
MDJ	**Mudanjiang**	**61.60**	**335**	*e*P		**P**	**08 18 59.2**	**-1.1**
	comp=Z,27nm,1.3s							
RKT	**Rikitea**	**62.07**	**111**	*e*LR		LR	08 37 08.0	
	comp=Z,581nm,26.0s,baz=280							
CN2	**Changchun**	**62.80**	**332**	*e*P		**P**	**08 19 07.4**	**-1.0**
CN2				*es*P		sP	08 19 22.4	-11
CN2				*e*S		**S**	**08 27 31.3**	**-1.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=Z,2μm,18.0s							
CN2				LR		LR		
	comp=Z,1μm,18.0s							
CN2				LR		LR		
	comp=Z,2μm,18.0s							
PETK	**Petropavlovsk-**	**63.13**	**358**	P		**P**	**08 19 10.0**	**-0.4**
PETK	**Petropavlovsk-**	**63.13**	**358**	P		**P**	**08 19 10.0**	**-0.4**
PETK	**Petropavlovsk-**	**63.13**	**358**	P		**P**	**08 19 10.0**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=134,slow=8.2,SNR=2.3							
PETK				LR		LR	08 42 28.3	
	comp=Z,126nm,22.0s,baz=169,slow=32							
FX1	**Attu Island--F**	**63.67**	**8**	*e*P		**P**	**08 19 16.3**	**+2.4**
GYA	**Guiyang**	**64.28**	**306**	P		**P**	**08 19 21.0**	**+2.3**
GYA				pP		pP	08 19 30.3	-6.1
GYA				PP		**PP**	**08 21 44.8**	**+3.9**
GYA				ScP			08 23 53.3	
GYA				S		**S**	**08 27 54.0**	**+2.2**
GYA				sS		sS	08 28 11.3	-11
GYA				SS		**SS**	**08 32 04.5**	**+1.7**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.5s							
GYA				LR		LR		
	comp=Z,510nm,18.0s							
GYA				LR		LR		
	comp=Z,460nm,19.2s							
GYA				LR		LR		
	comp=Z,490nm,18.8s							
KLR	**Kul'dur**	**64.59**	**339**	*e*P		P	08 19 14.8	-5.3
BJI	**Beijing**	**65.08**	**323**	P		**P**	**08 19 25.1**	**+1.7**
BJI				S		**S**	**08 28 05.6**	**+4.8**
BJI				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BJI				pmax		pmax		
	comp=Z,150nm,5.7s							
BJI				LR		LR		
	comp=Z,150nm,19.2s							
BJI				LR		LR		
	comp=Z,220nm,17.4s							
BJI				LR		LR		
	comp=Z,170nm,27.6s							
XAN	**Xi'an**	**66.29**	**314**	P		**P**	**08 19 31.9**	**+0.4**
XAN				pmax		pmax		
	comp=Z,1.0nm,0.5s							
XAN				pmax		pmax		
	comp=Z,11nm,4.1s							
KMI	**Kunming**	**66.89**	**303**	P		P	08 19 40.1	+4.4
KMI				S		S	08 28 32.6	+8.6
KMI				pmax		pmax		
	comp=Z,12nm,0.6s							
KMI				LR		LR		
	comp=Z,190nm,19.3s							
VNDA	**Vanda**	**67.30**	**180**	*e*P		**P**	**08 19 38.5**	**+1.4**
	comp=Z,16nm,1.3s							
VNDA	**Vanda**	**67.30**	**180**	P		**P**	**08 19 37.3**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=340,slow=7.9,SNR=6.3							
VNDA				LR		LR	08 44 07.6	
	comp=Z,113nm,21.6s,baz=339,slow=32							
CMAR	**Chiang Mai Arr**	**67.69**	**295**	P		**P**	**08 19 39.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**67.69**	**295**	P		**P**	**08 19 39.9**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=120,slow=5.3,SNR=4.7							
CMAR				LR		LR	08 49 54.2	
	comp=Z,69nm,19.1s,baz=126,slow=37							
HHC	**Hu-ho-hao-te**	**68.35**	**322**	*e*P		**P**	**08 19 45.8**	**+1.4**
HHC				pP		**pP**	**08 19 57.4**	**-4.9**
HHC				sP		sP	08 20 01.6	-8.1
HHC				PP		**PP**	**08 22 20.9**	**+4.8**
HHC				S		**S**	**08 28 44.4**	**+3.8**
HHC				sS		sS	08 29 00.4	-11
HHC				SS		**SS**	**08 33 08.0**	**+2.5**
HHC				pmax		pmax		
	comp=Z,27nm,0.6s							
HHC				pmax		pmax		
	comp=Z,97nm,4.7s							
HHC				LR		LR		
	comp=Z,190nm,17.3s							
HHC				LR		LR		
	comp=Z,620nm,17.3s							
HHC				LR		LR		
	comp=Z,250nm,18.5s							
CD2	**Chengdu**	**68.57**	**309**	*e*P		**P**	**08 19 46.9**	**+1.0**
CD2				sP		sP	08 20 02.1	-9.2
CD2				PP		**PP**	**08 22 20.5**	**+2.3**
CD2				S		**S**	**08 28 44.8**	**+1.3**
CD2				SS		**SS**	**08 33 10.3**	**+1.2**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				pmax		pmax		
	comp=Z,110nm,6.0s							
CD2				LR		LR		
	comp=Z,180nm,19.0s							
CD2				LR		LR		
	comp=Z,230nm,21.4s							
LZH	**Lanzhou**	**70.92**	**314**	*e*P		P	08 20 03.8	+3.4
LZH				pP		pP	08 20 14.3	-4.1
LZH				sP		sP	08 20 19.3	-6.5
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
SEY	**Seymchan**	**73.23**	**356**	*i*P		**P**	**08 20 13.8**	**+0.4**
SEY	**Seymchan**	**73.23**	**356**	P		**P**	**08 20 12.8**	**-0.6**
SEY	**Seymchan**	**73.23**	**356**	P		**P**	**08 20 12.8**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=20,slow=22,SNR=6.8							
ULN	**Ulaanbaatar**	**75.04**	**326**	*e*P		**P**	**08 20 24.3**	**-0.2**
	comp=Z,8.7nm,1.0s							
GTA	**Gaotai**	**75.29**	**315**	*e*P		**P**	**08 20 26.4**	**+0.3**
GTA				pP		**PcP**	**08 20 36.8**	**-2.3**
GTA				sP		sP	08 20 40.8	-11
GTA				S		**S**	**08 30 02.1**	**+1.6**
GTA				sS		SKSac	08 30 18.8	-11
GTA				SKS		**SKSac**	**08 30 27.8**	**-2.2**
GTA				SS		**SS**	**08 34 53.8**	**+1.9**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.3s							
GTA				pmax		pmax		
	comp=Z,50nm,4.5s							
GTA				LR		LR		
	comp=Z,110nm,19.5s							
GTA				LR		LR		
	comp=Z,140nm,20.2s							
GTA				LR		LR		
	comp=Z,160nm,21.4s							
SONM	**Songino Array**	**75.39**	**325**	P		**P**	**08 20 25.4**	**-1.1**
SONM	**Songino Array**	**75.39**	**325**	P		**P**	**08 20 25.4**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=140,

TIXI	Tiksi	84.46	350	*e*P		P		08 21 14.6	-0.1
	comp=Z,6.7nm,0.9s								
DOT	Dot Lake	84.49	21	*e*P		P		08 21 16.6	+1.5
	comp=Z,8.7nm,1.0s								
WMQ	Urumqi	85.36	316	P		P		08 21 20.8	+0.8
WMQ				pP		pP		08 21 31.3	-7.2
WMQ				sP		sP		08 21 35.3	-10
WMQ				PP		PP		08 24 39.5	+0.5
WMQ				pmax		pmax			
	comp=Z,3.0nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,23nm,7.6s								
WMQ				LR		LR			
	comp=Z,83nm,24.8s								
WMQ				LR		LR			
	comp=Z,91nm,26.2s								
HYB	Hyderabad	86.10	288	*i* P		P		08 21 29.0	+4.8
EGAK	Eagle	86.17	21	*e*P		P		08 21 24.8	+1.4
	comp=Z,8.2nm,0.9s								
109C	Camp Elliot, M	88.60	56	P		P		08 21 37.6	+1.8
	baz=89								
NVAR	Mina Array Bea	88.93	51	P		P		08 21 38.2	+0.6
NVAR	Mina Array Bea	88.93	51	P		P		08 21 38.2	+0.6
	comp=Z,1.9nm,0.8s,baz=243,slow=6.8,SNR=8.0								
GSC	Goldstone	89.38	54	P		P		08 21 41.3	+1.7
	baz=90								
I07A	Izee	89.44	45	*e*P		P		08 21 42.4	+2.6
	comp=Z,100nm,2.5s								
FURC	Furnace Creek,	89.60	53	P		P		08 21 42.6	+2.2
	baz=90								
WVOR	Wild Horse Val	89.65	47	*e*P		P		08 21 41.8	+1.1
WVOR				pmax		pmax			
	comp=Z,30nm,1.8s								
WVOR	Wild Horse Val	89.65	47	*e*P		P		08 21 41.8	+1.1
	comp=Z,30nm,1.8s								
TPH	Tonopah	89.67	51	*e*P		P		08 21 42.7	+1.6
TPH				pmax		pmax			
	comp=Z,9.0nm,1.3s								
TPH	Tonopah	89.67	51	*e*P		P		08 21 42.7	+1.6
	comp=Z,9.2nm,1.3s								
MK31	Makanchi Array	89.87	318	*e*P		P		08 21 43.0	+1.5
MK31	Makanchi Array	89.87	318	*e*P		P		08 21 43.0	+1.5
MKAR	Makanchi Array	89.87	318	P		P		08 21 40.6	-0.9
MKAR	Makanchi Array	89.87	318	P		P		08 21 40.6	-0.9
MKAR	Makanchi Array	89.87	318	P		P		08 21 40.6	-0.9
	comp=Z,1.0nm,0.6s,baz=88,slow=6.8,SNR=10								
SHOC	Shoshone	89.93	54	P		P		08 21 43.9	+1.8
	baz=90								
GMRC	Granite Mounta	90.18	55	P		P		08 21 45.3	+1.9
	baz=90								
ZALV	Zalesovo Beam	90.28	325	P		P		08 21 43.0	-0.2
ZALV	Zalesovo Beam	90.28	325	P		P		08 21 43.0	-0.2
ZALV	Zalesovo Beam	90.28	325	P		P		08 21 43.0	-0.2
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=1.8								
ZALV				LR		LR		09 01 43.2	
	comp=Z,47nm,20.7s,baz=72,slow=35								
INK	Inuvik	90.59	20	*e*P		P		08 21 45.5	+1.2
	comp=Z,4.7nm,1.3s								
INK	Inuvik	90.59	20	P		P		08 21 43.9	-0.4
	comp=Z,1.1nm,1.0s,baz=78,slow=1.6,SNR=4.9								
E09A	Wood Farm, Sta	90.97	43	*e*P		P		08 21 48.5	+1.9
	comp=Z,10nm,1.1s								
SYO	Syowa Base	91.24	198⇑	*e*pP		pP		08 22 01.5	-4.6
NVS	Novosibirsk	91.42	326	*e*P		P		08 21 51.6	+3.1
F10A	Beach Ranch, E	91.46	44	*e*P		P		08 21 51.1	+2.1
	comp=Z,121nm,2.5s								
NEW	Newport	92.05	41	*e*P		P		08 21 53.1	+1.5
	comp=Z,8.0nm,1.1s								
NEW	Newport	92.05	41	P		P		08 21 53.2	+1.6
	baz=92								
KSH	Kashi	92.76	309	*e*P		P		08 21 57.5	+2.3
KSH				*e*PP		PP		08 25 39.1	+0.9
KSH				*e*SKS		SKSac		08 32 25.0	+1.5
KSH				*e*S		S		08 32 55.3	0.0
KSH				*es*S		sS		08 33 12.4	-15
KSH				pmax		pmax			
	comp=Z,1.0nm,0.2s								
KSH				pmax		pmax			
	comp=Z,120nm,5.0s								
KSH				LR		LR			
	comp=Z,120nm,14.8s								
KSH				LR		LR			
	comp=Z,180nm,14.9s								
KSH				LR		LR			
	comp=Z,180nm,5.0s								
KURK	Kurchatov	93.15	321⇑	*e*P		P		08 21 58.3	+1.7
KURK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
121A	Cookes Peak, D	96.26	58	P		P		08 22 12.6	+1.1
	baz=96								
PDAR	Pinedale Array	96.29	48	P		P		08 22 13.2	+1.8
PDAR	Pinedale Array	96.29	48	P		P		08 22 13.2	+1.8
	comp=Z,0.5nm,0.7s,baz=220,slow=3.1,SNR=3.9								
YKA	Yellowknife Ar	96.30	28	P		P		08 22 10.4	-0.2
YKA	Yellowknife Ar	96.30	28	P		P		08 22 10.4	-0.2
	comp=Z,0.7nm,0.6s,baz=260,slow=4.7,SNR=21								
EGMT	Eagleton	96.86	43	P		P		08 22 14.4	+0.7
	baz=97								
E19A	Rath Farm, Rou	97.32	44	P		Pdif		08 22 17.5	+1.6
	baz=97								
D19A	Cripps Ranch,	97.34	43	P		Pdif		08 22 17.9	+1.9
	baz=98								
E20A	Meyer Farm, Mu	97.77	44	P		Pdif		08 22 20.0	+2.0
	baz=98								
C20A	Veseth Ranch,	97.99	43	P		Pdif		08 22 20.7	+1.9
	baz=98								
A20A	Cobblestone Ra	98.17	42	P		Pdif		08 22 20.6	+0.9
	baz=98								
A21A	Bergtoll Ranch	98.84	42	P		Pdif		08 22 24.2	+1.6
	baz=99								
ARCES	ARCESS Array B	114.36	344	PKP		PKPdf		08 27 22.5	+1.0
ARCES	ARCESS Array B	114.36	344	PKP		PKPdf		08 27 22.5	+1.0
	comp=Z,6.3nm,1.0s,baz=35,slow=4.4,SNR=5.0								
KOLS	Kolonicke sedl	128.44	326	*e*PKIKP		PKPdf		08 27 45.7	-3.4
KOLS	Kolonicke sedl	128.44	326	*e*		PKPdf		08 27 45.7	-3.4
CRVS	Cervenica-Dubn	128.90	327	*e*PKIKP		PKPdf		08 27 48.6	-1.4
CRVS	Cervenica-Dubn	128.90	327	*e*PKP		PKPdf		08 27 48.6	-1.4
ESDC	Sonseca Array	147.81	338	PKPbc		PKPbc		08 28 27.6	0.0
ESDC	Sonseca Array	147.81	338	PKPbc		PKPbc		08 28 27.6	0.0
	comp=Z,0.2nm,0.3s,baz=52,slow=3.8,SNR=1.2								
TORD	Torodi Ar. Bea	159.72	280	PKPab		PKPab		08 29 20.9	-0.3
TORD	Torodi Ar. Bea	159.72	280	PKPab		PKPab		08 29 20.9	-0.3
	comp=Z,0.3nm,0.5s,baz=86,slow=3.6,SNR=2.0								

BJI ***19*** *08:29:45.7, 72.20N×0.60E, h5km, mB5.1/8, mb4.7/11, Ms4.9/4, Ms7 4.6/4*

CSEM ***19*** *08:29:48.2±0.2, 72.20N×0.73E, h2km, mb4.4/7, Error ellipse: s-maj=7.3km s-min=4.6km az=50.0*

IDC ***19*** *08:29:49.1±0.7, 72.01N×0.27E, h0km, mb3.8/11, mb1 4.1/17, mb1mx3.8/52, mbtmp3.9/17, ML3.4/5, MS3.9/25, Ms1 3.9/25, ms1mx3.7/43, Error ellipse: s-maj=18.0km s-min=13.0km az=54.0*

NEIC ***19*** *08:29:50.4±0.4, 72.14N×0.54E, h10km, mb4.4/9, Error ellipse: s-maj=10.7km s-min=7.3km az=66.0*

NAO ***19*** *08:29:54.0±11.0, 71.95N×1.30E, h22km±123km, ML3.8*

BER ***19*** *08:29:54.6±3.1, 72.22N×1.33E, h10km, ML2.4, ML3.8(NAO)*

ISC 19 08:29:51.6±0.6, 72.21N±0.05×1.09E±0.06, h19km±1km, h19km:pP-P, n172, σ1§44/160, mb4.2/30, MS3.9/21, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	3.28	253	LR	LR	08 31 32.1	
	comp=Z,632nm,18.1s,baz=78,slow=35						
STEI	Steigen	6.46	125	*e*P		P	Pn 08 31 26.3 +0.9
STEI	Steigen	6.46	125	*e*P		P	Pn 08 31 26.3 +0.9
	SNR=47						
DAG	Danmarks Havn	6.96	320	*i* P		Pn	08 31 26.7 -5.6
	9.6nm,0.8s						
DAG	Danmarks Havn	6.96	320	*i* P		Pn	08 31 27.0 -5.3
DAG				*i* S		Sn	08 32 35.2 -16
KONS	Konsvik	7.12	138	*e*P		P	Pn 08 31 34.0 -0.5
KONS				*e*S		Sn	08 32 49.2 -5.6
KONS				IAML			08 32 49.4
	comp=Z,4.5nm,0.5s						
KONS	Konsvik	7.12	138	*e*P		P	Pn 08 31 34.0 -0.5
	SNR=47						
SPA0	Spitsbergen Ar	7.13	26	Pn		P	Pn 08 31 37.6 +2.9
	baz=207,slow=16						
SPA0	Spitsbergen Ar	7.13	26	Pn		P	Pn 08 31 37.6 +2.9
	baz=207,slow=16						
SPITS	Spitsbergen Ar	7.13	26	Pn		P	Pn 08 31 37.6 +2.9
	baz=205,slow=15,SNR=58						
SPITS				LR		LR	08 33 26.6
	comp=Z,140nm,19.3s,baz=210,slow=29						
STOK	Stokkvaagen	7.25	139	*e*P		P	Pn 08 31 36.4 +0.2
STOK				IAML			08 32 58.7
	comp=N,4.2nm,0.3s						
STOK	Stokkvaagen	7.25	139	*e*P		P	Pn 08 31 36.4 +0.2
	SNR=47						
KBS	Kingsbay	7.26	17	*e*P		P	Pn 08 31 36.9 +0.5
KBS	Kingsbay	7.26	17	*e*Pn		Pn	08 31 36.4 0.0
KBS	Kingsbay	7.26	17	*e*Pn		Pn	08 31 36.4 0.0
KBS	Kingsbay	7.26	17	*e*P		Pn	08 31 36.9 +0.5
	SNR=47						
FLOS	Flostrand	7.31	138	*e*P		P	Pn 08 31 36.9 -0.3
FLOS	Flostrand	7.31	138	*e*P		P	Pn 08 31 36.9 -0.3
	SNR=47						
SCO	Scoresbysund	7.56	268	*i* P		Pn	08 31 35.3 -5.3
	comp=N,3.5nm,0.8s						
MOR8	Moi Rana	7.68	135	*e*P		Pn	08 31 42.8 +0.5
MOR8				*e*S		Sn	08 33 02.8 -5.9
MOR8				IAML			08 33 11.2
	comp=Z,10nm,0.7s						
MOR8	Moi Rana	7.68	135	*e*P		Pn	08 31 42.8 +0.5
	SNR=47						
ARA0	ARCESS Array S	8.42	97	Pn		Pn	08 31 52.2 -0.1
	baz=291,slow=12						
ARA0				Sn		Sn	08 33 23.5 -3.1
	baz=292,slow=22						
ARA0	ARCESS Array S	8.42	97	Pn		Pn	08 31 52.2 -0.1
	baz=291,slow=12						
ARA0				Sn		Sn	08 33 23.5 -3.1
	baz=292,slow=22						
ARA0	ARCESS Array S	8.42	97	Pn		Pn	08 31 52.2 -0.1
	baz=291,slow=12,SNR=50						
ARCES	ARCESS Array B	8.42	97	Pn		Pn	08 31 52.7 +0.4
ARCES	ARCESS Array B	8.42	97	Pn		Pn	08 31 52.7 +0.4
	comp=Z,0.7nm,0.3s,baz=297,slow=12,SNR=21						
ARCES				LR		LR	08 35 00.7
	comp=Z,430nm,21.5s,baz=278,slow=36						
ARCES	ARCESS Array B	8.42	97	Pn		Pn	08 31 52.7 +0.4
ARE0	ARCESS Array S	8.42	97	*e*P		Pn	08 31 52.1 -0.2
ARE0	ARCESS Array S	8.42	97	*e*P		Pn	08 31 52.1 -0.2
	SNR=47						
HEF	Hetta	8.48	106	*e*P		Pn	08 31 53.6 +0.4
HEF	Hetta	8.48	106	*e*P		Pn	08 31 53.6 +0.4
	SNR=47						
NSS	Namsos	8.68	147	*e*P		Pn	08 31 54.7 -1.1
NSS				*e*S		Sn	08 33 26.1 -6.8
NSS				IAML			08 33 30.2
	comp=Z,3.8nm,0.4s						
NSS	Namsos	8.68	147	*e*P		Pn	08 31 54.7 -1.1
	SNR=47						
KEV	Kevo	8.77	94	*e*p		Pn	08 31 55.8 -1.3
	comp=Z,0.9nm,0.3s						
KEV	Kevo	8.77	94	*e*P		Pn	08 31 55.8 -1.3
	comp=Z,0.9nm,0.3s						
SUMG	Summit	11.82	291	*i* P		Pn	08 32 35.3 -3.9
	comp=Z,9.8nm,0.9s						
SUMG	Summit	11.82	291	*e*Pn		Pn	08 32 35.8 -3.4
	comp=Z,67nm,1.6s						
SUMG	Summit	11.82	291	*i* P		Pn	08 32 35.3 -3.9
	comp=Z,9.8nm,0.9s						
SUMG	Summit	11.82	291	*e*Pn		Pn	08 32 35.8 -3.4
	comp=Z,67nm,1.6s						
NB2	NORSAR Subarra	11.88	155	Pn		Pn	08 32 38.7 -1.1
	baz=342,slow=14						
NB2	NORSAR Subarra	11.88	155	Pn		Pn	08 32 38.3 -1.5
	comp=Z,8.6nm,1.0s,baz=344,slow=14						
NB2	NORSAR Subarra	11.88	155	P		Pn	08 32 38.7 -1.1
	baz=342,slow=14						
NB2	NORSAR Subarra	11.88	155	P		Pn	08 32 38.7 -1.1
	baz=342,slow=13,SNR=47						
NOA	NORSAR Array B	11.88	155	Pn		Pn	08 32 38.0 -1.8
NOA	NORSAR Array B	11.88	155	Pn		Pn	08 32 38.0 -1.8
	comp=Z,0.2nm,0.3s,baz=327,slow=14,SNR=6.5						
NOA				LR		LR	08 37 10.9
	comp=Z,520nm,19.2s,baz=345,slow=37						
NOA	NORSAR Array B	11.88	155	Pn		Pn	08 32 38.0 -1.8
HFS	Hagfors	13.10	151	Pn		Pn	08 32 55.5 -0.8
	baz=344,slow=16						
HFS	Hagfors	13.10	151	P		Pn	08 32 55.5 -0.8
	baz=344,slow=16						
HFS	Hagfors	13.10	151	Pn		Pn	08 32 55.2 -1.2
HFS	Hagfors	13.10	151	Pn		Pn	08 32 55.2 -1.2
	comp=Z,0.3nm,0.3s,baz=354,slow=12,SNR=9.6						
HFS				LR		LR	08 37 49.3
	comp=Z,549nm,20.0s,baz=342,slow=37						
HFS	Hagfors	13.10	151	P		Pn	08 32 55.5 -0.8
	baz=344,slow=14,SNR=47						
KAF	Kangasniemi	13.93	124	*e*p		Pn	08 33 05.6 -2.0
	comp=Z,9.9nm,0.6s						
KAF	Kangasniemi	13.93	124	*e*P		Pn	08 33 05.6 -2.0
	comp=Z,9.9nm,0.6s						
FIA0	FINESS Array S	14.44	125	Pn		Pn	08 33 14.5 -0.1
	baz=333,slow=10						
FIA0	FINESS Array S	14.44	125	Pn		Pn	08 33 14.5 -0.1
	baz=333,slow=10						
FIA0	FINESS Array S	14.44	125	Pn		Pn	08 33 14.5 -0.1
	baz=333,slow=9.3,SNR=50						
FINES	FINESS Array B	14.44	125	Pn		Pn	08 33 13.7 -0.9
FINES	FINESS Array B	14.44	125	Pn		Pn	08 33 13.7 -0.9
	comp=Z,0.2nm,0.3s,baz=353,slow=14,SNR=12						
FINES				LR		LR	08 38 22.5
	comp=Z,838nm,19.2s,baz=346,slow=35						
FINES	FINESS Array B	14.44	125	Pn		Pn	08 33 13.7 -0.9
JOF	Joensuu	14.62	114	*e*p		Pn	08 33 16.0 -1.0
	comp=Z,0.6nm,0.3s						
EKA	Eskdalemuir Ar	17.04	188	Pn		Pn	08 33 46.9 -1.5
EKA	Eskdalemuir Ar	17.04	188	Pn		Pn	08 33 46.9 -1.5
	baz=8.0,slow=11,SNR=11						
EKA	Eskdalemuir Ar	17.04	188	Pn		Pn	08 33 46.9 -1.5
ESK	Eskdalemuir	17.05	188	*e*P		Pn	08 33 49.0 +0.4
	comp=Z,68nm,1.6s						
ESK	Eskdalemuir	17.05	188	*e*P		Pn	08 33 49.0 +0.4
	comp=Z,68nm,1.6s						
SFJD	Kangerlussuaq	18.22	279	LR		LR	08 40 01.3
	comp=Z,530nm,19.0s,baz=44,slow=34						
NACGM	Narod	20.48	134	*e*		P	08 34 28.0 +0.2
SUW	Suwalki	20.56	141	*e*P		P	08 34 29.1 +0.4
	comp=Z,29nm,0.8s						
SUW	Suwalki	20.56	141	*e*P		P	08 34 29.1 +0.4
	comp=Z,29nm,0.8s						
RUE	Ruedersdorf	20.56	158	*e*P		P	08 34 28.9 +0.2
	comp=Z,23nm,0.6s						
RUE	Ruedersdorf	20.56	158	*e*P		P	08 34 28.9 +0.2
	comp=Z,23nm,0.6s						
MICGM	Minsk	21.09	133	*e*		P	08 34 35.0 +0.6
CLL	Collm	21.63	159	*e*P		P	08 34 40.0 -0.2
	comp=Z,45nm,1.8s						
CLL				*e*			08 34 50.0
CLL				*e*S		S	08 38 39.0 +0.3
BRG	Berggiesshubel	22.16	158	*e*P		P	08 34 45.1 -0.9
	comp=Z,28nm,1.8s						
BAIF	Baives	22.27	175	*e*P		P	08 34 50.2 +3.1
	comp=Z,44nm,1.4s						
BAIF	Baives	22.27	175	*e*P		P	08 34 50.2 +3.1
	comp=Z,44nm,1.4s						
KSP	Ksiaz	22.48	154	*e*P		P	08 34 50.4 +1.0
PVCC	Panska Ves	22.58	157	*e*P		P	08 34 50.7 +0.3
PVCC	Panska Ves	22.58	157	P		P	08 34 50.7 +0.3
NKC	Novy Kostel	22.63	161	*e*P		P	08 34 51.2 +0.2
NKC				*e*pP		pP	08 34 57.3 +0.8
NKC	Novy Kostel	22.63	161	P		P	08 34 51.2 +0.2
OBN	Obninsk	22.68	120	LR		LR	08 43 20.6
	comp=Z,819nm,19.1s,baz=278,slow=36						
UPC	Upice	22.78	155	*e*P		P	08 34 53.1 +0.6
UPC	Upice	22.78	155	P		P	08 34 53.1 +0.6
DPC	Dobruska-Polom	22.97	154	*e*P		P	08 34 54.8 +0.2
DPC				*e*pP		pP	08 34 59.7 -0.4
DPC				AMS		AMS	08 44 30.0
DPC	Dobruska-Polom	22.97	154	P		P	08 34 54.8 +0.2
PRU	Pruhonice	23.10	157	*e*P		P	08 34 58.3 +2.4
LDF	La Druitiere	23.70	182	*e*P		P	08 35 04.0 +2.2
LDF	La Druitiere	23.70	182	*e*P		P	08 35 04.0 +2.2
MORC	Moravsky Berou	23.70	153	*e*P		P	08 35 02.8 +1.0
	comp=Z,9.7nm,1.3s						
MORC	Moravsky Berou	23.70	153	*e*P		P	08 35 02.8 +1.0
	comp=Z,9.7nm,1.3s						
OKC	Ostrava-Krasne	23.73	152	*e*P		P	08 35 03.6 +1.6
OKC				*e*pP		pP	08 35 08.8 +1.1
OKC				AMS		AMS	08 44 40.0
	comp=Z,400nm,15.5s						
OKC	Ostrava-Krasne	23.73	152	P		P	08 35 03.6 +1.6
KHC	Kasperske Hory	23.84	159	*e*P		P	08 35 04.1 +0.9
KHC	Kasperske Hory	23.84	159	P		P	08 35 04.1 +0.9
TREC	Trest	23.90	156	AMS		AMS	08 45 10.0
	comp=Z,300nm,15.8s						
VRAC	Vranov	24.03	155	P		P	08 35 05.7 +0.8
VRAC	Vranov	24.03	155	P		P	08 35 05.7 +0.8
	comp=Z,2.6nm,0.4s,baz=13,slow=22,SNR=5.2						
VRAC				LR		LR	08 44 55.6
	comp=Z,273nm,18.6s,baz=346,slow=38						
VRAC	Vranov	24.03	155	P		P	08 35 05.7 +0.8
GERES	GERESS Array B	24.14	159	P		P	08 35 07.2 +1.1
GERES	GERESS Array B	24.14	159	P		P	08 35 07.2 +1.1
	comp=Z,3.7nm,0.8s,baz=354,slow=9.4,SNR=27						
GERES				LR		LR	08 44 46.9
	comp=Z,254nm,18.4s,baz=338,slow=37						
GERES	GERESS Array B	24.14	159	P		P	08 35 07.2 +1.1
RES	Resolute Bay	24.66	321	LR		LR	08 44 32.6
	comp=Z,532nm,20.1s,baz=30,slow=36						
AKASG	Malin Array Be	24.93	135	P		P	08 35 14.1 +1.0
AKASG	Malin Array Be	24.93	135	P		P	08 35 14.1 +1.0
	comp=Z,2.0nm,0.7s,baz=340,slow=9.8,SNR=5.7						
AKASG				LR		LR	08 44 40.3
	comp=Z,580nm,20.4s,baz=330,slow=36						
AKASG	Malin Array Be	24.93	135	P		P	08 35 14.1 +1.0
KIEV	Kiev	24.94	135	*e*P		P	08 35 14.4 +1.3
	comp=Z,30nm,1.5s						
KIEV	Kiev	24.94	135	*e*P		P	08 35 14.4 +1.3
	comp=Z,30nm,1.5s						
AK01	Malin Array Si	24.94	135	*e*P		P	08 35 12.7 -0.5
AK01	Malin Array Si	24.94	135	*e*P		P	08 35 12.7 -0.5
AK02	Malin Array Si	24.97	135	*e*P		P	08 35 12.9 -0.6
AK02	Malin Array Si	24.97	135	*e*P		P	08 35 12.9 -0.6
LOR	Lormes	25.05	176	*e*P		P	08 35 19.1 +4.9
	comp=Z,14nm,1.1s						
SSF	Saint Saulge	25.25	176	*e*P		P	08 35 18.9 +2.9
	comp=Z,7.3nm,0.8s						
SSF	Saint Saulge	25.25	176	*e*P		P	08 35 18.9 +2.9
	comp=Z,7.3nm,0.8s						
CABF	La Chapelle	25.78	172	*e*P		P	08 35 24.4 +3.4
	comp=Z,24nm,1.2s						
CABF	La Chapelle	25.78	172	*e*P		P	08 35 24.4 +3.4
	comp=Z,24nm,1.3s						
DAVOX	Davos/Dischmat	25.83	166	LR		LR	08 46 43.5
	comp=Z,302nm,18.2s,baz=352,slow=40						
FRB	Frobisher Bay	25.86	287	LR		LR	08 44 42.4
	comp=Z,201nm,20.8s,baz=7.5,slow=35						
TCF	Toulx Ste Croi	26.00	178	*e*P		P	08 35 24.6 +1.7
	comp=Z,12nm,0.9s						
TCF	Toulx Ste Croi	26.00	178	*e*P		P	08 35 24.6 +1.7
	comp=Z,12nm,0.9s						
TCF	Toulx Ste Croi	26.00	178	*e*P		P	08 35 24.6 +1.7
	comp=Z,12nm,0.9s						
MBDF	Montbardon	27.69	171	*e*P		P	08 35 42.8 +4.5
	comp=Z,12nm,1.0s						
MBDF	Montbardon	27.69	171	*e*P		P	08 35 42.8 +4.5
	comp=Z,12nm,1.0s						
MLR	Muntele Rosu	29.24	143	LR		LR	08 47 54.8
	comp=Z,150nm,18.3s,baz=342,slow=37						
SCHQ	Schefferville	32.54	275	LR		LR	08 48 13.0
	comp=Z,226nm,18.6s,baz=34,slow=34						
ESDC	Sonseca Array	32.71	187	LR		LR	08 47 54.9
	comp=Z,54nm,20.1s,baz=10.0,slow=33						
AKTO	Aktyubinsk	32.98	100	LR		LR	08 50 04.4
	comp=Z,215nm,18.2s,baz=347,slow=37						
BVAR	Borovoye Array	34.51	86	P		P	08 36 41.8 +3.8
BVAR	Borovoye Array	34.51	86	P		P	08 36 41.8 +3.8
	comp=Z,1.3nm,0.7s,baz=302,slow=8.2,SNR=3.7						
ABKAR	Akbulak array	34.61	99	*e*P		P	08 36 39.3 +0.4
	comp=Z,4.6nm,1.1s						
ABKAR	Akbulak array	34.61	99	*e*P		P	08 36 39.3 +0.4
	comp=Z,4.6nm,1.1s						
KBZ	Khabaz	34.76	122	LR		LR	08 50 51.7
	comp=Z,385nm,18.6s,baz=344,slow=36						
BRTR	Keskin Array B	36.33	136	LR		LR	08 53 32.4
	comp=Z,102nm,18.1s,baz=346,slow=39						
INK	Inuvik	36.57	334	*e*P		P	08 36 55.1 -0.4
	comp=Z,2.6nm,0.8s						
INK	Inuvik	36.57	334	*e*P		P	08 36 55.1 -0.4
	comp=Z,2.6nm,0.8s						
KEST	Kesra	36.79	169	LR		LR	08 52 24.7
	comp=Z,50nm,19.6s,baz=3.5,slow=37						
YKA	Yellowknife Ar	38.66	318	P		P	08 37 12.9 -0.3
YKA				PcP		PcP	08 39 23.7 -1.0
YKA	Yellowknife Ar	38.66	318	P		P	08 37 12.9 -0.3
	comp=Z,2.9nm,1.1s,baz=22,slow=8.7,SNR=13						
YKA				PcP		PcP	08 39 23.7 -1.0
	comp=Z,0.3nm,0.7s,baz=15,slow=3.4,SNR=5.9						
YKA	Yellowknife Ar	38.66	318	P		P	08 37 12.9 -0.3
KURK	Kurchatov	39.04	80	P		P	08 37 20.6 +4.1
KURBB	Kurchatov Arra	39.09	80	P		P	08 37 20.6 +3.7
	comp=Z,0.5nm,0.7s,baz=327,slow=7.7,SNR=7.0						
COLA	College	41.58	341	*e*P		P	08 37 37.0 -0.4
	comp=Z,7.7nm,1.3s						
COLA	College	41.58	341	*e*P		P	08 37 37.0 -0.4
	comp=Z,7.7nm,1.3s						
ILAR	Eielson Array	41.58	340	P		P	08 37 38.8 +1.4
ILAR	Eielson Array	41.58	340	P		P	08 37 38.8 +1.4
	comp=Z,1.7nm,0.8s,baz=7.4,slow=7.2,SN

Error ellipse: s-maj=16.9km s-min=10.3km az=164.0
IDC ***19*** *08:32:03.5±1.0, 71.99N×0.57E, h0km, mb3.7/4, mb1 3.9/10, mb1mx3.6/49, mbtmp3.8/10, ML3.6/6, Error ellipse: s-maj=27.5km s-min=15.1km az=57.0*

ISC 19 08:32:04.8±0.9, 72.04N±0.09×0.8E±0.1, h10km, n10, σ0.6s74/11, mb3.6/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**7.32**	**26**	Pn	**Pn**	**08 33 51.6**	**0.0**
	baz=203,slow=16,SNR=9.1						
ARCES	**ARCESS Array B**	**8.49**	**95**	Pn	**Pn**	**08 34 07.5**	**-0.2**
	1.1nm,0.3s,baz=309,slow=12,SNR=12						
NOA	**NORSAR Array B**	**11.77**	**154**	Pn	**Pn**	**08 34 51.9**	**-0.7**
	0.4nm,0.3s,baz=334,slow=10,SNR=4.1						
HFS	**Hagfors**	**13.00**	**150**	Pn	**Pn**	**08 35 09.0**	**-0.3**
	0.5nm,0.3s,baz=354,slow=12,SNR=10.0						
FINES	**FINESS Array B**	**14.42**	**124**	Pn	**Pn**	**08 35 28.1**	**-0.5**
	0.2nm,0.3s,baz=345,slow=14,SNR=4.4						
EKA	**Eskdalemuir Ar**	**16.86**	**188**	Pn	**Pn**	**08 36 00.5**	**-0.1**
	baz=6.5,slow=8.1,SNR=5.5						
GERES	**GERESS Array B**	**24.01**	**159**	P	**P**	**08 37 20.5**	**+1.0**
	2.9nm,0.8s,baz=355,slow=9.4,SNR=13						
AKASG	**Malin Array Be**	**24.88**	**134**	P	**P**	**08 37 28.2**	**+0.9**
	0.8nm,0.5s,baz=342,slow=9.8,SNR=3.6						
YKA	**Yellowknife Ar**	**38.72**	**318**	P	**P**	**08 39 28.7**	**+0.4**
	0.7nm,1.0s,baz=23,slow=8.7,SNR=8.5						
YKA				PcP	**PcP**	**08 41 38.4**	**-1.3**
	0.1nm,0.6s,baz=18,slow=3.2,SNR=4.4						
ILAR	**Eielson Array**	**41.71**	**340**	P	**P**	**08 39 53.0**	**0.0**
	0.9nm,0.9s,baz=11,slow=5.8,SNR=6.1						

IDC 19 08:46:22.3±3.2, 54.14N×87.18E, h0km, mb1 2.5/2, mb1mx2.5/42, mbtmp2.5/2, ML2.6/2, Error ellipse: s-maj=30.8km s-min=19.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**263**	*i*		08 54 30.5	
	baz=80,slow=355,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.40**	**263**	Pg	Pn	08 46 47.4	-1.8
	1.6nm,0.3s,baz=83,slow=11,SNR=20						
ZALV				Lg	Lg	08 47 07.1	
	0.9nm,0.3s,baz=84,slow=27,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.36**	**240**	Pn	Pn	08 47 58.2	+1.1
	0.2nm,0.3s,baz=57,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**7.99**	**205**	Pn	Pn	08 48 20.6	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=4.6						

NNC ***19*** *08:52:33.3±5.9, 36.70N×70.07E, h68km±148km, mb3.4, mpv3.6, Error ellipse: s-maj=45.4km s-min=40.6km az=37.0*

ISC 19 08:52:36.7±3.2, 36.70N±0.02×70.36E±0.1, h204km, n12, σ0.990/14, 1C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.04**	**25**	P	**Pn**	**08 54 03.5**	**-1.2**
	SNR=12						
UCH	**Uchtor**	**6.42**	**29**	P	**Pn**	**08 54 08.7**	**-1.1**
	SNR=10						
KK31	**Karatay Array**	**6.42**	**1**	⇓P	**Pn**	**08 54 08.3**	**-1.1**
	1.2nm,0.3s,baz=172,slow=11,SNR=15						
KK31				⇓S	**S**	**08 55 22.9**	**+0.3**
	1.4nm,0.3s,baz=181,slow=22,SNR=4.4						
EKS2	**Erkin-Say**	**6.54**	**23**	P	**Pn**	**08 54 10.7**	**-0.4**
	SNR=9.6						
KZA	**Kyzart**	**6.60**	**34**	P	**Pn**	**08 54 11.6**	**-0.5**
	SNR=10						
AAK	**Ala-Archa**	**6.76**	**27**	⇓P	**Pn**	**08 54 13.0**	**-0.9**
	2.4nm,0.8s						
AAK				⇑S	**S**	**08 55 31.8**	**+0.9**
	2.7nm,0.7s						
AAK	**Ala-Archa**	**6.76**	**27**	P	**Pn**	**08 54 13.6**	**-0.3**
	SNR=6.8						
ULHL	**Ulahol**	**7.20**	**38**	P	**Pn**	**08 54 19.6**	**-0.1**
	SNR=5.9						
USP	**Ospenovka**	**7.32**	**25**	P	**Pn**	**08 54 20.8**	**-0.2**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.43**	**31**	⇓P	**Pn**	**08 54 21.4**	**-1.3**
	2.6nm,0.5s						
MK31	**Makanchi Array**	**13.47**	**38**	P	P	08 55 48.5	+6.3
	0.6nm,0.6s,baz=210,slow=9.9,SNR=7.9						
AB31	**Akbulak array**	**14.67**	**332**	⇓P	**P**	**08 55 56.4**	**+0.9**
	0.1nm,0.3s,baz=165,slow=13,SNR=14						
AB31				⇓S	**S**	**08 58 36.9**	**-0.3**
	1.4nm,0.9s						

NIED ***19*** *08:55:00, 26.50N×129.80E, h5km, Mw4.2 Best double couple: M0 2.08000×10^15 NP1:φ=215.00000°, δ=44.00000°, λ=-120.00000°. NP2:φ=74.00000°, δ=53.00000°, λ=-64.00000°.*
ISCJB ***19*** *08:55:51.4±1.3, 26.49N±0.03×129.71E±0.04, h18km±9km, mb4.0/26, MS4.0/1, Error ellipse: s-maj=6.1km s-min=5.1km az=141.5*
JMA ***19*** *08:55:52.0±0.1, 26.46N×129.80E, h45km, M4.4*
NEIC ***19*** *08:55:53.6±2.5, 26.40N×129.64E, h23km±17km, mb4.5/8, MW4.1(NIED), Error ellipse: s-maj=11.1km s-min=8.3km az=116.0*
IDC ***19*** *08:55:56.7±2.7, 26.50N×129.78E, h45km±25km, mb3.8/16, mb1 4.0/20, mb1mx3.8/34, mbtmp4.0/20, ML3.5/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/34, Error ellipse: s-maj=23.8km s-min=15.8km az=71.0*

ISC 19 08:55:55.2±3.5, 26.53N±0.06×129.69E±0.06, h31km±25km, n69, σ1.941/79, mb4.2/26, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.30**	**284**	P	**Pn**	**08 56 16.1**	**-1.0**
JOW				S	**Sn**	**08 56 32.4**	**-1.1**
JOW	**Kunigami**	**1.30**	**284**	*e*Pn	**Pn**	**08 56 15.9**	**-1.2**
JOW				*e*Sn	**Sn**	**08 56 32.7**	**-0.7**
JTK	**Tokunoshima**	**1.41**	**332**	P	**Pn**	**08 56 17.6**	**-1.1**
JTK				S	**Sn**	**08 56 35.0**	**-1.2**
JMZ	**Minamidaito 2**	**1.55**	**117**	P	Pn	08 56 16.1	-4.5
JMZ				S	Sn	08 56 32.9	-6.7
JIH	**Iheya**	**1.62**	**288**	P	**Pn**	**08 56 20.7**	**-0.8**
JIH				S	**Sn**	**08 56 40.8**	**-0.5**
JAMN	**Amaminishikomi**	**1.76**	**345**	P	**Pn**	**08 56 22.2**	**-1.3**
JAMN				S	**Sn**	**08 56 43.5**	**-1.4**
JJT2	**Tamagusuku 2**	**1.78**	**258**	P	**Pn**	**08 56 22.6**	**-1.2**
JJT2				S	**Sn**	**08 56 44.0**	**-1.4**
JZK	**Kikaishima**	**1.79**	**8**	P	**Pn**	**08 56 23.1**	**-0.8**
JZK				S	**Sn**	**08 56 45.3**	**-0.3**
JAM	**Amami Oshima**	**1.87**	**358**	P	**Pn**	**08 56 23.5**	**-1.5**
JAM				S	**Sn**	**08 56 45.2**	**-2.4**
JAGN	**Aguni-jima**	**2.19**	**272**	P	**Pn**	**08 56 28.4**	**-1.0**
JAGN				S	**Sn**	**08 56 54.4**	**-1.0**
JKE	**Kume jima 2**	**2.61**	**266**	P	**Pn**	**08 56 33.3**	**-1.9**
JNN	**Nakanoshima**	**3.30**	**3**	P	**Pn**	**08 56 43.5**	**-1.2**
JNN				S	**Sn**	**08 57 19.9**	**-2.9**
JOGS	**Gusukube**	**4.25**	**246**	P	**Pn**	**08 56 56.2**	**-1.5**
JTJ	**Tarama**	**4.88**	**248**	P	**Pn**	**08 57 03.7**	**-2.7**
JNU	**Nakatsue**	**6.65**	**9**	*e*Pn	**Pn**	**08 57 30.3**	**-0.4**
	8.8nm,0.8s						
JNU	**Nakatsue**	**6.65**	**9**	P	**Pn**	**08 57 30.4**	**-0.3**
	2.6nm,0.3s,baz=320,slow=1.8,SNR=22						
JNU				S	**Sn**	**08 58 40.2**	**-5.1**
	baz=90,slow=22,SNR=1.7						
JNU				LR	LR	09 00 27.3	
	comp=Z,108nm,18.9s,baz=222,slow=41						
YULB	**Yu-li**	**8.23**	**249**	*e*Pn	**Pn**	**08 57 49.2**	**-3.2**
SSLB	**Suanglung**	**8.37**	**253**	*e*Pn	**Pn**	**08 57 51.3**	**-3.1**
KSAR	**Wonju Array Be**	**10.98**	**352**	P	**Pn**	**08 58 32.1**	**+2.0**
KSRS	**Korea Array**	**10.99**	**353**	P	**Pn**	**08 58 32.1**	**+1.9**
	0.2nm,0.3s,baz=173,slow=14,SNR=2.3						
KSRS				LR	LR	09 03 11.1	
	comp=Z,107nm,18.4s,baz=158,slow=39						
MJAR	**Matsushiro Arr**	**12.34**	**34**	P	**Pn**	**08 58 50.2**	**+1.6**
MJAR	**Matsushiro Arr**	**12.34**	**34**	P	**Pn**	**08 58 50.2**	**+1.6**
	0.4nm,0.3s,baz=61,slow=16,SNR=4.2						
BJT	**Baijiatuao**	**17.54**	**323**	*e*P	**P**	**08 59 59.5**	**+1.4**
	12nm,0.4s						
USRK	**Ussuriysk Arra**	**17.73**	**5**	P	**P**	**09 00 01.9**	**+1.7**
	0.2nm,0.3s,baz=177,slow=9.5,SNR=9.6						
SONM	**Songino Array**	**28.03**	**325**	P	**P**	**09 01 44.8**	**+1.3**
SONM	**Songino Array**	**28.03**	**325**	P	**P**	**09 01 44.8**	**+1.3**
	0.7nm,0.6s,baz=123,slow=10,SNR=2.1						
MK31	**Makanchi Array**	**42.31**	**311**	*e*P	**P**	**09 03 46.2**	**+0.2**
MKAR	**Makanchi Array**	**42.31**	**311**	P	**P**	**09 03 46.2**	**+0.4**
MKAR	**Makanchi Array**	**42.31**	**311**	P	**P**	**09 03 46.6**	**+0.6**
	0.4nm,0.3s,baz=88,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**42.80**	**322**	P	**P**	**09 03 51.4**	**+1.6**
ZALV	**Zalesovo Beam**	**42.80**	**322**	P	**P**	**09 03 51.4**	**+1.6**
	0.8nm,0.5s,baz=76,slow=12,SNR=3.9						
KURK	**Kurchatov**	**45.50**	**316**	*e*P	**P**	**09 04 10.9**	**-0.6**
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.54**	**316**	P	**P**	**09 04 11.8**	**0.0**
	0.7nm,0.4s,baz=102,slow=8.7,SNR=8.1						
WRAB	**Tennant Creek**	**46.41**	**174**	*e*P	**P**	**09 04 17.9**	**-1.0**
	3.8nm,0.8s						
WRA	**Warramunga Arr**	**46.42**	**174**	P	**P**	**09 04 17.9**	**-1.2**
WRA	**Warramunga Arr**	**46.42**	**174**	P	**P**	**09 04 17.9**	**-1.2**
	3.6nm,1.1s,baz=354,slow=8.5,SNR=24						
AS31	**Alice Springs**	**50.07**	**175**	*e*P	**P**	**09 04 47.5**	**+0.4**
ASAR	**Alice Springs**	**50.07**	**175**	P	**P**	**09 04 47.4**	**+0.2**
ASAR	**Alice Springs**	**50.07**	**175**	P	**P**	**09 04 47.4**	**+0.2**
	1.1nm,0.8s,baz=3.7,slow=13,SNR=17						
BRVK	**Borovoye**	**50.99**	**318**	*e*P	**P**	**09 04 53.9**	**+0.1**
	5.9nm,1.1s						
COLA	**College**	**63.13**	**28**	*e*P	**P**	**09 06 19.6**	**+0.1**
	2.4nm,0.8s						
ILAR	**Eielson Array**	**63.55**	**28**	P	**P**	**09 06 21.3**	**-1.0**
ILAR	**Eielson Array**	**63.55**	**28**	P	**P**	**09 06 21.3**	**-1.0**
	0.8nm,1.0s,baz=254,slow=5.5,SNR=7.3						
INK	**Inuvik**	**68.09**	**23**	*e*P	**P**	**09 06 51.6**	**+0.1**
	6.2nm,1.5s						
KBZ	**Khabaz**	**69.98**	**310**	P	**P**	**09 07 04.7**	**+1.1**
KBZ	**Khabaz**	**69.98**	**310**	P	**P**	**09 07 04.7**	**+1.1**
	3.7nm,0.8s,baz=82,slow=7.1,SNR=3.4						
JOF	**Joensuu**	**70.41**	**331**	*ep*	**P**	**09 07 05.8**	**-0.1**
	1.4nm,0.6s						
KAF	**Kangasniemi**	**72.86**	**331**	*ep*	**P**	**09 07 19.7**	**-1.0**
	2.8nm,0.6s						
FINES	**FINESS Array B**	**73.24**	**331**	P	**P**	**09 07 23.1**	**+0.2**
FINES	**FINESS Array B**	**73.24**	**331**	P	**P**	**09 07 23.1**	**+0.2**
	2.1nm,0.4s,baz=71,slow=5.9,SNR=20						
AKASG	**Malin Array Be**	**76.15**	**320**	P	**P**	**09 07 39.9**	**-0.1**
AKASG	**Malin Array Be**	**76.15**	**320**	P	**P**	**09 07 39.9**	**-0.1**
	1.5nm,0.5s,baz=57,slow=6.1,SNR=9.6						
AKASG				LR	LR	09 43 58.1	
	comp=Z,64nm,18.7s,baz=355,slow=38						
YKA	**Yellowknife Ar**	**77.70**	**25**	P	**P**	**09 07 47.9**	**-0.5**
YKA	**Yellowknife Ar**	**77.70**	**25**	P	**P**	**09 07 47.9**	**-0.5**
	0.9nm,0.9s,baz=301,slow=5.6,SNR=15						
BRTR	**Keskin Array B**	**77.88**	**308**	P	**P**	**09 07 50.1**	**0.0**
BRTR	**Keskin Array B**	**77.88**	**308**	P	**P**	**09 07 50.2**	**0.0**
	1.8nm,0.9s,baz=78,slow=5.9,SNR=5.5						
NB2	**NORSAR Subarra**	**79.61**	**334**	P	**P**	**09 07 58.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=48,slow=5.6						
NOA	**NORSAR Array B**	**79.61**	**334**	P	**P**	**09 07 58.6**	**-0.5**
NOA	**NORSAR Array B**	**79.61**	**334**	P	**P**	**09 07 58.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=51,slow=5.8,SNR=4.1						
SUMG	**Summit**	**80.82**	**356**	*e*P	**P**	**09 08 06.4**	**+0.6**
	comp=Z,5.3nm,1.0s						
NEW	**Newport**	**84.56**	**38**	*e*P	**P**	**09 08 25.7**	**+0.4**
	comp=Z,3.8nm,1.0s						
GERES	**GERESS Array B**	**85.74**	**323**	P	**P**	**09 08 31.8**	**+0.4**
GERES	**GERESS Array B**	**85.74**	**323**	P	**P**	**09 08 31.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=54,slow=6.8,SNR=3.8						
FCC	**Fort Churchill**	**87.59**	**21**	*e*P	**P**	**09 08 39.8**	**-0.1**
	comp=Z,0.1nm,0.6s						
NVAR	**Mina Array Bea**	**89.35**	**47**	P	**P**	**09 08 50.5**	**+1.4**
NVAR	**Mina Array Bea**	**89.35**	**47**	P	**P**	**09 08 50.4**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=287,slow=6.5,SNR=2.4						
PDAR	**Pinedale Array**	**92.11**	**39**	P	**P**	**09 09 02.0**	**+0.2**
PDAR	**Pinedale Array**	**92.11**	**39**	P	**P**	**09 09 02.0**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=339,slow=2.2,SNR=4.9						
LVC	**Limon Verde**	**162.64**	**81**	*e*PKPdf	**PKPdf**	**09 15 51.8**	**-3.1**

KRSC 19 09:55:35.4±0.8, 55.48N×161.25E, h148km±7km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.56**	**326**	*e*P	Pn	09 55 58.0	+1.0
BZGR				*e*S	Sn	09 56 15.0	+1.5
BZMR	**Bezymyannaya**	**0.63**	**317**	*e*P	Pn	09 55 58.6	+1.2
BZMR				*e*S	Sn	09 56 15.7	+1.4
KMNR	**Kamenistaya**	**0.64**	**296**	*i* P	Pn	09 55 58.8	+1.3
KMNR				*e*S	Sn	09 56 15.8	+1.6
BZWR	**Bezymyannyi-We**	**0.65**	**319**	*i* P	Pn	09 55 58.4	+0.8
BZWR				*e*S	Sn	09 56 15.7	+1.2
KZV	**Kizimen**	**0.66**	**237**	*e*P	Pn	09 55 59.0	+1.3
TUMR	**Tumrok**	**0.66**	**253**	*e*P	Pn	09 55 59.1	+1.5
TUMR				*e*S	Sn	09 56 15.5	+1.0
KIRR	**Kirishev**	**0.70**	**313**	*i* P	Pn	09 55 59.1	+1.2
KIRR				*e*S	Sn	09 56 17.1	+2.0
KPT	**Kopyto**	**0.76**	**310**	*i* P	Pn	09 55 59.3	+1.1
KPT				*e*S	Sn	09 56 16.4	+0.7
KRSR	**Krestovskiy**	**0.83**	**333**	*i* P	Pn	09 55 59.6	+0.8
KRSR				*i* S	Sn	09 56 17.5	+0.8
KLY	**Klyuchi**	**0.90**	**338**	*i* P	Pn	09 55 59.8	+0.7
KLY				*e*S	Sn	09 56 17.0	-0.3
MKZ	**Mys Kozlova**	**0.97**	**163**	*i* P	Pn	09 56 01.2	+1.5
MKZ				*i* S	Sn	09 56 19.5	+1.4
KOZ	**Kozyrevsk**	**0.97**	**307**	*i* P	Pn	09 56 00.7	+0.9
KOZ				*e*S	Sn	09 56 19.3	+0.9
BDR	**Baidarnaya**	**1.09**	**359**	*i* P	Pn	09 56 02.0	+1.1
BDR				*e*S	Sn	09 56 21.5	+1.1
SMKR	**Semkarok**	**1.11**	**6**	*i* P	Pn	09 56 02.1	+1.0
SMKR				*i* S	Sn	09 56 21.5	+0.8
KBG	**Krutoberegovo**	**1.13**	**46**	*i* P	Pn	09 56 02.3	+1.2
KBG				*i* S	Sn	09 56 22.1	+1.4
KBTR	**Krutoberegovo**	**1.15**	**50**	*i* P	Pn	09 56 02.7	+1.4
KBTR				*i* S	Sn	09 56 21.8	+0.8
SRKR	**Sorokina**	**1.18**	**358**	*i* P	Pn	09 56 02.5	+0.8
SRKR				*i* S	Sn	09 56 22.7	+0.9
SRDR	**Sredinnyy**	**1.21**	**315**	*i* P	Pn	09 56 02.5	+0.6
ESO	**Esso**	**1.51**	**288**	*i* P	Pn	09 56 05.8	+0.8
ESO				*i* S	Sn	09 56 28.2	+0.6
KII	**Karymskiy**	**1.79**	**217**	*e*P	Pn	09 56 08.9	+0.8
KII				*e*S	Sn	09 56 34.7	+1.6
SPN	**Mys Shipunski**	**2.49**	**197**	*e*S	Sn	09 56 47.4	-0.4
NLC	**Nalytchevo**	**2.57**	**207**	*e*P	Pn	09 56 18.1	+0.8
NLC				*e*S	Sn	09 56 49.9	+0.4
SDLR	**Sedlovina**	**2.61**	**213**	*e*P	Pn	09 56 19.4	+1.5
SDLR				*e*S	Sn	09 56 51.9	+1.3
KRX	**Arik**	**2.61**	**217**	*e*P	Pn	09 56 19.9	+1.9
KRER	**Koryakskii**	**2.63**	**215**	*e*P	Pn	09 56 20.5	+2.2
KRER				*e*S	Sn	09 56 51.4	+0.1
GNL	**Ganaly**	**2.63**	**228**	*e*P	Pn	09 56 19.6	+1.4
SMAR	**Somma**	**2.65**	**214**	*e*P	Pn	09 56 20.1	+1.6
AVH	**Avacha**	**2.66**	**215**	*e*P	Pn	09 56 20.7	+2.1
AVH				*e*S	Sn	09 56 53.6	+1.8
KOK	**Koryaka**	**2.67**	**216**	*e*P	Pn	09 56 20.8	+2.1
UGLR	**Uglovaya**	**2.68**	**213**	*e*P	Pn	09 56 20.4	+1.5
UGLR				*e*S	Sn	09 56 53.2	+0.9
BKI	**Bering**	**2.71**	**94**	*i* P	Pn	09 56 21.2	+2.2
BKI				*i* S	Sn	09 56 53.8	+1.2
PET	**Petropavlovsk**	**2.90**	**213**	*e*P	Pn	09 56 22.7	+1.4
PET				*e*S	Sn	09 56 57.9	+1.1
RUS	**Russkaya**	**3.46**	**209**	*e*P	Pn	09 56 29.2	+0.7
RUS				*e*S	Sn	09 57 09.0	-0.6
MTVR	**Mutnovka**	**3.51**	**212**	*e*P	Pn	09 56 30.7	+1.3
MTVR				*e*S	Sn	09 57 12.5	+1.3
APC	**Apacha**	**3.51**	**225**	*e*P	Pn	09 56 31.3	+2.1

IDC ***19*** *10:06:53.3±1.7, 15.77S×173.01W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/32, mbtmp3.8/5, Error ellipse: s-maj=65.3km s-min=28.2km az=126.0*
ISCJB ***19*** *10:06:54.4±1.1, 15.52S±0.22×172.78W±0.03, h35km, mb3.7/5, Error ellipse: s-maj=46.9km s-min=9.3km az=37.6*

ISC 19 10:06:55.7±1.6, 15.66S±0.33×172.72W±0.04, h35km, n7, σ1.872/7, mb3.8/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.87**	**27**	Pn	**Pn**	**10 07 25.3**	**0.0**
	8.3nm,0.3s,baz=2.7,slow=7.4,SNR=2.4						
AFI				Sn	**Sn**	**10 07 46.8**	**-1.0**
	70nm,0.3s,baz=51,slow=20,SNR=10						
URZ	**Urewera**	**24.32**	**200**	P	**P**	**10 12 10.1**	**0.0**
	1.3nm,0.4s,baz=0.0,slow=8.1,SNR=1.8						
STKA	**Stephens Creek**	**44.57**	**240**	P	**P**	**10 15 03.4**	**-1.1**
	1.5nm,1.0s,baz=79,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**50.51**	**257**	P	**P**	**10 15 50.5**	**-0.3**
	0.2nm,0.3s,baz=92,slow=6.7,SNR=8.8						
ASAR	**Alice Springs**	**50.74**	**252**	P	**P**	**10 15 52.4**	**-0.2**
	1.2nm,0.5s,baz=90,slow=7.4,SNR=8.8						
ILAR	**Eielson Array**	**82.49**	**11**	P	P	10 19 17.7	+3.5
	0.4nm,0.7s,baz=231,slow=6.3,SNR=11						
BRTR	**Keskin Array B**	**146.76**	**321**	PKPbc	**PKPab**	**10 26 38.8**	**+3.1**
	0.8nm,0.8s,baz=71,slow=1.3,SNR=3.1						

IDC 19 10:07:38.7±4.6, 21.53S×63.57W, h536km±32km, mb2.7/3, mb1 3.0/5, mb1mx2.7/31, mbtmp3.6/5, Error ellipse: s-maj=93.0km s-min=29.1km az=15.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.77**	**320**	P	P	10 09 25.4	+0.6
	1.1nm,0.3s,baz=132,slow=4.8,SNR=22						
LPAZ				S	S	10 10 50.5	-0.9
	0.1nm,0.3s,baz=52,slow=14,SNR=2.7						
BDFB	**Brasilia**	**15.86**	**71**	P	P	10 10 57.2	-0.3
	0.4nm,0.3s,baz=227,slow=13,SNR=4.8						
TORD	**Torodi Ar. Bea**	**72.72**	**68**	P	P	10 18 12.7	-0.2
	0.3nm,0.8s,baz=262,slow=4.0,SNR=1.7						
PDAR	**Pinedale Array**	**76.73**	**327**	P	P	10 18 35.5	+0.4
	0.2nm,0.5s,baz=126,slow=6.1,SNR=2.3						
YKA	**Yellowknife Ar**	**92.94**	**339**	P	P	10 19 53.9	-0.2
	0.1nm,0.5s,baz=125,slow=4.8,SNR=5.1						
WRA	**Warramunga Arr**	**135.22**	**204**	PKP	PKPdf	10 25 57.0	-1.2
	0.3nm,0.9s,baz=160,slow=1.9,SNR=4.8						

IDC 19 10:28:35.6±2.6, 54.29N×86.10E, h0km, mb1 3.0/2, mb1mx2.8/44, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=19.7km s-min=12.0km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**246**	*i*		10 33 34.9	
	baz=67,slow=346,SNR=3.0						
ZALV	**Zalesovo Beam**	**0.83**	**246**	Pg	Pg	10 28 50.5	-1.0
	1.5nm,0.3s,baz=63,slow=16,SNR=13						
ZALV				Lg	Lg	10 29 03.4	
	6.3nm,0.3s,baz=64,slow=29,SNR=25						
KURBB	**Kurchatov Arra**	**5.91**	**235**	Pn	Pn	10 30 05.8	+1.5
	0.3nm,0.3s,baz=48,slow=14,SNR=1.7						
MKAR	**Makanchi Array**	**7.89**	**199**	Pn	Pn	10 30 32.2	+0.7
	0.1nm,0.3s,baz=24,slow=13,SNR=8.1						
MKAR				Lg	Lg	10 32 48.6	
	baz=29,slow=30,SNR=2.5						

IDC ***19*** *10:33:43.9±0.5, 8.15N×127.02E, h0km, mb4.4/26, mb1 4.5/26, mb1mx4.4/42, mbtmp4.4/26, MS3.5/7, Ms1 3.5/7, ms1mx3.2/36, Error ellipse: s-maj=21.5km s-min=11.2km az=74.0*
MAN ***19*** *10:33:46, 8.29N×127.43E, h38km, mb5.5, ML4.5, MS4.8*
BJI ***19*** *10:33:47.2, 8.01N×127.18E, h50km, mB4.9/24, mb4.6/38, Ms4.5/24, Ms7 4.2/18*
ISCJB ***19*** *10:33:48.3±0.6, 8.23N±0.02×127.26E±0.04, h45km±5km, mb4.5/58, MS3.8/14, Error ellipse: s-maj=6.7km s-min=3.4km az=158.4*
NEIC ***19*** *10:33:52.3±1.1, 8.23N×127.18E, h63km±10km, mb4.7/21, Error ellipse: s-maj=9.6km s-min=5.4km az=74.0*
NEIC Felt at Tagum, Mindanao.

ISC 19 10:33:50.6±0.3, 8.22N±0.03×127.18E±0.05, h47km±2km, h47km:pP-P,n179, σ1$40/230, mb4.6/59, MS3.7/15, 6C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.81**	**268**	⇑*i* P	**Pn**	**10 34 05.2**	**-0.5**
BIPH				*i* S	**Sn**	**10 34 16.5**	**-0.2**
MATI	**Mati**	**1.56**	**216**	*e*P	**Pn**	**10 34 14.2**	**-1.7**
MATI				*e*S	**Sn**	**10 34 33.3**	**-1.7**
BUTP	**Butuan**	**1.71**	**296**	*e*P	**Pn**	**10 34 17.4**	**-0.6**
BUTP				*e*S	**Sn**	**10 34 40.7**	**+2.0**
DAV	**Davao City (W)**	**1.95**	**234**	*e*Pn	**Pn**	**10 34 22.1**	**+0.8**
DAV				*e*Sn	Sn	10 34 52.0	+7.3
DMPH	**Davao City--Mi**	**2.00**	**236**	⇑*e*P	**Pn**	**10 34 23.8**	**+1.7**
BUKP	**Musuan**	**2.12**	**261**	*e*P	**Pn**	**10 34 24.5**	**+0.8**
SCPH	**Surigao**	**2.28**	**313**	⇑*e*P	**Pn**	**10 34 24.1**	**-1.7**
CGP	**Cagayan de Oro**	**2.47**	**276**	⇑*i* P	**Pn**	**10 34 28.8**	**+0.4**
CGP				*i* S	**Sn**	**10 34 59.1**	**+1.8**
MSLP	**Maasin

	4.7nm,0.9s							
KMI	**Kunming**	**28.73**	**309**	P	**P**	**10 39 46.1**	**+2.0**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.7s							
WRAB	**Tennant Creek**	**28.85**	**166**	*e*P	**P**	**10 39 44.4**	**-0.6**
	249nm,3.0s							
WRA	**Warramunga Arr**	**28.86**	**166**	P	**P**	**10 39 44.0**	**-0.9**
WRA	**Warramunga Arr**	**28.86**	**166**	P	**P**	**10 39 44.0**	**-0.9**
	1.4nm,0.4s,baz=349,slow=9.7,SNR=39							
KSAR	**Wonju Array Be**	**29.10**	**1**	P	**P**	**10 39 47.2**	**+0.3**
KSRS	**Korea Array**	**29.11**	**1**	P	**P**	**10 39 47.2**	**+0.2**
	0.9nm,0.8s,baz=174,slow=9.6,SNR=2.7							
CMAR	**Chiang Mai Arr**	**29.25**	**293**	P	**P**	**10 39 48.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**29.25**	**293**	P	**P**	**10 39 48.1**	**-0.4**
	3.4nm,0.7s,baz=110,slow=6.6,SNR=17							
CMAR				LR	LR	10 52 49.1		
	comp=Z,60nm,18.1s,baz=101,slow=39							
CHTO	**Chiang Mai**	**29.36**	**294**	P	**P**	**10 39 49.4**	**-0.1**
	57nm,1.2s							
CHTO	**Chiang Mai**	**29.36**	**294**	*e*P	**P**	**10 39 49.2**	**-0.2**
	4.3nm,1.3s							
CMAI	**Chiengmai2**	**29.61**	**296**	P	**P**	**10 39 51.5**	**-0.4**
	16nm,1.1s							
MJAR	**Matsushiro Arr**	**29.93**	**18**	P	**P**	**10 39 53.3**	**-1.0**
MJAR	**Matsushiro Arr**	**29.93**	**18**	P	**P**	**10 39 53.3**	**-1.0**
	1.2nm,0.6s,baz=200,slow=8.7,SNR=5.8							
MJAR				LR	LR	10 51 12.2		
	comp=Z,114nm,19.7s,baz=200,slow=35							
QIS	**Mount Isa**	**31.10**	**157**	P	**P**	**10 40 04.6**	**-0.2**
	baz=31,SNR=20							
CD2	**Chengdu**	**31.43**	**319**	*e*P	**P**	**10 40 08.3**	**+0.6**
CD2				sP	**sP**	**10 40 25.8**	**+0.2**
CD2				PP	**PnPn**	**10 41 13.5**	**+1.6**
CD2				S	**S**	**10 45 12.1**	**-0.3**
CD2				sS	**sS**	**10 45 32.8**	**-0.3**
CD2				SS	**SnSn**	**10 47 02.8**	**+2.8**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CD2				pmax	pmax			
	comp=Z,70nm,5.9s							
CD2				LR	LR			
	comp=N,200nm,11.9s							
CD2				LR	LR			
	comp=Z,220nm,17.8s							
AS31	**Alice Springs**	**32.36**	**168**	*e*P	**P**	**10 40 15.7**	**-0.2**
ASAR	**Alice Springs**	**32.37**	**168**	P	**P**	**10 40 14.9**	**-1.0**
ASAR				PcP	**PcP**	**10 43 03.4**	**+0.4**
ASAR	**Alice Springs**	**32.37**	**168**	P	**P**	**10 40 14.9**	**-1.0**
	1.7nm,0.8s,baz=19,slow=12,SNR=32							
ASAR				PcP	**PcP**	**10 43 03.4**	**+0.4**
	1.2nm,0.6s,baz=345,slow=2.3,SNR=7.8							
WRKA	**Warakurna**	**33.07**	**178**	P	**P**	**10 40 21.3**	**-0.8**
	baz=33,SNR=12							
CTA	**Charters Tower**	**33.82**	**147**	P	**P**	**10 40 28.9**	**+0.3**
CTA	**Charters Tower**	**33.82**	**147**	P	**P**	**10 40 28.9**	**+0.3**
	6.0nm,0.7s,baz=314,slow=12,SNR=13							
LZH	**Lanzhou**	**34.97**	**326**	*e*P	**P**	**10 40 40.9**	**+2.3**
LZH				pP	**pP**	**10 40 50.8**	**-0.2**
LZH				sP	**sP**	**10 40 55.3**	**-1.3**
LZH				PP	**PP**	**10 41 59.0**	**+0.4**
LZH				*e*S	**S**	**10 46 10.5**	**+3.2**
LZH				sS	**sS**	**10 46 28.0**	**-0.2**
LZH				SS	**SnSn**	**10 48 25.8**	**0.0**
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,190nm,4.1s							
LZH				LR	LR			
	comp=N,540nm,12.8s							
LZH				LR	LR			
	comp=E,680nm,14.0s							
LZH				LR	LR			
	comp=Z,810nm,15.0s							
HHC	**Hu-ho-hao-te**	**35.34**	**339**	*e*P	**P**	**10 40 41.8**	**+0.1**
HHC				pP	**pP**	**10 40 54.8**	**+0.7**
HHC				sP	**sP**	**10 41 00.1**	**+0.4**
HHC				PP	**PP**	**10 42 03.5**	**+0.9**
HHC				S	**S**	**10 46 12.9**	**0.0**
HHC				sS	**sS**	**10 46 33.8**	**+0.1**
HHC				SS	**SnSn**	**10 48 33.5**	**-1.2**
HHC				pmax	pmax			
	comp=Z,23nm,0.6s							
HHC				pmax	pmax			
	comp=Z,210nm,5.9s							
HHC				LR	LR			
	comp=N,220nm,16.0s							
HHC				LR	LR			
	comp=E,730nm,17.3s							
CN2	**Changchun**	**35.48**	**358**	*e*P	**P**	**10 40 42.0**	**-0.7**
CN2				*es*P	**sP**	**10 41 00.0**	**-0.6**
CN2				*e*S	**S**	**10 46 13.4**	**-1.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				LR	LR			
	comp=N,1μm,13.0s							
CN2				LR	LR			
	comp=E,900nm,13.0s							
CN2				LR	LR			
	comp=Z,1μm,14.0s							
MEEK	**Meekatharra**	**35.63**	**193**	P	**P**	**10 40 43.7**	**-0.5**
	baz=36,SNR=7.5							
USRK	**Ussuriysk Arra**	**36.09**	**6**	P	**P**	**10 40 48.6**	**+0.8**
	5.1nm,0.7s,baz=193,slow=7.7,SNR=14							
MDJ	**Mudanjiang**	**36.32**	**3**	P	**P**	**10 40 49.8**	**-0.1**
MDJ				pP	**pP**	**10 41 00.9**	**-1.4**
MDJ				sP	**sP**	**10 41 06.0**	**-1.9**
MDJ				PP	**PnPn**	**10 42 12.6**	**-0.4**
MDJ				S	**S**	**10 46 28.5**	**+1.0**
MDJ				sS	**sS**	**10 46 47.9**	**-0.5**
MDJ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,50nm,5.8s							
MDJ				LR	LR			
	comp=N,74nm,18.3s							
MDJ				LR	LR			
	comp=E,91nm,16.5s							
MDJ	**Mudanjiang**	**36.32**	**3**	*e*P	**P**	**10 40 50.8**	**+1.0**
	17nm,1.1s							
SHL	**Shillong**	**37.75**	**302**	*e*P	P	10 41 11.0	+8.5
ASAJ	**Asahikawa**	**38.20**	**18**	P	**P**	**10 41 07.1**	**+1.2**
ASAJ	**Asahikawa**	**38.20**	**18**	P	**P**	**10 41 07.1**	**+1.2**
	7.9nm,0.7s,baz=256,slow=9.1,SNR=5.2							
ASAJ				LR	LR	10 56 45.7		
	comp=Z,88nm,20.0s,baz=300,slow=36							
QLP	**Quilpie**	**38.35**	**155**	P	**P**	**10 41 06.5**	**-0.7**
	baz=38,SNR=22							
MORW	**Morawa**	**38.59**	**196**	P	**P**	**10 41 09.1**	**-0.2**
	baz=39,SNR=5.2							
FORT	**Forrest**	**38.78**	**179**	*e*P	**P**	**10 41 10.5**	**-0.4**
	21nm,0.5s							
FORT				*ep*P	**pP**	**10 41 25.2**	**+1.8**
GTA	**Gaotai**	**39.57**	**326**	P	**P**	**10 41 16.5**	**-1.0**
GTA				pP	**pP**	**10 41 28.6**	**-1.5**
GTA				sP	**sP**	**10 41 34.3**	**-1.3**
GTA				S	**S**	**10 47 16.6**	**-0.6**
GTA				sS	**sS**	**10 47 37.9**	**-0.3**
GTA				SS	**SS**	**10 50 08.1**	**-5.4**
GTA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,80nm,4.5s							
GTA				LR	LR			
	comp=N,100nm,14.3s							
GTA				LR	LR			
	comp=E,91nm,16.6s							
GTA				LR	LR			
	comp=Z,100nm,15.7s							
H11S3	**WAKE ISLAND Hy**	**39.69**	**71**	T	T	11 24 46.5		
	baz=264,slow=68,SNR=14							
H11S1	**WAKE ISLAND Hy**	**39.70**	**71**	T	T	11 24 39.5		
	baz=264,slow=68,SNR=7.2							
H11S2	**WAKE ISLAND Hy**	**39.70**	**71**	T	T	11 24 43.6		
	baz=264,slow=68,SNR=6.2							
BLDU	**Ballidu**	**39.90**	**194**	P	**P**	**10 41 19.9**	**-0.3**
	baz=40,SNR=11							
H11N1	**WAKE ISLAND Hy**	**40.09**	**69**	T	T	11 25 19.6		
	baz=250,slow=75,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**40.10**	**69**	T	T	11 25 16.5		
H11N3	**WAKE ISLAND Hy**	**40.11**	**69**	T	T	11 25 16.2		
	baz=267,slow=75,SNR=4.4							
KLBR	**Kellerberrin**	**40.60**	**192**	P	**P**	**10 41 25.9**	**-0.1**
	baz=41,SNR=14							
BBOO	**Buckleboo**	**41.67**	**169**	*e*P	**P**	**10 41 34.4**	**-0.3**
	186nm,0.9s							
BBOO				*ep*P	**pP**	**10 41 49.1**	**+1.7**
BBOO	**Buckleboo**	**41.67**	**169**	P	**P**	**10 41 34.3**	**-0.4**
	baz=42,SNR=28							
TAPN	**Taplejung**	**41.88**	**302**	*e*P	**P**	**10 41 36.5**	**-0.4**
	33nm,0.4s							
ODAN	**Odare**	**41.98**	**301**	*e*P	**P**	**10 41 36.5**	**-1.3**
	87nm,0.6s							
STKA	**Stephens Creek**	**42.19**	**162**	*e*P	**P**	**10 41 38.4**	**-0.6**
	3.4nm,0.9s							
STKA	**Stephens Creek**	**42.19**	**162**	P	**P**	**10 41 38.4**	**-0.6**
	14nm,0.8s,baz=335,slow=8.5,SNR=25							
STKA				LR	LR	11 03 34.1		
	comp=Z,106nm,18.2s,baz=21,slow=42							
STKA	**Stephens Creek**	**42.19**	**162**	P	**P**	**10 41 38.5**	**-0.4**
	baz=42,SNR=19							
RAMN	**Ramite**	**42.68**	**301**	*e*P	**P**	**10 41 42.3**	**-1.2**
	53nm,0.7s							
HTT	**Hallett**	**42.90**	**166**	P	**P**	**10 41 44.9**	**+0.2**
	baz=43,SNR=3.2							
ULN	**Ulaanbaatar**	**43.04**	**340**	*e*P	**P**	**10 41 46.1**	**+0.1**
	2.2nm,0.4s							
ULN				*ep*P	**pP**	**10 42 00.6**	**+2.0**
SONM	**Songino Array**	**43.24**	**340**	P	**P**	**10 41 47.1**	**-0.4**
SONM	**Songino Array**	**43.24**	**340**	P	**P**	**10 41 47.1**	**-0.4**
	2.1nm,0.8s,baz=154,slow=9.0,SNR=7.8							
JIRN	**Jiri**	**43.25**	**302**	*e*P	**P**	**10 41 47.3**	**-0.9**
	80nm,0.6s							
CMSA	**Cobar Meteorol**	**43.32**	**157**	P	**P**	**10 41 48.4**	**+0.3**
	baz=43,SNR=28							
GUN	**Gumba**	**43.59**	**302**	*e*P	**P**	**10 41 50.1**	**-0.8**
	64nm,0.6s							
PKI	**Pulchoki**	**43.88**	**301**	*e*P	**P**	**10 41 52.1**	**-1.1**
	28nm,0.6s							
PKIN	**Phulchoki**	**43.90**	**301**	*e*P	**P**	**10 41 51.5**	**-1.8**
	16nm,0.6s							
KKN	**Kakani**	**44.06**	**302**	*e*P	**P**	**10 41 53.4**	**-1.1**
	30nm,0.8s							
DMN	**Daman**	**44.15**	**301**	*e*P	**P**	**10 41 54.2**	**-1.1**
	20nm,0.5s							
GKN	**Gorkha**	**44.66**	**302**	*e*P	**P**	**10 41 58.1**	**-1.2**
	26nm,0.6s							
KOLN	**Koldanda**	**45.47**	**301**	*e*P	**P**	**10 42 04.9**	**-0.9**
	80nm,0.7s							
DANN	**Dangsing**	**45.51**	**302**	*e*P	**P**	**10 42 05.0**	**-1.1**
	80nm,0.5s							
ARPS	**Mount Arapiles**	**46.82**	**164**	P	**P**	**10 42 16.4**	**+0.5**
	baz=47,SNR=10							
CNB	**Canberra Magne**	**48.10**	**155**	P	**P**	**10 42 26.9**	**+1.0**
	baz=48,SNR=5.0							
WMQ	**Urumqi**	**49.38**	**323**	P	**P**	**10 42 36.3**	**+0.5**
WMQ				pP	**pP**	**10 42 48.6**	**0.0**
WMQ				sP	**sP**	**10 42 53.9**	**-0.2**
WMQ				pmax	pmax			
	comp=Z,5.0nm,0.5s							
WMQ				LR	LR			
	comp=N,56nm,17.4s							
WMQ				LR	LR			
	comp=E,18nm,15.3s							
PETK	**Petropavlovsk-**	**51.14**	**23**	P	**P**	**10 42 49.8**	**+1.0**
PETK	**Petropavlovsk-**	**51.14**	**23**	P	**P**	**10 42 49.8**	**+1.0**
	2.3nm,0.6s,baz=194,slow=4.2,SNR=10.0							
MK31	**Makanchi Array**	**54.19**	**323**	*e*P	**P**	**10 43 11.2**	**-0.4**
MKAR	**Makanchi Array**	**54.19**	**323**	P	**P**	**10 43 11.1**	**-0.5**
MKAR	**Makanchi Array**	**54.19**	**323**	P	**P**	**10 43 11.1**	**-0.5**
	6.5nm,0.5s,baz=116,slow=7.6,SNR=156							
KSH	**Kashi**	**55.27**	**313**	*i* P	**P**	**10 43 20.8**	**+1.2**
KSH				*e*PP	**PP**	**10 45 26.3**	**+2.8**
KSH				*e*PcS	**PcS**	**10 48 20.1**	**0.0**
KSH				*e*S	**S**	**10 50 58.0**	**-2.2**
KSH				*e*sS	**sS**	**10 51 19.5**	**-2.6**
KSH				*e*SS	**SS**	**10 54 42.4**	**-2.7**
KSH				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KSH				pmax	pmax			
	comp=Z,110nm,5.8s							
KSH				LR	LR			
	comp=N,63nm,7.6s							
KSH				LR	LR			
	comp=E,100nm,5.8s							
KSH				LR	LR			
	comp=Z,170nm,5.5s							
KZA	**Kyzart**	**56.69**	**315**	P	**P**	**10 43 30.5**	**+0.5**
	SNR=5.8							
TKM2	**Tokmak 2**	**56.76**	**317**	P	**P**	**10 43 29.5**	**-0.8**
	SNR=6.5							
TKM2	**Tokmak 2**	**56.76**	**317**	*e*P	**P**	**10 43 29.9**	**-0.3**
	5.9nm,0.7s							
ZAA0	**Zalesovo Array**	**56.84**	**332**	*e*P	**P**	**10 43 29.7**	**-0.6**
ZALV	**Zalesovo Beam**	**56.84**	**332**	P	**P**	**10 43 29.8**	**-0.6**
ZALV	**Zalesovo Beam**	**56.84**	**332**	P	**P**	**10 43 29.8**	**-0.6**
	5.7nm,0.8s,baz=116,slow=6.8,SNR=22							
KBK	**Karagaybulak**	**57.10**	**316**	P	**P**	**10 43 32.7**	**+0.1**
	SNR=7.9							
UCH	**Uchtor**	**57.25**	**315**	P	**P**	**10 43 34.5**	**+0.4**
	SNR=17							
CHMS	**Chumysh**	**57.36**	**316**	P	**P**	**10 43 33.9**	**-0.4**
	SNR=5.6							
AAK	**Ala-Archa**	**57.41**	**316**	*e*P	**P**	**10 43 34.3**	**-0.5**
	16nm,1.8s							
AAK	**Ala-Archa**	**57.41**	**316**	P	**P**	**10 43 34.3**	**-0.5**
	2.1nm,0.6s,baz=178,slow=12,SNR=8.9							
SEY	**Seymchan**	**57.59**	**13**	P	**P**	**10 43 37.2**	**+1.8**
SEY	**Seymchan**	**57.59**	**13**	P	**P**	**10 43 37.2**	**+1.8**
	2.1nm,0.7s,baz=21,slow=23,SNR=7.7							
USP	**Ospenovka**	**57.63**	**317**	P	**P**	**10 43 36.2**	**0.0**
	SNR=8.2							
AML	**Almayashu**	**57.79**	**315**	P	**P**	**10 43 37.9**	**+0.1**
	SNR=9.9							
EKS2	**Erkin-Say**	**57.91**	**316**	P	**P**	**10 43 38.4**	**+0.1**
	SNR=9.6							
EKS2	**Erkin-Say**	**57.91**	**316**	*e*P	**P**	**10 43 38.2**	**-0.1**
	11nm,0.9s							
FX1	**Attu Island--F**	**58.01**	**31**	LR	LR	11 13 29.4		
	comp=Z,26nm,18.0s,baz=206,slow=41							
KURK	**Kurchatov**	**58.26**	**326**	*e*P	**P**	**10 43 40.0**	**-0.3**
	11nm,0.8s							
KURK				*ep*P	**pP**	**10 43 53.3**	**-0.2**
KURBB	**Kurchatov Arra**	**58.26**	**326**	P	**P**	**10 43 40.0**	**-0.3**
	12nm,0.6s,baz=127,slow=6.3,SNR=128							
KKAR	**Karatay Array**	**60.32**	**315**	*e*P	**P**	**10 43 54.2**	**-0.6**
	20nm,0.9s							
KKAR				*ep*P	**pP**	**10 44 07.5**	**-0.6**
TIXI	**Tiksi**	**63.38**	**1**	*e*P	**P**	**10 44 15.0**	**+0.2**
	5.0nm,0.8s							
TIXI				*ep*P	**pP**	**10 44 29.6**	**+1.5**
BVAR	**Borovoye Array**	**63.85**	**326**	P	**P**	**10 44 18.2**	**-0.1**
BVAR	**Borovoye Array**	**63.85**	**326**	P	**P**	**10 44 18.2**	**-0.1**
	7.2nm,0.7s,baz=120,slow=8.7,SNR=39							
BRVK	**Borovoye**	**63.92**	**326**	*e*P	**P**	**10 44 18.3**	**-0.4**
	14nm,0.9s							
ABKAR	**Akbulak array**	**69.01**	**320**	*e*P	**P**	**10 44 50.6**	**-0.7**
	4.4nm,0.8s							
AKTO	**Aktyubinsk**	**70.47**	**321**	P	**P**	**10 44 59.7**	**-0.6**
AKTO	**Aktyubinsk**	**70.47**	**321**	P	**P**	**10 44 59.7**	**-0.6**
	1.3nm,0.6s,baz=96,slow=6.5,SNR=5.6							
ARU	**Arti**	**71.42**	**327**	*e*P	**P**	**10 45 04.9**	**-1.1**
	6.7nm,0.5s							
PMR	**Palmer**	**79.82**	**29**	*e*P	**P**	**10 45 53.9**	**0.0**
	15nm,1.1s							
PMR				*ep*P	**pP**	**10 46 08.8**	**+1.2**
MCK	**McKinley**	**79.97**	**27**	*e*P	**P**	**10 45 55.4**	**+0.6**
	14nm,0.9s							
COLA	**College**	**80.47**	**26**	*e*P	**P**	**10 45 57.1**	**-0.2**
	6.6nm,0.8s							
ILAR	**Eielson Array**	**80.89**	**26**	P	**P**	**10 45 59.6**	**+0.1**
ILAR	**Eielson Array**	**80.89**	**26**	P	**P**	**10 45 59.6**	**+0.1**
	1.7nm,0.6s,baz=240,slow=5.0,SNR=34							
EGAK	**Eagle**	**83.34**	**26**	*e*P	**P**	**10 46 12.8**	**+0.4**
	3.2nm,0.6s							
EGAK				*ep*P	**pP**	**10 46 30.1**	**+3.9**
JOF	**Joensuu**	**85.41**	**333**	*ep*	**P**	**10 46 22.6**	**-0.3**
	2.7nm,0.5s							
ARCES	**ARCESS Array B**	**86.42**	**340**	P	**P**	**10 46 28.8**	**+0.9**
ARCES	**ARCESS Array B**	**86.42**	**340**	P	**P**	**10 46 28.8**	**+0.9**
	2.9nm,0.8s,baz=78,slow=7.7,SNR=4.7							
BRTR	**Keskin Array B**	**87.52**	**310**	P	**P**	**10 46 33.0**	**-1.0**
BRTR	**Keskin Array B**	**87.52**	**310**	P	**P**	**10 46 33.0**	**-1.0**
	0.8nm,0.7s,baz=106,slow=4.3,SNR=2.6							
VNDA	**Vanda**	**87.80**	**173**	P	**P**	**10 46 34.4**	**+0.1**
VNDA	**Vanda**	**87.80**	**173**	P	**P**	**10 46 34.4**	**+0.1**
	1.6nm,0.7s,baz=245,slow=3.0,SNR=3.8							
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	**10 46 35.5**	**-0.7**
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	**10 46 35.5**	**-0.7**
	1.3nm,0.4s,baz=68,slow=5.6,SNR=12							
AKASG	**Malin Array Be**	**88.71**	**321**	P	**P**	**10 46 38.5**	**-0.7**
AKASG	**Malin Array Be**	**88.71**	**321**	P	**P**	**10 46 38.5**	**-0.7**
	1.3nm,0.6s,baz=66,slow=5.2,SNR=5.8							
YKA	**Yellowknife Ar**	**95.25**	**24**	P	**P**	**10 47 09.6**	**+0.4**
	0.6nm,0.7s,baz=300,slow=4.7,SNR=17							
YKA	**Yellowknife Ar**	**95.25**	**24**	P	**P**	**10 47 09.6**	**+0.4**
	0.6nm,0.7s,baz=300,slow=4.7,SNR=17							
TXAR	**Lajitas Array**	**118.46**	**50**	PKP	**PKPdf**	**10 52 35.2**	**+1.2**
TXAR	**Lajitas Array**	**118.46**	**50**	PKP	**PKPdf**	**10 52 35.2**	**+1.2**
	0.5nm,0.6s,baz=270,slow=0.9,SNR=11							
JCT	**Junction City**	**120.75**	**47**	*e*PKPdf	**PKPdf**	**10 52 39.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**121.84**	**291**	PKP	**PKPdf**	**10 52 39.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**121.84**	**291**	PKP	**PKPdf**	**10 52 39.9**	**-0.8**
	0.4nm,0.8s,baz=18,slow=1.6,SNR=2.7							
PLCA	**Paso Flores**	**143.98**	**157**	PKP	PKPbc	10 53 19.8	+0.4
PLCA	**Paso Flores**	**143.98**	**157**	PKP	PKPbc	10 53 19.8	+0.4
	1.6nm,0.8s,baz=44,slow=7.1,SNR=5.7							
LRS	**Lares**	**150.24**	**28**	*e*PKPdf	**PKPdf**	**10 53 31.8**	**-0.7**
LRS				*e*PKPbc	**PKiKP**	**10 53 38.4**	**0.0**
LRS				*e*PKPab	**PKPab**	**10 53 43.1**	**-0.6**

IDC 19 10:41:23.2±3.4, 17.06°S×167.22°E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/33, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=69.0km s-min=33.0km az=87.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.04**	**188**	Pn	Pn	10 42 40.4	+0.2
	0.9nm,0.3s,baz=96,slow=22,SNR=12						
DZM				Sn	Sn	10 43 40.3	+0.9
	0.4nm,0.3s,baz=60,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**31.29**	**260**	P	P	10 47 45.9	+0.7
	0.5nm,0.8s,baz=90,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**31.86**	**253**	P	P	10 47 49.4	-0.9
	2.7nm,0.5s,baz=83,slow=8.8,SNR=53						
SONM	**Songino Array**	**84.33**	**324**	P	P	10 53 57.4	+0.1
	0.6nm,0.5s,baz=108,slow=4.7,SNR=2.5						

*ISCJB **19** 11:01:14.4±0.5, 29.30°N±0.03°×130.10°E±0.10, h50km±7km, mb3.3/4, Error ellipse: s-maj=14.7km s-min=3.8km az=17.7*

*JMA **19** 11:01:14.2, 29.31°N×130.15°E, h44km±3km, M3.2*

*IDC **19** 11:01:18.6±3.3, 29.31°N×130.04°E, h75km±34km, mb3.1/4, mb1 3.3/6, mb1mx3.1/40, mbtmp3.4/6, Error ellipse: s-maj=49.0km s-min=22.3km az=91.0*

ISC 19 11:01:14.4±1.2, 29.28N±0.04°×130.12E±0.09, h32km±10km, n17, σ1s26/26, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.60**	**339**	P	**Pb**	**11 01 26.2**	**-0.4**
JNN				S	**Sb**	**11 01 34.7**	**-0.2**
JZK	**Kikaishima**	**0.97**	**188**	P	**Pn**	**11 01 31.5**	**-0.3**
JZK				S	**Sb**	**11 01 45.4**	**+0.2**
JAM	**Amami Oshima**	**0.98**	**208**	P	**Pb**	**11 01 32.7**	**-0.1**
JAM				S	**Sb**	**11 01 45.5**	**+0.1**
JKC	**Kuchinoerabu**	**1.18**	**3**	P	**Pn**	**11 01 34.3**	**-0.4**
JKC				S	**Sn**	**11 01 48.9**	**-0.8**
JAMN	**Amaminishikomi**	**1.33**	**219**	P	**Pn**	**11 01 37.1**	**+0.4**
JAMN				S	**Sn**	**11 01 53.6**	**+0.4**
JTN	**Tanegashima 3**	**1.56**	**28**	P	**Pn**	**11 01 40.5**	**+0.6**
JTN				S	**Sn**	**11 01 58.9**	**-0.2**
JTK	**Tokunoshima**	**1.81**	**215**	P	**Pn**	**11 01 44.3**	**+0.9**
JTK				S	**Sn**	**11 02 06.3**	**+1.1**
JTSR	**Tashiro 2**	**2.00**	**20**	P	**Pn**	**11 01 46.4**	**+0.3**
JTSR				*e*S	**Sn**	**11 02 09.8**	**-0.3**
JSU	**Suzuyama**	**2.24**	**7**	P	**Pn**	**11 01 49.4**	**+0.1**
JSU				S	**Sn**	**11 02 14.7**	**-1.1**
JSJ	**Shimokoshiki**	**2.42**	**352**	P	**Pn**	**11 01 51.8**	**+0.1**
JNAR	**Kushima--Naru**	**2.45**	**24**	S	**Sn**	**11 02 21.7**	**+0.7**
JNU	**Nakatsue**	**3.88**	**9**	P	**Pn**	**11 02 14.6**	**+2.7**
	1.2nm,0.3s,baz=198,slow=6.0,SNR=9.5						
JNU				S	**Sn**	**11 03 00.9**	**+4.5**
	0.9nm,0.3s,baz=263,slow=20,SNR=1.6						
KSRS	**Korea Array**	**8.36**	**348**	P	Pn	11 03 16.9	+3.6
	0.1nm,0.3s,baz=157,slow=12,SNR=4.1						
SONM	**Songino Array**	**26.05**	**322**	P	**P**	**11 06 44.1**	**-0.8**
	0.4nm,0.5s,baz=147,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**49.10**	**175**	P	**P**	**11 09 58.1**	**-0.8**
	0.2nm,0.5s,baz=353,slow=8.0,SNR=4.9						
ASAR	**Alice Springs**	**52.77**	**176**	P	**P**	**11 10 26.9**	**+0.4**
	0.3nm,0.6s,baz=6.0,slow=15,SNR=5.1						
YKA	**Yellowknife Ar**	**75.06**	**26**	P	**P**	**11 12 51.8**	**-0.8**
	0.3nm,0.7s,baz=300,slow=5.6,SNR=5.6						

JMA 19 11:40:16.5±0.1, 30.01N×141.02E, h118km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.08**	**160**	P	Pn	11 41 04.4	+0.6
CBIJ				*e*S	Sn	11 41 40.5	+0.2
JHHJ	**Haha-jima-NKT**	**3.52**	**163**	P	Pn	11 41 10.1	+0.5
JHHJ				S	Sn	11 41 52.3	+1.6
BSO1	**Boso 1**	**4.63**	**360**	P	Pn	11 41 26.1	+2.4
BSO1				S	Sn	11 42 17.3	+1.3
BSO3	**Boso 3**	**4.80**	**355**	S	Sn	11 42 20.6	0.0
JOD2	**Odawara 2**	**5.49**	**343**	P	Pn	11 41 40.

2.1nm,0.6s,baz=94,slow=2.9,SNR=4.7

IDC ***19*** *12:03:56.8±0.9,30.°52S×177.°66W,h0km, mb4.8/8, mb1 4.9/9,mb1mx4.4/30,mbtmp4.7/9,ML3.8/1,MS3.6/9, Ms1 3.6/9,ms1mx3.3/36,Error ellipse: s-maj=27.2km s-min=19.6km az=130.0*

ISCJB ***19*** *12:03:57.9±0.7,30.°80S±0.°04×177.°4W±0.°1, h33km, mb4.9/15,MS3.6/8,Error ellipse: s-maj=18.0km s-min=4.3km az=14.0*

NEIC ***19*** *12:04:05.8±1.4,30.°22S×177.°75W,h64km±10km,mb5.1/7, Error ellipse: s-maj=17.2km s-min=10.2km az=132.0*

ISC 19 12:04:01.1±0.6,30.°57S±0.°06×177.7W±0.°1,h33km,n99, σ1s57/85,mb5.1/14,MS3.7/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**351**	*e*	Pg	**Pn**		**12 04 22.8**	**-0.6**
RAO				*e*	Sg	**Sn**		**12 04 36.7**	**-3.3**
RAO	**Raoul Island**	**1.33**	**351**		Pn	**Pn**		**12 04 22.8**	**-0.6**
	1μm,0.3s,baz=101,slow=11,SNR=46								
RAO					Sn	**Sn**		**12 04 36.6**	**-3.4**
	6μm,0.3s,baz=184,slow=23,SNR=20								
RAO					LR	LR		12 04 46.5	
	comp=Z,468nm,21.4s,baz=220,slow=39								
MXZ	**Matakaoa Point**	**7.73**	**204**	*e*	PN	**Pn**		**12 05 49.7**	**-1.6**
MXZ				*e*	SN	**Sn**		**12 07 17.5**	**-0.1**
HAZ	**Te Kaha**	**8.09**	**206**	*e*	PN	**Pn**		**12 05 55.5**	**-0.8**
HAZ				*e*	SN	**Sn**		**12 07 27.9**	**+1.4**
PUZ	**Puketiti**	**8.20**	**203**		PN	**Pn**		**12 05 56.0**	**-1.8**
PUZ				*e*	SN	**Sn**		**12 07 27.5**	**-1.8**
CNGZ	**Carnagh Statio**	**8.59**	**202**	*e*	PN	**Pn**		**12 06 01.9**	**-1.3**
OUZ	**Omahuta**	**8.67**	**235**	*e*	Pn	Pn		12 06 12.0	+7.7
	27nm,0.7s								
OUZ	**Omahuta**	**8.67**	**235**	*e*	PN	Pn		12 06 11.9	+7.6
MWZ	**Matawai**	**8.69**	**206**	*e*	PN	**Pn**		**12 06 02.2**	**-2.5**
MWZ				*e*	SN	**Sn**		**12 07 40.1**	**-1.4**
URZ	**Urewera**	**8.79**	**208**	*e*	Pn	**Pn**		**12 06 04.2**	**-1.7**
	12nm,0.5s								
URZ				*e*	Sn	**Sn**		**12 07 42.9**	**-0.9**
URZ	**Urewera**	**8.79**	**208**		Pn	**Pn**		**12 06 03.8**	**-2.1**
	1.0nm,0.3s,baz=269,slow=6.7,SNR=19								
URZ					Sn	**Sn**		**12 07 41.6**	**-2.2**
	5.1nm,0.3s,baz=251,slow=7.4,SNR=7.0								
URZ	**Urewera**	**8.79**	**208**	*e*	PN	**Pn**		**12 06 03.7**	**-2.1**
URZ				*e*	SN	**Sn**		**12 07 43.0**	**-0.9**
RIGZ	**Rimuhau**	**8.94**	**204**	*e*	PN	**Pn**		**12 06 05.8**	**-2.1**
SNGZ	**Shannon Statio**	**9.16**	**205**	*e*	PN	**Pn**		**12 06 08.1**	**-2.9**
SNGZ				*e*	SN	**Sn**		**12 07 50.6**	**-2.3**
KNZ	**Kokohu**	**9.25**	**203**	*e*	PN	**Pn**		**12 06 09.7**	**-2.4**
KNZ				*e*	SN	**Sn**		**12 07 52.4**	**-2.7**
BKZ	**Black Stump Fm**	**9.82**	**208**	*e*	PN	**Pn**		**12 06 16.9**	**-3.1**
BKZ				*e*	SN	**Sn**		**12 08 06.4**	**-2.7**
BFZ	**Birch Farm**	**11.23**	**204**	*e*	PN	Pn		12 06 34.5	-4.8
BFZ				*e*	SN	Sn		12 08 35.1	-8.5
MRZ	**Mangatainoka R**	**11.46**	**207**	*e*	PN	Pn		12 06 35.6	-6.9
MRZ				*e*	SN	Sn		12 08 40.5	-8.7
NNZ	**Nelson**	**12.85**	**212**	*e*	SN	Sn		12 09 14.9	-8.3
THZ	**Tophouse**	**13.50**	**212**	*e*	SN	Sn		12 09 29.2	-10
OXZ	**Oxford**	**15.13**	**210**	*e*	SN	Sn		12 10 04.1	-15
MQZ	**McQueen's Vall**	**15.19**	**208**	*e*	SN	Sn		12 10 04.7	-16
DZM	**Mont Dzumac**	**16.55**	**297**	*e*	P	P		12 08 04.6	+11
	58nm,1.2s								
DZM				*e*	LR	LR		12 11 55.3	
	662nm,25.0s								
DZM	**Mont Dzumac**	**16.55**	**297**		LR	LR		12 12 48.0	
	comp=Z,367nm,20.6s,baz=191,slow=32								
TBI	**Tubuai**	**26.12**	**81**	*e*	LR	LR		12 16 02.4	
	302nm,27.2s								
TBI	**Tubuai**	**26.12**	**81**	*e*	T	T		12 36 50.2	
	29nm,0.3s								
EIDS	**Eidsvold**	**28.02**	**273**	*e*	P	**P**		**12 09 51.1**	**+1.8**
	5.5nm,0.7s								
PAE	**Paea**	**28.60**	**70**	*e*	T	T		12 39 28.4	
	6.1nm,0.2s								
PPT2	**Papeete2**	**28.64**	**70**	*e*	LR	LR		12 17 06.6	
	229nm,25.5s								
PPT2	**Papeete2**	**28.64**	**70**	*e*	T	T		12 39 32.1	
	4.6nm,0.3s								
PPT	**Papeete**	**28.65**	**70**		LR	LR		12 18 43.6	
	comp=Z,36nm,18.9s,baz=222,slow=31								
TVO	**Taravao**	**28.80**	**70**	*e*	T	T		12 39 45.1	
	1.7nm,0.3s								
PMOR	**Pomariorio Ree**	**31.40**	**67**	*e*	T	T		12 42 52.0	
	3.5nm,0.3s								
VAH	**Vaihoa**	**31.48**	**68**	*e*	T	T		12 42 59.5	
	44nm,0.2s								
CTA	**Charters Tower**	**34.10**	**279**		P	**P**		**12 10 45.2**	**+2.4**
CTA	**Charters Tower**	**34.10**	**279**		P	**P**		**12 10 45.2**	**+2.4**
	46nm,0.7s,baz=103,slow=11,SNR=85								
CTAO	**Charters Tower**	**34.10**	**279**	*e*	P	**P**		**12 10 44.8**	**+1.9**
	15nm,0.4s								
STKA	**Stephens Creek**	**34.71**	**257**		P	**P**		**12 10 50.5**	**+2.5**
STKA	**Stephens Creek**	**34.71**	**257**		P	**P**		**12 10 50.5**	**+2.5**
	63nm,0.8s,baz=100,slow=10.0,SNR=83								
RKT	**Rikitea**	**38.64**	**89**	*e*	T	T		12 52 47.9	
	1.3nm,0.3s								
BBOO	**Buckleboo**	**39.19**	**254**	*e*	P	**P**		**12 11 27.2**	**+1.1**
	239nm,0.7s								
AS31	**Alice Springs**	**43.37**	**267**	*e*	P	**P**		**12 12 00.9**	**+0.2**
ASAR	**Alice Springs**	**43.37**	**267**		P	**P**		**12 12 00.7**	**0.0**
ASAR	**Alice Springs**	**43.37**	**267**		P	**P**		**12 12 00.7**	**0.0**
	9.0nm,0.5s,baz=105,slow=7.2,SNR=84								
ASAR					LR	LR		12 29 45.0	
	comp=Z,185nm,18.2s,baz=78,slow=36								
WRAB	**Tennant Creek**	**44.37**	**272**	*e*	P	**P**		**12 12 09.2**	**+0.6**
	10nm,0.4s								
WRA	**Warramunga Arr**	**44.38**	**272**		P	**P**		**12 12 08.7**	**-0.1**
WRA	**Warramunga Arr**	**44.38**	**272**		P	**P**		**12 12 08.7**	**-0.1**
	20nm,0.4s,baz=110,slow=8.1,SNR=158								
WRA					LR	LR		12 29 55.6	
	comp=Z,122nm,18.1s,baz=165,slow=35								
JAY	**Jayapura**	**48.22**	**297**		LR	LR		12 31 49.7	
	comp=Z,76nm,18.3s,baz=172,slow=35								
CASY	**Casey**	**55.12**	**208**	*e*	P	**P**		**12 13 31.2**	**+1.5**
	10nm,0.4s								
QSPA	**South Pole Qui**	**59.54**	**180**	*e*	P	P		12 14 05.7	+4.5
	17nm,0.6s								
TGY	**Tagaytay City**	**73.84**	**298**		LR	LR		12 45 51.4	
	comp=Z,17nm,21.1s,baz=124,slow=34								
MJAR	**Matsushiro Arr**	**78.54**	**325**		P	**P**		**12 15 58.0**	**-1.1**
MJAR	**Matsushiro Arr**	**78.54**	**325**		P	**P**		**12 15 58.0**	**-1.1**
	0.9nm,0.6s,baz=160,slow=6.2,SNR=3.2								
JNU	**Nakatsue**	**79.87**	**318**		LR	LR		12 49 49.7	
	comp=Z,29nm,18.9s,baz=73,slow=34								
H03N3	**Juan Fernandez**	**80.33**	**123**		T	T		13 45 24.3	
	baz=238,slow=75,SNR=74								
H03N2	**Juan Fernandez**	**80.33**	**123**		T	T		13 45 30.8	
	baz=238,slow=75,SNR=35								
H03N1	**Juan Fernandez**	**80.35**	**123**		T	T		13 45 35.0	
	baz=238,slow=75,SNR=66								
PETK	**Petropavlovsk-**	**86.05**	**345**		P	**P**		**12 16 38.7**	**+0.7**
PETK	**Petropavlovsk-**	**86.05**	**345**		P	**P**		**12 16 38.7**	**+0.7**
	4.1nm,0.7s,baz=134,slow=6.4,SNR=4.3								
PETK					LR	LR		12 48 18.9	
	comp=Z,28nm,21.7s,baz=139,slow=31								
NVAR	**Mina Array Bea**	**88.18**	**43**		P	**P**		**12 16 51.4**	**+2.4**
NVAR	**Mina Array Bea**	**88.18**	**43**		P	**P**		**12 16 51.4**	**+2.4**
	1.1nm,0.7s,baz=217,slow=8.3,SNR=5.0								
PMR	**Palmer**	**94.71**	**13**	*e*	P	**P**		**12 17 15.5**	**-2.9**
	35nm,1.7s								
NEW	**Newport**	**95.35**	**36**	*e*	P	**P**		**12 17 20.7**	**-1.1**
	8.6nm,1.6s								
LPAZ	**La Paz**	**97.82**	**114**		LR	LR		12 59 24.7	
	comp=Z,21nm,18.0s,baz=266,slow=34								
ILAR	**Eielson Array**	**98.03**	**13**		P		Pdif	12 17 34.0	+0.5
ILAR	**Eielson Array**	**98.03**	**13**		P		Pdif	12 17 34.0	+0.5
	0.4nm,0.8s,baz=217,slow=5.9,SNR=3.9								
YKA	**Yellowknife Ar**	**105.48**	**25**		PKiKP		**PKiKP**	**12 22 20.9**	**+1.0**
YKA					PKKPbc		**PKKPbc**	**12 33 46.9**	**+0.1**
YKA	**Yellowknife Ar**	**105.48**	**25**		PKiKP		**PKiKP**	**12 22 20.9**	**+1.0**
	0.1nm,0.7s,baz=264,slow=1.2,SNR=3.1								
YKA					PKKPbc		**PKKPbc**	**12 33 46.9**	**+0.1**
	0.1nm,0.5s,baz=51,slow=2.8,SNR=4.6								
MK31	**Makanchi Array**	**118.09**	**310**	*e*	PKPdf		**PKPdf**	**12 22 44.3**	**-0.1**
MKAR	**Makanchi Array**	**118.09**	**310**		PKP		**PKPdf**	**12 22 44.4**	**-0.1**
MKAR	**Makanchi Array**	**118.09**	**310**		PKP		**PKPdf**	**12 22 44.4**	**-0.1**
	0.7nm,0.5s,baz=215,slow=2.1,SNR=12								
ZALV	**Zalesovo Beam**	**118.34**	**318**		PKP		**PKPdf**	**12 22 44.2**	**-0.4**
ZALV	**Zalesovo Beam**	**118.34**	**318**		PKP		**PKPdf**	**12 22 44.2**	**-0.4**
	0.8nm,0.5s,baz=280,slow=0.9,SNR=4.0								
KURK	**Kurchatov**	**121.37**	**314**	*e*	PKPdf		**PKPdf**	**12 22 50.2**	**-0.3**
AAK	**Ala-Archa**	**122.44**	**304**	*e*	PKPdf		**PKPdf**	**12 22 52.0**	**-1.1**
KKAR	**Karatay Array**	**125.40**	**303**	*e*	PKPdf		**PKPdf**	**12 22 59.3**	**+0.8**
ARCES	**ARCESS Array B**	**138.81**	**348**		PKPpre		**PKPpre**	12 23 15.3	
ARCES	**ARCESS Array B**	**138.81**	**348**		PKhKP		PKPpre	12 23 15.3	
	5.3nm,0.9s,baz=60,slow=3.2,SNR=5.5								
JOF	**Joensuu**	**142.68**	**339**	*e*	pkp		**PKPdf**	**12 23 26.3**	**-3.8**
KAF	**Kangasniemi**	**144.80**	**341**	*e*	pkp		**PKPab**	**12 23 31.5**	**-1.4**
FIA1	**FINESS Array S**	**145.40**	**340**	*e*	PKPbc		**PKPbc**	**12 23 34.9**	**+0.1**
FINES	**FINESS Array B**	**145.40**	**340**		PKPbc		**PKPbc**	**12 23 35.0**	**+0.1**
FINES	**FINESS Array B**	**145.40**	**340**		PKPbc		**PKPbc**	**12 23 35.0**	**+0.1**
	29nm,0.8s,baz=53,slow=3.6,SNR=63								
NB2	**NORSAR Subarra**	**146.96**	**352**		PKP		**PKPbc**	**12 23 44.9**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=12,slow=2.8								
NOA	**NORSAR Array B**	**148.96**	**352**		PKPbc		**PKPbc**	**12 23 45.8**	**+0.8**
NOA	**NORSAR Array B**	**148.96**	**352**		PKPbc		**PKPbc**	**12 23 45.8**	**+0.8**
	comp=Z,4.4nm,0.6s,baz=14,slow=4.3,SNR=14								
NACGM	**Naroch**	**150.06**	**331**	*e*			**PKPdf**	**12 23 42.0**	**-0.8**
KONO	**Kongsberg**	**150.51**	**352**	*e*	PKPdf		**PKPdf**	**12 23 44.3**	**+0.9**
KONO				*e*	PKPbc		**PKiKP**	**12 23 49.6**	**+0.1**
KONO				*e*	PKPab		**PKPab**	**12 23 55.2**	**-0.2**
AKASG	**Malin Array Be**	**151.60**	**323**		PKPbc		**PKPbc**	**12 23 52.0**	**+0.4**
AKASG	**Malin Array Be**	**151.60**	**323**		PKPbc		**PKPbc**	**12 23 52.0**	**+0.4**
	comp=Z,11nm,0.5s,baz=47,slow=3.0,SNR=64								
AKBB	**Malin Array Si**	**151.60**	**323**	*e*	PKPbc		**PKPbc**	**12 23 52.1**	**+0.5**
AK01	**Malin Array Si**	**151.61**	**323**	*e*	PKPbc		**PKPbc**	**12 23 52.0**	**+0.4**
AK01				*e*	PKPab		**PKPab**	**12 24 01.1**	**+0.8**
KIEV	**Kiev**	**151.62**	**323**	*e*	PKPbc		**PKPbc**	**12 23 51.7**	**+0.1**
KIEV				*e*	PKPab		**PKPab**	**12 24 00.5**	**+0.2**
AK02	**Malin Array Si**	**151.64**	**323**	*e*	PKPbc		**PKPbc**	**12 23 51.9**	**+0.2**
BRTR	**Keskin Array B**	**152.92**	**298**		PKPbc		**PKPbc**	**12 23 55.5**	**+0.3**
BRTR	**Keskin Array B**	**152.92**	**298**		PKPbc		**PKPbc**	**12 23 55.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=254,slow=4.5,SNR=4.0								
CLL	**Collm**	**157.81**	**342**	*e*	PKPab		**PKPab**	**12 24 27.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**162.65**	**178**		PKPab		**PKPab**	**12 24 50.6**	**+2.1**
TORD	**Torodi Ar. Bea**	**162.65**	**178**		PKPab		**PKPab**	**12 24 50.6**	**+2.1**
	comp=Z,2.2nm,0.9s,baz=177,slow=2.7,SNR=8.8								

IDC 19 12:14:37.9±25.0,15.°66S×172.°69W,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.7/36,mbtmp4.2/4,Error ellipse: s-maj=478.1km s-min=158.5km az=73.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.26**	**257**		P	P		12 22 08.4	-0.2
	1.6nm,0.4s,baz=97,slow=9.5,SNR=3.1								
STKA	**Stephens Creek**	**44.50**	**240**		P	P		12 22 51.2	-0.2
	1.0nm,0.5s,baz=93,slow=10.0,SNR=7.6								
WRA	**Warramunga Arr**	**50.45**	**257**		P	P		12 23 38.0	0.0
	1.1nm,0.5s,baz=93,slow=6.8,SNR=38								
ASAR	**Alice Springs**	**50.68**	**252**		P	P		12 23 39.6	-0.1
	7.8nm,0.6s,baz=88,slow=8.3,SNR=180								

IDC ***19*** *12:38:23.6±0.6,20.°24S×174.°31W,h0km,mb4.1/13, mb1 4.4/14,mb1mx4.2/35,mbtmp4.2/14,ML4.8/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/28,Error ellipse: s-maj=25.6km s-min=17.1km az=122.0*

NEIC ***19*** *12:38:25.1±0.5,20.°27S×174.°27W,h10km,mb4.4/4,Error ellipse: s-maj=17.5km s-min=11.4km az=126.0*

ISC 19 12:38:28.4±0.6,19.°96S±0.°09×174.°2W±0.°1,h31km,n45, σ1s77/39,mb4.3/15,MS3.2/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.44**	**21**	*e*	Pn	Pn		12 39 58.2	-3.0
	48nm,0.4s								
AFI				*e*	Sn	Sn		12 41 06.8	-6.8
AFI	**Afiamalu**	**6.44**	**21**		Pn	Pn		12 39 58.1	-3.0
	19nm,0.3s,baz=113,slow=2.9,SNR=30								
AFI					Sn	**Sn**		**12 41 10.0**	**-3.6**
	34nm,0.3s,baz=37,slow=20,SNR=7.6								
AFI					LR	LR		12 42 20.9	
	comp=Z,411nm,21.8s,baz=158,slow=35								
DZM	**Mont Dzumac**	**18.23**	**260**	*e*	Pn	**P**		**12 42 41.0**	**+1.7**
DZM	**Mont Dzumac**	**18.23**	**260**		Pn	**P**		**12 42 40.5**	**+1.2**
	0.6nm,0.3s,baz=82,slow=19,SNR=9.7								
DZM					LR	LR		12 48 48.2	
	comp=Z,301nm,18.9s,baz=52,slow=35								
URZ	**Urewera**	**19.75**	**201**	*e*	P	P		12 42 50.4	-5.2
	17nm,0.6s								
URZ	**Urewera**	**19.75**	**201**		P	**P**		**12 42 52.1**	**-3.5**
	2.7nm,0.3s,baz=359,slow=4.0,SNR=36								
PPT	**Papeete**	**23.39**	**88**		LR	LR		12 52 30.4	
	comp=Z,79nm,18.3s,baz=12,slow=36								
CTAO	**Charters Tower**	**37.13**	**263**	*e*	P	**P**		**12 45 35.8**	**-0.7**
	3.7nm,0.6s								
STKA	**Stephens Creek**	**41.27**	**244**	*e*	P	**P**		**12 46 08.8**	**-2.2**
STKA	**Stephens Creek**	**41.27**	**244**		P	**P**		**12 46 08.0**	**-2.9**
	2.5nm,0.7s,baz=102,slow=8.2,SNR=8.4								
STKA					LR	LR		13 01 28.6	
	comp=Z,105nm,18.5s,baz=29,slow=34								
ASAR	**Alice Springs**	**48.15**	**256**		P	**P**		**12 47 03.8**	**-2.2**
ASAR	**Alice Springs**	**48.15**	**256**		P	**P**		**12 47 03.8**	**-2.2**
	1.0nm,0.5s,baz=92,slow=8.2,SNR=16								
WRAB	**Tennant Creek**	**48.24**	**261**	*e*	P	**P**		**12 47 05.5**	**-1.1**
	3.3nm,0.7s								
WRA	**Warramunga Arr**	**48.24**	**261**		P	**P**		**12 47 04.8**	**-1.9**
WRA	**Warramunga Arr**	**48.24**	**261**		P	**P**		**12 47 04.8**	**-1.9**
	1.9nm,0.6s,baz=98,slow=5.8,SNR=23								
VNDA	**Vanda**	**58.79**	**186**	*e*	P	**P**		**12 48 22.1**	**-1.0**
	1.7nm,0.9s								
VNDA	**Vanda**	**58.79**	**186**		P	**P**		**12 48 22.4**	**-0.8**
	2.8nm,1.0s,baz=54,slow=3.4,SNR=3.8								
QSPA	**South Pole Qui**	**70.11**	**180**	*e*	P	**P**		**12 49 36.0**	**-1.5**
QSPA	**South Pole Qui**	**70.11**	**180**		P	**P**		**12 49 35.7**	**-1.8**
	8.7nm,1.0s,baz=54,slow=3.5,SNR=11								
MJAR	**Matsushiro Arr**	**71.98**	**321**		P	**P**		**12 49 50.6**	**+1.5**
MJAR	**Matsushiro Arr**	**71.98**	**321**		P	**P**		**12 49 50.6**	**+1.5**
	2.1nm,0.6s,baz=159,slow=6.3,SNR=9.5								
H06S1	**SOCORRO T**	**72.93**	**62**		T	T		14 11 13.9	
	SNR=12								
PETK	**Petropavlovsk-**	**76.74**	**343**		P	**P**		**12 50 17.9**	**+1.4**
PETK	**Petropavlovsk-**	**76.74**	**343**		P	**P**		**12 50 17.9**	**+1.4**
	2.2nm,0.7s,baz=131,slow=8.3,SNR=4.9								
PETK					LR	LR		13 17 02.3	
	comp=Z,14nm,21.7s,baz=108,slow=30								
NVAR	**Mina Array Bea**	**78.19**	**42**		P	**P**		**12 50 26.2**	**+1.1**
NVAR	**Mina Array Bea**	**78.19**	**42**		P	**P**		**12 50 26.2**	**+1.1**
	1.8nm,0.7s,baz=222,slow=9.1,SNR=9.3								
TXAR	**Lajitas Array**	**83.75**	**56**		P	**P**		**12 50 57.2**	**+2.4**
TXAR	**Lajitas Array**	**83.75**	**56**		P	**P**		**12 50 57.2**	**+2.4**
	0.4nm,0.9s,baz=243,slow=5.6,SNR=3.3								
SEY	**Seymchan**	**86.72**	**345**		P	**P**		**12 51 10.2**	**+1.5**
SEY	**Seymchan**	**86.72**	**345**		P	**P**		**12 51 10.2**	**+1.5**
	1.1nm,0.5s,baz=18,slow=23,SNR=9.4								
ILAR	**Eielson Array**	**87.04**	**11**		P	**P**		**12 51 11.2**	**+0.9**
ILAR	**Eielson Array**	**87.04**	**11**		P	**P**		**12 51 11.2**	**+0.9**
	0.4nm,0.8s,baz=225,slow=5.5,SNR=8.1								
CMAR	**Chiang Mai Arr**	**93.35**	**288**		P	**P**		**12 51 42.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.35**	**288**		P	**P**		**12 51 42.7**	**+1.7**
	1.6nm,0.9s,baz=119,slow=2.9,SNR=9.4								
YKA	**Yellowknife Ar**	**94.55**	**24**		P	**P**		**12 51 47.2**	**+1.8**
YKA	**Yellowknife Ar**	**94.55**	**24**		P	**P**		**12 51 47.2**	**+1.8**
	0.1nm,0.4s,baz=232,slow=3.0,SNR=3.8								
BVAR	**Borovoye Array**	**120.97**	**320**		PKP		**PKPdf**	**12 57 17.7**	**+0.1**
BVAR	**Borovoye Array**	**120.97**	**320**		PKP		**PKPdf**	**12 57 17.7**	**+0.1**
	0.8nm,0.6s,baz=116,slow=3.4,SNR=3.1								
AKASG	**Malin Array Be**	**144.19**	**334**		PKP		PKPbc	12 57 59.1	0.0
AKASG	**Malin Array Be**	**144.19**	**334**		PKP		PKPbc	12 57 59.1	0.0
	0.7nm,0.6s,baz=40,slow=4.5,SNR=16								
CLL	**Collm**	**148.22**	**351**	*e*	PKPbc		**PKPbc**	**12 58 12.0**	**+0.9**
BRTR	**Keskin Array B**	**149.07**	**316**		PKPbc		**PKPbc**	**12 58 14.1**	**+0.2**
BRTR	**Keskin Array B**	**149.07**	**316**		PKPbc		**PKPbc**	**12 58 14.1**	**+0.2**
	0.9nm,0.6s,baz=129,slow=3.8,SNR=4.1								
GERES	**GERESS Array B**	**150.50**	**349**		PKPbc		**PKPbc**	**12 58 17.9**	**+0.8**
GERES	**GERESS Array B**	**150.50**	**349**		PKPbc		**PKPbc**	**12 58 17.9**	**+0.8**
	0.6nm,0.6s,baz=24,slow=3.6,SNR=5.1								

IDC 19 12:42:23.6±8.7,23.°22S×179.°23W,h442km±45km, mb3.5/4,mb1 3.6/4,mb1mx3.1/32,mbtmp4.3/4,Error ellipse: s-maj=133.7km s-min=33.8km az=36.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.64**	**247**		P	P		12 48 41.6	-1.1
	3.7nm,0.6s,baz=91,slow=9.6,SNR=16								
ASAR	**Alice Springs**	**42.85**	**260**		P	P		12 49 41.6	+0.1
	1.2nm,0.5s,baz=92,slow=6.8,SNR=11								
WRA	**Warramunga Arr**	**43.17**	**265**		P	P		12 49 44.5	+0.5
	3.9nm,0.5s,baz=98,slow=8.3,SNR=36								
WRA					ScP	ScP		12 54 31.9	-0.8
	0.9nm,0.8s,baz=103,slow=3.7,SNR=7.2								
QSPA	**South Pole Qui**	**66.86**	**180**		P	P		12 52 30.2	0.0
	1.9nm,0.7s,baz=65,slow=6.2,SNR=3.8								

IDC 19 13:35:20.3±8.9,0.°19N×121.°71E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/34,mbtmp3.6/3,MS3.0/1,Ms1 3.0/1, ms1mx2.4/26,Error ellipse: s-maj=190.0km s-min=137.2km az=52.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**149**		P	P		13 40 32.4	+0.1
	1.6nm,0.7s,baz=326,slow=11,SNR=19								
ASAR	**Alice Springs**	**26.51**	**154**		P	P		13 40 59.7	-0.1
	0.5nm,0.5s,baz=343,slow=14,SNR=17								
STKA	**Stephens Creek**	**37.03**	**151**		P	P		13 42 31.9	-0.2
	0.9nm,0.7s,baz=325,slow=8.3,SNR=4.0								
MJAR	**Matsushiro Arr**	**39.28**	**21**		LR	LR		13 58 43.3	
	comp=Z,21nm,20.8s,baz=175,slow=36								

IDC 19 13:35:50.9±5.3,22.°82S×13.°40W,h0km,mb4.0/5, mb1 4.0/5,mb1mx3.8/23,mbtmp4.0/5,MS3.5/5,Ms1 3.4/5, ms1mx3.0/25,Error ellipse: s-maj=231.8km s-min=92.2km az=96.0,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**13.83**	**355**		T	T		13 53 26.5	
	baz=176,slow=74,SNR=9.9								
H10S3	**ASCENSION HYDR**	**13.84**	**355**		T	T		13 53 27.1	
	baz=176,slow=74,SNR=8.8								
H10S1	**ASCENSION HYDR**	**13.85**	**355**		T	T		13 53 25.9	
	baz=176,slow=74,SNR=14								
DBIC	**Dimbokro**	**30.47**	**17**		P	P		13 42 05.0	-0.7
	1.4nm,0.7s,baz=162,slow=6.4,SNR=3.0								
BDFB	**Brasilia**	**33.40**	**276**		LR	LR		13 53 00.7	
	comp=Z,77nm,21.3s,baz=192,slow=31								
BOSA	**Boshof**	**35.19**	**108**		LR	LR		13 54 51.2	
	comp=Z,62nm,18.2s,baz=218,slow=32								
TORD	**Torodi Ar. Bea**	**38.68**	**24**		P	P		13 43 17.1	+0.5
	1.6nm,0.5s,baz=202,slow=9.1,SNR=27								
TORD					LR	LR		13 56 40.4	
	comp=Z,36nm,18.2s,baz=140,slow=32								
CPUP	**Villa Florida**	**39.97**	**256**		LR	LR		13 57 15.4	
	comp=Z,51nm,18.6s,baz=173,slow=32								
PLCA	**Paso Flores**	**50.88**	**235**		LR	LR		14 05 14.1	

s-min=7.6km az=52.0

ISCJB ***19*** *14:23:37.6±0.1, 19°.01N±0°.02×80°.92W±0°.01, h9km, mb5.6/299, MS5.4/167, Error ellipse: s-maj=2.5km s-min=1.7km az=20.8*

GCMT ***19*** *14:23:38.8±0.1, 18°.99N×80°.91W, h20km, MW5.9/123, Moment Tensor Solution. s110,c230; s123,c373; Duration: 2±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29±.07; $M_{\theta\theta}$-3.15±.07; $M_{\phi\phi}$3.44±.08; $M_{r\theta}$1.34±.15; $M_{\theta\phi}$7.84±.06; $M_{\phi r}$-0.59±.15; Best double couple: M_o8.63300×10^{17} NP1:ϕ_s258.00000°, δ84.00000°, λ-8.00000°. NP2:ϕ_s349.00000°, δ82.00000°, λ-174.00000°. Principal axes: T 8.6570, Plg2.0000°, Azm304.0000°; N -0.0490, Plg80.0000°, Azm43.0000°; P -8.6090, Plg10.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF ***19*** *14:23:38.2, 18°.48N×80°.98W, h33km, mb5.8, North of Honduras*

NEIC ***19*** *14:23:38.9±0.1, 19°.00N×80°.80W, h10km, mb5.7/189, MS5.4/108, MW5.8, MW5.9, MD5.9(JSN), Error ellipse: s-maj=4.0km s-min=2.2km az=208.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^{17}Nm; M_{rr}0.86; $M_{\theta\theta}$-2.66; $M_{\phi\phi}$ 1.80; $M_{r\theta}$-0.07; $M_{\phi\phi}$4.86; $M_{\phi r}$1.33; Best double couple: M_o5.60000×10^{17} NP1:ϕ_s78.00000°, δ75.00000°, λ5.00000°. NP2:ϕ_s347.00000°, δ85.00000°, λ165.00000°. Principal axes: T 5.1900, Plg14.0000°, Azm301.0000°; N 0.6700, Plg74.0000°, Azm147.0000°; P -5.8700, Plg6.0000°, Azm33.0000°;*

NEIC Felt [IV] at Bodden Town, George Town and West Bay. Felt [II] at Kingston, Jamaica. Also felt at Half Way Tree, Mona and Montego Bay.

MOS ***19*** *14:23:39.4±1.1, 19°.20N×80°.98W, h15km, mb5.9/99, MS5.4/44 Error ellipse: s-maj=5.8km s-min=4.0km az=85.6*

JSN ***19*** *14:23:39.6±1.1, 18°.94N×80°.61W, h0km±999km, MD5.9*

NEIC ***19*** *14:24:00.3±0.0, 19°.46N×80°.55W, h10km, Moment Tensor Solution. s146 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.56; $M_{\theta\theta}$-2.41; $M_{\phi\phi}$2.97; $M_{r\theta}$-2.11; $M_{\theta\phi}$6.00; $M_{\phi r}$3.10; Best double couple: M_o7.50000×10^{17} NP1:ϕ_s170.00000°, δ81.00000°, λ-152.00000°. NP2:ϕ_s75.00000°, δ63.00000°, λ-9.00000°. Principal axes: T 7.1700, Plg12.0000°, Azm299.0000°; N 0.7800, Plg61.0000°, Azm186.0000°; P -7.9400, Plg25.0000°, Azm35.0000°;*

ISC 19 14:23:38.9±0.6, 18°.91N±0°.03×80°.98W±0°.03, h12km±3km, n1368, σ1°.44/1355, mb5.7/313, MS5.4/168, 266C-244D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**3.33**	**101**	*e*Pn	Pn	14 24 27.4	-3.6
MTDJ				*e*S	Sn	14 25 02.6	-8.0
PCJ	**Portland Cotta**	**3.81**	**107**	*i* P	**Pn**	**14 24 34.2**	**-3.1**
PCJ	**Portland Cotta**	**3.81**	**107**	*i* P	**Pn**	**14 24 34.2**	**-3.1**
BNJ	**Bonny Gate**	**3.86**	**98**	*i* P	Pn	14 24 34.6	-3.5
BNJ	**Bonny Gate**	**3.86**	**98**	*i* P	Pn	14 24 34.6	-3.5
STH	**Stony Hill**	**4.04**	**101**	*i* P	Pn	14 24 37.3	-3.3
STH	**Stony Hill**	**4.04**	**101**	*i* P	Pn	14 24 37.3	-3.3
STH				*i* S	Sn	14 25 20.1	-7.9
STH	**Stony Hill**	**4.04**	**101**	*i* P	Pn	14 24 37.3	-3.3
STH				*i* S	Sn	14 25 20.1	-7.9
HOJ	**Hope**	**4.11**	**102**	*i* P	Pn	14 24 37.3	-4.3
HOJ	**Hope**	**4.11**	**102**	*i* P	Pn	14 24 37.3	-4.3
HOJ	**Hope**	**4.11**	**102**	*i* P	Pn	14 24 37.3	-4.3
GWJ	**Greenwich**	**4.12**	**101**	*i* P	Pn	14 24 38.3	-3.5
GWJ	**Greenwich**	**4.12**	**101**	*i* P	Pn	14 24 38.3	-3.5
YHJ	**Yallahs**	**4.38**	**103**	*i* P	**Pn**	**14 24 42.3**	**-2.9**
YHJ	**Yallahs**	**4.38**	**103**	*i* P	**Pn**	**14 24 42.3**	**-2.9**
GTBY	**Guantanamo Bay** 1μm,0.7s	**5.63**	**79**	*e*Pn	Pn	14 24 57.9	-4.6
GTBY				*e*S	Sn	14 25 53.0	-14
TEIG	**Tepich** 22μm,0.6s	**7.01**	**282**	*e*Pn	**Pn**	**14 25 20.6**	**-0.7**
TEIG				Sn	**Sn**	**14 26 35.7**	**-5.3**
TEIG	**Tepich** 4μm,0.3s,baz=79,slow=2.4,SNR=3502	**7.01**	**282**	Pn	**Pn**	**14 25 20.8**	**-0.6**
TEIG	731nm,0.3s,baz=182,slow=23,SNR=12			Sn	**Sn**	**14 26 35.7**	**-5.3**
TEIG	comp=Z,26μm,18.8s,baz=95,slow=37			LR	LR	14 28 00.3	
TGUH	**Tegucigalpa,Un**	**7.73**	**232**	*e*P	**Pn**	**14 25 33.3**	**+2.0**
TGUH				*e*S	**Sn**	**14 26 55.8**	**-3.0**
TGUH	**Tegucigalpa,Un** 2μm,0.8s	**7.73**	**232**	*e*P	**Pn**	**14 25 33.7**	**+2.5**
TGUH				*e*S	**Sn**	**14 27 04.5**	**+5.8**
HUEN		**8.23**	**218**	*e*P	Pn	14 25 42.1	+4.0
COPN	**Copaltepe**	**8.60**	**220**	*e*P	**Pn**	**14 25 46.4**	**+3.2**
CAHU	**Cacauatique**	**8.62**	**235**	*e*P	Pn	14 25 47.7	+4.0
CNCH	**Conchagua**	**8.64**	**231**	*e*P	**Pn**	**14 25 46.6**	**+2.7**
MRL	**Marmol**	**9.17**	**247**	*e*P	**Pn**	**14 25 52.7**	**+1.5**
MRL				*e*S	**Sn**	**14 27 30.8**	**-3.7**
SDDR	**Presa de Saban** 694nm,1.0s	**9.17**	**88**	*e*P	Pn	14 25 47.4	-3.7
SNVI	**San Vicente**	**9.20**	**236**	*e*P	Pn	14 25 55.2	+3.5
LBRS	**Las Brisas**	**9.29**	**238**	*e*P	**Pn**	**14 25 54.9**	**+2.1**
LFU	**La Fuente**	**9.34**	**238**	*e*P	**Pn**	**14 25 56.3**	**+2.8**
LFRS	**El Faro**	**9.37**	**237**	*e*P	**Pn**	**14 25 56.2**	**+2.2**
JTS	**JuntasAbangare** 3μm,0.7s,SNR=46	**9.39**	**205**	Pn	**Pn**	**14 25 56.0**	**+1.9**
JTS	**JuntasAbangare** 491nm,0.9s	**9.39**	**205**	*e*P	**Pn**	**14 25 56.1**	**+2.0**
JTS				Sn	Sn	14 27 48.1	+8.4
JTS	**JuntasAbangare** 17nm,0.3s,baz=38,slow=12,SNR=89	**9.39**	**205**	Pn	**Pn**	**14 25 55.4**	**+1.3**
JTS	baz=342,slow=20,SNR=1.5			Sn	Sn	14 27 48.1	+8.4
JTS	comp=Z,14μm,19.9s,baz=56,slow=40			LR	LR	14 29 48.9	
CGA2	**Cerro Gallo 2**	**9.46**	**201**	*e*P	**Pn**	**14 25 58.2**	**+3.0**
BOQS	**Boqueron**	**9.48**	**238**	*e*P	Pn	14 25 58.8	+3.2
GRTK	**Grand Turk** 715nm,1.1s	**9.60**	**73**	*e*P	Pn	14 25 52.4	-4.6
RBDL	**Robledal**	**9.62**	**242**	*e*P	**Pn**	**14 26 00.4**	**+3.1**
SNJE	**San Jose**	**9.68**	**240**	*e*P	**Pn**	**14 26 01.1**	**+2.9**
BUS	**Buena Vista**	**9.68**	**197**	*e*P	**Pn**	**14 25 59.9**	**+1.5**
RTR	**El Retiro**	**9.69**	**240**	*e*P	Pn	14 26 01.7	+3.3
SBLS	**San Blas**	**9.71**	**240**	*e*P	Pn	14 26 02.0	+3.4
BCIP	**Isla Barro Col** 393nm,1.4s	**9.74**	**173**	*e*P	**Pn**	**14 25 57.2**	**-1.7**
VCR	**Vista de Mar**	**9.82**	**208**	*e*P	Pn	14 26 04.7	+4.6
JCR	**Jicaral**	**9.85**	**205**	*e*P	**Pn**	**14 26 03.5**	**+3.0**
APG	**El Apazote**	**9.87**	**248**	Pn	**Pn**	**14 25 59.3**	**-1.6**
APG				Sn	**Sn**	**14 27 51.0**	**-0.8**
APG	**El Apazote** 6.7nm,0.3s,baz=73,slow=10,SNR=129	**9.87**	**248**	Pn	**Pn**	**14 25 59.3**	**-1.6**
APG	9.5nm,0.3s,baz=159,slow=18,SNR=5.2			Sn	**Sn**	**14 27 51.0**	**-0.8**
QCR	**Quepos**	**9.92**	**199**	*e*P	**Pn**	**14 26 03.9**	**+2.6**
ACR	**Cerro Adams**	**10.41**	**192**	*e*P	**Pn**	**14 26 09.7**	**+1.6**
TIGA	**Tifton** 2μm,0.9s	**12.70**	**350**	*e*P	**Pn**	**14 26 36.5**	**-2.9**
TIGA	**Tifton** baz=13,SNR=132	**12.70**	**350**	⇓P	**Pn**	**14 26 37.3**	**-2.0**
AGPR	**Aguadilla, PR** 824nm,1.2s	**13.15**	**90**	*e*P	**Pn**	**14 26 42.9**	**-2.6**
CRPR	**Cabo Rojo, PR** 193nm,0.6s	**13.19**	**92**	*e*P	Pn	14 26 42.5	-3.6
LSP	**Las Mesas**	**13.20**	**91**	*e*P	Pn	14 26 42.3	-3.9
BRAL	**Brewton** 841nm,1.0s	**13.25**	**337**	*e*P	**Pn**	**14 26 45.1**	**-1.8**
LRS	**Lares**	**13.41**	**90**	*e*P	**Pn**	**14 26 46.5**	**-2.7**
OBIP	**Obispado Ponce** 126nm,0.7s	**13.66**	**91**	*e*P	Pn	14 26 48.6	-4.0
CELP	**Cerrillos**	**13.69**	**91**	*e*P	Pn	14 26 49.1	-3.8
SDV	**Santo Domingo** 492nm,0.9s	**14.13**	**133**	*e*P	Pn	14 26 55.2	-4.0
NHSC	**New Hope** 396nm,0.9s	**14.16**	**3**	P	Pn	14 26 54.8	-4.6
CBYP	**Canovanas** 507nm,1.2s	**14.35**	**90**	*e*P	**Pn**	**14 26 59.0**	**-3.0**
GOGA	**Godfrey**	**14.62**	**352**	*e*P	Pn	14 27 01.4	-4.2
GOGA	comp=Z,7.0nm,1.4s			pmax	pmax		
GOGA	**Godfrey** comp=Z,6.9nm,1.4s	**14.62**	**352**	*e*P	Pn	14 27 01.4	-4.2
MTP	**Monte Pirata** comp=Z,638nm,1.3s	**14.65**	**91**	*e*P	**Pn**	**14 27 03.7**	**-2.4**
ROSC	**El Rosal**	**15.40**	**154**	*e*P	**Pn**	**14 27 16.9**	**+0.5**
ROSC				Sn	**Sn**	**14 30 04.2**	**-3.1**
ROSC	**El Rosal** comp=Z,2.9nm,0.3s,baz=4.5,slow=3.8,SNR=22	**15.40**	**154**	Pn	**Pn**	**14 27 16.0**	**-0.4**
ROSC	comp=Z,2.0nm,0.3s,baz=99,slow=19,SNR=2.1			Sn	**Sn**	**14 30 04.2**	**-3.1**
ROSC	comp=Z,9μm,18.3s,baz=355,slow=39			LR	LR	14 33 31.5	
CDVI	**St. Croix** comp=Z,292nm,0.8s	**15.44**	**92**	*e*P	**Pn**	**14 27 13.0**	**-3.6**
KMSC	**Kings Mountain** comp=Z,186nm,1.1s	**16.18**	**359**	*e*P	Pn	14 27 20.9	-5.2
KMSC	**Kings Mountain** baz=16,SNR=22	**16.18**	**359**	⇓P	**Pn**	**14 27 24.5**	**-1.6**
CPCT	**Cooper Cave**	**16.78**	**350**	*e*P	**Pn**	**14 27 32.0**	**-1.7**
SWET	**Sewanee** comp=Z,337nm,1.0s	**16.83**	**346**	*e*P	**Pn**	**14 27 30.8**	**-3.7**
TKL	**Tuckaleechee C**	**16.87**	**352**	*e*P	**Pn**	**14 27 31.7**	**-3.2**
TKL				Sn	Sn	14 30 29.9	-12
TKL	**Tuckaleechee C** comp=Z,4.9nm,0.3s,baz=167,slow=14,SNR=77	**16.87**	**352**	Pn	**Pn**	**14 27 31.7**	**-3.2**
TKL	comp=Z,3.6nm,0.3s,baz=150,slow=6.6,SNR=3.8			Sn	Sn	14 30 29.9	-12
TKL	comp=Z,16μm,19.9s,baz=171,slow=36			LR	LR	14 33 40.9	
936A	**North Padre Is** baz=17	**17.23**	**302**	P	**Pn**	**14 27 38.1**	**-1.3**
OXF	**Oxford**	**17.26**	**336**	*e*P	**Pn**	**14 27 38.1**	**-1.7**
OXF	comp=Z,195nm,0.9s			pmax	pmax		
OXF	**Oxford** comp=Z,195nm,0.9s	**17.26**	**336**	*e*P	**Pn**	**14 27 38.1**	**-1.7**
HKT	**Hockley**	**17.41**	**312**	*e*P	**Pn**	**14 27 39.9**	**-1.8**
HKT	comp=Z,572nm,1.2s			pmax	pmax		
HKT	**Hockley** comp=Z,572nm,1.2s	**17.41**	**312**	*e*P	**Pn**	**14 27 39.9**	**-1.8**
035Z	**Hargill** baz=18,SNR=93	**17.46**	**299**	⇓P	**Pn**	**14 27 40.9**	**-1.5**
035A	**Encino** baz=18	**17.67**	**300**	P	**Pn**	**14 27 43.7**	**-1.3**
KVTX	**Kingsville** comp=Z,807nm,0.7s	**17.75**	**302**	*e*P	**Pn**	**14 27 45.6**	**-0.4**
NATX	**Nacogdoches** comp=Z,789nm,0.6s	**17.78**	**319**	*e*P	**Pn**	**14 27 43.4**	**-2.8**
835A	**Beeville** baz=18,SNR=101	**18.03**	**304**	⇓P	**Pn**	**14 27 48.4**	**-1.0**
034A	**Hebbronville** baz=18,SNR=262	**18.20**	**300**	⇓P	**Pn**	**14 27 50.2**	**-1.3**
BLA	**Blacksburg**	**18.25**	**1**	*e*P	**Pn**	**14 27 49.0**	**-3.0**
BLA	comp=Z,327nm,0.9s			pmax	pmax		
BLA	**Blacksburg** comp=Z,327nm,0.9s	**18.25**	**1**	*e*P	**Pn**	**14 27 49.0**	**-3.0**
ANWB	**Willy Bob** comp=Z,206nm,0.9s	**18.27**	**91**	*e*P	**Pn**	**14 27 48.7**	**-3.6**
934A	**Benavides** baz=18,SNR=293	**18.28**	**301**	⇓P	**Pn**	**14 27 51.4**	**-1.1**
735A	**Kendy** baz=18,SNR=32	**18.28**	**306**	⇓P	**Pn**	**14 27 50.8**	**-1.6**
VWCC	**Virginia Weste**	**18.29**	**3**	*e*P	**Pn**	**14 27 49.2**	**-3.4**
536A	**Bastrop** baz=18	**18.36**	**310**	P	**Pn**	**14 27 52.2**	**-1.3**
HALT	**Halls**	**18.48**	**338**	*e*P	**P**	**14 27 53.4**	**-1.3**
635A	**Leesville** baz=19,SNR=34	**18.52**	**307**	⇑P	**P**	**14 27 52.8**	**-2.4**
834A	**Tilden** baz=19,SNR=220	**18.53**	**303**	⇑P	**P**	**14 27 53.8**	**-1.5**
MLG	**Mont-d'or**	**18.59**	**96**	*e*P	**P**	**14 27 55.4**	**-0.8**
SSG	**Sans Toucher**	**18.62**	**96**	*e*P	**P**	**14 27 55.6**	**-0.9**
ECG	**Echelle**	**18.65**	**96**	*e*P	**P**	**14 27 56.4**	**-0.5**
HBAR	**Harrisburg**	**18.67**	**335**	*e*P	**Pn**	**14 27 57.4**	**+0.3**
PHG	**Guadaloupe-2**	**18.67**	**96**	*e*P	**P**	**14 27 56.3**	**-0.7**
DOG	**Dongo Capester**	**18.69**	**96**	*e*P	**P**	**14 27 56.8**	**-0.3**
TBG	**Guadaloupe-3**	**18.70**	**96**	*e*P	**P**	**14 27 55.6**	**-1.7**
535A	**Dale** baz=19,SNR=103	**18.70**	**309**	⇑P	**P**	**14 27 56.1**	**-1.1**
UTMT	**University of** comp=Z,638nm,0.8s	**18.71**	**340**	*e*P	**P**	**14 27 57.2**	**0.0**
OTAV	**Otavalo** comp=Z,262nm,1.2s	**18.72**	**172**	*e*P	**Pn**	**14 28 00.8**	**+2.5**
SEG	**Port Louis**	**18.72**	**95**	*e*P	**P**	**14 27 53.6**	**-3.9**
UALR	**University of** comp=Z,628nm,1.4s	**18.76**	**330**	*e*P	**Pn**	**14 27 58.2**	**0.0**
GNAR	**Gosnell** comp=Z,6μm,1.1s	**18.77**	**337**	*e*P	**P**	**14 27 58.2**	**+0.2**
GLAT	**Glass**	**18.79**	**339**	*e*P	**P**	**14 27 57.4**	**-0.6**
734A	**La Parita Cree** baz=19,SNR=56	**18.86**	**305**	⇓P	**P**	**14 27 57.8**	**-1.2**
933A	**Laredo** baz=19,SNR=170	**18.90**	**301**	⇑P	**P**	**14 27 58.6**	**-0.8**
JSRW	**J. Sargeant Re**	**18.91**	**8**	*e*P	**P**	**14 27 58.3**	**-1.1**
634A	**China Grove, S** baz=19,SNR=12	**18.95**	**307**	⇓P	**P**	**14 27 58.9**	**-1.1**
435B	**Jarrell** baz=19	**19.13**	**311**	P	**P**	**14 28 01.7**	**-0.2**
DEG	**La Desirade**	**19.16**	**95**	*e*P	**P**	**14 28 00.2**	**-2.2**
MIAR	**Mount Ida** comp=Z,412nm,1.0s	**19.19**	**327**	*e*P	**P**	**14 28 02.5**	**0.0**
MIAR				pmax	pmax		
MIAR	**Mount Ida** comp=Z,412nm,1.0s	**19.19**	**327**	*e*P	**P**	**14 28 02.5**	**0.0**
833A	**Chaparral WMA,** baz=19,SNR=384	**19.28**	**303**	⇑P	**P**	**14 28 02.7**	**-0.9**
PARMO	**Parma**	**19.30**	**338**	*e*P	**Pn**	**14 28 04.5**	**-0.3**
335A	**Moody** baz=19,SNR=111	**19.30**	**313**	⇑P	**P**	**14 28 04.1**	**+0.3**
534A	**Blanco** baz=20,SNR=187	**19.37**	**308**	⇑P	**P**	**14 28 04.6**	**0.0**
733A	**Divot King Ran** baz=20,SNR=248	**19.38**	**304**	⇑P	**P**	**14 28 04.1**	**-0.6**
FDF	**Fort de France**	**19.42**	**99**	*e*P	**P**	**14 28 03.2**	**-2.1**
FDF	comp=Z,998nm,1.5s			pmax	pmax		
FDF	**Fort de France** comp=Z,998nm,1.5s	**19.42**	**99**	*e*P	**P**	**14 28 03.2**	**-2.1**
CBN	**Corbin** comp=Z,303nm,1.0s	**19.48**	**9**	*e*P	**P**	**14 28 06.0**	**+0.2**
633A	**Saathoff Ranch** baz=20,SNR=175	**19.62**	**306**	⇓P	**P**	**14 28 07.4**	**0.0**
434A	**Burnet** baz=20,SNR=204	**19.64**	**310**	⇑P	**P**	**14 28 07.7**	**+0.2**
832A	**Faith Ranch, C** baz=20,SNR=390	**19.73**	**302**	⇓P	**P**	**14 28 08.8**	**+0.2**
WHTX	**Lake Whitney** comp=Z,2μm,1.0s	**19.75**	**314**	*e*P	**Pn**	**14 28 09.8**	**-0.3**
WHTX	**Lake Whitney** baz=20,SNR=229	**19.75**	**314**	⇓P	**Pn**	**14 28 09.9**	**-0.3**
GRW	**Mount Saint Ca**	**19.77**	**107**	*e*	**P**	**14 28 08.0**	**-1.2**
SLB	**Belfond**	**19.78**	**102**	*e*	**P**	**14 28 09.3**	**+0.1**
GRGR	**Grenville** comp=Z,2μm,1.2s	**19.79**	**107**	*e*P	**P**	**14 28 08.9**	**-0.3**
SSV	**Crater Summit**	**19.79**	**103**	*e*	**Pn**	**14 28 10.2**	**-0.7**
FCV	**Fort Charlotte**	**19.80**	**104**	*e*	**P**	**14 28 09.3**	**-0.1**
WCI	**Wyandotte Cave**	**19.80**	**348**	*e*P	**P**	**14 28 08.7**	**-0.6**
WCI	comp=Z,152nm,0.8s			pmax	pmax		
WCI	**Wyandotte Cave** comp=Z,152nm,0.8s	**19.80**	**348**	*e*P	**P**	**14 28 08.7**	**-0.6**
533A	**Kerrville** baz=20,SNR=42	**19.81**	**308**	⇑P	**P**	**14 28 10.1**	**+0.7**
BBSR	**BB Station** comp=Z,490nm,1.2s	**19.85**	**44**	*e*P	**Pn**	**14 28 11.5**	**+0.2**
BHS	**Barnard House**	**19.86**	**103**	*e*	**Pn**	**14 28 12.5**	**+0.9**
USIN	**University of** comp=Z,306nm,1.0s	**19.87**	**344**	*e*P	**P**	**14 28 10.0**	**+0.1**
334A	**Lometa** baz=20,SNR=159	**19.90**	**312**	⇑P	**Pn**	**14 28 11.4**	**-0.6**
732A	**Laxson Ranch,** baz=20,SNR=62	**19.91**	**303**	⇑P	**P**	**14 28 10.7**	**+0.2**
135A	**Vickery Place,** baz=20,SNR=79	**20.06**	**316**	⇓P	Pn	14 28 13.6	-0.3
SIUC	**Southern Illin** comp=Z,228nm,0.8s	**20.08**	**341**	*e*P	**P**	**14 28 12.0**	**-0.2**
632A	**Uvalde** baz=20,SNR=163	**20.11**	**305**	⇑P	Pn	14 28 13.7	-0.9
433A	**Art** baz=20,SNR=370	**20.20**	**309**	⇓P	**P**	**14 28 14.4**	**+0.7**
433A	baz=20			⇓S	**S**	**14 32 01.4**	**+1.1**
234A	**Clairette** baz=20,SNR=86	**20.22**	**314**	⇑P	Pn	14 28 15.2	-0.5
333A	**Richland Sprin** baz=20	**20.43**	**311**	P	**P**	**14 28 17.1**	**+1.0**
Z35A	**Perchaven, San** baz=20,SNR=50	**20.45**	**318**	⇑P	Pn	14 28 17.6	-0.9
532A	**Rocksprings** baz=21,SNR=306	**20.50**	**307**	⇑P	Pn	14 28 18.1	-1.0
134A	**White-Moore Ra** baz=21,SNR=88	**20.52**	**315**	⇑P	Pn	14 28 18.3	-0.9
JCT	**Junction City**	**20.59**	**308**	*e*P	**P**	**14 28 18.3**	**+0.4**
JCT	comp=Z,295nm,0.6s			pmax	pmax		
JCT	comp=Z,4μm,22.0s			MLR	MLR		
JCT	**Junction City** comp=Z,295nm,0.6s	**20.59**	**308**	*e*P	**P**	**14 28 18.3**	**+0.4**
JCT	comp=Z,4μm,22.0s			LR	LR		
JCT	**Junction City** baz=21,SNR=161	**20.59**	**308**	⇑P	Pn	14 28 19.2	-1.0
TRN	**Trinidad (W)**	**20.61**	**111**	*e*	**P**	**14 28 17.6**	**-0.6**
631A	**Perdido Creek** baz=21,SNR=285	**20.69**	**304**	⇑P	**P**	**14 28 20.0**	**+1.0**
TPP	**Pointe-a-Pierr**	**20.72**	**112**	*e*	**P**	**14 28 19.0**	**-0.4**
SDMD	**Soldier's Deli** comp=Z,31nm,0.8s	**20.75**	**9**	*e*P	**P**	**14 28 18.6**	**-0.8**
233A	**Rising Star** baz=21,SNR=250	**20.75**	**312**	⇑P	Pn	14 28 20.9	-1.2
BLO	**Bloomington**	**20.76**	**348**	*e*P	**P**	**14 28 19.8**	**+0.2**
BLO	comp=Z,184nm,0.8s			pmax	pmax		
BLO	**Bloomington** comp=Z,184nm,0.8s	**20.76**	**348**	*e*P	**P**	**14 28 19.8**	**+0.2**
432A	**Menard** baz=21,SNR=184	**20.78**	**309**	⇑P	**P**	**14 28 21.0**	**+1.0**
Z34A	**Collier Ranch,** baz=21,SNR=60	**20.90**	**317**	⇓P	**P**	**14 28 22.5**	**+1.2**
TPR	**Prospect**	**20.95**	**109**	*e*	**P**	**14 28 21.8**	**0.0**
TBH	**Brigand Hill**	**20.98**	**111**	*e*	**P**	**14 28 20.4**	**-1.8**
531A	**Rocksprings** baz=21,SNR=204	**21.00**	**306**	⇑P	**P**	**14 28 23.3**	**+0.9**
332A	**Millersview** baz=21,SNR=618	**21.01**	**310**	⇓P	**P**	**14 28 23.3**	**+0.9**
BOT	**Bacolet**	**21.01**	**109**	*e*	**P**	**14 28 21.0**	**-1.5**
133A	**Hamilton Ranch** baz=21,SNR=179	**21.11**	**314**	⇓P	**P**	**14 28 24.3**	**+0.9**
Y34A	**Reagan Ranch,** baz=21,SNR=104	**21.18**	**318**	⇑P	**P**	**14 28 24.7**	**+0.5**
232A	**Coleman** baz=21,SNR=233	**21.21**	**311**	⇑P	**P**	**14 28 25.0**	**+0.4**
SLM	**Saint Louis**	**21.25**	**340**	*e*P	**P**	**14 28 25.0**	**+0.2**
SLM	comp=Z,108nm,0.6s			pmax	pmax		
SLM	**Saint Louis** comp=Z,108nm,0.6s	**21.25**	**340**	*e*P	**P**	**14 28 25.0**	**+0.2**
431A	**Sonora** baz=21,SNR=273	**21.30**	**307**	⇑P	**P**	**14 28 26.1**	**+0.6**
ACSO	**Alum Creek Sta** comp=Z,336nm,1.1s	**21.32**	**356**	*e*P	**P**	**14 28 25.5**	**-0.1**
ACSO	comp=Z,18μm,20.0s			LR	LR		
BBGH	**Gun Hill**	**21.36**	**102**	PFAKE		14 28 40.0	+14
BBGH	comp=Z,14μm,21.0s			LR	LR		
TUL1	**Tulsa** comp=Z,296nm,0.9s	**21.40**	**325**	*e*P	**P**	**14 28 26.3**	**-0.2**
TUL1	**Tulsa** baz=22,SNR=25	**21.40**	**325**	⇑P	**P**	**14 28 26.3**	**-0.2**
Z33A	**Whitaker Ranch** baz=22,SNR=79	**21.41**	**315**	⇓P	**P**	**14 28 27.7**	**+1.0**
331A	**San Angelo** baz=22,SNR=209	**21.47**	**309**	⇑P	**P**	**14 28 28.1**	**+0.7**
PAYG	**Puerto Ayora** comp=Z,824nm,1.4s	**21.50**	**206**	*e*P	**P**	**14 28 31.4**	**+3.6**
PAYG	comp=Z,7μm,20.0s			LR	LR		
530A	**J-C Ranch, Com** baz=22,SNR=432	**21.61**	**305**	⇑P	**P**	**14 28 29.7**	**+0.8**
ABTX	**Abilene, Hawle** comp=Z,744nm,1.0s	**21.61**	**313**	*e*P	**P**	**14 28 29.4**	**+0.5**
ABTX	**Abilene, Hawle** baz=22,SNR=164	**21.61**	**313**	⇑P	**P**	**14 28 30.4**	**+1.5**
X34A	**Smith Ranch, M** baz=22,SNR=56	**21.65**	**320**	⇓P	**P**	**14 28 30.1**	**+0.8**
231A	**Bronte** baz=22,SNR=204	**21.71**	**310**	⇑P	**P**	**14 28 30.9**	**+0.9**
Y33A	**Hilltop Ranch,** baz=22,SNR=67	**21.76**	**317**	⇑P	**P**	**14 28 31.6**	**+1.1**
430A	**Baggett Ranch,** baz=22,SNR=121	**21.82**	**307**	⇓P	**P**	**14 28 32.0**	**+0.8**
Z32A	**Haskell** baz=22,SNR=193	**21.90**	**315**	⇓P	**P**	**14 28 33.1**	**+1.1**
X33A	**Lawton** baz=22,SNR=21	**22.02**	**318**	⇓P	**P**	**14 28 34.1**	**+0.8**
SFIN	**Scholer Farm** comp=Z,186nm,1.7s	**22.04**	**347**	*e*P	**P**	**14 28 33.0**	**-0.3**
SFIN	**Scholer Farm** baz=22,SNR=60	**22.04**	**347**	⇓P	**P**	**14 28 33.8**	**+0.5**
W34A	**Bridge Creek,** baz=22,SNR=101	**22.04**	**321**	⇓P	**P**	**14 28 34.0**	**+0.6**
330A	**Mertzon** baz=22,SNR=231	**22.07**	**308**	⇑P	**P**	**14 28 35.0**	**+1.1**
131A	**Roby** baz=22,SNR=93	**22.16**	**312**	⇑P	**P**	**14 28 35.9**	**+1.1**
429A	**Davenport Ranc** baz=22,SNR=169	**22.25**	**306**	⇑P	**P**	**14 28 35.9**	**+0.1**
230A	**Sterling City** baz=22,SNR=70	**22.27**	**309**	⇑P	**P**	**14 28 36.8**	**+0.9**
529A	**Stev Forest Ra** baz=22	**22.28**	**304**	P	**P**	**14 28 36.5**	**+0.3**
Y32A	**R-V Farms, Ver** baz=22,SNR=70	**22.29**	**316**	⇓P	**P**	**14 28 36.9**	**+0.7**
V34A	**Guthrie** baz=22,SNR=22	**22.31**	**322**	⇓P	**P**	**14 28 36.5**	**+0.2**
WMOK	**Wichita Mounta**	**22.33**	**318**	*e*P	**P**	**14 28 36.7**	**+0.1**
WMOK	comp=Z,1μm,1.4s			pmax	pmax		
WMOK	comp=Z,5μm,22.0s			MLR	MLR		
WMOK	**Wichita Mounta** comp=Z,1μm,1.4s	**22.33**	**318**	*e*P	**P**	**14 28 36.7**	**+0.1**
WMOK	comp=Z,5μm,22.0s			LR	LR		
Z31A	**Sharp Cattle R** baz=22,SNR=248	**22.36**	**314**	⇑P	**P**	**14 28 38.0**	**+1.1**
BRNJ	**Basking Ridge** comp=Z,316nm,1.1s	**22.39**	**13**	*e*P	**P**	**14 28 36.6**	**-0.5**
W33A	**Caddo, Fort Co** baz=22,SNR=36	**22.41**	**320**	⇑P	**P**	**14 28 38.3**	**+0.9**
X32A	**Elmer** baz=22,SNR=131	**22.45**	**317**	⇓P	**P**	**14 28 39.0**	**+1.2**
130A	**Snyder** baz=23,SNR=120	**22.53**	**311**	⇑P	**P**	**14 28 39.8**	**+1.1**
628A	**Black Gap, Mar** baz=23,SNR=196	**22.55**	**302**	⇑P	**P**	**14 28 39.6

ERPA LR LR
comp=Z,15µm,22.0s
Y30A Stafford Cattl 23.19 314 ⇑P P 14 28 46.4 +0.7
baz=23,SNR=52
129A Stewart Farms, 23.20 310 ⇑P P 14 28 46.3 +0.5
baz=23,SNR=193
328A Wristen Ranch, 23.29 306 ⇓P P 14 28 46.8 +0.1
baz=23,SNR=104
W31A Holland Ranch, 23.35 318 ⇑P P 14 28 47.2 -0.1
baz=23,SNR=58
527A Woodward Ranch 23.39 303 ⇑P P 14 28 48.2 +0.4
baz=24,SNR=237
Z29A Hungry Hill Ra 23.41 312 ⇑P P 14 28 48.5 +0.6
baz=24,SNR=234
AAM Ann Arbor 23.43 355 P P 14 28 46.8 -1.1
AAM pmax pmax
comp=Z,141nm,0.8s
AAM MLR MLR
comp=Z,16µm,19.0s
AAM Ann Arbor 23.43 355 P P 14 28 46.8 -1.1
comp=Z,142nm,0.8s
AAM LR LR
comp=Z,16µm,19.0s
228A UT Block 9, Go 23.47 308 ⇓P P 14 28 48.6 0.0
baz=24,SNR=93
X30A Coker Ranch, T 23.50 315 ⇓P P 14 28 49.5 +0.7
baz=24,SNR=148
427A Hayter Ranch, 23.51 305 ⇑P P 14 28 49.7 +0.7
baz=24,SNR=163
U32A Winter Ranch, 23.55 321 ⇓P P 14 28 48.8 -0.4
baz=24,SNR=27
626A Big Bend Ranch 23.58 301 ⇓P P 14 28 50.4 +0.7
baz=24,SNR=262
T33A Patterson Ranc 23.60 324 ⇑P P 14 28 49.4 -0.3
baz=24,SNR=10
BINY Binghamton 23.61 9 eP P 14 28 49.7 0.0
comp=Z,583nm,0.5s
BINY LR LR
comp=Z,16µm,21.0s
128A Castleberry Fa 23.64 310 ⇑P P 14 28 50.6 +0.4
baz=24,SNR=289
V31A Spring Creek L 23.66 319 ⇑P P 14 28 51.0 +0.7
baz=24,SNR=84
Y29A Porterfield Fa 23.71 313 ⇓P P 14 28 52.0 +1.1
baz=24,SNR=101
526A Mary Lane Ranc 23.74 302 ⇓P P 14 28 51.9 +0.6
baz=24,SNR=431
W30A Crocket Farms 23.75 317 ⇑P P 14 28 51.7 +0.5
baz=24,SNR=11
327A Balmorhea Ranc 23.81 306 ⇑P P 14 28 52.6 +0.8
baz=24,SNR=14
S33A Kaszmaul Farm, 23.84 325 ⇓P P 14 28 52.0 +0.1
baz=24,SNR=16
Z28A Tucker Farm, M 23.91 311 ⇓P P 14 28 53.2 +0.4
baz=24,SNR=93
426A McDonald Obser 23.93 304 ⇓P P 14 28 53.5 +0.3
baz=24,SNR=304
227A Bennet, Jal 23.95 307 ⇑P P 14 28 53.8 +0.7
baz=24,SNR=53
U31A Nine Bar Ranch 24.05 320 ⇓P P 14 28 54.6 +0.5
baz=24,SNR=10
T32A Huddler Ranch, 24.06 323 ⇓P P 14 28 54.4 +0.4
baz=24
X29A Tulia 24.06 314 ⇑P P 14 28 55.1 +0.8
baz=24,SNR=138
Y28A McKinney Farm, 24.14 312 ⇑P P 14 28 55.8 +0.8
baz=24,SNR=172
326A Caldwell Ranch 24.16 305 ⇑P P 14 28 55.3 +0.2
baz=24,SNR=73
V30A Spur Ranch, Mi 24.18 318 ⇓P P 14 28 55.6 +0.3
baz=24,SNR=21
KSU1 Kansas State U 24.26 329 eP P 14 28 55.1 -0.8
comp=Z,350nm,1.0s
KSU1 LR LR
comp=Z,4µm,22.0s
KSU1 Kansas State U 24.26 329 ⇑P P 14 28 56.0 +0.1
baz=24,SNR=22
AMTX Amarillo 24.30 315 ⇓P P 14 28 57.4 +0.9
baz=24
127A Arkansas Junct 24.31 309 ⇑P P 14 28 57.0 +0.5
baz=24,SNR=135
R33A Olander Ranch, 24.35 326 ⇑P P 14 28 57.6 +0.8
baz=24,SNR=82
W29A Amarillo 24.42 316 ⇓P P 14 28 58.4 +0.9
baz=24,SNR=45
S32A Newby Ranch, P 24.43 324 ⇓P P 14 28 58.3 +0.8
baz=24,SNR=21
T31A Randall Ranch, 24.44 322 ⇓P P 14 28 58.0 +0.5
baz=24,SNR=26
X28A Dimmitt 24.44 314 ⇓P P 14 28 58.4 +0.7
baz=24,SNR=99
CLNB Carlsbad 24.50 307 eP P 14 28 59.2 +0.9
comp=Z,41nm,1.0s
Z27A Tatum 24.52 310 ⇓P P 14 28 58.3 -0.2
baz=25,SNR=140
MSTX Muleshoe 24.54 312 eP P 14 28 58.8 +0.1
comp=Z,761nm,0.8s
MSTX Muleshoe 24.54 312 ⇑P P 14 28 59.5 +0.8
baz=25,SNR=200
226B Tecolote Peak, 24.64 307 ⇑P P 14 29 00.5 +1.0
baz=25
U30A WK&E Inc. Balk 24.65 319 ⇑P P 14 29 00.3 +0.8
baz=25,SNR=47
S31A Mullinville 24.68 323 ⇓P P 14 29 00.6 +0.8
baz=25,SNR=17
425A Indio Mountain 24.73 303 ⇓P P 14 29 01.3 +0.9
baz=25,SNR=262
Y27A Causey 24.77 311 ⇓P P 14 29 01.0 +0.2
baz=25,SNR=142
V29A Stinnett 24.78 317 ⇑P P 14 29 02.0 +1.2
baz=25,SNR=45
126A Clayton Basin, 24.79 308 ⇓P P 14 29 01.1 +0.3
baz=25,SNR=51
Q33A Connelly Farm, 24.79 327 ⇑P P 14 29 01.7 +1.0
baz=25,SNR=133
R32A Long Quarter, 24.82 325 ⇑P P 14 29 01.5 +0.5
baz=25,SNR=28
GDL2 Guadalupe Moun 24.84 307 eP P 14 29 02.2 +0.8
comp=Z,489nm,1.2s
W28A Vega 24.87 315 ⇑P P 14 29 01.7 +0.1
baz=25,SNR=6.8
T30A Plains 24.91 321 ⇓P P 14 29 02.2 +0.4
baz=25,SNR=16
U29A Oasis Ranch, S 24.98 319 ⇑P P 14 29 03.2 +0.6
baz=25,SNR=11
P33A Williams Farm, 25.05 328 ⇑P P 14 29 03.7 +0.6
baz=25,SNR=55
Z26A Caprock 25.05 309 ⇑P P 14 29 04.0 +0.7
baz=25,SNR=609
X27A F and S Farms, 25.13 313 ⇑P P 14 29 05.1 +1.1
baz=25,SNR=77
225A Deer Hill, Car 25.15 306 ⇓P P 14 29 05.2 +0.9
baz=25,SNR=142
Q32A Meitler Ranch, 25.16 326 ⇓P P 14 29 04.7 +0.6
baz=25,SNR=125
V28A Channing 25.17 316 ⇑P P 14 29 04.5 +0.2
baz=25,SNR=13
ACCN Adirondack Com 25.17 13 eP P 14 29 04.2 +0.1
comp=Z,266nm,1.5s
R31A Burdett 25.18 324 ⇑P P 14 29 05.0 +0.7
baz=25,SNR=178
SCIA State Center 25.19 338 eP P 14 29 03.6 -0.6
comp=Z,247nm,0.8s
SCIA LR LR
comp=Z,9µm,19.0s
JFWS Jewell Farm 25.19 344 eP P 14 29 03.5 -0.7
JFWS pmax pmax
comp=Z,169nm,0.7s
JFWS MLR MLR
comp=Z,18µm,20.0s
JFWS Jewell Farm 25.19 344 eP P 14 29 03.5 -0.7
comp=Z,169nm,0.7s
JFWS LR LR
comp=Z,18µm,20.0s
Y26A Elida 25.26 311 ⇓P P 14 29 05.6 +0.3
baz=25,SNR=64
S30A Montezuma 25.27 322 ⇓P P 14 29 05.4 +0.4
baz=25,SNR=94
125A Gardner Draw, 25.27 307 ⇑P P 14 29 06.0 +0.8
baz=25,SNR=104
W27A Bowe Ranch, En 25.34 314 ⇑P P 14 29 06.2 +0.3
baz=25,SNR=146
MNTX Cornudas Mount 25.41 305 eP P 14 29 06.2 -0.2
comp=Z,439nm,0.5s
MNTX LR LR
comp=Z,3µm,22.0s
T29A Hugoton 25.44 320 ⇑P P 14 29 07.2 +0.5
baz=26,SNR=32

U28A Mallet 25.54 317 ⇓P P 14 29 07.6 0.0
baz=26,SNR=6.0
V27A Dan Oppiter Fa 25.57 315 ⇑P P 14 29 08.6 +0.6
baz=26
X26A CR and CF Fran 25.58 312 ⇓P P 14 29 08.9 +0.8
baz=26,SNR=160
R30A Dighton 25.59 323 ⇑P P 14 29 08.7 +0.6
baz=26,SNR=141
Z25A Roswell 25.60 309 ⇓P P 14 29 09.2 +1.0
baz=26,SNR=536
Q31A Ellis 25.61 325 ⇓P P 14 29 08.7 +0.5
baz=26,SNR=44
NCB Newcomb 25.63 11 eP P 14 29 08.5 +0.3
comp=Z,273nm,1.4s
NCB LR LR
comp=Z,14µm,19.0s
S29A Ulysses 25.64 321 ⇑P P 14 29 08.7 +0.2
baz=26,SNR=62
P32A Huiting Farm, 25.65 327 ⇓P P 14 29 08.6 +0.1
baz=26,SNR=34
W26A Owens Ranch, T 25.83 313 ⇓P P 14 29 11.2 +0.8
baz=26,SNR=95
SADO Sadowa 25.84 3 P P 14 29 10.3 +0.2
SADO S S 14 33 44.7 +5.3
SADO Sadowa 25.84 3 P P 14 29 10.3 +0.2
comp=Z,235nm,1.0s,baz=231,slow=5.6,SNR=61
SADO S S 14 33 44.7 +5.3
comp=Z,8.1nm,0.9s,baz=107,slow=19,SNR=3.0
SADO LR LR 14 38 53.0
comp=Z,13µm,20.1s,baz=186,slow=35
MDV Middlebury 25.86 13 eP P 14 29 10.5 +0.2
Y25A Mesa, Roswell 25.89 310 ⇓P P 14 29 11.9 +1.0
baz=26,SNR=188
T28A Walsh 25.93 319 ⇓P P 14 29 11.5 +0.3
baz=26,SNR=23
U27A Thompson Grove 25.95 317 ⇓P P 14 29 11.8 +0.3
baz=26,SNR=42
O32A Brockman Farm, 25.97 329 ⇑P P 14 29 11.6 +0.2
baz=26,SNR=36
P31A Stockton 25.98 326 ⇑P P 14 29 12.0 +0.5
baz=26,SNR=106
ATAH Atahualpa 26.00 174 P P 14 29 13.4 +1.1
ATAH S S 14 33 48.8 +5.5
ATAH Atahualpa 26.00 174 P P 14 29 13.4 +1.1
comp=Z,55nm,0.9s,baz=355,slow=8.2,SNR=18
ATAH S S 14 33 48.8 +5.5
comp=Z,7.5nm,0.9s,baz=307,slow=17,SNR=1.9
ATAH LR LR 14 39 57.1
comp=Z,10µm,19.6s,baz=3.1,slow=38
Q30A Quinter 26.05 324 ⇑P P 14 29 12.2 +0.1
baz=26,SNR=119
S28A Manter 26.09 320 ⇑P P 14 29 13.6 +0.9
baz=26,SNR=78
Z24A Sheeppen Canyo 26.10 308 ⇑P P 14 29 14.4 +1.5
baz=26,SNR=51
X25A Clemmons Ranch 26.17 311 ⇓P P 14 29 14.7 +1.3
baz=26,SNR=278
R29A Marienthal 26.18 322 ⇓P P 14 29 14.2 +0.7
baz=26,SNR=16
LONY Lake Ozonia 26.19 10 eP P 14 29 12.8 -0.6
comp=Z,163nm,1.2s
LONY LR LR
comp=Z,17µm,20.0s
V26A Tequesquite Ra 26.23 315 ⇑P P 14 29 15.0 +1.0
baz=26,SNR=126
T27A Campo 26.27 318 ⇓P P 14 29 14.6 +0.3
baz=26,SNR=48
N32A Stulken Farm, 26.37 329 ⇓P P 14 29 15.1 +0.1
baz=26,SNR=10.0
LBNH Lisbon 26.38 15 eP P 14 29 16.9 +1.9
LBNH pmax pmax
comp=Z,87nm,1.1s
LBNH MLR MLR
comp=Z,10µm,19.0s
LBNH Lisbon 26.38 15 eP P 14 29 16.9 +1.9
comp=Z,87nm,1.1s
LBNH LR LR
comp=Z,10µm,19.0s
W25A X Bar L Ranch, 26.38 313 ⇓P P 14 29 16.1 +0.8
baz=26,SNR=108
Q29A Oakley 26.41 323 ⇓P P 14 29 15.9 +0.4
baz=26,SNR=50
O31A Woolen Ranch, 26.42 327 ⇓P P 14 29 15.7 +0.2
baz=26,SNR=30
Y24A Capitan 26.43 309 ⇑P P 14 29 17.3 +1.4
baz=26,SNR=186
P30A Selden 26.46 325 ⇓P P 14 29 16.5 +0.6
baz=26,SNR=76
123A Bell Site, Whi 26.48 306 ⇑P P 14 29 17.3 +1.1
baz=27,SNR=30
R28A Tribune 26.52 321 ⇓P P 14 29 17.0 +0.4
baz=27,SNR=67
U26A Atchley Ranch, 26.54 316 ⇓P P 14 29 17.7 +0.8
baz=27,SNR=216
FRNY Flat Rock 26.58 12 eP P 14 29 16.7 -0.1
comp=Z,138nm,1.3s
Z23A Rita Site, Whi 26.72 307 ⇓P P 14 29 20.0 +1.6
baz=27,SNR=45
N31A Bailey Ranch, 26.73 329 ⇑P P 14 29 18.7 +0.3
baz=27,SNR=6.7
X24A Lazy VL Ranch, 26.74 311 ⇑P P 14 29 19.9 +1.2
baz=27,SNR=72
S27A Las Animas 26.77 319 ⇓P P 14 29 18.8 0.0
baz=27,SNR=79
BGNE Belgrade 26.80 330 eP P 14 29 18.5 -0.4
comp=Z,272nm,1.0s
BGNE Belgrade 26.80 330 ⇓P P 14 29 18.5 -0.4
baz=27,SNR=9.5
O30A MW Ranch, Wils 26.82 326 ⇓P P 14 29 19.4 +0.3
baz=27,SNR=24
V25A Rancho No Teng 26.82 314 ⇑P P 14 29 20.8 +1.5
baz=27,SNR=96
P29A Atwood 26.88 324 ⇑P P 14 29 20.4 +0.7
baz=27,SNR=21
Y23A Lovelace Mesa, 26.89 309 ⇑P P 14 29 21.6 +1.6
baz=27,SNR=331
T26A Comanche Natio 26.90 317 ⇑P P 14 29 20.9 +0.8
baz=27
U25A Circle Dot Ran 26.99 315 ⇓P P 14 29 22.1 +1.2
baz=27,SNR=116
Q28A Sharon Springs 27.01 322 ⇓P P 14 29 21.5 +0.5
baz=27,SNR=17
W24A Lazy 6 Ranch, 27.04 312 ⇑P P 14 29 23.2 +1.8
baz=27,SNR=147
R27A Eads 27.08 320 ⇓P P 14 29 22.1 +0.5
baz=27,SNR=104
S26A Kim 27.09 318 ⇑P P 14 29 22.0 +0.3
baz=27,SNR=44
M31A Lambtecht Ranc 27.14 329 ⇓P P 14 29 22.3 +0.3
baz=27,SNR=20
O29A 4D Ranch, Culb 27.17 325 ⇓P P 14 29 22.6 +0.3
baz=27,SNR=12
V24A Rampart Ranch, 27.21 313 ⇑P P 14 29 25.0 +2.0
baz=27,SNR=149
Z22A Elephant Butte 27.27 307 ⇑P P 14 29 24.8 +1.4
baz=27,SNR=139
N30A Hueftle Ranch, 27.29 327 ⇑P P 14 29 23.8 +0.4
baz=27,SNR=10
X23A Hourglass Bar 27.29 310 ⇓P P 14 29 25.2 +1.6
baz=27,SNR=185
P28A Saint Francis 27.32 323 ⇓P P 14 29 24.2 +0.5
baz=27,SNR=39
T25A Trinidad 27.41 316 ⇑P P 14 29 26.6 +1.9
baz=28,SNR=229
BNM Barren Site 27.41 309 eP P 14 29 25.9 +1.2
comp=Z,62nm,0.6s
KSCO Kaye Shedlock' 27.45 321 eP P 14 29 25.2 +0.4
comp=Z,270nm,1.3s
KSCO Kaye Shedlock' 27.45 321 ⇑P P 14 29 25.4 +0.5
baz=28,SNR=15
LPM Los Pinos Moun 27.49 309 eP P 14 29 26.4 +1.0
comp=Z,153nm,1.3s
R26A Arlington 27.49 319 ⇑P P 14 29 25.7 +0.4
baz=28,SNR=40
W23A Werner Place, 27.54 311 ⇓P P 14 29 27.5 +1.6
baz=28,SNR=20
N29A Votaw Ranch, W 27.58 327 ⇑P P 14 29 26.3 +0.3
baz=28,SNR=12
U24A Moreno Valley 27.58 314 ⇑P P 14 29 28.5 +2.2
baz=28,SNR=17
Y22D IRIS PASSCAL I 27.59 308 ⇓P P 14 29 28.0 +1.7
baz=28
121A Cookes Peak, D 27.61 305 eP P 14 29 27.3 +0.8
comp=Z,144nm,0.9s
121A Cookes Peak, D 27.61 305 ⇓P P 14 29 28.3 +1.8
baz=28,SNR=32
ANMO Albuquerque 27.66 310 eP P 14 29 27.4 +0.5
comp=Z,4.0nm,1.1s

ANMO S S 14 34 08.0 -0.9
ANMO LR LR
comp=Z,3µm,22.0s
ANMO Albuquerque 27.66 310 P P 14 29 27.1 +0.2
comp=Z,24nm,0.9s,baz=129,slow=11,SNR=68
ANMO S S 14 34 08.0 -0.9
comp=Z,3.7nm,0.7s,baz=94,slow=17,SNR=1.5
LENM Lemitar 27.68 309 eP P 14 29 28.1 +1.0
comp=Z,71nm,1.1s
O28A Krutsinger Ran 27.70 324 ⇑P P 14 29 27.7 +0.5
baz=28,SNR=13
L31A Butterfield Fa 27.72 331 ⇓P P 14 29 27.2 +0.1
baz=28,SNR=22
M30A Dale-Ortello V 27.73 328 ⇑P P 14 29 27.7 +0.4
baz=28
S25A Robets Cordova 27.73 317 ⇑P P 14 29 29.3 +1.8
baz=28,SNR=225
LPIG La Paz 27.75 286 P P 14 29 28.3 +0.8
LPIG La Paz 27.75 286 P P 14 29 28.3 +0.8
comp=Z,83nm,0.3s,baz=114,slow=4.3,SNR=14
LPIG LR LR 14 41 13.3
comp=Z,7µm,20.8s,baz=106,slow=38
320A Kipp Ranch, An 27.76 302 ⇑P P 14 29 29.9 +2.1
baz=28,SNR=36
P27A Ficken Ranch, 27.77 322 ⇑P P 14 29 28.3 +0.5
baz=28,SNR=9.5
V23A Ortiz Mt. (NFS 27.86 312 ⇑P P 14 29 31.0 +2.3
baz=28,SNR=44
LAZ Ladron 27.90 309 eP P 14 29 30.5 +1.4
comp=Z,24nm,0.3s
R25A Fountain Ranch 27.92 318 ⇑P P 14 29 31.0 +1.9
baz=28,SNR=49
Q26A Hugo 27.92 320 ⇓P P 14 29 30.8 +1.6
baz=28,SNR=39
L30A Spencer Herefo 27.96 329 ⇓P P 14 29 29.7 +0.3
baz=28,SNR=37
N28A Pribbeno Ranch 27.97 325 ⇓P P 14 29 29.9 +0.4
baz=28
T24B San Luis 28.00 315 ⇓P P 14 29 32.8 +2.7
baz=28,SNR=90
PKME Peaks-Kenny Pk 28.02 18 PFAKE 14 29 40.0 +10
PKME LR LR
comp=Z,7µm,19.0s
ECSD EROS Data Cent 28.03 335 eP P 14 29 28.5 -1.4
comp=Z,16nm,1.1s
ECSD LR LR
comp=Z,6µm,22.0s
ECSD EROS Data Cent 28.03 335 ⇑P P 14 29 29.7 -0.2
baz=28,SNR=56
SPMN St. Paul 28.03 342 P P 14 29 28.0 -1.8
comp=Z,123nm,1.2s
SPMN St. Paul 28.03 342 ⇓P P 14 29 29.7 -0.1
baz=28
M29A Burnside Ranch 28.07 327 ⇑P P 14 29 30.5 +0.2
baz=28,SNR=7.9
O27A Beecher Island 28.14 323 ⇓P P 14 29 32.0 +0.9
baz=28,SNR=8.9
U23A El Rito 28.16 313 ⇑P P 14 29 34.1 +2.7
baz=28,SNR=232
S24A Houchin Ranch, 28.22 316 ⇓P P 14 29 34.3 +2.3
baz=28,SNR=104
P26A Davis Ranch, A 28.23 322 ⇓P P 14 29 32.6 +0.7
baz=28,SNR=14
Q25A Bedland, Calha 28.36 320 ⇑P P 14 29 34.1 +0.9
baz=28,SNR=11
319A Douglas 28.38 301 ⇑P P 14 29 34.9 +1.6
baz=28
M28A Bar X Bar Ranc 28.38 327 ⇑P P 14 29 33.5 +0.3
baz=28,SNR=8.7
PTGA Pitinga 28.40 131 eP P 14 29 33.4 -0.1
comp=Z,204nm,1.3s
PTGA S S 14 34 22.8 +2.3
PTGA Pitinga 28.40 131 P P 14 29 33.6 +0.1
comp=Z,81nm,0.9s,baz=315,slow=10,SNR=64
PTGA S S 14 34 22.8 +2.3
comp=Z,6.6nm,0.9s,baz=319,slow=19,SNR=1.6
PTGA LR LR 14 42 34.9
comp=Z,4µm,19.6s,baz=319,slow=40
OGNE Ogallala 28.42 325 eP P 14 29 32.9 -0.6
comp=Z,775nm,1.4s
OGNE LR LR
comp=Z,5µm,20.0s
OGNE Ogallala 28.42 325 ⇓P P 14 29 34.1 +0.7
baz=28
L29A Maesberg Ranch 28.42 329 ⇑P P 14 29 33.9 +0.4
baz=28,SNR=23
T23A Casias Ranch, 28.43 315 ⇓P P 14 29 36.2 +2.4
baz=28,SNR=11
V22A San Miguel Ran 28.45 312 ⇑P P 14 29 36.2 +2.2
baz=28,SNR=91
SDCO Great Sand Dun 28.47 316 eP P 14 29 35.4 +1.2
comp=Z,441nm,1.5s
SDCO LR LR
comp=Z,4µm,19.0s
K30A Basset 28.47 330 ⇓P P 14 29 34.2 +0.3
baz=28,SNR=81
R24A Sanders Place, 28.49 318 ⇓P P 14 29 36.5 +2.2
baz=29,SNR=51
N27A Anderson Farm, 28.59 324 ⇓P P 14 29 35.6 +0.5
baz=29,SNR=13
U22A Llaves 28.65 313 P P 14 29 38.1 +2.3
baz=29
O26A Horse Wrangler 28.65 323 ⇓P P 14 29 36.8 +1.1
baz=29,SNR=20
P25A Willow Gulch B 28.68 321 ⇓P P 14 29 37.1 +1.1
baz=29,SNR=24
S23A Nye Farm, Mont 28.77 316 ⇓P P 14 29 39.7 +2.9
baz=29,SNR=26
K29A Lazy Trails An 28.87 330 ⇑P P 14 29 37.6 +0.2
baz=29,SNR=14
L28A Connealy Angus 28.90 327 ⇓P P 14 29 37.8 0.0
baz=29
J30A Dallas 28.92 331 ⇓P P 14 29 37.5 -0.3
baz=29,SNR=14
R23A Moffat 28.93 317 ⇓P P 14 29 40.4 +2.1
baz=29,SNR=96
Q24A Divide 28.95 319 ⇓P P 14 29 39.3 +0.8
baz=29,SNR=13
N26A Koester Ranch, 28.99 324 ⇓P P 14 29 39.5 +0.9
baz=29,SNR=11
M27A Reverse DX Ran 29.02 326 ⇓P P 14 29 39.3 +0.5
baz=29
O25A Wiggins 29.04 322 ⇑P P 14 29 40.1 +1.0
baz=29
P24A Kohler Place, 29.13 320 ⇑P P 14 29 41.1 +1.0
baz=29
K28A Ten Mile Ranch 29.34 328 ⇓P P 14 29 41.9 +0.3
baz=29,SNR=7.2
S22A 4UR Ranch, Cre 29.34 315 ⇓P P 14 29 44.4 +2.4
baz=29,SNR=134
Q23A Hartsel 29.34 318 ⇓P P 14 29 43.4 +1.4
baz=29,SNR=5.5
J29A Okreek 29.36 331 ⇑P P 14 29 41.6 -0.2
baz=29,SNR=76
L27A T5 Ranch, Ells 29.37 326 ⇓P P 14 29 42.5 +0.5
baz=29
M26A McRoberts Ranc 29.38 325 ⇓P P 14 29 42.6 +0.5
baz=29,SNR=7.6
N25A Grover 29.47 323 ⇓P P 14 29 43.8 +0.8
baz=30,SNR=17
BRSD Miller 29.57 333 eP P 14 29 43.0 -0.6
comp=Z,196nm,1.0s
BRSD Miller 29.57 333 ⇓P P 14 29 43.2 -0.4
baz=30,SNR=9.5
O24A Longmont 29.61 321 ⇓P P 14 29 45.5 +1.3
baz=30,SNR=8.0
P23A Jefferson 29.62 319 ⇑P P 14 29 46.6 +2.1
baz=30,SNR=24
ISCO Idaho Springs 29.74 320 eP P 14 29 46.1 +0.6
ISCO pmax pmax
comp=Z,1µm,1.4s
ISCO MLR MLR
comp=Z,3µm,21.0s
ISCO Idaho Springs 29.74 320 eP P 14 29 46.1 +0.6
comp=Z,1µm,1.4s
ISCO LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 29.74 320 ⇓P P 14 29 46.8 +1.3
baz=30,SNR=71
L26A Underwood Farm 29.74 326 ⇓P P 14 29 45.5 +0.2
baz=30,SNR=5.2
K27A Flueckinger Fa 29.77 327 ⇓P P 14 29 45.9 +0.4
baz=30,SNR=30
J28A Allard Ranch, 29.81 330 ⇑P P 14 29 45.6 -0.2
baz=30,SNR=20
I29A Vivian Onida 29.83 331 ⇓P P 14 29 45.1 -0.8
baz=30,SNR=24
M25A Palm-Egli Farm 29.86 324 ⇓P P 14 29 47.1 +0.7

baz=30
TUC **Tucson** 29.90 302 *eP* P 14 29 47.4 +0.7
TUC pmax pmax
comp=Z,29nm,0.8s
TUC MLR MLR
comp=Z,5µm,19.0s
TUC **Tucson** 29.90 302 *eP* P 14 29 47.4 +0.7
TUC LR LR
comp=Z,5µm,19.0s
N24A **Carr** 29.94 322 ⇓P P 14 29 48.4 +1.3
baz=30,SNR=12
J27A **Elkhorn Farm,** 30.06 328 ⇑P P 14 29 48.3 +0.3
baz=30,SNR=24
X18A **Snowflake** 30.06 307 ⇑P P 14 29 50.5 +2.2
baz=30,SNR=60
W18A **Petrified Fore** 30.14 308 *eP* P 14 29 50.8 +1.8
comp=Z,136nm,1.1s
W18A **Petrified Fore** 30.14 308 ⇑P P 14 29 50.9 +2.0
baz=30,SNR=8.3
O23A **Lake Granby, G** 30.17 320 ⇑P P 14 29 50.9 +1.5
baz=30,SNR=18
G30A **Faulkton** 30.20 334 ⇑P P 14 29 48.9 -0.3
baz=30,SNR=98
MVCO **Mesa Verde** 30.20 313 *eP* P 14 29 51.0 +1.4
MVCO LR LR
comp=Z,6µm,22.0s
MVCO **Mesa Verde** 30.20 313 ⇑P P 14 29 51.3 +1.8
baz=30,SNR=60
EYMN **Ely** 30.21 346 *eP* P 14 29 48.1 -1.1
comp=Z,89nm,1.1s
EYMN LR LR
comp=Z,14µm,20.0s
I28A **Midland** 30.21 330 ⇓P P 14 29 49.0 -0.3
baz=30,SNR=17
K26A **Motz Farm, Whi** 30.26 326 ⇓P P 14 29 50.1 +0.3
baz=30,SNR=8.7
H29A **Onida** 30.26 332 ⇑P P 14 29 49.0 -0.7
baz=30,SNR=31
L25A **Engebretsen Ra** 30.30 325 ⇑P P 14 29 50.9 +0.7
baz=30
M24A **Cheyenne** 30.32 323 ⇓P P 14 29 51.3 +0.8
baz=30,SNR=16
P22A **Eagle** 30.33 318 ⇓P P 14 29 52.0 +1.4
baz=30,SNR=37
O22A **Kremmling** 30.53 319 ⇑P P 14 29 53.5 +1.0
baz=31,SNR=80
K25A **Mack Ranch, Ha** 30.56 326 ⇓P P 14 29 53.1 +0.6
baz=31,SNR=13
G29A **Hoven** 30.58 333 ⇑P P 14 29 51.7 -0.8
baz=31,SNR=6.2
N23A **Red Feather La** 30.61 321 ⇓P P 14 29 54.0 +0.8
baz=31,SNR=11
J26A **Sides Ranch, S** 30.64 327 ⇑P P 14 29 53.7 +0.5
baz=31,SNR=33
H28A **Mission Ridge** 30.66 331 ⇓P P 14 29 52.6 -0.7
baz=31,SNR=15
I27A **Quinn** 30.68 329 ⇑P P 14 29 53.0 -0.5
baz=31,SNR=60
PV01 **Paradox Valley** 30.72 314 *eP* P 14 29 55.7 +1.6
comp=Z,25µm,1.6s
F30A **Leola** 30.73 335 ⇓P P 14 29 53.1 -0.7
baz=31,SNR=5.4
L24A **Wheatland** 30.76 324 ⇑P P 14 29 55.0 +0.7
baz=31
M23A **Laramie** 30.84 322 ⇑P P 14 29 55.7 +0.6
baz=31,SNR=19
N22A **Wattenberg Ran** 30.86 320 ⇓P P 14 29 56.8 +1.4
baz=31,SNR=22
G28A **Parade** 30.92 332 ⇓P P 14 29 55.0 -0.6
baz=31,SNR=20
NNA **Nana** 30.97 172 *eP* P 14 30 00.3 +4.1
NNA LR LR
comp=Z,146nm,1.6s
comp=Z,6µm,21.0s
I26A **New Underwood** 31.05 329 ⇑P P 14 29 56.6 -0.1
baz=31,SNR=18
F29A **Eureka** 31.06 334 ⇓P P 14 29 56.1 -0.6
baz=31,SNR=20
J25A **Sunshine Ranch** 31.07 327 ⇑P P 14 29 57.2 +0.2
baz=31,SNR=31
PV04 **Paradox Valley** 31.08 315 *eP* P 14 29 59.0 +1.8
H27A **Howes** 31.12 330 ⇑P P 14 29 57.0 -0.3
baz=31,SNR=66
K24A **Anderson Ranch** 31.15 325 ⇑P P 14 29 58.5 +0.8
baz=31
X16A **Lo Mia Camp, P** 31.15 306 ⇑P P 14 29 60.0 +2.1
baz=31,SNR=38
E30A **Jud** 31.23 336 ⇓P P 14 29 57.9 -0.3
baz=31
L23A **Garrett** 31.24 323 ⇑P P 14 29 59.2 +0.6
baz=31,SNR=50
M22A **Cedar Creek Ra** 31.31 321 ⇓P P 14 30 00.5 +1.2
baz=31,SNR=12
214A **Organ Pipe Nat** 31.42 301 *eP* P 14 29 59.9 -0.3
comp=Z,23nm,0.9s
214A **Organ Pipe Nat** 31.42 301 ⇑P P 14 30 01.2 +1.0
baz=32,SNR=12
H26A **Fairpoint** 31.44 329 ⇓P P 14 30 00.2 0.0
baz=32,SNR=17
J24A **Dixon Ranch, L** 31.48 326 ⇑P P 14 30 01.4 +0.8
baz=32,SNR=12
F28A **McLaughlin** 31.48 333 ⇓P P 14 30 00.2 -0.2
baz=32,SNR=6.0
WUAZ **Wupatki** 31.52 308 *eP* P 14 30 03.0 +1.8
WUAZ LR LR
comp=Z,397nm,1.2s
comp=Z,4µm,20.0s
WUAZ **Wupatki** 31.52 308 ⇓P P 14 30 03.6 +2.5
baz=32,SNR=108
O20A **White River Ci** 31.57 318 *eP* P 14 30 02.4 +0.8
comp=Z,254nm,1.4s
O20A **White River Ci** 31.57 318 ⇑P P 14 30 03.3 +1.8
baz=32,SNR=32
E29A **Napoleon** 31.58 335 ⇑P P 14 30 01.0 -0.4
baz=32,SNR=23
L22A **Ellis Ranch, M** 31.61 322 ⇓P P 14 30 03.1 +1.2
baz=32,SNR=6.7
K23A **Bowen Ranch, D** 31.61 324 ⇑P P 14 30 02.1 +0.3
baz=32,SNR=8.9
G27A **Dupree** 31.61 331 ⇑P P 14 30 01.3 -0.4
baz=32,SNR=63
D30A **Buchanan** 31.68 337 ⇓P P 14 30 01.7 -0.5
baz=32,SNR=23
RSSD **Black Hills** 31.70 328 *eP* P 14 30 02.3 -0.4
RSSD pmax pmax
comp=Z,138nm,1.4s
RSSD **Black Hills** 31.70 328 *eP* P 14 30 02.3 -0.4
comp=Z,138nm,1.4s
AGMN **Agassiz Nation** 31.71 341 *eP* P 14 30 01.3 -1.2
AGMN LR LR
comp=Z,75nm,0.5s
comp=Z,6µm,21.0s
AGMN **Agassiz Nation** 31.71 341 ⇓P P 14 30 02.1 -0.4
baz=32,SNR=39
I24A **Kuemmerle Ranc** 31.82 327 ⇓P P 14 30 04.2 +0.6
baz=32,SNR=22
H25A **Fruitdale** 31.84 329 ⇓P P 14 30 03.3 -0.4
baz=32,SNR=47
Z14A **Wintersburg** 31.96 303 ⇓P P 14 30 06.7 +1.9
baz=32,SNR=7.4
D29A **Pettibone, Tap** 31.96 336 ⇑P P 14 30 04.4 -0.2
baz=32,SNR=19
N20A **Spence Gulch,** 31.98 319 P P 14 30 07.3 +2.1
baz=32
J23A **Dilts Ranch, B** 32.00 325 ⇓P P 14 30 05.8 +0.5
baz=32
E28A **Huff** 32.01 334 ⇑P P 14 30 05.0 -0.1
baz=32,SNR=37
F27A **Lemmon** 32.03 332 ⇑P P 14 30 05.0 -0.4
baz=32,SNR=40
K22A **Casper** 32.05 323 *eP* P 14 30 06.0 +0.4
comp=Z,66nm,1.3s
K22A **Casper** 32.05 323 ⇑P P 14 30 06.1 +0.4
baz=32,SNR=9.4
C30A **Mose, Pekin** 32.08 338 ⇓P P 14 30 05.0 -0.6
baz=32,SNR=22
G25A **Newell** 32.17 330 ⇑P P 14 30 06.1 -0.5
baz=32,SNR=42
Y14A **Wickenburg** 32.19 304 ⇑P P 14 30 08.2 +1.2
baz=32,SNR=26
E27A **Carson** 32.26 333 ⇑P P 14 30 07.6 +0.2
baz=32,SNR=48
F26A **Lodgepole** 32.31 331 ⇑P P 14 30 07.0 -0.8
baz=32,SNR=33
I23A **Meade Ranch, G** 32.33 326 ⇑P P 14 30 08.4 +0.3
baz=32
H24A **Dirks Ranch, A** 32.41 328 ⇑P P 14 30 08.2 -0.5
baz=32,SNR=67
113A **Mohawk Valley,** 32.43 302 ⇓P P 14 30 09.9 +0.9
baz=32,SNR=7.3
D28A **Regan** 32.45 335 ⇑P P 14 30 08.6 -0.4
baz=32,SNR=13
K21A **Alcova** 32.46 323 ⇑P P 14 30 09.9 +0.6
baz=32,SNR=27
J22A **Midwest** 32.52 324 ⇓P P 14 30 09.8 0.0
baz=33,SNR=24
SRU **San Rafael** 32.53 314 *eP* P 14 30 11.2 +1.2
SRU pmax pmax
comp=Z,179nm,0.7s
SRU **San Rafael** 32.53 314 *eP* P 14 30 11.2 +1.2
comp=Z,179nm,0.7s
U15A **North Rim** 32.57 309 P P 14 30 12.6 +2.2
baz=33
B30A **Myrvik Farm, E** 32.66 338 ⇑P P 14 30 10.1 -0.6
baz=33,SNR=23
E26A **Carlson Angus** 32.69 332 ⇓P P 14 30 10.8 -0.3
baz=33,SNR=18
H23A **Clabaugh Cattl** 32.71 327 ⇑P P 14 30 11.5 +0.1
baz=33
F25A **Bowman** 32.73 330 ⇓P P 14 30 11.1 -0.4
baz=33,SNR=32
G24A **Alzada** 32.75 329 ⇓P P 14 30 11.2 -0.6
baz=33,SNR=16
SAML **Samuel** 32.77 146 *eP* P 14 30 11.1 -1.0
comp=Z,1.7nm,1.4s
SAML LR LR
comp=Z,4µm,20.0s
D27A **Center** 32.78 334 ⇓P P 14 30 12.2 +0.4
baz=33,SNR=18
C28A **Hausauer Farms** 32.81 336 ⇓P P 14 30 11.8 -0.2
baz=33,SNR=15
I22A **9 Mile Ranch,** 32.83 325 ⇓P P 14 30 12.7 +0.2
baz=33,SNR=19
J21A **Lysite** 33.02 323 ⇑P P 14 30 14.6 +0.5
baz=33,SNR=7.1
B29A **Wagenman Farm,** 33.03 337 ⇓P P 14 30 13.8 -0.3
baz=33,SNR=10.0
A30A **Hoffart Farm,** 33.07 339 ⇓P P 14 30 13.9 -0.4
baz=33
TMUT **Trail Mountain** 33.09 314 *eP* P 14 30 16.7 +1.7
comp=Z,322nm,1.8s
D26A **Manning** 33.11 333 ⇑P P 14 30 14.9 +0.1
baz=33,SNR=56
E25A **Miller Ranch,** 33.13 331 ⇑P P 14 30 14.7 -0.3
baz=33,SNR=32
F24A **Ekalaka** 33.14 329 ⇑P P 14 30 14.6 -0.6
baz=33,SNR=24
G23A **Biddle** 33.15 328 ⇓P P 14 30 14.8 -0.4
baz=33,SNR=36
PDMC **Parker Dam,Lak** 33.20 304 ⇑P P 14 30 16.8 +1.2
baz=33,SNR=25
I21A **Big Trails, Te** 33.23 324 ⇑P P 14 30 16.1 +0.1
baz=33,SNR=42
H22A **Clearmont** 33.23 326 ⇑P P 14 30 15.9 -0.1
baz=33,SNR=29
C27A **Sayler Ranch,** 33.25 334 ⇑P P 14 30 16.0 0.0
baz=33,SNR=10
W13A **Hualapai Mount** 33.27 306 ⇑P P 14 30 18.9 +2.3
baz=33,SNR=76
Y12C **Blyhe** 33.33 303 ⇑P P 14 30 18.2 +1.4
baz=33,SNR=16
GLA **Glamis** 33.37 302 *eP* P 14 30 18.6 +1.4
GLA pmax pmax
comp=Z,151nm,1.6s
GLA **Glamis** 33.37 302 *eP* P 14 30 18.6 +1.4
comp=Z,150nm,1.6s
GLA **Glamis** 33.37 302 ⇓P P 14 30 18.4 +1.2
baz=33,SNR=16
A29A **Manning Farm,** 33.38 338 ⇑P P 14 30 16.5 -0.5
baz=33,SNR=21
J20A **Shoshoni** 33.38 323 ⇓P P 14 30 18.1 +0.8
baz=33,SNR=23
B28A **Dugan Ranch, T** 33.40 336 ⇓P P 14 30 17.1 -0.1
baz=33,SNR=7.4
ULM **Lac du Bonnet** 33.46 343 *eP* P 14 30 15.6 -2.1
comp=Z,169nm,1.6s
ULM **Lac du Bonnet** 33.46 343 P P 14 30 16.7 -1.0
comp=Z,23nm,0.9s,baz=152,slow=9.3,SNR=32
ULM LR LR 14 43 21.8
comp=Z,13µm,18.6s,baz=155,slow=35
F23A **Volborg** 33.52 328 ⇑P P 14 30 17.8 -0.7
baz=34,SNR=13
C26A **Wahner Farm, P** 33.59 334 ⇓P P 14 30 18.6 -0.3
baz=34,SNR=44
D25A **Fairfield** 33.59 332 ⇓P P 14 30 19.0 +0.1
baz=34
E24A **Baker** 33.60 330 ⇑P P 14 30 18.6 -0.4
baz=34,SNR=9.4
H21A **Big Horn, Sher** 33.62 325 ⇓P P 14 30 19.1 -0.2
baz=34,SNR=27
G22A **Birney** 33.62 327 ⇓P P 14 30 19.1 -0.2
baz=34,SNR=38
DAU **Daniels Canyon** 33.67 316 *eP* P 14 30 21.0 +0.9
DAU pmax pmax
comp=Z,320nm,1.6s
DAU **Daniels Canyon** 33.67 316 *eP* P 14 30 20.9 +0.9
comp=Z,320nm,1.6s
B27A **Peters Farms,** 33.71 335 ⇓P P 14 30 19.7 -0.3
baz=34,SNR=9.0
MPU **Maple Canyon** 33.72 315 *eP* P 14 30 20.7 +0.2
comp=Z,230nm,1.4s
NEE2 **Needles Airpor** 33.73 305 ⇓P P 14 30 22.0 +1.7
baz=34
A28A **Rude Farm, Bot** 33.74 337 ⇑P P 14 30 19.8 -0.4
baz=34
I20A **Worland** 33.78 324 ⇓P P 14 30 21.0 +0.3
baz=34,SNR=31
CCUT **Cedar City** 33.81 310 *eP* P 14 30 23.2 +1.9
comp=Z,145nm,1.2s
J19A **Crowheart** 33.89 322 ⇑P P 14 30 22.1 +0.3
baz=34,SNR=60
PDAR **Pinedale Array** 33.89 321 P P 14 30 21.8 -0.1
PDAR **Pinedale Array** 33.89 321 P P 14 30 21.8 -0.1
comp=Z,110nm,1.2s,baz=119,slow=10,SNR=195
PDAR LR LR 14 45 31.0
comp=Z,3µm,20.4s,baz=114,slow=39
BW06 **Boulder Array** 33.89 321 *eP* P 14 30 21.4 -0.4
comp=Z,166nm,1.3s
BW06 LR LR
comp=Z,4µm,19.0s
JLU **Jordanelle** 33.90 316 *eP* P 14 30 23.0 +1.1
comp=Z,215nm,1.7s
IRM **Iron Mountain** 33.95 303 ⇑P P 14 30 23.8 +1.5
baz=34,SNR=32
ARUT **Antelope Range** 33.97 310 *eP* P 14 30 23.7 +1.2
ARUT pmax pmax
comp=Z,4µm,1.2s
ARUT **Antelope Range** 33.97 310 *eP* P 14 30 23.7 +1.2
comp=Z,4µm,1.2s
C25A **Freed Ranch, W** 33.99 333 ⇑P P 14 30 22.3 -0.2
baz=34,SNR=15
F22A **Rosebud** 33.99 328 ⇑P P 14 30 22.1 -0.4
baz=34,SNR=29
NLU **North Lily Min** 33.99 315 *eP* P 14 30 23.8 +1.1
comp=Z,162nm,1.5s
D24A **Glendive** 34.02 331 ⇑P P 14 30 22.6 0.0
baz=34,SNR=36
BC3 **Big Chuckawall** 34.04 302 ⇓P P 14 30 24.5 +1.3
baz=34,SNR=13
H20A **Greybull** 34.05 324 ⇑P P 14 30 22.6 -0.5
baz=34,SNR=15
B26A **Jensen Ranch,** 34.08 334 ⇓P P 14 30 22.9 -0.3
baz=34,SNR=10.0
G21A **Lodge Grass** 34.10 326 ⇓P P 14 30 23.2 -0.4
baz=34,SNR=49
SWSC **Sam W. Stewart** 34.12 301 ⇑P P 14 30 24.9 +1.3
baz=34,SNR=6.6
TCUT **Toone Canyon** 34.13 317 *eP* P 14 30 25.3 +1.3
comp=Z,324nm,1.2s
CTU **Camp Tracy** 34.14 316 *eP* P 14 30 25.2 +1.2
comp=Z,192nm,1.6s
A27A **Ledoux Ranch,** 34.15 336 ⇑P P 14 30 23.6 -0.2
baz=34,SNR=7.6
LDFC **Landfair** 34.21 305 *eP* P 14 30 26.9 +2.2
comp=Z,565nm,1.7s
E22A **Miles City** 34.30 329 ⇓P P 14 30 24.3 -0.8
baz=34,SNR=8.4
I19A **Meeteetse** 34.32 323 ⇓P P 14 30 26.0 +0.4
baz=34,SNR=74
C24A **Savage** 34.37 331 ⇑P P 14 30 25.7 0.0
baz=34,SNR=9.3
B25A **Knox Farm, Ray** 34.38 333 ⇑P P 14 30 25.7 -0.1
baz=34,SNR=65
A26A **Wade Farm, Ken** 34.41 335 ⇓P P 14 30 26.0 0.0
baz=34,SNR=15
F21A **Absaloka Mine,** 34.46 327 ⇓P P 14 30 26.1 -0.5
baz=34,SNR=10
D23A **Lindsay** 34.47 330 ⇑P P 14 30 26.8 +0.2
baz=34,SNR=51
GMRC **Granite Mounta** 34.54 304 ⇑P P 14 30 29.2 +1.7
baz=35,SNR=24
BELC **Belle Mtn. Jos** 34.58 303 ⇓P P 14 30 29.5 +1.7
baz=35,SNR=18
DUG **Dugway** 34.60 315 *eP* P 14 30 29.0 +1.0
DUG pmax pmax
comp=Z,321nm,1.5s
DUG MLR MLR
comp=Z,6µm,22.0s
DUG **Dugway** 34.60 315 *eP* P 14 30 29.0 +1.0
comp=Z,321nm,1.5s
DUG LR LR
comp=Z,6µm,22.0s
DUG **Dugway** 34.60 315 ⇓P P 14 30 30.3 +2.4
baz=35,SNR=75
LAO **LASA Array** 34.61 329 *eP* P 14 30 27.0 -0.8
comp=Z,88nm,1.4s
LAO LR LR
comp=Z,6µm,21.0s
MONP **Monument Peak** 34.61 301 ⇓P P 14 30 29.7 +1.5
baz=35
G20A **Bridger** 34.64 325 ⇓P P 14 30 27.8 -0.4
baz=35,SNR=25
H19A **Powell** 34.71 324 ⇓P P 14 30 29.1 +0.2
baz=35,SNR=21
SHPR **Sheep Range** 34.74 307 *eP* P 14 30 30.7 +1.5
comp=Z,201nm,1.3s
PFO **Pinyon Flat Ob** 34.83 302 P P 14 30 31.0 +1.0
comp=Z,273nm,1.0s,SNR=12
PFO **Pinyon Flat Ob** 34.83 302 *eP* P 14 30 31.6 +1.6
comp=Z,51nm,1.0s
PFO LR LR
comp=Z,3µm,21.0s
PFO **Pinyon Flat Ob** 34.83 302 ⇑P P 14 30 31.6 +1.6
baz=35,SNR=18
A25A **Svangstu Ranch** 34.88 334 ⇓P P 14 30 29.8 -0.3
baz=35,SNR=7.0
SPUT **South Promonto** 34.91 317 *eP* P 14 30 31.5 +0.9
comp=Z,439nm,1.2s
D22A **Cohagen** 34.91 329 ⇓P P 14 30 30.2 -0.2
baz=35,SNR=105
C23A **Lambert** 34.92 331 ⇑P P 14 30 30.4 -0.1
baz=35,SNR=82
E21A **Keefer Ranch,** 34.93 328 ⇓P P 14 30 30.1 -0.4
baz=35,SNR=31
TUQ **Turquoise Moun** 34.96 305 ⇓P P 14 30 32.4 +1.3
baz=35,SNR=11
DGMT **Dagmar** 34.98 333 *eP* P 14 30 30.1 -0.9
DGMT LR LR
comp=Z,176nm,1.0s
comp=Z,7µm,20.0s
DGMT **Dagmar** 34.98 333 ⇑P P 14 30 31.0 +0.1
baz=35,SNR=26
F20A **Billings** 34.98 326 ⇑P P 14 30 31.1 0.0
baz=35,SNR=32
HEC **Hector,Ludlow** 35.08 304 ⇑P P 14 30 34.0 +1.9
baz=35,SNR=27
H18A **Shoshone NF, C** 35.09 323 ⇓P P 14 30 31.8 -0.5
baz=35,SNR=33
BGU **Big Grassy Mou** 35.10 316 *eP* P 14 30 33.8 +1.5
comp=Z,144nm,1.5s
RLMT **Red Lodge** 35.15 324 *eP* P 14 30 32.1 -0.6
comp=Z,264nm,1.8s
RLMT LR LR
comp=Z,2µm,21.0s
I17A **Pilgrim Ck.** 35.17 322 ⇓P P 14 30 33.9 +1.0
baz=35,SNR=61
109C **Camp Elliot, M** 35.17 301 ⇑P P 14 30 33.9 +1.1
baz=35
C22A **Vida** 35.20 330 ⇑P P 14 30 32.7 -0.2
baz=35,SNR=41
A24A **Westby** 35.24 333 ⇑P P 14 30 33.3 +0.1
baz=35,SNR=56
D21A **La Casta Ranch** 35.25 329 ⇓P P 14 30 32.8 -0.6
baz=35,SNR=26
B23A **Brockton** 35.32 332 ⇑P P 14 30 34.1 +0.2
baz=35,SNR=69
SHOC **Shoshone** 35.38 306 ⇑P P 14 30 36.3 +1.7
baz=35,SNR=20
BBRC **Big Bear Solar** 35.38 303 ⇓P P 14 30 36.6 +1.7
baz=36
MURC **Murrieta** 35.43 302 ⇑P P 14 30 36.5 +1.5
baz=36,SNR=10
E20A **Meyer Farm, Mu** 35.44 327 ⇑P P 14 30 35.2 +0.2
baz=36,SNR=61
F19A **Roth Farm, Mol** 35.44 326 ⇓P P 14 30 35.2 +0.1
baz=36,SNR=40
H17A **Grant Village** 35.45 322 *eP* P 14 30 35.9 +0.5
comp=Z,105nm,1.6s
H17A **Grant Village** 35.45 322 ⇓P P 14 30 35.9 +0.5
baz=36,SNR=20
GSC **Goldstone** 35.60 305 *eP* P 14 30 38.2 +1.6
GSC pmax pmax
comp=Z,137nm,1.4s
GSC **Goldstone** 35.60 305 *eP* P 14 30 38.2 +1.6
comp=Z,137nm,1.4s
GSC **Goldstone** 35.60 305 ⇑P P 14 30 38.1 +1.6
baz=36,SNR=15
RRX **Edison Barstow** 35.62 304 ⇑P P 14 30 39.1 +2.4
baz=36
A23A **Redstone** 35.64 333 ⇓P P 14 30 36.8 +0.2
baz=36,SNR=14
B22A **Reddig Ranch S** 35.65 331 ⇑P P 14 30 36.7 -0.1
baz=36,SNR=9.2
R11A **Troy Canyon, C** 35.74 310 *eP* P 14 30 39.2 +1.3
comp=Z,263nm,1.5s
R11A **Troy Canyon, C** 35.74 310 ⇓P P 14 30 39.9 +2.0
baz=36,SNR=104
E19A **Rath Farm, Rou** 35.75 326 ⇑P P 14 30 38.1 +0.4
baz=36,SNR=11
YMR **Madison River** 35.83 322 *eP* P 14 30 39.4 +0.8
comp=Z,29nm,0.9s
D20A **Manuel Ranch,** 35.84 328 ⇓P P 14 30 38.5 +0.1
baz=36,SNR=54
BFSC **Mount Baldy Ra** 35.97 303 ⇑P P 14 30 41.0 +1.3
baz=36,SNR=8.0
FURC **Furnace Creek,** 36.01 307 ⇓P P 14 30 42.0 +2.1
baz=36,SNR=37
A22A **Carney Farms,** 36.12 332 ⇑P P 14 30 41.2 +0.4
baz=36,SNR=40
C20A **Veseth Ranch,** 36.19 329 ⇑P P 14 30 41.3 -0.1
baz=36,SNR=119
B21A **Ellsworth Farm** 36.22 330 ⇓P P 14 30 41.8 +0.2
baz=36,SNR=8.4
D19A **Cripps Ranch,** 36.26 327 ⇓P P 14 30 41.9 -0.1
baz=36,SNR=100
LRMC **Laurel Mountai** 36.34 305 ⇓P P 14 30 44.5 +1.6
baz=36,SNR=10
CIS **Catalina Islan** 36.35 301 ⇓P P 14 30 44.9 +2.0
baz=36
ARE **Arequipa** 36.36 165 *eP* P 14 30 46.0 +2.6
ARE **Arequipa** 36.36 165 *eP* P 14 30 46.0 +2.6
SCI **San Clemente I** 36.37 300 ⇓P P 14 30 44.9 +1.8
baz=36
EDW2 **Edwards Air Fo** 36.40 303 ⇑P P 14 30 45.2 +1.7
baz=36,SNR=29
DECC **Green Verdugo** 36.51 302 ⇑P P 14 30 45.9 +1.6
baz=37
GRAC **Grapevine Rang** 36.57 307 ⇓P P 14 30 47.1 +2.3
baz=37,SNR=20
A21A **Bergtoll Ranch** 36.58 331 ⇓P P 14 30 45.0 +0.3
baz=37,SNR=55
B20A **Solberg Farm,** 36.70 330 ⇑P P 14 30 46.3 +0.5
baz=37,SNR=38
C19A **Slack Wire Ran** 36.73 328 ⇓P P 14 30 46.1 +0.1
baz=37,SNR=37
BOZ **Bozeman (W)** 36.79 323 *eP* P 14 30 46.1 -0.6
BOZ pmax pmax
comp=Z,104nm,1.3s
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ **Bozeman (W)** 36.79 323 *eP* P 14 30 46.0 -0.6
comp=Z,104nm,1.3s
BOZ LR LR
comp=Z,2µm,21.0s
TPH **Tonopah** 36.84 309 *eP* P 14 30 48.9 +1.7
TPH pmax pmax
comp=Z,203nm,1.2s
TPH **Tonopah** 36.84 309 *eP* P 14 30 48.9 +1.7
comp=Z,203nm,1.2s
OSI **Osito Adit** 36.91 303 *eP* P 14 30 48.9 +1.2
comp=Z,84nm,0.9s
OSI **Osito Adit** 36.91 303 ⇑P P 14 30 49.0 +1.2

baz=37,SNR=9.9
A20A Cobblestone Ra 36.96 330 ⇑P P 14 30 48.5 +0.5
baz=37,SNR=129
MCMT McKenzie Canyo 37.02 321 eP P 14 30 49.6 +0.8
comp=Z,78nm,1.2s
ARVC Arvin 37.13 304 ⇓P P 14 30 51.3 +1.8
baz=37
B19A Brinkman Farms 37.16 329 ⇓P P 14 30 49.8 +0.1
baz=37,SNR=26
LPAZ La Paz 37.19 159 eP P 14 30 49.4 -1.4
comp=Z,80nm,1.4s
LPAZ S **S 14 36 33.7 -4.3**
LPAZ La Paz 37.19 159 P P 14 30 50.0 -0.8
comp=Z,19nm,1.1s,baz=344,slow=7.6,SNR=28
LPAZ S **S 14 36 33.7 -4.3**
comp=Z,0.7nm,0.6s,baz=322,slow=12,SNR=2.4
LPAZ LR LR 14 47 49.9
comp=Z,3μm,20.3s,baz=322,slow=39
TIN Tinemaha 37.24 307 ⇑P P 14 30 52.3 +1.7
baz=37
EGMT Eagleton 37.27 328 eP P 14 30 49.9 -0.8
comp=Z,219nm,1.1s
EGMT LR LR
comp=Z,5μm,20.0s
EGMT Eagleton 37.27 328 ⇑P P 14 30 50.8 +0.1
baz=37,SNR=86
HLID Hailey 37.30 319 P P 14 30 52.3 +1.2
baz=37
LRM Limekiln Ridge 37.36 323 eP P 14 30 51.5 -0.2
comp=Z,509nm,1.2s
A19A Klindworth Far 37.39 330 ⇓P P 14 30 52.0 +0.4
baz=37,SNR=52
SCHQ Schefferville 37.46 13 eP P 14 30 51.9 -0.1
comp=Z,200nm,1.2s
SCHQ Schefferville 37.46 13 P P 14 30 52.0 -0.1
comp=Z,98nm,1.1s,baz=204,slow=10.0,SNR=31
SCHQ LR LR 14 45 59.6
comp=Z,5μm,21.2s,baz=204,slow=36
BSC Santa Cruz Isl 37.49 301 ⇓P P 14 30 54.1 +1.5
baz=38
VES Vestal, Richgr 37.53 305 ⇑P P 14 30 55.1 +2.1
baz=38,SNR=28
HRY Holter Researc 37.54 325 eP P 14 30 53.0 0.0
comp=Z,65nm,1.0s
NV11 Mina Array Sit 37.65 309 eP P 14 30 55.9 +1.9
SBC Santa Barbara 37.66 302 ⇑P P 14 30 55.8 +1.8
baz=38
BMN Battle Mountai 37.73 312 eP P 14 30 55.5 +0.7
BMN pmax pmax
comp=Z,137nm,1.4s
BMN Battle Mountai 37.73 312 eP P 14 30 55.5 +0.7
comp=Z,137nm,1.4s
NVAR Mina Array Bea 37.76 309 P P 14 30 56.5 +1.4
NVAR PcP **PcP 14 33 14.5 +2.5**
NVAR Mina Array Bea 37.76 309 P P 14 30 56.5 +1.4
comp=Z,36nm,0.9s,baz=113,slow=8.2,SNR=84
NVAR PcP **PcP 14 33 14.5 +2.5**
comp=Z,4.9nm,0.8s,baz=146,slow=4.0,SNR=2.6
RCTC Rector, Farmer 37.79 305 ⇓P P 14 30 57.1 +2.1
baz=38,SNR=6.3
MLAC Mammoth Lakes 37.88 307 ⇓P P 14 30 58.6 +2.4
baz=38
SMMC Simmler 38.11 303 ⇓P P 14 31 00.0 +2.2
baz=38
MFID Camas Ranch 38.12 318 eP P 14 30 58.6 +0.7
comp=Z,212nm,1.1s
CHMT Chamberlain Mo 38.45 324 eP P 14 31 00.2 -0.5
comp=Z,54nm,1.6s
WAKR Walker 38.62 309 eP P 14 31 04.3 +2.0
comp=Z,245nm,1.7s
SLMT Seeley Lake 38.77 324 eP P 14 31 03.1 -0.3
comp=Z,34nm,1.0s
MSO Missoula 38.78 323 ⇑P P 14 31 03.9 +0.4
baz=39,SNR=26
PAHR Pah Rah Range 38.99 310 eP P 14 31 06.0 +0.6
comp=Z,180nm,1.6s
FFC Flin Flon 39.19 341 P P 14 31 06.0 -0.6
comp=Z,75nm,1.1s,SNR=5.7
FFC Flin Flon 39.19 341 eP P 14 31 05.0 -1.6
FFC pmax pmax
comp=Z,16nm,0.9s
FFC MLR MLR
comp=Z,7μm,22.0s
FFC Flin Flon 39.19 341 eP P 14 31 05.0 -1.6
comp=Z,16nm,0.9s
FFC LR LR
comp=Z,7μm,22.0s
SWMT Swartz Lake 39.20 324 eP P 14 31 06.8 -0.2
comp=Z,13nm,0.8s
YBMT Yellow Bay 39.42 325 eP P 14 31 08.4 -0.4
comp=Z,53nm,1.1s
JTMT Jette 39.50 324 eP P 14 31 09.6 +0.1
comp=Z,63nm,1.4s
WVOR Wild Horse Val 39.52 315 eP P 14 31 10.5 +0.7
WVOR pmax pmax
comp=Z,416nm,1.2s
WVOR MLR MLR
comp=Z,3μm,19.0s
WVOR Wild Horse Val 39.52 315 eP P 14 31 10.5 +0.7
comp=Z,416nm,1.2s
WVOR LR LR
comp=Z,3μm,19.0s
BLMT Blacktail Moun 39.70 325 eP P 14 31 11.5 +0.3
comp=Z,110nm,1.1s
BSMT Bassoo Peak 39.84 324 eP P 14 31 12.5 +0.1
comp=Z,98nm,1.5s
WALA Waterton Lakes 40.07 326 eP P 14 31 13.4 -0.8
comp=Z,0.3nm,1.5s
MOD Modoc 40.45 313 eP P 14 31 18.1 +0.6
comp=Z,79nm,0.7s
FCC Fort Churchill 40.94 350 eP P 14 31 20.2 -0.8
FCC pmax pmax
comp=Z,1.0nm,0.9s
FCC Fort Churchill 40.94 350 eP P 14 31 20.2 -0.8
comp=Z,1.3nm,0.9s
NEW Newport 41.37 323 eP P 14 31 24.0 -0.9
comp=Z,110nm,1.2s
NEW LR LR
comp=Z,2μm,21.0s
NEW Newport 41.37 323 ⇓P P 14 31 25.3 +0.4
baz=41,SNR=37
M04C Macdoel 41.47 312 ⇑P P 14 31 26.4 +0.5
baz=42
HAWA Hanford 41.85 320 eP P 14 31 26.6 -2.2
comp=Z,76nm,1.1s
HAWA LR LR
comp=Z,3μm,20.0s
M02C Callahan 42.05 311 ⇑P P 14 31 31.1 +0.5
baz=42
EDM Edmonton 42.43 331 eP P 14 31 32.5 -0.9
EDM Edmonton 42.43 331 eP P 14 31 32.5 -0.9
BBOR Butler Butte 42.45 314 P P 14 31 34.8 +0.9
G05D Wamic, OR 42.46 317 ⇑P P 14 31 34.6 +0.8
baz=42
HBO Huckleberry Mo 42.56 315 P P 14 31 35.9 +1.1
TDH Tom, Dick, Har 42.78 317 P P 14 31 38.1 +1.6
VLL Laurance Lake 42.78 317 P P 14 31 38.2 +1.7
H04A Detroit Lake 42.80 316 P P 14 31 37.4 +0.8
TBM Table Mountain 42.86 320 P P 14 31 38.2 +1.1
ETW Entiat 42.90 321 P P 14 31 37.9 +0.4
LVC Limon Verde 42.92 164 eP P 14 31 39.1 +1.2
comp=Z,107nm,1.0s
LVC LR LR
comp=Z,3μm,22.0s
LON Longmire 43.42 319 eP P 14 31 41.4 -0.2
LON pmax pmax
comp=Z,82nm,1.0s
LON Longmire 43.42 319 eP P 14 31 41.4 -0.2
comp=Z,82nm,1.0s
COR Corvallis 43.49 316 eP P 14 31 42.6 +0.5
COR pmax pmax
comp=Z,759nm,1.7s
COR Corvallis 43.49 316 eP P 14 31 42.6 +0.5
comp=Z,759nm,1.7s
KEBM Edson Butte 43.58 313 eP P 14 31 44.2 +1.2
comp=Z,411nm,1.2s
G03D McMinnville, O 43.71 317 ⇓P P 14 31 45.2 +1.3
baz=44
F04D Rainier, OR 43.89 318 ⇑P P 14 31 46.0 +0.7
baz=44
NLWA Neilton Lookou 44.96 319 eP P 14 31 54.6 +0.7
comp=Z,137nm,1.2s
NLWA LR LR
comp=Z,5μm,19.0s
OSD Olympics--Snow 45.04 320 P P 14 31 55.5 +0.8
BDFB Brasilia 47.24 134 P P 14 32 12.0 -0.3
BDFB S **S 14 39 05.1 -0.3**

BDFB Brasilia 47.24 134 P P 14 32 12.0 -0.3
comp=Z,76nm,0.9s,baz=308,slow=9.3,SNR=56
BDFB S **S 14 39 05.1 -0.3**
comp=Z,1.7nm,0.3s,baz=322,slow=18,SNR=3.2
BDFB LR LR 14 53 22.9
comp=Z,2μm,20.9s,baz=308,slow=38
LCO Las Campanas 48.66 168 eP P 14 32 24.5 +1.3
comp=Z,115nm,1.6s
LCO LR LR
comp=Z,2μm,22.0s
NRS Narsarsuaq 49.07 22 i P P 14 32 27.3 +1.6
NRS pmax pmax
comp=Z,36nm,0.9s
YKA Yellowknife Ar 49.37 340 P P 14 32 27.2 -0.8
YKA PcP **PcP 14 33 54.4 +4.1**
YKA Yellowknife Ar 49.37 340 P P 14 32 27.2 -0.8
comp=Z,22nm,1.1s,baz=134,slow=7.8,SNR=101
YKA PcP **PcP 14 33 54.4 +4.1**
comp=Z,5.4nm,0.9s,baz=136,slow=3.3,SNR=2.8
YKW3 Yellowknife Ar 49.42 340 eP P 14 32 27.6 -0.7
comp=Z,0.9nm,1.1s
CPUP Villa Florida 50.49 152 eP P 14 32 32.9 -4.0
comp=Z,2.0nm,1.0s
CPUP S S 14 39 43.4 -7.3
CPUP Villa Florida 50.49 152 P P 14 32 34.8 -2.1
comp=Z,11nm,0.9s,baz=324,slow=5.9,SNR=9.7
CPUP S S 14 39 43.4 -7.3
comp=Z,0.4nm,0.4s,baz=311,slow=19,SNR=2.1
CPUP LR LR 14 55 59.1
comp=Z,4μm,20.3s,baz=318,slow=38
RCBR Riachuelo 50.75 115 eP P 14 32 38.7 -0.5
comp=Z,172nm,1.3s
RCBR LR LR
comp=Z,3μm,19.0s
BB16B Bebedouro 50.81 140 i P P 14 32 38.5 -1.0
BB16B i 14 32 40.1
BB16B i 14 32 42.5
BB16B i 14 32 47.2
BB16B i 14 32 53.8
BB16B i 14 33 08.0
BB16B i 14 33 30.0
SFJD Kangerlussuaq 51.89 15 i P P 14 32 46.1 -0.8
comp=Z,23nm,0.8s
SFJD Kangerlussuaq 51.89 15 P P 14 32 46.8 -0.1
SFJD S **S 14 40 11.7 +2.6**
SFJD LR LR
comp=Z,6μm,22.0s
SFJD Kangerlussuaq 51.89 15 P P 14 32 46.8 -0.1
comp=Z,25nm,1.0s,baz=226,slow=7.8,SNR=5.7
SFJD S **S 14 40 11.7 +2.6**
comp=Z,5.4nm,0.8s,baz=225,slow=14,SNR=1.9
DLBC Dease Lake 53.11 330 eP P 14 32 57.0 +0.8
WRAK Wrangell Islan 53.40 327 eP P 14 32 58.8 +0.5
comp=Z,45nm,0.9s
WRAK LR LR
comp=Z,3μm,21.0s
SACV Santiago Islan 54.83 85 eP P 14 33 07.0 -2.3
comp=Z,99nm,0.8s
SACV LR LR
comp=Z,1μm,20.0s
SKAG Skagway 56.04 330 eP P 14 33 17.1 -0.2
comp=Z,68nm,1.1s
KULLO Kullorsuaq 57.17 7 i P P 14 33 25.2 0.0
KULLO pmax pmax
comp=Z,12nm,0.9s
KULLO MLR MLR
comp=Z,6μm,19.0s
KULLO Kullorsuaq 57.17 7 i P P 14 33 25.2 0.0
comp=Z,12nm,0.8s
KULLO
comp=Z,6μm,18.0s
SUMG Summit 58.85 14 eP P 14 33 36.4 -1.1
SUMG pmax pmax
comp=Z,80nm,1.1s
SUMG Summit 58.85 14 i P P 14 33 36.9 -0.6
comp=Z,36nm,0.9s
SUMG
comp=Z,4μm,18.0s
SUMG Summit 58.85 14 eP P 14 33 36.4 -1.1
comp=Z,80nm,1.1s
INK Inuvik 59.13 340 eP P 14 33 38.1 -0.9
comp=Z,183nm,1.3s
TRQA Tornquist 59.41 163 eP P 14 33 39.0 -2.3
comp=Z,94nm,1.7s
TRQA LR LR
comp=Z,2μm,22.0s
DAWY Dawson 59.52 334 eP P 14 33 41.2 -0.6
PLCA Paso Flores 60.12 171 eP P 14 33 46.0 -0.2
comp=Z,37nm,1.0s
PLCA Paso Flores 60.12 171 P P 14 33 46.0 -0.2
comp=Z,20nm,0.9s,baz=350,slow=8.1,SNR=35
BORG Borgarnes 60.26 25 PFAKE 14 34 00.0 +13
BORG LR LR
comp=Z,3μm,21.0s
EGAK Eagle 60.48 335 eP P 14 33 47.9 -0.5
comp=Z,52nm,1.1s
EGAK LR LR
comp=Z,3μm,20.0s
BMRM Bremner River 60.90 330 eP P 14 33 52.2 +0.8
comp=Z,118nm,1.4s
MENT Mentasta 61.01 332 eP P 14 33 52.6 +0.6
DOT Dot Lake 61.35 333 eP P 14 33 55.0 +0.6
comp=Z,111nm,1.1s
DIV Divide 61.49 330 eP P 14 33 55.0 -0.4
comp=Z,133nm,1.1s
PAX Paxson 61.79 332 eP P 14 33 57.4 0.0
PAX pmax pmax
comp=Z,103nm,1.0s
PAX Paxson 61.79 332 eP P 14 33 57.4 0.0
comp=Z,103nm,1.0s
SCO Scoresbysund 62.16 19 i P P 14 33 59.7 +0.1
SCO pmax pmax
comp=Z,9.0nm,0.8s
SCO MLR MLR
comp=Z,3μm,16.0s
SCO Scoresbysund 62.16 19 i P P 14 33 59.7 +0.1
comp=Z,8.8nm,0.8s
SCO
comp=Z,3μm,16.0s
ILAR Eielson Array 62.83 334 P P 14 34 04.2 -0.1
ILAR Eielson Array 62.83 334 P P 14 34 04.2 -0.1
comp=Z,68nm,1.0s,baz=109,slow=4.0,SNR=258
ILAR LR LR 15 01 17.0
comp=Z,2μm,19.2s,baz=107,slow=36
PMR Palmer 63.17 330 eP P 14 34 06.2 -0.3
PMR pmax pmax
comp=Z,62nm,1.1s
PMR Palmer 63.17 330 eP P 14 34 06.2 -0.3
comp=Z,62nm,1.1s
COLA College 63.26 334 deP P 14 34 06.9 -0.1
COLA pmax pmax
comp=Z,424nm,1.2s
COLA MLR MLR
comp=Z,17μm,15.0s
COLA College 63.26 334 eP P 14 34 06.2 -0.8
comp=Z,82nm,1.0s
COLA LR LR
comp=Z,3μm,20.0s
RC01 Rabbit Creek A 63.38 330 eP P 14 34 07.4 -0.5
comp=Z,141nm,1.1s
MCK McKinley 63.48 333 eP P 14 34 08.4 -0.2
MCK pmax pmax
comp=Z,213nm,1.2s
MCK McKinley 63.48 333 eP P 14 34 08.4 -0.2
comp=Z,213nm,1.2s
TRF Thorofare Moun 64.02 332 eP P 14 34 12.4 0.0
comp=Z,345nm,1.1s
ALE Alert 64.08 3 P P 14 34 11.5 -0.8
comp=Z,143nm,0.9s,SNR=9.5
KTH Kantishna Hill 64.32 332 eP P 14 34 14.2 0.0
comp=Z,224nm,1.1s
KDAK Kodiak Island 64.41 326 P P 14 34 15.2 +0.5
comp=Z,425nm,1.2s,SNR=5.4
KDAK Kodiak Island 64.41 326 eP P 14 34 14.0 -0.7
comp=Z,90nm,1.1s
KDAK LR LR
comp=Z,5μm,21.0s
LIS Lisbon 64.43 55 eP P 14 34 14.5 -0.7
LIS AMb AMB 14 34 38.4
comp=Z,187nm,2.4s
LIS Lisbon 64.43 55 eP P 14 34 14.5 -0.7
comp=Z,187nm,2.4s
LIS Lisbon 64.43 55 eP P 14 34 14.5 -0.7
COLD Coldfoot 64.70 336 eP P 14 34 16.8 +0.2
comp=Z,92nm,1.2s
OHAK Old Harbor 64.74 325 eP P 14 34 17.7 +0.8
comp=Z,94nm,1.1s

RSO Redoubt South 64.76 329 eP P 14 34 17.3 0.0
comp=Z,117nm,0.8s
PPLA Purkeypile 64.79 331 eP P 14 34 16.7 -0.7
comp=Z,149nm,1.2s
PFVI Vila Bisbo 64.82 57 eP P 14 34 20.0 +2.2
comp=Z,141nm,1.7s
PCAS Casmilo, Conde 64.84 54 eP P 14 34 19.1 +1.2
comp=Z,125nm,1.6s
PGAV Gavieira, Arco 64.89 52 eP P 14 34 19.6 +1.3
comp=Z,93nm,1.5s
PGAV Gavieira, Arco 64.89 52 eLQ LQ 14 50 36.4
PGAV eLR LR 14 52 14.8
comp=Z,3μm,20.0s
MORF Marmelete 64.94 57 eP P 14 34 19.1 +0.4
comp=Z,90nm,1.7s
MORF Marmelete 64.94 57 eP P 14 34 18.4 -0.3
MORF eS **S 14 42 59.4 -1.0**
PNCL Nicolau / Gran 64.97 56 eP P 14 34 20.4 +1.6
comp=Z,78nm,1.8s
EVOP Sao Brissos 65.25 56 eP P 14 34 20.4 -0.2
EVOP pmax pmax
comp=Z,103nm,0.9s
EVOP Sao Brissos 65.25 56 eP P 14 34 20.4 -0.2
comp=Z,102nm,0.9s
POLO Lamas de Olo 65.28 52 eP P 14 34 19.7 -1.2
comp=Z,46nm,1.5s
EVO Evora 65.33 56 eP P 14 34 20.4 -0.8
comp=Z,102nm,0.9s
EVO eR
comp=Z,5μm,21.8s
EVO Evora 65.33 56 eP P 14 34 21.4 +0.2
comp=Z,63nm,1.1s
DAG Danmarks Havn 65.50 13 i P P 14 34 20.1 -1.4
DAG pmax pmax
comp=Z,28nm,0.9s
DAG Danmarks Havn 65.50 13 i P P 14 34 20.1 -1.4
comp=Z,33nm,0.9s
PBDV Barranco-do-Ve 65.52 57 eP P 14 34 23.1 +0.7
comp=Z,94nm,1.3s
MTE Manteigas 65.54 54 eP P 14 34 22.5 0.0
comp=Z,64nm,1.4s
MTE eS S 14 43 14.5 +6.8
MTE eLQ LQ 14 50 35.0
MTE eLR LR 14 52 05.3
comp=Z,2μm,20.0s
MTE Manteigas 65.54 54 eP P 14 34 22.2 -0.3
comp=Z,38nm,0.9s
MTE LR LR
comp=Z,3μm,22.0s
PVAQ Vaqueiros 65.67 57 eP P 14 34 24.0 +0.6
comp=Z,76nm,1.6s
PVAQ eS **S 14 43 11.8 +2.5**
PVAQ eLQ LQ 14 50 42.7
PVAQ eLR LR 14 52 59.1
comp=Z,3μm,18.0s
PMRV Marv??o 65.74 55 eP P 14 34 23.8 0.0
comp=Z,77nm,1.3s
PMRV eS **S 14 43 08.5 -1.5**
PMRV eLQ LQ 14 50 41.8
PMRV eLR LR 14 53 17.2
comp=Z,2μm,20.0s
MVO Moncorvo 65.87 53 eP P 14 34 24.7 0.0
comp=Z,70nm,1.5s
MVO eS **S 14 43 16.4 +4.7**
MVO eLQ LQ 14 50 47.2
MVO eLR LR 14 52 07.2
comp=Z,1μm,18.0s
IM04 Indian Mountai 65.89 335 eP P 14 34 23.7 -0.6
PBRG Braganca 66.03 52 eP P 14 34 26.6 +0.9
comp=Z,115nm,1.9s
RKT Rikitea 67.26 234 eP P 14 34 32.5 -1.1
comp=Z,124nm,1.4s
RKT Rikitea 67.26 234 ePP PP 14 36 56.6 -5.5
comp=Z,181nm,26.8s
RKT eS **S 14 43 25.5 -3.2**
comp=Z,1μm,38.0s
RKT eLQ LQ 14 52 08.3
comp=Z,2μm,33.5s
RKT eLR LR 14 54 58.7
comp=Z,2μm,33.2s
ESK Eskdalemuir 67.74 37 P P 14 34 35.9 -0.3
comp=Z,372nm,0.7s,SNR=11
ESK Eskdalemuir 67.74 37 eP P 14 34 35.5 -0.7
ESK pmax pmax
comp=Z,40nm,0.7s
ESK MLR MLR
comp=Z,2μm,19.0s
ESK Eskdalemuir 67.74 37 eP P 14 34 35.5 -0.7
comp=Z,40nm,0.7s
ESK LR LR
comp=Z,2μm,19.0s
ROSF Rostrenen 68.01 45 eP P 14 34 38.3 +0.2
comp=Z,160nm,1.2s
ROSF Rostrenen 68.01 45 eP P 14 34 38.3 +0.2
ROSF pmax pmax
comp=Z,160nm,1.2s
ROSF Rostrenen 68.01 45 eP P 14 34 38.3 +0.2
comp=Z,160nm,1.2s
PAB San Pablo 68.07 54 eP P 14 34 38.7 0.0
PAB pmax pmax
comp=Z,101nm,1.5s
PAB MLR MLR
comp=Z,3μm,21.0s
PAB San Pablo 68.07 54 eP P 14 34 38.7 0.0
comp=Z,101nm,1.5s
PAB LR LR
comp=Z,3μm,21.0s
QUIF Quistinic 68.11 45 eP P 14 34 39.0 +0.3
comp=Z,262nm,1.3s
QUIF Quistinic 68.11 45 eP P 14 34 39.0 +0.3
QUIF pmax pmax
comp=Z,262nm,1.3s
QUIF Quistinic 68.11 45 eP P 14 34 39.0 +0.3
comp=Z,262nm,1.3s
ESDC Sonseca Array 68.35 54 P P 14 34 40.7 +0.2
ESDC Sonseca Array 68.35 54 P P 14 34 40.7 +0.2
comp=Z,17nm,0.8s,baz=286,slow=6.1,SNR=37
ESDC LR LR 14 58 19.8
comp=Z,2μm,21.8s,baz=280,slow=30
ESLA Sonseca Array 68.35 54 eP P 14 34 39.9 -0.5
comp=Z,9.4nm,0.8s
SGMF Saint Gilles 68.50 45 eP P 14 34 41.1 0.0
comp=Z,155nm,1.1s
SGMF Saint Gilles 68.50 45 eP P 14 34 41.1 0.0
SGMF pmax pmax
comp=Z,155nm,1.1s
SGMF Saint Gilles 68.50 45 eP P 14 34 41.1 0.0
comp=Z,155nm,1.1s
GRR Gorron 69.61 44 eP P 14 34 48.2 +0.2
comp=Z,301nm,1.2s
GRR Gorron 69.61 44 eP P 14 34 48.2 +0.2
GRR pmax pmax
comp=Z,301nm,1.2s
GRR Gorron 69.61 44 eP P 14 34 48.2 +0.2
comp=Z,301nm,1.2s
FLN La Foliniere 69.82 44 eP P 14 34 49.7 +0.4
comp=Z,193nm,1.1s
FLN eR
comp=Z,4μm,19.5s
FLN La Foliniere 69.82 44 eP P 14 34 49.7 +0.4
FLN pmax pmax
comp=Z,193nm,1.1s
FLN La Foliniere 69.82 44 eP P 14 34 49.7 +0.4
comp=Z,193nm,1.1s
LCHF La Chataignera 69.87 46 eP P 14 34 51.8 +2.1
OSSF Osses 69.92 50 eP P 14 34 49.9 -0.1
SJPF Ste Jean 69.96 50 eP P 14 34 51.1 +0.8
comp=Z,189nm,1.0s
SJPF Ste Jean 69.96 50 eP P 14 34 51.1 +0.8
SJPF pmax pmax
comp=Z,189nm,1.0s
SJPF Ste Jean 69.96 50 eP P 14 34 51.1 +0.8
comp=Z,189nm,1.0s
LDF La Druitiere 70.08 44 eP P 14 34 51.2 +0.3
comp=Z,272nm,1.0s
LDF La Druitiere 70.08 44 eP P 14 34 51.2 +0.3
LDF pmax pmax
comp=Z,273nm,1.0s
LDF La Druitiere 70.08 44 eP P 14 34 51.2 +0.3
comp=Z,272nm,1.0s
LARF Larrau 70.14 50 eP P 14 34 52.0 +0.5
MFF Saint Martin d 70.29 46 eP P 14 34 52.4 +0.2
comp=Z,120nm,1.0s
MFF Saint Martin d 70.29 46 eP P 14 34 52.4 +0.2
MFF pmax pmax
comp=Z,120nm,1.0s
MFF Saint Martin d 70.29 46 eP P 14 34 52.4 +0.2

comp=Z,120nm,1.0s
ETSF Etsaut 70.47 50 *e*P **P 14 34 54.2 +0.7**
comp=Z,61nm,0.9s
ETSF Etsaut 70.47 50 *e*P **P 14 34 54.2 +0.7**
ETSF pmax pmax
comp=Z,61nm,0.9s
ETSF Etsaut 70.47 50 *e*P **P 14 34 54.2 +0.7**
comp=Z,61nm,0.9s
REYF Montagne du Re 70.57 50 *e*P **P 14 34 55.1 +0.9**
ASCN Ascension 70.85 106 PFAKE 14 35 10.0 +14
ASCN LR LR
comp=Z,1µm,21.0s
VIEF Viey 70.90 50 *e*P **P 14 34 56.5 +0.3**
EPF Esparros 71.11 50 *e*P **P 14 34 58.0 +0.6**
comp=Z,190nm,1.1s
EPF Esparros 71.11 50 *e*P **P 14 34 58.0 +0.6**
EPF pmax pmax
comp=Z,190nm,1.1s
EPF Esparros 71.11 50 *e*P **P 14 34 58.0 +0.6**
comp=Z,190nm,1.1s
LFF La Frestale 71.12 48 *e*P **P 14 34 57.6 +0.3**
comp=Z,348nm,1.0s
LFF La Frestale 71.12 48 *e*P **P 14 34 57.6 +0.3**
LFF pmax pmax
comp=Z,348nm,1.0s
LFF La Frestale 71.12 48 *e*P **P 14 34 57.6 +0.3**
comp=Z,348nm,1.0s
MENF Mencas 71.32 42 *e*P **P 14 34 59.2 +0.8**
MELF Melles 71.44 50 *e*P **P 14 35 00.3 +0.9**
RJF Les Rejaudoux 71.61 48 *e*P **P 14 35 00.5 +0.2**
comp=Z,153nm,1.0s
RJF *e*R
comp=Z,4µm,21.0s
RJF Les Rejaudoux 71.61 48 *e*P **P 14 35 00.5 +0.2**
RJF pmax pmax
comp=Z,153nm,1.0s
RJF Les Rejaudoux 71.61 48 *e*P **P 14 35 00.5 +0.2**
comp=Z,153nm,1.0s
KIP Kipapa 71.65 287↓ *e*P **P 14 35 00.2 -0.7**
KIP pmax pmax
comp=Z,32nm,0.9s
MLS Moulis 71.67 50 *e*P **P 14 35 01.0 +0.3**
TNA Tin City 71.71 334 *e*P **P 14 35 00.4 -0.1**
comp=Z,92nm,1.2s
TCF Toulx Ste Croi 71.95 46 *e*P **P 14 35 02.2 -0.1**
comp=Z,175nm,1.1s
TCF Toulx Ste Croi 71.95 46 *e*P **P 14 35 02.2 -0.1**
TCF pmax pmax
comp=Z,175nm,1.1s
TCF Toulx Ste Croi 71.95 46 *e*P **P 14 35 02.2 -0.1**
comp=Z,175nm,1.1s
CAF Calviac 72.05 48 *e*P **P 14 35 03.1 +0.1**
comp=Z,209nm,1.0s
CAF Calviac 72.05 48 *e*P **P 14 35 03.1 +0.1**
CAF pmax pmax
comp=Z,209nm,1.0s
CAF Calviac 72.05 48 *e*P **P 14 35 03.1 +0.1**
comp=Z,209nm,1.0s
HYF Humbligny 72.09 45 *e*P **P 14 35 03.4 +0.2**
HYF Humbligny 72.09 45 *e*P **P 14 35 03.4 +0.2**
KBS Kingsbay 72.14 12↓ *e*P **P 14 35 03.6 +0.7**
KBS pmax pmax
comp=Z,98nm,2.5s
KBS Kingsbay 72.14 12 PFAKE 14 35 10.0 +7.1
KBS LR LR
comp=Z,4µm,19.0s
BGF Bois d'Agland 72.34 46 *e*P **P 14 35 04.5 -0.2**
comp=Z,157nm,1.0s
BGF Bois d'Agland 72.34 46 *e*P **P 14 35 04.5 -0.2**
BGF pmax pmax
comp=Z,157nm,1.0s
BGF Bois d'Agland 72.34 46 *e*P **P 14 35 04.5 -0.2**
comp=Z,157nm,1.0s
PYM Petit Puy Mans 72.58 47 *e*P **P 14 35 08.1 +1.9**
AGO Saint Agoulin 72.61 47 *e*P **P 14 35 09.0 +2.7**
AVF Avril sur Loir 72.65 46 *e*P **P 14 35 06.1 -0.4**
comp=Z,179nm,1.1s
AVF Avril sur Loir 72.65 46 *e*P **P 14 35 06.1 -0.4**
AVF pmax pmax
comp=Z,179nm,1.1s
AVF Avril sur Loir 72.65 46 *e*P **P 14 35 06.1 -0.4**
comp=Z,179nm,1.1s
SNF Seneffe 72.67 42 P **P 14 35 08.1 +1.6**
BAIF Baives 72.69 42 *e*P **P 14 35 06.6 -0.1**
comp=Z,309nm,1.8s
BAIF Baives 72.69 42 *e*P **P 14 35 06.6 -0.1**
BAIF pmax pmax
comp=Z,309nm,1.8s
BAIF Baives 72.69 42 *e*P **P 14 35 06.6 -0.1**
comp=Z,309nm,1.8s
SSF Saint Saulge 72.71 45 *e*P **P 14 35 06.5 -0.3**
comp=Z,162nm,1.1s
SSF Saint Saulge 72.71 45 *e*P **P 14 35 06.5 -0.3**
SSF pmax pmax
comp=Z,162nm,1.1s
SSF Saint Saulge 72.71 45 *e*P **P 14 35 06.5 -0.3**
comp=Z,162nm,1.1s
LBL Lubilhac 72.83 47 *e*P **P 14 35 08.1 +0.4**
EANR 'Ain N'Sour 72.89 57 P **P 14 35 11.0 +2.8**
LOR Lormes 72.91 45 *e*P **P 14 35 07.7 -0.4**
comp=Z,299nm,1.6s
LOR *e*R
comp=Z,4µm,20.8s
LOR Lormes 72.91 45 *e*P **P 14 35 07.7 -0.4**
comp=Z,299nm,1.6s
DOU Dourbes 72.94 42 P **P 14 35 08.0 -0.1**
comp=Z,42nm,1.7s
PLDF La Plantade 72.97 47 *e*P **P 14 35 10.4 +1.9**
SMF Signal de Mont 73.00 46 *e*P **P 14 35 08.2 -0.4**
comp=Z,119nm,1.0s
SMF Signal de Mont 73.00 46 *e*P **P 14 35 08.2 -0.4**
SMF pmax pmax
comp=Z,119nm,1.0s
SMF Signal de Mont 73.00 46 *e*P **P 14 35 08.2 -0.4**
comp=Z,119nm,1.0s
GIVF Givet 73.08 42 *e*P **P 14 35 08.9 -0.1**
comp=Z,281nm,1.2s
GIVF Givet 73.08 42 *e*P **P 14 35 08.9 -0.1**
GIVF pmax pmax
comp=Z,281nm,1.2s
GIVF Givet 73.08 42 *e*P **P 14 35 08.9 -0.1**
comp=Z,281nm,1.2s
COLF Collangettes 73.09 47 *e*P **P 14 35 11.4 +2.2**
BCLA Clavier 73.33 42 P **P 14 35 10.7 +0.2**
comp=Z,50nm,1.4s
LASF Ste Croix 73.46 48 *e*P **P 14 35 11.9 +0.5**
comp=Z,213nm,1.1s
LASF Ste Croix 73.46 48 *e*P **P 14 35 11.9 +0.5**
comp=Z,213nm,1.1s
MEZF Maizieres J'vi 73.50 44 *e*P **P 14 35 11.6 +0.2**
comp=Z,395nm,1.1s
MEZF Maizieres J'vi 73.50 44 *e*P **P 14 35 11.6 +0.2**
comp=Z,395nm,1.1s
BEBN Eben Emael 73.50 41 P **P 14 35 13.4 +2.0**
SFTF Sexfontaines 73.54 44 *e*P **P 14 35 11.6 -0.1**
comp=Z,309nm,1.1s
SFTF Sexfontaines 73.54 44 *e*P **P 14 35 11.6 -0.1**
comp=Z,309nm,1.1s
GAMB Gambell 73.55 332 *e*P **P 14 35 11.9 +0.5**
comp=Z,42nm,0.9s
HGN Heimansgroeve 73.67 41 *e*P **P 14 35 14.0 +1.6**
comp=Z,249nm,1.8s
HGN *e*S S 14 44 55.3 +13
HGN *e*SS **SS 14 49 26.0 +0.4**
SSB Saint Sauveur 73.72 47 *e*P **P 14 35 13.5 +0.6**
SSB pmax pmax
comp=Z,70nm,1.2s
SSB MLR MLR
comp=Z,3µm,20.0s
SSB Saint Sauveur 73.72 47 *e*P **P 14 35 13.8 +0.9**
SSB Saint Sauveur 73.72 47 *e*P **P 14 35 13.5 +0.6**
comp=Z,70nm,1.2s
SSB LR LR
comp=Z,3µm,20.0s
MEM Membach 73.74 42 P **P 14 35 14.5 +1.7**
comp=Z,36nm,1.3s
VIVF Saint-Julien-l 73.89 48 *e*P **P 14 35 14.7 +0.8**
comp=Z,273nm,1.0s
VIVF Saint-Julien-l 73.89 48 *e*P **P 14 35 14.7 +0.8**
VIVF pmax pmax
comp=Z,273nm,1.0s
VIVF Saint-Julien-l 73.89 48 *e*P **P 14 35 14.7 +0.8**
comp=Z,273nm,1.0s
PAGF Fort de Pagny 73.93 44 *e*P **P 14 35 14.1 +0.1**
comp=Z,76nm,1.1s
PAGF Fort de Pagny 73.93 44 *e*P **P 14 35 14.1 +0.1**
comp=Z,76nm,1.1s
WTSB Winterswijk 73.99 40 *e*P **P 14 35 15.7 +1.5**
comp=Z,399nm,1.6s
WLF Walferdange 74.00 42 P P 14 35 17.9 +3.5
comp=Z,61nm,1.9s
WLF Walferdange 74.00 42 *e*P **P 14 35 15.6 +1.2**
WLF pmax pmax
comp=Z,137nm,1.3s
WLF MLR MLR
comp=Z,4µm,20.0s
WLF Walferdange 74.00 42 *e*P **P 14 35 17.0 +2.6**
comp=Z,362nm,2.3s
WLF Walferdange 74.00 42 *e*P **P 14 35 15.6 +1.2**
comp=Z,137nm,1.3s
WLF LR LR
comp=Z,4µm,20.0s
THEF They Montfort 74.16 44 *e*P **P 14 35 16.5 +1.1**
KONO Kongsberg 74.18 32⇑ *e*P **P 14 35 15.0 -0.2**
KONO pmax pmax
comp=Z,504nm,1.7s
KONO MLR MLR
comp=Z,8µm,16.0s
KONO Kongsberg 74.18 32 *e*P **P 14 35 15.7 +0.5**
comp=Z,108nm,1.5s
KONO LR LR
comp=Z,2µm,20.0s
BUG Bochum-Univer 74.38 41 *e*P **P 14 35 18.9 +2.4**
comp=Z,139nm,1.4s
OG26 St.-Nazaire-De 74.39 48 *e*P P 14 35 20.2 +3.4
HAU Haudompre 74.44 44 *e*P **P 14 35 16.8 -0.2**
comp=Z,184nm,1.1s
HAU *e*R
comp=Z,4µm,18.8s
HAU Haudompre 74.44 44 *e*P **P 14 35 16.8 -0.2**
HAU pmax pmax
comp=Z,184nm,1.1s
HAU Haudompre 74.44 44 *e*P **P 14 35 16.8 -0.2**
comp=Z,184nm,1.1s
IBBN Ibbenburen 74.51 40 *e*P **P 14 35 19.9 +2.6**
CABF La Chapelle 74.53 46 *e*P **P 14 35 17.7 0.0**
comp=Z,199nm,1.1s
CABF La Chapelle 74.53 46 *e*P **P 14 35 17.7 0.0**
CABF pmax pmax
comp=Z,199nm,1.1s
CABF La Chapelle 74.53 46 *e*P **P 14 35 17.7 0.0**
comp=Z,199nm,1.1s
MUD Monsted U'grnd 74.55 35 *i* P P 14 35 23.4 +6.0
MUD pmax pmax
comp=Z,38nm,0.9s
MUD Monsted U'grnd 74.55 35 *i* P P 14 35 23.4 +6.0
comp=Z,38nm,0.9s
GRN Grenoble 74.56 47 *e*P P 14 35 21.8 +3.9
NAO01 NORSAR Array S 74.59 31 *e*P **P 14 35 19.5 +1.9**
comp=Z,36nm,1.0s
TIC Toumodi 74.62 88 *e*PKP1 **P 14 35 18.7 0.0**
SMRF Simiane la Rot 74.70 48 *e*P **P 14 35 19.5 +0.9**
comp=Z,62nm,0.8s
SMRF Simiane la Rot 74.70 48 *e*P **P 14 35 19.5 +0.9**
comp=Z,62nm,0.8s
NB2 NORSAR Subarra 74.71 30 P **P 14 35 20.1 +1.7**
comp=Z,46nm,1.1s,baz=283,slow=5.9
NB2 NORSAR Subarra 74.71 30 P **P 14 35 20.1 +1.7**
baz=283,slow=5.9
NOA NORSAR Array B 74.71 30 P **P 14 35 19.1 +0.7**
NOA NORSAR Array B 74.71 30 P **P 14 35 19.1 +0.7**
comp=Z,9.5nm,0.8s,baz=283,slow=5.7,SNR=19
NOA LR LR 15 05 05.9
comp=Z,1µm,20.2s,baz=285,slow=33
ORIF Oris-en-Rattie 74.72 47 *e*P **P 14 35 19.5 +0.7**
comp=Z,114nm,1.0s
ORIF *e*R
comp=Z,4µm,19.8s
ORIF Oris-en-Rattie 74.72 47 *e*P **P 14 35 19.5 +0.7**
ORIF pmax pmax
comp=Z,114nm,1.0s
ORIF Oris-en-Rattie 74.72 47 *e*P **P 14 35 19.5 +0.7**
comp=Z,114nm,1.0s
LIC Lamto 74.74 89 *e*P **P 14 35 19.2 -0.1**
comp=Z,203nm,1.3s,baz=276
LIC *e*R
comp=Z,1µm,20.8s
LIC Lamto 74.74 89 *e*PKP1 **P 14 35 19.7 +0.4**
comp=Z,195nm,1.3s
LIC Lamto 74.74 89 *e*P **P 14 35 19.2 -0.1**
comp=Z,203nm,1.3s
DBIC Dimbokro 74.77 88 *e*P **P 14 35 18.7 -0.7**
comp=Z,104nm,1.4s
DBIC Dimbokro 74.77 88 P **P 14 35 18.9 -0.6**
comp=Z,10nm,0.9s,baz=275,slow=7.5,SNR=13
DBIC LR LR 15 05 09.0
comp=Z,797nm,20.7s,baz=271,slow=33
HINF Hinteralfeld 74.81 44 *e*P **P 14 35 18.8 -0.4**
comp=Z,52nm,0.8s
HINF Hinteralfeld 74.81 44 *e*P **P 14 35 18.8 -0.4**
HINF pmax pmax
comp=Z,52nm,0.8s
HINF Hinteralfeld 74.81 44 *e*P **P 14 35 18.8 -0.4**
comp=Z,52nm,0.8s
GDM Grand'Maison 74.83 47 *e*P **P 14 35 22.4 +2.9**
LOMF Lomont 74.88 45 *e*P **P 14 35 22.1 +2.4**
ECH Echery 74.93 44 *e*P **P 14 35 19.1 -0.8**
ECH pmax pmax
comp=Z,130nm,1.4s
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 74.93 44 *e*P **P 14 35 21.1 +1.2**
ECH Echery 74.93 44 *e*P **P 14 35 19.1 -0.8**
comp=Z,130nm,1.4s
ECH LR LR
comp=Z,2µm,19.0s
CDF Champ du Feu 74.97 44 *e*P **P 14 35 20.0 -0.2**
comp=Z,146nm,1.1s
CDF Champ du Feu 74.97 44 *e*P **P 14 35 20.0 -0.2**
CDF pmax pmax
comp=Z,146nm,1.1s
CDF Champ du Feu 74.97 44 *e*P **P 14 35 20.0 -0.2**
comp=Z,146nm,1.1s
OG25 Le Caire 74.97 48 *e*P **P 14 35 22.8 +2.5**
KIC Kosan Boka 74.97 88 *e*PKP1 **P 14 35 19.4 -1.3**
comp=Z,152nm,1.1s
MOF Molkenrain 74.98 44 *e*P **P 14 35 22.4 +2.1**
AKET Djebel Ketaf 75.08 57 P **P 14 35 23.6 +2.4**
LPL La Plagne 75.19 47 *e*P **P 14 35 22.2 +0.5**
comp=Z,231nm,1.3s
LPL La Plagne 75.19 47 *e*P **P 14 35 22.2 +0.5**
LPL pmax pmax
comp=Z,231nm,1.3s
LPL La Plagne 75.19 47 *e*P **P 14 35 22.2 +0.5**
comp=Z,231nm,1.3s
LANF Langenberg 75.19 43 *e*P **P 14 35 22.6 +1.2**
LPG La Plagne 75.21 47 *e*P **P 14 35 22.4 +0.5**
comp=Z,281nm,1.5s
LPG La Plagne 75.21 47 *e*P **P 14 35 22.4 +0.5**
LPG pmax pmax
comp=Z,281nm,1.5s
LPG La Plagne 75.21 47 *e*P **P 14 35 22.4 +0.5**
comp=Z,281nm,1.5s
BNI Bardonecchia 75.25 47 *e*P **P 14 35 20.6 -1.4**
BNI pmax pmax
comp=Z,40nm,0.9s
BNI MLR MLR
comp=Z,4µm,19.0s
BNI Bardonecchia 75.25 47 *e*P **P 14 35 20.6 -1.4**
comp=Z,40nm,0.9s
BNI LR LR
comp=Z,4µm,19.0s
TNS Taunus Mts 75.35 42 *e*P **P 14 35 24.8 +2.5**
comp=Z,133nm,1.5s
MBDF Montbardon 75.38 47 *e*P **P 14 35 23.1 +0.4**
comp=Z,34nm,0.8s
MBDF Montbardon 75.38 47 *e*P **P 14 35 23.1 +0.4**
MBDF pmax pmax
comp=Z,34nm,0.8s
MBDF Montbardon 75.38 47 *e*P **P 14 35 23.1 +0.4**
comp=Z,34nm,0.8s
SURF Saint Ours 75.46 48 *e*P **P 14 35 25.2 +2.0**
LMR La Mourre 75.49 49 *e*P **P 14 35 23.2 0.0**
comp=Z,135nm,1.1s
LMR La Mourre 75.49 49 *e*P **P 14 35 23.2 0.0**
LMR pmax pmax
comp=Z,135nm,1.1s
LMR La Mourre 75.49 49 *e*P **P 14 35 23.2 0.0**
comp=Z,135nm,1.1s
FRF La Foret Royal 75.54 49 *e*P **P 14 35 23.6 +0.1**
comp=Z,100nm,1.0s
FRF La Foret Royal 75.54 49 *e*P **P 14 35 23.6 +0.1**
FRF pmax pmax
comp=Z,100nm,1.0s
FRF La Foret Royal 75.54 49 *e*P **P 14 35 23.6 +0.1**
comp=Z,100nm,1.0s
BFO Black Forest 75.67 44 P **P 14 35 26.6 +2.5**
comp=Z,113nm,1.1s,SNR=5.1
BFO Black Forest 75.67 44 P **P 14 35 24.0 -0.1**
BFO pmax pmax
comp=Z,30nm,1.0s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 75.67 44 P **P 14 35 24.0 -0.1**
comp=Z,30nm,1.0s
BFO LR LR
comp=Z,3µm,19.0s
CALN Calern 75.67 48 *e*P **P 14 35 26.1 +1.7**
BSEG Bad Segeberg 75.69 38 *e*P **P 14 35 26.6 +2.5**
comp=Z,155nm,1.7s
MVIF Mont Vial 75.83 48 *e*P **P 14 35 27.6 +2.3**
TOUF Mont Tournerai 75.87 48 *e*P **P 14 35 27.4 +1.8**
NRDL Niedersach Rie 75.88 39 *e*P **P 14 35 27.7 +2.6**
LUCF Luceram 75.96 48 *e*P **P 14 35 26.7 +0.7**
AUTN L'Aution 76.00 48 *e*P **P 14 35 28.9 +2.5**
REVF Revere 76.01 48 *e*P **P 14 35 28.7 +2.5**
SBF Sospel 76.03 48 *e*P **P 14 35 26.5 +0.1**
comp=Z,309nm,1.3s
SBF Sospel 76.03 48 *e*P **P 14 35 26.5 +0.1**
SBF pmax pmax
comp=Z,309nm,1.3s
SBF Sospel 76.03 48 *e*P **P 14 35 26.5 +0.1**
comp=Z,309nm,1.3s
SAOF Saorge 76.09 48 *e*P **P 14 35 28.9 +2.3**
STU Stuttgart 76.14 43 *e*P **P 14 35 28.9 +2.1**
STU pmax pmax
comp=Z,53nm,0.9s
STU Stuttgart 76.14 43 *e*P **P 14 35 29.2 +2.4**
STU Stuttgart 76.14 43 *e*P **P 14 35 28.9 +2.1**
comp=Z,54nm,0.9s
CLZ Clausthal 76.19 40 *e*P **P 14 35 29.6 +2.6**
UBBA Unterbreizbach 76.19 41 *e*P **P 14 35 29.1 +2.2**
comp=Z,118nm,1.8s
SET Setif 76.25 56 P P 14 35 32.0 +4.3
COP Copenhagen 76.49 36 *i* P P 14 35 39.4 +11
COP pmax pmax
comp=Z,17nm,0.8s
COP MLR MLR
comp=Z,1µm,19.0s
COP Copenhagen 76.49 36 *i* P P 14 35 39.4 +11
comp=Z,17nm,0.8s
COP
comp=Z,1µm,18.0s
PPT Papeete 76.53 246 LR LR 15 01 25.4
comp=Z,822nm,18.2s,baz=67,slow=30
DFRA Djebel Bou Aff 76.54 56 P **P 14 35 32.0 +2.6**
PPT2 Papeete2 76.54 246 *e*S **S 14 45 14.4 -1.5**
comp=Z,602nm,31.0s
PPT2 Papeete2 76.54 246 *e*LQ LQ 14 55 57.0
comp=Z,4µm,28.2s
PPT2 *e*LR LR 14 59 09.1
comp=Z,1µm,22.5s
TUE Stuetta 76.76 45 PFAKE 14 35 40.0 +9.4
TUE LR LR
comp=Z,3µm,19.0s
DAVA Damuels 76.92 44⇑ *e*pP **P 14 35 33.4 +1.9**
comp=Z,43nm,1.1s
CTEI Djebel Teioual 77.07 56 P **P 14 35 34.9 +2.4**
CASM Ain Smara 77.09 56 P **P 14 35 34.6 +2.1**
NEUB Neuenburg 77.19 40 *e*P **P 14 35 35.1 +2.5**
GRF Grafenberg Arr 77.21 42 *e*P **P 14 35 35.1 +2.2**
comp=Z,58nm,1.1s
CKFL Kef-Lekhel 77.23 56 P **P 14 35 35.3 +1.9**
CAEH 'Ain El Ouahch 77.24 55 P **P 14 35 34.4 +1.1**
PGF Pioggiola 77.45 49 *e*P **P 14 35 34.4 0.0**
comp=Z,228nm,1.0s
PGF Pioggiola 77.45 49 *e*P **P 14 35 34.4 0.0**
PGF pmax pmax
comp=Z,228nm,1.0s
PGF Pioggiola 77.45 49 *e*P **P 14 35 34.4 0.0**
comp=Z,228nm,1.0s
RETA Reutte 77.46 44⇑ *e*pP **P 14 35 35.4 +1.0**
comp=Z,96nm,0.9s,SNR=26
FETA Feichten 77.55 44⇑ *i*sP **P 14 35 37.2 +2.2**
comp=Z,95nm,2.0s,SNR=18
PLN Plauen 77.60 41 *e*P **P 14 35 36.7 +1.7**
WERD Werda 77.70 41 *e*P **P 14 35 37.5 +1.9**
comp=Z,61nm,1.2s
MOTA Moosalm 77.72 44↓ *e*pP **P 14 35 37.2 +1.3**
comp=Z,45nm,0.8s,SNR=10
CMAH Djebel Manchou 77.72 55 P **P 14 35 37.6 +1.6**
GUNZ Gunzen 77.74 41 *e*P **P 14 35 37.8 +2.0**
WERN Wernitzgruen 77.79 41 *e*P **P 14 35 38.8 +2.7**
comp=Z,65nm,1.3s
TANN Tannenbergstha 77.81 41 *e*P **P 14 35 38.6 +2.4**
comp=Z,70nm,1.2s
ROTZ Rotzenmuhle 77.81 41 *e*P **P 14 35 38.9 +2.7**
NKC Novy Kostel 77.85 41 *e*P **P 14 35 37.9 +1.5**
NKC *e* 14 35 49.2
NKC MLR MLR
comp=Z,1µm,17.0s
NKC Novy Kostel 77.85 41 *e*P **P 14 35 37.9 +1.5**
NKC *ex* x 14 35 49.2
NKC AMS AMS 15 13 10.0
comp=Z,1µm,17.0s
ABSA Djebel Ababsia 77.86 56 P **P 14 35 38.9 +2.1**
CLL Collm 77.91 40 *e*P **P 14 35 39.0 +2.3**
CLL *i* 14 35 42.0
CLL *i* 14 35 49.7
CLL *e*S **S 14 45 29.0 -0.7**
CLL pmax pmax
comp=Z,35nm,1.3s
CLL MLR MLR
comp=Z,1µm,19.6s
CLL Collm 77.91 40 *e*P **P 14 35 39.0 +2.3**
CLL Collm 77.91 40 *e*P **P 14 35 38.0 +1.3**
comp=Z,35nm,1.3s
CLL *i* sP **sP 14 35 42.0 -0.1**
CLL comp=Z,55nm,1.2s *i* (sPcP) 14 35 49.7
CLL comp=Z,76nm,1.1s *e* 14 36 40.0
CLL *e*S **S 14 45 29.0 -0.7**
CLL *e*PPS PPS 14 46 42.0
CLL *e*SS **SS 14 50 31.0 +1.1**
CLL *e* 14 53 18.0
CLL *e*SSS SSS 14 53 48.0
CLL *e*SSSS 14 56 18.0
CLL LmH 15 09 00.0
CLL comp=N,1µm,19.1s LmH 15 09 00.0
CLL comp=E,800nm,19.5s LmH 15 09 00.0
CLL comp=Z,1µm,19.6s
BSD Bornholm Skovb 78.01 36 *i* P P 14 35 43.1 +6.0
BSD pmax pmax
comp=Z,37nm,0.9s
BSD MLR MLR
comp=Z,2µm,18.0s
BSD Bornholm Skovb 78.01 36 *i* P P 14 35 43.1 +6.0
comp=Z,37nm,0.8s
BSD
comp=Z,2µm,17.0s
WATA Walderalm 78.03 44↓ *i*pP **P 14 35 39.4 +1.8**
comp=Z,39nm,1.1s
VLC Villacollemand 78.03 47 *e*P **P 14 35 38.5 +1.0**
comp=Z,43nm,0.8s
VLC LR LR
comp=Z,2µm,19.0s
ARCES ARCESS Array B 78.05 20 P **P 14 35 37.2 0.0**
ARCES ARCESS Array B 78.05 20 P **P 14 35 37.2 0.0**
comp=Z,14nm,0.7s,baz=286,slow=4.4,SNR=22
ARCES LR LR 15 07 13.4
comp=Z,1µm,21.9s,baz=306,slow=34
WTTA Wattenberg 78.09 44⇑ *e*sP **P 14 35 40.2 +2.2**
comp=Z,65nm,2.2s
FBE Freiberg 78.22 40 *e*P **P 14 35 40.9 +2.5**
comp=Z,82nm,1.1s
KEV Kevo 78.45 20 *e*P **P 14 35 39.2 -0.1**
KEV pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 78.45 20 *e*p **P 14 35 39.2 -0.1**
comp=Z,10nm,0.9s
KEV Kevo 78.45 20 PFAKE 14 35 50.0 +11
KEV LR LR
comp=Z,2µm,19.0s
VSL Villasalto 78.49 52 *e*P **P 14 35 41.7 +1.6**
comp=Z,90nm,0.9s
VSL LR LR

comp=Z,3µm,19.0s
BRG Berggiesshubel 78.60 40 *i* P **P 14 35 43.1 +2.6**
comp=Z,34nm,1.2s
BRG *i* PCP **PcP 14 35 53.0 +3.5**
comp=Z,54nm,1.0s
BRG S **S 14 45 40.0 +2.9**
BRG SS **SS 14 50 40.0 -0.3**
BRG
comp=N,2µm,18.0s
BRG
comp=E,1µm,17.7s
BRG
comp=Z,2µm,18.9s
BRG Berggiesshubel 78.60 40 *i* P **P 14 35 43.1 +2.6**
BRG *i* 14 35 53.0
BRG S **S 14 45 40.0 +2.9**
BRG SS **SS 14 50 40.0 -0.3**
BRG pmax pmax
comp=Z,34nm,1.3s
BRG pmax pmax
comp=Z,54nm,1.0s
BRG MLR MLR
comp=N,2µm,18.0s
BRG MLR MLR
comp=E,1µm,17.7s
BRG MLR MLR
comp=Z,2µm,18.9s
BRG Berggiesshubel 78.60 40 *eP* **P 14 35 42.7 +2.2**
RJOB Jochberg 78.72 43 *eP* **P 14 35 43.2 +1.9**
comp=Z,242nm,2.4s
ABTA Abfaltersbach 78.80 44⇑ *i*SP **P 14 35 44.1 +2.3**
comp=Z,58nm,1.0s,SNR=11
KHC Kasperske Hory 78.85 42 *i* P **P 14 35 44.5 +2.5**
KHC *e* 14 35 52.4
KHC *e* 14 35 54.9
KHC *e*S **S 14 45 40.8 +0.9**
KHC *e*SS **SS 14 50 44.4 +0.2**
KHC MLR MLR
comp=Z,3µm,19.3s
KHC Kasperske Hory 78.85 42 *i* P **P 14 35 44.5 +2.5**
KHC *ex* x 14 35 52.4
KHC *ex* x 14 35 54.9
KHC *ex* x 14 36 41.3
KHC *e*S **S 14 45 40.8 +0.9**
KHC *e*SS **SS 14 50 44.4 +0.2**
KHC AMS AMS 15 07 10.0
comp=Z,3µm,19.3s
KHC Kasperske Hory 78.85 42 *eP* **P 14 35 41.9 -0.1**
comp=Z,132nm,1.7s
TBI Tubuai 78.92 241 *e*S **S 14 45 37.2 -4.0**
comp=Z,424nm,29.0s
TBI *e*SS **SS 14 50 46.8 -0.1**
comp=Z,529nm,29.8s
TBI *e*LQ LQ 14 57 00.8
comp=Z,5µm,31.2s
TBI *e*LR LR 15 00 19.4
comp=Z,1µm,32.2s
GEC2 GERESS Array S 79.00 42 *eP* **P 14 35 45.3 +2.4**
comp=Z,75nm,1.4s
GERES GERESS Array B 79.00 42 P **P 14 35 43.1 +0.2**
GERES GERESS Array B 79.00 42 P **P 14 35 43.1 +0.2**
comp=Z,7.0nm,0.8s,baz=289,slow=4.1,SNR=37
GERES LR LR 15 07 57.0
comp=Z,2µm,19.1s,baz=278,slow=34
TOA0 Torodi Ar. Sit 79.02 80 *eP* **P 14 35 42.1 -1.4**
TORD Torodi Ar. Bea 79.02 80 P **P 14 35 42.5 -1.0**
TORD Torodi Ar. Bea 79.02 80 P **P 14 35 42.5 -1.0**
comp=Z,9.4nm,0.7s,baz=290,slow=4.5,SNR=58
TORD LR LR 15 09 34.6
comp=Z,935nm,18.1s,baz=295,slow=35
PVCC Panska Ves 79.07 40 *eP* **P 14 35 44.5 +1.4**
PVCC *e* 14 35 56.0
PVCC Panska Ves 79.07 40 *eP* **P 14 35 44.5 +1.4**
PVCC *ex* x 14 35 56.0
PRA Prague 79.12 41 P **P 14 35 45.0 +1.6**
PRA S **S 14 45 47.0 +4.3**
PRU Pruhonice 79.21 41 *eP* **P 14 35 45.3 +1.4**
PRU *e* 14 35 46.5
PRU *e* 14 35 52.8
PRU *e*S **S 14 45 46.4 +2.7**
PRU *e*SS **SS 14 50 52.2 +2.7**
PRU MLR MLR
comp=Z,3µm,17.9s
PRU Pruhonice 79.21 41 *eP* **P 14 35 45.3 +1.4**
PRU *ep*P **pP 14 35 46.5 -1.4**
PRU *e*PCP **PcP 14 35 52.8 +0.6**
PRU *ex* x 14 35 56.8
PRU *ex* x 14 36 44.7
PRU *e*S **S 14 45 46.4 +2.7**
PRU *e*SS **SS 14 50 52.2 +2.7**
PRU AMS AMS 15 06 20.0
comp=Z,3µm,17.9s
KBA Koelnbreinsper 79.26 44⇑ *i*SP **P 14 35 46.7 +2.3**
comp=Z,71nm,1.3s,SNR=12
KEST Kesra 79.46 56 *eP* **P 14 35 46.1 +0.4**
KEST Kesra 79.46 56 P **P 14 35 46.0 +0.4**
comp=Z,10nm,0.9s,baz=271,slow=3.8,SNR=13
MYKA Terra Mystica 79.58 44⇑ *i*pP **P 14 35 48.1 +2.0**
comp=Z,44nm,1.0s,SNR=15
MOA Molln 79.64 43⇑ *i*pP **P 14 35 48.5 +2.2**
comp=Z,44nm,0.9s,SNR=6.7
CADS Cadrg 79.76 45 *eP* **P 14 35 49.0 +2.0**
TAM Tamanrasset 79.78 69 *eP* **P 14 35 48.1 +0.4**
TAM pmax pmax
comp=Z,95nm,1.5s
TAM MLR MLR
comp=Z,2µm,21.0s
TAM Tamanrasset 79.78 69 *eP* **P 14 35 48.1 +0.4**
comp=Z,95nm,1.5s
TAM LR LR
comp=Z,2µm,21.0s
GKP Gorka Klasztor 79.85 37 *eP* **P 14 35 49.5 +2.2**
GKP *e* 14 36 00.3
GKP Gorka Klasztor 79.85 37 *eP* **P 14 35 49.4 +2.2**
GKP *e*PcP PcP 14 36 00.2 +5.3
GKP LMZ LR 15 03 20.3
TRI Trieste 79.92 45 *eP* **P 14 35 47.6 -0.2**
TRI pmax pmax
comp=Z,92nm,1.3s
TRI Trieste 79.92 45 *eP* **P 14 35 47.6 -0.2**
comp=Z,92nm,1.3s
UPC Upice 79.96 40 *eP* **P 14 35 49.4 +1.4**
UPC *e* 14 36 00.8
UPC Upice 79.96 40 *eP* **P 14 35 49.4 +1.4**
UPC *ex* x 14 36 00.8
TREC Trest 80.00 41 *eP* **P 14 35 49.7 +1.5**
TREC *e* 14 36 01.0
TREC MLR MLR
comp=Z,3µm,18.8s
TREC Trest 80.00 41 *eP* **P 14 35 49.7 +1.5**
TREC *ex* x 14 36 01.0
TREC AMS AMS 15 06 40.0
comp=Z,3µm,18.8s
KSP Ksiaz 80.03 40⇑ *eP* **P 14 35 49.3 +1.0**
KSP *e*PP **pP 14 35 53.5 +1.2**
KSP *e*S **S 14 45 50.0 -2.4**
KSP Ksiaz 80.03 40 *eP* **P 14 35 49.4 +1.1**
KSP *ep*P **pP 14 35 54.0 +1.7**
KSP *e*S **S 14 45 50.5 -1.9**
KSP LMZ LR 15 02 10.7
DPC Dobruska-Polom 80.20 40 *eP* **P 14 35 49.8 +0.5**
DPC *e* 14 35 51.1
DPC *e*S **S 14 45 56.6 +2.4**
DPC Dobruska-Polom 80.20 40 *eP* **P 14 35 49.8 +0.5**
DPC *ep*P **pP 14 35 51.1 -2.2**
DPC *ex* x 14 36 02.4
DPC *e*S **S 14 45 56.6 +2.4**
DPC AMS AMS 15 11 10.0
OBKA Obir 80.22 44⇑ *i*pP **P 14 35 51.7 +2.1**
comp=Z,58nm,1.2s,SNR=5.9
LJU Ljubljana 80.34 45 *eP* **P 14 35 52.4 +2.3**
LJU *e*S **S 14 45 55.3 -0.5**
SOKA Soboth 80.48 44⇑ *i*pP **P 14 35 53.2 +2.2**
comp=Z,74nm,1.0s,SNR=15
PERS Pernice 80.55 44 *eP* **P 14 35 51.3 0.0**
KRLC Kraliky 80.56 40 *eP* **P 14 35 52.3 +1.0**
KRLC *e* 14 35 54.3
KRLC *e* 14 36 01.8
KRLC Kraliky 80.56 40 *eP* **P 14 35 52.3 +1.0**
KRLC *ep*P **pP 14 35 54.3 -1.0**
KRLC *ex* x 14 36 01.8
ARSA Arzberg 80.63 43⇑ *i*pP **P 14 35 54.0 +2.3**
comp=Z,34nm,1.1s
AQU L'Aquila 80.64 49 PFAKE 14 36 00.0 +8.1
AQU LR LR
comp=Z,3µm,20.0s
CONA Conrad Observa 80.65 43⇑ *i*SP **P 14 35 54.4 +2.6**
comp=Z,37nm,1.1s,SNR=12
VRAC Vranov 80.69 41⇓ *i*P **P 14 35 53.4 +1.5**
VRAC Vranov 80.69 41 LR LR 15 08 33.8
comp=Z,2µm,18.9s,baz=284,slow=33
BILL Bilibino 80.75 339 *d*P **P 14 35 52.3 +0.4**
BILL *i*S **S 14 45 59.6 +0.3**
BILL *i*SS **SS 14 51 15.4 +3.7**
BILL pmax pmax
comp=Z,178nm,1.2s
BILL MLR MLR
comp=Z,3µm,18.0s
MORC Moravsky Berou 81.12 40 ⇓P **P 14 35 56.2 +1.9**
MORC Moravsky Berou 81.12 40⇓ *i*P **P 14 35 56.2 +1.9**
MORC Moravsky Berou 81.12 40 *eP* **P 14 35 54.3 0.0**
comp=Z,42nm,1.0s
SOP Sopron 81.17 43 *eP* **P 14 35 57.0 +2.5**
KAF Kangasniemi 81.26 27 *eP* **P 14 35 55.0 +0.3**
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 81.26 27 *ep* **P 14 35 55.0 +0.3**
comp=Z,10nm,0.7s
FINES FINESS Array B 81.43 28 P **P 14 35 55.0 -0.5**
FINES FINESS Array B 81.43 28 P **P 14 35 55.0 -0.5**
comp=Z,9.9nm,0.6s,baz=300,slow=3.1,SNR=28
FINES LR LR 15 07 53.0
comp=Z,2µm,21.9s,baz=294,slow=33
FIA1 FINESS Array S 81.43 28 *eP* **P 14 35 55.4 -0.1**
OKC Ostrava-Krasne 81.48 40 *eP* **P 14 35 58.8 +2.7**
OKC *e* 14 36 09.1
OKC *e*S **S 14 46 11.8 +4.3**
OKC MLR MLR
comp=Z,2µm,18.5s
OKC Ostrava-Krasne 81.48 40 *eP* **P 14 35 58.8 +2.7**
OKC *ex* x 14 36 09.1
OKC *ex* x 14 36 57.7
OKC *e*S **S 14 46 11.8 +4.3**
OKC AMS AMS 15 10 20.0
comp=Z,2µm,18.5s
APA Apatity 81.52 21⇑ *i*P **P 14 35 56.4 +0.4**
APA *i* 14 36 06.0
APA *i*S **S 14 46 06.0 -1.3**
SHEL Horse Pasture 81.71 110 PFAKE 14 36 10.0 +12
SHEL LR LR
comp=Z,1µm,21.0s
LVZ Lovozero 81.77 20⇑ *eP* **P 14 35 57.9 +0.6**
LVZ pmax pmax
comp=Z,90nm,1.6s
LVZ Lovozero 81.77 20 PFAKE 14 36 10.0 +13
LVZ LR LR
comp=Z,2µm,21.0s
PKST T''s 82.25 43⇑ *eP* **P 14 36 02.6 +2.3**
BEL Belsk 82.37 38 *eP* **P 14 36 03.8 +3.0**
BEL *e* 14 36 13.0
BEL Belsk 82.37 38 *eP* **P 14 36 03.7 +3.0**
BEL *e*PcP PcP 14 36 12.9 +7.0
BEL LMZ LR 15 05 44.3
PKSG 82.44 43⇑ *eP* **P 14 36 02.2 +1.0**
SUW Suwalki 82.92 35 *eP* **P 14 36 05.0 +1.5**
SUW *e**PP **PcP 14 36 09.1 +0.8**
SUW *e* 14 36 14.4
SUW *e* 14 46 22.8
SUW Suwalki 82.92 35 *eP* **P 14 36 05.0 +1.5**
SUW *ep*P **PcP 14 36 09.1 +0.8**
SUW *e*PcP pP 14 36 14.3 +6.8
SUW *e*SKSac **S 14 46 22.8 +0.7**
SUW LMZ LR 15 07 32.0
SUW Suwalki 82.92 35 *eP* **P 14 36 03.6 +0.1**
comp=Z,199nm,1.1s
NIE Niedzica 82.94 40 *eP* **P 14 36 06.7 +2.9**
NIE Niedzica 82.94 40 *eP* **P 14 36 06.7 +2.9**
VSU Vasula 82.96 30 *ce*P **P 14 36 03.7 +0.1**
VSU pmax pmax
comp=Z,191nm,1.7s
JOF Joensuu 82.99 25 *eP* **P 14 36 03.3 -0.4**
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 82.99 25 *ep* **P 14 36 03.3 -0.4**
comp=Z,10nm,0.7s
PKSM Moragy 83.00 44⇑ P **P 14 36 05.1 +1.0**
PKSM Moragy 83.00 44⇑ *i*P **P 14 36 05.1 +1.0**
PKSM Moragy 83.00 44 *eP* **P 14 36 05.0 +1.0**
CUC Castrocucco 83.10 50 *eP* **P 14 36 05.4 +0.6**
comp=Z,52nm,1.2s
CUC LR LR
comp=Z,2µm,19.0s
PSZ Piszkesteto 83.21 42⇓ P **P 14 36 07.7 +2.4**
PSZ Piszkesteto 83.21 42⇓ *i*P **P 14 36 07.7 +2.4**
PSZ Piszkesteto 83.21 42 *eP* **P 14 36 06.0 +0.7**
comp=Z,93nm,1.0s
PSZ LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 83.21 42 *e* **P 14 36 07.8 +2.4**
WDD Wield Dalam 83.44 54 PFAKE 14 36 20.0 +13
WDD LR LR
comp=Z,2µm,20.0s
STHS Stebnicka Huta 83.51 40 *eP* **P 14 36 08.1 +1.4**
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 83.51 40 *e* **P 14 36 08.1 +1.4**
CEL Celeste 83.72 52 PFAKE 14 36 20.0 +12
CEL LR LR
comp=Z,2µm,22.0s
ISAL Salakas 83.86 33 *eP* **P 14 36 07.6 -0.8**
ISAL AMB AMB 14 36 21.3
comp=Z,20nm,1.0s
IIGN Ignalina 84.00 33 *eP* **P 14 36 08.3 -0.8**
IIGN AMB AMB 14 36 21.5
comp=Z,26nm,1.0s
PUL Pulkovo 84.04 28⇓ *eP* **P 14 36 10.3 +1.1**
PUL pmax pmax
comp=Z,97nm,0.6s
TIP Timpagrande 84.05 51 *eP* **P 14 36 08.8 -1.0**
comp=Z,79nm,1.4s
TIP LR LR
comp=Z,975nm,20.0s
IDID Didziasalis 84.29 33 *eP* **P 14 36 09.8 -0.7**
IDID AMB AMB 14 36 23.4
comp=Z,17nm,0.9s
FX1 Attu Island--F 84.30 324 P **P 14 36 10.7 0.0**
FX1 Attu Island--F 84.30 324 P **P 14 36 10.7 0.0**
comp=Z,12nm,0.6s,baz=300,slow=5.7,SNR=5.1
KWP Kalwaria Pacla 84.32 39 ⇓P P 14 36 16.3 +5.5
KWP Kalwaria Pacla 84.32 39 *eP* **P 14 36 12.3 +1.5**
KWP LMZ LR 15 04 30.9
KWP Kalwaria Pacla 84.32 39⇓ *i*P P 14 36 16.3 +5.5
KWP Kalwaria Pacla 84.32 39 P **P 14 36 10.7 -0.2**
comp=Z,73nm,1.2s
KWP LR LR
comp=Z,1µm,20.0s
KOLS Kolonicke sedl 84.32 40 *eP* P 14 36 14.2 +3.3
KOLS pmax pmax
comp=Z,23nm,1.5s
KOLS Kolonicke sedl 84.32 40 *e* P 14 36 14.2 +3.3
PMSA Palmer Station 84.43 173 PFAKE 14 36 20.0 +9.2
PMSA LR LR
comp=Z,1µm,19.0s
UZH Uzhgorod 84.44 40 *eP* P 14 36 07.7 -3.8
UZH *e* 14 36 11.3
UZH *i* 14 36 14.9
UZH *i* PPP PPP 14 41 17.9
UZH *i* PS **PnS 14 47 30.3 -1.0**
UZH *e*SS SS 14 52 13.1 +5.8
UZH *e*SSS SSS 14 55 33.1
NACGM Naroch 84.48 34 *eP* **P 14 36 10.0 -1.5**
DIVS Divibare 84.63 45 P **P 14 36 11.9 -0.8**
TRPA Tarpa 84.79 41⇑ *i*P P 14 36 18.1 +4.9
SIRR Siria 84.94 43⇑ *i*P **P 14 36 15.2 +1.1**
LVV L'vov 85.03 39 *eP* **P 14 36 17.0 +2.6**
LVV *e*S **S 14 46 44.8 +1.2**
LVV MLR MLR
comp=N,1µm,20.0s
LVV MLR MLR
comp=E,1µm,20.0s
LVV MLR MLR
comp=Z,2µm,20.0s
BZS Buzias 85.15 43⇑ P **P 14 36 15.9 +0.8**
BZS Buzias 85.15 43⇑ *i*P **P 14 36 15.9 +0.8**
MNK Minsk 85.21 34 *eP* **P 14 36 14.0 -1.2**
MICGM Minsk 85.23 34 *e* **P 14 36 14.0 -1.3**
TRIS Tristan da Cun 85.28 132 PFAKE 14 36 30.0 +14
TRIS LR LR
comp=Z,2µm,22.0s
PHP Peshkopia 85.81 47 P **P 14 36 19.8 +1.2**
PHP Peshkopia 85.81 47 P **P 14 36 19.8 +1.2**
PHP Peshkopia 85.81 47 P **P 14 36 19.8 +1.2**
CJR Cluj-Napoca 86.00 42⇑ P P 14 36 22.8 +3.4
CJR Cluj-Napoca 86.00 42⇑ *i*P P 14 36 22.8 +3.4
SKO Skopje 86.40 47 P **P 14 36 22.5 +1.1**
SKO Skopje 86.40 47 P **P 14 36 22.5 +1.1**
SKO Skopje 86.40 47 *eP* **P 14 36 22.2 +0.8**
SKO Skopje 86.40 47 P **P 14 36 22.5 +1.1**
LOT Lotru 86.61 43⇓ *i*P **P 14 36 22.4 -0.1**
BUR08 Bucovina Ar. S 86.62 41 P **P 14 36 21.9 -0.7**
BURAR Bucovina Array 86.64 41⇑ P P 14 36 19.4 -3.2
BURAR Bucovina Array 86.64 41⇑ *i*P P 14 36 19.4 -3.2
MIDW Midway 86.65 299 PFAKE 14 36 30.0 +7.2
MIDW LR LR
comp=Z,2µm,19.0s
BIA Bitola 86.68 48 *eP* **P 14 36 24.9 +2.0**
FNA Florina 86.80 48 P **P 14 36 25.5 +2.0**
FNA Florina 86.80 48 P **P 14 36 25.5 +2.0**
FNA Florina 86.80 48 P **P 14 36 25.5 +2.0**
ARR Arges 87.20 43⇑ *i*P **P 14 36 26.6 +1.3**
VTS Vitosha 87.37 46 P **P 14 36 24.9 -1.4**
VTS Vitosha 87.37 46⇓ P P 14 36 23.1 -3.2
VTS Vitosha 87.37 46⇓ *i*P P 14 36 23.1 -3.2
VTS Vitosha 87.37 46 P **P 14 36 24.9 -1.4**
TIXI Tiksi 87.40 351 *c i*P **P 14 36 25.7 +0.1**
TIXI pmax pmax
comp=Z,27nm,1.2s
TIXI MLR MLR
comp=Z,4µm,19.0s
TIXI Tiksi 87.40 351 *eP* **P 14 36 25.1 -0.5**
comp=Z,23nm,0.7s
TIXI LR LR
comp=Z,4µm,19.0s
VAY Valandovo 87.43 47 P **P 14 36 29.1 +2.7**
VAY Valandovo 87.43 47 P **P 14 36 29.1 +2.7**
VAY Valandovo 87.43 47 *eP* **P 14 36 28.4 +2.0**
VAY Valandovo 87.43 47 P **P 14 36 29.1 +2.7**
VOIR 87.44 43⇓ P **P 14 36 27.4 +0.9**
VOIR 87.44 43⇓ *i*P **P 14 36 27.4 +0.9**
GRG Griva 87.46 48 P **P 14 36 24.9 -1.7**
GRG Griva 87.46 48 P **P 14 36 24.9 -1.7**
GRG Griva 87.46 48 P **P 14 36 24.9 -1.7**
MTUR Matau 87.54 43⇓ P **P 14 36 27.8 +0.8**
MTUR Matau 87.54 43⇓ *i*P **P 14 36 27.8 +0.8**
KIEV Kiev 87.66 37⇓ *eP* **P 14 36 28.5 +1.2**
KIEV Kiev 87.66 37 *eP* **P 14 36 27.5 +0.2**
comp=Z,8.6nm,0.8s
KIEV LR LR
comp=Z,2µm,20.0s
AK01 Malin Array Si 87.67 37 *eP* **P 14 36 26.1 -1.2**
AKASG Malin Array Be 87.67 37 P **P 14 36 26.6 -0.8**
AKASG 14 39 49.4
AKASG Malin Array Be 87.67 37 P **P 14 36 26.6 -0.8**
AKASG PP **PP 14 39 49.4 -2.9**
AKASG Malin Array Be 87.67 37 P **P 14 36 26.6 -0.8**
comp=Z,2.8nm,0.8s,baz=291,slow=4.5,SNR=13
AKASG PP **PP 14 39 49.4 -2.9**
comp=Z,3.4nm,1.1s,baz=301,slow=7.6,SNR=4.2
AKASG LR LR 15 11 38.6
comp=Z,2µm,21.5s,baz=295,slow=33
AKBB Malin Array Si 87.67 37 *eP* **P 14 36 27.1 -0.2**
AKBB Malin Array Si 87.67 37 *eP* **P 14 36 27.1 -0.2**
AK02 Malin Array Si 87.68 37 P **P 14 36 27.4 0.0**
THE Thessaloniki 87.98 48 P P 14 36 33.2 +4.2
THE Thessaloniki 87.98 48 P P 14 36 33.2 +4.2
THE Thessaloniki 87.98 48 P P 14 36 33.2 +4.2
MLR Muntele Rosu 87.99 42⇓ *i*P **P 14 36 31.0 +1.8**
MLR Muntele Rosu 87.99 42 LR LR 15 12 03.4
comp=Z,479nm,20.3s,baz=300,slow=33
TESR Tescani 88.00 41⇑ *i*P P 14 36 34.5 +5.4
MMB Musomiste 88.13 47⇑ P **P 14 36 32.4 +2.6**
MMB Musomiste 88.13 47⇑ *i*P **P 14 36 32.4 +2.6**
SEY Seymchan 88.40 338⇑ *eP* **P 14 36 30.9 +0.3**
SEY Seymchan 88.40 338 P **P 14 36 30.9 +0.3**
SEY Seymchan 88.40 338 P **P 14 36 30.9 +0.3**
comp=Z,34nm,1.1s,baz=77,slow=4.5,SNR=56
GUR Goura 88.58 50 P P 14 36 40.9 +8.8
GUR Goura 88.58 50 P P 14 36 40.9 +8.8
VLX Vlachokerasia 88.83 51 P P 14 36 39.8 +6.5
VLX Vlachokerasia 88.83 51 P P 14 36 39.8 +6.5
KIS Kishinev 89.12 40 *eP* **P 14 36 35.0 +0.7**
KIS *e* 14 36 45.0
KIS *e* 14 47 06.0
KIS *e*S **S 14 47 20.0 -3.1**
KIS *e*PS **PS 14 48 30.0 +1.5**
KIS pmax pmax
comp=Z,210nm,2.0s
KIS pmax pmax
comp=Z,500nm,6.0s
KIS Kishinev 89.12 40 *e*SKS **SKSac 14 47 06.0 +1.8**
KIS *e*S **S 14 47 20.0 -3.1**
KIS Kishinev 89.12 40 *e*PS PS 14 48 30.0 +1.5
KIS *e*SS SS 14 54 18.0 +62
KIS *e*SSS SSS 14 56 00.0
KIS *e*LQ LQ 15 02 04.0
KIS *e*L L 15 05 06.0
KIS LRM MLR 15 14 10.0
comp=Z,500nm,20.0s
PRGR Permogore 89.23 23 *eP* **P 14 36 33.6 -0.9**
PRGR pmax pmax
comp=Z,247nm,2.5s
KDZ Kurdzhali 89.26 46⇑ P P 14 36 47.6 +12
KDZ Kurdzhali 89.26 46⇑ *i*P P 14 36 47.6 +12
OBN Obninsk 89.31 31 *eP* **P 14 36 35.3 +0.3**
OBN *i* 14 36 44.6
OBN *e* 14 40 02.4
OBN *e*S **SKSac 14 47 05.6 +0.7**
OBN *i* PS **PS 14 48 37.5 +7.3**
OBN pmax pmax
comp=Z,57nm,1.6s
OBN MLR MLR
comp=Z,1µm,19.0s
OBN Obninsk 89.31 31 *eP* **P 14 36 34.3 -0.7**
comp=Z,28nm,0.8s
OBN Obninsk 89.31 31 LR LR 15 14 41.7
comp=Z,860nm,19.2s,baz=292,slow=34
MOS Moscow 89.47 30 *eP* **P 14 36 35.9 +0.2**
MOS *e* 14 40 03.4
MOS pmax pmax
comp=Z,51nm,0.7s
MOS MLR MLR
comp=Z,2µm,17.0s
CFR Carcaliu 89.52 42⇑ P **P 14 36 35.7 -0.5**
CFR Carcaliu 89.52 42⇑ *i*P **P 14 36 35.7 -0.5**
APE Apeiranthos 91.25 50⇓ *eP* **P 14 36 46.5 +1.9**
APE pmax pmax
comp=Z,207nm,2.5s
SANT Santorini 91.49 51 PFAKE 14 37 00.0 +14
SANT LR LR
comp=Z,1µm,21.0s
PET Petropavlovsk 91.86 329 *eP* P 14 36 41.8 -5.1
PET *e* 14 40 28.4
PET *e* 14 47 23.4
PET *e*S **S 14 47 46.9 -1.1**
PET *e*PS **PS 14 48 58.9 +0.3**
PET *e*PPS PPS 14 49 26.8
PET *e*SS **SS 14 53 51.3 -3.6**
PET pmax pmax
comp=Z,32nm,1.4s
PET pmax pmax
comp=Z,200nm,14.3s
PET pmax pmax
comp=Z,200nm,13.8s
PET MLR MLR
comp=Z,2µm,18.0s
PET Petropavlovsk 91.86 329 PFAKE 14 37 00.0 +13
PET LR LR
comp=Z,2µm,20.0s
PETK Petropavlovsk- 92.28 329 P **P 14 36 49.6 +0.7**
PETK Petropavlovsk- 92.28 329 P **P 14 36 49.6 +0.7**
PETK Petropavlovsk- 92.28 329 P **P 14 36 49.6 +0.7**
comp=Z,16nm,1.0s,baz=61,slow=6.8,SNR=13
PETK LR LR 15 21 12.3
comp=Z,920nm,21.1s,baz=33,slow=37
VSR Storozhevoye 92.79 33 *eP* **P 14 36 48.8 -2.5**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSR pmax pmax
comp=N,9.0nm,1.9s
VSR pmax pmax
comp=E,10.0nm,0.8s

VSR					MLR	MLR			
	comp=Z,3μm,18.0s								
VSR					MLR	MLR			
	comp=N,2μm,20.0s								
VSR					MLR	MLR			
	comp=E,1μm,18.0s								
VORD	**Divnogorie**	**93.00**	**33**	*e*P	**P**		**14**	**36**	**52.9** **+0.7**
VORD					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=N,20nm,0.7s								
VORD					pmax	pmax			
	comp=E,30nm,0.6s								
VORD					MLR	MLR			
	comp=Z,2μm,17.0s								
VORD					MLR	MLR			
	comp=N,2μm,20.0s								
VORD					MLR	MLR			
	comp=E,910nm,17.0s								
VRHR	**Novokhopersk**	**94.11**	**32**	*e*P	**P**		**14**	**36**	**57.5** **+0.1**
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
VRHR					pmax	pmax			
	comp=N,20nm,1.8s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.7s								
VRHR					MLR	MLR			
	comp=N,740nm,17.0s								
VRHR					MLR	MLR			
	comp=Z,1μm,17.0s								
VRHR					MLR	MLR			
	comp=E,1μm,18.0s								
ISP	**Isparta**	**94.48**	**48**⇑	*e*P	**P**		**14**	**37**	**00.8** **+1.3**
ISP					pmax	pmax			
	comp=Z,40nm,2.5s								
ISP					MLR	MLR			
	comp=Z,1μm,20.0s								
ISP	**Isparta**	**94.48**	**48**	PFAKE			14	37	10.0 +10
ISP				LR	LR				
	comp=Z,1μm,19.0s								
SOKR	**Solikamsk**	**94.55**	**20**	*e*P	P		14	37	10.4 +11
SOKR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
ANTO	**Ankara**	**95.05**	**45**	PFAKE			14	37	10.0 +7.9
ANTO				LR	LR				
	comp=Z,1μm,19.0s								
AFI	**Afiamalu**	**95.15**	**257**	LR	LR		15	11	53.5
	comp=Z,520nm,20.1s,baz=78,slow=30								
BR131	**Keskin Array S**	**95.69**	**45**	*e*P	**P**		**14**	**37**	**06.6** **+1.5**
	comp=Z,2.3nm,0.8s								
BRTR	**Keskin Array B**	**95.69**	**45**	P	**P**		**14**	**37**	**05.2** **+0.2**
BRTR	**Keskin Array B**	**95.69**	**45**	P	**P**		**14**	**37**	**05.2** **+0.2**
	comp=Z,1.2nm,0.7s,baz=306,slow=4.4,SNR=4.9								
BRTR				LR	LR		15	18	05.2
	comp=Z,682nm,18.8s,baz=288,slow=34								
YAK	**Yakutsk**	**95.73**	**346**	*e*P			14	37	10.7 +6.2
YAK					pmax	pmax			
	comp=Z,14nm,1.1s								
YAK	**Yakutsk**	**95.73**	**346**	*e*P	**P**		**14**	**37**	**04.3** **-0.2**
	comp=Z,12nm,0.6s								
YAK				LR	LR				
	comp=Z,3μm,19.0s								
ARU	**Arti**	**97.61**	**21***c i*	P	Pdif		14	37	13.6 +0.4
ARU							14	41	11.7
ARU				PPP	PPP		14	43	12.8
ARU				S	**SKSac**		**14**	**47**	**51.1** **+0.6**
ARU				SP	**SP**		**14**	**49**	**56.6** **-2.9**
ARU				PS	**PS**		**14**	**50**	**04.6** **+3.1**
ARU				SSS	SSS		14	58	57.1
ARU				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ARU				MLR	MLR				
	comp=Z,2μm,21.0s								
ARU	**Arti**	**97.61**	**21**	*e*P	Pdif		14	37	13.4 +0.2
	comp=Z,7.5nm,0.8s								
ARU				LR	LR				
	comp=Z,2μm,21.0s								
CSS	**Prodhromos**	**97.84**	**49**	PFAKE			14	37	30.0 +15
CSS				LR	LR				
	comp=Z,206nm,21.0s								
SVE	**Sverdlovsk**	**97.99**	**20**	*e*P	Pdif		14	37	17.4 +2.5
SVE				pmax	pmax				
	comp=Z,14nm,1.3s								
KIV	**Kislovodsk**	**98.99**	**37**	*e*P	Pdif		14	37	20.3 +0.5
KIV				*e*			14	47	58.3
KIV				*e*SS	SS		14	55	38.1 +1.3
KIV				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KIV				pmax	pmax				
	comp=Z,41nm,4.1s								
KIV				MLR	MLR				
	comp=Z,1μm,20.0s								
KIV	**Kislovodsk**	**98.99**	**37**	PFAKE			14	37	30.0 +10
KIV				LR	LR				
	comp=Z,840nm,20.0s								
KBZ	**Khabaz**	**99.25**	**38**	LR	LR		15	20	12.2
	comp=Z,1μm,20.8s,baz=312,slow=34								
ZEI	**Tsey**	**100.40**	**38**	*e*P	Pdif		14	37	38.0 +12
ZEI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GNI	**Garni**	**102.52**	**40**	PFAKE			14	37	50.0 +14
GNI				LR	LR				
	comp=Z,783nm,20.0s								
YSS	**Yuzh-Sakhalins**	**103.53**	**331**	PFAKE			14	37	50.0 +10
YSS				LR	LR				
	comp=Z,852nm,20.0s								
TSUM	**Tsumeb**	**103.80**	**106**	PFAKE			14	37	50.0 +8.4
TSUM				LR	LR				
	comp=Z,1μm,19.0s								
BRVK	**Borovoye**	**104.14**	**17**	PFAKE			14	37	50.0 +7.6
BRVK				LR	LR				
	comp=Z,2μm,20.0s								
HABR	**Khabarovsk**	**105.61**	**336**	*e*P	**Pdif**		**14**	**37**	**47.2** **-1.8**
HABR				*e*			14	42	09.2
HABR				*e*PPP	PPP		14	44	22.3
HABR				*e*S	**Sdif**		**14**	**49**	**43.1** **-2.3**
HABR				*e*PS	**PS**		**14**	**51**	**25.6** **-1.1**
HABR				*e*SSS	SSS		15	01	05.8
HABR				pmax	pmax				
	comp=N,15nm,1.6s								
HABR				pmax	pmax				
	comp=Z,18nm,1.6s								
HABR				pmax	pmax				
	comp=E,12nm,1.6s								
HABR				MLR	MLR				
	comp=Z,2μm,16.0s								
MSVF	**Nonsavu**	**105.62**	**256**	PFAKE			14	42	20.0
MSVF				LR	LR				
	comp=Z,1μm,19.0s								
ZALV	**Zalesovo Beam**	**106.42**	**9**	PP	PP		14	42	16.6 +0.6
ZALV	**Zalesovo Beam**	**106.42**	**9**	PP	PP		14	42	16.6 +0.6
	comp=Z,0.5nm,0.3s,baz=340,slow=6.6,SNR=5.1								
ERM	**Erimo**	**106.95**	**327**	PFAKE			14	42	20.0
ERM				LR	LR				
	comp=Z,1μm,22.0s								
KURK	**Kurchatov**	**108.39**	**14**	PFAKE			14	42	20.0
KURK				LR	LR				
	comp=Z,2μm,21.0s								
QSPA	**South Pole Qui**	**108.84**	**180**	PFAKE			14	42	20.0
QSPA				LR	LR				
	comp=Z,1μm,22.0s								
SUR	**Sutherland**	**109.59**	**118**	PFAKE			14	42	20.0
SUR				LR	LR				
	comp=Z,1μm,19.0s								
TLY	**Talaya**	**109.60**	**357**	PFAKE			14	42	20.0
TLY				LR	LR				
	comp=Z,3μm,20.0s								
LSZ	**Lusaka**	**112.60**	**99**	PFAKE			14	42	30.0
LSZ				LR	LR				
	comp=Z,1μm,20.0s								
SNZO	**South Karori**	**112.84**	**232**	PFAKE			14	42	30.0
SNZO				LR	LR				
	comp=Z,603nm,19.0s								
MKAR	**Makanchi Array**	**112.89**	**12**	PKiKP	**PKiKP**		**14**	**42**	**17.8** **+1.8**
MKAR				PP	**PP**		**14**	**43**	**04.5** **+1.5**
MKAR				PKKPbc	**PKKPbc**		**14**	**53**	**03.4** **-1.1**
MKAR	**Makanchi Array**	**112.89**	**12**	PKiKP	**PKiKP**		**14**	**42**	**17.8** **+1.8**
	comp=Z,0.4nm,0.8s,baz=354,slow=2.9,SNR=2.5								
MKAR				PP	**PP**		**14**	**43**	**04.5** **+1.5**
	comp=Z,0.9nm,0.8s,baz=328,slow=5.1,SNR=3.1								
MKAR				PKKPbc	**PKKPbc**		**14**	**53**	**03.4** **-1.1**
	comp=Z,0.2nm,0.7s,baz=158,slow=4.7,SNR=2.7								
SBA	**Scott Base**	**113.00**	**192**	PFAKE			14	42	30.0
SBA				LR	LR				
	comp=Z,1μm,19.0s								
CN2	**Changchun**	**113.06**	**339**	*e*Pdif	**Pdif**		**14**	**38**	**17.8** **-4.5**
CN2				AMB	AMB				
	comp=Z,200nm,6.0s								
CN2				LR	LR				
	comp=Z,2μm,22.0s								
CN2				LR	LR				
	comp=Z,3μm,22.0s								
CN2				LR	LR				
	comp=Z,2μm,24.0s								
ULN	**Ulaanbaatar**	**113.15**	**354**	PFAKE			14	42	30.0
ULN				LR	LR				
	comp=Z,2μm,21.0s								
SONM	**Songino Array**	**113.24**	**355**	PKiKP	**PKiKP**		**14**	**42**	**16.3** **-0.4**
SONM				PP	**PP**		**14**	**43**	**05.0** **-0.6**
SONM				PKKPbc	**PKKPbc**		**14**	**53**	**02.3** **-1.2**
SONM	**Songino Array**	**113.24**	**355**	PKiKP	**PKiKP**		**14**	**42**	**16.3** **-0.4**
	comp=Z,0.4nm,0.8s,baz=304,slow=1.0,SNR=2.6								
SONM				PP	**PP**		**14**	**43**	**05.0** **-0.6**
	comp=Z,2.0nm,1.0s,baz=0.0,slow=5.8,SNR=4.9								
SONM				PKKPbc	**PKKPbc**		**14**	**53**	**02.3** **-1.2**
	comp=Z,0.4nm,0.9s,baz=177,slow=2.7,SNR=2.6								
MAJO	**Matsushiro**	**113.58**	**326**	PFAKE			14	42	30.0
MAJO				LR	LR				
	comp=Z,1μm,22.0s								
EKS2	**Erkin-Say**	**114.47**	**20**	PFAKE			14	42	30.0 +11
EKS2				LR	LR				
	comp=Z,1μm,20.0s								
AAK	**Ala-Archa**	**114.72**	**20**	PKKPbc	PKKPbc		14	52	57.5 -0.8
AAK	**Ala-Archa**	**114.72**	**20**	PKKPbc	PKKPbc		14	52	57.5 -0.8
	comp=Z,1.5nm,0.9s,baz=187,slow=5.1,SNR=1.7								
TKM2	**Tokmak 2**	**114.81**	**19**	PFAKE			14	42	30.0 +10
TKM2				LR	LR				
	comp=Z,2μm,19.0s								
WMQ	**Urumqi**	**116.72**	**9**	PKP	**PKPdf**		**14**	**42**	**23.5** **0.0**
WMQ				PP	PP		14	43	36.0 +6.0
WMQ				PKS	**PKSdf**		**14**	**45**	**58.9** **-1.3**
WMQ				SKKS			14	50	23.9
WMQ				SS	**SS**		**14**	**59**	**33.3** **-2.1**
WMQ				AMB	AMB				
	comp=Z,21nm,12.2s								
WMQ				LR	LR				
	comp=Z,3μm,19.2s								
WMQ				LR	LR				
	comp=Z,2μm,19.2s								
WMQ				LR	LR				
	comp=Z,3μm,23.4s								
DZM	**Mont Dzumac**	**117.23**	**254**	*e*SP	SP		14	53	12.9 -5.5
	comp=Z,333nm,26.0s								
DZM				*e*SS	**SS**		**14**	**59**	**42.1** **-3.8**
	comp=Z,1μm,30.2s								
DZM	**Mont Dzumac**	**117.23**	**254**	*e*LQ	LQ		15	13	06.9
	comp=Z,3μm,31.2s								
DZM				*e*LR	LR		15	18	09.8
	comp=Z,850nm,22.0s								
KSRS	**Korea Array**	**117.68**	**334**	PKP	**PKPdf**		**14**	**42**	**27.2** **+1.8**
	comp=Z,1.1nm,0.9s,baz=46,slow=1.2,SNR=3.1								
KSAR	**Wonju Array Be**	**117.71**	**334**	PKP	**PKPdf**		**14**	**42**	**27.2** **+1.7**
KSH	**Kashi**	**118.02**	**20**	*e*PKP	**PKPdf**		**14**	**42**	**28.0** **+1.8**
KSH				PP	PP		14	43	46.9 +7.6
KSH				*e*SKS	**SKSdf**		**14**	**49**	**35.3** **-3.2**
KSH				*e*SKKS	**SKKSac**		**14**	**50**	**35.1** **-6.3**
KSH				*e*SS	**SS**		**14**	**59**	**55.4** **+2.7**
KSH				AMB	AMB				
	comp=Z,140nm,3.8s								
KSH				LR	LR				
	comp=Z,1μm,16.5s								
KSH				LR	LR				
	comp=Z,1μm,16.2s								
KSH				LR	LR				
	comp=Z,970nm,14.6s								
INCN	**Inchon**	**118.18**	**335**	PFAKE			14	42	40.0 +14
INCN				LR	LR				
	comp=Z,3μm,20.0s								
BJI	**Beijing**	**119.22**	**345**	PKP	PKPdf		14	42	21.1 -7.1
BJI	**Beijing**	**119.22**	**345**	SS	SS		15	00	05.8 -1.9
BJI				LR	LR				
	comp=N,1μm,32.6s								
BJI				LR	LR				
	comp=E,3μm,27.8s								
BJI				LR	LR				
	comp=Z,880nm,26.2s								
HHC	**Hu-ho-hao-te**	**119.42**	**349**	*e*PKP	PKPdf		14	42	23.1 -5.7
HHC				sPKP			14	42	37.4
HHC				PP	**PP**		**14**	**43**	**49.0** **+0.2**
HHC				SKKS			14	50	43.4
HHC				SS	**SS**		**15**	**00**	**09.5** **-1.0**
HHC				AMB	AMB				
	comp=Z,120nm,11.1s								
HHC				LR	LR				
	comp=Z,3μm,16.0s								
HHC				LR	LR				
	comp=Z,3μm,16.0s								
GTA	**Gaotai**	**121.99**	**359**	*e*PKP	**PKPdf**		**14**	**42**	**35.0** **+1.2**
GTA				sPKP			14	42	42.1
GTA				PP	**PP**		**14**	**44**	**11.0** **+4.7**
GTA				SKS	**SKSdf**		**14**	**49**	**45.8** **-0.2**
GTA				SKKS	**SKKSac**		**14**	**51**	**03.8** **-3.5**
GTA				SS	**SS**		**15**	**00**	**45.8** **+2.5**
GTA				AMB	AMB				
	comp=Z,240nm,4.5s								
GTA				LR	LR				
	comp=Z,2μm,19.9s								
GTA				LR	LR				
	comp=Z,3μm,21.8s								
GTA				LR	LR				
	comp=Z,2μm,19.5s								
LZH	**Lanzhou**	**125.12**	**355**	*e*PKP	**PKPdf**		**14**	**42**	**42.3** **+2.3**
LZH				PKS	**PKSdf**		**14**	**46**	**13.4** **-3.4**
LZH				SKKS			14	51	19.3
LZH				*e*SS	**SS**		**15**	**01**	**24.3** **+1.2**
LZH				AMB	AMB				
	comp=Z,190nm,5.6s								
LZH				LR	LR				
	comp=Z,1μm,17.6s								
LZH				LR	LR				
	comp=Z,2μm,18.4s								
LZH				LR	LR				
	comp=Z,2μm,19.2s								
NJ2	**Nanjing**	**125.89**	**339**	*e*PKP	**PKPdf**		**14**	**42**	**39.8** **-1.5**
NJ2				SKS	**SKSdf**		**14**	**49**	**54.0** **+0.7**
NJ2				SKKS	**SKKSac**		**14**	**51**	**31.0** **-1.3**
NJ2				AMB	AMB				
	comp=Z,280nm,7.0s								
NJ2				LR	LR				
	comp=Z,3μm,24.6s								
NJ2				LR	LR				
	comp=Z,3μm,22.2s								
NJ2				LR	LR				
	comp=Z,2μm,25.1s								
XAN	**Xi'an**	**126.51**	**350**	PKP	**PKPdf**		**14**	**42**	**43.3** **+0.8**
XAN				PP	**PP**		**14**	**44**	**40.3** **+3.6**
XAN				SKS	**SKSdf**		**14**	**49**	**53.8** **-0.7**
XAN				SKKS	**SKKSac**		**14**	**51**	**32.3** **-4.0**
XAN				SS	**SS**		**15**	**01**	**38.9** **-1.6**
XAN				AMB	AMB				
	comp=Z,13nm,4.2s								
XAN				LR	LR				
	comp=Z,2μm,17.7s								
XAN				LR	LR				
	comp=Z,900nm,17.7s								
XAN				LR	LR				
	comp=Z,860nm,15.1s								
WHN	**Wuhan**	**128.67**	**343**	SS	SS		15	02	00.8 -6.6
WHN				LR	LR				
	comp=N,5μm,22.0s								
WHN				LR	LR				
	comp=E,3μm,14.2s								
WHN				LR	LR				
	comp=Z,5μm,16.6s								
CD2	**Chengdu**	**130.26**	**355**	PKP	**PKPdf**		**14**	**42**	**49.4** **-0.4**
CD2				PP	**PP**		**14**	**45**	**04.9** **+3.6**
CD2				PKS	**PKSdf**		**14**	**46**	**29.8** **+3.4**
CD2				SKS	**SKSdf**		**14**	**50**	**00.6** **-1.0**
CD2				SKKS	SKKSac		14	51	51.9 -7.9
CD2				SS	**SS**		**15**	**02**	**24.8** **-2.1**
CD2				AMB	AMB				
	comp=Z,170nm,8.3s								
CD2				LR	LR				
	comp=Z,2μm,15.5s								
LSA	**Lhasa**	**131.09**	**9**	PKP	**PKPdf**		**14**	**42**	**51.6** **-0.3**
LSA				S	Sdif		14	53	06.8 -13
LSA				LR	LR				
	comp=Z,2μm,23.5s								
LSA				LR	LR				
	comp=Z,2μm,28.2s								
LSA	**Lhasa**	**131.09**	**9**	*e*PKIKP	**PKPdf**		**14**	**42**	**51.4** **-0.5**
LSA	**Lhasa**	**131.09**	**9**	*e*PKPdf	**PKPdf**		**14**	**42**	**51.4** **-0.5**
GYA	**Guiyang**	**134.30**	**350**	Pdif	**Pdif**		**14**	**39**	**55.0** **-2.3**
GYA				PKP	**PKPdf**		**14**	**42**	**56.3** **-1.3**
GYA				PKS	**PKSdf**		**14**	**46**	**31.3** **-2.9**
GYA				SKKS			14	52	20.6
GYA				SS	**SS**		**15**	**03**	**15.8** **-0.5**
GYA				AMB	AMB				
	comp=Z,240nm,7.8s								
GYA				LR	LR				
	comp=Z,620nm,22.0s								
GYA				LR	LR				
	comp=Z,480nm,23.5s								
GYA				LR	LR				
	comp=Z,770nm,21.6s								
SHL	**Shillong**	**135.25**	**9**	*e*P	**PKPdf**		**14**	**43**	**02.0** **+2.5**
SHL				*ex*	x		14	45	33.0
CTA	**Charters Tower**	**135.58**	**260**	PKP	**PKPdf**		**14**	**42**	**59.9** **0.0**
CTA	**Charters Tower**	**135.58**	**260**	PKP	**PKPdf**		**14**	**42**	**59.9** **0.0**
	comp=Z,2.2nm,0.9s,baz=0.0,slow=4.0,SNR=2.5								
KMI	**Kunming**	**136.09**	**355**	PKP	PKPdf		14	42	54.4 -6.7
KMI				PKS	**PKSdf**		**14**	**46**	**38.3** **+0.6**
KMI				SKKS			14	52	36.6
KMI				AMB	AMB				
	comp=Z,140nm,5.4s								
KMI				LR	LR				
	comp=Z,1μm,19.4s								
KMI				LR	LR				
	comp=Z,980nm,20.3s								
KMI				LR	LR				
	comp=Z,2μm,19.4s								
HYB	**Hyderabad**	**138.68**	**30**	*i* PKP	**PKPdf**		**14**	**43**	**05.0** **-0.8**
STKA	**Stephens Creek**	**139.68**	**243**	PKP	**PKPdf**		**14**	**43**	**07.2** **+0.1**
STKA				*e*PKPdf	**PKiKP**		**14**	**43**	**08.4** **-1.1**
STKA	**Stephens Creek**	**139.68**	**243**	PKP	**PKPdf**		**14**	**43**	**07.2** **+0.1**
	comp=Z,3.3nm,0.8s,baz=96,slow=2.8,SNR=7.6								
QIZ	**Qiongzhong**	**140.83**	**344**	PKP	**PKPdf**		**14**	**43**	**08.0** **-1.6**
QIZ				SS	SS		15	04	34.3 +0.5
QIZ				LR	LR				
	comp=Z,1μm,21.9s								
QIZ				LR	LR				
	comp=Z,460nm,21.0s								
QIZ				LR	LR				
	comp=Z,2μm,19.1s								
CHTO	**Chiang Mai**	**142.52**	**0**	PKiKP	**PKPdf**		**14**	**43**	**11.9** **-0.8**
CHTO	**Chiang Mai**	**142.52**	**0**	PKPdf	**PKPdf**		**14**	**43**	**11.9** **-0.8**
CMAR	**Chiang Mai Arr**	**142.87**	**0**	PKPpre	PKPpre		14	43	05.2
CMAR				PKP	**PKPdf**		**14**	**43**	**12.8** **-0.5**
CMAR	**Chiang Mai Arr**	**142.87**	**0**	PKhKP	PKPpre		14	43	05.2
	comp=Z,0.4nm,0.3s,baz=6.7,slow=3.1,SNR=2.8								
CMAR				PKP	**PKPdf**		**14**	**43**	**12.8** **-0.5**
	comp=Z,1.0nm,0.5s,baz=316,slow=2.2,SNR=8.0								
BBOO	**Buckleboo**	**144.10**	**240**	*e*PKPdf	PKPbc		14	43	12.9 -0.2
WRAB	**Tennant Creek**	**146.70**	**262**	*e*PKiKP	**PKPdf**		**14**	**43**	**20.4** **+0.5**
WRAB	**Tennant Creek**	**146.70**	**262**	*e*PKPdf	**PKPdf**		**14**	**43**	**20.4** **+0.5**
WRA	**Warramunga Arr**	**146.71**	**262**	PKPbc	**PKPdf**		**14**	**43**	**19.6** **-0.3**
WRA	**Warramunga Arr**	**146.71**	**262**	PKPbc	**PKPdf**		**14**	**43**	**19.6** **-0.3**
	comp=Z,14nm,0.7s,baz=85,slow=4.0,SNR=43								
AS31	**Alice Springs**	**147.21**	**255**	*e*PKPdf	**PKPdf**		**14**	**43**	**21.4** **+0.8**
ASAR	**Alice Springs**	**147.21**	**255**	PKPbc	**PKPdf**		**14**	**43**	**20.5** **-0.2**
ASAR	**Alice Springs**	**147.21**	**255**	PKPbc	**PKPdf**		**14**	**43**	**20.5** **-0.2**
	comp=Z,11nm,0.7s,baz=102,slow=3.7,SNR=91								
FORT	**Forrest**	**151.21**	**240**	*e*PKPbc	**PKPbc**		**14**	**43**	**33.8** **+1.0**
PSI	**Prapat**	**158.43**	**0**	PKPab	**PKPab**		**14**	**44**	**11.6** **-0.1**
PSI	**Prapat**	**158.43**	**0**	PKPab	**PKPab**		**14**	**44**	**11.6** **-0.1**
	comp=Z,4.3nm,0.4s,baz=268,slow=3.8,SNR=6.7								

IDC ***19*** *14:30:44.6±1.8, 8.41S×157.51E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, MS2.4/1, Ms1 2.4/1, ms1mx2.3/29, Error ellipse: s-maj=90.7km s-min=27.7km az=128.0*

ISCJB ***19*** *14:30:45.6±1.2, 8.4S±0.2×157.48E±0.08, h16km, mb3.4/4, Error ellipse: s-maj=28.5km s-min=10.6km az=7.3*

ISC 19 14:30:47.1±1.4, 8.5S±0.2×157.6E±0.1, h16km, n6, σ0s81/6, mb3.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.47**	**112**	LR		LR		14 32 12.7	
	comp=Z,82nm,20.4s,baz=238,slow=34								
HNR	**Honiara**	**2.47**	**112**	*e*P		**Pn**		**14**	**31** **27.0** **+0.3**
HNR				*e*S		**Sb**		**14**	**32** **01.0** **-0.4**
WRA	**Warramunga Arr**	**25.23**	**241**	P		**P**		**14**	**36** **11.7** **-0.8**
	0.8nm,0.7s,baz=68,slow=9.8,SNR=8.3								
ASAR	**Alice Springs**	**27.26**	**234**	P		**P**		**14**	**36** **30.4** **-0.5**
	0.3nm,1.0s,baz=61,slow=9.6,SNR=3.2								
STKA	**Stephens Creek**	**27.62**	**210**	P		**P**		**14**	**36** **34.8** **+0.9**
	1.6nm,0.9s,baz=45,slow=11,SNR=3.0								
ILAR	**Eielson Array**	**83.83**	**21**	P		**P**		**14**	**43** **15.6** **+0.1**
	0.7nm,0.8s,baz=254,slow=3.7,SNR=12								

IDC ***19*** *14:33:53.5±2.4, 30.56S×177.47W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/34, mbtmp3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/34, Error ellipse: s-maj=53.8km s-min=26.5km az=108.0*

ISC 19 14:33:58.7±2.3, 30.43S±0.09×177.7W±0.3, h33km, n8, σ1s48/8, mb4.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**350**	Pn		**Pb**		**14**	**34** **19.7** **-1.0**
	43nm,0.3s,baz=270,slow=20,SNR=3.1								
RAO				Sn		**Sb**		**14**	**34** **35.1** **-0.7**
	397nm,0.3s,baz=187,slow=23,SNR=11								
URZ	**Urewera**	**8.92**	**207**	Pn		Pn		14	36 02.8 -2.5
	baz=302,slow=18,SNR=5.0								
URZ				Sn		**Sn**		**14**	**37** **42.0** **-2.5**
	0.4nm,0.3s,baz=305,slow=22,SNR=8.2								
DZM	**Mont Dzumac**	**16.49**	**297**	LR		LR		14	43 06.5
	comp=Z,173nm,20.0s,baz=30,slow=33								
STKA	**Stephens Creek**	**34.74**	**257**	P		**P**		**14**	**40** **47.2** **+1.3**
	1.3nm,0.5s,baz=102,slow=14,SNR=10								
ASAR	**Alice Springs**	**43.39**	**267**	P		**P**		**14**	**41** **59.2** **+0.9**
	0.4nm,0.5s,baz=105,slow=7.1,SNR=12								
WRA	**Warramunga Arr**	**44.38**	**272**	P		**P**		**14**	**42** **07.0** **+0.7**
	0.9nm,0.3s,baz=110,slow=8.0,SNR=40								
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc		**PKPdf**		**14**	**53** **32.4** **+0.2**
	1.7nm,0.8s,baz=96,slow=2.8,SNR=3.8								
BRTR	**Keskin Array B**	**152.86**	**299**	PKPbc		**PKPbc**		**14**	**53** **52.9** **+0.4**
	0.8nm,0.9s,baz=115,slow=4.8,SNR=2.8								

CSEM ***19*** *

TAG	**Tarade**	**1.42 298**	⇑*iP*	Pb	14 38 21.0	+0.5
CRG	**Carmichael**	**1.42 298**	*e*P	Pb	14 38 21.2	+0.7
SCG	**Saint Claude**	**1.43 297**	*e*P	Pb	14 38 20.8	+0.3
SSG	**Sans Toucher**	**1.46 299**	⇑*iP*	Pb	14 38 21.2	+0.2
MLG	**Mont-d'or**	**1.47 298**	⇑*iP*	Pb	14 38 21.1	-0.1
SEG	**Port Louis**	**1.50 313**	⇑*iP*	Pb	14 38 23.7	+2.1
LZG	**Guadaloupe-1**	**1.56 299**	*e*P	Pb	14 38 21.9	-0.7
ANWB	**Willy Bob**	**2.66 329**	*e*P	Pn	14 38 37.5	+1.4
ANWB			*e*S	Sn	14 39 10.4	+2.6

IDC 19 14:38:39.4±7.8, 15°.85S×177°.75W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=349.1km s-min=33.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.66**	**257**	P	P	14 47 01.7	-0.5
	0.4nm,0.4s,baz=93,slow=7.6,SNR=5.8						
ASAR	**Alice Springs**	**45.99**	**252**	P	P	14 47 05.0	+0.2
	2.3nm,0.3s,baz=85,slow=8.4,SNR=23						
ILAR	**Eielson Array**	**83.75**	**13**	P	P	14 51 09.9	0.0
	0.3nm,0.4s,baz=228,slow=5.3,SNR=13						

*ISCJB **19** 14:40:55.6±0.5, 18°.88S×107°.169°.29E±0°.08, h200km, mb4.2/13, Error ellipse: s-maj=11.5km s-min=9.2km az=136.5*
*IDC **19** 14:40:58.7±1.9, 19°.09S×169°.27E, h220km±18km, mb4.0/13, mb1 4.2/14, mb1mx3.9/30, mbtmp4.5/14, Error ellipse: s-maj=16.4km s-min=13.7km az=173.0*
ISC 19 14:40:56.9±0.6, 18°.95S±0°.10×169°.24E±0°.09, h200km, n43, σ1§21/44, mb4.3/13, 7C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.06**	**220**	P	**Pn**	**14 42 01.2**	**+1.7**
	3.7nm,0.3s,baz=58,slow=17,SNR=55						
NORM	**Noumea**	**4.16**	**218**	*e*P	**Pn**	14 42 02.0	+1.3
NOUC	**Port Laguerre**	**4.17**	**221**	*e*P	**Pn**	14 42 03.5	+2.7
RAO	**Raoul Island**	**15.56**	**134**	P	**P**	14 44 25.9	0.0
	97nm,0.3s,baz=287,slow=20,SNR=3.6						
EIDS	**Eidsvold**	**17.98**	**246**	P	**Pn**	14 44 54.7	0.0
	baz=18,SNR=7.3						
ARMA	**Armidale**	**19.63**	**231**	P	**Pn**	14 45 14.3	0.0
	baz=20,SNR=6.1						
RMQ	**Roma**	**20.31**	**245**	P	**P**	14 45 19.5	+1.8
	baz=21,SNR=12						
URZ	**Urewera**	**20.42**	**162**	P	**P**	14 45 17.6	-1.1
	1.5nm,0.5s,baz=214,slow=7.3,SNR=3.3						
CTA	**Charters Tower**	**21.70**	**263**	P	**P**	14 45 33.0	+0.8
	7.0nm,0.6s,baz=80,slow=11,SNR=17						
PMG	**Port Moresby**	**23.39**	**291**	P	**P**	14 45 48.9	+1.0
	17nm,0.7s,baz=81,slow=7.9,SNR=6.0						
PMG	**Port Moresby**	**23.39**	**291**	P	**P**	14 45 49.4	+1.4
	baz=24,SNR=3.1						
QLP	**Quilpie**	**24.25**	**247**	P	**P**	14 45 56.1	+0.4
	baz=25,SNR=10						
CMSA	**Cobar Meteorol**	**24.65**	**235**	P	**P**	14 45 59.5	+0.3
	baz=25,SNR=7.9						
STKA	**Stephens Creek**	**28.00**	**237**	P	**P**	14 46 29.0	-0.3
	4.9nm,0.6s,baz=67,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**28.00**	**237**	P	**P**	14 46 29.7	+0.5
	baz=28,SNR=12						
BBOO	**Buckleboo**	**32.74**	**238**	P	**P**	14 47 10.9	0.0
	baz=33,SNR=8.3						
WRA	**Warramunga Arr**	**32.89**	**262**	P	**P**	14 47 11.5	-0.9
	2.6nm,0.3s,baz=98,slow=8.5,SNR=36						
WRA				PcP	**PcP**	14 49 51.2	-1.0
	0.6nm,1.0s,baz=57,slow=4.7,SNR=2.7						
ASAR	**Alice Springs**	**33.20**	**256**	P	**P**	14 47 14.5	-0.6
	32nm,0.6s,baz=82,slow=8.8,SNR=95						
ASAR				S	**S**	14 52 16.0	-4.1
	1.2nm,0.9s,baz=84,slow=18,SNR=6.8						
ASAR				ScP	**ScP**	14 53 16.3	-2.1
	0.6nm,0.8s,baz=103,slow=4.0,SNR=4.2						
KDU	**Kakadu**	**35.87**	**274**	P	**P**	14 47 38.0	0.0
	baz=36,SNR=3.4						
MTN	**Manton Dam**	**37.10**	**274**	P	**P**	14 47 48.7	+0.3
	baz=37,SNR=4.9						
KNRA	**Kununurra**	**38.73**	**268**	P	**P**	14 48 01.8	-0.2
	baz=39,SNR=10						
MEEK	**Meekatharra**	**47.05**	**251**	P	**P**	14 49 08.3	-0.4
	baz=47,SNR=10						
MJAR	**Matsushiro Arr**	**62.50**	**332**	P	**P**	14 50 59.0	-0.2
	1.7nm,0.8s,baz=145,slow=8.0,SNR=5.1						
FX1	**Attu Island--F**	**71.61**	**3**	P	**P**	14 51 56.6	+0.4
	4.1nm,0.5s,baz=225,slow=4.3,SNR=7.3						
PETK	**Petropavlovsk-**	**72.45**	**353**	P	**P**	14 52 02.1	+0.9
	6.9nm,0.9s,baz=144,slow=5.6,SNR=13						
CMAR	**Chiang Mai Arr**	**78.39**	**294**	P	**P**	14 52 36.7	+0.9
	0.5nm,0.3s,baz=133,slow=5.0,SNR=3.0						
SONM	**Songino Array**	**87.00**	**323**	P	**P**	14 53 20.0	+0.4
	3.9nm,0.9s,baz=146,slow=5.4,SNR=15						
NVAR	**Mina Arzberg**	**88.61**	**49**	P	**P**	14 53 27.4	-0.2
	1.5nm,0.7s,baz=236,slow=7.5,SNR=5.6						
ILAR	**Eielson Array**	**89.96**	**17**	P	**P**	14 53 31.8	-1.2
	1.4nm,0.7s,baz=238,slow=5.1,SNR=26						
TXAR	**Lajitas Array**	**96.63**	**61**	P	**P**	14 54 05.2	+0.6
	0.3nm,0.6s,baz=205,slow=5.5,SNR=4.8						
YKA	**Yellowknife Ar**	**100.42**	**27**	P	**Pdif**	14 54 20.6	0.0
	0.8nm,0.6s,baz=256,slow=4.6,SNR=13						
MKAR	**Makanchi Array**	**101.54**	**316**	P	**Pdif**	14 54 26.5	+0.5
	0.2nm,0.5s,baz=98,slow=6.2,SNR=5.1						
ARCES	**ARCESS Array B**	**124.80**	**345**	PKP	**PKPdf**	14 59 31.3	-0.9
	2.6nm,0.7s,baz=48,slow=1.3,SNR=11						
AKASG	**Malin Array Be**	**135.26**	**325**	PKP	**PKPdf**	14 59 50.6	-1.9
	0.2nm,0.4s,baz=72,slow=1.1,SNR=3.5						
CONA	**Conrad Observa**	**143.90**	**329**	⇑*i*PKPdf	PKPbc	15 00 08.2	+1.4
	7.6nm,1.3s						
GERES	**GERESS Array B**	**144.24**	**332**	PKP	**PKPab**	15 00 07.1	-0.2
	4.0nm,0.7s,baz=34,slow=3.7,SNR=31						
ARSA	**Arzberg**	**144.54**	**329**	⇑*i*PKPdf	**PKPab**	15 00 08.8	+0.3
	4.4nm,0.9s						
IDI	**Anoyia**	**144.57**	**305**	PKP	**PKPab**	15 00 08.2	-0.9
	3.4nm,0.4s,baz=37,slow=5.1,SNR=9.0						
MOA	**Molln**	**144.72**	**330**	⇑*i*PKPdf	PKPbc	15 00 09.5	+0.4
	20nm,1.0s						
SOKA	**Soboth**	**145.18**	**328**	⇑*i*PKPab	**PKPdf**	15 00 11.3	+0.7
	5.6nm,0.5s						
KBA	**Koelnbreinsper**	**145.71**	**330**	⇑*i*PKPab	**PKPdf**	15 00 12.3	+0.6
	7.1nm,1.0s						
MOTA	**Moosalm**	**146.52**	**333**	⇑*i*PKPab	**PKPdf**	15 00 14.3	+1.3
	2.1nm,0.3s						
FETA	**Feichten**	**146.93**	**333**	⇑*i*PKPab	**PKPdf**	15 00 15.8	+2.1

*ISCJB **19** 14:53:23.8±0.5, 0°.7N±0°.2×28°.9W±0°.1, h10km, mb4.0/15, Error ellipse: s-maj=24.8km s-min=8.9km az=148.7*
*IDC **19** 14:53:23.7±0.7, 0°.62N×28°.80W, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/48, mbtmp4.1/12, ML4.5/1, Error ellipse: s-maj=38.0km s-min=15.4km az=143.0*
*NEIC **19** 14:53:25.2±0.4, 0°.59N×28°.80W, h10km, mb4.7/4, Error ellipse: s-maj=22.4km s-min=7.4km az=143.0*
ISC 19 14:53:25.3±0.6, 0°.6N±0°.2×28°.9W±0°.1, h10km, n38, σ0§96/34, mb4.3/15, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.51**	**228**	*e*P	**Pn**	**14 55 41.4**	**-1.2**
	69nm,0.6s						
RCBR				*e*		14 55 49.3	
RCBR				Sn	Sn	14 57 20.2	-9.4
RCBR	**Riachuelo**	**9.51**	**228**	Pn	**Pn**	**14 55 41.5**	**-1.0**
	4.9nm,0.3s,baz=29,slow=15,SNR=58						
RCBR				Sn	Sn	14 57 20.2	-9.4
	baz=348,slow=19,SNR=2.1						
H10N3	**ASCENSION HYDR**	**16.59**	**121**	T	T	15 14 34.0	
	baz=301,slow=74						
H10N2	**ASCENSION HYDR**	**16.60**	**121**	T	T	15 14 32.8	
	baz=301,slow=74						
H10N1	**ASCENSION HYDR**	**16.61**	**121**	T	T	15 14 38.6	
	baz=301,slow=74						
H10S3	**ASCENSION HYDR**	**17.04**	**124**	T	T	15 15 15.1	
	baz=304,slow=75,SNR=47						
H10S1	**ASCENSION HYDR**	**17.04**	**124**	T	T	15 15 15.8	
	baz=304,slow=75,SNR=53						
H10S2	**ASCENSION HYDR**	**17.05**	**124**	T	T	15 15 15.1	
	baz=304,slow=75,SNR=36						
LIC	**Lamto**	**24.42**	**76**	*e*PKIKP	**P**	**14 58 47.3**	**+2.9**
	23nm,0.7s						
TIC	**Toumodi**	**24.52**	**75**	*e*PKIKP	**P**	**14 58 47.3**	**+1.9**
DBIC	**Dimbokro**	**24.68**	**75**	*e*P	**P**	**14 58 47.1**	**+0.3**
	18nm,1.2s						
DBIC	**Dimbokro**	**24.68**	**75**	P	**P**	**14 58 46.9**	**+0.1**
	5.0nm,0.7s,baz=253,slow=10,SNR=8.8						
KIC	**Kosan Boka**	**24.73**	**76**	*e*PKIKP	**P**	**14 58 47.3**	**+0.1**
	37nm,1.3s						
BDFB	**Brasilia**	**24.88**	**229**	P	**P**	**14 58 49.2**	**+0.5**
BDFB	**Brasilia**	**24.88**	**229**	P	**P**	**14 58 49.2**	**+0.5**
	6.7nm,0.7s,baz=67,slow=10,SNR=8.4						
TOAO	**Torodi Ar. Sit**	**32.73**	**66**	*e*P	**P**	**14 59 58.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**32.73**	**66**	P	**P**	**14 59 57.3**	**-1.2**
TORD				PcP	**PcP**	**15 02 43.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**32.73**	**66**	P	**P**	**14 59 57.3**	**-1.2**
	1.5nm,0.8s,baz=255,slow=9.4,SNR=8.5						
TORD				PcP	**PcP**	**15 02 43.8**	**-0.5**
	0.6nm,1.0s,baz=249,slow=0.2,SNR=2.7						
SAML	**Samuel**	**35.49**	**254**	*e*P	**P**	**15 00 22.7**	**+0.1**
	5.1nm,1.1s						
CPUP	**Villa Florida**	**38.36**	**224**	P	**P**	**15 00 47.3**	**+0.5**
	0.5nm,1.0s						
LPAZ	**La Paz**	**42.23**	**245**	*e*P	**P**	**15 01 20.7**	**+0.9**
	1.7nm,0.7s						
LPAZ	**La Paz**	**42.23**	**245**	P	**P**	**15 01 20.1**	**+0.3**
	2.3nm,0.7s,baz=58,slow=9.8,SNR=10.0						
ESDC	**Sonseca Array**	**45.02**	**27**	P	**P**	**15 01 41.3**	**0.0**
ESDC	**Sonseca Array**	**45.02**	**27**	P	**P**	**15 01 41.3**	**0.0**
	0.2nm,0.3s,baz=234,slow=8.0,SNR=7.0						
DAVOX	**Davos/Dischmat**	**57.06**	**31**	P	**P**	**15 03 10.9**	**-1.1**
DAVOX	**Davos/Dischmat**	**57.06**	**31**	P	**P**	**15 03 10.9**	**-1.1**
	1.4nm,0.4s,baz=203,slow=8.0,SNR=3.0						
GERES	**GERESS Array B**	**60.36**	**31**	P	**P**	**15 03 33.8**	**-0.9**
GERES	**GERESS Array B**	**60.36**	**31**	P	**P**	**15 03 33.8**	**-0.9**
	1.1nm,0.7s,baz=234,slow=6.7,SNR=5.4						
BRTR	**Keskin Array B**	**68.72**	**47**	P	**P**	**15 04 30.9**	**+1.2**
BRTR	**Keskin Array B**	**68.72**	**47**	P	**P**	**15 04 30.9**	**+1.2**
	1.1nm,0.9s,baz=251,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**69.85**	**35**	P	**P**	**15 04 35.6**	**-0.7**
AKASG	**Malin Array Be**	**69.85**	**35**	P	**P**	**15 04 35.6**	**-0.7**
	2.2nm,0.6s,baz=244,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**73.42**	**24**	P	**P**	**15 04 57.9**	**+0.4**
FINES	**FINESS Array B**	**73.42**	**24**	P	**P**	**15 04 57.9**	**+0.4**
	2.3nm,0.8s,baz=306,slow=4.5,SNR=4.7						
TXAR	**Lajitas Array**	**76.47**	**300**	P	**P**	**15 05 16.6**	**+0.6**
TXAR	**Lajitas Array**	**76.47**	**300**	P	**P**	**15 05 16.6**	**+0.6**
	0.3nm,0.7s,baz=120,slow=7.3,SNR=4.2						
ASAR	**Alice Springs**	**151.63**	**145**	PKPbc	**PKPbc**	**15 13 20.6**	**-0.4**
ASAR	**Alice Springs**	**151.63**	**145**	PKPbc	**PKPbc**	**15 13 20.6**	**-0.4**
	0.5nm,0.6s,baz=207,slow=1.6,SNR=3.7						

*IDC **19** 14:54:30.1±0.9, 1°.02N×126°.46E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, Error ellipse: s-maj=89.8km s-min=14.4km az=65.0*
*ISCJB **19** 14:54:35.1±0.4, 1°.30N±0°.06×126°.72E±0°.08, h47km, mb4.2/13, Error ellipse: s-maj=12.5km s-min=5.3km az=147.4*
*DJA **19** 14:54:37.3±0.8, 1°.N±7°.×12°.7E±°, h10km, M4.0/5, MLv4.0/5*
*NEIC **19** 14:54:38.7±0.8, 1°.27N×127°.23E, h73km±8km, mb4.6/3, Error ellipse: s-maj=17.7km s-min=7.6km az=63.0*
ISC 19 14:54:36.6±0.6, 1°.23N±0°.07×126°.74E±0°.07, h47km, n38, σ1§18/41, mb4.1/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.77**	**126**	P	**Pn**	**14 54 52.1**	**+0.9**
TNTI				S	**Sn**	**14 55 01.9**	**0.0**
TNTI	**Ternate**	**0.77**	**126**	*e*Pn	**Pn**	**14 54 51.9**	**+0.6**
LBMI	**Labuha**	**2.01**	**158**	P	**Pn**	**14 55 09.6**	**+1.5**
LBMI				S	**Sn**	**14 55 34.1**	**+2.1**
KMSI	**Cibinong**	**2.84**	**257**	P	**Pn**	**14 55 20.6**	**+1.2**
SANI	**Sanana**	**3.35**	**193**	P	**Pn**	**14 55 27.7**	**+1.3**
NLAI	**Namlea**	**4.46**	**175**	P	**Pn**	**14 55 43.9**	**+2.2**
NLAI				S	**Sn**	**14 56 29.3**	**-3.0**
LUWI	**Luwuk**	**4.57**	**240**	*e*Pg	Pn	14 55 51.7	+8.5
FAKI	**Fak Fak**	**6.88**	**127**	P	Pn	14 56 18.8	+3.8
	baz=8.3,SNR=3.6						
KNRA	**Kununurra**	**16.92**	**173**	P	**P**	**14 58 32.2**	**+0.6**
	baz=18,SNR=4.1						
WRAB	**Tennant Creek**	**22.32**	**161**	*e*P	**P**	**14 59 29.0**	**-1.4**
	56nm,1.9s						
WRA	**Warramunga Arr**	**22.32**	**161**	P	**P**	**14 59 28.7**	**-1.8**
WRA	**Warramunga Arr**	**22.32**	**161**	P	**P**	**14 59 28.7**	**-1.8**
	2.8nm,0.6s,baz=340,slow=11,SNR=37						
QIS	**Mount Isa**	**25.05**	**150**	P	**P**	**14 59 56.4**	**-0.4**
	baz=26,SNR=9.2						
ASAR	**Alice Springs**	**25.71**	**165**	P	**P**	**15 00 01.4**	**-1.2**
ASAR				PcP	**PcP**	**15 03 31.5**	**-0.7**
ASAR	**Alice Springs**	**25.71**	**165**	P	**P**	**15 00 01.4**	**-1.2**
	1.2nm,0.5s,baz=345,slow=12,SNR=46						
ASAR				PcP	**PcP**	**15 03 31.5**	**-0.7**
	0.2nm,0.5s,baz=355,slow=1.9,SNR=4.1						
WRKA	**Warakurna**	**26.16**	**177**	P	**P**	**15 00 07.4**	**+0.7**
	baz=27,SNR=12						
WRKA				S	S	15 04 51.3	+16
	baz=27,SNR=33						
CMAR	**Chiang Mai Arr**	**32.20**	**304**	P	**P**	**15 00 59.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**32.20**	**304**	P	**P**	**15 00 59.2**	**-1.3**
	0.2nm,0.3s,baz=134,slow=9.1,SNR=3.1						
BBOO	**Buckleboo**	**34.98**	**166**	P	**P**	**15 01 23.4**	**-1.1**
	baz=36,SNR=6.7						
STKA	**Stephens Creek**	**35.81**	**158**	P	**P**	**15 01 30.6**	**-1.0**
STKA	**Stephens Creek**	**35.81**	**158**	P	**P**	**15 01 30.6**	**-1.0**
	1.9nm,0.7s,baz=337,slow=9.3,SNR=9.5						
STKA	**Stephens Creek**	**35.81**	**158**	P	**P**	**15 01 30.8**	**-0.8**
	baz=37,SNR=5.9						
ARMA	**Armidale**	**39.41**	**145**	P	**P**	**15 02 02.4**	**+0.2**
	baz=41,SNR=5.5						
ULN	**Ulaanbaatar**	**49.49**	**343**	*e*P	**P**	**15 03 23.4**	**+0.9**
	4.7nm,1.0s						
SONM	**Songino Array**	**49.66**	**342**	P	**P**	**15 03 24.6**	**+0.9**
SONM	**Songino Array**	**49.66**	**342**	P	**P**	**15 03 24.6**	**+0.9**
	1.7nm,0.8s,baz=151,slow=8.8,SNR=10						
MK31	**Makanchi Array**	**59.61**	**326**	*e*P	**P**	**15 04 36.8**	**+0.9**
MKAR	**Makanchi Array**	**59.61**	**326**	P	**P**	**15 04 36.7**	**+0.9**
MKAR	**Makanchi Array**	**59.61**	**326**	P	**P**	**15 04 36.7**	**+0.9**
	3.1nm,0.5s,baz=119,slow=7.6,SNR=107						
ZALV	**Zalesovo Beam**	**62.81**	**334**	P	**P**	**15 04 57.7**	**+0.5**
ZALV	**Zalesovo Beam**	**62.81**	**334**	P	**P**	**15 04 57.7**	**+0.5**
	0.8nm,0.4s,baz=133,slow=5.9,SNR=5.9						
KURBB	**Kurchatov Arra**	**63.84**	**328**	P	**P**	**15 05 04.9**	**+0.7**
	6.3nm,0.6s,baz=132,slow=5.4,SNR=91						
KURK	**Kurchatov**	**63.85**	**328**	*e*P	**P**	**15 05 04.8**	**+0.6**
	7.4nm,0.8s						
ABKAR	**Akbulak array**	**74.08**	**321**	*e*P	**P**	**15 06 08.1**	**+0.3**
AKTO	**Aktyubinsk**	**75.62**	**322**	P	**P**	**15 06 16.1**	**-0.6**
AKTO	**Aktyubinsk**	**75.62**	**322**	P	**P**	**15 06 16.1**	**-0.6**
	1.1nm,0.6s,baz=106,slow=11,SNR=4.7						
VNDA	**Vanda**	**80.96**	**173**	P	**P**	**15 06 45.1**	**-0.6**
VNDA	**Vanda**	**80.96**	**173**	P	**P**	**15 06 45.1**	**-0.6**
	1.7nm,0.9s,baz=311,slow=6.9,SNR=1.6						

*GCG **19** 14:54:47.6, 13°.66N×90°.50W, h57km, MD3.8*
CASC 19 14:54:47.8±1.6, 13°.60N×90°.40W, h34km±4km, MD3.7, ML3.6, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.79**	**68**	⇓*e*P	Pb	14 55 03.2	-0.3
RTR				*e*S	Sb	14 55 14.6	+0.5
SBLS	**San Blas**	**0.79**	**72**	⇓*e*P	Pn	14 55 02.9	0.0
SBLS				*e*S	Sb	14 55 15.0	+0.7
PCG	**Pacaya**	**0.82**	**346**	⇑*e*P	Pn	14 55 03.0	-0.3
PCG				*e*S	Sb	14 55 14.9	-0.1
SNJE	**San Jose**	**0.82**	**71**	⇓*e*P	Pn	14 55 03.3	+0.1
SNJE				*e*S	Sb	14 55 14.9	0.0
RBDL	**Robledal**	**0.86**	**53**	*e*P	Pn	14 55 03.7	0.0
RBDL				*e*S	Sn	14 55 15.3	-0.1
NBG	**Las Nubes**	**0.99**	**3**	⇓*e*P	Pn	14 55 06.0	+0.4
NBG				*e*S	Sb	14 55 21.2	+1.4
BOQS	**Boqueron**	**1.10**	**83**	*e*P	Pn	14 55 07.4	+0.3
BOQS				*e*S	Sb	14 55 22.7	-0.2
SNET	**Serv Nac Est T**	**1.14**	**85**	AML	AML	14 55 28.1	
	comp=Z,1μm,0.2s						
LFU	**La Fuente**	**1.26**	**83**	*e*P	Pn	14 55 09.2	+0.1
LFU				*e*S	Sn	14 55 25.0	0.0
LFRS	**El Faro**	**1.30**	**89**	*e*P	Pn	14 55 10.3	+0.6
LFRS				*e*S	Sn	14 55 26.9	+0.8
LBRS	**Las Brisas**	**1.33**	**84**	*e*P	Pn	14 55 09.8	-0.2
LBRS				*e*S	Sn	14 55 26.2	-0.4
SNVI	**San Vicente**	**1.52**	**89**	*e*P	Pn	14 55 13.0	+0.2
SNVI				*e*S	Sn	14 55 32.5	+1.0
MRL	**Marmol**	**1.61**	**25**	⇑*e*P	Pn	14 55 13.7	-0.4
MRL				*e*S	Sb	14 55 35.8	-1.7
CNCH	**Conchagua**	**2.52**	**97**	*e*P	Pn	14 55 27.3	+0.8
CNCH				*e*S	Sn	14 55 57.0	+0.9

*ISCJB **19** 14:55:52.4±0.8, 15°.5S×0°.3×174°.8W±0°.2, h262km, mb3.8/5, Error ellipse: s-maj=39.7km s-min=10.6km az=150.1*
*IDC **19** 14:55:52.5±1.3, 15°.44S×174°.87W, h243km±20km, mb3.7/5, mb1 3.9/6, mb1mx3.3/37, mbtmp4.3/6, Error ellipse: s-maj=25.3km s-min=20.9km az=137.0*
ISC 19 14:55:53.5±0.9, 15°.45S±0°.2×174°.8W±0°.2, h262km, n6, σ1§23/8, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.22**	**64**	P	**Pn**	**14 56 47.8**	**-1.4**
	18nm,0.3s,baz=270,slow=12,SNR=42						
AFI				S	**S**	**14 57 33.9**	**+0.4**
	4.0nm,0.3s,baz=324,slow=19,SNR=3.2						
URZ	**Urewera**	**23.93**	**196**	P	**P**	**15 00 43.2**	**-0.8**
	1.6nm,0.3s,baz=352,slow=6.9,SNR=8.9						
URZ				S	**S**	**15 04 42.0**	**+1.3**
	3.3nm,0.7s,baz=333,slow=17,SNR=3.2						
STKA	**Stephens Creek**	**42.93**	**240**	P	**P**	**15 03 26.7**	**-0.3**
	1.4nm,0.5s,baz=78,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**48.58**	**257**	P	**P**	**15 04 10.8**	**-0.4**
	1.6nm,0.7s,baz=92,slow=8.0,SNR=17						
ASAR	**Alice Springs**	**48.88**	**252**	P	**P**	**15 04 13.4**	**-0.1**
	16nm,0.7s,baz=86,slow=7.8,SNR=173						
PDAR	**Pinedale Array**	**83.11**	**42**	P	**P**	**15 07 52.1**	**+1.7**
	1.1nm,0.8s,baz=216,slow=3.9,SNR=8.0						

*ISCJB **19** 15:03:56.8±0.5, 33°.96N±0°.04×25°.63E±0°.06, h17km, mb3.8/18, Error ellipse: s-maj=7.0km s-min=5.7km az=151.3*
*IDC **19** 15:03:56.2±0.9, 34°.30N×25°.43E, h0km, mb3.9/16, mb1 4.0/22, mb1mx3.9/46, mbtmp3.9/22, ML3.9/6, Error ellipse: s-maj=20.3km s-min=15.4km az=2.0*
*CSEM **19** 15:04:02.2, 34°.34N×25°.64E, h92km, After ATH*
*ATH **19** 15:04:02.2, 34°.34N×25°.64E, h92km±3km*
ISC 19 15:03:58.0±0.7, 34°.04N±0°.06×25°.68E±0°.06, h17km, n55, σ1§60/63, mb4.0/18, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.13**	**352**	*e*P	**Pb**	**15 04 20.3**	**+1.1**
LAST				*e*S	**Sb**	**15 04 34.6**	**+1.0**
LAST	**Lasithi**	**1.13**	**352**	*e*P	**Pb**	**15 04 20.3**	**+1.1**
LAST				*e*S	**Sb**	**15 04 34.6**	**+1.0**
ZKR	**Zakros**	**1.16**	**22**	*e*P	**Pg**	**15 04 21.6**	**+1.1**
ZKR				*e*S	**Sn**	**15 04 35.4**	**+0.4**
ZKR	**Zakros**	**1.16**	**22**	*e*P	**Pg**	**15 04 21.6**	**+1.1**
ZKR				*e*S	**Sn**	**15 04 35.4**	**+0.4**
NPS	**Neapolis**	**1.22**	**357**	*e*P	**Pb**	**15 04 21.9**	**+1.2**
NPS				*e*S	**Sb**	**15 04 35.8**	**-0.4**
NPS	**Neapolis**	**1.22**	**357**	*e*P	**Pb**	**15 04 21.9**	**+1.2**
NPS				*e*S	**Sb**	**15 04 35.8**	**-0.4**
IDI	**Anoyia**	**1.41**	**333**	Pn	**Pn**	**15 04 23.3**	**+0.3**
	12nm,0.3s,baz=154,slow=16,SNR=18						
VAM	**Vamos**	**1.83**	**319**	*e*P	**Pn**	**15 04 30.5**	**+1.8**
VAM	**Vamos**	**1.83**	**319**	*e*P	**Pn**	**15 04 30.5**	**+1.8**
SANT	**Santorini**	**2.33**	**356**	*e*P	**Pn**	**15 04 36.1**	**+0.4**
SANT	**Santorini**	**2.33**	**356**	*e*P	**Pn**	**15 04 36.1**	**+0.4**
ANKY	**Antikythira Is**	**2.67**	**314**	*e*P	**Pn**	**15 04 42.1**	**+1.8**
ANKY	**Antikythira Is**	**2.67**	**314**	*e*P	**Pn**	**15 04 42.1**	**+1.8**
ARG	**Arkhangelos**	**2.96**	**42**	*e*P	**Pn**	**15 04 46.9**	**+2.7**
ARG	**Arkhangelos**	**2.96**	**42**	*e*P	**Pn**	**15 04 46.9**	**+2.7**
APE	**Apeiranthos**	**3.02**	**358**	*e*P	**Pn**	**15 04 45.4**	**+0.2**
APE	**Apeiranthos**	**3.02**	**358**	*e*P	**Pn**	**15 04 45.4**	**+0.2**
KYTH	**Kithira**	**3.11**	**317**	*e*P	**Pn**	**15 04 47.5**	**+1.1**
KYTH	**Kithira**	**3.11**	**317**	*e*P	**

PYZ	**Puysegur Point**	**1.81**	**35**	⇑PN	Pn	15 22 55.4	-1.1
PYZ				SN	Sn	15 23 18.7	-0.7
APZ	**The Paps**	**2.07**	**67**	PN	Pn	15 22 59.0	-1.3
APZ				AML	AML	15 23 26.9	
APZ				AML	AML	15 23 27.2	
DCZ	**Deep Cove**	**2.57**	**32**	PN	Pn	15 23 06.7	-0.3
WHZ	**Wether Hill Ro**	**2.59**	**48**	⇓PN	Pn	15 23 06.4	-0.9
WHZ				*e*SN	Sn	15 23 36.8	-1.9
SYZ	**Scrubby Hill**	**2.92**	**69**	PN	Pn	15 23 11.5	-0.3
MLZ	**Mavora Lakes**	**3.09**	**43**	PN	Pn	15 23 13.7	-0.6
MSZ	**Milford Sound**	**3.54**	**33**	*e*PN	Pn	15 23 22.2	+1.8
EAZ	**Earnscleugh**	**3.74**	**51**	PN	Pn	15 23 22.6	-0.4
WKZ	**Wanaka**	**3.88**	**44**	PN	Pn	15 23 25.8	+0.7
ODZ	**Otahua Downs**	**4.59**	**57**	PN	Pn	15 23 32.4	-2.3

WEL 19 15:25:56.5±1.0, 47°66S×165°26E, h12km, ML3.5/10, 1C-1D, Error ellipse: s-maj=10.6km s-min=6.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.78**	**34**	⇑PN	Pn	15 26 25.9	-1.1
PYZ				*e*SN	Sn	15 26 49.3	-0.3
APZ	**The Paps**	**2.04**	**67**	PN	Pn	15 26 29.3	-1.3
APZ				*e*SN	Sn	15 26 53.9	-2.1
APZ				AML	AML	15 26 57.8	
DCZ	**Deep Cove**	**2.54**	**32**	PN	Pn	15 26 37.0	-0.5
DCZ				AML	AML	15 27 19.5	
WHZ	**Wether Hill Ro**	**2.56**	**47**	⇓PN	Pn	15 26 36.9	-0.8
WHZ				SN	Sn	15 27 07.6	-1.1
SYZ	**Scrubby Hill**	**2.88**	**69**	PN	Pn	15 26 41.8	-0.3
MLZ	**Mavora Lakes**	**3.06**	**42**	PN	Pn	15 26 44.4	-0.4
TUZ	**Tuapeka**	**3.45**	**62**	AML	AML	15 27 36.3	
MSZ	**Milford Sound**	**3.52**	**33**	PN	Pn	15 26 52.9	+2.0
EAZ	**Earnscleugh**	**3.71**	**51**	PN	Pn	15 26 54.0	+0.5
WKZ	**Wanaka**	**3.85**	**44**	PN	Pn	15 26 56.5	+0.9
JCZ	**Jackson Bay**	**4.34**	**36**	PN	Pn	15 27 04.8	+2.4

MEX 19 15:26:55.6±0.3, 14°45N×92°96W, h25km±45km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.81**	**56**	*i* P	Pb	15 27 08.7	-2.5
THIG				*e*S	Sb	15 27 18.7	-3.0
PCIG		**1.27**	**349**	*i* P	Pn	15 27 15.0	-2.8
PCIG				*e*S	Sn	15 27 30.6	-3.5
HUIG	**Huatulco**	**3.31**	**294**	*i* P	Pn	15 27 44.2	-1.6
HUIG				*e*S	Sn	15 28 21.7	-2.7
VHO	**Vista Hermosa**	**4.47**	**306**	*i* P	Pn	15 28 02.7	+0.6
VHO				*e*S	Sn	15 28 50.4	-3.1

IDC 19 15:40:49.5±1.5, 15°05S×172°45W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/35, mbtmp4.0/4, MS4.0/1, Ms1 4.0/1, ms1mx3.1/34, Error ellipse: s-maj=56.7km s-min=20.9km az=127.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.30**	**30**	Pn	Pb	15 41 15.0	0.0
	51nm,0.3s,baz=179,slow=1.4,SNR=96						
AFI				Sn	Sg	15 41 30.3	-1.3
	503nm,0.3s,baz=174,slow=19,SNR=50						
DZM	**Mont Dzumac**	**21.18**	**248**	LR	LR	15 51 48.9	
	comp=Z,446nm,20.2s,baz=345,slow=31						
URZ	**Urewera**	**24.90**	**200**	P	P	15 46 14.2	+0.1
	4.8nm,0.6s,baz=351,slow=4.5,SNR=12						
H11S2	**WAKE ISLAND Hy**	**39.14**	**328**	T	T	16 30 05.5	
	baz=153						
H11S3	**WAKE ISLAND Hy**	**39.16**	**328**	T	T	16 30 05.5	
	baz=153						
H11S1	**WAKE ISLAND Hy**	**39.16**	**328**	T	T	16 30 04.9	
	baz=153						
H11N3	**WAKE ISLAND Hy**	**40.07**	**329**	T	T	16 31 12.1	
	baz=133						
H11N1	**WAKE ISLAND Hy**	**40.08**	**329**	T	T	16 31 10.4	
	baz=133						
H11N2	**WAKE ISLAND Hy**	**40.09**	**329**	T	T	16 31 12.4	
	baz=133,SNR=3.5						
STKA	**Stephens Creek**	**45.01**	**240**	P	P	15 49 06.5	-0.5
	1.6nm,0.6s,baz=85,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**50.82**	**256**	P	P	15 49 52.3	0.0
	0.2nm,0.4s,baz=91,slow=7.0,SNR=7.4						
ASAR	**Alice Springs**	**51.09**	**252**	P	P	15 49 54.4	0.0
	1.9nm,0.5s,baz=91,slow=7.7,SNR=89						

*IDC **19** 15:55:59.4±0.7, 34°12S×179°68W, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.2/32, mbtmp4.4/9, ML4.8/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/32, Error ellipse: s-maj=27.3km s-min=20.7km az=86.0*

*NEIC **19** 15:56:04.4±0.5, 34°22S×179°48W, h35km, mb4.6/2, Error ellipse: s-maj=15.9km s-min=13.8km az=138.0*

ISC 19 15:56:07.6±2.1, 34°7S±0°1×179°44W±0°10, h70km±17km, n109, σ1s59/106, mb4.5/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.38**	**212**	PN	**Pn**	**15 56 58.6**	**+0.6**
MXZ				*e*SN	**Sn**	**15 57 37.0**	**0.0**
MXZ				T	T	15 59 42.8	
MXZ				T(MAX)		16 01 05.8	
HAZ	**Te Kaha**	**3.78**	**216**	PN	**Pn**	**15 57 03.3**	**-0.1**
HAZ				*e*SN	**Sn**	**15 57 49.6**	**+2.9**
PUZ	**Puketiti**	**3.84**	**208**	*e*PN	**Pn**	**15 57 02.7**	**-1.5**
PUZ				*e*SN	**Sn**	**15 57 50.6**	**+2.5**
CNGZ	**Carnagh Statio**	**4.22**	**206**	PN	**Pn**	**15 57 10.0**	**+0.6**
MYRZ	**Mayor Island**	**4.34**	**233**	*e*PN	**Pn**	**15 57 12.9**	**+1.8**
MWZ	**Matawai**	**4.37**	**213**	PN	**Pn**	**15 57 11.0**	**-0.4**
MWZ				*e*SN	**Sn**	**15 58 01.7**	**+0.6**
KUZ	**Kuaotunu**	**4.43**	**241**	PN	**Pn**	**15 57 13.1**	**+0.7**
OPRZ	**Ohinepanea**	**4.50**	**225**	PN	**Pn**	**15 57 13.9**	**+0.6**
URZ	**Urewera**	**4.50**	**217**	Pn	**Pn**	**15 57 13.3**	**0.0**
URZ				Sn	**Sn**	**15 58 05.4**	**+1.0**
URZ	**Urewera**	**4.50**	**217**	Pn	**Pn**	**15 57 13.3**	**0.0**
	42nm,0.3s,baz=40,slow=4.4,SNR=160						
URZ				Sn	**Sn**	**15 58 05.4**	**+1.0**
	30nm,0.3s,baz=332,slow=22,SNR=9.4						
URZ	**Urewera**	**4.50**	**217**	PN	**Pn**	**15 57 13.0**	**-0.3**
URZ				*e*SN	**Sn**	**15 58 04.8**	**+0.4**
MARZ	**Manawahe**	**4.53**	**223**	*e*PN	**Pn**	**15 57 14.3**	**+0.6**
RIGZ	**Rimuhau**	**4.58**	**209**	PN	**Pn**	**15 57 14.7**	**+0.3**
EDZ	**Edgecumbe**	**4.58**	**221**	*e*PN	**Pn**	**15 57 15.9**	**+1.5**
TGRZ	**Tauranga**	**4.60**	**228**	*e*PN	**Pn**	**15 57 15.8**	**+1.2**
PRGZ	**Paritu Road**	**4.72**	**206**	PN	**Pn**	**15 57 16.0**	**-0.4**
MKRZ	**Makatiti**	**4.76**	**223**	*e*PN	Pn	15 57 19.0	+2.2
KARZ	**Kaharoa**	**4.80**	**225**	PN	**Pn**	**15 57 18.7**	**+1.3**
SNGZ	**Shannon Statio**	**4.82**	**212**	PN	**Pn**	**15 57 17.5**	**-0.1**
RRRZ	**Republican Roa**	**4.87**	**221**	*e*PN	**Pn**	**15 57 19.3**	**+0.9**
KNZ	**Kokohu**	**4.89**	**207**	PN	**Pn**	**15 57 17.2**	**-1.3**
KNZ				*e*SN	**Sn**	**15 58 13.1**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.92**	**205**	PN	**Pn**	**15 57 18.5**	**-0.5**
MKAZ	**Moumakai**	**4.99**	**240**	*e*PN	**Pn**	**15 57 21.4**	**+1.4**
MTAZ	**Motutapu**	**5.04**	**244**	*e*PN	**Pn**	**15 57 22.2**	**+1.6**
TOZ	**Tahuroa Road**	**5.08**	**232**	PN	**Pn**	**15 57 22.7**	**+1.5**
ALRZ	**Allen Road**	**5.13**	**220**	PN	**Pn**	**15 57 22.4**	**+0.5**
WCZ	**Waipu Caves**	**5.23**	**255**	PN	**Pn**	**15 57 23.2**	**0.0**
TLZ	**Tolley Road**	**5.42**	**227**	PN	**Pn**	**15 57 27.0**	**+1.1**
BKZ	**Black Stump Fm**	**5.51**	**215**	*e*PN	**Pn**	**15 57 25.3**	**-1.9**
RAO	**Raoul Island**	**5.59**	**14**	*e*Pg	Pn	15 57 29.7	+1.5
RAO	**Raoul Island**	**5.59**	**14**	LR	LR	15 58 21.4	
	comp=Z,260nm,18.8s,baz=78,slow=28						
MCHZ	**McNeill Hill**	**5.64**	**212**	PN	**Pn**	**15 57 28.1**	**-0.8**
RITZ	**Rihia Road**	**5.69**	**220**	PN	**Pn**	**15 57 30.0**	**+0.4**
OUZ	**Omahuta**	**5.74**	**263**	*e*P	Pn	**15 57 29.3**	**-0.9**
	156nm,0.9s						
OUZ	**Omahuta**	**5.74**	**263**	PN	**Pn**	**15 57 29.4**	**-0.9**
HIZ	**Hauiti**	**5.96**	**229**	*e*PN	**Pn**	**15 57 34.0**	**+0.8**
NGZ	**Ngauruhoe**	**5.97**	**220**	*e*PN	**Pn**	**15 57 33.4**	**-0.1**
PXZ	**Pawanui**	**6.07**	**208**	PN	**Pn**	**15 57 32.1**	**-2.6**
PXZ				*e*SN	**Sn**	**15 58 39.1**	**-3.7**
TSZ	**Takapari Road**	**6.47**	**213**	PN	**Pn**	**15 57 37.5**	**-2.7**
BFZ	**Birch Farm**	**6.87**	**209**	*e*PN	Pn	15 57 42.5	-3.2
TIWZ	**Tintock**	**7.10**	**210**	*e*PN	**Pn**	**15 57 45.7**	**-3.1**
MRZ	**Mangatainoka R**	**7.13**	**212**	PN	**Pn**	**15 57 46.2**	**-3.1**
MRZ				*e*SN	**Sn**	**15 59 03.5**	**-5.3**
HOWZ	**Holdsworth Sta**	**7.36**	**211**	PN	**Pn**	**15 57 49.2**	**-3.1**
MTW	**Mount Morrison**	**7.58**	**210**	*e*PN	Pn	15 57 51.3	-4.0
KIW	**Kapiti Island**	**7.60**	**214**	PN	Pn	15 57 52.3	-3.3
QRZ	**Quartz Range**	**8.81**	**224**	*e*PN	Pn	15 58 07.6	-4.6
THZ	**Tophouse**	**9.26**	**218**	PN	Pn	15 58 13.4	-5.0
THZ				*e*SN	Sn	15 59 55.0	-6.0
CTZ	**Chatham Island**	**9.28**	**167**	*e*PN	**Pn**	**15 58 19.5**	**+1.0**
CTZ				*e*SN	Sn	15 59 54.7	-6.5
KHZ	**Kahutara**	**9.46**	**213**	*e*P	Pn	15 58 17.1	-3.8
	15nm,0.6s						
LTZ	**Lake Taylor**	**10.33**	**216**	*e*PN	Pn	15 58 27.0	-6.0
OXZ	**Oxford**	**10.86**	**215**	*e*PN	Pn	15 58 33.0	-7.1
MQZ	**McQueen's Vall**	**10.87**	**212**	PN	Pn	15 58 33.9	-6.4
MQZ				*e*SN	Sn	16 00 28.0	-12
RPZ	**Rata Peaks**	**11.62**	**216**	*e*P	Pn	15 58 44.5	-6.0
RPZ	**Rata Peaks**	**11.62**	**216**	*e*PN	Pn	15 58 44.3	-6.2
ODZ	**Otahua Downs**	**12.82**	**213**	*e*P	Pn	15 59 03.2	-3.6
ODZ	**Otahua Downs**	**12.82**	**213**	*e*PN	Pn	15 58 60.0	-6.8
DZM	**Mont Dzumac**	**17.66**	**312**	LR	LR	16 05 39.2	
	comp=Z,270nm,18.4s,slow=34						
PPT	**Papeete**	**31.62**	**65**	LR	LR	16 13 30.7	
	comp=Z,132nm,19.3s,baz=251,slow=33						
STKA	**Stephens Creek**	**32.56**	**264**	*e*P	**P**	**16 02 34.4**	**+2.3**
STKA	**Stephens Creek**	**32.56**	**264**	P	**P**	**16 02 32.4**	**+0.3**
	1.6nm,0.8s,baz=113,slow=10,SNR=4.7						
CTA	**Charters Tower**	**33.58**	**287**	P	**P**	**16 02 40.7**	**-0.4**
CTA	**Charters Tower**	**33.58**	**287**	P	**P**	**16 02 40.7**	**-0.4**
	2.8nm,0.6s,baz=111,slow=12,SNR=8.3						
AS31	**Alice Springs**	**41.87**	**272**	*e*P	**P**	**16 03 50.9**	**-0.2**
ASAR	**Alice Springs**	**41.87**	**272**	P	**P**	**16 03 48.6**	**-2.4**
ASAR				PcP	**PcP**	**16 05 45.2**	**-0.5**
ASAR				S	**S**	**16 10 03.3**	**-0.8**
ASAR	**Alice Springs**	**41.87**	**272**	P	**P**	**16 03 48.6**	**-2.4**
	3.5nm,0.7s,baz=115,slow=7.2,SNR=83						
ASAR				PcP	**PcP**	**16 05 45.2**	**-0.5**
	0.5nm,0.4s,baz=113,slow=3.9,SNR=4.2						
ASAR				S	**S**	**16 10 03.3**	**-0.8**
	0.8nm,0.8s,baz=118,slow=15,SNR=7.7						
WRAB	**Tennant Creek**	**43.24**	**278**	*e*P	**P**	**16 04 01.8**	**-0.4**
	7.5nm,0.6s						
WRA	**Warramunga Arr**	**43.25**	**278**	P	**P**	**16 04 00.6**	**-1.7**
WRA				PcP	**PcP**	**16 05 50.9**	**+0.5**
WRA	**Warramunga Arr**	**43.25**	**278**	P	**P**	**16 04 00.6**	**-1.7**
	8.0nm,0.6s,baz=117,slow=7.7,SNR=102						
WRA				PcP	**PcP**	**16 05 50.9**	**+0.5**
	0.4nm,0.7s,baz=117,slow=3.2,SNR=4.8						
QSPA	**South Pole Qui**	**55.41**	**180**	*e*P	P	16 05 40.2	+5.7
	5.9nm,0.8s						
QSPA	**South Pole Qui**	**55.41**	**180**	P	P	16 05 40.3	+5.8
	7.0nm,0.9s,baz=24,slow=2.6,SNR=31						
MAW	**Mawson**	**67.86**	**201**	P	P	16 07 02.1	+4.1
MAW	**Mawson**	**67.86**	**201**	P	P	16 07 02.1	+4.1
	5.7nm,0.8s,baz=122,slow=6.8,SNR=5.7						
H03N3	**Juan Fernandez**	**79.32**	**123**	T	T	17 36 31.0	
	baz=236,SNR=12						
H03N2	**Juan Fernandez**	**79.32**	**123**	T	T	17 36 30.4	
	baz=236,SNR=36						
H03N1	**Juan Fernandez**	**79.34**	**123**	T	T	17 36 30.4	
	baz=236,SNR=57						
MJAR	**Matsushiro Arr**	**81.12**	**327**	P	**P**	**16 08 14.2**	**-1.0**
MJAR	**Matsushiro Arr**	**81.12**	**327**	P	**P**	**16 08 14.2**	**-1.0**
	0.9nm,0.7s,baz=176,slow=6.2,SNR=3.9						
KSRS	**Korea Array**	**86.87**	**321**	P	**P**	**16 08 43.3**	**-1.0**
	0.7nm,0.6s,baz=138,slow=5.9,SNR=5.3						
KSAR	**Wonju Array Be**	**86.88**	**321**	P	**P**	**16 08 43.3**	**-1.1**
PETK	**Petropavlovsk-**	**89.69**	**346**	P	**P**	**16 08 56.4**	**-0.9**
PETK	**Petropavlovsk-**	**89.69**	**346**	P	**P**	**16 08 56.4**	**-0.9**
	3.7nm,0.7s,baz=118,slow=5.1,SNR=11						
MKAR	**Makanchi Array**	**119.56**	**309**	PKP	**PKPdf**	**16 14 48.4**	**-0.6**
MKAR				PKKPbc	**PKKPbc**	**16 25 03.1**	**+2.5**
MKAR	**Makanchi Array**	**119.56**	**309**	PKP	**PKPdf**	**16 14 48.4**	**-0.6**
	0.5nm,0.8s,baz=113,slow=1.5,SNR=5.5						
MKAR				PKKPbc	**PKKPbc**	**16 25 03.1**	**+2.5**
	0.2nm,0.7s,baz=309,slow=1.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**120.39**	**317**	PKP	**PKPdf**	**16 14 49.5**	**-0.7**
ZALV	**Zalesovo Beam**	**120.39**	**317**	PKP	**PKPdf**	**16 14 49.5**	**-0.7**
	0.8nm,0.3s,baz=101,slow=4.6,SNR=2.8						
BVAR	**Borovoye Array**	**128.56**	**314**	PKP	**PKPdf**	**16 15 06.4**	**+0.4**
BVAR	**Borovoye Array**	**128.56**	**314**	PKP	**PKPdf**	**16 15 06.4**	**+0.4**
	0.5nm,0.4s,baz=169,slow=2.2,SNR=7.3						
ARCES	**ARCESS Array B**	**142.50**	**346**	PKP	**PKPdf**	**16 15 30.8**	**-0.6**
ARCES	**ARCESS Array B**	**142.50**	**346**	PKP	**PKPdf**	**16 15 30.8**	**-0.6**
	7.0nm,1.1s,baz=28,slow=2.1,SNR=3.5						
JOF	**Joensuu**	**145.90**	**335**	*e*pkp	**PKPdf**	**16 15 37.6**	**+0.2**
	2.3nm,0.5s						
KBZ	**Khabaz**	**146.29**	**298**	PKPbc	**PKPbc**	**16 15 39.9**	**-0.1**
KBZ	**Khabaz**	**146.29**	**298**	PKPbc	**PKPbc**	**16 15 39.9**	**-0.1**
	3.8nm,1.0s,baz=45,slow=2.9,SNR=3.8						
KAF	**Kangasniemi**	**148.12**	**337**	*e*pkp	**PKPbc**	**16 15 43.8**	**-0.7**
	2.4nm,0.5s						
FINES	**FINESS Array B**	**148.69**	**337**	PKPbc	**PKPbc**	**16 15 45.7**	**-0.3**
FINES	**FINESS Array B**	**148.69**	**337**	PKPbc	**PKPbc**	**16 15 45.7**	**-0.3**
	4.1nm,0.5s,baz=45,slow=2.4,SNR=27						
LIC	**Lamto**	**151.19**	**168**	*e*PKIKP	**PKPbc**	**16 15 57.5**	**+4.0**
	24nm,0.6s						
KIC	**Kosan Boka**	**151.37**	**169**	*e*PKIKP	**PKPbc**	**16 15 57.1**	**+3.2**
	9.2nm,0.5s						
TIC	**Toumodi**	**151.60**	**168**	*e*PKIKP	**PKPbc**	**16 15 57.0**	**+2.5**
DBIC	**Dimbokro**	**151.65**	**169**	PKPbc	**PKPbc**	**16 15 58.0**	**+3.4**
DBIC	**Dimbokro**	**151.65**	**169**	PKPbc	**PKPbc**	**16 15 58.0**	**+3.4**
	1.7nm,0.4s,baz=189,slow=3.5,SNR=5.1						
NB2	**NORSAR Subarra**	**152.77**	**349**	PKP	**PKPbc**	**16 15 56.1**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.77**	**349**	PKPbc	**PKPbc**	**16 15 55.9**	**+0.2**
NOA	**NORSAR Array B**	**152.77**	**349**	PKPbc	**PKPbc**	**16 15 55.9**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=15,slow=4.6,SNR=8.6						
BRTR	**Keskin Array B**	**153.28**	**291**	PKP	**PKPdf**	**16 15 51.0**	**+0.9**
BRTR				PKPbc	**PKPbc**	**16 15 57.5**	**-0.1**
BRTR	**Keskin Array B**	**153.28**	**291**	PKP	**PKPdf**	**16 15 51.0**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=160,slow=3.2,SNR=3.3						
BRTR				PKPbc	**PKPbc**	**16 15 57.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=147,slow=4.2,SNR=4.6						
AKASG	**Malin Array Be**	**153.78**	**316**	PKP	**PKPdf**	**16 15 51.1**	**+0.9**
AKASG				PKPbc	**PKPbc**	**16 15 58.3**	**+0.1**
AKASG	**Malin Array Be**	**153.78**	**316**	PKP	**PKPdf**	**16 15 51.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=59,slow=1.8,SNR=3.2						
AKASG				PKPbc	**PKPbc**	**16 15 58.3**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=50,slow=2.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**158.51**	**183**	PKPab	**PKPab**	**16 16 35.2**	**+2.8**
TORD	**Torodi Ar. Bea**	**158.51**	**183**	PKPab	**PKPab**	**16 16 35.2**	**+2.8**
	comp=Z,1.4nm,0.8s,baz=179,slow=4.0,SNR=6.1						

*IDC **19** 16:01:10.4±1.3, 2°30S×134°50E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/35, mbtmp3.6/6, Error ellipse: s-maj=64.6km s-min=23.6km az=81.0*

*ISCJB **19** 16:01:13.8±0.6, 2°38S±0°08×134°33E±0°06, h30km, mb3.5/5, Error ellipse: s-maj=11.8km s-min=8.0km az=157.5*

*DJA **19** 16:01:14.2±2.5, 2°S±11°×13°4E±°, h18km±27km, M3.7/4, MLv3.7/4*

ISC 19 16:01:14.8±0.8, 2°3S±0°1×134°34E±0°06, h30km, n11, σ1s00/12, mb3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWPI	**Manokwari, Pap**	**1.37**	**347**	P	x	16 01 40.1	
SRPI	**Serui, Papua**	**1.94**	**78**	P	**Pn**	**16 01 46.0**	**+0.2**
BAKI	**Biak**	**2.07**	**59**	P	**Pb**	**16 01 50.0**	**-1.8**
BAKI				S	**Sb**	**16 02 18.0**	**+0.9**
FAKI	**Fak Fak**	**2.18**	**253**	P	**Pn**	**16 01 49.1**	**0.0**
FAKI				S	**Sn**	**16 02 15.8**	**+0.6**
SWI	**Sorong**	**3.38**	**294**	P	**Pn**	**16 02 04.5**	**-1.2**
WRA	**Warramunga Arr**	**17.56**	**180**	P	**Pn**	**16 05 17.3**	**-0.2**
	baz=359,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**21.27**	**181**	P	**P**	**16 05 58.0**	**-0.9**
	2.2nm,0.9s,baz=6.9,slow=12,SNR=15						
SONM	**Songino Array**	**55.56**	**337**	P	**P**	**16 10 48.3**	**+0.7**
	0.2nm,0.6s,baz=149,slow=6.9,SNR=2.6						
MKAR	**Makanchi Array**	**66.83**	**324**	P	**P**	**16 12 05.0**	**+1.1**
	0.3nm,0.5s,baz=119,slow=6.3,SNR=10						
KURBB	**Kurchatov Arra**	**70.90**	**326**	P	**P**	**16 12 30.1**	**+1.0**
	0.2nm,0.4s,baz=122,slow=4.8,SNR=4.3						
ILAR	**Eielson Array**	**87.27**	**25**	P	**P**	**16 13 58.5**	**+0.1**
	0.5nm,0.9s,baz=277,slow=5.5,SNR=3.9						

IDC 19 16:13:10.7±10.0, 17°78S×178°53W, h645km±120km, mb2.4/4, mb1 2.8/4, mb1mx2.6/27, mbtmp3.4/4, Error ellipse: s-maj=118.2km s-min=40.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.54**	**259**	P	P	16 20 28.2	+0.2
	0.1nm,0.5s,baz=96,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**44.72**	**254**	P	P	16 20 29.3	-0.1
	0.2nm,0.6s,baz=89,slow=8.5,SNR=8.4						
ASAR				PcP	PcP	16 21 57.1	-0.1
	0.4nm,0.9s,baz=104,slow=4.2,SNR=4.2						
ILAR	**Eielson Array**	**85.79**	**13**	P	P	16 24 43.0	-0.2
	0.5nm,1.1s,baz=206,slow=8.0,SNR=4.8						
TXAR	**Lajitas Array**	**86.02**	**58**	P	P	16 24 45.6	+0.3
	0.4nm,0.8s,baz=247,slow=6.5,SNR=3.8						

ISC 19 16:30:55.8±1.4, 8°17S±0°05×107°33E±0°05, h62km, n16, σ1s39/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.77**	**39**	P	**Pn**	**16 31 09.0**	**-2.1**
CISI	**Cisompet, Garu**	**0.77**	**39**	P	**Pn**	**16 31 08.3**	**-2.9**
	baz=0.8,SNR=383						
CNJI	**Cibinong**	**0.87**	**347**	P	**Pn**	**16 31 10.6**	**-1.7**
CMJI	**Cimerak**	**1.17**	**71**	P	**Pn**	**16 31 14.6**	**-1.6**
LEM	**Lembang**	**1.36**	**12**	P	**Pn**	**16 31 18.7**	**-0.1**
LEM	**Lembang**	**1.36**	**12**	P	**Pn**	**16 31 18.5**	**-0.3**
	baz=1.4,SNR=70						
LEM				S	**Sn**	**16 31 38.5**	**+2.4**
	baz=1.4,SNR=4.6						
SKJI	**Sukabumi**	**1.38**	**326**	P	**Pn**	**16 31 18.6**	**-0.4**
DBJI	**Dramaga**	**1.70**	**340**	P	**Pn**	**16 31 23.3**	**0.0**
KPJI	**Karang Pucung**	**1.79**	**63**	P	**Pn**	**16 31 24.1**	**-0.4**
CGJI	**Cibinong**	**2.24**	**313**	P	**Pn**	**16 31 30.0**	**-0.5**
BJII	**Banjamegara**	**2.50**	**71**	P	x	16 31 33.6	
XMI	**Christmas Isla**	**2.79**	**215**	P	**Pn**	**16 31 38.3**	**+0.2**
	baz=2.8,SNR=5.6						
XMIS	**Christmas Isla**	**2.83**	**216**	P	**Pn**	**16 31 38.5**	**-0.2**
	baz=2.8,SNR=14						
XMIS				S	**Sn**	**16 32 10.8**	**-0.9**
	baz=2.8,SNR=5.0						
UGM	**Wanagama**	**3.17**	**86**	P	**Pn**	**16 31 42.8**	**-0.5**
	baz=3.2,SNR=9.7						
SMRI	**Semarang**	**3.28**	**70**	P	**Pn**	**16 31 45.7**	**+0.9**
	baz=3.3,SNR=6.2						
JAGI	**Jajag, Banyuwa**	**6.76**	**93**	P	**Pn**	**16 32 33.2**	**+0.7**
	baz=8.8,SNR=11						

IDC 19 16:51:53.9±8.1, 21°20S×170°08E, h149km±42km, mb3.2/3, mb1 3.4/4, mb1mx3.1/18, mbtmp3.7/4, Error ellipse: s-maj=101.9km s-min=73.2km az=165.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.49**	**255**	P	Pn	16 52 47.6	0.0
	4.1nm,0.3s,baz=90,slow=20,SNR=91						
DZM				S	Sn	16 53 29.6	+0.3
	2.3nm,0.3s,baz=358,slow=22,SNR=3.8						
NOUC	**Port Laguerre**	**3.63**	**255**	*e*P	Pn	16 52 49.6	+0.4
NOUC				*e*S	Sn	16 53 36.2	+4.0
STKA	**Stephens Creek**	**27.54**	**241**	P	P	16 57 27.4	+0.7
	1.3nm,1.0s,baz=102,slow=9.3,SNR=1.8						
WRA	**Warramunga Arr**	**33.44**	**266**	P	P	16 58 18.6	-0.2
	0.3nm,0.3s,baz=97,slow=8.2,SNR=21						
ASAR	**Alice Springs**	**33.48**	**259**	P	P	16 58 18.8	-0.3
	0.4nm,0.5s,baz=96,slow=9.4,SNR=9.3						

MEX 19 17:17:37.4±0.3, 15°34N×92°84W, h102km±5km, MD4.0, Mexico-Guatemala border region

| Code | Station Name | Δ° | AZ° | Phase

SIV Lg Lg 17 34 57.0
comp=Z,2.3nm,0.3s,baz=120,slow=20,SNR=2.2
SIV LR LR 17 37 02.9
comp=Z,2µm,18.2s,baz=247,slow=43
PLCA Paso Flores 13.67 195 *e*Pn **Pn 17 31 25.6 -2.1**
comp=Z,5.8nm,0.9s
PLCA Lg Lg 17 35 30.4
PLCA Paso Flores 13.67 195 Pn **Pn 17 31 25.9 -1.8**
comp=Z,0.5nm,0.3s,baz=9.0,slow=13,SNR=18
PLCA Lg Lg 17 35 30.4
comp=Z,3.3nm,0.3s,baz=338,slow=17,SNR=2.8
PLCA LR LR 17 36 33.3
comp=Z,1µm,18.6s,baz=11,slow=37
BB16B Bebedouro 17.05 71⇑ *e*P **Pn 17 32 08.8 -3.3**
BB16B *i* 17 32 10.6
BB16B *i* 17 32 15.7
BB16B *i* 17 32 19.8
BB16B *i* 17 32 32.4
BB16B *i* 17 32 45.5
NNA Nana 18.61 324 P **P 17 32 30.8 -0.4**
comp=Z,104nm,1.3s
SAML Samuel 18.71 8 *e*P **P 17 32 30.9 -1.2**
comp=Z,2.0nm,0.6s
BDFB Brasilia 20.39 58 P Pn 17 32 52.5 -0.3
BDFB Lg Lg 17 39 10.1
BDFB Brasilia 20.39 58 P Pn 17 32 52.5 -0.3
comp=Z,28nm,1.0s,baz=226,slow=9.2,SNR=17
BDFB Lg Lg 17 39 10.1
comp=Z,79nm,0.9s,baz=311,slow=19,SNR=2.3
BDFB LR LR 17 42 37.6
comp=Z,462nm,19.9s,baz=230,slow=42
ATAH Atahualpa 23.55 327 P **P 17 33 25.6 +1.2**
ATAH Atahualpa 23.55 327 P **P 17 33 25.6 +1.2**
comp=Z,1.9nm,0.4s,baz=120,slow=10,SNR=4.1
USHA Ushuaia 27.29 183 P **P 17 33 57.6 0.0**
USHA Ushuaia 27.29 183 P **P 17 33 57.6 0.0**
comp=Z,21nm,0.8s,baz=302,slow=4.8,SNR=7.1
USHA LR LR 17 45 36.1
comp=Z,2µm,20.0s,baz=335,slow=38
PTGA Pitinga 27.30 13 *e*P **P 17 33 55.8 -2.2**
comp=Z,20nm,1.0s
PTGA *e*pP **pP 17 34 03.0 -3.3**
PTGA Pitinga 27.30 13 P **P 17 33 59.1 +1.1**
comp=Z,7.0nm,0.8s,baz=195,slow=9.4,SNR=12
OTAV Otavalo 30.19 334 P **P 17 34 26.1 +1.8**
comp=Z,24nm,1.1s
OTAV *e*pP **pP 17 34 33.6 +1.0**
ROSC El Rosal 33.27 345 LR LR 17 48 48.6
comp=Z,670nm,19.6s,baz=220,slow=37
RCBR Riachuelo 35.76 58 *e*P **P 17 35 13.1 +0.6**
comp=Z,71nm,1.3s
SDV Santo Domingo 36.55 352 P **P 17 35 20.7 +1.3**
comp=Z,30nm,1.0s
PMSA Palmer Station 37.22 179 P **P 17 35 24.9 +0.6**
GRGR Grenville 39.69 6 *e*P **P 17 35 45.5 -0.1**
comp=Z,253nm,1.0s
GRGR *e*pP **pP 17 35 52.8 -1.3**
JTS JuntasAbangare 41.95 331 *e*P **P 17 36 05.0 +0.8**
comp=Z,100nm,1.4s
JTS *e*pP **pP 17 36 13.4 +0.6**
JTS JuntasAbangare 41.95 331 LR LR 17 53 34.8
comp=Z,308nm,19.6s,baz=150,slow=36
FDF Fort de France 42.31 7 *e*P **P 17 36 05.1 -2.1**
FDF *e**PP **pP 17 36 13.4 -2.4**
FDF pmax pmax
comp=Z,167nm,1.0s
FDF Fort de France 42.31 7 *e*P **P 17 36 05.1 -2.1**
comp=Z,167nm,1.0s
FDF *e*pP **pP 17 36 13.4 -2.4**
ANWB Willy Bob 45.16 6 P **P 17 36 29.6 -0.4**
CRPR Cabo Rojo, PR 45.34 358 *e*P **P 17 36 30.5 -0.9**
comp=Z,42nm,0.9s
CRPR *e*pP **pP 17 36 37.7 -2.3**
OBIP Obispado Ponce 45.36 359 *e*P P 17 36 26.9 -4.7
comp=Z,47nm,0.9s
OBIP *e*pP pP 17 36 37.3 -2.9
CELP Cerrillos 45.39 359 *e*P **P 17 36 29.8 -2.1**
CELP *e*pP **pP 17 36 37.2 -3.3**
CBYP Canovanas 45.58 0 *e*P **P 17 36 30.5 -3.0**
comp=Z,86nm,1.4s
CBYP *e*pP **pP 17 36 38.2 -3.8**
LRS Lares 45.61 359 *e*P **P 17 36 31.3 -2.3**
LRS *e*pP **pP 17 36 39.0 -3.2**
TGUH Tegucigalpa,Un 46.31 331 *e*P **P 17 36 38.2 -0.9**
comp=Z,204nm,1.3s
TGUH *e*pP **pP 17 36 47.0 -0.7**
MTDJ Mount Denham 46.92 345 P **P 17 36 44.6 +0.6**
comp=Z,180nm,1.6s
MTDJ *e*pP **pP 17 36 52.6 0.0**
TEIG Tepich 52.24 333 *e*P **P 17 37 22.7 -1.7**
comp=Z,183nm,1.8s
TEIG *e*pP **pP 17 37 31.3 -1.8**
VNA1 Neumayer--Stat 53.65 160 P **P 17 37 34.9 +0.7**
VNA2 Neumayer--Watz 54.02 160 P **P 17 37 37.2 +0.3**
SNAA Sanae 55.65 160 *e*P **P 17 37 48.4 -0.5**
comp=Z,130nm,1.3s
SNAA *e*pP **pP 17 37 59.2 +1.6**
TIGA Tifton 61.08 343 P **P 17 38 29.8 +2.7**
comp=Z,136nm,1.6s
NHSC New Hope 61.87 346 *e*P **P 17 38 33.4 +1.0**
comp=Z,148nm,1.2s
NHSC *e*pP **pP 17 38 40.8 -0.4**
QSPA South Pole Qui 62.64 180 *e*P **P 17 38 37.7 +0.3**
comp=Z,34nm,0.8s
QSPA *e*pP **pP 17 38 47.9 +1.7**
034A Hebbronville 62.82 327⇑ P **P 17 38 39.9 +1.0**
baz=63
934A Benavides 63.19 328⇓ P **P 17 38 43.6 +2.3**
baz=64
835A Beeville 63.45 329⇑ P **P 17 38 44.9 +1.8**
baz=64
933A Laredo 63.56 327⇑ P **P 17 38 45.4 +1.5**
baz=64
834A Tilden 63.65 328⇑ P **P 17 38 45.9 +1.6**
baz=64
735A Kenedy 63.92 329⇑ P **P 17 38 47.1 +1.0**
baz=64
HKT Hockley 63.98 331 *e*P **P 17 38 47.0 +0.6**
HKT *e**PP **pP 17 38 54.4 -0.9**
HKT pmax pmax
comp=Z,73nm,1.8s
HKT Hockley 63.98 331 *e*P **P 17 38 47.0 +0.6**
comp=Z,73nm,1.8s
HKT *e*pP **pP 17 38 54.4 -0.9**
KMSC Kings Mountain 64.08 346 *e*P **P 17 38 46.0 -1.0**
comp=Z,2.7nm,0.3s
KMSC *e*pP **pP 17 38 54.9 -1.0**
KMSC Kings Mountain 64.08 346⇑ P **P 17 38 47.8 +0.8**
baz=64
833A Chaparral WMA, 64.22 327⇑ P **P 17 38 48.8 +0.7**
baz=64,SNR=7.2
734A La Parita Cree 64.26 328⇓ P **P 17 38 49.2 +0.8**
baz=65
635A Leesville 64.36 329⇑ P **P 17 38 50.1 +1.1**
baz=65
832A Faith Ranch, C 64.46 327⇓ P **P 17 38 50.8 +1.0**
baz=65
733A Divot King Ran 64.50 328⇑ P **P 17 38 50.9 +0.9**
baz=65
732A Laxson Ranch, 64.83 327⇑ P **P 17 38 52.5 +0.4**
baz=65,SNR=6.4
TKL Tuckaleechee C 65.13 344 *e*P **P 17 38 52.2 -1.8**
TKL *e*pP **pP 17 39 00.8 -2.1**
TKL Tuckaleechee C 65.13 344 LR LR 18 10 06.0
comp=Z,248nm,18.1s,baz=160,slow=39
SWET Sewanee 65.28 342 *e*P **P 17 38 53.8 -1.1**
comp=Z,33nm,1.0s
SWET *e*pP **pP 17 39 01.6 -2.2**
632A Uvalde 65.39 328⇓ P **P 17 38 56.7 +0.9**
baz=66
533A Kerrville 65.52 329⇓ P **P 17 38 57.2 +0.7**
baz=66
OXF Oxford 65.66 339 *e*P **P 17 38 56.5 -0.8**
OXF *e**PP **pP 17 39 03.8 -2.4**
OXF pmax pmax
comp=Z,72nm,1.0s
OXF Oxford 65.66 339 *e*P **P 17 38 56.5 -0.8**
comp=Z,72nm,1.0s
OXF *e*pP **pP 17 39 03.8 -2.4**
631A Perdido Creek 65.69 327⇓ P **P 17 38 57.9 +0.2**
baz=66,SNR=7.5
434A Burnet 65.79 330⇓ P **P 17 38 59.1 +0.7**
baz=66
VWCC Virginia Weste 65.83 348 *e*P **P 17 38 58.5 0.0**
VWCC *e*pP **pP 17 39 06.3 -1.1**
BLA Blacksburg 65.89 347 *e*P **P 17 38 58.1 -0.7**
BLA *e**PP **pP 17 39 06.9 -0.8**
BLA pmax pmax
comp=Z,26nm,1.3s
BLA Blacksburg 65.89 347 *e*P **P 17 38 58.1 -0.7**
comp=Z,26nm,1.3s
BLA *e*pP **pP 17 39 06.9 -0.8**
JSRW J. Sargeant Re 65.90 350 *e*P **P 17 38 59.7 +0.9**
JSRW *e*pP **pP 17 39 06.9 -0.8**
532A Rocksprings 65.97 328⇓ P **P 17 39 00.2 +0.7**
baz=66,SNR=5.8
433A Art 66.12 329⇑ P **P 17 39 00.6 +0.1**
baz=66,SNR=6.7
JCT Junction City 66.21 328 *e*P **P 17 39 00.5 -0.6**
JCT *e**PP **pP 17 39 09.1 -0.9**
JCT pmax pmax
comp=Z,40nm,1.0s
JCT Junction City 66.21 328 *e*P **P 17 39 00.5 -0.6**
comp=Z,40nm,1.0s
JCT *e*pP **pP 17 39 09.1 -0.9**
JCT Junction City 66.21 328⇓ P **P 17 39 01.6 +0.5**
baz=66
334A Lometa 66.22 330⇓ P **P 17 39 02.2 +1.1**
baz=66
531A Rocksprings 66.30 327⇓ P **P 17 39 02.5 +0.9**
baz=67
WHTX Lake Whitney 66.44 331 *e*P **P 17 39 02.9 +0.4**
comp=Z,14nm,0.8s
WHTX *e*pP **pP 17 39 10.2 -1.1**
WHTX Lake Whitney 66.44 331⇓ P **P 17 39 03.6 +1.2**
baz=67
432A Menard 66.54 328⇑ P **P 17 39 04.1 +0.9**
baz=67
333A Richland Sprin 66.55 329⇑ P **P 17 39 03.7 +0.5**
baz=67,SNR=5.6
530A J-C Ranch, Com 66.67 327⇓ P **P 17 39 04.8 +0.8**
baz=67,SNR=6.0
234A Clairette 66.75 330⇓ P **P 17 39 05.1 +0.6**
baz=67
431A Sonora 66.76 328⇓ P **P 17 39 05.4 +0.8**
baz=67
UALR University of 66.89 336 *e*P **P 17 39 04.1 -1.2**
comp=Z,24nm,1.0s
UALR *e*pP **pP 17 39 12.7 -1.4**
628A Black Gap, Mar 66.90 325⇓ P **P 17 39 06.2 +0.7**
baz=67,SNR=7.4
135A Vickery Place, 66.91 331⇓ P **P 17 39 05.4 -0.1**
baz=67
332A Millersview 66.94 329⇓ P **P 17 39 06.1 +0.4**
baz=67,SNR=6.7
233A Rising Star 67.10 330⇑ P **P 17 39 07.5 +0.8**
baz=67
627A Terlingua Ranc 67.13 325⇓ P **P 17 39 07.9 +0.8**
baz=67
MIAR Mount Ida 67.13 335 *e*P **P 17 39 06.1 -0.6**
MIAR *e**PP **pP 17 39 14.1 -1.6**
MIAR pmax pmax
comp=Z,27nm,1.1s
MIAR Mount Ida 67.13 335 *e*P **P 17 39 06.1 -0.6**
comp=Z,27nm,1.1s
MIAR *e*pP **pP 17 39 14.1 -1.6**
430A Baggett Ranch, 67.15 327⇑ P **P 17 39 08.2 +1.1**
baz=67
TXAR Lajitas Array 67.17 325 P **P 17 39 06.4 -0.9**
TXAR Lajitas Array 67.17 325 P **P 17 39 06.4 -0.9**
comp=Z,1.3nm,0.9s,baz=150,slow=8.6,SNR=10
UTMT University of 67.17 340 *e*P **P 17 39 07.3 +0.3**
comp=Z,199nm,1.0s
UTMT *e*pP **pP 17 39 13.8 -2.1**
331A San Angelo 67.20 328⇓ P **P 17 39 08.5 +1.2**
baz=68
134A White-Moore Ra 67.21 331⇓ P **P 17 39 08.8 +1.4**
baz=68
GLAT Glass 67.24 340 *e*P **P 17 39 06.7 -0.7**
GLAT *e*pP **pP 17 39 15.1 -1.2**
232A Coleman 67.33 329⇑ P **P 17 39 08.6 +0.4**
baz=68
429A Davenport Ranc 67.33 327⇑ P **P 17 39 08.8 +0.5**
baz=68,SNR=7.9
528A Cox Ranch, San 67.40 326⇑ P **P 17 39 09.0 +0.3**
baz=68,SNR=5.8
Z35A Perchaven, San 67.51 332⇓ P **P 17 39 10.0 +0.8**
baz=68
626A Big Bend Ranch 67.59 324⇑ P **P 17 39 10.6 +0.7**
baz=68,SNR=17
133A Hamilton Ranch 67.61 330⇓ P **P 17 39 10.8 +0.9**
baz=68
330A Mertzon 67.63 328⇑ P **P 17 39 10.7 +0.6**
baz=68
LIC Lamto 67.65 70 *e*P P 17 39 16.8 +6.3
comp=Z,21nm,0.9s,baz=252
231A Bronte 67.67 329⇑ P **P 17 39 11.1 +0.8**
baz=68
PARMO Parma 67.74 339 *e*P **P 17 39 10.0 -0.6**
PARMO *e*pP **pP 17 39 18.0 -1.5**
527A Woodward Ranch 67.80 325⇓ P **P 17 39 11.4 +0.1**
baz=68,SNR=5.9
428A Kincaid Ranch, 67.81 326⇑ P **P 17 39 12.3 +1.0**
baz=68
Z34A Collier Ranch, 67.83 331⇓ P **P 17 39 11.4 +0.2**
baz=68
ABTX Abilene, Hawle 67.94 330 *e*P **P 17 39 11.9 -0.1**
comp=Z,69nm,1.3s
ABTX *e*pP **pP 17 39 20.0 -1.0**
ABTX Abilene, Hawle 67.94 330⇑ P **P 17 39 12.5 +0.5**
baz=68
526A Mary Lane Ranc 67.97 325⇓ P **P 17 39 12.8 +0.3**
baz=68,SNR=9.1
230A Sterling City 68.00 328⇑ P **P 17 39 13.3 +0.9**
baz=68
DBIC Dimbokro 68.03 70 *e*P **P 17 39 11.8 -1.1**
comp=Z,15nm,0.9s
DBIC Dimbokro 68.03 70 P **P 17 39 11.8 -1.1**
comp=Z,4.2nm,0.8s,baz=195,slow=8.1,SNR=6.2
DBIC LR LR 18 05 22.7
comp=Z,404nm,20.6s,baz=218,slow=33
Z33A Whitaker Ranch 68.12 331⇑ P **P 17 39 13.6 +0.5**
baz=68
WCI Wyandotte Cave 68.21 343 *e*P **P 17 39 12.6 -0.9**
WCI *e**PP **pP 17 39 20.1 -2.3**
WCI pmax pmax
comp=Z,12nm,0.7s
WCI Wyandotte Cave 68.21 343 *e*P **P 17 39 12.6 -0.9**
comp=Z,12nm,0.7s
WCI *e*pP **pP 17 39 20.1 -2.3**
427A Hayter Ranch, 68.26 326⇓ P **P 17 39 14.5 +0.4**
baz=69
Y34A Reagan Ranch, 68.26 332⇑ P **P 17 39 14.5 +0.6**
baz=69
328A Wristen Ranch, 68.40 326⇑ P **P 17 39 15.5 +0.5**
baz=69,SNR=9.1
426A McDonald Obser 68.43 325⇓ P **P 17 39 16.3 +0.9**
baz=69,SNR=6.6
130A Snyder 68.52 329⇑ P **P 17 39 15.7 0.0**
baz=69
Z31A Sharp Cattle R 68.75 330⇑ P **P 17 39 17.2 +0.2**
baz=69,SNR=5.7
X34A Smith Ranch, M 68.85 332⇓ P **P 17 39 17.9 +0.3**
baz=69,SNR=5.6
228A UT Block 9, Go 68.90 327⇑ P **P 17 39 18.2 +0.1**
baz=69
326A Caldwell Ranch 68.93 326⇓ P **P 17 39 18.7 +0.4**
baz=69
425A Indio Mountain 69.02 324⇓ P **P 17 39 19.3 +0.4**
baz=69,SNR=6.1
Y32A R-V Farms, Ver 69.02 331⇑ P **P 17 39 19.2 +0.5**
baz=69
227A Bennet, Jal 69.15 326⇓ P **P 17 39 20.3 +0.7**
baz=69
TUL1 Tulsa 69.17 334 *e*P **P 17 39 17.4 -2.2**
comp=Z,53nm,1.2s
TUL1 *e*pP **pP 17 39 27.3 -1.2**
Z30A Sanderson Ranc 69.17 329⇑ P **P 17 39 19.6 -0.1**
baz=70,SNR=5.5
128A Castleberry Fa 69.26 327⇑ P **P 17 39 20.5 +0.1**
baz=70,SNR=6.0
X32A Elmer 69.31 331⇑ P **P 17 39 21.3 +0.8**
baz=70
ACSO Alum Creek Sta 69.32 346 *e*P **P 17 39 19.6 -0.8**
comp=Z,11nm,0.9s
ACSO *e*pP **pP 17 39 27.5 -1.9**
Y31A Rekieta Farm, 69.35 330⇓ P **P 17 39 21.2 +0.4**
baz=70,SNR=5.9
WMOK Wichita Mounta 69.36 331 *e*P **P 17 39 20.0 -0.8**
WMOK *e**PP **pP 17 39 28.0 -1.8**
WMOK pmax pmax
comp=Z,26nm,1.3s
WMOK Wichita Mounta 69.36 331 *e*P **P 17 39 20.0 -0.8**
comp=Z,26nm,1.3s
WMOK *e*pP **pP 17 39 28.0 -1.8**
W34A Bridge Creek, 69.37 332⇓ P **P 17 39 21.3 +0.4**
baz=70
Z29A Hungry Hill Ra 69.42 328⇑ P **P 17 39 21.9 +0.6**
baz=70
W33A Caddo, Fort Co 69.59 332⇓ P **P 17 39 23.0 +0.9**
baz=70,SNR=8.9
226B Tecolote Peak, 69.64 326⇑ P **P 17 39 23.4 +0.7**
baz=70,SNR=5.4
127A Arkansas Junct 69.72 327⇑ P **P 17 39 24.1 +0.9**
baz=70
Z28A Tucker Farm, M 69.76 328⇓ P **P 17 39 23.8 +0.3**
baz=70
X31A McDonald Ranch 69.79 330⇓ P **P 17 39 23.6 +0.2**
baz=70,SNR=7.8
GDL2 Guadalupe Moun 69.83 326 *e*P **P 17 39 23.9 -0.1**
comp=Z,36nm,0.8s
GDL2 *e*pP **pP 17 39 32.4 -0.5**
SYO Syowa Base 69.86 158⇓/⇑ P **P 17 39 22.0 -1.4**
W32A Sentinel 69.89 331⇓ P **P 17 39 24.5 +0.5**
baz=70,SNR=7.0
MNTX Cornudas Mount 69.95 325 *e*P **P 17 39 23.6 -0.9**
comp=Z,18nm,1.2s
MNTX *e*pP **pP 17 39 31.7 -1.8**
225A Deer Hill, Car 69.99 325⇑ P **P 17 39 25.2 +0.2**
baz=70,SNR=6.2
126A Clayton Basin, 70.03 326⇑ P **P 17 39 25.1 0.0**
baz=70
X30A Coker Ranch, T 70.03 330⇑ P **P 17 39 25.4 +0.5**
baz=70
BINY Binghamton 70.06 352 *e*P **P 17 39 25.3 +0.4**
comp=Z,42nm,1.2s
BINY *e*pP **pP 17 39 33.1 -0.8**
V33A Lossen Ranch, 70.09 332⇓ P **P 17 39 25.7 +0.5**
baz=70,SNR=5.8
ALLY Alegheny Colle 70.14 349 *e*P **P 17 39 25.4 0.0**
comp=Z,50nm,0.9s
ALLY *e*pP **pP 17 39 33.4 -1.0**
Z27A Tatum 70.18 327⇓ P **P 17 39 25.7 -0.3**
baz=70,SNR=5.6
Y28A McKinney Farm, 70.21 328⇑ P **P 17 39 26.1 0.0**
baz=70
W31A Holland Ranch, 70.24 331⇓ P **P 17 39 26.9 +0.6**
baz=71
V32A Arapaho 70.31 332⇑ P **P 17 39 27.2 +0.5**
baz=71
125A Gardner Draw, 70.35 326⇓ P **P 17 39 27.3 +0.3**
baz=71
SFIN Scholer Farm 70.44 343 *e*P **P 17 39 25.4 -1.9**
comp=Z,8.7nm,0.7s
SFIN *e*pP **pP 17 39 33.6 -2.6**
SFIN Scholer Farm 70.44 343⇑ P **P 17 39 26.6 -0.7**
baz=71
MSTX Muleshoe 70.50 328 *e*P **P 17 39 27.5 -0.5**
comp=Z,70nm,1.3s
MSTX *e*pP **pP 17 39 35.9 -1.1**
MSTX Muleshoe 70.50 328⇓ P **P 17 39 28.2 +0.2**
baz=71
Z26A Caprock 70.51 327⇓ P **P 17 39 28.1 0.0**
baz=71
ERPA Erie 70.57 349 *e*P **P 17 39 27.6 -0.4**
comp=Z,51nm,0.8s
ERPA *e*pP **pP 17 39 35.7 -1.3**
Y27A Causey 70.62 328⇑ P **P 17 39 28.4 -0.3**
baz=71,SNR=5.3
V31A Spring Creek L 70.70 331⇑ P **P 17 39 29.3 +0.3**
baz=71,SNR=5.5
AMTX Amarillo 70.76 329⇓ P **P 17 39 29.9 +0.4**
baz=71
Z25A Roswell 70.88 326⇑ P **P 17 39 30.7 +0.4**
baz=71
W29A Amraillo 70.94 330⇑ P **P 17 39 30.9 +0.3**
baz=71
Y26A Elida 70.97 327⇑ P **P 17 39 31.5 +0.6**
baz=71
V30A Spur Ranch, Mi 71.06 331⇑ P **P 17 39 32.2 +0.9**
baz=71
T33A Patterson Ranc 71.16 333⇑ P **P 17 39 32.4 +0.7**
baz=72,SNR=6.1
Z24A Sheeppen Canyo 71.24 326⇑ P **P 17 39 33.5 +0.9**
baz=72
VNDA Vanda 71.36 190 P **P 17 39 32.6 +0.2**
VNDA *e*pP **pP 17 39 44.2 +2.7**
VNDA Vanda 71.36 190 P **P 17 39 32.6 +0.2**
comp=Z,11nm,1.0s,baz=143,slow=5.7,SNR=15
VNDA LR LR 18 09 35.1
comp=Z,118nm,18.4s,baz=146,slow=35
Y25A Mesa, Roswell 71.39 327⇓ P **P 17 39 34.4 +1.0**
baz=72
X26A CR and CF Fran 71.47 328⇓ P **P 17 39 34.9 +1.0**
baz=72
T32A Huddler Ranch, 71.52 333⇓ P **P 17 39 34.7 +0.8**
baz=72
W27A Bowe Ranch, En 71.54 328⇓ P **P 17 39 34.7 +0.5**
baz=72
U30A WK&E Inc. Balk 71.69 331⇑ P **P 17 39 35.7 +0.7**
baz=72
T31A Randall Ranch, 71.76 332⇓ P **P 17 39 36.1 +0.7**
baz=72,SNR=5.7
319A Douglas 71.77 322⇓ P **P 17 39 35.9 +0.2**
baz=72
121A Cookes Peak, D 71.85 324 *e*P **P 17 39 35.9 -0.3**
comp=Z,32nm,1.2s
121A Cookes Peak, D 71.85 324⇓ P **P 17 39 36.7 +0.5**
baz=72
X25A Clemmons Ranch 71.86 327⇓ P **P 17 39 36.6 +0.4**
baz=72
W26A Owens Ranch, T 71.89 328⇑ P **P 17 39 37.0 +0.6**
baz=72,SNR=5.5
Z22A Elephant Butte 71.99 325⇑ P **P 17 39 37.2 +0.2**
baz=72
Y23A Lovelace Mesa, 72.07 326⇓ P **P 17 39 38.1 +0.6**
baz=72,SNR=5.5
R33A Olander Ranch, 72.11 334⇓ P **P 17 39 38.2 +0.7**
baz=72
S31A Mullinville 72.12 332⇑ P **P 17 39 38.1 +0.5**
baz=72
U28A Mallet 72.25 330⇑ P **P 17 39 39.3 +0.9**
baz=73
KSU1 Kansas State U 72.28 335 *e*P **P 17 39 37.7 -0.8**
comp=Z,46nm,0.9s
KSU1 *e*pP **pP 17 39 45.9 -1.5**
KSU1 Kansas State U 72.28 335⇑ P **P 17 39 38.7 +0.2**
baz=73,SNR=5.3
LONY Lake Ozonia 72.29 353 *e*P **P 17 39 38.0 -0.4**
comp=Z,21nm,1.1s
W25A X Bar L Ranch, 72.32 328⇑ P **P 17 39 39.4 +0.4**
baz=73,SNR=5.7
V26A Tequesquite Ra 72.48 328⇑ P **P 17 39 39.9 +0.1**
baz=73
R32A Long Quarter, 72.50 333⇑ P **P 17 39 40.4 +0.6**
baz=73
BNM Barren Site 72.53 325 *e*P **P 17 39 40.5 +0.2**
comp=Z,20nm,1.4s
S30A Montezuma 72.55 332⇑ P **P 17 39 40.6 +0.5**
baz=73
U27A Thompson Grove 72.55 329⇑ P **P 17 39 40.6 +0.3**
baz=73
X23A Hourglass Bar 72.65 326⇑ P **P 17 39 42.3 +1.3**
baz=73,SNR=10
Q33A Connelly Farm, 72.66 334⇑ P **P 17 39 41.4 +0.7**
baz=73,SNR=5.6
LPM Los Pinos Moun 72.66 326 *e*P **P 17 39 41.9 +0.8**
comp=Z,6.3nm,1.0s
LPM *e*pP **pP 17 39 50.1 0.0**
R31A Burdett 72.71 333⇓ P **P 17 39 42.0 +0.9**
baz=73
LENM Lemitar 72.72 325 *e*P **P 17 39 40.3 -1.1**
comp=Z,8.8nm,1.0s
LENM *e*pP **pP 17 39 50.5 +0.1**
W24A Lazy 6 Ranch, 72.77 327⇑ P **P 17 39 42.1 +0.4**
baz=73
S29A Ulysses 72.81 331⇑ P **P 17 39 42.3 +0.6**
baz=73
T28A Walsh 72.82 330⇑ P **P 17 39 42.3 +0.5**
baz=73
V25A Rancho No Teng 72.90 328⇑ P **P 17 39 42.8 +0.3**
baz=73
Q32A Meitler Ranch, 72.93 334⇑ P **P 17 39 42.7 +0.4**
baz=73,SNR=6.4
U26A Atchley Ranch, 72.95 329⇓ P **P 17 39 43.0 +0.2**
baz=73
LAZ Ladron 72.99 325 *e*P **P 17 39 41.4 -1.6**
comp=Z,8.0nm,0.6s
R30A Dighton 73.01 332⇓ P **P 17 39 43.4 +0.5**
baz=73
SADO Sadowa 73.02 350 P **P 17 39 42.4 -0.3**

SADO **Sadowa** 73.02 350 P P 17 39 42.4 -0.3
comp=Z,4.0nm,0.7s,baz=109,slow=7.7,SNR=3.4
SADO LR LR 18 13 44.2
comp=Z,235nm,20.3s,baz=194,slow=37
T27A Campo 73.04 330 ⇓P P 17 39 43.6 +0.4
baz=73,SNR=6.4
ANMO Albuquerque 73.08 326 eP P 17 39 43.9 +0.4
comp=Z,22nm,1.2s
ANMO epP pP 17 39 52.4 -0.1
W23A Werner Place, 73.09 326 ⇓P P 17 39 44.5 +0.9
baz=73
S28A Manter 73.11 331 ⇓P P 17 39 44.2 +0.6
baz=73,SNR=6.4
V24A Rampart Ranch, 73.12 327 ⇑P P 17 39 44.6 +0.8
baz=73
SUR Sutherland 73.21 118 P P 17 39 48.9 +4.3
U25A Circle Dot Ran 73.26 328 ⇑P P 17 39 45.2 +0.7
baz=74,SNR=7.3
Q31A Ellis 73.27 333 ⇓P P 17 39 45.7 +1.4
baz=74,SNR=5.2
TUC Tucson 73.31 321 eP P 17 39 44.8 0.0
TUC e*PP pP 17 39 53.7 -0.1
TUC pmax pmax
comp=Z,6.0nm,1.3s
TUC Tucson 73.31 321 eP P 17 39 44.8 0.0
comp=Z,6.2nm,1.3s
TUC epP pP 17 39 53.7 -0.1
R29A Marienthal 73.49 332 ⇓P P 17 39 46.7 +1.0
baz=74
P32A Huiting Farm, 73.49 334 ⇑P P 17 39 46.6 +1.0
baz=74
T26A Comanche Natio 73.52 329 ⇑P P 17 39 47.0 +0.9
baz=74,SNR=5.4
V23A Ortiz Mt. (NFS 73.58 327 ⇓P P 17 39 47.4 +0.9
baz=74
Q30A Quinter 73.58 333 ⇑P P 17 39 47.4 +1.2
baz=74,SNR=7.2
SCIA State Center 73.62 339 eP P 17 39 45.8 -0.5
comp=Z,34nm,1.1s
SCIA epP pP 17 39 53.8 -1.5
JFWS Jewell Farm 73.65 342 eP P 17 39 45.7 -0.8
JFWS e*PP pP 17 39 53.8 -1.7
JFWS pmax pmax
comp=Z,26nm,0.9s
JFWS Jewell Farm 73.65 342 eP P 17 39 45.7 -0.8
comp=Z,26nm,0.9s
JFWS epP pP 17 39 53.8 -1.7
R28A Tribune 73.71 331 ⇓P P 17 39 47.7 +0.7
baz=74
P31A Stockton 73.71 334 ⇓P P 17 39 48.0 +1.1
baz=74,SNR=5.9
Q29A Oakley 73.82 332 ⇑P P 17 39 48.4 +0.8
baz=74,SNR=7.3
S26A Kim 73.83 330 ⇑P P 17 39 49.0 +1.1
baz=74,SNR=9.5
T25A Trinidad 73.86 329 ⇑P P 17 39 49.3 +1.1
baz=74,SNR=5.6
O32A Brockman Farm, 73.92 335 ⇓P P 17 39 48.6 +0.4
baz=74,SNR=5.8
U23A El Rito 74.05 327 ⇓P P 17 39 50.1 +0.9
baz=74
V22A San Miguel Ran 74.07 326 ⇑P P 17 39 50.9 +1.5
baz=74,SNR=7.4
P30A Selden 74.07 333 ⇑P P 17 39 50.1 +1.0
baz=74,SNR=5.3
R27A Eads 74.09 331 ⇑P P 17 39 50.0 +0.8
baz=74
214A Organ Pipe Nat 74.18 320 eP P 17 39 51.5 +1.6
comp=Z,46nm,1.2s
214A epP pP 17 39 59.3 +0.4
214A esP sP 17 40 03.2 +1.0
214A Organ Pipe Nat 74.18 320 ⇑P P 17 39 51.0 +1.1
baz=74
O31A Woolen Ranch, 74.23 334 ⇓P P 17 39 50.9 +0.9
baz=75
T24B San Luis 74.25 328 ⇑P P 17 39 51.8 +1.3
baz=75,SNR=5.5
S25A Robets Cordova 74.30 329 ⇑P P 17 39 51.3 +0.7
baz=75,SNR=5.8
Q28A Sharon Springs 74.32 332 ⇓P P 17 39 51.5 +0.9
baz=75
R26A Arlington 74.38 330 ⇑P P 17 39 52.1 +1.0
baz=75,SNR=5.3
P29A Atwood 74.40 333 ⇑P P 17 39 52.5 +1.5
baz=75
X18A Snowflake 74.54 323 ⇑P P 17 39 53.0 +0.9
baz=75
O30A MW Ranch, Wils 74.54 333 ⇑P P 17 39 53.7 +1.9
baz=75
KSCO Kaye Shedlock' 74.62 331 eP P 17 39 53.5 +1.2
comp=Z,231nm,1.8s
KSCO epP pP 17 40 01.3 -0.1
KSCO Kaye Shedlock' 74.62 331 ⇑P P 17 39 54.1 +1.7
baz=75
R25A Fountain Ranch 74.63 329 ⇓P P 17 39 53.9 +1.4
baz=75
S24A Houchin Ranch, 74.64 329 ⇓P P 17 39 54.2 +1.4
baz=75,SNR=6.5
O29A 4D Ranch, Culb 74.79 333 ⇓P P 17 39 54.6 +1.4
baz=75
SDCO Great Sand Dun 74.86 328 eP P 17 39 54.8 +0.7
comp=Z,12nm,0.9s
SDCO epP pP 17 40 02.9 -0.1
BGNE Belgrade 74.87 335 eP P 17 39 54.0 +0.4
comp=Z,149nm,1.0s
BGNE epP pP 17 40 01.9 -0.8
BGNE Belgrade 74.87 335 ⇑P P 17 39 54.7 +1.0
baz=75,SNR=5.9
W18A Petrified Fore 74.88 324 ⇓P P 17 39 55.4 +1.3
baz=75
Q26A Hugo 74.93 330 ⇑P P 17 39 55.7 +1.4
baz=75
R24A Sanders Place, 75.07 329 ⇓P P 17 39 56.5 +1.3
baz=75
M31A Lambtecht Ranc 75.12 335 ⇑P P 17 39 56.1 +1.0
baz=75,SNR=5.2
O28A Krutsinger Ran 75.19 332 ⇑P P 17 39 57.1 +1.5
baz=76
Q25A Bedland, Calha 75.24 330 ⇑P P 17 39 57.1 +1.0
baz=76
X16A Lo Mia Camp, P 75.25 322 ⇑P P 17 39 57.3 +1.1
baz=76,SNR=5.5
113A Mohawk Valley, 75.33 320 ⇑P P 17 39 57.8 +1.3
baz=76
R23A Moffat 75.37 328 ⇑P P 17 39 58.0 +1.1
baz=76
P26A Davis Ranch, A 75.38 331 ⇑P P 17 39 57.9 +1.1
baz=76
S22A 4UR Ranch, Cre 75.49 328 ⇑P P 17 39 58.4 +0.8
baz=76
O27A Beecher Island 75.54 332 ⇓P P 17 39 59.0 +1.4
baz=76
Q24A Divide 75.69 329 ⇓P P 17 39 59.9 +1.1
baz=76,SNR=8.8
P25A Willow Gulch B 75.70 330 ⇓P P 17 40 00.1 +1.4
baz=76
TSUM Tsumeb 75.75 104 eP P 17 40 01.9 +2.4
comp=Z,12nm,1.0s
TSUM epP pP 17 40 09.1 +0.6
Y14A Wickenburg 75.76 321 ⇓P P 17 40 00.2 +1.3
baz=76
L31A Butterfield Fa 75.79 335 ⇓P P 17 39 59.9 +1.0
baz=76
M29A Burnside Ranch 75.87 334 ⇑P P 17 40 00.2 +0.8
baz=76
MVCO Mesa Verde 75.87 326 eP P 17 40 00.0 +0.3
comp=Z,22nm,1.5s
MVCO epP pP 17 40 08.7 -0.1
OGNE Ogallala 75.99 333 eP P 17 40 00.6 +0.4
comp=Z,32nm,1.0s
OGNE epP pP 17 40 08.7 -0.5
OGNE Ogallala 75.99 333 ⇑P P 17 40 01.2 +1.0
baz=76,SNR=6.0
WUAZ Wupatki 76.05 323 eP P 17 40 01.5 +0.8
comp=Z,33nm,1.2s
WUAZ epP pP 17 40 10.3 +0.6
WUAZ Wupatki 76.05 323 ⇓P P 17 40 01.9 +1.1
baz=76,SNR=5.4
N27A Anderson Farm, 76.08 332 ⇑P P 17 40 01.7 +1.0
baz=76
M28A Bar X Bar Ranc 76.10 333 ⇓P P 17 40 01.7 +1.0
baz=76
O25A Wiggins 76.17 331 ⇑P P 17 40 02.5 +1.2
baz=76
P23A Jefferson 76.33 329 ⇓P P 17 40 02.8 +0.3
baz=77
ECSD EROS Data Cent 76.37 338 eP P 17 40 01.5 -0.7
comp=Z,30nm,0.9s
ECSD epP pP 17 40 09.7 -1.5
ECSD EROS Data Cent 76.37 338 ⇓P P 17 40 02.1 0.0
baz=77,SNR=8.8
Y12C Blythe 76.47 320 ⇓P P 17 40 03.8 +0.8
baz=77
K30A Basset 76.51 335 ⇑P P 17 40 04.2 +1.2
baz=77
ISCO Idaho Springs 76.58 330 eP P 17 40 04.2 +0.4
ISCO e*PP pP 17 40 12.8 -0.1
ISCO pmax pmax
comp=Z,25nm,1.2s
ISCO Idaho Springs 76.58 330 eP P 17 40 04.2 +0.4
comp=Z,25nm,1.2s
ISCO epP pP 17 40 12.8 -0.1
ISCO Idaho Springs 76.58 330 ⇑P P 17 40 04.5 +0.7
baz=77,SNR=6.2
SWSC Sam W. Stewart 76.63 319 ⇑P P 17 40 04.5 +0.7
baz=77
PPT2 Papeete2 76.63 257 eLR LR 18 03 43.2
comp=Z,260nm,21.5s
PV01 Paradox Valley 76.63 327 eP P 17 40 04.9 +0.8
comp=Z,951nm,1.3s
PV01 epP pP 17 40 12.9 -0.2
N25A Grover 76.74 331 ⇑P P 17 40 05.9 +1.4
baz=77
P22A Eagle 76.93 329 ⇓P P 17 40 06.8 +1.0
baz=77
BC3 Big Chuckawall 76.94 319 ⇓P P 17 40 06.8 +1.0
baz=77
TOA0 Torodi Ar. Sit 76.95 68 eP P 17 40 04.3 -1.7
TOA0 epP pP 17 40 15.1 0.0
TORD Torodi Ar. Bea 76.95 68 P P 17 40 04.9 -1.2
TORD Torodi Ar. Bea 76.95 68 P P 17 40 04.9 -1.2
comp=Z,2.7nm,0.6s,baz=269,slow=5.2,SNR=22
TORD LR LR 18 12 18.1
comp=Z,279nm,18.9s,baz=235,slow=34
MONP Monument Peak 76.96 318 ⇓P P 17 40 06.9 +0.9
baz=77
O23A Lake Granby, G 77.05 330 ⇑P P 17 40 07.3 +0.9
baz=77
W13A Hualapai Mount 77.10 321 ⇑P P 17 40 07.6 +0.8
baz=77
IRM Iron Mountain 77.13 320 ⇓P P 17 40 07.9 +1.2
baz=77
O22A Kremmling 77.29 329 ⇓P P 17 40 08.5 +0.6
baz=78,SNR=5.2
J29A Okreek 77.41 335 ⇓P P 17 40 08.8 +0.8
baz=78,SNR=5.7
PFO Pinyon Flat Ob 77.49 319 eP P 17 40 09.2 +0.4
comp=Z,20nm,1.1s
PFO epP pP 17 40 17.8 -0.1
PFO Pinyon Flat Ob 77.49 319 LR LR 18 08 15.9
comp=Z,171nm,21.5s,baz=110,slow=31
PFO Pinyon Flat Ob 77.49 319 ⇓P P 17 40 10.2 +1.4
baz=78
BELC Belle Mtn. Jos 77.50 319 ⇓P P 17 40 10.9 +2.0
baz=78
M24A Cheyenne 77.59 331 ⇓P P 17 40 10.6 +1.3
baz=78
N23A Red Feather La 77.61 330 ⇓P P 17 40 10.7 +1.1
baz=78
MAW Mawson 77.73 162 eP P 17 40 10.1 +0.6
comp=Z,9.1nm,0.8s
MAW epP PcP 17 40 19.6 +0.1
MAW Mawson 77.73 162 P P 17 40 10.1 +0.6
comp=Z,24nm,0.9s,baz=235,slow=6.3,SNR=7.8
N22A Wattenberg Ran 77.77 330 ⇑P P 17 40 11.3 +0.9
baz=78,SNR=5.4
J28A Allard Ranch, 77.77 334 ⇑P P 17 40 11.4 +1.3
baz=78
LDFC Landfair 77.77 321 eP P 17 40 11.9 +1.5
comp=Z,9.4nm,0.4s
LDFC epP PcP 17 40 20.0 -0.3
L25A Engebretsen Ra 77.79 332 ⇓P P 17 40 12.1 +1.7
baz=78
GMRC Granite Mounta 77.87 320 ⇓P P 17 40 12.3 +1.4
baz=78
J27A Elkhorn Farm, 77.92 334 ⇑P P 17 40 12.1 +1.1
baz=78,SNR=6.1
MURC Murrieta 77.92 318 ⇓P P 17 40 12.2 +1.1
baz=78
M23A Laramie 77.98 331 ⇓P P 17 40 13.0 +1.4
baz=78
O20A White River Ci 78.05 328 eP P 17 40 13.5 +1.5
comp=Z,48nm,1.1s
O20A epP pP 17 40 20.9 0.0
O20A White River Ci 78.05 328 ⇓P P 17 40 13.1 +1.2
baz=78
K25A Mack Ranch, Ha 78.13 332 ⇑P P 17 40 13.4 +1.1
baz=78
BOSA Boshof 78.22 116 P P 17 40 12.2 -1.0
BOSA epP pP 17 40 22.4 +0.1
BOSA Boshof 78.22 116 P P 17 40 12.2 -1.0
comp=Z,2.7nm,0.8s,baz=240,slow=5.0,SNR=4.3
BOSA LR LR 18 11 33.3
comp=Z,437nm,19.2s,baz=234,slow=33
HEC Hector,Ludlow 78.29 320 ⇓P P 17 40 14.5 +1.3
baz=79
M22A Cedar Creek Ra 78.31 330 ⇓P P 17 40 14.6 +1.2
baz=79
J26A Sides Ranch, S 78.39 333 ⇓P P 17 40 15.0 +1.4
baz=79,SNR=5.9
H29A Onida 78.41 336 ⇓P P 17 40 14.4 +0.8
baz=79
TUQ Turquoise Moun 78.49 320 ⇑P P 17 40 15.5 +1.1
baz=79
L23A Garrett 78.50 331 ⇑P P 17 40 15.3 +1.0
baz=79
N20A Spence Gulch, 78.61 329 ⇑P P 17 40 16.3 +1.3
baz=79
I27A Quinn 78.63 334 ⇓P P 17 40 16.0 +1.1
baz=79
CCUT Cedar City 78.63 323 eP P 17 40 16.7 +1.5
comp=Z,31nm,1.1s
CCUT epP pP 17 40 24.9 +0.7
J25A Sunshine Ranch 78.75 333 ⇑P P 17 40 16.6 +1.0
baz=79,SNR=6.1
H28A Mission Ridge 78.75 335 ⇓P P 17 40 16.3 +0.9
baz=79,SNR=5.5
G29A Hoven 78.80 336 ⇓P P 17 40 17.0 +1.3
baz=79
SHPR Sheep Range 78.83 322 eP P 17 40 17.1 +0.8
comp=Z,13nm,1.5s
ARUT Antelope Range 78.85 323 eP P 17 40 17.5 +1.2
ARUT e*PP pP 17 40 25.3 -0.1
ARUT pmax pmax
comp=Z,518nm,1.2s
ARUT Antelope Range 78.85 323 eP P 17 40 17.5 +1.2
comp=Z,518nm,1.2s
ARUT epP pP 17 40 25.3 -0.1
GSC Goldstone 78.90 320 ⇓P P 17 40 17.7 +1.2
baz=79
K23A Bowen Ranch, D 78.98 331 ⇑P P 17 40 18.2 +1.2
baz=79,SNR=5.4
DECC Green Verdugo 79.05 318 ⇑P P 17 40 18.7 +1.3
baz=79
J24A Dixon Ranch, L 79.05 332 ⇑P P 17 40 18.6 +1.3
baz=79,SNR=5.9
H27A Howes 79.11 335 ⇑P P 17 40 18.1 +0.6
baz=79,SNR=5.0
I25A Rochford 79.25 333 ⇓P P 17 40 19.5 +1.1
baz=80,SNR=8.2
K22A Casper 79.29 331 eP P 17 40 19.8 +1.2
comp=Z,47nm,1.3s
K22A epP pP 17 40 27.6 -0.1
K22A Casper 79.29 331 ⇓P P 17 40 20.0 +1.4
baz=80
RSSD Black Hills 79.45 333 eP P 17 40 19.7 +0.1
RSSD e*PP pP 17 40 28.2 -0.4
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 79.45 333 eP P 17 40 19.7 +0.1
comp=Z,8.1nm,1.1s
RSSD epP pP 17 40 28.2 -0.4
LRMC Laurel Mountai 79.53 319 ⇓P P 17 40 21.0 +1.0
baz=80
K21A Alcova 79.59 330 ⇑P P 17 40 21.0 +0.6
baz=80,SNR=7.4
G27A Dupree 79.69 335 ⇓P P 17 40 21.1 +0.5
baz=80
H25A Fruitdale 79.69 334 ⇓P P 17 40 21.6 +1.0
baz=80
DAU Daniels Canyon 79.71 326 eP P 17 40 21.7 +0.5
DAU e*PP pP 17 40 30.2 -0.1
DAU pmax pmax
comp=Z,25nm,1.2s
DAU epP pP 17 40 30.2 -0.1
MPMC Manual Prospec 79.83 320 ⇑P P 17 40 22.4 +0.6
baz=80
J22A Midwest 79.88 331 ⇓P P 17 40 22.3 +0.5
baz=80,SNR=5.3
LBTB Lobatse 80.04 113 eP P 17 40 21.9 -1.3
comp=Z,27nm,1.0s
D30A Buchanan 80.05 338 ⇑P P 17 40 23.2 +0.7
baz=80,SNR=7.7
G25A Newell 80.10 334 ⇑P P 17 40 23.4 +0.5
baz=80,SNR=5.5
F27A Lemmon 80.14 335 ⇑P P 17 40 23.6 +0.5
baz=80
H24A Dirks Ranch, A 80.18 333 ⇓P P 17 40 23.5 +0.2
baz=80,SNR=5.6
AGMN Agassiz Nation 80.18 340 eP P 17 40 22.3 -0.8
comp=Z,21nm,0.9s
AGMN epP PcP 17 40 30.6 +0.3
AGMN Agassiz Nation 80.18 340 ⇓P P 17 40 23.1 0.0
baz=80,SNR=7.4
J21A Lysite 80.25 331 ⇑P P 17 40 24.4 +0.6
baz=81
E28A Huff 80.26 336 ⇓P P 17 40 24.4 +0.8
baz=81,SNR=5.9
I22A 9 Mile Ranch, 80.28 331 ⇑P P 17 40 24.5 +0.6
baz=81,SNR=8.7
D29A Pettibone, Tap 80.30 337 ⇓P P 17 40 24.5 +0.7
baz=81
DUG Dugway 80.32 325 ⇓P P 17 40 25.3 +1.0
baz=81
F26A Lodgepole 80.37 335 ⇓P P 17 40 24.8 +0.5
baz=81,SNR=5.2
R11A Troy Canyon, C 80.41 323 ⇓P P 17 40 25.9 +1.1
baz=81
C30A Mose, Pekin 80.48 338 ⇑P P 17 40 24.9 +0.2
baz=81,SNR=6.5
J20A Shoshoni 80.53 330 ⇑P P 17 40 26.2 +0.9
baz=81
I21A Big Trails, Te 80.56 331 ⇑P P 17 40 25.8 +0.3
baz=81,SNR=9.9
VES Vestal, Richgr 80.60 319 ⇑P P 17 40 26.5 +0.9
baz=81
G24A Alzada 80.60 334 ⇓P P 17 40 26.5 +0.9
baz=81
PDAR Pinedale Array 80.73 329 P P 17 40 26.1 -0.4
PDAR Pinedale Array 80.73 329 P P 17 40 26.1 -0.4
comp=Z,3.2nm,0.8s,baz=121,slow=6.5,SNR=19
PDAR LR LR 18 18 54.8
comp=Z,168nm,18.4s,baz=117,slow=38
BW06 Boulder Array 80.73 329 eP P 17 40 26.2 -0.4
comp=Z,12nm,1.0s
BW06 epP pP 17 40 34.7 -0.9
H22A Clearmont 80.79 332 ⇑P P 17 40 27.5 +0.8
baz=81
G23A Biddle 80.89 333 ⇑P P 17 40 27.5 +0.4
baz=81
J19A Crowheart 80.89 330 ⇑P P 17 40 28.1 +0.7
baz=81,SNR=5.9
TIN Tinemaha 80.95 320 ⇓P P 17 40 27.8 +0.1
baz=81
I20A Worland 81.03 331 ⇑P P 17 40 28.3 +0.3
baz=81,SNR=5.1
F24A Ekalaka 81.04 334 ⇑P P 17 40 28.3 +0.4
baz=81
B30A Myrvik Farm, E 81.09 339 ⇓P P 17 40 28.3 +0.3
baz=81,SNR=5.3
TPH Tonopah 81.10 321 eP P 17 40 28.8 +0.2
TPH e*PP pP 17 40 37.2 -0.5
TPH pmax pmax
comp=Z,17nm,1.4s
TPH Tonopah 81.10 321 eP P 17 40 28.8 +0.2
comp=Z,17nm,1.4s
TPH epP pP 17 40 37.2 -0.5
H21A Big Horn, Sher 81.11 332 ⇑P P 17 40 28.9 +0.6
baz=81
E25A Miller Ranch, 81.19 335 ⇓P P 17 40 29.5 +0.8
baz=82
G22A Birney 81.27 332 ⇓P P 17 40 29.8 +0.6
baz=82
D26A Manning 81.27 336 ⇓P P 17 40 29.4 +0.3
baz=82,SNR=5.5
F23A Volborg 81.32 333 ⇑P P 17 40 29.6 +0.2
baz=82,SNR=5.8
H20A Greybull 81.40 331 ⇓P P 17 40 30.3 +0.4
baz=82
B29A Wagenman Farm, 81.43 338 ⇑P P 17 40 30.5 +0.7
baz=82
I19A Meeteetse 81.48 330 ⇑P P 17 40 31.1 +0.7
baz=82
C27A Sayler Ranch, 81.52 337 ⇓P P 17 40 31.5 +1.2
baz=82
E24A Baker 81.58 334 ⇓P P 17 40 32.2 +1.4
baz=82
G21A Lodge Grass 81.66 332 ⇓P P 17 40 31.6 +0.4
baz=82,SNR=5.5
D25A Fairfield 81.70 335 ⇑P P 17 40 32.0 +0.7
baz=82,SNR=5.9
F22A Rosebud 81.71 333 ⇓P P 17 40 31.8 +0.3
baz=82,SNR=5.9
B28A Dugan Ranch, T 81.75 338 ⇑P P 17 40 31.8 +0.3
baz=82,SNR=5.6
A29A Manning Farm, 81.79 339 ⇓P P 17 40 31.9 +0.2
baz=82,SNR=5.4
C26A Wahner Farm, P 81.83 336 ⇑P P 17 40 33.2 +1.3
baz=82
ULM Lac du Bonnet 81.93 341 eP P 17 40 31.8 -0.6
comp=Z,17nm,1.5s
ULM epP pP 17 40 39.8 -1.7
ULM Lac du Bonnet 81.93 341 P P 17 40 32.1 -0.3
comp=Z,3.9nm,0.7s,baz=148,slow=5.3,SNR=9.9
ULM LR LR 18 20 57.8
comp=Z,144nm,18.4s,baz=172,slow=39
NVAR Mina Array Bea 81.95 321 P P 17 40 33.7 +0.6
NVAR Mina Array Bea 81.95 321 P P 17 40 33.7 +0.6
comp=Z,1.9nm,0.8s,baz=134,slow=6.4,SNR=5.8
H19A Powell 81.97 330 ⇓P P 17 40 33.7 +0.7
baz=82
G20A Bridger 82.08 331 ⇑P P 17 40 33.3 -0.2
baz=82,SNR=7.6
SCHQ Schefferville 82.08 359 P P 17 40 33.0 -0.1
SCHQ Schefferville 82.08 359 P P 17 40 33.0 -0.1
comp=Z,9.1nm,1.1s,baz=188,slow=15,SNR=3.5
SCHQ LR LR 18 17 27.5
comp=Z,137nm,21.6s,baz=140,slow=36
I17A Pilgrim Ck. 82.10 329 ⇑P P 17 40 35.0 +1.3
baz=82,SNR=7.9
H18A Shoshone NF, C 82.28 330 ⇑P P 17 40 35.3 +0.7
baz=83,SNR=13
C24A Savage 82.43 335 ⇓P P 17 40 36.6 +1.5
baz=83
D23A Lindsay 82.44 334 ⇑P P 17 40 35.8 +0.6
baz=83,SNR=5.4
LAO LASA Array 82.44 333 eP P 17 40 34.9 -0.4
comp=Z,18nm,1.0s
LAO epP pP 17 40 43.3 -1.0
LAO esP sP 17 40 48.4 +0.7
RLMT Red Lodge 82.45 331 eP P 17 40 35.5 0.0
comp=Z,20nm,1.2s
RLMT epP pP 17 40 44.0 -0.6
H17A Grant Village 82.47 329 eP P 17 40 36.7 +1.0
comp=Z,12nm,1.1s
H17A epP pP 17 40 46.0 +1.3
H17A Grant Village 82.47 329 ⇓P P 17 40 37.2 +1.5
baz=83
B25A Knox Farm, Ray 82.58 336 ⇓P P 17 40 37.5 +1.6
baz=83
E21A Keefer Ranch, 82.66 333 ⇑P P 17 40 37.4 +1.0
baz=83
A26A Wade Farm, Ken 82.72 337 ⇑P P 17 40 37.3 +0.8
baz=83
D22A Cohagen 82.80 334 ⇑P P 17 40 38.0 +0.9
baz=83
YMR Madison River 82.85 329 eP P 17 40 38.4 +0.8
comp=Z,41nm,1.1s
F19A Roth Farm, Mol 82.89 331 ⇑P P 17 40 38.0 +0.3
baz=83,SNR=5.8
C23A Lambert 82.95 335 ⇓P P 17 40 38.4 +0.6
baz=83
D21A La Casta Ranch 83.06 333 ⇑P P 17 40 38.9 +0.4
baz=83,SNR=5.5
E20A Meyer Farm, Mu 83.07 332 ⇓P P 17 40 38.8 +0.3
baz=83,SNR=7.8
A25A Svangstu Ranch 83.13 336 ⇓P P 17 40 39.5 +0.8
baz=83
DGMT Dagmar 83.13 335 eP P 17 40 38.5 -0.2
comp=Z,61nm,1.2s

DGMT *e* 17 40 47.2
DGMT Dagmar 83.13 335 ⇑P **P** **17 40 39.6 +0.9**
baz=83
GCMT Greycliff 83.15 331 *e*P **P** **17 40 39.0 0.0**
comp=Z,13nm,1.0s
QLMT Earthquake Lak 83.19 329 *e*P **P** **17 40 40.5 +1.1**
comp=Z,1.7nm,1.1s
QLMT *e*pP **pP** **17 40 49.1 +0.6**
E19A Rath Farm, Rou 83.31 332 ⇑P **P** **17 40 40.3 +0.5**
baz=84,SNR=9.1
B23A Brockton 83.42 335 ⇓P **P** **17 40 40.8 +0.6**
baz=84
A24A Westby 83.44 336 ⇓P **P** **17 40 41.1 +0.8**
baz=84
D20A Manuel Ranch, 83.54 332 ⇓P **P** **17 40 40.8 -0.1**
baz=84,SNR=5.7
HLID Hailey 83.63 327 *e*P **P** **17 40 42.5 +0.9**
comp=Z,26nm,1.1s
HLID *e*pP **pP** **17 40 50.7 -0.1**
HLID Hailey 83.63 327 ⇑P **P** **17 40 42.7 +1.0**
baz=84
MCMT McKenzie Canyo 83.84 328 *e*P **P** **17 40 43.5 +0.7**
comp=Z,13nm,1.1s
MCMT *e*pP **pP** **17 40 51.8 0.0**
D19A Cripps Ranch, 83.91 332 ⇓P **P** **17 40 42.9 +0.1**
baz=84,SNR=5.7
BOZ Bozeman (W) 83.91 330 *e*P **P** **17 40 42.5 -0.4**
BOZ *e**PP **pP** **17 40 50.9 -1.2**
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 83.91 330 *e*P **P** **17 40 42.5 -0.4**
comp=Z,7.6nm,1.0s
BOZ *e*pP **pP** **17 40 50.9 -1.2**
B21A Ellsworth Farm 84.17 334 ⇑P **P** **17 40 44.6 +0.5**
baz=84
A22A Carney Farms, 84.20 335 ⇓P **P** **17 40 44.0 -0.3**
baz=84,SNR=5.0
MFID Camas Ranch 84.22 326 *e*P **P** **17 40 45.1 +0.6**
comp=Z,18nm,1.2s
MFID *e*pP **pP** **17 40 53.1 -0.6**
LRM Limekiln Ridge 84.41 329 *e*P **P** **17 40 46.0 +0.3**
comp=Z,162nm,1.0s
LRM *e*pP **pP** **17 40 54.3 -0.4**
C19A Slack Wire Ran 84.43 332 ⇓P **P** **17 40 46.1 +0.7**
baz=85
B20A Solberg Farm, 84.57 333 ⇓P **P** **17 40 46.9 +0.7**
baz=85
A21A Bergtoll Ranch 84.59 334 ⇓P **P** **17 40 46.5 +0.3**
baz=85
HRY Holter Researc 84.81 330 *e*P **P** **17 40 47.5 0.0**
comp=Z,9.1nm,0.9s
HRY *e*pP **pP** **17 40 56.3 -0.3**
A20A Cobblestone Ra 84.89 334 ⇓P **P** **17 40 47.5 -0.2**
baz=85,SNR=5.2
EGMT Eagleton 84.95 332 *e*P **P** **17 40 47.3 -0.8**
comp=Z,14nm,1.1s
EGMT *e*pP **pP** **17 40 55.8 -1.4**
EGMT Eagleton 84.95 332 ⇑P **P** **17 40 48.5 +0.4**
baz=85
TAM Tamanrasset 85.19 61 *e*P **P** **17 40 49.4 -0.6**
TAM *e**PP **pP** **17 41 00.9 +1.8**
TAM pmax pmax
comp=Z,8.0nm,1.4s
TAM Tamanrasset 85.19 61 *e*P **P** **17 40 49.4 -0.6**
comp=Z,7.8nm,1.4s
TAM *e*pP **pP** **17 41 00.9 +1.8**
CHMT Chamberlain Mo 85.60 330 *e*P **P** **17 40 51.2 -0.3**
comp=Z,13nm,1.6s
CHMT *e*pP **pP** **17 40 59.9 -0.8**
SLMT Seeley Lake 85.96 330 *e*P **P** **17 40 53.2 0.0**
comp=Z,18nm,1.2s
SLMT *e*pP **pP** **17 41 01.7 -0.7**
M04C Macdoel 86.23 322 ⇓P **P** **17 40 55.7 +1.0**
baz=86
SWMT Swartz Lake 86.39 330 *e*P **P** **17 40 56.2 +0.9**
comp=Z,3.9nm,1.0s
SWMT *e*pP **pP** **17 41 03.9 -0.6**
CASY Casey 86.40 179 *e*P **P** **17 40 55.7 +0.7**
LSZ Lusaka 86.56 105 *e*P **P** **17 40 57.2 +0.2**
comp=Z,48nm,1.4s
LSZ *e*pP **pP** **17 41 07.1 +1.0**
YBMT Yellow Bay 86.66 330 *e*P **P** **17 40 56.5 -0.1**
comp=Z,17nm,1.1s
YBMT *e*pP **pP** **17 41 05.0 -0.8**
YBH Yreka Blue Hor 86.68 321 P **P** **17 40 56.2 -0.6**
YBH Yreka Blue Hor 86.68 321 P **P** **17 40 56.2 -0.6**
comp=Z,2.8nm,0.8s,baz=104,slow=4.2,SNR=2.6
JTMT Jette 86.69 330 P **P** **17 40 56.5 -0.3**
comp=Z,8.0nm,0.9s
JTMT *e*pP **pP** **17 41 05.4 -0.5**
BLMT Blacktail Moun 86.92 330 *e*P **P** **17 40 58.1 +0.1**
comp=Z,31nm,1.1s
BLMT *e*pP **pP** **17 41 06.5 -0.7**
BSMT Bassoo Peak 87.00 329 *e*P **P** **17 40 58.3 -0.1**
comp=Z,18nm,1.0s
BSMT *e*pP **pP** **17 41 07.0 -0.6**
FFC Flin Flon 87.66 340 *e*P **P** **17 41 00.7 -0.4**
FFC *e**PP **pP** **17 41 08.5 -1.8**
FFC pmax pmax
comp=Z,12nm,1.2s
FFC Flin Flon 87.66 340 *e*P **P** **17 41 00.7 -0.4**
comp=Z,12nm,1.2s
FFC *e*pP **pP** **17 41 08.5 -1.8**
ESDC Sonseca Array 88.30 43 P **P** **17 41 05.5 +0.9**
ESDC Sonseca Array 88.30 43 P **P** **17 41 05.5 +0.9**
comp=Z,0.1nm,0.3s,baz=295,slow=21,SNR=3.7
ESDC LR LR 18 17 59.3
comp=Z,167nm,19.8s,baz=235,slow=34
FCC Fort Churchill 89.17 346 *e*P **P** **17 41 08.1 0.0**
FCC *e**PP **pP** **17 41 16.4 -0.9**
FCC pmax pmax
comp=Z,1.0nm,1.6s
FCC Fort Churchill 89.17 346 *e*P **P** **17 41 08.1 0.0**
comp=Z,0.6nm,1.6s
FCC *e*pP **pP** **17 41 16.4 -0.9**
EDM Edmonton 90.42 334 *e*P **P** **17 41 13.1 -1.1**
EDM *e**PP **pP** **17 41 21.6 -1.8**
EDM Edmonton 90.42 334 *e*P **P** **17 41 13.1 -1.1**
EDM *e*pP **pP** **17 41 21.6 -1.8**
FRB Frobisher Bay 91.05 359 P **P** **17 41 16.4 -0.3**
FRB Frobisher Bay 91.05 359 P **P** **17 41 16.4 -0.3**
comp=Z,3.7nm,1.1s,baz=141,slow=6.9,SNR=3.4
KEST Kesra 94.79 52 LR LR 18 26 24.0
comp=Z,305nm,19.0s,baz=188,slow=37
ORIF Oris-en-Rattie 97.28 43 *e*P pP 17 41 57.2 +2.0
comp=Z,19nm,1.2s
YKA Yellowknife Ar 97.82 339 P **P** **17 41 47.1 -0.7**
YKA Yellowknife Ar 97.82 339 P **P** **17 41 47.1 -0.7**
comp=Z,0.9nm,0.7s,baz=132,slow=4.6,SNR=25
CLL Collm 104.54 40 *e*P **Pdif** **17 42 17.0 -1.1**
CLL Collm 104.54 40 *e*Pdif **Pdif** **17 42 17.0 -1.1**
CLL *e* 17 47 35.0
CLL *e*PS **PS** **17 55 50.0 -0.9**
KOLS Kolonicke sedl 109.11 44 PDIF **Pdif** **17 42 43.0 +4.5**
DZM Mont Dzumac 109.34 231 *e*LR LR 18 18 51.4
comp=Z,238nm,26.3s
ILAR Eielson Array 110.90 333 PP PP 17 47 26.5 +2.5
ILAR Eielson Array 110.90 333 PP PP 17 47 26.5 +2.5
comp=Z,0.8nm,1.1s,baz=127,slow=5.8,SNR=5.2
AKASG Malin Array Be 113.93 44 PKIKP **PKiKP** **17 46 51.0 -0.6**
AKASG Malin Array Be 113.93 44 PKP **PKiKP** **17 46 51.0 -0.6**
AKASG Malin Array Be 113.93 44 PKP **PKiKP** **17 46 51.0 -0.6**
comp=Z,0.2nm,0.4s,baz=265,slow=2.3,SNR=4.9
BRTR Keskin Array B 113.97 56 PKP **PKiKP** **17 46 51.9 -0.4**
BRTR Keskin Array B 113.97 56 PKP **PKiKP** **17 46 51.9 -0.4**
comp=Z,1.3nm,0.8s,baz=306,slow=4.4,SNR=4.6
OBN Obninsk 119.14 40 *i* PKIKP **PKPdf** **17 47 01.6 +0.2**
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 121.51 53 *i* PKIKP **PKPdf** **17 47 05.3 -1.2**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 121.62 54 PKIKP **PKPdf** **17 47 07.2 +0.6**
KBZ Khabaz 121.62 54 PKP **PKPdf** **17 47 07.2 +0.6**
KBZ Khabaz 121.62 54 PKP **PKPdf** **17 47 07.2 +0.6**
comp=Z,4.7nm,0.9s,baz=236,slow=7.3,SNR=5.5
NCK Nalchik 122.09 54 ⇓*i* PKIKP **PKPdf** **17 47 08.6 +1.0**
PRGR Permogore 124.06 32 *e*PKIKP **PKPdf** **17 47 11.0 +0.3**
PRGR pmax pmax
comp=Z,118nm,1.9s
ASAR Alice Springs 125.59 202 PKP **PKPdf** **17 47 14.3 -0.8**
ASAR Alice Springs 125.59 202 PKP **PKPdf** **17 47 14.3 -0.8**
comp=Z,7.3nm,0.7s,baz=140,slow=1.9,SNR=107

WRA Warramunga Arr 128.86 205 PKP **PKPdf** **17 47 20.9 -0.4**
WRA Warramunga Arr 128.86 205 PKP **PKPdf** **17 47 20.9 -0.4**
comp=Z,11nm,0.8s,baz=167,slow=1.7,SNR=78
WRAB Tennant Creek 128.87 205 *ce*PKIKP **PKPdf** **17 47 21.2 -0.1**
WRAB Tennant Creek 128.87 205 *e*PKPdf **PKPdf** **17 47 20.7 -0.7**
WRAB *ep*PKPdf **pPKPdf** **17 47 31.5 +0.7**
BILL Bilibino 129.17 337 *i* PKIKP **PKPdf** **17 47 21.3 +0.9**
BILL *i* 17 49 28.5
BILL pmax pmax
comp=Z,28nm,1.1s
AKTO Aktyubinsk 132.11 46 PKIKP **PKPdf** **17 47 27.6 +1.1**
AKTO Aktyubinsk 132.11 46 PKP **PKPdf** **17 47 27.6 +1.1**
AKTO Aktyubinsk 132.11 46 PKP **PKPdf** **17 47 27.6 +1.1**
comp=Z,4.9nm,1.1s,baz=276,slow=9.2,SNR=3.8
ABKAR Akbulak array 133.50 47 *e*PKPdf **PKPdf** **17 47 29.6 +0.6**
ABKAR *ep*PKPdf **pPKPdf** **17 47 39.1 +0.6**
SEY Seymchan 136.75 336 ⇓*e*PKIKP **PKPdf** **17 47 36.3 +1.6**
BRVK Borovoye 138.91 40 *de*PKIKP **PKPdf** **17 47 41.2 +2.2**
BVAR Borovoye Array 138.98 40 PKIKP **PKPdf** **17 47 39.5 +0.3**
BVAR Borovoye Array 138.98 40 PKP **PKPdf** **17 47 39.5 +0.3**
BVAR Borovoye Array 138.98 40 PKP **PKPdf** **17 47 39.5 +0.3**
comp=Z,2.5nm,0.7s,baz=297,slow=2.8,SNR=7.1
PETK Petropavlovsk- 139.04 321 PKIKP **PKPdf** **17 47 39.1 -0.2**
PETK Petropavlovsk- 139.04 321 PKP **PKPdf** **17 47 39.1 -0.2**
PETK Petropavlovsk- 139.04 321 PKP **PKPdf** **17 47 39.1 -0.2**
comp=Z,3.5nm,0.9s,baz=103,slow=4.6,SNR=3.3
YAK Yakutsk 144.03 348 *e*PKIKP **PKPab** **17 47 45.5 +0.2**
YAK Yakutsk 144.03 348 *e*PKPdf **PKPab** **17 47 45.5 +0.2**
EKS2 Erkin-Say 144.09 55 *e*PKIKP PKPbc 17 47 46.9 0.0
EKS2 Erkin-Say 144.09 55 *e*PKPdf PKPbc 17 47 46.9 -0.1
USP Ospenovka 144.48 53 P **PKPdf** **17 47 51.6 +2.2**
SNR=5.6
SRBI Singaraja 144.53 182 P PKPdf 17 48 02.0 +12
KURBB Kurchatov Arra 144.57 40 PKP **PKPdf** **17 47 48.8 -0.5**
comp=Z,6.0nm,0.7s,baz=300,slow=3.8,SNR=26
KURK Kurchatov 144.58 40 PKIKP **PKPdf** **17 47 48.8 -0.4**
KURK Kurchatov 144.58 40 PKP **PKPdf** **17 47 48.8 -0.4**
KURK *e*PKPdf PKPbc 17 47 49.0 +1.0
AAK Ala-Archa 144.62 54 *e*PKIKP PKPbc 17 47 48.7 +0.1
AAK Ala-Archa 144.62 54 *e*PKPdf PKPbc 17 47 48.7 0.0
FRU Bishkek 144.66 54 *i* PKIKP **PKPdf** **17 47 51.0 +1.3**
FRU *e* 17 48 00.0
UCH Uchtor 144.71 55 P **PKPdf** **17 47 52.5 +2.2**
SNR=6.7
NVS Novosibirsk 144.72 31 ⇑*i* PKIKP PKPbc 17 47 48.3 0.0
NVS *i* 17 47 56.4
NVS pmax pmax
comp=Z,85nm,1.5s
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,15nm,1.5s
BLJI Banyuglugur 144.88 179 P **PKPdf** **17 47 50.5 -0.4**
KPJI Karang Pucung 144.93 171 P PKPbc 17 47 50.5 +0.4
comp=E,87nm,0.8s,comp=E,3μm
KBK Karagaybulak 144.94 54 P **PKPdf** **17 47 50.9 +0.5**
SNR=6.3
BJII Banjamegara 145.03 172 P x 17 47 50.7
NGJI Ngawi 145.16 175 P PKPdf 17 48 04.3 +13
LEM Lembang 145.22 169 P **PKPdf** **17 47 52.5 +0.8**
KZA Kyzart 145.28 55 P **PKPdf** **17 47 52.3 +1.0**
SNR=6.7
TKM2 Tokmak 2 145.34 54 *e*PKIKP **PKPbc** **17 47 50.9 -0.1**
TKM2 Tokmak 2 145.34 54 P **PKPab** **17 47 51.5 +0.3**
SNR=8.1
TKM2 Tokmak 2 145.34 54 *e*PKPdf **PKPbc** **17 47 50.9 -0.1**
SMRI Semarang 145.39 174 *e*PKPbc **PKPdf** **17 47 52.0 +0.2**
TGJI Tegal 145.41 171 P x 17 47 51.7
HYB Hyderabad 145.72 100 *i* PKP **PKPdf** **17 47 52.0 -0.3**
KASI Kota Agung 145.80 163 P **PKPab** **17 47 53.8 +0.5**
comp=E,128nm,0.9s
ZAA0 Zalesovo Array 146.00 31 *e*PKPdf **PKPbc** **17 47 52.3 -0.1**
ZAA0 *ep*PKPdf **pPKPdf** **17 48 01.3 +0.3**
ZALV Zalesovo Beam 146.00 31 PKP2 **PKPab** **17 47 52.9 -0.1**
ZALV Zalesovo Beam 146.00 31 PKPbc **PKPab** **17 47 52.9 -0.1**
ZALV Zalesovo Beam 146.00 31 PKPbc **PKPab** **17 47 52.9 -0.1**
comp=E,39nm,0.8s,baz=298,slow=3.2,SNR=76
LWLI Liwa 146.16 162 P **PKPab** **17 47 55.5 +0.7**
comp=E,96nm,0.9s,comp=E,4μm
KSH Kashi 146.29 59 *i* PKPbc **PKPbc** **17 47 53.5 -0.4**
KSH sPKP 17 48 08.3
KSH SKS **SKSdf** **17 54 57.4 -2.4**
KSH AMB AMB
comp=E,59nm,3.6s
KSH LR LR
comp=E,91nm,7.5s
KSH LR LR
comp=E,83nm,6.8s
KSH LR LR
comp=E,120nm,7.3s
MDSI Maura Dua 146.70 162 P **PKPdf** **17 47 53.2 -0.8**
BKSI Bulukumba 146.78 191 P **PKPbc** **17 47 55.5 -0.4**
LHSI Lahat 147.14 160 P **PKPab** **17 48 00.4 +1.9**
KAPI Kappang 147.14 190 *e*PKPdf **PKPdf** **17 47 52.7 -2.1**
SMLA Simla 147.69 75 *ex* **PKPbc** **17 47 56.5 -1.4**
SANI Sanana 148.40 203 P **PKPbc** **17 48 00.2 -0.1**
comp=E,64nm,1.0s
MK31 Makanchi Array 148.51 44 *e*PKIKP **PKPdf** **17 47 57.3 +1.3**
MK31 *e* 17 48 00.1
MK31 Makanchi Array 148.51 44 *e*PKPdf **PKPdf** **17 47 57.3 +1.3**
MK31 *e*PKPbc **PKPbc** **17 48 00.1 +0.4**
MKAR Makanchi Array 148.51 44 PKIKP **PKPdf** **17 47 56.8 +0.8**
MKAR 17 48 00.3
MKAR Makanchi Array 148.51 44 PKP **PKPdf** **17 47 56.8 +0.8**
MKAR PKPbc **PKPbc** **17 48 00.3 +0.6**
MKAR Makanchi Array 148.51 44 PKP **PKPdf** **17 47 56.8 +0.8**
comp=E,27nm,0.8s,baz=281,slow=0.4,SNR=52
MKAR PKPbc **PKPbc** **17 48 00.3 +0.6**
comp=E,27nm,0.8s,baz=300,slow=2.7,SNR=66
PDSI Padang 148.77 153 P **PKPbc** **17 48 01.7 +0.4**
comp=E,99nm,0.4s,comp=E,7μm
LBMI Labuha 149.14 207 P **PKPbc** **17 48 02.3 +0.1**
PPI Padang Panjang 149.16 152 P **PKPbc** **17 48 02.4 +0.1**
comp=E,42nm,0.7s,comp=E,1μmcomp=E,25μm
GSI Gunungsitoli 149.43 146 *e*PKPbc **PKPbc** **17 48 03.9 +1.0**
MNSI Mandailing Nat 149.93 150 P **PKPbc** **17 48 04.6 +0.4**
comp=E,41nm,1.1s
YSS Yuzh-Sakhalins 150.37 318 *e*PKIKP **PKPbc** **17 48 03.8 -0.4**
YSS *e* 18 11 38.0
PSI Prapat 151.39 147 P x 17 48 07.3
comp=E,52nm,1.0s,comp=E,543nm
PSI Prapat 151.39 147 PKPbc **PKPbc** **17 48 07.5 -0.3**
PSI Prapat 151.39 147 PKPbc **PKPbc** **17 48 07.5 -0.3**
comp=E,11nm,0.4s,baz=192,slow=4.8,SNR=12
KCSI Kotacane, Aceh 151.43 144 P **PKPbc** **17 48 07.9 +0.2**
TSI Tuntungan 151.81 145 P **PKPbc** **17 48 08.7 +0.1**
ASAJ Asahikawa 151.83 313 PKPbc **PKPbc** **17 48 08.6 +0.9**
ASAJ Asahikawa 151.83 313 PKPbc **PKPbc** **17 48 08.6 +0.9**
comp=E,14nm,1.1s,baz=225,slow=2.9,SNR=3.6
LASI Langsa, Aceh 152.32 143 P x 17 48 24.5
KOLN Koldanda 153.00 82 *e*P **PKPdf** **17 48 04.1 +0.3**
comp=E,23nm,0.8s
DANN Dangsing 153.20 81 *e*P **PKPdf** **17 48 05.1 +0.9**
comp=E,70nm,0.8s
WMQ Urumqi 153.27 46 PKPbc **PKPdf** **17 48 02.8 -0.7**
WMQ PKP **pPKPdf** **17 48 13.5 +0.5**
WMQ sPKP 17 48 17.1
WMQ PKS **PKSdf** **17 51 35.8 -2.1**
WMQ PP **PP** **17 51 59.3 +2.6**
WMQ SKS **SKSdf** **17 55 04.5 -4.1**
WMQ LR LR
comp=E,140nm,23.3s
WMQ LR LR
comp=E,130nm,25.3s
WMQ LR LR
comp=E,130nm,26.3s
IPM Ipoh 153.85 149 *e*PKPbc **PKPbc** **17 48 12.9 -0.2**
GKN Gorkha 153.93 82 *e*P **PKPdf** **17 48 05.4 +0.3**
comp=E,28nm,0.8s
MOY Mondy 153.99 19 *e*PKIKP **PKPbc** **17 48 13.9 +1.5**
IRK Irkutsk 154.28 14 *e*PKIKP **PKPdf** **17 48 04.3 -0.3**
IRK pmax pmax
comp=E,32nm,1.6s
DMN Daman 154.30 83 *e*P **PKPdf** **17 48 06.5 +0.7**
comp=Z,44nm,0.9s
KLR Kul'dur 154.47 333 *e*PKIKP **PKPdf** **17 48 00.0 -5.0**
KKN Kakani 154.48 83 *e*P **PKPdf** **17 48 06.2 +0.2**
comp=Z,18nm,0.9s
PKIN Phulchoki 154.56 83 *e*P **PKPdf** **17 48 06.7 +0.6**
PKI Pulchoki 154.57 83 *e*P **PKPdf** **17 48 06.8 +0.6**
comp=Z,36nm,1.2s
TLY Talaya 154.67 15 *i* PKP2 **PKPab** **17 48 30.5 +2.0**
TLY *e* 17 52 05.9
TLY pmax pmax
comp=Z,14nm,1.4s
GUN Gumba 155.02 83 *e*P **PKPdf** **17 48 07.4 +0.5**
comp=Z,39nm,1.0s
JIRN Jiri 155.26 83 *e*P **PKPdf** **17 48 07.5 +0.3**
comp=Z,12nm,0.8s
RAMN Ramite 155.54 85 *e*P **PKPdf** **17 48 08.3 +0.8**
comp=Z,21nm,0.8s
ZAK Zakamensk 155.78 17 *e*PKIKP **PKPdf** **17 48 08.4 +1.5**
ZAK *e* 17 52 08.8
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ODAN Odare 156.23 86 *e*P **PKPdf** **17 48 08.9 +0.5**
comp=Z,8.3nm,0.7s
TAPN Taplejung 156.57 84 *e*P **PKPdf** **17 48 08.2 -0.7**
comp=Z,18nm,1.3s
MJAR Matsushiro Arr 157.77 300 PKPab **PKPab** **17 48 41.0 -1.5**
MJAR Matsushiro Arr 157.77 300 PKPab **PKPab** **17 48 41.0 -1.5**
comp=Z,2.4nm,1.0s,baz=104,slow=3.5,SNR=4.5
SONM Songino Array 158.90 15 PKP **PKPdf** **17 48 11.0 +0.1**
SONM Songino Array 158.90 15 PKP **PKPdf** **17 48 11.0 +0.1**
comp=Z,3.9nm,1.1s,baz=308,slow=1.4,SNR=16
ULN Ulaanbaatar 159.01 13 *e*PKPbc **PKPdf** **17 48 11.5 +0.4**
LSA Lhasa 159.73 79 PKP **PKPdf** **17 48 13.8 +1.0**
LSA Lhasa 159.73 79 *e*PKIKP **PKPdf** **17 48 13.9 +1.0**
LSA *e* 17 48 24.0
LSA Lhasa 159.73 79 *e*PKPbc **PKPdf** **17 48 13.9 +1.0**
LSA *ep*PKPbc **pPKPdf** **17 48 24.0 +1.7**
SHL Shillong 160.01 91 *ex* x 17 48 13.0
CN2 Changchun 161.42 334 *e*PKP **PKPdf** **17 48 11.8 -1.9**
GTA Gaotai 163.24 42 *e*PKP **PKPdf** **17 48 17.3 +1.5**
GTA pPKP **pPKPdf** **17 48 28.3 +3.0**
GTA sPKP 17 48 31.9
GTA PKPab **PKPab** **17 49 10.0 +3.7**
GTA PP **PP** **17 52 55.6 +4.4**
GTA SKS **SKSdf** **17 55 16.9 -1.7**
GTA SKKS **SKKSac** **17 59 38.9 +1.3**
GTA SS **SS** **18 13 16.3 +1.2**
GTA AMB AMB
comp=Z,80nm,5.7s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,92nm,18.1s
GTA LR LR
comp=Z,190nm,20.4s
CMAR Chiang Mai Arr 163.34 120 PKP **PKPdf** **17 48 16.6 +0.3**
CMAR Chiang Mai Arr 163.34 120 PKP **PKPdf** **17 48 16.6 +0.3**
comp=Z,1.0nm,0.4s,baz=258,slow=2.3,SNR=11
CHTO Chiang Mai 163.55 119 *e*PKIKP **PKPdf** **17 48 17.1 +0.6**
CHTO Chiang Mai 163.55 119 *e*PKPbc **PKPdf** **17 48 17.1 +0.6**
KSRS Korea Array 164.78 314 PKP **PKPdf** **17 48 17.5 +0.4**
comp=Z,2.2nm,1.0s,baz=84,slow=1.4,SNR=7.2
KSRS PKPab **PKPab** **17 49 12.3 -0.6**
comp=Z,1.8nm,0.8s,baz=60,slow=3.7,SNR=4.3
KSAR Wonju Array Be 164.81 314 PKP **PKPdf** **17 48 17.5 +0.4**
KSAR PKPab **PKPab** **17 49 12.3 -0.8**
HHC Hu-ho-hao-te 166.60 8 *e*PKP **PKPdf** **17 48 17.0 -1.6**
HHC pPKP **pPKPdf** **17 48 27.6 -0.5**
HHC sPKP 17 48 32.5
HHC PP **PP** **17 53 11.3 +3.5**
HHC SKS **SKSdf** **17 55 15.8 -5.0**
HHC SKKS **SKKSac** **17 59 52.9 -1.2**
HHC SS **SS** **18 13 48.3 +0.5**
HHC AMB AMB
comp=Z,220nm,10.8s
HHC LR LR
comp=Z,290nm,17.6s
BJI Beijing 167.46 353 PKP **PKPdf** **17 48 19.5 +0.4**
BJI SS SS 18 13 59.6 +3.4
BJI LR LR
comp=Z,120nm,25.4s
BJI LR LR
comp=Z,130nm,25.6s
BJI LR LR
comp=Z,39nm,28.6s
LZH Lanzhou 167.83 43 *e*PKP **PKPdf** **17 48 18.3 -1.5**
LZH pPKP **pPKPdf** **17 48 26.8 -2.4**
LZH sPKP 17 48 30.9
LZH LR LR
comp=Z,160nm,18.6s
LZH LR LR
comp=Z,170nm,19.5s
LZH LR LR
comp=Z,190nm,20.3s
CD2 Chengdu 170.36 67 *e*PKP **PKPdf** **17 48 21.6 +0.3**
CD2 PP **PP** **17 53 31.4 +2.8**
CD2 SKS **SKSdf** **17 55 19.8 -3.2**
CD2 SKKS **SKKSac** **18 00 08.6 -4.9**
CD2 AMB AMB
comp=Z,160nm,7.1s
CD2 LR LR
comp=Z,220nm,22.6s
CD2 LR LR
comp=Z,290nm,22.6s
QIZ Qiongzhong 170.62 154 PKP **PKPdf** **17 48 17.5 -4.2**
QIZ PP **PP** **17 53 29.6 +1.2**
QIZ SS SS 18 14 31.9 +3.5
QIZ LR LR
comp=Z,110nm,19.2s
XAN Xi'an 172.16 34 PKP **PKPdf** **17 48 23.3 +1.1**
GYA Guiyang 173.25 98 PKP **PKPdf** **17 48 22.0 -0.9**
GYA PKPab **PKPab** **17 49 51.4 +0.3**
GYA PKS **PKSdf** **17 51 52.0 -3.4**
GYA PP **PP** **17 53 44.6 +1.3**
GYA AMB AMB
comp=Z,120nm,8.2s
NJ2 Nanjing 173.94 318 *e*PKP **PKPdf** **17 48 24.3 +1.5**

MEX 19 17:28:15.0±0.5, 15°.47N×91°.90W, h16km±999km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.66**	**212**	*i* P		Pg 17 28 25.1	-2.8
THIG				*e*S		Sg 17 28 34.0	-2.8
PCIG		**1.29**	**281**	*i* P		Pn 17 28 34.7	-3.6
PCIG				*e*S		Sb 17 28 49.1	-6.1
HUIG	**Huatulco**	**4.06**	**275**	*i* P		Pn 17 29 14.2	-2.3
VHO	**Vista Hermosa**	**4.91**	**290**	*i* P		Pn 17 29 26.6	-1.8
VHO				*i* S		Sn 17 30 21.5	-3.6

*LDG **19** 17:35:43.5±0.1, 41°.74N×72°.02E, h10km, Mb4.7/17, Ms2.8/2, Error ellipse: s-maj=7.8km s-min=3.6km az=2.0*
*ISCJB **19** 17:35:44.9±0.6, 42°.09N±0°.02×71°.97E±0°.02, h8km±4km, mb4.4/39, MS2.9/1, Error ellipse: s-maj=3.9km s-min=2.8km az=18.5*
*IDC **19** 17:35:44.4±0.8, 42°.00N×72°.26E, h0km, mb4.0/14, mb1 4.2/18,mb1mx4.0/59,mbtmp4.1/18, ML4.3/4, MS2.5/1, Ms1 2.5/1, ms1mx2.3/46, Error ellipse: s-maj=12.9km s-min=8.3km az=164.0*
*NNC **19** 17:35:45.8±1.6, 41°.96N×72°.01E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=18.0km s-min=4.4km az=14.0*
*NEIC **19** 17:35:45.4±1.5, 42°.09N×72°.09E, h1km±9km, mb5.0/20, Error ellipse: s-maj=7.7km s-min=5.0km az=174.0*
*KRNET **19** 17:35:45.1±0.1, 42°.07N×72°.09E, h10km, mb4.8*
*MOS **19** 17:35:49.6±0.9, 42°.39N×71°.99E, h30km, mb4.8/23, Error ellipse: s-maj=6.3km s-min=5.2km az=44.7*

ISC 19 17:35:46.8±1.0, 42°.06N±0°.02×72°.14E±0°.02, h13km±6km, n232, σ1°33/266, mb4.5/39, 27C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.29**	**206**	*e*P		**Pg**	**17 35 52.0**	**-1.0**
ARK	baz=199			*e*S		**Sg**	**17 35 56.5**	**-0.7**
ARSB	**Arslanbob**	**0.97**	**139**	*i* P		**Pb**	**17 36 04.1**	**-1.5**
ARSB	baz=138			*e*S		**Sb**	**17 36 16.7**	**-1.7**
AML	**Almayashu** SNR=526	**1.16**	**86**	P		**Pn**	**17 36 07.1**	**-2.0**
AML	**Almayashu** baz=87	**1.16**	**86**	⇓*i* P		**Pn**	**17 36 07.0**	**-2.0**
AML	baz=87			⇓*i* S		**Sb**	**17 36 22.5**	**-1.5**
EKS2	**Erkin-Say**	**1.35**	**63**	*e*PG		**Pn**	**17 36 10.8**	**-0.7**
EKS2	**Erkin-Say** SNR=417	**1.35**	**63**	P		**Pn**	**17 36 10.9**	**-0.7**
EKS2	**Erkin-Say**	**1.35**	**63**	*e*Pg		**Pn**	**17 36 10.8**	**-0.7**
EKS2				*e*Sg		**Sn**	**17 36 24.9**	**-4.5**

EKS2 Erkin-Say 1.35 63⇑*i*P Pn 17 36 10.7 -0.7
baz=64
EKS2 ⇑*i*S **Sn 17 36 29.1 -0.3**
baz=64
KK31 Karatay Array 1.59 311 ⇓P **Pn 17 36 14.9 +0.2**
130nm,0.3s,baz=128,slow=18
KK31 ⇓S **Sb 17 36 37.2 +1.2**
924nm,0.6s,baz=130,slow=29,SNR=13
KK31 Karatay Array 1.59 311 PG **Pn 17 36 14.5 -0.1**
KK31 S **Sg 17 36 37.8 -0.2**
KK31 pmax pmax
comp=Z,327nm,0.2s
KK31 smax smax
comp=N,918nm,0.2s
KKAR Karatay Array 1.59 311 *e*PG **Pn 17 36 14.7 +0.1**
KKAR *e* 17 36 37.1
KKAR Karatay Array 1.59 311 *e*Pn **Pn 17 36 14.7 +0.1**
KKAR *e*Sn **Sb 17 36 37.1 +1.1**
OHH Osh 1.61 162⇑*i*P **Pn 17 36 16.0 +1.0**
baz=161
OHH ⇑*i*S **Sb 17 36 37.8 +1.1**
baz=161
ARLS Aral 1.64 96 *i* P **Pn 17 36 15.5 0.0**
baz=97
ARLS *e*S **Sn 17 36 37.5 +1.0**
baz=97
UCH Uchtor 1.77 84 P **Pn 17 36 18.1 +0.5**
SNR=863
UCH Uchtor 1.77 84⇑*i*P **Pn 17 36 17.9 +0.3**
baz=84
UCH ⇑*i*S **Sb 17 36 41.6 -0.2**
baz=84
AAK Ala-Archa 1.84 71 ⇓Pn **Pn 17 36 19.4 +1.2**
comp=N,204nm,0.3s
AAK ⇓Sn **Sg 17 36 46.7 +0.8**
comp=N,809nm,0.7s
AAK Ala-Archa 1.84 71 PN **Pn 17 36 19.2 +1.1**
AAK 17 36 45.3
AAK pmax pmax
comp=Z,204nm,0.4s
AAK smax smax
comp=N,739nm,0.7s
AAK Ala-Archa 1.84 71 P **Pn 17 36 19.4 +1.2**
SNR=317
AAK Ala-Archa 1.84 71 Pn **Pn 17 36 19.6 +1.4**
AAK Sn **Sb 17 36 44.6 +1.3**
AAK Ala-Archa 1.84 71 Pn **Pn 17 36 19.6 +1.4**
comp=N,84nm,0.3s,baz=230,slow=2.6,SNR=753
AAK LR LR 17 36 27.5
comp=N,27nm,18.2s,baz=236,slow=24
AAK Sn **Sb 17 36 44.6 +1.3**
comp=N,142nm,0.3s,baz=333,slow=22,SNR=10
AAK Ala-Archa 1.84 71⇑*i*P **Pn 17 36 19.3 +1.1**
baz=72
AAK ⇑*i*S **Sg 17 36 45.9 0.0**
baz=72
FRU Bishkek 1.99 66 *i* PN **Pb 17 36 24.1 +1.2**
FRU *i* S **Sg 17 36 51.3 +0.5**
FRU *i* 17 36 56.3
FRU pmax pmax
comp=Z,240nm,0.5s
FRU pmax pmax
comp=N,3µm,0.7s
USP Ospenovka 2.12 55 *i* PN **Pb 17 36 24.3 -0.8**
USP Ospenovka 2.12 55 P **Pb 17 36 24.3 -0.8**
SNR=1610
USP Ospenovka 2.12 55⇑*i*P **Pb 17 36 24.2 -0.8**
baz=55
USP ⇑*i*S **Sb 17 36 53.6 +2.4**
baz=55
CHMS Chumysh 2.15 63 *i* PN **Pb 17 36 24.7 -0.8**
CHMS Chumysh 2.15 63 P **Pb 17 36 24.7 -0.8**
SNR=151
CHMS Chumysh 2.15 63⇓*i*P **Pb 17 36 24.6 -0.9**
baz=64
CHMS ⇓*i*S **Sb 17 36 53.4 +1.4**
baz=64
KBK Karagaybulak 2.17 73 *i* PN **Pb 17 36 25.4 -0.5**
KBK Karagaybulak 2.17 73 P **Pb 17 36 25.4 -0.5**
SNR=814
KBK Karagaybulak 2.17 73⇑*i*P **Pb 17 36 25.3 -0.6**
baz=74
KBK ⇑*i*S **Sg 17 36 56.3 -0.1**
baz=74
BTK Batken 2.24 207 *e*P **Pb 17 36 26.2 -0.9**
baz=206
BTK *e*S **Sb 17 36 56.3 +1.6**
baz=206
SFK Sufi-Kurgan 2.29 153 *e*P **Pn 17 36 23.2 -1.3**
baz=152
SFK *e*S **Sn 17 36 53.0 +0.3**
baz=152
KZA Kyzart 2.32 89 *i* PN **Pb 17 36 28.5 -0.2**
KZA Kyzart 2.32 89 P **Pb 17 36 28.5 -0.2**
SNR=940
KZA Kyzart 2.32 89⇓*i*P **Pb 17 36 27.6 -1.1**
baz=89
KZA ⇓*i*S **Sb 17 36 58.3 +1.0**
baz=89
DRK Karamyk 2.59 186⇓*i*P **Pb 17 36 32.6 -0.7**
baz=185
DRK ⇓*e*S **Sb 17 37 07.0 +1.8**
baz=185
TKM2 Tokmak 2 2.70 70 ⇑Pn **Pb 17 36 33.2 -1.9**
comp=N,107nm,0.4s
TKM2 ⇓Sn **Sb 17 37 10.1 +2.0**
comp=N,355nm,0.4s
TKM2 Tokmak 2 2.70 70 *e*PN **Pn 17 36 33.0 +3.0**
TKM2 *e* 17 37 08.2
TKM2 Tokmak 2 2.70 70 P **Pb 17 36 33.1 -1.9**
SNR=714
TKM2 Tokmak 2 2.70 70 *e*Pn **Pn 17 36 33.0 +3.0**
TKM2 *e*Sn **Sb 17 37 08.2 +0.1**
TKM2 Tokmak 2 2.70 70⇑*i*P **Pn 17 36 33.0 +3.0**
baz=71
TKM2 ⇑*i*S **Sb 17 37 09.6 +1.5**
baz=71
BOOM Boomskoye usch 2.85 80 *e*P **Pb 17 36 37.0 -0.7**
baz=81
BOOM *e*S **Sb 17 37 15.8 +3.3**
baz=81
NRN Naryn 2.96 101 *e*P **Pn 17 36 35.6 +1.9**
baz=101
NRN *e*S **Sb 17 37 14.4 -1.3**
baz=101
ULHL Ulahol 3.06 85 *i* PN Pn 17 36 38.4 +3.4
ULHL Ulahol 3.06 85 P Pn 17 36 38.4 +3.4
SNR=33
ULHL Ulahol 3.06 85⇓*i*P **Pn 17 36 38.0 +3.0**
baz=85
ULHL ⇓*i*S **Sb 17 37 20.5 +2.1**
baz=85
KNDC Almaty 3.74 70 ⇑Pn Pn 17 36 48.2 +4.0
comp=N,72nm,0.5s
KNDC ⇓Lg Lg 17 37 44.1
comp=N,919nm,0.9s
AAA Alma-Ata 3.75 70 *i* PN Pb 17 36 50.2 -2.6
KBL Kabul 7.89 199 *e*P **Pn 17 37 41.8 +0.4**
KBL pmax pmax
comp=Z,16nm,0.5s
KBL Kabul 7.89 199 *e*Pn **Pn 17 37 41.8 +0.4**
comp=Z,16nm,0.5s
KBL *e*Sn **Sn 17 39 07.8 -2.9**
CEP Cherat 8.23 181 P **Pn 17 37 46.3 +0.3**
CEP S **Sn 17 39 18.0 -0.8**
CHCP Chirah Chowk 8.44 174 P **Pn 17 37 50.2 +1.5**
CHCP S Sn 17 39 17.0 -6.8
MK31 Makanchi Array 8.67 53 ⇓Pn **Pn 17 37 54.1 +2.2**
comp=Z,18nm,0.6s,baz=241,slow=16,SNR=496
MK31 ⇓Sn Sn 17 39 35.6 +6.2
comp=Z,2.9nm,0.4s,baz=240,slow=24,SNR=5.6
MK31 ⇑Lg Lg 17 40 24.9
comp=Z,79nm,0.9s
MK31 Makanchi Array 8.67 53 *e*P **Pn 17 37 54.0 +2.2**
MK31 *e* 17 39 29.6
MK31 pmax pmax
comp=Z,8.0nm,0.3s
MK31 smax smax
comp=N,3.0nm,0.3s
MK31 pmax pmax
comp=N,38nm,0.5s
MK31 Makanchi Array 8.67 53 *e*Pn **Pn 17 37 54.1 +2.2**
MKAR Makanchi Array 8.67 53 P **Pn 17 37 54.3 +2.5**
MKAR Makanchi Array 8.67 53 Pn **Pn 17 37 54.3 +2.5**
MKAR Lg Lg 17 40 15.0
MKAR Makanchi Array 8.67 53 Pn **Pn 17 37 54.3 +2.5**
comp=N,4.8nm,0.3s,baz=239,slow=16,SNR=127
MKAR Lg Lg 17 40 15.0
comp=N,2.8nm,0.3s,baz=233,slow=33,SNR=4.6
THW Thamme Wali 9.26 182 P **Pn 17 37 59.7 -0.3**
KURBB Kurchatov Arra 9.63 25⇑Pn **Pn 17 38 04.1 -0.9**
comp=N,40nm,0.8s
KURBB ⇓Sn Sn 17 39 58.2 +5.3
comp=N,50nm,0.6s
KURBB ⇓Lg Lg 17 40 53.3
comp=N,146nm,0.7s
KURBB Kurchatov Arra 9.63 25 Pn **Pn 17 38 04.6 -0.4**
comp=N,10nm,0.3s,baz=216,slow=13,SNR=40
KURBB Sn **Sn 17 39 50.6 -2.4**
comp=N,2.4nm,0.3s,baz=222,slow=29,SNR=4.7
KURBB Lg Lg 17 40 49.5
comp=N,4.4nm,0.3s,baz=215,slow=30,SNR=8.8
KURK Kurchatov 9.74 25⇑Pn **Pn 17 38 05.5 -0.9**
comp=N,11nm,0.9s
KURK ⇑Sn Sn 17 40 03.6 +8.0
comp=N,8.6nm,0.8s
KURK ⇑Lg Lg 17 40 58.6
comp=N,48nm,0.9s
KURK Kurchatov 9.74 25 P **Pn 17 38 05.7 -0.8**
KURK 17 39 53.5
KURK pmax pmax
comp=Z,11nm,0.9s
KURK smax smax
comp=N,9.0nm,0.8s
KURK pmax pmax
comp=N,48nm,0.9s
KURK Kurchatov 9.74 25 Pn **Pn 17 38 04.6 -1.9**
KURK Sn **Sn 17 39 50.6 -5.0**
KURK Lg Lg 17 40 49.5
BVA0 Borovoye Array 11.03 354⇑Pn **Pn 17 38 23.0 -1.1**
comp=N,8.8nm,0.6s,baz=153,slow=13,SNR=85
BVA0 ⇓Lg Lg 17 41 36.6
comp=N,127nm,1.4s
BVA0 Borovoye Array 11.03 354 *i* P **Pn 17 38 22.6 -1.5**
BVA0 *i* 17 40 24.6
BVA0 pmax pmax
comp=Z,7.0nm,0.5s
BVA0 smax smax
comp=N,12nm,0.6s
BVA0 pmax pmax
comp=N,127nm,1.4s
BVAR Borovoye Array 11.03 354 P **Pn 17 38 23.2 -0.9**
BVAR 17 40 23.9
BVAR Borovoye Array 11.03 354 Pn **Pn 17 38 23.2 -0.9**
BVAR Sn **Sn 17 40 23.9 -3.4**
BVAR Lg Lg 17 41 36.2
BVAR Borovoye Array 11.03 354 Pn **Pn 17 38 23.2 -0.9**
comp=N,3.1nm,0.3s,baz=154,slow=12,SNR=80
BVAR Sn **Sn 17 40 23.9 -3.4**
comp=N,4.1nm,0.3s,baz=165,slow=24,SNR=7.1
BVAR Lg Lg 17 41 36.2
comp=N,1.9nm,0.3s,baz=168,slow=29,SNR=3.0
BRVK Borovoye 11.07 354⇑Pn **Pn 17 38 23.8 -0.9**
comp=N,11nm,0.5s
BRVK ⇑Lg Lg 17 41 37.5
comp=N,82nm,0.9s
BRVK Borovoye 11.07 354 *e*P **Pn 17 38 23.8 -0.9**
BRVK *e* 17 40 17.4
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 11.07 354 *e*Pn **Pn 17 38 23.8 -0.9**
comp=Z,12nm,0.6s
BRVK *e*Sn Sn 17 40 17.4 -11
AB31 Akbulak array 11.15 314 ⇓Pn **Pn 17 38 24.5 -1.3**
comp=Z,3.9nm,0.5s,baz=119,slow=14,SNR=111
AB31 ⇑Sn **Sn 17 40 31.2 +0.9**
comp=Z,2.4nm,0.5s
AB31 Akbulak array 11.15 314 *i* P **Pn 17 38 24.8 -1.0**
AB31 17 40 25.4
AB31 pmax pmax
comp=Z,3.0nm,0.3s
AB31 smax smax
comp=N,2.0nm,0.2s
ABKAR Akbulak array 11.15 314 *e*Pn **Pn 17 38 24.5 -1.3**
comp=N,6.2nm,0.5s
ABKAR *e*Sn **Sn 17 40 24.4 -5.9**
AKTO Aktyubinsk 12.85 315 ⇓Pn **Pn 17 38 47.1 -1.9**
comp=N,5.2nm,0.8s
AKTO ⇓Sn **Sn 17 41 12.1 +0.2**
comp=N,9.7nm,0.9s
AKTO ⇑Lg Lg 17 42 33.1
comp=N,19nm,1.3s
AKTO Aktyubinsk 12.85 315 P **Pn 17 38 48.1 -0.9**
AKTO 17 41 10.4
AKTO Aktyubinsk 12.85 315 Pn **Pn 17 38 48.1 -0.9**
AKTO Sn **Sn 17 41 10.4 -1.4**
AKTO Aktyubinsk 12.85 315 Pn **Pn 17 38 48.1 -0.9**
comp=N,1.0nm,0.3s,baz=133,slow=13,SNR=16
AKTO Sn **Sn 17 41 10.4 -1.4**
comp=N,0.3nm,0.3s,baz=139,slow=20,SNR=2.7
ZAA0 Zalesovo Array 14.58 31 *e*Pn Pn 17 39 07.2 -5.4
ZAA0 *e*Sn Sn 17 41 47.8 -6.1
ZALV Zalesovo Beam 14.58 31 P **Pn 17 39 10.7 -1.9**
ZALV 17 41 51.7
ZALV Zalesovo Beam 14.58 31 Pn **Pn 17 39 10.7 -1.9**
ZALV Sn **Sn 17 41 51.7 -2.2**
ZALV Lg Lg 17 43 25.9
ZALV Zalesovo Beam 14.58 31 Pn **Pn 17 39 10.7 -1.9**
comp=N,1.4nm,0.3s,baz=222,slow=13,SNR=19
ZALV Sn **Sn 17 41 51.7 -2.2**
comp=N,1.8nm,0.3s,baz=227,slow=24,SNR=4.8
ZALV Lg Lg 17 43 25.9
baz=225,slow=26,SNR=2.0
ZALV LR LR 17 45 25.3
comp=N,19nm,18.5s,baz=57,slow=40
NVS Novosibirsk 14.73 26⇓*i*P **Pn 17 39 13.7 -0.9**
NVS *i* 17 41 51.2
SVE Sverdlovsk 16.52 337 *e*P **Pn 17 39 36.9 -1.1**
ARU Arti 16.84 333*d*P **Pn 17 39 42.2 +0.1**
ARU S **Sn 17 42 47.9 -0.9**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 16.84 333 *e*Pn **Pn 17 39 42.1 +0.1**
comp=Z,6.5nm,0.6s
ARU *e*Sn **Sn 17 42 44.9 -3.9**
LSA Lhasa 19.68 123 P **P 17 40 14.1 -2.0**
LSA Lhasa 19.68 123 Pn **P 17 40 14.1 -2.0**
GNI Garni 20.70 274 P **P 17 40 27.8 +1.0**
GNI Garni 20.70 274 P **P 17 40 27.8 +1.0**
comp=Z,7.1nm,0.7s,baz=103,slow=14,SNR=5.7
ZEI Tsey 20.82 282 *e*P Pn 17 40 34.0 +3.4
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz 21.44 284 P **P 17 40 35.6 +1.1**
KBZ Khabaz 21.44 284 P **P 17 40 35.6 +1.1**
KBZ Khabaz 21.44 284 P **P 17 40 35.6 +1.1**
comp=Z,0.9nm,0.6s,baz=163,slow=5.3,SNR=6.2
KIV Kislovodsk 21.57 285 *e*P **P 17 40 36.4 +0.4**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,33nm,14.0s
KIV Kislovodsk 21.57 285 *e*P **P 17 40 35.9 -0.1**
VRHR Novokhopersk 22.70 304 *e*P **P 17 40 52.4 +4.5**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
ZAK Zakamensk 22.96 58 *e*P **P 17 40 52.5 +1.7**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
TLY Talaya 23.42 55 *e*P P 17 41 01.8 +6.4
TLY pmax pmax
comp=Z,3.0nm,1.4s
TLY MLR MLR
comp=Z,35nm,8.0s
VORD Divnogorie 24.12 303 *e*P **P 17 40 57.7 -4.4**
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,40nm,0.8s
VSR Storozhevoye 24.24 304 *e*P **P 17 41 01.6 -1.6**
VSR pmax pmax
comp=Z,4.0nm,0.7s
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,5.0nm,0.8s
SONM Songino Array 24.78 65 P **P 17 41 09.4 +1.1**
SONM Songino Array 24.78 65 P **P 17 41 09.4 +1.1**
comp=E,0.5nm,0.6s,baz=273,slow=9.4,SNR=5.0
HYB Hyderabad 25.17 165 *i* P **P 17 41 11.5 -0.4**
ULN Ulaanbaatar 25.23 65 Pn **P 17 41 11.6 -0.8**
BR131 Keskin Array S 29.03 278 *e*P **P 17 41 47.6 +1.0**
comp=E,3.3nm,0.7s
BRTR Keskin Array B 29.03 278 P **P 17 41 47.8 +1.1**
BRTR Keskin Array B 29.03 278 P **P 17 41 47.8 +1.1**
comp=E,5.7nm,0.9s,baz=87,slow=7.8,SNR=18
AKASG Malin Array Be 30.47 301 P **P 17 41 59.0 0.0**
AKASG Malin Array Be 30.47 301 P **P 17 41 59.0 0.0**
AKASG Malin Array Be 30.47 301 P **P 17 41 59.0 0.0**
comp=E,0.3nm,0.4s,baz=77,slow=8.0,SNR=6.4
KIEV Kiev 30.48 301⇓*e*P **P 17 41 58.5 -0.6**
FINES FINESS Array B 33.52 321 P **P 17 42 26.4 +0.7**
FINES FINESS Array B 33.52 321 P **P 17 42 26.4 +0.7**
comp=E,1.0nm,0.4s,baz=104,slow=11,SNR=7.7
ARCES ARCESS Array B 36.42 334 P **P 17 42 51.8 +1.1**
ARCES ARCESS Array B 36.42 334 P **P 17 42 51.8 +1.1**
comp=E,4.9nm,0.9s,baz=109,slow=8.7,SNR=17
YAK Yakutsk 39.01 39 *e*P P 17 43 16.8 +4.3
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 39.01 39 *e*P P 17 43 16.8 +4.3
comp=Z,9.6nm,0.8s
TIXI Tiksi 40.32 24⇓*e*P **P 17 43 24.2 +0.9**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 40.59 304 *e*P **P 17 43 26.0 +0.2**
CLL Collm 40.59 304 *e*P **P 17 43 26.0 +0.2**
NB2 NORSAR Subarra 40.61 319 P **P 17 43 25.8 -0.1**
comp=Z,1.3nm,0.7s,baz=90,slow=8.6
NOA NORSAR Array B 40.61 319 P **P 17 43 25.6 -0.3**
NOA NORSAR Array B 40.61 319 P **P 17 43 25.6 -0.3**
comp=Z,1.4nm,0.7s,baz=91,slow=8.3,SNR=6.5
GERES GERESS Array B 40.66 300 P **P 17 43 28.1 +1.5**
GERES GERESS Array B 40.66 300 P **P 17 43 28.1 +1.5**
comp=Z,2.3nm,0.5s,baz=69,slow=7.9,SNR=27
CDF Champ du Feu 44.89 301 *e*P **P 17 44 01.1 +0.2**
CDF Champ du Feu 44.89 301 *e*P **P 17 44 01.1 +0.2**
CDF Champ du Feu 44.89 301 *e*P **P 17 44 01.1 +0.2**
HINF Hinteralfeld 45.34 301 *e*P **P 17 44 04.4 0.0**
HINF Hinteralfeld 45.34 301 *e*P **P 17 44 04.4 0.0**
HINF Hinteralfeld 45.34 301 *e*P **P 17 44 04.4 0.0**
HAU Haudompre 45.60 301 *e*P **P 17 44 06.4 -0.1**
HAU Haudompre 45.60 301 *e*P **P 17 44 06.4 -0.1**
HAU Haudompre 45.60 301 *e*P **P 17 44 06.4 -0.1**
PGF Pioggiola 45.71 293 *e*P **P 17 44 07.5 0.0**
comp=Z,6.2nm,0.7s
PGF Pioggiola 45.71 293 *e*P **P 17 44 07.5 0.0**
PGF pmax pmax
comp=Z,6.0nm,0.7s
PGF Pioggiola 45.71 293 *e*P **P 17 44 07.5 0.0**
comp=Z,6.2nm,0.7s
LPG La Plagne 46.16 298 *e*P **P 17 44 12.3 +1.0**
comp=Z,6.3nm,0.5s
LPG La Plagne 46.16 298 *e*P **P 17 44 12.3 +1.0**
LPG pmax pmax
comp=Z,6.0nm,0.5s
LPG La Plagne 46.16 298 *e*P **P 17 44 12.3 +1.0**
comp=Z,6.3nm,0.5s
LPL La Plagne 46.17 298 *e*P **P 17 44 12.2 +1.0**
comp=Z,10nm,0.5s
LPL La Plagne 46.17 298 *e*P **P 17 44 12.2 +1.0**
LPL pmax pmax
comp=Z,10.0nm,0.5s
LPL La Plagne 46.17 298 *e*P **P 17 44 12.2 +1.0**
comp=Z,10nm,0.5s
SBF Sospel 46.29 295 *e*P **P 17 44 12.2 +0.2**
comp=Z,22nm,0.8s
SBF Sospel 46.29 295 *e*P **P 17 44 12.2 +0.2**
SBF pmax pmax
comp=Z,22nm,0.8s
SBF Sospel 46.29 295 *e*P **P 17 44 12.2 +0.2**
comp=Z,22nm,0.8s
BAIF Baives 46.32 304 *e*P **P 17 44 11.8 -0.2**
BAIF Baives 46.32 304 *e*P **P 17 44 11.8 -0.2**
BAIF Baives 46.32 304 *e*P **P 17 44 11.8 -0.2**
MBDF Montbardon 46.42 297 *e*P **P 17 44 13.2 +0.1**
comp=Z,19nm,0.8s
MBDF Montbardon 46.42 297 *e*P **P 17 44 13.2 +0.1**
MBDF pmax pmax
comp=Z,19nm,0.8s
MBDF Montbardon 46.42 297 *e*P **P 17 44 13.2 +0.1**
comp=Z,19nm,0.8s
FRF La Foret Royal 46.93 295 *e*P **P 17 44 16.9 0.0**
comp=Z,19nm,0.9s
FRF La Foret Royal 46.93 295 *e*P **P 17 44 16.9 0.0**
FRF pmax pmax
comp=Z,19nm,0.9s
FRF La Foret Royal 46.93 295 *e*P **P 17 44 16.9 0.0**
comp=Z,19nm,0.9s
ORIF Oris-en-Rattie 46.94 297 *e*P **P 17 44 16.5 -0.7**
ORIF Oris-en-Rattie 46.94 297 *e*P **P 17 44 16.5 -0.7**
ORIF Oris-en-Rattie 46.94 297 *e*P **P 17 44 16.5 -0.7**
LMR La Mourre 47.11 295 *e*P **P 17 44 18.5 +0.2**
comp=Z,6.9nm,0.7s
LMR La Mourre 47.11 295 *e*P **P 17 44 18.5 +0.2**
LMR pmax pmax
comp=Z,7.0nm,0.7s
LMR La Mourre 47.11 295 *e*P **P 17 44 18.5 +0.2**
comp=Z,6.9nm,0.7s
SMRF Simiane la Rot 47.49 296 *e*P **P 17 44 21.5 +0.1**
comp=Z,20nm,0.9s
SMRF Simiane la Rot 47.49 296 *e*P **P 17 44 21.5 +0.1**
comp=Z,20nm,0.9s
SMF Signal de Mont 47.66 300 *e*P **P 17 44 22.7 +0.1**
SMF Signal de Mont 47.66 300 *e*P **P 17 44 22.7 +0.1**
SMF Signal de Mont 47.66 300 *e*P **P 17 44 22.7 +0.1**
VIVF Saint-Julien-l 47.77 297 *e*P **P 17 44 23.6 +0.1**
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 47.77 297 *e*P **P 17 44 23.6 +0.1**
VIVF pmax pmax
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 47.77 297 *e*P **P 17 44 23.6 +0.1**
comp=Z,14nm,0.7s
AVF Avril sur Loir 47.92 300 *e*P **P 17 44 24.4 -0.2**
comp=Z,20nm,1.0s
AVF Avril sur Loir 47.92 300 *e*P **P 17 44 24.4 -0.2**
AVF pmax pmax
comp=Z,20nm,1.0s
AVF Avril sur Loir 47.92 300 *e*P **P 17 44 24.4 -0.2**
comp=Z,20nm,1.0s
BGF Bois d'Agland 48.33 300 *e*P **P 17 44 28.0 +0.2**
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 48.33 300 *e*P **P 17 44 28.0 +0.2**
BGF pmax pmax
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 48.33 300 *e*P **P 17 44 28.0 +0.2**
comp=Z,8.0nm,0.7s
LASF Ste Croix 48.60 297 *e*P **P 17 44 30.3 +0.4**
comp=Z,17nm,0.7s
LASF Ste Croix 48.60 297 *e*P **P 17 44 30.3 +0.4**
comp=Z,17nm,0.7s
TCF Toulx Ste Croi 48.84 300 *e*P **P 17 44 31.8 0.0**
TCF Toulx Ste Croi 48.84 300 *e*P **P 17 44 31.8 0.0**
TCF Toulx Ste Croi 48.84 300 *e*P **P 17 44 31.8 0.0**
YSS Yuzh-Sakhalins 49.04 59 P **P 17 44 35.5 +2.3**
YSS pmax pmax
comp=Z,16nm,0.9s
YSS Yuzh-Sakhalins 49.04 59 P **P 17 44 35.5 +2.3**
comp=Z,16nm,0.9s
CAF Calviac 49.45 298 *e*P **P 17 44 36.8 +0.3**
CAF Calviac 49.45 298 *e*P **P 17 44 36.8 +0.3**
CAF Calviac 49.45 298 *e*P **P 17 44 36.8 +0.3**
LDF La Druitiere 49.48 304 *e*P **P 17 44 36.3 -0.2**
LDF La Druitiere 49.48 304 *e*P **P 17 44 36.3 -0.2**
LDF La Druitiere 49.48 304 *e*P **P 17 44 36.3 -0.2**
RJF Les Rejaudoux 49.66 299 *e*P **P 17 44 38.5 +0.5**
comp=Z,8.6nm,0.6s
RJF Les Rejaudoux 49.66 299 *e*P **P 17 44 38.5 +0.5**
RJF pmax pmax
comp=Z,9.0nm,0.6s
RJF Les Rejaudoux 49.66 299 *e*P **P 17 44 38.5 +0.5**
comp=Z,8.6nm,0.6s
GRR Gorron 50.01 304 *e*P **P 17 44 40.5 -0.1**
GRR Gorron 50.01 304 *e*P **P 17 44 40.5 -0.1**
GRR Gorron 50.01 304 *e*P **P 17 44 40.5 -0.1**
MFF Saint Martin d 50.23 301 *e*P **P 17 44 42.0 -0.3**
comp=Z,9.4nm,0.8s
MFF Saint Martin d 50.23 301 *e*P **P 17 44 42.0 -0.3**
MFF pmax pmax
comp=Z,9.0nm,0.8s
MFF Saint Martin d 50.23 301 *e*P **P 17 44 42.0 -0.3**

	comp=Z,9.4nm,0.8s							
MAJO	**Matsushiro**	50.29	73	P		P	17 44 43.4	+0.5
MAJO	**Matsushiro**	50.29	73	P		P	17 44 43.4	+0.5
LFF	**La Frestale**	50.31	299	*e*P		P	17 44 43.3	+0.4
	comp=Z,12nm,0.7s							
LFF	**La Frestale**	50.31	299	*e*P		P	17 44 43.3	+0.4
LFF				pmax		pmax		
	comp=Z,12nm,0.7s							
LFF	**La Frestale**	50.31	299	*e*P		P	17 44 43.3	+0.4
	comp=Z,12nm,0.7s							
EPF	**Esparros**	51.36	297	*e*P		P	17 44 50.8	-0.1
EPF	**Esparros**	51.36	297	*e*P		P	17 44 50.8	-0.1
EPF	**Esparros**	51.36	297	*e*P		P	17 44 50.8	-0.1
ETSF	**Etsaut**	52.02	297	*e*P		P	17 44 56.0	+0.1
	comp=Z,6.5nm,0.7s							
ETSF	**Etsaut**	52.02	297	*e*P		P	17 44 56.0	+0.1
ETSF				pmax		pmax		
	comp=Z,7.0nm,0.7s							
ETSF	**Etsaut**	52.02	297	*e*P		P	17 44 56.0	+0.1
	comp=Z,6.5nm,0.7s							
SJPF	**Ste Jean**	52.36	298	*e*P		P	17 44 58.4	0.0
SJPF	**Ste Jean**	52.36	298	*e*P		P	17 44 58.4	0.0
SJPF	**Ste Jean**	52.36	298	*e*P		P	17 44 58.4	0.0
ESDC	**Sonseca Array**	55.77	295	P		P	17 45 23.2	-0.1
ESDC	**Sonseca Array**	55.77	295	P		P	17 45 23.2	-0.1
	comp=Z,1.6nm,0.6s,baz=54,slow=7.2,SNR=8.9							
SUMG	**Summit**	56.11	340	*i* P		P	17 45 27.2	+1.5
SUMG				pmax		pmax		
	comp=Z,6.0nm,0.8s							
SUMG	**Summit**	56.11	340	*i* P		P	17 45 27.2	+1.5
	comp=Z,5.5nm,0.8s							
TOA0	**Torodi Ar. Sit**	66.82	267	*e*P		P	17 46 36.9	-1.5
TORD	**Torodi Ar. Bea**	66.82	267	P		P	17 46 37.3	-1.1
TORD	**Torodi Ar. Bea**	66.82	267	P		P	17 46 37.3	-1.1
	comp=Z,1.8nm,0.7s,baz=45,slow=5.5,SNR=7.4							
INK	**Inuvik**	68.28	10	*e*P		P	17 46 47.2	+0.4
	comp=Z,4.8nm,1.0s							
INK	**Inuvik**	68.28	10	P		P	17 46 47.5	+0.8
	comp=Z,1.5nm,0.5s,baz=351,slow=6.6,SNR=20							
ILAR	**Eielson Array**	69.20	17	P		P	17 46 52.6	0.0
ILAR	**Eielson Array**	69.20	17	P		P	17 46 52.6	0.0
	comp=Z,1.0nm,0.8s,baz=322,slow=5.4,SNR=12							
YKA	**Yellowknife Ar**	75.65	3	P		P	17 47 31.1	+0.1
YKA	**Yellowknife Ar**	75.65	3	P		P	17 47 31.1	+0.1
	comp=Z,0.5nm,0.5s,baz=352,slow=5.9,SNR=11							
DBIC	**Dimbokro**	75.91	266	P		P	17 47 29.3	-4.0
TSUM	**Tsumeb**	79.05	232	*e*P		P	17 47 49.4	-1.4
PLCA	**Paso Flores**	152.12	260	PKPbc		PKPbc	17 55 41.5	-0.2
PLCA	**Paso Flores**	152.12	260	PKPbc		PKPbc	17 55 41.5	-0.2
	comp=Z,1.1nm,0.7s,baz=73,slow=5.4,SNR=3.7							

BUC 19 17:35:47.3±1.3, 45.75N×26.58E, h86km±6km, MD2.5/2, 12C-2D, Error ellipse: s-maj=9.8km s-min=8.3km az=74.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	0.11	28	↑*i* P	Pn	17 35 59.7	+0.1
PLOR	**Plostina**	0.11	28	↑*i* P	Pn	17 35 59.7	+0.1
PLOR				*i* S	Sn	17 36 08.4	-0.3
VRI	**Vrincioaia**	0.15	43	↑*i* P	Pn	17 36 00.1	+0.4
VRI	**Vrincioaia**	0.15	43	↑*i* P	Pn	17 36 00.1	+0.4
VRI				*i* S	Sn	17 36 08.1	-0.8
MLR	**Muntele Rosu**	0.52	239	↑*i* P	Pn	17 36 02.4	+0.5
MLR	**Muntele Rosu**	0.52	239	↑*i* P	Pn	17 36 02.4	+0.5
MLR				*i* S	Sn	17 36 12.8	0.0
ISR	**Istrita**	0.64	182	S	Sn	17 36 15.4	+0.9
ISR	**Istrita**	0.64	182	*i* S	Sn	17 36 15.4	+0.9
TESR	**Tescani**	0.76	4	↓*i* P	Pn	17 36 04.6	+0.5
TESR	**Tescani**	0.76	4	↓*i* P	Pn	17 36 04.6	+0.5
TESR				*i* S	Sn	17 36 16.5	-0.1
SECR		0.80	207	S	Sn	17 36 19.4	+2.0
SECR		0.80	207	*i* S	Sn	17 36 19.4	+2.0
DOPR	**Dopca**	0.86	285	↑*i* P	Pn	17 36 05.4	+0.3
DOPR	**Dopca**	0.86	285	↑*i* P	Pn	17 36 05.4	+0.3
DOPR				*i* S	Sn	17 36 18.5	+0.1
SULR		1.10	192	S	Sn	17 36 25.2	+1.9
SULR		1.10	192	*i* S	Sn	17 36 25.2	+1.9
VOIR		1.12	254	↑*i* P	Pn	17 36 08.3	+0.1
VOIR		1.12	254	↑*i* P	Pn	17 36 08.3	+0.1
VOIR				*i* S	Sn	17 36 23.5	-0.4
CFR	**Carcaliu**	1.24	117	S	Sn	17 36 26.8	+0.5
CFR	**Carcaliu**	1.24	117	*i* S	Sn	17 36 26.8	+0.5
MSAB	**Monastry St. A**	1.89	151	↑*i* P	Pn	17 36 18.0	+0.2
MSAB	**Monastry St. A**	1.89	151	↑*i* P	Pn	17 36 18.0	+0.2
MSAB				*i* S	Sn	17 36 40.3	-0.8

*ISCJB **19** 17:36:52.3±0.4, 40.85N±0.03×27.56E±0.03, h0km±5km, Error ellipse: s-maj=5.0km s-min=3.0km az=144.5*
*CSEM **19** 17:36:52.6±0.1, 40.85N×27.55E, h2km, MD3.0, Error ellipse: s-maj=3.5km s-min=2.5km az=145.0*
*ISK **19** 17:36:52.0, 40.81N×27.56E, h3km, MD3.0*
*DDA **19** 17:36:52.7, 40.82N×27.57E, h11km, MD3.2*
ISC 19 17:36:52.9±1.0, 40.83N±0.02×27.56E±0.02, h7km±9km, n86, σ0.67/114, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SART	**Tekirdag**	0.32	244	*i* P	Pg	17 36 59.2	-0.1
SART				*i* S	Sg	17 37 04.5	+0.9
SART	**Tekirdag**	0.32	244	*i* P	Pg	17 36 59.2	-0.1
SART				*i* S	Sg	17 37 04.5	+0.9
RKY	**Sarkoy-Tekirda**	0.33	244	PG	Pg	17 36 59.3	0.0
RKY				SG	Sg	17 37 04.4	+0.8
RKY	**Sarkoy-Tekirda**	0.33	244	*i* Pg	Pg	17 36 59.3	0.0
RKY				*i* Sg	Sg	17 37 04.4	+0.8
KRBG	**Karabiga-Canak**	0.48	205	PG	Pg	17 37 01.8	-0.4
KRBG				SG	Sg	17 37 08.7	+0.2
KRBG	**Karabiga-Canak**	0.48	205	*i* Pg	Pg	17 37 01.8	-0.4
KRBG				*i* Sg	Sg	17 37 08.7	+0.2
EDC	**Edincik**	0.54	155	PG	Pg	17 37 02.9	-0.3
EDC				*e*SG	Sg	17 37 10.4	+0.2
EDC	**Edincik**	0.54	155	*i* Pg	Pg	17 37 02.9	-0.3
EDC				*e*Sg	Sg	17 37 10.4	+0.2
BNT	**Bandirma**	0.55	150	PG	Pg	17 37 03.1	-0.4
BNT	**Bandirma**	0.55	150	*i* Pg	Pg	17 37 03.1	-0.4
SLVT	**Silivri**	0.63	51	*e*PG	Pg	17 37 05.5	+0.5
SLVT				*e*SG	Sb	17 37 15.0	-0.4
SLVT	**Silivri**	0.63	51	*i* P	Pg	17 37 03.0	-2.1
SLVT	**Silivri**	0.63	51	*e*Pg	Pg	17 37 05.5	+0.5
SLVT				*i* S	Sg	17 37 10.6	-2.7
SLVT				*e*Sg	Sb	17 37 15.0	-0.4
ELBA	**Catalca**	0.73	64	*i* P	Pg	17 37 06.8	-0.1
ELBA				*i* S	Sg	17 37 17.3	+0.9
ELBA	**Catalca**	0.73	64	*i* P	Pg	17 37 06.8	-0.1
ELBA				*i* S	Sg	17 37 17.3	+0.9
LPK	**Lapseki**	0.76	233	*e*PG	Pg	17 37 07.3	-0.3
LPK				*e*SG	Sb	17 37 18.3	-0.9
LPK	**Lapseki**	0.76	233	*e*Pg	Pg	17 37 07.3	-0.3
LPK				*e*Sg	Sb	17 37 18.3	-0.9
GONE	**Gonen-Balikesi**	0.79	173	*e*PG	Pg	17 37 07.5	-0.6
GONE	**Gonen-Balikesi**	0.79	173	*e*Pg	Pg	17 37 07.5	-0.6
PHSR	**Pinarhisar**	0.80	358	*e*PG	Pg	17 37 08.4	+0.1
PHSR	**Pinarhisar**	0.80	358	*e*Pg	Pg	17 37 08.4	+0.1
ERIK	**Erikli-Kesan**	0.81	259	*e*PG	Pg	17 37 08.2	-0.3
ERIK	**Erikli-Kesan**	0.81	259	*e*Pg	Pg	17 37 08.2	-0.3
CTKS	**Kestanelik-??a**	0.82	60	*e*PG	Pg	17 37 08.7	0.0
CTKS	**Kestanelik-??a**	0.82	60	*e*Pg	Pg	17 37 08.7	0.0
CTYL	**Yal??k??y-??at**	0.84	40	*e*PG	Pg	17 37 09.1	0.0
CTYL	**Yal??k??y-??at**	0.84	40	*e*Pg	Pg	17 37 09.1	0.0
GELI	**Tayfur-Gelibol**	0.94	243	*e*PG	Pg	17 37 10.1	-0.7
GELI	**Tayfur-Gelibol**	0.94	243	*e*Pg	Pg	17 37 10.1	-0.7
ARMT	**Armutlu**	1.02	105	*e*PG	Pb	17 37 12.9	-0.1
ARMT	**Armutlu**	1.02	105	*e*Pg	Pb	17 37 12.9	-0.1
ENEZ	**Enez**	1.07	265	*e*PG	Pg	17 37 13.1	-0.4
ENEZ	**Enez**	1.07	265	*e*Pg	Pg	17 37 13.1	-0.4
BALY	**Balya**	1.09	178	*i* P	Pg	17 37 13.1	-0.7
BALY				*i* S	Sb	17 37 28.6	0.0
BALY	**Balya**	1.09	178	*i* P	Pg	17 37 13.1	-0.7
BALY				*i* S	Sb	17 37 28.6	0.0
MDNY	**Mudanya-Bursa**	1.11	114	*e*PN	Pg	17 37 13.4	-0.7
MDNY	**Mudanya-Bursa**	1.11	114	*e*Pn	Pg	17 37 13.4	-0.7
ISK	**Istanbul-Kandi**	1.16	78	*e*PN	Pg	17 37 14.4	-0.6
ISK	**Istanbul-Kandi**	1.16	78	*e*Pn	Pg	17 37 14.5	-0.6
EDRB	**Edirne**	1.19	329	*e*PN	Pg	17 37 15.3	-0.4
EDRB	**Edirne**	1.19	329	*e*Pn	Pg	17 37 15.3	-0.4
BALB	**Balikesir**	1.22	168	*e*PN	Pg	17 37 15.5	-0.7
BALB	**Balikesir**	1.22	168	*e*Pn	Pg	17 37 15.5	-0.7
ORLT	**Orhaneli**	1.28	127	*e*PN	Pg	17 37 17.0	-0.6
ORLT	**Orhaneli**	1.28	127	*e*Pn	Pg	17 37 17.0	-0.6
EZN	**Ezine**	1.38	224	*e*PN	Pn	17 37 17.8	-0.8
EZN	**Ezine**	1.38	224	*e*Pn	Pn	17 37 17.8	-0.8
ULDT	**Uludag**	1.38	119	*i* P	Pn	17 37 19.1	+0.3
ULDT				*i* S	Sn	17 37 37.9	+0.4
ULDT	**Uludag**	1.38	119	*i* P	Pn	17 37 19.1	+0.3
ULDT				*i* S	Sn	17 37 37.9	+0.4
DURS	**Dursunbey**	1.41	150	*i* P	Pn	17 37 19.4	+0.2
DURS				*i* S	Sg	17 37 37.7	-0.6
DURS	**Dursunbey**	1.41	150	*i* P	Pn	17 37 19.4	+0.2
DURS				*i* S	Sg	17 37 37.7	-0.6
HRT	**Hereke**	1.60	90	*e*PN	Pn	17 37 21.6	-0.1
HRT	**Hereke**	1.60	90	*e*Pn	Pn	17 37 21.6	-0.1
SILT	**Sile**	1.61	78	*e*PN	Pn	17 37 22.4	+0.7
SILT	**Sile**	1.61	78	*e*Pn	Pn	17 37 22.4	+0.7
AYVA	**Ayvalik**	1.66	204	*i* P	Pb	17 37 23.7	-0.2
AYVA				*i* S	Sb	17 37 45.2	+0.2
AYVA	**Ayvalik**	1.66	204	*i* P	Pb	17 37 23.7	-0.2
AYVA				*i* S	Sb	17 37 45.2	+0.2
CAVI	**Cavuskoy**	1.85	109	*e*PN	Pn	17 37 25.4	+0.3
CAVI	**Cavuskoy**	1.85	109	*e*Pn	Pn	17 37 25.4	+0.3
AKHS	**Akhisar**	1.96	174	*i* P	Pb	17 37 28.8	-0.1
AKHS				*i* S	Sg	17 37 56.8	+0.9
AKHS	**Akhisar**	1.96	174	*i* P	Pb	17 37 28.8	-0.1
AKHS				*i* S	Sg	17 37 56.8	+0.9
AKS	**Akhisar**	1.96	174	*e*PN	Pn	17 37 27.3	+0.7
AKS	**Akhisar**	1.96	174	*e*Pn	Pn	17 37 27.3	+0.7
DEMI	**Demirci**	2.00	153	*i* P	Pb	17 37 29.9	+0.3
DEMI				*i* S	Sg	17 37 56.1	-0.9
DEMI	**Demirci**	2.00	153	*i* P	Pb	17 37 29.9	+0.3
DEMI				*i* S	Sg	17 37 56.1	-0.9
TVSB	**Tavsanli**	2.01	133	*e*PN	Pn	17 37 28.1	+0.8
TVSB	**Tavsanli**	2.01	133	*e*Pn	Pn	17 37 28.1	+0.8
GDZ	**Gediz**	2.28	139	*i* P	Pg	17 37 36.4	-0.2
GDZ				*i* S	Sg	17 38 05.5	-0.7
GDZ	**Gediz**	2.28	139	*i* P	Pg	17 37 36.4	-0.2
IZM	**Izmir**	2.44	186	*e*PN	Pn	17 37 33.7	+0.4
IZM	**Izmir**	2.44	186	*e*Pn	Pn	17 37 33.7	+0.4
KULA	**Kula-Manisa**	2.46	160	*e*PN	Pn	17 37 34.3	+0.7
KULA	**Kula-Manisa**	2.46	160	*e*Pn	Pn	17 37 34.3	+0.7
BLCB	**Balcova**	2.48	190	*e*PN	Pn	17 37 34.2	+0.5
BLCB	**Balcova**	2.48	190	*e*Pn	Pn	17 37 34.2	+0.5
ALT	**Altintas**	2.64	131	*e*PN	Pn	17 37 37.1	+1.0
ALT	**Altintas**	2.64	131	*e*Pn	Pn	17 37 37.1	+1.0
AYDB	**Zeytinkoy-Aydi**	2.89	175	*e*PN	Pn	17 37 40.1	+0.6
AYDB	**Zeytinkoy-Aydi**	2.89	175	*e*Pn	Pn	17 37 40.1	+0.6
KHL	**Karahalli**	2.93	148	*e*PN	Pn	17 37 40.8	+0.8
KHL	**Karahalli**	2.93	148	*e*Pn	Pn	17 37 40.8	+0.8
SHUT	**Suhut-Afyon**	3.24	134	*e*PN	Pn	17 37 45.3	+1.0
SHUT	**Suhut-Afyon**	3.24	134	*e*Pn	Pn	17 37 45.3	+1.0
SVRH	**Sivrihisar-ESK**	3.34	113	*e*PN	Pn	17 37 46.6	+1.0
SVRH	**Sivrihisar-ESK**	3.34	113	*e*Pn	Pn	17 37 46.6	+1.0
VAY	**Valandovo**	3.81	279	*e*Sg	Sg	17 38 53.8	-1.3

IDC 19 17:47:36.3±2.6, 5.74S×131.54E, h0km, mb3.7/2, mb1 3.5/4, mb1mx3.3/34, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=213.6km s-min=26.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	2.03	307	P	Sn	17 48 36.6	-1.2
WRA	**Warramunga Arr**	14.38	169	Pn	Pn	17 50 59.9	-1.4
	0.1nm,0.3s,baz=352,slow=13,SNR=11						
WRA				Sn	Sn	17 53 29.6	-12
	0.6nm,0.3s,baz=352,slow=24,SNR=12						
ASAR	**Alice Springs**	17.97	173	P	Pn	17 51 48.0	+0.3
	0.1nm,0.3s,baz=346,slow=9.6,SNR=10.0						
ASAR				S	Sn	17 54 55.5	-14
	0.1nm,0.3s,baz=356,slow=27,SNR=5.6						
STKA	**Stephens Creek**	27.65	161	P		17 53 26.2	+0.3
	0.6nm,0.3s,baz=326,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	68.03	326	P	P	17 58 37.6	0.0
	0.4nm,0.5s,baz=109,slow=7.4,SNR=6.0						

*ISK **19** 18:02:35.5, 38.45N×29.67E, h5km, ML3.3*
*DDA **19** 18:02:35.3, 38.46N×29.67E, h15km, MD3.5*
*CSEM **19** 18:02:36.0±0.1, 38.43N×29.66E, h2km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.7km az=19.0*
ISC 19 18:02:36.1±1.0, 38.46N±0.02×29.68E±0.02, h6km±8km, n124, σ0.81/150, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHAL	**Karahalli**	0.17	240	*i* P	Pg	18 02 39.3	-0.3
KHAL				*i* S	Sg	18 02 42.1	+0.2
KHAL	**Karahalli**	0.17	240	*i* P	Pg	18 02 39.3	-0.3
KHAL				*i* S	Sg	18 02 42.1	+0.2
KHL	**Karahalli**	0.18	223	*e*PG	Pg	18 02 39.4	-0.3
KHL	**Karahalli**	0.18	223	*e*Pg	Pg	18 02 39.4	-0.3
GDZ	**Gediz**	0.65	346	*i* P	Pg	18 02 48.1	-0.6
GDZ				*i* S	Sg	18 02 57.0	-0.2
GDZ	**Gediz**	0.65	346	*i* P	Pg	18 02 48.1	-0.6
GDZ				*i* S	Sg	18 02 57.0	-0.2
ALT	**Altintas**	0.69	29	*e*PG	Pg	18 02 48.6	-0.8
ALT	**Altintas**	0.69	29	*e*Pg	Pg	18 02 48.6	-0.8
SHUT	**Suhut-Afyon**	0.69	82	*e*PG	Pg	18 02 49.0	-0.5
SHUT				*e*SG	Sg	18 02 59.3	+0.8
SHUT	**Suhut-Afyon**	0.69	82	*e*Pg	Pg	18 02 49.0	-0.5
SHUT				*e*Sg	Sg	18 02 59.3	+0.8
KULA	**Kula-Manisa**	0.80	275	*e*PG	Pg	18 02 51.1	-0.4
KULA	**Kula-Manisa**	0.80	275	*e*Pg	Pg	18 02 51.1	-0.4
MANT	**Manisa**	0.88	273	*i* P	Pg	18 02 52.8	-0.2
MANT				*i* S	Sg	18 03 04.2	-0.3
MANT	**Manisa**	0.88	273	*i* P	Pg	18 02 52.8	-0.2
MANT				*i* S	Sg	18 03 04.2	-0.3
DNZL	**Cakiroluk**	0.91	213	*i* P	Pg	18 02 52.9	-0.7
DNZL				*i* S	Sn	18 03 08.4	-0.7
DNZL	**Cakiroluk**	0.91	213	*i* P	Pg	18 02 52.9	-0.7
DEMI	**Demirci**	0.95	308	*i* P	Pg	18 02 54.1	-0.3
DEMI				*i* S	Sg	18 03 06.9	+0.1
DEMI	**Demirci**	0.95	308	*i* P	Pg	18 02 54.1	-0.3
DEMI				*i* S	Sg	18 03 06.9	+0.1
TVSB	**Tavsanli**	1.01	350	*e*PG	Pg	18 02 55.5	0.0
TVSB	**Tavsanli**	1.01	350	*e*Pg	Pg	18 02 55.5	0.0
BOLV	**Bolvadin**	1.03	75	*i* P	Pg	18 02 54.9	-1.1
BOLV				*i* S	Sb	18 03 10.5	+0.2
BOLV	**Bolvadin**	1.03	75	*i* P	Pg	18 02 54.9	-1.1
BOLV				*i* S	Sb	18 03 10.5	+0.2
GOLH	**Golhisar**	1.22	184	*i* P	Pg	18 02 58.4	-1.1
GOLH	**Golhisar**	1.22	184	*i* P	Pg	18 02 58.4	-1.1
BCK	**Bucak**	1.23	144	*e*PN	Pg	18 02 59.5	-0.2
BCK	**Bucak**	1.23	144	*e*Pn	Pg	18 02 59.5	-0.2
SEYT	**Eskypehyr**	1.40	40	*i* P	Pn	18 03 00.4	-1.9
SEYT				*i* S	Sb	18 03 17.6	-3.4
SUTC	**Sutluce-Ispart**	1.43	133	*e*PN	Pn	18 03 03.0	+0.3
SUTC	**Sutluce-Ispart**	1.43	133	*e*Pn	Pn	18 03 03.0	+0.3
DURS	**Dursunbey**	1.48	321	*i* P	Pn	18 03 03.3	0.0
DURS				*i* S	Sg	18 03 23.8	+0.1
DURS	**Dursunbey**	1.48	321	*i* P	Pn	18 03 03.3	0.0
DURS				*i* S	Sg	18 03 23.8	+0.1
AYDB	**Zeytinkoy-Aydi**	1.50	251	*e*PN	Pn	18 03 03.4	-0.2
AYDB	**Zeytinkoy-Aydi**	1.50	251	*e*Pn	Pn	18 03 03.4	-0.2
AKHS	**Akhisar**	1.52	287	*i* P	Pn	18 03 03.6	-0.2
AKHS				*i* S	Sb	18 03 24.6	+0.4
AKHS	**Akhisar**	1.52	287	*i* P	Pn	18 03 03.6	-0.2
AKHS				*i* S	Sb	18 03 24.6	+0.4
AKS	**Akhisar**	1.52	287	*e*PN	Pn	18 03 04.0	+0.2
AKS	**Akhisar**	1.52	287	*e*Pn	Pn	18 03 04.0	+0.2
BORA	**Eskisehir**	1.55	23	*i* P	Pb	18 03 05.5	+0.3
BORA				*i* S	Sn	18 03 23.4	-1.3
BORA	**Eskisehir**	1.55	23	*i* P	Pb	18 03 05.5	+0.3
KORT	**Korkueli**	1.55	160	*i* P	Pn	18 03 04.4	+0.1
KORT	**Korkueli**	1.55	160	*i* P	Pn	18 03 04.4	+0.1
ORLT	**Orhaneli**	1.70	339	*e*PN	Pn	18 03 06.7	+0.3
ORLT	**Orhaneli**	1.70	339	*e*Pn	Pn	18 03 06.7	+0.3
ELL	**Elmali**	1.71	174	*e*PN	Pn	18 03 07.1	+0.5
ELL	**Elmali**	1.71	174	*e*Pn	Pn	18 03 07.1	+0.5
YER	**Yerkesik**	1.72	220	*e*PN	Pn	18 03 06.7	+0.1
YER	**Yerkesik**	1.72	220	*e*Pn	Pn	18 03 06.7	+0.1
ANTB	**Antalya**	1.73	153	*e*PN	Pn	18 03 07.1	+0.4
ANTB	**Antalya**	1.73	153	*e*Pn	Pn	18 03 07.1	+0.4
ULDT	**Uludag**	1.74	346	*i* P	Pn	18 03 06.4	-0.6
ULDT				*i* S	Sg	18 03 31.9	0.0
ULDT	**Uludag**	1.74	346	*i* P	Pn	18 03 06.4	-0.6
ULDT				*i* S	Sg	18 03 31.9	0.0
SVRH	**Sivrihisar-ESK**	1.75	55	*e*PN	Pn	18 03 07.6	+0.6
SVRH	**Sivrihisar-ESK**	1.75	55	*e*Pn	Pn	18 03 07.6	+0.6
CAVI	**Cavuskoy**	1.75	4	*e*PN	Pb	18 03 08.0	-0.6
CAVI	**Cavuskoy**	1.75	4	*e*Pn	Pb	18 03 08.0	-0.6
TURN	**Turunc**	1.79	209	*i* P	Pg	18 03 11.0	+0.5
BALB	**Balikesir**	1.83	311	*e*PN	Pn	18 03 08.5	+0.4
BALB	**Balikesir**	1.83	311	*e*Pn	Pn	18 03 08.5	+0.4
FETY	**Fethiye**	1.88	195	*e*PN	Pn	18 03 08.9	+0.2
FETY	**Fethiye**	1.88	195	*e*Pn	Pn	18 03 08.9	+0.2
GPA	**Golpazari**	1.90	15	*e*PN	Pn	18 03 09.6	+0.6
GPA	**Golpazari**	1.90	15	*e*Pn	Pn	18 03 09.6	+0.6
IZM	**Izmir**	1.90	269	*e*PN	Pn	18 03 09.2	+0.1
IZM	**Izmir**	1.90	269	*e*Pn	Pn	18 03 09.2	+0.1
MDNY	**Mudanya-Bursa**	2.01	342	*e*PN	Pn	18 03 11.2	+0.7
MDNY	**Mudanya-Bursa**	2.01	342	*e*Pn	Pn	18 03 11.2	+0.7
BALY	**Balya**	2.05	309	*i* P	Pb	18 03 11.6	+0.4
BALY				*i* S	Sn	18 03 37.4	+0.3
BALY	**Balya**	2.05	309	*i* P	Pb	18 03 11.6	+0.4
BALY				*i* S	Sn	18 03 37.4	+0.3
BLCB	**Balcova**	2.07	269	*e*PN	Pn	18 03 11.7	+0.3
BLCB	**Balcova**	2.07	269	*e*Pn	Pn	18 03 11.7	+0.3
LADK	**Ladik-KONYA**	2.13	96	*e*PN	Pn	18 03 12.9	+0.6
LADK	**Ladik-KONYA**	2.13	96	*e*Pn	Pn	18 03 12.9	+0.6
KONT	**Konya--Tatoy**	2.17	103	*e*PN	Pn	18 03 13.8	+1.0
KONT	**Konya--Tatoy**	2.17	103	*e*Pn	Pn	18 03 13.9	+1.0
ARMT	**Armutlu**	2.20	344	*e*PN	Pn	18 03 14.1	+0.9
ARMT	**Armutlu**	2.20	344	*e*Pn	Pn	18 03 14.1	+0.9
GONE	**Gonen-Balikesi**	2.22	316	*e*PN	Pn	18 03 13.6	+0.2
GONE	**Gonen-Balikesi**	2.22	316	*e*Pn	Pn	18 03 13.6	+0.2
BDRM	**Kayabasi**	2.25	233	*i* P	Pn	18 03 13.6	-0.2
BDRM	**Kayabasi**	2.25	233	*i* P	Pn	18 03 13.6	-0.2
MDUB	**Mudurnu**	2.33	30	*e*PN	Pn	18 03 16.1	+1.0
MDUB	**Mudurnu**	2.33	30	*e*Pn	Pn	18 03 16.1	+1.0
BODT	**Bodrum**	2.33	234	*e*PN	Pn	18 03 15.2	+0.2
BODT	**Bodrum**	2.33	234	*e*Pn	Pn	18 03 15.2	+0.2
BNT	**Bandirma**	2.34	325	*e*PN	Pn	18 03 15.6	+0.6
BNT	**Bandirma**	2.34	325	*e*Pn	Pn	18 03 15.6	+0.6
BTAS	**Taskesti**	2.35	25	*i* P	Pb	18 03 19.8	+0.9
BTAS				*i* S	Sb	18 03 47.0	-1.1
EDC	**Edincik**	2.35	324	*e*PN	Pn	18 03 15.9	+0.6
EDC	**Edincik**	2.35	324	*e*Pn	Pn	18 03 15.9	+0.6
HRT	**Hereke**	2.36	360	*e*PN	Pn	18 03 16.5	+1.0
HRT	**Hereke**	2.36	360	*e*Pn	Pn	18

SONM Songino Array 72.53 326 P **P 18 57 48.0 +0.3**
1.0nm,0.9s,baz=139,slow=5.0,SNR=5.4
ILAR Eielson Array 84.22 21 P **P 18 58 51.6 -0.2**
0.1nm,0.5s,baz=224,slow=5.0,SNR=2.8
MKAR Makanchi Array 86.74 318 P **P 18 59 03.5 -1.4**
0.8nm,0.8s,baz=99,slow=6.3,SNR=6.9
ZALV Zalesovo Beam 87.39 326 P **P 18 59 07.9 +0.2**
0.3nm,0.4s,baz=101,slow=7.8,SNR=2.3
KURBB Kurchatov Arra 90.16 321 P **P 18 59 20.4 -0.4**
0.3nm,0.8s,baz=118,slow=3.6,SNR=3.0
BVAR Borovoye Array 95.56 323 P **P 18 59 46.2 +0.5**
0.3nm,0.5s,baz=116,slow=5.0,SNR=3.1

ISN ***19*** *18:49:01.4±1.8,28°.70N×51°.91E,h0km±497km,ML4.2*
IDC ***19*** *18:49:11.8±0.8,29°.56N×51°.39E,h0km,mb3.9/24, mb1 4.0/29,mb1mx3.9/39,mbtmp3.9/29,ML3.4/5,Error ellipse: s-maj=20.8km s-min=12.7km az=9.0*
ISCJB ***19*** *18:49:12.3±0.2,29°.59N±0°.03×51°.41E±0°.02,h10km, mb4.1/48,Error ellipse: s-maj=3.8km s-min=2.7km az=9.5*
NEIC ***19*** *18:49:13.7±0.3,29°.62N×51°.47E,h10km,mb4.4/15, MN3.9(TEH),Error ellipse: s-maj=8.0km s-min=4.6km az=182.0*
THR ***19*** *18:49:13.1±0.4,29°.65N×51°.34E,h14km,ML4.0*
MOS ***19*** *18:49:15.2±1.1,29°.54N×51°.45E,h33km,mb4.4/14,Error ellipse: s-maj=8.3km s-min=5.7km az=112.4*
TEH ***19*** *18:49:15.1,29°.57N×51°.38E,h8km,ML3.9*
CSEM ***19*** *18:49:17.1±0.1,29°.66N×51°.42E,h30km,mb4.3/20,Error ellipse: s-maj=4.9km s-min=4.2km az=178.0*

ISC 19 18:49:14.3±0.3,29°.62N±0°.04×51°.45E±0°.03,h10km,n257,
σ1s20/270,mb4.1/48,16C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.93**	**88**	*e*Pg	**Pg**	**18 49 32.7**	**+0.5**
SHI				*e*Sg	**Sg**	**18 49 45.7**	**+1.4**
SHI				*e*		18 49 53.7	
	comp=N,40μm,0.1s						
SHI	**Shiraz**	**0.93**	**88**	*e*Pg	**Pg**	**18 49 32.7**	**+0.5**
SHI				*e*Sg	**Sg**	**18 49 45.7**	**+1.4**
IPAR	**Pars**	**1.41**	**81**	*e*Pn	**Pn**	**18 49 40.7**	**+0.4**
IPAR				*e*Sg	**Sg**	**18 50 01.8**	**+2.1**
IPAR				*e*		18 50 05.1	
	comp=Z,24μm,0.3s						
IPAR	**Pars**	**1.41**	**81**	*e*Pn	**Pn**	**18 49 40.7**	**+0.4**
ISRV	**Sarvestan**	**1.47**	**99**	*e*Pn	**Pn**	**18 49 42.9**	**+1.8**
ISRV				*e*		18 49 45.2	
	comp=Z,45μm,0.2s						
ISRV	**Sarvestan**	**1.47**	**99**	*e*Pn	**Pn**	**18 49 42.9**	**+1.8**
GHIR	**Ghir-Karzin**	**1.90**	**134**	*e*Pg	**Pb**	**18 49 49.3**	**+0.3**
	comp=Z,2μm,0.1s						
GHIR	**Ghir-Karzin**	**1.90**	**134**	*e*Pg	**Pb**	**18 49 49.3**	**+0.3**
GHIR				AML	AML	18 50 21.0	
	comp=N,1μm,0.4s						
GHIR				AML	AML	18 50 25.0	
	comp=E,2μm,0.1s						
ISAD	**Sadrabad**	**2.99**	**40**	*e*Pn	**Pn**	**18 50 04.1**	**+2.1**
ISAD				*e*		18 50 51.8	
	comp=Z,4μm,0.3s						
ISAD	**Sadrabad**	**2.99**	**40**	*e*Pn	**Pn**	**18 50 04.1**	**+2.1**
IPIR	**Pirpir**	**3.09**	**351**	*e*Pn	**Pn**	**18 50 04.0**	**+0.6**
IPIR				*e*		18 51 06.9	
	comp=Z,2μm,0.4s						
IPIR	**Pirpir**	**3.09**	**351**	*e*Pn	**Pn**	**18 50 04.0**	**+0.6**
IMEH	**Mehriz**	**3.25**	**56**	*e*	**Pg**	**18 50 17.0**	**+0.4**
	comp=Z,2μm,0.2s						
IMEH				*e*Pn	**Pn**	**18 50 07.4**	**+1.9**
IZEF	**Zefreh**	**3.35**	**13**	*e*		18 50 18.1	
	comp=Z,814nm,0.3s						
IZEF				*e*Pn	**Pn**	**18 50 07.6**	**+0.6**
NASN	**Na'in**	**3.38**	**20**	*e*Pn	**Pn**	**18 50 07.8**	**+0.5**
	comp=Z,90nm,0.4s						
NASN	**Na'in**	**3.38**	**20**	*e*Pn	**Pn**	**18 50 07.8**	**+0.5**
NASN				AML	AML	18 51 04.7	
	comp=N,90nm,0.4s						
KFJS		**3.39**	**246**	S	**Sn**	**18 50 49.4**	**+1.9**
	baz=245						
KFJS		**3.39**	**246**	P	**Pn**	**18 50 08.9**	**+1.7**
	baz=245						
KFJS		**3.39**	**246**	P	**Pn**	**18 50 09.0**	**+1.7**
KFJS				S	**Sn**	**18 50 49.0**	**+1.5**
ICHK	**Chekchek**	**3.65**	**43**	*e*Pn	**Pn**	**18 50 12.6**	**+1.6**
ICHK				*e*		18 50 32.6	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**3.65**	**43**	*e*Pn	**Pn**	**18 50 12.6**	**+1.6**
IKLH	**Kolahrood**	**3.69**	**2**	*e*Pn	**Pn**	**18 50 12.6**	**+1.0**
IKLH				*e*		18 51 23.6	
	comp=Z,1μm,0.4s						
IKLH	**Kolahrood**	**3.69**	**2**	*e*Pn	**Pn**	**18 50 12.6**	**+1.0**
IBAF	**Bafgh**	**4.06**	**60**	*e*Pn	**Pn**	**18 50 18.6**	**+2.0**
IBAF				*e*		18 50 19.7	
	comp=Z,1μm,0.1s						
IBAF	**Bafgh**	**4.06**	**60**	*e*Pn	**Pn**	**18 50 18.6**	**+2.0**
QAM	**Ghamsar**	**4.13**	**360**	*e*Pn	**Pn**	**18 50 19.4**	**+1.8**
BOQSS		**4.17**	**207**	P	**Pn**	**18 50 20.6**	**+2.7**
	baz=208						
BOQSS		**4.17**	**207**	P	**Pn**	**18 50 21.0**	**+3.1**
KRBR	**Kerman**	**4.63**	**84**	*e*Pn	**Pn**	**18 50 26.5**	**+1.9**
	comp=Z,203nm,0.9s						
KRBR	**Kerman**	**4.63**	**84**	*e*Pn	**Pn**	**18 50 26.5**	**+1.9**
KRBR				AML	AML	18 51 25.1	
	comp=N,259nm,0.8s						
KRBR				AML	AML	18 51 25.7	
	comp=E,203nm,0.9s						
NSR	**Nassriya**	**4.79**	**288**	*e*Pn	**Pn**	**18 50 25.6**	**-0.9**
NSR				*i* Sn	**Sn**	**18 51 22.9**	**+0.8**
NSR	**Nassriya**	**4.79**	**288**	*e*Pn	**Pn**	**18 50 25.6**	**-0.9**
	SNR=3.0						
NSR				*i* Sn	**Sn**	**18 51 22.9**	**+0.8**
	SNR=3.0						
SLWS		**4.86**	**189**	S	**Sn**	**18 51 23.4**	**-0.4**
	baz=191						
SLWS		**4.86**	**189**	P	**Pn**	**18 50 27.6**	**+0.1**
	baz=191						
SLWS		**4.86**	**189**	P	**Pn**	**18 50 28.0**	**+0.6**
SLWS				S	**Sn**	**18 51 23.0**	**-0.7**
IBND	**Bandar-abas**	**4.97**	**115**	*e*Pn	**Pn**	**18 50 29.4**	**+0.4**
IBND				*e*		18 52 43.6	
	comp=N,6μm,0.8s						
IBND	**Bandar-abas**	**4.97**	**115**	*e*Pn	**Pn**	**18 50 29.5**	**+0.4**
BTHS		**5.58**	**186**	S	**Sn**	**18 51 42.3**	**+0.8**
	baz=187						
BTHS		**5.58**	**186**	P	**Pn**	**18 50 39.2**	**+1.9**
	baz=187						
BTHS		**5.58**	**186**	P	**Pn**	**18 50 39.0**	**+1.7**
BTHS				S	**Sn**	**18 51 42.0**	**+0.5**
IBDR	**Badra**	**5.86**	**308**	*e*PN4	**Pn**	**18 50 42.8**	**+1.6**
IBDR				*e*SN4	**Sn**	**18 51 54.2**	**+5.7**
DAMV	**Damavand**	**6.01**	**4**	*e*Pn	**Pn**	**18 50 43.6**	**+0.1**
DAMV	**Damavand**	**6.01**	**4**	*e*Pn	**Pn**	**18 50 43.6**	**+0.1**
IVIS	**Veis**	**6.26**	**323**	*e*Pn	**Pn**	**18 50 47.4**	**+0.7**
IVIS	**Veis**	**6.26**	**323**	*e*Pn	**Pn**	**18 50 47.4**	**+0.7**
SNGE	**Sanandaj**	**6.46**	**329**	*e*Pn	**Pn**	**18 50 49.5**	**-0.2**
SNGE	**Sanandaj**	**6.46**	**329**	*e*Pn	**Pn**	**18 50 49.5**	**-0.2**
ASYS		**6.60**	**253**	P	**Pn**	**18 50 51.0**	**-0.3**
	baz=253						
ASYS		**6.60**	**253**	P	**Pn**	**18 50 51.0**	**-0.3**
IDHR	**Dehrash**	**6.64**	**321**	*e*Pn	**Pn**	**18 50 52.4**	**+0.3**
IDHR	**Dehrash**	**6.64**	**321**	*e*Pn	**Pn**	**18 50 52.4**	**+0.3**
IKRK	**Kirkuk**	**8.32**	**316**	*e*PN4	Pn	18 51 19.0	+4.0
IKRK				*e*SN4	Sn	18 52 56.2	+7.2
LYLS		**8.45**	**208**	S	**Sn**	**18 52 48.6**	**-3.6**
	baz=208						
LYLS		**8.45**	**208**	P	**Pn**	**18 51 17.2**	**+0.4**
	baz=208						
LYLS		**8.45**	**208**	P	**Pn**	**18 51 17.0**	**+0.2**
LYLS				S	**Sn**	**18 52 49.0**	**-3.2**
RTB	**Rutbah**	**10.11**	**292**	*e*PN4	**Pn**	**18 51 41.5**	**+1.9**
RTB				*e*SN4	**Sn**	**18 53 34.2**	**+1.0**
RTB	**Rutbah**	**10.11**	**292**	*e*Pn	**Pn**	**18 51 41.5**	**+1.9**
	SNR=39						
RTB				*e*Sn	**Sn**	**18 53 34.2**	**+1.0**
	SNR=39						
ASF	**Jabal al Asfar**	**12.75**	**285**	Pn	**Pn**	**18 52 14.7**	**-1.0**
ASF				Sn	Sn	18 54 31.9	-6.0
ASF	**Jabal al Asfar**	**12.75**	**285**	Pn	**Pn**	**18 52 14.7**	**-1.0**
	comp=N,0.4nm,0.3s,baz=142,slow=4.1,SNR=3.8						
ASF				Sn	Sn	18 54 31.9	-6.0
	comp=N,0.2nm,0.3s,baz=225,slow=18,SNR=4.0						
MMAI	**Mount Meron Ar**	**14.13**	**288**	Pn	**Pn**	**18 52 34.0**	**-0.5**
MMAI	**Mount Meron Ar**	**14.13**	**288**	Pn	**Pn**	**18 52 34.0**	**-0.5**
	comp=N,0.5nm,0.3s,baz=118,slow=15,SNR=3.1						
MMAI	**Mount Meron Ar**	**14.13**	**288**	Pn	**Pn**	**18 52 34.0**	**-0.5**
EIL	**Elat**	**14.35**	**274**	Pn	**Pn**	**18 52 37.6**	**+0.1**
EIL	**Elat**	**14.35**	**274**	Pn	**Pn**	**18 52 37.6**	**+0.1**
	comp=N,0.2nm,0.3s,baz=84,slow=19,SNR=2.7						
EIL	**Elat**	**14.35**	**274**	Pn	**Pn**	**18 52 37.6**	**+0.1**
ZEI	**Tsey**	**14.47**	**337**	*e*P	Pn	18 52 42.5	+3.2
ZEI				pmax	pmax		
	comp=Z,17nm,1.5s						
NCK	**Nalchik**	**15.20**	**338**	*e*P	**P**	**18 52 53.0**	**-1.1**
NCK	**Nalchik**	**15.20**	**338**	*e*P	**P**	**18 52 53.0**	**-1.1**
NEY	**Neytrino**	**15.29**	**335**	*e*P	**P**	**18 52 54.5**	**-0.7**
NEY				pmax	pmax		
	comp=Z,3.0nm,2.5s						
NEY	**Neytrino**	**15.29**	**335**	*e*P	**P**	**18 52 54.5**	**-0.7**
	comp=Z,3.0nm,2.5s						
KBZ	**Khabaz**	**15.65**	**336**	P	**Pn**	**18 52 56.9**	**+2.1**
KBZ	**Khabaz**	**15.65**	**336**	Pn	**Pn**	**18 52 56.9**	**+2.1**
KBZ	**Khabaz**	**15.65**	**336**	Pn	**Pn**	**18 52 56.9**	**+2.1**
	comp=Z,0.0nm,0.3s,baz=171,slow=16,SNR=3.1						
KBZ	**Khabaz**	**15.65**	**336**	Pn	**Pn**	**18 52 56.9**	**+2.1**
KBL	**Kabul**	**15.70**	**67**	P	**Pn**	**18 52 56.5**	**+0.8**
KBL	**Kabul**	**15.70**	**67**	Pn	**Pn**	**18 52 56.5**	**+0.8**
KBL	**Kabul**	**15.70**	**67**	Pn	**Pn**	**18 52 56.5**	**+0.8**
KIV	**Kislovodsk**	**15.92**	**336**	*e*P	**P**	**18 53 03.2**	**+1.1**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
KIV				MLR	MLR		
	comp=Z,35nm,13.0s						
KIV	**Kislovodsk**	**15.92**	**336**	*e*P	**Pn**	**18 53 01.2**	**+2.8**
	comp=Z,18nm,0.8s						
KIV	**Kislovodsk**	**15.92**	**336**	*e*P	**Pn**	**18 53 01.2**	**+2.8**
	comp=Z,18nm,0.8s						
CSS	**Prodhromos**	**16.21**	**294**	P	Pn	18 52 55.9	-6.3
BR131	**Keskin Array S**	**17.75**	**309**	*e*P	**P**	**18 53 23.3**	**+0.8**
	comp=Z,1.4nm,0.7s						
BR131	**Keskin Array S**	**17.75**	**309**	*e*P	**P**	**18 53 23.3**	**+0.8**
	comp=Z,1.4nm,0.7s						
BRTR	**Keskin Array B**	**17.75**	**309**	Pn	**Pn**	**18 53 22.1**	**+0.5**
BRTR	**Keskin Array B**	**17.75**	**309**	Pn	**Pn**	**18 53 22.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=133,slow=13,SNR=4.1						
BRTR	**Keskin Array B**	**17.75**	**309**	P	**Pn**	**18 53 22.1**	**+0.5**
KKAR	**Karatay Array**	**20.35**	**43**	*e*P	**P**	**18 53 49.8**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**20.35**	**43**	*e*P	**P**	**18 53 49.8**	**-1.0**
	comp=Z,0.9nm,0.4s						
KKAR	**Karatay Array**	**20.35**	**43**	*e*P	**P**	**18 53 49.8**	**-1.0**
	comp=Z,0.9nm,0.4s						
ABKAR	**Akbulak array**	**20.65**	**16**	*e*P	**P**	**18 53 53.1**	**-0.9**
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**20.65**	**16**	*e*P	**P**	**18 53 53.1**	**-0.9**
	comp=Z,2.0nm,0.6s						
AKTK	**Aktyubinsk**	**21.37**	**12**	P	**P**	**18 54 01.8**	**+0.1**
AKTO	**Aktyubinsk**	**21.37**	**12**	P	**P**	**18 54 01.8**	**0.0**
AKTO	**Aktyubinsk**	**21.37**	**12**	P	**P**	**18 54 01.8**	**0.0**
AKTO	**Aktyubinsk**	**21.37**	**12**	P	**P**	**18 54 01.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=198,slow=9.8,SNR=7.2						
AKTO	**Aktyubinsk**	**21.37**	**12**	P	**P**	**18 54 01.8**	**0.0**
AAK	**Ala-Archa**	**22.61**	**49**	*e*P	**P**	**18 54 15.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**22.61**	**49**	*e*P	**P**	**18 54 15.2**	**-0.1**
	comp=Z,2.8nm,0.8s						
AAK	**Ala-Archa**	**22.61**	**49**	P	**P**	**18 54 16.9**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=230,slow=7.9,SNR=2.9						
AAK	**Ala-Archa**	**22.61**	**49**	*e*P	**P**	**18 54 15.2**	**-0.1**
	comp=Z,2.8nm,0.8s						
VRHR	**Novokhopersk**	**22.68**	**344**	*e*P	**P**	**18 54 14.3**	**-1.4**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRHR	**Novokhopersk**	**22.68**	**344**	*e*P	**P**	**18 54 14.3**	**-1.4**
	comp=E,10.0nm,0.8s						
VORD	**Divnogorie**	**23.19**	**340**	*e*P	**P**	**18 54 19.6**	**-1.4**
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,6.0nm,0.7s						
VORD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VORD	**Divnogorie**	**23.19**	**340**	*e*P	**P**	**18 54 19.6**	**-1.4**
VSR	**Storozhevoye**	**23.45**	**340**	*e*P	**P**	**18 54 21.6**	**-2.0**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VSR	**Storozhevoye**	**23.45**	**340**	*e*P	**P**	**18 54 21.6**	**-2.0**
	comp=E,7.0nm,0.9s						
LPSR	**Galich'ya Gora**	**24.75**	**342**	*e*P	**P**	**18 54 34.7**	**-1.1**
	comp=E,8.0nm,1.8s						
MLR	**Muntele Rosu**	**25.53**	**315**	*i*P	**P**	**18 54 46.4**	**+3.2**
MLR	**Muntele Rosu**	**25.53**	**315**	P	**P**	**18 54 41.3**	**-1.8**
MLR	**Muntele Rosu**	**25.53**	**315**	P	**P**	**18 54 41.3**	**-1.8**
	comp=E,0.6nm,0.8s,baz=99,slow=3.6,SNR=1.7						
MLR	**Muntele Rosu**	**25.53**	**315**	P	**P**	**18 54 41.3**	**-1.8**
TESR	**Tescani**	**25.64**	**318**	*i*P	**P**	**18 54 44.5**	**+0.5**
VOIR		**26.06**	**315**	P	**P**	**18 54 49.1**	**+1.2**
VOIR		**26.06**	**315**	*i*P	**P**	**18 54 49.1**	**+1.2**
VOIR		**26.06**	**315**	P	**P**	**18 54 49.1**	**+1.2**
AK02	**Malin Array Si**	**26.84**	**328**	*e*P	**P**	**18 54 53.5**	**-1.2**
AK02	**Malin Array Si**	**26.84**	**328**	*e*P	**P**	**18 54 53.5**	**-1.2**
AK01	**Malin Array Si**	**26.86**	**328**	*e*P	**P**	**18 54 53.2**	**-1.7**
AK01	**Malin Array Si**	**26.86**	**328**	*e*P	**P**	**18 54 53.2**	**-1.7**
AKASG	**Malin Array Be**	**26.86**	**328**	*e*P	**P**	**18 54 56.0**	**+1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**26.86**	**328**	P	**P**	**18 54 53.5**	**-1.4**
AKASG	**Malin Array Be**	**26.86**	**328**	P	**P**	**18 54 53.5**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=133,slow=9.3,SNR=13						
AKASG	**Malin Array Be**	**26.86**	**328**	*e*P	**P**	**18 54 56.0**	**+1.0**
	comp=Z,1.0nm,0.4s						
KIEV	**Kiev**	**26.86**	**328**	*i*P	**P**	**18 54 55.4**	**+0.4**
KIEV	**Kiev**	**26.86**	**328**	*e*P	**P**	**18 54 55.4**	**+0.4**
BURAR	**Bucovina Array**	**27.05**	**319**	*i*P	**P**	**18 54 57.7**	**+0.8**
BURAR	**Bucovina Array**	**27.05**	**319**	*i*P	**P**	**18 54 57.7**	**+0.8**
BRVK	**Borovoye**	**27.19**	**25**	*e*P	**P**	**18 54 58.6**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**27.19**	**25**	*e*P	**P**	**18 54 58.6**	**+0.7**
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**27.20**	**25**	P	**P**	**18 54 57.7**	**-0.3**
BVAR						18 58 17.5	
BVAR	**Borovoye Array**	**27.20**	**25**	P	**P**	**18 54 57.7**	**-0.3**
BVAR				PcP	**PcP**	**18 58 17.5**	**-0.6**
BVAR	**Borovoye Array**	**27.20**	**25**	P	**P**	**18 54 57.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=216,slow=7.3,SNR=10						
BVAR				PcP	**PcP**	**18 58 17.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=199,slow=2.1,SNR=5.4						
BVAR	**Borovoye Array**	**27.20**	**25**	P	**P**	**18 54 57.7**	**-0.3**
KOLN	**Koldanda**	**28.22**	**86**	*e*P	**P**	**18 55 07.6**	**0.0**
	comp=Z,2.3nm,0.3s						
DANN	**Dangsing**	**28.25**	**85**	*e*P	**P**	**18 55 08.4**	**+0.4**
	comp=Z,9.3nm,0.7s						
GKN	**Gorkha**	**29.07**	**85**	*e*P	**P**	**18 55 14.8**	**-0.4**
	comp=Z,4.5nm,0.4s						
KURBB	**Kurchatov Arra**	**29.20**	**36**	P	**P**	**18 55 16.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=237,slow=9.3,SNR=15						
UZH	**Uzhgorod**	**29.26**	**319**	*e*	P	18 55 13.5	-2.9
UZH				*i*		18 55 24.9	
KURK	**Kurchatov**	**29.30**	**36**	*e*P	**P**	**18 55 18.1**	**+1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**29.30**	**36**	P	**P**	**18 55 16.0**	**-0.8**
KURK	**Kurchatov**	**29.30**	**36**	*e*P	**P**	**18 55 18.1**	**+1.3**
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**29.43**	**46**	*e*P	**P**	**18 55 17.8**	**-0.2**
MK31	**Makanchi Array**	**29.43**	**46**	*e*P	**P**	**18 55 17.8**	**-0.2**
MK31	**Makanchi Array**	**29.43**	**46**	*e*P	**P**	**18 55 17.8**	**-0.2**
MKAR	**Makanchi Array**	**29.43**	**46**	P	**P**	**18 55 18.1**	**+0.1**
MKAR						18 58 22.7	
MKAR	**Makanchi Array**	**29.43**	**46**	*e*P	**P**	**18 55 18.2**	**+0.2**
MKAR	**Makanchi Array**	**29.43**	**46**	P	**P**	**18 55 18.1**	**+0.2**
MKAR				PcP	**PcP**	**18 58 22.7**	**-1.0**
MKAR	**Makanchi Array**	**29.43**	**46**	P	**P**	**18 55 18.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=244,slow=6.6,SNR=5.8						
MKAR				PcP	**PcP**	**18 58 22.7**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=240,slow=4.9,SNR=4.0						
MKAR	**Makanchi Array**	**29.43**	**46**	*e*P	**P**	**18 55 18.2**	**+0.2**
DMN	**Daman**	**29.56**	**86**	*e*P	**P**	**18 55 19.4**	**-0.2**
	comp=Z,9.2nm,0.7s						
KKN	**Kakani**	**29.67**	**85**	*e*P	**P**	**18 55 20.7**	**+0.1**
PKIN	**Phulchoki**	**29.82**	**86**	*e*P	**P**	**18 55 21.5**	**-0.4**
	comp=Z,6.4nm,0.6s						
PKI	**Pulchoki**	**29.83**	**86**	*e*P	**P**	**18 55 21.6**	**-0.5**
	comp=Z,8.4nm,0.7s						
GUN	**Gumba**	**30.17**	**85**	*e*P	**P**	**18 55 25.2**	**+0.1**
	comp=Z,11nm,0.7s						
JIRN	**Jiri**	**30.49**	**85**	*e*P	**P**	**18 55 27.8**	**-0.2**
	comp=Z,7.4nm,0.5s						
RAMN	**Ramite**	**31.00**	**86**	*e*P	**P**	**18 55 31.5**	**-0.8**
	comp=Z,5.6nm,0.5s						
ODAN	**Odare**	**31.71**	**86**	*e*P	**P**	**18 55 37.6**	**-1.0**
TAPN	**Taplejung**	**31.87**	**85**	*e*P	**P**	**18 55 39.4**	**-0.7**
	comp=Z,34nm,1.9s						
MORC	**Moravsky Berou**	**32.55**	**318**	P	**P**	**18 55 44.4**	**-1.1**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MORC	**Moravsky Berou**	**32.55**	**318**	P	**P**	**18 55 44.4**	**-1.1**
	comp=Z,2.6nm,0.8s						
KRLC	**Kraliky**	**33.12**	**318**	*e*P	**P**	**18 55 50.5**	**0.0**
KRLC	**Kraliky**	**33.12**	**318**	*e*P	**P**	**18 55 50.5**	**0.0**
KRLC	**Kraliky**	**33.12**	**318**	P	**P**	**18 55 50.5**	**0.0**
DPC	**Dobruska-Polom**	**33.51**	**318**	*e*P	**P**	**18 55 53.7**	**-0.1**
DPC	**Dobruska-Polom**	**33.51**	**318**	*e*P	**P**	**18 55 53.7**	**-0.1**
DPC	**Dobruska-Polom**	**33.51**	**318**	P	**P**	**18 55 53.7**	**-0.1**
MOA	**Molln**	**33.83**	**313**	*e*P	**P**	**18 55 57.1**	**+0.5**
	comp=Z,6.7nm,1.1s						
MOA	**Molln**	**33.83**	**313**	P	**P**	**18 55 57.1**	**+0.5**
	comp=Z,6.7nm,1.1s						
ZAA0	**Zalesovo Array**	**34.26**	**35**	*e*P	**P**	**18 55 59.8**	**-0.5**
ZALV	**Zalesovo Beam**	**34.26**	**35**	P	**P**	**18 56 00.4**	**+0.1**
ZALV	**Zalesovo Beam**	**34.26**	**35**	P	**P**	**18 56 00.4**	**+0.1**
ZALV	**Zalesovo Beam**	**34.26**	**35**	P	**P**	**18 56 00.4**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=254,slow=9.1,SNR=16						
LSA	**Lhasa**	**34.38**	**80**	*e*P	**P**	**18 56 02.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LSA	**Lhasa**	**34.38**	**80**	*e*P	**P**	**18 56 02.1**	**-0.1**
	comp=Z,1.4nm,0.5s						
GERES	**GERESS Array B**	**34.51**	**314**	P	**P**	**18 56 01.2**	**-1.4**
GERES	**GERESS Array B**	**34.51**	**314**	P	**P**	**18 56 01.3**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=96,slow=8.0,SNR=3.2						
KHC	**Kasperske Hory**	**34.69**	**315**	*e*P	**P**	**18 56 04.0**	**-0.2**
KHC				pmax	pmax		
	comp=Z,51nm,2.5s						
KHC	**Kasperske Hory**	**34.69**	**315**	*e*P	**P**	**18 56 03.9**	**-0.2**
KHC	**Kasperske Hory**	**34.69**	**315**	P	**P**	**18 56 03.9**	**-0.2**
WTTA	**Wattenberg**	**35.35**	**311**	*e*P	**P**	**18 56 09.3**	**-0.7**
	comp=Z,7.1nm,1.1s						
WTTA	**Wattenberg**	**35.35**	**311**	P	**P**	**18 56 09.3**	**-0.7**
	comp=Z,7.1nm,1.1s						
WATA	**Walderalm**	**35.41**	**311**	*i*P	**P**	**18 56 10.3**	**-0.2**
	comp=Z,4.0nm,0.5s						
WATA	**Walderalm**	**35.41**	**311**	P	**P**	**18 56 10.3**	**-0.2**
	comp=Z,4.0nm,0.5s						
MOTA	**Moosalm**	**35.72**	**311**	*i*P	**P**	**18 56 12.8**	**-0.4**
	comp=Z,2.2nm,0.4s						
MOTA	**Moosalm**	**35.72**	**311**	P	**P**	**18 56 12.8**	**-0.4**
	comp=Z,2.2nm,0.4s						
CLL	**Collm**	**35.82**	**318**	*e*P	**P**	**18 56 13.0**	**-0.7**
CLL	**Collm**	**35.82**	**318**	*e*P	**P**	**18 56 13.0**	**-0.7**
FINES	**FINESS Array B**	**35.97**	**339**	P	**P**	**18 56 13.8**	**-1.1**
FINES	**FINESS Array B**	**35.97**	**339**	P	**P**	**18 56 13.8**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=148,slow=8.7,SNR=5.1						
RETA	**Reutte**	**35.98**	**311**	*e*P	**P**	**18 56 13.7**	**-1.6**
	comp=Z,4.3nm,0.9s						
RETA	**Reutte**	**35.98**	**311**	P	**P**	**18 56 13.7**	**-1.6**
	comp=Z,4.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**36.40**	**310**	P	**P**	**18 56 18

KSAR	Wonju Array Be	62.60	61	P		P		18 59 37.6	-1.1
KSRS	Korea Array	62.62	61	P		P		18 59 37.6	-1.3
	comp=Z,1.5nm,0.6s,baz=283,slow=6.4,SNR=9.7								
BOSA	Boshof	63.09	206	P		P		18 59 41.5	-0.6
	comp=Z,9.1nm,1.1s								
SCHQ	Schefferville	80.65	329	P		P		19 01 26.7	-0.5
SCHQ	Schefferville	80.65	329	P		P		19 01 26.7	-0.5
	comp=Z,3.4nm,0.7s,baz=72,slow=4.9,SNR=5.7								
INK	Inuvik	82.30	2	P		P		19 01 34.8	-0.8
ILAR	Eielson Array	84.83	8	P		P		19 01 47.6	-1.1
ILAR	Eielson Array	84.83	8	P		P		19 01 47.6	-1.1
	comp=Z,0.3nm,0.7s,baz=332,slow=4.1,SNR=5.1								
YKA	Yellowknife Ar	87.53	354	P		P		19 02 01.6	-0.4
YKA	Yellowknife Ar	87.53	354	P		P		19 02 01.6	-0.4
	comp=Z,0.7nm,0.7s,baz=11,slow=5.1,SNR=16								
WRA	Warramunga Arr	93.75	111	P		P		19 02 30.2	-1.6
WRA	Warramunga Arr	93.75	111	P		P		19 02 30.2	-1.6
	comp=Z,0.3nm,0.6s,baz=314,slow=4.1,SNR=6.0								
ASAR	Alice Springs	95.25	114	P		P		19 02 36.6	-2.0
ASAR	Alice Springs	95.25	114	P		P		19 02 36.6	-2.0
	comp=Z,0.3nm,0.7s,baz=312,slow=4.8,SNR=5.1								

IDC ***19*** *19:07:25.5±1.8, 38.°08N×71.°64E, h0km, mb3.7/4, mb1 3.7/10, mb1mx3.4/33, mbtmp3.6/10, ML3.1/6, Error ellipse: s-maj=29.0km s-min=16.2km az=141.0*

ISCJB ***19*** *19:07:27.5±1.1, 38.°27N±0.°08×71.°00E±0.°09, h10km, mb3.6/4, Error ellipse: s-maj=12.3km s-min=10.1km az=158.2*

NNC ***19*** *19:07:29.1±2.5, 38.°37N×70.°98E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=20.1km s-min=15.1km az=6.0*

ISC 19 19:07:29.2±1.4, 38.°3N±0.°1×70.°94E±0.°08, h10km, n24, σ1§89/31, mb3.8/4, 7C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	Almayashu	4.40	28	P			Pn	19 08 35.9	-0.5
	SNR=9.9								
UCH	Uchtor	4.81	34	P			Pn	19 08 44.2	+2.1
	SNR=7.9								
KK31	Karatay Array	4.84	356	Pn			Pn	19 08 43.0	+0.9
	2.9nm,0.5s,baz=174,slow=12,SNR=105								
KK31				⇓Sn			Sn	19 09 38.2	-0.1
	8.8nm,0.5s,baz=178,slow=21,SNR=4.1								
KK31				⇓Lg			Lg	19 09 59.8	
	20nm,0.6s,baz=155,slow=29,SNR=4.6								
EKS2	Erkin-Say	4.89	25	P			Pn	19 08 45.5	+2.5
	SNR=5.6								
AAK	Ala-Archa	5.13	31	⇓Pn			Pn	19 08 45.3	-1.0
	3.2nm,0.5s								
AAK				⇑Pg			Pb	19 09 00.2	+0.9
	21nm,0.8s								
AAK				⇑Sn			Sn	19 09 47.7	+2.0
	16nm,0.8s								
AAK				⇑Lg			Lg	19 10 08.3	
	24nm,0.9s								
AAK	Ala-Archa	5.13	31	P			Pn	19 08 45.7	-0.7
	SNR=5.7								
AAK	Ala-Archa	5.13	31	Pn			Pn	19 08 45.5	-0.9
	1.6nm,0.3s,baz=180,slow=3.0,SNR=22								
AAK				Pg			Pb	19 08 59.0	-0.2
	2.7nm,0.3s,baz=211,slow=5.3,SNR=15								
AAK				Sn			Sn	19 09 46.4	+0.6
	0.7nm,0.3s,baz=229,slow=20,SNR=2.9								
CHMS	Chumysh	5.54	30	P			Pn	19 08 55.1	+3.3
	SNR=12								
USP	Ospenovka	5.68	27	P			Pn	19 08 55.8	+2.1
	SNR=7.1								
TKM2	Tokmak 2	5.84	36	⇓Pn			Pn	19 08 56.3	+0.2
	3.5nm,0.6s								
TKM2				⇑Pg			Pb	19 09 11.8	+0.4
	8.1nm,1.1s								
TKM2				⇓Lg			Lg	19 10 30.0	
	18nm,1.6s								
TKM2	Tokmak 2	5.84	36	P			Pn	19 08 58.8	+2.6
	SNR=6.0								
MK31	Makanchi Array	11.94	41	Pn			Pn	19 10 16.6	-2.8
	2.7nm,1.1s,baz=228,slow=13,SNR=18								
MKAR	Makanchi Array	11.94	41	Pn			Pn	19 10 16.9	-2.5
	0.1nm,0.3s,baz=231,slow=12,SNR=22								
KURBB	Kurchatov Arra	13.48	21	Pn			Pn	19 10 36.6	-3.9
	0.1nm,0.3s,baz=215,slow=13,SNR=4.9								
AB31	Akbulak array	13.54	328	⇓Pn			Pn	19 10 39.7	-1.5
	0.4nm,0.4s								
AB31				⇑Sn			Sn	19 13 09.7	-2.0
	1.9nm,0.6s,baz=143,slow=24,SNR=8.4								
BVA0	Borovoye Array	14.76	359	⇓Pn			Pn	19 10 59.8	+1.8
	0.7nm,0.8s,baz=153,slow=10,SNR=4.8								
BVAR	Borovoye Array	14.76	359	Pn			Pn	19 10 54.9	-3.1
	0.1nm,0.3s,baz=154,slow=8.7,SNR=4.7								
AKTO	Aktyubinsk	15.25	327	⇑Pn			P	19 11 07.5	-1.9
	4.8nm,1.1s								
AKTO				⇑Sn			Sn	19 13 55.6	+2.3
	2.4nm,0.8s								
AKTO	Aktyubinsk	15.25	327	Pn			Pn	19 11 05.7	+1.2
	0.1nm,0.3s,baz=131,slow=20,SNR=2.0								
AKTO				Sn			Sn	19 13 55.8	+2.5
	0.1nm,0.3s,baz=142,slow=21,SNR=4.1								
ZALV	Zalesovo Beam	18.34	27	P			Pn	19 11 40.1	-3.5
	0.2nm,0.3s,baz=219,slow=13,SNR=5.9								
FINES	FINESS Array B	36.00	325	P			P	19 14 30.1	0.0
	0.7nm,0.4s,baz=120,slow=11,SNR=8.0								
ARCES	ARCESS Array B	39.50	337	P			P	19 14 59.1	-0.4
	2.9nm,0.9s,baz=104,slow=7.5,SNR=4.9								
TORD	Torodi Ar. Bea	65.72	268	P			P	19 18 17.0	+2.6
	0.3nm,0.5s,baz=41,slow=6.5,SNR=5.1								
YKA	Yellowknife Ar	79.48	3	P			P	19 19 34.8	-0.8
	0.1nm,0.5s,baz=353,slow=5.5								

IDC 19 19:08:10.3±4.0, 18.°68N×147.°81E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, Error ellipse: s-maj=165.3km s-min=25.1km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.59	200	P			P	19 15 52.6	+0.7
	0.3nm,0.4s,baz=21,slow=9.1,SNR=10								
ASAR	Alice Springs	44.22	198	P			P	19 16 20.4	-1.1
	0.2nm,0.8s,baz=21,slow=6.9,SNR=7.1								
MKAR	Makanchi Array	59.92	314	P			P	19 18 18.7	+0.3
	0.2nm,0.5s,baz=103,slow=6.5,SNR=4.4								
BVAR	Borovoye Array	67.77	320	P			P	19 19 09.3	-0.6
	0.4nm,0.6s,baz=87,slow=7.8,SNR=4.2								
FINES	FINESS Array B	87.73	336	P			P	19 21 01.2	+0.3
	2.4nm,1.1s,baz=350,slow=7.6,SNR=1.6								

NIED ***19*** *19:26:00, 39.°70N×143.°70E, h23km, Mw4.3 Best double couple: M0≈2.72000×10^15 NP1:ϕs≈181.00000°, δ≈34.00000°, λ≈79.00000°. NP2:ϕs≈14.00000°, δ≈57.00000°, λ≈97.00000°.*

ISCJB ***19*** *19:26:44.1±0.4, 39.°66N±0.°03×143.°60E±0.°04, h11km, mb4.0/34, MS3.8/9, Error ellipse: s-maj=5.5km s-min=3.1km az=44.6*

IDC ***19*** *19:26:44.4±0.7, 39.°60N×143.°48E, h0km, mb3.7/18, mb1 3.9/20, mb1mx3.9/30, mbtmp3.7/20, ML3.8/2, MS3.6/10, Ms1 3.6/10, ms1mx3.2/45, Error ellipse: s-maj=18.6km s-min=15.5km az=118.0*

JMA ***19*** *19:26:44.5±0.1, 39.°69N×143.°66E, h23km, M4.3*

MOS ***19*** *19:26:47.4±1.2, 39.°68N×143.°48E, h33km, mb4.5/11, Error ellipse: s-maj=9.4km s-min=6.7km az=99.9*

NEIC ***19*** *19:26:49.2±2.3, 39.°69N×143.°38E, h30km±15km, mb4.3/12, Error ellipse: s-maj=9.6km s-min=6.4km az=126.0*

ISC 19 19:26:46.1±0.5, 39.°67N±0.°04×143.°49E±0.°05, h11km, n130, σ1§43/138, mb4.1/34, MS3.8/9, 4C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	Tanohata	1.28	283	P			Pn	19 27 09.0	-0.9
JTH				eS			Sn	19 27 27.1	+0.1
MIYJ	Miyakonagasawa	1.29	266	P			Pn	19 27 09.5	-0.6
MIYJ				eS			Sb	19 27 27.2	+0.2
OFUJ	Ofunato	1.53	248	P			Pn	19 27 12.7	-0.6
JANG	Nango	1.67	295	P			Pn	19 27 14.4	-0.9
JOM	Ohasama	1.71	264	P			Pn	19 27 15.9	+0.1
JOM				eS			Sn	19 27 38.0	+0.4
JMK	Ichinoseki	1.90	248	P			Pn	19 27 18.2	-0.2
JMK				eS			Sn	19 27 42.8	+0.4
JIO	Ouri	2.06	235	P			Pn	19 27 19.7	-1.0
JIO				eS			Sn	19 27 45.0	-1.3
JTM	Tenmabayashi	2.16	302	P			Pn	19 27 22.4	+0.4
JTM				eS			Sn	19 27 49.7	+0.9
JRG	Rokugo	2.22	264	P			Pn	19 27 23.2	+0.3
JRG				eS			Sn	19 27 52.0	+1.6
JAH	Hinai	2.25	284	P			Pn	19 27 23.6	+0.3
ERM	Erimo	2.35	354	deP			Pn	19 27 25.5	+0.8
ERM	Erimo	2.35	354	ePn			Pn	19 27 25.4	+0.7
JOT	Ohata	2.52	313	P			Pn	19 27 27.0	0.0
JYK	Kaneyama	2.54	254	P			Pn	19 27 27.6	+0.3
JOU	Okura	2.56	240	P			Pn	19 27 26.3	-1.2
JNBK	Urakawa-nobuka	2.66	348	P			Pn	19 27 29.7	+0.8
JNBK				eS			Sn	19 28 01.7	+0.5
JKB	Kayabe	2.89	321	P			Pn	19 27 33.6	+1.5
JCH	Churui	2.94	358	P			Pn	19 27 31.7	-1.0
JCH				eS			Sn	19 28 05.6	-2.4
JFT	Otama	3.27	230	P			Pn	19 27 37.1	-0.3
JFT				eS			Sn	19 28 16.9	+0.6
JAK	Akkeshi	3.44	15	P			Pn	19 27 38.8	-0.8
JAK				eS			Sn	19 28 17.1	-3.3
ASAJ	Asahikawa	4.49	352	Pn			Pn	19 27 55.0	+0.9
ASAJ				Sn			Sn	19 28 51.9	+5.7
ASAJ	Asahikawa	4.49	352	Pn			Pn	19 27 55.0	+0.9
	3.5nm,0.3s,baz=200,slow=11,SNR=22								
ASAJ				Sn			Sn	19 28 51.9	+5.7
	2.1nm,0.3s,baz=113,slow=15,SNR=4.1								
YUK	Yuzh-Kuril'sk	4.71	21	dP			Pn	19 27 56.3	-0.7
YUK				iS			Sn	19 28 48.1	-3.4
YUK				pmax	pmax				
	comp=N,34nm,0.3s								
YUK				pmax	pmax				
	comp=E,53nm,0.3s								
YUK				pmax	pmax				
	comp=Z,120nm,0.3s								
YUK				smax	smax				
	comp=E,310nm,0.5s								
YUK				smax	smax				
	comp=N,196nm,0.6s								
YUK				MLR	MLR				
	comp=Z,82nm,5.0s								
MJAR	Matsushiro Arr	5.21	235	Pn			Pn	19 28 04.8	+0.9
MJAR				Sn			Sb	19 29 18.4	-1.2
MJAR	Matsushiro Arr	5.21	235	Pn			Pn	19 28 04.8	+0.9
	comp=Z,3.0nm,0.3s,baz=36,slow=13,SNR=60								
MJAR				Sn			Sb	19 29 18.4	-1.2
	baz=40,slow=23,SNR=2.6								
MJAR				LR	LR			19 29 56.4	
	comp=Z,156nm,20.9s,baz=70,slow=37								
MAJO	Matsushiro	5.21	235	dP			Pn	19 28 04.3	+0.4
MAJO	Matsushiro	5.21	235	ePn			Pn	19 28 04.8	+0.9
	comp=Z,53nm,0.6s								
MAT	Matsushiro	5.21	235	P			Pn	19 28 05.1	+1.2
MAT				eS			Sn	19 29 09.3	+5.3
KUR	Kuril'sk	6.43	29	P			Pn	19 28 22.6	+1.9
KUR				eS			Sn	19 29 30.1	-3.9
KUR				smax	smax				
	comp=N,140nm,0.9s								
KUR				smax	smax				
	comp=E,250nm,0.9s								
YSS	Yuzh-Sakhalins	7.30	356	eP			Pn	19 28 32.0	-0.6
YSS				MLR	MLR				
	comp=Z,400nm,14.0s								
USRK	Ussuriysk Arra	9.69	302	Pn			Pn	19 29 08.4	+3.1
	comp=Z,0.3nm,0.3s,baz=99,slow=12,SNR=8.3								
USRK				LR	LR			19 32 41.2	
	comp=Z,120nm,20.4s,baz=104,slow=37								
MDJ	Mudanjiang	11.43	300	Pn			Pn	19 29 33.0	+3.7
	comp=Z,13nm,1.0s								
JNU	Nakatsue	12.07	241	LR	LR			19 34 35.1	
	comp=Z,311nm,18.4s,baz=54,slow=39								
KSRS	Korea Array	12.38	265	Pn			Pn	19 29 46.2	+3.9
	comp=Z,0.1nm,0.3s,baz=87,slow=12,SNR=3.9								
KSRS				LR	LR			19 34 00.9	
	comp=Z,182nm,19.4s,baz=99,slow=35								
KSAR	Wonju Array Be	12.42	265	Pn			Pn	19 29 46.2	+3.5
KLR	Kul'dur	12.70	323	eP			Pn	19 29 42.1	-4.4
KLR				MLR	MLR				
	comp=Z,900nm,12.0s								
HIA	Hailar	19.40	307	P			P	19 31 10.1	-2.0
	comp=Z,4.8nm,0.6s								
SEY	Seymchan	23.90	10	⇑eP			P	19 32 01.4	+1.9
SEY	Seymchan	23.90	10	P			P	19 31 59.5	-0.1
SEY	Seymchan	23.90	10	P			P	19 31 59.5	-0.1
	comp=Z,2.7nm,0.8s,baz=198,slow=23,SNR=12								
YAK	Yakutsk	23.92	344	eP			P	19 31 57.7	-2.0
YAK				pmax	pmax				
	comp=Z,10.0nm,0.9s								
ULN	Ulaanbaatar	27.35	299	eP			P	19 32 31.4	+0.2
	comp=Z,8.5nm,1.3s								
SONM	Songino Array	27.79	299	P			P	19 32 35.8	+0.7
SONM	Songino Array	27.79	299	P			P	19 32 35.8	+0.7
	comp=Z,1.6nm,0.7s,baz=90,slow=7.2,SNR=16								
SONM				LR	LR			19 44 15.1	
	comp=Z,153nm,20.6s,baz=158,slow=38								
H11N2	WAKE ISLAND Hy	28.29	128	T			T	20 02 16.9	
	baz=321								
H11N1	WAKE ISLAND Hy	28.30	128	T			T	20 02 16.9	
	baz=321,slow=75,SNR=32								
H11N3	WAKE ISLAND Hy	28.30	128	T			T	20 02 16.9	
	baz=321,slow=75,SNR=37								
H11S1	WAKE ISLAND Hy	29.11	130	T			T	20 03 17.4	
	baz=321,slow=75,SNR=4.5								
H11S3	WAKE ISLAND Hy	29.12	130	T			T	20 03 18.0	
	baz=321,SNR=4.3								
H11S2	WAKE ISLAND Hy	29.12	130	T			T	20 03 19.1	
	baz=321,slow=75,SNR=5.1								
ENH	Enshi	29.25	262	eP			P	19 32 47.6	-0.6
	comp=Z,5.6nm,0.9s								
TLY	Talaya	29.94	307	eP			P	19 32 55.8	+1.7
TLY				eS			S	19 37 47.8	-3.5
TLY				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TLY				MLR	MLR				
	comp=Z,114nm,17.0s								
ZAK	Zakamensk	30.02	304	⇑iP			P	19 32 54.9	0.0
ZAK				e				19 34 01.9	
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.4s								
ZAA0	Zalesovo Array	41.40	310	eP			P	19 34 32.4	+0.2
ZALV	Zalesovo Beam	41.40	310	P			P	19 34 32.5	+0.3
ZALV	Zalesovo Beam	41.40	310	P			P	19 34 32.5	+0.3
ZALV	Zalesovo Beam	41.40	310	P			P	19 34 32.5	+0.3
	comp=Z,1.5nm,0.5s,baz=86,slow=8.3,SNR=8.8								
NVS	Novosibirsk	42.25	312	eP			P	19 34 37.4	-1.7
NVS				pmax	pmax				
	comp=Z,24nm,2.8s								
NVS				pmax	pmax				
	comp=N,27nm,3.0s								
NVS				pmax	pmax				
	comp=E,9.0nm,3.0s								
LSA	Lhasa	43.63	274	eP			P	19 34 51.9	+0.7
LSA				pmax	pmax				
	comp=Z,9.0nm,1.5s								
LSA	Lhasa	43.63	274	eP			P	19 34 51.9	+0.7
	comp=Z,9.1nm,1.5s								
CMAR	Chiang Mai Arr	43.76	254	P			P	19 34 51.8	0.0
CMAR	Chiang Mai Arr	43.76	254	P			P	19 34 51.8	0.0
	comp=Z,0.3nm,0.7s,baz=49,slow=5.1,SNR=4.8								
MK31	Makanchi Array	44.15	300	eP			P	19 34 53.2	-1.4
MK31	Makanchi Array	44.15	300	eP			P	19 34 53.2	-1.4
MKAR	Makanchi Array	44.15	300	P			P	19 34 55.0	+0.3
MKAR	Makanchi Array	44.15	300	P			P	19 34 55.0	+0.3
MKAR	Makanchi Array	44.15	300	P			P	19 34 55.0	+0.3
	comp=Z,2.1nm,0.9s,baz=85,slow=9.2,SNR=13								
MKAR				LR	LR			19 54 11.9	
	comp=Z,87nm,18.3s,baz=14,slow=37								
KURK	Kurchatov	45.63	306	ceP			P	19 35 05.6	-0.7
KURK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	Kurchatov	45.63	306	eP			P	19 35 05.3	-1.0
	comp=Z,9.5nm,1.1s								
KURBB	Kurchatov Arra	45.71	306	P			P	19 35 07.0	+0.1
	comp=Z,2.0nm,0.6s,baz=80,slow=8.2,SNR=22								
ILAR	Eielson Array	46.40	34	P			P	19 35 12.3	+0.2
ILAR	Eielson Array	46.40	34	P			P	19 35 12.3	+0.2
	comp=Z,0.4nm,0.8s,baz=267,slow=6.0,SNR=4.1								
TAPN	Taplejung	47.41	273	eP			P	19 35 21.9	+0.9
	comp=Z,8.9nm,0.9s								
ODAN	Odare	47.91	272	eP			P	19 35 25.2	+0.5
	comp=Z,11nm,1.0s								
JIRN	Jiri	48.43	274	eP			P	19 35 29.1	+0.1
	comp=Z,8.2nm,0.7s								
RAMN	Ramite	48.47	273	eP			P	19 35 29.3	+0.2
	comp=Z,29nm,1.2s								
GUN	Gumba	48.55	274	eP			P	19 35 30.0	+0.2
	comp=Z,17nm,0.6s								
KKN	Kakani	49.07	275	eP			P	19 35 34.0	+0.3
	comp=Z,14nm,0.7s								
PKI	Pulchoki	49.08	274	eP			P	19 35 34.9	+1.0
	comp=Z,7.6nm,0.8s								
PKIN	Phulchoki	49.09	274	eP			P	19 35 34.7	+0.9
	comp=Z,3.5nm,0.5s								
DMN	Daman	49.29	275	eP			P	19 35 35.6	+0.2
	comp=Z,11nm,1.0s								
GKN	Gorkha	49.46	275	eP			P	19 35 36.6	0.0
	comp=Z,11nm,0.8s								
TKM2	Tokmak 2	49.85	297	eP			P	19 35 37.9	-1.5
TKM2				pmax	pmax				
	comp=Z,6.0nm,0.9s								
TKM2	Tokmak 2	49.85	297	eP			P	19 35 37.9	-1.5
	comp=Z,5.5nm,0.9s								
DANN	Dangsing	49.96	276	eP			P	19 35 40.2	-0.4
	comp=Z,20nm,0.6s								
BRVK	Borovoye	50.09	311	⇓eP			P	19 35 41.7	+0.9
BRVK				pmax	pmax				
	comp=Z,9.0nm,2.5s								
BRVK	Borovoye	50.09	311	eP			P	19 35 41.0	+0.2
	comp=Z,5.4nm,0.9s								
KOLN	Koldanda	50.37	276	eP			P	19 35 43.7	+0.1
	comp=Z,12nm,1.0s								
AAK	Ala-Archa	50.71	297	P			P	19 35 45.8	-0.1
AAK	Ala-Archa	50.71	297	P			P	19 35 45.8	-0.1
HNR	Honiara	51.19	159	LR			LR	19 53 17.5	
	comp=Z,137nm,21.9s,baz=297,slow=31								
EKS2	Erkin-Say	51.19	297	eP			P	19 35 49.3	-0.2
EKS2				pmax	pmax				
	comp=Z,2.0nm,0.8s								
EKS2	Erkin-Say	51.19	297	eP			P	19 35 49.3	-0.2
	comp=Z,2.1nm,0.8s								
INK	Inuvik	51.30	28	P			P	19 35 49.0	-0.6
INK	Inuvik	51.30	28	P			P	19 35 49.0	-0.6
	comp=Z,0.5nm,0.7s,baz=294,slow=2.1,SNR=2.7								
KKAR	Karatay Array	53.24	299	eP			P	19 36 04.1	-0.5
KKAR	Karatay Array	53.24	299	eP			P	19 36 04.1	-0.5
	comp=Z,0.5nm,0.6s								
ARU	Arti	55.48	318	ciP			P	19 36 21.1	+0.5
ARU								19 38 22.8	
ARU				S			S	19 44 03.3	-2.0
ARU				SS			SS	19 47 44.7	-4.8
ARU				pmax	pmax				
	comp=Z,8.0nm,1.2s								
ARU				MLR	MLR				
	comp=Z,167nm,16.0s								
ARU	Arti	55.48	318	eP			P	19 36 20.1	-0.6
	comp=Z,6.7nm,1.1s								
ABKAR	Akbulak array	57.51	309	eP			P	19 36 34.8	-0.3
	comp=Z,1.6nm,0.6s								
ABKAR				e				19 36 43.0	
KBL	Kabul	58.01	290	P			P	19 36 38.5	-0.7
KBL				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KBL	Kabul	58.01	290	P			P	19 36 38.5	-0.7
	comp=Z,2.3nm,0.7s								
AKTO	Aktyubinsk	58.14	311	P			P	19 36 39.7	+0.1
AKTO	Aktyubinsk	58.14	311	P			P	19 36 39.7	+0.1
AKTO	Aktyubinsk	58.14	311	P			P	19 36 39.7	+0.1
	comp=Z,0.6nm,0.6s,baz=66,slow=12,SNR=3.4								
WRA	Warramunga Arr	59.92	190	P			P	19 36 51.1	-1.0
WRA	Warramunga Arr	59.92	190	P			P	19 36 51.1	-1.0
	comp=Z,0.6nm,0.5s,baz=8.4,slow=7.0,SNR=9.6								
YKA	Yellowknife Ar	60.71	31	P			P	19 36 58.4	+1.3
YKA	Yellowknife Ar	60.71	31	P			P	19 36 58.4	+1.3
	comp=Z,0.3nm,0.8s,baz=296,slow=6.1,SNR=3.3								
ARCES	ARCESS Array B	62.10	339	LR			LR	20 06 44.5	
	comp=Z,57nm,18.5s,baz=54,slow=39								
ASAR	Alice Springs	63.64	190	P			P	19 37 16.4	-0.8
ASAR	Alice Springs	63.64	190	P			P	19 37 16.4	-0.8
	comp=Z,0.4nm,0.8s,baz=9.1,slow=6.5,SNR=5.7								
FINES	FINESS Array B	67.24	332	P			P	19 37 40.2	+0.1
FINES	FINESS Array B	67.24	332	P			P	19 37 40.2	+0.1
	comp=Z,1.3nm,0.7s,baz=34,slow=7.1,SNR=7.8								
FINES				LR	LR			20 08 55.5	
	comp=Z,65nm,18.8s,baz=34,slow=38								
KIV	Kislovodsk	70.41	311	eP			P	19 38 02.2	+1.9
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,67nm,18.0s								
KIV	Kislovodsk	70.41	311	eP			P	19 38 01.6	+1.3
NVAR	Mina Array Bea	72.12	55	P			P	19 38 12.5	+1.6
NVAR	Mina Array Bea	72.12	55	P			P	19 38 12.5	+1.6
	comp=Z,0.3nm,0.3s,baz=254,slow=6.5,SNR=2.5								
NB2	NORSAR Subarra	72.37	338	P			P	19 38 11.8	0.0
	comp=Z,1.5nm,0.7s,baz=38,slow=6.2								
NOA	NORSAR Array B	72.37	338	P			P	19 38 12.1	+0.3
NOA	NORSAR Array B	72.37	338	P			P	19 38 12.1	+0.3
	comp=Z,1.4nm,0.9s,baz=40,slow=5.7,SNR=3.8								
NOA				LR	LR			20 15 12.2	
	comp=Z,48nm,19.2s,baz=10.0,slow=40								
AKASG	Malin Array Be	73.20	323	P			P	19 38 16.7	0.0
AKASG	Malin Array Be	73.20	323	P

BNDI	**Bandanaira**	**3.70**	**274**	P	**Pn**	**19 36 18.3 +1.6**
BNDI				S	**Sn**	**19 37 02.8 +3.2**
SRPI	**Serui, Papua**	**3.91**	**42**	P	**Pn**	**19 36 18.8 -0.8**
SWI	**Sorong**	**4.55**	**329**	P	**Pn**	**19 36 27.8 -0.6**
SWI				S	**Sn**	**19 37 18.7 -1.8**
MSAI	**Masohi**	**4.88**	**287**	P	**Pn**	**19 36 34.9 +1.9**
NLAI	**Namlea**	**6.67**	**283**	P	Pn	19 37 02.2 +4.6
NLAI				S	**Sn**	**19 38 16.9 +4.0**
LBMI	**Labuha**	**7.36**	**304**	P	**Pn**	**19 37 08.0 +0.9**
	49nm,1.1s,948nm0.2nm					
KDU	**Kakadu**	**7.93**	**188**	P	**Pn**	**19 37 15.6 +0.8**
	baz=7.8,SNR=35					
SANI	**Sanana**	**8.08**	**289**	P	**Pn**	**19 37 15.7 -1.2**
	46nm,0.7s					
SANI				S	**Sn**	**19 38 41.8 -5.7**
	46nm,0.7s					
MTN	**Manton Dam**	**8.37**	**197**	P	**Pn**	**19 37 21.2 +0.3**
	baz=8.2,SNR=41					
MTN				S	**Sn**	**19 38 57.0 +2.3**
	baz=8.2,SNR=3.7					
SOEI	**Soe**	**10.50**	**241**	*e*Pn	**Pn**	**19 37 51.0 +0.8**
	17nm,0.6s					
SOEI				*e*Sn	**Sn**	**19 39 46.6 -0.5**
SOEI	**Soe**	**10.50**	**241**	P	**Pn**	**19 37 51.9 +1.7**
	baz=10,SNR=10					
KNRA	**Kununurra**	**11.82**	**203**	P	**Pn**	**19 38 07.0 -1.2**
	baz=12,SNR=46					
APSI	**Ampana**	**12.55**	**288**	P	**Pn**	**19 38 19.0 +0.8**
	72nm,1.2s					
COEN	**Coen**	**13.11**	**135**	P	**Pn**	**19 38 24.2 -1.7**
	baz=13,SNR=8.2					
COEN				S	Sn	19 40 40.1 -11
	baz=13,SNR=6.9					
WRAB	**Tennant Creek**	**15.07**	**177**	*e*Pn	**Pn**	**19 38 49.0 -3.5**
	11nm,0.6s					
WRAB				*e*Sn	Sn	19 41 26.4 -12
WRA	**Warramunga Arr**	**15.08**	**177**	Pn	**Pn**	**19 38 49.4 -3.3**
WRA				Sn	Sn	19 41 29.1 -10
WRA	**Warramunga Arr**	**15.08**	**177**	Pn	**Pn**	**19 38 49.4 -3.3**
	1.4nm,0.3s,baz=360,slow=13,SNR=51					
WRA				Sn	Sn	19 41 29.1 -10
	0.6nm,0.3s,baz=2.0,slow=22,SNR=7.4					
WRA				LR	LR	19 45 49.5
	comp=Z,409nm,19.5s,baz=45,slow=41					
FITZ	**Fitzroy Crossi**	**15.36**	**210**	*e*Pn	**Pn**	**19 38 53.7 -2.6**
	6.5nm,0.7s					
FITZ				*e*Sn	Sn	19 41 30.6 -15
FITZ	**Fitzroy Crossi**	**15.36**	**210**	P	**Pn**	**19 38 53.9 -2.4**
	baz=15,SNR=30					
FITZ				S	**Sn**	**19 41 40.0 -5.7**
	baz=15,SNR=3.7					
QIS	**Mount Isa**	**16.73**	**160**	P	**Pn**	**19 39 13.2 -0.7**
	baz=17,SNR=5.7					
QIS				S	Sn	19 42 10.0 -9.0
	baz=17,SNR=4.9					
AS31	**Alice Springs**	**18.77**	**179**	*e*Pn	**P**	**19 39 37.4 -1.2**
AS31				*e*Sn	Sn	19 42 54.1 -15
ASAR	**Alice Springs**	**18.77**	**179**	P	**P**	**19 39 38.2 -0.3**
ASAR				S	Sn	19 42 58.0 -11
ASAR	**Alice Springs**	**18.77**	**179**	P	**P**	**19 39 38.2 -0.3**
	0.9nm,0.3s,baz=354,slow=12,SNR=47					
ASAR				S	Sn	19 42 58.0 -11
	0.2nm,0.3s,baz=3.2,slow=27,SNR=6.3					
ASAR				LR	LR	19 47 53.7
	comp=Z,397nm,19.9s,baz=358,slow=40					
CTA	**Charters Tower**	**19.57**	**142**	P	**Pn**	**19 39 50.0 +1.3**
CTA	**Charters Tower**	**19.57**	**142**	P	**Pn**	**19 39 50.0 +1.3**
	0.3nm,0.3s,baz=328,slow=6.7,SNR=5.5					
CTAO	**Charters Tower**	**19.57**	**142**	*e*Pn	**Pn**	**19 39 50.4 +1.7**
KKM	**Kota Kinabalu**	**20.43**	**302**	P	**P**	**19 39 57.7 +0.9**
WRKA	**Warakurna**	**20.77**	**194**	P	**P**	**19 40 01.0 +0.6**
	baz=21,SNR=18					
MBWA	**Marble Bar**	**21.13**	**218**	P	**P**	**19 40 05.1 +0.9**
QLP	**Quilpie**	**23.93**	**156**	P	**P**	**19 40 36.9 +3.6**
	baz=24,SNR=5.8					
STKA	**Stephens Creek**	**27.97**	**165**	*e*P	**P**	**19 41 12.2 +2.4**
STKA	**Stephens Creek**	**27.97**	**165**	P	**P**	**19 41 13.6 +3.8**
	2.6nm,1.1s,baz=309,slow=6.0,SNR=4.5					
BBOO	**Buckleboo**	**27.97**	**176**	*e*P	**P**	**19 41 11.3 +1.5**
	96nm,0.8s					
CMAR	**Chiang Mai Arr**	**41.24**	**305**	P	**P**	**19 43 05.2 +0.7**
CMAR	**Chiang Mai Arr**	**41.24**	**305**	P	**P**	**19 43 05.2 +0.7**
	0.6nm,0.6s,baz=124,slow=6.2,SNR=6.9					
ENH	**Enshi**	**41.82**	**328**	P	**P**	**19 43 09.2 +0.2**
KSRS	**Korea Array**	**42.36**	**353**	LR	LR	20 01 43.7
	comp=Z,62nm,19.0s,baz=174,slow=38					
USRK	**Ussuriysk Arra**	**48.78**	**358**	P	**P**	**19 44 04.5 +0.5**
	2.5nm,0.6s,baz=184,slow=6.9,SNR=7.0					
MDJ	**Mudanjiang**	**49.31**	**356**	P	**P**	**19 44 07.7 -0.4**
	7.1nm,1.0s					
AFI	**Afiamalu**	**54.54**	**104**	LR	LR	20 08 47.3
	comp=Z,93nm,20.5s,baz=76,slow=37					
SONM	**Songino Array**	**57.60**	**339**	P	**P**	**19 45 08.7 -0.3**
SONM	**Songino Array**	**57.60**	**339**	P	**P**	**19 45 08.7 -0.3**
	0.3nm,0.7s,baz=153,slow=7.2,SNR=3.3					
PETK	**Petropavlovsk-**	**61.16**	**16**	LR	LR	20 15 34.9
	comp=Z,13nm,18.4s,baz=172,slow=40					
CASY	**Casey**	**63.47**	**190**	*e*P	**P**	**19 45 46.8 -1.8**
	14nm,0.6s					
MK31	**Makanchi Array**	**68.43**	**325**	*e*P	**P**	**19 46 21.4 +0.5**
MKAR	**Makanchi Array**	**68.43**	**325**	P	**P**	**19 46 22.0 +1.1**
MKAR	**Makanchi Array**	**68.43**	**325**	P	**P**	**19 46 22.0 +1.1**
	0.6nm,0.5s,baz=118,slow=7.7,SNR=11					
SEY	**Seymchan**	**69.03**	**9**	P	**P**	**19 46 25.9 +1.7**
SEY	**Seymchan**	**69.03**	**9**	P	**P**	**19 46 25.9 +1.7**
	1.8nm,0.7s,baz=252,slow=20,SNR=7.4					
TKM2	**Tokmak 2**	**70.64**	**319**	*e*P	**P**	**19 46 33.1 -1.8**
ZAA0	**Zalesovo Array**	**71.26**	**332**	P	**P**	**19 46 37.2 -1.0**
ZALV	**Zalesovo Beam**	**71.26**	**332**	P	**P**	**19 46 37.2 -0.9**
ZALV	**Zalesovo Beam**	**71.26**	**332**	P	**P**	**19 46 37.2 -0.9**
	0.9nm,0.7s,baz=102,slow=6.2,SNR=4.6					
HON	**Honolulu**	**71.81**	**66**	*e*P	P	19 46 38.9 -3.2
KURK	**Kurchatov**	**72.57**	**327**	*e*P	**P**	**19 46 46.0 0.0**
	1.4nm,0.9s					
KURBB	**Kurchatov Arra**	**72.58**	**327**	P	**P**	**19 46 46.5 +0.4**
	1.0nm,0.9s,baz=125,slow=4.9,SNR=10					
BRVK	**Borovoye**	**78.23**	**327**	P	P	19 47 13.6 -4.9
ILAR	**Eielson Array**	**89.83**	**25**	P	P	19 48 21.2 +3.8
ILAR	**Eielson Array**	**89.83**	**25**	P	P	19 48 21.2 +3.8
	0.7nm,0.9s,baz=262,slow=6.2,SNR=4.8					
TORD	**Torodi Ar. Bea**	**131.85**	**283**	PKP	**PKPdf**	**19 54 34.1 +0.8**
TORD	**Torodi Ar. Bea**	**131.85**	**283**	PKP	**PKPdf**	**19 54 34.1 +0.8**
	0.2nm,0.7s,baz=58,slow=2.3,SNR=2.8					
LPAZ	**La Paz**	**149.98**	**135**	PKPbc	**PKPab**	**19 55 14.3 -2.5**
LPAZ	**La Paz**	**149.98**	**135**	PKPbc	**PKPab**	**19 55 14.3 -2.5**
	1.2nm,0.9s,baz=299,slow=7.3,SNR=3.3					

IDC 19 19:36:27.4±3.3, 22°.26N×143°.44E, h156$^{km}_{\pm 28km}$, mb3.4/9, mb1 3.5/10, mb1mx3.2/41, mbtmp3.9/10, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=26.3km s-min=22.1km az=97.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.95**	**347**	P	Pn	19 37 38.5	-1.6
	5.6nm,0.3s,baz=128,slow=22,SNR=7.3						
JCJ				S	Sn	19 38 33.8	-3.3
	17nm,0.3s,baz=83,slow=19,SNR=2.7						
KSRS	**Korea Array**	**20.21**	**322**	P	Pn	19 40 52.1	-1.7
	1.1nm,0.5s,baz=148,slow=9.0,SNR=9.4						
FX1	**Attu Island--F**	**38.08**	**29**	P	P	19 43 31.6	+0.9
	3.9nm,0.6s,baz=246,slow=20,SNR=3.7						
SONM	**Songino Array**	**39.06**	**320**	P	P	19 43 39.3	0.0
	0.3nm,0.4s,baz=130,slow=7.9,SNR=7.6						
WRA	**Warramunga Ar**	**42.88**	**193**	P	P	19 44 10.6	+0.1
	0.3nm,0.3s,baz=17,slow=8.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**53.92**	**321**	LR	LR	20 07 42.0	
	comp=Z,26nm,19.1s,baz=72,slow=35						
MKAR	**Makanchi Array**	**54.50**	**312**	P	P	19 45 39.5	+0.5
	0.1nm,0.4s,baz=95,slow=7.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**57.28**	**317**	P	P	19 45 58.4	-0.3
	0.6nm,0.5s,baz=92,slow=7.7,SNR=7.1						
YKA	**Yellowknife Ar**	**75.85**	**28**	P	P	19 47 56.2	0.0
	0.2nm,0.3s,baz=294,slow=6.0,SNR=4.1						
ARCES	**ARCESS Array B**	**78.47**	**342**	P	P	19 48 10.1	-0.6
	7.8nm,1.2s,baz=58,slow=8.6,SNR=2.9						
FINES	**FINESS Array B**	**82.78**	**335**	P	P	19 48 32.4	-1.4
	1.2nm,0.8s,baz=63,slow=3.7,SNR=6.3						

*IDC **19** 20:04:24.7±1.8, 43°.68N×105°.36W, h0^{km}, mb4.1/1, mb1 1.4/4, mb1mx3.5/29, mbtmp3.8/4, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/43, Error ellipse: s-maj=51.4km s-min=8.0km az=150.0*

*ISCJB **19** 20:04:26.1±0.2, 43°.75N±0°.01×105°.32W±0°.02, h0^{km}, mb4.2/1, MS3.3/2, Error ellipse: s-maj=2.3km s-min=2.0km az=145.3*

*NEIC **19** 20:04:26.1±0.4, 43°.76N×105°.20W, h0^{km}, ML3.6, Error ellipse: s-maj=6.3km s-min=5.2km az=139.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 19 20:04:26.2±0.7, 43.74N±0°.02×105°.29W±0°.02, h0^{km}, n119, σ0^{s}99/128, 38C-40D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.26**	**331**	P	**Pg**	**20 04 32.5**	**+1.4**
	baz=0.3,SNR=312						
J23A	**Dilts Ranch, B**	**0.39**	**210**	⇑P	**Pg**	**20 04 34.7**	**+1.1**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.50**	**76**	P	**Pg**	**20 04 36.5**	**+0.8**
	baz=0.4,SNR=316						
J24A	**Dixon Ranch, L**	**0.61**	**132**	P	**Pg**	**20 04 38.6**	**+0.7**
	baz=0.6,SNR=56						
H23A	**Clabaugh Cattl**	**0.83**	**355**	P	**Pg**	**20 04 42.3**	**+0.2**
	baz=0.8,SNR=52						
I22A	**9 Mile Ranch,**	**0.88**	**281**	P	**Pg**	**20 04 43.6**	**+0.5**
	baz=0.9,SNR=744						
J22A	**Midwest**	**0.92**	**250**	P	**Pg**	**20 04 43.9**	**0.0**
	baz=1.0,SNR=107						
RSSD	**Black Hills**	**0.98**	**67**	*e*Pg	**Pg**	**20 04 44.8**	**-0.3**
K23A	**Bowen Ranch, D**	**1.01**	**194**	⇑P	**Pg**	**20 04 46.1**	**+0.5**
	baz=1.0						
K24A	**Anderson Ranch**	**1.07**	**161**	⇑P	**Pg**	**20 04 46.8**	**0.0**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.14**	**107**	⇓P	**Pg**	**20 04 48.1**	**+0.2**
	baz=1.1,SNR=205						
H24A	**Dirks Ranch, A**	**1.14**	**27**	P	**Pg**	**20 04 47.6**	**-0.4**
	baz=1.1,SNR=227						
H22A	**Clearmont**	**1.15**	**319**	⇑P	**Pg**	**20 04 48.4**	**+0.2**
	baz=1.2,SNR=103						
I25A	**Rochford**	**1.16**	**75**	⇓P	**Pg**	**20 04 48.1**	**-0.3**
	baz=1.1						
K22A	**Casper**	**1.41**	**220**	*e*Pn	**Pn**	**20 04 52.5**	**-0.9**
K22A	**Casper**	**1.41**	**220**	⇑P	**Pn**	**20 04 52.8**	**-0.6**
	baz=1.5						
I21A	**Big Trails, Te**	**1.45**	**274**	⇓P	**Pn**	**20 04 52.7**	**-1.2**
	baz=1.5,SNR=196						
G23A	**Biddle**	**1.46**	**357**	⇑P	**Pn**	**20 04 53.5**	**-0.5**
	baz=1.4						
H25A	**Fruitdale**	**1.50**	**53**	⇓P	**Pn**	**20 04 54.4**	**-0.1**
	baz=1.4						
H25A				⇓S	**Sn**	**20 05 15.7**	**+0.8**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.53**	**137**	⇑Pb	**Pb**	**20 04 55.7**	**+0.1**
	baz=1.5						
K25A				⇓S	**Sn**	**20 05 16.9**	**+1.2**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.54**	**306**	⇑Pb	**Pn**	**20 04 55.5**	**+0.3**
	baz=1.6,SNR=54						
H21A				⇓S	**Sg**	**20 05 16.5**	**+0.8**
	baz=1.6						
J21A	**Lysite**	**1.62**	**257**	P	**Pn**	**20 04 55.9**	**-0.3**
	baz=1.7,SNR=69						
G22A	**Birney**	**1.65**	**334**	⇓Pb	**Pb**	**20 04 57.3**	**-0.2**
	baz=1.7,SNR=210						
L23A	**Garrett**	**1.65**	**191**	⇓P	**Pn**	**20 04 56.8**	**+0.1**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.67**	**104**	⇓P	**Pn**	**20 04 57.1**	**+0.4**
	baz=1.6						
J26A				⇓S	**Sg**	**20 05 20.6**	**+0.8**
	baz=1.6						
G24A	**Alzada**	**1.71**	**21**	⇑P	**Pn**	**20 04 57.8**	**+0.4**
	baz=1.7						
L24A	**Wheatland**	**1.71**	**171**	⇓P	**Pn**	**20 04 57.6**	**+0.1**
	baz=1.7						
L24A				⇑S	**Sg**	**20 05 21.2**	**-0.1**
	baz=1.7						
I26A	**New Underwood**	**1.78**	**80**	⇓Pb	**Pb**	**20 04 59.4**	**-0.4**
	baz=1.7						
K21A	**Alcova**	**1.81**	**233**	⇑P	**Pb**	**20 04 59.7**	**-0.7**
	baz=1.9						
L25A	**Engebretsen Ra**	**1.86**	**148**	⇓Pb	**Pb**	**20 05 01.1**	**0.0**
	baz=1.8						
L25A				⇓Sb	**Sg**	**20 05 27.0**	**+1.1**
	baz=1.8						
K26A	**Motz Farm, Whi**	**1.86**	**123**	⇑Pb	**Pb**	**20 05 00.5**	**-0.6**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.90**	**207**	⇓Pb	**Pb**	**20 05 01.4**	**-0.5**
	baz=1.9						
G25A	**Newell**	**1.98**	**42**	⇓Pb	**Pb**	**20 05 02.5**	**-0.7**
	baz=1.9						
F23A	**Volborg**	**1.98**	**358**	⇑P	**Pn**	**20 05 01.7**	**+0.5**
	baz=2.0						
F23A				⇓Sb	**Sg**	**20 05 30.0**	**0.0**
	baz=2.0						
H26A	**Fairpoint**	**2.01**	**63**	⇓P	**Pn**	**20 05 02.2**	**+0.7**
	baz=1.9						
G21A	**Lodge Grass**	**2.02**	**318**	⇓P	**Pn**	**20 05 02.4**	**+0.7**
	baz=2.0						
I20A	**Worland**	**2.06**	**277**	⇓P	**Pn**	**20 05 03.3**	**+1.0**
	baz=2.1						
J20A	**Shoshoni**	**2.07**	**260**	⇑Pb	**Pb**	**20 05 04.8**	**+0.1**
	baz=2.1						
H20A	**Greybull**	**2.09**	**292**	⇑P	**Pn**	**20 05 03.0**	**+0.4**
	baz=2.1						
H20A				⇑S	**Sn**	**20 05 29.8**	**+0.4**
	baz=2.1						
F22A	**Rosebud**	**2.15**	**342**	⇓P	**Pn**	**20 05 03.5**	**+0.1**
	baz=2.2						
F22A				⇑S	**Sn**	**20 05 31.9**	**+1.0**
	baz=2.2						
M23A	**Laramie**	**2.29**	**188**	⇓Sb	**Sg**	**20 05 39.0**	**-0.8**
	baz=2.3						
M24A	**Cheyenne**	**2.29**	**171**	⇑Pb	**Pb**	**20 05 09.0**	**+0.4**
	baz=2.3						
M24A				⇑Sb	**Sg**	**20 05 40.1**	**+0.1**
	baz=2.3						
F21A	**Absaloka Mine,**	**2.46**	**329**	⇑P	**Pn**	**20 05 07.8**	**+0.2**
	baz=2.5						
G20A	**Bridger**	**2.56**	**306**	⇑P	**Pn**	**20 05 09.2**	**+0.1**
	baz=2.6						
E22A	**Miles City**	**2.74**	**350**	⇑P	**Pn**	**20 05 11.5**	**0.0**
	baz=2.7						
J19A	**Crowheart**	**2.78**	**261**	⇑Sb	**Sb**	**20 05 52.5**	**+1.0**
	baz=2.8						
H19A	**Powell**	**2.82**	**291**	⇓P	**Pn**	**20 05 13.7**	**+1.0**
	baz=2.9						
N23A	**Red Feather La**	**2.88**	**190**	⇑P	**Pn**	**20 05 15.0**	**+1.3**
	baz=2.9						
F20A	**Billings**	**2.90**	**316**	⇑P	**Pn**	**20 05 13.7**	**0.0**
	baz=2.9						
E24A	**Baker**	**2.91**	**13**	⇑P	**Pn**	**20 05 14.7**	**+0.9**
	baz=2.9						
G27A	**Dupree**	**2.91**	**54**	⇑P	**Pn**	**20 05 14.8**	**+1.0**
	baz=2.8						
LAO	**LASA Array**	**3.02**	**348**	*e*Pn	**Pn**	**20 05 15.3**	**-0.1**
F27A	**Lemmon**	**3.16**	**46**	⇑P	**Pn**	**20 05 18.3**	**+1.0**
	baz=3.1						
RLMT	**Red Lodge**	**3.17**	**297**	*e*Pn	**Pn**	**20 05 17.8**	**+0.2**
H28A	**Mission Ridge**	**3.21**	**72**	⇑P	**Pn**	**20 05 19.0**	**+1.1**
	baz=3.1						
BW06	**Boulder Array**	**3.27**	**254**	*e*Pn	**Pn**	**20 05 20.3**	**+1.4**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**20 05 20.0**	**+1.1**
PDAR				Pg	**Pb**	**20 05 25.1**	**-0.1**
PDAR				Lg	Lg	20 06 05.9	
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**20 05 20.0**	**+1.1**
	3.8nm,0.3s,baz=77,slow=16,SNR=80						
PDAR				Pg	**Pb**	**20 05 25.1**	**-0.1**
	14nm,0.3s,baz=70,slow=21,SNR=77						
PDAR				Lg	Lg	20 06 05.9	
	11nm,0.3s,baz=73,slow=28,SNR=5.5						
L28A	**Connealy Angus**	**3.27**	**121**	⇓P	**Pn**	**20 05 20.0**	**+1.2**
	baz=3.2						
H18A	**Shoshone NF, C**	**3.28**	**288**	⇓P	**Pn**	**20 05 19.3**	**+0.2**
	baz=3.3						
F19A	**Roth Farm, Mol**	**3.35**	**310**	⇓P	**Pn**	**20 05 20.6**	**+0.7**
	baz=3.4						
E26A	**Carlson Angus**	**3.39**	**35**	⇓P	**Pn**	**20 05 21.6**	**+1.2**
	baz=3.3						
G28A	**Parade**	**3.41**	**65**	⇓P	**Pn**	**20 05 21.5**	**+0.9**
	baz=3.3						
E20A	**Meyer Farm, Mu**	**3.42**	**325**	⇑P	**Pn**	**20 05 20.4**	**-0.5**
	baz=3.4						
D23A	**Lindsay**	**3.44**	**1**	⇓P	**Pn**	**20 05 21.8**	**+0.7**
	baz=3.4						
D24A	**Glendive**	**3.44**	**11**	⇓P	**Pn**	**20 05 22.2**	**+1.0**
	baz=3.4						
D22A	**Cohagen**	**3.47**	**350**	⇑P	**Pn**	**20 05 22.0**	**+0.5**
	baz=3.5						
D21A	**La Casta Ranch**	**3.54**	**341**	⇑P	**Pn**	**20 05 22.6**	**+0.1**
	baz=3.5						
E19A	**Rath Farm, Rou**	**3.68**	**319**	⇓P	**Pn**	**20 05 24.4**	**0.0**
	baz=3.7						
OGNE	**Ogallala**	**3.69**	**138**	*e*Pn	**Pn**	**20 05 24.6**	**+0.1**
OGNE	**Ogallala**	**3.69**	**138**	⇓P	**Pn**	**20 05 25.5**	**+0.9**
	baz=3.7						
M28A	**Bar X Bar Ranc**	**3.72**	**128**	⇓P	**Pn**	**20 05 25.9**	**+0.8**
	baz=3.7						
GCMT	**Greycliff**	**3.73**	**305**	*e*Pn	**Pn**	**20 05 26.1**	**+0.9**
H29A	**Onida**	**3.76**	**75**	⇑P	**Pn**	**20 05 26.1**	**+0.6**
	baz=3.7						
O26A	**Horse Wrangler**	**3.79**	**156**	⇓P	**Pn**	**20 05 26.5**	**+0.4**
	baz=3.8						
F28A	**McLaughlin**	**3.83**	**55**	⇑P	**Pn**	**20 05 27.5**	**+1.0**
	baz=3.8						
C24A	**Savage**	**3.84**	**9**	⇑P	**Pn**	**20 05 27.8**	**+1.2**
	baz=3.8						
D26A	**Manning**	**3.86**	**30**	⇓P	**Pn**	**20 05 27.8**	**+1.0**
	baz=3.8						
H17A	**Grant Village**	**3.87**	**282**	*e*Pn	**Pn**	**20 05 29.5**	**+2.3**
D20A	**Manuel Ranch,**	**3.91**	**330**	⇓P	**Pn**	**20 05 27.5**	**0.0**
	baz=3.9						
L29A	**Maesberg Ranch**	**3.91**	**114**	⇑P	**Pn**	**20 05 28.6**	**+1.0**
	baz=3.9						
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**20 05 29.8**	**+1.4**
ISCO	**Idaho Springs**	**3.94**	**184**	⇑P	**Pn**	**20 05 29.7**	**+1.4**
	baz=4.0						
C22A	**Vida**	**4.03**	**354**	⇓P	**Pn**	**20 05 30.6**	**+1.4**
	baz=4.0						
C23A	**Lambert**	**4.07**	**1**	⇑P	**Pn**	**20 05 31.1**	**+1.4**
	baz=4.0						
N28A	**Pribbeno Ranch**	**4.13**	**136**	⇓P	**Pn**	**20 05 31.9**	**+1.2**
	baz=4.1						
O20A	**White River Ci**	**4.22**	**212**	*e*Pn	**Pn**	**20 05 31.1**	**-0.9**
C25A	**Freed Ranch, W**	**4.22**	**19**	⇓P	**Pn**	**20 05 33.2**	**+1.3**
	baz=4.2						
QLMT	**Earthquake Lak**	**4.54**	**286**	Pn	**Pn**	**20 05 38.7**	**+2.3**
DGMT	**Dagmar**	**4.79**	**9**	*e*Pn	**Pn**	**20 05 40.6**	**+0.9**
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	Pn	20 05 33.5	-7.8
TCUT	**Toone Canyon**	**5.23**	**242**	*e*Pn	**Pn**	**20 05 44.3**	**-1.6**
	95nm,0.2s						
EGMT	**Eagleton**	**5.30**	**326**	*e*Pn	**Pn**	**20 05 46.5**	**-0.2**
	21nm,0.4s						
HRY	**Holter Researc**	**5.49**	**305**	*e*Pn	**Pn**	**20 05 49.9**	**+0.5**
	15nm,0.4s						
LRM	**Limekiln Ridge**	**5.51**	**295**	*e*Pn	**Pn**	**20 05 49.6**	**-0.1**
	31nm,0.4s						
MCMT	**McKenzie Canyo**	**5.54**	**284**	Pn	**Pn**	**20 05 48.6**	**-1.5**
	2.6nm,0.4s						
DAU	**Daniels Canyon**	**5.54**	**235**	*e*Pn	**Pn**	**20 05 52.9**	**+2.6**
	15nm,0.5s						
CTU	**Camp Tracy**	**5.68**	**240**	*e*Pn	**Pn**	**20 05 53.2**	**+1.2**
	9.9nm,0.4s						
HVU	**Hansel Valley**	**5.85**	**253**	*e*Pn	**Pn**	**20 05 55.4**	**+1.1**
	8.4nm,0.4s						
PV04	**Paradox Valley**	**6.00**	**208**	*e*Pn	**Pn**	**20 05 58.6**	**+2.2**
SRU	**San Rafael**	**6.07**	**222**	*e*Pn	**Pn**	**20 05 56.6**	**-0.8**
	13nm,0.4s						
TMUT	**Trail Mountain**	**6.28**	**227**	*e*Pn	**Pn**	**20 06 01.2**	**+0.8**
	15nm,0.4s						
ECSD	**EROS Data Cent**	**6.29**	**87**	*e*Pn	**Pn**	**20 05 57.3**	**-2.8**
	8.8nm,0.3s						
BGU	**Big Grassy Mou**	**6.39**	**247**	*e*Pn	**Pn**	**20 06 01.2**	**-0.5**
	3.3nm,1.0s						
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**20 06 02.9**	**+0.3**
	2.6nm,0.4s						
DUG	**Dugway**	**6.63**	**240**	*e*Pn	**Pn**	**20 06 05.6**	**+0.6**
	4.4nm,0.4s						
SWMT	**Swartz Lake**	**7.17**	**305**	*e*Pn	**Pn**	**20 06 13.3**	**+0.8**
	3.5nm,0.3s						
YBMT	**Yellow Bay**	**7.36**	**307**	*e*Pn	**Pn**	**20 06 16.0**	**+1.0**
	5.5nm,0.4s						
JTMT	**Jette**	**7.46**	**306**	*e*Pn	**Pn**	**20 06 17.5**	**+1.2**
	3.0nm,0.4s						
WALA	**Waterton Lakes**	**7.99**	**315**	*e*Pn	**Pn**	**20 06 21.9**	**-1.7**
	0.1nm,0.4s						
AGMN	**Agassiz Nation**	**7.99**	**52**	*e*Pn	**Pn**	**20 06 22.2**	**-1.3**
	15nm,0.3s						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**20 06 36.9**	**-2.5**
ULM				Lg	Lg	20 09 09.3	
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**20 06 36.9**	**-2.5**
	2.5nm,0.3s,baz=232,slow=13,SNR=20						
ULM				Lg	Lg	20 09 09.3	
	1.1nm,0.3s,baz=141,slow=20,SNR=4.0						

MLZ				*e*SN	**Sn**	**20 29 05.4**	**-1.4**
TUZ	**Tuapeka**	**4.30**	**53**	*e*PN	**Pn**	**20 28 23.9**	**+1.8**
TUZ				*e*SN	**Sn**	**20 29 13.4**	**+0.9**
EAZ	**Earnscleugh**	**4.64**	**45**	PN	**Pn**	**20 28 27.5**	**+0.6**
WKZ	**Wanaka**	**4.83**	**40**	*e*PN	**Pn**	**20 28 31.6**	**+2.1**
HHSZ	**Highcliff Hill**	**4.87**	**58**	PN	**Pn**	**20 28 31.4**	**+1.3**
JCZ	**Jackson Bay**	**5.36**	**33**	PN	**Pn**	**20 28 39.8**	**+3.0**
ODZ	**Otahua Downs** 47nm,0.7s	**5.44**	**51**	*e*Pn	**Pn**	**20 28 37.4**	**-0.4**
ODZ				*e*Sn	Sn	20 29 33.6	-7.1
ODZ	**Otahua Downs**	**5.44**	**51**	PN	**Pn**	**20 28 37.3**	**-0.4**
LBZ	**Lake Benmore**	**5.69**	**44**	PN	**Pn**	**20 28 40.4**	**-0.9**
RPZ	**Rata Peaks** 54nm,1.1s	**6.61**	**44**	*e*Pn	**Pn**	**20 28 52.1**	**-1.8**
RPZ				*e*Sn	Sn	20 29 59.2	-10
MCQ	**Macquarie Isla** 5µm,0.6s	**6.88**	**209**	*e*Pn	**Pn**	**20 28 56.8**	**-0.7**
MCQ	**Macquarie Isla** baz=6.7,SNR=10	**6.88**	**209**	P	**Pn**	**20 28 57.3**	**-0.2**
TAU	**Tasmania Unive**	**13.39**	**289**	P	**Pn**	**20 30 24.7**	**-2.1**
URZ	**Urewera** comp=Z,349nm,20.1s,baz=234,slow=40	**13.72**	**46**	LR	LR	20 36 24.5	
TOO	**Toolangi** baz=18,SNR=3.9	**17.80**	**301**	P	**P**	**20 31 27.3**	**+2.0**
NFK	**Norfolk Island** baz=20,SNR=10	**19.72**	**8**	S	S	20 35 20.1	-8.9
RAO	**Raoul Island**	**23.51**	**41**	P	**P**	**20 32 27.5**	**+0.6**
STKA	**Stephens Creek**	**24.16**	**305**	P	**P**	**20 32 33.9**	**+0.8**
STKA	**Stephens Creek** 5.3nm,0.7s,baz=131,slow=11,SNR=20	**24.16**	**305**	P	**P**	**20 32 33.9**	**+0.8**
STKA				LR	LR	20 40 54.2	
STKA	comp=Z,70nm,18.1s,baz=200,slow=34 **Stephens Creek** baz=24,SNR=17	**24.16**	**305**	P	**P**	**20 32 35.3**	**+2.2**
RMQ	**Roma** baz=26,SNR=4.6	**25.36**	**325**	P	**P**	**20 32 47.8**	**+3.8**
EIDS	**Eidsvold** 5.5nm,0.9s	**25.55**	**330**	*e*P	**P**	**20 32 45.8**	**0.0**
DZM	**Mont Dzumac** comp=Z,143nm,18.1s,baz=218,slow=34	**26.54**	**4**	LR	LR	20 42 11.3	
VNDA	**Vanda** comp=Z,75nm,19.5s,baz=360,slow=31	**29.02**	**181**	LR	LR	20 42 21.4	
CTAO	**Charters Tower** 7.1nm,1.1s	**32.11**	**326**	P	**P**	**20 33 41.9**	**-2.3**
CASY	**Casey**	**32.70**	**217**	*e*P	P	20 33 45.4	-3.6
ASAR	**Alice Springs**	**34.79**	**305**	P	**P**	**20 34 08.5**	**+0.8**
ASAR				PcP	**PcP**	**20 36 40.5**	**-0.5**
ASAR	**Alice Springs** 3.0nm,0.9s,baz=140,slow=7.3,SNR=29	**34.79**	**305**	P	**P**	**20 34 08.5**	**+0.8**
ASAR				PcP	**PcP**	**20 36 40.5**	**-0.5**
AS31	0.4nm,0.7s,baz=139,slow=4.5,SNR=4.4 **Alice Springs**	**34.79**	**305**	*e*P	**P**	**20 34 07.2**	**-0.5**
WRKA	**Warakurna** baz=37,SNR=5.0	**36.93**	**296**	P	**P**	**20 34 26.9**	**+0.9**
WRA	**Warramunga Arr**	**37.60**	**309**	P	**P**	**20 34 31.7**	**0.0**
WRA				PcP	**PcP**	**20 36 49.5**	**+0.1**
WRA	**Warramunga Arr** 2.7nm,0.9s,baz=152,slow=9.9,SNR=14	**37.60**	**309**	P	**P**	**20 34 31.7**	**0.0**
WRA				PcP	**PcP**	**20 36 49.5**	**+0.1**
WRAB	0.4nm,0.8s,baz=143,slow=2.6,SNR=7.8 **Tennant Creek** 8.6nm,1.0s	**37.60**	**309**	*e*P	**P**	**20 34 31.8**	**+0.1**
QSPA	**South Pole Qui**	**41.49**	**180**	P	**P**	**20 35 04.5**	**+0.6**
QSPA	**South Pole Qui** 3.8nm,1.0s,baz=16,slow=2.6,SNR=4.9	**41.49**	**180**	P	**P**	**20 35 04.4**	**+0.6**
FITZ	**Fitzroy Crossi** baz=44,SNR=3.6	**43.85**	**300**	P	**P**	**20 35 24.4**	**+1.1**
PPT	**Papeete** comp=Z,64nm,20.3s,baz=10,slow=33	**48.23**	**66**	LR	LR	20 53 44.1	
MAW	**Mawson** comp=Z,62nm,19.7s,baz=94,slow=33	**50.28**	**209**	LR	LR	20 54 48.5	
SNAA	**Sanae** 3.7nm,0.9s	**59.68**	**185**	P	**P**	**20 37 19.0**	**-1.9**
H08S2	**Diego Garcia H** baz=139,slow=76,SNR=40	**85.77**	**263**	T	T	22 14 18.3	
H08S1	**Diego Carcia H** baz=139,slow=76,SNR=18	**85.78**	**263**	T	T	22 14 19.4	
H08S3	**Diego Garcia H** baz=139,slow=76,SNR=62	**85.79**	**263**	T	T	22 14 19.8	
H08N1	**Diego Carcia H** baz=145,SNR=21	**87.72**	**263**	T	T	22 16 45.7	
H08N3	**Diego Garcia H** baz=145	**87.73**	**263**	T	T	22 16 44.0	
H08N2	**Diego Garcia H** baz=145,SNR=22	**87.74**	**263**	T	T	22 16 43.4	
CMAR	**Chiang Mai Arr**	**88.67**	**300**	P	**P**	**20 40 11.7**	**+1.3**
CMAR	**Chiang Mai Arr** 1.3nm,0.8s,baz=160,slow=3.3,SNR=12	**88.67**	**300**	P	**P**	**20 40 11.7**	**+1.3**
KSRS	**Korea Array** comp=Z,13nm,18.3s,baz=134,slow=36	**91.73**	**332**	LR	LR	21 21 35.4	
ILAR	**Eielson Array**	**119.17**	**22**	PKP	**PKPdf**	**20 46 05.0**	**+0.2**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=279,slow=3.6,SNR=6.5	**119.17**	**22**	PKP	**PKPdf**	**20 46 05.0**	**+0.2**
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=113,slow=1.8,SNR=9.7	**123.26**	**311**	PKP	**PKPdf**	**20 46 12.9**	**-0.2**
KURK	**Kurchatov**	**123.28**	**311**	PKP	**PKPdf**	**20 46 12.9**	**-0.2**
BVAR	**Borovoye Array**	**128.78**	**309**	PKP	**PKPdf**	**20 46 23.9**	**+0.3**
BVAR	**Borovoye Array** 0.5nm,0.7s,baz=126,slow=9.7,SNR=3.7	**128.78**	**309**	PKP	**PKPdf**	**20 46 23.9**	**+0.3**
RES	**Resolute Bay**	**138.87**	**23**	*e*PKPdf	**PKPdf**	**20 46 42.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**141.92**	**208**	PKPpre	PKPpre	20 46 43.0	
TORD	**Torodi Ar. Bea** 1.0nm,1.0s,baz=135,slow=3.6,SNR=4.2	**141.92**	**208**	PKhKP	PKPpre	20 46 43.0	
BRTR	**Keskin Array B**	**144.32**	**274**	PKP	PKPbc	20 46 51.5	+0.2
BRTR	**Keskin Array B** 3.0nm,0.7s,baz=133,slow=3.3,SNR=16	**144.32**	**274**	PKP	PKPbc	20 46 51.5	+0.2
FRB	**Frobisher Bay**	**147.86**	**42**	PKPbc	**PKPbc**	**20 47 01.1**	**+0.2**
FRB	**Frobisher Bay** 8.0nm,0.8s,baz=317,slow=2.8,SNR=12	**147.86**	**42**	PKPbc	**PKPbc**	**20 47 01.1**	**+0.2**
ARCES	**ARCESS Array B**	**151.28**	**331**	PKPbc	**PKPbc**	**20 47 10.0**	**+0.7**
ARCES	**ARCESS Array B** 6.5nm,0.7s,baz=74,slow=4.0,SNR=13	**151.28**	**331**	PKPbc	**PKPbc**	**20 47 10.0**	**+0.7**
AKASG	**Malin Array Be**	**151.42**	**291**	PKPbc	**PKPbc**	**20 47 10.0**	**-0.1**
AKASG	**Malin Array Be** 2.5nm,0.6s,baz=80,slow=2.6,SNR=19	**151.42**	**291**	PKPbc	**PKPbc**	**20 47 10.0**	**-0.1**
FINES	**FINESS Array B**	**153.56**	**314**	PKPbc	**PKPbc**	**20 47 14.9**	**+0.4**
FINES	**FINESS Array B** 1.7nm,0.7s,baz=85,slow=2.9,SNR=5.9	**153.56**	**314**	PKPbc	**PKPbc**	**20 47 14.9**	**+0.4**
GERES	**GERESS Array B**	**160.91**	**282**	PKPab	**PKPab**	**20 47 59.5**	**+0.1**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=94,slow=3.9,SNR=6.5	**160.91**	**282**	PKPab	**PKPab**	**20 47 59.5**	**+0.1**

KRSC 19 20:32:42.7±2.0, 50.41N×157.26E, h53km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.78**	**291**	*i* P	Pn	20 32 57.4	-0.2
SKR				*i* S	Sn	20 33 06.6	-1.8
PAU	**Pauzhetka**	**1.10**	**345**	*i* P	Pn	20 33 03.6	+1.8
PAU				*i* S	Sn	20 33 17.3	+1.3
MIPR	**Malaya Ipel'ka**	**1.90**	**351**	*e*P	Pn	20 33 14.8	+2.1
ASAK	**Asacha**	**2.02**	**11**	*e*P	Pn	20 33 17.3	+2.8
ASAK				*e*S	Sn	20 33 42.0	+3.4
MTVR	**Mutnovka**	**2.16**	**15**	*e*P	Pn	20 33 19.7	+3.3
MTVR				*e*S	Sn	20 33 45.3	+3.2
RUS	**Russkaya**	**2.18**	**21**	*e*P	Pn	20 33 19.0	+2.5
RUS				*e*S	Sn	20 33 44.2	+2.0
GRL	**Gorelyy**	**2.21**	**13**	*e*P	Pn	20 33 20.7	+3.6
GRL				*e*S	Sn	20 33 47.1	+3.8
APC	**Apacha**	**2.52**	**359**	*e*P	Pn	20 33 24.2	+3.0
APC				*e*S	Sn	20 33 55.0	+4.3
PET	**Petropavlovsk**	**2.76**	**18**	*e*P	Pn	20 33 28.4	+4.0
PET				*e*S	Sn	20 33 59.0	+2.5
UGLR	**Uglovaya**	**2.97**	**18**	*e*P	Pn	20 33 31.6	+4.1
UGLR				*e*S	Sn	20 34 06.0	+4.0
AVH	**Avacha**	**3.01**	**17**	*e*P	Pn	20 33 32.0	+4.1
KOK	**Koryaka**	**3.01**	**16**	*e*P	Pn	20 33 32.8	+4.7
SMAR	**Somma**	**3.02**	**18**	*e*P	Pn	20 33 32.1	+3.8
KRER	**Koryakskii**	**3.05**	**17**	*e*P	Pn	20 33 32.5	+3.9
SDLR	**Sedlovina**	**3.05**	**19**	*e*P	Pn	20 33 32.4	+4.8
NLC	**Nalytchevo**	**3.06**	**24**	*e*S	Sn	20 34 04.6	+0.8
KRX	**Arik**	**3.08**	**16**	*e*P	Pn	20 33 33.2	+4.2
SPN	**Mys Shipunski**	**3.20**	**31**	*e*P	Pn	20 33 34.1	+3.7
GNL	**Ganaly**	**3.32**	**7**	*e*P	Pn	20 33 35.6	+3.3
MKZ	**Mys Kozlova**	**4.97**	**32**	*e*P	Pn	20 33 57.6	+2.9
TUMR	**Tumrok**	**5.19**	**19**	*e*P	Pn	20 34 01.8	+3.9
KBTR	**Krutoberegovo**	**6.70**	**28**	*e*P	Pn	20 34 22.0	+3.6
BKI	**Bering**	**7.14**	**44**	*e*P	Pn	20 34 27.6	+3.2
BKI				*e*S	Sn	20 35 45.1	+1.1

*DJA **19** 20:35:45.1±8.8, 0.5°S×14.1°×12.6°E±3.2°, h197km±150km, M3.3/4, MLv3.3/4*

*IDC **19** 20:35:45.1±2.0, 0.10°N×126.78°E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/37, mbtmp3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/13, Error ellipse: s-maj=172.9km s-min=25.3km az=66.0*

*ISCJB **19** 20:35:51.8±1.0, 0.4S±0.1×126.15E±0.10, h33km, mb3.2/3, MS2.7/1, Error ellipse: s-maj=14.5km s-min=13.9km az=174.2*

ISC 19 20:35:51.8±1.2, 0.33S±0.08×126.15E±0.08, h35km, n8, σ1§37/7, mb3.1/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.38**	**103**	P	**Pn**	**20 36 15.6**	**+1.0**
TNTI	**Ternate**	**1.64**	**48**	P	**Pn**	**20 36 18.9**	**+0.8**
SANI	**Sanana**	**1.71**	**186**	P	**Pn**	**20 36 19.8**	**+0.6**
KMSI	**Cibinong**	**2.35**	**293**	P	**Pn**	**20 36 29.2**	**+1.2**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=339,slow=11,SNR=9.2	**21.07**	**158**	P	**P**	**20 40 32.4**	**-0.9**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=345,slow=10,SNR=7.6	**24.38**	**163**	P	**P**	**20 41 08.0**	**+1.0**
KSRS	**Korea Array** comp=Z,12nm,19.6s,baz=50,slow=38	**37.63**	**2**	LR	LR	20 59 06.4	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=125,slow=7.1,SNR=8.5	**60.58**	**327**	P	**P**	**20 45 57.5**	**-1.5**

*ISCJB **19** 20:45:52.9±1.9, 32.43N±0.04×76.86E±0.09, h6km±13km, mb3.5/10, MS3.5/2, Error ellipse: s-maj=12.8km s-min=5.5km az=167.6*

*IDC **19** 20:45:52.9±1.1, 32.36N×77.22E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.4/46, mbtmp3.5/9, ML3.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/42, Error ellipse: s-maj=32.6km s-min=22.6km az=77.0*

*NDI **19** 20:45:54.6±1.4, 32.35N×76.76E, h10km, ML3.6*

*NNC **19** 20:45:56.7±8.6, 32.72N×76.32E, h0km, mb3.5, Error ellipse: s-maj=104.6km s-min=88.1km az=15.0*

ISC 19 20:45:53.2±2.0, 32.40N±0.05×76.85E±0.07, h1km±13km, n22, σ1§75/26, mb3.5/10, 3C-3D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.49**	**252**	*e*P	**Pg**	**20 46 03.0**	**+0.5**
DHRM				*e*S	**Sb**	**20 46 09.2**	**-3.2**
DHRM	comp=N,1µm,0.4s			AML	AML	20 46 10.0	
DHRM	comp=E,4µm,0.3s			AML	AML	20 46 10.1	
DLH	**Dalhousie**	**0.76**	**281**	*e*P	**Pg**	**20 46 08.0**	**+0.3**
DLH				*e*S	**Sb**	**20 46 19.0**	**-1.2**
PONG	**Pong**	**0.88**	**240**	*e*P	**Pg**	**20 46 09.5**	**-0.6**
PONG				*e*x	x	20 47 05.5	
BHK	**Bhakra**	**1.05**	**200**	*e*P	**Pb**	**20 46 13.0**	**-1.1**
BHK				*e*x	**Sn**	**20 46 33.2**	**+2.9**
SMLA	**Simla**	**1.30**	**168**	*e*P	**Pn**	**20 46 17.6**	**-0.8**
SMLA				*e*S	**Sb**	**20 46 35.4**	**-0.2**
SMLA	comp=N,3µm,0.4s			AML	AML	20 46 37.4	
SMLA	comp=E,2µm,0.4s			AML	AML	20 46 38.0	
DDI	**Dehra Dun**	**2.32**	**153**	*e*P	**Pn**	**20 46 33.8**	**+1.3**
DDI				*e*S	**Sn**	**20 47 01.7**	**0.0**
DDI	comp=E,423nm,0.2s			AML	AML	20 47 08.4	
DDI	comp=N,482nm,0.4s			AML	AML	20 47 10.3	
AAK	**Ala-Archa** comp=N,0.2nm,0.3s,baz=170,slow=12,SNR=4.3	**10.38**	**350**	Pn	**Pn**	**20 48 25.8**	**+2.4**
KK31	**Karatay Array** comp=N,0.4nm,0.3s,baz=151,slow=14,SNR=29	**11.79**	**337**	⇑Pn	**Pn**	**20 48 43.8**	**+1.3**
KK31	comp=N,1.5nm,0.5s,baz=157,slow=22,SNR=12			⇓Sn	Sn	20 50 47.4	-7.5
MK31	**Makanchi Array** comp=N,0.2nm,0.3s,baz=194,slow=13,SNR=16	**14.97**	**15**	⇓Pn	**Pn**	**20 49 27.6**	**+1.8**
MKAR	**Makanchi Array** comp=N,0.2nm,0.3s,baz=202,slow=12,SNR=13	**14.97**	**15**	Pn	**Pn**	**20 49 24.9**	**-0.9**
MKAR	comp=N,0.1nm,0.3s,baz=191,slow=22,SNR=5.4			Sn	**Sn**	**20 52 08.3**	**-4.0**
AB31	**Akbulak array** comp=N,0.4nm,0.5s,baz=133,slow=11,SNR=9.9	**21.06**	**328**	⇑Pn	**P**	**20 50 39.1**	**+0.5**
BVA0	**Borovoye Array** comp=N,1.4nm,1.4s,baz=168,slow=8.9,SNR=9.9	**21.13**	**349**	⇓Pn	**P**	**20 50 39.9**	**+0.6**
BVAR	**Borovoye Array** comp=N,1.3nm,0.6s,baz=160,slow=11,SNR=12	**21.13**	**349**	P	**P**	**20 50 39.9**	**+0.6**
BRVK	**Borovoye** comp=N,6.8nm,1.2s	**21.18**	**349**	⇑Pn	**P**	**20 50 41.4**	**+1.6**
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.5s,baz=190,slow=7.5,SNR=4.7	**22.28**	**12**	P	**P**	**20 50 50.5**	**-1.1**
AKTO	**Aktyubinsk** comp=N,1.3nm,0.4s,baz=122,slow=11,SNR=8.0	**22.78**	**328**	P	**P**	**20 50 58.4**	**+1.4**
OBN	**Obninsk** comp=N,39nm,18.8s,baz=276,slow=37	**36.17**	**321**	LR	LR	21 08 34.2	
TORD	**Torodi Ar. Bea**	**70.63**	**274**	P	**P**	**20 57 12.8**	**+2.1**
WRA	**Warramunga Arr** comp=N,0.2nm,0.6s,baz=320,slow=6.2,SNR=2.6	**75.71**	**125**	P	**P**	**20 57 38.6**	**-2.0**
ILAR	**Eielson Array** comp=N,0.2nm,0.6s,baz=318,slow=5.3,SNR=4.0	**77.30**	**18**	P	**P**	**20 57 49.0**	**0.0**
PMG	**Port Moresby** comp=N,35nm,18.6s,baz=359,slow=39	**78.78**	**109**	LR	LR	21 36 19.8	
YKA	**Yellowknife Ar** comp=N,0.5nm,0.4s,baz=344,slow=5.0,SNR=7.8	**84.99**	**5**	P	**P**	**20 58 30.0**	**+0.1**

*IDC **19** 20:53:18.1±0.5, 0.90S×150.46E, h0km, mb4.5/23, mb1 4.6/24, mb1mx4.5/41, mbtmp4.5/24, ML3.9/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/24, Error ellipse: s-maj=20.7km s-min=11.2km az=84.0*

*NEIC **19** 20:53:20.2±4.5, 0.89S×150.42E, h14km±27km, mb4.7/18, Error ellipse: s-maj=9.2km s-min=5.8km az=73.0*

*ISCJB **19** 20:53:21.4±0.3, 0.91S±0.04×150.36E±0.06, h33km, mb4.5/39, MS3.5/6, Error ellipse: s-maj=9.0km s-min=5.5km az=2.9*

ISC 19 20:53:23.5±0.4, 0.93S±0.06×150.36E±0.08, h35km, n117, σ0§81/111, mb4.6/39, MS3.4/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=3.4,SNR=4.2	**3.71**	**151**	P	**Pn**	**20 54 18.1**	**-0.3**
PMG	**Port Moresby**	**9.00**	**201**	P	**Pn**	**20 55 29.8**	**-1.3**
PMG	**Port Moresby** comp=Z,66nm,21.4s,baz=350,slow=30	**9.00**	**201**	LR	LR	20 57 53.3	
CTA	**Charters Tower**	**19.46**	**192**	P	**P**	**20 57 47.0**	**-0.3**
CTA	**Charters Tower** 0.2nm,0.3s,baz=5.7,slow=14,SNR=5.9	**19.46**	**192**	P	**P**	**20 57 47.0**	**-0.3**
CTAO	**Charters Tower** 17nm,1.1s	**19.46**	**192**	*e*P	**Pn**	**20 57 48.8**	**+0.1**
KDU	**Kakadu** baz=21,SNR=7.2	**21.23**	**236**	P	**P**	**20 58 06.6**	**0.0**
QIS	**Mount Isa** baz=22,SNR=4.5	**22.16**	**208**	P	**P**	**20 58 19.1**	**+2.6**
MTN	**Manton Dam** baz=22,SNR=5.2	**22.43**	**237**	P	**P**	**20 58 19.4**	**-0.1**
EIDS	**Eidsvold** 15nm,0.9s	**24.31**	**178**	*e*P	**P**	**20 58 38.2**	**+0.3**
EIDS	**Eidsvold** baz=24,SNR=3.4	**24.31**	**178**	P	**P**	**20 58 38.7**	**+0.8**
WRAB	**Tennant Creek** 24nm,0.8s	**24.54**	**219**	*e*P	**P**	**20 58 40.1**	**0.0**
WRA	**Warramunga Arr**	**24.55**	**219**	P	**P**	**20 58 40.4**	**+0.2**
WRA				PcP	**PcP**	**21 02 18.6**	**+0.7**
WRA	**Warramunga Arr** 9.4nm,0.6s,baz=42,slow=10,SNR=74	**24.55**	**219**	P	**P**	**20 58 40.4**	**+0.2**
WRA	1.4nm,0.7s,baz=34,slow=2.2,SNR=6.0			PcP	**PcP**	**21 02 18.6**	**+0.7**
H11S3	**WAKE ISLAND Hy** baz=221,slow=75,SNR=21	**25.11**	**39**	T	T	21 25 02.4	
H11S2	**WAKE ISLAND Hy** baz=221,slow=75,SNR=4.4	**25.11**	**39**	T	T	21 25 03.0	
H11S1	**WAKE ISLAND Hy** baz=221,slow=75,SNR=7.7	**25.13**	**39**	T	T	21 25 03.0	
RMQ	**Roma** baz=25,SNR=10	**25.46**	**183**	P	**P**	**20 58 50.7**	**+2.4**
KNRA	**Kununurra** baz=26,SNR=19	**25.86**	**234**	P	**P**	**20 58 52.1**	**0.0**
H11N1	**WAKE ISLAND Hy** baz=222,slow=76,SNR=5.8	**26.15**	**37**	T	T	21 26 19.7	
H11N3	**WAKE ISLAND Hy** baz=222,slow=76,SNR=5.6	**26.16**	**37**	T	T	21 26 19.7	
H11N2	**WAKE ISLAND Hy** baz=222,slow=76,SNR=7.4	**26.17**	**37**	T	T	21 26 19.7	

DZM	**Mont Dzumac**	**26.21**	**144**	*e*P	**P**	**20 58 55.6**	**+0.3**
DZM	**Mont Dzumac** 16nm,0.6s,baz=345,slow=12,SNR=10	**26.21**	**144**	P	**P**	**20 58 54.6**	**-0.7**
SOEI	**Soe**	**27.39**	**250**	*e*P	**P**	**20 59 08.0**	**+1.9**
AS31	**Alice Springs**	**27.67**	**214**	*e*P	**P**	**20 59 07.9**	**-0.4**
ASAR	**Alice Springs**	**27.67**	**214**	P	**P**	**20 59 08.2**	**-0.2**
ASAR				PcP	**PcP**	**21 02 25.9**	**+0.7**
ASAR	**Alice Springs** 2.1nm,0.5s,baz=44,slow=7.6,SNR=25	**27.67**	**214**	P	**P**	**20 59 08.2**	**-0.2**
ASAR	1.1nm,0.8s,baz=46,slow=2.9,SNR=5.5			PcP	**PcP**	**21 02 25.9**	**+0.7**
JCJ	**Chichijima** comp=Z,66nm,19.8s,baz=128,slow=34	**28.95**	**345**	LR	LR	21 09 57.2	
FITZ	**Fitzroy Crossi** baz=30,SNR=5.2	**29.68**	**233**	P	**P**	**20 59 26.2**	**-0.1**
STKA	**Stephens Creek** 1.2nm,0.8s	**31.88**	**194**	*e*P	**P**	**20 59 44.5**	**-1.0**
STKA	**Stephens Creek** 3.3nm,0.6s,baz=355,slow=9.4,SNR=12	**31.88**	**194**	P	**P**	**20 59 45.0**	**-0.4**
STKA	comp=Z,113nm,19.6s,baz=32,slow=37			LR	LR	21 12 54.4	
STKA	**Stephens Creek** baz=32,SNR=11	**31.88**	**194**	P	**P**	**20 59 45.1**	**-0.4**
WRKA	**Warakurna** baz=32,SNR=10	**32.07**	**220**	P	**P**	**20 59 46.6**	**-0.8**
HTT	**Hallett** baz=34,SNR=4.0	**34.07**	**197**	P	**P**	**21 00 04.7**	**0.0**
KKM	**Kota Kinabalu** 15nm,0.8s	**34.78**	**282**	*e*P	**P**	**21 00 10.7**	**-0.5**
SSLB	**Suanglung** 16nm,1.1s	**37.67**	**313**	*e*P	**P**	**21 00 34.0**	**-1.7**
YHNB	**Yeheng** 18nm,0.6s	**37.90**	**314**	*e*P	**P**	**21 00 37.9**	**+0.3**
JNU	**Nakatsue**	**38.53**	**333**	P	**P**	**21 00 42.5**	**-0.2**
JNU	**Nakatsue** 12nm,1.1s,baz=162,slow=14,SNR=3.1	**38.53**	**333**	P	**P**	**21 00 42.5**	**-0.2**
MJAR	**Matsushiro Arr**	**38.95**	**344**	P	**P**	**21 00 45.0**	**-1.3**
MJAR	**Matsushiro Arr** 0.5nm,0.4s,baz=157,slow=12,SNR=3.2	**38.95**	**344**	P	**P**	**21 00 45.0**	**-1.3**
MJAR	comp=Z,20nm,18.1s,baz=170,slow=37			LR	LR	21 17 18.2	
MEEK	**Meekatharra** baz=40,SNR=4.0	**39.80**	**227**	P	**P**	**21 00 53.7**	**+0.1**
KSM	**Kuching**	**40.12**	**273**	*e*P	**P**	**21 00 55.5**	**-0.8**
KSRS	**Korea Array** 1.6nm,0.9s,baz=154,slow=9.3,SNR=4.0	**43.47**	**334**	P	**P**	**21 01 22.8**	**-0.6**
KSAR	**Wonju Array Be**	**43.48**	**334**	P	**P**	**21 01 22.8**	**-0.6**
URZ	**Urewera**	**44.54**	**150**	P	**P**	**21 01 30.7**	**-1.2**
URZ	**Urewera** 2.5nm,0.6s,baz=109,slow=5.8,SNR=26	**44.54**	**150**	P	**P**	**21 01 30.7**	**-1.2**
ENH	**Enshi** 3.7nm,0.7s	**49.76**	**312**	*e*P	**P**	**21 02 12.4**	**-0.4**
KULM	**Kulim**	**50.03**	**278**	P	**P**	**21 02 14.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**54.06**	**294**	P	**P**	**21 02 46.2**	**+1.2**
CMAR	**Chiang Mai Arr** 2.5nm,0.6s,baz=109,slow=5.8,SNR=26	**54.06**	**294**	P	**P**	**21 02 46.2**	**+1.2**
CHTO	**Chiang Mai**	**54.16**	**294**	P	**P**	**21 02 46.1**	**+0.4**
PETK	**Petropavlovsk-**	**54.20**	**5**	P	**P**	**21 02 45.5**	**+0.1**
PETK	**Petropavlovsk-** 3.0nm,0.7s,baz=163,slow=11,SNR=5.2	**54.20**	**5**	P	**P**	**21 02 45.5**	**+0.1**
ULN	**Ulaanbaatar** 6.1nm,1.0s	**61.44**	**328**	*e*P	**P**	**21 03 37.5**	**+0.9**
ULN				*e*		21 03 47.6	
SONM	**Songino Array**	**61.77**	**328**	P	**P**	**21 03 39.6**	**+0.9**
SONM	**Songino Array** 2.9nm,0.7s,baz=144,slow=6.7,SNR=27	**61.77**	**328**	P	**P**	**21 03 39.6**	**+0.9**
SONM	comp=Z,43nm,21.5s,baz=200,slow=34			LR	LR	21 28 48.7	
SEY	**Seymchan**	**63.72**	**1**	P	**P**	**21 03 51.5**	**+0.3**
SEY	**Seymchan** 1.2nm,0.7s,baz=163,slow=19,SNR=11	**63.72**	**1**	P	**P**	**21 03 51.5**	**+0.3**
LSA	**Lhasa** 2.1nm,0.7s	**64.06**	**304**	*e*P	**P**	**21 03 55.9**	**+1.1**
TLY	**Talaya**	**65.53**	**330**	*e*P	**P**	**21 04 04.4**	**+1.0**
BILL	**Bilibino** 5.0nm,0.8s	**69.71**	**6**	P	**P**	**21 04 27.5**	**-1.9**
MK31	**Makanchi Array**	**75.82**	**319**	*e*P	**P**	**21 05 06.1**	**-0.1**
MKAR	**Makanchi Array**	**75.82**	**319**	P	**P**	**21 05 06.8**	**+0.6**
MKAR	**Makanchi Array** 4.7nm,0.7s,baz=97,slow=7.3,SNR=48	**75.82**	**319**	P	**P**	**21 05 06.8**	**+0.6**
ZAA0	**Zalesovo Array**	**76.60**	**326**	*e*P	**P**	**21 05 09.6**	**-0.8**
ZAA0				*e*		21 05 19.8	
ZALV	**Zalesovo Beam**	**76.60**	**326**	P	**P**	**21 05 10.1**	**-0.3**
ZALV	**Zalesovo Beam** 4.4nm,0.6s,baz=104,slow=6.3,SNR=23	**76.60**	**326**	P	**P**	**21 05 10.1**	**-0.3**
ZALV	comp=Z,13nm,19.6s,baz=77,slow=36			LR	LR	21 39 44.1	
VNDA	**Vanda**	**76.77**	**177**	P	**P**	**21 05 11.7**	**+0.8**
VNDA	**Vanda** 1.2nm,0.5s,baz=314,slow=7.2,SNR=8.2	**76.77**	**177**	P	**P**	**21 05 11.7**	**+0.8**
PMR	**Palmer**	**77.22**	**25**	P	**P**	**21 05 12.3**	**-1.4**
IM04	**Indian Mountai**	**77.58**	**20**	*e*P	**P**	**21 05 15.7**	**0.0**
MCK	**McKinley** 17nm,1.0s	**78.27**	**23**	*e*P	**P**	**21 05 18.9**	**-0.7**
COLA	**College**	**79.21**	**23**	P	**P**	**21 05 23.5**	**-1.1**
KURK	**Kurchatov** 5.8

5C-4D, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.28**	**44**	⇑PN	Pn	20 55 03.5	-0.1
MSZ				SN	Sn	20 55 12.2	-0.2
MSZ				AML	AML	20 55 12.8	
MSZ				AML	AML	20 55 12.9	
MSZ				AML	AML	20 55 12.9	
MLZ	**Mavora Lakes**	**0.60**	**142**	⇓PN	Pn	20 55 05.7	-0.5
MLZ				SN	Sn	20 55 16.3	-0.6
MLZ				AML	AML	20 55 17.4	
DCZ	**Deep Cove**	**0.70**	**210**	⇓PN	Pn	20 55 06.3	-0.7
DCZ				SN	Sn	20 55 18.5	0.0
DCZ				AML	AML	20 55 19.2	
DCZ				AML	AML	20 55 19.2	
DCZ				AML	AML	20 55 19.3	
WKZ	**Wanaka**	**0.97**	**88**	⇑PN	Pn	20 55 10.4	+0.2
WKZ				AML	AML	20 55 27.0	
WKZ				AML	AML	20 55 27.0	
WKZ				AML	AML	20 55 28.4	
WKZ				AML	AML	20 55 28.5	
WHZ	**Wether Hill Ro**	**1.04**	**169**	PN	Pn	20 55 10.6	-0.4
JCZ	**Jackson Bay**	**1.13**	**45**	PN	Pn	20 55 12.1	-0.1
JCZ				AML	AML	20 55 31.3	
JCZ				AML	AML	20 55 31.8	
EAZ	**Earnscleugh**	**1.23**	**107**	⇑PN	Pn	20 55 13.5	+0.2
EAZ				AML	AML	20 55 29.0	
EAZ				AML	AML	20 55 29.3	
EAZ				AML	AML	20 55 29.4	
EAZ				AML	AML	20 55 29.4	
PYZ	**Puysegur Point**	**1.46**	**208**	PN	Pn	20 55 16.3	0.0
TUZ	**Tuapeka**	**1.76**	**128**	*e*Pn	Pn	20 55 20.3	+0.1
TUZ				AML	AML	20 55 42.1	
TUZ				AML	AML	20 55 43.0	
LBZ	**Lake Benmore**	**1.87**	**76**	⇓PN	Pn	20 55 20.9	-0.8
LBZ				AML	AML	20 55 43.8	
LBZ				AML	AML	20 55 43.8	
LBZ				AML	AML	20 55 43.9	
LBZ				AML	AML	20 55 44.2	
SYZ	**Scrubby Hill**	**1.96**	**148**	⇑PN	Pn	20 55 22.6	-0.2
FOZ	**Fox Glacier**	**1.96**	**49**	PN	Pn	20 55 23.0	+0.1
APZ	**The Paps**	**1.97**	**173**	PN	Pn	20 55 22.9	-0.2
ODZ	**Otahua Downs**	**2.13**	**96**	⇑PN	Pn	20 55 24.4	-0.8
HHSZ	**Highcliff Hill**	**2.31**	**117**	⇓PN	Pn	20 55 27.5	0.0
HHSZ				SN	Sn	20 55 51.8	-3.3
RPZ	**Rata Peaks**	**2.70**	**66**	PN	Pn	20 55 31.3	-1.6
RPZ				AML	AML	20 56 07.7	
OXZ	**Oxford**	**3.52**	**65**	PN	Pn	20 55 41.3	-2.6
MQZ	**McQueen's Vall**	**3.77**	**74**	PN	Pn	20 55 45.4	-2.0
LTZ	**Lake Taylor**	**3.94**	**60**	PN	Pn	20 55 47.3	-2.4
DSZ	**Denniston Nort**	**4.35**	**45**	PN	Pn	20 55 54.9	-0.5
QRZ	**Quartz Range**	**5.41**	**43**	PN	Pn	20 56 10.1	+0.4

*ISCJB **19** 20:57:23.8±0.6, 38°.43N±0°.05×73°.3E±0°.1, h107km, mb3.8/3, Error ellipse: s-maj=16.5km s-min=5.6km az=13.7*

*IDC **19** 20:57:28.8±5.8, 38°.68N×73°.51E, h136km±43km, mb3.4/3, mb1 3.4/6, mb1mx3.0/28, mbtmp3.8/6, MS3.8/1, Ms1 3.8/1, ms1mx2.4/40, Error ellipse: s-maj=68.2km s-min=43.9km az=120.0*

*NNC **19** 20:57:39.4±7.5, 39°.87N×72°.67E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=70.6km s-min=45.9km az=172.0*

ISC 19 20:57:24.6±0.8, 38°.42N±0°.06×73°.4E±0°.1, h107km, n22, σ1§15/23, mb3.7/3, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=25	**3.72**	**3**	P	**Pn**	**20 58 20.5**	**+0.1**
UCH	**Uchtor** SNR=40	**3.90**	**12**	P	**Pn**	**20 58 23.4**	**+0.6**
KZA	**Kyzart** SNR=8.6	**3.91**	**20**	P	**Pn**	**20 58 23.4**	**+0.3**
EKS2	**Erkin-Say** SNR=22	**4.25**	**3**	P	**Pn**	**20 58 27.9**	**+0.6**
AAK	**Ala-Archa** 6.0nm,0.5s	**4.29**	**11**	⇑Pn	**Pn**	**20 58 28.6**	**+0.7**
AAK	22nm,0.7s			⇑Lg	Lg	20 59 16.9	
AAK	**Ala-Archa** SNR=12	**4.29**	**11**	P	**Pn**	**20 58 29.0**	**+1.1**
AAK	**Ala-Archa** 2.4nm,0.3s,baz=172,slow=8.8,SNR=53	**4.29**	**11**	P	**Pn**	**20 58 28.8**	**+0.9**
AAK	2.3nm,0.3s,baz=126,slow=22,SNR=13			S	**Sn**	**20 59 16.9**	**0.0**
ULHL	**Ulahol** SNR=18	**4.38**	**28**	P	**Pn**	**20 58 28.8**	**-0.4**
KBK	**Karagaybulak** SNR=10	**4.39**	**15**	P	**Pn**	**20 58 31.2**	**+1.9**
CEP	**Cherat**	**4.75**	**196**	P	**Pn**	**20 58 36.1**	**+2.0**
CEP				S	**Sn**	**20 59 27.0**	**-1.1**
KK31	**Karatay Array** 0.9nm,0.3s,baz=179,slow=21,SNR=31	**5.18**	**336**	Pn	**Pn**	**20 58 39.0**	**-0.8**
KK31	19nm,0.7s,baz=148,slow=21,SNR=20			⇑Lg	Lg	20 59 33.6	
THW	**Thamme Wali**	**5.78**	**194**	P	**Pn**	**20 58 48.5**	**+0.6**
DLH	**Dalhousie**	**6.21**	**160**	*e*P	**Sn**	**21 00 02.0**	**-1.8**
AB31	**Akbulak array** 0.4nm,0.3s,baz=130,slow=14,SNR=9.6	**14.54**	**322**	Pn	**Pn**	**21 00 43.2**	**-1.8**
AB31	0.3nm,0.4s,baz=130,slow=25,SNR=4.0			⇓Sn	Sn	21 03 09.8	-15
BVAR	**Borovoye Array** 1.2nm,0.3s,baz=166,slow=10,SNR=39	**14.76**	**353**	P	**P**	**21 00 51.4**	**+0.4**
AKTO	**Aktyubinsk** 1.9nm,0.8s	**16.26**	**323**	⇓Pn	**P**	**21 01 08.2**	**+0.6**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=112,slow=10.0,SNR=5.9	**16.26**	**323**	P	**Pn**	**21 01 05.9**	**-0.6**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=215,slow=12,SNR=17	**17.38**	**23**	P	**P**	**21 01 18.4**	**-1.5**
FINES	**FINESS Array B** 0.9nm,0.8s,baz=101,slow=7.2,SNR=2.9	**37.02**	**324**	P	**P**	**21 04 23.2**	**-0.4**
ARCES	**ARCESS Array B** 9.3nm,1.2s,baz=105,slow=9.7,SNR=3.7	**40.15**	**336**	P	**P**	**21 04 49.5**	**-0.1**
JCJ	**Chichijima** comp=Z,75nm,19.1s,baz=118,slow=39	**57.71**	**79**	LR	LR	21 35 11.4	
TORD	**Torodi Ar. Bea** 0.2nm,0.8s,baz=42,slow=6.4,SNR=3.5	**67.69**	**269**	P	**P**	**21 08 12.4**	**+1.9**

KRSC 19 21:15:50.2±0.5, 55°.16N×160°.36E, h6km±2km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.06**	**221**	*i* P	Pg	21 15 52.4	+0.4
KZV				S	Sg	21 15 53.9	+0.7
TUMR	**Tumrok**	**0.18**	**316**	*i* P	Pg	21 15 54.1	+0.1
TUMR				S	Sg	21 15 56.9	+0.4
KMNR	**Kamenistaya**	**0.60**	**353**	*i* P	Pg	21 16 02.4	+0.3
KMNR				S	Sb	21 16 11.7	-0.6
BZMR	**Bezymyannaya**	**0.78**	**5**	P	Pg	21 16 05.5	0.0
BZMR				S	Sb	21 16 16.7	-0.8
KIRR	**Kirishev**	**0.80**	**359**	*i* P	Pg	21 16 06.2	+0.4
KIRR				S	Sb	21 16 17.7	-0.2
BZGR	**Bezymyannyi-Gr**	**0.81**	**14**	*i* P	Pb	21 16 07.0	+0.1
BZGR				S	Sb	21 16 19.0	+0.9
BZWR	**Bezymyannyi-We**	**0.81**	**5**	P	Pg	21 16 06.1	0.0
BZWR				S	Sb	21 16 18.4	0.0
KPT	**Kopyto**	**0.82**	**355**	*i* P	Pb	21 16 06.6	-0.3
KPT				S	Sb	21 16 18.7	+0.4
ZLN	**Zelenaya**	**0.90**	**16**	P	Pb	21 16 08.4	0.0
KOZ	**Kozyrevsk**	**0.94**	**343**	*i* P	Pg	21 16 08.1	-0.3
KOZ				S	Sg	21 16 21.2	+0.5
CIRR	**Tsirk**	**0.99**	**13**	P	Pg	21 16 09.3	-0.1
MKZ	**Mys Kozlova**	**0.99**	**127**	*i* P	Pg	21 16 09.4	+0.1
MKZ				S	Sb	21 16 23.5	+0.4
KRSR	**Krestovskiy**	**1.07**	**6**	P	Pb	21 16 11.3	0.0
KLY	**Klyuchi**	**1.17**	**8**	*i* P	Pn	21 16 13.4	+0.3
KLY				S	Sn	21 16 30.5	+1.1
ESO	**Esso**	**1.22**	**310**	P	Pg	21 16 11.6	-2.0
ESO				S	Sg	21 16 29.2	-0.3
SRDR	**Sredinnyy**	**1.22**	**343**	*i* P	Pg	21 16 11.8	-1.9
SRDR				S	Sb	21 16 30.2	+0.4
KII	**Karymskiy**	**1.24**	**206**	*i* P	Pg	21 16 14.1	-0.1
KII				S	Sn	21 16 31.6	+0.3
BDR	**Baidarnaya**	**1.49**	**18**	*i* P	Pg	21 16 18.8	-0.2
BDR				S	Sg	21 16 39.5	+1.0
SMKR	**Semkarok**	**1.56**	**23**	*i* P	Pg	21 16 20.0	-0.3
SMKR				S	Sg	21 16 42.2	+1.6
SRKR	**Sorokina**	**1.57**	**17**	*i* P	Pb	21 16 19.6	-0.2
SRKR				S	Sg	21 16 41.3	+0.5
KBG	**Krutoberegovo**	**1.73**	**49**	P	Pn	21 16 20.6	-0.1
KBG				S	Sn	21 16 43.4	+0.4
KBTR	**Krutoberegovo**	**1.75**	**52**	*i* P	Pn	21 16 21.1	+0.1
KBTR				S	Sn	21 16 43.9	+0.3
GNL	**Ganaly**	**2.04**	**225**	P	Pn	21 16 25.6	+0.4
GNL				S	Sn	21 16 52.0	+1.0
KRX	**Arik**	**2.06**	**210**	*i* P	Pb	21 16 27.7	-0.5
SDLR	**Sedlovina**	**2.07**	**205**	*i* P	Pb	21 16 27.4	-1.0
SDLR				S	Sb	21 16 55.2	+0.7
SPN	**Mys Shipunski**	**2.07**	**186**	P	Pn	21 16 26.1	+0.6
SPN				S	Sn	21 16 52.2	+0.6
NLC	**Nalytchevo**	**2.08**	**197**	*i* P	Pn	21 16 26.4	+0.9
NLC				S	Sb	21 16 53.1	-1.2
KRER	**Koryakskii**	**2.08**	**208**	*i* P	Pb	21 16 28.7	0.0
SMAR	**Somma**	**2.11**	**206**	P	Pn	21 16 27.3	+1.0
AVH	**Avacha**	**2.12**	**207**	P	Pb	21 16 27.9	-1.3
KOK	**Koryaka**	**2.12**	**209**	P	Pb	21 16 28.2	-1.0
UGLR	**Uglovaya**	**2.15**	**205**	P	Pn	21 16 28.0	+1.3
PET	**Petropavlovsk**	**2.36**	**206**	P	Pb	21 16 31.7	-1.4
APC	**Apacha**	**2.93**	**221**	P	Pn	21 16 38.1	+0.9
APC				S	Sn	21 17 13.4	+0.8
RUS	**Russkaya**	**2.94**	**203**	P	Pn	21 16 39.2	+1.8
MTVR	**Mutnovka**	**2.97**	**207**	P	Pb	21 16 41.5	-2.3
ASAK	**Asacha**	**3.14**	**209**	P	Pn	21 16 43.3	+3.0
BKI	**Bering**	**3.22**	**87**	P	Pn	21 16 41.8	+0.6
BKI				S	Sn	21 17 21.8	+2.0
MIPR	**Malaya Ipel'ka**	**3.59**	**218**	P	Pn	21 16 49.7	+3.3
PAU	**Pauzhetka**	**4.26**	**211**	P	Pn	21 16 59.5	+3.9
OSSR	**Ossora**	**4.36**	**19**	P	Pn	21 16 59.3	+2.4

*KRNET **19** 21:27:22.1±0.1, 39°.66N×76°.11E, h3km, mb3.6*

*NNC **19** 21:27:27.8±3.1, 39°.84N×75°.94E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=24.0km s-min=19.2km az=135.0*

ISC 19 21:27:24.6±2.6, 39°.6N±0°.1×76°.14E±0°.09, h10km, n29, σ1§67/48, 20C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** baz=281	**2.07**	**283**	*e*P	**Pn**	**21 28 00.3**	**+0.7**
SFK	baz=281			*e*S	**Sn**	**21 28 26.5**	**+0.9**
KZA	**Kyzart** SNR=31	**2.58**	**345**	P	**Pn**	**21 28 07.1**	**+0.4**
KZA	**Kyzart** baz=345	**2.58**	**345**	⇑*i*P	**Pn**	**21 28 06.8**	**+0.1**
KZA	baz=345			⇑*i*S	**Sn**	**21 28 38.3**	**0.0**
ARLS	**Aral** baz=329	**2.66**	**329**	*i* P	**Pn**	**21 28 07.4**	**-0.2**
ARLS	baz=329			⇓*i*S	**Sn**	**21 28 38.6**	**-1.3**
ULHL	**Ulahol** SNR=6.6	**2.66**	**2**	P	**Pb**	**21 28 09.8**	**-2.6**
ULHL	**Ulahol** baz=2.0	**2.66**	**2**	⇑*i*P	**Pn**	**21 28 08.2**	**+0.5**
ULHL	baz=2.0			⇑*i*S	**Sn**	**21 28 39.6**	**-0.4**
OHH	**Osh** baz=290	**2.73**	**291**	*e*P	**Pb**	**21 28 12.1**	**-1.5**
OHH	baz=290			*e*S	**Sb**	**21 28 46.2**	**-1.1**
BOOM	**Boomskoye usch** baz=358	**2.90**	**357**	*e*P	**Pn**	**21 28 13.0**	**+2.0**
BOOM	baz=358			*e*S	**Sn**	**21 28 47.0**	**+0.9**
UCH	**Uchtor** SNR=35	**2.91**	**336**	P	**Pn**	**21 28 12.3**	**+0.9**
UCH	**Uchtor** baz=335	**2.91**	**336**	⇓*i*P	**Pn**	**21 28 12.0**	**+0.6**
UCH	baz=335			⇓*i*S	**Sn**	**21 28 46.8**	**+0.2**
ARSB	**Arslanbob** baz=306	**2.96**	**307**	*e*P	**Pb**	**21 28 14.5**	**-3.1**
ARSB	baz=306			*e*S	**Sn**	**21 28 50.3**	**+2.7**
AML	**Almayashu** SNR=20	**3.14**	**325**	P	**Pn**	**21 28 16.0**	**+1.5**
AML	**Almayashu** baz=324	**3.14**	**325**	⇑*i*P	**Pn**	**21 28 15.6**	**+1.1**
AML	baz=324			⇑*i*S	**Sn**	**21 28 53.4**	**+1.1**
KBK	**Karagaybulak** SNR=6.2	**3.19**	**344**	P	**Pn**	**21 28 16.3**	**+1.3**
KBK	**Karagaybulak** baz=344	**3.19**	**344**	⇓*i*P	**Pn**	**21 28 16.4**	**+1.4**
KBK	baz=344			⇓*i*S	**Sb**	**21 28 57.3**	**-3.2**
AAK	**Ala-Archa** 9.2nm,0.6s	**3.29**	**338**	⇑Pn	**Pn**	**21 28 17.4**	**+1.2**
AAK	27nm,0.8s			⇑Pg	**Pb**	**21 28 23.0**	**-0.1**
AAK	14nm,0.6s			⇑Sn	**Sn**	**21 28 55.3**	**-0.2**
AAK	42nm,0.5s			⇑Lg	Lg	21 29 04.6	
AAK	**Ala-Archa** SNR=14	**3.29**	**338**	P	**Pn**	**21 28 17.5**	**+1.2**
AAK	**Ala-Archa** baz=338	**3.29**	**338**	⇓*i*P	**Pn**	**21 28 17.3**	**+1.0**
AAK	baz=338			⇓*i*S	**Sn**	**21 28 55.8**	**+0.3**
TKM2	**Tokmak 2** 7.5nm,0.6s	**3.35**	**353**	⇑Pn	**Pn**	**21 28 18.4**	**+1.1**
TKM2	15nm,0.5s			⇓Lg	Lg	21 29 02.3	
TKM2	**Tokmak 2** SNR=13	**3.35**	**353**	P	**Pn**	**21 28 18.6**	**+1.4**
TKM2	**Tokmak 2** baz=353	**3.35**	**353**	⇓*i*P	**Pn**	**21 28 18.5**	**+1.2**
TKM2	baz=353			⇓*i*S	**Sn**	**21 29 00.6**	**+3.4**
EKS2	**Erkin-Say** SNR=19	**3.55**	**331**	P	**Pn**	**21 28 21.8**	**+1.9**
EKS2	**Erkin-Say** baz=330	**3.55**	**331**	⇑*i*P	**Pn**	**21 28 21.5**	**+1.6**
EKS2	baz=330			⇑*i*S	**Sn**	**21 29 05.6**	**+3.7**
CHMS	**Chumysh** SNR=8.6	**3.56**	**343**	P	**Pn**	**21 28 21.0**	**+1.0**
CHMS	**Chumysh** baz=343	**3.56**	**343**	⇑*i*P	**Pn**	**21 28 20.4**	**+0.4**
CHMS	baz=343			⇑*i*S	**Sn**	**21 29 05.5**	**+3.4**
KNDC	**Almaty** 5.1nm,0.4s	**3.68**	**10**	⇓Pn	**Pn**	**21 28 23.2**	**+1.6**
KNDC	13nm,0.5s			⇓Sn	**Sn**	**21 29 05.6**	**+0.5**
KNDC	32nm,0.6s			⇓Lg	Lg	21 29 13.2	
USP	**Ospenovka** SNR=6.2	**3.88**	**342**	P	**Pn**	**21 28 25.5**	**+1.3**
USP	**Ospenovka** baz=342	**3.88**	**342**	⇑*i*P	**Pn**	**21 28 24.7**	**+0.4**
USP	baz=342			⇑*i*S	**Sn**	**21 29 12.8**	**+2.9**
KK31	**Karatay Array** 0.2nm,0.4s,baz=125,slow=13,SNR=6.7	**5.50**	**312**	⇑Pn	**Pn**	**21 28 46.0**	**-0.5**
KK31	0.9nm,0.5s,baz=128,slow=15,SNR=3.6			⇓Pg	**Pb**	**21 29 02.5**	**+1.9**
KK31	1.7nm,0.6s,baz=132,slow=27			⇑Lg	Lg	21 30 10.9	

*NEIC **19** 21:32:31.0, 44°.56N×110°.97W, h9km, MW3.9, ML3.5(SLC), Moment Tensor Solution. s12 Moment tensor: Scale 10^14 Nm; Mrr-2.07; Mθθ 6.28; Mφφ-4.21; Mrθ-3.53; Mθφ-5.75; Mφr-2.96; Best double couple: Mo 9.20000×10^14 NP1: φs 73.00000°, δ 57.00000°, λ-15.00000°. NP2: φs 73.00000°, δ 77.00000°, λ-149.00000°. Principal axes: T 9.2200, Plg 11.0000°, Azm 200.0000°; N -0.0100, Plg 56.0000°, Azm 93.0000°; P -9.2200, Plg 30.0000°, Azm 297.0000°; After SLC.*

NEIC Felt [III] at Old Faithful. Felt [II] at West Yellowstone, Montana.

*IDC **19** 21:32:36.7±3.3, 44°.50N×110°.79W, h34km±46km, mb3.5/1, mb1 3.6/4, mb1mx3.2/48, mbtmp3.4/4, ML2.5/3, MS3.0/1, Ms1 2.9/1, ms1mx2.6/34 Error ellipse: s-maj=24.1km s-min=12.1km az=129.0*

ISC 19 21:32:31.8±0.9, 44°.57N±0°.01×110°.97W±0°.02, h8km±6km, n92, σ1§60/134, 5C-10D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YMR	**Madison River**	**0.10**	**2**	*e*P	**Pg**	**21 32 34.8**	**+0.4**
YMR				*e*S	**Sg**	**21 32 36.5**	**+0.2**
H17A	**Grant Village**	**0.33**	**122**	*e*P	**Pg**	**21 32 38.3**	**-0.1**
H17A				*e*S	**Sg**	**21 32 41.7**	**-1.1**
H17A	**Grant Village** baz=0.3,SNR=47	**0.33**	**122**	P	**Pg**	**21 32 38.6**	**+0.2**
H17A	baz=0.3			⇓S	**Sg**	**21 32 43.0**	**+0.3**
QLMT	**Earthquake Lak**	**0.42**	**309**	*e*P	**Pg**	**21 32 40.2**	**+0.1**
QLMT				*e*S	**Sg**	**21 32 45.3**	**-0.3**
I17A	**Pilgrim Ck.** baz=0.7,SNR=25	**0.71**	**156**	⇑P	**Pg**	**21 32 45.7**	**+0.2**
H18A	**Shoshone NF, C** baz=0.9,SNR=17	**0.94**	**83**	P	**Pg**	**21 32 48.9**	**-0.9**
BOZ	**Bozeman (W)**	**1.18**	**337**	*e*P	**Pb**	**21 32 52.6**	**-1.9**
BOZ				*e*S	**Sg**	**21 33 07.4**	**-2.3**
REDW	**Red Top Meadow**	**1.21**	**176**	*e*Pb	**Pb**	**21 32 54.1**	**-0.9**
REDW				*e*Sb	**Sg**	**21 33 09.7**	**-1.0**
RLMT	**Red Lodge**	**1.33**	**65**	*e*Pn	**Pn**	**21 32 56.0**	**-0.9**
RLMT				*e*Sn	**Sb**	**21 33 14.4**	**0.0**
MCMT	**McKenzie Canyo**	**1.37**	**282**	*e*Pn	**Pn**	**21 32 57.1**	**-0.3**
MCMT				*e*Sn	**Sb**	**21 33 15.9**	**+0.4**
H19A	**Powell** baz=1.4,SNR=10	**1.42**	**85**	⇓P	**Pn**	**21 32 57.7**	**-0.4**
I19A	**Meeteetse** baz=1.5,SNR=44	**1.51**	**110**	⇓P	**Pn**	**21 32 59.5**	**+0.1**
GCMT	**Greycliff**	**1.53**	**37**	*e*Pn	**Pb**	**21 33 00.2**	**-0.3**
GCMT				*e*Sn	**Sn**	**21 33 19.3**	**-0.5**
LRM	**Limekiln Ridge**	**1.63**	**321**	*e*Pn	**Pn**	**21 33 01.1**	**+0.1**
LRM				*e*Sn	**Sn**	**21 33 21.2**	**-1.2**
AHID	**Auburn Hatcher**	**1.81**	**183**	*e*Pn	**Pn**	**21 33 03.5**	**+0.1**
AHID				*e*S	**Sb**	**21 33 28.9**	**+0.9**
J19A	**Crowheart** baz=1.9,SNR=23	**1.90**	**133**	⇓P	**Pb**	**21 33 06.1**	**-0.7**
F19A	**Roth Farm, Mol** baz=1.9,SNR=41	**1.92**	**47**	⇓Pb	**Pb**	**21 33 06.7**	**-0.4**
G20A	**Bridger** baz=2.1,SNR=31	**2.06**	**71**	P	**Pn**	**21 33 08.1**	**+1.2**
BW06	**Boulder Array**	**2.07**	**150**	*e*Pn	**Pn**	**21 33 08.4**	**+1.3**
BW06				*e*Sn	**Sn**	**21 33 32.8**	**-0.4**
PDAR	**Pinedale Array**	**2.07**	**150**	Pn	**Pb**	**21 33 08.7**	**-1.1**
PDAR				Lg	Lg	21 33 39.5	
PDAR	**Pinedale Array** 5.5nm,0.3s,baz=336,slow=14,SNR=121	**2.07**	**150**	Pn	**Pb**	**21 33 08.7**	**-1.1**
PDAR	4.2nm,0.3s,baz=337,slow=30,SNR=8.1			Lg	Lg	21 33 39.5	
H20A	**Greybull** baz=2.1	**2.13**	**91**	⇓P	**Pb**	**21 33 09.3**	**-1.3**
I20A	**Worland** baz=2.1,SNR=24	**2.13**	**106**	⇑P	**Pb**	**21 33 09.5**	**-1.2**
I20A	baz=2.1			⇓Sb	**Sg**	**21 33 39.5**	**-0.9**
HRY	**Holter Researc**	**2.23**	**345**	*e*Pn	**Pn**	**21 33 09.6**	**+0.5**
HRY				*e*Sn	**Sn**	**21 33 35.5**	**-1.4**
F20A	**Billings** baz=2.3	**2.34**	**57**	⇑Sb	**Sg**	**21 33 46.1**	**-1.0**
E19A	**Rath Farm, Rou** baz=2.4	**2.44**	**38**	Pb	**Pb**	**21 33 14.9**	**-1.0**
E19A	baz=2.4			⇓Sb	**Sg**	**21 33 48.7**	**-1.3**
HLID	**Hailey**	**2.68**	**249**	*e*Pn	**Pn**	**21 33 16.6**	**+1.2**
HLID				*e*Sn	**Sb**	**21 33 55.0**	**+1.8**
HLID	**Hailey** baz=2.7	**2.68**	**249**	⇑Sb	**Sb**	**21 33 55.3**	**+2.1**
G21A	**Lodge Grass** baz=2.8	**2.75**	**75**	Pb	**Pb**	**21 33 20.1**	**-1.2**
CHMT	**Chamberlain Mo**	**2.84**	**327**	*e*Pn	**Pn**	**21 33 17.7**	**+0.1**
CHMT				*e*Pg	**Pb**	**21 33 23.9**	**+1.1**
CHMT				*e*Sn	**Sn**	**21 33 50.2**	**-1.9**
CHMT				*e*Sg	**Sg**	**21 34 01.0**	**-2.0**
D19A	**Cripps Ranch,** baz=3.0	**2.98**	**29**	⇑Sb	**Sb**	**21 34 04.1**	**+2.4**
MSO	**Missoula**	**3.07**	**318**	*e*Pn	**Pn**	**21 33 21.4**	**+0.6**
MSO				*e*Sn	**Sn**	**21 33 56.4**	**-1.4**
MSO	**Missoula** baz=3.1	**3.07**	**318**	⇓P	**Pn**	**21 33 21.3**	**+0.6**
HVU	**Hansel Valley**	**3.08**	**206**	*e*Pn	**Pn**	**21 33 21.2**	**+0.2**
HVU				*e*Sn	**Sn**	**21 33 55.9**	**-2.2**
SLMT	**Seeley Lake**	**3.20**	**328**	*e*Pn	**Pn**	**21 33 23.1**	**+0.5**
SLMT				*e*Pg	**Pb**	**21 33 30.7**	**+1.7**
SLMT				*e*Sn	**Sn**	**21 33 59.8**	**-1.2**
SLMT				*e*Sg	**Sg**	**21 34 13.8**	**-0.9**
SPUT	**South Promonto**	**3.44**	**199**	*e*Pn	**Pn**	**21 33 25.1**	**-0.7**
SPUT				*e*Pg	**Pg**	**21 33 36.5**	**-1.1**
SPUT				*e*Sg	**Sb**	**21 34 18.4**	**+3.5**
TCUT	**Toone Canyon**	**3.46**	**186**	*e*Pn	**Pn**	**21 33 25.1**	**-1.1**
TCUT				*e*Pg	**Pg**	**21 33 37.6**	**-0.5**
TCUT				*e*Sg	**Sg**	**21 34 21.8**	**-1.3**
EGMT	**Eagleton**	**3.56**	**13**	*e*Pn	**Pn**	**21 33 27.0**	**-0.4**
EGMT				*e*Pg	**Pg**	**21 33 40.0**	**+0.1**
EGMT				*e*Sn	**Sn**	**21 34 09.2**	**-0.4**
EGMT				*e*Sg	**Sg**	**21 34 23.5**	**-2.5**
EGMT	**Eagleton** baz=3.6	**3.56**	**13**	⇓Sb	**Sb**	**21 34 20.6**	**+2.2**
SWMT	**Swartz Lake**	**3.62**	**325**	*e*Pn	**Pn**	**21 33 29.0**	**+0.8**
SWMT				*e*Sn	**Sn**	**21 34 09.6**	**-1.7**
MFID	**Camas Ranch**	**3.69**	**253**	*e*Pn	**Pn**	**21 33 30.1**	**+1.6**
MFID				*e*Pg	**Pg**	**21 33 42.4**	**-0.1**
MFID				*e*Sn	**Sn**	**21 34 11.1**	**-1.9**
MFID				*e*Sg	**Sg**	**21 34 28.9**	**-1.4**
K22A	**Casper**	**3.75**	**119**	*e*Pn	**Pn**	**21 33 29.8**	**-0.4**
K22A				*e*Sg	**Sg**	**21 34 31.1**	**-1.2**
YBMT	**Yellow Bay**	**3.91**	**328**	*e*Pn	**Pn**	**21 33 33.7**	**+1.4**
YBMT				*e*Sn	**Sn**	**21 34 18.8**	**+0.3**
CTU	**Camp Tracy**	**3.92**	**189**	*e*Pn	**Pn**	**21 33 32.2**	**-0.1**
CTU				*e*Sn	**Sn**	**21 34 16.2**	**-2.4**
CTU				*e*Sg	**Sg**	**21 34 34.9**	**-2.7**
JTMT	**Jette**	**3.92**	**325**	*e*Pn	**Pn**	**21 33 33.7**	**+1.2**
JTMT				*e*Pg	**Pg**	**21 33 45.2**	**-1.7**
JTMT				*e*Sn	**Sn**	**21 34 17.8**	**-1.0**
BGU	**Big Grassy Mou**	**3.94**	**203**	*e*Pn	**Pn**	**21 33 31.4**	**-1.4**
BGU				*e*Sn	**Sn**	**21 34 17.5**	**-1.8**
LAO	**LASA Array**	**3.95**	**56**	*e*Pn	**Pn**	**21 33 33.1**	**+0.4**
JJU	**Jordanelle**	**3.98**	**185**	*e*Pn	**Pn**	**21 33 32.0**	**-0.7**
JLU				*e*Pg	**Pg**	**21 33 46.2**	**-1.8**
JLU				*e*Sn	**Sn**	**21 34 17.6**	**-2.7**
JLU				*e*Sg	**Sg**	**21 34 39.6**	**0.0**
DAU	**Daniels Canyon**	**4.16**	**183**	*e*Pn	**Pn**	**21 33 35.7**	**-0.1**
DAU				*e

LON	Longmire	7.90	290	*e*Pn	Pn	Pn	21 34 27.3	+0.3
NVAR	Mina Array Bea	8.24	224	Pn	Pn	Pn	21 34 37.3	+5.5
NVAR				Lg	Lg	Lg	21 36 48.2	
NVAR	Mina Array Bea	8.24	224	Pn	Pn	Pn	21 34 37.3	+5.5
	0.2nm,0.3s,baz=42,slow=12,SNR=2.4							
NVAR				Lg	Lg	Lg	21 36 48.2	
	0.2nm,0.3s,baz=46,slow=23,SNR=3.2							
ULM	Lac du Bonnet	11.69	56	Pn	Pn	Pn	21 35 18.4	-0.4
ULM				Pg			21 36 05.0	
ULM				Lg	Lg	Lg	21 38 34.6	
ULM	Lac du Bonnet	11.69	56	Pn	Pn	Pn	21 35 18.4	-0.4
	0.1nm,0.3s,baz=241,slow=10,SNR=2.8							
ULM				Pg			21 36 05.0	
	0.3nm,0.3s,baz=251,slow=14,SNR=7.2							
ULM				Lg	Lg	Lg	21 38 34.6	
	0.3nm,0.3s,baz=231,slow=14,SNR=3.3							
ULM				LR	LR	LR	21 39 47.8	
	comp=Z,86nm,21.3s,baz=330,slow=37							
SPMN	St. Paul	12.90	81	*e*Pn	Pn	Pn	21 35 37.0	+1.7
YKA	Yellowknife Ar	18.08	355	Pn	Pn	Pn	21 36 40.5	-2.5
YKA				Lg	Lg	Lg	21 41 48.2	
YKA	Yellowknife Ar	18.08	355	Pn	Pn	Pn	21 36 40.5	-2.5
	0.1nm,0.3s,baz=174,slow=12,SNR=6.6							
YKA				Lg	Lg	Lg	21 41 48.2	
	0.0nm,0.3s,baz=164,slow=28,SNR=4.2							
USIN	University of	18.68	103	*e*P	P	P	21 36 47.4	-2.9
	61nm,0.8s							
WCI	Wyandotte Cave	19.52	100	*e*P	P	P	21 36 58.9	-0.6
	200nm,0.6s							
TZTN	Tazewell	22.25	102	*e*P	P	P	21 37 32.1	+3.1
	37nm,0.9s							
ILAR	Eielson Array	28.36	328	P	P	P	21 38 28.4	+2.5
ILAR	Eielson Array	28.36	328	P	P	P	21 38 28.5	+2.5
	0.9nm,0.9s,baz=121,slow=8.3,SNR=11							
TUE	Stuetta	75.16	38	*e*P	P	P	21 44 17.2	+2.5
	221nm,0.5s							

IDC ***19*** *21:35:16.1±1.0, 38°.34N×22°.21E, h0km, mb3.6/9, mb1 3.6/11, mb1mx3.5/37, mbtmp3.5/11, ML2.8/2, Error ellipse: s-maj=22.1km s-min=19.5km az=150.0*

ISCJB ***19*** *21:35:17.3±0.3, 38°.29N±0°.01×22°.14E±0°.02, h9km±2km, mb3.6/8, Error ellipse: s-maj=2.5km s-min=2.3km az=162.6*

CSEM ***19*** *21:35:17.4±0.1, 38°.28N×22°.15E, h5km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.9km az=85.0*

THE ***19*** *21:35:17.7, 38°.29N×22°.16E, h0km±1km, ML3.5/14, Error ellipse: s-maj=1.8km s-min=0.4km az=159.0*

ATH ***19*** *21:35:17.2, 38°.29N×22°.12E, h13km±1km, ML3.0*

SKO ***19*** *21:35:20.4, 38°.43N×22°.41E, h0km*

ISC 19 21:35:17.5±0.7, 38°29N±0°.01×22°14E±0°.01, h10km±4km, n126, σ0s92/192, mb3.7/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALE	Kalithea	0.10	2	P	Pg	21 35 19.8	-0.4
KALE				S	Sg	21 35 21.7	-0.4
KALE	Kalithea	0.10	2	*e*PG	Pg	21 35 19.9	-0.3
KALE				*e*SG	Sg	21 35 22.3	+0.2
KALE	Kalithea	0.10	2	*e*Pg	Pg	21 35 19.9	-0.3
KALE				S	Sg	21 35 21.7	-0.4
KALE				*e*Sg	Sg	21 35 22.3	+0.1
LAKA	Lakka	0.13	249	P	Pg	21 35 20.3	-0.3
LAKA	Lakka	0.13	249	*e*PG	Pg	21 35 20.5	-0.1
LAKA	Lakka	0.13	249	*e*Pg	Pg	21 35 20.5	-0.1
EFP	Efpalio	0.23	308	P	Pg	21 35 21.9	-0.3
EFP				S	Sg	21 35 25.9	+0.6
EFP	Efpalio	0.23	308	*e*PG	Pg	21 35 22.1	-0.1
EFP				*e*SG	Sg	21 35 26.0	+0.6
EFP	Efpalio	0.23	308	*e*Pg	Pg	21 35 22.1	-0.1
EFP				S	Sg	21 35 25.9	+0.6
KLV	Kalavryta, Ach	0.24	177	P	Pg	21 35 22.1	-0.4
KLV				S	Sg	21 35 26.3	+0.4
KLV	Kalavryta, Ach	0.24	177	*e*PG	Pg	21 35 22.2	-0.3
KLV				*e*SG	Sg	21 35 26.2	+0.4
KLV	Kalavryta, Ach	0.24	177	P	Pg	21 35 22.1	-0.4
KLV				S	Sg	21 35 26.3	+0.4
UPR	University Cam	0.27	269	P	Pg	21 35 23.2	+0.2
UPR				S	Sg	21 35 27.8	+1.1
UPR	University Cam	0.27	269	P	Pg	21 35 23.2	+0.2
UPR				S	Sg	21 35 27.8	+1.1
DSF	Desfina	0.33	68	P	Pg	21 35 23.7	-0.4
DSF				S	Sg	21 35 29.1	+0.5
DSF	Desfina	0.33	68	*e*PG	Pg	21 35 23.8	-0.4
DSF				*e*SB	Sg	21 35 29.7	+1.1
DSF	Desfina	0.33	68	P	Pg	21 35 23.7	-0.4
DSF				S	Sg	21 35 29.1	+0.5
GUR	Goura	0.39	155	P	Pg	21 35 24.6	-0.6
GUR				S	Sg	21 35 30.7	+0.4
GUR	Goura	0.39	155	*e*PB	Pg	21 35 24.8	-0.4
GUR				*e*SB	Sg	21 35 31.1	+0.8
GUR	Goura	0.39	155	*e*Pb	Pg	21 35 24.8	-0.4
GUR				S	Sg	21 35 30.7	+0.4
GUR				*e*Sb	Sg	21 35 31.1	+0.8
DRO	Drossia	0.47	225	P	Pg	21 35 26.4	-0.4
DRO				S	Sb	21 35 34.9	-0.1
DRO	Drossia	0.47	225	*e*PB	Pg	21 35 26.7	-0.1
DRO				*e*SB	Sg	21 35 33.3	+0.3
DRO	Drossia	0.47	225	P	Pg	21 35 26.4	-0.4
DRO	Drossia	0.47	225	*e*Pb	Pg	21 35 26.7	-0.1
DRO				*e*Sb	Sg	21 35 33.3	+0.3
DRO				S	Sb	21 35 34.9	-0.1
RLS	Riolos of Patr	0.57	247	P	Pg	21 35 28.2	-0.4
RLS				S	Sb	21 35 37.4	-0.5
RLS	Riolos of Patr	0.57	247	*e*PB	Pg	21 35 28.3	-0.4
RLS	Riolos of Patr	0.57	247	*e*Pb	Pg	21 35 28.3	-0.4
RLS				S	Sb	21 35 37.4	-0.5
PVO	Paravola	0.58	305	P	Pg	21 35 28.5	-0.3
PVO				S	Sg	21 35 36.9	+0.5
PVO	Paravola	0.58	305	P	Pg	21 35 28.5	-0.3
PVO				S	Sg	21 35 36.9	+0.5
AXAR	Agios Charalam	0.63	41	P	Pg	21 35 29.2	-0.6
AXAR				S	Sg	21 35 37.7	-0.3
AXAR	Agios Charalam	0.63	41	P	Pg	21 35 29.2	-0.6
AXAR				S	Sg	21 35 37.7	-0.3
EVR	Evrytania	0.68	338	P	Pg	21 35 29.9	-0.8
EVR				S	Sb	21 35 41.4	+0.3
EVR	Evrytania	0.68	338	*e*PB	Pg	21 35 30.1	-0.6
EVR	Evrytania	0.68	338	*e*Pb	Pg	21 35 30.1	-0.6
EVR				S	Sb	21 35 41.4	+0.3
LTK	Loutraki	0.71	112	P	Pg	21 35 30.8	-0.4
LTK	Loutraki	0.71	112	*e*PB	Pg	21 35 31.2	0.0
LTK				*e*SB	Sg	21 35 40.9	+0.5
LTK	Loutraki	0.71	112	P	Pg	21 35 30.8	-0.4
LTK	Loutraki	0.71	112	*e*Pb	Pg	21 35 31.2	0.0
LTK				*e*Sb	Sg	21 35 40.9	+0.5
MAKR	Makrakomi, Fth	0.72	360	P	Pg	21 35 30.9	-0.6
MAKR				S	Sb	21 35 42.7	+0.4
MAKR	Makrakomi, Fth	0.72	360	P	Pg	21 35 30.9	-0.6
MAKR				S	Sb	21 35 42.7	+0.4
AGG	Agios Georgios	0.75	12	P	Pg	21 35 31.1	-0.9
AGG				S	Sg	21 35 42.1	+0.3
AGG	Agios Georgios	0.75	12	*e*PB	Pg	21 35 31.0	-0.9
AGG				*e*SB	Sg	21 35 42.5	+0.7
AGG	Agios Georgios	0.75	12	P	Pg	21 35 31.1	-0.9
AGG				S	Sg	21 35 42.1	+0.3
LKR	Lokris	0.77	62	P	Pg	21 35 31.6	-0.8
LKR				S	Sb	21 35 43.8	+0.2
LKR	Lokris	0.77	62	*e*PG	Pg	21 35 31.6	-0.8
LKR				*e*SB	Sb	21 35 43.8	+0.2
LKR	Lokris	0.77	62	P	Pg	21 35 31.6	-0.8
LKR				S	Sb	21 35 43.8	+0.2
PDO	Prodromos	0.81	293	P	Pg	21 35 33.5	+0.4
PDO				S	Sb	21 35 45.9	+1.2
PDO	Prodromos	0.81	293	*e*PB	Pg	21 35 33.5	+0.4
PDO	Prodromos	0.81	293	P	Pg	21 35 33.5	+0.4
PDO				S	Sb	21 35 45.9	+1.2
AMT	Artemida-Makis	0.83	204	P	Pg	21 35 33.0	-0.4
AMT				S	Sb	21 35 46.3	+1.1
AMT	Artemida-Makis	0.83	204	*e*PB	Pg	21 35 33.3	-0.1
AMT	Artemida-Makis	0.83	204	P	Pg	21 35 33.0	-0.4
AMT	Artemida-Makis	0.83	204	*e*Pb	Pg	21 35 33.3	-0.1
AMT				S	Sb	21 35 46.3	+1.1
VLX	Vlachokerasia	0.94	168	P	Pg	21 35 34.6	-0.9
VLX				S	Sg	21 35 48.0	+0.3
VLX	Vlachokerasia	0.94	168	*e*PG	Pg	21 35 34.6	-0.9
VLX	Vlachokerasia	0.94	168	P	Pg	21 35 34.6	-0.9
VLX				S	Sg	21 35 48.0	+0.3
SMIA	Simia	1.03	55	*e*PB	Pg	21 35 36.8	-0.5
SMIA	Simia	1.03	55	*e*Pb	Pg	21 35 36.8	-0.5
KFL	Anninata	1.08	261	P	Pg	21 35 37.9	-0.3
KFL	Anninata	1.08	261	P	Pg	21 35 37.9	-0.3
ITM	Ithomi	1.12	189	P	Pb	21 35 37.7	-1.2
ITM				S	Sn	21 35 55.9	+1.1
ITM	Ithomi	1.12	189	*e*PG	Pb	21 35 37.8	-1.2
ITM	Ithomi	1.12	189	*e*Pg	Pb	21 35 37.8	-1.2
ITM				S	Sn	21 35 55.9	+1.1
DID	Didima	1.17	131	P	Pb	21 35 39.2	-0.7
DID				S	Sn	21 35 56.0	-0.1
DID	Didima	1.17	131	*e*PB	Pb	21 35 39.4	-0.5
DID	Didima	1.17	131	*e*Pb	Pb	21 35 39.4	-0.5
DID				S	Sn	21 35 56.0	-0.1
MRKA	Markates	1.21	69	P	Pb	21 35 40.1	-0.5
MRKA	Markates	1.21	69	P	Pb	21 35 40.1	-0.5
VLS	Valsamata	1.22	265	P	Pn	21 35 39.6	-1.1
VLS				S	Sn	21 35 58.9	+1.6
VLS	Valsamata	1.22	265	*e*PN	Pn	21 35 39.6	-1.1
VLS	Valsamata	1.22	265	P	Pn	21 35 39.6	-1.1
VLS				S	Sn	21 35 58.9	+1.6
LKD2	Lefkada island	1.26	294	P	Pn	21 35 40.9	-0.4
LKD2	Lefkada island	1.26	294	P	Pn	21 35 40.9	-0.4
THL	Klokotos Trika	1.28	356	P	Pn	21 35 41.1	-0.4
THL				S	Sn	21 36 00.6	+1.9
THL	Klokotos Trika	1.28	356	*e*PB	Pn	21 35 41.3	-0.2
THL	Klokotos Trika	1.28	356	P	Pn	21 35 41.1	-0.4
THL				S	Sn	21 36 00.6	+1.9
ATH	Athens Observa	1.29	104	P	Pb	21 35 42.0	+0.1
ATH				S	Sg	21 35 59.7	+0.8
ATH	Athens Observa	1.29	104	*e*PB	Pb	21 35 41.9	+0.1
ATH				*e*SB	Sg	21 35 59.6	+0.7
ATH	Athens Observa	1.29	104	*e*Pb	Pb	21 35 41.9	+0.1
ATH				*e*Sb	Sg	21 35 59.6	+0.7
ATHU	Athens Univers	1.34	103	P	Pn	21 35 42.5	+0.2
ATHU				S	Sn	21 36 00.3	+0.1
ATHU	Athens Univers	1.34	103	P	Pn	21 35 42.5	+0.2
ATHU				S	Sn	21 36 00.3	+0.1
XOR	Xorichti	1.36	37	P	Pn	21 35 42.7	+0.1
XOR	Xorichti	1.36	37	P	Pn	21 35 42.7	+0.1
PTL	Penteli	1.38	99	P	Pn	21 35 43.0	+0.1
PTL	Penteli	1.38	99	*e*PB	Pn	21 35 43.1	+0.1
PTL	Penteli	1.38	99	P	Pn	21 35 43.0	+0.1
PYL	PYLOS	1.42	193	P	Pn	21 35 43.6	+0.1
PYL	PYLOS	1.42	193	*e*PG	Pn	21 35 43.6	+0.1
PYL	PYLOS	1.42	193	P	Pn	21 35 43.6	+0.1
MEV	Metsovon	1.65	335	P	Pb	21 35 48.0	-0.2
MEV	Metsovon	1.65	335	P	Pb	21 35 48.0	-0.2
VLI	Veliai	1.69	158	P	Pn	21 35 47.8	+0.6
VLI	Veliai	1.69	158	*e*PN	Pb	21 35 48.2	-0.5
VLI	Veliai	1.69	158	P	Pn	21 35 47.8	+0.6
VLI	Veliai	1.69	158	*e*Pn	Pb	21 35 48.2	-0.5
LIT	Litokhoron	1.83	9	P	Pn	21 35 49.1	0.0
LIT	Litokhoron	1.83	9	P	Pn	21 35 49.1	0.0
KZN	Kozani	2.04	352	P	Pn	21 35 53.0	+1.0
KZN	Kozani	2.04	352	P	Pn	21 35 53.0	+1.0
FNA	Florina	2.56	347	P	Pn	21 36 00.4	+1.2
FNA	Florina	2.56	347	P	Pn	21 36 00.4	+1.2
BIA	Bitola	2.80	347	*e*Pn	Pb	21 36 06.2	-1.5
BIA				*i* Sn	Sn	21 36 39.1	+2.8
BIA	Bitola	2.80	347	*e*Pn	Pb	21 36 06.2	-1.5
BIA				*i* Sn	Sn	21 36 39.1	+2.8
VAY	Valandovo	3.05	6	*e*Pn	Pn	21 36 08.2	+2.3
VAY				*i* Sn	Sn	21 36 44.3	+1.9
VAY				*i* Lg	Lg	21 37 02.0	
	comp=N,70nm,1.2s						
VAY				*i* Lg	Lg	21 37 03.5	
	comp=E,51nm,0.9s						
VAY	Valandovo	3.05	6	*e*Pn	Pn	21 36 08.1	+2.3
VAY				*i* Sn	Sn	21 36 44.3	+1.9
IDI	Anoyia	3.72	143	Pn	Pn	21 36 16.2	+1.1
	comp=E,0.6nm,0.3s,baz=312,slow=4.2,SNR=5.6						
IDI				Sn	Sn	21 36 56.6	-2.5
	comp=E,2.0nm,0.3s,baz=315,slow=17,SNR=3.9						
PDG	Podgorica	4.69	333	*e*Pn	Pn	21 36 29.7	+1.4
STON	Ston	5.69	325	*e*Pn	Pn	21 36 42.3	+0.3
STON				Sn	Sn	21 37 45.4	-2.0
STON	Ston	5.69	325	*e*Pn	Pn	21 36 42.3	+0.3
GRUS	Gruza	5.70	350	*e*Pn	Pn	21 36 43.5	+1.3
DIVS	Divibare	6.03	345	*e*Pn	Pn	21 36 49.1	+2.3
TRUS	Trudelj	6.07	348	*e*Pn	Pn	21 36 48.7	+1.3
UDBI	Udbina	7.86	325	*i* Pn	Pn	21 37 12.2	+0.3
UDBI				Sn	Sn	21 38 36.7	-4.2
UDBI	Udbina	7.86	325	*i* Pn	Pn	21 37 12.2	+0.3
NVLJ	Novalja	8.31	321	*e*Pn	Pn	21 37 19.8	+1.8
NVLJ				Sn	Sn	21 38 49.6	-2.3
NVLJ	Novalja	8.31	321	*e*Pn	Pn	21 37 19.8	+1.8
BRTR	Keskin Array B	9.07	77	Pn	Pn	21 37 29.8	+1.1
	comp=E,0.1nm,0.3s,baz=268,slow=16,SNR=5.4						
ESDC	Sonseca Array	20.32	282	P	Pn	21 39 55.4	-0.4
	comp=E,0.5nm,0.5s,baz=74,slow=10,SNR=6.5						
HFS	Hagfors	22.51	349	P	P	21 40 17.2	+0.1
	comp=E,5.2nm,1.2s,baz=158,slow=12,SNR=4.1						
FINES	FINESS Array B	23.31	5	P	P	21 40 25.6	+0.2
	comp=E,1.9nm,1.0s,baz=180,slow=9.0,SNR=2.2						
NOA	NORSAR Array B	23.78	347	P	P	21 40 30.3	+0.1
	comp=E,0.5nm,0.6s,baz=148,slow=8.5,SNR=2.8						
TORD	Torodi Ar. Bea	30.93	221	P	P	21 41 35.5	+0.8
	comp=E,0.4nm,0.5s,baz=32,slow=8.5,SNR=11						
MKAR	Makanchi Array	44.16	59	P	P	21 43 26.2	-0.2
	comp=E,0.7nm,0.4s,baz=275,slow=7.3,SNR=34						
ZALV	Zalesovo Beam	44.67	48	P	P	21 43 29.1	-1.2
	comp=E,1.2nm,0.5s,baz=276,slow=7.5,SNR=6.6						
SONM	Songino Array	59.40	51	P	P	21 45 19.8	-0.4
	comp=E,0.2nm,0.5s,baz=300,slow=7.1,SNR=3.7						
PDAR	Pinedale Array	88.17	327	P	P	21 48 07.3	-1.7
	comp=E,0.3nm,0.7s,baz=74,slow=6.7,SNR=2.6						

IDC 19 21:59:03.1±53.0, 15°.25S×173°.48W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.8/3, Error ellipse: s-maj=1020.0km s-min=174.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	44.04	240	P	P	22 07 12.7	-0.2
	0.5nm,0.3s,baz=90,slow=17,SNR=2.7						
WRA	Warramunga Arr	49.80	257	P	P	22 07 58.5	+0.3
	0.4nm,0.8s,baz=92,slow=7.0,SNR=6.7						
ASAR	Alice Springs	50.08	252	P	P	22 07 59.9	-0.4
	1.3nm,0.4s,baz=88,slow=7.9,SNR=28						

ISCJB ***19*** *22:37:58.6±0.4, 41°.91N±0°.03×141°.28E±0°.05, h107km±3km, mb3.7/8, Error ellipse: s-maj=6.7km s-min=4.6km az=33.3*

IDC ***19*** *22:37:59.4±1.5, 41°.95N×141°.57E, h113km±14km, mb3.5/8, mb1 3.5/11, mb1mx3.2/56, mbtmp3.8/11, Error ellipse: s-maj=24.9km s-min=14.4km az=106.0*

JMA ***19*** *22:38:00.0±0.1, 41°.92N×141°.31E, h95km±1km, M2.9*

ISC 19 22:37:59.3±0.8, 41°.90N±0°.04×141°.28E±0°.04, h101km±6km, n34, σ0s98/42, mb3.8/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKB	Kayabe	0.18	265	P	Pn	22 38 13.4	-0.2
JKB				*e*S	Sn	22 38 23.5	-0.7
JOT	Ohata	0.55	198	P	Pn	22 38 15.8	+0.2
JOT				*e*S	Sn	22 38 27.8	+0.1
JNB	Noboribetsu	0.59	343	P	Pn	22 38 15.6	-0.3
JNB				*e*S	Sn	22 38 27.5	-0.9
JYM2	Yakumo 2	0.71	288	P	Pn	22 38 17.4	+0.5
JYM2				*e*S	Sn	22 38 30.2	+0.1
JSR	Shiriuchi	0.74	240	P	Pn	22 38 17.5	+0.3
JSR				*e*S	Sn	22 38 30.6	0.0
JEW	Eniwo	0.94	8	P	Pn	22 38 19.6	+0.4
JEW				*e*S	Sn	22 38 34.6	+0.4
JTM	Tenmabayashi	1.13	188	P	Pn	22 38 21.7	+0.5
JTM				*e*S	Sn	22 38 38.5	+0.8
JNBK	Urakawa-nobuka	1.16	71	P	Pn	22 38 21.7	+0.1
JNBK				*e*S	Sn	22 38 39.0	+0.6
JSH	Shimam	1.18	309	P	Pn	22 38 22.3	+0.6
JBT2	Biratori 2	1.19	42	P	Pn	22 38 22.2	+0.3
JBT2				*e*S	Sn	22 38 39.6	+0.6
JOSM	Okushiri--Mats	1.35	278	P	Pn	22 38 23.8	0.0
JOSM				*e*S	Sn	22 38 43.1	+0.7
JANG	Nango	1.54	173	P	Pn	22 38 26.4	+0.3
JANG				*e*S	Sn	22 38 46.0	-0.5
JFR	Furan	1.59	37	P	Pn	22 38 26.5	-0.3
JCH	Churui	1.70	65	P	Pn	22 38 28.7	+0.6
JCH				*e*S	Sn	22 38 50.6	+0.5
JHR	Hokuryu	1.87	10	P	Pn	22 38 31.3	+1.1
JHR				*e*S	Sn	22 38 56.0	+2.2
ASAJ	Asahikawa	2.42	23	P	Pn	22 38 37.4	+0.1
	3.8nm,0.3s,baz=234,slow=14,SNR=18						
ASAJ				S	Sn	22 39 04.8	-1.6
	2.3nm,0.3s,baz=267,slow=17,SNR=4.3						
MAT	Matsushiro	5.86	205	P	Pn	22 39 25.9	+2.2
MJAR	Matsushiro Arr	5.86	205	P	Pn	22 39 26.4	+2.7
	1.1nm,0.3s,baz=16,slow=15,SNR=11						
USRK	Usuriysk Arra	7.18	292	P	Pn	22 39 44.3	+2.7
	0.2nm,0.3s,baz=110,slow=14,SNR=8.0						
SONM	Songino Array	25.27	296	P	P	22 43 16.4	+0.3
	0.2nm,0.4s,baz=87,slow=7.5,SNR=3.5						
H11N2	WAKE ISLAND Hy	30.98	128	T	T	23 16 45.7	
	baz=323						
H11N1	WAKE ISLAND Hy	30.99	128	T	T	23 16 45.0	
	baz=323,slow=75,SNR=3.4						
H11N3	WAKE ISLAND Hy	31.00	128	T	T	23 16 45.5	
	baz=323,slow=75,SNR=3.3						
H11S1	WAKE ISLAND Hy	31.82	129	T	T	23 17 47.2	
	baz=320						
H11S3	WAKE ISLAND Hy	31.82	129	T	T	23 17 48.5	
	baz=320						
H11S2	WAKE ISLAND Hy	31.84	129	T	T	23 17 48.0	
	baz=320						
ZALV	Zalesovo Beam	38.69	308	P	P	22 45 13.2	+0.3
	1.5nm,0.4s,baz=82,slow=9.1,SNR=9.8						
MKAR	Makanchi Array	41.60	298	P	P	22 45 37.0	-0.2
	0.7nm,0.6s,baz=83,slow=10,SNR=10						
BVAR	Borovoye Array	47.32	309	P	P	22 46 22.6	+0.1
	0.8nm,0.4s,baz=76,slow=9.0,SNR=17						
WRA	Warramunga Arr	61.87	187	P	P	22 48 06.7	-1.1
	0.4nm,0.9s,baz=7.1,slow=6.9,SNR=4.1						
FINES	FINESS Array B	64.48	331	P	P	22 48 23.9	-0.7
	1.5nm,0.6s,baz=49,slow=8.6,SNR=14						
HFS	Hagfors	69.62	335	P	P	22 48 56.8	-0.4
	0.9nm,0.4s,baz=46,slow=6.4,SNR=13						
NB2	NORSAR Subarra	69.67	337	P	P	22 48 57.5	0.0
	comp=Z,0.7nm,0.5s,baz=36,slow=6.5						
NOA	NORSAR Array B	69.67	337	P	P	22 48 56.9	-0.6
	comp=Z,0.6nm,0.6s,baz=50,slow=5.6,SNR=4.0						

CASC 19 22:43:55.6±1.6, 13°.68N×90°.65W, h36km±199km, MD3.8, ML3.8, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	Pacaya	0.71	3	*e*P	Pn	22 44 09.8	+0.2
PCG				*e*S	Sn	22 44 20.1	+0.7
NBG	Las Nubes	0.95	18	*e*P	Pn	22 44 14.4	+1.6
NBG				*e*S	Sn	22 44 30.5	+5.1
RTR	El Retiro	1.00	77	*e*P	Pn	22 44 13.5	+0.2
RTR				*e*S	Sn	22 44 26.9	+0.6
SBLS	San Blas	1.01	81	*e*P	Pn	22 44 13.4	-0.1
SBLS				*e*S	Sn	22 44 26.7	0.0
RBDL	Robledal	1.03	65	*e*P	Pn	22 44 14.2	+0.5
RBDL				*e*S	Sn	22 44 27.5	+0.5
SNJE	San Jose	1.03	79	*e*P	Pn	22 44 13.8	+1.0
SNJE				*e*S	Sn	22 44 28.2	+1.1
JAT	Jato	1.15	304	*e*P	Pn	22 44 14.0	-1.2
BOQS	Boqueron	1.33	87	*e*P	Pn	22 44 18.1	+0.2
BOQS				*e*S	Sn	22 44 35.5	+1.0
SNET	Serv Nac Est T	1.38	89	*e*P	Pn	22 44 18.6	+0.2
SNET				*e*S	Sn	22 44 34.9	-0.5
SNET				AML	AML	22 44 45.0	
	comp=Z,2μm,0.3s						
LFU	La Fuente	1.49	87	*e*P	Pn	22 44 20.4	+0.4
LFU				*e*S	Sn	22 44 38.4	+0.1
LFRS	El Faro	1.54	92	*e*P	Pn	22 44 21.1	+0.4
LBRS	Las Brisas	1.56	88	*e*P	Pn	22 44 21.7	+0.8
MRL	Marmol	1.66	34	*e*P	Pn	22 44 23.1	+0.7
MRL				*e*S	Sn	22 44 50.4	+7.7
SNVI	San Vicente	1.76	92	*e*P	Pn	22 44 24.0	+0.2
VSM	San Miguel	2.32	96	*e*P	Pn	22 44 31.8	+0.2
CNCH	Conchagua	2.77	98	*e*P	Pn	22 44 38.4	+0.9

ISCJB ***19*** *22:51:05.9±0.3, 38°.43N±0°.02×21°.94E±0°.02, h7km±2km, Error ellipse: s-maj=2.9km s-min=2.7km az=174.0*

CSEM ***19*** *22:51:05.7±0.1, 38°.44N×21°.95E, h10km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.8km az=100.0*

ATH ***19*** *22:51:06.4, 38°.42N×21°.94E, h7km±1km, ML2.5*

THE ***19*** *22:51:06.3, 38°.43N×21°.96E, h0km±1km, ML2.8/9, Error ellipse: s-maj=1.5km s-min=0.5km az=276.0*

ISC 19 22:51:06.3±0.8, 38°.44N±0°.02×21°.95E±0°.02, h8km±4km, n72, σ0s65/115, Greece

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---

AGG	Agios Georgios	0.66	27	P		Pg	22 51 18.0	-1.0	
AGG	Agios Georgios	0.66	27	P		Pg	22 51 18.0	-1.0	
LKR	Lokris	0.85	75	P		Pg	22 51 21.6	-1.0	
LKR				S		Sb	22 51 35.3	+0.4	
LKR	Lokris	0.85	75	*e*PB		Pg	22 51 21.7	-0.9	
LKR				*e*SB		Sb	22 51 35.3	+0.4	
LKR	Lokris	0.85	75	P		Pg	22 51 21.6	-1.0	
LKR				S		Sb	22 51 35.3	+0.4	
LTK	Loutraki	0.90	117	*e*PN		Pb	22 51 24.1	-0.1	
LTK	Loutraki	0.90	117	*e*Pn		Pb	22 51 24.1	-0.1	
AMT	Artemida-Makis	0.92	192	P		Pg	22 51 23.6	-0.4	
AMT				S		Sn	22 51 38.5	-0.6	
AMT	Artemida-Makis	0.92	192	*e*PB		Pg	22 51 23.6	-0.4	
AMT	Artemida-Makis	0.92	192	P		Pg	22 51 23.6	-0.4	
AMT				S		Sn	22 51 38.5	-0.6	
VLS	Valsamata	1.10	257	*e*PG		Pg	22 51 26.6	-0.8	
VLS	Valsamata	1.10	257	*e*Pg		Pg	22 51 26.6	-0.8	
VLX	Vlachokerasia	1.12	162	P		Pg	22 51 26.5	-1.2	
VLX				S		Sn	22 51 44.0	0.0	
VLX	Vlachokerasia	1.12	162	*e*PG		Pg	22 51 27.0	-0.7	
VLX	Vlachokerasia	1.12	162	P		Pg	22 51 26.5	-1.2	
VLX	Vlachokerasia	1.12	162	*e*Pg		Pg	22 51 27.0	-0.7	
VLX				S		Sn	22 51 44.0	0.0	
THL	Klokotos Trika	1.13	3	P		Pg	22 51 27.1	-0.9	
THL	Klokotos Trika	1.13	3	*e*PG		Pg	22 51 27.4	-0.6	
THL	Klokotos Trika	1.13	3	P		Pg	22 51 27.1	-0.9	
THL	Klokotos Trika	1.13	3	*e*Pg		Pg	22 51 27.4	-0.6	
ITM	Ithomi	1.25	181	*e*PB		Pb	22 51 30.3	+0.1	
ITM	Ithomi	1.25	181	*e*Pb		Pb	22 51 30.3	+0.1	
DID	Didima	1.38	132	P		Pn	22 51 31.5	-0.4	
DID				S		Sg	22 51 51.9	+1.4	
DID	Didima	1.38	132	*e*PG		Pn	22 51 31.6	-0.4	
DID	Didima	1.38	132	P		Pn	22 51 31.5	-0.4	
DID				S		Sg	22 51 51.9	+1.4	
ATH	Athens Observa	1.47	108	*e*PB		Pg	22 51 34.7	+0.3	
ATH				*e*SB		Sg	22 51 53.7	+0.3	
ATH	Athens Observa	1.47	108	*e*Pb		Pg	22 51 34.7	+0.3	
ATH				*e*Sb		Sg	22 51 53.7	+0.3	
PYL	PYLOS	1.55	186	*e*PG		Pn	22 51 34.6	+0.4	
PYL	PYLOS	1.55	186	*e*Pg		Pn	22 51 34.6	+0.4	
LIT	Litokhoron	1.71	14	P		Pn	22 51 37.1	+0.6	
LIT	Litokhoron	1.71	14	P		Pn	22 51 37.1	+0.6	

IDC ***19*** *22:51:11.6±1.2, 34°.33N×25°.45E, h0km, mb3.8/4, mb1 3.8/11, mb1mx3.6/51, mbtmp3.7/11, ML3.6/7, MS2.6/1, Ms1 2.7/1, ms1mx2.1/38, Error ellipse: s-maj=21.0km s-min=16.3km az=39.0*

ISCJB ***19*** *22:51:15.8±0.6, 34°.25N±0°.03×25°.63E±0°.04, h60km±9km, mb3.8/6, Error ellipse: s-maj=5.5km s-min=4.9km az=172.3*

CSEM ***19*** *22:51:16.2±0.3, 34°.29N×25°.50E, h30km, MD3.7, Error ellipse: s-maj=8.6km s-min=6.4km az=108.0*

DDA ***19*** *22:51:23.8, 35°.08N×25°.68E, h26km, MD3.7*

HLW ***19*** *22:51:25.7, 33°.64N×25°.83E, h31km±36km, Md3.4, Ml3.2*

ISC 19 22:51:16.1±1.1, 34°.18N±0°.04×25°.56E±0°.06, h38km±2km, n91, σ1%63/100, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.24**	**334**	Pn	**Pn**	22 51 34.7	-2.2
	59nm,0.3s,baz=163,slow=16,SNR=167						
IDI				Sn	**Sn**	**22 51 48.9**	**-3.5**
	90nm,0.3s,baz=180,slow=8.6,SNR=30						
SLUM		**2.69**	**186**	P	**Pn**	**22 51 59.8**	**+2.9**
	baz=194						
SLUM				AMP		22 52 00.0	
	comp=N,200μm,0.5s,logA/T=5.6,baz=194						
SLUM		**2.69**	**186**	P	**Pn**	**22 51 59.8**	**+2.9**
BODT	**Bodrum**	**3.21**	**26**	*e*PN	**Pn**	**22 52 04.9**	**+0.9**
BODT	**Bodrum**	**3.21**	**26**	*e*Pn	**Pn**	**22 52 04.9**	**+0.9**
BDRM	**Kayabasi**	**3.27**	**28**	*i* P	**Pn**	**22 52 05.3**	**+0.6**
BDRM	**Kayabasi**	**3.27**	**28**	*i* P	**Pn**	**22 52 05.3**	**+0.6**
TURN	**Turunc**	**3.66**	**42**	*i* P	Pn	22 52 07.6	-2.5
TURN				*i* S	Sn	22 52 41.8	-10
YER	**Yerkesik**	**3.69**	**36**	*e*PN	**Pn**	**22 52 11.1**	**+0.5**
YER	**Yerkesik**	**3.69**	**36**	*e*SN	**Sn**	**22 52 53.7**	**+0.8**
YER	**Yerkesik**	**3.69**	**36**	*e*Pn	**Pn**	**22 52 11.1**	**+0.5**
YER				*e*Sn	**Sn**	**22 52 53.7**	**+0.8**
FETY	**Fethiye**	**3.78**	**49**	*e*PN	**Pn**	**22 52 11.7**	**-0.1**
FETY	**Fethiye**	**3.78**	**49**	*e*SN	**Sn**	**22 52 54.7**	**-0.4**
FETY	**Fethiye**	**3.78**	**49**	*e*Pn	**Pn**	**22 52 11.7**	**-0.1**
FETY				*e*Sn	**Sn**	**22 52 54.7**	**-0.4**
AKAS	**Kas**	**3.90**	**57**	*i* P	**Pn**	**22 52 15.3**	**+1.8**
AKAS				*i* S	**Sn**	**22 52 58.2**	**+0.1**
AKAS	**Kas**	**3.90**	**57**	*i* P	**Pn**	**22 52 15.3**	**+1.8**
AKAS				*i* S	**Sn**	**22 52 58.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**4.21**	**26**	*e*PN	**Pn**	**22 52 18.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**4.21**	**26**	*e*Pn	**Pn**	**22 52 18.5**	**+0.7**
BLCB	**Balcova**	**4.37**	**15**	*e*PN	**Pn**	**22 52 20.9**	**+1.1**
BLCB	**Balcova**	**4.37**	**15**	*e*Pn	**Pn**	**22 52 20.9**	**+1.1**
ELL	**Elmali**	**4.38**	**53**	*e*PN	**Pn**	**22 52 20.1**	**-0.1**
ELL	**Elmali**	**4.38**	**53**	*e*Pn	**Pn**	**22 52 20.1**	**-0.1**
GOLH	**Golhisar**	**4.46**	**46**	*i* P	**Pn**	**22 52 23.2**	**+1.9**
GOLH				*i* S	**Sn**	**22 53 11.3**	**-0.7**
GOLH	**Golhisar**	**4.46**	**46**	*i* P	**Pn**	**22 52 23.2**	**+1.9**
GOLH				*i* S	**Sn**	**22 53 11.3**	**-0.7**
KORT	**Korkueli**	**4.81**	**53**	*e*P	Pn	22 52 29.3	+3.1
KORT				*i* S	**Sn**	**22 53 20.3**	**-0.4**
SWA2		**4.92**	**181**	P	**Pn**	**22 52 30.1**	**+2.6**
	baz=185						
SWA2				S	Sn	22 53 17.3	-5.8
	baz=185						
SWA2		**4.92**	**181**	P	**Pn**	**22 52 30.1**	**+2.6**
ANTB	**Antalya**	**4.96**	**55**	*e*PN	**Pn**	**22 52 28.0**	**0.0**
ANTB	**Antalya**	**4.96**	**55**	*e*Pn	**Pn**	**22 52 28.0**	**0.0**
KULA	**Kula-Manisa**	**5.00**	**29**	*e*PN	**Pn**	**22 52 29.5**	**+0.9**
KULA	**Kula-Manisa**	**5.00**	**29**	*e*Pn	**Pn**	**22 52 29.5**	**+0.9**
KHL	**Karahalli**	**5.23**	**37**	*e*PN	**Pn**	**22 52 32.5**	**+0.7**
KHL	**Karahalli**	**5.23**	**37**	*e*Pn	**Pn**	**22 52 32.5**	**+0.7**
KHAL	**Karahalli**	**5.25**	**36**	*i* P	**Pn**	**22 52 32.2**	**+0.1**
KHAL				*i* S	Sn	22 53 25.4	-6.0
KHAL	**Karahalli**	**5.25**	**36**	*i* P	**Pn**	**22 52 32.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**5.51**	**52**	*e*PN	**Pn**	**22 52 37.0**	**+1.3**
SUTC	**Sutluce-Ispart**	**5.51**	**52**	*e*Pn	**Pn**	**22 52 37.0**	**+1.3**
SHUT	**Suhut-Afyon**	**5.94**	**41**	*e*PN	**Pn**	**22 52 42.2**	**+0.7**
SHUT	**Suhut-Afyon**	**5.94**	**41**	*e*Pn	**Pn**	**22 52 42.2**	**+0.6**
LEF	**Lefka**	**6.12**	**79**	*e*PN	**Pn**	**22 52 42.4**	**-1.5**
LEF	**Lefka**	**6.12**	**79**	*e*Pn	**Pn**	**22 52 42.4**	**-1.5**
ERMK	**Ermenek**	**6.49**	**66**	*i* P	**Pn**	**22 52 52.6**	**+2.8**
ERMK				*i* S	**Sn**	**22 53 40.8**	**-1.3**
AWBH		**6.50**	**153**	P	**Pn**	**22 52 51.8**	**+2.6**
	baz=152						
AWBH		**6.50**	**153**	P	**Pn**	**22 52 51.8**	**+2.6**
LFK	**Lefkose**	**6.66**	**78**	*e*PN	**Pn**	**22 52 50.4**	**-0.9**
LFK	**Lefkose**	**6.66**	**78**	*e*Pn	**Pn**	**22 52 50.4**	**-0.9**
KONT	**Konya--Tatoy**	**6.67**	**54**	*e*PN	**Pn**	**22 52 51.5**	**0.0**
KONT	**Konya--Tatoy**	**6.67**	**54**	*e*Pn	**Pn**	**22 52 51.5**	**0.0**
IKL	**Isikli**	**6.96**	**71**	*e*PN	**Pn**	**22 52 54.8**	**-0.7**
IKL	**Isikli**	**6.96**	**71**	*e*Pn	**Pn**	**22 52 54.8**	**-0.7**
HFRF	**Wahat Farafira**	**7.40**	**161**	P	**Pn**	**22 53 04.3**	**+2.8**
	baz=161						
HFRF	**Wahat Farafira**	**7.40**	**161**	P	**Pn**	**22 53 04.3**	**+2.8**
SUZ		**7.54**	**123**	P	Pn	22 53 07.1	+3.6
	baz=120						
SULT	**Sultanhani-AKS**	**7.58**	**56**	*e*PN	**Pn**	**22 53 03.8**	**-0.3**
SULT	**Sultanhani-AKS**	**7.58**	**56**	*e*Pn	**Pn**	**22 53 03.8**	**-0.3**
MMAI	**Mount Meron Ar**	**8.29**	**95**	Pn	**Pn**	**22 53 14.3**	**+0.5**
	comp=N,2.2nm,0.3s,baz=288,slow=11,SNR=8.7						
MMAI				Sn	**Sn**	**22 54 46.8**	**+0.5**
	comp=N,6.2nm,0.3s,baz=277,slow=26,SNR=9.3						
KARA	**Karaisali**	**8.31**	**66**	*e*PN	**Pn**	**22 53 13.8**	**-0.2**
KARA	**Karaisali**	**8.31**	**66**	*e*Pn	**Pn**	**22 53 13.8**	**-0.2**
BRTR	**Keskin Array B**	**8.51**	**47**	Pn	**Pn**	**22 53 16.9**	**0.0**
	comp=N,0.1nm,0.3s,baz=216,slow=15,SNR=4.9						
BRTR				Sn	**Sn**	**22 54 48.2**	**-3.5**
	comp=N,0.1nm,0.3s,baz=211,slow=25,SNR=2.3						
KOZT	**Kozan**	**8.96**	**66**	*e*PN	**Pn**	**22 53 22.0**	**-1.0**
KOZT	**Kozan**	**8.96**	**66**	*e*Pn	**Pn**	**22 53 22.0**	**-1.0**
EIL	**Elat**	**9.16**	**117**	Pn	**Pn**	**22 53 27.6**	**+2.0**
	comp=N,0.5nm,0.3s,baz=342,slow=13,SNR=5.0						
EIL				Sn	**Sn**	**22 55 07.0**	**-0.4**
	comp=N,2.0nm,0.3s,baz=318,slow=19,SNR=7.9						
HQLS		**9.44**	**118**	S	**Sn**	**22 55 12.0**	**-2.4**
	baz=114						
HQLS		**9.44**	**118**	P	**Pn**	**22 53 31.7**	**+2.1**
	baz=114						
HQLS		**9.44**	**118**	P	**Pn**	**22 53 32.0**	**+2.5**
HQLS				S	**Sn**	**22 55 12.0**	**-2.4**
HAQS	**Haql**	**9.47**	**120**	S	**Sn**	**22 55 13.0**	**-2.2**
	baz=284						
HAQS	**Haql**	**9.47**	**120**	P	Pn	22 53 35.2	+5.2
	baz=284						
HAQS	**Haql**	**9.47**	**120**	P	Pn	22 53 35.0	+5.0
HAQS				S	**Sn**	**22 55 13.0**	**-2.2**
ASF	**Jabal al Asfar**	**9.71**	**99**	Pn	**Pn**	**22 53 34.5**	**+1.2**
	comp=N,0.2nm,0.3s,baz=254,slow=7.4,SNR=2.8						
ASF				Sn	**Sn**	**22 55 23.3**	**+2.2**
	comp=N,0.4nm,0.3s,baz=308,slow=20,SNR=5.0						
JLOS		**10.07**	**120**	S	**Sn**	**22 55 26.3**	**-3.6**
	baz=116						
JLOS		**10.07**	**120**	P	**Pn**	**22 53 40.6**	**+2.4**
	baz=116						
JLOS		**10.07**	**120**	P	**Pn**	**22 53 41.0**	**+2.8**
JLOS				S	**Sn**	**22 55 26.0**	**-3.9**
HDK2	**Wahat Dakhilah**	**10.26**	**162**	P	**Pn**	**22 53 42.9**	**+2.1**
	baz=162						
HDK2	**Wahat Dakhilah**	**10.26**	**162**	P	**Pn**	**22 53 42.9**	**+2.1**
KBZ	**Khabaz**	**16.49**	**50**	Pn	**P**	**22 55 05.5**	**-1.2**
	comp=N,0.0nm,0.3s,baz=260,slow=6.1,SNR=2.1						
AKASG	**Malin Array Be**	**16.73**	**8**	Pn	**Pn**	**22 55 05.9**	**-1.5**
	comp=N,1.1nm,0.3s,baz=200,slow=11,SNR=8.3						
GERES	**GERESS Array B**	**17.10**	**333**	Pn	**Pn**	**22 55 11.4**	**-0.8**
	comp=N,0.2nm,0.3s,baz=147,slow=12,SNR=10						
DAVOX	**Davos/Dischmat**	**17.30**	**321**	P	**P**	**22 55 15.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=122,slow=9.4,SNR=5.1						
MBDF	**Montbardon**	**17.89**	**312**	*e*P	**P**	**22 55 19.9**	**-2.5**
	comp=N,9.4nm,0.9s						
MBDF	**Montbardon**	**17.89**	**312**	*e*P	**P**	**22 55 19.9**	**-2.5**
	comp=N,9.0nm,0.9s						
CDF	**Champ du Feu**	**19.70**	**322**	*e*P	**P**	**22 55 41.6**	**-0.5**
	comp=N,6.0nm,0.8s						
CDF	**Champ du Feu**	**19.70**	**322**	*e*P	**P**	**22 55 41.6**	**-0.5**
	comp=N,6.0nm,0.8s						
BGF	**Bois d'Agland**	**21.18**	**312**	*e*P	**P**	**22 55 58.1**	**0.0**
	comp=N,16nm,0.9s						
BGF	**Bois d'Agland**	**21.18**	**312**	*e*P	**P**	**22 55 58.1**	**0.0**
	comp=N,15nm,0.9s						
BAIF	**Baives**	**22.30**	**322**	*e*P	**P**	**22 56 07.9**	**-2.1**
	comp=N,5.3nm,0.6s						
BAIF	**Baives**	**22.30**	**322**	*e*P	**P**	**22 56 07.9**	**-2.1**
	comp=N,5.0nm,0.6s						
HFS	**Hagfors**	**27.11**	**347**	P	**P**	**22 56 53.8**	**-1.2**
	comp=N,3.1nm,1.0s,baz=160,slow=8.9,SNR=2.8						
NOA	**NORSAR Array B**	**28.43**	**345**	LR	LR	23 10 44.4	
	comp=N,12nm,18.4s,baz=325,slow=42						
TORD	**Torodi Ar. Bea**	**30.12**	**232**	P	**P**	**22 57 23.1**	**+0.8**
	comp=N,0.8nm,0.6s,baz=33,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**44.05**	**56**	P	**P**	**22 59 21.4**	**+1.2**
	comp=N,0.7nm,0.6s,baz=274,slow=6.4,SNR=9.0						
SONM	**Songino Array**	**59.86**	**50**	P	**P**	**23 01 18.9**	**+1.0**
	comp=N,0.4nm,0.7s,baz=294,slow=7.9,SNR=4.7						

TRN 19 23:17:33.4, 15°.05N×61°.31W, h197km, MD3.8, M3.5(FDF), 11C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.35**	**153**	*i* P	Pn	23 17 59.9	+0.2
FDF				*e*S	Sn	23 18 19.9	-0.2
BVM	**Bellevue**	**0.40**	**142**	*e*P	Pn	23 18 00.7	+0.8
BBL	**Barber's Block**	**0.50**	**342**	*i* P	Pn	23 18 00.7	+0.5
ZAM	**Aeronautique**	**0.55**	**150**	*e*P	Pn	23 18 01.0	+0.6
TRMF	**Trois Ilets**	**0.57**	**154**	*e*P	Pn	23 18 00.9	+0.5
BIM	**Bigot**	**0.58**	**156**	*e*P	Pn	23 18 01.1	+0.5
BIM				*e*S	Sn	23 18 22.3	+0.8
LPMF	**Morne Lapointe**	**0.58**	**145**	*e*P	Pn	23 18 01.1	+0.6
MVM	**Montagne Vaucl**	**0.64**	**141**	*e*P	Pn	23 18 01.5	+0.8
TBG	**Guadaloupe-3**	**0.86**	**338**	*i* P	Pn	23 18 02.4	+0.5
MGG	**Marie-Galante**	**0.86**	**360**	*e*P	Pn	23 18 02.7	+0.7
HMG	**Houelmont**	**1.00**	**338**	*e*P	Pn	23 18 03.5	+0.7
PHG	**Guadaloupe-2**	**1.01**	**342**	*i* P	Pn	23 18 04.0	+0.9
DOG	**Dongo Capester**	**1.02**	**343**	*e*P	Pn	23 18 03.8	+0.8
SCG	**Saint Claude**	**1.04**	**340**	*e*P	Pn	23 18 04.0	+0.8
ECG	**Echelle**	**1.04**	**342**	*i* P	Pn	23 18 04.1	+0.8
TAG	**Tarade**	**1.04**	**341**	*e*P	Pn	23 18 04.2	+0.9
FNG	**Fond-Bernard**	**1.07**	**340**	*i* P	Pn	23 18 04.2	+0.8
MLG	**Mont-d'or**	**1.08**	**339**	*i* P	Pn	23 18 04.3	+0.8
SSG	**Sans Toucher**	**1.09**	**341**	*i* P	Pn	23 18 04.5	+0.8
LZG	**Guadaloupe-1**	**1.17**	**338**	*e*P	Pn	23 18 04.9	+0.8
SLB	**Belfond**	**1.24**	**168**	*e*P	Pn	23 18 06.2	+1.4
SLB				*e*S	Sn	23 18 27.9	-1.2
DEG	**La Desirade**	**1.28**	**11**	*e*P	Pn	23 18 06.3	+1.3
SEG	**Port Louis**	**1.36**	**352**	*i* P	Pn	23 18 06.7	+1.1
MCLT	**Moule a Chique**	**1.38**	**165**	*e*P	Pn	23 18 06.3	+0.5
MCLT				*e*S	Sn	23 18 31.5	+0.5
SSV	**Crater Summit**	**1.72**	**176**	*e*P	Pn	23 18 10.1	+1.1
SVV	**Soufriere Volc**	**1.72**	**177**	*e*P	Pn	23 18 10.9	+1.9
BHS	**Barnard House**	**1.75**	**174**	*e*P	Pn	23 18 09.6	+0.3
SVB	**Belmont**	**1.77**	**178**	*i* P	Pn	23 18 09.3	-0.1
SVB				*e*S	Sn	23 18 38.8	+1.3
ANWB	**Willy Bob**	**2.64**	**350**	*i* P	Pn	23 18 19.1	+0.4

IDC 19 23:40:09.7±7.5, 30°.59S×178°.24W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/17, mbtmp3.5/2, Error ellipse: s-maj=315.2km s-min=58.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.90**	**267**	P	P	23 48 09.8	-0.4
	0.5nm,0.8s,baz=110,slow=6.9,SNR=4.5						
WRA	**Warramunga Arr**	**43.90**	**272**	P	P	23 48 18.4	0.0
	0.3nm,0.3s,baz=111,slow=8.1,SNR=9.6						
FINES	**FINESS Array B**	**145.25**	**340**	PKPbc	PKPbc	23 59 47.5	-0.8
	3.3nm,1.0s,baz=41,slow=4.4,SNR=6.4						

ISCJB ***20*** *00:11:13.0±0.3, 38°.41N±0°.02×21°.96E±0°.02, h9km±2km, Error ellipse: s-maj=2.9km s-min=2.7km az=32.7*

CSEM ***20*** *00:11:13.0±0.1, 38°.41N×21°.95E, h10km, ML2.7, Error ellipse: s-maj=1.8km s-min=1.7km az=64.0*

THE ***20*** *00:11:13.3, 38°.40N×21°.98E, h14km, ML3.1/5, Error ellipse: s-maj=0.6km s-min=0.3km az=328.0*

ATH ***20*** *00:11:13.5, 38°.40N×21°.96E, h9km±1km, ML2.7*

SKO ***20*** *00:11:19.6, 38°.79N×22°.26E, h0km, M1.9, ML2.2*

ISC 20 00:11:13.4±0.8, 38°.40N±0°.01×21°.97E±0°.01, h11km±4km, n91, σ0°55/126, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**301**	*e*PG	**Pg**	**00 11 15.1**	**-0.4**
EFP				*e*SG	**Sg**	**00 11 16.4**	**-0.7**
EFP	**Efpalio**	**0.06**	**301**	*e*Pg	**Pg**	**00 11 15.1**	**-0.4**
EFP				*e*Sg	**Sg**	**00 11 16.4**	**-0.7**
KALE	**Kalithea**	**0.14**	**93**	P	**Pg**	**00 11 16.7**	**+0.1**
KALE				S	**Sg**	**00 11 19.6**	**+0.6**
KALE	**Kalithea**	**0.14**	**93**	*e*PG	**Pg**	**00 11 16.7**	**+0.1**
KALE				*e*SG	**Sg**	**00 11 19.8**	**+0.8**
KALE	**Kalithea**	**0.14**	**93**	P	**Pg**	**00 11 16.7**	**+0.1**
KALE				*e*Sg	**Sg**	**00 11 19.8**	**+0.8**
LAKA	**Lakka**	**0.16**	**176**	P	**Pg**	**00 11 17.1**	**+0.1**
LAKA	**Lakka**	**0.16**	**176**	*e*PG	**Pg**	**00 11 17.2**	**+0.2**
LAKA	**Lakka**	**0.16**	**176**	*e*Pg	**Pg**	**00 11 17.2**	**+0.2**
UPR	**University Cam**	**0.18**	**231**	P	**Pg**	**00 11 17.6**	**+0.3**
UPR				S	**Sg**	**00 11 20.9**	**+0.9**
UPR	**University Cam**	**0.18**	**231**	P	**Pg**	**00 11 17.6**	**+0.3**
UPR				S	**Sg**	**00 11 20.9**	**+0.9**
KLV	**Kalavryta, Ach**	**0.38**	**158**	*e*PG	**Pg**	**00 11 20.9**	**-0.1**
KLV				*e*SB	**Sg**	**00 11 26.4**	**+0.3**
KLV	**Kalavryta, Ach**	**0.38**	**158**	*e*Pg	**Pg**	**00 11 20.9**	**-0.1**
KLV				*e*Sb	**Sg**	**00 11 26.4**	**+0.3**
PVO	**Paravola**	**0.41**	**302**	P	**Pg**	**00 11 21.2**	**-0.2**
PVO				S	**Sg**	**00 11 27.7**	**+0.8**
PVO	**Paravola**	**0.41**	**302**	P	**Pg**	**00 11 21.2**	**-0.2**
DSF	**Desfina**	**0.44**	**88**	P	**Pg**	**00 11 21.6**	**-0.5**
DSF				S	**Sg**	**00 11 28.2**	**+0.3**
DSF	**Desfina**	**0.44**	**88**	*e*PG	**Pg**	**00 11 21.6**	**-0.5**
DSF				*e*SB	**Sb**	**00 11 29.1**	**-0.8**
DSF	**Desfina**	**0.44**	**88**	P	**Pg**	**00 11 21.6**	**-0.5**
DSF				S	**Sg**	**00 11 28.2**	**+0.3**
DSF				*e*Sb	**Sb**	**00 11 29.1**	**-0.8**
DRO	**Drossia**	**0.49**	**204**	P	**Pg**	**00 11 23.0**	**+0.1**
DRO				S	**Sg**	**00 11 30.1**	**+0.7**
DRO	**Drossia**	**0.49**	**204**	*e*PB	**Pg**	**00 11 23.0**	**+0.1**
DRO	**Drossia**	**0.49**	**204**	P	**Pg**	**00 11 23.0**	**+0.1**
RLS	**Riolos of Patr**	**0.52**	**229**	*e*PB	**Pg**	**00 11 23.7**	**+0.2**
RLS				*e*SB	**Sb**	**00 11 31.9**	**-0.2**
RLS	**Riolos of Patr**	**0.52**	**229**	*e*Pb	**Pg**	**00 11 23.7**	**+0.2**
RLS				*e*Sb	**Sb**	**00 11 31.9**	**-0.2**
EVR	**Evrytania**	**0.53**	**347**	*e*PB	**Pg**	**00 11 23.6**	**-0.2**
EVR				*e*SB	**Sg**	**00 11 31.8**	**+1.0**
EVR	**Evrytania**	**0.53**	**347**	*e*Pb	**Pg**	**00 11 23.6**	**-0.2**
EVR				*e*Sb	**Sg**	**00 11 31.8**	**+1.0**
GUR	**Goura**	**0.55**	**147**	P	**Pg**	**00 11 23.7**	**-0.4**
GUR				S	**Sg**	**00 11 31.8**	**+0.4**
GUR	**Goura**	**0.55**	**147**	*e*PB	**Pg**	**00 11 23.7**	**-0.4**
GUR				*e*SB	**Sb**	**00 11 32.7**	**-0.3**
GUR	**Goura**	**0.55**	**147**	P	**Pg**	**00 11 23.7**	**-0.4**
GUR				S	**Sg**	**00 11 31.8**	**+0.4**
GUR				*e*Sb	**Sb**	**00 11 32.7**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**12**	P	**Pg**	**00 11 25.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**12**	*e*PB	**Pg**	**00 11 25.6**	**0.0**
MAKR				*e*SB	**Sg**	**00 11 34.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**12**	P	**Pg**	**00 11 25.4**	**-0.2**
MAKR				*e*Sb	**Sg**	**00 11 34.2**	**+0.3**
PDO	**Prodromos**	**0.65**	**288**	P	**Pg**	**00 11 25.8**	**-0.1**
PDO				S	**Sb**	**00 11 35.4**	**-0.3**
PDO	**Prodromos**	**0.65**	**288**	*e*PB	**Pg**	**00 11 26.4**	**+0.5**
PDO				*e*SB	**Sg**	**00 11 34.9**	**+0.5**
PDO	**Prodromos**	**0.65**	**288**	P	**Pg**	**00 11 25.8**	**-0.1**
PDO	**Prodromos**	**0.65**	**288**	*e*Pb	**Pg**	**00 11 26.4**	**+0.5**
PDO				*e*Sb	**Sg**	**00 11 34.9**	**+0.5**
AXAR	**Agios Charalam**	**0.66**	**56**	P	**Pg**	**00 11 25.7**	**-0.4**
AXAR				S	**Sg**	**00 11 35.3**	**+0.6**
AXAR	**Agios Charalam**	**0.66**	**56**	P	**Pg**	**00 11 25.7**	**-0.4**
AXAR				S	**Sg**	**00 11 35.3**	**+0.6**
AGG	**Agios Georgios**	**0.69**	**25**	P	**Pg**	**00 11 25.8**	**-0.9**
AGG				S	**Sb**	**00 11 36.5**	**-0.4**
AGG	**Agios Georgios**	**0.69**	**25**	*e*PB	**Pg**	**00 11 25.9**	**-0.8**
AGG	**Agios Georgios**	**0.69**	**25**	*e*Pb	**Pg**	**00 11 25.9**	**-0.8**
AGG				S	**Sb**	**00 11 36.5**	**-0.4**
LKR	**Lokris**	**0.85**	**72**	*e*PG	**Pg**	**00 11 29.2**	**-0.6**
LKR	**Lokris**	**0.85**	**72**	*e*Pg	**Pg**	**00 11 29.2**	**-0.6**
LTK	**Loutraki**	**0.87**	**115**	P	**Pg**	**00 11 29.9**	**-0.3**
LTK				S	**Sb**	**00 11 42.3**	**0.0**
LTK	**Loutraki**	**0.87**	**115**	*e*PB	**Pb**	**00 11 30.7**	**+0.1**
LTK	**Loutraki**	**0.87**	**115**	P	**Pg**	**00 11 29.9**	**-0.3**
LTK	**Loutraki**	**0.87**	**115**	*e*Pb	**Pb**	**00 11 30.7**	**+0.1**
LTK				S	**Sb**	**00 11 42.3**	**0.0**
AMT	**Artemida-Makis**	**0.89**	**193**	P	**Pg**	**00 11 30.3**	**-0.2**
AMT	**Artemida-Makis**	**0.89**	**193**	*e*PB	**Pg**	**00 11 30.5**	**0.0**
AMT	**Artemida-Makis**	**0.89**	**193**	P	**Pg**	**00 11 30.3**	**-0.2**
KFL	**Anninata**	**0.97**	**253**	P	**Pg**	**00 11 31.5**	**-0.6**
KFL	**Anninata**	**0.

ellipse: s-maj=147.2km s-min=83.0km az=123.0
ISCJB ***20*** *00:21:41.1±0.9, 3°.23S×0°.06×139°.80E±0°.08, h10km,*
mb3.4/2, Error ellipse: s-maj=12.2km s-min=7.9km
az=13.4
DJA ***20*** *00:21:41.0±1.9, 3°.S×12°.×14°.0E±2°.7, h29km±43km, M3.3/2,*
MLv3.3/2

ISC 20 00:21:42.2±1.1, **3°.15S**±0°.08×**139°.78E**±0°.09, **h10km, n5,**
σ1§**08/7, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.67**	**35**	P	**Pg**	**00 21 55.1**	**-0.2**
GENI				S	**Sb**	**00 22 05.7**	**+0.2**
SMPI	**Sarmi**	**1.57**	**317**	P	**Pn**	**00 22 09.7**	**-0.5**
SMPI				S	**Sb**	**00 22 32.1**	**+0.7**
WRA	**Warramunga Arr**	**17.52**	**197**	P	**P**	**00 25 46.5**	**-1.4**
	0.2nm,0.3s,baz=16,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**21.18**	**195**	P	**P**	**00 26 27.4**	**-0.6**
	0.6nm,0.6s,baz=24,slow=9.0,SNR=7.6						
STKA	**Stephens Creek**	**28.63**	**177**	P	**P**	**00 27 40.3**	**+1.3**
	0.6nm,0.3s,baz=337,slow=7.7,SNR=3.1						

IDC 20 00:33:51.2±13.0, **4°.64S×104°.69W, h0km, mb3.3/3,**
mb1 3.7/3, mb1mx3.5/18, mbtmp3.3/3, MS3.5/1, Ms1 3.5/1,
ms1mx3.0/9, Error ellipse: s-maj=483.1km
s-min=182.3km az=115.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**37.37**	**143**	T	T	01 22 01.7	
	baz=313,slow=75,SNR=6.5						
H03N1	**Juan Fernandez**	**37.39**	**143**	T	T	01 22 02.8	
	baz=313,slow=75,SNR=6.7						
H03N3	**Juan Fernandez**	**37.39**	**143**	T	T	01 22 02.8	
	baz=313,slow=75,SNR=7.1						
PLCA	**Paso Flores**	**47.22**	**144**	LR	LR	00 58 27.5	
	comp=Z,47nm,18.8s,baz=276,slow=31						
PDAR	**Pinedale Array**	**47.39**	**355**	P	P	00 42 27.4	-0.2
	0.2nm,0.7s,baz=166,slow=8.8,SNR=2.5						
YKA	**Yellowknife Ar**	**67.37**	**355**	P	P	00 44 48.4	+0.4
	0.2nm,0.7s,baz=164,slow=6.4,SNR=3.0						
ILAR	**Eielson Array**	**75.88**	**343**	P	P	00 45 38.9	-0.4
	0.4nm,0.8s,baz=147,slow=5.1,SNR=5.3						
H11N3	**WAKE ISLAND Hy 90.04**	**290**		T	T	02 24 46.4	
	baz=99,slow=75,SNR=9.9						
H11N2	**WAKE ISLAND Hy 90.06**	**290**		T	T	02 24 49.6	
	baz=99,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 90.06**	**290**		T	T	02 24 47.5	
	baz=99,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy 90.13**	**288**		T	T	02 24 52.6	
	baz=97,slow=73,SNR=5.9						
H11S1	**WAKE ISLAND Hy 90.14**	**288**		T	T	02 24 50.7	
	baz=97,slow=73,SNR=8.5						
H11S3	**WAKE ISLAND Hy 90.15**	**288**		T	T	02 24 51.5	
	baz=97,slow=73,SNR=8.5						

CRAAG ***20*** *00:41:12.8, 36°.56N×1°.30E, Ml2.6*
MDD ***20*** *00:41:13.2±1.7, 36°.54N×1°.65E, h0km, mb3.0/6, Error*
ellipse: s-maj=24.0km s-min=6.9km az=95.0, PRXIMO
CSEM ***20*** *00:41:13.8±0.7, 36°.54N×1°.55E, h10km, mb3.0, Error*
ellipse: s-maj=20.6km s-min=7.6km az=86.0

ISC 20 00:41:12.4±1.9, **36°.58N**±0°.10×**1°.7E**±0°.1, **h10km**±21**km, n21,**
σ1§**37**/31, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.31**	**199**	P	**Pb**	**00 41 20.3**	**+0.2**
EBNR	**Beni Rached**	**0.31**	**199**	P	**Pb**	**00 41 20.3**	**+0.2**
ECHA	**Ech Chlef**	**0.49**	**209**	P	**Pg**	**00 41 21.9**	**-0.1**
ECHA	**Ech Chlef**	**0.49**	**209**	P	**Pg**	**00 41 21.9**	**-0.1**
ECHF	**Ech Chlef**	**0.49**	**211**	P	**Pg**	**00 41 21.9**	**-0.2**
ECHF	**Ech Chlef**	**0.49**	**211**	P	**Pg**	**00 41 21.9**	**-0.2**
EANR	**'Ain N'Sour**	**0.77**	**216**	P	**Pg**	**00 41 26.0**	**-1.4**
EANR	**'Ain N'Sour**	**0.77**	**216**	P	**Pg**	**00 41 26.0**	**-1.4**
EANR	**'Ain N'Sour**	**0.77**	**216**	P	**Pg**	**00 41 26.0**	**-1.4**
EIBI	**Ibiza**	**2.46**	**354**	P	**Pn**	**00 41 53.2**	**+0.6**
	1.6nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**00 42 21.4**	**-1.3**
	3.3nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.46**	**354**	P	**Pn**	**00 41 53.2**	**+0.6**
	1.6nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**00 42 21.4**	**-1.3**
	3.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.59**	**325**	P	**Pn**	**00 41 55.6**	**+1.1**
	0.2nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**00 42 24.8**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.59**	**325**	P	**Pn**	**00 41 55.6**	**+1.1**
	0.2nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**00 42 24.8**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.27**	**310**	P	**Pn**	**00 42 05.3**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**00 42 42.1**	**-0.9**
	0.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.27**	**310**	P	**Pn**	**00 42 05.3**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**00 42 42.1**	**-0.9**
	0.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.67**	**276**	P	**Pn**	**00 42 09.4**	**0.0**
	0.5nm,0.1s,SNR=4.0						
EBER	**Berja**	**3.67**	**276**	P	**Pn**	**00 42 09.4**	**0.0**
	0.5nm,0.1s,SNR=4.0						
EQES	**Quesada**	**3.97**	**289**	P	**Pn**	**00 42 16.0**	**+2.5**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 42 59.8**	**-0.3**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.97**	**289**	P	**Pn**	**00 42 16.0**	**+2.5**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 42 59.8**	**-0.3**
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.13**	**337**	P	**Pn**	**00 42 18.3**	**+2.5**
	0.5nm,0.1s,SNR=13						
EMOS				S	**Sn**	**00 43 02.8**	**-1.5**
	0.8nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.13**	**337**	P	**Pn**	**00 42 18.3**	**+2.5**
	0.5nm,0.1s,SNR=13						
EMOS				S	**Sn**	**00 43 02.8**	**-1.5**
	0.8nm,0.1s,SNR=7.9						

ISCJB ***20*** *00:43:37.2±0.8, 67°.81N±0°.06×20°.2E±0°.2, h0km, Error*
ellipse: s-maj=9.8km s-min=8.1km az=142.0
CSEM ***20*** *00:43:37.8, 67°.82N×20°.20E, h1km, ML1.1, Mining*
explosion. After UPP
UPP ***20*** *00:43:37.8, 67°.82N×20°.20E, h1km, ML1.1, Mining*
explosion.

ISC 20 00:43:37.8±1.3, **67°.81N**±0°.05×**20°.20E**±0°.04, **h0km, n8,**
σ0§**25/8, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**19**	P	**Pg**	**00 43 40.7**	**0.0**
NIKU	**Nikkaluokta**	**0.45**	**278**	P	**Pg**	**00 43 46.2**	**-0.1**
DUNU	**Dundret**	**0.71**	**168**	P	**Pg**	**00 43 51.1**	**-0.2**
LANU	**Lannavaara**	**0.72**	**70**	P	**Pg**	**00 43 51.1**	**-0.4**
MASU	**Masugnsbyn**	**0.77**	**116**	P	**Pg**	**00 43 52.6**	**0.0**
SALU	**Saltoluokta**	**0.78**	**237**	P	**Pg**	**00 43 52.5**	**-0.2**
HARU	**Harads**	**1.68**	**169**	P	**Pn**	**00 44 08.6**	**+0.2**
ARCES	**ARCESS Array B**	**2.60**	**46**	Pn	**Pn**	**00 44 21.2**	**+0.2**
	0.2nm,0.3s,baz=228,slow=14,SNR=17						

IDC ***20*** *00:43:41.5±1.1, 67°.99N×20°.35E, h0km, mb1 2.9/3,*
mb1mx2.8/30, mbtmp2.8/3, ML2.3/3, Error ellipse:
s-maj=17.1km s-min=7.0km az=123.0
ISCJB ***20*** *00:43:43.4±0.5, 67°.76N±0°.02×20°.27E±0°.09, h0km, Error*
ellipse: s-maj=4.9km s-min=2.8km az=2.7
UPP ***20*** *00:43:44.3, 67°.83N×20°.20E, h0km, ML1.7, Mining*
explosion.
CSEM ***20*** *00:43:44.8±0.2, 67°.81N×20°.16E, h2km, ML2.0, Error*
ellipse: s-maj=5.0km s-min=3.4km az=99.0, Mining
explosion.
HEL ***20*** *00:43:45.3±0.1, 67°.84N×20°.18E, h1km, ML2.0,*
ML2.4(BER), ML1.7(UPP), Suspected explosion
NAO ***20*** *00:43:45.4±1.3, 67°.77N×20°.51E, ML2.4*
BER ***20*** *00:43:46.1±3.2, 67°.80N×20°.14E, h0km, ML2.4, Suspected*
explosion

ISC 20 00:43:44.0±0.7, **67°.81N**±0°.02×**20°.24E**±0°.03, **h0km, n73,**
σ1§**25**/115, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**15**	*i* P	**Pg**	**00 43 47.2**	**+0.4**
KUA	**Kurravaara**	**0.15**	**15**	P	**Pg**	**00 43 47.2**	**+0.4**
KUA	**Kurravaara**	**0.15**	**15**	P	**Pg**	**00 43 47.2**	**+0.4**
NIKU	**Nikkaluokta**	**0.46**	**277**	*i* P	**Pg**	**00 43 52.8**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**277**	P	**Pg**	**00 43 52.8**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**277**	P	**Pg**	**00 43 52.8**	**0.0**
LANU	**Lannavaara**	**0.70**	**69**	*i* P	**Pg**	**00 43 57.7**	**+0.3**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**00 43 57.7**	**+0.3**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**00 43 57.7**	**+0.2**
DUNU	**Dundret**	**0.70**	**169**	*i* P	**Pg**	**00 43 57.9**	**+0.4**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**00 43 57.8**	**+0.4**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**00 43 57.9**	**+0.4**
MASU	**Masugnsbyn**	**0.76**	**117**	*i* P	**Pg**	**00 43 59.1**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**00 43 59.1**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**00 43 59.1**	**+0.5**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pg**	**00 44 07.8**	**+0.5**
KIF				*e*Sg	**Sn**	**00 44 25.8**	**+0.5**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pg**	**00 44 07.7**	**+0.5**
KIF				*e*S	**Sb**	**00 44 23.9**	**-0.1**
KIF				MSG		00 44 29.3	
	comp=Z,18nm,0.1s						
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pg**	**00 44 07.8**	**+0.5**
	SNR=70						
KIF				S	**Sb**	**00 44 23.9**	**-0.1**
KIF				*e*Sg	**Sn**	**00 44 25.8**	**+0.5**
	SNR=90						
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pn**	**00 44 10.4**	**-0.5**
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pn**	**00 44 10.6**	**-0.4**
HEF				*e*S	**Sg**	**00 44 27.8**	**-1.7**
HEF				MSG		00 44 34.8	
	comp=Z,15nm,0.1s						
HEF	**Hetta**	**1.42**	**63**	P	**Pn**	**00 44 10.5**	**-0.5**
HEF				S	**Sg**	**00 44 27.7**	**-1.7**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**00 44 14.2**	**+0.2**
KTK1				*e*Sg	**Sg**	**00 44 37.8**	**+1.3**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**00 44 14.2**	**+0.2**
KTK1				*e*SN	**Sg**	**00 44 37.8**	**+1.3**
KTK1	**Kautokeino**	**1.64**	**41**	*e*P	**Pn**	**00 44 14.2**	**+0.2**
	SNR=50						
KTK1				*e*Sg	**Sg**	**00 44 37.8**	**+1.3**
	SNR=90						
RNF	**Rovaniemi**	**2.55**	**116**	*e*P	**Pb**	**00 44 29.1**	**-1.6**
RNF				*e*S	**Sn**	**00 44 59.6**	**+1.3**
RNF	**Rovaniemi**	**2.55**	**116**	P	**Pb**	**00 44 29.0**	**-1.6**
RNF				S	**Sn**	**00 44 59.5**	**+1.3**
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	**Pn**	**00 44 28.7**	**+1.5**
	baz=227,slow=16						
ARA0				Sn	**Sn**	**00 44 59.6**	**+0.4**
	baz=226,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	**Pn**	**00 44 28.7**	**+1.5**
	baz=227,slow=16						
ARA0				Sn	**Sn**	**00 44 59.6**	**+0.4**
	baz=226,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 44 28.6**	**+1.5**
ARA0				*e*S	**Sn**	**00 44 59.0**	**-0.3**
ARA0	**ARCESS Array S**	**2.59**	**46**	P	**Pn**	**00 44 28.6**	**+1.5**
ARA0				S	**Sn**	**00 44 58.9**	**-0.3**
ARA0				Sn	**Sn**	**00 44 59.6**	**+0.4**
	baz=226,slow=24,SNR=50						
ARCES	**ARCESS Array B**	**2.59**	**46**	Pg	**Pn**	**00 44 28.0**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=234,slow=14,SNR=46						
ARCES				Lg	Lg	00 44 59.5	
	comp=Z,2.5nm,0.3s,baz=231,slow=31,SNR=6.5						
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 44 28.4**	**+1.3**
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 44 28.4**	**+1.3**
	SNR=50						
MOR8	**Moi Rana**	**2.81**	**237**	*e*Sg	**Sn**	**00 45 07.5**	**+2.8**
MOR8				IAML		00 45 09.6	
	comp=Z,35nm,0.3s						
MOR8	**Moi Rana**	**2.81**	**237**	*e*SG	**Sn**	**00 45 07.5**	**+2.8**
MOR8				IAML		00 45 09.6	
	comp=Z,35nm,0.3s						
KEV	**Kevo**	**3.14**	**48**	*e*P	**Pn**	**00 44 36.8**	**+2.1**
KEV				*e*S	**Sn**	**00 45 12.6**	**-0.2**
KEV	**Kevo**	**3.14**	**48**	P	**Pn**	**00 44 36.7**	**+2.1**
KEV				S	**Sn**	**00 45 12.5**	**-0.2**
OUL	**Oulu**	**3.56**	**138**	*e*P	**Pn**	**00 44 41.9**	**+1.6**
OUL				*e*S	**Sn**	**00 45 23.9**	**+0.8**
OUL	**Oulu**	**3.56**	**138**	P	**Pn**	**00 44 41.9**	**+1.6**
OUL				S	**Sn**	**00 45 23.8**	**+0.8**
VRF	**Varrio**	**3.56**	**87**	*e*P	**Pn**	**00 44 42.9**	**+2.5**
VRF				*e*S	**Sn**	**00 45 23.7**	**+0.5**
VRF	**Varrio**	**3.56**	**87**	P	**Pn**	**00 44 42.9**	**+2.5**
VRF				S	**Sn**	**00 45 23.6**	**+0.5**
MSF	**Maaselka**	**3.96**	**115**	*e*P	**Pn**	**00 44 48.2**	**+2.3**
MSF				*e*S	**Sn**	**00 45 33.2**	**+0.1**
MSF	**Maaselka**	**3.96**	**115**	P	**Pn**	**00 44 48.2**	**+2.3**
MSF				S	**Sn**	**00 45 33.1**	**+0.1**
KU6	**Riekki**	**4.20**	**111**	*e*P	**Pn**	**00 44 51.0**	**+1.8**
KU6				*e*S	**Sn**	**00 45 39.8**	**+0.9**
KU6	**Riekki**	**4.20**	**111**	P	**Pn**	**00 44 51.0**	**+1.8**
KU6				S	**Sn**	**00 45 39.8**	**+0.9**
KJN	**Kajaani**	**4.83**	**137**	*e*P	**Pn**	**00 45 00.5**	**+2.6**
KJN				*e*S	**Sn**	**00 45 54.1**	**-0.3**
KJN	**Kajaani**	**4.83**	**137**	P	**Pn**	**00 45 00.4**	**+2.6**
KJN				S	**Sn**	**00 45 54.1**	**-0.3**
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**00 44 59.8**	**+1.5**
	baz=287,slow=12						
APA0	**Apatity Array**	**4.86**	**87**	Pn	**Pn**	**00 44 59.8**	**+1.5**
	baz=287,slow=12						
APA0	**Apatity Array**	**4.86**	**87**	*e*P	**Pn**	**00 44 59.8**	**+1.5**
APA0	**Apatity Array**	**4.86**	**87**	P	**Pn**	**00 44 59.7**	**+1.5**
VAF	**Ylistaro**	**4.90**	**167**	*e*P	**Pn**	**00 45 00.7**	**+1.9**
VAF				*e*S	**Sn**	**00 45 57.0**	**+0.9**
VAF	**Ylistaro**	**4.90**	**167**	P	**Pn**	**00 45 00.6**	**+1.9**
VAF				S	**Sn**	**00 45 56.9**	**+0.9**
SUF	**Sumiainen**	**5.68**	**151**	*e*P	**Pn**	**00 45 11.2**	**+1.7**
SUF				*e*S	**Sn**	**00 46 15.0**	**-0.3**
SUF	**Sumiainen**	**5.68**	**151**	P	**Pn**	**00 45 11.2**	**+1.7**
SUF				S	**Sn**	**00 46 15.0**	**-0.3**
KEF	**Keuruu**	**6.00**	**159**	*e*P	**Pn**	**00 45 15.6**	**+1.8**
KEF				*e*S	**Sn**	**00 46 22.9**	**-0.2**
KEF	**Keuruu**	**6.00**	**159**	P	**Pn**	**00 45 15.6**	**+1.8**
KEF				S	**Sn**	**00 46 22.9**	**-0.2**
KAF	**Kangasniemi**	**6.27**	**153**	*e*P	**Pn**	**00 45 18.6**	**+1.0**
KAF				*e*S	**Sn**	**00 46 28.7**	**-1.2**
KAF	**Kangasniemi**	**6.27**	**153**	P	**Pn**	**00 45 18.6**	**+1.0**
KAF				S	**Sn**	**00 46 28.7**	**-1.2**
FIA0	**FINESS Array S**	**6.87**	**156**	Pn	**Pn**	**00 45 26.9**	**+1.1**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**00 46 43.5**	**-1.0**
	baz=351,slow=28						
FIA0				Lg	Lg	00 47 15.2	
	baz=342,slow=28						
FIA0	**FINESS Array S**	**6.87**	**156**	Pn	**Pn**	**00 45 26.9**	**+1.1**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**00 46 43.5**	**-1.0**
	baz=351,slow=28						
FIA0				Lg	Lg	00 47 15.2	
	baz=342,slow=28						
FIA0	**FINESS Array S**	**6.87**	**156**	*e*P	**Pn**	**00 45 26.9**	**+1.1**
FIA0				*e*S	**Sn**	**00 46 43.5**	**-1.0**
FIA0				*e*SG	Sb	00 47 15.2	+8.8
FIA0	**FINESS Array S**	**6.87**	**156**	P	**Pn**	**00 45 26.8**	**+1.1**
FIA0				Sn	**Sn**	**00 46 43.5**	**-1.0**
	baz=351,slow=25,SNR=50						
FIA0				Lg	Lg	00 47 15.2	
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**00 45 26.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=7.2						
FINES				Sn	**Sn**	**00 46 44.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=341,slow=25,SNR=4.2						
FINES				Lg	Lg	00 47 18.6	
	comp=Z,0.4nm,0.3s,baz=337,slow=25,SNR=6.5						
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn	**Pn**	**00 45 39.3**	**+0.2**
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn	**Pn**	**00 45 39.3**	**+0.2**
NB2	**NORSAR Subarra**	**7.83**	**214**	*e*P	**Pn**	**00 45 39.3**	**+0.2**
NB2	**NORSAR Subarra**	**7.83**	**214**	P	**Pn**	**00 45 39.2**	**+0.2**
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**00 45 37.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=12,slow=13,SNR=3.0						
NOA				Sn	**Sn**	**00 47 04.1**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=349,slow=15,SNR=2.9						
NOA				Lg	Lg	00 47 53.0	
	comp=Z,0.4nm,0.3s,baz=22,slow=18,SNR=5.4						
HFS	**Hagfors**	**8.22**	**204**	Pn	**Pn**	**00 45 44.0**	**-0.3**
	baz=4.7,slow=14						
HFS	**Hagfors**	**8.22**	**204**	Pn	**Pn**	**00 45 44.0**	**-0.3**
	baz=4.7,slow=14						
HFS	**Hagfors**	**8.22**	**204**	*e*P	**Pn**	**00 45 44.0**	**-0.3**
HFS	**Hagfors**	**8.22**	**204**	P	**Pn**	**00 45 44.0**	**-0.3**

IDC 20 01:00:43.6±17.0, **15°.92N×39°.62E, h0km, mb3.4/3,**
mb1 3.4/3, mb1mx3.2/28, mbtmp3.4/3, Error ellipse:
s-maj=694.8km s-min=30.5km az=155.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	**Furi**	**7.04**	**188**	P	Pb	01 02 44.2	-3.0
FURI				S	Sb	01 04 17.2	+5.1
TORD	**Torodi Ar. Bea**	**36.78**	**271**	P	P	01 07 53.3	-0.1
	0.3nm,0.6s,baz=79,slow=7.9,SNR=5.6						
MKAR	**Makanchi Array**	**46.84**	**40**	P	P	01 09 15.4	0.0
	0.2nm,0.4s,baz=234,slow=9.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**51.65**	**32**	P	P	01 09 51.8	-0.2
	0.6nm,0.6s,baz=225,slow=7.5,SNR=2.9						

IDC ***20*** *01:35:36.2±0.9, 44°.53N×111°.13W, h0km, mb3.4/1,*
mb1 3.5/4, mb1mx3.2/45, mbtmp3.1/4, ML3.1/3, Error
ellipse: s-maj=24.3km s-min=6.6km az=55.0
NEIC ***20*** *01:35:37.0, 44°.56N×110°.97W, h10km, ML3.2(SLC), After*
SLC.
NEIC Felt in Yellowstone National Park. Also felt at West
Yellowstone, Montana.

ISC 20 01:35:36.9±0.8, **44°.56N**±0°.01×**110°.99W**±0°.02, **h13km**±6**km,**
n61, σ1§**71**/130, **Yellowstone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YMR	**Madison River**	**0.11**	**9**	*e*Pg	**Pg**	**01 35 40.1**	**-0.2**
YMR				*e*Sg	**Sg**	**01 35 42.0**	**-0.6**
H17A	**Grant Village**	**0.34**	**119**	*e*Pg	**Pg**	**01 35 43.6**	**-0.2**
H17A				*e*Sg	**Sg**	**01 35 47.8**	**-0.8**
H17A	**Grant Village**	**0.34**	**119**	P	**Pg**	**01 35 43.9**	**0.0**
	baz=0.3						
H17A				S	**Sg**	**01 35 48.5**	**-0.1**
	baz=0.3						
QLMT	**Earthquake Lak**	**0.41**	**311**	*e*Pg	**Pg**	**01 35 45.4**	**+0.2**
QLMT				*e*Sg	**Sg**	**01 35 51.3**	**+0.4**
I17A	**Pilgrim Ck.**	**0.70**	**155**	P	**Pb**	**01 35 51.3**	**+0.2**
	baz=0.7						
I17A				S	**Sb**	**01 36 01.5**	**+0.7**
	baz=0.7						
H18A	**Shoshone NF, C**	**0.95**	**82**	P	**Pg**	**01 35 54.5**	**-0.8**
	baz=0.9						
BOZ	**Bozeman (W)**	**1.18**	**338**	*e*Pn	**Pb**	**01 35 58.2**	**-1.0**
BOZ				*e*Sn	**Sb**	**01 36 13.5**	**-0.8**
RLMT	**Red Lodge**	**1.35**	**65**	*e*Pn	**Pn**	**01 36 01.4**	**-0.1**
RLMT				*e*Sn	**Sb**	**01 36 18.2**	**-1.1**
MCMT	**McKenzie Canyo**	**1.35**	**282**	*e*Pn	**Pg**	**01 36 03.0**	**+0.1**
MCMT				*e*Sg	**Sg**	**01 36 21.6**	**+1.1**
I19A	**Meeteetse**	**1.52**	**109**	Pb	**Pb**	**01 36 05.2**	**+0.1**
	baz=1.5						
GCMT	**Greycliff**	**1.55**	**37**	*e*Pn	**Pb**	**01 36 05.6**	**+0.2**
GCMT				*e*Sg	**Sb**	**01 36 25.9**	**+1.0**
LRM	**Limekiln Ridge**	**1.63**	**321**	*e*Pn	**Pb**	**01 36 06.8**	**-0.1**
LRM				*e*Sg	**Sg**	**01 36 29.3**	**-0.1**
AHID	**Auburn Hatcher**	**1.80**	**183**	*e*Pn	**Pn**	**01 36 08.1**	**+0.4**
AHID				*e*Sn	**Sn**	**01 36 30.8**	**+0.4**
AHID				*e*Sg	**Sg**	**01 36 34.5**	**-0.2**
J19A	**Crowheart**	**1.91**	**132**	Pb	**Pb**	**01 36 12.5**	**+0.9**
	baz=1.9						
F19A	**Roth Farm, Mol**	**1.94**	**47**	Pg	**Pb**	**01 36 12.5**	**+0.4**
	baz=1.9						
BW06	**Boulder Array**	**2.07**	**149**	*e*Pn	**Pn**	**01 36 11.5**	**0.0**
BW06				*e*Pb	**Pb**	**01 36 14.0**	**-0.4**
BW06				*e*Pg	**Pg**	**01 36 16.1**	**-0.5**
BW06				*e*Sg	**Sb**	**01 36 41.9**	**+1.8**
PDAR	**Pinedale Array**	**2.07**	**149**	Pn	**Pb**	**01 36 13.9**	**-0.5**
PDAR				Pg	**Pg**	**01 36 16.1**	**-0.6**
PDAR				Lg	Lg	01 36 43.9	
PDAR	**Pinedale Array**	**2.07**	**149**	Pn	**Pb**	**01 36 13.9**	**-0.5**
	1.4nm,0.3s,baz=336,slow=16,SNR=84						
PDAR				Pg	**Pg**	**01 36 16.1**	**-0.6**
	1.4nm,0.3s,baz=332,slow=19,SNR=85						
PDAR				Lg	Lg	01 36 43.9	
	0.7nm,0.3s,baz=344,slow=31,SNR=8.2						
G20A	**Bridger**	**2.08**	**71**	Pb	**Pb**	**01 36 14.1**	**-0.4**
	baz=2.1						
I20A	**Worland**	**2.14**	**106**	Pb	**Pb**	**01 36 15.5**	**-0.1**
	baz=2.1						
I20A				Sb	**Sg**	**01 36 45.2**	**-0.6**
	baz=2.1						
HRY	**Holter Researc**	**2.23**	**345**	*e*Pn	**Pn**	**01 36 14.7**	**+1.1**
HRY				*e*Pg	**Pg**	**01 36 18.9**	**-0.7**
HRY				*e*Sn	**Sn**	**01 36 41.0**	**-0.1**
HRY				*e*Sg	**Sg**	**01 36 47.0**	**-1.6**
F20A	**Billings**	**2.36**	**57**	Pg	**Pb**	**01 36 20.3**	**+1.0**
	baz=2.3

BMO	**Blue Mountains**	**4.51**	**276**	*e*Pn		**Pn**	**01 36 45.9**	**+1.0**
BMO				*e*Pg		**Pg**	**01 37 02.2**	**-1.1**
BMO				*e*Sg		**Sg**	**01 37 58.0**	**-3.7**
DUG	**Dugway**	**4.57**	**198**	*e*Pn		**Pn**	**01 36 46.3**	**+0.6**
DUG				*e*Pb		**Pb**	**01 36 57.0**	**+0.1**
DUG				*e*Pg		**Pg**	**01 37 02.4**	**-1.9**
WALA	**Waterton Lakes**	**4.93**	**337**	*e*Pn		**Pn**	**01 36 51.7**	**+1.1**
WALA				*e*Pg		Pg	01 37 07.5	-3.7
WALA				*e*Sn		**Sn**	**01 37 47.8**	**+0.3**
WALA				*e*Sg		**Sg**	**01 38 10.6**	**-4.3**
RSSD	**Black Hills**	**5.01**	**93**	*e*Pn		**Pn**	**01 36 51.9**	**0.0**
RSSD				*e*Pg		**Pb**	**01 37 07.2**	**+2.8**
RSSD				*e*Sn		**Sn**	**01 37 48.8**	**-0.8**
RSSD				*e*Sg		**Sg**	**01 38 13.8**	**-3.8**
NEW	**Newport**	**5.63**	**313**	Pn		**Pn**	**01 37 02.0**	**+1.8**
NEW				Lg		Lg	01 38 32.3	
NEW	**Newport**	**5.63**	**313**	Pn		**Pn**	**01 37 02.0**	**+1.8**
	0.4nm,0.3s,baz=134,slow=12,SNR=6.6							
NEW				Lg		Lg	01 38 32.3	
	1.3nm,0.3s,baz=323,slow=20,SNR=6.2							
DGMT	**Dagmar**	**6.10**	**48**	*e*Pn		**Pn**	**01 37 06.7**	**0.0**
	13nm,0.6s							
DGMT				*e*Pg		Pb	01 37 27.1	+4.1
DGMT				*e*Sn		**Sn**	**01 38 16.4**	**0.0**
DGMT				*e*Sg		Sg	01 38 45.2	-7.5
ULM	**Lac du Bonnet**	**11.71**	**56**	Pg		Pg	01 39 11.2	
ULM				Lg		Lg	01 41 41.8	
ULM	**Lac du Bonnet**	**11.71**	**56**	Pg		Pg	01 39 11.2	
	0.1nm,0.3s,baz=246,slow=15,SNR=2.7							
ULM				Lg		Lg	01 41 41.8	
	0.1nm,0.3s,baz=344,slow=18,SNR=2.8							
YKA	**Yellowknife Ar**	**18.09**	**355**	Pn		**Pn**	**01 39 45.6**	**-1.9**
YKA				Lg		Lg	01 44 49.6	
YKA	**Yellowknife Ar**	**18.09**	**355**	Pn		**Pn**	**01 39 45.6**	**-1.9**
	0.0nm,0.3s,baz=176,slow=12,SNR=4.1							
YKA				Lg		Lg	01 44 49.6	
	0.0nm,0.3s,baz=161,slow=27,SNR=3.1							
ILAR	**Eielson Array**	**28.36**	**328**	P		**P**	**01 41 32.8**	**+2.5**
ILAR	**Eielson Array**	**28.36**	**328**	P		**P**	**01 41 32.8**	**+2.5**
	0.4nm,0.9s,baz=113,slow=8.0,SNR=4.4							

*ISCJB **20** 01:39:10.3±0.5,61°.11S±0°.09×26°.8W±0°.2, h10km, mb4.3/12, Error ellipse: s-maj=16.9km s-min=9.0km az=138.8*

*NEIC **20** 01:39:12.6±0.3,61°.06S×26°.77W, h10km, mb4.5/8, Error ellipse: s-maj=15.3km s-min=9.2km az=211.0*

*IDC **20** 01:39:12.4±1.5,60°.82S×26.57W, h0km, mb4.2/4, mb1 4.1/4, mb1mx3.9/15, mbtmp4.2/4, Error ellipse: s-maj=55.1km s-min=33.0km az=3.0*

ISC 20 01:39:12.6±0.5, 61°.1S±0°.1×26.8W±0°.1, h10km, n43, σ0s85/40, mb4.5/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.18**	**150**	P	**Pn**	**01 42 06.1**	**+0.3**
VNA2	**Neumayer--Watz**	**12.58**	**150**	P	**Pn**	**01 42 10.9**	**-0.4**
VNA2	**Neumayer--Watz**	**12.58**	**150**	S	Sn	01 44 17.0	-14
SNAA	**Sanae**	**14.19**	**148**	P	**Pn**	**01 42 32.3**	**-1.0**
SNAA	**Sanae**	**14.19**	**148**	S	Sn	01 44 58.8	-12
SNAA	**Sanae**	**14.19**	**148**	*e*Pn	**Pn**	**01 42 32.5**	**-0.9**
	3.1nm,0.6s						
TRQA	**Tornquist**	**31.78**	**300**	*e*P	**P**	**01 45 36.7**	**-0.1**
	8.3nm,1.4s						
PLCA	**Paso Flores**	**33.40**	**287**	*e*P	**P**	**01 45 51.6**	**+0.5**
	7.5nm,1.4s						
CPUP	**Villa Florida**	**40.41**	**315**	P	**P**	**01 46 50.4**	**-0.3**
CPUP	**Villa Florida**	**40.41**	**315**	P	**P**	**01 46 50.4**	**-0.3**
	0.8nm,0.4s,baz=149,slow=12,SNR=3.3						
BOSA	**Boshof**	**47.20**	**71**	P	**P**	**01 47 45.0**	**-0.3**
BOSA	**Boshof**	**47.20**	**71**	P	**P**	**01 47 45.0**	**-0.3**
	1.5nm,1.0s,baz=211,slow=12,SNR=3.2						
LVC	**Limon Verde**	**48.14**	**304**	*e*P	**P**	**01 47 53.6**	**+0.8**
	7.8nm,1.2s						
H10S2	**ASCENSION HYDR**	**52.76**	**15**	T	T	02 45 36.8	
	baz=187,slow=75,SNR=17						
H10S3	**ASCENSION HYDR**	**52.77**	**15**	T	T	02 45 39.6	
	baz=187,slow=75,SNR=17						
H10S1	**ASCENSION HYDR**	**52.78**	**15**	T	T	02 45 36.7	
	baz=187,slow=75,SNR=17						
LPAZ	**La Paz**	**53.54**	**308**	*e*P	**P**	**01 48 33.2**	**-0.8**
	1.3nm,0.7s						
ASCN	**Ascension**	**53.81**	**15**	*e*P	**P**	**01 48 35.4**	**+0.1**
SAML	**Samuel**	**58.55**	**317**	*e*P	**P**	**01 49 08.3**	**-0.8**
	1.2nm,0.6s						
LSZ	**Lusaka**	**60.11**	**66**	*e*P	**P**	**01 49 19.6**	**-0.4**
	11nm,1.7s						
DBIC	**Dimbokro**	**69.66**	**23**	P	**P**	**01 50 22.1**	**+0.1**
DBIC	**Dimbokro**	**69.66**	**23**	P	**P**	**01 50 22.1**	**+0.1**
	2.8nm,0.7s,baz=166,slow=8.4,SNR=5.7						
OTAV	**Otavalo**	**72.66**	**305**	*e*P	**P**	**01 50 40.9**	**+0.1**
	5.2nm,1.2s						
TOA0	**Torodi Ar. Sit**	**77.34**	**28**	*e*P	**P**	**01 51 07.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**77.34**	**28**	P	**P**	**01 51 07.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.34**	**28**	P	**P**	**01 51 07.6**	**+0.4**
	3.1nm,0.5s,baz=200,slow=6.1,SNR=37						
JTS	**JuntasAbangare**	**84.41**	**303**	*e*P	**P**	**01 51 42.6**	**-2.4**
	9.8nm,1.0s						
NAO01	**NORSAR Array S**	**124.97**	**21**	*e*PKPdf	**PKPdf**	**01 58 11.7**	**+0.5**
BOZ	**Bozeman (W)**	**126.31**	**300**	*e*PKPdf	**PKPdf**	**01 58 14.6**	**+0.1**
EKS2	**Erkin-Say**	**130.96**	**74**	*e*PKPdf	**PKPdf**	**01 58 24.6**	**+1.2**
AAK	**Ala-Archa**	**131.28**	**74**	*e*PKPdf	**PKPdf**	**01 58 23.2**	**-0.9**
TKM2	**Tokmak 2**	**132.02**	**75**	*e*PKPdf	**PKPdf**	**01 58 25.3**	**-0.2**
YKA	**Yellowknife Ar**	**139.93**	**314**	PKP	**PKPdf**	**01 58 40.4**	**+1.1**
YKA	**Yellowknife Ar**	**139.93**	**314**	PKP	**PKPdf**	**01 58 40.4**	**+1.1**
	0.3nm,0.7s,baz=127,slow=2.3,SNR=8.9						
YKW3	**Yellowknife Ar**	**139.98**	**314**	*e*PKPdf	**PKPdf**	**01 58 39.5**	**+0.1**
INK	**Inuvik**	**149.68**	**315**	*e*PKPbc	**PKPbc**	**01 59 01.8**	**+1.1**
INK	**Inuvik**	**149.68**	**315**	PKPbc	**PKPbc**	**01 59 01.7**	**+1.1**
	3.2nm,0.8s,baz=70,slow=1.7,SNR=15						
SONM	**Songino Array**	**150.44**	**95**	PKPbc	**PKPbc**	**01 59 04.0**	**+0.7**
SONM	**Songino Array**	**150.44**	**95**	PKPbc	**PKPbc**	**01 59 04.0**	**+0.7**
	1.2nm,0.8s,baz=232,slow=1.9,SNR=9.7						
ULN	**Ulaanbaatar**	**150.78**	**96**	*e*PKPbc	**PKPbc**	**01 59 04.7**	**+0.6**
ULN				*e*PKPab	**PKPab**	**01 59 11.0**	**-0.4**
ILAR	**Eielson Array**	**153.38**	**304**	PKPbc	**PKPbc**	**01 59 11.0**	**+1.7**
ILAR	**Eielson Array**	**153.38**	**304**	PKPbc	**PKPbc**	**01 59 11.0**	**+1.7**
	0.7nm,0.7s,baz=61,slow=0.3,SNR=9.9						
YSS	**Yuzh-Sakhalins**	**164.62**	**152**	*e*PKPdf	**PKPdf**	**01 59 15.4**	**0.0**
YSS				*e*PKPab	**PKPab**	**02 00 11.2**	**+0.5**

*ISCJB **20** 01:59:28.2±1.0,36°.59N±0°.04×141°.47E±0°.07, h26km, mb3.5/5, Error ellipse: s-maj=8.3km s-min=6.1km az=20.7*

*JMA **20** 01:59:31.5±0.1,36°.64N×141°.25E, h46km±2km, M3.3*

*IDC **20** 01:59:37.2±7.2,36°.35N×140°.92E, h82km±43km, mb3.3/5, mb1 3.4/7, mb1mx3.1/49, mbtmp3.6/7, ML2.6/2, MS2.5/2, Ms1 2.5/2, ms1mx2.1/23, Error ellipse: s-maj=104.8km s-min=23.9km az=70.0*

ISC 20 01:59:29.2±1.4, 36°.61N±0°.06×141°.45E±0°.09, h26km, n23, σ0s82/23, mb3.6/5, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.71**	**270**	⇓P	**Pb**	**01 59 42.9**	**0.0**
JHO				S	**Sb**	**01 59 51.3**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.72**	**314**	⇓P	**Pb**	**01 59 43.2**	**+0.1**
ONAJ				S	**Sb**	**01 59 52.0**	**-0.6**
JFK	**Kawauchi**	**0.88**	**329**	⇓P	**Pb**	**01 59 45.9**	**-0.1**
JFK				S	**Sb**	**01 59 56.5**	**-0.9**
JYT	**Yasato**	**1.08**	**250**	P	**Pn**	**01 59 48.3**	**-0.3**
JYT				S	**Sn**	**02 00 01.2**	**-1.6**
JFT	**Otama**	**1.27**	**316**	P	**Pb**	**01 59 52.2**	**-0.3**
JFT				S	**Sn**	**02 00 07.2**	**-0.3**
JMM	**Marumori**	**1.36**	**338**	P	**Pn**	**01 59 52.7**	**+0.2**
JMM				S	**Sn**	**02 00 08.5**	**-1.2**
JFY	**Yanaizu**	**1.61**	**300**	P	**Pn**	**01 59 56.9**	**+1.0**
JAG	**Ashikaga**	**1.62**	**264**	P	**Pn**	**01 59 56.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.61**	**269**	P	**Pn**	**02 00 11.0**	**+1.3**
	5.4nm,0.3s,baz=115,slow=9.6,SNR=18						
MJAR				S	**Sn**	**02 00 41.1**	**+0.5**
	4.4nm,0.3s,baz=99,slow=14,SNR=6.9						
MJAR				LR	LR	02 01 10.9	
	comp=Z,60nm,19.2s,baz=170,slow=43						
MAT	**Matsushiro**	**2.61**	**270**	P	**Pn**	**02 00 10.9**	**+1.2**
MAT				S	**Sn**	**02 00 40.6**	**0.0**
USRK	**Ussuriysk Arra**	**10.46**	**319**	P	Pn	02 02 04.0	+6.6
	0.2nm,0.3s,baz=118,slow=12,SNR=5.4						
KSRS	**Korea Array**	**10.85**	**279**	LR	LR	02 05 40.0	
	comp=Z,33nm,18.4s,baz=135,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.91**	**120**	T	T	02 34 35.6	
	baz=315,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.92**	**120**	T	T	02 34 38.5	
	baz=315,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.93**	**120**	T	T	02 34 35.6	
	baz=315,slow=76,SNR=14						
SONM	**Songino Array**	**28.05**	**305**	P	**P**	**02 05 19.8**	**+1.4**
	1.1nm,0.8s,baz=103,slow=7.4,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**28.61**	**122**	T	T	02 35 31.8	
	baz=318,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.61**	**122**	T	T	02 35 30.8	
	baz=318,slow=75,SNR=7.8						
H11S2	**WAKE ISLAND Hy**	**28.62**	**122**	T	T	02 35 27.7	
	baz=318,slow=75,SNR=6.5						
ZALV	**Zalesovo Beam**	**42.22**	**313**	P	**P**	**02 07 19.8**	**0.0**
	0.5nm,0.4s,baz=77,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**44.37**	**302**	P	**P**	**02 07 38.0**	**+0.7**
	0.3nm,0.6s,baz=81,slow=8.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.28**	**308**	P	**P**	**02 07 52.1**	**-0.2**
	1.2nm,0.9s,baz=84,slow=8.4,SNR=8.1						
WRA	**Warramunga Arr**	**56.65**	**188**	P	**P**	**02 09 09.7**	**-0.5**
	0.2nm,0.4s,baz=7.1,slow=7.7,SNR=2.8						

*ISK **20** 02:08:52.8, 36°.50N×27°.89E, h54km, ML3.1*

*DDA **20** 02:08:52.6, 36°.44N×27°.93E, h54km, MD3.5*

*ATH **20** 02:08:53.8, 36°.53N×27°.96E, h51km±3km, MD3.3/7*

*ISCJB **20** 02:08:53.8±0.4, 36°.50N±0°.03×27°.96E±0°.03, h61km±6km, Error ellipse: s-maj=4.7km s-min=3.8km az=40.7*

*CSEM **20** 02:08:54.6±0.1, 36°.49N×27°.97E, h48km±5km, MD3.3, Error ellipse: s-maj=3.5km s-min=3.0km az=136.0*

*HLW **20** 02:08:57.6, 35°.94N×28°.25E, h31km±27km, Md3.2, Ml3.0*

ISC 20 02:08:54.9±1.1, 36°.50N±0°.03×28°.00E±0°.03, h47km±9km, n110, σ1s01/132, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.30**	**160**	*e*P	**Pn**	**02 09 03.9**	**+0.1**
ARG				*e*S	**Sn**	**02 09 11.6**	**+1.5**
ARG	**Arkhangelos**	**0.30**	**160**	*e*P	**Pn**	**02 09 03.9**	**+0.1**
ARG				*e*S	**Sn**	**02 09 11.6**	**+1.5**
TURN	**Turunc**	**0.61**	**53**	*i* P	**Pn**	**02 09 04.6**	**-2.8**
TURN				*i* S	**Sn**	**02 09 12.2**	**-4.1**
TURN	**Turunc**	**0.61**	**53**	*i* P	**Pn**	**02 09 04.6**	**-2.8**
TURN				*i* S	**Sn**	**02 09 12.2**	**-4.1**
YER	**Yerkesik**	**0.67**	**20**	*e*PG	**Pn**	**02 09 07.5**	**-0.7**
YER				*e*SG	**Sn**	**02 09 18.3**	**+0.5**
YER	**Yerkesik**	**0.67**	**20**	*e*Pg	**Pn**	**02 09 07.5**	**-0.7**
YER				*e*Sg	**Sn**	**02 09 18.3**	**+0.5**
BDRM	**Kayabasi**	**0.71**	**322**	*i* P	**Pn**	**02 09 08.7**	**-0.1**
BDRM				*i* S	**Sn**	**02 09 19.5**	**+0.7**
BDRM	**Kayabasi**	**0.71**	**322**	*i* P	**Pn**	**02 09 08.7**	**-0.1**
BDRM				*i* S	**Sn**	**02 09 19.5**	**+0.7**
BODT	**Bodrum**	**0.78**	**315**	*e*PG	**Pn**	**02 09 08.6**	**-1.1**
BODT	**Bodrum**	**0.78**	**315**	*e*Pg	**Pn**	**02 09 08.6**	**-1.1**
FETY	**Fethiye**	**0.88**	**81**	*e*PG	**Pn**	**02 09 10.8**	**-0.2**
FETY	**Fethiye**	**0.88**	**81**	*e*Pg	**Pn**	**02 09 10.8**	**-0.2**
AKAS	**Kas**	**1.32**	**101**	*i* P	**Pn**	**02 09 16.2**	**-0.9**
AKAS	**Kas**	**1.32**	**101**	*i* P	**Pn**	**02 09 16.2**	**-0.9**
GCAM	**G?zelcaml?**	**1.34**	**333**	*i* P	**Pn**	**02 09 17.2**	**0.0**
GCAM				*i* S	**Sn**	**02 09 34.5**	**+0.6**
GCAM	**G?zelcaml?**	**1.34**	**333**	*i* P	**Pn**	**02 09 17.2**	**0.0**
GCAM				*i* S	**Sn**	**02 09 34.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**357**	*e*PN	**Pn**	**02 09 17.5**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**357**	*e*Pn	**Pn**	**02 09 17.5**	**-1.2**
DNZL	**Cakiroluk**	**1.45**	**35**	*i* P	**Pn**	**02 09 18.9**	**0.0**
DNZL				*i* S	Sn	02 09 41.4	+4.6
DNZL	**Cakiroluk**	**1.45**	**35**	*i* P	**Pn**	**02 09 18.9**	**0.0**
DNZL				*i* S	Sn	02 09 41.4	+4.6
GOLH	**Golhisar**	**1.45**	**59**	*i* P	**Pn**	**02 09 18.9**	**+0.1**
GOLH				*i* S	Sn	02 09 41.8	+5.0
GOLH	**Golhisar**	**1.45**	**59**	*i* P	**Pn**	**02 09 18.9**	**+0.1**
GOLH				*i* S	Sn	02 09 41.8	+5.0
SMG	**Samos**	**1.52**	**323**	*e*P	**Pn**	**02 09 19.3**	**-0.4**
SMG				*e*S	**Sn**	**02 09 37.7**	**-0.6**
SMG	**Samos**	**1.52**	**323**	*e*P	**Pn**	**02 09 19.3**	**-0.4**
SMG				*e*S	**Sn**	**02 09 37.7**	**-0.6**
ELL	**Elmali**	**1.56**	**80**	*e*PN	**Pn**	**02 09 20.5**	**+0.2**
ELL	**Elmali**	**1.56**	**80**	*e*Pn	**Pn**	**02 09 20.5**	**+0.2**
KORT	**Korkueli**	**1.95**	**75**	*i* P	**Pn**	**02 09 26.5**	**+0.8**
KORT	**Korkueli**	**1.95**	**75**	*i* P	**Pn**	**02 09 26.5**	**+0.8**
IZM	**Izmir**	**1.98**	**343**	*e*PN	**Pn**	**02 09 24.6**	**-1.4**
IZM	**Izmir**	**1.98**	**343**	*e*Pn	**Pn**	**02 09 24.6**	**-1.4**
ZKR	**Zakros**	**2.00**	**227**	*e*P	**Pn**	**02 09 26.9**	**+0.6**
ZKR				*e*S	**Sn**	**02 09 50.6**	**+0.4**
ZKR	**Zakros**	**2.00**	**227**	*e*P	**Pn**	**02 09 26.9**	**+0.6**
ZKR				*e*S	**Sn**	**02 09 50.6**	**+0.4**
BLCB	**Balcova**	**2.03**	**338**	*e*PN	**Pn**	**02 09 25.5**	**-1.1**
BLCB	**Balcova**	**2.03**	**338**	*e*Pn	**Pn**	**02 09 25.5**	**-1.1**
MANT	**Manisa**	**2.03**	**12**	*i* P	**Pn**	**02 09 26.5**	**-0.4**
MANT				*i* S	**Sn**	**02 09 52.0**	**+0.8**
MANT	**Manisa**	**2.03**	**12**	*i* P	**Pn**	**02 09 26.5**	**-0.4**
MANT				*i* S	**Sn**	**02 09 52.0**	**+0.8**
SANT	**Santorini**	**2.05**	**267**	*e*P	**Pn**	**02 09 27.2**	**+0.2**
SANT	**Santorini**	**2.05**	**267**	*e*P	**Pn**	**02 09 27.2**	**+0.2**
APE	**Apeiranthos**	**2.06**	**287**	*e*P	**Pn**	**02 09 27.3**	**+0.2**
APE	**Apeiranthos**	**2.06**	**287**	*e*P	**Pn**	**02 09 27.3**	**+0.2**
KULA	**Kula-Manisa**	**2.08**	**15**	*e*PN	**Pn**	**02 09 27.1**	**-0.3**
KULA	**Kula-Manisa**	**2.08**	**15**	*e*Pn	**Pn**	**02 09 27.1**	**-0.3**
ANTB	**Antalya**	**2.17**	**79**	*e*PN	**Pn**	**02 09 28.5**	**0.0**
ANTB	**Antalya**	**2.17**	**79**	*e*Pn	**Pn**	**02 09 28.5**	**0.0**
KHL	**Karahalli**	**2.19**	**33**	*e*PN	**Pn**	**02 09 28.3**	**-0.6**
KHL	**Karahalli**	**2.19**	**33**	*e*Pn	**Pn**	**02 09 28.3**	**-0.6**
KHAL	**Karahalli**	**2.21**	**32**	*i* P	**Pn**	**02 09 28.5**	**-0.7**
KHAL				*i* S	**Sn**	**02 09 57.1**	**+1.7**
KHAL	**Karahalli**	**2.21**	**32**	*i* P	**Pn**	**02 09 28.5**	**-0.7**
KHAL				*i* S	**Sn**	**02 09 57.1**	**+1.7**
BCK	**Bucak**	**2.28**	**65**	*e*PN	**Pn**	**02 09 30.5**	**+0.3**
BCK	**Bucak**	**2.28**	**65**	*e*Pn	**Pn**	**02 09 30.5**	**+0.3**
NPS	**Neapolis**	**2.30**	**238**	*e*P	**Pn**	**02 09 29.8**	**-0.5**
NPS				*e*S	**Sn**	**02 09 56.6**	**-0.8**
NPS	**Neapolis**	**2.30**	**238**	*e*P	**Pn**	**02 09 29.8**	**-0.5**
NPS				*e*S	**Sn**	**02 09 56.6**	**-0.8**
AKHS	**Akhisar**	**2.38**	**357**	*i* P	**Pn**	**02 09 30.8**	**-0.6**
AKHS				*i* S	**Sn**	**02 09 58.9**	**-0.4**
AKHS	**Akhisar**	**2.38**	**357**	*i* P	**Pn**	**02 09 30.8**	**-0.6**
AKHS				*i* S	**Sn**	**02 09 58.9**	**-0.4**
AKS	**Akhisar**	**2.38**	**357**	*e*PN	**Pn**	**02 09 30.6**	**-0.8**
AKS	**Akhisar**	**2.38**	**357**	*e*Pn	**Pn**	**02 09 30.6**	**-0.8**
CHOS	**Chios island**	**2.43**	**321**	*e*P	**Pn**	**02 09 32.4**	**+0.2**
CHOS				*e*S	**Sn**	**02 09 59.7**	**-1.1**
CHOS	**Chios island**	**2.43**	**321**	*e*P	**Pn**	**02 09 32.4**	**+0.2**
CHOS				*e*S	**Sn**	**02 09 59.7**	**-1.1**
LAST	**Lasithi**	**2.45**	**238**	*e*P	**Pn**	**02 09 32.1**	**-0.3**
LAST	**Lasithi**	**2.45**	**238**	*e*P	**Pn**	**02 09 32.1**	**-0.3**
SUTC	**Sutluce-Ispart**	**2.59**	**67**	*e*PN	**Pn**	**02 09 35.0**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.59**	**67**	*e*Pn	**Pn**	**02 09 35.0**	**+0.5**
DEMI	**Demirci**	**2.60**	**12**	*i* P	**Pn**	**02 09 34.4**	**-0.1**
DEMI				*i* S	**Sn**	**02 10 05.6**	**+0.7**
DEMI	**Demirci**	**2.60**	**12**	*i* P	**Pn**	**02 09 34.4**	**-0.1**
DEMI				*i* S	**Sn**	**02 10 05.6**	**+0.7**
GDZ	**Gediz**	**2.83**	**24**	*i* P	**Pn**	**02 09 38.3**	**+0.5**
GDZ				*i* S	**Sn**	**02 10 11.4**	**+0.6**
GDZ	**Gediz**	**2.83**	**24**	*i* P	**Pn**	**02 09 38.3**	**+0.5**
GDZ				*i* S	**Sn**	**02 10 11.4**	**+0.6**
SHUT	**Suhut-Afyon**	**2.88**	**44**	*e*PN	**Pn**	**02 09 39.1**	**+0.7**
SHUT	**Suhut-Afyon**	**2.88**	**44**	*e*Pn	**Pn**	**02 09 39.1**	**+0.7**
ALT	**Altintas**	**3.05**	**33**	*e*PN	**Pn**	**02 09 40.9**	**+0.2**
ALT	**Altintas**	**3.05**	**33**	*e*Pn	**Pn**	**02 09 40.9**	**+0.2**
PRK	**Paraskevi**	**3.06**	**334**	*e*P	**Pn**	**02 09 40.8**	**+0.1**
PRK	**Paraskevi**	**3.06**	**334**	*e*P	**Pn**	**02 09 40.8**	**+0.1**
BALB	**Balikesir**	**3.13**	**358**	*e*PN	**Pn**	**02 09 41.4**	**-0.4**
BALB	**Balikesir**	**3.13**	**358**	*e*Pn	**Pn**	**02 09 41.4**	**-0.4**
TVSB	**Tavsanli**	**3.16**	**21**	*e*PN	**Pn**	**02 09 42.5**	**+0.3**
TVSB	**Tavsanli**	**3.16**	**21**	*e*Pn	**Pn**	**02 09 42.5**	**+0.3**
BALY	**Balya**	**3.25**	**355**	*i* P	**Pn**	**02 09 43.0**	**-0.3**
BALY				*i* S	**Sn**	**02 10 20.3**	**-0.4**
BALY	**Balya**	**3.25**	**355**	*i* P	**Pn**	**02 09 43.0**	**-0.3**
BALY				*i* S	**Sn**	**02 10 20.3**	**-0.4**
VAM	**Vamos**	**3.27**	**252**	*e*P	**Pn**	**02 09 44.4**	**+0.8**
VAM	**Vamos**	**3.27**	**252**	*e*P	**Pn**	**02 09 44.4**	**+0.8**
GONE	**Gonen-Balikesi**	**3.55**	**356**	*e*PN	**Pn**	**02 09 47.2**	**-0.2**
GONE	**Gonen-Balikesi**	**3.55**	**356**	*e*Pn	**Pn**	**02 09 47.2**	**-0.2**
EZN	**Ezine**	**3.57**	**339**	*e*PN	**Pn**	**02 09 47.0**	**-0.6**
EZN	**Ezine**	**3.57**	**339**	*e*Pn	**Pn**	**02 09 47.1**	**-0.6**
KONT	**Konya--Tatoy**	**3.77**	**66**	*e*PN	**Pn**	**02 09 51.8**	**+1.3**
KONT	**Konya--Tatoy**	**3.77**	**66**	*e*Pn	**Pn**	**02 09 51.8**	**+1.3**
EDC	**Edincik**	**3.84**	**358**	*e*PN	**Pn**	**02 09 51.5**	**0.0**
EDC	**Edincik**	**3.84**	**358**	*e*Pn	**Pn**	**02 09 51.5**	**0.0**
BORA	**Eskisehir**	**3.89**	**29**	*i* P	Pn	02 09 53.5	+1.3
BORA				*i* S	**Sn**	**02 10 37.8**	**+1.2**
BORA	**Eskisehir**	**3.89**	**29**	*i* P	Pn	02 09 53.5	+1.3
BORA				*i* S	**Sn**	**02 10 37.8**	**+1.2**
LPK	**Lapseki**	**3.98**	**346**	*e*PN	**Pn**	**02 09 53.4**	**0.0**
LPK	**Lapseki**	**3.98**	**346**	*e*Pn	**Pn**	**02 09 53.4**	**0.0**
GELI	**Tayfur-Gelibol**	**4.07**	**343**	*e*PN	**Pn**	**02 09 54.4**	**-0.2**
GELI	**Tayfur-Gelibol**	**4.07**	**343**	*e*Pn	**Pn**	**02 09 54.4**	**-0.2**
ERIK	**Erikli-Kesan**	**4.32**	**345**	*e*PN	**Pn**	**02 09 58.0**	**0.0**
ERIK	**Erikli-Kesan**	**4.32**	**345**	*e*Pn	**Pn**	**02 09 58.0**	**0.0**
ENEZ	**Enez**	**4.47**	**342**	*e*PN	**Pn**	**02 09 59.7**	**-0.3**
ENEZ	**Enez**	**4.47**	**342**	*e*Pn	**Pn**	**02 09 59.7**	**-0.3**
AFSR	**Af˘ar-Bala (A**	**4.97**	**52**	*e*PN	Pn	02 10 08.9	+1.8
AFSR	**Af˘ar-Bala (A**	**4.97**	**52**	*e*Pn	Pn	02 10 08.9	+1.8
HMAT	**Matruh**	**5.45**	**188**	AMP		02 11 00.0	
	comp=N,20μm,0.3s,logA/T=4.8,baz=192						
SLUM		**5.51**	**206**	P	**Pn**	**02 10 12.1**	**-2.3**
	baz=211						
SLUM		**5.51**	**206**	P	**Pn**	**02 10 12.1**	**-2.3**
AMAG	**Maghara**	**7.28**	**142**	P	Pn	02 10 34.0	-4.8
	baz=140						
RSH		**7.30**	**138**	P	Pn	02 10 35.5	-3.4
	baz=135						
SWA2		**7.55**	**197**	P	**Pn**	**02 10 39.5**	**-2.9**
	baz=201						
SWA2				S	Sn	02 11 57.1	-9.5
	baz=201						
SWA2				AMP		02 12 00.0	
	comp=E,20μm,0.3s,logA/T=4.8,baz=201						
SWA2		**7.55**	**197**	P	**Pn**	**02 10 39.5**	**-2.9**
SUZ		**7.78**	**147**	P	Pn	02 10 41.2	-4.3
	baz=146						
AWBH		**8.20**	**174**	P	Pn	02 10 46.8	-4.5
	baz=175						
HFRF	**Wahat Farafira**	**9.33**	**178**	P	Pn	02 11 03.2	-3.6
	baz=179						

IDC 20 02:39:50.5±1.6, 24°.21S×175°.96W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/32, mbtmp3.7/2, Error ellipse: s-maj=64.8km s-min=42.9km az=3.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

KURK					smax	smax		
	comp=N,5.0nm,0.3s							
KK31	**Karatay Array**	**9.08**	**265**	⇑Pn	**Pn**	**03 03 06.9**	**+1.3**	
	comp=N,0.4nm,0.2s,baz=71,slow=13,SNR=27							
KK31				⇓Pg		03 03 41.5		
	comp=N,2.4nm,0.6s,baz=64,slow=18,SNR=4.6							
KK31				⇓Lg	Lg	03 05 42.5		
	comp=N,27nm,0.8s,baz=71,slow=26,SNR=3.7							
ZALV	**Zalesovo Beam**	**9.46**	**7**	*eP*	**Pn**	**03 03 11.1**	**+0.3**	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**9.46**	**7**	Pn	**Pn**	**03 03 11.1**	**+0.3**	
	comp=Z,0.7nm,0.3s,baz=191,slow=14,SNR=16							
ZALV				Sn	**Sn**	**03 04 55.9**	**-0.8**	
	comp=Z,2.2nm,0.3s,baz=172,slow=24,SNR=6.4							
ZALV				Lg	Lg	03 06 00.9		
	comp=Z,1.3nm,0.3s,baz=193,slow=30,SNR=5.1							
ZALV				LR	LR	03 06 16.2		
	comp=Z,68nm,19.6s,baz=72,slow=34							
HVS	**Khovu-Aksy**	**9.78**	**44**	*i* P	**Pn**	**03 03 14.1**	**-1.1**	
BVA0	**Borovoye Array**	**11.80**	**320**	⇑Pn	**Pn**	**03 03 45.6**	**+2.8**	
	comp=Z,2.7nm,1.0s,baz=132,slow=14,SNR=11							
BVA0				⇑Sn	**Sn**	**03 05 53.9**	**-0.2**	
	comp=Z,3.4nm,0.7s,baz=130,slow=22,SNR=4.7							
BVA0				⇑Lg	Lg	03 07 12.2		
	comp=Z,23nm,0.8s							
BVA0	**Borovoye Array**	**11.80**	**320**	*eP*	**Pn**	**03 03 44.1**	**+1.3**	
BVA0				*e*		03 05 53.8		
BVA0				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BVA0				smax	smax			
	comp=N,3.0nm,0.6s							
BVA0				pmax	pmax			
	comp=N,23nm,0.8s							
BVAR	**Borovoye Array**	**11.80**	**320**	P	**Pn**	**03 03 41.6**	**-1.2**	
BVAR						03 05 52.5		
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR				smax	smax			
	comp=N,1.0nm,0.3s							
BVAR	**Borovoye Array**	**11.80**	**320**	Pn	**Pn**	**03 03 41.6**	**-1.2**	
	comp=N,0.5nm,0.3s,baz=131,slow=14,SNR=10							
BVAR				Sn	**Sn**	**03 05 52.5**	**-1.6**	
	comp=N,0.7nm,0.3s,baz=107,slow=24,SNR=4.6							
BVAR				Lg	Lg	03 07 12.4		
	comp=N,1.1nm,0.3s,baz=122,slow=27,SNR=3.7							
BRVK	**Borovoye**	**11.87**	**320**	⇑Pn	**Pn**	**03 03 45.6**	**+1.8**	
	comp=N,2.7nm,0.6s							
BRVK				⇑Sn	**Sn**	**03 05 57.7**	**+1.9**	
	comp=N,10.0nm,0.7s							
BRVK				⇓Lg	Lg	03 07 14.6		
	comp=N,40nm,1.0s							
BRVK	**Borovoye**	**11.87**	**320**	*eP*	**Pn**	**03 03 45.3**	**+1.5**	
GTA	**Gaotai**	**13.59**	**106**	*eP*	P	03 04 20.0	+3.7	
GTA				pP	pP	03 04 23.5		
GTA				sP		03 04 26.1		
GTA				S	**S**	**03 07 02.8**	**+1.8**	
GTA				sS	sS	03 07 08.3		
GTA				SS	SbSb	03 07 20.3	-14	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,41nm,5.0s							
GTA				LR	LR			
	comp=N,65nm,7.1s							
GTA				LR	LR			
	comp=E,71nm,8.1s							
GTA				LR	LR			
	comp=Z,85nm,9.0s							
AB31	**Akbulak array**	**16.35**	**295**	⇓Pn	**Pn**	**03 04 42.5**	**-1.5**	
	comp=Z,0.3nm,0.3s,baz=97,slow=14,SNR=30							
AB31	**Akbulak array**	**16.35**	**295**	*i* P	**Pn**	**03 04 40.9**	**-3.1**	
SONM	**Songino Array**	**16.57**	**70**	Pn	**Pn**	**03 04 45.8**	**-1.1**	
	comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=5.0							
SONM				Lg	Lg	03 09 39.6		
	comp=Z,0.0nm,0.3s,baz=264,slow=27,SNR=3.9							
AKTO	**Aktyubinsk**	**17.77**	**298**	⇑Pn	**Pn**	**03 05 02.2**	**+0.5**	
	comp=Z,8.0nm,1.9s							
AKTO	**Aktyubinsk**	**17.77**	**298**	P	**Pn**	**03 05 00.0**	**-1.7**	
AKTO				S	**Sn**	**03 08 13.1**	**-6.1**	
AKTO	**Aktyubinsk**	**17.77**	**298**	P	**Pn**	**03 04 60.0**	**-1.7**	
	comp=Z,0.2nm,0.3s,baz=114,slow=9.6,SNR=4.5							
AKTO				S	**Sn**	**03 08 13.1**	**-6.1**	
	comp=Z,0.1nm,0.3s,baz=22,slow=19,SNR=3.1							
AKTO				Lg	Lg	03 10 21.8		
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.2							
ARU	**Arti**	**19.39**	**316***c*	*i* P	**P**	**03 05 20.1**	**-0.1**	
ARU				pmax	pmax			
	comp=Z,11nm,2.5s							
QIZ	**Qiongzhong**	**33.96**	**130**	P	P	03 07 29.6	-8.3	
QIZ				S	S	03 12 52.4	-10	
QIZ				pmax	pmax			
	comp=Z,19nm,1.6s							
QIZ				pmax	pmax			
	comp=Z,100nm,5.3s							
AKASG	**Malin Array Be**	**36.01**	**299**	*eP*	**P**	**03 07 55.7**	**+0.5**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**36.01**	**299**	P	**P**	**03 07 55.2**	**-0.1**	
	comp=Z,0.4nm,0.4s,baz=63,slow=8.8,SNR=4.9							
BRTR	**Keskin Array B**	**36.40**	**280**	P	**P**	**03 07 59.5**	**+0.5**	
	comp=Z,0.5nm,0.7s,baz=69,slow=8.5,SNR=3.8							
FINES	**FINESS Array B**	**36.75**	**318**	P	**P**	**03 08 03.3**	**+1.9**	
	comp=Z,1.3nm,0.7s,baz=44,slow=10,SNR=2.7							
NB2	**NORSAR Subarra**	**43.92**	**318**	P	**P**	**03 09 01.3**	**+0.4**	
	comp=Z,0.9nm,0.6s,baz=78,slow=8.6							
NOA	**NORSAR Array B**	**43.92**	**318**	P	**P**	**03 09 00.9**	**0.0**	
	comp=Z,0.7nm,0.5s,baz=78,slow=8.1,SNR=3.8							
LPG	**La Plagne**	**51.87**	**300**	*eP*	**P**	**03 10 04.0**	**+1.1**	
	comp=Z,6.8nm,0.7s							
LPL	**La Plagne**	**51.87**	**300**	*eP*	**P**	**03 10 03.9**	**+1.0**	
	comp=Z,5.6nm,0.6s							
ORIF	**Oris-en-Rattie**	**52.69**	**299**	*eP*	**P**	**03 10 09.0**	**+0.2**	
ESDC	**Sonseca Array**	**61.65**	**299**	P	**P**	**03 11 12.0**	**-0.2**	
	comp=Z,0.2nm,0.4s,baz=33,slow=6.8,SNR=3.8							
ILAR	**Eielson Array**	**64.26**	**21**	P	**P**	**03 11 28.0**	**-1.1**	
	comp=Z,0.3nm,0.6s,baz=319,slow=5.2,SNR=3.7							
YKA	**Yellowknife Ar**	**72.36**	**8**	P	**P**	**03 12 19.5**	**-0.3**	
	comp=Z,0.1nm,0.6s,baz=340,slow=5.2,SNR=2.6							
TORD	**Torodi Ar. Bea**	**74.67**	**273**	P	**P**	**03 12 32.8**	**-1.3**	
	comp=Z,1.4nm,0.5s,baz=42,slow=5.0,SNR=37							
WRA	**Warramunga Arr**	**79.51**	**132**	P	**P**	**03 13 03.8**	**+2.7**	
	comp=Z,0.7nm,0.7s,baz=335,slow=5.6,SNR=7.3							
ASAR	**Alice Springs**	**82.34**	**134**	P	**P**	**03 13 17.0**	**+0.8**	
	comp=Z,0.3nm,0.6s,baz=110,slow=36,SNR=3.4							

IGQ ***20*** *03:32:33.0± 0.7, 1.°24 S× 80.°91 W, h4 km ± 168 km, Mb 4.3, Error ellipse: s-maj=6.5km s-min=3.3km az=49.3*
ISCJB ***20*** *03:32:34.4± 0.6, 1.°24 S± 0.°05× 80.°72 W± 0.°04, h16 km, mb3.8/6, MS3.1/4, Error ellipse: s-maj=6.8km s-min=6.3km az=4.5*
IDC ***20*** *03:32:43.0± 3.2, 1.°18 S× 80.°37 W, h82 km ± 32 km, mb3.5/6, mb1 3.7/9, mb1mx3.4/35, mbtmp3.9/9, MS3.2/6, Ms1 3.2/6, ms1mx3.0/34, Error ellipse: s-maj=38.4km s-min=18.1km az=71.0*
ISC 20 03:32:35.5±0.8, **1.°19 S**±0.°07×**80.°59 W**±0.°06, **h16**km, **n48, σ1°27/41, mb3.8/6, MS3.0/4, 1C-5D, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PECV	**Mancha de Ca P**	**0.68**	**53**	⇑P		**Pg**	**03 32 47.8**	**-1.0**
MAG1	**Magdalena**	**1.38**	**36**	S		**Sg**	**03 33 20.6**	**+0.6**
MAG1	**Magdalena**	**1.38**	**36**	P		**Pn**	**03 33 00.1**	**0.0**
IGUA	**Igualata**	**1.97**	**99**	P		**Pn**	**03 33 09.0**	**+0.2**
IGUA	**Igualata**	**1.97**	**99**	S		**Sn**	**03 33 34.2**	**+0.6**
BBIL	**Ulba Tungurahu**	**2.12**	**97**	P		**Pb**	**03 33 12.6**	**-1.1**
BMAS	**Trigal station**	**2.13**	**99**	P		**Pn**	**03 33 12.6**	**+1.7**
BMAS	**Trigal station**	**2.13**	**99**	S		**Sn**	**03 33 38.2**	**+1.0**
JUI6	**Juive**	**2.13**	**96**	P		**Pn**	**03 33 11.3**	**+0.5**
ARRY	**Arrayan**	**2.16**	**99**	P		**Pn**	**03 33 12.4**	**+1.3**
PAT1	**Patacocha**	**2.17**	**98**	P		**Pn**	**03 33 12.2**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.18**	**78**	⇓P		**Pn**	**03 33 12.1**	**+0.5**
BPAT	**Tungurahua Vol**	**2.18**	**98**	S		**Sn**	**03 33 40.3**	**+1.8**
BPAT	**Tungurahua Vol**	**2.18**	**98**	P		**Pn**	**03 33 12.2**	**+0.6**
NAS2	**Nasa**	**2.19**	**76**	P		**Pn**	**03 33 13.8**	**+2.0**
ULBA	**Ulba**	**2.20**	**97**	P		**Pn**	**03 33 13.5**	**+1.8**
MOV1	**Cotopaxi Vol s**	**2.20**	**78**	P		**Pn**	**03 33 12.1**	**+0.1**
JUA2	**San Juan 2**	**2.21**	**64**	P		**Pn**	**03 33 12.9**	**+0.9**
PISA	**Pisayambo**	**2.21**	**87**	P		**Pn**	**03 33 13.8**	**+1.8**
BREF	**Cotopaxi Volca**	**2.21**	**77**	⇓P		**Pn**	**03 33 13.0**	**+0.9**
TERV	**Terraza Guagua**	**2.23**	**63**	P		**Pn**	**03 33 12.8**	**+0.5**
PINO	**Pino**	**2.23**	**63**	P		**Pn**	**03 33 12.8**	**+0.4**
GGP	**Refugio Guagua**	**2.23**	**63**	P		**Pn**	**03 33 12.7**	**+0.3**
BVC2	**Cotopaxi Volca**	**2.24**	**76**	⇓P		**Pn**	**03 33 13.3**	**+0.8**
BTAM	**Cotopaxi Volca**	**2.25**	**77**	⇓P		**Pn**	**03 33 13.4**	**+0.8**
BTAM	**Cotopaxi Volca**	**2.25**	**77**	⇓S		**Sb**	**03 33 43.3**	**-0.7**
VC1	**Cotopaxi 1**	**2.25**	**76**	P		**Pn**	**03 33 13.4**	**+0.8**
COV1	**Cotopaxi Volc**	**2.31**	**77**	P		**Pn**	**03 33 13.0**	**-0.4**
ANTI	**Antisana**	**2.54**	**73**	P		**Pn**	**03 33 18.8**	**+2.2**
OTAV	**Otavalo**	**2.56**	**57**	P		**Pn**	**03 33 17.9**	**+1.0**
CAYR	**Refugio Cayamb**	**2.84**	**65**	P		**Pn**	**03 33 23.1**	**+2.3**
ANGU	**Angureal**	**2.86**	**65**	P		**Pn**	**03 33 23.5**	**+2.5**
CAYA	**Cayambe**	**2.88**	**64**	P		**Pn**	**03 33 23.9**	**+2.6**
ATAH	**Atahualpa**	**6.30**	**160**	P		Pn	03 34 11.6	+3.3
	1.1nm,0.3s,baz=334,slow=7.9,SNR=4.3							
ATAH				S		Sn	03 35 26.3	+6.1
	1.3nm,0.3s,baz=301,slow=17,SNR=4.3							
ATAH				LR		LR	03 36 43.0	
	comp=Z,207nm,18.1s,baz=333,slow=38							
ROSC	**El Rosal**	**8.67**	**46**	P		Pn	03 34 44.5	+3.8
	1.2nm,0.3s,baz=288,slow=20,SNR=3.4							
ROSC				S		Sn	03 36 25.0	+6.6
	0.5nm,0.3s,baz=107,slow=20,SNR=2.5							
JTS	**JuntasAbangare**	**12.20**	**339**	LR		LR	03 39 21.2	
	comp=Z,102nm,19.6s,baz=158,slow=32							
LPAZ	**La Paz**	**19.39**	**141**	P		**Pn**	**03 37 02.5**	**-0.2**
	0.1nm,0.3s,baz=311,slow=10,SNR=10							
PTGA	**Pitinga**	**20.62**	**89**	LR		LR	03 45 26.1	
	comp=Z,58nm,20.4s,baz=14,slow=37							
TEIG	**Tepich**	**22.57**	**341**	LR		LR	03 44 46.2	
	comp=Z,60nm,20.6s,baz=321,slow=32							
SIV	**San Ignacio**	**24.22**	**128**	LR		LR	03 48 37.0	
	comp=Z,49nm,19.8s,baz=282,slow=40							
TXAR	**Lajitas Array**	**37.52**	**326**	PcP		**PcP**	**03 42 07.2**	**0.0**
	0.7nm,0.8s,baz=162,slow=3.6,SNR=7.3							
PLCA	**Paso Flores**	**40.40**	**168**	P		**P**	**03 40 13.2**	**+0.1**
	2.4nm,1.0s,baz=330,slow=11,SNR=3.8							
ANMO	**Albuquerque**	**43.34**	**329**	P		**P**	**03 40 38.6**	**+1.4**
	2.1nm,0.9s,baz=150,slow=15,SNR=7.0							
RCBR	**Riachuelo**	**44.83**	**97**	LR		LR	04 01 06.5	
	comp=Z,65nm,19.3s,baz=261,slow=38							
NVAR	**Mina Array Bea**	**52.52**	**323**	P		**P**	**03 41 49.5**	**+1.1**
	1.0nm,0.8s,baz=129,slow=7.1,SNR=4.8							
ULM	**Lac du Bonnet**	**52.89**	**348**	P		**P**	**03 41 49.9**	**-0.7**
	1.5nm,0.7s,baz=160,slow=8.1,SNR=4.0							
YKA	**Yellowknife Ar**	**68.50**	**344**	P		**P**	**03 43 36.4**	**-0.4**
	0.5nm,0.7s,baz=138,slow=6.1,SNR=12							
TORD	**Torodi Ar. Bea**	**82.75**	**77**	P		**P**	**03 44 57.4**	**-2.2**
	0.7nm,0.9s,baz=255,slow=5.1,SNR=4.4							

ISCJB ***20*** *04:04:17.1± 0.3, 28.°10 S± 0.°03× 66.°67 W± 0.°05, h171 km ± 4 km, mb4.1/7, Error ellipse: s-maj=8.3km s-min=4.1km az=23.3*
IDC ***20*** *04:04:17.1± 1.3, 28.°11 S× 66.°51 W, h150 km ± 13 km, mb4.0/7, mb1 3.8/11, mb1mx3.5/31, mbtmp4.2/11, Error ellipse: s-maj=22.1km s-min=11.6km az=111.0*
NEIC ***20*** *04:04:17.4± 0.6, 28.°09 S× 66.°54 W, h156 km ± 7 km, mb4.3/3, Error ellipse: s-maj=10.3km s-min=7.2km az=96.0*
SJA ***20*** *04:04:17.9± 0.9, 28.°09 S× 66.°70 W, h162 km ± 12 km, MD3.3, ML4.0*
ISC 20 04:04:17.9±0.6, **28.°11 S**±0.°04×**66.°65 W**±0.°06, **h164**km±5km, **n54, σ1°09/70, mb4.2/7, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CYA	**Choya**	**0.82**	**114**	*eP*		**Pn**	**04 04 44.1**	**+1.4**
CYA				*i* S		**Sn**	**04 05 01.5**	**-0.3**
AHML	**Horco Molle**	**1.76**	**42**	*i* P		**Pn**	**04 04 52.1**	**+0.8**
AHML				*e*S		**Sn**	**04 05 16.9**	**-0.2**
APLL	**PUNTA DE LOS L**	**2.28**	**177**	*eP*		**Pn**	**04 04 58.8**	**+1.7**
AVFE	**Valle Fertil**	**2.64**	**195**	*eP*		**Pn**	**04 05 02.2**	**+0.7**
AVFE				AML		AML	04 05 38.8	
	comp=Z,270nm,0.6s							
ACHE	**Chepes**	**3.05**	**180**	*eP*		**Pn**	**04 05 07.3**	**+0.7**
AMOG	**MOGNA**	**3.25**	**209**	*i* P		**Pn**	**04 05 09.7**	**+0.8**
RTLL	**Cerro Villicun**	**3.58**	**206**	*i* P		**Pn**	**04 05 14.0**	**+0.9**
RTLL				*e*S		**Sn**	**04 05 55.3**	**-0.9**
LCO	**Las Campanas**	**3.67**	**255**	*e*Pn		**Pn**	**04 05 14.7**	**+0.2**
LCO				*e*S		**Sn**	**04 05 57.7**	**-0.9**
CFAA	**Coronel Fontan**	**3.75**	**201**	P		**Pn**	**04 05 15.8**	**+0.5**
CFAA				S		**Sn**	**04 05 59.1**	**-0.9**
CFAA	**Coronel Fontan**	**3.75**	**201**	P		**Pn**	**04 05 15.8**	**+0.5**
	comp=Z,7.1nm,0.3s,baz=20,slow=13,SNR=614							
CFAA				S		**Sn**	**04 05 59.1**	**-0.9**
	comp=Z,21nm,0.3s,baz=141,slow=22,SNR=31							
CFAA	**Coronel Fontan**	**3.75**	**201**	*eP*		**Pn**	**04 05 16.1**	**+0.8**
CFAA				*e*P		**Pn**	**04 05 16.1**	**+0.8**
RTCV	**Cerro Valdivia**	**4.09**	**203**	*i* P		**Pn**	**04 05 20.4**	**+0.8**
RTCV				*e*S		**Sn**	**04 06 06.3**	**-1.6**
AZAP	**Zapla**	**4.12**	**21**	*eP*		**Pn**	**04 05 21.4**	**+1.1**
ACAN	**Cantantal**	**4.18**	**186**	*eP*		**Pn**	**04 05 21.5**	**+0.6**
RTLS	**Leoncito**	**4.34**	**211**	*eP*		**Pn**	**04 05 24.3**	**+1.2**
RTLS				*i* S		**Sn**	**04 06 13.4**	**-0.6**
ASTB	**Santa Barbara**	**4.58**	**26**	*eP*		**Pn**	**04 05 27.5**	**+1.3**
AUSP	**Uspallata**	**4.74**	**209**	*eP*		**Pn**	**04 05 29.2**	**+0.9**
ARCO	**CERRO ARCO**	**5.11**	**202**	*eP*		**Pn**	**04 05 33.9**	**+0.8**
ARCO				*i* S		**Sn**	**04 06 31.5**	**-0.6**
ARCO				AML		AML	04 06 33.8	
	comp=Z,122nm,0.2s							
AAGR	**Agrelo**	**5.31**	**200**	*eP*		**Pn**	**04 05 36.4**	**+0.8**
AAGR				*i* S		**Sn**	**04 06 35.2**	**-1.4**
LVC	**Limon Verde**	**5.84**	**339**	*e*Pn		**Pn**	**04 05 42.7**	**-0.2**
	comp=Z,6.6nm,0.3s							
LVC				*e*S		**Sn**	**04 06 47.5**	**-2.0**
CPUP	**Villa Florida**	**8.49**	**80**	P		**Pn**	**04 06 16.9**	**-0.8**
CPUP	**Villa Florida**	**8.49**	**80**	P		**Pn**	**04 06 16.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=246,slow=14,SNR=5.7							
TRQA	**Tornquist**	**10.67**	**160**	*e*Pn		**Pn**	**04 06 44.8**	**-1.6**
LPAZ	**La Paz**	**11.84**	**353**	*e*Pn		**Pn**	**04 07 01.6**	**-0.8**
	comp=Z,7.4nm,0.5s							
LPAZ				S		Sn	04 09 05.9	-8.0
LPAZ	**La Paz**	**11.84**	**353**	P		**Pn**	**04 07 01.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=159,slow=9.8,SNR=9.1							
LPAZ				S		Sn	04 09 05.9	-8.0
	comp=Z,0.1nm,0.3s,baz=43,slow=18,SNR=2.0							
PLCA	**Paso Flores**	**13.00**	**193**	P		**P**	**04 07 22.4**	**+1.5**
PLCA	**Paso Flores**	**13.00**	**193**	P		**P**	**04 07 22.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=0.7,slow=11,SNR=10							
SIV	**San Ignacio**	**13.12**	**24**	P		**Pn**	**04 07 17.2**	**-0.9**
SIV	**San Ignacio**	**13.12**	**24**	P		**Pn**	**04 07 17.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=212,slow=15,SNR=12							
SAML	**Samuel**	**19.34**	**10**	*eP*		**P**	**04 08 30.1**	**-0.6**
	comp=Z,4.5nm,0.4s							
BDFB	**Brasilia**	**21.25**	**58**	P		**P**	**04 08 50.1**	**-1.2**
BDFB	**Brasilia**	**21.25**	**58**	P		**P**	**04 08 50.1**	**-1.2**
	comp=Z,4.8nm,0.3s,baz=226,slow=8.6,SNR=18							
PTGA	**Pitinga**	**27.96**	**14**	*eP*		**P**	**04 09 52.8**	**-0.4**
PTGA	**Pitinga**	**27.96**	**14**	P		**P**	**04 09 52.8**	**-0.4**
	comp=Z,4.8nm,0.4s,baz=209,slow=13,SNR=9.6							
ROSC	**El Rosal**	**33.59**	**346**	P		**P**	**04 10 45.5**	**+2.4**
ROSC	**El Rosal**	**33.59**	**346**	P		**P**	**04 10 45.5**	**+2.4**
	comp=Z,6.6nm,0.4s,baz=79,slow=20,SNR=4.9							
SNAA	**Sanae**	**55.40**	**160**	P		**P**	**04 13 35.8**	**+1.1**
SNAA	**Sanae**	**55.40**	**160**	P		**P**	**04 13 35.8**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=350,slow=9.0,SNR=5.8							
DBIC	**Dimbokro**	**68.86**	**70**	P		**P**	**04 15 04.3**	**-0.8**
DBIC	**Dimbokro**	**68.86**	**70**	P		**P**	**04 15 04.3**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=234,slow=8.7,SNR=8.7							
TOA0	**Torodi Ar. Sit**	**77.78**	**68**	*eP*		**P**	**04 15 56.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**77.78**	**68**	P		**P**	**04 15 57.0**	**-0.3**
TORD				pP		**pP**	**04 16 36.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**77.78**	**68**	P		**P**	**04 15 57.0**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=273,slow=5.8,SNR=17							
TORD				pP		**pP**	**04 16 36.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=258,slow=5.0,SNR=1.5							
BOSA	**Boshof**	**78.62**	**116**	P		**P**	**04 16 02.9**	**+0.9**
BOSA	**Boshof**	**78.62**	**116**	P		**P**	**04 16 02.9**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=263,slow=8.1,SNR=4.5							
ASAR	**Alice Springs**	**124.84**	**203**	PKP		**PKPdf**	**04 22 59.1**	**+0.3**
ASAR	**Alice Springs**	**124.84**	**203**	PKP		**PKPdf**	**04 22 59.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=151,slow=2.0,SNR=7.9							
WRA	**Warramunga Arr**	**128.10**	**205**	PKP		**PKPdf**	**04 23 05.8**	**+0.6**
WRA	**Warramunga Arr**	**128.10**	**205**	PKP		**PKPdf**	**04 23 05.8**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=154,slow=2.0,SNR=18							
AAK	**Ala-Archa**	**145.48**	**55**	*e*PKPdf		**PKPab**	**04 23 37.6**	**+0.3**
ZALV	**Zalesovo Beam**	**146.80**	**31**	PKPbc		**PKPbc**	**04 23 38.9**	**-1.3**
ZALV				pPKPbc		pPKPbc	04 24 23.9	+1.0
ZALV	**Zalesovo Beam**	**146.80**	**31**	PKPbc		**PKPbc**	**04 23 38.9**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=295,slow=3.8,SNR=7.5							
ZALV				pPKPbc		pPKPbc	04 24 23.9	+1.0
	comp=Z,1.6nm,0.7s,baz=261,slow=5.9,SNR=2.8							
MKAR	**Makanchi Array**	**149.37**	**44**	PKPbc		**PKPbc**	**04 23 48.2**	**+1.0**
MKAR				pPKPbc		**pPKPbc**	**04 24 32.0**	**+1.9**
MKAR	**Makanchi Array**	**149.37**	**44**	PKPbc		**PKPbc**	**04 23 48.2**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=287,slow=2.6,SNR=10							
MKAR				pPKPbc		**pPKPbc**	**04 24 32.0**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=293,slow=3.0,SNR=3.1							

SKO ***20*** *04:05:12.2, 39.°51 N× 24.°10 E, h226 km, M2.6, ML3.0*
SOF ***20*** *04:05:16.5, 39.°80 N× 23.°43 E, h15 km, MD2.8*
ISCJB ***20*** *04:05:25.6± 0.4, 39.°85 N± 0.°02× 23.°71 E± 0.°04, h18 km ± 3 km, Error ellipse: s-maj=4.6km s-min=2.9km az=15.1*
ATH ***20*** *04:05:25.3, 39.°86 N× 23.°72 E, h29 km, MD3.2/15*
CSEM ***20*** *04:05:25.7± 0.1, 39.°84 N× 23.°70 E, h20 km, ML2.9, Error ellipse: s-maj=4.1km s-min=2.8km az=106.0*
THE ***20*** *04:05:26.2, 39.°85 N× 23.°66 E, h5 km ± 2 km, ML2.9/5, Error ellipse: s-maj=2.2km s-min=0.3km az=356.0*
ISC 20 04:05:25.1±0.8, **39.°84 N**±0.°02×**23.°71 E**±0.°02, **h15**km±5km, **n59, σ0°85/94, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PAIG	**Paliouri**	**0.09**	**346**	P		**Pg**	**04 05 28.2**	**-0.1**
PAIG				S		**Sg**	**04 05 29.6**	**-0.7**
PAIG	**Paliouri**	**0.09**	**346**	P		**Pg**	**04 05 28.2**	**-0.1**
OUR	**Ouranopolis**	**0.54**	**23**	P		**Pg**	**04 05 36.5**	**+0.8**
OUR				S		**Sg**	**04 05 44.4**	**+1.5**
OUR	**Ouranopolis**	**0.54**	**23**	*e*PN		**Pg**	**04 05 36.6**	**+0.8**
OUR				*e*SN		**Sg**	**04 05 43.6**	**+0.7**
OUR	**Ouranopolis**	**0.54**	**23**	P		**Pg**	**04 05 36.5**	**+0.8**
OUR				*e*Sn		**Sg**	**04 05 43.6**	**+0.7**
OUR				S		**Sg**	**04 05 44.4**	**+1.5**
PLG	**Polygyros**	**0.57**	**339**	P		**Pb**	**04 05 36.3**	**-0.5**
PLG	**Polygyros**	**0.57**	**339**	*e*PN		**Pb**	**04 05 36.3**	**-0.5**
PLG				*e*SN		**Sb**	**04 05 43.9**	**-0.9**
PLG	**Polygyros**	**0.57**	**339**	P		**Pb**	**04 05 36.3**	**-0.5**
PLG				*e*Sn		**Sb**	**04 05 43.9**	**-0.9**
XOR	**Xorichti**	**0.62**	**220**	P		**Pg**	**04 05 37.9**	**+0.7**
XOR				S		**Sg**	**04 05 46.5**	**+1.1**
XOR	**Xorichti**	**0.62**	**220**	*e*PN		**Pn**	**04 05 38.4**	**-0.9**
XOR				*e*SN		**Sg**	**04 05 47.1**	**+1.7**
XOR	**Xorichti**	**0.62**	**220**	P		**Pg**	**04 05 37.9**	**+0.7**
XOR	**Xorichti**	**0.62**	**220**	*e*Pn		**Pn**	**04 05 38.4**	**-0.9**
XOR				S		**Sg**	**04 05 46.5**	**+1.1**
XOR				*e*Sn		**Sg**	**04 05 47.1**	**+1.7**
NEO	**Neokhori**	**0.65**	**215**	*e*PN		**Pn**	**04 05

DSF					*e*SB	**Sg**	**04 21 36.2**	**+1.1**
DSF	**Desfina**	**0.44**	**93**		P	**Pg**	**04 21 28.9**	**-0.4**
DSF					S	**Sg**	**04 21 35.3**	**+0.2**
DSF					*e*Sb	**Sg**	**04 21 36.2**	**+1.1**
EVR	**Evrytania**	**0.50**	**345**		P	**Pg**	**04 21 30.3**	**-0.1**
EVR					S	**Sg**	**04 21 37.6**	**+0.6**
EVR	**Evrytania**	**0.50**	**345**	*e*PB		**Pg**	**04 21 30.5**	**+0.1**
EVR				*e*SB		**Sb**	**04 21 38.6**	**-0.8**
EVR	**Evrytania**	**0.50**	**345**	*e*Pb		**Pg**	**04 21 30.5**	**+0.1**
EVR					S	**Sg**	**04 21 37.6**	**+0.6**
EVR					*e*Sb	**Sb**	**04 21 38.6**	**-0.8**
DRO	**Drossia**	**0.52**	**203**		P	**Pg**	**04 21 30.7**	**-0.2**
DRO					S	**Sg**	**04 21 38.5**	**+0.7**
DRO	**Drossia**	**0.52**	**203**	*e*PG		**Pg**	**04 21 30.7**	**-0.2**
DRO				*e*SB		**Sb**	**04 21 38.4**	**+0.7**
DRO	**Drossia**	**0.52**	**203**	*e*Pg		**Pg**	**04 21 30.7**	**-0.2**
DRO				*e*Sb		**Sg**	**04 21 38.4**	**+0.7**
RLS	**Riolos of Patr**	**0.55**	**227**		P	**Pg**	**04 21 31.1**	**-0.2**
RLS					S	**Sg**	**04 21 39.3**	**+0.9**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*PB		**Pg**	**04 21 31.5**	**+0.2**
RLS				*e*SB		**Sb**	**04 21 39.7**	**-0.9**
RLS	**Riolos of Patr**	**0.55**	**227**	P		**Pg**	**04 21 31.1**	**-0.2**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*Pb		**Pg**	**04 21 31.5**	**+0.2**
RLS					S	**Sg**	**04 21 39.3**	**+0.9**
GUR	**Goura**	**0.58**	**149**		P	**Pg**	**04 21 31.3**	**-0.7**
GUR					S	**Sg**	**04 21 40.1**	**+0.6**
GUR	**Goura**	**0.58**	**149**	*e*PB		**Pg**	**04 21 31.4**	**-0.6**
GUR				*e*SB		**Sg**	**04 21 39.9**	**+0.4**
GUR	**Goura**	**0.58**	**149**	*e*Pb		**Pg**	**04 21 31.4**	**-0.6**
GUR				*e*Sb		**Sg**	**04 21 39.9**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.59**	**12**		P	**Pg**	**04 21 32.4**	**+0.2**
MAKR					S	**Sg**	**04 21 40.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	*e*PG		**Pg**	**04 21 32.4**	**+0.2**
MAKR				*e*SB		**Sb**	**04 21 41.3**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P		**Pg**	**04 21 32.4**	**+0.2**
MAKR					S	**Sg**	**04 21 40.8**	**+0.8**
MAKR					*e*Sb	**Sb**	**04 21 41.3**	**-0.8**
AXAR	**Agios Charalam**	**0.63**	**58**		P	**Pg**	**04 21 32.4**	**-0.6**
AXAR	**Agios Charalam**	**0.63**	**58**		P	**Pg**	**04 21 32.4**	**-0.6**
PDO	**Prodromos**	**0.64**	**285**		P	**Pg**	**04 21 32.8**	**-0.3**
PDO					S	**Sb**	**04 21 42.6**	**-0.7**
PDO	**Prodromos**	**0.64**	**285**	*e*PB		**Pg**	**04 21 33.4**	**+0.3**
PDO				*e*SB		**Sb**	**04 21 42.8**	**-0.5**
PDO	**Prodromos**	**0.64**	**285**	P		**Pg**	**04 21 32.8**	**-0.3**
PDO	**Prodromos**	**0.64**	**285**	*e*Pb		**Pg**	**04 21 33.4**	**+0.3**
PDO					S	**Sb**	**04 21 42.6**	**-0.7**
AGG	**Agios Georgios**	**0.65**	**26**		P	**Pg**	**04 21 32.7**	**-0.7**
AGG					S	**Sg**	**04 21 42.7**	**+0.8**
AGG	**Agios Georgios**	**0.65**	**26**	*e*PB		**Pg**	**04 21 32.7**	**-0.7**
AGG				*e*SB		**Sg**	**04 21 42.6**	**+0.7**
AGG	**Agios Georgios**	**0.65**	**26**	P		**Pg**	**04 21 32.7**	**-0.7**
AGG				*e*Sb		**Sg**	**04 21 42.6**	**+0.7**
LKR	**Lokris**	**0.84**	**75**		P	**Pg**	**04 21 36.0**	**-0.9**
LKR					S	**Sb**	**04 21 48.5**	**-0.5**
LKR	**Lokris**	**0.84**	**75**	*e*PB		**Pg**	**04 21 36.2**	**-0.7**
LKR				*e*SB		**Sb**	**04 21 49.0**	**0.0**
LKR	**Lokris**	**0.84**	**75**	*e*Pb		**Pg**	**04 21 36.2**	**-0.7**
LKR					S	**Sb**	**04 21 48.5**	**-0.5**
LKR					*e*Sb	**Sb**	**04 21 49.0**	**0.0**
LTK	**Loutraki**	**0.89**	**117**	*e*PB		**Pg**	**04 21 37.7**	**-0.1**
LTK	**Loutraki**	**0.89**	**117**	*e*Pb		**Pg**	**04 21 37.7**	**-0.1**
AMT	**Artemida-Makis**	**0.92**	**193**	P		**Pg**	**04 21 38.1**	**-0.4**
AMT					S	**Sb**	**04 21 51.5**	**-0.1**
AMT	**Artemida-Makis**	**0.92**	**193**	*e*PB		**Pg**	**04 21 38.2**	**-0.3**
AMT				*e*SB		**Sg**	**04 21 51.1**	**+0.6**
AMT	**Artemida-Makis**	**0.92**	**193**	*e*Pb		**Pg**	**04 21 38.2**	**-0.3**
AMT				*e*Sb		**Sg**	**04 21 51.1**	**+0.6**
SMIA	**Simia**	**1.07**	**65**	*e*PG		**Pg**	**04 21 40.9**	**-0.4**
SMIA				*e*SB		**Sn**	**04 21 56.7**	**-0.5**
SMIA	**Simia**	**1.07**	**65**	*e*Pg		**Pg**	**04 21 40.9**	**-0.4**
SMIA				*e*Sb		**Sn**	**04 21 56.7**	**-0.5**
LKD2	**Lefkada island**	**1.09**	**289**	*e*PG		**Pg**	**04 21 41.4**	**-0.2**
LKD2	**Lefkada island**	**1.09**	**289**	*e*Pg		**Pg**	**04 21 41.4**	**-0.2**
VLX	**Vlachokerasia**	**1.11**	**163**	P		**Pg**	**04 21 41.0**	**-1.1**
VLX	**Vlachokerasia**	**1.11**	**163**	*e*PG		**Pg**	**04 21 41.0**	**-1.1**
VLX	**Vlachokerasia**	**1.11**	**163**	*e*Pg		**Pg**	**04 21 41.0**	**-1.1**
VLS	**Valsamata**	**1.11**	**257**	*e*PG		**Pg**	**04 21 41.2**	**-1.0**
VLS	**Valsamata**	**1.11**	**257**	*e*Pg		**Pg**	**04 21 41.2**	**-1.0**
THL	**Klokotos Trika**	**1.13**	**2**	P		**Pg**	**04 21 42.2**	**-0.3**
THL	**Klokotos Trika**	**1.13**	**2**	*e*PG		**Pg**	**04 21 42.1**	**-0.4**
THL	**Klokotos Trika**	**1.13**	**2**	P		**Pg**	**04 21 42.2**	**-0.3**
ITM	**Ithomi**	**1.25**	**182**	*e*PN		**Pn**	**04 21 43.8**	**-0.9**
ITM				*e*SB		**Sg**	**04 22 01.3**	**+0.2**
ITM	**Ithomi**	**1.25**	**182**	*e*Pn		**Pn**	**04 21 43.8**	**-0.9**
ITM				*e*Sb		**Sg**	**04 22 01.3**	**+0.2**
MRKA	**Markates**	**1.30**	**77**	*e*PB		**Pn**	**04 21 45.3**	**0.0**
MRKA	**Markates**	**1.30**	**77**	*e*Pb		**Pn**	**04 21 45.3**	**0.0**
NEO	**Neokhori**	**1.31**	**48**	*e*PG		**Pn**	**04 21 45.4**	**-0.1**
NEO	**Neokhori**	**1.31**	**48**	*e*Pg		**Pn**	**04 21 45.4**	**-0.1**
DID	**Didima**	**1.36**	**132**	P		**Pn**	**04 21 46.2**	**0.0**
DID					S	**Sg**	**04 22 05.6**	**+0.9**
DID	**Didima**	**1.36**	**132**	*e*PB		**Pg**	**04 21 46.9**	**-0.1**
DID				*e*SB		**Sn**	**04 22 04.6**	**+0.1**
DID	**Didima**	**1.36**	**132**	P		**Pn**	**04 21 46.2**	**0.0**
DID	**Didima**	**1.36**	**132**	*e*Pb		**Pg**	**04 21 46.9**	**-0.1**
DID				*e*Sb		**Sn**	**04 22 04.6**	**+0.1**
DID					S	**Sg**	**04 22 05.6**	**+0.9**
NAIG	**Nisos Aigina**	**1.38**	**119**	*e*PB		**Pb**	**04 21 47.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.38**	**119**	*e*Pb		**Pb**	**04 21 47.0**	**+0.2**
ATH	**Athens Observa**	**1.45**	**108**	*e*PB		**Pg**	**04 21 48.8**	**+0.2**
ATH	**Athens Observa**	**1.45**	**108**	*e*Pb		**Pg**	**04 21 48.8**	**+0.2**
PYL	**PYLOS**	**1.55**	**187**	*e*PG		**Pn**	**04 21 49.3**	**+0.6**
PYL	**PYLOS**	**1.55**	**187**	*e*Pg		**Pn**	**04 21 49.3**	**+0.6**
IGT	**Igoumenitsa**	**1.68**	**311**	*e*PN		**Pg**	**04 21 53.5**	**+0.5**
LIT	**Litokhoron**	**1.71**	**13**	*e*PG		**Pn**	**04 21 51.8**	**+0.8**
LIT	**Litokhoron**	**1.71**	**13**	*e*Pg		**Pn**	**04 21 51.8**	**+0.8**
KYTH	**Kithira**	**2.31**	**158**	*e*PN		**Pn**	**04 22 01.1**	**+1.9**
KYTH	**Kithira**	**2.31**	**158**	*e*Pn		**Pn**	**04 22 01.1**	**+1.9**
STON	**Ston**	**5.49**	**325**	*e*Pn		**Pn**	**04 22 43.3**	**+0.4**
STON					Sn	**Sn**	**04 23 44.9**	**-1.3**

BJI **20** *04:21:18.2, 48°.78N × 155°.26E, h63km, mB4.9/22, mb4.4/32, Ms4.4/16, Ms7 4.0/21*
KRSC **20** *04:21:19.0 ± 3.4, 48°.23N × 155°.20E, h125km ± 45km, ML4.8*
SKHL **20** *04:21:21.4 ± 0.3, 48°.24N × 155°.05E, h76km ± 2km, mb5.3/10*
ISCJB **20** *04:21:21.6 ± 0.4, 48°.48N ± 0°.03 × 154°.60E ± 0°.05, h54km ± 3km, mb4.5/78, MS3.7/28, Error ellipse: s-maj=7.2km s-min=2.4km az=137.1*
MOS **20** *04:21:22.7 ± 0.9, 48°.51N × 154°.53E, h66km, mb5.2/18, Error ellipse: s-maj=9.3km s-min=5.7km az=78.6*
NEIC **20** *04:21:23.5 ± 0.8, 48°.45N × 154°.37E, h58km ± 6km, mb4.9/41, Error ellipse: s-maj=6.9km s-min=4.2km az=152.0*
IDC **20** *04:21:25.0 ± 2.9, 48°.48N × 154°.43E, h72km ± 25km, mb3.9/26, mb1 4.1/29, mb1mx4.0/47, mbtmp4.2/29, MS3.6/24, Ms1 3.6/24, ms1mx3.4/48, Error ellipse: s-maj=15.1km s-min=10.0km az=144.0*

ISC 20 04:21:24.0 ± 0.5, **48°.45N** ± 0°.04 × **154°.55E** ± 0°.04, **h64**km ± 4km, **n290**, σ 1§**48**/303, **mb4.5**/79, **4C-8D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**2.46**	**24**	*e*P	N	Pn	04 21 57.5			-4.1
SKR				*e*S		**Sn**	**04 22 26.0**			**-4.5**
SKR					pmax	pmax				
	comp=N,140nm,0.5s									
SKR					pmax	pmax				
	comp=E,110nm,0.5s									
SKR					pmax	pmax				
	comp=Z,320nm,0.5s									
SKR					smax	smax				
	comp=N,2μm,2.0s									
SKR					smax	smax				
	comp=E,3μm,3.0s									
SKR					smax	smax				
	comp=N,1μm,0.5s									
SKR					smax	smax				
	comp=E,860nm,0.6s									
SKR	**Severo-Kuril's**	**2.46**	**24**	*e*P		**Pn**	**04 22 00.0**			**-1.6**
SKR				*e*S		**Sn**	**04 22 28.1**			**-2.4**
SKR	**Severo-Kuril's**	**2.46**	**24**	*e*P		**Pn**	**04 21 59.4**			**-2.2**
SKR					AMB	AMB	04 22 02.5			
	comp=E,140nm,0.5s									
SKR					AMB	AMB	04 22 02.5			
	comp=E,110nm,0.5s									
SKR					AMB	AMB	04 22 02.5			
	comp=E,320nm,0.5s									
SKR				*e*S		**Sn**	**04 22 28.1**			**-2.4**
SKR					A	A	04 22 39.7			
	comp=E,2μm,0.7s									
SKR					A	A	04 22 45.0			
	comp=E,2μm,2.0s									
SKR					A	A	04 22 45.0			
	comp=E,3μm,2.0s									
PAU	**Pauzhetka**	**3.35**	**25**		PN	**Pn**	**04 22 14.2**			**+0.3**
PAU					S	**Sn**	**04 22 52.1**			**-0.3**
PAU	**Pauzhetka**	**3.35**	**25**		P	**Pn**	**04 22 14.2**			**+0.3**
PAU					*e*S	**Sn**	**04 22 52.1**			**-0.3**
PAU	**Pauzhetka**	**3.35**	**25**	*e*P		**Pn**	**04 22 13.5**			**-0.4**
PAU					AMB	AMB	04 22 21.1			
	comp=E,543nm,0.6s									
PAU				*e*S		**Sn**	**04 22 52.8**			**+0.4**
PAU					A	A	04 23 00.8			
	comp=E,3μm,0.6s									
MIPR	**Malaya Ipel'ka**	**4.08**	**19**	*e*P		**Pn**	**04 22 24.6**			**+0.7**
MIPR				*e*S		**Sn**	**04 23 09.5**			**-0.8**
ASAK	**Asacha**	**4.48**	**27**	*e*P		**Pn**	**04 22 29.4**			**0.0**
ASAK				*e*S		**Sn**	**04 23 18.5**			**-1.7**
MTVR	**Mutnovka**	**4.66**	**29**	*e*P		**Pn**	**04 22 31.2**			**-0.6**
MTVR				*e*S		**Sn**	**04 23 22.3**			**-2.3**
GRL	**Gorelyy**	**4.68**	**27**	*e*P		**Pn**	**04 22 32.0**			**-0.1**
GRL				S		**Sn**	**04 23 23.7**			**-1.5**
RUS	**Russkaya**	**4.72**	**31**		PN	**Pn**	**04 22 30.6**			**-2.0**
RUS	**Russkaya**	**4.72**	**31**	*e*P		**Pn**	**04 22 30.6**			**-2.0**
RUS				*e*S		Sn	04 23 20.3			-5.7
APC	**Apacha**	**4.78**	**19**	*e*P		**Pn**	**04 22 32.6**			**-0.7**
APC				*e*S		**Sn**	**04 23 24.7**			**-2.6**
PEA0B	**Petropavlovsk-**	**5.07**	**22**	*e*Pn		**Pn**	**04 22 38.0**			**+0.7**
PEA0B				*e*S		Sn	04 23 53.5			+19
PETK	**Petropavlovsk-**	**5.07**	**22**	PN		**Pn**	**04 22 38.1**			**+0.7**
PETK				S		**Sn**	**04 23 33.1**			**-1.5**
PETK	**Petropavlovsk-**	**5.07**	**22**	P		**Pn**	**04 22 38.0**			**+0.7**
PETK				S		**Sn**	**04 23 33.1**			**-1.5**
PETK	**Petropavlovsk-**	**5.07**	**22**	P		**Pn**	**04 22 38.0**			**+0.7**
	comp=E,3.2nm,0.3s,baz=180,slow=14,SNR=28									
PETK				S		**Sn**	**04 23 33.1**			**-1.5**
	comp=E,1.8nm,0.3s,baz=184,slow=17,SNR=2.5									
PETK				LR		LR	04 24 55.2			
	comp=E,368nm,18.3s,baz=199,slow=41									
PET	**Petropavlovsk**	**5.27**	**28**	*e*PN		**Pn**	**04 22 39.9**			**-0.1**
PET				*e*S		**Sn**	**04 23 38.0**			**-1.3**
PET					pmax	pmax				
	comp=Z,68nm,0.5s									
PET					smax	smax				
	comp=N,215nm,0.6s									
PET					smax	smax				
	comp=E,288nm,0.6s									
PET					MLR	MLR				
	comp=Z,200nm,14.0s									
PET	**Petropavlovsk**	**5.27**	**28**	P		**Pn**	**04 22 39.5**			**-0.5**
PET				*e*S		**Sn**	**04 23 37.7**			**-1.6**
PET	**Petropavlovsk**	**5.27**	**28**	*e*Pn		**Pn**	**04 22 39.4**			**-0.6**
PET				*e*S		**Sn**	**04 23 38.7**			**-0.6**
PET	**Petropavlovsk**	**5.27**	**28**	*e*P		**Pn**	**04 22 39.5**			**-0.5**
PET					AMB	AMB	04 22 47.5			
	comp=Z,570nm,0.5s									
PET				*e*S		**Sn**	**04 23 37.8**			**-1.6**
PET					A	A	04 23 48.2			
	comp=Z,200nm,0.6s									
PET					A	A	04 23 48.2			
	comp=Z,290nm,0.6s									
UGLR	**Uglovaya**	**5.48**	**28**	*e*P		**Pn**	**04 22 43.2**			**+0.2**
UGLR				*e*S		**Sn**	**04 23 42.9**			**-1.8**
KOK	**Koryaka**	**5.49**	**27**	*e*P		**Pn**	**04 22 44.2**			**+1.0**
KOK				*e*S		**Sn**	**04 23 44.1**			**-0.9**
AVH	**Avacha**	**5.50**	**27**	*e*P		**Pn**	**04 22 44.0**			**+0.7**
AVH				*e*S		**Sn**	**04 23 42.8**			**-2.4**
SMAR	**Somma**	**5.52**	**28**	*e*P		**Pn**	**04 22 43.9**			**+0.2**
SMAR				*e*S		**Sn**	**04 23 43.7**			**-2.1**
KRER	**Koryakskii**	**5.54**	**27**	*e*P		**Pn**	**04 22 43.5**			**-0.4**
KRER				*e*S		**Sn**	**04 23 42.9**			**-3.4**
KRX	**Arik**	**5.55**	**26**	*e*P		**Pn**	**04 22 44.7**			**+0.6**
KRX				*e*S		**Sn**	**04 23 44.7**			**-1.9**
SDLR	**Sedlovina**	**5.56**	**28**	*e*P		**Pn**	**04 22 43.5**			**-0.6**
SDLR				*e*S		**Sn**	**04 23 43.4**			**-3.2**
KUR	**Kuril'sk**	**5.60**	**237**	*e*PN		Pn	04 22 46.9			+2.3
KUR				*e*S		**Sn**	**04 23 49.5**			**+1.9**
KUR					pmax	pmax				
	comp=Z,304nm,0.5s									
KUR					smax	smax				
	comp=N,318nm,0.4s									
KUR					smax	smax				
	comp=E,172nm,0.7s									
KUR	**Kuril'sk**	**5.60**	**237**	*e*P		**Pn**	**04 22 45.9**			**+1.3**
KUR					AMB	AMB	04 22 48.1			
	comp=E,304nm,0.5s									
KUR				*e*S		**Sn**	**04 23 49.0**			**+1.4**
KUR					A	A	04 23 55.8			
	comp=E,320nm,0.5s									
KUR					A	A	04 23 55.8			
	comp=E,172nm,0.5s									
NLC	**Nalytchevo**	**5.62**	**31**		P	Pn	04 22 41.8			-3.0
NLC				*e*S		Sn	04 23 40.6			-7.3
GNL	**Ganaly**	**5.67**	**21**	*e*P		**Pn**	**04 22 46.5**			**+0.9**
GNL				S		**Sn**	**04 23 47.8**			**-1.6**
SPN	**Mys Shipunski**	**5.80**	**35**	S		Sn	04 23 46.6			-5.9
SHO	**Shikotan**	**7.05**	**232**	*e*P		**Pn**	**04 23 01.9**			**-2.5**
SHO				*e*S		Sn	04 24 15.9			-7.2
SHO	**Shikotan**	**7.05**	**232**	*e*P		**Pn**	**04 23 02.0**			**-2.5**
SHO					AMB	AMB	04 23 04.5			
	comp=E,1μm,0.8s									
SHO				*e*S		**Sn**	**04 24 17.5**			**-5.6**
SHO					A	A	04 24 51.3			
	comp=E,3μm,0.7s									
YUK	**Yuzh-Kuril'sk**	**7.47**	**237**	*c i*	PN	**Pn**	**04 23 10.6**			**+0.4**
YUK				*i*	S	**Sn**	**04 24 36.8**			**+3.5**
YUK					pmax	pmax				
	comp=N,62nm,0.3s									
YUK					pmax	pmax				
	comp=E,61nm,0.3s									
YUK					pmax	pmax				
	comp=Z,384nm,0.3s									
YUK					MLR	MLR				
	comp=Z,817nm,15.0s									
YUK	**Yuzh-Kuril'sk**	**7.47**	**237**	*e*P		**Pn**	**04 23 10.6**			**+0.4**
YUK					AMB	AMB	04 23 10.8			
	comp=Z,62nm,0.3s									
YUK					AMB	AMB	04 23 10.8			
	comp=Z,384nm,0.3s									
YUK				*e*S		**Sn**	**04 24 36.8**			**+3.5**
YUK					AMS	AMS	04 25 48.7			
	comp=Z,817nm,15.0s									
MKZ	**Mys Kozlova**	**7.58**	**34**		PN	Pn	04 23 08.5			-3.1
MKZ	**Mys Kozlova**	**7.58**	**34**		P	Pn	04 23 08.5			-3.1
MKZ				*e*S		Sn	04 24 25.7			-10
TUMR	**Tumrok**	**7.67**	**25**		P	**Pn**	**04 23 12.8**			**-0.1**
JRA	**Rausu**	**7.95**	**239**		P	**Pn**	**04 23 17.1**			**+0.4**
NEM2	**Nemuro 2**	**7.97**	**234**		P	**Pn**	**04 23 14.1**			**-3.0**
NEM2				*e*S		**Sn**	**04 24 40.4**			**-5.3**
TYV	**Tymovskoe**	**8.09**	**292**	*e*P		**Pn**	**04 23 20.5**			**+1.9**
TYV					AMB	AMB	04 23 22.5			
	comp=Z,6.0nm,0.7s									
TYV					AMB	AMB	04 23 22.5			
	comp=Z,26nm,0.7s									
YSS	**Yuzh-Sakhalins**	**8.10**	**264**	*e*PN		**Pn**	**04 23 21.1**			**+2.3**
YSS				*e*S		**Sn**	**04 24 53.4**			**+4.6**
YSS					pmax	pmax				
	comp=Z,50nm,0.9s									
YSS	**Yuzh-Sakhalins**	**8.10**	**264**	*e*Pn		**Pn**	**04 23 21.1**			**+2.3**
YSS	**Yuzh-Sakhalins**	**8.10**	**264**	*e*P		**Pn**	**04 23 21.1**			**+2.3**
YSS					AMB	AMB	04 23 23.7			
	comp=Z,50nm,0.9s									
YSS				*e*S		**Sn**	**04 24 50.0**			**+1.2**
YSS				*e*A		A	04 24 54.4			
	comp=Z,4μm,0.5s									
YSS				*e*A		A	04 24 54.4			
	comp=Z,4μm,0.5s									
JNK	**Nakash**	**8.39**	**238**		P	**Pn**	**04 23 22.3**			**-0.5**
JTKR	**Abashiri--Toko**	**8.63**	**243**		P	**Pn**	**04 23 26.8**			**+0.7**
JSE	**Soyaes**	**8.93**	**251**		P	Pn	04 23 33.3			+3.1
JAR	**Ashorobuto**	**9.11**	**240**		P	**Pn**	**04 23 32.0**			**-0.7**
JAR				*e*S		**Sn**	**04 25 11.9**			**-1.8**
JWK2	**Keihoku**	**9.21**	**255**		P	Pn	04 23 38.7			+4.7
KBTR	**Krutoberegovo**	**9.27**	**30**		PN	**Pn**	**04 23 32.5**			**-2.2**
KBTR	**Krutoberegovo**	**9.27**	**30**	*e*P		**Pn**	**04 23 32.5**			**-2.2**
JOB	**Onbets**	**9.33**	**237**		P	**Pn**	**04 23 34.1**			**-1.5**
JKA	**Kamikawa-asahi**	**9.34**	**247**	*e*P		Pn	04 23 38.4			+2.6
ASAJ	**Asahikawa**	**9.34**	**247**		P	Pn	04 23 38.5			+2.7
ASAJ	**Asahikawa**	**9.34**	**247**	*e*Pn		**Pn**	**04 23 38.2**			**+2.5**
ASAJ	**Asahikawa**	**9.34**	**247**	P		Pn	04 23 38.4			+2.6
	comp=Z,5.0nm,0.3s,baz=77,slow=14,SNR=47									
ASAJ					LR	LR	04 27 00.7			
	comp=Z,215nm,18.6s,baz=344,slow=36									
JKK2	**Kamakawa 2**	**9.38**	**245**		P	**Pn**	**04 23 37.9**			**+1.6**
BKI	**Bering**	**9.77**	**42**		PN	Pn	04 23 37.4			-4.2
BKI	**Bering**	**9.77**	**42**	*e*P		Pn	04 23 37.4			-4.2
BKI				*e*S		Sn	04 25 17.0			-13
JCH	**Churui**	**9.78**	**238**		P	**Pn**	**04 23 39.3**			**-2.4**
JCH				*e*S		Sn	04 25 22.7			-7.2
JAB	**Ashibetsu**	**9.90**	**245**		P	**Pn**	**04 23 45.4**			**+2.0**
NKL	**Nikolayevsk**	**9.96**	**303**	*e*P		**Pn**	**04 23 47.0**			**+2.9**
NKL				*e*rx		rx	04 23 54.0			
NKL					AMB	AMB	04 23 54.0			
	comp=Z,28nm,1.1s									
NKL					AMB	AMB	04 23 54.0			
	comp=Z,30nm,1.1s									
NKL					AMB	AMB	04 23 54.0			
	comp=Z,55nm,1.1s									
ERM	**Erimo**	**10.29**	**236**	*c i*	PN	Pn	04 23 43.4			-5.3
JNB	**Noboribetsu**	**11.21**	**243**		P	**Pn**	**04 24 00.2**			**-1.1**
JKB	**Kayabe**	**11.57**	**240**		P	Pn	04 24 03.0			-3.2
JSH	**Shimam**	**11.71**	**246**		P	**Pn**	**04 24 07.9**			**-0.1**
GRNR	**Gornyy**	**11.99**	**288**	*e*P		**Pn**	**04 24 14.0**			**+2.1**
JTM	**Tenmabayashi**	**12.28**	**236**		P	Pn	04 24 11.0			-4.8
JANG	**Nango**	**12.32**	**234**		P	Pn	04 24 10.3			-6.2
FX1	**Attu Island--F**	**12.60**	**62**	*e*Pn		Pn	04 24 17.0			-3.2
FX1					S	Sn	04 26 26.9			-12
FX1				*e*S		Sn	04 26 28.8			-10
FX1	**Attu Island--F**	**12.60**	**62**	P		Pn	04 24 17.1			-3.2
	comp=Z,6.7nm,0.3s,baz=356,slow=3.2,SNR=30									
FX1					S	Sn	04 26 26.9			-12
	comp=Z,4.9nm,0.3s,baz=69,slow=24,SNR=6.9									
FX1					LR	LR	04 29 51.9			
	comp=Z,68nm,19.7s,baz=262,slow=40									
HABR	**Khabarovsk**	**12.95**	**277**		PN	Pn	04 24 20.7			-4.2
HABR					*e*SS	SS	04 26 59.8			
HABR					pmax	pmax				
	comp=Z,47nm,1.4s									
HABR					MLR	MLR				
	comp=Z,227nm,17.0s									
SMY	**Shemya**	**13.13**	**64**	*e*PN		Pn	04 24 24.0			-3.3
SMY	**Shemya**	**13.13**	**64**	*e*Pn		Pn	04 24 24.0			-3.3
EKMR	**Ekimchan**	**14.41**	**297**	*e*P		**Pn**	**04 24 45.0**			**+0.5**
EKMR					AMB	AMB	04 25 02.5			
	comp=Z,11nm,0.8s									
SEY	**Seymchan**	**14.57**	**356**	ǁ *e*P		**Pn**	**04 24 45.9**			**-0.5**
SEY	**Seymchan**	**14.57**	**356**	P		**Pn**	**04 24 46.8**			**+0.4**
SEY	**Seymchan**	**14.57**	**356**	P		**Pn**	**04 24 46.8**			**+0.4**
	comp=Z,0.2nm,0.3s,baz=53,slow=24,SNR=13									
SEY	**Seymchan**	**14.57**	**356**	*e*P		**Pn**	**04 24 45.9**			**-0.5**
KLR	**Kul'dur**	**15.03**	**282**	*e*P		**Pn**	**04 24 51.2**			**-1.2**
KLR	**Kul'dur**	**15.03**	**282**	*e*P		**Pn**	**04 24 51.2**			**-1.2**
USRK	**Ussuriysk Arra**	**16.14**	**263**	P		**Pn**	**04 25 07.4**			**+0.8**
	comp=Z,0.8nm,0.3s,baz=68,slow=13,SNR=16									
USRK					LR	LR	04 31 04.6			

ILAR	**Eielson Array**	**34.62**	**40**	P		**P**		**04 28 06.2**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=249,slow=6.6,SNR=22								
EGAK	**Eagle**	**37.06**	**40**	*e*P		**P**		**04 28 27.5**	**+0.1**
LZH	**Lanzhou**	**38.82**	**271**	*e*P		**P**		**04 28 44.8**	**+2.0**
LZH				PP		**PnPn**		**04 30 18.0**	**+2.6**
LZH				pmax	pmax				
	comp=Z,21nm,1.3s								
LZH				pmax	pmax				
	comp=Z,75nm,5.2s								
LZH				LR	LR				
	comp=Z,410nm,13.6s								
LZH				LR	LR				
	comp=Z,390nm,13.3s								
LZH				LR	LR				
	comp=Z,460nm,17.5s								
GTA	**Gaotai**	**39.68**	**278**	*e*P		**P**		**04 28 50.6**	**+0.7**
GTA				PcP		**PcP**		**04 30 56.3**	**+0.9**
GTA				S		**S**		**04 34 45.3**	**-3.4**
GTA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,90nm,6.2s								
GTA				LR	LR				
	comp=Z,98nm,15.2s								
GTA				LR	LR				
	comp=Z,94nm,15.7s								
GTA				LR	LR				
	comp=Z,180nm,16.6s								
INK	**Inuvik**	**39.69**	**34**	*e*P		**P**		**04 28 49.9**	**+0.5**
	comp=Z,5.2nm,0.9s								
INK	**Inuvik**	**39.69**	**34**	P		**P**		**04 28 50.1**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=310,slow=6.9,SNR=29								
CD2	**Chengdu**	**42.00**	**264**	*e*P		**P**		**04 29 10.6**	**+1.7**
CD2				PP		**PP**		**04 30 51.3**	**+4.3**
CD2				S		**S**		**04 35 21.5**	**-1.7**
CD2				pmax	pmax				
	comp=Z,20nm,1.0s								
CD2				pmax	pmax				
	comp=Z,190nm,4.8s								
CD2				LR	LR				
	comp=Z,190nm,10.7s								
CD2				LR	LR				
	comp=Z,120nm,10.7s								
ZALV	**Zalesovo Beam**	**42.42**	**305**	P		**P**		**04 29 10.9**	**-1.1**
ZALV								04 31 03.9	
ZALV	**Zalesovo Beam**	**42.42**	**305**	P		**P**		**04 29 10.9**	**-1.1**
ZALV				PcP		**PcP**		**04 31 03.9**	**0.0**
ZALV	**Zalesovo Beam**	**42.42**	**305**	P		**P**		**04 29 10.9**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=62,slow=9.9,SNR=3.9								
ZALV				PcP		**PcP**		**04 31 03.9**	**0.0**
	comp=Z,4.0nm,0.8s,baz=82,slow=3.1,SNR=15								
ZALV				LR	LR			04 47 27.4	
	comp=Z,68nm,21.5s,baz=70,slow=37								
GYA	**Guiyang**	**43.04**	**257**	*e*P		**P**		**04 29 18.8**	**+1.3**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
DLBC	**Dease Lake**	**43.72**	**47**	P		**P**		**04 29 24.4**	**+1.9**
DLBC	**Dease Lake**	**43.72**	**47**	P		**P**		**04 29 24.4**	**+1.9**
	comp=Z,4.3nm,0.9s,baz=276,slow=9.2,SNR=5.4								
WMQ	**Urumqi**	**45.23**	**290**	P		**P**		**04 29 36.6**	**+1.8**
WMQ				PP		**PP**		**04 31 23.8**	**+2.5**
WMQ				ScP		**ScP**		**04 35 01.3**	**+0.7**
WMQ				sS		**sS**		**04 36 41.0**	**+3.6**
WMQ				ScS		**ScS**		**04 39 23.8**	**-1.5**
WMQ				LR	LR				
	comp=Z,45nm,25.4s								
WMQ				LR	LR				
	comp=Z,48nm,21.7s								
WMQ				LR	LR				
	comp=Z,64nm,23.6s								
QIZ	**Qiongzhong**	**46.41**	**247**	P		**P**		**04 29 45.4**	**+1.2**
MK31	**Makanchi Array**	**47.04**	**297**	*e*P		**P**		**04 29 47.4**	**-1.4**
MK31	**Makanchi Array**	**47.04**	**297**	*e*P		**P**		**04 29 47.4**	**-1.4**
MKAR	**Makanchi Array**	**47.04**	**297**	P		**P**		**04 29 47.5**	**-1.4**
MKAR								04 31 20.1	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**47.04**	**297**	*e*P		**P**		**04 29 48.3**	**-0.5**
MKAR				PcP		**PcP**		**04 31 20.1**	**+0.1**
MKAR	**Makanchi Array**	**47.04**	**297**	P		**P**		**04 29 47.5**	**-1.4**
	comp=Z,3.4nm,0.6s,baz=66,slow=7.8,SNR=42								
MKAR				PcP		**PcP**		**04 31 20.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=54,slow=4.3,SNR=3.5								
MKAR				LR	LR			04 51 03.5	
	comp=Z,92nm,18.5s,baz=354,slow=38								
KURK	**Kurchatov**	**47.24**	**303**	*e*P		**P**		**04 29 49.6**	**-0.7**
KURK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
KURK	**Kurchatov**	**47.24**	**303**	*e*P		**P**		**04 29 49.3**	**-1.1**
	comp=Z,3.7nm,0.6s								
RES	**Resolute Bay**	**48.91**	**19**	P		**P**		**04 30 03.1**	**+0.2**
RES	**Resolute Bay**	**48.91**	**19**	P		**P**		**04 30 03.1**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=306,slow=6.3,SNR=10.0								
RES				LR	LR			04 52 49.4	
	comp=Z,63nm,18.1s,baz=353,slow=38								
YKA	**Yellowknife Ar**	**48.98**	**38**	P		**P**		**04 30 03.9**	**+0.4**
YKA	**Yellowknife Ar**	**48.98**	**38**	P		**P**		**04 30 03.9**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=298,slow=7.3,SNR=41								
BVAR	**Borovoye Array**	**50.54**	**309**	LR		LR		04 53 24.7	
	comp=Z,102nm,19.0s,baz=68,slow=38								
BRVK	**Borovoye**	**50.58**	**309**	*e*P		**P**		**04 30 15.3**	**-0.5**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CHTO	**Chiang Mai**	**53.46**	**257**	*e*P		**P**		**04 30 37.6**	**-0.1**
CHTO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CHTO	**Chiang Mai**	**53.46**	**257**	*e*P		**P**		**04 30 37.6**	**-0.1**
	comp=Z,3.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**53.72**	**256**	P		**P**		**04 30 40.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**53.72**	**256**	P		**P**		**04 30 40.6**	**+1.1**
	comp=Z,10nm,0.8s,baz=32,slow=7.3,SNR=34								
CMAR				LR		LR		04 55 17.9	
	comp=Z,33nm,18.5s,baz=210,slow=38								
AAK	**Ala-Archa**	**53.96**	**296**	*de*P		**P**		**04 30 40.8**	**-0.4**
AAK				pmax	pmax				
	comp=Z,9.0nm,1.2s								
AAK	**Ala-Archa**	**53.96**	**296**	*e*P		**P**		**04 30 41.0**	**-0.2**
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**53.96**	**296**	LR		LR		04 54 48.7	
	comp=Z,68nm,20.4s,baz=36,slow=37								
EDM	**Edmonton**	**54.44**	**48**	*e*P		**P**		**04 30 44.9**	**+0.5**
EDM	**Edmonton**	**54.44**	**48**	*e*P		**P**		**04 30 44.9**	**+0.5**
KSH	**Kashi**	**54.91**	**292**	*e*P		**P**		**04 30 50.0**	**+1.9**
KSH				*e*PP		**PP**		**04 32 55.0**	**+3.7**
KSH				*e*PcS		**PcS**		**04 35 50.8**	**+1.4**
KSH				*e*S		**S**		**04 38 21.3**	**-3.6**
KSH				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KSH				pmax	pmax				
	comp=Z,78nm,3.1s								
KSH				LR	LR				
	comp=Z,64nm,4.6s								
KSH				LR	LR				
	comp=Z,85nm,4.9s								
KSH				LR	LR				
	comp=Z,61nm,5.7s								
KKAR	**Karatay Array**	**56.04**	**299**	*e*P		**P**		**04 30 55.5**	**-0.5**
KKAR	**Karatay Array**	**56.04**	**299**	*e*P		**P**		**04 30 55.5**	**-0.5**
YBH	**Yreka Blue Hor**	**56.09**	**63**	LR		LR		04 54 18.9	
	comp=Z,65nm,18.2s,baz=250,slow=35								
ARCES	**ARCESS Array B**	**56.56**	**341**	LR		LR		04 58 30.9	
	comp=Z,86nm,19.6s,baz=38,slow=39								
HNR	**Honiara**	**57.83**	**174**	LR		LR		04 52 17.4	
	comp=Z,47nm,21.7s,baz=350,slow=32								
SLMT	**Seeley Lake**	**57.95**	**53**	*e*P		**P**		**04 31 10.3**	**+0.6**
	comp=Z,2.7nm,0.6s								
ABKAR	**Akbulak array**	**58.09**	**310**	*e*P		**P**		**04 31 09.1**	**-1.2**
AKTO	**Aktyubinsk**	**58.32**	**312**	LR		LR		04 59 02.8	
	comp=Z,54nm,18.8s,slow=39								
FFC	**Flin Flon**	**58.81**	**41**	*e*P		**P**		**04 31 16.5**	**+1.2**
FFC				pmax	pmax				
	comp=Z,6.0nm,0.9s								
FFC	**Flin Flon**	**58.81**	**41**	*e*P		**P**		**04 31 16.5**	**+1.2**
	comp=Z,5.8nm,0.9s								
FCC	**Fort Churchill**	**59.31**	**34**	*e*P		**P**		**04 31 19.0**	**+0.4**
FCC	**Fort Churchill**	**59.31**	**34**	*e*P		**P**		**04 31 19.0**	**+0.4**
	comp=Z,0.2nm,0.9s								
LRM	**Limekiln Ridge**	**59.40**	**54**	*e*P		**P**		**04 31 21.0**	**+1.1**
	comp=Z,32nm,1.1s								
NVAR	**Mina Array Bea**	**60.80**	**64**	P		**P**		**04 31 29.7**	**+0.2**
NVAR	**Mina Array Bea**	**60.80**	**64**	P		**P**		**04 31 29.7**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=299,slow=7.4,SNR=7.2								
H17A	**Grant Village**	**61.34**	**54**	*e*P		P		04 31 35.6	+2.5
	comp=Z,6.4nm,1.0s								
TPAW	**Teton Pass**	**61.72**	**55**	*e*P		**P**		**04 31 37.8**	**+2.1**
	comp=Z,5.7nm,1.0s								
LOHW	**Long Hollow**	**61.83**	**55**	*e*P		P		04 31 38.8	+2.4
	comp=Z,30nm,2.3s								
REDW	**Red Top Meadow**	**61.86**	**56**	*e*P		**P**		**04 31 38.6**	**+1.9**
	comp=Z,10nm,1.3s								
LAO	**LASA Array**	**62.11**	**50**	*e*P		**P**		**04 31 39.1**	**+1.1**
	comp=Z,73nm,2.3s								
DUG	**Dugway**	**62.86**	**59**	*e*P		**P**		**04 31 44.1**	**+0.9**
DUG				pmax	pmax				
	comp=Z,74nm,3.0s								
DUG	**Dugway**	**62.86**	**59**	*e*P		**P**		**04 31 44.1**	**+0.9**
	comp=Z,74nm,3.0s								
FINES	**FINESS Array B**	**62.91**	**335**	P		**P**		**04 31 41.9**	**-1.1**
FINES	**FINESS Array B**	**62.91**	**335**	P		**P**		**04 31 41.9**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=43,slow=7.3,SNR=6.9								
FINES				LR		LR		05 01 10.8	
	comp=Z,83nm,19.9s,baz=354,slow=38								
BW06	**Boulder Array**	**62.97**	**55**	*e*P		**P**		**04 31 44.7**	**+0.7**
	comp=Z,8.0nm,1.4s								
PDAR	**Pinedale Array**	**62.97**	**55**	P		**P**		**04 31 44.7**	**+0.7**
PDAR	**Pinedale Array**	**62.97**	**55**	P		**P**		**04 31 44.7**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=318,slow=2.5,SNR=18								
FRB	**Frobisher Bay**	**63.12**	**20**	LR		LR		05 00 34.3	
	comp=Z,57nm,19.8s,baz=6.0,slow=37								
ULM	**Lac du Bonnet**	**64.60**	**42**	P		**P**		**04 31 54.2**	**-0.1**
ULM	**Lac du Bonnet**	**64.60**	**42**	P		**P**		**04 31 54.2**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=314,slow=8.3,SNR=8.0								
SRU	**San Rafael**	**64.89**	**59**	*e*P		**P**		**04 31 57.2**	**+0.6**
SRU				pmax	pmax				
	comp=Z,5.0nm,0.7s								
SRU	**San Rafael**	**64.89**	**59**	*e*P		**P**		**04 31 57.2**	**+0.6**
	comp=Z,5.4nm,0.7s								
RSSD	**Black Hills**	**64.99**	**51**	*e*P		**P**		**04 31 57.8**	**+0.5**
RSSD				pmax	pmax				
	comp=Z,1.0nm,0.6s								
RSSD	**Black Hills**	**64.99**	**51**	*e*P		**P**		**04 31 57.8**	**+0.5**
	comp=Z,1.0nm,0.6s								
AGMN	**Agassiz Nation**	**66.02**	**44**	*e*P		**P**		**04 32 03.9**	**+0.4**
	comp=Z,42nm,2.1s								
NB2	**NORSAR Subarra**	**66.93**	**342**	P		**P**		**04 32 09.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**66.93**	**342**	P		**P**		**04 32 09.1**	**-0.1**
NOA	**NORSAR Array B**	**66.93**	**342**	P		**P**		**04 32 09.1**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=25,slow=6.3,SNR=4.9								
NOA				LR		LR		05 05 30.4	
	comp=Z,30nm,19.6s,baz=10.0,slow=40								
ISCO	**Idaho Springs**	**67.16**	**55**	*e*P		**P**		**04 32 12.2**	**+0.8**
ISCO				pmax	pmax				
	comp=Z,37nm,2.2s								
ISCO	**Idaho Springs**	**67.16**	**55**	*e*P		**P**		**04 32 12.2**	**+0.8**
	comp=Z,37nm,2.2s								
HYB	**Hyderabad**	**67.93**	**272**	*i* P		**P**		**04 32 15.0**	**-1.1**
EYMN	**Ely**	**68.24**	**41**	*e*P		**P**		**04 32 18.6**	**+0.9**
	comp=Z,4.7nm,0.8s								
CTA	**Charters Tower**	**68.63**	**188**	P		**P**		**04 32 19.5**	**-0.7**
CTA	**Charters Tower**	**68.63**	**188**	P		**P**		**04 32 19.5**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=308,slow=5.8,SNR=5.3								
ECSD	**EROS Data Cent**	**69.01**	**47**	*e*P		**P**		**04 32 22.5**	**0.0**
POO	**Poona**	**70.26**	**276**	*ex*		**P**		**04 32 29.0**	**-1.6**
KIV	**Kislovodsk**	**70.30**	**315**	*e*P		**P**		**04 32 28.9**	**-1.6**
KIV				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,48nm,18.0s								
KBZ	**Khabaz**	**70.37**	**314**	P		**P**		**04 32 30.8**	**0.0**
KBZ	**Khabaz**	**70.37**	**314**	P		**P**		**04 32 30.8**	**0.0**
KBZ	**Khabaz**	**70.37**	**314**	P		**P**		**04 32 30.8**	**0.0**
	comp=Z,2.0nm,0.9s,baz=318,slow=16,SNR=3.8								
KBZ				LR		LR		05 06 51.5	
	comp=Z,58nm,18.9s,baz=30,slow=39								
WRAB	**Tennant Creek**	**70.43**	**200**	*e*P		**P**		**04 32 31.3**	**0.0**
WRAB				pmax	pmax				
	comp=Z,33nm,1.7s								
WRAB	**Tennant Creek**	**70.43**	**200**	*e*P		**P**		**04 32 31.1**	**-0.3**
	comp=Z,7.6nm,0.8s								
WRA	**Warramunga Arr**	**70.44**	**200**	P		**P**		**04 32 30.9**	**-0.5**
WRA	**Warramunga Arr**	**70.44**	**200**	P		**P**		**04 32 30.9**	**-0.5**
	comp=Z,7.6nm,0.7s,baz=17,slow=6.4,SNR=50								
AKASG	**Malin Array Be**	**70.67**	**327**	P		**P**		**04 32 30.8**	**-1.7**
AKASG	**Malin Array Be**	**70.67**	**327**	P		**P**		**04 32 30.8**	**-1.7**
AKASG	**Malin Array Be**	**70.67**	**327**	P		**P**		**04 32 30.8**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=32,slow=6.0,SNR=4.1								
AKASG				LR		LR		05 05 59.3	
	comp=Z,46nm,18.5s,baz=355,slow=38								
SCHQ	**Schefferville**	**71.36**	**24**	P		**P**		**04 32 36.6**	**0.0**
SCHQ	**Schefferville**	**71.36**	**24**	P		**P**		**04 32 36.6**	**0.0**
	comp=Z,2.1nm,0.4s,baz=279,slow=11,SNR=11								
ASAR	**Alice Springs**	**74.14**	**200**	P		**P**		**04 32 53.9**	**+0.5**
ASAR	**Alice Springs**	**74.14**	**200**	P		**P**		**04 32 53.9**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=14,slow=5.6,SNR=34								
CLL	**Collm**	**75.31**	**336**	*e*P		**P**		**04 33 00.0**	**+0.1**
CLL	**Collm**	**75.31**	**336**	*e*P		**P**		**04 33 00.0**	**+0.1**
TXAR	**Lajitas Array**	**75.82**	**62**	P		**P**		**04 33 03.8**	**+0.4**
TXAR	**Lajitas Array**	**75.82**	**62**	P		**P**		**04 33 03.8**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=300,slow=4.2,SNR=13								
GERES	**GERESS Array B**	**77.34**	**335**	P		**P**		**04 33 11.3**	**-0.3**
GERES	**GERESS Array B**	**77.34**	**335**	P		**P**		**04 33 11.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=30,slow=6.2,SNR=5.2								
GERES				LR		LR		05 10 12.2	
	comp=Z,54nm,20.0s,baz=12,slow=38								
BRTR	**Keskin Array B**	**77.81**	**317**	P		**P**		**04 33 14.5**	**+0.1**
BRTR	**Keskin Array B**	**77.81**	**317**	P		**P**		**04 33 14.5**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=87,slow=2.4,SNR=3.6								
BCLA	**Clavier**	**78.02**	**340**	P		**P**		**04 33 15.8**	**+0.6**
	comp=Z,22nm,2.4s								
SFTF	**Sexfontaines**	**80.16**	**340**	*e*P		**P**		**04 33 26.9**	**-0.1**
	comp=Z,42nm,1.2s								
SFTF	**Sexfontaines**	**80.16**	**340**	*e*P		**P**		**04 33 26.9**	**-0.1**
	comp=Z,42nm,1.2s								
STKA	**Stephens Creek**	**80.80**	**191**	P		**P**		**04 33 29.7**	**-0.7**
STKA	**Stephens Creek**	**80.80**	**191**	P		**P**		**04 33 29.7**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=45,slow=7.1,SNR=4.4								
LOR	**Lormes**	**81.31**	**340**	*e*P		**P**		**04 33 32.8**	**-0.4**
	comp=Z,20nm,1.1s								
LOR				*e*R					
	comp=Z,94nm,17.0s								
LOR	**Lormes**	**81.31**	**340**	*e*P		**P**		**04 33 32.8**	**-0.4**
	comp=Z,20nm,1.1s								
CABF	**La Chapelle**	**81.41**	**339**	*e*P		**P**		**04 33 33.8**	**0.0**
	comp=Z,17nm,1.1s								
CABF	**La Chapelle**	**81.41**	**339**	*e*P		**P**		**04 33 33.8**	**0.0**
CABF				pmax	pmax				
	comp=Z,17nm,1.1s								
CABF	**La Chapelle**	**81.41**	**339**	*e*P		**P**		**04 33 33.8**	**0.0**
	comp=Z,17nm,1.1s								
SSF	**Saint Saulge**	**81.59**	**340**	*e*P		**P**		**04 33 34.2**	**-0.4**
	comp=Z,22nm,1.1s								
SSF	**Saint Saulge**	**81.59**	**340**	*e*P		**P**		**04 33 34.2**	**-0.4**
SSF				pmax	pmax				
	comp=Z,22nm,1.1s								
SSF	**Saint Saulge**	**81.59**	**340**	*e*P		**P**		**04 33 34.2**	**-0.4**
	comp=Z,22nm,1.1s								
AVF	**Avril sur Loir**	**81.88**	**340**	*e*P		**P**		**04 33 36.0**	**-0.1**
	comp=Z,10nm,0.8s								
AVF	**Avril sur Loir**	**81.88**	**340**	*e*P		**P**		**04 33 36.0**	**-0.1**
AVF				pmax	pmax				
	comp=Z,10.0nm,0.8s								
AVF	**Avril sur Loir**	**81.88**	**340**	*e*P		**P**		**04 33 36.0**	**-0.1**
	comp=Z,10nm,0.8s								
SMF	**Signal de Mont**	**81.91**	**340**	*e*P		**P**		**04 33 36.2**	**-0.1**
	comp=Z,36nm,1.2s								
SMF	**Signal de Mont**	**81.91**	**340**	*e*P		**P**		**04 33 36.2**	**-0.1**
SMF				pmax	pmax				
	comp=Z,37nm,1.2s								
SMF	**Signal de Mont**	**81.91**	**340**	*e*P		**P**		**04 33 36.2**	**-0.1**
	comp=Z,36nm,1.2s								
LPL	**La Plagne**	**82.28**	**338**	*e*P		**P**		**04 33 39.1**	**+0.6**
	comp=Z,11nm,0.8s								
LPL	**La Plagne**	**82.28**	**338**	*e*P		**P**		**04 33 39.1**	**+0.6**
LPL				pmax	pmax				
	comp=Z,11nm,0.8s								
LPL	**La Plagne**	**82.28**	**338**	*e*P		**P**		**04 33 39.1**	**+0.6**
	comp=Z,11nm,0.8s								
LPG	**La Plagne**	**82.29**	**338**	*e*P		**P**		**04 33 39.3**	**+0.6**
	comp=Z,14nm,0.9s								
LPG	**La Plagne**	**82.29**	**338**	*e*P		**P**		**04 33 39.3**	**+0.6**
LPG				pmax	pmax				
	comp=Z,14nm,0.9s								
LPG	**La Plagne**	**82.29**	**338**	*e*P		**P**		**04 33 39.3**	**+0.6**
	comp=Z,14nm,0.9s								
TCF	**Toulx Ste Croi**	**82.61**	**341**	*e*P		**P**		**04 33 40.1**	**+0.1**
	comp=Z,29nm,1.2s								
TCF	**Toulx Ste Croi**	**82.61**	**341**	*e*P		**P**		**04 33 40.1**	**+0.1**
TCF				pmax	pmax				
	comp=Z,29nm,1.2s								
TCF	**Toulx Ste Croi**	**82.61**	**341**	*e*P		**P**		**04 33 40.1**	**+0.1**
	comp=Z,29nm,1.2s								
MFF	**Saint Martin d**	**82.79**	**343**	*e*P		**P**		**04 33 40.9**	**0.0**
	comp=Z,21nm,0.9s								
MFF	**Saint Martin d**	**82.79**	**343**	*e*P		**P**		**04 33 40.9**	**0.0**
MFF				pmax	pmax				
	comp=Z,21nm,0.9s								
MFF	**Saint Martin d**	**82.79**	**343**	*e*P		**P**		**04 33 40.9**	**0.0**
	comp=Z,21nm,0.9s								
MBDF	**Montbardon**	**83.00**	**337**	*e*P		**P**		**04 33 42.3**	**+0.1**
MBDF	**Montbardon**	**83.00**	**337**	*e*P		**P**		**04 33 42.3**	**+0.1**
MBDF	**Montbardon**	**83.00**	**337**	*e*P		**P**		**04 33 42.3**	**+0.1**
ORIF	**Oris-en-Rattie**	**83.05**	**338**	*e*P		**P**		**04 33 43.1**	**+0.7**
	comp=Z,20nm,1.1s								
ORIF				*e*R					
	comp=Z,112nm,19.0s								
ORIF	**Oris-en-Rattie**	**83.05**	**338**	*e*P		**P**		**04 33 43.1**	**+0.7**
ORIF				pmax	pmax				
	comp=Z,20nm,1.1s								
ORIF	**Oris-en-Rattie**	**83.05**	**338**	*e*P		**P**		**04 33 43.1**	**+0.7**
	comp=Z,20nm,1.1s								
VIVF	**Saint-Julien-l**	**83.40**	**339**	*e*P		**P**		**04 33 44.5**	**+0.4**
	comp=Z,18nm,1.0s								
VIVF	**Saint-Julien-l**	**83.40**	**339**	*e*P		**P**		**04 33 44.5**	**+0.4**
VIVF				pmax	pmax				
	comp=Z,18nm,1.0s								
VIVF	**Saint-Julien-l**	**83.40**	**339**	*e*P		**P**		**04 33 44.5**	**+0.4**
	comp=Z,18nm,1.0s								
SBF	**Sospel**	**83.64**	**337**	*e*P		**P**		**04 33 45.0**	**-0.4**
	comp=Z,40nm,0.9s								
SBF	**Sospel**	**83.64**	**337**	*e*P		**P**		**04 33 45.0**	**-0.4**
SBF				pmax	pmax				
	comp=Z,40nm,0.9s								
SBF	**Sospel**	**83.64**	**337**	*e*P		**P**		**04 33 45.0**	**-0.4**
	comp=Z,40nm,0.9s								
LMR	**La Mourre**	**84.37**	**337**	*e*P		**P**		**04 33 49.1**	**+0.1**
	comp=Z,31nm,1.1s								
LMR	**La Mourre**	**84.37**	**337**	*e*P		**P**		**04 33 49.1**	**+0.1**
LMR				pmax	pmax				
	comp=Z,31nm,1.1s								
LMR	**La Mourre**	**84.37**	**337**	*e*P		**P**		**04 33 49.1**	**+0.1**
	comp=Z,31nm,1.1s								
PGF	**Pioggiola**	**84.43**	**335**	*e*P		**P**		**04 33 49.0**	**-0.5**
	comp=Z,11nm,0.8s								
PGF	**Pioggiola**	**84.43**	**335**	*e*P		**P**		**04 33 49.0**	**-0.5**
PGF				pmax	pmax				
	comp=Z,11nm,0.8s								
PGF	**Pioggiola**	**84.43**	**335**	*e*P		**P**		**04 33 49.0**	**-0.5**
	comp=Z,11nm,0.8s								
EPF	**Esparros**	**86.11**	**341**	*e*P		**P**		**04 33 57.4**	**-0.4**
	comp=Z,25nm,1.2s								
EPF	**Esparros**	**86.11**	**341**	*e*P		**P**		**04 33 57.4**	**-0.4**
EPF				pmax	pmax				
	comp=Z,25nm,1.2s								
EPF	**Esparros**	**86.11**	**341**	*e*P		**P**		**04 33 57.4**	**-0.4**
	comp=Z,25nm,1.2s								
KEST	**Kesra**	**90.63**	**332**	P		**P**		**04 34 19.3**	**-0.1**
KEST	**Kesra**	**90.63**	**332**	P		**P**		**04 34 19.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=313,slow=7.3,SNR=5.3								
TORD	**Torodi Ar. Bea**	**114.11**	**331**	PKiKP		**PKiKP**		**04 39 55.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**114.11**	**331**	PKiKP		**PKiKP**		**04 39 55.4**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=37,slow=2.3,SNR=2.7								
H03N2	**Juan Fernandez**	**137.78**	**89**	T		T		07 13 52.4	
	baz=307,slow=75,SNR=136								
H03N1	**Juan Fernandez**	**137.79**	**89**	T		T		07 13 58.4	
	baz=307,slow=75,SNR=126								
H03N3	**Juan Fernandez**	**137.79**	**89**	T		T		07 13 58.7	
	baz=307,slow=75,SNR=140								
PLCA	**Paso Flores**	**147.37**	**93**	PKPbc		**PKPbc**		**04 40 59.9**	**-0.1**
PLCA	**Paso Flores**	**147.37**	**93**	PKPbc		**PKPbc**		**04 40 59.9**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=325,slow=4.0,SNR=12								

*IDC **20** 04:41:02.8±0.7, 44.35N×111.36W, h0km, mb3.5/2, mb1 3.6/7, mb1mx3.3/52, mbtmp3.4/7, ML2.9/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/34, Error ellipse: s-maj=11.3km s-min=6.3km az=52.0*

*ISCJB **20** 04:41:03.4±0.2, 44.58N±0.02×110.99W±0.03, h10km, mb3.3/2, Error ellipse: s-maj=2.9km s-min=2.4km az=139.0*

*NEIC **20** 04:41:03.0,

TCUT					*e*S	**Sg**	04 42 55.2	+0.1
EGMT	**Eagleton**	**3.56**	**13**		*e*Pn	**Pn**	04 42 00.4	+1.4
EGMT					*e*Pg	**Pg**	04 42 11.9	+0.1
EGMT					*e*S	**Sb**	04 42 52.3	+2.3
SWMT	**Swartz Lake**	**3.61**	**325**		*e*Pn	**Pn**	04 42 00.3	+0.4
SWMT					*e*S	**Sg**	04 42 56.3	-3.4
MFID	**Camas Ranch**	**3.69**	**253**		*e*Pn	**Pn**	04 42 02.3	+1.4
MFID					*e*S	**Sg**	04 42 57.8	-4.4
K22A	**Casper**	**3.76**	**119**		*e*Pn	Pb	04 42 05.8	-4.5
YBMT	**Yellow Bay**	**3.91**	**328**		*e*Pn	**Pn**	04 42 05.5	+1.5
CTU	**Camp Tracy**	**3.92**	**189**		*e*Pn	**Pn**	04 42 03.5	-0.6
CTU					*e*Pg	**Pb**	04 42 15.1	+2.1
CTU					*e*S	**Sg**	04 43 09.6	0.0
JTMT	**Jette**	**3.92**	**325**		*e*Pn	**Pn**	04 42 05.1	+1.0
JTMT					*e*Pg	**Pg**	04 42 18.2	-0.6
JTMT					*e*S	**Sg**	04 43 07.4	-2.2
BGU	**Big Grassy Mou**	**3.95**	**203**		*e*Pn	**Pn**	04 42 06.0	+1.5
BGU					*e*S	**Sn**	04 42 55.5	+4.5
LAO	**LASA Array**	**3.95**	**56**	Pn		**Pn**	04 42 05.6	+1.2
LAO				*e*Pg		**Pb**	04 42 15.5	+2.0
LAO				*e*S		**Sg**	04 43 07.3	-3.2
JLU	**Jordanelle**	**3.98**	**185**	*e*Pn		**Pn**	04 42 02.7	-2.4
JLU				Pg		**Pg**	04 42 16.9	-3.1
JLU				*e*S		**Sb**	04 43 04.6	+2.2
DAU	**Daniels Canyon**	**4.16**	**183**	*e*Pn		**Pn**	04 42 06.8	-0.8
DAU				*e*Pg		**Pg**	04 42 21.2	-2.3
DAU				*e*S		**Sg**	04 43 13.9	-3.5
BLMT	**Blacktail Moun**	**4.16**	**327**	*e*Pn		**Pn**	04 42 08.5	+1.0
BLMT				*e*Pg		**Pg**	04 42 23.1	-0.4
BLMT				*e*S		**Sg**	04 43 16.8	-0.7
BSMT	**Bassoo Peak**	**4.21**	**322**	*e*Pn		**Pn**	04 42 09.3	+1.1
BSMT				*e*S		**Sb**	04 43 13.5	+4.5
BMO	**Blue Mountains**	**4.52**	**276**	*e*Pn		**Pn**	04 42 13.4	+1.1
BMO				Pg		**Pg**	04 42 27.9	-2.4
BMO				*e*S		**Sg**	04 43 25.6	-3.3
MPU	**Maple Canyon**	**4.58**	**186**	*e*Pn		**Pn**	04 42 13.2	-0.1
MPU				*e*S		**Sg**	04 43 29.8	-1.0
DUG	**Dugway**	**4.58**	**198**	*e*Pn		**Pn**	04 42 12.4	-0.8
DUG				*e*Pg		**Pg**	04 42 31.6	+0.1
DUG				*e*S		**Sg**	04 43 30.0	-0.8
NLU	**North Lily Min**	**4.69**	**190**	*e*Pn		**Pn**	04 42 16.6	+1.9
O20A	**White River Ci**	**4.88**	**155**	*e*Pn		**Pn**	04 42 16.8	-0.5
O20A				*e*Pg		**Pg**	04 42 34.8	-2.3
O20A				*e*S		**Sg**	04 43 42.5	+2.2
ELK	**Elko**	**4.95**	**221**	Pn		**Pn**	04 42 15.5	-2.9
ELK				Lg		Lg	04 43 28.6	
ELK	**Elko**	**4.95**	**221**	Pn		**Pn**	**04 42 15.5**	**-2.9**
	0.2nm,0.3s,baz=343,slow=11,SNR=6.0							
ELK				Lg		Lg	04 43 28.6	
	0.4nm,0.3s,baz=180,slow=18,SNR=2.1							
RSSD	**Black Hills**	**5.00**	**93**	*e*Pn		**Pn**	**04 42 19.7**	**+0.7**
RSSD				*e*Pg		**Pg**	**04 42 36.4**	**-3.0**
RSSD				*e*S		**Sg**	**04 43 39.8**	**-4.3**
TMUT	**Trail Mountain**	**5.28**	**182**	*e*Pn		**Pn**	**04 42 24.4**	**+1.6**
	17nm,0.8s							
TMUT				*e*Pg		Pg	04 42 48.0	+3.2
SRU	**San Rafael**	**5.47**	**176**	*e*Pn		**Pn**	**04 42 27.4**	**+2.0**
	12nm,0.6s							
SRU				*e*Pg		**Pg**	**04 42 48.1**	**-0.3**
SRU				*e*S		**Sb**	**04 43 43.8**	**-1.3**
NEW	**Newport**	**5.63**	**313**	Pn		**Pn**	**04 42 27.5**	**0.0**
	7.9nm,0.5s							
NEW				Lg		Lg	04 43 58.8	
NEW				*e*S		**Sg**	**04 44 01.7**	**-2.7**
NEW	**Newport**	**5.63**	**313**	Pn		**Pn**	**04 42 28.0**	**+0.5**
	0.8nm,0.3s,baz=125,slow=12,SNR=13							
NEW				Lg		Lg	04 43 58.8	
	3.2nm,0.3s,baz=60,slow=20,SNR=4.7							
WVOR	**Wild Horse Val**	**5.97**	**252**	Pn		**Pn**	**04 42 31.0**	**-1.2**
	11nm,0.6s							
WVOR				Pg		**Pg**	**04 42 55.4**	**-2.6**
WVOR				*e*S		**Sg**	**04 44 14.2**	**-1.1**
DGMT	**Dagmar**	**6.09**	**48**	Pn		**Pn**	**04 42 34.8**	**+1.0**
	169nm,1.3s							
DGMT				*e*Pg		**Pg**	**04 42 57.9**	**-2.4**
DGMT				*e*S		Sg	04 44 11.8	-7.3
ISCO	**Idaho Springs**	**6.21**	**138**	*e*Pn		**Pn**	**04 42 36.8**	**+1.0**
	8.2nm,1.0s							
ISCO				*e*Pg		Pg	04 42 58.6	-4.1
ISCO				*e*S		Sb	04 44 12.6	+5.9
HAWA	**Hanford**	**6.29**	**290**	*e*Pn		**Pn**	**04 42 36.6**	**+0.2**
	12nm,0.8s							
HAWA				*e*Pg		**Pg**	**04 43 02.1**	**-1.9**
HAWA				*e*S		**Sg**	**04 44 22.7**	**-2.7**
PV04	**Paradox Valley**	**6.37**	**165**	*e*Pn		**Pn**	**04 42 38.5**	**+0.8**
PV04				*e*Pg		**Pg**	**04 43 05.3**	**-0.3**
PV04				*e*S		**Sg**	**04 44 26.2**	**-1.9**
NVAR	**Mina Array Bea**	**8.24**	**224**	Lg		Lg	04 45 16.6	
	0.1nm,0.3s,baz=28,slow=22,SNR=2.3							
NVAR				LR		LR	04 46 21.2	
	comp=Z,229nm,18.4s,baz=62,slow=41							
ULM	**Lac du Bonnet**	**11.69**	**56**	Pn		Pn	04 43 54.3	+3.8
ULM				Pg			04 44 38.4	
ULM				Lg		Lg	04 47 01.3	
ULM	**Lac du Bonnet**	**11.69**	**56**	Pn		Pn	04 43 54.3	+3.8
	0.1nm,0.3s,baz=225,slow=11,SNR=3.0							
ULM				Pg			04 44 38.4	
	0.2nm,0.3s,baz=246,slow=18,SNR=3.1							
ULM				Lg		Lg	04 47 01.3	
	0.1nm,0.3s,baz=162,slow=19,SNR=2.9							
YKA	**Yellowknife Ar**	**18.08**	**355**	Pn		**Pn**	**04 45 12.5**	**-2.2**
YKA				Lg		Lg	04 50 22.1	
YKA	**Yellowknife Ar**	**18.08**	**355**	Pn		**Pn**	**04 45 12.5**	**-2.2**
	0.0nm,0.3s,baz=171,slow=12,SNR=5.8							
YKA				Lg		Lg	04 50 22.0	
	0.0nm,0.3s,baz=161,slow=27,SNR=4.1							
ILAR	**Eielson Array**	**28.36**	**328**	P		**P**	**04 46 59.2**	**+1.6**
ILAR	**Eielson Array**	**28.36**	**328**	P		**P**	**04 46 59.2**	**+1.6**
	0.5nm,0.9s,baz=129,slow=7.1,SNR=5.3							
AKASG	**Malin Array Be**	**79.01**	**24**	P		P	04 53 10.6	+3.0
AKASG	**Malin Array Be**	**79.01**	**24**	P		P	04 53 10.6	+3.0
	0.2nm,0.3s,baz=329,slow=5.4,SNR=4.4							
WRA	**Warramunga Arr**	**121.19**	**272**	PKP		**PKPdf**	**04 59 58.9**	**+1.8**
WRA	**Warramunga Arr**	**121.19**	**272**	PKP		**PKPdf**	**04 59 58.9**	**+1.8**
	0.4nm,0.8s,baz=72,slow=0.9,SNR=3.3							

*NOU **20** 04:48:02.3±1.4,20°.16S×169°.47E,h10km,MD3.4,ML3.0*
*IDC **20** 04:48:04.5±3.2,21°.17S×169°.48E,h0km,mb3.7/4,*
mb1 3.8/5,mb1mx3.7/29,mbtmp3.7/5,ML3.5/1,MS3.4/6,
Ms1 3.3/6,ms1mx3.1/27,Error ellipse: s-maj=110.8km
s-min=29.8km az=144.0

ISC 20 04:48:10.7±2.2,21°.4S±0°.5×169°.5E±0°.2,h55km,n11,
σ1s72/12,mb3.7/4,MS3.5/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**2.58**	**253**	*e*S		**Sn**	**04 49 22.1**	**+1.8**
DZM	**Mont Dzumac**	**2.96**	**256**	Pn		**Pn**	**04 48 54.2**	**-1.0**
	5.9nm,0.3s,baz=103,slow=18,SNR=74							
DZM				LR		LR	04 49 22.0	
	comp=Z,107nm,18.3s,baz=27,slow=26							
DZM				Sn		**Sn**	**04 49 31.1**	**+1.4**
	12nm,0.3s,baz=319,slow=22,SNR=7.8							
DZM	**Mont Dzumac**	**2.96**	**256**	*e*P		**Pn**	**04 48 53.3**	**-1.9**
DZM				*e*S		**Sn**	**04 49 30.0**	**+0.4**
DZM				AMP			04 49 37.9	
	comp=Z,468nm,2.3s							
NOUC	**Port Laguerre**	**3.09**	**256**	*e*P		**Pn**	**04 48 53.9**	**-3.1**
NOUC				*e*S		**Sn**	**04 49 33.7**	**+0.9**
NOUC				AMP			04 49 53.4	
	comp=Z,24nm,0.8s							
URZ	**Urewera**	**18.02**	**160**	LR		LR	04 57 48.3	
	comp=Z,116nm,18.4s,baz=354,slow=32							
AFI	**Afiamalu**	**19.29**	**70**	LR		LR	04 57 56.2	
	comp=Z,87nm,19.9s,baz=280,slow=31							
STKA	**Stephens Creek**	**27.00**	**241**	P		**P**	**04 53 49.1**	**+1.5**
	comp=Z,2.3nm,0.8s,baz=73,slow=11,SNR=3.2							
STKA				LR		LR	05 03 21.8	
	comp=Z,117nm,19.4s,baz=34,slow=34							
WRA	**Warramunga Arr**	**32.93**	**266**	P		**P**	**04 54 39.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=96,slow=8.2,SNR=6.6							
WRA				LR		LR	05 08 21.5	
	comp=Z,89nm,18.1s,baz=90,slow=37							
ASAR	**Alice Springs**	**32.95**	**259**	P		**P**	**04 54 40.0**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=86,slow=8.7,SNR=6.3							
ASAR				LR		LR	05 07 13.9	
	comp=Z,114nm,21.5s,baz=88,slow=35							
SONM	**Songino Array**	**89.11**	**323**	P		**P**	**05 01 01.7**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=128,slow=5.3,SNR=2.9							
GERES	**GERESS Array B**	**146.52**	**331**	PKPbc		**PKPab**	**05 07 46.0**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=29,slow=3.0,SNR=10							

*ISCJB **20** 04:53:41.6±0.3,38°.43N±0°.02×21°.92E±0°.03,h16km±3km,*
Error ellipse: s-maj=4.0km s-min=3.2km az=166.3
*ATH **20** 04:53:41.9,38°.42N×21°.93E,h17km±2km,MD2.8/18*
*CSEM **20** 04:53:41.7±0.1,38°.42N×21°.93E,h12km,ML2.4,Error*
ellipse: s-maj=2.7km s-min=2.3km az=83.0
*THE **20** 04:53:42.3,38°.40N×21°.92E,h6km±1km,ML2.4/8,Error*
ellipse: s-maj=1.5km s-min=0.5km az=6.0

ISC 20 04:53:41.8±0.8,38°.42N±0°.02×21°.93E±0°.02,h9km±4km,
n57,σ0s55/93,Greece

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
EFP	**Efpalio**	**0.02**	**285**	P		**Pg**	**04 53 43.2**	**-0.1**
EFP				S		**Sg**	**04 53 44.2**	**-0.2**
EFP	**Efpalio**	**0.02**	**285**	P		**Pg**	**04 53 43.2**	**-0.1**
EFP				S		**Sg**	**04 53 44.2**	**-0.2**
KALE	**Kalithea**	**0.17**	**101**	P		**Pg**	**04 53 45.8**	**+0.4**
KALE				S		**Sg**	**04 53 49.3**	**+1.4**
KALE	**Kalithea**	**0.17**	**101**	*e*PB		**Pg**	**04 53 45.9**	**+0.5**
KALE				*e*SB		**Sg**	**04 53 49.5**	**+1.6**
KALE	**Kalithea**	**0.17**	**101**	*e*Pb		**Pg**	**04 53 45.9**	**+0.5**
KALE				S		**Sg**	**04 53 49.3**	**+1.4**
UPR	**University Cam**	**0.18**	**219**	P		**Pg**	**04 53 45.7**	**+0.2**
UPR	**University Cam**	**0.18**	**219**	P		**Pg**	**04 53 45.7**	**+0.2**
LAKA	**Lakka**	**0.19**	**168**	P		**Pg**	**04 53 45.9**	**+0.3**
LAKA	**Lakka**	**0.19**	**168**	*e*PB		**Pg**	**04 53 46.0**	**+0.3**
LAKA	**Lakka**	**0.19**	**168**	*e*Pb		**Pg**	**04 53 46.0**	**+0.3**
PVO	**Paravola**	**0.37**	**302**	P		**Pg**	**04 53 49.0**	**-0.1**
PVO				S		**Sg**	**04 53 55.2**	**+1.2**
PVO	**Paravola**	**0.37**	**302**	P		**Pg**	**04 53 49.0**	**-0.1**
PVO				S		**Sg**	**04 53 55.2**	**+1.2**
KLV	**Kalavryta, Ach**	**0.42**	**155**	P		**Pg**	**04 53 50.0**	**+0.1**
KLV	**Kalavryta, Ach**	**0.42**	**155**	P		**Pg**	**04 53 50.0**	**+0.1**
DSF	**Desfina**	**0.47**	**91**	P		**Pg**	**04 53 50.8**	**-0.2**
DSF				S		**Sb**	**04 53 59.0**	**-0.4**
DSF	**Desfina**	**0.47**	**91**	*e*PB		**Pg**	**04 53 50.7**	**-0.2**
DSF				*e*SB		**Sb**	**04 53 58.5**	**-0.9**
DSF	**Desfina**	**0.47**	**91**	P		**Pg**	**04 53 50.8**	**-0.2**
DSF				*e*Sb		**Sb**	**04 53 58.5**	**-0.9**
DSF				S		**Sb**	**04 53 59.0**	**-0.4**
DRO	**Drossia**	**0.50**	**200**	P		**Pg**	**04 53 51.3**	**-0.2**
DRO				S		**Sg**	**04 53 58.9**	**+0.9**
DRO	**Drossia**	**0.50**	**200**	*e*PB		**Pg**	**04 53 51.2**	**-0.2**
DRO				*e*SB		**Sg**	**04 53 58.8**	**+0.8**
DRO	**Drossia**	**0.50**	**200**	P		**Pg**	**04 53 51.3**	**-0.2**
DRO				S		**Sg**	**04 53 58.9**	**+0.9**
EVR	**Evrytania**	**0.50**	**349**	P		**Pg**	**04 53 51.6**	**0.0**
EVR				S		**Sb**	**04 54 00.0**	**-0.4**
EVR	**Evrytania**	**0.50**	**349**	*e*PN		**Pg**	**04 53 51.4**	**-0.2**
EVR				*e*SN		**Sg**	**04 53 59.5**	**+1.3**
EVR	**Evrytania**	**0.50**	**349**	P		**Pg**	**04 53 51.6**	**0.0**
EVR				*e*Sn		**Sg**	**04 53 59.5**	**+1.3**
EVR				S		**Sb**	**04 54 00.0**	**-0.4**
RLS	**Riolos of Patr**	**0.51**	**225**	P		**Pg**	**04 53 52.0**	**+0.3**
RLS	**Riolos of Patr**	**0.51**	**225**	*e*PN		**Pg**	**04 53 52.0**	**+0.3**
RLS				*e*SN		**Sg**	**04 53 59.3**	**+0.8**
RLS	**Riolos of Patr**	**0.51**	**225**	P		**Pg**	**04 53 52.0**	**+0.3**
RLS				*e*Sn		**Sg**	**04 53 59.3**	**+0.8**
GUR	**Goura**	**0.58**	**146**	P		**Pg**	**04 53 53.0**	**-0.1**
GUR				S		**Sg**	**04 54 01.0**	**+0.2**
GUR	**Goura**	**0.58**	**146**	*e*PN		**Pg**	**04 53 52.9**	**-0.1**
GUR	**Goura**	**0.58**	**146**	P		**Pg**	**04 53 53.0**	**-0.1**
GUR				S		**Sg**	**04 54 01.0**	**+0.2**
PDO	**Prodromos**	**0.61**	**287**	P		**Pg**	**04 53 53.8**	**+0.2**
PDO				S		**Sb**	**04 54 03.2**	**-0.1**
PDO	**Prodromos**	**0.61**	**287**	*e*PN		**Pg**	**04 53 53.8**	**+0.2**
PDO				*e*SN		**Sb**	**04 54 03.3**	**-0.1**
PDO	**Prodromos**	**0.61**	**287**	P		**Pg**	**04 53 53.8**	**+0.2**
PDO				S		**Sb**	**04 54 03.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.61**	**15**	P		**Pg**	**04 53 53.9**	**+0.4**
MAKR				S		**Sb**	**04 54 03.8**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.61**	**15**	*e*PN		**Pg**	**04 53 54.0**	**+0.4**
MAKR				*e*SN		**Sb**	**04 54 03.4**	**0.0**
MAKR	**Makrakomi, Fth**	**0.61**	**15**	*e*Pn		**Pg**	**04 53 54.0**	**+0.4**
MAKR				*e*Sn		**Sb**	**04 54 03.4**	**0.0**
AGG	**Agios Georgios**	**0.68**	**28**	*e*PB		**Pg**	**04 53 54.5**	**-0.4**
AGG				*e*SN		**Sg**	**04 54 04.3**	**+0.6**
AGG	**Agios Georgios**	**0.68**	**28**	*e*Pb		**Pg**	**04 53 54.5**	**-0.4**
AGG				*e*Sn		**Sg**	**04 54 04.3**	**+0.6**
LKR	**Lokris**	**0.87**	**74**	*e*PN		**Pg**	**04 53 58.6**	**+0.1**
LKR	**Lokris**	**0.87**	**74**	*e*Pn		**Pg**	**04 53 58.6**	**+0.1**
AMT	**Artemida-Makis**	**0.91**	**191**	*e*PN		**Pb**	**04 53 59.6**	**-0.1**
AMT				*e*SN		**Sb**	**04 54 12.2**	**+0.4**
AMT	**Artemida-Makis**	**0.91**	**191**	*e*Pn		**Pb**	**04 53 59.6**	**-0.1**
AMT				*e*Sn		**Sb**	**04 54 12.2**	**+0.4**
LTK	**Loutraki**	**0.91**	**116**	*e*PN		**Pg**	**04 54 00.4**	**+0.4**
LTK	**Loutraki**	**0.91**	**116**	*e*Pn		**Pg**	**04 54 00.4**	**+0.4**
LKD2	**Lefkada island**	**1.06**	**291**	*e*PN		**Pg**	**04 54 02.4**	**+0.3**
LKD2	**Lefkada island**	**1.06**	**291**	*e*Pn		**Pg**	**04 54 02.4**	**+0.3**
VLS	**Valsamata**	**1.08**	**257**	*e*PB		**Pb**	**04 54 01.9**	**-0.8**
VLS	**Valsamata**	**1.08**	**257**	*e*Pb		**Pb**	**04 54 01.9**	**-0.8**
SMIA	**Simia**	**1.10**	**65**	*e*PN		**Pb**	**04 54 03.0**	**0.0**
SMIA	**Simia**	**1.10**	**65**	*e*Pn		**Pb**	**04 54 03.0**	**0.0**
VLX	**Vlachokerasia**	**1.11**	**161**	*e*PN		**Pb**	**04 54 02.6**	**-0.6**
VLX				*e*SN		**Sn**	**04 54 18.7**	**-0.4**
VLX	**Vlachokerasia**	**1.11**	**161**	*e*Pn		**Pb**	**04 54 02.6**	**-0.6**
VLX				*e*Sn		**Sn**	**04 54 18.7**	**-0.4**
THL	**Klokotos Trika**	**1.14**	**3**	*e*PN		**Pb**	**04 54 03.6**	**-0.1**
THL				*e*SN		**Sn**	**04 54 19.6**	**-0.2**
THL	**Klokotos Trika**	**1.14**	**3**	*e*Pn		**Pb**	**04 54 03.6**	**-0.1**
THL				*e*Sn		**Sn**	**04 54 19.6**	**-0.2**
ITM	**Ithomi**	**1.24**	**180**	*e*PN		**Pg**	**04 54 06.2**	**+0.6**
ITM	**Ithomi**	**1.24**	**180**	*e*Pn		**Pg**	**04 54 06.2**	**+0.6**
DID	**Didima**	**1.38**	**131**	*e*PN		**Pb**	**04 54 07.8**	**0.0**
DID	**Didima**	**1.38**	**131**	*e*Pn		**Pb**	**04 54 07.8**	**0.0**

*CSEM **20** 04:59:13.5±0.2,38°.42N×21°.96E,h20km,ML2.0,Error*
ellipse: s-maj=4.0km s-min=3.7km az=100.0
*ATH **20** 04:59:13.7,38°.40N×21°.95E,h24km±2km,MD2.6/12*
*THE **20** 04:59:14.8,38°.42N×21°.93E,h5km±1km,ML2.0/7,Error*
ellipse: s-maj=1.4km s-min=0.4km az=276.0

ISC 20 04:59:13.7±0.9,38°.41N±0°.02×21°.93E±0°.02,h11km±5km,
n42,σ0s46/74,Greece

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
EFP	**Efpalio**	**0.03**	**312**	P		**Pg**	**04 59 15.6**	**-0.1**
EFP				S		**Sg**	**04 59 16.5**	**-0.6**
EFP	**Efpalio**	**0.03**	**312**	P		**Pg**	**04 59 15.6**	**-0.1**
KALE	**Kalithea**	**0.17**	**96**	P		**Pb**	**04 59 18.3**	**-0.6**
KALE				S		**Sg**	**04 59 20.8**	**+0.7**
KALE	**Kalithea**	**0.17**	**96**	*e*PB		**Pb**	**04 59 18.3**	**-0.6**
KALE				*e*SB		**Sg**	**04 59 22.0**	**+1.9**
KALE	**Kalithea**	**0.17**	**96**	P		**Pb**	**04 59 18.3**	**-0.6**
KALE				S		Sg	04 59 20.8	+0.6
KALE				*e*Sb		Sg	04 59 22.0	+1.8
LAKA	**Lakka**	**0.17**	**167**	P		**Pb**	**04 59 18.3**	**-0.7**
LAKA	**Lakka**	**0.17**	**167**	*e*PB		**Pb**	**04 59 18.3**	**-0.7**
LAKA	**Lakka**	**0.17**	**167**	P		**Pb**	**04 59 18.3**	**-0.7**
PVO	**Paravola**	**0.38**	**303**	P		**Pg**	**04 59 21.4**	**+0.2**
PVO				S		**Sb**	**04 59 28.0**	**-0.3**
PVO	**Paravola**	**0.38**	**303**	P		**Pg**	**04 59 21.4**	**+0.2**
PVO				S		**Sb**	**04 59 28.0**	**-0.3**
KLV	**Kalavryta, Ach**	**0.41**	**155**	P		**Pg**	**04 59 22.2**	**+0.5**
KLV				S		**Sb**	**04 59 29.4**	**+0.3**
KLV	**Kalavryta, Ach**	**0.41**	**155**	*e*PB		**Pg**	**04 59 22.2**	**+0.5**
KLV	**Kalavryta, Ach**	**0.41**	**155**	P		**Pg**	**04 59 22.2**	**+0.5**
KLV				S		**Sb**	**04 59 29.4**	**+0.3**
DSF	**Desfina**	**0.47**	**90**	P		**Pb**	**04 59 23.4**	**-0.6**
DSF				S		**Sb**	**04 59 30.6**	**-0.4**
DSF	**Desfina**	**0.47**	**90**	*e*PB		**Pg**	**04 59 23.2**	**+0.3**
DSF				*e*SB		**Sb**	**04 59 31.0**	**0.0**
DSF	**Desfina**	**0.47**	**90**	P		**Pb**	**04 59 23.4**	**-0.6**
DSF				S		**Sb**	**04 59 30.6**	**-0.4**
DSF				*e*Sb		**Sb**	**04 59 31.0**	**0.0**
DRO	**Drossia**	**0.49**	**201**	P		**Pb**	**04 59 23.8**	**-0.5**
DRO				S		**Sb**	**04 59 31.5**	**0.0**
DRO	**Drossia**	**0.49**	**201**	*e*PB		**Pg**	**04 59 23.6**	**+0.3**
DRO				*e*SB		**Sb**	**04 59 31.1**	**-0.4**
DRO	**Drossia**	**0.49**	**201**	P		**Pb**	**04 59 23.8**	**-0.5**
DRO				*e*Sb		**Sb**	**04 59 31.1**	**-0.4**
RLS	**Riolos of Patr**	**0.51**	**226**	*e*PN		**Pb**	**04 59 24.2**	**-0.4**
RLS				*e*SN		**Sb**	**04 59 32.0**	**0.0**
RLS	**Riolos of Patr**	**0.51**	**226**	*e*Pn		**Pb**	**04 59 24.2**	**-0.4**
RLS				*e*Sn		**Sb**	**04 59 32.0**	**0.0**
EVR	**Evrytania**	**0.52**	**349**	P		**Pg**	**04 59 24.0**	**+0.2**
EVR				S		**Sb**	**04 59 32.5**	**+0.1**
EVR	**Evrytania**	**0.52**	**349**	*e*PN		**Pg**	**04 59 24.0**	**+0.2**
EVR				*e*SN		**Sb**	**04 59 32.1**	**-0.3**
EVR	**Evrytania**	**0.52**	**349**	P		**Pg**	**04 59 24.0**	**+0.2**
EVR				*e*Sn		**Sb**	**04 59 32.1**	**-0.3**
GUR	**Goura**	**0.57**	**145**	P		**Pg**	**04 59 25.1**	**+0.2**
GUR				S		**Sb**	**04 59 34.1**	**+0.1**
GUR	**Goura**	**0.57**	**145**	*e*PN		**Pg**	**04 59 25.2**	**+0.3**
GUR	**Goura**	**0.57**	**145**	P		**Pg**	**04 59 25.1**	**+0.2**
GUR				S		**Sb**	**04 59 34.1**	**+0.1**
PDO	**Prodromos**	**0.61**	**288**	P		**Pb**	**04 59 26.4**	**-0.1**
PDO				S		**Sb**	**04 59 35.4**	**+0.2**
PDO	**Prodromos**	**0.61**	**288**	*e*PN		**Pb**	**04 59 26.3**	**-0.2**
PDO				*e*SN		**Sb**	**04 59 36.0**	**+0.8**
PDO	**Prodromos**	**0.61**	**288**	P		**Pb**	**04 59 26.4**	**-0.1**
PDO				S		**Sb**	**04 59 35.4**	**+0.2**
PDO				*e*Sn		**Sb**	**04 59 36.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.62**	**15**	P		**Pb**	**04 59 26.5**	**-0.2**
MAKR				S		**Sb**	**04 59 35.1**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.62**	**15**	*e*PN		**Pb**	**04 59 26.4**	**-0.2**
MAKR				*e*SN		**Sb**	**04 59 36.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**0.62**	**15**	P		**Pb**	**04 59 26.5**	**-0.2**
MAKR				S		**Sb**	**04 59 35.1**	**-0.3**
MAKR				*e*Sn		**Sb**	**04 59 36.3**	**+0.9**
AGG	**Agios Georgios**	**0.69**	**27**	*e*PN		**Pg**	**04 59 27.1**	**0.0**
AGG	**Agios Georgios**	**0.69**	**27**	*e*Pn		**Pg**	**04 59 27.1**	**0.0**
LKR	**Lokris**	**0.87**	**74**	P		**Pb**	**04 59 30.8**	**-0.1**
LKR				S		**Sn**	**04 59 44.1**	**-0.5**
LKR	**Lokris**	**0.87**	**74**	*e*PN		**Pb**	**04 59 30.7**	**-0.1**
LKR				*e*SN		**Sb**	**04 59 42.5**	**-0.1**
LKR	**Lokris**	**0.87**	**74**	*e*Pn		**Pb**	**04 59 30.7**	**-0.1**
LKR				*e*Sn		**Sb**	**04 59 42.5**	**-0.1**
VLS	**Valsamata**	**1.08**	**258**	*e*PN		**Pb**	**04 59 34.1**	**-0.3**
VLS	**Valsamata**	**1.08**	**258**	*e*Pn		**Pb**	**04 59 34.1**	**-0.3**
THL	**Klokotos Trika**	**1.16**	**3**	*e*PN		**Pg**	**04 59 35.7**	**-0.2**
THL	**Klokotos Trika**	**1.16**	**3**	*e*Pn		**Pg**	**04 59 35.7**	**-0.2**

*ISCJB **20** 04:59:22.0±1.1,39°.83N±0°.02×23°.74E±0°.04,h14km±7km,*
Error ellipse: s-maj=4.9km s-min=3.4km az=178.9
*CSEM **20** 04:59:22.3±0.3,39°.83N×23°.77E,h17km±2km,ML2.5,*
Error ellipse: s-maj=5.9km s-min=4.6km az=86.0
*ATH **20** 04:59:22.1,39°.84N×23°.77E,h28km±1km,MD2.9/18*
*THE **20** 04:59:23.1,39°.85N×23°.67E,h9km±2km,ML2.5/4,Error*
ellipse: s-maj=2.5km s-min=0.7km az=74.0

ISC 20 04:59:22.0±0.8,39°.84N±0°.02×23°.77E±0°.02,h15km±6km,
n54,σ0s62/80,Aegean Sea

| Code | Station Name | Δ° | AZ° |

ATH ***20*** *05:17:30.5, 37.97N×20.09E, h4km±1km, MD3.3/25*
CSEM ***20*** *05:17:31.4±0.5, 37.94N×20.14E, h2km, ML3.4, Error ellipse: s-maj=9.8km s-min=6.3km az=63.0*
THE ***20*** *05:17:32.3, 37.99N×20.13E, h0km±4km, ML3.4/5, Error ellipse: s-maj=4.8km s-min=2.4km az=265.0*

ISC 20 05:17:29.1±1.4, 37.95N±0.03×19.98E±0.04, h8km±9km, n132, σ1§23/174, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.53**	**64**	P			**Pg**	**05 17 39.5**	**+0.2**
VLS				S			**Sg**	**05 17 45.3**	**-1.1**
VLS	**Valsamata**	**0.53**	**64**	*e*PG			**Pg**	**05 17 39.5**	**+0.2**
VLS	**Valsamata**	**0.53**	**64**	*e*PG			**Pg**	**05 17 39.6**	**+0.2**
VLS				*e*SG			**Sg**	**05 17 45.4**	**-1.0**
VLS	**Valsamata**	**0.53**	**64**	*e*Pg			**Pg**	**05 17 39.6**	**+0.2**
VLS				*e*Sg			**Sg**	**05 17 45.4**	**-1.0**
KFL	**Anninata**	**0.66**	**75**	P			**Pg**	**05 17 41.8**	**+0.1**
KFL				S			**Sg**	**05 17 49.5**	**-0.8**
KFL	**Anninata**	**0.66**	**75**	P			**Pg**	**05 17 41.8**	**+0.1**
KFL				S			**Sg**	**05 17 49.5**	**-0.8**
VTN	**Vitineika**	**0.95**	**91**	P			**Pb**	**05 17 47.9**	**+0.1**
VTN				S			**Sn**	**05 18 01.1**	**-1.4**
VTN	**Vitineika**	**0.95**	**91**	P			**Pb**	**05 17 47.9**	**+0.1**
LKD2	**Lefkada island**	**1.00**	**32**	P			**Pg**	**05 17 48.3**	**+0.1**
LKD2				S			**Sn**	**05 18 03.8**	**+0.1**
LKD2	**Lefkada island**	**1.00**	**32**	*e*PG			**Pg**	**05 17 48.3**	**+0.1**
LKD2				*e*SB			**Sb**	**05 18 02.5**	**+0.6**
LKD2	**Lefkada island**	**1.00**	**32**	*e*PG			**Pg**	**05 17 48.2**	**+0.1**
LKD2	**Lefkada island**	**1.00**	**32**	P			**Pg**	**05 17 48.3**	**+0.1**
PDO	**Prodromos**	**1.15**	**55**	P			**Pb**	**05 17 50.8**	**-0.4**
PDO	**Prodromos**	**1.15**	**55**	*e*PG			**Pb**	**05 17 50.7**	**-0.4**
PDO				*e*SB			**Sn**	**05 18 06.5**	**-0.9**
PDO	**Prodromos**	**1.15**	**55**	*e*PG			**Pb**	**05 17 50.7**	**-0.4**
PDO				*e*SG			**Sg**	**05 18 06.0**	**0.0**
PDO	**Prodromos**	**1.15**	**55**	P			**Pb**	**05 17 50.8**	**-0.4**
PDO				*e*Sg			**Sg**	**05 18 06.0**	**0.0**
RLS	**Riolos of Patr**	**1.18**	**84**	P			**Pb**	**05 17 51.3**	**-0.4**
RLS	**Riolos of Patr**	**1.18**	**84**	*e*PN			**Pb**	**05 17 51.2**	**-0.4**
RLS	**Riolos of Patr**	**1.18**	**84**	*e*PG			**Pb**	**05 17 51.3**	**-0.4**
RLS				*e*SG			**Sb**	**05 18 06.0**	**-1.1**
RLS	**Riolos of Patr**	**1.18**	**84**	P			**Pb**	**05 17 51.3**	**-0.4**
RLS				*e*Sg			**Sb**	**05 18 06.0**	**-1.1**
DRO	**Drossia**	**1.37**	**89**	P			**Pb**	**05 17 54.7**	**-0.1**
DRO				S			**Sg**	**05 18 13.8**	**+0.8**
DRO	**Drossia**	**1.37**	**89**	*e*PB			**Pb**	**05 17 54.8**	**-0.1**
DRO				*e*SB			**Sg**	**05 18 13.9**	**+0.9**
DRO	**Drossia**	**1.37**	**89**	*e*PB			**Pb**	**05 17 54.9**	**0.0**
DRO				*e*SB			**Sn**	**05 18 12.1**	**-0.7**
DRO	**Drossia**	**1.37**	**89**	*e*Pb			**Pb**	**05 17 54.9**	**0.0**
DRO				*e*Sb			**Sn**	**05 18 12.1**	**-0.7**
PVO	**Paravola**	**1.39**	**61**	P			**Pb**	**05 17 55.2**	**0.0**
PVO	**Paravola**	**1.39**	**61**	P			**Pb**	**05 17 55.2**	**0.0**
AMT	**Artemida-Makis**	**1.43**	**106**	P			**Pg**	**05 17 56.5**	**0.0**
AMT				S			**Sg**	**05 18 17.4**	**+2.4**
AMT	**Artemida-Makis**	**1.43**	**106**	*e*PB			**Pg**	**05 17 56.4**	**0.0**
AMT				*e*SB			**Sg**	**05 18 16.0**	**+1.0**
AMT	**Artemida-Makis**	**1.43**	**106**	*e*PN			**Pg**	**05 17 56.5**	**0.0**
AMT	**Artemida-Makis**	**1.43**	**106**	P			**Pg**	**05 17 56.5**	**0.0**
EFP	**Efpalio**	**1.59**	**72**	*e*PG			**Pb**	**05 17 58.9**	**+0.2**
EFP	**Efpalio**	**1.59**	**72**	*e*PG			**Pb**	**05 17 58.3**	**-0.4**
EFP	**Efpalio**	**1.59**	**72**	*e*Pg			**Pb**	**05 17 58.3**	**-0.4**
LAKA	**Lakka**	**1.60**	**79**	P			**Pb**	**05 17 58.6**	**-0.4**
LAKA	**Lakka**	**1.60**	**79**	*e*PB			**Pb**	**05 17 58.5**	**-0.4**
LAKA	**Lakka**	**1.60**	**79**	*e*PG			**Pb**	**05 17 58.6**	**-0.4**
LAKA	**Lakka**	**1.60**	**79**	P			**Pb**	**05 17 58.6**	**-0.4**
IGT	**Igoumenitsa**	**1.61**	**10**	*e*PB			**Pg**	**05 18 00.2**	**+0.3**
IGT	**Igoumenitsa**	**1.61**	**10**	*e*PB			**Pg**	**05 18 00.2**	**+0.3**
IGT	**Igoumenitsa**	**1.61**	**10**	*e*Pb			**Pg**	**05 18 00.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.71**	**86**	P			**Pb**	**05 18 00.4**	**-0.4**
KLV	**Kalavryta, Ach**	**1.71**	**86**	*e*PG			**Pb**	**05 18 00.6**	**-0.3**
KLV				*e*SB			**Sg**	**05 18 24.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.71**	**86**	*e*PG			**Pb**	**05 18 00.5**	**-0.4**
KLV				*e*SB			**Sg**	**05 18 23.8**	**-0.4**
KLV	**Kalavryta, Ach**	**1.71**	**86**	P			**Pb**	**05 18 00.4**	**-0.4**
ITM	**Ithomi**	**1.72**	**116**	*e*PB			**Pg**	**05 18 02.4**	**+0.3**
ITM				*e*SB			**Sg**	**05 18 24.3**	**-0.2**
ITM	**Ithomi**	**1.72**	**116**	*e*PB			**Pg**	**05 18 02.3**	**+0.2**
ITM				*e*SB			**Sg**	**05 18 24.1**	**-0.4**
ITM	**Ithomi**	**1.72**	**116**	*e*Pb			**Pg**	**05 18 02.3**	**+0.2**
EVR	**Evrytania**	**1.73**	**55**	P			**Pg**	**05 18 02.1**	**-0.2**
EVR				S			**Sg**	**05 18 25.5**	**+0.8**
EVR	**Evrytania**	**1.73**	**55**	*e*PN			**Pg**	**05 18 02.2**	**0.0**
EVR				*e*SB			**Sg**	**05 18 26.1**	**+1.4**
EVR	**Evrytania**	**1.73**	**55**	*e*PB			**Pg**	**05 18 02.3**	**0.0**
EVR				*e*SB			**Sg**	**05 18 24.3**	**-0.4**
EVR	**Evrytania**	**1.73**	**55**	*e*Pb			**Pg**	**05 18 02.3**	**0.0**
EVR				*e*Sb			**Sg**	**05 18 24.3**	**-0.4**
EVR				S			**Sg**	**05 18 25.5**	**+0.8**
PYL	**PYLOS**	**1.75**	**126**	*e*PN			**Pg**	**05 18 02.5**	**-0.1**
PYL	**PYLOS**	**1.75**	**126**	*e*PG			**Pb**	**05 18 01.9**	**+0.5**
PYL	**PYLOS**	**1.75**	**126**	*e*Pg			**Pb**	**05 18 01.9**	**+0.5**
KALE	**Kalithea**	**1.76**	**75**	P			**Pb**	**05 18 01.5**	**-0.1**
KALE	**Kalithea**	**1.76**	**75**	*e*PG			**Pb**	**05 18 01.4**	**-0.1**
KALE	**Kalithea**	**1.76**	**75**	*e*PN			**Pb**	**05 18 01.0**	**-0.6**
KALE				*e*SB			**Sb**	**05 18 24.4**	**+0.6**
KALE	**Kalithea**	**1.76**	**75**	*e*Pn			**Pb**	**05 18 01.0**	**-0.6**
KALE	**Kalithea**	**1.76**	**75**	P			**Pb**	**05 18 01.5**	**-0.1**
KALE				*e*Sb			**Sb**	**05 18 24.4**	**+0.6**
KEK	**Kerkira**	**1.77**	**355**	*e*PN			**Pg**	**05 18 03.5**	**+0.5**
JAN	**Janina**	**1.84**	**21**	*e*PN			**Pg**	**05 18 05.3**	**+1.0**
JAN				*e*SN			**Sg**	**05 18 30.2**	**+2.0**
GUR	**Goura**	**1.87**	**90**	P			**Pb**	**05 18 03.2**	**-0.3**
GUR				S			**Sg**	**05 18 28.4**	**-0.6**
GUR	**Goura**	**1.87**	**90**	*e*PG			**Pb**	**05 18 03.2**	**-0.3**
GUR				*e*SN			**Sg**	**05 18 29.0**	**0.0**
GUR	**Goura**	**1.87**	**90**	*e*PN			**Pb**	**05 18 02.8**	**-0.7**
GUR				*e*SB			**Sg**	**05 18 28.4**	**-0.6**
GUR	**Goura**	**1.87**	**90**	*e*Pn			**Pb**	**05 18 02.8**	**-0.7**
GUR	**Goura**	**1.87**	**90**	P			**Pb**	**05 18 03.2**	**-0.3**
GUR				*e*Sb			**Sg**	**05 18 28.4**	**-0.6**
VLX	**Vlachokerasia**	**1.99**	**106**	P			**Pg**	**05 18 06.7**	**-0.4**
VLX	**Vlachokerasia**	**1.99**	**106**	*e*PN			**Pg**	**05 18 06.8**	**-0.4**
VLX				*e*SN			**Sg**	**05 18 33.0**	**+0.1**
VLX	**Vlachokerasia**	**1.99**	**106**	*e*PG			**Pg**	**05 18 06.6**	**-0.6**
VLX	**Vlachokerasia**	**1.99**	**106**	*e*Pg			**Pg**	**05 18 06.6**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.00**	**57**	*e*PN			**Pg**	**05 18 06.9**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.00**	**57**	*e*PG			**Pg**	**05 18 06.8**	**-0.5**
MAKR				*e*SN			**Sg**	**05 18 31.9**	**-1.3**
MAKR	**Makrakomi, Fth**	**2.00**	**57**	*e*Pg			**Pg**	**05 18 06.8**	**-0.5**
MAKR				*e*Sn			**Sg**	**05 18 31.9**	**-1.3**
DSF	**Desfina**	**2.06**	**76**	*e*PG			**Pb**	**05 18 06.7**	**0.0**
DSF	**Desfina**	**2.06**	**76**	*e*PN			**Pb**	**05 18 06.4**	**-0.3**
DSF	**Desfina**	**2.06**	**76**	*e*Pn			**Pb**	**05 18 06.4**	**-0.3**
AGG	**Agios Georgios**	**2.13**	**59**	*e*PN			**Pb**	**05 18 08.6**	**+0.6**
AGG	**Agios Georgios**	**2.13**	**59**	*e*PG			**Pb**	**05 18 08.7**	**+0.7**
AGG	**Agios Georgios**	**2.13**	**59**	*e*Pg			**Pb**	**05 18 08.7**	**+0.7**
THL	**Klokotos Trika**	**2.27**	**44**	P			**Pb**	**05 18 10.1**	**-0.2**
THL	**Klokotos Trika**	**2.27**	**44**	*e*PN			**Pb**	**05 18 10.0**	**-0.2**
THL	**Klokotos Trika**	**2.27**	**44**	*e*PN			**Pb**	**05 18 10.2**	**0.0**
THL	**Klokotos Trika**	**2.27**	**44**	P			**Pb**	**05 18 10.1**	**-0.2**
LTK	**Loutraki**	**2.36**	**87**	*e*PN			**Pb**	**05 18 11.0**	**-0.9**
LTK	**Loutraki**	**2.36**	**87**	*e*PN			**Pb**	**05 18 10.9**	**-0.9**
LTK	**Loutraki**	**2.36**	**87**	*e*Pn			**Pb**	**05 18 10.9**	**-0.9**
LKR	**Lokris**	**2.48**	**73**	*e*PN			**Pb**	**05 18 12.1**	**-1.7**
LKR	**Lokris**	**2.48**	**73**	*e*PB			**Pb**	**05 18 11.9**	**-1.9**
LKR	**Lokris**	**2.48**	**73**	*e*Pb			**Pb**	**05 18 11.9**	**-1.9**
NEST	**Nestorio**	**2.60**	**18**	*e*PN			**Pb**	**05 18 15.6**	**-0.4**
NEST	**Nestorio**	**2.60**	**18**	*e*Pn			**Pb**	**05 18 15.6**	**-0.4**
DID	**Didima**	**2.62**	**99**	*e*PN			**Pb**	**05 18 14.5**	**-1.7**
DID	**Didima**	**2.62**	**99**	*e*PB			**Pb**	**05 18 14.2**	**-2.0**
DID	**Didima**	**2.62**	**99**	*e*Pb			**Pb**	**05 18 14.2**	**-2.0**
VLI	**Veliai**	**2.65**	**117**	*e*PN			**Pb**	**05 18 16.8**	**0.0**
VLI	**Veliai**	**2.65**	**117**	*e*PN			**Pb**	**05 18 16.1**	**-0.7**
VLI				*e*SN			**Sb**	**05 18 48.7**	**-0.9**
VLI	**Veliai**	**2.65**	**117**	*e*Pn			**Pb**	**05 18 16.1**	**-0.7**
VLI				*e*Sn			**Sb**	**05 18 48.7**	**-0.9**
SMIA	**Simia**	**2.70**	**69**	*e*PB			**Pn**	**05 18 15.0**	**+2.2**
SMIA	**Simia**	**2.70**	**69**	*e*Pb			**Pn**	**05 18 15.0**	**+2.2**
KZN	**Kozani**	**2.74**	**30**	*e*PN			**Pb**	**05 18 18.0**	**-0.3**
NEO	**Neokhori**	**2.88**	**61**	*e*PN			**Pn**	**05 18 17.7**	**+2.4**
NEO	**Neokhori**	**2.88**	**61**	*e*Pn			**Pn**	**05 18 17.7**	**+2.4**
XOR	**Xorichti**	**2.88**	**60**	*e*PN			**Pn**	**05 18 17.9**	**+2.5**
XOR	**Xorichti**	**2.88**	**60**	*e*Pn			**Pn**	**05 18 17.9**	**+2.5**
LIT	**Litokhoron**	**2.91**	**41**	*e*PN			**Pb**	**05 18 19.3**	**-1.9**
LIT	**Litokhoron**	**2.91**	**41**	*e*PB			**Pb**	**05 18 19.5**	**-1.7**
LIT	**Litokhoron**	**2.91**	**41**	*e*Pb			**Pb**	**05 18 19.5**	**-1.7**
MRKA	**Markates**	**2.94**	**74**	*e*PN			**Pb**	**05 18 20.7**	**-0.9**
MRKA	**Markates**	**2.94**	**74**	*e*PN			**Pb**	**05 18 19.0**	**-2.6**
MRKA	**Markates**	**2.94**	**74**	*e*Pn			**Pb**	**05 18 19.0**	**-2.6**
KYTH	**Kithira**	**2.95**	**123**	P			**Pb**	**05 18 20.2**	**-1.8**
KYTH	**Kithira**	**2.95**	**123**	*e*PN			**Pb**	**05 18 20.8**	**-1.1**
KYTH	**Kithira**	**2.95**	**123**	*e*PB			**Pb**	**05 18 20.8**	**-1.1**
KYTH	**Kithira**	**2.95**	**123**	P			**Pb**	**05 18 20.2**	**-1.8**
KYTH	**Kithira**	**2.95**	**123**	*e*Pb			**Pb**	**05 18 20.8**	**-1.1**
FNA	**Florina**	**3.03**	**20**	*e*PN			**Pb**	**05 18 20.6**	**-2.8**
FNA	**Florina**	**3.03**	**20**	*e*Pn			**Pb**	**05 18 20.6**	**-2.8**
PAIG	**Paliouri**	**3.50**	**54**	*e*PB			**Pb**	**05 18 28.7**	**-2.5**
PAIG	**Paliouri**	**3.50**	**54**	*e*Pb			**Pb**	**05 18 28.7**	**-2.5**
GRG	**Griva**	**3.54**	**31**	*e*PN			**Pn**	**05 18 27.1**	**+2.7**
GRG	**Griva**	**3.54**	**31**	*e*Pn			**Pn**	**05 18 27.1**	**+2.7**
HORT	**Hortiatis**	**3.59**	**41**	*e*PN			**Pn**	**05 18 27.2**	**+2.1**
HORT	**Hortiatis**	**3.59**	**41**	*e*Pn			**Pn**	**05 18 27.2**	**+2.1**
SOH	**Sokhos**	**3.88**	**41**	*e*PN			**Pn**	**05 18 32.0**	**+2.9**
SOH	**Sokhos**	**3.88**	**41**	*e*Pn			**Pn**	**05 18 32.0**	**+2.9**
OUR	**Ouranopolis**	**3.92**	**51**	*e*PN			**Pn**	**05 18 32.5**	**+3.0**
OUR	**Ouranopolis**	**3.92**	**51**	*e*Pn			**Pn**	**05 18 32.5**	**+3.0**
KNT	**Kendrikon**	**3.92**	**34**	*e*PN			**Pn**	**05 18 31.8**	**+2.2**
KNT	**Kendrikon**	**3.92**	**34**	*e*Pn			**Pn**	**05 18 31.8**	**+2.2**
STON	**Ston**	**5.22**	**341**	*i* Pn			**Pn**	**05 18 49.3**	**+1.9**
STON				Sn			**Sn**	**05 19 45.1**	**-2.6**
STON	**Ston**	**5.22**	**341**	*i* Pn			**Pn**	**05 18 49.3**	**+1.9**
NVLJ	**Novalja**	**7.65**	**331**	*e*Pn			**Pn**	**05 19 22.1**	**+1.4**
NVLJ				Sn			**Sn**	**05 20 45.0**	**-2.6**

ISN ***20*** *05:19:43.8±1.9, 37.09N×54.48E, h0km±162km, ML4.4*
BJI ***20*** *05:20:01.4, 35.80N×52.04E, h10km, mB4.7/14, mb4.4/24, Ms4.1/10, Ms7 3.9/10*
ISCJB ***20*** *05:20:06.0±0.4, 35.82N±0.02×52.83E±0.02, h5km±2km, mb4.4/67, MS3.6/13, Error ellipse: s-maj=3.2km s-min=2.4km az=19.7*
IDC ***20*** *05:20:05.8±0.8, 35.63N×52.73E, h0km, mb4.1/22, mb1 4.2/26, mb1mx4.1/35, mbtmp4.1/26, ML3.6/4, MS3.3/11, Ms1 3.3/11, ms1mx3.0/36, Error ellipse: s-maj=18.0km s-min=12.1km az=3.0*
THR ***20*** *05:20:05.2±0.7, 35.87N×52.87E, h14km±9km, ML4.2*
CSEM ***20*** *05:20:06.8±0.1, 35.77N×52.82E, h2km, mb4.5/31, Error ellipse: s-maj=3.3km s-min=3.1km az=19.0*
NEIC ***20*** *05:20:07.0, 35.82N×52.86E, h5km, mb4.7/19, MN4.2(TEH), After TEH.*
TEH ***20*** *05:20:07.2, 35.79N×52.86E, h4km, ML4.2*
MOS ***20*** *05:20:10.0±1.4, 35.81N×52.83E, h33km, mb4.7/22, Error ellipse: s-maj=7.1km s-min=4.7km az=126.7*
AZER ***20*** *05:20:11.4±0.7, 35.96N×52.51E, h2km, Error ellipse: s-maj=11.7km s-min=4.7km az=36.0*
NNC ***20*** *05:20:14.4±9.2, 36.33N×52.60E, h27km±80km, mb4.2, Error ellipse: s-maj=64.6km s-min=32.5km az=82.0*

ISC 20 05:20:08.0±0.5, 35.80N±0.02×52.80E±0.02, h11km±3km, n392, σ1§56/439, mb4.4/67, MS3.4/13, 57C-34D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**0.17**	**194**	*e*Sg			**Sg**	**05 20 12.1**	**-2.6**
IFIR				⇑*e*Pg			**Pg**	**05 20 09.4**	**-2.6**
IFIR				*e*				05 20 12.4	
	comp=Z,1244μm,0.1s								
IALA	**Alasht**	**0.28**	**1**	*e*Sg			**Sg**	**05 20 17.3**	**-0.5**
IALA				*e*				05 20 18.1	
	comp=Z,75μm,0.2s								
IALA	**Alasht**	**0.28**	**1**	*e*Sg			**Sg**	**05 20 17.3**	**-0.5**
ISHM	**Shahmirzad**	**0.40**	**89**	*e*Pg			**Pg**	**05 20 13.7**	**-2.3**
ISHM				*e*Sg			**Sg**	**05 20 19.2**	**-2.2**
ISHM				*e*				05 20 21.7	
	comp=Z,16μm,0.2s								
ISHM	**Shahmirzad**	**0.40**	**89**	*e*Pg			**Pg**	**05 20 13.7**	**-2.3**
ISHM				*e*Sg			**Sg**	**05 20 19.2**	**-2.2**
ILAS	**Lasjerd**	**0.44**	**163**	⇑*e*Pg			**Pg**	**05 20 14.7**	**-2.1**
ILAS				*e*Sg			**Sg**	**05 20 21.0**	**-1.6**
ILAS				*e*				05 20 23.2	
	comp=Z,82μm,0.1s								
ILAS	**Lasjerd**	**0.44**	**163**	⇑*e*Pg			**Pg**	**05 20 14.6**	**-2.1**
ILAS				*e*Sg			**Sg**	**05 20 21.0**	**-1.6**
IPRN	**Peran**	**0.58**	**319**	⇑*e*Pg			**Pg**	**05 20 17.3**	**-2.0**
IPRN				*e*Sg			**Sg**	**05 20 26.4**	**-0.6**
IPRN				*e*				05 20 27.1	
	comp=Z,61μm,0.1s								
IDMV	**Damavand**	**0.67**	**250**	*e*Pg			**Pg**	**05 20 19.5**	**-1.5**
IDMV				*e*Sg			**Sg**	**05 20 30.5**	**+0.7**
IDMV				*e*				05 20 37.3	
	comp=Z,63μm,0.3s								
IDMV	**Damavand**	**0.67**	**250**	*e*Pg			**Pg**	**05 20 19.5**	**-1.5**
DAMV	**Damavand**	**0.70**	**256**	*e*Pg			**Pg**	**05 20 19.9**	**-1.7**
DAMV				*e*Sg			**Sg**	**05 20 30.8**	**0.0**
	comp=Z,8μm,0.5s								
DAMV	**Damavand**	**0.70**	**256**	*e*Pg			**Pg**	**05 20 19.9**	**-1.7**
DAMV				*e*Sg			**Sg**	**05 20 30.8**	**0.0**
DAMV				AML		AML	AML	05 20 35.4	
	comp=E,11μm,0.3s								
DAMV				AML		AML	AML	05 20 37.6	
	comp=N,8μm,0.5s								
IKIA	**Kiasar**	**0.82**	**60**	⇑*e*Pg			**Pg**	**05 20 21.3**	**-2.6**
IKIA				*e*				05 20 36.9	
	comp=Z,45μm,0.2s								
IKIA	**Kiasar**	**0.82**	**60**	⇑*e*Pg			**Pg**	**05 20 21.3**	**-2.6**
IANJ	**Anjilo**	**0.97**	**110**	*e*Pg			Pg	05 20 23.7	-3.0
IANJ				*e*				05 20 40.6	
	comp=Z,35μm,0.2s								
IANJ	**Anjilo**	**0.97**	**110**	*e*Pg			Pg	05 20 23.7	-3.0
IGLO	**Ghaloghah**	**1.09**	**50**	*e*Pg			**Pg**	**05 20 26.8**	**-2.2**
IGLO				*e*				05 20 50.9	
	comp=Z,2μm,0.3s								
IVRN	**Varamin**	**1.19**	**228**	⇑*e*Pg			**Pb**	**05 20 29.0**	**-1.7**
IVRN				*e*				05 20 53.2	
	comp=Z,68μm,0.1s								
IVRN	**Varamin**	**1.19**	**228**	⇑*e*Pg			**Pb**	**05 20 29.0**	**-1.7**
CHTH	**Charan**	**1.37**	**275**	*e*Pg			**Pn**	**05 20 31.5**	**-1.8**
CHTH	**Charan**	**1.37**	**275**	*e*Pg			**Pn**	**05 20 31.4**	**-1.8**
IR3	**Iran Long-Peri**	**1.48**	**258**	*e*Pn			**Pn**	**05 20 34.7**	**-0.6**
IR3	**Iran Long-Peri**	**1.48**	**258**	*e*Pn			**Pn**	**05 20 34.2**	**-0.6**
IMHD	**Mahdasht**	**1.74**	**267**	*e*Pn			**Pn**	**05 20 38.8**	**+0.5**
IMHD				*e*				05 21 10.1	
	comp=Z,23μm,0.1s								
IMHD	**Mahdasht**	**1.74**	**267**	*e*Pn			**Pn**	**05 20 38.8**	**+0.5**
GHVR	**GHOM**	**1.81**	**224**	*e*Pg			**Pn**	**05 20 39.9**	**+0.7**
GHVR				*e*Sg			**Sg**	**05 21 05.9**	**-0.3**
GHVR	**GHOM**	**1.81**	**224**	*e*Pg			**Pn**	**05 20 39.9**	**+0.7**
GHVR				*e*Sg			**Sg**	**05 21 05.9**	**-0.3**
IGZV	**Ghazvin**	**2.17**	**286**	*e*Pn			**Pb**	**05 20 47.0**	**-0.5**
IGZV				*e*				05 20 53.9	
	comp=Z,20μm,0.2s								
QAM	**Ghamsar**	**2.33**	**209**	*e*Pn			**Pb**	**05 20 48.8**	**-1.3**
IRAZ	**Razeghan**	**2.38**	**261**	*e*Pn			**Pn**	**05 20 48.0**	**+0.9**
IRAZ				*e*				05 21 32.2	
	comp=Z,31μm,0.2s								
IRAZ	**Razeghan**	**2.38**	**261**	*e*Pn			**Pn**	**05 20 48.0**	**+0.9**
IKLH	**Kolahrood**	**2.68**	**203**	*e*Pn			**Pn**	**05 20 51.8**	**+0.5**
IKLH				*e*				05 21 31.1	
	comp=Z,26μm,0.2s								
IKLH	**Kolahrood**	**2.68**	**203**	*e*Pn			**Pn**	**05 20 51.8**	**+0.5**
IZEF	**Zefreh**	**2.93**	**188**	*e*Pn			**Pn**	**05 20 54.7**	**-0.1**
IZEF				*e*				05 21 45.2	
	comp=Z,6μm,0.2s								
IZEF	**Zefreh**	**2.93**	**188**	*e*Pn			**Pn**	**05 20 54.7**	**-0.1**
NASN	**Na'in**	**3.00**	**180**	*e*Pn			**Pn**	**05 20 55.6**	**-0.2**
NASN	**Na'in**	**3.00**	**180**	*e*Pn			**Pn**	**05 20 55.6**	**-0.2**
KHMZ	**Khomeyn**	**3.12**	**229**	*e*Pn			**Pn**	**05 20 57.6**	**+0.3**
	comp=Z,563nm,0.6s								
KHMZ	**Khomeyn**	**3.12**	**229**	*e*Pn			**Pn**	**05 20 57.6**	**+0.3**
KHMZ				AML		AML	AML	05 21 48.3	
	comp=E,691nm,0.4s								
KHMZ				AML		AML	AML	05 21 52.3	
	comp=N,563nm,0.6s								
IPIR	**Pirpir**	**3.49**	**208**	*e*Pn			**Pn**	**05 21 04.6**	**+2.1**
IPIR				*e*				05 22 00.4	
	comp=Z,8μm,0.4s								
ICHK	**Chekchek**	**3.79**	**159**	*e*Pn			**Pn**	**05 21 06.6**	**0.0**
ICHK	**Chekchek**	**3.79**	**159**	*e*Pn			**Pn**	**05 21 06.6**	**0.0**
LKRN	**Lenkeran, Azer** SNR=15	**4.33**	**313**	⇑P			**Pn**	**05 21 14.3**	**+0.6**
LKRN				⇑S			**Sn**	**05 22 03.5**	**-0.6**
LKRN	**Lenkeran, Azer** SNR=15	**4.33**	**313**	P			**Pn**	**05 21 14.3**	**+0.6**
LKRN				S			**Sn**	**05 22 03.5**	**-0.6**
LRK	**Lerik**	**4.55**	**310**	⇑P			**Pn**	**05 21 17.7**	**+0.8**
LRK	**Lerik**	**4.55**	**310**	P			**Pn**	**05 21 17.7**	**+0.8**
IMEH	**Mehriz**	**4.65**	**161**	*e*Pn			**Pn**	**05 21 18.4**	**-0.1**
IMEH	**Mehriz**	**4.65**	**161**	*e*Pn			**Pn**	**05 21 18.4**	**-0.1**
IBAF	**Bafgh**	**4.79**	**150**	*e*Pn			**Pn**	**05 21 20.6**	**+0.3**
IBAF	**Bafgh**	**4.79**	**150**	*e*Pn			**Pn**	**05 21 20.6**	**+0.3**
GLBA	**Clilabad** SNR=38	**4.91**	**316**	⇓P			**Pn**	**05 21 22.3**	**+0.6**
GLBA				⇓S			**Sn**	**05 22 19.3**	**+0.9**
GLBA	**Clilabad** SNR=38	**4.91**	**316**	P			**Pn**	**05 21 22.3**	**+0.6**
GLBA				S			**Sn**	**05 22 19.3**	**+0.9**
ALIB	**Äli-Bayra** SNR=21	**5.12**	**325**	⇑P			**Pn**	**05 21 25.9**	**+1.3**
ALIB	**Äli-Bayra** SNR=21	**5.12**	**325**	P			**Pn**	**05 21 25.9**	**+1.3**
GOBA	**Gobu**	**5.19**	**333**	⇑P			**Pn**	**05 21 27.2**	**+1.7**
GOBA				⇑S			**Sn**	**05 22 26.9**	**+1.5**
GOBA	**Gobu**	**5.19**	**333**	P			**Pn**	**05 21 27.2**	**+1.7**
GOBA				S			**Sn**	**05 22 26.9**	**+1.5**
KDMR	**Kurdemir**	**5.84**	**323**	⇓P			**Pn**	**05 21 35.4**	**+0.9**
KDMR				⇓S			**Sn**	**05 22 42.3**	**+0.9**
ATGJ	**Altiaghaj** SNR=12	**5.89**	**330**	⇑P			**Pn**	**05 21 36.3**	**+1.0**
ATGJ				⇑S			**Sn**	**05 22 43.8**	**+0.9**
ATGJ	**Altiaghaj** SNR=12	**5.89**	**330**	P			**Pn**	**05 21 36.3**	**+1.0**
ATGJ				S			**Sn**	**05 22 43.8**	**+0.9**
PQL	**Pirku

AKTO LR LR 05 31 14.8
comp=Z,166nm,18.5s,baz=204,slow=44
AKTO Aktyubinsk 15.11 13 Pn **Pn 05 23 38.0 -3.3**
comp=Z,6.1nm,0.6s
AKTO Sn Sn 05 26 20.8 -7.6
comp=Z,11nm,0.8s
KK31 Karatay Array 15.48 57 ⇑Pn **P 05 23 48.9 -1.9**
comp=Z,4.4nm,0.7s,baz=259,slow=11,SNR=19
KK31 ⇑Sn **Sn 05 26 37.9 +0.1**
comp=Z,3.3nm,0.8s,baz=176,slow=12,SNR=6.8
KK31 Karatay Array 15.48 57 *i* P **Pn 05 23 45.7 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 15.48 57 Pn **P 05 23 48.9 -1.9**
comp=Z,4.4nm,0.7s,SNR=19
KK31 Sn **Sn 05 26 37.9 +0.1**
comp=Z,3.3nm,0.8s,SNR=6.8
KKAR Karatay Array 15.48 57 *e*P **Pn 05 23 45.3 -1.0**
KKAR *e*S **Sn 05 26 40.3 +2.5**
KKAR Karatay Array 15.48 57 *e*Pn **Pn 05 23 45.3 -1.0**
KKAR *e*S **Sn 05 26 40.3 +2.5**
KKAR Karatay Array 15.48 57 *e*Pn **Pn 05 23 45.3 -1.0**
BRTR Keskin Array B 15.65 290 Pn **P 05 23 52.6 -0.2**
BRTR Keskin Array B 15.65 290 Pn **P 05 23 52.6 -0.2**
comp=Z,0.1nm,0.3s,baz=112,slow=11,SNR=3.6
BRTR Keskin Array B 15.65 290 P **P 05 23 52.6 -0.2**
VRHR Novokhopersk 17.27 336 *e*P **Pn 05 24 06.2 -2.8**
VRHR *e*S Sn 05 27 12.7 -8.3
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR smax smax
comp=E,60nm,1.0s
VRHR smax smax
comp=Z,7.0nm,0.8s
VRHR smax smax
comp=N,30nm,1.0s
EKS2 Erkin-Say 17.61 61 *e*P **Pn 05 24 13.0 -0.4**
EKS2 pmax pmax
comp=Z,22nm,1.0s
EKS2 Erkin-Say 17.61 61 *e*Pn **Pn 05 24 13.0 -0.4**
comp=Z,22nm,1.0s
EKS2 Erkin-Say 17.61 61 *e*P **Pn 05 24 13.0 -0.4**
comp=Z,22nm,1.0s
AAK Ala-Archa 18.11 61⇓*e*P **P 05 24 20.2 +0.2**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 18.11 61 *e*Pn **P 05 24 20.3 +0.3**
comp=Z,6.0nm,0.8s
AAK Ala-Archa 18.11 61 P **P 05 24 20.4 +0.3**
comp=Z,0.3nm,0.3s,baz=249,slow=4.4,SNR=9.9
AAK LR LR 05 32 55.2
comp=Z,55nm,19.9s,baz=246,slow=42
AAK Ala-Archa 18.11 61 *e*Pn **P 05 24 20.3 +0.3**
comp=Z,6.0nm,0.8s
VSR Storozhevoye 18.26 332 *e*P **Pn 05 24 17.7 -3.5**
VSR *e*S Sn 05 27 34.5 -10
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VSR smax smax
comp=E,20nm,1.3s
VSR smax smax
comp=Z,10.0nm,1.3s
VSR smax smax
comp=N,20nm,1.1s
KSH Kashi 18.70 72 P **P 05 24 23.3 -3.2**
KSH *e*PP **PnPn 05 24 38.3 -0.5**
KSH pmax pmax
comp=N,5.0nm,1.3s
KSH pmax pmax
comp=N,86nm,5.7s
KSH LR LR
comp=N,120nm,7.0s
KSH LR LR
comp=N,140nm,5.1s
KSH LR LR
comp=N,140nm,10.1s
TKM2 Tokmak 2 18.97 61 *e*P **Pn 05 24 30.8 +0.6**
TKM2 pmax pmax
comp=Z,115nm,2.9s
TKM2 Tokmak 2 18.97 61 *e*Pn **Pn 05 24 30.8 +0.6**
comp=Z,115nm,2.9s
TKM2 Tokmak 2 18.97 61 *e*P **Pn 05 24 30.8 +0.6**
comp=Z,115nm,2.9s
LPSR Galich'ya Gora 19.46 334 *e*P **P 05 24 34.1 -0.4**
HARR Harsova 20.89 303⇑*i*P Pn 05 24 52.8 +0.1
CFR Carcaliu 20.90 304⇑*i*P Pn 05 24 53.9 +1.2
ARU Arti 21.00 9 *c i*P **P 05 24 51.4 +0.2**
ARU 05 25 07.7
ARU S **S 05 28 44.6 -0.2**
ARU SS **SnSn 05 29 03.4 -2.4**
ARU pmax pmax
comp=Z,13nm,0.7s
ARU Arti 21.00 9 *e*P **P 05 24 51.8 +0.6**
comp=Z,16nm,0.6s
ARU Arti 21.00 9 *e*P **P 05 24 51.8 +0.6**
comp=Z,16nm,0.6s
ARU S **S 05 28 44.6 -0.2**
BRVK Borovoye 21.20 30 *de*P **P 05 24 54.5 +1.1**
BRVK pmax pmax
comp=Z,26nm,2.5s
BRVK Borovoye 21.20 30 *e*P **P 05 24 54.6 +1.3**
comp=Z,18nm,1.0s
BRVK Borovoye 21.20 30 *e*P **P 05 24 54.5 +1.1**
comp=Z,26nm,2.5s
BVA0 Borovoye Array 21.21 30 P **P 05 24 54.3 +0.6**
comp=Z,24nm,1.2s,baz=222,slow=8.0,SNR=56
BVA0 Borovoye Array 21.21 30 *i* P **P 05 24 54.2 +0.6**
BVA0 pmax pmax
comp=Z,20nm,0.9s
BVA0 Borovoye Array 21.21 30 *i* P **P 05 24 54.2 +0.6**
comp=Z,20nm,0.9s
BVAR Borovoye Array 21.21 30 P **P 05 24 54.1 +0.5**
BVAR S **S 05 28 45.2 -4.0**
BVAR Borovoye Array 21.21 30 P **P 05 24 54.1 +0.5**
BVAR S **S 05 28 45.2 -4.0**
BVAR Borovoye Array 21.21 30 P **P 05 24 54.1 +0.5**
comp=Z,5.8nm,0.7s,baz=226,slow=8.0,SNR=15
BVAR S **S 05 28 45.2 -4.0**
comp=Z,3.1nm,0.8s,baz=228,slow=21,SNR=7.6
BVAR LR LR 05 34 44.1
comp=Z,173nm,20.1s,baz=238,slow=41
BVAR Borovoye Array 21.21 30 P **P 05 24 54.1 +0.5**
VOSK Vostochnaya 21.24 32 ⇑P **P 05 24 54.1 +0.2**
comp=Z,16nm,0.9s
ISR Istrita 21.96 303 ⇑P **P 05 25 05.4 +3.7**
ISR Istrita 21.96 303⇑*i*P **P 05 25 05.4 +3.7**
OBN Obninsk 22.32 335⇓*e*P **P 05 25 07.3 +2.0**
OBN *e* 05 25 12.2
OBN PPP PPP 05 25 35.0
OBN pmax pmax
comp=Z,71nm,1.7s
OBN Obninsk 22.32 335 *e*P **P 05 25 07.4 +2.0**
OBN Obninsk 22.32 335 P **P 05 25 06.4 +1.1**
comp=Z,18nm,0.6s,baz=161,slow=23,SNR=8.1
OBN LR LR 05 36 42.9
comp=Z,40nm,18.0s,baz=90,slow=44
OBN Obninsk 22.32 335 *e*P **P 05 25 07.3 +2.0**
comp=Z,71nm,1.7s
MLR Muntele Rosu 22.47 304⇑*i*P **P 05 25 11.0 +3.7**
MLR Muntele Rosu 22.47 304 P **P 05 25 09.9 +2.6**
MLR Muntele Rosu 22.47 304 P **P 05 25 09.9 +2.6**
comp=Z,3.3nm,1.0s,baz=120,slow=4.9
MOS Moscow 22.48 337 *e*P **P 05 25 08.7 +1.6**
MOS *e* 05 25 33.4
MOS pmax pmax
comp=Z,61nm,1.3s
AK02 Malin Array Si 22.58 318 *e*P **P 05 25 11.0 +2.7**
AK01 Malin Array Si 22.59 319 *e*P **P 05 25 08.7 +0.3**
AKASG Malin Array Be 22.59 319 P **P 05 25 07.8 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 22.59 319 P **P 05 25 07.8 -0.5**
AKASG Malin Array Be 22.59 319 P **P 05 25 07.8 -0.5**
comp=Z,3.7nm,0.6s,baz=124,slow=8.8,SNR=23
AKBB Malin Array Si 22.59 319 *e*P **P 05 25 09.5 +1.1**
AKBB Malin Array Si 22.59 319 *e*P **P 05 25 09.5 +1.1**
KIEV Kiev 22.60 319 *d i*P **P 05 25 10.9 +2.5**
KIEV Kiev 22.60 319 *e*P **P 05 25 08.7 +0.3**
comp=Z,7.4nm,0.5s
IDI Anoyia 22.69 277 P **P 05 25 11.5 +1.8**
IDI Anoyia 22.69 277 P **P 05 25 11.5 +1.8**
comp=Z,16nm,0.8s,baz=355,slow=5.9,SNR=3.8
DOPR Dopca 22.98 305⇓*i*P **P 05 25 14.4 +1.9**
DOPR Dopca 22.98 305⇓*i*P **P 05 25 14.4 +1.9**
VOIR 23.06 303 ⇑P **P 05 25 16.2 +2.8**
VOIR 23.06 303 ⇑*i*P **P 05 25 16.2 +2.8**
MMB Musomiste 23.35 293 ⇓P **P 05 25 17.8 +1.4**
MMB Musomiste 23.35 293⇓*i*P **P 05 25 17.8 +1.4**
MMB Musomiste 23.35 293⇓*i*P **P 05 25 17.8 +1.4**
BURAR Bucovina Array 23.60 309 ⇑P **P 05 25 20.7 +1.8**
BURAR Bucovina Array 23.60 309⇑*i*P **P 05 25 20.7 +1.8**
BURAR Bucovina Array 23.60 309⇑*i*P **P 05 25 20.7 +1.8**
BUR08 Bucovina Ar. S 23.62 309 *e*P **P 05 25 20.9 +1.8**
KURBB Kurchatov Arra 23.73 43 P **P 05 25 22.5 +2.5**
comp=Z,4.0nm,1.0s,baz=244,slow=10.0,SNR=22
KURK Kurchatov 23.83 43 ⇓P **P 05 25 23.1 +2.2**
comp=Z,9.8nm,1.3s
KURK Kurchatov 23.83 43 *de*P **P 05 25 22.9 +2.0**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 23.83 43 *e*P **P 05 25 23.3 +2.4**
KURK Kurchatov 23.83 43 P **P 05 25 23.1 +2.2**
comp=Z,9.8nm,1.3s
VTS Vitosha 23.84 296⇑P **P 05 25 23.2 +1.9**
VTS Vitosha 23.84 296⇑*i*P **P 05 25 23.2 +1.9**
VTS Vitosha 23.84 296⇑*i*P **P 05 25 23.2 +1.9**
LOT Lotru 23.94 303⇑*i*P **P 05 25 24.9 +2.7**
MK31 Makanchi Array 24.59 54 ⇑P **P 05 25 29.3 +1.3**
comp=Z,4.4nm,0.6s,baz=245,slow=7.9,SNR=54
MK31 Makanchi Array 24.59 54 *ce*P **P 05 25 29.1 +1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 24.59 54 *e*P **P 05 25 29.3 +1.3**
MK31 Makanchi Array 24.59 54 P **P 05 25 29.3 +1.3**
comp=Z,4.4nm,0.6s,SNR=54
MKAR Makanchi Array 24.59 54 P **P 05 25 29.3 +1.3**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 24.59 54 *e*P **P 05 25 29.5 +1.4**
MKAR Makanchi Array 24.59 54 P **P 05 25 29.3 +1.3**
comp=Z,5.4nm,0.7s,baz=248,slow=9.0,SNR=54
DRGR 24.98 305 ⇓P **P 05 25 33.8 +2.1**
DRGR 24.98 305⇓*i*P **P 05 25 33.8 +2.1**
DRGR 24.98 305⇓*i*P **P 05 25 33.8 +2.1**
LVV L'vov 25.14 313 *e*P P 05 25 39.6 +6.6
BZS Buzias 25.45 302 ⇑P **P 05 25 37.2 +1.4**
BZS Buzias 25.45 302⇑*i*P **P 05 25 37.2 +1.4**
BZS Buzias 25.45 302⇑*i*P **P 05 25 37.2 +1.4**
SIRR Siria 25.56 304⇑*i*P **P 05 25 39.2 +2.4**
SIRR Siria 25.56 304⇑*i*P **P 05 25 39.2 +2.4**
UZH Uzhgorod 25.79 309 *e*P **P 05 25 38.3 -0.5**
GRUS Gruza 25.80 298 *e*P **P 05 25 39.5 +0.5**
KOLS Kolonicke sedl 25.90 310 *e*P **P 05 25 42.1 +2.3**
KOLS pmax pmax
comp=Z,46nm,2.3s
KOLS Kolonicke sedl 25.90 310 *e*P **P 05 25 42.1 +2.3**
PRGR Permogore 26.25 352 *e*P **P 05 25 43.1 +0.3**
PRGR pmax pmax
comp=Z,90nm,1.6s
DIVS Divibare 26.35 298 *e*P **P 05 25 44.6 +0.5**
CRVS Cervenica-Dubn 26.39 309 *e*P **P 05 25 46.1 +1.7**
CRVS pmax pmax
comp=Z,8.0nm,1.3s
CRVS Cervenica-Dubn 26.39 309 *e*P **P 05 25 46.1 +1.7**
TEKS Tekeris 26.73 299 *e*P **P 05 25 48.6 +1.1**
DANN Dangsing 27.18 97 *e*P **P 05 25 52.7 +0.7**
comp=Z,25nm,0.9s
KOLN Koldanda 27.29 98 *e*P **P 05 25 53.3 +0.4**
SUW Suwalki 27.47 321 *e*P **P 05 25 56.2 +2.3**
SUW pmax pmax
comp=Z,33nm,1.0s
SUW Suwalki 27.47 321 *e*P **P 05 25 56.2 +2.3**
comp=Z,33nm,1.0s
WMQ Urumqi 27.81 63 P **P 05 25 58.8 +1.6**
WMQ pP **pP 05 26 03.0 +2.4**
WMQ sP **sP 05 26 05.8 +3.8**
WMQ pmax pmax
comp=Z,2.0nm,0.5s
WMQ LR LR
comp=Z,350nm,35.9s
WMQ LR LR
comp=Z,190nm,38.0s
WMQ LR LR
comp=Z,36nm,19.0s
DMN Daman 28.57 97 *e*P **P 05 26 05.0 +0.6**
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 28.70 41 *e*P **P 05 26 05.9 +1.1**
ZALV Zalesovo Beam 28.70 41 P **P 05 26 06.1 +1.2**
ZALV Zalesovo Beam 28.70 41 P **P 05 26 06.1 +1.2**
ZALV Zalesovo Beam 28.70 41 P **P 05 26 06.1 +1.2**
comp=Z,2.4nm,0.6s,baz=256,slow=10,SNR=12
PKI Pulchoki 28.83 97 *e*P **P 05 26 06.8 0.0**
comp=Z,9.6nm,0.8s
GUN Gumba 29.07 96 *e*P **P 05 26 08.8 -0.1**
comp=Z,30nm,1.0s
JIRN Jiri 29.43 97 *e*P **P 05 26 11.7 -0.4**
comp=Z,12nm,0.6s
VRAC Vranov 29.58 308 LR LR 05 40 53.0
comp=Z,48nm,20.5s,baz=113,slow=42
RAMN Ramite 30.06 98 *e*P **P 05 26 17.7 +0.2**
comp=Z,10nm,0.7s
JOF Joensuu 30.23 341 *e*P **P 05 26 18.5 +0.2**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 30.23 341 *ep* **P 05 26 18.5 +0.2**
comp=Z,4.4nm,0.8s
FINES FINESS Array B 30.72 335 P **P 05 26 23.1 +0.4**
FINES FINESS Array B 30.72 335 P **P 05 26 23.1 +0.4**
comp=Z,4.2nm,0.9s,baz=108,slow=6.2,SNR=7.0
FINES FINESS Array B 30.72 335 P **P 05 26 23.1 +0.4**
ODAN Odare 30.73 97 *e*P **P 05 26 22.9 -0.6**
comp=Z,21nm,0.7s
TAPN Taejung 30.78 96 *e*P **P 05 26 23.1 -0.9**
comp=Z,16nm,1.2s
GEC2 GERESS Array S 31.35 307 *e*P **P 05 26 29.8 +1.2**
GEC2 GERESS Array S 31.35 307 *e*P **P 05 26 29.8 +1.2**
GEC2 GERESS Array S 31.35 307 *e*P **P 05 26 29.8 +1.2**
GERES GERESS Array B 31.35 307 P **P 05 26 29.2 +0.6**
GERES GERESS Array B 31.35 307 P **P 05 26 29.2 +0.6**
comp=Z,3.8nm,0.7s,baz=101,slow=8.3,SNR=32
GERES GERESS Array B 31.35 307 P **P 05 26 29.2 +0.6**
CLL Collm 32.28 311 *i* P **P 05 26 38.1 +1.5**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 32.28 311 *i* P **P 05 26 38.1 +1.5**
comp=Z,10.0nm,0.8s
CLL Collm 32.28 311 *i* P **P 05 26 38.1 +1.5**
comp=Z,10.0nm,0.8s
WTTA Wattenberg 32.52 303⇓*i*pP **P 05 26 39.4 +0.5**
comp=Z,12nm,0.8s
WTTA Wattenberg 32.52 303 P **P 05 26 39.4 +0.5**
comp=Z,12nm,0.8s
WATA Walderalm 32.56 304⇓*i*pP **P 05 26 40.5 +1.2**
comp=Z,4.1nm,0.4s
WATA Walderalm 32.56 304 P **P 05 26 40.5 +1.2**
comp=Z,4.1nm,0.4s
MOTA Moosalm 32.88 304⇓*i*P **P 05 26 42.0 -0.1**
comp=Z,2.2nm,0.4s
MOTA Moosalm 32.88 304 P **P 05 26 42.0 -0.1**
comp=Z,2.2nm,0.4s
FETA Feichten 33.11 303⇓*e*pP **P 05 26 44.5 +0.4**
comp=Z,11nm,1.1s
FETA Feichten 33.11 303 P **P 05 26 44.5 +0.4**
comp=Z,11nm,1.1s
RETA Reutte 33.13 304⇓*i*P **P 05 26 44.2 +0.1**
comp=Z,5.0nm,0.5s
RETA Reutte 33.13 304 P **P 05 26 44.2 +0.1**
comp=Z,5.0nm,0.5s
DAVA Damuels 33.71 303⇓*i*pP **P 05 26 49.5 +0.2**
comp=Z,12nm,0.5s
DAVA Damuels 33.71 303 P **P 05 26 49.5 +0.2**
comp=Z,12nm,0.5s
TUE Stuetta 34.03 302 *e*P P 05 26 48.0 -4.2
comp=Z,386nm,0.6s
PGF Pioggiola 34.32 295 *e*P **P 05 26 54.3 -0.3**
PGF Pioggiola 34.32 295 *e*P **P 05 26 54.3 -0.3**
PGF Pioggiola 34.32 295 *e*P **P 05 26 54.3 -0.3**
PGF Pioggiola 34.32 295 *e*P **P 05 26 54.3 -0.3**
KEST Kesra 35.04 283 *e*P **P 05 27 02.5 +1.6**
KEST Kesra 35.04 283 P **P 05 27 00.7 -0.2**
comp=Z,1.6nm,0.9s,baz=105,slow=12,SNR=5.5
KEST Kesra 35.04 283 *e*P **P 05 27 02.5 +1.6**
SBF Sospel 35.39 297 *e*P **P 05 27 03.9 +0.1**
comp=Z,23nm,0.8s
SBF Sospel 35.39 297 *e*P **P 05 27 03.9 +0.1**
SBF pmax pmax
comp=Z,23nm,0.8s
SBF Sospel 35.39 297 *e*P **P 05 27 03.9 +0.1**
comp=Z,23nm,0.8s
SBF Sospel 35.39 297 *e*P **P 05 27 03.9 +0.1**
comp=Z,12nm,0.8s
LPG La Plagne 35.83 300 *e*P **P 05 27 07.5 -0.3**
comp=Z,18nm,0.9s
LPG La Plagne 35.83 300 *e*P **P 05 27 07.5 -0.3**
LPG pmax pmax
comp=Z,18nm,0.9s
LPG La Plagne 35.83 300 *e*P **P 05 27 07.5 -0.3**
comp=Z,18nm,0.9s
LPG La Plagne 35.83 300 *e*P **P 05 27 07.5 -0.3**
comp=Z,8.9nm,0.9s
MBDF Montbardon 35.83 299 *e*P **P 05 27 07.4 -0.3**
comp=Z,14nm,0.6s
MBDF Montbardon 35.83 299 *e*P **P 05 27 07.4 -0.3**
MBDF pmax pmax
comp=Z,14nm,0.6s
MBDF Montbardon 35.83 299 *e*P **P 05 27 07.4 -0.3**
comp=Z,14nm,0.6s
MBDF Montbardon 35.83 299 *e*P **P 05 27 07.4 -0.3**
comp=Z,6.8nm,0.6s
LPL La Plagne 35.84 300 *e*P **P 05 27 07.5 -0.3**
comp=Z,9.6nm,0.8s
LPL La Plagne 35.84 300 *e*P **P 05 27 07.5 -0.3**
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 35.84 300 *e*P **P 05 27 07.5 -0.3**
comp=Z,9.6nm,0.8s
LPL La Plagne 35.84 300 *e*P **P 05 27 07.5 -0.3**
comp=Z,4.8nm,0.8s
BNI Bardonecchia 35.88 299 *e*P **P 05 27 08.2 +0.1**
BNI pmax pmax
comp=Z,7.0nm,0.7s
BNI Bardonecchia 35.88 299 *e*P **P 05 27 08.2 +0.1**
comp=Z,7.2nm,0.7s
BNI Bardonecchia 35.88 299 *e*P **P 05 27 08.2 +0.1**
comp=Z,7.0nm,0.7s
HAU Haudompre 36.13 304 *e*P **P 05 27 09.8 -0.3**
comp=Z,6.5nm,0.6s
HAU Haudompre 36.13 304 *e*P **P 05 27 09.8 -0.3**
HAU pmax pmax
comp=Z,7.0nm,0.6s
HAU Haudompre 36.13 304 *e*P **P 05 27 09.8 -0.3**
comp=Z,6.5nm,0.6s
HAU Haudompre 36.13 304 *e*P **P 05 27 09.8 -0.3**
comp=Z,3.2nm,0.6s
CABF La Chapelle 36.28 302 *e*P **P 05 27 11.7 +0.3**
comp=Z,27nm,0.9s
CABF La Chapelle 36.28 302 *e*P **P 05 27 11.7 +0.3**
CABF pmax pmax
comp=Z,27nm,0.9s
CABF La Chapelle 36.28 302 *e*P **P 05 27 11.7 +0.3**
comp=Z,27nm,0.9s
CABF La Chapelle 36.28 302 *e*P **P 05 27 11.7 +0.3**
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 36.42 327 P **P 05 27 12.1 -0.3**
comp=Z,1.2nm,0.8s,baz=115,slow=8.6
NOA NORSAR Array B 36.42 327 P **P 05 27 12.5 +0.1**
NOA NORSAR Array B 36.42 327 P **P 05 27 12.5 +0.1**
comp=Z,2.5nm,0.9s,baz=117,slow=8.2,SNR=6.0
NOA LR LR 05 46 04.8
comp=Z,22nm,18.3s,baz=115,slow=43
NOA NORSAR Array B 36.42 327 P **P 05 27 12.5 +0.1**
ORIF Oris-en-Rattie 36.46 299 *e*P **P 05 27 12.2 -0.7**
ORIF Oris-en-Rattie 36.46 299 *e*P **P 05 27 12.2 -0.7**
ORIF Oris-en-Rattie 36.46 299 *e*P **P 05 27 12.2 -0.7**
ORIF Oris-en-Rattie 36.46 299 *e*P **P 05 27 12.2 -0.7**
MEM Membach 36.54 309 P **P 05 27 15.7 +2.3**
MEM Membach 36.54 309 P **P 05 27 15.7 +2.3**
ARCES ARCESS Array B 36.94 344 P **P 05 27 17.4 +0.7**
ARCES ARCESS Array B 36.94 344 P **P 05 27 17.4 +0.7**
comp=Z,6.2nm,1.0s,baz=129,slow=9.6,SNR=4.0
ARCES LR LR 05 45 12.6
comp=Z,61nm,18.6s,baz=108,slow=41
ARCES ARCESS Array B 36.94 344 P **P 05 27 17.4 +0.7**
BCLA Clavier 36.97 308 P **P 05 27 18.6 +1.5**
comp=Z,23nm,2.9s
BCLA Clavier 36.97 308 P **P 05 27 18.6 +1.5**
comp=Z,23nm,2.9s
GTA Gaotai 37.09 70 *e*P **P 05 27 20.6 +2.1**
GTA pP **pP 05 27 25.1 +3.2**
GTA sP sP 05 27 27.8 +4.5
GTA S **S 05 33 08.1 +3.6**
GTA sS sS 05 33 15.0 +4.8
GTA SS **SnSn 05 35 40.1 +1.8**
GTA pmax pmax
comp=Z,4.0nm,1.9s
GTA pmax pmax
comp=Z,100nm,5.7s
GTA LR LR
comp=Z,51nm,15.7s
GTA LR LR
comp=Z,94nm,15.9s
GTA LR LR
comp=Z,72nm,16.4s
SMF Signal de Mont 37.83 302 *e*P **P 05 27 24.4 -0.1**
comp=Z,22nm,0.8s
SMF Signal de Mont 37.83 302 *e*P **P 05 27 24.4 -0.1**
SMF pmax pmax
comp=Z,22nm,0.8s
SMF Signal de Mont 37.83 302 *e*P **P 05 27 24.4 -0.1**
comp=Z,22nm,0.8s
SMF Signal de Mont 37.83 302 *e*P **P 05 27 24.4 -0.1**
comp=Z,11nm,0.8s
AVF Avril sur Loir 38.16 302 *e*P **P 05 27 27.0 -0.3**
comp=Z,25nm,0.9s
AVF Avril sur Loir 38.16 302 *e*P **P 05 27 27.0 -0.3**
AVF pmax pmax
comp=Z,25nm,0.9s
AVF Avril sur Loir 38.16 302 *e*P **P 05 27 27.0 -0.3**
comp=Z,25nm,0.9s
AVF Avril sur Loir 38.16 302 *e*P **P 05 27 27.0 -0.3**
comp=Z,13nm,0.9s
ZAK Zakamensk 38.87 52 *e*P **P 05 27 34.9 +1.6**
ZAK *e* 05 29 35.2
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAK Zakamensk 38.87 52 *e*P **P 05 27 34.9 +1.6**
comp=Z,2.0nm,1.2s
TCF Toulx Ste Croi 38.97 302 *e*P **P 05 27 34.2 +0.1**
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 38.97 302 *e*P **P 05 27 34.2 +0.1**
TCF pmax pmax
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 38.97 302 *e*P **P 05 27 34.2 +0.1**
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 38.97 302 *e*P **P 05 27 34.2 +0.1**
comp=Z,8.4nm,0.8s
CAF Calviac 39.16 299 *e*P **P 05 27 35.0 -0.7**
CAF Calviac 39.16 299 *e*P **P 05 27 35.0 -0.7**
CAF Calviac 39.16 299 *e*P **P 05 27 35.0 -0.7**
CAF Calviac 39.16 299 *e*P **P 05 27 35.0 -0.7**
TLY Talaya 39.16 50 *e*P P 05 27 38.9 +3.3
TLY *e*S **S 05 33 38.4 +3.0**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,45nm,10.0s
RJF Les Rejaudoux 39.52 300 *e*P **P 05 27 39.0 +0.3**
comp=Z,14nm,0.9s
RJF Les Rejaudoux 39.52 300 *e*P **P 05 27 39.0 +0.3**
RJF pmax pmax
comp=Z,15nm,0.9s
RJF Les Rejaudoux 39.52 300 *e*P **P 05 27 39.0 +0.3**
comp=Z,14nm,0.9s
RJF Les Rejaudoux 39.52 300 *e*P **P 05 27 39.0 +0.3**
comp=Z,7.2nm,0.9s
LFF La Frestale 40.10 300 *e*P **P 05 27 43.0 -0.5**
LFF La Frestale 40.10 300 *e*P **P 05 27 43.0 -0.5**
LFF La Frestale 40.10 300 *e*P **P 05 27 43.0 -0.5**
LFF La Frestale 40.10 300 *e*P **P 05 27 43.0 -0.5**
LDF La Druitiere 40.46 305 *e*P **P 05 27 46.4 0.0**
LDF La Druitiere 40.46 305 *e*P **P 05 27 46.4 0.0**
LDF La Druitiere 40.46 305 *e*P **P 05 27 46.4 0.0**
LDF La Druitiere 40.46 305 *e*P **P 05 27 46.4 0.0**
MFF Saint Martin d 40.58 302 *e*P **P 05 27 46.8 -0.6**
MFF Saint Martin d 40.58 302 *e*P **P 05 27 46.8 -0.6**
MFF Saint Martin d 40.58 302 *e*P **P 05 27 46.8 -0.6**
MFF Saint Martin d 40.58 302 *e*P **P 05 27 46.8 -0.6**
LZH Lanzhou 40.93 74 *e*P **P 05 27 51.5 +0.8**
LZH pP **pP 05 27 54.8 +0.7**

LZH					sP	sP	05 27 56.3	+0.8		
LZH					pmax	pmax				
	comp=Z,19nm,1.3s									
LZH					pmax	pmax				
	comp=Z,56nm,5.4s									
LZH					LR	LR				
	comp=Z,310nm,14.0s									
LZH					LR	LR				
	comp=Z,320nm,13.5s									
LZH					LR	LR				
	comp=Z,400nm,18.0s									
SONM	**Songino Array**	**40.94**	**56**		P	**P**	**05 27 51.8**	**+1.3**		
SONM	**Songino Array**	**40.94**	**56**		P	**P**	**05 27 51.8**	**+1.3**		
	comp=Z,1.1nm,1.0s,baz=275,slow=13,SNR=6.2									
SONM	**Songino Array**	**40.94**	**56**		P	**P**	**05 27 51.8**	**+1.3**		
ULN	**Ulaanbaatar**	**41.38**	**56**	*eP*		**P**	**05 27 56.1**	**+1.9**		
	comp=Z,5.0nm,1.0s									
CMAR	**Chiang Mai Arr**	**44.12**	**101**		P	**P**	**05 28 16.4**	**-0.2**		
CMAR	**Chiang Mai Arr**	**44.12**	**101**		P	**P**	**05 28 16.4**	**-0.2**		
	comp=Z,1.1nm,0.4s,baz=301,slow=7.8,SNR=9.5									
CMAR	**Chiang Mai Arr**	**44.12**	**101**		P	**P**	**05 28 16.4**	**-0.2**		
ESDC	**Sonseca Array**	**44.42**	**293**		P	**P**	**05 28 17.7**	**-1.2**		
ESDC	**Sonseca Array**	**44.42**	**293**		P	**P**	**05 28 17.7**	**-1.2**		
	comp=Z,1.5nm,0.8s,baz=62,slow=8.7,SNR=7.3									
ESDC	**Sonseca Array**	**44.42**	**293**		P	**P**	**05 28 17.7**	**-1.2**		
HHC	**Hu-ho-hao-te**	**45.63**	**65**	*eP*		**P**	**05 28 27.5**	**-1.0**		
HHC					sP	sP	05 28 40.3	+6.9		
HHC					PP	**PP**	**05 30 16.8**	**+1.6**		
HHC					S	S	05 35 04.3	-6.8		
HHC					pmax	pmax				
	comp=Z,24nm,0.7s									
HHC					pmax	pmax				
	comp=Z,180nm,4.7s									
HHC					LR	LR				
	comp=Z,300nm,25.5s									
HHC					LR	LR				
	comp=Z,560nm,23.0s									
HHC					LR	LR				
	comp=Z,140nm,16.7s									
BJI	**Beijing**	**49.24**	**65**		P	**P**	**05 28 54.5**	**-2.0**		
BJI					pmax	pmax				
	comp=Z,9.0nm,1.3s									
BJI					LR	LR				
	comp=Z,43nm,20.6s									
TORD	**Torodi Ar. Bea**	**51.04**	**257**		P	**P**	**05 29 08.7**	**-1.7**		
TORD	**Torodi Ar. Bea**	**51.04**	**257**		P	**P**	**05 29 08.7**	**-1.7**		
	comp=Z,1.1nm,1.0s,baz=50,slow=7.1,SNR=5.4									
TORD	**Torodi Ar. Bea**	**51.04**	**257**		P	**P**	**05 29 08.7**	**-1.7**		
TIXI	**Tiksi**	**52.09**	**23**	*eP*		**P**	**05 29 19.3**	**+1.8**		
TIXI					pmax	pmax				
	comp=Z,4.0nm,1.7s									
TIXI	**Tiksi**	**52.09**	**23**	*eP*		**P**	**05 29 19.3**	**+1.8**		
	comp=Z,4.0nm,1.7s									
NJ2	**Nanjing**	**54.00**	**74**	*eP*		**P**	**05 29 30.8**	**-1.4**		
NJ2					pmax	pmax				
	comp=Z,10.0nm,1.0s									
KSAR	**Wonju Array Be**	**58.73**	**64**		P	**P**	**05 30 06.2**	**+0.4**		
KSAR	**Wonju Array Be**	**58.73**	**64**		P	**P**	**05 30 06.2**	**+0.4**		
KSRS	**Korea Array**	**58.75**	**64**		P	**P**	**05 30 06.2**	**+0.2**		
	comp=Z,2.4nm,0.8s,baz=273,slow=7.8,SNR=7.7									
KSRS	**Korea Array**	**58.75**	**64**		P	**P**	**05 30 06.2**	**+0.2**		
	comp=Z,2.0nm,0.8s									
USRK	**Ussuriysk Arra**	**59.05**	**55**		P	**P**	**05 30 07.9**	**-0.1**		
	comp=Z,2.7nm,0.9s,baz=336,slow=4.2,SNR=4.3									
SEY	**Seymchan**	**62.87**	**30**	*eP*		**P**	**05 30 36.0**	**+2.4**		
SEY	**Seymchan**	**62.87**	**30**	*eP*		**P**	**05 30 36.0**	**+2.4**		
MJAR	**Matsushiro Arr**	**66.57**	**61**		LR	LR	06 00 21.1			
	comp=Z,28nm,19.5s,baz=245,slow=36									
BOSA	**Boshof**	**69.13**	**206**		P	**P**	**05 31 13.5**	**-0.9**		
BOSA	**Boshof**	**69.13**	**206**		P	**P**	**05 31 13.5**	**-0.9**		
	comp=Z,2.8nm,0.9s,baz=7.1,slow=8.1,SNR=4.0									
BOSA					LR	LR	06 02 40.6			
	comp=Z,60nm,18.7s,baz=112,slow=37									
BOSA	**Boshof**	**69.13**	**206**		P	**P**	**05 31 13.5**	**-0.9**		
COLD	**Coldfoot**	**75.81**	**9**	*eP*		**P**	**05 31 54.9**	**+1.3**		
	comp=Z,3.4nm,0.9s									
COLD	**Coldfoot**	**75.81**	**9**	*eP*		**P**	**05 31 54.9**	**+1.3**		
	comp=Z,3.4nm,0.9s									
SCHQ	**Schefferville**	**75.97**	**329**		P	**P**	**05 31 54.7**	**-0.1**		
SCHQ	**Schefferville**	**75.97**	**329**		P	**P**	**05 31 54.7**	**-0.1**		
	comp=Z,2.2nm,0.8s,baz=51,slow=6.5,SNR=3.5									
SCHQ	**Schefferville**	**75.97**	**329**		P	**P**	**05 31 54.7**	**-0.1**		
IM04	**Indian Mountai**	**76.48**	**11**	*eP*		**P**	**05 31 58.1**	**+0.6**		
IM04	**Indian Mountai**	**76.48**	**11**	*eP*		**P**	**05 31 58.1**	**+0.6**		
ILAR	**Eielson Array**	**78.57**	**8**		P	**P**	**05 32 09.7**	**+0.5**		
ILAR	**Eielson Array**	**78.57**	**8**		P	**P**	**05 32 09.7**	**+0.5**		
	comp=Z,1.0nm,1.0s,baz=339,slow=5.0,SNR=8.0									
ILAR	**Eielson Array**	**78.57**	**8**		P	**P**	**05 32 09.7**	**+0.5**		
YKA	**Yellowknife Ar**	**81.52**	**354**		P	**P**	**05 32 25.6**	**+0.5**		
YKA	**Yellowknife Ar**	**81.52**	**354**		P	**P**	**05 32 25.6**	**+0.5**		
	comp=Z,0.9nm,1.0s,baz=6.7,slow=6.0,SNR=8.7									
YKA	**Yellowknife Ar**	**81.52**	**354**		P	**P**	**05 32 25.6**	**+0.5**		
	comp=Z,1.0nm,1.0s									
WRA	**Warramunga Arr**	**94.87**	**111**		P	**P**	**05 33 28.4**	**-2.0**		
WRA	**Warramunga Arr**	**94.87**	**111**		P	**P**	**05 33 28.4**	**-2.0**		
	comp=Z,0.5nm,1.0s,baz=309,slow=3.9,SNR=4.4									
WRA	**Warramunga Arr**	**94.87**	**111**		P	**P**	**05 33 28.4**	**-2.0**		

*TEH **20** 05:26:23.0,35˚.77N×52˚.84E,h8km,ML3.9*
*ISCJB **20** 05:26:23.0±0.3,35˚.80N±0˚.02×52˚.81E±0˚.03,h10km±2km, mb3.7/15,Error ellipse: s-maj=3.5km s-min=3.5km az=43.3*
*IDC **20** 05:26:23.8±1.5,35˚.85N×52˚.79E,h0km,mb3.6/10, mb1 3.8/13,mb1mx3.7/35,mbtmp3.6/13,ML3.5/3,MS3.1/1, Ms1 3.1/1,ms1mx2.4/34,Error ellipse: s-maj=33.3km s-min=16.3km az=163.0*
*THR **20** 05:26:23.1±1.0,35˚.88N×52˚.80E,h15km±10km,ML3.8*
*CSEM **20** 05:26:23.0±0.1,35˚.77N×52˚.84E,h2km,ML3.9,Error ellipse: s-maj=3.6km s-min=3.1km az=86.0*
*AZER **20** 05:26:27.0±1.0,35˚.86N×52˚.56E,h2km,Error ellipse: s-maj=17.6km s-min=7.9km az=52.0*

ISC 20 05:26:23.4±1.0,35˚.79N±0˚.02×52˚.84E±0˚.02,h4km±7km, n102,σ1ŝ13/140,mb3.6/15,31C-13D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**0.16**	**206**	⇑*eP*		**Pg**		**05 26 25.9**	**-0.8**
IFIR				*eSg*		**Sg**		**05 26 28.6**	**-0.2**
IFIR				*e*				05 26 30.5	
	comp=Z,1078μm,0.1s								
IFIR	**Firoozkooh**	**0.16**	**206**	⇑*eP*		**Pg**		**05 26 25.9**	**-0.8**
IFIR				*eSg*		**Sg**		**05 26 28.6**	**-0.2**
IALA	**Alasht**	**0.30**	**355**	⇑*eP*		**Pg**		**05 26 29.7**	**+0.4**
IALA				*eSg*		**Sb**		**05 26 35.1**	**-1.8**
IALA				*e*				05 26 37.5	
	comp=Z,99μm,0.1s								
IALA	**Alasht**	**0.30**	**355**	⇑*eP*		**Pg**		**05 26 29.7**	**+0.4**
IALA				*eSg*		**Sb**		**05 26 35.2**	**-1.8**
ISHM	**Shahmirzad**	**0.37**	**87**	⇓*eP*		**Pg**		**05 26 30.5**	**-0.1**
ISHM				*eSg*		**Sb**		**05 26 37.0**	**-1.9**
ISHM				*e*				05 26 38.1	
	comp=Z,74μm,0.2s								
ISHM	**Shahmirzad**	**0.37**	**87**	⇓*eP*		**Pg**		**05 26 30.5**	**-0.1**
ISHM				*eSg*		**Sb**		**05 26 37.0**	**-1.9**
ILAS	**Lasjerd**	**0.41**	**167**	⇑*eP*		**Pg**		**05 26 31.1**	**-0.3**
ILAS				*eSg*		**Sg**		**05 26 37.5**	**+0.7**
ILAS				*e*				05 26 42.4	
	comp=Z,8μm,0.1s								
ILAS	**Lasjerd**	**0.41**	**167**	⇑*eP*		**Pg**		**05 26 31.2**	**-0.3**
ILAS				*eSg*		**Sg**		**05 26 37.6**	**+0.7**
IPRN	**Peran**	**0.61**	**318**	*eP*		**Pg**		**05 26 34.7**	**-0.4**
IPRN				*eSg*		**Sg**		**05 26 44.3**	**+1.2**
IPRN				*e*				05 26 48.1	
	comp=Z,23μm,0.2s								
IDMV	**Damavand**	**0.69**	**253**	⇑*eP*		**Pg**		**05 26 35.8**	**-0.9**
IDMV				*eSg*		**Sg**		**05 26 46.5**	**+0.8**
IDMV				*e*				05 26 48.6	
	comp=Z,85μm,0.1s								
IDMV	**Damavand**	**0.69**	**253**	⇑*eP*		**Pg**		**05 26 35.8**	**-0.9**
IDMV				*eSg*		**Sg**		**05 26 46.5**	**+0.8**
DAMV	**Damavand**	**0.72**	**258**	*eP*		**Pg**		**05 26 36.4**	**-1.0**
DAMV				*eSg*		**Sg**		**05 26 47.3**	**+0.5**
	comp=Z,3μm,0.3s								
DAMV	**Damavand**	**0.72**	**258**	*eP*		**Pg**		**05 26 36.4**	**-1.0**
DAMV				*eSg*		**Sg**		**05 26 47.3**	**+0.5**
DAMV					AML	AML		05 26 50.0	
	comp=N,3μm,0.3s								
IKIA	**Kiasar**	**0.80**	**58**	⇑*eP*		**Pg**		**05 26 38.3**	**-0.5**
IKIA				*e*				05 26 41.7	
	comp=Z,21μm,0.1s								
IKIA	**Kiasar**	**0.80**	**58**	⇑*eP*		**Pg**		**05 26 38.3**	**-0.5**
IANJ	**Anjilo**	**0.93**	**110**	⇑*eP*		**Pg**		**05 26 40.7**	**-0.6**
IANJ				*e*				05 27 01.8	
	comp=Z,22μm,0.1s								
IANJ	**Anjilo**	**0.93**	**110**	⇑*eP*		**Pg**		**05 26 40.7**	**-0.6**
IGLO	**Ghaloghah**	**1.07**	**48**	*eP*		**Pb**		**05 26 44.4**	**-0.4**
IGLO				*e*				05 27 14.5	
	comp=Z,25μm,0.2s								
IVRN	**Varamin**	**1.20**	**229**	⇓*eP*		**Pg**		**05 26 45.6**	**-0.9**
IVRN				*eSg*		**Sb**		**05 27 03.1**	**+0.3**
IVRN				*e*				05 27 04.4	
	comp=Z,32μm,0.1s								
IVRN	**Varamin**	**1.20**	**229**	⇓*eP*		**Pg**		**05 26 45.6**	**-0.9**
IVRN				*eSg*		**Sb**		**05 27 03.1**	**+0.3**
CHTH	**Charan**	**1.40**	**275**	*eP*		**Pn**		**05 26 48.4**	**-1.6**
CHTH	**Charan**	**1.40**	**275**	*eP*		**Pn**		**05 26 48.4**	**-1.6**
IR3	**Iran Long-Peri**	**1.51**	**259**	*ePn*		**Pn**		**05 26 50.2**	**-1.2**
IR3	**Iran Long-Peri**	**1.51**	**259**	*ePn*		**Pn**		**05 26 50.2**	**-1.2**
IMHD	**Mahdasht**	**1.77**	**267**	*ePn*		**Pn**		**05 26 54.9**	**-0.1**
IMHD				*e*				05 27 24.8	
	comp=Z,13μm,0.1s								
IMHD	**Mahdasht**	**1.77**	**267**	*ePn*		**Pn**		**05 26 54.9**	**-0.1**
GHVR	**GHOM**	**1.82**	**225**	*ePg*		**Pb**		**05 26 57.5**	**+0.2**
GHVR					AML	AML		05 27 28.3	
	comp=N,2μm,0.3s								
GHVR	**GHOM**	**1.82**	**225**	*ePg*		**Pb**		**05 26 57.5**	**+0.2**
IGZV	**Ghazvin**	**2.21**	**286**	*ePn*		**Pb**		**05 27 03.1**	**-1.0**
IGZV				*e*				05 27 41.5	
	comp=N,17μm,0.2s								
IGZV	**Ghazvin**	**2.21**	**286**	*ePn*		**Pb**		**05 27 03.1**	**-1.0**
IRAZ	**Razeghan**	**2.40**	**262**	*ePn*		**Pn**		**05 27 02.9**	**-0.9**
IRAZ				*e*				05 27 45.0	
	comp=Z,11μm,0.2s								
IRAZ	**Razeghan**	**2.40**	**262**	*ePn*		**Pn**		**05 27 02.9**	**-0.9**
ASAO	**Ashtian**	**2.62**	**243**	*ePn*		**Pn**		**05 27 07.4**	**+0.7**
ASAO	**Ashtian**	**2.62**	**243**	*ePn*		**Pn**		**05 27 07.4**	**+0.7**
IKLH	**Kolahrood**	**2.67**	**203**	*e*				05 27 47.5	
	comp=Z,10μm,0.1s								
IKLH				*ePn*		**Pn**		**05 27 07.6**	**+0.1**
IZEF	**Zefreh**	**2.91**	**189**	*ePn*		**Pn**		**05 27 10.5**	**-0.3**
IZEF				*e*				05 27 59.2	
	comp=Z,3μm,0.1s								
IZEF	**Zefreh**	**2.91**	**189**	*ePn*		**Pn**		**05 27 10.5**	**-0.3**
KHMZ	**Khomeyn**	**3.13**	**230**	*ePn*		**Pn**		**05 27 14.8**	**+1.0**
	comp=Z,183nm,0.5s								
KHMZ	**Khomeyn**	**3.13**	**230**	*ePn*		**Pn**		**05 27 14.8**	**+1.0**
KHMZ					AML	AML		05 28 04.8	
	comp=E,203nm,0.4s								
KHMZ					AML	AML		05 28 17.7	
	comp=N,182nm,0.5s								
IPIR	**Pirpir**	**3.49**	**208**	*ePn*		**Pn**		**05 27 19.4**	**+0.6**
IPIR				*e*				05 28 14.8	
	comp=Z,2μm,0.3s								
IPIR	**Pirpir**	**3.49**	**208**	*ePn*		**Pn**		**05 27 19.4**	**+0.6**
LKRN	**Lenkeran, Azer**	**4.36**	**313**	P		**Pn**		**05 27 30.9**	**+0.4**
	SNR=9.0								
LKRN				⇑S		**Sn**		**05 28 20.9**	**-0.8**
LKRN	**Lenkeran, Azer**	**4.36**	**313**	P		**Pn**		**05 27 30.9**	**+0.4**
	SNR=9.0								
LKRN				S		**Sn**		**05 28 20.9**	**-0.8**
LRK	**Lerik**	**4.59**	**310**	⇑P		**Pn**		**05 27 34.4**	**+0.7**
LRK				⇑S		**Sn**		**05 28 28.0**	**+0.4**
LRK	**Lerik**	**4.59**	**310**	P		**Pn**		**05 27 34.4**	**+0.7**
LRK				S		**Sn**		**05 28 28.0**	**+0.4**
GLBA	**Clilabad**	**4.94**	**316**	⇓P		**Pn**		**05 27 38.8**	**+0.4**
	SNR=18								
GLBA				⇑S		**Sn**		**05 28 35.5**	**-0.5**
GLBA	**Clilabad**	**4.94**	**316**	P		**Pn**		**05 27 38.8**	**+0.4**
	SNR=18								
GLBA				S		**Sn**		**05 28 35.5**	**-0.5**
ALIB	**Äli-Bayra**	**5.15**	**325**	⇑P		**Pn**		**05 27 43.9**	**+2.6**
	SNR=8.2								
ALIB				⇑S		**Sn**		**05 28 42.2**	**+1.0**
ALIB	**Äli-Bayra**	**5.15**	**325**	P		**Pn**		**05 27 43.9**	**+2.6**
	SNR=8.2								
ALIB				S		**Sn**		**05 28 42.2**	**+1.0**
ATGJ	**Altiaghaj**	**5.92**	**330**	⇓P		**Pn**		**05 27 53.0**	**+1.0**
	SNR=10								
ATGJ				⇑S		**Sn**		**05 29 00.6**	**+0.2**
ATGJ	**Altiaghaj**	**5.92**	**330**	P		**Pn**		**05 27 53.0**	**+1.0**
	SNR=10								
ATGJ				S		**Sn**		**05 29 00.6**	**+0.2**
PQL	**Pirkuli**	**6.01**	**328**	⇓P		**Pn**		**05 27 54.3**	**+1.0**
	SNR=16								
PQL				⇑S		**Sn**		**05 29 03.0**	**+0.4**
PQL	**Pirkuli**	**6.01**	**328**	P		**Pn**		**05 27 54.3**	**+1.0**
	SNR=16								
PQL				S		**Sn**		**05 29 03.0**	**+0.4**
SIZA	**Siyzn**	**6.12**	**331**	⇑P		**Pn**		**05 27 57.3**	**+2.5**
	SNR=4.7								
SIZA				⇓S		**Sn**		**05 29 05.6**	**+0.4**
IML	**Ismayilli**	**6.20**	**325**	⇓P		**Pn**		**05 27 56.2**	**+0.5**
	SNR=4.0								
IML				⇑S		**Sn**		**05 29 06.5**	**-0.6**
IML	**Ismayilli**	**6.20**	**325**	P		**Pn**		**05 27 56.2**	**+0.5**
	SNR=4.0								
IML				S		**Sn**		**05 29 06.5**	**-0.6**
BRDA	**Brd**	**6.32**	**317**	⇑P		**Pn**		**05 27 58.2**	**+0.9**
	SNR=3.3								
BRDA				⇑S		**Sn**		**05 29 12.7**	**+2.7**
BRDA	**Brd**	**6.32**	**317**	P		**Pn**		**05 27 58.2**	**+0.9**
	SNR=3.3								
QUBA	**Quba, Azerbaij**	**6.52**	**330**	⇑P		**Pn**		**05 28 01.4**	**+1.2**
	SNR=5.1								
QUBA				⇑S		**Sn**		**05 29 15.5**	**+0.5**
QUBA	**Quba, Azerbaij**	**6.52**	**330**	P		**Pn**		**05 28 01.4**	**+1.2**
	SNR=5.1								
QUBA				S		**Sn**		**05 29 15.5**	**+0.5**
SEKA	**Sheki**	**6.99**	**322**	⇑P		**Pn**		**05 28 07.2**	**+0.5**
	SNR=4.2								
SEKA				⇓S		**Sn**		**05 29 25.1**	**-1.5**
SEKA	**Sheki**	**6.99**	**322**	P		**Pn**		**05 28 07.2**	**+0.5**
	SNR=4.2								
SEKA				S		**Sn**		**05 29 25.1**	**-1.5**
GANJ	**Ganja**	**7.06**	**315**	P		**Pn**		**05 28 07.7**	**+0.1**
	SNR=12								
GANJ				⇓S		**Sn**		**05 29 27.1**	**-1.2**
GANJ	**Ganja**	**7.06**	**315**	P		**Pn**		**05 28 07.7**	**+0.1**
	SNR=12								
GANJ				S		**Sn**		**05 29 27.1**	**-1.2**
ZKTA	**Zakatala**	**7.60**	**322**	⇑P		**Pn**		**05 28 16.1**	**+1.1**
	SNR=2.9								
ZKTA				⇓S		**Sn**		**05 29 40.9**	**-0.6**
GNI	**Garni**	**7.74**	**307**	Pn		Pn		05 28 24.8	+7.8
	comp=Z,2.3nm,0.3s,baz=2,1,slow=1.9,SNR=5.8								
KBZ	**Khabaz**	**11.02**	**319**	Pn		**Pn**		**05 29 03.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=124,slow=13,SNR=2.8								
KBZ					Sn	**Sn**		05 31 04.2	-1.1
	comp=Z,0.1nm,0.3s,baz=150,slow=16,SNR=2.4								
AB31	**Akbulak array**	**14.43**	**19**	⇓Pn		**Pn**		**05 29 46.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=206,slow=13,SNR=14								
AB31				⇑Sn		Sn		05 32 18.6	-10
	comp=Z,0.9nm,0.5s,baz=206,slow=23,SNR=6.1								
AB31	**Akbulak array**	**14.43**	**19**	Pn		**Pn**		**05 29 46.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=206,SNR=14								
AKTO	**Aktyubinsk**	**15.12**	**13**	⇑Pn		**Pn**		**05 29 54.1**	**-3.5**
	comp=Z,6.1nm,1.1s								
AKTO				⇑Sn		Sn		05 32 36.6	-8.8
	comp=Z,4.0nm,0.8s								
AKTO	**Aktyubinsk**	**15.12**	**13**	Pn		**Pn**		**05 29 53.9**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=180,slow=14,SNR=6.1								
AKTO					Sn	Sn		05 32 35.7	-10
	comp=Z,0.2nm,0.3s,baz=55,slow=16,SNR=3.6								
EIL	**Elat**	**16.23**	**253**	LR		LR		05 37 45.4	
	comp=Z,71nm,19.2s,baz=36,slow=42								
AAK	**Ala-Archa**	**18.09**	**61**	P		**P**		**05 30 37.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=17,SNR=2.6								
BVAR	**Borovoye Array**	**21.21**	**30**	P		**P**		**05 31 10.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=214,slow=10,SNR=3.4								
BVAR					S	**S**		**05 35 02.6**	**-3.6**
	comp=Z,0.4nm,0.5s,baz=233,slow=29,SNR=2.8								
MLR	**Muntele Rosu**	**22.50**	**304**	P		**P**		**05 31 26.8**	**+2.7**
	comp=Z,1.2nm,1.0s,baz=172,slow=19,SNR=6.2								
AKASG	**Malin Array Be**	**22.63**	**319**	P		**P**		**05 31 27.1**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=125,slow=8.1,SNR=5.8								
IDI	**Anoyia**	**22.73**	**277**	P		**P**		**05 31 27.6**	**+1.2**
	comp=Z,9.8nm,0.9s,baz=56,slow=15,SNR=4.9								
KURBB	**Kurchatov Arra**	**23.72**	**43**	P		**P**		**05 31 36.8**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=246,slow=9.1,SNR=6.8								
MKAR	**Makanchi Array**	**24.57**	**54**	P		**P**		**05 31 45.7**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=245,slow=12,SNR=7.5								
GERES	**GERESS Array B**	**31.39**	**307**	P		**P**		**05 32 45.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=97,slow=8.5,SNR=8.7								
SBF	**Sospel**	**35.42**	**297**	*eP*		**P**		**05 33 20.5**	**-0.1**
	comp=Z,31nm,1.1s								
SBF	**Sospel**	**35.42**	**297**	*eP*		**P**		**05 33 20.5**	**-0.1**
LPG	**La Plagne**	**35.86**	**300**	*eP*		**P**		**05 33 23.9**	**-0.7**
LPG	**La Plagne**	**35.86**	**300**	*eP*		**P**		**05 33 23.9**	**-0.7**
MBDF	**Montbardon**	**35.87**	**299**	*eP*		**P**		**05 33 23.8**	**-0.7**
	comp=Z,4.4nm,0.6s								
MBDF	**Montbardon**	**35.87**	**299**	*eP*		**P**		**05 33 23.8**	**-0.7**
LPL	**La Plagne**	**35.87**	**300**	*eP*		**P**		**05 33 23.9**	**-0.7**
	comp=Z,3.0nm,0.5s								
LPL	**La Plagne**	**35.87**	**300**	*eP*		**P**		**05 33 23.9**	**-0.7**
CABF	**La Chapelle**	**36.32**	**302**	*eP*		**P**		**05 33 28.3**	**0.0**
	comp=Z,21nm,1.1s								
CABF	**La Chapelle**	**36.32**	**302**	*eP*		**P**		**05 33 28.3**	**0.0**
ORIF	**Oris-en-Rattie**	**36.49**	**299**	*eP*		**P**		**05 33 28.9**	**-0.9**
ORIF	**Oris-en-Rattie**	**36.49**	**299**	*eP*		**P**		**05 33 28.9**	**-0.9**
SMF	**Signal de Mont**	**37.86**	**302**	*eP*		**P**		**05 33 40.8**	**-0.5**
SMF	**Signal de Mont**	**37.86**	**302**	*eP*		**P**		**05 33 40.8**	**-0.5**
AVF	**Avril sur Loir**	**38.20**	**302**	*eP*		**P**		**05 33 43.5**	**-0.6**
AVF	**Avril sur Loir**	**38.20**	**302**	*eP*		**P**		**05 33 43.5**	**-0.6**
TCF	**Toulx Ste Croi**	**39.00**	**302**	*eP*		**P**		**05 33 50.7**	**-0.2**
TCF	**Toulx Ste Croi**	**39.00**	**302**	*eP*		**P**		**05 33 50.7**	**-0.2**
ESDC	**Sonseca Array**	**44.46**	**293**	P		**P**		**05 34 34.7**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=66,slow=7.0,SNR=3.8								
TORD	**Torodi Ar. Bea**	**51.06**	**257**	P		**P**		**05 35 27.9**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=61,slow=4.9,SNR=2.7								
ILAR	**Eielson Array**	**78.58**	**8**	P		**P**		**05 38 26.4**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=330,slow=5.2,SNR=4.2								
YKA	**Yellowknife Ar**	**81.54**	**354**	P		**P**		**05 38 42.9**	**+1.1**
	comp=Z,0.2nm,0.9s,baz=7.4,slow=5.3,SNR=4.6								

*SJA **20** 06:05:40.4±0.9,26˚.99S×63˚.50W,h609km±12km,ML5.1, MW4.1*
*MOS **20** 06:05:43.5±0.8,26˚.65S×63˚.18W,h532km,mb5.7/36, Error ellipse: s-maj=10.4km s-min=6.5km az=92.6*
*ISCJB **20** 06:05:45.6±0.2,26˚.72S±0˚.02×63˚.27W±0˚.03,h559km±2km, mb5.2/207,Error ellipse: s-maj=3.8km s-min=3.2km az=138.9*
*BJI **20** 06:05:45.1,26˚.51S×64˚.17W,h557km,mB5.2/15*
*GCMT **20** 06:05:46.1±0.3,26˚.78S×63˚.13W,h585km±1km,MW5.4/69, Moment Tensor Solution. s69,c116; Duration: 1ŝ2 Moment tensor: Scale 10^17Nm; Mrr-1.26±.04; Mθθ-0.10±.06; Mφφ1.36±.07; Mrθ-0.35±.07; Mθφ0.78±.06; Mφr0.43±.07; Best double couple: M0 1.61600×10^17 NP1:φs181.00000°,δ55.00000°,λ-121.00000°. NP2: φs47.00000°,δ45.00000°,λ-54.00000°. Principal axes: T 1.7220, Plg5.0000°, Azm292.0000°; N -0.2110, Plg24.0000°, Azm200.0000°; P -1.5090, Plg65.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **20** 06:05:46.1±0.3,26˚.79S×63˚.21W,h560km±3km,mb5.3/142, MD5.2(SJA) Error ellipse: s-maj=4.5km s-min=3.4km az=62.0*
*IDC **20** 06:05:47.2±0.3,26˚.78S×63˚.23W,h569km±3km,mb4.6/23, mb1 4.8/29,mb1mx4.7/30,mbtmp5.6/29,Error ellipse: s-maj=8.7km s-min=6.8km az=82.0*
*LDG **20** 06:05:48.9±0.8,25˚.52S×63˚.85W,h568km,Mb

BB16B *i* 06 11 27.5
BB16B *i* 06 11 32.5
PLCA Paso Flores 15.12 201 *e*P **P** **06 08 55.4 -1.5**
comp=Z,285nm,1.1s
PLCA S **S** **06 11 32.5 -0.4**
PLCA PcP **PcP** **06 13 24.0 +0.9**
PLCA ScP **ScP** **06 16 04.7 +0.8**
PLCA Paso Flores 15.12 201 P **P** **06 08 55.8 -1.1**
comp=Z,12nm,0.3s,baz=27,slow=11,SNR=382
PLCA S **S** **06 11 32.5 -0.4**
comp=Z,0.3nm,0.3s,baz=133,slow=19,SNR=1.6
PLCA PcP **PcP** **06 13 24.0 +0.9**
comp=Z,1.1nm,0.3s,baz=63,slow=2.3,SNR=3.9
PLCA ScP **ScP** **06 16 04.7 +0.8**
comp=Z,1.1nm,0.3s,baz=20,slow=1.6,SNR=8.6
SAML Samuel 17.77 0 *e*P **P** **06 09 21.2 -0.6**
comp=Z,42nm,0.8s
BDFB Brasilia 18.07 55 P **P** **06 09 25.1 +0.4**
BDFB S **S** **06 12 20.3 -1.7**
BDFB Brasilia 18.07 55 P **P** **06 09 25.1 +0.4**
comp=Z,59nm,0.3s,baz=225,slow=7.5,SNR=616
BDFB S **S** **06 12 20.3 -1.7**
comp=Z,2.4nm,0.3s,baz=41,slow=11,SNR=4.3
NNA Nana 19.47 317 P **P** **06 09 36.9 -0.5**
comp=Z,979nm,1.0s,SNR=16
ATAH Atahualpa 24.25 321 P **P** **06 10 21.6 +0.9**
ATAH PcP **PcP** **06 13 41.9 +0.9**
ATAH ScP **ScP** **06 16 27.9 +1.6**
ATAH Atahualpa 24.25 321 P **P** **06 10 21.6 +0.9**
comp=Z,44nm,0.9s,baz=153,slow=8.3,SNR=46
ATAH PcP **PcP** **06 13 41.9 +0.9**
comp=Z,28nm,1.1s,baz=84,slow=10,SNR=3.8
ATAH ScP **ScP** **06 16 27.9 +1.6**
comp=Z,28nm,1.0s,baz=171,slow=6.3,SNR=7.1
PTGA Pitinga 26.13 8 *e*P **P** **06 10 35.8 -0.9**
comp=Z,272nm,0.6s
PTGA Pitinga 26.13 8 P **P** **06 10 35.9 -0.8**
comp=Z,372nm,0.6s,baz=196,slow=12,SNR=563
USHA Ushuaia 28.24 186 P **P** **06 10 54.1 -0.5**
USHA PcP **PcP** **06 13 49.8 +0.6**
USHA Ushuaia 28.24 186 P **P** **06 10 54.1 -0.5**
comp=Z,33nm,0.4s,baz=352,slow=8.2,SNR=117
USHA PcP **PcP** **06 13 49.8 +0.6**
comp=Z,30nm,0.9s,baz=356,slow=1.8,SNR=6.1
OTAV Otavalo 30.58 329 *e*P **P** **06 11 16.4 +0.5**
comp=Z,34nm,0.9s
ROSC El Rosal 33.24 340 *e*P **P** **06 11 38.1 -0.2**
ROSC El Rosal 33.24 340 P **P** **06 11 38.3 -0.1**
comp=Z,78nm,0.7s,baz=138,slow=3.6,SNR=29
RCBR Riachuelo 33.44 56 *e*P **P** **06 11 40.6 +0.9**
RCBR ScP **ScP** **06 16 55.5 +0.2**
RCBR Riachuelo 33.44 56 P **P** **06 11 40.5 +0.7**
comp=Z,70nm,0.6s,baz=217,slow=12,SNR=87
RCBR ScP **ScP** **06 16 55.5 +0.2**
comp=Z,23nm,0.8s,baz=196,slow=3.6,SNR=7.8
SDV Santo Domingo 36.19 348 *e*P **P** **06 12 00.7 -2.0**
comp=Z,122nm,0.4s
PMSA Palmer Station 37.97 181 P **P** **06 12 18.2 +1.9**
PMSA Palmer Station 37.97 181 P **P** **06 12 18.2 +1.9**
comp=Z,30nm,0.9s,baz=48,slow=7.6,SNR=3.6
GRGR Grenville 38.75 3 *e*P **P** **06 12 22.7 -0.6**
comp=Z,545nm,0.9s
BIM Bigot 41.14 3 *e*P **P** **06 12 42.0 -0.5**
TRMF Trois Ilets 41.16 3 *e*P **P** **06 12 42.0 -0.5**
MVM Montagne Vaucl 41.19 4 *e*P **P** **06 12 42.2 -0.6**
ZAM Aeronautique 41.20 3 *e*P **P** **06 12 42.4 -0.4**
LPMF Morne Lapointe 41.20 3 *e*P **P** **06 12 42.3 -0.6**
FDF Fort de France 41.35 3 *e*P **P** **06 12 43.1 -1.0**
FDF pmax pmax
comp=Z,241nm,0.4s
FDF Fort de France 41.35 3 *e*P **P** **06 12 44.0 -0.1**
FDF Fort de France 41.35 3 *e*P **P** **06 12 43.0 -1.0**
comp=Z,241nm,0.4s
BVM Bellevue 41.36 3 *e*P **P** **06 12 43.9 -0.3**
BBL Barber's Block 42.12 3 *e*P **P** **06 12 49.0 -1.2**
JTS JuntasAbangare 42.44 327 *e*P **P** **06 12 53.9 +1.2**
JTS ScP **ScP** **06 17 30.2 +0.6**
JTS JuntasAbangare 42.44 327 P **P** **06 12 53.6 +0.9**
comp=Z,17nm,0.7s,baz=91,slow=1.4,SNR=11
JTS ScP **ScP** **06 17 30.2 +0.6**
comp=Z,21nm,1.0s,baz=334,slow=1.4,SNR=6.2
MGG Marie-Galante 42.52 3 *e*P **P** **06 12 52.6 -0.6**
HMG Houelmont 42.57 2 *e*P **P** **06 12 52.0 -1.7**
PHG Guadaloupe-2 42.60 2 *e*P **P** **06 12 51.8 -2.2**
SCG Saint Claude 42.62 2 *e*P **P** **06 12 52.4 -1.7**
DOG Dongo Capester 42.62 2 *e*P **P** **06 12 52.6 -1.5**
ECG Echelle 42.63 2 *e*P **P** **06 12 52.2 -2.1**
FNG Fond-Bernard 42.65 2 *e*P **P** **06 12 52.6 -1.7**
MLG Mont-d'or 42.65 2 *e*P **P** **06 12 52.6 -1.7**
LZG Guadaloupe-1 42.72 2 *e*P **P** **06 12 52.9 -1.9**
SEG Port Louis 42.99 3 *e*P **P** **06 12 54.7 -2.2**
SABA Saba 44.17 0 *e*P **P** **06 13 04.3 -1.7**
comp=Z,169nm,0.8s
ANWB Willy Bob 44.24 2 *e*P **P** **06 13 03.8 -2.8**
comp=Z,242nm,0.5s
CDVI St. Croix 44.32 358 *e*P **P** **06 13 05.4 -1.7**
comp=Z,181nm,0.8s
MTP Monte Pirata 44.70 357 *e*P **P** **06 13 07.5 -2.5**
comp=Z,42nm,0.3s
MTP *e*PcP **PcP** **06 14 39.3 -0.8**
OBIP Obispado Ponce 44.70 356 *e*P **P** **06 13 08.2 -1.9**
comp=Z,78nm,0.6s
CRPR Cabo Rojo, PR 44.70 355 *e*P **P** **06 13 09.2 -0.9**
comp=Z,190nm,0.7s
CELP Cerrillos 44.73 356 *e*P **P** **06 13 08.7 -1.7**
HUMP Col San Antoni 44.76 357 *e*P **P** **06 13 08.3 -2.1**
LSP Las Mesas 44.87 355 *e*P **P** **06 13 09.9 -1.5**
CBYP Canovanas 44.88 357 *e*P **P** **06 13 09.2 -2.4**
comp=Z,94nm,0.6s
LRS Lares 44.97 355 *e*P **P** **06 13 10.2 -1.9**
LRS *e*PcP **PcP** **06 14 41.6 +0.5**
AOPR Arecibo Observ 45.01 355 *e*P **P** **06 13 10.3 -2.2**
comp=Z,102nm,0.6s
TGUH Tegucigalpa,Un 46.82 327 *e*P **P** **06 13 25.9 -0.3**
comp=Z,24nm,0.8s
GTBY Guantanamo Bay 47.85 345 *e*P **P** **06 13 33.5 -0.4**
comp=Z,117nm,0.8s
GRTK Grand Turk 48.63 350 *e*P **P** **06 13 39.0 -0.6**
ASCN Ascension 50.01 77 *e*P **P** **06 13 48.9 -1.1**
comp=Z,73nm,0.8s
TEIG Tepich 52.65 330 *e*P **P** **06 14 08.2 -0.6**
comp=Z,44nm,0.6s
VNA1 Neumayer--Stat 53.59 160 P **P** **06 14 16.0 +1.2**
VNA2 Neumayer--Watz 53.96 160 P **P** **06 14 18.2 +0.7**
SNAA Sanae 55.60 161 P **P** **06 14 29.4 +0.4**
SNAA Sanae 55.60 161 ⇓*i*P **P** **06 14 29.1 +0.1**
SNAA Sanae 55.60 161 *e*P **P** **06 14 29.2 +0.2**
SNAA PcP **PcP** **06 15 20.4 +0.3**
SNAA pP **pP** **06 16 18.7 +1.4**
SNAA ScP **ScP** **06 18 25.5 +0.6**
SNAA Sanae 55.60 161 P **P** **06 14 28.8 -0.2**
comp=Z,24nm,0.8s,baz=288,slow=6.3,SNR=92
SNAA PcP **PcP** **06 15 20.4 +0.3**
comp=Z,12nm,0.8s,baz=275,slow=3.7,SNR=7.2
SNAA pP **pP** **06 16 18.7 +1.4**
comp=Z,20nm,1.2s,baz=300,slow=6.4,SNR=8.1
SNAA ScP **ScP** **06 18 25.5 +0.6**
comp=Z,2.8nm,0.7s,baz=261,slow=4.5,SNR=3.8
BBSR BB Station 58.87 359 *e*P **P** **06 14 51.6 0.0**
comp=Z,58nm,0.8s
TIGA Tifton 61.07 340 *e*P **P** **06 15 06.2 0.0**
TIGA Tifton 61.07 340 ⇓P **P** **06 15 05.9 -0.4**
baz=61,SNR=11
RGRS Roger Stewart 61.52 344 *e*P **P** **06 15 10.1 +1.0**
CSU Charleston Sou 61.57 344 *e*P **P** **06 15 10.5 +1.1**
NHSC New Hope 61.71 344 *e*P **P** **06 15 11.3 +1.0**
comp=Z,191nm,1.0s
BRAL Brewton 61.81 337 *e*P **P** **06 15 12.1 +1.0**
comp=Z,108nm,0.7s
035Z Hargill 62.65 325 ⇑P **P** **06 15 16.9 +0.3**
baz=63
JSC Jenkinsville 63.10 343 *e*P **P** **06 15 19.5 +0.2**
JSC Jenkinsville 63.10 343 *e*P **P** **06 15 19.4 +0.2**
QSPA South Pole Qui 63.41 180 *e*P **P** **06 15 21.9 +0.8**
QSPA S **S** **06 23 06.9 -3.0**
QSPA South Pole Qui 63.41 180 P **P** **06 15 21.7 +0.6**
comp=Z,167nm,0.8s,baz=157,slow=2.0,SNR=408
QSPA S **S** **06 23 06.9 -3.0**
comp=Z,1.6nm,0.7s,baz=140,slow=3.7,SNR=4.1
KVTX Kingsville 63.45 326 *e*P **P** **06 15 23.5 +1.8**
comp=Z,106nm,0.8s
034A Hebbronville 63.45 325 ⇑P **P** **06 15 22.5 +0.8**
baz=64,SNR=12
LRAL Lakeview Retre 63.63 338 *e*P **P** **06 15 22.2 -0.6**
934A Benavides 63.81 325 ⇓P **P** **06 15 25.2 +1.2**
baz=64,SNR=13
KMSC Kings Mountain 63.93 344 *e*P **P** **06 15 24.8 +0.2**
KMSC Kings Mountain 63.93 344 ⇓P **P** **06 15 24.8 +0.2**
baz=64,SNR=43
835A Beeville 64.02 326 ⇓P **P** **06 15 26.9 +1.6**
baz=64,SNR=5.5
VBMS Vicksburg 64.17 335 *e*P **P** **06 15 26.5 +0.3**
comp=Z,92nm,1.1s
933A Laredo 64.21 325 ⇑P **P** **06 15 27.2 +0.7**
baz=64,SNR=14
834A Tilden 64.25 326 ⇓P **P** **06 15 27.7 +0.9**
baz=64,SNR=15
HKT Hockley 64.45 329 *e*P **P** **06 15 28.8 +0.8**
HKT pmax pmax
comp=Z,45nm,1.3s
HKT Hockley 64.45 329 *e*P **P** **06 15 28.8 +0.8**
comp=Z,45nm,1.3s
735A Kenedy 64.48 327 ⇓P **P** **06 15 29.1 +0.9**
baz=65,SNR=10
833A Chaparral WMA, 64.84 325 ⇑P **P** **06 15 31.1 +0.6**
baz=65,SNR=50
833A ⇓S **S** **06 23 27.5 -0.4**
baz=65
734A La Parita Cree 64.85 326 ⇑P **P** **06 15 30.9 +0.3**
baz=65,SNR=8.0
635A Leesville 64.90 327 ⇓P **P** **06 15 30.9 +0.1**
baz=65,SNR=11
TKL Tuckaleechee C 65.07 342 *e*P **P** **06 15 31.1 -0.7**
CPCT Cooper Cave 65.09 341 *e*P **P** **06 15 32.2 +0.3**
832A Faith Ranch, C 65.11 325 ⇑P **P** **06 15 32.4 +0.2**
baz=65,SNR=60
733A Divot King Ran 65.11 325 ⇑P **P** **06 15 32.3 +0.1**
baz=65,SNR=8.9
536A Bastrop 65.14 328 P **P** **06 15 32.7 +0.4**
baz=65
634A China Grove, S 65.18 327 ⇑P **P** **06 15 32.6 -0.1**
baz=66
LIC Lamto 65.26 69 ⇓*i*P **P** **06 15 32.9 -0.6**
comp=Z,124nm,0.8s,baz=247
LIC *e*pP **pP** **06 17 29.5 +2.4**
LIC Lamto 65.26 69 *e*PKP2 **P** **06 15 32.2 -1.3**
comp=Z,238nm,1.0s
LIC Lamto 65.26 69 ⇓*i*P **P** **06 15 32.9 -0.6**
comp=Z,124nm,0.8s
LIC *e*pP **pP** **06 17 29.5 +2.4**
SWET Sewanee 65.29 340 *e*P **P** **06 15 32.7 -0.6**
comp=Z,62nm,0.6s
535A Dale 65.34 328 ⇓P **P** **06 15 33.7 +0.1**
baz=66,SNR=12
NATX Nacogdoches 65.47 331 *e*P **P** **06 15 34.1 -0.2**
comp=Z,101nm,0.8s
732A Laxson Ranch, 65.47 325 ⇓P **P** **06 15 34.7 +0.2**
baz=66,SNR=27
TIC Toumodi 65.49 68 *e*PKP2 **P** **06 15 33.7 -1.3**
KIC Kosan Boka 65.57 69 *e*PKP2 **P** **06 15 33.3 -2.1**
comp=Z,356nm,1.0s
JSRW J. Sargeant Re 65.61 347 *e*P **P** **06 15 35.6 +0.5**
DBIC Dimbokro 65.64 68 ⇓*i*P **P** **06 15 35.5 -0.3**
DBIC Dimbokro 65.64 68 *e*P **P** **06 15 35.7 -0.2**
DBIC pP **pP** **06 17 30.6 +0.9**
DBIC S **S** **06 23 36.0 -2.0**
DBIC Dimbokro 65.64 68 P **P** **06 15 35.6 -0.3**
comp=Z,51nm,0.3s,baz=212,slow=5.8,SNR=237
DBIC pP **pP** **06 17 30.6 +0.9**
comp=Z,34nm,1.1s,baz=199,slow=7.6,SNR=6.4
DBIC S **S** **06 23 36.0 -2.0**
comp=Z,1.3nm,0.8s,baz=29,slow=19,SNR=4.2
633A Saathoff Ranch 65.66 326 ⇓P **P** **06 15 35.9 +0.2**
baz=66,SNR=44
BLA Blacksburg 65.68 345 *e*P **P** **06 15 35.7 0.0**
BLA pmax pmax
comp=Z,111nm,1.2s
BLA Blacksburg 65.68 345 *e*P **P** **06 15 35.7 0.0**
comp=Z,111nm,1.2s
534A Blanco 65.78 327 ⇓P **P** **06 15 36.0 -0.4**
baz=66,SNR=13
OXF Oxford 65.81 337 *e*P **P** **06 15 35.3 -1.1**
OXF pmax pmax
comp=Z,101nm,1.0s
OXF Oxford 65.81 337 *e*P **P** **06 15 35.3 -1.1**
comp=Z,101nm,1.0s
TZTN Tazewell 65.84 342 *e*P **P** **06 15 36.1 -0.5**
comp=Z,28nm,0.7s
435B Jarrell 65.97 328 P **P** **06 15 37.9 +0.4**
baz=66
632A Uvalde 66.00 325 ⇑P **P** **06 15 38.2 +0.5**
baz=66,SNR=34
CBN cbin 66.00 348 *e*P **P** **06 15 38.2 +0.6**
comp=Z,76nm,1.0s
533A Kerrville 66.09 326 ⇓P **P** **06 15 38.4 +0.1**
baz=66,SNR=11
335A Moody 66.31 328 ⇑P **P** **06 15 40.0 +0.3**
baz=67,SNR=10
434A Burnet 66.32 327 ⇓P **P** **06 15 39.7 0.0**
baz=67,SNR=37
631A Perdido Creek 66.33 325 ⇓P **P** **06 15 39.7 -0.1**
baz=67,SNR=31
532A Rocksprings 66.57 326 ⇑P **P** **06 15 41.7 +0.4**
baz=67,SNR=58
433A Art 66.67 327 ⇑P **P** **06 15 42.0 +0.1**
baz=67,SNR=137
334A Lometa 66.74 328 ⇑P **P** **06 15 42.4 +0.1**
baz=67,SNR=61
JCT Junction City 66.80 326 *e*P **P** **06 15 42.8 +0.1**
JCT pmax pmax
comp=Z,53nm,0.7s
JCT Junction City 66.80 326 *e*P **P** **06 15 42.8 +0.1**
comp=Z,53nm,0.7s
JCT Junction City 66.80 326 ⇑P **P** **06 15 42.9 +0.1**
baz=67,SNR=30
WHTX Lake Whitney 66.92 329 *e*P **P** **06 15 42.6 -0.7**
WHTX Lake Whitney 66.92 329 ⇓P **P** **06 15 43.3 -0.1**
baz=67,SNR=8.1
531A Rocksprings 66.92 325 ⇓P **P** **06 15 44.0 +0.5**
baz=67,SNR=23
HALT Halls 67.05 337 *e*P **P** **06 15 43.6 -0.4**
SDMD Soldier's Deli 67.08 349 *e*P **P** **06 15 45.2 +1.0**
comp=Z,72nm,0.9s
333A Richland Sprin 67.09 327 ⇓P **P** **06 15 44.5 0.0**
baz=67,SNR=40
432A Menard 67.12 326 ⇑P **P** **06 15 44.6 -0.1**
baz=67,SNR=38
UALR University of 67.13 334 *e*P **P** **06 15 44.4 -0.2**
comp=Z,50nm,0.9s
234A Clairette 67.25 328 ⇓P **P** **06 15 45.4 0.0**
baz=68,SNR=42
UTMT University of 67.27 338 *e*P **P** **06 15 43.0 -2.4**
comp=Z,136nm,1.1s
530A J-C Ranch, Com 67.31 325 ⇓P **P** **06 15 46.3 +0.4**
baz=68,SNR=21
GNAR Gosnell 67.33 337 *e*P **P** **06 15 46.4 +0.6**
comp=Z,5µm,1.1s
GLAT Glass 67.35 337 *e*P **P** **06 15 45.3 -0.6**
431A Sonora 67.37 326 ⇑P **P** **06 15 46.0 -0.2**
baz=68,SNR=20
135A Vickery Place, 67.37 329 ⇑P **P** **06 15 46.2 +0.1**
baz=68,SNR=13
MIAR Mount Ida 67.42 333 *e*P **P** **06 15 46.2 -0.2**
MIAR pmax pmax
comp=Z,80nm,1.3s
MIAR Mount Ida 67.42 333 *e*P **P** **06 15 46.2 -0.2**
comp=Z,80nm,1.3s
332A Millersview 67.51 327 ⇓P **P** **06 15 47.1 +0.1**
baz=68
MVL Millersville 67.57 349 *e*P **P** **06 15 47.9 +0.8**
628A Black Gap, Mar 67.61 323 ⇓P **P** **06 15 48.3 +0.6**
baz=68,SNR=23
233A Rising Star 67.62 328 ⇓P **P** **06 15 47.5 -0.2**
baz=68,SNR=25
PVMO Portageville 67.62 337 P **P** **06 15 46.7 -0.9**
134A White-Moore Ra 67.69 329 ⇓P **P** **06 15 48.0 -0.1**
baz=68,SNR=19
529A Stev Forest Ra 67.75 324 ⇓P **P** **06 15 49.0 +0.4**
baz=68,SNR=53
430A Baggett Ranch, 67.77 325 ⇓P **P** **06 15 48.7 0.0**
baz=68,SNR=68
331A San Angelo 67.78 326 ⇑P **P** **06 15 48.6 -0.1**
baz=68,SNR=39
627A Terlingua Ranc 67.85 323 ⇓P **P** **06 15 49.4 +0.2**
baz=68,SNR=38
PARMO Parma 67.87 337 *e*P **P** **06 15 49.1 +0.1**
232A Coleman 67.87 327 ⇑P **P** **06 15 49.2 0.0**
baz=68,SNR=74
MCWV Mont Chateau 67.90 346 *e*P **P** **06 15 49.8 +0.6**
comp=Z,96nm,0.9s
TXAR Lajitas Array 67.91 322 P **P** **06 15 49.6 0.0**
TXAR PP **PP** **06 18 29.0 -0.8**
TXAR P'P' 06 44 02.6
TXAR Lajitas Array 67.91 322 P **P** **06 15 49.6 0.0**
comp=Z,6.5nm,0.5s,baz=149,slow=7.6,SNR=159
TXAR PP **PP** **06 18 29.0 -0.8**
comp=Z,1.2nm,0.7s,baz=151,slow=8.5,SNR=3.4
TXAR PKPPKP **P'P'df** **06 44 02.6 +1.4**
comp=Z,1.9nm,1.1s,baz=306,slow=2.3,SNR=9.3
Z35A Perchaven, San 67.95 330 ⇑P **P** **06 15 49.8 +0.2**
baz=68,SNR=9.4
BRNJ Basking Ridge 67.96 351 *e*P **P** **06 15 49.8 +0.3**
comp=Z,17nm,0.4s
429A Davenport Ranc 67.98 325 ⇓P **P** **06 15 50.3 +0.3**
baz=68,SNR=116
CPNY Central Park 67.98 351 *e*P **P** **06 15 50.5 +0.9**
comp=Z,37nm,0.9s
528A Cox Ranch, San 68.08 324 ⇑P **P** **06 15 50.6 -0.1**
baz=68,SNR=8.9
133A Hamilton Ranch 68.11 328 ⇑P **P** **06 15 50.6 -0.1**
baz=68,SNR=17
PAL Palisades 68.19 351 *e*P **P** **06 15 51.3 +0.4**
PAL pmax pmax
comp=Z,44nm,0.9s
PAL Palisades 68.19 351 *e*P **P** **06 15 51.2 +0.4**
comp=Z,44nm,0.9s
WCI Wyandotte Cave 68.19 341 *e*P **P** **06 15 49.9 -1.1**
WCI pmax pmax
comp=Z,72nm,0.7s
WCI Wyandotte Cave 68.19 341 *e*P **P** **06 15 49.9 -1.1**
comp=Z,72nm,0.7s
PBMO Poplar Bluff 68.21 337 *e*P **P** **06 15 50.6 -0.5**
comp=Z,156nm,0.6s
231A Bronte 68.24 327 ⇓P **P** **06 15 51.2 -0.3**
baz=68,SNR=28
330A Mertzon 68.24 326 ⇓P **P** **06 15 51.2 -0.3**
baz=68,SNR=17
Z34A Collier Ranch, 68.28 329 ⇓P **P** **06 15 51.7 +0.1**
baz=69,SNR=14
626A Big Bend Ranch 68.33 322 ⇓P **P** **06 15 52.8 +0.6**
baz=69,SNR=73
ODNJ Ogdensburg 68.36 351 *e*P **P** **06 15 52.8 +0.9**
comp=Z,62nm,0.9s
USIN University of 68.36 339 *e*P **P** **06 15 51.0 -1.0**
comp=Z,80nm,0.9s
YLE Yale 68.37 352 *e*P **P** **06 15 53.2 +1.3**
428A Kincaid Ranch, 68.47 324 P **P** **06 15 53.3 +0.3**
baz=69
ABTX Abilene, Hawle 68.47 328 ⇑P **P** **06 15 52.8 0.0**
baz=69,SNR=21
527A Woodward Ranch 68.51 323 ⇑P **P** **06 15 53.3 0.0**
baz=69,SNR=26
230A Sterling City 68.59 326 ⇑P **P** **06 15 53.2 -0.4**
baz=69,SNR=8.2
Z33A Whitaker Ranch 68.60 329 ⇑P **P** **06 15 53.8 +0.1**
baz=69,SNR=48
Y34A Reagan Ranch, 68.70 330 ⇓P **P** **06 15 54.2 0.0**
baz=69,SNR=23
526A Mary Lane Ranc 68.70 323 ⇓P **P** **06 15 54.8 +0.4**
baz=69,SNR=49
329A Wagon Wheel Ra 68.71 325 ⇓P **P** **06 15 54.2 -0.2**
baz=69
131A Roby 68.88 327 ⇓P **P** **06 15 55.3 0.0**
baz=69,SNR=15
427A Hayter Ranch, 68.95 324 ⇓P **P** **06 15 56.1 +0.2**
baz=69,SNR=39
Z32A Haskell 68.96 328 ⇑P **P** **06 15 55.8 0.0**
baz=69,SNR=17
KSPA Keystone Colle 69.00 350 *e*P **P** **06 15 56.5 +0.7**
229A Bryant Ranch, 69.01 325 ⇑P **P** **06 15 55.9 -0.2**
baz=69,SNR=6.9
328A Wristen Ranch, 69.06 324 ⇑P **P** **06 15 56.5 +0.1**
baz=69,SNR=84
130A Snyder 69.09 327 ⇓P **P** **06 15 56.5 -0.1**
baz=69,SNR=10
BLO Bloomington 69.13 341 *e*P **P** **06 15 55.8 -0.8**
BLO pmax pmax
comp=Z,79nm,0.7s
BLO Bloomington 69.13 341 *e*P **P** **06 15 55.8 -0.8**
comp=Z,79nm,0.7s
Y33A Hilltop Ranch, 69.14 329 ⇓P **P** **06 15 56.7 -0.1**
baz=70,SNR=9.1
426A McDonald Obser 69.14 323 ⇓P **P** **06 15 57.5 +0.3**
baz=69,SNR=40
ACSO Alum Creek Sta 69.17 344 *e*P **P** **06 15 56.3 -0.5**
comp=Z,75nm,0.7s
X34A Smith Ranch, M 69.28 330 ⇑P **P** **06 15 57.8 +0.1**
baz=70,SNR=20
Z31A Sharp Cattle R 69.28 328 ⇑P **P** **06 15 57.7 0.0**
baz=70,SNR=50
HRV Adam Dziewonsk 69.39 354 *e*P **P** **06 15 58.5 +0.4**
HRV pmax pmax
comp=Z,62nm,0.9s
HRV Adam Dziewonsk 69.39 354 *e*P **P** **06 15 58.5 +0.4**
comp=Z,62nm,0.9s
327A Balmorhea Ranc 69.41 324 ⇓P **P** **06 15 58.8 +0.3**
baz=70
TUL1 Tulsa 69.51 332 ⇑P **P** **06 15 58.7 -0.2**
baz=70,SNR=16
Y32A R-V Farms, Ver 69.51 328 ⇓P **P** **06 15 59.1 +0.1**
baz=70,SNR=21
X33A Lawton 69.53 329 ⇓P **P** **06 15 58.5 -0.6**
baz=70,SNR=13
228A UT Block 9, Go 69.53 325 ⇓P **P** **06 15 58.8 -0.4**
baz=70,SNR=20
129A Stewart Farms, 69.57 326 ⇑P **P** **06 15 59.2 -0.3**
baz=70,SNR=34
326A Caldwell Ranch 69.62 324 P **P** **06 16 00.0 +0.2**
baz=70
BINY Binghamton 69.66 350 *e*P **P** **06 16 00.2 +0.5**
comp=Z,128nm,1.1s
SYO Syowa Base 69.72 158 ⇑*i*P **P** **06 15 59.0 -0.8**
Z30A Sanderson Ranc 69.73 327 ⇓P **P** **06 16 00.1 -0.4**
baz=70,SNR=25
425A Indio Mountain 69.75 322 ⇑P **P** **06 16 00.6 -0.1**
baz=70,SNR=36
W34A Bridge Creek, 69.78 330 ⇑P **P** **06 16 00.5 -0.1**
baz=70,SNR=8.5
X32A Elmer 69.78 329 ⇑P **P** **06 16 00.7 0.0**
baz=70,SNR=12
227A Bennet, Jal 69.81 324 ⇑P **P** **06 16 01.4 +0.4**
baz=70,SNR=16
SLM Saint Louis 69.81 338 *e*P **P** **06 15 59.4 -1.3**
SLM Saint Louis 69.81 338 *e*P **P** **06 15 59.4 -1.3**
WMOK Wichita Mounta 69.82 329 *e*P **P** **06 16 00.3 -0.6**
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK Wichita Mounta 69.82 329 *e*P **P** **06 16 00.3 -0.6**
comp=Z,16nm,0.9s
TRY Troy 69.85 352 *e*P **P** **06 16 02.2 +1.3**
comp=Z,102nm,0.9s
Y31A Rekieta Farm, 69.86 328 ⇑P **P** **06 16 01.3 +0.1**
baz=70,SNR=31
128A Castleberry Fa 69.88 325 ⇓P **P** **06 16 01.1 -0.2**
baz=70,SNR=34
ALLY Alegheny Colle 69.88 347 *e*P **P** **06 16 01.2 +0.2**
comp=Z,179nm,0.9s
Z29A Hungry Hill Ra 70.00 326 ⇓P **P** **06 16 01.5 -0.5**
baz=70,SNR=18
W33A Caddo, Fort Co 70.02 330 ⇓P **P** **06 16 02.6 +0.5**
baz=70,SNR=37
CER Ceres 70.02 118 *e*P **P** **06 16 03.3 +1.0**
CER AMB AMB 06 16 04.1
comp=Z,54nm,0.9s
V34A Guthrie 70.17 331 ⇓P **P** **06 16 02.8 -0.1**
baz=70,SNR=13
X31A McDonald Ranch 70.28 328 ⇓P **P** **06 16 03.7 +0.1**
baz=71,SNR=35
ERPA Erie 70.29 347 *e*P **P** **06 16 03.8 +0.3**
comp=Z,253nm,0.6s
CLNB Carlsbad 70.31 324 *e*P **P** **06 16 04.3 +0.4**
comp=Z,3.9nm,0.6s
226B Tecolote Peak, 70.31 324 ⇑P **P** **06 16 04.4 +0.4**
baz=71,SNR=20
W32A Sentinel 70.35 329 ⇓P **P** **06 16 04.1 +0.1**
baz=71,SNR=19
Z28A Tucker Farm, M 70.36 326 ⇑P **P** **06 16 03.7 -0.4**
baz=71,SNR=13
127A Arkansas Junct 70.36 325 ⇓P **P** **06 16 04.1 -0.2**
baz=71,SNR=19
SFIN Scholer Farm 70.41 341 *e*P **P** **06 16 03.0 -1.2**
SFIN Scholer Farm 70.41 341 ⇓P **P** **06 16 03.0 -1.2**
baz=71,SNR=30
Y29A Porterfield Fa 70.46 327 ⇑P **P** **06 16 04.6 -0.2**
baz=71,SNR=40
MMNY Mt. Morris Dam 70.49 349 *e*P **P** **06 16 05.0 +0.3**
comp=Z,261nm,0.8s
ACCN Adirondack Com 70.50 352 *e*P **P** **06 16 05.8 +1.2**
comp=Z,21nm,0.8s
V33A Lossen Ranch, 70.50 330 ⇑P **P** **06 16 05.0 +0.1**

baz=71,SNR=16
GDL2 **Guadalupe Moun** 70.52 324 eP P 06 16 05.4 +0.2
X30A **Coker Ranch, T** 70.55 328 ⇑P P 06 16 05.2 -0.1
baz=71,SNR=47
HNH **Hanover** 70.65 353 eP P 06 16 06.6 +1.1
MNTX **Cornudas Mount** 70.67 323 eP P 06 16 05.0 -1.0
comp=Z,15nm,0.8s
126A **Clayton Basin,** 70.68 324 ⇓P P 06 16 06.2 +0.1
baz=71,SNR=30
225A **Deer Hill, Car** 70.69 323 ⇓P P 06 16 06.2 0.0
baz=71,SNR=26
U34A **Anderson Ranch** 70.69 331 ⇓P P 06 16 06.1 +0.1
baz=71,SNR=17
W31A **Holland Ranch,** 70.72 329 ⇑P P 06 16 06.0 -0.2
baz=71,SNR=7.9
V32A **Arapaho** 70.75 330 ⇓P P 06 16 06.5 +0.2
baz=71,SNR=9.8
Y28A **McKinney Farm,** 70.78 326 ⇑P P 06 16 06.4 -0.3
baz=71,SNR=18
Z27A **Tatum** 70.80 325 ⇓P P 06 16 06.3 -0.5
baz=71,SNR=27
CPRX **Cap Rock** 70.91 325 eP P 06 16 07.9 +0.4
comp=Z,2.8nm,0.8s
CPRX eP cP P cP 06 16 24.1 +0.3
X29A **Tulia** 70.95 327 ⇑P P 06 16 07.5 -0.1
baz=71,SNR=13
W30A **Crocket Farms** 71.01 328 ⇓P P 06 16 08.0 0.0
baz=71
125A **Gardner Draw,** 71.03 324 ⇑P P 06 16 07.7 -0.5
baz=71,SNR=24
MDV **Middlebury** 71.04 352 eP P 06 16 08.7 +0.9
MSTX **Muleshoe** 71.09 326 eP P 06 16 08.5 0.0
MSTX **Muleshoe** 71.09 326 ⇑P P 06 16 08.6 +0.1
baz=71,SNR=53
NCB **Newcomb** 71.14 352 eP P 06 16 08.8 +0.4
LBNH **Lisbon** 71.14 353 eP P 06 16 09.6 +1.2
LBNH pmax pmax
comp=Z,47nm,0.7s
LBNH **Lisbon** 71.14 353 eP P 06 16 09.6 +1.2
comp=Z,47nm,0.7s
Z26A **Caprock** 71.15 325 ⇑P P 06 16 09.1 +0.2
baz=72,SNR=76
V31A **Spring Creek L** 71.16 329 ⇓P P 06 16 09.6 +0.9
baz=72,SNR=23
Y27A **Causey** 71.22 326 ⇑P P 06 16 09.0 -0.3
baz=72,SNR=17
X28A **Dimmitt** 71.25 327 ⇓P P 06 16 09.5 +0.1
baz=72,SNR=10
WVL **Waterville** 71.27 355 eP P 06 16 10.5 +1.4
U32A **Winter Ranch,** 71.28 330 ⇓P P 06 16 09.7 +0.3
baz=72,SNR=15
AAM **Ann Arbor** 71.29 344 eP P 06 16 09.2 -0.1
AAM pmax pmax
comp=Z,28nm,0.8s
AAM **Ann Arbor** 71.29 344 eP P 06 16 09.2 -0.1
comp=Z,28nm,0.8s
AMTX **Amarillo** 71.29 327 eP P 06 16 10.0 +0.4
comp=Z,43nm,0.8s
AMTX **Amarillo** 71.29 327 ⇑P P 06 16 09.7 0.0
baz=72
W29A **Amraillo** 71.47 328 ⇓P P 06 16 10.7 0.0
baz=72,SNR=11
T33A **Patterson Ranc** 71.54 331 ⇑P P 06 16 11.5 +0.5
baz=72,SNR=32
V30A **Spur Ranch, Mi** 71.54 329 ⇑P P 06 16 12.1 +1.0
baz=72,SNR=8.0
Z25A **Roswell** 71.54 324 ⇑P P 06 16 11.0 -0.1
baz=72,SNR=18
SUR **Sutherland** 71.56 117 P P 06 16 12.1 +0.5
comp=Z,307nm,0.8s,SNR=11
SUR **Sutherland** 71.56 117 eP P 06 16 11.9 +0.3
comp=Z,34nm,0.9s
Y26A **Elida** 71.59 325 ⇓P P 06 16 11.8 +0.4
baz=72,SNR=7.3
X27A **F and S Farms,** 71.80 326 ⇓P P 06 16 12.5 -0.1
baz=72,SNR=5.4
LONY **Lake Ozonia** 71.83 352 eP P 06 16 13.4 +0.9
comp=Z,70nm,1.0s
W28A **Vega** 71.85 327 ⇑P P 06 16 13.1 +0.2
baz=72
S33A **Kaszmaul Farm,** 71.87 332 ⇓P P 06 16 13.0 +0.2
baz=72
FRNY **Flat Rock** 71.92 352 eP P 06 16 13.4 +0.6
T32A **Huddler Ranch,** 71.92 331 ⇓P P 06 16 13.7 +0.5
baz=72,SNR=27
Z24A **Sheeppen Canyo** 71.92 324 ⇓P P 06 16 13.6 +0.1
baz=72,SNR=44
PKME **Peaks-Kenny Pk** 71.94 356 eP P 06 16 13.9 +1.0
comp=Z,131nm,0.7s
V29A **Stinnett** 72.02 328 ⇑P P 06 16 13.8 0.0
baz=72
WIN **Windhoek** 72.03 107 eP P 06 16 14.7 +0.2
WIN AMB AMB 06 16 27.4
comp=Z,7.9nm,3.1s
Y25A **Mesa, Roswell** 72.03 325 ⇑P P 06 16 13.8 -0.2
baz=72,SNR=23
X26A **CR and CF Fran** 72.08 326 ⇓P P 06 16 14.6 +0.3
baz=72,SNR=47
W27A **Bowe Ranch, En** 72.11 327 ⇑P P 06 16 14.5 0.0
baz=72,SNR=18
U30A **WK&E Inc. Balk** 72.15 329 ⇑P P 06 16 14.9 +0.3
baz=72,SNR=10
T31A **Randall Ranch,** 72.18 330 ⇓P P 06 16 15.1 +0.4
baz=72,SNR=7.5
V28A **Channing** 72.25 328 ⇑P P 06 16 15.6 +0.4
baz=73,SNR=18
S32A **Newby Ranch, P** 72.36 331 ⇓P P 06 16 16.2 +0.6
baz=73,SNR=20
U29A **Oasis Ranch, S** 72.37 329 ⇑P P 06 16 16.3 +0.4
baz=73,SNR=20
Y24A **Capitan** 72.42 324 ⇓P P 06 16 16.5 +0.2
baz=73,SNR=18
R33A **Olander Ranch,** 72.46 332 ⇓P P 06 16 16.4 +0.1
baz=73,SNR=12
W26A **Owens Ranch, T** 72.48 326 ⇓P P 06 16 17.0 +0.4
baz=73,SNR=18
VNDA **Vanda** 72.49 189 eP P 06 16 17.6 +1.8
VNDA **Vanda** 72.49 189 P P 06 16 17.4 +1.6
comp=Z,53nm,0.9s,baz=138,slow=4.6,SNR=66
X25A **Clemmons Ranch** 72.49 325 ⇓P P 06 16 16.5 -0.2
baz=73
T30A **Plains** 72.52 330 ⇑P P 06 16 17.1 +0.4
baz=73
S31A **Mullinville** 72.53 331 ⇓P P 06 16 17.3 +0.6
baz=73,SNR=9.6
V27A **Dan Oppiter Fa** 72.56 327 ⇓P P 06 16 17.4 +0.5
baz=73,SNR=8.7
KSU1 **Kansas State U** 72.57 333 eP P 06 16 16.4 -0.5
comp=Z,90nm,0.6s
KSU1 **Kansas State U** 72.57 333 ⇓P P 06 16 16.4 -0.5
baz=73,SNR=34
319A **Douglas** 72.60 320 ⇓P P 06 16 18.3 +0.9
baz=73,SNR=19
121A **Cookes Peak, D** 72.62 322 eP P 06 16 18.4 +0.9
comp=Z,26nm,1.0s
121A **Cookes Peak, D** 72.62 322 ⇓P P 06 16 18.5 +0.9
baz=73,SNR=12
Z22A **Elephant Butte** 72.72 323 ⇑P P 06 16 19.1 +1.1
baz=73,SNR=41
Y23A **Lovelace Mesa,** 72.75 324 ⇑P P 06 16 19.0 +0.8
baz=73,SNR=29
U28A **Mallet** 72.76 328 ⇑P P 06 16 18.4 +0.2
baz=73,SNR=30
R32A **Long Quarter,** 72.86 332 ⇑P P 06 16 18.9 +0.4
baz=73,SNR=46
X24A **Lazy VL Ranch,** 72.92 325 ⇑P P 06 16 19.6 +0.4
baz=73
W25A **X Bar L Ranch,** 72.93 326 ⇑P P 06 16 19.4 +0.2
baz=73,SNR=20
T29A **Hugoton** 72.96 329 ⇓P P 06 16 19.7 +0.5
baz=73,SNR=21
S30A **Montezuma** 72.98 330 ⇓P P 06 16 19.7 +0.4
baz=73,SNR=12
Q33A **Connelly Farm,** 72.98 333 ⇓P P 06 16 19.4 +0.2
baz=73,SNR=22
V26A **Tequesquite Ra** 73.05 327 ⇓P P 06 16 20.0 +0.2
baz=73,SNR=38
U27A **Thompson Grove** 73.08 328 ⇓P P 06 16 20.4 +0.4
baz=73,SNR=18
R31A **Burdett** 73.10 331 ⇓P P 06 16 20.5 +0.5
baz=73,SNR=40
BNM **Barren Site** 73.22 324 eP P 06 16 21.9 +0.9
comp=Z,8.6nm,0.7s
S29A **Ulysses** 73.26 329 ⇓P P 06 16 21.5 +0.7
baz=74,SNR=30
Q32A **Meitler Ranch,** 73.28 332 ⇓P P 06 16 21.1 +0.2
baz=74,SNR=54
P33A **Williams Farm,** 73.30 333 ⇓P P 06 16 21.1 +0.1
baz=74,SNR=7.6
T28A **Walsh** 73.31 328 ⇓P P 06 16 21.3 0.0
baz=74,SNR=19
X23A **Hourglass Bar** 73.32 324 ⇑P P 06 16 22.5 +1.0
baz=74,SNR=67
LPM **Los Pinos Moun** 73.35 324 eP P 06 16 22.6 +1.0
UPI **Upington** 73.36 114 eP P 06 16 22.1 +0.3
UPI AMB AMB 06 16 23.0
comp=Z,100nm,1.1s
W24A **Lazy 6 Ranch,** 73.41 325 ⇓P P 06 16 22.2 +0.3
baz=74,SNR=42
LENM **Lemitar** 73.42 323 eP P 06 16 23.3 +1.3
R30A **Dighton** 73.43 330 ⇑P P 06 16 22.3 +0.5
baz=74,SNR=30
V25A **Rancho No Teng** 73.50 326 ⇓P P 06 16 23.0 +0.5
baz=74,SNR=44
U26A **Atchley Ranch,** 73.50 327 ⇓P P 06 16 23.0 +0.5
baz=74,SNR=26
T27A **Campo** 73.55 328 ⇑P P 06 16 23.0 +0.3
baz=74,SNR=50
S28A **Manter** 73.59 329 ⇓P P 06 16 23.2 +0.4
baz=74,SNR=58
Q31A **Ellis** 73.64 331 ⇑P P 06 16 23.6 +0.5
baz=74,SNR=21
JFWS **Jewell Farm** 73.68 340 eP P 06 16 22.5 -0.6
JFWS pmax pmax
comp=Z,131nm,0.8s
JFWS **Jewell Farm** 73.68 340 eP P 06 16 22.5 -0.6
comp=Z,131nm,0.8s
LAZ **Ladron** 73.69 323 eP P 06 16 24.2 +0.6
comp=Z,19nm,1.2s
V24A **Rampart Ranch,** 73.74 325 ⇓P P 06 16 24.3 +0.4
baz=74,SNR=23
ANMO **Albuquerque** 73.74 324 eP P 06 16 24.4 +0.6
comp=Z,26nm,0.8s
W23A **Werner Place,** 73.75 325 ⇑P P 06 16 24.8 +0.9
baz=74,SNR=32
SCIA **State Center** 73.75 337 eP P 06 16 23.5 0.0
comp=Z,58nm,0.8s
P32A **Huiting Farm,** 73.83 332 ⇓P P 06 16 24.1 +0.1
baz=74,SNR=32
U25A **Circle Dot Ran** 73.83 326 ⇓P P 06 16 25.0 +0.7
baz=74,SNR=37
PMAR **Madeira** 73.86 39 eP P 06 16 24.8 +0.2
comp=Z,108nm,1.3s
R29A **Marienthal** 73.93 330 ⇓P P 06 16 25.2 +0.5
baz=74,SNR=53
Q30A **Quinter** 73.98 331 ⇑P P 06 16 25.7 +0.8
baz=74,SNR=81
T26A **Comanche Natio** 74.05 328 ⇑P P 06 16 26.3 +0.8
baz=74,SNR=30
P31A **Stockton** 74.07 332 ⇓P P 06 16 25.9 +0.5
baz=74,SNR=60
S27A **Las Animas** 74.13 328 ⇓P P 06 16 26.2 +0.3
baz=74
TUC **Tucson** 74.16 320 eP P 06 16 26.7 +0.6
TUC pmax pmax
comp=Z,22nm,1.1s
TUC **Tucson** 74.16 320 eP P 06 16 26.7 +0.6
comp=Z,22nm,1.1s
R28A **Tribune** 74.16 329 ⇑P P 06 16 26.5 +0.4
baz=74,SNR=24
V23A **Ortiz Mt. (NFS** 74.22 325 ⇑P P 06 16 27.7 +1.2
baz=74,SNR=18
O32A **Brockman Farm,** 74.23 333 ⇓P P 06 16 26.1 -0.2
baz=75,SNR=22
Q29A **Oakley** 74.24 330 ⇑P P 06 16 26.8 +0.4
baz=75,SNR=52
U24A **Moreno Valley** 74.28 326 ⇓P P 06 16 28.3 +1.3
baz=75
S26A **Kim** 74.35 328 ⇑P P 06 16 28.0 +0.9
baz=75,SNR=65
T25A **Trinidad** 74.42 327 ⇓P P 06 16 28.8 +1.1
baz=75,SNR=40
P30A **Selden** 74.46 331 ⇑P P 06 16 28.1 +0.5
baz=75,SNR=16
TOA0 **Torodi Ar. Sit** 74.56 66 eP P 06 16 28.3 -0.4
TORD **Torodi Ar. Bea** 74.56 66 P P 06 16 28.2 -0.5
TORD pP pP 06 18 26.4 -0.1
TORD S S 06 25 16.2 -3.0
TORD **Torodi Ar. Bea** 74.56 66 P P 06 16 28.2 -0.5
comp=Z,178nm,0.8s,baz=262,slow=5.5,SNR=691
TORD pP pP 06 18 26.4 -0.1
comp=Z,14nm,0.7s,baz=249,slow=5.1,SNR=7.1
TORD S S 06 25 16.2 -3.0
comp=Z,5.5nm,1.1s,baz=241,slow=9.2,SNR=11
R27A **Eads** 74.57 329 ⇑P P 06 16 28.8 +0.4
baz=75,SNR=36
O31A **Woolen Ranch,** 74.57 332 ⇓P P 06 16 28.5 +0.3
baz=75,SNR=22
N32A **Stulken Farm,** 74.67 333 ⇑P P 06 16 28.5 -0.2
baz=75,SNR=5.5
U23A **El Rito** 74.67 325 ⇑P P 06 16 30.3 +1.2
baz=75,SNR=31
V22A **San Miguel Ran** 74.72 325 ⇓P P 06 16 30.9 +1.5
baz=75,SNR=51
Q28A **Sharon Springs** 74.76 330 ⇑P P 06 16 30.0 +0.6
baz=75,SNR=24
P29A **Atwood** 74.80 331 ⇓P P 06 16 30.5 +0.9
baz=75
T24B **San Luis** 74.84 326 ⇓P P 06 16 31.5 +1.4
baz=75,SNR=49
S25A **Robets Cordova** 74.84 327 ⇑P P 06 16 31.0 +1.0
baz=75,SNR=40
R26A **Arlington** 74.89 328 ⇑P P 06 16 30.8 +0.7
baz=75,SNR=36
O30A **MW Ranch, Wils** 74.90 332 ⇑P P 06 16 30.5 +0.4
baz=75,SNR=36
N31A **Bailey Ranch,** 74.98 333 ⇑P P 06 16 30.9 +0.4
baz=75
U22A **Llaves** 75.05 325 ⇓P P 06 16 32.7 +1.5
baz=75,SNR=21
KSCO **Kaye Shedlock'** 75.08 329 eP P 06 16 32.1 +0.9
KSCO **Kaye Shedlock'** 75.08 329 ⇓P P 06 16 32.2 +0.9
baz=75,SNR=28
214A **Organ Pipe Nat** 75.09 318 eP P 06 16 31.4 +0.1
comp=Z,44nm,0.8s
214A **Organ Pipe Nat** 75.09 318 ⇓P P 06 16 32.3 +1.0
baz=75,SNR=6.1
P28A **Saint Francis** 75.14 330 ⇓P P 06 16 32.5 +1.0
baz=76,SNR=15
T23A **Casias Ranch,** 75.14 326 ⇑P P 06 16 32.7 +0.9
baz=76,SNR=11
BGNE **Belgrade** 75.15 334 eP P 06 16 31.3 -0.1
BGNE **Belgrade** 75.15 334 ⇓P P 06 16 31.3 -0.1
baz=76,SNR=44
R25A **Fountain Ranch** 75.16 328 ⇓P P 06 16 32.2 +0.6
baz=76,SNR=15
O29A **4D Ranch, Culb** 75.18 331 ⇑P P 06 16 32.2 +0.6
baz=76,SNR=6.9
S24A **Houchin Ranch,** 75.21 327 ⇑P P 06 16 33.6 +1.4
baz=76,SNR=19
X18A **Snowflake** 75.31 322 ⇓P P 06 16 33.9 +1.2
baz=76,SNR=11
Q26A **Hugo** 75.42 329 ⇑P P 06 16 34.2 +1.0
baz=76,SNR=28
M31A **Lambtecht Ranc** 75.43 333 ⇓P P 06 16 33.4 +0.4
baz=76,SNR=7.8
SDCO **Great Sand Dun** 75.43 327 eP P 06 16 34.2 +0.8
comp=Z,39nm,1.1s
N30A **Hueftle Ranch,** 75.44 332 ⇑P P 06 16 33.4 +0.4
baz=76,SNR=7.4
P27A **Ficken Ranch,** 75.50 330 ⇑P P 06 16 34.5 +1.0
baz=76,SNR=14
O28A **Krutsinger Ran** 75.60 331 ⇓P P 06 16 34.8 +0.8
baz=76,SNR=30
R24A **Sanders Place,** 75.62 327 ⇑P P 06 16 35.6 +1.3
baz=76,SNR=36
W18A **Petrified Fore** 75.63 322 eP P 06 16 35.8 +1.4
W18A **Petrified Fore** 75.63 322 ⇓P P 06 16 35.4 +1.0
baz=76,SNR=9.1
S23A **Nye Farm, Mont** 75.65 326 ⇑P P 06 16 35.7 +1.1
baz=76,SNR=5.2
GRM **Grahamstown** 75.68 120 eP P 06 16 34.6 -0.1
GRM AMB AMB 06 16 35.8
comp=Z,111nm,1.1s
N29A **Votaw Ranch, W** 75.68 332 ⇓P P 06 16 35.0 +0.6
baz=76,SNR=14
Q25A **Bedland, Calha** 75.75 328 ⇓P P 06 16 35.6 +0.6
baz=76,SNR=23
P26A **Davis Ranch, A** 75.85 329 ⇑P P 06 16 36.3 +0.8
baz=76,SNR=20
HVD **Gariep Dam** 75.93 117 ⇓P P 06 16 37.1 +0.7
HVD AMB AMB 06 16 37.6
comp=Z,127nm,1.1s
R23A **Moffat** 75.94 327 ⇓P P 06 16 37.3 +1.1
baz=76
M30A **Dale-Ortello V** 75.96 333 ⇑P P 06 16 36.3 +0.4
baz=76,SNR=5.3
N28A **Pribbeno Ranch** 75.96 331 ⇑P P 06 16 36.5 +0.5
baz=76,SNR=9.5
O27A **Beecher Island** 75.97 330 ⇑P P 06 16 37.2 +1.1
baz=76,SNR=13
X16A **Lo Mia Camp, P** 76.06 321 ⇓P P 06 16 38.2 +1.3
baz=76,SNR=36
L31A **Butterfield Fa** 76.08 334 ⇓P P 06 16 36.8 +0.3
baz=76,SNR=29
S22A **4UR Ranch, Cre** 76.09 326 ⇓P P 06 16 38.2 +1.1
baz=76,SNR=30
RUDU **RUNDU** 76.11 103 eP P 06 16 38.2 +0.8
RUDU AMB AMB 06 16 39.2
comp=Z,88nm,1.0s
Z14A **Wintersburg** 76.17 319 ⇑P P 06 16 38.2 +0.9
baz=76
P25A **Willow Gulch B** 76.19 329 ⇑P P 06 16 38.7 +1.3
baz=76,SNR=28
Q24A **Divide** 76.22 328 ⇑P P 06 16 38.7 +1.0
baz=76,SNR=51
M29A **Burnside Ranch** 76.22 332 ⇓P P 06 16 38.1 +0.7
baz=76,SNR=16
113A **Mohawk Valley,** 76.24 318 ⇓P P 06 16 38.4 +0.8
baz=76
L30A **Spencer Herefo** 76.24 333 ⇓P P 06 16 37.8 +0.4
baz=77,SNR=11
O26A **Horse Wrangler** 76.38 330 ⇓P P 06 16 39.3 +0.9
baz=77,SNR=16
OGNE **Ogallala** 76.39 331 eP P 06 16 38.4 +0.1
comp=Z,234nm,1.5s
OGNE **Ogallala** 76.39 331 ⇓P P 06 16 39.0 +0.7
baz=77,SNR=6.6
M28A **Bar X Bar Ranc** 76.47 332 ⇓P P 06 16 39.7 +0.9
baz=77,SNR=5.6
N27A **Anderson Farm,** 76.49 330 ⇑P P 06 16 39.7 +0.8
baz=77,SNR=16
BOSA **Boshof** 76.52 115 ⇓/P P 06 16 39.4 -0.1
BOSA AMB AMB 06 16 40.0
comp=Z,84nm,0.9s
BOSA **Boshof** 76.52 115 P P 06 16 39.5 0.0
BOSA pP pP 06 18 38.4 +0.2
BOSA **Boshof** 76.52 115 P P 06 16 39.5 0.0
comp=Z,73nm,0.8s,baz=256,slow=5.1,SNR=80
BOSA pP pP 06 18 38.4 +0.2
comp=Z,5.0nm,0.7s,baz=231,slow=7.2,SNR=2.7
MVCO **Mesa Verde** 76.54 324 eP P 06 16 40.4 +1.0
comp=Z,40nm,0.8s
MVCO **Mesa Verde** 76.54 324 ⇑P P 06 16 40.4 +1.0
baz=77,SNR=22
P24A **Kohler Place,** 76.54 328 ⇓P P 06 16 40.5 +1.2
baz=77,SNR=8.2
ECSD **EROS Data Cent** 76.56 336 eP P 06 16 38.7 -0.4
comp=Z,75nm,0.8s
ECSD **EROS Data Cent** 76.56 336 ⇓P P 06 16 38.7 -0.4
baz=77,SNR=83
SPMN **St. Paul** 76.56 339 eP P 06 16 38.4 -0.7
SPMN **St. Paul** 76.56 339 ⇑P P 06 16 38.4 -0.7
baz=77,SNR=17
TBI **Tubuai** 76.57 251 eP P 06 16 41.9 +2.2
comp=Z,242nm,1.0s
Y14A **Wickenburg** 76.62 319 ⇓P P 06 16 40.7 +0.9
baz=77,SNR=21
L29A **Maesberg Ranch** 76.65 332 ⇑P P 06 16 40.1 +0.3
baz=77,SNR=9.9
O25A **Wiggins** 76.65 329 ⇑P P 06 16 41.3 +1.4
baz=77,SNR=29
K30A **Basset** 76.81 333 ⇑P P 06 16 40.5 0.0
baz=77,SNR=18
N26A **Koester Ranch,** 76.82 330 ⇑P P 06 16 41.6 +0.9
baz=77,SNR=10
WUAZ **Wupatki** 76.83 321 eP P 06 16 42.0 +1.0
comp=Z,46nm,1.0s
WUAZ **Wupatki** 76.83 321 ⇑P P 06 16 42.3 +1.4
baz=77
P23A **Jefferson** 76.87 327 ⇓P P 06 16 42.3 +0.9
baz=77,SNR=9.7
M27A **Reverse DX Ran** 77.02 331 ⇓P P 06 16 42.9 +1.2
baz=77
GLA **Glamis** 77.07 318 eP P 06 16 43.5 +1.3
GLA pmax pmax
comp=Z,18nm,0.8s
GLA **Glamis** 77.07 318 eP P 06 16 43.5 +1.3
comp=Z,18nm,0.8s
GLA **Glamis** 77.07 318 ⇓P P 06 16 43.0 +0.8
baz=77
ISCO **Idaho Springs** 77.10 328 eP P 06 16 43.5 +1.0
ISCO pmax pmax
comp=Z,39nm,0.9s
ISCO **Idaho Springs** 77.10 328 eP P 06 16 43.5 +1.0
comp=Z,39nm,0.9s
ISCO **Idaho Springs** 77.10 328 ⇓P P 06 16 43.5 +1.0
baz=77,SNR=54
O24A **Longmont** 77.10 328 ⇑P P 06 16 43.2 +0.9
baz=77,SNR=6.4
SWZ **Schweizer** 77.14 114 ⇓/P P 06 16 42.7 -0.3
SWZ AMB AMB 06 16 43.2
comp=Z,108nm,1.0s
K29A **Lazy Trails An** 77.16 333 ⇑P P 06 16 42.7 +0.2
baz=78,SNR=42
N25A **Grover** 77.19 329 ⇓P P 06 16 43.9 +1.1
baz=78
SMCO **Snowmass** 77.27 327 eP P 06 16 44.8 +1.2
comp=Z,44nm,0.8s
PV01 **Paradox Valley** 77.27 325 eP P 06 16 44.1 +0.7
comp=Z,4µm,1.1s
M26A **McRoberts Ranc** 77.30 330 ⇓P P 06 16 44.1 +0.8
baz=78
J30A **Dallas** 77.30 334 ⇓P P 06 16 42.9 -0.3
baz=78,SNR=19
Y12C **Blythe** 77.38 318 ⇑P P 06 16 44.8 +1.0
baz=78,SNR=14
L27A **T5 Ranch, Ells** 77.44 331 ⇓P P 06 16 45.1 +1.0
baz=78,SNR=8.1
P22A **Eagle** 77.49 327 ⇓P P 06 16 45.6 +1.1
baz=78,SNR=28
PDMCI **Parker Dam,Lak** 77.54 319 ⇑P P 06 16 45.5 +0.9
baz=78
K28A **Ten Mile Ranch** 77.55 332 ⇓P P 06 16 45.5 +0.9
baz=78,SNR=16
O23A **Lake Granby, G** 77.56 328 ⇑P P 06 16 46.0 +1.0
baz=78,SNR=23
SWSC **Sam W. Stewart** 77.58 317 ⇓P P 06 16 45.8 +0.9
baz=78
PV04 **Paradox Valley** 77.64 325 eP P 06 16 46.3 +1.0
M25A **Palm-Egli Farm** 77.68 330 ⇓P P 06 16 46.5 +1.0
baz=78
J29A **Okreek** 77.70 333 ⇑P P 06 16 45.4 +0.1
baz=78,SNR=30
L26A **Underwood Farm** 77.73 331 ⇓P P 06 16 46.6 +1.0
baz=78,SNR=8.2
MAW **Mawson** 77.75 162 eP P 06 16 45.4 +0.1
MAW **Mawson** 77.75 162 P P 06 16 45.3 +0.1
comp=Z,66nm,0.7s,baz=227,slow=6.8,SNR=31
O22A **Kremmling** 77.83 328 ⇑P P 06 16 47.2 +0.8
baz=78,SNR=28
BC3 **Big Chuckawall** 77.87 318 ⇓P P 06 16 47.4 +0.8
baz=78,SNR=8.9
K27A **Flueckinger Fa** 77.91 332 ⇑P P 06 16 47.4 +0.8
baz=78,SNR=30
W13A **Hualapai Mount** 77.95 320 ⇓P P 06 16 48.4 +1.2
baz=78,SNR=17
U15A **North Rim** 78.00 322 ⇑P P 06 16 48.8 +1.4
baz=78,SNR=53
IRM **Iron Mountain** 78.04 318 ⇓P P 06 16 48.3 +0.9
baz=78,SNR=15
BRSD **Miller** 78.04 335 eP P 06 16 47.1 -0.1
BRSD **Miller** 78.04 335 ⇓P P 06 16 46.7 -0.5
baz=78,SNR=9.5
M24A **Cheyenne** 78.05 329 ⇑P P 06 16 48.6 +1.2
baz=78,SNR=32
J28A **Allard Ranch,** 78.09 333 ⇑P P 06 16 47.7 +0.2
baz=78,SNR=19
N23A **Red Feather La** 78.11 328 ⇑P P 06 16 48.8 +0.8
baz=78,SNR=24
NEE2 **Needles Airpor** 78.15 319 ⇑P P 06 16 48.6 +0.7
baz=78
I29A **Vivian Onida** 78.21 334 ⇑P P 06 16 47.8 -0.3
baz=78,SNR=10.0
PHWY **Pilot Hill** 78.21 329 eP P 06 16 49.1 +0.6
L25A **Engebretsen Ra** 78.21 330 ⇑P P 06 16 49.1 +0.9
baz=78
LBTB **Lobatse** 78.23 112 ⇓/P P 06 16 49.0 +0.1
LBTB AMB AMB 06 16 50.1
comp=Z,107nm,1.0s
LBTB **Lobatse** 78.23 112 eP P 06 16 49.0 +0.1
J27A **Elkhorn Farm,** 78.27 332 ⇑P P 06 16 49.3 +0.8
baz=79,SNR=31
N22A **Wattenberg Ran** 78.28 328 ⇓P P 06 16 50.0 +1.2

baz=79,SNR=24
VAH Vaihoa 78.30 259 *e*P P 06 16 51.1 +2.0
comp=Z,119nm,0.9s
K26A Motz Farm, Whi 78.31 331 ⇓P P 06 16 49.5 +0.8
baz=79,SNR=12
PFO Pinyon Flat Ob 78.44 317 *e*P P 06 16 51.0 +1.4
PFO Pinyon Flat Ob 78.44 317 ⇑P P 06 16 50.6 +0.9
baz=79
BFSD Buffelsfontein 78.46 114 *e*P P 06 16 49.8 -0.3
M23A Laramie 78.46 329 ⇓P P 06 16 50.5 +0.8
baz=79,SNR=15
I28A Midland 78.54 333 ⇑P P 06 16 49.9 0.0
baz=79,SNR=11
K25A Mack Ranch, Ha 78.54 331 ⇑P P 06 16 51.1 +1.2
baz=79,SNR=10
L24A Wheatland 78.56 330 ⇓P P 06 16 50.8 +0.7
baz=79
EYMN Ely 78.61 341 *e*P P 06 16 49.7 -0.4
comp=Z,82nm,1.0s
PMOR Pomariorio Ree 78.63 259 *e*P P 06 16 52.8 +1.9
comp=Z,82nm,0.8s
O20A White River Ci 78.63 326 *e*P P 06 16 51.5 +0.9
O20A White River Ci 78.63 326 ⇓P P 06 16 51.5 +0.9
baz=79,SNR=36
TVO Taravao 78.65 256 *e*P P 06 16 53.1 +2.0
comp=Z,33nm,1.1s
H29A Onida 78.68 334 ⇓P P 06 16 50.3 -0.3
baz=79,SNR=22
G30A Faulkton 78.69 335 ⇑P P 06 16 50.1 -0.5
baz=79,SNR=13
J26A Sides Ranch, S 78.76 332 ⇑P P 06 16 51.9 +0.8
baz=79,SNR=38
GMRC Granite Mounta 78.77 318 ⇓P P 06 16 52.5 +1.1
baz=79,SNR=24
M22A Cedar Creek Ra 78.82 328 ⇑P P 06 16 52.5 +0.8
baz=79,SNR=22
MURC Murrieta 78.89 317 ⇑P P 06 16 52.6 +0.7
baz=79
PRYS Parys 78.90 115⇓*e*P P 06 16 51.9 -0.6
PRYS AMB AMB 06 16 53.2
comp=Z,65nm,1.0s
I27A Quinn 78.95 333 ⇓P P 06 16 52.3 +0.2
baz=79,SNR=22
L23A Garrett 78.96 329 ⇓P P 06 16 52.8 +0.5
baz=79,SNR=14
PAE Paea 78.99 256 *e*P P 06 16 54.7 +1.9
comp=Z,13nm,1.0s
SRU San Rafael 79.02 324 *e*P P 06 16 53.3 +0.6
SRU pmax pmax
comp=Z,64nm,0.8s
SRU San Rafael 79.02 324 *e*P P 06 16 53.3 +0.6
comp=Z,64nm,0.8s
PPT2 Papeete2 79.02 256 *e*P P 06 16 54.9 +1.8
comp=Z,115nm,1.2s
PPT Papeete 79.02 256 P P 06 16 54.4 +1.3
PPT Papeete 79.02 256 P P 06 16 54.4 +1.3
comp=Z,70nm,0.9s,baz=223,slow=14,SNR=6.6
H28A Mission Ridge 79.04 334 ⇑P P 06 16 52.5 0.0
baz=79,SNR=24
G29A Hoven 79.04 335 ⇑P P 06 16 52.2 -0.2
baz=79,SNR=7.9
K24A Anderson Ranch 79.05 330 ⇓P P 06 16 53.6 +0.9
baz=79,SNR=9.3
J25A Sunshine Ranch 79.14 331 ⇑P P 06 16 53.8 +0.7
baz=80,SNR=13
WDLM Western Deep L 79.16 114 *e*P P 06 16 53.7 -0.1
WDLM AMB AMB 06 16 54.9
comp=Z,66nm,1.0s
N20A Spence Gulch, 79.18 327 ⇓P P 06 16 54.3 +0.8
baz=80,SNR=22
HEC Hector,Ludlow 79.20 318 ⇓P P 06 16 54.8 +1.2
baz=80,SNR=6.2
L22A Ellis Ranch, M 79.23 329 ⇓P P 06 16 54.9 +1.1
baz=80,SNR=7.5
F30A Leola 79.25 335 ⇓P P 06 16 53.6 +0.1
baz=80,SNR=12
I26A New Underwood 79.26 332 ⇓P P 06 16 53.6 -0.1
baz=80,SNR=12
G28A Parade 79.33 334 ⇑P P 06 16 54.1 +0.2
baz=80,SNR=6.0
TUQ Turquoise Moun 79.38 319 ⇑P P 06 16 55.3 +0.7
baz=80
CCUT Cedar City 79.40 322 *e*P P 06 16 56.4 +1.6
H27A Howes 79.43 333 ⇑P P 06 16 54.5 -0.1
baz=80
K23A Bowen Ranch, D 79.43 330 ⇓P P 06 16 55.6 +0.8
baz=80,SNR=11
J24A Dixon Ranch, L 79.46 331 ⇓P P 06 16 55.7 +0.9
baz=80,SNR=37
CIS Catalina Islan 79.51 316 ⇓P P 06 16 55.4 +0.2
baz=80
TMUT Trail Mountain 79.51 324 *e*P P 06 16 56.3 +0.9
F29A Eureka 79.54 335 ⇓P P 06 16 55.0 -0.1
baz=80,SNR=25
BFSC Mount Baldy Ra 79.61 317 ⇑P P 06 16 56.1 +0.3
baz=80
ARUT Antelope Range 79.61 322 *e*P P 06 16 56.7 +0.9
ARUT pmax pmax
comp=Z,1μm,0.9s
ARUT Antelope Range 79.61 322 *e*P P 06 16 56.7 +0.9
comp=Z,1μm,0.9s
I25A Rochford 79.62 332 P P 06 16 56.1 +0.4
baz=80
SHPR Sheep Range 79.68 320 *e*P P 06 16 57.2 +1.0
H26A Fairpoint 79.70 333 ⇓P P 06 16 57.2 +1.2
baz=80,SNR=11
K22A Casper 79.76 329 *e*P P 06 16 57.0 +0.5
K22A Casper 79.76 329 ⇓P P 06 16 57.1 +0.7
baz=80,SNR=23
E30A Jud 79.77 336 ⇓P P 06 16 56.2 -0.1
baz=80,SNR=23
OBSV Observatory 79.79 114 *e*P P 06 16 57.3 +0.1
OBSV AMB AMB 06 16 58.2
comp=Z,121nm,1.0s
GSC Goldstone 79.81 318 *e*P P 06 16 58.1 +1.3
GSC pmax pmax
comp=Z,23nm,1.0s
GSC Goldstone 79.81 318 *e*P P 06 16 58.1 +1.3
comp=Z,22nm,1.0s
GSC Goldstone 79.81 318 ⇓P P 06 16 57.3 +0.5
baz=80,SNR=10.0
RSSD Black Hills 79.83 331 *e*P P 06 16 56.8 -0.1
RSSD Black Hills 79.83 331 *e*P P 06 16 56.8 -0.1
ERPM east rand prop 79.86 114 *e*P P 06 16 57.7 +0.1
ERPM AMB AMB 06 16 58.9
comp=Z,99nm,4.4s
I24A Kuemmerle Ranc 79.87 331 ⇑P P 06 16 57.2 +0.2
baz=80,SNR=12
PASC Pasadena Art C 79.88 316 *e*P P 06 16 57.6 +0.5
comp=Z,19nm,0.9s
SHOC Shoshone 79.91 319 ⇓P P 06 16 57.3 +0.1
baz=80
J23A Dilts Ranch, B 79.91 330 P P 06 16 57.6 +0.3
baz=80
F28A McLaughlin 79.93 334 ⇑P P 06 16 57.3 +0.2
baz=80,SNR=20
G27A Dupree 79.98 333 ⇑P P 06 16 57.1 -0.3
baz=80,SNR=24
DECC Green Verdugo 80.03 316 ⇑P P 06 16 58.6 +0.7
baz=80
H25A Fruitdale 80.05 332 ⇓P P 06 16 58.1 +0.3
baz=80,SNR=16
K21A Alcova 80.08 329 ⇓P P 06 16 58.9 +0.7
baz=80,SNR=62
E29A Napoleon 80.09 335 ⇓P P 06 16 57.9 -0.1
baz=80,SNR=14
SLR Silverton 80.15 114 *e*P P 06 16 58.6 -0.4
SLR AMB AMB 06 17 00.0
comp=Z,148nm,1.2s
D30A Buchanan 80.23 336 ⇓P P 06 16 59.0 +0.4
baz=81,SNR=63
EDW2 Edwards Air Fo 80.24 317 ⇓P P 06 16 59.1 +0.1
baz=80,SNR=6.4
MPU Maple Canyon 80.26 324 *e*P P 06 17 00.0 +0.8
AGMN Agassiz Nation 80.26 339 *e*P P 06 16 58.8 +0.1
comp=Z,100nm,0.8s
AGMN Agassiz Nation 80.26 339 ⇑P P 06 16 58.7 -0.1
baz=81,SNR=61
I23A Meade Ranch, G 80.32 331 ⇓P P 06 16 59.0 -0.3
baz=81
J22A Midwest 80.34 330 ⇑P P 06 16 59.4 -0.1
baz=81,SNR=14
DAU Daniels Canyon 80.36 325 *e*P P 06 17 01.2 +1.4
DAU Daniels Canyon 80.36 325 *e*P P 06 17 01.2 +1.4
F27A Lemmon 80.43 334 ⇑P P 06 16 59.8 +0.1
baz=81,SNR=55
G25A Newell 80.44 332 ⇑P P 06 16 59.8 0.0
baz=81,SNR=43
NLU North Lily Min 80.45 324 *e*P P 06 17 01.5 +1.3
LRMC Laurel Mountai 80.46 318 ⇓P P 06 17 00.7 +0.4
baz=81
D29A Pettibone, Tap 80.49 336 ⇓P P 06 17 00.1 +0.2
baz=81,SNR=18
E28A Huff 80.49 335 ⇑P P 06 17 00.2 +0.2
baz=81,SNR=37
OSI Osito Adit 80.51 317 ⇑P P 06 17 00.5 +0.1
baz=81
H24A Dirks Ranch, A 80.55 332 ⇑P P 06 17 00.3 -0.2
baz=81,SNR=52
JLU Jordanelle 80.60 325 *e*P P 06 17 01.8 +0.8
C30A Mose, Pekin 80.64 337 ⇑P P 06 17 01.0 +0.3
baz=81,SNR=46
FURC Furnace Creek, 80.64 319 ⇓P P 06 17 01.8 +0.8
baz=81,SNR=12
F26A Lodgepole 80.67 333 ⇓P P 06 17 01.1 +0.1
baz=81,SNR=33
E27A Carson 80.71 334 ⇓P P 06 17 01.1 0.0
baz=81,SNR=16
I22A 9 Mile Ranch, 80.72 330 ⇑P P 06 17 01.2 -0.2
baz=81,SNR=71
J21A Lysite 80.72 329 ⇑P P 06 17 01.9 +0.4
baz=81,SNR=15
H23A Clabaugh Cattl 80.77 331 ⇓P P 06 17 01.5 -0.1
baz=81
CTU Camp Tracy 80.82 325 *e*P P 06 17 02.8 +0.8
ARVC Arvin 80.92 317 ⇓P P 06 17 02.7 +0.3
baz=81
TCUT Toone Canyon 80.96 325 *e*P P 06 17 03.1 +0.2
comp=Z,126nm,1.1s
G24A Alzada 80.96 332 ⇑P P 06 17 02.4 -0.2
baz=81,SNR=32
D28A Regan 80.96 335 ⇓P P 06 17 02.8 +0.3
baz=81,SNR=8.1
DUG Duguay 81.01 324 ⇓P P 06 17 03.9 +0.9
baz=81,SNR=29
I21A Big Trails, Te 81.02 329 ⇓P P 06 17 02.8 -0.2
baz=81,SNR=57
J20A Shoshoni 81.03 329 ⇑P P 06 17 03.9 +0.9
baz=81,SNR=17
F25A Bowman 81.05 333 ⇑P P 06 17 03.2 +0.2
baz=81,SNR=11
E26A Carlson Angus 81.09 334 ⇓P P 06 17 03.2 +0.1
baz=81,SNR=15
R11A Troy Canyon, C 81.21 321 *e*P P 06 17 05.1 +1.0
R11A Troy Canyon, C 81.21 321 ⇑P P 06 17 05.1 +1.0
baz=82,SNR=46
H22A Clearmont 81.21 330 ⇓P P 06 17 03.6 -0.2
baz=82,SNR=16
B30A Myrvik Farm, E 81.22 337 ⇑P P 06 17 03.9 +0.2
baz=82,SNR=68
D27A Center 81.25 335 ⇑P P 06 17 04.0 +0.1
baz=82,SNR=5.3
G23A Biddle 81.27 331 ⇓P P 06 17 03.7 -0.4
baz=82,SNR=54
BW06 Boulder Array 81.28 327 *e*P P 06 17 04.5 +0.1
comp=Z,31nm,1.0s
PDAR Pinedale Array 81.28 327 P P 06 17 04.5 0.0
PDAR pP pP 06 19 07.0 +1.9
PDAR PKKPbc PKKPbc 06 35 34.2 -1.8
PDAR Pinedale Array 81.28 327 P P 06 17 04.5 0.0
comp=Z,24nm,0.8s,baz=137,slow=7.6,SNR=158
PDAR pP pP 06 19 07.0 +1.9
comp=Z,1.8nm,0.6s,baz=138,slow=5.4,SNR=3.8
PDAR PKKPbc PKKPbc 06 35 34.2 -1.8
comp=Z,1.1nm,0.7s,baz=255,slow=0.2,SNR=7.7
GRAC Grapevine Rang 81.30 319 ⇑P P 06 17 05.5 +1.0
baz=82,SNR=6.5
C28A Hausauer Farms 81.33 336 ⇓P P 06 17 04.5 +0.1
baz=82,SNR=6.5
SCHQ Schefferville 81.37 358 *e*P P 06 17 04.1 -0.2
SCHQ pP pP 06 19 05.8 +0.8
SCHQ PKKPbc PKKPbc 06 35 34.0 -2.3
SCHQ Schefferville 81.37 358 P P 06 17 04.1 -0.2
comp=Z,70nm,0.9s,baz=167,slow=3.9,SNR=49
SCHQ pP pP 06 19 05.8 +0.8
comp=Z,19nm,1.1s,baz=166,slow=6.5,SNR=5.0
SCHQ PKKPbc PKKPbc 06 35 34.0 -2.3
comp=Z,1.6nm,0.6s,baz=173,slow=2.2,SNR=3.8
F24A Ekalaka 81.39 332 ⇓P P 06 17 04.6 -0.2
baz=82,SNR=18
J19A Crowheart 81.41 328 ⇓P P 06 17 05.4 +0.4
baz=82,SNR=45
E25A Miller Ranch, 81.49 333 ⇑P P 06 17 05.3 +0.1
baz=82,SNR=26
I20A Worland 81.51 329 ⇑P P 06 17 05.7 +0.3
baz=82,SNR=41
H21A Big Horn, Sher 81.54 330 ⇓P P 06 17 05.1 -0.5
baz=82,SNR=34
D26A Manning 81.54 334 ⇓P P 06 17 05.6 +0.2
baz=82,SNR=24
VES Vestal, Richgr 81.55 317 ⇓P P 06 17 06.1 +0.5
baz=82,SNR=8.8
B29A Wagenman Farm, 81.59 337 ⇑P P 06 17 05.7 +0.1
baz=82,SNR=22
SPUT South Promonto 81.63 325 *e*P P 06 17 06.6 +0.4
comp=Z,65nm,0.9s
A30A Hoffart Farm, 81.63 338 ⇑P P 06 17 05.7 -0.1
baz=82,SNR=15
BGU Big Grassy Mou 81.65 324 *e*P P 06 17 06.8 +0.5
comp=Z,19nm,1.0s
G22A Birney 81.67 331 ⇑P P 06 17 05.7 -0.6
baz=82,SNR=22
F23A Volborg 81.69 332 ⇑P P 06 17 06.2 0.0
baz=82,SNR=40
C27A Sayler Ranch, 81.75 335 ⇓P P 06 17 07.1 +0.7
baz=82,SNR=19
SMMC Simmler 81.75 316 ⇓P P 06 17 07.9 +1.1
baz=82
TIN Tinemaha 81.84 319 ⇓P P 06 17 08.1 +0.8
baz=82,SNR=5.0
H20A Greybull 81.86 329 ⇓P P 06 17 07.0 -0.2
baz=82,SNR=38
MORF Marmelete 81.88 41 *e*P P 06 17 08.5 +1.1
comp=Z,55nm,2.0s
E24A Baker 81.91 333 ⇑P P 06 17 07.8 +0.4
baz=82,SNR=12
A29A Manning Farm, 81.94 337 ⇓P P 06 17 07.2 -0.2
baz=82,SNR=54
B28A Dugan Ranch, T 81.94 336 ⇑P P 06 17 07.8 +0.4
baz=82,SNR=49
TPH Tonopah 81.95 320 *e*P P 06 17 08.6 +0.7
TPH pmax pmax
comp=Z,39nm,1.1s
TPH Tonopah 81.95 320 *e*P P 06 17 08.6 +0.7
comp=Z,39nm,1.1s
RCTC Rector, Farmer 81.95 318 ⇑P P 06 17 07.4 -0.3
baz=82
I19A Meeteetse 81.97 329 ⇓P P 06 17 08.2 +0.2
baz=82,SNR=20
ULM Lac du Bonnet 81.97 340 *e*P P 06 17 06.9 -0.5
comp=Z,67nm,1.0s
ULM pP pP 06 19 08.5 +0.1
ULM PKKPbc PKKPbc 06 35 32.8 -1.7
ULM Lac du Bonnet 81.97 340 P P 06 17 07.1 -0.3
comp=Z,59nm,0.9s,baz=152,slow=5.2,SNR=104
ULM pP pP 06 19 08.5 +0.1
comp=Z,7.6nm,0.8s,baz=149,slow=7.3,SNR=4.4
ULM PKKPbc PKKPbc 06 35 32.8 -1.7
comp=Z,4.1nm,0.7s,baz=314,slow=1.4,SNR=12
D25A Fairfield 81.99 334 ⇓P P 06 17 08.3 +0.6
baz=82,SNR=36
PTEO Sao Teotonio 82.00 41 *e*P P 06 17 08.6 +0.7
comp=Z,85nm,1.4s
AHID Auburn Hatcher 82.02 327 *e*P P 06 17 08.6 +0.4
comp=Z,78nm,1.1s
C26A Wahner Farm, P 82.07 335 ⇓P P 06 17 08.7 +0.6
baz=82,SNR=26
G21A Lodge Grass 82.08 330 ⇑P P 06 17 08.2 -0.1
baz=82,SNR=25
F22A Rosebud 82.10 331 ⇓P P 06 17 08.3 0.0
baz=82,SNR=30
HVU Hansel Valley 82.14 325 *e*P P 06 17 08.8 0.0
HVU pmax pmax
comp=Z,45nm,0.8s
HVU Hansel Valley 82.14 325 *e*P P 06 17 08.8 0.0
comp=Z,45nm,0.8s
B27A Peters Farms, 82.23 336 ⇓P P 06 17 09.3 +0.5
baz=83,SNR=7.3
PBDV Barranco-do-Ve 82.26 42 *e*P P 06 17 10.1 +0.8
comp=Z,73nm,1.7s
A28A Rude Farm, Bot 82.29 336 ⇓P P 06 17 09.4 +0.2
baz=83,SNR=9.6
REDW Red Top Meadow 82.35 327 *e*P P 06 17 10.1 +0.3
D24A Glendive 82.36 333 ⇓P P 06 17 10.3 +0.7
baz=83,SNR=26
LOHW Long Hollow 82.42 327 *e*P P 06 17 10.6 +0.4
C25A Freed Ranch, W 82.42 334 ⇑P P 06 17 10.2 +0.4
baz=83,SNR=20
H19A Powell 82.45 329 ⇓P P 06 17 10.2 0.0
baz=83,SNR=23
E22A Miles City 82.49 332 ⇓P P 06 17 09.8 -0.5
baz=83,SNR=7.0
TPAW Teton Pass 82.49 327 *e*P P 06 17 10.9 +0.3
PNCL Nicolau / Gran 82.50 41 *e*P P 06 17 11.0 +0.6
comp=Z,65nm,1.1s
PVAQ Vaqueiros 82.50 42 *e*P P 06 17 11.0 +0.6
comp=Z,68nm,1.5s
F21A Absaloka Mine, 82.51 331 ⇑P P 06 17 10.3 -0.1
baz=83,SNR=12
G20A Bridger 82.53 330 ⇓P P 06 17 10.2 -0.4
baz=83,SNR=48
B26A Jensen Ranch, 82.57 335 ⇑P P 06 17 11.1 +0.5
baz=83,SNR=7.3
MOOW Moose Ponds 82.58 327 *e*P P 06 17 11.2 +0.2
comp=Z,17nm,0.8s
MLAC Mammoth Lakes 82.59 319 ⇑P P 06 17 11.6 +0.4
baz=83
I17A Pilgrim Ck. 82.63 328 ⇓P P 06 17 12.1 +0.9
baz=83,SNR=27
A27A Ledoux Ranch, 82.68 336 ⇓P P 06 17 11.7 +0.6
baz=83,SNR=12
ELK Elko 82.69 323 *e*P P 06 17 12.2 +0.5
C24A Savage 82.74 333 ⇓P P 06 17 11.7 +0.3
baz=83
D23A Lindsay 82.77 333 ⇑P P 06 17 12.1 +0.4
baz=83,SNR=23
H18A Shoshone NF, C 82.77 329 ⇓P P 06 17 12.0 +0.1
baz=83,SNR=50
IMW Indian Meadow 82.79 327 *e*P P 06 17 12.6 +0.5
LAO LASA Array 82.80 332 *e*P P 06 17 11.8 0.0
FLWY Flagg Ranch 82.81 328 *e*P P 06 17 12.9 +0.8
NVAR Mina Array Bea 82.81 320 P P 06 17 12.5 +0.2
NVAR pP pP 06 19 15.8 +2.2
NVAR PKKPbc PKKPbc 06 35 31.9 -0.3
NVAR Mina Array Bea 82.81 320 P P 06 17 12.5 +0.2
comp=Z,11nm,0.9s,baz=146,slow=5.2,SNR=47
NVAR pP pP 06 19 15.8 +2.2
comp=Z,2.5nm,1.0s,baz=151,slow=4.0,SNR=3.5
NVAR PKKPbc PKKPbc 06 35 31.9 -0.3
comp=Z,1.3nm,0.8s,baz=278,slow=2.0,SNR=5.1
PBEJ Beja 82.83 41 *e*P P 06 17 12.9 +0.8
comp=Z,70nm,1.7s
TAM Tamanrasset 82.83 60 *e*P P 06 17 12.6 -0.1
TAM pmax pmax
comp=Z,106nm,1.1s
TAM Tamanrasset 82.83 60 *e*P P 06 17 12.6 -0.1
comp=Z,106nm,1.1s
B25A Knox Farm, Ray 82.84 334 ⇑P P 06 17 12.7 +0.7
baz=83
RLMT Red Lodge 82.93 329 *e*P P 06 17 12.7 0.0
comp=Z,44nm,1.1s
A26A Wade Farm, Ken 82.93 335 ⇑P P 06 17 12.7 +0.3
baz=83,SNR=18
F20A Billings 82.94 330 ⇑P P 06 17 12.5 -0.1
baz=83,SNR=7.9
H17A Grant Village 82.99 328 *e*P P 06 17 14.6 +1.5
H17A Grant Village 82.99 328 ⇑P P 06 17 14.0 +0.9
baz=83,SNR=5.6
EVOP Sao Brissos 83.01 40⇓*i*P P 06 17 13.0 0.0
EVOP *e**PP pP 06 19 14.0 -0.3
EVOP pmax pmax
comp=Z,96nm,0.9s
EVOP Sao Brissos 83.01 40⇓*i*P P 06 17 13.0 0.0
comp=Z,96nm,0.9s
EVOP *ep*P pP 06 19 14.0 -0.3
E21A Keefer Ranch, 83.05 331 ⇓P P 06 17 13.0 0.0
baz=83,SNR=12
EVO Evora 83.08 41⇓*i*P P 06 17 13.0 -0.3
comp=Z,96nm,0.9s
EVO *ep*P pP 06 19 14.0 -0.7
EVO Evora 83.08 41 *e*P P 06 17 13.6 +0.3
comp=Z,46nm,1.1s
D22A Cohagen 83.15 332 ⇑P P 06 17 13.6 +0.1
baz=84,SNR=28
C23A Lambert 83.26 333 ⇑P P 06 17 14.3 +0.2
baz=84,SNR=23
F19A Roth Farm, Mol 83.34 330 ⇓P P 06 17 14.3 -0.3
baz=84,SNR=51
A25A Svangstu Ranch 83.37 335 ⇓P P 06 17 15.2 +0.6
baz=84,SNR=13
YMR Madison River 83.38 328 *e*P P 06 17 16.0 +1.1
DGMT Dagmar 83.40 334 *e*P P 06 17 15.4 +0.7
comp=Z,84nm,0.8s
DGMT Dagmar 83.40 334 ⇑P P 06 17 15.2 +0.5
baz=84,SNR=33
D21A La Casta Ranch 83.43 332 ⇑P P 06 17 15.0 +0.1
baz=84,SNR=55
E20A Meyer Farm, Mu 83.48 331 ⇑P P 06 17 15.3 +0.1
baz=84,SNR=63
C22A Vida 83.50 333 ⇑P P 06 17 15.2 0.0
baz=84,SNR=9.7
WAKR Walker 83.52 319 *e*P P 06 17 17.3 +1.5
PESTR Estremoz 83.55 40 *e*P P 06 17 16.3 +0.6
PTOM Tomar 83.58 39 *e*P P 06 17 16.5 +0.7
comp=Z,201nm,1.1s
A24A Westby 83.70 334 ⇑P P 06 17 16.7 +0.5
baz=84,SNR=9.0
B23A Brockton 83.71 334 ⇑P P 06 17 16.7 +0.4
baz=84,SNR=14
E19A Rath Farm, Rou 83.73 330 ⇓P P 06 17 16.4 -0.1
baz=84,SNR=41
CMB Columbia Colle 83.77 318 *e*P P 06 17 17.4 +0.5
CMB Columbia Colle 83.77 318 *e*P P 06 17 17.4 +0.5
PCAS Casmilo, Conde 83.83 39 *e*P P 06 17 17.6 +0.6
comp=Z,174nm,1.2s
D20A Manuel Ranch, 83.94 331 ⇓P P 06 17 17.3 -0.2
baz=84,SNR=38
B22A Reddig Ranch S 83.99 333 ⇑P P 06 17 17.9 +0.2
baz=84,SNR=12
PMRV Marv??o 84.04 40 *e*P P 06 17 18.0 -0.1
comp=Z,100nm,1.3s
A23A Redstone 84.07 334 ⇑P P 06 17 18.3 +0.3
baz=84
HLID Hailey 84.26 325 *e*P P 06 17 20.2 +0.9
comp=Z,80nm,0.8s
HLID Hailey 84.26 325 ⇑P P 06 17 20.4 +1.1
baz=85,SNR=144
PCBR Castelo Branco 84.26 40 *e*P P 06 17 19.3 +0.2
comp=Z,98nm,1.1s
PAHR Pah Rah Range 84.29 320 *e*P P 06 17 20.8 +1.3
comp=Z,59nm,0.9s
D19A Cripps Ranch, 84.32 331 ⇑P P 06 17 19.0 -0.3
baz=85,SNR=36
C20A Veseth Ranch, 84.36 332 ⇑P P 06 17 19.0 -0.5
baz=85,SNR=20
MCMT McKenzie Canyo 84.40 327 P P 06 17 20.9 +0.9
A22A Carney Farms, 84.50 333 ⇓P P 06 17 20.5 +0.3
baz=85,SNR=31
B21A Ellsworth Farm 84.50 332 ⇑P P 06 17 20.5 +0.3
baz=85,SNR=12
PTO Porto 84.50 38 *e*P P 06 17 21.1 +0.8
comp=Z,187nm,1.4s
LSZ Lusaka 84.57 104 *e*P P 06 17 23.0 +1.5
comp=Z,93nm,0.9s
MTE Manteigas 84.60 39 *e*P P 06 17 21.0 +0.1
comp=Z,179nm,1.5s
MTE Manteigas 84.60 39 *e*P P 06 17 20.5 -0.4
comp=Z,126nm,1.0s
PVIS Viseu 84.61 39 *e*P P 06 17 20.8 -0.1
comp=Z,52nm,1.0s
DLMT Dillon 84.67 328 *e*P P 06 17 21.9 +0.7
comp=Z,50nm,1.1s
C19A Slack Wire Ran 84.83 331 ⇓P P 06 17 21.5 -0.3
baz=85,SNR=18
MFID Camas Ranch 84.88 325 *e*P P 06 17 23.3 +1.0
A21A Bergtoll Ranch 84.91 333 ⇑P P 06 17 21.8 -0.3
baz=85,SNR=8.5
B20A Solberg Farm, 84.93 332 ⇓P P 06 17 22.2 -0.1
baz=85,SNR=10
LRM Limekiln Ridge 84.94 328 *e*P P 06 17 23.1 +0.5
PVRL Vila Real 85.09 39 *e*P P 06 17 23.8 +0.6
comp=Z,199nm,1.1s
POLO Lamas de Olo 85.11 39 *e*P P 06 17 23.7 +0.3
comp=Z,58nm,1.3s
PCAB Cabril 85.21 38 *e*P P 06 17 24.3 +0.5
comp=Z,120nm,1.9s
A20A Cobblestone Ra 85.23 332 ⇑P P 06 17 23.7 -0.1
baz=86,SNR=41
PGAV Gavieira, Arco 85.25 38 *e*P P 06 17 24.4 +0.4
comp=Z,157nm,1.6s
HRY Holter Researc 85.30 329 *e*P P 06 17 24.7 +0.5
B19A Brinkman Farms 85.34 331 P P 06 17 24.0 -0.2

baz=86
EGMT Eagleton 85.36 331 *e*P P **06 17 24.1 -0.3**
comp=Z,38nm,1.0s
EGMT Eagleton 85.36 331 ⇑P P **06 17 24.1 -0.3**
baz=86,SNR=18
MVO Moncorvo 85.40 39 *e*P P **06 17 25.0 +0.3**
comp=Z,129nm,1.1s
A19A Klindworth Far 85.61 332 ⇓P P **06 17 25.5 -0.1**
baz=86,SNR=11
WVOR Wild Horse Val 85.70 322 *e*P P **06 17 26.9 +0.7**
WVOR Wild Horse Val 85.70 322 *e*P P **06 17 26.9 +0.7**
PAB San Pablo 85.90 42 *e*P P **06 17 27.0 -0.2**
PAB San Pablo 85.90 42 *e*P P **06 17 26.9 -0.2**
PBRG Braganca 85.99 39 *e*P P **06 17 27.6 +0.1**
comp=Z,60nm,1.1s
CHMT Chamberlain Mo 86.11 328 *e*P P **06 17 28.5 +0.3**
ESDC Sonseca Array 86.21 42 P P **06 17 28.6 0.0**
ESDC pP **pP** **06 19 31.9 +0.8**
ESDC PKKP **PKKPdf** **06 35 20.4 +2.8**
ESDC Sonseca Array 86.21 42 P P **06 17 28.6 0.0**
comp=Z,10nm,0.7s,baz=240,slow=4.8,SNR=48
ESDC pP **pP** **06 19 31.9 +0.8**
comp=Z,11nm,1.0s,baz=232,slow=5.0,SNR=9.8
ESDC PKKP **PKKPdf** **06 35 20.4 +2.8**
comp=Z,0.3nm,0.3s,baz=1.0,slow=17,SNR=4.1
ESLA Sonseca Array 86.21 42 *e*P P **06 17 28.7 +0.1**
comp=Z,9.0nm,1.1s
MOD Modoc 86.27 321 *e*P P 06 17 24.2 -4.8
MSO Missoula 86.38 328 *e*P P **06 17 29.8 +0.5**
comp=Z,96nm,1.9s
MSO Missoula 86.38 328 ⇑P P **06 17 29.7 +0.4**
baz=87,SNR=15
SLMT Seeley Lake 86.47 328 *e*P P **06 17 30.1 +0.3**
BMO Blue Mountains 86.65 325 *e*P P **06 17 30.7 +0.1**
BMO pmax pmax
comp=Z,23nm,1.1s
BMO Blue Mountains 86.65 325 *e*P P **06 17 30.7 +0.1**
comp=Z,23nm,1.1s
SWMT Swartz Lake 86.90 328 *e*P P **06 17 32.0 +0.3**
N02D Trinity Center 87.04 319 ⇑P P **06 17 32.6 +0.1**
baz=87
M04C Macdoel 87.06 320 ⇑P P **06 17 33.2 +0.5**
baz=87
K05A Summer Lake 87.14 321 *e*P P **06 17 34.0 +0.9**
KMRM Mail Ridge 87.16 318 *e*P P **06 17 34.9 +1.8**
YBMT Yellow Bay 87.16 329 *e*P P **06 17 33.4 +0.5**
JTMT Jette 87.20 328 *e*P P **06 17 33.5 +0.3**
F10A Beach Ranch, E 87.38 326 *e*P P **06 17 34.5 +0.4**
M02C Callahan 87.39 320 ⇑P P **06 17 34.8 +0.6**
baz=88
BLMT Blacktail Moun 87.43 328 *e*P P **06 17 34.8 +0.4**
BSMT Bassoo Peak 87.51 328 P P **06 17 35.0 +0.3**
YBH Yreka Blue Hor 87.53 320 *e*P P **06 17 34.7 -0.1**
K04D Chiloquin, OR 87.56 321 ⇓P P **06 17 35.8 +0.8**
baz=88
KHMM Horse Mountain 87.58 319 P P **06 17 35.1 -0.1**
FFC Flin Flon 87.74 339 P P **06 17 35.1 -0.2**
comp=Z,261nm,0.8s,SNR=18
FFC Flin Flon 87.74 339 *i* P P **06 17 35.7 +0.4**
FFC Flin Flon 87.74 339 *e*P P **06 17 34.2 -1.2**
G08A Pilot Rock 87.80 324 *e*P P **06 17 36.5 +0.5**
comp=Z,31nm,1.7s
WALA Waterton Lakes 87.98 329 *e*P P **06 17 36.8 0.0**
comp=Z,1.7nm,0.9s
KTRM Thompson Ridge 88.02 320 P P **06 17 38.5 +1.3**
L02D Cave Junction, 88.31 320 ⇓P P **06 17 39.3 +0.9**
baz=89
I05D Terrebonne, OR 88.44 322 ⇓P P **06 17 39.9 +1.0**
baz=89
HAWA Hanford 88.84 325 *e*P P **06 17 41.4 +0.7**
NEW Newport 88.92 327 ⇑P P **06 17 40.5 -0.6**
baz=89,SNR=6.8
D08A Wollman Farm, 88.98 326 *e*P P **06 17 41.8 +0.5**
BROR Big Rock Looko 89.00 322 P P **06 17 41.6 +0.2**
FCC Fort Churchill 89.01 345 *e*P P **06 17 40.9 -0.2**
FCC pmax pmax
comp=Z,2.0nm,0.9s
FCC Fort Churchill 89.01 345 *e*P P **06 17 40.9 -0.2**
comp=Z,1.8nm,0.9s
G05D Wamic, OR 89.02 323 ⇓P P **06 17 42.7 +1.1**
baz=89
E07A Sunnyside 89.12 325 *e*P P **06 17 43.1 +1.1**
H04A Detroit Lake 89.13 322 *e*P P **06 17 42.2 +0.1**
I03D Drain, OR 89.14 321 ⇓P P **06 17 43.0 +0.9**
baz=89
VFP Flag Point 89.15 323 P P **06 17 43.1 +0.7**
C09A Chrisman Ranch 89.16 326 *e*P P **06 17 42.2 0.0**
EBG Ellensburg 89.72 325 P P **06 17 45.7 +0.9**
WTV Waterville 89.93 326 P P **06 17 45.8 0.0**
SJPF Ste Jean 89.96 40 *e*P P **06 17 46.2 +0.2**
comp=Z,90nm,1.1s
SJPF *e*pP **pP** **06 19 50.9 +1.2**
SJPF Ste Jean 89.96 40 *e*P P **06 17 46.2 +0.2**
SJPF pmax pmax
comp=Z,90nm,1.1s
SJPF Ste Jean 89.96 40 *e*P P **06 17 46.2 +0.2**
comp=Z,90nm,1.1s
SJPF *e*pP **pP** **06 19 50.9 +1.2**
LTY Liberty 90.00 325 *e*P P **06 17 46.2 +0.1**
F04A Amboy 90.06 323 *e*P P **06 17 46.5 +0.2**
ETW Entiat 90.06 325 P P **06 17 46.5 0.0**
B08A Colville Reser 90.06 326 *e*P P **06 17 46.0 -0.3**
CKHR Kef el Ahmar 90.06 49 P P **06 17 48.2 +1.4**
SET Setif 90.09 49 P P **06 17 47.0 +0.1**
ETSF Etsaut 90.22 41 *e*P P **06 17 47.5 +0.2**
comp=Z,59nm,1.0s
ETSF *e*pP **pP** **06 19 52.1 +1.1**
ETSF Etsaut 90.22 41 *e*P P **06 17 47.5 +0.2**
ETSF pmax pmax
comp=Z,59nm,1.0s
ETSF Etsaut 90.22 41 *e*P P **06 17 47.5 +0.2**
comp=Z,59nm,1.0s
ETSF *e*pP **pP** **06 19 52.1 +1.1**
NLW Nelson Butte 90.37 326 P P **06 17 47.7 -0.2**
REYF Montagne du Re 90.42 41 *e*P P **06 17 49.2 +1.0**
D05A Enumclaw 90.64 324 *e*P P **06 17 49.5 +0.5**
CTEI Djebel Teioual 90.70 49 P P **06 17 50.6 +0.9**
EDM Edmonton 90.76 333 *e*P P **06 17 48.3 -1.2**
EDM Edmonton 90.76 333 *e*P P **06 17 48.3 -1.2**
EPF Esparros 90.83 41 *e*P P **06 17 50.1 +0.1**
comp=Z,21nm,0.9s
EPF Esparros 90.83 41 *e*P P **06 17 50.1 +0.1**
EPF pmax pmax
comp=Z,21nm,0.9s
EPF Esparros 90.83 41 *e*P P **06 17 50.1 +0.1**
comp=Z,21nm,0.9s
CASM Ain Smara 90.86 49 P P **06 17 51.5 +1.1**
MELF Melles 90.98 41 *e*P P **06 17 51.8 +1.0**
CKFL Kef-Lekhel 91.09 49 P P **06 17 52.1 +0.6**
MLS Moulis 91.23 41 *e*P P **06 17 52.6 +0.8**
B06A Marblemount 91.24 326 *e*P P **06 17 51.2 -0.5**
CAEH 'Ain El Ouahch 91.39 49 P P **06 17 53.0 +0.3**
ABSA Djebel Ababsia 91.54 50 P P **06 17 54.2 +0.7**
CMAH Djebel Manchou 91.69 49 P P **06 17 54.6 +0.4**
QUIF Quistinic 91.89 36 *e*P P **06 17 53.7 -1.0**
comp=Z,88nm,1.0s
QUIF Quistinic 91.89 36 *e*P P **06 17 53.7 -1.0**
QUIF pmax pmax
comp=Z,88nm,1.0s
QUIF Quistinic 91.89 36 *e*P P **06 17 53.7 -1.0**
comp=Z,88nm,1.0s
ROSF Rostrenen 92.09 35 *e*P P **06 17 54.8 -0.8**
comp=Z,154nm,1.1s
ROSF Rostrenen 92.09 35 *e*P P **06 17 54.8 -0.8**
ROSF pmax pmax
comp=Z,154nm,1.1s
ROSF Rostrenen 92.09 35 *e*P P **06 17 54.8 -0.8**
comp=Z,154nm,1.1s
LFF La Frestale 92.19 40 *e*P P **06 17 55.9 -0.3**
comp=Z,102nm,0.9s
LFF La Frestale 92.19 40 *e*P P **06 17 55.9 -0.3**
LFF pmax pmax
comp=Z,102nm,0.9s
LFF La Frestale 92.19 40 *e*P P **06 17 55.9 -0.3**
comp=Z,102nm,0.9s
SGMF Saint Gilles 92.41 36 *e*P P **06 17 55.9 -1.2**
SGMF Saint Gilles 92.41 36 *e*P P **06 17 55.9 -1.2**
SGMF Saint Gilles 92.41 36 *e*P P **06 17 55.9 -1.2**
KEST Kesra 92.54 51 *e*P P **06 17 58.4 +0.2**
KEST pP **pP** **06 20 02.2 +0.1**
KEST PKKPbc **PKKPbc** **06 35 09.2 +0.9**
KEST Kesra 92.54 51 P P **06 17 58.6 +0.4**
comp=Z,7.7nm,0.9s,baz=250,slow=1.7,SNR=27
KEST pP **pP** **06 20 02.2 +0.1**
comp=Z,3.1nm,0.9s,baz=222,slow=3.7,SNR=4.6
KEST PKKPbc **PKKPbc** **06 35 09.2 +0.9**
comp=Z,1.4nm,0.6s,baz=203,slow=3.5,SNR=5.9
MFF Saint Martin d 92.69 38 *e*P P **06 17 57.9 -0.5**
comp=Z,358nm,1.8s
MFF Saint Martin d 92.69 38 *e*P P **06 17 57.9 -0.5**
MFF pmax pmax
comp=Z,358nm,1.8s
MFF Saint Martin d 92.69 38 *e*P P **06 17 57.9 -0.5**
comp=Z,358nm,1.8s
RJF Les Rejaudoux 92.85 40 *e*P P **06 17 58.6 -0.6**
comp=Z,139nm,1.5s
RJF *e*pP **pP** **06 20 03.4 +0.2**
RJF Les Rejaudoux 92.85 40 *e*P P **06 17 58.6 -0.6**
RJF pmax pmax
comp=Z,139nm,1.5s
RJF Les Rejaudoux 92.85 40 *e*P P **06 17 58.6 -0.6**
comp=Z,139nm,1.5s
RJF *e*pP **pP** **06 20 03.4 +0.2**
CAF Calviac 92.95 40 *e*P P **06 17 59.4 -0.3**
comp=Z,54nm,1.1s
CAF *e*pP **pP** **06 20 04.3 +0.6**
CAF Calviac 92.95 40 *e*P P **06 17 59.4 -0.3**
CAF pmax pmax
comp=Z,54nm,1.1s
CAF Calviac 92.95 40 *e*P P **06 17 59.4 -0.3**
comp=Z,54nm,1.1s
CAF *e*pP **pP** **06 20 04.3 +0.6**
GRR Gorron 93.39 36 *e*P P **06 18 00.4 -1.2**
comp=Z,76nm,1.0s
GRR Gorron 93.39 36 *e*P P **06 18 00.4 -1.2**
GRR pmax pmax
comp=Z,76nm,1.0s
GRR Gorron 93.39 36 *e*P P **06 18 00.4 -1.2**
comp=Z,76nm,1.0s
LASF Ste Croix 93.51 42 *e*P P **06 18 02.1 -0.2**
comp=Z,39nm,1.2s
LASF Ste Croix 93.51 42 *e*P P **06 18 02.1 -0.2**
comp=Z,39nm,1.2s
LBL Lubilhac 93.81 41 *e*P P **06 18 04.3 +0.6**
FLN La Foliniere 93.81 36 *e*P P **06 18 02.4 -1.1**
FLN La Foliniere 93.81 36 *e*P P **06 18 02.4 -1.1**
FLN La Foliniere 93.81 36 *e*P P **06 18 02.4 -1.1**
TCF Toulx Ste Croi 93.82 39 *e*P P **06 18 02.9 -0.8**
comp=Z,115nm,1.4s
TCF Toulx Ste Croi 93.82 39 *e*P P **06 18 02.9 -0.8**
TCF pmax pmax
comp=Z,115nm,1.4s
TCF Toulx Ste Croi 93.82 39 *e*P P **06 18 02.9 -0.8**
comp=Z,115nm,1.4s
LDF La Druitiere 93.90 36 *e*P P **06 18 02.9 -1.0**
LDF La Druitiere 93.90 36 *e*P P **06 18 02.9 -1.0**
LDF La Druitiere 93.90 36 *e*P P **06 18 02.9 -1.0**
PYM Petit Puy Mans 93.97 40 *e*P P **06 18 04.8 +0.4**
AGO Saint Agoulin 94.21 40 *e*P P **06 18 05.7 +0.3**
BGF Bois d'Agland 94.34 39 *e*P P **06 18 05.5 -0.5**
comp=Z,82nm,1.2s
BGF Bois d'Agland 94.34 39 *e*P P **06 18 05.5 -0.5**
BGF pmax pmax
comp=Z,82nm,1.2s
BGF Bois d'Agland 94.34 39 *e*P P **06 18 05.5 -0.5**
comp=Z,82nm,1.2s
VIVF Saint-Julien-l 94.43 41 *e*P P **06 18 06.4 -0.1**
comp=Z,45nm,1.1s
VIVF Saint-Julien-l 94.43 41 *e*P P **06 18 06.4 -0.1**
VIVF pmax pmax
comp=Z,45nm,1.1s
VIVF Saint-Julien-l 94.43 41 *e*P P **06 18 06.4 -0.1**
comp=Z,45nm,1.1s
PLDF La Plantade 94.44 40 *e*P P **06 18 06.9 +0.3**
SMRF Simiane la Rot 94.49 43 *e*P P **06 18 07.1 +0.3**
comp=Z,74nm,1.1s
SMRF Simiane la Rot 94.49 43 *e*P P **06 18 07.1 +0.3**
comp=Z,74nm,1.1s
SSB Saint Sauveur 94.59 41 *e*P P **06 18 08.0 +0.8**
HYF Humbligny 94.63 39 *e*P P **06 18 06.7 -0.6**
HYF Humbligny 94.63 39 *e*P P **06 18 06.7 -0.6**
LMR La Mourre 94.71 43 *e*P P **06 18 07.6 -0.1**
comp=Z,61nm,1.0s
LMR La Mourre 94.71 43 *e*P P **06 18 07.6 -0.1**
LMR pmax pmax
comp=Z,61nm,1.0s
LMR La Mourre 94.71 43 *e*P P **06 18 07.6 -0.1**
comp=Z,61nm,1.0s
AVF Avril sur Loir 94.76 39 *e*P P **06 18 07.2 -0.6**
comp=Z,92nm,1.4s
AVF *e*pP **pP** **06 20 12.2 +0.2**
AVF Avril sur Loir 94.76 39 *e*P P **06 18 07.2 -0.6**
AVF pmax pmax
comp=Z,92nm,1.4s
AVF Avril sur Loir 94.76 39 *e*P P **06 18 07.2 -0.6**
comp=Z,92nm,1.4s
AVF *e*pP **pP** **06 20 12.2 +0.2**
SMF Signal de Mont 94.95 40 *e*P P **06 18 08.4 -0.4**
comp=Z,147nm,1.1s
SMF *e*pP **pP** **06 20 13.4 +0.5**
SMF Signal de Mont 94.95 40 *e*P P **06 18 08.4 -0.4**
SMF pmax pmax
comp=Z,147nm,1.1s
SMF Signal de Mont 94.95 40 *e*P P **06 18 08.4 -0.4**
comp=Z,147nm,1.1s
SMF *e*pP **pP** **06 20 13.4 +0.5**
SSF Saint Saulge 95.00 39 *e*P P **06 18 08.1 -0.8**
comp=Z,62nm,1.0s
SSF *e*pP **pP** **06 20 13.2 +0.1**
SSF Saint Saulge 95.00 39 *e*P P **06 18 08.1 -0.8**
SSF pmax pmax
comp=Z,62nm,1.0s
SSF Saint Saulge 95.00 39 *e*P P **06 18 08.1 -0.8**
comp=Z,62nm,1.0s
SSF *e*pP **pP** **06 20 13.2 +0.1**
CALN Calern 95.16 43 *e*P P **06 18 11.0 +1.0**
ORIF Oris-en-Rattie 95.18 42 *e*P P **06 18 10.2 +0.2**
comp=Z,101nm,1.1s
ORIF Oris-en-Rattie 95.18 42 *e*P P **06 18 10.2 +0.2**
ORIF pmax pmax
comp=Z,101nm,1.1s
ORIF Oris-en-Rattie 95.18 42 *e*P P **06 18 10.2 +0.2**
comp=Z,101nm,1.1s
LOR Lormes 95.31 39 *e*P P **06 18 09.6 -0.8**
comp=Z,54nm,0.9s
LOR *e*pP **pP** **06 20 14.6 0.0**
LOR Lormes 95.31 39 *e*P P **06 18 09.6 -0.8**
comp=Z,54nm,0.9s
LOR *e*pP **pP** **06 20 14.6 0.0**
MVIF Mont Vial 95.40 43 *e*P P **06 18 09.3 -1.7**
REVF Revere 95.45 43 *e*P P **06 18 11.2 +0.1**
TOUF Mont Tournerai 95.52 43 *e*P P **06 18 12.5 +0.8**
SBF Sospel 95.56 43 *e*P P **06 18 11.5 -0.1**
comp=Z,90nm,1.2s
SBF Sospel 95.56 43 *e*P P **06 18 11.5 -0.1**
SBF pmax pmax
comp=Z,90nm,1.2s
SBF Sospel 95.56 43 *e*P P **06 18 11.5 -0.1**
comp=Z,90nm,1.2s
MBDF Montbardon 95.61 42 *e*P P **06 18 12.2 +0.2**
comp=Z,48nm,1.2s
MBDF Montbardon 95.61 42 *e*P P **06 18 12.2 +0.2**
MBDF pmax pmax
comp=Z,48nm,1.2s
MBDF Montbardon 95.61 42 *e*P P **06 18 12.2 +0.2**
comp=Z,48nm,1.2s
SAOF Saorge 95.70 43 *e*P P **06 18 12.0 -0.2**
PGF Pioggiola 95.84 45 *e*P P **06 18 12.8 -0.2**
comp=Z,48nm,1.4s
PGF Pioggiola 95.84 45 *e*P P **06 18 12.8 -0.2**
PGF pmax pmax
comp=Z,48nm,1.4s
PGF Pioggiola 95.84 45 *e*P P **06 18 12.8 -0.2**
comp=Z,48nm,1.4s
LPL La Plagne 96.01 42 *e*P P **06 18 14.1 +0.2**
comp=Z,68nm,1.0s
LPL La Plagne 96.01 42 *e*P P **06 18 14.1 +0.2**
LPL pmax pmax
comp=Z,68nm,1.0s
LPL La Plagne 96.01 42 *e*P P **06 18 14.1 +0.2**
comp=Z,68nm,1.0s
LPG La Plagne 96.02 42 *e*P P **06 18 14.3 +0.3**
comp=Z,85nm,1.1s
LPG *e*pP **pP** **06 20 19.4 +1.2**
LPG La Plagne 96.02 42 *e*P P **06 18 14.3 +0.3**
LPG pmax pmax
comp=Z,85nm,1.1s
LPG La Plagne 96.02 42 *e*P P **06 18 14.3 +0.3**
comp=Z,85nm,1.1s
LPG *e*pP **pP** **06 20 19.4 +1.2**
RSL Roselend 96.04 41 *e*P P **06 18 14.4 +0.5**
CABF La Chapelle 96.22 40 *e*P P **06 18 14.3 -0.3**
comp=Z,107nm,1.3s
CABF *e*pP **pP** **06 20 19.4 +0.5**
CABF La Chapelle 96.22 40 *e*P P **06 18 14.3 -0.3**
CABF pmax pmax
comp=Z,107nm,1.3s
CABF La Chapelle 96.22 40 *e*P P **06 18 14.3 -0.3**
comp=Z,107nm,1.3s
CABF *e*pP **pP** **06 20 19.4 +0.5**
OG01 Vacheresse 96.42 41 *e*P P **06 18 16.1 +0.6**
SFTF Sexfontaines 96.49 39 *e*P P **06 18 14.8 -0.9**
comp=Z,57nm,1.1s
SFTF Sexfontaines 96.49 39 *e*P P **06 18 14.8 -0.9**
comp=Z,57nm,1.1s
MEZF Maizieres J'vi 96.67 38 *e*P P **06 18 15.7 -0.7**
MEZF Maizieres J'vi 96.67 38 *e*P P **06 18 15.7 -0.7**
BAIF Baives 97.06 37 *e*P Pdif 06 18 17.3 -0.8
comp=Z,24nm,1.0s
BAIF Baives 97.06 37 *e*P Pdif 06 18 17.3 -0.8
BAIF pmax pmax
comp=Z,24nm,1.0s
BAIF Baives 97.06 37 *e*P Pdif 06 18 17.3 -0.8
comp=Z,24nm,1.0s
PAGF Fort de Pagny 97.07 39 *e*P Pdif 06 18 17.8 -0.4
comp=Z,16nm,1.0s
PAGF Fort de Pagny 97.07 39 *e*P Pdif 06 18 17.8 -0.4
comp=Z,16nm,1.0s
HAU Haudompre 97.12 39 *e*P Pdif 06 18 17.7 -0.8
comp=Z,35nm,0.9s
HAU *e*pP pP 06 20 23.0 +0.1
HAU Haudompre 97.12 39 *e*P Pdif 06 18 17.7 -0.8
HAU pmax pmax
comp=Z,35nm,0.9s
HAU Haudompre 97.12 39 *e*P Pdif 06 18 17.7 -0.8
comp=Z,35nm,0.9s
HAU *e*pP pP 06 20 23.0 +0.1
DOU Dourbes 97.29 37 P P **06 18 19.1 0.0**
HINF Hinteralfeld 97.31 40 *e*P Pdif 06 18 18.5 -0.9
comp=Z,30nm,1.0s
HINF *e*pP pP 06 20 23.9 +0.1
HINF Hinteralfeld 97.31 40 *e*P Pdif 06 18 18.5 -0.9
HINF pmax pmax
comp=Z,31nm,1.0s
HINF Hinteralfeld 97.31 40 *e*P Pdif 06 18 18.5 -0.9
comp=Z,30nm,1.0s
HINF *e*pP pP 06 20 23.9 +0.1
SNF Seneffe 97.35 37 P P **06 18 20.1 +0.7**
GIVF Givet 97.42 37 *e*P Pdif 06 18 19.1 -0.6
comp=Z,116nm,1.4s
GIVF Givet 97.42 37 *e*P Pdif 06 18 19.1 -0.6
GIVF pmax pmax
comp=Z,116nm,1.4s
GIVF Givet 97.42 37 *e*P Pdif 06 18 19.1 -0.6
comp=Z,116nm,1.4s
MOF Molkenrain 97.49 40 *e*P P **06 18 20.4 +0.2**
ECH Echery 97.70 40 *e*P P **06 18 21.5 +0.4**
BCLA Clavier 97.85 37 P Pdif 06 18 21.5 -0.1
CDF Champ du Feu 97.87 39 *e*P Pdif 06 18 21.2 -0.7
comp=Z,39nm,0.9s
CDF *e*pP pP 06 20 26.5 +0.2
CDF Champ du Feu 97.87 39 *e*P Pdif 06 18 21.2 -0.7
CDF pmax pmax
comp=Z,39nm,0.9s
CDF Champ du Feu 97.87 39 *e*P Pdif 06 18 21.2 -0.7
comp=Z,39nm,0.9s
CDF *e*pP pP 06 20 26.5 +0.2
WLF Walferdange 97.90 38 P P **06 18 22.5 +0.6**
comp=Z,40nm,1.5s
YKA Yellowknife Ar 97.92 339 P Pdif 06 18 21.2 -0.4
YKA pP pP 06 20 25.3 -0.8
YKA PKKP **PKKPbc** **06 34 52.6 -2.2**
YKA Yellowknife Ar 97.92 339 P Pdif 06 18 21.2 -0.4
comp=Z,7.1nm,0.8s,baz=127,slow=4.6,SNR=194
YKA pP pP 06 20 25.3 -0.8
comp=Z,5.9nm,0.9s,baz=127,slow=4.5,SNR=22
YKA PKKP **PKKPbc** **06 34 52.6 -2.2**
comp=Z,0.9nm,0.8s,baz=325,slow=3.3,SNR=14
MEM Membach 98.33 37 P P **06 18 24.3 +0.5**
BFO Black Forest 98.42 40 *i* P P **06 18 24.8 +0.5**
SUMG Summit 100.58 7 *i* P **Pdif** **06 18 34.5 +0.7**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 100.58 7 *i* P **Pdif** **06 18 34.5 +0.7**
comp=Z,6.6nm,0.9s
NKC Novy Kostel 101.71 39 *e*P **Pdif** **06 18 39.1 +0.3**
NKC *e* 06 22 55.3
NKC Novy Kostel 101.71 39 *e*PDIFF **Pdif** **06 18 39.1 +0.3**
NKC *e*PP **PKiKP** **06 22 55.3 -3.2**
GERES GERESS Array B 101.79 41 P **Pdif** **06 18 38.9 -0.5**
GERES PKiKP **PKiKP** **06 22 58.0 -0.8**
GERES PKKPbc **PKKPbc** **06 34 43.6 +0.1**
GERES GERESS Array B 101.79 41 P **Pdif** **06 18 38.9 -0.5**
comp=Z,1.1nm,0.8s,baz=251,slow=4.1,SNR=4.3
GERES PKiKP **PKiKP** **06 22 58.0 -0.8**
comp=Z,1.4nm,0.9s,baz=242,slow=5.7,SNR=6.8
GERES PKKPbc **PKKPbc** **06 34 43.6 +0.1**
comp=Z,0.9nm,0.8s,baz=48,slow=2.0,SNR=5.9
KHC Kasperske Hory 101.85 41 *e*P **Pdif** **06 18 39.6 +0.1**
KHC *e* 06 22 55.5
KHC Kasperske Hory 101.85 41 *e*PDIFF **Pdif** **06 18 39.6 +0.1**
KHC *e*PP **PKiKP** **06 22 55.5 -3.3**
CLL Collm 102.52 39 *e*P **Pdif** **06 18 43.0 +0.6**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 102.52 39 *e*Pdif **Pdif** **06 18 43.0 +0.6**
comp=Z,6.0nm,1.1s
PRU Pruhonice 102.80 40 *e*P **Pdif** **06 18 43.3 -0.3**
PRU *e* 06 23 03.0
PRU Pruhonice 102.80 40 *e*PDIFF **Pdif** **06 18 43.3 -0.3**
PRU *e*PP **PKiKP** **06 23 03.0 +2.5**
BRG Berggiesshubel 102.85 39 *e*P **Pdif** **06 18 44.8 +0.9**
comp=Z,9.3nm,1.4s
BRG Berggiesshubel 102.85 39 *e*P **Pdif** **06 18 44.8 +0.9**
BRG pmax pmax
comp=Z,9.0nm,1.5s
UPC Upice 103.87 40 *e*PP PP 06 23 08.9 -5.9
DPC Dobruska-Polom 103.98 41 *e*P **Pdif** **06 18 49.9 +0.9**
DPC *e* 06 23 09.9
DPC Dobruska-Polom 103.98 41 *e*PDIFF **Pdif** **06 18 49.9 +0.9**
DPC *e*PP PP 06 23 09.9 -5.8
KSP Ksiaz 104.18 40 *e*PKP PKiKP 06 23 12.4 +9.4
NOA NORSAR Array B 106.02 29 PKKPab PKKPab 06 34 46.2 -0.8
NOA NORSAR Array B 106.02 29 PKKPab PKKPab 06 34 46.2 -0.8
comp=Z,2.5nm,0.8s,baz=66,slow=4.6,SNR=8.1
INK Inuvik 107.69 338 PKKPbc PKKPbc 06 34 24.9 -1.3
INK Inuvik 107.69 338 PKKPbc PKKPbc 06 34 24.9 -1.3
comp=Z,5.5nm,0.7s,baz=321,slow=3.3,SNR=29
SUW Suwalki 109.27 39 *e*PKP **PKiKP** **06 23 11.8 -0.5**
ILAR Eielson Array 111.25 333 PKiKP **PKiKP** **06 23 15.4 -0.4**
ILAR PP **PP** **06 24 10.6 +3.2**
ILAR PKKPbc **PKKPbc** **06 34 13.7 -1.2**
ILAR Eielson Array 111.25 333 PKiKP **PKiKP** **06 23 15.4 -0.4**
comp=Z,2.3nm,1.0s,baz=198,slow=0.7,SNR=13
ILAR PP **PP** **06 24 10.6 +3.2**
comp=Z,1.9nm,0.9s,baz=127,slow=4.4,SNR=7.1
ILAR PKKPbc **PKKPbc** **06 34 13.7 -1.2**
comp=Z,0.4nm,0.7s,baz=255,slow=2.6,SNR=6.2
BRTR Keskin Array B 111.67 55 PKiKP **PKiKP** **06 23 17.1 -0.5**
BRTR PP **PP** **06 24 09.3 -1.9**
BRTR Keskin Array B 111.67 55 PKiKP **PKiKP** **06 23 17.1 -0.5**
comp=Z,3.7nm,0.9s,baz=194,slow=2.9,SNR=14
BRTR PP **PP** **06 24 09.3 -1.9**
comp=Z,3.6nm,1.0s,baz=246,slow=5.3,SNR=6.1
COLA College 111.67 333 ⇑*i* PKiKP **PKiKP** **06 23 16.2 -0.4**
KIEV Kiev 111.80 43 ⇑*i* PKiKP **PKiKP** **06 23 16.6 -0.6**
AK01 Malin Array Si 111.80 43 *e*PKPdf **PKiKP** **06 23 16.6 -0.6**
AKASG Malin Array Be 111.81 43 PKiKP **PKiKP** **06 23 16.2 -1.1**
AKASG 06 24 08.9
AKASG Malin Array Be 111.81 43 PKiKP **PKiKP** **06 23 16.2 -1.1**
AKASG PP **PP** **06 24 08.9 -2.8**
AKASG SKP 06 25 59.1
AKASG PKKPbc **PKKPbc** **06 34 12.3 -0.3**
AKASG PKKPab **PKKPab** **06 34 21.4 -0.3**
AKASG Malin Array Be 111.81 43 PKiKP **PKiKP** **06 23 16.2 -1.1**
comp=Z,4.3nm,0.7s,baz=261,slow=2.7,SNR=23
AKASG PP **PP** **06 24 08.9 -2.8**
comp=Z,0.8nm,0.4s,baz=263,slow=6.6,SNR=5.8
AKASG SKP 06 25 59.1
comp=Z,1.5nm,0.6s,baz=265,slow=2.6,SNR=5.2
AKASG PKKPbc **PKKPbc** **06 34 12.3 -0.3**
comp=Z,0.9nm,0.6s,baz=58,slow=3.7,SNR=7.0
AKASG PKKPab **PKKPab** **06 34 21.4 -0.3**
comp=Z,2.2nm,1.0s,baz=60,slow=4.4,SNR=5.1

VSU	Vasula	112.47	35⇑	*i*	PKIKP	**PKiKP**	**06 23 18.1**	**-0.2**	
FINES	FINESS Array B	112.89	31		PKiKP	**PKiKP**	**06 23 18.3**	**-0.7**	
FINES					PKKPbc	**PKKPbc**	**06 34 08.2**	**-1.2**	
FINES					PKKPab	**PKKPab**	**06 34 17.4**	**+0.9**	
FINES	FINESS Array B	112.89	31		PKiKP	**PKiKP**	**06 23 18.3**	**-0.7**	
	comp=Z,2.1nm,0.7s,baz=0.0,slow=1.9,SNR=7.1								
FINES					PKKPbc	**PKKPbc**	**06 34 08.2**	**-1.2**	
	comp=Z,1.9nm,0.4s,baz=67,slow=4.0,SNR=16								
FINES					PKKPab	**PKKPab**	**06 34 17.4**	**+0.9**	
	comp=Z,1.3nm,0.3s,baz=56,slow=4.3,SNR=8.2								
KAF	Kangasniemi	113.16	31	*ep*		**PKKPbc**	**06 34 06.4**	**-2.1**	
COLD	Coldfoot	113.22	335	*e*	PKPdf	**PKiKP**	**06 23 20.1**	**+0.6**	
IM04	Indian Mountai	114.35	333	*e*	PKPdf	PKPdf	06 23 22.0	+0.3	
ARCES	ARCESS Array B	114.43	23		PKP	PKPdf	06 23 21.4	-0.4	
ARCES					PKKPbc	**PKKPbc**	**06 34 02.0**	**-2.4**	
ARCES					PKKPab	**PKKPab**	**06 34 10.5**	**+0.9**	
ARCES	ARCESS Array B	114.43	23		PKP	PKPdf	06 23 21.4	-0.4	
	comp=Z,4.5nm,0.8s,baz=239,slow=4.3,SNR=18								
ARCES					PKKPbc	**PKKPbc**	**06 34 02.0**	**-2.4**	
	comp=Z,4.7nm,0.4s,baz=79,slow=3.6,SNR=50								
ARCES					PKKPab	**PKKPab**	**06 34 10.5**	**+0.9**	
	comp=Z,8.9nm,0.7s,baz=90,slow=3.7,SNR=14								
KEV	Kevo	114.99	23	*ep*		**PKKPbc**	**06 34 00.1**	**-2.4**	
JOF	Joensuu	115.60	30	*ep*		**PKKPbc**	**06 34 03.7**	**+3.4**	
	comp=Z,6.0nm,0.5s								
STKA	Stephens Creek	116.98	204		PKP	**PKPdf**	**06 23 27.3**	**-0.7**	
STKA					PKKPbc	**PKKPbc**	**06 33 55.0**	**-0.8**	
STKA	Stephens Creek	116.98	204		PKP	**PKPdf**	**06 23 27.3**	**-0.7**	
	comp=Z,4.6nm,0.8s,baz=302,slow=2.1,SNR=8.3								
STKA					PKKPbc	**PKKPbc**	**06 33 55.0**	**-0.8**	
	comp=Z,5.8nm,1.0s,baz=336,slow=7.6,SNR=5.7								
SOC	Sochi	117.05	53	*i*	P	**Pdif**		**06 19 55.0**	**+7.8**
SOC				*i*			06 23 27.3		
SOC				*e*			06 24 44.5		
SOC				*e*	PPP	PPP	06 27 21.9		
SOC				*e*	SS	SS	06 40 12.5	-1.8	
SOC					pmax	pmax			
	comp=Z,28nm,0.6s								
OBN	Obninsk	117.10	39κ	*i*	PKIKP	**PKPdf**	**06 23 26.4**	**-0.8**	
OBN					pmax	pmax			
	comp=Z,54nm,1.7s								
MOS	Moscow	117.78	39	*e*	PKIKP	**PKPdf**	**06 23 26.4**	**-2.2**	
VSR	Storozhevoye	118.06	44	*e*	PKIKP	**PKPdf**	**06 23 28.2**	**-1.1**	
VSR					pmax	pmax			
	comp=N,4.0nm,0.9s								
VSR					pmax	pmax			
	comp=E,6.0nm,0.9s								
VSR					pmax	pmax			
	comp=Z,20nm,0.9s								
VORD	Divnogorie	118.10	44	*e*	PKIKP	**PKPdf**	**06 23 28.1**	**-1.2**	
VORD					pmax	pmax			
	comp=N,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=E,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=Z,10.0nm,0.8s								
NEY	Neytrino	119.14	54⇑	*i*	PKIKP	**PKPdf**	**06 23 32.0**	**+0.2**	
KIV	Kislovodsk	119.24	53	*i*	PKIKP	**PKPdf**	**06 23 31.4**	**-0.5**	
KIV					pmax	pmax			
	comp=Z,36nm,1.1s								
KIV					MLR	MLR			
	comp=Z,36nm,20.0s								
KIV	Kislovodsk	119.24	53	*e*	PKPdf	**PKPdf**	**06 23 31.8**	**-0.1**	
KBZ	Khabaz	119.35	53		PKIKP	**PKPdf**	**06 23 31.6**	**-0.4**	
KBZ	Khabaz	119.35	53		PKP	**PKPdf**	**06 23 31.6**	**-0.4**	
KBZ	Khabaz	119.35	53		PKP	**PKPdf**	**06 23 31.6**	**-0.4**	
	comp=Z,14nm,0.9s,baz=255,slow=2.5,SNR=20								
VRHR	Novokhopersk	119.58	44	*e*	PKIKP	**PKPdf**	**06 23 31.6**	**-0.6**	
VRHR					pmax	pmax			
	comp=N,3.0nm,0.9s								
VRHR					pmax	pmax			
	comp=E,8.0nm,0.9s								
VRHR					pmax	pmax			
	comp=Z,20nm,0.9s								
GOF	Gofitskoye	119.67	52⇑	*i*	PKIKP	**PKPdf**	**06 23 33.0**	**+0.4**	
GOF					pmax	pmax			
	comp=Z,60nm,0.8s								
ZEI	Tsey	119.90	54	*i*	PKIKP	**PKPdf**	**06 23 32.7**	**-0.7**	
ZEI					pmax	pmax			
	comp=Z,13nm,1.0s								
TNA	Tin City	120.11	332	*e*	PKPdf	**PKPdf**	**06 23 32.7**	**-0.1**	
PRGR	Permogore	122.20	32⇑	*i*	PKIKP	**PKPdf**	**06 23 37.4**	**+0.5**	
PRGR					pmax	pmax			
	comp=Z,58nm,1.0s								
CTA	Charters Tower	125.26	215		PKP	**PKPdf**	**06 23 43.9**	**-0.3**	
CTA	Charters Tower	125.26	215		PKP	**PKPdf**	**06 23 43.9**	**-0.3**	
	comp=Z,17nm,0.8s,baz=311,slow=1.2,SNR=11								
AS31	Alice Springs	127.12	200	*e*	PKPdf	**PKPdf**	**06 23 47.0**	**-0.7**	
ASAR	Alice Springs	127.12	200		PKP	**PKPdf**	**06 23 47.1**	**-0.6**	
ASAR					pPKP	**pPKPdf**	**06 25 58.5**	**-1.1**	
ASAR					SKPbc	SKiKP	06 26 12.1	-19	
ASAR					SKP		06 26 28.6		
ASAR					PKKPbc	PKKPdf	06 33 16.8	-43	
ASAR	Alice Springs	127.12	200		PKhKP	PKPpre	06 23 32.5		
	comp=Z,0.5nm,0.3s,baz=129,slow=1.3,SNR=7.0								
ASAR					PKP	**PKPdf**	**06 23 47.1**	**-0.6**	
	comp=Z,36nm,0.7s,baz=149,slow=2.1,SNR=155								
ASAR					pPKP	pPKPdf	06 25 58.5	-1.1	
	comp=Z,3.7nm,0.9s,baz=140,slow=2.0,SNR=5.2								
ASAR					SKPbc	SKiKP	06 26 12.1	-19	
	comp=Z,5.1nm,0.5s,baz=154,slow=3.3,SNR=12								
ASAR					SKP		06 26 28.6		
	comp=Z,3.1nm,0.6s,baz=143,slow=2.4,SNR=5.7								
ASAR					PKKPbc	PKKPdf	06 33 16.8	-43	
	comp=Z,2.2nm,0.7s,baz=338,slow=3.4,SNR=4.6								
BILL	Bilibino	129.32	338κ	*i*	PKIKP	**PKPdf**	**06 23 50.8**	**+0.5**	
BILL							06 26 10.0		
BILL					pmax	pmax			
	comp=Z,218nm,1.0s								
ARU	Arti	129.45	38	*i*	PKIKP	**PKPdf**	**06 23 51.4**	**+0.5**	
ARU							06 26 07.2		
ARU	Arti	129.45	38	*e*	PKPdf	**PKPdf**	**06 23 51.0**	**0.0**	
AKTO	Aktyubinsk	129.96	45		PKIKP	**PKPdf**	**06 23 52.0**	**-0.1**	
AKTO					pmax	pmax			
	comp=Z,35nm,1.1s								
WRA	Warramunga Arr	130.46	202		PKP	**PKPdf**	**06 23 53.6**	**-0.4**	
WRA					pPKP	**pPKPdf**	**06 26 05.3**	**-0.7**	
WRA					SKPbc	**SKPbc**	**06 26 24.4**	**-0.8**	
WRA					SKKPbc	**SKKPbc**	**06 36 01.9**	**+1.3**	
WRA	Warramunga Arr	130.46	202		PKhKP	PKPpre	06 23 30.4		
	comp=Z,0.2nm,0.3s,baz=205,slow=2.1,SNR=16								
WRA					PKP	**PKPdf**	**06 23 53.6**	**-0.4**	
	comp=Z,17nm,0.5s,baz=162,slow=1.6,SNR=75								
WRA					pPKP	pPKPdf	06 26 05.3	-0.7	
	comp=Z,5.2nm,0.9s,baz=168,slow=1.5,SNR=10								
WRA					SKPbc	**SKPbc**	**06 26 24.4**	**-0.8**	
	comp=Z,87nm,0.9s,baz=158,slow=3.6,SNR=76								
WRA					SKKPbc	**SKKPbc**	**06 36 01.9**	**+1.3**	
	comp=Z,0.7nm,0.5s,baz=346,slow=3.7,SNR=7.5								
WRAB	Tennant Creek	130.47	202	*d*	PKIKP	**PKPdf**	**06 23 53.7**	**-0.4**	
AB31	Akbulak array	131.31	47	*c*	PKIKP	**PKPdf**	**06 23 55.0**	**+0.3**	
AB31					pmax	pmax			
	comp=Z,13nm,0.5s								
ABKAR	Akbulak array	131.31	47	*e*	PKPdf	**PKPdf**	**06 23 54.5**	**-0.1**	
PMG	Port Moresby	133.40	224		SKPbc	**SKPbc**	**06 26 35.6**	**+0.2**	
PMG	Port Moresby	133.40	224		SKPbc	**SKPbc**	**06 26 35.6**	**+0.2**	
	comp=Z,50nm,0.9s,baz=133,slow=3.9,SNR=5.1								
TIXI	Tiksi	134.61	355⇑	*e*	PKIKP	**PKPdf**	**06 23 59.9**	**-0.3**	
TIXI	Tiksi	134.61	355	*e*	PKPdf	**PKPdf**	**06 23 57.9**	**-2.3**	
BRVK	Borovoye	136.87	40	*d*	PKIKP	**PKPdf**	**06 24 05.7**	**+0.8**	
BRVK					pmax	pmax			
	comp=Z,14nm,0.6s								
BVA0	Borovoye Array	136.94	40	*i*	PKIKP	**PKPdf**	**06 24 05.6**	**+0.5**	
BVA0					pmax	pmax			
	comp=Z,25nm,1.0s								
BVAR	Borovoye Array	136.94	40		PKIKP	**PKPdf**	**06 24 06.0**	**+0.9**	
BVAR	Borovoye Array	136.94	40		PKP	**PKPdf**	**06 24 06.0**	**+0.9**	
BVAR					pPKP	**pPKPdf**	**06 26 16.1**	**-1.1**	
BVAR					SKP		06 26 46.7		
BVAR					SKKPbc	SKKPbc	06 35 37.4	-3.1	
BVAR	Borovoye Array	136.94	40		PKhKP	PKPpre	06 23 54.1		
	comp=Z,2.9nm,0.7s,baz=277,slow=3.3,SNR=11								
BVAR					PKP	**PKPdf**	**06 24 06.0**	**+0.9**	
	comp=Z,18nm,0.7s,baz=270,slow=3.0,SNR=41								
BVAR					pPKP	pPKPdf	06 26 16.1	-1.1	
	comp=Z,2.6nm,0.6s,baz=309,slow=2.4,SNR=6.0								
BVAR					SKP		06 26 46.7		
	comp=Z,5.2nm,0.5s,baz=293,slow=3.3,SNR=10								
BVAR					SKKPbc	SKKPbc	06 35 37.4	-3.1	
	comp=Z,2.4nm,0.8s,baz=113,slow=3.9,SNR=5.8								
SEY	Seymchan	136.97	337⇓	*i*	PKIKP	**PKPdf**	**06 24 06.2**	**+1.4**	
SEY	Seymchan	136.97	337		SKP	**SKPbc**	**06 26 46.1**	**+1.2**	
	comp=Z,20nm,0.7s,baz=84,slow=3.3,SNR=30								
TRD	Trivandrum	138.24	108	*e*	P	**PKPdf**	**06 24 08.2**	**-0.5**	
TRD					AMS	AMS	06 36 40.2		
	comp=Z,108nm,4.3s								
GOA	Goa	138.66	97	*e*	P	**PKPdf**	**06 24 08.0**	**-1.3**	
KK31	Karatay Array	139.36	54	*i*	PKHKP	PKPpre	06 24 01.5		
KK31					pmax	pmax			
	comp=Z,3.0nm,0.6s								
POO	Poona	139.79	93	*e*	P	**PKPdf**	**06 24 11.4**	**0.0**	
POO					AMS	AMS	06 35 59.8		
	comp=Z,52nm,5.2s								
PEA0B	Petropavlovsk-	139.86	322	*e*	PKPdf	**PKPdf**	**06 24 10.5**	**+0.1**	
PETK	Petropavlovsk-	139.86	322		PKHKP	PKPpre	06 24 03.4		
PETK							06 24 11.1		
PETK	Petropavlovsk-	139.86	322		PKPpre	PKPpre	06 24 03.4		
PETK					PKP	**PKPdf**	**06 24 11.1**	**+0.7**	
PETK					SKPbc	**SKPbc**	**06 26 53.9**	**+0.7**	
PETK	Petropavlovsk-	139.86	322		PKhKP	PKPpre	06 24 03.4		
	comp=Z,3.7nm,0.6s,baz=82,slow=11,SNR=3.7								
PETK					PKP	**PKPdf**	**06 24 11.1**	**+0.7**	
	comp=Z,21nm,0.8s,baz=111,slow=6.5,SNR=5.1								
PETK					SKPbc	**SKPbc**	**06 26 53.9**	**+0.7**	
	comp=Z,29nm,1.0s,baz=91,slow=7.9,SNR=13								
PALK	Pallekele	140.71	113	*e*	PKPdf	**PKPdf**	**06 24 13.4**	**+0.2**	
EKS2	Erkin-Say	141.80	54	*e*	PKHKP	PKPpre	06 24 10.4		
EKS2	Erkin-Say	141.80	54		P	**SKPbc**	**06 27 01.1**	**+2.3**	
	SNR=6.6								
EKS2	Erkin-Say	141.80	54		P	**PKPdf**	**06 24 10.8**	**-3.7**	
	SNR=22								
EKS2	Erkin-Say	141.80	54	*e*	PKPdf	**PKPdf**	**06 24 10.4**	**-4.0**	
AML	Almayashu	141.84	55		P	**PKPdf**	**06 24 11.4**	**-3.4**	
	SNR=10.0								
USP	Ospenovka	142.21	53		P	**SKPbc**	**06 27 01.7**	**+2.1**	
	SNR=6.0								
USP	Ospenovka	142.21	53		P	**PKPdf**	**06 24 11.4**	**-3.6**	
	SNR=30								
AAK	Ala-Archa	142.33	54	*e*	PKIKP	**PKPdf**	**06 24 12.7**	**-2.7**	
AAK	Ala-Archa	142.33	54		P	**SKPbc**	**06 27 02.6**	**+2.5**	
	SNR=8.9								
AAK	Ala-Archa	142.33	54		P	**PKPdf**	**06 24 12.8**	**-2.6**	
	SNR=13								
AAK	Ala-Archa	142.33	54	*e*	PKPdf	**PKPdf**	**06 24 12.7**	**-2.7**	
AAK					pPKP	**pPKPdf**	**06 26 29.5**	**+1.9**	
AAK					SKPbc	**SKiKP**	**06 27 02.2**	**+0.8**	
AAK					SKKPbc	**SKKPbc**	**06 35 18.2**	**-0.9**	
	comp=Z,25nm,0.7s,baz=211,slow=3.2,SNR=13								
AAK					SKKPbc	**SKKPbc**	**06 35 18.2**	**-0.9**	
	comp=Z,10.0nm,0.9s,baz=138,slow=3.8,SNR=27								
FRU	Bishkek	142.38	54	*e*	PKIKP	**PKPdf**	**06 24 14.5**	**-0.8**	
FRU					pmax	pmax			
	comp=Z,267nm,1.6s								
UCH	Uchtor	142.42	55		P	**SKPbc**	**06 27 02.8**	**+2.1**	
	SNR=5.2								
UCH	Uchtor	142.42	55		P	**PKPdf**	**06 24 13.7**	**-2.3**	
	SNR=46								
CHMS	Chumysh	142.44	54		P	**SKPbc**	**06 27 01.8**	**+1.6**	
	SNR=7.3								
CHMS	Chumysh	142.44	54		P	**PKPdf**	**06 24 12.6**	**-2.8**	
	SNR=42								
KURBB	Kurchatov Arra	142.52	40		pPKP	**pPKPdf**	**06 26 29.4**	**+2.0**	
	comp=Z,4.3nm,0.8s,baz=302,slow=3.1,SNR=4.0								
KURBB					SKPbc	**SKiKP**	**06 27 01.2**	**0.0**	
	comp=Z,5.5nm,0.8s,baz=302,slow=3.0,SNR=7.5								
KURBB					PP	**PP**	**06 27 31.1**	**+0.5**	
	comp=Z,8.2nm,1.2s,baz=281,slow=5.6,SNR=4.7								
KURBB					SKKPbc	**SKKPab**	**06 35 14.9**	**-3.0**	
	comp=Z,0.7nm,0.7s,baz=120,slow=3.8,SNR=6.8								
KURK	Kurchatov	142.54	40	*e*	PKIKP	**PKPdf**	**06 24 13.0**	**-2.3**	
KURK							06 27 31.2		
KURK	Kurchatov	142.54	40	*e*	PKPdf	**PKPdf**	**06 24 13.0**	**-2.3**	
KURK					pPKP	**pPKPdf**	**06 26 29.4**	**+2.0**	
KURK					SKPbc	**SKiKP**	**06 27 01.2**	**0.0**	
KURK					PP	**PP**	**06 27 31.1**	**+0.5**	
KURK					SKKPbc	**SKKPab**	**06 35 14.9**	**-2.9**	
KBK	Karagaybulak	142.65	54		P	**PKPdf**	**06 24 14.0**	**-2.0**	
	SNR=34								
JAY	Jayapura	142.74	222		PKP	**PKPdf**	**06 24 14.8**	**-2.0**	
JAY	Jayapura	142.74	222		PKP	**PKPdf**	**06 24 14.8**	**-2.0**	
	comp=Z,65nm,0.9s,baz=277,slow=3.0,SNR=7.8								
NVS	Novosibirsk	142.88	32⇓	*i*	PKHKP	PKPpre	06 24 12.9		
NVS					pmax	pmax			
	comp=Z,232nm,1.4s								
NVS					pmax	pmax			
	comp=N,36nm,1.0s								
NVS					pmax	pmax			
	comp=E,6.0nm,0.8s								
SOEI	Soe	142.91	192	*e*	PKPdf	**PKPdf**	**06 24 15.4**	**-1.8**	
KZA	Kyzart	142.98	55		P	**PKPdf**	**06 24 15.5**	**-1.4**	
	SNR=84								
TKM2	Tokmak 2	143.07	53		PKIKP	PKPab	06 24 14.5	0.0	
TKM2					pmax	pmax			
	comp=Z,233nm,1.2s								
TKM2	Tokmak 2	143.07	53		P	**SKPbc**	**06 27 03.9**	**+2.0**	
	SNR=5.3								
TKM2	Tokmak 2	143.07	53		P	PKPbc	06 24 15.2	+0.2	
	SNR=136								
TKM2	Tokmak 2	143.07	53	*e*	PKPdf	PKPbc	06 24 15.0	0.0	
HYB	Hyderabad	143.59	97	*i*	PKP	PKPab	06 24 16.0	-1.0	
HYB				*ep*		PKPdf	06 26 28.0	-2.3	
HYB	Hyderabad	143.59	97	*e*	P	PKPab	06 24 15.9	-1.1	
ULHL	Ulahol	143.67	54		P	**PKPdf**	**06 24 17.7**	**-0.1**	
	SNR=173								
YAK	Yakutsk	143.73	350	*e*	PKIKP	PKPbc	06 24 15.6	-0.5	
YAK					pmax	pmax			
	comp=Z,455nm,0.9s								
YAK					pmax	pmax			
	comp=N,68nm,1.2s								
YAK					pmax	pmax			
	comp=E,18nm,1.0s								
YAK	Yakutsk	143.73	350	*e*	PKPbc	PKPbc	06 24 15.9	-0.2	
KSH	Kashi	143.95	59⇓	*i*	PKP	PKPbc	06 24 17.0	-0.7	
KSH				*es*	PKP		06 27 15.6		
KSH				*e*	SKS	**SKSdf**	**06 30 37.9**	**+3.5**	
KSH					AMB	AMB			
	comp=E,120nm,5.1s								
ZAA0	Zalesovo Array	144.16	32	*e*	PKPbc	PKPbc	06 24 17.5	-0.1	
ZALV	Zalesovo Beam	144.16	32		PKIKP	**PKPdf**	**06 24 17.9**	**-0.1**	
ZALV	Zalesovo Beam	144.16	32		PKP	**PKPdf**	**06 24 17.9**	**-0.1**	
ZALV					pPKP	**pPKPdf**	**06 26 30.8**	**+0.6**	
ZALV					SKPbc	**SKiKP**	**06 27 05.0**	**+0.5**	
ZALV					SKKPbc	**SKKPab**	**06 35 08.1**	**-2.5**	
ZALV	Zalesovo Beam	144.16	32		PKP	**PKPdf**	**06 24 17.9**	**-0.1**	
	comp=E,108nm,0.5s,baz=298,slow=4.7,SNR=576								
ZALV					pPKP	**pPKPdf**	**06 26 30.8**	**+0.6**	
	comp=E,35nm,1.0s,baz=289,slow=4.5,SNR=6.9								
ZALV					SKPbc	**SKiKP**	**06 27 05.0**	**+0.5**	
	comp=E,28nm,0.6s,baz=317,slow=3.3,SNR=12								
ZALV					SKKPbc	**SKKPab**	**06 35 08.1**	**-2.5**	
	comp=E,1.3nm,0.4s,baz=127,slow=3.9,SNR=5.1								
DLH	Dalhousie	144.33	71	*e*	P	PKPbc	06 24 19.0	-0.2	
MMRI	Maumere	144.35	189	*e*	PKPbc	PKPbc	06 24 19.2	-0.2	
BHPL	Bhopal	144.35	87	*e*	P	PKPbc	06 24 18.6	-0.8	
DHRM	DHARAMSHALA	144.61	71	*e*	P	**PKPab**	**06 24 20.6**	**-0.1**	
DHRM					AMS	AMS	06 35 21.6		
	comp=Z,95nm,4.5s								
BHK	Bhakra	144.67	73	*e*	P	PKPbc	06 24 20.2	+0.2	
CISI	Cisompet, Garu	144.77	165	*e*	PKPdf	**PKPdf**	**06 24 20.4**	**+0.1**	
JAGI	Jajag, Banyuwa	144.84	176	*e*	PKPdf	**PKPdf**	**06 24 20.0**	**-0.4**	
NDI	New Delhi	145.14	78	*e*	P	**PKPdf**	**06 24 19.0**	**-1.5**	
	comp=Z,30nm,0.5s								
SMLA	Simla	145.30	73	*e*	P	**PKPbc**	**06 24 21.7**	**-0.1**	
SMRI	Semarang	145.80	169	*e*	PKPbc	**PKPbc**	**06 24 24.6**	**+0.8**	
DDI	Dehra Dun	146.01	75	*e*	P	**PKPdf**	**06 24 20.9**	**-1.1**	
MK31	Makanchi Array	146.38	44	*ce*	PKIKP	**PKPdf**	**06 24 22.6**	**+0.5**	
MK31					pmax	pmax			
	comp=Z,93nm,0.6s								
MKAR	Makanchi Array	146.38	44		PKIKP	**PKPdf**	**06 24 22.5**	**+0.4**	
MKAR	Makanchi Array	146.38	44		PKPbc	**PKPdf**	**06 24 22.5**	**+0.4**	
MKAR					pPKPbc	pPKPbc	06 26 34.6	+0.4	
MKAR					SKPbc	**SKiKP**	**06 27 10.0**	**+0.7**	
MKAR					SKKPbc	**SKKPab**	**06 35 00.6**	**-0.3**	
MKAR	Makanchi Array	146.38	44		PKPbc	**PKPdf**	**06 24 22.5**	**+0.4**	
	comp=Z,129nm,0.8s,baz=305,slow=1.4,SNR=266								
MKAR					pPKPbc	pPKPbc	06 26 34.6	+0.3	
	comp=Z,12nm,0.5s,baz=305,slow=2.7,SNR=10								
MKAR					SKPbc	**SKiKP**	**06 27 10.0**	**+0.7**	
	comp=Z,13nm,0.7s,baz=325,slow=1.9,SNR=4.7								
MKAR					SKKPbc	**SKKPab**	**06 35 00.6**	**-0.3**	
	comp=Z,1.9nm,0.6s,baz=104,slow=4.8,SNR=14								
VIS	Vishakhapatnam	147.92	99	*e*	P	**PKPdf**	**06 24 23.8**	**-1.6**	
VIS					AMS	AMS	06 35 39.9		
	comp=Z,34nm,5.4s								
KAPI	Kappang	148.22	186	*e*	PKPdf	**PKPdf**	**06 24 26.7**	**+0.6**	
KAPI				*e*	PKPbc	**PKPbc**	**06 24 30.7**	**+0.5**	
GSI	Gunungsitoli	148.70	141	*e*	PKPdf	**PKPdf**	**06 24 27.8**	**+0.9**	
GSI				*e*	PKPbc	**PKiKP**	**06 24 32.2**	**-0.3**	
CLNS	Chul'man	149.43	351	*e*	PKHKP	**PKPdf**	**06 24 27.7**	**+1.0**	
CLNS					pmax	pmax			
	comp=Z,104nm,0.9s								
CLNS					pmax	pmax			
	comp=N,33nm,1.0s								
CLNS					pmax	pmax			
	comp=E,16nm,1.2s								
BKNI	Bangkinang	149.67	148	*e*	PKPbc	**PKPbc**	**06 24 33.2**	**-0.5**	
HVS	Khovu-Aksy	150.09	30⇑	*e*	PKIKP	**PKPdf**	**06 24 27.7**	**-0.3**	
KOLN	Koldanda	150.64	80	*e*	P	**PKPdf**	**06 24 29.9**	**+0.2**	
	comp=E,249nm,0.9s								
PSI	Prapat	150.68	142		PKP	**PKPdf**	**06 24 29.6**	**-0.5**	
PSI					PKPbc	**PKPbc**	**06 24 35.8**	**-0.4**	
PSI					pPKPbc	**pPKPbc**	**06 26 46.9**	**-0.3**	
PSI	Prapat	150.68	142		PKP	**PKPdf**	**06 24 29.6**	**-0.5**	
	comp=E,5.9nm,0.5s,baz=184,slow=5.9,SNR=8.1								
PSI					PKPbc	**PKPbc**	**06 24 35.8**	**-0.4**	
	comp=E,78nm,0.8s,baz=231,slow=3.3,SNR=48								
PSI					pPKPbc	**pPKPbc**	**06 26 46.9**	**-0.3**	
	comp=E,11nm,0.6s,baz=212,slow=8.1,SNR=6.7								
CMBY	CAMPBELL BAY	150.75	128	*e*	P	**PKPdf**	**06 24 29.7**	**-0.3**	
CMBY					AMS	AMS	06 35 42.0		
	comp=Z,131nm,3.5s								
DANN	Dangsing	150.84	79	*e*	P	**PKPdf**	**06 24 30.7**	**+0.6**	
	comp=Z,634nm,0.9s								
WMQ	Urumqi	151.10	47		PKPbc	**PKPdf**	**06 24 31.0**	**+1.3**	
YSS	Yuzh-Sakhalins	151.25	321⇓	*i*	PKIKP	**PKPbc**	**06 24 36.0**	**-0.3**	
YSS				*e*			06 24 47.5		
YSS					pmax	pmax			
	comp=Z,150nm,1.0s								
YSS	Yuzh-Sakhalins	151.25	321	*e*	PKPbc	**PKPbc**	**06 24 36.5**	**+0.1**	
GKN	Gorkha	151.58	80	*e*	P	**PKPdf**	**06 24 31.1**	**0.0**	
	comp=Z,212nm,0.8s								
DMN	Daman	151.95	81	*e*	P	**PKPdf**	**06 24 31.8**	**0.0**	
	comp=Z,302nm,1.0s								
BOK	Bokaro	152.04	89	*e*	P	**PKPdf**	**06 24 31.3**	**-0.3**	
KKN	Kakani	152.12	81	*e*	P	**PKPdf**	**06 24 32.0**	**0.0**	
	comp=Z,159nm,0.9s								
PKIN	Phulchoki	152.21	81	*e*	P	**PKPdf**	**06 24 31.8**	**-0.4**	
	comp=Z,108nm,0.9s								
PKI	Pulchoki	152.22	81	*e*	P	**PKPdf**	**06 24 31.8**	**-0.4**	
	comp=Z,141nm,0.9s								
MOY	Mondy	152.49	21	*e*	PKIKP	**PKPdf**	**06 24 32.8**	**+1.2**	
MOY				*e*			06 24 52.7		
MOY					pmax	pmax			
	comp=Z,68nm,1.6s								
GUN	Gumba	152.66	81	*e*	P	**PKPdf**	**06 24 32.9**	**0.0**	
	comp=Z,290nm,1.0s								
ASAJ	Asahikawa	152.89	316		PKP	**PKPdf**	**06 24 31.5**	**-0.8**	
ASAJ					PKPbc	**PKPbc**	**06 24 40.0**	**-0.1**	
ASAJ	Asahikawa	152.89	316

LZH					SKKS			06 35 30.0	
LZH					AMB	AMB			
	comp=Z,150nm,7.2s								
KSRS	**Korea Array**	**165.75**	**321**		PKP	**PKPdf**		**06 24 47.0**	**+0.1**
	comp=Z,7.6nm,1.0s,baz=248,slow=0.6,SNR=20								
KSRS					PKPab	**PKPab**		**06 25 49.9**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=58,slow=4.7,SNR=8.2								
KSRS					pPKP	**pPKPdf**		**06 27 01.6**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=8.4,slow=0.4,SNR=4.6								
KSAR	**Wonju Array Be**	**165.78**	**321**		PKP	**PKPdf**		**06 24 47.0**	**+0.1**
KSAR					PKPab	**PKPab**		**06 25 49.9**	**-0.6**
KSAR					pPKP	**pPKPdf**		**06 27 01.6**	**+1.3**
BJI	**Beijing**	**166.80**	**2**		PKP	**PKPdf**		**06 24 48.1**	**+0.4**
BJI					PP	**PP**		**06 29 43.3**	**0.0**
BJI					SS	SS		06 49 37.5	-2.2
BJI					AMB	AMB			
	comp=Z,280nm,4.8s								
SLVN	**Son La**	**167.13**	**112**	*e*	PKPdf	**PKPdf**		**06 24 49.5**	**+0.9**
KMI	**Kunming**	**167.35**	**95**		PKP	**PKPdf**		**06 24 49.1**	**+0.2**
KMI					SS	SS		06 49 50.6	+1.2
CD2	**Chengdu**	**167.97**	**67**	*e*	PKP	**PKPdf**		**06 24 49.4**	**+0.5**
CD2					pPKP	**pPKPdf**		**06 26 59.9**	**-2.3**
CD2					sPKP			06 27 52.1	
CD2					PP	PP		06 29 57.0	+5.9
CD2					SKS	**SKSdf**		**06 30 56.5**	**-3.2**
CD2					SKKS	**SKKSac**		**06 35 41.9**	**-0.5**
CD2					SS	**SS**		**06 49 59.9**	**+5.3**
XAN	**Xi'an**	**170.17**	**41**		PKP	**PKPdf**		**06 24 50.5**	**+0.3**
XAN					PKPab	**PKPab**		**06 26 09.5**	**-0.7**
XAN					pPKP	**pPKPdf**		**06 27 04.8**	**+1.2**
XAN					PP	**PP**		**06 30 00.5**	**-0.7**
GYA	**Guiyang**	**171.04**	**90**	*i*	PKP	**PKPdf**		**06 24 51.1**	**+0.2**
GYA					PKPab	**PKPab**		**06 26 15.0**	**+0.5**
GYA					pPKP	**pPKPdf**		**06 27 02.3**	**-2.0**
GYA					sPKP			06 27 53.4	
GYA					PKS	**PKSdf**		**06 28 20.5**	**-3.0**
GYA					PP	**PP**		**06 30 06.8**	**+0.1**
GYA					AMB	AMB			
	comp=Z,120nm,8.2s								
ENH	**Enshi**	**172.80**	**60**	*e*	PKPdf	**PKPdf**		**06 24 51.5**	**0.0**

IDC 20 06:25:27.0±1.4, 2°07S×146°53E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=251.6km s-min=24.9km az=119.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.39**	**213**	P		P	06 30 16.7	+0.2
	3.8nm,0.7s,baz=41,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**24.70**	**209**	P		P	06 30 49.6	-0.5
	2.1nm,0.5s,baz=35,slow=8.1,SNR=12							
ILAR	**Eielson Array**	**82.08**	**23**	P		P	06 37 48.0	-1.2
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.0							
YKA	**Yellowknife Ar**	**95.93**	**27**	P		P	06 38 56.7	+1.1
	0.3nm,0.8s,baz=279,slow=4.6,SNR=6.8							
TORD	**Torodi Ar. Bea**	**143.50**	**289**	PKP		PKPdf	06 45 06.6	+1.8
	0.6nm,0.9s,baz=67,slow=2.8,SNR=3.0							

IDC 20 06:25:53.8±1.5, 2°41S×147°11E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=257.8km s-min=25.9km az=120.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.43**	**215**	P		P	06 30 43.5	-0.2
	5.2nm,0.7s,baz=41,slow=10,SNR=8.6							
ASAR	**Alice Springs**	**24.69**	**210**	P		P	06 31 16.9	+0.1
	1.8nm,0.5s,baz=39,slow=7.6,SNR=5.3							
ILAR	**Eielson Array**	**82.16**	**23**	P		P	06 38 15.6	-0.8
	0.3nm,0.8s,baz=246,slow=4.5,SNR=2.6							
YKA	**Yellowknife Ar**	**95.96**	**28**	P		P	06 39 23.7	+1.1
	0.3nm,0.7s,baz=273,slow=4.7,SNR=4.3							

*IDC **20** 06:27:20.7±1.1, 3°09S×147°90E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/32, mbtmp4.2/14, Error ellipse: s-maj=38.4km s-min=17.6km az=102.0*
*ISCJB **20** 06:27:22.4±0.9, 3°10S±0°10×147°9E±0°2, h22km, mb4.1/14, Error ellipse: s-maj=31.8km s-min=13.2km az=10.9*

ISC 20 06:27:24.2±1.0, 3°1S±0°1×147°9E±0°3, h22km, n15, σ0°80/15, mb4.1/14, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.31**	**217**	P		**P**	**06 32 09.7**	**0.0**
	15nm,0.8s,baz=42,slow=10,SNR=20							
ASAR	**Alice Springs**	**24.49**	**212**	P		**P**	**06 32 42.9**	**+0.8**
	7.9nm,0.8s,baz=35,slow=7.6,SNR=18							
STKA	**Stephens Creek**	**29.21**	**191**	P		**P**	**06 33 23.9**	**-0.4**
	1.5nm,0.7s,baz=27,slow=9.0,SNR=3.6							
JNU	**Nakatsue**	**39.48**	**337**	P		**P**	**06 34 52.1**	**-1.1**
	15nm,0.8s,baz=139,slow=20,SNR=4.3							
KSRS	**Korea Array**	**44.43**	**337**	P		**P**	**06 35 33.4**	**-0.1**
	2.2nm,0.9s,baz=151,slow=9.3,SNR=4.5							
CMAR	**Chiang Mai Arr**	**52.74**	**296**	P		**P**	**06 36 39.0**	**+1.2**
	1.2nm,0.3s,baz=105,slow=5.7,SNR=6.3							
PETK	**Petropavlovsk-**	**56.63**	**7**	P		**P**	**06 37 06.5**	**+1.0**
	4.4nm,0.9s,baz=166,slow=6.9,SNR=4.2							
SONM	**Songino Array**	**62.36**	**330**	P		**P**	**06 37 45.2**	**-0.1**
	0.9nm,1.0s,baz=108,slow=4.7,SNR=3.5							
MKAR	**Makanchi Array**	**75.87**	**320**	P		**P**	**06 39 09.0**	**0.0**
	0.7nm,0.8s,baz=98,slow=8.7,SNR=3.5							
ZALV	**Zalesovo Beam**	**77.08**	**327**	P		**P**	**06 39 15.1**	**-0.6**
	1.0nm,0.6s,baz=116,slow=3.4,SNR=4.3							
KURBB	**Kurchatov Arra**	**79.49**	**323**	P		**P**	**06 39 28.2**	**-0.8**
	1.1nm,0.9s,baz=104,slow=4.9,SNR=5.6							
ILAR	**Eielson Array**	**82.51**	**23**	P		**P**	**06 39 44.0**	**-0.8**
	0.8nm,0.8s,baz=257,slow=5.1,SNR=6.7							
BVAR	**Borovoye Array**	**84.99**	**324**	P		**P**	**06 39 57.4**	**-0.5**
	1.5nm,0.7s,baz=112,slow=6.6,SNR=6.8							
YKA	**Yellowknife Ar**	**96.23**	**28**	P		**P**	**06 40 51.4**	**+1.0**
	0.6nm,0.8s,baz=275,slow=4.6,SNR=9.5							
TORD	**Torodi Ar. Bea**	**145.13**	**289**	PKPbc		**PKPbc**	**06 46 60.0**	**-0.6**
	1.2nm,0.8s,baz=64,slow=3.6,SNR=5.8							

*IDC **20** 06:28:04.9±1.3, 3°01S×147°79E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/19, mbtmp4.1/8, MS3.1/1, Ms1 3.1/1, ms1mx2.7/28, Error ellipse: s-maj=64.3km s-min=22.4km az=116.0*
*ISCJB **20** 06:28:08.5±1.1, 2°9S±0°2×147°6E±0°4, h32km, mb4.0/8, MS3.1/1, Error ellipse: s-maj=59.5km s-min=16.5km az=25.6*

ISC 20 06:28:10.2±1.4, 2°9S±0°3×147°6E±0°5, h32km, n10, σ0°90/8, mb4.0/8, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.31**	**217**	P		**P**	**06 32 54.1**	**-0.3**
	6.3nm,0.7s,baz=41,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**24.52**	**212**	P		**P**	**06 33 26.8**	**-0.1**
	3.5nm,0.9s,baz=39,slow=7.5,SNR=5.9							
KSRS	**Korea Array**	**44.16**	**337**	LR		LR	06 51 54.8	
	comp=Z,23nm,19.8s,baz=210,slow=32							
PETK	**Petropavlovsk-**	**56.48**	**7**	P		**P**	**06 37 48.5**	**-0.5**
	2.5nm,0.7s,baz=171,slow=9.8,SNR=3.1							
ZALV	**Zalesovo Beam**	**76.78**	**327**	P		**P**	**06 39 58.1**	**-0.4**
	0.4nm,0.5s,baz=80,slow=10,SNR=2.3							
ILAR	**Eielson Array**	**82.44**	**23**	P		**P**	**06 40 27.8**	**-1.2**
	0.6nm,0.8s,baz=248,slow=6.4,SNR=4.2							
BVAR	**Borovoye Array**	**84.69**	**324**	P		**P**	**06 40 41.9**	**+1.0**
	0.6nm,0.6s,baz=113,slow=2.2,SNR=3.1							
INK	**Inuvik**	**88.59**	**21**	P		**P**	**06 41 00.1**	**+0.5**
	2.1nm,1.0s,baz=272,slow=1.9,SNR=4.7							
YKA	**Yellowknife Ar**	**96.18**	**28**	P		**P**	**06 41 35.5**	**+0.8**
	0.7nm,0.8s,baz=274,slow=4.6,SNR=7.2							
TORD	**Torodi Ar. Bea**	**144.83**	**289**	PKPbc		PKPbc	06 47 44.2	+0.1
	2.1nm,1.2s,baz=66,slow=2.9,SNR=3.5							

*IDC **20** 06:33:31.1±1.3, 9°41S×155°98E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, Error ellipse: s-maj=45.3km s-min=24.5km az=112.0*

ISC 20 06:33:37.0±1.5, 9°5S±0°2×155°9E±0°3, h35km, n10, σ1°10/9, mb3.8/9, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**241**	P		**P**	**06 38 41.9**	**+0.3**
	1.4nm,0.8s,baz=64,slow=9.6,SNR=6.1							
ASAR	**Alice Springs**	**25.29**	**234**	P		**P**	**06 39 00.8**	**+0.4**
	0.4nm,0.7s,baz=59,slow=9.0,SNR=4.3							
STKA	**Stephens Creek**	**25.90**	**209**	P		**P**	**06 39 05.0**	**-0.7**
	1.8nm,0.7s,baz=30,slow=13,SNR=2.2							
SONM	**Songino Array**	**71.95**	**327**	P		**P**	**06 44 57.6**	**+0.6**
	1.6nm,0.9s,baz=145,slow=5.7,SNR=7.6							
MKAR	**Makanchi Array**	**85.90**	**319**	P		**P**	**06 46 13.7**	**+0.3**
	1.0nm,0.8s,baz=96,slow=6.6,SNR=6.3							
ZALV	**Zalesovo Beam**	**86.78**	**326**	P		**P**	**06 46 15.9**	**-1.6**
	0.2nm,0.3s,baz=98,slow=6.0,SNR=2.9							
KURBB	**Kurchatov Arra**	**89.40**	**322**	P		**P**	**06 46 28.5**	**-1.5**
	0.2nm,0.4s,baz=82,slow=6.6,SNR=2.6							
BVAR	**Borovoye Array**	**94.85**	**323**	P		**P**	**06 46 54.3**	**-0.9**
	0.6nm,0.8s,baz=126,slow=7.4,SNR=3.2							
YKA	**Yellowknife Ar**	**98.14**	**28**	P		P	06 47 06.8	-3.1
	0.2nm,0.7s,baz=280,slow=4.4,SNR=3.5							
BDFB	**Brasilia**	**145.54**	**136**	PKPbc		**PKPab**	**06 53 13.7**	**+0.7**
	2.6nm,0.6s,baz=238,slow=11,SNR=4.9							

IDC 20 06:42:14.8±6.5, 26°48S×70°88W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/31, mbtmp3.6/2, Error ellipse: s-maj=284.7km s-min=43.9km az=26.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H03N1	**Juan Fernandez**	**9.82**	**223**	T		T		06 54 19.9	
	baz=48,slow=74,SNR=228								
H03N2	**Juan Fernandez**	**9.84**	**223**	T		T		06 54 20.8	
	baz=48,slow=74,SNR=177								
H03N3	**Juan Fernandez**	**9.84**	**223**	T		T		06 54 22.3	
	baz=48,slow=74,SNR=345								
TXAR	**Lajitas Array**	**63.78**	**328**	P		P		06 52 48.9	0.0
	0.1nm,0.6s,baz=153,slow=10.0,SNR=3.0								
TORD	**Torodi Ar. Bea**	**80.72**	**70**	P		P		06 54 30.5	0.0
	0.7nm,0.6s,baz=259,slow=4.8,SNR=10.0								
ZALV	**Zalesovo Beam**	**147.20**	**27**	PKPbc		PKPbc		07 01 59.1	-0.5
	0.7nm,0.5s,baz=342,slow=3.3,SNR=4.2								
MKAR	**Makanchi Array**	**150.67**	**39**	PKPbc		PKPbc		07 02 08.3	-0.5
	0.8nm,0.7s,baz=328,slow=2.6,SNR=8.9								

CASC 20 06:56:53.3±0.9, 9°63N×84°54W, h16km±6km, MD3.5, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.40**	**10**	*e*	P	P	g	06 57 01.6	0.0
CGA2					S	*e*S	b	06 57 07.8	-0.3
QCR	**Quepos**	**0.42**	**119**	*i*	P	P	g	06 57 01.5	-0.3
QCR					S	*e*S	b	06 57 08.5	+0.2
SJS	**Escuela Geolog**	**0.57**	**57**	*e*	P	P	g	06 57 03.8	-1.0
SJS					S	*e*S	b	06 57 13.5	+0.5
JCR	**Jicaral**	**0.61**	**291**	*e*	P	P	g	06 57 04.7	-0.8
JCR					S	*e*S	g	06 57 13.8	+0.1
BUS	**Buena Vista**	**0.77**	**95**	*i*	P	P	b	06 57 08.0	-0.9
BUS					S	*e*S	b	06 57 19.4	-0.1
PTEN	**Parque Tenorio**	**1.17**	**338**	*i*	P	Pn		06 57 14.9	-0.2
VCR	**Vista de Mar**	**1.19**	**295**	*e*	P	Pn		06 57 14.6	-0.8
VCR					S	*e*S	g	06 57 33.0	+0.8
CUI	**Cuipilapa**	**1.20**	**329**	*i*	P	Pn		06 57 14.8	-0.7
CUI					S	*i* S	b	06 57 30.8	-0.3
COLC	**Colonia**	**1.23**	**328**	*i*	P	Pn		06 57 15.1	-0.7
MESS	**Mesas**	**1.28**	**330**	*i*	P	Pn		06 57 16.3	-0.4
MESS					S	*i* S	b	06 57 33.0	-0.6
NY14	**Universidad de**	**1.41**	**316**	*i*	P	Pn		06 57 18.2	-0.1
LAPC	**Finca la Perla**	**1.44**	**322**	*i*	P	Pn		06 57 18.4	-0.3
BUEV	**Buena Vista**	**1.45**	**324**	*i*	P	Pn		06 57 18.6	-0.3
GB1A	**Borinquen Arri**	**1.46**	**324**	*i*	P	Pn		06 57 18.8	-0.3

*IDC **20** 07:08:54.1±0.9, 46°46N×153°27E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/27, mbtmp3.6/9, ML2.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/40, Error ellipse: s-maj=30.1km s-min=22.8km az=109.0*
*ISCJB **20** 07:08:55.9±0.8, 46°5N±0°1×153°3E±0°2, h24km, mb3.6/8, MS3.6/1, Error ellipse: s-maj=24.2km s-min=16.0km az=26.8*

ISC 20 07:08:57.9±1.0, 46°5N±0°2×153°3E±0°2, h24km, n16, σ0°43/9, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.23**	**22**	Pn		**Pn**		**07 10 42.0**	**0.0**
	0.3nm,0.3s,baz=190,slow=14,SNR=2.9								
H11N2	**WAKE ISLAND Hy**	**28.93**	**153**	T		T		07 46 43.9	
	baz=342,slow=77,SNR=5.6								
H11N1	**WAKE ISLAND Hy**	**28.95**	**153**	T		T		07 46 37.8	
	baz=342,slow=77,SNR=3.7								
H11N3	**WAKE ISLAND Hy**	**28.95**	**153**	T		T		07 46 37.6	
	baz=342,slow=77,SNR=4.5								
H11S1	**WAKE ISLAND Hy**	**30.02**	**154**	T		T		07 48 03.0	
	baz=338,SNR=4.9								
H11S3	**WAKE ISLAND Hy**	**30.03**	**154**	T		T		07 48 11.5	
	baz=338,SNR=4.2								
H11S2	**WAKE ISLAND Hy**	**30.04**	**154**	T		T		07 48 00.9	
	baz=338,SNR=3.4								
MKAR	**Makanchi Array**	**47.15**	**298**	P		**P**		**07 17 28.2**	**+0.1**
	0.3nm,0.6s,baz=78,slow=9.0,SNR=3.7								
YKA	**Yellowknife Ar**	**51.09**	**37**	P		**P**		**07 17 57.9**	**0.0**
	0.2nm,0.5s,baz=296,slow=7.1,SNR=7.0								
BVAR	**Borovoye Array**	**51.11**	**310**	P		**P**		**07 17 57.6**	**-0.7**
	0.2nm,0.4s,baz=45,slow=4.9,SNR=2.7								
AAK	**Ala-Archa**	**54.04**	**297**	LR		LR		07 44 08.3	
	comp=Z,46nm,18.1s,baz=9.0,slow=39								
FINES	**FINESS Array B**	**64.33**	**335**	P		**P**		**07 19 31.2**	**+0.2**
	1.1nm,0.6s,baz=33,slow=7.3,SNR=5.1								
WRA	**Warramunga Arr**	**68.29**	**199**	P		**P**		**07 19 56.4**	**-0.4**
	0.6nm,0.8s,baz=14,slow=7.1,SNR=3.2								
AKASG	**Malin Array Be**	**71.83**	**326**	P		**P**		**07 20 18.7**	**+0.5**
	0.4nm,0.4s,baz=33,slow=6.0,SNR=3.4								
ASAR	**Alice Springs**	**71.98**	**199**	P		**P**		**07 20 19.8**	**+0.4**
	0.5nm,0.6s,baz=11,slow=5.2,SNR=7.4								
TXAR	**Lajitas Array**	**77.54**	**61**	P		**P**		**07 20 51.7**	**-0.2**
	0.4nm,0.6s,baz=304,slow=3.8,SNR=6.8								

*NOU **20** 07:11:52.5±1.2, 20°59S×170°02E, h10km, MD3.0, ML4.0*
*IDC **20** 07:11:54.5±4.3, 21°22S×170°01E, h106km±33km, mb3.3/3, mb1 3.6/5, mb1mx3.4/19, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/15, Error ellipse: s-maj=40.4km s-min=31.0km az=12.0*

ISC 20 07:11:52.5±2.0, 21°1S±0°2×170°1E±0°1, h93km±15km, n16, σ0°84/24, mb3.6/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.17**	**251**	*e*	P	**Pn**		**07 12 41.3**	**+0.9**
BAYA					*e*S	**Sn**		**07 13 17.7**	**+0.3**
BAYA					AMP			07 13 26.2	
	comp=Z,46nm,6.2s								
PLUM	**Mont Dore**	**3.43**	**250**	*e*	P	**Pn**		**07 12 44.3**	**+0.5**
PLUM					*e*S	**Sn**		**07 13 22.2**	**-1.3**
PLUM					AMP			07 13 29.0	
	comp=Z,748nm,0.3s								
DZM	**Mont Dzumac**	**3.54**	**254**	P		**Pn**		**07 12 47.1**	**+1.6**
	comp=Z,13nm,0.3s,baz=58,slow=21,SNR=294								
DZM					S	**Sn**		**07 13 26.2**	**-0.2**
	comp=Z,96nm,0.3s,baz=341,slow=23,SNR=8.0								
DZM	**Mont Dzumac**	**3.54**	**254**	*e*	P	**Pn**		**07 12 46.4**	**+0.9**
DZM					*e*S	**Sn**		**07 13 26.3**	**-0.2**
DZM					AMP			07 13 33.1	
	comp=Z,4μm,0.9s								
NORM	**Noumea**	**3.55**	**251**	*e*	P	**Pn**		**07 12 46.4**	**+0.9**
NORM					*e*S	**Sn**		**07 13 26.0**	**-0.5**
NORM					AMP			07 13 29.2	
	comp=Z,654nm,1.8s								
MVNO	**Noumea**	**3.60**	**251**	*e*	P	**Pn**		**07 12 46.6**	**+0.5**
NOUC	**Port Laguerre**	**3.68**	**254**	*e*	P	**Pn**		**07 12 48.4**	**+1.2**
NOUC					*e*S	**Sn**		**07 13 29.7**	**+0.1**
NOUC					AMP			07 13 33.0	
	comp=Z,205nm,2.3s								
URZ	**Urewera**	**18.12**	**162**	P		**P**		**07 15 57.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=29,slow=18,SNR=5.7								
URZ					LR	LR		07 22 13.2	
	comp=Z,92nm,18.1s,baz=330,slow=34								
STKA	**Stephens Creek**	**27.60**	**241**	P		**P**		**07 17 30.0**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=117,slow=13,SNR=4.3								
WRA	**Warramunga Arr**	**33.48**	**266**	P		**P**		**07 18 22.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=98,slow=8.3,SNR=5.0								
WRA					PcP	**PcP**		**07 21 01.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=92,slow=3.7,SNR=4.9								
ASAR	**Alice Springs**	**33.52**	**259**	P		**P**		**07 18 23.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=87,slow=8.9,SNR=10.0								
ASAR					pP	**pP**		**07 18 43.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=84,slow=8.6,SNR=4.3								
ARCES	**ARCESS Array B**	**127.09**	**345**	PKP		**PKPdf**		**07 30 44.8**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=59,slow=3.1,SNR=8.1								
EKA	**Eskdalemuir Ar**	**145.47**	**353**	PKPbc		**PKPdf**		**07 31 19.0**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=340,slow=4.5,SNR=3.6								
GERES	**GERESS Array B**	**146.53**	**331**	PKPbc		**PKPbc**		**07 31 23.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=35,slow=2.1,SNR=11								
DAVOX	**Davos/Dischmat**	**149.78**	**333**	PKPbc		**PKPbc**		**07 31 32.4**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=39,slow=0.9,SNR=5.0								
TORD	**Torodi Ar. Bea**	**166.39**	**236**	PKPab		**PKPab**		**07 32 50.9**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=107,slow=4.2,SNR=3.6								

*ISCJB **20** 07:24:02.6±0.2, 63°39N±0°02×147°40W±0°04, h74km±4km, mb3.2/3, Error ellipse: s-maj=3.1km s-min=3.0km az=146.5*
*NEIC **20** 07:24:03.0, 63°38N×147°42W, h67km, ML3.3(AEIC), After AEIC.*
*IDC **20** 07:24:04.0±3.9, 63°39N×147°32W, h58km±35km, mb2.9/3, mb1 3.2/4, mb1mx3.1/26, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=32.6km s-min=16.9km az=24.0*

ISC 20 07:24:04.0±0.8, 63°39N±0°03×147°40W±0°02, h62km±7km, n76, σ0°81/99, mb3.5/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHY	**Denali Highway**	**0.32**	**177**	P		P	**Pn**	**07 24 13.9**	**-0.7**
DHY				S		S	**Sn**	**07 24 22.0**	**-0.3**
RND	**Reindeer**	**0.65**	**272**	P		P	**Pn**	**07 24 17.6**	**-0.3**
RND				S		S	**Sn**	**07 24 28.5**	**+0.5**
PS10	**TAPS Pump St10**	**0.74**	**87**	P		P	**Pn**	**07 24 18.9**	**+0.1**
PS10				S		S	**Sn**	**07 24 30.3**	**+0.6**
MCK	**McKinley**	**0.77**	**297**	P		P	**Pn**	**07 24 19.0**	**-0.1**
MCK				S		S	**Sn**	**07 24 30.8**	**+0.5**
DDM	**Donnelly Dome**	**0.80**	**59**	P		P	**Pn**	**07 24 20.3**	**+0.8**
DDM				S		S	**Sn**	**07 24 33.1**	**+2.1**
PAX	**Paxson**	**0.97**	**115**	P		P	**Pn**	**07 24 20.9**	**-0.9**
PAX				S		S	**Sn**	**07 24 34.4**	**-0.6**
HDA	**Harding Lake**	**1.04**	**11**	P		P	**Pn**	**07 24 22.8**	**+0.2**
HDA				S		S	**Sn**	**07 24 37.4**	**+0.9**
WRH	**Wood River Hil**	**1.12**	**345**	P		P	**Pn**	**07 24 23.5**	**-0.1**
WRH				S		S	**Sn**	**07 24 38.9**	**+0.5**
PS08	**TAPS Pump Stn8**	**1.18**	**12**	P		P	**Pn**	**07 24 24.4**	**0.0**
PS08				S		S	**Sn**	**07 24 40.1**	**+0.4**
RIDG	**Independ'e Rid**	**1.20**	**72**	P		P	**Pn**	**07 24 24.9**	**+0.1**
RIDG				S		S	**Sn**	**07 24 41.2**	**+1.0**
CCB	**Clear Creek Bu**	**1.27**	**352**	P		P	**Pn**	**07 24 25.4**	**-0.2**
CCB				S		S	**Sn**	**07 24 41.6**	**-0.2**
TRF	**Thorofare Moun**	**1.30**	**274**	P		P	**Pn**	**07 24 26.0**	**-0.1**
TRF				S		S	**Sn**	**07 24 43.5**	**+0.8**
IL1	**Eielson Array**	**1.40**	**9**	P		P	**Pn**	**07 24 26.9**	**-0.5**
IL1				S		S	**Sn**	**07 24 44.4**	**-0.6**
ILAR	**Eielson Array**	**1.40**	**9**	P		P	**Pn**	**07 24 27.0**	**-0.4**
ILAR				S		S	**Sn**	**07 24 44.7**	**-0.2**
ILAR	**Eielson Array**	**1.40**	**9**	P		P	**Pn**	**07 24 27.0**	**-0.4**
	13nm,0.3s,baz=190,slow=14,SNR=780								
ILAR				S		S	**Sn**	**07 24 44.7**	**-0.2**
	70nm,0.3s,baz=189,slow=23,SNR=105								
HARP	**HAARP**	**1.43**	**133**	P		P	**Pn**	**07 24 27.7**	**0.0**
HARP				S		S	**Sn**	**07 24 47.5**	**+1.9**
COLA	**College**	**1.50**	**353**	P		P	**Pn**	**07 24 28.6**	**0.0**
COLA				S		S	**Sn**	**07 24 46.6**	**-0.6**
DOT	**Dot Lake**	**1.52**	**79**	P		P	**Pn**	**07 24 28.4**	**-0.5**
DOT				S		S	**Sn**	**07 24 47.8**	**0.0**
KTH	**Kantishna Hill**	**1.59**	**277**	P		P	**Pn**	**07 24 29.4**	**-0.5**
KTH				S		S	**Sn**	**07 24 49.0**	**-0.4**
PS11	**TAPS Pump St11**	**1.59**	**145**	P		P	**Pn**	**07 24 29.9**	**0.0**
PS11				S		S	**Sn**	**07 24 51.9**	**+2.4**
GLM	**Gilmore Dome**	**1.60**	**0**	P		P	**Pn**	**07 24 30.0**	**-0.1**
MDM	**Murphy Dome**	**1.61**	**347**	P		P	**Pn**	**07 24 30.2**	**0.0**
SCRK	**Sand Creek**	**1.63**	**67**	P		P	**Pn**	**07 24 30.0**	**-0.

EFP				S	Sg	07 32 40.0	-0.4		
KALE	**Kalithea**	**0.12**	**96**	P	Pg	07 32 39.9	+0.1		
KALE				S	Sg	07 32 41.8	+0.1		
KALE	**Kalithea**	**0.12**	**96**	*e*PG	Pg	07 32 40.0	+0.1		
KALE				*e*SG	Sg	07 32 42.4	+0.7		
KALE	**Kalithea**	**0.12**	**96**	P	Pg	07 32 39.9	+0.1		
KALE				S	Sg	07 32 41.8	+0.1		
KALE				*e*Sg	Sg	07 32 42.4	+0.6		
LAKA	**Lakka**	**0.17**	**182**	P	Pg	07 32 40.6	+0.1		
LAKA	**Lakka**	**0.17**	**182**	*e*PG	Pg	07 32 40.6	+0.1		
LAKA	**Lakka**	**0.17**	**182**	P	Pg	07 32 40.6	+0.1		
UPR	**University Cam**	**0.20**	**233**	P	Pg	07 32 41.1	0.0		
UPR	**University Cam**	**0.20**	**233**	P	Pg	07 32 41.1	0.0		
KLV	**Kalavryta, Ach**	**0.38**	**160**	*e*PB	Pg	07 32 44.1	-0.5		
KLV	**Kalavryta, Ach**	**0.38**	**160**	*e*Pb	Pg	07 32 44.1	-0.5		
PVO	**Paravola**	**0.42**	**300**	P	Pg	07 32 44.6	-0.7		
PVO	**Paravola**	**0.42**	**300**	P	Pg	07 32 44.6	-0.7		
DSF	**Desfina**	**0.42**	**89**	P	Pg	07 32 44.6	-0.8		
DSF				S	Sg	07 32 51.3	+0.3		
DSF	**Desfina**	**0.42**	**89**	*e*PG	Pg	07 32 44.8	-0.6		
DSF				*e*SB	Sg	07 32 51.8	+0.8		
DSF	**Desfina**	**0.42**	**89**	*e*Pg	Pg	07 32 44.8	-0.6		
DSF				S	Sg	07 32 51.3	+0.3		
DRO	**Drossia**	**0.50**	**206**	P	Pg	07 32 46.4	-0.4		
DRO				S	Sg	07 32 53.8	+0.4		
DRO	**Drossia**	**0.50**	**206**	*e*PB	Pg	07 32 46.3	-0.5		
DRO				*e*SB	Sg	07 32 53.8	+0.4		
DRO	**Drossia**	**0.50**	**206**	P	Pg	07 32 46.4	-0.4		
DRO				S	Sg	07 32 53.8	+0.4		
EVR	**Evrytania**	**0.53**	**345**	*e*PG	Pg	07 32 46.7	-0.7		
EVR				*e*SB	Sg	07 32 55.2	+0.8		
EVR	**Evrytania**	**0.53**	**345**	*e*Pg	Pg	07 32 46.7	-0.7		
EVR				S	Sg	07 32 54.7	+0.3		
EVR				*e*Sb	Sg	07 32 55.2	+0.8		
RLS	**Riolos of Patr**	**0.54**	**230**	*e*PB	Pg	07 32 47.3	-0.2		
RLS				*e*SB	Sg	07 32 54.7	+0.2		
RLS	**Riolos of Patr**	**0.54**	**230**	*e*Pb	Pg	07 32 47.3	-0.2		
RLS				*e*Sb	Sg	07 32 54.7	+0.2		
GUR	**Goura**	**0.55**	**149**	P	Pg	07 32 46.8	-0.9		
GUR				S	Sg	07 32 55.3	+0.4		
GUR	**Goura**	**0.55**	**149**	*e*PB	Pg	07 32 46.8	-0.9		
GUR				*e*SB	Sg	07 32 55.2	+0.4		
GUR	**Goura**	**0.55**	**149**	P	Pg	07 32 46.8	-0.9		
GUR				*e*Sb	Sg	07 32 55.2	+0.4		
MAKR	**Makrakomi, Fth**	**0.62**	**10**	P	Pg	07 32 48.8	-0.2		
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*PB	Pg	07 32 48.8	-0.2		
MAKR				*e*SB	Sg	07 32 58.0	+0.9		
MAKR	**Makrakomi, Fth**	**0.62**	**10**	P	Pg	07 32 48.8	-0.2		
MAKR				*e*Sb	Sg	07 32 58.0	+0.9		
AXAR	**Agios Charalam**	**0.64**	**55**	P	Pg	07 32 48.8	-0.6		
AXAR	**Agios Charalam**	**0.64**	**55**	P	Pg	07 32 48.8	-0.6		
PDO	**Prodromos**	**0.66**	**287**	P	Pg	07 32 48.9	-0.9		
PDO				S	Sg	07 32 59.2	+0.8		
PDO	**Prodromos**	**0.66**	**287**	*e*PG	Pg	07 32 48.9	-0.9		
PDO	**Prodromos**	**0.66**	**287**	P	Pg	07 32 48.9	-0.9		
PDO				S	Sg	07 32 59.1	+0.7		
AGG	**Agios Georgios**	**0.67**	**23**	P	Pg	07 32 49.4	-0.7		
AGG				S	Sg	07 32 59.4	+0.5		
AGG	**Agios Georgios**	**0.67**	**23**	*e*PB	Pg	07 32 49.1	-1.0		
AGG	**Agios Georgios**	**0.67**	**23**	*e*Pb	Pg	07 32 49.1	-1.0		
AGG	**Agios Georgios**	**0.67**	**23**	P	Pg	07 32 49.4	-0.7		
AGG				S	Sg	07 32 59.4	+0.5		
LKR	**Lokris**	**0.83**	**73**	*e*PB	Pg	07 32 52.1	-1.0		
LKR	**Lokris**	**0.83**	**73**	*e*Pb	Pg	07 32 52.1	-1.0		
LTK	**Loutraki**	**0.86**	**116**	P	Pg	07 32 53.2	-0.4		
LTK	**Loutraki**	**0.86**	**116**	*e*PB	Pg	07 32 53.3	-0.4		
LTK	**Loutraki**	**0.86**	**116**	P	Pg	07 32 53.2	-0.4		
AMT	**Artemida-Makis**	**0.90**	**194**	P	Pg	07 32 53.6	-0.8		
AMT	**Artemida-Makis**	**0.90**	**194**	*e*PB	Pg	07 32 53.7	-0.7		
AMT	**Artemida-Makis**	**0.90**	**194**	P	Pg	07 32 53.7	-0.7		
KFL	**Anninata**	**0.99**	**253**	P	Pg	07 32 55.1	-1.0		
KFL				S	Sb	07 33 09.7	0.0		
KFL	**Anninata**	**0.99**	**253**	P	Pg	07 32 55.1	-1.0		
KFL				S	Sb	07 33 09.7	0.0		
SMIA	**Simia**	**1.07**	**63**	*e*PN	Pg	07 32 57.7	+0.1		
SMIA				*e*SB	Sb	07 33 12.1	+0.1		
SMIA	**Simia**	**1.07**	**63**	*e*Pn	Pg	07 32 57.7	+0.1		
SMIA				*e*Sb	Sb	07 33 12.1	+0.1		
VLX	**Vlachokerasia**	**1.08**	**163**	P	Pg	07 32 56.4	-1.4		
VLX	**Vlachokerasia**	**1.08**	**163**	*e*PG	Pg	07 32 56.3	-1.5		
VLX				*e*SB	Sg	07 33 11.8	0.0		
VLX	**Vlachokerasia**	**1.08**	**163**	P	Pg	07 32 56.4	-1.4		
VLX				*e*Sb	Sg	07 33 11.8	0.0		
LKD2	**Lefkada island**	**1.11**	**291**	P	Pg	07 32 57.2	-1.2		
LKD2				S	Sb	07 33 13.8	+0.6		
LKD2	**Lefkada island**	**1.11**	**291**	P	Pg	07 32 57.2	-1.2		
LKD2				S	Sb	07 33 13.8	+0.6		
VLS	**Valsamata**	**1.12**	**259**	*e*PG	Pg	07 32 56.8	-1.8		
VLS				*e*SB	Sb	07 33 14.3	+0.8		
VLS	**Valsamata**	**1.12**	**259**	*e*Pg	Pg	07 32 56.8	-1.8		
VLS				*e*Sb	Sb	07 33 14.3	+0.8		
THL	**Klokotos Trika**	**1.16**	**1**	*e*PB	Pg	07 32 58.9	-0.4		
THL				*e*SB	Sn	07 33 15.6	0.0		
THL	**Klokotos Trika**	**1.16**	**1**	*e*Pb	Pg	07 32 58.9	-0.4		
THL				*e*Sb	Sn	07 33 15.6	0.0		
ITM	**Ithomi**	**1.22**	**182**	*e*PN	Pb	07 32 59.1	-1.4		
ITM	**Ithomi**	**1.22**	**182**	*e*Pn	Pb	07 32 59.1	-1.4		
MRKA	**Markates**	**1.29**	**76**	*e*PN	Pn	07 33 00.6	-0.8		
MRKA				*e*SB	Sn	07 33 19.7	+0.8		
MRKA	**Markates**	**1.29**	**76**	*e*Pn	Pn	07 33 00.6	-0.8		
MRKA				*e*Sb	Sn	07 33 19.7	+0.8		
DID	**Didima**	**1.33**	**132**	P	Pn	07 33 01.7	-0.3		
DID	**Didima**	**1.33**	**132**	*e*PB	Pn	07 33 02.0	-0.1		
DID				*e*SB	Sn	07 33 21.1	+1.1		
DID	**Didima**	**1.33**	**132**	P	Pn	07 33 01.7	-0.3		
DID	**Didima**	**1.33**	**132**	*e*Pb	Pn	07 33 02.0	-0.1		
DID				S	Sg	07 33 20.3	+0.3		
DID				*e*Sb	Sg	07 33 21.1	+1.1		
XOR	**Xorichti**	**1.34**	**44**	*e*PG	Pn	07 33 01.6	-0.6		
XOR	**Xorichti**	**1.34**	**44**	*e*Pg	Pn	07 33 01.6	-0.6		
NAIG	**Nisos Aigina**	**1.35**	**118**	*e*PB	Pn	07 33 02.0	-0.2		
NAIG	**Nisos Aigina**	**1.35**	**118**	*e*Pb	Pn	07 33 02.0	-0.2		
SKIA	**Skiathos**	**1.38**	**56**	*e*PN	Pn	07 33 02.3	-0.4		
SKIA	**Skiathos**	**1.38**	**56**	*e*Pn	Pn	07 33 02.3	-0.4		
ATH	**Athens Observa**	**1.43**	**107**	*e*PG	Pn	07 33 03.0	-0.3		
ATH				*e*SB	Sg	07 33 23.2	+0.2		
ATH	**Athens Observa**	**1.43**	**107**	*e*Pg	Pn	07 33 03.0	-0.3		
ATH				*e*Sb	Sg	07 33 23.2	+0.2		
ERET	**Eretria**	**1.43**	**88**	P	Pn	07 33 03.2	-0.2		
ERET	**Eretria**	**1.43**	**88**	P	Pn	07 33 03.2	-0.2		
MEV	**Metsovon**	**1.50**	**337**	P	Pn	07 33 04.3	-0.2		
MEV	**Metsovon**	**1.50**	**337**	P	Pn	07 33 04.3	-0.2		
PYL	**PYLOS**	**1.52**	**187**	*e*PG	Pn	07 33 04.5	-0.1		
PYL	**PYLOS**	**1.52**	**187**	*e*Pg	Pn	07 33 04.5	-0.1		
PTL	**Penteli**	**1.52**	**103**	*e*PB	Pn	07 33 04.5	-0.1		
PTL				*e*SB	Sg	07 33 26.1	+0.1		
PTL	**Penteli**	**1.52**	**103**	*e*Pb	Pn	07 33 04.5	-0.1		
PTL				*e*Sb	Sg	07 33 26.1	+0.1		
LIT	**Litokhoron**	**1.74**	**13**	*e*PN	Pn	07 33 08.2	+0.6		
LIT	**Litokhoron**	**1.74**	**13**	*e*Pn	Pn	07 33 08.2	+0.6		
KYTH	**Kithira**	**2.28**	**158**	*e*PN	Pn	07 33 16.8	+1.8		
KYTH	**Kithira**	**2.28**	**158**	*e*Pn	Pn	07 33 16.8	+1.8		
APE	**Apeiranthos**	**3.11**	**114**	*i*P	Pn	07 33 26.6	+0.1		
APE	**Apeiranthos**	**3.11**	**114**	*i*P	Pn	07 33 26.6	+0.1		
MMB	**Musomiste**	**3.45**	**22**	*i*P	Pn	07 33 31.5	+0.3		
MMB	**Musomiste**	**3.45**	**22**	*i*P	Pn	07 33 31.5	+0.3		
IDI	**Anoyia**	**3.88**	**142**	Pn	Pn	07 33 37.8	+0.7		
	1.9nm,0.3s,baz=37,slow=13,SNR=8.9								
IDI				Sn	Sn	07 34 23.3	+0.3		
	4.0nm,0.3s,baz=277,slow=21,SNR=6.0								
VTS	**Vitosha**	**4.28**	**12**	*i*P	Pn	07 33 46.4	+3.7		
VTS	**Vitosha**	**4.28**	**12**	*i*P	Pn	07 33 46.4	+3.7		
IVAS	**Ivanjica**	**5.35**	**346**	*e*Pn	Pn	07 33 59.7	+2.4		
MLR	**Muntele Rosu**	**7.67**	**21**	*i*P	Pn	07 34 38.4	+9.2		
MLR	**Muntele Rosu**	**7.67**	**21**	Pn	Pn	07 34 32.3	+3.2		
	0.0nm,0.3s,baz=191,slow=10,SNR=2.4								
NVLJ	**Novalja**	**8.14**	**321**	*i* Pn	Pn	07 34 31.2	-4.3		
BRTR	**Keskin Array B**	**9.16**	**78**	Pn	Pn	07 34 52.2	+2.6		
	0.2nm,0.3s,baz=261,slow=13,SNR=5.7								
MDT	**Midelt**	**22.30**	**264**	LR	LR	07 47 05.7			
	comp=Z,35nm,18.7s,baz=12,slow=39								
FINES	**FINESS Array B**	**23.20**	**5**	P	**P**	07 37 42.5	-1.6		
	1.4nm,0.8s,baz=181,slow=15,SNR=3.3								
NOA	**NORSAR Array B**	**23.64**	**347**	P	**P**	07 37 47.7	-0.9		
	0.5nm,0.7s,baz=172,slow=12,SNR=3.3								
TORD	**Torodi Ar. Bea**	**30.95**	**221**	P	**P**	07 38 54.2	-0.5		
	0.7nm,0.5s,baz=33,slow=8.8,SNR=7.4								
KURBB	**Kurchatov Arra**	**41.16**	**54**	P	**P**	07 40 20.5	-1.2		
	0.2nm,0.5s,baz=283,slow=9.0,SNR=2.9								
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	07 40 45.5	-1.0		
	0.3nm,0.4s,baz=276,slow=7.9,SNR=7.9								
SONM	**Songino Array**	**59.42**	**51**	LR	LR	08 13 02.4			
	comp=Z,54nm,18.6s,baz=174,slow=41								

IDC 20 07:33:49.3±7.4, 6°.84S×149°.14E, h85km±52km, mb2.9/1, mb1 3.2/3, mb1mx3.0/18, mbtmp3.3/3, ML3.2/2, MS2.5/1, Ms1 2.5/1, ms1mx2.4/7, Error ellipse: s-maj=115.3km s-min=53.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**217**	P	Pn	07 34 37.1	-0.6
	10nm,0.3s,baz=31,slow=14,SNR=18						
PMG				S	Sn	07 35 16.3	+1.2
	6.4nm,0.3s,baz=31,slow=14,SNR=5.3						
PMG				LR	LR	07 35 29.2	
	comp=Z,68nm,18.0s,baz=345,slow=31						
WRA	**Warramunga Arr**	**19.39**	**226**	P	P	07 38 08.1	-0.6
	0.1nm,0.3s,baz=52,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**22.23**	**220**	P	P	07 38 38.3	-0.9
	0.4nm,0.5s,baz=52,slow=9.7,SNR=10						
TORD	**Torodi Ar. Bea**	**147.35**	**284**	PKPbc	PKPbc	07 53 24.2	-0.1
	0.3nm,0.5s,baz=76,slow=2.1,SNR=3.3						

IDC 20 07:38:12.5±1.7, 2°.54N×128°.39E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=140.0km s-min=20.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.10**	**166**	P	P	07 43 20.5	+0.3
	0.6nm,0.4s,baz=345,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.60**	**169**	P	P	07 43 52.0	-0.7
	0.1nm,0.3s,baz=346,slow=7.3,SNR=5.2						
STKA	**Stephens Creek**	**36.46**	**161**	P	P	07 45 19.2	-0.1
	2.0nm,0.5s,baz=355,slow=9.2,SNR=4.8						
MKAR	**Makanchi Array**	**59.47**	**325**	P	P	07 48 18.8	+1.5
	0.3nm,0.5s,baz=110,slow=8.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**63.63**	**327**	P	P	07 48 44.5	-0.8
	0.3nm,0.6s,baz=125,slow=6.0,SNR=3.0						

*ISCJB **20** 07:54:32.5±0.3, 38°.43N±0°.01×21°.96E±0°.02, h5km±2km, Error ellipse: s-maj=2.4km s-min=2.3km az=163.4*
*ATH **20** 07:54:32.9, 38°.42N×21°.98E, h5km, ML2.9*
*THE **20** 07:54:32.8, 38°.43N×21°.97E, h6km, ML3.3/7, Error ellipse: s-maj=0.9km s-min=0.3km az=310.0*
*CSEM **20** 07:54:32.7±0.1, 38°.42N×21°.97E, h2km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.7km az=83.0*
*SKO **20** 07:54:34.5, 38°.49N×22°.14E, h1km*

ISC 20 07:54:32.7±0.8, 38°.43N±0°.01×21°.97E±0°.01, h6km±4km, n83, σ0°.56/144, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.05**	**269**	P	Pg	07 54 34.1	-0.1
EFP				S	Sg	07 54 35.0	-0.2
EFP	**Efpalio**	**0.05**	**269**	*e*PG	Pg	07 54 34.2	0.0
EFP				*e*SG	Sg	07 54 35.3	+0.1
EFP	**Efpalio**	**0.05**	**269**	P	Pg	07 54 34.2	0.0
EFP				*e*Sg	Sg	07 54 35.3	+0.1
KALE	**Kalithea**	**0.14**	**105**	P	Pg	07 54 36.1	+0.4
KALE				S	Sg	07 54 38.5	+0.8
KALE	**Kalithea**	**0.14**	**105**	*e*PG	Pg	07 54 36.2	+0.5
KALE				*e*SG	Sg	07 54 38.3	+0.6
KALE	**Kalithea**	**0.14**	**105**	P	Pg	07 54 36.1	+0.4
KALE				S	Sg	07 54 38.4	+0.8
LAKA	**Lakka**	**0.19**	**177**	P	Pg	07 54 36.8	+0.3
LAKA	**Lakka**	**0.19**	**177**	*e*PG	Pg	07 54 36.9	+0.4
LAKA	**Lakka**	**0.19**	**177**	P	Pg	07 54 36.8	+0.3
UPR	**University Cam**	**0.20**	**225**	P	Pg	07 54 37.2	+0.5
UPR				S	Sg	07 54 40.0	+0.6
UPR	**University Cam**	**0.20**	**225**	P	Pg	07 54 37.2	+0.5
UPR				S	Sg	07 54 40.0	+0.6
PVO	**Paravola**	**0.39**	**299**	P	Pg	07 54 40.2	-0.2
PVO				S	Sg	07 54 46.2	+0.7
KLV	**Kalavryta, Ach**	**0.41**	**159**	P	Pg	07 54 40.5	-0.2
KLV				S	Sg	07 54 46.5	+0.4
KLV	**Kalavryta, Ach**	**0.41**	**159**	*e*PG	Pg	07 54 40.4	-0.2
KLV	**Kalavryta, Ach**	**0.41**	**159**	P	Pg	07 54 40.5	-0.2
KLV				S	Sg	07 54 46.5	+0.4
DSF	**Desfina**	**0.44**	**92**	P	Pg	07 54 41.0	-0.3
DSF				S	Sg	07 54 47.6	+0.5
DSF	**Desfina**	**0.44**	**92**	*e*PG	Pg	07 54 41.0	-0.3
DSF				*e*SB	Sg	07 54 47.5	+0.5
DSF	**Desfina**	**0.44**	**92**	P	Pg	07 54 41.0	-0.3
DSF				*e*SB	Sg	07 54 47.5	+0.5
EVR	**Evrytania**	**0.50**	**346**	P	Pg	07 54 42.3	-0.2
EVR				S	Sg	07 54 49.5	+0.4
EVR	**Evrytania**	**0.50**	**346**	*e*PB	Pg	07 54 42.5	0.0
EVR				*e*SB	Sg	07 54 50.1	+1.0
EVR	**Evrytania**	**0.50**	**346**	*e*Pb	Pg	07 54 42.5	0.0
EVR				S	Sg	07 54 49.5	+0.4
EVR				*e*Sb	Sg	07 54 50.1	+1.0
DRO	**Drossia**	**0.52**	**203**	P	Pg	07 54 42.6	-0.1
DRO				S	Sg	07 54 49.8	+0.4
DRO	**Drossia**	**0.52**	**203**	*e*PB	Pg	07 54 42.8	+0.1
DRO				*e*SB	Sg	07 54 50.2	+0.8
DRO	**Drossia**	**0.52**	**203**	P	Pg	07 54 42.8	+0.1
DRO				S	Sg	07 54 49.7	+0.4
DRO				*e*Sb	Sg	07 54 50.2	+0.8
RLS	**Riolos of Patr**	**0.54**	**227**	P	Pg	07 54 43.2	+0.1
RLS				S	Sg	07 54 51.3	+1.2
RLS	**Riolos of Patr**	**0.54**	**227**	*e*PG	Pg	07 54 43.2	+0.1
RLS				*e*SB	Sg	07 54 51.3	+1.2
RLS	**Riolos of Patr**	**0.54**	**227**	P	Pg	07 54 43.2	+0.1
RLS				S	Sg	07 54 51.3	+1.2
GUR	**Goura**	**0.57**	**149**	P	Pg	07 54 43.3	-0.5
GUR				S	Sg	07 54 51.9	+0.6
GUR	**Goura**	**0.57**	**149**	*e*PG	Pg	07 54 43.4	-0.4
GUR				*e*SB	Sg	07 54 52.2	+0.9
GUR	**Goura**	**0.57**	**149**	*e*Pg	Pg	07 54 43.4	-0.4
GUR				S	Sg	07 54 51.9	+0.6
GUR				*e*Sb	Sg	07 54 52.2	+0.9
MAKR	**Makrakomi, Fth**	**0.60**	**12**	P	Pg	07 54 44.6	+0.3
MAKR				S	Sg	07 54 53.0	+0.9
MAKR	**Makrakomi, Fth**	**0.60**	**12**	*e*PB	Pg	07 54 44.6	+0.3
MAKR				*e*SB	Sg	07 54 52.7	+0.6
MAKR	**Makrakomi, Fth**	**0.60**	**12**	P	Pg	07 54 44.6	+0.3
MAKR				*e*Sb	Sg	07 54 52.7	+0.6
MAKR				S	Sg	07 54 53.0	+0.9
PDO	**Prodromos**	**0.64**	**286**	P	Pg	07 54 45.4	+0.5
PDO				S	Sg	07 54 54.1	+0.8
PDO	**Prodromos**	**0.64**	**286**	*e*PB	Pg	07 54 45.5	+0.5
PDO				*e*SB	Sb	07 54 55.1	-0.3
PDO	**Prodromos**	**0.64**	**286**	P	Pg	07 54 45.1	+0.1
PDO	**Prodromos**	**0.64**	**286**	*e*Pb	Pg	07 54 45.5	+0.5
PDO				S	Sg	07 54 54.1	+0.8
PDO				*e*Sb	Sb	07 54 55.1	-0.3
AXAR	**Agios Charalam**	**0.64**	**58**	P	Pg	07 54 44.7	-0.3
AXAR				S	Sg	07 54 54.1	+0.7
AXAR	**Agios Charalam**	**0.64**	**58**	P	Pg	07 54 44.7	-0.3
AXAR				S	Sg	07 54 54.1	+0.7
AGG	**Agios Georgios**	**0.66**	**26**	P	Pg	07 54 45.5	+0.1
AGG	**Agios Georgios**	**0.66**	**26**	*e*PB	Pg	07 54 45.6	+0.1
AGG	**Agios Georgios**	**0.66**	**26**	P	Pg	07 54 45.5	+0.1
LKR	**Lokris**	**0.84**	**74**	P	Pg	07 54 48.4	-0.4
LKR				S	Sb	07 55 01.0	-0.2
LKR	**Lokris**	**0.84**	**74**	*e*PG	Pg	07 54 48.5	-0.4
LKR				*e*SB	Sb	07 55 01.0	-0.2
LKR	**Lokris**	**0.84**	**74**	*e*Pg	Pg	07 54 48.5	-0.4
LKR				S	Sb	07 55 01.0	-0.2
LTK	**Loutraki**	**0.89**	**117**	P	Pg	07 54 49.7	0.0
LTK				S	Sb	07 55 02.6	0.0
LTK	**Loutraki**	**0.89**	**117**	*e*PB	Pg	07 54 50.2	+0.5
LTK	**Loutraki**	**0.89**	**117**	P	Pg	07 54 49.7	0.0
LTK	**Loutraki**	**0.89**	**117**	*e*Pb	Pg	07 54 50.2	+0.5
LTK				S	Sb	07 55 02.6	0.0
AMT	**Artemida-Makis**	**0.92**	**193**	P	Pg	07 54 50.5	+0.2
AMT				S	Sb	07 55 04.1	+0.7
AMT	**Artemida-Makis**	**0.92**	**193**	*e*PG	Pg	07 54 50.0	-0.3
AMT	**Artemida-Makis**	**0.92**	**193**	*e*Pg	Pg	07 54 50.0	-0.3
AMT	**Artemida-Makis**	**0.92**	**193**	P	Pg	07 54 50.5	+0.2
AMT				S	Sb	07 55 04.1	+0.7
KFL	**Anninata**	**0.98**	**251**	P	Pg	07 54 51.1	-0.4
KFL	**Anninata**	**0.98**	**251**	P	Pg	07 54 51.1	-0.4
SMIA	**Simia**	**1.07**	**65**	*e*PG	Pg	07 54 52.8	-0.5
SMIA				*e*SB	Sb	07 55 08.2	+0.2
SMIA	**Simia**	**1.07**	**65**	*e*Pg	Pg	07 54 52.8	-0.5
SMIA				*e*Sb	Sb	07 55 08.2	+0.2
LKD2	**Lefkada island**	**1.09**	**290**	P	Pg	07 54 52.8	-0.8
LKD2				S	Sg	07 55 08.5	+0.8
LKD2	**Lefkada island**	**1.09**	**290**	P	Pg	07 54 52.8	-0.8
LKD2				S	Sg	07 55 08.5	+0.8
VLX	**Vlachokerasia**	**1.10**	**163**	P	Pg	07 54 52.7	-1.2
VLX	**Vlachokerasia**	**1.10**	**163**	*e*PG	Pg	07 54 52.8	-1.2
VLX	**Vlachokerasia**	**1.10**	**163**	*e*Pg	Pg	07 54 52.8	-1.2
THL	**Klokotos Trika**	**1.14**	**2**	P	Pg	07 54 54.0	-0.5
THL				S	Sb	07 55 10.6	+0.8
THL	**Klokotos Trika**	**1.14**	**2**	*e*PG	Pg	07 54 54.1	-0.5
THL				*e*SB	Sn	07 55 11.0	0.0
THL	**Klokotos Trika**	**1.14**	**2**	*e*Pg	Pg	07 54 54.1	-0.5
THL				S	Sb	07 55 10.6	+0.8
THL				*e*Sb	Sn	07 55 11.0	0.0
ITM	**Ithomi**	**1.25**	**181**	P	Pg	07 54 55.9	-0.7
ITM				S	Sb	07 55 13.7	+0.8
ITM	**Ithomi**	**1.25**	**181**	*e*PN	Pg	07 54 55.7	-0.9
ITM	**Ithomi**	**1.25**	**181**	P	Pg	07 54 55.9	-0.7
ITM				S	Sb	07 55 13.7	+0.8
MRKA	**Markates**	**1.30**	**77**	*e*PB	Pn	07 54 57.2	-0.2
MRKA	**Markates**	**1.30**	**77**	*e*Pb	Pn	07 54 57.2	-0.2
XOR	**Xorichti**	**1.34**	**45**	*e*PB	Pg	07 54 58.5	+0.1
XOR	**Xorichti**	**1.34**	**45**	*e*Pb	Pg	07 54 58.5	+0.1
DID	**Didima**	**1.36**	**132**	P	Pn	07 54 58.2	-0.1
DID				S	Sb	07 55 16.3	0.0
DID	**Didima**	**1.36**	**132**	*e*PB	Pn	07 54 58.2	-0.1
DID				*e*SB	Sb	07 55 16.5	+0.2
DID	**Didima**	**1.36**	**132**	P	Pn	07 54 58.2	-0.1
DID				*e*Sb	Sb	07 55 16.5	+0.2
NAIG	**Nisos Aigina**	**1.38**	**119**	*e*PB	Pn	07 54 58.5	+0.1
NAIG	**Nisos Aigina**	**1.38**	**119**	*e*Pb	Pn	07 54 58.5	+0.1
ATH	**Athens Observa**	**1.45**	**108**	*e*PB	Pg	07 55 01.1	+0.5
ATH				*e*SB	Sg	07 55 20.6	+1.2
ATH	**Athens Observa**	**1.45**	**108**	*e*Pb	Pg	07 55 01.1	+0.5
ATH				*e*Sb	Sg	07 55 20.6	+1.2
PYL	**PYLOS**	**1.54**	**187**	*e*PG	Pn	07 55 00.8	+0.1
PYL	**PYLOS**	**1.54**	**187**	*e*Pg	Pn	07 55 00.8	+0.1
KYTH	**Kithira**	**2.31**	**158**	*e*PN	Pb	07 55 13.7	-1.0
KYTH	**Kithira**	**2.31**	**158**	*e*Pn	Pb	07 55 13.7	-1.0

IDC 20 07:58:27.4±44.0, 15°.66S×174°.00W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.9/19, mbtmp4.5/3, MS4.3/2, Ms1 4.3/2, ms1mx3.2/25, Error ellipse: s-maj=834.6km s-min=159.1km az=78.0, Tonga Islands

| Code | Station Name | Δ° | AZ° | Phase | ID |

KSAR	**Wonju Array Be**	**44.35 337**	P		**P**	08 19 06.6	+0.1
CMAR	**Chiang Mai Arr**	**52.64 296**	P		**P**	08 20 11.2	+0.4
CMAR	**Chiang Mai Arr**	**52.64 296**	P		**P**	08 20 11.2	+0.4
	1.5nm,0.3s,baz=113,slow=6.0,SNR=6.9						
CMAR			LR		LR	08 43 51.8	
	comp=Z,26nm,18.8s,baz=108,slow=38						
PEA0B	**Petropavlovsk-**	**56.58 7**	*e*P		**P**	08 20 39.0	+0.2
PETK	**Petropavlovsk-**	**56.58 7**	P		**P**	08 20 39.5	+0.7
PETK	**Petropavlovsk-**	**56.58 7**	P		**P**	08 20 39.5	+0.7
	8.0nm,0.9s,baz=164,slow=7.1,SNR=21						
PETK			LR		LR	08 41 24.0	
	comp=Z,88nm,21.9s,baz=183,slow=32						
SONM	**Songino Array**	**62.27 330**	P		**P**	08 21 18.9	+0.6
SONM	**Songino Array**	**62.27 330**	P		**P**	08 21 18.9	+0.6
	0.7nm,0.8s,baz=136,slow=5.8,SNR=4.8						
VNDA	**Vanda**	**74.78 177**	P		**P**	08 22 35.5	-0.3
VNDA	**Vanda**	**74.78 177**	P		**P**	08 22 35.5	-0.3
	2.1nm,0.7s,baz=339,slow=5.8,SNR=4.0						
MKAR	**Makanchi Array**	**75.77 320**	P		**P**	08 22 42.2	+0.1
MKAR	**Makanchi Array**	**75.77 320**	P		**P**	08 22 42.2	+0.1
	2.0nm,1.1s,baz=114,slow=5.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**76.98 327**	P		**P**	08 22 48.5	-0.3
ZALV	**Zalesovo Beam**	**76.98 327**	P		**P**	08 22 48.5	-0.3
	0.7nm,0.7s,baz=188,slow=7.5,SNR=4.2						
AAK	**Ala-Archa**	**79.87 314**	LR		LR	08 57 31.6	
	comp=Z,38nm,21.2s,baz=94,slow=35						
ILAR	**Eielson Array**	**82.48 23**	P		**P**	08 23 17.7	-0.8
ILAR	**Eielson Array**	**82.48 23**	P		**P**	08 23 17.7	-0.8
	1.6nm,0.8s,baz=257,slow=4.9,SNR=13						
MAW	**Mawson**	**85.25 203**	LR		LR	09 01 12.1	
	comp=Z,43nm,18.3s,baz=87,slow=35						
AKTO	**Aktyubinsk**	**92.20 320**	LR		LR	09 06 06.9	
	comp=Z,29nm,18.6s,slow=36						
NVAR	**Mina Array Bea**	**94.94 52**	P		**P**	08 24 19.2	0.0
NVAR	**Mina Array Bea**	**94.94 52**	P		**P**	08 24 19.2	0.0
	1.5nm,1.0s,baz=235,slow=7.9,SNR=5.0						
YKA	**Yellowknife Ar**	**96.22 28**	P		**P**	08 24 24.2	+0.1
YKA	**Yellowknife Ar**	**96.22 28**	P		**P**	08 24 24.2	+0.1
	1.7nm,0.9s,baz=274,slow=4.6,SNR=18						
GERES	**GERESS Array B**	**119.93 327**	PKP		**PKPdf**	08 29 47.0	0.0
GERES	**GERESS Array B**	**119.93 327**	PKP		**PKPdf**	08 29 47.0	0.0
	0.8nm,1.0s,baz=25,slow=3.2,SNR=4.0						
PLCA	**Paso Flores**	**124.09 145**	PKP		**PKPdf**	08 29 55.0	-0.2
PLCA	**Paso Flores**	**124.09 145**	PKP		**PKPdf**	08 29 55.0	-0.2
	1.7nm,0.9s,baz=115,slow=9.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**145.03 289**	PKPbc		**PKPbc**	08 30 32.6	-1.4
TORD	**Torodi Ar. Bea**	**145.03 289**	PKPbc		**PKPbc**	08 30 32.6	-1.4
	2.8nm,1.1s,baz=64,slow=3.3,SNR=9.3						

ISCJB ***20*** *08:16:43.3±0.5, 11°.19N±0°.02×61°.88W±0°.03, h81km±8km, Error ellipse: s-maj=5.8km s-min=3.1km az=32.1*
FUNV ***20*** *08:16:44.7, 11°.18N×61°.74W, h57km, MW3.1*
TRN ***20*** *08:16:45.2, 11°.22N×61°.83W, h67km, MD3.8*

ISC 20 08:16:43.8±1.3, 11°.18N±0°.03×61°.86W±0°.04, h80km±11km, n30, σ1°07/52, 5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.49**	**168**	⇓*i*P		**Pn**		**08 16 58.2**	**+0.6**
GUIV	**Guiria**	**0.64**	**214**	⇓*e*P		**Pn**		**08 16 58.3**	**-0.6**
GUIV				*e*S		**Sn**		**08 17 09.1**	**-1.0**
TRN	**Trinidad (W)**	**0.69**	**140**	⇓*i*P		**Pn**		**08 17 00.2**	**+0.7**
TRN				*e*S		**Sn**		**08 17 10.1**	**-1.0**
TPP	**Pointe-a-Pierr**	**0.95**	**155**	*e*P		**Pn**		**08 17 03.9**	**+1.6**
TPP				*e*S		**Sn**		**08 17 16.6**	**+0.5**
GRW	**Mount Saint Ca**	**0.99**	**11**	*e*P		**Pn**		**08 17 03.2**	**+0.3**
TBH	**Brigand Hill**	**1.04**	**132**	*e*P		**Pn**		**08 17 05.1**	**+1.6**
TBH				*e*S		**Sn**		**08 17 18.3**	**+0.2**
GRHS	**Sauteurs**	**1.06**	**12**	*e*P		**Pn**		**08 17 03.7**	**+0.1**
GRHS				*e*S		**Sn**		**08 17 17.6**	**-0.8**
TPR	**Prospect**	**1.06**	**90**	*e*P		**Pn**		**08 17 03.6**	**0.0**
TPR				*e*S		**Sn**		**08 17 19.0**	**+0.5**
BOT	**Bacolet**	**1.12**	**91**	*e*P		**Pn**		**08 17 04.6**	**+0.2**
BOT				*e*S		**Sn**		**08 17 20.4**	**+0.6**
GRSS	**Sisters**	**1.14**	**12**	*e*P		**Pn**		**08 17 04.9**	**+0.4**
GRSS				*e*S		**Sn**		**08 17 19.3**	**-0.8**
TOSP	**Speyside**	**1.30**	**85**	*e*P		**Pn**		**08 17 06.4**	**-0.2**
TOSP				*e*S		**Sn**		**08 17 22.8**	**-1.1**
CRUV	**Carupano**	**1.44**	**250**	⇓*e*P		**Pn**		**08 17 08.9**	**+0.5**
CRUV				*e*S		**Sn**		**08 17 26.9**	**-0.1**
GUNV	**Guanoco**	**1.47**	**227**	⇓*e*P		**Pn**		**08 17 09.7**	**+1.0**
GUNV				*e*S		**Sn**		**08 17 29.0**	**+1.4**
FCV	**Fort Charlotte**	**2.05**	**17**	*e*P		**Pn**		**08 17 17.3**	**+0.8**
FCV				*e*S		**Sn**		**08 17 40.5**	**-0.9**
SVB	**Belmont**	**2.16**	**16**	*e*P		**Pn**		**08 17 18.6**	**+0.7**
SVB				*e*S		**Sn**		**08 17 43.7**	**-0.2**
SVV	**Soufriere Volc**	**2.21**	**16**	*e*P		**Pn**		**08 17 19.5**	**+0.8**
SVV				*e*S		**Sn**		**08 17 44.8**	**-0.5**
BHS	**Barnard House**	**2.22**	**19**	*e*P		**Pn**		**08 17 20.1**	**+1.4**
BHS				*e*S		**Sn**		**08 17 44.2**	**-1.1**
SSV	**Crater Summit**	**2.23**	**17**	*e*P		**Pn**		**08 17 19.6**	**+0.7**
SSV				*e*S		**Sn**		**08 17 45.7**	**0.0**
MCLT	**Moule a Chique**	**2.67**	**20**	*e*P		**Pn**		**08 17 25.0**	**+0.3**
MCLT				*e*S		**Sn**		**08 17 55.5**	**-0.6**
SLB	**Belfond**	**2.75**	**17**	*e*P		**Pn**		**08 17 26.3**	**+0.4**
SLB				*e*S		**Sn**		**08 17 56.3**	**-1.8**
PCRV	**Puerto La Cruz**	**2.91**	**250**	*e*P		**Pn**		**08 17 28.9**	**+0.9**
PCRV				*e*S		**Sn**		**08 18 01.8**	**-0.2**
RIOV	**Rio Grande**	**3.09**	**179**	*e*P		**Pn**		**08 17 31.2**	**+0.7**
RIOV				*e*S		**Sn**		**08 18 03.4**	**-3.0**
PRGV	**PARIAGUAN**	**3.65**	**229**	*e*P		**Pn**		**08 17 38.6**	**+0.5**
PRGV				*e*S		**Sn**		**08 18 18.6**	**-1.4**
CUPV	**Cœpira**	**4.02**	**254**	*e*P		**Pn**		**08 17 43.9**	**+0.7**
CUPV				*e*S		**Sn**		**08 18 27.9**	**-1.2**
MLG	**Mont-d'or**	**4.85**	**2**	*e*P		**Pn**		**08 17 57.2**	**+2.7**
LZG	**Guadaloupe-1**	**4.93**	**1**	*e*P		**Pn**		**08 17 57.2**	**+1.7**
LUEV	**Luepa**	**5.32**	**176**	*e*P		**Pn**		**08 17 59.9**	**-1.0**
TURV	**Turiamo**	**5.92**	**264**	*e*P		**Pn**		**08 18 10.2**	**+1.2**
BAUV	**El Baul**	**6.48**	**250**	*e*P		**Pn**		**08 18 16.9**	**+0.3**
SOCV	**Socops**	**9.32**	**253**	*e*P		**Pn**		**08 18 54.6**	**-0.9**

ISCJB ***20*** *08:28:38.9±1.5, 16°.9S±0°.4×174°.1W±0°.3, h111km, mb3.8/7, Error ellipse: s-maj=69.6km s-min=14.3km az=141.6*
IDC ***20*** *08:28:40.0±3.5, 16°.94S×173°.98W, h108km±28km, mb3.6/7, mb1 3.8/8, mb1mx3.6/28, mbtmp4.0/8, Error ellipse: s-maj=72.1km s-min=16.6km az=143.0*

ISC 20 08:28:40.5±1.8, 16°.7S±0°.4×174°.1W±0°.4, h111km, n9, σ1°35/10, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.55**	**39**	P		**Pn**		**08 29 35.3**	**+1.3**
	6.0nm,0.3s,baz=283,slow=20,SNR=8.9								
AFI				S			**Sn**	**08 30 12.6**	**-2.7**
	28nm,0.3s,baz=144,slow=21,SNR=11								
STKA	**Stephens Creek**	**42.84**	**241**	P		**P**		**08 36 26.7**	**-1.1**
	1.5nm,0.8s,baz=77,slow=18,SNR=2.8								
WRA	**Warramunga Arr**	**48.93**	**258**	P		**P**		**08 37 15.6**	**-0.2**
	0.5nm,0.3s,baz=96,slow=7.0,SNR=28								
ASAR	**Alice Springs**	**49.10**	**253**	P		**P**		**08 37 17.1**	**0.0**
	2.6nm,0.5s,baz=89,slow=8.6,SNR=82								
PETK	**Petropavlovsk-**	**73.66**	**343**	P		**P**		**08 40 03.0**	**+1.3**
	4.1nm,1.0s,baz=114,slow=9.2,SNR=4.1								
NVAR	**Mina Array Bea**	**75.72**	**42**	P		**P**		**08 40 14.9**	**+0.6**
	0.3nm,0.6s,baz=278,slow=13,SNR=2.9								
PDAR	**Pinedale Array**	**83.66**	**42**	P		**P**		**08 40 57.2**	**+0.1**
	0.4nm,0.8s,baz=199,slow=3.1,SNR=4.3								
ILAR	**Eielson Array**	**83.83**	**11**	P		**P**		**08 40 57.4**	**+0.2**
	0.9nm,1.1s,baz=220,slow=6.0,SNR=5.2								
BRTR	**Keskin Array B**	**146.72**	**319**	PKPbc		**PKPab**		**08 48 10.5**	**-0.9**
	1.2nm,0.7s,baz=359,slow=7.2,SNR=4.9								

IDC 20 08:39:49.3±2.2, 18°.74S×176°.52W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/28, mbtmp3.6/4, Error ellipse: s-maj=127.5km s-min=27.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.25**	**260**	P		P	P	08 48 16.8	-0.1
	0.2nm,0.3s,baz=97,slow=7.1,SNR=16								
ASAR	**Alice Springs**	**46.30**	**255**	P		P	P	08 48 17.1	-0.2
	0.9nm,0.6s,baz=93,slow=8.5,SNR=17								
TXAR	**Lajitas Array**	**84.93**	**57**	P		P	P	08 52 27.0	+0.2
	0.3nm,0.7s,baz=206,slow=8.2,SNR=5.7								
ILAR	**Eielson Array**	**86.30**	**12**	P		P	P	08 52 32.5	-0.2
	0.5nm,1.0s,baz=210,slow=5.2,SNR=4.0								

IDC 20 08:50:28.4±432.0, 14°.77S×47°.30E, h0km, Error ellipse: s-maj=206.7km s-min=91.8km az=5.0, Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I33MG	**ANTANANARIVO I**	**4.22**	**180**	*i*				09 14 30.0	
	baz=360,slow=316,SNR=0.8								
I32KE	**NAIROBI INFRAS**	**16.96**	**321**	*i*				10 34 00.0	
	baz=148,slow=329,SNR=0.7								
I47ZA	**BOSHOF INFRASO**	**24.64**	**232**	*i*				11 24 30.0	
	baz=59,slow=313,SNR=0.2								
I35NA	**TSUMEB INFRASO**	**28.74**	**257**	*i*				11 45 48.0	
	baz=84,slow=310,SNR=0.4								

NIED ***20*** *08:50:00.43°.50N×148°.00E, h23km, Mw3.4 Best double couple: M0 1.57000×10^14 NP1:φs274.00000°, δ42.00000°, λ150.00000°. NP2:φs27.00000°, δ71.00000°, λ52.00000°.*
JMA ***20*** *08:50:35.7±0.3, 43°.47N×147°.97E, h19km, M3.5*
ISCJB ***20*** *08:50:38.0±1.3, 43°.61N±0°.08×147°.9E±0°.1, h55km±11km, mb3.2/5, Error ellipse: s-maj=17.4km s-min=7.8km az=137.2*
SKHL ***20*** *08:50:38.2±0.1, 43°.51N×147°.94E, h56km±1km, mb4.2/2*
MOS ***20*** *08:50:41.6±0.2, 43°.92N×147°.50E, h72km, mb3.8/1, Error ellipse: s-maj=37.9km s-min=28.7km az=84.4*
IDC ***20*** *08:50:44.1±2.3, 45°.73N×147°.15E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.3/26, mbtmp3.2/6, ML3.0/1, Error ellipse: s-maj=73.2km s-min=24.9km az=161.0*

ISC 20 08:50:39.0±2.3, 43°.6N±0°.1×147°.9E±0°.1, h44km±20km, n22, σ1°30/30, mb3.4/5, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.81**	**289**	*e*P		**Pn**		**08 50 53.0**	**-0.9**
SHO				AMB		AMB		08 50 54.2	
	238nm,0.5s								
SHO				*e*S		**Sn**		**08 51 04.0**	**-0.7**
SHO				A		A		08 51 06.0	
	1μm,0.8s								
SHO				A		A		08 51 06.0	
	1μm,0.8s								
YUK	**Yuzh-Kuril'sk**	**1.52**	**287**	*c i*PN		**Pn**		**08 51 03.4**	**-0.3**
YUK				*i* S		**Sn**		**08 51 22.4**	**+0.1**
YUK				pmax		pmax			
	comp=Z,74nm,0.5s								
YUK				pmax		pmax			
	comp=E,37nm,0.1s								
YUK				pmax		pmax			
	comp=N,33nm,0.5s								
YUK				smax		smax			
	comp=N,135nm,0.5s								
YUK				smax		smax			
	comp=E,371nm,0.5s								
YUK				smax		smax			
	comp=N,742nm,2.3s								
YUK				smax		smax			
	comp=E,1μm,2.3s								
YUK	**Yuzh-Kuril'sk**	**1.52**	**287**	*e*P		**Pn**		**08 51 03.4**	**-0.3**
YUK				AMB		AMB		08 51 04.9	
	comp=E,34nm,0.3s								
YUK				AMB		AMB		08 51 04.9	
	comp=E,37nm,0.3s								
YUK				AMB		AMB		08 51 04.9	
	comp=E,74nm,0.3s								
YUK				*e*S		**Sn**		**08 51 22.4**	**+0.1**
YUK				A		A		08 51 23.5	
	comp=E,135nm,0.5s								
YUK				A		A		08 51 23.5	
	comp=E,371nm,0.5s								
YUK				A		A		08 51 24.8	
	comp=E,740nm,2.3s								
YUK				A		A		08 51 24.8	
	comp=E,1μm,2.3s								
NEM2	**Nemuro 2**	**1.57**	**262**	P		**Pn**		**08 51 04.0**	**-0.4**
NEM2				*e*S		**Sn**		**08 51 24.6**	**+1.1**
KUR	**Kuril'sk**	**1.62**	**360**	PN		**Pn**		**08 51 05.3**	**+0.2**
KUR				S		**Sn**		**08 51 24.4**	**-0.4**
KUR				smax		smax			
	comp=N,106nm,0.4s								
KUR				smax		smax			
	comp=E,152nm,0.5s								
KUR	**Kuril'sk**	**1.62**	**360**	*e*P		**Pn**		**08 51 05.3**	**+0.2**
KUR				*e*S		**Sn**		**08 51 24.4**	**-0.4**
KUR				A		A		08 51 27.6	
	comp=E,110nm,0.4s								
KUR				A		A		08 51 27.6	
	comp=E,152nm,0.4s								
JRA	**Rausu**	**2.02**	**280**	P		**Pn**		**08 51 11.1**	**+0.5**
JRA				*e*S		**Sn**		**08 51 37.6**	**+3.0**
JNK	**Nakash**	**2.30**	**271**	P		**Pn**		**08 51 14.3**	**0.0**
JNK				*e*S		**Sn**		**08 51 42.1**	**+0.7**
JAK	**Akkeshi**	**2.40**	**256**	*e*S		**Sn**		**08 51 45.5**	**+1.6**
JTKR	**Abashiri--Toko**	**2.90**	**279**	P		**Pn**		**08 51 23.8**	**+1.2**
JAR	**Asahorobuto**	**3.01**	**265**	P		**Pn**		**08 51 25.1**	**+1.0**
ASAJ	**Asahikawa**	**3.85**	**279**	Pn		Pn		08 51 42.5	+6.8
	comp=E,1.1nm,0.3s,baz=102,slow=14,SNR=7.3								
JNBK	**Urakawa-nobuka**	**3.99**	**252**	P		**Pn**		**08 51 38.3**	**+0.7**
JKB	**Kayabe**	**5.33**	**254**	P		**Pn**		**08 51 56.7**	**+0.8**
JKB				*e*S		**Sn**		**08 52 54.2**	**-1.7**
JOT	**Ohata**	**5.52**	**249**	P		**Pn**		**08 51 58.9**	**+0.4**
JOT				*e*S		**Sn**		**08 52 57.4**	**-3.3**
ILAR	**Eielson Array**	**41.29**	**36**	P		**P**		**08 58 20.4**	**+0.7**
	comp=E,0.2nm,0.6s,baz=266,slow=9.1,SNR=2.7								
MKAR	**Makanchi Array**	**45.12**	**298**	P		**P**		**08 58 50.6**	**-0.2**
MKAR	**Makanchi Array**	**45.12**	**298**	P		**P**		**08 58 50.6**	**-0.2**
	comp=E,0.4nm,0.6s,baz=60,slow=8.5,SNR=4.3								
KURK	**Kurchatov**	**46.05**	**304**	P		**P**		**08 58 56.2**	**-1.8**
KURBB	**Kurchatov Arra**	**46.13**	**304**	P		**P**		**08 58 56.2**	**-2.5**
	comp=E,0.3nm,0.4s,baz=78,slow=10.0,SNR=2.3								
YKA	**Yellowknife Ar**	**55.62**	**34**	P		**P**		**09 00 10.7**	**+0.8**
	comp=E,0.1nm,0.5s,baz=301,slow=7.2,SNR=3.7								
TXAR	**Lajitas Array**	**82.29**	**57**	P		P		09 03 03.0	+7.0
	comp=E,0.3nm,0.8s,baz=325,slow=6.1,SNR=3.4								

IDC 20 09:00:47.7±3.0, 10°.21S×160°.07E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=108.6km s-min=29.1km az=131.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.63**	**246**	P		P	P	09 06 27.6	-0.7
	0.8nm,0.7s,baz=70,slow=9.2,SNR=5.5								
ASAR	**Alice Springs**	**28.31**	**238**	P		P	P	09 06 44.0	+0.6
	0.3nm,0.8s,baz=70,slow=11,SNR=2.9								
SONM	**Songino Array**	**74.77**	**326**	P		P	P	09 12 30.7	+0.9
	0.7nm,0.8s,baz=132,slow=6.4,SNR=4.3								
ILAR	**Eielson Array**	**84.58**	**20**	P		P	P	09 13 22.6	0.0
	0.8nm,1.1s,baz=242,slow=3.8,SNR=3.8								
MKAR	**Makanchi Array**	**89.13**	**318**	P		P	P	09 13 44.1	-1.1
	0.3nm,0.6s,baz=96,slow=4.8,SNR=4.3								

BJI ***20*** *09:03:43.6, 23°.20S×66°.60W, h193km*
ISCJB ***20*** *09:03:44.8±0.2, 23°.12S±0°.03×66°.78W±0°.03, h208km±2km, mb4.2/31, Error ellipse: s-maj=6.3km s-min=3.9km az=37.4*
IDC ***20*** *09:03:44.4±1.6, 23°.16S×66°.66W, h198km±15km, mb3.7/11, mb1 3.9/16, mb1mx3.8/24, mbtmp4.3/16, Error ellipse: s-maj=16.2km s-min=12.6km az=72.0*
NEIC ***20*** *09:03:44.3±0.7, 23°.21S×66°.57W, h193km±5km, mb4.4/24, MD4.3(SJA), Error ellipse: s-maj=12.7km s-min=6.2km az=84.0*
SJA ***20*** *09:03:45.7±1.1, 23°.17S×66°.78W, h210km±10km, MD3.6, ML4.1*
GUC ***20*** *09:03:46.9±0.4, 22°.99S×67°.43W, h259km±9km, ML4.8*

ISC 20 09:03:45.2±0.6, 23°.12S±0°.04×66°.77W±0°.04, h206km±6km, n318, σ1°33/341, mb4.3/31, 142C-109D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.91**	**126**	*i* P		**Pn**		**09 04 24.8**	**+1.3**
AZAP				*e*S		**S**		**09 04 53.9**	**+1.0**
SLA	**San Lorenzo**	**1.97**	**144**	*e*P		**Pn**		**09 04 25.9**	**+1.9**
SLA				*e*S		**S**		**09 04 54.7**	**+0.8**
LVC	**Limon Verde**	**2.04**	**284**	*e*Pn		**Pn**		**09 04 26.2**	**+1.4**
LVC				*e*Sn		**S**		**09 04 57.0**	**+1.9**
LVC	**Limon Verde**	**2.04**	**284**	*i* P		**Pn**		**09 04 26.4**	**+1.6**
LVC				*e*S		**S**		**09 04 56.1**	**+1.0**
ASTB	**Santa Barbara**	**2.25**	**112**	*i* P		**Pn**		**09 04 28.7**	**+1.8**
ASTB				*e*S		**S**		**09 04 59.3**	**+0.3**
PB06	**Plate Boundary**	**2.62**	**278**	⇑*i*P		**Pn**		**09 04 31.9**	**+1.0**
PB06				*i* S		**S**		**09 05 06.3**	**+0.3**
PB06				AML		AML		09 05 07.6	
	comp=E,1μm,0.4s								
PB06	**Plate Boundary**	**2.62**	**278**	⇑*i*P		**Pn**		**09 04 31.9**	**+1.0**
PB06				*i* S		**S**		**09 05 06.3**	**+0.3**
PB04	**Plate Boundary**	**2.65**	**288**	⇑*i*P		Pn		09 04 38.4	+7.3
PB04				*i* S		S		09 05 17.3	+11
PB04				AML		AML		09 05 20.2	
	comp=E,2μm,0.8s								
ALOL	**LOMAS DE OLMED**	**2.66**	**106**	*i* P		**Pn**		**09 04 32.4**	**+1.1**
MACH	**Maria Elena**	**2.91**	**288**	⇓*i*P		**Pn**		**09 04 35.2**	**+0.9**
MACH				*i* S		**S**		**09 05 11.8**	**-0.4**
MACH	**Maria Elena**	**2.91**	**288**	⇓*i*P		**Pn**		**09 04 35.2**	**+0.9**
MACH				*i* S		**S**		**09 05 11.8**	**-0.4**
CEN1	**Los Morros**	**3.17**	**264**	⇓*i*P		**Pn**		**09 04 39.4**	**+2.1**
CEN1				*i* S		**S**		**09 05 19.3**	**+1.9**
CEN1				AML		AML		09 05 21.7	
	comp=E,666nm,0.6s								
CEN1	**Los Morros**	**3.17**	**264**	⇓*i*P		**Pn**		**09 04 39.4**	**+2.1**
CEN1				*i* S		**S**		**09 05 19.3**	**+1.9**
PB07	**Plate Boundary**	**3.20**	**295**	⇑*i*P		**Pn**		**09 04 38.4**	**+0.7**
PB07				*i* S		**S**		**09 05 17.1**	**-1.0**
PB07				AML		AML		09 05 19.1	
	comp=E,3μm,0.5s								
PB07	**Plate Boundary**	**3.20**	**295**	⇑*i*P		**Pn**		**09 04 38.4**	**+0.7**
PB07				*i* S		**S**		**09 05 17.1**	**-1.0**
PB01	**Plate Boundary**	**3.26**	**309**	⇑*i*P		**Pn**		**09 04 39.0**	**+0.7**
PB01				*i* S		**S**		**09 05 19.2**	**0.0**
PB01				AML		AML		09 05 21.1	
	comp=E,1μm,0.6s								
PB01	**Plate Boundary**	**3.26**	**309**	⇑*i*P		**Pn**		**09 04 39.0**	**+0.7**
PB01				*i* S		**S**		**09 05 19.2**	**0.0**
ANCH	**Antofagasta**	**3.39**	**260**	⇑*i*P		**Pn**		**09 04 39.1**	**-0.6**
ANCH				*i* S		**S**		**09 05 19.5**	**-2.4**
ANCH	**Antofagasta**	**3.39**	**260**	⇑*i*P		**Pn**		**09 04 39.1**	**-0.6**
ANCH				*i* S		**S**		**09 05 19.5**	**-2.4**
PB10	**Plate Boundary**	**3.50**	**263**	⇑*i*P		**Pn**		**09 04 41.6**	**+0.5**
PB10				*i* S		**S**		**09 05 22.3**	**-2.0**
PATCX	**Punta Patache**	**3.88**	**305**	⇑*i*P		**Pn**		**09 04 45.8**	**-0.1**
PATCX				*i* S		**S**		**09 05 31.1**	**-1.9**
MNMC	**Minimini**	**4.76**	**326**	⇑*i*P		**Pn**		**09 04 57.3**	**+0.3**
MNMC				*i* S		**S**		**09 05 52.2**	**-1.0**
MNMC	**Minimini**	**4.76**	**326**	⇑*i*P		**Pn**		**09 04 57.3**	**+0.3**
MNMC				*i* S		**S**		**09 05 52.2**	**-1.0**
CYA	**Choya**	**5.38**	**171**	*e*P		**Pn**		**09 05 05.2**	**+0.7**
CYA				*e*P		**Pn**		**09 05 05.2**	**+0.7**
ACLC	**CERRO LA CRUZ**	**6.29**	**181**	*e*P		**Pn**		**09 05 15.9**	**-0.5**
ACLC				*e*S		**S**		**09 06 23.7**	**-4.7**
AGUA	**GUANDACOL**	**6.53**	**193**	*e*P		**Pn**		**09 05 19.6**	**+0.2**
LCO	**Las Campanas**	**6.85**	**210**	*e*Pn		**Pn**		**09 05 21.3**	**-2.4**
	comp=E,23nm,0.4s								
LCO				*e*Sn		S		09 06 27.5	-15
LPAZ	**La Paz**	**6.91**	**349**	Pn		**Pn**		**09 05 26.1**	**+1.1**
	comp=E,7.3nm,0.6s								
LPAZ				*e*Sn		**S**		**09 06 42.1**	**-1.9**
LPAZ	**La Paz**	**6.91**	**349**	P		**Pn**		**09 05 26.5**	**+1.5**
	comp=E,1.7nm,0.3s,baz=169,slow=11,SNR=17								
LPAZ				S		**S**		**09 06 41.5**	**-2.5**
	comp=E,0.3nm,0.3s,baz=313,slow=16,SNR=3.2								
AVFE	**Valle Fertil**	**7.54**	**185**	AML		AML		09 06 55.1	
	comp=Z,21nm,0.4s								
ACHE	**Chepes**	**8.02**	**179**	*e*S		S		09 07 02.4	-7.0
CFAA	**Coronel Fontan**	**8.56**	**188**	P		**Pn**		**09 05 44.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=18,slow=12,SNR=13								
CFAA				S		S		09 07 12.6	-9.3
	comp=Z,0.4nm,0.3s,baz=45,slow=17,SNR=14								
SIV	**San Ignacio**	**8.89**	**38**	P		**Pn**		**09 05 48.9**	**-1.2**
	comp=Z,5.0nm,0.3s,baz=228,slow=12,SNR=79								
SIV				S		**S**		**09 07 25.2**	**-5.0**
	comp=Z,0.5nm,0.3s,baz=250,slow=16,SNR=3.2								
CPUP	**Villa Florida**	**9.16**	**112**	P		**Pn**		**09 05

ABTX **Abilene, Hawle** 63.70 329 ⇓P P 09 13 56.4 +1.6
baz=64
Z33A **Whitaker Ranch** 63.85 330 ⇑P P 09 13 56.6 +0.9
baz=64
526A **Mary Lane Ranc** 63.88 324 ⇑P P 09 13 57.3 +1.0
baz=64
329A **Wagon Wheel Ra** 63.91 327 ⇓P P 09 13 57.1 +0.8
baz=64
Y34A **Reagan Ranch,** 63.96 332 ⇑P P 09 13 57.2 +0.7
baz=64
131A **Roby** 64.10 329 ⇓P P 09 13 58.4 +0.9
baz=64
427A **Hayter Ranch,** 64.14 325 ⇓P P 09 13 58.7 +0.9
baz=65
Z32A **Haskell** 64.19 330 ⇑P P 09 13 58.4 +0.4
baz=65
229A **Bryant Ranch,** 64.22 327 ⇓P P 09 13 59.4 +1.1
baz=65
328A **Wristen Ranch,** 64.25 326 ⇓P P 09 13 59.5 +0.9
baz=65
130A **Snyder** 64.31 328 ⇓P P 09 13 59.6 +0.8
baz=65,SNR=6.2
426A **McDonald Obser** 64.33 325 ⇓P P 09 14 00.5 +1.3
baz=65
Y33A **Hilltop Ranch,** 64.39 331 ⇓P P 09 14 00.0 +0.8
baz=65
Z31A **Sharp Cattle R** 64.51 329 ⇓P P 09 14 00.8 +0.7
baz=65
X34A **Smith Ranch, M** 64.54 332 ⇑P P 09 14 01.0 +0.8
baz=65
228A **UT Block 9, Go** 64.73 327 ⇓P P 09 14 01.9 +0.3
baz=65
Y32A **R-V Farms, Ver** 64.75 330 ⇑P P 09 14 02.4 +0.7
baz=65
129A **Stewart Farms,** 64.78 328 ⇓P P 09 14 02.0 +0.1
baz=65
X33A **Lawton** 64.78 331 ⇓P P 09 14 01.7 -0.1
baz=65
TUL1 **Tulsa** 64.81 334 ⇑P P 09 14 02.6 +0.6
baz=65
425A **Indio Mountain** 64.93 324 ⇑P P 09 14 03.8 +0.8
baz=65
Z30A **Sanderson Ranc** 64.95 329 ⇑P P 09 14 03.6 +0.7
baz=65
128A **Castleberry Fa** 65.08 327 ⇑P P 09 14 04.2 +0.3
baz=66
Y31A **Rekieta Farm,** 65.10 330 ⇑P P 09 14 04.8 +1.0
baz=66
Z29A **Hungry Hill Ra** 65.21 328 ⇑P P 09 14 05.5 +0.9
baz=66
W33A **Caddo, Fort Co** 65.28 332 ⇑P P 09 14 06.6 +1.5
baz=66
V34A **Guthrie** 65.45 333 ⇑P P 09 14 06.2 +0.1
baz=66
226B **Tecolote Peak,** 65.50 325 ⇑P P 09 14 07.0 +0.4
baz=66
X31A **McDonald Ranch** 65.52 330 ⇑P P 09 14 07.2 +0.6
baz=66,SNR=7.7
Z28A **Tucker Farm, M** 65.57 328 ⇑P P 09 14 07.2 +0.2
baz=66
W32A **Sentinel** 65.60 331 ⇑P P 09 14 08.0 +0.9
baz=66
Y29A **Porterfield Fa** 65.68 329 ⇓P P 09 14 08.1 +0.4
baz=66
V33A **Lossen Ranch,** 65.77 332 ⇑P P 09 14 08.9 +0.8
baz=66
X30A **Coker Ranch, T** 65.78 329 ⇑P P 09 14 08.7 +0.4
baz=66
126A **Clayton Basin,** 65.88 326 ⇓P P 09 14 09.9 +0.9
baz=66
U34A **Anderson Ranch** 65.98 333 ⇑P P 09 14 10.0 +0.6
baz=66
Y28A **McKinney Farm,** 66.00 328 ⇓P P 09 14 10.1 +0.3
baz=66
Z27A **Tatum** 66.00 327 ⇑P P 09 14 10.2 +0.4
baz=66,SNR=5.1
V32A **Arapaho** 66.01 332 ⇓P P 09 14 10.5 +0.8
baz=66
X29A **Tulia** 66.17 329 ⇓P P 09 14 11.4 +0.6
baz=67
125A **Gardner Draw,** 66.22 326 ⇑P P 09 14 11.4 +0.2
baz=67
MSTX **Muleshoe** 66.31 328 *eP* P 09 14 12.2 +0.5
comp=Z,9.3nm,0.8s
MSTX **Muleshoe** 66.31 328 ⇑P P 09 14 12.4 +0.7
baz=67,SNR=5.7
Z26A **Caprock** 66.35 326 ⇑P P 09 14 13.0 +1.0
baz=67
Y27A **Causey** 66.43 327 ⇓P P 09 14 13.0 +0.5
baz=67
W29A **Amraillo** 66.70 329 ⇑P P 09 14 14.4 +0.2
baz=67
Z25A **Roswell** 66.74 326 ⇑P P 09 14 14.8 +0.4
baz=67
Y26A **Elida** 66.79 327 ⇑P P 09 14 15.8 +1.0
baz=67
T33A **Patterson Ranc** 66.82 333 ⇓P P 09 14 15.7 +0.9
baz=67
QSPA **South Pole Qui** 67.08 180 *eP* P 09 14 16.9 +0.7
comp=Z,8.2nm,0.9s
Z24A **Sheeppen Canyo** 67.11 325 ⇑P P 09 14 18.1 +1.1
baz=68
Y25A **Mesa, Roswell** 67.23 326 ⇓P P 09 14 18.2 +0.6
baz=68
X26A **CR and CF Fran** 67.28 327 ⇓P P 09 14 19.0 +1.1
baz=68
DBIC **Dimbokro** 67.32 72 P P 09 14 18.2 -0.2
comp=Z,1.7nm,0.5s,baz=214,slow=7.4,SNR=6.3
W27A **Bowe Ranch, En** 67.33 328 ⇑P P 09 14 19.2 +1.1
baz=68
319A **Douglas** 67.78 321 ⇑P P 09 14 22.5 +1.5
baz=68
121A **Cookes Peak, D** 67.80 323 ⇑P P 09 14 23.3 +2.1
baz=68
Z22A **Elephant Butte** 67.90 324 ⇑P P 09 14 23.7 +1.9
baz=68
KSU1 **Kansas State U** 67.90 335 ⇓P P 09 14 21.7 +0.3
baz=68
Y23A **Lovelace Mesa,** 67.94 325 ⇓P P 09 14 22.4 +0.3
baz=68
U28A **Mallet** 68.00 330 ⇓P P 09 14 23.1 +0.9
baz=68
W25A **X Bar L Ranch,** 68.14 327 ⇑P P 09 14 24.1 +0.9
baz=69
R32A **Long Quarter,** 68.16 333 ⇓P P 09 14 24.1 +0.9
baz=69
V26A **Tequesquite Ra** 68.27 328 ⇓P P 09 14 25.0 +1.0
baz=69
R31A **Burdett** 68.38 333 ⇓P P 09 14 25.7 +1.1
baz=69
S29A **Ulysses** 68.51 331 ⇑P P 09 14 26.7 +1.3
baz=69
X23A **Hourglass Bar** 68.51 326 ⇓P P 09 14 27.5 +1.9
baz=69
T28A **Walsh** 68.55 330 ⇑P P 09 14 26.4 +0.8
baz=69
Q32A **Meitler Ranch,** 68.58 334 ⇓P P 09 14 26.7 +0.9
baz=69
W24A **Lazy 6 Ranch,** 68.61 327 ⇓P P 09 14 27.6 +1.4
baz=69
V25A **Rancho No Teng** 68.71 328 ⇑P P 09 14 28.0 +1.2
baz=69
U26A **Atchley Ranch,** 68.73 329 ⇓P P 09 14 28.1 +1.2
baz=69
T27A **Campo** 68.78 330 ⇑P P 09 14 28.2 +1.1
baz=69,SNR=5.6
S28A **Manter** 68.84 331 ⇑P P 09 14 28.8 +1.4
baz=69
ANMO **Albuquerque** 68.94 326 *eP* P 09 14 29.8 +1.5
V24A **Rampart Ranch,** 68.94 327 ⇑P P 09 14 29.9 +1.6
baz=69
W23A **Werner Place,** 68.94 326 ⇑P P 09 14 29.8 +1.5
baz=69
U25A **Circle Dot Ran** 69.05 328 ⇓P P 09 14 30.4 +1.5
baz=70
P32A **Hutting Farm,** 69.13 334 ⇑P P 09 14 30.1 +0.9
baz=70
Q30A **Quinter** 69.26 333 ⇑P P 09 14 31.1 +1.1
baz=70
T26A **Comanche Natio** 69.28 329 ⇑P P 09 14 31.7 +1.4
baz=70
P31A **Stockton** 69.36 334 ⇓P P 09 14 31.6 +1.0
baz=70
V23A **Ortiz Mt. (NFS** 69.42 327 ⇓P P 09 14 33.0 +1.8
baz=70
Q29A **Oakley** 69.51 332 ⇓P P 09 14 32.3 +0.8
baz=70
O32A **Brockman Farm,** 69.55 335 ⇓P P 09 14 32.4 +0.7
baz=70
S26A **Kim** 69.58 330 ⇓P P 09 14 33.5 +1.4
baz=70,SNR=6.1
T25A **Trinidad** 69.64 329 ⇑P P 09 14 34.2 +1.7
baz=70
U23A **El Rito** 69.88 327 ⇑P P 09 14 35.6 +1.6
baz=70
O31A **Woolen Ranch,** 69.88 334 ⇑P P 09 14 34.4 +0.7
baz=70
V22A **San Miguel Ran** 69.92 326 ⇓P P 09 14 35.9 +1.6
baz=70
T24B **San Luis** 70.05 328 ⇓P P 09 14 37.3 +2.2
baz=70,SNR=5.5
S25A **Robets Cordova** 70.07 329 ⇑P P 09 14 36.5 +1.4
baz=70,SNR=6.1
R26A **Arlington** 70.12 330 ⇑P P 09 14 36.4 +1.1
baz=71
R25A **Fountain Ranch** 70.39 329 ⇓P P 09 14 38.4 +1.4
baz=71
BGNE **Belgrade** 70.49 335 *eP* P 09 14 38.0 +0.7
comp=Z,16nm,0.4s
BGNE **Belgrade** 70.49 335 ⇑P P 09 14 38.3 +1.0
baz=71
N30A **Hueftle Ranch,** 70.74 334 ⇑P P 09 14 40.2 +1.2
baz=71
M31A **Lambrecht Ranc** 70.75 335 ⇓P P 09 14 40.5 +1.5
baz=71
R24A **Sanders Place,** 70.84 329 ⇑P P 09 14 41.9 +2.1
baz=71
N29A **Votaw Ranch, W** 70.97 333 ⇑P P 09 14 41.7 +1.4
baz=71
R23A **Moffat** 71.16 328 ⇑P P 09 14 43.5 +1.7
baz=72
X16A **Lo Mia Camp, P** 71.24 322 ⇑P P 09 14 44.8 +2.5
baz=72
S22A **4UR Ranch, Cre** 71.30 327 ⇓P P 09 14 44.8 +2.2
baz=72
P25A **Willow Gulch B** 71.43 330 ⇓P P 09 14 45.3 +2.0
baz=72
Q24A **Divide** 71.45 329 ⇓P P 09 14 45.5 +1.9
baz=72
M29A **Burnside Ranch** 71.52 334 ⇓P P 09 14 45.3 +1.7
baz=72
L30A **Spencer Herefo** 71.56 335 ⇑P P 09 14 45.7 +1.9
baz=72
OGNE **Ogallala** 71.66 333 ⇑P P 09 14 46.2 +1.7
baz=72
M28A **Bar X Bar Ranc** 71.76 333 ⇑P P 09 14 46.8 +1.7
baz=72
N27A **Anderson Farm,** 71.76 332 ⇓P P 09 14 46.3 +1.1
baz=72
P24A **Kohler Place,** 71.78 330 ⇓P P 09 14 47.4 +2.1
baz=72
ISCO **Idaho Springs** 72.33 330 *eP* P 09 14 49.1 +0.4
comp=Z,2.4nm,0.9s
K29A **Lazy Trails An** 72.48 335 ⇑P P 09 14 50.5 +1.3
baz=73
SMCO **Snowmass** 72.49 328 *eP* P 09 14 51.7 +1.9
comp=Z,35nm,2.3s
J30A **Dallas** 72.64 336 ⇑P P 09 14 51.5 +1.3
baz=73
P22A **Eagle** 72.71 329 ⇑P P 09 14 52.6 +1.6
baz=73
L27A **T5 Ranch, Ells** 72.72 333 ⇓P P 09 14 52.7 +1.9
baz=73
O23A **Lake Granby, G** 72.80 330 ⇓P P 09 14 53.5 +2.0
baz=73
K28A **Ten Mile Ranch** 72.86 334 ⇓P P 09 14 53.7 +2.2
baz=73
J29A **Okreek** 73.03 335 ⇑P P 09 14 53.6 +1.2
baz=74
O22A **Kremmling** 73.06 329 ⇑P P 09 14 54.3 +1.3
baz=74
K27A **Flueckinger Fa** 73.21 333 ⇑P P 09 14 55.3 +1.7
baz=74
M24A **Cheyenne** 73.30 331 ⇓P P 09 14 56.3 +2.0
baz=74
N23A **Red Feather La** 73.35 330 ⇓P P 09 14 56.7 +2.0
baz=74
J28A **Allard Ranch,** 73.40 335 ⇓P P 09 14 56.0 +1.4
baz=74
N22A **Wattenberg Ran** 73.52 330 ⇑P P 09 14 57.8 +2.1
baz=74
J27A **Elkhorn Farm,** 73.57 334 ⇓P P 09 14 57.6 +1.9
baz=74
O20A **White River Ci** 73.85 328 *eP* P 09 14 59.5 +2.0
comp=Z,138nm,2.8s
O20A **White River Ci** 73.85 328 ⇑P P 09 14 59.3 +1.8
baz=74
H29A **Onida** 74.02 336 ⇑P P 09 14 59.0 +0.8
baz=74
J26A **Sides Ranch, S** 74.06 333 ⇓P P 09 15 00.3 +1.8
baz=74
M22A **Cedar Creek Ra** 74.06 330 ⇑P P 09 15 00.4 +1.6
baz=74
SRU **San Rafael** 74.21 326 *eP* P 09 15 01.5 +1.9
comp=Z,5.4nm,0.8s
I27A **Quinn** 74.27 334 ⇑P P 09 15 01.0 +1.4
baz=75
H28A **Mission Ridge** 74.37 335 ⇑P P 09 15 01.4 +1.2
baz=75
CCUT **Cedar City** 74.58 323 *eP* P 09 15 04.8 +3.0
comp=Z,4.3nm,0.8s
F30A **Leola** 74.62 337 ⇑P P 09 15 02.2 +0.6
baz=75
J24A **Dixon Ranch, L** 74.74 332 ⇓P P 09 15 04.3 +1.9
baz=75
H27A **Howes** 74.75 335 ⇑P P 09 15 03.6 +1.3
baz=75
RSSD **Black Hills** 75.12 333 *eP* P 09 15 06.0 +1.2
comp=Z,2.7nm,0.8s
G27A **Dupree** 75.31 335 ⇓P P 09 15 06.7 +1.1
baz=76
K21A **Alcova** 75.33 330 ⇓P P 09 15 07.5 +1.6
baz=76,SNR=7.7
H25A **Fruitdale** 75.35 334 ⇑P P 09 15 07.0 +1.2
baz=76
J22A **Midwest** 75.59 331 ⇓P P 09 15 08.4 +1.0
baz=76
AGMN **Agassiz Nation** 75.72 340 ⇓P P 09 15 08.2 +0.4
baz=76
G25A **Newell** 75.74 334 ⇑P P 09 15 09.5 +1.5
baz=76
JLU **Jordanelle** 75.80 326 *eP* P 09 15 10.8 +2.1
comp=Z,5.2nm,1.2s
H24A **Dirks Ranch, A** 75.84 333 ⇑P P 09 15 09.7 +1.0
baz=76,SNR=6.5
E28A **Huff** 75.86 337 ⇑P P 09 15 09.8 +1.2
baz=76
J21A **Lysite** 75.97 331 ⇑P P 09 15 11.4 +1.8
baz=76
F26A **Lodgepole** 75.99 335 ⇑P P 09 15 10.7 +1.2
baz=76
C30A **Mose, Pekin** 76.04 339 ⇓P P 09 15 10.9 +1.2
baz=76
TOA0 **Torodi Ar. Sit** 76.06 69 *eP* P 09 15 10.2 -0.2
TORD **Torodi Ar. Bea** 76.06 69 P P 09 15 10.2 -0.2
comp=Z,1.7nm,0.4s,baz=261,slow=6.3,SNR=27
G24A **Alzada** 76.26 334 ⇑P P 09 15 12.2 +1.1
baz=77
J20A **Shoshoni** 76.27 330 ⇑P P 09 15 13.0 +1.8
baz=77
I21A **Big Trails, Te** 76.27 331 ⇑P P 09 15 12.2 +1.0
baz=77,SNR=11
R11A **Troy Canyon, C** 76.38 322 ⇑P P 09 15 14.1 +2.1
baz=77
PDAR **Pinedale Array** 76.50 329 P P 09 15 13.3 +0.7
comp=Z,1.1nm,0.6s,baz=146,slow=7.1,SNR=5.6
G23A **Biddle** 76.56 333 ⇓P P 09 15 13.6 +0.9
baz=77,SNR=5.2
B30A **Myrvik Farm, E** 76.64 339 ⇑P P 09 15 13.9 +0.8
baz=77
J19A **Crowheart** 76.65 330 ⇓P P 09 15 14.7 +1.3
baz=77,SNR=5.4
F24A **Ekalaka** 76.69 334 ⇓P P 09 15 14.6 +1.2
baz=77
I20A **Worland** 76.75 331 ⇑P P 09 15 15.5 +1.7
baz=77
H21A **Big Horn, Sher** 76.81 332 ⇑P P 09 15 15.2 +1.1
baz=77
E25A **Miller Ranch,** 76.82 335 ⇓P P 09 15 15.7 +1.6
baz=77
D26A **Manning** 76.89 336 ⇑P P 09 15 16.1 +1.6
baz=77
G22A **Birney** 76.95 333 ⇑P P 09 15 15.4 +0.5
baz=77
F23A **Volborg** 76.98 333 ⇓P P 09 15 16.3 +1.3
baz=77
C27A **Sayler Ranch,** 77.11 337 ⇓P P 09 15 17.4 +1.8
baz=78
I19A **Meeteetse** 77.22 330 ⇑P P 09 15 18.1 +1.5
baz=78
E24A **Baker** 77.22 334 ⇓P P 09 15 17.8 +1.4
baz=78
D25A **Fairfield** 77.32 335 ⇑P P 09 15 18.6 +1.7
baz=78
B28A **Dugan Ranch, T** 77.33 338 ⇓P P 09 15 18.2 +1.3
baz=78
A29A **Manning Farm,** 77.35 339 ⇓P P 09 15 17.8 +0.8
baz=78
F22A **Rosebud** 77.39 333 ⇓P P 09 15 18.4 +1.2
baz=78
C26A **Wahner Farm, P** 77.42 336 ⇑P P 09 15 18.7 +1.3
baz=78
ULM **Lac du Bonnet** 77.46 341 P P 09 15 17.4 -0.1
comp=Z,1.6nm,0.6s,baz=173,slow=3.5,SNR=4.8
SCHQ **Schefferville** 77.63 360 P P 09 15 18.3 0.0
comp=Z,3.0nm,0.8s,baz=152,slow=8.7,SNR=5.1
LOHW **Long Hollow** 77.64 329 *eP* P 09 15 20.6 +1.6
D24A **Glendive** 77.68 335 ⇑P P 09 15 20.6 +1.7
baz=78
H19A **Powell** 77.70 331 ⇑P P 09 15 20.5 +1.4
baz=78
TPAW **Teton Pass** 77.71 329 *eP* P 09 15 21.1 +1.7
C25A **Freed Ranch, W** 77.76 336 ⇑P P 09 15 20.9 +1.6
baz=78
G20A **Bridger** 77.78 331 ⇑P P 09 15 20.5 +0.9
baz=78,SNR=8.4
F21A **Absaloka Mine,** 77.79 332 ⇓P P 09 15 21.4 +1.9
baz=78
MOOW **Moose Ponds** 77.81 329 *eP* P 09 15 21.5 +1.7
comp=Z,46nm,2.5s
I17A **Pilgrim Ck.** 77.86 329 ⇓P P 09 15 22.3 +2.1
baz=78,SNR=5.7
NVAR **Mina Array Bea** 77.99 321 P P 09 15 21.8 +0.9
comp=Z,0.6nm,0.6s,baz=128,slow=4.4,SNR=3.7
H18A **Shoshone NF, C** 78.02 330 ⇑P P 09 15 22.5 +1.5
baz=78,SNR=10.0
C24A **Savage** 78.06 335 ⇓P P 09 15 22.9 +2.0
baz=78
D23A **Lindsay** 78.08 334 ⇑P P 09 15 22.7 +1.7
baz=78
RLMT **Red Lodge** 78.18 331 *eP* P 09 15 23.3 +1.4
comp=Z,5.0nm,0.6s
B25A **Knox Farm, Ray** 78.19 336 ⇑P P 09 15 23.4 +1.7
baz=79
A26A **Wade Farm, Ken** 78.30 337 ⇓P P 09 15 23.7 +1.5
baz=79
E21A **Keefer Ranch,** 78.34 333 ⇓P P 09 15 23.9 +1.4
baz=79
D22A **Cohagen** 78.45 334 ⇑P P 09 15 24.6 +1.5
baz=79,SNR=5.2
C23A **Lambert** 78.58 335 ⇑P P 09 15 25.1 +1.3
baz=79
F19A **Roth Farm, Mol** 78.60 331 ⇓P P 09 15 24.9 +0.9
baz=79,SNR=6.1
D21A **La Casta Ranch** 78.72 333 ⇓P P 09 15 26.0 +1.4
baz=79,SNR=5.7
A25A **Svangstu Ranch** 78.73 337 ⇑P P 09 15 26.3 +1.7
baz=79
DGMT **Dagmar** 78.74 336 *eP* P 09 15 26.4 +1.7
comp=Z,12nm,0.9s
DGMT **Dagmar** 78.74 336 ⇑P P 09 15 26.4 +1.7
baz=79
E20A **Meyer Farm, Mu** 78.75 332 ⇑P P 09 15 26.0 +1.2
baz=79,SNR=7.6
C22A **Vida** 78.81 334 ⇓P P 09 15 26.3 +1.3
baz=79
E19A **Rath Farm, Rou** 79.00 332 ⇓P P 09 15 27.2 +1.1
baz=79,SNR=7.8
B23A **Brocklon** 79.04 335 ⇓P P 09 15 28.0 +1.7
baz=80
A24A **Westby** 79.04 336 ⇑P P 09 15 27.6 +1.3
baz=80
D20A **Manuel Ranch,** 79.22 333 ⇑P P 09 15 28.4 +1.1
baz=80,SNR=5.8
HLID **Hailey** 79.47 327 *eP* P 09 15 31.3 +2.5
comp=Z,5.9nm,0.8s
HLID **Hailey** 79.47 327 ⇓P P 09 15 31.2 +2.3
baz=80
D19A **Cripps Ranch,** 79.59 332 ⇑P P 09 15 30.5 +1.2
baz=80
C20A **Veseth Ranch,** 79.65 333 ⇓P P 09 15 30.6 +1.0
baz=80
B21A **Ellsworth Farm** 79.81 334 ⇓P P 09 15 32.2 +1.8
baz=80
A22A **Carney Farms,** 79.83 335 ⇑P P 09 15 32.1 +1.5
baz=80
C19A **Slack Wire Ran** 80.11 333 ⇑P P 09 15 33.5 +1.4
baz=80
A21A **Bergtoll Ranch** 80.23 334 ⇑P P 09 15 33.8 +1.1
baz=81
B20A **Solberg Farm,** 80.23 334 ⇓P P 09 15 33.9 +1.2
baz=81
A20A **Cobblestone Ra** 80.54 334 ⇑P P 09 15 35.3 +1.0
baz=81,SNR=8.8
HRY **Holter Researc** 80.55 330 *eP* P 09 15 36.3 +1.8
EGMT **Eagleton** 80.63 332 ⇓P P 09 15 36.0 +1.2
baz=81
WVOR **Wild Horse Val** 80.89 324 *eP* P 09 15 36.8 +0.3
comp=Z,2.4nm,1.0s
A19A **Klindworth Far** 80.91 333 ⇑P P 09 15 37.3 +0.9
baz=81
BOSA **Boshof** 80.94 117 P P 09 15 36.1 -1.1
comp=Z,1.1nm,0.4s,baz=216,slow=4.5,SNR=3.1
MSO **Missoula** 81.61 329 ⇑P P 09 15 41.7 +1.7
baz=82
MAW **Mawson** 82.21 163 P P 09 15 43.1 +0.2
comp=Z,3.6nm,0.6s,baz=280,slow=6.1,SNR=3.0
F10A **Beach Ranch, E** 82.59 327 *eP* P 09 15 47.6 +2.4
comp=Z,6.2nm,1.0s
C09A **Chrisman Ranch** 84.37 328 *eP* P 09 15 55.5 +1.4
comp=Z,7.2nm,0.6s
YKA **Yellowknife Ar** 93.37 340 P P 09 16 36.5 +0.2
comp=Z,0.9nm,0.6s,baz=134,slow=4.5,SNR=34
ASAR **Alice Springs** 129.34 205 PKP PKPdf 09 22 29.5 -0.4
comp=Z,1.1nm,0.8s,baz=138,slow=2.1,SNR=8.5
WRA **Warramunga Arr** 132.50 207 PKP PKPdf 09 22 36.3 +0.4
comp=Z,0.6nm,0.5s,baz=159,slow=1.5,SNR=16
ZALV **Zalesovo Beam** 142.51 28 PKhKP PKPpre 09 22 50.7
comp=Z,1.7nm,0.7s,baz=298,slow=3.6,SNR=7.6
KSH **Kashi** 144.51 54 *e*PKP PKPbc 09 22 56.8 +0.3
MK31 **Makanchi Array** 145.71 39 *e*PKPdf **PKPbc** **09 22 59.6 -0.2**
MK31 *e*PKPbc **PKPab** **09 23 00.7 +0.2**
MKAR **Makanchi Array** 145.71 39 PKPbc **PKPbc** **09 22 59.8 0.0**
comp=Z,6.5nm,0.7s,baz=312,slow=3.1,SNR=17
WMQ **Urumqi** 150.53 39 PKPbc **PKPdf** **09 23 07.0 0.0**
SONM **Songino Array** 154.74 11 PKPbc **PKPbc** **09 23 22.5 +0.6**
comp=Z,0.4nm,0.4s,baz=303,slow=4.3,SNR=4.4
SONM PKPab **PKPab** **09 23 38.6 +1.0**
comp=Z,0.2nm,0.5s,baz=319,slow=3.7,SNR=4.3
HHC **Hu-ho-hao-te** 162.26 4 *e*PKP PKPdf 09 23 16.8 -5.5
HHC PP **PP** **09 27 55.3 +1.2**

IDC 20 09:17:28.6±6.4, 6.81S×146.68E, h80km±47km, mb3.2/2, mb1 3.3/4, mb1mx3.1/20, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=61.1km s-min=46.7km az=63.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.62**	**169**	P	Pn	09 18 09.4	+0.5
	4.8nm,0.3s,baz=350,slow=12,SNR=17						
PMG				S	Sn	09 18 40.5	+0.7
	16nm,0.3s,baz=222,slow=21,SNR=34						
WRA	**Warramunga Arr**	**17.71**	**221**	P	P	09 21 29.9	0.0
	0.2nm,0.3s,baz=48,slow=11,SNR=13						
ASAR	**Alice Springs**	**20.77**	**215**	P	P	09 22 03.2	0.0
	0.7nm,0.3s,baz=49,slow=8.6,SNR=18						
STKA	**Stephens Creek**	**25.38**	**190**	P	P	09 22 48.2	-0.4
	1.5nm,0.9s,baz=0.0,slow=10,SNR=3.6						

*IDC **20** 09:32:18.4±0.7, 1.14S×127.07E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/22, mbtmp4.2/10, ML4.2/1, MS3.6/16, Ms1 3.6/16, ms1mx3.4/44, Error ellipse: s-maj=48.4km s-min=12.1km az=76.0*
*BJI **20** 09:32:20.3, 1.75S×126.69E, h35km, mB5.0/19, mb4.7/27, Ms4.4/8, Ms7 4.0/12*
*ISCJB **20** 09:32:22.6±0.5, 1.09S±0.03×127.09E±0.03, h35km±5km, mb4.5/34, MS3.7/20, Error ellipse: s-maj=4.6km s-min=4.4km az=159.9*
*DJA **20** 09:32:22.5±0.2, 1°S±2°×12°7E±°, h10km, M4.8/11, mb5.1/8,*

mB5.1/6,MLv4.8/11,Mw(mB)4.5/6
*NEIC **20** 09:32:23.6±0.7, 1°.10S×127°.16E,h35$^{km}_{\pm 7}$, mb4.7/15,*
Error ellipse: s-maj=7.5km s-min=4.8km az=67.0
ISC 20 09:32:24.7±0.5,**1°.08S**×0°.03×**127°.13E**±0°.04,**h35**$^{km}_{\pm 1}$**km**,
n97,σ2**°07**/116,**mb4.6**/34,**MS3.7**/20,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.57**	**40**	P	Pn	09 32 32.6	-3.8
LBMI				S	**Sn**	**09 32 41.6**	**-3.0**
SANI	**Sanana**	**1.50**	**230**	P	**Pn**	**09 32 46.6**	**-2.5**
SANI				S	**Sn**	**09 33 10.2**	**+2.8**
TNTI	**Ternate**	**1.85**	**7**	P	**Pn**	**09 32 52.5**	**-1.5**
TNTI	**Ternate**	**1.85**	**7**	*e*Pn	**Pn**	**09 32 52.1**	**-1.8**
TNTI				*e*Sn	**Sn**	**09 33 16.3**	**+0.1**
NLAI	**Namlea**	**2.15**	**181**	P	**Pn**	**09 32 57.0**	**-1.0**
NLAI				S	**Sn**	**09 33 23.9**	**+0.5**
MSAI	**Masohi**	**2.88**	**141**	P	**Pn**	**09 33 09.6**	**+1.5**
MSAI				S	**Sn**	**09 33 45.6**	**+4.1**
KMSI	**Cibinong**	**3.56**	**298**	P	**Pn**	**09 33 17.0**	**-0.4**
KMSI				S	**Sn**	**09 34 01.5**	**+3.3**
SWI	**Sorong**	**4.13**	**87**	P	Pn	09 33 28.5	+3.2
SWI				S	**Sn**	**09 34 15.4**	**+3.0**
LUWI	**Luwuk**	**4.36**	**270**	P	**Pn**	**09 33 26.3**	**-2.2**
LUWI	**Luwuk**	**4.36**	**270**	*e*Pn	**Pn**	**09 33 27.2**	**-1.2**
LUWI				*e*Sn	**Sn**	**09 34 14.6**	**-3.5**
LUWI	**Luwuk**	**4.36**	**270**	P	**Pn**	**09 33 27.3**	**-1.2**
	baz=4.2,SNR=20						
MRSI	**Marisa**	**5.42**	**287**	P	**Pn**	**09 33 42.0**	**-1.0**
	67nm,0.7s,2μm						
FAKI	**Fak Fak**	**5.43**	**110**	P	**Pn**	**09 33 44.0**	**+0.8**
	154nm,1.0s,1μm0.6nm						
FAKI	**Fak Fak**	**5.43**	**110**	*e*Pn	**Pn**	**09 33 42.4**	**-0.8**
FAKI				*e*Sn	**Sn**	**09 34 45.3**	**+0.8**
FAKI	**Fak Fak**	**5.43**	**110**	P	**Pn**	**09 33 43.9**	**+0.8**
	baz=5.6,SNR=23						
APSI	**Ampana**	**5.49**	**272**	P	**Pn**	**09 33 43.0**	**-1.0**
	349nm,0.4s,11μm2.4nm						
MWPI	**Manokwari, Pap**	**6.91**	**89**	P	x	09 34 07.2	
	239nm,1.1s,0.9nm						
TTSI	**Tana Toraja**	**7.57**	**255**	P	**Pn**	**09 34 12.1**	**-0.4**
	88nm,1.1s,849nm						
BNSI	**Bone**	**7.75**	**245**	P	**Pn**	**09 34 14.9**	**-0.2**
	43nm,0.8s						
SPSI	**Sidrap Palu**	**7.89**	**249**	P	**Pn**	**09 34 17.5**	**+0.4**
	148nm,0.5s,2μm						
BKSI	**Bulukumba**	**8.17**	**239**	P	**Pn**	**09 34 22.7**	**+1.9**
KAPI	**Kappang**	**8.34**	**242**	*e*Pn	**Pn**	**09 34 23.6**	**+0.4**
MTN	**Manton Dam**	**12.34**	**161**	P	Pn	09 35 20.3	+2.3
	baz=12,SNR=6.9						
KDU	**Kakadu**	**12.69**	**156**	P	**Pn**	**09 35 22.3**	**-0.4**
	baz=13,SNR=5.8						
JAY	**Jayapura**	**13.64**	**96**	LR	LR	09 42 14.2	
	comp=Z,482nm,19.5s,baz=194,slow=44						
SMRI	**Semarang**	**17.67**	**250**	P	Pn	09 36 20.2	-8.0
	baz=18,SNR=3.9						
UGM	**Wanagama**	**17.89**	**247**	S	**Sn**	**09 39 45.1**	**-4.4**
	baz=18,SNR=3.5						
WRAB	**Tennant Creek**	**20.02**	**160**	*e*P	**P**	**09 36 53.0**	**-1.7**
	24nm,1.1s						
WRA	**Warramunga Arr**	**20.03**	**160**	P	**P**	**09 36 52.7**	**-2.0**
WRA				S	**S**	**09 40 32.6**	**-5.5**
WRA	**Warramunga Arr**	**20.03**	**160**	P	**P**	**09 36 52.7**	**-2.0**
	0.8nm,0.3s,baz=341,slow=12,SNR=24						
WRA				S	**S**	**09 40 32.6**	**-5.5**
	0.0nm,0.3s,baz=344,slow=21,SNR=2.6						
WRA				LR	LR	09 45 59.7	
	comp=Z,173nm,19.7s,baz=340,slow=41						
COEN	**Coen**	**20.39**	**130**	*e*P	**P**	**09 36 58.4**	**-0.3**
	265nm,0.9s						
COEN	**Coen**	**20.39**	**130**	P	**P**	**09 36 58.9**	**+0.3**
	baz=20,SNR=12						
MBWA	**Marble Bar**	**21.23**	**199**	*e*P	**P**	**09 37 06.7**	**-1.0**
	22nm,1.1s						
QIS	**Mount Isa**	**22.88**	**149**	P	**P**	**09 37 25.6**	**+0.3**
	baz=23,SNR=19						
AS31	**Alice Springs**	**23.39**	**164**	*e*P	**P**	**09 37 28.8**	**-1.8**
ASAR	**Alice Springs**	**23.39**	**164**	P	**P**	**09 37 28.6**	**-2.0**
ASAR				PcP	**PcP**	**09 41 15.4**	**-1.2**
ASAR				S	**S**	**09 41 43.9**	**+2.5**
ASAR	**Alice Springs**	**23.39**	**164**	P	**P**	**09 37 28.6**	**-2.0**
	6.1nm,0.7s,baz=345,slow=10,SNR=44						
ASAR				PcP	**PcP**	**09 41 15.4**	**-1.2**
	0.5nm,0.5s,baz=343,slow=2.4,SNR=4.2						
ASAR				S	**S**	**09 41 43.9**	**+2.5**
	1.5nm,1.0s,baz=344,slow=20,SNR=4.9						
ASAR				LR	LR	09 47 34.1	
	comp=Z,201nm,20.1s,baz=346,slow=39						
MYKOM	**Kota Tinggi**	**23.45**	**277**	*e*P	**P**	**09 37 32.4**	**+1.2**
	24nm,1.1s						
WRKA	**Warakurna**	**23.84**	**177**	P	**P**	**09 37 33.3**	**-1.5**
	baz=24,SNR=14						
TPUB	**Ta-pu**	**25.05**	**346**	*e*P	**P**	**09 37 44.9**	**-0.9**
	27nm,0.9s						
SSLB	**Suanglung**	**25.44**	**347**	*e*P	**P**	**09 37 48.9**	**-0.4**
	21nm,0.8s						
YHNB	**Yeheng**	**26.20**	**348**	*e*P	**P**	**09 37 55.6**	**-0.7**
	23nm,0.8s						
QIZ	**Qiongzhong**	**26.23**	**320**	P	**P**	**09 37 58.0**	**+1.5**
QIZ				S	**S**	**09 42 31.3**	**+4.6**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,57nm,3.6s						
QIZ				LR	LR		
	comp=Z,200nm,18.8s						
JCJ	**Chichijima**	**31.54**	**26**	LR	LR	09 48 23.8	
	comp=Z,61nm,21.0s,baz=192,slow=30						
NWAO	**Narrogin (SRO)**	**33.02**	**195**	LR	LR	09 54 19.4	
	comp=Z,133nm,18.3s,baz=4.0,slow=40						
STKA	**Stephens Creek**	**33.54**	**157**	P	**P**	**09 39 00.3**	**-0.9**
STKA				PcP	**PcP**	**09 41 41.0**	**-0.5**
STKA	**Stephens Creek**	**33.54**	**157**	P	**P**	**09 39 00.3**	**-0.9**
	7.4nm,0.9s,baz=333,slow=7.9,SNR=8.5						
STKA				PcP	**PcP**	**09 41 41.0**	**-0.5**
	0.8nm,0.3s,baz=349,slow=10,SNR=4.5						
STKA				LR	LR	09 52 40.2	
	comp=Z,151nm,20.5s,baz=347,slow=36						
STKA	**Stephens Creek**	**33.54**	**157**	P	**P**	**09 39 01.2**	**0.0**
	baz=34,SNR=8.1						
GYA	**Guiyang**	**33.76**	**326**	*e*P	**P**	**09 39 05.8**	**+2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**33.84**	**306**	LR	LR	09 54 46.1	
	comp=Z,29nm,19.0s,baz=135,slow=40						
NJ2	**Nanjing**	**33.87**	**347**	*e*P	P	09 39 07.8	+3.7
NJ2				pmax	pmax		
	comp=Z,30nm,1.1s						
CMSA	**Cobar Meteorol**	**35.01**	**152**	P	**P**	**09 39 14.8**	**+0.8**
	baz=35,SNR=7.6						
KMI	**Kunming**	**35.16**	**319**	P	P	09 39 21.5	+5.9
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
ARPS	**Mount Arapiles**	**38.03**	**161**	P	**P**	**09 39 40.6**	**+0.9**
	baz=38,SNR=5.9						
KSAR	**Wonju Array Be**	**38.34**	**1**	P	**P**	**09 39 42.3**	**+0.2**
KSRS	**Korea Array**	**38.35**	**1**	P	**P**	**09 39 42.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=182,slow=9.8,SNR=4.0						
KSRS				LR	LR	10 01 08.1	
	comp=Z,38nm,18.2s,baz=172,slow=45						
CD2	**Chengdu**	**38.81**	**327**	*e*P	**P**	**09 39 47.9**	**+1.5**
CD2				PP	**PnPn**	**09 41 22.1**	**+4.0**
CD2				S	**S**	**09 45 44.3**	**+2.5**
CD2				SS	**SS**	**09 48 28.9**	**-5.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=Z,220nm,11.8s						
CD2				LR	LR		
	comp=Z,250nm,13.1s						
MJAR	**Matsushiro Arr**	**38.82**	**14**	LR	LR	09 54 48.8	
	comp=Z,109nm,20.0s,baz=195,slow=35						
XAN	**Xi'an**	**38.90**	**336**	P	**P**	**09 39 46.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,12nm,4.9s						
BJI	**Beijing**	**42.13**	**347**	P	**P**	**09 40 13.8**	**+0.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LZH	**Lanzhou**	**42.87**	**332**	*e*P	**P**	**09 40 20.6**	**+0.7**
LZH				pP	**pP**	**09 40 31.3**	**+1.0**
LZH				*e*PP	**PP**	**09 42 03.5**	**+3.6**
LZH				*e*S	**S**	**09 46 44.0**	**+1.6**
LZH				*e*SS	**SS**	**09 49 50.5**	**-4.2**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.8s						
HHC	**Hu-ho-hao-te**	**44.07**	**343**	*e*P	**P**	**09 40 31.4**	**+1.9**
HHC				pP	**pP**	**09 40 44.0**	**+4.1**
HHC				PP	**PP**	**09 42 12.3**	**-0.3**
HHC				S	**S**	**09 47 03.8**	**+4.1**
HHC				ScS	**ScS**	**09 50 22.6**	**-3.1**
HHC				pmax	pmax		
	comp=Z,34nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,4.9s						
HHC				LR	LR		
	comp=Z,210nm,17.3s						
HHC				LR	LR		
	comp=Z,500nm,16.1s						
HHC				LR	LR		
	comp=Z,160nm,18.8s						
USRK	**Ussuriysk Arra**	**45.29**	**5**	P	**P**	**09 40 38.5**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=197,slow=5.9,SNR=6.1						
USRK				LR	LR	10 01 03.5	
	comp=Z,43nm,19.9s,baz=148,slow=38						
LSA	**Lhasa**	**46.00**	**315**	P	**P**	**09 40 45.3**	**-0.1**
ASAJ	**Asahikawa**	**47.07**	**15**	LR	LR	09 59 43.1	
	comp=Z,76nm,20.9s,baz=76,slow=35						
GTA	**Gaotai**	**47.44**	**331**	*e*P	**P**	**09 40 56.4**	**+0.3**
GTA				PP	**PP**	**09 42 47.0**	**-0.8**
GTA				S	**S**	**09 47 49.6**	**+1.3**
GTA				SS	**SS**	**09 51 10.6**	**-6.0**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,80nm,4.7s						
GTA				LR	LR		
	comp=Z,94nm,14.7s						
GTA				LR	LR		
	comp=Z,130nm,15.0s						
GTA				LR	LR		
	comp=Z,82nm,16.6s						
HYB	**Hyderabad**	**51.25**	**293**	*i* P	**P**	**09 41 23.5**	**-2.0**
ULN	**Ulaanbaatar**	**51.80**	**343**	*e*P	**P**	**09 41 28.8**	**-0.4**
	comp=Z,16nm,0.4s						
SONM	**Songino Array**	**51.96**	**342**	P	**P**	**09 41 30.0**	**-0.5**
SONM	**Songino Array**	**51.96**	**342**	P	**P**	**09 41 30.0**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=152,slow=7.7,SNR=21						
TLY	**Talaya**	**56.20**	**343**	*e*P	**P**	**09 41 59.4**	**-1.7**
	comp=Z,7.7nm,1.0s						
WMQ	**Urumqi**	**56.91**	**327**	P	**P**	**09 42 08.1**	**+1.8**
WMQ				pP	**pP**	**09 42 18.3**	**+1.3**
WMQ				PcP	**PcP**	**09 43 03.5**	**+2.0**
WMQ				PP	**PP**	**09 44 15.9**	**+2.7**
WMQ				S	**S**	**09 49 57.3**	**-0.6**
WMQ				ScS	**ScS**	**09 51 51.1**	**-2.0**
WMQ				SS	**SS**	**09 53 46.3**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,24nm,13.0s						
WMQ				LR	LR		
	comp=Z,100nm,30.7s						
WMQ				LR	LR		
	comp=Z,100nm,26.3s						
WMQ				LR	LR		
	comp=Z,46nm,32.2s						
URZ	**Urewera**	**58.82**	**135**	LR	LR	10 08 39.3	
	comp=Z,86nm,20.3s,baz=308,slow=37						
RAO	**Raoul Island**	**59.28**	**124**	LR	LR	10 07 06.6	
	comp=Z,109nm,19.5s,baz=354,slow=35						
PETK	**Petropavlovsk-**	**59.73**	**21**	P	**P**	**09 42 25.5**	**-0.3**
PETK	**Petropavlovsk-**	**59.73**	**21**	P	**P**	**09 42 25.5**	**-0.3**
	comp=Z,3nm,0.6s,baz=196,slow=4.7,SNR=12						
AFI	**Afiamalu**	**61.72**	**105**	LR	LR	10 08 59.2	
	comp=Z,84nm,21.8s,baz=262,slow=36						
MK31	**Makanchi Array**	**61.74**	**327**	*e*P	**P**	**09 42 39.1**	**-0.5**
MKAR	**Makanchi Array**	**61.74**	**327**	P	**P**	**09 42 39.2**	**-0.4**
MKAR	**Makanchi Array**	**61.74**	**327**	P	**P**	**09 42 39.2**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=116,slow=8.1,SNR=39						
EKS2	**Erkin-Say**	**64.69**	**319**	*e*P	**P**	**09 42 59.5**	**+0.1**
	comp=Z,3.1nm,0.7s						
KBL	**Kabul**	**64.80**	**309**	*e*P	**P**	**09 42 60.0**	**-0.5**
	comp=Z,2.9nm,0.5s						
ZAA0	**Zalesovo Array**	**65.04**	**334**	*e*P	**P**	**09 42 60.0**	**-1.3**
ZALV	**Zalesovo Beam**	**65.04**	**334**	P	**P**	**09 42 59.7**	**-1.6**
ZALV	**Zalesovo Beam**	**65.04**	**334**	P	**P**	**09 42 59.7**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=119,slow=5.2,SNR=9.5						
KURK	**Kurchatov**	**66.01**	**329**	*e*P	**P**	**09 43 06.6**	**-1.0**
	comp=Z,7.1nm,0.8s						
KKAR	**Karatay Array**	**67.04**	**318**	*e*P	**P**	**09 43 14.0**	**-0.4**
	comp=Z,0.6nm,0.4s						
BRVK	**Borovoye**	**71.63**	**328**	*e*P	**P**	**09 43 41.9**	**-0.7**
	comp=Z,6.7nm,1.1s						
TIXI	**Tiksi**	**72.61**	**1**	*e*P	**P**	**09 43 46.8**	**-1.3**
	comp=Z,14nm,1.6s						
ABKAR	**Akbulak array**	**76.12**	**322**	*e*P	**P**	**09 44 07.9**	**-1.1**
	comp=Z,2.1nm,0.7s						
MAW	**Mawson**	**79.42**	**201**	LR	LR	10 17 54.2	
	comp=Z,47nm,19.5s,baz=116,slow=34						
ILAR	**Eielson Array**	**89.25**	**25**	P	**P**	**09 45 14.6**	**-2.2**
ILAR	**Eielson Array**	**89.25**	**25**	P	**P**	**09 45 14.6**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=239,slow=4.4,SNR=3.4						
MLR	**Muntele Rosu**	**98.61**	**316**	LR	LR	10 36 43.2	
	comp=Z,12nm,19.2s,baz=359,slow=39						
HGN	**Heimansgroeve**	**110.08**	**325**	*e*L	L	10 02 57.5	
	comp=Z,184nm,19.9s						
TORD	**Torodi Ar. Bea**	**124.68**	**285**	PKP	**PKPdf**	**09 51 20.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**124.68**	**285**	PKP	**PKPdf**	**09 51 20.4**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=90,slow=1.7,SNR=3.3						

*SZGRF **20** 09:32:23.3, 16°.54N×93°.30W,h33^{km}, mb5.1, MS4.5,*
Chiapas, Mexico
*CASC **20** 09:32:26.3±2.3, 17°.65N×94°.13W, h19$^{km}_{\pm 999}$, MD5.1*
*GCMT **20** 09:32:27.5±0.4, 17°.07N×94°.61W, h118$^{km}_{\pm 4}$, MW5.0/66,*
Moment Tensor Solution. s21,c23; s66,c97; Duration:
0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.41±.12;
$M_{\theta\theta}$-1.98±.15; $M_{\phi\phi}$2.38±.14; $M_{r\theta}$1.56±.09; $M_{r\phi}$-2.47±.15;
$M_{\theta\phi}$-0.31±.09; Best double couple: M≥3.67400×10^{16}
NP1:ϕ_s292.00000°,δ84.00000°,λ-154.00000°. NP2:
ϕ_s199.00000°,δ64.00000°,λ-7.00000°. Principal axes: T
3.7160, Plg13.0000°, Azm63.0000°; N -0.0880,
Plg63.0000°, Azm305.0000°; P -3.6330, Plg23.0000°,
Azm159.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*NEIC **20** 09:32:27.5±0.4, 16°.88N×94°.48W, h104$^{km}_{\pm 3}$, mb4.9/67,*
MD4.7(MEX) Error ellipse: s-maj=6.3km s-min=3.9km
az=49.0
NEIC Felt [III] at Tuxtla Gutierrez. Also felt at Huatulco.
*MEX **20** 09:32:28.8±1.1, 16°.62N×94°.81W, h128$^{km}_{\pm 20}$, MD4.8*
*ISCJB **20** 09:32:28.4±0.3, 16°.94N±0°.03×94°.48W±0°.03, h120$^{km}_{\pm 2}$,*
mb4.9/141, Error ellipse: s-maj=5.9km s-min=2.1km
az=136.8
*IDC **20** 09:32:28.8±0.6, 17°.01N×94°.24W, h110$^{km}_{\pm 4}$, mb4.1/25,*
mb1 4.3/28, mb1mx4.3/32, mbtmp4.5/28, MS3.5/13,
Ms1 3.5/13, ms1mx3.3/43, Error ellipse: s-maj=17.2km
s-min=7.6km az=53.0
*BJI **20** 09:32:29.2, 16°.84N×94°.21W, h125^{km}, mB5.0/5*
ISC 20 09:32:28.2±0.4,**16°.93N**±0°.04×**94°.64W**±0°.03,**h115**$^{km}_{\pm 3}$**km**,
n709,σ1**°48**/705,**mb4.9**/148,**231C-178D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.82**	**231**	*e*P	Pn	09 32 54.7	-4.6
HUIG				*e*S	Sn	09 33 17.1	-5.8
HUIG	**Huatulco**	**1.82**	**231**	*i* P	Pn	09 32 54.6	-4.6
HUIG				*i* S	Sn	09 33 17.1	-5.8
PCIG		**1.83**	**132**	*i* P	**Pn**	**09 32 58.9**	**-0.4**
PCIG				*i* S	**Sn**	**09 33 21.7**	**-1.3**
PCIG		**1.83**	**132**	*i* P	**Pn**	**09 32 58.9**	**-0.4**
PCIG				*i* S	**Sn**	**09 33 21.7**	**-1.3**
OXX	**Oaxaca**	**2.00**	**275**	*i* P	**Pn**	**09 32 59.1**	**-2.5**
OXX				*i* S	**Sn**	**09 33 22.6**	**-4.5**
OXX	**Oaxaca**	**2.00**	**275**	*i* P	**Pn**	**09 32 59.1**	**-2.5**
OXX				*i* S	**Sn**	**09 33 22.6**	**-4.5**
VHO	**Vista Hermosa**	**2.01**	**274**	*i* P	**Pn**	**09 33 00.7**	**-1.1**
VHO				*i* S	**Sn**	**09 33 25.1**	**-2.3**
VHO	**Vista Hermosa**	**2.01**	**274**	*i* P	**Pn**	**09 33 00.7**	**-1.1**
VHO				*i* S	**Sn**	**09 33 25.1**	**-2.3**
TPIG	**Tehuac#an**	**2.99**	**300**	*e*P	**Pn**	**09 33 13.9**	**-0.5**
TPIG				*e*S	**Sn**	**09 33 50.4**	**+0.5**
TPIG	**Tehuac#an**	**2.99**	**300**	*i* P	**Pn**	**09 33 15.4**	**+1.0**
TPIG				*i* S	**Sn**	**09 33 50.4**	**+0.5**
THIG		**3.04**	**131**	*e*P	**Pn**	**09 33 14.6**	**-0.3**
THIG				*e*S	**Sn**	**09 33 50.5**	**-0.5**
THIG		**3.04**	**131**	*i* P	**Pn**	**09 33 14.9**	**-0.1**
THIG				*e*S	**Sn**	**09 33 50.2**	**-0.8**
LVIG	**Laguna Verde**	**3.25**	**329**	*e*P	**Pn**	**09 33 15.9**	**-1.8**
LVIG				*i* S	**Sn**	**09 33 55.0**	**-0.8**
LVIG	**Laguna Verde**	**3.25**	**329**	*e*P	**Pn**	**09 33 15.9**	**-1.8**
LVIG				*i* S	**Sn**	**09 33 55.0**	**-0.8**
PNIG	**Pinotepa**	**3.39**	**261**	*i* P	Pn	09 33 16.0	-3.5
PNIG				*e*S	Sn	09 33 52.9	-6.2
PNIG	**Pinotepa**	**3.39**	**261**	*i* P	Pn	09 33 16.0	-3.5
PNIG				*e*S	Sn	09 33 52.9	-6.2
TLIG	**Tlapa**	**3.81**	**280**	*e*P	**Pn**	**09 33 24.2**	**-1.0**
TLIG				*i* S	**Sn**	**09 34 07.2**	**-2.1**
SCIG	**Sabancuy**	**3.86**	**58**	*e*P	**Pn**	**09 33 25.3**	**-0.5**
SCIG				*i* S	**Sn**	**09 34 12.8**	**+2.4**
SCIG	**Sabancuy**	**3.86**	**58**	P	**Pn**	**09 33 25.3**	**-0.5**
SCIG				*i* S	**Sn**	**09 34 12.8**	**+2.4**
JAT	**Jato**	**3.89**	**132**	*e*P	**Pn**	**09 33 27.6**	**+1.4**
APG	**El Apazote**	**4.45**	**115**	P	Pn	09 33 29.1	-4.8
APG				S	Sn	09 34 17.8	-7.1
APG	**El Apazote**	**4.45**	**115**	P	Pn	09 33 29.1	-4.8
	42nm,0.3s,baz=310,slow=9.8,SNR=430						
APG				S	Sn	09 34 17.8	-7.1
	981nm,0.3s,baz=84,slow=17,SNR=32						
APG				LR	LR	09 35 05.0	
	comp=Z,304nm,20.1s,baz=181,slow=38						
GCG	**Guatemala City**	**4.59**	**120**	*e*S	**Sn**	**09 34 28.0**	**-0.3**
PCG	**Pacaya**	**4.63**	**122**	*e*P	Pn	09 33 41.0	+4.6
YAIG	**Yautepec**	**4.63**	**295**	*e*P	**Pn**	**09 33 37.1**	**+0.8**
YAIG				*e*S	**Sn**	**09 34 28.0**	**-1.2**
NBG	**Las Nubes**	**4.74**	**119**	*e*P	**Pn**	**09 33 39.6**	**+1.7**
PLIG	**Platanillo**	**4.86**	**288**	*i* P	**Pn**	**09 33 39.8**	**+0.5**
PLIG				*e*S	**Sn**	**09 34 34.5**	**-0.1**
PLIG	**Platanillo**	**4.86**	**288**	*i* P	**Pn**	**09 33 39.8**	**+0.5**
PLIG				*e*S	**Sn**	**09 34 34.5**	**-0.1**
UNM	**Universidad Na**	**4.93**	**300**	*e*P	**Pn**	**09 33 41.9**	**+1.4**
UNM				*e*S	**Sn**	**09 34 34.9**	**-1.7**
ACX	**Acapulco**	**5.00**	**270**	*i* P	Pn	09 33 35.6	-5.5
ACX	**Acapulco**	**5.00**	**270**	*i* P	Pn	09 33 35.6	-5.5
MRL	**Marmol**	**5.11**	**111**	*e*P	**Pn**	**09 33 41.0**	**-1.8**
RBDL	**Robledal**	**5.54**	**120**	*e*P	**Pn**	**09 33 47.8**	**-0.8**
ARIG	**Puente Sto Nin**	**5.61**	**285**	*e*P	**Pn**	**09 33 49.8**	**+0.5**
ARIG				*e*S	**Sn**	**09 34 53.4**	**+0.8**
RTR	**El Retiro**	**5.68**	**121**	*i* P	Pn	09 33 51.3	+0.7
SNJE	**San Jose**	**5.73**	**121**	*e*P	**Pn**	**09 33 51.3**	**+0.1**
SBLS	**San Blas**	**5.73**	**122**	*e*P	**Pn**	**09 33 51.5**	**+0.3**
SBLS				*e*S	**Sn**	**09 34 59.0**	**+3.1**
BOQS	**Boqueron**	**6.07**	**121**	*i* P	**Pn**	**09 33 56.7**	**+0.9**
LFU	**La Fuente**	**6.20**	**120**	*e*P	**Pn**	**09 33 57.7**	**+0.3**
LBRS	**Las Brisas**	**6.26**	**120**	*e*P	**Pn**	**09 33 58.8**	**+0.5**
LFRS	**El Faro**	**6.31**	**121**	*e*P	**Pn**	**09 33 59.0**	**0.0**
SNVI	**San Vicente**	**6.50**	**120**	*e*P	**Pn**	**09 34 01.2**	**-0.3**
TEIG	**Tepich**	**6.87**	**61**	*e*Pn	**Pn**	**09 34 04.8**	**-1.6**
TEIG				*e*Sn	**Sn**	**09 35 17.8**	**-5.2**
TEIG				S	**Sn**	**09 35 19.7**	**-3.3**
TEIG	**Tepich**	**6.87**	**61**	P	**Pn**	**09 34 04.9**	**-1.4**
	80nm,0.3s,baz=263,slow=6.8,SNR=210						
TEIG				S	**Sn**	**09 35 19.7**	**-3.3**
	219nm,0.3s,baz=353,slow=22,SNR=12						
TEIG				LR	LR	09 37 21.9	
	comp=Z,341nm,19.3s,baz=310,slow=45						
TGUH	**Tegucigalpa,Un**	**7.65**	**111**	*e*Pn	**Pn**	**09 34 16.2**	**-0.9**
SFJM	**Santa Fe**	**8.71**	**295**	*i* P	**Pn**	**09 34 30.2**	**-1.3**
COPN	**Copaltepe**	**9.11**	**120**	*i* P	**Pn**	**09 34 37.1**	**+0.3**
035Z	**Hargill**	**10.01**	**342**	⇑P	**Pn**	**09 34 50.0**	**+1.2**
	baz=10,SNR=5.4						
035A	**Encino**	**10.46**	**343**	P	**Pn**	**09 34 57.4**	**+2.4**
	baz=11						
034A	**Hebbronville**	**10.76**	**340**	⇑P	**Pn**	**09 35 01.2**	**+2.2**
	baz=11,SNR=15						
KVTX	**Kingsville**	**10.98**	**345**	*e*Pn	**Pn**	**09 35 05.0**	**+2.9**
VCR	**Vista de Mar**	**11.06**	**127**	*e*P	**Pn**	**09 35 02.9**	**-0.4**
934A	**Benavides**	**11.21**	**342**	⇓P	**Pn**	**09 35 07.6**	**+2.5**
	baz=11,SNR=26						
933A	**Laredo**	**11.46**	**339**	⇑P	**Pn**	**09 35 10.3**	**+1.8**
	baz=12,SNR=65						
JTS	**JuntasAbangare**	**11.49**	**124**	*e*Pn	**Pn**	**09 35 07.9**	**-1.1**
JTS				*e*Sn	Sn	09 37 06.3	-9.3
JTS				S	**Sn**	**09 37 11.0**	**-4.5**
JTS	**JuntasAbangare**	**11.49**	**124**	P	**Pn**	**09 35 08.1**	**-0.9**
	9.9nm,0.3s,baz=323,slow=15,SNR=45

430A	Baggett Ranch, baz=15,SNR=35	15.05	338	⇑P		P	09 35 57.2	-0.3
332A	Millersview baz=15,SNR=29	15.12	343	⇑P		Pn	09 35 57.1	+1.3
429A	Davenport Ranc baz=15,SNR=65	15.15	335	⇑P		Pn	09 35 57.6	+1.2
WHTX	Lake Whitney 181nm,0.5s	15.21	351	eP		P	09 36 01.1	+1.9
WHTX	Lake Whitney baz=15,SNR=108	15.21	351	⇓P		P	09 36 00.2	+1.0
331A	San Angelo baz=15,SNR=33	15.25	341	⇓P		P	09 35 59.6	-0.1
626A	Big Bend Ranch baz=16,SNR=47	15.29	327	⇓P		P	09 35 60.0	-0.3
234A	Clairette baz=15,SNR=150	15.34	349	⇑P		P	09 36 00.1	-0.6
527A	Woodward Ranch baz=16,SNR=66	15.50	330	⇓P		P	09 36 02.9	+0.3
233A	Rising Star baz=16,SNR=70	15.51	346	⇑P		P	09 36 02.1	-0.5
232A	Coleman baz=16,SNR=61	15.57	344	⇓P		P	09 36 03.2	-0.1
428A	Kincaid Ranch, baz=16	15.57	333	P		P	09 36 04.1	+0.7
330A	Mertzon baz=16,SNR=36	15.59	339	⇑P		P	09 36 03.6	+0.1
526A	Mary Lane Ranc baz=16,SNR=45	15.67	328	⇓P		P	09 36 04.8	+0.3
135A	Vickery Place, baz=16,SNR=13	15.76	351	⇑P		P	09 36 06.0	+0.7
231A	Bronte baz=16,SNR=36	15.80	342	⇑P		P	09 36 06.5	+0.7
134A	White-Moore Ra baz=16,SNR=26	15.88	349	⇓P		P	09 36 07.2	+0.5
329A	Wagon Wheel Ra baz=16	15.95	337	⇑P		P	09 36 07.8	+0.3
427A	Hayter Ranch, baz=16,SNR=38	15.99	332	⇑P		P	09 36 08.9	+0.9
230A	Sterling City baz=16,SNR=14	16.01	340	⇑P		P	09 36 08.5	+0.3
133A	Hamilton Ranch baz=16,SNR=17	16.08	347	⇓P		P	09 36 09.5	+0.6
426A	McDonald Obser baz=16,SNR=93	16.14	330	⇓P		P	09 36 11.0	+1.3
328A	Wristen Ranch, baz=16,SNR=164	16.19	334	⇓P		P	09 36 11.0	+0.8
ABTX	Abilene, Hawle 148nm,0.7s	16.27	345	ePn		P	09 36 11.3	+0.3
ABTX	Abilene, Hawle baz=16,SNR=51	16.27	345	⇑P		P	09 36 11.8	+0.8
229A	Bryant Ranch, baz=16,SNR=24	16.32	338	⇓P		P	09 36 12.3	+0.7
327A	Balmorhea Ranc baz=17	16.48	332	⇑P		P	09 36 14.7	+1.4
Z35A	Perchaven, San baz=17,SNR=17	16.50	352	⇓P		P	09 36 14.9	+1.4
131A	Roby baz=17,SNR=18	16.51	343	⇓P		P	09 36 14.8	+1.1
130A	Snyder baz=17,SNR=15	16.61	341	⇑P		P	09 36 15.9	+1.0
Z34A	Collier Ranch, baz=17,SNR=23	16.63	350	⇑P		P	09 36 17.0	+2.0
326A	Caldwell Ranch baz=17	16.65	331	P		P	09 36 18.2	+2.9
Z33A	Whitaker Ranch baz=17,SNR=13	16.70	348	⇓P		P	09 36 17.0	+1.2
425A	Indio Mountain baz=17,SNR=35	16.71	327	⇑P		P	09 36 17.4	+1.4
228A	UT Block 9, Go baz=17,SNR=17	16.75	336	⇓P		P	09 36 17.3	+0.9
Z32A	Haskell baz=17,SNR=36	16.88	346	⇑P		P	09 36 18.9	+1.1
227A	Bennet, Jal baz=17,SNR=9.1	16.94	334	⇑P		P	09 36 19.8	+1.3
129A	Stewart Farms, baz=17,SNR=26	16.94	339	⇑P		P	09 36 19.9	+1.4
Z31A	Sharp Cattle R baz=17,SNR=14	17.05	344	⇓P		Pn	09 36 20.9	+1.1
128A	Castleberry Fa baz=17,SNR=29	17.16	337	⇑P		Pn	09 36 22.1	+1.0
Y34A	Reagan Ranch, baz=17,SNR=23	17.18	351	⇓P		Pn	09 36 22.6	+1.3
Z30A	Sanderson Ranc baz=17,SNR=24	17.30	341	⇑P		Pn	09 36 24.0	+1.2
Y33A	Hilltop Ranch, baz=18,SNR=20	17.38	349	⇑P		Pn	09 36 25.1	+1.5
CLNB	Carlsbad 41nm,0.8s	17.41	333	eP		Pn	09 36 26.5	+2.4
Z29A	Hungry Hill Ra baz=18,SNR=14	17.46	340	⇓P		Pn	09 36 25.8	+1.1
Y32A	R-V Farms, Ver baz=18,SNR=14	17.54	347	⇑P		Pn	09 36 26.5	+0.9
127A	Arkansas Junct baz=18,SNR=10	17.55	335	⇓P		Pn	09 36 27.2	+1.5
MIAR	Mount Ida 44nm,0.9s	17.57	3	eP		Pn	09 36 26.0	+0.1
MIAR				eS		Sn	09 39 28.8	-13
GDL2	Guadalupe Moun	17.57	332	eP		Pn	09 36 28.0	+1.9
TIGA	Tifton 80nm,0.6s	17.59	33	eP		P	09 36 23.8	-1.8
TIGA				eS		Sn	09 39 29.4	-13
TIGA	Tifton baz=17,SNR=28	17.59	33	⇑P		P	09 36 25.4	-0.1
Y31A	Rekieta Farm, baz=18,SNR=22	17.70	344	⇑P		Pn	09 36 29.0	+1.6
225A	Deer Hill, Car baz=18,SNR=13	17.71	330	⇓P		Pn	09 36 30.0	+2.2
Z28A	Tucker Farm, M baz=18,SNR=72	17.72	338	⇓P		Pn	09 36 29.4	+1.6
Y30A	Stafford Cattl baz=18,SNR=14	17.79	343	⇓P		Pn	09 36 30.4	+1.8
126A	Clayton Basin, baz=18,SNR=13	17.80	333	⇓P		Pn	09 36 30.7	+2.0
X34A	Smith Ranch, M baz=18,SNR=8.6	17.83	351	⇑P		Pn	09 36 30.9	+1.9
X33A	Lawton baz=18,SNR=18	17.87	350	⇓P		Pn	09 36 30.8	+1.2
UALR	University of 105nm,1.4s	17.89	6	eP		Pn	09 36 30.3	+0.6
X32A	Elmer baz=18,SNR=12	17.91	347	⇑P		Pn	09 36 30.9	+0.9
Y29A	Porterfield Fa baz=18,SNR=25	18.00	341	⇓P		Pn	09 36 32.1	+0.9
Z27A	Tatum baz=18,SNR=104	18.05	336	⇓P		Pn	09 36 32.7	+0.8
CPRX	Cap Rock 3.3nm,0.8s	18.06	334	eP		Pn	09 36 33.6	+1.6
125A	Gardner Draw, baz=18,SNR=36	18.09	332	⇑P		Pn	09 36 33.4	+1.1
WMOK	Wichita Mounta 98nm,1.1s	18.12	349	eP		Pn	09 36 32.4	-0.1
WMOK				eS		S	09 39 44.4	-8.8
OXF	Oxford 46nm,1.0s	18.12	14	eP		P	09 36 31.8	+0.5
Y28A	McKinney Farm, baz=18,SNR=28	18.24	339	⇓P		Pn	09 36 34.4	+0.4
X31A	McDonald Ranch baz=18,SNR=14	18.26	346	⇑P		Pn	09 36 34.9	+0.7
X30A	Coker Ranch, T baz=18,SNR=13	18.32	343	⇓P		Pn	09 36 35.6	+0.7
Z26A	Caprock baz=18,SNR=20	18.32	334	⇓P		Pn	09 36 35.9	+0.9
W34A	Bridge Creek, baz=18,SNR=9.4	18.44	352	⇓P		Pn	09 36 36.9	+0.5
W33A	Caddo, Fort Co baz=19,SNR=7.0	18.46	350	⇑P		Pn	09 36 37.0	+0.3
MSTX	Muleshoe	18.47	338	eP		Pn	09 36 38.3	+1.4
MSTX	Muleshoe baz=19,SNR=50	18.47	338	⇑P		Pn	09 36 37.3	+0.5
Y27A	Causey baz=19,SNR=65	18.54	337	⇓P		Pn	09 36 38.1	+0.5
X29A	Tulia baz=19,SNR=32	18.55	341	⇓P		Pn	09 36 37.6	-0.2
W32A	Sentinel baz=19,SNR=12	18.58	348	⇓P		P	09 36 37.4	+1.0
Z25A	Roswell baz=19,SNR=21	18.64	333	⇑P		Pn	09 36 38.9	0.0
X28A	Dimmitt baz=19,SNR=22	18.78	340	⇓P		Pn	09 36 41.1	+0.6
W31A	Holland Ranch, baz=19,SNR=12	18.79	346	⇓P		Pn	09 36 40.3	-0.2
Y26A	Elida baz=19,SNR=21	18.83	336	⇓P		Pn	09 36 41.8	+0.7
TUL1	Tulsa 75nm,0.7s	18.93	357	eP		P	09 36 41.0	+0.8
TUL1	Tulsa baz=19	18.93	357	⇑P		Pn	09 36 42.0	-0.1
W30A	Crocket Farms	18.93	345	⇑P		Pn	09 36 41.7	-0.5
AMTX	Amarillo 156nm,1.0s	18.95	342	eP		Pn	09 36 42.3	-0.2
AMTX	Amarillo baz=19	18.95	342	⇑P		Pn	09 36 42.4	-0.1
Z24A	Sheeppen Canyo baz=19	18.97	331	⇑P		Pn	09 36 42.9	+0.1
V34A	Guthrie baz=19,SNR=22	19.00	353	⇑P		P	09 36 42.2	+1.2
V33A	Lossen Ranch, baz=19,SNR=16	19.09	351	⇓P		Pn	09 36 43.4	-0.6
V32A	Arapaho baz=19,SNR=6.5	19.12	349	⇑P		Pn	09 36 43.9	-0.4
W29A	Amraillo baz=19,SNR=6.1	19.17	342	⇓P		Pn	09 36 45.0	0.0
Y25A	Mesa, Roswell baz=19,SNR=34	19.18	334	⇑P		Pn	09 36 46.1	+0.9
X27A	F and S Farms, baz=19,SNR=8.6	19.20	338	⇓P		Pn	09 36 44.8	-0.6
GOGA	Godfrey 64nm,0.8s	19.25	29	eP		P	09 36 42.9	-0.8
GOGA				eS		S	09 40 06.2	-9.4
V31A	Spring Creek L baz=19	19.33	347	⇓P		Pn	09 36 47.0	+0.2
X26A	CR and CF Fran baz=20,SNR=10	19.37	337	⇓P		Pn	09 36 47.2	-0.2
GNAR	Gosnell 224nm,0.3s	19.40	11	eP		P	09 36 45.4	+0.2
GNAR				eS		S	09 40 11.7	-6.8
W28A	Vega baz=20,SNR=7.1	19.46	341	⇑P		Pn	09 36 48.8	+0.4
Y24A	Capitan baz=20,SNR=12	19.51	332	⇓P		Pn	09 36 49.5	+0.5
V30A	Spur Ranch, Mi baz=20,SNR=16	19.51	345	⇓P		Pn	09 36 48.6	-0.4
121A	Cookes Peak, D 28nm,0.9s	19.56	325	eP		Pn	09 36 50.4	+0.7
121A	Cookes Peak, D baz=20,SNR=8.0	19.56	325	⇑P		Pn	09 36 50.0	+0.3
W27A	Bowe Ranch, En baz=20,SNR=26	19.56	339	⇑P		Pn	09 36 48.8	-0.8
319A	Douglas baz=20,SNR=5.2	19.60	320	⇑P		Pn	09 36 50.7	+0.6
U34A	Anderson Ranch baz=20,SNR=8.2	19.60	353	⇓P		Pn	09 36 49.3	-0.6
Z22A	Elephant Butte baz=20,SNR=8.1	19.69	328	⇑P		Pn	09 36 51.1	-0.1
X25A	Clemmons Ranch baz=20	19.69	335	⇑P		Pn	09 36 51.4	+0.3
U32A	Winter Ranch, baz=20	19.75	350	⇓P		Pn	09 36 51.5	-0.2
Y23A	Lovelace Mesa, baz=20,SNR=14	19.79	331	⇓P		Pn	09 36 52.5	+0.1
SWET	Sewanee 20nm,0.7s	19.80	21	eP		P	09 36 49.1	-0.6
SWET				eS		S	09 40 18.0	-8.5
V29A	Stinnett baz=20	19.83	343	⇑P		Pn	09 36 52.4	-0.3
W26A	Owens Ranch, T baz=20,SNR=11	19.84	337	⇑P		Pn	09 36 52.1	-0.8
U31A	Nine Bar Ranch baz=20	19.91	348	⇑P		Pn	09 36 52.5	-1.0
V28A	Channing baz=20,SNR=18	19.92	342	⇑P		Pn	09 36 52.9	-0.9
X24A	Lazy VL Ranch, baz=20	20.05	333	⇓P		Pn	09 36 54.9	-0.6
PBMO	Poplar Bluff 35nm,1.0s	20.12	10	eP		P	09 36 53.0	0.0
V27A	Dan Oppiter Fa baz=20	20.12	340	⇑P		Pn	09 36 55.0	-1.1
PARMO	Parma	20.12	11	eP		P	09 36 53.5	+0.4
W25A	X Bar L Ranch, baz=20,SNR=21	20.21	336	⇑P		Pn	09 36 56.4	-0.9
U30A	WK&E Inc. Balk baz=20	20.24	346	⇓P		Pn	09 36 56.4	-1.0
BNM	Barren Site 14nm,0.9s	20.24	330	eP		Pn	09 36 57.5	-0.3
U29A	Oasis Ranch, S baz=20	20.31	344	⇓P		Pn	09 36 57.2	-1.2
Y22D	IRIS PASSCAL I baz=20	20.32	329	⇓P		Pn	09 36 57.8	-0.7
T33A	Patterson Ranc baz=20,SNR=12	20.32	352	⇑P		P	09 36 56.7	+1.4
LPM	Los Pinos Moun	20.38	330	eP		P	09 36 57.1	+1.0
LENM	Lemitar	20.42	329	eP		Pn	09 36 58.9	-0.8
V26A	Tequesquite Ra baz=21,SNR=34	20.48	338	⇓P		Pn	09 36 59.4	-0.9
T32A	Huddler Ranch, baz=21	20.52	350	⇓P		P	09 36 59.3	+1.8
CPCT	Cooper Cave	20.53	24	eP		P	09 36 57.0	-0.5
CPCT				eS		S	09 40 44.2	+3.3
T31A	Randall Ranch, baz=21,SNR=6.1	20.57	348	⇑P		P	09 36 59.8	+1.8
W24A	Lazy 6 Ranch, baz=21,SNR=13	20.59	334	⇑P		Pn	09 37 00.9	-0.8
LAZ	Ladron 16nm,1.0s	20.69	330	eP		Pn	09 37 02.5	-0.5
T30A	Plains baz=21	20.71	347	⇓P		Pn	09 37 01.7	-1.2
U27A	Thompson Grove baz=21,SNR=16	20.73	341	⇑P		Pn	09 37 02.2	-1.0
V25A	Rancho No Teng baz=21,SNR=24	20.82	337	⇑P		Pn	09 37 03.5	-0.9
ANMO	Albuquerque 11nm,0.8s	20.82	332	eP		Pn	09 37 03.3	-1.1
ANMO	Albuquerque 9.7nm,0.7s,baz=148,slow=12,SNR=29	20.82	332	P		Pn	09 37 03.4	-1.0
W23A	Werner Place, baz=21,SNR=12	20.86	333	⇑P		Pn	09 37 03.6	-1.3
V24A	Rampart Ranch, baz=21,SNR=18	20.98	335	⇓P		Pn	09 37 05.1	-1.2
T29A	Hugoton baz=21	20.99	345	⇓P		P	09 37 04.5	+2.0
U26A	Atchley Ranch, baz=21,SNR=20	21.00	339	⇑P		P	09 37 05.0	+2.2
TKL	Tuckaleechee C 36nm,1.0s	21.01	25	P		P	09 37 01.6	-1.1
TKL	Tuckaleechee C 2.5nm,0.4s,baz=197,slow=10.0,SNR=14	21.01	25	P		P	09 37 01.6	-1.1
S32A	Newby Ranch, P baz=21	21.03	350	⇓P		P	09 37 05.0	+2.1
JSC	Jenkinsville	21.03	32	eP		P	09 37 02.3	-0.6
S31A	Mullinville baz=21	21.05	349	⇓P		P	09 37 04.4	+1.4
TUC	Tucson 7.2nm,0.9s	21.17	319	eP		P	09 37 06.8	+2.3
T28A	Walsh baz=21,SNR=5.8	21.17	343	⇓P		P	09 37 06.5	+2.0
U25A	Circle Dot Ran baz=21,SNR=18	21.24	338	⇓P		P	09 37 07.7	+2.4
SIUC	Southern Illin 63nm,1.0s	21.25	12	eP		P	09 37 05.7	+0.6
S30A	Montezuma baz=21	21.26	347	⇓P		P	09 37 06.7	+1.3
T27A	Campo baz=21,SNR=12	21.29	342	⇑P		P	09 37 07.9	+2.2
V23A	Ortiz Mt. (NFS baz=22,SNR=11	21.37	333	⇓P		P	09 37 09.8	+3.0
S29A	Ulysses baz=22,SNR=7.9	21.39	346	⇓P		P	09 37 09.4	+2.7
R33A	Olander Ranch, baz=22,SNR=6.4	21.50	353	⇓P		P	09 37 10.2	+2.3
S28A	Manter baz=22	21.55	344	⇓P		P	09 37 10.8	+2.3
U24A	Moreno Valley baz=22	21.57	336	⇓P		P	09 37 10.7	+1.7
T26A	Comanche Natio baz=22,SNR=5.1	21.66	340	⇓P		P	09 37 12.2	+2.4
KMSC	Kings Mountain baz=22	21.68	31	⇑P		P	09 37 09.6	-0.2
R31A	Burdett baz=22,SNR=17	21.70	350	⇓P		P	09 37 11.9	+1.8
R32A	Long Quarter, baz=22,SNR=14	21.71	351	⇑P		P	09 37 12.2	+2.2
V22A	San Miguel Ran baz=22,SNR=13	21.83	332	⇑P		P	09 37 13.9	+2.3
USIN	University of 22nm,0.8s	21.83	15	eP		P	09 37 10.4	-1.0
R30A	Dighton baz=22,SNR=20	21.84	348	⇓P		P	09 37 13.8	+2.3
TZTN	Tazewell	21.87	25	eP		P	09 37 10.7	-1.1
U23A	El Rito baz=22,SNR=12	21.87	334	⇑P		P	09 37 14.7	+2.6
T25A	Trinidad baz=22	21.90	339	⇑P		P	09 37 14.2	+1.8
S27A	Las Animas baz=22	21.91	342	⇑P		P	09 37 14.2	+1.8
SLM	Saint Louis	21.96	9	eP		P	09 37 12.3	-0.5
S26A	Kim baz=22	22.03	341	⇓P		P	09 37 15.4	+1.7
KSU1	Kansas State U 92nm,0.9s	22.15	356	eP		P	09 37 14.5	-0.2
KSU1	Kansas State U baz=22	22.15	356	⇑P		P	09 37 15.0	+0.3
R29A	Marienthal baz=22,SNR=6.6	22.16	346	⇑P		P	09 37 17.0	+2.1
Q33A	Connelly Farm, baz=22,SNR=5.1	22.16	353	⇑P		P	09 37 16.5	+1.6
T24B	San Luis baz=22,SNR=7.1	22.19	337	⇑P		P	09 37 18.3	+2.9
U22A	Llaves baz=22	22.19	333	⇓P		P	09 37 17.8	+2.3
R28A	Tribune baz=22,SNR=11	22.24	345	⇑P		P	09 37 17.8	+2.0
Q32A	Meitler Ranch, baz=22,SNR=20	22.24	352	⇑P		P	09 37 17.3	+1.6
X18A	Snowflake baz=22,SNR=6.7	22.25	325	⇓P		P	09 37 19.0	+3.0
S25A	Robets Cordova baz=22,SNR=9.2	22.38	339	⇓P		P	09 37 19.9	+2.6
Q31A	Ellis baz=22,SNR=9.2	22.38	350	⇑P		P	09 37 18.8	+1.7
T23A	Casias Ranch, baz=23,SNR=6.9	22.42	335	⇑P		P	09 37 20.0	+2.2
WCI	Wyandotte Cave 43nm,0.8s	22.45	17	eP		P	09 37 16.2	-1.6
R27A	Eads baz=23,SNR=8.0	22.45	343	⇑P		P	09 37 19.9	+2.0
Q30A	Quinter baz=23,SNR=12	22.50	349	⇑P		P	09 37 20.1	+1.8
Q29A	Oakley baz=23,SNR=15	22.57	347	⇓P		P	09 37 20.8	+1.7
P33A	Williams Farm, baz=23,SNR=8.4	22.58	354	⇑P		P	09 37 19.9	+0.8
S24A	Houchin Ranch, baz=23	22.64	338	⇓P		P	09 37 21.7	+1.7
R26A	Arlington baz=23,SNR=9.1	22.65	342	⇓P		P	09 37 22.6	+2.7
R25A	Fountain Ranch baz=23,SNR=14	22.77	340	⇓P		P	09 37 23.5	+2.4
P32A	Huiting Farm, baz=23,SNR=38	22.87	352	⇑P		P	09 37 23.2	+1.3
P31A	Stockton baz=23,SNR=20	22.88	351	⇓P		P	09 37 23.5	+1.5
Q28A	Sharon Springs baz=23,SNR=5.9	22.93	346	⇑P		P	09 37 24.4	+1.8
S23A	Nye Farm, Mont baz=23	22.99	336	⇑P		P	09 37 26.0	+2.6
OTAV	Otavalo 69nm,1.6s	23.01	135	eP		P	09 37 24.9	+0.9
X16A	Lo Mia Camp, P baz=23	23.02	322	⇑P		P	09 37 26.3	+2.7
P30A	Selden baz=23,SNR=19	23.05	349	⇓P		P	09 37 25.7	+1.9
KSCO	Kaye Shedlock' baz=23,SNR=6.4	23.08	344	⇑P		P	09 37 26.3	+2.2
R24A	Sanders Place, baz=23	23.12	339	⇑P		P	09 37 26.5	+1.9
Z14A	Wintersburg baz=23	23.23	318	⇓P		P	09 37 28.4	+3.1
P29A	Atwood baz=23,SNR=7.5	23.24	348	⇓P		P	09 37 26.9	+1.4
Q26A	Hugo baz=23	23.25	342	⇑P		P	09 37 27.9	+2.3
BLO	Bloomington 103nm,1.3s	23.26	16	eP		P	09 37 24.8	-0.8
R23A	Moffat baz=24,SNR=7.3	23.35	337	⇑P		P	09 37 29.9	+3.1
S22A	4UR Ranch, Cre baz=24	23.35	335	⇓P		P	09 37 28.9	+2.2
113A	Mohawk Valley, baz=24	23.39	316	⇑P		P	09 37 29.8	+3.0
P28A	Saint Francis baz=24,SNR=13	23.39	346	⇑P		P	09 37 29.0	+2.1
Q25A	Bedland, Calha baz=24	23.46	341	⇑P		P	09 37 29.8	+2.1
O32A	Brockman Farm, baz=24,SNR=5.3	23.46	353	⇓P		P	09 37 28.6	+1.2
O31A	Wooden Ranch, baz=24,SNR=23	23.49	351	⇑P		P	09 37 29.2	+1.5
P27A	Ficken Ranch, baz=24,SNR=9.0	23.58	345	⇑P		P	09 37 30.9	+2.2
MVCO	Mesa Verde 40nm,1.0s	23.62	331	eP		P	09 37 32.1	+2.9
MVCO				e			09 37 55.9	
MVCO	Mesa Verde baz=24	23.62	331	⇓P		P	09 37 31.3	+2.1
O30A	MW Ranch, Wils baz=24,SNR=12	23.64	350	⇑P		P	09 37 30.6	+1.5
O29A	4D Ranch, Culb baz=24	23.72	348	⇓P		P	09 37 31.7	+1.8
WUAZ	Wupatki baz=24	23.77	324	⇑P		P	09 37 33.1	+2.6
BLA	Blacksburg 18nm,1.0s	23.78	29	eP		P	09 37 28.3	-2.1
P26A	Davis Ranch, A baz=24,SNR=7.1	23.79	343	⇑P		P	09 37 32.6	+2.0
O28A	Krutsinger Ran baz=24	23.93	346	⇓P		P	09 37 33.9	+2.1
N32A	Stulken Farm, baz=24	23.96	353	⇓P		P	09 37 33.5	+1.6
P25A	Willow Gulch B baz=24	23.98	342	⇓P		P	09 37 34.1	+1.8
N31A	Bailey Ranch, baz=24	24.10	352	⇑P		P	09 37 34.3	+1.1
O27A	Beecher Island baz=24,SNR=6.7	24.15	345	⇑P		P	09 37 35.8	+2.0
P24A	Kohler Place, baz=24	24.21	340	⇑P		P	09 37 36.8	+2.4
N30A	Hueftle Ranch, baz=24	24.25	350	⇑P		P	09 37 36.6	+2.1
SFIN	Scholer Farm 20nm,0.9s	24.26	14	eP		P	09 37 34.6	0.0
SFIN	Scholer Farm baz=24	24.26	14	⇓P		P	09 37 34.6	0.0
GLA	Glamis baz=24	24.27	315	⇓P		P	09 37 38.1	+3.3
N29A	Votaw Ranch, W baz=24,SNR=11	24.36	349	⇓P		P	09 37 38.1	+2.5
P23A	Jefferson baz=25,SNR=7.6	24.40	339	⇓P		P	09 37 39.9	+3.6
PV01	Paradox Valley 3µm,1.1s	24.41	333	eP		P	09 37 38.9	+2.6
PV01				e			09 38 03.5	
N28A	Pribbeno Ranch baz=24	24.41	347	⇓P		P	09 37 38.0	+1.9
O26A	Horse Wrangler baz=24	24.42	344	⇓P		P	09 37 38.6	+2.4
BGNE	Belgrade	24.58	354	eP		P	09 37 38.7	+1.2
BGNE				e			09 38 08.2	
BGNE	Belgrade baz=25,SNR=6.7	24.58	354	⇑P		P	09 37 38.9	+1.3
M31A	Lambtecht Ranc baz=25,SNR=16	24.61	352	⇑P		P	09 37 39.9	+2.0
SMCO	Snowmass 30nm,1.1s	24.64	337	eP		P	09 37 43.0	+4.4
ISCO	Idaho Springs 25nm,1.1s	24.70	339	eP		P	09 37 41.6	+2.6
ISCO	Idaho Springs baz=25,SNR=5.4	24.70	339	⇓P		P	09 37 41.4	+2.4
SDV	Santo Domingo 54nm,0.8s	24.71	106	eP		P	09 37 36.3	-2.9
N27A	Anderson Farm, baz=25	24.75	346	⇓P		P	09 37 41.5	+2.3
OGNE	Ogallala 52nm,0.9s	24.77	347	eP		P	09 37 41.2	+1.9
OGNE	Ogallala baz=25,SNR=11	24.77	347	⇑P		P	09 37 41.2	+1.9
PV04	Paradox Valley	24.77	332	eP		P	09 37 43.0	+3.5
O24A	Longmont baz=25	24.82	341	⇓P		P	09 37 42.7	+2.8
SCIA	State Center 64nm,0.7s	24.92	3	eP		P	09 37 41.2	+0.6
P22A	Eagle baz=25,SNR=5.8	24.93	337	⇑P		P	09 37 43.7	+2.8
M29A	Burnside Ranch baz=25	24.98	349	⇑P		P	09 37 43.7	+2.4
O23A	Lake Granby, G baz=25	25.18	339	⇑P		P	09 37 45.7	+2.4
L30A	Spencer Herefo baz=25	25.31	351	⇓P		P	09 37 46.3	+2.0
ACSO	Alum Creek Sta 27nm,0.8s	25.32	21	eP		P	09 37 42.0	-2.3
O22A	Kremmling baz=26	25.35	338	⇓P		P	09 37 47.0	+2.1

L31A **Butterfield Fa** 25.41 353 ⇑P P 09 37 46.8 +1.6
baz=26,SNR=19
L29A **Maesberg Ranch** 25.54 350 ⇑P P 09 37 48.1 +1.8
baz=26
N22A **Wattenberg Ran** 25.89 339 ⇑P P 09 37 51.1 +1.4
baz=26
O20A **White River Ci** 25.96 336 ⇑P P 09 37 52.5 +2.2
baz=26,SNR=6.4
M24A **Cheyenne** 25.98 342 ⇓P P 09 37 52.1 +1.7
baz=26,SNR=6.8
K30A **Basset** 26.01 352 ⇑P P 09 37 52.0 +1.5
baz=26,SNR=10
PHWY **Pilot Hill** 26.01 341 *e*P P 09 37 47.5 -3.4
25nm,1.1s
JFWS **Jewell Farm** 26.17 7 *e*P P 09 37 51.5 -0.4
K29A **Lazy Trails An** 26.20 350 ⇑P P 09 37 53.5 +1.3
baz=26,SNR=8.0
K28A **Ten Mile Ranch** 26.33 349 ⇓P P 09 37 54.3 +0.8
baz=26
K27A **Flueckinger Fa** 26.49 347 ⇓P P 09 37 56.3 +1.4
baz=27,SNR=5.5
ARUT **Antelope Range** 26.55 325 *e*P P 09 37 59.0 +3.3
395nm,1.2s
N20A **Spence Gulch,** 26.57 336 ⇓P P 09 37 56.7 +0.9
baz=27,SNR=5.7
J30A **Dallas** 26.63 352 ⇑P P 09 37 57.0 +0.9
baz=27,SNR=9.6
SHPR **Sheep Range** 26.66 321 *e*P P 09 37 58.0 +1.4
18nm,1.2s
ECSD **EROS Data Cent** 26.77 357 ⇑P P 09 37 57.5 +0.3
baz=27,SNR=13
J29A **Okreek** 26.83 351 ⇑P P 09 37 58.7 +0.8
baz=27
L23A **Garrett** 26.83 342 ⇓P P 09 37 58.3 +0.2
baz=27,SNR=7.7
SCI **San Clemente I** 26.83 311 ⇓P P 09 38 00.3 +2.4
baz=27
RWWY **Rawlins** 26.93 339 *e*P P 09 38 03.9 +4.8
60nm,1.3s
J27A **Elkhorn Farm,** 26.97 348 ⇑P P 09 38 00.6 +1.4
baz=27
J28A **Allard Ranch,** 27.00 349 ⇑P P 09 38 00.1 +0.7
baz=27
J26A **Sides Ranch, S** 27.26 346 ⇓P P 09 38 02.8 +1.0
baz=27
I29A **Vivian Onida** 27.43 351 ⇑P P 09 38 04.1 +1.0
baz=28,SNR=6.8
DAU **Daniels Canyon** 27.47 332 P P 09 38 08.0 +4.0
34nm,1.3s
I28A **Midland** 27.54 350 ⇓P P 09 38 05.5 +1.2
baz=28
K22A **Casper** 27.57 341 *e*P P 09 38 07.3 +2.6
K22A *e*pP **pP** 09 38 29.3 -0.4
K22A **Casper** 27.57 341 ⇑P P 09 38 05.5 +0.9
baz=28
BRSD **Miller** 27.67 353 *e*P P 09 38 06.1 +0.8
BRSD *e*pP pP 09 38 36.9 +6.6
BRSD **Miller** 27.67 353 ⇓P P 09 38 05.8 +0.5
baz=28,SNR=5.2
I27A **Quinn** 27.77 348 ⇑P P 09 38 07.9 +1.6
baz=28
H29A **Onida** 28.00 352 ⇓P P 09 38 09.2 +0.8
baz=28
TCUT **Toone Canyon** 28.11 332 *e*P P 09 38 14.2 +4.6
57nm,1.2s
H28A **Mission Ridge** 28.18 350 ⇓P P 09 38 10.6 +0.7
baz=28
J22A **Midwest** 28.25 342 ⇑P P 09 38 12.4 +1.7
baz=28
SPMN **St. Paul** 28.25 3 *e*P P 09 38 10.0 -0.5
SPMN **St. Paul** 28.25 3 ⇑P P 09 38 10.5 +0.1
baz=28,SNR=17
H27A **Howes** 28.32 349 ⇑P P 09 38 12.3 +1.1
baz=28
G30A **Faulkton** 28.36 353 ⇓P P 09 38 12.0 +0.5
baz=28,SNR=15
G29A **Hoven** 28.52 352 ⇓P P 09 38 13.6 +0.7
baz=29
H25A **Fruitdale** 28.62 347 ⇑P P 09 38 14.9 +1.1
baz=29,SNR=8.9
PDAR **Pinedale Array** 28.73 337 P P 09 38 17.9 +2.9
PDAR *e*pP **pP** 09 38 42.0 +1.9
PDAR **Pinedale Array** 28.73 337 P P 09 38 17.9 +2.9
0.3nm,0.5s,baz=140,slow=10,SNR=2.5
PDAR *e*pP **pP** 09 38 42.0 +1.9
2.5nm,0.9s,baz=134,slow=8.6,SNR=8.9
ATAH **Atahualpa** 28.81 145 P P 09 38 17.2 +1.1
ATAH **Atahualpa** 28.81 145 P P 09 38 17.2 +1.1
12nm,0.8s,baz=329,slow=4.7,SNR=7.1
H24A **Dirks Ranch, A** 28.96 345 ⇓P P 09 38 18.2 +1.3
baz=29
G27A **Dupree** 29.01 349 ⇓P P 09 38 18.5 +1.2
baz=29
F30A **Leola** 29.05 354 ⇓P P 09 38 17.8 +0.3
baz=29
G25A **Newell** 29.12 347 ⇑P P 09 38 19.7 +1.4
baz=29
F29A **Eureka** 29.14 353 ⇓P P 09 38 19.2 +0.8
baz=29
I20A **Worland** 29.25 340 ⇑P P 09 38 20.7 +1.2
baz=29
H22A **Clearmont** 29.29 343 ⇓P P 09 38 21.1 +1.3
baz=29
F27A **Lemmon** 29.51 349 ⇓P P 09 38 22.9 +1.2
baz=30
H21A **Big Horn, Sher** 29.52 342 ⇓P P 09 38 23.3 +1.4
baz=30
G23A **Biddle** 29.59 345 ⇑P P 09 38 23.7 +1.2
baz=30,SNR=5.3
F26A **Lodgepole** 29.60 349 ⇓P P 09 38 23.8 +1.3
baz=30
I19A **Meeteetse** 29.62 339 ⇑P P 09 38 24.3 +1.4
baz=30
H20A **Greybull** 29.69 340 ⇑P P 09 38 24.9 +1.6
baz=30
E30A **Jud** 29.70 354 ⇓P P 09 38 23.8 +0.5
baz=30
REDW **Red Top Meadow** 29.73 336 *e*P P 09 38 26.6 +2.7
40nm,1.1s
NVAR **Mina Array Bea** 29.80 321 P P 09 38 28.4 +3.8
NVAR pP pP 09 38 52.6 +2.9
NVAR sP sP 09 39 03.4 +0.4
NVAR **Mina Array Bea** 29.80 321 P P 09 38 28.4 +3.8
1.3nm,0.8s,baz=144,slow=8.7,SNR=5.5
NVAR pP pP 09 38 52.6 +2.9
4.4nm,0.8s,baz=135,slow=9.4,SNR=6.4
NVAR sP sP 09 39 03.4 +0.4
10nm,0.9s,baz=139,slow=9.6,SNR=9.5
F25A **Bowman** 29.83 348 ⇓P P 09 38 25.7 +1.2
baz=30
E29A **Napoleon** 29.84 353 ⇓P P 09 38 25.2 +0.6
baz=30
LOHW **Long Hollow** 29.84 336 *e*pP pP 09 38 51.2 +1.2
G22A **Birney** 29.85 343 ⇓P P 09 38 25.9 +1.1
baz=30
TPAW **Teton Pass** 29.88 336 *e*P P 09 38 29.0 +3.8
30nm,1.1s
TPAW *e*pP pP 09 38 51.7 +1.3
F24A **Ekalaka** 29.97 346 ⇓P P 09 38 26.8 +1.0
baz=30
E27A **Carson** 29.97 350 ⇓P P 09 38 27.3 +1.6
baz=30,SNR=5.8
E28A **Huff** 29.98 352 ⇑P P 09 38 26.8 +0.9
baz=30
MOOW **Moose Ponds** 30.01 336 *e*pP pP 09 38 49.7 -1.8
F23A **Volborg** 30.08 345 ⇓P P 09 38 28.3 +1.5
baz=30
I17A **Pilgrim Ck.** 30.09 337 ⇓P P 09 38 28.8 +1.7
baz=30,SNR=11
E26A **Carlson Angus** 30.16 349 ⇓P P 09 38 28.8 +1.4
baz=30,SNR=12
H19A **Powell** 30.18 339 ⇑P P 09 38 30.3 +2.6
baz=30,SNR=5.1
FLWY **Flagg Ranch** 30.28 337 *e*pP pP 09 38 56.6 +2.7
D30A **Buchanan** 30.28 354 ⇑P P 09 38 28.9 +0.5
baz=30,SNR=5.5
E25A **Miller Ranch,** 30.37 348 ⇑P P 09 38 30.8 +1.5
baz=30,SNR=8.4
G20A **Bridger** 30.41 341 ⇑P P 09 38 31.3 +1.5
baz=31
H18A **Shoshone NF, C** 30.42 339 ⇑P P 09 38 31.8 +1.8
baz=31
BMN **Battle Mountai** 30.50 325 *e*pP pP 09 38 59.6 +3.8
D28A **Regan** 30.57 352 ⇓P P 09 38 32.3 +1.3
baz=31
D27A **Center** 30.63 351 ⇓P P 09 38 32.8 +1.3
baz=31

D26A **Manning** 30.70 350 ⇓P P 09 38 33.7 +1.5
baz=31,SNR=7.1
C30A **Mose, Pekin** 30.85 355 ⇑P P 09 38 34.0 +0.6
baz=31,SNR=11
YMR **Madison River** 30.88 337 *e*pP pP 09 39 02.8 +3.6
E22A **Miles City** 30.89 345 ⇑P P 09 38 35.1 +1.3
baz=31
F20A **Billings** 30.92 341 ⇓P P 09 38 35.7 +1.5
baz=31
D25A **Fairfield** 30.98 348 ⇑P P 09 38 36.5 +1.9
baz=31,SNR=7.1
EYMN **Ely** 31.04 4 *e*P P 09 38 34.1 -0.9
9.1nm,0.7s
C28A **Hausauer Farms** 31.06 352 ⇑P P 09 38 36.2 +0.9
baz=31
D24A **Glendive** 31.15 347 ⇑P P 09 38 37.7 +1.6
baz=31,SNR=6.0
LAO **LASA Array** 31.19 345 *e*pP pP 09 39 03.8 +2.0
C27A **Sayler Ranch,** 31.21 351 ⇓P P 09 38 37.6 +1.0
baz=31,SNR=6.8
AGMN **Agassiz Nation** 31.30 358 *e*P P 09 38 37.1 -0.2
49nm,0.8s
AGMN **Agassiz Nation** 31.30 358 ⇑P P 09 38 37.3 0.0
baz=31,SNR=42
D23A **Lindsay** 31.40 346 ⇓P P 09 38 39.9 +1.6
baz=32
HLID **Hailey** 31.40 332 *e*P P 09 38 41.4 +2.9
HLID *e*pP **pP** 09 39 05.4 +1.6
HLID **Hailey** 31.40 332 ⇑P P 09 38 40.7 +2.2
baz=32
C26A **Wahner Farm, P** 31.41 350 ⇑P P 09 38 39.5 +1.1
baz=32,SNR=14
C25A **Freed Ranch, W** 31.50 349 ⇑P P 09 38 41.0 +1.8
baz=32
E20A **Meyer Farm, Mu** 31.55 342 ⇑P P 09 38 41.2 +1.5
baz=32
C24A **Savage** 31.56 347 ⇓P P 09 38 41.4 +1.7
baz=32,SNR=7.0
B30A **Myrvik Farm, E** 31.58 355 ⇓P P 09 38 40.7 +0.8
baz=32,SNR=24
D22A **Cohagen** 31.61 345 ⇑P P 09 38 41.8 +1.6
baz=32,SNR=11
B29A **Wagenman Farm,** 31.68 354 ⇓P P 09 38 41.6 +0.9
baz=32,SNR=14
E19A **Rath Farm, Rou** 31.70 341 ⇑P P 09 38 43.1 +2.0
baz=32
D21A **La Casta Ranch** 31.74 344 ⇑P P 09 38 43.5 +2.1
baz=32
MCMT **McKenzie Canyo** 31.75 335 P P 09 38 43.5 +1.9
2.9nm,1.3s
MCMT *e*pP **pP** 09 39 09.3 +2.4
B28A **Dugan Ranch, T** 31.78 353 ⇑P P 09 38 42.8 +1.2
baz=32,SNR=10
B27A **Peters Farms,** 31.85 352 ⇑P P 09 38 43.9 +1.7
baz=32
C23A **Lambert** 31.98 347 ⇓P P 09 38 44.5 +1.1
baz=32,SNR=5.1
A30A **Hoffart Farm,** 32.06 355 ⇑P P 09 38 44.6 +0.6
baz=32,SNR=29
D20A **Manuel Ranch,** 32.08 343 ⇑P P 09 38 45.8 +1.5
baz=32
DLMT **Dillon** 32.09 336 *e*pP pP 09 39 09.2 -0.5
C22A **Vida** 32.09 346 ⇓P P 09 38 46.0 +1.6
baz=32,SNR=8.0
A29A **Manning Farm,** 32.13 354 ⇑P P 09 38 45.5 +0.8
baz=32,SNR=24
A28A **Rude Farm, Bot** 32.22 353 ⇓P P 09 38 46.0 +0.5
baz=32,SNR=6.3
D19A **Cripps Ranch,** 32.36 342 ⇓P P 09 38 48.5 +1.6
baz=32
DGMT **Dagmar** 32.41 348 *e*P P 09 38 48.7 +1.6
10nm,0.8s
DGMT **Dagmar** 32.41 348 ⇑P P 09 38 48.8 +1.6
baz=32
LRM **Limekiln Ridge** 32.42 336 *e*P P 09 38 48.9 +1.4
38nm,1.1s
LRM *e*pP **pP** 09 39 14.6 +1.8
A26A **Wade Farm, Ken** 32.45 351 ⇓P P 09 38 48.5 +1.1
baz=32,SNR=16
B23A **Brockton** 32.57 347 ⇑P P 09 38 50.5 +1.9
baz=33
C20A **Veseth Ranch,** 32.61 343 ⇓P P 09 38 50.8 +1.9
baz=33
B22A **Reddig Ranch S** 32.64 346 ⇑P P 09 38 50.9 +1.7
baz=33
WVOR **Wild Horse Val** 32.65 326 *e*pP pP 09 39 16.3 +1.5
A25A **Svangstu Ranch** 32.66 350 ⇓P P 09 38 51.2 +1.8
baz=33
A24A **Westby** 32.81 349 ⇓P P 09 38 52.4 +1.7
baz=33
C19A **Slack Wire Ran** 32.93 342 ⇑P P 09 38 53.5 +1.8
baz=33
HRY **Holter Researc** 32.94 338 P P 09 38 52.0 +0.1
HRY *e*pP **pP** 09 39 20.1 +2.9
FRNY **Flat Rock** 32.97 28 *e*pP pP 09 39 16.6 -0.8
A23A **Redstone** 33.02 348 ⇑P P 09 38 54.3 +1.9
baz=33
ULM **Lac du Bonnet** 33.25 359 *e*P P 09 38 53.4 -1.0
17nm,1.0s
ULM **Lac du Bonnet** 33.25 359 P P 09 38 53.5 -1.0
14nm,0.8s,baz=182,slow=8.7,SNR=24
ULM LR LR 09 53 34.7
comp=Z,52nm,20.2s,baz=5.5,slow=38
A22A **Carney Farms,** 33.27 346 ⇑P P 09 38 56.6 +1.9
baz=33
B20A **Solberg Farm,** 33.28 344 ⇓P P 09 38 56.2 +1.5
baz=33
EGMT **Eagleton** 33.40 341 ⇓P P 09 38 57.6 +1.8
baz=34
A21A **Bergtoll Ranch** 33.51 345 ⇓P P 09 38 58.1 +1.4
baz=34,SNR=5.7
CHMT **Chamberlain Mo** 33.63 337 *e*pP pP 09 39 25.6 +2.2
A20A **Cobblestone Ra** 33.66 344 ⇓P P 09 38 60.0 +1.9
baz=34
MSO **Missoula** 33.83 336 *e*pP pP 09 39 26.1 +1.1
MSO **Missoula** 33.83 336 ⇓P P 09 39 02.2 +2.6
baz=34
A19A **Klindworth Far** 33.92 343 ⇑P P 09 39 01.9 +1.6
baz=34
F10A **Beach Ranch, E** 34.53 332 *e*P P 09 39 07.4 +1.7
29nm,1.0s
YBMT **Yellow Bay** 34.71 337 P P 09 39 06.9 -0.3
FFC **Flin Flon** 38.14 353 *e*P P 09 39 36.5 +0.4
10nm,0.8s
FFC *e*pP **pP** 09 40 01.5 -0.4
SAML **Samuel** 40.36 127 *e*P P 09 39 51.8 -3.2
19nm,0.9s
FCC **Fort Churchill** 41.77 0 *e*P P 09 40 05.5 -0.5
0.3nm,1.0s
LPAZ **La Paz** 42.10 140 P P 09 40 09.8 -0.2
LPAZ sP **sP** 09 40 48.8 -0.3
LPAZ **La Paz** 42.10 140 P P 09 40 09.8 -0.2
7.2nm,0.7s,baz=323,slow=7.4,SNR=17
LPAZ sP **sP** 09 40 48.8 -0.3
8.8nm,0.7s,baz=324,slow=9.8,SNR=6.3
LPAZ LR LR 09 57 36.0
comp=Z,49nm,18.0s,baz=302,slow=36
SCHQ **Schefferville** 43.45 23 P P 09 40 17.5 -2.3
SCHQ **Schefferville** 43.45 23 P P 09 40 17.5 -2.3
5.6nm,1.0s,baz=242,slow=2.6,SNR=5.2
RPN **Rapa Nui** 46.06 198 P P 09 40 42.9 +2.2
RPN **Rapa Nui** 46.06 198 P P 09 40 42.9 +2.2
0.8nm,0.4s,baz=15,slow=9.7,SNR=3.0
YKA **Yellowknife Ar** 47.62 348 P P 09 40 52.6 +0.3
YKA pP **pP** 09 41 18.5 -0.6
YKA **Yellowknife Ar** 47.62 348 P P 09 40 52.6 +0.3
2.6nm,0.8s,baz=152,slow=7.4,SNR=45
YKA pP **pP** 09 41 18.5 -0.6
3.6nm,0.8s,baz=150,slow=7.5,SNR=8.6
YKW3 **Yellowknife Ar** 47.68 348 *e*P P 09 40 53.2 +0.3
YKW3 *e*pP **pP** 09 41 18.3 -1.3
LCO **Las Campanas** 51.20 153 *e*P P 09 41 20.3 0.0
21nm,0.9s
DAWY **Dawson** 56.02 338 P P 09 41 53.6 -1.2
BDFB **Brasilia** 56.23 123 P P 09 41 55.8 -1.3
BDFB **Brasilia** 56.23 123 P P 09 41 55.8 -1.3
6.2nm,0.5s,baz=270,slow=7.9,SNR=11
BDFB LR LR 10 08 31.0
comp=Z,18nm,21.7s,baz=291,slow=39
CPUP **Villa Florida** 56.25 139 P P 09 41 56.5 -0.3
CPUP **Villa Florida** 56.25 139 P P 09 41 56.5 -0.3
1.2nm,0.5s,baz=337,slow=4.4,SNR=3.8
CPUP LR LR 10 04 38.8
comp=Z,58nm,19.1s,baz=144,slow=34
INK **Inuvik** 56.92 344 *e*P P 09 42 01.8 +0.8
7.4nm,0.8s
RES **Resolute Bay** 57.76 360 *e*P P 09 42 06.3 -0.5
9.5nm,1.1s
RES **Resolute Bay** 57.76 360 LR LR 10 09 49.5
comp=Z,65nm,18.4s,baz=206,slow=39
BB16B **Bebedouro** 58.85 128 *e*P P 09 42 13.6 -1.6
BB16B *i* 09 42 15.1
BB16B *i* 09 42 22.4
ILAR **Eielson Array** 59.16 337 P P 09 42 17.6 +0.9
ILAR pP **pP** 09 42 44.1 -0.3
ILAR **Eielson Array** 59.16 337 P P 09 42 17.6 +0.9
0.9nm,0.8s,baz=150,slow=5.0,SNR=12
ILAR pP **pP** 09 42 44.1 -0.3
1.3nm,0.7s,baz=137,slow=5.5,SNR=6.9
TRF **Thorofare Moun** 59.91 335 *e*P P 09 42 23.2 +1.1
27nm,1.0s
PLCA **Paso Flores** 61.58 159 P P 09 42 33.2 -0.4
PLCA **Paso Flores** 61.58 159 P P 09 42 33.2 -0.4
11nm,1.0s,baz=331,slow=8.1,SNR=24
RCBR **Riachuelo** 62.29 106 LR LR 10 11 24.1
comp=Z,69nm,18.2s,baz=294,slow=38
TRQA **Tornquist** 62.71 151 *e*P P 09 42 40.8 -0.3
25nm,1.4s
TRQA *e*pP **pP** 09 43 11.9 +2.8
SUMG **Summit** 64.12 16 *i* P P 09 42 49.7 -0.7
5.8nm,0.9s
SCO **Scoresbysund** 68.39 20 *i* P P 09 43 16.7 -0.4
4.7nm,0.9s
PCAB **Cabril** 76.45 50 *e*P P 09 44 05.7 +0.1
49nm,1.6s
POLO **Lamas de Olo** 76.69 51 *e*P P 09 44 07.8 +0.8
19nm,1.8s
PVIS **Viseu** 76.74 51 *e*P P 09 44 07.4 +0.1
43nm,1.8s
EVOP **Sao Brissos** 76.98 53 *e*P P 09 44 08.0 -0.6
60nm,1.5s
MTE **Manteigas** 77.06 51 *e*P P 09 44 09.3 +0.2
34nm,1.5s
EVO **Evora** 77.07 53 *e*P P 09 44 08.0 -1.1
60nm,1.5s
EKA **Eskdalemuir Ar** 77.09 36 P P 09 44 07.9 -0.9
EKA **Eskdalemuir Ar** 77.09 36 P P 09 44 07.9 -0.9
2.4nm,0.5s,baz=271,slow=5.8,SNR=12
PCBR **Castelo Branco** 77.22 52 *e*P P 09 44 09.5 -0.4
32nm,1.8s
PBEJ **Beja** 77.28 54 *e*P P 09 44 04.1 -6.2
25nm,1.8s
MVO **Moncorvo** 77.29 51 *e*P P 09 44 10.8 +0.4
38nm,1.5s
MVO **Moncorvo** 77.29 51 *e*LR LR 10 02 13.2
99nm,16.0s
PMRV **Marv??o** 77.37 52 *e*P P 09 44 11.6 +0.8
30nm,2.0s
PMRV **Marv??o** 77.37 52 *e*LR LR 10 01 42.0
103nm,18.0s
PBRG **Braganca** 77.38 50 *e*P P 09 44 11.0 +0.2
40nm,1.8s
PBDV **Barranco-do-Ve** 77.39 55 *e*P P 09 44 10.4 -0.5
44nm,1.6s
PVAQ **Vaqueiros** 77.52 55 *e*LR LR 10 01 16.2
148nm,16.0s
ROSF **Rostrenen** 78.44 43⇑*i*P P 09 44 16.2 -0.3
38nm,1.0s
ROSF **Rostrenen** 78.44 43⇑*i*P P 09 44 16.2 -0.3
38nm,1.0s
QUIF **Quistinic** 78.60 43⇑*i*P P 09 44 17.1 -0.3
36nm,0.7s
QUIF **Quistinic** 78.60 43⇑*i*P P 09 44 17.1 -0.3
36nm,0.7s
SGMF **Saint Gilles** 78.92 43⇑*i*P P 09 44 18.4 -0.7
14nm,0.6s
SGMF **Saint Gilles** 78.92 43⇑*i*P P 09 44 18.4 -0.7
14nm,0.6s
ESDC **Sonseca Array** 79.90 52 P P 09 44 24.4 -0.3
ESDC **Sonseca Array** 79.90 52 P P 09 44 24.4 -0.3
6.8nm,0.9s,baz=293,slow=5.2,SNR=23
GRR **Gorron** 80.00 42⇑*i*P P 09 44 24.9 0.0
91nm,0.8s
GRR **Gorron** 80.00 42⇑*i*P P 09 44 24.9 0.0
91nm,0.8s
FLN **La Foliniere** 80.15 42⇑*i*P P 09 44 25.8 +0.1
40nm,0.6s
FLN **La Foliniere** 80.15 42⇑*i*P P 09 44 25.8 +0.1
40nm,0.6s
LDF **La Druitiere** 80.42 42⇑*i*P P 09 44 27.2 0.0
44nm,0.7s
LDF **La Druitiere** 80.42 42⇑*i*P P 09 44 27.2 0.0
44nm,0.7s
MFF **Saint Martin d** 80.91 44 *e*P P 09 44 29.6 -0.3
61nm,1.1s
MFF **Saint Martin d** 80.91 44 *e*P P 09 44 29.6 -0.3
61nm,1.1s
MDT **Midelt** 81.04 58 P P 09 44 31.0 0.0
MDT **Midelt** 81.04 58 P P 09 44 31.0 0.0
5.4nm,0.9s,baz=312,slow=4.2,SNR=8.6
SJPF **Ste Jean** 81.06 48 *e*P P 09 44 30.9 +0.1
54nm,1.3s
SJPF **Ste Jean** 81.06 48 *e*P P 09 44 30.9 +0.1
54nm,1.3s
ETSF **Etsaut** 81.59 48⇑*i*P P 09 44 33.9 +0.3
52nm,1.0s
ETSF **Etsaut** 81.59 48⇑*i*P P 09 44 33.9 +0.3
52nm,1.0s
LFF **La Frestale** 81.95 46⇑*i*P P 09 44 35.3 -0.1
102nm,0.9s
LFF **La Frestale** 81.95 46⇑*i*P P 09 44 35.3 -0.1
102nm,0.9s
EPF **Esparros** 82.19 48 *e*P P 09 44 36.8 0.0
82nm,1.3s
EPF **Esparros** 82.19 48 *e*P P 09 44 36.8 0.0
82nm,1.3s
RJF **Les Rejaudoux** 82.38 45⇑*i*P P 09 44 37.4 -0.2
46nm,0.7s
RJF **Les Rejaudoux** 82.38 45⇑*i*P P 09 44 37.4 -0.2
46nm,0.7s
TCF **Toulx Ste Croi** 82.56 44⇑*i*P P 09 44 38.2 -0.4
38nm,0.8s
TCF **Toulx Ste Croi** 82.56 44⇑*i*P P 09 44 38.2 -0.4
38nm,0.8s
HYF **Humbligny** 82.57 43 *e*P P 09 44 38.7 +0.1
HYF **Humbligny** 82.57 43 *e*P P 09 44 38.7 +0.1
BAIF **Baives** 82.74 40⇑*i*P P 09 44 39.6 +0.2
68nm,1.1s
BAIF **Baives** 82.74 40⇑*i*P P 09 44 39.6 +0.2
68nm,1.1s
NB2 **NORSAR Subarra** 82.78 28 P P 09 44 40.5 +1.0
comp=Z,9.7nm,0.9s,baz=292,slow=5.1
NOA **NORSAR Array B** 82.78 28 P P 09 44 40.3 +0.8
NOA **NORSAR Array B** 82.78 28 P P 09 44 40.3 +0.8
comp=Z,7.1nm,0.8s,baz=294,slow=5.0,SNR=21
NOA LR LR 10 20 41.5
comp=Z,18nm,19.4s,baz=275,slow=35
CAF **Calviac** 82.86 45⇑*i*P P 09 44 39.9 -0.3
comp=Z,31nm,0.8s
CAF **Calviac** 82.86 45⇑*i*P P 09 44 39.9 -0.3
comp=Z,31nm,0.8s
BGF **Bois d'Agland** 82.91 44⇑*i*P P 09 44 40.2 -0.2
comp=Z,105nm,0.9s
BGF **Bois d'Agland** 82.91 44⇑*i*P P 09 44 40.2 -0.2
comp=Z,105nm,0.9s
DOU **Dourbes** 82.96 40 P P 09 44 41.3 +0.7
GIVF **Givet** 83.10 40 *e*P P 09 44 41.6 +0.3
comp=Z,38nm,0.8s
GIVF **Givet** 83.10 40 *e*P P 09 44 41.6 +0.3
comp=Z,38nm,0.8s
AVF **Avril sur Loir** 83.17 43 *e*P P 09 44 41.2 -0.5
comp=Z,38nm,0.8s
AVF **Avril sur Loir** 83.17 43 *e*P P 09 44 41.2 -0.5
comp=Z,38nm,0.8s
SSF **Saint Saulge** 83.19 43⇑*i*P P 09 44 41.5 -0.3
comp=Z,60nm,0.9s
SSF **Saint Saulge** 83.19 43⇑*i*P P 09 44 41.5 -0.3
comp=Z,60nm,0.9s
BCLA **Clavier** 83.29 39 P P 09 44 43.0 +0.8
comp=Z,23nm,1.2s
LOR **Lormes** 83.36 43⇑*i*P P 09 44 42.5 -0.2
comp=Z,79nm,1.0s
LOR **Lormes** 83.36 43⇑*i*P P 09 44 42.5 -0.2
comp=Z,79nm,1.0s
BEBN **Eben Emael** 83.40 39 P P 09 44 45.2 +2.5
SMF **Signal de Mont** 83.54 43 *e*P P 09 44 43.0 -0.6
comp=Z,37nm,0.9s
SMF **Signal de Mont** 83.54 43 *e*P P 09 44 43.0 -0.6
comp=Z,37nm,0.9s
HGN **Heimansgroeve** 83.56 39 *e*P P 09 44 44.0 +0.4
comp=Z,31nm,0.9s
MEM **Membach** 83.66 39 P P 09 44 44.9 +0.8
comp=Z,19nm,1.3s
WTSB **Winterswijk** 83.69 38 *e*P P 09 44 45.5 +1.3
comp=Z,7.7nm,0.5s

MEZF	Maizieres J'vi	83.74	41⇑	*i*P		P	09 44 44.8	+0.2
	comp=Z,76nm,0.7s							
MEZF	Maizieres J'vi	83.74	41⇑	*i*P		P	09 44 44.8	+0.2
	comp=Z,76nm,0.7s							
SFTF	Sexfontaines	83.83	42	*e*P		P	09 44 45.1	+0.1
	comp=Z,71nm,0.9s							
SFTF	Sexfontaines	83.83	42	*e*P		P	09 44 45.1	+0.1
	comp=Z,71nm,0.9s							
WLF	Walferdange	84.06	40	P		P	09 44 47.4	+1.3
WLF	Walferdange	84.06	40	*e*P		P	09 44 47.3	+1.2
	comp=Z,26nm,0.7s							
PAGF	Fort de Pagny	84.15	41	*e*P		P	09 44 47.0	+0.3
	comp=Z,9.4nm,0.6s							
PAGF	Fort de Pagny	84.15	41	*e*P		P	09 44 47.0	+0.3
	comp=Z,9.4nm,0.6s							
ARCES	ARCESS Array B	84.15	18	P		P	09 44 46.9	+0.6
ARCES	ARCESS Array B	84.15	18	P		P	09 44 46.9	+0.6
	comp=Z,14nm,0.9s,baz=298,slow=5.9,SNR=12							
HFS	Hagfors	84.27	29	P		P	09 44 47.6	+0.6
HFS	Hagfors	84.27	29	P		P	09 44 47.6	+0.6
	comp=Z,5.5nm,0.9s,baz=90,slow=3.0,SNR=4.9							
LASF	Ste Croix	84.33	46⇑	*i*P		P	09 44 48.3	+0.6
	comp=Z,44nm,1.0s							
LASF	Ste Croix	84.33	46⇑	*i*P		P	09 44 48.3	+0.6
	comp=Z,44nm,1.0s							
VIVF	Saint-Julien-l	84.64	45⇑	*i*P		P	09 44 49.8	+0.5
	comp=Z,22nm,0.9s							
VIVF	Saint-Julien-l	84.64	45⇑	*i*P		P	09 44 49.8	+0.5
	comp=Z,22nm,0.9s							
HAU	Haudompre	84.72	41⇑	*i*P		P	09 44 49.8	+0.2
	comp=Z,76nm,0.8s							
HAU	Haudompre	84.72	41⇑	*i*P		P	09 44 49.8	+0.2
	comp=Z,76nm,0.8s							
BSEG	Bad Segeberg	84.99	35	*e*P		P	09 44 52.0	+1.3
	comp=Z,23nm,1.0s							
CABF	La Chapelle	85.02	43⇑	*i*P		P	09 44 51.4	+0.2
	comp=Z,72nm,1.3s							
CABF	La Chapelle	85.02	43⇑	*i*P		P	09 44 51.4	+0.2
	comp=Z,72nm,1.3s							
HINF	Hinteralfeld	85.11	42⇑	*i*P		P	09 44 51.5	0.0
	comp=Z,40nm,0.9s							
HINF	Hinteralfeld	85.11	42⇑	*i*P		P	09 44 51.5	0.0
	comp=Z,40nm,0.9s							
ECH	Echery	85.16	41	*e*P		P	09 44 51.9	+0.1
	comp=Z,37nm,1.1s							
CDF	Champ du Feu	85.17	41⇑	*i*P		P	09 44 52.1	+0.2
	comp=Z,74nm,1.0s							
CDF	Champ du Feu	85.17	41⇑	*i*P		P	09 44 52.1	+0.2
	comp=Z,74nm,1.0s							
TNS	Taunus Mts	85.26	39	*e*P		P	09 44 53.4	+1.1
	comp=Z,39nm,0.9s							
TNS				*e*L		L	10 02 32.4	
	comp=Z,124nm,20.4s							
ORIF	Oris-en-Rattie	85.44	44	*e*P		P	09 44 53.8	+0.5
	comp=Z,33nm,1.0s							
ORIF	Oris-en-Rattie	85.44	44	*e*P		P	09 44 53.8	+0.5
	comp=Z,33nm,1.0s							
SMRF	Simiane la Rot	85.54	45⇑	*i*P		P	09 44 54.8	+1.0
	comp=Z,26nm,0.8s							
SMRF	Simiane la Rot	85.54	45⇑	*i*P		P	09 44 54.8	+1.0
	comp=Z,26nm,0.8s							
CLZ	Clausthal	85.80	37	*e*P		P	09 44 56.5	+1.6
	comp=Z,14nm,1.0s							
CLZ				*e*L		L	10 03 19.6	
	comp=Z,134nm,20.2s							
LPL	La Plagne	85.81	44⇑	*i*P		P	09 44 56.1	+0.8
	comp=Z,62nm,1.1s							
LPL	La Plagne	85.81	44⇑	*i*P		P	09 44 56.1	+0.8
	comp=Z,62nm,1.1s							
LPG	La Plagne	85.82	44⇑	*i*P		P	09 44 56.4	+0.9
	comp=Z,42nm,1.0s							
LPG	La Plagne	85.82	44⇑	*i*P		P	09 44 56.4	+0.9
	comp=Z,42nm,1.0s							
BFO	Black Forest	85.86	41	*e*P		P	09 44 55.3	+0.1
	comp=Z,15nm,0.9s							
BFO	Black Forest	85.86	41	*e*P		P	09 44 54.7	-0.6
	comp=Z,22nm,1.1s							
BNI	Bardonecchia	85.93	44	*e*P		P	09 44 56.5	+0.7
	comp=Z,24nm,1.1s							
MBDF	Montbardon	86.10	44⇑	*i*P		P	09 44 57.2	+0.5
	comp=Z,45nm,0.9s							
MBDF	Montbardon	86.10	44⇑	*i*P		P	09 44 57.2	+0.5
	comp=Z,45nm,0.9s							
STU	Stuttgart	86.23	40	*e*P		P	09 44 57.3	+0.3
	comp=Z,34nm,0.8s							
LMR	La Mourre	86.39	46⇑	*i*P		P	09 44 58.2	+0.3
	comp=Z,143nm,1.2s							
LMR	La Mourre	86.39	46⇑	*i*P		P	09 44 58.2	+0.3
	comp=Z,143nm,1.2s							
FRF	La Foret Royal	86.41	46⇑	*i*P		P	09 44 58.3	+0.3
	comp=Z,100nm,1.2s							
FRF	La Foret Royal	86.41	46⇑	*i*P		P	09 44 58.3	+0.3
	comp=Z,100nm,1.2s							
SBF	Sospel	86.84	45	*e*P		P	09 45 00.1	-0.1
	comp=Z,17nm,0.7s							
SBF	Sospel	86.84	45	*e*P		P	09 45 00.1	-0.1
	comp=Z,17nm,0.7s							
MOX	Moxa	86.98	38	*e*P		P	09 45 02.4	+1.7
	comp=Z,24nm,0.9s							
MOX				*e*L		L	10 03 17.4	
	comp=Z,1μm,18.1s							
GRF	Grafenberg Arr	87.12	39	*e*P		P	09 45 03.0	+1.6
	comp=Z,12nm,1.0s							
GRF				*e*L		L	10 02 18.3	
	comp=Z,186nm,19.8s							
TUE	Stuetta	87.17	42	*e*P		P	09 45 02.3	+0.3
	comp=Z,16nm,1.0s							
DAVA	Damuels	87.21	41⇓	*i*PcP		PcP	09 45 03.2	-0.8
	comp=Z,39nm,1.0s,SNR=7.8							
CLL	Collm	87.52	37	*e*P		P	09 45 03.9	+0.8
	comp=Z,6.0nm,1.0s							
CLL	Collm	87.52	37	*e*P		P	09 45 04.0	+0.8
	comp=Z,14nm,1.2s							
CLL				LmH			10 02 00.0	
	comp=N,100nm,19.0s							
CLL				LmH			10 02 00.0	
	comp=E,500nm,20.4s							
TANN	Tannenbergstha	87.57	38	*e*P		P	09 45 04.8	+1.3
	comp=Z,8.0nm,1.0s							
NKC	Novy Kostel	87.64	38	*e*P		P	09 45 05.2	+1.4
ROTZ	Rotzenmuhle	87.68	38	*e*P		P	09 45 05.5	+1.5
	comp=Z,2.0nm,0.8s							
RETA	Reutte	87.69	41⇓	*i*PcP		PcP	09 45 05.5	-0.5
	comp=Z,24nm,1.1s,SNR=6.3							
TIC	Toumodi	87.73	84	*e*P		P	09 45 04.4	-0.5
LIC	Lamto	87.84	84	*e*P		P	09 45 05.2	-0.3
	comp=Z,74nm,1.1s,baz=268							
LIC	Lamto	87.84	84	*e*P		P	09 45 04.9	-0.6
	comp=Z,92nm,1.1s							
LIC	Lamto	87.84	84	*e*P		P	09 45 05.2	-0.3
	comp=Z,74nm,1.1s							
FETA	Feichten	87.85	41⇓	*e*PcP		P	09 45 05.7	+0.6
	comp=Z,14nm,1.1s							
DBIC	Dimbokro	87.88	84	*e*P		P	09 45 05.2	-0.4
	comp=Z,43nm,1.4s							
DBIC	Dimbokro	87.88	84	P		P	09 45 05.2	-0.4
	comp=Z,17nm,0.9s,baz=255,slow=5.1,SNR=19							
MOTA	Moosalm	87.96	41⇓	*e*PcP		PcP	09 45 06.9	-0.4
	comp=Z,52nm,0.8s,SNR=5.4							
KIC	Kosan Boka	88.08	84	*e*P		P	09 45 06.1	-0.5
	comp=Z,75nm,1.0s							
BRG	Berggiesshubel	88.24	37	*e*P		P	09 45 07.2	+0.6
	comp=Z,12nm,1.3s							
BRG								
	comp=N,370nm,14.8s							
BRG								
	comp=E,2μm,16.0s							
BRG								
	comp=Z,316nm,19.0s							
BRG	Berggiesshubel	88.24	37	*e*P		P	09 45 07.5	+0.9
	comp=Z,5.0nm,1.0s							
WET	Wettzell	88.33	39	*e*P		P	09 45 08.6	+1.5
	comp=Z,5.0nm,0.9s							
PGF	Pioggiola	88.38	46⇑	*i*P		P	09 45 07.6	0.0
	comp=Z,33nm,0.9s							
PGF	Pioggiola	88.38	46⇑	*i*P		P	09 45 07.6	0.0
	comp=Z,33nm,0.9s							
KHC	Kasperske Hory	88.76	39	*e*P		P	09 45 09.7	+0.5
KHC	Kasperske Hory	88.76	39	*e*P		P	09 45 09.4	+0.3
	comp=Z,6.6nm,1.0s							
RJOB	Jochberg	88.86	40	*e*P		P	09 45 10.9	+1.2
	comp=Z,6.0nm,0.7s							
FINES	FINESS Array B	88.92	24	P		P	09 45 09.4	-0.1
FINES	FINESS Array B	88.92	24	P		P	09 45 09.5	-0.1
	comp=Z,1.5nm,0.6s,baz=303,slow=6.1,SNR=4.7							
GEC2	GERESS Array S	88.95	39	*e*P		P	09 45 11.0	+0.9
	comp=Z,5.0nm,1.0s							
GEC2				*e*L		L	10 02 38.0	
	comp=Z,158nm,19.0s							
GERES	GERESS Array B	88.95	39	P		P	09 45 10.4	+0.2
GERES	GERESS Array B	88.95	39	P		P	09 45 10.4	+0.2
	comp=Z,5.2nm,0.9s,baz=306,slow=3.1,SNR=25							
PRU	Pruhonice	88.96	38	*e*P		P	09 45 10.7	+0.7
ABTA	Abfaltersbach	89.08	41⇓	*i*PcP		P	09 45 11.3	+0.5
	comp=Z,8.0nm,1.0s							
KBA	Koelnbreinsper	89.47	41⇓	*i*PcP		PcP	09 45 13.6	-0.4
	comp=Z,6.4nm,0.9s							
UPC	Upice	89.59	37	*e*P		P	09 45 13.2	+0.2
KSP	Ksiaz	89.60	36	*e*P		P	09 45 13.4	+0.4
MOA	Molln	89.71	40⇓	*i*PcP		P	09 45 14.3	+0.7
	comp=Z,5.2nm,0.8s							
DPC	Dobruska-Polom	89.83	37	*e*P		P	09 45 14.8	+0.6
VRAC	Vranov	90.46	38	LR		LR	10 25 36.9	
	comp=Z,38nm,18.8s,baz=315,slow=35							
CONA	Conrad Observa	90.64	39⇓	*i*PcP		P	09 45 19.2	+1.2
	comp=Z,6.6nm,1.0s							
SOKA	Soboth	90.68	40⇓	*e*PcP		P	09 45 18.6	+0.4
	comp=Z,15nm,1.3s							
ARSA	Arzberg	90.74	40⇑	*i*PcP		P	09 45 18.4	-0.1
	comp=Z,4.3nm,0.8s							
OKC	Ostrava-Krasne	91.11	37	*e*P		P	09 45 21.2	+1.1
KEST	Kesra	91.14	52	P		P	09 45 20.2	-0.4
KEST	Kesra	91.14	52	P		P	09 45 20.2	-0.4
	comp=Z,3.5nm,1.0s,baz=260,slow=2.8,SNR=6.1							
TORD	Torodi Ar. Bea	92.14	76	P		P	09 45 24.2	-1.3
TORD	Torodi Ar. Bea	92.14	76	P		P	09 45 24.2	-1.3
	comp=Z,2.8nm,1.1s,baz=300,slow=5.4,SNR=11							
TAM	Tamanrasset	92.54	65	*e*P		P	09 45 28.5	+1.1
	comp=Z,14nm,1.2s							
CRVS	Cervenica-Dubn	93.46	36	*e*P		P	09 45 32.1	+1.1
AKASG	Malin Array Be	96.65	32	LR		LR	10 29 56.3	
	comp=Z,19nm,18.3s,baz=20,slow=36							
URZ	Urewera	98.95	233	LR		LR	10 21 39.7	
	comp=Z,107nm,19.5s,baz=6.0,slow=30							
BJI	Beijing	116.46	334	PKP		PKPdf	09 51 00.0	+1.1
HHC	Hu-ho-hao-te	117.58	338	*e*PKP		PKPdf	09 50 59.9	-1.3
HHC				PP		PP	09 52 16.9	+3.2
HHC				AMB		AMB		
	comp=Z,140nm,10.4s							
WMQ	Urumqi	119.51	358	PKP		PKPdf	09 51 05.8	+1.0
NJ2	Nanjing	121.67	327	*e*PKP		PKPdf	09 51 09.1	0.0
KSH	Kashi	123.17	9	*e*PKP		PKPdf	09 51 13.0	+1.0
KSH				*e*SKS		SKSdf	09 58 13.8	0.0
KSH				AMB		AMB		
	comp=Z,32nm,4.6s							
KSH				LR		LR		
	comp=Z,39nm,4.1s							
KSH				LR		LR		
	comp=Z,38nm,4.3s							
KSH				LR		LR		
	comp=Z,40nm,3.7s							
LZH	Lanzhou	124.44	342	*e*PKP		PKPdf	09 51 15.9	+1.3
LZH				sPKP			09 52 00.3	
LZH				LR		LR		
	comp=Z,150nm,18.0s							
LZH				LR		LR		
	comp=Z,150nm,17.9s							
LZH				LR		LR		
	comp=Z,190nm,20.0s							
GYA	Guiyang	132.16	334	*e*Pdif		Pdif	09 48 22.6	-1.6
GYA				PKP		PKPdf	09 51 29.0	-0.5
GYA				PP		PP	09 53 55.4	+4.2
GYA				AMB		AMB		
	comp=Z,90nm,7.6s							
WRA	Warramunga Arr	133.57	258	PKP		PKPdf	09 51 32.5	+0.4
WRA	Warramunga Arr	133.57	258	PKP		PKPdf	09 51 32.5	+0.4
	comp=Z,0.3nm,0.7s,baz=86,slow=2.7,SNR=4.7							
HYB	Hyderabad	145.22	11	*i* PKP		PKPbc	09 51 52.0	-1.1
HYB				*es*PKP			09 52 56.0	

IDC ***20*** *09:53:08.3±0.8, 35.03N×9.34E, h0km, mb3.8/15, mb1 3.9/20, mb1mx3.8/37, mbtmp3.8/20, ML3.7/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/50, Error ellipse: s-maj=18.2km s-min=9.5km az=95.0*

TUN ***20*** *09:53:16.5, 35.13N×9.38E, h6km, MD3.8*

LDG ***20*** *09:53:16.4±0.5, 35.29N×9.27E, h30km, Ml3.8/6, ms3.1/6, Error ellipse: s-maj=11.8km s-min=10.0km az=172.0*

CSEM ***20*** *09:53:17.7±0.6, 35.40N×9.17E, h30km, MD3.8, Error ellipse: s-maj=15.3km s-min=13.5km az=4.0*

CRAAG ***20*** *09:53:17.3, 35.27N×9.15E, Ml3.6*

ISC 20 09:53:10.3±0.6, 35.32N±0.06×9.30E±0.04, h10km, n96, σ2s12/71, mb3.8/15, 1C, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TROT	Trozza	0.35	45	*i* P		Pn	09 53 26.1	+4.5
KEST	Kesra	0.42	5	Pg		Pn	09 53 22.6	+0.1
	62nm,0.3s,baz=132,slow=9.7,SNR=106							
KEST				Lg		Lg	09 53 32.2	
	338nm,0.3s,baz=311,slow=22,SNR=33							
KEST				LR		LR	09 53 44.4	
	comp=Z,526nm,18.5s,baz=6.5,slow=52							
BTHT	Jabal bu Thady	0.83	102	*i* P		Pg	09 53 26.2	-0.1
HANT	Hania	1.01	59	*i* P		Pn	09 53 37.9	+7.3
KRIT	Krib	1.04	350	*i* P		Pn	09 53 40.4	+9.4
OAR	Oum El Arais	1.08	224	*i* P		Pn	09 53 37.0	+5.5
BERT	Berda	1.10	192	*i* P		Pn	09 53 35.6	+3.8
ZGN	Zaghouan	1.24	32	*i* P		Pg	09 53 41.8	+7.7
BKLT	Bekalta	1.42	77	*i* P		Pg	09 53 43.3	+5.7
GHAT	Ghardimaou	1.43	326	*i* P		Pg	09 53 45.0	+7.3
TAMR	Tamra	1.73	355	*i* P		Pg	09 53 43.5	-0.1
MBZ	Menzel Bouzelf	1.76	39	*i* P		Pg	09 53 51.0	+6.9
ABSA	Djebel Ababsia	1.76	303	P		Pg	09 53 47.3	+3.2
ABSA	Djebel Ababsia	1.76	303	P		Pg	09 53 47.3	+3.2
KCHT	Kechabta	1.86	16	*i* P		Pg	09 53 54.3	+8.2
CMAH	Djebel Manchou	2.01	311	P		Pg	09 53 49.6	+0.8
CMAH	Djebel Manchou	2.01	311	P		Pg	09 53 49.6	+0.8
CKFL	Kef-Lekhel	2.36	298	P		Pb	09 53 53.8	+0.8
CKFL	Kef-Lekhel	2.36	298	P		Pb	09 53 53.8	+0.8
CAEH	'Ain El Ouahch	2.46	307	P		Pb	09 53 54.9	+0.2
CAEH	'Ain El Ouahch	2.46	307	P		Pb	09 53 54.9	+0.2
CASM	Ain Smara	2.47	293	P		Pb	09 53 54.7	-0.1
CASM	Ain Smara	2.47	293	P		Pb	09 53 54.7	-0.1
DFRA	Djebel Bou Aff	3.04	295	P		Pb	09 54 03.1	-1.4
DFRA	Djebel Bou Aff	3.04	295	P		Pb	09 54 03.1	-1.4
SET	Setif	3.29	287	P		Pg	09 54 12.0	-1.4
SET	Setif	3.29	287	P		Pg	09 54 12.0	-1.4
ETRT	Tiaret	6.54	273	P		Pb	09 55 00.0	-4.2
ETRT	Tiaret	6.54	273	P		Pb	09 55 00.0	-4.2
EANR	'Ain N'Sour	6.71	278	P		Pn	09 54 56.0	+7.1
EANR	'Ain N'Sour	6.71	278	P		Pn	09 54 56.0	+7.1
PGF	Pioggiola	7.23	358	*e*Pn		Pn	09 54 58.0	+1.9
PGF	Pioggiola	7.23	358	*e*P		Pn	09 55 03.2	+7.1
PGF	Pioggiola	7.23	358	*e*Pn		Pn	09 54 58.0	+1.9
PGF	Pioggiola	7.23	358	*e*P		Pn	09 55 03.2	+7.1
LMR	La Mourre	8.29	346	*e*Pn		Pn	09 55 13.4	+2.8
LMR				*e*Sn		Sn	09 56 41.8	-2.5
	14nm,0.6s							
LMR	La Mourre	8.29	346	*e*Pn		Pn	09 55 13.4	+2.8
LMR				*e*Sn		Sn	09 56 41.8	-2.5
	6.8nm,0.6s							
FRF	La Foret Royal	8.48	347	*e*Pn		Pn	09 55 15.7	+2.4
FRF				*e*Sn		Sn	09 56 46.0	-3.1
	12nm,0.7s							
FRF	La Foret Royal	8.48	347	*e*Pn		Pn	09 55 15.7	+2.4
FRF				*e*Sn		Sn	09 56 46.0	-3.1
	6.2nm,0.7s							
SBF	Sospel	8.66	351	*e*Pn		Pn	09 55 18.7	+3.0
SBF				*e*Sn		Sn	09 56 50.2	-3.2
	8.0nm,0.4s							
SBF	Sospel	8.66	351	*e*Pn		Pn	09 55 18.7	+3.0
SBF				*e*Sn		Sn	09 56 50.2	-3.2
	4.0nm,0.4s							
VALF	Valcebollere	9.07	323	*e*P		Pn	09 55 24.5	+3.1
SMRF	Simiane la Rot	9.11	343	*e*Pn		Pn	09 55 24.9	+3.0
SMRF	Simiane la Rot	9.11	343	*e*P		Pn	09 55 29.4	+7.5
SMRF	Simiane la Rot	9.11	343	*e*Pn		Pn	09 55 24.9	+3.0
SMRF	Simiane la Rot	9.11	343	*e*P		Pn	09 55 29.4	+7.5
MBDF	Montbardon	9.60	349	*e*P		Pn	09 55 36.5	+7.9
MBDF				*e*Sn		Sn	09 57 13.6	-3.0
	7.0nm,0.7s							
MBDF	Montbardon	9.60	349	*e*P		Pn	09 55 36.5	+7.9
MBDF				*e*Sn		Sn	09 57 13.6	-3.0
	3.5nm,0.7s							
LASF	Ste Croix	9.70	336	*e*Pn		Pn	09 55 31.4	+1.5
LASF				*e*Sn		Sn	09 57 16.0	-2.9
	7.1nm,0.5s							
LASF	Ste Croix	9.70	336	*e*Pn		Pn	09 55 31.4	+1.5
LASF				*e*Sn		Sn	09 57 16.0	-2.9
	3.5nm,0.5s							
MELF	Melles	10.04	321	*e*P		Pn	09 55 39.6	+4.9
VIVF	Saint-Julien-l	10.16	341	*e*Pn		Pn	09 55 37.9	+1.6
VIVF				*e*Sn		Sn	09 57 25.0	-5.3
	5.1nm,0.6s							
VIVF	Saint-Julien-l	10.16	341	*e*Pn		Pn	09 55 37.9	+1.6
VIVF				*e*Sn		Sn	09 57 25.0	-5.3
	2.5nm,0.6s							
EPF	Esparros	10.37	321	*e*Pn		Pn	09 55 41.3	+2.1
EPF	Esparros	10.37	321	*e*P		Pn	09 55 46.5	+7.3
EPF	Esparros	10.37	321	*e*Pn		Pn	09 55 41.3	+2.1
EPF	Esparros	10.37	321	*e*P		Pn	09 55 46.5	+7.3
VIEF	Viey	10.44	319	*e*P		Pn	09 55 44.9	+4.8
ETSF	Etsaut	10.76	318	*e*P		Pn	09 55 50.3	+5.8
ETSF	Etsaut	10.76	318	*e*P		Pn	09 55 50.3	+5.8
CAF	Calviac	11.08	332	*e*Pn		Pn	09 55 53.2	+4.4
CAF	Calviac	11.08	332	*e*Pn		Pn	09 55 53.2	+4.4
SJPF	Ste Jean	11.27	317	*e*Pn		Pn	09 55 52.6	+1.1
SJPF	Ste Jean	11.27	317	*e*P		Pn	09 55 59.0	+7.5
SJPF	Ste Jean	11.27	317	*e*Pn		Pn	09 55 52.6	+1.1
SJPF	Ste Jean	11.27	317	*e*P		Pn	09 55 59.0	+7.5
ESDC	Sonseca Array	11.39	296	Pn		Pn	09 55 54.7	+1.5
	0.5nm,0.3s,baz=112,slow=13,SNR=2.2							
ESDC				LR		LR	09 59 43.8	
	comp=Z,87nm,20.6s,baz=180,slow=34							
DAVOX	Davos/Dischmat	11.46	2	Pn		Pn	09 55 59.1	+4.9
	0.1nm,0.3s,baz=196,slow=18,SNR=1.9							
DAVOX				LR		LR	10 00 11.9	
	comp=Z,166nm,21.1s,baz=256,slow=36							
MDT	Midelt	11.80	262	Pn		Pn	09 55 59.1	+0.2
	0.3nm,0.3s,baz=75,slow=12,SNR=7.9							
MDT				LR		LR	10 01 06.7	
	comp=Z,196nm,18.1s,baz=80,slow=41							
GERES	GERESS Array B	13.91	12	Pn		P	09 56 33.2	-2.6
	0.1nm,0.3s,baz=209,slow=11,SNR=3.4							
KHC	Kasperske Hory	14.16	12	AMS		AMS	10 03 00.0	
	comp=Z,400nm,13.4s							
EVO	Evora	14.21	288	*e*P		P	09 56 38.3	-0.8
EVO				*e*R				
	167nm,16.7s							
EVOP	Sao Brissos	14.30	288	*e*P		P	09 56 38.3	-1.8
VRAC	Vranov	14.98	19	LR		LR	10 03 27.2	
	comp=Z,107nm,18.7s,baz=214,slow=41							
PRU	Pruhonice	15.16	13	AMS		AMS	10 03 40.0	
	comp=Z,300nm,8.5s							
OKC	Ostrava-Krasne	15.89	21	AMS		AMS	10 04 30.0	
	comp=Z,300nm,8.5s							
MLR	Muntele Rosu	16.22	46⇑	*i*P		P	09 57 08.1	+6.6
MLR	Muntele Rosu	16.22	46	Pn		P	09 57 01.6	+0.1
	0.1nm,0.3s,baz=259,slow=10,SNR=2.6							
MLR				LR		LR	10 04 41.6	
	comp=Z,32nm,18.0s,baz=250,slow=42							
BRTR	Keskin Array B	19.78	70	P		Pn	09 57 42.6	+0.3
	0.0nm,0.3s,baz=267,slow=8.4,SNR=2.2							
AKASG	Malin Array Be	21.08	37	P		P	09 57 55.3	+0.6
	1.1nm,0.5s,baz=233,slow=10,SNR=7.0							
EIL	Elat	22.33	97	LR		LR	10 09 07.9	
	comp=Z,42nm,18.4s,baz=282,slow=43							
TORD	Torodi Ar. Bea	23.12	199	P		P	09 58 13.7	-2.9
	1.4nm,0.5s,baz=30,slow=11,SNR=23							
HFS	Hagfors	25.00	5	P		P	09 58 35.4	+1.4
	4.7nm,0.8s,baz=189,slow=8.4,SNR=6.7							
NOA	NORSAR Array B	25.77	2	P		P	09 58 42.3	+1.2
	1.3nm,0.8s,baz=186,slow=9.6,SNR=3.0							
FINES	FINESS Array B	28.25	17	P		P	09 59 04.1	+0.9
	2.0nm,0.9s,baz=223,slow=7.3,SNR=4.4							
ARCES	ARCESS Array B	35.42	10	P		P	10 00 06.4	+0.3
	3.8nm,1.1s,baz=177,slow=33,SNR=5.3							
BVAR	Borovoye Array	45.78	48	P		P	10 01 32.9	+1.0
	0.6nm,0.6s,baz=251,slow=4.5,SNR=3.6							
KURBB	Kurchatov Arra	51.07	50	P		P	10 02 13.6	+0.8
	0.5nm,0.4s,baz=283,slow=8.1,SNR=4.9							
ZALV	Zalesovo Beam	54.19	45	P		P	10 02 37.3	+1.5
	0.5nm,0.4s,baz=265,slow=11,SNR=3.5							
SCHQ	Schefferville	54.35	316	P		P	10 02 37.3	+0.4
	5.1nm,1.1s,baz=80,slow=18,SNR=3.9							
MKAR	Makanchi Array	54.37	54	P		P	10 02 37.1	-0.2
	0.3nm,0.6s,baz=323,slow=4.5,SNR=4.2							
SONM	Songino Array	69.07	46	P		P	10 04 17.0	+0.5
	0.5nm,0.7s,baz=297,slow=9.8,SNR=4.7							
YKA	Yellow

MSF				Sn	**Sn**	**10 00 54.6**	**+1.4**	
KU6	**Riekki**	**1.40**	**350**	PG	**Pn**	**10 00 32.6**	**-1.4**	
	baz=170							
KU6				SG	**Sg**	**10 00 51.5**	**-0.7**	
KU6	**Riekki**	**1.40**	**350**	Pg	**Pn**	**10 00 32.6**	**-1.4**	
KU6				Sg	**Sg**	**10 00 51.5**	**-0.7**	
JOF	**Joensuu**	**1.78**	**167**	PG	**Pn**	**10 00 38.5**	**-0.7**	
JOF				SN	**Sg**	**10 01 04.7**	**+0.4**	
JOF				MSG		10 01 04.7		
	comp=Z,4.5nm,0.3s							
JOF	**Joensuu**	**1.78**	**167**	Pg	**Pn**	**10 00 38.5**	**-0.7**	
JOF				Sn	**Sg**	**10 01 04.7**	**+0.4**	
OUL	**Oulu**	**2.00**	**285**	SG	**Sg**	**10 01 12.2**	**+0.8**	
OUL				MSG		10 01 12.2		
	comp=Z,6.3nm,0.3s							
OUL	**Oulu**	**2.00**	**285**	Sg	**Sg**	**10 01 12.2**	**+0.8**	
RNF	**Rovaniemi**	**2.70**	**319**	PG	**Pb**	**10 00 56.1**	**-0.2**	
RNF				SG	**Sg**	**10 01 32.4**	**-1.4**	
RNF				MSG		10 01 32.4		
	comp=Z,5.5nm,0.3s							
RNF	**Rovaniemi**	**2.70**	**319**	Pg	**Pb**	**10 00 56.1**	**-0.2**	
RNF				Sg	**Sg**	**10 01 32.4**	**-1.4**	
SUF	**Sumiainen**	**2.73**	**227**	PG	**Pb**	**10 00 56.5**	**-0.4**	
	baz=37							
SUF	**Sumiainen**	**2.73**	**227**	Pg	**Pb**	**10 00 56.4**	**-0.4**	
VRF	**Varrio**	**3.13**	**354**	PB	**Pn**	**10 01 00.1**	**+2.3**	
	baz=168							
VRF				SG	**Sg**	**10 01 48.0**	**+0.3**	
VRF				MSG		10 01 48.0		
	comp=Z,1.4nm,0.3s							
VRF	**Varrio**	**3.13**	**354**	Pb	**Pn**	**10 01 00.0**	**+2.3**	
VRF				Sg	**Sg**	**10 01 48.0**	**+0.3**	
APA0	**Apatity Array**	**3.14**	**18**	P	**Pn**	**10 00 57.6**	**-0.3**	
APA0				S	**Sn**	**10 01 34.9**	**-1.1**	
KAF	**Kangasniemi**	**3.16**	**218**	PG	**Pb**	**10 01 04.0**	**-0.2**	
	baz=40							
KAF				SG	**Sg**	**10 01 46.7**	**-2.0**	
KAF				MSG		10 01 46.7		
	comp=Z,1.5nm,0.3s							
KAF	**Kangasniemi**	**3.16**	**218**	Pg	**Pb**	**10 01 03.9**	**-0.2**	
KAF				Sg	**Sg**	**10 01 46.7**	**-2.0**	
APA	**Apatity**	**3.17**	**21**	P	**Pn**	**10 00 58.1**	**-0.1**	
APA				S	**Sn**	**10 01 35.7**	**-0.9**	
KEF	**Keuruu**	**3.54**	**228**	PB	**Pb**	**10 01 07.8**	**-2.9**	
KEF				SG	**Sb**	**10 01 53.2**	**-0.9**	
KEF				MSG		10 01 53.2		
	comp=Z,1.1nm,0.3s							
KEF	**Keuruu**	**3.54**	**228**	Pb	**Pb**	**10 01 07.7**	**-2.9**	
KEF				Sg	**Sb**	**10 01 53.2**	**-0.9**	
FIA0	**FINESS Array S**	**3.79**	**214**	PB	**Pn**	**10 01 09.2**	**+2.4**	
	baz=31							
FIA0	**FINESS Array S**	**3.79**	**214**	Pb	**Pn**	**10 01 09.2**	**+2.4**	
FINES	**FINESS Array B**	**3.79**	**214**	Pn	**Pn**	**10 01 08.8**	**+2.1**	
	comp=Z,0.1nm,0.3s,baz=37,slow=13,SNR=3.8							
FINES				Lg	Lg	10 02 10.2		
	comp=Z,1.0nm,0.3s,baz=36,slow=26,SNR=12							
VAF	**Ylistaro**	**3.81**	**248**	PB	**Pn**	**10 01 10.0**	**+3.0**	
VAF	**Ylistaro**	**3.81**	**248**	Pb	**Pn**	**10 01 10.0**	**+3.0**	
HEF	**Hetta**	**4.65**	**327**	SG	**Sg**	**10 02 33.3**	**-3.1**	
HEF				MSG		10 02 33.3		
	comp=Z,1.2nm,0.3s							
HEF	**Hetta**	**4.65**	**327**	Sg	**Sg**	**10 02 33.3**	**-3.1**	
ARCES	**ARCESS Array B**	**5.27**	**341**	Pn	**Pn**	**10 01 27.1**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=155,slow=15,SNR=18							
ARCES				Sn	**Sn**	**10 02 28.9**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=146,slow=20,SNR=3.5							
ARCES				Lg	Lg	10 02 53.0		
	comp=Z,0.8nm,0.3s,baz=150,slow=29,SNR=6.0							
HFS	**Hagfors**	**8.99**	**247**	Pn	**Pn**	**10 02 20.8**	**+2.6**	
	comp=Z,0.2nm,0.3s,baz=55,slow=12,SNR=4.9							
HFS				Lg	Lg	10 04 53.6		
	comp=Z,0.3nm,0.3s,baz=59,slow=28,SNR=5.2							
NOA	**NORSAR Array B**	**9.50**	**256**	Pn	**Pn**	**10 02 27.4**	**+2.2**	
	comp=Z,0.1nm,0.3s,baz=54,slow=13,SNR=4.1							

*ISCJB **20** 10:04:51.7±0.5,39.°88N±0.°02×23.°71E±0.°06,h10km±3km, Error ellipse: s-maj=7.3km s-min=3.1km az=5.6*
*CSEM **20** 10:04:51.5±0.1,39.°87N×23.°72E,h15km,ML2.6, Error ellipse: s-maj=3.8km s-min=1.6km az=96.0*
*THE **20** 10:04:51.8,39.°88N×23.°67E,h14km, ML2.6/7, Error ellipse: s-maj=0.7km s-min=0.2km az=99.0*
*ATH **20** 10:04:52.2,39.°86N×23.°73E, h8km±2km, MD2.6/5*
*SKO **20** 10:04:52.4,39.°85N×23.°74E, h2km*

ISC 20 10:04:51.7±0.9,39.°87N±0.°02×23.°70E±0.°04,h12km±5km, n40,σ0.°68/65,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.06**	**344**	P	**Pg**	**10 04 54.2**	**+0.1**
PAIG				S	**Sg**	**10 04 56.2**	**+0.4**
PAIG	**Paliouri**	**0.06**	**344**	*e*PG	**Pg**	**10 04 54.2**	**+0.1**
PAIG				*e*SG	**Sg**	**10 04 56.0**	**+0.2**
PAIG	**Paliouri**	**0.06**	**344**	P	**Pg**	**10 04 54.2**	**+0.1**
PAIG				*e*Sg	**Sg**	**10 04 56.0**	**+0.2**
OUR	**Ouranopolis**	**0.51**	**25**	P	**Pg**	**10 05 01.9**	**+0.1**
OUR				S	**Sg**	**10 05 09.3**	**+0.7**
OUR	**Ouranopolis**	**0.51**	**25**	*e*PB	**Pg**	**10 05 02.4**	**+0.6**
OUR				*e*SB	**Sg**	**10 05 09.2**	**+0.7**
OUR	**Ouranopolis**	**0.51**	**25**	P	**Pg**	**10 05 01.9**	**+0.1**
OUR	**Ouranopolis**	**0.51**	**25**	*e*Pb	**Pg**	**10 05 02.4**	**+0.6**
OUR				*e*Sb	**Sg**	**10 05 09.2**	**+0.7**
PLG	**Polygyros**	**0.54**	**339**	P	**Pg**	**10 05 01.9**	**-0.4**
PLG				S	**Sg**	**10 05 09.7**	**+0.2**
PLG	**Polygyros**	**0.54**	**339**	*e*PB	**Pg**	**10 05 02.3**	**0.0**
PLG				*e*SB	**Sg**	**10 05 09.8**	**+0.2**
PLG	**Polygyros**	**0.54**	**339**	P	**Pg**	**10 05 01.9**	**-0.4**
PLG	**Polygyros**	**0.54**	**339**	*e*Pb	**Pg**	**10 05 02.3**	**0.0**
PLG				S	**Sg**	**10 05 09.7**	**+0.2**
XOR	**Xorichti**	**0.64**	**218**	P	**Pg**	**10 05 03.9**	**-0.2**
XOR				S	**Sg**	**10 05 13.5**	**+0.9**
XOR	**Xorichti**	**0.64**	**218**	*e*PG	**Pg**	**10 05 04.3**	**+0.2**
XOR				*e*SB	**Sg**	**10 05 14.0**	**+1.4**
XOR	**Xorichti**	**0.64**	**218**	P	**Pg**	**10 05 03.9**	**-0.2**
XOR	**Xorichti**	**0.64**	**218**	*e*Pg	**Pg**	**10 05 04.3**	**+0.2**
XOR				S	**Sg**	**10 05 13.5**	**+0.9**
XOR				*e*Sb	**Sg**	**10 05 14.0**	**+1.4**
NEO	**Neokhori**	**0.67**	**213**	P	**Pg**	**10 05 04.6**	**-0.2**
NEO				S	**Sg**	**10 05 14.4**	**+0.8**
NEO	**Neokhori**	**0.67**	**213**	*e*PB	**Pg**	**10 05 05.1**	**+0.3**
NEO	**Neokhori**	**0.67**	**213**	P	**Pg**	**10 05 04.6**	**-0.2**
NEO	**Neokhori**	**0.67**	**213**	*e*Pb	**Pg**	**10 05 05.1**	**+0.3**
NEO				S	**Sg**	**10 05 14.4**	**+0.8**
AOS	**Alonnisos**	**0.71**	**169**	P	**Pg**	**10 05 05.8**	**+0.3**
AOS	**Alonnisos**	**0.71**	**169**	*e*PG	**Pg**	**10 05 05.4**	**-0.1**
AOS	**Alonnisos**	**0.71**	**169**	*e*Pg	**Pg**	**10 05 05.4**	**-0.1**
AOS	**Alonnisos**	**0.71**	**169**	P	**Pg**	**10 05 05.8**	**+0.3**
SKIA	**Skiathos**	**0.72**	**195**	P	**Pg**	**10 05 05.5**	**-0.3**
SKIA				S	**Sg**	**10 05 16.4**	**+1.1**
SKIA	**Skiathos**	**0.72**	**195**	P	**Pg**	**10 05 05.5**	**-0.3**
SKIA				S	**Sg**	**10 05 16.4**	**+1.1**
HORT	**Hortiatis**	**0.86**	**328**	P	**Pg**	**10 05 07.8**	**-0.6**
HORT				S	**Sg**	**10 05 19.8**	**+0.2**
HORT	**Hortiatis**	**0.86**	**328**	*e*PG	**Pg**	**10 05 08.5**	**+0.1**
HORT	**Hortiatis**	**0.86**	**328**	P	**Pg**	**10 05 07.8**	**-0.6**
HORT	**Hortiatis**	**0.86**	**328**	*e*Pg	**Pg**	**10 05 08.5**	**+0.1**
HORT				S	**Sg**	**10 05 19.8**	**+0.2**
SOH	**Sokhos**	**0.99**	**345**	*e*PN	**Pg**	**10 05 11.6**	**+0.8**
SOH	**Sokhos**	**0.99**	**345**	*e*Pn	**Pg**	**10 05 11.6**	**+0.8**
SMIA	**Simia**	**1.06**	**201**	P	**Pb**	**10 05 11.5**	**-0.6**
SMIA				S	**Sb**	**10 05 26.7**	**+0.8**
SMIA	**Simia**	**1.06**	**201**	P	**Pb**	**10 05 11.5**	**-0.6**
SMIA				S	**Sb**	**10 05 26.7**	**+0.8**
MRKA	**Markates**	**1.17**	**184**	P	**Pn**	**10 05 12.7**	**-1.2**
MRKA				S	**Sb**	**10 05 29.3**	**+0.4**
MRKA	**Markates**	**1.17**	**184**	P	**Pn**	**10 05 12.7**	**-1.2**
MRKA				S	**Sb**	**10 05 29.3**	**+0.4**
SRS	**Serrai**	**1.25**	**356**	*e*PN	**Pn**	**10 05 15.2**	**+0.1**
KAVA	**Kavala**	**1.28**	**29**	P	**Pn**	**10 05 14.5**	**-1.1**
KAVA	**Kavala**	**1.28**	**29**	P	**Pn**	**10 05 14.5**	**-1.1**
VAY	**Valandovo**	**1.69**	**330**	*i* Pn	**Pg**	**10 05 24.2**	**0.0**
VAY				*i* Sg	**Sg**	**10 05 47.7**	**+1.7**
VAY				*e*Lg	Lg	10 05 51.7	
	comp=N,28nm,0.9s						
VAY				*e*Lg	Lg	10 05 53.9	
	comp=E,55nm,1.3s						
VAY	**Valandovo**	**1.69**	**330**	*i* Pn	**Pg**	**10 05 24.1**	**0.0**
VAY				*i* Sg	**Sg**	**10 05 47.6**	**+1.7**
VAY				*e*Lg	Lg	10 05 53.9	
	comp=E,55nm,1.3s						

*IDC **20** 10:07:44.6±1.0,1.°46S×99.°41E,h0km,mb4.2/12, mb1 4.2/14,mb1mx4.1/27,mbtmp4.1/14,ML4.2/2,MS3.4/3, Ms1 3.4/3,ms1mx2.8/42,Error ellipse: s-maj=38.4km s-min=14.4km az=63.0*
*ISCJB **20** 10:07:47.6±0.6,1.°42S±0.°05×99.°34E±0.°07,h30km, mb4.2/12,MS3.7/2, Error ellipse: s-maj=11.3km s-min=5.5km az=145.1*
*DJA **20** 10:07:48.8±0.4,1.°5±4.°×9.°9E±.°,h10km,M4.3/15,mb4.2/7, mB4.8/2,MLv4.3/15,Mw(mB)4.0/2*

ISC 20 10:07:49.6±0.7,1.°33S±0.°06×99.°48E±0.°09,h30km,n43, σ1.°9/25/30,mb4.2/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.07**	**67**	P	**Pn**	**10 08 08.6**	**0.0**
PPI	**Padang Panjang**	**1.27**	**47**	P	**Pb**	**10 08 12.3**	**-0.6**
MNSI	**Mandailing Nat**	**2.12**	**3**	P	**Pn**	**10 08 23.9**	**+0.9**
BKNI	**Bangkinang**	**2.27**	**44**	P	**Pn**	**10 08 26.9**	**+1.8**
RGRI	**Rengat**	**3.02**	**71**	P	**Pn**	**10 08 41.7**	**-1.0**
GSI	**Gunungsitoli**	**3.24**	**324**	P	**Pn**	**10 08 38.8**	**+0.4**
MASI	**Maura Aman, Be**	**3.29**	**123**	P	**Pn**	**10 08 40.7**	**+1.5**
PSI	**Prapat**	**4.14**	**352**	P	x	10 08 50.9	
PSI	**Prapat**	**4.14**	**352**	Pn	**Pn**	**10 08 50.0**	**-1.0**
	2.1nm,0.3s,baz=217,slow=12,SNR=3.2						
PSI				LR	LR	10 10 43.6	
	comp=Z,174nm,20.5s,baz=170,slow=43						
MNAI	**Manna**	**4.60**	**131**	P	**Pn**	**10 08 59.0**	**+1.9**
LHSI	**Lahat**	**4.74**	**122**	P	**Pn**	**10 09 01.1**	**+2.0**
SNSI	**Sinabang, Aceh**	**4.87**	**320**	P	**Pn**	**10 09 00.7**	**-0.2**
TPTI		**5.11**	**333**	P	**Pn**	**10 09 05.5**	**+1.4**
	9.9nm,0.7s,0.1nm						
KCSI	**Kotacane, Aceh**	**5.11**	**341**	P	**Pn**	**10 09 07.1**	**+2.9**
	26nm,0.9s,602nm0.2nm						
MYKOM	**Kota Tinggi**	**5.36**	**55**	P	x	10 09 08.4	
	20nm,1.3s,0.2nm						
TPRI	**Tanjung Pinang**	**5.52**	**66**	P	Pb	10 09 31.7	+6.4
MDSI	**Maura Dua**	**5.64**	**124**	P	**Pn**	**10 09 14.3**	**+2.8**
	22nm,1.2s,1μm0.1nm						
LWLI	**Liwa**	**5.86**	**129**	P	**Pb**	**10 09 31.2**	**+0.1**
IPM	**Ipoh**	**5.98**	**15**	P	x	10 09 19.9	
	29nm,0.9s						
KASI	**Kota Agung**	**6.51**	**130**	P	**Pn**	**10 09 24.4**	**+0.9**
	39nm,0.9s						
KULM	**Kulim**	**6.68**	**10**	P	x	10 09 26.9	
CMAR	**Chiang Mai Arr**	**19.67**	**358**	P	**P**	**10 12 16.6**	**+0.2**
	0.9nm,0.3s,baz=186,slow=9.0,SNR=14						
H08S2	**Diego Garcia H**	**27.61**	**256**	T	T	10 41 38.8	
	baz=78,slow=76,SNR=95						
H08S3	**Diego Garcia H**	**27.61**	**256**	T	T	10 41 40.6	
	baz=78,slow=76,SNR=127						
H08S1	**Diego Garcia H**	**27.63**	**256**	T	T	10 41 34.0	
	baz=78,slow=76,SNR=13						
NWAO	**Narrogin (SRO)**	**35.59**	**154**	P	**P**	**10 14 42.7**	**-1.8**
	5.7nm,0.8s,baz=326,slow=3.6,SNR=2.7						
H01W3	**Cape Leeuwin H**	**36.07**	**159**	T	T	10 52 44.6	
	baz=336,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**36.08**	**159**	T	T	10 52 45.7	
	baz=336,slow=75,SNR=34						
H01W1	**Cape Leeuwin H**	**36.09**	**159**	T	T	10 52 45.1	
	baz=336,slow=75,SNR=30						
WRA	**Warrumnga Arr**	**38.78**	**121**	P	**P**	**10 15 10.8**	**-1.1**
	1.9nm,0.4s,baz=303,slow=9.0,SNR=37						
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**10 15 22.5**	**-0.1**
	0.8nm,0.5s,baz=299,slow=7.4,SNR=11						
KSRS	**Korea Array**	**46.72**	**31**	P	**P**	**10 16 15.8**	**-0.1**
	1.3nm,0.6s,baz=226,slow=8.7,SNR=5.0						
SONM	**Songino Array**	**49.34**	**6**	P	**P**	**10 16 36.6**	**+0.4**
	1.3nm,0.7s,baz=190,slow=9.0,SNR=11						
SONM				LR	LR	10 39 32.0	
	comp=Z,66nm,19.2s,baz=178,slow=39						
STKA	**Stephens Creek**	**49.98**	**132**	P	**P**	**10 16 40.9**	**-0.4**
	1.6nm,0.5s,baz=299,slow=8.3,SNR=7.7						
MKAR	**Makanchi Array**	**50.25**	**345**	P	**P**	**10 16 44.2**	**+1.1**
	1.4nm,0.4s,baz=156,slow=8.4,SNR=20						
USRK	**Ussuriysk Arra**	**53.82**	**29**	P	**P**	**10 17 09.9**	**+0.3**
	2.0nm,0.6s,baz=240,slow=4.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.42**	**350**	P	**P**	**10 17 28.8**	**+0.6**
	2.5nm,0.5s,baz=180,slow=7.4,SNR=16						
KBZ	**Khabaz**	**57.46**	**319**	P	**P**	**10 18 42.5**	**-0.2**
	3.3nm,0.9s,baz=151,slow=6.1,SNR=4.5						
SEY	**Seymchan**	**75.21**	**22**	P	**P**	**10 19 29.2**	**+0.2**
	0.9nm,0.3s,baz=10,slow=23,SNR=8.0						
FINES	**FINESS Array B**	**83.28**	**332**	P	**P**	**10 20 12.8**	**-0.3**
	1.1nm,0.6s,baz=103,slow=6.1,SNR=3.9						
QSPA	**South Pole Qui**	**88.62**	**180**	LR	LR	10 55 01.8	
	comp=Z,34nm,18.4s,baz=184,slow=32						
TXAR	**Lajitas Array**	**144.48**	**36**	PKP	**PKPdf**	**10 27 23.4**	**-0.6**
	0.8nm,0.6s,baz=278,slow=1.4,SNR=17						
CPUP	**Villa Florida**	**144.54**	**218**	PKP	PKPbc	10 27 22.7	+0.1
	3.9nm,0.8s,baz=101,slow=3.2,SNR=5.3						

*CSEM **20** 10:22:14.3±1.4,50.°23N×19.°15E,h1km, Error ellipse: s-maj=22.6km s-min=12.4km az=63.0*

PRU 20 10:22:16.1,50.°19N×19.°09E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.70**	**240**	*e*PG	Pg	10 22 28.9	-0.7
OKC				*e*SG	Sg	10 22 38.1	-0.6
OKC	**Ostrava-Krasne**	**0.70**	**240**	Pg	Pg	10 22 28.9	-0.7
OKC				Sg	Sg	10 22 38.1	-0.6
MORC	**Moravsky Berou**	**1.08**	**248**	*e*Pg	Pg	10 22 37.2	+0.3
MORC				*e*Sg	Sg	10 22 50.8	-0.2
DPC	**Dobruska-Polom**	**1.78**	**276**	*e*PG	Pn	10 22 48.6	+0.4
DPC				*e*SG	Sb	10 23 13.1	+0.4
DPC	**Dobruska-Polom**	**1.78**	**276**	Pg	Pn	10 22 48.6	+0.4
DPC				Sg	Sb	10 23 13.1	+0.4

*IDC **20** 10:42:51.4±1.1,35.°61N×23.°14E,h0km,mb3.9/8, mb1 3.8/11,mb1mx3.7/31,mbtmp3.8/11,ML3.5/3,MS2.9/1, Ms1 2.9/1,ms1mx2.1/52, Error ellipse: s-maj=22.7km s-min=13.8km az=15.0*
*CSEM **20** 10:42:57.6±0.5,35.°11N×23.°11E,h20km,MD3.3, Error ellipse: s-maj=14.3km s-min=7.1km az=70.0*
*HLW **20** 10:42:58.6,35.°36N×23.°87E,h28km±50km,Md3.4,Ml3.8*
*ATH **20** 10:42:59.0,35.°37N×23.°35E,h20km,MD3.3/8*

ISC 20 10:42:55.5±0.6,35.°32N±0.°05×23.°40E±0.°05,h24km,n64, σ1.°69/53,mb3.8/8,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.55**	**352**	*e*PB	**Pn**	**10 43 09.1**	**+1.3**
ANKY				*e*SB	**Sn**	**10 43 16.4**	**+0.1**
VAM	**Vamos**	**0.66**	**82**	*e*PN	Pn	10 43 12.9	+3.6
VAM				*e*SN	**Sn**	**10 43 23.0**	**+4.0**
GVD	**Gavdhos**	**0.74**	**130**	*e*PN	Pn	10 43 14.4	+4.0
GVD	**Gavdhos**	**0.74**	**130**	*e*Pn	Pn	10 43 14.4	+4.0
KYTH	**Kithira**	**1.00**	**343**	*e*PN	**Pb**	**10 43 17.1**	**+2.9**
KYTH	**Kithira**	**1.00**	**343**	*e*Pn	**Pb**	**10 43 17.1**	**+2.9**
IDI	**Anoyia**	**1.22**	**91**	Pg	**Pb**	**10 43 20.1**	**+2.2**
	31nm,0.3s,baz=275,slow=15,SNR=82						
IDI				Lg	Lg	10 43 38.3	
	42nm,0.3s,baz=35,slow=23,SNR=14						
IDI				LR	LR	10 44 11.0	
	comp=Z,116nm,20.6s,baz=150,slow=54						
VLI	**Velíai**	**1.44**	**345**	*e*PN	Pb	10 43 24.8	+3.1
VLI	**Velíai**	**1.44**	**345**	*e*Pn	Pb	10 43 24.8	+3.1
LAST	**Lasithi**	**1.71**	**95**	*e*PN	Pb	10 43 30.6	+4.3
LAST	**Lasithi**	**1.71**	**95**	*e*Pn	Pb	10 43 30.6	+4.3
NPS	**Neapolis**	**1.81**	**91**	*e*PN	Pb	10 43 31.7	+3.8
NPS	**Neapolis**	**1.81**	**91**	*e*Pn	Pb	10 43 31.7	+3.8
SANT	**Santorini**	**1.98**	**57**	*e*PN	**Pb**	**10 43 33.4**	**+2.7**
SANT	**Santorini**	**1.98**	**57**	*e*Pn	**Pb**	**10 43 33.4**	**+2.7**
PYL	**PYLOS**	**2.07**	**320**	*e*PN	**Pb**	**10 43 34.3**	**+2.0**
DID	**Didima**	**2.19**	**357**	*e*PN	**Pb**	**10 43 35.8**	**+1.5**
DID	**Didima**	**2.19**	**357**	*e*Pn	**Pb**	**10 43 35.8**	**+1.5**
ITM	**Ithomi**	**2.20**	**328**	*e*PN	**Pb**	**10 43 36.0**	**+1.4**
ITM	**Ithomi**	**2.20**	**328**	*e*Pn	**Pb**	**10 43 36.0**	**+1.4**
ZKR	**Zakros**	**2.32**	**94**	*e*PN	**Pb**	**10 43 38.8**	**+2.3**
ZKR	**Zakros**	**2.32**	**94**	*e*Pn	**Pb**	**10 43 38.8**	**+2.3**
NAIG	**Nisos Aigina**	**2.43**	**2**	*e*PN	**Pb**	**10 43 39.4**	**+0.9**
NAIG	**Nisos Aigina**	**2.43**	**2**	*e*Pn	**Pb**	**10 43 39.4**	**+0.9**
APE	**Apeiranthos**	**2.45**	**44**	*e*PN	**Pb**	**10 43 40.1**	**+1.2**
APE	**Apeiranthos**	**2.45**	**44**	*e*Pn	**Pb**	**10 43 40.1**	**+1.2**
KARP	**Karpathos**	**3.08**	**85**	*e*PN	**Pb**	**10 43 49.7**	**+0.1**
KARP	**Karpathos**	**3.08**	**85**	*e*Pn	**Pb**	**10 43 49.7**	**+0.1**
SMG	**Samos**	**3.65**	**48**	*e*PN	Pb	10 43 56.9	-2.4
SMG	**Samos**	**3.65**	**48**	*e*Pn	Pb	10 43 56.9	-2.4
ARG	**Arkhangelos**	**3.95**	**76**	*e*PN	Pb	10 44 01.7	-2.6
ARG	**Arkhangelos**	**3.95**	**76**	*e*Pn	Pb	10 44 01.7	-2.6
SLUM		**4.11**	**158**	P	**Pn**	**10 43 58.8**	**+2.0**
	baz=163						
SLUM				S	**Sn**	**10 44 43.5**	**-0.6**
	baz=163						
SLUM		**4.11**	**158**	P	**Pn**	**10 43 58.8**	**+2.0**
SLUM				S	**Sn**	**10 44 43.5**	**-0.6**
HMAT	**Matruh**	**5.23**	**143**	P	**Pn**	**10 44 14.3**	**+2.1**
	baz=146						
HMAT	**Matruh**	**5.23**	**143**	P	**Pn**	**10 44 14.3**	**+2.1**
SWA2		**6.30**	**163**	P	**Pn**	**10 44 28.4**	**+1.5**
	baz=167						
SWA2				AMP		10 45 00.0	
	comp=E,120μm,0.2s,logA/T=5.8,baz=167						
SWA2		**6.30**	**163**	P	**Pn**	**10 44 28.4**	**+1.5**
HBRG	**Burj al 'Arab**	**7.19**	**129**	P	**Pn**	**10 44 40.2**	**+1.2**
	baz=131						
GLL	**Jalalah**	**9.06**	**127**	P	**Pn**	**10 45 04.7**	**0.0**
	baz=128						
GLL	**Jalalah**	**9.06**	**127**	P	**Pn**	**10 45 04.7**	**0.0**
HFRF	**Wahat Farafira**	**9.17**	**151**	P	**Pn**	**10 45 06.9**	**+0.7**
	baz=153						
HFRF	**Wahat Farafira**	**9.17**	**151**	P	**Pn**	**10 45 06.9**	**+0.7**
BRTR	**Keskin Array B**	**9.24**	**59**	Pn	**Pn**	**10 45 08.8**	**+1.4**
	comp=E,0.2nm,0.3s,baz=238,slow=15,SNR=7.8						
AMAG	**Maghara**	**9.47**	**117**	P	**Pn**	**10 45 08.9**	**-1.5**
	baz=118						
AMAG	**Maghara**	**9.47**	**117**	P	**Pn**	**10 45 08.9**	**-1.5**
SUZ		**9.65**	**122**	P	**Pn**	**10 45 12.2**	**-0.7**
	baz=123						
SUZ		**9.65**	**122**	P	**Pn**	**10 45 12.2**	**-0.7**
RSH		**9.68**	**114**	P	**Pn**	**10 45 13.2**	**-0.1**
	baz=115						
RSH		**9.68**	**114**	P	**Pn**	**10 45 13.2**	**-0.1**
HNKL	**Nakhl**	**10.41**	**118**	P	**Pn**	**10 45 22.9**	**-0.4**
	baz=119						
HNKL	**Nakhl**	**10.41**	**118**	P	**Pn**	**10 45 22.9**	**-0.4**
EIL	**Elat**	**11.26**	**117**	Pn	**Pn**	**10 45 33.6**	**-1.3**
	comp=E,0.4nm,0.3s,baz=348,slow=14,SNR=5.4						
EIL				Sn	Sn	10 47 30.6	-9.4
	comp=E,0.5nm,0.3s,baz=294,slow=19,SNR=4.0						
GERES	**GERESS Array B**	**15.29**	**335**	LR	LR	10 52 58.2	
	comp=E,44nm,18.6s,baz=334,slow=41						
AKASG	**Malin Array Be**	**15.94**	**14**	Pn	Pn	10 46 33.0	-5.0
	comp=E,0.5nm,0.3s,baz=184,slow=7.6,SNR=5.2						
KBZ	**Khabaz**	**17.20**	**55**	Pn	**P**	**10 46 57.0**	**+1.6**
	comp=E,0.1nm,0.3s,baz=246,slow=10.0,SNR=3.6						
HFS	**Hagfors**	**25.61**	**349**	P	**P**	**10 48 20.4**	**-2.3**
	comp=E,1.1nm,0.5s,baz=134,slow=11,SNR=5.8						
TORD	**Torodi Ar. Bea**	**29.52**	**227**	P	**P**	**10 48 57.9**	**-0.2**
	comp=E,0.6nm,0.4s,baz=35,slow=9.6,SNR=9.3						
ARCES	**ARCESS Array B**	**34.29**	**1**	P	**P**	**10 49 36.7**	**-2.7**
	comp=E,0.7nm,0.5s,baz=190,slow=6.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**42.14**	**51**	P	**P**	**10 50 44.4**	**-1.3**
	comp=E,1.0nm,0.6s,baz=277,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**44.89**	**56**	P	**P**	**10 51 06.7**	**-1.2**
	comp=E,0.4nm,0.4s,baz=268,slow=7.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**45.93**	**46**	P	**P**	**10 51 13.7**	**-2.4**
	comp=E,1.1nm,0.4s,baz=276,slow=8.9,SNR=4.9						
YKA	**Yellowknife Ar**	**76.84**	**341**	P	**P**	**10 54 43.7**	**-1.2**
	comp=E,0.2nm,0.6s,baz=33,slow=5.3,SNR=6.4						
**

ML4.2

ISC 20 10:49:53.3±1.9, 30.48S±0.05 × 72.5W±0.1, h19km, n23, σ1s44/29, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**2.16**	**48**	*eP*	**Pb**	**10 50 30.9**	**-1.1**
LCO				*eS*	**Sb**	**10 50 55.6**	**-2.9**
VACH	**Vallenar**	**2.45**	**39**	⇓*iP*	**Pb**	**10 50 36.4**	**-0.3**
VACH				*i* S	**Sb**	**10 51 03.9**	**-2.6**
IHA	**Instituto Hidr**	**2.64**	**164**	*eP*	**Pn**	**10 50 35.5**	**+0.6**
JACH	**Jahuel**	**2.74**	**144**	*eP*	**Pn**	**10 50 36.8**	**+0.4**
ROCH	**El Roble**	**2.80**	**153**	*eP*	**Pn**	**10 50 37.3**	**0.0**
ROCH				*i* S	**Sn**	**10 51 11.4**	**+0.9**
ROCH	comp=N,3μm,0.5s			AML	AML	10 51 13.9	
RTLS	**Leoncito**	**3.06**	**116**	*eP*	**Pn**	**10 50 42.0**	**+1.1**
RTLS				*eP*	**Pn**	**10 50 42.0**	**+1.1**
PEL	**Peldehue**	**3.08**	**150**	⇑*iP*	**Pn**	**10 50 41.3**	**+0.3**
PEL				*i* S	**Sn**	**10 51 17.8**	**+0.5**
PEL	comp=E,4μm,0.3s			AML	AML	10 51 20.1	
AUSP	**Uspallata**	**3.19**	**124**	*eP*	**Pn**	**10 50 44.0**	**+1.2**
CLCH	**Cerro Calan**	**3.36**	**150**	*eP*	**Pn**	**10 50 45.0**	**+0.2**
CLCH				*i* S	**Sn**	**10 51 25.1**	**+0.8**
CLCH	comp=E,4μm,0.6s			AML	AML	10 51 34.6	
TACH	**Talagante**	**3.44**	**157**	*eP*	**Pn**	**10 50 46.5**	**+0.6**
RTLL	**Cerro Villicun**	**3.58**	**105**	*eP*	**Pn**	**10 50 48.1**	**+0.2**
LNV	**Longovilo**	**3.59**	**165**	*eP*	**Pn**	**10 50 48.5**	**+0.6**
AGUA	**GUANDACOL**	**3.64**	**75**	*eP*	**Pn**	**10 50 50.9**	**+2.2**
CPCH	**Copiapo**	**3.65**	**32**	*eP*	Pb	10 50 53.4	-3.9
CPCH				*eS*	**Sn**	**10 51 34.0**	**+2.7**
RTCV	**Cerro Valdivia**	**3.68**	**113**	*eP*	**Pn**	**10 50 50.8**	**+1.5**
RTCV				*eS*	**Sn**	**10 51 32.1**	**-0.1**
ASAL	**Salagasta**	**3.79**	**125**	*eP*	**Pn**	**10 50 52.5**	**+1.8**
CHCH	**Chadas Angostu**	**3.79**	**156**	*eP*	**Pn**	**10 50 51.2**	**+0.5**
CFAA	**Coronel Fontan**	**3.84**	**108**	*eP*	**Pn**	**10 50 52.4**	**+0.8**
ARCO	**CERRO ARCO**	**3.86**	**128**	*eP*	**Pn**	**10 50 53.9**	**+2.0**
ARCO	comp=Z,324nm,0.7s			AML	AML	10 51 48.2	
CACH	**El Canelo**	**3.97**	**156**	*eP*	**Pn**	**10 50 54.4**	**+1.1**
AAGR	**Agrelo**	**4.08**	**130**	*eP*	**Pn**	**10 50 56.9**	**+2.2**
AVFE	**Valle Fertil**	**4.38**	**94**	AML	AML	10 51 58.3	
	comp=Z,279nm,0.6s						
ACLC	**CERRO LA CRUZ**	**4.95**	**79**	*eP*	**Pn**	**10 51 08.1**	**+1.3**

IDC 20 10:59:29.1±54.0, 17.22S × 179.53E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/44, mbtmp3.9/3, Error ellipse: s-maj=969.4km s-min=141.1km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.26**	**240**	P	P	11 06 42.4	-0.4
	1.0nm,0.9s,baz=90,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**42.83**	**259**	P	P	11 07 29.4	+0.2
	0.3nm,0.3s,baz=91,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**43.09**	**254**	P	P	11 07 31.1	-0.3
	2.9nm,0.5s,baz=91,slow=8.5,SNR=74						

*LJU **20** 10:59:53.3, 45.77N × 14.20E, h15km, ML1.6*
*CSEM **20** 10:59:53.1±0.2, 45.77N × 14.19E, h18km±2km, ML2.1/5, Error ellipse: s-maj=3.4km s-min=1.5km az=49.0*

ISC 20 10:59:53.4±1.1, 45.77N±0.03 × 14.19E±0.03, h15km±7km, n20, σ0s32/38, 2C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.15**	**326**	⇓*iPg*	**Pg**	**10 59 57.5**	**0.0**
JAVS				*i* Sg	**Sg**	**11 00 00.4**	**+0.2**
JAVS	comp=Z,116nm,0.1s						
JAVS	**Javornik**	**0.15**	**326**	⇓*iPg*	**Pg**	**10 59 57.5**	**0.0**
JAVS				*i* Sg	**Sg**	**11 00 00.4**	**+0.2**
	comp=Z,116nm,0.1s						
CEY	**Cerknica**	**0.17**	**100**	*i* Pg	**Pg**	**10 59 57.4**	**-0.3**
CEY				*i* Sg	**Sg**	**11 00 00.5**	**0.0**
CEY	comp=Z,18nm,0.1s						
CEY	**Cerknica**	**0.17**	**100**	*i* Pg	**Pg**	**10 59 57.4**	**-0.3**
CEY				*i* Sg	**Sg**	**11 00 00.5**	**0.0**
	comp=Z,18nm,0.1s						
SKDS	**Skadanscina**	**0.25**	**209**	⇓*iPg*	**Pg**	**10 59 58.9**	**-0.1**
SKDS				*i* Sg	**Sb**	**11 00 03.5**	**-0.4**
SKDS	comp=Z,63nm,0.1s						
SKDS	**Skadanscina**	**0.25**	**209**	⇓*iPg*	**Pg**	**10 59 58.9**	**-0.1**
SKDS				*i* Sg	**Sb**	**11 00 03.5**	**-0.4**
	comp=Z,63nm,0.1s						
KNDS	**Knezji Dol**	**0.28**	**150**	*i* Pg	**Pg**	**10 59 59.2**	**-0.2**
KNDS				*i* Sg	**Sg**	**11 00 03.9**	**+0.4**
KNDS	comp=Z,13nm,0.1s						
KNDS	**Knezji Dol**	**0.28**	**150**	*i* Pg	**Pg**	**10 59 59.2**	**-0.2**
KNDS				*i* Sg	**Sg**	**11 00 03.9**	**+0.4**
	comp=Z,13nm,0.1s						
CRNS	**Crni Vrh**	**0.32**	**9**	*i* Pg	**Pg**	**10 59 59.9**	**-0.2**
CRNS				*i* Sg	**Sg**	**11 00 05.0**	**+0.3**
CRNS	comp=Z,10.0nm,0.1s						
VOJS	**Vojsko**	**0.34**	**321**	⇑*iPg*	**Pg**	**11 00 00.4**	**-0.1**
VOJS				*i* Sg	**Sb**	**11 00 06.0**	**-0.5**
VOJS	comp=Z,16nm,0.1s						
VOJS	**Vojsko**	**0.34**	**321**	⇑*iPg*	**Pg**	**11 00 00.4**	**-0.1**
VOJS				*i* Sg	**Sb**	**11 00 05.9**	**-0.5**
	comp=Z,16nm,0.1s						
SABO	**M.te Sabotino**	**0.46**	**297**	⇓*ePg*	**Pg**	**11 00 02.4**	**-0.2**
SABO				*eSg*	**Sg**	**11 00 09.1**	**+0.2**
SABO	**M.te Sabotino**	**0.46**	**297**	*ePg*	**Pg**	**11 00 02.4**	**-0.2**
SABO				*eSg*	**Sg**	**11 00 09.1**	**+0.2**
GBRS	**Gornja Briga**	**0.50**	**118**	*i* Pg	**Pg**	**11 00 03.0**	**-0.3**
GBRS				*i* Sg	**Sb**	**11 00 10.9**	**0.0**
DRE	**Drenchia**	**0.55**	**317**	*ePg*	**Pg**	**11 00 04.1**	**-0.3**
DRE				*eSg*	**Sb**	**11 00 12.5**	**-0.1**
DRE	**Drenchia**	**0.55**	**317**	*eP*	**Pg**	**11 00 04.1**	**-0.3**
DRE				*eSg*	**Sb**	**11 00 12.5**	**-0.1**
GORS	**Gorjuse**	**0.56**	**346**	*i* Sg	**Sb**	**11 00 13.5**	**+0.6**
GORS	**Gorjuse**	**0.56**	**346**	*i* Sg	**Sb**	**11 00 13.5**	**+0.6**
NVLJ	**Novalja**	**1.30**	**158**	*ePg*	**Pg**	**11 00 18.3**	**-0.1**
NVLJ				Sg	**Sg**	**11 00 36.0**	**+0.6**
NVLJ	**Novalja**	**1.30**	**158**	*ePg*	**Pg**	**11 00 18.3**	**-0.1**
NVLJ				Sg	**Sg**	**11 00 35.9**	**+0.6**

*JSN **20** 11:03:40.8±2.0, 18.92N × 72.65W, h0km±999km, MD5.6*
*MOS **20** 11:03:41.9±1.1, 18.42N × 72.87W, h10km, mb6.2/103, MS5.8/60, Error ellipse: s-maj=4.8km s-min=4.0km az=84.4*
*ISCJB **20** 11:03:42.2±0.1, 18.39N±0.02 × 72.89W±0.01, h12km, mb5.8/352, MS5.7/219, Error ellipse: s-maj=2.8km s-min=1.3km az=15.1*
*BJI **20** 11:03:42.3, 18.40N × 72.80W, h10km, mB6.0/17, Ms6.2/31, Ms7 6.1/35*
*IDC **20** 11:03:42.0±0.3, 18.46N × 72.77W, h0km, mb5.1/37, mb1 5.2/42, mb1mx5.2/43, mbtmp5.1/42, ML4.4/5, MS5.6/31, Ms1 5.6/31, ms1mx5.6/31, Error ellipse: s-maj=11.8km s-min=8.9km az=60.0*
*GCMT **20** 11:03:43.3±0.1, 18.67N × 72.81W, h12km, MW5.8/96, Moment Tensor Solution. s90,c191; s96,c324; Duration: 2s1 Moment tensor: Scale 10^18Nm; Mrr0.76±.01; Mθθ-0.63±.01; Mϕϕ-0.13±.01; Mrθ-0.02±.01; Mθϕ0.21±.00; Mϕr-0.04±.01; Best double couple: M0 0.73300 × 10^18 NP1:ϕs287.00000°, δ45.00000°, λ85.00000°. NP2:ϕs114.00000°, δ45.00000°, λ95.00000°. Principal axes: T 0.7600, Plg87.0000°, Azm111.0000°; N -0.0530, Plg3.0000°, Azm290.0000°; P -0.7060, Plg0.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **20** 11:03:43.5±0.1, 18.42N × 72.82W, h10km, mb5.9/184, ME6.1, MS5.8/143, MW5.8, MW5.9 Error ellipse: s-maj=2.7km s-min=1.8km az=197.0 Broadband fault plane solution: P waves. NP1:ϕs138.00000°, δ46.00000°, λ144.00000°. NP2:ϕs255.00000°, δ65.00000°, λ50.00000°. Principal axes: T Plg52.0000°, Azm117.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm13.0000°;*

Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
NEIC Felt [IV] at Delmas, Kenscoff, Petionville and Port-au-Prince. Also felt at Anse a Galets, Carrefour, Grand Goave, Les Cayes, Miragoane, Pignon, Saint-Marc and Torbeck. Felt [III] at Santiago, Dominican Republic. Also felt at Jarabacoa, Jimani, La Vega, Licey al Medio, Moca and Santo Domingo. Felt at Mona, Jamaica.
*NEIC **20** 11:03:44.0±0.0, 18.43N × 72.88W, h15km Best double couple: NP1:ϕs119.00000°, δ67.00000°, λ98.00000°. NP2:ϕs278.00000°, δ23.00000°, λ71.00000°. Principal axes: T 5.9800, Plg66.0000°, Azm43.0000°; N -0.0500, Plg7.0000°, Azm296.0000°; P -5.9300, Plg22.0000°, Azm203.0000°;*
*SZGRF **20** 11:03:54.7, 19.09N × 71.76W, h33km, mb6.3, MS6.0, Dominican Republic region*
*NEIC **20** 11:03:55.2±0.0, 18.95N × 72.44W, h10km, Moment Tensor Solution. s146 Moment tensor: Scale 10^17Nm; Mrr6.58; Mθθ-5.59; Mϕϕ-0.99; Mrθ4.98; Mϕθ2.02; Mϕr1.23; Best double couple: M0 8.20000 × 10^17 NP1:ϕs305.00000°, δ30.00000°, λ120.00000°. NP2:ϕs92.00000°, δ64.00000°, λ74.00000°. Principal axes: T 8.7100, Plg66.0000°, Azm331.0000°; N -1.0000, Plg14.0000°, Azm98.0000°; P -7.7100, Plg17.0000°, Azm193.0000°;*

ISC 20 11:03:43.6±0.4, 18.36N±0.03 × 72.87W±0.02, h10km±2km, h10km:pP-P, n1617, σ1s44/1583, mb5.9/353, MS5.8/223, 314C-257D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.62**	**67**	⇓*iPn*	**Pn**	**11 04 09.7**	**-2.6**
SDDR				*eSn*	**Sb**	**11 04 34.1**	**-0.1**
GTBY	**Guantanamo Bay**	**2.63**	**307**	*ePn*	**Pn**	**11 04 23.1**	**-3.0**
GTBY				*eSn*	**Sn**	**11 04 58.0**	**0.0**
YHJ	**Yallahs**	**3.48**	**263**	*e*	**Pn**	**11 04 39.6**	**+1.9**
YHJ	**Yallahs**	**3.48**	**263**	*eP*	**Pn**	**11 04 39.6**	**+1.9**
GRTK	**Grand Turk**	**3.54**	**27**	*ePn*	**Pn**	**11 04 36.2**	**-2.3**
GRTK				*eSn*	**Sn**	**11 05 20.0**	**-0.4**
GWJ	**Greenwich**	**3.68**	**266**	*eP*	**Pn**	**11 04 40.9**	**+0.3**
GWJ	**Greenwich**	**3.68**	**266**	*eP*	**Pn**	**11 04 40.9**	**+0.3**
HOJ	**Hope**	**3.70**	**265**	*eP*	**Pn**	**11 04 42.0**	**+1.1**
HOJ	**Hope**	**3.70**	**265**	*eP*	**Pn**	**11 04 42.0**	**+1.1**
HOJ	**Hope**	**3.70**	**265**	*eP*	**Pn**	**11 04 42.0**	**+1.1**
STH	**Stony Hill**	**3.75**	**266**	*eP*	**Pn**	**11 04 41.5**	**-0.1**
STH				*i* S	**Sn**	**11 05 29.0**	**+3.2**
STH	**Stony Hill**	**3.75**	**266**	*eP*	**Pn**	**11 04 41.5**	**-0.1**
STH				*i* S	**Sn**	**11 05 29.0**	**+3.2**
STH	**Stony Hill**	**3.75**	**266**	*eP*	**Pn**	**11 04 41.5**	**-0.1**
STH				*i* S	**Sn**	**11 05 29.0**	**+3.2**
PCJ	**Portland Cotta**	**4.12**	**262**	*eP*	**Pn**	**11 04 49.2**	**+2.6**
PCJ	**Portland Cotta**	**4.12**	**262**	*eP*	**Pn**	**11 04 49.2**	**+2.6**
CVJ	**Coleyville**	**4.43**	**269**	*i* P	**Pn**	**11 04 51.4**	**+0.4**
CVJ	**Coleyville**	**4.43**	**269**	*i* P	**Pn**	**11 04 51.4**	**+0.4**
MTDJ	**Mount Denham**	**4.43**	**269**	⇓*ePn*	**Pn**	**11 04 50.5**	**-0.4**
MTDJ				*eSn*	**Sn**	**11 05 46.8**	**+4.1**
MCJ	**Malvern**	**4.60**	**265**	*eP*	**Pn**	**11 04 55.3**	**+2.1**
MCJ	**Malvern**	**4.60**	**265**	*eP*	**Pn**	**11 04 55.3**	**+2.1**
MBJ	**Montego Bay**	**4.74**	**271**	*i* P	**Pn**	**11 04 55.7**	**+0.6**
MBJ	**Montego Bay**	**4.74**	**271**	*i* P	**Pn**	**11 04 55.7**	**+0.6**
AGPR	**Aguadilla, PR**	**5.47**	**88**	Pn	**Pn**	**11 05 05.2**	**+0.1**
	15μm,1.4s						
CRPR	**Cabo Rojo, PR**	**5.49**	**93**	*ePn*	**Pn**	**11 05 04.8**	**-0.6**
	333nm,2.1s						
CRPR				*eSn*	**Sn**	**11 06 10.7**	**+2.2**
LSP	**Las Mesas**	**5.50**	**91**	*ePn*	**Pn**	**11 05 05.6**	**0.0**
LSP				*eSn*	**Sn**	**11 06 11.4**	**+2.5**
LRS	**Lares**	**5.72**	**90**	*ePn*	**Pn**	**11 05 08.3**	**-0.3**
LRS				*eSn*	**Sn**	**11 06 19.0**	**+4.5**
OBIP	**Obispado Ponce**	**5.96**	**92**	*ePn*	**Pn**	**11 05 11.4**	**-0.5**
	9μm,1.6s						
OBIP				*eSn*	**Sn**	**11 06 19.7**	**-0.6**
CELP	**Cerrillos**	**5.99**	**92**	*ePn*	**Pn**	**11 05 12.3**	**0.0**
CELP				*eSn*	**Sn**	**11 06 23.2**	**+2.3**
CBYP	**Canovanas**	**6.66**	**90**	*ePn*	**Pn**	**11 05 20.1**	**-1.4**
	3μm,1.2s						
CBYP				*eSn*	**Sn**	**11 06 41.5**	**+3.9**
MTP	**Monte Pirata**	**6.96**	**91**	*ePn*	**Pn**	**11 05 24.7**	**-0.9**
	1μm,1.0s						
MTP				*eSn*	**Sn**	**11 06 50.1**	**+5.2**
CDVI	**St. Croix**	**7.73**	**93**	*ePn*	**Pn**	**11 05 33.4**	**-2.8**
CDVI				*eSn*	**Sn**	**11 07 06.2**	**+2.3**
SABA	**Saba**	**9.19**	**93**	*ePn*	**Pn**	**11 05 56.1**	**-0.1**
SABA	**Saba**	**9.19**	**93**	*ePn*	**Pn**	**11 05 57.6**	**+1.3**
SDV	**Santo Domingo**	**9.66**	**167**	⇑*iPn*	**Pn**	**11 06 04.5**	**+1.6**
NVBH	**Bath Hotel, Ne**	**9.85**	**96**	*eP*	**Pn**	**11 06 04.3**	**-1.0**
ANWB	**Willy Bob**	**10.57**	**92**	*eP*	Pn	11 06 11.5	-3.6
ANWB	**Willy Bob**	**10.57**	**92**	*ePn*	**Pn**	**11 06 13.4**	**-1.7**
	567nm,0.9s						
ANWB				*eSn*	**Sn**	**11 08 10.9**	**-2.8**
BPA	**Boggy Peak**	**10.58**	**95**	*eP*	**Pn**	**11 06 14.9**	**-0.4**
LZG	**Guadaloupe-1**	**10.83**	**100**	*eP*	**Pn**	**11 06 19.8**	**+1.1**
FNG	**Fond-Bernard**	**10.93**	**100**	*eP*	**Pn**	**11 06 20.8**	**+0.6**
SSG	**Sans Toucher**	**10.93**	**100**	*eP*	**Pn**	**11 06 20.4**	**+0.1**
HMG	**Houelmont**	**10.94**	**101**	*eP*	**Pn**	**11 06 22.0**	**+1.8**
SCG	**Saint Claude**	**10.94**	**101**	*eP*	**Pn**	**11 06 21.3**	**+1.0**
TAG	**Tarade**	**10.95**	**100**	*eP*	**Pn**	**11 06 21.9**	**+1.3**
LKG	**Breislack**	**10.96**	**100**	*eP*	**Pn**	**11 06 20.5**	**-0.2**
ECG	**Echelle**	**10.96**	**100**	*eP*	**Pn**	**11 06 21.3**	**+0.5**
PHG	**Guadaloupe-2**	**10.98**	**101**	*eP*	**Pn**	**11 06 20.9**	**0.0**
DOG	**Dongo Capester**	**11.00**	**100**	*eP*	**Pn**	**11 06 23.6**	**+2.5**
TBG	**Guadaloupe-3**	**11.02**	**101**	*eP*	**Pn**	**11 06 21.7**	**+0.4**
SEG	**Port Louis**	**11.02**	**98**	*eP*	**Pn**	**11 06 22.5**	**+1.1**
BBL	**Barber's Block**	**11.27**	**103**	*eP*	**Pn**	**11 06 25.2**	**+0.4**
MGG	**Marie-Galante**	**11.31**	**101**	*eP*	**Pn**	**11 06 28.0**	**+2.7**
BCIP	**Isla Barro Col**	**11.37**	**217**	*ePn*	**Pn**	**11 06 26.2**	**+0.1**
BCIP				*eSn*	**Sn**	**11 08 34.2**	**+1.0**
MDN	**Morne-Daniel**	**11.40**	**104**	*eP*	**Pn**	**11 06 26.8**	**+0.3**
DSHT	**Scott's Head**	**11.45**	**104**	*eP*	**Pn**	**11 06 30.4**	**-3.3**
DBCT	**Belle View Cho**	**11.46**	**104**	*eP*	**Pn**	**11 06 30.2**	**+2.8**
H05N1	**Guadeloupe/Mar**	**11.46**	**98**	Pn	**Pn**	**11 06 28.4**	**+1.0**
	SNR=272						
H05N1				Sn	**Sn**	**11 08 30.5**	**-5.1**
FDF	**Fort de France**	**11.80**	**106**	*eP*	**Pn**	**11 06 31.5**	**-0.6**
FDF				*e*		11 08 43.6	
FDF				pmax	pmax		
	comp=Z,7μm,1.4s						
FDF	**Fort de France**	**11.80**	**106**	*eP*	Pn	11 06 28.7	-3.4
FDF	**Fort de France**	**11.80**	**106**	*eP*	Pn	11 06 38.4	+6.3
FDF	**Fort de France**	**11.80**	**106**	*ePn*	**Pn**	**11 06 31.5**	**-0.6**
	comp=Z,7μm,1.4s						
FDF				*eSn*	**Sn**	**11 08 43.6**	**-0.3**
BIM	**Bigot**	**11.95**	**107**	*eP*	**Pn**	**11 06 35.6**	**+1.5**
ZAM	**Aeronautique**	**11.97**	**107**	*eP*	**Pn**	**11 06 35.6**	**+1.4**
H05S1	**Guadeloupe/Mar**	**12.19**	**107**	Pn	**Pn**	**11 06 38.5**	**+1.2**
	SNR=60						
H05S1				Sn	**Sn**	**11 08 48.7**	**-4.7**
GRW	**Mount Saint Ca**	**12.45**	**118**	*e*	**Pn**	**11 06 40.9**	**0.0**
GRGR	**Grenville**	**12.46**	**118**	*eP*	**Pn**	**11 06 41.2**	**+0.1**
GRGR	**Grenville**	**12.46**	**118**	*ePn*	**Pn**	**11 06 39.2**	**-1.9**
GRGR				*eSn*	**Sn**	**11 08 57.5**	**-2.7**
TRN	**Trinidad (W)**	**13.49**	**123**	*e*	Pn	11 06 59.4	+4.4
ROSC	**El Rosal**	**13.50**	**186**	*ePn*	**Pn**	**11 06 56.5**	**+1.0**
ROSC				*eSn*	**Sn**	**11 09 28.0**	**+2.1**
ROSC				Sn	**Sn**	**11 09 30.2**	**+4.3**
ROSC	**El Rosal**	**13.50**	**186**	Pn	**Pn**	**11 06 56.8**	**+1.2**
	comp=Z,11nm,0.3s,baz=77,slow=12,SNR=15						
ROSC				Sn	**Sn**	**11 09 30.2**	**+4.3**
	comp=Z,3.5nm,0.3s,baz=51,slow=19,SNR=2.0						
ROSC				LR	LR	11 12 30.9	
	comp=Z,10μm,21.4s,baz=2.5,slow=39						
TPP	**Pointe-a-Pierr**	**13.64**	**124**	*e*	**Pn**	**11 06 56.3**	**-1.0**
TPR	**Prospect**	**13.69**	**120**	*e*	Pn	11 07 01.9	+4.0
BOT	**Bacolet**	**13.75**	**120**	*e*	P	11 07 03.6	-3.8
BBGH	**Gun Hill**	**13.82**	**110**	Pn	**Pn**	**11 06 59.7**	**0.0**
	comp=Z,14μm,2.0s						
BBGH				*eSn*	**Sn**	**11 09 33.9**	**+0.6**
TBH	**Brigand Hill**	**13.85**	**123**	*e*	P	11 07 04.8	-3.6
JTS	**JuntasAbangare**	**14.18**	**237**	P	**P**	**11 07 10.0**	**-2.2**
	comp=Z,771nm,1.0s,SNR=9.9						
JTS	**JuntasAbangare**	**14.18**	**237**	*ePn*	**Pn**	**11 07 05.2**	**+0.5**
JTS				Sn	**Sn**	**11 09 39.2**	**-3.0**
JTS	**JuntasAbangare**	**14.18**	**237**	Pn	**Pn**	**11 07 06.6**	**+1.9**
	comp=Z,5.2nm,0.3s,baz=29,slow=10,SNR=31						
JTS				Sn	**Sn**	**11 09 39.2**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=140,slow=16,SNR=1.5						
JTS				LR	LR	11 12 55.4	
	comp=Z,26μm,19.1s,baz=68,slow=39						
TGUH	**Tegucigalpa,Un**	**14.48**	**255**	*ePn*	**Pn**	**11 07 10.0**	**+1.4**
TEIG	**Tepich**	**14.66**	**280**	Pn	**Pn**	**11 07 11.2**	**+0.1**
TEIG				Sn	**Sn**	**11 09 51.5**	**-2.3**
TEIG	**Tepich**	**14.66**	**280**	Pn	**Pn**	**11 07 11.2**	**+0.1**
	comp=Z,5.5nm,0.3s,baz=87,slow=6.0,SNR=19						
TEIG				Sn	**Sn**	**11 09 51.5**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=25,slow=19,SNR=3.8						
BBSR	**BB Station**	**15.78**	**26**	*ePn*	**Pn**	**11 07 22.3**	**-3.5**
	comp=Z,211nm,0.7s						
RGRS	**Roger Stewart**	**15.91**	**337**	*ePn*	**Pn**	**11 07 28.4**	**+0.8**
CSU	**Charleston Sou**	**15.94**	**337**	*ePn*	**Pn**	**11 07 26.4**	**-1.5**
NHSC	**New Hope**	**16.08**	**337**	*ePn*	**Pn**	**11 07 30.4**	**+0.6**
	comp=Z,870nm,1.4s						
TIGA	**Tifton**	**16.24**	**325**	*ePn*	**Pn**	**11 07 28.6**	**-3.2**
TIGA	**Tifton**	**16.24**	**325**	⇓*Pn*	**Pn**	**11 07 30.0**	**-1.8**
	baz=16						
APG	**El Apazote**	**17.18**	**261**	Pn	**P**	**11 07 45.0**	**-0.7**
APG	**El Apazote**	**17.18**	**261**	Pn	**P**	**11 07 45.0**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=86,slow=8.7,SNR=21						
APG				LR	LR	11 15 40.6	
	comp=Z,15μm,18.4s,baz=110,slow=42						
JSC	**Jenkinsville**	**17.54**	**336**	*eP*	**Pn**	**11 07 46.9**	**-1.2**
JSC	**Jenkinsville**	**17.54**	**336**	*ePn*	**Pn**	**11 07 46.9**	**-1.2**
GOGA	**Godfrey**	**17.74**	**330**	*eP*	**Pn**	**11 07 48.5**	**-2.2**
GOGA				pmax	pmax		
	comp=Z,266nm,1.4s						
GOGA	**Godfrey**	**17.74**	**330**	*ePn*	**Pn**	**11 07 48.5**	**-2.2**
	comp=Z,266nm,1.4s						
BRAL	**Brewton**	**18.00**	**317**	*eP*	**P**	**11 07 57.2**	**+2.9**
	comp=Z,1μm,1.4s						
KMSC	**Kings Mountain**	**18.33**	**337**	*ePn*	**Pn**	**11 07 56.1**	**-1.8**
KMSC	**Kings Mountain**	**18.33**	**337**	⇓*P*	**Pn**	**11 07 57.2**	**-0.7**
	baz=18,SNR=44						
OTAV	**Otavalo**	**18.82**	**198**	*eP*	**P**	**11 08 04.0**	**-0.1**
	comp=Z,4μm,2.4s						
OTAV				*i*		11 08 07.8	
OTAV				*eSn*	**S**	**11 11 38.3**	**-0.3**
TKL	**Tuckaleechee C**	**19.75**	**333**	P	**P**	**11 08 13.4**	**-0.2**
TKL				S	S	11 11 37.5	-19
TKL	**Tuckaleechee C**	**19.75**	**333**	P	**P**	**11 08 13.4**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=154,slow=12,SNR=15						
TKL				S	S	11 11 37.5	-19
	comp=Z,0.7nm,0.3s,baz=107,slow=14,SNR=1.9						
TKL				LR	LR	11 16 10.7	
	comp=Z,21μm,20.3s,baz=138,slow=38						
JSRW	**J. Sargeant Re**	**19.76**	**348**	*eP*	**P**	**11 08 13.4**	**-0.2**
CPCT	**Cooper Cave**	**19.91**	**331**	*ePn*	**Pn**	**11 08 17.0**	**0.0**
BLA	**Blacksburg**	**19.92**	**342**	*eP*	**P**	**11 08 14.8**	**-0.7**
BLA				pmax	pmax		
	comp=Z,504nm,1.2s						
BLA	**Blacksburg**	**19.92**	**342**	*eP*	**P**	**11 08 14.8**	**-0.7**
	comp=Z,504nm,1.2s						
BLA				*eS*	S	11 11 42.8	-17
CBN	**Corbin**	**20.16**	**350**	*ePn*	Pn	11 08 19.9	0.0
	comp=Z,655nm,1.1s						
CBN				LR	LR		
	comp=Z,24μm,21.0s						
SWET	**Sewanee**	**20.41**	**328**	*eP*	**P**	**11 08 21.6**	**+0.8**
	comp=Z,4μm,2.7s						
TZTN	**Tazewell**	**20.41**	**335**	*eP*	**P**	**11 08 21.0**	**+0.2**
	comp=Z,1μm,1.4s						
VBMS	**Vicksburg**	**21.05**	**314**	*ePn*	**P**	**11 08 29.7**	**+1.9**
	comp=Z,2μm,2.0s						
SDMD	**Soldier's Deli**	**21.26**	**351**	*eP*	**P**	**11 08 30.2**	**+0.3**
	comp=Z,812nm,1.5s						
MVL	**Millersville**	**21.77**	**353**	*eP*	**P**	**11 08 37.1**	**+1.7**
	comp=Z,379nm,1.4s						
OXF	**Oxford**	**21.81**	**321**	*eP*	**P**	**11 08 34.3**	**-1.6**
OXF				pmax	pmax		
	comp=Z,516nm,1.0s						
OXF	**Oxford**	**21.81**	**321**	*eP*	**P**	**11 08 34.3**	**-1.6**
	comp=Z,516nm,1.0s						
MCWV	**Mont Chateau**	**22.07**	**346**	*eP*	**P**	**11 08 39.9**	**+1.2**
	comp=Z,1μm,1.6s						
MCWV				LR	LR		
	comp=Z,22μm,20.0s						
BRNJ	**Basking Ridge**	**22.30**	**357**	P	**P**	**11 08 39.3**	**-1.7**
	comp=Z,1μm,1.4s						
CPNY	**Central Park**	**22.38**	**358**	*eP*	**P**	**11 08 45.0**	**+3.1**
	comp=Z,505nm,1.2s						
PAL	**Palisades**	**22.59**	**358**	*eP*	**P**	**11 08 45

536A	**Bastrop**	**24.90**	**302**	P		**P**	**11 09 07.0**	**+0.2**
	baz=25								
835A	**Beeville**	**24.91**	**298**	⇓P		**P**	**11 09 07.0**	**+0.1**
	baz=25,SNR=34								
ACCN	**Adirondack Com**	**24.96**	**359**	*eP*		**P**	**11 09 07.3**	**+0.2**
	comp=Z,501nm,1.5s								
735A	**Kenedy**	**25.08**	**299**	⇓P		**P**	**11 09 09.0**	**+0.6**
	baz=25,SNR=65								
SFIN	**Scholer Farm**	**25.14**	**334**	*eP*		**P**	**11 09 10.2**	**+1.5**
SFIN	**Scholer Farm**	**25.14**	**334**	⇑P		**P**	**11 09 09.8**	**+1.1**
	baz=25,SNR=51								
635A	**Leesville**	**25.23**	**300**	⇓P		**P**	**11 09 10.1**	**+0.4**
	baz=25,SNR=10								
SLM	**Saint Louis**	**25.23**	**327**	*eP*		**P**	**11 09 09.1**	**-0.6**
SLM				pmax		pmax			
	comp=Z,205nm,1.4s								
SLM	**Saint Louis**	**25.23**	**327**	*eP*		**P**	**11 09 09.1**	**-0.6**
	comp=Z,205nm,1.4s								
HNH	**Hanover**	**25.27**	**1**	*eP*		P	11 09 15.0	+5.1
	comp=Z,1µm,2.5s								
535A	**Dale**	**25.29**	**302**	⇓P		**P**	**11 09 10.6**	**+0.3**
	baz=25,SNR=24								
535A				⇓S		**S**	**11 13 39.6**	**+3.3**
	baz=25								
034A	**Hebbronville**	**25.30**	**295**	⇓P		**P**	**11 09 10.6**	**+0.2**
	baz=25,SNR=73								
934A	**Benavides**	**25.30**	**296**	⇓P		**P**	**11 09 10.8**	**+0.5**
	baz=25,SNR=80								
834A	**Tilden**	**25.47**	**297**	⇓P		**P**	**11 09 12.8**	**+0.9**
	baz=26,SNR=70								
NCB	**Newcomb**	**25.56**	**358**	*eP*		P	11 09 05.8	-6.8
	comp=Z,689nm,1.5s								
NCB				LR		LR			
	comp=Z,19µm,19.0s								
MDV	**Middlebury**	**25.56**	**359**	P		**P**	**11 09 11.6**	**-1.0**
AAM	**Ann Arbor**	**25.57**	**341**	*eP*		**P**	**11 09 11.7**	**-1.0**
AAM				pmax		pmax			
	comp=Z,663nm,1.4s								
AAM				MLR		MLR			
	comp=Z,11µm,22.0s								
AAM	**Ann Arbor**	**25.57**	**341**	*eP*		**P**	**11 09 11.7**	**-1.0**
	comp=Z,663nm,1.4s								
AAM				LR		LR			
	comp=Z,11µm,22.0s								
435B	**Jarrell**	**25.59**	**304**	P		**P**	**11 09 13.5**	**+0.5**
	baz=26								
335A	**Moody**	**25.66**	**305**	⇑P		**P**	**11 09 14.0**	**+0.3**
	baz=26,SNR=45								
734A	**La Parita Cree**	**25.70**	**299**	⇑P		**P**	**11 09 14.3**	**+0.4**
	baz=26,SNR=14								
634A	**China Grove, S**	**25.70**	**300**	⇑P		**P**	**11 09 14.4**	**+0.4**
	baz=26,SNR=12								
LBNH	**Lisbon**	**25.82**	**2**	*eP*		**P**	**11 09 14.3**	**-0.6**
LBNH				pmax		pmax			
	comp=Z,375nm,1.4s								
LBNH				MLR		MLR			
	comp=Z,21µm,22.0s								
LBNH	**Lisbon**	**25.82**	**2**	*eP*		**P**	**11 09 14.3**	**-0.6**
	comp=Z,375nm,1.4s								
LBNH				LR		LR			
	comp=Z,21µm,22.0s								
ATAH	**Atahualpa**	**25.91**	**193**	P		**P**	**11 09 19.0**	**+2.5**
ATAH	**Atahualpa**	**25.91**	**193**	P		**P**	**11 09 19.0**	**+2.5**
	comp=Z,17nm,0.8s,baz=42,slow=6.5,SNR=9.7								
933A	**Laredo**	**25.95**	**296**	⇓P		**P**	**11 09 16.6**	**+0.3**
	baz=26,SNR=44								
WHTX	**Lake Whitney**	**25.98**	**306**	*eP*		**P**	**11 09 16.1**	**-0.5**
WHTX	**Lake Whitney**	**25.98**	**306**	⇓P		**P**	**11 09 16.8**	**+0.2**
	baz=26,SNR=13								
534A	**Blanco**	**26.02**	**301**	⇓P		**P**	**11 09 16.8**	**-0.2**
	baz=26,SNR=44								
434A	**Burnet**	**26.14**	**303**	⇑P		**P**	**11 09 17.9**	**-0.1**
	baz=26,SNR=36								
135A	**Vickery Place,**	**26.20**	**307**	⇑P		**P**	**11 09 19.0**	**+0.5**
	baz=26,SNR=19								
LONY	**Lake Ozonia**	**26.22**	**357**	P		**P**	**11 09 17.5**	**-1.1**
	comp=Z,244nm,1.4s								
LONY				LR		LR			
	comp=Z,17µm,20.0s								
833A	**Chaparral WMA,**	**26.24**	**297**	⇑P		**P**	**11 09 19.0**	**+0.1**
	baz=26,SNR=116								
WVL	**Waterville**	**26.27**	**5**	*eP*		P	11 09 26.0	+7.1
	comp=Z,417nm,1.4s								
733A	**Divot King Ran**	**26.27**	**298**	⇑P		**P**	**11 09 18.8**	**-0.4**
	baz=26,SNR=28								
334A	**Lometa**	**26.32**	**304**	⇑P		**P**	**11 09 19.5**	**-0.1**
	baz=26,SNR=68								
633A	**Saathoff Ranch**	**26.40**	**300**	⇓P		**P**	**11 09 20.7**	**+0.3**
	baz=26,SNR=52								
FRNY	**Flat Rock**	**26.40**	**359**	*eP*		**P**	**11 09 21.2**	**+1.0**
	comp=Z,810nm,1.8s								
Z35A	**Perchaven, San**	**26.44**	**309**	⇓P		**P**	**11 09 21.0**	**+0.4**
	baz=26,SNR=19								
533A	**Kerrville**	**26.49**	**301**	⇑P		**P**	**11 09 21.3**	**+0.1**
	baz=26,SNR=20								
234A	**Clairette**	**26.51**	**306**	⇑P		**P**	**11 09 21.3**	**-0.1**
	baz=26,SNR=24								
134A	**White-Moore Ra**	**26.71**	**307**	⇓P		**P**	**11 09 23.1**	**0.0**
	baz=27,SNR=15								
832A	**Faith Ranch, C**	**26.72**	**297**	⇑P		**P**	**11 09 23.5**	**+0.2**
	baz=27,SNR=79								
TUL1	**Tulsa**	**26.76**	**315**	*eP*		**P**	**11 09 22.8**	**-0.7**
TUL1	**Tulsa**	**26.76**	**315**	⇓P		**P**	**11 09 23.4**	**-0.1**
	baz=27,SNR=41								
433A	**Art**	**26.78**	**302**	⇑P		**P**	**11 09 23.8**	**0.0**
	baz=27,SNR=71								
732A	**Laxson Ranch,**	**26.84**	**298**	⇑P		**P**	**11 09 24.1**	**-0.3**
	baz=27,SNR=45								
SADO	**Sadowa**	**26.85**	**350**	P		**P**	**11 09 22.4**	**-1.8**
SADO	**Sadowa**	**26.85**	**350**	P		**P**	**11 09 22.4**	**-1.8**
	comp=Z,18nm,0.8s,baz=182,slow=2.9,SNR=12								
SADO				LR		LR	11 19 45.5		
	comp=Z,20µm,19.9s,baz=178,slow=36								
333A	**Richland Sprin**	**26.91**	**304**	⇓P		**P**	**11 09 24.8**	**-0.1**
	baz=27,SNR=98								
632A	**Uvalde**	**26.92**	**299**	⇑P		**P**	**11 09 25.0**	**-0.1**
	baz=27,SNR=26								
Z34A	**Collier Ranch,**	**26.95**	**309**	⇑P		**P**	**11 09 25.6**	**+0.3**
	baz=27,SNR=14								
PKME	**Peaks-Kenny Pk**	**26.99**	**6**	P		**P**	**11 09 25.3**	**-0.2**
	comp=Z,381nm,1.8s								
PKME				LR		LR			
	comp=Z,26µm,19.0s								
Y34A	**Reagan Ranch,**	**27.11**	**310**	⇑P		**P**	**11 09 26.9**	**+0.3**
	baz=27,SNR=40								
233A	**Rising Star**	**27.11**	**305**	⇑P		**P**	**11 09 26.7**	**-0.1**
	baz=27,SNR=36								
532A	**Rocksprings**	**27.22**	**301**	⇑P		**P**	**11 09 28.2**	**+0.4**
	baz=27,SNR=87								
JCT	**Junction City**	**27.25**	**301**	*eP*		**P**	**11 09 27.8**	**-0.3**
JCT				pmax		pmax			
	comp=Z,272nm,1.3s								
JCT				MLR		MLR			
	comp=Z,4µm,20.0s								
JCT	**Junction City**	**27.25**	**301**	*eP*		**P**	**11 09 27.8**	**-0.3**
	comp=Z,272nm,1.3s								
JCT				LR		LR			
	comp=Z,4µm,20.0s								
JCT	**Junction City**	**27.25**	**301**	⇓P		**P**	**11 09 28.0**	**-0.1**
	baz=27,SNR=23								
133A	**Hamilton Ranch**	**27.37**	**306**	⇑P		**P**	**11 09 28.7**	**-0.3**
	baz=27,SNR=40								
432A	**Menard**	**27.39**	**302**	⇓P		**P**	**11 09 29.2**	**-0.1**
	baz=27,SNR=45								
X34A	**Smith Ranch, M**	**27.47**	**311**	⇓P		**P**	**11 09 30.2**	**+0.3**
	baz=28,SNR=37								
332A	**Millersview**	**27.53**	**303**	⇓P		**P**	**11 09 30.5**	**0.0**
	baz=28,SNR=62								
Z33A	**Whitaker Ranch**	**27.54**	**308**	⇓P		**P**	**11 09 30.7**	**+0.1**
	baz=28,SNR=60								
631A	**Perdido Creek**	**27.55**	**299**	⇑P		**P**	**11 09 30.4**	**-0.3**
	baz=28,SNR=55								
232A	**Coleman**	**27.64**	**304**	⇓P		**P**	**11 09 31.2**	**-0.4**
	baz=28,SNR=9.8								
W34A	**Bridge Creek,**	**27.75**	**312**	⇓P		**P**	**11 09 32.4**	**-0.1**
	baz=28								
531A	**Rocksprings**	**27.76**	**300**	⇑P		**P**	**11 09 32.5**	**-0.1**
	baz=28,SNR=12								
Y33A	**Hilltop Ranch,**	**27.77**	**309**	⇓P		**P**	**11 09 32.5**	**-0.1**
	baz=28,SNR=7.8								
V34A	**Guthrie**	**27.88**	**314**	⇓P		**P**	**11 09 33.1**	**-0.6**
	baz=28,SNR=14								
X33A	**Lawton**	**27.93**	**310**	⇓P		**P**	**11 09 33.3**	**-0.8**
	baz=28,SNR=8.7								
ABTX	**Abilene, Hawle**	**27.93**	**306**	*eP*		**P**	**11 09 33.5**	**-0.6**
ABTX	**Abilene, Hawle**	**27.93**	**306**	⇓P		**P**	**11 09 34.0**	**-0.1**
	baz=28,SNR=31								
431A	**Sonora**	**27.98**	**301**	⇑P		**P**	**11 09 34.1**	**-0.5**
	baz=28,SNR=74								
331A	**San Angelo**	**28.05**	**303**	⇑P		**P**	**11 09 35.0**	**-0.2**
	baz=28,SNR=32								
Z32A	**Haskell**	**28.09**	**307**	⇑P		**P**	**11 09 35.2**	**-0.3**
	baz=28,SNR=53								
231A	**Bronte**	**28.19**	**304**	⇑P		**P**	**11 09 35.7**	**-0.8**
	baz=28,SNR=8.8								
W33A	**Caddo, Fort Co**	**28.20**	**311**	⇑P		**P**	**11 09 36.0**	**-0.5**
	baz=28,SNR=22								
U34A	**Anderson Ranch**	**28.22**	**315**	⇑P		**P**	**11 09 36.1**	**-0.5**
	baz=28,SNR=9.1								
WMOK	**Wichita Mounta**	**28.22**	**310**	*eP*		**P**	**11 09 35.7**	**-1.0**
WMOK				pmax		pmax			
	comp=Z,224nm,1.8s								
WMOK				MLR		MLR			
	comp=Z,9µm,19.0s								
WMOK	**Wichita Mounta**	**28.22**	**310**	*eP*		**P**	**11 09 35.7**	**-1.0**
	comp=Z,224nm,1.8s								
WMOK				LR		LR			
	comp=Z,9µm,19.0s								
Y32A	**R-V Farms, Ver**	**28.37**	**309**	⇓P		**P**	**11 09 37.4**	**-0.5**
	baz=28,SNR=38								
530A	**J-C Ranch, Com**	**28.40**	**300**	⇑P		**P**	**11 09 38.2**	**-0.2**
	baz=28,SNR=46								
V33A	**Lossen Ranch,**	**28.41**	**313**	⇓P		**P**	**11 09 38.0**	**-0.3**
	baz=28,SNR=9.9								
X32A	**Elmer**	**28.44**	**309**	⇑P		**P**	**11 09 38.7**	**+0.1**
	baz=28,SNR=35								
430A	**Baggett Ranch,**	**28.52**	**301**	⇑P		**P**	**11 09 39.1**	**-0.4**
	baz=28,SNR=31								
131A	**Roby**	**28.53**	**305**	⇑P		**P**	**11 09 39.3**	**-0.1**
	baz=28								
JFWS	**Jewell Farm**	**28.56**	**333**	*eP*		**P**	**11 09 39.0**	**-0.6**
JFWS				pmax		pmax			
	comp=Z,246nm,1.1s								
JFWS				MLR		MLR			
	comp=Z,16µm,21.0s								
JFWS	**Jewell Farm**	**28.56**	**333**	*eP*		**P**	**11 09 39.0**	**-0.6**
	comp=Z,246nm,1.1s								
JFWS				LR		LR			
	comp=Z,16µm,21.0s								
Z31A	**Sharp Cattle R**	**28.60**	**307**	⇑P		**P**	**11 09 39.9**	**-0.2**
	baz=29,SNR=30								
330A	**Mertzon**	**28.68**	**302**	⇓P		**P**	**11 09 40.0**	**-0.8**
	baz=29,SNR=28								
W32A	**Sentinel**	**28.74**	**311**	⇓P		**P**	**11 09 40.7**	**-0.6**
	baz=29,SNR=52								
SAML	**Samuel**	**28.77**	**160**	*eP*		**P**	**11 09 41.4**	**-0.3**
	comp=Z,13nm,0.9s								
SAML				LR		LR			
	comp=Z,20µm,20.0s								
230A	**Sterling City**	**28.80**	**303**	⇑P		**P**	**11 09 41.2**	**-0.7**
	baz=29,SNR=26								
V32A	**Arapaho**	**28.89**	**312**	⇓P		**P**	**11 09 42.3**	**-0.4**
	baz=29,SNR=13								
130A	**Snyder**	**28.95**	**305**	⇑P		**P**	**11 09 42.8**	**-0.4**
	baz=29								
Y31A	**Rekieta Farm,**	**28.96**	**308**	⇑P		**P**	**11 09 43.1**	**-0.2**
	baz=29,SNR=23								
429A	**Davenport Ranc**	**29.01**	**300**	⇑P		**P**	**11 09 43.0**	**-0.7**
	baz=29,SNR=43								
X31A	**McDonald Ranch**	**29.05**	**309**	⇑P		**P**	**11 09 42.7**	**-1.3**
	baz=29,SNR=11								
T33A	**Parson Ranc**	**29.05**	**315**	⇑P		**P**	**11 09 43.3**	**-0.7**
	baz=29								
529A	**Stev Forest Ra**	**29.12**	**299**	⇓P		**P**	**11 09 44.4**	**-0.4**
	baz=29,SNR=48								
S33A	**Kaszmaul Farm,**	**29.17**	**316**	⇓P		**P**	**11 09 44.6**	**-0.5**
	baz=29								
KSU1	**Kansas State U**	**29.18**	**320**	*eP*		**P**	**11 09 44.1**	**-1.1**
KSU1				LR		LR			
	comp=Z,23µm,20.0s								
KSU1	**Kansas State U**	**29.18**	**320**	⇑P		**P**	**11 09 44.2**	**-0.9**
	baz=29,SNR=16								
SCIA	**State Center**	**29.19**	**328**	P		P	11 09 42.0	-3.2
	comp=Z,282nm,1.6s								
SCIA				LR		LR			
	comp=Z,19µm,21.0s								
U32A	**Winter Ranch,**	**29.19**	**313**	⇑P		**P**	**11 09 44.8**	**-0.5**
	baz=29,SNR=20								
W31A	**Holland Ranch,**	**29.27**	**310**	⇓P		**P**	**11 09 45.4**	**-0.7**
	baz=29,SNR=11								
Z30A	**Sanderson Ranc**	**29.34**	**306**	⇑P		**P**	**11 09 46.3**	**-0.4**
	baz=29,SNR=26								
329A	**Wagon Wheel Ra**	**29.35**	**302**	⇑P		**P**	**11 09 46.5**	**-0.4**
	baz=29,SNR=61								
229A	**Bryant Ranch,**	**29.38**	**303**	⇑P		**P**	**11 09 46.6**	**-0.5**
	baz=29,SNR=13								
Y30A	**Stafford Cattl**	**29.40**	**307**	⇓P		**P**	**11 09 46.8**	**-0.5**
	baz=29,SNR=27								
V31A	**Spring Creek L**	**29.48**	**311**	⇓P		**P**	**11 09 47.6**	**-0.3**
	baz=30,SNR=15								
628A	**Black Gap, Mar**	**29.51**	**298**	⇓P		**P**	**11 09 47.7**	**-0.5**
	baz=30,SNR=30								
T32A	**Huddler Ranch,**	**29.56**	**315**	⇑P		**P**	**11 09 48.4**	**-0.2**
	baz=30,SNR=10								
R33A	**Olander Ranch,**	**29.57**	**317**	⇑P		**P**	**11 09 48.6**	**0.0**
	baz=30,SNR=13								
528A	**Cox Ranch, San**	**29.61**	**299**	⇓P		**P**	**11 09 49.1**	**-0.1**
	baz=30,SNR=33								
X30A	**Coker Ranch, T**	**29.63**	**308**	⇑P		**P**	**11 09 48.7**	**-0.5**
	baz=30,SNR=40								
129A	**Stewart Farms,**	**29.66**	**304**	⇓P		**P**	**11 09 49.1**	**-0.5**
	baz=30,SNR=10.0								
428A	**Kincaid Ranch,**	**29.69**	**300**	P		**P**	**11 09 50.1**	**+0.2**
	baz=30								
W30A	**Crocket Farms**	**29.73**	**310**	⇑P		**P**	**11 09 49.7**	**-0.5**
	baz=30								
Z29A	**Hungry Hill Ra**	**29.77**	**306**	⇓P		**P**	**11 09 50.1**	**-0.4**
	baz=30,SNR=47								
U31A	**Nine Bar Ranch**	**29.78**	**312**	⇓P		**P**	**11 09 49.9**	**-0.7**
	baz=30,SNR=7.2								
S32A	**Newby Ranch, P**	**29.85**	**316**	⇑P		**P**	**11 09 50.8**	**-0.3**
	baz=30,SNR=10								
Q33A	**Connelly Farm,**	**29.87**	**319**	⇓P		**P**	**11 09 51.3**	**0.0**
	baz=30,SNR=23								
627A	**Terlingua Ranc**	**29.92**	**297**	⇑P		**P**	**11 09 52.0**	**0.0**
	baz=30,SNR=75								
Y29A	**Porterfield Fa**	**29.98**	**307**	⇓P		**P**	**11 09 51.9**	**-0.6**
	baz=30,SNR=50								
328A	**Wristen Ranch,**	**29.99**	**301**	⇑P		**P**	**11 09 51.6**	**-0.9**
	baz=30,SNR=12								
T31A	**Randall Ranch,**	**30.03**	**314**	⇓P		**P**	**11 09 52.0**	**-0.7**
	baz=30,SNR=17								
P33A	**Williams Farm,**	**30.05**	**320**	⇑P		**P**	**11 09 52.0**	**-0.9**
	baz=30,SNR=6.2								
228A	**UT Block 9, Go**	**30.06**	**303**	⇓P		**P**	**11 09 52.4**	**-0.7**
	baz=30,SNR=16								
V30A	**Spur Ranch, Mi**	**30.08**	**311**	⇓P		**P**	**11 09 52.9**	**-0.4**
	baz=30								
R32A	**Long Quarter,**	**30.10**	**317**	⇑P		**P**	**11 09 52.9**	**-0.4**
	baz=30,SNR=27								
TXAR	**Lajitas Array**	**30.12**	**297**	P		**P**	**11 09 53.9**	**+0.1**
TXAR				PcP		**PcP**	**11 12 55.5**	**+0.2**
TXAR	**Lajitas Array**	**30.12**	**297**	P		**P**	**11 09 53.9**	**+0.1**
	comp=Z,11nm,0.9s,baz=120,slow=7.4,SNR=45								
TXAR				PcP		**PcP**	**11 12 55.5**	**+0.2**
	comp=Z,7.2nm,0.8s,baz=145,slow=3.3,SNR=7.1								
TXAR				LR		LR	11 24 04.1		
	comp=Z,3µm,19.9s,baz=0.0,slow=40								
128A	**Castleberry Fa**	**30.15**	**304**	⇑P		**P**	**11 09 53.7**	**-0.2**
	baz=30,SNR=53								
S31A	**Mullinville**	**30.17**	**315**	⇑P		**P**	**11 09 53.6**	**-0.4**
	baz=30,SNR=16								
X29A	**Tulia**	**30.25**	**308**	⇑P		**P**	**11 09 54.2**	**-0.6**
	baz=30,SNR=14								
527A	**Woodward Ranch**	**30.29**	**299**	⇑P		**P**	**11 09 55.2**	**0.0**
	baz=30								
427A	**Hayter Ranch,**	**30.31**	**300**	⇑P		**P**	**11 09 55.7**	**+0.3**
	baz=30,SNR=99								
Z28A	**Tucker Farm, M**	**30.31**	**305**	⇑P		**P**	**11 09 54.8**	**-0.6**
	baz=30,SNR=21								
Q32A	**Meitler Ranch,**	**30.33**	**318**	⇓P		**P**	**11 09 54.9**	**-0.4**
	baz=30,SNR=19								
NNA	**Nana**	**30.41**	**188**	P		P	11 10 00.0	+3.8
	comp=Z,149nm,1.4s,SNR=5.0								
NNA	**Nana**	**30.41**	**188**	*eP*		**P**	**11 09 55.8**	**-0.4**
	comp=Z,83nm,1.1s								
NNA				LR		LR			
	comp=Z,18µm,21.0s								
AMTX	**Amarillo**	**30.41**	**309**	*eP*		**P**	**11 09 56.4**	**+0.1**
	comp=Z,325nm,2.0s								
AMTX	**Amarillo**	**30.41**	**309**	⇑P		**P**	**11 09 55.5**	**-0.8**
	baz=30								
U30A	**WK&E Inc. Balk**	**30.42**	**312**	⇑P		**P**	**11 09 56.2**	**-0.1**
	baz=30,SNR=17								
Y28A	**McKinney Farm,**	**30.44**	**306**	⇓P		**P**	**11 09 55.8**	**-0.7**
	baz=30,SNR=18								
W29A	**Amarillo**	**30.49**	**309**	⇓P		**P**	**11 09 55.9**	**-1.0**
	baz=30,SNR=8.3								
327A	**Balmorhea Ranc**	**30.54**	**301**	⇑P		**P**	**11 09 57.4**	**0.0**
	baz=30								
R31A	**Burdett**	**30.56**	**316**	⇓P		**P**	**11 09 57.1**	**-0.3**
	baz=31,SNR=17								
626A	**Big Bend Ranch**	**30.57**	**297**	⇑P		**P**	**11 09 56.6**	**-1.1**
	baz=31								
227A	**Bennet, Jal**	**30.58**	**302**	⇑P		**P**	**11 09 57.4**	**-0.4**
	baz=31,SNR=11								
T30A	**Plains**	**30.59**	**313**	⇓P		**P**	**11 09 57.8**	**+0.1**
	baz=31								
X28A	**Dimmitt**	**30.65**	**308**	⇓P		**P**	**11 09 58.0**	**-0.3**
	baz=31,SNR=9.8								
526A	**Mary Lane Ranc**	**30.66**	**298**	⇓P		**P**	**11 09 58.4**	**-0.2**
	baz=31,SNR=142								
P32A	**Huiting Farm,**	**30.72**	**319**	⇑P		**P**	**11 09 58.3**	**-0.5**
	baz=31,SNR=22								
V29A	**Stinnett**	**30.73**	**310**	⇓P		**P**	**11 09 58.8**	**-0.3**
	baz=31,SNR=9.7								
426A	**McDonald Obser**	**30.78**	**299**	⇑P		**P**	**11 09 59.7**	**0.0**
	baz=31,SNR=135								
U29A	**Oasis Ranch, S**	**30.82**	**312**	⇑P		**P**	**11 09 59.3**	**-0.5**
	baz=31,SNR=5.9								
S30A	**Montezuma**	**30.84**	**314**	⇑P		**P**	**11 09 59.8**	**-0.2**
	baz=31,SNR=22								
127A	**Arkansas Junct**	**30.86**	**303**	⇑P		**P**	**11 09 59.3**	**-0.9**
	baz=31,SNR=22								
MSTX	**Muleshoe**	**30.87**	**306**	*eP*		**P**	**11 09 59.7**	**-0.6**
MSTX	**Muleshoe**	**30.87**	**306**	⇑P		**P**	**11 09 59.7**	**-0.6**
	baz=31,SNR=25								
Q31A	**Ellis**	**30.87**	**317**	⇑P		**P**	**11 09 59.6**	**-0.6**
	baz=31,SNR=14								
O32A	**Brockman Farm,**	**30.90**	**320**	⇓P		**P**	**11 09 59.6**	**-0.9**
	baz=31,SNR=7.4								
326A	**Caldwell Ranch**	**30.92**	**301**	P		**P**	**11 10 00.6**	**-0.2**
	baz=31								
W28A	**Vega**	**30.96**	**309**	⇓P		**P**	**11 10 00.5**	**-0.6**
	baz=31								
Z27A	**Tatum**	**30.97**	**305**	⇑P		**P**	**11 10 00.0**	**-1.1**
	baz=31,SNR=40								
R30A	**Dighton**	**31.05**	**315**	⇓P		**P**	**11 10 01.8**	**0.0**
	baz=31,SNR=45								
Y27A	**Causey**	**31.14**	**306**	⇑P		**P**	**11 10 01.9**	**-0.8**
	baz=31,SNR=15								
P31A	**Stockton**	**31.15**	**318**	⇓P		**P**	**11 10 02.2**	**-0.4**
	baz=31,SNR=22								
T29A	**Hugoton**	**31.18**	**313**	⇑P		**P**	**11 10 02.4**	**-0.5**
	baz=31,SNR=8.0								
V28A	**Channing**	**31.19**	**310**	⇓P		**P**	**11 10 02.5**	**-0.6**
	baz=31								
N32A	**Stulken Farm,**	**31.22**	**321**	⇓P		**P**	**11 10 02.2**	**-1.0**
	baz=31								
S29A	**Ulysses**	**31.28**	**314**	⇑P		**P**	**11 10 03.8**	**-0.1**
	baz=31,SNR=14								
226B	**Tecolote Peak,**	**31.30**	**302**	P		**P**	**11 10 04.3**	**+0.2**
	baz=31								
126A	**Clayton Basin,**	**31.37**	**303**	⇑P		**P**	**11 10 03.8**	**-0.9**
	baz=31,SNR=12								
CPRX	**Cap Rock**	**31.38**	**304**	*eP*		**P**	**11 10 04.6**	**-0.3**
	comp=Z,11nm,1.1s								
X27A	**F and S Farms,**	**31.38**	**307**	⇑P		**P**	**11 10 04.2**	**-0.6**
	baz=31,SNR=19								
Q30A	**Quinter**	**31.39**	**317**	⇑P		**P**	**11 10 04.3**	**-0.5**
	baz=31,SNR=58								
U28A	**Mallet**	**31.47**	**311**	⇑P		**P**	**11 10 04.6**	**-0.9**
	baz=32,SNR=10								
O31A	**Woolen Ranch,**	**31.48**	**319**	⇑P		**P**	**11 10 04.5**	**-1.0**
	baz=32,SNR=11								
GDL2	**Guadalupe Moun**	**31.50**	**302**	*eP*		**P**	**11 10 06.2**	**+0.3**
SPMN	**St. Paul**	**31.52**	**333**	*eP*		**P**	**11 10 05.2**	**-0.5**
SPMN	**St. Paul**	**31.52**	**333**	⇑P		**P**	**11 10 04.9**	**-0.8**
	baz=32								
W27A	**Bowe Ranch, En**	**31.52**	**308**	⇓P		**P**	**11 10 05.2**	**-0.9**
	baz=32,SNR=26								
BGNE	**Belgrade**	**31.54**	**322**	*eP*		**P**	**11 10 04.8**	**-1.2**
BGNE	**Belgrade**	**31.54**	**322**	⇓P		**P**	**11 10 05.0**	**-1.0**
	baz=32								
Z26A	**Caprock**	**31.55**	**304**	⇓P		**P**	**11 10 05.5**	**-0.8**
	baz=32,SNR=23								
425A	**Indio Mountain**	**31.60**	**299**	⇓P		**P**	**11 10 07.3**	**+0.5**
	baz=32,SNR=53								
V27A	**Dan Oppiter Fa**	**31.64**	**309**	⇑P		**P**	**11 10 06.4**	**-0.7**

baz=33,SNR=13
V25A Rancho No Teng 32.99 308 ⇓P P 11 10 19.4 +0.4
baz=33,SNR=108
KSCO Kaye Shedlock' 33.00 315 eP P 11 10 18.7 -0.3
KSCO Kaye Shedlock' 33.00 315 ⇓P P 11 10 18.5 -0.5
baz=33,SNR=9.5
O28A Krutsinger Ran 33.02 317 ⇑P P 11 10 18.4 -0.7
baz=33,SNR=11
U25A Circle Dot Ran 33.07 309 ⇑P P 11 10 19.2 -0.5
baz=33,SNR=38
M29A Burnside Ranch 33.08 320 ⇑P P 11 10 18.8 -0.7
baz=33,SNR=14
X24A Lazy VL Ranch, 33.14 306 ⇑P P 11 10 20.8 +0.4
baz=33,SNR=33
N28A Pribbeno Ranch 33.18 318 ⇑P P 11 10 19.7 -0.8
baz=33,SNR=18
K30A Basset 33.18 323 ⇑P P 11 10 20.0 -0.4
baz=33,SNR=9.3
EYMN Ely 33.19 337 eP P 11 10 19.5 -0.9
EYMN LR LR
comp=Z,7µm,20.0s
R26A Arlington 33.22 313 ⇑P P 11 10 20.6 -0.3
baz=33,SNR=10
P27A Ficken Ranch, 33.25 316 ⇓P P 11 10 21.1 0.0
baz=33,SNR=11
L29A Maesberg Ranch 33.32 321 ⇓P P 11 10 21.2 -0.5
baz=33,SNR=14
W24A Lazy 6 Ranch, 33.35 307 ⇑P P 11 10 23.1 +0.9
baz=33,SNR=70
T25A Trinidad 33.38 311 ⇓P P 11 10 22.4 0.0
baz=33,SNR=59
Y23A Lovelace Mesa, 33.40 304 ⇓P P 11 10 23.2 +0.5
baz=33,SNR=87
V24A Rampart Ranch, 33.44 308 ⇑P P 11 10 23.8 +0.8
baz=33,SNR=21
M28A Bar X Bar Ranc 33.47 319 ⇑P P 11 10 22.6 -0.4
baz=34,SNR=9.1
O27A Beecher Island 33.51 317 ⇓P P 11 10 23.2 -0.2
baz=34,SNR=16
J30A Dallas 33.52 324 ⇑P P 11 10 22.5 -0.9
baz=34,SNR=38
Q26A Hugo 33.57 314 ⇓P P 11 10 23.9 -0.1
baz=34,SNR=37
S25A Robets Cordova 33.62 311 ⇑P P 11 10 24.4 -0.1
baz=34,SNR=33
OGNE Ogallala 33.63 318 eP P 11 10 23.4 -1.0
OGNE LR LR
comp=Z,99nm,1.0s
comp=Z,13µm,21.0s
OGNE Ogallala 33.63 318 ⇓P P 11 10 23.9 -0.6
baz=34,SNR=11
K29A Lazy Trails An 33.64 322 ⇓P P 11 10 23.9 -0.6
baz=34
U24A Moreno Valley 33.71 309 ⇑P P 11 10 25.9 +0.5
baz=34
X23A Hourglass Bar 33.73 305 ⇓P P 11 10 25.7 +0.3
baz=34
R25A Fountain Ranch 33.73 312 ⇓P P 11 10 25.4 0.0
baz=34,SNR=9.6
P26A Davis Ranch, A 33.76 315 ⇑P P 11 10 25.6 -0.1
baz=34
N27A Anderson Farm, 33.88 318 ⇓P P 11 10 26.1 -0.5
baz=34,SNR=11
W23A Werner Place, 33.90 306 ⇓P P 11 10 27.4 +0.4
baz=34,SNR=49
L28A Connealy Angus 33.91 320 ⇓P P 11 10 25.7 -1.2
baz=34
Z22A Elephant Butte 33.91 303 ⇓P P 11 10 27.5 +0.4
baz=34,SNR=40
BNM Barren Site 33.92 304 eP P 11 10 27.8 +0.6
comp=Z,130nm,1.1s
BRSD Miller 33.96 326 eP P 11 10 26.8 -0.3
BRSD Miller 33.96 326 ⇑P P 11 10 25.9 -1.2
baz=34,SNR=11
LPM Los Pinos Moun 33.98 305 eP P 11 10 28.5 +0.9
J29A Okreek 34.05 323 ⇑P P 11 10 27.0 -0.9
baz=34,SNR=12
T24B San Luis 34.05 310 ⇑P P 11 10 28.8 +0.4
baz=34,SNR=44
ANMO Albuquerque 34.06 306 eP P 11 10 28.9 +0.5
comp=Z,212nm,1.6s
ANMO LR LR
comp=Z,6µm,20.0s
ANMO Albuquerque 34.06 306 P P 11 10 28.9 +0.5
comp=Z,24nm,1.1s,baz=121,slow=10,SNR=17
Q25A Bedland, Calha 34.06 314 ⇓P P 11 10 28.0 -0.3
baz=34,SNR=9.2
O26A Horse Wrangler 34.08 316 ⇓P P 11 10 28.2 -0.2
baz=34,SNR=16
Y22D IRIS PASSCAL I 34.13 304 ⇓P P 11 10 29.4 +0.4
baz=34,SNR=12
V23A Ortiz Mt. (NFS 34.13 307 ⇓P P 11 10 30.1 +1.0
baz=34,SNR=50
S24A Houchin Ranch, 34.17 311 ⇑P P 11 10 29.6 +0.1
baz=34,SNR=9.7
M27A Reverse DX Ran 34.17 319 ⇓P P 11 10 28.7 -0.5
baz=34
LENM Lemitar 34.20 304 eP P 11 10 30.3 +0.7
K28A Ten Mile Ranch 34.23 321 ⇓P P 11 10 28.6 -1.0
baz=34
P25A Willow Gulch B 34.29 314 ⇓P P 11 10 30.4 +0.1
baz=34,SNR=8.6
N26A Koester Ranch, 34.33 317 ⇓P P 11 10 30.3 -0.3
baz=34,SNR=9.5
R24A Sanders Place, 34.35 312 ⇓P P 11 10 31.1 +0.3
baz=34,SNR=26
U23A El Rito 34.36 308 ⇓P P 11 10 31.4 +0.4
baz=34,SNR=42
121A Cookes Peak, D 34.37 301 eP P 11 10 31.7 +0.7
comp=Z,363nm,1.6s
121A Cookes Peak, D 34.37 301 ⇓P P 11 10 31.4 +0.4
baz=34,SNR=30
LAZ Ladron 34.41 305 eP P 11 10 32.1 +0.7
comp=Z,180nm,1.6s
I29A Vivian Onida 34.42 324 ⇑P P 11 10 30.3 -0.9
baz=34
SDCO Great Sand Dun 34.42 311 eP P 11 10 31.4 -0.2
comp=Z,772nm,0.7s
SDCO ePcP PcP 11 13 08.0 +0.9
SDCO LR LR
comp=Z,9µm,20.0s
L27A T5 Ranch, Ells 34.44 320 ⇓P P 11 10 30.5 -0.9
baz=34
G30A Faulkton 34.52 326 ⇓P P 11 10 30.9 -1.1
baz=34,SNR=12
T23A Casias Ranch, 34.52 309 ⇓P P 11 10 32.1 -0.4
baz=34,SNR=27
O25A Wiggins 34.55 315 ⇑P P 11 10 31.9 -0.6
baz=35
J28A Allard Ranch, 34.58 322 ⇓P P 11 10 31.5 -1.1
baz=35
M26A McRoberts Ranc 34.62 318 ⇑P P 11 10 32.6 -0.4
baz=35,SNR=5.8
ARE Arequipa 34.63 178 eP P 11 10 34.0 +0.5
ARE Arequipa 34.63 178 eP P 11 10 34.0 +0.5
Q24A Divide 34.71 313 ⇑P P 11 10 33.8 -0.2
baz=35,SNR=12
LPAZ La Paz 34.74 172⇑ eP P 11 10 35.1 +0.3
LPAZ La Paz 34.74 172 P P 11 10 35.0 +0.2
comp=Z,4.5nm,0.6s,baz=359,slow=11,SNR=9.9
LPAZ LR LR 11 25 44.8
comp=Z,29µm,21.7s,baz=356,slow=38
V22A San Miguel Ran 34.74 307 ⇓P P 11 10 35.0 +0.6
baz=35,SNR=39
K27A Flueckinger Fa 34.75 321 ⇑P P 11 10 32.9 -1.2
baz=35,SNR=18
H29A Onida 34.76 325 ⇑P P 11 10 32.7 -1.4
baz=35
S23A Nye Farm, Mont 34.77 311 ⇑P P 11 10 34.9 +0.4
baz=35,SNR=8.2
P24A Kohler Place, 34.80 314 ⇑P P 11 10 34.5 -0.2
baz=35,SNR=6.3
R23A Moffat 34.84 311 ⇑P P 11 10 34.6 -0.6
baz=35,SNR=42
U22A Llaves 34.87 308 ⇑P P 11 10 35.9 +0.5
baz=35,SNR=51
N25A Grover 34.88 317 ⇑P P 11 10 34.6 -0.7
baz=35
L26A Underwood Farm 34.89 319 ⇓P P 11 10 34.8 -0.5
baz=35,SNR=5.9
I28A Midland 34.90 323 ⇑P P 11 10 34.1 -1.2
baz=35,SNR=17
J27A Elkhorn Farm, 34.93 322 ⇑P P 11 10 34.6 -1.0
baz=35,SNR=12
F30A Leola 34.93 327 ⇑P P 11 10 34.2 -1.3
baz=35,SNR=8.9
G29A Hoven 34.97 326 ⇓P P 11 10 34.7 -1.2
baz=35
Q23A Hartsel 35.16 313 ⇓P P 11 10 37.3 -0.6
baz=35
M25A Palm-Egli Farm 35.18 317 ⇓P P 11 10 37.5 -0.5
baz=35,SNR=15
O24A Longmont 35.20 315 ⇓P P 11 10 37.6 -0.5
baz=35,SNR=9.2
AGMN Agassiz Nation 35.23 333 eP P 11 10 37.6 -0.5
comp=Z,353nm,1.6s
AGMN LR LR
comp=Z,7µm,19.0s
AGMN Agassiz Nation 35.23 333 ⇓P P 11 10 37.2 -0.8
baz=35,SNR=44
H28A Mission Ridge 35.23 324 ⇑P P 11 10 37.0 -1.2
baz=35,SNR=14
LPIG La Paz 35.29 286 P P 11 10 41.2 +2.4
LPIG La Paz 35.29 286 P P 11 10 41.2 +2.4
comp=Z,151nm,1.0s,baz=338,slow=2.3,SNR=9.3
K26A Motz Farm, Whi 35.32 320 ⇑P P 11 10 38.2 -0.8
baz=35
319A Douglas 35.32 299 ⇑P P 11 10 39.8 +0.6
baz=35,SNR=62
E30A Jud 35.33 328 ⇑P P 11 10 37.9 -1.1
baz=35,SNR=14
F29A Eureka 35.34 327 ⇑P P 11 10 36.9 -2.2
baz=35
P23A Jefferson 35.37 313 ⇓P P 11 10 39.9 +0.1
baz=35,SNR=13
S22A 4UR Ranch, Cre 35.38 310 ⇓P P 11 10 39.7 -0.2
baz=35,SNR=39
ISCO Idaho Springs 35.41 314 eP P 11 10 40.5 +0.4
ISCO pmax pmax
comp=Z,78nm,1.3s
ISCO MLR MLR
comp=Z,22µm,19.0s
ISCO Idaho Springs 35.41 314 eP P 11 10 40.5 +0.4
comp=Z,78nm,1.3s
ISCO LR LR
comp=Z,22µm,19.0s
ISCO Idaho Springs 35.41 314 ⇑P P 11 10 40.0 -0.1
baz=35,SNR=29
G28A Parade 35.43 325 ⇓P P 11 10 38.7 -1.2
baz=35,SNR=11
I27A Quinn 35.44 323 ⇑P P 11 10 39.3 -0.7
baz=35,SNR=11
L25A Engebretsen Ra 35.51 319 ⇑P P 11 10 40.0 -0.7
baz=36
J26A Sides Ranch, S 35.60 321 ⇑P P 11 10 40.6 -0.8
baz=36,SNR=11
D30A Buchanan 35.68 329 ⇓P P 11 10 41.0 -0.9
baz=36,SNR=11
K25A Mack Ranch, Ha 35.69 319 ⇑P P 11 10 41.8 -0.5
baz=36,SNR=7.7
M24A Cheyenne 35.70 317 ⇑P P 11 10 42.1 -0.3
baz=36,SNR=14
E29A Napoleon 35.74 328 ⇓P P 11 10 41.3 -1.2
baz=36,SNR=15
H27A Howes 35.80 323 ⇓P P 11 10 42.3 -0.7
baz=36
O23A Lake Granby, G 35.81 314 ⇑P P 11 10 42.9 -0.6
baz=36,SNR=9.8
F28A McLaughlin 35.87 326 ⇑P P 11 10 42.8 -0.8
baz=36
I26A New Underwood 35.89 322 ⇓P P 11 10 42.5 -1.4
baz=36
C30A Mose, Pekin 35.97 330 ⇑P P 11 10 43.9 -0.5
baz=36,SNR=32
PHWY Pilot Hill 36.02 316 eP P 11 10 45.3 0.0
comp=Z,121nm,1.5s
D29A Pettibone, Tap 36.06 329 ⇑P P 11 10 44.3 -0.9
baz=36,SNR=14
L24A Wheatland 36.06 318 ⇓P P 11 10 45.1 -0.3
baz=36,SNR=16
SMCO Snowmass 36.08 312 eP P 11 10 46.3 +0.3
comp=Z,247nm,1.8s
J25A Sunshine Ranch 36.08 320 ⇑P P 11 10 44.3 -1.2
baz=36,SNR=11
P22A Eagle 36.11 313 ⇑P P 11 10 45.5 -0.5
baz=36,SNR=9.8
N23A Red Feather La 36.15 315 ⇓P P 11 10 45.8 -0.5
baz=36,SNR=14
G27A Dupree 36.18 325 ⇑P P 11 10 45.1 -1.2
baz=36,SNR=30
H26A Fairpoint 36.19 323 ⇑P P 11 10 45.1 -1.2
baz=36,SNR=29
O22A Kremmling 36.21 314 ⇓P P 11 10 46.1 -0.9
baz=36,SNR=25
M23A Laramie 36.28 316 ⇓P P 11 10 46.5 -1.0
baz=36,SNR=10
E28A Huff 36.29 327 ⇓P P 11 10 46.6 -0.6
baz=36,SNR=19
K24A Anderson Ranch 36.34 319 ⇑P P 11 10 47.2 -0.7
baz=36
I25A Rochford 36.39 321 P P 11 10 47.7 -0.6
baz=36
MVCO Mesa Verde 36.41 308 eP P 11 10 47.4 -1.2
comp=Z,95nm,1.4s
MVCO LR LR
comp=Z,5µm,19.0s
MVCO Mesa Verde 36.41 308 ⇓P P 11 10 48.2 -0.4
baz=36,SNR=10
B30A Myrik Farm, E 36.44 331 ⇑P P 11 10 47.9 -0.5
baz=36,SNR=60
N22A Wattenberg Ran 36.45 315 ⇓P P 11 10 48.1 -0.8
baz=36,SNR=12
F27A Lemmon 36.53 325 ⇓P P 11 10 48.4 -0.9
baz=36,SNR=28
J24A Dixon Ranch, L 36.57 320 ⇑P P 11 10 49.4 -0.4
baz=37,SNR=7.6
L23A Garrett 36.59 317 ⇓P P 11 10 49.4 -0.7
baz=37,SNR=50
RSSD Black Hills 36.63 321 eP P 11 10 50.1 -0.3
RSSD pmax pmax
comp=Z,59nm,2.4s
RSSD Black Hills 36.63 321 eP P 11 10 50.1 -0.3
comp=Z,59nm,2.4s
D28A Regan 36.63 328 ⇓P P 11 10 49.2 -1.0
baz=37
E27A Carson 36.65 326 ⇑P P 11 10 50.1 -0.2
baz=37,SNR=14
X18A Snowflake 36.66 304 ⇑P P 11 10 51.2 +0.4
baz=37,SNR=25
W18A Petrified Fore 36.66 305 eP P 11 10 51.4 +0.7
W18A Petrified Fore 36.66 305 ⇑P P 11 10 50.9 +0.2
baz=37,SNR=11
H25A Fruitdale 36.66 322 ⇓P P 11 10 49.1 -1.4
baz=37,SNR=11
SCHQ Schefferville 36.70 6 eP P 11 10 49.9 -0.6
comp=Z,384nm,1.6s
SCHQ Schefferville 36.70 6 P P 11 10 49.8 -0.8
comp=Z,23nm,0.6s,baz=204,slow=5.8,SNR=22
SCHQ LR LR 11 25 07.8
comp=Z,14µm,20.1s,baz=198,slow=35
ULM Lac du Bonnet 36.75 335 eP P 11 10 49.6 -1.4
comp=Z,190nm,1.4s
ULM ePcP PcP 11 13 17.1 +3.8
ULM Lac du Bonnet 36.75 335 P P 11 10 49.2 -1.8
comp=Z,59nm,1.0s,baz=140,slow=8.0,SNR=36
ULM LR LR 11 27 00.7
comp=Z,9µm,18.3s,baz=148,slow=38
TUC Tucson 36.77 300 eP P 11 10 52.1 +0.5
TUC pmax pmax
comp=Z,106nm,1.5s
TUC MLR MLR
comp=Z,7µm,19.0s
TUC Tucson 36.77 300 eP P 11 10 52.0 +0.5
comp=Z,106nm,1.5s
TUC LR LR
comp=Z,7µm,19.0s
A30A Hoffart Farm, 36.78 332 ⇓P P 11 10 50.7 -0.6
baz=37,SNR=64
PV01 Paradox Valley 36.80 310 eP P 11 10 52.7 +0.7
comp=Z,8µm,1.5s
PV01 ePcP PcP 11 13 15.8 +1.8
M22A Cedar Creek Ra 36.82 316 ⇓P P 11 10 51.6 -0.5
baz=37,SNR=12
I24A Kuemmerle Ranc 36.84 321 ⇓P P 11 10 50.9 -1.1
baz=37
K23A Bowen Ranch, D 36.87 318 ⇓P P 11 10 51.7 -0.6
baz=37,SNR=9.3
F26A Lodgepole 36.88 325 ⇓P P 11 10 51.7 -0.6
baz=37,SNR=15
G25A Newell 36.90 323 ⇑P P 11 10 51.4 -1.0
baz=37,SNR=26
C28A Hausauer Farms 36.90 329 ⇑P P 11 10 51.4 -1.0
baz=37,SNR=10
B29A Wagenman Farm, 36.92 330 ⇑P P 11 10 51.9 -0.7
baz=37,SNR=34
L22A Ellis Ranch, M 37.02 317 ⇑P P 11 10 53.6 -0.1
baz=37,SNR=9.0
D27A Center 37.07 327 ⇑P P 11 10 53.3 -0.5
baz=37
PV04 Paradox Valley 37.14 310 eP P 11 10 55.4 +0.6
E26A Carlson Angus 37.15 326 ⇑P P 11 10 54.1 -0.5
baz=37,SNR=8.3
J23A Dilts Ranch, B 37.16 319 ⇑P P 11 10 54.5 -0.3
baz=37
A29A Manning Farm, 37.19 331 ⇓P P 11 10 54.1 -0.8
baz=37,SNR=44
H24A Dirks Ranch, A 37.29 322 ⇓P P 11 10 56.0 +0.2
baz=37,SNR=14
F25A Bowman 37.36 324 ⇓P P 11 10 55.4 -1.0
baz=37
O20A White River Ci 37.37 313 eP P 11 10 57.4 +0.7
O20A White River Ci 37.37 313 ⇑P P 11 10 56.6 -0.2
baz=37,SNR=28
K22A Casper 37.38 318 eP P 11 10 56.8 0.0
K22A Casper 37.38 318 ⇓P P 11 10 56.2 -0.5
baz=37,SNR=38
B28A Dugan Ranch, T 37.39 330 ⇑P P 11 10 56.1 -0.4
baz=37,SNR=28
I23A Meade Ranch, G 37.40 320 ⇑P P 11 10 55.8 -1.0
baz=37
C27A Sayler Ranch, 37.45 328 ⇓P P 11 10 56.5 -0.6
baz=38,SNR=5.7
D26A Manning 37.49 326 ⇓P P 11 10 56.8 -0.7
baz=38,SNR=16
G24A Alzada 37.55 323 ⇓P P 11 10 57.2 -0.8
baz=38,SNR=13
A28A Rude Farm, Bot 37.67 330 ⇑P P 11 10 58.8 -0.1
baz=38,SNR=18
E25A Miller Ranch, 37.68 325 ⇓P P 11 10 58.7 -0.4
baz=38,SNR=11
N20A Spence Gulch, 37.68 314 ⇑P P 11 10 59.1 -0.3
baz=38,SNR=7.5
H23A Clabaugh Cattl 37.69 321 ⇑P P 11 10 58.5 -0.7
baz=38
J22A Midwest 37.74 319 ⇓P P 11 10 59.0 -0.7
baz=38,SNR=45
B27A Peters Farms, 37.80 329 ⇑P P 11 10 59.5 -0.5
baz=38,SNR=7.8
X16A Lo Mia Camp, P 37.81 303 ⇑P P 11 11 00.8 +0.3
baz=38,SNR=42
C26A Wahner Farm, P 37.83 328 ⇑P P 11 10 59.8 -0.5
baz=38,SNR=16
K21A Alcova 37.84 317 ⇑P P 11 11 00.2 -0.5
baz=38,SNR=79
F24A Ekalaka 37.86 323 ⇑P P 11 10 59.7 -0.9
baz=38
I22A 9 Mile Ranch, 37.99 319 ⇓P P 11 11 01.0 -0.8
baz=38,SNR=15
D25A Fairfield 38.04 326 ⇑P P 11 11 01.6 -0.5
baz=38
G23A Reddle 38.04 322 ⇓P P 11 11 00.8 -1.3
baz=38,SNR=12
WUAZ Wupatki 38.06 305 eP P 11 11 03.6 +1.1
comp=Z,304nm,1.7s
WUAZ LR LR
comp=Z,5µm,21.0s
WUAZ Wupatki 38.06 305 ⇓P P 11 11 02.6 +0.1
baz=38,SNR=9.4
A27A Ledoux Ranch, 38.16 330 ⇓P P 11 11 02.3 -0.7
baz=38,SNR=8.5
E24A Baker 38.21 324 ⇑P P 11 11 02.6 -1.0
baz=38
B26A Jensen Ranch, 38.26 328 ⇑P P 11 11 03.3 -0.7
baz=38
H22A Clearmont 38.28 320 ⇑P P 11 11 03.1 -1.2
baz=38
J21A Lysite 38.31 318 ⇑P P 11 11 04.0 -0.7
baz=38,SNR=56
F23A Volbrg 38.34 323 ⇓P P 11 11 05.1 +0.4
baz=38,SNR=14
C25A Freed Ranch, W 38.35 327 ⇓P P 11 11 04.4 -0.3
baz=38
214A Organ Pipe Nat 38.38 298 eP P 11 11 05.6 +0.4
comp=Z,273nm,1.9s
214A Organ Pipe Nat 38.38 298 ⇑P P 11 11 05.7 +0.5
baz=38,SNR=8.9
I21A Big Trails, Te 38.45 319 ⇓P P 11 11 04.6 -1.1
baz=38,SNR=76
A26A Wade Farm, Ken 38.51 329 ⇓P P 11 11 05.5 -0.5
baz=38,SNR=8.1
D24A Glendive 38.56 325 ⇑P P 11 11 05.6 -0.9
baz=39,SNR=12
G22A Birney 38.58 321 ⇑P P 11 11 05.7 -1.0
baz=39,SNR=15
SRU San Rafael 38.59 310 eP P 11 11 07.3 +0.3
SRU San Rafael 38.59 310 eP P 11 11 07.2 +0.3
B25A Knox Farm, Ray 38.66 327 ⇑P P 11 11 06.6 -0.7
baz=39,SNR=18
H21A Big Horn, Sher 38.72 320 ⇓P P 11 11 06.9 -1.1
baz=39
J20A Shoshoni 38.73 318 ⇑P P 11 11 07.9 -0.1
baz=39,SNR=36
Z14A Wintersburg 38.78 301 ⇑P P 11 11 07.7 -0.8
baz=39,SNR=8.5
C24A Savage 38.86 326 ⇑P P 11 11 08.4 -0.6
baz=39
F22A Rosebud 38.87 322 ⇑P P 11 11 07.8 -1.3
baz=39,SNR=41
Y14A Wickenburg 38.95 302 ⇑P P 11 11 10.6 +0.6
baz=39,SNR=12
U15A North Rim 39.03 306 ⇓P P 11 11 11.7 +0.8
baz=39,SNR=39
I20A Worland 39.04 319 ⇓P P 11 11 09.8 -0.9
baz=39,SNR=16
E22A Miles City 39.06 323 ⇓P P 11 11 09.5 -1.2
baz=39,SNR=9.0
A25A Svangstu Ranch 39.07 328 ⇓P P 11 11 10.1 -0.6
baz=39
D23A Lindsay 39.07 325 ⇓P P 11 11 10.3 -0.5
baz=39
G21A Lodge Grass 39.13 321 ⇓P P 11 11 10.1 -1.3
baz=39,SNR=8.4
TMUT Trail Mountain 39.15 310 eP P 11 11 12.4 +0.6
H20A Greybull 39.23 319 ⇓P P 11 11 10.9 -1.3
baz=39,SNR=11
J19A Crowheart 39.31 317 ⇑P P 11 11 12.1 -0.8
baz=39,SNR=60
DGMT Dagmar 39.32 327 eP P 11 11 13.8 +1.0
comp=Z,729nm,2.0s
DGMT LR LR
comp=Z,16µm,19.0s
DGMT Dagmar 39.32 327 ⇑P P 11 11 12.3 -0.6
baz=39,SNR=7.2
113A Mohawk Valley, 39.33 300 ⇑P P 11 11 12.4 -0.7
baz=39
LAO LASA Array 39.36 323 eP P 11 11 13.2 +0.1
LAO LR LR
comp=Z,3µm,19.0s
F21A Absaloka Mine, 39.40 322 ⇓P P 11 11 12.3 -1.2
baz=39
BW06 Boulder Array 39.41 316 eP P 11 11 12.9 -1.0
BW06 LR LR
comp=Z,11µm,19.0s
PDAR Pinedale Array 39.41 316 P P 11 11 13.2 -0.7
PDAR PcP PcP 11 13 22.2 +0.2
PDAR Pinedale Array 39.41 316 P P 11 11 13.2 -0.7
comp=Z,7.8nm,0.9s,baz=122,slow=9.5,SNR=22
PDAR PcP PcP 11 13 22.2 +0.2
comp=Z,7.9nm,0.8s,baz=119,slow=5.4,SNR=5.1
PDAR LR LR 11 28 55.8
comp=Z,9µm,20.0s,baz=118,slow=38
C23A Lambert 39.44 325 ⇓P P 11 11 13.1 -0.7
baz=39,SNR=14
A24A Westby 39.51 328 ⇓P P 11 11 14.3 -0.1
baz=40,SNR=29
DAU Daniels Canyon 39.59 312 eP P 11 11 16.1 +0.6
DAU Daniels Canyon 39.59 312 eP P 11 11 16.1 +0.6
D22A Cohagen 39.60 324 ⇑P P 11 11 14.5 -0.7
baz=40,SNR=33
I19A Meeteetse 39.63 318 ⇓P P 11 11 14.8 -0.8
baz=40,SNR=75
MPU Maple Canyon 39.71 311 eP P 11 11 16.8 +0.4
B23A Brockton 39.73 326 ⇑P P 11 11 15.9 -0.3
baz=40
G20A Bridger 39.73 320 ⇓P P 11 11 15.2 -1.2
baz=40,SNR=10
E21A Keefer Ranch, 39.76 323 ⇓P P 11 11 15.4 -1.2
baz=40
C22A Vida 39.78 325 ⇑P P 11 11 16.0 -0.6
baz=40,SNR=11
JLU Jordanelle 39.80 312 eP P 11 11 17.4 +0.2
W13A Hualapai Mount 39.93 303 ⇑P P 11 11 18.9 +0.6
baz=40,SNR=42
H19A Powell 39.93 319 ⇑P P 11 11 17.6 -0.5

baz=40,SNR=45
PDMCI Parker Dam,Lak 39.95 302 ⇓P P 11 11 18.8 +0.6
baz=40,SNR=8.7
TCUT Toone Canyon 39.97 313 *e*P P 11 11 18.1 -0.5
comp=Z,152nm,1.7s
A23A Redstone 39.98 327 ⇑P P 11 11 18.5 +0.2
baz=40,SNR=24
F20A Billings 39.99 321 ⇓P P 11 11 17.5 -1.0
baz=40,SNR=13
D21A La Casta Ranch 40.01 323 ⇑P P 11 11 18.0 -0.6
baz=40,SNR=19
NLU North Lily Min 40.01 311 *e*P P 11 11 19.3 +0.4
CTU Camp Tracy 40.05 312 *e*P P 11 11 19.6 +0.4
Y12C Blythe 40.15 301 ⇓P P 11 11 20.3 +0.4
baz=40,SNR=9.7
B22A Reddig Ranch S 40.17 326 ⇓P P 11 11 19.9 0.0
baz=40,SNR=14
CCUT Cedar City 40.18 307 *e*P P 11 11 21.2 +0.9
GLA Glamis 40.26 300 *e*P P 11 11 21.9 +1.0
GLA Glamis 40.26 300 *e*P P 11 11 21.9 +1.0
GLA Glamis 40.26 300 ⇓P P 11 11 21.7 +0.8
baz=40,SNR=8.1
ARUT Antelope Range 40.31 307 *e*P P 11 11 21.2 -0.1
ARUT pmax pmax
comp=Z,1μm,1.1s
ARUT Antelope Range 40.31 307 *e*P P 11 11 21.2 -0.1
comp=Z,1μm,1.1s
RLMT Red Lodge 40.33 320 *e*P P 11 11 20.4 -1.1
comp=Z,264nm,1.4s
RLMT LR LR
comp=Z,12μm,19.0s
E20A Meyer Farm, Mu 40.35 322 ⇑P P 11 11 20.9 -0.6
baz=40,SNR=16
H18A Shoshone NF, C 40.36 319 ⇓P P 11 11 20.8 -1.0
baz=40,SNR=66
AHID Auburn Hatcher 40.43 315 *e*P P 11 11 21.4 -0.9
comp=Z,98nm,0.3s
AHID LR LR
comp=Z,14μm,20.0s
NEE2 Needles Airpor 40.44 302 ⇓P P 11 11 22.7 +0.4
baz=40,SNR=5.4
LOHW Long Hollow 40.47 317 *e*P P 11 11 22.1 -0.5
F19A Roth Farm, Mol 40.50 321 ⇓P P 11 11 22.2 -0.6
baz=40,SNR=13
REDW Red Top Meadow 40.52 316 *e*P P 11 11 22.7 -0.4
A22A Carney Farms, 40.54 326 ⇑P P 11 11 23.1 +0.1
baz=40,SNR=28
I17A Pilgrim Ck. 40.59 317 ⇑P P 11 11 23.5 -0.2
baz=41,SNR=46
MOOW Moose Ponds 40.62 317 *e*P P 11 11 23.3 -0.6
DUG Dugway 40.62 311 *e*P P 11 11 23.8 -0.1
DUG pmax pmax
comp=Z,182nm,1.6s
DUG MLR MLR
comp=Z,10μm,21.0s
DUG Dugway 40.62 311 *e*P P 11 11 23.8 -0.1
comp=Z,182nm,1.6s
DUG LR LR
comp=Z,10μm,21.0s
DUG Dugway 40.62 311 ⇑P P 11 11 23.7 -0.2
baz=41,SNR=46
TPAW Teton Pass 40.64 316 *e*P P 11 11 23.6 -0.5
D20A Manuel Ranch, 40.67 323 ⇑P P 11 11 23.9 -0.2
baz=41,SNR=13
E19A Rath Farm, Rou 40.72 322 ⇑P P 11 11 23.7 -0.8
baz=41,SNR=37
IRM Iron Mountain 40.74 301 ⇓P P 11 11 24.3 -0.5
baz=41,SNR=52
SPUT South Promonto 40.77 313 *e*P P 11 11 24.4 -0.8
comp=Z,120nm,1.5s
B21A Ellsworth Farm 40.80 325 ⇑P P 11 11 24.8 -0.3
baz=41
H17A Grant Village 40.80 318 *e*P P 11 11 24.9 -0.6
comp=Z,69nm,1.3s
H17A Grant Village 40.80 318 ⇓P P 11 11 24.9 -0.6
baz=41,SNR=18
BC3 Big Chuckawall 40.89 300 ⇑P P 11 11 26.4 +0.3
baz=41,SNR=7.7
LVC Limon Verde 40.91 174 *e*P P 11 11 26.4 -0.1
LVC LR LR
comp=Z,10μm,22.0s
C20A Veseth Ranch, 40.94 324 ⇓P P 11 11 25.7 -0.6
baz=41,SNR=15
BGU Big Grassy Mou 41.04 312 *e*P P 11 11 27.6 +0.2
SWSC Sam W. Stewart 41.04 299 ⇑P P 11 11 26.2 -1.1
baz=41
A21A Bergtoll Ranch 41.08 326 ⇓P P 11 11 26.7 -0.6
baz=41,SNR=44
D19A Cripps Ranch, 41.14 322 ⇑P P 11 11 27.6 -0.4
baz=41,SNR=28
HVU Hansel Valley 41.17 313 *e*P P 11 11 28.1 -0.3
HVU Hansel Valley 41.17 313 *e*P P 11 11 28.1 -0.3
YMR Madison River 41.18 318 *e*P P 11 11 27.9 -0.6
SHPR Sheep Range 41.28 305 *e*P P 11 11 29.4 0.0
GMRC Granite Mounta 41.28 302 ⇓P P 11 11 28.3 -1.1
baz=41,SNR=12
B20A Solberg Farm, 41.35 325 ⇓P P 11 11 29.7 +0.1
baz=41,SNR=17
BELC Belle Mtn. Jos 41.40 301 ⇑P P 11 11 30.5 +0.1
baz=41
C19A Slack Wire Ran 41.54 323 ⇑P P 11 11 31.0 -0.2
baz=42
A20A Cobblestone Ra 41.55 325 ⇑P P 11 11 31.3 +0.1
baz=42,SNR=38
TUQ Turquoise Moun 41.63 303 ⇑P P 11 11 32.7 +0.4
baz=42,SNR=9.6
PFO Pinyon Flat Ob 41.70 300 *e*P P 11 11 32.7 -0.2
PFO LR LR
comp=Z,3μm,19.0s
PFO Pinyon Flat Ob 41.70 300 P P 11 11 33.3 +0.4
comp=Z,9.1nm,1.1s,baz=117,slow=9.0,SNR=3.4
PFO Pinyon Flat Ob 41.70 300 ⇓P P 11 11 32.3 -0.6
baz=42
BDFB Brasilia 41.73 143 P P 11 11 32.4 -0.7
BDFB Brasilia 41.73 143 P P 11 11 32.4 -0.7
comp=Z,22nm,0.7s,baz=322,slow=12,SNR=25
BDFB LR LR 11 29 43.8
comp=Z,13μm,18.3s,baz=317,slow=37
HEC Hector,Ludlow 41.83 302 ⇓P P 11 11 33.2 -0.7
baz=42
B19A Brinkman Farms 41.87 324 P P 11 11 33.7 -0.2
baz=42
SHOC Shoshone 42.02 304 ⇑P P 11 11 35.7 +0.4
baz=42,SNR=9.1
A19A Klindworth Far 42.02 325 ⇑P P 11 11 35.1 -0.1
baz=42,SNR=19
BOZ Bozeman (W) 42.04 319 *e*P P 11 11 34.9 -0.6
BOZ pmax pmax
comp=Z,121nm,1.5s
BOZ MLR MLR
comp=Z,11μm,20.0s
BOZ Bozeman (W) 42.04 319 *e*P P 11 11 34.9 -0.6
comp=Z,121nm,1.5s
BOZ LR LR
comp=Z,11μm,20.0s
R11A Troy Canyon, C 42.09 307 *e*P P 11 11 36.2 +0.2
comp=Z,78nm,1.4s
R11A Troy Canyon, C 42.09 307 ⇑P P 11 11 35.8 -0.2
baz=42,SNR=38
EGMT Eagleton 42.10 323 *e*P P 11 11 34.5 -1.3
EGMT LR LR
comp=Z,14μm,19.0s
EGMT Eagleton 42.10 323 ⇓P P 11 11 35.7 -0.1
baz=42,SNR=14
109C Camp Elliot, M 42.12 299 ⇑P P 11 11 35.7 -0.4
baz=42
BBRC Big Bear Solar 42.20 301 ⇓P P 11 11 37.8 +0.7
baz=42
GSC Goldstone 42.31 303 *e*P P 11 11 38.8 +1.1
GSC pmax pmax
comp=Z,103nm,1.3s
GSC Goldstone 42.31 303 *e*P P 11 11 38.8 +1.1
comp=Z,103nm,1.3s
GSC Goldstone 42.31 303 ⇑P P 11 11 37.8 +0.1
baz=42,SNR=11
MURC Murrieta 42.31 300 ⇑P P 11 11 37.3 -0.4
baz=42,SNR=7.1
RRX Edison Barstow 42.38 302 ⇑P P 11 11 38.4 +0.1
baz=42
MCMT McKenzie Canyo 42.45 317 *e*P P 11 11 38.8 -0.2
comp=Z,58nm,1.3s
ELK Elko 42.55 311 P P 11 11 39.5 -0.3
ELK Elko 42.55 311 P P 11 11 39.5 -0.3
comp=Z,16nm,1.0s,baz=182,slow=1.1,SNR=15
FFC Flin Flon 42.58 335 P P 11 11 41.5 +2.0
comp=Z,249nm,0.8s,SNR=16
FFC Flin Flon 42.58 335 *e*P P 11 11 38.9 -0.6
FFC pmax pmax
comp=Z,40nm,0.9s
FFC MLR MLR
comp=Z,7μm,21.0s
FFC Flin Flon 42.58 335 *e*P P 11 11 38.9 -0.6
comp=Z,40nm,0.9s
FFC LR LR
comp=Z,7μm,21.0s
FURC Furnace Creek, 42.60 304 ⇓P P 11 11 40.8 +0.9
baz=43,SNR=17
LRM Limekiln Ridge 42.64 319 *e*P P 11 11 40.6 +0.1
HRY Holter Researc 42.66 320 *e*P P 11 11 40.6 +0.1
BFSC Mount Baldy Ra 42.80 301 ⇑P P 11 11 41.3 -0.5
baz=43
HLID Hailey 42.97 315 *e*P P 11 11 43.5 +0.4
HLID LR LR
comp=Z,12μm,20.0s
HLID Hailey 42.97 315 ⇓P P 11 11 43.5 +0.4
baz=43,SNR=40
GRAC Grapevine Rang 43.12 305 ⇓P P 11 11 44.7 +0.5
baz=43,SNR=22
MWC Mount Wilson 43.12 301 *e*P P 11 11 45.7 +1.2
MWC pmax pmax
comp=Z,377nm,1.9s
MWC Mount Wilson 43.12 301 *e*P P 11 11 45.7 +1.2
comp=Z,377nm,1.9s
EDW2 Edwards Air Fo 43.18 302 ⇓P P 11 11 45.3 +0.5
baz=43,SNR=12
PASC Pasadena Art C 43.22 301 *e*P P 11 11 48.9 +3.9
comp=Z,329nm,2.0s
FCC Fort Churchill 43.23 344 *e*P P 11 11 42.7 -2.0
FCC *e* 11 13 24.0
FCC *e* 11 13 32.6
FCC pmax pmax
comp=Z,3.0nm,1.2s
FCC Fort Churchill 43.23 344 *e*P P 11 11 42.7 -2.0
comp=Z,2.7nm,1.2s
FCC *e*PP PP 11 13 24.0 -1.1
FCC *e*PcP PcP 11 13 32.6 -1.2
TPH Tonopah 43.26 306 *e*P P 11 11 45.4 -0.2
TPH pmax pmax
comp=Z,84nm,1.1s
TPH Tonopah 43.26 306 *e*P P 11 11 45.4 -0.2
comp=Z,84nm,1.1s
DECC Green Verdugo 43.35 301 ⇑P P 11 11 46.6 +0.5
baz=43,SNR=5.2
CHMT Chamberlain Mo 43.62 320 *e*P P 11 11 48.1 -0.2
comp=Z,93nm,1.2s
ROSA Rosais 43.63 53 *e*LQ LQ 11 22 31.4
ROSA *i* LR LR 11 24 03.8
comp=Z,914nm,25.6s
RCBR Riachuelo 43.67 120 *e*P P 11 11 48.0 -0.9
comp=Z,59nm,1.0s
RCBR *e* 11 13 29.8
RCBR LR LR
comp=Z,3μm,20.0s
OSI Osito Adit 43.73 301 *e*P P 11 11 48.8 -0.4
comp=Z,205nm,1.5s
TIN Tinemaha 43.80 305 ⇑P P 11 11 50.3 +0.4
baz=44,SNR=14
MFID Camas Ranch 43.87 314 *e*P P 11 11 50.0 -0.3
comp=Z,82nm,1.4s
BMN Battle Mountai 43.89 310 *e*P P 11 11 50.4 -0.2
BMN pmax pmax
comp=Z,133nm,1.8s
BMN Battle Mountai 43.89 310 *e*P P 11 11 50.4 -0.2
comp=Z,133nm,1.8s
ARVC Arvin 43.90 302 ⇓P P 11 11 50.9 +0.4
baz=44,SNR=13
PGRA Graciosa 43.91 52 *e*LQ LQ 11 22 12.4
PGRA *i* LR LR 11 24 10.6
comp=Z,2μm,17.7s
SLMT Seeley Lake 43.92 320 *e*P P 11 11 50.1 -0.6
comp=Z,251nm,1.9s
MSO Missoula 44.01 320 ⇓P P 11 11 50.8 -0.5
baz=44,SNR=11
NV11 Mina Array Sit 44.06 307 *e*P P 11 11 52.5 +0.5
NVAR Mina Array Bea 44.17 307 P P 11 11 53.0 0.0
NVAR Mina Array Bea 44.17 307 P P 11 11 53.0 0.0
comp=Z,16nm,1.0s,baz=105,slow=6.6,SNR=25
NVAR LR LR 11 32 16.1
comp=Z,2μm,18.2s,baz=265,slow=39
VES Vestal, Richgr 44.24 303 ⇓P P 11 11 53.8 +0.7
baz=44,SNR=20
SWMT Swartz Lake 44.35 320 *e*P P 11 11 52.7 -1.3
comp=Z,156nm,1.9s
MLAC Mammoth Lakes 44.40 305 ⇓P P 11 11 54.8 0.0
baz=44
RCTC Rector, Farmer 44.45 303 ⇑P P 11 11 55.3 +0.4
baz=44,SNR=13
YBMT Yellow Bay 44.51 321 *e*P P 11 11 55.4 0.0
comp=Z,250nm,2.1s
JTMT Jette 44.62 321 *e*P P 11 11 55.8 -0.5
comp=Z,73nm,1.4s
BLMT Blacktail Moun 44.79 321 *e*P P 11 11 57.8 0.0
BSMT Bassoo Peak 44.98 320 *e*P P 11 11 58.5 -0.7
comp=Z,220nm,1.8s
WALA Waterton Lakes 45.01 322 *e*P P 11 11 58.4 -0.9
comp=Z,6.8nm,1.8s
WAKR Walker 45.06 306 *e*P P 11 11 59.4 -0.6
comp=Z,388nm,2.0s
PSET Sete Cidades 45.36 55 *e*LQ LQ 11 22 20.8
PSET *i* LR LR 11 24 57.6
comp=Z,2μm,14.4s
BMO Blue Mountains 45.38 316 *e*P P 11 12 01.4 -0.9
BMO pmax pmax
comp=Z,149nm,1.7s
BMO MLR MLR
comp=Z,11μm,20.0s
BMO Blue Mountains 45.38 316 *e*P P 11 12 01.4 -0.9
comp=Z,149nm,1.7s
BMO LR LR
comp=Z,11μm,20.0s
WVOR Wild Horse Val 45.50 312 *e*P P 11 12 02.7 -0.6
WVOR *e* 11 13 50.0
WVOR pmax pmax
comp=Z,277nm,1.8s
WVOR MLR MLR
comp=Z,15μm,19.0s
WVOR Wild Horse Val 45.50 312 *e*P P 11 12 02.7 -0.6
comp=Z,277nm,1.8s
WVOR *e*PP PP 11 13 50.0 +0.3
WVOR LR LR
comp=Z,15μm,19.0s
CMB Columbia Colle 45.69 306 *e*P P 11 12 03.9 -0.9
CMB pmax pmax
comp=Z,97nm,1.6s
CMB Columbia Colle 45.69 306 *e*P P 11 12 03.9 -0.9
comp=Z,97nm,1.6s
PSMN Pico do Norte, 45.71 56 *e*LQ LQ 11 22 26.8
PSMN *i* LR LR 11 24 47.7
comp=Z,792nm,13.8s
BB16B Bebedouro 45.81 148 ⇑*i*P P 11 12 05.1 -0.8
BB16B *i* 11 12 05.1
BB16B *i* 11 12 06.1
BB16B *i* 11 12 09.4
BB16B *e* 11 12 28.1
MOD Modoc 46.53 311 *e*P P 11 12 10.6 -0.9
comp=Z,88nm,1.5s
NEW Newport 46.57 320 *e*P P 11 12 10.8 -0.8
comp=Z,330nm,1.8s
NEW LR LR
comp=Z,10μm,19.0s
NEW Newport 46.57 320 P P 11 12 10.7 -0.9
comp=Z,24nm,0.9s,baz=108,slow=8.0,SNR=10
NEW Newport 46.57 320 ⇓P P 11 12 10.8 -0.8
baz=46,SNR=40
EDM Edmonton 46.80 328 *e*P P 11 12 12.8 -0.5
EDM Edmonton 46.80 328 *e*P P 11 12 12.8 -0.5
CPUP Villa Florida 46.92 161 *e*P P 11 12 14.1 -0.3
comp=Z,60nm,1.9s
CPUP Villa Florida 46.92 161 P P 11 12 14.0 -0.4
comp=Z,4.0nm,0.6s,baz=314,slow=5.8,SNR=6.3
CPUP LR LR 11 34 13.0
comp=Z,12μm,18.2s,baz=326,slow=39
NRS Narsarsuaq 46.96 18 *i* P P 11 12 17.2 +2.9
NRS pmax pmax
comp=Z,55nm,1.1s
LCO Las Campanas 47.14 177 *e*P P 11 12 16.9 +0.5
comp=Z,522nm,1.8s
LCO LR LR
comp=Z,4μm,21.0s
SACV Santiago Islan 47.20 86 P P 11 12 15.9 -1.1
comp=Z,60nm,1.4s
SACV LR LR
comp=Z,3μm,20.0s
HAWA Hanford 47.38 317 *e*P P 11 12 16.9 -1.0
comp=Z,50nm,1.3s
HAWA LR LR
comp=Z,10μm,22.0s
M04C Macdoel 47.61 310 ⇓P P 11 12 19.6 -0.3
baz=48
N02D Trinity Center 48.06 309 ⇓P P 11 12 22.5 -0.9
baz=48
G05D Wamic, OR 48.19 315 ⇓P P 11 12 24.7 +0.5
baz=48
YBH Yreka Blue Hor 48.24 310 *e*P P 11 12 24.0 -0.7
comp=Z,20nm,0.9s
I04A Tendick Farm, 48.53 313 P P 11 12 26.7 -0.3
baz=48
HUMO Hull Mountain 48.62 311 P P 11 12 26.9 -0.6
comp=Z,46nm,1.3s
L02D Cave Junction, 48.98 310 ⇑P P 11 12 30.3 -0.1
baz=49
LON Longmire 48.98 317 *e*P P 11 12 29.4 -0.9
LON pmax pmax
comp=Z,156nm,1.7s
LON Longmire 48.98 317 *e*P P 11 12 29.4 -0.9
comp=Z,156nm,1.7s
SFJD Drain, OR 49.16 312 ⇓P P 11 12 31.4 -0.2
baz=49
COR Corvallis 49.36 313 P P 11 12 33.6 +0.4
COR pmax pmax
comp=Z,485nm,1.5s
COR Corvallis 49.36 313 P P 11 12 33.6 +0.4
comp=Z,485nm,1.5s
CFAA Coronel Fontan 49.88 175 P P 11 12 37.4 +0.2
CFAA Coronel Fontan 49.88 175 P P 11 12 37.4 +0.2
comp=Z,0.7nm,0.6s,baz=345,slow=8.5,SNR=14
NLWA Neilton Lookou 50.52 317 *e*P P 11 12 41.0 -1.0
comp=Z,396nm,1.7s
NLWA LR LR
comp=Z,9μm,20.0s
SFJD Kangerlussuaq 50.70 11 *i* P P 11 12 45.1 +2.1
comp=Z,37nm,0.8s
SFJD
comp=Z,9μm,25.0s
SFJD Kangerlussuaq 50.70 11 *e*P P 11 12 42.6 -0.3
comp=Z,456nm,1.6s
SFJD LR LR
comp=Z,11μm,20.0s
FCH Farellones 51.45 177 *e*P P 11 12 42.7 -6.8
PMOZ Porto Moniz, M 51.70 62 *e*P P 11 12 54.4 +3.2
comp=Z,595nm,1.7s
PMOZ *e*S S 11 20 21.7 +8.8
PMOZ *e*LQ LQ 11 25 58.1
PMOZ *e*LR LR 11 27 40.3
comp=Z,6μm,20.0s
PMAR Madeira 51.93 63 *e*P P 11 12 58.2 +5.2
comp=Z,284nm,1.4s
FUL Funchal 51.95 63 *e*P P 11 12 54.1 +1.2
comp=Z,190nm,1.3s
PMPST Porto Santo, M 52.43 62 *e*P P 11 12 56.8 +0.3
comp=Z,261nm,2.0s
ILULI Ilulissat 52.60 10 *i* P P 11 12 58.4 +1.3
ILULI pmax pmax
comp=Z,53nm,0.8s
ILULI MLR MLR
comp=Z,6μm,17.0s
ILULI Ilulissat 52.60 10 *i* P P 11 12 58.4 +1.3
comp=Z,53nm,0.8s
ILULI
comp=Z,7μm,17.0s
YKA Yellowknife Ar 52.67 337 P P 11 12 56.8 -1.0
YKA P'P' 11 43 28.2
YKA ⇑*e* 11 43 42.5
YKA Yellowknife Ar 52.67 337 P P 11 12 56.7 -1.0
comp=Z,66nm,1.1s,baz=122,slow=6.5,SNR=53
YKA PKPPKP **P'P'df** 11 43 28.2 -3.0
comp=Z,0.3nm,0.9s,baz=294,slow=3.0,SNR=3.7
YKA PKP2bc 11 43 42.4
comp=Z,0.4nm,1.0s,baz=323,slow=3.8,SNR=3.8
YKW3 Yellowknife Ar 52.72 337 *e*P P 11 12 56.8 -1.3
comp=Z,1.4nm,1.0s
BBB Bella Bella 54.55 322 P P 11 13 12.1 +0.4
BBB Bella Bella 54.55 322 P P 11 13 12.1 +0.4
comp=Z,40nm,1.1s,baz=166,slow=5.8,SNR=3.9
LPA La Plata 54.84 165 *de*P P 11 13 12.0 -2.0
LPA pP **pP** 11 13 16.0 -1.3
LPA PP **PP** 11 15 16.0 -1.1
LPA PPP PPP 11 16 34.0
LPA PS **PnS** 11 21 04.0 -0.8
KULLO Kullorsuaq 56.88 5 *i* P P 11 13 31.1 +3.0
KULLO pmax pmax
comp=Z,28nm,0.8s
KULLO MLR MLR
comp=Z,7μm,24.0s
KULLO Kullorsuaq 56.88 5 *i* P P 11 13 31.1 +3.0
comp=Z,28nm,0.8s
KULLO
comp=Z,7μm,23.0s
TRQA Tornquist 57.04 170 *e*P P 11 13 29.5 -0.2
comp=Z,56nm,1.6s
TRQA LR LR
comp=Z,8μm,20.0s
DLBC Dease Lake 57.51 328 *e*P P 11 13 33.0 +0.1
DLBC Dease Lake 57.51 328 P P 11 13 33.3 +0.4
comp=Z,53nm,0.8s,baz=93,slow=3.7,SNR=19
BORG Borgarnes 57.58 23 PFAKE 11 13 40.0 +6.8
BORG LR LR
comp=Z,14μm,21.0s
SUMG Summit 57.69 12 *e*P P 11 13 32.2 -2.1
SUMG pmax pmax
comp=Z,544nm,1.4s
SUMG Summit 57.69 12 *i* P P 11 13 33.9 -0.4
comp=Z,150nm,1.1s
SUMG
comp=Z,10μm,18.0s
SUMG Summit 57.69 12 *e*P P 11 13 32.2 -2.1
comp=Z,544nm,1.4s
WRAK Wrangell Islan 58.11 326 P P 11 13 36.9 -0.1
comp=Z,73nm,1.4s
WRAK LR LR
comp=Z,9μm,20.0s
PMAFR Mafra 58.30 55 *e*P P 11 13 39.9 +1.1
comp=Z,246nm,1.4s
LIS Lisbon 58.40 55 *e*P P 11 13 38.0 -1.4
LIS AMb AMB 11 13 51.3
comp=Z,222nm,2.9s
LIS *e*S S 11 21 41.0 -1.4
LIS Lisbon 58.40 55 *e*P P 11 13 38.0 -1.4
comp=Z,222nm,2.9s
LIS *e*S S 11 21 41.0 -1.4
LIS Lisbon 58.40 55 *e*P P 11 13 38.0 -1.4
LIS *e*S S 11 21 41.1 -1.4
PFVI Vila Bisbo 58.64 57 *e*P P 11 13 42.6 +1.5
comp=Z,177nm,1.5s
PTEO Sao Teotonio 58.72 57 *e*P P 11 13 46.8 +5.1
comp=Z,300nm,1.7s
MORF Marmelete 58.78 57 *e*P P 11 13 42.2 0.0
comp=Z,182nm,1.9s
MORF Marmelete 58.78 57 *e*P P 11 13 40.8 -1.4
MORF *e*S S 11 21 46.5 -1.1
PLCA Paso Flores 58.83 178 *e*P P 11 13 42.3 +0.1
comp=Z,106nm,1.4s
PLCA Paso Flores 58.83 178 P P 11 13 42.4 +0.1
comp=Z,21nm,0.9s,baz=349,slow=8.7,SNR=27
PLCA LR LR 11 41 08.8
comp=Z,3μm,20.5s,baz=12,slow=38
PNCL Nicolau / Gran 58.88 56 *e*P P 11 13 42.9 +0.1
comp=Z,191nm,1.9s
PTO Porto 58.89 53 *e*P P 11 13 47.0 +4.2
comp=Z,282nm,1.6s
VAL Valentia 58.92 40 *e*P P 11 13 43.7 +0.9
VAL *e*S S 11 21 52.2 +3.5
PCAS Casmilo, Conde 58.94 54 *e*P P 11 13 43.1 -0.1
comp=Z,286nm,1.8s
PTOM Tomar 58.99 54 *e*P P 11 13 46.9 +3.4
comp=Z,330nm,1.7s
PGAV Gavieira, Arco 59.18 52 *e*P P 11 13 47.8 +2.9
comp=Z,395nm,1.6s
PGAV *e*S S 11 21 47.7 -5.0
PGAV *e*LR LR 11 31 18.9
comp=Z,4μm,20.0s
EVOP Sao Brissos 59.20 56 ⇑*i*P P 11 13 44.9 -0.1
EVOP pmax pmax
comp=Z,584nm,1.4s
EVOP Sao Brissos 59.20 56 ⇑*i*P P 11 13 44.9 -0.1
comp=Z,584nm,1.4s
EVO Evora 59.29 56 ⇑*i*P P 11 13 44.9 -0.7
comp=Z,584nm,1.4s
EVO *e*R
comp=Z,12μm,22.5s
EVO Evora 59.29 56 *e*P P 11 13 45.6 0.0

comp=Z,195nm,1.9s
PCAB Cabril 59.35 52 *e*P P 11 13 50.0 +4.0
comp=Z,201nm,1.5s
PBDV Barranco-do-Ve 59.36 57 *e*P **P 11 13 47.9 +1.8**
comp=Z,430nm,1.2s
PBEJ Beja 59.40 56 *e*P P 11 13 50.5 +4.1
comp=Z,199nm,1.8s
PVIS Viseu 59.42 53 *e*P **P 11 13 47.3 +0.8**
comp=Z,256nm,1.6s
POLO Lamas de Olo 59.51 52 *e*P **P 11 13 47.0 -0.2**
comp=Z,129nm,1.6s
PVAQ Vaqueiros 59.52 57 *e*P **P 11 13 48.1 +0.8**
comp=Z,290nm,1.7s
PVAQ *e*S **S 11 21 56.4 -0.7**
PVAQ *e*LQ LQ 11 28 32.9
PVAQ *e*LR LR 11 31 05.3
comp=Z,11µm,22.0s
PVRL Vila Real 59.57 52 *e*P P 11 13 51.7 +4.1
comp=Z,288nm,1.8s
PESTR Estremoz 59.62 55 *e*P **P 11 13 48.4 +0.5**
comp=Z,241nm,1.9s
MTE Manteigas 59.68 54 *e*P P 11 13 52.2 +3.9
comp=Z,259nm,1.4s
MTE *e*S **S 11 22 01.0 +1.9**
MTE *e*LQ LQ 11 29 00.0
MTE *e*LR LR 11 31 32.4
comp=Z,10µm,18.0s
MTE Manteigas 59.68 54 P **P 11 13 47.9 -0.5**
comp=Z,137nm,1.1s
MTE *e*PP **PP 11 15 59.4 -0.6**
MTE LR LR
comp=Z,11µm,19.0s
PCBR Castelo Branco 59.72 54 *e*P **P 11 13 49.1 +0.6**
comp=Z,319nm,1.9s
PMRV Marv??o 59.78 55 *e*P **P 11 13 49.3 +0.3**
comp=Z,296nm,1.3s
PMRV *e*S **S 11 22 03.2 +2.8**
PMRV *e*LQ LQ 11 29 05.4
PMRV *e*LR LR 11 31 19.5
comp=Z,7µm,22.0s
MVO Moncorvo 60.08 53 *e*P P 11 13 54.3 +3.2
comp=Z,226nm,1.8s
MVO *e*S **S 11 22 06.3 +2.0**
MVO *e*LQ LQ 11 28 40.5
MVO *e*LR LR 11 31 35.6
comp=Z,4µm,22.0s
SCO Scoresbysund 60.26 17 *i*P P 11 13 55.0 +3.3
SCO pmax pmax
comp=Z,18nm,0.9s
SCO MLR MLR
comp=Z,3µm,18.0s
SCO Scoresbysund 60.26 17 *i*P P 11 13 55.0 +3.3
comp=Z,18nm,0.9s
SCO
comp=Z,3µm,18.0s
PBRG Braganca 60.31 52 *e*P P 11 13 56.8 +4.1
comp=Z,210nm,1.8s
PBRG Braganca 60.31 52 *e*P P 11 13 56.8 +4.1
comp=Z,210nm,1.8s
PBRG A A 11 14 03.6
comp=Z,210nm,1.7s
RTC Rabat Centre 60.33 61 PFAKE 11 14 00.0 +7.2
RTC LR LR
comp=Z,14µm,22.0s
SKAG Skagway 60.43 329 *e*P **P 11 13 50.1 -2.9**
comp=Z,244nm,1.6s
PAB San Pablo 62.13 54 *e*P **P 11 14 04.7 -0.4**
PAB pmax pmax
comp=Z,184nm,1.1s
PAB MLR MLR
comp=Z,8µm,20.0s
PAB San Pablo 62.13 54 *e*P **P 11 14 04.7 -0.4**
comp=Z,184nm,1.1s
PAB LR LR
comp=Z,8µm,20.0s
INK Inuvik 62.37 339 P **P 11 14 05.0 -1.1**
comp=Z,59nm,1.7s
INK Inuvik 62.37 339 P **P 11 14 05.0 -1.1**
comp=Z,16nm,1.1s,baz=102,slow=7.4,SNR=11
ESDC Sonseca Array 62.43 54 P **P 11 14 07.3 +0.3**
ESDC ⇑*e* 11 43 21.1
ESDC Sonseca Array 62.43 54 P **P 11 14 07.3 +0.3**
comp=Z,168nm,1.2s,baz=275,slow=6.3,SNR=61
ESDC LR LR 11 38 14.3
comp=Z,6µm,18.5s,baz=275,slow=33
ESDC PKP2bc 11 43 21.1
comp=Z,0.1nm,0.3s,baz=88,slow=4.1,SNR=4.8
ESLA Sonseca Array 62.43 54 *e*P **P 11 14 07.0 0.0**
comp=Z,68nm,1.2s
KPL Plockton 62.45 34 AMS AMS 11 35 23.4
comp=Z,8µm,19.3s
GAL1 Galloway 62.63 37 AMS AMS 11 34 27.1
comp=Z,6µm,28.6s
WLF1 Llynfaes 62.64 39 AMS AMS 11 36 08.3
comp=Z,7µm,19.8s
KAC Achnashellach 62.67 34 *e*P **P 11 14 10.9 +2.7**
LPW Lampeter 62.73 40 *e*P P 11 14 11.8 +3.1
LPW AMB AMB 11 14 17.3
comp=Z,228nm,1.9s
LPW AMS AMS 11 35 21.2
comp=Z,9µm,24.1s
PGBU Glenifferbraes 62.88 36 *e*P **P 11 14 12.7 +3.0**
PGBU AMB AMB 11 14 17.8
comp=Z,220nm,1.9s
PGBU AMS AMS 11 34 46.7
comp=Z,6µm,19.4s
ROSF Rostrenen 62.99 45 *e*P **P 11 14 10.4 -0.2**
comp=Z,607nm,1.8s
ROSF Rostrenen 62.99 45 *e*P **P 11 14 10.4 -0.2**
ROSF pmax pmax
comp=Z,607nm,1.8s
ROSF Rostrenen 62.99 45 *e*P **P 11 14 10.4 -0.2**
comp=Z,607nm,1.8s
QUIF Quistinic 63.05 45 *e*P **P 11 14 10.7 -0.2**
comp=Z,417nm,1.4s
QUIF Quistinic 63.05 45 *e*P **P 11 14 10.7 -0.2**
QUIF pmax pmax
comp=Z,417nm,1.4s
QUIF Quistinic 63.05 45 *e*P **P 11 14 10.7 -0.2**
comp=Z,417nm,1.4s
FOEL Foel Wylfa 63.32 39 AMS AMS 11 35 04.5
comp=Z,6µm,21.5s
ASCN Ascension 63.35 109 *e*P **P 11 14 13.2 -0.3**
comp=Z,317nm,1.6s
ASCN LR LR
comp=Z,2µm,20.0s
MCH1 Michaelchurch 63.38 40 *e*P **P 11 14 14.8 +1.8**
MCH1 AMB AMB 11 14 20.4
comp=Z,169nm,1.9s
MCH1 AMS AMS 11 35 51.9
comp=Z,9µm,20.4s
SGMF Saint Gilles 63.47 45 *e*P **P 11 14 13.4 -0.3**
comp=Z,786nm,1.8s
SGMF Saint Gilles 63.47 45 *e*P **P 11 14 13.4 -0.3**
SGMF pmax pmax
comp=Z,786nm,1.8s
SGMF Saint Gilles 63.47 45 *e*P **P 11 14 13.4 -0.3**
comp=Z,786nm,1.8s
MONM Monmouth 63.48 41 *e*P P 11 14 16.9 +3.1
MONM AMB AMB 11 14 19.4
comp=Z,208nm,4.0s
ESK Eskdalemuir 63.54 37 P **P 11 14 13.6 -0.5**
ESK *e* 11 14 49.0
ESK pmax pmax
comp=Z,379nm,1.9s
ESK MLR MLR
comp=Z,8µm,20.0s
ESK Eskdalemuir 63.54 37 *e*P **P 11 14 16.8 +2.7**
ESK AMB AMB 11 14 21.2
comp=Z,202nm,2.7s
ESK AMS AMS 11 35 18.2
comp=Z,6µm,22.8s
ESK Eskdalemuir 63.54 37 P **P 11 14 13.6 -0.5**
comp=Z,379nm,1.9s
ESK *e*PcP **PcP 11 14 49.0 -1.5**
ESK LR LR
comp=Z,8µm,20.0s
COYC Coyhaique 63.63 179 *e*P P 11 14 10.2 -4.4
COYC Coyhaique 63.63 179 *e*P P 11 14 10.2 -4.4
OLDB Oldbury-Upon-S 63.63 41 *e*P **P 11 14 16.8 +2.1**
STNC Stoke 63.94 39 AMS AMS 11 34 46.7
comp=Z,6µm,22.5s
SWN1 Swindon 64.09 41 AMS AMS 11 36 15.4
comp=Z,7µm,25.2s
EGAK Eagle 64.31 334 *e*P **P 11 14 18.3 -0.7**
comp=Z,78nm,1.5s
EGAK LR LR

comp=Z,9µm,19.0s
ALE Alert 64.34 2 P **P 11 14 18.9 0.0**
comp=Z,594nm,1.7s,SNR=14
KBI1 Birley Grange 64.35 39 *e*P P 11 14 22.9 +3.5
OSSF Osses 64.36 50⇑*e*P P 11 14 23.7 +4.0
DAG Danmarks Havn 64.37 12 *i*P **P 11 14 20.6 +1.4**
DAG pmax pmax
comp=Z,35nm,0.9s
DAG MLR MLR
comp=Z,13µm,22.0s
DAG Danmarks Havn 64.37 12 *i*P **P 11 14 20.6 +1.4**
comp=Z,42nm,0.9s
DAG
comp=Z,12µm,22.0s
SJPF Ste Jean 64.39 50 *e*P **P 11 14 20.3 +0.4**
comp=Z,480nm,1.2s
SJPF Ste Jean 64.39 50 *e*P **P 11 14 20.3 +0.4**
SJPF pmax pmax
comp=Z,480nm,1.2s
SJPF Ste Jean 64.39 50 *e*P **P 11 14 20.3 +0.4**
comp=Z,480nm,1.2s
LARF Larrau 64.57 50⇑*e*P P 11 14 25.2 +4.1
GRR Gorron 64.60 45 *e*P **P 11 14 20.9 -0.3**
comp=Z,393nm,1.3s
GRR Gorron 64.60 45 *e*P **P 11 14 20.9 -0.3**
GRR pmax pmax
comp=Z,393nm,1.3s
GRR Gorron 64.60 45 *e*P **P 11 14 20.9 -0.3**
comp=Z,393nm,1.3s
LCHF La Chataignera 64.68 46 *e*P P 11 14 25.6 +3.9
ATE Arette 64.78 50⇑*e*P P 11 14 26.9 +4.4
FLN La Foliniere 64.86 44 *e*P **P 11 14 22.6 -0.2**
comp=Z,320nm,1.3s,baz=251
FLN *e*R
comp=Z,19µm,22.2s
FLN La Foliniere 64.86 44 *e*P **P 11 14 22.6 -0.2**
FLN pmax pmax
comp=Z,320nm,1.3s
FLN La Foliniere 64.86 44 *e*P **P 11 14 22.6 -0.2**
comp=Z,320nm,1.3s
ETSF Etsaut 64.89 51 *e*P **P 11 14 23.5 +0.3**
comp=Z,302nm,1.3s
ETSF Etsaut 64.89 51 *e*P **P 11 14 23.5 +0.3**
ETSF pmax pmax
comp=Z,302nm,1.3s
ETSF Etsaut 64.89 51 *e*P **P 11 14 23.5 +0.3**
comp=Z,302nm,1.3s
REYF Montagne du Re 65.00 50⇑*e*P P 11 14 28.5 +4.5
LMK Market Rasen 65.08 39 AMS AMS 11 35 29.8
comp=Z,6µm,26.2s
MFF Saint Martin d 65.09 47 *e*P **P 11 14 24.3 -0.1**
comp=Z,371nm,1.1s
MFF Saint Martin d 65.09 47 *e*P **P 11 14 24.3 -0.1**
MFF pmax pmax
comp=Z,371nm,1.1s
MFF Saint Martin d 65.09 47 *e*P **P 11 14 24.3 -0.1**
comp=Z,371nm,1.1s
LDF La Druitiere 65.09 44 *e*P **P 11 14 24.1 -0.3**
comp=Z,914nm,1.7s
LDF La Druitiere 65.09 44 *e*P **P 11 14 24.1 -0.3**
LDF pmax pmax
comp=Z,914nm,1.7s
LDF La Druitiere 65.09 44 *e*P **P 11 14 24.1 -0.3**
comp=Z,914nm,1.7s
CHRN Cochrane 65.20 180 *e*P **P 11 14 26.1 +1.3**
BMRM Bremner River 65.26 329 *e*P **P 11 14 24.8 -0.5**
comp=Z,1µm,1.9s
VIEF Viey 65.32 51 *e*P P 11 14 30.6 +4.5
DOT Dot Lake 65.37 332 *e*P **P 11 14 25.7 -0.2**
comp=Z,168nm,1.5s
HMNX Herstmonceux 65.41 42 AMS AMS 11 37 21.8
comp=Z,8µm,20.0s
EPF Esparros 65.54 50 *e*P **P 11 14 27.8 +0.3**
comp=Z,1µm,1.7s
EPF Esparros 65.54 50 *e*P **P 11 14 27.8 +0.3**
EPF pmax pmax
comp=Z,1µm,1.7s
EPF Esparros 65.54 50 *e*P **P 11 14 27.8 +0.3**
comp=Z,1µm,1.7s
RESF Ems 65.55 51⇑*e*P P 11 14 32.4 +4.8
LFF La Frestale 65.75 48 *e*P **P 11 14 28.4 -0.3**
comp=Z,586nm,1.4s
LFF La Frestale 65.75 48 *e*P **P 11 14 28.4 -0.3**
LFF pmax pmax
comp=Z,586nm,1.4s
LFF La Frestale 65.75 48 *e*P **P 11 14 28.4 -0.3**
comp=Z,586nm,1.4s
DIV Divide 65.84 329 *e*P **P 11 14 28.8 -0.3**
comp=Z,137nm,1.1s
MELF Melles 65.86 51⇑*e*P P 11 14 34.2 +4.7
PAX Paxson 65.90 331 *e*P **P 11 14 28.8 -0.7**
PAX pmax pmax
comp=Z,223nm,1.5s
PAX Paxson 65.90 331 *e*P **P 11 14 28.8 -0.7**
comp=Z,223nm,1.5s
MLS Moulis 66.10 51⇑*e*P P 11 14 35.2 +4.2
RJF Les Rejaudoux 66.28 48 *e*P **P 11 14 31.8 -0.3**
comp=Z,755nm,1.7s
RJF *e*R
comp=Z,8µm,21.0s
RJF Les Rejaudoux 66.28 48 *e*P **P 11 14 31.8 -0.3**
RJF pmax pmax
comp=Z,755nm,1.7s
RJF Les Rejaudoux 66.28 48 *e*P **P 11 14 31.8 -0.3**
comp=Z,755nm,1.7s
MENF Mencas 66.57 42 *e*P P 11 14 37.5 +3.7
EANR 'Ain N'Sour 66.69 58 P **P 11 14 36.3 +1.3**
CAF Calviac 66.69 48 *e*P **P 11 14 34.5 -0.3**
comp=Z,809nm,1.7s
CAF Calviac 66.69 48 *e*P **P 11 14 34.5 -0.3**
CAF pmax pmax
comp=Z,809nm,1.7s
CAF Calviac 66.69 48 *e*P **P 11 14 34.5 -0.3**
comp=Z,809nm,1.7s
TCF Toulx Ste Croi 66.72 47 *e*P **P 11 14 34.4 -0.6**
comp=Z,278nm,1.1s
TCF Toulx Ste Croi 66.72 47 *e*P **P 11 14 34.4 -0.6**
TCF pmax pmax
comp=Z,278nm,1.1s
TCF Toulx Ste Croi 66.72 47 *e*P **P 11 14 34.4 -0.6**
comp=Z,278nm,1.1s
ILAR Eielson Array 66.74 333 P **P 11 14 33.9 -0.8**
ILAR ⇑*e* 11 43 08.9
ILAR Eielson Array 66.74 333 P **P 11 14 33.9 -0.8**
comp=Z,16nm,1.0s,baz=98,slow=4.0,SNR=43
ILAR PKP2bc 11 43 08.9
comp=Z,0.3nm,0.9s,baz=288,slow=5.7,SNR=3.2
ILAR LR LR 11 45 50.3
comp=Z,7µm,18.4s,baz=98,slow=38
VALF Valcebollere 66.81 51 *e*P P 11 14 39.7 +3.9
ECHA Ech Chlef 66.88 58 P P 11 14 40.0 +3.9
ETRT Tiaret 66.91 59 P **P 11 14 37.4 +0.9**
TIC Toumodi 66.94 91 *e*P **P 11 14 37.0 +0.1**
HYF Humbligny 66.98 46 *e*P **P 11 14 36.3 -0.2**
HYF Humbligny 66.98 46 *e*P **P 11 14 36.3 -0.2**
EBNR Beni Rached 66.99 58 P P 11 14 41.0 +4.1
LIC Lamto 67.06 91⇑*i*P **P 11 14 36.4 -1.2**
comp=Z,271nm,1.5s,baz=277
LIC *e*R
comp=Z,5µm,22.5s
LIC Lamto 67.06 91 *e*P **P 11 14 35.4 -2.2**
comp=Z,437nm,2.1s
LIC Lamto 67.06 91⇑*i*P **P 11 14 36.4 -1.2**
comp=Z,271nm,1.5s
DBIC Dimbokro 67.09 90 P **P 11 14 36.5 -1.3**
comp=Z,57nm,1.6s
DBIC Dimbokro 67.09 90 P **P 11 14 36.5 -1.3**
comp=Z,38nm,1.1s,baz=271,slow=7.5,SNR=13
DBIC LR LR 11 40 11.4
comp=Z,3µm,21.1s,baz=262,slow=33
BGF Bois d'Agland 67.15 47 *e*P **P 11 14 37.0 -0.7**
comp=Z,272nm,1.3s
BGF Bois d'Agland 67.15 47 *e*P **P 11 14 37.0 -0.7**
BGF pmax pmax
comp=Z,272nm,1.3s
BGF Bois d'Agland 67.15 47 *e*P **P 11 14 37.0 -0.7**
comp=Z,272nm,1.3s
LRDF Laroque-de-Fa 67.16 50⇑*e*P P 11 14 41.5 +3.7
COLA College 67.16 333 *e*P **P 11 14 36.4 -0.9**
COLA pmax pmax
comp=Z,101nm,1.1s
COLA MLR MLR
comp=Z,29µm,18.0s
COLA College 67.16 333 *e*P **P 11 14 37.2 -0.1**
comp=Z,71nm,1.2s
COLA LR LR

comp=Z,6µm,20.0s
KIC Kosan Boka 67.29 91 *e*P **P 11 14 37.9 -1.2**
comp=Z,1µm,2.2s
PYM Petit Puy Mans 67.31 47 *e*P P 11 14 43.7 +4.9
AGO Saint Agoulin 67.38 47 *e*P P 11 14 43.7 +4.6
SJAF Saint Jean de 67.44 51⇑*e*P P 11 14 44.0 +4.4
AVF Avril sur Loir 67.49 46 *e*P **P 11 14 39.1 -0.7**
comp=Z,766nm,1.8s
AVF Avril sur Loir 67.49 46 *e*P **P 11 14 39.1 -0.7**
AVF pmax pmax
comp=Z,766nm,1.8s
AVF Avril sur Loir 67.49 46 *e*P **P 11 14 39.1 -0.7**
comp=Z,766nm,1.8s
PMR Palmer 67.49 330 *e*P **P 11 14 39.4 -0.1**
PMR pmax pmax
comp=Z,120nm,1.2s
PMR Palmer 67.49 330 *e*P **P 11 14 39.4 -0.1**
comp=Z,120nm,1.2s
LBL Lubilhac 67.51 48 *e*P P 11 14 45.2 +5.2
MCK McKinley 67.53 332 *e*P **P 11 14 39.1 -0.7**
MCK pmax pmax
comp=Z,123nm,1.3s
MCK McKinley 67.53 332 *e*P **P 11 14 39.1 -0.7**
comp=Z,123nm,1.3s
SSF Saint Saulge 67.58 46 *e*P **P 11 14 39.6 -0.7**
comp=Z,573nm,1.6s
SSF Saint Saulge 67.58 46 *e*P **P 11 14 39.6 -0.7**
SSF pmax pmax
comp=Z,573nm,1.6s
SSF Saint Saulge 67.58 46 *e*P **P 11 14 39.6 -0.7**
comp=Z,573nm,1.6s
SEW Seward 67.58 328 *e*P **P 11 14 40.8 +0.7**
comp=Z,149nm,1.1s
PLDF La Plantade 67.72 47 *e*P P 11 14 46.3 +4.9
RC01 Rabbit Creek A 67.76 329 *e*P **P 11 14 41.0 -0.2**
comp=Z,244nm,1.4s
COLF Collangettes 67.80 48⇑*e*P P 11 14 47.1 +5.2
LOR Lormes 67.81 46 *e*P **P 11 14 41.1 -0.7**
comp=Z,318nm,1.2s,baz=269
LOR *e*R
comp=Z,16µm,22.8s
LOR Lormes 67.81 46 *e*P **P 11 14 41.1 -0.7**
comp=Z,318nm,1.2s
SMF Signal de Mont 67.83 46 *e*P **P 11 14 41.2 -0.8**
comp=Z,676nm,1.7s
SMF Signal de Mont 67.83 46 *e*P **P 11 14 41.2 -0.8**
SMF pmax pmax
comp=Z,676nm,1.7s
SMF Signal de Mont 67.83 46 *e*P **P 11 14 41.2 -0.8**
comp=Z,676nm,1.7s
BAIF Baives 67.90 43 *e*P **P 11 14 41.7 -0.6**
comp=Z,315nm,1.6s
BAIF Baives 67.90 43 *e*P **P 11 14 41.7 -0.6**
BAIF pmax pmax
comp=Z,315nm,1.6s
BAIF Baives 67.90 43 *e*P **P 11 14 41.7 -0.6**
comp=Z,315nm,1.6s
SNF Seneffe 67.93 42 P P **11 14 43.4 +0.9**
LASF Ste Croix 68.03 49 *e*P **P 11 14 43.5 +0.2**
comp=Z,760nm,1.7s
LASF Ste Croix 68.03 49 *e*P **P 11 14 43.5 +0.2**
comp=Z,760nm,1.7s
TRF Thorofare Moun 68.12 332 *e*P **P 11 14 43.2 -0.5**
comp=Z,622nm,1.8s
SUE Sulen 68.13 31 *e*P **P 11 14 46.5 +3.0**
ABA Alger-Bouzarea 68.14 57 P **P 11 14 44.2 +0.1**
DOU Dourbes 68.14 43 P **P 11 14 42.9 -0.9**
comp=Z,77nm,2.0s
EMHD Djebel Mahouad 68.15 58 P **P 11 14 42.4 -1.9**
FOO Floro 68.28 30 *e*P **P 11 14 45.1 +0.7**
FOO *e*S **S 11 23 47.0 +2.0**
FOO IAMs_20 IAMs_20 11 39 30.4
comp=Z,1µm,19.5s
GIVF Givet 68.29 43 *e*P **P 11 14 44.2 -0.6**
comp=Z,789nm,1.8s
GIVF Givet 68.29 43 *e*P **P 11 14 44.2 -0.6**
GIVF pmax pmax
comp=Z,789nm,1.8s
GIVF Givet 68.29 43 *e*P **P 11 14 44.2 -0.6**
comp=Z,789nm,1.8s
COLD Coldfoot 68.32 336 *e*P **P 11 14 43.6 -1.1**
comp=Z,424nm,1.8s
KMY Karmoy 68.34 33 *e*P **P 11 14 47.8 +2.9**
BER Bergen 68.40 32 *e*P **P 11 14 47.4 +2.2**
BER *e*S **S 11 23 48.3 +1.9**
BER IAMs_20 IAMs_20 11 40 11.5
comp=Z,6µm,19.9s
KTH Kantishna Hill 68.41 332 *e*P **P 11 14 44.7 -0.7**
comp=Z,150nm,1.2s
SSB Saint Sauveur 68.42 48 *e*P **P 11 14 43.8 -1.9**
SSB pmax pmax
comp=Z,279nm,1.8s
SSB MLR MLR
comp=Z,5µm,21.0s
SSB Saint Sauveur 68.42 48⇑*e*P P 11 14 49.9 +4.2
SSB Saint Sauveur 68.42 48 *e*P **P 11 14 43.8 -1.9**
comp=Z,279nm,1.8s
SSB LR LR
comp=Z,5µm,21.0s
MEZF Maizieres J'vi 68.53 44 *e*P **P 11 14 46.0 -0.3**
comp=Z,1µm,1.7s,baz=285
MEZF Maizieres J'vi 68.53 44 *e*P **P 11 14 46.0 -0.3**
comp=Z,1µm,1.7s
SFTF Sexfontaines 68.54 45 *e*P **P 11 14 45.9 -0.5**
comp=Z,950nm,1.7s
SFTF Sexfontaines 68.54 45 *e*P **P 11 14 45.9 -0.5**
comp=Z,950nm,1.7s
VIVF Saint-Julien-l 68.54 48 *e*P **P 11 14 46.9 +0.4**
comp=Z,513nm,1.3s
VIVF Saint-Julien-l 68.54 48 *e*P **P 11 14 46.9 +0.4**
VIVF pmax pmax
comp=Z,513nm,1.3s
VIVF Saint-Julien-l 68.54 48 *e*P **P 11 14 46.9 +0.4**
comp=Z,513nm,1.3s
BCLA Clavier 68.58 42 P **P 11 14 45.4 -1.1**
comp=Z,99nm,2.3s
BEBN Eben Emael 68.80 42 P **P 11 14 47.5 -0.4**
comp=Z,76nm,2.2s
HGN Heimansgroeve 68.96 42 *e*P **P 11 14 47.7 -1.2**
comp=Z,1µm,3.0s
PPLA Purkeypile 68.96 331 *e*P **P 11 14 47.8 -1.1**
comp=Z,107nm,1.2s
PAGF Fort de Pagny 68.98 44 *e*P **P 11 14 48.8 -0.3**
comp=Z,285nm,1.9s,baz=284
PAGF Fort de Pagny 68.98 44 *e*P **P 11 14 48.8 -0.3**
comp=Z,285nm,1.9s
OG26 St.-Nazaire-De 69.02 49⇑*e*P P 11 14 54.3 +4.8
MEM Membach 69.02 42 P **P 11 14 49.0 -0.3**
comp=Z,93nm,1.9s
THEF They Montfort 69.17 45 *e*P P 11 14 54.3 +4.0
WLF Walferdange 69.18 43 P **P 11 14 50.4 +0.1**
comp=Z,150nm,2.3s
WLF Walferdange 69.18 43 *e*P **P 11 14 50.2 -0.1**
WLF pmax pmax
comp=Z,651nm,2.0s
WLF MLR MLR
comp=Z,11µm,20.0s
WLF Walferdange 69.18 43 *e*L L 11 39 22.7
comp=Z,12µm,21.9s
WLF Walferdange 69.18 43 *e*P **P 11 14 50.2 -0.1**
comp=Z,651nm,2.0s
WLF LR LR
comp=Z,11µm,20.0s
KDAK Kodiak Island 69.19 326 P P 11 14 54.3 +4.1
comp=Z,455nm,1.1s,SNR=5.1
KDAK Kodiak Island 69.19 326 P **P 11 14 49.7 -0.5**
comp=Z,98nm,1.0s
KDAK LR LR
comp=Z,9µm,20.0s
GRN Grenoble 69.27 48⇑*e*P P 11 14 55.6 +4.5
SMRF Simiane la Rot 69.27 49 *e*P **P 11 14 51.6 +0.6**
comp=Z,503nm,1.5s
SMRF Simiane la Rot 69.27 49 *e*P **P 11 14 51.6 +0.6**
comp=Z,503nm,1.5s
CABF La Chapelle 69.38 46 *e*P **P 11 14 51.2 -0.5**
comp=Z,712nm,1.9s
CABF La Chapelle 69.38 46 *e*P **P 11 14 51.2 -0.5**
CABF pmax pmax
comp=Z,713nm,1.9s
CABF La Chapelle 69.38 46 *e*P **P 11 14 51.2 -0.5**
comp=Z,712nm,1.9s
ORIF Oris-en-Rattie 69.39 48 *e*P **P 11 14 52.3 +0.4**
comp=Z,618nm,1.7s
ORIF *e*R
comp=Z,7µm,22.8s
ORIF Oris-en-Rattie 69.39 48 *e*P **P 11 14 52.3 +0.4**
ORIF pmax pmax

comp=Z,618nm,1.7s
ORIF Oris-en-Rattie 69.39 48 *e*P **P 11 14 52.3 +0.4**
comp=Z,618nm,1.7s
WTSB Winterswijk 69.43 41 *e*P **P 11 14 51.1 -0.7**
comp=Z,806nm,1.8s
HAU Haudompre 69.43 45 *e*P **P 11 14 51.3 -0.7**
comp=Z,779nm,1.9s
HAU eR
comp=Z,15µm,22.5s
HAU Haudompre 69.43 45 *e*P **P 11 14 51.3 -0.7**
HAU pmax pmax
comp=Z,779nm,1.9s
HAU Haudompre 69.43 45 *e*P **P 11 14 51.3 -0.7**
comp=Z,779nm,1.9s
GDM Grand'Maison 69.53 48⇑ *e*P P 11 14 57.1 +4.3
OHAK Old Harbor 69.59 325 *e*P **P 11 14 52.8 +0.1**
comp=Z,200nm,1.3s
IM04 Indian Mountai 69.69 334 *e*P **P 11 14 52.1 -1.1**
BUG Bochum-Univer 69.76 41 *e*P **P 11 14 53.8 0.0**
comp=Z,436nm,1.7s
HINF Hinteralfeld 69.79 45 *e*P **P 11 14 53.2 -1.0**
comp=Z,459nm,1.9s
HINF Hinteralfeld 69.79 45 *e*P **P 11 14 53.2 -1.0**
HINF pmax pmax
comp=Z,459nm,1.9s
HINF Hinteralfeld 69.79 45 *e*P **P 11 14 53.2 -1.0**
comp=Z,459nm,1.9s
LOMF Lomont 69.81 45 *e*P P 11 14 58.4 +4.0
OG01 Vacheresse 69.81 47⇑ *e*P P 11 14 58.5 +4.1
RSL Roselend 69.84 47⇑ *e*P P 11 14 58.0 +3.3
LPL La Plagne 69.93 47 *e*P **P 11 14 55.4 +0.1**
comp=Z,176nm,1.0s
LPL La Plagne 69.93 47 *e*P **P 11 14 55.4 +0.1**
LPL pmax pmax
comp=Z,177nm,1.0s
LPL La Plagne 69.93 47 *e*P **P 11 14 55.4 +0.1**
comp=Z,176nm,1.0s
BNI Bardonecchia 69.94 48 *e*P **P 11 14 55.3 0.0**
BNI pmax pmax
comp=Z,279nm,1.5s
BNI MLR MLR
comp=Z,6µm,22.0s
BNI Bardonecchia 69.94 48 *e*P **P 11 14 55.3 0.0**
comp=Z,279nm,1.5s
BNI LR LR
comp=Z,6µm,22.0s
LPG La Plagne 69.95 47 *e*P **P 11 14 55.7 +0.2**
comp=Z,370nm,1.2s
LPG La Plagne 69.95 47 *e*P **P 11 14 55.7 +0.2**
LPG pmax pmax
comp=Z,370nm,1.2s
LPG La Plagne 69.95 47 *e*P **P 11 14 55.7 +0.2**
comp=Z,370nm,1.2s
ECH Echery 69.96 45 *e*P **P 11 14 54.9 -0.3**
ECH pmax pmax
comp=Z,241nm,1.4s
ECH MLR MLR
comp=Z,10µm,22.0s
ECH Echery 69.96 45 *e*P P 11 14 59.1 +3.9
ECH Echery 69.96 45 *e*P **P 11 14 54.9 -0.3**
comp=Z,241nm,1.4s
ECH LR LR
comp=Z,10µm,22.0s
MOF Molkenrain 69.97 45 *e*P P 11 14 58.9 +3.5
IBBN Ibbenburen 70.00 40 *e*P **P 11 14 55.6 +0.3**
comp=Z,428nm,1.5s
LMR La Mourre 70.01 50 *e*P **P 11 14 55.2 -0.4**
comp=Z,627nm,1.9s
LMR La Mourre 70.01 50 *e*P **P 11 14 55.2 -0.4**
LMR pmax pmax
comp=Z,627nm,1.9s
LMR La Mourre 70.01 50 *e*P **P 11 14 55.2 -0.4**
comp=Z,627nm,1.9s
CDF Champ du Feu 70.02 44 *e*P **P 11 14 55.0 -0.6**
comp=Z,655nm,1.8s
CDF Champ du Feu 70.02 44 *e*P **P 11 14 55.0 -0.6**
CDF pmax pmax
comp=Z,655nm,1.8s
CDF Champ du Feu 70.02 44 *e*P **P 11 14 55.0 -0.6**
comp=Z,655nm,1.8s
MBDF Montbardon 70.04 48 *e*P **P 11 14 56.2 +0.3**
comp=Z,348nm,1.3s
MBDF Montbardon 70.04 48 *e*P **P 11 14 56.2 +0.3**
MBDF pmax pmax
comp=Z,348nm,1.3s
MBDF Montbardon 70.04 48 *e*P **P 11 14 56.2 +0.3**
comp=Z,348nm,1.3s
FRF La Foret Royal 70.09 49 *e*P **P 11 14 55.6 -0.4**
comp=Z,702nm,1.8s
FRF La Foret Royal 70.09 49 *e*P **P 11 14 55.6 -0.4**
FRF pmax pmax
comp=Z,702nm,1.8s
FRF La Foret Royal 70.09 49 *e*P **P 11 14 55.6 -0.4**
comp=Z,702nm,1.8s
SURF Saint Ours 70.10 49⇑ *e*P P 11 15 01.3 +4.9
SET Setif 70.11 57 P P 11 15 00.0 +3.6
OG22 Abries 70.16 48⇑ *e*P P 11 15 02.4 +5.7
CALN Calern 70.24 49 *e*P P 11 15 01.4 +4.2
LANF Langenberg 70.31 44 *e*P P 11 15 01.6 +4.3
MVIF Mont Vial 70.41 49 *e*P P 11 15 02.3 +4.1
DFRA Djebel Bou Aff 70.44 57 P P 11 15 08.0 +10
TOUF Mont Tournerai 70.47 49 *e*P P 11 15 02.7 +4.1
MUD Monsted U'grnd 70.53 36 *i* P P 11 15 02.3 +3.9
MUD pmax pmax
comp=Z,33nm,1.3s
MUD MLR MLR
comp=Z,4µm,20.0s
MUD Monsted U'grnd 70.53 36 *i* P P 11 15 02.3 +3.9
comp=Z,33nm,1.3s
MUD
comp=Z,4µm,19.0s
KONO Kongsberg 70.55 32⇓ *i*P **P 11 14 59.7 +1.1**
KONO pmax pmax
comp=Z,756nm,1.2s
KONO Kongsberg 70.55 32 *e*P P 11 15 02.2 +3.7
KONO *e*S **S 11 24 12.2 +0.3**
KONO Kongsberg 70.55 32 P **P 11 14 57.5 -1.0**
comp=Z,278nm,1.7s
KONO LR LR
comp=Z,5µm,20.0s
REVF Revere 70.58 49 *e*P P 11 15 03.3 +4.2
AUTN L'Aution 70.60 49 *e*P P 11 15 03.7 +4.3
TNS Taunus Mts 70.61 42 *e*P **P 11 14 59.0 -0.2**
comp=Z,284nm,1.5s
SBF Sospel 70.62 49 *e*P **P 11 14 59.0 -0.4**
comp=Z,403nm,1.3s
SBF Sospel 70.62 49 *e*P **P 11 14 59.0 -0.4**
SBF pmax pmax
comp=Z,403nm,1.3s
SBF Sospel 70.62 49 *e*P **P 11 14 59.0 -0.4**
comp=Z,403nm,1.3s
SAOF Saorge 70.69 49 *e*P P 11 15 03.9 +4.1
TBLU Trondheim 70.69 28 *e*P P 11 15 02.9 +3.6
TBLU IAMs_20 IAMs_20 11 38 13.7
comp=Z,7µm,25.8s
BFO Black Forest 70.72 44 P P 11 15 03.9 +4.0
comp=Z,281nm,1.5s,SNR=12
BFO Black Forest 70.72 44 *e*P P 11 14 56.5 -3.4
BFO pmax pmax
comp=Z,238nm,1.8s
BFO MLR MLR
comp=Z,11µm,21.0s
BFO Black Forest 70.72 44 *e*P **P 11 14 59.3 -0.6**
comp=Z,237nm,1.7s
BFO Black Forest 70.72 44 *e*P P 11 14 56.5 -3.4
comp=Z,238nm,1.8s
BFO LR LR
comp=Z,11µm,21.0s
CASM Ain Smara 70.97 57 P P 11 15 07.4 +5.8
KBS Kingsbay 71.11 12 *e*P **P 11 15 00.2 -1.4**
KBS pmax pmax
comp=Z,135nm,1.7s
KBS MLR MLR
comp=Z,7µm,18.0s
KBS Kingsbay 71.11 12 *e*P P 11 15 05.5 +3.9
KBS *e*S **S 11 24 19.0 +1.1**
KBS Kingsbay 71.11 12 PFAKE 11 15 10.0 +8.4
KBS LR LR
comp=Z,12µm,22.0s
NAO01 NORSAR Array S 71.12 31 *e*P **P 11 15 02.5 +0.5**
comp=Z,54nm,1.0s
CKFL Kef-Lekhel 71.13 57 P P 11 15 07.2 +4.5
CAEH 'Ain El Ouahch 71.17 57 P P 11 15 07.8 +5.0
STU Stuttgart 71.25 44 *e*P **P 11 15 02.7 -0.3**
STU pmax pmax
comp=Z,434nm,1.6s
STU Stuttgart 71.25 44 *e*P **P 11 15 03.2 +0.2**
comp=Z,672nm,2.1s
STU *e*L L 11 41 24.3
comp=Z,12µm,20.6s
STU Stuttgart 71.25 44 *e*P **P 11 15 02.7 -0.3**
comp=Z,434nm,1.6s
NB2 NORSAR Subarra 71.27 31 P **P 11 15 03.6 +0.6**
comp=Z,548nm,2.0s,baz=274,slow=6.2
NB2 NORSAR Subarra 71.27 31 P **P 11 15 03.6 +0.6**
baz=274,slow=6.2
NOA NORSAR Array B 71.27 31 P **P 11 15 03.1 +0.1**
NOA NORSAR Array B 71.27 31 P **P 11 15 03.1 +0.1**
comp=Z,20nm,1.0s,baz=280,slow=6.4,SNR=23
NOA LR LR 11 41 48.4
comp=Z,4µm,21.2s,baz=270,slow=32
BSEG Bad Segeberg 71.39 38 *e*P **P 11 15 03.6 -0.1**
comp=Z,382nm,1.9s
TOA0 Torodi Ar. Sit 71.52 82 *e*P **P 11 15 03.7 -1.6**
TOA0 Torodi Ar. Sit 71.52 82 P **P 11 15 03.9 -1.4**
baz=72,SNR=30
TORD Torodi Ar. Bea 71.52 82 P **P 11 15 03.9 -1.4**
TORD P'P' 11 42 57.9
TORD Torodi Ar. Bea 71.52 82 P **P 11 15 03.9 -1.4**
comp=Z,36nm,1.0s,baz=287,slow=6.3,SNR=22
TORD PKPPKP **P'P'df 11 42 57.9 -2.2**
comp=Z,1.5nm,1.0s,baz=35,slow=2.5,SNR=6.5
TORD LR LR 11 44 08.6
comp=Z,3µm,20.6s,baz=270,slow=34
TUE Stuetta 71.63 46 *e*P **P 11 15 04.8 -0.8**
comp=Z,388nm,0.4s
TUE LR LR
comp=Z,9µm,20.0s
CLZ Clausthal 71.65 40 *e*P **P 11 15 05.6 +0.2**
comp=Z,267nm,1.6s
CLZ *e*L L 11 41 06.0
comp=Z,6µm,21.9s
CMAH Djebel Manchou 71.65 57 P **P 11 15 06.0 +0.2**
DAVA Damuels 71.89 45⇑ *i*P **P 11 15 07.1 0.0**
comp=Z,82nm,0.9s,SNR=23
PGF Pioggiola 71.93 50 *e*P **P 11 15 06.8 -0.6**
comp=Z,813nm,1.7s
PGF Pioggiola 71.93 50 *e*P **P 11 15 06.8 -0.6**
PGF pmax pmax
comp=Z,813nm,1.7s
PGF Pioggiola 71.93 50 *e*P **P 11 15 06.8 -0.6**
comp=Z,813nm,1.7s
OSPF L'Ospedale 72.20 51⇑ *e*P P 11 15 12.8 +3.8
GRF Grafenberg Arr 72.45 43 *e*P **P 11 15 10.2 0.0**
comp=Z,304nm,1.8s
RETA Reutte 72.45 45⇑ *i*P **P 11 15 10.6 +0.2**
comp=Z,279nm,1.6s,SNR=46
CHGN Chignik 72.48 324 P **P 11 15 10.0 -0.2**
FETA Feichten 72.50 45⇑ *i*pP **P 11 15 11.0 +0.3**
comp=Z,180nm,1.4s,SNR=60
MOX Moxa 72.57 42 *e*P **P 11 15 10.4 -0.5**
comp=Z,1µm,1.8s
VLC Villacollemand 72.69 48 *e*P **P 11 15 10.4 -1.3**
comp=Z,238nm,1.3s
VLC LR LR
comp=Z,3µm,20.0s
VSL Villasalto 72.70 53 *e*P **P 11 15 12.0 +0.1**
comp=Z,537nm,1.8s
VSL LR LR
comp=Z,4µm,21.0s
FUR Furstenfeldbru 72.70 44 *e*P **P 11 15 11.6 -0.2**
comp=Z,314nm,1.4s
FUR *e*L L 11 41 34.6
comp=Z,9µm,21.2s
MOTA Moosalm 72.70 45⇑ *i*P **P 11 15 11.6 -0.3**
comp=Z,83nm,0.9s,SNR=43
TAM Tamanrasset 72.73 71 *e*P **P 11 15 12.6 +0.1**
TAM pmax pmax
comp=Z,75nm,1.4s
TAM MLR MLR
comp=Z,4µm,19.0s
TAM Tamanrasset 72.73 71 *e*P **P 11 15 12.6 +0.1**
comp=Z,75nm,1.4s
TAM LR LR
comp=Z,4µm,19.0s
WATA Walderalm 73.02 45⇓ *i*pP **P 11 15 14.1 +0.2**
comp=Z,78nm,1.2s,SNR=11
ROTZ Rotzenmuhle 73.07 42 *e*P **P 11 15 14.3 +0.4**
comp=Z,488nm,1.9s
WTTA Wattenberg 73.07 45⇑ *i*P **P 11 15 14.0 -0.2**
comp=Z,91nm,1.4s,SNR=9.6
TANN Tannenbergstha 73.14 42 *e*P **P 11 15 14.3 -0.1**
comp=Z,601nm,2.3s
NKC Novy Kostel 73.16 42 *e*P **P 11 15 14.4 0.0**
NKC *e* 11 15 18.2
NKC *e*S **SKiKP 11 24 45.5 -1.4**
NKC MLR MLR
comp=Z,7µm,21.4s
NKC Novy Kostel 73.16 42 *e*P **P 11 15 14.4 0.0**
NKC *e*pP **pP 11 15 18.2 +0.4**
NKC *e*S **SKiKP 11 24 45.5 -1.4**
NKC *e*x x 11 29 37.7
NKC AMS AMS 11 42 00.0
comp=Z,7µm,21.4s
RKT Rikitea 73.33 238 *e*S **SKiKP 11 24 51.9 +4.2**
comp=Z,3µm,30.8s
RKT *e*SS SS 11 29 35.6 +8.3
comp=Z,2µm,30.2s
RKT *e*LQ LQ 11 34 44.5
comp=Z,2µm,35.8s
RKT *e*LR LR 11 37 50.2
comp=Z,5µm,30.5s
KEST Kesra 73.34 57 *e*P **P 11 15 15.8 -0.1**
KEST Kesra 73.34 57 P **P 11 15 16.5 +0.6**
comp=Z,30nm,1.0s,baz=222,slow=1.5,SNR=16
KEST LR LR 11 42 45.9
comp=Z,2µm,21.9s,baz=234,slow=32
CLL Collm 73.34 41⇑ *i*P **P 11 15 15.0 -0.5**
CLL *i* 11 15 19.5
CLL *i* 11 15 22.5
CLL *e*S **SKiKP 11 24 46.0 -1.0**
CLL pmax pmax
comp=Z,70nm,1.9s
CLL MLR MLR
comp=Z,3µm,20.3s
CLL Collm 73.34 41 *e*P **P 11 15 15.4 -0.1**
comp=Z,257nm,1.7s
CLL *e*L L 11 43 49.3
comp=Z,3µm,21.9s
CLL Collm 73.34 41⇑ *i*P **P 11 15 15.0 -0.5**
comp=Z,70nm,1.9s
CLL *i* sP **sP 11 15 19.5 -0.6**
comp=Z,53nm,1.1s
CLL *i* 11 15 22.5
comp=Z,441nm,2.0s
CLL *e*S **SKiKP 11 24 46.0 -1.0**
CLL *e*PPS PPS 11 25 28.0
CLL *e*SS **SS 11 29 24.0 -1.9**
CLL LmV 11 45 00.0
comp=Z,3µm,20.3s
CLL LmH 11 46 00.0
comp=N,4µm,18.8s
CLL LmH 11 46 00.0
comp=E,1µm,20.6s
TRO Tromso 73.57 21 *e*P P 11 15 20.3 +3.9
TRO IAMs_20 IAMs_20 11 39 59.9
comp=Z,8µm,27.9s
WET Wettzell 73.60 43 *e*P **P 11 15 17.3 +0.2**
comp=Z,407nm,1.7s
WET *e*L L 11 41 55.6
comp=Z,13µm,22.0s
RUE Ruedersdorf 73.64 40 *e*P **P 11 15 17.4 +0.2**
comp=Z,35nm,0.6s
ABTA Abfaltersbach 73.75 46⇑ *i*P **P 11 15 17.7 -0.4**
comp=Z,124nm,1.3s,SNR=14
RJOB Jochberg 73.77 45 *e*P **P 11 15 18.1 -0.1**
comp=Z,51nm,0.8s
BSD Bornholm Skovb 73.90 37 *i* P P 11 15 22.4 +3.8
BSD pmax pmax
comp=Z,49nm,1.0s
BSD MLR MLR
comp=Z,2µm,18.0s
BSD Bornholm Skovb 73.90 37 *i* P P 11 15 22.4 +3.8
comp=Z,49nm,1.0s
BSD
comp=Z,2µm,17.0s
BRG Berggiesshubel 74.00 41 *e*P **P 11 15 19.4 +0.1**
comp=Z,83nm,1.9s
BRG *i* 11 15 23.0
comp=Z,79nm,1.1s
BRG PP **PP 11 18 04.0 -0.2**
BRG S **SKiKP 11 24 45.0 -3.1**
BRG SS **SS 11 29 37.0 +1.1**
BRG pmax pmax
comp=N,3µm,19.9s
BRG
comp=E,5µm,20.5s
BRG
comp=Z,7µm,21.4s
BRG Berggiesshubel 74.00 41 *e*P **P 11 15 19.4 +0.1**
BRG *i* 11 15 23.0
BRG 11 18 04.0
BRG S **SKiKP 11 24 45.0 -3.1**
BRG SS **SS 11 29 37.0 +1.1**
BRG pmax pmax
comp=Z,83nm,2.0s
BRG pmax pmax
comp=Z,79nm,1.1s
BRG MLR MLR
comp=N,3µm,19.9s
BRG MLR MLR
comp=E,5µm,20.5s
BRG MLR MLR
comp=Z,7µm,21.4s
BRG Berggiesshubel 74.00 41 *e*P **P 11 15 19.4 +0.1**
comp=Z,673nm,2.2s
KHC Kasperske Hory 74.06 43 *e*P **P 11 15 19.2 -0.6**
KHC *e* 11 15 23.6
KHC *e*S **S 11 24 51.6 -1.0**
KHC *e*SS **SS 11 29 40.4 +3.5**
KHC MLR MLR
comp=Z,14µm,22.6s
KHC Kasperske Hory 74.06 43 *e*P **P 11 15 19.2 -0.6**
KHC *e*pP **pP 11 15 23.6 +0.4**
KHC *e*x x 11 16 46.8
KHC *e*S **S 11 24 51.6 -1.0**
KHC *e*SS **SS 11 29 40.4 +3.5**
KHC AMS AMS 11 41 20.0
comp=Z,14µm,22.6s
KHC Kasperske Hory 74.06 43 *e*P **P 11 15 19.4 -0.4**
comp=Z,110nm,1.1s
GERES GERESS Array B 74.18 43 P **P 11 15 20.8 +0.2**
GERES PKiKP **PKiKP 11 21 12.4 -2.3**
GERES GERESS Array B 74.18 43 P **P 11 15 20.8 +0.2**
comp=Z,61nm,0.9s,baz=270,slow=4.0,SNR=44
GERES PKiKP **PKiKP 11 21 12.4 -2.3**
comp=Z,1.6nm,0.9s,baz=258,slow=3.7,SNR=4.8
GERES LR LR 11 42 33.9
comp=Z,11µm,21.9s,baz=260,slow=32
KBA Koelnbreinsper 74.25 45⇑ *i*P **P 11 15 21.0 -0.2**
comp=Z,216nm,1.4s,SNR=42
SHEL Horse Pasture 74.36 113 PFAKE 11 15 30.0 +8.0
SHEL LR LR
comp=Z,1µm,19.0s
PRA Prague 74.44 42 P **P 11 15 23.0 +1.1**
PRA S **S 11 24 58.0 +1.3**
PRU Pruhonice 74.53 42 *e*P **P 11 15 22.5 +0.1**
PRU *e* 11 15 26.8
PRU *e* 11 15 30.6
PRU *e*S **S 11 24 56.4 -1.3**
PRU MLR MLR
comp=Z,15µm,20.9s
PRU Pruhonice 74.53 42 *e*P **P 11 15 22.5 +0.1**
PRU *e*pP **pP 11 15 26.8 +1.0**
PRU *e*x x 11 15 30.6
PRU *e*x x 11 16 49.1
PRU *e*S **S 11 24 56.4 -1.3**
PRU *e*x x 11 29 59.8
PRU AMS AMS 11 42 50.0
comp=Z,15µm,20.9s
MYKA Terra Mystica 74.53 46⇑ *i*P **P 11 15 22.0 -0.7**
comp=Z,125nm,1.5s,SNR=22
MOA Molln 74.73 44⇑ *i*P **P 11 15 23.4 -0.3**
comp=Z,224nm,1.3s,SNR=52
TRI Trieste 74.78 46 *e*P **P 11 15 23.8 -0.2**
TRI pmax pmax
comp=Z,203nm,1.2s
TRI Trieste 74.78 46 *e*P **P 11 15 23.8 -0.2**
comp=Z,203nm,1.2s
JAVS Javornik 74.96 46 *e*P **P 11 15 25.0 -0.1**
JAVS *e*S **S 11 25 04.3 +1.4**
OBKA Obir 75.17 46⇑ *i*P **P 11 15 26.0 -0.3**
comp=Z,162nm,1.1s,SNR=39
AQU L'Aquila 75.17 50 PFAKE 11 15 40.0 +14
AQU LR LR
comp=Z,906nm,19.0s
LJU Ljubljana 75.25 46 *e*P **P 11 15 26.5 -0.2**
LJU *i* 11 15 33.9
LJU *e*S **S 11 25 06.5 +0.7**
TREC Trest 75.26 43 *e*P **P 11 15 26.5 -0.2**
TREC *e* 11 15 30.2
TREC *e*S **S 11 25 07.2 +1.3**
TREC MLR MLR
comp=Z,15µm,21.6s
TREC Trest 75.26 43 *e*P **P 11 15 26.5 -0.2**
TREC *e*pP **pP 11 15 30.2 +0.1**
TREC *e*S **S 11 25 07.2 +1.3**
TREC AMS AMS 11 43 00.0
comp=Z,15µm,21.6s
UPC Upice 75.36 41 *e*P **P 11 15 27.9 +0.6**
UPC *e* 11 15 31.6
UPC *e* 11 15 35.1
UPC Upice 75.36 41 *e*P **P 11 15 27.9 +0.6**
UPC *e*pP **pP 11 15 31.6 +1.0**
UPC *e*x x 11 15 35.1
SOKA Soboth 75.47 45⇑ *i*P **P 11 15 27.4 -0.6**
comp=Z,188nm,1.8s,SNR=35
KSP Ksiaz 75.47 41 *e*P **P 11 15 28.2 +0.3**
KSP *e**PP **pP 11 15 31.9 +0.6**
KSP *e*S **S 11 25 06.5 -1.7**
KSP *e*SS **SS 11 29 59.0 +0.8**
KSP Ksiaz 75.47 41 *e*P **P 11 15 28.0 +0.1**
KSP *e*pP **pP 11 15 32.1 +0.8**
KSP *e*S **S 11 25 09.2 +1.0**
KSP *e*SKSac SKSac 11 25 30.6 -7.2
KSP *e*SS SS 11 30 13.2 +15
KSP LMZ LR 11 41 43.4
TNA Tin City 75.53 335 *e*P **P 11 15 27.9 0.0**
comp=Z,92nm,1.2s
PERS Pernice 75.53 45 *e*P **P 11 15 27.4 -0.9**
PERS *e*S **S 11 25 06.6 -2.5**
GKP Gorka Klasztor 75.57 38 *e*P **P 11 15 29.0 +0.6**
GKP *e**PP **pP 11 15 33.3 +1.5**
GKP *e*S **S 11 25 10.6 +1.4**
GKP Gorka Klasztor 75.57 38 *e*P **P 11 15 28.9 +0.6**
GKP *e*pP **pP 11 15 33.2 +1.5**
GKP *e*S **S 11 25 10.5 +1.4**
GKP LMZ LR 11 46 44.4
DPC Dobruska-Polom 75.58 41 *e*P **P 11 15 28.7 +0.1**
DPC *e* 11 15 32.8
DPC *e*S **S 11 25 12.2 +2.6**
DPC Dobruska-Polom 75.58 41 *e*P **P 11 15 28.7 +0.1**
DPC *e*pP **pP 11 15 32.8 +0.8**
DPC *e*x x 11 16 57.6
DPC *e*S **S 11 25 12.2 +2.6**
DPC *e*x x 11 30 12.7
DPC AMS AMS 11 44 40.0
ARSA Arzberg 75.68 45⇑ *i*P **P 11 15 28.8 -0.4**
comp=Z,134nm,1.3s,SNR=22
CONA Conrad Observa 75.77 44⇑ *i*P **P 11 15 29.7 -0.1**
comp=Z,78nm,1.1s,SNR=27
NVLJ Novalja 75.78 47 *i* P **P 11 15 29.5 -0.2**
BOJS Bojanci 75.85 46 *i* P **P 11 15 29.9 -0.3**
BOJS *e*S **S 11 25 12.9 +0.4**
ARCES ARCESS Array B 75.85 21 P **P 11 15 29.6 -0.1**
ARCES ARCESS Array B 75.85 21 P **P 11 15 29.6 -0.1**
comp=Z,14nm,0.6s,baz=284,slow=4.2,SNR=26
ARCES LR LR 11 43 43.2
comp=Z,7µm,21.9s,baz=268,slow=32
ARE0 ARCESS Array S 75.85 21 *e*P **P 11 15 30.8 +1.1**
ARE0 ARCESS Array S 75.85 21 *e*P **P 11 15 28.7 -1.0**
KRLC Kraliky 75.93 42 *e*P **P 11 15 28.9 -1.7**
KRLC *e* 11 15 31.9
KRLC *e* 11 15 35.1
KRLC Kraliky 75.93 42 *e*P **P 11 15 28.9 -1.7**
KRLC *e*pP **pP 11 15 31.9 -2.1**
KRLC *e*sP **sP 11 15 35.1 -0.1**
VRAC Vranov 75.96 42⇓ *i*P P 11 15 35.4 +4.6
SOP Sopron 76.28 44⇑ *e*P **P 11 15 32.6 0.0**
KEV Kevo 76.30 21 *e*P **P 11 15 33.5 +1.3**
KEV pmax pmax
comp=Z,10.0nm,0.8s
KEV Kevo 76.30 21 *ep* **P 11 15 33.5 +1.3**
comp=Z,9.6nm,0.8s
KEV Kevo 76.30 21 PFAKE 11 15 40.0 +7.8
KEV LR LR

comp=Z,7μm,22.0s
UDBI Udbina 76.41 47 *i* P **P 11 15 33.9 +0.5**
MORC Moravsky Berou 76.47 42 ⇑P **P 11 15 36.4 +2.7**
MORC Moravsky Berou 76.47 42 ⇑*i*P **P 11 15 36.4 +2.7**
MORC Moravsky Berou 76.47 42 *e*P **P 11 15 33.9 +0.2**
comp=Z,54nm,0.9s
SISC Sisak 76.63 46 *i* P **P 11 15 34.8 +0.2**
BEHE Becsehely 76.68 45⇑*e*P **P 11 15 35.1 +0.2**
RAC Raciborz 76.81 41 *e*P P 11 15 27.8 -7.7
OKC Ostrava-Krasne 76.84 42 *e*P **P 11 15 36.2 +0.5**
OKC *e* 11 15 40.2
OKC *e*S **S 11 25 26.7 +3.4**
OKC *e*SS **SS 11 30 25.9 +6.9**
OKC MLR MLR
comp=Z,12μm,20.1s
OKC Ostrava-Krasne 76.84 42 *e*P **P 11 15 36.2 +0.5**
OKC *e*pP **pP 11 15 40.2 +1.1**
OKC *e*x x 11 17 04.7
OKC *e*S **S 11 25 26.7 +3.4**
OKC *e*SS **SS 11 30 25.9 +6.9**
OKC AMS AMS 11 45 10.0
comp=Z,12μm,20.1s
PKST T˙s 77.35 44⇑*e* P **P** 11 15 42.5 +3.9
WDD Wield Dalam 77.43 56 P **P 11 15 41.0 +1.7**
comp=Z,20nm,0.5s
WDD LR LR
comp=Z,2μm,22.0s
CUC Castrocucco 77.46 52 *e*P **P 11 15 38.5 -1.0**
comp=Z,88nm,1.1s
CUC LR LR
comp=Z,3μm,21.0s
CSKK Cs˙‡kako 77.47 44⇑*e*P **P 11 15 42.0 +2.7**
UNV Unalaska Valle 77.49 323 P **P 11 15 39.2 -0.1**
comp=Z,147nm,1.2s
GAMB Gambell 77.54 333 *e*P **P 11 15 39.1 -0.2**
comp=Z,181nm,1.7s
PKSG 77.55 44⇑*e*P P 11 15 43.6 +3.9
CEL Celeste 77.92 54 PFAKE 11 15 50.0 +7.9
CEL LR LR
comp=Z,3μm,19.0s
BUD Budapest 77.95 44⇑*e* P 11 15 46.1 +4.2
BEL Belsk 78.00 39 *e*P **P 11 15 42.5 +0.3**
BEL *e**PP **pP 11 15 46.5 +0.9**
BEL *e* 11 15 50.3
BEL *e*S **S 11 25 40.3 +4.5**
BEL Belsk 78.00 39 *e*P **P 11 15 42.4 +0.3**
BEL *e*pP **pP 11 15 46.4 +0.9**
BEL *e*PcP **PcP 11 15 50.2 -1.7**
BEL *e*S **S 11 25 40.2 +4.5**
BEL LMZ LR 11 43 37.2
PKSM Moragy 78.00 45 ⇑P P 11 15 46.5 +4.2
PKSM Moragy 78.00 45⇑*i*P P 11 15 46.5 +4.2
PKSM Moragy 78.00 45⇑*e*P **P 11 15 41.5 -0.8**
PKS7 Kunszentmiklos 78.15 44⇑*e* P 11 15 46.4 +3.4
STON Ston 78.15 49 *i* P P 11 15 39.1 -4.0
KAF Kangasniemi 78.17 28 *e*P **P 11 15 44.4 +1.6**
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 78.17 28 *e*p **P 11 15 44.4 +1.6**
comp=Z,9.5nm,0.7s
FIA1 FINESS Array S 78.25 29 P **P 11 15 42.6 -0.8**
FINES FINESS Array B 78.25 29 P **P 11 15 42.8 -0.6**
FINES FINESS Array B 78.25 29 P **P 11 15 42.8 -0.6**
comp=Z,52nm,1.1s,baz=270,slow=1.9,SNR=28
FINES LR LR 11 46 18.5
comp=Z,6μm,20.6s,baz=276,slow=33
NIE Niedzica 78.31 42 *e*P **P 11 15 45.0 +1.0**
NIE *e* 11 15 52.5
NIE *e*S **S 11 25 41.7 +2.4**
NIE Niedzica 78.31 42 *e*P **P 11 15 45.0 +1.0**
NIE *e*PcP **PcP 11 15 52.5 -0.8**
NIE *e*S **S 11 25 41.7 +2.4**
NIE L L 11 46 03.0
comp=Z,10μm,20.3s
TIP Timpagrande 78.36 53 P P 11 15 40.2 -4.3
TIP Timpagrande 78.36 53 *e*P **P 11 15 42.7 -1.8**
comp=Z,39nm,1.2s
TIP LR LR
comp=Z,5μm,20.0s
PSZ Piszkesteto 78.41 43 ⇓P **P 11 15 47.3 +2.7**
PSZ Piszkesteto 78.41 43⇓*i*P **P 11 15 47.3 +2.7**
PSZ Piszkesteto 78.41 43 *e*P **P 11 15 44.8 +0.2**
comp=Z,734nm,1.7s
PSZ LR LR
comp=Z,8μm,22.0s
PSZ Piszkesteto 78.41 43⇑*e*P **P 11 15 45.5 +0.9**
BRY Bratogost 78.74 49 *e*P **P 11 15 46.5 -0.1**
HCY Herceg Novi 78.83 49⇓*i*P **P 11 15 47.5 +0.6**
SUW Suwalki 78.83 37 *e*P **P 11 15 46.2 -0.5**
SUW *e**PP **pP 11 15 50.3 +0.2**
SUW *e*S **S 11 25 46.9 +2.3**
SUW Suwalki 78.83 37 *e*P **P 11 15 46.2 -0.5**
SUW *e*pP **pP 11 15 50.3 +0.2**
SUW *e*S **S 11 25 46.8 +2.2**
SUW LMZ LR 11 44 43.8
SUW Suwalki 78.83 37 *e*P **P 11 15 46.0 -0.7**
comp=Z,211nm,1.1s
STHS Stebnicka Huta 78.90 42 *e*P **P 11 15 48.4 +1.2**
STHS pmax pmax
comp=Z,34nm,1.0s
STHS Stebnicka Huta 78.90 42 *e*P **P 11 15 48.4 +1.2**
UPM Unac-Piva 78.93 48⇓*i*P **P 11 15 48.0 +0.3**
NKME Niksic 79.07 49⇓*i*P **P 11 15 46.1 -2.2**
NKY Niksic 79.09 49⇓*i*P **P 11 15 48.9 +0.4**
BUM Brajici-Budva 79.15 49⇓*i*P **P 11 15 49.0 +0.2**
CRVS Cervenica-Dubn 79.17 42 *e*P **P 11 15 49.6 +0.9**
CRVS pmax pmax
comp=Z,111nm,2.0s
CRVS Cervenica-Dubn 79.17 42 *e*P **P 11 15 49.6 +0.9**
APA Apatity 79.22 22⇓*i*P P 11 15 52.0 +3.4
APA *i*S **S 11 25 50.0 +1.7**
APA *i* 11 26 10.0
APA *i*PS PnS 11 26 44.0 +13
APA *i*SS **SS 11 30 55.0 +1.0**
PLE Pljevlja 79.24 48 *e*P **P 11 15 49.5 +0.2**
TRIS Tristan da Cun 79.31 135 PFAKE 11 16 00.0 +11
TRIS LR LR
comp=Z,3μm,19.0s
TTG Podgorica 79.38 49 *e*P **P 11 15 50.6 +0.7**
DRME Dracevica, Mon 79.39 49⇓*i*P **P 11 15 52.5 +2.5**
VSU Vasula 79.45 32 *e*P **P 11 15 50.5 +0.5**
VSU pmax pmax
comp=Z,292nm,1.3s
VSU MLR MLR
comp=Z,5μm,18.0s
DIVS Divibare 79.46 47 P **P 11 15 50.6 +0.1**
ULC Ulcinj 79.49 49⇓*i*P **P 11 15 51.4 +0.8**
LVZ Lovozero 79.54 22 *e*P **P 11 15 51.5 +1.2**
LVZ pmax pmax
comp=Z,162nm,1.2s
LVZ MLR MLR
comp=Z,2μm,17.0s
LVZ Lovozero 79.54 22 *e*P **P 11 15 50.1 -0.2**
comp=Z,219nm,1.4s
LVZ LR LR
comp=Z,4μm,22.0s
KOLS Kolonicke sedl 79.68 42 *e*P **P 11 15 52.4 +1.0**
KOLS pmax pmax
comp=Z,135nm,2.3s
KOLS Kolonicke sedl 79.68 42 *e*P **P 11 15 52.4 +1.0**
IVA Berane 79.71 48⇓*i*P **P 11 15 52.0 +0.1**
KWP Kalwaria Pacla 79.76 41 *e*P **P 11 15 53.0 +1.1**
KWP *e**PP P 11 15 57.2 +5.4
KWP *e* 11 15 59.9
KWP *e*S **S 11 25 59.8 +5.1**
KWP *e* 11 26 15.5
KWP Kalwaria Pacla 79.76 41 *e*P **P 11 15 53.0 +1.1**
KWP *e*pP **pP 11 15 57.1 +1.8**
KWP *e*PcP **PcP 11 15 59.8 +0.2**
KWP *e*S **S 11 25 59.7 +5.1**
KWP *e*SKSac **ScS 11 26 15.4 -0.8**
KWP LMZ LR 11 47 58.8
KWP Kalwaria Pacla 79.76 41⇑*i*P P 11 15 57.3 +5.4
KWP Kalwaria Pacla 79.76 41 *e*P **P 11 15 52.0 +0.2**
comp=Z,189nm,1.0s
KWP LR LR
comp=Z,6μm,20.0s
UZH Uzhgorod 79.77 42 *e*P **P 11 15 52.7 +0.8**
UZH *i* 11 15 56.5
UZH *e*S **S 11 25 53.7 -1.1**
PVY Plav 79.83 49⇓*i*P **P 11 15 53.7 +1.1**
SIRR Siria 80.01 45⇓*i*P **P 11 15 54.2 +0.9**
ISAL Salakas 80.02 35 *e*P **P 11 15 53.1 0.0**
ISAL AMB AMB 11 16 02.2
comp=Z,80nm,1.6s
TRPA Tarpa 80.07 43⇑*i*P P 11 15 58.4 +4.9
TRPA Tarpa 80.07 43⇑*e*P **P 11 15 54.5 +1.0**
JOF Joensuu 80.10 27 *e*P **P 11 15 53.0 -0.4**
JOF pmax pmax
comp=Z,26nm,0.9s
JOF Joensuu 80.10 27 *e*p **P 11 15 53.0 -0.4**
comp=Z,26nm,0.9s
IIGN Ignalina 80.14 35 *e*P **P 11 15 53.8 0.0**
IIGN AMB AMB 11 16 02.3
comp=Z,109nm,1.5s
BZS Buzias 80.16 45 ⇓P **P 11 15 55.2 +1.1**
BZS Buzias 80.16 45⇓*i*P **P 11 15 55.2 +1.1**
PHP Peshkopia 80.42 49 P **P 11 15 57.7 +2.0**
PHP Peshkopia 80.42 49 P **P 11 15 57.7 +2.0**
PHP Peshkopia 80.42 49 P **P 11 15 57.7 +2.0**
IDID Didziasalis 80.43 35 *e*P **P 11 15 55.3 0.0**
IDID AMB AMB 11 16 04.5
comp=Z,67nm,1.6s
LVV L'vov 80.53 41 *e*P P 11 16 00.2 +4.2
LVV *e* 11 19 03.8
LVV *i*S **S 11 26 04.8 +2.1**
DRGR 80.56 44 ⇓P **P 11 16 00.8 +4.5**
DRGR 80.56 44 *e*P **P 11 15 56.5 +0.2**
DRGR 80.56 44⇓*i*P P 11 16 00.8 +4.5
NACGM Naroch 80.58 35 *e*P **P 11 15 54.0 -2.2**
PUL Pulkovo 80.77 30 *e*P **P 11 15 58.3 +1.2**
PUL pmax pmax
comp=Z,207nm,1.2s
PUL MLR MLR
comp=Z,2μm,17.0s
BMR Baia Mare 80.82 43 ⇑P P 11 16 02.4 +4.8
BMR Baia Mare 80.82 43⇑*i*P P 11 16 02.4 +4.8
VAH Vaihoa 80.84 251 *e*P P 11 16 04.3 +6.1
comp=Z,138nm,1.1s
CJR Cluj-Napoca 81.17 44 ⇑P P 11 16 04.3 +4.7
CJR Cluj-Napoca 81.17 44⇑*i*P P 11 16 04.3 +4.7
NEST Nestorio 81.22 50 P **P 11 16 00.8 +0.8**
MNK Minsk 81.29 35 *e*P **P 11 15 58.0 -2.0**
MNK *e*S **S 11 26 06.0 -4.5**
MNK pmax pmax
comp=Z,190nm,1.0s
MICGM Minsk 81.32 35⇑*e*P **P 11 15 58.0 -2.1**
FNA Florina 81.36 50 P **P 11 16 00.9 +0.2**
FNA Florina 81.36 50 P **P 11 16 00.9 +0.2**
FNA Florina 81.36 50 P **P 11 16 00.9 +0.2**
PDO Prodromos 81.84 52 P **P 11 16 04.3 +1.1**
BUR08 Bucovina Ar. S 81.92 43 *e*P **P 11 16 02.2 -1.5**
BURAR Bucovina Array 81.94 43 ⇑P **P 11 16 05.4 +1.7**
BURAR Bucovina Array 81.94 43⇑*i*P **P 11 16 05.4 +1.7**
GRG Griva 82.05 50 P **P 11 16 04.9 +0.6**
GRG Griva 82.05 50 P **P 11 16 04.9 +0.6**
GRG Griva 82.05 50 P **P 11 16 04.9 +0.6**
VAY Valandovo 82.06 49 *e*P **P 11 16 03.6 -0.7**
VTS Vitosha 82.14 48 P **P 11 16 01.9 -3.0**
VTS Vitosha 82.14 48 ⇓P P 11 16 10.1 +5.2
VTS Vitosha 82.14 48 *e*P **P 11 16 07.9 +3.0**
VTS Vitosha 82.14 48⇓*i*P P 11 16 10.1 +5.2
VTS Vitosha 82.14 48 P **P 11 16 01.9 -3.0**
THL Klokotos Trika 82.18 51 P **P 11 16 05.8 +0.9**
EVR Evrytania 82.22 52 P **P 11 16 06.5 +1.2**
EVR Evrytania 82.22 52 P **P 11 16 06.5 +1.2**
ARR Arges 82.26 45⇓*i*P P 11 16 10.3 +4.9
KKB Krupnik 82.27 49 *e*P **P 11 16 05.9 +0.5**
MAKR Makrakomi, Fth 82.43 52 P P 11 16 10.0 +3.7
MAKR Makrakomi, Fth 82.43 52 P P 11 16 10.0 +3.7
VOIR 82.52 45 ⇓P P 11 16 11.6 +4.8
VOIR 82.52 45⇓*i*P P 11 16 11.6 +4.8
LAKA Lakka 82.54 52 P **P 11 16 07.2 +0.2**
LAKA Lakka 82.54 52 P **P 11 16 07.2 +0.2**
AGG Agios Georgios 82.57 51 P **P 11 16 08.6 +1.5**
AGG Agios Georgios 82.57 51 P **P 11 16 08.6 +1.5**
AGG Agios Georgios 82.57 51 P **P 11 16 08.6 +1.5**
DOPR Dopca 82.58 44⇓*i*P P 11 16 11.8 +4.8
MTUR Matau 82.59 45 ⇓P **P 11 16 10.0 +2.8**
MTUR Matau 82.59 45⇓*i*P **P 11 16 10.0 +2.8**
HORT Hortiatis 82.66 50 P P 11 16 03.1 -4.5
HORT Hortiatis 82.66 50 P P 11 16 03.1 -4.5
PRAR RASCA 82.67 43⇓*i*P P 11 16 12.1 +4.7
KLV Kalavryta, Ach 82.73 52 P **P 11 16 08.6 +0.6**
KLV Kalavryta, Ach 82.73 52 P **P 11 16 08.6 +0.6**
HUMR Humele 82.76 46⇓*i*P **P 11 16 10.9 +3.0**
SOH Sokhos 82.78 50 P P 11 16 12.0 +3.9
SOH Sokhos 82.78 50 P P 11 16 12.0 +3.9
SOH Sokhos 82.78 50 P P 11 16 12.0 +3.9
MMB Musomiste 82.81 49 ⇑P P 11 16 13.4 +5.1
MMB Musomiste 82.81 49 *e*P **P 11 16 08.8 +0.5**
MMB Musomiste 82.81 49⇑*i*P P 11 16 13.4 +5.1
PGB Panagyurishte 82.82 48 *e*P **P 11 16 08.8 +0.4**
SRS Serrai 82.86 49 P **P 11 16 08.7 +0.2**
SRS Serrai 82.86 49 P **P 11 16 08.7 +0.2**
SRS Serrai 82.86 49 P **P 11 16 08.7 +0.2**
NVR Nevrokopi 82.98 49 P P 11 16 13.8 +4.6
PLG Polygyros 82.98 50 P **P 11 16 10.2 +1.0**
PLG Polygyros 82.98 50 P **P 11 16 10.2 +1.0**
PLG Polygyros 82.98 50 P **P 11 16 10.2 +1.0**
MLR Muntele Rosu 83.10 44⇑*i*P **P 11 16 11.6 +1.8**
PMSA Palmer Station 83.15 176 PFAKE 11 16 20.0 +11
PMSA LR LR
comp=Z,2μm,19.0s
TESR Tescani 83.23 43⇓*i*P **P 11 16 12.5 +2.2**
PLD Plovdiv 83.34 48 *e*P **P 11 16 10.6 -0.3**
KIEV Kiev 83.39 39*c i*P **P 11 16 13.0 +2.0**
KIEV Kiev 83.39 39 *e*P **P 11 16 09.8 -1.2**
comp=Z,183nm,1.6s
KIEV LR LR
comp=Z,8μm,21.0s
AK01 Malin Array Si 83.39 39 *e*P **P 11 16 09.7 -1.3**
AKASG Malin Array Be 83.39 39 P **P 11 16 10.6 -0.4**
AKASG Malin Array Be 83.39 39 P **P 11 16 10.6 -0.4**
AKASG Malin Array Be 83.39 39 P **P 11 16 10.6 -0.4**
comp=Z,35nm,1.0s,baz=277,slow=4.5,SNR=21
AKASG LR LR 11 49 47.8
comp=Z,7μm,20.6s,baz=290,slow=33
AKBB Malin Array Si 83.39 39 *e*P **P 11 16 10.1 -0.9**
AKBB Malin Array Si 83.39 39 *e*P **P 11 16 10.1 -0.9**
AK02 Malin Array Si 83.40 39 *e*P **P 11 16 10.0 -1.1**
PVL Pavlikeni 83.42 47 *e*P **P 11 16 11.8 +0.5**
PPT Papeete 83.43 249 LR LR 11 45 08.4
comp=Z,2μm,20.6s,baz=68,slow=30
PPT2 Papeete2 83.44 249 *e*S **S 11 26 39.0 +5.2**
comp=Z,745nm,24.2s
PPT2 *e*SS **SS 11 32 06.2 +6.3**
comp=Z,3μm,26.8s
PPT2 Papeete2 83.44 249 *e*LR LR 11 42 31.7
comp=Z,12μm,29.0s
PLOR Plostina 83.45 44 ⇑P P 11 16 16.2 +4.7
PLOR Plostina 83.45 44⇑*i*P P 11 16 16.2 +4.7
PAE Paea 83.47 249 *e*P P 11 16 17.6 +5.7
comp=Z,23nm,1.4s
RZN Rozhen 83.48 48 *e*P **P 11 16 12.6 +0.7**
VRI Vrincioaia 83.49 44 ⇓P P 11 16 17.1 +5.4
VRI Vrincioaia 83.49 44 *e*P **P 11 16 12.6 +0.9**
VRI Vrincioaia 83.49 44⇓*i*P P 11 16 17.1 +5.4
MRKA Markates 83.60 51 P P 11 16 23.9 +11
ISR Istrita 83.62 45 ⇑P P 11 16 17.4 +5.0
ISR Istrita 83.62 45⇑*i*P P 11 16 17.4 +5.0
DID Didima 83.72 53 P **P 11 16 14.9 +1.9**
DID Didima 83.72 53 P **P 11 16 14.9 +1.9**
SZH Strazhica 83.82 47 *e*P **P 11 16 14.9 +1.5**
BILL Bilibino 83.87 341α *i*P **P 11 16 13.1 0.0**
BILL *PP **pP 11 16 16.0 -0.6**
BILL *e**SP **sP 11 16 17.6 -0.2**
BILL *i* 11 26 36.2
BILL SS **SS 11 32 08.0 +5.0**
BILL pmax pmax
comp=Z,145nm,1.3s
BILL Bilibino 83.87 341 *e*P **P 11 16 12.9 -0.2**
comp=Z,373nm,1.5s
BILL LR LR
comp=Z,4μm,21.0s
DIM Dimitrovgrad 83.94 48 *e*P **P 11 16 16.2 +2.2**
ADK Adak 83.97 323 PFAKE 11 16 20.0 +6.1
ADK LR LR
comp=Z,4μm,21.0s
KDZ Kurdzhali 83.99 48 ⇓P P 11 16 19.2 +4.9
KDZ Kurdzhali 83.99 48 *e*P P 11 16 17.5 +3.2
KDZ Kurdzhali 83.99 48⇓*i*P P 11 16 19.2 +4.9
RDO Rodhopi 84.24 49 P **P 11 16 16.1 +0.5**
RDO Rodhopi 84.24 49 P **P 11 16 16.1 +0.5**
KIS Kishinev 84.46 42κ *i*P **P 11 16 15.0 -1.6**
KIS *e*S **S 11 26 40.0 -3.1**
KIS pmax pmax
comp=Z,800nm,2.0s
KIS pmax pmax
comp=Z,2μm,4.0s
KIS Kishinev 84.46 42⇓*i*P **P 11 16 15.0 -1.6**
comp=Z,800nm,2.0s
KIS Kishinev 84.46 42 *e*PP PP 11 19 54.0 +23
KIS Kishinev 84.46 42 *e*PPP PPP 11 21 50.0
KIS *e*S **S 11 26 40.0 -3.1**
KLMR Klimovskoe 84.50 27*c i*P **P 11 16 16.2 -0.2**
KLMR *e*S **S 11 26 40.3 -2.6**
KLMR pmax pmax
comp=Z,421nm,1.5s
KLMR pmax pmax
comp=Z,1μm,2.1s
JMB Yambol 84.54 47 P P 11 16 21.5 +4.4
JMB Yambol 84.54 47 P P 11 16 21.5 +4.4
JMB Yambol 84.54 47⇓*i*P P 11 16 23.0 +5.9
JMB Yambol 84.54 47 P P 11 16 21.5 +4.4
ALN Alexandroupoli 84.69 49 P **P 11 16 19.0 +1.2**
ALN Alexandroupoli 84.69 49 P **P 11 16 19.0 +1.2**
ALN Alexandroupoli 84.69 49 P **P 11 16 19.0 +1.2**
NEF NEVSHA 84.74 46 *e*P P 11 16 22.3 +4.2
TLB Topalu 84.80 45 ⇑P **P 11 16 21.3 +3.0**
TLB Topalu 84.80 45⇑*i*P **P 11 16 21.3 +3.0**
PRD Provadia 84.85 46 ⇑P P 11 16 23.3 +4.7
PRD Provadia 84.85 46 *e*P **P 11 16 21.0 +2.4**
PSN Preselentsi 85.22 46 ⇓P **P 11 16 22.9 +2.4**
PSN Preselentsi 85.22 46⇓*i*P **P 11 16 22.9 +2.4**
TBI Tubuai 85.47 244 *e*S **S 11 26 59.5 +5.8**
comp=Z,668nm,26.8s
TBI *e*SS **SS 11 32 36.3 +6.8**
comp=Z,2μm,27.5s
TBI Tubuai 85.47 244 *e*LR LR 11 43 27.0
comp=Z,7μm,23.8s
APE Apeiranthos 85.59 53 *e*P P 11 16 25.8 +3.3
APE pmax pmax
comp=Z,97nm,1.5s
APE MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 85.72 33 P **P 11 16 22.2 -0.5**
comp=Z,905nm,1.4s,SNR=13
OBN Obninsk 85.72 33α*e*P **P 11 16 21.8 -0.9**
OBN *e**PP **PcP 11 16 25.4 -0.1**
OBN *i* 11 16 29.3
OBN *i* 11 19 43.6
OBN *e* 11 26 50.1
OBN *e*PPS PPS 11 27 52.8
OBN SS SS 11 32 35.0 +4.2
OBN pmax pmax
comp=Z,193nm,1.3s
OBN MLR MLR
comp=Z,3μm,19.0s
OBN Obninsk 85.72 33 *e*P **P 11 16 21.7 -0.9**
comp=Z,925nm,1.8s
OBN *e*PP **PP 11 19 44.6 +3.4**
OBN LR LR
comp=Z,3μm,20.0s
SANT Santorini 85.77 53 *e*P **P 11 16 23.6 +0.1**
comp=Z,213nm,1.3s
SANT LR LR
comp=Z,3μm,20.0s
MOS Moscow 85.98 32 *e*P **P 11 16 22.0 -2.0**
MOS *e*S **SKSac 11 26 44.8 -5.1**
MOS pmax pmax
comp=Z,220nm,1.5s
MOS pmax pmax
comp=Z,1μm,3.0s
MOS MLR MLR
comp=Z,3μm,19.0s
PRGR Permogore 86.64 25⇓*i*P **P 11 16 27.9 +0.8**
PRGR pmax pmax
comp=Z,337nm,1.3s
SIM Simferopol' 88.66 43 *e*P P 11 16 42.0 +4.8
SIM *e* 11 27 03.0
SIM *e*S S 11 27 30.0 +6.0
SIM pmax pmax
comp=Z,46nm,1.6s
VOR Voronezh 88.67 35 P **P 11 16 37.0 -0.1**
VOR pmax pmax
comp=Z,300nm,1.4s
VSR Storozhevoye 88.89 36 *e*P **P 11 16 38.6 +0.5**
VSR *e* 11 20 08.5
VSR *e*S **SKSac 11 27 04.9 -2.9**
VSR *e*SS **SS 11 33 15.7 -1.7**
VSR pmax pmax
comp=N,20nm,1.6s
VSR pmax pmax
comp=E,30nm,1.6s
VSR pmax pmax
comp=Z,60nm,1.6s
VSR pmax pmax
comp=E,170nm,3.2s
VSR pmax pmax
comp=Z,220nm,3.2s
VSR smax smax
comp=E,440nm,4.7s
VSR smax smax
comp=Z,120nm,4.3s
VSR smax smax
comp=N,370nm,4.7s
TIXI Tiksi 89.00 353*c i*P **P 11 16 37.2 -1.0**
TIXI pmax pmax
comp=Z,81nm,1.6s
TIXI MLR MLR
comp=Z,6μm,21.0s
TIXI Tiksi 89.00 353 *e*P **P 11 16 37.5 -0.7**
comp=Z,58nm,1.0s
TIXI *e*PP **PP 11 20 08.3 +1.1**
TIXI LR LR
comp=Z,7μm,22.0s
ISP Isparta 89.03 50 *e*P P 11 16 42.5 +3.3
ISP pmax pmax
comp=Z,18nm,1.2s
ISP MLR MLR
comp=Z,4μm,20.0s
ISP Isparta 89.03 50 PFAKE 11 16 50.0 +11
ISP LR LR
comp=Z,4μm,20.0s
VORD Divnogorie 89.08 36 *e*P **P 11 16 39.9 +0.9**
VORD *e*S **SKSac 11 27 06.9 -2.0**
VORD pmax pmax
comp=Z,50nm,1.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,1.6s
VORD pmax pmax
comp=Z,270nm,3.3s
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,150nm,3.1s
VORD smax smax
comp=N,560nm,4.6s
VORD smax smax
comp=E,590nm,4.6s
VORD smax smax
comp=Z,160nm,4.6s
FX1 Attu Island--F 89.13 326 *e*P **P 11 16 38.2 -0.9**
FX1 Attu Island--F 89.13 326 P **P 11 16 40.0 +0.8**
comp=Z,14nm,0.9s,baz=79,slow=5.2,SNR=4.5
ANTO Ankara 89.85 48 *e*P **P 11 16 42.9 -0.1**
ANTO pmax pmax
comp=Z,308nm,1.7s
ANTO MLR MLR
comp=Z,3μm,20.0s
ANTO Ankara 89.85 48 *e*P **P 11 16 42.9 -0.1**
comp=Z,308nm,1.7s
ANTO LR LR
comp=Z,3μm,20.0s
VRHR Novokhopersk 90.30 35 *e*P **P 11 16 46.3 +1.6**
VRHR *e*S **SKSac 11 27 14.4 -1.7**
VRHR *e*SS **SS 11 33 37.2 -0.6**
VRHR pmax pmax
comp=N,50nm,1.4s
VRHR pmax pmax
comp=E,60nm,1.4s
VRHR pmax pmax
comp=Z,90nm,1.4s
VRHR smax smax
comp=N,210nm,3.0s
VRHR smax smax
comp=E,240nm,3.0s

VRHR smax smax
comp=Z,100nm,3.0s
BR131 Keskin Array S 90.51 48 *e*P **P 11 16 45.8 -0.3**
comp=Z,29nm,1.0s
BRTR Keskin Array B 90.51 48 P **P 11 16 45.5 -0.7**
BRTR PP PP 11 20 26.1 +5.6
BRTR PKKPbc **PKKPbc 11 34 14.6 +0.4**
BRTR Keskin Array B 90.51 48 P **P 11 16 45.5 -0.7**
comp=Z,21nm,0.9s,baz=275,slow=2.7,SNR=26
BRTR PP PP 11 20 26.1 +5.6
comp=Z,2.4nm,1.1s,baz=335,slow=5.5,SNR=3.7
BRTR PKKPbc **PKKPbc 11 34 14.6 +0.4**
comp=Z,1.3nm,0.8s,baz=134,slow=3.6,SNR=5.4
BRTR LR LR 11 54 29.0
comp=Z,1μm,21.2s,baz=318,slow=34
SEY Seymchan 91.57 341 ‖ *i*P **P 11 16 50.7 +0.4**
SEY Seymchan 91.57 341 P **P 11 16 50.8 +0.4**
SEY Seymchan 91.57 341 P **P 11 16 50.8 +0.4**
comp=Z,28nm,1.1s,baz=73,slow=3.8,SNR=14
SOKR Solikamsk 92.22 23 *e*P P 11 16 57.5 +4.1
SOKR pmax pmax
comp=Z,130nm,1.5s
CSS Prodhromos 92.24 52 PFAKE 11 17 00.0 +5.9
CSS LR LR
comp=Z,394nm,20.0s
SOC Sochi 92.87 42 *e*P P 11 17 00.5 +3.7
SOC *e* 11 20 39.3
SOC *e* 11 27 33.7
SOC *e*SS SS 11 34 22.5 +7.3
SOC pmax pmax
comp=Z,46nm,1.0s
SOC pmax pmax
comp=Z,577nm,3.2s
RAR Rarotonga 93.71 249 LR LR 11 49 51.7
comp=Z,2μm,20.5s,baz=83,slow=30
GOF Gofitskoye 94.20 40 *e*P P 11 17 07.8 +4.9
GOF pmax pmax
comp=Z,30nm,1.5s
KIV Kislovodsk 94.55 41 *e*P **P 11 17 06.8 +2.1**
KIV *e* 11 20 59.7
KIV *e* 11 27 41.9
KIV *e*SS SS 11 34 45.7 +6.3
KIV *e*SSS SSS 11 38 28.4
KIV pmax pmax
comp=Z,25nm,1.1s
KIV pmax pmax
comp=Z,150nm,4.4s
KIV MLR MLR
comp=Z,4μm,20.0s
KIV Kislovodsk 94.55 41 *e*P **P 11 17 03.0 -1.7**
comp=Z,48nm,1.4s
KIV LR LR
comp=Z,4μm,20.0s
KBZ Khabaz 94.80 41 P **P 11 17 04.3 -1.4**
KBZ Khabaz 94.80 41 P **P 11 17 04.3 -1.4**
KBZ Khabaz 94.80 41 P **P 11 17 04.3 -1.4**
comp=Z,2.1nm,0.5s,baz=313,slow=4.8,SNR=3.4
KBZ LR LR 11 56 20.2
comp=Z,5μm,21.7s,baz=286,slow=33
NEY Neytrino 94.93 41 *i* P P 11 17 10.0 +3.4
NEY pmax pmax
comp=Z,18nm,1.6s
NEY MLR MLR
comp=Z,7μm,21.0s
ARU Arti 95.09 25 P **P 11 17 06.9 +0.2**
comp=Z,184nm,2.2s,SNR=10
ARU Arti 95.09 25*d i*P **P 11 17 08.0 +1.3**
ARU 11 20 59.5
ARU PPP PPP 11 22 55.4
ARU S **SKSac 11 27 44.0 +1.4**
ARU PS **PS 11 29 38.4 -0.7**
ARU pmax pmax
comp=Z,38nm,1.2s
ARU Arti 95.09 25 *e*P **P 11 17 06.0 -0.7**
comp=Z,252nm,2.0s
ARU LR LR
comp=Z,4μm,21.0s
SVE Sverdlovsk 95.62 24 *e*P P 11 17 05.9 -3.2
SVE *e*S SKSac 11 27 36.7 -8.6
SVE *e*SS **SS 11 34 53.2 -0.2**
SVE pmax pmax
comp=Z,68nm,1.9s
SVE MLR MLR
comp=Z,3μm,20.0s
ONI Oni 95.73 42 P P 11 17 15.7 +5.6
ONI S **SKSac 11 27 51.4 +4.8**
ZEI Tsey 95.91 41 *e*P **P 11 17 11.8 +0.7**
ZEI pmax pmax
comp=Z,28nm,1.5s
PET Petropavlovsk 96.17 332 *e*P P 11 17 17.8 +6.1
PET *e* 11 21 04.5
PET *e* 11 27 49.0
PET *e*S **S 11 28 30.4 -0.6**
PET *e*PS **PS 11 29 58.1 +7.2**
PET *e*PPS PPS 11 30 30.8
PET *e*SS **SS 11 35 02.9 +1.5**
PET pmax pmax
comp=Z,200nm,15.3s
PET pmax pmax
comp=Z,300nm,15.1s
PET MLR MLR
comp=Z,3μm,20.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 96.17 332 PFAKE 11 17 20.0 +8.3
PET LR LR
comp=Z,3μm,22.0s
TSUM Tsumeb 96.28 108 P **P 11 17 12.5 -0.5**
comp=Z,19nm,1.3s
TSUM LR LR
comp=Z,2μm,22.0s
AKH Akhalkalaki 96.37 43 S **SKSac 11 27 53.4 +3.1**
PETK Petropavlovsk- 96.54 332 P **P 11 17 14.3 +0.9**
PETK Petropavlovsk- 96.54 332 P **P 11 17 14.3 +0.9**
PETK Petropavlovsk- 96.54 332 P **P 11 17 14.3 +0.9**
comp=Z,3.4nm,0.9s,baz=52,slow=9.3,SNR=3.0
PETK LR LR 12 03 59.7
comp=Z,2μm,20.1s,baz=53,slow=38
TBLG Delisi 97.00 42 P **P 11 17 16.7 +0.9**
TBLG S **SKSac 11 27 59.4 +6.1**
GNI Garni 97.83 43 *e*P **P 11 17 18.9 -0.9**
comp=Z,45nm,1.3s
GNI *e*PP **PP 11 21 18.4 +0.9**
GNI LR LR
comp=Z,3μm,20.0s
YAK Yakutsk 97.90 349 *e*P Pdif 11 17 21.0 +1.6
YAK *e* 11 21 19.3
YAK *e*PPP PPP 11 23 24.3
YAK *e*S **SKSac 11 27 55.8 -1.1**
YAK *e* 11 28 45.4
YAK *e*SS **SS 11 35 24.7 -0.4**
YAK *e*SSS SSS 11 39 16.4
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=Z,132nm,2.6s
YAK pmax pmax
comp=N,50nm,2.5s
YAK pmax pmax
comp=E,79nm,2.9s
YAK smax smax
comp=N,112nm,3.5s
YAK smax smax
comp=E,146nm,3.3s
YAK MLR MLR
comp=Z,4μm,19.0s
YAK MLR MLR
comp=N,3μm,18.0s
YAK MLR MLR
comp=E,1μm,17.0s
YAK Yakutsk 97.90 349 PFAKE 11 17 30.0 +11
YAK LR LR
comp=Z,3μm,19.0s
MAK Makhachkala 98.05 40 *e*P **P 11 17 17.7 -2.7**
MAK *e*S **SKSac 11 27 52.7 -5.7**
MAK pmax pmax
comp=E,331nm,1.0s
MAK pmax pmax
comp=Z,263nm,3.2s
MAK pmax pmax
comp=Z,654nm,1.9s
MAK pmax pmax
comp=N,648nm,1.7s
MAK smax smax
comp=E,3μm,7.6s
MAK MLR MLR
comp=Z,3μm,18.0s
MAK MLR MLR
comp=E,2μm,17.0s
MAK MLR MLR
comp=N,4μm,17.0s
AKTO Aktyubinsk 99.02 29 P **Pdif 11 17 23.9 -0.8**
AKTO 11 21 27.8
AKTO Aktyubinsk 99.02 29 P **Pdif 11 17 23.9 -0.8**
AKTO PP **PP 11 21 27.8 +1.8**
AKTO Aktyubinsk 99.02 29 P **Pdif 11 17 23.9 -0.8**
comp=N,0.4nm,0.3s,baz=291,slow=3.5,SNR=2.8
AKTO PP **PP 11 21 27.8 +1.8**
comp=N,3.2nm,1.0s,baz=342,slow=11,SNR=2.7
AKTO LR LR 11 58 57.8
comp=N,578nm,21.9s,baz=312,slow=34
ABKAR Akbulak array 100.74 29 *e*Pdif **Pdif 11 17 32.0 -0.4**
comp=N,15nm,1.3s
BRVK Borovoye 102.07 22 P **Pdif 11 17 35.9 -2.2**
BRVK pmax pmax
comp=Z,27nm,1.6s
BRVK MLR MLR
comp=Z,3μm,20.0s
BRVK Borovoye 102.07 22 Pdif **Pdif 11 17 35.9 -2.2**
comp=Z,27nm,1.6s
BRVK LR LR
comp=Z,3μm,20.0s
BVAR Borovoye Array 102.13 22 P **Pdif 11 17 39.5 +1.0**
BVAR 11 21 50.8
BVAR Borovoye Array 102.13 22 P **Pdif 11 17 39.5 +1.0**
BVAR PP **PP 11 21 50.8 +1.5**
BVAR Borovoye Array 102.13 22 P **Pdif 11 17 39.5 +1.0**
comp=Z,1.2nm,0.9s,baz=306,slow=3.2,SNR=5.2
BVAR PP **PP 11 21 50.8 +1.5**
comp=Z,1.6nm,0.9s,baz=316,slow=6.0,SNR=3.8
AFI Afiamalu 102.57 259 PFAKE 11 17 50.0 +8.9
AFI LR LR
comp=Z,3μm,20.0s
SUR Sutherland 102.62 120 PFAKE 11 17 50.0 +8.8
SUR LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 104.29 14 *e* **PKiKP 11 22 02.5 -2.0**
NVS pmax pmax
comp=Z,19nm,1.8s
NVS pmax pmax
comp=Z,19nm,1.8s
LSZ Lusaka 104.94 101 PFAKE 11 18 00.0 +8.3
LSZ LR LR
comp=Z,2μm,22.0s
ZAA0 Zalesovo Array 105.48 13 *e*PKPdf PKiKP 11 22 12.9 +6.1
ZALV Zalesovo Beam 105.48 13 P **Pdif 11 17 55.9 +2.6**
ZALV 11 22 16.9
ZALV Zalesovo Beam 105.48 13 Pdif **Pdif 11 17 55.9 +2.6**
ZALV PP **PP 11 22 16.9 +2.9**
ZALV Zalesovo Beam 105.48 13 Pdiff **Pdif 11 17 55.9 +2.6**
comp=Z,0.9nm,0.6s,baz=331,slow=5.6,SNR=6.5
ZALV PP **PP 11 22 16.9 +2.9**
comp=Z,2.1nm,0.9s,baz=353,slow=11,SNR=5.4
KURK Kurchatov 106.79 18 P **Pdif 11 18 03.0 +3.8**
KURK MLR MLR
comp=Z,2μm,22.0s
KURK Kurchatov 106.79 18 Pdif **Pdif 11 18 03.0 +3.8**
KURK LR LR
comp=Z,2μm,22.0s
KURBB Kurchatov Arra 106.84 19 Pdiff **Pdif 11 18 03.0 +3.6**
comp=Z,1.4nm,1.0s,baz=330,slow=5.0,SNR=8.4
YSS Yuzh-Sakhalins 107.50 335 PFAKE 11 22 20.0
YSS LR LR
comp=Z,2μm,19.0s
QSPA South Pole Qui 108.30 180 PFAKE 11 22 20.0
QSPA LR LR
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 109.44 85 PFAKE 11 22 30.0
KMBO LR LR
comp=Z,2μm,21.0s
ASAJ Asahikawa 109.87 334 PP PP 11 22 44.7 -1.9
ASAJ Asahikawa 109.87 334 PP PP 11 22 44.7 -1.9
comp=Z,12nm,1.0s,baz=304,slow=3.6,SNR=3.8
TLY Talaya 110.19 2 *e*P **Pdif 11 18 22.6 +8.2**
TLY *e* 11 28 49.1
TLY *e*SS SS 11 38 17.3 +3.3
TLY pmax pmax
comp=Z,8.0nm,2.3s
TLY MLR MLR
comp=Z,5μm,26.0s
TLY Talaya 110.19 2 Pdif **Pdif 11 18 11.8 -2.6**
TLY LR LR
comp=Z,3μm,22.0s
ERM Erimo 111.32 332 PFAKE 11 22 30.0
ERM LR LR
comp=Z,3μm,22.0s
MKAR Makanchi Array 111.39 18 PP PP 11 22 57.3 0.0
MKAR PKKPbc **PKKPbc 11 33 14.8 +0.4**
MKAR PKKPab **PKKPab 11 33 25.2 -0.1**
MKAR Makanchi Array 111.39 18 PP PP 11 22 57.3 0.0
comp=Z,1.0nm,0.7s,baz=0.0,slow=4.3,SNR=3.8
MKAR PKKPbc **PKKPbc 11 33 14.8 +0.4**
comp=Z,0.7nm,0.8s,baz=182,slow=3.4,SNR=4.8
MKAR PKKPab **PKKPab 11 33 25.2 -0.1**
comp=Z,1.3nm,0.8s,baz=142,slow=6.1,SNR=7.3
RAO Raoul Island 111.57 245 PFAKE 11 22 30.0
RAO LR LR
comp=Z,2μm,19.0s
HIA Hailar 111.75 351 PFAKE 11 22 30.0
HIA LR LR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 111.95 26 PFAKE 11 22 30.0
EKS2 LR LR
comp=Z,5μm,20.0s
FRU Bishkek 112.15 25 *e*PKIKP PKiKP 11 22 28.8 +9.1
FRU *i* 11 23 08.0
AAK Ala-Archa 112.27 25 *i* PKIKP **PKiKP 11 22 24.8 +4.7**
AAK MLR MLR
comp=Z,13μm,21.0s
AAK Ala-Archa 112.27 25 PFAKE 11 22 30.0
AAK LR LR
comp=Z,5μm,20.0s
TKM2 Tokmak 2 112.47 25 *e*PKIKP **PKiKP 11 22 17.8 -2.7**
TKM2 *e* 11 23 06.1
TKM2 MLR MLR
comp=Z,4μm,21.0s
TKM2 Tokmak 2 112.47 25 *e*PKPdf **PKiKP 11 22 17.8 -2.7**
TKM2 *e*PP **PP 11 23 06.1 +0.6**
TKM2 LR LR
comp=Z,4μm,21.0s
MSVF Nonsavu 113.00 258 PFAKE 11 22 30.0
MSVF LR LR
comp=Z,4μm,20.0s
MDJ Mudanjiang 114.06 343 Pdif **Pdif 11 18 31.6 -0.1**
MDJ LR LR
comp=Z,3μm,23.5s
MDJ LR LR
comp=Z,2μm,20.2s
MDJ LR LR
comp=Z,4μm,22.9s
MDJ Mudanjiang 114.06 343 PFAKE 11 22 30.0 +6.8
MDJ LR LR
comp=Z,5μm,20.0s
SBA Scott Base 114.06 192 PFAKE 11 22 30.0 +7.9
SBA LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 114.08 0 PFAKE 11 22 30.0 +6.6
ULN LR LR
comp=Z,5μm,22.0s
SONM Songino Array 114.11 1 PKP PKPdf 11 22 21.3 -2.1
SONM PP **PP 11 23 17.0 +0.3**
SONM PKKPbc **PKKPbc 11 33 06.5 +0.9**
SONM Songino Array 114.11 1 PKP PKPdf 11 22 21.3 -2.1
comp=Z,0.2nm,0.4s,baz=347,slow=6.1,SNR=4.5
SONM PP **PP 11 23 17.0 +0.3**
comp=Z,1.2nm,0.9s,baz=326,slow=4.2,SNR=3.7
SONM PKKPbc **PKKPbc 11 33 06.5 +0.9**
comp=Z,2.4nm,0.9s,baz=177,slow=3.7,SNR=7.3
SYO Syowa Base 115.01 158‖ *e*P PP 11 23 18.0 -5.5
KSH Kashi 115.48 26 *e*PKP **PKPdf 11 22 25.1 -1.2**
KSH PP **PP 11 23 30.3 +3.5**
KSH *e*SKS **SKSdf 11 29 32.0 -6.8**
KSH *e*SKKS SKKSac 11 30 19.3 -10
KSH LR LR
comp=Z,2μm,19.2s
KSH LR LR
comp=Z,2μm,19.0s
KSH LR LR
comp=Z,3μm,19.3s
WMQ Urumqi 115.61 15 PKP **PKPdf 11 22 26.4 +0.1**
WMQ sPKP 11 22 31.4
WMQ PP PP 11 23 32.9 +5.6
WMQ PKS **PKSdf 11 26 01.8 -1.2**
WMQ SKS **SKSdf 11 29 37.4 -1.3**
WMQ SKKS **SKKSac 11 30 25.4 -4.8**
WMQ SS **SS 11 39 30.5 +4.3**
WMQ LR LR
comp=Z,5μm,27.0s
WMQ LR LR
comp=Z,3μm,22.5s
WMQ LR LR
comp=Z,4μm,30.1s
CN2 Changchun 115.90 345 *e*Pdif **Pdif 11 18 41.3 +1.4**
CN2 *e*PP PP 11 23 35.3 +6.1
CN2 *e*S **Sdif 11 31 14.0 -2.8**
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,3μm,18.0s
URZ Urewera 116.68 236 PKP **PKPdf 11 22 30.3 +2.0**
URZ Urewera 116.68 236 PKP **PKPdf 11 22 30.3 +2.0**
comp=Z,9.3nm,0.9s,baz=40,slow=13,SNR=1.9
MAJO Matsushiro 118.00 332 PFAKE 11 22 40.0 +8.9
MAJO LR LR
comp=Z,2μm,21.0s
SNY Shenyang 118.21 346 *e*Pdif **Pdif 11 18 41.3 -8.9**
SNY PP PP 11 23 31.0 -14
SNY Shenyang 118.21 346 SS SS 11 39 56.3 -3.5
SNY AMB AMB
comp=Z,310nm,3.6s
SNY LR LR
comp=N,2μm,22.3s
SNY LR LR
comp=E,2μm,19.6s
SNY LR LR
comp=Z,3μm,22.2s
SNZO South Karori 118.61 232 PFAKE 11 22 40.0 +8.1
SNZO LR LR
comp=Z,3μm,21.0s
HHC Hu-ho-hao-te 120.95 356 *e*PKP **PKPdf 11 22 31.9 -4.8**
HHC sPKP 11 22 41.6
HHC PP **PP 11 24 03.8 -0.4**
HHC SKKS 11 30 55.6
HHC AMB AMB
comp=Z,620nm,7.3s
HHC LR LR
comp=Z,9μm,26.0s
KSRS Korea Array 121.13 341 PKP **PKPdf 11 22 37.4 +0.4**
comp=Z,2.1nm,0.8s,baz=24,slow=2.3,SNR=5.2
KSAR Wonju Array Be 121.15 341 PKP **PKPdf 11 22 37.4 +0.4**
BJI Beijing 121.29 352 PKP **PKPdf 11 22 36.6 -0.6**
BJI PP **PP 11 24 08.8 +2.4**
BJI SS SS 11 40 44.1 +4.7
BJI AMB AMB
comp=Z,240nm,7.1s
BJI LR LR
comp=Z,2μm,22.6s
BJI LR LR
comp=Z,2μm,25.8s
BJI LR LR
comp=Z,4μm,27.6s
BJT Baijiatuau 121.32 352 PFAKE 11 22 50.0 +13
BJT LR LR
comp=Z,3μm,20.0s
DL2 Dalian 121.44 347 *e*PKP **PKPdf 11 22 39.6 +2.1**
DL2 PP PP 11 24 15.8 +8.3
DL2 LR LR
comp=Z,2μm,20.1s
DL2 LR LR
comp=Z,2μm,18.6s
INCN Inchon 121.50 342 PFAKE 11 22 50.0 +12
INCN LR LR
comp=Z,4μm,22.0s
DHRM DHARAMSHALA 121.65 31 *e*P **PKPdf 11 22 36.1 -2.3**
DHRM AMS AMS 12 23 03.9
comp=Z,2μm,19.5s
GTA Gaotai 122.13 7 *e*PKP **PKPdf 11 22 41.0 +1.9**
GTA PP PP 11 24 21.3 +9.0
GTA SKS **SKSdf 11 29 51.8 +0.3**
GTA AMB AMB
comp=Z,290nm,7.4s
GTA LR LR
comp=Z,3μm,23.7s
GTA LR LR
comp=Z,3μm,19.5s
GTA LR LR
comp=Z,5μm,23.3s
SMLA Simla 122.99 31 *e*P **PKPdf 11 22 38.2 -2.6**
SMLA AMB AMB 11 24 21.4
comp=Z,17nm,0.9s
SMLA AMS AMS 12 13 25.8
comp=Z,3μm,17.2s
MAW Mawson 123.36 161 PKP **PKPdf 11 22 40.2 0.0**
MAW Mawson 123.36 161 PKP **PKPdf 11 22 40.2 0.0**
comp=Z,7.3nm,0.8s,baz=194,slow=4.2,SNR=2.5
ABPO Ambohimpanom 123.50 101 PFAKE 11 22 50.0 +7.8
ABPO LR LR
comp=Z,1μm,19.0s
DZM Mont Dzumac 124.51 255 *e*PP PP 11 24 32.7 +2.2
comp=Z,301nm,26.0s
DZM Mont Dzumac 124.51 255 *e*SS SS 11 41 31.8 +7.3
comp=Z,2μm,32.8s
DZM Mont Dzumac 124.51 255 *e*LQ LQ 11 56 18.2
comp=Z,1μm,39.1s
DZM *e*LR LR 12 01 34.6
comp=Z,3μm,23.8s
BHJ Bhuj 124.77 43 *e*P **PKPdf 11 22 41.4 -3.0**
LZH Lanzhou 125.76 3 *e*PKP **PKPdf 11 22 45.1 -1.1**
LZH sPKP 11 22 50.6
LZH PP **PP 11 24 39.5 +2.7**
LZH SKS **SKSdf 11 29 55.6 -2.9**
LZH SKKS **SKKSac 11 31 30.0 -6.9**
LZH SS **SS 11 41 33.5 -2.8**
LZH AMB AMB
comp=Z,650nm,8.6s
LZH LR LR
comp=Z,5μm,20.3s
MSEY Mahe Island 127.78 82 PFAKE 11 23 00.0 +10
MSEY LR LR
comp=Z,2μm,22.0s
XAN Xi'an 127.87 358 PKP **PKPdf 11 22 48.8 -1.3**
XAN PP **PP 11 24 50.6 0.0**
XAN PKS **PKSdf 11 26 21.8 -5.0**
XAN SKS **SKSdf 11 29 59.1 -3.1**
XAN SKKS SKKSac 11 31 41.8 -8.2
XAN LR LR
comp=Z,3μm,21.1s
XAN LR LR
comp=Z,2μm,22.0s
XAN LR LR
comp=Z,1μm,23.9s
HNR Honiara 128.12 272 PFAKE 11 23 00.0 +9.1
HNR LR LR
comp=Z,298nm,20.0s
NJ2 Nanjing 128.63 347 *e*PKP **PKPdf 11 22 46.8 -4.7**
NJ2 LR LR
comp=Z,2μm,25.8s
NJ2 LR LR
comp=Z,3μm,22.8s
NJ2 LR LR
comp=Z,2μm,24.9s
SSE Sheshan 129.01 344 PKP **PKPdf 11 22 53.1 +0.8**
SSE PP **PP 11 25 01.4 +3.3**
SSE SS SS 11 42 18.9 +2.3
SSE LR LR
comp=Z,3μm,24.8s
SSE LR LR
comp=Z,2μm,24.8s
SSE LR LR
comp=Z,4μm,22.4s
BHPL Bhopal 129.49 36 *e*P **PKPdf 11 22 52.1 -1.4**
BHPL AMS AMS 12 16 45.8
comp=Z,2μm,23.1s
LSA Lhasa 129.80 18 PKP **PKPdf 11 22 53.8 -0.6**
LSA Lhasa 129.80 18 *e*PKIKP **PKPdf 11 22 54.3 -0.1**
LSA *e* 11 25 00.5
LSA MLR MLR
comp=Z,3μm,22.0s
LSA Lhasa 129.80 18 *e*PKPdf **PKPdf 11 22 54.3 -0.1**
LSA *e*PP **PP 11 25 00.5 -3.4**
LSA LR LR

comp=Z,3µm,22.0s
POO Poona 130.88 44 *e*P **PKPdf** 11 22 54.5 **-1.7**
CD2 Chengdu 130.91 4 *e*PKP **PKPdf** 11 22 58.8 **+2.8**
CD2 PP **PP** 11 25 14.0 **+3.6**
CD2 SKS **SKSdf** 11 30 04.3 **-3.6**
CD2 SKKS **SKKSac** 11 32 03.3 **-5.7**
CD2 AMB AMB
comp=Z,550nm,10.1s
CD2 LR LR
comp=Z,2µm,20.2s
CD2 LR LR
comp=Z,3µm,20.2s
CD2 LR LR
comp=Z,3µm,20.2s
ENH Enshi 131.60 357 PFAKE 11 23 10.0 +13
ENH LR LR
comp=Z,93nm,21.0s
CASY Casey 132.06 182 PFAKE 11 23 10.0 +13
CASY LR LR
comp=Z,2µm,22.0s
GOA Goa 133.01 46 *e*P **PKPdf** 11 22 59.5 **-0.7**
BOK Bokaro 133.25 27 *e*P **PKPdf** 11 23 00.4 **-0.1**
SHL Shillong 133.89 19 *e*PKP **PKPdf** 11 23 01.0 **-0.9**
SHL *ex* x 11 25 25.0
HYB Hyderabad 134.68 40 *e*P **PKPdf** 11 23 03.3 **0.0**
TATO Taipei 134.71 342 PFAKE 11 23 10.0 +6.8
TATO LR LR
comp=Z,3µm,22.0s
YHNB Yeheng 135.03 342 PFAKE 11 23 20.0 +16
YHNB LR LR
comp=Z,2µm,21.0s
QZH Quanzhou 135.53 345 PKP **PKPdf** 11 23 00.1 **-4.6**
QZH PP **PP** 11 25 39.3 **-0.8**
QZH PKS PKSdf 11 26 35.1 -6.1
QZH LR LR
comp=Z,6µm,19.6s
KMI Kunming 136.57 6 PKP **PKPdf** 11 23 06.1 **-0.9**
KMI PP **PP** 11 25 48.4 **+1.6**
KMI PKS **PKSdf** 11 26 41.3 **-2.3**
KMI SKS **SKSdf** 11 30 13.8 **-4.7**
KMI LR LR
comp=Z,3µm,22.7s
KMI LR LR
comp=Z,2µm,22.7s
KMI LR LR
comp=Z,4µm,22.9s
VIS Vishakhapatnam 137.18 34 *e*P **PKPdf** 11 23 06.2 **-1.7**
TAU Tasmania Unive 138.19 225 PFAKE 11 23 20.0 +11
TAU LR LR
comp=Z,3µm,21.0s
CAN Canberra 139.34 237 PFAKE 11 23 20.0 +8.5
CAN LR LR
comp=Z,2µm,21.0s
PMG Port Moresby 140.21 277 PFAKE 11 23 30.0 +16
PMG LR LR
comp=Z,1µm,21.0s
SLVN Son La 140.43 5 *e*PKPdf **PKPdf** 11 23 13.5 **-0.5**
SLVN *e*SKPdf **SKPdf** 11 26 45.0 **-3.9**
RMQ Roma 140.81 250 P **PKPdf** 11 23 16.9 **+2.5**
baz=141,SNR=7.0
TOO Toolangi 141.43 232 P PKPdf 11 23 21.3 +6.1
baz=142,SNR=3.6
CHTO Chiang Mai 142.19 13 PFAKE 11 23 30.0 +13
CHTO LR LR
comp=Z,2µm,21.0s
CMAR Chiang Mai Arr 142.54 13 PKPpre PKPpre 11 23 14.7
CMAR PP **PP** **11 26 24.0 +0.6**
CMAR Chiang Mai Arr 142.54 13 PKhKP PKPpre 11 23 14.7
comp=Z,5.9nm,0.9s,baz=322,slow=4.6,SNR=11
CMAR PP **PP** **11 26 24.0 +0.6**
comp=Z,1.0nm,0.4s,baz=325,slow=6.3,SNR=4.1
QIZ Qiongzhong 142.75 356 PKP **PKPdf** **11 23 13.1 -4.9**
QIZ PP **PP** **11 26 24.4 -0.1**
QIZ SS SS 11 45 01.1 +0.2
QIZ LR LR
comp=Z,2µm,20.2s
QIZ LR LR
comp=Z,580nm,22.4s
QIZ LR LR
comp=Z,4µm,22.6s
QIZ Qiongzhong 142.75 356 PFAKE 11 23 30.0 +12
QIZ LR LR
comp=Z,5µm,21.0s
CMSA Cobar Meteorol 142.85 242 P **PKPdf** **11 23 18.5 +0.7**
baz=143,SNR=11
CTA Charters Tower 143.07 261 PKPpre PKPpre 11 23 14.8
CTA Charters Tower 143.07 261 PKhKP PKPpre 11 23 14.8
comp=Z,15nm,1.0s,baz=298,slow=5.2,SNR=4.7
CTAO Charters Tower 143.07 261 *e*PKhKP PKPab 11 23 14.2 +0.3
CTAO MLR MLR
comp=Z,2µm,21.0s
CTAO Charters Tower 143.07 261 *e*PKPdf PKPab 11 23 14.2 +0.3
CTAO LR LR
comp=Z,2µm,21.0s
JAY Jayapura 143.53 292 P **PKPdf** **11 23 23.3 +3.7**
baz=144,SNR=4.0
ARPS Mount Arapiles 144.44 232 P **PKPdf** **11 23 22.0 +1.6**
baz=144,SNR=11
DGAR Diego Garcia 144.56 77 PFAKE 11 23 30.0 +8.7
DGAR LR LR
comp=Z,2µm,20.0s
TGY Tagaytay City 144.99 336 PKP **PKPab** **11 23 20.9 -0.4**
TGY Tagaytay City 144.99 336 PKP **PKPab** **11 23 20.9 -0.4**
comp=Z,82nm,0.3s,baz=169,slow=5.2,SNR=3.3
COEN Coen 145.14 272 *e*PKPbc **PKPbc** **11 23 21.4 -0.4**
DGPR DIGLIPUR 145.68 25 *e*P **PKPdf** **11 23 22.4 -0.8**
STKA Stephens Creek 146.17 240 *e*PKPdf **PKPdf** **11 23 23.5 -0.1**
STKA PKPbc **PKPdf** **11 23 23.8 +0.2**
STKA Stephens Creek 146.17 240 PKPbc **PKPdf** **11 23 23.8 +0.2**
comp=Z,14nm,0.9s,baz=105,slow=4.5,SNR=16
STKA Stephens Creek 146.17 240 P **PKPdf** **11 23 23.9 +0.2**
baz=146,SNR=15
PBA Port Blair 146.97 27 *e*P PKPdf 11 23 24.2 -1.2
HTT Hallett 147.86 236 P **PKPab** **11 23 30.7 -1.2**
baz=148,SNR=6.5
CGP Cagayan de Oro 148.21 325j *e*P **PKPbc** **11 23 30.6 -0.1**
DAV Davao City (W) 148.86 323 PFAKE 11 23 40.0 +3.8
DAV LR LR
comp=Z,2µm,22.0s
CTBH Cotabato--PC H 149.48 325j *i*P **PKPbc** **11 23 32.6 -1.4**
BBOO Buckleboo 150.32 235 *e*PKPbc **PKPbc** **11 23 35.5 -0.1**
BBOO *e*PKPab **PKPab** **11 23 41.7 -0.1**
BBOO Buckleboo 150.32 235 P **PKPbc** **11 23 35.1 -0.5**
baz=150,SNR=10
CMBY CAMPBELL BAY 151.62 28 *e*P **PKPdf** **11 23 31.3 -1.6**
KKM Kota Kinabalu 154.15 339 PFAKE 11 23 50.0 +5.1
KKM LR LR
comp=Z,2µm,21.0s
WRAB Tennant Creek 154.25 262 *e*PKIKP **PKPdf** **11 23 36.3 -0.3**
WRAB MLR MLR
comp=Z,2µm,22.0s
WRAB Tennant Creek 154.25 262 *e*PKPdf **PKPdf** **11 23 36.3 -0.3**
WRAB *e*PKPbc **PKiKP** **11 23 46.0 +1.1**
WRAB LR LR
comp=Z,2µm,22.0s
WRA Warramunga Arr 154.26 262 PKP **PKPdf** **11 23 35.8 -0.8**
WRA PKPbc **PKiKP** **11 23 46.0 +1.2**
WRA Warramunga Arr 154.26 262 PKP **PKPdf** **11 23 35.8 -0.8**
comp=Z,6.7nm,1.0s,baz=80,slow=1.4,SNR=7.8
WRA PKPbc **PKiKP** **11 23 46.0 +1.2**
comp=Z,20nm,0.8s,baz=90,slow=3.2,SNR=11
AS31 Alice Springs 154.47 253 *e*PKPdf **PKPdf** **11 23 35.5 -1.3**
ASAR Alice Springs 154.47 253 PKP **PKPdf** **11 23 36.1 -0.7**
ASAR PKPbc **PKiKP** **11 23 47.0 +1.8**
ASAR Alice Springs 154.47 253 PKP **PKPdf** **11 23 36.1 -0.7**
comp=Z,3.0nm,0.9s,baz=115,slow=1.9,SNR=13
ASAR PKPbc **PKiKP** **11 23 47.0 +1.8**
comp=Z,17nm,1.2s,baz=103,slow=1.9,SNR=19
KULM Kulim 155.65 16 PFAKE 11 23 50.0 +11
KULM LR LR
comp=Z,3µm,20.0s
LUWI Luwuk 156.93 317 PKPdf **PKPdf** **11 23 40.0 -0.4**
PSI Prapat 157.47 22 PKPab **PKPab** **11 24 12.2 -0.4**
PSI Prapat 157.47 22 PKPab **PKPab** **11 24 12.2 -0.4**
comp=Z,58nm,0.8s,baz=299,slow=4.4,SNR=14
PSI Prapat 157.47 22 P **PKPdf** **11 23 42.3 +1.1**
baz=157,SNR=3.2
WRKA Warakurna 159.25 248 P PKPdf 11 23 36.0 -7.0
baz=159,SNR=3.9
KSM Kuching 160.04 351 PFAKE 11 23 50.0 +5.9
KSM LR LR
comp=Z,2µm,21.0s
KAPI Kappang 161.89 316 PFAKE 11 24 00.0 +14
KAPI LR LR
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 162.89 210 PKPab **PKPab** **11 24 36.4 +0.9**
NWAO Narrogin (SRO) 162.89 210 PKPab **PKPab** **11 24 36.4 +0.9**
comp=Z,16nm,0.9s,baz=127,slow=8.4,SNR=3.0
WSI Waingapu 164.59 302 P PKPdf 11 24 00.7 +12
baz=164,SNR=8.4
MBWA Marble Bar 167.81 255 PFAKE 11 24 00.0 +9.0
MBWA LR LR
comp=Z,2µm,22.0s
SMRI Semarang 168.30 344 P **PKPdf** **11 23 48.5 -3.0**
baz=168,SNR=3.6
COCO West Island 168.33 60 PFAKE 11 24 00.0 +8.6
COCO LR LR
comp=Z,2µm,21.0s

*IDC **20** 11:16:06.7±4.1,5°53.5′S×131°09.1′E,h0km,mb3.9/1, mb1 4.2/3,mb1mx3.7/18,mbtmp4.0/3,ML4.1/2,Error ellipse: s-maj=312.0km s-min=30.1km az=72.0*
*ISCJB **20** 11:16:10.6±0.5,5°47.5′±0.03′×131°47.6′±0.06′,h54km, mb3.9/1, Error ellipse: s-maj=8.5km s-min=5.0km az=175.8*
*DJA **20** 11:16:13.6±0.4,5°5′±4′×13°1′E±°,h69km±23km, M4.4/7, mb4.6/5,mB5.1/3,MLv4.3/7,Mw(mB)4.4/3*
ISC 20 11:16:11.9±0.8,5°43′S±0.06′×131°45′E±0.07′,h54km,n23, σ2s32/23,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.78**	**300**	P	**Pn**	**11 16 41.4**	**+1.0**
SAUI	**Saumlaki**	**2.54**	**183**	P	Pn	11 16 55.0	+4.2
FAKI	**Fak Fak**	**2.62**	**18**	P	**Pn**	**11 16 52.0**	**+0.2**
FAKI	**Fak Fak**	**2.62**	**18**	P	**Pn**	**11 16 52.0**	**+0.2**
	baz=2.7,SNR=90						
FAKI				S	**Sn**	**11 17 20.8**	**-1.6**
	baz=2.7,SNR=8.3						
MSAI	**Masohi**	**3.25**	**309**	P	Pn	11 16 54.6	-5.9
SWI	**Sorong**	**4.54**	**358**	P	Pn	11 17 14.3	-3.9
NLAI	**Namlea**	**4.85**	**296**	P	**Pn**	**11 17 24.1**	**+1.7**
MWPI	**Manokwari, Pap**	**5.17**	**30**	P	x	11 17 28.6	
	88nm,0.5s,1.0nm						
LBMI	**Labuha**	**6.18**	**320**	P	**Pn**	**11 17 40.1**	**-0.6**
	34nm,1.2s,2µm						
BAKI	**Biak**	**6.27**	**48**	P	**Pn**	**11 17 43.0**	**+1.0**
	53nm,1.1s						
SANI	**Sanana**	**6.40**	**301**	P	**Pn**	**11 17 44.8**	**+1.1**
	16nm,0.8s,792nm						
KDU	**Kakadu**	**7.28**	**172**	P	**Pn**	**11 17 57.1**	**+1.4**
	baz=7.3,SNR=52						
KDU				S	**Sn**	**11 19 16.6**	**-0.4**
	baz=7.3,SNR=7.2						
MTN	**Manton Dam**	**7.37**	**182**	P	**Pn**	**11 17 59.0**	**+2.0**
	baz=7.4,SNR=48						
MTN				S	**Sn**	**11 19 17.2**	**-2.1**
	baz=7.4,SNR=4.8						
KNRA	**Kununurra**	**10.52**	**194**	P	**Pn**	**11 18 40.4**	**+0.3**
	baz=11,SNR=71						
KNRA				S	**Sn**	**11 20 33.2**	**-3.3**
	baz=11,SNR=3.6						
COEN	**Coen**	**14.32**	**127**	P	**Pn**	**11 19 32.2**	**+0.2**
	baz=14,SNR=15						
COEN				S	Sn	11 22 01.7	-7.8
	baz=14,SNR=6.5						
WRA	**Warramunga Arr**	**14.70**	**169**	Pn	**Pn**	**11 19 34.9**	**-1.9**
	0.7nm,0.3s,baz=347,slow=14,SNR=36						
WRA				Sn	Sn	11 22 09.1	-9.4
	1.5nm,0.3s,baz=359,slow=23,SNR=11						
QIS	**Mount Isa**	**17.00**	**153**	P	**P**	**11 20 09.0**	**+1.7**
	baz=17,SNR=3.9						
ASAR	**Alice Springs**	**18.29**	**173**	P	**P**	**11 20 21.8**	**+0.3**
	0.8nm,0.3s,baz=348,slow=9.8,SNR=44						
WRKA	**Warakurna**	**19.73**	**188**	P	**Pn**	**11 20 39.6**	**+0.4**
	baz=20,SNR=23						
SMRI	**Semarang**	**20.94**	**264**	S	**S**	**11 24 37.1**	**-4.1**
	baz=21,SNR=4.2						
XMI	**Christmas Isla**	**25.98**	**257**	S	**S**	**11 26 12.9**	**+5.9**
	baz=26,SNR=3.9						
PSI	**Prapat**	**33.50**	**283**	S	**S**	**11 28 01.1**	**-4.1**
	baz=34,SNR=4.3						
MKAR	**Makanchi Array**	**67.73**	**326**	P	**P**	**11 27 05.4**	**+1.5**
	0.5nm,0.4s,baz=112,slow=7.7,SNR=12						

*ISCJB **20** 11:21:57.6±0.4,18°.26N±0°.05×72°.83W±0°.04,h6km, mb3.8/15, Error ellipse: s-maj=7.7km s-min=5.5km az=9.2*
*IDC **20** 11:21:58.3±0.8,18°.22N×72°.73W,h0km,mb3.8/12, mb1 4.0/13,mb1mx3.9/25,mbtmp3.8/13,ML3.9/1,Error ellipse: s-maj=26.7km s-min=18.8km az=52.0*
*NEIC **20** 11:21:59.8±0.4,18°.41N×72°.84W,h10km,mb4.0/3, Error ellipse: s-maj=8.5km s-min=7.5km az=194.0*
ISC 20 11:21:59.2±0.5,18°.27N±0°.06×72°.78W±0°.05,h6km,n46, σ1s71/47,mb3.9/15,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.59**	**63**	*e*Pn	**Pn**	**11 22 26.8**	**-1.2**
SDDR				*e*Sn	**Sn**	**11 22 48.7**	**-0.1**
GTBY	**Guantanamo Bay**	**2.75**	**307**	*e*Pn	**Pn**	**11 22 41.6**	**-2.3**
GTBY				*e*Sn	**Sn**	**11 23 17.7**	**+0.3**
GRTK	**Grand Turk**	**3.58**	**25**	*e*Pn	**Pn**	**11 22 53.5**	**-1.8**
GRTK				*e*Sn	**Sn**	**11 23 32.1**	**-5.9**
MTDJ	**Mount Denham**	**4.51**	**270**	*e*Pn	**Pn**	**11 23 06.4**	**-1.8**
LRS	**Lares**	**5.64**	**89**	*e*Pn	**Pn**	**11 23 24.7**	**+1.0**
CBYP	**Canovanas**	**6.58**	**89**	Pn	**Pn**	**11 23 37.2**	**+0.5**
MTP	**Monte Pirata**	**6.88**	**90**	Pn	Pn	11 23 47.4	+6.8
SDV	**Santo Domingo**	**9.56**	**167**	*e*Pn	Pn	11 24 21.5	+3.9
SDV				*e*Sn	**Sn**	**11 26 00.6**	**-5.0**
LZG	**Guadaloupe-1**	**10.73**	**100**	*e*P	**Pn**	**11 24 36.4**	**+2.8**
BCIP	**Isla Barro Col**	**11.35**	**218**	*e*Pn	**Pn**	**11 24 41.7**	**-0.3**
ROSC	**El Rosal**	**13.41**	**187**	Pn	P	11 25 16.1	-4.2
TEIG	**Tepich**	**14.76**	**280**	Pn	**Pn**	**11 25 29.1**	**+0.4**
TEIG	**Tepich**	**14.76**	**280**	Pn	**Pn**	**11 25 29.1**	**+0.4**
	0.5nm,0.3s,baz=100,slow=18,SNR=2.0						
JSRW	**J. Sargeant Re**	**19.86**	**348**	*e*Pn	**P**	**11 26 29.6**	**-1.5**
PTGA	**Pitinga**	**22.70**	**145**	*e*P	**P**	**11 27 04.7**	**+2.8**
	5.5nm,0.8s						
PTGA	**Pitinga**	**22.70**	**145**	P	**P**	**11 27 02.8**	**+1.0**
	5.2nm,0.9s,baz=322,slow=13,SNR=5.5						
SAML	**Samuel**	**28.66**	**160**	*e*P	**P**	**11 27 57.4**	**+0.4**
	1.4nm,0.7s						
TXAR	**Lajitas Array**	**30.24**	**297**	P	**P**	**11 28 10.9**	**-0.2**
TXAR	**Lajitas Array**	**30.24**	**297**	P	**P**	**11 28 10.9**	**-0.2**
	0.4nm,0.9s,baz=120,slow=5.3,SNR=2.8						
SCHQ	**Schefferville**	**36.78**	**6**	P	**P**	**11 29 09.5**	**+1.9**
SCHQ	**Schefferville**	**36.78**	**6**	P	**P**	**11 29 09.5**	**+1.9**
	3.4nm,0.8s,baz=210,slow=11,SNR=4.3						
ULM	**Lac du Bonnet**	**36.87**	**335**	P	**P**	**11 29 10.2**	**+1.9**
ULM	**Lac du Bonnet**	**36.87**	**335**	P	**P**	**11 29 10.2**	**+1.9**
	1.8nm,0.8s,baz=153,slow=9.0,SNR=3.3						
PDAR	**Pinedale Array**	**39.53**	**316**	P	**P**	**11 29 32.8**	**+1.5**
PDAR	**Pinedale Array**	**39.53**	**316**	P	**P**	**11 29 32.8**	**+1.5**
	0.6nm,0.9s,baz=101,slow=6.2,SNR=3.8						
CPUP	**Villa Florida**	**46.80**	**161**	P	**P**	**11 30 29.6**	**-0.2**
	2nm,1.5s						
YKA	**Yellowknife Ar**	**52.79**	**337**	P	**P**	**11 31 14.4**	**-0.6**
YKA	**Yellowknife Ar**	**52.79**	**337**	P	**P**	**11 31 14.4**	**-0.6**
	0.8nm,0.8s,baz=124,slow=7.5,SNR=14						
PLCA	**Paso Flores**	**58.73**	**178**	P	**P**	**11 31 57.6**	**-0.4**
PLCA	**Paso Flores**	**58.73**	**178**	P	**P**	**11 31 57.6**	**-0.4**
	0.6nm,0.6s,baz=0.0,slow=17,SNR=2.1						
ILAR	**Eielson Array**	**66.86**	**333**	P	**P**	**11 32 52.1**	**+0.3**
ILAR	**Eielson Array**	**66.86**	**333**	P	**P**	**11 32 52.1**	**+0.3**
	4.1nm,0.3s,baz=99,slow=5.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**71.45**	**82**	P	**P**	**11 33 19.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**71.45**	**82**	P	**P**	**11 33 19.6**	**-1.5**
	0.5nm,0.8s,baz=308,slow=5.5,SNR=3.1						
GERES	**GERESS Array B**	**74.19**	**43**	P	**P**	**11 33 37.1**	**+0.1**
GERES	**GERESS Array B**	**74.19**	**43**	P	**P**	**11 33 37.1**	**+0.1**
	1.0nm,0.8s,baz=279,slow=6.7,SNR=6.3						
FINES	**FINESS Array B**	**78.29**	**29**	P	**P**	**11 34 00.5**	**+0.5**
FINES	**FINESS Array B**	**78.29**	**29**	P	**P**	**11 34 00.5**	**+0.5**
	1.6nm,0.8s,baz=327,slow=7.4,SNR=2.3						
AKASG	**Malin Array Be**	**83.41**	**39**	P	**P**	**11 34 27.2**	**-0.3**
AKASG	**Malin Array Be**	**83.41**	**39**	P	**P**	**11 34 27.2**	**-0.3**
	0.2nm,0.4s,baz=272,slow=5.1,SNR=2.1						
BRTR	**Keskin Array B**	**90.51**	**48**	P	**P**	**11 35 02.4**	**-0.1**
BRTR	**Keskin Array B**	**90.51**	**48**	P	**P**	**11 35 02.4**	**-0.1**
	0.3nm,0.5s,baz=264,slow=7.1,SNR=2.3						
WRA	**Warramunga Arr**	**154.32**	**262**	PKPbc	**PKPbc**	**11 41 59.9**	**-1.4**
WRA	**Warramunga Arr**	**154.32**	**262**	PKPbc	**PKPbc**	**11 41 59.9**	**-1.4**
	0.6nm,1.0s,baz=82,slow=1.9,SNR=3.6						
ASAR	**Alice Springs**	**154.53**	**253**	PKPbc	**PKPbc**	**11 42 03.2**	**+1.5**
ASAR	**Alice Springs**	**154.53**	**253**	PKPbc	**PKPbc**	**11 42 03.2**	**+1.5**
	0.5nm,0.9s,baz=90,slow=0.9,SNR=4.1						

PGC 20 11:35:16.7±7.8,48°.92N×129°.42W,h10km,ML2.9/3, Mw3.6,3D,244km southwest of Pt. Hardy, Bc Vancouver Island Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**1.78**	**57**	↑Sn	Sn	11 36 06.2	-3.9
MAYB	**Maynard**	**2.08**	**44**	↑Pn	Pn	11 35 49.1	-2.7
MAYB				↑Sn	Sn	11 36 13.6	-4.3
PHC	**Port Hardy**	**2.20**	**35**	↑Pn	Pn	11 35 52.0	-1.2
PHC				↑Sn	Sn	11 36 16.7	-3.8
WOSB	**Woss**	**2.23**	**55**	↑Pn	Pn	11 35 51.8	-2.0
WOSB				↓Sn	Sn	11 36 18.1	-3.4
TLCB	**Telegraph Cove**	**2.33**	**45**	↓Sn	Sn	11 36 19.9	-3.9
BTB	**Buttle Lake**	**2.61**	**76**	↓Pn	Pn	11 35 57.4	-1.8
BTB				↑Sn	Sn	11 36 27.2	-3.9
MGB	**Mount Grey**	**3.11**	**87**	↑Sn	Sn	11 36 39.5	-3.9
BBB	**Bella Bella**	**3.37**	**14**	↑Pn	Pn	11 36 07.8	-1.5
BBB				↑Sn	Sn	11 36 45.6	-3.7

*DJA **20** 11:39:20.1±0.9,10°S±9°×10°9E±°,h20km,M4.8/13, mb5.2/4,mB5.3/4,MLv4.5/13,Mw(mB)4.8/4*
*IDC **20** 11:39:23.1±1.8,9°.73S×106°.96E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/22,mbtmp3.7/7,MS4.5/2,Ms1 4.5/2, ms1mx3.6/34,Error ellipse: s-maj=81.2km s-min=20.0km az=47.0*
ISC 20 11:39:24.7±0.8,9°.73S±0°.06×107°.16E±0°.08,h10km,n19, σ1s58/16,mb3.8/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMI	**Christmas Isla**	**1.61**	**244**	P	**Pg**	**11 39 56.5**	**+0.8**
	baz=2.6,SNR=20						
XMIS	**Christmas Isla**	**1.66**	**243**	P	**Pg**	**11 39 56.7**	**+0.2**
	baz=2.7,SNR=43						
XMIS				S	Sg	11 40 25.1	+7.0
	baz=2.7,SNR=12						
CISI	**Cisompet, Garu**	**2.25**	**17**	P	**Pn**	**11 40 02.5**	**+0.4**
CISI	**Cisompet, Garu**	**2.25**	**17**	P	**Pn**	**11 40 01.8**	**-0.3**
	baz=3.1,SNR=7.6						
CISI				S	**Sg**	**11 40 39.5**	**+2.3**
	baz=3.1,SNR=4.9						
CNJI	**Cibinong**	**2.41**	**359**	P	**Pb**	**11 40 08.1**	**0.0**
LEM	**Lembang**	**2.92**	**9**	P	**Pb**	**11 40 14.9**	**-2.0**
BJII	**Banjamegara**	**3.47**	**47**	P	x	11 40 08.6	
NGJI	**Ngawi**	**4.86**	**61**	P	Pn	11 40 28.9	-9.0
KRKI	**Karangkates**	**5.46**	**74**	P	x	11 40 23.8	
KRKI				S	x	11 41 13.8	
MNAI	**Manna**	**6.77**	**322**	S	**Sb**	**11 42 42.8**	**-0.7**
	baz=8.2,SNR=3.3						
WRA	**Warramunga Arr**	**28.12**	**114**	P	**P**	**11 45 17.7**	**+0.5**
	1.7nm,0.9s,baz=274,slow=15,SNR=12						
WRA				S	S	11 49 50.4	-12
	0.9nm,0.9s,baz=283,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**29.05**	**122**	P	**P**	**11 45 28.4**	**+2.9**
	0.6nm,0.8s,baz=298,slow=11,SNR=3.7						
ASAR				S	**S**	**11 50 14.4**	**-2.7**
	0.4nm,0.7s,baz=284,slow=23,SNR=3.1						
CMAR	**Chiang Mai Arr**	**29.16**	**344**	P	**P**	**11 45 27.6**	**+1.3**
	0.8nm,0.4s,baz=178,slow=9.0,SNR=5.8						
JCJ	**Chichijima**	**49.94**	**42**	LR	LR	12 11 20.6	
	comp=Z,466nm,21.6s,baz=21,slow=38						
SONM	**Songino Array**	**57.31**	**359**	P	**P**	**11 49 12.1**	**-0.7**
	0.5nm,0.7s,baz=168,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**60.49**	**341**	P	**P**	**11 49 33.1**	**-1.7**
	0.4nm,0.6s,baz=141,slow=8.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**66.20**	**346**	P	**P**	**11 50 12.6**	**+0.1**
	0.4nm,0.4s,baz=170,slow=9.5,SNR=2.4						
GNI	**Garni**	**75.99**	**316**	LR	LR	12 24 21.7	
	comp=Z,366nm,21.9s,baz=19,slow=36						
BRTR	**Keskin Array B**	**83.75**	**312**	P	**P**	**11 51 53.8**	**-0.7**
	0.4nm,0.6s,baz=136,slow=12,SNR=2.6						

*ISCJB **20** 11:54:06.6±1.9,18°.5N±0°.4×72°.8W±0°.2,h6km,mb3.6/9, Error ellipse: s-maj=52.9km s-min=19.9km az=9.6*
*IDC **20** 11:54:06.7±1.4,18°.36N×72°.86W,h0km,mb3.7/9, mb1 4.0/9,mb1mx3.8/24,mbtmp3.7/9, Error ellipse: s-maj=43.0km s-min=24.2km az=6.0*
ISC 20 11:54:07.8±1.4,18°.4N±0°.3×72°.9W±0°.2,h6km,n10, σ0s74/11,mb3.6/9,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**30.12**	**297**	P	**P**	**12 00 19.8**	**+1.1**
	0.6nm,1.0s,baz=116,slow=8.7,SNR=4.8						
TXAR				PcP	**PcP**	**12 03 20.8**	**+0.6**
	0.2nm,0.7s,baz=148,slow=5.3,SNR=2.8						
SCHQ	**Schefferville**	**36.66**	**6**	P	**P**	**12 01 14.8**	**-0.4**
	2.7nm,0.9s,baz=228,slow=14,SNR=2.3						
NVAR	**Mina Array Bea**	**44.16**	**307**	P	**P**	**12 02 17.3**	**-0.6**
	0.2nm,0.6s,baz=105,slow=8.3,SNR=2.4						
YKA	**Yellowknife Ar**	**52.65**	**337**	P	**P**	**12 03 22.1**	**-0.4**
	0.5nm,0.8s,baz=124,slow=7.1,SNR=8.6						
ESDC	**Sonseca Array**	**62.39**	**54**	P	**P**	**12 04 32.1**	**+0.3**
	0.2nm,0.3s,baz=287,slow=5.2,SNR=2.6						
ILAR	**Eielson Array**	**66.71**	**333**	P	**P**	**12 04 59.2**	**-0.3**
	0.4nm,1.0s,baz=96,slow=8.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**71.50**	**82**	P	**P**	**12 05 29.8**	**-0.3**
	0.3nm,0.6s,baz=279,slow=5.8,SNR=2.4						
GERES	**GERESS Array B**	**74.15**	**43**	P	**P**	**12 05 46.0**	**+0.6**
	1.2nm,0.8s,baz=284,slow=4.0,SNR=5.2						
FINES	**FINESS Array B**	**78.21**	**29**	P	**P**	**12 06 08.4**	**+0.3**
	1.8nm,0.9s,baz=286,slow=10.0,SNR=2.4						
WRA	**Warramunga Arr**	**154.28**	**262**	PKPbc	**PKPbc**	**12 14 08.7**	**-1.2**
	0.5nm,0.9s,baz=87,slow=1.7,SNR=3.2						

*CSEM **20** 12:29:41.8,38°.64N×29°.24W,h2km,ML3.8,After PDA*
PDA 20 12:29:41.8±0.0,38°.64N×29°.24W,h2km±5km,MD3.6, ML3.8,Error ellipse: s-maj=5.8km s-min=4.7km az=87.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.42**	**91**	*e*P	Pg	12 29 49.4	-0.5
PCED				*e*S	Sg	12 29 54.9	-0.6
PCED				A	A	12 29 55.4	
	4µm,0.2s						
PCED	**Cedros**	**0.42**	**91**	*e*P	Pg	12 29 49.4	-0.5
PCED				*e*S	Sg	12 29 54.9	-0.6
CALA	**Caldeira**	**0.43**	**98**	*e*P	Pg	12 29 50.0	-0.1
CALA				*e*S	Sg	12 29 55.4	-0.4
CALA	**Caldeira**	**0.43**	**98**	*e*P	Pg	12 29 50.0	-0.1
CALA				*e*S	Sg	12 29 55.4	-0.4
HOR	**Horta**	**0.49**	**103**	*e*P	Pg	12 29 50.7	-0.6
HOR				*e*S	Sg	12 29 57.3	-0.3
HOR	**Horta**	**0.49**	**103**	*e*P	Pg	12 29 50.7	-0.6
HOR				*e*S	Sg	12 29 57.3	-0.3
PCAN	**Candelaria**	**0.62**	**106**	*e*P	Pg	12 29 52.3	-1.4
PCAN				*e*S	Sg	12 30 00.5	-1.3
PCAN				A	A	12 30 01.9	
	3µm,0.2s						
**PC

ADH				*e*S	Sn	12 30 23.9	-7.8
PSET	**Sete Cidades**	**2.89**	**105**	*e*P	Pn	12 30 24.1	-4.8
PSET	**Sete Cidades**	**2.89**	**105**	*e*P	Pn	12 30 24.1	-4.8
PDA	**Ponta Delgada**	**2.96**	**106**	*e*P	Pn	12 30 25.5	-4.3
PDA	**Ponta Delgada**	**2.96**	**106**	*e*P	Pn	12 30 25.5	-4.3
GRON	**Grota Negra**	**3.05**	**105**	*e*P	Pn	12 30 27.9	-3.2
BART	**Pico Bartolome**	**3.32**	**104**	*e*P	Pn	12 30 30.1	-4.8
BART	**Pico Bartolome**	**3.32**	**104**	*e*P	Pn	12 30 30.1	-4.8
PSMA	**Santa Maria**	**3.65**	**115**	*e*P	Pn	12 30 34.8	-4.5
PSMA				*e*S	Sn	12 31 14.2	-8.7
PSMA				A	A	12 31 14.6	
	35nm,0.2s						
PSMN	**Pico do Norte,**	**3.69**	**115**	*e*P	Pn	12 30 35.2	-4.7
PSMN				*e*S	Sn	12 31 15.4	-8.6
PSMN				A	A	12 31 15.6	
	25nm,0.2s						
PSMN	**Pico do Norte,**	**3.69**	**115**	*e*P	Pn	12 30 35.2	-4.7
PSMN				*e*S	Sn	12 31 15.4	-8.6

IDC ***20*** *12:42:42.8±0.7, 1.°15S×127.°20E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/22, mbtmp4.1/11, ML3.9/1, Error ellipse: s-maj=37.6km s-min=14.6km az=73.0*
ISCJB ***20*** *12:42:46.9±0.3, 1.°06S±0.°04×127.°13E±0.°04, h34km, mb4.1/10, Error ellipse: s-maj=5.4km s-min=5.3km az=16.5*
DJA ***20*** *12:42:47.6±0.2, 1.°S±2.°×12.°7E±.°, h10km, M4.5/9, mb4.9/7, mB5.4/2, MLv4.2/9, Mw(mB)4.9/2*

ISC 20 12:42:48.3±0.5, 1.°11S±0.°04×127.°19E±0.°05, h34km, n47, σ1§30/53, mb4.2/10, 2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.56**	**34**	P	**Pn**	**12 42 57.0**	**-2.8**
LBMI				S	Sn	12 43 06.7	-1.2
SANI	**Sanana**	**1.52**	**232**	P	**Pn**	**12 43 11.0**	**-2.1**
SANI				S	**Sb**	**12 43 34.2**	**-0.7**
TNTI	**Ternate**	**1.87**	**6**	P	**Pn**	**12 43 16.8**	**-1.1**
TNTI				S	**Sb**	**12 43 48.3**	**+3.3**
NLAI	**Namlea**	**2.12**	**182**	P	**Pn**	**12 43 21.1**	**-0.2**
MSAI	**Masohi**	**2.83**	**142**	P	**Pn**	**12 43 33.7**	**+2.7**
MSAI				S	**Sb**	**12 44 10.8**	**-1.5**
KMSI	**Cibinong**	**3.61**	**297**	P	**Pn**	**12 43 41.1**	**-0.8**
SWI	**Sorong**	**4.08**	**87**	P	Pn	12 43 54.2	+5.9
BNDI	**Bandanaira**	**4.35**	**141**	P	**Pn**	**12 43 54.7**	**+2.7**
LUWI	**Luwuk**	**4.42**	**271**	P	**Pn**	**12 43 51.9**	**-1.0**
	baz=4.3,SNR=6.4						
FAKI	**Fak Fak**	**5.37**	**110**	P	**Pn**	**12 44 09.1**	**+3.0**
	46nm,1.2s						
FAKI	**Fak Fak**	**5.37**	**110**	P	**Pn**	**12 44 07.0**	**+1.0**
	baz=5.4,SNR=19						
APSI	**Ampana**	**5.54**	**272**	P	**Pn**	**12 44 07.9**	**-0.5**
	250nm,0.4s,5μm						
TTSI	**Tana Toraja**	**7.61**	**255**	P	**Pn**	**12 44 36.7**	**-0.1**
	55nm,0.8s						
BNSI	**Bone**	**7.79**	**245**	P	**Pn**	**12 44 40.4**	**+1.1**
	32nm,1.1s						
SPSI	**Sidrap Palu**	**7.94**	**249**	P	**Pn**	**12 44 42.2**	**+0.9**
	132nm,0.6s,2μm						
BKSI	**Bulukumba**	**8.20**	**239**	P	**Pn**	**12 44 46.8**	**+1.8**
	70nm,0.7s						
MMSI	**Mamuju**	**8.42**	**259**	P	x	12 44 48.3	
KDU	**Kakadu**	**12.64**	**156**	P	**Pn**	**12 45 44.5**	**-1.3**
	baz=13,SNR=6.1						
WRA	**Warramunga Arr**	**19.99**	**160**	P	**P**	**12 47 16.2**	**-1.8**
	0.4nm,0.3s,baz=340,slow=11,SNR=31						
COEN	**Coen**	**20.33**	**130**	P	**P**	**12 47 22.6**	**+0.9**
	baz=20,SNR=10						
QIS	**Mount Isa**	**22.83**	**149**	P	**P**	**12 47 49.9**	**+1.3**
	baz=23,SNR=16						
ASAR	**Alice Springs**	**23.35**	**164**	P	**P**	**12 47 52.6**	**-1.3**
	5.6nm,0.7s,baz=347,slow=12,SNR=78						
ASAR				PcP	**PcP**	**12 51 40.1**	**-0.2**
	0.6nm,0.7s,baz=357,slow=2.1,SNR=5.7						
WRKA	**Warakurna**	**23.82**	**178**	P	**P**	**12 47 57.7**	**-0.6**
	baz=24,SNR=7.6						
STKA	**Stephens Creek**	**33.49**	**157**	P	**P**	**12 49 24.2**	**-0.4**
	8.4nm,1.1s,baz=333,slow=9.1,SNR=11						
STKA				PcP	**PcP**	**12 52 04.2**	**-1.0**
	1.5nm,0.9s,baz=342,slow=9.6,SNR=4.3						
STKA	**Stephens Creek**	**33.49**	**157**	P	**P**	**12 49 25.4**	**+0.8**
	baz=34,SNR=5.8						
CMAR	**Chiang Mai Arr**	**33.90**	**306**	P	**P**	**12 49 28.4**	**+0.1**
	0.3nm,0.3s,baz=133,slow=8.8,SNR=2.9						
CMAR				PcP	**PcP**	**12 52 06.9**	**+0.3**
	0.8nm,0.6s,baz=163,slow=2.5,SNR=6.4						
CMSA	**Cobar Meteorol**	**34.96**	**152**	P	**P**	**12 49 38.4**	**+1.1**
	baz=35,SNR=8.3						
ARMA	**Armidale**	**37.26**	**144**	P	**P**	**12 49 58.8**	**+1.7**
	baz=37,SNR=4.9						
ARPS	**Mount Arapiles**	**37.99**	**161**	P	**P**	**12 50 04.5**	**+1.5**
	baz=38,SNR=12						
KSRS	**Korea Array**	**38.37**	**1**	P	**P**	**12 50 06.9**	**+0.7**
	0.4nm,0.6s,baz=181,slow=9.2,SNR=3.0						
USRK	**Ussuriysk Arra**	**45.31**	**5**	P	**P**	**12 51 02.6**	**-0.3**
	1.8nm,0.7s,baz=169,slow=8.5,SNR=3.6						
TAPN	**Taplejung**	**47.34**	**310**	*e*P	**P**	**12 51 19.9**	**+0.4**
	14nm,0.9s						
ODAN	**Odare**	**47.34**	**309**	*e*P	**P**	**12 51 19.7**	**+0.3**
	20nm,0.9s						
RAMN	**Ramite**	**48.00**	**309**	*e*P	**P**	**12 51 25.3**	**+0.7**
	43nm,0.7s						
JIRN	**Jiri**	**48.66**	**309**	*e*P	**P**	**12 51 30.2**	**+0.4**
	25nm,0.6s						
GUN	**Gumba**	**49.02**	**309**	*e*P	**P**	**12 51 33.0**	**+0.4**
	41nm,0.7s						
PKI	**Pulchoki**	**49.23**	**309**	*e*P	**P**	**12 51 34.2**	**+0.1**
KKN	**Kakani**	**49.43**	**309**	*e*P	**P**	**12 51 35.8**	**+0.3**
DMN	**Daman**	**49.48**	**309**	*e*P	**P**	**12 51 36.3**	**+0.3**
GKN	**Gorkha**	**50.03**	**309**	*e*P	**P**	**12 51 40.3**	**+0.3**
KOLN	**Koldanda**	**50.74**	**308**	*i*P	**P**	**12 51 46.1**	**+0.7**
	70nm,0.8s						
DANN	**Dangsing**	**50.88**	**309**	*i*P	**P**	**12 51 46.8**	**+0.2**
	60nm,0.6s						
SONM	**Songino Array**	**52.01**	**342**	P	**P**	**12 51 54.5**	**+0.1**
	2.3nm,0.7s,baz=151,slow=8.9,SNR=22						
SONM				PcP	**PcP**	**12 53 06.3**	**-0.2**
	0.6nm,0.6s,baz=152,slow=6.8,SNR=2.4						
PETK	**Petropavlovsk-**	**59.73**	**21**	P	**P**	**12 52 50.0**	**+0.4**
	3.3nm,0.7s,baz=189,slow=5.3,SNR=9.6						
MKAR	**Makanchi Array**	**61.79**	**327**	P	**P**	**12 53 03.9**	**+0.1**
	2.3nm,0.6s,baz=123,slow=8.2,SNR=24						
ZALV	**Zalesovo Beam**	**65.09**	**334**	P	**P**	**12 53 24.1**	**-1.2**
	0.8nm,0.3s,baz=116,slow=5.1,SNR=10						
ILAR	**Eielson Array**	**89.25**	**25**	P	**P**	**12 55 39.0**	**-1.5**
	0.3nm,0.6s,baz=247,slow=4.4,SNR=4.9						

IDC ***20*** *12:56:44.1±0.8, 11.°21S×165.°67E, h0km, mb4.3/14, mb1 4.6/15, mb1mx4.3/34, mbtmp4.3/15, ML4.8/1, MS4.4/7, Ms1 4.4/7, ms1mx3.8/32, Error ellipse: s-maj=30.8km s-min=16.6km az=140.0*
BJI ***20*** *12:56:46.9, 11.°41S×165.°78E, h29km, mB5.3/17, mb4.8/30, Ms5.1/13, Ms7 4.7/13*
ISCJB ***20*** *12:56:47.6±0.2, 11.°33S±0.°04×165.°64E±0.°05, h30km, mb4.7/43, MS4.5/10, Error ellipse: s-maj=7.7km s-min=5.8km az=21.1*
MOS ***20*** *12:56:47.5±1.0, 11.°28S×165.°62E, h33km, mb4.9/11, Error ellipse: s-maj=17.8km s-min=12.1km az=149.8*
NEIC ***20*** *12:56:50.0±0.2, 11.°22S×165.°65E, h35km, mb5.1/14, Error ellipse: s-maj=9.2km s-min=5.2km az=130.0*

ISC 20 12:56:49.3±0.4, 11.°25S±0.°06×165.°72E±0.°08, h30km, n115, σ1§28/137, mb4.8/43, MS4.4/11, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.96**	**287**	LR	LR	13 00 26.3	
	comp=Z,1μm,20.4s,baz=122,slow=38						
HNR	**Honiara**	**5.96**	**287**	P	**Pn**	**12 58 14.0**	**-1.5**
DZM	**Mont Dzumac**	**10.78**	**176**	*e*Pn	**Pn**	**12 59 22.2**	**+0.4**
	27nm,0.3s						
DZM				*e*LR	LR	13 01 50.0	
	1μm,28.1s						
DZM	**Mont Dzumac**	**10.78**	**176**	Pn	**Pn**	**12 59 22.4**	**+0.6**
	2.7nm,0.3s						
DZM				Sn	**Sn**	**13 01 20.7**	**-0.9**
DZM	**Mont Dzumac**	**10.78**	**176**	Pn	**Pn**	**12 59 22.4**	**+0.6**
	7.8nm,0.3s,baz=346,slow=15,SNR=121						
DZM				Sn	**Sn**	**13 01 20.7**	**-0.9**
	0.2nm,0.3s,baz=156,slow=20,SNR=2.3						
DZM	**Mont Dzumac**	**10.78**	**176**	*e*P	**Pn**	**12 59 21.9**	**+0.2**
LASL	**Noumea**	**10.95**	**176**	*e*P	**Pn**	**12 59 24.5**	**+0.6**
MSVF	**Nonsavu**	**13.56**	**120**	*e*P	P	13 00 14.2	+5.7
MSVF	**Nonsavu**	**13.56**	**120**	*e*Pn	P	13 00 14.2	+5.7
PMG	**Port Moresby**	**18.35**	**274**	LR	LR	13 07 49.3	
	comp=Z,2μm,19.1s,baz=185,slow=36						
EIDS	**Eidsvold**	**19.73**	**223**	*e*P	**P**	**13 01 17.1**	**+0.5**
	10nm,0.8s						
CTA	**Charters Tower**	**20.68**	**242**	P	**P**	**13 01 25.2**	**-1.8**
CTA	**Charters Tower**	**20.68**	**242**	P	**P**	**13 01 25.2**	**-1.8**
	16nm,0.9s,baz=63,slow=17,SNR=6.7						
CTAO	**Charters Tower**	**20.68**	**242**	*e*P	**P**	**13 01 26.7**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,37nm,1.1s						
CTAO	**Charters Tower**	**20.68**	**242**	*e*P	**P**	**13 01 26.7**	**-0.3**
	comp=Z,37nm,1.1s						
COEN	**Coen**	**22.16**	**261**	*e*P	**P**	**13 01 43.2**	**+0.2**
	comp=Z,187nm,1.0s						
ARMA	**Armidale**	**23.13**	**212**	*e*P	**P**	**13 01 53.5**	**+0.3**
	comp=Z,21nm,1.4s						
BKZ	**Black Stump Fm**	**29.41**	**163**	*e*P	**P**	**13 02 51.4**	**+1.3**
	comp=Z,83nm,2.0s						
STKA	**Stephens Creek**	**30.28**	**224**	*e*P	**P**	**13 02 57.8**	**-0.1**
STKA	**Stephens Creek**	**30.28**	**224**	P	**P**	**13 02 56.4**	**-1.5**
	comp=Z,3.8nm,0.8s,baz=49,slow=10,SNR=12						
STKA				LR	LR	13 15 09.8	
	comp=Z,728nm,18.4s,baz=332,slow=36						
WRAB	**Tennant Creek**	**31.38**	**250**	P	**P**	**13 03 06.0**	**-1.7**
	comp=Z,79nm,1.0s,SNR=6.4						
WRAB	**Tennant Creek**	**31.38**	**250**	*e*P	**P**	**13 03 06.4**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**31.38**	**250**	*e*P	**P**	**13 03 06.4**	**-1.3**
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**31.39**	**250**	P	**P**	**13 03 06.1**	**-1.8**
WRA	**Warramunga Arr**	**31.39**	**250**	P	**P**	**13 03 06.1**	**-1.8**
	comp=Z,10nm,0.8s,baz=80,slow=9.1,SNR=44						
WRA				LR	LR	13 15 41.6	
	comp=Z,574nm,18.1s,baz=310,slow=36						
AS31	**Alice Springs**	**32.68**	**244**	*e*P	**P**	**13 03 18.7**	**-0.4**
ASAR	**Alice Springs**	**32.68**	**244**	P	**P**	**13 03 17.2**	**-2.0**
ASAR				PcP	**PcP**	**13 06 05.8**	**+1.0**
ASAR	**Alice Springs**	**32.68**	**244**	P	**P**	**13 03 17.2**	**-2.0**
	comp=Z,2.3nm,0.8s,baz=74,slow=9.6,SNR=22						
ASAR				PcP	**PcP**	**13 06 05.8**	**+1.0**
	comp=Z,0.8nm,1.0s,baz=64,slow=2.6,SNR=4.2						
ASAR				LR	LR	13 15 53.4	
	comp=Z,529nm,18.8s,baz=74,slow=35						
BBOO	**Buckleboo**	**34.67**	**227**	*e*P	**P**	**13 03 37.4**	**+1.1**
	comp=Z,93nm,0.8s						
PPT	**Papeete**	**43.67**	**104**	LR	LR	13 20 31.1	
	comp=Z,322nm,18.1s,baz=258,slow=33						
PPT2	**Papeete2**	**43.67**	**104**	eLR	LR	13 17 16.8	
	comp=Z,417nm,23.0s						
NWAO	**Narrogin (SRO)**	**49.33**	**236**	LR	LR	13 26 33.2	
	comp=Z,823nm,18.2s,slow=36						
RKT	**Rikitea**	**57.54**	**110**	eLR	LR	13 23 37.6	
	comp=Z,417nm,24.0s						
NJ2	**Nanjing**	**62.15**	**316**	*e*P	**P**	**13 07 08.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
IPM	**Ipoh**	**66.23**	**280**	*e*P	**P**	**13 07 35.8**	**+0.7**
	comp=Z,22nm,0.9s						
PSI	**Prapat**	**67.87**	**278**	P	**P**	**13 07 44.8**	**-0.9**
PSI	**Prapat**	**67.87**	**278**	P	**P**	**13 07 44.8**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=122,slow=8.7,SNR=5.2						
GYA	**Guiyang**	**68.51**	**304**	P	**P**	**13 07 50.3**	**+0.9**
GYA				PP	**PP**	**13 10 23.6**	**+2.6**
GYA				ScP		13 12 15.8	
GYA				S	**S**	**13 16 48.0**	**-1.9**
GYA				SKS	**SKiKP**	**13 17 42.8**	**+1.6**
GYA				SS	**SS**	**13 21 13.8**	**-0.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=Z,540nm,18.2s						
GYA				LR	LR		
	comp=Z,490nm,19.5s						
GYA				LR	LR		
	comp=Z,520nm,18.9s						
BJI	**Beijing**	**68.62**	**321**	P	**P**	**13 07 51.3**	**+1.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GSI	**Gunungsitoli**	**68.85**	**276**	*e*P	**P**	**13 07 52.0**	**+0.3**
KMI	**Kunming**	**71.20**	**301**	P	**P**	**13 08 06.6**	**+0.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**71.97**	**320**	*e*P	**P**	**13 08 10.6**	**+0.3**
HHC				sP	sP	13 08 29.0	+5.8
HHC				S	**S**	**13 17 31.3**	**+1.4**
HHC				sS	**SKiKP**	**13 17 49.9**	**+4.1**
HHC				SKS	**SKSac**	**13 18 10.6**	**-1.8**
HHC				pmax	pmax		
	comp=Z,30nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,4.6s						
HHC				LR	LR		
	comp=Z,460nm,16.7s						
HHC				LR	LR		
	comp=Z,380nm,16.9s						
HHC				LR	LR		
	comp=Z,140nm,14.7s						
CMAR	**Chiang Mai Arr**	**72.17**	**294**	P	**P**	**13 08 12.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.17**	**294**	P	**P**	**13 08 12.2**	**+0.4**
	comp=Z,3nm,0.7s,baz=126,slow=4.7,SNR=18						
CD2	**Chengdu**	**72.71**	**307**	*e*P	**P**	**13 08 15.8**	**+1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**74.88**	**312**	*e*P	**P**	**13 08 28.8**	**+1.2**
LZH				pP	**pP**	**13 08 39.0**	**+2.0**
LZH				sP	**sP**	**13 08 42.8**	**+2.3**
LZH				*e*PP	**PP**	**13 11 19.0**	**+3.5**
LZH				*e*S	**S**	**13 18 04.0**	**+0.9**
LZH				sS	**sS**	**13 18 19.0**	**+0.3**
LZH				*e*SS	**SS**	**13 22 51.6**	**-0.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,7.2s						
LZH				LR	LR		
	comp=Z,260nm,14.5s						
LZH				LR	LR		
	comp=Z,280nm,15.0s						
LZH				LR	LR		
	comp=Z,360nm,19.0s						
GAMB	**Gambell**	**76.78**	**10**	*e*P	**P**	**13 08 38.0**	**+0.5**
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**78.45**	**324**	*e*P	**P**	**13 08 48.1**	**+0.6**
QSPA	**South Pole Qui**	**78.76**	**180**	*e*P	**P**	**13 08 49.2**	**+0.4**
	comp=Z,5.7nm,0.9s						
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**13 08 48.3**	**-1.2**
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**13 08 48.3**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=135,slow=5.0,SNR=6.1						
BILL	**Bilibino**	**79.08**	**0**	P	**P**	**13 08 49.0**	**-1.3**
BILL						13 08 56.0	
BILL				*i*		13 08 59.7	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BILL	**Bilibino**	**79.08**	**0**	*e*P	**P**	**13 08 51.1**	**+0.8**
GTA	**Gaotai**	**79.18**	**314**	P	**P**	**13 08 53.0**	**+1.3**
GTA				pP	**pP**	**13 09 02.0**	**+0.8**
GTA				sP	**sP**	**13 09 06.3**	**+1.6**
GTA				S	**S**	**13 18 48.9**	**-0.9**
GTA				SKS	**SKSac**	**13 19 01.5**	**-4.4**
GTA				sS	**sS**	**13 19 06.3**	**+0.8**
GTA				SS	**SS**	**13 23 58.9**	**+2.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,220nm,6.2s						
GTA				LR	LR		
	comp=Z,120nm,17.8s						
GTA				LR	LR		
	comp=Z,160nm,17.8s						
GTA				LR	LR		
	comp=Z,140nm,18.1s						
PMR	**Palmer**	**80.76**	**20**	*e*P	**P**	**13 08 59.1**	**-0.3**
PMR				pmax	pmax		
	comp=Z,24nm,1.5s						
PMR	**Palmer**	**80.76**	**20**	*e*P	**P**	**13 08 59.1**	**-0.3**
	comp=Z,24nm,1.5s						
DIV	**Divide**	**81.61**	**22**	*e*P	**P**	**13 09 04.4**	**+0.2**
	comp=Z,22nm,1.1s						
TRF	**Thorofare Moun**	**81.72**	**18**	*e*P	**P**	**13 09 05.3**	**+0.5**
ZAK	**Zakamensk**	**81.85**	**325**	*e*P	**P**	**13 09 04.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
IM04	**Indian Mountai**	**82.61**	**16**	*e*P	**P**	**13 09 08.7**	**-0.6**
COLA	**College**	**83.49**	**18**	*d i*P	**P**	**13 09 13.1**	**-0.6**
COLA				pmax	pmax		
	comp=Z,40nm,0.9s						
COLA	**College**	**83.49**	**18**	*e*P	**P**	**13 09 13.2**	**-0.5**
	comp=Z,3.8nm,0.9s						
MENT	**Mentasta**	**83.53**	**21**	*e*P	**P**	**13 09 14.0**	**-0.1**
ILAR	**Eielson Array**	**83.71**	**19**	P	**P**	**13 09 14.1**	**-0.9**
ILAR	**Eielson Array**	**83.71**	**19**	P	**P**	**13 09 14.1**	**-0.9**
	comp=Z,4.7nm,0.6s,baz=232,slow=5.3,SNR=108						
COLD	**Coldfoot**	**84.50**	**16**	*e*P	**P**	**13 09 19.4**	**+0.5**
	comp=Z,4.3nm,0.9s						
EDW2	**Edwards Air Fo**	**85.36**	**53**	P	**P**	**13 09 24.5**	**+0.5**
	baz=86						
EGAK	**Eagle**	**85.58**	**20**	*e*P	**P**	**13 09 24.0**	**-0.3**
	comp=Z,11nm,0.7s						
NVAR	**Mina Array Bea**	**86.17**	**50**	P	**P**	**13 09 27.9**	**-0.3**
NVAR	**Mina Array Bea**	**86.17**	**50**	P	**P**	**13 09 27.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=233,slow=9.8,SNR=7.1						
GLA	**Glamis**	**87.39**	**56**	P	**P**	**13 09 34.6**	**+0.6**
	baz=88						
HVS	**Khovu-Aksy**	**87.69**	**323**	*e*P	**P**	**13 09 33.7**	**-1.4**
HVS				pmax	pmax		
	comp=Z,11nm,1.3s						
R11A	**Troy Canyon, C**	**88.20**	**50**	P	**P**	**13 09 38.8**	**+0.9**
	baz=88						
WMQ	**Urumqi**	**89.22**	**315**	P	**P**	**13 09 44.0**	**+1.5**
WMQ				pP	**pP**	**13 09 52.0**	**-0.1**
WMQ				sP	**sP**	**13 09 55.3**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ				LR	LR		
	comp=Z,66nm,21.0s						
WMQ				LR	LR		
	comp=Z,51nm,24.3s						
WMQ				LR	LR		
	comp=Z,55nm,18.8s						
U15A	**North Rim**	**90.25**	**53**	P	**P**	**13 09 48.1**	**+0.4**
	baz=90						
HLID	**Hailey**	**90.44**	**46**	*e*P	**P**	**13 09 49.2**	**+0.8**
	comp=Z,55nm,2.7s						
HLID	**Hailey**	**90.44**	**46**	P	**P**	**13 09 48.8**	**+0.4**
	baz=91						
X16A	**Lo Mia Camp, P**	**90.46**	**55**	P	**P**	**13 09 49.5**	**+0.9**
	baz=91						
DUG	**Dugway**	**90.75**	**49**	P	**P**	**13 09 50.5**	**+0.6**
	baz=91						
BGU	**Big Grassy Mou**	**90.77**	**49**	*e*P	**P**	**13 09 50.5**	**+0.6**
	comp=Z,18nm,2.5s						
HVU	**Hansel Valley**	**91.16**	**48**	*e*P	**P**	**13 09 52.6**	**+0.9**
HVU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HVU	**Hansel Valley**	**91.16**	**48**	*e*P	**P**	**13 09 52.6**	**+0.9**
	comp=Z,10nm,1.1s						
BSMT	**Bassoo Peak**	**91.31**	**41**	*e*P	**P**	**13 09 52.0**	**-0.3**
121A	**Cookes Peak, D**	**93.04**	**58**	P	**P**	**13 10 01.2**	**+0.6**
	baz=93						
MK31	**Makanchi Array**	**93.65**	**317**	*e*P	**P**	**13 10 03.0**	**+0.1**
MK31	**Makanchi Array**	**93.65**	**317**	*e*P	**P**	**13 10 03.0**	**+0.1**
MKAR	**Makanchi Array**	**93.65**	**317**	*i* P	**P**	**13 10 02.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**93.65**	**317**	P	**P**	**13 10 02.8**	**-0.1**
MKAR	**Makanchi Array**	**93.65**	**317**	P	**P**	**13 10 02.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=97,slow=6.2,SNR=19						
ZALV	**Zalesovo Beam**	**93.71**	**324**	P	**P**	**13 10 02.0**	**-0.9**
ZALV	**Zalesovo Beam**	**93.71**	**324**	P	**P**	**13 10 02.0**	**-0.9**
ZALV	**Zalesovo Beam**	**93.71**	**324**	P	**P**	**13 10 02.0**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=145,slow=5.4,SNR=6.1						
PDAR	**Pinedale Array**	**93.71**	**47**	P	**P**	**13 10 03.1**	**-0.5**
PDAR	**Pinedale Array**	**93.71**	**47**	P	**P**	**13 10 03.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=302,slow=1.7,SNR=4.4						
EGMT	**Eagleton**	**94.64**	**42**	P	**P**	**13 10 07.5**	**0.0**
	baz=95						
YKA	**Yellowknife Ar**	**95.17**	**27**	P	**P**	**13 10 07.5**	**-1.9**
YKA	**Yellowknife Ar**	**95.17**	**27**	P	**P**	**13 10 07.5**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=257,slow=4.5,SNR=12						
GDL2	**Guadalupe Moun**	**95.83**	**58**	*e*P	**P**	**13 10 10.7**	**-2.7**
TXAR	**Lajitas Array**	**95.95**	**61**	P	**P**	**13 10 13.4**	**-0.6**
TXAR	**Lajitas Array**	**95.95**	**61**	P	**P**	**13 10 13.4**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=217,slow=4.3,SNR=2.3						
A20A	**Cobblestone Ra**	**95.99**	**41**	P	**P**	**13 10 13.3**	**-0.3**
	baz=96						
D21A	**La Casta Ranch**	**96.30**	**43**	P	**P**	**13 10 15.5**	**+0.4**
	baz=96						
A21A	**Bergtoll Ranch**	**96.66**	**41**	P	**P**	**13 10 16.3**	**-0.4**
	baz=97						
KURK	**Kurchatov**	**96.78**	**320**	*e*P	**P**	**13 10 16.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
KSH	**Kashi**	**96.86**	**309**	*e*P	**P**	**13 10 19.6**	**+1.7**
KSH				*e*PP	**PP**	**13 14 16.4**	**+2.9**
KSH				*e*SKS	**SKSac**	**13 20 52.3**	**-0.8**
KSH				*e*S	**S**	**13 21 35.0**	**-3.4**
KSH				*e*sS	**sS**	**13 21 52.8**	**-1.7**
KSH				*e*SS	**SS**	**13 28 13.5**	**-1.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,64nm,4.2s						
KSH				LR	LR		
	comp=Z,75nm,3.5s						
KSH				LR	LR		
	comp=Z,58nm,10.1s						
KSH				LR

JTKR				S	Sn	13 11 28.9	+1.0	
JAR	Ashorobuto	2.28	265	P	Pn	13 11 03.9	+0.7	
JAR				eS	Sn	13 11 30.4	+0.4	
JOB	Onbets	2.31	255	eS	Sn	13 11 30.0	-0.9	
JMP	Maruseppu	2.59	281	P	Pn	13 11 08.9	+1.4	
HRK	Horoka	2.73	270	eP	Pn	13 11 11.4	+2.0	
HRK				eS	Sn	13 11 42.7	+1.5	
JCH	Churui	2.74	251	P	Pn	13 11 09.9	+0.4	
JCH				eS	Sn	13 11 41.4	0.0	
JKK2	Kamakawa 2	3.01	278	P	Pn	13 11 15.5	+2.2	

*SJA **20** 13:23:14.9±0.8,31°.20S×69°.34W,h13km±2km,MD3.7, ML4.6,MW3.8*
*GUC **20** 13:23:15.7±0.7,31°.17S×69°.39W,h15km±4km,ML5.1*
*IDC **20** 13:23:16.2±0.5,31°.22S×69°.25W,h35km±4km,mb4.0/9, mb1 4.2/13,mb1mx4.1/19,mbtmp4.2/13,ML4.4/4,MS3.9/6, Ms1 3.9/6,ms1mx3.7/21,Error ellipse: s-maj=14.4km s-min=8.9km az=34.0*
*NEIC **20** 13:23:16.7±0.3,31°.19S×69°.13W,mb4.8/8,MD4.3(SJA), Error ellipse: s-maj=8.8km s-min=6.1km az=87.0*
NEIC Felt [III] at San Juan. Felt [II] at Combarbala, Ovalle and Punitaqui, Chile.
*ISCJB **20** 13:23:17.9±0.3,31°.17S±0°.03×69°.23W±0°.03,h45km±3km, mb4.5/19,MS4.1/3,Error ellipse: s-maj=4.7km s-min=4.4km az=14.4*

ISC 20 13:23:16.6±0.6,31°28S±0°03×69°26W±0°02,h33km±2km, n381,σ1♀45/404,mb4.7/19,MS4.1/3,144C-140D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.52	183	eP	Pb	13 23 27.6	-0.1
SJA	San Juan	0.65	113	iP	Pn	13 23 30.1	+0.6
SJA				eS	Sn	13 23 40.4	+1.6
SJA				iS	Sb	13 23 40.7	+2.1
SJA				IAML		13 23 42.2	
	comp=Z,13µm,0.2s						
RTLL	Cerro Villicun	0.68	95	iP	Pn	13 23 29.7	-0.1
RTLL				eP	Pn	13 23 29.8	-0.1
AMOG	MOGNA	0.74	63	iP	Pn	13 23 30.6	-0.2
RTCV	Cerro Valdivia	0.85	134	eP	Pb	13 23 33.4	+0.4
RTCV				iS	Sn	13 23 46.4	+2.8
CFAA	Coronel Fontan	0.94	111	Pg	Pb	13 23 34.7	+0.3
CFAA				Lg	Lg	13 23 48.4	
CFAA	Coronel Fontan	0.94	111	Pg	Pb	13 23 34.7	+0.3
	comp=Z,24nm,0.3s,baz=295,slow=15,SNR=2276						
CFAA				Lg	Lg	13 23 48.4	
	comp=Z,228nm,0.3s,baz=204,slow=19,SNR=129						
CFAA	Coronel Fontan	0.94	111	eP	Pb	13 23 34.4	0.0
CFAA				iS	Sn	13 23 48.8	+3.1
AUSP	Uspallata	0.95	186	eP	Pn	13 23 34.7	+0.8
ASAL	Salagasta	1.36	165	eP	Pb	13 23 42.5	+0.9
CMCH	Combarbala	1.49	273	↑iP	Pn	13 23 41.0	-0.2
CMCH				iS	Sn	13 23 60.0	+0.5
CMCH	Combarbala	1.49	273	↑iP	Pn	13 23 41.0	-0.2
CMCH				iS	Sn	13 23 60.0	+0.5
ARCO	CERRO ARCO	1.59	170	iP	Pb	13 23 46.3	+0.9
ARCO				eP	Pn	13 23 46.6	+4.1
ARCO				iS	Sb	13 24 09.4	+4.2
ARCO				AML	AML	13 24 13.2	
	comp=Z,5µm,0.8s						
ARCO				IAML		13 24 13.3	
	comp=Z,4µm,0.8s						
AVFE	Valle Fertil	1.67	69	eP	Pb	13 23 46.4	-0.3
AVFE				iS	Sb	13 24 10.2	+2.7
AVFE				AML	AML	13 24 12.3	
	comp=Z,16µm,0.6s						
AVFE				IAML		13 24 12.5	
	comp=Z,12µm,0.6s						
JACH	Jahuel	1.80	218	eP	Pb	13 23 48.7	-0.3
JACH	Jahuel	1.80	218	eP	Pb	13 23 48.7	-0.3
AAGR	Agrelo	1.84	169	eP	Pb	13 23 50.1	+0.4
ACAN	Cantantal	2.03	120	eP	Pb	13 23 52.5	-0.3
ACAN				iS	Sb	13 24 20.4	+2.7
PEL	Peldehue	2.22	213	↓iP	Pb	13 23 54.5	-1.6
PEL				iS	Sb	13 24 24.0	+0.8
PEL				AML	AML	13 24 31.2	
	comp=N,14µm,0.5s						
ACHE	Chepes	2.23	88	eP	Pb	13 23 54.9	-1.4
ACHE				eP	Pb	13 23 54.9	-1.4
ROCH	El Roble	2.25	221	↑iP	Pn	13 23 54.3	+2.6
ROCH				iS	Sb	13 24 24.0	-0.3
ROCH				AML	AML	13 24 25.9	
	comp=N,18µm,0.5s						
AVIZ	Vizcacheras	2.28	164	eP	Pb	13 23 55.7	-1.4
CLCH	Cerro Calan	2.37	207	eP	Pb	13 23 57.0	-1.8
CLCH				iS	Sb	13 24 28.8	+1.2
CLCH				AML	AML	13 24 37.4	
	comp=E,14µm,0.6s						
CLCH				AML	AML	13 24 40.1	
	comp=E,12µm,0.6s						
LACH	Col Las Americ	2.42	206	P	Pb	13 24 00.0	+0.5
LACH				iS	Sb	13 24 29.9	+1.0
APLL	PUNTA DE LOS L	2.51	70	eP	Pb	13 23 59.1	-2.0
APLL				iS	Sb	13 24 30.8	-0.8
PCH	Pirque	2.57	204	eP	Pb	13 23 60.0	-2.0
PCH	Pirque	2.57	204	eP	Pb	13 23 60.0	-2.0
LCO	Las Campanas	2.58	331	↓iP	Pn	13 23 58.0	+1.8
LCO				iS	Sn	13 24 30.0	+3.5
LCO				AML	AML	13 24 34.9	
	comp=E,9µm,0.4s						
LCO	Las Campanas	2.58	331	↓iP	Pn	13 23 58.0	+1.8
LCO				iS	Sn	13 24 30.0	+3.5
LCO	Las Campanas	2.58	331	iP	Pn	13 23 57.7	+1.5
LCO				iS	Sn	13 24 29.3	+2.8
ACLC	CERRO LA CRUZ	2.72	48	iP	Pb	13 24 01.1	-3.6
CHCH	Chadas Angostu	2.90	203	P	Pn	13 24 03.9	+3.5
VACH	Vallenar	2.99	334	↑iP	Pn	13 24 03.1	+1.5
VACH				iS	Sn	13 24 39.0	+2.7
VACH	Vallenar	2.99	334	↑iP	Pn	13 24 03.1	+1.5
VACH				iS	Sn	13 24 39.0	+2.7
CPCH	Copiapo	4.02	346	P	Pn	13 24 17.0	+1.2
H03N1	Juan Fernandez	8.44	253	T	T	13 32 19.3	
	baz=76,slow=73,SNR=640						
H03N3	Juan Fernandez	8.46	253	T	T	13 32 24.2	
	baz=76,slow=73,SNR=777						
H03N2	Juan Fernandez	8.46	253	T	T	13 32 20.7	
	baz=76,slow=73,SNR=838						
LVC	Limon Verde	8.63	2	ePn	Pn	13 25 18.9	-0.5
TRQA	Tornquist	9.04	140	ePn	Pn	13 25 25.8	+1.0
PLCA	Paso Flores	9.50	186	ePn	Pn	13 25 31.7	+0.7
	comp=E,17nm,1.0s						
PLCA				Lg	Lg	13 28 19.1	
PLCA	Paso Flores	9.50	186	Pn	Pn	13 25 31.9	+0.9
	comp=E,0.8nm,0.3s,baz=359,slow=13,SNR=19						
PLCA				Lg	Lg	13 28 19.1	
	comp=E,0.5nm,0.3s,baz=71,slow=5.5,SNR=3.3						
PLCA				LR	LR	13 29 29.2	
	comp=E,667nm,21.0s,baz=45,slow=39						
CPUP	Villa Florida	11.56	68	eP	Pn	13 25 56.3	-3.0
	comp=E,2.4nm,0.7s						
CPUP				Lg	Lg	13 29 22.8	
CPUP	Villa Florida	11.56	68	Pn	Pn	13 25 58.0	-1.4
	comp=E,4.5nm,0.3s,baz=226,slow=12,SNR=12						
CPUP				Lg	Lg	13 29 22.8	
	comp=E,3.9nm,0.3s,baz=126,slow=16,SNR=2.9						
CPUP				LR	LR	13 30 52.7	
	comp=E,550nm,18.5s,baz=256,slow=40						
ARE	Arequipa	14.88	352	eP	Pn	13 26 45.0	+0.1
LPAZ	La Paz	14.96	4	eP	Pn	13 26 44.0	-2.1
LPAZ	La Paz	14.96	4	Pn	Pn	13 26 44.4	-1.8
	comp=E,0.2nm,0.3s,baz=188,slow=7.1,SNR=3.7						
LPAZ				LR	LR	13 34 12.2	
	comp=E,254nm,21.1s,baz=190,slow=44						
SIV	San Ignacio	16.95	28	Pn	Pn	13 27 10.2	-1.1
SIV				Lg	Lg	13 32 10.2	
SIV	San Ignacio	16.95	28	Pn	Pn	13 27 10.2	-1.1
	comp=E,0.5nm,0.3s,baz=216,slow=11,SNR=13						
SIV				Lg	Lg	13 32 10.2	
	comp=E,0.2nm,0.3s,baz=299,slow=19,SNR=2.4						
BB16B	Bebedouro	21.14	66	↑iP	P	13 27 56.9	-2.0
BB16B				i		13 28 07.1	
BB16B				i		13 28 21.4	
BB16B				i		13 28 22.0	
SAML	Samuel	22.93	16	eP	P	13 28 16.6	-1.3
	comp=E,2.3nm,1.0s						
USHA	Ushuaia	23.55	179	P	P	13 28 24.3	+0.5
USHA	Ushuaia	23.55	179	P	P	13 28 24.3	+0.5
	comp=E,84nm,0.8s,baz=333,slow=9.9,SNR=32						
BDFB	Brasilia	24.87	56	P	P	13 28 35.4	-1.0
	comp=E,6.1nm,0.5s,baz=222,slow=13,SNR=6.8						
BDFB				LR	LR	13 39 27.2	
	comp=E,559nm,18.7s,baz=192,slow=39						
RPN	Rapa Nui	35.09	266	P	P	13 30 07.2	+0.5
RPN	Rapa Nui	35.09	266	P	P	13 30 07.2	+0.5
	comp=E,1.4nm,0.5s,baz=219,slow=20,SNR=3.8						
CELP	Cerrillos	49.13	3	P	P	13 32 02.5	+1.3
VNA2	Neumayer--Watz	51.64	158	P	P	13 32 19.8	+0.2
SNAA	Sanae	53.24	159	P	P	13 32 31.6	+0.1
SNAA	Sanae	53.24	159	eP	P	13 32 31.4	-0.1
	comp=E,35nm,1.2s						
SNAA	Sanae	53.24	159	P	P	13 32 31.6	+0.1
	comp=E,4.8nm,0.6s,baz=288,slow=6.9,SNR=70						
034A	Hebbronville	64.45	331	↑P	P	13 33 50.4	+0.7
	baz=65						
934A	Benavides	64.86	331	↑P	P	13 33 53.5	+1.2
	baz=65						
933A	Laredo	65.18	331	↓P	P	13 33 55.8	+1.3
	baz=66						
834A	Tilden	65.33	332	↑P	P	13 33 56.6	+1.2
	baz=66						
833A	Chaparral WMA,	65.86	331	↓P	P	13 33 59.6	+0.8
	baz=66,SNR=5.7						
734A	La Parita Cree	65.97	332	↑P	P	13 34 01.1	+1.6
	baz=66						
832A	Faith Ranch, C	66.06	330	↓P	P	13 34 01.1	+0.9
	baz=66,SNR=6.1						
732A	Laxson Ranch,	66.45	331	↑P	P	13 34 03.8	+1.2
	baz=67,SNR=5.3						
535A	Dale	66.64	333	↓P	P	13 34 05.5	+1.7
	baz=67						
KMSC	Kings Mountain	67.03	349	↑P	P	13 34 08.7	+2.5
	baz=67						
632A	Uvalde	67.06	331	↓P	P	13 34 07.7	+1.2
	baz=67,SNR=6.0						
VNDA	Vanda	67.21	191	P	P	13 34 06.7	-0.2
VNDA	Vanda	67.21	191	P	P	13 34 06.7	-0.2
	comp=E,1.7nm,0.8s,baz=132,slow=8.4,SNR=5.5						
631A	Perdido Creek	67.30	331	↓P	P	13 34 09.2	+1.2
	baz=68,SNR=5.5						
SYO	Syowa Base	67.53	158	↑eP	P	13 34 07.2	-1.8
434A	Burnet	67.61	333	↑P	P	13 34 10.8	+0.8
	baz=68,SNR=7.0						
532A	Rocksprings	67.65	331	↓P	P	13 34 10.4	+0.1
	baz=68,SNR=6.3						
433A	Art	67.88	332	↓P	P	13 34 11.9	+0.2
	baz=68,SNR=9.7						
JCT	Junction City	67.92	332	↓P	P	13 34 12.3	+0.3
	baz=68,SNR=5.3						
531A	Rocksprings	67.95	331	↓P	P	13 34 12.2	0.0
	baz=68						
SWET	Sewanee	67.97	345	P	P	13 34 11.1	-1.1
	comp=E,13nm,1.0s						
334A	Lometa	68.06	333	↓P	P	13 34 12.6	-0.1
	baz=68,SNR=6.2						
530A	J-C Ranch, Com	68.27	330	↓P	P	13 34 14.5	+0.4
	baz=68,SNR=7.0						
333A	Richland Sprin	68.34	333	↓P	P	13 34 15.0	+0.5
	baz=69,SNR=6.1						
WHTX	Lake Whitney	68.35	334	↓P	P	13 34 15.5	+0.9
	baz=69						
628A	Black Gap, Mar	68.37	329	↑P	P	13 34 15.3	+0.5
	baz=69,SNR=6.8						
431A	Sonora	68.43	331	↑P	P	13 34 15.7	+0.5
	baz=69						
627A	Terlingua Ranc	68.56	328	↑P	P	13 34 16.3	+0.1
	baz=69						
TXAR	Lajitas Array	68.59	328	P	P	13 34 15.5	-0.8
TXAR				pP	pP	13 34 26.0	-0.6
TXAR	Lajitas Array	68.59	328	P	P	13 34 15.5	-0.8
	comp=E,0.5nm,0.6s,baz=154,slow=8.0,SNR=7.4						
TXAR				pP	pP	13 34 26.0	-0.6
	comp=E,2.4nm,0.7s,baz=139,slow=5.9,SNR=19						
234A	Clairette	68.62	334	↓P	P	13 34 17.1	+0.9
	baz=69						
529A	Stev Forest Ra	68.62	330	↓P	P	13 34 16.8	+0.3
	baz=69,SNR=6.0						
332A	Millersview	68.69	332	↓P	P	13 34 17.7	+0.9
	baz=69,SNR=5.8						
430A	Baggett Ranch,	68.78	331	↑P	P	13 34 18.0	+0.6
	baz=69,SNR=7.0						
331A	San Angelo	68.90	332	↑P	P	13 34 18.8	+0.7
	baz=69						
528A	Cox Ranch, San	68.90	329	↑P	P	13 34 18.6	+0.4
	baz=69,SNR=8.1						
429A	Davenport Ranc	68.92	330	↑P	P	13 34 19.0	+0.7
	baz=69,SNR=6.4						
233A	Rising Star	68.92	333	↓P	P	13 34 19.2	+1.0
	baz=69,SNR=6.1						
626A	Big Bend Ranch	68.99	328	↓P	P	13 34 19.8	+1.0
	baz=69,SNR=8.7						
232A	Coleman	69.10	333	↑P	P	13 34 20.1	+0.8
	baz=69,SNR=5.1						
527A	Woodward Ranch	69.25	328	↑P	P	13 34 21.4	+1.0
	baz=70,SNR=7.8						
330A	Mertzon	69.29	331	↓P	P	13 34 22.2	+1.6
	baz=70,SNR=5.3						
428A	Kincaid Ranch,	69.34	330	↓P	P	13 34 21.5	+0.6
	baz=70						
526A	Mary Lane Ranc	69.40	328	↑P	P	13 34 22.3	+1.0
	baz=70,SNR=9.4						
231A	Bronte	69.41	332	↓P	P	13 34 22.4	+1.2
	baz=70						
133A	Hamilton Ranch	69.45	334	↑P	P	13 34 22.8	+1.4
	baz=70						
Z35A	Perchaven, San	69.48	335	↑P	P	13 34 21.3	-0.3
	baz=70						
230A	Sterling City	69.69	331	↓P	P	13 34 23.7	+0.8
	baz=70						
329A	Wagon Wheel Ra	69.70	331	↑P	P	13 34 24.2	+1.1
	baz=70						
ABTX	Abilene, Hawle	69.75	333	↓P	P	13 34 24.3	+1.0
	baz=70						
427A	Hayter Ranch,	69.76	329	↑P	P	13 34 25.1	+1.5
	baz=70						
426A	McDonald Obser	69.89	328	↑P	P	13 34 25.3	+0.9
	baz=70,SNR=5.6						
Z33A	Whitaker Ranch	70.00	334	↓P	P	13 34 25.9	+1.1
	baz=70						
229A	Bryant Ranch,	70.05	331	↑P	P	13 34 25.7	+0.5
	baz=70						
131A	Roby	70.08	332	↓P	P	13 34 26.1	+0.7
	baz=70						
Y34A	Reagan Ranch,	70.23	335	↓P	P	13 34 27.5	+1.3
	baz=70						
130A	Snyder	70.25	332	↑P	P	13 34 27.4	+1.0
	baz=70						
Z32A	Haskell	70.29	333	↓P	P	13 34 27.2	+0.6
	baz=71						
425A	Indio Mountain	70.42	328	↑P	P	13 34 27.4	-0.1
	baz=71						
228A	UT Block 9, Go	70.50	330	↑P	P	13 34 28.6	+0.6
	baz=71						
Z31A	Sharp Cattle R	70.56	333	↑P	P	13 34 30.2	+2.0
	baz=71,SNR=5.5						
Y33A	Hilltop Ranch,	70.59	334	↓P	P	13 34 29.9	+1.5
	baz=71						
227A	Bennet, Jal	70.71	330	↑P	P	13 34 31.4	+2.1
	baz=71						
128A	Castleberry Fa	70.89	331	↑P	P	13 34 31.2	+0.8
	baz=71						
Z30A	Sanderson Ranc	70.92	332	↑P	P	13 34 31.4	+0.9
	baz=71						
Z29A	Hungry Hill Ra	71.13	332	↑P	P	13 34 32.5	+0.8
	baz=71,SNR=6.0						
Y31A	Rekieta Farm,	71.17	333	↓P	P	13 34 32.9	+1.0
	baz=72,SNR=5.1						
TUL1	Tulsa	71.32	337	↓P	P	13 34 33.6	+0.8
	baz=72						
MNTX	Cornudas Mount	71.37	328	eP	P	13 34 31.4	-1.8
	comp=E,5.0nm,0.9s						
Z28A	Tucker Farm, M	71.43	331	↑P	P	13 34 34.2	+0.6
	baz=72						
225A	Deer Hill, Car	71.47	329	↓P	P	13 34 35.4	+1.4
	baz=72						
W33A	Caddo, Fort Co	71.56	335	↓P	P	13 34 35.8	+1.5
	baz=72						
126A	Clayton Basin,	71.57	330	↓P	P	13 34 35.2	+0.7
	baz=72						
Y29A	Porterfield Fa	71.64	332	↓P	P	13 34 35.2	+0.4
	baz=72,SNR=5.9						
X31A	McDonald Ranch	71.65	334	↑P	P	13 34 36.6	+1.7
	baz=72						
Z27A	Tatum	71.80	331	↑P	P	13 34 37.1	+1.2
	baz=72,SNR=5.5						
W32A	Sentinel	71.82	334	↓P	P	13 34 37.3	+1.5
	baz=72,SNR=5.3						
V34A	Guthrie	71.83	336	↓P	P	13 34 36.4	+0.6
	baz=72						
125A	Gardner Draw,	71.86	329	↑P	P	13 34 35.7	-0.6
	baz=72						
DBIC	Dimbokro	72.07	70	eP	P	13 34 37.1	-0.7
DBIC	Dimbokro	72.07	70	P	P	13 34 36.8	-1.0
	comp=E,8.8nm,0.7s,baz=204,slow=6.9,SNR=16						
DBIC				LR	LR	14 02 50.1	
	comp=E,128nm,21.6s,baz=188,slow=33						
Z26A	Caprock	72.09	330	↓P	P	13 34 37.2	-0.4
	baz=72,SNR=6.5						
V33A	Lossen Ranch,	72.09	336	↓P	P	13 34 37.2	-0.2
	baz=72						
W31A	Holland Ranch,	72.13	334	↓P	P	13 34 39.8	+2.1
	baz=72						
X29A	Tulia	72.16	332	↓P	P	13 34 40.3	+2.4
	baz=72						
MSTX	Muleshoe	72.18	331	eP	P	13 34 36.8	-1.4
MSTX	Muleshoe	72.18	331	↑P	P	13 34 39.0	+0.8
	baz=72,SNR=6.2						
Y27A	Causey	72.27	331	↓P	P	13 34 39.2	+0.6
	baz=73						
V32A	Arapaho	72.27	335	↑P	P	13 34 39.9	+1.4
	baz=73						
U34A	Anderson Ranch	72.39	336	↓P	P	13 34 39.4	+0.2
	baz=73						
Z25A	Roswell	72.42	329	↓P	P	13 34 40.1	+0.5
	baz=73,SNR=6.0						
AMTX	Amarillo	72.54	332	↑P	P	13 34 41.5	+1.3
	baz=73						
Y26A	Elida	72.58	330	↓P	P	13 34 41.3	+0.8
	baz=73						
W29A	Amraillo	72.73	333	↓P	P	13 34 42.2	+0.9
	baz=73						
Z24A	Sheeppen Canyo	72.74	329	↓P	P	13 34 43.9	+2.3
	baz=73						
Y25A	Mesa, Roswell	72.95	330	↓P	P	13 34 44.2	+1.4
	baz=73						
X26A	CR and CF Fran	73.11	331	↓P	P	13 34 46.2	+2.5
	baz=73,SNR=5.6						
121A	Cookes Peak, D	73.18	327	eP	P	13 34 41.8	-2.4
	comp=E,15nm,1.0s						
121A	Cookes Peak, D	73.18	327	↑P	P	13 34 45.7	+1.5
	baz=74,SNR=6.2						
SFIN	Scholer Farm	73.18	346	↑P	P	13 34 46.5	+2.7
	baz=74						
T33A	Patterson Ranc	73.21	336	↑P	P	13 34 46.4	+2.3
	baz=74						
W27A	Bowe Ranch, En	73.25	332	↑P	P	13 34 46.5	+2.1
	baz=74,SNR=5.6						
Y24A	Capitan	73.28	329	↑P	P	13 34 46.4	+1.7
	baz=74						
Z22A	Elephant Butte	73.40	328	↑P	P	13 34 46.4	+1.0
	baz=74						
X25A	Clemmons Ranch	73.45	330	↑P	P	13 34 45.4	-0.4
	baz=74						
V28A	Channing	73.51	333	↓P	P	13 34 48.2	+2.2
	baz=74						
T32A	Huddler Ranch,	73.54	336	↑P	P	13 34 48.8	+2.8
	baz=74						
Y23A	Lovelace Mesa,	73.56	329	↑P	P	13 34 48.7	+2.3
	baz=74,SNR=5.4						
W26A	Owens Ranch, T	73.56	331	↑P	P	13 34 49.0	+2.7
	baz=74,SNR=6.6						
U30A	WK&E Inc. Balk	73.59	334	↑P	P	13 34 49.3	+2.9
	baz=74						
W25A	X Bar L Ranch,	73.96	331	↑P	P	13 34 50.7	+2.0
	baz=74,SNR=7.2						
V26A	Tequesquite Ra	74.18	331	↑P	P	13 34 50.7	+0.8
	baz=74						
R33A	Olander Ranch,	74.23	337	↓P	P	13 34 50.6	+0.6
	baz=74						
U27A	Thompson Grove	74.33	332	↓P	P	13 34 51.7	+1.0
	baz=75						
W24A	Lazy 6 Ranch,	74.36	330	↑P	P	13 34 52.8	+1.7
	baz=75						
V25A	Rancho No Teng	74.56	331	↑P	P	13 34 53.0	+0.8
	baz=75,SNR=6.4						
W23A	Werner Place,	74.64	329	↓P	P	13 34 53.7	+1.0
	baz=75						
T28A	Walsh	74.66	333	↓P	P	13 34 53.1	+0.4
	baz=75						
S29A	Ulysses	74.72	334	↓P	P	13 34 53.0	+0.1
	baz=75						
R31A	Burdett	74.74	336	↓P	P	13 34 55.3	+2.2
	baz=75						
T27A	Campo	74.85	333	↓P	P	13 34 55.2	+1.5
	baz=75						
U25A	Circle Dot Ran	74.95	331	↓P	P	13 34 55.7	+1.2
	baz=75						
S28A	Manter	74.99	334	↓P	P	13 34 55.4	+0.9
	baz=75						
R30A	Dighton	75.00	335	↑P	P	13 34 55.3	+0.7
	baz=75						
Q32A	Meitler Ranch,	75.04	337	↑P	P	13 34 54.7	0.0
	baz=75						
V23A	Ortiz Mt. (NFS	75.14	330	↑P	P	13 34 57.8	+2.2
	baz=75						
T26A	Comanche Natio	75.29	332	↑P	P	13 34 58.1	+1.7
	baz=76						
R29A	Marienthal	75.44	335	↑P	P	13 34 58.0	+0.9
	baz=76						
T25A	Trinidad	75.59	332	↑P	P	13 35 00.1	+2.0
	baz=76,SNR=7.6						
Q30A	Quinter	75.60	336	↑P	P	13 34 59.9	+2.0
	baz=76						
V22A	San Miguel Ran	75.60	329	↑P	P	13 34 59.3	+1.0
	baz=76,SNR=7.9						
R28A	Tribune	75.62	334	↑P	P	13 34 59.3	+1.2
	baz=76						
P32A	Huiting Farm,	75.62	337	↑P	P	13 35 00.1	+2.0
	baz=76						
S26A	Kim	75.63	333	↑P	P	13 35 01.0	+2.7
	baz=76,SNR=9.5						
U23A	El Rito	75.64	330	↑P	P	13 35 00.5	+2.0
	baz=76						
P31A	Stockton	75.79	336	↓P	P	13 35 01.8	+2.8
	baz=76						
Q29A	Oakley	75.79	335	↓P	P	13 34 59.4	+0.3
	baz=76						
X18A	Snowflake	75.84	326	↓P	P	13 34 59.9	+0.3
	baz=76						
T24B	San Luis	75.92	331	↑P	P	13 35 01.2	+1.1
	baz=76,SNR=5.3						
R27A	Eads	75.94	333	↑P	P	13 35 01.5	+1.5
	baz=76,SNR=5.7						
U22A	Llaves	75.97	330	↑P	P	13 35 01.3	+0.9
	baz=76,SNR=5.4						
S25A	Robets Cordova	76.05	332	↑P	P	13 35 02.6	+1.9
	baz=76						
T23A	Casias Ranch,	76.17	330	↓P	P	13 35 02.7	+1.1
	baz=76						
R26A	Arlington	76.21	333	↑P	P	13 35 02.6	+1.1
	baz=76						
W18A	Petrified Fore	76.22	327	↓P	P	13 35 03.6	+1.8
	baz=76						
Q28A

WUAZ	**Wupatki** baz=78	77.33 326	⇓P	P	13 35 09.2	+1.3
MVCO	**Mesa Verde** baz=78,SNR=6.0	77.39 329	⇑P	P	13 35 10.2	+1.9
Q24A	**Divide** baz=78,SNR=6.3	77.45 332	⇑P	P	13 35 11.5	+2.7
O27A	**Beecher Island** baz=78	77.49 335	⇑P	P	13 35 11.3	+2.6
Y12C	**Blythe** baz=78	77.50 323	⇑P	P	13 35 11.3	+2.5
P25A	**Willow Gulch B** baz=78,SNR=7.3	77.53 333	⇓P	P	13 35 10.8	+1.8
TSUM	**Tsumeb**	77.68 105	*e*P	P	13 35 10.7	+0.3
M30A	**Dale-Ortello V** baz=78	77.76 337	⇑P	P	13 35 12.1	+2.0
O26A	**Horse Wrangler** baz=78	77.84 334	⇓P	P	13 35 11.8	+1.1
BC3	**Big Chuckawall** baz=78	77.91 322	⇑P	P	13 35 13.8	+2.6
OGNE	**Ogallala** baz=78	77.99 335	⇓P	P	13 35 13.5	+2.0
L31A	**Butterfield Fa** baz=78	78.00 338	⇑P	P	13 35 11.9	+0.5
N27A	**Anderson Farm,** baz=78	78.05 335	⇓P	P	13 35 14.6	+2.8
L30A	**Spencer Herefo** baz=78	78.08 337	⇓P	P	13 35 13.5	+1.6
IRM	**Iron Mountain** baz=78	78.14 323	⇑P	P	13 35 14.3	+1.9
W13A	**Hualapai Mount** baz=78	78.23 324	⇓P	P	13 35 15.5	+2.4
ISCO	**Idaho Springs** baz=79	78.35 332	⇓P	P	13 35 16.7	+2.9
U15A	**North Rim** baz=79	78.50 326	⇑P	P	13 35 15.1	+0.5
P22A	**Eagle** baz=79	78.64 331	⇓P	P	13 35 16.4	+1.2
K30A	**Basset** baz=79	78.69 338	⇑P	P	13 35 18.0	+2.8
ECSD	**EROS Data Cent** comp=E,22nm,1.0s	78.73 340	P	P	13 35 14.1	-1.3
ECSD	**EROS Data Cent** baz=79,SNR=6.5	78.73 340	⇓P	P	13 35 16.7	+1.3
O23A	**Lake Granby, G** baz=79,SNR=5.9	78.82 332	⇓P	P	13 35 17.6	+1.2
GMRC	**Granite Mounta** baz=79	78.89 323	⇓P	P	13 35 17.0	+0.4
K29A	**Lazy Trails An** baz=79	79.00 337	⇑P	P	13 35 18.3	+1.4
O22A	**Kremmling** baz=79	79.03 332	⇑P	P	13 35 19.0	+1.4
BOSA	**Boshof**	79.23 117	P	P	13 35 17.7	-1.1
BOSA			pP	pP	13 35 30.8	+1.5
BOSA	**Boshof** comp=E,7.8nm,0.8s,baz=231,slow=6.5,SNR=10	79.23 117	P	P	13 35 17.7	-1.1
BOSA	comp=E,4.5nm,0.5s,baz=248,slow=5.7,SNR=3.9		pP	pP	13 35 30.8	+1.5
BOSA			LR	LR	14 07 21.0	
HEC	comp=E,80nm,19.1s,baz=193,slow=33 **Hector,Ludlow** baz=80	79.28 322	⇓P	P	13 35 21.6	+2.9
K28A	**Ten Mile Ranch** baz=80	79.31 337	⇓P	P	13 35 20.9	+2.2
N23A	**Red Feather La** baz=80	79.42 333	⇓P	P	13 35 20.7	+1.1
M24A	**Cheyenne** baz=80	79.47 334	⇓P	P	13 35 21.6	+1.9
BFSC	**Mount Baldy Ra** baz=80	79.53 321	⇓P	P	13 35 21.2	+1.0
N22A	**Wattenberg Ran** baz=80	79.54 332	⇑P	P	13 35 22.0	+1.7
J29A	**Okreek** baz=80,SNR=6.3	79.58 338	⇓P	P	13 35 21.2	+1.1
K27A	**Fluckinger Fa** baz=80	79.61 336	⇓P	P	13 35 22.1	+1.8
O20A	**White River Ci** baz=80	79.71 331	⇑P	P	13 35 22.4	+1.3
J28A	**Allard Ranch,** baz=80	79.90 337	⇓P	P	13 35 22.9	+1.1
J27A	**Elkhorn Farm,** baz=80,SNR=5.4	80.01 336	⇑P	P	13 35 23.9	+1.4
SHOC	**Shoshone** baz=80	80.07 323	⇑P	P	13 35 23.9	+1.0
M22A	**Cedar Creek Ra** baz=80	80.11 332	⇑P	P	13 35 24.1	+0.9
K25A	**Mack Ranch, Ha** baz=80	80.11 335	⇓P	P	13 35 24.5	+1.4
N20A	**Spence Gulch,** baz=81	80.30 331	⇑P	P	13 35 25.8	+1.5
L23A	**Garrett** baz=81	80.36 333	⇓P	P	13 35 25.8	+1.2
I28A	**Midland** baz=81	80.39 337	⇓P	P	13 35 25.8	+1.4
J26A	**Sides Ranch, S** baz=81	80.44 336	⇓P	P	13 35 28.6	+3.9
H29A	**Onida** baz=81	80.64 338	⇓P	P	13 35 27.5	+1.8
I27A	**Quinn** baz=81,SNR=5.6	80.75 337	⇑P	P	13 35 27.4	+1.1
J25A	**Sunshine Ranch** baz=81	80.76 335	⇓P	P	13 35 29.2	+2.7
FURC	**Furnace Creek,** baz=81	80.81 323	⇑P	P	13 35 28.9	+2.2
ARVC	**Arvin** baz=81	80.83 321	⇑P	P	13 35 28.5	+1.6
K23A	**Bowen Ranch, D** baz=81,SNR=5.6	80.88 334	⇓P	P	13 35 28.0	+0.8
H28A	**Mission Ridge** baz=81,SNR=5.8	80.94 338	⇓P	P	13 35 28.3	+1.0
I26A	**New Underwood** baz=81	80.99 336	⇑P	P	13 35 29.2	+1.5
J24A	**Dixon Ranch, L** baz=81,SNR=5.4	81.02 335	⇓P	P	13 35 29.4	+1.5
G29A	**Hoven** baz=81	81.05 339	⇓P	P	13 35 28.3	+0.4
K22A	**Casper** comp=E,7.1nm,0.9s	81.14 333	P	P	13 35 29.2	+0.5
K22A	**Casper** baz=81	81.14 333	⇓P	P	13 35 29.1	+0.5
H27A	**Howes** baz=82,SNR=5.1	81.25 337	⇓P	P	13 35 30.6	+1.6
G28A	**Parade** baz=82	81.26 338	⇓P	P	13 35 30.4	+1.4
K21A	**Alcova** baz=82	81.41 333	⇓P	P	13 35 31.0	+0.9
I24A	**Kuemmerle Ranc** baz=82	81.47 335	⇑P	P	13 35 32.1	+1.8
RSSD	**Black Hills** comp=E,1.4nm,0.9s	81.48 335	P	P	13 35 31.1	+0.6
R11A	**Troy Canyon, C** baz=82	81.62 325	⇓P	P	13 35 31.5	+0.2
H25A	**Fruitdale** baz=82	81.76 336	⇓P	P	13 35 32.4	+0.7
J22A	**Midwest** baz=82,SNR=5.6	81.77 334	⇑P	P	13 35 33.2	+1.3
G27A	**Dupree** baz=82	81.86 337	⇑P	P	13 35 34.2	+1.9
E30A	**Jud** baz=82	81.92 340	⇑P	P	13 35 33.6	+1.1
J21A	**Lysite** baz=82	82.09 333	⇑P	P	13 35 35.7	+2.1
I22A	**9 Mile Ranch,** baz=82,SNR=6.6	82.18 334	⇑P	P	13 35 35.3	+1.3
G25A	**Newell** baz=82,SNR=7.1	82.20 336	⇑P	P	13 35 35.3	+1.3
H24A	**Dirks Ranch, A** baz=82	82.21 335	⇑P	P	13 35 34.9	+0.7
F27A	**Lemmon** baz=83	82.33 338	⇓P	P	13 35 35.1	+0.5
J20A	**Shoshoni** baz=83	82.34 333	⇓P	P	13 35 36.1	+1.1
I21A	**Big Trails, Te** baz=83	82.42 333	⇓P	P	13 35 36.3	+1.0
D30A	**Buchanan** baz=83	82.43 340	⇓P	P	13 35 36.0	+0.9
PDAR	**Pinedale Array**	82.45 331	P	P	13 35 35.1	-0.5
PDAR			pP	pP	13 35 45.0	-1.1
PDAR	**Pinedale Array** comp=E,0.4nm,0.8s,baz=127,slow=2.4,SNR=3.5	82.45 331	P	P	13 35 35.1	-0.5
PDAR	comp=E,2.6nm,0.8s,baz=130,slow=5.9,SNR=16		pP	pP	13 35 45.0	-1.1
F26A	**Lodgepole** baz=83	82.52 337	⇓P	P	13 35 36.8	+1.0
E28A	**Huff** baz=83	82.53 339	⇑P	P	13 35 38.0	+2.4
J19A	**Crowheart** baz=83,SNR=7.6	82.66 332	⇑P	P	13 35 38.0	+1.4
G24A	**Alzada** baz=83	82.66 336	⇓P	P	13 35 38.0	+1.5
E27A	**Carson** baz=83	82.67 338	⇑P	P	13 35 38.2	+1.7
AGMN	**Agassiz Nation** baz=83	82.72 342	⇑P	P	13 35 38.0	+1.4
H22A	**Clearmont** baz=83	82.73 334	⇓P	P	13 35 39.2	+2.3
F25A	**Bowman** baz=83	82.85 337	⇑P	P	13 35 39.1	+1.6
I20A	**Worland** baz=83,SNR=5.4	82.86 333	⇓P	P	13 35 38.7	+1.1
C30A	**Mose, Pekin** baz=83	82.89 341	⇓P	P	13 35 39.1	+1.6
G23A	**Biddle** baz=83,SNR=5.1	82.90 335	⇓P	P	13 35 38.6	+0.9
E26A	**Carlson Angus** baz=83	83.00 338	⇓P	P	13 35 39.8	+1.7
H21A	**Big Horn, Sher** baz=83	83.02 334	⇑P	P	13 35 39.2	+0.8
NVAR	**Mina Array Bea**	83.05 323	P	P	13 35 39.8	+1.0
NVAR			pP	pP	13 35 49.9	+0.5
NVAR	**Mina Array Bea** comp=E,0.3nm,0.4s,baz=177,slow=6.0,SNR=2.5	83.05 323	P	P	13 35 39.8	+1.0
NVAR	comp=E,2.4nm,0.8s,baz=158,slow=5.7,SNR=9.1		pP	pP	13 35 49.9	+0.5
F24A	**Ekalaka** baz=83	83.12 336	⇓P	P	13 35 40.0	+1.1
G22A	**Birney** baz=84	83.24 335	⇓P	P	13 35 39.6	+0.1
H20A	**Greybull** baz=84	83.26 333	⇑P	P	13 35 39.9	+0.3
I19A	**Meeteetse** baz=84	83.28 332	⇑P	P	13 35 40.9	+1.0
E25A	**Miller Ranch,** baz=84	83.34 337	⇓P	P	13 35 40.8	+0.9
F23A	**Volborg** baz=84,SNR=8.0	83.35 335	⇓P	P	13 35 41.1	+1.1
D26A	**Manning** baz=84	83.49 338	⇑P	P	13 35 41.7	+1.1
B30A	**Myrvik Farm, E** baz=84	83.52 341	⇓P	P	13 35 41.6	+0.9
G21A	**Lodge Grass** baz=84	83.59 334	⇓P	P	13 35 42.6	+1.3
E24A	**Baker** baz=84	83.70 337	⇑P	P	13 35 42.8	+1.0
F22A	**Rosebud** baz=84,SNR=6.0	83.71 335	⇑P	P	13 35 42.9	+1.1
C27A	**Sayler Ranch,** baz=84	83.80 339	⇓P	P	13 35 43.3	+1.1
H19A	**Powell** baz=84	83.80 333	⇓P	P	13 35 42.8	+0.3
B29A	**Wagenman Farm,** baz=84	83.83 340	⇑P	P	13 35 44.8	+2.5
D25A	**Fairfield** baz=84	83.88 337	⇓P	P	13 35 43.6	+0.9
G20A	**Bridger** baz=84,SNR=6.3	83.96 333	⇑P	P	13 35 44.0	+0.7
H18A	**Shoshone NF, C** baz=84	84.08 332	⇑P	P	13 35 43.9	0.0
C26A	**Wahner Farm, P** baz=84	84.08 338	⇑P	P	13 35 44.7	+1.1
B28A	**Dugan Ranch, T** baz=84	84.11 340	⇓P	P	13 35 45.0	+1.2
D24A	**Glendive** baz=84	84.19 337	⇑P	P	13 35 45.2	+1.0
A29A	**Manning Farm,** baz=84	84.21 341	⇓P	P	13 35 44.6	+0.4
F20A	**Billings** baz=85	84.43 334	⇓P	P	13 35 46.7	+1.1
ULM	**Lac du Bonnet** comp=E,4.4nm,0.9s,baz=146,slow=6.5,SNR=5.4	84.53 343	pP	pP	13 35 55.1	-1.2
D23A	**Lindsay** baz=85	84.53 336	⇑P	P	13 35 48.1	+2.1
E21A	**Keefer Ranch,** baz=85	84.66 335	⇑P	P	13 35 47.7	+1.1
F19A	**Roth Farm, Mol** baz=85	84.78 333	⇑P	P	13 35 48.2	+0.9
D22A	**Cohagen** baz=85	84.85 336	⇑P	P	13 35 49.0	+1.4
E20A	**Meyer Farm, Mu** baz=85,SNR=5.5	85.01 334	⇓P	P	13 35 49.6	+1.2
C23A	**Lambert** baz=85	85.07 337	⇓P	P	13 35 50.3	+1.6
D21A	**La Casta Ranch** baz=85	85.07 335	⇑P	P	13 35 51.0	+2.3
HLID	**Hailey** baz=86,SNR=6.2	85.17 329	⇑P	P	13 35 51.1	+1.7
E19A	**Rath Farm, Rou** baz=86,SNR=8.1	85.22 334	⇑P	P	13 35 51.3	+1.8
C22A	**Vida** baz=86	85.26 336	⇑P	P	13 35 52.0	+2.4
DGMT	**Dagmar** comp=E,218nm,2.7s	85.32 338	P	P	13 35 50.3	+0.4
DGMT	**Dagmar** baz=86	85.32 338	⇓P	P	13 35 51.0	+1.2
MCMT	**McKenzie Canyo** comp=E,9.1nm,1.6s	85.50 331	*e*P	P	13 35 50.3	-0.9
D20A	**Manuel Ranch,** baz=86	85.51 335	⇑P	P	13 35 52.5	+1.6
D19A	**Cripps Ranch,** baz=86,SNR=5.7	85.85 334	⇑P	P	13 35 52.9	+0.3
C20A	**Veseth Ranch,** baz=86	85.99 335	⇑P	P	13 35 54.3	+1.1
A22A	**Carney Farms,** baz=87	86.34 337	⇑P	P	13 35 56.8	+1.8
C19A	**Slack Wire Ran** baz=87	86.39 334	⇑P	P	13 35 56.8	+1.5
EGMT	**Eagleton** baz=87	86.89 334	⇓P	P	13 35 59.5	+1.7
A20A	**Cobblestone Ra** baz=87	86.94 336	⇑P	P	13 35 58.3	+0.4
A19A	**Klindworth Far** baz=88	87.28 335	⇑P	P	13 36 00.8	+1.3
YKA	**Yellowknife Ar**	100.26 340	P	Pdif	13 36 59.5	+0.7
YKA			pP	pP	13 37 08.3	-1.1
YKA	**Yellowknife Ar** comp=E,0.0nm,0.4s,baz=143,slow=4.1,SNR=3.5	100.26 340	P	Pdif	13 36 59.4	+0.7
YKA	comp=E,0.1nm,0.6s,baz=137,slow=4.3,SNR=4.1		pP	pP	13 37 08.3	-1.1
ASAR	**Alice Springs**	121.03 205	PKP	PKPdf	13 42 04.0	-2.2
ASAR	**Alice Springs** comp=E,0.8nm,0.6s,baz=144,slow=2.0,SNR=10	121.03 205	PKP	PKPdf	13 42 04.0	-2.2
WRA	**Warramunga Arr**	124.26 207	PKP	PKPdf	13 42 10.9	-1.7
WRA	**Warramunga Arr** comp=E,3.0nm,0.6s,baz=159,slow=1.8,SNR=71	124.26 207	PKP	PKPdf	13 42 10.9	-1.7
H11S2	**WAKE ISLAND Hyl** baz=121,slow=73,SNR=10	128.14 270	T	T	16 02 14.2	
H11S1	**WAKE ISLAND Hyl** baz=121,slow=73,SNR=8.0	128.15 270	T	T	16 02 21.7	
H11S3	**WAKE ISLAND Hyl** baz=121,slow=73,SNR=7.6	128.16 270	T	T	16 02 02.5	
HYB	**Hyderabad**	147.73 108	*i* PKP	PKPdf	13 42 56.0	+0.4
AAK	**Ala-Archa**	149.12 58	*e*PKPbc	PKPbc	13 43 00.8	-0.8
AAK	**Ala-Archa** comp=E,4.7nm,1.0s,baz=202,slow=4.6,SNR=15	149.12 58	PKPbc	PKPbc	13 43 00.7	-0.8
KURK	**Kurchatov**	149.29 41	*e*PKPbc	PKPbc	13 43 00.5	-0.9
KURK			*e*PKPab	PKPab	13 43 05.3	-0.8
PSI	**Prapat** comp=E,3.0nm,0.4s,baz=158,slow=18,SNR=3.0	149.56 156	PKPbc	PKPbc	13 43 02.0	-1.4
ZAA0	**Zalesovo Array**	150.68 32	*e*PKPbc	PKPbc	13 43 03.0	-1.7
ZALV	**Zalesovo Beam** comp=E,5.5nm,0.5s,baz=298,slow=3.2,SNR=32	150.68 32	PKPbc	PKPbc	13 43 03.8	-0.9
IPM	**Ipoh**	151.82 159	*e*PKPbc	PKPbc	13 43 07.0	-1.6
MK31	**Makanchi Array**	153.20 47	*e*PKPbc	PKPbc	13 43 09.7	-1.1
MKAR	**Makanchi Array** comp=E,1.5nm,0.8s,baz=302,slow=2.3,SNR=14	153.20 47	PKPbc	PKPbc	13 43 09.1	-1.6
MKAR	comp=E,2.6nm,0.7s,baz=296,slow=3.8,SNR=14		PKPab	PKPab	13 43 21.8	-0.8
CMAR	**Chiang Mai Arr**	163.36 137	PKP	PKPdf	13 43 15.4	-0.9
CMAR			PKPab	PKPab	13 44 05.7	-1.5
CMAR	**Chiang Mai Arr** comp=E,0.9nm,0.9s,baz=277,slow=1.4,SNR=6.2	163.36 137	PKP	PKPdf	13 43 15.4	-0.9
CMAR	comp=E,0.3nm,0.4s,baz=254,slow=5.3,SNR=4.1		PKPab	PKPab	13 44 05.7	-1.5

IDC 20 13:29:02.4±2.2,2°.02N×128°.16E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.2/21,mbtmp3.2/3,Error ellipse: s-maj=149.0km s-min=27.6km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=345,slow=11,SNR=7.7	22.65	165	P	P	13 34 06.3	+0.9
ASAR	**Alice Springs** 0.1nm,0.5s,baz=340,slow=8.0,SNR=2.7	26.13	168	P	P	13 34 37.2	-1.3
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=114,slow=7.6,SNR=4.2	59.77	325	P	P	13 39 09.6	+0.2

*IDC **20** 13:30:34.6±4.8,31°.55S×69°.45W,h96km±33km,mb1 3.9/1, mb1mx3.3/15,mbtmp4.0/1,Error ellipse: s-maj=101.5km s-min=51.4km az=91.0*

*SJA **20** 13:30:37.1±1.3,31°.27S×68°.80W,h105km±6km,MD3.6, ML4.0*

*ISCJB **20** 13:30:38.2±0.8,31°.28S±0°.04×68°.76W±0°.08,h104km±7km, Error ellipse: s-maj=12.2km s-min=5.9km az=22.7*

ISC 20 13:30:37.3±0.8,31°.27S±0°.05×68°.80W±0°.07,h111km±6km, n20,σ0°82/33,San Joaquin Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	0.28	102	*i* P	Pn	13 30 53.2	+0.1
RTLL				*i* S	Sn	13 31 04.2	-1.0
SJA	**San Juan**	0.33	141	*i* P	Pn	13 30 53.9	+0.5
CFAA	**Coronel Fontan** baz=311,slow=8.2	0.58	125	P	Pn	13 30 55.1	+0.2
CFAA	**Coronel Fontan**	0.58	125	*e*P	Pn	13 30 55.1	+0.2
CFAA				*e*S	Sn	13 31 08.0	-0.1
RTCV	**Cerro Valdivia**	0.63	160	*e*P	Pn	13 30 55.5	+0.2
RTCV				*i* S	Sn	13 31 08.3	-0.6
RTLS	**Leoncito**	0.68	219	*e*P	Pn	13 30 56.3	+0.4
AUSP	**Uspallata**	1.07	208	*i* P	Pn	13 31 00.2	+0.6
AUSP				*e*S	Sn	13 31 16.9	+0.3
AVFE	**Valle Fertil**	1.30	62	*e*P	Pn	13 31 02.7	+0.8
AVFE				*i* P	Pn	13 31 02.8	+0.8
AVFE				*i* S	Sn	13 31 20.9	+0.2
AVFE	comp=Z,1μm,0.6s			AML	AML	13 31 22.2	
ASAL	**Salagasta**	1.32	181	*e*P	Pn	13 31 02.8	+0.7
ASAL				*i* S	Sn	13 31 21.1	+0.2
ARCO	**CERRO ARCO**	1.57	184	*e*P	Pn	13 31 05.9	+0.7
ARCO				*e*S	Sn	13 31 26.4	+0.1
ARCO	comp=Z,2μm,0.6s			AML	AML	13 31 29.6	
ACAN	**Cantantal**	1.70	127	*e*P	Pn	13 31 07.5	+1.0
AGUA	**GUANDACOL**	1.80	9	*e*P	Pn	13 31 09.4	+1.5
AGUA				*i* S	Sn	13 31 30.6	-0.6
AAGR	**Agrelo**	1.81	181	*e*P	Pn	13 31 08.7	+0.6
AAGR				*e*S	Sn	13 31 31.7	+0.2
ACHE	**Chepes**	1.83	87	*e*P	Pn	13 31 09.0	+0.7
ACHE				*e*P	Pn	13 31 09.0	+0.7
TCA	**Tanti**	3.60	92	*e*P	Pn	13 31 31.4	+0.1
LPAZ	**La Paz** comp=Z,0.3nm,0.3s,baz=187,slow=10,SNR=6.9	14.93	2	P	P	13 34 05.2	-0.8
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=158,slow=1.7,SNR=6.3	124.44	207	PKP	PKPdf	13 49 21.8	-2.1
AAK	**Ala-Archa** comp=Z,0.9nm,0.6s,baz=270,slow=5.1,SNR=5.5	148.78	58	PKPbc	PKPbc	13 50 12.9	+1.2
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s,baz=298,slow=3.1,SNR=7.2	150.47	32	PKPbc	PKPbc	13 50 16.0	+0.7
ZALV	comp=Z,1.4nm,0.6s,baz=298,slow=3.2,SNR=5.8			pPKPbc	pPKPbc	13 50 46.2	+0.8
MKAR	**Makanchi Array** comp=Z,0.1nm,0.4s,baz=322,slow=1.9,SNR=4.0	152.91	47	PKPbc	PKPbc	13 50 19.9	-1.2
MKAR	comp=Z,0.5nm,0.6s,baz=306,slow=4.2,SNR=4.4			PKPab	PKPab	13 50 33.5	+0.8

*IDC **20** 13:44:38.9±2.0,10°.86N×91°.89E,h0km,mb3.7/5, mb1 3.8/7,mb1mx3.6/27,mbtmp3.7/7,ML3.8/2,Error ellipse: s-maj=65.6km s-min=19.2km az=66.0*

*ISCJB **20** 13:44:41.3±0.6,10°.73N±0°.04×91°.83E±0°.06,h27km, mb3.6/5,Error ellipse: s-maj=9.1km s-min=5.9km az=157.5*

ISC 20 13:44:42.8±0.8,10°.93N±0°.07×91°.92E±0°.09,h27km,n20, σ1s51/17,mb3.7/5,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	1.09	48	*e*P	Pb	13 45 03.6	+0.6
PBA				*e*S	Sb	13 45 20.2	+3.4
PBA	comp=N,6μm,0.4s			AML	AML	13 45 21.9	
PBA	comp=E,9μm,0.2s			AML	AML	13 45 22.0	
DGPR	**DIGLIPUR**	2.45	24	*e*P	Pb	13 45 24.2	-1.9
DGPR				*e*S	Sb	13 45 55.7	-0.2
DGPR	comp=N,540nm,0.6s			AML	AML	13 46 10.6	
DGPR	comp=E,758nm,0.8s			AML	AML	13 46 12.6	
CMBY	**CAMPBELL BAY**	4.37	153	*e*S	Sn	13 46 36.3	-1.1
CMAR	**Chiang Mai Arr** comp=E,0.2nm,0.3s,baz=238,slow=14,SNR=3.3	10.11	41	Pn	Pn	13 47 06.4	+0.1
PSI	**Prapat** comp=E,0.9nm,0.3s,baz=238,slow=9.5,SNR=2.8	10.65	139	Pn	Pn	13 47 14.0	+0.2
VIS	**Vishakhapatnam**	10.72	310	*i* P	Pn	13 47 12.5	-2.1
VIS				*e*S	Sn	13 49 01.6	-12
VIS	comp=E,26nm,0.7s			*ex*	x	13 49 02.8	
VIS	comp=N,31nm,0.4s			*ex*	x	13 49 04.5	
RAMN	**Ramite**	16.71	343	*e*P	P	13 48 37.9	+0.4
TAPN	**Taplejung**	16.81	347	*e*P	P	13 48 38.0	-0.7
JIRN	**Jiri**	17.50	343	*e*P	P	13 48 48.1	+1.8
GKN	**Gorkha**	18.31	339	*e*P	Pn	13 48 57.8	+2.7
BHPL	**Bhopal**	18.47	313	*e*S	Sn	13 52 21.3	-1.5
KOLN	**Koldanda**	18.49	336	*e*P	Pn	13 49 00.2	+2.8
H08S3	**Diego Garcia H** baz=47,slow=75,SNR=290	26.72	227	T	T	14 18 19.3	
H08S2	**Diego Garcia H** baz=47,slow=75,SNR=393	26.72	227	T	T	14 18 08.9	
H08S1	**Diego Garcia H** baz=47,slow=75,SNR=109	26.74	227	T	T	14 18 13.1	
MKAR	**Makanchi Array** comp=N,0.7nm,0.5s,baz=170,slow=7.9,SNR=10	36.67	349	P	P	13 51 47.9	+0.6
SONM	**Songino Array** comp=N,0.4nm,0.4s,baz=210,slow=7.9,SNR=6.7	38.76	16	P	P	13 52 05.8	+0.8
ZALV	**Zalesovo Beam** comp=N,0.3nm,0.3s,baz=188,slow=8.7,SNR=3.2	43.28	354	P	P	13 52 42.5	+0.5
WRA	**Warramunga Arr** comp=N,0.6nm,0.6s,baz=300,slow=10,SNR=24	51.81	126	P	P	13 53 48.8	-0.1
ASAR	**Alice Springs** comp=N,0.4nm,0.5s,baz=301,slow=7.1,SNR=6.8	53.55	130	P	P	13 54 01.8	+0.2

IDC 20 13:47:37.1±7.9,22°.16S×176°.27W,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.9/21,mbtmp4.1/5,ML4.4/1,Error ellipse: s-maj=251.9km s-min=34.9km az=138.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 3.8nm,0.3s,baz=66,slow=20,SNR=6.4	9.25	28	Pn	Pn	13 49 50.2	-1.7
AFI	0.9nm,0.3s,baz=143,slow=20,SNR=2.4			Sn	Sn	13 51 32.2	-4.6
CTA	**Charters Tower** 1.5nm,0.4s,baz=84,slow=12,SNR=4.6	34.96	266	P	P	13 54 31.9	+0.6
ASAR	**Alice Springs** 0.6nm,0.7s,baz=103,slow=7.8,SNR=5.2	45.73	258	P	P	13 55 59.5	-1.0
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=101,slow=8.2,SNR=11	45.99	263	P	P	13 56 01.3	-1.3
CMAR	**Chiang Mai Arr** 1.3nm,0.9s,baz=134,slow=3.0,SNR=8.8	92.18	289	P	P	14 00 51.1	+1.8

*CSEM **20** 14:25:21.8±1.5,37°.28N×27°.65E,h1km,MD2.7,Error ellipse: s-maj=40.3km s-min=8.8km az=58.0,Mining explosion.*

*ISCJB **20** 14:25:25.1±1.2,37°.50N±0°.04×28°.15E±0°.08,h0km,Error ellipse: s-maj=9.6km s-min=6.2km az=178.8*

*DDA **20** 14:25:26.3,37°.50N×28°.22E,h7km,MD2.7*

ISC 20 14:25:25.1±1.2,37°.52N±0°.04×28°.30E±0°.07,h0km,n9, σ0s66/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	0.38	182	*e*PG	Pg	14 25 31.9	-0.5
YER				*e*SG	Sg	14 25 37.8	+0.4
YER	**Yerkesik**	0.38	182	*e*Pg	Pg	14 25 31.9	-0.5
YER				*e*Sg	Sg	14 25 37.8	+0.4
AYDB	**Zeytinkoy-Aydi**	0.54	323	*e*PG	Pg	14 25 35.3	-0.1
AYDB	**Zeytinkoy-Aydi**	0.54	323	*e*Pg	Pg	14 25 35.3	-0.1
DNZL	**Cakiroluk**	0.62	74	*i* P	Pn	14 25 40.6	-0.8
DNZL				*i* S	Sb	14 25 49.2	+0.9
TURN	**Turunc**	0.69	159	*i* P	Pg	14 25 38.1	-0.2
TURN				*i* S	Sb	14 25 50.9	+0.9
TURN	**Turunc**	0.69	159	*i* P	Pg	14 25 38.1	-0.2
TURN				*i* S	Sb	14 25 50.9	+0.9
KULA	**Kula-Manisa**	1.03	16	*e*PG	Pg	14 25 39.1	-5.9

KULA	**Kula-Manisa**	**1.03**	**16**	*e*Pg	Pg	14 25 39.1	-5.9

IDC 20 14:28:28.1±9.7, 4°.75S×153°.10E, h106km±66km, mb3.1/3, mb1 3.3/4, mb1mx3.1/28, mbtmp3.6/4, Error ellipse: s-maj=105.9km s-min=42.2km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.49**	**232**	P	Pn	14 30 14.4	-0.4
	0.8nm,0.3s,baz=12,slow=18,SNR=5.3						
PMG				S	Sn	14 31 39.6	+1.4
	1.0nm,0.3s,baz=188,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**23.70**	**229**	P	P	14 33 29.7	-0.8
	1.1nm,0.8s,baz=55,slow=9.6,SNR=9.8						
ASAR	**Alice Springs**	**26.39**	**223**	P	P	14 33 55.5	+0.6
	0.2nm,0.8s,baz=47,slow=9.4,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**26.70**	**30**	T	T	15 01 56.2	
	baz=212						
H11S2	**WAKE ISLAND Hy**	**26.70**	**30**	T	T	15 01 41.9	
	baz=212						
H11S1	**WAKE ISLAND Hy**	**26.72**	**30**	T	T	15 01 51.4	
	baz=212						
MKAR	**Makanchi Array**	**80.48**	**319**	P	P	14 40 28.6	+0.1
	0.5nm,0.8s,baz=104,slow=6.1,SNR=3.7						

GUC 20 14:34:26.3±0.5, 30°.40S×71°.49W, h36km±3km, ML4.1, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.88**	**152**	↑*i*P	Pn	14 34 42.8	+0.5
CMCH				*i*S	Sn	14 34 54.9	+1.0
CMCH				AML	AML	14 34 57.6	
	comp=N,8μm,0.6s						
VACH	**Vallenar**	**1.93**	**19**	*e*P	Pn	14 34 58.1	+1.6
VACH				*i*S	Sn	14 35 21.9	+2.4
VACH				AML	AML	14 35 26.5	
	comp=N,2μm,0.4s						
ROCH	**El Roble**	**2.59**	**171**	*e*P	Pn	14 35 07.5	+1.4
ROCH				*i*S	Sn	14 35 39.3	+2.8
ROCH				AML	AML	14 35 48.0	
	comp=N,754nm,0.4s						
PEL	**Peldehue**	**2.82**	**166**	*e*P	Pn	14 35 10.6	+1.7
PEL				*e*S	Sn	14 35 43.9	+2.2
PEL				AML	AML	14 35 59.7	
	comp=E,896nm,0.3s						
CLCH	**Cerro Calan**	**3.09**	**165**	*e*P	Pn	14 35 13.8	+1.2
CLCH				AML	AML	14 36 06.0	
	comp=E,444nm,0.6s						

*ISCJB **20** 14:42:46.6±0.4, 12°.52N±0°.05×88°.18W±0°.05, h62km±3km, mb4.3/22, Error ellipse: s-maj=10.6km s-min=3.7km az=136.0*

*CASC **20** 14:42:47.3±1.9, 12°.53N×88°.22W, h35km±8km, MD4.7, ML4.5*

*NEIC **20** 14:42:47.1±0.6, 12°.51N×88°.17W, mb4.5/12, MD4.6(SNET), Error ellipse: s-maj=17.0km s-min=8.6km az=58.0*

NEIC Felt [II] at San Salvador.

*IDC **20** 14:42:47.7±0.8, 12°.77N×87°.84W, h60km±6km, mb3.9/12, mb1 4.2/13, mb1mx3.9/25, mbtmp4.2/13, MS3.1/9, Ms1 3.2/9, ms1mx3.0/37, Error ellipse: s-maj=31.0km s-min=11.4km az=61.0*

ISC 20 14:42:47.4±0.6, 12°.56N±0°.05×88°.17W±0°.05, h62km±5km, n234, σ1°33/249, mb4.4/22, 75C-74D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.87**	**353**	↓*i*P	**Pn**	**14 43 03.3**	**-0.8**
CAHU	**Cacacuatique**	**1.20**	**358**	*e*P	**Pn**	**14 43 08.0**	**-0.3**
CAHU				*e*S	**Sn**	**14 43 25.8**	**+1.8**
SNVI	**San Vicente**	**1.23**	**328**	*e*P	**Pn**	**14 43 07.9**	**-0.8**
LFRS	**El Faro**	**1.37**	**321**	↓*i*P	**Pn**	**14 43 09.8**	**-0.6**
LBRS	**Las Brisas**	**1.45**	**324**	*e*P	**Pn**	**14 43 11.4**	**-0.1**
LFU	**La Fuente**	**1.50**	**322**	*e*P	**Pn**	**14 43 11.9**	**-0.2**
SNET	**Serv Nac Est T**	**1.52**	**317**	*e*P	**Pn**	**14 43 11.7**	**-0.8**
SNET				*e*S	**Sn**	**14 43 30.5**	**-0.9**
SNET				AML	AML	14 43 34.1	
	comp=Z,9μm,0.2s						
BOQS	**Boqueron**	**1.59**	**317**	*e*P	**Pn**	**14 43 13.4**	**-0.2**
BOQS				*e*S	**Sn**	**14 43 32.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.73**	**30**	*e*Pn	**Pn**	**14 43 14.8**	**-0.3**
TGUH				*e*Sn	**Sn**	**14 43 33.3**	**-2.8**
SBLS	**San Blas**	**1.90**	**312**	*e*P	**Pn**	**14 43 17.6**	**-0.2**
SNJE	**San Jose**	**1.91**	**313**	*e*P	**Pn**	**14 43 17.9**	**+0.1**
RTR	**El Retiro**	**1.96**	**313**	*e*P	**Pn**	**14 43 18.5**	**+0.1**
RBDL	**Robledal**	**2.13**	**316**	*e*P	**Pn**	**14 43 21.0**	**+0.2**
MRL	**Marmol**	**2.89**	**330**	*e*P	**Pn**	**14 43 32.9**	**+1.6**
NBG	**Las Nubes**	**2.92**	**314**	*e*P	**Pn**	**14 43 33.3**	**+1.6**
APG	**El Apazote**	**3.29**	**318**	P	**Pn**	**14 43 34.2**	**-2.5**
APG				S	Sn	14 44 22.1	+7.3
APG	**El Apazote**	**3.29**	**318**	P	**Pn**	**14 43 34.2**	**-2.5**
	comp=Z,2.8nm,0.3s,baz=133,slow=10,SNR=18						
APG				S	Sn	14 44 22.1	+7.3
	comp=Z,6.0nm,0.3s,baz=135,slow=19,SNR=3.6						
APG				LR	LR	14 44 31.4	
	comp=Z,38nm,21.3s,baz=162,slow=31						
VCR	**Vista de Mar**	**3.47**	**134**	*e*P	**Pn**	**14 43 38.4**	**-0.7**
JTS	**JuntasAbangare**	**3.88**	**125**	*e*Pn	**Pn**	**14 43 44.5**	**-0.1**
JTS				*e*Sn	**Sn**	**14 44 28.5**	**-0.5**
JTS				S		14 44 35.9	
JTS	**JuntasAbangare**	**3.88**	**125**	P	**Pn**	**14 43 44.0**	**-0.6**
	comp=Z,8.5nm,0.3s,baz=307,slow=14,SNR=34						
JTS				S	Sn	14 44 35.9	+6.9
	comp=Z,42nm,0.3s,baz=254,slow=20,SNR=5.1						
JTS				LR	LR	14 45 00.2	
	comp=Z,56nm,21.6s,baz=292,slow=35						
JCR	**Jicaral**	**4.03**	**132**	*e*P	**Pn**	**14 43 47.3**	**+0.6**
CGA2	**Cerro Gallo 2**	**4.43**	**124**	*e*P	**Pn**	**14 43 53.7**	**+1.5**
QCR	**Quepos**	**5.02**	**128**	*e*P	**Pn**	**14 44 01.1**	**+1.0**
URSC	**Urasca**	**5.09**	**122**	*e*P	**Pn**	**14 44 02.9**	**+1.6**
URSC				*e*S	**Sn**	**14 45 01.6**	**+2.7**
BUS	**Buena Vista**	**5.26**	**124**	↑*e*P	**Pn**	**14 44 05.8**	**+1.9**
ACR	**Cerro Adams**	**6.27**	**128**	*e*P	**Pn**	**14 44 18.3**	**+1.0**
TEIG	**Tepich**	**7.62**	**359**	*e*P	**Pn**	**14 44 38.5**	**+2.7**
TEIG	**Tepich**	**7.62**	**359**	P	**Pn**	**14 44 36.7**	**+0.9**
	comp=Z,3.5nm,0.3s,baz=168,slow=14,SNR=12						
TEIG				LR	LR	14 47 50.2	
	comp=Z,280nm,20.3s,baz=189,slow=41						
034A	**Hebbronville**	**17.48**	**327**	↑P	**P**	**14 46 49.0**	**+1.7**
	baz=18						
933A	**Laredo**	**18.23**	**327**	↓P	**Pn**	**14 46 57.6**	**+1.5**
	baz=18						
833A	**Chaparral WMA,**	**18.86**	**328**	↓P	**Pn**	**14 47 04.6**	**+0.9**
	baz=19,SNR=8.9						
733A	**Divot King Ran**	**19.13**	**329**	↓P	**Pn**	**14 47 07.5**	**+0.6**
	baz=19						
832A	**Faith Ranch, C**	**19.14**	**327**	↑P	**Pn**	**14 47 07.2**	**+0.2**
	baz=19,SNR=13						
TIGA	**Tifton**	**19.26**	**12**	P	**Pn**	**14 47 09.3**	**+0.9**
	comp=Z,18nm,0.7s						
TIGA	**Tifton**	**19.26**	**12**	↓P	**Pn**	**14 47 09.9**	**+1.5**
	baz=19						
535A	**Dale**	**19.45**	**335**	↑P	**Pn**	**14 47 10.5**	**-0.2**
	baz=20						
732A	**Laxson Ranch,**	**19.49**	**327**	↓P	**Pn**	**14 47 10.8**	**-0.3**
	baz=20						
633A	**Saathoff Ranch**	**19.68**	**330**	↓P	**Pn**	**14 47 12.7**	**-0.7**
	baz=20						
534A	**Blanco**	**19.83**	**333**	↓P	**P**	**14 47 14.3**	**+1.1**
	baz=20						
632A	**Uvalde**	**20.02**	**329**	↑P	Pn	14 47 17.6	+0.1
	baz=20,SNR=8.0						
533A	**Kerrville**	**20.12**	**332**	↑P	**P**	**14 47 17.1**	**+0.7**
	baz=20						
631A	**Perdido Creek**	**20.35**	**327**	↑P	Pn	14 47 20.2	-1.1
	baz=20						
532A	**Rocksprings**	**20.59**	**330**	↓P	**P**	**14 47 22.7**	**+1.3**
	baz=21,SNR=7.9						
433A	**Art**	**20.73**	**333**	↑P	Pn	14 47 24.9	-0.9
	baz=21						
JCT	**Junction City**	**20.83**	**331**	*e*P	Pn	14 47 27.7	+0.7
	comp=Z,6.5nm,0.5s						
JCT	**Junction City**	**20.83**	**331**	↓P	Pn	14 47 26.1	-0.9
	baz=21,SNR=5.6						
333A	**Richland Sprin**	**21.17**	**334**	↓P	**P**	**14 47 29.5**	**+1.9**
	baz=21						
GOGA	**Godfrey**	**21.20**	**11**	*e*P	**P**	**14 47 29.9**	**+2.0**
	comp=Z,28nm,0.8s						
GOGA				*e*		14 47 44.8	
530A	**J-C Ranch, Com**	**21.33**	**327**	↓P	**P**	**14 47 31.1**	**+1.7**
	baz=21						
431A	**Sonora**	**21.39**	**329**	↓P	**P**	**14 47 31.8**	**+1.8**
	baz=22						
332A	**Millersview**	**21.55**	**332**	↑P	**P**	**14 47 34.5**	**+2.7**
	baz=22,SNR=16						
628A	**Black Gap, Mar**	**21.69**	**323**	↓P	**P**	**14 47 34.8**	**+1.5**
	baz=22						
233A	**Rising Star**	**21.73**	**335**	↑P	**P**	**14 47 36.4**	**+2.8**
	baz=22						
430A	**Baggett Ranch,**	**21.79**	**328**	↑P	**P**	**14 47 35.9**	**+1.6**
	baz=22						
529A	**Stev Forest Ra**	**21.79**	**325**	↑P	**P**	**14 47 35.4**	**+1.1**
	baz=22						
331A	**San Angelo**	**21.81**	**331**	↑P	**P**	**14 47 37.1**	**+2.6**
	baz=22,SNR=5.3						
ATAH	**Atahualpa**	**21.85**	**153**	LR	LR	14 55 28.9	
	comp=Z,36nm,21.5s,baz=329,slow=35						
232A	**Coleman**	**21.94**	**333**	↑P	**P**	**14 47 37.9**	**+2.0**
	baz=22,SNR=6.6						
627A	**Terlingua Ranc**	**21.96**	**322**	↑P	**P**	**14 47 37.2**	**+0.9**
	baz=22,SNR=11						
429A	**Davenport Ranc**	**22.00**	**327**	↓P	**P**	**14 47 38.5**	**+1.9**
	baz=22						
TXAR	**Lajitas Array**	**22.05**	**322**	P	**P**	**14 47 38.6**	**+1.5**
TXAR				ScP	**ScP**	**14 55 07.0**	**+1.6**
TXAR	**Lajitas Array**	**22.05**	**322**	P	**P**	**14 47 38.6**	**+1.5**
	comp=Z,9.2nm,0.7s,baz=140,slow=10,SNR=85						
TXAR				ScP	**ScP**	**14 55 07.0**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=161,slow=5.3,SNR=6.2						
528A	**Cox Ranch, San**	**22.14**	**325**	↑P	**P**	**14 47 38.9**	**+0.8**
	baz=22						
330A	**Mertzon**	**22.26**	**329**	↑P	**P**	**14 47 40.3**	**+1.0**
	baz=22						
231A	**Bronte**	**22.28**	**332**	↓P	**P**	**14 47 41.1**	**+1.6**
	baz=22						
MIAR	**Mount Ida**	**22.43**	**348**	*e*P	**P**	**14 47 42.4**	**+1.3**
	comp=Z,11nm,0.7s						
626A	**Big Bend Ranch**	**22.49**	**321**	↑P	**P**	**14 47 42.7**	**+0.9**
	baz=23,SNR=6.4						
428A	**Kincaid Ranch,**	**22.51**	**326**	↑P	**P**	**14 47 43.3**	**+1.2**
	baz=23						
ABTX	**Abilene, Hawle**	**22.57**	**334**	↓P	**P**	**14 47 44.1**	**+1.4**
	baz=23						
527A	**Woodward Ranch**	**22.60**	**323**	↓P	**P**	**14 47 43.2**	**+0.1**
	baz=23,SNR=5.9						
230A	**Sterling City**	**22.62**	**330**	↓P	**P**	**14 47 44.2**	**+1.0**
	baz=23						
329A	**Wagon Wheel Ra**	**22.73**	**328**	↓P	**P**	**14 47 45.0**	**+0.6**
	baz=23						
Z33A	**Whitaker Ranch**	**22.79**	**337**	↑P	**P**	**14 47 46.4**	**+1.5**
	baz=23						
526A	**Mary Lane Ranc**	**22.82**	**322**	↓P	**P**	**14 47 46.0**	**+0.6**
	baz=23,SNR=9.3						
427A	**Hayter Ranch,**	**23.00**	**325**	↑P	**P**	**14 47 48.2**	**+1.0**
	baz=23						
229A	**Bryant Ranch,**	**23.03**	**329**	↓P	**P**	**14 47 48.0**	**+0.5**
	baz=23						
Z32A	**Haskell**	**23.09**	**335**	↓P	**P**	**14 47 48.5**	**+0.6**
	baz=23						
130A	**Snyder**	**23.14**	**332**	↓P	**P**	**14 47 49.3**	**+0.8**
	baz=23,SNR=5.7						
KMSC	**Kings Mountain**	**23.32**	**14**	*e*P	**P**	**14 47 51.0**	**+0.9**
	comp=Z,14nm,0.6s						
KMSC				*e*		14 48 07.8	
KMSC	**Kings Mountain**	**23.32**	**14**	↓P	**P**	**14 47 51.5**	**+1.4**
	baz=24,SNR=5.2						
TKL	**Tuckaleechee C**	**23.34**	**9**	P	**P**	**14 47 50.1**	**-0.2**
TKL	**Tuckaleechee C**	**23.34**	**9**	P	**P**	**14 47 50.1**	**-0.2**
	comp=Z,6.8nm,0.8s,baz=186,slow=12,SNR=11						
Z31A	**Sharp Cattle R**	**23.38**	**334**	↑P	**P**	**14 47 51.7**	**+0.9**
	baz=24						
228A	**UT Block 9, Go**	**23.55**	**328**	↑P	**P**	**14 47 52.9**	**+0.6**
	baz=24						
129A	**Stewart Farms,**	**23.59**	**330**	↓P	**P**	**14 47 53.4**	**+0.7**
	baz=24						
X34A	**Smith Ranch, M**	**23.63**	**340**	↓P	**P**	**14 47 54.6**	**+1.6**
	baz=24						
326A	**Caldwell Ranch**	**23.68**	**325**	↑P	**P**	**14 47 54.1**	**+0.5**
	baz=24						
Y32A	**R-V Farms, Ver**	**23.69**	**336**	↓P	**P**	**14 47 54.9**	**+1.3**
	baz=24						
Z30A	**Sanderson Ranc**	**23.79**	**332**	↓P	**P**	**14 47 55.4**	**+0.9**
	baz=24,SNR=9.0						
X33A	**Lawton**	**23.81**	**338**	↑P	**P**	**14 47 55.8**	**+1.2**
	baz=24						
425A	**Indio Mountain**	**23.88**	**322**	↑P	**P**	**14 47 55.6**	**+0.2**
	baz=24						
128A	**Castleberry Fa**	**23.89**	**329**	↑P	**P**	**14 47 55.9**	**+0.4**
	baz=24,SNR=5.5						
LPIG	**La Paz**	**23.90**	**302**	LR	LR	14 57 07.5	
	comp=Z,126nm,20.8s,baz=156,slow=36						
Y31A	**Rekieta Farm,**	**23.98**	**335**	↓P	**P**	**14 47 58.1**	**+1.9**
	baz=24						
X32A	**Elmer**	**23.99**	**337**	↑P	**P**	**14 47 57.4**	**+1.0**
	baz=24						
Z29A	**Hungry Hill Ra**	**24.03**	**331**	↑P	**P**	**14 47 57.3**	**+0.5**
	baz=24,SNR=5.3						
WMOK	**Wichita Mounta**	**24.09**	**338**	*e*P	**P**	**14 47 57.6**	**+0.4**
	comp=Z,5.7nm,0.9s						
Y30A	**Stafford Cattl**	**24.18**	**333**	↑P	**P**	**14 47 59.3**	**+1.2**
	baz=24						
W34A	**Bridge Creek,**	**24.19**	**341**	↑P	**P**	**14 47 59.5**	**+1.4**
	baz=24						
226B	**Tecolote Peak,**	**24.36**	**325**	↑P	**P**	**14 48 00.2**	**+0.5**
	baz=24						
Z28A	**Tucker Farm, M**	**24.38**	**330**	↓P	**P**	**14 47 60.0**	**0.0**
	baz=24						
127A	**Arkansas Junct**	**24.38**	**328**	↑P	**P**	**14 47 59.9**	**-0.1**
	baz=24						
X31A	**McDonald Ranch**	**24.45**	**336**	↓P	**P**	**14 48 01.0**	**+0.6**
	baz=25						
Y29A	**Porterfield Fa**	**24.51**	**332**	↑P	**P**	**14 48 01.3**	**+0.2**
	baz=25						
W32A	**Sentinel**	**24.60**	**338**	↑P	**P**	**14 48 02.9**	**+1.1**
	baz=25						
X30A	**Coker Ranch, T**	**24.66**	**334**	↑P	**P**	**14 48 03.5**	**+1.1**
	baz=25,SNR=14						
V34A	**Guthrie**	**24.66**	**342**	↓P	**P**	**14 48 02.8**	**+0.5**
	baz=25						
126A	**Clayton Basin,**	**24.71**	**327**	↑P	**P**	**14 48 03.3**	**+0.3**
	baz=25						
225A	**Deer Hill, Car**	**24.75**	**324**	↓P	**P**	**14 48 03.8**	**+0.3**
	baz=25						
Z27A	**Tatum**	**24.81**	**329**	↓P	**P**	**14 48 03.8**	**-0.2**
	baz=25,SNR=7.7						
Y28A	**McKinney Farm,**	**24.82**	**331**	↑P	**P**	**14 48 03.7**	**-0.3**
	baz=25						
X29A	**Tulia**	**25.02**	**333**	↑P	**P**	**14 48 06.9**	**+1.2**
	baz=25						
125A	**Gardner Draw,**	**25.07**	**326**	↓P	**P**	**14 48 07.1**	**+0.9**
	baz=25						
MSTX	**Muleshoe**	**25.12**	**330**	*e*P	**P**	**14 48 06.7**	**0.0**
	comp=Z,19nm,0.7s						
MSTX	**Muleshoe**	**25.12**	**330**	↑P	**P**	**14 48 06.9**	**+0.2**
	baz=25,SNR=6.3						
Z26A	**Caprock**	**25.17**	**328**	↑P	**P**	**14 48 07.4**	**+0.2**
	baz=25,SNR=5.8						
Y27A	**Causey**	**25.24**	**330**	↑P	**P**	**14 48 08.2**	**+0.4**
	baz=25,SNR=6.7						
AMTX	**Amarillo**	**25.38**	**333**	↓P	**P**	**14 48 10.1**	**+1.1**
	baz=26						
Z25A	**Roswell**	**25.57**	**326**	↓P	**P**	**14 48 11.4**	**+0.6**
	baz=26						
Y26A	**Elida**	**25.60**	**329**	↓P	**P**	**14 48 11.9**	**+0.8**
	baz=26						
Z24A	**Sheeppen Canyo**	**25.96**	**326**	↑P	**P**	**14 48 15.8**	**+1.3**
	baz=26						
Y25A	**Mesa, Roswell**	**26.05**	**327**	↓P	**P**	**14 48 16.2**	**+1.0**
	baz=26,SNR=11						
X26A	**CR and CF Fran**	**26.10**	**330**	↓P	**P**	**14 48 16.1**	**+0.6**
	baz=26						
W27A	**Bowe Ranch, En**	**26.15**	**331**	↓P	**P**	**14 48 16.9**	**+0.9**
	baz=26,SNR=6.0						
V28A	**Channing**	**26.34**	**334**	↓P	**P**	**14 48 19.1**	**+1.3**
	baz=26						
Y24A	**Capitan**	**26.45**	**326**	↑P	**P**	**14 48 20.2**	**+1.4**
	baz=27						
W26A	**Owens Ranch, T**	**26.51**	**330**	↑P	**P**	**14 48 21.0**	**+1.7**
	baz=27						
X25A	**Clemmons Ranch**	**26.51**	**328**	↓P	**P**	**14 48 20.8**	**+1.5**
	baz=27						
Y23A	**Lovelace Mesa,**	**26.79**	**326**	↑P	**P**	**14 48 23.6**	**+1.7**
	baz=27						
W25A	**X Bar L Ranch,**	**26.95**	**330**	↑P	**P**	**14 48 24.7**	**+1.5**
	baz=27						
V26A	**Tequesquite Ra**	**27.09**	**331**	↓P	**P**	**14 48 26.0**	**+1.5**
	baz=27						
W24A	**Lazy 6 Ranch,**	**27.42**	**328**	↓P	**P**	**14 48 29.2**	**+1.6**
	baz=28						
V25A	**Rancho No Teng**	**27.52**	**330**	↑P	**P**	**14 48 29.6**	**+1.2**
	baz=28,SNR=5.4						
U26A	**Atchley Ranch,**	**27.56**	**332**	↓P	**P**	**14 48 30.0**	**+1.2**
	baz=28						
LAZ	**Ladron**	**27.75**	**325**	P	**P**	**14 48 31.6**	**+1.1**
T25A	**Trinidad**	**28.48**	**332**	↑P	**P**	**14 48 38.4**	**+1.4**
	baz=29						
U23A	**El Rito**	**28.69**	**329**	↓P	**P**	**14 48 40.6**	**+1.7**
	baz=29						
S25A	**Robets Cordova**	**28.91**	**333**	↓P	**P**	**14 48 42.2**	**+1.3**
	baz=29						
S24A	**Houchin Ranch,**	**29.25**	**332**	↑P	**P**	**14 48 45.4**	**+1.5**
	baz=29						
R23A	**Moffat**	**29.98**	**331**	↓P	**P**	**14 48 51.6**	**+1.2**
	baz=30						
P26A	**Davis Ranch, A**	**30.05**	**336**	↓P	**P**	**14 48 52.0**	**+1.1**
	baz=30						
S22A	**4UR Ranch, Cre**	**30.11**	**330**	↓P	**P**	**14 48 52.7**	**+1.1**
	baz=30						
P23A	**Jefferson**	**30.95**	**333**	↑P	**P**	**14 49 00.7**	**+1.7**
	baz=31						
O22A	**Kremmling**	**31.91**	**333**	↓P	**P**	**14 49 08.3**	**+0.9**
	baz=32						
O20A	**White River Ci**	**32.66**	**331**	↓P	**P**	**14 49 15.6**	**+1.7**
	baz=33						
SAML	**Samuel**	**32.76**	**130**	*e*P	**P**	**14 49 13.7**	**-1.1**
	comp=Z,2.9nm,0.8s						
SADO	**Sadowa**	**33.01**	**12**	P	**P**	**14 49 14.4**	**-2.2**
SADO	**Sadowa**	**33.01**	**12**	P	**P**	**14 49 14.4**	**-2.2**
	comp=Z,4.1nm,0.6s,baz=254,slow=7.6,SNR=4.7						
L23A	**Garrett**	**33.16**	**336**	↑P	**P**	**14 49 19.8**	**+1.5**
	baz=33						
N20A	**Spence Gulch,**	**33.23**	**332**	↓P	**P**	**14 49 20.1**	**+1.3**
	baz=33						
LPAZ	**La Paz**	**34.85**	**145**	LR	LR	15 04 10.6	
	comp=Z,32nm,21.5s,baz=325,slow=37						
I22A	**9 Mile Ranch,**	**34.97**	**337**	↓P	**P**	**14 49 35.1**	**+1.3**
	baz=35						
J20A	**Shoshoni**	**35.17**	**334**	↑P	**P**	**14 49 37.0**	**+1.5**
	baz=35						
F27A	**Lemmon**	**35.22**	**343**	↓P	**P**	**14 49 37.3**	**+1.5**
	baz=35						
PDAR	**Pinedale Array**	**35.34**	**332**	P	**P**	**14 49 37.5**	**+0.3**
PDAR				pP	**pP**	**14 49 52.2**	**-0.3**
PDAR				PcP	**PcP**	**14 52 06.3**	**0.0**
PDAR	**Pinedale Array**	**35.34**	**332**	P	**P**	**14 49 37.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=127,slow=11,SNR=14						
PDAR				pP	**pP**	**14 49 52.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=141,slow=11,SNR=5.8						
PDAR				PcP	**PcP**	**14 52 06.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=134,slow=5.2,SNR=3.8						
J19A	**Crowheart**	**35.52**	**333**	↑P	**P**	**14 49 39.2**	**+0.7**
	baz=36						
D30A	**Buchanan**	**35.57**	**348**	↑P	**P**	**14 49 38.5**	**-0.2**
	baz=36						
E27A	**Carson**	**35.61**	**344**	↑P	**P**	**14 49 40.5**	**+1.4**
	baz=36						
I20A	**Worland**	**35.68**	**335**	↓P	**P**	**14 49 41.3**	**+1.5**
	baz=36						
C30A	**Mose, Pekin**	**36.08**	**348**	↓P	**P**	**14 49 43.7**	**+0.6**
	baz=36						
E25A	**Miller Ranch,**	**36.19**	**342**	↓P	**P**	**14 49 45.7**	**+1.6**
	baz=36						
G21A	**Lodge Grass**	**36.37**	**337**	↓P	**P**	**14 49 46.5**	**+0.7**
	baz=36						
D26A	**Manning**	**36.40**	**343**	↑P	**P**	**14 49 46.8**	**+1.0**
	baz=36						
F22A	**Rosebud**	**36.50**	**339**	↑P	**P**	**14 49 48.1**	**+1.4**
	baz=37						
H19A	**Powell**	**36.62**	**335**	↓P	**P**	**14 49 48.7**	**+0.8**
	baz=37						
I17A	**Pilgrim Ck.**	**36.71**	**333**	↓P	**P**	**14 49 49.8**	**+1.0**
	baz=37						
G20A	**Bridger**	**36.76**	**336**	↓P	**P**	**14 49 49.1**	**+0.1**
	baz=37						
B30A	**Myrvik Farm, E**	**36.77**	**349**	↓P	**P**	**14 49 49.3**	**+0.4**
	baz=37						
H18A	**Shoshone NF, C**	**36.91**	**334**	↓P	**P**	**14 49 51.0**	**+0.6**
	baz=37,SNR=14						
E22A	**Miles City**	**36.96**	**339**	↓P	**P**	**14 49 51.5**	**+0.9**
	baz=37						
H17A	**Grant Village**	**37.08**	**333**	↑P	**P**	**14 49 52.8**	**+0.9**
	baz=37						
NVAR	**Mina Array Bea**	**37.16**	**319**	P	**P**	**14 49 55.0**	**+2.3**
NVAR				pP	**pP**	**14 50 09.6**	**+1.5**
NVAR				PcP	**PcP**	**14 52 13.1**	**+1.3**
NVAR				pPcP		14 52 29.5	
NVAR	**Mina Array Bea**	**37.16**	**319**	P	**P**	**14 49 55.0**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=144,slow=7.8,SNR=2.6						
NVAR				pP	**pP**	**14 50 09.6**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=113,slow=6.9,SNR=2.7						
NVAR				PcP	**PcP**	**14 52 13.1**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=141,slow=3.5,SNR=4.3						
NVAR				pPcP		14 52 29.5	
	comp=Z,1.3nm,0.6s,baz=93,slow=5.2,SNR=4.0						
A29A	**Manning Farm,**	**37.40**	**348**	↑P	**P**	**14 49 54.7**	**+0.5**
	baz=38						
F19A	**Roth Farm, Mol**	**37.57**	**336**	↑P	**P**	**14 49 56.4**	**+0.5**
	baz=38						
D22A	**Cohagen**	**37.66**	**340**	↑P	**P**	**14 49 57.7**	**+1.2**
	baz=38						
E20A	**Meyer Farm, Mu**	**37.80**	**337**	↑P	**P**	**14 49 59.0**	**+1.3**
	baz=

H03N1	**Juan Fernandez**	**46.59**	**169**	T	T	15 41 08.1		
	baz=346,slow=75,SNR=3.3							
H03N3	**Juan Fernandez**	**46.60**	**169**	T	T	15 41 17.7		
	baz=346,slow=75,SNR=3.0							
CPUP	**Villa Florida**	**48.93**	**142**	P	**P**	**14 51 26.7**	**-0.8**	
CPUP	**Villa Florida**	**48.93**	**142**	P	**P**	**14 51 26.7**	**-0.8**	
	comp=Z,2.6nm,0.9s,baz=343,slow=11,SNR=2.8							
YKA	**Yellowknife Ar**	**53.32**	**345**	P	**P**	**14 51 58.5**	**-1.5**	
YKA				pP	**pP**	**14 52 13.8**	**-2.3**	
YKA				PcP	**PcP**	**14 53 05.6**	**-1.1**	
YKA				ScP	**ScP**	**14 56 59.8**	**+0.6**	
YKA	**Yellowknife Ar**	**53.32**	**345**	P	**P**	**14 51 58.4**	**-1.5**	
	comp=Z,0.7nm,0.5s,baz=147,slow=6.8,SNR=31							
YKA				pP	**pP**	**14 52 13.8**	**-2.3**	
	comp=Z,0.7nm,0.6s,baz=138,slow=7.7,SNR=6.2							
YKA				PcP	**PcP**	**14 53 05.6**	**-1.1**	
	comp=Z,0.4nm,0.8s,baz=143,slow=4.1,SNR=4.4							
YKA				ScP	**ScP**	**14 56 59.8**	**+0.6**	
	comp=Z,0.1nm,0.5s,baz=144,slow=4.3,SNR=4.2							
PLCA	**Paso Flores**	**55.48**	**164**	P	**P**	**14 52 16.8**	**+0.8**	
PLCA	**Paso Flores**	**55.48**	**164**	P	**P**	**14 52 16.8**	**+0.8**	
	comp=Z,2.9nm,0.7s,baz=332,slow=9.1,SNR=6.9							
PLCA				LR	LR	15 11 15.8		
	comp=Z,70nm,18.1s,baz=264,slow=31							
ILAR	**Eielson Array**	**65.64**	**336**	P	**P**	**14 53 23.8**	**-1.0**	
ILAR	**Eielson Array**	**65.64**	**336**	P	**P**	**14 53 23.8**	**-1.0**	
	comp=Z,0.6nm,0.8s,baz=158,slow=5.0,SNR=13							
DBIC	**Dimbokro**	**82.08**	**85**	LR	LR	15 35 20.0		
	comp=Z,25nm,18.3s,baz=238,slow=39							
NOA	**NORSAR Array B**	**83.61**	**29**	LR	LR	15 30 38.0		
	comp=Z,20nm,18.9s,baz=335,slow=34							
MKAR	**Makanchi Array**	**120.30**	**8**	PKP	**PKPdf**	**15 01 32.0**	**+0.2**	
MKAR	**Makanchi Array**	**120.30**	**8**	PKP	**PKPdf**	**15 01 32.0**	**+0.2**	
	comp=Z,0.1nm,0.5s,baz=319,slow=0.8,SNR=3.0							
WMQ	**Urumqi**	**123.76**	**4**	PKP	**PKPdf**	**15 01 41.9**	**+3.3**	
HHC	**Hu-ho-hao-te**	**123.81**	**342**	*e*PKP	**PKPdf**	**15 01 39.8**	**+1.0**	
HHC				PP	PP	15 03 31.1	+10	
HHC				SKKS		15 10 14.3		
HHC				SS	**SS**	**15 20 10.9**	**+6.3**	
HHC				AMB	AMB			
	comp=Z,140nm,7.9s							
HHC				LR	LR			
	comp=Z,120nm,13.6s							
KSH	**Kashi**	**126.13**	**15**	*e*PKP	**PKPdf**	**15 01 43.3**	**0.0**	
KSH				*e*SKS	**SKSdf**	**15 08 43.6**	**-6.6**	
KSH				AMB	AMB			
	comp=Z,39nm,4.6s							
NJ2	**Nanjing**	**128.64**	**330**	*e*PKP	**PKPdf**	**15 01 47.3**	**-0.8**	
LZH	**Lanzhou**	**130.30**	**347**	*e*PKP	**PKPdf**	**15 01 50.3**	**-1.2**	
LZH				sPKP		15 02 14.8		
LZH				LR	LR			
	comp=Z,160nm,20.2s							
WRA	**Warramunga Arr**	**138.62**	**254**	PKPpre	PKPpre	15 01 58.1		
WRA				PKP	**PKiKP**	**15 02 08.5**	**-0.8**	
WRA	**Warramunga Arr**	**138.62**	**254**	PKhKP	PKPpre	15 01 58.1		
	comp=Z,0.4nm,0.8s,baz=97,slow=2.7,SNR=4.3							
WRA				PKP	**PKiKP**	**15 02 08.5**	**-0.8**	
	comp=Z,0.8nm,0.5s,baz=89,slow=2.4,SNR=16							
ASAR	**Alice Springs**	**138.66**	**248**	PKPpre	PKPpre	15 02 00.5		
ASAR				PKP	**PKPdf**	**15 02 07.9**	**+0.7**	
ASAR	**Alice Springs**	**138.66**	**248**	PKhKP	PKPpre	15 02 00.5		
	comp=Z,0.3nm,0.6s,baz=101,slow=2.7,SNR=6.8							
ASAR				PKP	**PKPdf**	**15 02 07.9**	**+0.7**	
	comp=Z,0.6nm,0.9s,baz=131,slow=3.5,SNR=4.5							
CMAR	**Chiang Mai Arr**	**148.39**	**347**	PKP	**PKPdf**	**15 02 24.7**	**+0.4**	
CMAR				PKPbc	**PKPbc**	**15 02 27.7**	**-0.1**	
CMAR	**Chiang Mai Arr**	**148.39**	**347**	PKP	**PKPdf**	**15 02 24.7**	**+0.4**	
	comp=Z,1.1nm,0.6s,baz=345,slow=3.3,SNR=9.8							
CMAR				PKPbc	**PKPbc**	**15 02 27.7**	**-0.1**	
	comp=Z,1.1nm,0.6s,baz=348,slow=3.8,SNR=8.7							

*NIED **20** 14:44:00.3, 35.30N × 137.10E, h300km, Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φs 18.00000°, δ 12.00000°, λ -12.00000°. NP2:φs 120.00000°, δ 87.00000°, λ -101.00000°.*

*ISCJB **20** 14:44:51.4 ± 0.3, 35.28N ± 0.05 × 137.08E ± 0.05, h315km ± 2km, mb3.7/22, Error ellipse: s-maj=7.8km s-min=6.9km az=157.1*

*JMA **20** 14:44:51.2 ± 0.2, 35.29N × 137.07E, h319km ± 2km, M3.6*

*IDC **20** 14:44:51.9 ± 0.6, 35.17N × 137.07E, h308km ± 5km, mb3.4/19, mb1 3.5/22, mb1mx3.5/37, mbtmp4.0/22, Error ellipse: s-maj=11.6km s-min=9.6km az=111.0*

ISC 20 14:44:52.3 ± 0.6, 35.30N ± 0.06 × 137.05E ± 0.05, h310km ± 5km, n48, σ1°03/62, mb3.8/22, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.17**	**100**	P	**Pn**		**14 45 31.8**	**+0.3**
JAO				S	S		14 46 03.2	+0.4
JGF	**Kuroka**	**0.39**	**39**	P	**Pn**		**14 45 31.8**	**0.0**
JGF				S	**S**		**14 46 03.2**	**0.0**
JIE	**Ise**	**0.95**	**198**	P	**Pn**		**14 45 33.6**	**+0.1**
JIE				S	**S**		**14 46 05.5**	**-0.9**
JKG	**Kaga**	**1.14**	**329**	P	**Pn**		**14 45 34.5**	**+0.3**
JKG				S	**S**		**14 46 07.9**	**+0.2**
JYN	**Shimob**	**1.23**	**80**	P	**Pn**		**14 45 35.1**	**+0.2**
JWT	**Wachi**	**1.35**	**270**	P	**Pn**		**14 45 35.7**	**+0.2**
JWT				S	**S**		**14 46 09.1**	**-0.8**
TK02	**Tokai 2**	**1.47**	**157**	P	**Pn**		**14 45 36.6**	**+0.6**
TK02				S	**S**		**14 46 12.5**	**+1.6**
MAT	**Matsushiro**	**1.56**	**37**	P	**Pn**		**14 45 37.0**	**+0.4**
MAT				S	**S**		**14 46 12.1**	**0.0**
MAT	**Matsushiro**	**1.56**	**37**	P	**Pn**		**14 45 37.1**	**+0.4**
MAT				S	**S**		**14 46 12.2**	**+0.1**
MJAR	**Matsushiro Arr**	**1.56**	**37**	P	**Pn**		**14 45 37.4**	**+0.7**
	62nm,0.3s,baz=208,slow=8.1,SNR=666							
MJAR				S	**S**		**14 46 12.8**	**+0.7**
	baz=212,slow=11,SNR=7.6							
JWY	**Kouya**	**1.61**	**229**	P	**Pn**		**14 45 37.3**	**0.0**
JOD2	**Odawara 2**	**1.67**	**91**	P	**Pn**		**14 45 37.5**	**0.0**
JOD2				*e*S	**S**		**14 46 14.6**	**+1.1**
JRY	**Ryogami san**	**1.67**	**64**	P	**Pn**		**14 45 37.7**	**+0.2**
JRY				*e*S	**S**		**14 46 13.8**	**+0.3**
TTO1	**TONANKAI O.B.S**	**1.69**	**188**	P	**Pn**		**14 45 38.1**	**+0.8**
JWZ	**Kozaga**	**2.08**	**212**	P	**Pn**		**14 45 40.1**	**-0.5**
JSZ	**Suzu**	**2.16**	**7**	P	**Pn**		**14 45 41.5**	**+0.5**
JAG	**Ashikaga**	**2.25**	**59**	P	**Pn**		**14 45 40.8**	**-1.1**
JAG				S	**S**		**14 46 18.5**	**-2.9**
JHS	**Saijyo**	**3.24**	**266**	P	**Pn**		**14 45 51.0**	**-0.1**
BSO1	**Boso 1**	**3.29**	**100**	P	**Pn**		**14 45 49.7**	**-1.2**
BSO1				*e*S	**S**		**14 46 36.7**	**-1.2**
JNU	**Nakatsue**	**5.56**	**249**	P	**Pn**		**14 46 16.9**	**+0.1**
	5.0nm,0.3s,baz=56,slow=6.0,SNR=42							
KSRS	**Korea Array**	**7.67**	**289**	P	**Pn**		**14 46 42.7**	**+0.9**
	0.2nm,0.3s,baz=114,slow=14,SNR=4.3							
JCJ	**Chichijima**	**9.28**	**150**	P	Pn		14 46 55.0	-6.7
	5.8nm,0.3s,baz=317,slow=16,SNR=24							
JCJ				S	S		14 48 31.2	-16
	18nm,0.3s,baz=273,slow=22,SNR=8.1							
USRK	**Ussuriysk Arra**	**9.71**	**338**	P	**Pn**		**14 47 07.0**	**+0.5**
	0.2nm,0.3s,baz=145,slow=11,SNR=4.5							
USRK				S	**S**		**14 48 51.6**	**-4.6**
	0.2nm,0.3s,baz=121,slow=22,SNR=2.8							
ASAJ	**Asahikawa**	**9.79**	**24**	P	**Pn**		**14 47 06.4**	**-1.1**
	2.6nm,0.3s,baz=194,slow=17,SNR=11							
ASAJ				S	S		14 48 40.3	-18
	1.1nm,0.3s,baz=53,slow=20,SNR=6.6							
PETK	**Petropavlovsk-**	**23.01**	**33**	P	**P**		**14 49 31.5**	**+1.1**
	8.6nm,0.8s,baz=229,slow=8.5,SNR=7.9							
SONM	**Songino Array**	**25.95**	**308**	P	**P**		**14 49 58.8**	**+1.7**
	0.3nm,0.5s,baz=110,slow=8.4,SNR=3.5							
SEY	**Seymchan**	**29.26**	**14**	P	**P**		**14 50 27.3**	**+1.3**
	2.0nm,0.6s,baz=183,slow=23,SNR=11							
CMAR	**Chiang Mai Arr**	**37.63**	**254**	P	**P**		**14 51 38.0**	**-0.4**
	0.5nm,0.5s,baz=54,slow=7.4,SNR=4.3							
ZALV	**Zalesovo Beam**	**40.53**	**314**	P	**P**		**14 52 02.4**	**+0.7**
	0.5nm,0.3s,baz=71,slow=15,SNR=3.3							
MKAR	**Makanchi Array**	**42.08**	**303**	P	**P**		**14 52 15.0**	**+0.6**
	0.3nm,0.6s,baz=89,slow=9.8,SNR=4.5							
KURBB	**Kurchatov Arra**	**44.31**	**309**	P	**P**		**14 52 31.9**	**-0.1**
	0.6nm,0.5s,baz=89,slow=8.2,SNR=12							
ILAR	**Eielson Array**	**52.83**	**31**	P	**P**		**14 53 36.7**	**+0.5**
	1.2nm,0.9s,baz=259,slow=5.1,SNR=15							
ILAR				PcP	**PcP**		**14 54 40.8**	**-0.1**
	0.3nm,0.6s,baz=286,slow=4.3,SNR=2.8							
WRA	**Warramunga Arr**	**55.00**	**183**	P	**P**		**14 53 50.9**	**-1.4**
	4.6nm,0.3s,baz=360,slow=7.6,SNR=235							
ASAR	**Alice Springs**	**58.72**	**183**	P	**P**		**14 54 17.1**	**-1.2**
	1.5nm,0.4s,baz=358,slow=5.8,SNR=88							
KEV	**Kevo**	**63.79**	**339**	*ep*	**P**		**14 54 51.2**	**-0.2**
	0.4nm,0.3s							
ARCES	**ARCESS Array B**	**64.35**	**339**	P	**P**		**14 54 55.7**	**+0.7**
	4.2nm,0.9s,baz=59,slow=7.1,SNR=8.1							
JOF	**Joensuu**	**65.80**	**331**	*ep*	**P**		**14 55 04.7**	**+0.3**
STKA	**Stephens Creek**	**66.96**	**176**	P	**P**		**14 55 11.1**	**-0.9**
	2.3nm,0.7s,baz=351,slow=7.0,SNR=4.8							
YKA	**Yellowknife Ar**	**67.05**	**29**	P	**P**		**14 55 12.9**	**+0.7**
	0.5nm,0.4s,baz=296,slow=6.3,SNR=15							
KAF	**Kangasniemi**	**68.19**	**332**	*ep*	**P**		**14 55 18.8**	**-0.5**
	1.7nm,0.3s							
FINES	**FINESS Array B**	**68.67**	**331**	P	**P**		**14 55 22.5**	**+0.2**
	1.9nm,0.5s,baz=69,slow=5.6,SNR=20							
AKASG	**Malin Array Be**	**73.46**	**321**	P	**P**		**14 55 50.9**	**-0.2**
	0.5nm,0.5s,baz=47,slow=5.0,SNR=2.2							
NB2	**NORSAR Subarra**	**74.37**	**336**	P	**P**		**14 55 56.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=44,slow=5.9							
NOA	**NORSAR Array B**	**74.37**	**336**	P	**P**		**14 55 56.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=46,slow=5.7,SNR=6.6							
PDAR	**Pinedale Array**	**81.37**	**43**	P	**P**		**14 56 36.0**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=298,slow=1.6,SNR=13							
ULM	**Lac du Bonnet**	**82.85**	**31**	P	**P**		**14 56 42.1**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=0.0,slow=4.0,SNR=3.9							
ANMO	**Albuquerque**	**88.38**	**47**	P	**P**		**14 57 08.4**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=324,slow=8.7,SNR=2.2							
TXAR	**Lajitas Array**	**93.95**	**50**	P	**P**		**14 57 36.9**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=289,slow=2.2,SNR=9.7							

*IDC **20** 15:07:01.7 ± 0.9, 10.06N × 93.45E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.9/31, mbtmp3.9/16, ML3.6/2, Error ellipse: s-maj=36.6km s-min=16.9km az=55.0*

*ISCJB **20** 15:07:03.2 ± 0.7, 10.1N ± 0.1 × 93.5E ± 0.1, h24km, mb3.9/14, Error ellipse: s-maj=21.7km s-min=10.8km az=148.3*

ISC 20 15:07:05.4 ± 0.8, 10.1N ± 0.1 × 93.5E ± 0.2, h24km, n17, σ 0°86/17, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.01**	**143**	Pn	**Pn**		**15 09 13.8**	**-0.5**
	1.1nm,0.3s,baz=8.0,slow=18,SNR=4.1							
CMAR	**Chiang Mai Arr**	**9.90**	**32**	Pn	**Pn**		**15 09 26.5**	**+0.2**
	0.1nm,0.3s,baz=227,slow=14,SNR=16							
AAK	**Ala-Archa**	**36.46**	**336**	P	**P**		**15 14 08.9**	**+0.2**
	1.1nm,0.7s,baz=174,slow=7.5,SNR=4.8							
MKAR	**Makanchi Array**	**37.83**	**347**	P	**P**		**15 14 19.4**	**-0.8**
	0.7nm,0.4s,baz=165,slow=8.7,SNR=14							
SONM	**Songino Array**	**39.21**	**14**	P	**P**		**15 14 31.5**	**-0.4**
	0.4nm,0.5s,baz=202,slow=9.0,SNR=4.6							
KURBB	**Kurchatov Arra**	**42.29**	**346**	P	**P**		**15 14 56.3**	**-0.7**
	0.9nm,0.7s,baz=164,slow=7.6,SNR=10							
ZALV	**Zalesovo Beam**	**44.33**	**353**	P	**P**		**15 15 13.1**	**-0.4**
	3.3nm,0.3s,baz=177,slow=9.4,SNR=16							
BVAR	**Borovoye Array**	**46.73**	**341**	P	**P**		**15 15 32.1**	**-0.4**
	0.9nm,0.4s,baz=144,slow=8.8,SNR=11							
AKTO	**Aktyubinsk**	**49.73**	**331**	P	**P**		**15 15 55.6**	**-0.1**
	1.4nm,0.4s,baz=127,slow=9.0,SNR=9.9							
WRA	**Warramunga Arr**	**50.07**	**127**	P	**P**		**15 15 59.0**	**+0.2**
	0.3nm,0.6s,baz=306,slow=8.3,SNR=5.7							
ASAR	**Alice Springs**	**51.82**	**131**	P	**P**		**15 16 12.1**	**+0.2**
	0.5nm,0.9s,baz=301,slow=7.4,SNR=3.3							
KBZ	**Khabaz**	**55.05**	**317**	P	**P**		**15 16 36.9**	**+1.6**
	1.7nm,1.0s,baz=146,slow=3.9,SNR=3.7							
BRTR	**Keskin Array B**	**60.52**	**310**	P	**P**		**15 17 13.4**	**-0.6**
	0.9nm,0.7s,baz=119,slow=6.7,SNR=4.3							
FINES	**FINESS Array B**	**70.49**	**332**	P	**P**		**15 18 16.7**	**-1.1**
	2.2nm,1.0s,baz=101,slow=7.2,SNR=3.6							
ARCES	**ARCESS Array B**	**73.01**	**340**	P	**P**		**15 18 33.1**	**+0.2**
	5.1nm,0.8s,baz=101,slow=7.4,SNR=6.5							
GERES	**GERESS Array B**	**75.77**	**318**	P	**P**		**15 18 49.6**	**0.0**
	0.6nm,0.7s,baz=72,slow=3.2,SNR=3.6							
TXAR	**Lajitas Array**	**137.50**	**22**	PKP	**PKPdf**		**15 26 30.2**	**+2.0**
	0.1nm,0.4s,baz=0.0,slow=0.9,SNR=2.8							

*IDC **20** 15:10:59.6 ± 1.2, 14.90N × 144.74E, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.9/27, mbtmp3.9/13, MS3.5/20, Ms1 3.5/20, ms1mx3.4/38, Error ellipse: s-maj=39.9km s-min=19.2km az=86.0*

*ISCJB **20** 15:11:01.4 ± 0.7, 14.88N ± 0.07 × 144.6E ± 0.2, h22km, mb4.0/18, MS3.5/19, Error ellipse: s-maj=26.0km s-min=9.5km az=170.6*

*NEIC **20** 15:11:01.0 ± 0.5, 14.86N × 144.73E, h10km, mb4.5/5, Error ellipse: s-maj=19.8km s-min=7.2km az=82.0*

ISC 20 15:11:02.8 ± 0.9, 14.85N ± 0.10 × 144.7E ± 0.2, h22km, n51, σ 0°61/32, mb4.1/18, MS3.5/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.26**	**174**	*e*P	**Pn**		**15 11 24.4**	**-0.7**
JCJ	**Chichijima**	**12.42**	**349**	LR	LR		15 17 34.5	
	comp=Z,108nm,21.0s,baz=165,slow=32							
H11S3	**WAKE ISLAND Hy 21.34**	**77**		T	T		15 38 44.6	
	baz=264,slow=66,SNR=8.6							
H11S1	**WAKE ISLAND Hy 21.36**	**77**		T	T		15 38 42.4	
	baz=264,slow=66,SNR=8.5							
H11S2	**WAKE ISLAND Hy 21.36**	**77**		T	T		15 38 45.7	
	baz=264,slow=66,SNR=9.8							
H11N1	**WAKE ISLAND Hy 21.70**	**74**		T	T		15 38 55.1	
	baz=264,slow=75,SNR=7.8							
H11N2	**WAKE ISLAND Hy 21.71**	**74**		T	T		15 39 05.2	
	baz=264,slow=75,SNR=8.1							
H11N3	**WAKE ISLAND Hy 21.72**	**74**		T	T		15 39 00.2	
	baz=264,slow=75,SNR=8.4							
JNU	**Nakatsue**	**22.12**	**328**	P	**P**		**15 15 57.1**	**+0.2**
JNU	**Nakatsue**	**22.12**	**328**	P	**P**		**15 15 57.1**	**+0.2**
	8.8nm,0.8s,baz=45,slow=7.1,SNR=3.3							
JNU				LR	LR		15 23 10.5	
	comp=Z,24nm,19.2s,baz=132,slow=33							
MJAR	**Matsushiro Arr**	**22.38**	**346**	P	**P**		**15 15 59.7**	**0.0**
MJAR	**Matsushiro Arr**	**22.38**	**346**	P	**P**		**15 15 59.7**	**0.0**
	6.4nm,1.0s,baz=169,slow=9.4,SNR=8.6							
MJAR				LR	LR		15 23 25.7	
	comp=Z,78nm,20.0s,baz=195,slow=34							
MAJO	**Matsushiro**	**22.38**	**346**	*e*P	**P**		**15 15 59.9**	**+0.3**
	14nm,1.0s							
MAT	**Matsushiro**	**22.38**	**346**	P	**P**		**15 15 59.4**	**-0.2**
PMG	**Port Moresby**	**24.21**	**174**	LR	LR		15 25 11.9	
	comp=Z,78nm,19.4s,baz=357,slow=35							
KSRS	**Korea Array**	**27.02**	**330**	P	**P**		**15 16 42.9**	**-0.4**
	2.2nm,0.8s,baz=153,slow=9.3,SNR=4.3							
KSRS				LR	LR		15 26 52.0	
	comp=Z,46nm,18.4s,baz=133,slow=35							
KSAR	**Wonju Array Be**	**27.02**	**329**	P	**P**		**15 16 42.9**	**-0.5**
HNR	**Honiara**	**28.45**	**147**	LR	LR		15 28 16.3	
	comp=Z,166nm,18.2s,baz=341,slow=36							
ASAJ	**Asahikawa**	**29.23**	**357**	LR	LR		15 28 23.9	
	comp=Z,80nm,21.5s,baz=150,slow=36							
USRK	**Ussuriysk Arra**	**31.21**	**342**	LR	LR		15 29 33.0	
	comp=Z,86nm,19.1s,baz=123,slow=36							
WRA	**Warramunga Arr**	**36.05**	**197**	P	**P**		**15 18 03.2**	**+0.4**
WRA	**Warramunga Arr**	**36.05**	**197**	P	**P**		**15 18 03.2**	**+0.4**
	2.4nm,1.0s,baz=16,slow=9.5,SNR=5.9							
PETK	**Petropavlovsk-**	**39.53**	**12**	LR	LR		15 32 43.1	
	comp=Z,38nm,19.7s,baz=192,slow=33							
ASAR	**Alice Springs**	**39.71**	**196**	P	**P**		**15 18 35.2**	**+1.4**
ASAR	**Alice Springs**	**39.71**	**196**	P	**P**		**15 18 35.2**	**+1.4**
	0.1nm,0.3s,baz=27,slow=8.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**43.93**	**281**	P	**P**		**15 19 08.5**	**0.0**
CMAR	**Chiang Mai Arr**	**43.93**	**281**	P	**P**		**15 19 08.5**	**0.0**
	1.2nm,0.9s,baz=77,slow=6.3,SNR=8.8							
CMAR				LR	LR		15 34 39.9	
	comp=Z,33nm,21.4s,baz=90,slow=32							
SONM	**Songino Array**	**45.64**	**324**	P	**P**		**15 19 22.7**	**+0.9**
SONM	**Songino Array**	**45.64**	**324**	P	**P**		**15 19 22.7**	**+0.9**
	0.4nm,0.8s,baz=108,slow=8.2,SNR=2.8							
SONM				LR	LR		15 37 58.4	
	comp=Z,90nm,19.7s,baz=136,slow=36							
STKA	**Stephens Creek**	**46.55**	**184**	LR	LR		15 39 13.4	
	comp=Z,104nm,21.3s,baz=37,slow=36							
YAK	**Yakutsk**	**48.33**	**351**	*e*P	**P**		**15 19 42.3**	**-0.1**
	14nm,0.8s							
LSA	**Lhasa**	**51.31**	**296**	*e*P	**P**		**15 20 05.9**	**-0.3**
	3.2nm,0.8s							
MKAR	**Makanchi Array**	**60.50**	**316**	P	**P**		**15 21 11.2**	**-0.1**
MKAR	**Makanchi Array**	**60.50**	**316**	P	**P**		**15 21 11.2**	**-0.1**
	0.7nm,0.8s,baz=94,slow=7.6,SNR=6.2							
ZALV	**Zalesovo Beam**	**60.53**	**324**	LR	LR		15 47 20.7	
	comp=Z,45nm,20.3s,baz=68,slow=36							
KURK	**Kurchatov**	**63.54**	**320**	*e*P	**P**		**15 21 31.0**	**-0.6**
	1.3nm,0.8s							
KURBB	**Kurchatov Arra**	**63.59**	**319**	P	**P**		**15 21 31.5**	**-0.4**
	1.8nm,0.7s,baz=101,slow=6.7,SNR=16							
BVAR	**Borovoye Array**	**68.86**	**321**	P	**P**		**15 22 05.2**	**-0.5**
BVAR	**Borovoye Array**	**68.86**	**321**	P	**P**		**15 22 05.2**	**-0.5**
	1.4nm,0.7s,baz=101,slow=7.8,SNR=5.2							
PPT	**Papeete**	**72.34**	**114**	LR	LR		15 48 23.4	
	comp=Z,109nm,18.9s,baz=88,slow=31							
ABKAR	**Akbulak array**	**75.53**	**318**	*e*P	**P**		**15 22 45.0**	**-0.6**
	1.4nm,0.8s							
YKA	**Yellowknife Ar**	**81.81**	**27**	P	**P**		**15 23 20.2**	**+0.3**
YKA	**Yellowknife Ar**	**81.81**	**27**	P	**P**		**15 23 20.2**	**+0.3**
	0.2nm,0.6s,baz=287,slow=5.6,SNR=5.6							
ARCES	**ARCESS Array B**	**85.85**	**342**	P	**P**		**15 23 40.7**	**+0.2**
ARCES	**ARCESS Array B**	**85.85**	**342**	P	**P**		**15 23 40.7**	**+0.2**
	2.8nm,0.9s,baz=67,slow=6.9,SNR=4.5							
ARCES				LR	LR		16 05 11.6	
	comp=Z,16nm,19.3s,baz=24,slow=38							
KBZ	**Khabaz**	**88.19**	**315**	LR	LR		16 07 04.4	
	comp=Z,30nm,18.6s,baz=26,slow=38							
FINES	**FINESS Array B**	**89.97**	**335**	P	**P**		**15 23 59.4**	**-1.0**
FINES	**FINESS Array B**	**89.97**	**335**	P	**P**		**15 23 59.4**	**-1.0**
	2.8nm,1.0s,baz=66,slow=3.5,SNR=4.4							
FINES				LR	LR		16 07 08.8	
	comp=Z,33nm,18.3s,baz=142,slow=38							
AKASG	**Malin Array Be**	**93.92**	**325**	LR	LR		16 08 31.3	
	comp=Z,55nm,19.3s,baz=295,slow=37							
NOA	**NORSAR Array B**	**95.83**	**339**	LR	LR		16 08 28.1	
	comp=Z,19nm,20.6s,baz=260,slow=36							
BRTR	**Keskin Array B**	**96.10**	**314**	LR	LR		16 11 06.3	
	comp=Z,24nm,19.5s,baz=323,slow=38							

*ISCJB **20** 15:12:08.7 ± 0.4, 18.41N ± 0.04 × 72.79W ± 0.03, h6km, mb3.8/13, MS3.7/4, Error ellipse: s-maj=6.1km s-min=4.7km az=7.2*

*IDC **20** 15:12:09.9 ± 0.8, 18.38N × 72.85W, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.9/28, mbtmp3.9/13, ML3.9/2, MS3.2/5, Ms1 3.3/5, ms1mx2.9/30, Error ellipse: s-maj=26.6km s-min=19.6km az=53.0*

*NEIC **20** 15:12:11.1 ± 0.4, 18.44N × 72.79W, h10km, mb3.9/4, MD4.0(SDD), Error ellipse: s-maj=8.3km s-min=5.9km az=197.0*

ISC 20 15:12:10.8 ± 0.4, 18.44N ± 0.06 × 72.81W ± 0.05, h6km, n66, σ 1°60/62, mb3.8/13, MS3.4/4, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.54**	**69**	*e*Pn	**Pn**		**15 12 36.4**	**-2.5**
SDDR				*e*Sg	**Sb**		**15 12 59.8**	**+0.2**
GTBY	**Guantanamo Bay**	**2.63**	**305**	*e*Pn	**Pn**		**15 12 52.1**	**-1.8**
GRTK	**Grand Turk**	**3.44**	**27**	*e*Pn	**Pn**		**15 13 03.0**	**-1.9**
MTDJ	**Mount Denham**	**4.49**	**268**	*e*Pn	**Pn**		**15 13 20.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**5.43**	**94**	*e*Pn	**Pn**		**15 13 32.1**	**-0.3**
	34nm,0.3s							
LSP	**Las Mesas**	**5.44**	**92**	Pn	**Pn**		**15 13 31.9**	**-0.8**
LRS	**Lares**	**5.67**	**91**	*e*Pn	**Pn**		**15 13 36.3**	**+0.6**
OBIP	**Obispado Ponce**	**5.91**	**93**	*e*Pn	**Pn**		**15 13 38.2**	**-0.8**
CELP	**Cerrillos**	**5.93**	**93**	*e*Pn	**Pn**		**15 13 38.6**	**-

0.2nm,0.6s,baz=100,slow=2.1,SNR=3.3

*IDC **20** 15:17:05.8±1.4, 23°.39S×175°.35W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.3/19, mbtmp4.2/11, MS3.5/4, Ms1 3.5/4, ms1mx3.1/36, Error ellipse: s-maj=58.6km s-min=21.4km az=153.0*

*ISCJB **20** 15:17:08.2±0.7, 23°.6S±0°.1×175°.2W±0°.1, h29km, mb4.3/15, MS3.4/3, Error ellipse: s-maj=17.1km s-min=12.4km az=40.5*

*NEIC **20** 15:17:10.5±0.7, 23°.61S×175°.19W, h35km, mb4.8/3, Error ellipse: s-maj=19.6km s-min=15.2km az=146.0*

ISC 20 15:17:09.7±0.7, 23°.6S±0°.1×175°.2W±0°.1, h29km, n52, σ1s20/44, mb4.2/15, MS3.5/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.62**	**48**	P		Pn	15 18 36.0	-9.0
	baz=6.2,SNR=14							
MSVF	**Nonsavu**	**8.62**	**311**		*e*P	**Pn**	**15 19 14.1**	**+1.5**
	69nm,1.0s							
AFI	**Afiamalu**	**10.13**	**19**		*e*P	Pn	15 19 25.3	-8.1
AFI					Sn	Sn	15 21 08.0	-18
AFI	**Afiamalu**	**10.13**	**19**		Pn	Pn	15 19 24.9	-8.5
	6.2nm,0.3s,baz=202,slow=8.1,SNR=13							
AFI					Sn	Sn	15 21 08.0	-18
	1.6nm,0.3s,baz=198,slow=20,SNR=3.3							
RAR	**Rarotonga**	**14.42**	**84**		*e*P	Pn	15 20 24.4	-7.5
RAR	**Rarotonga**	**14.42**	**84**		Pn	Pn	15 20 24.3	-7.6
	4.3nm,0.3s,baz=254,slow=13,SNR=7.0							
RAR					LR	LR	15 25 23.7	
	comp=Z,305nm,21.2s,baz=260,slow=34							
URZ	**Urewera**	**16.06**	**203**		*e*P	**Pn**	**15 20 53.8**	**+0.3**
DZM	**Mont Dzumac**	**17.03**	**271**		Pn	**Pn**	**15 21 07.2**	**+1.1**
DZM	**Mont Dzumac**	**17.03**	**271**		Pn	**Pn**	**15 21 07.2**	**+1.1**
	0.4nm,0.3s,baz=93,slow=4.6,SNR=11							
PPT	**Papeete**	**24.66**	**81**		LR	LR	15 31 08.6	
	comp=Z,154nm,19.3s,baz=257,slow=34							
QLP	**Quilpie**	**36.80**	**257**		P	**P**	**15 24 15.1**	**-0.1**
	baz=37,SNR=4.5							
STKA	**Stephens Creek**	**38.96**	**248**		*e*P	**P**	**15 24 32.6**	**-0.9**
	0.7nm,0.9s							
STKA	**Stephens Creek**	**38.96**	**248**		P	**P**	**15 24 33.1**	**-0.3**
	2.6nm,0.8s,baz=99,slow=9.3,SNR=7.2							
STKA	**Stephens Creek**	**38.96**	**248**		P	**P**	**15 24 33.8**	**+0.3**
	baz=40,SNR=5.6							
HTT	**Hallett**	**41.26**	**246**		P	**P**	**15 24 52.5**	**0.0**
	baz=42,SNR=4.8							
BBOO	**Buckleboo**	**43.65**	**247**		P	**P**	**15 25 12.4**	**+0.4**
	baz=44,SNR=6.3							
ASAR	**Alice Springs**	**46.46**	**259**		P	**P**	**15 25 33.6**	**-0.8**
ASAR	**Alice Springs**	**46.46**	**259**		P	**P**	**15 25 33.6**	**-0.8**
	2.2nm,0.8s,baz=93,slow=8.1,SNR=16							
WRAB	**Tennant Creek**	**46.85**	**264**		*e*P	**P**	**15 25 35.8**	**-1.8**
	2.8nm,0.5s							
WRA	**Warramunga Arr**	**46.86**	**264**		P	**P**	**15 25 35.8**	**-1.8**
WRA	**Warramunga Arr**	**46.86**	**264**		P	**P**	**15 25 35.8**	**-1.8**
	3.0nm,0.7s,baz=95,slow=8.5,SNR=39							
KDU	**Kakadu**	**50.70**	**273**		P	**P**	**15 26 05.8**	**-1.3**
	baz=51,SNR=3.2							
WRKA	**Warakurna**	**51.23**	**256**		P	**P**	**15 26 10.0**	**-1.1**
	baz=52,SNR=13							
KNRA	**Kununurra**	**53.13**	**268**		P	**P**	**15 26 25.3**	**+0.1**
	baz=54,SNR=3.9							
JCJ	**Chichijima**	**65.08**	**318**		LR	LR	15 51 34.0	
	comp=Z,56nm,21.7s,baz=118,slow=32							
TGY	**Tagaytay City**	**72.83**	**294**		LR	LR	15 58 14.7	
	comp=Z,10.0nm,20.1s,baz=123,slow=34							
MJAR	**Matsushiro Arr**	**74.24**	**323**		P	**P**	**15 28 42.7**	**-1.4**
MJAR	**Matsushiro Arr**	**74.24**	**323**		P	**P**	**15 28 42.7**	**-1.4**
	1.5nm,0.7s,baz=163,slow=6.5,SNR=4.6							
TPUB	**Ta-pu**	**77.85**	**302**		*e*P	**P**	**15 29 02.5**	**-2.5**
	11nm,0.8s							
KSRS	**Korea Array**	**80.93**	**318**		P	**P**	**15 29 21.6**	**+0.2**
	2.3nm,1.0s,baz=134,slow=8.0,SNR=4.2							
KSAR	**Wonju Array Be**	**80.94**	**317**		P	**P**	**15 29 21.6**	**+0.1**
NVAR	**Mina Array Bea**	**81.50**	**42**		P	**P**	**15 29 26.3**	**+1.7**
NVAR	**Mina Array Bea**	**81.50**	**42**		P	**P**	**15 29 26.3**	**+1.7**
	0.4nm,0.3s,baz=221,slow=6.7,SNR=3.6							
USRK	**Ussuriysk Arra**	**82.98**	**325**		P	**P**	**15 29 31.6**	**-0.4**
	7.1nm,0.8s,baz=132,slow=4.3,SNR=7.6							
TXAR	**Lajitas Array**	**86.53**	**56**		P	**P**	**15 29 52.1**	**+1.7**
TXAR	**Lajitas Array**	**86.53**	**56**		P	**P**	**15 29 52.1**	**+1.7**
	0.3nm,0.7s,baz=219,slow=9.7,SNR=4.4							
GSI	**Gunungsitoli**	**88.01**	**272**		*e*P	**P**	**15 29 59.9**	**+2.0**
PDAR	**Pinedale Array**	**89.42**	**42**		P	**P**	**15 30 03.4**	**-0.7**
PDAR	**Pinedale Array**	**89.42**	**42**		P	**P**	**15 30 03.4**	**-0.7**
	0.5nm,0.9s,baz=235,slow=5.2,SNR=3.4							
ENH	**Enshi**	**89.94**	**303**		*e*P	**P**	**15 30 06.7**	**+0.2**
	5.9nm,0.8s							
ILAR	**Eielson Array**	**90.74**	**12**		P	**P**	**15 30 08.0**	**-1.4**
ILAR	**Eielson Array**	**90.74**	**12**		P	**P**	**15 30 08.0**	**-1.4**
	1.0nm,1.0s,baz=215,slow=5.5,SNR=4.0							
XAN	**Xi'an**	**92.08**	**306**		P	**P**	**15 30 17.8**	**+1.4**
XAN					pmax	pmax		
	comp=Z,4.0nm,0.9s							
XAN					pmax	pmax		
	comp=Z,13nm,4.5s							
CMAR	**Chiang Mai Arr**	**93.61**	**288**		P	**P**	**15 30 25.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**93.61**	**288**		P	**P**	**15 30 25.2**	**+1.4**
	comp=Z,5.0nm,0.9s,baz=124,slow=3.2,SNR=30							
BVAR	**Borovoye Array**	**123.12**	**319**		PKP	**PKPdf**	**15 36 02.7**	**-0.6**
BVAR	**Borovoye Array**	**123.12**	**319**		PKP	**PKPdf**	**15 36 02.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=96,slow=1.4,SNR=3.5							
AKASG	**Malin Array Be**	**146.97**	**331**		PKPbc	**PKPbc**	**15 36 48.6**	**-0.7**
AKASG	**Malin Array Be**	**146.97**	**331**		PKPbc	**PKPbc**	**15 36 48.6**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=39,slow=4.1,SNR=7.8							
BRTR	**Keskin Array B**	**150.84**	**310**		PKPbc	**PKPbc**	**15 36 59.5**	**-0.3**
BRTR	**Keskin Array B**	**150.84**	**310**		PKPbc	**PKPbc**	**15 36 59.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=207,slow=1.6,SNR=6.1							
CLL	**Collm**	**151.60**	**349**		*e*PKPbc	**PKPbc**	**15 37 01.0**	**0.0**

*IDC **20** 15:27:28.8±1.4, 11°.81N×142°.58E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/39, mbtmp3.6/6, Error ellipse: s-maj=49.9km s-min=27.9km az=90.0*

*ISCJB **20** 15:27:32.8±1.3, 11°.8N±0°.2×142°.5E±0°.4, h42km, mb3.7/6, Error ellipse: s-maj=52.6km s-min=24.6km az=178.5*

ISC 20 15:27:34.7±1.4, 11°.8N±0°.2×142°.6E±0°.4, h42km, n6, σ1s11/6, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.55**	**194**		P	**P**	**15 34 02.3**	**+0.2**
	1.0nm,1.2s,baz=16,slow=9.6,SNR=2.7							
SONM	**Songino Array**	**46.95**	**327**		P	**P**	**15 36 02.5**	**+0.9**
	0.3nm,0.4s,baz=134,slow=8.3,SNR=7.7							
MKAR	**Makanchi Array**	**61.24**	**317**		P	**P**	**15 37 46.4**	**+0.7**
	0.2nm,0.7s,baz=97,slow=8.0,SNR=2.1							
BVAR	**Borovoye Array**	**69.95**	**322**		P	**P**	**15 38 40.7**	**-1.1**
	0.6nm,0.5s,baz=102,slow=6.6,SNR=3.7							
ILAR	**Eielson Array**	**71.15**	**25**		P	**P**	**15 38 49.2**	**+0.4**
	0.3nm,0.9s,baz=260,slow=5.4,SNR=3.5							
FINES	**FINESS Array B**	**91.82**	**335**		P	**P**	**15 40 37.0**	**-1.1**
	1.2nm,0.6s,baz=59,slow=3.6,SNR=6.7							

ISC 20 15:44:31.3±3.6, 16°.28S×175°.04W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=164.7km s-min=76.1km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.23**	**240**		P	P	15 52 26.4	0.0
	1.2nm,0.5s,baz=94,slow=12,SNR=5.6							
WRA	**Warramunga Arr**	**48.11**	**258**		P	P	15 53 13.3	0.0
	0.8nm,0.4s,baz=94,slow=7.3,SNR=35							
WRA					PcP	PcP	15 54 40.4	-0.8
	0.2nm,0.4s,baz=90,slow=3.8,SNR=4.0							
ASAR	**Alice Springs**	**48.34**	**253**		P	P	15 53 14.8	-0.3
	2.6nm,0.6s,baz=87,slow=8.6,SNR=45							
ASAR					PcP	PcP	15 54 42.1	+0.2
	0.4nm,0.6s,baz=101,slow=3.6,SNR=4.5							

*ISCJB **20** 16:05:09.1±1.1, 18°.78N±0°.08×120°.87E±0°.07, h44km±14km, mb3.6/8, MS3.0/2, Error ellipse: s-maj=13.7km s-min=10.4km az=175.0*

*IDC **20** 16:05:10.3±3.5, 18°.57N×121°.17E, h56km±33km, mb3.4/8, mb1 3.6/9, mb1mx3.4/24, mbtmp3.6/9, ML3.9/2, MS3.0/4, Ms1 3.1/4, ms1mx2.7/21, Error ellipse: s-maj=29.0km s-min=15.3km az=72.0*

*MAN **20** 16:05:12, 18°.50N×120°.91E, h18km, mb4.5, ML3.4, MS3.3*

ISC 20 16:05:07.6±1.7, 18°.76N±0°.07×120°.94E±0°.06, h25km±13km, n32, σ1s47/29, mb3.6/8, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.53**	**215**		⇑*i*P	**Pn**	**16 05 19.2**	**-0.5**
PIP					*e*S	**Sb**	**16 05 26.2**	**+0.6**
APYP	**Conner**	**0.94**	**162**		*e*P	**Pb**	**16 05 26.6**	**+1.2**
APYP					*e*S	**Sb**	**16 05 33.2**	**-4.2**
SIPP	**Brgy, Tapao**	**0.95**	**209**		⇓*i*P	**Pn**	**16 05 26.6**	**+1.2**
SIPP					*i* S	**Sn**	**16 05 39.4**	**+1.2**
ABRA	**Dolores**	**1.13**	**191**		*e*P	**Pb**	**16 05 28.3**	**-0.2**
ABRA					*e*S	**Sn**	**16 05 42.4**	**-0.2**
CVP	**Callao Caves**	**1.35**	**141**		*i* P	**Pb**	**16 05 33.1**	**+0.8**
CVP					*i* S	**Sn**	**16 05 49.3**	**+1.3**
CAUP	**Cauayan**	**2.00**	**155**		*e*P	**Pb**	**16 05 44.0**	**+0.7**
PALP	**Palanan**	**2.21**	**140**	⇓	*e*P	**Pb**	**16 05 46.3**	**-0.5**
PALP	**Palanan**	**2.21**	**140**		*e*P	**Pb**	**16 05 47.1**	**+0.2**
BCPH	**Baguio City Da**	**2.39**	**188**	⇑	*i*P	**Pn**	**16 05 46.8**	**+1.3**
BCPH					*i* S	**Sn**	**16 06 14.2**	**+0.1**
BOLP	**Bolinao**	**2.56**	**203**		*e*P	**Pb**	**16 05 52.2**	**-0.8**
BALP	**Baler**	**3.07**	**168**		*e*P	Pb	16 05 58.3	-3.3
SCZP	**Santa Cruz**	**3.13**	**198**		*e*P	**Pn**	**16 05 57.9**	**+2.5**
PCPH	**Palayan**	**3.19**	**177**	⇑	*e*P	**Pn**	**16 05 59.0**	**+2.8**
TGY	**Tagaytay City**	**4.63**	**180**		P	**Pn**	**16 06 17.0**	**+0.8**
	9.2nm,0.3s,baz=197,slow=19,SNR=2.0							
JNU	**Nakatsue**	**16.85**	**30**		LR	LR	16 16 33.9	
	comp=Z,51nm,18.0s,baz=214,slow=40							
KSRS	**Korea Array**	**19.60**	**17**		P	**Pn**	**16 09 34.5**	**-1.0**
	0.3nm,0.3s,baz=199,slow=11,SNR=5.6							
KSRS					LR	LR	16 18 11.6	
	comp=Z,27nm,20.0s,baz=110,slow=40							
CMAR	**Chiang Mai Arr**	**20.85**	**273**		P	Pn	16 09 50.5	+0.2
	0.3nm,0.3s,baz=86,slow=9.0,SNR=6.3							
CMAR					PcP	**PcP**	**16 13 54.5**	**-1.6**
	0.3nm,0.7s,baz=75,slow=0.4,SNR=4.4							
CMAR					LR	LR	16 17 50.2	
	comp=Z,25nm,18.0s,baz=83,slow=36							
SONM	**Songino Array**	**31.33**	**341**		P	**P**	**16 11 27.6**	**+1.4**
	0.6nm,0.7s,baz=159,slow=8.1,SNR=5.3							
SONM					LR	LR	16 25 16.9	
	comp=Z,73nm,18.4s,baz=223,slow=38							
WRA	**Warramunga Arr**	**40.65**	**160**		P	P	16 12 41.8	-4.2
	0.7nm,0.5s,baz=343,slow=9.1,SNR=19							
WRA					PcP	**PcP**	**16 14 46.4**	**-1.3**
	0.5nm,0.6s,baz=344,slow=2.9,SNR=6.8							
MKAR	**Makanchi Array**	**42.20**	**320**		P	**P**	**16 13 00.0**	**+1.5**
	1.4nm,0.8s,baz=112,slow=9.4,SNR=7.9							
MKAR					PcP	**PcP**	**16 14 52.0**	**-0.4**
	0.8nm,0.7s,baz=91,slow=5.9,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	**43.26**	**83**		T	T	16 58 32.2	
	baz=278,slow=72,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**43.27**	**83**		T	T	16 58 32.6	
	baz=278,slow=72,SNR=5.6							
H11S2	**WAKE ISLAND Hy**	**43.28**	**83**		T	T	16 58 33.4	
	baz=278,slow=72,SNR=9.3							
H11N1	**WAKE ISLAND Hy**	**43.30**	**81**		T	T	16 59 18.3	
	baz=280,slow=75,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**43.30**	**81**		T	T	16 59 14.6	
	baz=280,slow=75,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**43.31**	**81**		T	T	16 59 19.9	
	baz=280,slow=75,SNR=3.8							
ASAR	**Alice Springs**	**44.03**	**163**		P	P	16 13 10.1	-3.4
	0.4nm,0.4s,baz=342,slow=7.0,SNR=24							
STKA	**Stephens Creek**	**54.11**	**158**		P	P	16 14 23.8	-6.8
	0.9nm,0.7s,baz=348,slow=9.3,SNR=2.8							
ILAR	**Eielson Array**	**74.13**	**26**		P	**P**	**16 16 40.5**	**-1.1**
	0.3nm,0.6s,baz=268,slow=5.5,SNR=7.9							
AKASG	**Malin Array Be**	**76.78**	**319**		P	**P**	**16 16 56.4**	**-0.6**
	0.1nm,0.4s,baz=63,slow=5.5,SNR=3.9							
YKA	**Yellowknife Ar**	**88.04**	**23**		P	**P**	**16 17 55.7**	**+0.1**
	0.7nm,0.6s,baz=309,slow=4.4,SNR=24							
TXAR	**Lajitas Array**	**115.67**	**43**		PKP	**PKPdf**	**16 23 48.4**	**-0.2**
	0.2nm,0.5s,baz=274,slow=0.4,SNR=4.1							

*SOF **20** 16:40:35.4, 40°.24N×20°.60E, h10km, MD2.6*

*BEO **20** 16:40:35.2±0.7, 40°.20N×20°.77E, h0km, ML2.9/8*

*CSEM **20** 16:40:36.8±0.1, 40°.30N×20°.67E, h2km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.4km az=80.0*

*PDG **20** 16:40:36.9±0.5, 40°.29N×20°.68E, h12km±1km, ML3.3/11, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*

*THE **20** 16:40:36.4, 40°.30N×20°.61E, h0km±3km, ML2.9/3, Error ellipse: s-maj=3.1km s-min=0.8km az=278.0*

*ATH **20** 16:40:36.0, 40°.36N×20°.60E, h14km±1km, MD3.5/15*

*SKO **20** 16:40:37.5, 40°.30N×20°.68E, h2km*

ISC 20 16:40:36.9±1.0, 40°.29N±0°.02×20°.65E±0°.02, h6km±9km, n139, σ1s103/211, 6C-7D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.33**	**68**		P	**Pg**	**16 40 43.6**	**+0.3**
NEST					S	**Sb**	**16 40 49.8**	**-1.0**
NEST	**Nestorio**	**0.33**	**68**		*e*PB	**Pg**	**16 40 43.6**	**+0.3**
NEST					*e*SB	**Sg**	**16 40 48.7**	**+1.0**
NEST	**Nestorio**	**0.33**	**68**		*e*Pb	**Pg**	**16 40 43.6**	**+0.3**
NEST					*e*Sb	**Sg**	**16 40 48.7**	**+1.0**
NEST					S	**Sb**	**16 40 49.8**	**-1.0**
KBN	**Korca**	**0.35**	**18**		P	**Pg**	**16 40 43.4**	**-0.3**
KBN	**Korca**	**0.35**	**18**		P	**Pg**	**16 40 43.4**	**-0.3**
SRN	**Sarande**	**0.65**	**231**		P	**Pg**	**16 40 48.0**	**-1.3**
SRN	**Sarande**	**0.65**	**231**		P	**Pg**	**16 40 48.0**	**-1.3**
JAN	**Janina**	**0.65**	**166**		P	**Pg**	**16 40 48.6**	**-0.9**
JAN	**Janina**	**0.65**	**166**		*e*PG	**Pg**	**16 40 49.6**	**+0.1**
JAN					*e*SB	**Sg**	**16 40 59.3**	**-0.8**
JAN	**Janina**	**0.65**	**166**		P	**Pg**	**16 40 48.6**	**-0.9**
JAN	**Janina**	**0.65**	**166**		*e*Pg	**Pg**	**16 40 49.6**	**+0.1**
JAN					*e*Sb	**Sb**	**16 40 59.3**	**-0.8**
FNA	**Florina**	**0.74**	**48**		P	**Pg**	**16 40 50.5**	**-0.6**
FNA					S	**Sg**	**16 41 01.6**	**+0.9**
FNA	**Florina**	**0.74**	**48**		*e*PB	**Pg**	**16 40 50.5**	**-0.6**
FNA					*e*SB	**Sg**	**16 41 00.2**	**-0.5**
FNA	**Florina**	**0.74**	**48**		*e*Pb	**Pg**	**16 40 50.5**	**-0.6**
FNA					*e*Sb	**Sg**	**16 41 00.2**	**-0.5**
FNA					S	**Sg**	**16 41 01.6**	**+0.9**
IGT	**Igoumenitsa**	**0.80**	**198**		P	**Pg**	**16 40 50.7**	**-1.5**
IGT					S	**Sb**	**16 41 04.5**	**+0.3**
IGT	**Igoumenitsa**	**0.80**	**198**		*e*PG	**Pg**	**16 40 52.0**	**-0.2**
IGT	**Igoumenitsa**	**0.80**	**198**		P	**Pg**	**16 40 50.7**	**-1.5**
IGT	**Igoumenitsa**	**0.80**	**198**		*e*Pg	**Pg**	**16 40 52.0**	**-0.2**
IGT					S	**Sb**	**16 41 04.5**	**+0.3**
KZN	**Kozani**	**0.86**	**89**		P	**Pg**	**16 40 53.3**	**-0.1**
KZN					S	**Sb**	**16 41 06.5**	**+0.5**
KZN	**Kozani**	**0.86**	**89**		*e*PB	**Pg**	**16 40 53.2**	**-0.1**
KZN					*e*SB	**Sb**	**16 41 06.3**	**+0.3**
KZN	**Kozani**	**0.86**	**89**		P	**Pg**	**16 40 53.3**	**-0.1**
KZN					*e*Sb	**Sb**	**16 41 06.3**	**+0.3**
KEK	**Kerkira**	**0.87**	**229**		P	**Pg**	**16 40 52.1**	**-1.6**
KEK					S	**Sg**	**16 41 05.6**	**+0.6**
KEK	**Kerkira**	**0.87**	**229**		*e*PB	**Pg**	**16 40 52.2**	**-1.5**
KEK					*e*SB	**Sg**	**16 41 05.3**	**+0.3**
KEK	**Kerkira**	**0.87**	**229**		P	**Pg**	**16 40 52.1**	**-1.6**
KEK					*e*Sb	**Sg**	**16 41 05.3**	**+0.3**
BIA	**Bitola**	**0.89**	**35**		P	**Pg**	**16 40 52.7**	**-1.3**
BIA					S	**Sb**	**16 41 06.5**	**-0.4**
BIA	**Bitola**	**0.89**	**35**		*i* Pg	**Pg**	**16 40 53.3**	**-0.6**
BIA					*i* Sg	**Sg**	**16 41 06.0**	**+0.5**
BIA	**Bitola**	**0.89**	**35**		P	**Pg**	**16 40 52.7**	**-1.3**
BIA					S	**Sb**	**16 41 06.5**	**-0.4**
THL	**Klokotos Trika**	**1.28**	**124**		P	**Pg**	**16 41 00.2**	**-1.2**
THL	**Klokotos Trika**	**1.28**	**124**		*e*PG	**Pg**	**16 41 00.1**	**-0.3**
THL	**Klokotos Trika**	**1.28**	**124**		P	**Pg**	**16 41 00.2**	**-1.2**
THL	**Klokotos Trika**	**1.28**	**124**		*e*Pg	**Pg**	**16 41 01.1**	**-0.3**
PHP	**Peshkopia**	**1.40**	**354**		P	**Pn**	**16 41 02.8**	**-0.2**
PHP	**Peshkopia**	**1.40**	**354**		P	**Pn**	**16 41 02.8**	**-0.2**
LIT	**Litokhoron**	**1.42**	**97**		P	**Pn**	**16 41 03.1**	**-0.2**
LIT	**Litokhoron**	**1.42**	**97**		*e*PB	**Pb**	**16 41 03.7**	**-0.1**
LIT					*e*SB	**Sg**	**16 41 23.1**	**+0.5**
LIT	**Litokhoron**	**1.42**	**97**		P	**Pn**	**16 41 03.1**	**-0.2**
LIT	**Litokhoron**	**1.42**	**97**		*e*Pb	**Pb**	**16 41 03.7**	**-0.1**
LIT					*e*Sb	**Sg**	**16 41 23.1**	**+0.5**
GRG	**Griva**	**1.49**	**63**		P	**Pn**	**16 41 04.0**	**-0.2**
GRG					S	**Sb**	**16 41 24.2**	**+0.1**
GRG	**Griva**	**1.49**	**63**		*e*PB	**Pn**	**16 41 04.2**	**0.0**
GRG	**Griva**	**1.49**	**63**		P	**Pn**	**16 41 04.0**	**-0.2**
GRG					S	**Sb**	**16 41 24.2**	**+0.1**
LKD2	**Lefkada island**	**1.50**	**180**		*e*PB	**Pg**	**16 41 06.1**	**+0.4**
LKD2					*e*SB	**Sg**	**16 41 26.9**	**+1.7**
LKD2	**Lefkada island**	**1.50**	**180**		*e*Pb	**Pg**	**16 41 06.1**	**+0.4**
LKD2					*e*Sb	**Sg**	**16 41 26.9**	**+1.7**
EVR	**Evrytania**	**1.64**	**147**		P	**Pn**	**16 41 06.5**	**+0.2**
EVR	**Evrytania**	**1.64**	**147**		*e*PN	**Pn**	**16 41 06.5**	**+0.2**
EVR	**Evrytania**	**1.64**	**147**		*e*Pn	**Pn**	**16 41 06.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.72**	**138**		*e*PN	**Pb**	**16 41 08.8**	**0.0**
MAKR	**Makrakomi, Fth**	**1.72**	**138**		*e*Pn	**Pb**	**16 41 08.8**	**0.0**
PDO	**Prodromos**	**1.74**	**166**		*e*PG	**Pb**	**16 41 09.5**	**+0.3**
PDO	**Prodromos**	**1.74**	**166**		*e*Pg	**Pb**	**16 41 09.5**	**+0.3**
SKO	**Skopje**	**1.78**	**19**		P	**Pn**	**16 41 09.2**	**+1.0**
SKO	**Skopje**	**1.78**	**19**		*e*Pn	**Pn**	**16 41 08.7**	**+0.5**
SKO					*i* Sg	**Sg**	**16 41 34.3**	**+0.2**
SKO	**Skopje**	**1.78**	**19**		*i* Pn	**Pb**	**16 41 09.6**	**-0.4**
SKO					*i* Sn	**Sb**	**16 41 33.5**	**+1.0**
SKO					*i* Lg	Lg	16 41 36.0	
	comp=E,135nm,0.6s							
SKO					*i* Lg	Lg	16 41 37.0	
	comp=N,213nm,0.4s							
SKO	**Skopje**	**1.78**	**19**		*e*Pn	**Pn**	**16 41 08.7**	**+0.5**
SKO	**Skopje**	**1.78**	**19**		P	**Pn**	**16 41 09.2**	**+1.0**
SKO					*i* Sg	**Sg**	**16 41 34.3**	**+0.2**
VAY	**Valandovo**	**1.78**	**54**		P	**Pn**	**16 41 07.5**	**-0.6**
VAY	**Valandovo**	**1.78**	**54**	⇑	*i*Pn	**Pn**	**16 41 07.9**	**-0.3**
VAY					*i* Sg	**Sn**	**16 41 29.7**	**-1.4**
VAY	**Valandovo**	**1.78**	**54**		*i* P	**Pn**	**16 41 07.6**	**-0.6**
VAY					*i* S	**Sn**	**16 41 31.1**	**0.0**
VAY	**Valandovo**	**1.78**	**54**		*i* Pn	**Pn**	**16 41 08.6**	**+0.4**
VAY					*i* Sn	**Sb**	**16 41 32.2**	**-0.3**
VAY					*i* Lg	Lg	16 41 34.9	
	comp=N,86nm,0.7s							
VAY					*i* Lg	Lg	16 41 40.0	
	comp=E,102nm,1.2s							
VAY	**Valandovo**	**1.78**	**54**		*i* P	**Pn**	**16 41 07.6**	**-0.6**
VAY	**Valandovo**	**1.78**	**54**	⇑	*i*Pn	**Pn**	**16 41 07.9**	**-0.3**
VAY					*i* Sg	**Sn**	**16 41 29.7**	**-1.4**
VAY					*i* S	**Sn**	**16 41 31.1**	**0.0**
AGG	**Agios Georgios**	**1.81**	**134**		*e*PN	**Pn**	**16 41 09.6**	**+0.9**
AGG	**Agios Georgios**	**1.81**	**134**		*e*Pn	**Pn**	**16 41 09.6**	**+0.9**
HORT	**Hortiatis**	**1.89**	**80**		*e*PB	**Pn**	**16 41 09.5**	**-0.3**
HORT	**Hortiatis**	**1.89**	**80**		*e*Pb	**Pn**	**16 41 09.5**	**-0.3**
KNT	**Kendrikon**	**1.92**	**62**		P	**Pn**	**16 41 09.8**	**-0.2**
KNT	**Kendrikon**	**1.92**	**62**		*e*PN	**Pn**	**16 41 09.8**	**-0.2**
KNT	**Kendrikon**	**1.92**	**62**		*e*Pn	**Pn**	**16 41 09.8**	**-0.2**
ULC	**Ulcinj**	**1.98**	**328**	⇑	*i*Pn	**Pn**	**16 41 10.9**	**0.0**
ULC					*e*Sn	**Sb**	**16 41 39.1**	**+0.9**
ULC	**Ulcinj**	**1.98**	**328**	⇑	*i*Pn	**Pn**	**16 41 10.9**	**0.0**
ULC					*e*Sn	**Sb**	**16 41 39.1**	**+0.9**
VLS	**Valsamata**	**2.11**	**181**		*e*PN	**Pb**	**16 41 15.0**	**-0.6**
VLS	**Valsamata**	**2.11**	**181**		*e*Pn	**Pb**	**16 41 15.0**	**-0.6**
SOH	**Sokhos**	**2.13**	**75**		*e*PN	**Pn**	**16 41 13.3**	**+0.3**
SOH	**Sokhos**	**2.13**	**75**		*e*Pn	**Pn**	**16 41 13.3**	**+0.3**
DRME	**Dracevica, Mon**	**2.19**	**330**

OCLP	**Ormoc**	**1.77**	**145**	*e*P	Pn	16 50 35.2 -0.9
GUIM	**Jordan**	**2.12**	**208**	*e*P	Pn	16 50 43.3 +2.4
SJMP	**San Jose**	**2.41**	**269**	*e*P	Pn	16 50 47.8 +2.9
MSLP	**Maasin**	**2.68**	**152**	*e*P	Pn	16 50 51.5 +2.9
BUSP	**Coron**	**3.35**	**262**	*e*P	Pn	16 50 59.5 +1.6

IDC **20** *16:55:17.0±0.5, 37°.26N×22°.21E, h0km, mb4.2/25, mb1 4.2/35, mb1mx4.2/42, mbtmp4.1/35, ML3.9/8, MS3.2/8, Ms1 3.2/8, ms1mx2.9/52, Error ellipse: s-maj=12.7km s-min=11.4km az=36.0*

ATH **20** *16:55:18.5, 37°.18N×22°.12E, h10km, ML4.2*

THE **20** *16:55:19.1, 37°.16N×22°.15E, h0km±3km, ML4.3/9, Error ellipse: s-maj=3.0km s-min=1.0km az=205.0*

HLW **20** *16:55:19.7, 37°.31N×22°.61E, h22km±63km, Md3.3, Ml3.9*

SOF **20** *16:55:19.4, 37°.18N×22°.43E, h5km, MD3.7*

PDG **20** *16:55:19.0±0.6, 37°.20N×22°.12E, h9km, ML4.3/12, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*

CSEM **20** *16:55:19.7±0.1, 37°.14N×22°.13E, h15km, mb4.3/33, Ms3.1, Error ellipse: s-maj=3.8km s-min=2.6km az=35.0*

MOS **20** *16:55:20.4±1.5, 37°.16N×22°.05E, h33km, mb4.5/31, Error ellipse: s-maj=8.4km s-min=3.8km az=72.0*

VIE **20** *16:55:25.9, 37°.32N×22°.23E, h50km, mb4.0, ML4.1*

BEO **20** *16:55:41.4±1.3, 38°.84N×21°.57E, h0km, ML3.7/5*

ISC 20 16:55:18.1±0.5, 37°.17N±0°.01×22°.13E±0°.01, h7km±3km, n650, σ1§35/672, mb4.3/38, MS3.2/4, 49C-24D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.16**	**275**	P	**Pg**	**16 55 22.1**	**+0.6**
ITM				S	**Sg**	**16 55 24.5**	**+0.7**
ITM	**Ithomi**	**0.16**	**275**	*e*PG	**Pg**	**16 55 22.2**	**+0.7**
ITM				*e*SG	**Sg**	**16 55 24.1**	**+0.3**
ITM	**Ithomi**	**0.16**	**275**	P	**Pg**	**16 55 22.1**	**+0.6**
ITM				S	**Sg**	**16 55 24.5**	**+0.7**
VLX	**Vlachokerasia**	**0.28**	**44**	P	**Pg**	**16 55 24.8**	**+1.0**
VLX				S	**Sg**	**16 55 29.0**	**+1.4**
VLX	**Vlachokerasia**	**0.28**	**44**	*e*PG	**Pg**	**16 55 24.7**	**+1.0**
VLX				*e*SG	**Sg**	**16 55 28.8**	**+1.2**
VLX	**Vlachokerasia**	**0.28**	**44**	*e*Pg	**Pg**	**16 55 24.7**	**+1.0**
VLX				S	**Sg**	**16 55 29.0**	**+1.4**
PYL	**PYLOS**	**0.41**	**229**	P	**Pg**	**16 55 26.5**	**+0.4**
PYL				S	**Sg**	**16 55 32.9**	**+1.4**
PYL	**PYLOS**	**0.41**	**229**	*e*PB	**Pg**	**16 55 26.6**	**+0.4**
PYL				*e*SB	**Sg**	**16 55 32.7**	**+1.2**
PYL	**PYLOS**	**0.41**	**229**	P	**Pg**	**16 55 26.5**	**+0.4**
PYL				S	**Sg**	**16 55 32.9**	**+1.4**
AMT	**Artemida-Makis**	**0.50**	**318**	P	**Pg**	**16 55 28.1**	**+0.4**
AMT				S	**Sg**	**16 55 35.5**	**+1.3**
AMT	**Artemida-Makis**	**0.50**	**318**	*e*PB	**Pg**	**16 55 28.1**	**+0.4**
AMT				*e*SB	**Sg**	**16 55 34.2**	**0.0**
AMT	**Artemida-Makis**	**0.50**	**318**	P	**Pg**	**16 55 28.1**	**+0.4**
AMT				S	**Sg**	**16 55 35.5**	**+1.3**
VLI	**Veliai**	**0.79**	**124**	P	**Pb**	**16 55 34.3**	**+0.2**
VLI				S	**Sg**	**16 55 44.3**	**+0.8**
VLI	**Veliai**	**0.79**	**124**	*e*PB	**Pg**	**16 55 34.3**	**+0.2**
VLI				*e*SB	**Sg**	**16 55 44.6**	**+1.1**
VLI	**Veliai**	**0.79**	**124**	P	**Pb**	**16 55 34.3**	**+0.2**
VLI				S	**Sg**	**16 55 44.3**	**+0.8**
GUR	**Goura**	**0.79**	**12**	P	**Pg**	**16 55 32.6**	**-0.7**
GUR	**Goura**	**0.79**	**12**	*e*PB	**Pg**	**16 55 33.1**	**-0.2**
GUR				*e*SB	**Sg**	**16 55 44.6**	**+1.1**
GUR	**Goura**	**0.79**	**12**	P	**Pg**	**16 55 32.6**	**-0.7**
GUR				*e*Sb	**Sg**	**16 55 44.6**	**+1.1**
DRO	**Drossia**	**0.85**	**337**	P	**Pg**	**16 55 34.5**	**0.0**
DRO				S	**Sn**	**16 55 49.6**	**+0.3**
DRO	**Drossia**	**0.85**	**337**	*e*PB	**Pg**	**16 55 35.1**	**+0.6**
DRO				*e*SB	**Sg**	**16 55 46.7**	**+1.1**
DRO	**Drossia**	**0.85**	**337**	P	**Pg**	**16 55 34.5**	**0.0**
DRO				*e*Sb	**Sg**	**16 55 46.7**	**+1.1**
DRO				S	**Sn**	**16 55 49.6**	**+0.3**
KLV	**Kalavryta, Ach**	**0.88**	**1**	P	**Pg**	**16 55 34.1**	**-0.9**
KLV				S	**Sb**	**16 55 48.9**	**+1.2**
KLV	**Kalavryta, Ach**	**0.88**	**1**	*e*PG	**Pg**	**16 55 34.5**	**-0.5**
KLV				*e*SB	**Sg**	**16 55 47.1**	**+0.7**
KLV	**Kalavryta, Ach**	**0.88**	**1**	P	**Pg**	**16 55 34.1**	**-0.9**
KLV				*e*Sb	**Sg**	**16 55 47.1**	**+0.7**
KLV				S	**Sb**	**16 55 48.9**	**+1.2**
SFD	**Strofades**	**0.89**	**276**	P	**Pb**	**16 55 36.3**	**+0.4**
SFD	**Strofades**	**0.89**	**276**	P	**Pb**	**16 55 36.3**	**+0.4**
DID	**Didima**	**0.94**	**69**	P	**Pg**	**16 55 36.7**	**+0.5**
DID	**Didima**	**0.94**	**69**	*e*PB	**Pg**	**16 55 36.8**	**+0.5**
DID				*e*SB	**Sg**	**16 55 49.0**	**+0.4**
DID	**Didima**	**0.94**	**69**	*e*Pb	**Pg**	**16 55 36.8**	**+0.5**
DID				*e*Sb	**Sg**	**16 55 49.0**	**+0.4**
RLS	**Riolos of Patr**	**1.03**	**330**	P	**Pg**	**16 55 37.6**	**-0.4**
RLS	**Riolos of Patr**	**1.03**	**330**	*e*PB	**Pg**	**16 55 37.9**	**-0.1**
RLS				*e*SB	**Sb**	**16 55 52.4**	**+0.3**
RLS	**Riolos of Patr**	**1.03**	**330**	P	**Pg**	**16 55 37.6**	**-0.4**
RLS				*e*Sb	**Sb**	**16 55 52.4**	**+0.3**
LAKA	**Lakka**	**1.08**	**354**	P	**Pg**	**16 55 37.9**	**-0.9**
LAKA	**Lakka**	**1.08**	**354**	*e*PG	**Pg**	**16 55 38.2**	**-0.6**
LAKA	**Lakka**	**1.08**	**354**	P	**Pg**	**16 55 37.9**	**-0.9**
LTK	**Loutraki**	**1.08**	**38**	P	**Pg**	**16 55 38.7**	**-0.2**
LTK				S	**Sn**	**16 55 55.1**	**+0.1**
LTK	**Loutraki**	**1.08**	**38**	*e*PN	**Pg**	**16 55 39.0**	**+0.1**
LTK				*e*SB	**Sg**	**16 55 53.6**	**+0.6**
LTK	**Loutraki**	**1.08**	**38**	P	**Pg**	**16 55 38.7**	**-0.2**
LTK	**Loutraki**	**1.08**	**38**	*e*Pn	**Pg**	**16 55 39.0**	**+0.1**
LTK				*e*Sb	**Sg**	**16 55 53.6**	**+0.6**
LTK				S	**Sn**	**16 55 55.1**	**+0.1**
KYTH	**Kithira**	**1.15**	**140**	P	**Pn**	**16 55 40.9**	**+0.3**
KYTH	**Kithira**	**1.15**	**140**	*e*PB	**Pn**	**16 55 41.0**	**+0.3**
KYTH	**Kithira**	**1.15**	**140**	P	**Pn**	**16 55 40.9**	**+0.3**
UPR	**University Cam**	**1.15**	**346**	P	**Pg**	**16 55 40.2**	**0.0**
UPR				S	**Sn**	**16 55 59.7**	**+3.1**
UPR	**University Cam**	**1.15**	**346**	P	**Pg**	**16 55 40.2**	**0.0**
UPR				S	**Sn**	**16 55 59.7**	**+3.1**
KALE	**Kalithea**	**1.22**	**0**	P	**Pn**	**16 55 40.5**	**-1.2**
KALE				S	**Sn**	**16 56 00.7**	**+2.2**
KALE	**Kalithea**	**1.22**	**0**	*e*PN	**Pn**	**16 55 40.7**	**-1.0**
KALE				*e*SB	**Sb**	**16 55 57.5**	**-0.1**
KALE	**Kalithea**	**1.22**	**0**	P	**Pn**	**16 55 40.5**	**-1.2**
KALE				*e*Sb	**Sb**	**16 55 57.5**	**-0.1**
KALE				S	**Sn**	**16 56 00.7**	**+2.2**
NAIG	**Nisos Aigina**	**1.23**	**61**	*e*PB	**Pn**	**16 55 41.9**	**+0.1**
NAIG	**Nisos Aigina**	**1.23**	**61**	*e*Pb	**Pn**	**16 55 41.9**	**+0.1**
EFP	**Efpalio**	**1.27**	**352**	P	**Pn**	**16 55 41.7**	**-0.6**
EFP				S	**Sn**	**16 56 02.8**	**+3.2**
EFP	**Efpalio**	**1.27**	**352**	*e*PB	**Pn**	**16 55 42.0**	**-0.3**
EFP				*e*SB	**Sb**	**16 55 59.6**	**+0.7**
EFP	**Efpalio**	**1.27**	**352**	P	**Pn**	**16 55 41.7**	**-0.6**
EFP	**Efpalio**	**1.27**	**352**	*e*Pb	**Pn**	**16 55 42.0**	**-0.3**
EFP				*e*Sb	**Sb**	**16 55 59.6**	**+0.7**
EFP				S	**Sn**	**16 56 02.8**	**+3.2**
DSF	**Desfina**	**1.28**	**14**	P	**Pn**	**16 55 41.9**	**-0.6**
DSF	**Desfina**	**1.28**	**14**	P	**Pn**	**16 55 41.9**	**-0.6**
KFL	**Anninata**	**1.42**	**312**	P	**Pg**	**16 55 45.9**	**+0.5**
KFL	**Anninata**	**1.42**	**312**	P	**Pg**	**16 55 45.9**	**+0.5**
ATH	**Athens Observa**	**1.50**	**57**	P	**Pn**	**16 55 46.2**	**+0.8**
ATH				S	**Sg**	**16 56 08.1**	**+1.9**
ATH	**Athens Observa**	**1.50**	**57**	*e*PG	**Pn**	**16 55 46.0**	**+0.6**
ATH				*e*SB	**Sg**	**16 56 07.2**	**+1.0**
ATH	**Athens Observa**	**1.50**	**57**	P	**Pn**	**16 55 46.2**	**+0.8**
ATH				S	**Sg**	**16 56 08.1**	**+1.9**
PVO	**Paravola**	**1.52**	**342**	P	**Pb**	**16 55 47.3**	**+0.6**
PVO	**Paravola**	**1.52**	**342**	P	**Pb**	**16 55 47.3**	**+0.6**
ATHU	**Athens Univers**	**1.54**	**58**	P	**Pn**	**16 55 46.4**	**+0.4**
ATHU	**Athens Univers**	**1.54**	**58**	P	**Pn**	**16 55 46.4**	**+0.4**
VLS	**Valsamata**	**1.58**	**310**	P	**Pn**	**16 55 47.2**	**+0.6**
VLS	**Valsamata**	**1.58**	**310**	*e*PG	**Pn**	**16 55 47.3**	**+0.6**
VLS				*e*SB	**Sg**	**16 56 09.4**	**+0.3**
VLS	**Valsamata**	**1.58**	**310**	P	**Pn**	**16 55 47.2**	**+0.6**
VLS				*e*Sb	**Sg**	**16 56 09.4**	**+0.3**
ANKY	**Antikythira Is**	**1.60**	**144**	P	**Pg**	**16 55 49.1**	**+0.2**
ANKY	**Antikythira Is**	**1.60**	**144**	*e*PB	**Pg**	**16 55 49.0**	**+0.2**
ANKY				*e*SB	**Sg**	**16 56 10.8**	**+1.1**
ANKY	**Antikythira Is**	**1.60**	**144**	P	**Pg**	**16 55 49.1**	**+0.2**
ANKY				*e*Sb	**Sg**	**16 56 10.8**	**+1.1**
PDO	**Prodromos**	**1.61**	**333**	P	**Pb**	**16 55 48.3**	**+0.1**
PDO				S	**Sg**	**16 56 10.9**	**+0.9**
PDO	**Prodromos**	**1.61**	**333**	P	**Pb**	**16 55 48.3**	**+0.1**
PDO				S	**Sg**	**16 56 10.9**	**+0.9**
LKR	**Lokris**	**1.63**	**25**	P	**Pn**	**16 55 48.1**	**+0.8**
LKR	**Lokris**	**1.63**	**25**	*e*PG	**Pn**	**16 55 48.2**	**+0.9**
LKR	**Lokris**	**1.63**	**25**	P	**Pn**	**16 55 48.1**	**+0.8**
PTL	**Penteli**	**1.64**	**57**	P	**Pn**	**16 55 48.0**	**+0.7**
PTL				S	**Sn**	**16 56 09.3**	**+0.6**
PTL	**Penteli**	**1.64**	**57**	*e*PB	**Pn**	**16 55 48.0**	**+0.7**
PTL	**Penteli**	**1.64**	**57**	*e*Pb	**Pn**	**16 55 48.0**	**+0.7**
PTL				S	**Sn**	**16 56 09.3**	**+0.6**
AXAR	**Agios Charalam**	**1.65**	**15**	P	**Pn**	**16 55 48.7**	**+1.1**
AXAR	**Agios Charalam**	**1.65**	**15**	P	**Pn**	**16 55 48.7**	**+1.1**
EVR	**Evrytania**	**1.77**	**352**	P	**Pb**	**16 55 50.9**	**0.0**
EVR	**Evrytania**	**1.77**	**352**	*e*PG	**Pb**	**16 55 51.2**	**+0.3**
EVR	**Evrytania**	**1.77**	**352**	P	**Pb**	**16 55 50.9**	**0.0**
EVR	**Evrytania**	**1.77**	**352**	*e*Pg	**Pb**	**16 55 51.2**	**+0.3**
ERET	**Eretria**	**1.84**	**46**	P	**Pn**	**16 55 51.1**	**+0.9**
ERET	**Eretria**	**1.84**	**46**	P	**Pn**	**16 55 51.1**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.84**	**0**	P	**Pb**	**16 55 52.0**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.84**	**0**	*e*PG	**Pb**	**16 55 53.3**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.84**	**0**	P	**Pb**	**16 55 52.0**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.84**	**0**	*e*Pg	**Pb**	**16 55 53.3**	**+1.1**
AGG	**Agios Georgios**	**1.86**	**5**	P	**Pb**	**16 55 53.1**	**+0.6**
AGG	**Agios Georgios**	**1.86**	**5**	*e*PG	**Pb**	**16 55 52.7**	**+0.2**
AGG	**Agios Georgios**	**1.86**	**5**	*e*Pg	**Pb**	**16 55 52.7**	**+0.2**
AGG	**Agios Georgios**	**1.86**	**5**	P	**Pb**	**16 55 53.1**	**+0.6**
SMIA	**Simia**	**1.91**	**26**	P	**Pn**	**16 55 52.6**	**+1.5**
SMIA	**Simia**	**1.91**	**26**	*e*PN	**Pn**	**16 55 52.7**	**+1.6**
SMIA	**Simia**	**1.91**	**26**	P	**Pn**	**16 55 52.6**	**+1.5**
MRKA	**Markates**	**1.92**	**36**	P	**Pn**	**16 55 52.2**	**+0.9**
MRKA	**Markates**	**1.92**	**36**	*e*PB	**Pn**	**16 55 52.1**	**+0.8**
MRKA	**Markates**	**1.92**	**36**	P	**Pn**	**16 55 52.2**	**+0.9**
LKD2	**Lefkada island**	**1.99**	**325**	P	**Pb**	**16 55 55.6**	**+0.8**
LKD2	**Lefkada island**	**1.99**	**325**	*e*PG	**Pb**	**16 55 54.9**	**+0.1**
LKD2	**Lefkada island**	**1.99**	**325**	*e*Pg	**Pb**	**16 55 54.9**	**+0.1**
LKD2	**Lefkada island**	**1.99**	**325**	P	**Pb**	**16 55 55.6**	**+0.8**
MRMA	**Marmari**	**2.00**	**63**	P	**Pn**	**16 55 53.1**	**+0.8**
MRMA	**Marmari**	**2.00**	**63**	P	**Pn**	**16 55 53.1**	**+0.8**
SKIA	**Skiathos**	**2.26**	**27**	P	**Pn**	**16 55 57.1**	**+1.2**
SKIA	**Skiathos**	**2.26**	**27**	*e*PB	**Pn**	**16 55 57.2**	**+1.3**
SKIA	**Skiathos**	**2.26**	**27**	P	**Pn**	**16 55 57.1**	**+1.2**
NEO	**Neokhori**	**2.30**	**22**	P	**Pn**	**16 55 57.5**	**+1.0**
NEO	**Neokhori**	**2.30**	**22**	*e*PN	**Pn**	**16 55 58.0**	**+1.5**
NEO	**Neokhori**	**2.30**	**22**	P	**Pn**	**16 55 57.5**	**+1.0**
NEO	**Neokhori**	**2.30**	**22**	*e*Pn	**Pn**	**16 55 58.0**	**+1.5**
FYTO	**Fytoko, Volos**	**2.33**	**16**	P	**Pn**	**16 55 58.3**	**+1.5**
FYTO	**Fytoko, Volos**	**2.33**	**16**	P	**Pn**	**16 55 58.3**	**+1.5**
XOR	**Xorichti**	**2.35**	**21**	P	**Pn**	**16 55 58.3**	**+1.1**
XOR	**Xorichti**	**2.35**	**21**	*e*PB	**Pn**	**16 55 58.5**	**+1.3**
XOR	**Xorichti**	**2.35**	**21**	P	**Pn**	**16 55 58.3**	**+1.1**
THL	**Klokotos Trika**	**2.40**	**358**	P	**Pn**	**16 55 59.2**	**+1.4**
THL	**Klokotos Trika**	**2.40**	**358**	*e*PN	**Pn**	**16 55 59.5**	**+1.7**
THL	**Klokotos Trika**	**2.40**	**358**	P	**Pn**	**16 55 59.2**	**+1.4**
THL	**Klokotos Trika**	**2.40**	**358**	*e*Pn	**Pn**	**16 55 59.5**	**+1.7**
VAM	**Vamos**	**2.42**	**136**	P	**Pn**	**16 56 01.0**	**-1.1**
VAM	**Vamos**	**2.42**	**136**	*e*PN	**Pb**	**16 56 00.9**	**-1.1**
VAM	**Vamos**	**2.42**	**136**	*e*PN	**Pb**	**16 56 00.9**	**-1.1**
VAM	**Vamos**	**2.42**	**136**	*e*Pn	**Pb**	**16 56 00.9**	**-1.1**
AOS	**Alonnisos**	**2.43**	**34**	P	**Pn**	**16 55 59.0**	**+0.8**
AOS	**Alonnisos**	**2.43**	**34**	*e*PB	**Pn**	**16 55 59.1**	**+0.8**
AOS	**Alonnisos**	**2.43**	**34**	P	**Pn**	**16 55 59.0**	**+0.8**
MEV	**Metsovon**	**2.71**	**345**	P	**Pb**	**16 56 06.3**	**-0.7**
MEV	**Metsovon**	**2.71**	**345**	P	**Pb**	**16 56 06.3**	**-0.7**
APE	**Apeiranthos**	**2.72**	**91**	P	**Pn**	**16 56 03.1**	**+0.8**
APE	**Apeiranthos**	**2.72**	**91**	*c iP*	**Pn**	**16 56 03.2**	**+0.9**
APE	**Apeiranthos**	**2.72**	**91**	*e*PB	**Pn**	**16 56 03.2**	**+0.9**
APE	**Apeiranthos**	**2.72**	**91**	P	**Pn**	**16 56 03.1**	**+0.8**
IGT	**Igoumenitsa**	**2.75**	**330**	P	**Pn**	**16 56 04.9**	**+2.2**
IGT	**Igoumenitsa**	**2.75**	**330**	*e*PN	**Pn**	**16 56 04.9**	**+2.2**
IGT	**Igoumenitsa**	**2.75**	**330**	*e*Pn	**Pn**	**16 56 04.9**	**+2.2**
SANT	**Santorini**	**2.79**	**106**	P	**Pn**	**16 56 05.3**	**+2.1**
SANT	**Santorini**	**2.79**	**106**	*e*PB	**Pn**	**16 56 05.5**	**+2.3**
SANT	**Santorini**	**2.79**	**106**	P	**Pn**	**16 56 05.3**	**+2.1**
IDI	**Anoyia**	**2.91**	**129**	Pn	**Pn**	**16 56 06.1**	**+1.1**
	17nm,0.3s,baz=319,slow=17,SNR=53						
IDI					Sn	**Sb**	**16 56 45.2**	**-1.2**
	54nm,0.3s,baz=284,slow=19,SNR=5.7						
LIT	**Litokhoron**	**2.94**	**5**	P	**Pn**	**16 56 07.3**	**+2.0**
LIT	**Litokhoron**	**2.94**	**5**	*e*PN	**Pn**	**16 56 07.4**	**+2.1**
LIT	**Litokhoron**	**2.94**	**5**	*e*Pn	**Pn**	**16 56 07.4**	**+2.1**
PAIG	**Paliouri**	**3.01**	**23**	P	**Pn**	**16 56 07.0**	**+0.8**
PAIG	**Paliouri**	**3.01**	**23**	*e*PN	**Pn**	**16 56 07.2**	**+1.0**
PAIG	**Paliouri**	**3.01**	**23**	*e*Pn	**Pn**	**16 56 07.2**	**+1.0**
KEK	**Kerkira**	**3.13**	**325**	P	**Pn**	**16 56 09.5**	**+1.7**
KEK	**Kerkira**	**3.13**	**325**	*e*PN	**Pn**	**16 56 09.6**	**+1.7**
KEK	**Kerkira**	**3.13**	**325**	*e*Pn	**Pn**	**16 56 09.6**	**+1.7**
KZN	**Kozani**	**3.15**	**355**	*e*PB	**Pb**	**16 56 12.1**	**-2.4**
KZN	**Kozani**	**3.15**	**355**	*e*Pb	**Pb**	**16 56 12.1**	**-2.4**
CHOS	**Chios island**	**3.34**	**67**	P	**Pn**	**16 56 12.0**	**+1.2**
CHOS	**Chios island**	**3.34**	**67**	*e*PN	**Pn**	**16 56 12.0**	**+1.2**
CHOS	**Chios island**	**3.34**	**67**	*e*Pn	**Pn**	**16 56 12.0**	**+1.2**
NEST	**Nestorio**	**3.35**	**346**	P	Pn	16 56 14.6	+3.6
NEST	**Nestorio**	**3.35**	**346**	*e*PB	Pn	16 56 14.8	+3.8
NEST	**Nestorio**	**3.35**	**346**	P	Pn	16 56 14.6	+3.6
PLG	**Polygyros**	**3.36**	**17**	P	**Pn**	**16 56 12.1**	**+1.0**
PLG	**Polygyros**	**3.36**	**17**	*e*PN	**Pn**	**16 56 12.8**	**+1.7**
PLG	**Polygyros**	**3.36**	**17**	P	**Pn**	**16 56 12.1**	**+1.0**
PLG	**Polygyros**	**3.36**	**17**	*e*Pn	**Pn**	**16 56 12.8**	**+1.7**
LAST	**Lasithi**	**3.37**	**125**	*e*PN	**Pn**	**16 56 13.7**	**+2.5**
LAST	**Lasithi**	**3.37**	**125**	*e*Pn	**Pn**	**16 56 13.7**	**+2.5**
NPS	**Neapolis**	**3.40**	**123**	P	**Pn**	**16 56 14.6**	**+3.0**
NPS	**Neapolis**	**3.40**	**123**	*e*PN	**Pn**	**16 56 14.2**	**+2.6**
NPS	**Neapolis**	**3.40**	**123**	*e*Pn	**Pn**	**16 56 14.2**	**+2.6**
NPS	**Neapolis**	**3.40**	**123**	P	**Pn**	**16 56 14.6**	**+3.0**
OUR	**Ouranopolis**	**3.48**	**24**	P	**Pn**	**16 56 13.6**	**+1.0**
OUR	**Ouranopolis**	**3.48**	**24**	*e*PN	**Pn**	**16 56 13.7**	**+1.1**
OUR	**Ouranopolis**	**3.48**	**24**	P	**Pn**	**16 56 13.6**	**+1.0**
HORT	**Hortiatis**	**3.51**	**12**	P	**Pn**	**16 56 14.2**	**+1.0**
HORT	**Hortiatis**	**3.51**	**12**	*e*PN	**Pn**	**16 56 15.0**	**+1.8**
HORT	**Hortiatis**	**3.51**	**12**	P	**Pn**	**16 56 14.2**	**+1.0**
HORT	**Hortiatis**	**3.51**	**12**	*e*Pn	**Pn**	**16 56 15.0**	**+1.8**
THE	**Thessaloniki**	**3.52**	**10**	*e*PB	Pn	16 56 17.0	+3.8
THE	**Thessaloniki**	**3.52**	**10**	*e*Pb	Pn	16 56 17.0	+3.8
SIGR	**SIGRI**	**3.58**	**54**	P	**Pn**	**16 56 14.7**	**+0.7**
SIGR	**SIGRI**	**3.58**	**54**	*e*PN	**Pn**	**16 56 14.5**	**+0.5**
SIGR	**SIGRI**	**3.58**	**54**	P	**Pn**	**16 56 14.7**	**+0.7**
LIA	**Limnos Island**	**3.63**	**40**	P	**Pn**	**16 56 15.3**	**+0.6**
LIA	**Limnos Island**	**3.63**	**40**	*e*PN	**Pn**	**16 56 15.5**	**+0.8**
LIA	**Limnos Island**	**3.63**	**40**	*e*Pn	**Pn**	**16 56 15.5**	**+0.8**
FNA	**Florina**	**3.66**	**351**	P	**Pn**	**16 56 18.0**	**+2.7**
FNA	**Florina**	**3.66**	**351**	*e*PN	**Pn**	**16 56 17.9**	**+2.7**
FNA	**Florina**	**3.66**	**351**	*e*Pn	**Pn**	**16 56 17.9**	**+2.7**
SOH	**Sokhos**	**3.77**	**14**	P	**Pn**	**16 56 19.1**	**+2.4**
SOH	**Sokhos**	**3.77**	**14**	*e*PN	**Pn**	**16 56 19.3**	**+2.6**
SOH	**Sokhos**	**3.77**	**14**	P	**Pn**	**16 56 19.1**	**+2.4**
SMG	**Samos**	**3.79**	**80**	P	**Pn**	**16 56 18.2**	**+1.3**
SMG	**Samos**	**3.79**	**80**	*e*PN	**Pn**	**16 56 18.0**	**+1.1**
SMG	**Samos**	**3.79**	**80**	*e*Pn	**Pn**	**16 56 18.0**	**+1.1**
GRG	**Griva**	**3.79**	**3**	P	**Pn**	**16 56 19.0**	**+2.0**
GRG	**Griva**	**3.79**	**3**	*e*PN	**Pn**	**16 56 19.4**	**+2.4**
GRG	**Griva**	**3.79**	**3**	P	**Pn**	**16 56 19.0**	**+2.0**
GRG	**Griva**	**3.79**	**3**	*e*Pn	**Pn**	**16 56 19.4**	**+2.4**
ZKR	**Zakros**	**3.89**	**121**	*e*PN	**Pn**	**16 56 21.4**	**+3.1**
ZKR	**Zakros**	**3.89**	**121**	*e*Pn	**Pn**	**16 56 21.4**	**+3.1**
BIA	**Bitola**	**3.90**	**351**	*i* Pn	Pb	16 56 24.3	-2.9
BIA	**Bitola**	**3.90**	**351**	*i* Pn	Pb	16 56 24.3	-2.9
KNT	**Kendrikon**	**4.03**	**8**	P	**Pn**	**16 56 23.1**	**+2.8**
KNT	**Kendrikon**	**4.03**	**8**	*e*PN	**Pn**	**16 56 23.2**	**+2.9**
KNT	**Kendrikon**	**4.03**	**8**	*e*Pn	**Pn**	**16 56 23.2**	**+2.9**
BLCB	**Balcova**	**4.08**	**71**	*e*P	**Pn**	**16 56 21.7**	**+0.8**
BLCB	**Balcova**	**4.08**	**71**	*e*P	**Pn**	**16 56 21.7**	**+0.8**
SRS	**Serrai**	**4.11**	**16**	P	**Pn**	**16 56 23.1**	**+1.8**
SRS	**Serrai**	**4.11**	**16**	*e*PN	**Pn**	**16 56 23.4**	**+2.1**
SRS	**Serrai**	**4.11**	**16**	P	**Pn**	**16 56 23.1**	**+1.8**
SRS	**Serrai**	**4.11**	**16**	*e*Pn	**Pn**	**16 56 23.4**	**+2.1**
VAY	**Valandovo**	**4.16**	**5**	*e*Pn	**Pn**	**16 56 24.7**	**+2.6**
VAY	**Valandovo**	**4.16**	**5**	*i* P	Pn	16 56 25.4	+3.3
VAY				*i* Pn	Pn	16 56 25.9	+3.8
VAY				*i* S	**Sn**	**16 57 12.0**	**+1.1**
VAY	**Valandovo**	**4.16**	**5**	*i* Pn	Pn	16 56 25.9	+3.9
VAY				*e*Sn	Sn	16 57 17.0	+6.1
VAY				*e*Lg	Lg	16 57 17.1	
	comp=E,96nm,0.8s						
VAY				*e*Lg	Lg	16 57 20.0	
	comp=N,478nm,1.3s						
VAY	**Valandovo**	**4.16**	**5**	*i* P	Pn	16 56 25.4	+3.3
VAY	**Valandovo**	**4.16**	**5**	*i* Pn	Pn	16 56 25.9	+3.8
VAY				*i* S	**Sn**	**16 57 12.0**	**+1.1**
VAY				*e*Sn	**Sb**	**16 57 17.0**	**-5.2**
VAY				*e*Lg	Lg	16 57 20.0	
	comp=N,478nm,1.3s						
EZN	**Ezine**	**4.23**	**50**	*e*P	**Pn**	**16 56 24.0**	**+1.1**
EZN	**Ezine**	**4.23**	**50**	*e*P	**Pn**	**16 56 24.0**	**+1.1**
SMTH	**Samothraki Isl**	**4.24**	**38**	*e*PN	**Pn**	**16 56 23.1**	**0.0**
SMTH	**Samothraki Isl**	**4.24**	**38**	*e*Pn	**Pn**	**16 56 23.1**	**0.0**
IZM	**Izmir**	**4.25**	**72**	*e*P	**Pn**	**16 56 24.6**	**+1.3**
IZM	**Izmir**	**4.25**	**72**	*e*P	**Pn**	**16 56 24.6**	**+1.3**
KAVA	**Kavala**	**4.25**	**25**	P	**Pn**	**16 56 24.2**	**+0.9**
KAVA	**Kavala**	**4.25**	**25**	*e*PN	**Pn**	**16 56 24.2**	**+0.9**
KAVA	**Kavala**	**4.25**	**25**	*e*Pn	**Pn**	**16 56 24.2**	**+0.9**
NVR	**Nevrokopi**	**4.39**	**17**	P	**Pn**	**16 56 27.8**	**+2.6**
NVR	**Nevrokopi**	**4.39**	**17**	*e*PN	**Pn**	**16 56 28.0**	**+2.8**
NVR	**Nevrokopi**	**4.39**	**17**	P	**Pn**	**16 56 27.8**	**+2.6**
MMB	**Musomiste**	**4.59**	**15**	*i* P	**Pn**	**16 56 29.8**	**+1.8**
MMB				*i* S	**Sn**	**16 57 24.5**	**+3.0**
MMB	**Musomiste**	**4.59**	**15**	*i*↑P	**Pn**	**16 56 29.7**	**+1.8**
MMB	**Musomiste**	**4.59**	**15**	*i* P	**Pn**	**16 56 29.8**	**+1.8**
MMB				*i* S	**Sn**	**16 57 24.5**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**4.64**	**79**	*e*P	**Pn**	**16 56 28.8**	**0.0**
AYDB	**Z

ISP	Isparta	6.71	82	⇑P		Pn	16 57 00.5	+3.4	
ISP	Isparta	6.71	82	⇑*i*P		Pn	16 57 00.5	+3.4	
ISP	Isparta	6.71	82	P		Pn	16 57 00.5	+3.4	
BCK	Bucak	6.75	85	*e*P		**Pn**	**16 56 57.1**	**-0.5**	
BCK	Bucak	6.75	85	*e*P		**Pn**	**16 56 57.1**	**-0.5**	
CAVI	Cavuskoy	6.75	61	*e*P		**Pn**	**16 56 58.2**	**+0.5**	
CAVI	Cavuskoy	6.75	61	*e*P		**Pn**	**16 56 58.2**	**+0.5**	
SZH	Strazhica	6.75	24	*i* P		Pn	16 57 01.5	+3.9	
GRUS	Gruza	6.80	351	*e*Pn		**Pn**	**16 56 59.0**	**+0.7**	
SHUT	Suhut-Afyon	6.80	76	*e*P		**Pn**	**16 56 58.6**	**+0.1**	
SHUT	Suhut-Afyon	6.80	76	*e*P		**Pn**	**16 56 58.6**	**+0.1**	
ANTB	Antalya	6.82	90	*e*P		Pn	16 57 04.9	+6.3	
HRT	Hereke	6.91	56	*e*P		**Pn**	**16 57 00.9**	**+1.0**	
HRT	Hereke	6.91	56	*e*P		**Pn**	**16 57 00.9**	**+1.0**	
SUTC	Sutluce-Ispart	7.08	85	*e*P		**Pn**	**16 57 01.9**	**-0.3**	
SUTC	Sutluce-Ispart	7.08	85	*e*P		**Pn**	**16 57 01.9**	**-0.3**	
DIVS	Divibare	7.11	347	*e*Pn		**Pn**	**16 57 02.4**	**-0.3**	
TRUS	Trudelj	7.17	350	*e*Pn		**Pn**	**16 57 02.2**	**-1.2**	
PRD	Provadia	7.25	32	⇑P		**Pn**	**16 57 05.8**	**+1.4**	
PRD	Provadia	7.25	32	*i* P		**Pn**	**16 57 05.1**	**+0.7**	
PRD	Provadia	7.25	32	*i* P		**Pn**	**16 57 05.1**	**+0.7**	
HMAT	Matruh	7.32	144	P		**Pn**	**16 57 05.7**	**+0.2**	
	baz=147								
HMAT	Matruh	7.32	144	P		**Pn**	**16 57 05.7**	**+0.2**	
TEKS	Tekeris	7.63	346	*e*Pn		**Pn**	**16 57 09.9**	**+0.2**	
SVRH	Sivrihisar-ESK	7.73	70	*e*P		**Pn**	**16 57 11.3**	**+0.2**	
SVRH	Sivrihisar-ESK	7.73	70	*e*P		**Pn**	**16 57 11.3**	**+0.2**	
MDUB	Mudurnu	7.81	62	*e*P		**Pn**	**16 57 12.7**	**+0.5**	
MDUB	Mudurnu	7.81	62	*e*P		**Pn**	**16 57 12.7**	**+0.5**	
KIZT	Kizilcal	7.88	75	*e*P		**Pn**	**16 57 14.2**	**+0.9**	
KIZT	Kizilcal	7.88	75	*e*P		**Pn**	**16 57 14.2**	**+0.9**	
PSN	Preselentsi	7.98	33	⇑P		**Pn**	**16 57 15.9**	**+1.5**	
PSN	Preselentsi	7.98	33	⇑*i*P		**Pn**	**16 57 15.9**	**+1.5**	
PSN	Preselentsi	7.98	33	⇑*i*P		**Pn**	**16 57 15.9**	**+1.5**	
MSAB	Monastry St. A	8.16	30	⇑*i*P		**Pn**	**16 57 19.0**	**+2.1**	
MSAB	Monastry St. A	8.16	30	⇑*i*P		**Pn**	**16 57 19.0**	**+2.1**	
KONT	Konya--Tatoy	8.16	81	*e*P		**Pn**	**16 57 17.0**	**-0.1**	
KONT	Konya--Tatoy	8.16	81	*e*P		**Pn**	**16 57 17.0**	**-0.1**	
LADK	Ladik-KONYA	8.18	80	*e*P		**Pn**	**16 57 17.0**	**-0.4**	
LADK	Ladik-KONYA	8.18	80	*e*P		**Pn**	**16 57 17.0**	**-0.4**	
SWA2		8.38	160	P		**Pn**	**16 57 19.5**	**-0.5**	
	baz=162								
SWA2		8.38	160	P		**Pn**	**16 57 19.5**	**-0.5**	
ARR	Arges	8.41	12	⇓*i*P		**Pn**	**16 57 23.2**	**+2.8**	
ARR	Arges	8.41	12	⇓*i*P		**Pn**	**16 57 23.2**	**+2.8**	
BZS	Buzias	8.45	358	⇑P		**Pn**	**16 57 22.3**	**+1.4**	
BZS	Buzias	8.45	358	⇑*i*P		**Pn**	**16 57 22.3**	**+1.4**	
BZS	Buzias	8.45	358	P		**Pn**	**16 57 22.3**	**+1.4**	
VOIR		8.55	14	⇑*i*P		Pn	16 57 26.4	+4.0	
ISR	Istrita	8.61	21	⇑P		Pn	16 57 29.6	+6.4	
ISR	Istrita	8.61	21	⇑*i*P		Pn	16 57 29.6	+6.4	
TLB	Topalu	8.66	29	⇑P		Pn	16 57 30.3	+6.6	
TLB	Topalu	8.66	29	⇑*i*P		Pn	16 57 30.3	+6.6	
UDBI	Udbina	8.79	329	*e*Pn		**Pn**	**16 57 26.8**	**+1.1**	
UDBI				Sn		Sn	16 58 53.9	-11	
UDBI	Udbina	8.79	329	*e*Pn		**Pn**	**16 57 26.8**	**+1.1**	
MLR	Muntele Rosu	8.80	18	⇑*i*P		Pn	16 57 30.8	+5.0	
MLR	Muntele Rosu	8.80	18	Pn		**Pn**	**16 57 27.6**	**+1.8**	
	baz=180,slow=8.1								
MLR				LR		LR	17 00 23.6		
	comp=N,12nm,21.6s,baz=206,slow=35								
MLR	Muntele Rosu	8.80	18	P		**Pn**	**16 57 27.6**	**+1.8**	
	comp=N,12nm,21.6s								
AFSR	Af˙ar-Bala (A	8.90	72	*e*P		**Pn**	**16 57 30.0**	**+2.9**	
AFSR	Af˙ar-Bala (A	8.90	72	*e*P		**Pn**	**16 57 30.0**	**+2.9**	
SULT	Sultanhani-AKS	9.09	80	*e*P		**Pn**	**16 57 29.3**	**-0.5**	
SULT	Sultanhani-AKS	9.09	80	*e*P		**Pn**	**16 57 29.3**	**-0.5**	
DOPR	Dopca	9.12	14	⇓*i*P		Pn	16 57 34.2	+4.0	
CFR	Carcaliu	9.19	28	⇓P		Pn	16 57 35.0	+3.9	
CFR	Carcaliu	9.19	28	⇓*i*P		Pn	16 57 35.0	+3.9	
NVLJ	Novalja	9.21	326	*e*Pn		**Pn**	**16 57 30.6**	**-0.7**	
NVLJ				Sn		Sn	16 59 01.8	-13	
NVLJ	Novalja	9.21	326	*e*Pn		**Pn**	**16 57 30.5**	**-0.7**	
PLOR	Plostina	9.31	20	⇑P		Pn	16 57 38.9	+6.1	
PLOR	Plostina	9.31	20	⇑*i*P		Pn	16 57 38.9	+6.1	
VRI	Vrincioaia	9.35	20	⇑P		Pn	16 57 38.9	+5.6	
VRI	Vrincioaia	9.35	20	⇑*i*P		Pn	16 57 38.9	+5.6	
BRTR	Keskin Array B	9.38	71	Pn		**Pn**	**16 57 35.6**	**+1.8**	
	comp=N,1.8nm,0.3s,baz=253,slow=13,SNR=40								
BRTR	Keskin Array B	9.38	71	P		**Pn**	**16 57 35.7**	**+1.8**	
	comp=N,2.0nm,0.3s								
LFK	Lefkose	9.40	98	*e*P		Pn	16 57 30.2	-3.9	
PKSM	Moragy	9.41	345	⇑P		**Pn**	**16 57 34.7**	**+0.7**	
PKSM	Moragy	9.41	345	⇑*i*P		**Pn**	**16 57 34.7**	**+0.7**	
PKSM	Moragy	9.41	345	P		**Pn**	**16 57 34.7**	**+0.7**	
TLCR		9.46	30	⇑P		Pn	16 57 38.6	+3.9	
TLCR		9.46	30	⇑*i*P		Pn	16 57 38.6	+3.9	
BOJS	Bojanci	9.80	330	*i* Pn		**Pn**	**16 57 39.4**	**0.0**	
BOJS				*i* Sn		**Sn**	**16 59 30.8**	**+1.1**	
BOJS	Bojanci	9.80	330	*i* Pn		**Pn**	**16 57 39.4**	**0.0**	
TESR	Tescani	9.93	18	⇑*i*P		Pn	16 57 45.8	+4.7	
CRES	Cresnjev	9.99	332	*e*Pn		**Pn**	**16 57 41.8**	**-0.2**	
CRES	Cresnjev	9.99	332	*e*Pn		**Pn**	**16 57 41.8**	**-0.2**	
GBRS	Gornja Briga	10.00	329	*e*Pn		**Pn**	**16 57 42.5**	**+0.3**	
VISS	Visnje	10.21	330	*i* Pn		**Pn**	**16 57 45.0**	**0.0**	
VISS				*i* Sn		**Sn**	**16 59 40.7**	**+0.9**	
VISS	Visnje	10.21	330	*i* Pn		**Pn**	**16 57 45.0**	**0.0**	
CORM	Corum	10.23	69	*e*P		**Pn**	**16 57 47.4**	**+2.0**	
CORM	Corum	10.23	69	*e*P		**Pn**	**16 57 47.4**	**+2.0**	
KARA	Karaisali	10.31	86	*e*P		Pn	16 57 52.2	+5.8	
KEST	Kesra	10.40	266	Pn		**Pn**	**16 57 48.8**	**+1.1**	
	comp=N,0.1nm,0.3s,baz=359,slow=9.0,SNR=5.2								
KEST				LR		LR	17 02 32.3		
	comp=N,28nm,21.8s,baz=172,slow=42								
JAVS	Javornik	10.60	328	*i* Pn		**Pn**	**16 57 50.5**	**0.0**	
JAVS				*i* Sn		**Sn**	**16 59 48.0**	**-1.6**	
JAVS	Javornik	10.60	328	*i* Pn		**Pn**	**16 57 50.5**	**0.0**	
YOZ	Yozgat	10.64	73	*e*P		Pn	16 57 54.9	+3.8	
BURAR	Bucovina Array	10.69	11	⇑P		Pn	16 57 56.2	+4.5	
BURAR	Bucovina Array	10.69	11	⇑*i*P		Pn	16 57 56.2	+4.5	
PERS	Pernice	10.80	333	*i* Pn		**Pn**	**16 57 53.5**	**+0.3**	
PERS				*i* Sn		**Sn**	**16 59 51.5**	**-2.9**	
PERS	Pernice	10.80	333	*i* Pn		**Pn**	**16 57 53.5**	**+0.3**	
PSZ	Piszkesteto	10.87	352	⇑P		**Pn**	**16 57 56.4**	**+2.3**	
PSZ	Piszkesteto	10.87	352	⇑*i*P		**Pn**	**16 57 56.4**	**+2.3**	
PSZ	Piszkesteto	10.87	352	P		**Pn**	**16 57 56.4**	**+2.3**	
OBKA	Obir	10.91	331	⇑*i*Pn		Pn	16 57 58.9	+4.2	
OBKA	Obir	10.91	331	Pn		Pn	16 57 58.9	+4.2	
KOZT	Kozan	10.91	84	*e*P		**Pn**	**16 57 52.9**	**-1.8**	
KOZT	Kozan	10.91	84	*e*P		**Pn**	**16 57 52.9**	**-1.8**	
TRPA	Tarpa	10.96	1	⇑P		**Pn**	**16 57 58.2**	**+2.9**	
TRPA	Tarpa	10.96	1	⇑*i*P		**Pn**	**16 57 58.2**	**+2.9**	
AMAG	Maghara	11.27	122	P		**Pn**	**16 57 58.1**	**-1.5**	
	baz=124								
AMAG	Maghara	11.27	122	P		**Pn**	**16 57 58.1**	**-1.5**	
HFRF	Wahat Farafira	11.27	151	P		**Pn**	**16 57 59.0**	**-0.7**	
	baz=153								
HFRF	Wahat Farafira	11.27	151	P		**Pn**	**16 57 59.0**	**-0.7**	
PGF	Pioggiola	11.43	302	*e*P		Pn	16 58 05.4	+3.6	
PGF	Pioggiola	11.43	302	*e*P		Pn	16 58 05.4	+3.6	
MMAI	Mount Meron Ar	11.63	107	Pn		**Pn**	**16 58 03.0**	**-1.6**	
	comp=N,2.5nm,0.3s,baz=297,slow=12,SNR=12								
CRVS	Cervenica-Dubn	11.74	358	*e*P		**Pn**	**16 58 07.5**	**+1.5**	
CRVS	Cervenica-Dubn	11.74	358	*e*PN		**Pn**	**16 58 07.5**	**+1.5**	
CRVS	Cervenica-Dubn	11.74	358	*e*P		**Pn**	**16 58 07.5**	**+1.5**	
KOLS	Kolonicke sedl	11.76	0	*e*P		Pn	16 58 11.7	+5.4	
KOLS	Kolonicke sedl	11.76	0	*e*PN		Pn	16 58 11.7	+5.4	
HNKL	Nakhl	12.23	123	P		**Pn**	**16 58 11.6**	**-1.2**	
	baz=124								
HNKL	Nakhl	12.23	123	P		**Pn**	**16 58 11.6**	**-1.2**	
GRB	Gharib	12.61	132	P		**Pn**	**16 58 16.4**	**-1.5**	
	baz=133								
GRB	Gharib	12.61	132	P		**Pn**	**16 58 16.4**	**-1.5**	
VRAC	Vranov	12.78	343	LR		LR	17 04 49.0		
	comp=N,136nm,18.4s,baz=172,slow=45								
FETA	Feichten	12.97	323	⇑Pn		Pn	16 58 33.5	+10	
OKC	Ostrava-Krasne	12.99	348	*e*P		Pn	16 58 33.6	+11	
OKC	Ostrava-Krasne	12.99	348	*e*P		Pn	16 58 33.6	+11	
OKC				*ex*		x	16 58 35.6		
EIL	Elat	13.05	121	Pn		**Pn**	**16 58 23.1**	**-0.9**	
	comp=N,1.0nm,0.3s,baz=331,slow=12,SNR=8.4								
EIL				Sn		Sn	17 00 41.7	-7.7	
	comp=N,1.8nm,0.3s,baz=321,slow=14,SNR=6.2								
GERES	GERESS Array B	13.19	335	Pn		**Pn**	**16 58 26.9**	**+1.0**	
	comp=N,0.3nm,0.3s,baz=155,slow=14,SNR=7.6								
GERES				LR		LR	17 04 11.9		
	comp=N,114nm,18.0s,baz=144,slow=41								
GERES	GERESS Array B	13.19	335	P		**Pn**	**16 58 26.9**	**+1.0**	
	comp=N,15nm,28.6s								
KRLC	Kraliky	13.47	345	*e*P		**P**	**16 58 41.2**	**+2.2**	
KRLC	Kraliky	13.47	345	*e*P		**P**	**16 58 41.2**	**+2.2**	
KHC	Kasperske Hory	13.48	335	*i* P		**Pn**	**16 58 27.2**	**-2.5**	
KHC	Kasperske Hory	13.48	335	*e*P		**P**	**16 58 37.1**	**-2.0**	
KHC				*ex*		x	16 58 41.2		
DPC	Dobruska-Polom	13.82	344	*e*P		P	16 58 40.2	-2.8	
DPC	Dobruska-Polom	13.82	344	*e*P		P	16 58 40.2	-2.8	
DPC				*ex*		x	16 58 44.5		
DPC	Dobruska-Polom	13.82	344	*e*P		P	16 58 40.2	-2.8	
MBDF	Montbardon	13.84	308	*e*P		Pn	16 58 39.4	+4.7	
	comp=N,26nm,1.1s								
MBDF	Montbardon	13.84	308	*e*P		Pn	16 58 39.4	+4.7	
	comp=N,13nm,1.1s								
PRU	Pruhonice	13.94	339	*e*P		Pn	16 58 39.4	+3.5	
PRU	Pruhonice	13.94	339	*e*P		Pn	16 58 39.4	+3.5	
PRU				*ex*		x	16 58 45.0		
UPC	Upice	14.04	344	*e*P		**P**	**16 58 45.5**	**+0.2**	
UPC	Upice	14.04	344	*e*P		**P**	**16 58 45.5**	**+0.2**	
UPC	Upice	14.04	344	*e*P		**P**	**16 58 45.5**	**+0.2**	
LPG	La Plagne	14.22	311	*e*P		**P**	**16 58 47.1**	**-0.6**	
	comp=N,10nm,0.8s								
LPG	La Plagne	14.22	311	*e*P		**P**	**16 58 47.1**	**-0.6**	
	comp=N,5.2nm,0.8s								
LPL	La Plagne	14.24	311	*e*P		**P**	**16 58 47.6**	**-0.3**	
LPL	La Plagne	14.24	311	*e*P		**P**	**16 58 47.6**	**-0.3**	
KSP	Ksiaz	14.29	345	*e*P		**P**	**16 58 49.9**	**+1.7**	
KSP	Ksiaz	14.29	345	*e*P		**P**	**16 58 49.9**	**+1.6**	
KSP	Ksiaz	14.29	345	*e*P		**P**	**16 58 49.9**	**+1.7**	
KIEV	Kiev	14.44	18	⇑*i*P		**Pn**	**16 58 41.8**	**-1.0**	
AKASG	Malin Array Be	14.45	18	P		**Pn**	**16 58 42.4**	**-0.6**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG	Malin Array Be	14.45	18	Pn		**Pn**	**16 58 42.4**	**-0.6**	
	comp=N,1.0nm,0.3s,baz=208,slow=13,SNR=10								
AKASG				PcP		**PcP**	**17 03 59.7**	**+1.5**	
	comp=Z,0.6nm,0.3s,baz=224,slow=0.8,SNR=6.8								
BRG	Berggiesshubel	14.90	339	*e*P		**P**	**16 58 54.1**	**-0.8**	
	comp=Z,5.2nm,1.2s								
BRG	Berggiesshubel	14.90	339	*e*P		**P**	**16 58 54.1**	**-0.8**	
BRG				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BRG	Berggiesshubel	14.90	339	*e*P		**P**	**16 58 54.1**	**-0.8**	
	comp=Z,5.0nm,1.2s								
CABF	La Chapelle	15.20	313	*e*P		**P**	**16 58 58.1**	**-0.2**	
	comp=Z,35nm,1.1s								
CABF	La Chapelle	15.20	313	*e*P		**P**	**16 58 58.1**	**-0.2**	
	comp=Z,18nm,1.1s								
HINF	Hinteralfeld	15.47	318	*e*P		**P**	**16 59 00.7**	**-0.6**	
HINF	Hinteralfeld	15.47	318	*e*P		**P**	**16 59 00.7**	**-0.6**	
CLL	Collm	15.56	338	*e*P		**P**	**16 59 03.0**	**+0.8**	
CLL	Collm	15.56	338	*e*		**P**	**16 59 03.0**	**+0.8**	
	comp=Z,19nm,1.3s								
CLL				*i* PP		**PnPn**	**16 59 06.9**	**+0.8**	
CLL	Collm	15.56	338	*e*P		**P**	**16 59 03.0**	**+0.8**	
SMF	Signal de Mont	16.55	311	*e*P		**P**	**16 59 13.4**	**+0.2**	
	comp=Z,10nm,0.7s								
SMF	Signal de Mont	16.55	311	*e*P		**P**	**16 59 13.4**	**+0.2**	
	comp=Z,5.2nm,0.7s								
LOR	Lormes	16.84	313	*e*P		**P**	**16 59 16.7**	**+0.2**	
	comp=Z,33nm,1.2s								
LOR				*e*R					
	comp=Z,149nm,17.8s								
LOR	Lormes	16.84	313	*e*P		**P**	**16 59 16.7**	**+0.2**	
	comp=Z,16nm,1.2s								
NEY	Neytrino	16.84	62	*i* P		**P**	**16 59 17.4**	**+0.7**	
NEY				pmax	pmax				
	comp=Z,8.0nm,1.9s								
NEY	Neytrino	16.84	62	*i* P		**P**	**16 59 17.4**	**+0.7**	
	comp=Z,8.0nm,1.9s								
SUW	Suwalki	16.86	2	*e*P		**P**	**16 59 16.5**	**-0.1**	
SUW	Suwalki	16.86	2	*e*P		**P**	**16 59 16.5**	**-0.1**	
SUW	Suwalki	16.86	2	*e*P		**P**	**16 59 16.5**	**-0.1**	
SSF	Saint Saulge	16.95	312	*e*P		**P**	**16 59 17.4**	**-0.3**	
	comp=Z,14nm,0.8s								
SSF	Saint Saulge	16.95	312	*e*P		**P**	**16 59 17.4**	**-0.3**	
	comp=Z,7.2nm,0.8s								
KIV	Kislovodsk	17.01	60	*e*P		**Pn**	**16 59 17.9**	**+1.4**	
KIV				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,32nm,12.0s								
KIV	Kislovodsk	17.01	60	*e*P		**Pn**	**16 59 17.9**	**+1.4**	
	comp=Z,32nm,12.0s								
KBZ	Khabaz	17.09	61	P		**Pn**	**16 59 17.5**	**+0.1**	
KBZ	Khabaz	17.09	61	Pn		**Pn**	**16 59 17.5**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=225,slow=6.7,SNR=1.9								
KBZ	Khabaz	17.09	61	P		**Pn**	**16 59 17.5**	**+0.1**	
NCK	Nalchik	17.52	62	⇑P		**P**	**16 59 26.7**	**+2.7**	
NCK	Nalchik	17.52	62	*i* P		**P**	**16 59 26.7**	**+2.7**	
ZEI	Tsey	17.59	65	*e*P		**P**	**16 59 26.0**	**+1.1**	
ZEI				pmax	pmax				
	comp=Z,31nm,1.2s								
GOF	Gofitskoye	17.59	57	*e*P		**P**	**16 59 27.6**	**+2.9**	
GOF	Gofitskoye	17.59	57	*e*P		**P**	**16 59 27.6**	**+2.9**	
GNI	Garni	17.90	73	P		**Pn**	**16 59 27.9**	**+0.2**	
	baz=176,slow=16,SNR=2.4								
GNI				LR		LR	17 06 37.7		
	comp=Z,43nm,19.2s,baz=275,slow=38								
GNI	Garni	17.90	73	*i* P		**Pn**	**16 59 27.8**	**+0.1**	
	comp=Z,13nm,1.1s								
NACGM	Naroch	18.02	9	*e*		**P**	**16 59 30.0**	**+0.6**	
VORD	Divnogorie	18.44	36	*e*P		**P**	**16 59 34.0**	**0.0**	
VORD				pmax	pmax				
	comp=N,8.0nm,0.9s								
VORD				pmax	pmax				
	comp=E,7.0nm,0.9s								
VORD				pmax	pmax				
	comp=E,6.0nm,0.9s								
VORD	Divnogorie	18.44	36	*e*P		**P**	**16 59 34.0**	**0.0**	
VSR	Storozhevoye	18.55	35	*e*P		**P**	**16 59 34.5**	**-0.7**	
VSR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=E,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VSR	Storozhevoye	18.55	35	*e*P		**P**	**16 59 34.5**	**-0.7**	
MFF	Saint Martin d	19.02	307	*e*P		**Pn**	**16 59 44.1**	**+2.9**	
	comp=Z,32nm,1.0s								
MFF	Saint Martin d	19.02	307	*e*P		**Pn**	**16 59 44.1**	**+2.9**	
	comp=Z,16nm,1.0s								
LPSR	Galich'ya Gora	19.41	32	*e*P		**P**	**16 59 45.2**	**+0.5**	
VRHR	Novokhopersk	19.66	39	*e*P		**Pn**	**16 59 48.7**	**0.0**	
VRHR				pmax	pmax				
	comp=N,30nm,0.8s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,40nm,0.8s								
VRHR	Novokhopersk	19.66	39	*e*P		**Pn**	**16 59 48.7**	**0.0**	
LDF	La Druitiere	19.83	312	*e*P		**Pn**	**16 59 51.3**	**+0.5**	
LDF	La Druitiere	19.83	312	*e*P		**Pn**	**16 59 51.3**	**+0.5**	
FLN	La Foliniere	20.12	312	*e*P		Pn	16 59 54.7	+0.4	
FLN				*e*R					
	comp=Z,174nm,21.0s								
FLN	La Foliniere	20.12	312	*e*P		Pn	16 59 54.7	+0.4	
GRR	Gorron	20.18	311	*e*P		Pn	16 59 55.8	+0.8	
	comp=Z,87nm,1.2s								
GRR	Gorron	20.18	311	*e*P		Pn	16 59 55.8	+0.8	
	comp=Z,44nm,1.2s								
OBN	Obninsk	20.48	24	P		Pn	16 59 58.0	-0.3	
OBN							17 00 13.0		
OBN				pmax	pmax				
	comp=Z,7.0nm,0.4s								
OBN	Obninsk	20.48	24	P		Pn	16 59 58.0	-0.3	
	comp=Z,7.0nm,0.4s								
ESDC	Sonseca Array	20.58	285	P		**P**	**16 59 57.7**	**+0.1**	
	comp=Z,3.6nm,0.7s,baz=91,slow=11,SNR=9.7								
SGMF	Saint Gilles	21.16	309	*e*P		**P**	**17 00 05.9**	**+2.2**	
SGMF	Saint Gilles	21.16	309	*e*P		**P**	**17 00 05.9**	**+2.2**	
MOS	Moscow	21.33	25	*e*P		**P**	**17 00 07.9**	**+2.4**	
MOS				pmax	pmax				
	comp=Z,43nm,1.0s								
MOS	Moscow	21.33	25	*e*P		**P**	**17 00 07.9**	**+2.4**	
	comp=Z,43nm,1.0s								
QUIF	Quistinic	21.42	308	*e*P		**P**	**17 00 08.2**	**+1.7**	
QUIF	Quistinic	21.42	308	*e*P		**P**	**17 00 08.2**	**+1.7**	
VSU	Vasula	21.52	7	*i* P		**P**	**17 00 08.2**	**+0.7**	
VSU				pmax	pmax				
	comp=Z,45nm,0.7s								
VSU	Vasula	21.52	7	*i* P		**P**	**17 00 08.2**	**+0.7**	
	comp=Z,45nm,0.7s								
ROSF	Rostrenen	21.64	309	*e*P		**P**	**17 00 10.5**	**+1.7**	
	comp=Z,60nm,1.0s								
ROSF	Rostrenen	21.64	309	*e*P		**P**	**17 00 10.5**	**+1.7**	
	comp=Z,30nm,1.0s								
MDT	Midelt	22.30	267	P		**P**	**17 00 17.3**	**+1.0**	
	comp=Z,2.9nm,0.8s,baz=90,slow=11,SNR=5.9								
MDT				LR		LR	17 08 50.8		
	comp=Z,56nm,20.7s,baz=127,slow=36								
HFS	Hagfors	23.61	349	P		**P**	**17 00 28.1**	**-1.3**	
	comp=Z,11nm,0.7s,baz=148,slow=11,SNR=27								
HFS	Hagfors	23.61	349	P		**P**	**17 00 28.1**	**-1.3**	
	comp=Z,11nm,0.7s								
FINES	FINESS Array B	24.43	5	P		**P**	**17 00 35.3**	**-1.8**	
	comp=Z,1.8nm,0.5s,baz=164,slow=10,SNR=19								
FINES				PcP		**PcP**	**17 04 16.6**	**+0.9**	
	comp=Z,0.5nm,0.3s,baz=159,slow=2.9,SNR=5.9								
FINES	FINESS Array B	24.43	5	P		**P**	**17 00 35.3**	**-1.8**	
	comp=Z,2.0nm,0.5s								
FINES	FINESS Array B	24.43	5	PcP		**PcP**	**17 04 16.6**	**+0.9**	
	comp=Z,1.0nm,0.3s								
NB2	NORSAR Subarra	24.87	347	P		**P**	**17 00 40.2**	**-1.0**	
	comp=Z,1.8nm,0.4s,baz=156,slow=9.3								
NB2	NORSAR Subarra	24.87	347	P		**P**	**17 00 40.2**	**-1.0**	
	comp=Z,1.8nm,0.4s,SNR=3.4								
NOA	NORSAR Array B	24.87	347	P		**P**	**17 00 39.8**	**-1.4**	
	comp=Z,1.4nm,0.6s,baz=155,slow=8.7,SNR=19								
NOA				LR		LR	17 13 01.4		
	comp=Z,35nm,19.5s,baz=175,slow=43								
NOA	NORSAR Array B	24.87	347	P		**P**	**17 00 39.8**	**-1.4**	
	comp=Z,35nm,19.5s								
EKA	Eskdalemuir Ar	24.99	325	P		**P**	**17 00 42.0**	**-0.3**	
	comp=Z,12nm,0.8s,baz=122,slow=9.0,SNR=12								
EKA	Eskdalemuir Ar	24.99	325	P		**P**	**17 00 42.0**	**-0.3**	
	comp=Z,12nm,0.8s								
KAF	Kangasniemi	25.11	5	*e*P		**P**	**17 00 42.4**	**-0.8**	
KAF				pmax	pmax				
	comp=Z,3.0nm,0.5s								
KAF	Kangasniemi	25.11	5	*e*p		**P**	**17 00 42.4**	**-0.8**	
	comp=Z,2.9nm,0.5s								
KAF	Kangasniemi	25.11	5	*e*P		**P**	**17 00 42.4**	**-0.8**	
	comp=Z,2.9nm,0.5s								
KLMR	Klimovskoe	26.14	19	*e*P		**P**	**17 00 56.2**	**+3.6**	

YKA	Yellowknife Ar	74.77	341	P	P	17 06 58.0	-0.5	
	comp=Z,0.7nm,0.6s,baz=34,slow=5.4,SNR=13							
YKA	Yellowknife Ar	74.77	341	*e*P	P	17 06 58.0	-0.5	
	comp=Z,1.0nm,0.6s							
FFC	Flin Flon	76.69	330	*i* P	P	17 07 10.6	+1.0	
FFC	Flin Flon	76.69	330	*i* P	P	17 07 10.6	+1.0	
USRK	Ussuriysk Arra	77.13	44	P	P	17 07 10.9	-1.4	
	comp=Z,1.6nm,0.6s,baz=293,slow=3.9,SNR=5.5							
ULM	Lac du Bonnet	77.27	324	P	P	17 07 12.8	-0.1	
	comp=Z,5.2nm,1.1s,baz=34,slow=5.1,SNR=5.0							
ULM	Lac du Bonnet	77.27	324	P	P	17 07 12.8	-0.1	
	comp=Z,5.0nm,1.1s							
ILAR	Eielson Array	78.03	355	P	P	17 07 17.2	+0.3	
	comp=Z,1.0nm,0.9s,baz=357,slow=3.7,SNR=9.0							
ILAR	Eielson Array	78.03	355	P	P	17 07 17.3	+0.3	
	comp=Z,1.0nm,0.9s							
KSRS	Korea Array	78.97	51	P	P	17 07 22.0	-0.6	
	comp=Z,1.4nm,0.4s,baz=308,slow=4.4,SNR=12							
KSRS	Korea Array	78.97	51	P	P	17 07 22.0	-0.6	
	comp=Z,1.0nm,0.4s							
BDFB	Brasilia	84.25	246	LR	LR	17 45 14.4		
	comp=Z,92nm,19.0s,baz=25,slow=36							
MJAR	Matsushiro Arr	85.77	46	P	P	17 07 56.8	-1.4	
	comp=Z,4.0nm,0.9s,baz=282,slow=6.3,SNR=4.1							
MJAR	Matsushiro Arr	85.77	46	P	P	17 07 56.8	-1.4	
	comp=Z,4.0nm,0.9s							
PDAR	Pinedale Array	89.10	327	P	P	17 08 12.4	-2.1	
	comp=Z,1.2nm,1.0s,baz=63,slow=4.2,SNR=4.7							
WRA	Warramunga Arr	119.21	94	PKP	PKPdf	17 14 06.8	-1.5	
	comp=Z,0.5nm,0.8s,baz=316,slow=2.0,SNR=5.3							
ASAR	Alice Springs	120.78	98	PKP	PKPdf	17 14 10.8	-0.5	
	comp=Z,0.3nm,0.3s,baz=321,slow=1.2,SNR=5.3							

ISCJB ***20*** *17:15:51.5±0.6, 0.°27N±0.°09×122.°10E±0.°10, h202km, mb3.5/5, Error ellipse: s-maj=13.6km s-min=12.5km az=166.7*

IDC ***20*** *17:15:54.3±8.5, 0.°07N×121.°94E, h207km±84km, mb3.4/5, mb1 3.5/5, mb1mx3.0/41, mbtmp3.9/5, Error ellipse: s-maj=246.8km s-min=18.8km az=61.0*

DJA ***20*** *17:15:54.3±1.1, 0.°N±7.°×12.°2E±.°, h165km±15km, M3.5/6, MLv3.5/6*

ISC 20 17:15:52.9±1.0, 0.°3N±0.°1×122.°1E±0.°1, h202km, n13, σ1s53/12, mb3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	Marisa	0.26	319	P	Pn	17 16 16.9	-2.7
GTOI	Gorontalo	0.97	68	P	Pn	17 16 20.5	-2.2
APSI	Ampana	1.27	201	P	Pn	17 16 23.5	-1.4
LUWI	Luwuk	1.47	153	P	Pn	17 16 25.0	-1.5
TOLI	Toli-Toli	1.56	302	P	x	17 16 25.6	
KMSI	Cibinong	1.89	81	P	Pn	17 16 30.7	+0.2
TTSI	Tana Toraja	4.02	215	P	Pn	17 16 54.8	-0.2
MMSI	Mamuju	4.35	227	P	x	17 16 58.2	
WRA	Warramunga Arr	23.40	150	P	P	17 20 43.5	-0.3
	1.7nm,0.7s,baz=323,slow=11,SNR=55						
ASAR	Alice Springs	26.41	155	P	P	17 21 11.1	0.0
	1.0nm,0.5s,baz=343,slow=14,SNR=28						
ASAR				PcP	PcP	17 24 31.2	0.0
	0.2nm,0.3s,baz=347,slow=2.1,SNR=9.9						
STKA	Stephens Creek	36.92	152	P	P	17 22 42.7	+0.2
	1.3nm,0.4s,baz=320,slow=10.0,SNR=6.3						
MKAR	Makanchi Array	57.91	329	P	P	17 25 25.1	+1.1
	0.3nm,0.4s,baz=122,slow=8.4,SNR=5.3						
KURBB	Kurchatov Array	62.28	330	P	P	17 25 55.3	+1.9
	0.2nm,0.3s,baz=139,slow=5.0,SNR=4.7						

MAN 20 17:18:04, 17.°80N×120.°37E, h29km, mb4.3, ML3.2, MS3.0, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	Brgy, Tapao	0.15	36⇑	*e*P	Pn	17 18 12.6	+2.2
SIPP				*e*S	Sb	17 18 16.9	+3.6
ABRA	Dolores	0.36	115	*e*P	Pn	17 18 13.9	+0.6
ABRA				*e*S	Sn	17 18 19.9	+0.4
PIP	Pasuquin	0.57	25⇑	*i*P	Pn	17 18 16.6	+0.4
PIP				*e*S	Sn	17 18 24.8	+0.1
BOLP	Bolinao	1.48	197	*e*P	Pn	17 18 29.6	+0.9
CAUP	Cauayan	1.63	121	*e*P	Pb	17 18 34.7	+1.3
SGCP	Mt. Cagua	1.66	74	*e*P	Pb	17 18 33.0	-0.9

IDC 20 17:20:02.8±4.6, 42.°99N×133.°01E, h390km±25km, mb2.8/3, mb1 2.6/5, mb1mx2.4/28, mbtmp3.4/5, Error ellipse: s-maj=98.2km s-min=37.4km az=103.0, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	Ussuriysk Arra	1.42	329	P	Pn	17 20 54.4	-0.1
	0.2nm,0.3s,baz=155,slow=15,SNR=4.9						
KSRS	Korea Array	6.76	217	P	Pn	17 21 43.9	+0.4
	0.2nm,0.3s,baz=40,slow=11,SNR=5.5						
SONM	Songino Array	19.26	294	P	P	17 24 00.9	-0.1
	baz=90,slow=7.6,SNR=2.8						
MKAR	Makanchi Array	35.63	294	P	P	17 26 25.6	+0.2
	0.4nm,0.6s,baz=86,slow=8.8,SNR=4.5						
KURBB	Kurchatov Arra	37.32	301	P	P	17 26 38.9	-0.5
	0.6nm,0.3s,baz=90,slow=8.0,SNR=6.3						
BVAR	Borovoye Array	41.82	306	P	P	17 27 15.9	-0.1
	0.3nm,0.4s,baz=60,slow=9.8,SNR=3.3						

IDC ***20*** *17:36:17.4±5.9, 29.°05N×47.°46E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=126.8km s-min=40.9km az=2.0*

CSEM ***20*** *17:36:19.0, 29.°45N×48.°11E, h11km, ML3.9, After SNSN*

SGS ***20*** *17:36:19.2, 29.°45N×48.°11E, h11km, Ml3.9*

ISN ***20*** *17:36:56.7±2.3, 31.°84N×46.°65E, h0km, 9km, ML3.5*

ISC 20 17:36:19.8±0.7, 29.°01N±0.°04×47.°70E±0.°08, h13km, n35, σ1s48/32, mb3.5/5, 2C, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KFJS		0.85	166	S	Sn	17 36 49.8	-0.1
	baz=187						
KFJS		0.85	166	P	Pg	17 36 36.2	-0.1
	baz=187						
KFJS		0.85	166	P	Pg	17 36 36.0	-0.3
KFJS				S	Sn	17 36 50.0	+0.1
NSR	Nassriya	2.41	326	*e*Pg	Pg	17 37 16.0	+10
NSR				*e*Sg	Sn	17 37 29.8	+1.6
NSR	Nassriya	2.41	326	*e*Pg	Pg	17 37 16.0	+10
	SNR=9.0						
NSR				*e*Sg	Sn	17 37 29.8	+1.6
	SNR=9.0						
ASYS		3.32	244	P	Pb	17 37 17.7	-1.0
	baz=241						
ASYS		3.32	244	P	Pb	17 37 18.0	-0.7
BOQSS		3.47	154	S	Sn	17 37 56.9	+2.4
	baz=162						
BOQSS		3.47	154	P	Pn	17 37 15.0	+1.4
	baz=162						
BOQSS		3.47	154	P	Pn	17 37 15.0	+1.4
BOQSS				S	Sn	17 37 57.0	+2.4
IBDR	Badra	4.36	340	*e*PN4	Pn	17 37 23.6	-2.1
IBDR				*e*SN4	Pg	17 37 43.2	-0.1
IBDR				*e*Sg	Pg	17 37 48.0	+4.7
SLWS		4.95	147	S	Sn	17 38 31.2	+0.1
	baz=153						
SLWS		4.95	147	S	Sn	17 38 31.0	-0.1
BHD	Baghdad	5.11	327	*e*PN4	Pn	17 37 37.6	+1.6
BHD				*e*SN4	Pg	17 38 07.0	+9.3
BHD	Baghdad	5.11	327	*e*Pn	Pn	17 37 37.6	+1.6
	SNR=39						
BHD				*e*Sn	Pg	17 38 07.0	+9.3
	SNR=39						
BTHS		5.69	150	S	Sn	17 38 49.4	0.0
	baz=154						
BTHS		5.69	150	P	Pn	17 37 45.1	+0.9
	baz=154						
BTHS		5.69	150	P	Pn	17 37 45.0	+0.9
BTHS				S	Sn	17 38 49.0	-0.4
MSL	Mosul	8.32	333	*e*PN4	Pn	17 38 19.6	-0.5
LKRN	Lenkeran, Azer	9.71	5	⇑P	Pn	17 38 40.4	+1.2
	SNR=6.2						
GLBA	Clilabad	10.22	3	P	Pn	17 38 48.6	+2.5
	SNR=13						
ALIB	Äli-Bayra	10.97	5	⇑P	Pn	17 38 53.4	-3.1
	SNR=6.0						
BRDA	Brd	11.23	358	P	Pn	17 39 08.9	+8.9
	SNR=3.0						
GANJ	Ganja	11.66	355	P	Pn	17 39 17.4	+11
	SNR=13						
PQL	Pirkuli	11.77	3	P	Pn	17 39 04.7	-2.9
	SNR=4.8						
ATGJ	Altiaghaj	11.86	5	P	Pn	17 39 03.8	-5.0
	SNR=4.4						
SIZA	Siyzn	12.07	4	P	Pn	17 39 06.7	-5.0
	SNR=5.8						
SEKA	Sheki	12.17	358	P	Pn	17 39 18.5	+5.5
	SNR=7.0						
QUBA	Quba, Azerbaij	12.33	3	P	Pn	17 39 11.1	-4.0
	SNR=4.9						
ZKTA	Zakatala	12.63	356	P	P	17 39 25.7	-4.9
	SNR=7.6						
AKASG	Malin Array Be	25.75	332	P	P	17 41 48.6	-1.4
	0.4nm,0.5s,baz=140,slow=8.8,SNR=6.8						
BVAR	Borovoye Array	29.23	28	P	P	17 42 21.3	0.0
	0.9nm,0.5s,baz=218,slow=9.1,SNR=6.0						
MKAR	Makanchi Array	32.22	47	P	P	17 42 49.0	+1.3
	0.3nm,0.6s,baz=240,slow=9.0,SNR=4.0						
ZALV	Zalesovo Beam	36.67	37	P	P	17 43 26.1	0.0
	0.4nm,0.5s,baz=243,slow=11,SNR=2.6						
YKA	Yellowknife Ar	87.71	352	P	P	17 49 07.3	-0.7
	0.1nm,0.3s,baz=14,slow=5.6,SNR=3.3						

NIED ***20*** *17:59:00, 35.°00N×139.°10E, h5km, Mw4.1 Best double couple: M0 1.50000×10^15 NP1:φ=159.00000°, δ=32.00000°, λ=-12.00000°. NP2:φ=259.00000°, δ=84.00000°, λ=-122.00000°.*

ISCJB ***20*** *17:59:20.2±0.8, 34.°90N±0.°03×139.°28E±0.°07, h15km±5km, mb4.1/30, MS4.0/1, Error ellipse: s-maj=9.0km s-min=5.8km az=174.8*

IDC ***20*** *17:59:20.4±0.6, 34.°92N×139.°17E, h0km, mb4.0/17, mb1 4.1/22, mb1mx4.0/34, mbtmp4.0/22, ML3.3/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/47, Error ellipse: s-maj=16.9km s-min=11.0km az=75.0*

MOS ***20*** *17:59:22.9±1.1, 34.°95N×139.°27E, h33km, mb4.6/13, Error ellipse: s-maj=12.3km s-min=7.1km az=106.5*

JMA ***20*** *17:59:23.2, 34.°97N×139.°12E, h5km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φ=246.00000°, δ=84.00000°, λ=-95.00000°. NP2: φ=111.00000°, δ=8.00000°, λ=-45.00000°. Principal axes: T Plg39.0000°, Azm341.0000°; N Plg5.0000°, Azm247.0000°; P Plg50.0000°, Azm150.0000°;*

JMA Felt IV J1.

NEIC ***20*** *17:59:23.2±2.3, 34.°92N×139.°16E, h17km±15km, mb4.5/8, MW4.1(NIED) Error ellipse: s-maj=7.9km s-min=5.5km az=74.0*

NEIC Recorded [4 JMA] in Sikzuoka, [3 JMA] in Kanagawa, [2 JMA] in Tokyo and [1 JMA] in Chiba, Saitama and Yamanashi.

ISC 20 17:59:22.3±0.8, 34.°96N±0.°03×139.°15E±0.°05, h12km±4km, n95, σ0s93/90, mb4.1/30, 13C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	Kamata 2	0.08	245	⇑P	Pg	17 59 24.9	0.0
KTJJ				S	Sg	17 59 26.3	-0.5
AJI	Ajiro2	0.10	331	⇓P	Pg	17 59 25.0	-0.2
JOD2	Odawara 2	0.31	350	⇑P	Pg	17 59 29.0	+0.3
JOD2				S	Sg	17 59 33.5	+0.6
JIZS	Izushimoda	0.33	223	⇑P	Pg	17 59 29.5	+0.5
JIM2	Oshima 3	0.33	136	⇓P	Pb	17 59 30.3	+0.1
JYN	Shimob	0.73	317	⇑P	Pg	17 59 36.4	-0.1
SHZ3	Shizuoka 3	0.78	278	⇑P	Pb	17 59 37.9	0.0
JMY	Miyakejima3	0.93	161	P	Pb	17 59 40.6	+0.1
MJAR	Matsushiro Arr	1.75	334	Pn	Pn	17 59 52.8	+0.2
MJAR				Lg	Lg	18 00 15.5	
MJAR	Matsushiro Arr	1.75	334	Pn	Pn	17 59 52.8	+0.2
	73nm,0.3s,baz=161,slow=14,SNR=714						
MJAR				Lg	Lg	18 00 15.5	
	168nm,0.3s,baz=100,slow=27,SNR=21						
MAJO	Matsushiro	1.76	334	*c* *i*P	Pn	17 59 53.6	+1.0
MAJO	Matsushiro	1.76	334	*e*P	Pn	17 59 53.7	+1.0
MAT	Matsushiro	1.76	334	P	Pn	17 59 53.5	+0.9
MAT				S	Sb	18 00 16.4	-0.1
JHJ2	Mitsune	1.92	163	*e*P	Pn	17 59 55.8	+0.9
JNU	Nakatsue	7.11	257	Pn	Pn	18 01 06.0	-0.2
JNU	Nakatsue	7.11	257	Pn	Pn	18 01 06.0	-0.2
	0.4nm,0.3s,baz=204,slow=20,SNR=2.7						
ERM	Erimo	7.71	23	*i* P	Pn	18 01 13.7	-0.7
CBIJ	Chichi jima	8.26	161	Pn	Pn	18 01 20.8	-1.2
JCJ	Chichijima	8.26	161	Pn	Pn	18 01 20.8	-1.2
	4.3nm,0.3s,baz=280,slow=17,SNR=4.2						
KSRS	Korea Array	9.41	289	Pn	Pn	18 01 38.7	+1.0
	0.2nm,0.3s,baz=101,slow=14,SNR=5.3						
KSAR	Wonju Array Be	9.44	288	Pn	Pn	18 01 38.7	+0.6
ASAJ	Asahikawa	9.52	15	Pn	Pn	18 01 40.2	+1.0
ASAJ	Asahikawa	9.52	15	Pn	Pn	18 01 40.2	+1.0
	0.5nm,0.3s,baz=157,slow=29,SNR=9.2						
ASAJ				LR	LR	18 05 31.4	
	comp=Z,119nm,18.5s,baz=360,slow=39						
USRK	Ussuriysk Arra	10.75	331	Pn	Pn	18 01 57.1	+1.1
	0.1nm,0.3s,baz=144,slow=11,SNR=2.4						
YSS	Yuzh-Sakhalins	12.29	12	*e*P	Pn	18 02 15.8	-1.2
ULN	Ulaanbaatar	27.10	308	*e*P	P	18 05 04.4	-0.7
	4.7nm,1.0s						
YAK	Yakutsk	27.75	350	*e*P	P	18 05 09.2	-1.3
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
YAK	Yakutsk	27.75	350	*e*P	P	18 05 10.1	-0.4
	comp=Z,14nm,1.0s						
H11N2	WAKE ISLAND Hy	28.81	115	T	T	18 35 29.4	
	baz=311,slow=76,SNR=2185						
H11N1	WAKE ISLAND Hy	28.82	115	T	T	18 35 29.9	
	baz=311,slow=76,SNR=2092						
H11N3	WAKE ISLAND Hy	28.83	115	T	T	18 35 30.8	
	baz=311,slow=76,SNR=2234						
SEY	Seymchan	29.19	12	P	P	18 05 23.9	+0.5
SEY	Seymchan	29.19	12	P	P	18 05 23.9	+0.5
SEY	Seymchan	29.19	12	P	P	18 05 23.9	+0.5
	comp=Z,3.4nm,1.0s,baz=217,slow=20,SNR=4.9						
H11S3	WAKE ISLAND Hy	29.42	117	T	T	18 36 15.1	
	baz=313,slow=75,SNR=849						
H11S1	WAKE ISLAND Hy	29.42	117	T	T	18 36 15.1	
	baz=313,slow=75,SNR=913						
H11S2	WAKE ISLAND Hy	29.44	117	T	T	18 36 16.2	
	baz=313,slow=75,SNR=813						
ZAK	Zakamensk	30.20	312	*e*P	P	18 05 40.9	+8.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	Bilibino	36.53	17⇑	*e*P	P	18 06 28.5	+1.1
BILL				*e*		18 06 38.3	
BILL				pmax	pmax		
	comp=Z,21nm,0.9s						
TIXI	Tiksi	37.15	355	*c*e*e*P	P	18 06 31.2	-1.4
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
CMAR	Chiang Mai Arr	39.20	256	P	P	18 06 52.1	+1.7
CMAR	Chiang Mai Arr	39.20	256	P	P	18 06 52.1	+1.7
	comp=Z,0.5nm,0.9s,baz=36,slow=7.8,SNR=3.6						
LSA	Lhasa	40.59	276	*e*P	P	18 07 03.1	+0.6
LSA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
LSA	Lhasa	40.59	276	*e*P	P	18 07 03.1	+0.6
	comp=Z,4.5nm,1.4s						
ZALV	Zalesovo Beam	42.00	314	P	P	18 07 13.8	+0.7
ZALV	Zalesovo Beam	42.00	314	P	P	18 07 13.8	+0.7
ZALV	Zalesovo Beam	42.00	314	P	P	18 07 13.8	+0.7
	comp=Z,0.8nm,0.7s,baz=97,slow=6.4,SNR=3.8						
MKAR	Makanchi Array	43.70	304	*c*e*e*P	P	18 07 28.1	+1.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	43.70	304	P	P	18 07 27.0	-0.2
MKAR	Makanchi Array	43.70	304	P	P	18 07 27.0	-0.2
	comp=Z,2.0nm,0.9s,baz=90,slow=8.5,SNR=5.9						
KURK	Kurchatov	45.80	309	*c*e*e*P	P	18 07 43.4	-0.3
KURK				pmax	pmax		
	comp=Z,13nm,1.0s						
KURK	Kurchatov	45.80	309	*e*P	P	18 07 44.0	+0.2
	comp=Z,14nm,1.0s						
KURBB	Kurchatov Arra	45.86	309	P	P	18 07 44.5	+0.3
	comp=Z,9.1nm,0.9s,baz=86,slow=8.3,SNR=47						
TKM2	Tokmak 2	49.02	299	*e*P	P	18 08 10.4	+1.1
TKM2				pmax	pmax		
	comp=Z,11nm,1.4s						
TKM2	Tokmak 2	49.02	299	*e*P	P	18 08 10.3	+1.1
	comp=Z,11nm,1.4s						
AAK	Ala-Archa	49.88	299	*c*e*e*P	P	18 08 15.8	+0.1
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	Ala-Archa	49.88	299	P	P	18 08 16.0	+0.2
AAK	Ala-Archa	49.88	299	P	P	18 08 16.0	+0.2
	comp=Z,1.7nm,0.9s,baz=97,slow=5.0,SNR=6.8						
BRVK	Borovoye	50.69	313	*c*e*e*P	P	18 08 21.8	+0.3
BRVK				pmax	pmax		
	comp=Z,12nm,2.5s						
BRVK	Borovoye	50.69	313	*e*P	P	18 08 21.3	-0.2
ILAR	Eielson Array	52.22	31	P	P	18 08 32.5	-0.3
ILAR	Eielson Array	52.22	31	P	P	18 08 32.5	-0.3
	comp=Z,1.3nm,1.0s,baz=272,slow=6.1,SNR=9.5						
KKAR	Karatay Array	52.59	301	*e*P	P	18 08 36.5	+0.6
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KKAR	Karatay Array	52.59	301	*e*P	P	18 08 36.5	+0.6
	comp=Z,6.0nm,1.0s						
WRAB	Tennant Creek	54.78	186	*e*P	P	18 08 51.2	-0.8
WRAB				pmax	pmax		
	comp=Z,1.1nm,1.1s						
WRAB	Tennant Creek	54.78	186	*e*P	P	18 08 51.2	-0.8
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	54.79	186	P	P	18 08 51.2	-0.8
WRA	Warramunga Arr	54.79	186	P	P	18 08 51.2	-0.8
	comp=Z,4.7nm,0.8s,baz=1.5,slow=7.5,SNR=28						
ARU	Arti	56.71	319	*d* *i*P	P	18 09 05.9	+0.4
ARU						18 11 09.8	
ARU				S	S	18 16 58.2	+0.5
ARU				SS	SS	18 20 40.6	-4.3
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
INK	Inuvik	57.06	26	P	P	18 09 08.3	+0.5
INK	Inuvik	57.06	26	P	P	18 09 08.3	+0.5
	comp=Z,0.6nm,0.6s,baz=306,slow=5.9,SNR=4.2						
ABKAR	Akbulak array	57.88	311	*e*P	P	18 09 14.8	+0.9
	comp=Z,1.3nm,0.8s						
ASAR	Alice Springs	58.52	186	P	P	18 09 17.8	-0.7
ASAR	Alice Springs	58.52	186	P	P	18 09 17.8	-0.7
	comp=Z,1.4nm,0.8s,baz=13,slow=8.5,SNR=12						
YKA	Yellowknife Ar	66.52	29	P	P	18 10 12.3	+0.8
YKA	Yellowknife Ar	66.52	29	P	P	18 10 12.3	+0.8
	comp=Z,0.3nm,0.7s,baz=299,slow=6.7,SNR=6.0						
STKA	Stephens Creek	66.52	178	P	P	18 10 11.0	-0.8
STKA	Stephens Creek	66.52	178	P	P	18 10 11.0	-0.8
	comp=Z,1.7nm,0.8s,baz=338,slow=16,SNR=2.9						
FINES	FINESS Array B	69.78	332	P	P	18 10 31.0	-1.1
FINES	FINESS Array B	69.78	332	P	P	18 10 31.0	-1.1
	comp=Z,3.0nm,0.9s,baz=52,slow=5.4,SNR=4.7						
AKASG	Malin Array Be	74.80	322	*c*e*e*P	P	18 11 02.7	+0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	74.80	322	P	P	18 11 00.9	-1.4
AKASG	Malin Array Be	74.80	322	P	P	18 11 00.9	-1.4
	comp=Z,0.6nm,0.6s,baz=65,slow=7.1,SNR=4.7						
NOA	NORSAR Array B	75.37	337	P	P	18 11 06.3	+0.9
NOA	NORSAR Array B	75.37	337	P	P	18 11 06.3	+0.9
	comp=Z,1.3nm,0.9s,baz=40,slow=5.7,SNR=3.3						
PDAR	Pinedale Array	80.43	44	P	P	18 11 34.2	+0.1
PDAR	Pinedale Array	80.43	44	P	P	18 11 34.2	+0.1
	comp=Z,1.3nm,1.2s,baz=334,slow=6.0,SNR=2.7						
GERES	GERESS Array B	83.48	327	P	P	18 11 49.7	-0.2
GERES	GERESS Array B	83.48	327	P	P	18 11 49.7	-0.2
	comp=Z,0.5nm,0.8s,baz=349,slow=4.1,SNR=4.0						
GERES				LR	LR	18 52 58.1	
	comp=Z,54nm,18.6s,baz=314,slow=38						
SAML	Samuel	147.01	44	*e*PKPbc	PKPbc	18 19 05.5	0.0
H03N2	Juan Fernandez	148.59	98	T	T	21 05 12.6	
	baz=282,slow=74,SNR=7.7						
H03N3	Juan Fernandez	148.60	98	T	T	21 05 19.4	
	baz=282,slow=74,SNR=9.5						
H03N1	Juan Fernandez	148.60	98	T	T	21 05 21.3	
	baz=282,slow=74,SNR=7.6						
LPAZ	La Paz	149.32	60	PKPbc	PKPbc	18 19 14.2	+1.9
LPAZ	La Paz	149.32	60	PKPbc	PKPbc	18 19 14.2	+1.9
	comp=Z,1.3nm,0.8s,baz=27,slow=3.0,SNR=3.7						

ISCJB ***20*** *18:01:14.5±0.4, 31.°33N±0.°03×103.°40E±0.°04, h13km, mb3.6/9, MS2.9/5, Error ellipse: s-maj=4.8km s-min=4.5km az=173.5*

IDC ***20*** *18:01:15.1±0.9, 31.°30N×103.°74E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/29, mbtmp3.7/11, ML3.2/2, MS3.0/6, Ms1 3.1/6, ms1mx2.8/44, Error ellipse: s-maj=28.8km s-min=16.8km az=57.0*

BJI ***20*** *18:01:16.4, 31.°30N×103.°39E, h17km, mb3.7/2, ML3.8/17, Ms3.7/6, Ms7 3.5/6*

ISC 20 18:01:16.6±0.6, 31.°27N±0.°03×103.°63E±0.°06, h13km, n30, σ2s83/37, mb3.8/8, MS3.0/5, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	Chengdu	0.38	163	⇑ *i*Pg	Pb	18 01 25.6	+0.4
CD2				Sg	Sn	18 01 33.3	-1.7
CD2				smax	smax		
	comp=N,16μm,0.9s						
CD2				smax	smax		
	comp=E,15μm,0.5s						
LZH	Lanzhou	4.80	2	*e*Pg	Pg	18 02 48.8	+0.2
LZH				Sn	Sb	18 03 33.5	-5.0
LZH				Sg	Sg	18 03 52.0	+1.1
LZH				smax	smax		
	comp=N,120nm,1.1s						
LZH				smax	smax		
	comp=E,150nm,1.0s						
LZH				LR	LR		
	comp=N,780nm,6.3s						
LZH				LR	LR		
	comp=E,800nm,5.8s						
LZH				LR	LR		
	comp=Z,800nm,5.5s						
XAN	Xi'an	5.25	57	Pn	Pn	18 02 36.1	+1.4
XAN				Pg	Pg	18 02 52.4	-4.6
XAN				Sn	Sn	18 03 40.3	+5.2
XAN				Sg	Sg	18 04 01.8	-3.2
XAN				smax

comp=Z,2.0nm,0.7s,baz=256,slow=9.9,SNR=8.3
KSRS LR LR 18 13 28.7
comp=Z,16nm,19.3s,baz=125,slow=35
MKAR Makanchi Array 22.59 319 P **P 18 06 17.5 +0.7**
comp=Z,0.7nm,0.6s,baz=123,slow=12,SNR=7.8
MKAR LR LR 18 16 13.4
comp=Z,30nm,20.4s,baz=170,slow=40
JNU Nakatsue 23.11 78 LR LR 18 16 34.8
comp=Z,65nm,18.2s,baz=189,slow=40
AAK Ala-Archa 25.77 304 P **P 18 06 49.3 +2.0**
comp=Z,1.3nm,0.7s,baz=116,slow=9.9,SNR=5.9
AAK LR LR 18 18 14.1
comp=Z,49nm,19.9s,baz=106,slow=39
ZALV Zalesovo Beam 26.39 335 P **P 18 06 53.0 +0.5**
comp=Z,1.5nm,0.6s,baz=141,slow=10,SNR=8.5
ZALV LR LR 18 17 57.2
comp=Z,49nm,20.2s,baz=68,slow=38
KURBB Kurchatov Arra 26.86 323 P **P 18 06 57.5 +0.7**
comp=Z,1.5nm,0.6s,baz=128,slow=9.5,SNR=18
WRA Warramunga Arr 58.84 146 P **P 18 11 15.3 +0.2**
comp=Z,1.1nm,0.7s,baz=337,slow=7.5,SNR=11
ASAR Alice Springs 61.85 148 P **P 18 11 35.7 +0.2**
comp=Z,0.2nm,0.5s,baz=335,slow=6.6,SNR=5.3
INK Inuvik 72.13 19 P **P 18 12 39.8 -0.6**
comp=Z,0.9nm,0.9s,baz=352,slow=2.3,SNR=2.8
YKA Yellowknife Ar 81.65 17 P **P 18 13 34.5 +0.4**
comp=Z,0.1nm,0.3s,baz=331,slow=5.2,SNR=5.7

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*ISCJB **20** 18:38:08.1±0.5, 0.°21N±0.°07×122.°22E±0.°08, h202km, mb3.5/6, Error ellipse: s-maj=11.9km s-min=8.3km az=151.0*
*IDC **20** 18:38:10.7±3.0, 0.°19N×122.°30E, h206km±28km, mb3.2/6, mb1 3.4/6, mb1mx3.2/23, mbtmp3.7/6, Error ellipse: s-maj=73.2km s-min=12.4km az=59.0*
*DJA **20** 18:38:10.8±0.8, 0.°N±5.°×12.°2E±.°, h166km±8km, M3.8/6, MLv3.8/6*
ISC 20 18:38:09.6±0.7, 0.°19N±0.°08×122.°21E±0.°09, h202km, n21, σ1°67/25, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.39**	**317**	P		**Pn**	**18 38 34.0**	**-2.6**
MRSI				S		**S**	**18 38 52.7**	**-4.9**
GTOI	**Gorontalo**	**0.92**	**61**	P		**Pn**	**18 38 37.5**	**-1.5**
APSI	**Ampana**	**1.23**	**207**	P		**Pn**	**18 38 40.4**	**-0.8**
LUWI	**Luwuk**	**1.35**	**155**	P		**Pn**	**18 38 40.2**	**-2.0**
LUWI				S		**S**	**18 39 04.5**	**-2.8**
LUWI	**Luwuk** baz=3,1,SNR=137	**1.35**	**155**	P		**Pn**	**18 38 40.7**	**-1.5**
TOLI	**Toli-Toli**	**1.69**	**303**	P		x	18 38 43.1	
KMSI	**Cibinong**	**1.81**	**78**	P		**Pn**	**18 38 45.4**	**-1.0**
KMSI				S		**S**	**18 39 12.7**	**-1.7**
MTN	**Manton Dam** baz=17,SNR=6.3	**15.69**	**146**	P		**Pn**	**18 41 41.4**	**+1.2**
KDU	**Kakadu** baz=18,SNR=4.2	**16.35**	**142**	P		**Pn**	**18 41 48.5**	**+0.3**
KNRA	**Kununurra** baz=19,SNR=11	**17.05**	**158**	P		**Pn**	**18 41 56.4**	**0.0**
FITZ	**Fitzroy Crossi** baz=20,SNR=10	**18.49**	**170**	P		**P**	**18 42 11.4**	**+0.7**
WRA	**Warramunga Arr** 2.0nm,0.5s,baz=326,slow=11,SNR=60	**23.27**	**150**	P		**P**	**18 42 59.3**	**-0.1**
WRKA	**Warakurna** baz=28,SNR=9.4	**25.76**	**167**	P		**P**	**18 43 22.3**	**+0.4**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=344,slow=14,SNR=31	**26.30**	**155**	P		**P**	**18 43 27.1**	**+0.4**
ASAR				PcP		**PcP**	**18 46 47.7**	**0.0**
	0.2nm,0.3s,baz=346,slow=2.5,SNR=4.8							
ASAR				ScP		**ScP**	**18 50 08.1**	**-0.4**
	0.1nm,0.5s,baz=333,slow=2.6,SNR=5.9							
MEEK	**Meekatharra** baz=29,SNR=3.3	**26.90**	**187**	P		**P**	**18 43 31.8**	**-0.3**
CMAR	**Chiang Mai Arr** 0.3nm,0.8s,baz=119,slow=7.3,SNR=4.1	**29.18**	**310**	P		**P**	**18 43 54.0**	**+1.5**
STKA	**Stephens Creek** 1.6nm,0.5s,baz=315,slow=9.8,SNR=8.1	**36.80**	**152**	P		**P**	**18 44 58.8**	**+0.6**
STKA	**Stephens Creek** baz=39,SNR=5.1	**36.80**	**152**	P		**P**	**18 44 59.3**	**+1.1**
HTT	**Hallett** baz=39,SNR=4.6	**36.96**	**156**	P		**P**	**18 45 00.7**	**+1.1**
SONM	**Songino Array** 0.4nm,0.6s,baz=160,slow=7.4,SNR=4.3	**49.41**	**346**	P		**P**	**18 46 40.1**	**+1.1**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=120,slow=8.5,SNR=7.0	**58.04**	**329**	P		**P**	**18 47 42.2**	**+0.8**

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*ISCJB **20** 18:39:27.7±9.7, 22.°4N±0.°2×1.°1W±.°, h10km, mb3.7/3, MS3.8/1, Error ellipse: s-maj=333.3km s-min=19.2km az=177.3*
*IDC **20** 18:39:29.0±5.5, 22.°46N×10.°89W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/26, mbtmp3.7/4, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/39, Error ellipse: s-maj=226.4km s-min=33.5km az=92.0*
ISC 20 18:39:29.8±5.5, 22.°4N±0.°2×1.°1W±.°, h10km, n7, σ0°81/6, mb3.6/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro** 0.2nm,0.3s,baz=327,slow=12,SNR=3.9	**16.73**	**158**	Pn		**Pn**	**18 43 24.0**	**-0.3**
GERES	**GERESS Array B** 0.5nm,0.7s,baz=223,slow=9.4,SNR=3.9	**32.87**	**31**	P		**P**	**18 46 03.5**	**-0.3**
FINES	**FINESS Array B** 3.2nm,0.9s,baz=240,slow=11,SNR=3.2	**46.59**	**23**	P		**P**	**18 47 57.1**	**-0.6**
SADO	**Sadowa** comp=Z,64nm,18.2s,baz=196,slow=35	**59.25**	**310**	LR		LR	19 13 38.0	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=291,slow=4.5,SNR=2.8	**76.18**	**45**	P		**P**	**18 51 19.3**	**+1.0**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=292,slow=2.2,SNR=4.6	**147.62**	**92**	PKPbc		**PKPbc**	**18 59 15.0**	**-0.2**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=278,slow=2.9,SNR=5.0	**147.72**	**99**	PKPbc		**PKPbc**	**18 59 16.0**	**+0.5**

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*IDC **20** 18:39:27.4±3.5, 15.°78N×98.°51W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/27, mbtmp3.7/9, ML3.6/3, MS3.6/4, Ms1 3.6/4, ms1mx3.0/38, Error ellipse: s-maj=78.1km s-min=29.7km az=27.0*
*ISCJB **20** 18:39:33.6±0.7, 16.°42N±0.°05×98.°21W±0.°04, h25km±4km, mb3.7/5, MS3.8/2, Error ellipse: s-maj=10.0km s-min=4.5km az=29.1*
*MEX **20** 18:39:36.7±1.2, 16.°42N×98.°22W, h10km, MD4.5*
ISC 20 18:39:33.6±1.1, 16.°40N±0.°07×98.°28W±0.°05, h18km±5km, n21, σ1°67/30, mb3.6/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**92**	*i* P		**Pg**	**18 39 37.7**	**-0.1**
PNIG				*e*S		**Sg**	**18 39 40.5**	**-0.2**
TLIG	**Tlapa**	**1.19**	**347**	*i* P		**Pn**	**18 39 55.3**	**-0.3**
TLIG				*i* S		**Sb**	**18 40 11.0**	**+0.1**
ACX	**Acapulco**	**1.58**	**287**	*e*P		Pn	18 39 56.0	-4.9
ACX				*e*S		**Sn**	**18 40 16.0**	**-4.9**
VHO	**Vista Hermosa**	**1.62**	**65**	*e*P		**Pn**	**18 40 01.0**	**-0.6**
VHO				*i* S		**Sn**	**18 40 20.3**	**-1.9**
OXX	**Oaxaca**	**1.64**	**65**	*e*P		Pn	18 39 58.6	-3.2
OXX				*e*S		**Sn**	**18 40 18.8**	**-3.8**
HUIG	**Huatulco**	**2.18**	**106**	*e*P		**Pn**	**18 40 10.6**	**+1.5**
HUIG				*i* S		**Sn**	**18 40 35.3**	**-0.3**
TPIG	**Tehuac#an**	**2.19**	**23**	*e*P		**Pn**	**18 40 10.5**	**+1.1**
TPIG				*e*S		**Sn**	**18 40 33.8**	**-2.4**
PLIG	**Platanillo**	**2.30**	**330**	*e*P		**Pn**	**18 40 12.0**	**+1.1**
PLIG				*i* S		**Sn**	**18 40 39.0**	**+0.3**
YAIG	**Yautepec**	**2.56**	**343**	*e*P		**Pn**	**18 40 16.1**	**+1.6**
YAIG				*e*S		**Sn**	**18 40 45.6**	**+0.3**
ARIG	**Puente Sto Nin**	**2.72**	**314**	*e*P		**Pn**	**18 40 17.6**	**+1.1**
ARIG				*i* S		**Sn**	**18 40 49.9**	**+0.9**
PCIG		**4.91**	**97**	*e*P		**Pn**	**18 40 47.5**	**+0.8**
PCIG				*e*S		**Sn**	**18 41 43.7**	**+0.6**
APG	**El Apazote** 0.3nm,0.3s,baz=310,slow=16,SNR=2.3	**7.65**	**99**	Pn		**Pn**	**18 41 23.7**	**-0.8**
APG				Sn		Sn	18 42 43.6	-7.3
	1.0nm,0.3s,baz=90,slow=19,SNR=3.4							
APG				Lg		Lg	18 43 26.1	
	0.8nm,0.3s,baz=30,slow=20,SNR=3.7							
TEIG	**Tepich** 0.9nm,0.3s,baz=233,slow=2.8,SNR=3.2	**10.23**	**67**	Pn		**Pn**	**18 42 01.6**	**+1.8**
TEIG				Sn		**Sn**	**18 43 55.1**	**+1.0**
	2.6nm,0.3s,baz=193,slow=22,SNR=6.2							
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=166,slow=12,SNR=2.9	**13.80**	**340**	Pn		**P**	**18 42 54.7**	**-2.2**
TXAR				Sn		Sn	18 45 30.9	+10
	0.2nm,0.3s,baz=131,slow=28,SNR=3.4							
TXAR				LR		LR	18 48 43.3	
	comp=Z,167nm,21.4s,baz=0.0,slow=39							
ANMO	**Albuquerque** 1.7nm,0.7s,baz=147,slow=12,SNR=3.9	**19.87**	**340**	P		**Pn**	**18 44 06.3**	**+0.5**
ANMO				LR		LR	18 51 49.3	
	comp=Z,64nm,19.6s,baz=189,slow=36							
PDAR	**Pinedale Array** 0.9nm,0.8s,baz=137,slow=8.1,SNR=4.5	**28.00**	**342**	P		**P**	**18 45 25.2**	**+1.4**
PDAR				LR		LR	18 56 26.3	
	comp=Z,115nm,21.6s,baz=212,slow=36							
YBH	**Yreka Blue Hor** comp=Z,558nm,20.8s,baz=242,slow=35	**32.84**	**325**	LR		LR	18 58 55.1	
YKA	**Yellowknife Ar** 0.5nm,0.9s,baz=158,slow=7.6,SNR=7.1	**47.45**	**350**	P		**P**	**18 48 06.4**	**-0.7**
DLBC	**Dease Lake** 1.7nm,0.7s,baz=186,slow=9.2,SNR=2.6	**48.09**	**338**	P		**P**	**18 48 11.6**	**-0.6**
INK	**Inuvik** 1.4nm,0.7s,baz=128,slow=6.7,SNR=7.6	**56.50**	**345**	P		**P**	**18 49 14.8**	**+0.4**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=146,slow=5.1,SNR=6.1	**58.30**	**338**	P		**P**	**18 49 28.0**	**+0.8**

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*TIF **20** 18:52:20.6, 42.°51N×43.°51E, h11km±1km*
*CSEM **20** 18:52:21.9±0.2, 42.°49N×43.°50E, h2km, mb3.8, Error ellipse: s-maj=4.0km s-min=2.8km az=118.0*
*MOS **20** 18:52:22.2±1.8, 42.°53N×43.°50E, h8km, mb3.8/2, Error ellipse: s-maj=10.3km s-min=5.4km az=75.5*
*ISK **20** 18:52:33.6, 41.°63N×43.°09E, h3km, MD3.3*
*DDA **20** 18:52:40.9, 41.°26N×42.°82E, h7km, MD3.1*
ISC 20 18:52:21.6±0.8, 42.°49N±0.°02×43.°48E±0.°02, h9km±6km, n89, σ1°21/136, 7C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.10**	**348**	*e*PG		**Pg**	**18 52 23.9**	**-0.3**
ONI	**Oni**	**0.10**	**348**	P		**Pg**	**18 52 23.9**	**-0.3**
ONI				S		**Sg**	**18 52 25.6**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.42**	**10**	*i* PG		**Pg**	**18 52 29.1**	**-0.8**
DIGR				*i* S		**Sg**	**18 52 35.5**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.42**	**10**	*i* Pg		**Pg**	**18 52 29.1**	**-0.8**
DIGR				*i* Sg		**Sg**	**18 52 35.5**	**+0.1**
ZEI	**Tsey**	**0.43**	**46**	*i* PG		**Pg**	**18 52 29.5**	**-0.6**
ZEI				*e*S		**Sg**	**18 52 36.2**	**+0.4**
GUDG	**Gudauri**	**0.74**	**92**	P		**Pg**	**18 52 35.2**	**-0.6**
GUDG				S		**Sg**	**18 52 45.6**	**+0.1**
GUDG	**Gudauri**	**0.74**	**92**	P		**Pg**	**18 52 35.2**	**-0.6**
GUDG				S		**Sg**	**18 52 45.6**	**+0.1**
KORR	**Kora**	**0.74**	**36**	*i* PG		**Pg**	**18 52 35.6**	**-0.2**
KORR				*e*S		**Sb**	**18 52 46.5**	**-0.3**
KORR	**Kora**	**0.74**	**36**	*i* Pg		**Pg**	**18 52 35.6**	**-0.2**
KORR				*e*Sg		**Sb**	**18 52 46.5**	**-0.3**
LSNR	**Lesken**	**0.83**	**18**	*i* PG		**Pg**	**18 52 37.3**	**-0.3**
LSNR				*e*S		**Sg**	**18 52 48.9**	**+0.5**
LSNR	**Lesken**	**0.83**	**18**	*i* Pg		**Pg**	**18 52 37.3**	**-0.3**
LSNR				*e*Sg		**Sg**	**18 52 48.9**	**+0.5**
ARNR	**Ardon**	**0.91**	**40**	*i* PG		**Pg**	**18 52 39.5**	**+0.4**
ARNR				*e*S		**Sb**	**18 52 52.6**	**+0.9**
ARNR	**Ardon**	**0.91**	**40**	*i* Pg		**Pg**	**18 52 39.5**	**+0.4**
ARNR				*e*Sg		**Sb**	**18 52 52.6**	**+0.9**
NEY	**Neytrino**	**0.94**	**324**	*e*PG		**Pg**	**18 52 38.7**	**-1.1**
NEY	**Neytrino**	**0.94**	**324**	*e*Pg		**Pg**	**18 52 38.7**	**-1.1**
STDR	**Stavd-Durt**	**0.98**	**26**	*i* PG		**Pb**	**18 52 40.8**	**+0.1**
STDR				*e*S		**Sb**	**18 52 54.6**	**+0.9**
STDR	**Stavd-Durt**	**0.98**	**26**	*i* Pg		**Pb**	**18 52 40.8**	**+0.1**
STDR				*e*Sg		**Sb**	**18 52 54.6**	**+0.9**
DUS	**Dusheti**	**0.99**	**113**	P		**Pg**	**18 52 40.8**	**+0.2**
DUS				S		**Sb**	**18 52 55.2**	**+1.1**
DUS	**Dusheti**	**0.99**	**113**	P		**Pg**	**18 52 40.8**	**+0.2**
DUS				S		**Sb**	**18 52 55.2**	**+1.1**
NCK	**Nalchik**	**1.01**	**5**	*d* PG		**Pg**	**18 52 40.8**	**-0.2**
NCK	**Nalchik**	**1.01**	**5**	*i* Pg		**Pg**	**18 52 40.8**	**-0.2**
VLKR	**Vladikavkaz**	**1.04**	**57**	*e*PG		**Pb**	**18 52 42.1**	**+0.3**
VLKR				*e*S		**Sn**	**18 52 56.9**	**-0.2**
VLKR	**Vladikavkaz**	**1.04**	**57**	*e*Pg		**Pb**	**18 52 42.1**	**+0.3**
VLKR				*e*Sg		**Sn**	**18 52 56.9**	**-0.2**
CHVG	**Ch'k'valeri**	**1.06**	**283**	P		**Pg**	**18 52 41.3**	**-0.6**
CHVG				S		**Sb**	**18 52 56.6**	**+0.6**
CHVG	**Ch'k'valeri**	**1.06**	**283**	P		**Pg**	**18 52 41.3**	**-0.6**
CHVG				S		**Sb**	**18 52 56.6**	**+0.6**
AKH	**Akhalkalaki**	**1.08**	**180**	P		**Pg**	**18 52 41.9**	**-0.4**
AKH				S		**Sb**	**18 52 57.3**	**+0.6**
AKH	**Akhalkalaki**	**1.08**	**180**	P		**Pg**	**18 52 41.9**	**-0.4**
AKH				S		**Sb**	**18 52 57.3**	**+0.6**
SNJR	**Sundja**	**1.14**	**59**	*i* PG		**Pb**	**18 52 43.7**	**+0.3**
SNJR				*e*S		**Sn**	**18 52 58.8**	**+0.3**
SNJR	**Sundja**	**1.14**	**59**	*i* Pg		**Pb**	**18 52 43.7**	**+0.3**
SNJR				*e*Sg		**Sn**	**18 52 59.8**	**+0.3**
BTKR	**Batakoyurt**	**1.18**	**41**	*i* PG		**Pn**	**18 52 44.8**	**+0.5**
BTKR				*e*S		**Sn**	**18 53 01.4**	**+1.0**
BTKR	**Batakoyurt**	**1.18**	**41**	*i* Pg		**Pn**	**18 52 44.8**	**+0.5**
BTKR				*e*Sg		**Sn**	**18 53 01.4**	**+1.0**
TBLG	**Delisi**	**1.20**	**129**	*e*PG		**Pb**	**18 52 43.7**	**-0.8**
TBLG	**Delisi**	**1.20**	**129**	P		**Pb**	**18 52 43.7**	**-0.8**
TBLG				S		**Sb**	**18 53 00.6**	**+0.4**
TBLG	**Delisi**	**1.20**	**129**	P		**Pb**	**18 52 43.7**	**-0.8**
TBLG				S		**Sb**	**18 53 00.6**	**+0.4**
SEAG	**Tbilisi Sea**	**1.22**	**126**	P		**Pb**	**18 52 43.4**	**-1.4**
SEAG				S		**Sb**	**18 53 00.6**	**-0.1**
SEAG	**Tbilisi Sea**	**1.22**	**126**	P		**Pb**	**18 52 43.4**	**-1.4**
SEAG				S		**Sb**	**18 53 00.6**	**-0.1**
KZR	**Kazreti**	**1.31**	**148**	P		**Pn**	**18 52 45.3**	**-0.8**
KZR				S		**Sb**	**18 53 02.8**	**-0.4**
KZR	**Kazreti**	**1.31**	**148**	P		**Pn**	**18 52 45.3**	**-0.8**
KZR				S		**Sb**	**18 53 02.8**	**-0.4**
PRTR	**Priterechnaya**	**1.39**	**25**	*i* PG		**Pg**	**18 52 48.3**	**0.0**
PRTR				*e*S		**Sg**	**18 53 07.7**	**+1.3**
PRTR	**Priterechnaya**	**1.39**	**25**	*i* Pg		**Pg**	**18 52 48.3**	**0.0**
PRTR				*e*Sg		**Sg**	**18 53 07.7**	**+1.3**
TRKR	**Terskaya**	**1.54**	**36**	*i* PG		**Pb**	**18 52 50.8**	**+0.6**
TRKR				*e*S		**Sg**	**18 53 11.9**	**+0.9**
TRKR	**Terskaya**	**1.54**	**36**	*i* Pg		**Pb**	**18 52 50.8**	**+0.6**
TRKR				*e*Sg		**Sg**	**18 53 11.9**	**+0.9**
BCA	**Borcka**	**1.74**	**234**	*e*PN		**Pg**	**18 52 55.7**	**+0.8**
BCA				*e*SN		**Sn**	**18 53 11.9**	**-2.3**
BCA	**Borcka**	**1.74**	**234**	*e*Pn		**Pg**	**18 52 55.7**	**+0.8**
BCA				*e*Sn		**Sn**	**18 53 11.9**	**-2.3**
ARTV	**Artvin**	**1.75**	**222**	*i* P		**Pn**	**18 52 53.2**	**+1.0**
ARTV				*i* S		**Sb**	**18 53 17.2**	**+1.2**
ARTV	**Artvin**	**1.75**	**222**	*i* P		**Pn**	**18 52 53.2**	**+1.0**
ARTV				*i* S		**Sb**	**18 53 17.2**	**+1.2**
DGRG	**David-gareji**	**1.75**	**126**	P		**Pb**	**18 52 54.0**	**+0.1**
DGRG				S		**Sg**	**18 53 19.2**	**+1.4**
DGRG	**David-gareji**	**1.75**	**126**	P		**Pb**	**18 52 54.0**	**+0.1**
DGRG				S		**Sg**	**18 53 19.2**	**+1.4**
DAGI	**Agillar**	**1.83**	**220**	*i* P		**Pn**	**18 52 54.9**	**+1.6**
DAGI				*i* S		**Sb**	**18 53 20.0**	**+1.6**
GRO	**Groznyy**	**1.86**	**63**	*i* PN		**Pb**	**18 52 55.6**	**-0.1**
GRO				*i* S		**Sg**	**18 53 20.6**	**-0.8**
GRO	**Groznyy**	**1.86**	**63**	*i* Pn		**Pb**	**18 52 55.6**	**-0.1**
GRO				*i* Sg		**Sg**	**18 53 20.6**	**-0.8**
KARS	**Kars**	**1.88**	**189**	*e*PG		**Pn**	**18 52 53.8**	**-0.3**
KARS	**Kars**	**1.88**	**189**	*e*Pg		**Pn**	**18 52 53.8**	**-0.3**
DDEM	**Demirkent**	**2.06**	**220**	*i* P		**Pb**	**18 52 58.6**	**-0.6**
DDEM				*i* S		**Sb**	**18 53 26.8**	**+2.0**
DDEM	**Demirkent**	**2.06**	**220**	*i* P		**Pb**	**18 52 58.6**	**-0.6**
DDEM				*i* S		**Sb**	**18 53 26.8**	**+2.0**
DIGO	**Kars**	**2.07**	**182**	*i* P		**Pb**	**18 52 58.9**	**-0.6**
DIGO				*i* S		**Sg**	**18 53 29.7**	**+1.4**
DIGO	**Kars**	**2.07**	**182**	*i* P		**Pb**	**18 52 58.9**	**-0.6**
GOF	**Gofitskoye**	**2.59**	**353**	*e*PN		**Pb**	**18 53 09.7**	**+1.6**
GOF				*e*S		**Sg**	**18 53 44.0**	**-0.7**
GOF				pmax	pmax			
	comp=Z,20nm,0.6s							
GOF				smax	smax			
	comp=N,190nm,1.1s							
GOF				smax	smax			
	comp=E,290nm,1.4s							
GOF	**Gofitskoye** comp=E,190nm,1.1s	**2.59**	**353**	*e*Sb		**Sg**	**18 53 44.0**	**-0.7**
HOMI	**Horasan**	**2.71**	**206**	*i* P		**Pg**	**18 53 14.0**	**+0.4**
AGRB	**Hanur-Agry**	**2.93**	**187**	*e*PN		**Pn**	**18 53 10.1**	**+1.5**
AGRB	**Hanur-Agry**	**2.93**	**187**	*e*Pn		**Pn**	**18 53 10.1**	**+1.5**
SOC	**Sochi**	**2.97**	**293**	*e*PN		**Pb**	**18 53 13.6**	**-1.0**
SOC				*e*			18 53 43.9	
SOC				*e*			18 53 51.4	
SOC				pmax	pmax			
	comp=Z,9.0nm,0.6s							
SOC				smax	smax			
	comp=N,32nm,0.8s							
SOC				smax	smax			
	comp=E,18nm,0.8s							
SOC				smax	smax			
	comp=N,23nm,0.7s							
SOC				smax	smax			
	comp=E,10.0nm,0.7s							
SOC	**Sochi** comp=E,23nm,0.7s	**2.97**	**293**	*e*Sn		**Sn**	**18 53 43.9**	**-0.7**
EZM	**Erzurum**	**3.04**	**212**	*e*PN		**Pn**	**18 53 11.6**	**+1.6**
TUTA	**Tutak**	**3.12**	**190**	*i* P		**Pn**	**18 53 13.5**	**+2.3**
TUTA	**Tutak**	**3.12**	**190**	*i* P		**Pn**	**18 53 13.5**	**+2.3**
BAYT	**Ayd¨¨-ntepe-Bay**	**3.27**	**231**	*e*PN		Pn	18 53 17.1	+4.0
BAYT	**Ayd¨¨-ntepe-Bay**	**3.27**	**231**	*e*Pn		Pn	18 53 17.1	+4.0
CLDR	**Caldiran**	**3.36**	**174**	*e*PN		**Pn**	**18 53 17.3**	**+2.9**
CLDR	**Caldiran**	**3.36**	**174**	*e*Pn		**Pn**	**18 53 17.3**	**+2.9**
EKAR	**Karacoban**	**3.40**	**199**	*i* P		**Pb**	**18 53 19.8**	**-2.4**
EKAR	**Karacoban**	**3.40**	**199**	*i* P		**Pb**	**18 53 19.8**	**-2.4**
VRTB	**Varto-Mus**	**3.66**	**205**	*e*PN		**Pn**	**18 53 20.2**	**+1.6**
VRTB	**Varto-Mus**	**3.66**	**205**	*e*Pn		**Pn**	**18 53 20.2**	**+1.6**
KELT	**Kelkit**	**3.95**	**235**	*i* P		**Pn**	**18 53 24.0**	**+1.5**
KELT	**Kelkit**	**3.95**	**235**	*i* P		**Pn**	**18 53 24.0**	**+1.5**
BNGB	**Bing¶‖**	**4.09**	**212**	*e*PN		**Pn**	**18 53 26.6**	**+2.2**
BINT	**Bingol**	**4.27**	**213**	*e*Pn		**Pn**	**18 53 26.6**	**-0.2**
AKTO	**Aktyubinsk**	**12.77**	**47**	⇑Pn		Pn	18 55 19.7	-3.6
	comp=E,2.4nm,0.8s							
AKTO				⇑Sn		**Sn**	**18 57 40.9**	**-4.6**
	comp=E,3.0nm,0.9s							
AKTO	**Aktyubinsk** comp=E,2.4nm,0.8s	**12.77**	**47**	Pn		Pn	18 55 19.7	-3.6
AKTO				Sn		**Sn**	**18 57 40.9**	**-4.6**
	comp=E,3.0nm,0.9s							
AB31	**Akbulak array** comp=E,0.9nm,0.5s,baz=246,slow=12,SNR=16	**13.30**	**54**	Pn		**Pn**	**18 55 28.8**	**-1.7**
AB31				‖Sn		Sn	18 57 50.8	-7.6
	comp=E,2.0nm,0.8s,baz=245,slow=21,SNR=4.2							
AB31	**Akbulak array** comp=E,0.9nm,0.5s,SNR=16	**13.30**	**54**	Pn		**Pn**	**18 55 28.8**	**-1.7**
AB31				Sn		Sn	18 57 50.8	-7.6
	comp=E,2.0nm,0.8s,SNR=4.2							
VSU	**Vasula**	**19.13**	**332**	*e*P		**P**	**18 56 45.2**	**+0.6**
VSU	**Vasula**	**19.13**	**332**	*e*P		**P**	**18 56 45.2**	**+0.6**
BRVK	**Borovoye**	**20.76**	**50**	*e*P		**P**	**18 57 03.4**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye** comp=Z,3.0nm,1.0s	**20.76**	**50**	*e*P		**P**	**18 57 03.4**	**+0.9**
AAK	**Ala-Archa**	**22.78**	**79**	*e*P		**P**	**18 57 26.7**	**+2.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa** comp=Z,3.0nm,0.9s	**22.78**	**79**	*e*P		**P**	**18 57 26.7**	**+2.2**

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*ISCJB **20** 19:07:37.7±0.2, 57.°69S±0.°05×65.°7W±0.°1, h10km, mb5.0/30, MS4.9/170, Error ellipse: s-maj=11.7km s-min=5.7km az=156.3*
*IDC **20** 19:07:37.3±0.4, 57.°70S×65.°80W, h0km, mb4.8/15, mb1 4.8/16, mb1mx4.7/24, mbtmp4.8/16, ML4.3/1, MS4.2/18, Ms1 4.2/18, ms1mx4.2/19, Error ellipse: s-maj=21.0km s-min=12.3km az=85.0*
*MOS **20** 19:07:38.4±0.8, 57.°68S×65.°56W, h10km, mb5.2/12, MS4.8/9, Error ellipse: s-maj=34.3km s-min=11.5km az=92.7*
*NEIC **20** 19:07:38.7±0.2, 57.°77S×65.°81W, h10km, mb5.3/21, MS4.9/145, Error ellipse: s-maj=11.2km s-min=6.0km az=80.0*
*GCMT **20** 19:07:38.7±0.2, 57.°75S×66.°33W, h12km, MW5.1/82, Moment Tensor Solution. s58,c82; s82,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.69±.12; $M_{\theta\theta}$-1.62±.10; $M_{\phi\phi}$-4.07±.13; $M_{r\theta}$0.55±.38; $M_{\theta\phi}$2.29±.10; $M_{\phi r}$0.15±.40; Best double couple: $M_0$5.59300×10^{16} NP1:ϕ_s144.00000°, δ46.00000°, λ83.00000°. NP2: ϕ_s334.00000°, δ44.00000°, λ97.00000°. Principal axes: T 5.7420, Plg85.0000°, Azm337.0000°; N -0.2980, Plg5.0000°, Azm149.0000°; P -5.4440, Plg1.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 19:07:38.6±0.2, 57.°71S±0.°05×65.°78W±0.°09, h10km, n395, σ1°33/269, mb5.0/30, MS4.9/171, 4C-2D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**3.24**	**332**	Pn		**Pn**	**19 08 28.3**	**-1.2**
USHA				Sn		**Sn**	**19 09 07.2**	**

SAML Samuel 48.69 3 *e*P **P 19 16 23.1 +0.2**
comp=Z,8.6nm,1.0s
SAML LR LR
comp=Z,148nm,20.3s
MAW Mawson 49.39 157 LR LR 19 37 56.1
comp=Z,412nm,19.7s,baz=221,slow=37
CASY Casey 56.30 178 *e*P **P 19 17 18.9 +0.3**
comp=Z,68nm,1.7s
CASY LR LR
comp=Z,500nm,21.7s
RCBR Riachuelo 56.76 36 PFAKE 19 17 40.0 +17
RCBR LR LR
comp=Z,800nm,19.9s
PTGA Pitinga 57.00 7 *e*P **P 19 17 23.8 -0.5**
comp=Z,18nm,1.2s
OTAV Otavalo 58.65 345 *e*P **P 19 17 38.2 +1.8**
comp=Z,116nm,1.4s
OTAV LR LR
comp=Z,200nm,20.0s
RKT Rikitea 59.67 274 *e*LR LR 19 35 20.0
comp=Z,663nm,28.8s
H10S3 ASCENSION HYDR 62.40 60 T T 20 26 33.3
baz=206,slow=75,SNR=5.7
H10S2 ASCENSION HYDR 62.40 60 T T 20 26 33.0
baz=206,slow=75,SNR=8.7
H10S1 ASCENSION HYDR 62.41 60 T T 20 26 34.5
baz=206,slow=75,SNR=9.5
ROSC El Rosal 62.74 350 *e*P **P 19 18 06.2 +2.0**
ROSC El Rosal 62.74 350 P **P 19 18 05.3 +1.1**
comp=Z,8.0nm,0.5s,baz=92,slow=23,SNR=12
ROSC LR LR 19 46 17.3
comp=Z,211nm,19.6s,baz=22,slow=37
H10N3 ASCENSION HYDR 63.45 60 T T 20 27 47.8
baz=15,slow=75,SNR=3.6
H10N1 ASCENSION HYDR 63.45 60 T T 20 27 42.5
baz=190,slow=75,SNR=5.0
BOSA Boshof 66.83 107 P **P 19 18 30.9 +0.4**
BOSA Boshof 66.83 107 P **P 19 18 30.9 +0.4**
comp=Z,7.7nm,1.0s,baz=198,slow=6.0,SNR=7.3
BOSA LR LR 19 41 44.1
comp=Z,305nm,21.4s,baz=213,slow=31
TBI Tubuai 67.24 262 *e*LR LR 19 38 39.7
comp=Z,497nm,27.2s
BCIP Isla Barro Col 67.63 345 PFAKE 19 18 50.0 +15
BCIP LR LR
comp=Z,200nm,20.0s
RPZ Rata Peaks 68.40 221 PFAKE 19 18 50.0 +10
RPZ LR LR
comp=Z,700nm,18.9s
KHZ Kahutara 68.64 223 PFAKE 19 18 50.0 +8.5
KHZ LR LR
comp=Z,900nm,20.3s
BFZ Birch Farm 69.12 226 PFAKE 19 19 00.0 +15
BFZ LR LR
comp=Z,400nm,21.0s
SNZO South Karori 69.17 225 PFAKE 19 19 00.0 +15
SNZO LR LR
comp=Z,800nm,22.0s
JTS JuntasAbangare 69.56 340 *e*P **P 19 18 49.1 +1.6**
comp=Z,13nm,1.5s
JTS LR LR
comp=Z,100nm,20.3s
GRGR Grenville 69.67 4 PFAKE 19 19 00.0 +12
GRGR LR LR
comp=Z,300nm,19.3s
LBTB Lobatse 69.93 105 *e*P **P 19 18 50.3 +0.3**
comp=Z,40nm,1.4s
LBTB Lobatse 69.93 105 LR LR 19 43 07.3
comp=Z,214nm,21.4s,baz=230,slow=30
BKZ Black Stump Fm 70.33 227 PFAKE 19 19 00.0 +7.9
BKZ LR LR
comp=Z,700nm,20.1s
TSUM Tsumeb 70.46 95 P **P 19 18 52.9 -0.3**
TSUM LR LR
comp=Z,400nm,18.0s
TSUM Tsumeb 70.46 95 P **P 19 18 52.9 -0.3**
comp=Z,4.3nm,0.9s,baz=186,slow=4.3,SNR=4.2
URZ Urewera 70.87 228 PFAKE 19 19 10.0 +15
URZ LR LR
comp=Z,700nm,20.3s
TVO Taravao 71.68 266 *e*T T 20 36 57.4
comp=Z,1.5nm,0.3s
PPT2 Papeete2 72.02 266 *e*S **S 19 28 26.9 +2.7**
comp=Z,194nm,24.5s
PPT2 Papeete2 72.02 266 *e*LR LR 19 40 50.0
comp=Z,908nm,27.8s
PPT Papeete 72.03 266 LR LR 19 41 46.6
comp=Z,406nm,18.4s,baz=154,slow=28
TGUH Tegucigalpa,Un 73.68 338 *e*P **P 19 19 13.2 +1.0**
comp=Z,155nm,1.5s
TGUH LR LR
comp=Z,200nm,19.1s
OUZ Omahuta 74.90 227 PFAKE 19 19 30.0 +11
OUZ LR LR
comp=Z,700nm,20.4s
SABA Saba 75.08 3 PFAKE 19 19 30.0 +10
SABA LR LR
comp=Z,700nm,19.5s
ANWB Willy Bob 75.17 4 PFAKE 19 19 30.0 +9.2
ANWB LR LR
comp=Z,200nm,18.2s
CRPR Cabo Rojo, PR 75.44 359 PFAKE 19 19 30.0 +7.7
CRPR LR LR
comp=Z,600nm,21.8s
OBIP Obispado Ponce 75.47 359 *e*P **P 19 19 21.8 -0.8**
comp=Z,46nm,1.1s
CELP Cerrillos 75.50 359 *e*P **P 19 19 21.9 -0.8**
MTP Monte Pirata 75.52 0 PFAKE 19 19 40.0 +17
MTP LR LR
comp=Z,200nm,18.6s
MPR Mayaguez 75.64 359 PFAKE 19 19 40.0 +16
MPR LR LR
comp=Z,300nm,21.9s
CBYP Canovanas 75.69 360 PFAKE 19 19 40.0 +16
CBYP LR LR
comp=Z,300nm,18.3s
AOPR Arecibo Observ 75.77 359 PFAKE 19 19 40.0 +16
AOPR LR LR
comp=Z,1μm,21.6s
AGP Aguadilla 75.84 359 PFAKE 19 19 40.0 +15
AGP LR LR
comp=Z,600nm,19.6s
SDDR Presa de Saban 76.54 355 PFAKE 19 19 40.0 +11
SDDR LR LR
comp=Z,200nm,20.1s
LSZ Lusaka 79.33 102 *e*P **P 19 19 45.9 +1.2**
comp=Z,8.1nm,1.1s
TEIG Tepich 79.88 339 PFAKE 19 20 00.0 +13
TEIG LR LR
comp=Z,200nm,19.4s
LIC Lamto 80.22 62 *e*P **P 19 19 49.5 +0.3**
comp=Z,52nm,1.1s
KIC Kosan Boka 80.47 62 *e*P **P 19 19 51.0 +0.4**
comp=Z,44nm,1.1s
TIC Toumodi 80.59 61 *e*P **P 19 19 51.5 +0.3**
DBIC Dimbokro 80.69 62 *e*P **P 19 19 52.5 +0.8**
comp=Z,175nm,2.8s
DBIC Dimbokro 80.69 62 P **P 19 19 52.2 +0.5**
comp=Z,5.3nm,0.9s,baz=197,slow=6.5,SNR=13
DBIC LR LR 19 49 08.0
comp=Z,94nm,21.9s,baz=196,slow=31
MSKU Masuku 82.94 82 PFAKE 19 20 20.0 +16
MSKU LR LR
comp=Z,400nm,21.3s
ABPO Ambohimpanom 85.71 119 PFAKE 19 20 30.0 +12
ABPO LR LR
comp=Z,200nm,18.5s
OPO Ambohidratompo 86.08 119 LR LR 19 50 34.9
comp=Z,96nm,22.0s,baz=196,slow=30
ARMA Armidale 86.75 212 PFAKE 19 20 30.0 +7.2
ARMA LR LR
comp=Z,300nm,18.7s
STKA Stephens Creek 87.83 203 *e*P **P 19 20 25.8 -2.1**
comp=Z,3.2nm,1.3s
STKA Stephens Creek 87.83 203 P **P 19 20 27.8 -0.1**
comp=Z,3.9nm,1.1s,baz=148,slow=5.5,SNR=6.5
STKA LR LR 19 52 50.2
comp=Z,190nm,21.1s,baz=193,slow=31
034A Hebbronville 88.85 331 P **P 19 20 33.7 +1.2**
baz=89
DZM Mont Dzumac 89.42 227 *e*LR LR 19 49 04.5
comp=Z,1μm,32.0s
DZM Mont Dzumac 89.42 227 P **P 19 20 36.1 +0.5**
DZM Mont Dzumac 89.42 227 P **P 19 20 36.1 +0.5**
comp=Z,8.2nm,1.0s,baz=24,slow=16,SNR=4.1
933A Laredo 89.53 331 P **P 19 20 36.4 +0.7**
baz=90

835A Beeville 89.80 332 P **P 19 20 38.4 +1.5**
baz=90
834A Tilden 89.83 331 P **P 19 20 38.3 +1.3**
baz=90
833A Chaparral WMA, 90.24 331 P **P 19 20 39.6 +0.7**
baz=91
832A Faith Ranch, C 90.35 330 P **P 19 20 40.2 +0.8**
baz=91
733A Divot King Ran 90.59 331 P **P 19 20 41.0 +0.5**
baz=91
732A Laxson Ranch, 90.78 330 P **P 19 20 42.1 +0.7**
baz=91
HKT Hockley 90.91 334 *e*P **P 19 20 42.9 +1.0**
HKT pmax pmax
comp=Z,66nm,1.8s
HKT Hockley 90.91 334 *e*P **P 19 20 42.9 +1.0**
comp=Z,66nm,1.8s
FORT Forrest 91.08 192 PFAKE 19 20 50.0 +6.8
FORT LR LR
comp=Z,600nm,21.9s
633A Saathoff Ranch 91.26 331 P **P 19 20 44.5 +0.8**
baz=92
632A Uvalde 91.47 331 P **P 19 20 45.4 +0.8**
baz=92
631A Perdido Creek 91.58 330 P **P 19 20 45.5 +0.4**
baz=92
534A Blanco 91.63 332 P **P 19 20 45.5 +0.2**
baz=92
EIDS Eidsvold 91.66 213 *e*P **P 19 20 46.0 +0.1**
comp=Z,38nm,1.4s
EIDS LR LR
comp=Z,300nm,18.2s
VBMS Vicksburg 91.97 339 PFAKE 19 21 00.0 +13
VBMS LR LR
comp=Z,400nm,19.3s
532A Rocksprings 92.09 331 P **P 19 20 48.0 +0.4**
baz=92
435B Jarrell 92.13 333 P **P 19 20 48.2 +0.6**
baz=92
531A Rocksprings 92.29 330 P **P 19 20 49.4 +0.9**
baz=93
628A Black Gap, Mar 92.29 328 P **P 19 20 49.5 +1.0**
baz=93
434A Burnet 92.32 332 P **P 19 20 48.7 +0.1**
baz=93
TXAR Lajitas Array 92.37 328 P **P 19 20 49.8 +0.9**
TXAR Lajitas Array 92.37 328 P **P 19 20 49.8 +0.9**
comp=Z,5.7nm,1.0s,baz=156,slow=6.4,SNR=16
JCT Junction City 92.39 331 P **P 19 20 48.9 0.0**
baz=93
627A Terlingua Ranc 92.40 328 P **P 19 20 50.0 +0.9**
baz=93
433A Art 92.47 332 P **P 19 20 49.0 -0.2**
baz=93
530A J-C Ranch, Com 92.49 330 P **P 19 20 49.7 +0.3**
baz=93
335A Moody 92.56 333 P **P 19 20 49.7 +0.1**
baz=93
529A Stev Forest Ra 92.71 329 P **P 19 20 51.1 +0.7**
baz=93
626A Big Bend Ranch 92.71 327 P **P 19 20 51.9 +1.4**
baz=93
431A Sonora 92.80 330 P **P 19 20 50.8 -0.1**
baz=93
334A Lometa 92.81 333 P **P 19 20 51.2 +0.4**
baz=93
333A Richland Sprin 92.99 332 P **P 19 20 51.7 +0.1**
baz=93
430A Baggett Ranch, 93.06 330 P **P 19 20 52.3 +0.2**
baz=93
429A Davenport Ranc 93.09 329 P **P 19 20 52.8 +0.6**
baz=93
527A Woodward Ranch 93.12 328 P **P 19 20 53.3 +0.9**
baz=93
332A Millersview 93.24 331 P **P 19 20 52.9 +0.1**
baz=94
WHTX Lake Whitney 93.25 333 P **P 19 20 52.7 -0.1**
baz=94
331A San Angelo 93.34 331 P **P 19 20 53.1 -0.2**
baz=94
KMSC Kings Mountain 93.42 347 PFAKE 19 21 10.0 +17
KMSC LR LR
comp=Z,500nm,20.6s
234A Clairette 93.43 333 P **P 19 20 53.9 +0.3**
baz=94
233A Rising Star 93.63 332 P **P 19 20 54.7 +0.1**
baz=94
330A Mertzon 93.64 330 P **P 19 20 54.2 -0.5**
baz=94
232A Coleman 93.69 332 P **P 19 20 54.7 -0.2**
baz=94
427A Hayter Ranch, 93.72 328 P **P 19 20 56.4 +1.2**
baz=94
329A Wagon Wheel Ra 93.93 330 P **P 19 20 57.2 +1.1**
baz=94
425A Indio Mountain 94.12 327 P **P 19 20 57.6 +0.6**
baz=94
133A Hamilton Ranch 94.20 332 P **P 19 20 57.0 -0.2**
baz=94
UALR University of 94.81 338 PFAKE 19 21 10.0 +10
UALR LR LR
comp=Z,1μm,21.1s
Z32A Haskell 95.00 332 P **P 19 21 01.0 +0.2**
baz=95
128A Castleberry Fa 95.14 330 P **P 19 21 02.6 +1.0**
baz=96
Z31A Sharp Cattle R 95.18 332 P **P 19 21 01.8 +0.2**
baz=96
BLA Blacksburg 95.36 348 PFAKE 19 21 10.0 +7.6
BLA LR LR
comp=Z,300nm,18.0s
Z30A Sanderson Ranc 95.40 331 P **P 19 21 03.1 +0.3**
baz=96
PVMO Portageville 95.91 341 PFAKE 19 21 20.0 +15
PVMO LR LR
comp=Z,500nm,18.0s
KMBO Kilima Mbogo 96.00 102 LR LR 19 58 57.3
comp=Z,163nm,21.6s,baz=98,slow=32
USIN University of 97.08 343 PFAKE 19 21 20.0 +10
USIN LR LR
comp=Z,800nm,18.6s
SIUC Southern Illin 97.09 341 PFAKE 19 21 20.0 +10
SIUC LR LR
comp=Z,900nm,18.1s
ASAR Alice Springs 97.27 198 P **P 19 21 10.8 -1.0**
ASAR PP **PP 19 25 08.5 +1.3**
ASAR Alice Springs 97.27 198 P **P 19 21 10.8 -1.0**
comp=Z,3.2nm,0.9s,baz=160,slow=5.0,SNR=18
ASAR PP **PP 19 25 08.5 +1.3**
comp=Z,2.4nm,1.1s,baz=166,slow=7.6,SNR=6.3
ASAR LR LR 20 00 01.1
comp=Z,156nm,21.7s,baz=136,slow=32
CTAO Charters Tower 98.02 210 PFAKE 19 21 30.0 +15
CTAO LR LR
comp=Z,200nm,18.0s
BLO Bloomington 98.08 344 PFAKE 19 21 30.0 +15
BLO LR LR
comp=Z,500nm,20.7s
SLM Saint Louis 98.16 341 PFAKE 19 21 30.0 +15
SLM LR LR
comp=Z,700nm,19.6s
LUPA Lehigh Univers 98.28 353 PFAKE 19 21 30.0 +15
LUPA LR LR
comp=Z,700nm,20.7s
BRNJ Basking Ridge 98.31 353 PFAKE 19 21 30.0 +14
BRNJ LR LR
comp=Z,249μm,21.8s
CPNY Central Park 98.38 354 PFAKE 19 21 30.0 +14
CPNY LR LR
comp=Z,1μm,19.3s
ODNJ Ogdensburg 98.71 353 PFAKE 19 21 30.0 +13
ODNJ LR LR
comp=Z,300nm,18.9s
YLE Yale 98.84 355 PFAKE 19 21 30.0 +12
YLE LR LR
comp=Z,1μm,20.7s
BRYW Bryant College 99.38 356 PFAKE 19 21 30.0 +10
BRYW LR LR
comp=Z,7μm,20.6s
WES Weston 99.84 356 PFAKE 19 21 30.0 +7.6
WES LR LR
comp=Z,3μm,19.6s
KSU1 Kansas State U 99.87 336 PFAKE 19 21 30.0 +7.4
KSU1 LR LR
comp=Z,200nm,21.0s
WRA Warramunga Arr 100.84 199 P **Pdif 19 21 27.0 -0.7**
WRA Warramunga Arr 100.84 199 P **Pdif 19 21 27.0 -0.7**
comp=Z,6.3nm,0.9s,baz=176,slow=4.0,SNR=17
WRAB Tennant Creek 100.85 199 PFAKE 19 21 40.0 +12
WRAB LR LR
comp=Z,200nm,21.9s
FFD Franklin Falls 100.94 356 PFAKE 19 21 40.0 +13
FFD LR LR
comp=Z,1μm,21.9s
HNH Hanover 101.20 355 PFAKE 19 21 40.0 +12
HNH LR LR
comp=Z,2μm,18.9s
SCIA State Center 101.88 339 PFAKE 19 21 40.0 +8.5
SCIA LR LR
comp=Z,400nm,18.6s
EMMW East Machias 102.06 359 PFAKE 19 21 40.0 +7.8
EMMW LR LR
comp=Z,1μm,19.8s
PTN Potsdam (NY) 102.20 353 PFAKE 19 21 40.0 +7.2
PTN LR LR
comp=Z,1μm,18.4s
FRNY Flat Rock 102.39 354 PFAKE 19 21 50.0 +16
FRNY LR LR
comp=Z,600nm,21.0s
SMCO Snowmass 102.53 328 PFAKE 19 21 50.0 +15
SMCO LR LR
comp=Z,300nm,20.0s
DAC Darwin (Calif) 103.23 319 PFAKE 19 21 50.0 +12
DAC LR LR
comp=Z,2μm,18.0s
HNR Honiara 103.44 227 PFAKE 19 21 50.0 +11
HNR LR LR
comp=Z,100nm,20.0s
RTC Rabat Centre 103.84 47 PFAKE 19 21 50.0 +10
RTC LR LR
comp=Z,300nm,19.0s
TMUT Trail Mountain 103.88 325 PFAKE 19 21 50.0 +9.1
TMUT LR LR
comp=Z,3μm,21.8s
PQI Presque Isle 104.03 358 PFAKE 19 21 50.0 +9.1
PQI LR LR
comp=Z,2μm,19.3s
PHWY Pilot Hill 104.09 330 PFAKE 19 21 50.0 +8.2
PHWY LR LR
comp=Z,600nm,20.2s
MPU Maple Canyon 104.67 325 PFAKE 19 22 00.0 +16
MPU LR LR
comp=Z,1μm,21.4s
TPH Tonopah 104.72 320 PFAKE 19 22 00.0 +15
TPH LR LR
comp=Z,700nm,19.8s
RWWY Rawlins 104.93 329 PFAKE 19 22 00.0 +15
RWWY LR LR
comp=Z,1μm,20.3s
SPMN St. Paul 105.01 341 *e*PKKPab PKKPab 19 37 51.0 +10
JLU Jordanelle 105.15 326 PFAKE 19 26 10.0
JLU LR LR
comp=Z,601nm,20.0s
COWI Conover 105.25 343 PFAKE 19 26 10.0
COWI LR LR
comp=Z,600nm,18.7s
CTU Camp Tracy 105.33 325 PFAKE 19 26 10.0
CTU LR LR
comp=Z,801nm,20.7s
SPUT South Promonto 106.10 325 PFAKE 19 26 10.0
SPUT LR LR
comp=Z,600nm,19.8s
BMN Battle Mountai 106.84 321 PFAKE 19 26 20.0
BMN LR LR
comp=Z,1μm,20.1s
PAHR Pah Rah Range 106.93 320 PFAKE 19 26 20.0
PAHR LR LR
comp=Z,1μm,18.8s
LOHW Long Hollow 107.66 327 PFAKE 19 26 20.0
LOHW LR LR
comp=Z,600nm,19.1s
PMG Port Moresby 107.91 214 PFAKE 19 26 20.0
PMG LR LR
comp=Z,201nm,19.0s
YMR Madison River 108.73 328 *e*Pdif **Pdif 19 22 10.8 +8.5**
YMR *e*PP **PP 19 26 32.0 -2.3**
YMR LR LR
comp=Z,697nm,21.7s
KIP Kipapa 109.02 280 PFAKE 19 26 20.0
KIP LR LR
comp=Z,3012μm,21.4s
BOZ Bozeman (W) 109.82 328 PFAKE 19 26 20.0
BOZ LR LR
comp=Z,507nm,20.7s
DLMT Dillon 109.84 327 PFAKE 19 26 20.0
DLMT LR LR
comp=Z,800nm,18.8s
SCHQ Schefferville 112.19 359 PFAKE 19 26 20.0
SCHQ LR LR
comp=Z,800nm,18.5s
DAMY Dhamar 112.97 99 PFAKE 19 26 30.0
DAMY LR LR
comp=Z,300nm,18.0s
LON Longmire 113.98 321 PFAKE 19 26 30.0
LON LR LR
comp=Z,300nm,21.5s
D05A Enumclaw 114.42 321 PFAKE 19 26 30.0 +13
D05A LR LR
comp=Z,4μm,18.9s
WDD Wield Dalam 114.75 62 PFAKE 19 26 30.0 +11
WDD LR LR
comp=Z,200nm,18.3s
VSL Villasalto 115.35 56 PFAKE 19 26 30.0 +10
VSL LR LR
comp=Z,200nm,20.4s
PGC Sidney 116.18 321 PFAKE 19 26 30.0 +9.2
PGC LR LR
comp=Z,100nm,19.9s
KAPI Kappang 117.32 186 PFAKE 19 26 40.0 +16
KAPI LR LR
comp=Z,1μm,21.1s
CEL Celeste 117.33 61 PFAKE 19 26 40.0 +17
CEL LR LR
comp=Z,200nm,19.1s
FAKI Fak Fak 117.84 200 PFAKE 19 26 40.0 +15
FAKI LR LR
comp=Z,200nm,19.0s
TIP Timpagrande 118.47 61 PFAKE 19 26 40.0 +14
TIP LR LR
comp=Z,200nm,20.6s
GVD Gavdhos 118.61 70 PFAKE 19 26 40.0 +14
GVD LR LR
comp=Z,600nm,19.7s
CUC Castrocucco 118.68 60 PFAKE 19 26 40.0 +14
CUC LR LR
comp=Z,200nm,18.1s
PMBI Palembang 119.08 169 PFAKE 19 26 40.0 +12
PMBI LR LR
comp=Z,200nm,18.5s
VLC Villacollemand 119.56 53 PFAKE 19 26 40.0 +12
VLC LR LR
comp=Z,200nm,18.0s
SANT Santorini 120.50 69 PFAKE 19 26 40.0 +10
SANT LR LR
comp=Z,202nm,19.3s
RAYN Ar Rayn 120.91 95 PFAKE 19 26 40.0 +9.2
RAYN LR LR
comp=Z,200nm,18.9s
TUE Stuetta 120.97 51 PFAKE 19 26 40.0 +10
TUE LR LR
comp=Z,600nm,18.0s
LUWI Luwuk 121.03 190 PFAKE 19 26 40.0 +8.6
LUWI LR LR
comp=Z,200nm,19.4s
FUORN Ofenpass-Fuorn 121.47 52 PFAKE 19 26 40.0 +8.6
FUORN LR LR
comp=Z,400nm,18.2s
BKNI Bangkinang 121.83 164 PFAKE 19 26 40.0 +7.1
BKNI LR LR
comp=Z,100nm,18.1s
WLF Walferdange 122.22 47 PFAKE 19 26 40.0 +7.6
WLF LR LR
comp=Z,300nm,19.0s
TRI Trieste 122.26 55 PFAKE 19 26 40.0 +7.4
TRI LR LR
comp=Z,300nm,20.7s
MEM Membach 122.92 46 PFAKE 19 26 50.0 +16
MEM LR LR
comp=Z,700nm,21.0s
TOLI Toli-Toli 123.33 188 PFAKE 19 26 50.0 +14
TOLI LR LR
comp=Z,200nm,22.0s

PALK	**Pallekele**	**123.37**	**139**	PFAKE		19 26 50.0	+14		
PALK				LR	LR				
	comp=Z,300nm,19.2s								
MYKOM	**Kota Tinggi**	**123.64**	**168**	PFAKE		19 26 50.0	+14		
MYKOM				LR	LR				
	comp=Z,200nm,19.4s								
KSM	**Kuching**	**123.84**	**175**	PFAKE		19 26 50.0	+13		
KSM				LR	LR				
	comp=Z,202nm,19.4s								
ISP	**Isparta**	**124.19**	**72**	PFAKE		19 26 50.0	+13		
ISP				LR	LR				
	comp=Z,100nm,18.3s								
GERES	**GERESS Array B**	**124.66**	**52**	PKP	**PKPdf**	**19 26 36.9**	**-0.4**		
GERES	**GERESS Array B**	**124.66**	**52**	PKP	**PKPdf**	**19 26 36.9**	**-0.4**		
	comp=Z,1.2nm,0.9s,baz=180,slow=2.7,SNR=8.9								
SBUM	**Sibu**	**124.87**	**178**	PFAKE		19 26 50.0	+11		
SBUM				LR	LR				
	comp=Z,200nm,20.8s								
SFJD	**Kangerlussuaq**	**124.91**	**7**	PFAKE		19 26 50.0	+13		
SFJD				LR	LR				
	comp=Z,1μm,21.0s								
H11S2	**WAKE ISLAND Hy**	**125.18**	**247**	T	T	21 44 32.2			
	baz=150,slow=75,SNR=6.7								
H11S3	**WAKE ISLAND Hy**	**125.19**	**247**	T	T	21 45 00.8			
	baz=61,slow=75,SNR=4.4								
YKA	**Yellowknife Ar**	**125.68**	**335**	PKP	**PKPdf**	**19 26 38.5**	**-0.1**		
YKA	**Yellowknife Ar**	**125.68**	**335**	PKP	**PKPdf**	**19 26 38.5**	**-0.1**		
	comp=Z,3.6nm,0.9s,baz=140,slow=2.6,SNR=44								
IPM	**Ipoh**	**125.91**	**164**	*e*PKPdf	**PKPdf**	**19 26 40.6**	**-0.1**		
IPM				LR	LR				
	comp=Z,200nm,19.2s								
LHMI	**Lhok Sumawe**	**125.93**	**159**	PFAKE		19 26 50.0	+9.3		
LHMI				LR	LR				
	comp=Z,300nm,18.0s								
CLL	**Collm**	**126.25**	**50**	*i* PKIKP	**PKPdf**	**19 26 40.9**	**+0.8**		
CLL				pmax	pmax				
	comp=Z,13nm,1.4s								
CLL	**Collm**	**126.25**	**50**	*i* PKPdf	**PKPdf**	**19 26 40.9**	**+0.8**		
	comp=Z,13nm,1.4s								
CLL				*e*		19 26 52.0			
PSZ	**Piszkesteto**	**126.66**	**57**	PFAKE		19 26 50.0	+8.9		
PSZ				LR	LR				
	comp=Z,200nm,19.9s								
ANTO	**Ankara**	**126.89**	**72**	PFAKE		19 26 50.0	+8.2		
ANTO				LR	LR				
	comp=Z,100nm,21.0s								
DPC	**Dobruska-Polom**	**126.91**	**53**	*e*PKIKP	**PKPdf**	**19 26 41.9**	**+0.4**		
DPC	**Dobruska-Polom**	**126.91**	**53**	*e*PKPdf	**PKPdf**	**19 26 41.9**	**+0.4**		
DPC				*ex*	x	19 26 52.6			
DPC	**Dobruska-Polom**	**126.91**	**53**	PFAKE		19 26 50.0	+8.5		
DPC				LR	LR				
	comp=Z,700nm,18.0s								
BRTR	**Keskin Array B**	**127.22**	**73**	PKP	**PKPdf**	**19 26 42.4**	**-0.2**		
BRTR	**Keskin Array B**	**127.22**	**73**	PKP	**PKPdf**	**19 26 42.4**	**-0.2**		
	comp=Z,1.6nm,0.9s,baz=171,slow=2.4,SNR=6.7								
RUE	**Ruedersdorf**	**127.45**	**49**	*e*PP	PP	19 28 45.1	+1.5		
RUE				LR	LR				
	comp=Z,300nm,18.0s								
KKM	**Kota Kinabalu**	**128.44**	**183**	PFAKE		19 27 00.0	+14		
KKM				LR	LR				
	comp=Z,200nm,21.0s								
KWP	**Kalwaria Pacla**	**129.18**	**57**	PFAKE		19 27 00.0	+14		
KWP				LR	LR				
	comp=Z,400nm,19.0s								
KONO	**Kongsberg**	**131.15**	**41**	PFAKE		19 27 00.0	+11		
KONO				LR	LR				
	comp=Z,400nm,21.0s								
SUMG	**Summit**	**131.37**	**11**	*e*PKIKP	**PKPdf**	**19 26 50.7**	**+0.9**		
SUMG	**Summit**	**131.37**	**11**	*e*PKPdf	**PKPdf**	**19 26 50.7**	**+0.9**		
SUW	**Suwalki**	**132.48**	**53**	*e*PKIKP	**PKPdf**	**19 26 51.6**	**-0.2**		
SUW				MLR	MLR				
	comp=Z,200nm,18.6s								
SUW	**Suwalki**	**132.48**	**53**	*e*PKPdf	**PKPdf**	**19 26 51.6**	**-0.2**		
SUW				LR	LR				
	comp=Z,200nm,18.6s								
KIEV	**Kiev**	**132.91**	**60**	*e*PKIKP	**PKPdf**	**19 26 52.4**	**-0.3**		
KIEV				MLR	MLR				
	comp=Z,300nm,20.4s								
KIEV	**Kiev**	**132.91**	**60**	*e*PKPdf	**PKPdf**	**19 26 52.4**	**-0.3**		
KIEV				LR	LR				
	comp=Z,300nm,20.4s								
AKASG	**Malin Array Be**	**132.92**	**60**	PKIKP	**PKPdf**	**19 26 52.3**	**-0.5**		
AKASG	**Malin Array Be**	**132.92**	**60**	PKP	**PKPdf**	**19 26 52.2**	**-0.5**		
AKASG	**Malin Array Be**	**132.92**	**60**	PKP	**PKPdf**	**19 26 52.2**	**-0.5**		
	comp=Z,0.6nm,0.6s,baz=249,slow=2.5,SNR=18								
BMRM	**Bremner River**	**133.30**	**319**	*e*PKPdf	**PKPdf**	**19 26 55.2**	**+1.9**		
GNI	**Garni**	**133.32**	**81**	*e*PKPdf	**PKPdf**	**19 26 54.6**	**+0.5**		
GNI				LR	LR				
	comp=Z,100nm,21.0s								
DIV	**Divide**	**133.82**	**319**	PFAKE		19 27 10.0	+16		
DIV				LR	LR				
	comp=Z,300nm,18.6s								
DLV	**T Lat**	**134.12**	**172**	PFAKE		19 27 10.0	+14		
DLV				LR	LR				
	comp=Z,300nm,19.4s								
NEY	**Neytrino**	**134.47**	**76**	*i* PKIKP	**PKPdf**	**19 26 56.5**	**+0.3**		
ZEI	**Tsey**	**134.76**	**77**	*i* PKIKP	**PKPdf**	**19 26 56.7**	**-0.1**		
ZEI				pmax	pmax				
	comp=Z,5.0nm,1.2s								
EGAK	**Eagle**	**134.77**	**324**	*e*PKPdf	**PKPdf**	**19 26 56.8**	**+0.9**		
KBZ	**Khabaz**	**134.89**	**76**	PKIKP	**PKPdf**	**19 26 57.0**	**+0.3**		
KBZ	**Khabaz**	**134.89**	**76**	PKP	**PKPdf**	**19 26 57.0**	**+0.3**		
KBZ	**Khabaz**	**134.89**	**76**	PKP	**PKPdf**	**19 26 57.0**	**+0.3**		
	comp=Z,3.0nm,0.9s,baz=171,slow=5.0,SNR=4.8								
KIV	**Kislovodsk**	**134.94**	**75**	*i* PKIKP	**PKPdf**	**19 26 57.1**	**+0.1**		
KIV				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KIV				MLR	MLR				
	comp=Z,84nm,20.0s								
KIV	**Kislovodsk**	**134.94**	**75**	PFAKE		19 27 10.0	+13		
KIV				LR	LR				
	comp=Z,100nm,18.0s								
DOT	**Dot Lake**	**134.94**	**322**	*e*PKPdf	**PKPdf**	**19 26 57.7**	**+1.4**		
DOT				LR	LR				
	comp=Z,1μm,18.3s								
PAX	**Paxson**	**134.96**	**321**	*e*PP	PP	19 29 36.0	+3.8		
PAX				LR	LR				
	comp=Z,498nm,21.6s								
INK	**Inuvik**	**135.05**	**331**	*e*PKPdf	**PKPdf**	**19 26 56.8**	**+0.6**		
INK				LR	LR				
	comp=Z,400nm,18.7s								
SML	**Sawmill**	**135.19**	**318**	PFAKE		19 27 10.0	+13		
SML				LR	LR				
	comp=Z,100nm,19.2s								
RC01	**Rabbit Creek A**	**135.23**	**317**	*e*PKPdf	**PKPdf**	**19 26 57.8**	**+1.0**		
RC01				LR	LR				
	comp=Z,300nm,18.3s								
PMR	**Palmer**	**135.34**	**317**	*e*PKIKP	**PKPdf**	**19 26 57.5**	**+0.6**		
PMR	**Palmer**	**135.34**	**317**	*e*PKPdf	**PKPdf**	**19 26 57.5**	**+0.6**		
RSO	**Redoubt South**	**135.96**	**315**	*e*PKPdf	**PKPdf**	**19 26 59.2**	**+0.8**		
ILAR	**Eielson Array**	**136.62**	**322**	PKP	**PKPdf**	**19 26 59.1**	**-0.2**		
ILAR	**Eielson Array**	**136.62**	**322**	PKP	**PKPdf**	**19 26 59.1**	**-0.2**		
	comp=Z,11nm,0.9s,baz=197,slow=4.5,SNR=4.1								
MCK	**McKinley**	**136.65**	**320**	*e*PKIKP	**PKPdf**	**19 27 00.7**	**+1.3**		
MCK	**McKinley**	**136.65**	**320**	*e*PKPdf	**PKPdf**	**19 27 00.7**	**+1.3**		
TRF	**Thorofare Moun**	**136.94**	**319**	*e*PKPdf	**PKPdf**	**19 27 00.5**	**+0.3**		
TRF				LR	LR				
	comp=Z,300nm,20.7s								
COLA	**College**	**137.00**	**322**	*i* PKIKP	**PKPdf**	**19 26 58.4**	**-1.5**		
COLA	**College**	**137.00**	**322**	*e*PKPdf	**PKPdf**	**19 27 00.6**	**+0.7**		
COLA				LR	LR				
	comp=Z,200nm,18.0s								
PPLA	**Purkeypile**	**137.28**	**318**	*e*PKPdf	**PKPdf**	**19 27 02.0**	**+1.2**		
PPLA				LR	LR				
	comp=Z,400nm,18.3s								
SVW2	**Sparrevohn**	**137.44**	**314**	PFAKE		19 27 10.0	+9.1		
SVW2				LR	LR				
	comp=Z,500nm,21.8s								
CAST	**Castle Rocks**	**137.56**	**318**	*e*PKPdf	**PKPdf**	**19 27 01.8**	**+0.7**		
OBN	**Obninsk**	**139.16**	**59**	*i* PKIKP	**PKPdf**	**19 27 04.0**	**-0.2**		
OBN				pmax	pmax				
	comp=Z,15nm,1.5s								
COLD	**Coldfoot**	**139.19**	**324**	*e*PKPdf	**PKPdf**	**19 27 05.1**	**+1.1**		
COLD				LR	LR				
	comp=Z,300nm,19.2s								
CM31	**Chiang Mai Arr**	**139.20**	**157**	*e*PKPdf	**PKPdf**	**19 27 06.1**	**+0.6**		
CMAR	**Chiang Mai Arr**	**139.20**	**157**	PKPpre	PKPpre	19 26 54.9			
CMAR				PKP	**PKPdf**	**19 27 05.7**	**+0.1**		
CMAR	**Chiang Mai Arr**	**139.20**	**157**	PKhKP	PKPpre	19 26 54.9			
	comp=Z,0.6nm,0.8s,baz=218,slow=2.8,SNR=4.7								
CMAR				PKP	**PKPdf**	**19 27 05.7**	**+0.1**		
	comp=Z,3.4nm,0.9s,baz=221,slow=3.5,SNR=18								
CHTO	**Chiang Mai**	**139.55**	**157**	*e*PKHKP	PKPpre	19 26 57.8			
CHTO				MLR	MLR				
	comp=Z,100nm,19.0s								
CHTO	**Chiang Mai**	**139.55**	**157**	*e*PKPdf	PKPpre	19 26 57.8			
CHTO				LR	LR				
	comp=Z,100nm,19.0s								
IM04	**Indian Mountai**	**139.65**	**321**	*e*PKPdf	**PKPdf**	**19 27 05.2**	**+0.3**		
SPIA	**Saint Paul Isl**	**141.32**	**302**	PFAKE		19 27 20.0	+12		
SPIA				LR	LR				
	comp=Z,200nm,18.1s								
KBL	**Kabul**	**142.05**	**108**	PFAKE		19 27 20.0	+10		
KBL				LR	LR				
	comp=Z,100nm,18.0s								
ARCES	**ARCESS Array B**	**142.57**	**35**	PKPpre	PKPpre	19 27 05.6			
ARCES	**ARCESS Array B**	**142.57**	**35**	PKhKP	PKPpre	19 27 05.6			
	comp=Z,3.5nm,1.0s,baz=251,slow=3.7,SNR=5.1								
SLVN	**Son La**	**142.89**	**164**	PFAKE		19 27 20.0	+7.8		
SLVN				LR	LR				
	comp=Z,200nm,18.8s								
KEV	**Kevo**	**143.14**	**35**	PFAKE		19 27 20.0	+9.0		
KEV				LR	LR				
	comp=Z,200nm,18.7s								
KOLN	**Koldanda**	**143.16**	**131**	*e*P	PKPab	19 27 07.4	-0.8		
	comp=Z,22nm,0.9s								
RAMN	**Ramite**	**143.60**	**136**	*e*P	PKPab	19 27 09.9	-0.1		
	comp=Z,25nm,0.9s								
KLMR	**Klimovskoe**	**143.62**	**53**	*e*PKHKP	PKPpre	19 27 08.1			
KLMR				pmax	pmax				
	comp=Z,30nm,1.6s								
DMN	**Daman**	**143.62**	**133**	*e*P	PKPab	19 27 10.2	+0.1		
	comp=Z,26nm,0.9s								
PKI	**Pulchoki**	**143.70**	**134**	*e*P	PKPab	19 27 10.2	-0.3		
	comp=Z,15nm,0.8s								
PKIN	**Phulchoki**	**143.70**	**134**	*e*P	PKPab	19 27 10.4	0.0		
	comp=Z,6.6nm,0.6s								
DANN	**Dangsing**	**143.74**	**131**	*e*P	PKPab	19 27 09.8	-0.8		
	comp=Z,43nm,0.8s								
GKN	**Gorkha**	**143.79**	**132**	*e*P	PKPab	19 27 09.6	-1.0		
	comp=Z,32nm,1.0s								
ODAN	**Odare**	**143.81**	**137**	*e*P	PKPab	19 27 10.4	-0.4		
	comp=Z,31nm,1.0s								
KKN	**Kakani**	**143.85**	**133**	*e*P	PKPab	19 27 11.0	+0.1		
JIRN	**Jiri**	**144.08**	**135**	*e*P	**PKPab**	**19 27 11.5**	**-0.5**		
	comp=Z,30nm,0.8s								
SHL	**Shillong**	**144.15**	**144**	*e*P	PKPbc	19 27 13.0	+0.5		
GUN	**Gumba**	**144.19**	**134**	*e*P	**PKPab**	**19 27 11.2**	**-1.2**		
APA	**Apatity**	**144.29**	**40**	*i* PKIKP	**PKPdf**	**19 27 12.4**	**-0.7**		
APA				MLR	MLR				
	comp=Z,800nm,30.0s								
TAPN	**Taplejung**	**144.37**	**137**	*e*P	**PKPab**	**19 27 11.3**	**-1.7**		
	comp=Z,58nm,1.5s								
TNA	**Tin City**	**144.51**	**316**	*e*PKPdf	PKPbc	19 27 12.8	+0.6		
TNA				LR	LR				
	comp=Z,200nm,20.8s								
LVZ	**Lovozero**	**144.86**	**40**	*e*PKIKP	PKPbc	19 27 13.7	+0.4		
LVZ	**Lovozero**	**144.86**	**40**	*e*PKPdf	PKPbc	19 27 13.7	+0.3		
GAMB	**Gambell**	**145.22**	**312**	*e*PKPdf	**PKPbc**	**19 27 14.4**	**0.0**		
TPUB	**Ta-pu**	**145.31**	**190**	*e*PKPdf	**PKPbc**	**19 27 14.6**	**-1.4**		
YULB	**Yu-li**	**145.34**	**191**	*e*PKPdf	**PKPbc**	**19 27 13.9**	**-2.2**		
SSLB	**Suanglung**	**145.76**	**191**	*e*PKPab	**PKPbc**	**19 27 17.3**	**-0.2**		
KMI	**Kunming**	**146.42**	**161**	PKPbc	**PKPbc**	**19 27 19.8**	**+0.1**		
KMI				pPKP	pPKP	19 27 33.8			
PRGR	**Permogore**	**146.60**	**54**	⇑*i* PKP2	**PKPbc**	**19 27 18.9**	**+0.1**		
PRGR				pmax	pmax				
	comp=Z,60nm,1.1s								
FX1	**Attu Island--F**	**147.03**	**287**	*e*PKPdf	**PKPbc**	**19 27 19.5**	**-0.8**		
FX1				PKPbc	**PKPbc**	**19 27 19.8**	**-0.5**		
FX1				*e*PKPdf	**PKPab**	**19 27 19.9**	**-1.9**		
FX1	**Attu Island--F**	**147.03**	**287**	PKPbc	**PKPbc**	**19 27 19.8**	**-0.5**		
	comp=Z,14nm,0.6s,baz=126,slow=3.9,SNR=12								
LSA	**Lhasa**	**147.73**	**140**	PKPbc	**PKPdf**	**19 27 20.6**	**-0.2**		
LSA	**Lhasa**	**147.73**	**140**	*e*PKIKP	**PKPdf**	**19 27 21.4**	**+0.6**		
LSA	**Lhasa**	**147.73**	**140**	*e*PKPdf	**PKPdf**	**19 27 21.4**	**+0.6**		
GYA	**Guiyang**	**148.31**	**167**	*i* PKPbc	**PKPbc**	**19 27 24.3**	**-0.5**		
GYA				PKPab	**PKPab**	**19 27 32.0**	**+4.2**		
GYA				sPKP		19 27 40.0			
GYA				PKS	**PKSdf**	**19 30 55.4**	**-1.2**		
GYA				PP	**PP**	**19 30 57.8**	**+4.9**		
GYA				SKKS		19 37 41.3			
GYA				SS	**SS**	**19 49 58.9**	**-1.1**		
GYA				AMB	AMB				
	comp=Z,140nm,8.0s								
GYA				LR	LR				
	comp=Z,180nm,22.8s								
GYA				LR	LR				
	comp=Z,140nm,24.0s								
GYA				LR	LR				
	comp=Z,160nm,23.4s								
KKAR	**Karatay Array**	**149.16**	**99**	*e*PKIKP	**PKPdf**	**19 27 21.6**	**-0.5**		
KKAR	**Karatay Array**	**149.16**	**99**	*e*PKPdf	**PKPdf**	**19 27 21.6**	**-0.5**		
KSH	**Kashi**	**149.41**	**110**	PKPbc	**PKPdf**	**19 27 22.3**	**-0.4**		
KSH				sPKP		19 27 37.3			
KSH				*e*SKS	**SKSdf**	**19 34 26.9**	**-3.7**		
KSH				AMB	AMB				
	comp=Z,160nm,4.2s								
KSH				LR	LR				
	comp=Z,100nm,5.4s								
KSH				LR	LR				
	comp=Z,77nm,7.3s								
KSH				LR	LR				
	comp=Z,69nm,6.6s								
ARU	**Arti**	**150.43**	**68**	*i* PKIKP	**PKPdf**	**19 27 24.3**	**+0.7**		
ARU	**Arti**	**150.43**	**68**	*e*PKPdf	**PKPdf**	**19 27 23.8**	**+0.2**		
ARU				LR	LR				
	comp=Z,100nm,18.9s								
EKS2	**Erkin-Say**	**150.58**	**103**	PFAKE		19 27 40.0	+3.3		
EKS2				LR	LR				
	comp=Z,200nm,20.6s								
UCH	**Uchtor**	**150.65**	**104**	P	**PKPdf**	**19 27 25.3**	**+0.2**		
	SNR=11								
SOKR	**Solikamsk**	**150.86**	**62**	⇑*i* PKIKP	**PKPbc**	**19 27 30.4**	**+0.7**		
SOKR				pmax	pmax				
	comp=Z,20nm,0.8s								
KZA	**Kyzart**	**150.93**	**106**	P	**PKPdf**	**19 27 26.1**	**+0.7**		
	SNR=7.3								
AAK	**Ala-Archa**	**150.93**	**104**	*e*PKIKP	**PKPdf**	**19 27 25.3**	**+0.2**		
AAK						19 27 31.5			
AAK				MLR	MLR				
	comp=Z,200nm,18.1s								
AAK	**Ala-Archa**	**150.93**	**104**	P	**PKPdf**	**19 27 25.0**	**-0.1**		
	SNR=7.5								
AAK	**Ala-Archa**	**150.93**	**104**	*e*PKPdf	**PKPdf**	**19 27 25.3**	**+0.2**		
AAK				PKPbc	**PKPbc**	**19 27 31.5**	**+0.7**		
AAK				LR	LR				
	comp=Z,200nm,18.1s								
AAK	**Ala-Archa**	**150.93**	**104**	PKPbc	**PKPbc**	**19 27 31.5**	**+0.7**		
	comp=Z,25nm,0.9s,baz=192,slow=3.8,SNR=63								
FRU	**Bishkek**	**151.14**	**104**	*e*PKIKP	**PKPdf**	**19 27 25.0**	**-0.2**		
FRU				*i*		19 27 32.0			
FRU				pmax	pmax				
	comp=Z,114nm,1.8s								
KBK	**Karagaybulak**	**151.18**	**104**	P	**PKPbc**	**19 27 31.8**	**+0.4**		
	SNR=14								
CHMS	**Chumysh**	**151.32**	**104**	P	**PKPbc**	**19 27 31.8**	**+0.2**		
	SNR=15								
USP	**Ospenovka**	**151.38**	**103**	P	**PKPdf**	**19 27 25.6**	**0.0**		
	SNR=5.7								
SVE	**Sverdlovsk**	**151.64**	**69**	*e*PKIKP	**PKPbc**	**19 27 32.5**	**+0.8**		
SVE				pmax	pmax				
	comp=Z,53nm,1.6s								
TKM2	**Tokmak 2**	**151.71**	**105**	*e*PKIKP	**PKPdf**	**19 27 26.1**	**-0.2**		
TKM2				MLR	MLR				
	comp=Z,200nm,20.9s								
TKM2	**Tokmak 2**	**151.71**	**105**	P	**PKPdf**	**19 27 26.2**	**-0.2**		
	SNR=6.5								
TKM2	**Tokmak 2**	**151.71**	**105**	*e*PKPdf	**PKPdf**	**19 27 26.1**	**-0.2**		
TKM2				LR	LR				
	comp=Z,200nm,20.9s								
CD2	**Chengdu**	**152.25**	**160**	*e*PKPbc	**PKPbc**	**19 27 30.9**	**-3.1**		
CD2				sPKP		19 27 49.0			
CD2				PP	PP	19 31 21.6	+6.0		
CD2				SKS	**SKSdf**	**19 34 31.5**	**-2.9**		
CD2				SKKS	**SKKSac**	**19 38 03.8**	**-2.4**		
CD2				AMB	AMB				
	comp=Z,150nm,8.9s								
CD2				LR	LR				
	comp=Z,240nm,14.3s								
CD2				LR	LR				
	comp=Z,130nm,25.0s								
ENH	**Enshi**	**152.37**	**171**	*e*PKPbc	**PKPbc**	**19 27 33.5**	**-0.8**		
JNU	**Nakatsue**	**152.92**	**212**	PKPbc	**PKPbc**	**19 27 35.1**	**-0.3**		
JNU				*e*PKPdf	**PKiKP**	**19 27 35.3**	**-0.3**		
JNU	**Nakatsue**	**152.92**	**212**	PKPbc	**PKPbc**	**19 27 35.1**	**-0.3**		
	comp=Z,34nm,0.9s,baz=79,slow=1.7,SNR=8.8								
MJAR	**Matsushiro Arr**	**153.52**	**227**	PKPbc	**PKPbc**	**19 27 38.4**	**+1.8**		
MJAR	**Matsushiro Arr**	**153.52**	**227**	PKPbc	**PKPbc**	**19 27 38.4**	**+1.8**		
	comp=Z,4.4nm,1.0s,baz=172,slow=1.7,SNR=5.2								
NJ2	**Nanjing**	**154.15**	**189**	*e*PKPbc	**PKPdf**	**19 27 31.6**	**+1.7**		
BILL	**Bilibino**	**154.95**	**316**	⇓*e*PKIKP	**PKPdf**	**19 27 26.2**	**-3.7**		
BILL				pmax	pmax				
	comp=Z,40nm,1.8s								
BILL				pmax	pmax				
	comp=Z,61nm,1.5s								
BILL	**Bilibino**	**154.95**	**316**	PFAKE		19 27 40.0	+1.4		
BILL				LR	LR				
	comp=Z,200nm,19.0s								
BRVK	**Borovoye**	**154.96**	**82**	*e*PKIKP	**PKPdf**	**19 27 30.1**	**-0.3**		
BRVK				MLR	MLR				
	comp=Z,200nm,20.5s								
BRVK	**Borovoye**	**154.96**	**82**	*e*PKPdf	**PKPdf**	**19 27 30.1**	**-0.3**		
BRVK				LR	LR				
	comp=Z,200nm,20.5s								
PETK	**Petropavlovsk-**	**155.23**	**278**	PKIKP	PKPdf	19 27 40.3	+10		
PETK						19 27 54.8			
PETK	**Petropavlovsk-**	**155.23**	**278**	PKPbc	PKPdf	19 27 40.3	+10		
PETK				PKPab	**PKPab**	**19 27 54.8**	**-1.1**		
PETK	**Petropavlovsk-**	**155.23**	**278**	PKPbc	PKPdf	19 27 40.3	+10		
	comp=Z,4.6nm,0.9s,baz=113,slow=4.8,SNR=4.1								
PETK				PKPab	**PKPab**	**19 27 54.8**	**-1.1**		
	comp=Z,8.5nm,0.8s,baz=126,slow=9.3,SNR=4.4								
XAN	**Xi'an**	**156.05**	**169**	PKP	**PKPdf**	**19 27 32.4**	**-0.1**		
LZH	**Lanzhou**	**157.29**	**158**	*e*PKP	**PKPdf**	**19 27 33.3**	**-0.9**		
LZH				pPKP	pPKPdf	19 27 45.3	+7.6		
LZH				sPKP		19 27 49.1			
LZH				PP	**PP**	**19 31 47.0**	**+3.0**		
LZH				SKKS		19 38 29.0			
LZH				*e*SS	**SS**	**19 51 36.5**	**-2.2**		
LZH				AMB	AMB				
	comp=Z,240nm,9.6s								
LZH				LR	LR				
	comp=Z,200nm,18.2s								
LZH				LR	LR				
	comp=Z,210nm,18.5s								
LZH				LR	LR				
	comp=Z,280nm,20.1s								
KSAR	**Wonju Array Be**	**157.81**	**210**	PKPab	**PKPab**	**19 28 07.2**	**-0.1**		
KSRS	**Korea Array**	**157.81**	**210**	PKPab	**PKPab**	**19 28 07.2**	**0.0**		
	comp=Z,11nm,1.3s,baz=165,slow=5.2,SNR=4.7								
MKAR	**Makanchi Array**	**157.83**	**106**	PKIKP	**PKPdf**	**19 27 34.0**	**-0.4**		
MKAR	**Makanchi Array**	**157.83**	**106**	PKP	**PKPdf**	**19 27 34.0**	**-0.4**		
MKAR	**Makanchi Array**	**157.83**	**106**	PKP	**PKPdf**	**19 27 34.0**	**-0.4**		
	comp=Z,1.8nm,1.0s,baz=241,slow=1.5,SNR=7.4								
KURK	**Kurchatov**	**158.24**	**93**	*e*PKIKP	**PKPdf**	**19 27 34.5**	**-0.2**		
KURK	**Kurchatov**	**158.24**	**93**	*e*PKPdf	**PKPdf**	**19 27 34.5**	**-0.2**		
WMQ	**Urumqi**	**158.40**	**119**	PKP	**PKPdf**	**19 27 36.4**	**+1.2**		
WMQ				pPKP	pPKPdf	19 27 47.3	+8.6		
WMQ				sPKP		19 27 50.8			
WMQ				PKS	**PKSdf**	**19 31 08.8**	**0.0**		
WMQ				PP	**PP**	**19 31 54.1**	**+3.6**		
WMQ				SKS	**SKSdf**	**19 34 36.8**	**-3.8**		
WMQ				SKKS	**SKKSac**	**19 38 37.0**	**-1.9**		
WMQ				SS	**SS**	**19 51 48.3**	**-2.9**		
WMQ				LR	LR				
	comp=Z,53nm,20.4s								
WMQ				LR	LR				
	comp=Z,130nm,20.4s								
WMQ				LR	LR				
	comp=Z,120nm,25.7s								
GTA	**Gaotai**	**159.43**	**147**	PKP	**PKPdf**	**19 27 36.8**	**+0.1**		
GTA				pPKP	pPKPdf	19 27 47.6	+7.5		
GTA				sPKP		19 27 51.3			
GTA				PKPab	**PKPab**	**19 28 15.4**	**+0.9**		
GTA				SKS	**SKSdf**	**19 34 37.6**	**-4.3**		
GTA				SKKS	**SKKSac**	**19 38 42.3**	**-2.1**		
GTA				SS	**SS**	**19 52 00.6**	**-1.0**		
GTA				AMB	AMB				
	comp=Z,110nm,8.1s								
GTA				LR	LR				
	comp=Z,120nm,17.8s								
GTA				LR	LR				
	comp=Z,130nm,17.6s								
GTA				LR	LR				
	comp=Z,120nm,20.9s								
BJI	**Beijing**	**162.27**

CTCR				*e*S	Sb	19 10 56.2	+0.8
BUS	**Buena Vista**	**1.54**	**325**	*e*P	Pn	19 11 00.6	-1.1
BUS				*e*S	Sn	19 11 21.9	-0.1
QCR	**Quepos**	**1.72**	**311**	*e*P	Pn	19 11 03.4	-0.1
QCR				*e*S	Sb	19 11 26.1	-0.7
URSC	**Urasca**	**1.79**	**329**	*e*P	Pn	19 11 04.7	0.0
URSC				*e*S	Sn	19 11 26.5	-0.9
CGA2	**Cerro Gallo 2**	**2.34**	**317**	*e*P	Pn	19 11 13.8	+1.6
CGA2				*e*S	Sn	19 11 42.7	+1.8
PTP	**Ponta Puerca**	**19.45**	**58**	⇑*i*P	x	19 10 36.5	

IDC ***20*** *19:16:39.5±3.0, 1°.03S×134°.82E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=145.3km s-min=25.5km az=78.0*

ISCJB ***20*** *19:16:44.2±0.7, 1°.1S±0°.1×134°.38E±0°.05, h27km, mb3.8/2, Error ellipse: s-maj=16.9km s-min=6.9km az=8.0*

DJA ***20*** *19:16:44.5±0.7, 1°S±12°×13°4E±°, h15km±8km, M4.2/5, MLv4.2/5*

ISC 20 19:16:44.6±1.1, 1°.1S±0°.1×134°.49E±0°.07, h27km, n8, σ1§21/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**0.49**	**294**	P	x	19 16 52.8	
BAKI	**Biak**	**1.62**	**92**	P	**Pb**	**19 17 13.0**	**-0.8**
BAKI				S	**Sb**	**19 17 33.6**	**-0.2**
SRPI	**Serui, Papua**	**1.90**	**113**	P	**Pb**	**19 17 18.1**	**-0.5**
SRPI				S	**Sb**	**19 17 44.2**	**+2.4**
FAKI	**Fak Fak**	**2.86**	**232**	P	**Pn**	**19 17 28.2**	**-0.3**
SWI	**Sorong**	**3.24**	**275**	P	**Pn**	**19 17 34.6**	**+0.9**
WRA	**Warramunga Arr**	**18.70**	**180**	P	**P**	**19 20 59.9**	**-1.2**
	0.3nm,0.3s,baz=0.2,slow=12,SNR=29						
ASAR	**Alice Springs**	**22.41**	**181**	P	**P**	**19 21 41.6**	**+0.3**
	2.0nm,0.6s,baz=6.6,slow=11,SNR=24						
MKAR	**Makanchi Array**	**66.00**	**324**	P	**P**	**19 27 28.7**	**-0.1**
	0.9nm,0.7s,baz=110,slow=8.2,SNR=11						

NIED ***20*** *19:18:00, 35°.00N×135°.50E, h8km, Mw3.5 Best double couple: M₀1.83000×10¹⁴ NP1:φs30.00000°, δ63.00000°, λ152.00000°. NP2:φs134.00000°, δ65.00000°, λ30.00000°.*

JMA 20 19:18:39.5, 34°.96N×135°.45E, h11km, M3.7, 3C-1D Broadband fault plane solution: P waves. NP1: φs122.00000°, δ85.00000°, λ19.00000°. **NP2:**φs31.00000°, δ71.00000°, λ175.00000°. **Principal axes:** T Plg17.0000°, Azm348.0000°; N Plg70.0000°, Azm136.0000°; P Plg10.0000°, Azm255.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.32**	**353**	⇑P	Pg	19 18 46.1	0.0
JWT				S	Sg	19 18 50.5	+0.1
JHE	**Heguri**	**0.36**	**148**	⇑P	Pg	19 18 46.7	0.0
JHE				S	Sg	19 18 51.7	+0.1
TSUJ	**Tsu 2**	**0.84**	**107**	⇓P	Pg	19 18 55.2	-0.4
JKN2	**Miekihoku**	**0.99**	**136**	⇑P	Pg	19 18 57.9	-0.7
MAT	**Matsushiro**	**2.74**	**54**	P	Pn	19 19 24.7	+1.2
MAT				S	Sn	19 19 56.8	+0.1

FUNV 20 19:45:49.8, 6°.82N×73°.10W, h166km, MW3.8, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.30**	**37**	⇑*i*P	Pn	19 46 18.1	-0.9
CAPV				*e*S	Sn	19 46 39.6	-1.9
SOCV	**Socops**	**2.66**	**57**	*e*P	Pn	19 46 32.3	-1.4
SOCV				*e*S	Sn	19 47 04.0	-3.7
VIRV	**Villa del Rosa**	**3.72**	**11**	*e*P	Pn	19 46 45.0	-2.0
VIRV				*e*S	Sn	19 47 27.1	-4.6
CURV	**Curarigua**	**4.44**	**44**	*e*P	Pn	19 46 54.6	-1.7
CURV				*e*S	Sn	19 47 42.9	-5.4
BAUV	**El Baul**	**5.43**	**67**	*e*P	Pn	19 47 08.0	-1.2
BAUV				*e*S	Sn	19 48 04.7	-6.8
MONV	**Montecano**	**5.96**	**31**	*e*P	Pn	19 47 15.0	-1.2

BJI ***20*** *19:53:13.4, 17°.70S×178°.13W, h562km, mB5.0/6, mb4.5/11*

ISCJB ***20*** *19:53:16.9±0.8, 17°.78S±0°.08×178°.79W±0°.05, h589km±9km, mb4.6/87, Error ellipse: s-maj=12.6km s-min=5.0km az=153.9*

NEIC ***20*** *19:53:17.0±0.6, 17°.67S×178°.77W, h575km±7km, mb4.6/70, Error ellipse: s-maj=12.0km s-min=4.8km az=148.0*

IDC ***20*** *19:53:18.3±2.3, 17°.78S×178°.78W, h590km±26km, mb3.9/13, mb1 4.2/14, mb1mx3.9/29, mbtmp4.8/14, Error ellipse: s-maj=29.1km s-min=10.3km az=151.0*

ISC 20 19:53:14.9±0.5, 17°.79S±0°.09×178°.64W±0°.07, h556km±5km, h557km:pP-P, n453, σ1§00/457, mb4.6/89, 129C-119D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.16**	**271**	*e*P	P	19 54 35.4	+3.8
AFI	**Afiamalu**	**7.64**	**61**	*e*P	**P**	**19 55 07.5**	**-2.0**
AFI	**Afiamalu**	**7.64**	**61**	P	**P**	**19 55 07.9**	**-1.7**
	35nm,0.3s,baz=94,slow=1.5,SNR=29						
NIUE	**Niue**	**8.36**	**100**	P	**P**	**19 55 16.2**	**-0.3**
	baz=8.1,SNR=6.5						
DZM	**Mont Dzumac**	**14.66**	**251**	*e*P	**P**	**19 56 20.3**	**-0.6**
	51nm,0.6s						
DZM	**Mont Dzumac**	**14.66**	**251**	P	**P**	**19 56 21.0**	**0.0**
	6.0nm,0.3s,baz=72,slow=17,SNR=56						
DZM	**Mont Dzumac**	**14.66**	**251**	*e*P	**P**	**19 56 20.4**	**-0.6**
NOUC	**Port Laguerre**	**14.79**	**251**	*e*P	**P**	**19 56 24.3**	**+2.1**
KNTN	**Kanton**	**16.39**	**25**	*e*P	**P**	**19 56 37.4**	**-0.6**
	80nm,0.6s						
EIDS	**Eidsvold**	**29.11**	**250**	*e*P	**P**	**19 58 31.5**	**+0.1**
	36nm,0.7s						
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**19 58 31.4**	**0.0**
	baz=29,SNR=15						
ARMA	**Armidale**	**29.81**	**240**	*e*P	**P**	**19 58 38.5**	**+0.9**
	42nm,0.8s						
ARMA	**Armidale**	**29.81**	**240**	P	**P**	**19 58 38.6**	**+1.0**
	baz=30,SNR=35						
MGCD	**Mangrove Creek**	**31.18**	**235**	⇑P	**P**	**19 58 49.9**	**+0.8**
	baz=31,SNR=17						
RMQ	**Roma**	**31.35**	**248**	⇓P	**P**	**19 58 51.0**	**+0.4**
	baz=32,SNR=24						
CTAO	**Charters Tower**	**33.25**	**260**	*e*P	**P**	**19 59 07.2**	**+0.3**
	28nm,0.8s						
CNB	**Canberra Magne**	**33.33**	**232**	⇓P	**P**	**19 59 08.0**	**+0.6**
	baz=34,SNR=65						
CAN	**Canberra**	**33.60**	**232**	*e*P	**P**	**19 59 10.1**	**+0.4**
	42nm,1.0s						
YNG	**Young**	**33.69**	**234**	⇑P	**P**	**19 59 10.9**	**+0.5**
	baz=34,SNR=6.5						
MILA	**Mila**	**34.20**	**229**	⇓P	**P**	**19 59 15.0**	**+0.3**
	baz=34,SNR=6.3						
PMG	**Port Moresby**	**34.23**	**280**	*e*P	**P**	**19 59 16.6**	**+1.4**
	66nm,0.9s						
PMG	**Port Moresby**	**34.23**	**280**	⇑P	**P**	**19 59 16.9**	**+1.7**
	baz=34,SNR=7.7						
CMSA	**Cobar Meteorol**	**35.02**	**240**	⇓P	**P**	**19 59 21.9**	**+0.3**
	baz=35,SNR=118						
COEN	**Coen**	**36.89**	**270**	*e*P	**P**	**19 59 38.3**	**+1.0**
	246nm,0.7s						
COEN	**Coen**	**36.89**	**270**	P	**P**	**19 59 38.2**	**+1.0**
	baz=37,SNR=50						
TOO	**Toolangi**	**37.08**	**231**	⇓P	**P**	**19 59 38.8**	**+0.3**
	baz=37,SNR=41						
STKA	**Stephens Creek**	**38.50**	**241**	*e*P	**P**	**19 59 51.0**	**+0.9**
	19nm,1.1s						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**19 59 51.0**	**+0.9**
	54nm,0.5s,baz=93,slow=9.8,SNR=334						
STKA	**Stephens Creek**	**38.50**	**241**	⇑P	**P**	**19 59 50.7**	**+0.6**
	baz=39,SNR=210						
QIS	**Mount Isa**	**39.46**	**259**	P	**P**	**19 59 57.6**	**-0.5**
	baz=40,SNR=6.2						
ARPS	**Mount Arapiles**	**39.55**	**233**	⇑P	**P**	**19 59 58.5**	**+0.1**
	baz=40,SNR=16						
HTT	**Hallett**	**41.02**	**239**	⇑P	**P**	**20 00 10.7**	**+0.4**
	baz=41,SNR=59						
JAY	**Jayapura**	**42.67**	**286**	⇑P	**P**	**20 00 24.7**	**+1.1**
	baz=43,SNR=7.9						
BBOO	**Buckleboo**	**43.27**	**241**	*e*P	**P**	**20 00 28.2**	**+0.2**
	2um,0.4s						
BBOO	**Buckleboo**	**43.27**	**241**	⇑P	**P**	**20 00 28.0**	**0.0**
	baz=43,SNR=294						
WRAB	**Tennant Creek**	**44.43**	**259**	*e*P	**P**	**20 00 36.5**	**-0.6**
	28nm,0.6s						
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**20 00 36.3**	**-0.9**
WRA				S	**S**	**20 06 28.6**	**-3.6**
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**20 00 36.3**	**-0.9**
	26nm,0.7s,baz=93,slow=6.8,SNR=469						
WRA				S	**S**	**20 06 28.7**	**-3.6**
	0.5nm,0.6s,baz=96,slow=13,SNR=2.8						
AS31	**Alice Springs**	**44.61**	**254**	*e*P	**P**	**20 00 38.4**	**-0.1**
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**20 00 38.6**	**+0.1**
ASAR				ScP	**ScP**	**20 05 10.6**	**+1.7**
ASAR				S	**S**	**20 06 31.9**	**-2.8**
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**20 00 38.6**	**+0.1**
	224nm,0.6s,baz=89,slow=8.2,SNR=4456						
ASAR				ScP	**ScP**	**20 05 10.6**	**+1.7**
	1.2nm,0.8s,baz=94,slow=4.2,SNR=5.1						
ASAR				S	**S**	**20 06 31.9**	**-2.8**
	2.5nm,1.0s,baz=89,slow=15,SNR=10						
KDU	**Kakadu**	**47.34**	**269**	⇑P	**P**	**20 00 59.4**	**+0.1**
	baz=48,SNR=17						
MTN	**Manton Dam**	**48.59**	**268**	⇑P	**P**	**20 01 08.1**	**-0.4**
	baz=49,SNR=14						
WRKA	**Warakurna**	**49.67**	**252**	⇓P	**P**	**20 01 16.7**	**+0.1**
	baz=50,SNR=60						
FORT	**Forrest**	**49.86**	**245**	*e*P	**P**	**20 01 17.0**	**-0.7**
	79nm,0.7s						
FORT	**Forrest**	**49.86**	**245**	⇓P	**P**	**20 01 16.7**	**-1.0**
	baz=50,SNR=40						
KNRA	**Kununurra**	**50.29**	**264**	⇑P	**P**	**20 01 20.5**	**-0.6**
	baz=50,SNR=36						
FITZ	**Fitzroy Crossi**	**52.84**	**260**	⇑P	**P**	**20 01 39.1**	**-0.3**
	baz=53,SNR=33						
SOEI	**Soe**	**55.85**	**270**	*e*P	**P**	**20 02 01.5**	**+0.6**
SOEI	**Soe**	**55.85**	**270**	⇓P	**P**	**20 02 01.8**	**+1.0**
	baz=56,SNR=9.5						
MEEK	**Meekatharra**	**58.27**	**249**	⇓P	**P**	**20 02 15.8**	**-1.3**
	baz=58,SNR=6.3						
BLDU	**Ballidu**	**59.64**	**245**	⇓P	**P**	**20 02 25.0**	**-1.1**
	baz=60,SNR=14						
JAGI	**Jajag, Banyuwa**	**65.83**	**269**	*e*P	**P**	**20 03 04.2**	**-2.1**
	31nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.83**	**269**	⇑P	P	20 03 02.3	-3.9
	baz=66,SNR=6.5						
MJAR	**Matsushiro Arr**	**67.69**	**323**	P	**P**	**20 03 17.2**	**0.0**
MJAR	**Matsushiro Arr**	**67.69**	**323**	P	**P**	**20 03 17.2**	**0.0**
	2.9nm,0.5s,baz=153,slow=6.4,SNR=11						
UGM	**Wanagama**	**69.44**	**268**	⇓P	**P**	**20 03 26.7**	**-1.6**
	baz=70,SNR=10						
FX1	**Attu Island--F**	**70.73**	**355**	*e*P	**P**	**20 03 34.6**	**-0.4**
CISI	**Cisompet, Garu**	**72.11**	**268**	⇓P	**P**	**20 03 42.5**	**-1.6**
	baz=72,SNR=3.6						
QSPA	**South Pole Qui**	**72.26**	**180**	*e*P	**P**	**20 03 44.1**	**0.0**
	82nm,2.8s						
QSPA				*e*pP	**pP**	**20 05 44.2**	**+5.0**
KSM	**Kuching**	**72.46**	**277**	*e*P	**P**	**20 03 46.7**	**+0.7**
	19nm,0.8s						
LEM	**Lembang**	**72.50**	**268**	⇓P	**P**	**20 03 45.9**	**-0.5**
	baz=73,SNR=5.5						
PETK	**Petropavlovsk-**	**73.51**	**345**	P	**P**	**20 03 51.4**	**+0.2**
PETK	**Petropavlovsk-**	**73.51**	**345**	P	**P**	**20 03 51.4**	**+0.2**
	12nm,0.6s,baz=132,slow=8.1,SNR=19						
USRK	**Ussuriysk Arra**	**76.40**	**326**	P	**P**	**20 04 08.8**	**+1.3**
	1.7nm,0.6s,baz=94,slow=5.5,SNR=4.1						
VES	**Vestal, Richgr**	**77.57**	**46**	⇓P	**P**	**20 04 14.6**	**+0.6**
	baz=78						
NJ2	**Nanjing**	**77.70**	**310**	*e*P	**P**	**20 04 15.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
MURC	**Murrieta**	**77.70**	**49**	⇓P	**P**	**20 04 15.5**	**+0.6**
	baz=78						
BFSC	**Mount Baldy Ra**	**77.71**	**48**	⇓P	**P**	**20 04 15.3**	**+0.2**
	baz=78						
EDW2	**Edwards Air Fo**	**77.81**	**47**	⇑P	**P**	**20 04 16.3**	**+0.8**
	baz=78						
CMB	**Columbia Colle**	**77.90**	**43**	*e*P	**P**	**20 04 16.6**	**+0.7**
	54nm,1.7s						
M02C	**Callahan**	**78.28**	**39**	⇓P	**P**	**20 04 19.1**	**+1.3**
	baz=78						
KDAK	**Kodiak Island**	**78.34**	**14**	*e*P	**P**	**20 04 17.7**	**+0.1**
SWSC	**Sam W. Stewart**	**78.38**	**50**	⇓P	**P**	**20 04 19.3**	**+0.9**
	baz=79						
MTUM	**Tungsten Hills**	**78.74**	**45**	*e*P	**P**	**20 04 21.3**	**+0.8**
WAKR	**Walker**	**78.78**	**43**	*e*P	**P**	**20 04 21.5**	**+0.7**
	11nm,0.9s						
GSC	**Goldstone**	**78.86**	**47**	⇓P	**P**	**20 04 21.4**	**+0.3**
	baz=79						
HEC	**Hector,Ludlow**	**78.95**	**48**	⇓P	**P**	**20 04 22.0**	**+0.5**
	baz=79						
BC3	**Big Chuckawall**	**78.99**	**49**	⇓P	**P**	**20 04 22.6**	**+0.8**
	baz=79						
M04C	**Macdoel**	**79.13**	**40**	⇓P	**P**	**20 04 23.1**	**+0.7**
	baz=79						
QIZ	**Qiongzhong**	**79.21**	**294**	P	**P**	**20 04 24.0**	**+0.9**
QIZ				S	**S**	**20 13 38.9**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,22nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,69nm,3.6s						
FURC	**Furnace Creek,**	**79.43**	**46**	⇓P	**P**	**20 04 24.9**	**+1.0**
	baz=80						
IRM	**Iron Mountain**	**79.46**	**49**	⇓P	**P**	**20 04 25.1**	**+0.9**
	baz=80						
PAHR	**Pah Rah Range**	**79.48**	**42**	*e*P	**P**	**20 04 25.3**	**+0.9**
	9.7nm,0.7s						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**20 04 25.4**	**+0.9**
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**20 04 25.4**	**+0.9**
	7.8nm,0.7s,baz=223,slow=9.1,SNR=16						
Y12C	**Blythe**	**79.71**	**50**	⇑P	**P**	**20 04 26.7**	**+1.3**
	baz=80						
113A	**Mohawk Valley,**	**79.79**	**51**	⇓P	**P**	**20 04 27.2**	**+1.3**
	baz=80						
J04D	**Umppqua Nationa**	**79.82**	**38**	⇑P	**P**	**20 04 27.4**	**+1.3**
	baz=80						
I04A	**Tendick Farm,**	**79.97**	**38**	⇑P	**P**	**20 04 27.2**	**+0.5**
	baz=80						
TPH	**Tonopah**	**80.02**	**45**	*e*P	**P**	**20 04 28.2**	**+0.9**
	11nm,1.0s						
214A	**Organ Pipe Nat**	**80.11**	**52**	⇑P	**P**	**20 04 29.4**	**+1.7**
	baz=80						
MOD	**Modoc**	**80.14**	**40**	*e*P	**P**	**20 04 28.5**	**+0.8**
	18nm,0.6s						
PDMCI	**Parker Dam,Lak**	**80.25**	**49**	⇓P	**P**	**20 04 29.3**	**+1.0**
	baz=80						
H04A	**Detroit Lake**	**80.63**	**37**	*e*P	**P**	**20 04 30.3**	**+0.2**
	14nm,0.6s						
Z14A	**Wintersburg**	**80.67**	**51**	⇓P	**P**	**20 04 31.6**	**+1.1**
	baz=81						
RSO	**Redoubt South**	**80.74**	**13**	*e*P	**P**	**20 04 29.8**	**-0.7**
W13A	**Hualapai Mount**	**80.83**	**49**	⇓P	**P**	**20 04 32.3**	**+0.7**
	baz=81						
Y14A	**Wickenburg**	**80.91**	**50**	⇓P	**P**	**20 04 32.6**	**+0.8**
	baz=81						
R11A	**Troy Canyon, C**	**81.27**	**45**	⇑P	**P**	**20 04 34.3**	**+0.6**
	baz=81						
BMN	**Battle Mountai**	**81.27**	**43**	*e*P	**P**	**20 04 34.2**	**+0.6**
	15nm,1.0s						
G05D	**Wamic, OR**	**81.46**	**37**	⇑P	**P**	**20 04 35.1**	**+0.8**
	baz=82						
WVOR	**Wild Horse Val**	**81.46**	**40**	*e*P	**P**	**20 04 32.9**	**-1.7**
	22nm,1.0s						
GAMB	**Gambell**	**81.48**	**3**	*e*P	**P**	**20 04 34.5**	**+0.6**
	6.7nm,0.6s						
TUC	**Tucson**	**81.80**	**52**	*e*P	**P**	**20 04 38.0**	**+1.6**
	31nm,0.2s						
I07A	**Izee**	**81.85**	**39**	*e*P	**P**	**20 04 36.8**	**+0.3**
	15nm,0.8s						
RC01	**Rabbit Creek A**	**81.96**	**14**	*e*P	**P**	**20 04 35.8**	**-0.7**
	28nm,1.2s						
X16A	**Lo Mia Camp, P**	**82.27**	**50**	⇓P	**P**	**20 04 40.1**	**+1.2**
	baz=82						
PMR	**Palmer**	**82.54**	**14**	*e*P	**P**	**20 04 38.8**	**-0.5**
	12nm,0.6s						
U15A	**North Rim**	**82.60**	**48**	⇑P	**P**	**20 04 41.7**	**+1.1**
	baz=83						
ELK	**Elko**	**82.72**	**43**	*e*P	**P**	**20 04 41.6**	**+0.5**
	7.8nm,0.9s						
WUAZ	**Wupatki**	**82.83**	**49**	*e*P	**P**	**20 04 42.9**	**+1.2**
	12nm,1.0s						
WUAZ	**Wupatki**	**82.83**	**49**	⇓P	**P**	**20 04 43.0**	**+1.3**
	baz=83						
G08A	**Pilot Rock**	**82.85**	**38**	*e*P	**P**	**20 04 42.4**	**+0.9**
	25nm,1.4s						
DIV	**Divide**	**82.94**	**15**	*e*P	**P**	**20 04 41.4**	**-0.1**
	20nm,0.7s						
LTY	**Liberty**	**83.00**	**36**	*e*P	**P**	**20 04 42.5**	**+0.4**
	151nm,3.0s						
PPLA	**Purkeypile**	**83.06**	**12**	*e*P	**P**	**20 04 40.9**	**-1.3**
BMRM	**Bremner River**	**83.11**	**16**	*e*P	**P**	**20 04 42.0**	**-0.3**
	16nm,0.6s						
X18A	**Snowflake**	**83.42**	**51**	⇑P	**P**	**20 04 45.8**	**+1.1**
	baz=84						
TNA	**Tin City**	**83.49**	**4**	*e*P	**P**	**20 04 44.3**	**+0.3**
	8.0nm,0.9s						
BJI	**Beijing**	**83.55**	**315**	P	**P**	**20 04 45.8**	**+0.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
CAST	**Castle Rocks**	**83.56**	**12**	*e*P	**P**	**20 04 43.2**	**-1.3**
	15nm,0.7s						
MFID	**Camas Ranch**	**83.73**	**41**	*e*P	**P**	**20 04 46.6**	**+0.7**
	11nm,1.0s						
D08A	**Wollman Farm,**	**83.86**	**36**	*e*P	**P**	**20 04 46.8**	**+0.5**
	10nm,0.7s						
KTH	**Kantishna Hill**	**83.91**	**12**	*e*P	**P**	**20 04 44.8**	**-1.5**
	68nm,0.9s						
TRF	**Thorofare Moun**	**83.94**	**12**	*e*P	**P**	**20 04 45.6**	**-1.0**
	29nm,0.7s						
E09A	**Wood Farm, Sta**	**84.00**	**37**	*e*P	**P**	**20 04 47.5**	**+0.5**
	4.7nm,0.8s						
DUG	**Dugway**	**84.05**	**45**	⇑P	**P**	**20 04 48.5**	**+0.9**
	baz=84						
F10A	**Beach Ranch, E**	**84.24**	**38**	*e*P	**P**	**20 04 48.3**	**0.0**
	15nm,0.8s						
B08A	**Colville Reser**	**84.37**	**35**	*e*P	**P**	**20 04 48.5**	**-0.3**
	10nm,0.8s						
MCK	**McKinley**	**84.47**	**13**	*e*P	**P**	**20 04 48.6**	**-0.4**
	22nm,1.0s						
PAX	**Paxson**	**84.59**	**15**	*e*P	**P**	**20 04 49.1**	**-0.6**
	6.0nm,0.9s						
C09A	**Chrisman Ranch**	**84.64**	**36**	*e*P	**P**	**20 04 50.4**	**+0.2**
	7.8nm,0.6s						
HLID	**Hailey**	**84.68**	**41**	*e*P	**P**	**20 04 51.4**	**+0.7**
	8.6nm,0.8s						
HLID	**Hailey**	**84.68**	**41**	⇓P	**P**	**20 04 51.3**	**+0.6**
	baz=85,SNR=14						
GYA	**Guiyang**	**84.79**	**300**	*e*P	**P**	**20 04 52.0**	**+0.5**
GYA				pP	**pP**	**20 06 52.6**	**+0.9**
GYA				sP	**sP**	**20 07 45.3**	**-2.7**
GYA				SKS	**SKSac**	**20 14 22.4**	**-0.9**
GYA				S	**S**	**20 14 33.9**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HVU	**Hansel Valley**	**84.84**	**43**	*e*P	**P**	**20 04 52.2**	**+0.7**
	26nm,1.7s						
SRU	**San Rafael**	**85.09**	**46**	*e*P	**P**	**20 04 53.5**	**+0.7**
	8.0nm,0.7s						
Z22A	**Elephant Butte**	**85.11**	**53**	⇓P	**P**	**20 04 53.6**	**+0.6**
	baz=85						
TCUT	**Toone Canyon**	**85.43**	**44**	*e*P	**P**	**20 04 54.9**	**+0.5**
	8.5nm,0.8s						
DOT	**Dot Lake**	**85.51**	**15**	*e*P	**P**	**20 04 53.8**	**-0.2**
	11nm,0.8s						
DOT				*e*PKKPbc	**PKKPbc**	**20 22 56.3**	**-0.4**
NEW	**Newport**	**85.54**	**36**	*e*P	**P**	**20 04 54.6**	**+0.1**
	8.8nm,0.9s						
NEW	**Newport**	**85.54**	**36**	⇓P	**P**	**20 04 54.7**	**+0.1**
	baz=86						
HWUT	**Hardware Ranch**	**85.56**	**44**	*e*P	**P**	**20 04 55.1**	**+0.1**
	4.6nm,0.9s						
IM04	**Indian Mountai**	**85.59**	**10**	*e*P	**P**	**20 04 53.7**	**-0.6**
425A	**Indio Mountain**	**85.63**	**56**	⇑P	**P**	**20 04 56.5**	**+0.9**
	baz=86						
COLA	**College**	**85.71**	**13**	*e*P	**P**	**20 04 53.8**	**-1.1**
	9.6nm,1.5s						
LPM	**Los Pinos Moun**	**85.80**	**52**	*e*PKKPbc	PKKPbc	20 22 56.5	+1.8
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**20 04 54.3**	**-1.1**
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**20 04 54.3**	**-1.1**
	4.3nm,0.4s,baz=221,slow=5.1,SNR=130						
526A	**Mary Lane Ranc**	**86.06**	**57**	⇑P	**P**	**20 04 58.7**	**+1.1**
	baz=86						
Y23A	**Lovelace Mesa,**	**86.08**	**53**	⇓P	**P**	**20 04 58.5**	**+0.9**
	baz=86						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**20 04 59.2**	**+1.4**
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**20 04 59.2**	**+1.4**
	8.7nm,0.8s,baz=220,slow=5.7,SNR=34						
ANMO	**Albuquerque**	**86.19**	**52**	*e*P	**P**	**20 04 58.8**	**+0.6**
ANMO	**Albuquerque**	**86.19**	**52**	P	**P**	**20 04 58.3**	**+0.1**
	3.0nm,0.8s,baz=239,slow=4.7,SNR=4.4						
X23A	**Hourglass Bar**	**86.24**	**52**	⇑P	**P**	**20 04 58.8**	**+0.3**
	baz=86						
MCMT	**McKenzie Canyo**	**86.29**	**41**	*e*P	**P**	**20 04 59.0**	**+0.5**
BILL	**Bilibino**	**86.30**	**354**	*e*P	**P**	**20 04 58.1**	**+0.5**
	102nm,3.0s						
627A	**Terlingua Ranc**	**86.39**	**58**	⇑P	**P**	**20 05 00.3**	**+1.2**
	baz=86						
527A	**Woodward Ranch**	**86.47**	**57**	⇑P	**P**	**20 04 59.8**	**+0.3**
	baz=87						
Y24A	**Capitan**	**86.54**	**53**	⇓P	**P**	**20 05 00.2**	**+0.3**
	baz=87						
MSO	**Missoula**	**86.63**	**38**	⇑P	**P**	**20 05 00.1**	**+0.3**
	baz=87						
BSMT	**Bassoo Peak**	**86.65**	**37**	*e*P	**P**	**20 05 00.0**	**0.0**
DLMT	**Dillon**	**86.71**	**40**	*e*P	**P**	**20 05 01.0**	**+0.7**
	7.4nm,0.8s						
226B	**Tecolote Peak,**	**86.79**	**55**	⇑P	**P**	**20 05 01.6**	**+0.7**
	baz=87						
628A	**Black Gap, Mar**	**86.80**	**58**	⇑P	**P**	**20 05 02.0**	**+1.0**
	baz=87						
TPAW

baz=88
329A Wagon Wheel Ra 88.28 56 ⇓P P 20 05 08.3 +0.4
baz=88
530A J-C Ranch, Com 88.30 58 ⇑P P 20 05 08.6 +0.7
baz=88
128A Castleberry Fa 88.31 55 ⇓P P 20 05 08.4 +0.4
baz=88
O22A Kremmling 88.31 47 ⇓P P 20 05 08.2 +0.1
baz=88,SNR=5.2
I19A Meeteetse 88.36 43 ⇓P P 20 05 08.4 +0.3
baz=88
R24A Sanders Place, 88.53 49 ⇑P P 20 05 09.3 +0.2
baz=89
MSTX Muleshoe 88.60 54 ⇑P P 20 05 09.6 +0.3
baz=89
X27A F and S Farms, 88.61 53 ⇓P P 20 05 09.8 +0.4
baz=89
430A Baggett Ranch, 88.61 57 ⇑P P 20 05 09.8 +0.4
baz=89
CMAR Chiang Mai Arr 88.64 290 P P 20 05 11.2 +1.4
CMAR Chiang Mai Arr 88.64 290 P P 20 05 11.2 +1.4
comp=E,0.9nm,0.8s,baz=119,slow=3.2,SNR=5.9
J20A Shoshoni 88.64 43 ⇓P P 20 05 09.6 +0.2
baz=89,SNR=15
N22A Wattenberg Ran 88.64 46 ⇑P P 20 05 10.0 +0.4
baz=89,SNR=9.7
H19A Powell 88.65 42 ⇑P P 20 05 09.9 +0.5
baz=89
631A Perdido Creek 88.65 59 ⇓P P 20 05 10.0 +0.4
baz=89,SNR=15
RLMT Red Lodge 88.67 42 eP P 20 05 10.0 +0.4
832A Faith Ranch, C 88.74 60 ⇓P P 20 05 10.3 +0.3
baz=89,SNR=6.1
O23A Lake Granby, G 88.77 47 ⇓P P 20 05 10.9 +0.7
baz=89
129A Stewart Farms, 88.80 55 ⇑P P 20 05 10.7 +0.4
baz=89
U26A Atchley Ranch, 88.80 51 ⇑P P 20 05 10.7 +0.4
baz=89
M22A Cedar Creek Ra 88.80 46 ⇓P P 20 05 10.8 +0.5
baz=89
ISCO Idaho Springs 88.81 47 ⇑P P 20 05 10.6 +0.2
baz=89
I20A Worland 88.88 43 ⇑P P 20 05 10.8 +0.4
baz=89,SNR=5.1
K21A Alcova 88.88 44 ⇓P P 20 05 10.7 +0.1
baz=89,SNR=9.9
531A Rocksprings 88.94 58 ⇓P P 20 05 11.5 +0.5
baz=89,SNR=6.8
N23A Red Feather La 89.03 46 ⇑P P 20 05 11.6 +0.2
baz=89
J21A Lysite 89.06 44 ⇑P P 20 05 11.8 +0.4
baz=89,SNR=10
933A Laredo 89.08 61 ⇑P P 20 05 12.2 +0.6
baz=89
R25A Fountain Ranch 89.09 49 ⇑P P 20 05 12.4 +0.8
baz=89
L22A Ellis Ranch, M 89.17 45 ⇑P P 20 05 12.3 +0.4
baz=89,SNR=11
F19A Roth Farm, Mol 89.20 41 ⇓P P 20 05 12.3 +0.4
baz=89
SYO Syowa Base 89.22 193⇑eX P 20 05 09.2 -2.2
833A Chaparral WMA, 89.23 60 ⇓P P 20 05 12.6 +0.4
baz=89
632A Uvalde 89.32 59 ⇓P P 20 05 13.3 +0.6
baz=90
I21A Big Trails, Te 89.36 43 ⇑P P 20 05 12.4 -0.3
baz=90,SNR=8.9
K22A Casper 89.38 45 ⇓P P 20 05 12.9 +0.1
baz=90
G20A Bridger 89.38 42 ⇓P P 20 05 13.1 +0.4
baz=90
034A Hebbronville 89.38 61 ⇑P P 20 05 14.4 +1.5
baz=90
Y29A Porterfield Fa 89.40 54 ⇓P P 20 05 13.3 +0.3
baz=90
M23A Laramie 89.42 46 ⇑P P 20 05 13.5 +0.4
baz=90
532A Rocksprings 89.45 58 ⇑P P 20 05 13.7 +0.4
baz=90
331A San Angelo 89.45 57 ⇓P P 20 05 13.7 +0.4
baz=90
733A Divot King Ran 89.45 60 ⇓P P 20 05 14.1 +0.9
baz=90
E19A Rath Farm, Rou 89.57 40 ⇑P P 20 05 14.0 +0.4
baz=90
Z30A Sanderson Ranc 89.61 55 ⇓P P 20 05 13.6 -0.4
baz=90
JCT Junction City 89.66 58 ⇓P P 20 05 14.4 +0.2
baz=90
EGMT Eagleton 89.69 39 ⇓P P 20 05 14.5 +0.4
baz=90
L23A Garrett 89.71 45 ⇓P P 20 05 14.5 +0.1
baz=90,SNR=10
J22A Midwest 89.73 44 ⇑P P 20 05 14.5 +0.1
baz=90,SNR=5.3
R26A Arlington 89.76 50 ⇓P P 20 05 15.5 +0.9
baz=90
231A Bronte 89.76 56 ⇓P P 20 05 14.6 -0.1
baz=90,SNR=6.0
432A Menard 89.80 58 ⇑P P 20 05 15.0 0.0
baz=90,SNR=5.5
633A Saathoff Ranch 89.80 59 ⇓P P 20 05 15.7 +0.8
baz=90
T27A Campo 89.81 51 ⇑P P 20 05 15.7 +0.7
baz=90
035A Encino 89.83 62 ⇓P P 20 05 16.4 +1.3
baz=90
D19A Cripps Ranch, 89.83 40 ⇓P P 20 05 15.6 +0.9
baz=90
W29A Amraillo 89.89 53 ⇓P P 20 05 15.3 0.0
baz=90
I22A 9 Mile Ranch, 89.92 43 ⇑P P 20 05 15.4 +0.1
baz=90,SNR=5.3
131A Roby 89.97 56 ⇑P P 20 05 15.6 -0.1
baz=90
C19A Slack Wire Ran 89.98 39 ⇓P P 20 05 16.0 +0.6
baz=90
E20A Meyer Farm, Mu 90.00 41 ⇓P P 20 05 16.2 +0.7
baz=90
Y30A Stafford Cattl 90.01 54 ⇓P P 20 05 16.0 +0.2
baz=90
K23A Bowen Ranch, D 90.02 45 ⇑P P 20 05 16.4 +0.6
baz=90
332A Millersview 90.02 57 ⇓P P 20 05 16.0 +0.1
baz=90,SNR=15
M24A Cheyenne 90.04 46 ⇑P P 20 05 16.4 +0.4
baz=90
533A Kerrville 90.13 58 ⇑P P 20 05 16.5 0.0
baz=90
EDM Edmonton 90.18 33 eP P 20 05 14.9 -1.2
D20A Manuel Ranch, 90.25 40 ⇑P P 20 05 17.2 +0.6
baz=90
232A Coleman 90.28 57 ⇑P P 20 05 17.1 0.0
baz=90,SNR=6.2
N25A Grover 90.29 47 ⇑P P 20 05 17.9 +0.8
baz=90
H22A Clearmont 90.31 43 ⇓P P 20 05 17.3 +0.3
baz=90
433A Art 90.33 58 ⇑P P 20 05 17.3 -0.1
baz=90,SNR=12
B19A Brinkman Farms 90.37 39 ⇓P P 20 05 17.8 +0.7
baz=90
Y31A Rekieta Farm, 90.53 55 ⇓P P 20 05 18.5 +0.3
baz=91
ABTX Abilene, Hawle 90.54 56 eP P 20 05 18.8 +0.5
comp=E,8.3nm,0.6s
ABTX Abilene, Hawle 90.54 56 ⇑P P 20 05 18.7 +0.5
baz=91
534A Blanco 90.57 59 ⇑P P 20 05 18.9 +0.4
baz=91,SNR=6.5
C20A Veseth Ranch, 90.61 40 ⇓P P 20 05 19.1 +0.8
baz=91
333A Richland Sprin 90.61 57 ⇑P P 20 05 18.8 +0.2
baz=91
LZH Lanzhou 90.65 308 eP P 20 05 21.5 +2.6
LZH pP pP 20 07 21.8 +1.0
LZH sP sP 20 08 14.9 -1.7
LZH PP PP 20 09 08.4 +3.9
LZH pmax pmax
comp=E,14nm,1.3s
LZH pmax pmax
comp=E,51nm,9.2s
E21A Keefer Ranch, 90.67 41 ⇓P P 20 05 19.3 +0.7
baz=91
A19A Klindworth Far 90.70 38 ⇑P P 20 05 19.0 +0.3
baz=91
L25A Engebretsen Ra 90.90 46 ⇑P P 20 05 20.3 +0.4
baz=91,SNR=5.4
Z32A Haskell 90.91 55 ⇓P P 20 05 20.4 +0.4
baz=91
B20A Solberg Farm, 90.92 39 ⇓P P 20 05 20.3 +0.6
baz=91
233A Rising Star 90.92 57 ⇓P P 20 05 20.2 +0.2
baz=91
635A Leesville 90.93 60 ⇑P P 20 05 20.9 +0.8
baz=91
D21A La Casta Ranch 90.95 40 ⇑P P 20 05 20.9 +1.0
baz=91
R28A Tribune 90.97 50 ⇓P P 20 05 20.7 +0.5
baz=91,SNR=5.2
133A Hamilton Ranch 91.11 56 ⇓P P 20 05 21.3 +0.4
baz=91
K25A Mack Ranch, Ha 91.15 45 ⇓P P 20 05 21.5 +0.6
baz=91
A20A Cobblestone Ra 91.17 39 ⇑P P 20 05 21.2 +0.4
baz=91
G23A Biddle 91.18 43 ⇓P P 20 05 21.5 +0.5
baz=91
Y32A R-V Farms, Ver 91.18 55 ⇓P P 20 05 21.6 +0.4
baz=91
M26A McRoberts Ranc 91.20 47 ⇑P P 20 05 21.9 +0.7
baz=91
334A Lometa 91.21 58 ⇓P P 20 05 21.5 +0.2
baz=91
W31A Holland Ranch, 91.21 53 ⇑P P 20 05 21.2 -0.2
baz=91,SNR=5.3
LAO LASA Array 91.27 41 eP P 20 05 22.4 +1.0
comp=E,13nm,0.8s
E22A Miles City 91.33 41 ⇑P P 20 05 22.2 +0.6
baz=92
F23A Volborg 91.38 42 ⇓P P 20 05 22.4 +0.5
baz=92
X32A Elmer 91.45 54 ⇑P P 20 05 22.5 0.0
baz=92
D22A Cohagen 91.49 41 ⇓P P 20 05 23.0 +0.7
baz=92
V31A Spring Creek L 91.50 53 ⇑P P 20 05 23.7 +1.0
baz=92
H24A Dirks Ranch, A 91.54 43 ⇑P P 20 05 22.9 +0.2
baz=92
RSSD Black Hills 91.63 44 eP P 20 05 23.4 +0.1
comp=E,6.2nm,1.0s
K26A Motz Farm, Whi 91.65 46 ⇓P P 20 05 23.7 +0.5
baz=92
W32A Sentinel 91.73 54 ⇑P P 20 05 23.6 -0.1
baz=92
A21A Bergtoll Ranch 91.81 39 ⇑P P 20 05 24.0 +0.3
baz=92
INK Inuvik 91.83 15 eP P 20 05 22.9 -0.4
comp=E,6.8nm,0.8s
G24A Alzada 91.86 43 ⇑P P 20 05 24.2 +0.1
baz=92
C22A Vida 91.92 40 ⇓P P 20 05 23.8 -0.5
baz=92
J26A Sides Ranch, S 91.96 45 ⇑P P 20 05 24.7 +0.1
baz=92
WHTX Lake Whitney 92.06 57 ⇓P P 20 05 25.5 +0.3
baz=92
B22A Reddig Ranch S 92.08 40 ⇑P P 20 05 25.4 +0.4
baz=92
D23A Lindsay 92.10 41 ⇓P P 20 05 26.0 +0.9
baz=92
H25A Fruitdale 92.12 44 ⇓P P 20 05 25.8 +0.5
baz=92
C23A Lambert 92.37 40 ⇓P P 20 05 27.1 +0.8
baz=92
A22A Carney Farms, 92.41 39 ⇑P P 20 05 26.9 +0.4
baz=93
S31A Mullinville 92.42 51 ⇑P P 20 05 27.3 +0.5
baz=93
G25A Newell 92.46 43 ⇑P P 20 05 27.2 +0.4
baz=93
P30A Selden 92.54 49 ⇓P P 20 05 27.9 +0.6
baz=93
D24A Glendive 92.63 41 ⇑P P 20 05 28.2 +0.6
baz=93
B23A Brockton 92.76 40 ⇓P P 20 05 28.8 +0.7
baz=93
T33A Patterson Ranc 93.16 52 ⇓P P 20 05 30.3 +0.1
baz=93,SNR=7.5
F26A Lodgepole 93.19 43 ⇓P P 20 05 30.1 -0.1
baz=93
J28A Allard Ranch, 93.24 45 ⇑P P 20 05 31.3 +0.8
baz=93
DGMT Dagmar 93.24 40 eP P 20 05 31.1 +0.8
comp=E,20nm,0.6s
DGMT Dagmar 93.24 40 ⇑P P 20 05 30.8 +0.5
baz=93
R32A Long Quarter, 93.27 51 ⇑P P 20 05 31.0 +0.3
baz=93
D25A Fairfield 93.27 41 ⇓P P 20 05 31.3 +0.8
baz=93
L29A Maesberg Ranch 93.27 47 ⇑P P 20 05 31.2 +0.5
baz=93
SONM Songino Array 93.32 319 P P 20 05 31.6 +0.7
SONM Songino Array 93.32 319 P P 20 05 31.6 +0.7
comp=E,0.3nm,0.6s,baz=102,slow=4.8,SNR=2.4
G27A Dupree 93.50 43 ⇑P P 20 05 31.5 -0.1
baz=94
Q32A Meitler Ranch, 93.57 50 ⇑P P 20 05 32.4 +0.3
baz=94
F27A Lemmon 93.62 43 ⇓P P 20 05 32.3 +0.2
baz=94
L30A Spencer Herefo 93.76 47 ⇓P P 20 05 33.4 +0.5
baz=94
R33A Olander Ranch, 93.77 51 ⇑P P 20 05 33.4 +0.5
baz=94
D26A Manning 93.79 42 ⇑P P 20 05 33.2 +0.3
baz=94
B25A Knox Farm, Ray 93.80 40 ⇑P P 20 05 33.4 +0.6
baz=94
M31A Lambtecht Ranc 94.08 48 ⇓P P 20 05 35.0 +0.6
baz=94
Q33A Connelly Farm, 94.11 50 ⇑P P 20 05 35.0 +0.6
baz=94
YKA Yellowknife Ar 94.32 25 P P 20 05 34.4 -0.4
YKA Yellowknife Ar 94.32 25 P P 20 05 34.4 -0.4
comp=E,1.6nm,0.6s,baz=243,slow=4.5,SNR=27
H29A Onida 94.36 45 ⇓P P 20 05 35.8 +0.3
baz=94
A26A Wade Farm, Ken 94.73 40 ⇓P P 20 05 37.5 +0.4
baz=95
A29A Manning Farm, 96.47 41 ⇑Pdiff P 20 05 44.7 -0.2
baz=97
ECSD ECMOS Data Cent 96.51 46 ⇓Pdiff P 20 05 44.9 -0.3
baz=97
TZTN Tazewell 104.36 56 ePdif Pdif 20 06 28.6 +8.3
MKAR Makanchi Array 108.90 314 PKiKP PKiKP 20 10 40.1 -1.3
MKAR Makanchi Array 108.90 314 PKiKP PKiKP 20 10 40.1 -1.3
comp=E,0.5nm,0.5s,baz=189,slow=0.4,SNR=8.1
ARCES ARCESS Array B 126.16 350 PKP PKPdf 20 11 12.9 -0.9
ARCES ARCESS Array B 126.16 350 PKP PKPdf 20 11 12.9 -0.9
comp=E,3.3nm,0.9s,baz=45,slow=2.1,SNR=7.4
FINES FINESS Array B 133.02 344 PKPpre PKPpre 20 11 16.2
FINES PKP PKPdf 20 11 25.4 -1.5
FINES FINESS Array B 133.02 344 PKPKP PKPpre 20 11 16.2
comp=E,1.2nm,0.8s,baz=46,slow=5.5,SNR=4.3
FINES PKP PKPdf 20 11 25.4 -1.5
comp=E,1.3nm,0.6s,baz=359,slow=1.5,SNR=6.5
HFS Hagfors 136.78 351 PKPpre PKPpre 20 11 23.5
HFS Hagfors 136.78 351 PKhKP PKPpre 20 11 23.5
comp=E,2.5nm,0.8s,baz=112,slow=1.6,SNR=5.5
AKASG Malin Array Be 140.36 332 PKP PKPdf 20 11 42.5 +1.6
AKASG Malin Array Be 140.36 332 PKP PKPdf 20 11 42.5 +1.6
comp=E,0.5nm,0.4s,baz=30,slow=2.2,SNR=5.0
EKA Eskdalemuir Ar 142.37 4 PKPpre PKPpre 20 11 40.2
EKA PP PP 20 14 54.1 -3.8
EKA Eskdalemuir Ar 142.37 4 PKhKP PKPpre 20 11 40.2
comp=E,0.3nm,0.3s,baz=328,slow=2.8,SNR=8.5
EKA PP PP 20 14 54.1 -3.8
comp=E,1.4nm,0.8s,baz=358,slow=8.3,SNR=3.5
GAL1 Galloway 142.70 6 eP PKPdf 20 11 41.0 -3.9
BSEG Bad Segeberg 143.26 351 ePKP PKPab 20 11 43.9 0.0
HPK Haverah Park 143.83 3 eP PKPbc 20 11 45.4 -0.7
RUE Ruedersdorf 144.03 347 ePKPdf PKPdf 20 11 53.7 +6.5
LHO Holmfirth 144.23 3 eP PKPbc 20 11 46.5 -0.9
WLF1 Llynfaes 144.29 6 eP PKPbc 20 11 46.2 -1.2
YRC Rhoscolyn 144.31 6 eP PKPbc 20 11 46.0 -1.5
WPM1 Penmaenmawr 144.37 5 eP PKPbc 20 11 47.1 -0.7
BUR08 Bucovina Ar. S 144.40 332 ePKPdf PKPab 20 11 48.9 +0.3
BURAR Bucovina Array 144.41 332 ⇑iP PKPab 20 11 49.3 +0.6
KBI1 Birley Grange 144.54 3 eP PKPdf 20 11 47.2 -0.9
BR131 Keskin Array S 144.55 315 ePKPdf PKPdf 20 11 48.5 -0.2
BRTR Keskin Array B 144.55 315 PKP PKPdf 20 11 48.6 -0.2
comp=E,1.9nm,0.5s,baz=106,slow=3.2,SNR=13
TESR Tescani 144.55 329⇓iP PKPab 20 11 48.9 -0.2
STHS Stebnicka Huta 144.60 337 ePKP PKPbc 20 11 48.8 +0.1
KOLS Kolonicke sedl 144.61 336 ePKP PKPbc 20 11 48.8 +0.1
NRDL Niedersach Rie 144.69 351 ePKP PKPbc 20 11 48.6 -0.1
CFR Carcaliu 144.72 327⇓iP PKPab 20 11 49.7 -0.1
FOEL Foel Wylfa 144.79 5 eP PKPdf 20 11 48.5 -0.1
NIE Niedzica 144.93 338 ePKP PKPbc 20 11 50.1 +0.4
CRVS Cervenica-Dubn 144.94 337 ePKP PKPbc 20 11 49.7 0.0
VRI Vrincioaia 144.97 329⇓iP PKPdf 20 11 45.5 -3.7
TRPA Tarpa 145.15 335⇑iP PKPbc 20 11 50.3 0.0
TLB Topalu 145.16 326⇑iP PKPdf 20 11 48.3 -1.2
HLM1 Long Mynd 145.19 5 eP PKPdf 20 11 49.4 +0.1
CLZ Clausthal 145.28 350 ePKP PKPbc 20 11 50.8 +0.2
OKC Ostrava-Krasne 145.29 341⇑ePKP PKPbc 20 11 50.7 0.0
CLL Collm 145.30 347 ePKP PKPbc 20 11 50.6 0.0
CLL Collm 145.30 347⇑iPKPbc PKPbc 20 11 50.4 -0.2
comp=Z,19nm,1.0s
DPC Dobruska-Polom 145.38 343⇑iPKP PKPbc 20 11 51.5 +0.5
DPC ex x 20 11 53.3
BRG Berggiesshubel 145.50 346 ePKP PKPbc 20 11 50.9 -0.3
comp=Z,6.4nm,0.7s
MORC Moravsky Berou 145.53 341⇑iP PKPdf 20 11 50.5 +0.5
DOPR Dopca 145.55 330⇓iP PKPbc 20 11 52.1 +0.5
ISR Istrita 145.58 328⇑iP PKPdf 20 11 49.6 -0.7
MLR Muntele Rosu 145.62 329⇑iP PKPbc 20 11 51.7 -0.3
MLR Muntele Rosu 145.62 329 PKPbc PKPdf 20 11 51.1 +0.6
MLR Muntele Rosu 145.62 329 PKPbc PKPdf 20 11 51.1 +0.6
baz=248,slow=2.5
MCH1 Michaelchurch 145.69 5 eP PKPdf 20 11 50.9 +0.8
MONM Monmouth 145.87 5 eP PKPbc 20 11 51.5 -0.7
MMAI Mount Meron Ar 145.90 303 PKPbc PKPbc 20 11 53.2 +0.1
MMAI Mount Meron Ar 145.90 303 PKPbc PKPbc 20 11 53.2 +0.1
comp=Z,2.1nm,0.6s,baz=78,slow=6.6,SNR=2.0
VOIR 146.10 330⇑iP PKPbc 20 11 53.9 +0.7
DRGR 146.14 333⇑iP PKPbc 20 11 53.5 +0.2
PRU Pruhonice 146.18 345⇑ePKP PKPbc 20 11 52.9 -0.3
PRU ex x 20 11 55.2
VRUC Vranov 146.23 342⇑iP PKPbc 20 11 53.6 +0.2
VRAC Vranov 146.23 342 PKPbc PKPbc 20 11 53.6 +0.2
VRAC Vranov 146.23 342 PKPbc PKPbc 20 11 53.6 +0.2
comp=Z,6.6nm,0.8s,baz=68,slow=3.4,SNR=7.4
TANN Tannenbergstha 146.26 347 ePKP PKPbc 20 11 53.5 0.0
PSZ Piszkesteto 146.34 337⇑iP PKPbc 20 11 53.9 +0.1
ARR Arges 146.35 330⇑iP PKPbc 20 11 54.6 +0.7
NKC Novy Kostel 146.43 347⇑ePKP PKPbc 20 11 54.1 +0.2
NKC ex x 20 11 56.6
TREC Trest 146.56 343⇑ePKP PKPbc 20 11 54.2 -0.1
TREC ex x 20 11 57.3
ROTZ Rotzenmuhle 146.93 347 ePKP PKPbc 20 11 55.6 +0.4
MEM Membach 147.05 355 PKPbc PKPbc 20 11 55.3 -0.2
TNS Taunus Mts 147.15 352 ePKP PKPbc 20 11 55.9 0.0
GRF Grafenberg Arr 147.20 348 ePKP PKPbc 20 11 56.2 +0.2
KHC Kasperske Hory 147.21 345⇑iPKP PKPbc 20 11 56.2 +0.1
KHC ex x 20 11 59.3
KHC Kasperske Hory 147.21 345 ePKPbc PKPbc 20 11 56.0 0.0
SNF Seneffe 147.28 357 PKPab PKPab 20 11 59.5 -0.2
BCLA Clavier 147.30 355 PKPbc PKPbc 20 11 56.6 +0.4
GEC2 GERESS Array S 147.44 345 ePKP PKPbc 20 11 56.7 -0.1
GEC2 GERESS Array S 147.44 345 ePKPdf PKPbc 20 11 56.7 -0.1
GEC2 ePKPdf PKPbc 20 11 56.8 -0.1
GERES GERESS Array B 147.44 345 PKPbc PKPbc 20 11 56.6 -0.1
GERES GERESS Array B 147.44 345 PKPbc PKPbc 20 11 56.6 -0.1
comp=Z,6.2nm,0.6s,baz=23,slow=3.0,SNR=66
BZS Buzias 147.53 333⇓iP PKPbc 20 11 56.5 -0.4
DOU Dourbes 147.67 356 PKPbc PKPbc 20 11 56.9 -0.2
CONA Conrad Observa 147.69 342⇓iPKiKP PKPbc 20 11 57.6 +0.2
comp=Z,7.8nm,0.6s,SNR=5.1
WLF Walferdange 147.97 354 PKPbc PKPbc 20 11 58.3 +0.4
WLF Walferdange 147.97 354 ePKP PKPbc 20 11 58.6 +0.7
PKSM Moragy 148.24 337⇑iP PKPdf 20 11 54.3 -0.2
KDZ Kurdzhali 148.55 324⇑iP PKPbc 20 11 59.1 -0.6
BFO Black Forest 149.01 351 ePKP PKPbc 20 12 00.4 -0.2
BFO Black Forest 149.01 351 ePKPbc PKPbc 20 12 00.0 -0.6
SOKA Soboth 149.06 342⇑iPKPbc PKPbc 20 12 00.3 -0.6
comp=Z,5.7nm,1.0s
PERS Pernice 149.07 341 iPKPbc PKPbc 20 12 00.1 -0.7
PERS iPKPab PKPab 20 12 07.4 0.0
VTS Vitosha 149.08 328⇑iP PKPbc 20 12 00.5 -0.6
KBA Koelnbreinsper 149.17 344⇑iPKPbc PKPbc 20 12 00.3 -0.9
comp=Z,4.2nm,0.4s
WTTA Wattenberg 149.42 346 iPKiKP PKPbc 20 12 01.6 -0.1
comp=Z,14nm,0.6s,SNR=5.2
MOTA Moosalm 149.46 347⇓iPKPbc PKPbc 20 12 01.1 -0.7
comp=Z,9.8nm,1.0s
MMB Musomiste 149.52 326⇑iP PKPbc 20 12 01.0 -1.0
ABTA Abfaltersbach 149.69 345⇑iPKPbc PKPbc 20 12 01.5 -0.9
comp=Z,11nm,0.6s,SNR=6.8
FETA Feichten 149.84 347⇓iPKiKP PKPbc 20 12 02.6 -0.2
comp=Z,10nm,1.1s
VISS Visnje 149.90 341 iPKPbc PKPbc 20 12 02.4 -0.3
VISS iPKPab 20 12 10.1 -0.6
BOJS Bojanci 150.04 340 iPKPbc PKPbc 20 12 02.9 -0.1
BOJS iPKPab PKPbc 20 12 11.3 0.0
JAVS Javornik 150.05 342 iPKPbc PKPbc 20 12 02.4 -0.9
JAVS iPKPab PKPab 20 12 10.3 -1.2
FUORN Ofenpass-Fuorn 150.32 348 ePKPdf PKPbc 20 12 04.5 +0.4
TUE Stuetta 150.65 349 ePKPdf PKPbc 20 12 04.2 -0.6
ESDC Sonseca Array 157.71 11 PKPab PKPab 20 12 43.6 -0.7
ESDC Sonseca Array 157.71 11 PKPab PKPab 20 12 43.6 -0.7
comp=Z,1.5nm,0.7s,baz=332,slow=3.7,SNR=9.6
KEST Kesra 160.78 340 PKPab PKPab 20 12 56.6 -1.2
KEST Kesra 160.78 340 PKPab PKPab 20 12 56.6 -1.2
comp=Z,0.7nm,0.7s,baz=164,slow=8.3,SNR=4.2

IDC ***20*** *19:57:49.3±3.6, 1°39.S×99°.58E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/39, mbtmp3.4/6, ML3.7/1, Error ellipse: s-maj=142.7km s-min=23.2km az=59.0*
ISCJB ***20*** *19:57:50.8±0.9, 1°.55S±0°.07×99°.35E±0°.07, h30km, mb3.5/5, Error ellipse: s-maj=10.2km s-min=9.3km az=174.9*
DJA ***20*** *19:57:52.4±0.7, 1°S±4°×9°9E±°, h10km, M3.7/7, MLv3.7/7*
ISC 20 19:57:53.3±1.2, 1°.41S±0°.09×99°.41E±0°.07, h30km, n15, σ1s07/15, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PDSI	Padang	1.16	65	P		Pn	19 58 12.2	-1.3
PDSI				S		Sb	19 58 29.0	-0.4
PPI	Padang Panjang	1.36	46	P		Pn	19 58 15.7	-0.6
PPI				S		Sn	19 58 33.6	+0.2
MNSI	Mandailing Nat	2.19	4	P		Pn	19 58 28.4	+0.7
MNSI				S		Sb	19 58 57.7	-1.4
BKNI	Bangkinang	2.37	43	P		Pn	19 58 31.6	+1.5
RGRI	Rengat	3.10	70	P		Pn	19 58 41.7	+1.4
GSI	Gunungsitoli	3.26	326	P		Pn	19 58 42.2	-0.2
CMAR	Chiang Mai Arr	19.74	359	P		P	20 02 20.9	0.0
	0.1nm,0.3s,baz=191,slow=9.4,SNR=5.3							
H08S2	Diego Garcia H	27.53	256	T		T	20 31 41.4	
	baz=78,slow=75,SNR=21							
H08S3	Diego Garcia H	27.54	256	T		T	20 31 43.8	
	baz=78,slow=75,SNR=32							
H08S1	Diego Carcia H	27.55	256	T		T	20 31 44.7	
	baz=78,slow=75,SNR=4.8							
WRA	Warramunga Arr	38.80	121	P		P	20 05 13.8	-1.9
	0.6nm,0.8s,baz=303,slow=9.2,SNR=2.4							
ASAR	Alice Springs	40.07	126	P		P	20 05 26.8	+0.5
	0.4nm,0.8s,baz=292,slow=7.5,SNR=1.8							
SONM	Songino Array	49.42	6	P		P	20 06 40.9	+0.4
	0.2nm,0.6s,baz=191,slow=8.5,SNR=3.6							
MKAR	Makanchi Array	50.30	345	P		P	20 06 47.6	+0.4
	0.2nm,0.3s,baz=155,slow=8.9,SNR=5.4							
ZALV	Zalesovo Beam	56.48	350	P		P	20 07 33.1	+0.7
	0.4nm,0.3s,baz=180,slow=8.9,SNR=3.7							

DDA ***20*** *19:59:49.6, 36°.51N×26°.96E, h5km, MD3.4*
ATH ***20*** *19:59:50.6, 36°.68N×27°.07E, h28km±2km, ML3.2*
THE ***20*** *19:59:51.3, 36°.56N×27°.02E, h1km±2km, ML3.7/6, Error ellipse: s-maj=2.4km s-min=1.2km az=151.0*
CSEM ***20*** *19:59:51.2±0.2, 36°.56N×26°.93E, h2km, ML3.7, Error ellipse: s-maj=4.2km s-min=3.6km az=153.0*
HLW ***20*** *19:59:53.2, 36°.32N×26°.92E, h20km±17km, Md4.1*
ISK ***20*** *19:59:55.2, 36°.71N×27°.28E, h5km, ML3.2*
ISC 20 19:59:51.1±0.8, 36°.57N±0°.02×27°.00E±0°.02, h8km±6km, n156, σ1s15/183, Dodecanese Islands

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

NISR	**Nisiros**	**0.11**	**66**	P	**Pg**	**19 59 53.8**	**+0.1**	**LKR**	**Lokris**	**3.80**	**304**	*e*Pn	**Pn**	**20 00 50.0**	**+0.1**
NISR				S	**Sg**	**19 59 56.0**	**+0.6**	**LPK**	**Lapseki**	**3.80**	**357**	*e*PN	Pb	20 00 55.3	-3.2
NISR	**Nisiros**	**0.11**	**66**	P	**Pg**	**19 59 53.8**	**+0.1**	**SKIA**	**Skiathos**	**3.82**	**314**	*e*PN	**Pn**	**20 00 50.2**	**0.0**
NISR				S	**Sg**	**19 59 56.0**	**+0.6**	**SKIA**	**Skiathos**	**3.82**	**314**	*e*Pn	**Pn**	**20 00 50.2**	**0.0**
NIS1	**Nisyros Isl.**	**0.14**	**76**	P	**Pg**	**19 59 54.5**	**+0.3**	**KRBG**	**Karabiga-Canak**	**3.83**	**3**	*e*PN	Pb	20 00 55.2	-3.6
NIS1				S	**Sg**	**19 59 57.1**	**+0.7**	**KRBG**	**Karabiga-Canak**	**3.83**	**3**	*e*Pn	Pb	20 00 55.2	-3.6
NIS1	**Nisyros Isl.**	**0.14**	**76**	P	**Pg**	**19 59 54.5**	**+0.3**	**EDC**	**Edincik**	**3.83**	**10**	*e*PN	Pb	20 00 55.2	-3.8
NIS1				S	**Sg**	**19 59 57.1**	**+0.7**	**EDC**	**Edincik**	**3.83**	**10**	*e*Pn	Pb	20 00 55.2	-3.8
BODT	**Bodrum**	**0.55**	**26**	*e*PG	**Pb**	**20 00 02.5**	**-0.6**	**GELI**	**Tayfur-Gelibol**	**3.85**	**354**	*e*PN	**Pb**	**20 00 56.4**	**-2.8**
BODT				*e*SG	**Sg**	**20 00 09.2**	**+0.2**	**ULDT**	**Uludag**	**3.94**	**25**	*i* P	**Pg**	**20 01 05.5**	**-1.1**
BODT	**Bodrum**	**0.55**	**26**	*e*Pg	**Pb**	**20 00 02.5**	**-0.6**	ULDT				*i* S	**Sg**	**20 01 58.7**	**+0.9**
BODT				*e*Sg	**Sg**	**20 00 09.3**	**+0.2**	**NEO**	**Neokhori**	**4.05**	**314**	*e*PN	**Pn**	**20 00 53.0**	**-0.4**
BDRM	**Kayabasi**	**0.61**	**35**	*i* P	**Pg**	**20 00 02.9**	**0.0**	**NEO**	**Neokhori**	**4.05**	**314**	*e*Pn	**Pn**	**20 00 53.0**	**-0.4**
BDRM				*i* S	**Sb**	**20 00 12.5**	**-0.3**	**ERIK**	**Erikli-Kesan**	**4.12**	**355**	*e*PN	Pb	20 00 59.6	-4.2
BDRM	**Kayabasi**	**0.61**	**35**	*i* P	**Pg**	**20 00 02.9**	**0.0**	**ITM**	**Ithomi**	**4.12**	**280**	*e*PN	**Pn**	**20 00 55.0**	**+0.7**
BDRM				*i* S	**Sb**	**20 00 12.5**	**-0.3**	**ITM**	**Ithomi**	**4.12**	**280**	*e*Pn	**Pn**	**20 00 55.0**	**+0.7**
ARG	**Arkhangelos**	**0.97**	**111**	P	**Pg**	**20 00 09.2**	**-0.6**	**RKY**	**Sarkoy-Tekirda**	**4.12**	**2**	*e*PN	Pb	20 00 59.5	-4.3
ARG				S	**Sb**	**20 00 23.5**	**+0.3**	**RKY**	**Sarkoy-Tekirda**	**4.12**	**2**	*e*Pn	Pb	20 00 59.5	-4.3
ARG	**Arkhangelos**	**0.97**	**111**	*e*PN	**Pb**	**20 00 09.5**	**-0.7**	**AMT**	**Artemida-Makis**	**4.34**	**284**	*e*PN	**Pn**	**20 00 58.4**	**+1.0**
ARG				*e*SN	**Sb**	**20 00 23.4**	**+0.3**	**AMT**	**Artemida-Makis**	**4.34**	**284**	*e*Pn	**Pn**	**20 00 58.4**	**+1.0**
ARG	**Arkhangelos**	**0.97**	**111**	P	**Pg**	**20 00 09.2**	**-0.6**	**ALN**	**Alexandroupoli**	**4.39**	**350**	*e*PN	**Pn**	**20 00 56.9**	**-1.1**
ARG	**Arkhangelos**	**0.97**	**111**	*e*Pn	**Pb**	**20 00 09.5**	**-0.7**	**ALN**	**Alexandroupoli**	**4.39**	**350**	*e*Pn	**Pn**	**20 00 56.9**	**-1.1**
ARG				S	**Sb**	**20 00 23.5**	**+0.3**	**AGG**	**Agios Georgios**	**4.44**	**305**	*e*PN	**Pn**	**20 00 58.7**	**0.0**
KARP	**Karpathos**	**1.03**	**173**	P	**Pb**	**20 00 10.5**	**-0.6**	**AGG**	**Agios Georgios**	**4.44**	**305**	*e*Pn	**Pn**	**20 00 58.7**	**0.0**
KARP				S	**Sb**	**20 00 25.0**	**+0.3**	**RDO**	**Rodhopi**	**4.71**	**346**	*e*PN	**Pn**	**20 01 01.7**	**-0.7**
KARP	**Karpathos**	**1.03**	**173**	P	**Pb**	**20 00 10.5**	**-0.6**	**RDO**	**Rodhopi**	**4.71**	**346**	*e*Pn	**Pn**	**20 01 01.7**	**-0.7**
KARP				S	**Sb**	**20 00 25.0**	**+0.3**	**EVR**	**Evrytania**	**4.74**	**301**	*e*PN	**Pn**	**20 01 03.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.15**	**9**	*i* P	**Pg**	**20 00 12.6**	**-0.5**	**EVR**	**Evrytania**	**4.74**	**301**	*e*Pn	**Pn**	**20 01 03.0**	**+0.1**
GCAM				*i* S	**Sn**	**20 00 30.4**	**+1.1**	**THL**	**Klokotos Trika**	**4.94**	**309**	*e*PN	**Pn**	**20 01 06.0**	**+0.4**
GCAM	**G?zelcaml?**	**1.15**	**9**	*i* P	**Pg**	**20 00 12.6**	**-0.5**	**THL**	**Klokotos Trika**	**4.94**	**309**	*e*Pn	**Pn**	**20 01 06.0**	**+0.4**
GCAM				*i* S	**Sn**	**20 00 30.4**	**+1.1**	**AMAG**	**Maghara** baz=135	**7.85**	**137**	P	**Pn**	**20 01 44.9**	**-0.7**
SMG	**Samos**	**1.15**	**353**	P	**Pg**	**20 00 12.1**	**-1.0**	**AMAG**	**Maghara** baz=147	**7.85**	**137**	P	**Pn**	**20 01 44.9**	**-0.7**
SMG				S	**Sg**	**20 00 27.8**	**-0.2**	**GLL**	**Jalalah** baz=147	**8.01**	**149**	P	**Pn**	**20 01 46.1**	**-1.7**
SMG	**Samos**	**1.15**	**353**	P	**Sg**	**20 00 12.1**	**-1.0**	**SUZ**	baz=140	**8.30**	**142**	P	**Pn**	**20 01 51.3**	**-0.4**
SMG				S	**Sg**	**20 00 27.8**	**-0.2**	SUZ	baz=140			S	Sn	20 03 16.8	-8.8
YER	**Yerkesik**	**1.17**	**61**	*e*PG	**Pn**	**20 00 13.9**	**+0.1**	**SUZ**	baz=140	**8.30**	**142**	P	**Pn**	**20 01 51.3**	**-0.4**
YER	**Yerkesik**	**1.17**	**61**	*e*Pg	**Pn**	**20 00 13.9**	**+0.1**	**HNKL**	**Nakhl** baz=135	**8.83**	**137**	P	**Pn**	**20 01 58.7**	**-0.3**
SANT	**Santorini**	**1.26**	**262**	P	**Pn**	**20 00 14.1**	**-0.9**	HNKL	baz=135			S	Sn	20 03 30.3	-8.4
SANT				S	**Sg**	**20 00 31.9**	**+0.3**	**HNKL**	**Nakhl**	**8.83**	**137**	P	**Pn**	**20 01 58.7**	**-0.3**
SANT	**Santorini**	**1.26**	**262**	*e*PN	**Pg**	**20 00 15.4**	**+0.1**	**HFRF**	**Wahat Farafira** baz=172	**9.46**	**173**	P	**Pn**	**20 02 05.8**	**-1.8**
SANT	**Santorini**	**1.26**	**262**	*e*Pn	**Pg**	**20 00 15.4**	**+0.1**								
SANT				S	**Sg**	**20 00 31.9**	**+0.3**								
SANT				*e*Sn	**Sn**	**20 00 32.4**	**+0.2**								
APE	**Apeiranthos**	**1.28**	**293**	P	**Pn**	**20 00 14.2**	**-1.2**								
APE				S	**Sn**	**20 00 33.8**	**+1.0**								
APE	**Apeiranthos**	**1.28**	**293**	*e*PN	**Pn**	**20 00 14.9**	**-0.5**								
APE				*e*SN	**Sb**	**20 00 32.3**	**+0.1**								
APE	**Apeiranthos**	**1.28**	**293**	P	**Pn**	**20 00 14.2**	**-1.2**								
APE	**Apeiranthos**	**1.28**	**293**	*e*Pn	**Pn**	**20 00 14.9**	**-0.5**								
APE				*e*Sn	**Sb**	**20 00 32.3**	**+0.1**								
TURN	**Turunc**	**1.32**	**76**	*i* P	Pn	20 00 10.9	-4.9								
TURN				*i* S	Sb	20 00 26.4	-6.8								
AYDB	**Zeytinkoy-Aydi**	**1.55**	**27**	*e*PN	**Pg**	**20 00 21.2**	**+0.4**								
AYDB	**Zeytinkoy-Aydi**	**1.55**	**27**	*e*Pn	**Pg**	**20 00 21.2**	**+0.4**								
ZKR	**Zakros**	**1.58**	**204**	P	**Pn**	**20 00 19.5**	**+0.1**								
ZKR	**Zakros**	**1.58**	**204**	*e*PN	**Pb**	**20 00 20.7**	**+0.1**								
ZKR				*e*SN	**Sg**	**20 00 42.6**	**+0.6**								
ZKR	**Zakros**	**1.58**	**204**	P	**Pn**	**20 00 19.5**	**+0.1**								
ZKR	**Zakros**	**1.58**	**204**	*e*Pn	**Pb**	**20 00 20.7**	**+0.1**								
ZKR				*e*Sn	**Sg**	**20 00 42.6**	**+0.6**								
FETY	**Fethiye**	**1.68**	**87**	*e*PN	**Pg**	**20 00 23.2**	**-0.1**								
FETY	**Fethiye**	**1.68**	**87**	*e*Pn	**Pg**	**20 00 23.2**	**-0.1**								
NPS	**Neapolis**	**1.72**	**221**	P	**Pn**	**20 00 20.6**	**-0.8**								
NPS	**Neapolis**	**1.72**	**221**	*e*PN	**Pn**	**20 00 21.7**	**+0.3**								
NPS				*e*SN	**Sn**	**20 00 43.9**	**+0.3**								
NPS	**Neapolis**	**1.72**	**221**	P	**Pn**	**20 00 20.6**	**-0.8**								
NPS	**Neapolis**	**1.72**	**221**	*e*Pn	**Pn**	**20 00 21.7**	**+0.3**								
NPS				*e*Sn	**Sn**	**20 00 43.9**	**+0.3**								
BLCB	**Balcova**	**1.81**	**1**	*e*PN	**Pg**	**20 00 27.1**	**+1.2**								
BLCB	**Balcova**	**1.81**	**1**	*e*Pn	**Pg**	**20 00 27.1**	**+1.2**								
URLA	**Izmir**	**1.82**	**350**	*i* P	**Pg**	**20 00 25.5**	**-0.5**								
URLA				*i* S	**Sg**	**20 00 52.1**	**+2.6**								
URLA	**Izmir**	**1.82**	**350**	*i* P	**Pg**	**20 00 25.5**	**-0.5**								
IZM	**Izmir**	**1.84**	**6**	*e*PN	**Pg**	**20 00 26.8**	**+0.4**								
IZM	**Izmir**	**1.84**	**6**	*e*Pn	**Pg**	**20 00 26.8**	**+0.4**								
LAST	**Lasithi**	**1.87**	**222**	P	**Pn**	**20 00 23.8**	**+0.3**								
LAST				S	**Sb**	**20 00 49.2**	**+0.1**								
LAST	**Lasithi**	**1.87**	**222**	*e*PN	**Pb**	**20 00 24.6**	**-1.0**								
LAST				*e*SN	**Sb**	**20 00 49.5**	**+0.4**								
LAST	**Lasithi**	**1.87**	**222**	P	**Pn**	**20 00 23.8**	**+0.3**								
LAST	**Lasithi**	**1.87**	**222**	*e*Pn	**Pb**	**20 00 24.6**	**-1.0**								
LAST				S	**Sb**	**20 00 49.2**	**+0.1**								
CHOS	**Chios island**	**1.97**	**338**	P	**Pn**	**20 00 23.2**	**-1.6**								
CHOS				S	**Sn**	**20 00 49.7**	**0.0**								
CHOS	**Chios island**	**1.97**	**338**	*e*PB	**Pn**	**20 00 23.2**	**-1.6**								
CHOS	**Chios island**	**1.97**	**338**	*e*Pb	**Pn**	**20 00 23.2**	**-1.6**								
CHOS	**Chios island**	**1.97**	**338**	P	**Pn**	**20 00 25.8**	**+1.0**								
CHOS				S	**Sn**	**20 00 49.7**	**0.0**								
DNZL	**Cakiroluk**	**1.98**	**55**	*i* P	**Pb**	**20 00 26.5**	**-1.0**								
DNZL	**Cakiroluk**	**1.98**	**55**	*i* P	**Pb**	**20 00 26.5**	**-1.0**								
GOLH	**Golhisar**	**2.16**	**71**	*i* P	**Pb**	**20 00 29.4**	**-1.1**								
GOLH	**Golhisar**	**2.16**	**71**	*i* P	**Pb**	**20 00 29.4**	**-1.1**								
MANT	**Manisa**	**2.28**	**32**	*i* P	**Pg**	**20 00 34.9**	**0.0**								
MANT				*i* S	**Sg**	**20 01 09.1**	**+4.6**								
ELL	**Elmali**	**2.34**	**85**	*e*PN	**Pb**	**20 00 33.0**	**-0.6**								
ELL	**Elmali**	**2.34**	**85**	*e*Pn	**Pb**	**20 00 33.0**	**-0.6**								
KULA	**Kula-Manisa**	**2.35**	**34**	*e*PN	**Pb**	**20 00 33.2**	**-0.5**								
KULA	**Kula-Manisa**	**2.35**	**34**	*e*Pn	**Pb**	**20 00 33.2**	**-0.5**								
AKHS	**Akhisar**	**2.40**	**15**	*i* P	**Pg**	**20 00 36.7**	**-0.3**								
AKHS				*i* S	**Sg**	**20 01 11.4**	**+3.3**								
AKS	**Akhisar**	**2.40**	**15**	*e*PN	**Pb**	**20 00 34.2**	**-0.2**								
AKS	**Akhisar**	**2.40**	**15**	*e*Pn	**Pb**	**20 00 34.3**	**-0.2**								
VAM	**Vamos**	**2.55**	**244**	P	**Pn**	**20 00 32.4**	**-0.3**								
VAM	**Vamos**	**2.55**	**244**	*e*PN	**Pn**	**20 00 34.5**	**+1.8**								
VAM	**Vamos**	**2.55**	**244**	P	**Pn**	**20 00 32.4**	**-0.3**								
VAM	**Vamos**	**2.55**	**244**	*e*Pn	**Pn**	**20 00 34.5**	**+1.8**								
KHAL	**Karahalli**	**2.68**	**47**	*i* P	**Pb**	**20 00 40.6**	**+1.3**								
PRK	**Paraskevi**	**2.74**	**348**	P	**Pn**	**20 00 35.2**	**-0.1**								
PRK				S	**Sn**	**20 01 11.4**	**+2.9**								
PRK	**Paraskevi**	**2.74**	**348**	*e*PN	**Pn**	**20 00 33.0**	**-2.3**								
PRK	**Paraskevi**	**2.74**	**348**	*e*Pn	**Pn**	**20 00 33.0**	**-2.3**								
PRK	**Paraskevi**	**2.74**	**348**	P	**Pn**	**20 00 35.2**	**-0.1**								
AYVA	**Ayvalik**	**2.75**	**355**	*i* P	**Pb**	**20 00 41.4**	**+1.0**								
AYVA				*i* S	**Sg**	**20 01 21.7**	**+2.4**								
SIGR	**SIGRI**	**2.79**	**341**	*e*PN	**Pn**	**20 00 34.8**	**-1.2**								
SIGR	**SIGRI**	**2.79**	**341**	*e*Pn	**Pn**	**20 00 34.8**	**-1.2**								
DEMI	**Demirci**	**2.82**	**28**	*i* P	**Pg**	**20 00 44.4**	**-0.7**								
PTL	**Penteli**	**2.91**	**302**	P	**Pn**	**20 00 39.7**	**+2.0**								
PTL	**Penteli**	**2.91**	**302**	P	**Pn**	**20 00 39.7**	**+2.0**								
ANTB	**Antalya**	**2.95**	**82**	*e*PN	**Pb**	**20 00 41.7**	**-2.2**								
ANTB	**Antalya**	**2.95**	**82**	*e*Pn	**Pb**	**20 00 41.7**	**-2.2**								
ATH	**Athens Observa**	**2.97**	**299**	*e*PN	**Pn**	**20 00 37.9**	**-0.6**								
ATH	**Athens Observa**	**2.97**	**299**	*e*Pn	**Pn**	**20 00 37.9**	**-0.6**								
BCK	**Bucak**	**3.00**	**72**	*e*PN	**Pb**	**20 00 42.1**	**-2.8**								
BCK	**Bucak**	**3.00**	**72**	*e*Pn	**Pb**	**20 00 42.1**	**-2.8**								
NAIG	**Nisos Aigina**	**3.05**	**294**	*e*PN	**Pn**	**20 00 40.1**	**+0.5**								
NAIG	**Nisos Aigina**	**3.05**	**294**	*e*Pn	**Pn**	**20 00 40.1**	**+0.5**								
ANKY	**Antikythira Is**	**3.07**	**258**	*e*PN	**Pn**	**20 00 41.4**	**+1.5**								
ANKY	**Antikythira Is**	**3.07**	**258**	*e*Pn	**Pn**	**20 00 41.4**	**+1.5**								
BALB	**Balikesir**	**3.15**	**12**	*e*PN	**Pb**	**20 00 45.1**	**-2.0**								
BALB	**Balikesir**	**3.15**	**12**	*e*Pn	**Pb**	**20 00 45.2**	**-2.0**								
DID	**Didima**	**3.16**	**288**	P	**Pn**	**20 00 42.2**	**+1.1**								
DID	**Didima**	**3.16**	**288**	*e*PN	**Pn**	**20 00 42.0**	**+0.9**								
DID	**Didima**	**3.16**	**288**	*e*Pn	**Pn**	**20 00 42.0**	**+0.9**								
BALY	**Balya**	**3.21**	**9**	*i* P	**Pb**	**20 00 47.9**	**-0.4**								
BALY				*i* S	**Sg**	**20 01 37.4**	**+3.4**								
KYTH	**Kithira**	**3.21**	**266**	*e*PN	**Pn**	**20 00 42.7**	**+0.8**								
KYTH	**Kithira**	**3.21**	**266**	*e*Pn	**Pn**	**20 00 42.7**	**+0.8**								
SUTC	**Sutluce-Ispart**	**3.33**	**73**	*e*PN	Pb	20 00 46.9	-3.5								
SUTC	**Sutluce-Ispart**	**3.33**	**73**	*e*Pn	Pb	20 00 46.9	-3.5								
SHUT	**Suhut-Afyon**	**3.45**	**54**	*e*PN	**Pn**	**20 00 48.1**	**+2.9**								
SHUT	**Suhut-Afyon**	**3.45**	**54**	*e*Pn	**Pn**	**20 00 48.1**	**+2.9**								
MRKA	**Markates**	**3.45**	**309**	*e*PN	**Pn**	**20 00 45.4**	**+0.3**								
MRKA	**Markates**	**3.45**	**309**	*e*Pn	**Pn**	**20 00 45.4**	**+0.3**								
TVSB	**Tavsanli**	**3.47**	**33**	*e*PN	Pb	20 00 49.3	-3.6								
TVSB	**Tavsanli**	**3.47**	**33**	*e*Pn	Pb	20 00 49.3	-3.6								
GONE	**Gonen-Balikesi**	**3.52**	**9**	*e*PN	**Pb**	**20 00 50.8**	**-2.7**								
GONE	**Gonen-Balikesi**	**3.52**	**9**	*e*Pn	**Pb**	**20 00 50.8**	**-2.7**								
LTK	**Loutraki**	**3.53**	**296**	*e*PN	**Pn**	**20 00 46.1**	**-0.1**								
LTK	**Loutraki**	**3.53**	**296**	*e*Pn	**Pn**	**20 00 46.1**	**-0.1**								
LIA	**Limnos Island**	**3.62**	**337**	*e*PN	**Pn**	**20 00 46.0**	**-1.4**								
LIA	**Limnos Island**	**3.62**	**337**	*e*Pn	**Pn**	**20 00 46.0**	**-1.4**								
VLX	**Vlachokerasia**	**3.79**	**284**	*e*PN	**Pn**	**20 00 50.6**	**+0.7**								
VLX	**Vlachokerasia**	**3.79**	**284**	*e*Pn	**Pn**	**20 00 50.6**	**+0.7**								
SMIA	**Simia**	**3.79**	**309**	*e*PN	**Pn**	**20 00 50.0**	**+0.2**								
SMIA	**Simia**	**3.79**	**309**	*e*Pn	**Pn**	**20 00 50.0**	**+0.2**								
LKR	**Lokris**	**3.80**	**304**	*e*PN	**Pn**	**20 00 50.0**	**+0.1**								

*IDC **20** 20:02:06.6±2.2, 12°.59N×89°.02W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.6/34, mbtmp3.5/5, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/24, Error ellipse: s-maj=84.7km s-min=26.3km az=57.0*

*CASC **20** 20:02:16.6±2.0, 12°.94N×88°.82W, h35km±999km, MD4.2, ML4.0*

ISC 20 20:02:13.7±1.2, 12°.82N±0°.07×88°.89W±0°.05, h24km±10km, n32, σ1§25/32, mb3.3/3, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SNVI	**San Vicente**	**0.79**	**4**	*e*P	**Pn**	**20 02 30.1**	**+0.4**	
LFRS	**El Faro**	**0.82**	**348**	*e*P	**Pn**	**20 02 30.3**	**+0.4**	
VSM	**San Miguel**	**0.86**	**45**	‖ *i*P	**Pn**	**20 02 30.9**	**+0.3**	
SNET	**Serv Nac Est T**	**0.93**	**339**	*e*P	**Pn**	**20 02 31.9**	**+0.5**	
SNET				*e*S	**Sn**	**20 02 43.9**	**-0.1**	
SNET	comp=Z,5μm,0.4s			AML	AML	20 02 47.5		
LBRS	**Las Brisas**	**0.93**	**351**	*e*P	**Pn**	**20 02 32.1**	**+0.6**	
LFU	**La Fuente**	**0.95**	**347**	*e*P	**Pn**	**20 02 32.3**	**+0.5**	
BOQS	**Boqueron**	**0.99**	**338**	*e*P	**Pn**	**20 02 33.1**	**+0.7**	
BOQS				*e*S	**Sn**	**20 02 45.9**	**+0.1**	
CNCH	**Conchagua**	**1.13**	**66**	*e*P	**Pn**	**20 02 34.2**	**0.0**	
CNCH				*e*S	**Sb**	**20 02 47.7**	**-1.3**	
CAHU	**Cacaucatique**	**1.16**	**35**	*e*P	**Pb**	**20 02 35.1**	**-0.1**	
SBLS	**San Blas**	**1.24**	**325**	*e*P	**Pb**	**20 02 37.0**	**+0.3**	
SBLS				*e*S	**Sb**	**20 02 53.2**	**+0.9**	
SNJE	**San Jose**	**1.26**	**326**	*e*P	**Pb**	**20 02 37.0**	**+0.1**	
SNJE				*e*S	**Sb**	**20 02 52.6**	**-0.1**	
RTR	**El Retiro**	**1.30**	**326**	*e*P	**Pb**	**20 02 37.9**	**+0.2**	
RTR				*e*S	**Sb**	**20 02 53.9**	**-0.1**	
RBDL	**Robledal**	**1.50**	**329**	*e*P	**Pb**	**20 02 40.7**	**-0.4**	
NBG	**Las Nubes**	**2.26**	**321**	*e*P	**Pb**	**20 02 52.7**	**-1.3**	
MRL	**Marmol**	**2.37**	**341**	*e*P	**Pn**	**20 02 53.7**	**+2.4**	
APG	**El Apazote**	**2.66**	**325**	Pn	**Pn**	**20 02 53.8**	**-1.5**	
APG	comp=Z,2.9nm,0.3s,baz=130,slow=8.4,SNR=14			Pg	**Pb**	**20 03 00.7**	**-0.1**	
APG	comp=Z,9.1nm,0.3s,baz=105,slow=7.7,SNR=19			Lg	Lg	20 03 33.9		
VCR	comp=Z,9.7nm,0.3s,baz=35,slow=22,SNR=6.8 **Vista de Mar**	**4.17**	**130**	*e*P	**Pn**	**20 03 17.6**	**+1.6**	
JTS	**JuntasAbangare**	**4.60**	**123**	Pn	Pn	20 03 25.1	+3.1	
JTS	comp=Z,5.4nm,0.3s,baz=332,slow=18,SNR=8.0			Pg	**Pb**	**20 03 32.3**	**-1.6**	
JTS	comp=Z,31nm,0.3s,baz=270,slow=8.8,SNR=34			Sn	**Sn**	**20 04 15.0**	**+0.2**	
TEIG	comp=Z,1.4nm,0.3s,baz=321,slow=23,SNR=1.3 **Tepich**	**7.39**	**4**	Pn	**Pn**	**20 04 00.5**	**+0.3**	
TXAR	comp=Z,7.6nm,0.3s,baz=141,slow=23,SNR=4.0 **Lajitas Array**	**21.41**	**322**	P	**P**	**20 06 57.9**	**-2.3**	
PTGA	comp=Z,1.4nm,0.3s,baz=343,slow=16,SNR=2.1 **Pitinga**	**31.69**	**113**	LR	LR	20 21 42.0		
PDAR	comp=Z,0.8nm,0.7s,baz=143,slow=12,SNR=2.9 **Pinedale Array**	**34.80**	**333**	P	**P**	**20 09 00.8**	**-2.1**	
H03N2	comp=Z,56nm,18.3s,baz=255,slow=37 **Juan Fernandez**	**46.97**	**169**	T	T	21 00 55.3		
H03N1	comp=Z,0.2nm,0.6s,baz=133,slow=8.7,SNR=1.9 baz=347,slow=75,SNR=4.8 **Juan Fernandez**	**46.97**	**169**	T	T	21 01 01.6		
H03N3	baz=347,slow=75,SNR=6.4 **Juan Fernandez**	**46.98**	**169**	T	T	21 00 56.4		
YKA	baz=347,slow=75,SNR=5.4 **Yellowknife Ar**	**52.90**	**345**	P	P	20 11 24.6	-3.0	
CMAR	comp=Z,0.8nm,0.8s,baz=143,slow=7.4,SNR=12 **Chiang Mai Arr**	**147.98**	**346**	PKPbc	**PKPdf**	**20 21 54.6**	**-0.5**	
	comp=Z,0.2nm,0.5s,baz=345,slow=3.7,SNR=3.1							

*ISCJB **20** 20:27:47.9±0.6, 34°.25N±0°.07×26°.63E±0°.06, h33km, mb3.7/9, Error ellipse: s-maj=10.8km s-min=4.7km az=-30.3*

*ATH **20** 20:27:48.5, 34°.30N×26°.49E, h40km±2km, MD3.5/8*

*CSEM **20** 20:27:48.5, 34°.30N×26°.49E, h40km, MD3.5, After ATH*

*IDC **20** 20:27:50.7±3.8, 34°.49N×26°.64E, h33km±31km, mb3.6/9, mb1 3.6/13, mb1mx3.5/38, mbtmp3.7/13, ML3.3/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/43, Error ellipse: s-maj=25.4km s-min=14.8km az=10.0*

ISC 20 20:27:49.6±0.8, 34°.32N±0°.08×26°.52E±0°.05, h33km, n35, σ0§95/40, mb3.8/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ZKR	**Zakros**	**0.83**	**342**	*e*P	**Pn**	**20 28 05.0**	**0.0**	
ZKR	**Zakros**	**0.83**	**342**	*e*P	**Pn**	**20 28 05.0**	**0.0**	
LAST	**Lasithi**	**1.20**	**314**	*e*P	**Pn**	**20 28 09.5**	**-0.6**	
LAST				*e*S	**Sn**	**20 28 25.8**	**+0.5**	
LAST	**Lasithi**	**1.20**	**314**	*e*P	**Pn**	**20 28 09.5**	**-0.6**	
LAST				*e*S	**Sn**	**20 28 25.8**	**+0.5**	
NPS	**Neapolis**	**1.20**	**322**	*e*P	**Pn**	**20 28 09.8**	**-0.3**	
NPS				*e*S	**Sn**	**20 28 25.7**	**+0.5**	
NPS	**Neapolis**	**1.20**	**322**	*e*P	**Pn**	**20 28 09.8**	**-0.3**	
NPS				*e*S	**Sn**	**20 28 25.7**	**+0.5**	
KARP	**Karpathos**	**1.33**	**23**	*e*P	**Pn**	**20 28 12.6**	**+0.7**	
KARP	**Karpathos**	**1.33**	**23**	*e*P	**Pn**	**20 28 12.6**	**+0.7**	
IDI	**Anoyia**	**1.65**	**306**	Pn	**Pb**	**20 28 18.2**	**-1.2**	
IDI	6.5nm,0.3s,baz=114,slow=14,SNR=32			Sn	**Sb**	**20 28 39.1**	**-0.9**	
VAM	6.7nm,0.3s,baz=351,slow=20,SNR=8.3 **Vamos**	**2.19**	**300**	*e*P	**Pn**	**20 28 24.5**	**+0.7**	
VAM	**Vamos**	**2.19**	**300**	*e*P	**Pn**	**20 28 24.5**	**+0.7**	
SANT	**Santorini**	**2.22**	**337**	*e*P	**Pn**	**20 28 24.8**	**+0.7**	
SANT	**Santorini**	**2.22**	**337**	*e*P	**Pn**	**20 28 24.8**	**+0.7**	
ARG	**Arkhangelos**	**2.30**	**34**	*e*P	**Pn**	**20 28 26.2**	**+1.0**	
ARG	**Arkhangelos**	**2.30**	**34**	*e*P	**Pn**	**20 28 26.2**	**+1.0**	
NIS1	**Nisyros Isl.**	**2.33**	**13**	*e*P	**Pn**	**20 28 26.6**	**+0.9**	
NIS1	**Nisyros Isl.**	**2.33**	**13**	*e*P	**Pn**	**20 28 26.6**	**+0.9**	
APE	**Apeiranthos**	**2.85**	**344**	*e*P	**Pn**	**20 28 33.6**	**+0.7**	
APE	**Apeiranthos**	**2.85**	**344**	*e*P	**Pn**	**20 28 33.6**	**+0.7**	
KYTH	**Kithira**	**3.46**	**305**	*e*P	**Pn**	**20 28 41.9**	**+0.8**	
KYTH	**Kithira**	**3.46**	**305**	*e*P	**Pn**	**20 28 41.9**	**+0.8**	
MMAI	**Mount Meron Ar**	**7.52**	**98**	Pn	**Pn**	**20 29 36.8**	**-0.2**	
BRTR	0.6nm,0.3s,baz=278,slow=10.0,SNR=1.8 **Keskin Array B**	**7.84**	**44**	Pn	**Pn**	**20 29 40.8**	**-0.6**	
EIL	0.1nm,0.3s,baz=219,slow=15,SNR=2.4 **Elat**	**8.53**	**121**	Pn	**Pn**	**20 29 51.2**	**+0.5**	
EIL	0.5nm,0.3s,baz=210,slow=5.9,SNR=6.2			Sn	**Sn**	**20 31 22.9**	**-2.9**	
VRAC	0.5nm,0.3s,baz=91,slow=15,SNR=4.1 **Vranov**	**16.68**	**337**	LR

KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN		**Pn**	**20**	**36**	**04.8 +1.3**
KHC				*e*PG		**Pg**	**20**	**36**	**10.6 -0.9**
KHC				*e*SN		**Sn**	**20**	**36**	**39.0 +0.1**
KHC				*e*SG		**Sg**	**20**	**36**	**48.8 -0.1**
	comp=Z,44nm,0.6s								
KHC	**Kasperske Hory**	**2.88**	**215**	Pn		**Pn**	**20**	**36**	**04.8 +1.3**
KHC				Sn		**Sn**	**20**	**36**	**39.0 +0.1**
MOX	**Moxa**	**2.97**	**255**	*e*Pn		**Pn**	**20**	**36**	**06.1 +1.5**
	SNR=8.8								
MOX				*e*Sg		**Sg**	**20**	**36**	**52.8 +1.1**
MOX	**Moxa**	**2.97**	**255**	Pn		**Pn**	**20**	**36**	**06.1 +1.5**
	SNR=8.8								
MOX				Sg		**Sg**	**20**	**36**	**52.8 +1.1**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn		**Pn**	**20**	**36**	**07.4 +1.8**
	SNR=15								
ROTZ	**Rotzenmuhle**	**3.04**	**237**	Pn		**Pn**	**20**	**36**	**07.4 +1.8**
	SNR=15								
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn		**Pn**	**20**	**36**	**08.8 +2.5**
	SNR=16								
GEC2	**GERESS Array S**	**3.09**	**211**	Pn		**Pn**	**20**	**36**	**08.8 +2.5**
	SNR=16								
GERES	**GERESS Array B**	**3.09**	**211**	Pn		**Pn**	**20**	**36**	**08.2 +1.9**
	comp=Z,1.3nm,0.3s,baz=27,slow=12,SNR=43								
GERES				Pg		**Pg**	**20**	**36**	**16.5 +1.1**
	comp=Z,5.2nm,0.3s,baz=40,slow=16,SNR=34								
GERES				Sn		**Sn**	**20**	**36**	**43.2 -0.7**
	comp=Z,3.9nm,0.3s,baz=5.3,slow=20,SNR=12								
GERES				Lg		Lg	20	36	53.5
	comp=Z,12nm,0.3s,baz=29,slow=26,SNR=22								
SMOL	**Smolenice**	**3.11**	**164**	*e*PG		**Pg**	**20**	**36**	**17.5 +1.6**
SMOL				*e*SG		**Sg**	**20**	**36**	**58.2 +2.0**
SMOL	**Smolenice**	**3.11**	**164**	*e*Pg		**Pg**	**20**	**36**	**17.5 +1.6**
SMOL				*e*Sg		**Sg**	**20**	**36**	**58.2 +2.0**
WET	**Wettzell**	**3.15**	**223**	*e*Pn		**Pn**	**20**	**36**	**09.0 +1.9**
	SNR=11								
WET	**Wettzell**	**3.15**	**223**	Pn		**Pn**	**20**	**36**	**09.0 +1.9**
	SNR=11								
NIE	**Niedzica**	**3.40**	**126**	*e*P		**Pg**	**20**	**36**	**22.3 +1.0**
NIE				*e*S		**Sg**	**20**	**37**	**06.4 +1.1**
CONA	**Conrad Observa**	**3.59**	**183**	⇓*i*Pn		**Pn**	**20**	**36**	**15.4 +2.2**
CONA				⇑*i*Sg		**Sg**	**20**	**37**	**12.0 +0.6**
	comp=Z,34nm,0.5s								
CONA	**Conrad Observa**	**3.59**	**183**	Pn		**Pn**	**20**	**36**	**15.4 +2.2**
CONA				Sg		**Sg**	**20**	**37**	**12.0 +0.6**
	comp=Z,34nm,0.5s								
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn		**Pn**	**20**	**36**	**15.1 +1.8**
	SNR=7.5								
CLZ				*e*Pg		**Pg**	**20**	**36**	**26.3 +1.1**
	SNR=2.2								
CLZ	**Clausthal**	**3.60**	**278**	Pn		**Pn**	**20**	**36**	**15.1 +1.8**
	SNR=7.5								
NRDL	**Niedersach Rie**	**3.85**	**287**	*e*Pn		**Pn**	**20**	**36**	**18.8 +2.2**
	SNR=4.8								
NRDL	**Niedersach Rie**	**3.85**	**287**	Pn		**Pn**	**20**	**36**	**18.8 +2.2**
	SNR=4.8								
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn		**Pn**	**20**	**36**	**18.7 +1.9**
MOA				⇑*i*Sg		**Sg**	**20**	**37**	**20.4 +0.4**
	comp=Z,40nm,0.5s								
MOA	**Molln**	**3.85**	**199**	Pn		**Pn**	**20**	**36**	**18.7 +1.9**
MOA				Sg		**Sg**	**20**	**37**	**20.4 +0.4**
	comp=Z,40nm,0.5s								
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PN		**Pn**	**20**	**36**	**19.0 +1.8**
STHS				*e*PG		**Pg**	**20**	**36**	**33.6 +3.0**
STHS				*e*SG		**Sg**	**20**	**37**	**25.4 +4.5**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*Pn		**Pn**	**20**	**36**	**19.0 +1.8**
ARSA	**Arzberg**	**4.28**	**185**	⇑*i*Pn		**Pn**	**20**	**36**	**23.7 +1.1**
ARSA				⇑*i*Sg		**Sg**	**20**	**37**	**33.2 -0.4**
	comp=Z,43nm,0.6s								
ARSA	**Arzberg**	**4.28**	**185**	Pn		**Pn**	**20**	**36**	**23.7 +1.1**
ARSA				Sg		**Sg**	**20**	**37**	**33.2 -0.4**
	comp=Z,43nm,0.6s								
BSEG	**Bad Segeberg**	**4.29**	**307**	*e*Pn		**Pn**	**20**	**36**	**23.3 +0.6**
	SNR=4.5								
BSEG	**Bad Segeberg**	**4.29**	**307**	Pn		**Pn**	**20**	**36**	**23.3 +0.6**
	SNR=4.5								
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*PN		**Pn**	**20**	**36**	**24.1 +1.1**
CRVS				*e*PG		**Pg**	**20**	**36**	**38.4 -0.4**
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*Pn		**Pn**	**20**	**36**	**24.1 +1.1**
BJUU	**Bjuv**	**4.93**	**339**	P		**Pn**	**20**	**36**	**30.9 -0.6**
BJUU				S		**Sn**	**20**	**37**	**25.1 -4.1**
BJUU	**Bjuv**	**4.93**	**339**	P		**Pn**	**20**	**36**	**30.9 -0.6**
BJUU				S		**Sn**	**20**	**37**	**25.1 -4.1**
DEL	**Delary**	**5.15**	**346**	P		**Pn**	**20**	**36**	**34.2 -0.3**
DEL				S		**Sn**	**20**	**37**	**30.2 -4.4**
DEL	**Delary**	**5.15**	**346**	P		**Pn**	**20**	**36**	**34.2 -0.3**
DEL				S		**Sn**	**20**	**37**	**30.2 -4.4**
OSKU	**Oskarshamn**	**5.70**	**360**	P		**Pn**	**20**	**36**	**42.6 +0.5**
OSKU	**Oskarshamn**	**5.70**	**360**	P		**Pn**	**20**	**36**	**42.6 +0.5**
BYXU	**Byxelkrok**	**5.82**	**5**	P		**Pn**	**20**	**36**	**44.0 +0.3**
BYXU	**Byxelkrok**	**5.82**	**5**	P		**Pn**	**20**	**36**	**44.0 +0.3**
FABU	**Falkenberg**	**5.86**	**341**	P		**Pn**	**20**	**36**	**44.2 0.0**
FABU	**Falkenberg**	**5.86**	**341**	P		**Pn**	**20**	**36**	**44.2 0.0**
ASPU	**Aespoe**	**5.93**	**2**	P		**Pn**	**20**	**36**	**46.1 +0.8**
ASPU	**Aespoe**	**5.93**	**2**	P		**Pn**	**20**	**36**	**46.1 +0.8**
GNOU	**Gnosjoe**	**5.96**	**348**	P		**Pn**	**20**	**36**	**45.6 -0.1**
GNOU	**Gnosjoe**	**5.96**	**348**	P		**Pn**	**20**	**36**	**45.6 -0.1**
VSTU	**Vaestervik**	**6.17**	**2**	P		**Pn**	**20**	**36**	**49.2 +0.6**
VSTU	**Vaestervik**	**6.17**	**2**	P		**Pn**	**20**	**36**	**49.2 +0.6**
VSTU				S		**Sn**	**20**	**37**	**55.5 -4.2**
BORU	**Boraas**	**6.44**	**344**	P		**Pn**	**20**	**36**	**52.4 +0.1**
BORU	**Boraas**	**6.44**	**344**	P		**Pn**	**20**	**36**	**52.4 +0.1**
FKPU	**Falk**	**6.81**	**349**	P		**Pn**	**20**	**36**	**58.0 +0.7**
FKPU	**Falk**	**6.81**	**349**	P		**Pn**	**20**	**36**	**58.0 +0.7**
VIKU	**Vikbolandet**	**7.02**	**2**	P		**Pn**	**20**	**37**	**00.5 +0.3**
VIKU	**Vikbolandet**	**7.02**	**2**	P		**Pn**	**20**	**37**	**00.5 +0.3**
TJOU	**Tjoern**	**7.04**	**340**	P		**Pn**	**20**	**37**	**01.7 +1.3**
TJOU	**Tjoern**	**7.04**	**340**	P		**Pn**	**20**	**37**	**01.7 +1.3**
NASU	**Vaermlandsnaes**	**7.62**	**348**	P		**Pn**	**20**	**37**	**09.2 +0.7**
NASU	**Vaermlandsnaes**	**7.62**	**348**	P		**Pn**	**20**	**37**	**09.2 +0.7**
AKASG	**Malin Array Be**	**8.29**	**90**	Pn		**Pn**	**20**	**37**	**17.2 -0.4**
	comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=5.6								
HFS	**Hagfors**	**8.76**	**352**	Pn		**Pn**	**20**	**37**	**23.7 -0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=5.7								
HFS				Sn		**Sn**	**20**	**39**	**00.1 -3.2**
	comp=Z,0.2nm,0.3s,baz=176,slow=23,SNR=3.0								
FINES	**FINESS Array B**	**11.36**	**25**	Pn		**Pn**	**20**	**37**	**58.9 -0.7**
	comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=5.5								
FINES				Sn		Sn	20	39	59.0 -8.1
	comp=Z,0.2nm,0.3s,baz=213,slow=20,SNR=4.0								
EKA	**Eskdalemuir Ar**	**12.12**	**296**	Pn		**Pn**	**20**	**38**	**07.5 -2.5**
	baz=109,slow=14,SNR=3.6								
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**P**	**20**	**39**	**33.7 -1.3**
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=8.5								

*ISCJB **20** 21:12:25.5±0.6, 18°.89S±0°.05×69°.1W±0°.1, h139km±8km, mb3.9/2, Error ellipse: s-maj=16.1km s-min=7.5km az=11.9*
*GUC **20** 21:12:26.4±0.4, 18°.94S×69°.14W, h137km±3km, ML3.8*
*IDC **20** 21:12:28.4±6.0, 18°.82S×68°.65W, h144km±40km, mb3.8/2, mb1 3.7/4, mb1mx3.4/23, mbtmp4.0/4, Error ellipse: s-maj=65.9km s-min=23.5km az=26.0*

ISC 20 21:12:26.0±0.8, 18°.90S±0°.05×68°.91W±0°.08, h130km±9km, n13, σ1°.39/21, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MNMC	**Minimini**	**0.69**	**250**	⇑*i*P		**Pn**		**21 12 46.6**	**+0.1**
MNMC				*i* S		**Sn**		**21 13 02.1**	**0.0**
MNMC				AML		AML		21 13 04.1	
	comp=E,2μm,0.3s								
PB11	**Plate Boundary**	**1.11**	**219**	⇑*i*P		**Pn**		**21 12 50.4**	**+0.3**
PB11				*i* S		**Sn**		**21 13 08.4**	**0.0**
PB11				AML		AML		21 13 09.6	
	comp=N,8μm,0.5s								
PSGC	**Pisagua**	**1.34**	**238**	⇑*i*P		**Pn**		**21 12 51.8**	**-0.6**
PSGC				*i* S		**Sn**		**21 13 11.1**	**-1.4**
ARCH	**Arica**	**1.37**	**287**	*e*P		**Pn**		**21 12 52.0**	**-0.6**
ARCH				*i* S		**Sn**		**21 13 11.3**	**-1.6**
PB01	**Plate Boundary**	**2.20**	**194**	⇓*i*P		**Pn**		**21 13 03.2**	**+0.7**
PB01				*i* S		**Sn**		**21 13 30.9**	**+0.3**
PB01				AML		AML		21 13 31.6	
	comp=E,628nm,0.2s								
PATCX	**Punta Patache**	**2.24**	**211**	*e*P		**Pn**		**21 13 02.9**	**-0.1**
LPAZ	**La Paz**	**2.70**	**16**	P		**Pn**		**21 13 10.8**	**+1.4**
	comp=E,22nm,0.3s,baz=207,slow=6.1,SNR=343								
LPAZ				S		**Sn**		**21 13 44.0**	**+1.4**
	comp=E,1.5nm,0.3s,baz=312,slow=22,SNR=7.8								
PB09	**Plate Boundary**	**2.90**	**186**	*e*P		**Pn**		**21 13 12.7**	**+1.2**
PB09				AML		AML		21 13 52.8	
	comp=N,589nm,0.7s								
PB07	**Plate Boundary**	**2.96**	**198**	*e*P		**Pn**		**21 13 12.9**	**+0.7**
PB07				AML		AML		21 13 58.5	
	comp=E,221nm,0.6s								
SIV	**San Ignacio**	**8.02**	**70**	P		**Pn**		**21 14 18.5**	**-1.3**
	comp=E,0.7nm,0.3s,baz=270,slow=11,SNR=8.7								
SIV				S		**Sn**		**21 15 45.5**	**-3.6**
	comp=E,0.1nm,0.3s,baz=326,slow=20,SNR=1.2								
DBIC	**Dimbokro**	**68.02**	**74**	P		**P**		**21 23 11.2**	**-0.6**
	comp=E,2.4nm,0.6s,baz=221,slow=6.6,SNR=5.9								
YKA	**Yellowknife Ar**	**88.74**	**341**	P		**P**		**21 25 04.7**	**+0.3**
	comp=E,0.5nm,0.6s,baz=133,slow=4.6,SNR=18								
YKA				pP		**pP**		**21 25 40.1**	**+2.4**
	comp=E,0.3nm,0.6s,baz=136,slow=5.2,SNR=4.1								
SONM	**Songino Array**	**150.88**	**7**	PKPbc		**PKPbc**		**21 32 04.1**	**+0.7**
	comp=E,0.7nm,0.5s,baz=339,slow=1.8,SNR=8.8								

*NIED **20** 21:18:00, 36°.10N×142°.10E, h26km, Mw3.8 Best double couple: M0≈4.73000×10^14 NP1:φs=232.00000°, δ=46.00000°, λ=138.00000°. NP2:φs=355.00000°, δ=61.00000°, λ=53.00000°.*
*IDC **20** 21:18:01.9±1.1, 36°.26N×142°.36E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/46, mbtmp3.6/8, ML3.6/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/37, Error ellipse: s-maj=26.2km s-min=21.8km az=61.0*
*ISCJB **20** 21:18:03.5±1.5, 36°.13N±0°.04×142°.21E±0°.07, h19km±9km, mb3.5/7, Error ellipse: s-maj=9.4km s-min=6.0km az=175.2*
*JMA **20** 21:18:04.6±0.2, 36°.14N×142°.14E, h25km, M3.8*

ISC 20 21:18:03.0±2.3, 36°.15N±0°.04×142°.16E±0°.08, h5km±12km, n27, σ1°02/30, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CHOJ	**Chosi**	**1.15**	**248**	P		**Pg**		**21 18 25.1**	**+0.2**
CHOJ				S		**Sg**		**21 18 39.8**	**0.0**
JHO	**Hitachi**	**1.37**	**290**	P		**Pn**		**21 18 28.0**	**-0.7**
JHO				*e*S		**Sg**		**21 18 46.1**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.45**	**311**	P		**Pn**		**21 18 30.0**	**0.0**
JFK	**Kawauchi**	**1.60**	**320**	P		**Pn**		**21 18 32.4**	**+0.4**
JFK				S		**Sn**		**21 18 52.5**	**-0.5**
BSO1	**Boso 1**	**1.78**	**213**	P		**Pn**		**21 18 34.4**	**+0.5**
BSO1				S		**Sn**		**21 18 56.2**	**-0.4**
BSO3	**Boso 3**	**1.90**	**226**	P		**Pn**		**21 18 35.8**	**-0.1**
BSO3				*e*S		**Sn**		**21 18 59.3**	**-0.8**
JFT	**Otama**	**2.00**	**314**	P		**Pn**		**21 18 38.8**	**+1.3**
JFT				*e*S		**Sn**		**21 19 02.5**	**-0.5**
JMM	**Marumori**	**2.04**	**328**	P		**Pn**		**21 18 38.6**	**+0.7**
JMM				*e*S		**Sn**		**21 19 03.1**	**-0.7**
JAG	**Ashikaga**	**2.21**	**278**	P		**Pn**		**21 18 39.7**	**-0.6**
JRY	**Ryogami san**	**2.64**	**268**	P		**Pn**		**21 18 45.8**	**-0.5**
JRY				*e*S		**Sn**		**21 19 16.2**	**-2.6**
JOD2	**Odawara 2**	**2.65**	**251**	P		**Pn**		**21 18 46.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.21**	**278**	Pn		**Pn**		**21 18 54.5**	**+0.3**
	6.5nm,0.3s,baz=118,slow=8.7,SNR=53								
MJAR				Sn		**Sn**		**21 19 34.7**	**+1.8**
	4.7nm,0.3s,baz=78,slow=15,SNR=5.0								
MJAR				LR		LR		21 20 10.7	
	comp=Z,86nm,20.2s,baz=140,slow=39								
MAT	**Matsushiro**	**3.22**	**278**	P		**Pn**		**21 18 54.7**	**+0.5**
MAT				S		**Sn**		**21 19 34.4**	**+1.4**
KSRS	**Korea Array**	**11.49**	**281**	LR		LR		21 24 32.2	
	comp=Z,34nm,21.3s,baz=230,slow=34								
H11N2	**WAKE ISLAND Hy**	**27.18**	**120**	T		T		21 52 36.3	
	baz=314,slow=76,SNR=4.2								
H11N1	**WAKE ISLAND Hy**	**27.19**	**120**	T		T		21 52 29.0	
	baz=314,slow=76,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**27.20**	**120**	T		T		21 52 29.8	
	baz=314,slow=76,SNR=5.4								
H11S1	**WAKE ISLAND Hy**	**27.88**	**123**	T		T		21 53 23.5	
	baz=135,slow=75,SNR=7.2								
H11S3	**WAKE ISLAND Hy**	**27.88**	**123**	T		T		21 53 21.4	
	baz=318,slow=75,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**27.89**	**123**	T		T		21 53 22.2	
SONM	**Songino Array**	**28.78**	**305**	P		**P**		**21 24 02.5**	**+0.7**
	1.1nm,0.6s,baz=106,slow=9.1,SNR=8.8								
CMAR	**Chiang Mai Arr**	**41.87**	**257**	P		**P**		**21 25 54.8**	**+0.5**
	0.3nm,0.4s,baz=53,slow=6.1,SNR=4.2								
ZALV	**Zalesovo Beam**	**42.96**	**313**	P		**P**		**21 26 03.8**	**+1.0**
	0.5nm,0.4s,baz=69,slow=8.1,SNR=4.3								
MKAR	**Makanchi Array**	**45.10**	**303**	P		**P**		**21 26 20.1**	**0.0**
	0.8nm,0.6s,baz=90,slow=10,SNR=8.6								
ILAR	**Eielson Array**	**49.92**	**32**	P		**P**		**21 26 54.9**	**-2.4**
	0.3nm,0.8s,baz=257,slow=6.5,SNR=2.6								
WRA	**Warramunga Arr**	**56.27**	**189**	P		**P**		**21 27 45.2**	**+0.6**
	0.3nm,0.5s,baz=6.5,slow=7.3,SNR=6.8								
ASAR	**Alice Springs**	**60.00**	**189**	P		**P**		**21 28 11.5**	**+0.8**
	0.3nm,0.7s,baz=11,slow=12,SNR=3.8								

*NIED **20** 21:45:00, 28°.50N×128°.90E, h8km, Mw3.8 Best double couple: M0≈6.29000×10^14 NP1:φs=283.00000°, δ=36.00000°, λ=-79.00000°. NP2:φs=90.00000°, δ=54.00000°, λ=-98.00000°.*
*IDC **20** 21:45:22.9±4.2, 28°.50N×128°.80E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/34, mbtmp3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/18, Error ellipse: s-maj=229.5km s-min=22.1km az=64.0*
*ISCJB **20** 21:45:24.1±1.2, 28°.50N±0°.06×128°.98E±0°.09, h22km±11km, mb3.3/4, Error ellipse: s-maj=15.8km s-min=4.4km az=35.3*
*JMA **20** 21:45:24.3±0.4, 28°.47N×128°.96E, h14km±5km, M3.7*
JMA Felt I J1.

ISC 20 21:45:24.1±1.7, 28°.49N±0°.06×128°.97E±0°.07, h13km±12km, n17, σ0°.95/23, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JAMN	**Amaminishikomi**	**0.30**	**144**	P		**Pg**		**21 45 30.5**	**+0.1**
JAMN				S		**Sg**		**21 45 34.6**	**0.0**
JAM	**Amami Oshima**	**0.56**	**98**	P		**Pg**		**21 45 35.2**	**0.0**
JAM				S		**Sg**		**21 45 42.5**	**-0.2**
JTK	**Tokunoshima**	**0.70**	**181**	P		**Pg**		**21 45 37.0**	**-0.8**
JTK				S		**Sg**		**21 45 46.8**	**-0.2**
JZK	**Kikaishima**	**0.90**	**101**	P		**Pn**		**21 45 42.7**	**+0.3**
JNN	**Nakanoshima**	**1.56**	**30**	*e*S		**Sn**		**21 46 09.7**	**-2.0**
JIH	**Iheya**	**1.70**	**212**	P		**Pn**		**21 45 53.0**	**-0.5**
JIH				S		**Sn**		**21 46 14.1**	**-1.0**
JOW	**Kunigami**	**1.76**	**201**	P		**Pn**		**21 45 53.8**	**-0.5**
JOW				*e*S		**Sn**		**21 46 15.5**	**-1.1**
JKC	**Kuchinoerabu**	**2.24**	**28**	*e*S		**Sn**		**21 46 27.7**	**-0.6**
JAGN	**Aguni-jima**	**2.44**	**219**	P		**Pn**		**21 46 03.9**	**+0.3**
JJT2	**Tamagusuku 2**	**2.58**	**205**	P		**Pn**		**21 46 06.6**	**+1.0**
JTN	**Tanegashima 3**	**2.78**	**39**	P		**Pn**		**21 46 09.6**	**+1.3**
JTN				*e*S		**Sn**		**21 46 40.3**	**-1.4**
JKE	**Kume jima 2**	**2.90**	**223**	P		**Pn**		**21 46 10.6**	**+0.6**
JKE				*e*S		**Sn**		**21 46 45.9**	**+1.2**
KSRS	**Korea Array**	**8.98**	**355**	LR		LR		21 51 05.2	
	comp=Z,49nm,21.9s,baz=180,slow=38								
SONM	**Songino Array**	**26.07**	**324**	P		**P**		**21 50 57.4**	**0.0**
	0.8nm,0.7s,baz=134,slow=9.2,SNR=7.6								
MKAR	**Makanchi Array**	**40.56**	**310**	P		**P**		**21 53 02.7**	**-0.5**
	0.2nm,0.4s,baz=94,slow=8.9,SNR=3.2								
WRA	**Warramunga Arr**	**48.43**	**173**	P		**P**		**21 54 06.6**	**+0.4**
	0.4nm,0.6s,baz=354,slow=8.3,SNR=3.1								
ASAR	**Alice Springs**	**52.07**	**174**	P		**P**		**21 54 35.3**	**+1.5**
	0.2nm,0.7s,baz=355,slow=10,SNR=3.5								

*ISCJB **20** 21:53:58.8±0.3, 22°.25S±0°.04×68°.65W±0°.06, h113km±4km, mb4.2/10, Error ellipse: s-maj=9.4km s-min=6.3km az=155.0*
*NEIC **20** 21:53:59.4, 22°.27S×68°.76W, h111km, mb4.3/3, After GUC.*
*GUC **20** 21:53:59.4±0.7, 22°.27S×68°.76W, h111km±4km, ML4.5*
*IDC **20** 21:54:01.1±0.8, 22°.22S×68°.49W, h110km±7km, mb3.9/8, mb1 3.8/12, mb1mx3.6/36, mbtmp4.1/12, MS2.9/4, Ms1 2.9/4, ms1mx2.8/24, Error ellipse: s-maj=21.6km s-min=17.1km az=93.0*

ISC 20 21:53:59.7±0.5, 22°.18S±0°.04×68°.60W±0°.05, h106km±5km, n60, σ1°54/76, mb4.3/10, 15C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LVC	**Limon Verde**	**0.52**	**214**	*e*Pn		**Pn**		**21 54 16.4**	**-0.2**
LVC				*e*Sn		**Sn**		**21 54 26.6**	**-2.6**
PB09	**Plate Boundary**	**0.71**	**303**	⇑*i*P		**Pn**		**21 54 18.3**	**+0.3**
PB09				*i* S		**Sn**		**21 54 32.2**	**+0.6**
PB09				AML		AML		21 54 33.4	
	comp=E,61μm,0.6s								
PB09	**Plate Boundary**	**0.71**	**303**	⇑*i*P		**Pn**		**21 54 18.3**	**+0.3**
PB09				*i* S		**Sn**		**21 54 32.2**	**+0.6**
SPCH	**San Pedro de A**	**0.81**	**153**	⇑*i*P		**Pn**		**21 54 20.1**	**+1.1**
SPCH				*e*S		**Sn**		**21 54 35.1**	**+1.6**
SPCH				AML		AML		21 54 36.5	
	comp=E,16μm,0.9s								
SPCH	**San Pedro de A**	**0.81**	**153**	⇑*i*P		**Pn**		**21 54 20.1**	**+1.1**
SPCH				*e*S		**Sn**		**21 54 35.1**	**+1.6**
PB04	**Plate Boundary**	**0.82**	**264**	⇑*i*P		Pn		21 54 24.8	+6.0
PB04				*i* S		Sn		21 54 43.9	+11
PB04				AML		AML		21 54 49.4	
	comp=N,7μm,0.2s								
PB04	**Plate Boundary**	**0.82**	**264**	⇑*i*P		Pn		21 54 24.8	+6.0
PB04				*i* S		Sn		21 54 43.9	+11
PB06	**Plate Boundary**	**1.04**	**240**	*e*P		**Pn**		**21 54 20.3**	**-0.8**
PB06				*i* S		**Sn**		**21 54 36.0**	**-1.4**
PB06				AML		AML		21 54 36.7	
	comp=E,15μm,0.1s								
PB06	**Plate Boundary**	**1.04**	**240**	*e*P		**Pn**		**21 54 20.3**	**-0.8**
PB06				*i* S		**Sn**		**21 54 36.0**	**-1.4**
MACH	**Maria Elena**	**1.07**	**269**	⇑*i*P		**Pn**		**21 54 20.9**	**-0.7**
MACH				*i* S		**Sn**		**21 54 36.8**	**-1.3**
MACH	**Maria Elena**	**1.07**	**269**	⇑*i*P		**Pn**		**21 54 20.9**	**-0.7**
MACH				*i* S		**Sn**		**21 54 36.8**	**-1.3**
PB07	**Plate Boundary**	**1.28**	**291**	⇑*i*P		**Pn**		**21 54 23.5**	**-0.3**
PB07				*i* S		**Sn**		**21 54 41.3**	**-0.8**
PB07				AML		AML		21 54 42.4	
	comp=N,15μm,0.2s								
PB07	**Plate Boundary**	**1.28**	**291**	⇑*i*P		**Pn**		**21 54 23.5**	**-0.3**
PB07				*i* S		**Sn**		**21 54 41.3**	**-0.8**
PB01	**Plate Boundary**	**1.40**	**324**	⇑*i*P		**Pn**		**21 54 25.5**	**+0.3**
PB01				*i* S		**Sn**		**21 54 45.6**	**+1.1**
PB01				AML		AML		21 54 46.5	
	comp=E,5μm,0.2s								
PB01	**Plate Boundary**	**1.40**	**324**	⇑*i*P		**Pn**		**21 54 25.5**	**+0.3**
PB01				*i* S		**Sn**		**21 54 45.6**	**+1.1**
CEN1	**Los Morros**	**1.90**	**231**	⇑*i*P		**Pn**		**21 54 32.1**	**+0.7**
CEN1				*e*S		**Sn**		**21 54 57.6**	**+2.0**
CEN1				AML		AML		21 55 06.3	
	comp=N,1μm,0.5s								
CEN1	**Los Morros**	**1.90**	**231**	⇑*i*P		**Pn**		**21 54 32.1**	**+0.7**
CEN1				*e*S		**Sn**		**21 54 57.6**	**+2.0**
PATCX	**Punta Patache**	**1.98**	**313**	⇑*i*P		**Pn**		**21 54 32.1**	**-0.3**
PATCX				*i* S		**Sn**		**21 54 57.1**	**-0.2**
PATCX				AML		AML		21 55 02.0	
	comp=E,6μm,0.6s								
PB10	**Plate Boundary**	**2.23**	**233**	*e*P		**Pn**		**21 54 34.0**	**-1.6**
PB10				AML		AML		21 55 08.8	
	comp=N,5μm,0.8s								
LPAZ	**La Paz**	**5.88**	**4**	P		**Pn**		**21 55 28.1**	**+3.1**
LPAZ	**La Paz**	**5.88**	**4**	P		**Pn**		**21 55 28.1**	**+3.1**
	comp=N,1.6nm,0.3s,baz=200,slow=5.6,SNR=20								
LPAZ				LR		LR		21 57 57.2	
	comp=N,36nm,20.9s,baz=103,slow=40								
ARE	**Arequipa**	**6.31**	**334**	*e*P		Pn		21 55 38.0	+7.4
ARE				*e*S		**Sn**		**21 56 39.0**	**-2

RCBR	Riachuelo	35.53	68	P	P	22 00 47.7	+0.8
RCBR	Riachuelo	35.53	68	P	P	22 00 47.7	+0.8
	comp=N,21nm,0.7s,baz=231,slow=8.3,SNR=16						
SNAA	Sanae	61.54	161	P	P	22 04 05.8	+0.4
SNAA				*e*Pn	P	22 04 06.0	+0.7
SNAA	Sanae	61.54	161	P	P	22 04 05.8	+0.4
	comp=N,1.8nm,0.7s,baz=280,slow=6.7,SNR=24						
LIC	Lamto	68.31	73	*e*P	P	22 04 50.0	0.0
	comp=N,52nm,1.9s						
TIC	Toumodi	68.50	73	*e*P	P	22 04 49.8	-1.4
KIC	Kosan Boka	68.62	73	*e*P	P	22 04 52.2	+0.2
	comp=N,11nm,0.6s						
DBIC	Dimbokro	68.66	73	P	P	22 04 52.6	+0.5
DBIC	Dimbokro	68.66	73	P	P	22 04 52.6	+0.5
	comp=N,6.8nm,0.7s,baz=218,slow=7.1,SNR=12						
PDAR	Pinedale Array	74.84	330	P	P	22 05 30.2	+1.3
PDAR				pP	pP	22 05 57.4	+1.7
PDAR	Pinedale Array	74.84	330	P	P	22 05 30.2	+1.3
	comp=N,0.3nm,0.7s,baz=129,slow=7.1,SNR=2.1						
PDAR				pP	pP	22 05 57.4	+1.7
	comp=N,0.4nm,0.6s,baz=136,slow=6.1,SNR=3.5						
BOSA	Boshof	82.88	118	P	P	22 06 13.2	0.0
BOSA	Boshof	82.88	118	P	P	22 06 13.2	0.0
	comp=N,2.7nm,0.7s,baz=351,slow=7.5,SNR=6.3						
TAM	Tamanrasset	84.87	63	*e*P	P	22 06 23.1	-0.2
	comp=N,0.5nm,0.5s						
YKA	Yellowknife Ar	91.92	340	P	P	22 06 56.6	+0.9
YKA				pP	pP	22 07 25.2	+1.7
YKA	Yellowknife Ar	91.92	340	P	P	22 06 56.6	+0.9
	comp=N,0.1nm,0.2s,baz=129,slow=4.0,SNR=3.7						
YKA				pP	pP	22 07 25.2	+1.7
	comp=N,1.1nm,0.6s,baz=137,slow=4.5,SNR=12						
ZALV	Zalesovo Beam	142.44	26	PKP	PKPdf	22 13 21.1	+1.3
ZALV	Zalesovo Beam	142.44	26	PKP	PKPdf	22 13 21.1	+1.3
	comp=N,0.5nm,0.5s,baz=327,slow=7.1,SNR=3.5						
MKAR	Makanchi Array	146.01	37	PKPbc	PKPab	22 13 28.0	+0.1
MKAR				pPKPbc	pPKPbc	22 13 57.7	+1.9
MKAR	Makanchi Array	146.01	37	PKPbc	PKPab	22 13 28.0	+0.1
	comp=N,2.5nm,0.8s,baz=313,slow=3.3,SNR=19						
MKAR				pPKPbc	pPKPbc	22 13 57.7	+1.9
	comp=N,0.9nm,0.7s,baz=328,slow=4.4,SNR=3.8						

ISCJB ***20*** *21:56:27.8±0.4, 25°.48N±0°.03×100°.43W±0°.04, h10km, mb3.7/4, Error ellipse: s-maj=5.0km s-min=4.2km az=12.9*

IDC ***20*** *21:56:27.9±3.4, 25°.55N×100°.24W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/35, mbtmp3.7/5, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/35, Error ellipse: s-maj=80.1km s-min=22.0km az=37.0*

NEIC ***20*** *21:56:28.8, 25°.62N×100°.41W, h5km, MD4.0(MEX), After MEX.*

MEX ***20*** *21:56:28.8±0.4, 25°.62N×100°.41W, h5km, MD4.0*

ISC 20 21:56:28.1±0.7, 25°.49N±0°.04×100°.44W±0°.04, h10km, n81, σ1§82/84, mb3.7/4, 31C-25D, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	Linares	1.06	123	*e*P	Pb	21 56 47.2	-1.4
LNIG				*e*S	Sg	21 57 01.8	-0.5
LNIG	Linares	1.06	123	*e*P	Pb	21 56 47.2	-1.4
LNIG				*e*S	Sg	21 57 01.8	-0.5
034A	Hebbronville	2.23	45	⇑P	Pn	21 57 06.1	+1.1
	baz=2.1,SNR=32						
035Z	Hargill	2.35	65	⇑P	Pn	21 57 07.9	+1.2
	baz=2.3						
933A	Laredo	2.36	26	⇓P	Pn	21 57 08.2	+1.3
	baz=2.2,SNR=9.8						
035A	Encino	2.55	55	⇓P	Pn	21 57 10.5	+1.0
	baz=2.4,SNR=5.8						
934A	Benavides	2.72	39	⇓P	Pn	21 57 13.0	+1.1
	baz=2.6,SNR=6.7						
832A	Faith Ranch, C	2.82	8	⇑P	Pn	21 57 15.0	+1.8
	baz=2.7,SNR=14						
833A	Chaparral WMA,	2.98	18	⇑P	Pn	21 57 17.0	+1.6
	baz=2.8						
KVTX	Kingsville	3.07	48	P	Pn	21 57 12.8	-3.8
732A	Laxson Ranch,	3.26	7	⇓P	Pn	21 57 21.3	+2.0
	baz=3.1						
ZAIG	Zacatecas	3.33	216	*e*P	Pn	21 57 20.1	-0.4
ZAIG				*e*S	Sn	21 58 01.8	+1.5
ZAIG	Zacatecas	3.33	216	*e*P	Pn	21 57 20.1	-0.4
ZAIG				*e*S	Sn	21 58 01.8	+1.5
733A	Divot King Ran	3.38	17	⇓P	Pn	21 57 22.6	+1.7
	baz=3.2						
835A	Beeville	3.64	39	⇑P	Pn	21 57 24.7	+0.3
	baz=3.5,SNR=5.2						
734A	La Parita Cree	3.75	26	⇓S	Sn	21 58 11.5	+1.4
	baz=3.6						
631A	Perdido Creek	3.91	358	⇑P	Pn	21 57 29.8	+1.5
	baz=3.8						
632A	Uvalde	4.05	8	P	Pn	21 57 31.8	+1.6
	baz=3.9,SNR=22						
632A				⇓S	Sn	21 58 19.8	+2.2
	baz=3.9						
633A	Saathoff Ranch	4.11	16	⇓P	Pn	21 57 32.5	+1.5
	baz=4.0,SNR=12						
633A				⇓S	Sn	21 58 21.4	+2.1
	baz=4.0						
635A	Leesville	4.55	31	⇓S	Sn	21 58 29.6	-0.4
	baz=4.4						
532A	Rocksprings	4.65	6	⇑P	Pn	21 57 40.5	+2.1
	baz=4.5,SNR=47						
531A	Rocksprings	4.66	359	⇓P	Pn	21 57 40.5	+1.9
	baz=4.5,SNR=11						
530A	J-C Ranch, Com	4.71	351	P	Pn	21 57 40.9	+1.6
	baz=4.6,SNR=27						
533A	Kerrville	4.74	15	⇓P	Pn	21 57 41.4	+1.8
	baz=4.6,SNR=7.8						
533A				⇓S	Sn	21 58 36.0	+1.4
	baz=4.6						
TXAR	Lajitas Array	4.79	324	Pn	Pn	21 57 41.4	+1.0
TXAR				Lg	Lg	21 58 59.6	
TXAR	Lajitas Array	4.79	324	Pn	Pn	21 57 41.4	+1.0
	1.9nm,0.3s,baz=143,slow=16,SNR=20						
TXAR				Lg	Lg	21 58 59.6	
	7.1nm,0.3s,baz=159,slow=32,SNR=3.6						
534A	Blanco	4.85	21	⇑P	Pn	21 57 42.5	+1.4
	baz=4.7,SNR=43						
534A				⇑S	Sn	21 58 38.0	+0.7
	baz=4.7						
529A	Stev Forest Ra	4.88	342	⇓P	Pn	21 57 43.6	+2.0
	baz=4.8,SNR=29						
HPIG		4.91	288	*e*P	Pn	21 57 41.8	-0.4
HPIG				*e*S	Sn	21 58 38.4	-0.8
HPIG		4.91	288	*e*P	Pn	21 57 41.8	-0.4
HPIG				*e*S	Sn	21 58 38.4	-0.8
JCT	Junction City	5.01	6	*e*Pn	Pn	21 57 44.5	+1.1
JCT				*e*Sn	Sn	21 58 39.7	-1.6
JCT	Junction City	5.01	6	⇑P	Pn	21 57 45.8	+2.4
	baz=4.9,SNR=24						
JCT				⇑S	Sn	21 58 44.0	+2.7
	baz=4.9						
528A	Cox Ranch, San	5.10	336	⇓P	Pn	21 57 47.2	+2.5
	baz=5.0						
431A	Sonora	5.18	358	⇑P	Pn	21 57 47.8	+2.1
	baz=5.1,SNR=15						
626A	Big Bend Ranch	5.21	322	⇑P	Pn	21 57 47.7	+1.5
	baz=5.1						
429A	Davenport Ranc	5.28	346	⇑P	Pn	21 57 49.3	+2.2
	baz=5.2,SNR=21						
DEIG	Demacu	5.32	166	*i* S	Sg	21 59 15.3	-3.8
430A	Baggett Ranch,	5.33	353	⇑P	Pn	21 57 50.4	+2.6
	baz=5.2,SNR=11						
433A	Art	5.38	12	⇓P	Pn	21 57 50.4	+1.9
	baz=5.3,SNR=18						
432A	Menard	5.40	6	⇑P	Pn	21 57 51.2	+2.5
	baz=5.3,SNR=34						
536A	Bastrop	5.46	32	⇓P	Pn	21 57 51.0	+1.4
	baz=5.3						
428A	Kincaid Ranch,	5.58	340	P	Pn	21 57 54.1	+2.8
	baz=5.5,SNR=16						
434A	Burnet	5.64	19	⇑P	Pn	21 57 53.8	+1.7
	baz=5.5,SNR=15						
331A	San Angelo	5.80	0	⇓P	Pn	21 57 57.1	+2.9
	baz=5.7,SNR=15						
332A	Millersview	5.91	6	⇑P	Pn	21 57 57.6	+1.9
	baz=5.8,SNR=12						
330A	Mertzon	5.93	354	⇓P	Pn	21 57 58.8	+2.7
	baz=5.8,SNR=8.4						
427A	Hayter Ranch,	5.95	335	⇓P	Pn	21 57 59.4	+3.1
	baz=5.9						
333A	Richland Sprin	5.96	12	⇓P	Pn	21 57 58.1	+1.7
	baz=5.8,SNR=9.7						
334A	Lometa	6.14	18	P	Pn	21 58 00.6	+1.8
	baz=6.0,SNR=17						
335A	Moody	6.36	24	⇓P	Pn	21 58 03.1	+1.3
	baz=6.2						
230A	Sterling City	6.41	355	⇑P	Pn	21 58 05.4	+2.8
	baz=6.3						
232A	Coleman	6.42	6	⇑P	Pn	21 58 05.0	+2.3
	baz=6.3,SNR=9.8						
231A	Bronte	6.43	1	⇑P	Pn	21 58 05.6	+2.8
	baz=6.3						
326A	Caldwell Ranch	6.59	333	⇑P	Pn	21 58 08.5	+3.4
	baz=6.5						
233A	Rising Star	6.65	11	⇑P	Pn	21 58 07.9	+2.1
	baz=6.5						
228A	UT Block 9, Go	6.87	345	⇑P	Pn	21 58 10.9	+1.9
	baz=6.8						
WHTX	Lake Whitney	6.99	21	*e*Pn	Pn	21 58 11.9	+1.4
WHTX				*e*Sn	Sn	21 59 27.6	-2.5
WHTX	Lake Whitney	6.99	21	⇑P	Pn	21 58 12.2	+1.7
	baz=6.9						
ABTX	Abilene, Hawle	7.15	5	*e*Pn	Pn	21 58 12.2	-0.5
ABTX				*e*Sg	Sg	22 00 12.6	-4.9
ABTX	Abilene, Hawle	7.15	5	⇑P	Pn	21 58 14.8	+2.0
	baz=7.0,SNR=6.7						
133A	Hamilton Ranch	7.22	10	⇑P	Pn	21 58 15.7	+2.0
	baz=7.1,SNR=7.9						
134A	White-Moore Ra	7.36	16	⇓P	Pn	21 58 17.5	+1.9
	baz=7.2						
Z30A	Sanderson Ranc	7.79	356	⇑P	Pn	21 58 23.4	+1.7
	baz=7.7,SNR=6.1						
Z31A	Sharp Cattle R	7.81	2	⇑P	Pn	21 58 23.0	+1.2
	baz=7.7,SNR=5.4						
Z32A	Haskell	7.84	6	⇓P	Pn	21 58 24.1	+1.9
	baz=7.7,SNR=11						
Z33A	Whitaker Ranch	7.91	10	⇓P	Pn	21 58 24.6	+1.4
	baz=7.8,SNR=8.8						
CGIG		8.25	308	*e*S	Sg	22 00 47.7	-5.1
Y29A	Porterfield Fa	8.41	353	⇑P	Pn	21 58 32.2	+2.0
	baz=8.3						
Y33A	Hilltop Ranch,	8.64	10	⇑P	Pn	21 58 34.9	+1.8
	baz=8.5						
LPIG	La Paz	9.07	263	LR	LR	22 02 06.1	
	comp=Z,98nm,20.4s,baz=22,slow=36						
WMOK	Wichita Mounta	9.33	8	*e*Pn	Pn	21 58 42.4	-0.3
WMOK				*e*Sn	Sn	22 00 25.5	-2.2
MIAR	Mount Ida	10.81	32	*e*Pn	Pn	21 59 01.1	-1.8
APG	El Apazote	14.01	136	LR	LR	22 05 10.1	
	comp=Z,42nm,20.3s,baz=282,slow=38						
YKA	Yellowknife Ar	38.20	349	P	P	22 03 48.0	+0.3
YKA	Yellowknife Ar	38.20	349	P	P	22 03 47.9	+0.3
	0.3nm,0.8s,baz=159,slow=8.0,SNR=5.3						
SCHQ	Schefferville	38.32	31	P	P	22 03 48.7	-0.1
SCHQ	Schefferville	38.32	31	P	P	22 03 48.7	-0.1
	1.9nm,0.9s,baz=238,slow=11,SNR=1.2						
ILAR	Eielson Array	49.19	336	P	P	22 05 18.5	+2.4
ILAR	Eielson Array	49.19	336	P	P	22 05 18.5	+2.4
	0.4nm,0.6s,baz=116,slow=7.9,SNR=7.8						
ARCES	ARCESS Array B	77.64	17	P	P	22 08 25.6	+1.2
ARCES	ARCESS Array B	77.64	17	P	P	22 08 25.6	+1.2
	2.4nm,0.7s,baz=300,slow=5.9,SNR=5.8						

IDC 20 22:17:16.9±52.0, 16°.75S×172°.31W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/33, mbtmp4.0/3, Error ellipse: s-maj=999.3km s-min=183.8km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.30	241	P	P	22 25 29.4	+0.7
	0.8nm,0.5s,baz=70,slow=12,SNR=3.9						
WRA	Warramunga Arr	50.57	259	P	P	22 26 17.3	-0.5
	0.8nm,0.4s,baz=98,slow=7.1,SNR=30						
ASAR	Alice Springs	50.71	253	P	P	22 26 18.5	-0.3
	1.4nm,0.4s,baz=90,slow=7.8,SNR=22						

IDC 20 22:24:07.7±5.2, 15°.37S×173°.68W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.7/32, mbtmp4.1/3, ML4.7/1, Error ellipse: s-maj=336.6km s-min=25.7km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.35	52	Pn	Pn	22 24 47.4	-0.3
	173nm,0.3s,baz=174,slow=1.5,SNR=44						
AFI				Sn	Sn	22 25 08.9	-8.3
	48nm,0.3s,baz=169,slow=14,SNR=4.8						
H11S2	WAKE ISLAND Hy	38.80	329	T	T	23 12 00.3	
	baz=150,slow=76,SNR=8.1						
H11S3	WAKE ISLAND Hy	38.81	329	T	T	23 12 00.8	
	baz=150,slow=76,SNR=9.9						
H11S1	WAKE ISLAND Hy	38.82	329	T	T	23 12 01.1	
	baz=150,slow=76,SNR=7.3						
H11N3	WAKE ISLAND Hy	39.75	331	T	T	23 13 09.8	
	baz=149,slow=76,SNR=5.2						
H11N1	WAKE ISLAND Hy	39.76	331	T	T	23 13 08.7	
	baz=149,slow=76,SNR=3.9						
H11N2	WAKE ISLAND Hy	39.77	331	T	T	23 13 10.5	
	baz=149,slow=76,SNR=5.8						
WRA	Warramunga Arr	49.59	257	P	P	22 33 00.7	-0.4
	0.6nm,0.6s,baz=90,slow=7.3,SNR=14						
ASAR	Alice Springs	49.86	252	P	P	22 33 03.1	0.0
	3.0nm,0.7s,baz=85,slow=8.3,SNR=30						
GERES	GERESS Array B	146.07	351	PKPbc	PKPdf	22 43 49.2	+0.2
	0.2nm,0.4s,baz=346,slow=2.5,SNR=5.1						

HLW ***20*** *22:39:48.1, 36°.53N×22°.10E, h20km±25km, Md4.0*

THE ***20*** *22:39:50.4, 36°.14N×21°.47E, h13km±2km, ML3.1/4, Error ellipse: s-maj=3.2km s-min=2.5km az=229.0*

CSEM ***20*** *22:39:51.6±0.4, 36°.08N×21°.63E, h40km, MD3.6, Error ellipse: s-maj=12.4km s-min=4.5km az=68.0*

ATH ***20*** *22:39:52.5, 36°.27N×21°.66E, h36km±3km, MD3.6/18*

ISC 20 22:39:48.9±1.5, 36°.09N±0°.04×21°.48E±0°.06, h13km±10km, n86, σ1§01/94, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.83	15	P	Pg	22 40 05.2	+0.3
PYL				S	Sb	22 40 16.5	+0.3
PYL	PYLOS	0.83	15	*e*Pn	Pg	22 40 05.3	+0.3
PYL				*e*Sn	Sg	22 40 15.1	-0.8
PYL	PYLOS	0.83	15	*e*Pn	Pg	22 40 05.3	+0.3
PYL				*e*Sn	Sg	22 40 15.1	-0.8
PYL				S	Sb	22 40 16.5	+0.3
ITM	Ithomi	1.15	18	P	Pb	22 40 10.1	-0.4
ITM				S	Sn	22 40 27.5	+1.3
ITM	Ithomi	1.15	18	P	Pb	22 40 10.1	-0.4
ITM				S	Sn	22 40 27.5	+1.3
KYTH	Kithira	1.27	81	P	Pn	22 40 13.4	+1.1
KYTH	Kithira	1.27	81	*e*PN	Pn	22 40 13.5	+1.1
KYTH	Kithira	1.27	81	*e*Pn	Pn	22 40 13.5	+1.1
VLI	Veliai	1.33	62	P	Pn	22 40 13.4	+0.2
VLI				S	Sn	22 40 31.8	+1.0
VLI	Veliai	1.33	62	*e*PN	Pn	22 40 13.3	+0.1
VLI	Veliai	1.33	62	*e*Pn	Pn	22 40 13.3	+0.1
VLI				S	Sn	22 40 31.8	+1.0
AMT	Artemida-Makis	1.45	7	P	Pn	22 40 15.2	+0.4
AMT	Artemida-Makis	1.45	7	*e*PN	Pn	22 40 15.1	+0.3
AMT	Artemida-Makis	1.45	7	*e*Pn	Pn	22 40 15.1	+0.3
VLX	Vlachokerasia	1.47	29	P	Pn	22 40 15.4	+0.3
VLX				S	Sg	22 40 35.7	-0.5
VLX	Vlachokerasia	1.47	29	*e*PN	Pn	22 40 15.1	0.0
VLX				*e*SN	Sn	22 40 31.9	-2.3
VLX	Vlachokerasia	1.47	29	*e*Pn	Pn	22 40 15.1	0.0
VLX	Vlachokerasia	1.47	29	P	Pn	22 40 15.4	+0.3
VLX				*e*Sn	Sn	22 40 31.9	-2.3
VLX				S	Sg	22 40 35.7	-0.5
ANKY	Antikythira Is	1.50	98	*e*PB	Pn	22 40 16.9	+1.5
ANKY	Antikythira Is	1.50	98	*e*Pb	Pn	22 40 16.9	+1.5
DRO	Drossia	1.87	6	P	Pn	22 40 21.4	+0.9
DRO	Drossia	1.87	6	*e*PB	Pn	22 40 21.5	+0.9
DRO	Drossia	1.87	6	P	Pn	22 40 21.4	+0.9
RLS	Riolos of Patr	1.96	360	*e*PN	Pn	22 40 23.1	+1.3
RLS	Riolos of Patr	1.96	360	*e*Pn	Pn	22 40 23.1	+1.3
GUR	Goura	1.97	20	P	Pn	22 40 22.6	+0.6
GUR				S	Sn	22 40 46.1	-0.5
GUR	Goura	1.97	20	*e*PB	Pn	22 40 22.6	+0.6
GUR	Goura	1.97	20	P	Pn	22 40 22.6	+0.6
GUR				S	Sn	22 40 46.1	-0.5
DID	Didima	2.00	44	P	Pn	22 40 21.9	-0.4
DID	Didima	2.00	44	*e*PN	Pn	22 40 21.6	-0.7
DID	Didima	2.00	44	*e*Pn	Pn	22 40 21.6	-0.7
DID	Didima	2.00	44	P	Pn	22 40 21.9	-0.4
KLV	Kalavryta, Ach	2.02	15	*e*Pn	Pn	22 40 23.4	+0.7
KLV	Kalavryta, Ach	2.02	15	*e*Pn	Pn	22 40 23.4	+0.7
LAKA	Lakka	2.18	10	*e*PB	Pn	22 40 26.2	+1.3
LAKA	Lakka	2.18	10	*e*Pb	Pn	22 40 26.2	+1.3
VLS	Valsamata	2.20	341	P	Pn	22 40 26.2	+1.1
VLS				S	Sn	22 40 51.4	-0.8
VLS	Valsamata	2.20	341	*e*PN	Pn	22 40 26.0	+0.9
VLS	Valsamata	2.20	341	*e*Pn	Pn	22 40 26.0	+0.9
VLS				S	Sn	22 40 51.4	-0.8
LTK	Loutraki	2.27	31	P	Pn	22 40 25.7	-0.3
LTK	Loutraki	2.27	31	*e*PN	Pn	22 40 26.1	+0.1
LTK	Loutraki	2.27	31	P	Pn	22 40 25.7	-0.3
LTK	Loutraki	2.27	31	*e*Pn	Pn	22 40 26.1	+0.1
NAIG	Nisos Aigina	2.32	43	*e*PN	Pn	22 40 27.0	+0.3
NAIG	Nisos Aigina	2.32	43	*e*Pn	Pn	22 40 27.0	+0.3
KALE	Kalithea	2.36	13	*e*PN	Pn	22 40 27.8	+0.5
KALE	Kalithea	2.36	13	*e*Pn	Pn	22 40 27.8	+0.5
PDO	Prodromos	2.51	355	*e*PN	Pn	22 40 31.5	+2.1
PTL	Penteli	2.73	44	*e*PN	Pn	22 40 33.3	+0.9
LKR	Lokris	2.83	25	P	Pn	22 40 33.2	-0.5
LKR	Lokris	2.83	25	*e*PN	Pn	22 40 33.3	-0.5
LKR	Lokris	2.83	25	P	Pn	22 40 33.2	-0.5
EVR	Evrytania	2.83	5	*e*PN	Pn	22 40 34.8	+0.9
MAKR	Makrakomi, Fth	2.96	10	*e*PN	Pn	22 40 37.0	+1.4
AGG	Agios Georgios	3.00	13	P	Pn	22 40 36.7	+0.5
AGG	Agios Georgios	3.00	13	P	Pn	22 40 36.7	+0.5
MRKA	Markates	3.10	32	*e*PN	Pn	22 40 38.7	+1.2
SMIA	Simia	3.11	26	*e*PN	Pn	22 40 38.3	+0.8
THL	Klokotos Trika	3.49	7	P	Pn	22 40 43.5	+0.7
THL	Klokotos Trika	3.49	7	*e*PN	Pn	22 40 43.5	+0.7
THL	Klokotos Trika	3.49	7	P	Pn	22 40 43.5	+0.7
MEV	Metsovon	3.69	357	P	Pn	22 40 47.8	+2.1
MEV	Metsovon	3.69	357	P	Pn	22 40 47.8	+2.1
BIA	Bitola	4.92	359	*i* Pn	Pn	22 41 02.9	+0.4
BIA	Bitola	4.92	359	*i* Pn	Pn	22 41 02.9	+0.4
SOH	Sokhos	4.95	17	P	Pn	22 41 03.5	+0.6
SOH	Sokhos	4.95	17	P	Pn	22 41 03.5	+0.6
VAY	Valandovo	5.29	9	*i* Pn	Pn	22 41 07.9	+0.4
VAY	Valandovo	5.29	9	*i* Pn	Pn	22 41 07.9	+0.3
SLUM		5.54	145	S	Sn	22 42 12.0	-2.6
	baz=151						
SLUM		5.54	145	S	Sn	22 42 12.0	-2.6
HMAT	Matruh	6.84	135	P	Pn	22 41 27.4	-1.5
	baz=141						
HMAT				S	Sn	22 42 39.6	-7.0
	baz=141						
HMAT	Matruh	6.84	135	P	Pn	22 41 27.4	-1.5
HMAT				S	Sn	22 42 39.6	-7.0
STON	Ston	7.37	338	*e*Pn	Pn	22 41 34.4	-1.7
STON				Sn	Sn	22 42 49.6	-10
SWA2		7.61	153	P	Pn	22 41 40.8	+1.4
	baz=157						
SWA2		7.61	153	P	Pn	22 41 40.8	+1.4
UDBI	Udbina	9.49	334	*e*Pn	Pn	22 42 03.8	-1.4
UDBI				Sn	Sn	22 43 40.0	-12
NVLJ	Novalja	9.85	331	*e*Pn	Pn	22 42 09.3	-0.8
NVLJ				Sn	Sn	22 43 50.5	-10
HFRF	Wahat Farafira	10.64	145	P	Pn	22 42 21.6	+0.6
	baz=148						
HFRF	Wahat Farafira	10.64	145	P	Pn	22 42 21.6	+0.6
GLL	Jalalah	10.78	124	P	Pn	22 42 21.0	-1.9
	baz=128						
GLL	Jalalah	10.78	124	P	Pn	22 42 21.0	-1.9
RSH		11.43	113	P	Pn	22 42 27.8	-3.9
	baz=116						
RSH		11.43	113	P	Pn	22 42 27.8	-3.9
HNKL	Nakhl	12.15	117	P	Pn	22 42 39.6	-2.1
	baz=120						
HNKL	Nakhl	12.15	117	P	Pn	22 42 39.6	-2.1

SKO 20 22:40:02.2, 41°.69N×24°.46E, h0km, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	1.47	256	*i* Pg	Pn	22 40 29.0	-0.9
VAY				*i* Sg	Sg	22 40 49.1	-0.2
VAY				*e*Lg	Lg	22 40 49.6	
VAY	comp=E,26nm,2.2s						
				*e*Lg	Lg	22 40 50.9	
	comp=N,31nm,1.7s						

BJI ***20*** *22:56:57.7, 20°.17S×177°.30W, h346km, mB4.9/18, mb4.6/26*

ISCJB ***20*** *22:56:59.8±0.6, 20°.15S±0°.03×177°.44W±0°.05, h362km±6km, mb4.7/58, Error ellipse: s-maj=8.1km s-min=5.2km az=171.9*

NEIC ***20*** *22:56:59.2±0.7, 20°.10S×177°.22W, h356km±7km, mb4.9/28, Error ellipse: s-maj=9.0km s-min=5.9km az=113.0*

IDC ***20*** *22:57:05.2±2.0, 20°.03S×177°.70W, h390km±21km, mb4.3/19, mb1 4.5/20, mb1mx4.3/31, mbtmp5.0/20, Error ellipse: s-maj=13.6km s-min=10.2km az=144.0*

ISC 20 22:57:00.5±0.5, 20°.19S±0°.05×177°.51W±0°.06, h357km±3km, h357km:pP-P, n214, σ1§37/246, mb4.8/58, 23C-30D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.86	300	Pn	Pn	22 58 20.0	+0.9
	4µm,0.6s						
MSVF	Nonsavu	4.86	300	*e*Pn	Pn	22 58 20.0	+0.9
MSVF				*e*S	S	22 59 21.8	-0.8
NIUE	Niue	7.23	82	⇑P	P

TUWZ	Tuamarina	22.38	197	PN	P	P	23 01 30.0	+0.5
THZ	Tophouse	22.99	199	PN	P	P	23 01 36.2	+1.0
DSZ	Denniston Nort	23.32	201	PN	P	P	23 01 40.2	+2.1
KHZ	Kahutara	23.41	197	*e*P	P	P	23 01 39.3	+0.5
	56nm,0.8s							
KHZ	Kahutara	23.41	197	PN	P	P	23 01 39.4	+0.5
OXZ	Oxford	24.67	198	PN	P	P	23 01 49.6	-0.7
RPZ	Rata Peaks	25.33	200	*e*P	P	P	23 01 56.6	+0.4
	34nm,0.7s							
FOZ	Fox Glacier	25.65	202	PN	P	P	23 01 58.7	-0.3
TBI	Tubuai	26.22	102	*e*LR	LR	LR	23 08 05.2	
	141nm,28.2s							
PPT2	Papeete2	26.55	89	*e*LR	LR	LR	23 08 25.8	
	166nm,22.8s							
ODZ	Otahua Downs	26.66	199	*e*P	P	P	23 02 08.5	+0.7
	294nm,2.9s							
DCZ	Deep Cove	28.21	203	*e*P	P	P	23 02 21.8	+0.1
	232nm,2.2s							
WHZ	Wether Hill Ro	28.29	202	*e*P	P	P	23 02 23.0	+0.7
EIDS	Eidsvold	29.37	254	*e*P	P	P	23 02 32.8	+0.7
	62nm,1.2s							
EIDS	Eidsvold	29.37	254	⇓P	P	P	23 02 32.9	+0.7
	baz=30,SNR=16							
ARMA	Armidale	29.61	244	*e*P	P	P	23 02 36.4	+2.0
	57nm,0.7s							
ARMA	Armidale	29.61	244	⇑P	P	P	23 02 36.0	+1.7
	baz=30,SNR=55							
MGCD	Mangrove Creek	30.76	239	⇓P	P	P	23 02 46.3	+2.1
	baz=31,SNR=11							
RMQ	Roma	31.54	252	⇑P	P	P	23 02 52.4	+1.3
	baz=32,SNR=9.0							
CNB	Canberra Magne	32.78	236	⇓P	P	P	23 03 03.2	+1.5
	baz=33,SNR=31							
CAN	Canberra	33.06	236	*e*P	P	P	23 03 04.5	+0.4
	94nm,1.1s							
YNG	Young	33.23	238	⇓P	P	P	23 03 06.4	+0.8
	baz=33,SNR=7.1							
MILA	Mila	33.52	233	⇑P	P	P	23 03 08.8	+0.8
	baz=34,SNR=6.5							
CTA	Charters Tower	33.98	264	P	P	P	23 03 13.0	+0.9
CTA	Charters Tower	33.98	264	P	P	P	23 03 13.0	+0.9
	100nm,0.5s,baz=92,slow=10,SNR=182							
CTAO	Charters Tower	33.98	264	*e*P	P	P	23 03 12.7	+0.6
CMSA	Cobar Meteorol	34.83	244	⇓P	P	P	23 03 19.9	+0.7
	baz=35,SNR=88							
QLP	Quilpie	35.59	252	⇑P	P	P	23 03 26.0	+0.4
	baz=36,SNR=55							
TOO	Toolangi	36.45	234	⇓P	P	P	23 03 33.5	+0.8
	baz=37,SNR=30							
TAU	Tasmania Unive	37.16	224	*e*P	P	P	23 03 38.4	-0.1
	30nm,0.9s							
COEN	Coen	38.02	273	*e*P	P	P	23 03 46.8	+0.7
	2μm,2.3s							
COEN	Coen	38.02	273	⇓P	P	P	23 03 46.2	+0.1
	baz=38,SNR=7.0							
STKA	Stephens Creek	38.33	244	*e*P	P	P	23 03 49.8	+1.2
	20nm,1.1s							
STKA	Stephens Creek	38.33	244	P	P	P	23 03 49.7	+1.2
	39nm,0.5s,baz=90,slow=9.7,SNR=130							
STKA	Stephens Creek	38.33	244	⇓P	P	P	23 03 49.5	+1.0
	baz=38,SNR=85							
ARPS	Mount Arapiles	39.04	236	⇓P	P	P	23 03 54.6	+0.4
	baz=39,SNR=13							
QIS	Mount Isa	40.12	262	⇓P	P	P	23 04 03.1	-0.2
	baz=40,SNR=3.8							
HTT	Hallett	40.77	242	⇑P	P	P	23 04 09.0	+0.5
	baz=41,SNR=48							
BBOO	Buckleboo	43.09	243	*e*P	P	P	23 04 27.6	+0.6
	2μm,0.8s							
BBOO	Buckleboo	43.09	243	⇑P	P	P	23 04 27.3	+0.3
	baz=43,SNR=135							
JAY	Jayapura	44.38	288	P	P	P	23 04 39.0	+1.6
JAY	Jayapura	44.38	288	P	P	P	23 04 39.0	+1.6
	25nm,0.8s,baz=7.9,slow=4.4,SNR=4.9							
AS31	Alice Springs	45.03	256	*e*P	P	P	23 04 42.5	+0.1
ASAR	Alice Springs	45.03	256	P	P	P	23 04 42.6	+0.2
ASAR				PcP	PcP	PcP	23 06 15.6	-0.9
ASAR				S	S	S	23 10 51.6	-2.3
	88nm,0.7s,baz=95,slow=8.0,SNR=733							
ASAR				PcP	PcP	PcP	23 06 15.6	-0.9
	5.8nm,0.9s,baz=93,slow=5.0,SNR=5.1							
ASAR				S	S	S	23 10 51.6	-2.3
	3.5nm,0.8s,baz=94,slow=16,SNR=14							
WRAB	Tennant Creek	45.09	262	P	P	P	23 04 42.1	-0.7
	257nm,0.7s,SNR=10							
WRAB	Tennant Creek	45.09	262	*e*P	P	P	23 04 40.7	-2.1
	27nm,0.7s							
WRA	Warramunga Arr	45.10	262	P	P	P	23 04 42.0	-1.0
WRA				S	S	S	23 10 53.3	-1.5
WRA	Warramunga Arr	45.10	262	P	P	P	23 04 42.0	-1.0
	13nm,0.3s,baz=97,slow=7.5,SNR=338							
WRA				S	S	S	23 10 53.3	-1.5
	4.1nm,0.9s,baz=97,slow=13,SNR=7.9							
KDU	Kakadu	48.40	271	⇑P	P	P	23 05 07.6	-0.7
	baz=48,SNR=19							
MTN	Manton Dam	49.62	270	P	P	P	23 05 16.9	-0.5
	baz=50,SNR=22							
FORT	Forrest	49.84	246	*e*P	P	P	23 05 18.8	0.0
FORT	Forrest	49.84	246	⇓P	P	P	23 05 18.9	0.0
	baz=50,SNR=87							
WRKA	Warakurna	49.99	254	P	P	P	23 05 20.4	+0.3
	baz=50,SNR=74							
KNRA	Kununurra	51.14	266	P	P	P	23 05 28.7	+0.1
	baz=51,SNR=11							
SOEI	Soe	56.95	271	*e*P	P	P	23 06 11.7	+1.2
SOEI	Soe	56.95	271	⇓P	P	P	23 06 12.0	+1.6
	baz=57,SNR=12							
SBA	Scott Base	58.20	184	*e*P	P	P	23 06 17.7	-0.2
	16nm,0.7s							
VNDA	Vanda	58.25	185	P	P	P	23 06 21.6	+3.4
VNDA	Vanda	58.25	185	P	P	P	23 06 21.6	+3.4
	4.2nm,0.8s,baz=36,slow=8.3,SNR=16							
MEEK	Meekatharra	58.45	251	P	P	P	23 06 20.2	-0.3
	baz=59,SNR=16							
NWAO	Narrogin (SRO)	58.91	243	P	P	P	23 06 24.2	+0.6
NWAO	Narrogin (SRO)	58.91	243	P	P	P	23 06 24.2	+0.6
	34nm,0.8s,baz=96,slow=5.1,SNR=16							
BLDU	Balidu	59.60	246	⇑P	P	P	23 06 28.1	-0.1
	baz=60,SNR=20							
MORW	Morawa	60.37	247	P	P	P	23 06 33.6	+0.2
	baz=60,SNR=6.2							
GIRL	Giralia	63.07	254	⇓P	P	P	23 06 52.9	+1.5
	baz=63,SNR=8.6							
CASY	Casey	64.43	205	*e*P	P	P	23 06 59.5	+0.1
	55nm,0.9s							
JAGI	Jajag, Banyuwa	66.84	269	*e*P	P	P	23 07 14.3	-1.3
	74nm,1.0s							
JAGI	Jajag, Banyuwa	66.84	269	⇓P	P	P	23 07 14.5	-1.1
	baz=67,SNR=8.3							
QSPA	South Pole Qui	69.87	180	P	P	P	23 07 36.0	+2.6
QSPA	South Pole Qui	69.87	180	P	P	P	23 07 36.0	+2.6
	52nm,1.0s,baz=30,slow=2.6,SNR=62							
MJAR	Matsushiro Arr	70.24	323	P	P	P	23 07 35.7	-0.2
MJAR	Matsushiro Arr	70.24	323	P	P	P	23 07 35.7	-0.2
	7.4nm,0.6s,baz=158,slow=6.1,SNR=25							
KSM	Kuching	73.82	278	*e*P	P	P	23 07 57.4	-0.1
	50nm,1.1s							
KSM	Kuching	73.82	278	⇓P	P	P	23 07 58.4	+0.9
	baz=74,SNR=7.4							
PETK	Petropavlovsk-	76.09	345	P	P	P	23 08 10.0	+0.5
PETK	Petropavlovsk-	76.09	345	P	P	P	23 08 10.0	+0.5
	17nm,0.8s,baz=150,slow=8.7,SNR=7.5							
MNAI	Manna	78.69	269	P	P	P	23 08 25.3	+0.6
	baz=79,SNR=3.8							
USRK	Ussuriysk Arra	78.97	326	P	P	P	23 08 26.6	+1.2
	9.2nm,0.9s,baz=172,slow=4.3,SNR=12							
NJ2	Nanjing	80.04	309	*e*P	P	P	23 08 32.3	+0.9
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
MDJ	Mudanjiang	80.53	325	P	P	P	23 08 35.3	+1.6
MDJ				pP	pP	pP	23 09 53.3	-2.1
MDJ				sP	sP	sP	23 10 28.1	-4.7
MDJ				S	SKKSac	SKKSac	23 18 18.3	-1.5
MDJ				pmax	pmax			
	comp=Z,26nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,100nm,4.6s							
MDJ	Mudanjiang	80.53	325	*e*P	P	P	23 08 32.6	-1.2
	18nm,0.9s							
MAW	Mawson	82.00	200	P	P	P	23 08 42.4	+1.4
MAW	Mawson	82.00	200	P	P	P	23 08 42.4	+1.4
	13nm,0.6s,baz=172,slow=8.7,SNR=6.5							
CN2	Changchun	82.34	322	*e*P	P	P	23 08 44.3	+1.2
CN2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TUC	Tucson	82.43	52	*e*P	P	P	23 08 40.3	-3.7
	11nm,1.0s							
PSI	Prapat	84.92	275	P	P	P	23 08 56.8	-0.3
PSI	Prapat	84.92	275	P	P	P	23 08 56.8	-0.3
	24nm,1.0s,baz=140,slow=1.5,SNR=16							
PSI	Prapat	84.92	275	⇓P	P	P	23 08 56.5	-0.5
	baz=85,SNR=12							
GSI	Gununguitoli	85.67	273	*e*P	P	P	23 09 00.7	+0.2
	19nm,0.5s							
BJI	Beijing	86.00	315	P	P	P	23 09 01.8	+0.3
BJI				pmax	pmax			
	comp=Z,11nm,0.8s							
TRF	Thorofare Moun	86.06	12	*e*P	P	P	23 08 59.3	-2.1
	9.6nm,1.0s							
ENH	Enshi	86.25	304	*e*P	P	P	23 09 02.8	-0.2
	9.9nm,1.0s							
TXAR	Lajitas Array	86.51	57	P	P	P	23 09 06.5	+2.2
TXAR				pP	pP	pP	23 10 30.4	+3.2
TXAR	Lajitas Array	86.51	57	P	P	P	23 09 06.5	+2.2
	2.4nm,0.7s,baz=216,slow=6.2,SNR=15							
TXAR				pP	pP	pP	23 10 30.4	+3.2
	4.7nm,1.1s,baz=224,slow=5.2,SNR=9.5							
GYA	Guiyang	86.90	299	P	P	P	23 09 06.3	0.0
GYA				pP	pP	pP	23 10 27.4	-1.9
GYA				sP	sP	sP	23 11 02.3	-4.1
GYA				PP	PP	PP	23 12 38.6	+3.3
GYA				SKS	SKSac	SKSac	23 18 58.0	-0.9
GYA				S	S	S	23 19 14.8	+0.8
GYA				pmax	pmax			
	comp=Z,20nm,1.2s							
GYA				pmax	pmax			
	comp=Z,120nm,5.2s							
SYO	Syowa Base	87.12	193	⇓*e*P	P	P	23 09 06.0	-0.4
SURT	Suratani	87.20	281	P	P	P	23 09 10.1	+2.3
	9.5nm,1.1s							
MCMT	McKenzie Canyo	87.42	40	*e*P	P		23 09 04.8	-3.7
	5.6nm,1.0s							
PHET	Kaeng Krachan	87.84	284	P	P	P	23 09 13.4	+2.6
	84nm,0.9s							
ILAR	Eielson Array	87.92	13	P	P	P	23 09 08.9	-1.1
ILAR				pP	pP	pP	23 10 34.3	+1.0
ILAR	Eielson Array	87.92	13	P	P	P	23 09 08.9	-1.1
	1.6nm,0.9s,baz=223,slow=4.9,SNR=19							
ILAR				pP	pP	pP	23 10 34.3	+1.0
	3.4nm,1.1s,baz=231,slow=5.2,SNR=8.5							
PBKT	Sadao Pong	87.96	288	P	P	P	23 09 13.4	+2.1
	14nm,2.1s							
QLMT	Earthquake Lak	88.29	41	*e*P	P		23 09 09.2	-3.3
	0.8nm,0.7s							
SNAA	Sanae	88.30	178	*e*P	P	P	23 09 10.5	-1.6
	6.7nm,1.1s							
XAN	Xi'an	88.31	307	P	P	P	23 09 13.5	+0.8
PDAR	Pinedale Array	88.43	43	P	P	P	23 09 14.1	+0.8
PDAR	Pinedale Array	88.43	43	P	P	P	23 09 14.1	+0.8
	1.9nm,0.8s,baz=214,slow=2.9,SNR=9.4							
SRDT	SRDT	88.82	286	P	P	P	23 09 18.0	+2.6
	49nm,1.3s							
UTHA	Uthaitani	88.96	287	P	P	P	23 09 18.4	+2.4
	3.7nm,1.0s							
KHLT	Khaolaem Dam	89.46	286	P	P	P	23 09 21.1	+2.8
HHC	Hu-ho-hao-te	89.47	314	*e*P	P	P	23 09 15.0	-3.0
HHC				S	S	S	23 19 35.5	-1.9
HHC				pmax	pmax			
	comp=Z,22nm,0.6s							
HHC				pmax	pmax			
	comp=Z,180nm,6.1s							
KMI	Kunming	89.62	297	P	P	P	23 09 21.3	+2.1
KMI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CMAR	Chiang Mai Arr	90.44	289	P	P	P	23 09 24.4	+1.5
CMAR	Chiang Mai Arr	90.44	289	P	P	P	23 09 24.4	+1.5
	7.3nm,0.9s,baz=119,slow=2.8,SNR=40							
CHTO	Chiang Mai	90.57	290	*e*P	P	P	23 09 23.6	+0.1
	9.0nm,0.9s							
CD2	Chengdu	91.01	303	*e*P	P	P	23 09 23.8	-1.5
CD2				sP	sP		23 11 17.8	-8.1
CD2				PP	PP	P	23 13 07.3	-0.4
CD2				SKS	SKSac	SKSac	23 19 20.8	-1.9
CD2				S	ScS	ScS	23 19 55.3	+1.4
CD2				sS	sS		23 22 10.8	-10
CD2				SS	SS	SS	23 26 06.4	+0.9
CD2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CD2				pmax	pmax			
	comp=Z,140nm,11.3s							
LZH	Lanzhou	92.95	307	⇑P	P	P	23 09 33.5	-0.8
LZH				pP	pP	P	23 10 55.6	-2.3
LZH				sP	sP	P	23 11 31.4	-3.5
LZH				PP	PP	P	23 13 24.5	+1.6
LZH				SKS	SKSac	SKSac	23 19 32.1	-1.4
LZH				*e*S	S	S	23 20 08.0	-0.8
LZH				sS	sS		23 22 33.3	-4.9
LZH				pmax	pmax			
	comp=Z,29nm,1.5s							
LZH				pmax	pmax			
	comp=Z,130nm,6.2s							
SONM	Songino Array	95.83	319	P	P	P	23 09 46.8	-0.3
SONM				PP	PP	P	23 13 39.8	-5.0
SONM	Songino Array	95.83	319	P	P	P	23 09 46.8	-0.3
	0.3nm,0.5s,baz=137,slow=6.4,SNR=3.7							
SONM				PP	PP	PP	23 13 39.8	-5.0
	0.8nm,1.0s,baz=104,slow=6.3,SNR=4.3							
YKA	Yellowknife Ar	96.05	25	P	P	P	23 09 47.9	+0.4
YKA	Yellowknife Ar	96.05	25	P	P	P	23 09 47.9	+0.4
	0.6nm,0.6s,baz=241,slow=4.2,SNR=13							
MKAR	Makanchi Array	111.32	313	PKiKP	PKiKP	PKiKP	23 14 50.2	-2.2
MKAR				PP	PP	PP	23 15 39.0	-0.1
MKAR	Makanchi Array	111.32	313	PKiKP	PKiKP	PKiKP	23 14 50.2	-2.2
	0.4nm,0.7s,baz=11,slow=1.5,SNR=2.9							
MKAR				PP	PP	PP	23 15 39.0	-0.1
	0.8nm,0.9s,baz=90,slow=7.3,SNR=3.9							
KSH	Kashi	115.09	305	*e*PKP	PKPdf	PKPdf	23 15 00.5	+0.5
KSH				*es*PKP			23 17 01.8	
KSH				*e*SKS	SKSdf	SKSdf	23 21 37.3	-0.4
KSH				AMB	AMB			
	comp=Z,120nm,5.6s							
KSH				LR	LR			
	comp=N,85nm,5.0s							
KSH				LR	LR			
	comp=E,67nm,5.6s							
KSH				LR	LR			
	comp=Z,86nm,7.4s							
ARCES	ARCESS Array B	128.70	350	PKP	PKPdf	PKPdf	23 15 25.1	0.0
ARCES	ARCESS Array B	128.70	350	PKP	PKPdf	PKPdf	23 15 25.1	0.0
	1.5nm,0.6s,baz=28,slow=2.9,SNR=7.2							
AKASG	Malin Array Be	142.97	332	PKPpre	PKPpre		23 15 48.7	
AKASG	Malin Array Be	142.97	332	PKhKP	PKPpre		23 15 48.7	
	1.2nm,0.3s,baz=42,slow=4.1,SNR=24							
AK02	Malin Array Si	143.01	332	*e*PKPdf	PKPab		23 15 48.0	-0.4
KWP	Kalwaria Pacla	146.49	336	*e*PKP	PKPbc	PKPbc	23 16 00.8	+0.6
KWP	Kalwaria Pacla	146.49	336	⇑*i*P	PKPbc	PKPbc	23 16 00.7	+0.6
BR131	Keskin Array S	146.97	313	*e*PKPdf	PKPdf	PKPdf	23 15 57.8	-1.6
BRTR	Keskin Array B	146.97	313	PKPbc	PKPbc	PKPbc	23 16 02.0	0.0
BRTR	Keskin Array B	146.97	313	PKPbc	PKPbc	PKPbc	23 16 02.0	0.0
	4.5nm,0.8s,baz=135,slow=4.5,SNR=20							
BUR08	Bucovina Ar. S	147.00	331	*e*PKPdf	PKPbc	PKPbc	23 16 02.3	+0.5
BURAR	Bucovina Array	147.02	331	⇓*i*P	PKPbc	PKPbc	23 16 02.9	+1.1
STHS	Stebnicka Huta	147.22	337	*e*PKP	PKPbc	PKPbc	23 16 03.0	+0.8
KOLS	Kolonicke sedl	147.23	336	*e*PKP	PKPbc	PKPbc	23 16 02.9	+0.7
KSP	Ksiaz	147.53	344	*e*PKP	PKPbc	PKPbc	23 16 04.0	+1.1
NIE	Niedzica	147.55	338	*e*PKP	PKPbc	PKPbc	23 16 04.0	+0.9
VRI	Vrincioaia	147.56	328	⇑*i*P	PKPab	PKPbc	23 16 05.4	-1.0
PLOR	Plostina	147.61	328	⇓*i*P	PKPab	PKPbc	23 16 06.2	-0.4
TRPA	Tarpa	147.77	334	⇑*i*P	PKPbc	PKPbc	23 16 04.1	+0.5
CLL	Collm	147.87	348	*e*PKPdf	PKPdf	PKPdf	23 16 00.0	-0.3
CLL				⇓*i*PKPbc	PKPbc	PKPbc	23 16 03.9	+0.1
	comp=Z,11nm,0.8s							
CLL				*i* PKPab	PKPab	PKPab	23 16 07.2	-0.2
	comp=Z,9.0nm,0.8s							
CLL				*e*pPKPbc	pPKPbc	pPKPbc	23 17 35.0	+3.9
OKC	Ostrava-Krasne	147.90	341	⇑*e*PKP	PKPbc	PKPbc	23 16 04.5	+0.6
OKC				*e*PKPAB	PKPab	PKPab	23 16 07.9	+0.3
DPC	Dobruska-Polom	147.97	343	⇑*e*PKP	PKPbc	PKPbc	23 16 05.0	+0.8
DPC				*e*PKPAB	PKPab	PKPab	23 16 08.8	+0.9
DPC				*ex*	x		23 17 38.0	
BRG	Berggiesshubel	148.08	346	*e*PKP	PKPbc	PKPbc	23 16 04.4	0.0
	comp=Z,4.7nm,0.8s							
BRG				*e*			23 16 09.0	
	comp=Z,4.3nm,0.7s							
DOPR	Dopca	148.15	329	⇑*i*P	PKPbc	PKPbc	23 16 05.8	+1.1
MLR	Muntele Rosu	148.21	328	⇓*i*P	PKPbc	PKPbc	23 16 05.3	+0.2
VOIR		148.69	329	⇓*i*P	PKPbc	PKPbc	23 16 07.5	+1.3
PRA	Prague	148.71	345	⇑PKP	PKPbc	PKPbc	23 16 07.0	+1.0
PRA				PKPAB	PKPab	PKPab	23 16 11.0	+0.1
PRA				pPKP	pPKPdf	PKPbc	23 17 39.0	+8.8
DRGR		148.75	333	⇓*i*P	PKPbc	PKPbc	23 16 07.0	+0.7
PRU	Pruhonice	148.76	345	*e*PKP	PKPbc	PKPbc	23 16 06.7	+0.6
PRU				*e*PKPAB	PKPab	PKPab	23 16 10.5	-0.6
PRU				*ep*PKP	pPKPdf	PKPbc	23 17 37.9	+7.6
ARR	Arges	148.95	329	⇓*i*P	PKPbc	PKPbc	23 16 08.1	+1.3
NKC	Novy Kostel	149.00	348	⇑*e*PKP	PKPbc	PKPbc	23 16 06.4	-0.3
NKC				*ex*	x		23 17 40.5	
TREC	Trest	149.16	343	⇑*e*PKP	PKPbc	PKPbc	23 16 07.7	+0.6
KHC	Kasperske Hory	149.79	345	*e*PKPDF	PKPdf	PKPbc	23 16 02.0	-1.6
KHC				⇑*e*PKP	PKPbc	PKPbc	23 16 08.9	+0.2
KHC				*e*PKPAB	PKPab	PKPbc	23 16 15.7	+0.3
KHC				*ep*PKP	pPKPdf	PKPbc	23 17 41.2	+9.2
KHC	Kasperske Hory	149.79	345	*e*PKPbc	PKPbc	PKPbc	23 16 06.6	-2.1
GZR	Gura Zlata	149.80	331	⇓*i*P	PKPbc	PKPbc	23 16 09.3	+0.4
GERES	GERESS Array B	150.03	345	PKPbc	PKPbc	PKPbc	23 16 09.5	+0.1
GERES	GERESS Array B	150.03	345	PKPbc	PKPbc	PKPbc	23 16 09.5	+0.1
	comp=Z,4.0nm,0.7s,baz=29,slow=3.0,SNR=38							
BZS	Buzias	150.14	332	⇑*i*P	PKPbc	PKPbc	23 16 09.2	-0.4
CONA	Conrad Observa	150.29	342	⇓*i*PKiKP	PKiKP	PKiKP	23 16 10.5	-0.2
	comp=Z,5.7nm,0.7s							
WLF	Walferdange	150.45	355	PKP	PKPbc	PKPbc	23 16 10.8	+0.6
PKSM	Moragy	150.86	337	⇓*i*P	PKPbc	PKPbc	23 16 10.9	-0.3
WTTA	Wattenberg	151.99	347	⇓*i*PKiKP	PKPbc	PKPbc	23 16 13.9	-0.1
	comp=Z,9.6nm,1.0s							
ABTA	Abfaltersbach	152.27	345	⇓*i*PKiKP	PKPbc	PKPbc	23 16 13.8	-0.7
	comp=Z,7.8nm,1.1s							
FETA	Feichten	152.41	348	⇑*i*PKiKP	PKiKP	PKiKP	23 16 15.1	-0.1
	comp=Z,6.1nm,1.0s							
VISS	Visnje	152.51	341	*e*PKPbc	PKPbc	PKPbc	23 16 14.4	-0.6
VISS				*i*			23 16 27.2	
BOJS	Bojanci	152.65	340	*i* PKPbc	PKPbc	PKPbc	23 16 15.6	+0.3
JAVS	Javornik	152.65	342	*i* PKPbc	PKPbc	PKPbc	23 16 16.3	+0.8

PGC 20 22:58:23.3±8.2, 48.86N×129.41W, h10km, ML2.9/5, Mw3.5,5D,250km southwest of Pt. Hardy, Bc
Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.81	55	⇑Sn	Sn	22 59 13.9	-3.6
HOLB	Holberg	1.97	24	⇑Pn	Pn	22 58 54.2	-2.6
HOLB				⇓Sn	Sn	22 59 17.8	-3.7
MAYB	Maynard	2.12	42	Pn	Pn	22 58 56.5	-2.5
MAYB				⇑Sn	Sn	22 59 21.4	-4.2
PHC	Port Hardy	2.25	34	⇓Pn	Pn	22 58 59.8	-0.8
PHC				⇑Sn	Sn	22 59 23.9	-4.5
WOSB	Woss	2.26	54	Pn	Pn	22 58 59.6	-1.3
WOSB				⇑Sn	Sn	22 59 25.8	-3.2
TLCB	Telegraph Cove	2.38	44	⇑Sn	Sn	22 59 27.6	-3.9
BTB	Buttle Lake	2.62	75	⇑Pn	Pn	22 59 04.1	-1.5
BTB				⇑Sn	Sn	22 59 34.0	-3.9
MGB	Mount Grey	3.11	86	⇓Pn	Pn	22 59 10.8	-1.8
MGB				⇑Sn	Sn	22 59 45.8	-4.1
TXB	Texada	3.36	74	⇑Pn	Pn	22 59 15.2	-0.7
BBB	Bella Bella	3.43	13	⇓Pn	Pn	22 59 15.5	-1.3
BBB				⇓Sn	Sn	22 59 53.8	-3.7

ATH 20 23:04:29.6,36.08N×21.41E,h28km±3km,MD3.3/8
CSEM 20 23:04:30.1±0.6,36.10N×21.52E,h0km±4km,ML3.2,Error ellipse: s-maj=9.3km s-min=4.9km az=65.0
THE 20 23:04:31.3,36.11N×21.61E,h0km±2km,ML3.2/5,Error ellipse: s-maj=3.1km s-min=1.5km az=193.0
HLW 20 23:04:38.1,35.58N×21.50E,h20km±22km,Md3.1

ISC 20 23:04:32.1±1.4, 36.10N±0.04×21.55E±0.05, h29km±13km, n51,σ1°41/70, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.81	11	P	Pb	23 04 46.3	-1.3
PYL				S	Sb	23 04 57.5	-0.8
PYL	PYLOS	0.81	11	*e*PN	Pb	23 04 46.4	-1.2
PYL				*e*SN	Sn	23 04 59.0	+0.4
PYL	PYLOS	0.81	11	P	Pb	23 04 46.3	-1.3
PYL				S	Sb	23 04 57.5	-0.8
PYL				*e*Sn	Sn	23 04 59.0	+0.4
ITM	Ithomi	1.12	16	P	Pn	23 04 51.5	-0.3
ITM				S	Sn	23 05 07.3	+1.0

*DDA **20** 23:06:30.2, 35°.03N × 34°.20E, h5km, MD2.9*
*NSSC **20** 23:06:31.1±1.1, 34°.94N × 34°.12E, h22km±26km, ML1.9*
*ISK **20** 23:06:34.8, 35°.70N × 33°.62E, h3km, MD3.0*

ISC 20 23:06:31.2±0.9, **34°.91N**±0°.03 × **34°.19E**±0°.04, **h15**km±6km, **n47**, σ0°.95/72, **2C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.16**	**304**	⇑*i*P	**Pg**	**23 06 35.1**	**-0.2**
	baz=90						
PHNC				S	**Sg**	**23 06 38.1**	**+0.1**
PHNC	**Paralimni**	**0.16**	**304**	⇑*i*P	**Pg**	**23 06 35.1**	**-0.2**
PHNC				S	**Sg**	**23 06 38.1**	**+0.1**
EREN	**Erenkoy**	**0.61**	**358**	*e*P	**Pb**	**23 06 44.8**	**+1.1**
EREN				*e*S	**Sb**	**23 06 52.4**	**+0.2**
EREN	**Erenkoy**	**0.61**	**358**	*e*Pg	**Pb**	**23 06 44.8**	**+1.1**
EREN				*e*Sg	**Sb**	**23 06 52.4**	**+0.2**
LFK	**Lefkose**	**0.65**	**304**	*e*Pg	**Pg**	**23 06 44.2**	**+0.1**
LFK	**Lefkose**	**0.65**	**304**	*e*Pg	**Pg**	**23 06 44.2**	**+0.1**
MAMC	**Mammari**	**0.84**	**288**	P	**Pb**	**23 06 46.7**	**-0.8**
	baz=101						
MAMC	**Mammari**	**0.84**	**288**	P	**Pb**	**23 06 46.7**	**-0.8**
AKDN	**Akdeniz- K¯–br**	**1.07**	**291**	*e*PG	Pb	23 06 48.4	-3.1
AKDN	**Akdeniz- K¯–br**	**1.07**	**291**	*e*Pg	Pb	23 06 48.4	-3.1
LEF	**Lefka**	**1.09**	**281**	*e*PG	**Pb**	**23 06 52.0**	**+0.3**
LEF	**Lefka**	**1.09**	**281**	*e*Pg	**Pb**	**23 06 52.0**	**+0.3**
SZAC	**Souni-Zanaja**	**1.09**	**262**	P	**Pb**	**23 06 51.4**	**-0.4**
	baz=76						
SZAC				S	**Sb**	**23 07 07.0**	**+1.2**
SZAC	**Souni-Zanaja**	**1.09**	**262**	P	**Pb**	**23 06 51.4**	**-0.4**
SZAC				S	**Sb**	**23 07 07.0**	**+1.2**
KIZK	**Mersin**	**1.56**	**359**	*i* P	**Pn**	**23 06 58.2**	**-0.3**
KIZK				*i* S	**Sg**	**23 07 20.8**	**-0.9**
KIZK	**Mersin**	**1.56**	**359**	*i* P	**Pn**	**23 06 58.2**	**-0.3**
KIZK				*i* S	**Sg**	**23 07 20.8**	**-0.9**
BHL	**Bhannes**	**1.57**	**129**	*e*P	Pn	23 06 55.9	-2.8
HWQ	**Hawqa**	**1.58**	**113**	*e*P	**Pn**	**23 06 59.6**	**+0.8**
ARNB	**Al Arnab**	**1.73**	**56**	*e*P	**Pn**	**23 07 00.9**	**0.0**
ARNB				*e*S	**Sn**	**23 07 22.1**	**-0.7**
ARNB				AML	AML	23 07 27.1	
	comp=N,19nm,0.8s						
ARNB				AML	AML	23 07 34.9	
	comp=E,25nm,0.7s						
ARNB	**Al Arnab**	**1.73**	**56**	*e*P	**Pn**	**23 07 00.9**	**0.0**
	SNR=57						
ARNB				*e*S	**Sn**	**23 07 22.1**	**-0.7**
	comp=E,25nm,0.7s,SNR=58						
BIDA	**Albida**	**1.75**	**86**	*e*P	**Pn**	**23 07 00.9**	**-0.2**
BIDA				*e*S	**Sn**	**23 07 22.9**	**-0.3**
BIDA				AML	AML	23 07 31.1	
	comp=E,18nm,0.2s						
BIDA				AML	AML	23 07 31.1	
	comp=N,36nm,0.5s						
BIDA	**Albida**	**1.75**	**86**	*e*P	**Pn**	**23 07 00.9**	**-0.2**
	SNR=57						
BIDA				*e*S	**Sn**	**23 07 22.9**	**-0.3**
	comp=N,36nm,0.5s,SNR=58						
RCY	**Rachaya**	**1.96**	**136**	*e*P	**Pn**	**23 07 03.4**	**-0.6**
MERS	**Mersin**	**1.97**	**8**	*e*PN	**Pn**	**23 07 01.8**	**-2.3**
MERS	**Mersin**	**1.97**	**8**	*e*Pn	**Pn**	**23 07 01.8**	**-2.3**
ERMK	**Ermenek**	**2.01**	**329**	*i* P	**Pn**	**23 07 05.8**	**+0.9**
ERMK				*i* S	**Sb**	**23 07 33.3**	**+0.7**
ERMK	**Ermenek**	**2.01**	**329**	*i* P	**Pn**	**23 07 05.8**	**+0.9**
ERMK				*i* S	**Sb**	**23 07 33.3**	**+0.7**
BRBR	**Barbar**	**2.09**	**135**	*e*P	**Pn**	**23 07 05.8**	**-0.1**
BRBR				*e*S	**Sn**	**23 07 31.0**	**-0.8**
BRBR				AML	AML	23 07 35.5	
	comp=N,9.0nm,0.8s						
BRBR				AML	AML	23 07 38.1	
	comp=E,19nm,0.3s						
BRBR	**Barbar**	**2.09**	**135**	*e*P	**Pn**	**23 07 05.8**	**-0.1**
	SNR=57						
BRBR				*e*S	**Sn**	**23 07 31.0**	**-0.8**
	comp=E,19nm,0.3s,SNR=58						
GULE	**Gulek**	**2.41**	**11**	*i* P	**Pn**	**23 07 12.0**	**+1.7**
GULE				*i* S	**Sb**	**23 07 43.3**	**-0.7**
GULE	**Gulek**	**2.41**	**11**	*i* P	**Pn**	**23 07 12.0**	**+1.7**
GULE				*i* S	**Sb**	**23 07 43.3**	**-0.7**
TOTH	**TOTAH**	**2.42**	**129**	*e*P	**Pn**	**23 07 10.9**	**+0.6**
TOTH				*e*S	**Sn**	**23 07 39.5**	**-0.1**
TOTH				AML	AML	23 07 43.1	
	comp=N,21nm,0.5s						
TOTH				AML	AML	23 07 44.8	
	comp=E,12nm,0.7s						
TOTH	**TOTAH**	**2.42**	**129**	*e*P	**Pn**	**23 07 10.9**	**+0.6**
	SNR=57						
TOTH				*e*S	**Sn**	**23 07 39.5**	**-0.1**
	comp=E,12nm,0.7s,SNR=58						
CEYT	**Ceyhan**	**2.44**	**31**	*e*PN	**Pn**	**23 07 12.7**	**+2.2**
CEYT	**Ceyhan**	**2.44**	**31**	*e*Pn	**Pn**	**23 07 12.7**	**+2.2**
KARA	**Karaisali**	**2.44**	**16**	*e*PN	**Pn**	**23 07 10.2**	**-0.4**
KARA	**Karaisali**	**2.44**	**16**	*e*Pn	**Pn**	**23 07 10.2**	**-0.4**
RABH	**Abou Rabah**	**2.53**	**100**	*e*P	**Pn**	**23 07 12.8**	**+1.0**
RABH				*e*S	**Sn**	**23 07 42.5**	**+0.2**
RABH				AML	AML	23 07 55.8	
	comp=E,5.9nm,0.7s						
RABH				AML	AML	23 08 01.3	
	comp=N,4.6nm,0.5s						
RABH	**Abou Rabah**	**2.53**	**100**	*e*P	**Pn**	**23 07 12.8**	**+1.0**
	SNR=57						
RABH				*e*S	**Sn**	**23 07 42.5**	**+0.2**
	comp=N,4.6nm,0.5s,SNR=58						
TCHB	**Talchebab**	**2.68**	**146**	*e*P	**Pn**	**23 07 14.6**	**+0.7**
TCHB				*e*S	**Sn**	**23 07 45.6**	**-0.5**
TCHB				AML	AML	23 07 51.7	
	comp=N,30nm,0.8s						
TCHB				AML	AML	23 07 56.3	
	comp=E,9.7nm,0.4s						
TCHB	**Talchebab**	**2.68**	**146**	*e*P	**Pn**	**23 07 14.6**	**+0.7**
	SNR=57						
TCHB				*e*S	**Sn**	**23 07 45.6**	**-0.5**
	comp=E,9.7nm,0.4s,SNR=58						
KOZT	**Kozan**	**2.88**	**27**	*e*PN	**Pn**	**23 07 17.4**	**+0.8**
KOZT	**Kozan**	**2.88**	**27**	*e*Pn	**Pn**	**23 07 17.4**	**+0.8**
SALA	**Sala**	**3.05**	**135**	*e*P	**Pn**	**23 07 20.1**	**+1.0**
SALA				*e*S	**Sn**	**23 07 53.5**	**-1.9**
SALA				AML	AML	23 08 01.5	
	comp=N,8.1nm,0.7s						
SALA	**Sala**	**3.05**	**135**	*e*P	**Pn**	**23 07 20.1**	**+1.0**
	SNR=57						
SALA				*e*S	**Sn**	**23 07 53.5**	**-1.9**
	comp=N,8.1nm,0.7s,SNR=58						
ZALF	**Zalf**	**3.28**	**126**	*e*P	**Pn**	**23 07 23.0**	**+0.9**
ZALF				*e*S	**Sn**	**23 07 59.8**	**-1.1**
ZALF				AML	AML	23 08 15.1	
	comp=E,3.7nm,0.5s						
ZALF				AML	AML	23 08 15.4	
	comp=N,3.6nm,0.5s						
ZALF	**Zalf**	**3.28**	**126**	*e*P	**Pn**	**23 07 23.0**	**+0.9**
	SNR=57						
ZALF				*e*S	**Sn**	**23 07 59.8**	**-1.1**
	comp=N,3.6nm,0.5s,SNR=58						

*IDC **20** 23:15:20.7±12.0, 10°.09S × 164°.27E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/42, mbtmp4.1/5, ML4.0/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=205.3km s-min=48.3km az=45.0*

ISC 20 23:15:33.8±7.1, **11°.1S**±0°.4 × **163°.8E**±0°.7, **h35**km, **n9, σ0s92/6, mb3.8**/3, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.15**	**293**	LR	LR	23 18 17.4	
	comp=Z,512nm,18.8s,baz=92,slow=41						
HNR	**Honiara**	**4.15**	**293**	*e*P	**Pn**	**23 16 35.0**	**+0.3**
DZM	**Mont Dzumac**	**11.22**	**167**	Pn	Pn	23 18 14.8	+3.0
	0.9nm,0.3s,baz=66,slow=21,SNR=11						
DZM				Sn	**Sn**	**23 20 16.0**	**0.0**
	0.3nm,0.3s,baz=310,slow=23,SNR=4.2						
DZM				LR	LR	23 21 06.8	
	comp=Z,49nm,21.3s,baz=18,slow=29						
PMG	**Port Moresby**	**16.49**	**274**	LR	LR	23 25 33.4	
	comp=Z,181nm,19.1s,baz=96,slow=36						
CTA	**Charters Tower**	**19.14**	**240**	P	**Pn**	**23 19 55.4**	**+0.2**
	7.5nm,0.8s,baz=58,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**29.15**	**221**	P	**P**	**23 21 32.6**	**+0.9**
	1.4nm,0.6s,baz=45,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**29.71**	**249**	P	**P**	**23 21 36.0**	**-0.9**
	1.7nm,0.5s,baz=78,slow=9.0,SNR=29						
ASAR	**Alice Springs**	**31.11**	**242**	P	**P**	**23 21 48.2**	**-0.9**
	1.2nm,0.6s,baz=66,slow=10,SNR=16						
NWAO	**Narrogin (SRO)**	**47.89**	**235**	LR	LR	23 45 46.3	
	comp=Z,64nm,18.9s,baz=6.0,slow=37						

IDC 20 23:15:36.9±2.7, **1°.97S** × **133°.44E**, **h0**km, **mb3.1**/2, **mb1 3.4**/3, **mb1mx3.2/38, mbtmp3.2**/3, **ML3.3**/1, **Error ellipse: s-maj=132.8km s-min=27.5km az=76.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.89**	**177**	P	Pn	23 19 47.4	-0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**21.58**	**179**	P	P	23 20 28.4	0.0
	0.7nm,0.8s,baz=7.1,slow=13,SNR=7.3						
MKAR	**Makanchi Array**	**66.05**	**324**	P	P	23 26 25.7	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=2.4						

*IDC **20** 23:22:33.1±2.4, 8°.39S × 111°.98E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/40, mbtmp3.5/5, Error ellipse: s-maj=124.5km s-min=22.3km az=54.0*
*DJA **20** 23:22:41.4±1.8, 9°.S±11°.×11°.1E±°, h10km±11km, M3.7/10, MLv3.7/10*

ISC 20 23:22:39.4±1.1, **8°.9S**±0°.1 × **111°.4E**±0°.1, **h58**km, **n15, σ1s89/10, mb3.5/5, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.76**	**341**	P	**Pn**	**23 22 53.5**	**-0.7**
PWJI	**Pagerwojo**	**0.96**	**23**	P	**Pn**	**23 22 57.8**	**+0.9**
KRKI	**Karangkates**	**1.27**	**54**	P	x	23 23 02.7	
UGM	**Wanagama**	**1.34**	**318**	P	**Pn**	**23 23 04.3**	**+2.4**
NGJI	**Ngawi**	**1.54**	**1**	P	Pn	23 23 09.6	+5.0
SMRI	**Semarang**	**2.10**	**332**	P	**Pn**	**23 23 15.2**	**+3.0**
GMJI	**Gumukmas**	**2.10**	**72**	P	**Pn**	**23 23 14.6**	**+2.4**
BJII	**Banjamegara**	**2.31**	**313**	P	x	23 23 19.2	
JAGI	**Jajag, Banyuwa**	**2.73**	**81**	P	Pn	23 23 26.1	+5.2
CISI	**Cisompet, Garu**	**3.82**	**290**	P	Pn	23 23 41.9	+6.1
WRA	**Warramunga Arr**	**24.71**	**119**	P	**P**	**23 27 54.7**	**-0.7**
	0.3nm,0.4s,baz=297,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.03**	**127**	P	**P**	**23 28 07.5**	**+0.2**
	0.3nm,0.4s,baz=300,slow=9.0,SNR=4.3						
STKA	**Stephens Creek**	**36.13**	**134**	P	**P**	**23 29 35.7**	**-0.4**
	1.4nm,0.6s,baz=304,slow=7.3,SNR=2.3						
SONM	**Songino Array**	**56.68**	**356**	P	**P**	**23 32 15.8**	**-1.1**
	0.3nm,0.7s,baz=165,slow=6.0,SNR=2.2						
MKAR	**Makanchi Array**	**61.24**	**338**	P	**P**	**23 32 47.5**	**-0.9**
	0.3nm,0.5s,baz=147,slow=7.6,SNR=6.2						

NEIC 21 00:09:15.1±0.6, **18°.43N** × **72°.82W**, **h10**km, **MD4.0**(SDD), **Error ellipse: s-maj=10.2km s-min=7.4km az=170.0, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.56**	**69**	*e*Pn	Pn	00 09 41.8	-1.1
SDDR				*e*S	Sb	00 10 04.2	+0.3
GTBY	**Guantanamo Bay**	**2.63**	**305**	*e*Pn	Pn	00 09 56.8	-0.8
GRTK	**Grand Turk**	**3.46**	**27**	*e*Pn	Pn	00 10 09.5	+0.6
MTDJ	**Mount Denham**	**4.48**	**268**	*e*Pn	Pn	00 10 24.3	+1.1
CRPR	**Cabo Rojo, PR**	**5.45**	**94**	*e*Pn	Pn	00 10 37.4	+1.1
CELP	**Cerrillos**	**5.94**	**92**	Pn	Pn	00 10 43.2	0.0
MTP	**Monte Pirata**	**6.92**	**92**	Pn	Pn	00 10 56.2	-0.3
SDV	**Santo Domingo**	**9.72**	**167**	*e*Pn	Pn	00 11 35.7	+0.4
BCIP	**Isla Barro Col**	**11.45**	**217**	*e*Pn	Pn	00 11 58.1	-0.6
SAML	**Samuel**	**28.82**	**160**	P	P	00 15 13.0	-0.6
	0.3nm,0.5s						

*SJA **21** 00:14:52.4±0.3, 36°.95S × 75°.27W, h177km±999km, MD4.6, ML5.4*
*ISCJB **21** 00:15:13.7±0.9, 36°.19S±0°.03 × 73°.06W±0°.05, h16km±6km, mb5.0/78, MS4.3/16, Error ellipse: s-maj=7.0km s-min=4.1km az=26.0*
*NEIC **21** 00:15:14.1, 36°.28S × 73°.16W, h42km, mb5.1/61, After GUC.*
NEIC Felt [IV] at Cauquenes, Chillan, Concepcion and Tome; [II] at Constitucion, Coronel, Curico, Florida, Licanten, Linares, Molina, Parral, Talca, Vichuquen and Yumbel. Also felt at Chiguayante and Talcahuano.
*GUC **21** 00:15:14.1±0.7, 36°.28S × 73°.16W, h42km±3km, ML5.6*
*MOS **21** 00:15:15.4±1.3, 36°.24S × 72°.75W, h33km, mb5.3/21, Error ellipse: s-maj=16.6km s-min=8.3km az=92.2*
*IDC **21** 00:15:16.2±0.5, 36°.28S × 72°.88W, h27km±3km, mb4.6/19, mb1 4.7/22, mb1mx4.5/34, mbtmp4.7/22, ML4.3/3, MS4.2/17, Ms1 4.2/17, ms1mx4.0/28, Error ellipse: s-maj=16.7km s-min=12.4km az=76.0*
*BJI **21** 00:15:18.7, 36°.17S × 72°.89W, h42km, mB5.1/10, Ms5.2/8, Ms7 4.8/9*

ISC 21 00:15:15.8±0.5, **36°.27S**±0°.03 × **73°.05W**±0°.06, **h28**km±2km, **h27**km:**pP-P, n677**, σ1s**32**/698, **mb5.1**/78, **MS4.3**/16, **210C-169D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.58**	**184**	*e*P	**Pb**	**00 15 26.3**	**-1.0**
CCSP				*e*S	**Sb**	**00 15 34.4**	**-0.9**
TALC	**Talca**	**1.44**	**53**	⇑*e*P	**Pn**	**00 15 39.5**	**-0.6**
TALC				*e*S	**Sb**	**00 15 59.1**	**-0.8**
TALC				AML	AML	00 16 03.2	
	comp=E,123μm,0.6s						
TALC	**Talca**	**1.44**	**53**	⇑*e*P	**Pn**	**00 15 39.5**	**-0.6**
TALC				*e*S	**Sb**	**00 15 59.1**	**-0.8**
LNV	**Longovilo**	**2.67**	**31**	*e*P	**Pn**	**00 15 56.2**	**-0.7**
LNV	**Longovilo**	**2.67**	**31**	*e*P	**Pn**	**00 15 56.2**	**-0.7**
CHCH	**Chadas Angostu**	**3.05**	**41**	*e*P	**Pn**	**00 16 02.2**	**0.0**
CHCH	**Chadas Angostu**	**3.05**	**41**	*e*P	**Pn**	**00 16 02.2**	**0.0**
TACH	**Talagante**	**3.13**	**34**	*e*P	**Pn**	**00 16 02.8**	**-0.6**
TACH	**Talagante**	**3.13**	**34**	*e*P	**Pn**	**00 16 02.8**	**-0.6**
ANTU	**Antumapu**	**3.35**	**37**	*e*P	**Pn**	**00 16 05.8**	**-0.5**
ANTU				AML	AML	00 17 04.3	
	comp=E,13μm,0.7s						
ANTU	**Antumapu**	**3.35**	**37**	*e*P	**Pn**	**00 16 05.8**	**-0.5**
PCH	**Pirque**	**3.37**	**39**	*e*P	**Pn**	**00 16 06.4**	**-0.2**
PCH	**Pirque**	**3.37**	**39**	*e*P	**Pn**	**00 16 06.4**	**-0.2**
SAN	**Santiago**	**3.43**	**36**	*e*P	**Pn**	**00 16 07.2**	**-0.2**
SAN	**Santiago**	**3.43**	**36**	*e*P	**Pn**	**00 16 07.2**	**-0.2**
SAN	**Santiago**	**3.43**	**36**	*e*P	**Pn**	**00 16 07.2**	**-0.2**
IHA	**Instituto Hidr**	**3.44**	**20**	*e*P	**Pn**	**00 16 06.3**	**-1.2**
IHA	**Instituto Hidr**	**3.44**	**20**	*e*P	**Pn**	**00 16 06.3**	**-1.2**
CLCH	**Cerro Calan**	**3.54**	**37**	⇑*e*P	**Pn**	**00 16 08.3**	**-0.6**
CLCH				*e*S	**Sn**	**00 16 51.8**	**+1.9**
VLCH	**Valdivia**	**3.54**	**182**	*e*P	**Pn**	**00 16 06.8**	**-2.0**
VLCH				*e*S	**Sn**	**00 16 47.5**	**-2.1**
VLCH				AML	AML	00 17 20.8	
	comp=N,7μm,1.0s						
VLCH	**Valdivia**	**3.54**	**182**	*e*P	**Pn**	**00 16 06.8**	**-2.0**
VLCH				*e*S	**Sn**	**00 16 47.5**	**-2.1**
PEL	**Peldehue**	**3.68**	**33**	*e*P	**Pn**	**00 16 10.2**	**-0.7**
ROCH	**El Roble**	**3.69**	**28**	*e*P	**Pn**	**00 16 10.7**	**-0.5**
JACH	**Jahuel**	**4.12**	**30**	*e*P	**Pn**	**00 16 16.3**	**-0.6**
JACH	**Jahuel**	**4.12**	**30**	*e*P	**Pn**	**00 16 16.3**	**-0.6**
AVIZ	**Vizcacheras**	**4.66**	**55**	*e*P	**Pn**	**00 16 27.2**	**+2.8**
AVIZ				*e*P	**Pn**	**00 16 27.2**	**+2.8**
AAGR	**Agrelo**	**4.71**	**49**	*e*P	**Pn**	**00 16 27.1**	**+2.0**
ARCO	**CERRO ARCO**	**4.82**	**46**	*e*P	**Pn**	**00 16 28.6**	**+2.0**
ARCO				*e*S	**Sb**	**00 17 39.4**	**+2.2**
ARCO				AML	AML	00 17 52.3	
	comp=Z,655nm,0.7s						
PLCA	**Paso Flores**	**4.87**	**157**	Pn	**Pn**	**00 16 27.9**	**+0.6**
PLCA				*e*Pn	**Pn**	**00 16 29.5**	**+2.3**
PLCA				*e*Sn	**Sn**	**00 17 21.6**	**-1.1**
PLCA				Lg	Lg	00 17 43.6	
PLCA	**Paso Flores**	**4.87**	**157**	Pn	**Pn**	**00 16 27.9**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=331,slow=11,SNR=68						
PLCA				Lg	Lg	00 17 43.6	
	comp=Z,14nm,0.3s,baz=38,slow=16,SNR=3.6						
AUSP	**Uspallata**	**5.05**	**38**	*e*P	**Pn**	**00 16 30.9**	**+1.0**
AUSP				*i* S	**Sb**	**00 17 43.5**	**-0.4**
RTLS	**Leoncito**	**5.44**	**36**	*e*P	**Pn**	**00 16 35.5**	**+0.2**
RTLS				*i* S	**Sb**	**00 17 51.7**	**-3.4**
H03N1	**Juan Fernandez**	**5.58**	**299**	T	T	00 22 19.7	
	SNR=20						
H03N3	**Juan Fernandez**	**5.58**	**298**	T	T	00 22 18.1	
	SNR=15						
H03N2	**Juan Fernandez**	**5.60**	**299**	T	T	00 22 26.7	
	SNR=15						
RTCV	**Cerro Valdivia**	**5.77**	**42**	*e*P	**Pn**	**00 16 39.9**	**+0.2**
RTCV				*e*S	**Sb**	**00 18 00.2**	**-4.3**
CFAA	**Coronel Fontan**	**6.14**	**42**	Pn	**Pn**	**00 16 44.1**	**-0.6**
CFAA				Sn	**Sn**	**00 17 54.9**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=213,slow=12,SNR=101						
CFAA				Sn	**Sn**	**00 17 54.9**	**+1.0**
	comp=Z,3.6nm,0.3s,baz=169,slow=12,SNR=3.6						
CFAA				LR	LR	00 19 16.7	
	comp=Z,425nm,18.6s,baz=228,slow=40						
RTLL	**Cerro Villicun**	**6.23**	**39**	*e*P	**Pn**	**00 16 45.3**	**-0.6**
RTLL				*e*S	Sb	00 18 08.6	-9.0
AMOG	**MOGNA**	**6.54**	**37**	*e*P	**Pn**	**00 16 49.0**	**-1.1**
AMOG				*e*S	Sb	00 18 16.1	-11
AVFE	**Valle Fertil**	**7.29**	**41**	*e*P	**Pn**	**00 16 59.0**	**-1.5**
AVFE				*e*S	Sn	00 18 34.2	+12
AVFE				AML	AML	00 18 41.0	
	comp=Z,187nm,1.1s						
LCO	**Las Campanas**	**7.50**	**16**	*e*Pn	**Pn**	**00 17 01.8**	**-1.9**
LCO				*e*Sn	**Sn**	**00 18 23.4**	**-4.5**
VACH	**Vallenar**	**7.91**	**15**	*e*P	**Pn**	**00 17 07.2**	**-1.8**
VACH	**Vallenar**	**7.91**	**15**	P	**Pn**	**00 17 07.2**	**-1.8**
TRQA	**Tornquist**	**9.02**	**105**	*e*Pn	**Pn**	**00 17 26.4**	**+2.3**
TRQA				*e*Sn	Sn	00 19 10.7	+5.9
LVC	**Limon Verde**	**14.08**	**16**	*e*Pn	Pn	00 18 29.6	-4.0
LVC				*e*Sn	**Sn**	**00 21 09.8**	**+0.8**
CPUP	**Villa Florida**	**16.68**	**58**	*e*Pn	**Pn**	**00 19 07.0**	**-0.4**
	comp=Z,1.0nm,0.8s						
CPUP	**Villa Florida**	**16.68**	**58**	Pn	**Pn**	**00 19 07.0**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=219,slow=10,SNR=10						
USHA	**Ushuaia**	**18.84**	**172**	P	**Pn**	**00 19 37.0**	**+3.1**
USHA	**Ushuaia**	**18.84**	**172**	P	**Pn**	**00 19 37.0**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=327,slow=6.4,SNR=5.8						
USHA				LR	LR	00 27 26.5	
	comp=Z,888nm,18.3s,baz=333,slow=39						
ARE	**Arequipa**	**19.78**	**4**	*e*P	**P**	**00 19 44.0**	**-0.1**
ARE	**Arequipa**	**19.78**	**4**	*e*P	**P**	**00 19 44.0**	**-0.1**
LPAZ	**La Paz**	**20.38**	**14**	*e*Pn	Pn	00 19 52.3	-1.0
	comp=Z,27nm,0.8s						
LPAZ	**La Paz**	**20.38**	**14**	P	Pn	00 19 52.3	-1.0
	comp=Z,18nm,0.7s,baz=182,slow=7.3,SNR=32						
SIV	**San Ignacio**	**22.84**	**31**	P	**P**	**00 20 16.6**	**-0.2**
SIV	**San Ignacio**	**22.84**	**31**	P	**P**	**00 20 16.6**	**-0.2**
	comp=Z,48nm,0.9s,baz=225,slow=12,SNR=100						
SIV				LR	LR	00 30 32.6	
	comp=Z,782nm,19.6s,baz=216,slow=40						
NNA	**Nana**	**24.42**	**351**	*e*P	**P**	**00 20 32.1**	**+0.1**
	comp=Z,26nm,0.8s						
BB16B	**Bebedouro**	**26.19**	**61**	⇑*i*P	**P**	**00 20 46.0**	**-2.2**
BB16B				*i*		00 20 48.3	
BB16B				*i*		00 20 58.1	
BB16B				*i*		00 21 01.9	
BB16B				*i*		00 21 06.5	
BB16B				*i*		00 21 13.6	
SAML	**Samuel**	**28.64**	**21**	*e*P	**P**	**00 21 09.7**	**-0.4**
	comp=Z,1.8nm,0.8s						
PMSA	**Palmer Station**	**29.05**	**172**	LR	LR	00 32 25.2	
	comp=Z,946nm,19.4s,baz=309,slow=36						
ATAH	**Atahualpa**	**29.41**	**349**	P	**P**	**00 21 19.3**	**+2.0**
ATAH	**Atahualpa**	**29.41**	**349**	P	**P**	**00 21 19.3**	**+2.0**
	comp=Z,5.3nm,0.7s,baz=93,slow=10,SNR=5.6						
ATAH				LR	LR	00 31 17.1	
	comp=Z,276nm,19.2s,baz=187,slow=33						
BDFB	**Brasilia**	**30.32**	**54**	P	**P**	**00 21 23.1**	**-2.0**
BDFB	**Brasilia**	**30.32**	**54**	P	**P**	**00 21 23.1**	**-2.0**
	comp=Z,4.4nm,0.6s,baz=234,slow=10,SNR=7.5						
BDFB				LR	LR	00 34 58.7	
	comp=Z,747nm,20.3s,baz=257,slow=39						
OTAV	**Otavalo**	**36.67**	**351**	*e*P	**P**	**00 22 22.6**	**+2.0**
	comp=Z,37nm,1.4s						
PTGA	**Pitinga**	**37.39**	**22**	*e*P	**P**	**00 22 23.4**	**-2.9**
	comp=Z,16nm,0.6s						
PTGA				P	**P**	**00 22 25.7**	**-0.6**
PTGA	**Pitinga**	**37.39**	**22**	P	**P**	**00 22 25.7**	**-0.6**
	comp=Z,10nm,0.3s,baz=324,slow=22,SNR=28						
SDV	**Santo Domingo**	**44.97**	**3**	*e*P	P	00 23 25.5	-3.3
	comp=Z,44nm,1.3s						
RCBR	**Riachuelo**	**45.55**	**57**	P	**P**	**00 23 32.8**	**-0.6**
RCBR	**Riachuelo**	**45.55**	**57**	P	**P**	**00 23 32.8**	**-0.6**
	comp=Z,5.8nm,0.6s,baz=220,slow=11,SNR=8.5						
RCBR				LR	LR	00 44 21.1	
	comp=Z,1μm,18.7s,baz=175,slow=38						
VNA1	**Neumayer--Stat**	**47.93**	**156**	P	P	00 23 54.9	+3.7
VNA2	**Neumayer--Watz**	**48.26**	**156**	P	**P**	**00 23 55.5**	**+1.7**
	baz=300,slow=9.0						
GRGR	**Grenville**	**49.33**	**15**	*e*P	P	00 23 59.3	-3.3
SNAA	**Sanae**	**49.81**	**157**	P	**P**	**00 24 07.2**	**+1.4**
**

baz=70,SNR=22
534A **Blanco** 70.14 337 ⇑P P 00 26 26.1 +0.5
baz=70
LRAL **Lakeview Retre** 70.17 348 *e*P P 00 26 22.0 -3.6
comp=Z,43nm,1.7s
631A **Perdido Creek** 70.27 335 ⇓P P 00 26 26.9 +0.5
baz=71,SNR=12
533A **Kerrville** 70.36 336 ⇑P P 00 26 27.8 +0.8
baz=71,SNR=11
435B **Jarrell** 70.56 338 ⇑P P 00 26 29.1 +1.0
baz=71
JSC **Jenkinsville** 70.60 353 *e*P P 00 26 28.4 +0.1
JSC **Jenkinsville** 70.60 353 *e*P P 00 26 28.4 +0.1
532A **Rocksprings** 70.70 336 ⇓P P 00 26 30.3 +1.2
baz=71,SNR=37
434A **Burnet** 70.80 337 ⇑P P 00 26 30.3 +0.6
baz=71,SNR=33
531A **Rocksprings** 70.95 335 ⇑P P 00 26 31.8 +1.2
baz=71,SNR=33
335A **Moody** 70.98 338 ⇓P P 00 26 31.3 +0.7
baz=71
JCT **Junction City** 70.99 336 ⇑P P 00 26 31.7 +0.9
baz=71,SNR=13
433A **Art** 71.01 336 ⇓P P 00 26 31.5 +0.6
baz=71,SNR=28
628A **Black Gap, Mar** 71.17 333 ⇓P P 00 26 33.4 +1.5
baz=72
530A **J-C Ranch, Com** 71.21 334 ⇓P P 00 26 33.3 +1.1
baz=72,SNR=28
MAW **Mawson** 71.24 164 LR LR 01 00 04.5
comp=Z,300nm,18.2s,baz=228,slow=38
334A **Lometa** 71.28 337 ⇑P P 00 26 33.3 +0.8
baz=72,SNR=25
TXAR **Lajitas Array** 71.32 332 P P 00 26 34.0 +1.1
TXAR **Lajitas Array** 71.32 332 P P 00 26 34.0 +1.1
comp=Z,8.9nm,0.7s,baz=151,slow=8.7,SNR=102
TXAR LR LR 00 53 19.4
comp=Z,191nm,18.1s,baz=0.0,slow=32
627A **Terlingua Ranc** 71.33 332 ⇑P P 00 26 34.0 +1.0
baz=72,SNR=8.8
432A **Menard** 71.35 336 ⇓P P 00 26 33.5 +0.5
baz=72,SNR=6.6
431A **Sonora** 71.45 335 ⇑P P 00 26 34.1 +0.5
baz=72,SNR=13
KMSC **Kings Mountain** 71.46 353 *e*P P 00 26 33.5 0.0
KMSC **Kings Mountain** 71.46 353 ⇓P P 00 26 33.3 -0.2
baz=72
529A **Stev Forest Ra** 71.50 334 ⇑P P 00 26 34.9 +1.0
baz=72,SNR=23
333A **Richland Sprin** 71.50 337 ⇓P P 00 26 34.3 +0.4
baz=72,SNR=17
WHTX **Lake Whitney** 71.65 338 *e*P P 00 26 35.6 +0.9
WHTX **Lake Whitney** 71.65 338 ⇓P P 00 26 35.4 +0.7
baz=72,SNR=16
626A **Big Bend Ranch** 71.70 332 ⇑P P 00 26 36.4 +1.3
baz=72,SNR=22
528A **Cox Ranch, San** 71.74 333 ⇓P P 00 26 36.0 +0.6
baz=72,SNR=8.2
430A **Baggett Ranch,** 71.76 335 ⇓P P 00 26 36.2 +0.7
baz=72,SNR=29
332A **Millersview** 71.80 336 ⇑P P 00 26 36.4 +0.7
baz=72,SNR=13
429A **Davenport Ranc** 71.84 334 ⇑P P 00 26 37.0 +1.0
baz=72,SNR=17
234A **Clairette** 71.87 338 ⇑P P 00 26 36.7 +0.7
baz=72,SNR=17
331A **San Angelo** 71.96 336 ⇑P P 00 26 37.4 +0.8
baz=72,SNR=19
527A **Woodward Ranch** 72.03 332 ⇓P P 00 26 38.1 +0.8
baz=72,SNR=16
OXF **Oxford** 72.05 346 *e*P P 00 26 37.0 0.0
OXF pmax pmax
comp=Z,60nm,1.1s
OXF **Oxford** 72.05 346 *e*P P 00 26 37.0 0.0
comp=Z,60nm,1.1s
233A **Rising Star** 72.12 337 ⇑P P 00 26 38.0 +0.5
baz=72,SNR=13
526A **Mary Lane Ranc** 72.14 332 ⇑P P 00 26 39.2 +1.3
baz=72,SNR=23
CPCT **Cooper Cave** 72.15 350 *e*P P 00 26 38.7 +1.1
135A **Vickery Place,** 72.17 339 ⇓P P 00 26 38.1 +0.3
baz=72
428A **Kincaid Ranch,** 72.21 333 ⇑P P 00 26 39.1 +0.9
baz=72,SNR=9.3
232A **Coleman** 72.24 336 ⇑P P 00 26 39.0 +0.7
baz=72,SNR=15
TKL **Tuckaleechee C** 72.25 351 *e*P P 00 26 38.0 -0.2
330A **Mertzon** 72.30 335 ⇑P P 00 26 39.0 +0.3
baz=73,SNR=12
134A **White-Moore Ra** 72.38 338 ⇓P P 00 26 39.4 +0.3
baz=73,SNR=6.4
231A **Bronte** 72.50 336 ⇑P P 00 26 40.1 +0.3
baz=73,SNR=26
427A **Hayter Ranch,** 72.59 333 ⇑P P 00 26 41.2 +0.7
baz=73,SNR=8.1
329A **Wagon Wheel Ra** 72.65 334 ⇑P P 00 26 41.7 +0.8
baz=73,SNR=14
426A **McDonald Obser** 72.66 332 ⇓P P 00 26 42.2 +1.1
baz=73,SNR=29
133A **Hamilton Ranch** 72.67 337 ⇓P P 00 26 41.5 +0.6
baz=73,SNR=13
230A **Sterling City** 72.72 335 ⇓P P 00 26 41.8 +0.6
baz=73
Z35A **Perchaven, San** 72.84 339 ⇑P P 00 26 42.3 +0.5
baz=73,SNR=11
328A **Wristen Ranch,** 72.85 334 ⇓P P 00 26 42.6 +0.6
baz=73,SNR=12
ABTX **Abilene, Hawle** 72.91 337 *e*P P 00 26 43.1 +0.8
ABTX **Abilene, Hawle** 72.91 337 ⇓P P 00 26 42.7 +0.4
baz=73,SNR=13
MIAR **Mount Ida** 73.00 342 *e*P P 00 26 43.0 +0.2
MIAR pmax pmax
comp=Z,40nm,1.8s
MIAR **Mount Ida** 73.00 342 *e*P P 00 26 43.0 +0.2
comp=Z,40nm,1.8s
229A **Bryant Ranch,** 73.03 335 ⇓P P 00 26 44.0 +0.9
baz=73
Z34A **Collier Ranch,** 73.07 338 ⇓P P 00 26 43.8 +0.6
baz=73
TZTN **Tazewell** 73.10 351 *e*P P 00 26 43.1 -0.2
comp=Z,76nm,1.6s
425A **Indio Mountain** 73.13 332 ⇓P P 00 26 44.3 +0.6
baz=73,SNR=9.4
131A **Roby** 73.20 336 ⇓P P 00 26 44.6 +0.6
baz=74,SNR=5.1
326A **Caldwell Ranch** 73.22 333 ⇓P P 00 26 45.2 +0.9
baz=74,SNR=12
Z33A **Whitaker Ranch** 73.25 338 ⇓P P 00 26 44.9 +0.7
baz=74,SNR=21
130A **Snyder** 73.32 336 ⇑P P 00 26 45.2 +0.5
baz=74,SNR=12
228A **UT Block 9, Go** 73.44 334 ⇑P P 00 26 46.0 +0.5
baz=74,SNR=11
Z32A **Haskell** 73.49 337 ⇓P P 00 26 46.3 +0.6
baz=74,SNR=22
BBTS **Babate** 73.54 57 LR LR 00 58 46.2
comp=Z,452nm,18.1s,slow=36
Y34A **Reagan Ranch,** 73.57 339 ⇓P P 00 26 46.5 +0.4
baz=74,SNR=9.5
227A **Bennet, Jal** 73.59 334 ⇓P P 00 26 47.4 +1.0
baz=74,SNR=8.2
Z31A **Sharp Cattle R** 73.71 337 ⇓P P 00 26 47.4 +0.4
baz=74,SNR=16
JSRW **J. Sargeant Re** 73.73 356 *e*P P 00 26 47.5 +0.6
GLAT **Glass** 73.73 346 *e*P P 00 26 43.4 -3.6
128A **Castleberry Fa** 73.86 334 ⇓P P 00 26 48.6 +0.6
baz=74,SNR=16
Y33A **Hilltop Ranch,** 73.88 338 ⇑P P 00 26 48.3 +0.3
baz=74,SNR=18
226B **Tecolote Peak,** 73.97 333 ⇑P P 00 26 49.6 +1.0
baz=74,SNR=6.8
Z30A **Sanderson Ranc** 74.00 336 ⇓P P 00 26 49.1 +0.3
baz=74,SNR=16
MNTX **Cornudas Mount** 74.09 332 *e*P P 00 26 46.2 -3.0
comp=Z,11nm,0.9s
Y32A **R-V Farms, Ver** 74.12 337 ⇓P P 00 26 49.9 +0.5
baz=74
GDL2 **Guadalupe Moun** 74.16 333 *e*P P 00 26 44.7 -5.1
Z29A **Hungry Hill Ra** 74.17 335 ⇑P P 00 26 49.9 +0.2
baz=74,SNR=21
X34A **Smith Ranch, M** 74.20 339 ⇑P P 00 26 50.3 +0.5
baz=74,SNR=13
PARMO **Parma** 74.20 346 *e*P P 00 26 50.5 +0.8
127A **Arkansas Junct** 74.22 334 ⇑P P 00 26 50.7 +0.6
baz=74
225A **Deer Hill, Car** 74.25 332 ⇑P P 00 26 51.0 +0.6
baz=74
X33A **Lawton** 74.34 338 ⇑P P 00 26 50.7 +0.1
baz=75
Y31A **Rekieta Farm,** 74.34 337 ⇓P P 00 26 51.3 +0.6
baz=75
126A **Clayton Basin,** 74.43 333 ⇑P P 00 26 51.9 +0.6
baz=75,SNR=6.4
Z28A **Tucker Farm, M** 74.43 335 ⇓P P 00 26 51.7 +0.4
baz=75
PBMO **Poplar Bluff** 74.45 346 *e*P P 00 26 51.2 +0.1
comp=Z,22nm,0.6s
X32A **Elmer** 74.46 338 ⇓P P 00 26 51.8 +0.4
baz=75
Y30A **Stafford Cattl** 74.47 336 ⇓P P 00 26 52.1 +0.7
baz=75
WMOK **Wichita Mounta** 74.60 338 *e*P P 00 26 52.3 +0.1
WMOK pmax pmax
comp=Z,21nm,1.4s
WMOK **Wichita Mounta** 74.60 338 *e*P P 00 26 52.3 +0.1
comp=Z,21nm,1.4s
125A **Gardner Draw,** 74.68 333 ⇑P P 00 26 54.0 +1.3
baz=75,SNR=5.5
Y29A **Porterfield Fa** 74.71 336 ⇑P P 00 26 53.3 +0.4
baz=75,SNR=7.6
Z27A **Tatum** 74.75 334 ⇑P P 00 26 54.4 +1.3
baz=75,SNR=5.2
W34A **Bridge Creek,** 74.77 339 ⇑P P 00 26 53.5 +0.4
baz=75
TUL1 **Tulsa** 74.86 341 *e*P P 00 26 53.9 +0.3
TUL1 **Tulsa** 74.86 341 ⇓P P 00 26 53.7 +0.1
baz=75,SNR=11
X31A **McDonald Ranch** 74.87 337 ⇑P P 00 26 54.3 +0.5
baz=75,SNR=13
W33A **Caddo, Fort Co** 74.90 339 ⇓P P 00 26 54.9 +1.0
baz=75,SNR=16
Y28A **McKinney Farm,** 74.95 335 ⇓P P 00 26 55.0 +0.8
baz=75
Z26A **Caprock** 74.98 334 ⇑P P 00 26 55.1 +0.7
baz=75,SNR=29
X30A **Coker Ranch, T** 74.99 336 ⇓P P 00 26 55.3 +0.9
baz=75
W32A **Sentinel** 75.10 338 ⇑P P 00 26 55.6 +0.6
baz=75,SNR=24
SIUC **Southern Illin** 75.12 347 *e*P P 00 26 55.3 +0.3
comp=Z,25nm,0.8s
MSTX **Muleshoe** 75.18 335 *e*P P 00 26 56.5 +0.9
MSTX **Muleshoe** 75.18 335 ⇑P P 00 26 56.1 +0.5
baz=76,SNR=6.3
Y27A **Causey** 75.24 334 ⇓P P 00 26 56.2 +0.2
baz=76
Z25A **Roswell** 75.25 333 ⇑P P 00 26 56.8 +0.7
baz=76,SNR=6.6
X29A **Tulia** 75.26 336 ⇑P P 00 26 56.6 +0.6
baz=76,SNR=6.4
V34A **Guthrie** 75.26 340 ⇑P P 00 26 56.0 +0.1
baz=76,SNR=5.2
W31A **Holland Ranch,** 75.37 337 ⇓P P 00 26 57.0 +0.3
baz=76,SNR=5.1
319A **Douglas** 75.38 329 ⇑P P 00 26 58.7 +1.8
baz=76
V33A **Lossen Ranch,** 75.47 339 ⇑P P 00 26 57.7 +0.6
baz=76,SNR=6.0
Y26A **Elida** 75.51 334 ⇑P P 00 26 58.5 +0.9
baz=76
Z24A **Sheeppen Canyo** 75.54 332 ⇑P P 00 26 59.1 +1.2
baz=76,SNR=13
V32A **Arapaho** 75.59 338 ⇓P P 00 26 58.6 +0.7
baz=76
AMTX **Amarillo** 75.65 336 *e*P P 00 26 59.2 +0.9
comp=Z,46nm,0.3s
AMTX **Amarillo** 75.65 336 ⇓P P 00 26 59.2 +0.9
baz=76
121A **Cookes Peak, D** 75.77 330 *e*P P 00 26 55.1 -4.0
comp=Z,9.7nm,0.8s
121A **Cookes Peak, D** 75.77 330 ⇑P P 00 27 00.8 +1.7
baz=76,SNR=9.5
Y25A **Mesa, Roswell** 75.82 333 ⇓P P 00 26 59.8 +0.5
baz=76
U34A **Anderson Ranch** 75.83 340 ⇑P P 00 26 59.6 +0.4
baz=76
W29A **Amraillo** 75.86 336 ⇑P P 00 27 00.2 +0.8
baz=76,SNR=11
V31A **Spring Creek L** 75.89 338 ⇑P P 00 27 00.8 +1.3
baz=76,SNR=7.5
X27A **F and S Farms,** 75.91 335 ⇓P P 00 27 00.5 +0.7
baz=76
U33A **Lingo Farm, Me** 75.99 339 ⇑P P 00 27 00.6 +0.6
baz=76
X26A **CR and CF Fran** 76.07 334 ⇑P P 00 27 01.7 +0.9
baz=76
Z22A **Elephant Butte** 76.08 331 ⇓P P 00 27 02.3 +1.4
baz=76
Y24A **Capitan** 76.10 333 ⇑P P 00 27 02.1 +1.1
baz=76,SNR=12
V30A **Spur Ranch, Mi** 76.14 337 ⇓P P 00 27 01.7 +0.7
baz=76
U32A **Winter Ranch,** 76.19 339 ⇑P P 00 27 02.0 +0.7
baz=76,SNR=5.4
W27A **Bowe Ranch, En** 76.28 335 ⇓P P 00 27 02.6 +0.7
baz=77,SNR=12
Y23A **Lovelace Mesa,** 76.33 332 ⇓P P 00 27 03.8 +1.5
baz=77,SNR=6.6
X25A **Clemmons Ranch** 76.35 334 ⇑P P 00 27 02.9 +0.5
baz=77,SNR=5.0
W26A **Owens Ranch, T** 76.54 334 ⇑P P 00 27 04.4 +1.0
baz=77
V28A **Channing** 76.62 336 ⇓P P 00 27 04.9 +1.1
baz=77
T33A **Patterson Ranc** 76.63 340 ⇓P P 00 27 04.6 +0.9
baz=77,SNR=13
X24A **Lazy VL Ranch,** 76.67 333 ⇓P P 00 27 05.6 +1.4
baz=77
ACSO **Alum Creek Sta** 76.67 352 *e*P P 00 27 03.7 -0.1
comp=Z,28nm,0.6s
DBIC **Dimbokro** 76.69 71 *e*P P 00 27 05.1 +0.5
comp=Z,26nm,0.8s
DBIC pP pP 00 27 13.7 +0.2
DBIC **Dimbokro** 76.69 71 P P 00 27 04.7 +0.1
comp=Z,6.4nm,0.6s,baz=183,slow=4.4,SNR=20
DBIC pP pP 00 27 13.7 +0.2
comp=Z,22nm,0.8s,baz=194,slow=6.8,SNR=12
DBIC LR LR 00 59 46.1
comp=Z,152nm,18.3s,baz=206,slow=35
TUC **Tucson** 76.83 328 *e*P P 00 27 07.0 +2.0
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC **Tucson** 76.83 328 *e*P P 00 27 07.0 +2.0
comp=Z,9.4nm,1.0s
V27A **Dan Oppiter Fa** 76.83 335 ⇓P P 00 27 06.0 +1.0
baz=77
U30A **W&E Inc. Balk** 76.83 337 ⇑P P 00 27 06.0 +1.1
baz=77,SNR=5.9
LPM **Los Pinos Moun** 76.89 332 *e*P P 00 27 07.1 +1.7
W25A **X Bar L Ranch,** 76.90 334 ⇑P P 00 27 06.2 +0.8
baz=77,SNR=7.4
T32A **Huddler Ranch,** 76.92 339 ⇓P P 00 27 06.2 +0.8
baz=77,SNR=5.6
X23A **Hourglass Bar** 76.96 332 ⇑P P 00 27 07.3 +1.4
baz=77
T31A **Randall Ranch,** 77.06 338 ⇓P P 00 27 07.0 +0.8
baz=77
V26A **Tequesquite Ra** 77.19 335 ⇓P P 00 27 07.6 +0.6
baz=78
W24A **Lazy 6 Ranch,** 77.23 333 ⇑P P 00 27 08.5 +1.1
baz=78,SNR=7.3
T30A **Plains** 77.28 338 ⇑P P 00 27 08.1 +0.7
baz=78
ANMO **Albuquerque** 77.39 332 *e*P P 00 27 09.6 +1.4
comp=Z,12nm,1.0s
ANMO **Albuquerque** 77.39 332 P P 00 27 09.8 +1.5
comp=Z,6.9nm,0.8s,baz=158,slow=6.2,SNR=21
S32A **Newby Ranch, P** 77.41 339 ⇓P P 00 27 08.8 +0.7
baz=78
214A **Organ Pipe Nat** 77.42 326 ⇑P P 00 27 10.1 +1.9
baz=78
U27A **Thompson Grove** 77.43 336 ⇓P P 00 27 09.4 +1.0
baz=78
W23A **Werner Place,** 77.46 333 ⇑P P 00 27 10.2 +1.5
baz=78
S31A **Mullinville** 77.49 339 ⇑P P 00 27 09.3 +0.8
baz=78
V25A **Rancho No Teng** 77.52 334 ⇓P P 00 27 09.6 +0.7
baz=78,SNR=13
T29A **Hugoton** 77.61 337 ⇑P P 00 27 10.3 +1.1
baz=78
V24A **Rampart Ranch,** 77.65 334 ⇑P P 00 27 10.8 +1.1
baz=78,SNR=5.0
R33A **Olander Ranch,** 77.70 340 ⇑P P 00 27 10.2 +0.5
baz=78
U26A **Atchley Ranch,** 77.72 335 ⇑P P 00 27 10.9 +0.9
baz=78
S30A **Montezuma** 77.80 338 ⇑P P 00 27 11.3 +0.9
baz=78
T28A **Walsh** 77.84 337 ⇑P P 00 27 11.0 +0.4
baz=78,SNR=13
U25A **Circle Dot Ran** 77.95 335 ⇓P P 00 27 12.5 +1.2
baz=78,SNR=7.9
T27A **Campo** 77.98 336 ⇑P P 00 27 12.6 +1.2
baz=78
S29A **Ulysses** 77.98 338 ⇑P P 00 27 12.4 +1.0
baz=78,SNR=5.5
V23A **Ortiz Mt. (NFS** 78.00 333 ⇑P P 00 27 13.2 +1.5
baz=78
R32A **Long Quarter,** 78.01 340 ⇓P P 00 27 12.1 +0.6
baz=78,SNR=6.7
KSU1 **Kansas State U** 78.08 341 ⇓P P 00 27 12.1 +0.3
baz=78
R31A **Burdett** 78.12 339 ⇑P P 00 27 13.5 +1.4
baz=78,SNR=6.0
S28A **Manter** 78.20 337 ⇑P P 00 27 13.3 +0.8
baz=78,SNR=14
Q33A **Connelly Farm,** 78.31 341 ⇑P P 00 27 13.6 +0.5
baz=79
R30A **Dighton** 78.34 338 ⇓P P 00 27 13.8 +0.5
baz=79
T26A **Comanche Natio** 78.37 336 ⇓P P 00 27 14.6 +1.0
baz=79,SNR=8.9
X18A **Snowflake** 78.39 330 ⇑P P 00 27 15.3 +1.5
baz=79
V22A **San Miguel Ran** 78.41 333 ⇑P P 00 27 16.1 +2.1
baz=79,SNR=16
Q32A **Meitler Ranch,** 78.50 340 ⇓P P 00 27 14.9 +0.8
baz=79,SNR=9.8
U23A **El Rito** 78.52 333 ⇓P P 00 27 16.2 +1.6
baz=79
113A **Mohawk Valley,** 78.53 326 ⇑P P 00 27 16.2 +1.9
baz=79
T25A **Trinidad** 78.61 335 ⇑P P 00 27 16.8 +1.8
baz=79,SNR=17
P33A **Williams Farm,** 78.68 341 ⇑P P 00 27 15.6 +0.5
baz=79
R29A **Marienthal** 78.73 338 ⇑P P 00 27 16.4 +1.0
baz=79
S26A **Kim** 78.73 336 ⇑P P 00 27 16.8 +1.2
baz=79,SNR=15
Q31A **Ellis** 78.75 339 ⇑P P 00 27 16.5 +1.0
baz=79
U22A **Llaves** 78.81 333 ⇑P P 00 27 18.3 +2.2
baz=79,SNR=5.3
W18A **Petrified Fore** 78.81 330 ⇓P P 00 27 17.9 +1.8
baz=79
R28A **Tribune** 78.86 337 ⇓P P 00 27 17.1 +0.9
baz=79,SNR=11
T24B **San Luis** 78.88 334 ⇑P P 00 27 18.3 +1.7
baz=79,SNR=6.2
X16A **Lo Mia Camp, P** 78.91 328 ⇑P P 00 27 18.3 +1.6
baz=79,SNR=12
Q30A **Quinter** 78.96 339 ⇓P P 00 27 17.6 +0.9
baz=79,SNR=12
T23A **Casias Ranch,** 79.09 334 ⇑P P 00 27 19.1 +1.4
baz=79
S25A **Robets Cordova** 79.09 335 ⇓P P 00 27 19.0 +1.4
baz=79,SNR=10
P32A **Huiting Farm,** 79.10 340 ⇑P P 00 27 18.0 +0.6
baz=79
Q29A **Oakley** 79.11 338 ⇑P P 00 27 18.2 +0.7
baz=79
R27A **Eads** 79.12 337 ⇓P P 00 27 18.4 +0.8
baz=79,SNR=8.1
Y14A **Wickenburg** 79.18 327 ⇑P P 00 27 19.7 +1.7
baz=79
P31A **Stockton** 79.22 340 ⇑P P 00 27 18.9 +0.8
baz=80
GLA **Glamis** 79.25 325 ⇑P P 00 27 20.4 +2.0
baz=80
R26A **Arlington** 79.34 336 ⇓P P 00 27 20.1 +1.2
baz=80,SNR=12
S24A **Houchin Ranch,** 79.34 335 ⇑P P 00 27 20.6 +1.5
baz=80,SNR=12
TSUM **Tsumeb** 79.39 106 *e*P P 00 27 28.7 +8.9
R25A **Fountain Ranch** 79.48 335 ⇑P P 00 27 20.7 +1.0
baz=80
P30A **Selden** 79.50 339 ⇑P P 00 27 20.4 +0.8
baz=80,SNR=5.0
Q28A **Sharon Springs** 79.53 338 ⇑P P 00 27 21.0 +1.1
baz=80
O32A **Brockman Farm,** 79.61 341 ⇑P P 00 27 21.1 +0.9
baz=80
Y12C **Blythe** 79.70 326 ⇑P P 00 27 23.0 +2.3
baz=80
P29A **Atwood** 79.75 338 ⇑P P 00 27 22.2 +1.2
baz=80,SNR=7.1
BOSA **Boshof** 79.75 118 *e*P P 00 27 18.9 -2.7
comp=Z,40nm,1.1s
BOSA pP pP 00 27 31.1 +0.6
BOSA **Boshof** 79.75 118 P P 00 27 22.1 +0.5
comp=Z,8.9nm,0.9s,baz=212,slow=4.9,SNR=11
BOSA pP pP 00 27 31.1 +0.6
comp=Z,29nm,1.0s,baz=248,slow=5.6,SNR=11
BOSA LR LR 01 00 32.5
comp=Z,138nm,18.5s,baz=175,slow=34
O31A **Woolen Ranch,** 79.80 340 ⇑P P 00 27 22.1 +0.9
baz=80
WUAZ **Wupatki** 79.83 329 *e*P P 00 27 23.9 +2.3
comp=Z,14nm,1.0s
WUAZ **Wupatki** 79.83 329 ⇑P P 00 27 23.6 +1.9
baz=80,SNR=8.2
R24A **Sanders Place,** 79.84 335 ⇓P P 00 27 23.3 +1.6
baz=80,SNR=17
Q26A **Hugo** 79.93 336 ⇓P P 00 27 23.3 +1.2
baz=80
SCIA **State Center** 79.96 345 *e*P P 00 27 23.1 +1.1
comp=Z,31nm,1.1s
P28A **Saint Francis** 79.97 338 ⇓P P 00 27 23.3 +1.0
baz=80
PDMCI **Parker Dam,Lak** 79.99 326 ⇑P P 00 27 24.4 +2.1
baz=80
S22A **4UR Ranch, Cre** 80.01 333 ⇓P P 00 27 24.1 +1.4
baz=80,SNR=9.1
O30A **MW Ranch, Wils** 80.03 339 ⇑P P 00 27 23.5 +1.1
baz=80
BC3 **Big Chuckawall** 80.04 325 ⇓P P 00 27 24.8 +2.0
baz=80
R23A **Moffat** 80.05 334 ⇑P P 00 27 24.2 +1.3
baz=80
MVCO **Mesa Verde** 80.16 332 *e*P P 00 27 25.3 +1.8
comp=Z,34nm,1.6s
MVCO **Mesa Verde** 80.16 332 ⇓P P 00 27 24.7 +1.2
baz=80,SNR=8.2
Q25A **Bedland, Calha** 80.16 336 ⇓P P 00 27 24.2 +0.7
baz=80
O29A **4D Ranch, Culb** 80.19 339 ⇓P P 00 27 24.5 +1.2
baz=80
IRM **Iron Mountain** 80.33 326 ⇑P P 00 27 26.1 +1.9
baz=81
P26A **Davis Ranch, A** 80.45 337 ⇑P P 00 27 26.1 +1.2
baz=81
PFO **Pinyon Flat Ob** 80.47 324 P P 00 27 26.7 +1.6
PFO **Pinyon Flat Ob** 80.47 324 P P 00 27 26.7 +1.6
comp=Z,15nm,1.0s,baz=151,slow=4.9,SNR=6.2
PFO **Pinyon Flat Ob** 80.47 324 ⇑P P 00 27 27.4 +2.3
baz=81
O28A **Krutsinger Ran** 80.48 338 ⇑P P 00 27 26.0 +1.0
baz=81
Q24A **Divide** 80.51 335 ⇓P P 00 27 26.8 +1.3
baz=81,SNR=8.1
W13A **Hualapai Mount** 80.55 327 ⇑P P 00 27 27.6 +2.0
baz=81
BGNE **Belgrade** 80.65 341 ⇓P P 00 27 26.6 +0.8
baz=81
P25A **Willow Gulch B** 80.68 336 ⇓P P 00 27 27.7 +1.5
baz=81,SNR=6.9
O27A **Beecher Island** 80.76 338 ⇑P P 00 27 28.0 +1.5
baz=81
N29A **Votaw Ranch, W** 80.78 339 ⇑P P 00 27 27.9 +1.4
baz=81
M31A **Lambtecht Ranc** 80.81 341 ⇓P P 00 27 27.7 +1.1
baz=81
MURC **Murrieta** 80.82 324 ⇓P P 00 27 29.4 +2.5
baz=81
SADO **Sadowa** 80.85 356 P P 00 27 25.7 -0.9
SADO **Sadowa** 80.85 356 P P 00 27 25.7 -0.9
baz=258,slow=2.7
N28A **Pribbeno Ranch** 80.93 338 ⇓P P 00 27 28.3 +1.0
baz=81
U15A **North Rim** 80.99 329 ⇑P P 00 27 30.0 +1.9
baz=81,SNR=12
O26A **Horse Wrangler** 81.06 337 ⇓P P 00 27 29.6 +1.5

baz=81
GMRC **Granite Mounta** 81.07 326 ⇑P P 00 27 30.6 +2.3
baz=81
P23A **Jefferson** 81.11 335 ⇑P P 00 27 30.6 +1.9
baz=81
OGNE **Ogallala** 81.31 338 ⇓P P 00 27 30.8 +1.4
baz=82
SMCO **Snowmass** 81.33 334 eP P 00 27 31.7 +1.7
N27A **Anderson Farm,** 81.34 338 ⇑P P 00 27 30.9 +1.4
baz=82
M29A **Burnside Ranch** 81.38 339 ⇓P P 00 27 31.4 +1.7
baz=82
ISCO **Idaho Springs** 81.42 335 eP P 00 27 31.8 +1.5
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO **Idaho Springs** 81.42 335 eP P 00 27 31.8 +1.5
comp=Z,5.3nm,0.8s
ISCO **Idaho Springs** 81.42 335 ⇑P P 00 27 31.3 +1.0
baz=82,SNR=6.2
HEC **Hector,Ludlow** 81.42 325 ⇓P P 00 27 32.3 +2.2
baz=82
L31A **Butterfield Fa** 81.55 341 ⇑P P 00 27 31.5 +0.9
baz=82
BFSC **Mount Baldy Ra** 81.56 324 ⇓P P 00 27 32.2 +1.3
baz=82
N26A **Koester Ranch,** 81.57 337 ⇓P P 00 27 32.0 +1.3
baz=82
L30A **Spencer Herefo** 81.58 340 ⇑P P 00 27 32.1 +1.4
baz=82
P22A **Eagle** 81.63 344 ⇓P P 00 27 32.5 +1.3
baz=82
O23A **Lake Granby, G** 81.89 335 ⇓P P 00 27 34.0 +1.3
baz=82,SNR=9.6
GSC **Goldstone** 82.03 325 ⇑P P 00 27 35.4 +2.1
baz=82
O22A **Kremmling** 82.06 335 ⇓P P 00 27 34.8 +1.2
baz=82,SNR=6.9
LBTB **Lobatse** 82.10 115 eP P 00 27 35.0 +0.8
comp=Z,34nm,1.3s
K30A **Basset** 82.22 341 ⇓P P 00 27 35.1 +1.0
baz=83
EDW2 **Edwards Air Fo** 82.24 324 ⇑P P 00 27 36.1 +1.7
baz=82
SHPR **Sheep Range** 82.29 327 eP P 00 27 36.9 +2.2
M25A **Palm-Egli Farm** 82.38 337 ⇓P P 00 27 36.2 +1.1
baz=83
CCUT **Cedar City** 82.39 329 eP P 00 27 37.8 +2.5
comp=Z,13nm,0.9s
L27A **T5 Ranch, Ells** 82.44 338 ⇑P P 00 27 36.3 +1.0
baz=83
ECSD **EROS Data Cent** 82.46 343 eP P 00 27 35.6 +0.3
comp=Z,31nm,0.8s
ECSD **EROS Data Cent** 82.46 343 ⇓P P 00 27 35.5 +0.3
baz=83,SNR=25
K29A **Lazy Trails An** 82.50 340 ⇑P P 00 27 36.4 +0.9
baz=83
N23A **Red Feather La** 82.51 335 ⇑P P 00 27 36.9 +1.0
baz=83
N22A **Wattenberg Ran** 82.60 335 ⇑P P 00 27 37.9 +1.5
baz=83,SNR=6.4
ARUT **Antelope Range** 82.63 329 eP P 00 27 32.5 -4.0
ARUT **Antelope Range** 82.63 329 eP P 00 27 32.5 -4.0
comp=Z,566nm,1.5s
O20A **White River Ci** 82.64 334 ⇓P P 00 27 37.2 +0.7
baz=83
M24A **Cheyenne** 82.66 336 ⇓P P 00 27 37.7 +1.1
baz=83
PHWY **Pilot Hill** 82.72 336 eP P 00 27 38.4 +1.4
comp=Z,32nm,1.6s
K28A **Ten Mile Ranch** 82.75 339 ⇑P P 00 27 38.4 +1.5
baz=83
J30A **Dallas** 82.80 341 ⇑P P 00 27 37.4 +0.4
baz=83
M23A **Laramie** 82.95 336 ⇑P P 00 27 39.0 +0.9
baz=83
K27A **Flueckinger Fa** 82.99 339 ⇓P P 00 27 39.0 +0.9
baz=83
TMUT **Trail Mountain** 83.02 331 eP P 00 27 40.4 +1.8
comp=Z,111nm,2.5s
FURC **Furnace Creek,** 83.02 326 ⇑P P 00 27 40.4 +2.1
baz=83
SPMN **St. Paul** 83.06 346 eP P 00 27 38.3 0.0
SPMN **St. Paul** 83.06 346 ⇑P P 00 27 37.9 -0.4
baz=83
J29A **Okreek** 83.09 340 ⇑P P 00 27 39.4 +0.8
baz=83,SNR=8.5
M22A **Cedar Creek Ra** 83.19 335 ⇑P P 00 27 40.7 +1.4
baz=84
DAC **Darwin (Calif)** 83.20 325 eP P 00 27 41.9 +2.4
DAC pmax pmax
comp=Z,13nm,0.8s
DAC **Darwin (Calif)** 83.20 325 eP P 00 27 41.9 +2.4
comp=Z,13nm,0.8s
N20A **Spence Gulch,** 83.26 334 ⇑P P 00 27 40.9 +1.1
baz=84
J28A **Allard Ranch,** 83.36 340 ⇓P P 00 27 40.7 +0.8
baz=84
J27A **Elkhorn Farm,** 83.42 339 ⇑P P 00 27 41.5 +1.1
baz=84
L23A **Garrett** 83.53 336 ⇓P P 00 27 41.9 +0.8
baz=84
VES **Vestal, Richgr** 83.54 324 ⇓P P 00 27 43.1 +2.1
baz=84
I29A **Vivian Onida** 83.66 341 ⇓P P 00 27 42.2 +0.7
baz=84
GRAC **Grapevine Rang** 83.69 326 ⇓P P 00 27 43.9 +2.1
baz=84
L22A **Ellis Ranch, M** 83.69 336 ⇓P P 00 27 42.5 +0.5
baz=84
J26A **Sides Ranch, S** 83.79 338 ⇑P P 00 27 43.3 +1.1
baz=84,SNR=8.0
MPU **Maple Canyon** 83.80 331 eP P 00 27 44.2 +1.7
comp=Z,20nm,1.1s
I28A **Midland** 83.88 340 ⇓P P 00 27 43.4 +0.8
baz=84
NLU **North Lily Min** 83.92 331 eP P 00 27 45.1 +2.0
comp=Z,19nm,1.2s
RCTC **Rector, Farmer** 83.99 324 ⇑P P 00 27 45.0 +1.7
baz=84
R11A **Troy Canyon, C** 84.01 328 ⇑P P 00 27 45.3 +1.7
baz=84
K23A **Bowen Ranch, D** 84.08 337 ⇑P P 00 27 44.5 +0.7
baz=84
J25A **Sunshine Ranch** 84.08 338 ⇓P P 00 27 44.5 +0.8
baz=84
TIN **Tinemaha** 84.12 325 ⇑P P 00 27 46.3 +2.2
baz=84
I27A **Quinn** 84.19 339 ⇑P P 00 27 44.4 +0.2
baz=84
H29A **Onida** 84.20 341 ⇓P P 00 27 44.6 +0.4
baz=84,SNR=5.6
K22A **Casper** 84.28 336 eP P 00 27 46.2 +1.4
K22A **Casper** 84.28 336 ⇑P P 00 27 45.8 +0.9
baz=85,SNR=5.9
J24A **Dixon Ranch, L** 84.29 337 ⇑P P 00 27 45.5 +0.7
baz=85
I26A **New Underwood** 84.38 339 ⇓P P 00 27 45.9 +0.7
baz=85
G30A **Faulkton** 84.39 342 ⇑P P 00 27 46.0 +0.9
baz=85,SNR=6.3
DUG **Dugway** 84.42 331 eP P 00 27 47.1 +1.5
DUG pmax pmax
comp=Z,30nm,1.3s
DUG **Dugway** 84.42 331 eP P 00 27 47.1 +1.5
comp=Z,30nm,1.3s
DUG **Dugway** 84.42 331 ⇑P P 00 27 46.9 +1.4
baz=85
H28A **Mission Ridge** 84.46 340 ⇓P P 00 27 46.1 +0.6
baz=85,SNR=6.4
K21A **Alcova** 84.50 335 ⇑P P 00 27 46.6 +0.6
baz=85,SNR=9.9
TPH **Tonopah** 84.50 326 eP P 00 27 48.4 +2.3
TPH pmax pmax
comp=Z,18nm,0.9s
TPH **Tonopah** 84.50 326 eP P 00 27 48.4 +2.3
comp=Z,18nm,0.9s
G29A **Hoven** 84.65 341 ⇓P P 00 27 47.0 +0.6
baz=85
H27A **Howes** 84.71 340 ⇓P P 00 27 47.3 +0.4
baz=85
I24A **Kuemmerle Ranc** 84.76 338 ⇓P P 00 27 47.7 +0.6
baz=85
G28A **Parade** 84.80 341 ⇓P P 00 27 47.7 +0.5
baz=85
RSSD **Black Hills** 84.81 338 eP P 00 27 48.2 +0.6
RSSD **Black Hills** 84.81 338 eP P 00 27 48.1 +0.6
MLAC **Mammoth Lakes** 84.87 325 ⇑P P 00 27 49.8 +1.8
baz=85

J22A **Midwest** 84.94 336 ⇓P P 00 27 48.4 +0.2
baz=85,SNR=6.7
F30A **Leola** 85.02 342 ⇑P P 00 27 48.5 +0.2
baz=85
BGU **Big Grassy Mou** 85.13 331 eP P 00 27 50.4 +1.3
comp=Z,8.2nm,1.5s
H25A **Fruitdale** 85.14 339 ⇑P P 00 27 49.3 +0.3
baz=86
HWUT **Hardware Ranch** 85.15 332 eP P 00 27 50.2 +1.0
comp=Z,40nm,1.3s
J21A **Lysite** 85.20 336 ⇑P P 00 27 49.9 +0.4
baz=86
F29A **Eureka** 85.22 342 ⇓P P 00 27 49.4 +0.1
baz=86
NVAR **Mina Array Bea** 85.28 326 P P 00 27 52.1 +2.1
NVAR **Mina Array Bea** 85.28 326 P P 00 27 52.1 +2.1
comp=Z,7.6nm,0.7s,baz=154,slow=5.9,SNR=28
G27A **Dupree** 85.36 340 ⇓P P 00 27 50.2 +0.2
baz=86,SNR=5.3
I22A **9 Mile Ranch,** 85.37 336 ⇑P P 00 27 50.6 +0.3
baz=86,SNR=10
BW06 **Boulder Array** 85.42 334 eP P 00 27 51.4 +0.7
comp=Z,22nm,1.8s
PDAR **Pinedale Array** 85.42 334 P P 00 27 51.2 +0.6
PDAR pP pP 00 28 00.7 +1.0
PDAR **Pinedale Array** 85.42 334 P P 00 27 51.2 +0.6
comp=Z,2.5nm,1.0s,baz=151,slow=3.4,SNR=14
PDAR pP pP 00 28 00.7 +1.0
comp=Z,3.6nm,1.1s,baz=145,slow=5.4,SNR=7.4
J20A **Shoshoni** 85.42 335 ⇓P P 00 27 51.5 +0.9
baz=86,SNR=14
F28A **McLaughlin** 85.49 341 ⇓P P 00 27 50.9 +0.2
baz=86
H24A **Dirks Ranch, A** 85.54 338 ⇑P P 00 27 51.2 +0.2
baz=86,SNR=7.9
I21A **Big Trails, Te** 85.56 336 ⇑P P 00 27 51.5 +0.2
baz=86,SNR=11
G25A **Newell** 85.61 339 ⇑P P 00 27 51.5 +0.2
baz=86
E30A **Jud** 85.61 342 ⇑P P 00 27 51.2 0.0
baz=86
H23A **Clabaugh Cattl** 85.63 337 ⇑P P 00 27 51.7 +0.2
baz=86
J19A **Crowheart** 85.68 334 ⇑P P 00 27 52.2 +0.3
baz=86,SNR=9.3
HVU **Hansel Valley** 85.76 331 eP P 00 27 53.1 +0.8
HVU pmax pmax
comp=Z,13nm,0.9s
HVU **Hansel Valley** 85.76 331 eP P 00 27 53.1 +0.8
comp=Z,13nm,0.9s
F27A **Lemmon** 85.84 340 ⇓P P 00 27 52.8 +0.4
baz=86
E29A **Napoleon** 85.86 342 ⇓P P 00 27 52.8 +0.3
baz=86
ELK **Elko** 85.87 329 P P 00 27 54.2 +1.2
comp=Z,5.2nm,0.9s,baz=193,slow=2.3,SNR=17
H22A **Clearmont** 85.96 337 ⇑P P 00 27 53.4 +0.3
baz=86
I20A **Worland** 85.97 335 ⇓P P 00 27 54.0 +0.8
baz=86,SNR=8.6
F26A **Lodgepole** 86.00 340 ⇓P P 00 27 53.6 +0.4
baz=86
G24A **Alzada** 86.02 338 ⇑P P 00 27 53.9 +0.5
baz=86
D30A **Buchanan** 86.14 343 ⇓P P 00 27 54.2 +0.3
baz=86,SNR=6.3
G23A **Biddle** 86.20 338 ⇑P P 00 27 54.4 +0.1
baz=86,SNR=5.6
H21A **Big Horn, Sher** 86.21 336 ⇑P P 00 27 54.6 +0.2
baz=86
F25A **Bowman** 86.29 339 ⇓P P 00 27 55.2 +0.5
baz=87,SNR=6.6
D29A **Pettibone, Tap** 86.31 342 ⇓P P 00 27 55.2 +0.5
baz=87
I19A **Meeteetse** 86.34 335 ⇓P P 00 27 55.6 +0.5
baz=87
H20A **Greybull** 86.40 336 ⇑P P 00 27 55.4 +0.1
baz=87,SNR=8.0
REDW **Red Top Meadow** 86.40 333 eP P 00 27 56.6 +1.1
G22A **Birney** 86.50 337 ⇓P P 00 27 55.8 +0.1
baz=87
F24A **Ekalaka** 86.50 339 ⇑P P 00 27 56.0 +0.2
baz=87
E26A **Carlson Angus** 86.51 340 ⇑P P 00 27 55.9 +0.2
baz=87
LOHW **Long Hollow** 86.53 334 eP P 00 27 57.1 +1.0
comp=Z,11nm,1.3s
TPAW **Teton Pass** 86.55 333 eP P 00 27 57.4 +1.2
comp=Z,12nm,1.0s
AGMN **Agassiz Nation** 86.62 345 eP P 00 27 56.2 +0.1
comp=Z,9.5nm,0.8s
AGMN **Agassiz Nation** 86.62 345 ⇑P P 00 27 56.2 +0.1
baz=87,SNR=6.3
C30A **Mose, Pekin** 86.64 343 ⇑P P 00 27 56.6 +0.4
baz=87,SNR=6.5
D28A **Regan** 86.67 342 ⇓P P 00 27 57.2 +0.8
baz=87
F23A **Volborg** 86.68 338 ⇑P P 00 27 56.8 +0.2
baz=87,SNR=5.2
MOOW **Moose Ponds** 86.70 334 eP P 00 27 57.8 +0.8
comp=Z,18nm,2.0s
FXWY **Fox Creek** 86.70 333 eP P 00 27 58.0 +1.0
comp=Z,18nm,1.6s
I17A **Pilgrim Ck.** 86.79 334 ⇑P P 00 27 58.6 +1.2
baz=87,SNR=7.2
G21A **Lodge Grass** 86.80 337 ⇓P P 00 27 57.6 +0.4
baz=87
E25A **Miller Ranch,** 86.80 340 ⇑P P 00 27 57.4 +0.3
baz=87
PAHR **Pah Rah Range** 86.81 326 eP P 00 27 59.9 +2.4
comp=Z,108nm,2.4s
H19A **Powell** 86.89 335 ⇑P P 00 27 58.3 +0.5
baz=87
FLWY **Flagg Ranch** 86.97 334 eP P 00 27 59.4 +1.2
comp=Z,15nm,1.0s
F22A **Rosebud** 86.99 337 ⇓P P 00 27 58.3 +0.2
baz=87,SNR=5.5
D26A **Manning** 87.01 340 ⇓P P 00 27 58.4 +0.2
baz=87,SNR=12
E24A **Baker** 87.11 339 ⇑P P 00 27 59.6 +0.9
baz=87
C28A **Hausauer Farms** 87.11 342 ⇑P P 00 27 59.3 +0.7
baz=88
G20A **Bridger** 87.12 336 ⇑P P 00 27 59.2 +0.4
baz=87,SNR=7.2
H18A **Shoshone NF, C** 87.13 335 ⇑P P 00 27 59.5 +0.5
baz=87,SNR=10
H17A **Grant Village** 87.20 334 eP P 00 28 03.1 +3.7
comp=Z,4.5nm,0.6s
B30A **Myrik Farm, E** 87.30 343 ⇓P P 00 27 59.8 +0.3
baz=88,SNR=9.3
D25A **Fairfield** 87.37 340 ⇑P P 00 28 00.2 +0.3
baz=88
C27A **Sayler Ranch,** 87.40 341 ⇓P P 00 28 00.7 +0.8
baz=88,SNR=5.7
E22A **Miles City** 87.49 338 ⇑P P 00 28 00.8 +0.4
baz=88
B29A **Wagenman Farm,** 87.56 343 ⇑P P 00 28 01.1 +0.4
baz=88
F20A **Billings** 87.61 336 ⇑P P 00 28 01.5 +0.3
baz=88
D24A **Glendive** 87.62 339 ⇓P P 00 28 01.6 +0.5
baz=88
C26A **Wahner Farm, P** 87.65 341 ⇑P P 00 28 01.6 +0.4
baz=88
A30A **Hoffart Farm,** 87.76 344 ⇓P P 00 28 01.7 0.0
baz=88
B28A **Dugan Ranch, T** 87.79 342 ⇓P P 00 28 02.2 +0.4
baz=88
LAO **LASA Array** 87.80 338 eP P 00 28 02.5 +0.5
comp=Z,62nm,2.0s
C25A **Freed Ranch, W** 87.86 340 ⇓P P 00 28 02.5 +0.3
baz=88
QLMT **Earthquake Lak** 87.88 334 eP P 00 27 58.4 -4.2
comp=Z,0.6nm,0.8s
HLID **Hailey** 87.91 331 eP P 00 28 04.2 +1.5
comp=Z,29nm,1.8s
HLID **Hailey** 87.91 331 ⇓P P 00 28 03.7 +0.9
baz=88
F19A **Roth Farm, Mol** 87.92 336 ⇓P P 00 28 03.1 +0.5
baz=88
E21A **Keefer Ranch,** 87.93 337 ⇓P P 00 28 03.0 +0.5
baz=88
D23A **Lindsay** 87.93 339 ⇓P P 00 28 03.3 +0.7
baz=88,SNR=8.0
A29A **Manning Farm,** 87.96 343 ⇑P P 00 28 02.7 +0.1
baz=88,SNR=9.3
C24A **Savage** 88.03 339 ⇑P P 00 28 03.7 +0.7

baz=88
A28A **Rude Farm, Bot** 88.19 342 ⇑P P 00 28 03.9 +0.1
baz=88
D22A **Cohagen** 88.20 338 ⇓P P 00 28 04.3 +0.5
baz=88
B26A **Jensen Ranch,** 88.20 341 ⇓P P 00 28 04.3 +0.5
baz=88
E20A **Meyer Farm, Mu** 88.23 337 ⇓P P 00 28 04.4 +0.4
baz=88,SNR=5.6
B25A **Knox Farm, Ray** 88.35 340 ⇑P P 00 28 05.2 +0.6
baz=89
D21A **La Casta Ranch** 88.37 338 ⇓P P 00 28 05.1 +0.4
baz=89
MCMT **McKenzie Canyo** 88.39 333 eP P 00 28 05.8 +0.7
comp=Z,3.9nm,0.9s
E19A **Rath Farm, Rou** 88.40 336 ⇑P P 00 28 05.1 +0.3
baz=89,SNR=5.4
ULM **Lac du Bonnet** 88.47 346 eP P 00 28 05.0 0.0
ULM **Lac du Bonnet** 88.47 346 P P 00 28 04.8 -0.2
comp=Z,6.5nm,0.6s,baz=169,slow=3.6,SNR=15
C23A **Lambert** 88.49 339 ⇓P P 00 28 05.3 +0.1
baz=89
A26A **Wade Farm, Ken** 88.63 341 ⇑P P 00 28 06.2 +0.4
baz=89
C22A **Vida** 88.64 339 ⇓P P 00 28 06.4 +0.5
baz=89
WVOR **Wild Horse Val** 88.70 328 eP P 00 28 08.3 +1.9
WVOR pmax pmax
comp=Z,14nm,1.1s
WVOR **Wild Horse Val** 88.70 328 eP P 00 28 08.3 +1.9
comp=Z,14nm,1.1s
D20A **Manuel Ranch,** 88.75 337 ⇑P P 00 28 06.9 +0.5
baz=89
DLMT **Dillon** 88.76 333 eP P 00 28 08.9 +2.3
comp=Z,20nm,1.5s
DGMT **Dagmar** 88.81 340 eP P 00 28 07.6 +0.9
comp=Z,32nm,1.1s
DGMT **Dagmar** 88.81 340 ⇑P P 00 28 07.1 +0.5
baz=89
A25A **Svangstu Ranch** 88.95 341 ⇑P P 00 28 07.9 +0.6
baz=89
MOD **Modoc** 88.99 327 eP P 00 28 10.0 +2.1
comp=Z,9.5nm,0.8s
B23A **Brockton** 89.03 339 ⇑P P 00 28 07.8 +0.1
baz=89
D19A **Cripps Ranch,** 89.05 336 ⇓P P 00 28 08.4 +0.5
baz=89
C20A **Veseth Ranch,** 89.26 337 ⇑P P 00 28 09.1 +0.3
baz=90
N02D **Trinity Center** 89.34 325 ⇑P P 00 28 10.1 +0.6
baz=90
C19A **Slack Wire Ran** 89.61 337 ⇓P P 00 28 10.9 +0.4
baz=90
A22A **Carney Farms,** 89.77 339 ⇓P P 00 28 11.4 +0.2
baz=90
LSZ **Lusaka** 89.88 109 eP P 00 28 09.1 -3.6
comp=Z,2.6nm,1.0s
B20A **Solberg Farm,** 89.91 338 ⇑P P 00 28 11.7 -0.1
baz=90
A21A **Bergtoll Ranch** 90.07 338 ⇑P P 00 28 12.5 -0.1
baz=90
EGMT **Eagleton** 90.09 336 ⇓P P 00 28 12.8 +0.1
baz=90
B19A **Brinkman Farms** 90.21 337 ⇑P P 00 28 13.5 +0.2
baz=90
A20A **Cobblestone Ra** 90.27 338 ⇑P P 00 28 13.3 -0.2
baz=91
I07A **Izee** 90.40 329 eP P 00 28 16.4 +2.0
comp=Z,8.9nm,1.0s
A19A **Klindworth Far** 90.56 337 ⇓P P 00 28 15.0 0.0
baz=91
SCHQ **Schefferville** 90.89 4 LR LR 01 09 58.4
comp=Z,67nm,18.0s,baz=146,slow=36
F10A **Beach Ranch, E** 91.03 331 eP P 00 28 19.0 +1.8
comp=Z,56nm,2.3s
WALA **Waterton Lakes** 92.38 334 eP P 00 28 24.8 +1.4
comp=Z,0.6nm,1.4s
NEW **Newport** 92.88 332 ⇑P P 00 28 25.0 -0.7
baz=93
TAM **Tamanrasset** 94.54 65 eP P 00 28 31.1 -3.0
TAM pmax pmax
comp=Z,11nm,1.2s
TAM **Tamanrasset** 94.54 65 eP P 00 28 31.1 -3.0
comp=Z,11nm,1.2s
ESDC **Sonseca Array** 98.74 47 P P 00 28 51.9 -0.6
ESDC **Sonseca Array** 98.74 47 P P 00 28 51.9 -0.6
comp=Z,0.2nm,0.5s,baz=252,slow=5.8,SNR=3.0
DZM **Mont Dzumac** 99.23 234 eLR LR 01 00 59.7
comp=Z,279nm,25.6s
FRB **Frobisher Bay** 99.74 2 LR LR 01 11 36.0
comp=Z,58nm,20.6s,baz=200,slow=34
YKA **Yellowknife Ar** 103.94 342 Pdif **Pdif** 00 29 14.2 -0.8
YKA **Yellowknife Ar** 103.94 342 Pdif **Pdif** 00 29 14.2 -0.8
comp=Z,0.1nm,0.5s,baz=144,slow=4.4,SNR=5.1
GERES **GERESS Array B** 114.33 46 PKP PKPdf 00 33 51.9 -0.5
GERES **GERESS Array B** 114.33 46 PKP PKPdf 00 33 51.9 -0.5
comp=Z,0.3nm,0.5s,baz=349,slow=3.4,SNR=4.1
ASAR **Alice Springs** 115.17 207 PKP **PKPdf** 00 33 54.5 -0.5
ASAR pPKP PKiKP 00 34 03.1 +8.2
ASAR PKKPbc **PKKPbc** 00 44 29.6 +0.4
ASAR **Alice Springs** 115.17 207 PKP **PKPdf** 00 33 54.5 -0.5
comp=Z,0.6nm,0.5s,baz=138,slow=2.2,SNR=6.8
ASAR pPKP PKiKP 00 34 03.1 +8.2
comp=Z,0.8nm,0.6s,baz=144,slow=1.6,SNR=5.0
ASAR PKKPbc **PKKPbc** 00 44 29.6 +0.4
comp=Z,0.5nm,0.6s,baz=334,slow=2.9,SNR=5.4
ILAR **Eielson Array** 115.83 333 PKP **PKPdf** 00 33 54.6 -0.1
ILAR PP **PP** 00 35 01.9 +2.8
ILAR **Eielson Array** 115.83 333 PKP **PKPdf** 00 33 54.6 -0.1
comp=Z,0.5nm,0.9s,baz=178,slow=3.3,SNR=3.4
ILAR PP **PP** 00 35 01.9 +2.8
comp=Z,0.8nm,1.0s,baz=120,slow=6.6,SNR=5.1
NB2 **NORSAR Subarra** 118.38 33 P **PKKPab** 00 44 20.0 +2.0
comp=Z,2.6nm,0.8s,baz=67,slow=4.4
NB2 **NORSAR Subarra** 118.38 33 P **PKKPab** 00 44 20.0 +2.0
baz=67,slow=4.4
NOA **NORSAR Array B** 118.38 33 PKKPbc PKKPbc 00 44 21.8 +3.2
comp=Z,1.2nm,0.9s,baz=69,slow=4.5,SNR=3.9
WRA **Warramunga Arr** 118.38 209 PKP **PKPdf** 00 34 00.8 -0.3
WRA pPKP **pPKPdf** 00 34 09.2 -1.2
WRA **Warramunga Arr** 118.38 209 PKP **PKPdf** 00 34 00.8 -0.3
comp=Z,1.6nm,0.5s,baz=154,slow=1.6,SNR=49
WRA pPKP **pPKPdf** 00 34 09.2 -1.2
comp=Z,1.8nm,0.6s,baz=155,slow=1.6,SNR=9.2
CRVS **Cervenica-Dubn** 118.98 49 eP **Pdif** 00 30 25.0 +2.7
CRVS **Cervenica-Dubn** 118.98 49 PDIF **Pdif** 00 30 25.0 +2.7
BRTR **Keskin Array B** 123.64 63 PKP **PKPdf** 00 34 10.7 0.0
BRTR pPKP **pPKPdf** 00 34 19.1 -0.8
BRTR **Keskin Array B** 123.64 63 PKP **PKPdf** 00 34 10.7 0.0
comp=Z,1.4nm,0.7s,baz=194,slow=4.1,SNR=9.7
BRTR pPKP **pPKPdf** 00 34 19.1 -0.8
comp=Z,1.9nm,0.7s,baz=219,slow=2.0,SNR=8.0
KIEV **Kiev** 124.31 49 *i* PKIKP **PKPdf** 00 34 07.7 -3.7
AKASG **Malin Array Be** 124.32 49 PKIKP **PKPdf** 00 34 10.8 -0.6
AKASG 00 35 54.6
AKASG **Malin Array Be** 124.32 49 PKP **PKPdf** 00 34 10.8 -0.6
AKASG PP **PP** 00 35 54.5 -3.2
AKASG **Malin Array Be** 124.32 49 PKP **PKPdf** 00 34 10.8 -0.6
comp=Z,0.5nm,0.4s,baz=268,slow=2.7,SNR=7.4
AKASG PP **PP** 00 35 54.5 -3.2
comp=Z,0.2nm,0.4s,baz=251,slow=7.7,SNR=8.2
FINES **FINESS Array B** 125.32 36 PKP **PKPdf** 00 34 13.0 0.0
FINES **FINESS Array B** 125.32 36 PKP **PKPdf** 00 34 13.0 0.0
comp=Z,0.9nm,0.6s,baz=202,slow=21,SNR=2.9
ARCES **ARCESS Array B** 126.42 26 PKP **PKPdf** 00 34 14.3 -0.6
ARCES **ARCESS Array B** 126.42 26 PKP **PKPdf** 00 34 14.3 -0.6
comp=Z,1.6nm,0.8s,baz=270,slow=3.6,SNR=5.6
OBN **Obninsk** 129.64 45 ePKIKP **PKPdf** 00 34 20.3 -1.1
OBN pmax pmax
comp=Z,5.0nm,1.4s
BILL **Bilibino** 134.49 333 ePKIKP **PKPdf** 00 34 31.5 +1.3
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,64nm,18.0s
SEY **Seymchan** 141.55 328 PKIKP PKPpre 00 34 39.5
SEY **Seymchan** 141.55 328 PKPpre PKPpre 00 34 39.5
SEY **Seymchan** 141.55 328 PKhKP PKPpre 00 34 39.5
comp=Z,1.4nm,0.5s,baz=343,slow=19,SNR=2.6
AKTO **Aktyubinsk** 142.41 52 PKIKP **PKPdf** 00 34 44.0 -1.3
AKTO pmax pmax
comp=Z,14nm,1.9s
AKTO **Aktyubinsk** 142.41 52 PKPpre PKPpre 00 34 41.2
AKTO **Aktyubinsk** 142.41 52 PKhKP PKPpre 00 34 41.2
comp=Z,0.9nm,0.6s,baz=12,slow=3.0,SNR=5.0
TIXI **Tiksi** 142.76 349 ePKHKP PKPpre 00 34 39.4
TIXI **Tiksi** 142.76 349 ePKPdf PKPpre 00 34 39.4

AB31	**Akbulak array**	**143.71**	**54**	*i* PKIKP	PKPab	00 34 44.7	+0.3	
AB31				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ABKAR	**Akbulak array**	**143.71**	**54**	*e*PKPdf	PKPab	00 34 44.3	-0.1	
GSI	**Gunungsitoli**	**144.14**	**164**	*e*PKPdf	**PKPab**	**00 34 45.1**	**-2.0**	
KSM	**Kuching**	**145.24**	**186**	*e*PKPbc	**PKPbc**	**00 34 46.5**	**-4.6**	
POO	**Poona**	**145.94**	**112**	⫴*i*P	**PKPdf**	**00 34 52.0**	**-0.5**	
	comp=Z,2.0nm,1.5s							
HYB	**Hyderabad**	**148.65**	**119**	*i* PKP	**PKPbc**	**00 34 59.0**	**-1.7**	
HYB				*e*pPKP	**pPKPdf**	**00 35 10.5**	**+4.2**	
KBL	**Kabul**	**149.19**	**82**	*e*PKIKP	**PKPdf**	**00 34 55.9**	**-1.8**	
KBL	**Kabul**	**149.19**	**82**	*e*PKPdf	**PKPdf**	**00 34 55.9**	**-1.8**	
BRVK	**Borovoye**	**149.41**	**45**	*e*PKIKP	**PKPdf**	**00 34 55.3**	**-1.8**	
BRVK				*e*		00 35 02.4		
BRVK	**Borovoye**	**149.41**	**45**	*e*PKPdf	**PKPdf**	**00 34 55.3**	**-1.8**	
BRVK				*e*PKPab	**PKiKP**	**00 35 02.4**	**-0.2**	
BVA0	**Borovoye Array**	**149.49**	**45**	*i* PKP2	**PKPbc**	**00 35 01.4**	**-0.4**	
BVA0				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BVAR	**Borovoye Array**	**149.49**	**45**	PKP	**PKPdf**	**00 34 56.5**	**-0.7**	
BVAR				PKPbc	**PKPbc**	**00 35 01.8**	**+0.1**	
BVAR	**Borovoye Array**	**149.49**	**45**	PKP	**PKPdf**	**00 34 56.5**	**-0.7**	
	comp=Z,1.1nm,0.8s,baz=222,slow=1.9,SNR=5.4							
BVAR				PKPbc	**PKPbc**	**00 35 01.8**	**+0.1**	
	comp=Z,4.6nm,0.6s,baz=242,slow=3.2,SNR=37							
YAK	**Yakutsk**	**150.55**	**338**	*e*PKIKP	**PKPbc**	**00 35 03.0**	**-1.0**	
YAK				pmax	pmax			
	comp=Z,36nm,0.9s							
KK31	**Karatay Array**	**151.31**	**65**	*i* PKIKP	**PKPbc**	**00 35 05.9**	**-0.6**	
KK31				pmax	pmax			
	comp=Z,11nm,0.7s							
EKS2	**Erkin-Say**	**153.72**	**66**	*e*PKIKP	**PKPdf**	**00 35 00.6**	**-3.5**	
EKS2	**Erkin-Say**	**153.72**	**66**	*e*PKPdf	**PKPdf**	**00 35 00.6**	**-3.5**	
AAK	**Ala-Archa**	**154.25**	**66**	*e*PKIKP	**PKPdf**	**00 35 01.9**	**-3.0**	
AAK	**Ala-Archa**	**154.25**	**66**	*e*PKPdf	**PKPdf**	**00 35 01.9**	**-3.0**	
TKM2	**Tokmak 2**	**155.04**	**65**	*e*PKIKP	**PKPdf**	**00 35 02.7**	**-3.4**	
TKM2	**Tokmak 2**	**155.04**	**65**	*e*PKPdf	**PKPdf**	**00 35 02.7**	**-3.4**	
KURK	**Kurchatov**	**155.08**	**46**	*e*PKIKP	**PKPdf**	**00 35 02.3**	**-3.3**	
KURK	**Kurchatov**	**155.08**	**46**	*e*PKPdf	**PKPdf**	**00 35 02.3**	**-3.3**	
NVS	**Novosibirsk**	**155.29**	**34**	*e*PKIKP	**PKPdf**	**00 35 01.4**	**-4.3**	
KSH	**Kashi**	**155.40**	**73**	*e*PKPbc	**PKPdf**	**00 35 07.3**	**+0.7**	
KSH				*es*PKP		00 35 21.4		
KSH				*e*SKS	**SKSdf**	**00 42 08.8**	**-2.4**	
KSH				*e*SKKS	SKKSac	00 45 48.3	-8.5	
KSH				*e*SS	SS	00 58 43.3	-10	
KSH				AMB	AMB			
	comp=Z,120nm,4.5s							
ZAA0	**Zalesovo Array**	**156.58**	**34**	*e*PKPdf	**PKPdf**	**00 35 04.5**	**-3.0**	
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKIKP	**PKPdf**	**00 35 07.3**	**-0.2**	
ZALV						00 35 16.2		
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKP	**PKPdf**	**00 35 07.2**	**-0.2**	
ZALV				pPKP	**pPKPdf**	**00 35 16.2**	**-0.6**	
ZALV				PKPab	**PKPab**	**00 35 35.8**	**-0.7**	
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKP	**PKPdf**	**00 35 07.2**	**-0.2**	
	comp=Z,3.0nm,0.8s,baz=318,slow=2.0,SNR=14							
ZALV				pPKP	**pPKPdf**	**00 35 16.2**	**-0.6**	
	comp=Z,3.5nm,0.8s,baz=280,slow=2.6,SNR=7.3							
ZALV				PKPab	**PKPab**	**00 35 35.8**	**-0.7**	
	comp=Z,2.7nm,0.6s,baz=297,slow=4.3,SNR=6.5							
KOLN	**Koldanda**	**158.51**	**107**	*e*P	**PKPab**	**00 35 45.9**	**-0.1**	
	comp=Z,71nm,1.0s							
MK31	**Makanchi Array**	**158.84**	**53**	*e*PKIKP	**PKPdf**	**00 35 07.8**	**-2.8**	
MK31	**Makanchi Array**	**158.84**	**53**	*e*PKPdf	**PKPdf**	**00 35 07.8**	**-2.8**	
MKAR	**Makanchi Array**	**158.84**	**53**	PKIKP	**PKPdf**	**00 35 11.0**	**+0.4**	
MKAR						00 35 19.6		
MKAR						00 39 27.8		
MKAR	**Makanchi Array**	**158.84**	**53**	PKP	**PKPdf**	**00 35 11.0**	**+0.4**	
MKAR				pPKP	**pPKPdf**	**00 35 19.6**	**-0.2**	
MKAR				PKPab	**PKPab**	**00 35 46.6**	**0.0**	
MKAR				PP	**PP**	**00 39 27.8**	**+0.1**	
MKAR	**Makanchi Array**	**158.84**	**53**	PKP	**PKPdf**	**00 35 11.0**	**+0.4**	
	comp=Z,1.9nm,0.7s,baz=317,slow=0.3,SNR=22							
MKAR				pPKP	**pPKPdf**	**00 35 19.6**	**-0.2**	
	comp=Z,2.5nm,0.7s,baz=350,slow=0.4,SNR=16							
MKAR				PKPab	**PKPab**	**00 35 46.6**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=305,slow=5.1,SNR=7.4							
MKAR				PP	**PP**	**00 39 27.8**	**+0.1**	
	comp=Z,0.9nm,0.8s,baz=316,slow=3.3,SNR=4.8							
DANN	**Dangsing**	**158.91**	**105**	*e*P	**PKPab**	**00 35 47.9**	**+0.1**	
	comp=Z,61nm,1.2s							
GKN	**Gorkha**	**159.42**	**107**	*e*P	**PKPab**	**00 35 50.1**	**+0.2**	
	comp=Z,120nm,1.2s							
DMN	**Daman**	**159.59**	**109**	*e*P	**PKPab**	**00 35 50.9**	**+0.1**	
	comp=Z,77nm,1.0s							
PKIN	**Phulchoki**	**159.79**	**109**	*e*P	**PKPab**	**00 35 51.6**	**-0.1**	
PKI	**Pulchoki**	**159.80**	**109**	*e*P	**PKPab**	**00 35 51.5**	**-0.3**	
	comp=Z,48nm,1.2s							
KKN	**Kakani**	**159.81**	**109**	*e*P	**PKPab**	**00 35 52.1**	**+0.4**	
	comp=Z,76nm,1.0s							
GUN	**Gumba**	**160.33**	**109**	*e*P	**PKPab**	**00 35 54.4**	**+0.3**	
	comp=Z,58nm,1.2s							
RAMN	**Ramite**	**160.37**	**113**	*e*P	**PKPab**	**00 35 54.5**	**+0.3**	
JIRN	**Jiri**	**160.44**	**110**	*e*P	**PKPab**	**00 35 54.7**	**+0.1**	
	comp=Z,24nm,0.8s							
MDJ	**Mudanjiang**	**160.90**	**303**	PKP	**PKPdf**	**00 35 14.8**	**+1.9**	
CMAR	**Chiang Mai Arr**	**160.90**	**156**	PKP	**PKPdf**	**00 35 13.8**	**0.0**	
CMAR	**Chiang Mai Arr**	**160.90**	**156**	PKP	**PKPdf**	**00 35 13.8**	**0.0**	
	comp=Z,1.2nm,0.3s,baz=226,slow=1.8,SNR=5.9							
ODAN	**Odare**	**160.91**	**114**	*e*P	**PKPab**	**00 35 56.6**	**+0.1**	
	comp=Z,30nm,0.9s							
TAPN	**Taplejung**	**161.41**	**113**	*e*P	**PKPab**	**00 35 58.6**	**-0.2**	
	comp=Z,16nm,1.2s							
WMQ	**Urumqi**	**163.46**	**57**	PKP	**PKPdf**	**00 35 18.1**	**+2.5**	
WMQ				PKS	**PKSdf**	**00 38 50.1**	**+1.5**	
WMQ				PP	**PP**	**00 39 57.1**	**+4.4**	
WMQ				SS	SS	01 00 20.3	+2.3	
WMQ				LR	LR			
	comp=Z,43nm,17.0s							
WMQ				LR	LR			
	comp=Z,61nm,18.7s							
KMI	**Kunming**	**168.32**	**161**	PKP	**PKPdf**	**00 35 21.8**	**+1.5**	
KMI				PP	PP	00 40 23.4	+6.4	
KMI				AMB	AMB			
	comp=Z,120nm,4.1s							
KMI				LR	LR			
	comp=Z,47nm,25.7s							
SONM	**Songino Array**	**168.44**	**2**	PKP	**PKPdf**	**00 35 18.7**	**-0.9**	
SONM				pPKP	**pPKPdf**	**00 35 27.6**	**-1.2**	
SONM				PKPab	**PKPab**	**00 36 29.4**	**+0.7**	
SONM	**Songino Array**	**168.44**	**2**	PKP	**PKPdf**	**00 35 18.7**	**-0.9**	
	comp=Z,0.2nm,0.6s,baz=88,slow=4.8,SNR=2.5							
SONM				pPKP	**pPKPdf**	**00 35 27.6**	**-1.2**	
	comp=Z,0.4nm,0.7s,baz=112,slow=0.0,SNR=3.3							
SONM				PKPab	**PKPab**	**00 36 29.4**	**+0.7**	
	comp=Z,2.1nm,0.9s,baz=338,slow=3.9,SNR=11							
GYA	**Guiyang**	**170.22**	**179**	*e*PKP	**PKPdf**	**00 35 22.0**	**+0.7**	
GYA				PKPab	**PKPab**	**00 36 41.0**	**+3.9**	
GYA				PKS	**PKSdf**	**00 38 53.4**	**-0.6**	
GYA				PP	PP	00 40 32.6	+6.4	
GYA				AMB	AMB			
	comp=Z,120nm,8.0s							
GTA	**Gaotai**	**173.54**	**59**	*e*PKP	**PKPdf**	**00 35 23.3**	**+0.8**	
GTA				PKPab	**PKPab**	**00 36 53.4**	**+1.6**	
GTA				PP	**PP**	**00 40 45.8**	**+1.8**	
GTA				SKS	**SKSdf**	**00 42 25.1**	**+1.3**	
GTA				SKKS	**SKKSac**	**00 47 31.5**	**+3.1**	
GTA				SS	**SS**	**01 01 58.1**	**-1.0**	
GTA				AMB	AMB			
	comp=Z,95nm,6.7s							
GTA				LR	LR			
	comp=Z,98nm,14.3s							
GTA				LR	LR			
	comp=Z,120nm,15.9s							
GTA				LR	LR			
	comp=Z,81nm,14.7s							
CD2	**Chengdu**	**174.03**	**153**	*e*PKP	**PKPdf**	**00 35 24.3**	**+1.5**	
CD2				sPKP		00 35 39.0		
CD2				PP	**PP**	**00 40 47.1**	**+1.7**	
CD2				AMB	AMB			
	comp=Z,220nm,6.5s							
CD2				LR	LR			
	comp=Z,170nm,17.8s							
CD2				LR	LR			
	comp=Z,150nm,17.8s							
HHC	**Hu-ho-hao-te**	**174.17**	**323**	*e*PKP	**PKPdf**	**00 35 24.6**	**+1.9**	
HHC				PP	**PP**	**00 40 51.5**	**+5.1**	
HHC				SKS	**SKSdf**	**00 42 20.8**	**-3.0**	
HHC				SKKS	**SKKSac**	**00 47 29.4**	**-1.6**	
HHC				AMB	AMB			
	comp=Z,190nm,10.4s							
HHC				LR	LR			
	comp=Z,270nm,16.2s							
HHC				LR	LR			
	comp=Z,260nm,16.7s							
HHC				LR	LR			
	comp=Z,160nm,16.2s							
LZH	**Lanzhou**	**177.48**	**93**	*e*PKP	**PKPdf**	**00 35 26.1**	**+2.4**	
LZH				*e*PP	**PP**	**00 41 07.0**	**+3.6**	
LZH				AMB	AMB			
	comp=Z,220nm,8.5s							
LZH				LR	LR			
	comp=Z,230nm,18.0s							
LZH				LR	LR			
	comp=Z,210nm,18.1s							
LZH				LR	LR			
	comp=Z,280nm,20.3s							

DJA 21 00:32:22.8±0.5, 0°S±4°, 12°2E±°, h10km, M2.6/2, MLv2.6/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.58**	**338**	P	Pg	00 32 32.9	-1.1
APSI	**Ampana**	**0.99**	**211**	P	Pg	00 32 41.5	-0.3
GTOI	**Gorontalo**	**1.10**	**51**	P	Pb	00 32 39.1	-4.8
GTOI				S	Sg	00 32 57.9	-0.3
LUWI	**Luwuk**	**1.15**	**148**	P	Pb	00 32 41.9	-2.9

*SJA **21** 00:37:40.5±0.5, 36°.26S×76°.24W, h20km±999km, MD4.5, ML5.2*
*NEIC **21** 00:38:09.3, 36°.22S×73°.18W, h27km, mb4.8/17, ML5.2(GUC), After GUC.*
NEIC Felt [II] at Cauquenes, Concepcion, Pelluhue and Tome.
*GUC **21** 00:38:09.4±0.8, 36°.22S×73°.17W, h28km±4km, ML5.2*
*ISCJB **21** 00:38:10.2±0.7, 36°.27S±0°.03×72°.96W±0°.04, h28km±4km, mb4.6/28, MS3.7/8, Error ellipse: s-maj=6.1km s-min=4.4km az=20.2*
*IDC **21** 00:38:11.5±0.8, 36°.27S×72°.98W, h28km±4km, mb4.3/12, mb1 4.4/15, mb1mx4.2/31, mbtmp4.4/15, ML4.1/3, MS3.6/12, Ms1 3.6/12, ms1mx3.5/30, Error ellipse: s-maj=21.1km s-min=15.2km az=76.0*
*BJI **21** 00:38:14.0, 36°.20S×73°.20W, h36km, mB5.1/2*

ISC 21 00:38:11.1±0.5, 36°.23S±0°.03×73°.07W±0°.06, h29km±3km, h29km:pP-P, n420, σ1s56/431, mb4.7/28, MS3.8/8, 128C-151D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.25**	**67**	*i* P	**Pb**	**00 38 16.9**	**-1.0**
CCSP	**San Pedro de C**	**0.61**	**183**	*e*P	**Pb**	**00 38 21.5**	**-1.9**
CCSP				*e*S	**Sb**	**00 38 30.2**	**-1.6**
TALC	**Talca**	**1.43**	**55**	*e*P	**Pn**	**00 38 34.5**	**-0.6**
TALC				*e*S	**Sb**	**00 38 54.0**	**-1.0**
TALC				AML	AML	00 38 57.9	
	comp=E,40μm,0.5s						
TALC	**Talca**	**1.43**	**55**	*e*P	**Pn**	**00 38 34.5**	**-0.6**
TALC				*e*S	**Sb**	**00 38 54.0**	**-1.0**
LNV	**Longovilo**	**2.65**	**31**	*e*P	**Pn**	**00 38 52.0**	**+0.3**
LNV	**Longovilo**	**2.65**	**31**	*e*P	**Pn**	**00 38 52.0**	**+0.3**
CACH	**El Canelo**	**2.92**	**45**	*e*P	**Pn**	**00 38 56.6**	**+0.8**
CACH	**El Canelo**	**2.92**	**45**	*e*P	**Pn**	**00 38 56.6**	**+0.8**
TACH	**Talagante**	**3.11**	**35**	*e*P	**Pn**	**00 38 58.6**	**+0.3**
TACH	**Talagante**	**3.11**	**35**	*e*P	**Pn**	**00 38 58.6**	**+0.3**
ANTU	**Antumapu**	**3.33**	**38**	*e*P	**Pn**	**00 39 01.6**	**+0.4**
ANTU				AML	AML	00 40 02.8	
	comp=N,4μm,0.5s						
ANTU	**Antumapu**	**3.33**	**38**	*e*P	**Pn**	**00 39 01.6**	**+0.4**
PCH	**Pirque**	**3.34**	**40**	*e*P	**Pn**	**00 39 01.8**	**+0.3**
PCH	**Pirque**	**3.34**	**40**	*e*P	**Pn**	**00 39 01.8**	**+0.3**
IHA	**Instituto Hidr**	**3.41**	**21**	*e*P	**Pn**	**00 39 00.5**	**-1.7**
IHA	**Instituto Hidr**	**3.41**	**21**	P	**Pn**	**00 39 00.5**	**-1.7**
SAN	**Santiago**	**3.41**	**36**	*e*P	**Pn**	**00 39 02.6**	**+0.3**
SAN	**Santiago**	**3.41**	**36**	*e*P	**Pn**	**00 39 02.6**	**+0.3**
VLCH	**Valdivia**	**3.57**	**182**	*e*P	**Pn**	**00 39 04.4**	**-0.2**
VLCH				*e*S	**Sn**	**00 39 45.8**	**0.0**
VLCH				AML	AML	00 40 12.8	
	comp=N,8μm,0.6s						
VLCH	**Valdivia**	**3.57**	**182**	*e*P	**Pn**	**00 39 04.4**	**-0.2**
VLCH				*e*S	**Sn**	**00 39 45.8**	**0.0**
FCH	**Farellones**	**3.69**	**39**	*e*P	**Pb**	**00 39 12.9**	**-2.9**
FCH				*e*S	**Sb**	**00 39 56.9**	**-3.3**
JACH	**Jahuel**	**4.09**	**31**	*e*P	**Pn**	**00 39 11.7**	**0.0**
JACH	**Jahuel**	**4.09**	**31**	*e*P	**Pn**	**00 39 11.7**	**0.0**
AAGR	**Agrelo**	**4.70**	**49**	*e*P	Pn	00 39 23.1	+3.0
ARCO	**CERRO ARCO**	**4.80**	**47**	*e*P	**Pn**	**00 39 24.5**	**+2.9**
ARCO				AML	AML	00 41 01.7	
	comp=Z,352nm,0.2s						
PLCA	**Paso Flores**	**4.91**	**157**	*e*Pn	**Pn**	**00 39 24.1**	**+1.0**
PLCA				*e*Sn	**Sn**	**00 40 17.5**	**-1.4**
PLCA	**Paso Flores**	**4.91**	**157**	Pn	**Pn**	**00 39 23.7**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=328,slow=12,SNR=32						
PLCA				Lg	Lg	00 40 39.5	
	comp=Z,4.7nm,0.3s,baz=74,slow=23,SNR=4.1						
PLCA				LR	LR	00 41 08.9	
	comp=Z,308nm,19.9s,baz=272,slow=37						
AUSP	**Uspallata**	**5.03**	**38**	*e*P	**Pn**	**00 39 25.9**	**+1.1**
AUSP				*e*S	**Sb**	**00 40 42.0**	**+3.4**
ASAL	**Salagasta**	**5.04**	**45**	*e*P	**Pn**	**00 39 27.4**	**+2.5**
ASAL				*e*P	**Pn**	**00 39 27.4**	**+2.5**
ASAL				*e*S	Sb	00 40 46.9	+8.0
RTLS	**Leoncito**	**5.42**	**36**	*e*S	**Sb**	**00 40 51.0**	**+1.1**
H03N1	**Juan Fernandez**	**5.55**	**298**	T	T	00 45 32.2	
	baz=118,slow=75,SNR=4.5						
H03N3	**Juan Fernandez**	**5.55**	**298**	T	T	00 45 25.1	
	baz=118						
H03N2	**Juan Fernandez**	**5.56**	**298**	T	T	00 45 21.1	
	baz=118,slow=75,SNR=9.7						
CFAA	**Coronel Fontan**	**6.12**	**42**	Pn	**Pn**	**00 39 39.8**	**+0.2**
CFAA	**Coronel Fontan**	**6.12**	**42**	Pn	**Pn**	**00 39 39.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=208,slow=14,SNR=26						
CFAA				LR	LR	00 42 10.5	
	comp=Z,107nm,18.5s,baz=232,slow=39						
CFAA	**Coronel Fontan**	**6.12**	**42**	*e*P	**Pn**	**00 39 40.2**	**+0.6**
AVFE	**Valle Fertil**	**7.27**	**42**	*e*P	**Pn**	**00 39 54.9**	**-0.6**
AVFE				AML	AML	00 41 07.2	
	comp=Z,114nm,0.4s						
LCO	**Las Campanas**	**7.47**	**16**	*e*Pn	**Pn**	**00 39 56.7**	**-1.7**
LCO				*e*Sn	**Sn**	**00 41 19.5**	**-2.7**
TRQA	**Tornquist**	**9.04**	**105**	*e*Pn	**Pn**	**00 40 20.6**	**+0.9**
TRQA				*e*Sn	**Sn**	**00 42 04.2**	**+3.6**
LVC	**Limon Verde**	**14.04**	**16**	*e*Pn	**Pn**	**00 41 26.6**	**-1.7**
CPUP	**Villa Florida**	**16.67**	**58**	Pn	**Pn**	**00 42 01.4**	**-1.2**
CPUP	**Villa Florida**	**16.67**	**58**	Pn	**Pn**	**00 42 01.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=229,slow=8.5,SNR=5.9						
CPUP				LR	LR	00 48 24.0	
	comp=Z,148nm,20.2s,baz=216,slow=37						
USHA	**Ushuaia**	**18.88**	**172**	LR	LR	00 50 05.4	
	comp=Z,296nm,21.5s,baz=351,slow=38						
ARE	**Areguipa**	**19.74**	**4**	*e*P	**Pn**	**00 42 40.0**	**-0.5**
LPAZ	**La Paz**	**20.34**	**14**	*e*Pn	**P**	**00 42 44.5**	**-1.2**
	comp=Z,10.0nm,0.8s						
LPAZ	**La Paz**	**20.34**	**14**	P	Pn	00 42 47.9	-0.2
	comp=Z,4.1nm,0.6s,baz=183,slow=7.9,SNR=17						
SIV	**San Ignacio**	**22.82**	**31**	P	**P**	**00 43 12.2**	**+0.5**
SIV	**San Ignacio**	**22.82**	**31**	P	**P**	**00 43 12.2**	**+0.5**
	comp=Z,15nm,0.9s,baz=230,slow=13,SNR=34						
SIV				LR	LR	00 53 35.3	
	comp=Z,188nm,18.5s,baz=216,slow=40						
BB16B	**Bebedouro**	**26.19**	**61**	*e*P	**P**	**00 43 42.3**	**-1.0**
BB16B				*i*		00 43 42.9	
BB16B				*i*		00 43 46.2	
BB16B				*i*		00 43 48.6	
BB16B				*i*		00 43 55.9	
BB16B				*i*		00 44 01.9	
SAML	**Samuel**	**28.61**	**21**	*e*P	**P**	**00 44 02.7**	**-2.3**
	comp=Z,5.4nm,2.0s						
PMSA	**Palmer Station**	**29.09**	**172**	LR	LR	00 55 31.0	
	comp=Z,311nm,18.2s,baz=314,slow=36						
ATAH	**Atahualpa**	**29.36**	**349**	LR	LR	00 53 14.5	
	comp=Z,64nm,21.3s,baz=196,slow=31						
BDFB	**Brasilia**	**30.31**	**54**	P	**P**	**00 44 20.0**	**-0.1**
BDFB	**Brasilia**	**30.31**	**54**	P	**P**	**00 44 20.0**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=209,slow=10,SNR=2.7						
BDFB				LR	LR	00 57 50.7	
	comp=Z,284nm,18.1s,baz=230,slow=39						
PTGA	**Pitinga**	**37.36**	**22**	*e*P	**P**	**00 45 19.8**	**-1.4**
	comp=Z,4.3nm,0.5s						
SDV	**Santo Domingo**	**44.93**	**3**	*e*P	**P**	**00 46 21.8**	**-1.9**
	comp=Z,14nm,1.1s						
JTS	**JuntasAbangare**	**47.60**	**344**	LR	LR	01 02 16.4	
	comp=Z,51nm,20.8s,baz=42,slow=30						
SNAA	**Sanae**	**49.86**	**157**	*e*P	**P**	**00 46 59.6**	**-1.6**
	comp=Z,44nm,2.1s						
SNAA	**Sanae**	**49.86**	**157**	P	**P**	**00 47 01.8**	**+0.6**
	comp=Z,5.8nm,1.3s,baz=279,slow=7.2,SNR=12						
APG	**El Apazote**	**53.54**	**339**	LR	LR	01 05 23.5	
	comp=Z,134nm,18.0s,baz=244,slow=30						
QSPA	**South Pole Qui**	**54.01**	**180**	*e*P	**P**	**00 47 31.7**	**-0.6**
	comp=Z,10.0nm,1.0s						
TEIG	**Tepich**	**57.96**	**343**	LR	LR	01 07 53.1	
	comp=Z,53nm,18.5s,baz=60,slow=31						
035A	**Encino**	**67.11**	**336**	⫴P	**P**	**00 49 03.5**	**+1.6**
	baz=67						
034A	**Hebbronville**	**67.43**	**335**	⇑P	**P**	**00 49 05.9**	**+2.0**
	baz=68						
TIGA	**Tifton**	**68.03**	**350**	⫴P	**P**	**00 49 08.5**	**+1.0**
	baz=68						
933A	**Laredo**	**68.13**	**335**	⇑P	**P**	**00 49 10.1**	**+1.8**
	baz=68						
834A	**Tilden**	**68.36**	**336**	⫴P	**P**	**00 49 12.1**	**+2.4**
	baz=69						
735A	**Kenedy**	**68.80**	**337**	⇑P	**P**	**00 49 14.5**	**+2.1**
	baz=69						
833A	**Chaparral WMA,**	**68.83**	**335**	⇑P	**P**	**00 49 14.1**	**+1.4**
	baz=69,SNR=6.3						
832A	**Faith Ranch, C**	**68.99**	**335**	⫴P	**P**	**00 49 15.0**	**+1.4**
	baz=69,SNR=6.4						
733A	**Divot King Ran**	**69.16**	**335**	⇑P	**P**	**00 49 15.7**	**+1.0**
	baz=69						
732A	**Laxson Ranch,**	**69.39**	**335**	⫴P	**P**	**00 49 17.5**	**+1.4**
	baz=70,SNR=11						
633A	**Saathoff Ranch**	**69.80**	**336**	⇑P	**P**	**00 49 20.4**	**+1.7**
	baz=70						
535A	**Dale**	**69.81**	**337**	⫴P	**P**	**00 49 20.2**	**+1.5**
	baz=70						
GOGA	**Godfrey**	**69.96**	**351**	*e*P	**P**	**00 49 19.9**	**+0.4**
	comp=Z,7.7nm,0.8s						
632A	**Uvalde**	**70.05**	**335**	⇑P	**P**	**00 49 22.0**	**+1.8**
	baz=70,SNR=11						
534A	**Blanco**	**70.10**	**337**	⫴P	**P**	**00 49 21.7**	**+1.2**
	baz=70						
631A	**Perdido Creek**	**70.23**	**335**	⇑P	**P**	**00 49 22.8**	**+1.5**
	baz=70,SNR=5.3						
533A	**Kerrville**	**70.32**	**336**	⇑P	**P**	**00 49 23.6**	**+1.7**
	baz=71						
435B	**Jarrell**	**70.52**	**338**	⇑P	**P**	**00 49 24.8**	**+1.8**
	baz=71						
532A	**Rocksprings**	**70.66**	**336**	⫴P	**P**	**00 49 25.6**	**+1.6**
	baz=71,SNR=18						
434A	**Burnet**	**70.76**	**337**	⫴P	**P**	**00 49 25.9**	**+1.3**
	baz=71,SNR=13						
531A	**Rocksprings**	**70.91**	**335**	⇑P	**P**	**00 49 27.1**	**+1.6**
	baz=71,SNR=12						
JCT	**Junction City**	**70.95**	**336**	*e*P	**P**	**00 49 24.2**	**-1.5**
	comp=Z,13nm,0.8s						
JCT	**Junction City**	**70.95**	**336**	⫴P	**P**	**00 49 27.0**	**+1.3**
	baz=71,SNR=6.0						
433A	**Art**	**70.97**	**336**	⫴P	**P**	**00 49 26.7**	**+0.9**
	baz=71,SNR=12						
628A	**Black Gap, Mar**	**71.13**	**333**	P	**P**	**00 49 28.6**	**+1.8**
	baz=71						
530A	**J-C Ranch, Com**	**71.17**	**334**	⫴P	**P**	**00 49 28.8**	**+1.8**
	baz=71,SNR=14						
334A	**Lometa**	**71.23**	**337**	⇑P	**P**	**00 49 28.3**	**+0.9**
	baz=72,SNR=15						
TXAR	**Lajitas Array**	**71.28**	**332**	P	**P**	**00 49 29.4**	**+1.6**
TXAR	**Lajitas Array**	**71.28**	**332**	P	**P**	**00 49 29.4**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=152,slow=8.6,SNR=47						
627A	**Terlingua Ranc**	**71.28**	**332**	P	**P**	**00 49 29.1**	**+1.2**
	baz=72						
432A	**Menard**	**71.31**	**336**	⇑P	**P**	**00 49 29.0**	**+1.2**
	baz=72						
431A	**Sonora**	**71.40**	**335**	⫴P	**P**	**00 49 29.5**	**+1.1**
	baz=72,SNR=5.8						
KMSC	**Kings Mountain**	**71.42**	**353**	⫴P	**P**	**00 49 28.8**	**+0.5**
	baz=72						
529A	**Stev Forest Ra**	**71.46**	**334**	⫴P	**P**	**00 49 30.3**	**+1.5**
	baz=72,SNR=11						
333A	**Richland Sprin**	**71.46**	**337**	⫴P	**P**	**00 49 29.5**	**+0.7**
	baz=72,SNR=8.8						
WHTX	**Lake Whitney**	**71.61**	**338**	*e*P	**P**	**00 49 27.8**	**-1.7**

Z30A	Sanderson Ranc	73.96	336	⇓P		P	00 49 44.4 +0.8
	baz=74,SNR=7.7						
Y32A	R-V Farms, Ver	74.08	337	⇓P		P	00 49 45.7 +1.4
	baz=74						
Z29A	Hungry Hill Ra	74.13	335	⇑P		P	00 49 45.4 +0.7
	baz=74,SNR=9.4						
X34A	Smith Ranch, M	74.15	339	⇓P		P	00 49 45.8 +1.2
	baz=74,SNR=5.2						
225A	Deer Hill, Car	74.20	332	⇓P		P	00 49 46.7 +1.5
	baz=74						
X33A	Lawton	74.30	338	⇑P		P	00 49 46.3 +0.8
	baz=75						
Y31A	Rekieta Farm,	74.30	337	⇓P		P	00 49 46.8 +1.2
	baz=75						
Z28A	Tucker Farm, M	74.39	335	⇓P		P	00 49 47.2 +1.1
	baz=75						
PBMO	Poplar Bluff	74.41	346	eP		P	00 49 46.5 +0.5
	comp=Z,11nm,0.7s						
X32A	Elmer	74.42	338	⇑P		P	00 49 47.6 +1.4
	baz=75						
Y30A	Stafford Cattl	74.43	336	⇑P		P	00 49 47.5 +1.2
	baz=75						
WMOK	Wichita Mounta	74.56	338	eP		P	00 49 47.9 +0.9
	comp=Z,5.0nm,0.9s						
125A	Gardner Draw,	74.63	333	⇓P		P	00 49 49.0 +1.4
	baz=75						
Y29A	Porterfield Fa	74.67	336	⇑P		P	00 49 48.5 +0.8
	baz=75,SNR=5.2						
Z27A	Tatum	74.70	334	⇑P		P	00 49 49.7 +1.7
	baz=75						
W34A	Bridge Creek,	74.73	339	⇓P		P	00 49 49.0 +1.1
	baz=75						
TUL1	Tulsa	74.82	341	eP		P	00 49 46.2 -2.2
TUL1	Tulsa	74.82	341	⇑P		P	00 49 49.6 +1.2
	baz=75						
X31A	McDonald Ranch	74.83	337	⇑P		P	00 49 49.8 +1.2
	baz=75						
W33A	Caddo, Fort Co	74.85	339	⇑P		P	00 49 50.2 +1.5
	baz=75,SNR=10						
Z26A	Caprock	74.94	334	⇑P		P	00 49 50.9 +1.6
	baz=75,SNR=14						
W32A	Sentinel	75.06	338	⇓P		P	00 49 51.3 +1.4
	baz=75,SNR=11						
MSTX	Muleshoe	75.14	335	eP		P	00 49 51.8 +1.3
	comp=Z,8.1nm,0.8s						
MSTX	Muleshoe	75.14	335	⇓P		P	00 49 51.8 +1.3
	baz=75						
Z25A	Roswell	75.21	333	⇑P		P	00 49 52.6 +1.6
	baz=76						
X29A	Tulia	75.21	336	⇑P		P	00 49 52.4 +1.5
	baz=76						
V34A	Guthrie	75.22	340	⇓P		P	00 49 51.8 +1.0
	baz=76						
W31A	Holland Ranch,	75.33	338	⇓P		P	00 49 52.7 +1.2
	baz=76						
319A	Douglas	75.34	329	⇓P		P	00 49 54.3 +2.6
	baz=76						
V33A	Lossen Ranch,	75.42	339	⇑P		P	00 49 53.3 +1.3
	baz=76						
Y26A	Elida	75.47	334	⇑P		P	00 49 54.2 +1.7
	baz=76						
Z24A	Sheeppen Canyo	75.50	332	⇓P		P	00 49 54.5 +1.8
	baz=76,SNR=6.3						
V32A	Arapaho	75.55	338	⇑P		P	00 49 54.2 +1.5
	baz=76						
AMTX	Amarillo	75.61	336	eP		P	00 49 54.9 +1.7
	comp=Z,24nm,1.3s						
AMTX	Amarillo	75.61	336	⇓P		P	00 49 54.5 +1.4
	baz=76						
121A	Cookes Peak, D	75.73	330	eP		P	00 49 52.6 -1.4
	comp=Z,5.0nm,0.9s						
121A	Cookes Peak, D	75.73	330	⇓P		P	00 49 56.5 +2.5
	baz=76						
Y25A	Mesa, Roswell	75.78	333	⇑P		P	00 49 55.9 +1.7
	baz=76						
U34A	Anderson Ranch	75.79	340	⇓P		P	00 49 55.4 +1.4
	baz=76						
W29A	Amraillo	75.81	336	⇑P		P	00 49 55.6 +1.2
	baz=76,SNR=6.0						
V31A	Spring Creek L	75.84	338	⇑P		P	00 49 56.6 +2.2
	baz=76						
Z22A	Elephant Butte	76.04	331	⇓P		P	00 49 58.1 +2.4
	baz=76						
Y24A	Capitan	76.06	333	⇓P		P	00 49 57.8 +1.9
	baz=76						
U32A	Winter Ranch,	76.15	339	⇓P		P	00 49 57.9 +1.8
	baz=76						
W27A	Bowe Ranch, En	76.23	335	⇓P		P	00 49 58.6 +1.9
	baz=76						
LIC	Lamto	76.28	72	eP		P	00 49 57.7 +0.3
	comp=Z,10nm,0.6s						
Y23A	Lovelace Mesa,	76.29	332	⇑P		P	00 49 59.5 +2.3
	baz=77						
V29A	Stinnett	76.46	337	⇓P		P	00 49 59.6 +1.7
	baz=77						
TIC	Toumodi	76.55	71	eP		P	00 49 59.1 +0.1
V28A	Channing	76.58	336	⇓P		P	00 50 00.9 +2.3
	baz=77						
KIC	Kosan Boka	76.59	72	eP		P	00 49 59.3 +0.2
	comp=Z,19nm,0.8s						
T33A	Patterson Ranc	76.59	340	⇓P		P	00 50 00.0 +1.5
	baz=77,SNR=5.9						
X24A	Lazy VL Ranch,	76.62	333	⇑P		P	00 50 01.4 +2.3
	baz=77						
DBIC	Dimbokro	76.69	71	P		P	00 49 59.7 0.0
DBIC				pP		pP	00 50 09.2 +0.1
DBIC	Dimbokro	76.69	71	P		P	00 49 59.7 0.0
	comp=Z,5.0nm,0.6s,baz=204,slow=6.2,SNR=12						
DBIC				pP		pP	00 50 09.2 +0.1
	comp=Z,7.0nm,0.7s,baz=201,slow=5.2,SNR=6.9						
TUC	Tucson	76.78	328	eP		P	00 50 02.4 +2.5
U30A	WK&E Inc. Balk	76.79	337	⇓P		P	00 50 01.9 +2.1
	baz=77						
W25A	X Bar L Ranch,	76.86	334	⇓P		P	00 50 01.7 +1.4
	baz=77						
T32A	Huddler Ranch,	76.88	339	⇑P		P	00 50 02.0 +1.8
	baz=77						
X23A	Hourglass Bar	76.92	332	⇑P		P	00 50 03.1 +2.4
	baz=77						
V26A	Tequesquite Ra	77.15	335	⇓P		P	00 50 03.8 +1.9
	baz=77						
W24A	Lazy 6 Ranch,	77.19	333	⇓P		P	00 50 04.1 +1.8
	baz=78						
ANMO	Albuquerque	77.34	332	eP		P	00 50 05.1 +1.9
ANMO	Albuquerque	77.34	332	LR		LR	01 20 29.3
	comp=Z,59nm,19.2s,baz=173,slow=33						
S32A	Newby Ranch, P	77.36	339	⇓P		P	00 50 04.7 +1.7
	baz=78						
214A	Organ Pipe Nat	77.37	326	⇑P		P	00 50 06.1 +3.0
	baz=78						
U27A	Thompson Grove	77.39	336	⇑P		P	00 50 04.8 +1.6
	baz=78						
W23A	Werner Place,	77.42	333	⇑P		P	00 50 06.1 +2.5
	baz=78						
S31A	Mullinville	77.45	339	⇓P		P	00 50 04.8 +1.4
	baz=78						
V24A	Rampart Ranch,	77.61	334	⇑P		P	00 50 06.6 +2.0
	baz=78						
R33A	Olander Ranch,	77.66	340	⇓P		P	00 50 06.2 +1.6
	baz=78						
U26A	Atchley Ranch,	77.67	335	⇓P		P	00 50 06.4 +1.5
	baz=78						
S30A	Montezuma	77.76	338	⇓P		P	00 50 06.7 +1.5
	baz=78						
T28A	Walsh	77.79	337	⇓P		P	00 50 06.8 +1.3
	baz=78						
U25A	Circle Dot Ran	77.91	335	⇓P		P	00 50 08.2 +2.0
	baz=78						
T27A	Campo	77.94	336	⇓P		P	00 50 08.1 +1.8
	baz=78						
S29A	Ulysses	77.94	338	⇓P		P	00 50 08.0 +1.7
	baz=78						
V23A	Ortiz Mt. (NFS	77.95	333	⇓P		P	00 50 08.4 +1.9
	baz=78						
R32A	Long Quarter,	77.97	340	⇑P		P	00 50 08.0 +1.6
	baz=78						
KSU1	Kansas State U	78.04	341	⇓P		P	00 50 07.9 +1.3
	baz=78						
R31A	Burdett	78.08	339	⇑P		P	00 50 08.5 +1.6
	baz=78						
S28A	Manter	78.15	337	⇓P		P	00 50 09.0 +1.5
	baz=78,SNR=5.5						
Q33A	Connelly Farm,	78.27	341	⇓P		P	00 50 09.3 +1.4
	baz=79						
T26A	Comanche Natio	78.33	336	⇓P		P	00 50 10.1 +1.5
	baz=79						
X18A	Snowflake	78.35	330	⇑P		P	00 50 11.1 +2.4
	baz=79						
V22A	San Miguel Ran	78.37	333	⇓P		P	00 50 11.3 +2.4
	baz=79						
Q32A	Meitler Ranch,	78.46	340	⇑P		P	00 50 10.6 +1.6
	baz=79						
U23A	El Rito	78.48	333	⇓P		P	00 50 11.8 +2.4
	baz=79						
T25A	Trinidad	78.57	335	⇑P		P	00 50 12.0 +2.1
	baz=79						
P33A	Williams Farm,	78.64	341	⇓P		P	00 50 11.5 +1.5
	baz=79						
R29A	Marienthal	78.68	338	⇓P		P	00 50 12.0 +1.6
	baz=79						
S26A	Kim	78.69	336	⇑P		P	00 50 12.4 +2.0
	baz=79						
Q31A	Ellis	78.71	339	⇓P		P	00 50 12.2 +1.8
	baz=79						
U22A	Llaves	78.76	333	⇑P		P	00 50 13.4 +2.4
	baz=79						
R28A	Tribune	78.82	337	⇓P		P	00 50 12.7 +1.6
	baz=79						
X16A	Lo Mia Camp, P	78.87	328	⇑P		P	00 50 14.4 +2.8
	baz=79						
Q30A	Quinter	78.92	339	⇑P		P	00 50 13.6 +2.0
	baz=79						
S25A	Robets Cordova	79.05	335	⇑P		P	00 50 14.3 +1.8
	baz=79						
P32A	Hulting Farm,	79.06	340	⇑P		P	00 50 13.5 +1.2
	baz=79						
Q29A	Oakley	79.06	338	⇓P		P	00 50 13.7 +1.3
	baz=79						
R27A	Eads	79.08	337	⇓P		P	00 50 14.1 +1.6
	baz=79						
Y14A	Wickenburg	79.14	327	⇓P		P	00 50 15.7 +2.8
	baz=79						
P31A	Stockton	79.18	340	⇓P		P	00 50 14.7 +1.7
	baz=80						
R26A	Arlington	79.30	336	⇓P		P	00 50 16.1 +2.4
	baz=80						
S24A	Houchin Ranch,	79.30	335	⇑P		P	00 50 16.2 +2.2
	baz=80						
Q28A	Sharon Springs	79.48	338	⇓P		P	00 50 16.6 +1.9
	baz=80						
O32A	Brockman Farm,	79.57	341	⇓P		P	00 50 16.8 +1.8
	baz=80						
Y12C	Blythe	79.66	326	⇓P		P	00 50 18.4 +2.7
	baz=80						
P29A	Atwood	79.71	338	⇓P		P	00 50 18.1 +2.2
	baz=80						
O31A	Woolen Ranch,	79.75	340	⇑P		P	00 50 18.0 +1.9
	baz=80						
BOSA	Boshof	79.78	118	P		P	00 50 17.4 +0.5
BOSA				pP		pP	00 50 26.0 -0.2
BOSA	Boshof	79.78	118	P		P	00 50 17.4 +0.5
	comp=Z,7.2nm,0.8s,baz=255,slow=3.6,SNR=10						
BOSA				pP		pP	00 50 26.0 -0.2
	comp=Z,1.6nm,0.3s,baz=208,slow=4.0,SNR=2.1						
WUAZ	Wupatki	79.79	329	⇑P		P	00 50 19.5 +3.0
	baz=80						
R24A	Sanders Place,	79.80	335	⇑P		P	00 50 19.0 +2.5
	baz=80						
S22A	4UR Ranch, Cre	79.97	333	⇓P		P	00 50 19.4 +1.8
	baz=80						
O30A	MW Ranch, Wils	79.99	339	⇑P		P	00 50 19.4 +2.0
	baz=80						
MVCO	Mesa Verde	80.11	332	eP		P	00 50 20.7 +2.3
MVCO	Mesa Verde	80.11	332	⇓P		P	00 50 20.5 +2.1
	baz=80						
Q25A	Bedland, Calha	80.12	336	⇓P		P	00 50 20.0 +1.7
	baz=80						
O29A	4D Ranch, Culb	80.15	339	⇑P		P	00 50 20.3 +2.0
	baz=80						
PFO	Pinyon Flat Ob	80.43	324	⇑P		P	00 50 22.4 +2.4
	baz=81						
O28A	Krutsinger Ran	80.44	338	⇓P		P	00 50 21.8 +2.0
	baz=81						
Q24A	Divide	80.47	335	⇑P		P	00 50 22.0 +1.7
	baz=81						
W13A	Hualapai Mount	80.50	327	⇑P		P	00 50 23.2 +2.7
	baz=81						
P25A	Willow Gulch B	80.64	336	⇑P		P	00 50 23.0 +2.0
	baz=81						
O27A	Beecher Island	80.72	338	⇓P		P	00 50 23.2 +1.9
	baz=81						
N29A	Votaw Ranch, W	80.74	339	⇑P		P	00 50 23.1 +1.7
	baz=81						
M31A	Lambtecht Ranc	80.77	341	⇑P		P	00 50 23.2 +1.7
	baz=81						
SADO	Sadowa	80.81	356	P		P	00 50 21.4 -0.1
SADO	Sadowa	80.81	356	P		P	00 50 21.4 -0.1
	comp=Z,1.8nm,0.7s,baz=45,slow=5.0,SNR=3.2						
U15A	North Rim	80.95	329	⇓P		P	00 50 25.2 +2.3
	baz=81						
O26A	Hoe Wrangler	81.02	337	⇓P		P	00 50 25.3 +2.2
	baz=81						
GMRC	Granite Mounta	81.03	326	⇑P		P	00 50 26.4 +3.2
	baz=81						
SMCO	Snowmass	81.29	334	eP		P	00 50 27.2 +2.4
ISCO	Idaho Springs	81.38	335	⇑P		P	00 50 26.7 +1.5
	baz=82						
HEC	Hector,Ludlow	81.38	325	⇓P		P	00 50 28.0 +3.0
	baz=82						
L31A	Butterfield Fa	81.51	341	⇓P		P	00 50 27.2 +1.8
	baz=82						
BFSC	Mount Baldy Ra	81.52	324	⇑P		P	00 50 29.5 +3.7
	baz=82						
O23A	Lake Granby, G	81.85	335	⇓P		P	00 50 29.6 +2.0
	baz=82						
GSC	Goldstone	81.99	325	⇓P		P	00 50 31.2 +3.0
	baz=82						
O22A	Kremmling	82.02	335	⇑P		P	00 50 30.1 +1.6
	baz=82						
K30A	Basset	82.18	341	⇑P		P	00 50 30.8 +1.8
	baz=82						
CCUT	Cedar City	82.35	329	eP		P	00 50 33.4 +3.1
ECSD	EROS Data Cent	82.42	343	eP		P	00 50 28.6 -1.5
ECSD	EROS Data Cent	82.42	343	⇓P		P	00 50 31.2 +1.1
	baz=83						
K29A	Lazy Trails An	82.45	340	⇓P		P	00 50 31.6 +1.1
	baz=83						
N23A	Red Feather La	82.47	335	⇑P		P	00 50 32.2 +1.3
	baz=83						
SRU	San Rafael	82.55	332	eP		P	00 50 33.1 +1.9
N22A	Wattenberg Ran	82.56	335	⇓P		P	00 50 32.9 +1.6
	baz=83						
O20A	White River Ci	82.59	334	⇓P		P	00 50 33.5 +2.1
	baz=83						
J30A	Dallas	82.75	341	⇓P		P	00 50 33.3 +1.4
	baz=83						
SPMN	St. Paul	83.02	346	⇓P		P	00 50 33.7 +0.5
	baz=83						
J29A	Okreek	83.05	340	⇑P		P	00 50 34.7 +1.2
	baz=83						
N20A	Spence Gulch,	83.22	334	⇑P		P	00 50 36.1 +1.5
	baz=84						
J28A	Allard Ranch,	83.32	340	⇑P		P	00 50 36.1 +1.2
	baz=84						
J27A	Elkhorn Farm,	83.38	339	⇑P		P	00 50 37.3 +2.0
	baz=84						
VES	Vestal, Richgr	83.50	324	⇓P		P	00 50 38.9 +3.0
	baz=84						
K24A	Anderson Ranch	83.75	337	⇓P		P	00 50 39.1 +1.9
	baz=84						
J26A	Sides Ranch, S	83.75	338	⇓P		P	00 50 39.3 +2.2
	baz=84						
MPU	Maple Canyon	83.76	331	eP		P	00 50 40.1 +2.7
I28A	Midland	83.83	340	⇑P		P	00 50 39.2 +1.7
	baz=84						
K23A	Bowen Ranch, D	84.03	337	⇑P		P	00 50 40.4 +1.7
	baz=84						
H29A	Ohida	84.16	341	⇑P		P	00 50 40.1 +1.1
	baz=84						
JLU	Jordanelle	84.19	332	eP		P	00 50 42.6 +2.9
K22A	Casper	84.23	336	eP		P	00 50 41.6 +1.9
K22A	Casper	84.23	336	⇓P		P	00 50 41.7 +1.9
	baz=84						
G30A	Faulkton	84.35	342	⇓P		P	00 50 41.5 +1.5
	baz=85						
DUG	Dugway	84.38	331	eP		P	00 50 42.5 +2.0
DUG	Dugway	84.38	331	⇑P		P	00 50 42.7 +2.3
	baz=85						
H28A	Mission Ridge	84.42	340	⇓P		P	00 50 41.9 +1.5
	baz=85						
K21A	Alcova	84.46	335	⇑P		P	00 50 42.4 +1.5
	baz=85						
H27A	Howes	84.67	340	⇓P		P	00 50 43.2 +1.5
	baz=85						
I24A	Kuemmerle Ranc	84.71	338	⇑P		P	00 50 43.3 +1.2
	baz=85						
RSSD	Black Hills	84.77	338	eP		P	00 50 43.5 +1.0
MLAC	Mammoth Lakes	84.83	325	⇑P		P	00 50 46.1 +3.1
	baz=85						
J22A	Midwest	84.90	336	⇑P		P	00 50 43.2 +0.2
	baz=85						
BGU	Big Grassy Mou	85.09	331	eP		P	00 50 46.5 +2.4
H25A	Fruitdale	85.10	339	⇑P		P	00 50 44.8 +0.9
	baz=85						
HWUT	Hardware Ranch	85.11	332	eP		P	00 50 45.9 +1.7
J21A	Lysite	85.16	336	⇓P		P	00 50 45.8 +1.4
	baz=86						
F29A	Eureka	85.18	342	⇑P		P	00 50 45.0 +0.8
	baz=86						
NVAR	Mina Array Bea	85.24	326	P		P	00 50 47.5 +2.5
NVAR	Mina Array Bea	85.24	326	P		P	00 50 47.5 +2.5
	comp=Z,3.1nm,0.7s,baz=148,slow=6.2,SNR=16						
G27A	Dupree	85.31	340	⇑P		P	00 50 45.9 +1.0
	baz=86						
I22A	9 Mile Ranch,	85.33	336	⇑P		P	00 50 46.4 +1.3
	baz=86						
PDAR	Pinedale Array	85.38	334	P		P	00 50 46.5 +0.9
PDAR				pP		pP	00 50 56.1 +1.2
PDAR	Pinedale Array	85.38	334	P		P	00 50 46.5 +0.9
	comp=Z,1.4nm,1.0s,baz=154,slow=4.8,SNR=7.2						
PDAR				pP		pP	00 50 56.1 +1.2
	comp=Z,0.8nm,0.9s,baz=134,slow=6.4,SNR=3.3						
J20A	Shoshoni	85.38	335	⇑P		P	00 50 47.5 +2.0
	baz=86						
H24A	Dirks Ranch, A	85.50	338	⇓P		P	00 50 47.0 +1.1
	baz=86						
I21A	Big Trails, Te	85.52	336	⇑P		P	00 50 47.6 +1.4
	baz=86						
G25A	Newell	85.57	339	⇑P		P	00 50 47.5 +1.3
	baz=86						
J19A	Crowheart	85.64	335	⇑P		P	00 50 48.2 +1.5
	baz=86						
HVU	Hansel Valley	85.72	331	eP		P	00 50 48.7 +1.5
F27A	Lemmon	85.79	340	⇓P		P	00 50 48.5 +1.2
	baz=86						
E29A	Napoleon	85.81	342	⇓P		P	00 50 48.4 +1.1
	baz=86						
H22A	Clearmont	85.92	337	⇓P		P	00 50 49.2 +1.2
	baz=86						
I20A	Worland	85.92	335	⇓P		P	00 50 49.6 +1.5
	baz=86						
F26A	Lodgepole	85.95	340	⇓P		P	00 50 49.3 +1.2
	baz=86						
G24A	Alzada	85.98	338	⇑P		P	00 50 49.5 +1.2
	baz=86						
D30A	Buchanan	86.10	343	⇑P		P	00 50 50.2 +1.5
	baz=86						
G23A	Biddle	86.16	338	⇓P		P	00 50 50.1 +0.9
	baz=86						
E27A	Carson	86.18	341	⇓P		P	00 50 50.6 +1.4
	baz=86						
F25A	Bowman	86.25	339	⇓P		P	00 50 50.5 +0.9
	baz=87						
D29A	Pettibone, Tap	86.26	342	⇓P		P	00 50 50.7 +1.2
	baz=87						
I19A	Meeteetse	86.29	335	⇓P		P	00 50 51.0 +1.0
	baz=87						
H20A	Greybull	86.36	336	⇑P		P	00 50 51.2 +1.0
	baz=87						
G22A	Birney	86.46	337	⇑P		P	00 50 51.6 +0.9
	baz=87						
F24A	Ekalaka	86.46	339	⇓P		P	00 50 51.7 +1.0
	baz=87						
LOHW	Long Hollow	86.49	334	eP		P	00 50 52.8 +1.8
TPAW	Teton Pass	86.51	333	eP		P	00 50 52.8 +1.6
AGMN	Agassiz Nation	86.58	345	⇑P		P	00 50 51.8 +0.8
	baz=87						
C30A	Mose, Pekin	86.59	343	⇑P		P	00 50 52.4 +1.2
	baz=87						
F23A	Volborg	86.63	338	⇓P		P	00 50 52.0 +0.5
	baz=87						
I17A	Pilgrim Ck.	86.74	334	⇑P		P	00 50 53.1 +0.8
	baz=87						
G21A	Lodge Grass	86.75	337	⇓P		P	00 50 52.8 +0.7
	baz=87						
E25A	Miller Ranch,	86.75	340	⇓P		P	00 50 52.8 +0.8
	baz=87						
H19A	Powell	86.85	335	⇓P		P	00 50 53.6 +1.0
	baz=87						
F22A	Rosebud	86.95	337	⇓P		P	00 50 53.9 +0.9
	baz=87						
D26A	Manning	86.97	340	⇓P		P	00 50 54.0 +1.0
	baz=87						
E24A	Baker	87.07	339	⇓P		P	00 50 54.7 +1.1
	baz=87						
G20A	Bridger	87.08	336	⇓P		P	00 50 54.4 +0.7
	baz=87						
H18A	Shoshone NF, C	87.09	335	⇑P		P	00 50 54.8 +0.8
	baz=87						
B30A	Myrvik Farm, E	87.26	343	⇑P		P	00 50 55.3 +0.9
	baz=88						
C27A	Sayler Ranch,	87.35	341	⇑P		P	00 50 56.1 +1.2
	baz=88						
B29A	Wagenman Farm,	87.52	343	⇑P		P	00 50 56.5 +0.9
	baz=88						
D24A	Glendive	87.58	339	⇑P		P	00 50 57.2 +1.2
	baz=88						
C26A	Wahner Farm, P	87.61	341	⇓P		P	00 50 57.0 +0.9
	baz=88						
A30A	Hoffart Farm,	87.72	344	⇓P		P	00 50 57.6 +1.0
	baz=88						
B28A	Dugan Ranch, T	87.75	342	⇑P		P	00 50 57.8 +1.0
	baz=88						
HLID	Hailey	87.87	331	⇑P		P	00 50 59.3 +1.6
	baz=88						
F19A	Roth Farm, Mol	87.88	336	⇓P		P	00 50 57.9 +0.4
	baz=88						
D23A	Lindsay	87.89	339	⇑P		P	00 50 58.5 +1.0
	baz=88						
A29A	Manning Farm,	87.91	343	⇓P		P	00 50 58.1 +0.6
	baz=88						
C24A	Savage	87.98	339	⇑P		P	00 50 58.9 +1.0
	baz=88						
E20A	Meyer Farm, Mu	88.18	337	⇓P		P	00 50 59.9 +1.0
	baz=88						
B25A	Knox Farm, Ray	88.31	340	⇓P		P	00 51 00.6 +1.1
	baz=89						
D21A	La Casta Ranch	88.33	338	⇓P		P	00 51 00.5 +0.9
	baz=89						
MCMT	McKenzie Canyo	88.35	333	eP		P	00 50 57.4 -2.6
	comp=Z,1.9nm,1.1s						
E19A	Rath Farm, Rou	88.36	336	⇓P		P	00 51 00.5 +0.7
	baz=89						
ULM	Lac du Bonnet	88.43	346	P		P	00 50 59.4 -0.6
ULM	Lac du Bonnet	88.43	346	P		P	00 50 59.4 -0.6
	comp=Z,3.1nm,0.6s,baz=160,slow=3.8,SNR=7.2						
C23A	Lambert	88.45	339	⇑P		P	00 51 01.0 +0.9
	baz=89						
A26A	Wade Farm, Ken	88.58	341	⇑P		P	00 51 02.0 +1.3
	baz=89						
DGMT	Dagmar	88.77	340	⇑P		P	00 51 03.5 +1.9
	baz=89						
TAM	Tamanrasset	94.54	65	eP		P	00 51 28.3 -0.9
	comp=Z,2.0nm,1.3s						
ASAR	Alice Springs	115.20	207	PKP		PKPdf	00 56 49.4 -0.7
ASAR	Alice Springs	115.20	207	PKP		PKPdf	00 56 49.4 -0.7
	comp=Z,0.2nm,0.5s,baz=119,slow=1.2,SNR=4.2						
WRA	Warramunga Arr	118.41	209	PKP		PKPdf	00 56 55.8 -0.5
WRA				pPKP		pPKPdf	00 57 04.8 -1.2
WRA	Warramunga Arr	118.41	209	PKP		PKPdf	00 56 55.8 -0.5
	comp=Z,0.7nm,0.4s,baz

ZALV					PKPab	PKPab	00 58 32.5	+0.9	
ZALV					pPKPab	**pPKPab**	**00 58 41.4**	**+0.3**	
ZALV	**Zalesovo Beam**	**156.55**	**34**		PKP	**PKPdf**	**00 58 02.7**	**+0.1**	
	comp=Z,1.8nm,0.7s,baz=264,slow=1.3,SNR=11								
ZALV					PKPbc	PKPbc	00 58 12.6		
	comp=Z,0.3nm,0.3s,baz=302,slow=3.3,SNR=4.8								
ZALV					pPKPbc	PKPab	00 58 23.2	-8.3	
	comp=Z,1.0nm,0.5s,baz=318,slow=2.0,SNR=3.5								
ZALV					PKPab	PKPab	00 58 32.5	+0.9	
	comp=Z,1.4nm,0.7s,baz=311,slow=5.5,SNR=5.0								
ZALV					pPKPab	**pPKPab**	**00 58 41.4**	**+0.3**	
	comp=Z,1.4nm,0.7s,baz=339,slow=3.8,SNR=2.6								
MK31	**Makanchi Array**	**158.83**	**52**	*e*PKPdf		**PKPdf**	**00 58 06.1**	**+0.4**	
MKAR	**Makanchi Array**	**158.83**	**52**	PKP		**PKPdf**	**00 58 06.3**	**+0.6**	
MKAR				PKPbc		PKPbc	00 58 16.8		
MKAR				pPKPbc		PKPab	00 58 26.8	-15	
MKAR				PKPab		PKPab	00 58 42.4	+0.7	
MKAR				pPKPab		**pPKPab**	**00 58 51.7**	**+0.5**	
MKAR	**Makanchi Array**	**158.83**	**52**	PKP		**PKPdf**	**00 58 06.3**	**+0.6**	
	comp=Z,1.5nm,0.8s,baz=275,slow=1.0,SNR=15								
MKAR				PKPbc		PKPab	00 58 16.8	-25	
	comp=Z,1.3nm,1.0s,baz=294,slow=1.2,SNR=6.2								
MKAR				pPKPbc			00 58 26.8		
	comp=Z,0.5nm,0.7s,baz=338,slow=1.3,SNR=3.1								
MKAR				PKPab		PKPab	00 58 42.4	+0.7	
	comp=Z,1.2nm,0.8s,baz=280,slow=4.3,SNR=7.0								
MKAR				pPKPab		**pPKPab**	**00 58 51.7**	**+0.5**	
	comp=Z,3.9nm,1.1s,baz=290,slow=3.5,SNR=6.2								
CMAR	**Chiang Mai Arr**	**160.94**	**156**	PKPab		**PKPab**	**00 58 51.3**	**-0.2**	
CMAR	**Chiang Mai Arr**	**160.94**	**156**	PKPab		**PKPab**	**00 58 51.3**	**-0.2**	
	comp=Z,0.9nm,0.3s,baz=211,slow=2.5,SNR=6.8								
WMQ	**Urumqi**	**163.45**	**57**	PKP		**PKPdf**	**00 58 12.6**	**+1.8**	
KMI	**Kunming**	**168.36**	**161**	PKP		**PKPdf**	**00 58 17.9**	**+2.4**	
SONM	**Songino Array**	**168.40**	**2**	PKPab		**PKPab**	**00 59 23.6**	**-0.1**	
SONM	**Songino Array**	**168.40**	**2**	PKPab		**PKPab**	**00 59 23.6**	**-0.1**	
	comp=Z,1.0nm,0.8s,baz=333,slow=5.2,SNR=7.2								
NJ2	**Nanjing**	**169.28**	**251**	*e*PKP		**PKPdf**	**00 58 17.8**	**+2.3**	
GYA	**Guiyang**	**170.26**	**179**	*e*PKP		**PKPdf**	**00 58 17.0**	**+0.5**	
GYA				sPKP			00 58 35.4		
GYA				PKPab		**PKPab**	**00 59 36.0**	**+3.6**	
GYA				PKS		**PKSdf**	**01 01 48.3**	**-0.8**	
GYA				PP		PP	01 03 27.9	+6.3	
GYA				AMB		AMB			
	comp=Z,90nm,7.8s								
LZH	**Lanzhou**	**177.50**	**92**	*e*PKP		**PKPdf**	**00 58 19.3**	**+0.5**	
LZH				pPKP		**pPKPdf**	**00 58 32.8**	**+4.2**	
LZH				sPKP			00 58 36.0		

*IDC **21** 00:59:07.1±5.5, 16˚.10N×99˚.16W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.7/39, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=127.4km s-min=95.8km az=61.0*

*ISCJB **21** 00:59:15.6±1.0, 16˚.88N±0˚.06×100˚.13W±0˚.04, h11km±6km, mb3.8/4, Error ellipse: s-maj=9.8km s-min=5.6km az=14.7*

*MEX **21** 00:59:20.1±0.6, 16˚.90N×100˚.14W, h9km, MD3.9*

ISC 21 00:59:15.6±1.6, 16˚.86N±0˚.08×100˚.13W±0˚.05, h6km±11km, n15, σ1§41/23, mb3.9/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.26**	**89**	*e*P		**P**	**Pg**	**00 59 20.3**	**-0.4**
ACX				*i* S			**Sg**	**00 59 24.5**	**+0.3**
ARIG	**Puente Sto Nin**	**1.42**	**352**	*e*P		**Pn**	**Pn**	**00 59 41.1**	**-0.9**
ARIG				*e*S			**Sn**	**00 59 58.3**	**-2.8**
ZIIG	**Zihuatanejo**	**1.47**	**300**	*e*P		**Pn**	**Pn**	**00 59 42.8**	**+0.1**
ZIIG				*e*S			**Sn**	**01 00 00.8**	**-1.5**
PLIG	**Platanillo**	**1.63**	**21**	*e*P		**Pn**	**Pn**	**00 59 45.2**	**+0.1**
PLIG				*e*S			**Sn**	**01 00 04.8**	**-1.6**
TLIG	**Tlapa**	**1.65**	**65**	*e*P		**Pb**	**Pb**	**00 59 46.5**	**0.0**
TLIG				*i* S			**Sn**	**01 00 06.0**	**-0.9**
PNIG	**Pinotepa**	**1.98**	**103**	*e*P		**Pb**	**Pb**	**00 59 50.6**	**-1.5**
PNIG				*i* S			**Sn**	**01 00 13.8**	**-1.0**
YAIG	**Yautepec**	**2.23**	**27**	*e*P		**Pn**	**Pn**	**00 59 52.8**	**-0.5**
YAIG				*i* S			**Sn**	**01 00 20.4**	**-0.9**
UNM	**Universidad Na**	**2.61**	**20**	*i* P		**Pn**	**Pn**	**00 59 59.3**	**+0.6**
UNM				*i* S			**Sn**	**01 00 30.2**	**-0.7**
TPIG	**Tehuac#an**	**3.06**	**59**	*e*P		**Pn**	**Pn**	**01 00 05.3**	**+0.6**
TPIG				*i* S			**Sn**	**01 00 41.6**	**-0.2**
TXAR	**Lajitas Array**	**12.83**	**346**	Pn		Pn	Pn	01 02 26.0	+7.3
	0.0nm,0.3s,baz=166,slow=12,SNR=8.1								
ANMO	**Albuquerque**	**18.88**	**344**	P			**Pn**	**01 03 41.1**	**+3.7**
	0.1nm,0.3s,baz=146,slow=12,SNR=3.8								
NVAR	**Mina Array Bea**	**26.75**	**327**	P			**P**	**01 04 58.1**	**+1.7**
	1.9nm,0.8s,baz=152,slow=10,SNR=7.2								
YKA	**Yellowknife Ar**	**46.70**	**351**	P			**P**	**01 07 44.4**	**-0.7**
	0.7nm,0.6s,baz=156,slow=7.7,SNR=18								
INK	**Inuvik**	**55.60**	**346**	P			**P**	**01 08 51.4**	**-0.4**
	0.6nm,0.5s,baz=148,slow=8.3,SNR=5.6								
ILAR	**Eielson Array**	**57.20**	**338**	P			**P**	**01 09 03.3**	**0.0**
	1.9nm,1.1s,baz=126,slow=4.6,SNR=8.3								

*SKHL **21** 01:01:34.0±1.5, 51˚.58N×142˚.73E, h10km, mb4.4/8, Ms3.9/3*

SKHL Felt (III) at Al'ba. Felt (IV-V) at Argi-Pagi, (III-IV) at Nogliki, Aleksandrovsk-Sakhalinskiy, Khoye.

*IDC **21** 01:01:38.1±0.9, 51˚.32N×142˚.49E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.8/39, mbtmp3.8/13, Error ellipse: s-maj=22.2km s-min=20.5km az=1.0*

*MOS **21** 01:01:39.8±1.9, 51˚.54N×142˚.31E, h11km, mb4.1/15, Error ellipse: s-maj=14.2km s-min=8.2km az=93.6*

MOS Felt (IV-V) at Argi-Pagi; (III-IV) at Nogliki, Khoye, Aleksandrovsk-Sakhalinskiy; (III) at Al'ba.

ISC 21 01:01:39.0±1.3, 51˚.55N±0˚.03×142˚.60E±0˚.04, h2km±8km, n46, σ1§50/53, mb3.8/21, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.68**	**177**	*e*Pg			Pg	01 01 48.0	-4.0
TYV				AMB		AMB	AMB	01 01 51.6	
	600nm,0.5s								
TYV				*e*Sg			**Sg**	**01 01 57.8**	**-3.1**
TYV				A		A	A	01 02 04.8	
	1µm,0.1s								
TYV				A		A	A	01 02 05.0	
	5µm,5.0s								
TYV				A		A	A	01 02 05.0	
	8µm,5.0s								
NKL	**Nikolayevsk**	**1.99**	**325**	*i* Pg			**Pn**	**01 02 14.2**	**+0.6**
NKL				AMB		AMB	AMB	01 02 15.2	
	90nm,0.5s								
NKL				AMB		AMB	AMB	01 02 15.2	
	130nm,0.5s								
NKL				AMB		AMB	AMB	01 02 15.2	
	160nm,0.5s								
NKL				*e*Sg			**Sg**	**01 02 43.5**	**+0.6**
NKL				A		A	A	01 02 53.0	
	1µm,0.8s								
NKL				A		A	A	01 02 53.0	
	2µm,1.5s								
NKL				A		A	A	01 02 53.0	
	2µm,1.5s								
NKL				AMS		AMS	AMS	01 03 26.0	
	900nm,4.0s								
OKH	**Okha**	**2.02**	**6**	*e*PN			**Pb**	**01 02 16.0**	**-0.3**
OKH				*e*S			**Sg**	**01 02 44.2**	**+0.4**
OKH				smax		smax	smax		
	comp=N,1.0nm,0.9s								
OKH	**Okha**	**2.02**	**6**	*e*Pg			**Pb**	**01 02 16.0**	**-0.3**
OKH				AMB		AMB	AMB	01 02 16.2	
	comp=N,200nm,0.5s								
OKH				*e*Sg			**Sg**	**01 02 44.0**	**+0.2**
OKH				A		A	A	01 02 45.9	
	comp=N,700nm,0.9s								
UGL	**Uglegorsk**	**2.49**	**188**	*e*PN			**Pb**	**01 02 25.5**	**+1.1**
UGL				S			**Sg**	**01 02 58.8**	**-0.2**
UGL				pmax		pmax	pmax		
	comp=Z,77nm,0.5s								
UGL				smax		smax	smax		
	comp=E,190nm,0.7s								
UGL				smax		smax	smax		
	comp=N,220nm,0.5s								
UGL	**Uglegorsk**	**2.49**	**188**	*e*Pg			**Pb**	**01 02 24.0**	**-0.4**
UGL				AMB		AMB	AMB	01 02 27.5	
	comp=N,77nm,0.5s								
UGL				*e*Sg			**Sg**	**01 02 58.8**	**-0.2**
UGL				A		A	A	01 03 02.5	
	comp=N,220nm,0.5s								
GRNR	**Gornyy**	**3.96**	**261**	*e*P			**Pn**	**01 02 38.7**	**-2.0**
GRNR				AMB		AMB	AMB	01 02 41.8	
	comp=N,28nm,0.8s								
GRNR				*e*Pg			**Pg**	**01 02 54.0**	**-0.9**
GRNR				*e*Sg			**Sg**	**01 03 49.0**	**+2.8**
GRNR						A	A	01 03 51.5	
	comp=N,280nm,0.8s								
GRNR						A	A	01 03 51.5	
	comp=N,220nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.60**	**179**	*e*PN			**Pn**	**01 02 49.2**	**-0.1**
YSS				*e*				01 03 45.7	
YSS				pmax		pmax			
	comp=Z,20nm,0.8s								
YSS				smax		smax			
	comp=E,70nm,1.0s								
YSS	**Yuzh-Sakhalins**	**4.60**	**179**	*i* P			**Pn**	**01 02 46.5**	**-2.8**
YSS				*e*Pg			**Pg**	**01 03 07.0**	**0.0**
YSS				AMB		AMB	AMB	01 03 10.0	
	comp=E,20nm,0.8s								
YSS				*e*Sg			**Sg**	**01 04 11.0**	**+4.5**
YSS				A		A	A	01 04 17.8	
	comp=E,70nm,1.0s								
HABR	**Khabarovsk**	**5.75**	**241**	*e*PN			**Pn**	**01 03 03.1**	**-2.1**
EKMR	**Ekimchan**	**6.11**	**288**	*e*P			Pn	01 03 06.4	-3.8
EKMR				*e*Pg			**Pg**	**01 03 34.0**	**-2.0**
EKMR				AMB		AMB	AMB	01 03 36.4	
	comp=E,7.0nm,0.5s								
EKMR				AMB		AMB	AMB	01 03 36.4	
	comp=E,6.0nm,0.5s								
EKMR				AMB		AMB	AMB	01 03 36.4	
	comp=E,8.0nm,0.5s								
EKMR				*e*S			**Sn**	**01 04 17.5**	**-3.1**
EKMR				*e*Sg			**Sg**	**01 04 55.5**	**+0.4**
EKMR				A		A	A	01 04 57.2	
	comp=E,200nm,0.9s								
EKMR				A		A	A	01 04 57.2	
	comp=E,23nm,0.9s								
EKMR				A		A	A	01 04 57.2	
	comp=E,82nm,0.9s								
KLR	**Kul'dur**	**7.31**	**256**	*e*Pg			**Pb**	**01 03 49.0**	**+2.5**
KLR				AMS		AMS	AMS	01 06 19.5	
	comp=E,600nm,11.0s								
KLR				AMS		AMS	AMS	01 06 19.5	
	comp=E,2µm,11.0s								
TEY	**Ternei**	**7.64**	**214**	*e*Sg			**Sg**	**01 05 45.0**	**+0.9**
BMKR	**Bomnak**	**8.86**	**296**	*e*Pg			**Pn**	**01 03 50.3**	**+2.5**
BMKR				*e*Sg			**Sg**	**01 06 22.9**	**-0.2**
BMKR				A		A	A	01 06 34.1	
	comp=E,20nm,0.6s								
YASR	**Yasnyy**	**9.11**	**287**	*e*P			Pn	01 03 44.2	-7.0
YASR				*e*Sg			Sn	01 06 08.7	+35
YASR				A		A	A	01 06 17.4	
	comp=E,100nm,0.9s								
YASR				A		A	A	01 06 17.4	
	comp=E,24nm,0.9s								
YASR				A		A	A	01 06 17.4	
	comp=E,5.0nm,0.9s								
ERM	**Erimo**	**9.54**	**177**	*e*PN			Pn	01 04 01.7	+4.5
ZEA	**Zeya**	**9.59**	**289**	*e*Pg				01 05 16.2	
ZEA				AMB		AMB	AMB	01 05 17.3	
	comp=E,12nm,0.3s								
ZEA				*e*Sg				01 06 46.4	
ZEA				A		A	A	01 06 47.9	
	comp=E,74nm,1.2s								
ZEA				A		A	A	01 06 47.9	
	comp=E,65nm,1.2s								
ZEA				AMS		AMS	AMS	01 07 42.0	
	comp=E,300nm,10.0s								
ZEA				AMS		AMS	AMS	01 07 42.0	
	comp=E,65nm,10.0s								
ZEA				AMS		AMS	AMS	01 07 42.0	
	comp=E,200nm,10.0s								
KROS	**Kirovskiy**	**9.86**	**293**	*e*P			**Pn**	**01 04 00.5**	**-1.0**
KROS				AMB		AMB	AMB	01 04 02.0	
	comp=E,4.0nm,0.6s								
KROS				*e*Sg				01 06 50.7	
KROS				A		A	A	01 06 57.8	
	comp=E,24nm,0.9s								
BILL	**Bilibino**	**20.15**	**26**	*i* P			Pn	01 06 18.8	+3.0
BILL				*e*				01 06 35.4	
BILL				pmax		pmax	pmax		
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**21.10**	**348**	*e*P			**P**	**01 06 24.9**	**+0.7**
TIXI				pmax		pmax	pmax		
	comp=Z,3.0nm,1.2s								
SONM	**Songino Array**	**23.56**	**275**	P			**P**	**01 06 50.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=62,slow=9.0,SNR=6.3								
TLY	**Talaya**	**24.00**	**286**	*e*P			**P**	**01 06 55.9**	**+1.2**
TLY				*e*				01 07 02.2	
TLY				pmax		pmax	pmax		
	comp=Z,7.0nm,1.3s								
TLY				MLR		MLR	MLR		
	comp=Z,59nm,12.0s								
ZAK	**Zakamensk**	**24.59**	**283**	*e*P			**P**	**01 07 02.3**	**+2.1**
ZAK				pmax		pmax	pmax		
	comp=Z,3.0nm,1.9s								
ZALV	**Zalesovo Beam**	**34.23**	**297**	P			**P**	**01 08 25.6**	**0.0**
ZALV	**Zalesovo Beam**	**34.23**	**297**	P			**P**	**01 08 25.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=67,slow=5.2,SNR=2.8								
COLA	**College**	**36.92**	**42**	*i* P			P	01 08 52.2	+3.6
ILAR	**Eielson Array**	**37.35**	**42**	P			**P**	**01 08 54.5**	**+2.3**
	comp=Z,1.2nm,0.9s,baz=284,slow=8.3,SNR=12								
MKAR	**Makanchi Array**	**38.74**	**287**	*e*P			**P**	**01 09 04.7**	**+0.5**
MKAR				pmax		pmax	pmax		
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**38.74**	**287**	P			**P**	**01 09 03.6**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=64,slow=8.2,SNR=24								
KURK	**Kurchatov**	**39.01**	**295**	*e*P			**P**	**01 09 06.5**	**+0.1**
KURK				pmax		pmax	pmax		
	comp=Z,1.0nm,0.8s								
KURBB	**Kurchatov Arra**	**39.10**	**295**	P			**P**	**01 09 07.5**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=68,slow=9.1,SNR=26								
BVAR	**Borovoye Array**	**42.46**	**302**	P			**P**	**01 09 35.1**	**+0.2**
BVAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**42.46**	**302**	P			**P**	**01 09 35.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=75,slow=7.8,SNR=8.2								
BRVK	**Borovoye**	**42.50**	**302**	*e*P			**P**	**01 09 33.4**	**-1.8**
BRVK				pmax		pmax	pmax		
	comp=Z,2.0nm,1.6s								
AAK	**Ala-Archa**	**45.66**	**287**	*e*P			**P**	**01 10 00.9**	**0.0**
AAK				pmax		pmax	pmax		
	comp=Z,10.0nm,1.3s								
YKA	**Yellowknife Ar**	**51.13**	**36**	P			**P**	**01 10 43.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=309,slow=7.3,SNR=6.2								
FINES	**FINESS Array B**	**56.56**	**329**	P			**P**	**01 11 22.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=65,slow=9.0,SNR=6.2								
OBN	**Obninsk**	**57.30**	**319**	*e*P			**P**	**01 11 27.9**	**+0.3**
OBN				pmax		pmax	pmax		
	comp=Z,3.0nm,0.9s								
OBN				MLR		MLR	MLR		
	comp=Z,155nm,17.0s								
AKASG	**Malin Array Be**	**63.56**	**319**	*e*P			**P**	**01 12 10.5**	**0.0**
AKASG				pmax		pmax	pmax		
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**63.56**	**319**	P			**P**	**01 12 10.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=38,slow=7.9,SNR=8.8								
CLL	**Collm**	**69.01**	**329**	*e*P			**P**	**01 12 46.0**	**+0.6**
CLL				pmax		pmax	pmax		
	comp=Z,4.0nm,0.6s								
CLL	**Collm**	**69.01**	**329**	*e*P			**P**	**01 12 46.0**	**+0.6**
	comp=Z,4.0nm,0.6s								
BRTR	**Keskin Array B**	**70.08**	**309**	P			**P**	**01 12 52.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=46,slow=4.2,SNR=3.2								
GERES	**GERESS Array B**	**70.89**	**327**	P			**P**	**01 12 57.1**	**0.0**
	comp=Z,0.3nm,0.7s,baz=12,slow=5.0,SNR=2.8								
WRA	**Warramunga Arr**	**71.55**	**188**	P			**P**	**01 12 59.1**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=3.4,slow=7.0,SNR=5.1								
ASAR	**Alice Springs**	**75.27**	**188**	P			**P**	**01 13 21.4**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=6.4,slow=5.7,SNR=6.7								

IDC 21 01:56:50.5±6.1, 9˚.81N×103˚.75W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/36, mbtmp3.2/4, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=159.6km s-min=102.3km az=96.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**13.96**	**67**	LR		LR	LR	02 04 23.2	
	comp=Z,53nm,21.8s,baz=292,slow=32								
LPIG	**La Paz**	**15.53**	**337**	Pn			Pn	02 00 30.7	-0.3
	12nm,0.3s,baz=180,slow=4.0,SNR=4.4								
TXAR	**Lajitas Array**	**19.42**	**0**	P			Pn	02 01 19.3	-0.4
	0.0nm,0.3s,baz=176,slow=13,SNR=3.5								
PDAR	**Pinedale Array**	**33.22**	**352**	P			P	02 03 28.9	-0.7
	0.6nm,1.0s,baz=171,slow=6.4,SNR=4.0								
H03N2	**Juan Fernandez**	**49.07**	**152**	T			T	02 58 49.6	
	baz=328,slow=75,SNR=9.6								
H03N1	**Juan Fernandez**	**49.08**	**152**	T			T	02 58 51.0	
	baz=328,slow=75,SNR=9.9								
H03N3	**Juan Fernandez**	**49.09**	**152**	T			T	02 58 51.2	
	baz=328,slow=75,SNR=10								
DLBC	**Dease Lake**	**52.50**	**343**	LR			LR	02 26 13.5	
	comp=Z,76nm,19.0s,baz=244,slow=34								
YKA	**Yellowknife Ar**	**53.17**	**354**	P			P	02 06 09.9	-0.2
	0.1nm,0.5s,baz=166,slow=8.3,SNR=3.5								
ILAR	**Eielson Array**	**62.54**	**341**	P			P	02 07 16.1	+0.2
	0.5nm,0.8s,baz=163,slow=4.7,SNR=7.3								

*IDC **21** 02:02:00.7±0.3, 13˚.52N×125˚.49E, h0km, mb4.8/35, mb1 4.9/36, mb1mx4.8/46, mbtmp4.8/36, ML5.2/1, MS4.6/31, Ms1 4.6/31, ms1mx4.5/36, Error ellipse: s-maj=14.2km s-min=7.9km az=74.0*

*ISCJB **21** 02:02:02.9±0.7, 13˚.68N±0˚.02×125˚.49E±0˚.02, h18km±4km, mb5.1/156, MS4.9/114, Error ellipse: s-maj=3.8km s-min=2.6km az=164.9*

*BJI **21** 02:02:02.6, 13˚.35N×125˚.57E, h35km, mB5.4/52, mb4.9/66, Ms5.3/79, Ms7 5.0/69*

*GCMT **21** 02:02:03.7±0.1, 13˚.78N×125˚.50E, h16km, MW5.5/117, Moment Tensor Solution. s99,c164; s117,c227; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr-0.31±.03; Mθθ 0.16±.02; Mϕϕ 0.14±.03; Mrθ 0.39±.07; Mθϕ-2.09±.02; Mϕr 0.01±.07; Best double couple: Mo 2.12800×10^17 NP1:ϕs 270.00000°, δ87.00000°, λ-169.00000°. NP2:ϕs 180.00000°, δ79.00000°, λ-3.00000°. Principal axes: T 2.2740, Plg6.0000°, Azm44.0000°; N -0.2920, Plg79.0000°, Azm283.0000°; P -1.9820, Plg10.0000°, Azm136.0000°; * nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MAN **21** 02:02:03, 13˚.81N×125˚.49E, h42km, mb5.8, ML4.9, MS5.4*

MAN INTENSITY IV - LEGASPI CITY; CAMALIG BAGCACAY ALBAY; INTENSITY III - VIGA CATANDUANES.

*NEIC **21** 02:02:03.7±0.2, 13˚.55N×125˚.46E, h15km, mb5.3/47, MS4.9/61, MW5.5, Error ellipse: s-maj=5.6km s-min=4.3km az=79.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^17 Nm; Mrr-0.15; Mθθ-0.38; Mϕϕ 0.53; Mrθ-0.20; Mθϕ-2.13; Mϕr-0.12; Best double couple: Mo 2.20000×10^17 NP1:ϕs 96.00000°, δ86.00000°, λ-175.00000°. NP2: ϕs 6.00000°, δ85.00000°, λ-4.00000°. Principal axes: T 2.2500, Plg0.0000°, Azm231.0000°; N -0.1200, Plg83.0000°, Azm135.0000°; P -2.1300, Plg6.0000°, Azm321.0000°;*

NEIC Felt [IV PIVS] at Bacacay, Camalig and Legaspi, Luzon. Felt [III PIVS] at Viga and Virac, Catanduanes.

*MOS **21** 02:02:04.5±1.2, 13˚.58N×125˚.51E, h33km, mb5.3/67, MS4.7/27 Error ellipse: s-maj=8.7km s-min=4.4km az=119.3*

*DJA **21** 02:02:09.3±1.2, 14˚.N±7˚.×12˚.6E±˚, h63km±9km, M5.2/73, mb5.3/73, mB5.7/45, Mw(mB)5.2/45, Mwp5.8/1*

*KLM **21** 02:02:09.9, 13˚.67N×125˚.25E, h48km, mb5.5, MS6.5*

ISC 21 02:02:06.9±0.3, 13˚.64N±0˚.02×125˚.48E±0˚.03, h35km±1km, h35km:pP-P, n548, σ1§61/555, mb5.2/151, MS4.8/116, 52C-39D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.29**	**268**	*e*P			**Pn**	**02 02 25.9**	**-2.5**
PVCP				*i* S			**Sn**	**02 02 42.7**	**-1.7**
CNP	**Catarman**	**1.38**	**215**	*e*P			**Pn**	**02 02 28.7**	**-0.9**
PLP	**Palo**	**2.51**	**191**	*e*P			**Pn**	**02 02 43.7**	**-1.6**
PLP				*e*S			**Sn**	**02 03 14.5**	**-0.2**
OCLP	**Ormoc**	**2.71**	**198**	*e*P			**Pn**	**02 02 48.9**	**+0.8**
AUQP	**San Andres**	**2.75**	**264**	*e*P			**Pn**	**02 02 49.0**	**+0.6**
GQP	**Guinayangan**	**2.96**	**275**	*e*P			**Pn**	**02 02 50.2**	**-1.2**
GQP				*e*S			**Sn**	**02 03 22.5**	**-3.2**
RCP	**Roxas**	**3.38**	**232**	*e*P			**Pn**	**02 02 56.7**	**-0.5**
RCP				*e*S			**Sn**	**02 03 37.2**	**+1.2**
BOAC	**Boac**	**3.54**	**267**	*e*P			**Pn**	**02 02 59.8**	**+0.4**
MSLP	**Maasin**	**3.54**	**190**	*e*P			**Pn**	**02 02 59.6**	**+0.2**
OTRP	**Odiongan**	**3.60**	**250**	*e*P			**Pn**	**02 02 59.9**	**-0.4**
LLP	**Lapu-Lapu**	**3.62**	**204**	*e*P			**Pn**	**02 03 00.1**	**-0.4**
LLP				*e*S			**Sn**	**02 03 38.2**	**-3.9**
SCPH	**Surigao**	**3.84**	**180**	*e*P			**Pn**	**02 03 03.1**	**-0.4**
SCPH				*e*S			**Sn**	**02 03 44.1**	**-3.3**
LQP	**Lukban**	**3.85**	**277**	*i* P			**Pn**	**02 03 02.4**	**-1.5**
GUIM	**Jordan**	**4.12**	**224**	*e*P			**Pn**	**02 03 07.1**	**-0.3**
BALP	**Baler**	**4.31**	**299**	*e*P			Pn	02 03 05.4	-4.6
SJMP	**San Jose**	**4.41**	**255**	*e*P			**Pn**	**02 03 12.6**	**+1.2**
TGY	**Tagaytay City**	**4.43**	**276**	*e*Pn			**Pn**	**02 03 09.8**	**-2.0**
TGY	**Tagaytay City**	**4.43**	**276**	Pn			**Pn**	**02 03 09.8**	**-2.0**
	121nm,0.3s,baz=165,slow=2.2,SNR=8.3								
TGY	**Tagaytay City**	**4.43**	**276**	*i* P			**Pn**	**02 03 11.7**	**-0.1**
PALP	**Palanan**	**4.50**	**319**	*e*P			Pn	02 03 09.2	-3.4
PALP			

QIZ LR LR
comp=N,4μm,18.7s
QIZ LR LR
comp=E,2μm,17.9s
QIZ LR LR
comp=Z,7μm,17.3s
QIZ Qiongzhong 15.93 292 *e*Pn **P** **02 05 51.4 -0.4**
112nm,1.5s
BTM Bintulu 16.05 231 ⇓P **Pn** **02 05 49.7 -0.4**
MWPI Manokwari, Pap 16.78 149 P x 02 06 02.8
412nm,1.8s,10μm
NLAI Namlea 16.85 174 P **P** **02 06 04.2 +2.2**
294nm,1.0s,3μm
SBUM Sibu 17.19 231 P x 02 06 05.4
99nm,1.9s,3μm
SBUM Sibu 17.19 231 *e*Pn **Pn** **02 06 03.7 -0.8**
90nm,1.1s
SBUM Sibu 17.19 231 ⇑P **Pn** **02 06 04.4 -0.1**
MSAI Masohi 17.22 168 P **P** **02 06 08.9 +2.8**
236nm,0.9s,2μm
MMSI Mamuju 17.49 202 P x 02 06 10.7
194nm,0.7s,4μm
TTSI Tana Toraja 17.50 199 P **P** **02 06 11.1 +1.8**
410nm,0.9s,4μm
FAKI Fak Fak 17.77 157 P **P** **02 06 13.0 +0.8**
209nm,0.9s
FAKI Fak Fak 17.77 157 ⇓P **P** **02 06 12.9 +0.6**
baz=18,SNR=30
SSE Sheshan 17.81 348 P **P** **02 06 14.0 +1.5**
SSE pP **pP** **02 06 24.1 +2.5**
SSE sP sP 02 06 29.0 +2.9
SSE S **S** **02 09 34.3 -1.3**
SSE pmax pmax
comp=Z,79nm,1.1s
SSE pmax pmax
comp=Z,1μm,7.6s
SSE LR LR
comp=N,3μm,11.7s
SSE LR LR
comp=E,5μm,11.8s
SSE LR LR
comp=Z,3μm,12.5s
KKSI Kolaka, Sulawe 18.10 192 P x 02 06 21.5
97nm,0.8s,2μm
BAKI Biak 18.12 144 P **P** **02 06 17.0 +1.0**
190nm,1.0s,4μm
SPSI Sidrap Palu 18.39 198 P **Pn** **02 06 23.0 +3.8**
282nm,0.9s,3μm
BNSI Bone 18.70 197 P **Pn** **02 06 25.1 +2.1**
235nm,1.1s,4μm
KSM Kuching 19.27 232 P x 02 06 28.9
73nm,1.0s,2μm
KSM Kuching 19.27 232 *e*P **P** **02 06 28.5 -0.3**
78nm,1.1s
KSM Kuching 19.27 232 ⇑P **P** **02 06 28.3 -0.5**
baz=19,SNR=7.3
KSM Kuching 19.27 232 ⇓P **P** **02 06 28.8 0.0**
NJ2 Nanjing 19.30 343 *e*P **Pn** **02 06 31.5 +1.4**
NJ2 pP **pP** **02 06 39.3 +1.2**
NJ2 sP **sP** **02 06 42.9 +0.4**
NJ2 S **Sn** **02 10 01.5 -4.1**
NJ2 sS **sS** **02 10 18.5 -1.6**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,980nm,10.6s
NJ2 LR LR
comp=N,4μm,12.4s
NJ2 LR LR
comp=E,6μm,11.8s
NJ2 LR LR
comp=Z,7μm,13.8s
KAPI Kappang 19.39 197 P **Pn** **02 06 33.6 +2.3**
791nm,1.0s,SNR=5.6
KAPI Kappang 19.39 197 *e*P **Pn** **02 06 32.7 +1.4**
309nm,1.0s
BKSI Bulukumba 19.58 196 P **Pn** **02 06 37.5 +4.0**
95nm,0.7s,1μm
WHN Wuhan 19.70 330 P **Pn** **02 06 34.5 -0.4**
WHN S **S** **02 10 12.9 -0.8**
WHN LR LR
comp=N,7μm,12.0s
WHN LR LR
comp=E,5μm,11.0s
WHN LR LR
comp=Z,8μm,19.6s
JNU Nakatsue 20.01 13 *e*P **P** **02 06 36.6 0.0**
335nm,1.8s
JNU Nakatsue 20.01 13 P **P** **02 06 35.8 -0.8**
43nm,1.1s,baz=167,slow=5.1,SNR=3.9
JNU LR LR 02 13 36.3
comp=Z,1μm,20.8s,baz=189,slow=35
SMPI Sarmi 20.33 139 P **P** **02 06 40.5 +0.2**
419nm,1.6s,6μm
CBI Chichi jima 20.57 47 *e*P **P** **02 06 42.0 -0.8**
CBIJ Chichi jima 20.57 47 PFAKE 02 07 00.0 +15
CBIJ LR LR
comp=Z,3μm,19.0s
JCJ Chichijima 20.57 47 P **P** **02 06 42.0 -0.8**
comp=Z,210nm,1.0s,baz=248,slow=8.3,SNR=8.6
JCJ LR LR 02 12 55.9
comp=Z,2μm,20.7s,baz=272,slow=32
GYA Guiyang 21.75 309 ⇑*i*P **P** **02 06 55.4 -0.3**
GYA pP **pP** **02 07 04.9 0.0**
GYA PP **PnPn** **02 07 23.0 +5.6**
GYA S **S** **02 10 50.4 -4.3**
GYA PcP **PcP** **02 10 58.0 +2.4**
GYA sS Sn 02 11 05.6 +0.6
GYA SS **SnSn** **02 11 27.5 +7.0**
GYA ScP **ScP** **02 14 29.3 -1.0**
GYA pmax pmax
comp=Z,190nm,5.3s
GYA LR LR
comp=Z,3μm,18.2s
GYA LR LR
comp=Z,2μm,19.0s
GYA LR LR
comp=Z,3μm,18.6s
SLVN Son La 21.93 293 PFAKE 02 07 10.0 +12
SLVN LR LR
comp=Z,5μm,19.0s
JAY Jayapura 22.04 136 *e*P **P** **02 06 57.2 -1.5**
JAY Jayapura 22.04 136 P **P** **02 06 57.2 -1.5**
comp=Z,31nm,0.8s,baz=312,slow=11,SNR=4.9
JAY LR LR 02 13 46.5
comp=Z,2μm,20.5s,baz=326,slow=32
JAY Jayapura 22.04 136 ⇓P **P** **02 06 58.6 -0.1**
baz=22,SNR=5.2
ENH Enshi 22.18 321 *e*P **P** **02 07 00.2 +0.1**
comp=Z,62nm,1.1s
ENH LR LR
comp=Z,4μm,18.0s
SAUI Saumlaki 22.25 165 P **P** **02 07 03.8 +2.9**
comp=Z,686nm,1.0s,comp=Z,6μm
MMRI Maumere 22.37 188 P P 02 07 09.0 +6.8
comp=Z,159nm,1.0s
MMRI Maumere 22.37 188 PFAKE 02 07 10.0 +7.8
MMRI LR LR
comp=Z,1μm,21.0s
LBFI Labuhan Bajo, 22.67 194 P x 02 07 05.7
comp=Z,281nm,0.8s,comp=Z,4μm
SOEI Soe 23.28 183 P P 02 07 23.3 +12
KTGM Kuala Trenggan 23.52 252 ⇑P **P** **02 07 13.2 -0.9**
KMMI Kalianget 23.52 210 P **P** **02 07 13.8 -0.2**
comp=Z,197nm,0.8s,comp=Z,4μm
TIA Tai'an 23.69 343 ⇓P **P** **02 07 16.5 +1.0**
TIA PP PnPn 02 07 52.0 +8.3
TIA S **S** **02 11 32.5 +4.3**
TIA pmax pmax
comp=Z,50nm,1.1s
TIA LR LR
comp=Z,2μm,17.0s
TIA LR LR
comp=Z,6μm,13.0s
TIA LR LR
comp=Z,2μm,20.8s
KS15 Wonju Array Si 23.80 5 *e*P **P** **02 07 16.2 -0.3**
KSRS Korea Array 23.81 5 P **P** **02 07 16.2 -0.4**
comp=Z,24nm,1.0s,baz=183,slow=10,SNR=27
KSRS LR LR 02 16 36.4
comp=Z,1μm,19.9s,baz=190,slow=37
PBKT Sadao Pong 23.84 280 P **P** **02 07 17.2 +0.2**
comp=Z,51nm,1.8s
SRBI Singaraja 23.87 206 P **P** **02 07 16.5 -0.8**
comp=Z,148nm,1.4s,comp=Z,2μm
MTNI Mataram 23.99 203 P x 02 07 17.8
comp=Z,82nm,1.0s,comp=Z,1μm

TPI Tanjungpandan 24.05 229 P **P** **02 07 17.3 -1.7**
comp=Z,53nm,1.2s,comp=Z,1μm
ABJI Asem Bagus 24.05 208 P **P** **02 07 22.0 +3.0**
comp=Z,108nm,1.1s,comp=Z,2μm
GRJI Gresik 24.16 213 P **P** **02 07 20.4 +0.4**
comp=Z,86nm,0.9s
KMI Kunming 24.26 301 P **P** **02 07 22.5 +1.4**
KMI pP **pP** **02 07 31.5 +0.4**
KMI sP **sP** **02 07 35.4 +0.1**
KMI PP **PnPn** **02 07 56.8 +5.1**
KMI S **S** **02 11 39.0 +1.1**
KMI sS **sS** **02 11 51.3 -2.9**
KMI SS **SnSn** **02 12 29.4 +7.4**
KMI pmax pmax
comp=Z,34nm,1.3s
KMI pmax pmax
comp=Z,580nm,4.8s
KMI LR LR
comp=Z,2μm,16.2s
KMI LR LR
comp=Z,3μm,15.1s
KMI LR LR
comp=Z,3μm,14.0s
BLJI Banyuglugur 24.30 210 P **P** **02 07 22.3 +1.0**
comp=Z,76nm,0.9s,comp=Z,4μm
BYJI Banyuwangi 24.36 208 P x 02 07 25.0
comp=Z,251nm,0.9s
NBBI Negara 24.38 207 P x 02 07 22.7
comp=Z,216nm,1.1s,comp=Z,3μm
DNP Denpasar 24.41 205 P P 02 07 27.7 +5.4
comp=Z,493nm,1.4s
MYKOM Kota Tinggi 24.42 243 P x 02 07 22.2
comp=Z,79nm,1.6s,comp=Z,2μm
MYKOM Kota Tinggi 24.42 243 *e*P **P** **02 07 21.4 -1.0**
comp=Z,75nm,1.0s
MYKOM Kota Tinggi 24.42 243 ⇑P **P** **02 07 22.8 +0.3**
TBJI Tambak Boyo 24.42 214 P **P** **02 07 24.9 +2.5**
comp=Z,147nm,1.1s,comp=Z,3μm
JAGI Jajag, Banyuwa 24.68 208 P **P** **02 07 24.9 +0.1**
comp=Z,208nm,1.0s,comp=Z,4μm
JAGI Jajag, Banyuwa 24.68 208 *e*P **P** **02 07 23.4 -1.4**
comp=Z,137nm,0.8s
JAGI Jajag, Banyuwa 24.68 208 ⇓P **P** **02 07 22.9 -1.8**
baz=24,SNR=16
KGM Kluang 24.77 244 ⇓P **P** **02 07 25.4 -0.3**
GMJI Gumukmas 24.84 209 P **P** **02 07 29.1 +2.9**
comp=Z,77nm,1.0s,comp=Z,2μm
NGJI Ngawi 25.09 215 P **P** **02 07 30.5 +2.0**
comp=Z,159nm,0.8s
KRKI Karangkates 25.23 212 P x 02 07 46.5
XAN Xi'an 25.26 326 P **P** **02 07 28.9 -1.0**
XAN pP **pP** **02 07 37.0 -2.9**
XAN pmax pmax
comp=Z,13nm,0.9s
XAN pmax pmax
comp=Z,160nm,8.6s
XAN LR LR
comp=Z,2μm,17.3s
XAN LR LR
comp=Z,480nm,15.3s
XAN LR LR
comp=Z,940nm,13.2s
LAMP Lampang 25.29 284 P **P** **02 07 31.5 +1.2**
comp=Z,8.5nm,0.8s,comp=Z,91nm
PWJI Pagerwojo 25.45 213 P **P** **02 07 35.5 +3.8**
comp=Z,91nm,1.2s
MAJO Matsushiro 25.50 24 *e*P **P** **02 07 31.7 -0.3**
MAJO pmax pmax
comp=Z,87nm,1.2s
MAJO Matsushiro 25.50 24 *e*P **P** **02 07 32.1 +0.1**
comp=Z,30nm,1.1s
MAJO *e*PcP **PcP** **02 11 04.3 +1.1**
MAJO LR LR
comp=Z,2μm,22.0s
MAT Matsushiro 25.50 24 P P 02 07 41.4 +9.4
MAT S **S** **02 11 57.2 0.0**
MJAR Matsushiro Arr 25.50 24 P **P** **02 07 32.2 +0.1**
comp=Z,5.1nm,1.0s,baz=211,slow=9.9,SNR=6.6
MJAR PcP **PcP** **02 11 04.3 +1.1**
comp=Z,5.3nm,1.0s,baz=164,slow=2.9,SNR=4.5
MJAR LR LR 02 17 08.6
comp=Z,1μm,18.4s,baz=205,slow=36
FRIM Kepong 25.73 248 ⇑P **P** **02 07 33.8 -0.6**
WOJI Wonogiri, Jawa 25.77 215 P **P** **02 07 36.6 +1.9**
comp=Z,183nm,1.0s
IPM Ipoh 25.78 252 P x 02 07 35.5
comp=Z,39nm,0.9s,comp=Z,748nm
IPM Ipoh 25.78 252 *e*P **P** **02 07 33.6 -1.3**
comp=Z,31nm,1.0s
IPM LR LR
comp=Z,2μm,19.0s
IPM Ipoh 25.78 252 ⇓P **P** **02 07 35.1 +0.3**
KULM Kulim 25.84 254 P x 02 07 35.6
comp=Z,31nm,1.0s,comp=Z,619nm
KULM Kulim 25.84 254 *e*P **P** **02 07 34.1 -1.2**
comp=Z,20nm,0.8s
KULM LR LR
comp=Z,1μm,22.0s
KULM Kulim 25.84 254 ⇓P **P** **02 07 34.5 -0.8**
PCJI Pacitan 25.93 214 P P 02 07 42.2 +6.1
comp=Z,96nm,1.2s
CM31 Chiang Mai Arr 25.93 284 *e*P **P** **02 07 35.4 -0.8**
CM31 *e*PcP **PcP** **02 11 05.8 +1.2**
CMAR Chiang Mai Arr 25.93 284 P **P** **02 07 35.4 -0.8**
comp=Z,27nm,0.8s,baz=97,slow=7.4,SNR=54
CMAR PcP **PcP** **02 11 05.8 +1.2**
comp=Z,5.7nm,1.0s,baz=100,slow=0.7,SNR=5.7
CMAR LR LR 02 17 47.1
comp=Z,1μm,20.2s,baz=93,slow=36
CMMT Chiang Mai 25.97 285 P P 02 07 49.7 +13
CHTO Chiang Mai 25.98 285 *e*P **P** **02 07 36.4 -0.2**
CHTO pmax pmax
comp=Z,20nm,0.8s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 25.98 285 P **P** **02 07 37.9 +1.3**
comp=Z,115nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 25.98 285 *e*P **P** **02 07 36.4 -0.2**
comp=Z,20nm,0.8s
CHTO LR LR
comp=Z,2μm,20.0s
TGJI Tegal 26.06 220 P x 02 07 40.4
comp=Z,139nm,1.1s,comp=Z,2μm
BJII Banjamegara 26.07 218 P x 02 07 41.9
comp=Z,69nm,2.1s,comp=Z,2μm
CD2 Chengdu 26.36 314 ⇑*i*P **P** **02 07 39.8 -0.2**
CD2 PP **PnPn** **02 08 26.3 +6.1**
CD2 PcP **PcP** **02 11 06.1 +0.8**
CD2 S **S** **02 12 10.0 -1.0**
CD2 pmax pmax
comp=Z,110nm,1.1s
CD2 pmax pmax
comp=Z,700nm,5.9s
CD2 LR LR
comp=Z,5μm,14.3s
CD2 LR LR
comp=Z,4μm,15.5s
CD2 LR LR
comp=Z,4μm,17.8s
JMBI JAMBI 26.44 237 P P 02 07 50.1 +9.3
KPJI Karang Pucung 26.54 219 P **P** **02 07 45.2 +3.6**
comp=Z,45nm,1.0s
MTN Manton Dam 26.91 168 ⇑P **P** **02 07 42.4 -2.5**
baz=27,SNR=14
KDU Kakadu 27.06 165 ⇑P **P** **02 07 44.1 -2.2**
baz=27,SNR=8.8
BJT Baijiatuau 27.52 344 *e*P **P** **02 07 52.2 +2.0**
comp=Z,56nm,1.2s
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 27.54 344 P **P** **02 07 52.3 +2.0**
BJI pP **pP** **02 08 00.9 +0.6**
BJI sP **sP** **02 08 05.3 +0.8**
BJI PcP **PcP** **02 11 09.0 +1.2**
BJI S **S** **02 12 26.6 -2.6**
BJI sS sS 02 12 49.5 +3.8
BJI pmax pmax
comp=Z,38nm,1.1s
BJI pmax pmax
comp=Z,490nm,6.1s
BJI LR LR
comp=Z,1μm,12.5s
BJI LR LR
comp=Z,3μm,16.2s
BJI LR LR
comp=Z,1μm,22.5s

BKNI Bangkinang 27.58 243 P **P** **02 07 52.1 +1.1**
comp=Z,95nm,1.2s,comp=Z,3μm
MDSI Maura Dua 27.77 231 P **P** **02 07 55.1 +2.4**
comp=Z,19nm,0.9s,comp=Z,1μm
LHSI Lahat 27.86 233 P **P** **02 07 54.2 +0.7**
comp=Z,63nm,0.9s
SNY Shenyang 28.13 357 ⇓P **P** **02 07 55.9 +0.3**
SNY S S 02 12 45.9 +7.4
SNY pmax pmax
comp=Z,29nm,1.4s
SNY pmax pmax
comp=Z,500nm,6.4s
SNY LR LR
comp=Z,1μm,11.7s
SNY LR LR
comp=Z,5μm,14.4s
SNY LR LR
comp=Z,3μm,15.1s
PSI Prapat 28.36 250 P x 02 07 57.7
comp=Z,41nm,0.9s,comp=Z,768nm
PSI Prapat 28.36 250 *e*P **P** **02 07 57.0 -1.2**
PSI Prapat 28.36 250 P **P** **02 07 57.0 -1.2**
comp=Z,9.8nm,0.6s,baz=23,slow=3.9,SNR=12
PSI LR LR 02 19 00.4
comp=Z,2μm,21.4s,baz=70,slow=36
PSI Prapat 28.36 250 ⇑P **P** **02 07 56.3 -1.9**
baz=28,SNR=6.0
PPI Padang Panjang 28.53 243 P **P** **02 07 59.0 -0.5**
comp=Z,42nm,1.5s,comp=Z,1μmcomp=Z,9μm
LASI Langsa, Aceh 28.63 254 P x 02 08 15.0
MNAI Manna 28.63 233 PFAKE 02 08 10.0 +10
MNAI LR LR
comp=Z,2μm,19.9s
MNAI Manna 28.63 233 ⇑P P 02 07 57.0 -3.4
baz=28,SNR=3.7
MNSI Mandailing Nat 28.64 246 P **P** **02 08 00.5 0.0**
comp=Z,37nm,0.9s,comp=Z,12μm
PDSI Padang 28.70 242 P P 02 08 09.2 +8.1
KCSI Kotacane, Aceh 29.15 252 P **P** **02 08 03.9 -1.1**
comp=Z,39nm,1.2s,comp=Z,639nm
KNRA Kununurra 29.31 174 ⇓P **P** **02 08 05.9 -0.5**
baz=29,SNR=8.0
LZH Lanzhou 29.61 323 ⇑P **P** **02 08 09.6 +0.5**
LZH pP **pP** **02 08 19.8 +0.7**
LZH sP **sP** **02 08 23.8 +0.5**
LZH PP **PnPn** **02 09 07.5 +2.8**
LZH S **S** **02 13 02.3 0.0**
LZH sS **sS** **02 13 18.5 -0.3**
LZH SS **SnSn** **02 14 38.1 +5.7**
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,380nm,5.7s
LZH LR LR
comp=Z,590nm,13.5s
LZH LR LR
comp=Z,3μm,13.0s
LZH LR LR
comp=Z,4μm,14.6s
HHC Hu-ho-hao-te 29.71 338 *e*P **P** **02 08 10.5 +0.7**
HHC pP **pP** **02 08 20.5 +0.7**
HHC PP **PnPn** **02 09 05.6 -0.3**
HHC S **S** **02 13 03.1 -0.5**
HHC SS **SnSn** **02 14 42.8 +8.1**
HHC pmax pmax
comp=Z,47nm,0.7s
HHC pmax pmax
comp=Z,610nm,5.7s
HHC LR LR
comp=Z,3μm,15.1s
HHC LR LR
comp=Z,6μm,15.3s
HHC LR LR
comp=Z,3μm,14.9s
VLA Vladivostok 29.89 9 ⇑*i*P **P** **02 08 09.2 -2.0**
VLA *e* 02 11 10.7
VLA S **S** **02 13 05.5 -0.6**
VLA pmax pmax
comp=Z,37nm,1.1s
CN2 Changchun 30.05 360 *e*P **P** **02 08 12.0 -0.7**
CN2 *e*sP **sP** **02 08 25.6 -1.3**
CN2 *e*S **S** **02 13 08.0 -0.7**
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,2μm,12.0s
GSI Gunungsitoli 30.21 248 P **P** **02 08 16.8 +2.4**
comp=Z,90nm,1.2s,comp=Z,2μm
GSI Gunungsitoli 30.21 248 *e*P **P** **02 08 11.5 -3.0**
comp=Z,21nm,0.9s
USRK Ussuriysk Arra 30.96 9 P **P** **02 08 19.7 -1.0**
comp=Z,21nm,0.9s,baz=194,slow=7.4,SNR=23
USRK LR LR 02 21 15.5
comp=Z,697nm,19.5s,baz=178,slow=37
MDJ Mudanjiang 31.07 6 P **P** **02 08 22.0 +0.4**
MDJ pP **pP** **02 08 32.8 +1.1**
MDJ sP **sP** **02 08 36.0 +0.1**
MDJ PP **PP** **02 09 30.0 -2.2**
MDJ PcP **PcP** **02 11 16.8 +0.1**
MDJ S **S** **02 13 26.1 +1.5**
MDJ sS **sS** **02 13 40.9 -0.2**
MDJ ScP **ScP** **02 14 56.3 -0.8**
MDJ PcS **PcS** **02 15 00.9 +0.2**
MDJ pmax pmax
comp=Z,24nm,1.2s
MDJ pmax pmax
comp=Z,260nm,4.8s
MDJ LR LR
comp=Z,1μm,14.1s
MDJ LR LR
comp=Z,3μm,13.6s
MDJ LR LR
comp=Z,2μm,10.1s
MDJ Mudanjiang 31.07 6 PFAKE 02 08 30.0 +8.4
MDJ LR LR
comp=Z,2μm,20.0s
COEN Coen 32.55 147 *e*P **P** **02 08 33.1 -1.8**
comp=Z,2μm,2.6s
COEN LR LR
comp=Z,5μm,19.4s
COEN Coen 32.55 147 ⇑P **P** **02 08 32.8 -2.2**
baz=32,SNR=10
SHL Shillong 33.70 296 *e*P **P** **02 08 45.0 -0.2**
SHL *e*S **S** **02 14 06.0 -0.4**
ASAJ Asahikawa 33.72 22 PFAKE 02 09 00.0 +15
ASAJ LR LR
comp=Z,1μm,20.8s
ASAJ Asahikawa 33.72 22 LR LR 02 22 33.5
comp=Z,1μm,20.0s,baz=200,slow=36
GTA Gaotai 34.20 323 ⇑P **P** **02 08 49.6 +0.2**
GTA pP **pP** **02 08 59.4 0.0**
GTA sP **sP** **02 09 03.4 -0.2**
GTA PcP **PcP** **02 11 29.6 +3.9**
GTA S **S** **02 14 13.4 -0.4**
GTA sS **sS** **02 14 28.9 -1.5**
GTA SS **SnSn** **02 16 22.9 -1.1**
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,360nm,4.7s
GTA LR LR
comp=Z,1μm,18.0s
GTA LR LR
comp=Z,2μm,19.5s
GTA LR LR
comp=Z,2μm,18.1s
WRAB Tennant Creek 34.49 165 P **P** **02 08 50.8 -1.0**
comp=Z,145nm,1.5s,SNR=6.3
WRAB Tennant Creek 34.49 165 *e*P **P** **02 08 49.3 -2.5**
WRAB pmax pmax
comp=Z,35nm,1.2s
WRAB MLR MLR
comp=Z,1μm,19.0s
WRAB Tennant Creek 34.49 165 *e*P **P** **02 08 49.3 -2.5**
comp=Z,35nm,1.2s
WRAB LR LR
comp=Z,1μm,19.0s
WRA Warramunga Arr 34.49 165 *e*P **P** **02 08 49.2 -2.7**
WRA *e*PcP **PcP** **02 11 26.4 -0.3**
WRA *e*S **S** **02 14 15.3 -3.0**
WRA Warramunga Arr 34.49 165 P **P** **02 08 49.2 -2.7**
comp=Z,14nm,0.8s,baz=346,slow=9.4,SNR=29

WRA PcP **PcP** **02 11 26.4 -0.3**
comp=Z,4.0nm,0.7s,baz=340,slow=3.7,SNR=4.3
WRA S **S** **02 14 15.3 -3.0**
comp=Z,4.1nm,1.2s,baz=352,slow=15,SNR=3.2
YUK Yuzh-Kuril'sk 34.95 26 *c* *i*P P 02 08 45.3 -10
LSA Lhasa 35.51 302 P **P** **02 09 00.0 -1.1**
LSA LR LR
comp=Z,840nm,20.1s
LSA LR LR
comp=Z,770nm,16.0s
LSA LR LR
comp=Z,2μm,17.0s
LSA Lhasa 35.51 302 *e*P **P** **02 09 02.6 +1.5**
LSA pmax pmax
comp=Z,132nm,1.8s
LSA MLR MLR
comp=Z,2μm,18.0s
LSA Lhasa 35.51 302 *e*P **P** **02 09 02.6 +1.5**
comp=Z,132nm,1.8s
LSA LR LR
comp=Z,2μm,18.0s
HABR Khabarovsk 35.62 11 *e*P **P** **02 08 59.3 -1.9**
HABR *e* 02 10 19.4
HABR 02 11 26.9
HABR *e*S **S** **02 14 34.3 -0.8**
HABR *e**SS **sS** **02 14 50.7 -1.0**
HABR *e*SS **SnSn** **02 16 58.9 +1.1**
HABR *e* 02 19 15.1
HABR pmax pmax
comp=Z,72nm,2.2s
HABR MLR MLR
comp=Z,947nm,16.0s
HIA Hailar 35.83 354 PFAKE 02 09 20.0 +17
HIA LR LR
comp=Z,2μm,18.0s
KLR Kul'dur 35.86 7 *e*P P 02 08 59.2 -4.1
KLR *e*S **S** **02 14 36.0 -2.7**
KLR *e*SS **SnSn** **02 17 05.5 +1.9**
KLR MLR MLR
comp=E,2μm,11.5s
KLR MLR MLR
comp=Z,7μm,11.5s
YSS Yuzh-Sakhalins 36.23 20 *e*P **P** **02 09 07.8 +1.3**
YSS *e*S **S** **02 14 50.0 +5.6**
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 36.23 20 PFAKE 02 09 20.0 +14
YSS LR LR
comp=Z,400nm,19.0s
QIS Mount Isa 36.72 158 ⇑P **P** **02 09 08.7 -2.2**
baz=37,SNR=33
ULN Ulaanbaatar 37.41 339 *e*P **P** **02 09 16.6 -0.1**
comp=Z,69nm,1.2s
ULN LR LR
comp=Z,1μm,19.0s
SONA0 Songino Array 37.61 339 *e*P **P** **02 09 18.0 -0.4**
SONM Songino Array 37.61 339 P **P** **02 09 18.0 -0.4**
comp=Z,33nm,0.9s,baz=153,slow=9.2,SNR=52
SONM LR LR 02 25 33.6
comp=Z,1μm,18.4s,baz=148,slow=37
TAPN Taplejung 37.75 297 *e*P **P** **02 09 20.3 +0.2**
comp=Z,56nm,0.8s
ODAN Odare 37.92 296 *e*P **P** **02 09 21.6 +0.1**
comp=Z,151nm,0.9s
AS12 Alice Springs 37.99 167 *e*P **P** **02 09 20.7 -1.0**
AS12 *e*S **S** **02 15 12.2 +0.6**
ASAR Alice Springs 37.99 167 P **P** **02 09 20.7 -1.0**
comp=Z,22nm,0.7s,baz=335,slow=6.7,SNR=92
ASAR S **S** **02 15 12.2 +0.6**
comp=Z,7.4nm,1.0s,baz=348,slow=17,SNR=8.9
ASAR LR LR 02 27 32.1
comp=Z,404nm,20.7s,baz=339,slow=40
WRKA Warakurna 38.54 176 ⇑P **P** **02 09 25.9 -0.5**
baz=38,SNR=9.7
RAMN Ramite 38.63 296 *e*P **P** **02 09 27.5 +0.1**
comp=Z,198nm,1.3s
JIRN Jiri 39.14 297 *e*P **P** **02 09 30.9 -0.9**
comp=Z,64nm,0.7s
CTA Charters Tower 39.26 148 *e*P **P** **02 09 30.5 -1.9**
CTA Charters Tower 39.26 148 P **P** **02 09 30.5 -1.9**
comp=Z,12nm,0.8s,baz=334,slow=12,SNR=8.3
CTA LR LR 02 24 41.4
comp=Z,898nm,20.9s,baz=316,slow=35
CTAO Charters Tower 39.26 148 *e*P **P** **02 09 31.1 -1.3**
CTAO pmax pmax
comp=Z,56nm,1.2s
CTAO MLR MLR
comp=Z,2μm,22.0s
CTAO Charters Tower 39.26 148 *e*P **P** **02 09 31.1 -1.3**
comp=Z,56nm,1.2s
CTAO LR LR
comp=Z,2μm,22.0s
GUN Gumba 39.46 297 *e*P **P** **02 09 33.8 -0.7**
comp=Z,120nm,0.8s
PKI Pulchoki 39.80 297 *e*P **P** **02 09 36.5 -0.8**
comp=Z,42nm,0.8s
PKIN Phulchoki 39.81 297 *e*P **P** **02 09 36.5 -0.8**
comp=Z,39nm,0.8s
KKN Kakani 39.95 297 *e*P **P** **02 09 37.6 -0.9**
comp=Z,49nm,0.8s
GKN Gorkha 40.55 297 *e*P **P** **02 09 42.8 -0.6**
comp=Z,54nm,0.7s
MEEK Meekatharra 40.59 189 ⇓P **P** **02 09 41.4 -2.0**
baz=40,SNR=21
ZAK Zakamensk 40.86 338 *e*P **P** **02 09 43.5 -2.0**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
HNR Honiara 41.18 122 LR LR 02 24 25.4
comp=Z,836nm,19.3s,baz=302,slow=33
DANN Dangsing 41.38 297 *e*P **P** **02 09 49.7 -0.7**
comp=Z,64nm,0.8s
KOLN Koldanda 41.41 297 *e*P **P** **02 09 49.5 -0.9**
comp=Z,89nm,1.1s
TLY Talaya 41.82 340 *e*P **P** **02 09 53.1 -0.1**
TLY *e*S S 02 16 03.9 -4.6
TLY *e*SS **SS** **02 19 16.8 +1.4**
TLY *e*SSS SSS 02 19 49.3
TLY pmax pmax
comp=Z,21nm,1.0s
TLY MLR MLR
comp=Z,919nm,16.0s
TLY Talaya 41.82 340 PFAKE 02 10 10.0 +17
TLY LR LR
comp=Z,1μm,18.0s
PYUN Piuthan 42.00 297 *e*P **P** **02 09 55.0 -0.3**
comp=Z,42nm,0.8s
IRK Irkutsk 42.09 341 *e*P P 02 09 51.6 -3.8
IRK pmax pmax
comp=Z,65nm,1.2s
MOY Mondy 42.74 338 *e*P **P** **02 10 00.8 -0.1**
MOY pmax pmax
comp=Z,61nm,3.2s
CLNS Chul'man 43.11 360 *e*P **P** **02 10 03.2 -0.4**
CLNS pmax pmax
comp=Z,22nm,1.1s
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=E,1μm,14.0s
CLNS MLR MLR
comp=Z,1μm,14.0s
CLNS MLR MLR
comp=N,819nm,13.0s
MORW Morawa 43.43 192 ⇓P **P** **02 10 04.3 -2.2**
baz=43,SNR=5.9
QLP Quilpie 43.95 155 ⇑P **P** **02 10 08.8 -1.9**
baz=44,SNR=42
WMQ Urumqi 44.12 320 P **P** **02 10 13.8 +1.7**
WMQ pP **pP** **02 10 23.8 +1.4**
WMQ sP **sP** **02 10 27.6 +1.1**
WMQ PP **PP** **02 11 55.3 +0.1**
WMQ PcP **PcP** **02 11 59.6 +2.8**
WMQ ScP **ScP** **02 15 47.4 +1.2**
WMQ S **S** **02 16 43.8 +1.1**
WMQ ScS **ScS** **02 20 07.5 -0.7**
WMQ pmax pmax
comp=N,12nm,1.3s
WMQ pmax pmax
comp=N,480nm,4.2s
WMQ LR LR
comp=N,2μm,15.0s
WMQ LR LR
comp=N,2μm,15.0s
WMQ LR LR
comp=N,1μm,18.2s
FORT Forrest 44.23 177 *e*P **P** **02 10 12.5 -0.4**
comp=N,87nm,0.7s
FORT Forrest 44.23 177 ⇑P **P** **02 10 12.5 -0.4**
baz=44,SNR=23
PALK Pallekele 44.43 266 PFAKE 02 10 30.0 +15
PALK LR LR
comp=Z,500nm,21.0s
BLDU Ballidu 44.80 191 ⇑P **P** **02 10 17.3 -0.1**
baz=45,SNR=5.4
HYB Hyderabad 45.28 281 ⇑*i*P **P** **02 10 21.0 -0.7**
HYB *e*S **S** **02 17 06.0 +5.9**
HVS Khovu-Aksy 45.36 332 *c* *i*P **P** **02 10 21.7 -0.1**
HVS pmax pmax
comp=Z,113nm,1.9s
RMQ Roma 45.86 150 ⇓P **P** **02 10 25.4 -0.6**
baz=46,SNR=9.7
EIDS Eidsvold 46.11 147 *e*P **P** **02 10 26.8 -1.2**
comp=Z,177nm,1.7s
EIDS LR LR
comp=Z,1μm,20.5s
EIDS Eidsvold 46.11 147 P **P** **02 10 27.0 -1.0**
baz=46,SNR=8.6
PETK Petropavlovsk- 46.94 26 P **P** **02 10 33.8 -0.3**
PETK pmax pmax
comp=Z,16nm,0.9s
PETK MLR MLR
comp=Z,359nm,18.6s
PETK Petropavlovsk- 46.94 26 P **P** **02 10 33.8 -0.3**
comp=Z,16nm,0.9s,baz=200,slow=11,SNR=4.2
PETK LR LR 02 30 46.2
comp=Z,359nm,18.6s,baz=221,slow=37
PEA2 Petropavlovsk- 46.94 26 *e*P **P** **02 10 33.8 -0.3**
NWAO Narrogin (SRO) 46.97 189 P **P** **02 10 32.6 -1.9**
comp=Z,13nm,0.5s,baz=15,slow=7.0,SNR=15
BBOO Buckleboo 47.29 168 *e*P **P** **02 10 36.5 -0.5**
comp=Z,765nm,1.0s
BBOO Buckleboo 47.29 168 P **P** **02 10 36.3 -0.7**
baz=47,SNR=62
PET Petropavlovsk 47.29 27 *e*P **P** **02 10 38.0 +1.2**
PET *e*S **S** **02 17 27.4 -0.4**
PET pmax pmax
comp=Z,49nm,1.3s
PET MLR MLR
comp=Z,1μm,17.0s
STKA Stephens Creek 47.83 161 *e*P **P** **02 10 40.6 -0.6**
comp=Z,53nm,1.7s
STKA Stephens Creek 47.83 161 P **P** **02 10 40.7 -0.5**
comp=Z,31nm,0.7s,baz=338,slow=7.5,SNR=58
STKA LR LR 02 35 18.9
comp=Z,309nm,20.5s,baz=339,slow=42
STKA Stephens Creek 47.83 161 ⇑P **P** **02 10 40.8 -0.5**
baz=48,SNR=29
YAK Yakutsk 48.41 3 *e*P **P** **02 10 46.3 +1.0**
YAK *e**PP **pP** **02 10 57.5 +1.8**
YAK *e* 02 12 37.9
YAK *e*S **S** **02 17 44.2 +0.8**
YAK *e*SS **SS** **02 21 15.7 +2.4**
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=N,25nm,1.2s
YAK pmax pmax
comp=Z,8.0nm,0.3s
YAK smax smax
comp=E,205nm,10.9s
YAK smax smax
comp=N,180nm,11.3s
YAK MLR MLR
comp=N,757nm,14.0s
YAK MLR MLR
comp=Z,880nm,13.0s
HTT Hallett 48.54 165 ⇑P **P** **02 10 46.1 -0.6**
baz=49,SNR=17
MK31 Makanchi Array 48.91 321 *e*P **P** **02 10 48.7 -0.8**
MK31 pmax pmax
comp=Z,32nm,0.9s
MK32 Makanchi Array 48.91 321 *e*P **P** **02 10 49.2 -0.3**
MKAR Makanchi Array 48.91 321 *ce*P **P** **02 10 49.2 -0.3**
MKAR pmax pmax
comp=Z,25nm,0.9s
MKAR Makanchi Array 48.91 321 *e*P **P** **02 10 49.5 0.0**
MKAR Makanchi Array 48.91 321 P **P** **02 10 49.2 -0.3**
comp=Z,25nm,0.8s,baz=113,slow=9.1,SNR=112
MKAR LR LR 02 32 41.5
comp=Z,1μm,18.6s,baz=119,slow=38
CMSA Cobar Meteorol 48.93 157 ⇓P **P** **02 10 49.5 -0.2**
baz=49,SNR=119
POO Poona 49.71 283 ⇑*i*P **P** **02 10 57.0 +0.9**
comp=Z,4.0nm,1.2s
KSH Kashi 50.44 310 ⇑*i*P **P** **02 11 03.9 +2.5**
KSH *e*PP **PP** **02 13 00.4 +3.2**
KSH *e*PcS **PcS** **02 16 18.0 +1.3**
KSH S **S** **02 18 14.3 +1.4**
KSH pmax pmax
comp=Z,27nm,1.5s
KSH pmax pmax
comp=Z,330nm,2.9s
KSH LR LR
comp=Z,980nm,13.4s
KSH LR LR
comp=Z,710nm,11.5s
KSH LR LR
comp=Z,790nm,12.1s
ARMA Armidale 50.53 150 *e*P **P** **02 11 02.8 +0.8**
comp=Z,121nm,1.7s
ARMA Armidale 50.53 150 ⇑P **P** **02 11 02.1 +0.1**
baz=51,SNR=9.8
AAA Alma-Ata 50.93 315 *e*P P 02 11 08.9 +3.9
AAA *e*S **S** **02 18 22.2 +2.8**
AAA pmax pmax
comp=Z,600nm,4.7s
AAA smax smax
comp=N,700nm,8.6s
AAA MLR MLR
comp=Z,1μm,22.0s
ULHL Ulahol 51.07 314 *i*P **P** **02 11 07.5 +1.2**
ULHL Ulahol 51.07 314 P **P** **02 11 07.5 +1.2**
SNR=18
ZALV Zalesovo Beam 51.32 330 P **P** **02 11 06.9 -0.7**
ZALV pmax pmax
comp=Z,28nm,0.9s
ZALV Zalesovo Beam 51.32 330 P **P** **02 11 06.9 -0.7**
comp=Z,28nm,0.9s,baz=121,slow=5.7,SNR=32
ZALV LR LR 02 33 28.1
comp=Z,821nm,19.8s,baz=126,slow=37
ZAA1 Zalesovo Array 51.32 330 *e*P **P** **02 11 06.9 -0.7**
ZAA1 *e*PKKPdf **PKKPdf** **02 33 28.1 +0.9**
KZA Kyzart 51.72 313 *i*P **P** **02 11 12.3 +1.0**
KZA Kyzart 51.72 313 P **P** **02 11 12.3 +1.0**
SNR=59
TKM2 Tokmak 2 51.74 314 *i*P **P** **02 11 12.3 +1.0**
TKM2 Tokmak 2 51.74 314 P **P** **02 11 12.3 +1.0**
SNR=25
TKM2 Tokmak 2 51.74 314 *e*P **P** **02 11 12.1 +0.8**
comp=Z,116nm,1.6s
TKM2 LR LR
comp=Z,2μm,18.0s
KBK Karagaybulak 52.11 314 *i*P **P** **02 11 14.5 +0.6**
KBK Karagaybulak 52.11 314 P **P** **02 11 14.6 +0.6**
SNR=41
UCH Uchtor 52.29 313 *i*P **P** **02 11 16.4 +0.8**
UCH Uchtor 52.29 313 P **P** **02 11 16.4 +0.8**
SNR=84
CHMS Chumysh 52.36 314 *i*P **P** **02 11 16.4 +0.8**
CHMS Chumysh 52.36 314 P **P** **02 11 16.4 +0.8**
SNR=32
FRU Bishkek 52.40 314 *e*P P 02 11 19.5 +3.6
FRU pmax pmax
comp=Z,200nm,2.2s
AAK Ala-Archa 52.42 314 P **P** **02 11 17.3 +1.0**
comp=Z,114nm,1.7s,SNR=13
AAK Ala-Archa 52.42 314 *i*P **P** **02 11 17.1 +0.9**
AAK Ala-Archa 52.42 314 P **P** **02 11 17.2 +0.9**
SNR=11
AAK Ala-Archa 52.42 314 *e*P **P** **02 11 17.4 +1.1**
comp=Z,140nm,2.0s
AAK LR LR
comp=Z,1μm,18.0s
AAK Ala-Archa 52.42 314 P **P** **02 11 17.3 +1.0**
comp=Z,6.7nm,0.9s,baz=123,slow=5.3,SNR=16
YNG Young 52.42 156 ⇓P **P** **02 11 16.0 -0.1**
baz=52,SNR=6.7
ARPS Mount Arapiles 52.46 163 ⇑P **P** **02 11 15.7 -0.6**
baz=52,SNR=9.7
NVS Novosibirsk 52.59 331 *e*P **P** **02 11 15.2 -1.9**
NVS *e*S S 02 18 33.0 -8.7
NVS pmax pmax
comp=E,58nm,2.0s
NVS pmax pmax
comp=Z,114nm,2.0s
NVS pmax pmax
comp=N,49nm,1.9s
NVS smax smax
comp=E,6.0nm,1.5s
USP Ospenovka 52.62 314 *i*P **P** **02 11 17.6 +0.1**
USP Ospenovka 52.62 314 P **P** **02 11 17.6 +0.1**
SNR=49
SEY Seymchan 52.77 15 *e*P **P** **02 11 18.0 -0.2**
SEY Seymchan 52.77 15 *e*P **P** **02 11 18.1 -0.2**
SEY Seymchan 52.77 15 P **P** **02 11 18.1 -0.2**
comp=E,4.5nm,0.7s,baz=186,slow=23,SNR=8.5
AML Almayashu 52.84 313 *i*P **P** **02 11 20.3 +0.6**
AML Almayashu 52.84 313 P **P** **02 11 20.3 +0.6**
SNR=44
KURK Kurchatov 52.88 324 P **P** **02 11 19.6 +0.4**
comp=E,415nm,0.9s,SNR=67
KURK Kurchatov 52.88 324 *c* *i*P **P** **02 11 18.4 -0.8**
KURK pmax pmax
comp=Z,105nm,1.2s
KURK Kurchatov 52.88 324 *e*P **P** **02 11 18.9 -0.3**
comp=Z,77nm,1.0s
KURK LR LR
comp=Z,500nm,18.0s
KURBB Kurchatov Arra 52.88 324 P **P** **02 11 18.9 -0.4**
comp=Z,74nm,0.9s,baz=120,slow=7.4,SNR=102
EKS2 Erkin-Say 52.94 313 *i*P **P** **02 11 20.4 +0.4**
EKS2 Erkin-Say 52.94 313 P **P** **02 11 20.5 +0.4**
SNR=41
EKS2 Erkin-Say 52.94 313 *e*P **P** **02 11 20.7 +0.7**
comp=Z,76nm,1.4s
EKS2 LR LR
comp=Z,2μm,18.0s
DZM Mont Dzumac 53.60 131 *e*S **S** **02 18 54.1 -2.5**
comp=Z,2μm,27.7s
DZM *e*LQ LQ 02 24 36.7
comp=Z,2μm,30.1s
DZM *e*LR LR 02 26 52.9
comp=Z,1μm,32.6s
DZM Mont Dzumac 53.60 131 P **P** **02 11 24.0 -1.1**
comp=Z,9.1nm,0.7s,baz=348,slow=13,SNR=7.0
DZM LR LR 02 30 34.9
comp=Z,389nm,21.3s,baz=344,slow=32
CNB Canberra Magne 53.70 156 ⇑P **P** **02 11 25.5 -0.1**
baz=54,SNR=11
TOO Toolangi 54.30 160 ⇓P **P** **02 11 29.6 -0.3**
baz=54,SNR=14
FX1 Attu Island--F 54.34 33 LR LR 02 31 41.2
comp=Z,346nm,20.9s,baz=263,slow=33
KBL Kabul 54.83 303 *e*P **P** **02 11 33.5 -0.6**
KBL pmax pmax
comp=Z,25nm,0.9s
KBL MLR MLR
comp=Z,700nm,18.9s
KBL Kabul 54.83 303 *e*P **P** **02 11 33.5 -0.6**
comp=Z,25nm,0.9s
KBL LR LR
comp=Z,700nm,18.9s
KBL Kabul 54.83 303 ⇓P **P** **02 11 33.4 -0.7**
baz=55,SNR=4.6
KK31 Karatay Array 55.37 313 *i*P **P** **02 11 37.3 -0.3**
KK31 pmax pmax
comp=Z,26nm,0.9s
KKAR Karatay Array 55.37 313 *e*P **P** **02 11 37.6 0.0**
KKAR Karatay Array 55.37 313 *e*P **P** **02 11 37.6 0.0**
TIXI Tiksi 58.02 1 *e*P **P** **02 11 54.8 -1.0**
TIXI pmax pmax
comp=Z,36nm,1.7s
TIXI Tiksi 58.02 1 PFAKE 02 12 10.0 +14
TIXI LR LR
comp=Z,1μm,19.0s
BVA0 Borovoye Array 58.48 324 *i*P **P** **02 11 59.3 -0.1**
BVA0 pmax pmax
comp=Z,181nm,1.6s
BVAR Borovoye Array 58.48 324 P **P** **02 11 58.9 -0.5**
BVAR pmax pmax
comp=Z,40nm,0.9s
BVAR Borovoye Array 58.48 324 P **P** **02 11 58.9 -0.5**
comp=Z,40nm,0.9s,baz=120,slow=8.7,SNR=44
BRVK Borovoye 58.55 324 P **P** **02 12 00.7 +0.8**
comp=Z,549nm,0.9s,SNR=54
BRVK Borovoye 58.55 324 *d* *i*P **P** **02 11 59.7 -0.2**
BRVK pmax pmax
comp=Z,111nm,1.0s
BRVK Borovoye 58.55 324 *e*P **P** **02 11 59.5 -0.4**
comp=Z,98nm,1.0s
BRVK LR LR
comp=Z,800nm,18.0s
BILL Bilibino 60.40 16 *e*P **P** **02 12 12.4 0.0**
BILL *e* 02 12 59.7
BILL pmax pmax
comp=Z,16nm,1.3s
MSVF Nonsavu 60.52 120 P **P** **02 12 15.0 +0.9**
comp=Z,232nm,1.0s,SNR=11
MSVF Nonsavu 60.52 120 *e*P **P** **02 12 14.4 +0.3**
MSVF pmax pmax
comp=Z,58nm,1.1s
MSVF Nonsavu 60.52 120 *e*P **P** **02 12 14.4 +0.3**
comp=Z,58nm,1.1s
IMYA Miami 62.27 304 *e*P **P** **02 12 25.0 -0.9**
IDAH Dahanechah 62.32 300 *e*P **P** **02 12 25.1 -1.3**
ISRO Mashad 62.78 304 *e*P **P** **02 12 26.8 -2.4**
IPAY Payeh 63.16 304 *e*P **P** **02 12 31.9 0.0**
IKRD Kardeh 63.57 304 *e*P P 02 12 29.4 -5.2
AB31 Akbulak array 63.84 318 *i*P **P** **02 12 35.1 -0.7**
AB31 pmax pmax
comp=Z,26nm,1.0s
ABKAR Akbulak array 63.84 318 *e*P **P** **02 12 35.6 -0.3**
ABKT Ailbek 63.93 306 P **P** **02 12 37.2 +0.5**
comp=Z,161nm,1.1s,SNR=7.6
SVE Sverdlovsk 64.98 327 ⇓*e*P **P** **02 12 43.0 -0.1**
SVE pmax pmax
comp=Z,59nm,1.2s
SVE MLR MLR
comp=Z,877nm,15.0s
AKTO Aktyubinsk 65.26 319 P **P** **02 12 44.2 -0.9**
AKTO pmax pmax
comp=Z,76nm,2.9s
IBND Bandar-abas 65.30 294 *e*P **P** **02 12 46.8 +1.1**
IBAF Bafgh 65.97 299 *e*P **P** **02 12 49.3 -1.0**
ARU Arti 66.01 326 P **P** **02 12 48.8 -1.0**
comp=Z,216nm,0.6s,SNR=9.3
ARU Arti 66.01 326 *d* *i*P **P** **02 12 48.7 -1.0**
ARU pmax pmax
comp=Z,28nm,1.0s
ARU Arti 66.01 326 PFAKE 02 13 00.0 +10
ARU LR LR
comp=Z,700nm,20.0s
ICHK Chekchek 66.94 299 *e*P **P** **02 12 58.4 +1.9**
IANJ Anjilo 67.27 303 *e*P **P** **02 12 56.3 -2.3**
IKIA Kiasar 67.45 304 *e*P P 02 12 56.2 -3.5
SOKR Solikamsk 67.57 329 ⇑*i*P **P** **02 13 01.3 +1.7**
SOKR pmax pmax
comp=Z,20nm,1.1s
ISHM Shahmirzad 67.77 303 *e*P **P** **02 13 00.4 -1.4**
AFI Afiamalu 67.89 111 LR LR 02 38 21.8
comp=Z,209nm,18.2s,baz=323,slow=32
TNA Tin City 68.05 24 *e*P **P** **02 13 04.6 +2.0**
comp=Z,108nm,2.9s
TNA LR LR
comp=Z,498nm,19.9s
ILAS Lasjerd 68.05 303 *e*P **P** **02 13 01.2 -2.4**
IPAR Pars 68.22 297 *e*P **P** **02 13 03.3 -1.4**
IZEF Zefreh 68.67 300 *e*P **P** **02 13 08.5 +1.1**
IDMV Damavand 68.80 303 *e*P **P** **02 13 06.9 -1.4**
IVRN Varamin 69.08 302 *e*P **P** **02 13 08.1 -1.6**
IKLH Kolahrood 69.28 301 *e*P **P** **02 13 11.2 0.0**
RAO Raoul Island 69.29 129 LR LR 02 39 36.1
comp=Z,202nm,20.2s,baz=312,slow=33
IPIR Pirpir 69.89 300 *e*P **P** **02 13 13.5 -1.5**
IMHD Mahdasht 69.91 303 *e*P **P** **02 13 14.5 -0.4**
IRAZ Razeghan 70.53 303 *e*P **P** **02 13 17.4 -1.4**
BKZ Black Stump Fm 70.85 140 *e*P **P** **02 13 19.9 -0.5**
comp=Z,129nm,1.8s
KHZ Kahutara 71.12 144 PFAKE 02 13 30.0 +8.2
KHZ LR LR
comp=Z,4838μm,21.4s
MSEY Mahe Island 71.79 260 PFAKE 02 13 40.0 +13
MSEY LR LR

comp=Z,500nm,20.0s
MAK Makhachkala 72.07 311 *e*P **P** **02 13 25.5 -2.2**
MAK *i* 02 13 43.3
MAK *e* 02 16 08.5
MAK *e*PPP PPP 02 17 54.9
MAK *e*S **S** **02 22 45.7 -1.6**
MAK *e* 02 23 28.5
MAK pmax pmax
comp=Z,104nm,0.9s
MAK MLR MLR
comp=Z,601nm,14.0s
IHRS Heris 72.66 306 *e*P **P** **02 13 30.9 -0.7**
PRGR Permogore 73.28 331 *e*P **P** **02 13 35.1 +0.6**
PRGR *e* 02 13 47.9
PRGR *e* 02 16 23.3
PRGR pmax pmax
comp=Z,30nm,0.9s
IDHR Dehrash 73.48 302 *e*P **P** **02 13 34.8 -1.8**
DGRG David-gareji 73.73 310 P **P** **02 13 40.3 +2.7**
RSO Redoubt South 74.18 31 *e*P **P** **02 13 41.7 +1.6**
TBLG Delisi 74.19 310 P **P** **02 13 40.6 +0.3**
GNI Garni 74.31 308 *e*P **P** **02 13 42.8 +1.6**
comp=Z,20nm,0.9s
GUDG Gudauri 74.33 311 P P 02 13 44.7 +3.4
CAST Castle Rocks 74.52 28 *e*P **P** **02 13 44.0 +2.2**
comp=Z,15nm,1.1s
CAST LR LR
comp=Z,300nm,20.5s
ZEI Tsey 74.72 311 *e*P **P** **02 13 42.6 -1.0**
ZEI pmax pmax
comp=Z,24nm,0.9s
ONI Oni 75.07 311 P **P** **02 13 46.3 +0.8**
AKH Akhalkalaki 75.14 310 P **P** **02 13 47.2 +1.1**
GOF Gofitskoye 75.16 313 *e*P **P** **02 13 46.9 +1.1**
GOF pmax pmax
comp=Z,23nm,1.1s
COLD Coldfoot 75.32 24 *e*P **P** **02 13 46.9 +0.5**
comp=Z,29nm,1.1s
TRF Thorofare Moun 75.33 28 *e*P **P** **02 13 46.7 +0.1**
comp=Z,189nm,2.5s
KBZ Khabaz 75.38 312 P **P** **02 13 46.7 -0.4**
KBZ pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 75.38 312 *e*P **P** **02 13 46.7 -0.4**
KBZ Khabaz 75.38 312 P **P** **02 13 46.7 -0.4**
comp=Z,14nm,0.9s,baz=207,slow=4.2,SNR=21
KBZ LR LR 02 51 50.4
comp=Z,735nm,18.3s,baz=76,slow=40
KIV Kislovodsk 75.51 312 P **P** **02 13 48.1 +0.1**
comp=Z,198nm,0.9s,SNR=11
KIV Kislovodsk 75.51 312 PFAKE 02 14 00.0 +12
KIV LR LR
comp=Z,700nm,18.0s
NEY Neytrino 75.55 312 *e*P **P** **02 13 48.4 +0.1**
NEY pmax pmax
comp=Z,3.0nm,1.1s
RC01 Rabbit Creek A 75.65 30 PFAKE 02 14 00.0 +12
RC01 LR LR
comp=Z,501nm,20.8s
VRHR Novokhopersk 75.67 320 *e*P **P** **02 13 48.5 -0.1**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,50nm,1.0s
PMR Palmer 75.92 29 *e*P **P** **02 13 49.4 -0.4**
PMR pmax pmax
comp=Z,21nm,1.2s
PMR Palmer 75.92 29 *e*P **P** **02 13 49.4 -0.4**
comp=Z,21nm,1.2s
MCK McKinley 75.92 27 *e*P **P** **02 13 50.5 +0.6**
MCK pmax pmax
comp=Z,40nm,1.0s
MCK McKinley 75.92 27 *e*P **P** **02 13 50.5 +0.6**
comp=Z,40nm,1.0s
CHVG Ch'k'valeri 76.06 311 P **P** **02 13 52.6 +1.6**
KLMR Klimovskoe 76.24 330 *e*P **P** **02 13 50.2 -1.4**
KLMR pmax pmax
comp=Z,57nm,1.5s
COLA College 76.35 26 *e*P **P** **02 13 51.6 -0.6**
COLA pmax pmax
comp=Z,54nm,1.0s
COLA College 76.35 26 *e*P **P** **02 13 54.0 +1.8**
comp=Z,18nm,1.0s
ILAR Eielson Array 76.76 26 P **P** **02 13 54.3 -0.3**
comp=Z,3.9nm,0.8s,baz=252,slow=6.2,SNR=31
ILAR LR LR 02 45 55.3
comp=Z,291nm,21.9s,baz=277,slow=34
ILB Eielson Array 76.76 26 *e*P **P** **02 13 54.1 -0.5**
VORD Divnogorie 77.14 320 *e*P **P** **02 13 56.8 -0.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 77.20 320 *e*P **P** **02 13 56.2 -1.1**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.1s
PAX Paxson 77.53 28 *e*P **P** **02 13 59.2 +0.1**
PAX pmax pmax
comp=Z,234nm,2.9s
PAX MLR MLR
comp=Z,400nm,18.7s
PAX Paxson 77.53 28 *e*P **P** **02 13 59.1 +0.1**
comp=Z,234nm,2.9s
PAX LR LR
comp=Z,400nm,18.7s
DIV Divide 77.57 30 *e*P **P** **02 13 58.7 -0.5**
comp=Z,25nm,1.1s
DIV LR LR
comp=Z,600nm,21.9s
MOS Moscow 77.65 325 *e*P **P** **02 14 01.0 +1.3**
MOS pmax pmax
comp=Z,69nm,1.6s
MOS MLR MLR
comp=E,900nm,19.0s
DOT Dot Lake 78.10 27 *e*P **P** **02 14 03.0 +0.9**
comp=E,21nm,1.2s
DOT LR LR
comp=Z,500nm,19.0s
BMRM Bremner River 78.15 30 *e*P **P** **02 14 04.7 +2.2**
comp=Z,23nm,1.1s
DAMY Dhamar 78.20 282 PFAKE 02 14 20.0 +16
DAMY LR LR
comp=Z,300nm,22.0s
OBN Obninsk 78.32 324 *e*P **P** **02 14 04.1 +0.7**
OBN *e* 02 14 13.8
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,871nm,18.0s
OBN Obninsk 78.32 324 PFAKE 02 14 20.0 +17
OBN LR LR
comp=Z,1µm,21.0s
EGAK Eagle 79.20 26 *e*P **P** **02 14 10.4 +2.3**
comp=Z,14nm,1.0s
JOF Joensuu 79.86 332 *e*P **P** **02 14 10.7 -1.0**
JOF Joensuu 79.86 332 *e*p **P** **02 14 10.7 -1.0**
DAWY Dawson 80.08 26 *e*P **P** **02 14 14.5 +1.5**
CASY Casey 80.47 186 PFAKE 02 14 30.0 +15
CASY LR LR
comp=Z,300nm,19.0s
ARA0 ARCESS Array S 80.78 339 *e*P **P** **02 14 16.3 -0.3**
ARCES ARCESS Array B 80.78 339 P **P** **02 14 16.3 -0.3**
comp=Z,7.9nm,1.0s,baz=64,slow=5.5,SNR=8.6
ARCES LR LR 02 55 21.0
comp=Z,459nm,18.6s,baz=85,slow=40
SIM Simferopol' 81.45 314 *e*P **P** **02 14 20.3 -0.3**
SIM *e*S **S** **02 24 32.0 +2.3**
SIM *e*SS SS 02 29 54.0 +7.8
SIM pmax pmax
comp=Z,27nm,1.0s
INK Inuvik 81.45 22 *e*P **P** **02 14 21.2 +1.1**
comp=Z,26nm,1.1s
INK Inuvik 81.45 22 P **P** **02 14 20.2 +0.1**
comp=Z,16nm,1.1s,baz=275,slow=6.8,SNR=27
KAF Kangasniemi 82.30 332 *e*P **P** **02 14 23.2 -1.5**
KAF Kangasniemi 82.30 332 *e*p **P** **02 14 23.2 -1.5**
FIA0 FINESS Array S 82.57 331 *e*P **P** **02 14 24.9 -1.3**
FIA0 FINESS Array S 82.57 331 *e*P **P** **02 14 24.9 -1.3**
FINES FINESS Array B 82.57 331 P **P** **02 14 24.9 -1.3**
comp=Z,4.2nm,0.9s,baz=70,slow=6.7,SNR=9.5
FINES LR LR 02 55 29.4
comp=Z,648nm,18.7s,baz=74,slow=39

BR101 Keskin Array S 82.81 309 *e*P **P** **02 14 26.4 -1.7**
BRTR Keskin Array B 82.81 309 P **P** **02 14 26.4 -1.7**
comp=Z,2.2nm,1.0s,baz=113,slow=4.4,SNR=7.4
BRTR LR LR 02 55 11.0
comp=Z,267nm,21.6s,baz=56,slow=38
VSU Vasula 83.01 328 *e*P **P** **02 14 29.1 +0.7**
VSU pmax pmax
comp=Z,58nm,1.1s
MICGM Minsk 83.37 324 *e* **P** **02 14 31.0 +0.6**
MNK Minsk 83.40 324 *e*P **P** **02 14 31.0 +0.4**
AKASG Malin Array Be 83.48 320 *c*e**P** **P** **02 14 30.2 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 83.48 320 P **P** **02 14 30.2 -0.8**
comp=Z,2.5nm,0.8s,baz=65,slow=4.7,SNR=12
AKBB Malin Array Si 83.48 320 *e*P **P** **02 14 30.2 -0.8**
AKBB Malin Array Si 83.48 320 *e*P **P** **02 14 30.2 -0.8**
KIEV Kiev 83.49 320 ⇑*i*P **P** **02 14 31.3 +0.2**
KIEV Kiev 83.49 320 PFAKE 02 14 40.0 +8.9
KIEV LR LR
comp=Z,600nm,20.0s
ABPO Ambohimpanom 83.61 249 *e*P **P** **02 14 32.1 -0.4**
ABPO pmax pmax
comp=Z,15nm,1.0s
ABPO MLR MLR
comp=Z,600nm,20.4s
ABPO Ambohimpanom 83.61 249 *e*P **P** **02 14 32.1 -0.4**
comp=Z,15nm,1.0s
ABPO LR LR
comp=Z,600nm,20.4s
NACGM Naroch 83.89 325 *e* **P** **02 14 33.0 -0.1**
TIRR Tirgusor 85.53 315 PFAKE 02 14 50.0 +8.5
TIRR LR LR
comp=Z,500nm,19.5s
CFR Carcaliu 85.54 315 ⇑P **P** **02 14 38.9 -2.7**
CFR Carcaliu 85.54 315 ⇑*i*P **P** **02 14 38.9 -2.7**
ISP Isparta 85.61 308 *e*P **P** **02 14 42.5 +0.3**
ISP pmax pmax
comp=Z,21nm,1.2s
ISP Isparta 85.61 308 PFAKE 02 14 50.0 +7.7
ISP LR LR
comp=Z,400nm,20.0s
DLBC Dease Lake 85.91 31 P **P** **02 14 43.0 -0.3**
comp=Z,4.7nm,1.1s,baz=320,slow=6.1,SNR=2.0
SUW Suwalki 86.16 325 *e*P **P** **02 14 46.5 +2.0**
SUW Suwalki 86.16 325 *e*P **P** **02 14 46.5 +2.0**
SUW Suwalki 86.16 325 PFAKE 02 15 00.0 +16
SUW LR LR
comp=Z,1µm,18.0s
TESR Tescani 86.19 317 ⇑*i*P **P** **02 14 44.6 -0.2**
VRI Vrincioaia 86.31 316 ⇓P **P** **02 14 45.9 +0.4**
VRI Vrincioaia 86.31 316 ⇓*i*P **P** **02 14 45.9 +0.4**
PLOR Plostina 86.37 316 ⇑P P 02 14 43.0 -2.8
PLOR Plostina 86.37 316 ⇑*i*P P 02 14 43.0 -2.8
BURAR Bucovina Array 86.82 318 ⇓P **P** **02 14 48.2 +0.2**
BURAR Bucovina Array 86.82 318 ⇓*i*P **P** **02 14 48.2 +0.2**
LVV L'vov 86.93 321 *e*P **P** **02 14 49.5 +1.1**
MLR Muntele Rosu 86.94 316 ⇑*i*P P 02 14 45.6 -3.1
DOPR Dopca 87.18 317 ⇑*i*P **P** **02 14 52.1 +2.4**
KWP Kalwaria Pacla 87.80 321 *e*P **P** **02 14 52.2 -0.4**
KWP Kalwaria Pacla 87.80 321 *e*P **P** **02 14 52.1 -0.5**
KWP Kalwaria Pacla 87.80 321 ⇓*i*P **P** **02 14 52.5 -0.1**
HUMR Humele 87.87 315 ⇓*i*P **P** **02 14 54.5 +1.5**
KOLS Kolonicke sedl 88.30 320 *e*P **P** **02 14 56.6 +1.6**
KOLS pmax pmax
comp=Z,243nm,4.3s
KOLS Kolonicke sedl 88.30 320 *e*P **P** **02 14 56.6 +1.6**
UZH Uzhgorod 88.38 320 *e*P **P** **02 14 55.1 -0.2**
UZH *e* 02 15 09.1
TRPA Tarpa 88.38 319 ⇓*i*P **P** **02 14 57.9 +2.6**
KMBO Kilima Mbogo 88.54 268 *e*P **P** **02 14 57.0 0.0**
comp=Z,24nm,2.0s
KMBO LR LR
comp=Z,400nm,20.0s
KMBO Kilima Mbogo 88.54 268 P **P** **02 14 57.0 0.0**
comp=Z,3.2nm,1.0s,baz=24,slow=7.9,SNR=6.1
DRGR 88.70 318 ⇓P **P** **02 14 57.5 +0.5**
DRGR 88.70 318 ⇓*i*P **P** **02 14 57.5 +0.5**
STHS Stebnicka Huta 88.77 321 *e*P **P** **02 14 57.4 +0.2**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 88.77 321 *e*P **P** **02 14 57.4 +0.2**
CRVS Cervenica-Dubn 88.81 320 *e*P **P** **02 14 57.4 0.0**
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 88.81 320 *e*P **P** **02 14 57.4 0.0**
PPT Papeete 89.35 108 LR LR 02 47 46.2
comp=Z,196nm,20.7s,baz=260,slow=31
PPT2 Papeete2 89.35 108 *e*LR LR 02 43 41.6
comp=Z,839nm,25.0s
NB2 NORSAR Subarra 89.41 334 P **P** **02 15 00.0 0.0**
comp=Z,4.0nm,1.0s,baz=66,slow=4.4
NB2 NORSAR Subarra 89.41 334 P **P** **02 15 00.0 0.0**
baz=66,slow=4.4
NB200 NORSAR Array S 89.41 334 *e*P **P** **02 14 59.8 -0.2**
NB200 *e*PKKPdf **PKKPbc** **02 32 40.2 +2.9**
NOA NORSAR Array B 89.41 334 P **P** **02 14 59.8 -0.2**
comp=Z,0.6nm,0.6s,baz=69,slow=4.8,SNR=3.0
NOA PKKPbc **PKKPbc** **02 32 40.2 +2.9**
comp=Z,0.8nm,0.7s,baz=161,slow=5.6,SNR=3.4
NOA LR LR 02 57 25.2
comp=Z,338nm,18.3s,baz=70,slow=37
MMB Musomiste 89.63 313 ⇑P **P** **02 15 02.3 +0.9**
MMB Musomiste 89.63 313 ⇑*i*P **P** **02 15 02.3 +0.9**
PSZ Piszkesteto 90.13 320 *e*P **P** **02 15 05.0 +1.3**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
PSZ Piszkesteto 90.13 320 *e*P **P** **02 15 05.0 +1.3**
comp=Z,8.9nm,1.1s
TBI Tubuai 90.89 114 *e*LR LR 02 44 21.2
comp=Z,779nm,33.0s
YKA Yellowknife Ar 91.00 24 P **P** **02 15 06.6 -0.7**
comp=Z,1.2nm,0.9s,baz=302,slow=4.5,SNR=14
YKA PKKPbc **PKKPdf** **02 32 28.6 -0.3**
comp=Z,0.2nm,0.7s,baz=124,slow=2.2,SNR=6.2
DPC Dobruska-Polom 91.40 323 *e*P **P** **02 15 10.5 +1.0**
DPC *e* 02 15 23.0
DPC Dobruska-Polom 91.40 323 *e*P **P** **02 15 10.5 +1.0**
DPC *e*x x 02 15 23.0
DPC AMS AMS 02 59 50.0
DPC Dobruska-Polom 91.40 323 PFAKE 02 15 20.0 +11
DPC LR LR
comp=Z,5µm,21.0s
PKSM Moragy 91.54 318 ⇓P **P** **02 15 11.8 +1.7**
PKSM Moragy 91.54 318 ⇓*i*P **P** **02 15 11.8 +1.7**
BRG Berggiesshubel 92.56 324 *e*P **P** **02 15 16.6 +1.8**
comp=Z,17nm,1.6s
BRG pmax pmax
comp=Z,1µm,9.2s
BRG MLR MLR
comp=N,590nm,9.8s
BRG LR LR
comp=E,840nm,9.8s
BRG Berggiesshubel 92.56 324 *e*P **P** **02 15 16.6 +1.8**
comp=Z,17nm,1.6s
BRG pmax pmax
comp=Z,1µm,9.2s
MAW Mawson 92.58 200 LR LR 02 56 05.9
comp=Z,220nm,18.2s,baz=57,slow=35
CLL Collm 92.91 324 *e*P **P** **02 15 18.0 +1.6**
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 92.91 324 *e*P **P** **02 15 18.0 +1.6**
comp=Z,4.0nm,1.0s
CLL *e*PS **PS** **02 27 36.0 +0.3**
CLL *e*SS SS 02 32 54.0 +21
CLL *e*SSSS 02 39 42.0
CLL LmH 02 55 00.0
comp=N,600nm,19.6s
CLL LmH 02 55 00.0
comp=E,500nm,18.3s
VNDA Vanda 93.35 173 *e*P **P** **02 15 17.7 0.0**
VNDA Vanda 93.35 173 P **P** **02 15 17.7 0.0**
comp=E,2.2nm,0.8s,baz=320,slow=17,SNR=2.4
VNDA LR LR 02 58 34.6
comp=E,218nm,18.5s,baz=339,slow=36
KHC Kasperske Hory 93.52 322 *e*P **P** **02 15 21.0 +1.7**
KHC MLR MLR
comp=Z,500nm,17.6s
KHC Kasperske Hory 93.52 322 *e*P **P** **02 15 21.0 +1.7**
KHC AMS AMS 03 03 00.0
comp=Z,500nm,17.6s
GEC2 GERESS Array S 93.57 322 *e*P **P** **02 15 21.1 +1.5**
GEC2 GERESS Array S 93.57 322 *e*P **P** **02 15 21.1 +1.5**

GERES GERESS Array B 93.57 322 P **P** **02 15 21.1 +1.5**
comp=Z,0.1nm,0.3s,baz=90,slow=6.7,SNR=6.9
GERES LR LR 03 00 03.4
comp=Z,389nm,18.1s,baz=60,slow=37
CRES Cresnjev 93.74 319 *e*P **P** **02 15 22.6 +2.3**
VISS Visnje 94.14 319 *e*P **P** **02 15 23.9 +1.7**
TIP Timpagrande 95.45 312 PFAKE 02 15 40.0 +12
TIP LR LR
comp=Z,300nm,22.0s
LPG La Plagne 99.32 321 *e*PP PP 02 19 46.7 -2.1
comp=Z,21nm,1.2s
LPL La Plagne 99.33 321 *e*PP PP 02 19 47.0 -1.7
comp=Z,43nm,1.4s
NVAR Mina Array Bea 101.08 46 P **Pdif** **02 15 53.4 -0.6**
comp=Z,0.2nm,0.4s,baz=267,slow=6.3,SNR=1.8
RKT Rikitea 103.89 111 *e*LR LR 02 49 57.8
comp=Z,543nm,30.8s
ESDC Sonseca Array 109.12 321 *e*PP PP 02 21 02.7 +1.3
ESDC Sonseca Array 109.12 321 PP PP 02 21 02.7 +1.3
comp=Z,1.9nm,0.9s,baz=50,slow=6.9,SNR=5.6
LTX Lajitas 116.17 47 *e*PKIKP **PKPdf** **02 20 45.4 -1.9**
LTX Lajitas 116.17 47 *e*PKPdf **PKPdf** **02 20 45.4 -1.9**
TXAR Lajitas Array 116.17 47 PKP **PKPdf** **02 20 45.4 -1.9**
comp=Z,0.4nm,0.6s,baz=304,slow=2.9,SNR=3.8
PQI Presque Isle 118.75 11 PFAKE 02 21 00.0 +8.4
PQI LR LR
comp=Z,2µm,19.5s
FRNY Flat Rock 119.28 15 PFAKE 02 21 00.0 +7.3
FRNY LR LR
comp=Z,500nm,18.4s
SIUC Southern Illin 119.41 31 PFAKE 02 21 00.0 +6.8
SIUC LR LR
comp=Z,500nm,20.1s
HNH Hanover 120.67 15 PFAKE 02 21 10.0 +15
HNH LR LR
comp=Z,3µm,21.9s
NATX Nacogdoches 120.68 40 PFAKE 02 21 10.0 +14
NATX LR LR
comp=Z,2µm,21.0s
TRY Troy 121.21 16 PFAKE 02 21 10.0 +14
TRY LR LR
comp=Z,600nm,19.3s
BRYW Bryant College 122.53 15 PFAKE 02 21 10.0 +11
BRYW LR LR
comp=Z,2µm,19.7s
YLE Yale 122.73 16 PFAKE 02 21 10.0 +11
YLE LR LR
comp=Z,2µm,20.5s
BRNJ Basking Ridge 122.84 18 PFAKE 02 21 10.0 +10
BRNJ LR LR
comp=Z,1µm,20.4s
MVL Millersville 122.90 20 PFAKE 02 21 10.0 +10
MVL LR LR
comp=Z,2µm,21.9s
DBIC Dimbokro 126.72 289 *e*PKPdf **PKPdf** **02 21 07.8 0.0**
DBIC Dimbokro 126.72 289 PKP **PKPdf** **02 21 06.5 -1.3**
comp=Z,2.1nm,0.6s,baz=232,slow=2.5,SNR=5.6
KIC Kosan Boka 126.73 289 *e*PKP1 **PKPdf** **02 21 07.4 -0.4**
comp=Z,74nm,1.5s
TIC Toumodi 126.88 289 *e*PKP1 **PKPdf** **02 21 06.4 -1.7**
LIC Lamto 127.05 289 *e*PKP1 **PKPdf** **02 21 07.8 -0.6**
comp=Z,34nm,1.2s
SDDR Presa de Saban 143.61 27 PFAKE 02 21 50.0 +11
SDDR LR LR
comp=Z,300nm,19.9s
AGP Aguadilla 145.81 22 PFAKE 02 21 50.0 +6.3
AGP LR LR
comp=Z,400nm,21.2s
CPD Cerro la Pandu 146.57 20 *e*PKP2 **PKPbc** **02 21 45.6 -0.1**
CPD Cerro la Pandu 146.57 20 *e*PKPdf **PKPbc** **02 21 45.5 -0.1**
STVI Saint Thomas 146.59 18 *e*PKPdf **PKPbc** **02 21 45.6 0.0**
MTP Monte Pirata 146.64 19 *e*PKPdf **PKPdf** **02 21 45.2 +1.0**
CDVI St. Croix 147.21 18 PFAKE 02 22 00.0 +11
CDVI LR LR
comp=Z,500nm,18.4s
PLCA Paso Flores 149.59 156 *e*PKPbc **PKPbc** **02 21 52.9 -0.2**
PLCA Paso Flores 149.59 156 PKPbc **PKPbc** **02 21 52.7 -0.4**
comp=Z,11nm,0.9s,baz=210,slow=3.3,SNR=17
SDV Santo Domingo 152.49 36 *e*PKPbc **PKPbc** **02 21 59.5 -1.4**
SDV LR LR
comp=Z,300nm,21.0s
OTAV Otavalo 152.57 62 *e*PKPbc **PKPbc** **02 21 58.9 -2.5**
LPAZ La Paz 166.59 103 *e*PKPdf **PKPdf** **02 22 11.1 +0.7**
LPAZ La Paz 166.59 103 PKP **PKPdf** **02 22 11.1 +0.7**
comp=Z,3.3nm,1.0s,baz=30,slow=5.5,SNR=6.5
SAML Samuel 170.31 62 *e*PKPdf **PKPdf** **02 22 12.4 +0.2**

MOS ***21*** *02:09:06.1±2.2,48.8°N×157.17°E,h43km,mb4.2/1,Error ellipse: s-maj=83.1km s-min=14.5km az=85.6*
SKHL ***21*** *02:09:10.1±1.1,50.29°N×153.94°E,h49km±22km,mb4.0/1*
KRSC ***21*** *02:09:11.7±2.3,49.35°N×157.26°E,h41km±43km,ML4.4*
ISC 21 02:09:09.9±4.1,49.1°N±0.2°×156.9°E±0.1°,h35km,n31,
σ1°84/46,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**343**	*e*PN		Pn	02 09 32.4	-4.0
SKR					pmax	pmax		
	comp=N,80nm,0.5s							
SKR					pmax	pmax		
	comp=Z,80nm,0.5s							
SKR	**Severo-Kuril's**	**1.65**	**343**	*i*P		**Pn**	**02 09 35.6**	**-0.8**
SKR				*i*S		**Sn**	**02 09 53.2**	**-3.2**
SKR	**Severo-Kuril's**	**1.65**	**343**	*e*P		Pn	02 09 32.4	-4.0
SKR					AMB	AMB	02 09 34.5	
	comp=Z,80nm,0.5s							
SKR				*e*rx		rx	02 09 36.0	
SKR				*i*S		Sn	02 09 50.0	-6.4
SKR					A	A	02 09 57.7	
	comp=Z,2µm,0.3s							
SKR					A	A	02 09 57.7	
	comp=Z,760nm,0.3s							
SKR					A	A	02 09 57.7	
	comp=Z,230nm,0.3s							
PAU	**Pauzhetka**	**2.37**	**359**	PN		**Pn**	**02 09 46.9**	**+0.7**
PAU	**Pauzhetka**	**2.37**	**359**	*i*P		**Pn**	**02 09 46.9**	**+0.7**
PAU				*i*S		**Sn**	**02 10 12.7**	**-1.3**
PAU	**Pauzhetka**	**2.37**	**359**	*e*P		**Pn**	**02 09 47.0**	**+0.7**
PAU				*e*S		**Sn**	**02 10 13.5**	**-0.5**
PAU					A	A	02 10 14.7	
	comp=Z,2µm,0.3s							
ASAK	**Asacha**	**3.35**	**11**	*e*P		**Pn**	**02 10 01.8**	**+2.0**
ASAK				*e*S		**Sn**	**02 10 38.5**	**+0.2**
MTVR	**Mutnovka**	**3.48**	**13**	*e*P		**Pn**	**02 10 03.7**	**+2.0**
MTVR				*e*S		**Sn**	**02 10 40.8**	**-1.0**
RUS	**Russkaya**	**3.49**	**17**	PN		**Pn**	**02 10 02.9**	**+1.2**
RUS	**Russkaya**	**3.49**	**17**	*e*P		**Pn**	**02 10 02.9**	**+1.2**
RUS				*e*S		**Sn**	**02 10 40.1**	**-1.7**
RUS	**Russkaya**	**3.49**	**17**	*e*P		**Pn**	**02 10 02.9**	**+1.2**
GRL	**Gorelyy**	**3.54**	**12**	*e*P		**Pn**	**02 10 04.6**	**+2.2**
GRL				*e*S		**Sn**	**02 10 42.8**	**-0.2**
APC	**Apacha**	**3.83**	**3**	P		**Pn**	**02 10 08.2**	**+1.9**
APC				S		**Sn**	**02 10 49.2**	**-0.9**
PET	**Petropavlovsk**	**4.08**	**15**	PN		**Pn**	**02 10 11.8**	**+2.0**
PET	**Petropavlovsk**	**4.08**	**15**	*e*P		**Pn**	**02 10 11.8**	**+2.0**
PET				*e*S		**Sn**	**02 10 55.3**	**-1.0**
PET	**Petropavlovsk**	**4.08**	**15**	*e*P		**Pn**	**02 10 11.6**	**+1.8**
PET					AMB	AMB	02 10 12.2	
	comp=Z,255nm,0.5s							
PET				*e*S		**Sn**	**02 10 56.9**	**+0.6**
PET					A	A	02 10 59.1	
	comp=Z,770nm,0.5s							
PET					A	A	02 10 59.1	
	comp=Z,900nm,0.5s							
UGLR	**Uglovaya**	**4.29**	**16**	*e*P		**Pn**	**02 10 15.2**	**+2.4**
UGLR				S		**Sn**	**02 11 01.1**	**-0.5**
AVH	**Avacha**	**4.33**	**15**	*e*P		**Pn**	**02 10 16.2**	**+2.9**
AVH				*e*S		**Sn**	**02 11 03.0**	**+0.5**
KOK	**Koryaka**	**4.34**	**14**	*e*P		**Pn**	**02 10 16.5**	**+3.1**
KOK				*e*S		**Sn**	**02 11 03.2**	**+0.4**
SMAR	**Somma**	**4.34**	**16**	*e*P		**Pn**	**02 10 15.8**	**+2.3**
NLC	**Nalytchevo**	**4.36**	**20**	PN		**Pn**	**02 10 14.6**	**+1.0**
NLC	**Nalytchevo**	**4.36**	**20**	*e*P		**Pn**	**02 10 14.6**	**+1.0**
NLC				*e*S		**Sn**	**02 11 00.4**	**-2.7**
NLC	**Nalytchevo**	**4.36**	**20**	*e*P		**Pn**	**02 10 14.6**	**+1.0**
SDLR	**Sedlovina**	**4.37**	**16**	*e*P		**Pn**	**02 10 15.8**	**+2.0**
SDLR				S		**Sn**	**02 11 02.1**	**-1.4**
KRER	**Koryakskii**	**4.37**	**15**	*e*P		**Pn**	**02 10 16.7**	**+2.8**
KRER				*e*S		**Sn**	**02 11 03.5**	**-0.2**
KRX	**Arik**	**4.41**	**14**	*e*P		**Pn**	**02 10 17.2**	**+2.8**
KRX				*e*S		**Sn**	**02 11 05.1**	**+0.6**
GNL	**Ganaly**	**4.65**	**8**	*e*P		**Pn**	**02 10 20.2**	**+2.5**

TUMR	**Tumrok**	**6.51**	**17**	P		**Pn**	**02 10 45.5**	**+2.3**
KBTR	**Krutoberegovo**	**7.98**	**25**	PN		**Pn**	**02 11 02.6**	**-0.7**
KBTR	**Krutoberegovo**	**7.98**	**25**	P		**Pn**	**02 11 02.6**	**-0.7**
BKI	**Bering**	**8.28**	**39**	S		**Sn**	**02 12 35.2**	**-4.4**

*IDC **21** 02:11:11.1±0.6, 13.72N×125.69E, h0km, mb4.2/21, mb1 4.4/22, mb1mx4.3/45, mbtmp4.2/22, ML5.1/1, Error ellipse: s-maj=20.8km s-min=14.0km az=72.0*
*ISCJB **21** 02:11:13.7±0.4, 13.77N±0.03×125.44E±0.04, h24km, mb4.2/30, MS4.8/3, Error ellipse: s-maj=5.7km s-min=4.7km az=13.7*
*MAN **21** 02:11:14, 13.79N×125.48E, h37km, mb4.8, ML3.8, MS3.8*
*NEIC **21** 02:11:16.3±0.5, 13.69N×125.59E, h35km, mb4.5/9, Error ellipse: s-maj=12.3km s-min=8.8km az=62.0*

ISC 21 02:11:15.1±0.5, 13.75N±0.05×125.48E±0.07, h24km, n79, σ1§23/79, mb4.3/30, MS4.8/3, 2C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVCP	**Virac**	**1.30**	**264**	⇓*i*P		**Pn**	**02 11 36.3**	**-1.5**
PVCP				*e*S		**Sn**	**02 11 51.7**	**-2.7**
CNP	**Catarman**	**1.46**	**213**	*e*P		**Pn**	**02 11 39.5**	**-0.6**
PLP	**Palo**	**2.61**	**191**	⇓*e*P		**Pn**	**02 11 55.8**	**-0.1**
PLP				*e*S		**Sn**	**02 12 25.1**	**-1.7**
GQP	**Guinayangan**	**2.95**	**273**	⇓*e*P		**Pn**	**02 11 59.9**	**-0.6**
GQP				*e*S		**Sn**	**02 12 35.0**	**-0.2**
RCP	**Roxas**	**3.44**	**231**	⇓*e*P		**Pn**	**02 12 07.6**	**+0.3**
RCP				*e*S		**Sn**	**02 12 47.1**	**-0.2**
BOAC	**Boac**	**3.55**	**266**	*e*P		**Pn**	**02 12 08.9**	**+0.2**
MSLP	**Maasin**	**3.64**	**190**	*e*P		**Pn**	**02 12 10.7**	**+0.7**
LQP	**Lukban**	**3.84**	**276**	⇑*e*P		**Pn**	**02 12 12.4**	**-0.6**
SCPH	**Surigao**	**3.94**	**180**	*e*P		Pb	02 12 30.7	+6.8
SCPH				*e*S		Sn	02 12 51.2	-8.4
BALP	**Baler**	**4.27**	**298**	*e*P		Pn	02 12 15.5	-3.1
PALP	**Palanan**	**4.42**	**319**	⇓*e*P		**Pn**	**02 12 19.2**	**-1.6**
PALP				*e*S		Sn	02 13 05.8	-5.7
TGY	**Tagaytay City**	**4.43**	**275**	Pn		**Pn**	**02 12 21.0**	**+0.1**
TGY	**Tagaytay City**	**4.43**	**275**	Pn		**Pn**	**02 12 21.0**	**+0.1**
	85nm,0.3s,baz=141,slow=7.5,SNR=8.0							
PCPH	**Palayan**	**4.61**	**294**	⇑*e*P		Pn	02 12 20.4	-3.0
PCPH				*e*S		Sn	02 13 08.6	-7.6
CAUP	**Cauayan**	**4.75**	**312**	*e*P		**Pn**	**02 12 24.8**	**-0.5**
CVP	**Callao Caves**	**5.28**	**319**	*e*P		**Pn**	**02 12 31.8**	**-0.8**
CVP				*e*S		**Sn**	**02 13 28.9**	**-3.8**
APYP	**Conner**	**5.78**	**316**	*e*P		**Pn**	**02 12 39.2**	**-0.2**
ABRA	**Dolores**	**6.01**	**311**	*e*P		**Pn**	**02 12 42.7**	**+0.1**
SZP	**Santa**	**6.14**	**309**	*e*Pn		**Pn**	**02 12 43.9**	**-0.5**
	131nm,0.6s							
SZP				*e*S		**Sn**	**02 13 53.0**	**-1.0**
SSLB	**Suanglung**	**10.87**	**337**	*e*Pn		**Pn**	**02 13 50.8**	**+1.5**
SSLB				*e*S		Sn	02 15 33.5	-17
YHNB	**Yeheng**	**11.54**	**341**	*e*Pn		**Pn**	**02 14 00.1**	**+1.6**
KSAR	**Wonju Array Be**	**23.70**	**5**	P		P	**02 16 24.2**	**-0.9**
KSRS	**Korea Array**	**23.71**	**5**	P		P	**02 16 24.2**	**-1.0**
	8.0nm,0.9s,baz=178,slow=11,SNR=13							
MJAR	**Matsushiro Arr**	**25.41**	**24**	P		P	**02 16 38.4**	**-2.4**
MJAR	**Matsushiro Arr**	**25.41**	**24**	P		P	**02 16 38.4**	**-2.4**
	1.0nm,0.6s,baz=193,slow=9.4,SNR=3.3							
CMAR	**Chiang Mai Arr**	**25.91**	**284**	P		P	**02 16 45.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**25.91**	**284**	P		P	**02 16 45.8**	**+0.1**
	11nm,0.8s,baz=96,slow=7.8,SNR=44							
CHTO	**Chiang Mai**	**25.95**	**285**	*e*P		P	**02 16 46.8**	**+0.9**
	3.9nm,0.7s							
USRK	**Ussuriysk Arra**	**30.86**	**9**	P		P	**02 17 29.9**	**+0.5**
	4.9nm,0.7s,baz=185,slow=9.5,SNR=9.9							
ERM	**Erimo**	**32.07**	**25**	PFAKE			02 17 50.0	+10
ERM				LR		LR		
	comp=Z,2μm,21.7s							
COEN	**Coen**	**32.63**	**147**	PFAKE			02 18 00.0	+15
COEN				LR		LR		
	comp=Z,5μm,18.0s							
ASAJ	**Asahikawa**	**33.62**	**23**	PFAKE			02 18 10.0	+16
ASAJ				LR		LR		
	comp=Z,500nm,20.8s							
WRA	**Warramunga Arr**	**34.59**	**165**	P		P	**02 17 59.6**	**-2.7**
WRA	**Warramunga Arr**	**34.59**	**165**	P		P	**02 17 59.6**	**-2.7**
	comp=Z,1.6nm,0.7s,baz=341,slow=9.7,SNR=6.7							
ULN	**Ulaanbaatar**	**37.31**	**339**	P		P	**02 18 26.1**	**+0.5**
	comp=Z,6.9nm,1.0s							
SONM	**Songino Array**	**37.52**	**339**	P		P	**02 18 28.0**	**+0.7**
SONM	**Songino Array**	**37.52**	**339**	P		P	**02 18 28.0**	**+0.7**
	comp=Z,5.5nm,1.0s,baz=160,slow=9.2,SNR=17							
ASAR	**Alice Springs**	**38.08**	**167**	P		P	**02 18 31.6**	**-0.5**
ASAR	**Alice Springs**	**38.08**	**167**	P		P	**02 18 31.6**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=335,slow=6.7,SNR=12							
STKA	**Stephens Creek**	**47.92**	**161**	P		P	**02 19 51.2**	**-0.5**
STKA	**Stephens Creek**	**47.92**	**161**	P		P	**02 19 51.2**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=341,slow=8.3,SNR=10							
MK31	**Makanchi Array**	**48.83**	**321**	*e*P		P	**02 19 59.3**	**+0.7**
MKAR	**Makanchi Array**	**48.83**	**321**	P		P	**02 19 59.4**	**+0.8**
MKAR	**Makanchi Array**	**48.83**	**321**	P		P	**02 19 59.4**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=113,slow=8.9,SNR=30							
ZALV	**Zalesovo Beam**	**51.23**	**330**	P		P	**02 20 16.4**	**-0.3**
ZALV	**Zalesovo Beam**	**51.23**	**330**	P		P	**02 20 16.4**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=114,slow=6.6,SNR=8.8							
KZA	**Kyzart**	**51.66**	**313**	P		P	**02 20 22.4**	**+1.8**
	SNR=7.5							
TKM2	**Tokmak 2**	**51.67**	**314**	P		P	**02 20 21.6**	**+1.1**
	SNR=5.9							
TKM2	**Tokmak 2**	**51.67**	**314**	*e*P		P	**02 20 21.5**	**+1.0**
	comp=Z,9.8nm,1.4s							
KBK	**Karagaybulak**	**52.05**	**314**	P		P	**02 20 24.7**	**+1.5**
	SNR=5.8							
UCH	**Uchtor**	**52.22**	**313**	P		P	**02 20 26.5**	**+1.7**
	SNR=7.9							
AAK	**Ala-Archa**	**52.36**	**314**	P		P	**02 20 26.9**	**+1.4**
AAK	**Ala-Archa**	**52.36**	**314**	P		P	**02 20 26.9**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=137,slow=10,SNR=5.4							
USP	**Ospenovka**	**52.55**	**314**	P		P	**02 20 27.7**	**+1.0**
	SNR=8.5							
KURK	**Kurchatov**	**52.80**	**324**	*e*P		P	**02 20 28.9**	**+0.5**
	comp=Z,8.0nm,0.8s							
KURBB	**Kurchatov Arra**	**52.80**	**324**	P		P	**02 20 29.1**	**+0.6**
	comp=Z,10nm,0.9s,baz=121,slow=7.6,SNR=34							
EKS2	**Erkin-Say**	**52.87**	**313**	*e*P		P	**02 20 30.6**	**+1.3**
	comp=Z,6.1nm,0.9s							
KKAR	**Karatay Array**	**55.30**	**313**	*e*P		P	**02 20 47.4**	**+0.5**
	comp=Z,1.9nm,0.6s							
BVAR	**Borovoye Array**	**58.40**	**324**	P		P	**02 21 08.8**	**+0.2**
BVAR	**Borovoye Array**	**58.40**	**324**	P		P	**02 21 08.8**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=124,slow=7.5,SNR=19							
BRVK	**Borovoye**	**58.47**	**324**	*e*P		P	**02 21 09.8**	**+0.7**
	comp=Z,13nm,0.9s							
ABKAR	**Akbulak array**	**63.77**	**318**	*e*P		P	**02 21 45.1**	**0.0**
	comp=Z,1.7nm,0.6s							
ARU	**Arti**	**65.92**	**326**	*e*P		P	**02 21 58.4**	**-0.6**
	comp=Z,3.0nm,0.6s							
KBZ	**Khabaz**	**75.31**	**312**	P		P	**02 22 57.7**	**+1.2**
KBZ	**Khabaz**	**75.31**	**312**	P		P	**02 22 57.7**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=124,slow=3.6,SNR=4.3							
ILAR	**Eielson Array**	**76.67**	**26**	P		P	**02 23 03.2**	**-0.6**
ILAR	**Eielson Array**	**76.67**	**26**	P		P	**02 23 03.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=232,slow=5.7,SNR=17							
ARCES	**ARCESS Array B**	**80.69**	**339**	P		P	**02 23 27.0**	**+1.2**
ARCES	**ARCESS Array B**	**80.69**	**339**	P		P	**02 23 27.0**	**+1.2**
	comp=Z,5.9nm,1.0s,baz=74,slow=6.7,SNR=3.5							
INK	**Inuvik**	**81.36**	**22**	P		P	**02 23 29.4**	**0.0**
INK	**Inuvik**	**81.36**	**22**	P		P	**02 23 29.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=254,slow=4.1,SNR=6.2							
FINES	**FINESS Array B**	**82.49**	**331**	P		P	**02 23 36.6**	**+1.1**
FINES	**FINESS Array B**	**82.49**	**331**	P		P	**02 23 36.6**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=190,slow=5.6,SNR=4.1							
BRTR	**Keskin Array B**	**82.75**	**309**	P		P	**02 23 39.4**	**+1.8**
BRTR	**Keskin Array B**	**82.75**	**309**	P		P	**02 23 39.4**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=64,slow=9.8,SNR=2.8							
AKASG	**Malin Array Be**	**83.40**	**320**	P		P	**02 23 42.3**	**+1.8**
AKASG	**Malin Array Be**	**83.40**	**320**	P		P	**02 23 42.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=60,slow=5.6,SNR=2.3							
YKA	**Yellowknife Ar**	**90.91**	**24**	P		P	**02 24 15.4**	**-1.2**
YKA	**Yellowknife Ar**	**90.91**	**24**	P		P	**02 24 15.4**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=298,slow=4.4,SNR=5.3							

*ISCJB **21** 02:15:21.3±1.2, 9.5S±0.4×157.7E±0.1, h24km, mb3.6/3, Error ellipse: s-maj=51.8km s-min=17.1km az=167.8*
*IDC **21** 02:15:24.5±4.1, 8.88S×156.58E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.7/3, Error ellipse: s-maj=118.5km s-min=42.4km az=120.0*

ISC 21 02:15:22.7±1.3, 9.14S±0.4×157.61E±0.09, h24km, n4, σ1§32/5, mb3.7/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.31**	**90**	*e*P		**Pn**	**02 15 58.0**	**-1.2**
HNR				*i* S		**Sb**	**02 16 33.0**	**+1.3**
WRA	**Warramunga Arr**	**24.79**	**242**	P		**P**	**02 20 43.0**	**0.0**
	3.2nm,0.6s,baz=67,slow=9.4,SNR=12							
ASAR	**Alice Springs**	**26.71**	**235**	P		**P**	**02 21 00.9**	**+0.4**
	0.5nm,0.7s,baz=57,slow=9.0,SNR=3.1							
MKAR	**Makanchi Array**	**86.93**	**318**	P		**P**	**02 28 06.2**	**+0.3**
	0.3nm,0.6s,baz=101,slow=6.9,SNR=3.6							

IDC 21 03:25:41.4±6.0, 6.37S×148.92E, h69km±61km, mb3.2/2, mb1 3.5/4, mb1mx3.2/33, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=123.3km s-min=38.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.48**	**210**	P		Pn	03 26 33.8	+0.6
	6.6nm,0.3s,baz=16,slow=7.4,SNR=12							
PMG				S		Sn	03 27 13.8	+0.5
	15nm,0.3s,baz=125,slow=20,SNR=8.8							
WRA	**Warramunga Arr**	**19.56**	**225**	P		P	03 30 03.8	0.0
	0.2nm,0.3s,baz=51,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**22.45**	**218**	P		P	03 30 35.1	+0.1
	0.5nm,0.4s,baz=50,slow=11,SNR=6.4							
ILAR	**Eielson Array**	**85.08**	**23**	P		P	03 38 09.3	-0.1
	0.9nm,1.1s,baz=248,slow=4.8,SNR=3.2							

IDC 21 03:31:22.8±3.2, 11.85S×165.25E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/31, mbtmp3.7/5, Error ellipse: s-maj=157.4km s-min=27.3km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.75**	**251**	P		P	03 37 40.9	+0.7
	0.3nm,0.8s,baz=79,slow=8.1,SNR=2.6							
ASAR	**Alice Springs**	**32.00**	**244**	P		P	03 37 50.6	-0.6
	0.4nm,0.7s,baz=74,slow=9.3,SNR=5.1							
ILAR	**Eielson Array**	**84.42**	**19**	P		P	03 43 57.9	+1.0
	0.9nm,0.8s,baz=221,slow=5.7,SNR=8.0							
MKAR	**Makanchi Array**	**93.77**	**317**	P		P	03 44 40.9	-1.0
	0.4nm,0.7s,baz=96,slow=6.2,SNR=4.0							
YKA	**Yellowknife Ar**	**95.91**	**27**	P		P	03 44 50.3	-0.9
	0.2nm,0.5s,baz=260,slow=4.7,SNR=9.6							

*ISCJB **21** 03:49:37.9±0.6, 7.44S±0.09×127.57E±0.08, h100km, mb3.9/5, Error ellipse: s-maj=14.7km s-min=7.6km az=40.6*
*IDC **21** 03:49:39.9±0.8, 7.51S×127.64E, h106km±6km, mb3.8/5, mb1 4.0/6, mb1mx3.7/29, mbtmp4.3/6, Error ellipse: s-maj=46.5km s-min=14.7km az=59.0*

ISC 21 03:49:39.5±0.7, 7.58S±0.08×127.54E±0.09, h100km, n23, σ2§01/28, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**3.89**	**236**	P		Pn	03 50 46.0	+8.7
	baz=4.1,SNR=11							
SOEI				S		Sn	03 51 32.6	+10
	baz=4.1,SNR=8.3							
MTN	**Manton Dam**	**6.32**	**146**	P		**Pn**	**03 51 12.7**	**+2.5**
	baz=5.7,SNR=135							
FAKI	**Fak Fak**	**6.59**	**46**	P		Pn	03 51 19.2	+5.2
	baz=6.6,SNR=4.3							
KDU	**Kakadu**	**7.03**	**137**	P		**Pn**	**03 51 21.1**	**+1.3**
	baz=6.4,SNR=254							
KDU				S		**Sn**	**03 52 33.9**	**-4.3**
	baz=6.4,SNR=7.2							
KNRA	**Kununurra**	**8.14**	**172**	P		**Pn**	**03 51 36.9**	**+2.0**
	baz=7.7,SNR=99							
KNRA				S		**Sn**	**03 53 01.2**	**-4.1**
	baz=7.7,SNR=23							
WRA	**Warramunga Arr**	**13.95**	**152**	P		**Pn**	**03 52 50.4**	**-2.5**
	5.7nm,0.3s,baz=326,slow=13,SNR=135							
WRA				S		Sn	03 55 15.7	-11
	7.6nm,0.3s,baz=331,slow=23,SNR=9.3							
COEN	**Coen**	**16.61**	**114**	P		**P**	**03 53 27.9**	**+0.6**
	baz=16,SNR=13							
COEN				S		Sn	03 56 20.4	-11
	baz=16,SNR=4.3							
ASAR	**Alice Springs**	**17.12**	**160**	P		**P**	**03 53 33.1**	**+0.2**
	3.5nm,0.3s,baz=339,slow=11,SNR=108							
ASAR				pP		**pP**	**03 53 54.1**	**+2.6**
	1.5nm,0.3s,baz=335,slow=9.2,SNR=3.5							
ASAR				S		Sn	03 56 32.9	-10
	3.7nm,0.3s,baz=313,slow=15,SNR=8.5							
WRKA	**Warakurna**	**17.38**	**178**	P		**Pn**	**03 53 37.8**	**+2.0**
	baz=17,SNR=40							
QIS	**Mount Isa**	**17.40**	**139**	P		**Pn**	**03 53 36.4**	**+0.2**
	baz=17,SNR=19							
CISI	**Cisompet, Garu**	**19.55**	**269**	S		**S**	**03 57 31.6**	**-3.6**
	baz=20,SNR=5.3							
MEEK	**Meekatharra**	**20.76**	**203**	P		Pn	03 54 17.6	+1.7
	baz=21,SNR=6.2							
MEEK				S		**S**	**03 58 01.7**	**+2.8**
	baz=21,SNR=3.7							
QLP	**Quilpie**	**24.68**	**142**	P		**P**	**03 54 52.5**	**+1.3**
	baz=24,SNR=4.7							
BBOO	**Buckleboo**	**26.32**	**164**	P		**P**	**03 55 06.8**	**+0.7**
	baz=26,SNR=11							
STKA	**Stephens Creek**	**27.50**	**153**	P		**P**	**03 55 16.1**	**-0.5**
	1.8nm,0.5s,baz=345,slow=16,SNR=6.5							
STKA				pP		**pP**	**03 55 39.4**	**+0.5**
	3.5nm,0.8s,baz=312,slow=13,SNR=3.1							
PSI	**Prapat**	**30.35**	**289**	P		**P**	**03 55 42.4**	**+0.1**
	2.2nm,0.5s,baz=104,slow=2.5,SNR=7.1							
ARPS	**Mount Arapiles**	**31.84**	**158**	P		**P**	**03 55 56.0**	**+1.0**
	baz=31,SNR=10.0							
SONM	**Songino Array**	**58.26**	**343**	P		**P**	**03 59 23.4**	**-0.3**
	0.5nm,0.5s,baz=172,slow=6.2,SNR=5.3							
MKAR	**Makanchi Array**	**67.40**	**328**	P		**P**	**04 00 24.5**	**+0.2**
	0.5nm,0.4s,baz=133,slow=7.5,SNR=10							
MKAR				pP		**PcP**	**04 00 50.1**	**-1.0**
	0.4nm,0.4s,baz=124,slow=6.8,SNR=4.0							
MKAR				sP		**sP**	**04 01 02.8**	**+2.4**
	0.8nm,0.7s,baz=141,slow=7.8,SNR=3.9							
ZALV	**Zalesovo Beam**	**71.04**	**335**	P		**P**	**04 00 45.5**	**-1.1**
	1.0nm,0.4s,baz=108,slow=4.8,SNR=6.6							
CPUP	**Villa Florida**	**145.96**	**172**	PKPbc		**PKPbc**	**04 09 07.7**	**-0.7**
	1.0nm,0.4s,baz=38,slow=1.9,SNR=5.9							
JTS	**JuntasAbangare**	**147.80**	**83**	PKPbc		**PKPbc**	**04 09 12.5**	**-1.5**
	3.4nm,0.7s,baz=327,slow=18,SNR=5.2							
LPAZ	**La Paz**	**151.66**	**147**	PKPbc		**PKPbc**	**04 09 23.1**	**-1.0**
	0.9nm,0.5s,baz=150,slow=1.4,SNR=5.4							
LPAZ				PKPab		**PKPab**	**04 09 33.2**	**+0.3**
	4.1nm,0.6s,baz=212,slow=2.6,SNR=16							

*IDC **21** 03:50:20.5±6.6, 34.15S×179.14W, h84km±57km, mb4.2/4, mb1 4.3/5, mb1mx3.9/29, mbtmp4.5/5, ML4.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/32, Error ellipse: s-maj=47.7km s-min=37.2km az=14.0*

ISC 21 03:50:21.8±1.0, 34.3S±0.1×179.3W±0.2, h100km, n42, σ1§90/44, mb4.4/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.83**	**210**	PN		**Pn**	**03 51 20.6**	**+1.9**
MXZ				eSN		**Sn**	**03 52 04.3**	**+1.5**
HAZ	**Te Kaha**	**4.22**	**213**	PN		**Pn**	**03 51 26.7**	**+2.8**
PUZ	**Puketiti**	**4.30**	**207**	PN		**Pn**	**03 51 27.1**	**+2.1**
CNGZ	**Carnagh Station**	**4.68**	**205**	*e*PN		**Pn**	**03 51 32.4**	**+2.3**
MWZ	**Matawai**	**4.81**	**211**	PN		**Pn**	**03 51 33.3**	**+1.3**
URZ	**Urewera**	**4.94**	**215**	P		**Pn**	**03 51 34.8**	**+1.1**
	13nm,0.3s,baz=340,slow=2.4,SNR=83							
URZ				S		**Sn**	**03 52 32.3**	**+2.7**
	16nm,0.3s,baz=160,slow=22,SNR=12							
URZ	**Urewera**	**4.94**	**215**	*e*PN		**Pn**	**03 51 34.7**	**+1.0**
URZ				SN		**Sn**	**03 52 30.0**	**+0.4**
RIGZ	**Rimuhau**	**5.04**	**207**	*e*PN		**Pn**	**03 51 36.9**	**+1.9**
RIGZ				*e*SN		**Sn**	**03 52 33.6**	**+1.5**
SNGZ	**Shannon Statio**	**5.27**	**210**	*e*PN		**Pn**	**03 51 39.9**	**+1.7**
KNZ	**Kokohu**	**5.35**	**206**	PN		**Pn**	**03 51 39.5**	**+0.4**
BKZ	**Black Stump Fm**	**5.96**	**213**	*e*PN		**Pn**	**03 51 48.2**	**+0.6**
KAHZ	**Kahuranaki**	**6.32**	**208**	*e*PN		**Pn**	**03 51 53.0**	**+0.5**
PXZ	**Pawanui**	**6.53**	**207**	*e*PN		**Pn**	**03 51 54.7**	**-0.6**
PXZ				*e*SN		**Sn**	**03 53 06.0**	**-2.3**
TSZ	**Takapari Road**	**6.92**	**212**	PN		**Pn**	**03 51 59.2**	**-1.4**
MRZ	**Mangatainoka R**	**7.58**	**211**	PN		**Pn**	**03 52 07.8**	**-1.8**
MRZ				SN		**Sn**	**03 53 30.3**	**-3.6**

TMWZ	**Te Maipa**	**7.83**	**208**	*e*PN		**Pn**	**03 52 11.9**	**-1.1**
KIW	**Kapiti Island**	**8.04**	**213**	*e*PN		**Pn**	**03 52 13.5**	**-2.3**
TCW	**Tory Channel**	**8.61**	**214**	*e*PN		**Pn**	**03 52 20.8**	**-2.7**
TCW				*e*SN		Sn	03 53 54.5	-4.4
NNZ	**Nelson**	**9.05**	**218**	*e*PN		**Pn**	**03 52 27.0**	**-2.6**
NNZ				SN		**Sn**	**03 54 06.4**	**-3.2**
THZ	**Tophouse**	**9.70**	**217**	*e*PN		**Pn**	**03 52 35.8**	**-2.5**
CTZ	**Chatham Island**	**9.70**	**168**	*e*PN		Pn	03 52 44.2	+5.9
KHZ	**Kahutara**	**9.90**	**212**	*e*PN		**Pn**	**03 52 39.7**	**-1.4**
LTZ	**Lake Taylor**	**10.77**	**215**	*e*SN		Sn	03 54 43.8	-7.7
OXZ	**Oxford**	**11.30**	**214**	*e*SN		Sn	03 54 54.6	-10
MQZ	**McQueen's Vall**	**11.32**	**211**	*e*SN		Sn	03 54 55.2	-10
DZM	**Mont Dzumac**	**17.44**	**310**	LR		LR	03 59 14.7	
	comp=Z,223nm,19.2s,baz=161,slow=31							
STKA	**Stephens Creek**	**32.72**	**263**	P		P	**03 56 47.4**	**+2.5**
	3.4nm,0.7s,baz=74,slow=6.0,SNR=2.1							
CTA	**Charters Tower**	**33.55**	**286**	P		P	**03 56 53.9**	**+1.6**
	6.3nm,0.8s,baz=118,slow=5.6,SNR=4.1							
WRA	**Warramunga Arr**	**43.30**	**277**	P		P	**03 58 13.9**	**0.0**
	2.0nm,0.3s,baz=117,slow=8.0,SNR=3.8							
PETK	**Petropavlovsk-**	**89.27**	**346**	P		P	**04 03 05.2**	**-0.9**
	4.3nm,0.7s,baz=160,slow=4.6,SNR=3.4							
MKAR	**Makanchi Array**	**119.36**	**309**	PKP		**PKPdf**	**04 08 59.1**	**0.0**
	0.4nm,0.7s,baz=75,slow=1.4,SNR=4.7							
ZALV	**Zalesovo Beam**	**120.13**	**317**	PKP		**PKPdf**	**04 09 00.8**	**+0.6**
	0.7nm,0.5s,baz=35,slow=5.3,SNR=2.9							
ARCES	**ARCESS Array B**	**142.08**	**346**	PKP		**PKPdf**	**04 09 39.8**	**-1.4**
	1.9nm,0.7s,baz=31,slow=2.1,SNR=8.9							
JOF	**Joensuu**	**145.52**	**336**	*e*p		**PKPab**	**04 09 47.5**	**-0.5**
KBZ	**Khabaz**	**146.17**	**299**	PKPbc		**PKPab**	**04 09 51.0**	**0.0**
	2.3nm,0.8s,baz=111,slow=6.4,SNR=6.3							
KAF	**Kangasniemi**	**147.74**	**338**	*e*p		**PKPab**	**04 09 53.7**	**-3.0**
FINES	**FINESS Array B**	**148.31**	**337**	PKPbc		**PKPab**	**04 09 55.8**	**-3.1**
	2.3nm,0.6s,baz=52,slow=3.3,SNR=27							
NB2	**NORSAR Subarra**	**152.34**	**349**	PKP		**PKPbc**	**04 10 07.5**	**+2.2**
	comp=Z,3.0nm,0.6s,baz=13,slow=2.5							
NOA	**NORSAR Array B**	**152.34**	**349**	PKPbc		**PKPbc**	**04 10 07.2**	**+1.9**
	comp=Z,2.2nm,0.6s,baz=24,slow=4.5,SNR=13							
HFS	**Hagfors**	**152.74**	**346**	PKPbc		**PKPbc**	**04 10 06.5**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=96,slow=3.0,SNR=16							
BRTR	**Keskin Array B**	**153.22**	**291**	PKPbc		**PKPbc**	**04 10 07.1**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=142,slow=6.9,SNR=12							
AKASG	**Malin Array Be**	**153.53**	**317**	PKPbc		**PKPbc**	**04 10 08.2**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=71,slow=2.1,SNR=13							

*IDC **21** 04:08:35.1±7.6, 16.56N×98.48W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.5/39, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=134.6km s-min=114.2km az=39.0*
*MEX **21** 04:08:46.5±0.5, 17.07N×101.10W, h20km±22km, MD4.1*

ISC 21 04:08:43.3±3.8, 17.16N±0.08×101.12W±0.05, h15km±25km, n12, σ0§81/17, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.55**	**324**	*i* P		**Pn**	**04 08 56.8**	**+0.1**
ZIIG				*e*S		**Sn**	**04 09 05.1**	**-0.5**
**ARIG

0.8nm,0.9s,baz=111,slow=6.8,SNR=5.6
ZALV Zalesovo Beam 60.56 336 P **P** **04 27 51.2 -0.1**
0.3nm,0.3s,baz=117,slow=8.3,SNR=3.8

IDC 21 04:35:09.2±1.7,7°69S×125°36E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.5/37,mbtmp3.8/3,ML3.9/1,Error ellipse: s-maj=520.1km s-min=27.8km az=61.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.97**	**145**	Pn	Pn	04 38 37.2	-5.1
	0.3nm,0.3s,baz=326,slow=13,SNR=15						
WRA				Sn	Sn	04 41 16.4	-13
	0.1nm,0.3s,baz=327,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**17.88**	**154**	P	Pn	04 39 18.6	-1.0
	0.4nm,0.3s,baz=334,slow=12,SNR=15						
STKA	**Stephens Creek**	**28.42**	**150**	P	P	04 41 06.1	+0.4
	1.4nm,0.4s,baz=332,slow=8.4,SNR=7.2						
MKAR	**Makanchi Array**	**66.37**	**329**	P	P	04 45 59.9	-0.1
	0.2nm,0.5s,baz=133,slow=7.2,SNR=4.8						

*MOS **21** 04:36:22.9±0.8,36°33N×70°89E,h168km,mb4.3/9,Error ellipse: s-maj=14.8km s-min=5.9km az=85.2*
*IDC **21** 04:36:23.4±4.1,36°36N×70°98E,h156km±34km,mb3.6/13, mb1 3.7/18,mb1mx3.4/53,mbtmp4.0/18,Error ellipse: s-maj=29.4km s-min=14.8km az=24.0*
*ISCJB **21** 04:36:25.8±0.3,36°52N±0°02×71°05E±0°05,h188km, mb3.8/13,Error ellipse: s-maj=6.4km s-min=2.7km az=158.7*
*NNC **21** 04:36:33.1±3.3,37°09N×70°81E,h188km±31km,mb3.3, mpv4.3,Error ellipse: s-maj=27.6km s-min=20.0km az=27.0*

ISC 21 04:36:26.6±0.5,36°57N±0°04×71°12E±0°06,h188km,n83, σ1§56/101,mb3.9/13,10C-10D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**166**	⇑P	Pn	**04 37 14.2**	**+0.5**
CEP				S	Sn	**04 37 49.0**	**-1.3**
CHCP	**Chirah Chowk**	**3.40**	**148**	⇑P	Pn	**04 37 21.9**	**+1.3**
CHCP				S	Sn	**04 38 03.0**	**+0.3**
THW	**Thamme Wali**	**3.81**	**172**	⇓P	Pn	**04 37 25.5**	**-0.1**
THW				S	Sn	**04 38 10.0**	**-1.8**
SARP	**Sargodha**	**4.81**	**164**	P	Pn	**04 37 37.9**	**-0.5**
SARP				S	Sn	**04 38 31.0**	**-3.8**
KSH	**Kashi**	**4.83**	**51**	Pn	Pn	**04 37 36.6**	**-2.0**
KSH				Sn	Sn	04 38 28.6	-6.6
KSH				smax	smax		
	comp=N,150nm,0.6s						
KSH				smax	smax		
	comp=E,110nm,0.4s						
DLH	**Dalhousie**	**5.67**	**134**	*eP*	Pn	**04 37 49.0**	**-0.7**
DLH				*eS*	Sn	**04 38 52.0**	**-3.1**
AML	**Almayashu**	**5.90**	**19**	*i* PN	Pn	**04 37 53.5**	**+0.8**
AML	**Almayashu**	**5.90**	**19**	P	Pn	**04 37 53.5**	**+0.8**
	SNR=213						
DHRM	**DHARAMSHALA**	**6.08**	**134**	*eP*	Pn	**04 37 56.0**	**+1.0**
DHRM				*eS*	Sn	**04 39 03.0**	**-1.6**
DHRM				AML	AML	04 39 05.1	
	comp=N,368nm,0.3s						
DHRM				AML	AML	04 39 08.5	
	comp=E,445nm,0.9s						
UCH	**Uchtor**	**6.23**	**24**	*i* PN	Pn	**04 37 57.8**	**+0.8**
UCH	**Uchtor**	**6.23**	**24**	P	Pn	**04 37 57.9**	**+0.8**
	SNR=36						
KZA	**Kyzart**	**6.36**	**29**	*i* PN	Pn	**04 37 59.4**	**+0.7**
KZA	**Kyzart**	**6.36**	**29**	P	Pn	**04 37 59.4**	**+0.7**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.42**	**18**	*i* PN	Pn	**04 38 00.3**	**+1.1**
EKS2	**Erkin-Say**	**6.42**	**18**	P	Pn	**04 38 00.4**	**+1.1**
	SNR=18						
KK31	**Karatay Array**	**6.54**	**356**	⇓P	Pn	**04 38 00.5**	**-0.2**
	comp=E,11nm,0.3s,baz=188,slow=12,SNR=313						
KK31				⇓S	Sn	**04 39 10.2**	**-4.9**
	comp=E,17nm,0.4s						
KK31	**Karatay Array**	**6.54**	**356**	PN	Pn	**04 38 00.5**	**-0.2**
KK31				pmax	pmax		
	comp=Z,18nm,0.3s						
AAK	**Ala-Archa**	**6.59**	**22**	⇓P	Pn	**04 38 02.8**	**+1.4**
	comp=Z,8.6nm,0.4s						
AAK				⇓S	Sn	**04 39 16.2**	**-0.3**
	comp=Z,15nm,0.5s						
AAK	**Ala-Archa**	**6.59**	**22**	⇓*i* PN	Pn	**04 38 02.7**	**+1.2**
AAK	**Ala-Archa**	**6.59**	**22**	P	Pn	**04 38 02.9**	**+1.4**
	SNR=24						
AAK	**Ala-Archa**	**6.59**	**22**	P	Pn	**04 38 02.8**	**+1.4**
	comp=Z,7.2nm,0.3s,baz=168,slow=3.6,SNR=65						
AAK				S	Sn	**04 39 16.3**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=316,slow=20,SNR=12						
KBK	**Karagaybulak**	**6.76**	**25**	*i* PN	Pn	**04 38 05.3**	**+1.7**
KBK	**Karagaybulak**	**6.76**	**25**	P	Pn	**04 38 05.4**	**+1.7**
	SNR=8.8						
CHMS	**Chumysh**	**7.00**	**22**	*i* PN	Pn	**04 38 07.6**	**+0.9**
CHMS	**Chumysh**	**7.00**	**22**	P	Pn	**04 38 07.7**	**+0.9**
	SNR=7.1						
SDNR	**Sundarnagar**	**7.01**	**134**	*eP*	Pn	**04 38 07.0**	**0.0**
SDNR				*eS*	Sn	**04 39 22.0**	**-4.4**
USP	**Ospenovka**	**7.17**	**20**	*i* PN	Pn	**04 38 09.3**	**+0.3**
USP	**Ospenovka**	**7.17**	**20**	P	Pn	**04 38 09.3**	**+0.3**
	SNR=37						
TKM2	**Tokmak 2**	**7.22**	**27**	⇓P	Pn	**04 38 11.2**	**+1.4**
	comp=Z,22nm,0.7s						
TKM2				⇑S	Sn	**04 39 28.6**	**-2.8**
	comp=Z,4.7nm,0.7s						
TKM2	**Tokmak 2**	**7.22**	**27**	*i* PN	Pn	**04 38 10.9**	**+1.2**
TKM2	**Tokmak 2**	**7.22**	**27**	P	Pn	**04 38 11.0**	**+1.2**
	SNR=48						
SMLA	**Simla**	**7.40**	**135**	*eP*	Pn	**04 38 12.2**	**+0.1**
SMLA				*eS*	Sn	**04 39 33.2**	**-2.4**
SMLA				AML	AML	04 39 35.0	
	comp=N,232nm,0.3s						
SMLA				AML	AML	04 39 35.8	
	comp=E,225nm,0.3s						
NDI	**New Delhi**	**9.40**	**145**	*eP*	Pn	**04 38 36.0**	**-2.2**
NDI				*eS*	Sn	04 40 14.0	-9.2
PYUN	**Piuthan**	**13.11**	**127**	*eP*	Pn	**04 39 25.1**	**-1.0**
	comp=E,17nm,0.4s						
MK31	**Makanchi Array**	**13.18**	**36**	P	P	**04 39 30.5**	**+0.6**
	comp=E,1.1nm,0.5s,baz=214,slow=10,SNR=15						
MKAR	**Makanchi Array**	**13.18**	**36**	*i* P	P	**04 39 31.7**	**+1.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**13.18**	**36**	P	P	**04 39 29.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=218,slow=10,SNR=19						
DANN	**Dangsing**	**13.45**	**124**	*eP*	Pn	**04 39 29.8**	**-0.7**
KOLN	**Koldanda**	**13.73**	**126**	*eP*	Pn	**04 39 33.8**	**-0.1**
	comp=Z,10nm,0.3s						
GKN	**Gorkha**	**14.26**	**123**	*eP*	P	**04 39 41.4**	**-0.9**
	comp=Z,45nm,0.4s						
BHPL	**Bhopal**	**14.36**	**156**	*eP*	P	**04 39 43.6**	**+0.3**
BHPL				*ex*	x	04 42 11.8	
DMN	**Daman**	**14.83**	**123**	*eP*	Pn	**04 39 47.4**	**-0.2**
KKN	**Kakani**	**14.84**	**122**	*eP*	P	**04 39 48.6**	**-0.1**
KURBB	**Kurchatov Arra**	**15.02**	**18**	⇑P	P	**04 39 51.7**	**+1.4**
	comp=Z,1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**15.02**	**18**	P	P	**04 39 50.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=211,slow=10,SNR=11						
PKIN	**Phulchoki**	**15.05**	**123**	*eP*	Pn	**04 39 50.0**	**-0.3**
	comp=Z,34nm,0.5s						
PKI	**Pulchoki**	**15.06**	**123**	*eP*	P	**04 39 51.0**	**-0.3**
	comp=Z,76nm,0.6s						
AB31	**Akbulak array**	**15.07**	**331**	⇓P	Pn	**04 39 48.6**	**-1.3**
	comp=Z,2.0nm,0.3s						
AB31				⇑S	S	04 42 26.5	-12
	comp=Z,0.9nm,0.5s,baz=152,slow=24,SNR=4.6						
KURK	**Kurchatov**	**15.13**	**19**	*i* P	P	**04 39 53.1**	**+1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.6s						
GUN	**Gumba**	**15.17**	**121**	*eP*	P	**04 39 52.9**	**+0.3**
JIRN	**Jiri**	**15.54**	**121**	*eP*	P	**04 39 57.1**	**+0.4**
VOSK	**Vostochnaya**	**16.15**	**360**	⇑P	Pn	**04 40 03.6**	**+0.5**
	comp=Z,1.6nm,0.5s						
VOSK				⇑S	S	**04 42 56.4**	**-5.3**
RAMN	**Ramite**	**16.27**	**122**	*eP*	Pn	**04 40 05.8**	**+0.7**
BVAR	**Borovoye Array**	**16.46**	**358**	P	Pn	**04 40 07.0**	**+0.2**
BVAR				S	S	**04 43 07.1**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.46**	**358**	P	Pn	**04 40 07.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=163,slow=10,SNR=9.4						
BVAR				S	S	**04 43 07.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=180,slow=30,SNR=3.6						
BRVK	**Borovoye**	**16.50**	**358**	⇓P	Pn	**04 40 08.2**	**+0.9**
	comp=Z,3.8nm,0.5s						
BRVK	**Borovoye**	**16.50**	**358**	⇓*i* P	Pn	**04 40 08.0**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P	P	**04 40 10.4**	**+0.8**
	comp=Z,8.9nm,0.6s						
AKTO				⇑S	S	**04 43 12.1**	**-2.6**
	comp=Z,3.0nm,0.9s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	P	**04 40 10.4**	**+0.8**
AKTO				S	S	**04 43 11.4**	**-3.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	P	**04 40 10.3**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=139,slow=11,SNR=44						
AKTO				S	S	**04 43 11.3**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=315,slow=20,SNR=3.6						
TAPN	**Taplejung**	**16.80**	**118**	*eP*	Pn	**04 40 13.2**	**+1.8**
	comp=Z,8.7nm,0.3s						
ZALV	**Zalesovo Beam**	**19.81**	**24**	P	P	**04 40 44.3**	**+1.8**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV	**Zalesovo Beam**	**19.81**	**24**	P	P	**04 40 44.3**	**+1.8**
	comp=Z,5.2nm,0.5s,baz=218,slow=13,SNR=21						
ARU	**Arti**	**21.59**	**341**	P	P	**04 41 04.0**	**+2.6**
KBZ	**Khabaz**	**22.65**	**297**	P	P	**04 41 09.9**	**-1.8**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**22.65**	**297**	P	P	**04 41 09.8**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=120,slow=14,SNR=3.6						
AKASG	**Malin Array Be**	**32.97**	**309**	*ceP*	P	**04 42 43.5**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**32.97**	**309**	P	P	**04 42 43.5**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=81,slow=7.3,SNR=17						
JOF	**Joensuu**	**35.85**	**330**	*eP*	P	**04 43 09.1**	**+1.1**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JOF	**Joensuu**	**35.85**	**330**	*ep*	P	**04 43 09.1**	**+1.1**
	comp=Z,4.4nm,0.3s						
FINES	**FINESS Array B**	**37.48**	**326**	P	P	**04 43 22.2**	**+0.6**
	comp=Z,1.7nm,0.4s,baz=120,slow=9.4,SNR=18						
KEV	**Kevo**	**40.77**	**338**	*eP*	P	**04 43 49.9**	**+1.1**
KEV	**Kevo**	**40.77**	**338**	*ep*	P	**04 43 49.9**	**+1.1**
ARCES	**ARCESS Array B**	**41.11**	**338**	P	P	**04 43 52.9**	**+1.2**
	comp=Z,3.9nm,0.6s,baz=114,slow=8.1,SNR=28						
GERES	**GERESS Array B**	**42.97**	**305**	P	P	**04 44 08.3**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=46,slow=2.8,SNR=2.5						
HFS	**Hagfors**	**43.07**	**322**	P	P	**04 44 08.0**	**+0.4**
	comp=Z,4.8nm,0.5s,baz=90,slow=13,SNR=33						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	P	**04 44 17.9**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=98,slow=8.6						
NOA	**NORSAR Array B**	**44.38**	**323**	P	P	**04 44 18.1**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=97,slow=7.9,SNR=14						
SPITS	**Spitsbergen Ar**	**47.44**	**347**	P	P	**04 44 43.0**	**+1.2**
	comp=Z,6.3nm,0.8s,baz=118,slow=16,SNR=4.3						
EKA	**Eskdalemuir Ar**	**52.30**	**316**	P	P	**04 45 18.6**	**0.0**
	comp=Z,1.9nm,1.0s,baz=100,slow=7.8,SNR=3.6						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	P	**04 48 22.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=349,slow=5.4,SNR=19						
WRA	**Warramunga Arr**	**81.95**	**122**	P	P	**04 48 25.6**	**0.0**
	comp=Z,0.5nm,0.9s,baz=325,slow=5.0,SNR=9.3						
ASAR	**Alice Springs**	**84.22**	**125**	P	P	**04 48 37.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=309,slow=5.2,SNR=5.3						

*JSN **21** 04:37:32.3±1.2,18°77N×72°20W,h15km±999km,MD5.2*
*ISCJB **21** 04:37:37.3±0.5,18°47N±0°09×72°86W±0°06,h6km, mb3.8/10,Error ellipse: s-maj=13.1km s-min=8.4km az=169.7*
*IDC **21** 04:37:37.5±0.8,18°44N×72°98W,h0km,mb3.8/10, mb1 4.1/12,mb1mx3.9/41,mbtmp3.8/12,ML2.9/2,Error ellipse: s-maj=23.1km s-min=20.5km az=103.0*

ISC 21 04:37:39.0±0.6,18°5N±0°1×72°85W±0°07,h6km,n19, σ1§62/20,mb3.9/10,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**3.71**	**264**	*i* P	Pn	**04 38 36.5**	**-0.5**
HOJ	**Hope**	**3.73**	**263**	*i* P	Pn	**04 38 37.4**	**+0.2**
STH	**Stony Hill**	**3.78**	**264**	*i* P	Pn	**04 38 37.5**	**-0.5**
STH				*i* S	Sn	**04 39 27.0**	**+4.2**
MCJ	**Malvern**	**4.63**	**264**	*i* P	Pn	**04 38 50.3**	**+0.7**
LZG	**Guadaloupe-1**	**10.84**	**101**	*eP*	Pn	**04 40 16.9**	**+2.0**
ROSC	**El Rosal**	**13.65**	**186**	Pn	Pn	**04 40 52.9**	**-0.7**
	0.5nm,0.3s,baz=96,slow=20,SNR=4.9						
APG	**El Apazote**	**17.22**	**261**	Pn	Pn	**04 41 39.6**	**-0.9**
	0.1nm,0.3s,baz=120,slow=16,SNR=3.0						
TXAR	**Lajitas Array**	**30.07**	**297**	P	P	**04 43 49.5**	**+0.2**
	0.4nm,0.7s,baz=116,slow=8.5,SNR=5.8						
SCHQ	**Schefferville**	**36.55**	**6**	P	P	**04 44 45.9**	**+0.5**
	1.9nm,0.7s,baz=210,slow=14,SNR=3.3						
PDAR	**Pinedale Array**	**39.31**	**316**	P	P	**04 45 09.3**	**+0.2**
	0.5nm,0.8s,baz=105,slow=9.3,SNR=4.0						
YKA	**Yellowknife Ar**	**52.54**	**337**	P	P	**04 46 52.7**	**-0.3**
	1.1nm,0.8s,baz=125,slow=7.4,SNR=22						
PLCA	**Paso Flores**	**58.98**	**178**	P	P	**04 47 38.7**	**-0.8**
	0.7nm,0.6s,baz=357,slow=17,SNR=2.7						
ESDC	**Sonseca Array**	**62.33**	**54**	P	P	**04 48 04.4**	**+1.9**
	1.6nm,0.8s,baz=271,slow=6.1,SNR=6.1						
ILAR	**Eielson Array**	**66.61**	**333**	P	P	**04 48 27.8**	**-2.3**
	0.2nm,0.5s,baz=89,slow=4.3,SNR=5.2						
GERES	**GERESS Array B**	**74.06**	**43**	P	P	**04 49 16.6**	**+0.6**
	1.8nm,0.8s,baz=273,slow=5.2,SNR=12						
ARCES	**ARCESS Array B**	**75.71**	**21**	P	P	**04 49 23.7**	**-1.4**
	2.8nm,0.8s,baz=330,slow=19,SNR=2.8						
MLR	**Muntele Rosu**	**82.98**	**44**	P	P	**04 50 05.9**	**+0.5**
	0.6nm,0.8s,baz=140,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**154.29**	**262**	PKPbc	**PKPbc**	**04 57 38.9**	**-2.1**
	0.4nm,0.7s,baz=88,slow=2.7,SNR=4.3						
ASAR	**Alice Springs**	**154.53**	**254**	PKPbc	**PKPbc**	**04 57 39.6**	**-1.9**
	0.2nm,0.3s,baz=112,slow=2.5,SNR=2.7						

GUC 21 05:02:25.2±0.4,21°99S×68°69W,h118km±3km,ML3.7,7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.55**	**290**	⇑*i* P	Pn	05 02 44.1	+0.6
PB09				*i* S	Sn	05 02 57.9	+0.7
PB09				AML	AML	05 02 59.5	
	comp=E,6μm,0.5s						
PB04	**Plate Boundary**	**0.79**	**249**	⇑*i* P	Pn	05 02 52.1	+7.0
PB04				*i* S	Sn	05 03 12.7	+13
PB04				AML	AML	05 03 17.2	
	comp=N,949nm,0.2s						
MACH	**Maria Elena**	**1.01**	**258**	*i* P	Pn	05 02 48.1	+0.6
MACH				⇑*i* P	Pn	05 02 48.1	+0.6
MACH				*i* S	Sn	05 03 05.4	+1.1
PB06	**Plate Boundary**	**1.09**	**229**	⇑*i* P	Pn	05 02 48.8	+0.7
PB06				*i* S	Sn	05 03 06.5	+0.9
PB06				AML	AML	05 03 08.3	
	comp=E,1μm,0.2s						
PB07	**Plate Boundary**	**1.14**	**283**	⇑*i* P	Pn	05 02 49.5	+0.8
PB07				*i* S	Sn	05 03 07.6	+1.0
PB07				AML	AML	05 03 08.0	
	comp=N,2μm,0.3s						
PB01	**Plate Boundary**	**1.20**	**322**	⇑*i* P	Pn	05 02 49.6	+0.3
PB01				*i* S	Sn	05 03 08.4	+1.0
PB01				AML	AML	05 03 10.8	
	comp=N,884nm,0.2s						
PATCX	**Punta Patache**	**1.79**	**310**	*i* P	Pn	05 02 56.6	+0.6
PATCX				*i* S	Sn	05 03 20.9	+1.3
PATCX				AML	AML	05 03 21.8	
	comp=N,916nm,0.3s						
CEN1	**Los Morros**	**1.97**	**225**	AML	AML	05 03 34.9	
	comp=N,234nm,0.7s						
ANCH	**Antofagasta**	**2.32**	**223**	AML	AML	05 03 39.5	
	comp=E,371nm,0.4s						
PSGC	**Pisagua**	**2.73**	**330**	⇑*i* P	Pn	05 03 07.1	-1.0
PSGC				*i* S	Sn	05 03 40.7	-0.3
PSGC				AML	AML	05 03 51.3	
	comp=N,160nm,0.4s						
MNMC	**Minimini**	**2.96**	**343**	AML	AML	05 03 51.4	
	comp=N,330nm,0.2s						

*ISCJB **21** 05:07:22.6±0.9,69°0N±0°1×17°0W±0°3,h11km,mb3.4/4, MS3.4/3,Error ellipse: s-maj=16.5km s-min=14.8km az=28.0*
*IDC **21** 05:07:23.2±1.4,68°92N×17°05W,h0km,mb3.5/4, mb1 3.9/7,mb1mx3.5/49,mbtmp3.7/7,ML3.5/3,MS3.3/4, Ms1 3.3/4,ms1mx2.7/41,Error ellipse: s-maj=34.1km s-min=24.2km az=30.0*

ISC 21 05:07:24.6±1.0,68°9N±0°1×17°0W±0°1,h11km,n11, σ1§11/7,mb3.4/4,MS3.5/3,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.54**	**204**	Pn	Pn	**05 08 32.9**	**-0.3**
	1.5nm,0.3s,baz=42,slow=7.5,SNR=4.2						
SPITS	**Spitsbergen Ar**	**12.95**	**30**	Pn	Pn	**05 10 27.6**	**-0.6**
	baz=200,slow=9.7,SNR=10						
NOA	**NORSAR Array B**	**14.19**	**110**	Pn	Pn	**05 10 45.5**	**+0.2**
	0.1nm,0.3s,baz=307,slow=14,SNR=2.8						
HFS	**Hagfors**	**15.70**	**109**	LR	LR	05 15 38.4	
	comp=Z,43nm,20.1s,baz=270,slow=32						
GERES	**GERESS Array B**	**25.15**	**127**	P	P	**05 12 49.1**	**-0.4**
	1.1nm,0.8s,baz=334,slow=8.9,SNR=5.5						
AKASG	**Malin Array Be**	**28.54**	**106**	P	P	**05 13 18.6**	**-1.2**
	0.1nm,0.3s,baz=328,slow=9.1,SNR=4.1						
INK	**Inuvik**	**36.33**	**326**	LR	LR	05 30 31.6	
	comp=Z,69nm,18.1s,baz=267,slow=38						
YKA	**Yellowknife Ar**	**36.52**	**309**	P	P	**05 14 29.7**	**+0.4**
	0.3nm,0.9s,baz=45,slow=7.0,SNR=4.5						
KBZ	**Khabaz**	**39.33**	**98**	P	P	**05 14 54.9**	**+1.7**
	2.2nm,0.9s,baz=297,slow=18,SNR=3.6						
IDI	**Anoyia**	**40.87**	**123**	LR	LR	05 32 53.9	
	comp=Z,23nm,18.1s,baz=255,slow=38						
KMBO	**Kilima Mbogo**	**78.89**	**124**	LR	LR	05 58 21.3	
	comp=Z,29nm,18.0s,baz=88,slow=39						

*IDC **21** 05:12:08.7±0.7,1°36N×122°09E,h0km,mb4.3/12, mb1 4.4/12,mb1mx4.1/53,mbtmp4.3/12,MS3.6/13, Ms1 3.7/13,ms1mx3.5/32,Error ellipse: s-maj=42.8km s-min=13.1km az=59.0*
*ISCJB **21** 05:12:13.0±0.2,1°43N±0°03×122°22E±0°03,h33km, mb4.5/34,MS3.7/18,Error ellipse: s-maj=5.3km s-min=3.7km az=152.1*
*DJA **21** 05:12:12.8±0.5,2°N±5°×12°2E±°,h33km,M4.8/15, mb5.1/11,mB5.1/9,MLv5.0/15,Mw(mB)4.4/9*
*BJI **21** 05:12:15.2,1°40N×122°20E,h44km,mB5.0/15,mb4.5/27, Ms4.6/12,Ms7 4.2/13*
*NEIC **21** 05:12:16.8±1.3,1°36N×122°09E,h57km±12km,mb4.7/13, Error ellipse: s-maj=17.4km s-min=6.5km az=56.0*

ISC 21 05:12:15.5±0.4,1°30N±0°04×122°22E±0°05,h35km,n101, σ1§74/105,mb4.6/34,MS3.7/20,2C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.86**	**199**	P	Pn	**05 12 31.9**	**+0.7**
MRSI				S	Sn	**05 12 43.9**	**+1.4**
TOLI	**Toli-Toli**	**1.44**	**263**	P	x	05 12 36.4	
TOLI				S	x	05 12 54.8	
KMSI	**Cibinong**	**1.90**	**112**	P	Pn	**05 12 45.7**	**+0.3**
APSI	**Ampana**	**2.27**	**195**	P	Pn	**05 12 52.8**	**+2.3**
LUWI	**Luwuk**	**2.39**	**167**	P	Pn	05 12 55.7	+3.5
LUWI				S	Sn	05 13 31.0	+11
LUWI	**Luwuk**	**2.39**	**167**	*eP*	Pn	05 12 55.4	+3.2
LUWI				*eS*	Sn	05 13 34.6	+14
LUWI	**Luwuk**	**2.39**	**167**	P	Pn	05 12 56.0	+3.8
	baz=2.2,SNR=144						
TTSI	**Tana Toraja**	**4.94**	**209**	P	Pn	**05 13 29.3**	**+2.0**
	303nm,0.8s,3μm1.4nm						
SANI	**Sanana**	**5.02**	**131**	P	Pn	**05 13 28.3**	**-0.1**
	92nm,0.7s,1μm0.8nm						
MMSI	**Mamuju**	**5.16**	**220**	P	x	05 13 31.3	
	230nm,0.6s,2μm0.9nm						
TNTI	**Ternate**	**5.17**	**96**	P	Pn	**05 13 29.5**	**-1.0**
	108nm,0.7s,0.8nm						
KKSI	**Kolaka, Sulawe**	**5.46**	**186**	P	x	05 13 25.3	
LBMI	**Labuha**	**5.62**	**110**	P	Pn	**05 13 37.1**	**+0.5**
	154nm,0.8s,1μm1.3nm						
SPSI	**Sidrap Palu**	**5.77**	**205**	P	Pn	**05 13 40.6**	**+1.8**
	152nm,0.8s,2μm0.5nm						
BNSI	**Bone**	**6.04**	**200**	P	Pn	**05 13 45.0**	**+2.6**
	314nm,0.9s,3μm0.8nm						
CTBH	**Cotabato--PC H**	**6.22**	**19**	⇑*i* P	Pn	05 13 38.5	-6.5
NLAI	**Namlea**	**6.64**	**133**	P	Pn	**05 13 51.9**	**+1.3**
	88nm,0.6s,1μm0.6nm						
KAPI	**Kappang**	**6.74**	**201**	*eP*	Pn	**05 13 54.8**	**+2.7**
KAPI				*eS*	Sn	05 15 24.0	+16
BKSI	**Bulukumba**	**6.90**	**198**	P	Pn	**05 13 57.4**	**+3.1**
	79nm,0.8s,666nm0.2nm						
KBKI	**Kotabaru**	**7.58**	**233**	P	Pn	**05 14 01.2**	**-2.4**
	62nm,1.1s,0.3nm						
KKM	**Kota Kinabalu**	**7.63**	**308**	*eP*	Pn	05 14 01.2	-3.2
MSAI	**Masohi**	**8.14**	**125**	P	Pn	**05 14 13.0**	**+1.8**
PALU	**Palau**	**13.61**	**63**	P	P	**05 15 33.2**	**-1.5**
	baz=14,SNR=3.3						
MTN	**Manton Dam**	**16.60**	**148**	P	P	**05 16 07.3**	**-0.6**
	baz=16,SNR=6.3						
KDU	**Kakadu**	**17.22**	**144**	P	P	**05 16 14.6**	**-0.1**
	baz=17,SNR=13						
KNRA	**Kununurra**	**18.06**	**159**	P	P	**05 16 25.6**	**+1.6**
	baz=18,SNR=4.0						
BKNI	**Bangkinang**	**21.20**	**268**	*eP*	P	**05 16 57.4**	**-1.0**
	34nm,0.6s						
QIZ	**Qiongzhong**	**21.40**	**326**	P	P	**05 16 59.9**	**-0.5**
QIZ

CD2					S	**S**	**05 24 22.3**	**-0.9**
CD2					SS	**SnSn**	**05 26 33.5**	**-0.5**
CD2					pmax	pmax		
	comp=Z,10.0nm,1.2s							
CD2					LR	LR		
	comp=Z,210nm,11.9s							
NWAO	**Narrogin (SRO)**	**34.36**	**187**	LR	LR	05 34 03.5		
	comp=Z,93nm,19.9s,baz=11,slow=38							
QLP	**Quilpie**	**34.91**	**144**	P	**P**	**05 19 04.1**	**0.0**	
	baz=35,SNR=5.9							
BBOO	**Buckleboo**	**36.35**	**160**	P	**P**	**05 19 15.4**	**-1.0**	
	baz=36,SNR=7.2							
KSRS	**Korea Array**	**36.36**	**8**	LR	LR	05 34 37.6		
	comp=Z,111nm,19.6s,baz=223,slow=37							
RMQ	**Roma**	**37.66**	**139**	P	**P**	**05 19 27.3**	**-0.3**	
	baz=38,SNR=4.1							
STKA	**Stephens Creek**	**37.76**	**153**	*eP*	**P**	**05 19 28.0**	**-0.3**	
	3.9nm,0.8s							
STKA	**Stephens Creek**	**37.76**	**153**	P	**P**	**05 19 27.9**	**-0.3**	
	20nm,0.7s,baz=323,slow=8.7,SNR=34							
STKA	**Stephens Creek**	**37.76**	**153**	P	**P**	**05 19 28.0**	**-0.3**	
	baz=38,SNR=25							
HTT	**Hallett**	**37.96**	**157**	P	**P**	**05 19 30.4**	**+0.3**	
	baz=38,SNR=16							
MJAR	**Matsushiro Arr**	**38.06**	**21**	LR	LR	05 33 19.2		
	comp=Z,122nm,21.5s,baz=205,slow=33							
LZH	**Lanzhou**	**38.59**	**336**	*eP*	**P**	**05 19 34.3**	**-1.1**	
LZH				pP	**pP**	**05 19 48.5**	**+2.8**	
LZH				sP	**sP**	**05 19 51.8**	**+1.9**	
LZH				PP	**PnPn**	**05 21 07.6**	**+1.2**	
LZH				pmax	pmax			
	comp=Z,23nm,1.2s							
LZH				pmax	pmax			
	comp=Z,75nm,5.5s							
LZH				LR	LR			
	comp=N,320nm,13.5s							
LZH				LR	LR			
	comp=E,330nm,13.7s							
LZH				LR	LR			
	comp=Z,410nm,17.4s							
BJI	**Beijing**	**38.95**	**353**	P	**P**	**05 19 37.6**	**-0.6**	
BJI				S	**S**	**05 25 36.9**	**+2.4**	
BJI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BJI				LR	LR			
	comp=Z,59nm,23.0s							
HNR	**Honiara**	**39.05**	**107**	LR	LR	05 36 17.3		
	comp=Z,163nm,18.5s,baz=355,slow=37							
CMSA	**Cobar Meteorol**	**39.53**	**148**	P	**P**	**05 19 43.4**	**+0.2**	
	baz=40,SNR=21							
HHC	**Hu-ho-hao-te**	**40.54**	**348**	*eP*	**P**	**05 19 51.8**	**+0.2**	
HHC				pP	**pP**	**05 20 06.3**	**+4.5**	
HHC				PP	**PnPn**	**05 21 29.8**	**+0.3**	
HHC				S	**S**	**05 26 01.1**	**+2.6**	
HHC				sS	**sS**	**05 26 14.4**	**-1.1**	
HHC				pmax	pmax			
	comp=Z,38nm,0.6s							
HHC				pmax	pmax			
	comp=Z,240nm,5.3s							
HHC				LR	LR			
	comp=N,390nm,12.2s							
HHC				LR	LR			
	comp=E,380nm,17.7s							
HHC				LR	LR			
	comp=Z,280nm,19.0s							
ARPS	**Mount Arapiles**	**42.03**	**156**	P	**P**	**05 20 03.8**	**+0.1**	
	baz=42,SNR=18							
ARMA	**Armidale**	**42.18**	**141**	*eP*	**P**	**05 20 06.2**	**+1.0**	
	16nm,0.6s							
ARMA	**Armidale**	**42.18**	**141**	P	**P**	**05 20 06.4**	**+1.2**	
	baz=42,SNR=18							
GTA	**Gaotai**	**43.09**	**334**	*eP*	**P**	**05 20 12.5**	**0.0**	
GTA				pP	**pP**	**05 20 24.9**	**+2.0**	
GTA				sP	**sP**	**05 20 30.3**	**+3.3**	
GTA				S	**S**	**05 26 34.3**	**-2.1**	
GTA				sS	**sS**	**05 26 54.8**	**+1.3**	
GTA				SS	SS	05 29 40.8	-9.0	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.6s							
GTA				pmax	pmax			
	comp=Z,140nm,4.7s							
GTA				LR	LR			
	comp=N,140nm,15.9s							
GTA				LR	LR			
	comp=E,220nm,15.9s							
GTA				LR	LR			
	comp=Z,150nm,15.2s							
USRK	**Ussuriysk Arra**	**43.59**	**10**	LR	LR	05 38 18.8		
	comp=Z,36nm,20.9s,baz=129,slow=36							
MGCD	**Mangrove Creek**	**43.81**	**144**	P	**P**	**05 20 20.1**	**+1.9**	
	baz=44,SNR=4.4							
TOO	**Toolangi**	**44.27**	**153**	P	**P**	**05 20 22.9**	**+1.0**	
	baz=44,SNR=4.5							
CNB	**Canberra Magne**	**44.38**	**148**	P	**P**	**05 20 23.8**	**+0.9**	
	baz=44,SNR=6.2							
ASAJ	**Asahikawa**	**46.32**	**20**	LR	LR	05 38 42.6		
	comp=Z,52nm,20.4s,baz=296,slow=34							
SONM	**Songino Array**	**48.34**	**346**	P	**P**	**05 20 51.8**	**-2.1**	
SONM	**Songino Array**	**48.34**	**346**	P	**P**	**05 20 51.8**	**-2.1**	
	2.3nm,0.8s,baz=158,slow=9.0,SNR=7.4							
SONM				LR	LR	05 42 46.2		
	comp=Z,166nm,19.0s,baz=109,slow=38							
WMQ	**Urumqi**	**52.29**	**329**	P	**P**	**05 21 24.4**	**+0.7**	
WMQ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WMQ				LR	LR			
	comp=N,55nm,21.8s							
TLY	**Talaya**	**52.59**	**346**	*eP*	**P**	**05 21 24.8**	**-0.9**	
	9.5nm,0.9s							
KSH	**Kashi**	**56.70**	**318**	*eP*	P	05 22 02.0	+6.1	
KSH				*ePcS*	**PcS**	**05 26 55.4**	**+2.7**	
KSH				*eS*	S	05 29 52.8	+6.4	
KSH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KSH				pmax	pmax			
	comp=Z,37nm,2.8s							
KSH				LR	LR			
	comp=N,130nm,9.6s							
KSH				LR	LR			
	comp=E,60nm,7.8s							
KSH				LR	LR			
	comp=Z,50nm,6.4s							
MK31	**Makanchi Array**	**57.11**	**328**	*eP*	P	05 21 55.1	-3.4	
MKAR	**Makanchi Array**	**57.11**	**328**	P	**P**	**05 21 56.3**	**-2.3**	
MKAR	**Makanchi Array**	**57.11**	**328**	P	**P**	**05 21 56.3**	**-2.3**	
	1.2nm,0.8s,baz=131,slow=8.6,SNR=10							
MKAR				LR	LR	05 47 42.5		
	comp=Z,49nm,19.9s,baz=176,slow=37							
TKM2	**Tokmak 2**	**58.70**	**321**	*eP*	**P**	**05 22 09.0**	**-1.0**	
	5.7nm,0.9s							
AAK	**Ala-Archa**	**59.24**	**321**	P	**P**	**05 22 11.2**	**-2.5**	
AAK	**Ala-Archa**	**59.24**	**321**	P	**P**	**05 22 11.2**	**-2.5**	
	0.4nm,0.3s,baz=180,slow=16,SNR=2.7							
PETK	**Petropavlovsk-**	**59.42**	**24**	LR	LR	05 46 41.7		
	comp=Z,34nm,20.7s,baz=252,slow=35							
EKS2	**Erkin-Say**	**59.71**	**320**	*eP*	P	05 22 13.7	-3.2	
	11nm,1.4s							
ZALV	**Zalesovo Beam**	**60.82**	**336**	P	**P**	**05 22 21.7**	**-2.4**	
ZALV	**Zalesovo Beam**	**60.82**	**336**	P	**P**	**05 22 21.7**	**-2.4**	
	1.7nm,0.8s,baz=140,slow=7.8,SNR=4.1							
KURBB	**Kurchatov Arra**	**61.46**	**330**	P	**P**	**05 22 25.9**	**-2.6**	
	1.7nm,0.9s,baz=125,slow=6.1,SNR=22							
KURK	**Kurchatov**	**61.47**	**330**	*eP*	**P**	**05 22 26.6**	**-2.0**	
RPZ	**Rata Peaks**	**62.50**	**142**	*eP*	**P**	**05 22 36.3**	**+0.6**	
	57nm,1.0s							
BRVK	**Borovoye**	**67.05**	**329**	*eP*	**P**	**05 23 05.2**	**+0.1**	
	8.2nm,1.1s							
ABKAR	**Akbulak array**	**71.24**	**322**	*eP*	**P**	**05 23 29.3**	**-1.9**	
AKTO	**Aktyubinsk**	**72.81**	**323**	P	**P**	**05 23 38.5**	**-2.2**	
AKTO	**Aktyubinsk**	**72.81**	**323**	P	**P**	**05 23 38.5**	**-2.2**	
	1.3nm,0.7s,baz=140,slow=4.6,SNR=5.1							
VNDA	**Vanda**	**81.63**	**172**	*eP*	**P**	**05 24 27.9**	**-1.6**	
	17nm,1.4s							
VNDA	**Vanda**	**81.63**	**172**	P	**P**	**05 24 27.9**	**-1.6**	
	2.6nm,0.6s,baz=316,slow=3.8,SNR=11							
VNDA				LR	LR	06 01 20.4		
	comp=Z,68nm,18.2s,baz=327,slow=36							
SYO	**Syowa Base**	**88.55**	**201⇑**	*eP*	**P**	**05 25 02.7**	**-1.6**	
NOA	**NORSAR Array B**	**98.91**	**333**	LR	LR	06 15 46.5		
	comp=Z,39nm,18.4s,baz=15,slow=39							

*ISCJB **21** 05:22:04.0±0.7,6.78S±0.04×129.4E±0.1,h139km, mb3.8/4,Error ellipse: s-maj=14.3km s-min=6.1km az=176.2*
*IDC **21** 05:22:19.4±7.7,6.82S×130.00E,h291km±83km,mb3.5/4, mb1 3.6/5,mb1mx3.2/40,mbtmp4.3/5,Error ellipse: s-maj=155.5km s-min=23.8km az=69.0*

ISC 21 05:22:05.4±1.1,6.88S±0.06×129.5E±0.1,h139km,n13, σ2s63/15,mb3.8/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.82**	**35**	P	**Pn**	**05 23 17.7**	**+1.4**
	baz=4.6,SNR=23						
FAKI				S	**Sn**	**05 24 09.1**	**-2.4**
	baz=4.6,SNR=16						
MTN	**Manton Dam**	**6.15**	**165**	P	Pn	05 23 39.2	+5.1
	baz=6.0,SNR=28						
MTN				S	**Sn**	**05 24 46.0**	**+2.6**
	baz=6.0,SNR=12						
KDU	**Kakadu**	**6.49**	**153**	P	Pn	05 23 43.1	+4.6
	baz=6.2,SNR=128						
KDU				S	**Sn**	**05 24 52.5**	**+1.1**
	baz=6.2,SNR=6.6						
KNRA	**Kununurra**	**8.77**	**184**	P	Pn	05 24 13.6	+4.4
	baz=8.8,SNR=6.0						
KNRA				S	Sn	05 25 42.1	-4.4
	baz=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**13.82**	**160**	P	**Pn**	**05 25 16.1**	**+0.5**
	0.5nm,0.3s,baz=340,slow=12,SNR=30						
WRA				S	**Sn**	**05 27 43.9**	**-4.6**
	1.7nm,0.3s,baz=330,slow=22,SNR=9.5						
COEN	**Coen**	**15.20**	**119**	P	**P**	**05 25 36.2**	**+1.4**
	baz=15,SNR=8.6						
QIS	**Mount Isa**	**16.77**	**145**	P	**Pn**	**05 25 54.7**	**+2.4**
	baz=16,SNR=4.4						
ASAR	**Alice Springs**	**17.23**	**166**	P	**Pn**	**05 26 00.5**	**+2.7**
	3.1nm,0.3s,baz=341,slow=9.6,SNR=98						
ASAR				S	**S**	**05 29 04.9**	**-4.8**
	0.5nm,0.3s,baz=347,slow=24,SNR=5.0						
WRKA	**Warakurna**	**18.09**	**183**	P	**Pn**	**05 26 09.9**	**+1.9**
	baz=18,SNR=21						
STKA	**Stephens Creek**	**27.32**	**157**	P	**P**	**05 27 37.0**	**-0.3**
	0.9nm,0.4s,baz=355,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**05 32 48.4**	**-0.2**
	1.1nm,0.3s,baz=116,slow=8.5,SNR=36						
ZALV	**Zalesovo Beam**	**71.24**	**334**	P	**P**	**05 33 07.6**	**-1.7**
	0.7nm,0.5s,baz=128,slow=5.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**72.13**	**329**	P	**P**	**05 33 13.8**	**-0.9**
	0.9nm,0.4s,baz=129,slow=4.7,SNR=17						

*ISCJB **21** 05:22:50.4±0.2,61.45N±0.02×150.39W±0.04,h66km±2km, mb3.8/19,Error ellipse: s-maj=3.4km s-min=2.9km az=148.5*
*IDC **21** 05:22:51.7±0.8,61.51N×150.57W,h59km±6km,mb3.6/18, mb1 3.8/21,mb1mx3.6/63,mbtmp3.9/21,MS3.0/3, Ms1 3.1/3,ms1mx2.7/40,Error ellipse: s-maj=13.2km s-min=10.8km az=48.0*
*NEIC **21** 05:22:52.2,61.43N×150.40W,h45km,ML3.7(AEIC),After AEIC.*
NEIC Felt [III] at Anchorage. Also felt at Eagle River, Palmer and Willow.

ISC 21 05:22:51.3±0.5,61.43N±0.03×150.42W±0.03,h56km±4km, n135,σ0s91/155,mb3.8/19,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.16**	**282**	P	**Pn**	**05 22 59.8**	**-0.5**
SUA				S	**Sn**	**05 23 06.7**	**0.0**
FIB	**Fire Island**	**0.29**	**156**	P	**Pn**	**05 23 01.5**	**+0.6**
RC01	**Rabbit Creek A**	**0.48**	**136**	P	**Pn**	**05 23 02.3**	**-0.4**
RC01				S	**Sn**	**05 23 11.3**	**+0.3**
PMR	**Palmer**	**0.64**	**75**	P	**Pn**	**05 23 03.7**	**-0.9**
PMR				S	**Sn**	**05 23 14.0**	**-0.2**
STLK	**Strandline Lak**	**0.68**	**276**	P	**Pn**	**05 23 05.1**	**-0.1**
SKT	**Skwentna**	**0.76**	**317**	P	**Pn**	**05 23 05.4**	**-0.8**
SKT				S	**Sn**	**05 23 16.8**	**-0.2**
CGLM	**Capps Glacier**	**0.78**	**261**	P	**Pn**	**05 23 06.2**	**-0.1**
CGLM				S	**Sn**	**05 23 17.6**	**+0.3**
PTE	**Portage**	**0.88**	**129**	P	**Pn**	**05 23 07.8**	**+0.2**
SLKM	**Skilak Lake**	**0.93**	**174**	P	**Pn**	**05 23 08.0**	**-0.4**
CKL	**Chakachamna La**	**0.96**	**257**	P	**Pn**	**05 23 08.5**	**-0.2**
SPBG	**Spurr Blockage**	**0.96**	**260**	P	**Pn**	**05 23 08.6**	**-0.1**
BGL	**Barrier Glacie**	**0.97**	**261**	P	**Pn**	**05 23 08.7**	**-0.2**
CUT	**Chulitna**	**0.98**	**4**	P	**Pn**	**05 23 08.5**	**-0.4**
PWL	**Port Wells**	**1.16**	**119**	P	**Pn**	**05 23 11.6**	**+0.2**
PWL				S	**Sn**	**05 23 27.8**	**+1.5**
DFR	**Drift River**	**1.39**	**234**	P	**Pn**	**05 23 14.8**	**+0.3**
SEW	**Seward**	**1.42**	**160**	P	**Pn**	**05 23 14.6**	**-0.1**
RDN	**Redoubt North**	**1.47**	**232**	P	**Pn**	**05 23 15.9**	**+0.3**
RSO	**Redoubt South**	**1.50**	**231**	*ePn*	**Pn**	**05 23 16.4**	**+0.4**
NCT	**North Crescent**	**1.50**	**236**	P	**Pn**	**05 23 16.5**	**-0.4**
RDWB	**Redoubt West**	**1.51**	**232**	P	**Pn**	**05 23 16.0**	**-0.2**
RDWB				S	**Sn**	**05 23 35.5**	**+0.6**
SCM	**Sheep Creek Mo**	**1.53**	**73**	P	**Pn**	**05 23 16.6**	**+0.2**
HUR	**Hurricane**	**1.59**	**13**	P	**Pn**	**05 23 18.2**	**+1.1**
BRLK	**Bradley Lake**	**1.69**	**188**	P	**Pn**	**05 23 18.6**	**+0.1**
PPLA	**Purkeypile**	**1.69**	**331**	P	**Pn**	**05 23 18.7**	**+0.1**
PPLA				S	**Sn**	**05 23 39.9**	**+0.8**
GLI	**Glacier Island**	**1.70**	**108**	P	**Pn**	**05 23 18.0**	**-0.6**
HOM	**Homer**	**1.88**	**199**	P	**Pn**	**05 23 21.9**	**+0.8**
JPK	**Jack Peak**	**1.89**	**100**	P	**Pn**	**05 23 21.0**	**-0.2**
INE	**Iliamna NE**	**1.89**	**225**	P	**Pn**	**05 23 22.5**	**+1.2**
ILW	**Iliamna West**	**1.92**	**225**	P	**Pn**	**05 23 22.5**	**+0.8**
IVS	**Iliamna South**	**1.94**	**224**	P	**Pn**	**05 23 23.6**	**+1.5**
VLZ	**Valdez**	**2.00**	**97**	P	**Pn**	**05 23 22.4**	**-0.2**
TRF	**Thorofare Moun**	**2.03**	**2**	P	**Pn**	**05 23 23.3**	**+0.1**
RND	**Reindeer**	**2.11**	**19**	P	**Pn**	**05 23 24.4**	**+0.2**
CAST	**Castle Rocks**	**2.14**	**340**	P	**Pn**	**05 23 25.1**	**+0.5**
KTH	**Kantishna Hill**	**2.14**	**354**	P	**Pn**	**05 23 25.7**	**+1.0**
DHY	**Denali Highway**	**2.18**	**39**	P	**Pn**	**05 23 26.2**	**+0.9**
OPT	**Oil Point**	**2.26**	**219**	P	**Pn**	**05 23 27.6**	**+1.3**
DIV	**Divide**	**2.26**	**96**	P	**Pn**	**05 23 26.0**	**-0.4**
MCK	**McKinley**	**2.41**	**16**	P	**Pn**	**05 23 28.9**	**+0.6**
PS11	**TAPS Pump St11**	**2.44**	**72**	P	**Pn**	**05 23 29.6**	**+1.0**
EYAK	**Cordova Ski Ar**	**2.44**	**109**	P	**Pn**	**05 23 28.0**	**-0.7**
PDB	**Pedro Bay**	**2.49**	**230**	P	**Pn**	**05 23 30.1**	**+0.8**
SVW2	**Sparrevohn**	**2.52**	**265**	P	**Pn**	**05 23 29.8**	**0.0**
PS12	**TAPS Pump St12**	**2.53**	**87**	P	**Pn**	**05 23 29.8**	**-0.2**
AUP	**Augustine Pinn**	**2.56**	**217**	P	**Pn**	**05 23 31.6**	**+1.2**
AUH	**Augustine H**	**2.56**	**217**	P	**Pn**	**05 23 31.6**	**+1.2**
CHUM	**Lake Minchumin**	**2.61**	**341**	P	**Pn**	**05 23 31.5**	**+0.5**
HARP	**HAARP**	**2.67**	**66**	P	**Pn**	**05 23 32.7**	**+0.8**
SGAM	**Sherman Glacie**	**2.71**	**108**	P	**Pn**	**05 23 31.4**	**-1.0**
PAX	**Paxson**	**2.79**	**54**	P	**Pn**	**05 23 34.5**	**+1.0**
BMRM	**Bremner River**	**2.85**	**97**	P	**Pn**	**05 23 33.1**	**-1.0**
GOAT	**Goat Mountain**	**2.90**	**105**	P	**Pn**	**05 23 34.3**	**-0.8**
PS10	**TAPS Pump St10**	**2.94**	**45**	P	**Pn**	**05 23 37.2**	**+1.6**
MCNL	**McNeil River**	**2.98**	**223**	P	**Pn**	**05 23 37.3**	**+1.2**
RAGM	**Ragged Mountai**	**3.00**	**108**	P	**Pn**	**05 23 35.4**	**-0.9**
TT01	**Tatalina**	**3.02**	**302**	P	**Pn**	**05 23 36.6**	**+0.1**
WASW	**Wrangell South**	**3.02**	**78**	P	**Pn**	**05 23 37.3**	**+0.5**
DDM	**Donnelly Dome**	**3.17**	**40**	P	**Pn**	**05 23 40.9**	**+2.3**
GLB	**Gilahina Butte**	**3.17**	**87**	P	**Pn**	**05 23 38.4**	**-0.4**
WRH	**Wood River Hil**	**3.23**	**18**	P	**Pn**	**05 23 39.5**	**0.0**
HDA	**Harding Lake**	**3.38**	**26**	P	**Pn**	**05 23 42.6**	**+1.1**
CCB	**Clear Creek Bu**	**3.44**	**19**	P	**Pn**	**05 23 42.5**	**+0.1**
MENT	**Mentasta**	**3.48**	**61**	*ePn*	**Pn**	**05 23 43.4**	**+0.4**
MENT				*eSn*	Sn	05 24 33.2	+10
PS08	**TAPS Pump Stn8**	**3.53**	**26**	P	**Pn**	**05 23 44.4**	**+0.9**
MLY	**Manley**	**3.62**	**358**	P	**Pn**	**05 23 45.3**	**+0.5**
COLA	**College**	**3.65**	**17**	P	**Pn**	**05 23 45.6**	**+0.5**
MDM	**Murphy Dome**	**3.68**	**15**	P	**Pn**	**05 23 45.9**	**+0.2**
DOT	**Dot Lake**	**3.69**	**50**	P	**Pn**	**05 23 46.4**	**+0.7**
ILAR	**Eielson Array**	**3.72**	**24**	P	**Pn**	**05 23 46.0**	**-0.4**
ILAR				S	**Sn**	**05 24 29.1**	**+0.6**
ILAR	**Eielson Array**	**3.72**	**24**	P	**Pn**	**05 23 46.0**	**-0.1**
	3.2nm,0.3s,baz=213,slow=13,SNR=183						
ILAR				S	**Sn**	**05 24 29.1**	**+0.6**
	5.6nm,0.3s,baz=210,slow=22,SNR=6.6						
ILAR				LR	LR	05 24 47.3	
	comp=Z,89nm,18.1s,baz=279,slow=32						
ILB	**Eielson Array**	**3.72**	**24**	P	**Pn**	**05 23 46.8**	**+0.7**
IL1	**Eielson Array**	**3.72**	**24**	P	**Pn**	**05 23 46.0**	**-0.2**
KDAK	**Kodiak Island**	**3.82**	**198**	P	**Pn**	**05 23 47.9**	**+0.3**
SCRK	**Sand Creek**	**3.91**	**46**	P	**Pn**	**05 23 49.3**	**+0.4**
BALM	**Baldy**	**3.92**	**92**	P	**Pn**	**05 23 48.5**	**-0.5**
KCG	**Knife Ck. Glac**	**3.93**	**219**	P	**Pn**	**05 23 49.9**	**+0.8**
KABR	**Katmai Barrier**	**4.03**	**217**	P	**Pn**	**05 23 50.9**	**+0.4**
BCA3	**Beaver Creek A**	**4.36**	**64**	P	**Pn**	**05 23 55.5**	**+0.6**
CTGM	**Chitina Glacie**	**4.42**	**92**	P	**Pn**	**05 23 55.3**	**-0.7**
GCSA	**Galena City Sc**	**4.44**	**321**	P	**Pn**	**05 23 56.6**	**+0.7**
PS06	**TAPS Pump Stn6**	**4.45**	**4**	P	**Pn**	**05 23 57.4**	**+1.2**
OHAK	**Old Harbor**	**4.47**	**200**	P	**Pn**	**05 23 55.7**	**-0.7**
CHX	**Chaix Hills**	**4.76**	**103**	P	**Pn**	**05 24 00.3**	**-0.3**
IM04	**Indian Mountai**	**4.80**	**343**	*ePn*	**Pn**	**05 24 01.5**	**+0.6**
IM3	**Indian Mountai**	**4.80**	**343**	P	**Pn**	**05 24 01.4**	**+0.5**
EGAK	**Eagle**	**5.38**	**47**	P	**Pn**	**05 24 09.2**	**+0.4**
DAWY	**Dawson**	**5.71**	**58**	P	**Pn**	**05 24 14.2**	**+0.7**
COLD	**Coldfoot**	**5.82**	**1**	P	**Pn**	**05 24 14.7**	**-0.2**
BM3	**Burnt Mountain**	**6.51**	**20**	P	**Pn**	**05 24 25.1**	**+0.6**
WHY	**Whitehorse**	**7.58**	**89**	P	**Pn**	**05 24 38.4**	**-0.7**
TNA	**Tin City**	**8.84**	**305**	*ePn*	**Pn**	**05 24 57.1**	**+0.9**
	38nm,0.5s						
TNA				*eSn*	**Sn**	**05 26 32.6**	**-1.5**
INK	**Inuvik**	**9.93**	**39**	*ePn*	**Pn**	**05 25 09.3**	**-1.7**
	7.7nm,1.0s						
INK				*eSn*	**Sn**	**05 26 59.4**	**-1.3**
INK				S	**Sn**	**05 27 02.4**	**+1.7**
INK	**Inuvik**	**9.93**	**39**	P	**Pn**	**05 25 10.5**	**-0.5**
	0.2nm,0.3s,baz=236,slow=16,SNR=13						
INK				S	**Sn**	**05 27 02.4**	**+1.7**
	0.1nm,0.3s,baz=228,slow=14,SNR=1.9						
GAMB	**Gambell**	**10.07**	**293**	*ePn*	**Pn**	**05 25 13.8**	**+0.8**
	4.5nm,0.5s						
DLBC	**Dease Lake**	**10.65**	**97**	LR	LR	05 29 58.1	
	comp=Z,90nm,20.4s,baz=332,slow=40						
YKA	**Yellowknife Ar**	**16.74**	**71**	P	**Pn**	**05 26 40.5**	**-1.1**
YKA	**Yellowknife Ar**	**16.74**	**71**	P	**Pn**	**05 26 40.5**	**-1.1**
	0.1nm,0.3s,baz=277,slow=9.8,SNR=18						
NEW	**Newport**	**22.95**	**110**	P	**P**	**05 27 51.1**	**+0.6**
NEW	**Newport**	**22.95**	**110**	P	**P**	**05 27 51.1**	**+0.6**
	2.2nm,0.8s,baz=300,slow=8.9,SNR=5.0						
YBH	**Yreka Blue Hor**	**25.84**	**127**	P	**P**	**05 28 19.2**	**+2.0**
YBH	**Yreka Blue Hor**	**25.84**	**127**	P	**P**	**05 28 19.2**	**+2.0**
	2.1nm,0.8s,baz=270,slow=6.1,SNR=3.1						
ELK	**Elko**	**29.70**	**118**	P	**P**	**05 28 53.0**	**+1.1**
ELK	**Elko**	**29.70**	**118**	P	**P**	**05 28 53.0**	**+1.1**
	0.8nm,0.5s,baz=14,slow=11,SNR=5.6						
NVAR	**Mina Array Bea**	**30.40**	**124**	P	**P**	**05 28 59.0**	**+0.8**
NVAR	**Mina Array Bea**	**30.40**	**124**	P	**P**	**05 28 59.0**	**+0.8**
	1.1nm,0.8s,baz=308,slow=11,SNR=5.9						
PDAR	**Pinedale Array**	**30.57**	**109**	P	**P**	**05 29 00.1**	**+0.4**
PDAR	**Pinedale Array**	**30.57**	**109**	P	**P**	**05 29 00.1**	**+0.4**
	0.4nm,0.5s,baz=317,slow=4.7,SNR=5.9						
ULM	**Lac du Bonnet**	**31.64**	**85**	P	**P**	**05 29 09.2**	**+0.6**
ULM	**Lac du Bonnet**	**31.64**	**85**	P	**P**	**05 29 09.2**	**+0.6**
	0.6nm,0.3s,baz=339,slow=11,SNR=3.2						
FRB	**Frobisher Bay**	**35.35**	**50**	P	**P**	**05 29 40.2**	**-0.5**
FRB	**Frobisher Bay**	**35.35**	**50**	P	**P**	**05 29 40.2**	**-0.5**
	5.3nm,1.0s,baz=298,slow=8.6,SNR=8.0						
TXAR	**Lajitas Array**	**44.36**	**115**	P	**P**	**05 30 57.2**	**+1.2**
TXAR				pP	**pP**	**05 31 12.9**	**+2.4**
TXAR	**Lajitas Array**	**44.36**	**115**	P	**P**	**05 30 57.2**	**+1.2**
	0.6nm,0.7s,baz=332,slow=7.0,SNR=7.9						
TXAR				pP	**pP**	**05 31 12.9**	**+2.4**
	0.3nm,0.8s,baz=318,slow=5.3,SNR=2.7						
SONM	**Songino Array**	**54.96**	**307**	P	**P**	**05 32 17.0**	**+0.6**
SONM				pP	**pP**	**05 32 31.2**	**-0.1**
SONM	**Songino Array**	**54.96**	**307**	P	**P**	**05 32 17.0**	**+0.6**
	2.2nm,0.7s,baz=29,slow=8.1,SNR=12						
SONM				pP	**pP**	**05 32 31.2**	**-0.1**
	1.7nm,0.9s,baz=60,slow=9.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.96**	**325**	P	**P**	**05 32 31.4**	**+1.1**
ZALV				pP	**pP**	**05 32 44.5**	**-0.8**
ZALV	**Zalesovo Beam**	**56.96**	**325**	P	**P**	**05 32 31.4**	**+1.1**
	1.3nm,0.6s,baz=18,slow=10,SNR=4.5						
ZALV				pP	**pP**	**05 32 44.5**	**-0.8**
	1.3nm,0.6s,baz=37,slow=3.0,SNR=4.6						
NOA	**NORSAR Array B**	**57.04**	**11**	P	**P**	**05 32 32.1**	**+1.2**
NOA	**NORSAR Array B**	**57.04**	**11**	P	**P**	**05 32 32.1**	**+1.2**
	1.9nm,1.1s,baz=354,slow=9.4,SNR=2.5						
EKA	**Eskdalemuir Ar**	**60.75**	**21**	P	**P**	**05 32 55.4**	**-1.2**
EKA	**Eskdalemuir Ar**	**60.75**	**21**	P	**P**	**05 32 55.4**	**-1.2**
	2.4nm,0.9s,baz=333,slow=5.4,SNR=5.3						
BVAR	**Borovoye Array**	**61.38**	**333**	P	**P**	**05 33 00.0**	**-0.8**
BVAR	**Borovoye Array**	**61.38**	**333**	P	**

HRY	**Holter Researc**	2.24	345	*e*Pn		**Pn**	06 02 28.4	+0.5	
HRY				*e*Sn		**Sn**	**06 02 55.2**	**-0.6**	
F20A	**Billings**	**2.37**	**57**	⇓P		**Pn**	**06 02 30.9**	**+1.2**	
	baz=2.3								
F20A				⇑Sb		**Sg**	**06 03 05.1**	**-1.3**	
	baz=2.3								
J20A	**Shoshoni**	**2.42**	**119**	⇑P		**Pb**	**06 02 33.3**	**-1.0**	
	baz=2.4								
E19A	**Rath Farm, Rou**	**2.46**	**38**	⇑P		**Pn**	**06 02 31.9**	**+0.9**	
	baz=2.4,SNR=36								
E19A				⇓Sb		**Sb**	**06 03 07.0**	**+1.5**	
	baz=2.4								
HLID	**Hailey**	**2.65**	**249**	*e*Pn		**Pn**	**06 02 35.9**	**+2.3**	
HLID				*e*Sg		**Sg**	**06 03 15.6**	**+0.1**	
HLID	**Hailey**	**2.65**	**249**	⇓P		**Pn**	**06 02 35.6**	**+1.9**	
	baz=2.7								
I21A	**Big Trails, Te**	**2.77**	**104**	⇓P		**Pn**	**06 02 37.3**	**+2.1**	
	baz=2.8								
G21A	**Lodge Grass**	**2.78**	**75**	⇑P		**Pn**	**06 02 38.0**	**+2.6**	
	baz=2.8								
E20A	**Meyer Farm, Mu**	**2.81**	**45**	⇓P		**Pn**	**06 02 36.8**	**+1.1**	
	baz=2.8								
H21A	**Big Horn, Sher**	**2.83**	**87**	⇓Sb		**Sg**	**06 03 19.1**	**-2.0**	
	baz=2.8								
J21A	**Lysite**	**2.83**	**114**	⇓P		**Pb**	**06 02 39.2**	**-2.2**	
	baz=2.8								
CHMT	**Chamberlain Mo**	**2.84**	**327**	*e*Pn		**Pn**	**06 02 37.3**	**+1.0**	
CHMT				*e*Sg		**Sg**	**06 03 21.9**	**+0.4**	
D19A	**Cripps Ranch,**	**3.00**	**29**	⇑P		**Pn**	**06 02 39.6**	**+1.2**	
	baz=3.0								
D19A				⇑Sb		**Sb**	**06 03 22.5**	**+1.4**	
	baz=3.0								
MSO	**Missoula**	**3.07**	**319**	⇓P		**Pn**	**06 02 40.2**	**+0.9**	
	baz=3.1								
MSO				⇑Sb		**Sb**	**06 03 26.1**	**+3.0**	
	baz=3.1								
SLMT	**Seeley Lake**	**3.20**	**328**	*e*Pn		**Pn**	**06 02 42.0**	**+0.8**	
SLMT				*e*Sg		**Sg**	**06 03 33.3**	**+0.1**	
D20A	**Manuel Ranch,**	**3.23**	**37**	⇑P		**Pn**	**06 02 42.8**	**+1.2**	
	baz=3.2,SNR=12								
D20A				⇑Sb		**Sb**	**06 03 30.0**	**+2.3**	
	baz=3.2								
I22A	**9 Mile Ranch,**	**3.31**	**100**	⇑P		**Pn**	**06 02 45.2**	**+2.5**	
	baz=3.3								
K21A	**Alcova**	**3.33**	**124**	⇓P		**Pn**	**06 02 45.5**	**+2.5**	
	baz=3.3								
K21A				⇓Sb		**Sg**	**06 03 35.3**	**-2.0**	
	baz=3.3								
E21A	**Keefer Ranch,**	**3.40**	**53**	⇓P		**Pn**	**06 02 45.2**	**+1.4**	
	baz=3.4								
SPUT	**South Promonto**	**3.41**	**199**	*e*Pn		**Pn**	**06 02 45.6**	**+1.5**	
SPUT				*e*Sg		**Sg**	**06 03 39.2**	**-0.7**	
TCUT	**Toone Canyon**	**3.45**	**185**	Pn		**Pn**	**06 02 45.5**	**+0.8**	
TCUT				*e*Sg		**Sg**	**06 03 41.4**	**+0.4**	
J22A	**Midwest**	**3.46**	**108**	⇓P		**Pn**	**06 02 47.2**	**+2.5**	
	baz=3.4								
C19A	**Slack Wire Ran**	**3.46**	**22**	⇑P		**Pn**	**06 02 45.8**	**+1.2**	
	baz=3.4,SNR=17								
C19A				⇓Sb		**Sb**	**06 03 35.6**	**+1.4**	
	baz=3.4								
EGMT	**Eagleton**	**3.58**	**14**	*e*Pn		**Pn**	**06 02 46.6**	**+0.3**	
EGMT				*e*S		**Sb**	**06 03 39.1**	**+1.5**	
EGMT	**Eagleton**	**3.58**	**14**	⇑P		**Pn**	**06 02 47.3**	**+1.0**	
	baz=3.5								
EGMT				⇑Sb		**Sb**	**06 03 39.3**	**+1.7**	
	baz=3.5								
SWMT	**Swartz Lake**	**3.62**	**326**	*e*Pn		**Pn**	**06 02 47.7**	**+0.7**	
SWMT				*e*Sn		**Sn**	**06 03 29.9**	**-0.1**	
MFID	**Camas Ranch**	**3.67**	**254**	*e*Pn		**Pn**	**06 02 50.0**	**+2.5**	
MFID				*e*Sn		**Sn**	**06 03 28.0**	**-3.1**	
D21A	**La Casta Ranch**	**3.76**	**47**	⇑Sb		**Sb**	**06 03 45.4**	**+2.4**	
	baz=3.7								
C20A	**Veseth Ranch,**	**3.79**	**32**	⇓P		**Pn**	**06 02 50.1**	**+1.0**	
	baz=3.8								
C20A				⇑Sb		**Sb**	**06 03 45.7**	**+2.2**	
	baz=3.8								
CTU	**Camp Tracy**	**3.90**	**188**	*e*Pg		**Pg**	**06 03 04.5**	**-0.5**	
CTU				*e*Sg		**Sg**	**06 03 55.5**	**+0.1**	
YBMT	**Yellow Bay**	**3.92**	**329**	*e*Pn		**Pn**	**06 02 52.7**	**+1.7**	
YBMT				*e*Sg		**Sg**	**06 03 54.8**	**-1.2**	
JTMT	**Jette**	**3.93**	**326**	*e*Pn		**Pn**	**06 02 52.1**	**+1.0**	
JTMT				*e*Sg		**Sg**	**06 03 56.5**	**+0.2**	
JLU	**Jordanelle**	**3.96**	**185**	Pn		**Pn**	**06 02 50.7**	**-1.0**	
LAO	**LASA Array**	**3.97**	**56**	*e*Pn		**Pn**	**06 02 53.5**	**+1.8**	
F23A	**Volborg**	**4.13**	**72**	⇓P		**Pn**	**06 02 54.9**	**+1.1**	
	baz=4.1								
DAU	**Daniels Canyon**	**4.14**	**183**	Pg		**Pg**	**06 03 08.2**	**-1.5**	
BLMT	**Blacktail Moun**	**4.17**	**327**	*e*Pn		**Pn**	**06 02 54.4**	**-0.1**	
BLMT				Sg		**Sg**	**06 04 00.2**	**-4.1**	
BSMT	**Bassoo Peak**	**4.22**	**323**	*e*Pn		**Pn**	**06 02 56.6**	**+1.4**	
BSMT				*e*Sg		**Sg**	**06 04 04.5**	**-1.3**	
B20A	**Solberg Farm,**	**4.40**	**27**	⇑P		**Pn**	**06 02 58.8**	**+1.3**	
	baz=4.4,SNR=5.9								
BMO	**Blue Mountains**	**4.51**	**276**	*e*Pn		**Pn**	**06 03 00.7**	**+1.6**	
BMO				*e*Sg		**Sg**	**06 04 13.5**	**-1.5**	
DUG	**Dugway**	**4.56**	**198**	*e*Pn		**Pn**	**06 03 02.7**	**+2.9**	
DUG				*e*Sn		**Sn**	**06 03 51.8**	**-1.3**	
DUG	**Dugway**	**4.56**	**198**	⇓P		**Pn**	**06 03 02.5**	**+2.7**	
	baz=4.6								
MPU	**Maple Canyon**	**4.56**	**186**	Pn		**Pn**	**06 03 00.9**	**+1.0**	
H24A	**Dirks Ranch, A**	**4.60**	**85**	⇓P		**Pn**	**06 03 01.7**	**+1.2**	
	baz=4.6								
A19A	**Klindworth Far**	**4.64**	**19**	⇑P		**Pn**	**06 03 02.0**	**+1.1**	
	baz=4.6								
NLU	**North Lily Min**	**4.66**	**190**	*e*Pn		**Pn**	**06 03 02.2**	**+0.8**	
O20A	**White River Ci**	**4.86**	**154**	*e*Pn		**Pn**	**06 03 05.3**	**+1.2**	
O20A				*e*Sg		**Sg**	**06 04 25.3**	**-1.2**	
O20A	**White River Ci**	**4.86**	**154**	⇑P		**Pn**	**06 03 06.7**	**+2.6**	
	baz=4.9								
ELK	**Elko**	**4.92**	**221**	Pn		**Pn**	**06 03 07.3**	**+2.4**	
ELK				Lg		Lg	06 04 21.2		
ELK	**Elko**	**4.92**	**221**	Pn		**Pn**	**06 03 07.3**	**+2.4**	
	0.9nm,0.3s,baz=4.0,slow=11,SNR=12								
ELK				Lg		Lg	06 04 21.2		
	1.2nm,0.3s,baz=180,slow=16,SNR=2.4								
ELK				LR		LR	06 05 12.8		
	comp=Z,562nm,18.3s,baz=0.0,slow=41								
WALA	**Waterton Lakes**	**4.93**	**337**	*e*Pn		**Pn**	**06 03 04.9**	**-0.1**	
WALA				*e*Sn		**Sn**	**06 04 01.4**	**-0.8**	
RSSD	**Black Hills**	**5.01**	**92**	*e*Pn		**Pn**	**06 03 05.2**	**-1.0**	
	25nm,0.7s								
RSSD				*e*Sg		**Sg**	**06 04 27.2**	**-4.1**	
TMUT	**Trail Mountain**	**5.25**	**182**	*e*Pn		**Pn**	**06 03 07.8**	**-1.8**	
	29nm,0.7s								
SRU	**San Rafael**	**5.45**	**176**	*e*Pn		**Pn**	**06 03 11.6**	**-0.5**	
	39nm,0.7s								
SRU				*e*Sg		**Sg**	**06 04 39.4**	**-5.8**	
NEW	**Newport**	**5.63**	**313**	*e*Pn		**Pn**	**06 03 15.6**	**+1.2**	
	44nm,1.1s								
NEW				Lg		Lg	06 04 46.5		
NEW				*e*Sg		**Sg**	**06 04 47.4**	**-3.6**	
NEW	**Newport**	**5.63**	**313**	Pn		**Pn**	**06 03 15.8**	**+1.3**	
	1.4nm,0.3s,baz=134,slow=12,SNR=19								
NEW				Lg		Lg	06 04 46.5		
	9.1nm,0.3s,baz=44,slow=19,SNR=10								
NEW				LR		LR	06 05 18.0		
	comp=Z,56nm,19.7s,baz=104,slow=37								
WVOR	**Wild Horse Val**	**5.95**	**252**	Pn		Pn	06 03 12.8	-6.0	
	40nm,0.9s								
WVOR				*e*Sg		**Sg**	**06 05 01.3**	**+0.1**	
DGMT	**Dagmar**	**6.11**	**48**	*e*Pn		**Pn**	**06 03 18.9**	**-2.2**	
	178nm,1.1s								
DGMT				*e*Sg		**Sg**	**06 05 04.6**	**-1.9**	
BMN	**Battle Mountai**	**6.17**	**230**	Pn		**Pn**	**06 03 25.1**	**+3.1**	
	41nm,0.9s								
ISCO	**Idaho Springs**	**6.21**	**138**	*e*Pn		**Pn**	**06 03 24.0**	**+1.3**	
	28nm,1.3s								
ISCO				*e*Sg		**Sg**	**06 05 10.3**	**+0.6**	
HAWA	**Hanford**	**6.28**	**290**	*e*Pn		Pn	06 03 15.8	-7.5	
	31nm,0.9s								
HAWA				*e*Sg		**Sg**	**06 05 10.8**	**-1.0**	
ARUT	**Antelope Range**	**7.00**	**196**	Pn		**Pn**	**06 03 33.4**	**-0.1**	
	76nm,0.7s								
MOD	**Modoc**	**7.29**	**252**	*e*Pg		**Pg**	**06 04 09.3**	**-0.6**	
	13nm,0.8s								
MOD				*e*Sg		**Sg**	**06 05 43.6**	**-0.7**	
MVCO	**Mesa Verde**	**7.58**	**165**	*e*Pn		**Pn**	**06 03 40.2**	**-1.2**	
	14nm,0.6s								
MVCO				*e*Sg		**Sg**	**06 05 51.7**	**-1.8**	
LON	**Longmire**	**7.89**	**290**	*e*Pn		**Pn**	**06 03 47.0**	**+1.5**	
	14nm,0.9s								
SDCO	**Great Sand Dun**	**7.96**	**147**	Pn		**Pn**	**06 03 45.8**	**-0.9**	
	12nm,1.0s								
NVAR	**Mina Array Bea**	**8.21**	**224**	Pn		Pn	06 03 58.0	+8.0	
NVAR				Lg		Lg	06 06 08.3		
	0.1nm,0.3s,baz=16,slow=20,SNR=3.7								
NVAR				Lg		Lg	06 06 08.3		
	0.3nm,0.3s,baz=40,slow=31,SNR=4.1								
NVAR				LR		LR	06 07 18.0		
	comp=Z,326nm,18.6s,baz=360,slow=40								
KSCO	**Kaye Shedlock'**	**8.35**	**129**	*e*Pn		**Pn**	**06 03 51.7**	**-0.2**	
	21nm,0.9s								
SHPR	**Sheep Range**	**8.64**	**203**	Pn		**Pn**	**06 03 57.4**	**+1.5**	
	15nm,1.2s								
EDM	**Edmonton**	**8.81**	**351**	*e*Pn		**Pn**	**06 03 56.7**	**-1.4**	
ANMO	**Albuquerque**	**10.21**	**158**	LR		LR	06 08 36.6		
	comp=Z,120nm,21.6s,baz=330,slow=40								
ULM	**Lac du Bonnet**	**11.72**	**56**	Pn		**Pn**	**06 04 37.5**	**-0.3**	
ULM				Pg			06 05 21.0		
ULM				Lg		Lg	06 07 51.4		
ULM	**Lac du Bonnet**	**11.72**	**56**	Pn		**Pn**	**06 04 37.5**	**-0.3**	
	0.2nm,0.3s,baz=226,slow=6.6,SNR=2.1								
ULM				Pg			06 05 21.0		
	0.2nm,0.3s,baz=240,slow=16,SNR=3.6								
ULM				Lg		Lg	06 07 51.4		
	0.2nm,0.3s,baz=168,slow=19,SNR=3.4								
ULM				LR		LR	06 09 00.8		
	comp=Z,207nm,19.2s,baz=238,slow=37								
TXAR	**Lajitas Array**	**16.27**	**157**	Pn		**P**	**06 05 42.3**	**-0.2**	
TXAR	**Lajitas Array**	**16.27**	**157**	Pn		**P**	**06 05 42.3**	**-0.2**	
	0.0nm,0.3s,baz=309,slow=10,SNR=2.5								
TXAR				LR		LR	06 11 55.5		
	comp=Z,82nm,21.6s,baz=0.0,slow=37								
YKA	**Yellowknife Ar**	**18.10**	**355**	Pn		**Pn**	**06 05 59.3**	**-2.6**	
YKA				Lg		Lg	06 11 09.6		
YKA	**Yellowknife Ar**	**18.10**	**355**	Pn		**Pn**	**06 05 59.3**	**-2.6**	
	0.0nm,0.3s,baz=175,slow=12,SNR=15								
YKA				Lg		Lg	06 11 09.6		
	0.0nm,0.3s,baz=161,slow=27,SNR=4.9								
TKL	**Tuckaleechee C**	**22.56**	**104**	LR		LR	06 15 59.9		
	comp=Z,301nm,18.4s,baz=344,slow=38								
ILAR	**Eielson Array**	**28.36**	**328**	P		**P**	**06 07 47.3**	**+2.6**	
ILAR	**Eielson Array**	**28.36**	**328**	P		**P**	**06 07 47.3**	**+2.6**	
	1.1nm,0.9s,baz=123,slow=7.3,SNR=14								
SCHQ	**Schefferville**	**29.89**	**54**	LR		LR	06 20 03.6		
	comp=Z,157nm,19.2s,baz=99,slow=37								
FRB	**Frobisher Bay**	**30.59**	**36**	LR		LR	06 20 26.3		
	comp=Z,157nm,19.9s,baz=332,slow=36								
RES	**Resolute Bay**	**31.07**	**8**	LR		LR	06 21 02.9		
	comp=Z,142nm,20.3s,baz=226,slow=37								
JTS	**JuntasAbangare**	**40.87**	**139**	LR		LR	06 28 49.2		
	comp=Z,39nm,18.7s,baz=323,slow=40								
BORG	**Borgarnes**	**50.70**	**34**	LR		LR	06 31 55.5		
	comp=Z,136nm,19.1s,baz=156,slow=36								
JMIC	**Jan Mayen**	**52.42**	**24**	LR		LR	06 33 26.7		
	comp=Z,61nm,18.6s,baz=274,slow=36								
SPITS	**Spitsbergen Ar**	**53.51**	**12**	LR		LR	06 34 47.0		
	comp=Z,68nm,18.6s,baz=125,slow=37								

IDC ***21*** *06:03:00.2±0.8,36°.20S×72°.94W,h0km,mb4.0/9, mb1 4.0/12,mb1mx3.9/34,mbtmp3.9/12,ML3.8/3,MS2.7/2, Ms1 2.7/2,ms1mx2.6/24,Error ellipse: s-maj=26.6km s-min=17.1km az=90.0*

ISCJB ***21*** *06:03:02.2±0.9,36°.21S±0°.04×73°.09W±0°.09,h24km±6km, mb4.0/8,Error ellipse: s-maj=13.7km s-min=5.2km az=24.8*

GUC ***21*** *06:03:03.3±0.3,36°.25S×72°.94W,h16km±2km,ML4.7*

NEIC ***21*** *06:03:03.3,36°.25S×72°.94W,h16km,ML4.7(GUC),After GUC.*

ISC 21 06:03:01.2±1.6,36°.23S±0°.04×73°.01W±0°.08,h7km±10km, n45,σ1s11/53,mb4.0/8,2C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.62**	**188**	*i* P		**Pb**	**06 03 14.6**	**+0.2**
CCSP				*i* S		**Sb**	**06 03 23.2**	**-0.1**
CTCH	**Constitucion**	**1.02**	**29**	⇑P		**Pg**	**06 03 21.1**	**+0.3**
CTCH				*i* S		**Sb**	**06 03 34.6**	**-0.2**
CTCH				AML		AML	06 03 47.7	
	comp=E,45μm,0.8s							
CTCH	**Constitucion**	**1.02**	**29**	⇑*i*P		**Pg**	**06 03 21.1**	**+0.3**
CTCH				*i* S		**Sb**	**06 03 34.6**	**-0.2**
TALC	**Talca**	**1.39**	**54**	⇓*i*P		**Pn**	**06 03 26.7**	**-0.4**
TALC				*i* S		**Sb**	**06 03 44.3**	**-1.2**
TALC				AML		AML	06 03 49.4	
	comp=E,22μm,0.2s							
TALC	**Talca**	**1.39**	**54**	⇓*i*P		**Pn**	**06 03 26.7**	**-0.4**
TALC				*i* S		**Sb**	**06 03 44.3**	**-1.2**
CACH	**El Canelo**	**2.89**	**44**	*i* P		**Pn**	**06 03 49.6**	**+1.8**
CACH				*i* S		**Sn**	**06 04 24.9**	**+2.1**
CACH	**El Canelo**	**2.89**	**44**	*i* P		**Pn**	**06 03 49.6**	**+1.8**
CACH				*i* S		**Sn**	**06 04 24.9**	**+2.1**
CHCH	**Chadas Angostu**	**3.00**	**41**	⇓*i*P		**Pn**	**06 03 51.0**	**+1.8**
CHCH				*i* S		**Sn**	**06 04 27.1**	**+1.7**
CHCH	**Chadas Angostu**	**3.00**	**41**	⇓*i*P		**Pn**	**06 03 51.0**	**+1.8**
CHCH				*i* S		**Sn**	**06 04 27.1**	**+1.7**
ANTU	**Antumapu**	**3.29**	**37**	AML		AML	06 04 49.1	
	comp=N,2μm,0.4s							
PLCA	**Paso Flores**	**4.89**	**158**	*e*Pn		**Pn**	**06 04 16.8**	**+1.5**
PLCA				Pn		Pn	**06 04 17.4**	**+2.2**
PLCA				Lg		Lg	06 05 33.8	
PLCA				*e*Sg		**Sg**	**06 05 37.0**	**-1.3**
PLCA	**Paso Flores**	**4.89**	**158**	Pn		**Pn**	**06 04 17.4**	**+2.2**
	comp=N,0.7nm,0.3s,baz=332,slow=11,SNR=14							
PLCA				Lg		Lg	06 05 33.8	
	comp=N,1.4nm,0.3s,baz=257,slow=24,SNR=5.4							
H03N1	**Juan Fernandez**	**5.60**	**298**	T		T	06 10 22.5	
	baz=100,SNR=21							
H03N3	**Juan Fernandez**	**5.60**	**298**	T		T	06 10 06.7	
	baz=100,SNR=16							
H03N2	**Juan Fernandez**	**5.61**	**298**	T		T	06 10 08.7	
	baz=100,SNR=16							
CFAA	**Coronel Fontan**	**6.08**	**42**	Pn		**Pn**	**06 04 31.7**	**0.0**
CFAA				Sn		**Sn**	**06 05 42.0**	**+0.5**
CFAA	**Coronel Fontan**	**6.08**	**42**	Pn		**Pn**	**06 04 31.7**	**0.0**
	comp=N,0.5nm,0.3s,baz=211,slow=13,SNR=39							
CFAA				Sn		**Sn**	**06 05 42.0**	**+0.5**
	comp=N,0.6nm,0.3s,baz=34,slow=11,SNR=3.4							
CFAA				LR		LR	06 07 03.8	
	comp=N,27nm,20.2s,baz=232,slow=40							
LCO	**Las Campanas**	**7.46**	**16**	*e*Pn		**Pn**	**06 04 49.0**	**-1.7**
	comp=N,21nm,0.3s							
LCO				*e*Sn		Sn	06 06 08.8	-7.0
TRQA	**Tornquist**	**8.99**	**105**	*e*Pn		Pn	06 05 15.2	+3.7
	comp=N,11nm,1.0s							
CPUP	**Villa Florida**	**16.62**	**58**	Pn		**Pn**	**06 06 55.4**	**+0.6**
CPUP	**Villa Florida**	**16.62**	**58**	Pn		**Pn**	**06 06 55.4**	**+0.6**
	comp=N,0.3nm,0.3s,baz=258,slow=7.6,SNR=2.5							
CPUP				LR		LR	06 13 15.6	
	comp=N,59nm,19.6s,baz=218,slow=37							
LPAZ	**La Paz**	**20.33**	**14**	P		**P**	**06 07 38.1**	**-0.6**
LPAZ				*e*P		Pn	06 07 39.5	-1.2
LPAZ	**La Paz**	**20.33**	**14**	P		**P**	**06 07 38.1**	**-0.6**
	comp=N,1.6nm,0.7s,baz=212,slow=9.0,SNR=7.5							
SIV	**San Ignacio**	**22.79**	**31**	P		**P**	**06 08 04.1**	**-0.5**
SIV	**San Ignacio**	**22.79**	**31**	P		**P**	**06 08 04.1**	**-0.5**
	comp=N,6.3nm,0.9s,baz=244,slow=14,SNR=18							
SNAA	**Sanae**	**49.83**	**157**	P		**P**	**06 11 54.6**	**0.0**
SNAA	**Sanae**	**49.83**	**157**	P		**P**	**06 11 54.6**	**0.0**
	comp=N,0.7nm,0.8s,baz=276,slow=12,SNR=4.5							
QSPA	**South Pole Qui**	**54.01**	**180**	P		**P**	**06 12 26.3**	**+0.4**
QSPA	**South Pole Qui**	**54.01**	**180**	P		**P**	**06 12 26.3**	**+0.4**
	comp=N,1.4nm,0.9s,baz=154,slow=7.5,SNR=4.2							
TXAR	**Lajitas Array**	**71.31**	**332**	P		**P**	**06 14 21.6**	**0.0**
TXAR	**Lajitas Array**	**71.31**	**332**	P		**P**	**06 14 21.6**	**0.0**
	comp=N,0.6nm,0.7s,baz=150,slow=8.8,SNR=9.4							
DBIC	**Dimbokro**	**76.64**	**71**	P		**P**	**06 14 52.5**	**-0.6**
DBIC	**Dimbokro**	**76.64**	**71**	P		**P**	**06 14 52.5**	**-0.6**
	comp=N,2.3nm,0.6s,baz=222,slow=6.8,SNR=5.1							
ANMO	**Albuquerque**	**77.37**	**332**	P		**P**	**06 14 57.3**	**+0.4**
ANMO	**Albuquerque**	**77.37**	**332**	P		**P**	**06 14 57.3**	**+0.4**
	comp=N,1.2nm,0.9s,baz=138,slow=12,SNR=4.6							
BOSA	**Boshof**	**79.74**	**118**	P		**P**	**06 15 09.7**	**-0.6**
BOSA	**Boshof**	**79.74**	**118**	P		**P**	**06 15 09.7**	**-0.6**
	comp=N,3.5nm,1.0s,baz=284,slow=3.6,SNR=3.9							
NVAR	**Mina Array Bea**	**85.27**	**326**	P		**P**	**06 15 39.8**	**+0.9**
NVAR	**Mina Array Bea**	**85.27**	**326**	P		**P**	**06 15 39.8**	**+0.9**
	comp=N,0.6nm,0.6s,baz=169,slow=5.2,SNR=3.4							
PSI	**Prapat**	**145.91**	**166**	PKPbc		**PKPdf**	**06 22 41.1**	**-0.6**
PSI	**Prapat**	**145.91**	**166**	PKPbc		**PKPdf**	**06 22 41.1**	**-0.6**
	comp=N,5.8nm,0.8s,baz=202,slow=5.4,SNR=5.5							
BVAR	**Borovoye Array**	**149.43**	**45**	PKPbc		**PKPbc**	**06 22 49.1**	**-1.4**
BVAR	**Borovoye Array**	**149.43**	**45**	PKPbc		**PKPbc**	**06 22 49.1**	**-1.4**
	comp=N,0.8nm,0.6s,baz=350,slow=4.5,SNR=4.2							
MKAR	**Makanchi Array**	**158.79**	**53**	PKP		**PKPdf**	**06 22 58.3**	**-1.2**
MKAR	**Makanchi Array**	**158.79**	**53**	PKP		**PKPdf**	**06 22 58.3**	**-1.2**
	comp=N,0.5nm,0.8s,baz=315,slow=0.4,SNR=4.5							

IDC ***21*** *06:16:18.5±0.8,44°.51N×110°.96W,h0km,mb4.1/3, mb1 4.0/8,mb1mx3.6/59,mbtmp3.8/8,ML3.6/4,MS3.6/18, Ms1 3.6/18,ms1mx3.3/47,Error ellipse: s-maj=14.0km s-min=9.3km az=73.0*

NEIC ***21*** *06:16:19.0,44°.57N×110°.97W,h10km,MW4.3, ML3.8(SLC),Moment Tensor Solution. s16 Moment tensor: Scale 10^15Nm; Mrr=0.47; Mθθ=0.54; Mφφ=-0.08; Mrθ=0.33; Mθφ=-1.53; Mrφ=-2.62; Best double couple: Ms=3.10000×10^15 NP1=φs=89.00000°,δ=30.00000°, λ=-170.00000°. NP2=φs=350.00000°,δ=85.00000°, λ=-60.00000°. Principal axes: T 3.0900, Plg33.0000°, Azm54.0000°; N 0.0000, Plg29.0000°, Azm167.0000°; P -3.0900, Plg42.0000°, Azm288.0000°; After SLC.*

NEIC Felt [III] in Yellowstone National Park. Felt [II] at West Yellowstone, Montana. Also felt at Gardiner. Felt at Island Park, Idaho.

ISC 21 06:16:19.4±1.0,44°.57N±0°.02×110°.97W±0°.02,h4km±8km, n125,σ1s51/146,mb4.0/3,MS3.7/11,20C-28D, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YMR	**Madison River**	**0.10**	**0**	*e*Pg		**Pg**	**06 16 22.4**	**+0.9**
YMR				*e*Sg		**Sg**	**06 16 25.0**	**+2.0**
H17A	**Grant Village**	**0.33**	**122**	*e*Pg		**Pg**	**06 16 26.4**	**+0.6**
H17A				*e*Sg		**Sg**	**06 16 30.9**	**+0.7**
H17A	**Grant Village**	**0.33**	**122**	⇓P		**Pg**	**06 16 26.4**	**+0.6**
	baz=0.3							
H17A				⇑S		**Sg**	**06 16 30.9**	**+0.7**
	baz=0.3							
QLMT	**Earthquake Lak**	**0.42**	**308**	*e*Pg		**Pg**	**06 16 27.9**	**+0.4**
QLMT				*e*Sg		**Sg**	**06 16 34.1**	**+1.0**
I17A	**Pilgrim Ck.**	**0.71**	**157**	⇑P		**Pb**	**06 16 33.5**	**-1.0**
	baz=0.7							
I17A				⇓S		**Sb**	**06 16 44.1**	**-0.5**
	baz=0.7							
H18A	**Shoshone NF, C**	**0.94**	**83**	P		**Pg**	**06 16 36.6**	**-0.7**
	baz=0.9,SNR=192							
H18A				⇓S		**Sg**	**06 16 49.3**	**-0.2**
	baz=0.9							
BOZ	**Bozeman (W)**	**1.18**	**337**	*e*P		**Pb**	**06 16 40.5**	**-1.9**
BOZ				*e*S		**Sb**	**06 16 56.7**	**-1.3**
RLMT	**Red Lodge**	**1.33**	**65**	*e*Pn		**Pn**	**06 16 43.6**	**-1.3**
RLMT				*e*Sn		**Sg**	**06 17 02.6**	**+0.5**
MCMT	**McKenzie Canyo**	**1.37**	**281**	*e*Pn		**Pg**	**06 16 45.4**	**-0.2**
MCMT				S		**Sb**	**06 17 00.9**	**-2.8**
H19A	**Powell**	**1.42**	**85**	⇓P		**Pn**	**06 16 45.3**	**-0.8**
	baz=1.4,SNR=39							
H19A				⇓S		**Sg**	**06 17 05.1**	**+0.2**
	baz=1.4							
I19A	**Meeteetse**	**1.51**	**110**	⇑P		**Pb**	**06 16 47.2**	**-0.9**
	baz=1.5							
I19A				⇓S		**Sg**	**06 17 08.1**	**+0.1**
	baz=1.5							
GCMT	**Greycliff**	**1.53**	**36**	*e*Pn		**Pb**	**06 16 47.7**	**-0.7**
GCMT				*e*S		**Sb**	**06 17 07.2**	**-1.0**
LRM	**Limekiln Ridge**	**1.63**	**321**	*e*Pn		**Pb**	**06 16 49.2**	**-1.

DAU	**Daniels Canyon**	**4.16**	**183**	*e*Pg	**Pg**	**06 17 39.0**	**-0.1**
BLMT	**Blacktail Moun**	**4.17**	**327**	*e*Pn	**Pn**	**06 17 24.7**	**+0.7**
BLMT				*e*Sg	**Sg**	**06 18 34.1**	**+0.8**
BMO	**Blue Mountains**	**4.53**	**276**	*e*Pn	**Pn**	**06 17 27.8**	**-1.0**
BMO				*e*Sg	**Sg**	**06 18 43.6**	**-1.2**
MPU	**Maple Canyon**	**4.58**	**186**	*e*Pn	**Pn**	**06 17 29.5**	**-0.1**
MPU				*e*Sg	**Sg**	**06 18 46.3**	**-0.1**
DUG	**Dugway**	**4.58**	**198**	*e*Pn	**Pn**	**06 17 31.2**	**+1.6**
DUG				*e*Sg	**Sg**	**06 18 50.0**	**+3.5**
DUG	**Dugway** baz=4.6	**4.58**	**198**	⇑P	**Pn**	**06 17 31.1**	**+1.5**
NLU	**North Lily Min**	**4.69**	**190**	*e*Pg	**Pg**	**06 17 47.9**	**-1.2**
F24A	**Ekalaka** baz=4.8	**4.78**	**72**	⇑P	**Pn**	**06 17 32.0**	**-0.3**
O20A	**White River Ci**	**4.87**	**155**	*e*Pn	Pn	06 17 38.4	+4.7
O20A				*e*Sg	**Sg**	**06 18 56.7**	**+0.9**
WALA	**Waterton Lakes**	**4.92**	**337**	*e*Pn	**Pn**	**06 17 34.9**	**+0.6**
WALA				*e*Sg	**Sg**	**06 18 53.7**	**-3.8**
ELK	**Elko**	**4.95**	**221**	Pn	**Pn**	**06 17 36.5**	**+1.8**
ELK				Lg	Lg	06 18 51.5	
ELK	**Elko** 1.0nm,0.3s,baz=357,slow=11,SNR=24	**4.95**	**221**	Pn	**Pn**	**06 17 36.5**	**+1.8**
ELK	2.8nm,0.3s,baz=180,slow=3.4,SNR=6.3			Lg	Lg	06 18 51.5	
ELK	comp=Z,438nm,21.2s,baz=0.0,slow=40			LR	LR	06 19 34.8	
RSSD	**Black Hills**	**4.99**	**93**	*e*Pn	**Pn**	**06 17 36.0**	**+0.8**
TMUT	**Trail Mountain** 38nm,0.8s	**5.27**	**182**	Pg	**Pg**	**06 18 02.3**	**+1.9**
SRU	**San Rafael** 35nm,0.7s	**5.47**	**176**	*e*Pn	Pn	06 17 38.2	-3.6
NEW	**Newport** 22nm,0.6s	**5.64**	**313**	*e*Pn	**Pn**	**06 17 42.1**	**-1.9**
NEW				Lg	Lg	06 19 14.6	
NEW				*e*Sg	**Sg**	**06 19 16.1**	**-4.2**
NEW	**Newport** 2.8nm,0.3s,baz=131,slow=11,SNR=38	**5.64**	**313**	Pn	**Pn**	**06 17 44.3**	**+0.3**
NEW	16nm,0.3s,baz=351,slow=6.2,SNR=9.5			Lg	Lg	06 19 14.6	
WVOR	**Wild Horse Val** 40nm,0.9s	**5.97**	**252**	*e*Pn	**Pn**	**06 17 47.6**	**-1.0**
WVOR				*e*Sg	**Sg**	**06 19 29.3**	**-1.9**
DPW	**Davenport**	**6.01**	**306**	P	**Pn**	**06 17 50.3**	**+1.2**
DGMT	**Dagmar** 307nm,1.1s	**6.08**	**48**	*e*Pn	**Pn**	**06 17 50.8**	**+0.7**
DGMT				*e*Sg	**Sg**	**06 19 32.8**	**-1.9**
OD2	**Odessa Site #2**	**6.09**	**300**	P	**Pn**	**06 17 50.6**	**+0.4**
ISCO	**Idaho Springs** 39nm,1.2s	**6.21**	**138**	*e*Pg	Pg	06 18 13.5	-4.8
HAWA	**Hanford** 29nm,0.8s	**6.29**	**290**	*e*Pn	**Pn**	**06 17 54.1**	**+1.2**
HAWA				*e*Sn	**Sn**	**06 19 06.7**	**+1.4**
JBO	**Jordan Butte**	**6.35**	**281**	P	**Pn**	**06 17 55.4**	**+1.6**
SAW	**Saint Andrews**	**6.64**	**301**	P	**Pn**	**06 17 58.4**	**+0.6**
B08A	**Colville Reser**	**6.91**	**306**	P	**Pn**	**06 18 01.5**	**0.0**
WTV	**Waterville**	**6.98**	**300**	P	**Pn**	**06 18 03.2**	**+0.7**
DHW2	**Dyer Hill 2**	**6.99**	**302**	P	**Pn**	**06 18 03.9**	**+1.3**
ARUT	**Antelope Range** 197nm,0.7s	**7.03**	**196**	*e*Pg	**Pg**	**06 18 34.1**	**+0.1**
EBG	**Ellensburg**	**7.11**	**293**	P	**Pn**	**06 18 05.7**	**+1.4**
ETW	**Entiat**	**7.18**	**298**	P	**Pn**	**06 18 05.6**	**+0.3**
TBM	**Table Mountain**	**7.21**	**295**	P	**Pn**	**06 18 07.0**	**+1.4**
MOD	**Modoc** 34nm,1.2s	**7.32**	**252**	*e*Pg	**Pg**	**06 18 39.3**	**-0.3**
MVCO	**Mesa Verde** 16nm,0.7s	**7.59**	**165**	*e*Pn	**Pn**	**06 18 09.5**	**-1.4**
MVCO				*e*Sg	**Sg**	**06 20 20.7**	**-2.2**
LON	**Longmire** 14nm,0.8s	**7.90**	**290**	*e*Pn	Pn	06 18 17.4	+2.3
NV11	**Mina Array Sit**	**8.16**	**224**	Pn	**Pn**	**06 18 19.9**	**+1.1**
NVAR	**Mina Array Bea**	**8.24**	**224**	Pn	Pn	06 18 25.0	+5.1
NVAR				Lg	Lg	06 20 39.5	
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=35,slow=12,SNR=3.9	**8.24**	**224**	Pn	Pn	06 18 25.0	+5.1
NVAR	0.2nm,0.3s,baz=42,slow=38,SNR=5.6			Lg	Lg	06 20 39.5	
SHPR	**Sheep Range** 13nm,1.3s	**8.66**	**203**	Pn	Pn	06 18 29.4	+3.7
EDM	**Edmonton**	**8.80**	**351**	*e*Pn	**Pn**	**06 18 24.6**	**-2.7**
YBH	**Yreka Blue Hor** comp=Z,134nm,20.7s,baz=48,slow=41	**9.04**	**256**	LR	LR	06 22 27.1	
ANMO	**Albuquerque**	**10.22**	**159**	Pn	**Pn**	**06 18 47.8**	**+0.8**
ANMO	**Albuquerque** 0.0nm,0.3s,baz=0.0,slow=13,SNR=1.8	**10.22**	**159**	Pn	**Pn**	**06 18 47.8**	**+0.8**
ANMO	comp=Z,198nm,19.7s,baz=330,slow=40			LR	LR	06 23 05.7	
ULM	**Lac du Bonnet**	**11.69**	**56**	Pn	**Pn**	**06 19 07.5**	**+0.6**
ULM				Lg	Lg	06 22 19.6	
ULM	**Lac du Bonnet** 0.3nm,0.3s,baz=242,slow=13,SNR=3.7	**11.69**	**56**	Pn	**Pn**	**06 19 07.5**	**+0.6**
ULM	0.4nm,0.3s,baz=156,slow=19,SNR=3.0			Lg	Lg	06 22 19.6	
ULM	comp=Z,49nm,20.5s,baz=240,slow=34			LR	LR	06 22 57.7	
PFO	**Pinyon Flat Ob** comp=Z,230nm,21.4s,baz=327,slow=37	**11.74**	**203**	LR	LR	06 23 27.6	
BBB	**Bella Bella** comp=Z,180nm,18.8s,baz=131,slow=39	**13.69**	**310**	LR	LR	06 25 13.5	
TXAR	**Lajitas Array** comp=Z,138nm,21.9s,baz=0.0,slow=39	**16.28**	**157**	LR	LR	06 26 44.7	
YKA	**Yellowknife Ar**	**18.08**	**355**	Pn	**Pn**	**06 20 28.1**	**-3.1**
YKA				Lg	Lg	06 25 41.7	
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=172,slow=12,SNR=8.4	**18.08**	**355**	Pn	**Pn**	**06 20 28.1**	**-3.1**
YKA	0.1nm,0.3s,baz=161,slow=27,SNR=5.1			Lg	Lg	06 25 41.7	
DLBC	**Dease Lake**	**18.17**	**327**	P	**P**	**06 20 35.5**	**+2.8**
DLBC	**Dease Lake** 0.9nm,0.3s,baz=72,slow=5.3,SNR=3.9	**18.17**	**327**	P	**P**	**06 20 35.5**	**+2.8**
TKL	**Tuckaleechee C** comp=Z,264nm,18.9s,baz=346,slow=38	**22.54**	**104**	LR	LR	06 30 28.8	
SADO	**Sadowa** comp=Z,275nm,19.4s,baz=289,slow=38	**22.56**	**78**	LR	LR	06 30 25.7	
ILAR	**Eielson Array**	**28.36**	**328**	P	P	06 22 16.2	+2.0
ILAR	**Eielson Array** 0.7nm,0.5s,baz=121,slow=8.2,SNR=8.1	**28.36**	**328**	P	P	06 22 16.2	+2.0
ILAR	comp=Z,128nm,18.1s,baz=112,slow=39			LR	LR	06 34 40.3	
RES	**Resolute Bay** comp=Z,148nm,21.4s,baz=168,slow=37	**31.05**	**8**	LR	LR	06 35 39.7	
PETK	**Petropavlovsk-**	**56.77**	**314**	P	**P**	**06 26 05.1**	**+0.8**
PETK	**Petropavlovsk-** 2.6nm,0.6s,baz=76,slow=14,SNR=4.5	**56.77**	**314**	P	**P**	**06 26 05.1**	**+0.8**
ARCES	**ARCESS Array B** comp=Z,67nm,18.3s,baz=352,slow=37	**61.81**	**16**	LR	LR	06 54 06.0	
NOA	**NORSAR Array B** comp=Z,42nm,18.1s,baz=320,slow=35	**64.81**	**27**	LR	LR	06 53 53.6	
PPT	**Papeete** comp=Z,67nm,21.9s,baz=270,slow=30	**71.16**	**219**	LR	LR	06 51 45.4	
GERES	**GERESS Array B** comp=Z,48nm,18.2s,baz=302,slow=35	**75.14**	**34**	LR	LR	07 00 35.4	
AKASG	**Malin Array Be**	**79.01**	**25**	P	**P**	**06 28 24.6**	**+0.4**
AKASG	**Malin Array Be** 1.1nm,0.6s,baz=330,slow=5.3,SNR=8.4	**79.01**	**25**	P	**P**	**06 28 24.6**	**+0.4**
AKTO	**Aktyubinsk** comp=Z,41nm,20.0s,slow=38	**84.89**	**7**	LR	LR	07 09 44.9	
KBZ	**Khabaz** comp=Z,43nm,18.2s,baz=6.5,slow=35	**89.05**	**19**	LR	LR	07 08 46.7	
BRTR	**Keskin Array B** comp=Z,28nm,18.2s,baz=328,slow=36	**90.24**	**27**	LR	LR	07 10 33.5	

IDC 21 06:18:35.6±3.1, 53°37'N×87°44'E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=29.9km s-min=15.6km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=109,slow=347,SNR=1.6	**1.66**	**291**	*i*		06 27 40.0	
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=108,slow=15,SNR=10.0	**1.66**	**291**	Pg	Pn	06 19 05.5	-0.5
ZALV	1.2nm,0.3s,baz=111,slow=30,SNR=10			Lg	Lg	06 19 28.6	
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=60,slow=14,SNR=4.6	**6.15**	**247**	Pn	Pn	06 20 08.1	+0.4
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=30,slow=14,SNR=5.1	**7.37**	**209**	Pn	Pn	06 20 25.8	+1.3

*ISCJB **21** 06:28:19.4±0.7, 21°.44N±0°.08×143°.3E±0°.2, h311km, mb3.6/14, Error ellipse: s-maj=22.0km s-min=10.7km az=178.2*
*IDC **21** 06:28:21.7±1.9, 21°.55N×143°.21E, h315km±17km, mb3.3/14, mb1 3.5/15, mb1mx3.3/47, mbtmp4.0/15, Error ellipse: s-maj=17.4km s-min=13.4km az=96.0*

ISC 21 06:28:21.1±0.9, 21°.5N±0°.1×143°.2E±0°.2, h311km, n17, σ0s47/18, mb3.6/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 17nm,0.3s,baz=279,slow=18,SNR=8.6	**5.64**	**351**	P	**Pn**	**06 29 46.8**	**+0.3**
JCJ	9.3nm,0.3s,baz=294,slow=20,SNR=3.9			S	**S**	**06 30 55.6**	**+0.4**
KSRS	**Korea Array** 2.2nm,0.6s,baz=143,slow=8.7,SNR=6.9	**20.68**	**324**	P	**P**	**06 32 38.0**	**-0.1**
SONM	**Songino Array** 0.2nm,0.4s,baz=122,slow=5.3,SNR=4.0	**39.50**	**321**	P	**P**	**06 35 22.4**	**-0.1**
CMAR	**Chiang Mai Arr** 0.9nm,0.4s,baz=67,slow=7.9,SNR=5.0	**41.61**	**274**	P	**P**	**06 35 40.2**	**+0.4**
WRA	**Warramunga Arr** 0.4nm,0.2s,baz=12,slow=7.9,SNR=6.9	**42.10**	**192**	P	**P**	**06 35 43.6**	**0.0**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=13,slow=13,SNR=5.4	**45.81**	**192**	P	**P**	**06 36 13.2**	**+0.4**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=110,slow=8.1,SNR=5.2	**54.37**	**322**	P	**P**	**06 37 15.9**	**-0.4**
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=91,slow=9.1,SNR=13	**54.84**	**313**	P	**P**	**06 37 19.8**	**0.0**
KURBB	**Kurchatov Arra** 3.1nm,0.5s,baz=93,slow=7.4,SNR=35	**57.68**	**317**	P	**P**	**06 37 39.3**	**-0.3**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=261,slow=5.6,SNR=10	**62.19**	**27**	P	**P**	**06 38 09.3**	**-0.6**
BVAR	**Borovoye Array** 3.4nm,0.4s,baz=93,slow=6.9,SNR=13	**62.83**	**320**	P	**P**	**06 38 14.3**	**0.0**
INK	**Inuvik** 1.3nm,0.9s,baz=258,slow=10,SNR=4.6	**67.73**	**24**	P	**P**	**06 38 45.4**	**+0.2**
YKA	**Yellowknife Ar** 1.1nm,0.5s,baz=291,slow=5.8,SNR=30	**76.61**	**28**	P	**P**	**06 39 37.8**	**+0.2**
ARCES	**ARCESS Array B** 8.1nm,1.1s,baz=76,slow=8.8,SNR=18	**79.11**	**342**	P	**P**	**06 39 51.4**	**+0.2**
JOF	**Joensuu** 2.6nm,0.3s	**80.49**	**334**	*ep*	**P**	**06 39 57.9**	**-0.7**
FINES	**FINESS Array B** 1.2nm,0.5s,baz=68,slow=4.7,SNR=10	**83.36**	**334**	P	**P**	**06 40 12.3**	**-1.2**
LPAZ	**La Paz** 0.9nm,0.5s,baz=264,slow=4.3,SNR=4.7	**149.93**	**85**	PKPbc	**PKPbc**	**06 47 36.7**	**+0.3**

DJA 21 06:37:04.3±1.4, 2°N±8°×12°2E±°, h10km, M3.5/4, MLv3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.16**	**194**	P	Pb	06 37 23.7	-2.8
MRSI				S	Sb	06 37 41.0	-0.6
GTOI	**Gorontalo**	**1.24**	**141**	P	Pn	06 37 22.5	-5.3
GTOI				S	Sb	06 37 38.2	-5.8
APSI	**Ampana**	**2.57**	**193**	P	Pn	06 37 47.0	+1.0
LUWI	**Luwuk**	**2.69**	**168**	P	Pn	06 37 47.9	+0.2

DJA 21 06:46:48.8±0.7, 8°S±6°×107°E±°, h24km±7km, M3.5/8, MLv3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.65**	**52**	P	Pb	06 47 02.0	+0.4
CNJI	**Cibinong**	**0.67**	**345**	P	Pb	06 47 02.2	+0.4
CNJI				S	Sb	06 47 10.6	-0.1
CMJI	**Cimerak**	**1.15**	**81**	P	Pn	06 47 09.0	-0.4
CMJI				S	Sn	06 47 23.1	-1.3
LEM	**Lembang**	**1.17**	**16**	P	Pn	06 47 09.7	-0.2
LEM				S	Sn	06 47 25.3	+0.1
SKJI	**Sukabumi**	**1.20**	**322**	P	Pn	06 47 09.9	-0.2
DBJI	**Dramaga**	**1.50**	**339**	P	Pn	06 47 14.6	+0.3
CGJI	**Cibinong**	**2.08**	**310**	P	Pn	06 47 21.4	-0.8
CGJI				S	Sn	06 47 43.9	-3.5

*NEIC **21** 06:48:13.2±0.5, 8°.74N×126°.97E, h35km, mb4.2/3, Error ellipse: s-maj=19.1km s-min=7.9km az=75.0*
NEIC Felt [I PIVS] at Bislig.
*MAN **21** 06:48:14, 8°.51N×126°.73E, h29km, mb4.8, ML3.7, MS3.8*
MAN INTENSITY I - BISLIG SURIGAO DEL SUR.
*ISCJB **21** 06:48:15.3±0.8, 8°.59N±0°.04×126°.76E±0°.06, h66km±6km, mb4.0/19, Error ellipse: s-maj=10.7km s-min=5.2km az=160.4*
*IDC **21** 06:48:23.0±7.3, 8°.40N×126°.49E, h121km±69km, mb3.8/15, mb1 3.9/15, mb1mx3.8/34, mbtmp4.1/15, MS3.4/9, Ms1 3.4/9, ms1mx3.2/34, Error ellipse: s-maj=28.5km s-min=14.0km az=64.0*

ISC 21 06:48:15.3±1.4, 8°.60N±0°.05×126°.73E±0°.09, h46km±13km, n82, σ1s51/78, mb4.1/19, MS3.3/8, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.55**	**221**	‖*eP*	**Pn**	**06 48 26.1**	**-0.8**
BIPH				*eS*	**Sn**	**06 48 32.0**	**-3.3**
BUTP	**Butuan**	**1.16**	**288**	*eP*	**Pn**	**06 48 34.7**	**-0.4**
BUTP				*eS*	**Sn**	**06 48 51.6**	**+1.9**
SCPH	**Surigao**	**1.70**	**314**	*eP*	**Pn**	**06 48 43.2**	**+0.7**
SCPH				*eS*	**Sn**	**06 49 04.2**	**+1.2**
BUKP	**Musuan**	**1.80**	**247**	*eP*	**Pn**	**06 48 44.5**	**+0.5**
BUKP				*eS*	**Sn**	**06 49 05.3**	**-0.3**
DAV	**Davao City (W)**	**1.90**	**217**	*e*Pn	**Pn**	**06 48 47.7**	**+2.4**
DAV				*e*Sn	**Sn**	**06 49 11.9**	**+3.9**
DMPH	**Davao City--Mi**	**1.94**	**219**	⇑*eP*	**Pn**	**06 48 48.2**	**+2.4**
DMPH				*eS*	**Sn**	**06 49 12.3**	**+3.4**
CGP	**Cagayan de Oro**	**2.02**	**266**	⇑*iP*	**Pn**	**06 48 47.8**	**+0.9**
CGP				*iS*	**Sn**	**06 49 12.4**	**+1.4**
MSLP	**Maasin**	**2.39**	**310**	*eP*	**Pn**	**06 48 54.1**	**+2.1**
CTBH	**Cotabato--PC H**	**2.82**	**241**	⇑*iP*	**Pn**	**06 48 57.9**	**+0.1**
TBP	**Tagbilaran**	**3.03**	**291**	*eP*	**Pn**	**06 49 02.4**	**+1.5**
TBP				*eS*	**Sn**	**06 49 31.4**	**-4.5**
PLP	**Palo**	**3.08**	**326**	‖*eP*	**Pn**	**06 49 02.7**	**+1.3**
OCLP	**Ormoc**	**3.21**	**319**	*eP*	Pn	06 49 07.4	+4.1
LLP	**Lapu-Lapu**	**3.22**	**302**	⇑*eP*	**Pn**	**06 49 05.3**	**+1.9**
LLP				*eS*	**Sn**	**06 49 43.5**	**+3.1**
PAGZ	**Pagadian**	**3.40**	**258**	*eP*	**Pn**	**06 49 08.3**	**+2.4**
GUIM	**Jordan**	**4.55**	**297**	*eP*	**Pn**	**06 49 24.6**	**+2.9**
TNTI	**Ternate**	**7.80**	**175**	Pn	**Pn**	**06 50 06.8**	**+0.5**
JAY	**Jayapura** comp=Z,122nm,19.4s,baz=326,slow=37	**17.78**	**128**	LR	LR	06 59 15.5	
MTN	**Manton Dam** baz=22,SNR=8.5	**21.75**	**168**	P	**P**	**06 53 03.6**	**+0.6**
KDU	**Kakadu** baz=22,SNR=6.3	**21.91**	**165**	P	**P**	**06 53 04.8**	**+0.1**
KNRA	**Kununurra** baz=24,SNR=4.3	**24.21**	**175**	P	**P**	**06 53 28.0**	**+0.3**
KNRA	baz=24,SNR=4.6			S	S	06 58 00.2	+17
CISI	**Cisompet, Garu** baz=24,SNR=6.4	**24.76**	**230**	P	**P**	**06 53 29.5**	**-3.4**
PSI	**Prapat** comp=Z,51nm,19.9s,baz=38,slow=39	**28.25**	**260**	LR	LR	07 06 27.4	
CMAR	**Chiang Mai Arr**	**28.70**	**293**	P	**P**	**06 54 09.1**	**+0.8**
CMAR	**Chiang Mai Arr** 3.0nm,0.8s,baz=102,slow=6.4,SNR=12	**28.70**	**293**	P	**P**	**06 54 09.1**	**+0.8**
CMAR	comp=Z,69nm,18.5s,baz=130,slow=37			LR	LR	07 05 57.2	
WRAB	**Tennant Creek** 5.0nm,0.9s	**29.33**	**165**	*eP*	**P**	**06 54 12.6**	**-1.3**
WRA	**Warramunga Arr**	**29.34**	**165**	P	**P**	**06 54 12.8**	**-1.2**
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=347,slow=9.7,SNR=11	**29.34**	**165**	P	**P**	**06 54 12.8**	**-1.2**
MJAR	**Matsushiro Arr** comp=Z,38nm,21.4s,baz=200,slow=33	**29.71**	**19**	LR	LR	07 05 02.9	
QIS	**Mount Isa** baz=32,SNR=5.7	**31.62**	**157**	P	**P**	**06 54 34.1**	**0.0**
ASAR	**Alice Springs**	**32.83**	**168**	P	**P**	**06 54 43.9**	**-0.8**
ASAR	**Alice Springs** 1.3nm,0.6s,baz=3.7,slow=8.9,SNR=20	**32.83**	**168**	P	**P**	**06 54 43.9**	**-0.8**
WRKA	**Warakurna** baz=34,SNR=8.6	**33.47**	**177**	P	**P**	**06 54 50.2**	**-0.1**
USRK	**Ussuryisk Arra** 4.4nm,0.7s,baz=192,slow=8.8,SNR=7.2	**35.76**	**6**	P	**P**	**06 55 11.9**	**+2.2**
USRK	comp=Z,26nm,19.1s,baz=53,slow=34			LR	LR	07 08 31.3	
MEEK	**Meekatharra** baz=36,SNR=5.3	**35.91**	**192**	P	**P**	**06 55 11.2**	**-0.1**
ASAJ	**Asahikawa** comp=Z,50nm,19.8s,baz=108,slow=36	**37.98**	**19**	LR	LR	07 11 21.2	
H11S3	**WAKE ISLAND Hy** baz=263,slow=73,SNR=55	**39.98**	**72**	T	T	07 38 55.7	
H11S1	**WAKE ISLAND Hy** baz=263,slow=73,SNR=39	**40.00**	**71**	T	T	07 38 56.8	
H11S2	**WAKE ISLAND Hy**	**40.00**	**72**	T	T	07 38 57.7	
	baz=263,slow=73,SNR=25						
H11N1	**WAKE ISLAND Hy** baz=268,slow=75,SNR=23	**40.37**	**70**	T	T	07 39 32.0	
H11N2	**WAKE ISLAND Hy** baz=268,slow=75,SNR=14	**40.38**	**70**	T	T	07 39 32.8	
H11N3	**WAKE ISLAND Hy** baz=268,slow=75,SNR=29	**40.39**	**70**	T	T	07 39 33.4	
TAPN	**Taplejung** 14nm,0.5s	**41.30**	**302**	*e*P	**P**	**06 55 57.0**	**0.0**
ODAN	**Odare** 19nm,0.4s	**41.41**	**301**	*e*P	**P**	**06 55 58.1**	**+0.3**
BBOO	**Buckleboo** baz=42,SNR=23	**42.13**	**168**	P	**P**	**06 56 03.2**	**0.0**
JIRN	**Jiri** 21nm,0.4s	**42.68**	**302**	*e*P	**P**	**06 56 08.3**	**0.0**
STKA	**Stephens Creek**	**42.69**	**161**	P	**P**	**06 56 07.3**	**-0.4**
STKA	**Stephens Creek** 2.2nm,0.6s,baz=324,slow=6.4,SNR=6.1	**42.69**	**161**	P	**P**	**06 56 07.3**	**-0.4**
STKA	**Stephens Creek** baz=43,SNR=4.4	**42.69**	**161**	P	**P**	**06 56 07.3**	**-0.4**
SONM	**Songino Array**	**42.73**	**340**	P	P	06 56 12.0	+3.9
SONM	**Songino Array** 0.6nm,0.5s,baz=151,slow=9.2,SNR=3.2	**42.73**	**340**	P	P	06 56 12.0	+3.9
SONM	comp=Z,71nm,19.0s,baz=342,slow=38			LR	LR	07 15 24.5	
GUN	**Gumba** 15nm,0.4s	**43.02**	**302**	*e*P	**P**	**06 56 11.1**	**+0.1**
PKI	**Pulchoki**	**43.31**	**301**	*e*P	**P**	**06 56 12.9**	**-0.4**
DMN	**Daman**	**43.58**	**301**	*e*P	**P**	**06 56 15.0**	**-0.4**
GKN	**Gorkha**	**44.09**	**302**	*e*P	**P**	**06 56 18.6**	**-0.8**
KOLN	**Koldanda** 28nm,0.7s	**44.90**	**301**	*e*P	**P**	**06 56 25.5**	**-0.4**
DANN	**Dangsing** 20nm,0.5s	**44.93**	**302**	*e*P	**P**	**06 56 25.5**	**-0.8**
PYUN	**Piuthan** 8.0nm,0.5s	**45.51**	**301**	*e*P	**P**	**06 56 30.6**	**-0.2**
MK31	**Makanchi Array**	**53.63**	**323**	*e*P	**P**	**06 57 31.4**	**-0.7**
MKAR	**Makanchi Array**	**53.63**	**323**	P	**P**	**06 57 31.7**	**-0.4**
MKAR				PcP	**PcP**	**06 58 37.2**	**-0.9**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=120,slow=7.5,SNR=12	**53.63**	**323**	P	**P**	**06 57 31.7**	**-0.4**
MKAR	1.4nm,0.7s,baz=118,slow=3.6,SNR=4.1			PcP	**PcP**	**06 58 37.2**	**-0.9**
SEY	**Seymchan**	**57.32**	**14**	P	**P**	**06 57 59.8**	**+1.5**
SEY	**Seymchan** 2.3nm,0.7s,baz=38,slow=19,SNR=4.3	**57.32**	**14**	P	**P**	**06 57 59.8**	**+1.5**
KURK	**Kurchatov**	**57.69**	**326**	P	**P**	**06 58 00.4**	**-0.7**
KURBB	**Kurchatov Arra** 1.5nm,0.6s,baz=125,slow=6.7,SNR=15	**57.70**	**326**	P	**P**	**06 58 00.4**	**-0.8**
KKAR	**Karatay Array** 0.8nm,0.4s	**59.74**	**315**	*e*P	**P**	**06 58 14.8**	**-0.8**
BVAR	**Borovoye Array**	**63.29**	**326**	P	**P**	**06 58 38.7**	**-0.6**
BVAR	**Borovoye Array** 2.7nm,0.6s,baz=125,slow=9.3,SNR=14	**63.29**	**326**	P	**P**	**06 58 38.7**	**-0.6**
ABKAR	**Akbulak array** 1.6nm,0.6s	**68.43**	**320**	*e*P	**P**	**06 59 11.3**	**-1.1**
AKTO	**Aktyubinsk**	**69.89**	**321**	P	**P**	**06 59 20.4**	**-1.1**
AKTO	**Aktyubinsk** 0.8nm,0.5s,baz=98,slow=12,SNR=4.1	**69.89**	**321**	P	**P**	**06 59 20.4**	**-1.1**
ILAR	**Eielson Array**	**80.73**	**26**	P	**P**	**07 00 24.8**	**+1.2**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=230,slow=5.2,SNR=4.7	**80.73**	**26**	P	**P**	**07 00 24.8**	**+1.2**
ARCES	**ARCESS Array B**	**85.91**	**340**	P	**P**	**07 00 49.1**	**-1.0**
ARCES	**ARCESS Array B** 2.4nm,0.7s,baz=90,slow=6.1,SNR=7.7	**85.91**	**340**	P	**P**	**07 00 49.1**	**-1.0**
PPT	**Papeete** comp=Z,74nm,18.9s,baz=252,slow=32	**86.61**	**108**	LR	LR	07 34 32.9	
BRTR	**Keskin Array B** comp=Z,9nm,20.3s,baz=286,slow=39	**86.94**	**310**	LR	LR	07 44 29.6	
FINES	**FINESS Array B**	**87.57**	**332**	P	**P**	**07 00 57.4**	**-0.9**
FINES	**FINESS Array B** 2.2nm,0.6s,baz=71,slow=4.8,SNR=17	**87.57**	**332**	P	**P**	**07 00 57.4**	**-0.9**
AKASG	**Malin Array Be**	**88.14**	**321**	P	**P**	**07 00 59.6**	**-1.6**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=61,slow=5.0,SNR=4.5	**88.14**	**321**	P	**P**	**07 00 59.6**	**-1.6**
YKA	**Yellowknife Ar**	**95.08**	**24**	P	**P**	**07 01 34.2**	**+1.0**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=302,slow=4.5,SNR=8.6	**95.08**	**24**	P	**P**	**07 01 34.2**	**+1.0**

MEX 21 07:46:05.3±0.4, 16°.96N×99°.84W, h8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.36**	**64**	*i* P	Pn	07 46 27.1	-3.7
TLIG				*i* S	Sb	07 46 44.0	-4.8
ARIG	**Puente Sto Nin**	**1.39**	**340**	*i* P	Pn	07 46 27.5	-3.6
ARIG				*e*S	Sb	07 46 45.3	-4.4
PLIG	**Platanillo**	**1.46**	**13**	*i* P	Pn	07 46 28.5	-3.6
PLIG				*e*S	Sn	07 46 46.7	-4.8
YAIG	**Yautepec**	**2.03**	**21**	*e*P	Pn	07 46 35.7	-4.3
YAIG				*i* S	Sn	07 47 00.7	-5.0

*MOS **21** 07:54:37.9±1.0, 68°.93N×17°.15W, h10km, mb4.7/33, Error ellipse: s-maj=17.4km s-min=5.5km az=105.1*
*BJI **21** 07:54:37.7, 69°.10N×17°.20W, h10km, mB4.6/1, mb4.3/9, Ms7 4.3/1*
*IDC **21** 07:54:38.2±0.5, 68°.88N×17°.26W, h0km, mb4.0/19, mb1 4.2/25, mb1mx4.0/58, mbtmp4.0/25, ML3.9/4, MS3.7/16, Ms1 3.8/16, ms1mx3.6/46, Error ellipse: s-maj=18.2km s-min=10.

baz=186
IHLA Hella 2.89 189 P **Pn** 07 55 24.2 -1.5
IHLA S **Sn** 07 55 56.5 -3.6
IHLA Hella 2.89 189 P **Pn** 07 55 24.2 -1.6
baz=193
IHLA S **Sn** 07 55 56.5 -3.6
baz=193
IHRN Hraun 2.91 203 P **Pn** 07 55 25.5 -0.4
IHRN S **Sn** 07 55 59.6 -0.9
IHRN Hraun 2.91 203 P **Pn** 07 55 25.4 -0.5
baz=208
IHRN S **Sn** 07 55 59.6 -0.8
baz=208
IGHA Grjothals 2.97 175 P **Pn** 07 55 24.9 -1.9
IGHA S **Sn** 07 56 00.0 -2.1
IGHA Grjothals 2.97 175 P **Pn** 07 55 24.9 -1.9
baz=178
IGHA S **Sn** 07 55 60.0 -2.1
baz=178
IKVO Krokottuvotn 3.10 177 P **Pn** 07 55 26.8 -1.8
IKVO S **Sn** 07 56 02.5 -2.7
IKVO Krokottuvotn 3.10 177 P **Pn** 07 55 26.8 -1.8
baz=180
IKVO S **Sn** 07 56 02.5 -2.7
baz=180
IREN Reynihlio 3.16 177 P **Pn** 07 55 27.7 -1.8
IREN S **Sn** 07 56 04.1 -2.7
IREN Reynihlio 3.16 177 P **Pn** 07 55 27.7 -1.8
baz=180
IREN S **Sn** 07 56 04.1 -2.7
baz=180
IGRS Grimsstaoir 3.20 171 P **Pn** 07 55 28.2 -1.8
IGRS S **Sn** 07 56 05.7 -2.0
IGRS Grimsstaoir 3.20 171 P **Pn** 07 55 28.2 -1.8
baz=174
IGRS S **Sn** 07 56 05.7 -2.0
baz=174
IMEL Melhnausar 3.25 175 P **Pn** 07 55 29.1 -1.5
IMEL S **Sn** 07 56 07.0 -1.9
IMEL Melhnausar 3.25 175 P **Pn** 07 55 29.1 -1.5
baz=178
IMEL S **Sn** 07 56 07.0 -1.9
baz=178
ISVA Svartarkot 3.47 180 P **Pn** 07 55 32.3 -1.4
ISVA S **Sn** 07 56 12.6 -1.8
ISVA Svartarkot 3.47 180 P **Pn** 07 55 32.3 -1.4
baz=183
ISVA S **Sn** 07 56 12.6 -1.8
baz=183
IASK Askja 3.77 176 P **Pn** 07 55 36.7 -1.1
IASK Askja 3.77 176 P **Pn** 07 55 36.7 -1.1
baz=178
IADA Aoalbol 3.85 169 P **Pn** 07 55 37.0 -1.9
IADA Aoalbol 3.85 169 P **Pn** 07 55 37.0 -1.9
baz=171
IMKO Mokollar 3.85 174 P **Pn** 07 55 37.7 -1.2
IMKO Mokollar 3.85 174 P **Pn** 07 55 37.7 -1.3
baz=176
IHVA Hvannstoosfjol 3.90 171 P **Pn** 07 55 37.8 -1.8
IHVA Hvannstoosfjol 3.90 171 P **Pn** 07 55 37.8 -1.8
baz=173
IGLU Glumsstadir 3.92 166 P **Pn** 07 55 38.0 -1.9
IGLU Glumsstadir 3.92 166 P **Pn** 07 55 38.0 -1.9
baz=168
IBRU Bruarjokull 4.01 173 P **Pn** 07 55 39.5 -1.6
IBRU Bruarjokull 4.01 173 P **Pn** 07 55 39.5 -1.6
baz=175
IKRE Kreppuhraun 4.04 175 P **Pn** 07 55 40.5 -1.1
IKRE Kreppuhraun 4.04 175 P **Pn** 07 55 40.5 -1.1
baz=177
BORG Borgarnes 4.37 203 *e*Pn **Pn** 07 55 47.7 +1.7
BORG *e*Sn **Sn** 07 56 35.9 -0.5
BORG Borgarnes 4.37 203 Pn **Pn** 07 55 46.5 +0.6
3.7nm,0.3s,baz=355,slow=6.2,SNR=15
BORG LR LR 07 57 07.2
comp=Z,608nm,18.4s,baz=42,slow=34
BORG Borgarnes 4.37 203 *e*Pn **Pn** 07 55 47.7 +1.7
BORG *e*Sn **Sn** 07 56 35.9 -0.5
SUMG Summit 7.95 308 *e*P **Pn** 07 56 32.5 -2.9
SUMG *e* 07 58 05.0
SUMG Summit 7.95 308 *i* P **Pn** 07 56 33.9 -1.5
SUMG *e*S Sn 07 57 58.0 -7.0
SUMG Summit 7.95 308 *e*Pn **Pn** 07 56 32.5 -2.9
SUMG *e*Sn **Sn** 07 58 05.0 0.0
SUMG Summit 7.95 308 *e*P **Pn** 07 56 32.5 -2.9
SUMG *e*S **Sn** 07 58 05.0 0.0
SFJD Kangerlussuaq 12.59 278 LR LR 08 02 22.6
comp=Z,179nm,19.0s,baz=62,slow=37
KBS Kingsbay 12.77 25 *e*P **Pn** 07 57 38.9 -2.0
KBS *e* 08 00 00.1
KBS Kingsbay 12.77 25 *e*Pn **Pn** 07 57 38.9 -2.0
KBS *e*Sn **Sn** 08 00 00.1 -2.4
KBS Kingsbay 12.77 25 *e*Pn **Pn** 07 57 38.9 -2.0
SPITS Spitsbergen Ar 13.12 30 Pn **Pn** 07 57 45.1 -0.7
SPITS Spitsbergen Ar 13.12 30 Pn **Pn** 07 57 45.1 -0.7
baz=172,slow=8.4,SNR=96
SPITS LR LR 08 01 24.0
comp=Z,344nm,19.7s,baz=200,slow=31
SPITS Spitsbergen Ar 13.12 30 P **Pn** 07 57 45.1 -0.7
NOA NORSAR Array B 14.23 109 Pn **Pn** 07 58 00.8 -0.2
NOA NORSAR Array B 14.23 109 Pn **Pn** 07 58 00.8 -0.2
0.3nm,0.3s,baz=312,slow=12,SNR=3.9
NOA LR LR 08 03 11.3
comp=Z,197nm,18.9s,baz=315,slow=36
NOA NORSAR Array B 14.23 109 Pn **Pn** 07 58 00.8 -0.2
EKA Eskdalemuir Ar 14.97 147 Pn **Pn** 07 58 13.3 +2.3
EKA Eskdalemuir Ar 14.97 147 Pn **Pn** 07 58 13.3 +2.3
baz=350,slow=11,SNR=3.9
EKA Eskdalemuir Ar 14.97 147 Pn **Pn** 07 58 13.3 +2.3
HFS Hagfors 15.73 108 Pn **Pn** 07 58 20.6 -0.5
HFS Hagfors 15.73 108 Pn **Pn** 07 58 20.5 -0.5
0.1nm,0.3s,baz=36,slow=7.6,SNR=3.4
HFS LR LR 08 04 07.6
comp=Z,311nm,18.1s,baz=310,slow=36
HFS Hagfors 15.73 108 Pn **Pn** 07 58 20.5 -0.5
FIA1 FINESS Array S 19.27 91 *e*P **Pn** 07 59 05.1 +0.2
FIA1 FINESS Array S 19.27 91 *e*Pn **Pn** 07 59 05.1 +0.2
FINES FINESS Array B 19.27 91 P **P** 07 59 04.3 +0.5
FINES FINESS Array B 19.27 91 P **P** 07 59 04.3 +0.5
0.8nm,0.3s,baz=317,slow=9.8,SNR=28
FINES LR LR 08 05 25.1
comp=Z,152nm,19.6s,baz=324,slow=34
FINES FINESS Array B 19.27 91 P **P** 07 59 04.3 +0.5
152nm,19.6s
FRB Frobisher Bay 20.69 281 P **P** 07 59 19.5 +0.3
FRB Frobisher Bay 20.69 281 P **P** 07 59 19.5 +0.3
7.8nm,0.8s,baz=49,slow=9.9,SNR=12
FRB LR LR 08 06 50.8
comp=Z,286nm,19.6s,baz=34,slow=35
FRB Frobisher Bay 20.69 281 P **P** 07 59 19.5 +0.3
286nm,19.7s
NRDL Niedersach Rie 20.84 128 *e*P **P** 07 59 22.1 +1.2
comp=Z,22nm,1.3s
NRDL Niedersach Rie 20.84 128 *e*P **P** 07 59 22.1 +1.2
comp=Z,22nm,1.3s
BUG Bochum--Univer 21.00 133 *e*P **P** 07 59 23.8 +1.1
comp=Z,46nm,0.9s
BUG Bochum--Univer 21.00 133 *e*P **P** 07 59 23.8 +1.1
comp=Z,46nm,0.9s
BEBN Eben Emael 21.18 137 P **P** 07 59 27.1 +2.4
HGN Heimansgroeve 21.27 136 *e*P **P** 07 59 26.8 +1.2
comp=Z,50nm,0.9s
HGN *e*L L 08 08 29.5
comp=Z,360nm,18.1s
MEM Membach 21.43 136 P **P** 07 59 28.4 +1.0
comp=Z,16nm,1.2s
MEM Membach 21.43 136 *e*P **P** 07 59 29.1 +1.7
MEM pmax pmax
comp=Z,52nm,0.9s
MEM Membach 21.43 136 *e*P **P** 07 59 29.1 +1.7
comp=Z,52nm,0.9s
MEM Membach 21.43 136 *e*P **P** 07 59 29.1 +1.7
comp=Z,52nm,0.9s
BCLA Clavier 21.43 138 P **P** 07 59 28.0 +0.6
comp=Z,5.3nm,1.0s
CLZ Clausthal 21.49 128 *e*P **P** 07 59 29.1 +1.0
comp=Z,13nm,1.2s
CLZ Clausthal 21.49 128 *e*P **P** 07 59 29.1 +1.0
comp=Z,13nm,1.2s
BAIF Baives 21.50 140 *e*P **P** 07 59 28.8 +0.6
comp=Z,18nm,0.8s
BAIF Baives 21.50 140 *e*P **P** 07 59 28.8 +0.6
BAIF pmax pmax
comp=Z,18nm,0.8s
BAIF Baives 21.50 140 *e*P **P** 07 59 28.8 +0.6
comp=Z,9.1nm,0.8s
DOU Dourbes 21.56 139 P P 07 59 33.6 +4.8
VSU Vasula 21.57 97 ⇓ *i*P **P** 07 59 27.7 -1.1
VSU pmax pmax
comp=Z,35nm,0.7s
VSU MLR MLR
comp=Z,175nm,13.0s
VSU Vasula 21.57 97 *i* P **P** 07 59 27.7 -1.1
comp=Z,175nm,13.0s
GIVF Givet 21.61 139 *e*P **P** 07 59 30.9 +1.6
comp=Z,35nm,0.9s
GIVF Givet 21.61 139 *e*P **P** 07 59 30.9 +1.6
GIVF pmax pmax
comp=Z,35nm,0.9s
GIVF Givet 21.61 139 *e*P **P** 07 59 30.9 +1.6
comp=Z,35nm,0.9s
GIVF Givet 21.61 139 *e*P **P** 07 59 30.9 +1.6
comp=Z,18nm,0.9s
ROSF Rostrenen 21.67 154 *e*P **P** 07 59 31.2 +1.3
comp=Z,52nm,1.1s
ROSF Rostrenen 21.67 154 *e*P **P** 07 59 31.2 +1.3
ROSF pmax pmax
comp=Z,52nm,1.1s
ROSF Rostrenen 21.67 154 *e*P **P** 07 59 31.2 +1.3
comp=Z,52nm,1.1s
ROSF Rostrenen 21.67 154 *e*P **P** 07 59 31.2 +1.3
comp=Z,26nm,1.1s
FLN La Foliniere 21.74 149 *e*P **P** 07 59 31.9 +1.2
FLN *e*R
comp=Z,492nm,19.8s
FLN La Foliniere 21.74 149 *e*P **P** 07 59 31.9 +1.2
FLN La Foliniere 21.74 149 *e*P **P** 07 59 31.9 +1.2
FLN La Foliniere 21.74 149 *e*P **P** 07 59 31.9 +1.2
SGMF Saint Gilles 21.86 153 *e*P **P** 07 59 32.6 +0.6
comp=Z,52nm,0.9s
SGMF Saint Gilles 21.86 153 *e*P **P** 07 59 32.6 +0.6
SGMF pmax pmax
comp=Z,52nm,0.9s
SGMF Saint Gilles 21.86 153 *e*P **P** 07 59 32.6 +0.6
comp=Z,52nm,0.9s
SGMF Saint Gilles 21.86 153 *e*P **P** 07 59 32.6 +0.6
comp=Z,26nm,0.9s
LDF La Druitiere 21.97 148 *e*P **P** 07 59 32.8 -0.4
comp=Z,36nm,1.0s
LDF La Druitiere 21.97 148 *e*P **P** 07 59 32.8 -0.4
LDF pmax pmax
comp=Z,36nm,1.0s
LDF La Druitiere 21.97 148 *e*P **P** 07 59 32.8 -0.4
comp=Z,36nm,1.0s
LDF La Druitiere 21.97 148 *e*P **P** 07 59 32.8 -0.4
comp=Z,18nm,1.0s
GRR Gorron 22.03 150 *e*P **P** 07 59 34.1 +0.3
GRR Gorron 22.03 150 *e*P **P** 07 59 34.1 +0.3
GRR Gorron 22.03 150 *e*P **P** 07 59 34.1 +0.3
GRR Gorron 22.03 150 *e*P **P** 07 59 34.1 +0.3
QUIF Quistinic 22.09 154 *e*P **P** 07 59 36.5 +2.0
comp=Z,105nm,1.3s
QUIF Quistinic 22.09 154 *e*P **P** 07 59 36.5 +2.0
QUIF pmax pmax
comp=Z,105nm,1.3s
QUIF Quistinic 22.09 154 *e*P **P** 07 59 36.5 +2.0
comp=Z,105nm,1.3s
CLL Collm 22.73 125 ⇑ *i*P **P** 07 59 41.9 +0.6
CLL *i* 07 59 46.8
CLL *e*S **S** 08 03 48.0 -1.0
CLL pmax pmax
comp=Z,31nm,1.3s
CLL Collm 22.73 125 ⇑ *i*P **P** 07 59 41.9 +0.6
comp=Z,31nm,1.3s
CLL *i* sP **sP** 07 59 46.8 -1.0
CLL *i* 07 59 50.3
CLL *e*S **S** 08 03 48.0 -1.0
CLL Collm 22.73 125 *i* P **P** 07 59 41.9 +0.6
comp=Z,31nm,1.3s
MOX Moxa 22.91 128 *e*P **P** 07 59 44.3 +1.1
comp=Z,10.0nm,1.3s
MOX Moxa 22.91 128 *e*P **P** 07 59 44.3 +1.1
comp=Z,10.0nm,1.3s
FBE Freiberg 23.18 125 *e*P **P** 07 59 46.9 +1.0
comp=Z,19nm,0.3s
PLN Plauen 23.21 127 *e*P **P** 07 59 48.0 +1.7
RES Resolute Bay 23.27 319 P **P** 07 59 45.2 -1.4
RES Resolute Bay 23.27 319 P **P** 07 59 45.2 -1.4
comp=Z,2.8nm,0.9s,baz=73,slow=8.4,SNR=5.6
RES LR LR 08 08 41.5
comp=Z,466nm,21.9s,baz=76,slow=36
RES Resolute Bay 23.27 319 P **P** 07 59 45.2 -1.4
comp=Z,466nm,21.9s
PAGF Fort de Pagny 23.27 139 *e*P **P** 07 59 46.1 -0.7
PAGF Fort de Pagny 23.27 139 *e*P **P** 07 59 46.1 -0.7
PAGF Fort de Pagny 23.27 139 *e*P **P** 07 59 46.1 -0.7
WERD Werda 23.29 127 *e*P **P** 07 59 48.4 +1.3
comp=Z,11nm,1.0s
TANN Tannenbergstha 23.36 127 *e*P **P** 07 59 49.4 +1.5
comp=Z,14nm,1.1s
GUNZ Gunzen 23.37 127 *e*P **P** 07 59 49.4 +1.5
BRG Berggiesshubel 23.40 124 *e*P **P** 07 59 49.9 +1.8
comp=Z,32nm,1.9s
BRG *e* 07 59 58.2
comp=Z,14nm,1.3s
WERN Wernitzgruen 23.45 127 *e*P **P** 07 59 50.2 +1.5
comp=Z,16nm,1.2s
NKC Novy Kostel 23.52 127 *e*P **P** 07 59 50.5 +1.1
NKC Novy Kostel 23.52 127 *e*P **P** 07 59 50.5 +1.1
NKC Novy Kostel 23.52 127 P **P** 07 59 50.5 +1.1
SUW Suwalki 23.75 108 *e*P **P** 07 59 51.0 -0.5
SUW Suwalki 23.75 108 *e*P **P** 07 59 51.0 -0.5
CDF Champ du Feu 23.78 137 *e*P **P** 07 59 52.5 +0.5
comp=Z,19nm,0.9s
CDF Champ du Feu 23.78 137 *e*P **P** 07 59 52.5 +0.5
CDF pmax pmax
comp=Z,19nm,0.9s
CDF Champ du Feu 23.78 137 *e*P **P** 07 59 52.5 +0.5
comp=Z,19nm,0.9s
ROTZ Rotzenmuhle 23.87 128 *e*P **P** 07 59 54.2 +1.5
MFF Saint Martin d 23.88 150 *e*P **P** 07 59 54.0 +1.2
MFF Saint Martin d 23.88 150 *e*P **P** 07 59 54.0 +1.2
MFF Saint Martin d 23.88 150 *e*P **P** 07 59 54.0 +1.2
HAU Haudompre 23.93 138 *e*P **P** 07 59 52.8 -0.5
HAU *e*R
comp=Z,359nm,21.5s
HAU Haudompre 23.93 138 *e*P **P** 07 59 52.8 -0.5
HAU Haudompre 23.93 138 *e*P **P** 07 59 52.8 -0.5
LOR Lormes 24.05 143 *e*P **P** 07 59 54.9 +0.4
comp=Z,13nm,0.9s
LOR *e*R
comp=Z,349nm,17.0s
LOR Lormes 24.05 143 *e*P **P** 07 59 54.9 +0.4
comp=Z,13nm,0.9s
KSP Ksiaz 24.14 121 *e*P **P** 07 59 55.4 +0.1
KSP *e**PP **pP** 07 59 58.2 -1.9
KSP Ksiaz 24.14 121 *e*P **P** 07 59 55.4 +0.1
SSF Saint Saulge 24.17 144 *e*P **P** 07 59 55.7 +0.2
comp=Z,10nm,0.8s
SSF Saint Saulge 24.17 144 *e*P **P** 07 59 55.7 +0.2
SSF pmax pmax
comp=Z,10.0nm,0.8s
SSF Saint Saulge 24.17 144 *e*P **P** 07 59 55.7 +0.2
comp=Z,10nm,0.8s
HINF Hinteralfeld 24.23 138 *e*P **P** 07 59 55.0 -1.1
HINF Hinteralfeld 24.23 138 *e*P **P** 07 59 55.0 -1.1
HINF Hinteralfeld 24.23 138 *e*P **P** 07 59 55.0 -1.1
NACGM Naroch 24.30 103 *e* **P** 07 59 54.0 -2.7
PRU Pruhonice 24.36 124 *e*P **P** 07 59 58.0 +0.8
PRU Pruhonice 24.36 124 *e*P **P** 07 59 58.0 +0.8
PRU Pruhonice 24.36 124 P **P** 07 59 58.0 +0.8
AVF Avril sur Loir 24.39 144 *e*P **P** 07 59 57.2 -0.4
comp=Z,24nm,1.1s
AVF Avril sur Loir 24.39 144 *e*P **P** 07 59 57.2 -0.4
AVF pmax pmax
comp=Z,24nm,1.1s
AVF Avril sur Loir 24.39 144 *e*P **P** 07 59 57.2 -0.4
comp=Z,24nm,1.1s
BGF Bois d'Agland 24.51 145 *e*P **P** 07 59 59.0 +0.4
comp=Z,17nm,0.6s
BGF Bois d'Agland 24.51 145 *e*P **P** 07 59 59.0 +0.4
BGF pmax pmax
comp=Z,17nm,0.6s
BGF Bois d'Agland 24.51 145 *e*P **P** 07 59 59.0 +0.4
comp=Z,17nm,0.6s
KLMR Klimovskoe 24.53 81 *e*P **P** 07 59 56.7 -2.0
KLMR pmax pmax
comp=Z,34nm,1.5s
DPC Dobruska-Polom 24.58 122 *e*P **P** 08 00 00.3 +1.0
DPC Dobruska-Polom 24.58 122 *e*P **P** 08 00 00.3 +1.0
DPC Dobruska-Polom 24.58 122 *e*P **P** 08 00 00.3 +1.0
TCF Toulx Ste Croi 24.64 146 *e*P **P** 08 00 00.3 +0.5
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 24.64 146 *e*P **P** 08 00 00.3 +0.5
TCF pmax pmax
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 24.64 146 *e*P **P** 08 00 00.3 +0.5
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 24.64 146 *e*P **P** 08 00 00.3 +0.5
comp=Z,11nm,0.8s
SMF Signal de Mont 24.64 143 *e*P **P** 07 59 59.8 0.0
comp=Z,17nm,0.8s
SMF Signal de Mont 24.64 143 *e*P **P** 07 59 59.8 0.0
SMF pmax pmax
comp=Z,17nm,0.8s
SMF Signal de Mont 24.64 143 *e*P **P** 07 59 59.8 0.0
comp=Z,17nm,0.8s
KHC Kasperske Hory 24.84 127 *e*P **P** 08 00 03.4 +1.8
KHC Kasperske Hory 24.84 127 *e*P **P** 08 00 03.4 +1.8
KHC Kasperske Hory 24.84 127 *e*P **P** 08 00 03.2 +1.6
comp=Z,10nm,1.1s
KHC Kasperske Hory 24.84 127 *e*P **P** 08 00 03.2 +1.6
comp=Z,10nm,1.1s
GEC2 GERESS Array S 25.13 127 *e*P **P** 08 00 06.1 +1.8
GEC2 GERESS Array S 25.13 127 *e*P **P** 08 00 06.2 +1.9
comp=Z,20nm,1.0s
GEC2 GERESS Array S 25.13 127 *e*P **P** 08 00 06.1 +1.8
GEC2 GERESS Array S 25.13 127 *e*P **P** 08 00 06.1 +1.8
GERES GERESS Array B 25.13 127 P **P** 08 00 06.1 +1.8
GERES GERESS Array B 25.13 127 P **P** 08 00 06.1 +1.8
comp=Z,8.4nm,0.8s,baz=339,slow=7.1,SNR=41
GERES GERESS Array B 25.13 127 P **P** 08 00 06.1 +1.8
comp=Z,8.0nm,0.8s
RJF Les Rejaudoux 25.44 148 *e*P **P** 08 00 06.9 -0.2
comp=Z,23nm,0.8s
RJF *e*R
comp=Z,541nm,22.2s
RJF Les Rejaudoux 25.44 148 *e*P **P** 08 00 06.9 -0.2
RJF pmax pmax
comp=Z,23nm,0.8s
RJF Les Rejaudoux 25.44 148 *e*P **P** 08 00 06.9 -0.2
comp=Z,23nm,0.8s
RJF Les Rejaudoux 25.44 148 *e*P **P** 08 00 06.9 -0.2
comp=Z,12nm,0.8s
MORC Moravsky Berou 25.46 121 *e*P **P** 08 00 08.2 +0.9
MORC pmax pmax
comp=Z,25nm,1.4s
MORC Moravsky Berou 25.46 121 *e*P **P** 08 00 08.2 +0.9
comp=Z,24nm,1.4s
MORC Moravsky Berou 25.46 121 *e*P **P** 08 00 07.8 +0.5
VRAC Vranov 25.58 122 P **P** 08 00 08.8 +0.5
VRAC Vranov 25.58 122 P **P** 08 00 08.8 +0.5
comp=Z,4.7nm,0.7s,baz=310,slow=10,SNR=5.2
VRAC LR LR 08 09 29.8
comp=Z,187nm,21.7s,baz=326,slow=35
VRAC Vranov 25.58 122 P **P** 08 00 08.8 +0.5
comp=Z,5.0nm,0.7s
OKC Ostrava-Krasne 25.60 120 *e*P **P** 08 00 08.9 +0.4
OKC Ostrava-Krasne 25.60 120 *e*P **P** 08 00 08.9 +0.4
OKC Ostrava-Krasne 25.60 120 *e*P **P** 08 00 08.9 +0.4
LFF La Frestale 25.65 149 *e*P **P** 08 00 10.0 +1.1
LFF La Frestale 25.65 149 *e*P **P** 08 00 10.0 +1.1
LFF La Frestale 25.65 149 *e*P **P** 08 00 10.0 +1.1
LFF La Frestale 25.65 149 *e*P **P** 08 00 10.0 +1.1
RJOB Jochberg 25.87 129 *e*P **P** 08 00 15.8 +4.8
comp=Z,18nm,1.0s
CAF Calviac 25.91 147 *e*P **P** 08 00 12.4 +1.0
comp=Z,17nm,1.0s
CAF Calviac 25.91 147 *e*P **P** 08 00 12.4 +1.0
CAF pmax pmax
comp=Z,17nm,1.0s
CAF Calviac 25.91 147 *e*P **P** 08 00 12.4 +1.0
comp=Z,17nm,1.0s
CAF Calviac 25.91 147 *e*P **P** 08 00 12.4 +1.0
comp=Z,8.7nm,1.0s
DAVOX Davos/Dischmat 25.96 134 P **P** 08 00 11.1 -0.9
DAVOX Davos/Dischmat 25.96 134 P **P** 08 00 11.1 -0.9
DAVOX 3.6nm,0.9s,baz=336,slow=20,SNR=3.0
DAVOX LR LR 08 10 55.5
comp=Z,230nm,18.1s,baz=286,slow=38
DAVOX Davos/Dischmat 25.96 134 P **P** 08 00 11.1 -0.9
comp=Z,230nm,18.1s
SCHQ Schefferville 26.32 263 P **P** 08 00 13.5 -1.5
SCHQ Schefferville 26.32 263 P **P** 08 00 13.5 -1.5
comp=Z,4.4nm,0.9s,baz=64,slow=18,SNR=3.5
SCHQ Schefferville 26.32 263 P **P** 08 00 13.5 -1.5
LPL La Plagne 26.36 140 *e*P **P** 08 00 15.6 0.0
LPL La Plagne 26.36 140 *e*P **P** 08 00 15.6 0.0
LPL La Plagne 26.36 140 *e*P **P** 08 00 15.6 0.0
LPL La Plagne 26.36 140 *e*P **P** 08 00 15.6 0.0
STHS Stebnicka Huta 26.96 116 *e*P **P** 08 00 24.3 +3.5
STHS Stebnicka Huta 26.96 116 *e*P **P** 08 00 24.3 +3.5
MBDF Montbardon 27.11 140 *e*P **P** 08 00 22.3 -0.1
comp=Z,11nm,0.8s
MBDF Montbardon 27.11 140 *e*P **P** 08 00 22.3 -0.1
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 27.11 140 *e*P **P** 08 00 22.3 -0.1
comp=Z,11nm,0.8s
MBDF Montbardon 27.11 140 *e*P **P** 08 00 22.3 -0.1
comp=Z,5.5nm,0.8s
CRVS Cervenica-Dubn 27.48 117 *e*P **P** 08 00 27.7 +2.2
CRVS Cervenica-Dubn 27.48 117 *e*P **P** 08 00 27.7 +2.2
CRVS Cervenica-Dubn 27.48 117 *e*P **P** 08 00 27.7 +2.2
OBN Obninsk 27.66 92 *e*P **P** 08 00 26.4 -0.6
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN Obninsk 27.66 92 LR LR 08 10 50.8
comp=Z,104nm,18.1s,baz=284,slow=35
OBN Obninsk 27.66 92 *e*P **P** 08 00 26.4 -0.6
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 27.72 115 *e*P P 08 00 32.5 +4.9
KOLS Kolonicke sedl 27.72 115 *e* P 08 00 32.5 +4.9
AKASG Malin Array Be 28.58 105 *i* P **P** 08 00 34.5 -0.8
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 28.58 105 P **P** 08 00 34.5 -0.8
AKASG Malin Array Be 28.58 105 P **P** 08 00 34.5 -0.8
comp=Z,3.0nm,0.7s,baz=328,slow=9.1,SNR=6.0
AKASG LR LR 08 11 06.5
comp=Z,198nm,20.5s,baz=305,slow=35
AKASG Malin Array Be 28.58 105 *i* P **P** 08 00 34.5 -0.8
comp=Z,3.0nm,0.7s
AK02 Malin Array Si 28.61 105 *e*P **P** 08 00 34.9 -0.6
AK02 Malin Array Si 28.61 105 *e*P **P** 08 00 34.9 -0.6
ESDC Sonseca Array 30.05 159 P **P** 08 00 50.3 +1.9
ESDC Sonseca Array 30.05 159 P **P** 08 00 50.3 +1.9
comp=Z,0.3nm,0.3s,baz=7.7,slow=10,SNR=4.0
ESDC LR LR 08 12 53.1
comp=Z,158nm,18.2s,baz=330,slow=36
ESDC Sonseca Array 30.05 159 P **P** 08 00 50.3 +1.9
ARU Arti 34.52 72 *d* *i*P **P** 08 01 26.9 -0.4
ARU 08 02 38.8
ARU S **S** 08 06 57.6 +2.6
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 34.52 72 *e*P **P** 08 01 27.2 -0.1
comp=Z,5.9nm,0.9s
ARU Arti 34.52 72 *e*P **P** 08 01 27.2 -0.1
comp=Z,5.9nm,0.9s
KEST Kesra 36.27 142 *e*P **P** 08 01 42.7 0.0
KEST Kesra 36.27 142 LR LR 08 16 16.9
comp=Z,56nm,19.0s,baz=296,slow=36
KEST Kesra 36.27 142 *e*P **P** 08 01 42.7 0.0
YKA Yellowknife Ar 36.54 309 P **P** 08 01 44.4 -0.2
YKA PcP **PcP** 08 04 07.7 +0.2
YKA Yellowknife Ar 36.54 309 P **P** 08 01 44.4 -0.2
comp=Z,1.0nm,0.7s,baz=40,slow=9.7,SNR=24
YKA PcP **PcP** 08 04 07.7 +0.2
comp=Z,0.6nm,0.8s,baz=32,slow=2.8,SNR=8.8
YKA Yellowknife Ar 36.54 309 *e*P **P** 08 01 44.4 -0.2
comp=Z,1.0nm,0.7s
FFC Flin Flon 38.90 293 *i* P **P** 08 02 06.0 +1.3
FFC Flin Flon 38.90 293 *e*P **P** 08 02 05.2 +0.5
comp=Z,8.1nm,0.9s
FFC Flin Flon 38.90 293 *e*P **P** 08 02 05.2 +0.5
comp=Z,8.1nm,0.9s
KIV Kislovodsk 39.12 98 *e*P **P** 08 02 04.2 -2.5
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,54nm,15.0s
AKTK Aktyubinsk 39.18 78 P **P** 08 02 06.3 -0.7

	comp=Z,2.0nm,0.7s							
AKTO	**Aktyubinsk**	**39.18**	**78**	P		**P**	**08 02 06.3**	**-0.8**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AKTO	**Aktyubinsk**	**39.18**	**78**	P		**P**	**08 02 06.3**	**-0.8**
AKTO	**Aktyubinsk**	**39.18**	**78**	P		**P**	**08 02 06.3**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=310,slow=9.1,SNR=5.7							
AKTO	**Aktyubinsk**	**39.18**	**78**	P		**P**	**08 02 06.3**	**-0.8**
KBZ	**Khabaz**	**39.40**	**98**	P		**P**	**08 02 09.3**	**+0.5**
KBZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KBZ	**Khabaz**	**39.40**	**98**	P		**P**	**08 02 09.3**	**+0.5**
KBZ	**Khabaz**	**39.40**	**98**	P		**P**	**08 02 09.3**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=322,slow=7.4,SNR=6.4							
KBZ	**Khabaz**	**39.40**	**98**	P		**P**	**08 02 09.3**	**+0.5**
	comp=Z,5.0nm,0.9s							
BRTR	**Keskin Array B**	**39.66**	**110**	P		**P**	**08 02 12.7**	**+1.3**
BRTR	**Keskin Array B**	**39.66**	**110**	P		**P**	**08 02 12.7**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=338,slow=7.6,SNR=4.8							
BRTR				LR		LR	08 19 37.0	
	comp=Z,117nm,19.9s,baz=328,slow=38							
BRTR	**Keskin Array B**	**39.66**	**110**	*i* P		**P**	**08 02 12.6**	**+1.3**
	comp=Z,2.0nm,0.8s							
ULM	**Lac du Bonnet**	**40.50**	**284**	P		**P**	**08 02 19.1**	**+1.1**
ULM	**Lac du Bonnet**	**40.50**	**284**	P		**P**	**08 02 19.1**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=30,slow=8.6,SNR=5.8							
ULM	**Lac du Bonnet**	**40.50**	**284**	P		**P**	**08 02 19.1**	**+1.1**
	comp=Z,3.0nm,0.8s							
ABKAR	**Akbulak array**	**40.85**	**78**	*e*P		**P**	**08 02 20.9**	**0.0**
ABKAR	**Akbulak array**	**40.85**	**78**	*e*P		**P**	**08 02 20.9**	**0.0**
BVAR	**Borovoye Array**	**41.30**	**66**	P		**P**	**08 02 23.8**	**-0.8**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**41.30**	**66**	P		**P**	**08 02 23.8**	**-0.8**
BVAR	**Borovoye Array**	**41.30**	**66**	P		**P**	**08 02 23.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=302,slow=8.5,SNR=8.4							
BVAR	**Borovoye Array**	**41.30**	**66**	P		**P**	**08 02 23.8**	**-0.8**
	comp=Z,1.0nm,0.6s							
ILAR	**Eielson Array**	**42.09**	**330**	P		**P**	**08 02 31.4**	**+0.6**
ILAR				PcP		**PcP**	**08 04 24.4**	**-0.6**
ILAR	**Eielson Array**	**42.09**	**330**	P		**P**	**08 02 31.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=26,slow=6.5,SNR=13							
ILAR				PcP		**PcP**	**08 04 24.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=331,slow=3.2,SNR=4.7							
ILAR	**Eielson Array**	**42.09**	**330**	P		**P**	**08 02 31.4**	**+0.6**
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**42.09**	**330**	PcP		**PcP**	**08 04 24.5**	**-0.6**
IM04	**Indian Mountai**	**42.12**	**335**	*e*P		**P**	**08 02 31.7**	**+0.5**
IM04	**Indian Mountai**	**42.12**	**335**	*e*P		**P**	**08 02 31.7**	**+0.5**
GNI	**Garni**	**43.19**	**99**	P		**P**	**08 02 41.5**	**+1.2**
	comp=Z,135nm,23.0s							
TNA	**Tin City**	**44.35**	**343**	*e*P		**P**	**08 02 49.1**	**0.0**
	comp=Z,12nm,1.4s							
TNA	**Tin City**	**44.35**	**343**	*e*P		**P**	**08 02 49.1**	**0.0**
	comp=Z,12nm,1.4s							
KURK	**Kurchatov**	**45.95**	**62**	*de*P		**P**	**08 03 01.5**	**-0.5**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KURK				MLR		MLR		
	comp=Z,41nm,19.0s							
KURK	**Kurchatov**	**45.95**	**62**	P		**P**	**08 03 02.2**	**+0.2**
KURK	**Kurchatov**	**45.95**	**62**	P		**P**	**08 03 02.2**	**+0.2**
RC01	**Rabbit Creek A**	**45.99**	**330**	*e*P		**P**	**08 03 03.0**	**+0.8**
RC01	**Rabbit Creek A**	**45.99**	**330**	*e*P		**P**	**08 03 03.0**	**+0.8**
KURBB	**Kurchatov Arra**	**46.01**	**62**	P		**P**	**08 03 02.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=331,slow=7.0,SNR=11							
YAK	**Yakutsk**	**47.34**	**20**	*i* P		**P**	**08 03 11.6**	**-1.1**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.4s							
YAK	**Yakutsk**	**47.34**	**20**	*i* P		**P**	**08 03 11.6**	**-1.1**
	comp=Z,6.0nm,0.4s							
SWMT	**Swartz Lake**	**49.01**	**297**	*e*P		**P**	**08 03 27.1**	**+1.1**
SWMT	**Swartz Lake**	**49.01**	**297**	*e*P		**P**	**08 03 27.1**	**+1.1**
SLMT	**Seeley Lake**	**49.09**	**296**	*e*P		**P**	**08 03 26.9**	**+0.3**
	comp=Z,3.0nm,0.7s							
SLMT	**Seeley Lake**	**49.09**	**296**	*e*P		**P**	**08 03 26.9**	**+0.3**
	comp=Z,3.0nm,0.7s							
GCMT	**Greycliff**	**49.09**	**292**	P		**P**	**08 03 27.1**	**+0.5**
GCMT	**Greycliff**	**49.09**	**292**	P		**P**	**08 03 27.1**	**+0.5**
MK31	**Makanchi Array**	**50.56**	**61**	*e*P		**P**	**08 03 37.8**	**+0.1**
MK31	**Makanchi Array**	**50.56**	**61**	*e*P		**P**	**08 03 37.8**	**+0.1**
MK31	**Makanchi Array**	**50.56**	**61**	*e*P		**P**	**08 03 37.8**	**+0.1**
MKAR	**Makanchi Array**	**50.56**	**61**	*i* P		**P**	**08 03 37.5**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**50.56**	**61**	P		**P**	**08 03 37.5**	**-0.2**
MKAR	**Makanchi Array**	**50.56**	**61**	P		**P**	**08 03 37.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=308,slow=6.0,SNR=9.1							
MKAR	**Makanchi Array**	**50.56**	**61**	*i* P		**P**	**08 03 37.5**	**-0.2**
	comp=Z,1.0nm,0.7s							
AAK	**Ala-Archa**	**51.66**	**70**	LR		LR	08 24 54.6	
	comp=Z,421nm,20.6s,baz=148,slow=35							
PDAR	**Pinedale Array**	**51.72**	**290**	P		**P**	**08 03 46.5**	**-0.1**
PDAR	**Pinedale Array**	**51.72**	**290**	P		**P**	**08 03 46.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=21,slow=5.4,SNR=4.7							
PDAR	**Pinedale Array**	**51.72**	**290**	P		**P**	**08 03 46.5**	**-0.1**
WMQ	**Urumqi**	**54.93**	**59**	P		**P**	**08 04 11.8**	**+1.8**
WMQ				pP		**pP**	**08 04 16.3**	**+1.2**
WMQ				sP		**sP**	**08 04 18.8**	**+1.8**
WMQ				PcP		**PcP**	**08 05 13.9**	**+2.1**
WMQ				PP		**PP**	**08 06 16.0**	**+3.4**
WMQ				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ELK	**Elko**	**55.44**	**294**	P		**P**	**08 04 15.3**	**+1.4**
ELK	**Elko**	**55.44**	**294**	P		**P**	**08 04 15.3**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=4.1,slow=14							
ELK	**Elko**	**55.44**	**294**	P		**P**	**08 04 15.4**	**+1.4**
LIC	**Lamto**	**63.01**	**166**	*e*P		P	08 05 10.8	+4.6
LIC	**Lamto**	**63.01**	**166**	*e*P		P	08 05 10.8	+4.6
HHC	**Hu-ho-hao-te**	**64.29**	**41**	*e*P		P	08 05 11.3	-3.3
HHC				pP		pP	08 05 16.3	-3.4
HHC				S		S	08 13 42.8	-8.8
HHC				SS		**SS**	**08 17 53.5**	**-6.7**
HHC				LR		LR		
	comp=Z,230nm,21.1s							
LZH	**Lanzhou**	**66.80**	**49**	*e*P		**P**	**08 05 32.3**	**+1.3**
LZH				pP		**pP**	**08 05 35.5**	**-0.6**
LZH				sP		**sP**	**08 05 37.0**	**-1.0**
LZH				*e*PP		**PP**	**08 08 00.6**	**+3.0**
LZH				pmax		pmax		
	comp=Z,19nm,1.4s							
LZH				pmax		pmax		
	comp=Z,62nm,7.6s							
LSA	**Lhasa**	**68.96**	**62**	*e*P		**P**	**08 05 46.7**	**+1.7**
LSA	**Lhasa**	**68.96**	**62**	*e*P		**P**	**08 05 46.7**	**+1.7**
	comp=Z,113nm,0.3s							
LSA	**Lhasa**	**68.96**	**62**	*e*P		**P**	**08 05 46.7**	**+1.7**
	comp=Z,113nm,0.3s							
NJ2	**Nanjing**	**74.39**	**38**	*e*P		**P**	**08 06 16.9**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,20nm,1.3s							
WRA	**Warramunga Arr**	**128.10**	**35**	PKP		**PKPdf**	**08 13 42.8**	**-2.4**
WRA	**Warramunga Arr**	**128.10**	**35**	PKP		**PKPdf**	**08 13 42.8**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=321,slow=2.0,SNR=4.7							
WRA	**Warramunga Arr**	**128.10**	**35**	PKIKP		**PKPdf**	**08 13 42.8**	**-2.4**
ASAR	**Alice Springs**	**131.61**	**36**	PKP		**PKPdf**	**08 13 51.1**	**-0.7**
ASAR	**Alice Springs**	**131.61**	**36**	PKP		**PKPdf**	**08 13 51.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=353,slow=1.9,SNR=9.2							
ASAR	**Alice Springs**	**131.61**	**36**	PKIKP		**PKPdf**	**08 13 51.1**	**-0.7**

*IDC **21** 07:59:55.9±3.1,54.57N×86.59E,h0km,mb1 3.3/2, mb1mx3.1/29,mbtmp3.3/2,ML3.1/2,Error ellipse: s-maj=26.5km s-min=15.0km az=55.0*

*NNC **21** 07:59:59.7±3.0,54.03N×86.81E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=22.3km s-min=20.0km az=37.0*

ISC 21 08:00:00.1±4.8,54.6N±0.2×86.7E±0.2,h35km,n7,σ0°33/9, 3C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**242**	*i*			08 06 30.0	
	baz=59,slow=340,SNR=17							
ZALV	**Zalesovo Beam**	**1.27**	**242**	Pg		Pn	08 00 17.5	-3.8
	3.3nm,0.3s,baz=54,slow=17,SNR=34							
ZALV				Lg		Lg	08 00 35.7	
	4.5nm,0.3s,baz=58,slow=26,SNR=36							
KURK	**Kurchatov**	**6.25**	**235**	⇑Pn		**Pn**	**08 01 29.7**	**-0.1**
	1.9nm,0.8s							
KURK				Sn		**Sn**	**08 02 40.5**	**+0.6**
	1.3nm,0.8s							
KURK				⇑Lg		Lg	08 03 14.8	
	4.0nm,0.8s							
KURBB	**Kurchatov Arra**	**6.36**	**235**	Pn		**Pn**	**08 01 31.2**	**0.0**
	3.6nm,0.6s							
KURBB				⇑Sn		**Sn**	**08 02 41.9**	**-0.5**
	5.6nm,0.6s							
KURBB				⇓Lg		Lg	08 03 18.8	
	9.8nm,0.7s							
KURBB	**Kurchatov Arra**	**6.36**	**235**	Pn		**Pn**	**08 01 31.1**	**0.0**
	0.4nm,0.3s,baz=52,slow=14,SNR=38							
MK31	**Makanchi Array**	**8.27**	**202**	Pn		**Pn**	**08 01 57.3**	**-0.1**
	0.5nm,0.6s,baz=28,slow=14,SNR=8.7							
MK31				Sn		**Sn**	**08 03 29.4**	**0.0**
	0.7nm,0.7s,baz=31,slow=26,SNR=6.2							
MK31				⇓Lg		Lg	08 04 14.0	
	2.4nm,0.9s,baz=25,slow=33,SNR=6.6							
MKAR	**Makanchi Array**	**8.27**	**202**	Pn		**Pn**	**08 01 57.5**	**+0.2**
	0.2nm,0.3s,baz=25,slow=13,SNR=11							
MKAR				Sn		**Sn**	**08 03 29.4**	**-0.1**
	0.1nm,0.3s,baz=30,slow=26,SNR=10							
MKAR				Lg		Lg	08 04 19.7	
	0.1nm,0.3s,baz=26,slow=30,SNR=3.3							

SIGU 21 08:00:21.5±1.0,44.76N×34.47E,h15km±6km,Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ALU	**Alushta**	**0.09**	**212**	*e*Pg		Pg	08 00 25.2	+0.5
	baz=212							
ALU				Pgm			08 00 25.4	
	comp=Z,33nm,baz=212							
ALU				*e*Sg		Sg	08 00 27.8	+1.1
	baz=212							
ALU				Sgm			08 00 28.0	
	comp=E,284nmcomp=N,327nm,baz=212							
SIM	**Simferopol'**	**0.32**	**307**	*e*Pg		Pg	08 00 27.9	-0.2
	baz=308							
SIM				Pgm			08 00 28.0	
	comp=Z,50nm,baz=308							
YAL	**Yalta**	**0.35**	**220**	*e*Sg		Sg	08 00 34.1	+0.5
	baz=221							
YAL				Sgm			08 00 35.0	
	comp=N,41nm,baz=221							
YAL				Sgm			08 00 35.2	
	comp=E,21nm,baz=221							
SUDU	**Sudak**	**0.40**	**71**	*e*Sg		Sg	08 00 35.4	+0.3
	baz=72							
SUDU				Sgm			08 00 35.7	
	comp=N,22nm,baz=72							
SUDU				Sgm			08 00 35.7	
	comp=E,22nm,baz=72							
SEV	**Sevastopol'**	**0.61**	**250**	*e*P		Pn	08 00 43.1	+7.5
	baz=250							

SIGU 21 08:00:25.8±0.4,44.78N×34.43E,h16km±6km,mb1.6/5, Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ALU	**Alushta**	**0.10**	**191**	*i* Pg		Pg	08 00 29.0	-0.2
	baz=192							
ALU				Pgm			08 00 29.1	
	comp=Z,465nm,baz=192							
ALU				*i* Sg		Sg	08 00 31.5	+0.1
	baz=192							
ALU				Sgm			08 00 31.7	
	comp=E,3μmcomp=N,3μm,baz=192							
SIM	**Simferopol'**	**0.28**	**307**	*i* Pg		Pg	08 00 31.7	-0.2
	baz=309							
SIM				Pgm			08 00 31.8	
	comp=Z,284nm,baz=309							
SIM				*e*Sg		Sg	08 00 36.1	+0.1
	baz=309							
SIM				Sgm			08 00 36.4	
	comp=E,460nmcomp=N,590nm,baz=309							
YAL	**Yalta**	**0.35**	**214**	*e*Pg		Pg	08 00 32.8	-0.3
	baz=215							
YAL				Pgm			08 00 33.3	
	comp=Z,46nm,baz=215							
YAL				*e*Sg		Sb	08 00 38.5	-0.5
	baz=215							
YAL				Sgm			08 00 40.0	
	comp=N,120nm,baz=215							
YAL				Sgm			08 00 40.0	
	comp=E,86nm,baz=215							
SUDU	**Sudak**	**0.42**	**75**	*e*Pg		Pg	08 00 33.8	-0.5
	baz=76							
SUDU				*e*Sg		Sg	08 00 40.0	-0.1
	baz=76							
SUDU				Sgm			08 00 44.0	
	comp=N,72nm,baz=76							
SUDU				Sgm			08 00 44.0	
	comp=E,260nm,baz=76							
SEV	**Sevastopol'**	**0.59**	**247**	Sgm			08 00 44.0	
	comp=E,7.0nm,baz=248							
SEV				Pm			08 00 44.0	
	comp=Z,2.0nm,baz=248							
SEV				Sgm			08 00 44.0	
	comp=N,44nm,baz=248							

*ISCJB **21** 08:00:38.3±0.8,69.0N±0.1×17.6W±0.3,h10km,mb3.1/2, MS4.2/1,Error ellipse: s-maj=16.3km s-min=14.3km az=146.3*

*IDC **21** 08:00:38.9±1.3,68.95N×17.61W,h0km,mb3.4/3, mb1 3.7/6,mb1mx3.4/60,mbtmp3.6/6,ML3.3/3,MS3.6/2, Ms1 3.6/2,ms1mx2.8/35,Error ellipse: s-maj=32.4km s-min=22.5km az=26.0*

ISC 21 08:00:40.5±1.0,68.9N±0.1×17.6W±0.1,h10km,n8,σ0°67/6, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**3.76**	**52**	LR		LR	08 02 47.2	
	comp=Z,203nm,19.3s,baz=204,slow=34							
BORG	**Borgarnes**	**4.44**	**201**	Pn		**Pn**	**08 01 48.0**	**+0.3**
	1.6nm,0.3s,baz=101,slow=5.2,SNR=5.3							
SPITS	**Spitsbergen Ar**	**13.07**	**31**	Pn		**Pn**	**08 03 46.4**	**+0.5**
	baz=187,slow=6.8,SNR=12							
FINES	**FINESS Array B**	**19.40**	**91**	P		**P**	**08 05 05.8**	**-0.4**
	0.1nm,0.3s,baz=316,slow=9.6,SNR=3.5							
FRB	**Frobisher Bay**	**20.54**	**280**	P		**P**	**08 05 19.1**	**+0.5**
	3.8nm,1.0s,baz=37,slow=6.2,SNR=3.6							
GERES	**GERESS Array B**	**25.31**	**127**	P		**P**	**08 06 06.8**	**-0.2**
	0.4nm,0.6s,baz=308,slow=6.8,SNR=3.6							
YKA	**Yellowknife A**	**36.36**	**309**	P		**P**	**08 07 43.3**	**-0.8**
	0.2nm,0.8s,baz=35,slow=8.8,SNR=3.7							
SADO	**Sadowa**	**38.99**	**264**	LR		LR	08 22 21.3	
	comp=Z,336nm,18.9s,baz=11,slow=33							

CASC 21 08:03:01.8±1.3,13.63N×90.44W,h59km±15km,MD3.1, MW5.6(NEIC),Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.81**	**71**	*e*P		Pn	08 03 17.9	+0.2
RTR				*e*S		Sn	08 03 30.4	+1.1
SBLS	**San Blas**	**0.81**	**75**	*e*P		Pn	08 03 17.8	0.0
SBLS				*e*S		Sn	08 03 29.7	+0.2
SNJE	**San Jose**	**0.84**	**74**	*e*P		Pn	08 03 18.7	+0.7
SNJE				*e*S		Sn	08 03 31.1	+1.2
RBDL	**Robledal**	**0.87**	**57**	*e*P		Pn	08 03 18.2	-0.1
RBDL				*e*S		Sn	08 03 31.9	+1.4
LFRS	**El Faro**	**1.33**	**90**	*e*P		Pn	08 03 24.0	-0.4
LFRS				*e*S		Sn	08 03 41.1	-0.2
LBRS	**Las Brisas**	**1.36**	**85**	*e*P		Pn	08 03 25.1	+0.4
MRL	**Marmol**	**1.60**	**27**	*e*P		Pn	08 03 27.9	-0.1

*IDC **21** 08:03:20.8±0.5,8.33N×110.57W,h0km,mb5.3/31, mb1 5.4/31,mb1mx5.2/45,mbtmp5.3/31,MS5.2/29, Ms1 5.2/29,ms1mx5.1/31,Error ellipse: s-maj=16.0km s-min=10.7km az=60.0*

*MOS **21** 08:03:21.6±1.1,8.41N×110.25W,h10km,mb5.8/71, MS5.3/29,Error ellipse: s-maj=9.2km s-min=4.5km az=81.4*

*ISCJB **21** 08:03:21.6±0.2,8.36N±0.02×110.31W±0.03,h10km, mb5.6/256,MS5.2/179,Error ellipse: s-maj=4.6km s-min=3.0km az=147.9*

*GCMT **21** 08:03:22.7±0.1,8.24N×110.49W,h23km,MW5.6/121, Moment Tensor Solution. s110,c190; s121,c302; Duration: 1s6 Moment tensor: Scale 10¹⁷Nm; Mrr-2.71±.04; Mθθ0.95±.03; Mϕϕ1.76±.04; Mrθ0.88±.05; Mθϕ1.51±.02; Mϕr1.85±.06; Best double couple: Mo3.48200×10¹⁷ NP1:ϕs210.00000°,δ63.00000°, λ-97.00000°. NP2:ϕs46.00000°,δ28.00000°,λ-76.00000°. Principal axes: T 3.5620, Plg18.0000°, Azm305.0000°; N -0.1600, Plg6.0000°, Azm213.0000°; P -3.4020, Plg71.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **21** 08:03:23.0,8.30N×110.30W,h10km,mB5.8/31,mb5.5/1, Ms5.7/32,Ms7 5.5/34*

*NEIC **21** 08:03:23.1±0.2,8.27N×110.36W,h12km,mb5.8/214, ME5.5,MS5.3/127,MW5.6,Error ellipse: s-maj=4.8km s-min=3.6km az=49.0,Moment Tensor Solution. s41 Moment tensor: Scale 10¹⁷Nm; Mrr-1.97; Mθθ0.53; Mϕϕ1.44; Mrθ1.11; Mθϕ0.54; Mϕr2.42; Best double couple: Mo3.20000×10¹⁷ NP1:ϕs25.00000°,δ17.00000°, λ-90.00000°. NP2:ϕs205.00000°,δ73.00000°, λ-90.00000°. Principal axes: T 3.0900, Plg27.0000°, Azm294.0000°; N 0.2800, Plg0.0000°, Azm204.0000°; P -3.3700, Plg62.0000°, Azm114.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

ISC 21 08:03:22.4±0.3,8.32N±0.05×110.49W±0.06,h10km, n1166,σ1°22/1185,mb5.7/257,MS5.3/179,228C-248D, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H06S1	**SOCORRO T**	**10.36**	**358**	T		T	08 16 23.9	
	SNR=20							
H06E1	**SOCORRO T-PHAS**	**10.40**	**358**	T		T	08 16 26.3	
	SNR=26							
LPIG	**La Paz**	**15.69**	**1**	Pn		**P**	**08 07 10.5**	**+2.7**
LPIG	**La Paz**	**15.69**	**1**	Pn		**P**	**08 07 10.5**	**+2.7**
	baz=110,slow=2.5,SNR=7.2							
LPIG				LR		LR	08 11 29.2	
	comp=Z,10μm,18.9s,baz=184,slow=31							
APG	**El Apazote**	**20.69**	**69**	P		**P**	**08 08 02.6**	**-0.5**
APG	**El Apazote**	**20.69**	**69**	P		**P**	**08 08 02.6**	**-0.5**
	351nm,1.1s,baz=256,slow=8.8,SNR=94							
APG				LR		LR	08 14 11.7	
	comp=Z,14μm,20.0s,baz=230,slow=31							
035Z	**Hargill**	**21.55**	**32**	P		**P**	**08 08 13.8**	**+1.8**
	baz=22							
034A	**Hebbronville**	**21.74**	**30**	⇑P		**P**	**08 08 16.2**	**+2.2**
	baz=22,SNR=91							
TXAR	**Lajitas Array**	**21.86**	**16**	P		**P**	**08 08 16.1**	**+0.6**
TXAR				PcP		**PcP**	**08 12 14.8**	**-0.5**
TXAR	**Lajitas Array**	**21.86**	**16**	P		**P**	**08 08 16.1**	**+0.6**
	57nm,0.9s,baz=195,slow=11,SNR=98							
TXAR				PcP		**PcP**	**08 12 14.8**	**-0.5**
	5.4nm,1.1s,baz=190,slow=0.8,SNR=4.3							
TXAR				LR		LR	08 15 28.8	
	comp=Z,5μm,18.8s,baz=0.0,slow=33							
035A	**Encino**	**21.92**	**31**	⇑P		**P**	**08 08 17.9**	**+1.9**
	baz=22,SNR=16							
933A	**Laredo**	**21.92**	**28**	⇓P		**P**	**08 08 17.8**	**+1.7**
	baz=22,SNR=94							
626A	**Big Bend Ranch**	**21.95**	**15**	⇓P		**P**	**08 08 17.4**	**+1.0**
	baz=22,SNR=143							
PAYG	**Puerto Ayora**	**22.03**	**113**	*e*P		**P**	**08 08 18.3**	**+1.0**
	173nm,1.5s							
PAYG				LR		LR		
	comp=Z,20μm,21.0s							
627A	**Terlingua Ranc**	**22.05**	**17**	⇑P		**P**	**08 08 18.4**	**+0.9**
	baz=22,SNR=94							
627A				⇓S		**S**	**08 12 23.8**	**+2.8**
	baz=22							
832A	**Faith Ranch, C**	**22.19**	**25**	⇓P		**P**	**08 08 20.0**	**+1.0**
	baz=22,SNR=160							
628A	**Black Gap, Mar**	**22.23**	**18**	P		**P**	**08 08 20.5**	**+1.1**
	baz=22							
934A	**Benavides**	**22.27**	**29**	⇓P		**P**	**08 08 21.4**	**+1.7**
	baz=22,SNR=32							
526A	**Mary Lane Ranc**	**22.44**	**15**	⇓P		**P**	**08 08 22.8**	**+1.0**
	baz=23,SNR=69							
833A	**Chaparral WMA,**	**22.48**	**26**	⇓P		**P**	**08 08 23.1**	**+1.0**
	baz=23,SNR=125							
KVTX	**Kingsville**	**22.53**	**30**	*e*P		**P**	**08 08 26.2**	**+3.6**
	comp=Z,517nm,1.3s							
KVTX				LR		LR		
	comp=Z,7μm,19.0s							
732A	**Laxson Ranch,**	**22.59**	**25**	⇓P		**P**	**08 08 23.5**	**+0.4**
	baz=23,SNR=119							
527A	**Woodward Ranch**	**22.64**	**16**	⇓P		**P**	**08 08 24.9**	**+1.0**
	baz=23,SNR=197							
834A	**Tilden**	**22.69**	**28**	⇑P		**P**	**08 08 25.4**	**+1.1**
	baz=23,SNR=48							
733A	**Divot King Ran**	**22.86**	**26**	⇓P		**P**	**08 08 26.1**	**0.0**
	baz=23,SNR=33							
528A	**Cox Ranch, San**	**22.89**	**17**	⇑P		**P**	**08 08 27.2**	**+0.7**
	baz=23,SNR=250							
425A	**Indio Mountain**	**22.93**	**12**	⇑P		**P**	**08 08 27.6**	**+0.7**
	baz=23,SNR=63							
631A	**Perdido Creek**	**22.95**	**23**	⇑P		**P**	**08 08 27.5**	**+0.5**
	baz=23,SNR=81							
319A	**Douglas**	**22.96**	**3**	⇓P		**P**	**08 08 28.6**	**+1.3**
	baz=23,SNR=48							
529A	**Stev Forest Ra**	**23.03**	**19**	⇓P		**P**	**08 08 29.0**	**+1.1**
	baz=23,SNR=89							
426A	**McDonald Obser**	**23.04**	**14**	⇓P		**P**	**08 08 28.8**	**+0.6**
	baz=23,SNR=52							
835A	**Beeville**	**23.17**	**29**	⇑P		**P**	**08 08 30.7**	**+1.4**
	baz=23,SNR=40							
734A	**La Parita Cree**	**23.30**	**27**	⇓P		**P**	**08 08 30.9**	**+0.3**
	baz=23,SNR=20							
530A	**J-C Ranch, Com**	**23.34**	**20**	⇓P		**P**	**08 08 32.0**	**+0.9**
	baz=24,SNR=72							
632A	**Uvalde**	**23.35**	**24**	⇑P		**P**	**08 08 31.4**	**+0.3**
	baz=23,SNR=72							
427A	**Hayter Ranch,**	**23.37**	**16**	⇓P		**P**	**08 08 32.4**	**+1.0**
	baz=24,SNR=88				

JCT	**Junction City**	24.20	23	⇓P		P	08 08 39.6	+0.2	
	baz=24,SNR=156								
121A	**Cookes Peak, D**	24.22	6	*e*P		P	08 08 40.3	+0.6	
	comp=Z,491nm,1.6s								
121A				*e*PcP		PcP	08 12 20.8	+0.6	
121A	**Cookes Peak, D**	24.22	6	⇑P		P	08 08 40.4	+0.8	
	baz=24,SNR=78								
225A	**Deer Hill, Car**	24.25	12	⇓P		P	08 08 40.0	+0.1	
	baz=24,SNR=55								
534A	**Blanco**	24.35	26	⇓P		P	08 08 40.9	+0.2	
	baz=24,SNR=123								
226B	**Tecolote Peak,**	24.36	13	⇑P		P	08 08 41.2	+0.4	
	baz=24,SNR=155								
329A	**Wagon Wheel Ra**	24.37	18	⇓P		P	08 08 41.2	+0.2	
	baz=24,SNR=44								
GDL2	**Guadalupe Moun**	24.43	13	*e*P		P	08 08 41.5	0.0	
GDL2				*e*ScP		ScP	08 15 47.1	-12	
227A	**Bennet, Jal**	24.50	15	⇑P		P	08 08 42.3	+0.2	
	baz=25,SNR=28								
113A	**Mohawk Valley,**	24.51	353	⇑P		P	08 08 43.4	+1.3	
	baz=25,SNR=7.0								
TEIG	**Tepich**	24.52	59	*e*P		P	08 08 42.0	-0.4	
	comp=Z,148nm,1.2s								
TEIG				*e*PcP		PcP	08 12 21.3	+0.5	
TEIG	**Tepich**	24.52	59	P		P	08 08 42.2	-0.1	
	comp=Z,90nm,1.0s,baz=262,slow=11,SNR=12								
TEIG				LR		LR	08 17 05.6		
	comp=Z,4μm,18.9s,baz=223,slow=34								
330A	**Mertzon**	24.55	19	⇓P		P	08 08 42.5	-0.1	
	baz=25,SNR=118								
432A	**Menard**	24.56	23	⇑P		P	08 08 42.5	-0.2	
	baz=25,SNR=130								
331A	**San Angelo**	24.72	21	⇓P		P	08 08 43.8	-0.2	
	baz=25,SNR=52								
433A	**Art**	24.73	24	⇑P		P	08 08 44.2	+0.1	
	baz=25,SNR=143								
535A	**Dale**	24.75	28	⇑P		P	08 08 44.5	+0.2	
	baz=25,SNR=64								
228A	**UT Block 9, Go**	24.79	16	⇓P		P	08 08 44.5	-0.2	
	baz=25,SNR=43								
125A	**Gardner Draw,**	24.81	12	⇑P		P	08 08 45.2	+0.2	
	baz=25,SNR=66								
229A	**Bryant Ranch,**	24.87	18	⇓P		P	08 08 45.4	-0.1	
	baz=25,SNR=20								
BAR	**Barrett**	24.91	348	*e*P		P	08 08 47.8	+2.1	
	comp=Z,36nm,1.5s								
BAR				*e*PcP		PcP	08 12 25.5	+4.0	
GLA	**Glamis**	24.93	351	*e*P		P	08 08 47.5	+1.5	
GLA				*e*			08 12 21.7		
GLA				pmax		pmax			
	comp=Z,79nm,1.6s								
GLA	**Glamis**	24.93	351	*e*P		P	08 08 47.5	+1.5	
	comp=Z,79nm,1.6s								
GLA				*e*PcP		PcP	08 12 21.7	+0.2	
GLA	**Glamis**	24.93	351	⇓P		P	08 08 48.2	+2.3	
	baz=25,SNR=13								
126A	**Clayton Basin,**	24.93	13	⇑P		P	08 08 45.7	-0.3	
	baz=25,SNR=31								
SWSC	**Sam W. Stewart**	24.98	349	⇑P		P	08 08 48.5	+2.1	
	baz=25,SNR=6.6								
230A	**Sterling City**	25.02	19	⇑P		P	08 08 46.5	-0.2	
	baz=25,SNR=40								
Z14A	**Wintersburg**	25.02	355	⇓P		P	08 08 47.6	+0.9	
	baz=25,SNR=12								
Z22A	**Elephant Butte**	25.02	7	⇑P		P	08 08 47.6	+0.7	
	baz=25,SNR=50								
536A	**Bastrop**	25.03	28	⇑P		P	08 08 47.0	+0.2	
	baz=25,SNR=24								
332A	**Millersview**	25.03	22	⇑P		P	08 08 46.7	-0.2	
	baz=25,SNR=139								
MONP	**Monument Peak**	25.06	348	⇓P		P	08 08 48.3	+1.0	
	baz=25,SNR=7.4								
127A	**Arkansas Junct**	25.12	14	⇑P		P	08 08 47.5	-0.2	
	baz=25,SNR=36								
434A	**Burnet**	25.12	25	⇓P		P	08 08 47.5	-0.2	
	baz=25,SNR=115								
109C	**Camp Elliot, M**	25.20	347	⇓P		P	08 08 49.3	+1.0	
	baz=25,SNR=5.8								
JTS	**JuntasAbangare**	25.27	84	*e*P		P	08 08 49.8	+0.6	
	comp=Z,33nm,1.2s								
JTS				PcP		PcP	08 12 22.8	+0.2	
JTS	**JuntasAbangare**	25.27	84	P		P	08 08 49.9	+0.7	
	comp=Z,86nm,1.0s,baz=290,slow=6.5,SNR=37								
JTS				PcP		PcP	08 12 22.8	+0.2	
	comp=Z,11nm,1.0s,baz=226,slow=5.8,SNR=3.8								
JTS				LR		LR	08 15 55.5		
	comp=Z,14μm,21.7s,baz=272,slow=30								
333A	**Richland Sprin**	25.27	24	⇑P		P	08 08 48.8	-0.2	
	baz=25,SNR=156								
128A	**Castleberry Fa**	25.29	16	⇓P		P	08 08 49.1	-0.1	
	baz=25,SNR=62								
231A	**Bronte**	25.33	21	⇑P		P	08 08 48.7	-0.9	
	baz=25,SNR=15								
Z24A	**Sheeppen Canyo**	25.33	10	⇓P		P	08 08 50.2	+0.5	
	baz=26,SNR=55								
CPRX	**Cap Rock**	25.34	13	*e*P		P	08 08 50.2	+0.4	
	comp=Z,11nm,1.3s								
435B	**Jarrell**	25.39	27	⇓P		P	08 08 50.7	+0.7	
	baz=26,SNR=66								
Z25A	**Roswell**	25.40	11	⇓P		P	08 08 50.4	+0.1	
	baz=26,SNR=65								
129A	**Stewart Farms,**	25.47	17	⇑P		P	08 08 50.6	-0.3	
	baz=26,SNR=36								
232A	**Coleman**	25.52	22	⇑P		P	08 08 50.6	-0.7	
	baz=26,SNR=70								
HKT	**Hockley**	25.52	31	*e*P		P	08 08 50.4	-0.8	
HKT				*e*			08 12 23.9		
HKT				pmax		pmax			
	comp=Z,592nm,1.6s								
HKT	**Hockley**	25.52	31	*e*P		P	08 08 50.4	-0.8	
	comp=Z,592nm,1.6s								
HKT				*e*PcP		PcP	08 12 23.9	+1.1	
Z26A	**Caprock**	25.54	13	⇑P		P	08 08 51.6	0.0	
	baz=26,SNR=39								
Y12C	**Blythe**	25.58	352	⇑P		P	08 08 52.7	+1.0	
	baz=26,SNR=15								
334A	**Lometa**	25.58	25	⇓P		P	08 08 51.6	-0.3	
	baz=26,SNR=78								
Y14A	**Wickenburg**	25.60	355	⇑P		P	08 08 52.8	+0.8	
	baz=26,SNR=16								
BC3	**Big Chuckawall**	25.62	350	⇓P		P	08 08 54.8	+2.5	
	baz=26,SNR=18								
130A	**Snyder**	25.72	19	⇑P		P	08 08 53.0	-0.1	
	baz=26,SNR=53								
PFO	**Pinyon Flat Ob**	25.76	348	*e*P		P	08 08 55.4	+1.9	
PFO	**Pinyon Flat Ob**	25.76	348	LR		LR	08 16 42.3		
	comp=Z,6μm,19.3s,baz=174,slow=31								
PFO	**Pinyon Flat Ob**	25.76	348	⇓P		P	08 08 54.4	+0.8	
	baz=26,SNR=9.2								
Z27A	**Tatum**	25.76	14	⇑P		P	08 08 53.4	-0.2	
	baz=26,SNR=70								
Y23A	**Lovelace Mesa,**	25.81	8	⇑P		P	08 08 55.1	+1.0	
	baz=26,SNR=39								
Y22D	**IRIS PASSCAL I**	25.84	7	⇓P		P	08 08 54.9	+0.6	
	baz=26								
335A	**Moody**	25.89	26	⇓P		P	08 08 54.8	+0.2	
	baz=26,SNR=52								
Y24A	**Capitan**	25.90	10	⇓P		P	08 08 55.9	+1.0	
	baz=26,SNR=106								
MURC	**Murrieta**	25.91	347	⇑P		P	08 08 57.3	+2.5	
	baz=26,SNR=8.3								
233A	**Rising Star**	25.92	23	⇓P		P	08 08 54.6	-0.3	
	baz=26,SNR=87								
LENM	**Lemitar**	25.92	7	*e*P		P	08 08 55.8	+0.7	
LENM				*e*PcP		PcP	08 12 24.5	+0.5	
BNM	**Barren Site**	25.95	7	*e*P		P	08 08 56.2	+0.8	
	comp=Z,146nm,1.7s								
Z28A	**Tucker Farm, M**	25.95	16	⇓P		P	08 08 55.0	-0.2	
	baz=26,SNR=16								
131A	**Roby**	25.98	20	⇓P		P	08 08 54.7	-0.7	
	baz=26,SNR=20								
X16A	**Lo Mia Camp, P**	25.98	358	⇓P		P	08 08 56.5	+0.8	
	baz=26,SNR=39								
CIS	**Catalina Islan**	26.01	345	⇑P		P	08 08 56.3	+0.6	
	baz=26								
Y25A	**Mesa, Roswell**	26.03	11	⇑P		P	08 08 56.5	+0.5	
	baz=26,SNR=44								
BELC	**Belle Mtn. Jos**	26.05	350	⇓P		P	08 08 59.1	+2.8	
	baz=26,SNR=10.0								
IRM	**Iron Mountain**	26.07	351	⇑P		P	08 08 57.7	+1.4	
	baz=26,SNR=8.0								
PDMCI	**Parker Dam,Lak**	26.07	353	⇑P		P	08 08 57.4	+1.2	
	baz=26,SNR=25								
X18A	**Snowflake**	26.09	1	⇑P		P	08 08 57.6	+1.0	
	baz=26,SNR=18								
LPM	**Los Pinos Moun**	26.11	7	*e*P		P	08 08 57.6	+0.9	
LPM				*e*PcP		PcP	08 12 24.9	+0.5	
Z29A	**Hungry Hill Ra**	26.11	17	⇓P		P	08 08 56.3	-0.4	
	baz=26,SNR=54								
LAZ	**Ladron**	26.14	6	*e*P		P	08 08 57.9	+0.8	
	comp=Z,52nm,1.6s								
LAZ				*e*PcP		PcP	08 12 25.1	+0.6	
ABTX	**Abilene, Hawle**	26.19	21	*e*P		P	08 08 57.0	-0.3	
ABTX				*e*PcP		PcP	08 12 24.6	+0.2	
ABTX	**Abilene, Hawle**	26.19	21	⇑P		P	08 08 56.8	-0.5	
	baz=26,SNR=33								
Y26A	**Elida**	26.21	13	⇑P		P	08 08 57.6	-0.1	
	baz=26,SNR=9.8								
234A	**Clairette**	26.21	24	⇓P		P	08 08 57.3	-0.2	
	baz=26,SNR=59								
Z30A	**Sanderson Ranc**	26.30	18	⇓P		P	08 08 58.0	-0.4	
	baz=26,SNR=56								
Y27A	**Causey**	26.32	14	⇓P		P	08 08 57.9	-0.7	
	baz=26,SNR=17								
X23A	**Hourglass Bar**	26.43	8	⇑P		P	08 09 00.4	+0.7	
	baz=27								
133A	**Hamilton Ranch**	26.44	22	⇓P		P	08 08 59.2	-0.4	
	baz=27,SNR=47								
WHTX	**Lake Whitney**	26.48	25	⇓P		P	08 09 00.1	+0.1	
	baz=27,SNR=30								
MSTX	**Muleshoe**	26.49	14	*e*P		P	08 09 00.4	+0.2	
	comp=Z,30nm,0.8s								
MSTX				*e*PcP		PcP	08 12 25.1	-0.1	
MSTX	**Muleshoe**	26.49	14	⇑P		P	08 08 59.9	-0.3	
	baz=27,SNR=8.4								
X24A	**Lazy VL Ranch,**	26.52	9	⇓P		P	08 09 01.4	+0.9	
	baz=27								
Y28A	**McKinney Farm,**	26.57	15	⇑P		P	08 09 00.0	-0.8	
	baz=27								
NEE2	**Needles Airpor**	26.59	352	⇓P		P	08 09 02.1	+1.2	
	baz=27								
X25A	**Clemmons Ranch**	26.62	11	⇑P		P	08 09 01.4	0.0	
	baz=27,SNR=13								
BFSC	**Mount Baldy Ra**	26.62	347	⇑P		P	08 09 03.3	+1.9	
	baz=27,SNR=8.2								
Z31A	**Sharp Cattle R**	26.65	20	⇓P		P	08 09 01.1	-0.4	
	baz=27,SNR=50								
W18A	**Petrified Fore**	26.68	1	*e*P		P	08 09 03.3	+1.4	
W18A	**Petrified Fore**	26.68	1	⇓P		P	08 09 02.8	+0.9	
	baz=27,SNR=5.3								
Y29A	**Porterfield Fa**	26.68	16	⇑P		P	08 09 01.5	-0.4	
	baz=27,SNR=32								
MWC	**Mount Wilson**	26.70	346	*e*P		P	08 09 08.1	+5.9	
MWC				pmax		pmax			
	comp=Z,190nm,1.5s								
MWC	**Mount Wilson**	26.70	346	*e*P		P	08 09 08.1	+5.9	
	comp=Z,190nm,1.5s								
134A	**White-Moore Ra**	26.73	24	⇓P		P	08 09 02.2	-0.1	
	baz=27,SNR=50								
ANMO	**Albuquerque**	26.75	7	*e*P		P	08 09 02.7	0.0	
	comp=Z,89nm,1.4s								
ANMO				*e*PcP		PcP	08 12 25.9	0.0	
ANMO	**Albuquerque**	26.75	7	P		P	08 09 03.5	+0.9	
	comp=Z,17nm,1.0s,baz=182,slow=9.0,SNR=46								
ANMO				LR		LR	08 18 24.5		
	comp=Z,5μm,19.0s,baz=198,slow=34								
GMRC	**Granite Mounta**	26.76	351	⇑P		P	08 09 03.3	+0.8	
	baz=27,SNR=14								
DECC	**Green Verdugo**	26.79	345	⇓P		P	08 09 05.5	+2.7	
	baz=27,SNR=5.3								
X26A	**CR and CF Fran**	26.81	12	⇑P		P	08 09 02.8	-0.3	
	baz=27,SNR=13								
W13A	**Hualapai Mount**	26.83	354	⇑P		P	08 09 04.4	+1.1	
	baz=27,SNR=9.7								
Z32A	**Haskell**	26.86	21	⇑P		P	08 09 03.2	-0.2	
	baz=27,SNR=29								
BSC	**Santa Cruz Isl**	26.90	343	⇑P		P	08 09 04.4	+0.6	
	baz=27								
HEC	**Hector,Ludlow**	26.92	349	⇑P		P	08 09 05.1	+1.1	
	baz=27,SNR=13								
Y30A	**Stafford Cattl**	26.92	18	⇓P		P	08 09 03.7	-0.3	
	baz=27,SNR=13								
LDFC	**Landfair**	26.96	352	*e*P		P	08 09 06.8	+2.4	
	comp=Z,127nm,1.2s								
135A	**Vickery Place,**	26.99	25	⇓P		P	08 09 04.6	0.0	
	baz=27,SNR=14								
W23A	**Werner Place,**	27.00	8	⇓P		P	08 09 05.4	+0.5	
	baz=27,SNR=16								
X27A	**F and S Farms,**	27.06	13	⇓P		P	08 09 04.8	-0.6	
	baz=27								
WUAZ	**Wupatki**	27.08	358	*e*P		P	08 09 07.2	+1.7	
	comp=Z,222nm,1.4s								
WUAZ				*e*PcP		PcP	08 12 27.9	+1.3	
WUAZ	**Wupatki**	27.08	358	⇑P		P	08 09 06.5	+1.0	
	baz=27,SNR=17								
Z33A	**Whitaker Ranch**	27.10	22	⇑P		P	08 09 05.3	-0.2	
	baz=27,SNR=52								
X28A	**Dimmitt**	27.16	15	⇓P		P	08 09 05.5	-0.7	
	baz=27,SNR=7.8								
W24A	**Lazy 6 Ranch,**	27.16	9	⇑P		P	08 09 06.8	+0.5	
	baz=27,SNR=41								
Y31A	**RekiFarms,**	27.20	19	⇓P		P	08 09 06.3	-0.1	
	baz=27,SNR=62								
X29A	**Tulia**	27.22	16	⇑P		P	08 09 06.6	-0.1	
	baz=27,SNR=12								
OSI	**Osito Adit**	27.24	345	*e*P		P	08 09 12.4	+5.6	
	comp=Z,21nm,1.1s								
EDW2	**Edwards Air Fo**	27.31	346	⇓P		P	08 09 09.3	+1.8	
	baz=28,SNR=5.6								
W25A	**X Bar L Ranch,**	27.33	11	⇓P		P	08 09 08.2	+0.4	
	baz=28,SNR=68								
W26A	**Owens Ranch, T**	27.34	12	⇑P		P	08 09 07.7	-0.1	
	baz=28,SNR=10.0								
TUQ	**Turquoise Moun**	27.44	350	⇓P		P	08 09 09.7	+1.0	
	baz=28								
X30A	**Coker Ranch, T**	27.46	17	⇑P		P	08 09 08.3	-0.5	
	baz=28,SNR=23								
GSC	**Goldstone**	27.47	349	*e*P		P	08 09 13.1	+4.2	
GSC				*e*			08 12 29.1		
GSC				pmax		pmax			
	comp=Z,50nm,1.9s								
GSC	**Goldstone**	27.47	349	*e*P		P	08 09 13.1	+4.2	
	comp=Z,50nm,1.9s								
GSC				*e*PcP		PcP	08 12 29.1	+1.6	
GSC	**Goldstone**	27.47	349	⇑P		P	08 09 10.4	+1.4	
	baz=28,SNR=5.4								
W27A	**Bowe Ranch, En**	27.47	13	⇑P		P	08 09 08.7	-0.3	
	baz=28,SNR=22								
Z34A	**Collier Ranch,**	27.50	23	⇑P		P	08 09 09.2	+0.1	
	baz=28,SNR=29								
Y32A	**R-V Farms, Ver**	27.51	20	⇑P		P	08 09 09.4	+0.2	
	baz=28,SNR=39								
V23A	**Ortiz Mt. (NFS**	27.57	8	⇑P		P	08 09 10.7	+0.7	
	baz=28,SNR=9.7								
NATX	**Nacogdoches**	27.58	30	*e*P		P	08 09 10.2	+0.3	
	comp=Z,199nm,1.0s								
NATX				LR		LR			
	comp=Z,3μm,19.0s								
AMTX	**Amarillo**	27.64	16	*e*P		P	08 09 10.2	-0.3	
	comp=Z,2nm,1.2s								
AMTX	**Amarillo**	27.64	16	⇑P		P	08 09 09.9	-0.6	
	baz=28								
V22A	**San Miguel Ran**	27.66	6	⇓P		P	08 09 11.2	+0.5	
	baz=28,SNR=18								
V24A	**Rampart Ranch,**	27.69	9	⇑P		P	08 09 11.5	+0.5	
	baz=28,SNR=54								
Z35A	**Perchaven, San**	27.73	24	⇑P		P	08 09 11.2	+0.1	
	baz=28,SNR=21								
Y33A	**Hilltop Ranch,**	27.80	21	⇓P		P	08 09 11.7	-0.1	
	baz=28,SNR=79								
W28A	**Vega**	27.86	15	P		P	08 09 12.6	+0.2	
	baz=28								
W29A	**Amarillo**	27.88	16	⇓P		P	08 09 12.0	-0.6	
	baz=28,SNR=10								
X31A	**McDonald Ranch**	27.91	19	⇓P		P	08 09 12.9	+0.1	
	baz=28,SNR=27								
V25A	**Rancho No Teng**	27.91	10	P		P	08 09 13.4	+0.4	
	baz=28								
X32A	**Elmer**	27.94	20	⇓P		P	08 09 13.2	+0.1	
	baz=28,SNR=53								
SHOC	**Shoshone**	27.95	350	⇓P		P	08 09 14.3	+1.1	
	baz=28								
V26A	**Tequesquite Ra**	28.02	12	⇓P		P	08 09 14.0	0.0	
	baz=28,SNR=22								
U15A	**North Rim**	28.02	357	⇓P		P	08 09 15.4	+1.3	
	baz=28,SNR=23								
Y34A	**Reagan Ranch,**	28.08	23	⇑P		P	08 09 14.0	-0.3	
	baz=28,SNR=19								
U22A	**Llaves**	28.12	6	⇑P		P	08 09 16.2	+1.3	
	baz=28,SNR=24								
U23A	**El Rito**	28.15	7	⇓P		P	08 09 15.7	+0.6	
	baz=28,SNR=11								
V27A	**Dan Oppiter Fa**	28.19	13	⇑P		P	08 09 15.4	0.0	
	baz=28,SNR=6.7								
W30A	**Crocket Farms**	28.23	17	⇑P		P	08 09 15.6	-0.1	
	baz=28,SNR=8.5								
SMMC	**Simmler**	28.24	343	P		P	08 09 18.1	+2.4	
	baz=28								
X33A	**Lawton**	28.32	21	⇓P		P	08 09 15.9	-0.6	
	baz=28,SNR=17								
V28A	**Channing**	28.32	14	⇓P		P	08 09 15.9	-0.7	
	baz=28								
U24A	**Moreno Valley**	28.36	9	⇑P		P	08 09 17.5	+0.4	
	baz=28,SNR=16								
SHPR	**Sheep Range**	28.37	352	*e*P		P	08 09 18.8	+1.7	
SHPR				*e*PcP		PcP	08 12 31.0	+1.3	
W31A	**Holland Ranch,**	28.43	18	⇑P		P	08 09 17.1	-0.4	
	baz=29,SNR=28								
U25A	**Circle Dot Ran**	28.49	10	⇓P		P	08 09 18.6	+0.4	
	baz=29,SNR=40								
VES	**Vestal, Richgr**	28.49	345	⇑P		P	08 09 19.9	+1.9	
	baz=29,SNR=6.7								
DAC	**Darwin (Calif)**	28.57	348	*e*P		P	08 09 20.2	+1.3	
DAC				*e*			08 12 31.1		
DAC				pmax		pmax			
	comp=Z,609nm,3.0s								
DAC	**Darwin (Calif)**	28.57	348	*e*P		P	08 09 20.2	+1.3	
	comp=Z,609nm,3.0s								
DAC				*e*PcP		PcP	08 12 31.1	+0.9	
W32A	**Sentinel**	28.59	20	⇑P		P	08 09 18.4	-0.5	
	baz=29,SNR=46								
U26A	**Atchley Ranch,**	28.61	11	⇓P		P	08 09 19.2	0.0	
	baz=29,SNR=38								
FURC	**Furnace Creek,**	28.61	349	⇑P		P	08 09 19.7	+0.7	
	baz=29,SNR=8.6								
V29A	**Stinnett**	28.62	15	⇑P		P	08 09 18.9	-0.3	
	baz=29								
X34A	**Smith Ranch, M**	28.62	22	⇓P		P	08 09 19.4	+0.3	
	baz=29,SNR=42								
V30A	**Spur Ranch, Mi**	28.74	17	⇓P		P	08 09 20.1	-0.2	
	baz=29,SNR=5.6								
MVCO	**Mesa Verde**	28.81	3	*e*P		P	08 09 21.8	+0.7	
	comp=Z,45nm,1.4s								
MVCO				*e*PcP		PcP	08 12 31.3	+0.4	
MVCO	**Mesa Verde**	28.81	3	⇓P		P	08 09 21.1	+0.1	
	baz=29,SNR=8.8								
U27A	**Thompson Grove**	28.83	13	⇑P		P	08 09 21.0	-0.1	
	baz=29,SNR=21								
T23A	**Casias Ranch,**	28.87	7	⇑P		P	08 09 22.6	+1.0	
	baz=29,SNR=38								
W33A	**Caddo, Fort Co**	28.89	21	⇑P		P	08 09 21.6	+0.1	
	baz=29,SNR=13								
U28A	**Mallet**	28.92	14	⇑P		P	08 09 21.7	-0.3	
	baz=29,SNR=5.7								
T24B	**San Luis**	28.98	8	⇓P		P	08 09 21.9	-0.8	
	baz=29,SNR=11								
V31A	**Spring Creek L**	29.00	18	⇓P		P	08 09 22.6	0.0	
	baz=29								
V32A	**Arapaho**	29.21	19	⇑P		P	08 09 24.6	+0.3	
	baz=29,SNR=15								
W34A	**Bridge Creek,**	29.21	22	⇑P		P	08 09 24.5	+0.2	
	baz=29,SNR=28								
T25A	**Trinidad**	29.21	10	⇓P		P	08 09 25.2	+0.6	
	baz=29,SNR=22								
CCUT	**Cedar City**	29.21	355	*e*P		P	08 09 26.7	+2.1	
	comp=Z,49nm,1.4s								
CCUT				*e*PcP		PcP	08 12 33.6	+1.7	
U29A	**Oasis Ranch, S**	29.23	15	⇓P		P	08 09 24.2	-0.4	
	baz=29,SNR=6.3								
T26A	**Comanche Natio**	29.39	11	⇑P		P	08 09 26.7	+0.5	
	baz=30,SNR=20								
TIN	**Tinemaha**	29.45	347	⇓P		P	08 09 28.6	+2.0	
	baz=30								
ARUT	**Antelope Range**	29.45	355	*e*P		P	08 09 28.8	+2.1	
ARUT				*e*			08 12 34.1		
ARUT	**Antelope Range**	29.45	355	*e*P		P	08 09 28.8	+2.1	
	comp=Z,122nm,1.4s								
ARUT				*e*PcP		PcP	08 12 34.1	+1.7	
T27A	**Campo**	29.46	13	⇓P		P	08 09 26.8	0.0	
	baz=30,SNR=14								
U30A	**WK&E Inc. Balk**	29.47	16	⇓P		P	08 09 26.7	0.0	
	baz=30,SNR=12								
S22A	**4UR Ranch, Cre**	29.48	6	⇓P		P	08 09 27.7	+0.7	
	baz=30,SNR=37								
S23A	**Nye Farm, Mont**	29.53	7	⇑P		P	08 09 28.5	+1.1	
	baz=30								
U31A	**Nine Bar Ranch**	29.55	18	⇑P		P	08 09 28.0	+0.5	
	baz=30								
V33A	**Lossen Ranch,**	29.55	20	⇑P		P	08 09 27.6	+0.2	
	baz=30,SNR=25								
S24A	**Houchin Ranch,**	29.57	8	⇑P		P	08 09 28.7	+0.8	
	baz=30,SNR=27								
SDCO	**Great Sand Dun**	29.64	8	*e*P		P	08 09 28.1	-0.4	
	com

SRU ePcP PcP 08 12 35.5 -0.1
T33A Patterson Ranc 30.71 19 ⇑P P 08 09 37.4 -0.2
baz=31,SNR=24
Q23A Hartsel 30.73 7 ⇑P P 08 09 38.9 +0.8
baz=31
NVAR Mina Array Bea 30.79 348 P P 08 09 40.2 +1.7
NVAR PcP PcP 08 12 37.2 +1.2
NVAR Mina Array Bea 30.79 348 P P 08 09 40.2 +1.7
comp=Z,7.9nm,0.8s,baz=173,slow=11,SNR=20
NVAR PcP PcP 08 12 37.2 +1.2
comp=Z,6.1nm,0.9s,baz=179,slow=3.8,SNR=9.2
NVAR LR LR 08 19 39.4
comp=Z,4μm,18.6s,baz=194,slow=32
S31A Mullinville 30.82 17 ⇓P P 08 09 38.1 -0.5
baz=31,SNR=13
TMUT Trail Mountain 30.84 359 eP P 08 09 40.5 +1.4
comp=Z,102nm,1.3s
TMUT ePcP PcP 08 12 37.1 +0.9
SMCO Snowmass 30.88 5 eP P 08 09 40.6 +1.0
comp=Z,38nm,1.2s
Q24A Divide 30.88 8 ⇓P P 08 09 40.2 +0.7
baz=31,SNR=15
R28A Tribune 30.89 13 ⇓P P 08 09 39.5 +0.2
baz=31,SNR=65
CMB Columbia Colle 30.90 345 eP P 08 09 41.2 +1.8
CMB e 08 10 51.4
CMB e 08 12 36.8
CMB pmax pmax
comp=Z,134nm,1.3s
CMB Columbia Colle 30.90 345 eP P 08 09 41.2 +1.8
comp=Z,134nm,1.3s
CMB ePP PP 08 10 51.4 +2.2
CMB ePcP PcP 08 12 36.8 +0.8
Q25A Bedland, Calha 30.97 9 ⇓P P 08 09 40.6 +0.4
baz=31,SNR=28
S32A Newby Ranch, P 31.06 18 ⇑P P 08 09 40.5 -0.2
baz=31,SNR=9.9
Q26A Hugo 31.10 11 ⇓P P 08 09 41.3 +0.1
baz=31,SNR=11
WAKR Walker 31.11 346 eP P 08 09 43.9 +2.5
R29A Marienthal 31.13 14 ⇑P P 08 09 41.2 -0.2
baz=31,SNR=14
UALR University of 31.15 30 eP P 08 09 42.3 +0.7
comp=Z,409nm,1.1s
UALR ePcP PcP 08 12 37.1 +0.4
P23A Jefferson 31.20 7 ⇑P P 08 09 43.4 +1.1
baz=31,SNR=37
R30A Dighton 31.22 16 ⇓P P 08 09 42.0 -0.1
baz=31,SNR=42
S33A Kaszmaul Farm, 31.25 19 ⇓P P 08 09 42.6 +0.2
baz=31
P22A Eagle 31.32 6 ⇑P P 08 09 44.1 +0.9
baz=32,SNR=16
KSCO Kaye Shedlock' 31.36 12 ⇓P P 08 09 44.0 +0.6
baz=32,SNR=8.1
BRAL Brewton 31.42 41 eP P 08 09 46.3 +2.3
comp=Z,348nm,1.3s
BRAL LR LR
comp=Z,2μm,19.0s
R31A Burdett 31.43 17 ⇓P P 08 09 44.0 0.0
baz=32,SNR=32
P24A Kohler Place, 31.46 8 ⇓P P 08 09 44.6 +0.2
baz=32
NLU North Lily Min 31.53 358 eP P 08 09 47.2 +2.1
comp=Z,79nm,1.3s
NLU ePcP PcP 08 12 38.4 +0.5
P25A Willow Gulch B 31.57 9 ⇑P P 08 09 45.7 +0.3
baz=32,SNR=18
MPU Maple Canyon 31.57 358 eP P 08 09 46.9 +1.5
comp=Z,126nm,1.3s
MPU ePcP PcP 08 12 39.0 +1.0
Q28A Sharon Springs 31.58 13 ⇓P P 08 09 45.4 +0.1
baz=32,SNR=32
Q29A Oakley 31.61 14 ⇓P P 08 09 45.6 -0.1
baz=32,SNR=27
ISCO Idaho Springs 31.64 7 eP P 08 09 47.3 +1.1
ISCO e 08 12 39.0
ISCO pmax pmax
comp=Z,93nm,1.4s
ISCO MLR MLR
comp=Z,7μm,19.0s
ISCO Idaho Springs 31.64 7 eP P 08 09 47.3 +1.1
comp=Z,93nm,1.4s
ISCO ePcP PcP 08 12 39.0 +0.7
ISCO LR LR
comp=Z,7μm,19.0s
ISCO Idaho Springs 31.64 7 ⇑P P 08 09 46.9 +0.8
baz=32,SNR=40
Q20A White River Ci 31.74 3 eP P 08 09 48.1 +1.2
Q20A ePcP PcP 08 12 39.0 +0.6
Q20A White River Ci 31.74 3 ⇑P P 08 09 47.8 +0.9
baz=32,SNR=26
P26A Davis Ranch, A 31.75 11 ⇓P P 08 09 47.3 +0.3
baz=32
R32A Long Quarter, 31.79 18 ⇓P P 08 09 47.0 -0.2
baz=32,SNR=51
DUG Dugway 31.80 357 eP P 08 09 49.2 +1.8
DUG e 08 12 39.1
DUG pmax pmax
comp=Z,111nm,1.1s
DUG MLR MLR
comp=Z,10μm,20.0s
DUG Dugway 31.80 357 eP P 08 09 49.2 +1.8
comp=Z,111nm,1.1s
DUG ePcP PcP 08 12 39.1 +0.5
DUG LR LR
comp=Z,10μm,20.0s
DUG Dugway 31.80 357 ⇑P P 08 09 48.4 +1.0
baz=32,SNR=72
Q30A Quinter 31.89 15 ⇑P P 08 09 47.9 -0.1
baz=32,SNR=19
P27A Ficken Ranch, 31.89 12 ⇑P P 08 09 48.6 +0.5
baz=32,SNR=20
O22A Kremmling 31.90 6 ⇑P P 08 09 49.6 +1.2
baz=32,SNR=16
R33A Olander Ranch, 31.91 19 ⇓P P 08 09 48.4 +0.2
baz=32,SNR=22
DAU Daniels Canyon 31.96 359 eP P 08 09 51.5 +2.5
DAU Daniels Canyon 31.96 359 eP P 08 09 51.5 +2.5
O23A Lake Granby, G 32.01 7 ⇓P P 08 09 50.3 +0.9
baz=32,SNR=42
O24A Longmont 32.03 8 ⇓P P 08 09 50.4 +1.1
baz=32,SNR=7.7
P28A Saint Francis 32.08 13 ⇑P P 08 09 50.1 +0.3
baz=32,SNR=41
Q31A Ellis 32.13 16 ⇓P P 08 09 50.2 0.0
baz=32,SNR=19
JLU Jordanelle 32.15 359 eP P 08 09 51.6 +1.0
comp=Z,174nm,1.6s
JLU ePcP PcP 08 12 40.5 +0.9
O25A Wiggins 32.16 9 ⇑P P 08 09 51.3 +0.8
baz=32
PAHR Pah Rah Range 32.25 347 eP P 08 09 53.6 +2.2
comp=Z,75nm,1.2s
PAHR ePcP PcP 08 12 40.8 +1.0
CTU Camp Tracy 32.25 358 eP P 08 09 52.5 +1.2
comp=Z,101nm,1.3s
P29A Atwood 32.30 14 ⇓P P 08 09 51.6 -0.1
baz=32,SNR=27
Q32A Meitler Ranch, 32.36 18 ⇓P P 08 09 52.3 +0.1
baz=32,SNR=70
P30A Selden 32.41 15 ⇓P P 08 09 52.7 0.0
baz=33,SNR=37
O26A Horse Wrangler 32.42 10 ⇓P P 08 09 53.2 +0.4
baz=33
N20A Spence Gulch, 32.43 3 P P 08 09 54.1 +1.1
baz=33
OXF Oxford 32.47 34 eP P 08 09 53.5 +0.3
OXF e 08 12 39.6
OXF pmax pmax
comp=Z,264nm,1.0s
OXF Oxford 32.47 34 eP P 08 09 53.5 +0.3
comp=Z,264nm,1.0s
OXF ePcP PcP 08 12 39.6 -0.6
O27A Beecher Island 32.53 11 ⇑P P 08 09 54.2 +0.5
baz=33,SNR=26
BMN Battle Mountai 32.53 350 eP P 08 09 55.3 +1.5
BMN e 08 12 41.3
BMN pmax pmax
comp=Z,47nm,1.2s
BMN Battle Mountai 32.53 350 eP P 08 09 55.3 +1.5
comp=Z,47nm,1.2s
BMN ePcP PcP 08 12 41.2 +0.7
N22A Wattenberg Ran 32.54 6 ⇓P P 08 09 55.2 +1.2
baz=33,SNR=15
BGU Big Grassy Mou 32.54 356 eP P 08 09 55.8 +1.9
comp=Z,86nm,1.4s
BGU ePcP PcP 08 12 41.1 +0.5
ELK Elko 32.56 353 eP P 08 09 55.8 +1.7
comp=Z,586nm,2.8s
ELK PcP PcP 08 12 41.4 +0.7
ELK Elko 32.56 353 P P 08 09 55.8 +1.7
comp=Z,23nm,1.0s,baz=174,slow=6.0,SNR=22
ELK PcP PcP 08 12 41.4 +0.7
comp=Z,2.9nm,0.9s,baz=224,slow=4.6,SNR=2.8
ELK LR LR 08 21 18.5
comp=Z,4μm,18.2s,baz=180,slow=33
Q33A Connelly Farm, 32.59 18 ⇑P P 08 09 54.1 0.0
baz=33,SNR=52
O28A Krutsinger Ran 32.61 12 ⇑P P 08 09 54.9 +0.5
baz=33,SNR=10
P31A Stockton 32.62 16 ⇓P P 08 09 54.1 -0.4
baz=33,SNR=26
TCUT Toone Canyon 32.67 359 eP P 08 09 57.8 +2.7
comp=Z,210nm,1.5s
N23A Red Feather La 32.69 6 ⇓P P 08 09 56.1 +0.8
baz=33,SNR=15
LRAL Lakeview Retre 32.81 38 eP P 08 09 56.6 +0.5
comp=Z,178nm,1.3s
O29A 4D Ranch, Culb 32.83 14 ⇑P P 08 09 56.4 +0.1
baz=33,SNR=9.7
N25A Grover 32.85 9 ⇓P P 08 09 57.3 +0.8
baz=33
SPUT South Promonto 32.90 357 eP P 08 09 59.0 +2.1
comp=Z,151nm,1.4s
SPUT ePcP PcP 08 12 42.0 +0.5
OTAV Otavalo 32.91 103 eP P 08 09 59.4 +1.6
comp=Z,441nm,1.3s
OTAV LR LR
comp=Z,4μm,22.0s
P32A Huiting Farm, 32.93 17 ⇑P P 08 09 57.0 -0.1
baz=33,SNR=32
N26A Koester Ranch, 33.01 10 ⇑P P 08 09 58.6 +0.6
baz=33,SNR=13
P33A Williams Farm, 33.03 18 ⇑P P 08 09 58.1 +0.1
baz=33,SNR=13
O30A MW Ranch, Wils 33.06 15 ⇑P P 08 09 58.5 +0.2
baz=33,SNR=18
KSU1 Kansas State U 33.08 20 eP P 08 09 58.7 +0.2
comp=Z,146nm,1.0s
KSU1 ePcP PcP 08 12 41.9 0.0
KSU1 LR LR
comp=Z,4μm,19.0s
KSU1 Kansas State U 33.08 20 ⇓P P 08 09 58.5 0.0
baz=33,SNR=29
N27A Anderson Farm, 33.11 11 ⇑P P 08 09 59.3 +0.5
baz=33,SNR=7.5
M22A Cedar Creek Ra 33.12 5 ⇓P P 08 10 00.3 +1.3
baz=33,SNR=12
PHWY Pilot Hill 33.14 7 eP P 08 10 00.3 +1.0
comp=Z,176nm,1.8s
PHWY ePcP PcP 08 12 42.5 +0.2
N28A Pribbeno Ranch 33.20 12 ⇓P P 08 09 60.0 +0.5
baz=33,SNR=24
O31A Woolen Ranch, 33.22 16 ⇓P P 08 09 59.9 +0.1
baz=33,SNR=21
GNAR Gosnell 33.26 31 eP P 08 10 01.1 +1.1
comp=Z,5μm,1.2s
M23A Laramie 33.28 7 ⇓P P 08 10 01.8 +1.4
baz=34,SNR=8.7
M24A Cheyenne 33.39 8 ⇓P P 08 10 02.3 +1.0
baz=34,SNR=12
M25A Palm-Egli Farm 33.46 9 ⇓P P 08 10 02.7 +0.7
baz=34
MTDJ Mount Denham 33.49 70 eP P 08 10 03.0 +0.6
comp=Z,236nm,1.4s
MTDJ LR LR
comp=Z,4μm,20.0s
N29A Votaw Ranch, W 33.53 14 ⇓P P 08 10 02.7 +0.3
baz=34,SNR=14
O32A Brockman Farm, 33.62 17 ⇓P P 08 10 03.1 0.0
baz=34,SNR=11
N30A Hueftle Ranch, 33.63 14 ⇓P P 08 10 03.8 +0.5
baz=34
M26A McRoberts Ranc 33.64 10 ⇑P P 08 10 03.6 +0.1
baz=34
PBMO Poplar Bluff 33.69 30 eP P 08 10 04.5 +0.8
comp=Z,124nm,1.2s
L22A Ellis Ranch, M 33.76 5 ⇑P P 08 10 06.2 +1.7
baz=34,SNR=31
M27A Reverse DX Ran 33.84 11 ⇑P P 08 10 05.7 +0.6
baz=34
WDC Whiskeytown Da 33.87 343 eP P 08 10 06.1 +0.8
WDC e 08 12 44.7
WDC pmax pmax
comp=Z,37nm,1.0s
WDC Whiskeytown Da 33.87 343 eP P 08 10 06.1 +0.8
comp=Z,37nm,1.0s
WDC ePcP PcP 08 12 44.7 +0.7
KMRM Mail Ridge 33.89 342 eP P 08 10 09.2 +3.6
comp=Z,396nm,1.2s
M28A Bar X Bar Ranc 33.91 12 ⇓P P 08 10 06.1 +0.3
baz=34,SNR=7.1
L23A Garrett 33.92 6 ⇑P P 08 10 06.6 +0.6
baz=34,SNR=14
L24A Wheatland 33.94 7 ⇑P P 08 10 06.9 +0.8
baz=34
N31A Bailey Ranch, 33.95 16 ⇑P P 08 10 06.3 +0.3
baz=34,SNR=5.7
TIGA Tifton 34.00 44 eP P 08 10 06.6 0.0
TIGA ePcP PcP 08 12 45.0 +0.4
TIGA Tifton 34.00 44 ⇑P P 08 10 06.1 -0.4
baz=34,SNR=6.4
N32A Stulken Farm, 34.08 17 ⇓P P 08 10 07.5 +0.4
baz=34
M29A Burnside Ranch 34.11 13 ⇑P P 08 10 08.0 +0.6
baz=34,SNR=11
TAOE Nuku Hiva Isla 34.13 241 eT T 08 45 37.8
comp=Z,872nm,0.3s
UTMT University of 34.14 32 eP P 08 10 08.7 +1.0
comp=Z,307nm,1.1s
UTMT ePcP PcP 08 12 44.8 -0.1
UTMT eScP ScP 08 16 19.7 -10
L25A Engebretsen Ra 34.18 9 ⇑P P 08 10 08.7 +0.5
baz=34,SNR=6.9
L26A Underwood Farm 34.21 10 ⇓P P 08 10 08.9 +0.5
baz=34
N02D Trinity Center 34.28 343 P P 08 10 10.2 +1.3
baz=34
K21A Alcova 34.29 4 ⇓P P 08 10 09.6 +0.5
baz=34,SNR=29
AHID Auburn Hatcher 34.31 359 eP P 08 10 10.3 +0.9
comp=Z,138nm,1.3s
AHID LR LR
comp=Z,10μm,19.0s
BW06 Boulder Array 34.31 1 eP P 08 10 10.0 +0.6
comp=Z,764nm,2.8s
BW06 ePcP PcP 08 12 45.3 -0.3
BW06 LR LR
comp=Z,6μm,19.0s
PDAR Pinedale Array 34.31 1 P P 08 10 10.0 +0.6
PDAR PcP PcP 08 12 44.9 -0.7
PDAR Pinedale Array 34.31 1 P P 08 10 10.0 +0.6
comp=Z,30nm,0.9s,baz=173,slow=7.0,SNR=118
PDAR PcP PcP 08 12 44.9 -0.7
comp=Z,7.2nm,1.0s,baz=176,slow=3.5,SNR=4.1
PDAR LR LR 08 22 59.3
comp=Z,6μm,18.0s,baz=192,slow=34
K22A Casper 34.37 5 ePcP PcP 08 12 46.1 +0.4
K22A Casper 34.37 5 ⇑P P 08 10 10.4 +0.6
baz=35,SNR=23
M30A Dale-Ortello V 34.39 14 ⇓P P 08 10 10.0 +0.2
baz=34
L27A T5 Ranch, Ells 34.39 11 ⇑P P 08 10 10.5 +0.6
baz=35
M31A Lambtecht Ranc 34.43 15 ⇑P P 08 10 11.0 +0.8
baz=35,SNR=12
L28A Connealy Angus 34.47 12 ⇓P P 08 10 11.3 +0.7
baz=35
KHMM Horse Mountain 34.49 342 eP P 08 10 16.1 +5.3
comp=Z,132nm,1.2s
K23A Bowen Ranch, D 34.56 6 ⇑P P 08 10 12.3 +0.8
baz=35
K24A Anderson Ranch 34.62 7 ⇑P P 08 10 12.5 +0.5
baz=35
K25A Mack Ranch, Ha 34.64 9 ⇑P P 08 10 13.0 +0.9
baz=35
M02C Callahan 34.71 344 ⇓P P 08 10 14.7 +2.0
baz=35
BGNE Belgrade 34.72 16 eP P 08 10 13.3 +0.7
comp=Z,294nm,1.3s
BGNE ePcP PcP 08 12 46.5 0.0
BGNE Belgrade 34.72 16 ⇑P P 08 10 12.7 0.0
baz=35,SNR=13
WVOR Wild Horse Val 34.73 349 eP P 08 10 14.6 +1.8
WVOR e 08 12 48.1
WVOR pmax pmax
comp=Z,154nm,1.3s
WVOR Wild Horse Val 34.73 349 eP P 08 10 14.6 +1.8
comp=Z,154nm,1.3s
WVOR ePcP PcP 08 12 48.1 +1.4
L29A Maesberg Ranch 34.75 13 ⇓P P 08 10 13.5 +0.6
baz=35,SNR=22
M04C Macdoel 34.80 345 ⇑P P 08 10 14.2 +0.7
baz=35
L30A Spencer Herefo 34.81 14 ⇓P P 08 10 14.2 +0.7
baz=35,SNR=17
J19A Crowheart 34.83 2 ⇓P P 08 10 14.6 +0.8
baz=35,SNR=18
K26A Motz Farm, Whi 34.84 9 ⇓P P 08 10 14.5 +0.7
baz=35,SNR=9.6
REDW Red Top Meadow 34.90 360 eP P 08 10 15.3 +0.8
comp=Z,163nm,1.6s
J20A Shoshoni 34.95 3 ⇓P P 08 10 16.1 +1.3
baz=35,SNR=18
SWET Sewanee 34.96 36 eP P 08 10 14.9 +0.1
comp=Z,326nm,1.8s
J21A Lysite 34.99 4 ⇓P P 08 10 16.3 +1.1
baz=35,SNR=20
YBH Yreka Blue Hor 34.99 344 eP P 08 10 16.3 +1.3
YBH Yreka Blue Hor 34.99 344 P P 08 10 15.6 +0.5
comp=Z,26nm,1.0s,baz=109,slow=5.1,SNR=23
YBH LR LR 08 21 39.9
comp=Z,5μm,19.9s,baz=171,slow=31
K27A Flueckinger Fa 35.00 11 ⇑P P 08 10 15.7 +0.5
baz=35
SIUC Southern Illin 35.02 30 eP P 08 10 15.5 +0.2
comp=Z,176nm,1.1s
SIUC ePcP PcP 08 12 47.3 -0.1
TPAW Teton Pass 35.03 359 eP P 08 10 16.6 +0.9
comp=Z,116nm,1.6s
J22A Midwest 35.13 5 ⇑P P 08 10 17.1 +0.7
baz=35,SNR=27
LOHW Long Hollow 35.15 360 eP P 08 10 17.6 +1.0
comp=Z,37nm,1.3s
FXWY Fox Creek 35.18 359 eP P 08 10 17.6 +0.7
comp=Z,30nm,1.1s
K28A Ten Mile Ranch 35.18 12 ⇑P P 08 10 17.2 +0.5
baz=35
J23A Dilts Ranch, B 35.21 6 ⇑P P 08 10 18.1 +1.1
baz=35
J24A Dixon Ranch, L 35.24 7 ⇑P P 08 10 18.4 +1.1
baz=35
L31A Butterfield Fa 35.25 15 ⇑P P 08 10 17.9 +0.7
baz=35,SNR=33
SLM Saint Louis 35.26 28 eP P 08 10 17.7 +0.4
SLM e 08 12 47.4
SLM pmax pmax
comp=Z,388nm,1.4s
SLM Saint Louis 35.26 28 eP P 08 10 17.7 +0.4
comp=Z,388nm,1.4s
SLM ePcP PcP 08 12 47.4 -0.7
MFID Camas Ranch 35.27 353 eP P 08 10 19.4 +1.9
comp=Z,154nm,1.4s
MFID ePcP PcP 08 12 49.5 +1.3
HLID Hailey 35.27 355 PFAKE 08 10 30.0 +12
HLID LR LR
comp=Z,3μm,19.0s
HLID Hailey 35.27 355 ⇓P P 08 10 19.3 +1.7
baz=36,SNR=62
MOOW Moose Ponds 35.29 360 eP P 08 10 18.7 +0.9
comp=Z,168nm,2.4s
GOGA Godfrey 35.29 41 eP P 08 10 17.5 -0.2
GOGA pmax pmax
comp=Z,204nm,1.2s
GOGA MLR MLR
comp=Z,1μm,19.0s
GOGA Godfrey 35.29 41 eP P 08 10 17.5 -0.2
comp=Z,204nm,1.2s
GOGA LR LR
comp=Z,1μm,19.0s
J25A Sunshine Ranch 35.42 8 ⇑P P 08 10 19.5 +0.7
baz=36,SNR=12
K29A Lazy Trails An 35.45 13 ⇑P P 08 10 19.8 +0.8
baz=36,SNR=19
J26A Sides Ranch, S 35.45 9 ⇑P P 08 10 20.0 +0.9
baz=36,SNR=20
I17A Pilgrim Ck. 35.46 360 ⇓P P 08 10 20.1 +0.8
baz=36,SNR=9.6
I21A Big Trails, Te 35.46 4 ⇑P P 08 10 20.0 +0.8
baz=36,SNR=42
ATAH Atahualpa 35.49 115 P P 08 10 22.6 +2.5
ATAH PcP PcP 08 12 51.3 +1.6
ATAH Atahualpa 35.49 115 P P 08 10 22.6 +2.5
comp=Z,38nm,1.2s,baz=306,slow=8.0,SNR=35
ATAH PcP PcP 08 12 51.3 +1.6
comp=Z,18nm,1.1s,baz=317,slow=5.2,SNR=3.8
ATAH LR LR 08 21 22.0
comp=Z,4μm,20.0s,baz=315,slow=30
K30A Basset 35.53 14 ⇓P P 08 10 20.2 +0.6
baz=36,SNR=9.4
I20A Worland 35.55 3 ⇑P P 08 10 20.7 +0.8
baz=36,SNR=46
J27A Elkhorn Farm, 35.58 11 ⇑P P 08 10 21.0 +0.9
baz=36,SNR=13
I19A Meeteetse 35.60 2 ⇑P P 08 10 21.3 +0.9
baz=36,SNR=27
I22A 9 Mile Ranch, 35.60 5 ⇑P P 08 10 21.4 +1.0
baz=36,SNR=14
FLWY Flagg Ranch 35.62 360 eP P 08 10 22.0 +1.3
comp=Z,156nm,1.8s
I24A Kuemmerle Ranc 35.77 7 ⇓P P 08 10 22.6 +0.8
baz=36,SNR=8.1
I23A Meade Ranch, G 35.77 6 ⇓P P 08 10 22.8 +1.0
baz=36
J28A Allard Ranch, 35.89 12 ⇑P P 08 10 23.8 +1.0
baz=36,SNR=46
H17A Grant Village 35.93 360 eP P 08 10 25.1 +1.7
H17A Grant Village 35.93 360 ⇓P P 08 10 24.0 +0.6
baz=36
CPCT Cooper Cave 35.95 38 eP P 08 10 24.5 +1.1
USIN University of 36.00 31 eP P 08 10 24.5 +0.8
comp=Z,484nm,1.2s
J29A Okreek 36.06 13 ⇑P P 08 10 25.1 +0.9
baz=36,SNR=18
ROSC El Rosal 36.07 93 eP P 08 10 27.5 +2.5
ROSC El Rosal 36.07 93 P P 08 10 27.7 +2.6
comp=Z,44nm,1.0s,baz=95,slow=23,SNR=48
ROSC LR LR 08 21 38.7
comp=Z,4μm,19.9s,baz=314,slow=30
H20A Greybull 36.09 3 ⇑P P 08 10 24.8 +0.2
baz=36
RSSD Black Hills 36.10 8 eP P 08 10 25.2 +0.4
RSSD e 08 12 50.3
RSSD pmax pmax
comp=Z,26nm,1.7s
RSSD Black Hills 36.10 8 eP P 08 10 25.1 +0.4
comp=Z,26nm,1.7s
RSSD ePcP PcP 08 12 50.3 -0.5
GTBY Guantanamo Bay 36.11 68 eP P 08 10 25.7 +0.8
comp=Z,472nm,1.1s
GTBY LR LR
comp=Z,2μm,21.0s
J30A Dallas 36.17 14 ⇓P P 08 10 25.6 +0.5
baz=36,SNR=27
I26A New Underwood 36.19 9 ⇑P P 08 10 26.5 +1.2
baz=36,SNR=15
YMR Madison River 36.21 359 ePcP PcP 08 12 55.7 +4.7
H18A Shoshone NF, C 36.22 1 ⇑P P 08 10 26.6 +0.8
baz=36,SNR=16
H19A Powell 36.23 2 ⇓P P 08 10 27.0 +1.2
baz=36
H21A Big Horn, Sher 36.29 4 ⇑P P 08 10 26.8 +0.5
baz=36
H22A Clearmont 36.31 5 ⇓P P 08 10 26.7 +0.3
baz=36,SNR=18
I27A Quinn 36.36 10 ⇑P P 08 10 27.7 +0.9
baz=36,SNR=45
H23A Clabaugh Cattl 36.37 6 ⇑P P 08 10 27.1 +0.1
baz=37
QLMT Earthquake Lak 36.38 359 eP P 08 10 29.5 +2.4
MCMT McKenzie Canyo 36.42 357 P P 08 10 29.8 +2.2
I28A Midland 36.46 11 ⇑P P 08 10 28.3 +0.7
baz=37,SNR=14
I07A Izee 36.48 349 eP P 08 10 30.0 +2.1
comp=Z,74nm,1.1s
TKL Tuckaleechee C 36.55 38 eP P 08 10 28.6 +0.1
TKL ePcP PcP 08 12 52.1 +0.1
TKL Tuckaleechee C 36.55 38 P P 08 10 28.7 +0.3
comp=Z,187nm,1.2s,baz=215,slow=7.7,SNR=74
H24A Dirks Ranch, A 36.65 7 ⇓P P 08 10 29.0 -0.3

baz=37,SNR=20
H25A Fruitdale 36.65 8 ⇑P P 08 10 30.1 +0.9
baz=37,SNR=56
I29A Vivian Onida 36.65 12 ⇑P P 08 10 29.9 +0.6
baz=37,SNR=19
RLMT Red Lodge 36.67 1 *e*P P 08 10 30.5 +0.8
RLMT comp=Z,49nm,1.3s LR LR
comp=Z,2µm,20.0s
SCIA State Center 36.76 22 *e*P P 08 10 30.1 -0.1
comp=Z,396nm,1.8s
H26A Fairpoint 36.77 9 ⇑P P 08 10 31.3 +1.0
baz=37,SNR=21
G20A Bridger 36.81 3 ⇑P P 08 10 30.5 -0.2
baz=37,SNR=9.4
I04A Tendick Farm, 36.84 346 ⇓P P 08 10 31.9 +1.1
baz=37
BMO Blue Mountains 36.87 352 *e*P P 08 10 31.6 +0.5
comp=Z,98nm,2.0s
BMO *e*PcP PcP 08 12 53.5 +0.6
BMO LR LR
comp=Z,4µm,20.0s
G21A Lodge Grass 36.87 4 ⇑P P 08 10 31.5 +0.3
baz=37,SNR=12
H27A Howes 36.90 10 ⇑P P 08 10 32.0 +0.6
baz=37,SNR=32
WCI Wyandotte Cave 36.91 33 *e*P P 08 10 31.6 +0.1
WCI *e* 08 11 54.2
WCI *e* 08 12 52.1
WCI pmax pmax
comp=Z,592nm,1.9s
WCI Wyandotte Cave 36.91 33 *e*P P 08 10 31.6 +0.1
comp=Z,592nm,1.9s
WCI *e*PP PP 08 11 54.2 -1.5
WCI *e*PcP PcP 08 12 52.1 -0.9
G22A Birney 36.94 5 ⇓P P 08 10 31.7 -0.1
baz=37,SNR=24
DLMT Dillon 36.95 358 *e*P P 08 10 33.4 +1.5
comp=Z,152nm,1.4s
G23A Biddle 37.00 6 ⇑P P 08 10 32.2 -0.1
baz=37,SNR=14
H28A Mission Ridge 37.13 11 ⇑P P 08 10 33.7 +0.3
baz=37,SNR=38
RGRS Roger Stewart 37.20 45 *e*P P 08 10 35.1 +1.2
BOZ Bozeman (W) 37.20 359 PFAKE 08 10 40.0 +6.0
BOZ LR LR
comp=Z,6µm,19.0s
G24A Alzada 37.24 7 ⇑P P 08 10 34.2 -0.1
baz=37,SNR=11
G25A Newell 37.24 8 ⇓P P 08 10 34.5 +0.2
baz=37,SNR=5.3
H29A Onida 37.25 12 ⇓P P 08 10 34.2 -0.1
baz=37,SNR=33
JSC Jenkinsville 37.27 42 *e*P P 08 10 35.2 +0.6
JSC Jenkinsville 37.27 42 *e*P P 08 10 35.2 +0.6
TZTN Tazewell 37.27 37 *e*P P 08 10 34.9 +0.3
comp=Z,451nm,1.6s
ECSD EROS Data Cent 37.30 17 *e*P P 08 10 34.1 -0.6
comp=Z,155nm,1.6s
ECSD *e*PcP PcP 08 12 53.2 -0.9
ECSD *e*ScP ScP 08 16 39.3 -2.2
ECSD LR LR
comp=Z,1µm,20.0s
ECSD EROS Data Cent 37.30 17 ⇑P P 08 10 34.3 -0.4
baz=37,SNR=22
NHSC New Hope 37.32 44 *e*P P 08 10 36.0 +1.0
comp=Z,644nm,1.1s
NHSC LR LR
comp=Z,2µm,19.0s
CSU Charleston Sou 37.33 45 *e*P P 08 10 36.0 +1.0
BRSD Miller 37.35 14 *e*P P 08 10 35.5 +0.3
comp=Z,72nm,1.0s
BRSD *e*PP PnPn 08 12 03.7 +2.7
BRSD *e*PcP PcP 08 12 54.0 -0.2
BRSD Miller 37.35 14 ⇓P P 08 10 35.2 0.0
baz=38,SNR=15
F20A Billings 37.39 3 ⇓P P 08 10 35.9 +0.2
baz=38,SNR=63
LCCM Lewis and Clar 37.40 358 P P 08 10 37.1 +1.4
LRM Limekiln Ridge 37.40 358 *e*P P 08 10 37.0 +1.2
F19A Roth Farm, Mol 37.42 2 ⇓P P 08 10 36.2 +0.4
baz=38,SNR=31
F21A Absaloka Mine, 37.47 4 ⇑P P 08 10 36.5 +0.2
baz=38
BLO Bloomington 37.49 31 *e*P P 08 10 37.1 +0.7
BLO pmax pmax
comp=Z,389nm,1.1s
BLO Bloomington 37.49 31 *e*P P 08 10 37.1 +0.7
comp=Z,349nm,1.1s
F22A Rosebud 37.49 5 ⇓P P 08 10 36.3 -0.1
baz=38,SNR=12
F23A Volborg 37.52 6 ⇑P P 08 10 36.3 -0.3
baz=38,SNR=22
G28A Parade 37.54 11 ⇓P P 08 10 36.8 0.0
baz=38,SNR=11
H04A Detroit Lake 37.62 346 *e*P P 08 10 38.6 +1.1
comp=Z,162nm,1.4s
H04A *e*PcP PcP 08 12 55.5 +0.4
G27A Dupree 37.65 10 ⇑P P 08 10 37.9 +0.2
baz=38,SNR=30
F24A Ekalaka 37.74 7 ⇑P P 08 10 38.3 -0.2
baz=38,SNR=14
KMSC Kings Mountain 37.75 41 *e*P P 08 10 39.0 +0.3
KMSC Kings Mountain 37.75 41 ⇑P P 08 10 39.0 +0.3
baz=38,SNR=32
COR Corvallis 37.80 345 *e*P P 08 10 43.9 +4.9
COR pmax pmax
comp=Z,79nm,1.7s
COR Corvallis 37.80 345 *e*P P 08 10 43.9 +4.9
comp=Z,79nm,1.7s
G29A Hoven 37.85 12 ⇑P P 08 10 38.9 -0.5
baz=38,SNR=6.0
F25A Bowman 37.95 8 ⇓P P 08 10 40.2 -0.1
baz=38,SNR=15
F10A Beach Ranch, E 37.96 352 *e*P P 08 10 41.8 +1.4
comp=Z,408nm,2.5s
G30A Faulkton 37.96 13 ⇓P P 08 10 40.0 -0.4
baz=38,SNR=30
F26A Lodgepole 37.99 9 ⇓P P 08 10 40.9 +0.2
baz=38,SNR=25
E19A Rath Farm, Rou 38.03 2 ⇑P P 08 10 41.2 +0.3
baz=38,SNR=27
E20A Meyer Farm, Mu 38.10 3 ⇑P P 08 10 42.2 +0.7
baz=38,SNR=43
F27A Lemmon 38.12 10 ⇓P P 08 10 41.9 +0.2
baz=38,SNR=20
SFIN Scholer Farm 38.12 29 *e*P P 08 10 42.0 +0.2
SFIN Scholer Farm 38.12 29 ⇓P P 08 10 41.8 +0.1
baz=38,SNR=38
E22A Miles City 38.18 5 ⇑P P 08 10 42.4 +0.2
baz=38,SNR=33
E21A Keefer Ranch, 38.19 4 ⇓P P 08 10 42.9 +0.6
baz=38,SNR=35
VLL Laurance Lake 38.24 347 P P 08 10 44.8 +2.0
HRY Holter Researc 38.27 359 *e*P P 08 10 43.9 +0.9
F28A McLaughlin 38.31 11 ⇓P P 08 10 43.3 +0.1
baz=38
BLTW Bickleton 38.37 349 P P 08 10 45.9 +2.1
G03D McMinnville, O 38.38 345 ⇓P P 08 10 44.9 +1.1
baz=39
LAO LASA Array 38.40 5 *e*P P 08 10 44.4 +0.4
comp=Z,1µm,2.1s
LAO LR LR
comp=Z,1µm,21.0s
E24A Baker 38.47 7 ⇑P P 08 10 44.5 -0.1
baz=39
MSO Missoula 38.48 356 *e*P P 08 10 45.3 +0.5
comp=Z,52nm,1.3s
MSO Missoula 38.48 356 ⇓P P 08 10 45.3 +0.5
baz=39,SNR=20
F29A Eureka 38.48 12 ⇑P P 08 10 44.1 -0.6
baz=39,SNR=15
E25A Miller Ranch, 38.52 8 ⇑P P 08 10 44.8 -0.2
baz=39,SNR=16
CHMT Chamberlain Mo 38.53 357 *e*P P 08 10 46.0 +0.7
E09A Wood Farm, Sta 38.62 352 *e*P P 08 10 46.1 +0.3
comp=Z,81nm,1.3s
E26A Carlson Angus 38.63 9 ⇓P P 08 10 46.0 0.0
baz=39,SNR=26
F30A Leola 38.66 13 ⇑P P 08 10 45.9 -0.2
baz=39,SNR=24
D20A Manuel Ranch, 38.68 3 ⇓P P 08 10 46.7 +0.3
baz=39,SNR=14
HAWA Hanford 38.72 350 PFAKE 08 11 00.0 +13
HAWA LR LR
comp=Z,3µm,19.0s
D21A La Casta Ranch 38.72 4 ⇑P P 08 10 47.4 +0.6
baz=39,SNR=49
D19A Cripps Ranch, 38.73 2 ⇓P P 08 10 47.1 +0.3
baz=39,SNR=33
E27A Carson 38.73 10 ⇑P P 08 10 47.0 +0.2
baz=39,SNR=28
JFWS Jewell Farm 38.77 24 *e*P P
JFWS pmax pmax
comp=Z,405nm,2.0s
JFWS MLR MLR
comp=Z,1µm,21.0s
JFWS Jewell Farm 38.77 24 *e*P P 08 10 47.1 0.0
comp=Z,405nm,2.0s
JFWS LR LR
comp=Z,1µm,21.0s
F04A Amboy 38.85 347 *e*P P 08 10 49.8 +2.0
comp=Z,135nm,1.2s
D22A Cohagen 38.86 5 ⇓P P 08 10 48.7 +0.7
baz=39,SNR=87
SLMT Seeley Lake 38.87 357 *e*P P 08 10 48.7 +0.6
E07A Sunnyside 38.94 350 *e*P P 08 10 50.8 +2.3
comp=Z,96nm,1.4s
D24A Glendive 39.01 7 ⇑P P 08 10 49.1 -0.1
baz=39,SNR=18
LOCW Locke Island 39.02 350 P P 08 10 51.0 +1.9
E28A Huff 39.03 11 ⇑P P 08 10 49.1 -0.2
baz=39,SNR=16
NNA Nana 39.06 121 *e*P P 08 10 50.1 +0.1
comp=Z,367nm,2.4s
NNA LR LR
comp=Z,5µm,20.0s
F04D Rainier, OR 39.13 346 ⇓P P 08 10 51.0 +0.8
baz=39
SWMT Swartz Lake 39.16 356 *e*P P 08 10 51.0 +0.5
D25A Fairfield 39.17 8 ⇓P P 08 10 50.8 +0.3
baz=39,SNR=12
D26A Manning 39.18 9 ⇓P P 08 10 50.7 +0.1
baz=39,SNR=12
E29A Napoleon 39.22 12 ⇓P P 08 10 50.6 -0.3
baz=39,SNR=14
D08A Wollman Farm, 39.26 351 *e*P P 08 10 52.6 +1.3
comp=Z,163nm,1.4s
C19A Slack Wire Ran 39.29 2 ⇑P P 08 10 51.8 +0.3
baz=40,SNR=32
C20A Veseth Ranch, 39.31 3 ⇓P P 08 10 52.1 +0.4
baz=40,SNR=40
E30A Jud 39.31 13 ⇓P P 08 10 51.0 -0.7
baz=40,SNR=13
RKT Rikitea 39.38 217 *e*P P 08 10 58.6 +6.1
comp=Z,116nm,1.4s
RKT *e*S S 08 17 05.0 +11
comp=Z,340nm,29.2s
RKT *e*LQ LQ 08 19 55.8
comp=Z,1µm,26.2s
RKT *e*LR LR 08 21 39.5
comp=Z,4µm,25.5s,baz=33
RKT Rikitea 39.38 217 *e*T T 08 52 21.6
comp=Z,23nm,0.4s
D27A Center 39.40 10 ⇓P P 08 10 51.9 -0.5
baz=40
C24A Savage 39.41 6 ⇑P P 08 10 52.8 +0.3
baz=40,SNR=8.2
JTMT Jette 39.42 356 *e*P P 08 10 53.3 +0.6
SDDR Presa de Saban 39.45 70 *e*P P 08 10 54.5 +1.3
comp=Z,235nm,1.2s
C22A Vida 39.48 5 ⇑P P 08 10 53.6 +0.5
baz=40,SNR=59
LON Longmire 39.50 348 *e*P P 08 10 54.6 +1.3
LON pmax pmax
comp=Z,53nm,1.2s
LON Longmire 39.50 348 *e*P P 08 10 54.5 +1.3
comp=Z,53nm,1.2s
YBMT Yellow Bay 39.52 356 *e*P P 08 10 54.1 +0.6
OD2 Odessa Site #2 39.56 351 P P 08 10 55.0 +1.3
BSMT Bassoo Peak 39.56 355 *e*P P 08 10 55.7 +1.8
EGMT Eagleton 39.57 1 *e*P P 08 10 54.2 +0.4
comp=Z,148nm,1.5s
EGMT LR LR
comp=Z,6µm,19.0s
EGMT Eagleton 39.57 1 ⇑P P 08 10 54.3 +0.4
baz=40,SNR=21
C23A Lambert 39.60 6 ⇑P P 08 10 54.7 +0.6
baz=40,SNR=60
BLA Blacksburg 39.61 39 *e*P P 08 10 54.4 +0.1
BLA pmax pmax
comp=Z,397nm,1.4s
BLA MLR MLR
comp=Z,1µm,21.0s
BLA Blacksburg 39.61 39 *e*P P 08 10 54.4 +0.1
comp=Z,398nm,1.4s
BLA LR LR
comp=Z,1µm,21.0s
D28A Regan 39.65 11 ⇑P P 08 10 54.4 -0.1
baz=40,SNR=14
BLMT Blacktail Moun 39.69 356 *e*P P 08 10 55.1 +0.1
E03A Lebam 39.70 346 *e*P P 08 10 56.9 +2.1
comp=Z,207nm,1.4s
D29A Pettibone, Tap 39.70 12 ⇑P P 08 10 54.2 -0.7
baz=40,SNR=25
C25A Freed Ranch, W 39.73 8 ⇓P P 08 10 54.8 -0.3
baz=40,SNR=17
LTY Liberty 39.76 349 *e*P P 08 10 56.9 +1.5
comp=Z,700nm,3.0s
SPMN St. Paul 39.82 20 *e*P P 08 10 55.1 -0.7
SPMN St. Paul 39.82 20 ⇓P P 08 10 55.1 -0.7
baz=40,SNR=24
C09A Chrisman Ranch 39.89 352 *e*P P 08 10 58.2 +1.8
comp=Z,258nm,1.9s
D30A Buchanan 39.92 12 ⇓P P 08 10 56.1 -0.6
baz=40,SNR=61
D05A Enumclaw 39.95 348 *e*P P 08 10 58.9 +2.0
comp=Z,260nm,1.3s
C27A Sayler Ranch, 39.99 9 ⇑P P 08 10 57.5 +0.2
baz=40,SNR=20
C26A Wahner Farm, P 40.01 9 ⇓P P 08 10 57.8 +0.4
baz=40,SNR=33
B19A Brinkman Farms 40.02 2 ⇑P P 08 10 57.9 +0.3
baz=40,SNR=26
B22A Reddig Ranch S 40.02 5 ⇓P P 08 10 57.8 +0.2
baz=40
ETW Entiat 40.03 350 P P 08 10 59.2 +1.4
B20A Solberg Farm, 40.03 3 ⇑P P 08 10 58.0 +0.3
baz=40,SNR=22
WTV Waterville 40.06 350 P P 08 10 59.6 +1.7
B21A Ellsworth Farm 40.08 4 ⇓P P 08 10 57.8 -0.2
baz=40,SNR=19
CNNC Cliffs of the 40.09 43 PFAKE 08 11 10.0 +12
CNNC LR LR
comp=Z,894nm,19.0s
GRTK Grand Turk 40.09 66 *e*P P 08 10 59.3 +0.8
comp=Z,690nm,2.0s
GRTK LR LR
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 40.13 33 *e*P P 08 10 58.2 -0.3
comp=Z,141nm,1.3s
ACSO LR LR
comp=Z,2µm,19.0s
C28A Hausauer Farms 40.18 11 ⇑P P 08 10 58.6 -0.3
baz=40,SNR=10
NEW Newport 40.20 353 *e*P P 08 11 00.2 +1.1
comp=Z,88nm,1.1s
NEW Newport 40.20 353 P P 08 10 59.9 +0.9
comp=Z,63nm,1.1s,baz=167,slow=8.3,SNR=43
NEW LR LR 08 26 06.9
comp=Z,3µm,18.6s,baz=176,slow=34
NEW Newport 40.20 353 ⇑P P 08 11 00.1 +1.0
baz=40,SNR=44
B23A Brockton 40.27 6 ⇑P P 08 11 00.1 +0.5
baz=40,SNR=40
B25A Knox Farm, Ray 40.29 8 ⇓P P 08 11 00.2 +0.4
baz=40,SNR=14
DGMT Dagmar 40.36 6 *e*P P 08 11 01.0 +0.6
comp=Z,285nm,1.4s
DGMT LR LR
comp=Z,5µm,19.0s
DGMT Dagmar 40.36 6 ⇓P P 08 11 00.8 +0.5
baz=40,SNR=35
A20A Cobblestone Ra 40.48 3 ⇓P P 08 11 01.3 -0.1
baz=41,SNR=17
A19A Klindworth Far 40.49 2 ⇓P P 08 11 01.4 -0.1
baz=41,SNR=18
B26A Jensen Ranch, 40.52 8 ⇓P P 08 11 01.8 +0.1
baz=41,SNR=6.4
C30A Mose, Pekin 40.55 12 ⇑P P 08 11 01.6 -0.3
baz=41,SNR=28
NLWA Neilton Lookou 40.57 346 *e*P P 08 11 03.9 +1.8
comp=Z,117nm,1.2s
NLWA LR LR
comp=Z,5µm,20.0s
B08A Colville Reser 40.59 351 *e*P P 08 11 03.5 +1.2
comp=Z,73nm,1.4s
A21A Bergtoll Ranch 40.64 4 ⇑P P 08 11 02.9 +0.1
baz=41,SNR=28
B27A Peters Farms, 40.70 9 ⇓P P 08 11 03.4 +0.3
baz=41
WALA Waterton Lakes 40.70 357 *e*P P 08 11 04.3 +1.0
comp=Z,133nm,1.2s
A22A Carney Farms, 40.72 5 ⇓P P 08 11 03.6 +0.2
baz=41,SNR=29
A23A Redstone 40.77 6 ⇓P P 08 11 04.3 +0.5
baz=41
A24A Westby 40.83 7 ⇓P P 08 11 04.6 +0.3
baz=41,SNR=21
B28A Dugan Ranch, T 40.90 10 ⇑P P 08 11 05.1 +0.4
baz=41,SNR=46
A25A Svangstu Ranch 40.95 7 ⇑P P 08 11 05.8 +0.6
baz=41,SNR=21
A26A Wade Farm, Ken 41.06 8 ⇑P P 08 11 06.4 +0.3
baz=41
B29A Wagenman Farm, 41.10 11 ⇓P P 08 11 05.9 -0.6
baz=41,SNR=5.5
B06A Marblemount 41.12 349 *e*P P 08 11 07.2 +0.7
comp=Z,182nm,1.8s
CMW Cultus Mountai 41.16 348 P P 08 11 08.4 +1.4
AAM Ann Arbor 41.27 31 *e*P P 08 11 07.6 -0.3
AAM pmax pmax
comp=Z,254nm,1.1s
AAM Ann Arbor 41.27 31 *e*P P 08 11 07.6 -0.3
comp=Z,254nm,1.1s
B30A Myrvik Farm, E 41.29 12 ⇓P P 08 11 07.7 -0.3
baz=41,SNR=39
A28A Rude Farm, Bot 41.36 10 ⇓P P 08 11 08.8 +0.2
baz=42,SNR=12
JSRW J. Sargeant Re 41.51 40 *e*P P 08 11 09.5 -0.4
JSRW *e*PcP PcP 08 13 07.8 +0.3
MCWV Mont Chateau 41.52 36 *e*P P 08 11 09.9 -0.2
comp=Z,368nm,1.3s
MCWV LR LR
comp=Z,2µm,19.0s
A29A Manning Farm, 41.56 11 ⇓P P 08 11 09.7 -0.6
baz=42,SNR=18
A05A Maple Falls 41.70 349 *e*P P 08 11 12.7 +1.4
comp=Z,258nm,1.7s
AGMN Agassiz Nation 41.72 15 *e*P P 08 11 11.1 -0.4
comp=Z,241nm,1.4s
AGMN LR LR
comp=Z,2µm,20.0s
AGMN Agassiz Nation 41.72 15 ⇑P P 08 11 10.9 -0.5
baz=42,SNR=51
VDB Vedder Mountai 41.73 349 P P 08 11 12.7 +1.1
A30A Hoffart Farm, 41.76 12 ⇑P P 08 11 11.0 -0.8
baz=42,SNR=8.7
CBN Corbin 42.13 40 *e*P P 08 11 15.2 +0.2
comp=Z,110nm,1.3s
CBN LR LR
comp=Z,1µm,20.0s
EYMN Ely 42.64 19 *e*P P 08 11 18.2 -0.9
comp=Z,128nm,1.1s
EYMN LR LR
comp=Z,2µm,19.0s
ALLY Alegheny Colle 42.67 34 *e*P P 08 11 18.7 -0.7
comp=Z,270nm,1.2s
ERPA Erie 43.07 34 *e*P P 08 11 21.9 -0.8
ERPA LR LR
comp=Z,2µm,22.0s
SDMD Soldier's Deli 43.18 39 *e*P P 08 11 23.6 0.0
comp=Z,352nm,1.1s
AGPR Aguadilla, PR 43.28 72 *e*P P 08 11 24.6 0.0
comp=Z,573nm,1.5s
LRS Lares 43.51 72 *e*P P 08 11 25.5 -1.1
LRS *e*PcP PcP 08 13 13.7 -0.9
ULM Lac du Bonnet 43.53 14 *e*P P 08 11 25.1 -1.1
comp=Z,152nm,1.5s
ULM PcP PcP 08 13 12.8 -1.2
ULM Lac du Bonnet 43.53 14 P P 08 11 25.0 -1.1
comp=Z,14nm,0.7s,baz=204,slow=8.5,SNR=30
ULM PcP PcP 08 13 12.8 -1.2
comp=Z,12nm,1.0s,baz=247,slow=4.3,SNR=3.5
ULM LR LR 08 28 41.5
comp=Z,2µm,19.2s,baz=208,slow=35
AOPR Arecibo Observ 43.60 72 *e*P P 08 11 25.9 -1.3
comp=Z,156nm,1.1s
AOPR *e*PcP PcP 08 13 15.3 +0.4
VAH Vaihoa 43.62 238 *e*P P 08 11 33.6 +6.2
comp=Z,186nm,1.3s
OBIP Obispado Ponce 43.70 73 *e*P P 08 11 27.3 -0.8
comp=Z,38nm,0.8s
OBIP *e*PcP PcP 08 13 14.4 -0.8
PMOR Pomariorio Ree 43.73 238 *e*P P 08 11 34.5 +6.2
comp=Z,275nm,1.3s
PMOR Pomariorio Ree 43.73 238 *e*T T 08 57 38.1
comp=Z,6.9nm,0.2s
CELP Cerrillos 43.73 73 *e*P P 08 11 26.4 -1.9
CELP *e*PcP PcP 08 13 14.6 -0.7
MVL Millersville 43.84 38 *e*P P 08 11 28.9 0.0
comp=Z,179nm,1.3s
HUMP Col San Antoni 44.43 73 *e*P P 08 11 34.2 +0.3
HUMP *e*ScP ScP 08 17 11.6 +1.5
CBYP Canovanas 44.44 72 *e*P P 08 11 32.6 -1.5
comp=Z,53nm,1.0s
MMNY Mt. Morris Dam 44.63 34 *e*P P 08 11 34.6 -0.5
comp=Z,562nm,1.2s
MTP Monte Pirata 44.70 73 *e*P P 08 11 35.3 -0.8
comp=Z,225nm,1.1s
EDM Edmonton 44.83 358 *e*P P 08 11 36.7 +0.1
EDM Edmonton 44.83 358 *e*P P 08 11 36.7 +0.1
POHA Pohakuloa 45.02 290 PFAKE 08 11 50.0 +11
POHA LR LR
comp=Z,6µm,20.0s
KSPA Keystone Colle 45.13 37 *e*P P 08 11 38.2 -0.9
STVI Saint Thomas 45.30 72 *e*P P 08 11 39.8 -1.0
comp=Z,521nm,1.2s
MEH Mehetia 45.33 235 *e*P P 08 11 47.3 +6.2
comp=Z,43nm,1.2s
SADO Sadowa 45.33 31 P P 08 11 40.1 -0.6
SADO Sadowa 45.33 31 P P 08 11 40.1 -0.6
comp=Z,123nm,0.9s,baz=262,slow=8.3,SNR=51
BRNJ Banyan Ridge 45.34 39 *e*P P 08 11 41.3 +0.5
comp=Z,672nm,1.3s
BINY Binghamton 45.39 36 *e*P P 08 11 40.9 -0.3
comp=Z,470nm,1.6s
BINY *e*PcP PcP 08 13 20.4 -0.2
BINY LR LR
comp=Z,2µm,19.0s
CDVI St. Croix 45.41 73 *e*P P 08 11 41.1 -0.6
comp=Z,276nm,1.2s
ODNJ Ogdensburg 45.55 38 *e*P P 08 11 42.6 +0.1
comp=Z,275nm,1.8s
CPNY Central Park 45.78 39 *e*P P 08 11 44.2 -0.1
comp=Z,152nm,1.3s
PAL Palisades 45.94 39 *e*P P 08 11 45.3 -0.3
PAL pmax pmax
comp=Z,232nm,1.2s
PAL Palisades 45.94 39 *e*P P 08 11 45.2 -0.3
comp=Z,232nm,1.2s
BBB Bella Bella 46.05 345 LR LR 08 29 10.3
comp=Z,1µm,18.4s,baz=154,slow=34
TVO Taravao 46.25 236 *e*P P 08 11 55.0 +6.6
comp=Z,24nm,1.1s
PPT Papeete 46.41 236 LR LR 08 26 05.2
comp=Z,2µm,18.1s,baz=60,slow=29
PPT2 Papeete2 46.42 236 *e*S S 08 18 45.6 +7.7
comp=Z,794nm,25.2s
PPT2 *e*LQ LQ 08 22 38.5
comp=Z,3µm,30.5s
PPT2 *e*LR LR 08 24 32.5
comp=Z,6µm,25.2s,baz=53
YLE Yale 46.72 39 *e*P P 08 11 52.0 +0.3
comp=Z,288nm,1.4s
FFC Flin Flon 46.77 7 *i*P P 08 11 51.2 -0.7
FFC Flin Flon 46.77 7 *e*P P 08 11 50.8 -1.1
comp=Z,47nm,1.6s
FFC LR LR
comp=Z,5µm,19.0s
SABA Saba 46.84 74 *e*P P 08 11 52.2 -0.8
comp=Z,1µm,2.3s
TRY Troy 47.08 37 *e*P P 08 11 54.6 +0.1
comp=Z,67nm,1.2s
PTN Potsdam (NY) 47.44 34 *e*P P 08 11 56.7 -0.5
PTN pmax pmax
comp=Z,226nm,1.2s
PTN Potsdam (NY) 47.44 34 *e*P P 08 11 56.7 -0.5
comp=Z,226nm,1.2s
ACCN Adirondack Com 47.47 36 *e*P P 08 11 57.0 -0.5
comp=Z,180nm,1.5s
NCB Newcomb 47.50 35 *e*P P 08 11 57.2 -0.6

NCB LR LR
comp=Z,178nm,1.5s

KIP Kipapa 47.56 291 PFAKE 08 12 10.0 +11
KIP LR LR
comp=Z,1μm,21.0s

LONY Lake Ozonia 47.69 34 *eP* **P 08 11 59.0 -0.3**
LONY LR LR
comp=Z,205nm,1.8s

MDV Middlebury 48.12 36 *eP* **P 08 12 02.0 -0.5**
GRGR Grenville 48.16 81 PFAKE 08 12 10.0 +6.7
GRGR LR LR
comp=Z,1μm,20.0s

ANWB Willy Bob 48.23 74 *eP* **P 08 12 01.4 -2.5**
ANWB LR LR
comp=Z,74nm,0.9s

HNH Hanover 48.47 37 *eP* **P 08 12 05.8 +0.5**
comp=Z,166nm,1.4s

PSGC Pisagua 48.48 125⇓ *iP* **P 08 12 06.3 +0.5**
LPAZ La Paz 48.53 120 *eP* **P 08 12 07.5 +0.6**
comp=Z,206nm,1.4s

LPAZ La Paz 48.53 120 P **P 08 12 07.7 +0.8**
comp=Z,98nm,1.2s,baz=305,slow=6.3,SNR=133
LPAZ LR LR 08 29 15.4
comp=Z,5μm,21.4s,baz=314,slow=32

BBSR BB Station 48.66 54 *eP* **P 08 12 06.1 -0.7**
comp=Z,545nm,1.3s
BBSR LR LR
comp=Z,3μm,19.0s

MNMC Minimini 48.67 124⇓ *iP* **P 08 12 08.2 +0.8**
FDF Fort de France 48.68 78 *eP* **P 08 12 07.3 -0.1**
FDF pmax pmax
comp=Z,207nm,1.1s
FDF MLR MLR
comp=Z,2μm,20.0s

FDF Fort de France 48.68 78 *eP* **P 08 12 07.7 +0.3**
FDF Fort de France 48.68 78 *eP* **P 08 12 07.3 -0.1**
comp=Z,207nm,1.1s
FDF LR LR
comp=Z,2μm,20.0s

BVM Bellevue 48.76 78 *eP* **P 08 12 08.4 +0.4**
ZAM Aeronautique 48.79 78 *eP* **P 08 12 07.8 -0.4**
LPMF Morne Lapointe 48.85 78 *eP* **P 08 12 08.4 -0.2**
LBNH Lisbon 48.99 36 *eP* **P 08 12 09.7 +0.4**
LBNH pmax pmax
comp=Z,264nm,2.0s
LBNH MLR MLR
comp=Z,2μm,22.0s

LBNH Lisbon 48.99 36 *eP* **P 08 12 09.7 +0.4**
comp=Z,264nm,2.0s
LBNH LR LR
comp=Z,2μm,22.0s

PATCX Punta Patache 49.09 127⇓ *iP* **P 08 12 11.4 +1.0**
TBI Tubuai 49.43 230 *eS* S 08 19 27.3 +7.0
comp=Z,583nm,25.2s
TBI *eLR* LR 08 26 06.3
comp=Z,5μm,26.0s,baz=52

TBI Tubuai 49.43 230 *eT* T 09 04 48.3
comp=Z,19nm,0.4s

PB01 Plate Boundary 49.73 127⇓ *iP* **P 08 12 16.6 +1.2**
PB07 Plate Boundary 49.78 128⇓ *iP* **P 08 12 17.1 +1.2**
SAML Samuel 50.15 109 *eP* **P 08 12 17.5 -1.0**
comp=Z,57nm,1.4s

BBGH Gun Hill 50.20 80 PFAKE 08 12 30.0 +11
BBGH LR LR
comp=Z,4μm,20.0s

PB10 Plate Boundary 50.24 130⇓ *iP* **P 08 12 20.2 +1.1**
PB09 Plate Boundary 50.32 127⇓ *iP* **P 08 12 21.5 +1.6**
PB04 Plate Boundary 50.38 128⇓ *iP* **P 08 12 17.6 -2.5**
WVL Waterville 50.52 37 *eP* **P 08 12 21.3 +0.4**
comp=Z,135nm,1.3s

PB06 Plate Boundary 50.55 128⇓ *iP* **P 08 12 22.6 +0.9**
WRAK Wrangell Islan 50.95 345 *eP* **P 08 12 26.8 +2.8**
comp=Z,174nm,1.5s

LVC Limon Verde 51.02 128 *eP* **P 08 12 26.8 +1.5**
comp=Z,244nm,1.5s
LVC LR LR
comp=Z,5μm,20.0s

PKME Peaks-Kenny Pk 51.12 37 *eP* **P 08 12 25.6 +0.2**
comp=Z,152nm,1.5s
PKME LR LR
comp=Z,1μm,19.0s

PTGA Pitinga 51.15 98 *eP* **P 08 12 25.0 -1.1**
comp=Z,69nm,1.4s

H03N2 Juan Fernandez 51.23 146 T T 09 07 38.5
baz=320,slow=75,SNR=242

H03N1 Juan Fernandez 51.24 146 T T 09 07 31.9
baz=320,slow=75,SNR=205

H03N3 Juan Fernandez 51.24 146 T T 09 07 33.9
baz=320,slow=75,SNR=196

FCC Fort Churchill 51.87 11 *eP* **P 08 12 30.0 -0.8**
FCC Fort Churchill 51.87 11 *eP* **P 08 12 30.0 -0.8**
comp=Z,170nm,1.1s

DLBC Dease Lake 52.20 347 *eP* **P 08 12 35.1 +1.7**
comp=Z,272nm,1.4s

SIT Sitka 52.33 343 *eP* P 08 12 40.3 +6.1
SIT pmax pmax
comp=Z,137nm,1.3s

SIT Sitka 52.33 343 *eP* P 08 12 40.3 +6.1
comp=Z,137nm,1.3s

LCO Las Campanas 53.37 136⇓ *iP* **P 08 12 43.7 +1.0**
LCO Las Campanas 53.37 136 *eP* **P 08 12 43.9 +1.2**
comp=Z,120nm,1.1s
LCO LR LR
comp=Z,3μm,21.0s

YKA Yellowknife Ar 54.15 358 P **P 08 12 47.1 -0.5**
YKA PcP **PcP 08 13 51.8 -0.3**
YKA P'P' 08 43 04.3
YKA Yellowknife Ar 54.15 358 P **P 08 12 47.1 -0.5**
comp=Z,9.0nm,0.8s,baz=170,slow=8.1,SNR=141
YKA PcP **PcP 08 13 51.7 -0.3**
comp=Z,8.7nm,0.9s,baz=166,slow=3.7,SNR=11
YKA PKPPKP **P'P'df 08 43 04.3 -0.9**
comp=Z,0.4nm,1.1s,baz=355,slow=2.8,SNR=3.6

SKAG Skagway 54.39 345 *eP* **P 08 12 50.8 +1.4**
comp=Z,87nm,1.3s

ROCH El Roble 55.65 140⇑ *iP* **P 08 13 00.1 +0.9**
CLCH Cerro Calan 56.23 140⇓ *iP* **P 08 13 03.9 +0.8**
SCHQ Schefferville 57.89 28 *eP* **P 08 13 13.2 -1.3**
comp=Z,186nm,1.4s

SCHQ Schefferville 57.89 28 P **P 08 13 13.8 -0.7**
comp=Z,65nm,1.1s,baz=239,slow=5.1,SNR=29
SCHQ LR LR 08 38 08.0
comp=Z,667nm,18.6s,baz=224,slow=36

RAGM Ragged Mountai 57.90 341 *eP* **P 08 13 16.6 +2.0**
comp=Z,181nm,1.2s

BMRM Bremner River 58.32 341 *eP* **P 08 13 19.3 +1.8**
comp=Z,191nm,1.2s

DIV Divide 58.82 341 *eP* **P 08 13 22.4 +1.4**
comp=Z,220nm,1.4s

OHAK Old Harbor 58.96 334 *eP* **P 08 13 23.0 +1.2**
comp=Z,155nm,1.1s

KDAK Kodiak Island 59.02 335 *eP* **P 08 13 23.4 +1.1**
comp=Z,161nm,1.2s
KDAK LR LR
comp=Z,4μm,20.0s

DAWY Dawson 59.33 346 *eP* **P 08 13 24.8 +0.4**
comp=Z,260nm,2.0s

SEW Seward 59.34 339 *eP* **P 08 13 25.4 +0.9**
comp=Z,78nm,1.0s

MENT Mentasta 59.57 343 *eP* **P 08 13 26.7 +0.6**
PAX Paxson 60.11 342 *eP* **P 08 13 30.4 +0.5**
PAX pmax pmax
comp=Z,229nm,2.1s

PAX Paxson 60.11 342 *eP* **P 08 13 30.4 +0.5**
comp=Z,229nm,2.1s

RC01 Rabbit Creek A 60.13 339 *eP* **P 08 13 30.3 +0.4**
comp=Z,150nm,1.3s

DOT Dot Lake 60.22 343 *eP* **P 08 13 31.1 +0.5**
comp=Z,89nm,1.0s

PMR Palmer 60.27 340 *eP* **P 08 13 31.2 +0.4**
PMR pmax pmax
comp=Z,132nm,0.9s

PMR Palmer 60.27 340 *eP* **P 08 13 31.2 +0.4**
comp=Z,132nm,0.9s

EGAK Eagle 60.35 345 *eP* **P 08 13 32.2 +0.8**
comp=Z,118nm,1.2s
EGAK LR LR
comp=Z,2μm,20.0s

RSO Redoubt South 60.80 338 *eP* **P 08 13 35.0 +0.2**
SPU Mount Spurr 61.02 338 *eP* **P 08 13 36.8 +0.8**
PLCA Paso Flores 61.11 146 *eP* **P 08 13 37.9 +0.9**
comp=Z,277nm,1.5s

PLCA Paso Flores 61.11 146 P **P 08 13 38.3 +1.3**
comp=Z,74nm,1.1s,baz=321,slow=8.2,SNR=68

PLCA LR LR 08 33 53.2
comp=Z,2μm,18.4s,baz=298,slow=30

MCK McKinley 61.73 342 *eP* **P 08 13 41.0 +0.2**
MCK pmax pmax
comp=Z,214nm,1.5s

MCK McKinley 61.73 342 *eP* **P 08 13 41.0 +0.2**
comp=Z,214nm,1.5s

INK Inuvik 61.83 351 *eP* **P 08 13 41.3 0.0**
comp=Z,151nm,1.2s

ILAR Eielson Array 61.88 343 P **P 08 13 41.6 -0.2**
ILAR P'P' 08 42 55.8
ILAR Eielson Array 61.88 343 P **P 08 13 41.6 -0.2**
comp=Z,35nm,0.6s,baz=150,slow=5.3,SNR=195
ILAR PKPPKP **P'P'df 08 42 55.8 +2.2**
comp=Z,3.7nm,1.0s,baz=313,slow=3.1,SNR=18

TRF Thorofare Moun 61.96 341 *eP* **P 08 13 42.5 0.0**
comp=Z,179nm,1.4s

CPUP Villa Florida 62.02 126 *eP* **P 08 13 44.1 +0.7**
comp=Z,32nm,1.4s

CPUP Villa Florida 62.02 126 P **P 08 13 43.3 0.0**
comp=Z,82nm,1.0s,baz=282,slow=7.6,SNR=44
CPUP LR LR 08 37 46.0
comp=Z,2μm,18.3s,baz=302,slow=33

PPLA Purkeypile 62.21 340 *eP* **P 08 13 44.4 +0.2**
comp=Z,329nm,1.2s

COLA College 62.23 343 *eP* **P 08 13 44.2 +0.1**
COLA pmax pmax
comp=Z,71nm,2.3s
COLA MLR MLR
comp=Z,1μm,21.0s

COLA College 62.23 343 *eP* **P 08 13 44.2 +0.1**
comp=Z,71nm,2.3s
COLA LR LR
comp=Z,1μm,21.0s

KTH Kantishna Hill 62.23 341 *eP* **P 08 13 44.0 -0.3**
comp=Z,580nm,1.2s

SVW2 Sparrevohn 62.28 337 *eP* **P 08 13 44.5 0.0**
comp=Z,58nm,1.1s

CAST Castle Rocks 62.52 340 *eP* **P 08 13 46.3 +0.1**
comp=Z,106nm,1.2s

FRB Frobisher Bay 62.86 20 P **P 08 13 47.6 -0.7**
FRB Frobisher Bay 62.86 20 P **P 08 13 47.6 -0.7**
comp=Z,57nm,1.0s,baz=229,slow=7.7,SNR=38

COYC Coyhaique 63.75 151⇓ *iP* **P 08 13 56.1 +1.6**
TRQA Tornquist 64.58 139 *eP* **P 08 14 00.4 +0.3**
comp=Z,102nm,1.2s

CHRN Cochrane 64.59 152⇑ *iP* **P 08 14 03.0 +3.1**
COLD Coldfoot 64.61 344 *eP* **P 08 14 00.6 +0.8**
comp=Z,64nm,0.9s

AFI Afiamalu 64.71 250 *eP* P 08 14 07.2 +5.8
comp=Z,111nm,1.4s

AFI Afiamalu 64.71 250 LR LR 08 34 44.9
comp=Z,1μm,19.5s,baz=65,slow=29

IM04 Indian Mountai 64.78 342 *eP* **P 08 14 00.1 -0.9**
LPA La Plata 65.63 134 *ceP* **P 08 14 07.0 0.0**
MIDW Midway 65.76 297 PFAKE 08 14 20.0 +12
MIDW LR LR
comp=Z,4μm,19.0s

BDFB Brasilia 66.29 111 P **P 08 14 11.8 +0.1**
BDFB Brasilia 66.29 111 P **P 08 14 11.8 +0.1**
comp=Z,88nm,1.1s,baz=279,slow=8.4,SNR=64
BDFB LR LR 08 41 45.5
comp=Z,2μm,18.5s,baz=288,slow=35

RES Resolute Bay 66.92 4 P **P 08 14 13.5 -1.1**
RES Resolute Bay 66.92 4 P **P 08 14 13.5 -1.1**
comp=Z,43nm,1.1s,baz=194,slow=8.6,SNR=48

BB16B Bebedouro 67.41 117 *eP* **P 08 14 17.5 -1.2**
ADK Adak 68.88 323 *eP* P 08 14 30.9 +3.6
ADK pmax pmax
comp=Z,12nm,1.0s
ADK MLR MLR
comp=Z,2μm,20.0s

ADK Adak 68.88 323 *eP* P 08 14 30.9 +3.6
comp=Z,12nm,1.0s
ADK LR LR
comp=Z,2μm,20.0s

TNA Tin City 69.37 338 *eP* **P 08 14 30.9 +0.9**
GAMB Gambell 70.09 336 *eP* **P 08 14 33.9 -0.7**
comp=Z,169nm,2.2s

SFJD Kangerlussuaq 70.88 21 P **P 08 14 41.3 +2.0**
SFJD Kangerlussuaq 70.88 21 P **P 08 14 41.3 +2.0**
comp=Z,14nm,0.7s,baz=214,slow=4.5,SNR=8.9

ILULI Ilulissat 71.68 19⇓ *iP* **P 08 14 42.5 -1.6**
ILULI pmax pmax
comp=Z,29nm,1.1s

ILULI Ilulissat 71.68 19⇓ *iP* **P 08 14 42.5 -1.6**
comp=Z,29nm,1.1s

KULLO Kullorsuaq 72.73 13⇓ *iP* **P 08 14 49.6 -0.7**
KULLO pmax pmax
comp=Z,37nm,1.2s

KULLO Kullorsuaq 72.73 13⇓ *iP* **P 08 14 49.6 -0.7**
comp=Z,37nm,1.1s

RCBR Riachuelo 75.69 98 *eP* **P 08 15 09.9 +1.1**
comp=Z,36nm,1.2s

ALE Alert 76.74 6 P **P 08 15 12.0 -1.5**
comp=Z,212nm,1.1s,SNR=13

SUMG Summit 76.75 17⇓ *iP* **P 08 15 13.6 -0.6**
SUMG pmax pmax
comp=Z,62nm,1.1s

SUMG Summit 76.75 17⇓ *iP* **P 08 15 13.6 -0.6**
comp=Z,62nm,1.1s

SUMG Summit 76.75 17 *eP* **P 08 15 12.9 -1.3**
comp=Z,118nm,1.1s

BILL Bilibino 79.80 338 *diP* **P 08 15 31.1 +0.4**
BILL *e* 08 15 35.7
BILL pmax pmax
comp=Z,62nm,1.5s

BILL Bilibino 79.80 338 *eP* **P 08 15 31.3 +0.7**
comp=Z,100nm,1.3s
BILL LR LR
comp=Z,2μm,19.0s

H11N3 WAKE ISLAND Hy 80.31 289 T T 09 44 03.4
baz=88,slow=75,SNR=4.9

H11N2 WAKE ISLAND Hy 80.33 289 T T 09 44 04.0
baz=88,slow=75,SNR=6.0

H11N1 WAKE ISLAND Hy 80.33 289 T T 09 44 11.1
baz=88,slow=75,SNR=5.3

H11S2 WAKE ISLAND Hy 80.63 287 T T 09 44 25.2
baz=86,slow=72,SNR=69

H11S1 WAKE ISLAND Hy 80.63 287 T T 09 44 25.4
baz=86,slow=72,SNR=43

H11S3 WAKE ISLAND Hy 80.64 287 T T 09 44 26.3
baz=86,slow=72,SNR=56

PMSA Palmer Station 80.66 162 PFAKE 08 15 40.0 +4.8
PMSA LR LR
comp=Z,2μm,19.0s

URZ Urewera 81.56 229 P **P 08 15 43.0 +2.4**
URZ Urewera 81.56 229 P **P 08 15 43.0 +2.4**
comp=Z,27nm,1.0s,baz=341,slow=1.7,SNR=4.2

SCO Scoresbysund 81.72 20 *i* P **P 08 15 39.5 -1.4**
SCO pmax pmax
comp=Z,11nm,1.1s

SCO Scoresbysund 81.72 20 *i* P **P 08 15 39.5 -1.4**
comp=Z,11nm,1.1s

BKZ Black Stump Fm 82.29 229 *eP* P 08 15 48.0 +3.5
comp=Z,183nm,1.4s

DAG Danmarks Havn 82.38 13⇓ *iP* **P 08 15 43.4 -0.8**
DAG pmax pmax
comp=Z,43nm,1.2s
DAG MLR MLR
comp=Z,2μm,16.0s

DAG Danmarks Havn 82.38 13⇓ *iP* **P 08 15 43.4 -0.8**
comp=Z,27nm,1.2s
DAG
comp=Z,2μm,16.0s

OUZ Omahuta 83.42 233 *eP* **P 08 15 53.5 +3.1**
comp=Z,127nm,1.3s

PET Petropavlovsk 83.94 323 *eP* P 08 15 56.0 +3.3
PET *eS* **S 08 26 13.4 -3.2**
PET pmax pmax
comp=Z,59nm,1.1s

PET Petropavlovsk 83.94 323 *eP* **P 08 15 53.2 +0.5**
comp=Z,53nm,1.0s
PET LR LR
comp=Z,1μm,20.0s

PEA0B Petropavlovsk- 84.50 323 *eP* **P 08 15 56.3 +0.7**
PETK Petropavlovsk- 84.50 323 P **P 08 15 55.8 +0.2**
PETK pmax pmax
comp=Z,48nm,1.1s

PETK Petropavlovsk- 84.50 323 P **P 08 15 55.8 +0.2**
PETK Petropavlovsk- 84.50 323 P **P 08 15 55.8 +0.2**
comp=Z,48nm,1.1s,baz=106,slow=7.9,SNR=10
PETK LR LR 08 47 11.3
comp=Z,645nm,20.6s,baz=94,slow=31

SACV Santiago Islan 84.89 76 PFAKE 08 16 10.0 +12
SACV LR LR
comp=Z,901nm,21.0s

KHZ Kahutara 85.36 226 *eP* P 08 16 03.8 +3.8
comp=Z,134nm,1.4s

SEY Seymchan 85.89 333⇓ *eP* **P 08 16 02.9 +0.6**
SEY Seymchan 85.89 333 P **P 08 16 02.7 +0.4**
SEY Seymchan 85.89 333 P **P 08 16 02.7 +0.4**
comp=Z,34nm,0.9s,baz=95,slow=5.2,SNR=45

DZM Mont Dzumac 86.73 247 *eP* P 08 16 12.4 +5.0
comp=Z,125nm,1.4s

DZM Mont Dzumac 86.73 247 *eLQ* LQ 08 39 56.1
comp=Z,1μm,36.4s
DZM *eLR* LR 08 43 41.0
comp=Z,4μm,23.4s

DZM Mont Dzumac 86.73 247 P **P 08 16 07.1 -0.4**
DZM Mont Dzumac 86.73 247 P **P 08 16 07.1 -0.4**
comp=Z,17nm,1.2s,baz=90,slow=23,SNR=4.1

RPZ Rata Peaks 87.45 225 *eP* P 08 16 16.4 +6.0
comp=Z,60nm,1.3s

KBS Kingsbay 87.79 9 *diP* **P 08 16 11.6 +0.2**
KBS pmax pmax
comp=Z,76nm,1.4s
KBS MLR MLR
comp=Z,967nm,16.0s

KBS Kingsbay 87.79 9 *eP* **P 08 16 11.9 +0.6**
comp=Z,20nm,1.3s
KBS LR LR
comp=Z,1μm,20.0s

PMAR Madeira 88.54 57 *eP* **P 08 16 17.0 +0.9**
comp=Z,170nm,1.7s

WHZ Wether Hill Ro 90.09 224 *eP* **P 08 16 25.4 +2.6**
comp=Z,68nm,1.2s

HNR Honiara 90.92 261 PFAKE 08 16 40.0 +13
HNR LR LR
comp=Z,50nm,19.0s

TIXI Tiksi 91.34 344 *diP* **P 08 16 27.6 -0.4**
TIXI pmax pmax
comp=Z,89nm,1.7s
TIXI MLR MLR
comp=Z,818nm,16.0s

TIXI Tiksi 91.34 344 *eP* **P 08 16 27.7 -0.4**
EKA Eskdalemuir Ar 92.89 33 P **P 08 16 34.1 -1.5**
EKA Eskdalemuir Ar 92.89 33 P **P 08 16 34.1 -1.5**
comp=Z,7.4nm,1.0s,baz=298,slow=1.8,SNR=6.1

PGAV Gavieira, Arco 93.46 47 *eP* **P 08 16 38.5 -0.2**
comp=Z,58nm,1.6s

PCAS Casmilo, Conde 93.76 49 *eP* **P 08 16 39.1 -0.9**
comp=Z,129nm,1.7s

YUK Yuzh-Kuril'sk 93.95 315 *diP* **P 08 16 40.8 +0.1**
YUK *i* 08 20 26.7
YUK *iS* **SKSac 08 27 14.6 -1.3**
YUK *eSS* SS 08 34 18.4 +8.3

PVRL Vila Real 94.03 47 *eP* **P 08 16 40.1 -1.2**
comp=Z,28nm,1.8s

PVIS Viseu 94.04 48 *eP* **P 08 16 40.4 -0.9**
comp=Z,60nm,1.7s

MTE Manteigas 94.38 48 *eP* **P 08 16 42.0 -0.9**
comp=Z,57nm,1.3s

MTE Manteigas 94.38 48 *eLR* LR 08 52 25.8
comp=Z,1μm,18.0s

MTE Manteigas 94.38 48 PFAKE 08 16 50.0 +7.1
MTE LR LR
comp=Z,1μm,21.0s

EVOP Sao Brissos 94.41 50 *eP* **P 08 16 41.2 -1.8**
EVOP pmax pmax
comp=Z,64nm,1.2s

EVOP Sao Brissos 94.41 50 *eP* **P 08 16 41.2 -1.8**
comp=Z,64nm,1.2s

EVO Evora 94.50 50 *eP* **P 08 16 41.2 -2.2**
comp=Z,64nm,1.2s
EVO *eR*
comp=Z,2μm,21.8s

EVO Evora 94.50 50 *eP* **P 08 16 43.1 -0.3**
comp=Z,57nm,1.4s

MVO Moncorvo 94.56 47 *eP* **P 08 16 42.6 -1.1**
comp=Z,85nm,1.8s

MVO Moncorvo 94.56 47 *eLR* LR 08 52 29.6
comp=Z,838nm,18.0s

PCBR Castelo Branco 94.57 49 *eP* **P 08 16 42.8 -0.9**
comp=Z,57nm,1.3s

PBRG Braganca 94.60 47 *eP* **P 08 16 42.1 -1.8**
comp=Z,36nm,1.6s

PMRV Marv??o 94.74 49 *eP* **P 08 16 43.1 -1.4**
comp=Z,42nm,1.5s

PMRV Marv??o 94.74 49 *eLR* LR 08 52 07.6
comp=Z,1μm,20.0s

PVAQ Vaqueiros 95.00 51 *eLR* LR 08 51 00.9
comp=Z,946nm,22.0s

YAK Yakutsk 96.04 336 *eP* **P 08 16 47.5 -2.4**
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s

ASAJ Asahikawa 96.18 316 LR LR 08 54 41.9
comp=E,2μm,19.3s,baz=94,slow=32

ERM Erimo 96.42 314 PFAKE 08 17 00.0 +8.0
ERM LR LR
comp=Z,2μm,21.0s

RTC Rabat Centre 96.53 54 PFAKE 08 17 00.0 +7.3
RTC LR LR
comp=Z,2μm,20.0s

GRR Gorron 96.57 39 *eP* **P 08 16 50.4 -2.2**
comp=Z,70nm,1.3s

GRR Gorron 96.57 39 *eP* **P 08 16 50.4 -2.2**
GRR pmax pmax
comp=Z,70nm,1.3s

GRR Gorron 96.57 39 *eP* **P 08 16 50.4 -2.2**
comp=Z,70nm,1.3s

ARCES ARCESS Array B 96.64 14 P **P 08 16 50.7 -1.8**
ARCES ARCESS Array B 96.64 14 P **P 08 16 50.7 -1.8**
comp=Z,8.4nm,0.9s,baz=351,slow=6.1,SNR=6.8
ARCES LR LR 09 01 46.4
comp=Z,816nm,19.0s,baz=311,slow=36

FLN La Foliniere 96.67 39 *eP* **P 08 16 50.9 -2.2**
comp=Z,62nm,1.2s
FLN *eR*
comp=Z,1μm,19.0s

FLN La Foliniere 96.67 39 *eP* **P 08 16 50.9 -2.2**
FLN pmax pmax
comp=Z,62nm,1.2s

FLN La Foliniere 96.67 39 *eP* **P 08 16 50.9 -2.2**
comp=Z,62nm,1.2s

KEV Kevo 96.84 14 PFAKE 08 17 00.0 +6.6
KEV LR LR
comp=Z,1μm,21.0s

LDF La Druitiere 96.95 39 *eP* **P 08 16 52.2 -2.1**
LDF La Druitiere 96.95 39 *eP* **P 08 16 52.2 -2.1**
LDF La Druitiere 96.95 39 *eP* **P 08 16 52.2 -2.1**

PAB San Pablo 96.98 48 *eP* **P 08 16 53.5 -1.3**
PAB pmax pmax
comp=Z,34nm,1.3s
PAB MLR MLR
comp=Z,1μm,19.0s

PAB San Pablo 96.98 48 *eP* **P 08 16 53.5 -1.3**
comp=Z,34nm,1.3s
PAB LR LR
comp=Z,1μm,19.0s

ASCN Ascension 97.14 97 PFAKE 08 17 10.0 +14
ASCN LR LR
comp=Z,604nm,21.0s

ESDC Sonseca Array 97.22 48 P **P 08 16 54.2 -1.6**
ESDC PP **PP 08 20 55.1 +3.1**
ESDC Sonseca Array 97.22 48 P **P 08 16 54.2 -1.6**
comp=Z,5.3nm,1.1s,baz=303,slow=4.4,SNR=16
ESDC PP **PP 08 20 55.1 +3.1**
comp=Z,0.2nm,0.3s,baz=294,slow=7.7,SNR=7.4
ESDC LR LR 08 56 56.4
comp=Z,581nm,20.1s,baz=270,slow=33

NOA NORSAR Array B 97.32 25 LR LR 09 02 03.7
comp=Z,326nm,18.9s,baz=270,slow=36

KONO Kongsberg 97.35 26⇑ *eP* **P 08 16 54.4 -1.5**
KONO pmax pmax
comp=Z,220nm,1.4s
KONO MLR MLR
comp=Z,4μm,14.0s

KONO Kongsberg 97.35 26 PFAKE 08 17 10.0 +14
KONO LR LR
comp=Z,681nm,20.0s

VNDA Vanda 97.56 193 LR LR 08 54 09.2
comp=Z,177nm,18.1s,baz=90,slow=31

LFF La Frestale 98.81 42 *eP* **P 08 17 00.8 -2.0**
LFF La Frestale 98.81 42 *eP* **P 08 17 00.8 -2.0**
LFF La Frestale 98.81 42 *eP* **P 08 17 00.8 -2.0**

BAIF Baives 99.00 36 *eP* **Pdif 08 17 01.6 -1.9**
comp=Z,91nm,1.6s

BAIF Baives 99.00 36 *eP* **Pdif 08 17 01.6 -1.9**
BAIF pmax pmax
comp=Z,91nm,1.5s

BAIF Baives 99.00 36 *e*P **Pdif** 08 17 01.6 -1.9
comp=Z,91nm,1.5s
TCF Toulx Ste Croi 99.27 40 *e*P **Pdif** 08 17 02.3 -2.6
comp=Z,42nm,1.4s
TCF Toulx Ste Croi 99.27 40 *e*P **Pdif** 08 17 02.3 -2.6
TCF pmax pmax
comp=Z,42nm,1.4s
TCF Toulx Ste Croi 99.27 40 *e*P **Pdif** 08 17 02.3 -2.6
comp=Z,42nm,1.4s
GIVF Givet 99.34 36 *e*P **Pdif** 08 17 03.2 -1.9
GIVF Givet 99.34 36 *e*P **Pdif** 08 17 03.2 -1.9
GIVF Givet 99.34 36 *e*P **Pdif** 08 17 03.2 -1.9
SSF Saint Saulge 99.79 39 *e*P **Pdif** 08 17 04.5 -2.6
comp=Z,11nm,1.0s
SSF Saint Saulge 99.79 39 *e*P **Pdif** 08 17 04.5 -2.6
SSF pmax pmax
comp=Z,11nm,1.0s
SSF Saint Saulge 99.79 39 *e*P **Pdif** 08 17 04.5 -2.6
comp=Z,11nm,1.0s
AVF Avril sur Loir 99.81 40 *e*P **Pdif** 08 17 05.7 -1.5
AVF Avril sur Loir 99.81 40 *e*P **Pdif** 08 17 05.7 -1.5
AVF Avril sur Loir 99.81 40 *e*P **Pdif** 08 17 05.7 -1.5
LOR Lormes 99.93 39 *e*P **Pdif** 08 17 05.5 -2.3
comp=Z,65nm,1.4s
LOR *e*R
comp=Z,860nm,18.5s
LOR Lormes 99.93 39 *e*P **Pdif** 08 17 05.5 -2.3
comp=Z,65nm,1.4s
APA Apatity 100.02 13⇑ *i*P **Pdif** 08 17 08.0 +0.3
APA *i* 08 27 48.0
APA *i*S **Sdif** 08 28 38.0 -4.3
APA *i*SS **SS** 08 35 28.0 -6.2
APA MLR MLR
comp=Z,1μm,20.0s
LVZ Lovozero 100.03 13 PFAKE 08 17 20.0 +12
LVZ LR LR
comp=Z,1μm,19.0s
SMF Signal de Mont 100.17 40 *e*P **Pdif** 08 17 05.0 -3.9
comp=Z,18nm,1.1s
SMF Signal de Mont 100.17 40 *e*P **Pdif** 08 17 05.0 -3.9
SMF pmax pmax
comp=Z,18nm,1.1s
SMF Signal de Mont 100.17 40 *e*P **Pdif** 08 17 05.0 -3.9
comp=Z,18nm,1.1s
WLF Walferdange 100.31 36 PFAKE 08 17 20.0 +11
WLF LR LR
comp=Z,1μm,19.0s
PAGF Fort de Pagny 100.54 37 *e*P **Pdif** 08 17 08.7 -1.7
PAGF Fort de Pagny 100.54 37 *e*P **Pdif** 08 17 08.7 -1.7
HAU Haudompre 101.15 38 *e*P **Pdif** 08 17 11.1 -2.1
comp=Z,43nm,1.3s
HAU *e*R
comp=Z,823nm,17.2s
HAU Haudompre 101.15 38 *e*P **Pdif** 08 17 11.1 -2.1
HAU pmax pmax
comp=Z,43nm,1.3s
HAU Haudompre 101.15 38 *e*P **Pdif** 08 17 11.1 -2.1
comp=Z,43nm,1.3s
TNS Taunus Mts 101.38 35 *e*Pdiff **Pdif** 08 17 13.5 -0.7
CDF Champ du Feu 101.53 37 *e*P **Pdif** 08 17 12.9 -2.0
comp=Z,26nm,1.2s
CDF Champ du Feu 101.53 37 *e*P **Pdif** 08 17 12.9 -2.0
CDF pmax pmax
comp=Z,26nm,1.2s
CDF Champ du Feu 101.53 37 *e*P **Pdif** 08 17 12.9 -2.0
comp=Z,26nm,1.2s
HINF Hinteralfeld 101.54 38 *e*P **Pdif** 08 17 12.8 -2.2
HINF Hinteralfeld 101.54 38 *e*P **Pdif** 08 17 12.8 -2.2
HINF Hinteralfeld 101.54 38 *e*P **Pdif** 08 17 12.8 -2.2
ECH Echery 101.55 37 PFAKE 08 17 30.0 +15
ECH LR LR
comp=Z,942nm,19.0s
CABF La Chapelle 101.59 39 *e*P **Pdif** 08 17 13.3 -2.0
comp=Z,29nm,1.3s
CABF La Chapelle 101.59 39 *e*P **Pdif** 08 17 13.3 -2.0
CABF pmax pmax
comp=Z,29nm,1.3s
CABF La Chapelle 101.59 39 *e*P **Pdif** 08 17 13.3 -2.0
comp=Z,29nm,1.3s
RGN Rugen 101.76 30 *e*Pdiff **Pdif** 08 17 15.5 -0.2
MAJO Matsushiro 101.79 310 PFAKE 08 17 30.0 +14
MAJO LR LR
comp=Z,3μm,21.0s
UBBA Unterbreizbach 101.96 34 *e*Pdiff **Pdif** 08 17 15.8 -0.8
BFO Black Forest 102.19 37 PFAKE 08 17 30.0 +12
BFO LR LR
comp=Z,592nm,19.0s
BNI Bardonecchia 102.64 40 PFAKE 08 17 30.0 +10
BNI LR LR
comp=Z,1μm,20.0s
MOX Moxa 102.94 34 *e*Pdiff **Pdif** 08 17 19.8 -1.3
GRF Grafenberg Arr 103.20 35 *e*Pdiff **Pdif** 08 17 22.1 -0.2
CAN Canberra 103.33 236 PFAKE 08 17 30.0 +6.9
CAN LR LR
comp=Z,623nm,19.0s
CLL Collm 103.34 33 *e*P **Pdif** 08 17 22.0 -0.8
CLL *e* 08 21 33.0
CLL *e*S **Sdif** 08 29 06.0 -4.7
CLL MLR MLR
comp=Z,600nm,19.1s
CLL Collm 103.34 33 *e*Pdif **Pdif** 08 17 22.0 -0.8
CLL *e* 08 17 41.0
CLL *e*PP **PP** 08 21 33.0 -4.7
CLL *e*Sdif Sdif 08 29 06.0 -4.7
CLL *e*PS **PS** 08 30 47.0 -0.3
CLL *e*PPS PPS 08 31 42.0
CLL *e*SS **SS** 08 36 23.0 +1.9
CLL *e* 08 37 36.0
CLL *e*SSS SSS 08 40 18.0
CLL *e* 08 41 06.0
CLL LV 09 04 00.0
comp=Z,600nm,19.1s
PMG Port Moresby 103.43 262 PFAKE 08 17 30.0 +6.0
PMG LR LR
comp=Z,1μm,19.0s
TANN Tannenbergstha 103.52 34 *e*Pdiff **Pdif** 08 17 23.4 -0.3
MANZ Manzenberg 103.55 34 *e*Pdiff **Pdif** 08 17 23.4 -0.4
DAVA Damuels 103.60 37⇑ *i*Pdiff **Pdif** 08 17 23.8 -0.5
comp=Z,22nm,1.5s
NKC Novy Kostel 103.61 34 *e*P **Pdif** 08 17 23.4 -0.7
NKC *e* 08 21 38.5
NKC Novy Kostel 103.61 34 *e*PDIFF **Pdif** 08 17 23.4 -0.7
NKC *e*PP 08 17 27.5
NKC *e*PP **PP** 08 21 38.5 -1.3
TUE Stuetta 103.67 38 PFAKE 08 17 30.0 +5.3
TUE LR LR
comp=Z,1μm,19.0s
ROTZ Rotzenmuhle 103.72 34 *e*Pdiff **Pdif** 08 17 24.2 -0.3
BRG Berggiesshubel 104.08 33 *e*P **Pdif** 08 17 24.7 -1.4
comp=Z,7.6nm,1.1s
BRG *e* 08 21 42.0
comp=Z,26nm,1.8s
BRG
comp=Z,1μm,18.2s
BRG
comp=N,760nm,21.0s
BRG
comp=E,710nm,21.0s
BRG Berggiesshubel 104.08 33 *e*Pdiff **Pdif** 08 17 25.0 -1.1
FUORN Ofenpass-Fuorn 104.15 38 *e*Pdif **Pdif** 08 17 26.5 -0.4
FETA Feichten 104.24 37⇑ *i*Pdiff **Pdif** 08 17 24.5 -2.6
comp=E,8.8nm,1.4s
MOTA Moosalm 104.30 37⇑ *i*Pdiff **Pdif** 08 17 26.9 -0.5
comp=E,6.2nm,0.9s
WET Wettzell 104.41 34 *e*Pdiff **Pdif** 08 17 27.6 -0.1
TAU Tasmania Unive 104.55 228 PFAKE 08 17 40.0 +12
TAU LR LR
comp=Z,560nm,20.0s
MDJ Mudanjiang 104.59 320 PFAKE 08 17 40.0 +11
MDJ LR LR
comp=Z,1μm,21.0s
PRA Prague 104.78 33 PDIFF **Pdif** 08 17 30.0 +0.8
PRA PP **PP** 08 21 51.0 +2.6
KHC Kasperske Hory 104.81 34 *e*P **Pdif** 08 17 29.0 -0.5
KHC *e* 08 21 45.1
KHC MLR MLR
comp=Z,1μm,19.6s
KHC Kasperske Hory 104.81 34 *e*PDIFF **Pdif** 08 17 29.0 -0.5
KHC *e*PP 08 17 34.3
KHC *e*PP **PKiKP** 08 21 45.1 +0.3
KHC AMS AMS 09 03 10.0
comp=Z,1μm,19.6s
PRU Pruhonice 104.88 33 *e*P **Pdif** 08 17 29.2 -0.5
PRU *e* 08 21 50.6
PRU MLR MLR
comp=Z,700nm,16.5s
PRU Pruhonice 104.88 33 *e*PDIFF **Pdif** 08 17 29.2 -0.5
PRU *e*PP **PP** 08 21 50.6 +1.4
PRU AMS AMS 09 08 30.0
comp=Z,700nm,16.5s
GEC2 GERESS Array S 105.03 34 *e*Pdiff **Pdif** 08 17 30.2 -0.3
GERES GERESS Array B 105.03 34 Pdif **Pdif** 08 17 29.6 -0.9
GERES GERESS Array B 105.03 34 Pdiff **Pdif** 08 17 29.6 -0.9
comp=Z,5.3nm,1.1s,baz=337,slow=3.0,SNR=18
CTAO Charters Tower 105.22 251 PFAKE 08 22 00.0
CTAO LR LR
comp=Z,1μm,21.0s
VLC Villacollemand 105.40 40 PFAKE 08 22 00.0
VLC LR LR
comp=Z,504nm,20.0s
DPC Dobruska-Polom 105.63 32 *e*P **Pdif** 08 17 30.2 -2.9
DPC *e* 08 21 55.3
DPC Dobruska-Polom 105.63 32 *e*PDIFF **Pdif** 08 17 30.2 -2.9
DPC *e*PP **PP** 08 21 55.3 +0.5
DPC AMS AMS 09 09 30.0
TREC Trest 105.77 33 *e*P **Pdif** 08 17 32.9 -0.8
TREC *e* 08 21 56.9
TREC MLR MLR
comp=Z,600nm,16.9s
TREC Trest 105.77 33 *e*PDIFF **Pdif** 08 17 32.9 -0.8
TREC *e*PP **PP** 08 21 56.9 +1.0
TREC AMS AMS 09 06 00.0
comp=Z,600nm,16.9s
MOA Molln 105.88 35⇓ *i*Pdiff **Pdif** 08 17 33.0 -1.3
comp=Z,16nm,1.5s
SHEL Horse Pasture 106.35 104 PFAKE 08 22 00.0
SHEL LR LR
comp=Z,636nm,20.0s
VRAC Vranov 106.36 33 Pdif **Pdif** 08 17 35.4 -0.9
VRAC Vranov 106.36 33 Pdiff **Pdif** 08 17 35.4 -0.9
comp=Z,1.6nm,0.4s,baz=65,slow=6.5,SNR=4.5
SUW Suwalki 106.69 26 *e*PKP **PP** 08 22 00.7 -1.6
CONA Conrad Observa 106.74 34⇑ *i*Pdiff **Pdif** 08 17 38.0 -0.1
comp=Z,18nm,1.6s
VSL Villasalto 106.87 45 PFAKE 08 22 00.0
VSL LR LR
comp=Z,961nm,20.0s
OKC Ostrava-Krasne 106.88 32 *e*PP PP 08 22 02.9 -1.1
OKC AMS AMS 09 11 00.0
CN2 Changchun 107.59 321 *e*Pdif **Pdif** 08 17 46.0 +4.1
CN2 PP PP 08 22 17.3 +7.9
CN2 SS SS 08 37 25.4 +5.9
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,700nm,15.0s
HIA Hailar 107.82 328 PFAKE 08 22 00.0
HIA LR LR
comp=Z,663nm,20.0s
AQU L'Aquila 108.21 40 PFAKE 08 22 00.0
AQU LR LR
comp=Z,666nm,20.0s
MICGM Minsk 108.34 24 *e* **PP** 08 22 14.0 -0.3
STHS Stebnicka Huta 108.74 31 *e*P **Pdif** 08 17 46.5 -0.4
STHS *e* 08 22 15.1
STHS Stebnicka Huta 108.74 31 PDIF **Pdif** 08 17 46.5 -0.4
STHS *e*PP **PP** 08 22 15.1 -2.4
PSZ Piszkesteto 108.95 33 PFAKE 08 22 00.0
PSZ LR LR
comp=Z,679nm,19.0s
CRVS Cervenica-Dubn 109.17 31 *e*PP PP 08 22 20.5 -0.2
KWP Kalwaria Pacla 109.34 30 PFAKE 08 22 00.0
KWP LR LR
comp=Z,758nm,19.0s
KOLS Kolonicke sedl 109.57 31 *e*P **Pdif** 08 17 50.0 -0.6
KOLS *e* 08 22 22.7
KOLS Kolonicke sedl 109.57 31 PDIF **Pdif** 08 17 50.0 -0.6
KOLS *e*PP **PP** 08 22 22.7 -0.8
INCN Inchon 109.89 315 PFAKE 08 22 10.0
INCN LR LR
comp=Z,2μm,19.0s
TAM Tamanrasset 110.19 62 PFAKE 08 22 10.0
TAM LR LR
comp=Z,514nm,20.0s
MOS Moscow 110.89 19 *e*PKIKP PKiKP 08 22 11.4 +16
MOS *e* 08 22 32.5
CUC Castrocucco 110.98 42 PFAKE 08 22 10.0
CUC LR LR
comp=Z,360nm,20.0s
OBN Obninsk 111.06 20 PFAKE 08 22 10.0
OBN LR LR
comp=Z,802nm,22.0s
KIEV Kiev 111.65 26 PFAKE 08 22 10.0
KIEV LR LR
comp=Z,870nm,22.0s
AKASG Malin Array Be 111.65 26 *i* PKIKP **PKiKP** 08 21 56.4 -1.1
AKASG 08 22 35.4
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 111.65 26 Pdif **Pdif** 08 17 57.8 -2.0
AKASG PKiKP **PKiKP** 08 21 56.4 -1.1
AKASG PP **PP** 08 22 35.4 -3.0
AKASG PKKPab **PKKPab** 08 33 00.3 -1.7
AKASG Malin Array Be 111.65 26 Pdiff **Pdif** 08 17 57.8 -2.0
comp=Z,0.2nm,0.3s,baz=307,slow=3.4,SNR=6.8
AKASG PKiKP **PKiKP** 08 21 56.4 -1.1
comp=Z,1.1nm,0.7s,baz=296,slow=2.5,SNR=5.6
AKASG PP **PP** 08 22 35.4 -3.0
comp=Z,3.7nm,0.9s,baz=304,slow=6.6,SNR=16
AKASG PKKPab **PKKPab** 08 33 00.3 -1.7
comp=Z,0.2nm,0.3s,baz=123,slow=3.5,SNR=5.6
CEL Celeste 111.92 43 PFAKE 08 22 10.0
CEL LR LR
comp=Z,602nm,20.0s
TIP Timpagrande 112.03 42 PFAKE 08 22 10.0
TIP LR LR
comp=Z,353nm,22.0s
WDD Wield Dalam 112.16 46 PFAKE 08 22 10.0
WDD LR LR
comp=Z,430nm,19.0s
TLY Talaya 113.42 338 PFAKE 08 22 10.0
TLY LR LR
comp=Z,857nm,20.0s
ZAK Zakamensk 114.59 337 *e*PKIKP PKPdf 08 22 02.6 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ARU Arti 114.84 7 *i* PKIKP PKPdf 08 22 01.4 -2.0
ARU 08 28 47.8
ARU SP SP 08 32 32.6 -5.4
ARU PS **PKKPbc** 08 32 41.7 -0.6
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 114.84 7 PFAKE 08 22 10.0 +6.6
ARU LR LR
comp=Z,1μm,20.0s
SONM Songino Array 115.28 333 PKP **PKPdf** 08 22 04.3 -0.3
SONM PKKPbc **PKKPbc** 08 32 37.0 -3.8
SONM Songino Array 115.28 333 PKP **PKPdf** 08 22 04.3 -0.3
comp=Z,1.5nm,0.9s,baz=2.7,slow=9.4,SNR=11
SONM PKKPbc **PKKPbc** 08 32 37.0 -3.8
comp=Z,1.6nm,1.1s,baz=191,slow=3.9,SNR=5.5
BJI Beijing 115.42 322 PKP **PKPdf** 08 22 04.8 -0.1
BJI AMB AMB
comp=Z,160nm,4.5s
BJI LR LR
comp=Z,490nm,19.8s
BJI LR LR
comp=Z,830nm,21.7s
BJI LR LR
comp=Z,800nm,25.3s
BJT Baijiatuan 115.44 322 PFAKE 08 22 20.0 +15
BJT LR LR
comp=Z,1μm,21.0s
CASY Casey 115.69 197 PFAKE 08 22 10.0 +5.4
CASY LR LR
comp=Z,725nm,22.0s
WRAB Tennant Creek 116.40 252⇓ *i*PKIKP **PKPdf** 08 22 06.3 -1.1
WRAB pmax pmax
comp=Z,20nm,1.0s
WRAB Tennant Creek 116.40 252 PFAKE 08 22 20.0 +13
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 116.41 252 PKP **PKPdf** 08 22 06.6 -0.8
WRA PKKPbc **PKKPbc** 08 32 34.3 -1.5
WRA Warramunga Arr 116.41 252 PKP **PKPdf** 08 22 06.6 -0.8
comp=Z,4.7nm,1.0s,baz=85,slow=1.6,SNR=15
WRA PKKPbc **PKKPbc** 08 32 34.3 -1.5
comp=Z,2.6nm,1.1s,baz=278,slow=2.8,SNR=6.2
ZAA0 Zalesovo Array 116.63 350 *e*PKPdf **PKPdf** 08 22 05.8 -1.1
ZALV Zalesovo Beam 116.63 350 PKIKP **PKPdf** 08 22 05.5 -1.4
ZALV 08 23 13.9
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 116.63 350 PKP **PKPdf** 08 22 05.5 -1.4
ZALV PP **PP** 08 23 13.9 +0.7
ZALV PKKPbc **PKKPbc** 08 32 37.5 +1.4
ZALV Zalesovo Beam 116.63 350 PKP **PKPdf** 08 22 05.5 -1.4
comp=Z,1.3nm,0.6s,baz=278,slow=1.0,SNR=7.4
ZALV PP **PP** 08 23 13.9 +0.7
comp=Z,3.5nm,1.0s,baz=356,slow=4.5,SNR=4.7
ZALV PKKPbc **PKKPbc** 08 32 37.5 +1.4
comp=Z,0.8nm,0.6s,baz=205,slow=6.0,SNR=6.3
ASAR Alice Springs 116.72 248 PKP **PKPdf** 08 22 06.3 -1.6
ASAR PKKPbc **PKKPbc** 08 32 34.4 -0.4
ASAR Alice Springs 116.72 248 PKP **PKPdf** 08 22 06.3 -1.6
comp=Z,0.9nm,0.7s,baz=87,slow=3.0,SNR=8.2
ASAR PKKPbc **PKKPbc** 08 32 34.4 -0.4
comp=Z,3.6nm,1.0s,baz=270,slow=3.4,SNR=8.8
SSE Sheshan 116.91 311 PKP **PKPdf** 08 22 09.8 +1.7
SSE PP PP 08 23 23.6 +7.2
SSE SS SS 08 39 28.4 +4.3
SSE LR LR
comp=Z,710nm,21.3s
SSE LR LR
comp=Z,890nm,21.3s
SSE LR LR
comp=Z,2μm,19.5s
HVS Khovu-Aksy 117.20 343⇑ *i*PKIKP **PKPdf** 08 22 07.7 -0.5
HHC Hu-ho-hao-te 117.63 325 *e*PKP **PKPdf** 08 22 09.1 -0.3
HHC PP **PP** 08 23 23.3 +2.2
HHC SKKS 08 30 15.0
HHC SS **SS** 08 39 32.0 -0.8
HHC AMB AMB
comp=Z,380nm,9.3s
NJ2 Nanjing 118.14 313 *e*PKP **PKPdf** 08 22 10.5 +0.1
NJ2 AMB AMB
comp=Z,130nm,6.8s
NJ2 LR LR
comp=Z,5μm,22.7s
NJ2 LR LR
comp=Z,1μm,21.1s
NJ2 LR LR
comp=Z,2μm,22.5s
BRVK Borovoye 118.85 359 *d i*PKIKP **PKPdf** 08 22 11.0 -0.2
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK MLR MLR
comp=Z,1μm,23.0s
BRVK Borovoye 118.85 359 PFAKE 08 22 20.0 +8.8
BRVK LR LR
comp=Z,1μm,19.0s
BVAR Borovoye Array 118.89 359 PKIKP **PKPdf** 08 22 11.0 -0.3
BVAR 08 23 27.7
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 118.89 359 PKP **PKPdf** 08 22 11.0 -0.3
BVAR PP **PP** 08 23 27.7 -1.2
BVAR PKKPbc **PKKPbc** 08 32 25.4 -2.6
BVAR Borovoye Array 118.89 359 PKP **PKPdf** 08 22 11.0 -0.3
comp=Z,2.8nm,0.8s,baz=343,slow=1.5,SNR=12
BVAR PP **PP** 08 23 27.7 -1.2
comp=Z,2.6nm,1.0s,baz=6.8,slow=3.7,SNR=5.0
BVAR PKKPbc **PKKPbc** 08 32 25.4 -2.6
comp=Z,2.3nm,0.9s,baz=180,slow=5.2,SNR=8.5
SANT Santorini 119.28 40 PFAKE 08 22 20.0 +7.4
SANT LR LR
comp=Z,372nm,20.0s
YHNB Yeheng 119.76 304 PFAKE 08 22 20.0 +6.2
YHNB LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 120.67 353 *e*PKIKP **PKPdf** 08 22 14.0 -0.7
KURK MLR MLR
comp=Z,598nm,19.0s
KURK Kurchatov 120.67 353 *e*PKPdf **PKPdf** 08 22 14.0 -0.7
KURK PKKPbc **PKKPbc** 08 32 19.1 -2.2
KURK LR LR
comp=Z,1μm,19.0s
KURBB Kurchatov Arra 120.78 353 PKKPbc PKKPbc 08 32 19.1 -1.8
comp=Z,3.7nm,1.1s,baz=204,slow=3.8,SNR=16
ANTO Ankara 121.24 33 PFAKE 08 22 30.0 +14
ANTO LR LR
comp=Z,433nm,20.0s
ISP Isparta 121.42 36 PFAKE 08 22 30.0 +13
ISP LR LR
comp=Z,499nm,19.0s
BR131 Keskin Array S 121.79 32 *e*PKPdf **PKPdf** 08 22 17.1 -0.3
BRTR Keskin Array B 121.79 32 PKP **PKPdf** 08 22 16.9 -0.6
BRTR Keskin Array B 121.79 32 PKP **PKPdf** 08 22 16.9 -0.6
comp=Z,9.0nm,0.9s,baz=175,slow=1.2,SNR=24
AB31 Akbulak array 122.05 7 *i* PKIKP **PKPdf** 08 22 17.2 -0.3
AB31 pmax pmax
comp=Z,20nm,0.9s
ABKAR Akbulak array 122.05 7 *e*PKPdf **PKPdf** 08 22 17.4 -0.1
ABKAR *e*PP **PP** 08 23 48.5 -2.1
DAV Davao City (W) 122.06 284 PFAKE 08 22 30.0 +12
DAV LR LR
comp=Z,1μm,19.0s
KIV Kislovodsk 122.57 23 *i* PKIKP **PKPdf** 08 22 17.4 -1.3
KIV *e* 08 23 55.7
KIV *e*PS **PS** 08 33 49.2 -1.1
KIV *e*SS SS 08 40 37.2 +1.7
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,608nm,20.0s
KIV Kislovodsk 122.57 23 PFAKE 08 22 30.0 +11
KIV LR LR
comp=Z,584nm,19.0s
KBZ Khabaz 122.84 23 PKIKP **PKPdf** 08 22 19.4 +0.3
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 122.84 23 PKP **PKPdf** 08 22 19.4 +0.3
KBZ Khabaz 122.84 23 PKP **PKPdf** 08 22 19.4 +0.3
comp=Z,6.7nm,0.9s,baz=309,slow=6.0,SNR=4.6
XAN Xi'an 123.70 321 PKP **PKPdf** 08 22 20.4 -0.7
MK31 Makanchi Array 123.96 349 *e*PKIKP **PKPdf** 08 22 20.2 -1.0
MK31 Makanchi Array 123.96 349 *e*PKPdf **PKPdf** 08 22 20.2 -1.0
MKAR Makanchi Array 123.96 349 PKIKP **PKPdf** 08 22 20.3 -0.9
MKAR 08 24 04.2
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 123.96 349 PKP **PKPdf** 08 22 20.3 -0.9
MKAR PP **PP** 08 24 04.2 +0.6
MKAR PKKPbc **PKKPab** 08 32 07.1 -1.2
MKAR Makanchi Array 123.96 349 PKP **PKPdf** 08 22 20.3 -0.9
comp=Z,7.3nm,0.9s,baz=22,slow=2.3,SNR=42
MKAR PP **PP** 08 24 04.2 +0.6
comp=Z,2.3nm,0.9s,baz=28,slow=5.5,SNR=3.7
MKAR PKKPbc **PKKPab** 08 32 07.1 -1.2
comp=Z,3.2nm,1.0s,baz=180,slow=3.6,SNR=15
MSKU Masuku 123.96 86 PFAKE 08 22 30.0 +7.9
MSKU LR LR
comp=Z,2.0nm,21.0s
ZEI Tsey 124.03 23 *i* PKIKP **PKPdf** 08 22 20.4 -1.3
ZEI pmax pmax
comp=Z,13nm,1.9s
GTA Gaotai 124.82 332 PKP **PKPdf** 08 22 23.1 -0.2
GTA sPKP 08 22 30.3
GTA PP **PP** 08 24 13.5 +3.6
GTA SKS **SKSdf** 08 29 34.1 -1.5
GTA SKKS **SKKSac** 08 31 06.5 -3.4
GTA SS **SS** 08 41 05.8 +1.4
GTA AMB AMB
comp=Z,80nm,4.7s
GTA LR LR
comp=Z,560nm,20.9s
GTA LR LR
comp=Z,670nm,20.0s
GTA LR LR
comp=Z,860nm,21.9s
CSS Prodhromos 125.03 36 PFAKE 08 22 30.0 +6.4
CSS LR LR
comp=Z,99nm,20.0s
MAK Makhachkala 125.16 20 *i* PKIKP **PKPdf** 08 22 23.2 -0.4
MAK *e* 08 24 08.1

MAK				*e*PPP	PPP	08 26 58.7			
MAK						08 29 32.8			
MAK				*e*PS	**PS**	**08 34 14.0**	**+1.1**		
MAK				*e*SS	SS	08 41 08.9	+1.0		
MAK				pmax	pmax				
	comp=Z,137nm,0.8s								
MAK				MLR	MLR				
	comp=Z,1µm,24.0s								
LZH	**Lanzhou**	**125.28**	**326**	*e*PKP	**PKPdf**	**08 22 24.4**	**+0.1**		
LZH				sPKP		08 22 29.0			
LZH				PP	PP	08 24 19.0	+5.7		
LZH				SKS	**SKSdf**	**08 29 33.1**	**-3.6**		
LZH				SKKS	SKKSac	08 31 05.1	-8.0		
LZH				AMB	AMB				
	comp=Z,350nm,9.0s								
LZH				LR	LR				
	comp=Z,1µm,19.0s								
LZH				LR	LR				
	comp=Z,1µm,18.2s								
LZH				LR	LR				
	comp=Z,2µm,20.3s								
WMQ	**Urumqi**	**125.54**	**344**	PKP	**PKPdf**	**08 22 24.9**	**+0.5**		
WMQ				sPKP		08 22 29.9			
WMQ				PP	PP	08 24 20.6	+6.3		
WMQ				PKS	PKSdf	08 25 55.1	-6.0		
WMQ				SKKS		08 31 13.6			
WMQ				LR	LR				
	comp=Z,380nm,17.6s								
WMQ				LR	LR				
	comp=Z,310nm,21.1s								
WMQ				LR	LR				
	comp=Z,800nm,19.8s								
ENH	**Enshi**	**125.73**	**317**	*e*PKPdf	**PKPdf**	**08 22 24.7**	**-0.4**		
ENH				LR	LR				
	comp=Z,35nm,22.0s								
GNI	**Garni**	**126.61**	**24**	*e*PKPdf	**PKPdf**	**08 22 27.6**	**+0.9**		
GNI				LR	LR				
	comp=Z,540nm,19.0s								
TSUM	**Tsumeb**	**128.59**	**108**	*e*PKPdf	**PKPdf**	**08 22 31.8**	**+0.8**		
TKM2	**Tokmak 2**	**128.70**	**354**	*e*PKIKP	**PKPdf**	**08 22 30.4**	**-0.3**		
TKM2				MLR	MLR				
	comp=Z,969nm,19.0s								
TKM2	**Tokmak 2**	**128.70**	**354**	*e*PKPdf	**PKPdf**	**08 22 30.4**	**-0.3**		
TKM2				LR	LR				
	comp=Z,969nm,19.0s								
KKAR	**Karatay Array**	**128.81**	**359**	*e*PKIKP	**PKPdf**	**08 22 30.0**	**-0.7**		
KKAR	**Karatay Array**	**128.81**	**359**	*e*PKPdf	**PKPdf**	**08 22 30.0**	**-0.7**		
FRU	**Bishkek**	**128.88**	**355**	*e*PKIKP	**PKPdf**	**08 22 29.5**	**-1.3**		
FRU				*e*		08 24 36.0			
FRU				pmax	pmax				
	comp=Z,70nm,2.0s								
SUR	**Sutherland**	**129.00**	**125**	PFAKE		08 22 40.0	+8.5		
SUR				LR	LR				
	comp=Z,973nm,19.0s								
CD2	**Chengdu**	**129.02**	**322**	*e*PKP	**PKPdf**	**08 22 31.6**	**+0.2**		
CD2				SKS	**SKSdf**	**08 29 40.5**	**-3.1**		
CD2				SKKS	**SKKSac**	**08 31 34.4**	**-2.2**		
CD2				SS	**SS**	**08 41 58.8**	**+1.4**		
CD2				AMB	AMB				
	comp=Z,360nm,4.8s								
CD2				LR	LR				
	comp=Z,700nm,19.0s								
CD2				LR	LR				
	comp=Z,1µm,20.2s								
CD2				LR	LR				
	comp=Z,940nm,20.2s								
AAK	**Ala-Archa**	**129.09**	**355**	*d i*PKIKP	**PKPdf**	**08 22 31.1**	**-0.3**		
AAK	**Ala-Archa**	**129.09**	**355**	*e*PKPdf	**PKPdf**	**08 22 31.0**	**-0.3**		
AAK				LR	LR				
	comp=Z,769nm,19.0s								
EKS2	**Erkin-Say**	**129.11**	**356**	*e*PKIKP	**PKPdf**	**08 22 31.8**	**+0.5**		
EKS2				MLR	MLR				
	comp=Z,726nm,20.0s								
EKS2	**Erkin-Say**	**129.11**	**356**	*e*PKPdf	**PKPdf**	**08 22 31.8**	**+0.5**		
EKS2				LR	LR				
	comp=Z,726nm,20.0s								
NWAO	**Narrogin (SRO)**	**129.62**	**234**	PFAKE		08 22 40.0	+7.6		
NWAO				LR	LR				
	comp=Z,1.0nm,22.0s								
KAPI	**Kappang**	**130.02**	**270**	PFAKE		08 22 40.0	+6.4		
KAPI				LR	LR				
	comp=Z,726nm,21.0s								
GYA	**Guiyang**	**130.04**	**315**	Pdif	**Pdif**	**08 19 21.8**	**-0.5**		
GYA				PKP	**PKPdf**	**08 22 33.0**	**-0.6**		
GYA				PP	**PP**	**08 24 48.6**	**+3.5**		
GYA				PKS	**PKSdf**	**08 26 07.5**	**-2.9**		
GYA				SKKS		08 31 39.4			
GYA				SS	**SS**	**08 42 11.0**	**+0.4**		
GYA				AMB	AMB				
	comp=Z,190nm,7.9s								
GYA				LR	LR				
	comp=Z,260nm,23.6s								
GYA				LR	LR				
	comp=Z,180nm,24.0s								
GYA				LR	LR				
	comp=Z,290nm,23.8s								
KKM	**Kota Kinabalu**	**131.29**	**286**	PFAKE		08 22 50.0	+14		
KKM				LR	LR				
	comp=Z,957nm,19.0s								
QIZ	**Qiongzhong**	**131.84**	**305**	PKP	**PKPdf**	**08 22 35.8**	**-1.2**		
QIZ				SS	SS	08 42 33.8	+0.6		
QIZ				LR	LR				
	comp=Z,590nm,21.9s								
QIZ				LR	LR				
	comp=Z,200nm,23.2s								
QIZ				LR	LR				
	comp=Z,1µm,19.7s								
KSH	**Kashi**	**132.03**	**353**	*i* PKP	**PKPdf**	**08 22 39.3**	**+2.3**		
KSH				PP	**PP**	**08 25 00.8**	**+4.1**		
KSH				*e*SKS	**SKSdf**	**08 29 45.3**	**-3.6**		
KSH				AMB	AMB				
	comp=Z,210nm,8.0s								
KSH				LR	LR				
	comp=Z,470nm,13.0s								
KSH				LR	LR				
	comp=Z,490nm,18.0s								
KSH				LR	LR				
	comp=Z,910nm,15.0s								
KMI	**Kunming**	**133.61**	**317**	PKP	**PKPdf**	**08 22 41.6**	**+1.1**		
KMI				sPKP		08 22 45.9			
KMI				PP	**PP**	**08 25 11.9**	**+3.8**		
KMI				PKS	**PKSdf**	**08 26 15.0**	**-2.2**		
KMI				SKS	**SKSdf**	**08 29 48.6**	**-3.9**		
KMI				SS	**SS**	**08 42 56.8**	**+2.6**		
KMI				AMB	AMB				
	comp=Z,140nm,4.1s								
KMI				LR	LR				
	comp=Z,500nm,19.6s								
KMI				LR	LR				
	comp=Z,790nm,17.0s								
KMI				LR	LR				
	comp=Z,1µm,15.9s								
BOSA	**Boshof**	**133.76**	**122**	PKP	**PKPdf**	**08 22 41.3**	**+0.8**		
BOSA				*e*PKPdf	**PKiKP**	**08 22 42.0**	**+0.2**		
BOSA	**Boshof**	**133.76**	**122**	PKP	**PKPdf**	**08 22 41.3**	**+0.8**		
	comp=Z,14nm,1.0s,baz=250,slow=4.9,SNR=9.7								
SLVN	**Son La**	**135.18**	**312**	*e*PKPdf	**PKPdf**	**08 22 44.9**	**+1.6**		
LSA	**Lhasa**	**136.84**	**332**	PFAKE		08 23 00.0	+13		
LSA				LR	LR				
	comp=Z,1µm,21.0s								
KBL	**Kabul**	**137.37**	**1**	*e*PKIKP	**PKPdf**	**08 22 47.3**	**+0.1**		
KBL	**Kabul**	**137.37**	**1**	*e*PKPdf	**PKPdf**	**08 22 47.3**	**+0.1**		
KSM	**Kuching**	**138.18**	**282**	PFAKE		08 23 00.0	+11		
KSM				LR	LR				
	comp=Z,425nm,21.0s								
LSZ	**Lusaka**	**139.01**	**104**	*e*PKPdf	**PKPdf**	**08 22 51.9**	**+1.3**		
LSZ				LR	LR				
	comp=Z,900nm,20.0s								
SHL	**Shillong**	**139.89**	**328**	*e*P	**PKPdf**	**08 22 52.0**	**0.0**		
CHTO	**Chiang Mai**	**140.38**	**313**	*e*PKIKP	**PKPdf**	**08 22 53.6**	**+0.7**		
CHTO				MLR	MLR				
	comp=Z,685nm,22.0s								
CHTO	**Chiang Mai**	**140.38**	**313**	*e*PKPdf	**PKPdf**	**08 22 53.5**	**+0.7**		
CHTO				LR	LR				
	comp=Z,685nm,22.0s								
TAPN	**Taplejung**	**140.40**	**334**	*e*P	PKPpre	08 22 45.3			
	comp=Z,95nm,1.2s								
CMAR	**Chiang Mai Arr**	**140.61**	**313**	PKPpre	PKPpre	08 22 49.4			
CMAR				PKP	**PKPdf**	**08 22 54.0**	**+0.8**		
CMAR	**Chiang Mai Arr**	**140.61**	**313**	PKhKP	PKPpre	08 22 49.4			
	comp=Z,2.6nm,0.3s,baz=340,slow=1.7,SNR=13								
CMAR				PKP	**PKPdf**	**08 22 54.0**	**+0.8**		
	comp=Z,4.6nm,0.8s,baz=5.0,slow=1.4,SNR=16								
GUN	**Gumba**	**140.65**	**337**	*e*P	PKPpre	08 22 46.6			
	comp=Z,305nm,1.7s								
ODAN	**Odare**	**140.96**	**334**	*e*P	PKPpre	08 22 46.7			
	comp=Z,56nm,1.1s								
KKN	**Kakani**	**140.99**	**338**	*e*P	PKPpre	08 22 46.5			
DANN	**Dangsing**	**141.03**	**340**	*e*P	PKPpre	08 22 46.5			
	comp=Z,204nm,1.7s								
GKN	**Gorkha**	**141.04**	**338**	*e*P	PKPpre	08 22 47.6			
	comp=Z,77nm,1.3s								
PKI	**Pulchoki**	**141.14**	**337**	*e*P	PKPpre	08 22 46.5			
	comp=Z,55nm,1.2s								
PKIN	**Phulchoki**	**141.14**	**337**	*e*P	PKPpre	08 22 47.0			
	comp=Z,50nm,1.4s								
RAMN	**Ramite**	**141.22**	**335**	*e*P	PKPpre	08 22 47.7			
	comp=Z,68nm,1.0s								
DMN	**Daman**	**141.22**	**338**	*e*P	PKPpre	08 22 48.2			
PYUN	**Piuthan**	**141.52**	**341**	*e*P	PKPpre	08 22 48.7			
	comp=Z,21nm,1.0s								
KOLN	**Koldanda**	**141.62**	**340**	*e*P	PKPpre	08 22 47.4			
	comp=Z,122nm,1.5s								
NAZ	**Nazwa, Dubai**	**144.24**	**22**	⇓ *i* PKPdf	**PKPab**	**08 22 56.6**	**-0.7**		
	SNR=9.3								
XMIS	**Christmas Isla**	**144.30**	**264**	*e*PKPdf	PKPbc	08 22 58.9	+0.8		
FAQ	**Al Faqa, Dubai**	**144.44**	**22**	⇑ *i* PKPdf	**PKPab**	**08 22 57.0**	**-1.1**		
	SNR=9.1								
ASUD	**Al Ashush, Dub**	**144.45**	**23**	⇑PKPdf	PKPbc	08 22 58.2	-0.1		
HATD	**Hatta, Dubai**	**144.56**	**21**	⇓ *i* PKPdf	**PKPab**	**08 22 57.4**	**-1.1**		
	SNR=21								
ASHO	**Ashiyiah**	**144.66**	**21**	P	**PKPab**	**08 22 58.4**	**-0.5**		
	SNR=18								
ARQ	**Araqi**	**146.06**	**22**	P	**PKPdf**	**08 23 02.4**	**-0.4**		
	SNR=98								
IPM	**Ipoh**	**146.10**	**291**	*e*PKPbc	**PKPbc**	**08 23 03.6**	**-0.3**		
HOQ	**Hoqain**	**146.12**	**20**	P	**PKPdf**	**08 23 02.2**	**-0.6**		
	SNR=25								
KULM	**Kulim**	**146.13**	**292**	*e*PKPbc	**PKPdf**	**08 23 03.1**	**0.0**		
KULM				LR	LR				
	comp=Z,703nm,20.0s								
DAMY	**Dhamar**	**146.26**	**48**	*e*PKPbc	**PKPab**	**08 23 05.7**	**+0.3**		
SMDO	**Samad**	**146.85**	**20**	P	**PKPdf**	**08 23 04.7**	**+0.5**		
	SNR=38								
KMBO	**Kilima Mbogo**	**147.08**	**79**	*e*PKPbc	**PKPbc**	**08 23 07.0**	**-0.1**		
KMBO				LR	LR				
	comp=Z,873nm,19.0s								
KMBO	**Kilima Mbogo**	**147.08**	**79**	PKPbc	**PKPbc**	**08 23 07.3**	**+0.1**		
	comp=Z,32nm,1.1s,baz=315,slow=3.7,SNR=56								
JMDO	**Jabal Madar**	**147.51**	**20**	P	**PKPdf**	**08 23 04.7**	**-0.5**		
	SNR=37								
WBK	**Wadi Bani Khal**	**147.57**	**18**	P	**PKPdf**	**08 23 06.0**	**+0.7**		
	SNR=19								
RBK	**Rabkut**	**150.21**	**30**	P	**PKPdf**	**08 23 10.2**	**+0.4**		
	SNR=13								
GSI	**Gunungsitoli**	**150.44**	**288**	*e*PKPdf	**PKPdf**	**08 23 11.1**	**+1.0**		
GSI				*e*PKPbc	**PKPbc**	**08 23 15.6**	**+0.1**		
GSI				*e*PKPab	**PKPab**	**08 23 22.6**	**+0.7**		
COCO	**West Island**	**152.85**	**260**	*i* PKIKP	**PKPbc**	**08 23 22.5**	**+1.6**		
HYB	**Hyderabad**	**152.91**	**341**	*i* PKP	**PKPdf**	**08 23 12.0**	**-1.8**		
POO	**Poona**	**152.98**	**351**	⇑ *i*P	**PKPdf**	**08 23 13.0**	**-0.9**		
	comp=Z,3.0nm,1.2s								
ABPO	**Ambohimpanom**	**155.91**	**118**	*e*PKIKP	**PKPdf**	**08 23 19.3**	**+1.2**		
ABPO				MLR	MLR				
	comp=Z,926nm,20.0s								
ABPO	**Ambohimpanom**	**155.91**	**118**	*e*PKPdf	**PKPdf**	**08 23 19.3**	**+1.2**		
ABPO				*e*PKPab	**PKPab**	**08 23 46.4**	**+1.4**		
ABPO				LR	LR				
	comp=Z,926nm,20.0s								
MSEY	**Mahe Island**	**165.59**	**76**	PFAKE		08 23 40.0	+11		
MSEY				LR	LR				
	comp=Z,553nm,19.0s								
DGAR	**Diego Garcia**	**176.95**	**287**	PFAKE		08 23 40.0	+5.8		
DGAR				LR	LR				
	comp=Z,1µm,20.0s								

IDC 21 08:12:21.1±17.0, 12°38S×167°33E, h187km±159km, mb3.5/5, mb1 3.7/5, mb1mx3.3/40, mbtmp3.9/5, Error ellipse: s-maj=133.5km s-min=47.6km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.52**	**252**	P		P		08 18 34.5	-0.1
	0.4nm,0.4s,baz=85,slow=8.9,SNR=8.5								
ASAR	**Alice Springs**	**33.63**	**246**	P		P		08 18 44.2	0.0
	0.4nm,0.6s,baz=71,slow=9.6,SNR=7.6								
ILAR	**Eielson Array**	**84.29**	**18**	P		P		08 24 31.6	+0.1
	1.8nm,0.6s,baz=237,slow=5.3,SNR=38								
YKA	**Yellowknife Ar**	**95.44**	**27**	P		P		08 25 23.6	-0.5
	0.2nm,0.6s,baz=257,slow=4.6,SNR=5.2								
MKAR	**Makanchi Array**	**95.56**	**317**	P		P		08 25 24.9	-0.2
	0.6nm,0.7s,baz=85,slow=6.5,SNR=2.5								
ARCES	**ARCESS Array B**	**118.01**	**346**	PKP		PKPdf		08 30 45.0	-0.1
	2.4nm,0.7s,baz=90,slow=3.6,SNR=7.9								

IDC 21 08:13:55.5±1.9, 12°90N×145°28E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.4/45, mbtmp3.2/3, Error ellipse: s-maj=318.9km s-min=29.5km az=111.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.34**	**72**	T		T	T	08 41 25.7	
	baz=261,slow=68,SNR=9.9								
H11S1	**WAKE ISLAND Hy**	**21.36**	**72**	T		T	T	08 41 25.9	
	baz=261,slow=68,SNR=9.6								
H11S2	**WAKE ISLAND Hy**	**21.36**	**72**	T		T	T	08 41 26.3	
	baz=261,slow=68,SNR=9.2								
H11N1	**WAKE ISLAND Hy**	**21.81**	**69**	T		T	T	08 41 57.7	
	baz=259,slow=75,SNR=10								
H11N2	**WAKE ISLAND Hy**	**21.82**	**69**	T		T	T	08 42 02.7	
	baz=259,slow=75,SNR=5.7								
H11N3	**WAKE ISLAND Hy**	**21.83**	**69**	T		T	T	08 42 00.1	
	baz=259,slow=75,SNR=9.8								
WRA	**Warramunga Arr**	**34.36**	**198**	P		P		08 20 43.6	-0.8
	0.6nm,1.0s,baz=22,slow=9.8,SNR=3.3								
ASAR	**Alice Springs**	**38.00**	**197**	P		P		08 21 16.2	+0.7
	0.2nm,0.5s,baz=18,slow=12,SNR=5.5								
YKA	**Yellowknife Ar**	**83.29**	**27**	P		P		08 26 23.9	0.0
	0.1nm,0.5s,baz=287,slow=4.6,SNR=3.3								

SJA 21 08:26:07.8±1.2, 30°45S×68°13W, h30km±3km, MD3.1, ML3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AVFE	**Valle Fertil**	**0.62**	**110**	*e*P				08 26 21.4	
AVFE				*i* S				08 26 30.5	
AVFE				AML				08 26 30.8	
	comp=Z,3µm,0.3s								
RTLL	**Cerro Villicun**	**0.93**	**199**	*e*P				08 26 26.2	
RTLL				*i* S				08 26 39.1	
AGUA	**GUANDACOL**	**1.00**	**342**	*e*P				08 26 27.4	
CFAA	**Coronel Fontan**	**1.16**	**185**	*e*P				08 26 29.9	
CFAA				*i* S				08 26 45.6	
ACLC	**CERRO LA CRUZ**	**1.44**	**45**	*e*P				08 26 34.2	
ACLC				*i* S				08 26 53.6	
ACHE	**Chepes**	**1.45**	**120**	*e*P				08 26 34.5	
ACHE				*i* S				08 26 53.8	
RTCV	**Cerro Valdivia**	**1.46**	**194**	*e*P				08 26 34.6	
RTCV				*i* S				08 26 54.4	
RTLS	**Leoncito**	**1.68**	**216**	*e*P				08 26 38.8	
RTLS				*e*S				08 27 00.2	
CYA	**Choya**	**2.85**	**46**	*e*P				08 26 53.2	

IDC 21 08:33:57.6±3.2, 54°56N×86°22E, h0km, mb1 2.8/2, mb1mx2.8/29, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=24.1km s-min=14.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**234**	*i*				08 40 00.0	
	baz=52,slow=340,SNR=18								
ZALV	**Zalesovo Beam**	**1.03**	**234**	Pg		Pg		08 34 16.0	-1.3
	0.9nm,0.3s,baz=52,slow=18,SNR=7.4								
ZALV				Lg		Lg		08 34 31.5	
	3.2nm,0.3s,baz=55,slow=27,SNR=13								
KURBB	**Kurchatov Arra**	**6.12**	**233**	Pn		Pn		08 35 30.1	+0.8
	0.2nm,0.3s,baz=25,slow=12,SNR=6.0								
KURBB				Lg		Lg		08 37 14.1	
	0.2nm,0.3s,baz=51,slow=33,SNR=4.8								
MKAR	**Makanchi Array**	**8.17**	**199**	Pn		Pn		08 35 57.9	+0.5
	0.1nm,0.3s,baz=19,slow=11,SNR=4.2								
MKAR				Sn		Sn		08 37 30.4	0.0
	0.1nm,0.3s,baz=24,slow=28,SNR=4.2								

IDC 21 08:41:48.7±3.6, 53°68N×88°02E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML3.0/2, Error ellipse: s-maj=35.7km s-min=17.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**279**	*i*				08 52 30.6	
	baz=99,slow=342,SNR=1.9								
ZALV	**Zalesovo Beam**	**1.92**	**279**	Pg		Pn		08 42 23.0	+0.5
	1.1nm,0.3s,baz=98,slow=16,SNR=8.2								
ZALV				Lg		Lg		08 42 49.9	
	3.2nm,0.3s,baz=94,slow=27,SNR=16								
KURBB	**Kurchatov Arra**	**6.59**	**246**	Pn		Pn		08 43 27.1	+0.4
	0.6nm,0.3s,baz=63,slow=14,SNR=3.0								
MKAR	**Makanchi Array**	**7.81**	**210**	Pn		Pn		08 43 44.8	+1.3
	0.1nm,0.3s,baz=32,slow=16,SNR=4.4								

DHMR 21 08:49:45.6±0.7, 11°80N×43°62E, h10km±12km, ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBOS		**2.60**	**38**	*i* P		Pb		08 50 30.9	-1.7
LBOS				*i* S		Sb		08 51 05.3	+0.4
BDHA	**Al Bayda'**	**2.87**	**41**	*i* P		Pn		08 50 34.1	+2.3
BDHA				*i* S		Sb		08 51 12.8	0.0
BDHA				AML		AML		08 51 34.4	
	comp=N,337nm,0.5s								
HAJJ	**Hajjah**	**3.87**	**360**	*i* P		Pn		08 50 47.8	+2.3
HAJJ				*i* S		Sb		08 51 36.4	-5.1

SIGU 21 09:10:20.8±0.5, 44°81N×34°43E, h15km±4km, Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALU	**Alushta**	**0.13**	**189**	*i* Pg		Pg		09 10 24.6	+0.2
	baz=190								
ALU				Pgm				09 10 24.8	
	comp=Z,51nm,baz=190								
ALU				*i* Sg		Sb		09 10 27.3	-0.4
	baz=190								
ALU				Sgm				09 10 27.3	
	comp=E,199nmcomp=N,190nm,baz=190								
SIM	**Simferopol'**	**0.26**	**302**	*e*Pg		Pg		09 10 26.3	-0.2
	baz=303								
SIM				Pgm				09 10 26.4	
	comp=Z,18nm,baz=303								
SIM				*i* Sg		Sg		09 10 30.8	+0.4
	baz=303								
SIM				Sgm				09 10 30.9	
	comp=N,57nm,baz=303								
SIM				Sgm				09 10 30.9	
	comp=E,37nm,baz=303								
SUDU	**Sudak**	**0.41**	**79**	*e*Pg		Pg		09 10 29.4	+0.3
	baz=80								
SUDU				Pgm				09 10 29.7	
	comp=Z,5.0nm,baz=80								
SUDU				*e*Sg		Sg		09 10 35.1	+0.3
	baz=80								
SUDU				Sgm				09 10 38.7	
	comp=N,18nm,baz=80								
SUDU				Sgm				09 10 39.5	
	comp=E,10.0nm,baz=80								

CSEM ***21*** *09:37:16.4±1.2, 11°48N×43°32E, h10km, ML4.2, Error ellipse: s-maj=26.9km s-min=21.1km az=159.0*
DHMR ***21*** *09:37:18.3±1.4, 11°73N×43°45E, h12km±12km, ML4.2*
ISCJB ***21*** *09:37:21.5±0.6, 11°84N±0°05×43°33E±0°06, h10km, Error ellipse: s-maj=10.6km s-min=3.5km az=41.0*
ARO ***21*** *09:37:23.4, 12°N±3°×4°3E±°, h4km±4km, ML4.1*

ISC 21 09:37:21.6±0.9, 11°84N±0°04×43°25E±0°05, h10km, n23, σ1s59/33, 6C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCAD	**Moucha**	**0.12**	**201**	*i* P		**Pg**		**09 37 26.5**	**+2.0**
OBO	**Obock**	**0.15**	**14**	*i* P		**Pg**		**09 37 26.7**	**+1.7**
TDD	**Tadjoura Ara**	**0.34**	**264**	*i* P		**Pb**		**09 37 30.5**	**+0.7**
ATA	**Atar**	**0.39**	**187**	*i* P		**Pb**		**09 37 30.7**	**+0.1**
ATD	**Arta Tunnel**	**0.50**	**232**	*e*P		**Pb**		**09 37 33.0**	**+0.4**
ATD				*e*S		**Sb**		**09 37 40.4**	**+0.3**
SGH	**Sud-Ghoubbet**	**0.73**	**237**	*e*P		**Pg**		**09 37 36.8**	**+1.0**
GBR	**Grand-Bara**	**1.03**	**229**	*e*P		**Pg**		**09 37 41.5**	**0.0**
MAOD	**Malaho**	**1.04**	**284**	*e*P		**Pg**		**09 37 42.3**	**+0.7**
TRBA	**At Turbah**	**1.62**	**31**	⇓ *i*P		Pn		09 37 47.8	-2.7
TRBA				*i* S		**Sn**		**09 38 10.1**	**-1.4**
TRBA				AML		AML		09 38 15.6	
	comp=N,4µm,0.8s								
UDYN	**Al 'Udayn**	**2.23**	**18**	⇑ *i*P		**Pn**		**09 37 57.5**	**-1.3**
UDYN				*i* S		**Sb**		**09 38 29.2**	**-0.6**
UDYN				AML		AML		09 38 40.6	
	comp=Z,2µm,0.6s								
UDYN	**Al 'Udayn**	**2.23**	**18**	⇑ *i*P		**Pn**		**09 37 57.5**	**-1.3**
UDYN				*i* S		**Sb**		**09 38 29.2**	**-0.6**
	comp=Z,776nm,0.6s								
LBOS		**2.80**	**44**	*i* P		**Pn**		**09 38 05.4**	**-1.4**
LBOS				*i* S		**Sn**		**09 38 43.0**	**+2.1**
DHBB	**Dhamar BB**	**2.93**	**22**	*i* P		**Pn**		**09 38 08.7**	**0.0**
DHBB				*i* S		**Sb**		**09 38 48.0**	**-2.2**
BDHA	**Al Bayda'**	**3.10**	**46**	⇑ *i*P		**Pn**		**09 38 08.9**	**-1.9**
BDHA				*i* S		**Sn**		**09 38 48.5**	**+0.4**
BDHA				AML		AML		09 39 08.3	
	comp=N,906nm,0.6s								
BDHA	**Al Bayda'**	**3.10**	**46**	⇑ *i*P		**Pn**		**09 38 08.9**	**-1.9**
BDHA				*i* S		**Sn**		**09 38 48.5**	**+0.4**
	comp=N,453nm,0.6s								
HAJJ	**Hajjah**	**3.85**	**5**	⇑ *i*P		**Pn**		**09 38 21.9**	**+0.7**
HAJJ				*i* S		**Sn**		**09 39 10.0**	**+3.4**
HAJJ				AML		AML		09 39 28.4	
	comp=Z,1µm,0.5s								
HAJJ	**Hajjah**	**3.85**	**5**	⇑ *i*P		**Pn**		**09 38 21.9

VNA1	**Neumayer--Stat**	**20.24**	**139**	P		Pn	09 45 25.2	-0.2
VNA2	**Neumayer--Watz**	**20.57**	**139**	P		**P**	**09 45 27.5**	**+0.5**
SNAA	**Sanae**	**22.11**	**141**	P		**P**	**09 45 44.2**	**+0.5**
SNAA	**Sanae**	**22.11**	**141**	P		**P**	**09 45 44.4**	**+0.7**
	3.1nm,0.9s,baz=227,slow=18,SNR=11							
SNAA				LR		LR	09 52 48.5	
	comp=Z,24nm,19.0s,baz=96,slow=33							
PLCA	**Paso Flores**	**22.83**	**321**	P		**P**	**09 45 52.7**	**+1.1**
	2.6nm,0.8s,baz=169,slow=11,SNR=5.8							
PLCA				LR		LR	09 53 38.9	
	comp=Z,102nm,19.4s,baz=86,slow=34							
QSPA	**South Pole Qui**	**29.91**	**180**	P		**P**	**09 46 55.7**	**-0.5**
	1.7nm,0.5s,baz=181,slow=4.1,SNR=10							
QSPA				LR		LR	09 58 46.7	
	comp=Z,205nm,19.8s,baz=126,slow=36							
CPUP	**Villa Florida**	**34.20**	**351**	LR		LR	10 02 29.5	
	comp=Z,36nm,19.8s,baz=155,slow=38							
MAW	**Mawson**	**43.79**	**150**	LR		LR	10 05 50.1	
	comp=Z,188nm,21.0s,baz=298,slow=34							
BDFB	**Brasilia**	**44.70**	**5**	P		**P**	**09 49 02.9**	**+1.2**
	1.3nm,0.4s,baz=108,slow=3.2,SNR=2.4							
LPAZ	**La Paz**	**45.56**	**338**	LR		LR	10 09 00.6	
	comp=Z,109nm,19.9s,baz=224,slow=37							
SUR	**Sutherland**	**53.92**	**93**	P		**P**	**09 50 12.2**	**0.0**
	8.9nm,0.6s,baz=152,slow=21,SNR=5.9							
H10S2	**ASCENSION HYDR**	**58.23**	**44**	T		T	10 54 19.9	
	baz=202,slow=75,SNR=13							
H10S3	**ASCENSION HYDR**	**58.23**	**44**	T		T	10 54 40.9	
	baz=202,slow=75,SNR=5.8							
H10S1	**ASCENSION HYDR**	**58.24**	**44**	T		T	10 54 34.7	
	baz=202,slow=75,SNR=9.2							
H10N3	**ASCENSION HYDR**	**59.32**	**44**	T		T	10 55 44.4	
	baz=202,slow=75,SNR=10							
H10N1	**ASCENSION HYDR**	**59.32**	**44**	T		T	10 55 57.4	
	baz=202,slow=75,SNR=9.1							
H10N2	**ASCENSION HYDR**	**59.34**	**44**	T		T	10 55 45.7	
	baz=202,slow=75,SNR=11							
ASAR	**Alice Springs**	**96.19**	**185**	P		**P**	**09 54 14.3**	**-2.4**
	0.7nm,0.9s,baz=177,slow=4.4,SNR=5.1							
H08S1	**Diego Garcia H**	**99.34**	**124**	T		T	11 46 21.9	
H08S2	**Diego Garcia H**	**99.35**	**124**	T		T	11 46 10.8	
	baz=205,slow=75,SNR=5.1							
H08S3	**Diego Garcia H**	**99.36**	**124**	T		T	11 46 15.3	
	baz=100,slow=75,SNR=12							
WRA	**Warramunga Arr**	**99.87**	**186**	P		**Pdif**	**09 54 31.0**	**-2.3**
	1.0nm,0.8s,baz=179,slow=4.0,SNR=8.0							
H08N3	**Diego Garcia H**	**99.90**	**122**	T		T	11 46 51.6	
	baz=204,slow=76,SNR=11							
H08N1	**Diego Garcia H**	**99.91**	**122**	T		T	11 46 59.3	
	baz=204,slow=76,SNR=7.0							
H08N2	**Diego Garcia H**	**99.92**	**122**	T		T	11 46 53.6	
	baz=204,slow=76,SNR=9.1							
ILAR	**Eielson Array**	**143.42**	**314**	PKP		PKPbc	10 00 18.9	0.0
	0.4nm,0.7s,baz=152,slow=1.9,SNR=4.5							
MKAR	**Makanchi Array**	**150.19**	**96**	PKPbc		**PKPbc**	**10 00 38.5**	**-0.1**
	1.3nm,0.8s,baz=194,slow=3.0,SNR=3.2							

VIE ***21*** *09:44:09.8±0.4, 48.46°N×17.26°E, h0km, mb1.6/2, ML1.7/2, Error ellipse: s-maj=3.6km s-min=2.0km az=130.0 33 km N of Bratislava Suspected Mining explosion.*

CSEM 21 09:44:09.8±0.6, 48.44°N×17.25°E, h1km, ML1.7, 1C-1D, Error ellipse: s-maj=18.1km s-min=8.3km az=144.0, Suspected Mining explosion.,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMOL	**Smolenice**	**0.14**	**57**	*e*Pg	Pg	09 44 12.5	-0.1
SMOL				*e*Sg	Sg	09 44 16.0	+1.5
SMOL	**Smolenice**	**0.14**	**57**	*e*Pg	Pg	09 44 12.5	-0.1
SMOL				*e*Sg	Sg	09 44 16.0	+1.5
VRAC	**Vranov**	**0.97**	**334**	*e*Pg	Pg	09 44 28.8	+0.3
CSNA	**Conrad Observa**	**1.06**	**242**	↑*i*Pg	Pg	09 44 29.8	-0.5
CSNA				↓*i*Sg	Sb	09 44 45.9	+0.4
	4.4nm,0.3s						
CSNA	**Conrad Observa**	**1.06**	**242**	Pg	Pg	09 44 29.8	-0.5
CSNA				Sg	Sb	09 44 45.9	+0.4
	4.4nm,0.3s						
MORC	**Moravsky Berou**	**1.36**	**8**	*e*Pg	Pg	09 44 35.2	-0.7

BJI ***21*** *09:48:50.3, 38.30°N×140.20°E, h23km, mB4.9/28, mb4.8/42, Ms4.4/20, Ms7 4.1/22*

NIED ***21*** *09:49:00, 38.10°N×140.30°E, h119km, Mw4.5 Best double couple: M0 6.62000×10^15 NP1:ϕ=7.00000°, δ 11.00000°, λ 76.00000°. NP2:ϕ=201.00000°, δ 80.00000°, λ 93.00000°.*

MOS ***21*** *09:49:00.9±0.8, 38.34°N×140.07°E, h119km, mb4.7/33, Error ellipse: s-maj=8.5km s-min=5.7km az=103.6*

JMA ***21*** *09:49:01.6±0.1, 38.08°N×140.31°E, h123km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ=200.00000°, δ 77.00000°, λ 100.00000°. NP2: ϕ=343.00000°, δ 16.00000°, λ 54.00000°. Principal axes: T Plg57.0000°, Azm123.0000°; N Plg10.0000°, Azm18.0000°; P Plg31.0000°, Azm282.0000°;*

JMA Felt I J1.

NEIC ***21*** *09:49:01.5±0.5, 38.16°N×140.13°E, h116km±4km, mb4.7/27, MW4.5(NIED) Error ellipse: s-maj=5.6km s-min=3.6km az=145.0*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Iwate and Miyagi.

ISCJB ***21*** *09:49:01.3±0.2, 38.21°N±0.03×140.09°E±0.02, h124km±1km, mb4.5/74, Error ellipse: s-maj=4.8km s-min=3.0km az=162.5*

IDC ***21*** *09:49:01.4±0.5, 38.09°N×140.19°E, h120km±4km, mb4.0/26, mb1 4.2/30, mb1mx4.1/50, mbtmp4.4/30, MS3.1/3, Ms1 3.1/3, ms1mx2.8/49, Error ellipse: s-maj=11.3km s-min=9.7km az=109.0*

ISC 21 09:49:01.4±0.4, 38.17°N±0.04×140.20°E±0.03, h118km±3km, n483, σ1°13/519, mb4.5/74, 151C-121D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYS	**Shirataka**	**0.12**	**297**	P	**Pn**	**09 49 18.8**	**+1.2**
JYS				S	**Sn**	**09 49 32.0**	**+2.1**
JOU	**Okura**	**0.41**	**61**	↑P	**Pn**	**09 49 19.8**	**+1.1**
JOU				S	**Sn**	**09 49 33.2**	**+1.5**
JMM	**Marumori**	**0.55**	**123**	↓P	**Pn**	**09 49 19.5**	**0.0**
JMM				S	**Sn**	**09 49 33.1**	**+0.1**
JYA	**Atsumi**	**0.57**	**318**	↑P	**Pn**	**09 49 21.3**	**+1.7**
JYA				S	**Sn**	**09 49 36.3**	**+2.9**
JFT	**Otama**	**0.66**	**171**	P	**Pn**	**09 49 20.5**	**+0.3**
JFT				*e*S	**Sn**	**09 49 34.6**	**+0.2**
JYK	**Kaneyama**	**0.76**	**9**	↑P	**Pn**	**09 49 22.5**	**+1.5**
JYK				S	**Sn**	**09 49 38.3**	**+2.4**
JNS	**Sasagawa**	**0.78**	**244**	↑P	**Pn**	**09 49 22.2**	**+1.0**
JNS				S	**Sn**	**09 49 37.7**	**+1.5**
JAW	**Awa shima**	**0.81**	**291**	↑P	**Pn**	**09 49 23.0**	**+1.6**
JAW				*e*S	**Sn**	**09 49 38.7**	**+2.2**
JFY	**Yanaizu**	**0.85**	**208**	↑P	**Pn**	**09 49 22.5**	**+0.6**
JFY				S	**Sn**	**09 49 37.9**	**+0.5**
JIO	**Ouri**	**0.94**	**72**	↓P	**Pn**	**09 49 22.8**	**+0.1**
JIO				S	**Sn**	**09 49 38.5**	**-0.3**
JFK	**Kawauchi**	**0.96**	**146**	↓P	**Pn**	**09 49 22.3**	**-0.6**
JFK				S	**Sn**	**09 49 37.7**	**-1.4**
JMK	**Ichinoseki**	**1.12**	**45**	↓P	**Pn**	**09 49 25.4**	**+1.0**
JMK				*e*S	**Sn**	**09 49 43.1**	**+1.2**
JSD	**Sado**	**1.54**	**266**	↑P	**Pn**	**09 49 30.0**	**+0.9**
JSD				S	**Sn**	**09 49 51.4**	**+1.2**
JOM	**Ohasama**	**1.56**	**33**	P	**Pn**	**09 49 30.7**	**+1.4**
JOM				S	**Sn**	**09 49 52.4**	**+1.8**
JAG	**Ashikaga**	**1.84**	**199**	↑P	**Pn**	**09 49 32.8**	**0.0**
MAJO	**Matsushiro**	**2.27**	**225**	*c*P	**Pn**	**09 49 39.1**	**+0.9**
MAJO	**Matsushiro**	**2.27**	**225**	*e*Pn	**Pn**	**09 49 37.7**	**-0.5**
MAT	**Matsushiro**	**2.27**	**225**	P	**Pn**	**09 49 39.0**	**+0.8**
MAT				S	**Sn**	**09 50 08.2**	**+1.8**
MJAR	**Matsushiro Arr**	**2.27**	**225**	P	**Pn**	**09 49 39.1**	**+0.9**
MJAR	**Matsushiro Arr**	**2.27**	**225**	P	**Pn**	**09 49 39.1**	**+0.9**
	18nm,0.3s,baz=31,slow=14,SNR=255						
ERM	**Erimo**	**4.46**	**30**	*e*P	**Pn**	**09 50 06.0**	**-1.0**
ERM	**Erimo**	**4.46**	**30**	*e*Pn	**Pn**	**09 50 05.9**	**-1.1**
ASAJ	**Asahikawa**	**6.21**	**16**	*e*Pn	**Pn**	**09 50 30.8**	**+0.2**
ASAJ				S	**Sn**	**09 51 36.7**	**-3.5**
ASAJ	**Asahikawa**	**6.21**	**16**	P	**Pn**	**09 50 30.9**	**+0.2**
	3.8nm,0.3s,baz=240,slow=11,SNR=10						
ASAJ				S	**Sn**	**09 51 36.7**	**-3.5**
	4.1nm,0.3s,baz=342,slow=20,SNR=3.5						
ASAJ				LR	LR	09 54 02.1	
	comp=Z,94nm,18.5s,baz=181,slow=48						
YUK	**Yuzh-Kuril'sk**	**7.25**	**34**	*d*P	**Pn**	**09 50 43.4**	**-1.2**
YUK				*i* S	**Sn**	**09 51 59.6**	**-5.8**
YUK				pmax	pmax		
	comp=N,44nm,0.5s						
YUK				pmax	pmax		
	comp=E,49nm,0.5s						
YUK				pmax	pmax		
	comp=Z,128nm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
YUK				smax	smax		
	comp=N,735nm,0.3s						
VLA	**Vladivostok**	**8.03**	**311**	↑*i*P	**Pn**	**09 50 55.3**	**+0.2**
VLA				*e*S	**Sn**	**09 52 23.1**	**-1.1**
USRK	**Ussuriysk Arra**	**8.64**	**317**	P	**Pn**	**09 51 05.6**	**+2.2**
	comp=N,1.8nm,0.3s,baz=122,slow=11,SNR=31						
USRK				LR	LR	09 53 47.9	
	comp=N,183nm,19.6s,baz=139,slow=33						
YSS	**Yuzh-Sakhalins**	**8.98**	**11**	*e*P	**Pn**	**09 51 08.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,41nm,1.7s						
YSS	**Yuzh-Sakhalins**	**8.98**	**11**	*e*Pn	**Pn**	**09 51 07.7**	**-0.3**
JNU	**Nakatsue**	**9.11**	**239**	P	**Pn**	**09 51 10.6**	**+0.7**
JNU	**Nakatsue**	**9.11**	**239**	P	**Pn**	**09 51 10.6**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=13,slow=14,SNR=8.5						
JNU				LR	LR	09 54 45.7	
	comp=Z,100nm,18.4s,baz=37,slow=38						
KSRS	**Korea Array**	**9.75**	**270**	P	Pn	09 51 22.1	+3.7
	comp=Z,1.1nm,0.3s,baz=85,slow=14,SNR=22						
KSAR	**Wonju Array Be**	**9.78**	**270**	P	Pn	09 51 22.1	+3.2
MDJ	**Mudanjiang**	**10.25**	**312**	P	**Pn**	**09 51 24.8**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,14nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.1s						
MDJ	**Mudanjiang**	**10.25**	**312**	Pn	Pn	09 51 21.2	-3.9
	comp=Z,16nm,0.7s						
TJN	**Taejon**	**10.39**	**264**	*e*P	**Pn**	**09 51 29.2**	**+2.1**
HABR	**Khabarovsk**	**10.96**	**342**	*e*P	**Pn**	**09 51 32.3**	**-2.4**
HABR				*e*S	**Sn**	**09 53 32.3**	**-2.9**
HABR				pmax	pmax		
	comp=Z,62nm,1.8s						
CBIJ	**Chichi jima**	**11.16**	**171**	P	Pn	09 51 32.0	-5.5
CBIJ				S	Sn	09 53 26.2	-14
JCJ	**Chichijima**	**11.16**	**171**	P	Pn	09 51 32.0	-5.5
	comp=Z,12nm,0.3s,baz=254,slow=18,SNR=5.3						
JCJ				S	Sn	09 53 26.2	-14
	comp=Z,5.7nm,0.3s,baz=294,slow=19,SNR=3.2						
NJ2	**Nanjing**	**18.49**	**257**	*e*P	**P**	**09 53 07.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
BJI	**Beijing**	**18.73**	**283**	P	**P**	**09 53 09.6**	**-1.2**
BJI				pmax	pmax		
	comp=Z,38nm,0.8s						
BJT	**Baijiatuan**	**18.74**	**283**	*e*P	**P**	**09 53 09.7**	**-1.2**
	comp=Z,30nm,0.4s						
YULB	**Yu-li**	**21.86**	**233**	*e*P	**P**	**09 53 44.2**	**-0.5**
	comp=Z,41nm,1.3s						
HHC	**Hu-ho-hao-te**	**22.22**	**286**	*e*P	**P**	**09 53 46.0**	**-2.3**
HHC				sP	sP	09 53 53.4	-32
HHC				S	**S**	**09 57 42.3**	**-2.7**
HHC				SS	**SnSn**	**09 58 20.6**	**-3.9**
HHC				pmax	pmax		
	comp=Z,42nm,0.5s						
HHC				pmax	pmax		
	comp=Z,150nm,4.2s						
HHC				LR	LR		
	comp=Z,310nm,14.9s						
HHC				LR	LR		
	comp=Z,300nm,12.4s						
HHC				LR	LR		
	comp=Z,310nm,15.1s						
TPUB	**Ta-pu**	**22.35**	**234**	P	**P**	**09 53 49.5**	**-0.3**
	comp=Z,20nm,0.8s						
YAK	**Yakutsk**	**24.76**	**348**	*e*P	**P**	**09 54 09.6**	**-2.1**
YAK				*e*		09 58 24.7	
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK	**Yakutsk**	**24.76**	**348**	*e*P	**P**	**09 54 11.2**	**-0.4**
	comp=N,32nm,0.5s						
XAN	**Xi'an**	**25.54**	**270**	P	**P**	**09 54 18.5**	**-0.7**
XAN				pP	pP	09 54 25.3	-19
XAN				pmax	pmax		
	comp=N,8.0nm,0.6s						
XAN				LR	LR		
	comp=N,76nm,13.2s						
SEY	**Seymchan**	**25.88**	**13**	P	**P**	**09 54 26.2**	**+4.4**
SEY	**Seymchan**	**25.88**	**13**	P	**P**	**09 54 23.0**	**+1.2**
SEY	**Seymchan**	**25.88**	**13**	P	**P**	**09 54 23.0**	**+1.2**
	comp=N,1.0nm,0.3s,baz=198,slow=20,SNR=4.8						
ULN	**Ulaanbaatar**	**25.93**	**303**	*e*P	**P**	**09 54 21.9**	**-0.7**
	comp=N,8.8nm,0.6s						
SONM	**Songino Array**	**26.36**	**302**	P	**P**	**09 54 26.0**	**-0.5**
SONM	**Songino Array**	**26.36**	**302**	P	**P**	**09 54 26.0**	**-0.5**
	comp=N,4.7nm,0.4s,baz=102,slow=9.1,SNR=32						
ENH	**Enshi**	**26.50**	**262**	*e*P	**P**	**09 54 27.0**	**-0.9**
	comp=N,38nm,0.6s						
ZAK	**Zakamensk**	**28.82**	**307**	*e*P	**P**	**09 54 46.8**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**28.87**	**310**	*e*P	**P**	**09 54 49.1**	**+0.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LZH	**Lanzhou**	**28.95**	**277**	*e*P	**P**	**09 54 48.4**	**-1.3**
LZH				pP	pP	09 54 55.5	-20
LZH				sP	sP	09 54 59.0	-30
LZH				PP	**PnPn**	**09 55 41.3**	**-6.2**
LZH				*e*S	**S**	**09 59 35.3**	**+3.3**
LZH				sS	sS	09 59 47.5	-29
LZH				*e*SS	**SnSn**	**10 01 03.3**	**-4.8**
LZH				pmax	pmax		
	comp=Z,30nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,6.8s						
LZH				LR	LR		
	comp=Z,450nm,13.0s						
LZH				LR	LR		
	comp=Z,420nm,13.5s						
LZH				LR	LR		
	comp=Z,580nm,17.0s						
H11N2	**WAKE ISLAND Hy**	**29.55**	**121**	T	T	10 25 36.7	
	baz=318,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**29.56**	**121**	T	T	10 25 33.4	
	baz=318,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**29.57**	**121**	T	T	10 25 30.2	
	baz=318,slow=76,SNR=51						
H11S1	**WAKE ISLAND Hy**	**30.28**	**123**	T	T	10 26 23.5	
	baz=321,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**30.28**	**123**	T	T	10 26 27.0	
	baz=321,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**30.30**	**123**	T	T	10 26 25.8	
	baz=321,slow=76,SNR=26						
GYA	**Guiyang**	**30.50**	**257**	P	**P**	**09 55 04.6**	**+1.2**
GYA				pP	pP	09 55 11.8	-17
GYA				PP	**PnPn**	**09 56 05.4**	**-2.1**
GYA				PcP	**PcP**	**09 58 03.3**	**+3.5**
GYA				S	S	10 00 04.5	+8.2
GYA				sS	sS	10 00 14.3	-27
GYA				SS	**SnSn**	**10 01 44.3**	**-1.5**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=Z,460nm,17.8s						
GYA				LR	LR		
	comp=Z,380nm,18.2s						
GYA				LR	LR		
	comp=Z,490nm,17.6s						
CD2	**Chengdu**	**30.74**	**267**	*e*P	**P**	**09 55 05.0**	**-0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA	**Gaotai**	**31.33**	**285**	*e*P	**P**	**09 55 09.6**	**-1.0**
GTA				pP	pP	09 55 14.8	-22
GTA				sP	sP	09 55 18.1	-32
GTA				PP	**PnPn**	**09 56 14.5**	**-3.4**
GTA				PcP	**PcP**	**09 58 04.0**	**+2.2**
GTA				S	**S**	**10 00 14.4**	**+5.4**
GTA				SS	**SnSn**	**10 01 59.4**	**-6.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,88nm,5.2s						
GTA				LR	LR		
	comp=Z,170nm,9.7s						
GTA				LR	LR		
	comp=Z,120nm,11.2s						
GTA				LR	LR		
	comp=Z,120nm,11.4s						
QIZ	**Qiongzhong**	**32.56**	**243**	P	**P**	**09 55 22.1**	**+0.7**
QIZ				S	S	10 00 37.3	+9.1
QIZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
QIZ				LR	LR		
	comp=Z,270nm,15.7s						
BILL	**Bilibino**	**33.23**	**18**	*i* P	**P**	**09 55 26.8**	**+0.1**
BILL				*e*		09 56 42.4	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,754nm,28.0s						
TIXI	**Tiksi**	**34.06**	**354**	*e*P	**P**	**09 55 33.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,70nm,18.0s						
TIXI	**Tiksi**	**34.06**	**354**	*e*P	**P**	**09 55 33.5**	**-0.3**
	comp=Z,80nm,3.0s						
KMI	**Kunming**	**34.21**	**259**	P	**P**	**09 55 35.5**	**-0.5**
KMI				pP	pP	09 55 42.0	-20
KMI				sP	sP	09 55 45.3	-30
KMI				PP	**PnPn**	**09 56 52.6**	**-1.6**
KMI				S	S	10 01 01.3	+7.1
KMI				SS	**SnSn**	**10 03 09.4**	**-6.3**
KMI				pmax	pmax		
	comp=Z,21nm,1.1s						
KMI				pmax	pmax		
	comp=Z,130nm,3.8s						
KMI				LR	LR		
	comp=Z,110nm,16.3s						
HVS	**Khovu-Aksy**	**34.94**	**307**	↑*e*P	**P**	**09 55 41.9**	**0.0**
HVS				pmax	pmax		
	comp=Z,37nm,1.2s						
WMQ	**Urumqi**	**39.48**	**295**	P	**P**	**09 56 20.4**	**+0.2**
WMQ				pP	pP	09 56 27.8	-19
WMQ				sP	sP	09 56 31.3	-29
WMQ				PP	**PnPn**	**09 57 55.4**	**-1.7**
WMQ				PcP	**PcP**	**09 58 29.0**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,14nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,19nm,8.0s						
WMQ				LR	LR		
	comp=Z,24nm,17.5s						
TNA	**Tin City**	**40.35**	**30**	*e*P	**P**	**09 56 28.3**	**+1.3**
	comp=Z,7.8nm,0.9s						
ZAA0	**Zalesovo Array**	**40.45**	**311**	*e*P	**P**	**09 56 27.2**	**-0.7**
ZALV	**Zalesovo Beam**	**40.45**	**311**	*i* P	**P**	**09 56 28.0**	**0.0**
ZALV				pmax	pmax		
	comp=Z,23nm,0.9s						
ZALV	**Zalesovo Beam**	**40.45**	**311**	P	**P**	**09 56 28.0**	**0.0**
ZALV	**Zalesovo Beam**	**40.45**	**311**	P	**P**	**09 56 28.0**	**0.0**
	comp=Z,23nm,0.9s,baz=90,slow=6.7,SNR=62						
CHTO	**Chiang Mai**	**40.67**	**253**	*e*P	**P**	**09 56 30.8**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHTO	**Chiang Mai**	**40.67**	**253**	*e*P	**P**	**09 56 30.8**	**+0.6**
	comp=Z,1.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.88**	**253**	P	**P**	**09 56 31.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.88**	**253**	P	**P**	**09 56 31.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=57,slow=4.9,SNR=6.5						
LSA	**Lhasa**	**41.17**	**273**	*e*P	**P**	**09 56 35.3**	**+0.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**41.17**	**273**	*e*P	**P**	**09 56 35.3**	**+0.5**
	comp=Z,11nm,0.6s						
NVS	**Novosibirsk**	**41.37**	**313**	*e*P	**P**	**09 56 33.5**	**-2.0**
NVS				pmax	pmax		
	comp=Z,20nm,1.2s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,17nm,0.4s						
MK31	**Makanchi Array**	**42.71**	**301**	*e*P	**P**	**09 56 46.4**	**-0.2**
MK31	**Makanchi Array**	**42.71**	**301**	*e*P	**P**	**09 56 46.4**	**-0.2**
MKAR	**Makanchi Array**	**42.71**	**301**	*ce*P	**P**	**09 56 46.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MKAR	**Makanchi Array**	**42.71**	**301**	*e*P	**P**	**09 56 46.2**	**-0.3**
MKAR	**Makanchi Array**	**42.71**	**301**	P	**P**	**09 56 46.5**	**0.0**
	comp=Z,7.7nm,0.5s,baz=87,slow=10.0,SNR=115						
KURK	**Kurchatov**	**44.48**	**307**	*e*P	**P**	**09 57 00.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,54nm,0.7s						
KURK	**Kurchatov**	**44.48**	**307**	*e*P	**P**	**09 57 00.5**	**-0.1**
	comp=Z,54nm,0.7s						
TAPN	**Taplejung**	**44.92**	**272**	*e*P	**P**	**09 57 05.0**	**+0.2**
	comp=Z,16nm,0.4s						
ODAN	**Odare**	**45.40**	**272**	*e*P	**P**	**09 57 08.2**	**-0.3**
	comp=Z,22nm,0.5s						
JIRN	**Jiri**	**45.97**	**273**	*e*P	**P**	**09 57 13.8**	**+0.6**
	comp=Z,28nm,0.4s						
RAMN	**Ramite**	**45.98**	**272**	*e*P	**P**	**09 57 13.2**	**+0.1**
	comp=Z,93nm,0.9s						
GUN	**Gumba**	**46.10**	**274**	*e*P	**P**	**09 57 14.3**	**+0.1**
IM04	**Indian Mountai**	**46.16**	**31**	*e*P	**P**	**09 57 14.3**	**+0.6**
RSO	**Redoubt South**	**46.62**	**39**	*e*P	**P**	**09 57 18.1**	**+0.5**
KKN	**Kakani**	**46.63**	**274**	*e*P	**P**	**09 57 18.3**	**+0.2**
	comp=Z,72nm,0.6s						
PKI	**Pulchoki**	**46.63**	**274**	*e*P	**P**	**09 57 18.0**	**-0.3**
	comp=Z,19nm,0.6s						
PKIN	**Phulchoki**	**46.64**	**274**	*e*P	**P**	**09 57 18.7**	**+0.4**
DMN	**Daman**	**46.85**	**274**	*e*P	**P**	**09 57 19.7**	**-0.2**
SPU	**Mount Spurr**	**46.92**	**38**	*e*P	P	09 57 14.2	-5.6
GKN	**Gorkha**	**47.04**	**275**	*e*P	**P**	**09 57 21.0**	**-0.2**
	comp=Z,84nm,0.8s						
DANN	**Dangsing**	**47.57**	**276**	*e*P	**P**	**09 57 25.8**	**+0.3**
	comp=Z,166nm,0.7s						
KOLN	**Koldanda**	**47.96**	**275**	*e*P	**P**	**09 57 28.7**	**+0.3**
	comp=Z,62nm,0.9s						
RC01	**Rabbit Creek A**	**48.05**	**38**	*e*P	**P**	**09 57 27.7**	**-0.7**
TKM2	**Tokmak 2**	**48.25**	**297**	*e*P	**P**	**09 57 31.3**	**+0.8**
TKM2	**Tokmak 2**	**48.25**	**297**	*e*P	**P**	**09 57 31.3**	**+0.8**
PYUN	**Piuthan**	**48.29**	**276**	*e*P	**P**	**09 57 31.3**	**+0.4**
	comp=Z,40nm,0.5s						
ILAR	**Eielson Array**	**49.06**	**33**	P

ARU 10 00 21.9
ARU S **S** **10 05 51.7 +0.5**
ARU pmax pmax
comp=Z,31nm,1.2s
ARU Arti 54.88 318 *e*P **P 09 58 19.3 0.0**
comp=Z,18nm,0.7s
KBL Kabul 56.12 290 *e*P **P 09 58 28.7 -0.1**
KBL pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 56.12 290 *e*P **P 09 58 28.7 -0.1**
comp=Z,13nm,1.0s
ABKAR Akbulak array 56.48 309 *e*P **P 09 58 30.7 -0.1**
AKTO Aktyubinsk 57.21 311 P **P 09 58 35.9 -0.1**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 57.21 311 P **P 09 58 35.9 -0.1**
AKTO Aktyubinsk 57.21 311 P **P 09 58 35.9 -0.1**
comp=Z,7.3nm,0.8s,baz=77,slow=15,SNR=12
WRAB Tennant Creek 58.05 186⇓ *e*P **P 09 58 41.0 -1.1**
WRAB pmax pmax
comp=Z,58nm,2.5s
WRA Warramunga Arr 58.06 187 P **P 09 58 40.6 -1.6**
WRA pP **pP 09 59 09.8 -0.7**
WRA Warramunga Arr 58.06 187 P **P 09 58 40.6 -1.6**
comp=Z,5.2nm,0.4s,baz=3.2,slow=7.3,SNR=122
WRA pP **pP 09 59 09.8 -0.7**
comp=Z,2.8nm,0.6s,baz=3.2,slow=7.2,SNR=4.6
PRGR Permogore 59.29 326 P **P 09 58 48.4 -1.8**
PRGR pmax pmax
comp=Z,82nm,1.6s
RES Resolute Bay 61.74 14 P **P 09 59 06.6 -0.1**
RES pP **pP 09 59 35.9 +0.5**
RES Resolute Bay 61.74 14 P **P 09 59 06.6 -0.1**
comp=Z,2.3nm,0.4s,baz=296,slow=4.7,SNR=11
RES pP **pP 09 59 35.9 +0.5**
comp=Z,1.9nm,0.7s,baz=306,slow=5.4,SNR=3.3
AS31 Alice Springs 61.79 187 *e*P **P 09 59 06.1 -1.5**
ASAR Alice Springs 61.79 187 P **P 09 59 06.5 -1.1**
ASAR pP **pP 09 59 36.2 -0.1**
ASAR Alice Springs 61.79 187 P **P 09 59 06.5 -1.1**
comp=Z,3.2nm,0.8s,baz=2.2,slow=4.7,SNR=37
ASAR pP **pP 09 59 36.2 -0.1**
comp=Z,1.5nm,0.9s,baz=9.7,slow=7.7,SNR=3.1
KEV Kevo 62.04 339 *e*P **P 09 59 09.1 +0.4**
KEV Kevo 62.04 339 *ep* **P 09 59 09.1 +0.4**
KLMR Klimovskoe 62.29 327 *e*P **P 09 59 09.3 -1.2**
KLMR pmax pmax
comp=Z,21nm,1.6s
ARCES ARCESS Array B 62.60 339 P **P 09 59 12.7 +0.2**
ARCES ARCESS Array B 62.60 339 P **P 09 59 12.7 +0.2**
comp=Z,1.4nm,0.4s,baz=60,slow=8.1,SNR=14
YKA Yellowknife Ar 63.31 30 P **P 09 59 17.1 -0.1**
YKA pP **pP 09 59 46.8 +0.7**
YKA Yellowknife Ar 63.31 30 P **P 09 59 17.1 -0.1**
comp=Z,0.8nm,0.6s,baz=303,slow=6.6,SNR=24
YKA pP **pP 09 59 46.8 +0.7**
comp=Z,0.4nm,0.6s,baz=304,slow=6.4,SNR=4.2
JOF Joensuu 64.51 331 *e*P **P 09 59 24.9 -0.2**
JOF Joensuu 64.51 331 *ep* **P 09 59 24.9 -0.2**
OBN Obninsk 66.61 323⇑ *e*P **P 09 59 38.5 -0.3**
OBN *e* 10 00 06.7
OBN *e* 10 02 05.8
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,73nm,14.0s
KAF Kangasniemi 66.86 332 *e*P **P 09 59 40.0 -0.2**
KAF Kangasniemi 66.86 332 *ep* **P 09 59 40.0 -0.2**
FINES FINESS Array B 67.36 332 P **P 09 59 43.3 -0.1**
FINES FINESS Array B 67.36 332 P **P 09 59 43.3 -0.1**
comp=Z,5.6nm,0.6s,baz=41,slow=8.0,SNR=17
B08A Colville Reser 68.71 45 *e*P **P 09 59 53.0 +0.9**
comp=Z,15nm,1.5s
I03D Drain, OR 68.93 51⇑P **P 09 59 55.3 +1.7**
baz=69
ZEI Tsey 69.34 309 *e*P **P 09 59 54.6 -1.8**
ZEI pmax pmax
comp=Z,10.0nm,1.5s
KBZ Khabaz 69.44 310 P **P 09 59 57.2 +0.6**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 69.44 310 P **P 09 59 57.2 +0.6**
KBZ Khabaz 69.44 310 P **P 09 59 57.2 +0.6**
comp=Z,6.9nm,0.9s,baz=17,slow=4.3,SNR=8.6
KIV Kislovodsk 69.44 310 *c i*P **P 09 59 57.7 +0.9**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 69.44 310 *e*P **P 09 59 58.2 +1.4**
I04A Tendick Farm, 69.45 50⇓P **P 09 59 57.8 +1.0**
baz=69
C09A Chrisman Ranch 69.61 45 *e*P **P 09 59 58.0 +0.3**
comp=Z,8.1nm,0.9s
STKA Stephens Creek 69.70 179 P **P 09 59 57.6 -0.6**
STKA pP **pP 10 00 27.2 -0.3**
STKA Stephens Creek 69.70 179 P **P 09 59 57.6 -0.6**
comp=Z,1.3nm,0.4s,baz=312,slow=7.3,SNR=3.4
STKA pP **pP 10 00 27.2 -0.3**
comp=Z,1.6nm,0.6s,baz=354,slow=9.2,SNR=2.1
NEW Newport 69.98 44 *e*P **P 10 00 00.8 +0.8**
comp=Z,4.8nm,0.8s
NEW Newport 69.98 44⇑P **P 10 00 00.7 +0.7**
baz=70
YBH Yreka Blue Hor 70.41 52 P **P 10 00 04.2 +1.4**
YBH Yreka Blue Hor 70.41 52 P **P 10 00 04.2 +1.4**
comp=Z,4.6nm,0.9s,baz=45,slow=2.2,SNR=7.0
M02C Callahan 70.51 52⇑P **P 10 00 04.7 +1.3**
baz=70
N02D Trinity Center 70.83 53⇑P **P 10 00 06.6 +1.2**
baz=71
M04C Macdoel 70.92 52⇑P **P 10 00 07.4 +1.5**
baz=71
JTMT Jette 71.83 43 *e*P **P 10 00 12.5 +1.2**
SWMT Swartz Lake 72.13 43 *e*P **P 10 00 14.0 +0.9**
SLMT Seeley Lake 72.56 43 *e*P **P 10 00 16.4 +0.7**
MSO Missoula 72.57 44⇑P **P 10 00 16.3 +0.6**
baz=72
HFS Hagfors 72.66 335 P **P 10 00 16.5 +0.7**
HFS Hagfors 72.66 335 P **P 10 00 16.5 +0.7**
comp=Z,1.4nm,0.4s,baz=48,slow=4.4,SNR=12
NB2 NORSAR Subarra 72.77 337 P **P 10 00 16.2 -0.3**
comp=Z,1.0nm,0.5s,baz=40,slow=6.2
NOA NORSAR Array B 72.77 337 P **P 10 00 16.4 -0.1**
NOA NORSAR Array B 72.77 337 P **P 10 00 16.4 -0.1**
comp=Z,1.9nm,0.8s,baz=40,slow=6.0,SNR=4.5
AKASG Malin Array Be 72.81 322 *ce*P **P 10 00 16.6 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 72.81 322 P **P 10 00 16.6 -0.3**
AKASG pP **pP 10 00 47.0 +0.6**
AKASG Malin Array Be 72.81 322 P **P 10 00 16.6 -0.3**
comp=Z,3.0nm,0.4s,baz=45,slow=6.6,SNR=57
AKASG pP **pP 10 00 47.0 +0.6**
comp=Z,1.7nm,0.6s,baz=45,slow=6.2,SNR=2.1
AK01 Malin Array Si 72.83 322 *e*P **P 10 00 16.4 -0.5**
KIEV Kiev 72.83 322 *c i*P **P 10 00 16.8 -0.1**
KIEV Kiev 72.83 322 *e*P **P 10 00 16.4 -0.6**
comp=Z,7.0nm,0.5s
AK02 Malin Array Si 72.85 322 P **P 10 00 16.7 -0.4**
FFC Flin Flon 73.27 32 *i*P **P 10 00 20.5 +1.0**
MFID Camas Ranch 73.57 47 *e*P **P 10 00 22.9 +1.2**
comp=Z,3.7nm,0.8s
A19A Klindworth Far 73.99 40⇑P **P 10 00 24.4 +0.5**
baz=74
LRM Limekiln Ridge 74.00 44 *e*P **P 10 00 25.0 +0.7**
EGMT Eagleton 74.05 41 *e*P **P 10 00 24.9 +0.6**
comp=Z,7.6nm,0.9s
EGMT Eagleton 74.05 41⇑P **P 10 00 24.9 +0.6**
baz=74
B19A Brinkman Farms 74.19 40⇑P **P 10 00 25.7 +0.7**
baz=74
DLMT Dillon 74.21 44 *e*P **P 10 00 26.6 +1.2**
comp=Z,6.4nm,0.9s
A20A Cobblestone Ra 74.43 39⇑P **P 10 00 27.4 +0.9**
baz=74
BMN Battle Mountai 74.54 51 *e*P **P 10 00 28.6 +1.2**
BMN Battle Mountai 74.54 51 *e*P **P 10 00 28.6 +1.2**
C19A Slack Wire Ran 74.60 41⇑P **P 10 00 28.4 +0.9**
baz=74
A21A Bergtoll Ranch 74.86 39⇓P **P 10 00 29.6 +0.7**
baz=75
D19A Cripps Ranch, 75.06 41⇓P **P 10 00 30.8 +0.7**
baz=75,SNR=6.0
NVAR Mina Array Bea 75.07 53 P **P 10 00 31.6 +1.0**
NVAR Mina Array Bea 75.07 53 P **P 10 00 31.6 +1.0**
comp=Z,4.2nm,0.6s,baz=296,slow=6.0,SNR=24

C20A Veseth Ranch, 75.15 40⇓P **P 10 00 31.2 +0.6**
baz=75
B21A Ellsworth Farm 75.18 39⇑P **P 10 00 31.5 +0.7**
baz=75
A22A Carney Farms, 75.35 38⇑P **P 10 00 32.2 +0.4**
baz=75
D20A Manuel Ranch, 75.49 41⇑P **P 10 00 33.2 +0.6**
baz=75,SNR=6.1
E19A Rath Farm, Rou 75.56 42⇑P **P 10 00 34.0 +0.9**
baz=75,SNR=7.4
F19A Roth Farm, Mol 75.88 42⇓P **P 10 00 35.9 +1.0**
baz=76
E20A Meyer Farm, Mu 75.88 41⇓P **P 10 00 35.5 +0.7**
baz=76
H17A Grant Village 75.94 44 *e*P **P 10 00 38.4 +2.9**
TPH Tonopah 75.97 53 *e*P **P 10 00 36.8 +1.2**
TPH pmax pmax
comp=Z,7.0nm,0.8s
TPH Tonopah 75.97 53 *e*P **P 10 00 36.8 +1.2**
comp=Z,7.4nm,0.8s
D21A La Casta Ranch 76.10 40⇓P **P 10 00 36.4 +0.3**
baz=76
VES Vestal, Richgr 76.13 55⇑P **P 10 00 36.5 +0.2**
baz=76
B23A Brockton 76.16 38⇑P **P 10 00 36.7 +0.3**
baz=76
C22A Vida 76.20 39⇓P **P 10 00 36.5 -0.1**
baz=76
I17A Pilgrim Ck. 76.24 45⇑P **P 10 00 38.3 +1.2**
baz=76
H18A Shoshone NF, C 76.25 44⇑P **P 10 00 38.0 +0.8**
baz=76
A24A Westby 76.33 38⇓P **P 10 00 37.3 0.0**
baz=76
D22A Cohagen 76.45 40⇑P **P 10 00 38.3 +0.2**
baz=76
C23A Lambert 76.51 39⇑P **P 10 00 38.6 +0.2**
baz=76
DGMT Dagmar 76.55 38⇑P **P 10 00 38.6 +0.1**
baz=76
A25A Svangstu Ranch 76.75 37⇓P **P 10 00 39.6 0.0**
baz=76
HWUT Hardware Ranch 77.16 47 *e*P **P 10 00 43.2 +0.9**
FURC Furnace Creek, 77.18 54⇑P **P 10 00 43.0 +0.9**
baz=77
G21A Lodge Grass 77.21 42⇓P **P 10 00 42.6 +0.2**
baz=77
LRMC Laurel Mountai 77.25 55⇑P **P 10 00 42.8 -0.1**
baz=77
H20A Greybull 77.28 43⇑P **P 10 00 43.1 +0.3**
baz=77
A26A Wade Farm, Ken 77.28 37⇑P **P 10 00 43.0 +0.4**
baz=77
F22A Rosebud 77.33 41⇓P **P 10 00 43.3 +0.3**
baz=77
DUG Dugway 77.33 49 *e*P **P 10 00 44.6 +1.4**
DUG Dugway 77.33 49 *e*P **P 10 00 44.6 +1.4**
DUG Dugway 77.33 49⇑P **P 10 00 43.9 +0.6**
baz=77
BRTR Keskin Array B 77.39 311 P **P 10 00 43.4 -0.1**
BRTR pP **pP 10 01 13.6 +0.3**
BRTR Keskin Array B 77.39 311 P **P 10 00 43.4 -0.1**
comp=Z,1.0nm,0.5s,baz=72,slow=4.0,SNR=5.6
BRTR pP **pP 10 01 13.6 +0.3**
comp=Z,4.7nm,1.0s,baz=72,slow=4.0,SNR=6.9
D24A Glendive 77.41 39⇑P **P 10 00 44.0 +0.6**
baz=77
EDW2 Edwards Air Fo 77.42 56⇑P **P 10 00 44.2 +0.5**
baz=77
STHS Stebnicka Huta 77.48 324 *e*P **P 10 00 44.7 +1.0**
STHS Stebnicka Huta 77.48 324 *e*P **P 10 00 44.7 +1.0**
J19A Crowheart 77.51 44⇑P **P 10 00 45.3 +1.2**
baz=77
BW06 Boulder Array 77.55 45 *e*P **P 10 00 45.1 +0.6**
comp=Z,20nm,2.3s
PDAR Pinedale Array 77.55 45 P **P 10 00 44.8 +0.2**
PDAR Pinedale Array 77.55 45 P **P 10 00 44.8 +0.2**
comp=Z,3.0nm,0.8s,baz=286,slow=1.8,SNR=20
I20A Worland 77.56 43⇑P **P 10 00 45.2 +0.8**
baz=77
G22A Birney 77.69 42⇓P **P 10 00 45.5 +0.5**
baz=78
H21A Big Horn, Sher 77.69 42⇑P **P 10 00 45.9 +0.8**
baz=78
E24A Baker 77.80 40⇓P **P 10 00 45.8 +0.2**
baz=78
F23A Volborg 77.81 41⇓P **P 10 00 46.1 +0.4**
baz=78
MLR Muntele Rosu 77.90 319 P **P 10 00 46.9 +0.7**
MLR Muntele Rosu 77.90 319 P **P 10 00 46.9 +0.7**
comp=Z,0.3nm,0.4s,baz=331,slow=18,SNR=3.5
GSC Goldstone 77.93 55⇑P **P 10 00 47.4 +0.9**
baz=78
J20A Shoshoni 77.98 44⇓P **P 10 00 47.5 +0.7**
baz=78
C26A Wahner Farm, P 78.01 38⇑P **P 10 00 47.2 +0.5**
baz=78
I21A Big Trails, Te 78.11 43⇑P **P 10 00 48.8 +1.3**
baz=78,SNR=6.3
MPU Maple Canyon 78.15 48 *e*P **P 10 00 49.0 +1.2**
G23A Biddle 78.17 41⇑P **P 10 00 48.2 +0.5**
baz=78
F24A Ekalaka 78.22 40⇓P **P 10 00 48.3 +0.4**
baz=78
SHPR Sheep Range 78.23 53 *e*P **P 10 00 49.0 +0.8**
comp=Z,15nm,1.4s
E25A Miller Ranch, 78.29 39⇑P **P 10 00 48.8 +0.5**
baz=78
J21A Lysite 78.33 44⇓P **P 10 00 49.5 +0.8**
baz=78
B28A Dugan Ranch, T 78.39 36⇓P **P 10 00 49.2 +0.4**
baz=78
D26A Manning 78.40 38⇑P **P 10 00 49.1 +0.3**
baz=78
TUQ Turquoise Moun 78.41 54⇓P **P 10 00 50.1 +0.8**
baz=78
I22A 9 Mile Ranch, 78.48 43⇓P **P 10 00 50.1 +0.6**
baz=78
HEC Hector,Ludlow 78.53 55⇑P **P 10 00 50.8 +1.0**
baz=78
A29A Manning Farm, 78.57 35⇓P **P 10 00 50.4 +0.7**
baz=78
J22A Midwest 78.81 43⇑P **P 10 00 51.5 +0.2**
baz=79,SNR=7.8
K21A Alcova 78.92 44⇑P **P 10 00 52.1 +0.2**
baz=79
H24A Dirks Ranch, A 78.92 41⇓P **P 10 00 52.0 +0.1**
baz=79
A30A Hoffart Farm, 78.98 35⇓P **P 10 00 52.4 +0.4**
baz=79
DPC Dobruska-Polom 78.99 327 *e*P **P 10 00 52.7 +0.7**
DPC Dobruska-Polom 78.99 327 *e*P **P 10 00 52.7 +0.7**
GMRC Granite Mounta 78.99 54⇓P **P 10 00 53.1 +0.7**
baz=79
ULM Lac du Bonnet 79.08 33 P **P 10 00 52.0 -0.5**
ULM Lac du Bonnet 79.08 33 P **P 10 00 52.0 -0.5**
comp=Z,0.9nm,0.4s,baz=9.5,slow=18,SNR=4.2
F26A Lodgepole 79.11 39⇑P **P 10 00 53.5 +0.7**
baz=79
PFO Pinyon Flat Ob 79.21 56⇓P **P 10 00 54.4 +0.7**
baz=79
E27A Carson 79.25 38⇓P **P 10 00 54.3 +0.8**
baz=79
BELC Belle Mtn. Jos 79.26 55⇑P **P 10 00 54.6 +0.7**
baz=79
K22A Casper 79.30 44⇓P **P 10 00 54.5 +0.5**
baz=79
B30A Myrvik Farm, E 79.33 35⇓P **P 10 00 54.4 +0.6**
baz=79
RAYN Ar Rayn 79.34 291 *e*P **P 10 00 54.2 -0.2**
SRU San Rafael 79.38 48 *e*P **P 10 00 55.3 +0.7**
SRU San Rafael 79.38 48 *e*P **P 10 00 55.3 +0.7**
H25A Fruitdale 79.50 41⇓P **P 10 00 55.5 +0.6**
baz=79
CLL Collm 79.64 329 *e*P **P 10 00 55.0 -0.4**
CLL Collm 79.64 329 *e*P **P 10 00 55.0 -0.4**
IRM Iron Mountain 79.71 55⇓P **P 10 00 57.1 +0.9**
baz=80
L22A Ellis Ranch, M 79.77 44⇑P **P 10 00 57.6 +0.9**
baz=80
BC3 Big Chuckawall 79.83 55⇑P **P 10 00 57.4 +0.4**
baz=80
J24A Dixon Ranch, L 79.84 42⇑P **P 10 00 56.9 0.0**
baz=80
W13A Hualapai Mount 79.92 53⇑P **P 10 00 58.0 +0.5**
baz=80
O20A White River Ci 80.03 46⇓P **P 10 00 58.4 +0.4**
baz=80
F28A McLaughlin 80.04 38⇓P **P 10 00 58.4 +0.6**
baz=80
U15A North Rim 80.06 51⇓P **P 10 00 59.7 +1.4**
baz=80
M22A Cedar Creek Ra 80.11 45⇑P **P 10 00 59.3 +0.8**
baz=80
D30A Buchanan 80.11 36⇓P **P 10 00 58.2 +0.1**
baz=80
L23A Garrett 80.11 44⇓P **P 10 00 58.7 +0.2**
baz=80
H27A Howes 80.26 40⇓P **P 10 00 59.5 +0.5**
baz=80
PDMCI Parker Dam,Lak 80.27 54⇑P **P 10 01 00.3 +1.2**
baz=80
I26A New Underwood 80.29 41⇑P **P 10 00 59.5 +0.3**
baz=80
Y12C Blythe 80.37 55⇑P **P 10 01 00.5 +0.8**
baz=80
E30A Jud 80.47 37⇓P **P 10 01 00.2 +0.1**
baz=80
F29A Eureka 80.52 38⇑P **P 10 01 00.3 0.0**
baz=80
G28A Parade 80.53 39⇑P **P 10 01 00.9 +0.5**
baz=80
M23A Laramie 80.54 44⇓P **P 10 01 01.4 +0.5**
baz=80
AGMN Agassiz Nation 80.55 34⇑P **P 10 00 59.9 -0.5**
baz=80
N22A Wattenberg Ran 80.59 45⇑P **P 10 01 02.1 +1.0**
baz=80
GLA Glamis 80.62 55⇓P **P 10 01 01.8 +0.6**
baz=80
I27A Quinn 80.68 40⇓P **P 10 01 02.0 +0.7**
baz=80
H28A Mission Ridge 80.77 39⇓P **P 10 01 02.3 +0.6**
baz=80
N23A Red Feather La 80.81 45⇑P **P 10 01 03.2 +0.9**
baz=81
O22A Kremmling 80.97 45⇓P **P 10 01 03.6 +0.4**
baz=81,SNR=6.6
L25A Engebretsen Ra 81.02 43⇑P **P 10 01 03.5 +0.3**
baz=81
M24A Cheyenne 81.03 44⇑P **P 10 01 04.7 +1.4**
baz=81
K26A Motz Farm, Whi 81.06 42⇑P **P 10 01 03.8 +0.5**
baz=81
KHC Kasperske Hory 81.08 328 *e*P **P 10 01 03.7 +0.4**
KHC Kasperske Hory 81.08 328 *e*P **P 10 01 03.7 +0.4**
I28A Midland 81.17 40⇓P **P 10 01 04.4 +0.5**
baz=81
H29A Onida 81.20 39⇓P **P 10 01 04.3 +0.3**
baz=81
WUAZ Wupatki 81.22 52⇓P **P 10 01 05.6 +1.2**
baz=81
Y14A Wickenburg 81.22 54⇓P **P 10 01 05.0 +0.7**
baz=81
P22A Eagle 81.24 46⇓P **P 10 01 05.3 +0.7**
baz=81,SNR=7.6
GERES GERESS Array B 81.24 328 P **P 10 01 04.2 -0.1**
GERES GERESS Array B 81.24 328 P **P 10 01 04.2 -0.1**
comp=Z,0.8nm,0.5s,baz=44,slow=5.7,SNR=6.9
J27A Elkhorn Farm, 81.28 41⇑P **P 10 01 05.1 +0.6**
baz=81
O23A Lake Granby, G 81.29 45⇓P **P 10 01 06.2 +1.2**
baz=81,SNR=6.5
G30A Faulkton 81.36 38⇓P **P 10 01 05.2 +0.4**
baz=81
K27A Flueckinger Fa 81.55 41⇑P **P 10 01 06.3 +0.3**
baz=81
J28A Allard Ranch, 81.55 40⇓P **P 10 01 06.6 +0.7**
baz=81
ISCO Idaho Springs 81.75 45⇑P **P 10 01 08.1 +0.7**
baz=82
O24A Longmont 81.82 45⇓P **P 10 01 07.7 +0.2**
baz=82
MVCO Mesa Verde 81.84 49⇓P **P 10 01 08.4 +0.7**
baz=82
N25A Grover 81.89 44⇑P **P 10 01 08.5 +0.7**
baz=82
X16A Lo Mia Camp, P 81.89 52⇓P **P 10 01 08.8 +0.8**
baz=82
P23A Jefferson 81.91 46⇑P **P 10 01 08.9 +0.7**
baz=82
BRSD Miller 81.95 38⇓P **P 10 01 07.9 -0.1**
baz=82
K28A Ten Mile Ranch 81.99 41⇑P **P 10 01 08.6 +0.4**
baz=82
J29A Okreek 82.03 40⇓P **P 10 01 08.4 0.0**
baz=82
O25A Wiggins 82.36 44⇑P **P 10 01 10.6 +0.3**
baz=82
S22A 4UR Ranch, Cre 82.45 47⇓P **P 10 01 11.9 +0.8**
baz=82
K29A Lazy Trails An 82.49 40⇑P **P 10 01 11.1 +0.3**
baz=82
J30A Dallas 82.50 39⇑P **P 10 01 11.0 +0.2**
baz=82
R23A Moffat 82.73 47⇑P **P 10 01 12.9 +0.5**
baz=82
N27A Andeson Farm, 82.73 43⇑P **P 10 01 12.3 +0.1**
baz=82
X18A Snowflake 82.75 52⇑P **P 10 01 13.1 +0.7**
baz=83
P25A Willow Gulch B 82.75 45⇑P **P 10 01 13.1 +0.7**
baz=82
R24A Sanders Place, 83.11 46⇓P **P 10 01 15.4 +1.0**
baz=83
Q25A Bedland, Calha 83.12 45⇑P **P 10 01 15.0 +0.7**
baz=83
P26A Davis Ranch, A 83.17 44⇑P **P 10 01 14.7 +0.2**
baz=83
O27A Beecher Island 83.20 43⇑P **P 10 01 14.6 0.0**
baz=83
N28A Pribbeno Ranch 83.35 42⇑P **P 10 01 15.1 -0.2**
baz=83
U22A Llaves 83.37 48⇑P **P 10 01 16.2 +0.5**
baz=83
L30A Spencer Herefo 83.39 41⇓P **P 10 01 15.8 +0.3**
baz=83
T23A Casias Ranch, 83.40 47⇑P **P 10 01 16.5 +0.6**
baz=83
Q26A Hugo 83.52 45⇓P **P 10 01 17.1 +0.7**
baz=83
P27A Ficken Ranch, 83.59 44⇑P **P 10 01 16.5 -0.1**
baz=83
ECSD EROS Data Cent 83.61 38⇓P **P 10 01 16.4 -0.2**
baz=83
R25A Fountain Ranch 83.64 46⇓P **P 10 01 17.2 +0.3**
baz=83
V22A San Miguel Ran 83.66 49⇑P **P 10 01 18.1 +1.0**
baz=84
L31A Butterfield Fa 83.67 40⇑P **P 10 01 17.2 +0.3**
baz=83
T24B San Luis 83.76 47⇑P **P 10 01 19.1 +1.3**
baz=84
U23A El Rito 83.79 48⇑P **P 10 01 19.2 +1.3**
baz=84,SNR=13
S25A Robets Cordova 83.89 46⇓P **P 10 01 18.3 0.0**
baz=84
KSCO Kaye Shedlock' 83.95 44⇓P **P 10 01 18.8 +0.3**
baz=84
R26A Arlington 84.00 45⇑P **P 10 01 19.0 +0.3**
baz=84
P28A Saint Francis 84.03 43⇑P **P 10 01 19.0 +0.2**
baz=84
V23A Ortiz Mt. (NFS 84.20 49⇓P **P 10 01 21.7 +1.7**
baz=84,SNR=5.1
T25A Trinidad 84.27 47⇑P **P 10 01 20.9 +0.7**
baz=84
Q28A Sharon Springs 84.35 44⇓P **P 10 01 20.7 +0.2**
baz=84
R27A Eads 84.37 45⇑P **P 10 01 20.9 +0.3**
baz=84
FUORN Ofenpass-Fuorn 84.43 328 *e*P **P 10 01 21.3 +0.4**
P29A Atwood 84.45 43⇑P **P 10 01 21.0 +0.1**
baz=84
W23A Werner Place, 84.62 49⇓P **P 10 01 23.1 +1.0**
baz=84
T26A Comanche Natio 84.71 46⇓P **P 10 01 22.9 +0.5**
baz=84
V24A Rampart Ranch, 84.75 48⇓P **P 10 01 24.1 +1.3**
baz=84,SNR=11
U25A Circle Dot Ran 84.78 47⇑P **P 10 01 24.0 +1.1**
baz=85
P30A Selden 84.86 42⇑P **P 10 01 22.9 0.0**
baz=85
R28A Tribune 84.88 44⇓P **P 10 01 23.1 0.0**

	baz=85								
Q29A	Oakley	84.94	43	⇑P		P	10 01 23.4	0.0	
	baz=85								
W24A	Lazy 6 Ranch,	85.03	48	⇑P		P	10 01 25.3	+1.3	
	baz=85,SNR=8.9								
U26A	Atchley Ranch,	85.17	47	⇑P		P	10 01 25.1	+0.4	
	baz=85								
R29A	Marienthal	85.18	44	⇓P		P	10 01 24.5	-0.1	
	baz=85								
319A	Douglas	85.27	53	⇑P		P	10 01 25.5	+0.3	
	baz=85								
P31A	Stockton	85.33	42	⇓P		P	10 01 25.5	+0.1	
	baz=85								
S28A	Manter	85.36	45	⇑P		P	10 01 26.1	+0.5	
	baz=85								
121A	Cookes Peak, D	85.42	52	⇓P		P	10 01 26.7	+0.6	
	baz=85								
Z22A	Elephant Butte	85.44	51	⇑P		P	10 01 26.7	+0.7	
	baz=85								
X24A	Lazy VL Ranch,	85.46	49	⇑P		P	10 01 27.0	+0.8	
	baz=85								
Y23A	Lovelace Mesa,	85.52	50	⇓P		P	10 01 27.1	+0.6	
	baz=85								
V26A	Tequesquite Ra	85.56	47	⇑P		P	10 01 27.3	+0.6	
	baz=85								
W25A	X Bar L Ranch,	85.58	48	⇑P		P	10 01 27.6	+0.9	
	baz=85,SNR=9.2								
P32A	Huiting Farm,	85.67	41	⇑P		P	10 01 26.5	-0.5	
	baz=85								
U27A	Thompson Grove	85.67	46	⇑P		P	10 01 27.3	+0.1	
	baz=86								
R30A	Dighton	85.75	43	⇑P		P	10 01 27.2	-0.2	
	baz=86								
S29A	Ulysses	85.77	44	⇓P		P	10 01 27.8	+0.3	
	baz=86								
Y24A	Capitan	85.90	49	⇓P		P	10 01 28.9	+0.5	
	baz=86								
W26A	Owens Ranch, T	86.07	48	⇑P		P	10 01 29.7	+0.5	
	baz=86								
S30A	Montezuma	86.12	44	⇑P		P	10 01 29.4	+0.2	
	baz=86								
V27A	Dan Oppiter Fa	86.14	47	⇓P		P	10 01 29.7	+0.3	
	baz=86								
Q32A	Meitler Ranch,	86.15	42	⇓P		P	10 01 29.0	-0.3	
	baz=86								
R31A	Burdett	86.15	43	⇑P		P	10 01 29.4	0.0	
	baz=86								
P33A	Williams Farm,	86.28	41	⇓P		P	10 01 29.6	-0.3	
	baz=86								
Y25A	Mesa, Roswell	86.34	49	⇓P		P	10 01 30.1	-0.5	
	baz=86								
Z24A	Sheeppen Canyo	86.35	50	⇓P		P	10 01 31.0	+0.3	
	baz=86								
X26A	CR and CF Fran	86.42	48	⇓P		P	10 01 31.3	+0.4	
	baz=86								
W27A	Bowe Ranch, En	86.50	47	⇑P		P	10 01 32.1	+0.9	
	baz=86								
Q33A	Connelly Farm,	86.53	41	⇑P		P	10 01 31.1	0.0	
	baz=86								
X27A	F and S Farms,	86.77	48	⇓P		P	10 01 33.6	+1.0	
	baz=87								
Z25A	Roswell	86.78	49	⇑P		P	10 01 33.3	+0.7	
	baz=87								
V29A	Stinnett	86.80	46	⇑P		P	10 01 33.1	+0.4	
	baz=87								
U30A	WK&E Inc. Balk	86.82	45	⇑P		P	10 01 32.8	+0.1	
	baz=87								
W28A	Vega	86.85	47	⇓P		P	10 01 32.7	-0.2	
	baz=87								
S32A	Newby Ranch, P	86.90	43	⇓P		P	10 01 33.3	+0.2	
	baz=87								
T31A	Randall Ranch,	86.94	44	⇓P		P	10 01 33.7	+0.5	
	baz=87								
R33A	Olander Ranch,	86.96	42	⇑P		P	10 01 33.5	+0.2	
	baz=87								
KSU1	Kansas State U	87.09	41	⇓P		P	10 01 33.7	-0.2	
	baz=87								
Z26A	Caprock	87.22	49	⇓P		P	10 01 35.1	+0.4	
	baz=87								
125A	Gardner Draw,	87.25	50	⇓P		P	10 01 35.1	+0.2	
	baz=87								
Y27A	Causey	87.28	48	⇓P		P	10 01 35.1	+0.1	
	baz=87								
T32A	Huddler Ranch,	87.29	43	⇑P		P	10 01 35.0	+0.1	
	baz=87								
AMTX	Amarillo	87.42	47	⇑P		P	10 01 36.1	+0.5	
	baz=87								
Z27A	Tatum	87.65	49	⇑P		P	10 01 37.4	+0.6	
	baz=87								
X29A	Tulia	87.72	47	⇑P		P	10 01 37.4	+0.2	
	baz=88								
V31A	Spring Creek L	87.82	45	⇑P		P	10 01 38.2	+0.8	
	baz=88								
Z28A	Tucker Farm, M	88.15	48	⇑P		P	10 01 39.4	+0.3	
	baz=88								
Z29A	Hungry Hill Ra	88.57	48	⇓P		P	10 01 41.8	+0.7	
	baz=88								
Z30A	Sanderson Ranc	88.89	47	⇑P		P	10 01 42.5	-0.1	
	baz=89								
426A	McDonald Obser	89.02	51	⇓P		P	10 01 43.6	+0.2	
	baz=89								
V34A	Guthrie	89.05	43	⇓P		P	10 01 43.4	+0.2	
	baz=89								
X32A	Elmer	89.11	45	⇑P		P	10 01 43.9	+0.3	
	baz=89								
427A	Hayter Ranch,	89.28	50	⇓P		P	10 01 44.7	+0.2	
	baz=89								
Y32A	R-V Farms, Ver	89.33	46	⇑P		P	10 01 44.8	+0.2	
	baz=89								
W34A	Bridge Creek,	89.35	44	⇓P		P	10 01 45.2	+0.6	
	baz=89								
526A	Mary Lane Ranc	89.41	51	⇓P		P	10 01 45.5	+0.3	
	baz=89								
Z31A	Sharp Cattle R	89.43	47	⇑P		P	10 01 45.6	+0.5	
	baz=89								
229A	Bryant Ranch,	89.44	49	⇑P		P	10 01 46.2	+1.1	
	baz=89								
329A	Wagon Wheel Ra	89.68	49	⇓P		P	10 01 46.5	+0.2	
	baz=90								
X34A	Smith Ranch, M	89.79	44	⇑P		P	10 01 46.7	-0.1	
	baz=90								
428A	Kincaid Ranch,	89.80	50	⇓P		P	10 01 47.4	+0.4	
	baz=90								
Z32A	Haskell	89.82	46	⇓P		P	10 01 47.0	+0.1	
	baz=90								
230A	Sterling City	89.90	48	⇓P		P	10 01 47.8	+0.5	
	baz=90								
TUL1	Tulsa	89.92	42	⇓P		P	10 01 47.6	+0.3	
	baz=90								
528A	Cox Ranch, San	90.14	50	⇑P		P	10 01 48.7	+0.2	
	baz=90								
TXAR	Lajitas Array	90.18	52	P		P	10 01 49.1	+0.4	
TXAR	Lajitas Array	90.18	52	P		P	10 01 49.1	+0.4	
	comp=Z,1.9nm,0.7s,baz=298,slow=3.4,SNR=29								
330A	Mertzon	90.21	49	⇑P		P	10 01 49.1	+0.3	
	baz=90								
ABTX	Abilene, Hawle	90.23	47	⇓P		P	10 01 49.8	+1.0	
	baz=90								
Z33A	Whitaker Ranch	90.24	46	⇑P		P	10 01 49.1	+0.2	
	baz=90								
627A	Terlingua Ranc	90.27	51	⇑P		P	10 01 49.4	+0.2	
	baz=90								
429A	Davenport Ranc	90.35	50	⇓P		P	10 01 49.5	+0.1	
	baz=90								
529A	Stev Forest Ra	90.51	50	⇓P		P	10 01 50.7	+0.5	
	baz=90								
430A	Baggett Ranch,	90.62	49	⇑P		P	10 01 50.8	+0.1	
	baz=90								
232A	Coleman	90.76	47	⇓P		P	10 01 51.4	+0.1	
	baz=91								
530A	J-C Ranch, Com	91.02	50	⇓P		P	10 01 53.2	+0.6	
	baz=91								
332A	Millersview	91.07	48	⇑P		P	10 01 53.4	+0.6	
	baz=91								
233A	Rising Star	91.10	47	⇓P		P	10 01 53.6	+0.7	
	baz=91								
134A	White-Moore Ra	91.16	46	⇓P		P	10 01 53.4	+0.4	
	baz=91								
432A	Menard	91.41	48	⇑P		P	10 01 54.5	+0.1	
	baz=91								
531A	Rocksprings	91.48	49	⇑P		P	10 01 55.1	+0.4	
	baz=91								
234A	Clairette	91.54	46	⇑P		P	10 01 55.5	+0.6	
	baz=91								
333A	Richland Sprin	91.56	47	⇑P		P	10 01 55.3	+0.4	
	baz=91								
JCT	Junction City	91.70	48	⇓P		P	10 01 55.8	+0.1	
	baz=92								
532A	Rocksprings	91.89	49	⇓P		P	10 01 56.4	-0.2	
	baz=92								
433A	Art	91.91	48	⇓P		P	10 01 56.6	0.0	
	baz=92								
334A	Lometa	91.98	47	⇑P		P	10 01 57.2	+0.2	
	baz=92								
631A	Perdido Creek	92.01	50	⇓P		P	10 01 57.8	+0.7	
	baz=92								
434A	Burnet	92.35	47	⇑P		P	10 01 58.6	0.0	
	baz=92								
034A	Hebbronville	94.86	50	⇓P		P	10 02 11.4	+1.2	
	baz=95								
LPAZ	La Paz	146.91	57		PKPbc	PKPbc	10 08 31.1	-0.1	
LPAZ	La Paz	146.91	57		PKPbc	PKPbc	10 08 31.1	-0.1	
	comp=Z,3.0nm,0.6s,baz=309,slow=4.0,SNR=12								
H03N2	Juan Fernandez	148.07	94		T	T	12 53 49.4		
	baz=288,slow=75,SNR=4.0								
H03N3	Juan Fernandez	148.09	94		T	T	12 53 55.6		
	baz=288,slow=75,SNR=3.6								
H03N1	Juan Fernandez	148.09	94		T	T	12 54 01.9		
	baz=288,slow=75,SNR=3.5								
SIV	San Ignacio	151.04	46		PKPbc	PKPbc	10 08 39.6	-1.3	
SIV	San Ignacio	151.04	46		PKPbc	PKPbc	10 08 39.6	-1.3	
	comp=Z,4.7nm,0.7s,baz=305,slow=1.4,SNR=12								

*SOF **21** 09:50:47.0, 36°.87N ± 20°.00E, h13km, MD3.0*
*IDC **21** 09:51:06.2 ± 0.7, 38°.35N ± 21°.06E, h0km, mb4.1/17, mb1 4.2/20, mb1mx4.1/45, mbtmp4.1/20, ML4.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/54, Error ellipse: s-maj=20.0km s-min=15.1km az=43.0*
*ATH **21** 09:51:12.8, 38°.30N ± 20°.85E, h43km, ML4.2*
*PDG **21** 09:51:12.9 ± 0.7, 38°.37N ± 20°.90E, h32km ± 1km, MD4.3/1, ML4.2/10, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*
*ISCJB **21** 09:51:12.2 ± 0.2, 38°.36N ± 0°.02 × 20°.83E ± 0°.02, h63km ± 2km, mb4.1/18, Error ellipse: s-maj=3.0km s-min=1.9km az=39.4*
*CSEM **21** 09:51:13.5 ± 0.1, 38°.33N × 20°.84E, h53km ± 1km, ML4.4, Error ellipse: s-maj=3.0km s-min=1.9km az=36.0*
*NEIC **21** 09:51:14.0, 38°.33N × 20°.93E, h29km, mb4.2/5, ML4.1(THE), ML4.3(ATH), After ATH.*
*THE **21** 09:51:14.2, 38°.32N × 20°.90E, h46km ± 2km, ML4.1/5, Error ellipse: s-maj=2.7km s-min=1.0km az=230.0*
*SKO **21** 09:51:17.2, 38°.91N × 20°.82E, h1km*

ISC 21 09:51:12.8 ± 0.5, 38°.32N ± 0°.02 × 20°.85E ± 0°.02, h46 km ± 4km, n497, σ 1§44/611, mb4.1/18, 24C-20D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KFL	Anninata	0.22	193	P		Pn	09 51 21.0	+0.2
KFL	Anninata	0.22	193	P		Pn	09 51 21.0	+0.2
VLS	Valsamata	0.25	235	P		Pn	09 51 21.4	+0.3
VLS				S		Sn	09 51 27.9	+1.0
VLS	Valsamata	0.25	235	eP		Pn	09 51 21.4	+0.3
VLS				eS		Sn	09 51 27.6	+0.7
VLS	Valsamata	0.25	235	P		Pn	09 51 21.4	+0.3
VLS				S		Sn	09 51 27.9	+1.0
VLS	Valsamata	0.25	235	P		Pn	09 51 21.5	+0.3
VLS				S		Sn	09 51 27.9	+1.0
PDO	Prodromos	0.38	43	P		Pn	09 51 23.4	+1.1
PDO				S		Sn	09 51 30.5	+1.4
PDO	Prodromos	0.38	43	eP		Pn	09 51 23.5	+1.1
PDO				eS		Sn	09 51 30.5	+1.4
PDO	Prodromos	0.38	43	eP		Pn	09 51 23.5	+1.1
PDO				S		Sn	09 51 30.5	+1.4
VTN	Vitineika	0.48	147	P		Pn	09 51 24.1	+0.6
VTN				S		Sn	09 51 33.5	+2.3
VTN	Vitineika	0.48	147	P		Pn	09 51 23.8	+0.3
VTN				S		Sn	09 51 33.5	+2.3
LKD2	Lefkada island	0.49	342	P		Pn	09 51 25.5	+1.8
LKD2				S		Sn	09 51 33.8	+2.3
LKD2	Lefkada island	0.49	342	eP		Pn	09 51 25.5	+1.8
LKD2				eS		Sn	09 51 32.8	+1.3
LKD2	Lefkada island	0.49	342	P		Pn	09 51 25.5	+1.8
LKD2				S		Sn	09 51 33.8	+2.3
LKD2	Lefkada island	0.49	342	P		Pn	09 51 25.5	+1.8
LKD2				S		Sn	09 51 33.8	+2.3
RLS	Riolos of Patr	0.55	118	P		Pn	09 51 24.7	+0.3
RLS				S		Sn	09 51 34.1	+1.4
RLS	Riolos of Patr	0.55	118	eP		Pn	09 51 24.7	+0.3
RLS				eS		Sn	09 51 33.7	+1.0
RLS	Riolos of Patr	0.55	118	P		Pn	09 51 24.7	+0.3
RLS				S		Sn	09 51 34.1	+1.4
RLS	Riolos of Patr	0.55	118	P		Pn	09 51 24.7	+0.3
RLS				S		Sn	09 51 34.1	+1.4
PVO	Paravola	0.60	61	P		Pn	09 51 26.6	+1.5
PVO				S		Sn	09 51 34.1	+0.1
PVO	Paravola	0.60	61	P		Pn	09 51 26.6	+1.5
PVO				S		Sn	09 51 36.0	+2.0
UPR	University Cam	0.74	93	P		Pn	09 51 28.2	+1.4
UPR	University Cam	0.74	93	P		Pn	09 51 28.2	+1.4
DRO	Drossia	0.77	118	P		Pn	09 51 27.9	+0.6
DRO				S		Sn	09 51 39.5	+1.6
DRO	Drossia	0.77	118	eP		Pn	09 51 28.1	+0.8
DRO				eS		Sn	09 51 39.3	+1.4
DRO	Drossia	0.77	118	eP		Pn	09 51 28.1	+0.8
DRO				eS		Sn	09 51 39.3	+1.4
EFP	Efpalio	0.83	82	P		Pn	09 51 29.3	+1.1
EFP				S		Sn	09 51 40.8	+1.4
EFP	Efpalio	0.83	82	eP		Pn	09 51 29.4	+1.2
EFP				eS		Sn	09 51 41.6	+2.2
EFP	Efpalio	0.83	82	P		Pn	09 51 29.2	+1.1
EFP				S		Sn	09 51 40.8	+1.4
LAKA	Lakka	0.89	95	P		Pn	09 51 29.9	+1.0
LAKA	Lakka	0.89	95	eP		Pn	09 51 30.0	+1.0
LAKA	Lakka	0.89	95	P		Pn	09 51 29.9	+1.0
LAKA	Lakka	0.89	95	eP		Pn	09 51 30.0	+1.0
EVR	Evrytania	0.96	51	P		Pn	09 51 31.7	+1.8
EVR	Evrytania	0.96	51	eP		Pn	09 51 31.8	+1.8
EVR				eS		Sn	09 51 44.3	+1.8
EVR	Evrytania	0.96	51	P		Pn	09 51 31.7	+1.8
EVR	Evrytania	0.96	51	P		Pn	09 51 31.7	+1.8
EVR				S		Sn	09 51 43.4	+0.9
KALE	Kalithea	1.01	86	P		Pn	09 51 31.9	+1.3
KALE	Kalithea	1.01	86	eP		Pn	09 51 32.0	+1.3
KALE				eS		Sn	09 51 46.1	+2.3
KALE	Kalithea	1.01	86	P		Pn	09 51 31.9	+1.3
KALE	Kalithea	1.01	86	P		Pn	09 51 31.9	+1.3
KALE				eS		Sn	09 51 46.1	+2.3
AMT	Artemida-Makis	1.04	139	P		Pn	09 51 32.0	+1.0
AMT	Artemida-Makis	1.04	139	eP		Pn	09 51 32.3	+1.3
AMT				eS		Sn	09 51 45.9	+1.5
AMT	Artemida-Makis	1.04	139	P		Pn	09 51 32.0	+1.0
AMT				eS		Sn	09 51 45.9	+1.5
KLV	Kalavryta, Ach	1.06	105	P		Pn	09 51 32.1	+0.8
KLV				S		Sn	09 51 46.0	+1.1
KLV	Kalavryta, Ach	1.06	105	eP		Pn	09 51 32.3	+1.0
KLV				eS		Sn	09 51 46.6	+1.7
KLV	Kalavryta, Ach	1.06	105	P		Pn	09 51 32.1	+0.8
KLV				S		Sn	09 51 46.0	+1.1
KLV	Kalavryta, Ach	1.06	105	P		Pn	09 51 32.3	+1.0
KLV				S		Sn	09 51 46.0	+1.1
SFD	Strofades	1.08	173	eP		Pn	09 51 32.5	+1.1
SFD				eS		Sn	09 51 46.5	+1.3
SFD	Strofades	1.08	173	eP		Pn	09 51 32.5	+1.1
SFD				eS		Sn	09 51 46.5	+1.3
MAKR	Makrakomi, Fth	1.22	55	eP		Pn	09 51 35.9	+2.5
MAKR				eS		Sn	09 51 51.5	+2.8
MAKR	Makrakomi, Fth	1.22	55	eP		Pn	09 51 35.9	+2.5
MAKR				eS		Sn	09 51 51.5	+2.8
GUR	Goura	1.24	108	P		Pn	09 51 34.6	+0.9
GUR				S		Sn	09 51 51.1	+1.8
GUR	Goura	1.24	108	eP		Pn	09 51 34.9	+1.2
GUR				eS		Sn	09 51 50.8	+1.5
GUR	Goura	1.24	108	P		Pn	09 51 34.6	+0.9
GUR				S		Sn	09 51 51.1	+1.8
GUR	Goura	1.24	108	P		Pn	09 51 34.7	+1.0
GUR				eS		Sn	09 51 50.8	+1.5
DSF	Desfina	1.32	86	P		Pn	09 51 36.2	+1.4
DSF				S		Sn	09 51 52.5	+1.2
DSF	Desfina	1.32	86	eP		Pn	09 51 36.2	+1.4
DSF				eS		Sn	09 51 52.6	+1.2
DSF	Desfina	1.32	86	P		Pn	09 51 36.2	+1.4
DSF				S		Sn	09 51 52.5	+1.2
DSF	Desfina	1.32	86	P		Pn	09 51 36.2	+1.4
DSF				S		Sn	09 51 52.5	+1.2
JAN	Janina	1.33	360	P		Pn	09 51 37.5	+2.5
JAN	Janina	1.33	360	P		Pn	09 51 37.5	+2.5
AGG	Agios Georgios	1.35	58	P		Pn	09 51 37.1	+1.9
AGG	Agios Georgios	1.35	58	eP		Pn	09 51 37.1	+1.9
AGG				eS		Sn	09 51 54.2	+2.2
AGG	Agios Georgios	1.35	58	P		Pn	09 51 37.1	+1.9
AGG	Agios Georgios	1.35	58	P		Pn	09 51 37.1	+1.9
AGG				eS		Sn	09 51 54.2	+2.2
ITM	Ithomi	1.42	143	P		Pn	09 51 37.2	+1.0
ITM	Ithomi	1.42	143	eP		Pn	09 51 37.8	+1.6
ITM				eS		Sn	09 51 54.7	+0.9
ITM	Ithomi	1.42	143	P		Pn	09 51 37.2	+1.0
ITM	Ithomi	1.42	143	P		Pn	09 51 37.2	+1.0
ITM				eS		Sn	09 51 54.7	+0.9
AXAR	Agios Charalam	1.48	72	P		Pn	09 51 38.6	+1.6
AXAR	Agios Charalam	1.48	72	P		Pn	09 51 38.6	+1.6
AXAR	Agios Charalam	1.48	72	P		Pn	09 51 38.6	+1.6
THL	Klokotos Trika	1.54	36	P		Pn	09 51 39.8	+2.1
THL	Klokotos Trika	1.54	36	eP		Pn	09 51 39.8	+2.1
THL				eS		Sn	09 51 59.3	+2.8
THL	Klokotos Trika	1.54	36	eP		Pn	09 51 39.8	+2.1
THL				eS		Sn	09 51 59.3	+2.8
VLX	Vlachokerasia	1.54	128	P		Pn	09 51 39.7	+1.9
VLX	Vlachokerasia	1.54	128	eP		Pn	09 51 39.5	+1.7
VLX				eS		Sn	09 51 58.3	+1.6
VLX	Vlachokerasia	1.54	128	P		Pn	09 51 39.7	+1.9
VLX	Vlachokerasia	1.54	128	eP		Pn	09 51 39.5	+1.7
VLX				eS		Sn	09 51 58.3	+1.6
PYL	PYLOS	1.59	153	P		Pn	09 51 39.6	+1.1
PYL	PYLOS	1.59	153	eP		Pn	09 51 39.6	+1.1
PYL	PYLOS	1.59	153	P		Pn	09 51 39.6	+1.1
PYL	PYLOS	1.59	153	P		Pn	09 51 39.6	+1.1
KEK	Kerkira	1.61	330	P		Pn	09 51 40.3	+1.5
KEK	Kerkira	1.61	330	eP		Pn	09 51 40.2	+1.5
KEK	Kerkira	1.61	330	P		Pn	09 51 40.3	+1.5
SRN	Sarande	1.69	337	P		Pn	09 51 41.2	+1.4
SRN	Sarande	1.69	337	P		Pn	09 51 41.2	+1.4
SRN	Sarande	1.69	337	P		Pn	09 51 41.2	+1.4
LTK	Loutraki	1.69	100	P		Pn	09 51 40.3	+0.4
LTK	Loutraki	1.69	100	eP		Pn	09 51 40.3	+0.4
LTK	Loutraki	1.69	100	P		Pn	09 51 40.3	+0.4
LTK	Loutraki	1.69	100	P		Pn	09 51 40.3	+0.4
LKR	Lokris	1.72	78	P		Pn	09 51 41.1	+0.9
LKR	Lokris	1.72	78	eP		Pn	09 51 41.1	+0.9
LKR	Lokris	1.72	78	P		Pn	09 51 41.1	+0.9
LKR	Lokris	1.72	78	P		Pn	09 51 41.1	+0.9
SMIA	Simia	1.93	73	P		Pn	09 51 44.0	+0.9
SMIA	Simia	1.93	73	eP		Pn	09 51 44.0	+0.9
SMIA	Simia	1.93	73	eP		Pn	09 51 44.0	+0.9
FYTO	Fytoko, Volos	1.96	56	P		Pn	09 51 44.7	+1.2
FYTO	Fytoko, Volos	1.96	56	P		Pn	09 51 44.7	+1.2
FYTO	Fytoko, Volos	1.96	56	P		Pn	09 51 44.7	+1.2
DID	Didima	2.06	113	P		Pn	09 51 45.1	+0.2
DID				S		Sn	09 52 10.2	+0.9
DID	Didima	2.06	113	eP		Pn	09 51 44.9	0.0
DID	Didima	2.06	113	P		Pn	09 51 45.1	+0.2
DID				S		Sn	09 52 10.2	+0.9
DID	Didima	2.06	113	P		Pn	09 51 45.1	+0.2
DID				S		Sn	09 52 10.2	+0.9
NEST	Nestorio	2.10	4	P		Pn	09 51 48.4	+2.9
NEST	Nestorio	2.10	4	eP		Pn	09 51 48.0	+2.5
NEST	Nestorio	2.10	4	eP		Pn	09 51 48.0	+2.5
NEO	Neokhori	2.10	61	eP		Pn	09 51 46.5	+1.1
NEO	Neokhori	2.10	61	eP		Pn	09 51 46.5	+1.1
XOR	Xorichti	2.10	60	P		Pn	09 51 46.4	+0.9
XOR	Xorichti	2.10	60	eP		Pn	09 51 46.7	+1.2
XOR	Xorichti	2.10	60	P		Pn	09 51 46.4	+0.9
XOR	Xorichti	2.10	60	P		Pn	09 51 46.4	+0.9
KZN	Kozani	2.11	20	P		Pn	09 51 48.2	+2.6
KZN	Kozani	2.11	20	P		Pn	09 51 48.2	+2.6
KZN	Kozani	2.11	20	P		Pn	09 51 48.2	+2.6
NAIG	Nisos Aigina	2.16	104	eP		Pn	09 51 46.7	+0.5
NAIG	Nisos Aigina	2.16	104	eP		Pn	09 51 46.7	+0.5
MRKA	Markates	2.18	79	P		Pn	09 51 47.1	+0.5
MRKA	Markates	2.18	79	eP		Pn	09 51 47.2	+0.6
MRKA	Markates	2.18	79	eP		Pn	09 51 47.2	+0.6
LIT	Litokhoron	2.19	35	P		Pn	09 51 47.9	+1.3
LIT	Litokhoron	2.19	35	eP		Pn	09 51 48.0	+1.3
LIT	Litokhoron	2.19	35	P		Pn	09 51 47.9	+1.3
LIT	Litokhoron	2.19	35	P		Pn	09 51 47.9	+1.3
SKIA	Skiathos	2.21	67	eP		Pn	09 51 47.9	+0.9
SKIA	Skiathos	2.21	67	eP		Pn	09 51 47.9	+0.9
ATH	Athens Observa	2.29	98	P		Pn	09 51 48.5	+0.5
ATH				S		Sn	09 52 14.9	0.0
ATH	Athens Observa	2.29	98	eP		Pn	09 51 48.5	+0.5
ATH	Athens Observa	2.29	98	P		Pn	09 51 48.5	+0.5
ATH				S		Sn	09 52 14.9	0.0
ATH	Athens Observa	2.29	98	P		Pn	09 51 48.5	+0.5
ATH				S		Sn	09 52 14.9	0.0
VLI	Veliai	2.31	133	P		Pn	09 51 50.5	+2.2
VLI	Veliai	2.31	133	eP		Pn	09 51 50.5	+2.2
VLI	Veliai	2.31	133	P		Pn	09 51 50.5	+2.2
VLI	Veliai	2.31	133	P		Pn	09 51 50.5	+2.2
ERET	Eretria	2.33	86	P		Pn	09 51 49.1	+0.5
ATHU	Athens Univers	2.34	98	P		Pn	09 51 48.9

PHP	Peshkopia	3.37	355	P	Pn	09 52 04.5	+1.5	BALB	Balikesir	5.63	74
PHP	Peshkopia	3.37	355	P	Pn	09 52 04.5	+1.5	BBLS	Lazići	5.64	349
PHP	Peshkopia	3.37	355	P	Pn	09 52 04.5	+1.5	EDRB	Edirne	5.73	50
SRS	Serrai	3.50	36	P	Pn	09 52 05.9	+1.2	EDRB	Edirne	5.73	50
SRS	Serrai	3.50	36	eP	Pn	09 52 05.9	+1.2	DIVS	Divibare	5.81	354
SRS	Serrai	3.50	36	P	Pn	09 52 05.9	+1.2	TRUS	Trudelj	5.91	357
SRS	Serrai	3.50	36	P	Pn	09 52 05.9	+1.2	YER	Yerkesik	6.01	99
TAR1	Taranto	3.53	310	ePn	Pn	09 52 06.2	+1.1	YER	Yerkesik	6.01	99
TAR1				eSn	Sn	09 52 45.0	-0.6	KULA	Kula-Manisa	6.13	86
PE1	Pezze di Greco	3.63	314	ePn	Pn	09 52 07.5	+1.1	KULA	Kula-Manisa	6.13	86
PE1				eSn	Sn	09 52 46.5	-1.4	SZH	Strazhica	6.26	36
LIA	Limnos Island	3.72	64	eP	Pn	09 52 08.2	+0.6	SZH	Strazhica	6.26	36
LIA	Limnos Island	3.72	64	eP	Pn	09 52 08.2	+0.6	TEKS	Tekeris	6.30	351
NVR	Nevrokopi	3.81	37	P	Pn	09 52 10.2	+1.3	TURN	Turunc	6.32	101
NVR	Nevrokopi	3.81	37	P	Pn	09 52 10.2	+1.3	TURN	Turunc	6.32	101
NVR	Nevrokopi	3.81	37	P	Pn	09 52 10.2	+1.3	ORLT	Orhaneli	6.48	72
ULC	Ulcinj	3.84	342	iPn	Pn	09 52 09.6	+0.3	ORLT	Orhaneli	6.48	72
ULC				eSn	Sn	09 52 53.0	-0.2	DNZL	Cakiroluk	6.50	93
ULC	Ulcinj	3.84	342	iPn	Pn	09 52 09.6	+0.3	CTKS	Kestanelik-??a	6.58	61
ULC				eSn	Sn	09 52 53.0	-0.2	CTKS	Kestanelik-??a	6.58	61
KAVA	Kavala	3.89	45	P	Pn	09 52 10.7	+0.8	ARMT	Armutlu	6.59	68
KAVA	Kavala	3.89	45	eP	Pn	09 52 10.8	+0.8	ARMT	Armutlu	6.59	68
KAVA	Kavala	3.89	45	P	Pn	09 52 10.7	+0.8	FETY	Fethiye	6.76	102
KAVA	Kavala	3.89	45	eP	Pn	09 52 10.8	+0.8	FETY	Fethiye	6.76	102
CEL	Celeste	3.90	271	ePn	Pn	09 52 10.9	+0.7	KHL	Karahalli	6.82	87
CEL	Celeste	3.90	271	ePn	Pn	09 52 10.9	+0.7	KHL	Karahalli	6.82	87
APE	Apeiranthos	3.92	107	eP	Pn	09 52 13.3	+2.9	FGSL	Fruska Gora	6.87	354
APE	Apeiranthos	3.92	107	iP	Pn	09 52 09.6	-0.8	GOLH	Golhisar	6.98	96
APE	Apeiranthos	3.92	107	eP	Pn	09 52 13.3	+2.9	GZR	Gura Zlata	7.21	11
KKB	Krupnik	3.93	25	P	Pn	09 52 12.2	+1.6	GZR	Gura Zlata	7.21	11
KKB				S	Sn	09 52 55.4	-0.1	CAVI	Cavuskoy	7.22	72
KKB	Krupnik	3.93	25	P	Pn	09 52 13.2	+1.6	CAVI	Cavuskoy	7.22	72
KKB				S	Sn	09 52 55.4	-0.1	ALT	Altintas	7.28	81
MMB	Musomiste	3.94	33	P	Pn	09 52 11.8	+1.1	ALT	Altintas	7.28	81
MMB				S	Sn	09 52 55.9	+0.2	UDBI	Udbina	7.28	330
MMB	Musomiste	3.94	33	iP	Pn	09 52 11.8	+1.1	UDBI			
MMB	Musomiste	3.94	33	S	Sn	09 52 56.1	+0.4	UDBI	Udbina	7.28	330
MMB	Musomiste	3.94	33	iP	Pn	09 52 11.8	+1.1	AKAS	Kas	7.28	104
MMB				S	Sn	09 52 55.9	+0.2	AKAS			
SIGR	SIGRI	4.01	76	eP	Pn	09 52 13.5	+1.9	AKAS	Kas	7.28	104
SIGR	SIGRI	4.01	76	eP	Pn	09 52 13.5	+1.9	AKAS			
DRME	Dracevica, Mon	4.07	342	iPn	Pn	09 52 13.0	+0.6	BZS	Buzias	7.31	4
DRME				eSn	Sn	09 52 59.4	+0.7	ELL	Elmali	7.37	100
DRME	Dracevica, Mon	4.07	342	iPn	Pn	09 52 13.0	+0.6	ELL	Elmali	7.37	100
DRME				eSn	Sn	09 52 59.4	+0.7	KORT	Korkueli	7.65	97
SG1	Sgolgore (BA)	4.09	309	ePn	Pn	09 52 13.6	+0.8	NVLJ	Novalja	7.68	326
SG1				eSn	Sn	09 52 58.1	-1.2	NVLJ			
CHOS	Chios island	4.09	87	P	Pn	09 52 13.3	+0.5	NVLJ	Novalja	7.68	326
CHOS	Chios island	4.09	87	eP	Pn	09 52 14.0	+1.2	PSN	Preselentsi	7.71	44
CHOS	Chios island	4.09	87	P	Pn	09 52 13.3	+0.5	PSN	Preselentsi	7.71	44
CHOS	Chios island	4.09	87	P	Pn	09 52 13.3	+0.5	BCK	Bucak	7.75	93
BAI	Bari	4.14	313	ePn	Pn	09 52 14.6	+1.2	BCK	Bucak	7.75	93
BAI				eSn	Sn	09 53 00.3	-0.2	MLR	Muntele Rosu	8.11	26
SANT	Santorini	4.16	117	ePn	Pn	09 52 15.4	+1.7	MLR	Muntele Rosu	8.11	26
SANT	Santorini	4.16	117	ePn	Pn	09 52 15.4	+1.7	MLR	Muntele Rosu	8.11	26
BUM	Brajici-Budva	4.25	340	iPn	Pn	09 52 15.0	0.0		0.2nm,0.3s,baz=197,slow=4.0,SNR=6.7		
BUM				eSn	Sn	09 53 02.9	-0.4	MLR	Muntele Rosu	8.11	26
BUM	Brajici-Budva	4.25	340	iPn	Pn	09 52 15.0	0.0	MDUB	Mudurnu	8.29	72
BUM				eSn	Sn	09 53 02.9	-0.4	MDUB	Mudurnu	8.29	72
CUC	Castrocucco	4.25	295	ePn	Pn	09 52 17.3	+2.2	BOJS	Bojanci	8.30	332
CUC				eSn	Sn	09 53 06.3	+2.8	BOJS			
CUC	Castrocucco	4.25	295	ePn	Pn	09 52 17.3	+2.2	BOJS	Bojanci	8.30	332
CUC				eSn	Sn	09 53 06.3	+2.8	VISS	Visnje	8.71	331
PDG	Podgorica	4.28	344	iPn	Pn	09 52 15.0	-0.3	VISS			
PDG				eSn	Sn	09 53 04.7	+0.7	VISS	Visnje	8.71	331
TTG	Podgorica	4.28	344	iPn	Pn	09 52 15.0	-0.3	JAVS	Javornik	9.09	328
TTG				eSn	Sn	09 53 04.7	+0.7	JAVS			
PVY	Plav	4.32	351	iPn	Pn	09 52 16.9	+0.8	JAVS	Javornik	9.09	328
PVY				eSn	Sn	09 53 05.3	+0.1	PERS	Pernice	9.32	335
PVY	Plav	4.32	351	iPn	Pn	09 52 16.9	+0.8	PERS			
PVY				eSn	Sn	09 53 05.3	+0.1	PERS	Pernice	9.32	335
IDI	Anoyia	4.43	132	Pn	Pn	09 52 16.2	-1.4	SOKA	Soboth	9.39	335
IDI				Sn	Sn	09 53 01.7	-6.3	SOKA	Soboth	9.39	335
IDI	Anoyia	4.43	132	Pn	Pn	09 52 16.2	-1.4	OBKA	Obir	9.41	332
	1.3nm,0.3s,baz=331,slow=14,SNR=18							BUR08	Bucovina Ar. S	9.84	17
IDI				Sn	Sn	09 53 01.7	-6.3	BUR08	Bucovina Ar. S	9.84	17
	8.2nm,0.3s,baz=100,slow=23,SNR=3.3							PGF	Pioggiola	9.97	299
IDI				LR	LR	09 54 22.0		PGF	Pioggiola	9.97	299
	comp=Z,198nm,19.5s,baz=10,slow=45							PGF	Pioggiola	9.97	299
CDT	Castel del Mon	4.48	309	ePn	Pn	09 52 19.1	+1.0	BR131	Keskin Array S	10.05	78
CDT				eSn	Sn	09 53 05.7	-3.2		2.4nm,0.5s		
RZN	Rozhen	4.48	40	P	Pn	09 52 19.6	+1.3	BR131	Keskin Array S	10.05	78
RZN				S	Sn	09 53 09.0	-0.3		2.4nm,0.5s		
RZN	Rozhen	4.48	40	P	Pn	09 52 19.6	+1.3	BRTR	Keskin Array B	10.05	78
RZN				S	Sn	09 53 09.0	-0.3	BRTR	Keskin Array B	10.05	78
HCY	Herceg Novi	4.50	337	iPn	Pn	09 52 18.0	-0.3		0.4nm,0.3s,baz=258,slow=12,SNR=11		
HCY				eSn	Sn	09 53 08.9	-0.4	BRTR			LR
HCY	Herceg Novi	4.50	337	iPn	Pn	09 52 18.0	-0.3		comp=Z,124nm,19.3s,baz=157,slow=40		
HCY				eSn	Sn	09 53 08.9	-0.4	BRTR	Keskin Array B	10.05	78
EZN	Ezine	4.52	69	eP	Pn	09 52 18.6	0.0	CRVS	Cervenica-Dubn	10.59	2
EZN	Ezine	4.52	69	eP	Pn	09 52 18.6	0.0	CRVS	Cervenica-Dubn	10.59	2
BEY	Berane	4.60	351	iPn	Pn	09 52 20.9	+1.0	MOA	Molln	10.67	335
BEY				eSn	Sn	09 53 12.0	-0.1	MOA	Molln	10.67	335
IVA	Berane	4.60	351	iPn	Pn	09 52 20.9	+1.0	DAVOX	Davos/Dischmat	11.69	320
IVA				eSn	Sn	09 53 12.0	-0.1	DAVOX	Davos/Dischmat	11.69	320
VTS	Vitosha	4.63	22	P	Pn	09 52 22.1	+1.8		1.5nm,0.3s,baz=315,slow=23,SNR=5.6		
VTS				S	Sn	09 53 13.8	+1.0	GERES	GERESS Array B	11.72	336
VTS	Vitosha	4.63	22	iP	Pn	09 52 22.3	+2.0	GERES			
VTS	Vitosha	4.63	22	P	Pn	09 52 22.1	+1.8	GERES	GERESS Array B	11.72	336
VTS				S	Sn	09 53 13.8	+1.0		0.5nm,0.3s,baz=157,slow=14,SNR=14		
NKME	Niksic	4.67	343	iPn	Pn	09 52 21.4	+0.6	GERES			Sn
NKME				eSn	Sn	09 53 13.9	+0.2		1.1nm,0.3s,baz=152,slow=26,SNR=9.8		
NKME	Niksic	4.67	343	iPn	Pn	09 52 21.4	+0.6	LMR	La Mourre	11.96	299
NKME				eSn	Sn	09 53 13.9	+0.2	LMR	La Mourre	11.96	299
NKY	Niksic	4.70	343	iPn	Pn	09 52 21.6	+0.3	LMR	La Mourre	11.96	299
NKY				eSn	Sn	09 53 15.5	+0.9	KHC	Kasperske Hory	12.01	336
NKY	Niksic	4.70	343	iPn	Pn	09 52 21.6	+0.3	KHC			ex
NKY				eSn	Sn	09 53 15.5	+0.9	KHC	Kasperske Hory	12.01	336
ENEZ	Enez	4.75	58	eP	Pn	09 52 22.5	+0.6	MBDF	Montbardon	12.33	306
ENEZ	Enez	4.75	58	eP	Pn	09 52 22.5	+0.6	MBDF	Montbardon	12.33	306
ALN	Alexandroupoli	4.76	56	eP	Pn	09 52 22.5	+0.5	MBDF	Montbardon	12.33	306
ALN	Alexandroupoli	4.76	56	eP	Pn	09 52 22.5	+0.5	MMAI	Mount Meron Ar	12.96	110
GELI	Tayfur-Gelibol	4.83	63	eP	Pn	09 52 23.4	+0.6	MMAI			Sn
GELI	Tayfur-Gelibol	4.83	63	eP	Pn	09 52 23.4	+0.6	MMAI	Mount Meron Ar	12.96	110
KDZ	Kurdzhali	4.83	45	P	Pn	09 52 23.3	+0.4		1.2nm,0.3s,baz=309,slow=14,SNR=3.6		
KDZ				S	Sn	09 53 16.0	-1.6	MMAI			Sn
KDZ	Kurdzhali	4.83	45	iP	Pn	09 52 23.3	+0.4		3.4nm,0.3s,baz=310,slow=27,SNR=4.3		
KDZ	Kurdzhali	4.83	45	iP	Pn	09 52 23.3	+0.4	AKASG	Malin Array Be	13.73	23
KDZ				S	Sn	09 53 16.0	-1.6	AKASG	Malin Array Be	13.73	23
BLCB	Balcova	4.87	87	eP	Pn	09 52 23.4	+0.1		0.4nm,0.3s,baz=206,slow=12,SNR=3.3		
BLCB	Balcova	4.87	87	eP	Pn	09 52 23.5	+0.1	AKASG	Malin Array Be	13.73	23
BRY	Bratogost	4.90	340	iPn	Pn	09 52 23.4	-0.6	HAU	Haudompre	14.32	317
BRY				eSn	Sn	09 53 19.1	-0.4	HAU	Haudompre	14.32	317
BRY	Bratogost	4.90	340	iPn	Pn	09 52 23.4	-0.6	HAU	Haudompre	14.32	317
BRY				eSn	Sn	09 53 19.1	-0.4	EIL	Elat	14.52	122
ERIK	Erikli-Kesan	4.97	60	eP	Pn	09 52 25.8	+1.0	EIL	Elat	14.52	122
ERIK	Erikli-Kesan	4.97	60	eP	Pn	09 52 25.8	+1.0		2.0nm,0.3s,baz=328,slow=19,SNR=6.5		
LPK	Lapseki	5.02	64	eP	Pn	09 52 25.8	+0.3	SMF	Signal de Mont	15.03	309
LPK	Lapseki	5.02	64	eP	Pn	09 52 25.8	+0.3		5.8nm,0.6s		
IZM	Izmir	5.04	87	eP	Pn	09 52 25.6	-0.2	SMF	Signal de Mont	15.03	309
IZM	Izmir	5.04	87	eP	Pn	09 52 25.7	-0.2		5.8nm,0.6s		
MS1	Monte Sant'Ang	5.06	313	ePn	Pn	09 52 26.9	+0.8	SMF	Signal de Mont	15.03	309
MS1				eSn	Sn	09 53 19.7	-0.6		5.8nm,0.6s		
UPM	Unac-Piva	5.09	344	iPn	Pn	09 52 27.2	+0.5	LOR	Lormes	15.32	311
UPM				eSn	Sn	09 53 24.8	+0.5		6.2nm,0.6s		
UPM	Unac-Piva	5.09	344	iPn	Pn	09 52 27.2	+0.5	LOR	Lormes	15.32	311
UPM				eSn	Sn	09 53 24.8	+0.5		6.2nm,0.6s		
PLE	Pljevlja	5.12	348	iPn	Pn	09 52 27.0	-0.1	LOR	Lormes	15.32	311
PLE				eSn	Sn	09 53 25.0	+0.1		6.2nm,0.6s		
PLE	Pljevlja	5.12	348	iPn	Pn	09 52 27.0	-0.1	SSF	Saint Saulge	15.43	310
PLE				eSn	Sn	09 53 25.0	+0.1		12nm,0.7s		
STON	Ston	5.14	333	iPn	Pn	09 52 26.7	-0.5	SSF	Saint Saulge	15.43	310
STON				Sn	Sn	09 53 19.9	-5.1		12nm,0.7s		
STON	Ston	5.14	333	iPn	Pn	09 52 26.6	-0.5	SSF	Saint Saulge	15.43	310
BODT	Bodrum	5.28	102	eP	Pn	09 52 29.7	+0.6		12nm,0.7s		
BODT	Bodrum	5.28	102	eP	Pn	09 52 29.7	+0.6	BGF	Bois d'Agland	15.61	308
IVAS	Ivanjica	5.28	354	ePn	Pn	09 52 28.8	-0.3	BGF	Bois d'Agland	15.61	308
BDRM	Kayabasi	5.38	101	iP	Pn	09 52 35.6	+5.2	BGF	Bois d'Agland	15.61	308
BDRM	Kayabasi	5.38	101	iP	Pn	09 52 35.6	+5.2	FLN	La Foliniere	18.59	311
RKY	Sarkoy-Tekirda	5.43	62	eP	Pn	09 52 32.0	+0.8		7.2nm,0.4s		
RKY	Sarkoy-Tekirda	5.43	62	eP	Pn	09 52 32.0	+0.8	FLN	La Foliniere	18.59	311
MPEP	Malo Peshtene	5.49	23	P	Pn	09 52 34.3	+2.4		7.2nm,0.4s		
MPEP	Malo Peshtene	5.49	23	P	Pn	09 52 34.3	+2.4	GRR	Gorron	18.66	310
AYDB	Zeytinkoy-Aydi	5.56	92	eP	Pn	09 52 33.1	0.0	GRR	Gorron	18.66	310
AYDB	Zeytinkoy-Aydi	5.56	92	eP	Pn	09 52 33.1	0.0	ESDC	Sonseca Array	19.32	282
GRUS	Gruza	5.56	359	iPn	Pn	09 52 33.1	+0.2	ESDC	Sonseca Array	19.32	282
GONE	Gonen-Balikesi	5.58	70	eP	Pn	09 52 33.8	+0.6		0.7nm,0.3s,baz=73,slow=11,SNR=5.0		
GONE	Gonen-Balikesi	5.58	70	eP	Pn	09 52 33.8	+0.6	ESDC	Sonseca Array	19.32	282
BALB	Balikesir	5.63	74	eP	Pn	09 52 34.4	+0.5	SGMF	Saint Gilles	19.65	308
								SGMF	Saint Gilles	19.65	308
								HFS	Hagfors	22.30	351
								HFS	Hagfors	22.30	351

	4.9nm,0.4s,baz=162,slow=12,SNR=42						
HFS	Hagfors	22.30	351	P	P	09 56 05.4	-0.6
FINES	FINESS Array B	23.37	6	P	P	09 56 15.8	-1.2
FINES				PcP	PcP	10 00 02.5	+0.2
FINES	FINESS Array B	23.37	6	P	P	09 56 15.8	-1.2
	1.3nm,0.4s,baz=173,slow=12,SNR=15						
FINES				PcP	PcP	10 00 02.5	+0.2
	1.1nm,0.4s,baz=108,slow=3.1,SNR=4.5						
FINES	FINESS Array B	23.37	6	P	P	09 56 15.8	-1.2
FINES	FINESS Array B	23.37	6	PcP	PcP	10 00 02.5	+0.2
EKA	Eskdalemuir Ar	23.46	324	P	P	09 56 18.4	+0.5
EKA	Eskdalemuir Ar	23.46	324	P	P	09 56 18.4	+0.5
	14nm,0.8s,baz=126,slow=9.8,SNR=16						
EKA	Eskdalemuir Ar	23.46	324	P	P	09 56 18.4	+0.5
NB2	NORSAR Subarra	23.53	348	P	P	09 56 17.6	-1.0
	comp=Z,2.5nm,0.6s,baz=156,slow=9.3						
NOA	NORSAR Array B	23.53	348	P	P	09 56 17.1	-1.4
NOA	NORSAR Array B	23.53	348	P	P	09 56 17.1	-1.4
	comp=Z,1.2nm,0.5s,baz=157,slow=9.1,SNR=9.1						
NOA	NORSAR Array B	23.53	348	P	P	09 56 17.1	-1.4
JOF	Joensuu	25.44	11	ep	P	09 56 34.8	-1.1
JOF	Joensuu	25.44	11	eP	P	09 56 34.8	-1.1
AKTO	Aktyubinsk	28.89	53	P	P	09 57 05.9	-1.1
AKTO	Aktyubinsk	28.89	53	P	P	09 57 05.9	-1.1
	comp=Z,0.6nm,0.3s,baz=260,slow=5.5,SNR=6.4						
AKTO	Aktyubinsk	28.89	53	P	P	09 57 05.9	-1.1
ARCES	ARCESS Array B	31.37	3	P	P	09 57 28.3	-0.5
ARCES				PcP	PcP	10 00 21.3	-0.1
ARCES	ARCESS Array B	31.37	3	P	P	09 57 28.3	-0.5
	comp=Z,2.0nm,0.7s,baz=193,slow=9.9,SNR=14						
ARCES				PcP	PcP	10 00 21.3	-0.1
	comp=Z,4.7nm,1.1s,baz=221,slow=2.2,SNR=5.3						
ARCES	ARCESS Array B	31.37	3	P	P	09 57 28.3	-0.5
ARCES	ARCESS Array B	31.37	3	PcP	PcP	10 00 21.3	-0.1
KEV	Kevo	31.67	4	ep	P	09 57 31.1	-0.2
KEV	Kevo	31.67	4	eP	P	09 57 31.1	-0.2
MK31	Makanchi Array	45.00	59	eP	P	09 59 22.8	-0.8
MK31	Makanchi Array	45.00	59	eP	P	09 59 22.8	-0.8
MKAR	Makanchi Array	45.00	59	P	P	09 59 22.8	-0.8
MKAR	Makanchi Array	45.00	59	P	P	09 59 22.8	-0.8
	comp=Z,1.7nm,0.3s,baz=278,slow=7.9,SNR=21						
MKAR	Makanchi Array	45.00	59	P	P	09 59 22.8	-0.8
ZAA0	Zalesovo Array	45.40	48	eP	P	09 59 25.7	-0.9
ZAA0	Zalesovo Array	45.40	48	eP	P	09 59 25.7	-0.9
ZALV	Zalesovo Beam	45.40	48	P	P	09 59 25.8	-0.8
ZALV	Zalesovo Beam	45.40	48	P	P	09 59 25.8	-0.8
	comp=Z,3.8nm,0.4s,baz=273,slow=8.2,SNR=9.4						
ZALV	Zalesovo Beam	45.40	48	P	P	09 59 25.8	-0.8
SCHQ	Schefferville	58.53	317	P	P	10 01 04.8	+0.5
SCHQ	Schefferville	58.53	317	P	P	10 01 04.8	+0.5
	comp=Z,3.0nm,0.3s,baz=70,slow=4.6,SNR=32						
SCHQ	Schefferville	58.53	317	P	P	10 01 04.8	+0.5
SONM	Songino Array	60.16	51	P	P	10 01 14.3	-1.5
SONM	Songino Array	60.16	51	P	P	10 01 14.3	-1.5
	comp=Z,0.9nm,0.8s,baz=284,slow=6.0,SNR=3.7						
SONM	Songino Array	60.16	51	P	P	10 01 14.3	-1.5
BOSA	Boshof	66.72	176	P	P	10 01 59.3	+0.2
BOSA	Boshof	66.72	176	P	P	10 01 59.3	+0.2
	comp=Z,1.0nm,0.5s,baz=12,slow=9.3,SNR=2.8						
BOSA	Boshof	66.72	176	P	P	10 01 59.3	+0.2
YKA	Yellowknife Ar	73.34	340	P	P	10 02 39.9	+0.6
YKA	Yellowknife Ar	73.34	340	P	P	10 02 39.8	+0.6
	comp=Z,0.5nm,0.8s,baz=34,slow=5.1,SNR=7.9						
YKA	Yellowknife Ar	73.34	340	P	P	10 02 39.8	+0.6
ULM	Lac du Bonnet	75.74	324	P	P	10 02 54.5	+1.1
ULM	Lac du Bonnet	75.74	324	P	P	10 02 54.5	+1.1
	comp=Z,4.8nm,0.7s,baz=32,slow=5.8,SNR=9.3						
ULM	Lac du Bonnet	75.74	324	P	P	10 02 54.5	+1.1
ILAR	Eielson Array	76.79	355	P	P	10 02 58.2	-0.9
ILAR	Eielson Array	76.79	355	P	P	10 02 58.2	-0.9
	comp=Z,0.2nm,0.7s,baz=348,slow=3.0,SNR=4.7						
ILAR	Eielson Array	76.79	355	P	P	10 02 58.2	-0.9
KSAR	Wonju Array Be	79.02	51	P	P	10 03 10.9	-1.1
KSAR	Wonju Array Be	79.02	51	P	P	10 03 10.9	-1.1
KSRS	Korea Array	79.04	51	P	P	10 03 10.9	-1.1
	comp=Z,1.7nm,0.6s,baz=315,slow=4.9,SNR=5.2						
ECSD	EROS Data Cent	80.65	319	eP	P	10 03 21.8	+1.1
	comp=Z,4.1nm,1.0s						
ECSD	EROS Data Cent	80.65	319	eP	P	10 03 21.8	+1.1
	comp=Z,4.1nm,1.0s						
PDAR	Pinedale Array	87.58	326	P	P	10 03 56.7	+0.5
PDAR	Pinedale Array	87.58	326	P	P	10 03 56.7	+0.5
	comp=Z,0.5nm,0.8s,baz=40,slow=4.4,SNR=4.4						
PDAR	Pinedale Array	87.58	326	P	P	10 03 56.7	+0.5
TXAR	Lajitas Array	95.06	314	P	P	10 04 32.5	+1.4
TXAR	Lajitas Array	95.06	314	P	P	10 04 32.5	+1.4
	comp=Z,0.5nm,0.7s,baz=72,slow=5.1,SNR=4.8						
TXAR	Lajitas Array	95.06	314	P	P	10 04 32.5	+1.4
WRA	Warramunga Arr	120.28	92	PKP	PKPdf	10 09 57.4	-1.8
WRA	Warramunga Arr	120.28	92	PKP	PKPdf	10 09 57.4	-1.8
	comp=Z,0.6nm,1.1s,baz=314,slow=2.1,SNR=3.8						
WRA	Warramunga Arr	120.28	92	PKIKP	PKPdf	10 09 57.4	-1.8
ASAR	Alice Springs	121.93	96	PKP	PKPdf	10 10 01.4	-0.9
ASAR	Alice Springs	121.93	96	PKP	PKPdf	10 10 01.4	-0.9
	comp=Z,0.3nm,0.6s,baz=295,slow=1.7,SNR=4.9						
ASAR	Alice Springs	121.93	96	PKIKP	PKPdf	10 10 01.4	-0.9

*KRNET **21** 10:05:12.9±0.1, 39°.61N×72°.73E, h3km, mb4.2*
*NNC **21** 10:05:18.3±4.5, 39°.89N×72°.56E, h14km±21km, mb3.8, mpv3.5, Error ellipse: s-maj=35.6km s-min=23.4km az=18.0*

ISC 21 10:05:13.7±1.6, **39°.62N**±0°.07×**72°.71E**±0°.04, **h3**km±13km, **n11**, σ1°72/18, **7C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.72**	**259**	*i*	P		**Pg**	**10 05 27.0**	**-0.5**
	baz=260								
DRK				*e*	S		**Sg**	**10 05 37.0**	**+0.2**
	baz=260								
SFK	**Sufi-Kurgan**	**0.72**	**57**	⇓	*i* P		**Pg**	**10 05 27.1**	**-0.5**
	baz=55								
SFK				⇓	*e* S		**Sg**	**10 05 37.1**	**+0.1**
	baz=55								
OHH	**Osh**	**0.90**	**4**	⇓	*i* P		**Pg**	**10 05 30.8**	**-0.2**
	baz=3.0								
OHH				⇓	*e* S		**Sb**	**10 05 43.2**	**-1.4**
	baz=3.0								
BTK	**Batken**	**1.52**	**287**	*e*	P		**Pg**	**10 05 43.6**	**+0.8**
	baz=288								
BTK				*e*	S		**Sg**	**10 06 04.6**	**+2.0**
	baz=288								
ARSB	**Arslanbob**	**1.71**	**7**	*e*	P		**Pg**	**10 05 47.2**	**+0.7**
	baz=6.0								
ARSB				*e*	S		**Sg**	**10 06 10.6**	**+1.9**
	baz=6.0								
ARK	**Arkit**	**2.25**	**346**	*e*	P		**Pn**	**10 05 52.6**	**+0.7**
	baz=345								
ARK				*e*	S		**Sb**	**10 06 21.8**	**-1.5**
	baz=345								
AAK	**Ala-Archa**	**3.30**	**24**	⇑	Pn		**Pn**	**10 06 08.4**	**+2.0**
	8.0nm,0.4s								
AAK				⇑	Lg		Lg	10 06 54.7	
	49nm,0.6s								
KK31	**Karatay Array**	**3.85**	**335**	⇓	Pn		**Pn**	**10 06 15.4**	**+1.5**
	2.1nm,0.2s,baz=131,slow=13,SNR=117								
KK31				⇓	Pg		**Pg**	**10 06 24.8**	**-2.7**
	14nm,0.7s,baz=202,slow=121,SNR=9.6								
KK31				⇑	Sn		**Sn**	**10 07 01.9**	**+2.1**
	7.9nm,0.3s,baz=147,slow=22,SNR=3.6								
KK31				⇑	Lg		Lg	10 07 14.6	
	11nm,0.3

n21,σ1§29/24, mb3.8/4, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**1.22**	**266**	⇑*i*P	Pn	10 07 36.1	+7.1
PB04				*i* S	Sn	10 07 57.3	+11
PB04				AML	AML	10 08 08.3	
	comp=N,2μm,0.8s						
PB06	**Plate Boundary**	**1.39**	**248**	⇑*i*P	**Pn**	**10 07 31.5**	**+0.2**
PB06				*i* S	**Sn**	**10 07 48.8**	**-1.1**
PB06				AML	AML	10 07 51.3	
	comp=E,2μm,0.4s						
PB07	**Plate Boundary**	**1.66**	**286**	⇑*i*P	**Pn**	**10 07 34.8**	**+0.1**
PB07				*i* S	**Sn**	**10 07 54.1**	**-1.8**
PB07				AML	AML	10 07 58.6	
	comp=N,3μm,0.2s						
PB01	**Plate Boundary**	**1.67**	**313**	*e*P	**Pn**	**10 07 36.1**	**+1.3**
PB01				*i* S	**Sn**	**10 07 56.9**	**+0.7**
PB01				AML	AML	10 07 59.6	
	comp=E,1μm,0.1s						
CEN1	**Los Morros**	**2.22**	**237**	*e*P	**Pn**	**10 07 43.8**	**+1.9**
CEN1				*i* S	**Sn**	**10 08 10.7**	**+1.9**
PATCX	**Punta Patache**	**2.29**	**306**	⇑*i*P	**Pn**	**10 07 42.9**	**0.0**
PATCX				*i* S	**Sn**	**10 08 09.3**	**-1.3**
PATCX				AML	AML	10 08 17.9	
	comp=N,2μm,0.5s						
PB10	**Plate Boundary**	**2.56**	**239**	AML	AML	10 08 21.9	
	comp=N,2μm,0.4s						
PSGC	**Pisagua**	**3.16**	**324**	AML	AML	10 08 30.8	
	comp=N,325nm,0.3s						
MNMC	**Minimini**	**3.32**	**336**	⇓*i*P	**Pn**	**10 07 58.5**	**+1.7**
MNMC				*i* S	**Sn**	**10 08 37.2**	**+1.7**
MNMC				AML	AML	10 08 47.9	
	comp=E,526nm,0.8s						
LPAZ	**La Paz**	**5.87**	**0**	P	Pn	10 08 36.8	+5.1
	comp=E,0.5nm,0.3s,baz=194,slow=12,SNR=8.0						
SIV	**San Ignacio**	**9.11**	**49**	P	**Pn**	**10 09 17.2**	**+1.9**
	comp=E,2.5nm,0.3s,baz=257,slow=11,SNR=27						
SIV				S	**Sn**	**10 10 54.0**	**-2.3**
	comp=E,0.5nm,0.3s,baz=139,slow=20,SNR=3.6						
CFAA	**Coronel Fontan**	**9.38**	**180**	P	**Pn**	**10 09 18.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=353,slow=13,SNR=6.2						
PLCA	**Paso Flores**	**18.60**	**186**	P	**P**	**10 11 16.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=5.4						
BDFB	**Brasilia**	**20.14**	**75**	P	**P**	**10 11 33.5**	**-0.1**
	comp=E,1.8nm,0.4s,baz=214,slow=9.0,SNR=4.1						
PTGA	**Pitinga**	**22.78**	**22**	P	**P**	**10 12 01.0**	**-0.5**
	comp=E,1.1nm,0.3s,baz=143,slow=20,SNR=2.9						
SNAA	**Sanae**	**61.41**	**161**	P	**P**	**10 17 13.7**	**+1.0**
	comp=E,0.7nm,0.6s,baz=276,slow=8.1,SNR=9.0						
TXAR	**Lajitas Array**	**61.58**	**325**	P	**P**	**10 17 13.5**	**-1.0**
	comp=E,0.3nm,0.9s,baz=146,slow=9.8,SNR=3.1						
YKA	**Yellowknife Ar**	**92.06**	**340**	P	**P**	**10 20 04.7**	**-0.1**
	comp=E,0.6nm,0.6s,baz=135,slow=4.5,SNR=24						
ASAR	**Alice Springs**	**129.61**	**207**	PKP	**PKPdf**	**10 26 05.0**	**-0.6**
	comp=E,0.8nm,0.9s,baz=134,slow=1.6,SNR=6.6						
WRA	**Warramunga Arr**	**132.70**	**209**	PKP	**PKPdf**	**10 26 11.2**	**-0.3**
	comp=E,0.4nm,0.5s,baz=153,slow=1.8,SNR=9.0						
MKAR	**Makanchi Array**	**145.78**	**37**	PKPbc	**PKPab**	**10 26 36.1**	**+0.5**
	comp=E,0.8nm,0.7s,baz=338,slow=3.0,SNR=5.1						

*IDC **21** 10:27:51.9±2.4, 54˚28N×86˚16E, h0km, mb1 3.4/2, mb1mx3.1/29, mbtmp3.4/2, ML3.5/2, Error ellipse: s-maj=18.5km s-min=11.0km az=55.0*
*NNC **21** 10:27:55.3±2.6, 53˚71N×86˚59E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=20.8km s-min=17.6km az=70.0*

ISC 21 10:27:53.3±4.9, 54˚4N±0˚2×86˚6E±0˚2, h35km, n7, σ0§99/8, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**247**	*i*		10 32 30.0	
	baz=68,slow=343,SNR=17						
ZALV	**Zalesovo Beam**	**1.13**	**247**	Pg	Pn	10 28 06.8	-5.7
	2.6nm,0.3s,baz=69,slow=17,SNR=18						
ZALV				Lg	Lg	10 28 20.4	
	16nm,0.3s,baz=66,slow=38,SNR=32						
KURK	**Kurchatov**	**6.09**	**236**	⇑Pn	**Pn**	**10 29 20.8**	**+0.1**
	1.1nm,0.8s						
KURK				⇓Lg	Lg	10 30 59.8	
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**6.20**	**236**	⇑Pn	**Pn**	**10 29 21.7**	**-0.5**
	1.5nm,0.2s						
KURBB				⇑Sn	**Sn**	**10 30 32.5**	**+0.8**
	3.5nm,0.7s						
KURBB				⇓Lg	Lg	10 31 02.4	
	4.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.20**	**236**	Pn	**Pn**	**10 29 21.6**	**-0.5**
	1.1nm,0.3s,baz=50,slow=13,SNR=42						
KURBB				Lg	Lg	10 31 02.4	
	0.3nm,0.3s,baz=3.7,slow=27,SNR=5.9						
MK31	**Makanchi Array**	**8.09**	**201**	Pn	**Pn**	**10 29 48.5**	**+0.4**
	2.1nm,0.8s,baz=25,slow=15,SNR=28						
MK31				⇓Sn	**Sn**	**10 31 16.6**	**-1.7**
	0.4nm,0.5s						
MK31				⇑Lg	Lg	10 31 48.4	
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**8.09**	**201**	Pn	**Pn**	**10 29 48.5**	**+0.3**
	0.6nm,0.3s,baz=26,slow=14,SNR=18						
MKAR				Sn	**Sn**	**10 31 19.1**	**+0.8**
	0.2nm,0.3s,baz=20,slow=24,SNR=4.4						
MKAR				Lg	Lg	10 32 00.1	
	0.1nm,0.3s,baz=29,slow=27,SNR=2.2						

DDA 21 10:28:07.6, 36˚13N×36˚61E, h7km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.75**	**30**	*i* P	Pg	10 28 21.7	-0.3
KUZU				*i* S	Sg	10 28 28.9	-2.9
DARE	**Darende-Malaty**	**2.54**	**16**	*e*PG	Pb	10 28 54.2	+0.6
DARE				*e*SG	Sn	10 29 03.3	-17

*ISCJB **21** 11:03:56.7±1.2, 67˚56N±0˚04×34˚2E±0˚2, h0km, Error ellipse: s-maj=8.4km s-min=6.4km az=178.0*
*HEL **21** 11:03:59.7±0.6, 67˚60N×34˚14E, h0km, ML2.2, Explosion*
*CSEM **21** 11:04:00.9±1.0, 67˚53N×33˚70E, h1km, ML2.8, Error ellipse: s-maj=20.0km s-min=9.6km az=88.0, Mining explosion.*
*KOLA **21** 11:04:00.1, 67˚65N×34˚10E, h0km*
*NAO **21** 11:04:01.2±1.2, 67˚63N×33˚89E, ML2.8*

ISC 21 11:03:57.7±1.6, 67˚55N±0˚04×34˚27E±0˚09, h0km, n32, σ1§48/56, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.33**	**273**	P	**Pg**	**11 04 05.1**	**+1.1**
APA				S	**Sg**	**11 04 08.7**	**+0.4**
APA0	**Apatity Array**	**0.49**	**277**	Pg	**Pg**	**11 04 07.5**	**+0.4**
	baz=91,slow=14						
APA0				Lg	Lg	11 04 12.9	
	baz=87,slow=37						
APA0				Rg	Rg	11 04 14.8	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.49**	**277**	Pg	**Pg**	**11 04 07.5**	**+0.4**
	baz=91,slow=14						
APA0				Lg	Lg	11 04 12.9	
	baz=87,slow=37						
APA0				Rg	Rg	11 04 14.8	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.49**	**277**	P	**Pg**	**11 04 07.7**	**+0.6**
APA0				S	**Sg**	**11 04 13.3**	**-0.2**
APA0	**Apatity Array**	**0.49**	**277**	Pg	**Pg**	**11 04 07.5**	**+0.4**
	SNR=713						
APA0				Lg	Lg	11 04 12.9	
	SNR=121						
VRF	**Varrio**	**1.79**	**278**	PG	**Pn**	**11 04 30.5**	**+0.6**
VRF				SB	**Sn**	**11 04 50.5**	**-2.8**
VRF				MSG		11 04 50.5	
	comp=Z,16nm,0.3s						
VRF	**Varrio**	**1.79**	**278**	Pg	**Pn**	**11 04 30.4**	**+0.6**
VRF				Sb	**Sn**	**11 04 50.5**	**-2.8**
KU6	**Riekki**	**2.31**	**231**	PG	**Pb**	**11 04 39.9**	**-0.4**
	baz=46						
KU6				SG	**Sg**	**11 05 10.9**	**-1.0**
KU6	**Riekki**	**2.31**	**231**	Pg	**Pb**	**11 04 39.8**	**-0.4**
KU6				Sg	**Sg**	**11 05 10.9**	**-1.0**
MSF	**Maaselka**	**2.65**	**234**	PB	**Pb**	**11 04 44.6**	**-1.4**
MSF				SG	**Sb**	**11 05 20.4**	**+1.4**
MSF				MSG		11 05 20.4	
	comp=Z,10.0nm,0.3s						
MSF	**Maaselka**	**2.65**	**234**	Pb	**Pb**	**11 04 44.6**	**-1.4**
MSF				Sg	**Sb**	**11 05 20.4**	**+1.4**
RNF	**Rovaniemi**	**3.37**	**257**	PN	**Pn**	**11 04 52.7**	**+1.3**
RNF				SN	**Sn**	**11 05 33.4**	**+1.4**
RNF				MSG		11 05 33.4	
	comp=Z,11nm,0.3s						
RNF	**Rovaniemi**	**3.37**	**257**	Pn	**Pn**	**11 04 52.7**	**+1.3**
KEV	**Kevo**	**3.46**	**313**	PN	**Pn**	**11 04 53.9**	**+1.2**
KEV				SN	**Sn**	**11 05 33.8**	**-0.4**
KEV				MSG		11 05 33.8	
	comp=Z,7.8nm,0.3s						
KEV	**Kevo**	**3.46**	**313**	Pn	**Pn**	**11 04 53.8**	**+1.2**
KEV				Sn	**Sn**	**11 05 33.8**	**-0.4**
ARA0	**ARCESS Array S**	**3.78**	**306**	Pn	**Pn**	**11 04 57.8**	**+0.6**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**11 05 06.0**	**+0.6**
	baz=116,slow=18						
ARA0				Sn	**Sn**	**11 05 40.0**	**-2.4**
	baz=124,slow=28						
ARA0				Lg	Lg	11 05 50.5	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.78**	**306**	Pn	**Pn**	**11 04 57.8**	**+0.6**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**11 05 06.0**	**+0.6**
	baz=116,slow=18						
ARA0				Sn	**Sn**	**11 05 40.0**	**-2.4**
	baz=124,slow=28						
ARA0				Lg	Lg	11 05 50.5	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.78**	**306**	PN	**Pn**	**11 04 57.3**	**+0.1**
	baz=116						
ARA0				SN	**Sn**	**11 05 40.0**	**-2.4**
ARA0				MSG		11 05 40.0	
	comp=Z,5.6nm,0.3s						
ARA0	**ARCESS Array S**	**3.78**	**306**	Pn	**Pn**	**11 04 57.8**	**+0.6**
	SNR=459						
ARA0	**ARCESS Array S**	**3.78**	**306**	Pg	**Pb**	**11 05 05.9**	**+0.6**
	SNR=90						
ARA0				Sn	**Sn**	**11 05 40.0**	**-2.4**
	SNR=6.0						
ARA0				Lg	Lg	11 05 50.5	
	SNR=3.9						
HEF	**Hetta**	**4.09**	**287**	PN	**Pn**	**11 05 01.7**	**+0.4**
	baz=94						
HEF				SN	**Sn**	**11 05 48.9**	**-0.9**
HEF				MSG		11 05 48.9	
	comp=Z,2.9nm,0.3s						
HEF	**Hetta**	**4.09**	**287**	Pn	**Pn**	**11 05 01.7**	**+0.4**
HEF				Sn	**Sn**	**11 05 48.9**	**-0.9**
OUL	**Oulu**	**4.19**	**238**	PN	**Pn**	**11 05 05.5**	**+2.8**
OUL				SB	**Sb**	**11 06 03.8**	**+0.7**
OUL				MSG		11 06 03.8	
	comp=Z,3.4nm,0.3s						
OUL	**Oulu**	**4.19**	**238**	Pn	**Pn**	**11 05 05.5**	**+2.8**
OUL				Sb	**Sb**	**11 06 03.8**	**+0.7**
FIA0	**FINESS Array S**	**7.07**	**214**	Pn	**Pn**	**11 05 44.8**	**+2.5**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**11 07 01.4**	**-1.8**
	baz=38,slow=28						
FIA0				Lg	Lg	11 07 36.5	
	baz=30,slow=28						
FIA0	**FINESS Array S**	**7.07**	**214**	Pn	**Pn**	**11 05 44.8**	**+2.5**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**11 07 01.4**	**-1.8**
	baz=38,slow=28						
FIA0				Lg	Lg	11 07 36.5	
	baz=30,slow=28						
FIA0	**FINESS Array S**	**7.07**	**214**	Pn	**Pn**	**11 05 44.8**	**+2.5**
	SNR=0.6						
FIA0				Sn	**Sn**	**11 07 01.4**	**-1.8**
FIA0				Lg	Lg	11 07 36.5	
HFS	**Hagfors**	**11.68**	**240**	Pn	**Pn**	**11 06 45.3**	**0.0**
	baz=45,slow=11						
HFS	**Hagfors**	**11.68**	**240**	Pn	**Pn**	**11 06 45.3**	**0.0**
	baz=45,slow=11						
HFS	**Hagfors**	**11.68**	**240**	Pn	**Pn**	**11 06 45.3**	**0.0**
	SNR=4.2						
SPA0	**Spitsbergen Ar**	**11.81**	**342**	Pn	**Pn**	**11 06 45.3**	**-1.8**
	baz=128,slow=22						
SPA0	**Spitsbergen Ar**	**11.81**	**342**	Pn	**Pn**	**11 06 45.3**	**-1.8**
	baz=128,slow=22						

IDC 21 11:21:44.3±2.2, 6˚60S×129˚41E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/30, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=148.4km s-min=30.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**161**	Pn	Pn	11 25 05.5	0.0
	0.2nm,0.3s,baz=343,slow=14,SNR=13						
WRA				Sn	Sn	11 27 29.6	-13
	0.5nm,0.3s,baz=331,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.52**	**166**	P	Pn	11 25 50.1	0.0
	0.1nm,0.3s,baz=336,slow=9.8,SNR=18						
ASAR				S	Sn	11 28 51.1	-15
	0.1nm,0.3s,baz=348,slow=26,SNR=3.3						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	11 32 42.7	0.0
	0.2nm,0.5s,baz=129,slow=7.4,SNR=3.6						

*MOS **21** 11:55:20.3±0.9, 54˚61N×161˚72W, h33km, mb5.4/65, MS4.5/10, Error ellipse: s-maj=8.2km s-min=4.4km az=88.5*
*GCMT **21** 11:55:21.5±0.3, 54˚55N×161˚43W, h20km, MW5.2/65, Moment Tensor Solution. s57,c71; s65,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.61±.14; Mθθ-2.14±.11; Mϕϕ-0.47±.12; Mrθ6.05±.20; Mrϕ-0.73±.08; Mθϕ2.03±.25; Best double couple: M○6.85800×10^16 NP1:ϕs248.00000°, δ79.00000°, λ91.00000°. NP2: ϕs248.00000°, δ11.00000°, λ87.00000°. Principal axes: T 6.9580, Plg56.0000°, Azm342.0000°; N -0.2040, Plg1.0000°, Azm251.0000°; P -6.7580, Plg34.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 11:55:21.5, 54˚42N×161˚48W, h29km, mb5.1/77, ML4.9(AEIC), After AEIC.*
NEIC Felt at Sand Point.
*BJI **21** 11:55:21.5, 54˚78N×162˚08W, h42km, mB5.1/31, mb5.1/51, Ms4.9/33, Ms7 4.6/34*
*ISCJB **21** 11:55:22.4±0.3, 54˚58N±0˚02×161˚64W±0˚02, h53km±2km, mb5.0/181, MS4.4/56, Error ellipse: s-maj=3.9km s-min=2.1km az=177.7*
*IDC **21** 11:55:22.4±1.6, 54˚58N×161˚75W, h40km±12km, mb4.4/28, mb1 4.6/32, mb1mx4.5/40, mbtmp4.6/32, ML4.3/4, MS4.3/38, Ms1 4.3/38, ms1mx4.2/45, Error ellipse: s-maj=16.7km s-min=8.8km az=178.0*
*SZGRF **21** 11:55:28.7, 55˚58N×162˚46W, h33km, mb5.2, Alaska Peninsula, United States*

ISC 21 11:55:23.0±0.3, 54˚65N±0˚04×161˚63W±0˚02, h44km±2km, h44km:pP-P, n746, σ1§11/758, mb5.1/181, MS4.4/56, 183C-123D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.97**	**43**	P	**Pn**	**11 55 40.5**	**+0.3**
SDPT				S	**Sn**	**11 55 56.0**	**+3.2**
FALS	**False Pass**	**1.05**	**282**	P	**Pn**	**11 55 41.8**	**+0.5**
FALS				S	**Sn**	**11 55 58.7**	**+3.9**
SSLN	**Shishaldin Nor**	**1.38**	**278**	P	**Pn**	**11 55 47.3**	**+1.5**
SSLW	**Shishaldin Wes**	**1.45**	**276**	P	**Pn**	**11 55 47.8**	**+1.1**
SSBA	**Shishaldin**	**1.45**	**276**	P	**Pn**	**11 55 48.1**	**+1.3**
SSBA				S	**Sn**	**11 56 09.4**	**+4.8**
WESN	**West Dahl Nort**	**1.72**	**269**	P	**Pn**	**11 55 51.5**	**+1.1**
WESE	**West Dahl East**	**1.73**	**265**	P	**Pn**	**11 55 51.1**	**+0.5**
VNSG	**Veniaminof 6**	**2.08**	**43**	P	**Pn**	**11 55 57.6**	**+2.2**
VNHG	**Veniaminof 1**	**2.12**	**41**	P	**Pn**	**11 55 58.3**	**+2.4**
AKSA	**Akutan Strait**	**2.43**	**260**	P	**Pn**	**11 56 00.4**	**+0.2**
CHGN	**Chignik**	**2.47**	**47**	*e*Pn	**Pn**	**11 56 02.1**	**+1.4**
CHGN				*e*Sn	**Sn**	**11 56 33.6**	**+4.0**
AKUT	**Akutan**	**2.47**	**260**	P	**Pn**	**11 56 00.9**	**+0.2**
AKUT				S	**Sn**	**11 56 31.5**	**+1.8**
AKGG	**Akutan Green G**	**2.58**	**262**	P	**Pn**	**11 56 03.1**	**+0.8**
AKGG				S	**Sn**	**11 56 36.8**	**+4.3**
ZRO	**Akutan Zero**	**2.60**	**259**	P	**Pn**	**11 56 02.5**	**0.0**
AKRB	**Akutan Reef Bi**	**2.64**	**261**	P	**Pn**	**11 56 04.1**	**+1.0**
ANPB	**Aniakchak Plen**	**2.88**	**40**	P	**Pn**	**11 56 08.4**	**+2.0**
UNV	**Unalaska Valle**	**2.97**	**256**	P	**Pn**	**11 56 07.2**	**-0.4**
MTBL	**Makushin Table**	**3.03**	**259**	P	**Pn**	**11 56 08.6**	**+0.1**
MSW	**Makushin Switc**	**3.11**	**258**	P	**Pn**	**11 56 09.2**	**-0.2**
MREP	**Makushin Rep't**	**3.12**	**256**	P	**Pn**	**11 56 09.8**	**+0.2**
MCIR	**Makushin Cirqu**	**3.16**	**259**	P	**Pn**	**11 56 10.4**	**+0.2**
MGOD	**Makushin Gods**	**3.19**	**257**	P	**Pn**	**11 56 10.7**	**0.0**
CHIR	**Chirikof Islan**	**3.64**	**69**	P	**Pn**	**11 56 16.2**	**-0.5**
OKFG	**Magazine Ridge**	**3.90**	**254**	P	**Pn**	**11 56 21.1**	**+0.7**
PLK4	**Peulik 4**	**4.20**	**42**	P	**Pn**	**11 56 26.6**	**+2.0**
PLK3	**Peulik 3**	**4.28**	**42**	P	**Pn**	**11 56 27.3**	**+1.8**
PLWL	**Peulik Whale M**	**4.50**	**39**	P	**Pn**	**11 56 30.5**	**+2.0**
NIKH	**Nikolski High**	**4.59**	**252**	P	**Pn**	**11 56 29.5**	**-0.3**
SII	**Sitkinak Islan**	**4.64**	**63**	P	**Pn**	**11 56 30.2**	**-0.3**
KELA	**Mount Kelaz**	**5.01**	**38**	P	**Pn**	**11 56 37.7**	**+2.1**
KCE	**Katmai Mt Cerb**	**5.08**	**42**	P	**Pn**	**11 56 39.3**	**+2.7**
KABR	**Katmai Barrier**	**5.09**	**44**	P	**Pn**	**11 56 37.9**	**+1.2**
KVTA	**Katmai Vly 10**	**5.13**	**41**	P	**Pn**	**11 56 38.8**	**+1.6**
OHAK	**Old Harbor**	**5.36**	**58**	P	**Pn**	**11 56 39.1**	**-1.1**
KAHC	**Katmai Hardscr**	**5.43**	**40**	P	**Pn**	**11 56 43.1**	**+1.7**
SPIA	**Saint Paul Isl**	**5.47**	**301**	P	Pn	11 56 45.4	+3.6
KDAK	**Kodiak Island**	**5.95**	**54**	P	**Pn**	**11 56 47.7**	**-0.7**
MCNL	**McNeil River**	**6.05**	**38**	P	**Pn**	**11 56 52.1**	**+2.3**
AUP	**Augustine Pinn**	**6.51**	**40**	P	**Pn**	**11 56 59.2**	**+2.9**
AUP	**Augustine Pinn**	**6.51**	**40**	P	**Pn**	**11 56 59.1**	**+2.9**
OPT	**Oil Point**	**6.79**	**39**	P	**Pn**	**11 57 02.5**	**+2.6**
ILW	**Iliamna West**	**7.11**	**37**	P	**Pn**	**11 57 07.3**	**+2.8**
SVW2	**Sparrevohn**	**7.23**	**24**	P	Pn	11 57 09.4	+3.4
HOM	**Homer**	**7.40**	**43**	P	**Pn**	**11 57 10.6**	**+2.3**
RDWB	**Redoubt West**	**7.52**	**35**	P	**Pn**	**11 57 12.8**	**+2.7**
RSO	**Redoubt South**	**7.53**	**36**	*e*Pn	Pn	11 57 13.8	+3.5
NCT	**North Crescent**	**7.55**	**35**	P	Pn	11 57 13.7	+3.3
BRLK	**Bradley Lake**	**7.76**	**44**	P	**Pn**	**11 57 14.0**	**+0.6**
CKL	**Chakachamna La**	**8.22**	**33**	P	Pn	11 57 22.8	+3.2
BGL	**Barrier Glacie**	**8.25**	**33**	P	Pn	11 57 23.8	+3.7
SPBG	**Spurr Blockage**	**8.25**	**33**	P	Pn	11 57 24.1	+4.0
SPU	**Mount Spurr**	**8.30**	**34**	*e*Pn	Pn	11 57 23.7	+3.0
SLKM	**Skilak Lake**	**8.48**	**42**	P	**Pn**	**11 57 24.9**	**+1.7**
SLKM	**Skilak Lake**	**8.48**	**42**	P	**Pn**	**11 57 24.9**	**+1.7**
SEW	**Seward**	**8.55**	**45**	P	**Pn**	**11 57 24.8**	**+0.7**
STLK	**Strandline Lak**	**8.60**	**33**	P	Pn	11 57 28.2	+3.4
FIB	**Fire Island**	**8.93**	**38**	P	**Pn**	**11 57 31.6**	**+2.4**
FIB	**Fire Island**	**8.93**	**38**	P	**Pn**	**11 57 31.6**	**+2.4**
GSMY	**Great Sitkin M**	**9.01**	**259**	P	**Pn**	**11 57 32.5**	**+2.1**
RC01	**Rabbit Creek A**	**9.04**	**40**	P	**Pn**	**11 57 32.6**	**+1.8**
SKT	**Skwentna**	**9.06**	**32**	P	Pn	11 57 34.2	+3.2
GSCK	**Great Sitkin C**	**9.09**	**259**	P	**Pn**	**11 57 33.2**	**+1.8**
ETKA	**Kagalaska Isla**	**9.28**	**259**	P	**Pn**	**11 57 35.5**	**+1.4**
ADK	**Adak**	**9.43**	**259**	*e*P	**Pn**	**11 57 36.4**	**+0.2**
ADK	**Adak**	**9.43**	**259**	*e*Pn	**Pn**	**11 57 36.4**	**+0.2**
PMR	**Palmer**	**9.59**	**38**	*e*P	**Pn**	**11 57 39.9**	**+1.7**
PMR	**Palmer**	**9.59**	**38**	*e*Pn	**Pn**	**11 57 39.9**	**+1.7**
PPLA	**Purkeypile**	**9.61**	**27**	P	Pn	11 57 42.5	+3.9
CAST	**Castle Rocks**	**10.07**	**25**	*e*Pn	Pn	11 57 48.6	+3.8
KTH	**Kantishna Hill**	**10.48**	**27**	*e*Pn	**Pn**	**11 57 53.2**	**+2.8**
GAMB	**Gambell**	**10.49**	**335**	*e*Pn	Pn	11 57 54.1	+3.6
TRF	**Thorofare Moun**	**10.57**	**29**	*e*Pn	**Pn**	**11 57 52.8**	**+1.0**
DIV	**Divide**	**10.63**	**46**	*e*Pn	**Pn**	**11 57 52.1**	**-0.5**
RAGM	**Ragged Mountai**	**10.77**	**51**	*e*Pn	**Pn**	**11 57 54.0**	**-0.4**
BMRM	**Bremner River**	**11.05**	**48**	*e*Pn	**Pn**	**11 57 58.5**	**+0.2**
MCK	**McKinley**	**11.17**	**30**	*e*P	**Pn**	**11 57 59.6**	**-0.3**
MCK	**McKinley**	**11.17**	**30**	*e*Pn	**Pn**	**11 57 59.6**	**-0.3**
TNA	**Tin City**	**11.38**	**347**	*e*Pn	Pn	11 58 06.8	+4.1
PAX	**Paxson**	**11.79**	**38**	*e*P	**Pn**	**11 58 07.9**	**-0.5**
PAX	**Paxson**	**11.79**	**38**	*e*Pn	**Pn**	**11 58 07.9**	**-0.5**
AMKA	**Amchitka**	**11.93**	**262**	*e*Pn	Pn	11 58 14.5	+4.2
IM04	**Indian Mountai**	**12.00**	**16**	*e*Pn	**Pn**	**11 58 13.5**	**+2.3**
COLA	**College**	**12.35**	**28**	⇑*e*P	**Pn**	**11 58 14.0**	**-1.9**
COLA				pmax	pmax		
	comp=Z,25nm,0.9s						
COLA	**College**	**12.35**	**28**	*e*Pn	**Pn**	**11 58 13.8**	**-2.1**
MENT	**Mentasta**	**12.42**	**41**	*e*Pn	**Pn**	**11 58 17.3**	**+0.3**
ILAR	**Eielson Array**	**12.55**	**30**	Pn	Pn	11 58 16.1	-2.5
ILAR				Sn	**Sn**	**12 00 33.1**	**-3.7**
ILAR	**Eielson Array**	**12.55**	**30**	Pn	Pn	11 58 16.1	-2.5
	comp=Z,0.8nm,0.3s,baz=220,slow=14,SNR=14						
ILAR				Sn	**Sn**	**12 00 33.1**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=213,slow=9.7,SNR=3.3						
ILAR				LR	LR	12 03 41.1	
	comp=Z,4μm,19.2s,baz=237,slow=40						
DOT	**Dot Lake**	**12.71**	**38**	*e*Pn	**Pn**	**11 58 20.9**	**0.0**
DHAK	**Deception Hill**	**13.53**	**61**	*e*Pn	**Pn**	**11 58 34.0**	**+1.9**
COLD	**Coldfoot**	**13.75**	**19**	*e*Pn	**Pn**	**11 58 37.1**	**+2.0**
EGAK	**Eagle**	**14.40**	**37**	*e*Pn	**Pn**	**11 58 42.1**	**-1.7**
	comp=Z,10nm,0.8s						
FX1	**Attu Island--F**	**14.98**	**274**	Pn	**Pn**	**11 58 52.7**	**+1.1**
FX1	**Attu Island--F**	**14.98**	**274**	Pn	**Pn**	**11 58 52.7**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=285,slow=19,SNR=3.8						
FX1				LR	LR	12 04 31.3	
	comp=Z,864nm,21.5s,baz=106,slow=37						
SKAG	**Skagway**	**15.05**	**61**	*e*Pn	**Pn**	**11 58 54.5**	**+2.1**
	comp=

NEW	Newport	28.07	85	⇓	P		P	12 01 10.7	+0.7	
	baz=28									
E09A	Wood Farm, Sta	28.39	88	*e*	P		P	12 01 13.7	+0.8	
	comp=Z,12nm,1.1s									
YBH	Yreka Blue Hor	28.59	101		P		P	12 01 15.6	+0.9	
YBH	Yreka Blue Hor	28.59	101		P		P	12 01 15.6	+0.9	
	comp=Z,2.3nm,0.8s,baz=283,slow=18,SNR=2.7									
YBH					LR		LR	12 10 00.4		
	comp=Z,945nm,20.3s,baz=308,slow=31									
I07A	Izee	28.98	94	*e*	P		P	12 01 19.0	+0.7	
	comp=Z,84nm,2.3s									
N02D	Trinity Center	29.09	102	⇑	P		P	12 01 19.2	+0.1	
	baz=29									
F10A	Beach Ranch, E	29.22	89	*e*	P		P	12 01 21.1	+0.7	
	comp=Z,54nm,2.1s									
BSMT	Bassoo Peak	29.63	84	*e*	P		P	12 01 24.4	+0.3	
	comp=Z,2.7nm,0.8s									
WVOR	Wild Horse Val	30.49	96	*e*	P		P	12 01 32.7	+1.1	
WVOR					pmax		pmax			
	comp=Z,18nm,1.4s									
WVOR	Wild Horse Val	30.49	96	*e*	P		P	12 01 32.6	+1.1	
	comp=Z,18nm,1.4s									
MSO	Missoula	30.66	85	⇓	P		P	12 01 33.1	0.0	
	baz=30									
MFID	Camas Ranch	31.51	92	*e*	P		P	12 01 40.5	-0.1	
	comp=Z,7.0nm,0.8s									
EGMT	Eagleton	32.44	80	⇓	P		P	12 01 48.9	+0.2	
	baz=32									
A19A	Klindworth Far	32.55	78	⇑	P		P	12 01 49.9	+0.3	
	baz=32									
B19A	Brinkman Farms	32.67	79	⇓	P		P	12 01 51.2	+0.5	
	baz=32									
C19A	Slack Wire Ran	32.99	80	⇑	P		P	12 01 54.4	+0.9	
	baz=33									
A20A	Cobblestone Ra	33.03	77	⇓	P		P	12 01 54.5	+0.6	
	baz=33,SNR=9.8									
B20A	Solberg Farm,	33.21	78	⇓	P		P	12 01 55.4	0.0	
	baz=33									
TIXI	Tiksi	33.25	327	*d*	*i* P		P	12 01 54.8	-0.5	
TIXI					pmax		pmax			
	comp=Z,14nm,1.2s									
TIXI					MLR		MLR			
	comp=Z,1μm,18.0s									
TIXI	Tiksi	33.25	327	*e*	P		P	12 01 54.3	-1.1	
NVAR	Mina Array Bea	33.31	101		P		P	12 01 57.1	+0.6	
NVAR					ScP		ScP	12 08 18.8	+0.7	
NVAR	Mina Array Bea	33.31	101		P		P	12 01 57.1	+0.6	
	comp=Z,1.5nm,0.7s,baz=298,slow=8.8,SNR=9.7									
NVAR					ScP		ScP	12 08 18.8	+0.7	
	comp=Z,1.4nm,0.8s,baz=293,slow=2.6,SNR=6.6									
NVAR					LR		LR	12 12 45.4		
	comp=Z,676nm,21.8s,baz=46,slow=31									
D19A	Cripps Ranch,	33.39	81	⇑	P		P	12 01 57.2	+0.2	
	baz=33									
ELK	Elko	33.53	95	*e*	P		P	12 01 59.4	+0.9	
A21A	Bergtoll Ranch	33.54	77	⇑	P		P	12 01 58.7	+0.4	
	baz=33									
FFC	Flin Flon	33.57	65	*i*	P		P	12 02 00.3	+1.9	
FFC	Flin Flon	33.57	65	*e*	P		P	12 01 58.9	+0.5	
	comp=Z,49nm,2.8s									
C20A	Veseth Ranch,	33.60	79	⇓	P		P	12 01 59.2	+0.4	
	baz=33,SNR=5.9									
E19A	Rath Farm, Rou	33.83	82	⇑	P		P	12 02 01.6	+0.7	
	baz=34									
D20A	Manuel Ranch,	33.86	80	⇓	P		P	12 02 01.9	+0.8	
	baz=34									
H17A	Grant Village	33.98	86	⇓	P		P	12 02 02.8	+0.5	
	baz=34									
A22A	Carney Farms,	34.11	76	⇑	P		P	12 02 03.8	+0.6	
	baz=34,SNR=6.0									
TPH	Tonopah	34.17	100	*e*	P		P	12 02 04.6	+0.6	
TPH	Tonopah	34.17	100	*e*	P		P	12 02 04.6	+0.6	
E20A	Meyer Farm, Mu	34.19	81	⇓	P		P	12 02 04.5	+0.6	
	baz=34									
H18A	Shoshone NF, C	34.34	85	⇓	P		P	12 02 05.6	+0.1	
	baz=34									
B22A	Reddig Ranch S	34.43	77	⇓	P		P	12 02 06.6	+0.6	
	baz=34									
D21A	La Casta Ranch	34.53	80	⇓	P		P	12 02 07.4	+0.6	
	baz=34									
BGU	Big Grassy Mou	34.69	93	*e*	P		P	12 02 10.5	+2.1	
H19A	Powell	34.74	84	⇑	P		P	12 02 09.3	+0.5	
	baz=34									
E21A	Keefer Ranch,	34.77	80	⇑	P		P	12 02 09.5	+0.6	
	baz=35,SNR=5.1									
C22A	Vida	34.79	78	⇑	P		P	12 02 09.2	+0.1	
	baz=35									
G20A	Bridger	34.87	83	⇓	P		P	12 02 09.7	-0.2	
	baz=35									
B23A	Brockton	34.91	76	⇑	P		P	12 02 10.6	+0.5	
	baz=35,SNR=7.0									
D22A	Cohagen	34.95	79	⇑	P		P	12 02 11.0	+0.6	
	baz=35,SNR=9.8									
YUK	Yuzh-Kuril'sk	35.03	275	*c*	*i* P		P	12 02 25.5	+14	
YUK					*i*			12 03 47.2		
YUK					MLR		MLR			
	comp=N,581nm,22.0s									
YUK					MLR		MLR			
	comp=E,263nm,22.0s									
YUK					MLR		MLR			
	comp=Z,635nm,22.0s									
C23A	Lambert	35.16	77	⇑	P		P	12 02 13.1	+0.8	
	baz=35,SNR=11									
YAK	Yakutsk	35.19	310	*e*	P		P	12 02 10.6	-1.7	
YAK					pmax		pmax			
	comp=E,39nm,1.1s									
YAK					pmax		pmax			
	comp=Z,74nm,0.9s									
YAK					pmax		pmax			
	comp=N,9.0nm,1.1s									
YAK					MLR		MLR			
	comp=Z,1μm,24.0s									
YAK					MLR		MLR			
	comp=E,908nm,21.0s									
YAK					MLR		MLR			
	comp=N,560nm,21.0s									
YAK	Yakutsk	35.19	310	*e*	P		P	12 02 11.3	-1.0	
DAC	Darwin (Calif)	35.22	103	*e*	P		P	12 02 13.4	+0.4	
DAC	Darwin (Calif)	35.22	103	*e*	P		P	12 02 13.4	+0.4	
A24A	Westby	35.23	75	⇑	P		P	12 02 13.4	+0.6	
	baz=35									
DUG	Dugway	35.29	94	*e*	P		P	12 02 14.3	+0.7	
DUG					pmax		pmax			
	comp=Z,22nm,1.4s									
DUG	Dugway	35.29	94	*e*	P		P	12 02 14.2	+0.7	
	comp=Z,22nm,1.4s									
DUG	Dugway	35.29	94	⇓	P		P	12 02 14.0	+0.5	
	baz=35,SNR=9.3									
G21A	Lodge Grass	35.44	82	⇑	P		P	12 02 13.9	-0.9	
	baz=35									
FURC	Furnace Creek,	35.49	102	⇓	P		P	12 02 15.4	+0.2	
	baz=35									
PDAR	Pinedale Array	35.55	88		P		P	12 02 15.9	0.0	
PDAR					ScP		ScP	12 08 25.3	-0.8	
PDAR	Pinedale Array	35.55	88		P		P	12 02 15.9	0.0	
	comp=Z,0.9nm,0.6s,baz=292,slow=4.9,SNR=13									
PDAR					ScP		ScP	12 08 25.3	-0.8	
	comp=Z,0.8nm,1.0s,baz=289,slow=4.5,SNR=3.7									
PDAR					LR		LR	12 15 22.1		
	comp=Z,168nm,18.6s,baz=308,slow=34									
A25A	Svangstu Ranch	35.72	74	⇓	P		P	12 02 16.4	-0.6	
	baz=36									
C24A	Savage	35.74	77	⇑	P		P	12 02 18.6	+1.4	
	baz=36,SNR=12									
FCC	Fort Churchill	35.88	55	*e*	P		P	12 02 18.3	0.0	
FCC	Fort Churchill	35.88	55	*e*	P		P	12 02 18.3	0.0	
	comp=Z,0.2nm,0.8s									
D24A	Glendive	36.02	78	⇑	P		P	12 02 21.2	+1.5	
	baz=36,SNR=11									
B25A	Knox Farm, Ray	36.05	75	⇑	P		P	12 02 20.0	+0.2	
	baz=36,SNR=5.6									
J20A	Shoshoni	36.05	86	⇓	P		P	12 02 20.5	+0.4	
	baz=36									
F23A	Volborg	36.19	80	⇑	P		P	12 02 21.3	+0.1	
	baz=36									
I21A	Big Trails, Te	36.23	84	⇓	P		P	12 02 21.1	-0.5	
	baz=36									
SHOC	Shoshone	36.23	102	⇓	P		P	12 02 21.9	+0.4	
	baz=36									
C25A	Freed Ranch, W	36.30	76	⇓	P		P	12 02 22.3	+0.3	
	baz=36									
A26A	Wade Farm, Ken	36.34	74	⇑	P		P	12 02 22.5	+0.2	
	baz=36,SNR=10									
J21A	Lysite	36.42	85	⇓	P		P	12 02 23.4	+0.1	
	baz=36									
G23A	Biddle	36.50	81	⇓	P		P	12 02 24.4	+0.6	
	baz=36									
F24A	Ekalaka	36.67	80	⇑	P		P	12 02 25.9	+0.6	
	baz=36,SNR=7.2									
TMUT	Trail Mountain	36.81	93	*e*	P		P	12 02 27.5	+0.7	
	comp=Z,7.4nm,0.8s									
ASAJ	Asahikawa	36.87	277		LR		LR	12 16 30.7		
	comp=Z,377nm,21.9s,baz=41,slow=34									
C26A	Wahner Farm, P	36.89	75	⇓	P		P	12 02 27.5	+0.4	
	baz=37									
E25A	Miller Ranch,	36.89	78	⇑	P		P	12 02 27.9	+0.8	
	baz=37									
J22A	Midwest	36.94	84	⇓	P		P	12 02 28.1	+0.4	
	baz=37									
K21A	Alcova	36.97	86	⇑	P		P	12 02 27.7	-0.3	
	baz=37									
F25A	Bowman	37.19	79	⇓	P		P	12 02 29.5	-0.1	
	baz=37									
H24A	Dirks Ranch, A	37.25	81	⇑	P		P	12 02 30.4	+0.2	
	baz=37									
C27A	Sayler Ranch,	37.28	75	⇓	P		P	12 02 30.7	+0.3	
	baz=37									
A28A	Rude Farm, Bot	37.32	73	⇓	P		P	12 02 31.1	+0.4	
	baz=37,SNR=6.4									
SRU	San Rafael	37.33	93	*e*	P		P	12 02 31.9	+0.8	
SRU	San Rafael	37.33	93	*e*	P		P	12 02 31.9	+0.8	
GMRC	Granite Mounta	37.38	103	⇑	P		P	12 02 31.8	+0.3	
	baz=37									
E26A	Carlson Angus	37.44	77	⇑	P		P	12 02 32.0	+0.3	
	baz=37									
LDFC	Landfair	37.48	102	*e*	P		P	12 02 32.0	-0.3	
	comp=Z,30nm,1.1s									
B28A	Dugan Ranch, T	37.52	73	⇑	P		P	12 02 32.8	+0.5	
	baz=37									
G25A	Newell	37.64	80	⇑	P		P	12 02 34.2	+0.7	
	baz=37,SNR=5.2									
F26A	Lodgepole	37.68	78	⇑	P		P	12 02 34.3	+0.5	
	baz=38,SNR=10									
PFO	Pyon Flat Ob	37.79	105		LR		LR	12 15 02.5		
	comp=Z,734nm,21.5s,baz=308,slow=31									
ERM	Erimo	37.84	274		P		P	12 02 35.0	0.0	
H25A	Fruitdale	37.87	81	⇑	P		P	12 02 35.7	+0.2	
	baz=38									
A29A	Manning Farm,	37.89	72	⇓	P		P	12 02 36.2	+0.8	
	baz=38,SNR=8.3									
RSSD	Black Hills	37.92	82	*e*	P		P	12 02 36.3	+0.3	
RSSD	Black Hills	37.92	82	*e*	P		P	12 02 36.3	+0.3	
E27A	Carson	37.98	77	⇑	P		P	12 02 36.4	+0.1	
	baz=38									
O20A	White River Ci	37.98	90	*e*	P		P	12 02 36.1	-0.4	
	comp=Z,16nm,0.8s									
O20A	White River Ci	37.98	90	⇓	P		P	12 02 36.2	-0.4	
	baz=38									
F27A	Lemmon	38.04	78	⇑	P		P	12 02 37.3	+0.5	
	baz=38,SNR=9.1									
M22A	Cedar Creek Ra	38.12	87	⇓	P		P	12 02 38.1	+0.3	
	baz=38									
IRM	Iron Mountain	38.12	103	⇑	P		P	12 02 38.4	+0.8	
	baz=38									
U15A	North Rim	38.14	98	⇓	P		P	12 02 38.5	+0.5	
	baz=38									
W13A	Hualapai Mount	38.16	101	⇑	P		P	12 02 38.4	+0.3	
	baz=38									
L23A	Garrett	38.19	85	⇓	P		P	12 02 37.8	-0.6	
	baz=38									
H26A	Fairpoint	38.35	80	⇑	P		P	12 02 39.7	+0.2	
	baz=38,SNR=5.2									
G27A	Dupree	38.38	79	⇓	P		P	12 02 39.9	+0.2	
	baz=38,SNR=8.7									
E28A	Huff	38.38	76	⇑	P		P	12 02 39.8	+0.2	
	baz=38,SNR=8.9									
A30A	Hoffart Farm,	38.39	72	⇑	P		P	12 02 39.9	+0.2	
	baz=38									
N22A	Wattenberg Ran	38.59	88	⇑	P		P	12 02 41.6	-0.1	
	baz=38									
HABR	Khabarovsk	38.64	288		*e*P		P	12 02 40.5	-1.2	
HABR					*e**PP		pP	12 02 49.8	-3.9	
HABR					*e**SP		sP	12 02 54.1	-4.9	
HABR					*e*			12 04 08.3		
HABR					*e*			12 04 53.0		
HABR					*e*S		S	12 08 34.0	-0.8	
HABR					*e*SS		SnSn	12 11 22.6	-2.7	
HABR					*e*			12 12 48.0		
HABR					pmax		pmax			
	comp=N,16nm,1.4s									
HABR					pmax		pmax			
	comp=E,21nm,1.4s									
HABR					pmax		pmax			
	comp=Z,40nm,1.4s									
HABR					MLR		MLR			
	comp=Z,502nm,19.0s									
B30A	Myrvik Farm, E	38.65	72	⇑	P		P	12 02 42.1	+0.3	
	baz=38									
I26A	New Underwood	38.65	81	⇑	P		P	12 02 42.1	+0.1	
	baz=38									
D29A	Pettibone, Tap	38.72	75	⇓	P		P	12 02 42.6	+0.2	
	baz=38									
H27A	Howes	38.74	80	⇓	P		P	12 02 42.7	0.0	
	baz=38									
F28A	McLaughlin	38.74	77	⇑	P		P	12 02 43.0	+0.3	
	baz=39,SNR=12									
Y12C	Blythe	38.78	103	⇓	P		P	12 02 43.6	+0.5	
	baz=39									
J26A	Sides Ranch, S	38.97	82	⇓	P		P	12 02 44.7	+0.1	
	baz=39									
E29A	Napoleon	38.98	76	⇓	P		P	12 02 44.8	+0.1	
	baz=39									
C30A	Mose, Pekin	38.98	73	⇑	P		P	12 02 44.9	+0.3	
	baz=39									
ULM	Lac du Bonnet	39.00	68		P		P	12 02 45.0	+0.3	
ULM	Lac du Bonnet	39.00	68		P		P	12 02 45.0	+0.3	
	comp=Z,9.2nm,0.7s,baz=306,slow=8.5,SNR=20									
ULM					LR		LR	12 18 55.3		
	comp=Z,285nm,19.6s,baz=249,slow=36									
I27A	Quinn	39.09	80	⇑	P		P	12 02 46.0	+0.3	
	baz=39									
GLA	Glamis	39.12	104	⇑	P		P	12 02 46.1	+0.1	
	baz=39									
G28A	Parade	39.14	78	⇓	P		P	12 02 46.2	+0.2	
	baz=39									
D30A	Buchanan	39.16	74	⇑	P		P	12 02 46.2	0.0	
	baz=39,SNR=8.5									
O23A	Lake Granby, G	39.28	88	⇑	P		P	12 02 47.7	+0.1	
	baz=39,SNR=5.5									
F29A	Eureka	39.30	77	⇓	P		P	12 02 47.3	-0.1	
	baz=39									
WUAZ	Wupatki	39.31	98	*e*	P		P	12 02 48.4	+0.7	
WUAZ	Wupatki	39.31	98	⇓	P		P	12 02 48.1	+0.4	
	baz=39									
H28A	Mission Ridge	39.31	79	⇓	P		P	12 02 47.4	-0.1	
	baz=39									
E30A	Jud	39.43	75	⇓	P		P	12 02 48.8	+0.4	
	baz=39									
Y14A	Wickenburg	39.50	101	⇑	P		P	12 02 49.5	+0.3	
	baz=39									
CLNS	Chul'man	39.58	304	*e*	P		P	12 02 47.9	-1.7	
CLNS					pmax		pmax			
	comp=Z,17nm,1.0s									
CLNS					pmax		pmax			
	comp=N,10.0nm,0.9s									
CLNS					pmax		pmax			
	comp=E,15nm,1.0s									
J27A	Elkhorn Farm,	39.62	81	⇓	P		P	12 02 50.0	-0.1	
	baz=39									
G29A	Hoven	39.63	77	⇑	P		P	12 02 49.8	-0.2	
	baz=39,SNR=5.8									
I28A	Midland	39.64	80	⇑	P		P	12 02 50.1	-0.1	
	baz=39,SNR=6.4									
MVCO	Mesa Verde	39.79	94	⇓	P		P	12 02 52.1	+0.3	
	baz=40									
H29A	Onida	39.80	78	⇑	P		P	12 02 51.9	+0.4	
	baz=40									
K27A	Flueckinger Fa	39.83	82	⇑	P		P	12 02 52.5	+0.7	
	baz=40									
J28A	Allard Ranch,	39.95	81	⇑	P		P	12 02 52.8	0.0	
	baz=40									
KLR	Kul'dur	40.03	291	*e*	P		P	12 02 48.3	-5.0	
X16A	Lo Mia Camp, P	40.05	99	⇑	P		P	12 02 53.5	-0.4	
	baz=40									
AGMN	Agassiz Nation	40.09	71	*e*	P		P	12 02 53.9	0.0	
	comp=E,12nm,0.7s									
AGMN	Agassiz Nation	40.09	71	⇑	P		P	12 02 53.5	-0.3	
	baz=40,SNR=12									
G30A	Faulkton	40.11	77	⇓	P		P	12 02 53.9	-0.1	
	baz=40,SNR=18									
O25A	Wiggins	40.39	87	⇓	P		P	12 02 55.6	-1.0	
	baz=40									
S22A	4UR Ranch, Cre	40.39	92	⇑	P		P	12 02 57.3	+0.5	
	baz=40									
J29A	Okreek	40.49	80	⇑	P		P	12 02 57.0	-0.3	
	baz=40,SNR=14									
BRSD	Miller	40.63	78	*e*	P		P	12 02 58.0	-0.3	
	comp=E,27nm,0.9s									
BRSD	Miller	40.63	78	⇑	P		P	12 02 58.0	-0.3	
	baz=40									
X18A	Snowflake	40.83	98	⇑	P		P	12 03 00.4	+0.1	
	baz=41									
N27A	Anderson Farm,	40.86	85	⇓	P		P	12 02 60.0	-0.4	
	baz=41									
K29A	Lazy Trails An	40.89	81	⇓	P		P	12 02 59.1	-1.5	
	baz=41									
J30A	Dallas	41.01	79	⇑	P		P	12 03 01.7	+0.1	
	baz=41,SNR=14									
Q25A	Bedland, Calha	41.11	88	⇓	P		P	12 03 02.6	0.0	
	baz=41									
SDCO	Great Sand Dun	41.17	90	*e*	P		P	12 03 04.3	+1.1	
	comp=E,3.5nm,1.0s									
P26A	Davis Ranch, A	41.20	87	⇑	P		P	12 03 03.9	+0.6	
	baz=41									
U22A	Llaves	41.32	93	⇓	P		P	12 03 02.2	-2.2	
	baz=41									
K30A	Basset	41.35	80	⇓	P		P	12 03 03.4	-0.9	
	baz=41									
S24A	Houchin Ranch,	41.41	90	⇓	P		P	12 03 05.1	-0.1	
	baz=41									
V22A	San Miguel Ran	41.61	94	⇓	P		P	12 03 07.9	+1.1	
	baz=41									
U23A	El Rito	41.74	93	⇑	P		P	12 03 07.8	0.0	
	baz=42,SNR=11									
M30A	Dale-Ortello V	41.92	82	⇑	P		P	12 03 09.2	+0.1	
	baz=42									
R26A	Arlington	41.98	88	⇑	P		P	12 03 08.7	-1.0	
	baz=42									
KSCO	Kaye Shedlock'	41.98	87	⇓	P		P	12 03 09.8	+0.1	
	baz=42									
L31A	Butterfield Fa	42.11	80	⇑	P		P	12 03 10.7	+0.2	
	baz=42									
P28A	Saint Francis	42.12	85	⇓	P		P	12 03 10.8	+0.1	
	baz=42									
V23A	Ortiz Mt. (NFS	42.15	93	⇑	P		P	12 03 12.3	+1.1	
	baz=42									
T25A	Trinidad	42.21	90	⇑	P		P	12 03 12.2	+0.6	
	baz=42									
H11N2	WAKE ISLAND Hy	42.26	227		T		T	12 47 54.6		
	baz=29,slow=76,SNR=232									
H11N3	WAKE ISLAND Hy	42.27	227		T		T	12 48 01.2		
	baz=29,slow=76,SNR=228									
H11N1	WAKE ISLAND Hy	42.28	227		T		T	12 48 04.6		
	baz=29,slow=76,SNR=274									
O29A	4D Ranch, Culb	42.31	84	⇑	P		P	12 03 12.4	+0.2	
	baz=42									
R27A	Eads	42.37	88	⇑	P		P	12 03 11.8	-1.0	
	baz=42									
ECSD	EROS Data Cent	42.40	77	*e*	P		P	12 03 11.9	-0.9	
	comp=E,3.4nm,0.6s									
ECSD	EROS Data Cent	42.40	77	⇑	P		P	12 03 11.9	-0.9	
	baz=42									
S26A	Kim	42.43	89	⇓	P		P	12 03 11.8	-1.6	
	baz=42									
ANMO	Albuquerque	42.55	94		LR		LR	12 19 20.5		
	comp=E,85nm,19.9s,baz=308,slow=34									
P29A	Atwood	42.58	85	⇑	P		P	12 03 14.0	-0.4	
	baz=42									
W23A	Werner Place,	42.58	94	⇓	P		P	12 03 13.6	-1.1	
	baz=42									
EYMN	Ely	42.68	69	*e*	P		P	12 03 14.9	-0.2	
	comp=E,15nm,0.7s									
V24A	Rampart Ranch,	42.69	92	⇑	P		P	12 03 15.6	0.0	
	baz=42									
U25A	Circle Dot Ran	42.72	91	⇓	P		P	12 03 16.4	+0.6	
	baz=42									
USRK	Ussuriysk Arra	42.87	284		P		P	12 03 15.4	-1.3	
	comp=E,2.5nm,0.8s,baz=70,slow=12,SNR=3.2									
USRK					LR		LR	12 21 31.3		
	comp=E,517nm,20.8s,baz=50,slow=37									
X23A	Hourglass Bar	42.97	94	⇓	P		P	12 03 17.3	-0.5	
	baz=43									
W24A	Lazy 6 Ranch,	42.97	93	⇓	P		P	12 03 17.9	0.0	
	baz=43									
BGNE	Belgrade	43.00	81	⇑	P		P	12 03 16.3	-1.5	
	baz=43									
P30A	Selden	43.01	84	⇑	P		P	12 03 18.1	+0.2	
	baz=43									
BNM	Barren Site	43.02	95	*e*	P		P	12 03 18.6	+0.3	
	comp=E,5.3nm,1.1s									
U26A	Atchley Ranch,	43.11	90	⇓	P		P	12 03 18.4	-0.5	
	baz=43									
O31A	Woolen Ranch,	43.14	83	⇓	P		P	12 03 19.1	+0.2	
	baz=43									
R29A	Marienthal	43.24	86	⇓	P		P	12 03 20.5	+0.7	
	baz=43									
H11S1	WAKE ISLAND Hy	43.43	226		T		T	12 49 25.1		
	baz=27,slow=77,SNR=791									
H11S2	WAKE ISLAND Hy	43.45	226		T		T	12 49 26.3		
	baz=27,slow=77,SNR=115									
H11S3	WAKE ISLAND Hy	43.45	226		T		T	12 49 26.3		
	baz=27,slow=77,SNR=309									
Z22A	Elephant Butte	43.47	96	⇑	P		P	12 03 20.8	-1.0	
	baz=43									
V26A	Tequesquite Ra	43.51	91	⇑	P		P	12 03 22.7	+0.7	
	baz=43									
Y23A	Lovelace Mesa,	43.51	95	⇑	P		P	12 03 23.3	+1.2	
	baz=43									
121A	Cookes Peak, D	43.52	98	⇓	P		P	12 03 21.8	-0.4	
	baz

CN2 eS **S** **12 10 30.9 -3.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,400nm,20.0s
SUMG Summit 47.15 20 *e*P **P** **12 03 51.3 +0.6**
SUMG pmax pmax
comp=Z,25nm,1.1s
SUMG Summit 47.15 20 *i* P **P** **12 03 51.2 +0.6**
comp=Z,13nm,1.0s
SUMG Summit 47.15 20 *e*P **P** **12 03 51.3 +0.6**
comp=Z,25nm,1.1s
WMOK Wichita Mounta 47.16 88 *e*P **P** **12 03 49.5 -1.3**
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 47.16 88 *e*P **P** **12 03 49.5 -1.3**
comp=Z,4.9nm,0.9s
SPITS Spitsbergen Ar 47.43 1 LR LR 12 25 13.3
comp=Z,284nm,18.8s,baz=305,slow=38
329A Wagon Wheel Ra 47.64 94 ⇓P **P** **12 03 56.0 +1.4**
baz=47
Z32A Haskell 47.77 90 ⇑P **P** **12 03 57.0 +1.4**
baz=48
428A Kincaid Ranch, 47.79 95 ⇓P **P** **12 03 56.1 +0.2**
baz=48
626A Big Bend Ranch 47.82 97 ⇑P **P** **12 03 57.0 +0.8**
baz=48
TUL1 Tulsa 48.07 85 ⇑P **P** **12 03 57.5 -0.3**
baz=48
528A Cox Ranch, San 48.15 96 ⇑P **P** **12 03 58.9 +0.2**
baz=48
SFJD Kangerlussuaq 48.21 29 *i* P **P** **12 03 59.7 +1.2**
comp=Z,23nm,1.0s
SFJD Kangerlussuaq 48.21 29 *e*P **P** **12 03 59.4 +0.9**
comp=Z,41nm,1.1s
TXAR Lajitas Array 48.26 97 P **P** **12 03 59.2 -0.3**
TXAR PcP **PcP** **12 05 25.6 -0.3**
TXAR Lajitas Array 48.26 97 P **P** **12 03 59.2 -0.3**
comp=Z,1.8nm,0.8s,baz=299,slow=6.0,SNR=17
TXAR PcP **PcP** **12 05 25.6 -0.3**
comp=Z,0.6nm,0.5s,baz=289,slow=1.6,SNR=3.5
TXAR LR LR 12 22 42.0
comp=Z,310nm,20.1s,baz=0.0,slow=34
429A Davenport Ranc 48.32 95 ⇑P **P** **12 04 01.3 +1.4**
baz=48
627A Terlingua Ranc 48.33 97 ⇑P **P** **12 04 00.3 +0.2**
baz=48
529A Stev Forest Ra 48.50 95 ⇓P **P** **12 04 01.6 +0.3**
baz=48
LPIG La Paz 48.52 108 LR LR 12 20 54.3
comp=Z,188nm,20.9s,baz=320,slow=32
430A Baggett Ranch, 48.58 94 ⇓P **P** **12 04 02.8 +0.8**
baz=48
530A J-C Ranch, Com 49.00 94 ⇑P **P** **12 04 05.4 +0.3**
baz=49
431A Sonora 49.02 93 ⇓P **P** **12 04 06.7 +1.4**
baz=49
233A Rising Star 49.04 91 ⇓P **P** **12 04 07.3 +1.9**
baz=49
432A Menard 49.35 93 ⇑P **P** **12 04 08.7 +0.8**
baz=49
531A Rocksprings 49.44 94 ⇓P **P** **12 04 07.2 -1.4**
baz=49
KSRS Korea Array 49.64 280 P **P** **12 04 10.2 +0.3**
comp=Z,28nm,0.9s,baz=52,slow=7.1,SNR=36
KSRS LR LR 12 24 20.5
comp=Z,102nm,21.8s,baz=56,slow=35
JCT Junction City 49.64 93 *e*P **P** **12 04 09.1 -0.9**
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 49.64 93 *e*P **P** **12 04 09.1 -0.9**
comp=Z,8.1nm,0.8s
JCT Junction City 49.64 93 ⇓P **P** **12 04 10.3 +0.3**
baz=49
KSAR Wonju Array Be 49.67 280 P **P** **12 04 10.2 +0.1**
532A Rocksprings 49.84 93 ⇓P **P** **12 04 12.4 +0.8**
baz=50
433A Art 49.85 92 ⇓P **P** **12 04 10.2 -1.3**
baz=50
334A Lometa 49.92 91 ⇑P **P** **12 04 10.8 -1.4**
baz=50
SFIN Scholer Farm 49.95 74 *e*P **P** **12 04 11.2 -0.9**
comp=Z,19nm,0.9s
SFIN Scholer Farm 49.95 74 ⇓P **P** **12 04 11.2 -0.9**
baz=50
631A Perdido Creek 49.98 94 ⇓P **P** **12 04 11.3 -1.3**
baz=50
434A Burnet 50.29 91 ⇓P **P** **12 04 15.7 +0.9**
baz=50
SCHQ Schefferville 50.54 48 P **P** **12 04 17.1 +0.6**
SCHQ Schefferville 50.54 48 P **P** **12 04 17.1 +0.6**
comp=Z,7.1nm,0.9s,baz=2.6,slow=7.6,SNR=9.8
SCHQ LR LR 12 26 40.8
comp=Z,461nm,21.4s,baz=326,slow=37
SIUC Southern Illin 50.58 78 *e*P **P** **12 04 16.0 -1.0**
comp=Z,17nm,0.7s
TJN Taejon 50.71 280 *ce*P **P** **12 04 18.0 0.0**
JNU Nakatsue 51.00 274 P **P** **12 04 20.1 -0.2**
JNU Nakatsue 51.00 274 P **P** **12 04 20.1 -0.2**
comp=Z,31nm,1.1s,baz=18,slow=11,SNR=5.5
JNU LR LR 12 25 27.7
comp=Z,211nm,21.9s,baz=57,slow=35
PARMO Parma 51.01 79 *e*P **P** **12 04 18.8 -1.4**
832A Faith Ranch, C 51.18 95 ⇑P **P** **12 04 21.4 -0.1**
baz=51
USIN University of 51.29 77 *e*P **P** **12 04 21.6 -0.7**
comp=Z,39nm,0.9s
SCO Scoresbysund 51.87 16 *e*P **P** **12 04 27.6 +1.4**
SCO pmax pmax
comp=Z,7.0nm,0.9s
SCO Scoresbysund 51.87 16 *i* P **P** **12 04 27.6 +1.4**
comp=Z,6.8nm,0.9s
TLY Talaya 52.63 309 P **P** **12 04 32.1 0.0**
comp=Z,138nm,0.9s,SNR=24
TLY Talaya 52.63 309 *e*P **P** **12 04 32.4 +0.3**
TLY pmax pmax
comp=Z,29nm,1.1s
TLY MLR MLR
comp=Z,243nm,17.0s
TLY Talaya 52.63 309 *e*P **P** **12 04 32.4 +0.3**
comp=Z,29nm,1.1s
OXF Oxford 52.74 81 *e*P **P** **12 04 31.9 -1.2**
OXF pmax pmax
comp=Z,50nm,1.1s
OXF Oxford 52.74 81 *e*P **P** **12 04 31.9 -1.2**
comp=Z,50nm,1.1s
ULN Ulaanbaatar 53.65 303 *e*P **P** **12 04 39.8 -0.1**
comp=Z,25nm,1.0s
ZAK Zakamensk 53.69 308 *e*P **P** **12 04 38.8 -1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
MOY Mondy 53.83 310 *e*P **P** **12 04 41.6 +0.6**
SONM Songino Array 53.99 304 P **P** **12 04 42.6 +0.3**
SONM PcP **PcP** **12 05 47.0 0.0**
SONM ScP **ScP** **12 09 43.2 +2.1**
SONM Songino Array 53.99 304 P **P** **12 04 42.6 +0.3**
comp=Z,21nm,1.0s,baz=49,slow=6.5,SNR=71
SONM PcP **PcP** **12 05 47.0 0.0**
comp=Z,5.2nm,0.9s,baz=68,slow=1.7,SNR=5.4
SONM ScP **ScP** **12 09 43.2 +2.1**
comp=Z,0.8nm,0.9s,baz=62,slow=3.4,SNR=3.8
SONM LR LR 12 30 18.4
comp=Z,717nm,18.2s,baz=30,slow=39
BJI Beijing 54.40 291 P **P** **12 04 45.6 +0.4**
BJI pmax pmax
comp=Z,26nm,0.6s
BJI LR LR
comp=Z,320nm,19.7s
BJI LR LR
comp=Z,390nm,21.1s
BJI LR LR
comp=Z,330nm,23.8s
KEV Kevo 55.75 356 *e*P **P** **12 04 54.6 +0.1**
KEV Kevo 55.75 356 *ep* **P** **12 04 54.6 +0.1**
BLA Blacksburg 55.88 72 *e*P **P** **12 04 56.0 0.0**
BLA pmax pmax
comp=Z,10.0nm,0.8s
BLA Blacksburg 55.88 72 *e*P **P** **12 04 56.0 0.0**
comp=Z,10nm,0.8s
ARCES ARCESS Array B 56.02 357 P **P** **12 04 55.9 -0.6**
ARCES ARCESS Array B 56.02 357 P **P** **12 04 55.9 -0.6**
comp=Z,9.9nm,1.0s,baz=28,slow=5.7,SNR=15
ARCES LR LR 12 28 07.7
comp=Z,183nm,21.8s,baz=1.5,slow=35
HHC Hu-ho-hao-te 56.30 294 *e*P **P** **12 04 59.1 +0.1**
HHC pP **pP** **12 05 10.6 -1.0**
HHC S **S** **12 12 45.4 -0.4**
HHC sS **sS** **12 13 03.4 -3.3**
HHC SS **SS** **12 16 33.0 +0.6**
HHC pmax pmax
comp=Z,53nm,0.9s
HHC pmax pmax
comp=Z,290nm,5.9s
HHC LR LR
comp=Z,700nm,21.2s
HHC LR LR
comp=Z,680nm,22.2s
HHC LR LR
comp=Z,620nm,23.0s
KMSC Kings Mountain 56.87 75 ⇑P **P** **12 05 01.6 -1.4**
baz=57
LVZ Lovozero 57.17 353 ⇑ *i*P **P** **12 05 04.1 -0.6**
LVZ pmax pmax
comp=Z,31nm,1.0s
HVS Khovu-Aksy 57.37 314 *d* iP **P** **12 05 07.0 +0.6**
HVS pmax pmax
comp=Z,102nm,0.9s
NVS Novosibirsk 58.60 322 *e*P **P** **12 05 13.1 -1.7**
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,11nm,1.3s
NVS pmax pmax
comp=Z,18nm,1.3s
NJ2 Nanjing 58.69 282 *e*P **P** **12 05 15.5 -0.3**
NJ2 pmax pmax
comp=Z,50nm,1.2s
ZALV Zalesovo Beam 58.73 321 P **P** **12 05 15.6 -0.1**
ZALV 12 06 05.8
ZALV Zalesovo Beam 58.73 321 P **P** **12 05 15.6 -0.1**
ZALV PcP **PcP** **12 06 05.8 +0.7**
ZALV Zalesovo Beam 58.73 321 P **P** **12 05 15.6 -0.1**
comp=Z,2.3nm,0.7s,baz=20,slow=5.4,SNR=10
ZALV PcP **PcP** **12 06 05.8 +0.7**
comp=Z,0.7nm,0.5s,baz=15,slow=6.0,SNR=3.7
ZALV LR LR 12 33 16.3
comp=Z,732nm,18.4s,baz=57,slow=39
PRGR Permogore 62.08 346 *e*P P 12 05 35.7 -2.8
PRGR *e**PP pP 12 05 46.3 -4.9
PRGR 12 06 15.6
PRGR pmax pmax
comp=Z,82nm,1.0s
JOF Joensuu 62.34 353 *e*P **P** **12 05 40.0 -0.2**
JOF Joensuu 62.34 353 *ep* **P** **12 05 40.0 -0.2**
XAN Xi'an 62.74 291 P **P** **12 05 42.9 -0.5**
XAN pP **pP** **12 05 54.8 -1.3**
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN pmax pmax
comp=Z,54nm,5.1s
XAN LR LR
comp=Z,220nm,14.2s
XAN LR LR
comp=Z,72nm,14.2s
GTA Gaotai 63.41 301 P **P** **12 05 47.8 -0.1**
GTA pP **pP** **12 06 00.0 -0.6**
GTA sP **sP** **12 06 05.9 +0.2**
GTA S **S** **12 14 15.8 -1.5**
GTA sS **sS** **12 14 37.9 -0.6**
GTA SS **SS** **12 18 24.3 +0.5**
GTA pmax pmax
comp=Z,30nm,1.2s
GTA pmax pmax
comp=Z,140nm,5.9s
GTA LR LR
comp=Z,360nm,16.6s
GTA LR LR
comp=Z,330nm,17.3s
GTA LR LR
comp=Z,490nm,17.1s
KAF Kangasniemi 63.41 356 *e*P **P** **12 05 47.6 +0.2**
KAF Kangasniemi 63.41 356 *ep* **P** **12 05 47.6 +0.2**
KURK Kurchatov 63.59 322 *c* iP **P** **12 05 48.4 -0.3**
KURK pmax pmax
comp=Z,15nm,1.2s
KURK MLR MLR
comp=Z,620nm,20.0s
KURK Kurchatov 63.59 322 *e*P **P** **12 05 48.6 -0.1**
comp=Z,16nm,1.3s
KLMR Klimovskoe 63.63 349 *e*P **P** **12 05 46.8 -2.0**
KLMR pmax pmax
comp=Z,54nm,1.3s
SVE Sverdlovsk 63.68 336 *e*P **P** **12 05 47.9 -1.3**
SVE pmax pmax
comp=Z,30nm,0.9s
SSLB Suanglung 63.74 275 *e*P **P** **12 05 49.3 -0.9**
comp=Z,37nm,1.1s
LZH Lanzhou 63.89 296 *e*P **P** **12 05 51.1 0.0**
LZH pP **pP** **12 06 03.6 -0.3**
LZH sP **sP** **12 06 09.0 0.0**
LZH *e*PP **PP** **12 08 13.0 +1.4**
LZH *e*S **S** **12 14 21.0 -2.4**
LZH sS **sS** **12 14 42.1 -2.5**
LZH *e*SS **SS** **12 18 28.0 -3.5**
LZH pmax pmax
comp=Z,39nm,1.5s
LZH pmax pmax
comp=Z,130nm,5.6s
LZH LR LR
comp=Z,440nm,16.0s
LZH LR LR
comp=Z,600nm,16.5s
LZH LR LR
comp=Z,750nm,19.2s
FINES FINESS Array B 64.09 356 P **P** **12 05 51.6 -0.2**
FINES FINESS Array B 64.09 356 P **P** **12 05 51.6 -0.2**
comp=Z,27nm,0.9s,baz=20,slow=6.3,SNR=51
FINES LR LR 12 36 33.7
comp=Z,140nm,19.0s,baz=21,slow=38
BRVK Borovoye 64.38 328 *c* iP **P** **12 05 54.0 +0.1**
BRVK pmax pmax
comp=Z,59nm,1.7s
BRVK Borovoye 64.38 328 *e*P **P** **12 05 54.2 +0.3**
comp=Z,34nm,1.1s
NB2 NORSAR Subarra 64.52 4 P **P** **12 05 55.0 +0.3**
comp=Z,42nm,1.4s,baz=356,slow=6.9
NB2 NORSAR Subarra 64.52 4 P **P** **12 05 55.0 +0.3**
baz=356,slow=6.9
NOA NORSAR Array B 64.52 4 P **P** **12 05 54.9 +0.1**
NOA NORSAR Array B 64.52 4 P **P** **12 05 54.9 +0.1**
comp=Z,9.1nm,0.8s,baz=357,slow=6.5,SNR=19
NOA LR LR 12 32 50.2
comp=Z,72nm,21.3s,baz=325,slow=35
ARU Arti 64.53 337 *c* iP **P** **12 05 54.6 -0.2**
ARU pmax pmax
comp=Z,33nm,1.0s
ARU MLR MLR
comp=Z,536nm,21.0s
ARU Arti 64.53 337 *e*P **P** **12 05 54.7 -0.2**
comp=Z,26nm,0.7s
ENH Enshi 65.29 288 *e*P **P** **12 05 59.7 -0.5**
comp=Z,19nm,1.4s
MK31 Makanchi Array 65.43 317 *i* P **P** **12 05 59.9 -1.0**
MKAR Makanchi Array 65.43 317 P **P** **12 06 00.3 -0.6**
MKAR Makanchi Array 65.43 317 P **P** **12 06 00.3 -0.6**
MKAR Makanchi Array 65.43 317 P **P** **12 06 00.3 -0.6**
comp=Z,4.0nm,1.0s,baz=48,slow=7.3,SNR=20
MKAR LR LR 12 36 08.2
comp=Z,472nm,21.8s,baz=3.5,slow=37
WMQ Urumqi 65.61 312 P **P** **12 06 05.0 +2.9**
WMQ pP **pP** **12 06 18.0 +3.1**
WMQ sP **sP** **12 06 23.3 +3.4**
WMQ S **S** **12 14 45.5 +1.4**
WMQ pmax pmax
comp=Z,21nm,1.3s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=Z,310nm,21.9s
WMQ LR LR
comp=Z,350nm,25.4s
WMQ LR LR
comp=Z,460nm,27.2s
TAOE Nuku Hiva Isla 65.79 157 *e*T T 13 17 08.1
comp=Z,69nm,0.2s
KONO Kongsberg 65.84 5 *d* iP **P** **12 06 04.4 +1.2**
KONO pmax pmax
comp=Z,184nm,1.2s
KPL Plockton 66.68 14 *e*P **P** **12 06 09.3 +0.7**
KPL AMB AMB 12 06 12.2
comp=Z,123nm,2.7s
MCD Coleburn Disti 66.76 12 *e*P **P** **12 06 10.0 +0.8**
VSU Vasula 67.04 355 ⇓ *e*P **P** **12 06 11.4 +0.5**
VSU pmax pmax
comp=Z,101nm,0.9s
DRUM Mains of Drumt 67.51 12 *e*P **P** **12 06 14.5 +0.6**
DRUM AMB AMB 12 06 20.6
comp=Z,134nm,1.8s
CD2 Chengdu 67.92 292 ⇑ *i*P **P** **12 06 17.0 0.0**
CD2 sP **sP** **12 06 32.9 -2.0**
CD2 PP **PP** **12 08 45.4 -1.4**
CD2 S **S** **12 15 10.5 -1.9**
CD2 SS **SS** **12 19 31.5 -2.6**
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,150nm,6.5s
CD2 LR LR
comp=Z,220nm,15.5s
CD2 LR LR
comp=Z,230nm,16.7s
EAB Aberfoyle 67.98 13 *e*P **P** **12 06 17.3 +0.5**
ESK Eskdalemuir 68.98 13 *e*P **P** **12 06 23.6 +0.5**
OBN Obninsk 69.58 349 *c* iP **P** **12 06 26.4 -0.4**
OBN pmax pmax
comp=Z,51nm,1.7s
GYA Guiyang 69.81 287 *e*P **P** **12 06 30.0 +1.1**
GYA pP **pP** **12 06 42.5 +0.8**
GYA sP **sP** **12 06 48.8 +2.0**
GYA PP **PP** **12 09 05.3 +2.0**
GYA sS **sS** **12 15 52.0 -4.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
ISAL Salakas 69.96 355 *e*P **P** **12 06 28.8 -0.3**
ISAL AMB AMB 12 06 30.2
comp=Z,16nm,1.1s
IIGN Ignalina 70.18 355 *e*P **P** **12 06 29.9 -0.6**
IIGN AMB AMB 12 06 31.0
comp=Z,16nm,1.0s
IDID Didziasalis 70.19 355 *e*P **P** **12 06 29.9 -0.7**
IDID AMB AMB 12 06 32.6
comp=Z,19nm,1.1s
PMOR Pomariorio Ree 70.35 166 *e*T T 13 22 42.1
comp=Z,128nm,0.2s
NACGM Naroch 70.60 355 *e* **P** **12 06 32.0 -1.1**
VAH Vaihoa 70.62 166 *e*T T 13 23 02.5
comp=Z,11nm,0.4s
AB31 Akbulak array 70.74 333 *i* P **P** **12 06 34.1 +0.1**
AB31 pmax pmax
comp=Z,13nm,0.7s
ABKAR Akbulak array 70.74 333 *e*P **P** **12 06 34.3 +0.3**
comp=Z,13nm,0.6s
TKM2 Tokmak 2 71.27 319 *e*P **P** **12 06 37.7 +0.1**
TKM2 pmax pmax
comp=Z,38nm,1.4s
TKM2 Tokmak 2 71.27 319 *e*P **P** **12 06 37.7 +0.1**
comp=Z,38nm,1.4s
BSEG Bad Segeberg 71.58 5 *e*P **P** **12 06 40.1 +1.1**
comp=Z,26nm,1.1s
SUW Suwalki 71.63 357 *e*P **P** **12 06 38.9 -0.4**
SUW Suwalki 71.63 357 *e*P **P** **12 06 38.9 -0.4**
SUW Suwalki 71.63 357 *e*P **P** **12 06 38.3 -1.0**
comp=Z,64nm,0.9s
FRU Bishkek 71.72 320 *e*P **P** **12 06 41.5 +1.4**
FRU pmax pmax
comp=Z,120nm,2.0s
AAK Ala-Archa 71.94 320 *c* iP **P** **12 06 42.1 +0.5**
AAK pmax pmax
comp=Z,102nm,1.7s
AAK MLR MLR
comp=Z,1μm,17.0s
AAK Ala-Archa 71.94 320 *e*P **P** **12 06 41.6 0.0**
comp=Z,101nm,1.8s
EKS2 Erkin-Say 72.18 320 *e*P **P** **12 06 43.3 +0.3**
EKS2 pmax pmax
comp=Z,26nm,1.2s
EKS2 Erkin-Say 72.18 320 *e*P **P** **12 06 43.3 +0.3**
comp=Z,26nm,1.2s
PPT Papeete 72.66 168 LR LR 12 30 40.2
comp=Z,433nm,20.3s,baz=336,slow=29
TIAR Tiarei 72.68 168 *e*T T 13 25 35.0
comp=Z,18nm,0.2s
PPT2 Papeete2 72.68 168 *e*S **S** **12 16 08.3 +0.5**
comp=Z,168nm,26.8s
PPT2 Papeete2 72.68 168 *e*LR LR 12 28 52.2
comp=Z,746nm,23.8s,baz=351
PPT2 Papeete2 72.68 168 *e*T T 13 25 35.3
comp=Z,7.2nm,0.3s
PAE Paea 72.75 168 *e*T T 13 25 40.4
comp=Z,1.4nm,0.3s
VRHR Novokhopersk 72.85 345 *e*P **P** **12 06 44.2 -2.4**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,0.7s
TVO Taravao 72.91 168 *e*T T 13 25 52.6
comp=E,2.8nm,0.3s
KK31 Karatay Array 72.97 323 *i* P **P** **12 06 47.5 -0.1**
KK31 pmax pmax
comp=Z,24nm,1.0s
KKAR Karatay Array 72.97 323 *e*P **P** **12 06 47.9 +0.3**
KKAR pmax pmax
comp=Z,33nm,1.1s
KKAR Karatay Array 72.97 323 *e*P **P** **12 06 47.9 +0.3**
comp=Z,32nm,1.1s
NRDL Niedersach Rie 73.01 5 *e*P **P** **12 06 48.4 +0.9**
comp=Z,21nm,1.1s
KMI Kunming 73.03 289 P **P** **12 06 47.1 -1.3**
KMI S **S** **12 16 12.1 -0.2**
KMI pmax pmax
comp=Z,10.0nm,2.0s
KMI LR LR
comp=Z,320nm,13.7s
KMI LR LR
comp=Z,240nm,14.8s
KMI LR LR
comp=Z,260nm,23.0s
IBBN Ibbenburen 73.05 7 *e*P **P** **12 06 49.0 +1.2**
comp=Z,25nm,0.9s
VSR Storozhevoye 73.09 346 *e*P **P** **12 06 45.5 -2.5**
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,30nm,1.0s
MEH Mehetia 73.15 167 *e*T T 13 26 11.8
comp=N,13nm,0.3s
VORD Divnogorie 73.31 346 *e*P **P** **12 06 47.8 -1.6**
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=E,20nm,0.8s
CLZ Clausthal 73.67 5 *e*P **P** **12 06 52.7 +1.1**
comp=Z,56nm,1.6s
QIZ Qiongzhong 73.86 280 P **P** **12 06 52.4 -0.7**
QIZ sP **sP** **12 07 11.4 +0.3**
QIZ S **S** **12 16 21.3 -0.2**
QIZ pmax pmax
comp=Z,21nm,1.4s
QIZ pmax pmax
comp=Z,89nm,3.0s
QIZ LR LR
comp=Z,190nm,21.3s
BUG Bochum–Univer 73.88 7 *e*P **P** **12 06 53.2 +0.5**
comp=Z,18nm,0.9s
KSH Kashi 74.05 317 ⇑ *e*P P 12 06 57.8 +3.7
KSH *e*PP PP 12 09 44.5 +5.4
KSH *e*S **S** **12 16 25.6 +2.3**
KSH *e*sS sS 12 16 46.8 +1.9
KSH pmax pmax
comp=Z,23nm,0.8s
KSH pmax pmax
comp=Z,170nm,5.8s
KSH LR LR
comp=Z,140nm,10.5s
KSH LR LR

KSH LR LR
comp=Z,140nm,12.3s
CLL Collm 74.32 3 *i* P **P 12 06 55.4 +0.1**
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 74.32 3 *e*P **P 12 06 55.7 +0.4**
comp=Z,18nm,1.0s
CLL Collm 74.32 3 *i* P **P 12 06 55.4 +0.1**
comp=Z,18nm,1.0s
CLL *e*SS SS 12 21 54.0 +43
MEM Membach 74.61 8 P **P 12 06 57.9 +0.9**
AKASG Malin Array Be 74.63 353 *i* P **P 12 06 56.7 -0.3**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKASG Malin Array Be 74.63 353 P **P 12 06 56.8 -0.3**
AKASG Malin Array Be 74.63 353 P **P 12 06 56.8 -0.3**
comp=Z,20nm,0.7s,baz=7.1,slow=5.6,SNR=82
AKASG LR LR 12 39 58.6
comp=Z,282nm,21.8s,baz=0.0,slow=36
KIEV Kiev 74.64 353 *c i*P **P 12 06 56.5 -0.6**
KIEV Kiev 74.64 353 *e*P **P 12 06 56.6 -0.6**
comp=Z,52nm,1.1s
BCLA Clavier 74.73 9 P **P 12 06 58.1 +0.4**
comp=Z,9.9nm,1.4s
BRG Berggiesshubel 74.79 3 *e*P **P 12 06 58.5 +0.5**
comp=Z,16nm,1.1s
KSP Ksiaz 74.87 1⇑*e*P **P 12 06 59.0 +0.6**
KSP Ksiaz 74.87 1 *e*P **P 12 06 59.1 +0.6**
MOX Moxa 74.93 4 *e*P **P 12 06 59.6 +0.8**
comp=Z,31nm,1.3s
BAIF Baives 74.99 9⇑*i*P **P 12 06 59.9 +0.7**
comp=Z,31nm,1.0s
BAIF Baives 74.99 9⇑*i*P **P 12 06 59.9 +0.7**
BAIF pmax pmax
comp=Z,31nm,1.0s
BAIF Baives 74.99 9⇑*i*P **P 12 06 59.9 +0.7**
comp=Z,31nm,1.0s
GIVF Givet 75.01 9 *e*P **P 12 06 59.8 +0.5**
GIVF Givet 75.01 9 *e*P **P 12 06 59.8 +0.5**
GIVF Givet 75.01 9 *e*P **P 12 06 59.8 +0.5**
TNS Taunus Mts 75.17 7 *e*P **P 12 07 01.1 +0.8**
comp=Z,21nm,1.1s
TANN Tannenbergstha 75.19 4 *e*P **P 12 07 01.2 +0.8**
DPC Dobruska-Polom 75.36 1 *i* P **P 12 07 02.4 +1.0**
DPC *e* 12 07 12.5
DPC Dobruska-Polom 75.36 1 *i* P **P 12 07 02.4 +1.0**
DPC *ex* x 12 07 05.4
DPC *ep*P **pP 12 07 12.5 -1.9**
NKC Novy Kostel 75.37 4 *e*P **P 12 07 02.2 +0.8**
NKC Novy Kostel 75.37 4 *e*P **P 12 07 02.2 +0.8**
LSA Lhasa 75.44 301 *e*P **P 12 07 03.2 +0.5**
LSA pmax pmax
comp=Z,29nm,1.2s
LSA Lhasa 75.44 301 *e*P **P 12 07 03.2 +0.5**
comp=Z,30nm,1.2s
WLF Walferdange 75.56 8 *e*P **P 12 07 03.5 +1.0**
comp=Z,64nm,1.6s
PRU Pruhonice 75.69 3 *e*P **P 12 07 04.0 +0.8**
PRU *e* 12 07 14.1
PRU Pruhonice 75.69 3 *e*P **P 12 07 04.0 +0.8**
PRU *ep*P **PcP 12 07 14.1 -1.7**
FLN La Foliniere 75.75 13 *e*P **P 12 07 03.7 +0.1**
FLN *e*R
comp=Z,226nm,19.0s
FLN La Foliniere 75.75 13 *e*P **P 12 07 03.7 +0.1**
FLN La Foliniere 75.75 13 *e*P **P 12 07 03.7 +0.1**
LVV L'vov 75.80 356 *e*P **P 12 07 03.7 -0.1**
ROTZ Rotzenmuhle 75.83 4 *e*P **P 12 07 05.2 +1.2**
comp=Z,21nm,1.2s
OKC Ostrava-Krasne 75.89 0 *e*P **P 12 07 05.1 +0.8**
OKC Ostrava-Krasne 75.89 0 *e*P **P 12 07 05.1 +0.8**
MORC Moravsky Berou 75.95 1⇑*i*P **P 12 07 05.2 +0.4**
MORC Moravsky Berou 75.95 1⇑*i*P **P 12 07 05.2 +0.4**
MORC Moravsky Berou 75.95 1 *e*P **P 12 07 04.8 0.0**
comp=Z,7.8nm,0.9s
LDF La Druitiere 75.96 13 *e*P **P 12 07 04.9 +0.1**
comp=Z,35nm,1.2s
LDF La Druitiere 75.96 13 *e*P **P 12 07 04.9 +0.1**
LDF pmax pmax
comp=Z,35nm,1.2s
LDF La Druitiere 75.96 13 *e*P **P 12 07 04.9 +0.1**
comp=Z,35nm,1.2s
SGMF Saint Gilles 75.97 14 *e*P **P 12 07 05.5 +0.7**
comp=Z,32nm,1.0s
SGMF Saint Gilles 75.97 14 *e*P **P 12 07 05.5 +0.7**
SGMF pmax pmax
comp=Z,32nm,1.0s
SGMF Saint Gilles 75.97 14 *e*P **P 12 07 05.5 +0.7**
comp=Z,32nm,1.0s
KWP Kalwaria Pacla 76.03 357⇑P **P 12 07 06.2 +1.0**
KWP Kalwaria Pacla 76.03 357 *e*P **P 12 07 06.1 +0.9**
KWP Kalwaria Pacla 76.03 357⇑*i*P **P 12 07 06.2 +1.0**
GRR Gorron 76.07 13⇑*i*P **P 12 07 06.6 +1.2**
comp=Z,58nm,1.1s
GRR Gorron 76.07 13⇑*i*P **P 12 07 06.6 +1.2**
GRR pmax pmax
comp=Z,58nm,1.1s
GRR Gorron 76.07 13⇑*i*P **P 12 07 06.6 +1.2**
comp=Z,58nm,1.1s
STHS Stebnicka Huta 76.28 358 *e*P **P 12 07 08.1 +1.5**
STHS pmax pmax
comp=Z,29nm,1.3s
STHS Stebnicka Huta 76.28 358 *e*P **P 12 07 08.1 +1.5**
TREC Trest 76.40 2 *e*P **P 12 07 08.0 +0.7**
TREC Trest 76.40 2 *e*P **P 12 07 08.0 +0.7**
VRAC Vranov 76.41 1⇑*i*P **P 12 07 08.4 +1.1**
WET Wettzell 76.48 4 *e*P **P 12 07 08.7 +0.9**
comp=Z,19nm,1.4s
KHC Kasperske Hory 76.52 3 *i* P **P 12 07 08.8 +0.8**
KHC *e* 12 07 19.1
KHC *e* 12 07 21.3
KHC Kasperske Hory 76.52 3 *i* P **P 12 07 08.8 +0.8**
KHC *ex* x 12 07 12.0
KHC *ep*P **PcP 12 07 19.1 -0.4**
KHC *ex* x 12 07 21.3
MEZF Maizieres J'vi 76.61 9 *e*P **P 12 07 09.2 +0.7**
MEZF Maizieres J'vi 76.61 9 *e*P **P 12 07 09.2 +0.7**
PAGF Fort de Pagny 76.62 9⇑*i*P **P 12 07 09.4 +0.9**
comp=Z,11nm,0.9s
PAGF Fort de Pagny 76.62 9⇑*i*P **P 12 07 09.4 +0.9**
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 76.74 357 *e*P **P 12 07 10.0 +0.8**
KOLS pmax pmax
comp=Z,18nm,1.4s
KOLS Kolonicke sedl 76.74 357 *e*P **P 12 07 10.0 +0.8**
CRVS Cervenica-Dubn 76.79 358 *e*P **P 12 07 10.2 +0.7**
CRVS pmax pmax
comp=Z,54nm,2.1s
CRVS Cervenica-Dubn 76.79 358 *e*P **P 12 07 10.2 +0.7**
GEC2 GERESS Array S 76.81 3 *e*P **P 12 07 10.4 +0.7**
comp=Z,10.0nm,0.9s
GERES GERESS Array B 76.81 3 P **P 12 07 10.3 +0.6**
GERES GERESS Array B 76.81 3 P **P 12 07 10.3 +0.6**
comp=Z,4.9nm,0.7s,baz=0.0,slow=4.5,SNR=37
CDF Champ du Feu 76.89 8⇑*i*P **P 12 07 10.7 +0.5**
comp=Z,14nm,0.9s
CDF Champ du Feu 76.89 8⇑*i*P **P 12 07 10.7 +0.5**
CDF pmax pmax
comp=Z,14nm,0.9s
CDF Champ du Feu 76.89 8⇑*i*P **P 12 07 10.7 +0.5**
comp=Z,14nm,0.9s
SFTF Sexfontaines 76.91 9⇑*i*P **P 12 07 10.6 +0.4**
comp=Z,22nm,0.9s
SFTF Sexfontaines 76.91 9⇑*i*P **P 12 07 10.6 +0.4**
comp=Z,22nm,0.9s
UZH Uzhgorod 77.04 357 *e*P **P 12 07 08.6 -2.3**
UZH *e* 12 07 16.6
UZH *e* 12 07 19.2
BFO Black Forest 77.05 7 *i* P **P 12 07 11.8 +0.8**
BFO Black Forest 77.05 7 *e*P **P 12 07 11.7 +0.8**
comp=Z,10.0nm,1.0s
ECH Echery 77.08 8 *e*P **P 12 07 10.9 -0.2**
ECH pmax pmax
comp=Z,15nm,0.9s
ECH Echery 77.08 8 *e*P **P 12 07 10.9 -0.2**
comp=Z,15nm,0.9s
HAU Haudompre 77.22 8⇑*i*P **P 12 07 12.4 +0.5**
comp=Z,33nm,1.0s
HAU *e*R
comp=Z,220nm,18.5s
HAU Haudompre 77.22 8⇑*i*P **P 12 07 12.4 +0.5**
HAU pmax pmax
comp=Z,33nm,1.0s
HAU Haudompre 77.22 8⇑*i*P **P 12 07 12.4 +0.5**
comp=Z,33nm,1.0s
FUR Furstenfeldbru 77.39 5 *e*P **P 12 07 13.9 +1.0**
HINF Hinteralfeld 77.45 8⇑*i*P **P 12 07 13.6 +0.3**
comp=Z,18nm,1.0s
HINF Hinteralfeld 77.45 8⇑*i*P **P 12 07 13.6 +0.3**
HINF pmax pmax
comp=Z,18nm,1.0s
HINF Hinteralfeld 77.45 8⇑*i*P **P 12 07 13.6 +0.3**
comp=Z,18nm,1.0s
TRPA Tarpa 77.54 357⇓*i*P **P 12 07 15.0 +1.4**
LOR Lormes 77.72 10⇑*i*P **P 12 07 15.1 +0.3**
comp=Z,24nm,1.0s
LOR *e*R
comp=Z,253nm,22.8s
LOR Lormes 77.72 10⇑*i*P **P 12 07 15.1 +0.3**
comp=Z,24nm,1.0s
CONA Conrad Observa 77.78 2⇑*i*P **P 12 07 16.3 +1.2**
comp=Z,18nm,0.8s,SNR=7.4
PSZ Piszkesteto 77.80 359⇓P **P 12 07 16.9 +1.6**
PSZ Piszkesteto 77.80 359⇓*i*P **P 12 07 16.9 +1.6**
PSZ Piszkesteto 77.80 359 *e*P **P 12 07 16.2 +1.0**
comp=Z,16nm,1.0s
MOA Molln 77.82 3⇑*i*P **P 12 07 16.0 +0.7**
comp=Z,8.8nm,1.0s
RJOB Jochberg 77.88 4 *e*P **P 12 07 16.7 +1.0**
comp=Z,17nm,0.8s
SSF Saint Saulge 77.89 10⇑*i*P **P 12 07 16.1 +0.4**
comp=Z,22nm,1.0s
SSF Saint Saulge 77.89 10⇑*i*P **P 12 07 16.1 +0.4**
SSF pmax pmax
comp=Z,22nm,1.0s
SSF Saint Saulge 77.89 10⇑*i*P **P 12 07 16.1 +0.4**
comp=Z,22nm,1.0s
MFF Saint Martin d 77.91 13⇑*i*P **P 12 07 16.4 +0.6**
comp=Z,60nm,1.2s
MFF Saint Martin d 77.91 13⇑*i*P **P 12 07 16.4 +0.6**
MFF pmax pmax
comp=Z,60nm,1.2s
MFF Saint Martin d 77.91 13⇑*i*P **P 12 07 16.4 +0.6**
comp=Z,60nm,1.2s
BURAR Bucovina Array 77.95 355⇓P **P 12 07 17.0 +0.9**
BURAR Bucovina Array 77.95 355⇓*i*P **P 12 07 17.0 +0.9**
RETA Reutte 78.04 5⇓*i*P **P 12 07 17.6 +1.0**
comp=Z,11nm,1.0s
AVF Avril sur Loir 78.14 10⇑*i*P **P 12 07 17.4 +0.4**
comp=Z,21nm,1.0s
AVF Avril sur Loir 78.14 10⇑*i*P **P 12 07 17.4 +0.4**
AVF pmax pmax
comp=Z,21nm,1.0s
AVF Avril sur Loir 78.14 10⇑*i*P **P 12 07 17.4 +0.4**
comp=Z,21nm,1.0s
MOTA Moosalm 78.20 5⇑*i*P **P 12 07 18.4 +0.8**
comp=Z,12nm,0.8s,SNR=5.8
WATA Walderalm 78.23 5⇓*i*P **P 12 07 18.6 +0.8**
comp=Z,33nm,1.3s
WTTA Wattenberg 78.30 5⇑*i*P **P 12 07 19.2 +1.0**
comp=Z,18nm,0.7s,SNR=5.9
BGF Bois d'Agland 78.32 11 *e*P **P 12 07 18.3 +0.3**
comp=Z,27nm,1.0s
BGF Bois d'Agland 78.32 11 *e*P **P 12 07 18.3 +0.3**
BGF pmax pmax
comp=Z,27nm,1.0s
BGF Bois d'Agland 78.32 11 *e*P **P 12 07 18.3 +0.3**
comp=Z,27nm,1.0s
SMF Signal de Mont 78.33 10⇑*i*P **P 12 07 18.4 +0.2**
comp=Z,28nm,0.9s
SMF Signal de Mont 78.33 10⇑*i*P **P 12 07 18.4 +0.2**
SMF pmax pmax
comp=Z,29nm,0.9s
SMF Signal de Mont 78.33 10⇑*i*P **P 12 07 18.4 +0.2**
comp=Z,28nm,0.9s
TBI Tubuai 78.38 169 *e*LR LR 12 31 22.7
comp=Z,577nm,25.2s,baz=343
TBI Tubuai 78.38 169 *e*T T 13 32 41.6
comp=Z,32nm,0.3s
ARSA Arzberg 78.45 2⇓*i*P **P 12 07 19.8 +1.0**
comp=Z,13nm,0.9s,SNR=6.0
GOF Gofitskoye 78.48 342 *e*P **P 12 07 19.4 +0.4**
GOF pmax pmax
comp=Z,138nm,1.3s
FETA Feichten 78.50 5⇑*i*P **P 12 07 20.4 +1.2**
comp=Z,20nm,1.1s,SNR=8.1
TCF Toulx Ste Croi 78.51 11⇑*i*P **P 12 07 19.5 +0.3**
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 78.51 11⇑*i*P **P 12 07 19.5 +0.3**
TCF pmax pmax
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 78.51 11⇑*i*P **P 12 07 19.5 +0.3**
comp=Z,13nm,1.1s
KBA Koelnbreinsper 78.56 3⇓*i*P **P 12 07 20.9 +1.3**
comp=Z,23nm,0.8s,SNR=6.4
CABF La Chapelle 78.58 9⇑*i*P **P 12 07 20.5 +0.9**
comp=Z,26nm,1.0s
CABF La Chapelle 78.58 9⇑*i*P **P 12 07 20.5 +0.9**
CABF pmax pmax
comp=Z,26nm,1.0s
CABF La Chapelle 78.58 9⇑*i*P **P 12 07 20.5 +0.9**
comp=Z,26nm,1.0s
ABTA Abfaltersbach 78.86 4⇓*i*P **P 12 07 22.1 +1.0**
comp=Z,14nm,1.1s
DRGR 78.87 357⇓P **P 12 07 22.2 +1.0**
DRGR 78.87 357⇓*i*P **P 12 07 22.1 +0.9**
TESR Tescani 78.97 354⇑*i*P **P 12 07 21.9 +0.2**
SOKA Soboth 79.01 2⇑*i*P **P 12 07 22.7 +0.7**
comp=Z,29nm,1.2s,SNR=9.7
PERS Pernice 79.06 2 *i* P **P 12 07 23.1 +0.9**
TAPN Taplejung 79.08 302 *e*P **P 12 07 22.8 -0.1**
comp=Z,25nm,0.6s
OBKA Obir 79.17 3⇑*i*P **P 12 07 23.8 +0.9**
comp=Z,40nm,0.7s,SNR=11
SIRR Siria 79.42 358⇓*i*P **P 12 07 25.0 +0.9**
CADS Cadrg 79.42 3 *i* P **P 12 07 24.1 -0.1**
GUN Gumba 79.50 304 *e*P **P 12 07 25.4 +0.1**
comp=Z,105nm,1.1s
PKSM Moragy 79.52 360⇓P **P 12 07 25.4 +0.8**
PKSM Moragy 79.52 360⇓*i*P **P 12 07 25.4 +0.8**
JIRN Jiri 79.56 303 *e*P **P 12 07 25.9 +0.3**
DOPR Dopca 79.58 355⇓*i*P **P 12 07 26.7 +1.7**
KIV Kislovodsk 79.61 342 *c i*P **P 12 07 26.0 +0.7**
KIV pmax pmax
comp=Z,32nm,0.8s
KIV Kislovodsk 79.61 342 *e*P **P 12 07 25.5 +0.2**
comp=Z,24nm,0.8s
PLOR Plostina 79.63 354⇓P **P 12 07 26.3 +1.0**
PLOR Plostina 79.63 354⇓*i*P **P 12 07 26.3 +1.0**
ODAN Odare 79.64 302 *e*P **P 12 07 25.7 -0.2**
LPL La Plagne 79.72 8 *e*P **P 12 07 27.4 +1.4**
LPL La Plagne 79.72 8 *e*P **P 12 07 27.4 +1.4**
LPL La Plagne 79.72 8 *e*P **P 12 07 27.4 +1.4**
LPG La Plagne 79.74 8 *e*P **P 12 07 27.8 +1.6**
LPG La Plagne 79.74 8 *e*P **P 12 07 27.8 +1.6**
LPG La Plagne 79.74 8 *e*P **P 12 07 27.8 +1.6**
KBZ Khabaz 79.79 342 P **P 12 07 27.0 +0.9**
KBZ Khabaz 79.79 342 P **P 12 07 27.0 +0.9**
KBZ Khabaz 79.79 342 P **P 12 07 27.0 +0.9**
comp=Z,23nm,0.9s,baz=297,slow=2.7,SNR=27
KBZ LR LR 12 48 55.0
comp=Z,169nm,19.4s,baz=15,slow=40
KKN Kakani 79.89 304 *e*P **P 12 07 27.3 +0.1**
comp=Z,37nm,0.8s
RAMN Ramite 79.95 303 *e*P **P 12 07 27.5 -0.1**
comp=Z,233nm,1.5s
PKI Pulchoki 80.01 304 *e*P **P 12 07 27.9 -0.1**
PKIN Phulchoki 80.01 304 *e*P **P 12 07 27.6 -0.4**
GKN Gorkha 80.02 305 *e*P **P 12 07 27.7 -0.2**
BZS Buzias 80.07 358⇑P **P 12 07 28.4 +0.8**
BZS Buzias 80.07 358⇑*i*P **P 12 07 28.4 +0.8**
DMN Daman 80.13 304 *e*P **P 12 07 28.8 +0.2**
VOIR 80.13 355⇓P **P 12 07 29.1 +1.0**
VOIR 80.13 355⇓*i*P **P 12 07 29.1 +1.0**
DANN Dangsing 80.15 306 *e*P **P 12 07 29.0 +0.3**
comp=Z,91nm,0.7s
CHTO Chiang Mai 80.17 288 *e*P **P 12 07 28.0 -0.6**
CHTO pmax pmax
comp=Z,3.0nm,0.4s
CHTO Chiang Mai 80.17 288 *e*P **P 12 07 28.0 -0.6**
comp=Z,2.8nm,0.4s
VIVF Saint-Julien-l 80.19 10⇑*i*P **P 12 07 29.0 +0.7**
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 80.19 10⇑*i*P **P 12 07 29.0 +0.7**
VIVF pmax pmax
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 80.19 10⇑*i*P **P 12 07 29.0 +0.7**
comp=Z,27nm,1.2s
CFR Carcaliu 80.20 353⇓P **P 12 07 28.0 -0.3**
CFR Carcaliu 80.20 353⇓*i*P **P 12 07 28.0 -0.3**
ARR Arges 80.22 356⇓*i*P **P 12 07 29.8 +1.3**
ORIF Oris-en-Rattie 80.24 9 *e*P **P 12 07 29.5 +0.8**
comp=Z,15nm,0.9s
ORIF *e*R
comp=Z,245nm,20.5s
ORIF Oris-en-Rattie 80.24 9 *e*P **P 12 07 29.5 +0.8**
ORIF pmax pmax
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 80.24 9 *e*P **P 12 07 29.5 +0.8**
comp=Z,15nm,0.9s
GZR Gura Zlata 80.27 357⇑P **P 12 07 29.5 +0.7**
GZR Gura Zlata 80.27 357⇑*i*P **P 12 07 29.5 +0.7**
CMAR Chiang Mai Arr 80.46 288 P **P 12 07 29.9 -0.2**
CMAR Chiang Mai Arr 80.46 288 P **P 12 07 29.9 -0.2**
comp=Z,26nm,1.0s,baz=15,slow=5.4,SNR=76
CMAR LR LR 12 46 59.8
comp=Z,112nm,19.0s,baz=18,slow=38
MBDF Montbardon 80.51 8 *e*P **P 12 07 31.7 +1.5**
comp=Z,21nm,0.7s
MBDF Montbardon 80.51 8 *e*P **P 12 07 31.7 +1.5**
MBDF pmax pmax
comp=Z,21nm,0.7s
MBDF Montbardon 80.51 8 *e*P **P 12 07 31.7 +1.5**
comp=Z,21nm,0.7s
ZEI Tsey 80.52 341 *e*P **P 12 07 30.0 -0.4**
ZEI pmax pmax
comp=Z,22nm,1.1s
KOLN Koldanda 80.71 305 *e*P **P 12 07 31.5 -0.1**
PYUN Piuthan 80.72 306 *e*P **P 12 07 31.7 0.0**
comp=Z,16nm,0.6s
RKT Rikitea 80.77 155 *e*LR LR 12 32 40.7
comp=Z,594nm,30.2s,baz=344
RKT Rikitea 80.77 155 *e*T T 13 35 51.1
comp=Z,1.8nm,0.3s
TLB Topalu 80.80 353⇓P **P 12 07 32.2 +0.7**
TLB Topalu 80.80 353⇓*i*P **P 12 07 32.2 +0.7**
DZM Mont Dzumac 81.17 210 *e*LR LR 12 32 46.2
comp=Z,507nm,23.0s
DZM Mont Dzumac 81.17 210 LR LR 12 40 20.4
comp=Z,329nm,18.3s,baz=0.0,slow=33
MTLF Montolieu 81.42 12⇑P **P 12 07 35.5 +0.6**
MTLF Montolieu 81.42 12⇑*i*P **P 12 07 35.5 +0.6**
MTLF Montolieu 81.42 12⇑*i*P **P 12 07 35.5 +0.6**
SBF Sospel 81.42 8⇑*i*P **P 12 07 35.4 +0.4**
comp=Z,64nm,1.0s
SBF Sospel 81.42 8⇑*i*P **P 12 07 35.4 +0.4**
SBF pmax pmax
comp=Z,64nm,1.0s
SBF Sospel 81.42 8⇑*i*P **P 12 07 35.4 +0.4**
comp=Z,64nm,1.0s
ETSF Etsaut 81.49 14 *e*P **P 12 07 36.2 +0.8**
ETSF Etsaut 81.49 14 *e*P **P 12 07 36.2 +0.8**
ETSF Etsaut 81.49 14 *e*P **P 12 07 36.2 +0.8**
FRF La Foret Royal 81.66 9 *e*P **P 12 07 36.8 +0.7**
FRF La Foret Royal 81.66 9 *e*P **P 12 07 36.8 +0.7**
FRF La Foret Royal 81.66 9 *e*P **P 12 07 36.8 +0.7**
ABKT Ailbek 81.67 329 P **P 12 07 37.8 +1.4**
comp=Z,154nm,0.9s,SNR=6.7
PGF Pioggiola 82.85 7 *e*P **P 12 07 43.1 +0.6**
comp=Z,66nm,1.1s
PGF Pioggiola 82.85 7 *e*P **P 12 07 43.1 +0.6**
PGF pmax pmax
comp=Z,66nm,1.1s
PGF Pioggiola 82.85 7 *e*P **P 12 07 43.1 +0.6**
comp=Z,66nm,1.1s
VTS Vitosha 83.05 356⇓P **P 12 07 43.9 +0.3**
VTS Vitosha 83.05 356⇓*i*P **P 12 07 43.9 +0.3**
KDZ Kurdzhali 83.89 355⇑P **P 12 07 48.7 +0.9**
KDZ Kurdzhali 83.89 355⇑*i*P **P 12 07 48.7 +0.9**
MMB Musomiste 84.03 356⇑P **P 12 07 49.6 +1.1**
MMB Musomiste 84.03 356⇑*i*P **P 12 07 49.6 +1.1**
ESDC Sonseca Array 84.12 17 P **P 12 07 49.3 +0.3**
ESDC Sonseca Array 84.12 17 P **P 12 07 49.3 +0.3**
comp=Z,2.4nm,0.5s,baz=344,slow=5.1,SNR=19
ESDC LR LR 12 46 58.1
comp=Z,113nm,20.7s,baz=200,slow=37
BRTR Keskin Array B 85.09 348 P **P 12 07 54.6 +0.6**
BRTR Keskin Array B 85.09 348 P **P 12 07 54.6 +0.6**
comp=Z,11nm,0.9s,baz=48,slow=2.0,SNR=28
BRTR LR LR 12 49 21.7
comp=Z,148nm,20.8s,baz=353,slow=38
HYB Hyderabad 91.94 304 *i* P **P 12 08 25.5 -1.3**
WRA Warramunga Arr 92.09 238 P **P 12 08 25.4 -1.9**
WRA Warramunga Arr 92.09 238 P **P 12 08 25.4 -1.9**
comp=Z,2.1nm,1.0s,baz=34,slow=5.6,SNR=11
WRA LR LR 12 46 00.5
comp=Z,57nm,20.9s,baz=330,slow=33
ASAR Alice Springs 95.45 236 P **P 12 08 41.5 -1.2**
ASAR Alice Springs 95.45 236 P **P 12 08 41.5 -1.2**
comp=Z,1.1nm,0.8s,baz=32,slow=4.5,SNR=13
ASAR LR LR 12 48 08.7
comp=Z,159nm,20.6s,baz=43,slow=33
PTGA Pitinga 97.34 81 LR LR 12 53 44.9
comp=Z,91nm,18.7s,baz=328,slow=36
STKA Stephens Creek 99.02 226 LR LR 12 49 28.2
comp=Z,226nm,20.9s,baz=25,slow=33
H03N2 Juan Fernandez 112.62 116 T T 14 16 39.2
baz=321,slow=75,SNR=41
H03N1 Juan Fernandez 112.63 116 T T 14 16 16.1
baz=321,slow=75,SNR=54
H03N3 Juan Fernandez 112.64 116 T T 14 16 11.0
baz=321,slow=75,SNR=38
KMBO Kilima Mbogo 124.45 337 PKP **PKPdf 12 14 17.5 -0.1**
KMBO Kilima Mbogo 124.45 337 PKP **PKPdf 12 14 17.5 -0.1**
comp=Z,1.1nm,0.6s,baz=47,slow=22,SNR=4.1

DJA 21 11:58:17.8±0.6, 5°N±5°×9°7E±°, h27km±9km, M3.3/5, mb3.7/1, MLv3.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.75**	**22**	P	Pb	11 58 31.9	-0.3
LASI	**Langsa, Aceh**	**1.30**	**93**	P	x	11 58 41.0	
TPTI		**1.36**	**158**	P	Pn	11 58 40.1	-0.9
KCSI	**Kotacane, Aceh**	**1.49**	**132**	P	Pn	11 58 42.6	-0.2
BSI	**Banda Aceh**	**1.67**	**305**	P	Pn	11 58 45.6	+0.2
PSI	**Prapat**	**2.83**	**127**	P	x	11 59 02.7	
GSI	**Gunungsitoli**	**3.33**	**164**	P	Pb	11 59 17.6	+1.4
KULM	**Kulim**	**4.04**	**79**	P	x	11 59 16.9	
MYKOM	**Kota Tinggi**	**7.67**	**111**	P	x	12 00 08.3	

WEL 21 12:06:35.2±0.2, 37.13S×176.65E, h244km±2km, ML3.9/16, 6C-2D, Error ellipse: s-maj=3.7km s-min=3.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.10**	**125**	PN	Pn	12 07 10.2	+0.1
HAZ				SN	S	12 07 37.6	0.0
URZ	**Urewera**	**1.19**	**162**	PN	Pn	12 07 10.4	-0.2
URZ				SN	S	12 07 38.4	-0.2
MXZ	**Matakaoa Point**	**1.39**	**109**	PN	Pn	12 07 12.5	+0.4
MXZ				AML	AML	12 08 00.7	
MWZ	**Matawai**	**1.39**	**150**	⇓PN	Pn	12 07 12.2	0.0
MWZ				SN	S	12 07 40.9	-0.4
ALRZ	**Allen Road**	**1.45**	**190**	PN	Pn	12 07 13.0	+0.5
PUZ	**Puketiti**	**1.59**	**127**	PN	Pn	12 07 13.5	-0.1
PUZ				SN	S	12 07 42.9	-1.0
SNGZ	**Shannon Statio**	**1.74**	**162**	⇑PN	Pn	12 07 15.0	+0.1
RIGZ	**Rimuhau**	**1.80**	**151**	⇑PN	Pn	12 07 15.5	+0.1
RAHZ	**Arahi**	**1.82**	**169**	⇑PN	Pn	12 07 15.7	+0.2
CNGZ	**Carnagh Statio**	**1.83**	**138**	PN	Pn	12 07 15.9	+0.3
NMHZ	**Naumai**	**1.97**	**176**	⇑PN	Pn	12 07 17.3	+0.3
WHHZ	**Waihua**	**2.00**	**167**	PN	Pn	12 07 17.0	-0.1
BKZ	**Black Stump Fm**	**2.04**	**183**	⇑PN	Pn	12 07 16.9	-0.6
BKZ				SN	S	12 07 49.5	-1.5
PRGZ	**Paritu Road**	**2.04**	**152**	PN	Pn	12 07 16.9	-0.6
KNZ	**Kokohu**	**2.06**	**157**	⇑PN	Pn	12 07 17.0	-0.5
NGZ	**Ngauruhoe**	**2.21**	**202**	PN	Pn	12 07 19.5	+0.2
WPVZ	**Whakapapa**	**2.25**	**202**	PN	Pn	12 07 19.5	-0.1
MHGZ	**Mahia Peninsul**	**2.25**	**154**	PN	Pn	12 07 19.0	-0.5
TUVZ	**Tukino**	**2.28**	**200**	PN	Pn	12 07 19.5	-0.5
MCHZ	**McNeill Hill**	**2.31**	**179**	PN	Pn	12 07 19.8	-0.3
WNVZ	**Wahianoa**	**2.35**	**200**	PN	Pn	12 07 20.2	-0.5
MOVZ	**Moawhango**	**2.38**	**197**	PN	Pn	12 07 20.1	-0.8
PKVZ	**Pokaka**	**2.39**	**205**	PN	Pn	12 07 20.9	-0.1
CKHZ	**Cape Kidnapper**	**2.55**	**173**	PN	Pn	12 07 21.7	-0.8
KAHZ	**Kahuranaki**	**2.67**	**176**	PN	Pn	12 07 22.8	-1.0
PNHZ	**Pukenui**	**2.81**	**187**	PN	Pn	12 07 23.6	-1.6
PXZ	**Pawanui**	**2.90**	**177**	PN	Pn	12 07 24.6	-1.5
WPHZ	**Waipukurau**	**2.94**	**183**	PN	Pn	12 07 25.3	-1.3
TSZ	**Takapari Road**	**2.98**	**190**	PN	Pn	12 07 25.2	-1.8

PRHZ	**Porangahau**	**3.13**	**180**	PN	Pn	12 07 27.3 -1.4
DVHZ	**Dannevirke**	**3.19**	**187**	PN	Pn	12 07 27.5 -1.8
ANWZ	**Angora Road**	**3.33**	**182**	PN	Pn	12 07 29.2 -1.6
POWZ	**Post Office Ro**	**3.33**	**192**	PN	Pn	12 07 29.1 -1.9
PRWZ	**Pori Road**	**3.46**	**189**	PN	Pn	12 07 30.9 -1.5
BFZ	**Birch Farm**	**3.56**	**185**	PN	Pn	12 07 31.1 -2.4
MRZ	**Mangatainoka R**	**3.63**	**193**	∥PN	Pn	12 07 31.6 -2.6
MRZ				*e*SN	S	12 08 17.1 -4.0
TIWZ	**Tintock**	**3.69**	**189**	*e*PN	Pn	12 07 32.6 -2.5
OGWZ	**Otaki Gorge**	**3.86**	**197**	PN	Pn	12 07 34.2 -2.8
KIW	**Kapiti Island**	**3.97**	**199**	PN	Pn	12 07 35.3 -3.0
MTW	**Mount Morrison**	**4.12**	**192**	PN	Pn	12 07 37.1 -3.0
CAW	**Cannon Point**	**4.16**	**197**	PN	Pn	12 07 37.4 -3.2
WEL	**Wellington**	**4.40**	**199**	PN	Pn	12 07 40.3 -3.0
MSWZ	**Moikau Station**	**4.42**	**194**	AML	AML	12 08 33.1
SNZO	**South Karori**	**4.44**	**199**	PN	Pn	12 07 40.5 -3.4
TCW	**Tory Channel**	**4.48**	**204**	PN	Pn	12 07 41.2 -3.1
BHW	**Baring Head**	**4.49**	**197**	PN	Pn	12 07 41.2 -3.2
PLWZ	**Palliser**	**4.57**	**193**	PN	Pn	12 07 41.9 -3.5
TUWZ	**Tuamarina**	**4.78**	**205**	PN	Pn	12 07 44.6 -3.4
NNZ	**Nelson**	**4.81**	**211**	PN	Pn	12 07 44.6 -3.7
QRZ	**Quartz Range**	**4.89**	**220**	PN	Pn	12 07 45.4 -4.0
THZ	**Tophouse**	**5.46**	**211**	PN	Pn	12 07 53.1 -3.3
DSZ	**Denniston Nort**	**5.94**	**218**	PN	Pn	12 07 58.9 -3.5
LTZ	**Lake Taylor**	**6.57**	**209**	PN	Pn	12 08 05.8 -4.6
OXZ	**Oxford**	**7.12**	**208**	PN	Pn	12 08 11.8 -5.4
CRLZ	**Canterbury Las**	**7.14**	**204**	*e*PN	Pn	12 08 12.6 -4.7
MQZ	**McQueen's Vall**	**7.24**	**204**	PN	Pn	12 08 13.6 -5.1
MQZ				*e*SN	S	12 09 31.5 -10

IDC ***21*** *12:08:13.3±3.8, 54.31N×161.74W, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/30, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=90.3km s-min=22.4km az=158.0*
NEIC ***21*** *12:08:19.3, 54.47N×161.54W, h13km, ML3.5(AEIC), After AEIC.*
ISC 21 12:08:14.7±1.1, 54°00.0N±0.1'×161°50.0W±0.0'×0.6, h27km, n41, σ1=51/34, mb3.7/6, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.42**	**308**	P	**Pb**	**12 08 39.3**	**-1.1**
FALS				S	**Sn**	**12 08 55.2**	**-1.1**
SDPT	**Sand Point**	**1.48**	**23**	P	**Pn**	**12 08 38.6**	**-0.9**
SDPT				S	**Sn**	**12 08 53.7**	**-4.2**
SSLN	**Shishaldin Nor**	**1.67**	**300**	P	**Pb**	**12 08 45.7**	**+0.8**
SSLW	**Shishaldin Wes**	**1.72**	**298**	P	**Pb**	**12 08 46.0**	**+0.3**
SSBA	**Shishaldin**	**1.72**	**298**	P	**Pb**	**12 08 45.7**	**0.0**
SSBA				S	**Sb**	**12 09 07.6**	**+0.7**
WESN	**West Dahl Nort**	**1.90**	**289**	P	**Pb**	**12 08 49.4**	**+0.7**
AKSA	**Akutan Strait**	**2.48**	**275**	P	**Pb**	**12 08 58.1**	**-0.4**
VNHG	**Veniaminof 1**	**2.60**	**30**	P	**Pn**	**12 08 56.4**	**+1.4**
ZRO	**Akutan Zero**	**2.65**	**274**	P	**Pb**	**12 09 00.7**	**-0.7**
CHGN	**Chignik**	**2.91**	**36**	P	**Pn**	**12 09 00.3**	**+1.2**
UNV	**Unalaska Valle**	**2.96**	**269**	P	**Pb**	**12 09 05.3**	**-1.4**
MTBL	**Makushin Table**	**3.06**	**272**	P	**Pb**	**12 09 06.1**	**-2.4**
MREP	**Makushin Rep't**	**3.11**	**269**	P	**Pb**	**12 09 07.3**	**-2.0**
MSW	**Makushin Switc**	**3.12**	**271**	P	**Pb**	**12 09 06.7**	**-2.8**
MSOM	**Makushin Julie**	**3.23**	**269**	P	**Pb**	**12 09 08.6**	**-2.7**
PLK4	**Peulik 4**	**4.65**	**36**	P	**Pn**	**12 09 23.9**	**+0.7**
KABR	**Katmai Barrier**	**5.52**	**39**	P	**Pn**	**12 09 35.8**	**+0.6**
OHAK	**Old Harbor**	**5.66**	**52**	P	**Pn**	**12 09 37.3**	**+0.3**
SPIA	**Saint Paul Isl**	**5.90**	**306**	P	**Pn**	**12 09 41.5**	**+1.3**
KDAK	**Kodiak Island**	**6.29**	**49**	P	**Pn**	**12 09 45.6**	**+0.1**
RDWB	**Redoubt West**	**8.02**	**32**	P	**Pn**	**12 10 09.7**	**+0.3**
BRLK	**Bradley Lake**	**8.19**	**41**	P	**Pn**	**12 10 11.2**	**-0.4**
SEW	**Seward**	**8.97**	**42**	P	**Pn**	**12 10 22.8**	**+0.5**
TT01	**Tatalina**	**9.38**	**16**	P	**Pn**	**12 10 26.9**	**-1.0**
ILAR	**Eielson Array**	**13.07**	**29**	Pn	Pn	12 11 14.5	-3.9
	0.1nm,0.3s,baz=219,slow=14,SNR=3.9						
INK	**Inuvik**	**19.42**	**32**	P	**P**	**12 12 36.9**	**-1.5**
	0.2nm,0.3s,baz=241,slow=15,SNR=9.2						
PETK	**Petropavlovsk-**	**24.03**	**285**	P	**P**	**12 13 28.7**	**+1.7**
	1.9nm,0.6s,baz=90,slow=12,SNR=8.4						
YKA	**Yellowknife Ar**	**25.55**	**52**	P	**P**	**12 13 43.5**	**+2.6**
	0.2nm,0.4s,baz=271,slow=9.3,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**41.88**	**228**	T	T	13 00 56.3	
	baz=29						
H11N3	**WAKE ISLAND Hy**	**41.89**	**228**	T	T	13 00 57.9	
	baz=29						
H11N1	**WAKE ISLAND Hy**	**41.90**	**228**	T	T	13 00 58.7	
	baz=29						
H11S1	**WAKE ISLAND Hy**	**43.05**	**227**	T	T	13 02 22.0	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**43.06**	**227**	T	T	13 02 25.7	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**43.06**	**227**	T	T	13 02 21.6	
	baz=24						
SONM	**Songino Array**	**54.42**	**304**	P	**P**	**12 17 40.5**	**+1.2**
	0.4nm,0.7s,baz=58,slow=6.2,SNR=3.3						
FINES	**FINESS Array B**	**64.75**	**356**	P	**P**	**12 18 49.6**	**-0.3**
	3.7nm,1.0s,baz=1.6,slow=9.7,SNR=4.4						
MKAR	**Makanchi Array**	**65.97**	**318**	P	**P**	**12 18 58.0**	**-0.2**
	0.1nm,0.4s,baz=60,slow=6.8,SNR=3.3						
AKASG	**Malin Array Be**	**75.29**	**353**	P	**P**	**12 19 54.8**	**0.0**
	0.8nm,0.5s,baz=8.7,slow=6.0,SNR=3.2						
H03N2	**Juan Fernandez**	**112.26**	**116**	T	T	14 29 13.4	
	baz=321,slow=75,SNR=3.7						
H03N1	**Juan Fernandez**	**112.27**	**116**	T	T	14 29 08.9	
	baz=321,slow=75,SNR=5.5						
H03N3	**Juan Fernandez**	**112.28**	**116**	T	T	14 29 11.6	
	baz=321,slow=75,SNR=5.1						

NIED ***21*** *12:25:00, 43.70N×147.40E, h35km, Mw4.1 Best double couple: M0 1.70000×10^15 NP1:φs=289.00000°, δ=34.00000°, λ=57.00000°. NP2:φs=148.00000°, δ=62.00000°, λ=111.00000°.*
MOS ***21*** *12:25:37.8±1.8, 43.79N×147.89E, h41km, mb4.2/10, Error ellipse: s-maj=12.6km s-min=9.4km az=75.6*
SKHL ***21*** *12:25:39.6±0.6, 44.08N×148.31E, h49km±6km, mb4.7/6*
IDC ***21*** *12:25:39.6±0.6, 43.90N×147.57E, h33km±3km, mb3.7/17, mb1 4.0/19, mb1mx3.9/26, mbtmp3.9/19, ML3.5/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/42, Error ellipse: s-maj=17.1km s-min=13.6km az=141.0*
ISCJB ***21*** *12:25:39.3±0.8, 43.88N±0.05'×147.65E±0.07', h48km±6km, mb3.9/19, MS3.9/1, Error ellipse: s-maj=10.8km s-min=5.8km az=44.9*
JMA ***21*** *12:25:39.7±0.3, 43.66N×147.44E, h12km±5km, M4.2*
ISC 21 12:25:39.5±0.6, 43°85N±0.06'×147°75E±0.06, h35km±3km, h35km:pP-P, n73, σ1=42/75, mb4.0/19, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.66**	**272**	*e*P	**Pn**	**12 25 51.8**	**-0.6**
SHO				AMB	AMB	12 25 52.5	
	3μm,0.5s						
SHO				*e*S	**Sn**	**12 26 00.6**	**-1.0**
SHO				A	A	12 26 01.5	
	2μm,0.6s						
SHO				A	A	12 26 01.5	
	2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**278**	*e*PN	**Pn**	**12 26 01.6**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.37**	**278**	*e*P	**Pn**	**12 26 01.6**	**-0.6**
YUK				AMB	AMB	12 26 01.8	
	40nm,0.3s						
YUK				AMB	AMB	12 26 01.8	
	49nm,0.3s						
YUK				AMB	AMB	12 26 01.8	
	560nm,0.3s						
YUK				*e*S	**Sn**	**12 26 18.0**	**-1.1**
YUK				A	A	12 26 19.6	
	2μm,0.5s						
YUK				A	A	12 26 19.6	
	3μm,0.5s						
KUR	**Kuril'sk**	**1.39**	**4**	*e*PN	**Pn**	**12 26 01.7**	**-0.7**
KUR	**Kuril'sk**	**1.39**	**4**	*e*P	**Pn**	**12 26 01.7**	**-0.7**
KUR				AMB	AMB	12 26 05.0	
	850nm,0.9s						
KUR				AMB	AMB	12 26 05.0	
	580nm,0.9s						
KUR				AMB	AMB	12 26 05.0	
	1μm,0.9s						
KUR				AMB	AMB	12 26 13.6	
	6μm,2.4s						
KUR				AMB	AMB	12 26 13.6	
	4μm,2.4s						
KUR				*e*S	**Sn**	**12 26 18.0**	**-1.5**
KUR				A	A	12 26 20.2	
	1μm,0.5s						
KUR				A	A	12 26 20.2	
	2μm,0.5s						
KUR				A	A	12 26 20.4	
	5μm,2.0s						
KUR				A	A	12 26 20.4	
	8μm,2.0s						
NEM2	**Nemuro 2**	**1.53**	**252**	P	**Pn**	**12 26 03.2**	**-1.2**
NEM2				*e*S	**Sn**	**12 26 19.6**	**-3.4**
JRA	**Rausu**	**1.90**	**274**	P	**Pn**	**12 26 09.5**	**+0.1**
JRA				*e*S	**Sn**	**12 26 31.4**	**-0.7**
JNK	**Nakash**	**2.21**	**264**	P	**Pn**	**12 26 13.7**	**0.0**
JAK	**Akkeshi**	**2.38**	**250**	P	**Pn**	**12 26 15.2**	**-0.8**
JTKR	**Abashiri--Toko**	**2.78**	**274**	P	**Pn**	**12 26 22.3**	**+0.8**
JAR	**Ashorobuto**	**2.94**	**261**	P	**Pn**	**12 26 24.1**	**+0.4**
JAR				*e*S	**Sn**	**12 26 56.8**	**-1.0**
JOB	**Onbets**	**3.00**	**253**	P	**Pn**	**12 26 24.3**	**-0.3**
JOB				*e*S	**Sn**	**12 26 57.7**	**-1.6**
JMP	**Maruseppu**	**3.17**	**274**	P	**Pn**	**12 26 28.1**	**+1.1**
HRK	**Horoka**	**3.37**	**265**	*e*P	**Pn**	**12 26 31.2**	**+1.5**
JCH	**Churui**	**3.43**	**250**	P	**Pn**	**12 26 30.1**	**-0.4**
JCH				*e*S	**Sn**	**12 27 08.4**	**-1.5**
JKK2	**Kamakawa 2**	**3.61**	**272**	P	**Pn**	**12 26 35.9**	**+2.9**
JKA	**Kamikawa-asahi**	**3.72**	**276**	*e*P	**Pn**	**12 26 36.3**	**+1.8**
ASAJ	**Asahikawa**	**3.73**	**276**	P	**Pn**	**12 26 37.0**	**+2.5**
ASAJ	**Asahikawa**	**3.73**	**276**	Pn	**Pn**	**12 26 36.3**	**+1.7**
	2.1nm,0.3s,baz=87,slow=14,SNR=19						
ASAJ				Sn	**Sn**	**12 27 22.5**	**+5.3**
	3.0nm,0.3s,baz=50,slow=16,SNR=1.9						
ASAJ				LR	LR	12 27 24.3	
	comp=Z,64nm,21.1s,baz=132,slow=29						
JEM	**Erimo**	**3.83**	**243**	P	**Pn**	**12 26 38.9**	**+2.9**
ERM	**Erimo**	**3.83**	**243**	∥*e*PN	**Pn**	**12 26 38.5**	**+2.5**
ERM	**Erimo**	**3.83**	**243**	*e*P	**Pn**	**12 26 38.5**	**+2.5**
JSE	**Soyaes**	**3.86**	**289**	P	**Pn**	**12 26 38.0**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.98**	**249**	P	**Pn**	**12 26 37.6**	**-0.4**
YSS	**Yuzh-Sakhalins**	**4.69**	**313**	*e*PN	Pn	12 26 54.0	+6.2
YSS				*e*S	Sn	12 27 47.0	+6.1
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.69**	**313**	*e*P	**Pn**	**12 26 48.0**	**+0.2**
YSS				AMB	AMB	12 26 56.0	
	comp=N,20nm,0.5s						
YSS				*e*rx	rx	12 27 01.0	
YSS				*e*S	**Sn**	**12 27 40.0**	**-0.9**
YSS				A	A	12 27 55.0	
	comp=N,60nm,1.0s						
TYV	**Tymovskoe**	**7.82**	**336**	*e*P	Pb	12 27 44.2	-10
TYV				AMB	AMB	12 27 46.5	
	comp=N,13nm,0.8s						
SKR	**Severo-Kuril's**	**8.89**	**37**	*e*PN	**Pn**	**12 27 43.3**	**-2.1**
SKR	**Severo-Kuril's**	**8.89**	**37**	*e*rx	rx	12 27 43.3	
MAJO	**Matsushiro**	**10.31**	**228**	∥PN	**Pn**	**12 28 06.3**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,365nm,2.5s						
MAJO	**Matsushiro**	**10.31**	**228**	*e*P	**Pn**	**12 28 06.3**	**+1.4**
MJAR	**Matsushiro Arr**	**10.31**	**228**	Pn	**Pn**	**12 28 04.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=26,slow=11,SNR=5.0						
USRK	**Ussuriysk Arra**	**11.36**	**277**	LR	LR	12 32 33.0	
	comp=Z,118nm,19.7s,baz=78,slow=37						
PETK	**Petropavlovsk-**	**11.37**	**32**	PN	**Pn**	**12 28 20.2**	**+0.9**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.37**	**32**	Pn	**Pn**	**12 28 20.2**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=205,slow=15,SNR=33						
PETK				LR	LR	12 32 20.8	
	comp=Z,110nm,18.0s,baz=198,slow=35						
EKMR	**Ekimchan**	**13.45**	**319**	*e*rx	rx	12 28 34.4	
KSRS	**Korea Array**	**16.33**	**254**	LR	LR	12 36 03.4	
	comp=Z,101nm,18.7s,baz=32,slow=38						
BMKR	**Bomnak**	**16.38**	**318**	*e*rx	rx	12 29 26.9	
ZEA	**Zeya**	**16.68**	**314**	*e*P	P	12 29 42.7	+10
ZEA				AMB	AMB	12 29 44.9	
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**28.83**	**293**	P	**P**	**12 31 34.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=81,slow=9.2,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.90**	**140**	T	T	13 02 09.8	
	baz=333,slow=76,SNR=86						
H11N1	**WAKE ISLAND Hy**	**28.91**	**140**	T	T	13 02 15.2	
	baz=333,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**28.91**	**140**	T	T	13 02 15.6	
	baz=333,slow=76,SNR=135						
H11S1	**WAKE ISLAND Hy**	**29.87**	**142**	T	T	13 03 28.2	
	baz=336,slow=77						
H11S3	**WAKE ISLAND Hy**	**29.88**	**142**	T	T	13 03 29.9	
	baz=336,slow=77						
H11S2	**WAKE ISLAND Hy**	**29.89**	**142**	T	T	13 03 27.8	
	baz=336,slow=77						
ILAR	**Eielson Array**	**41.15**	**36**	P	**P**	**12 33 20.8**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=262,slow=6.1,SNR=23						
ILAR				pP	**pP**	**12 33 30.9**	**+0.7**
	comp=Z,2.5nm,1.0s,baz=269,slow=8.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.28**	**307**	PcP	**PcP**	**12 35 19.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=72,slow=4.8,SNR=4.7						
ZALV				pPcP		12 35 30.0	
	comp=Z,1.7nm,0.5s,baz=98,slow=2.8,SNR=10						
MKAR	**Makanchi Array**	**44.92**	**298**	P	**P**	**12 33 50.3**	**-0.4**
MKAR				*PP	**pP**	**12 34 00.0**	**-1.0**
MKAR						12 35 32.0	
MKAR						12 35 42.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.92**	**298**	P	**P**	**12 33 50.3**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=70,slow=8.6,SNR=2.8						
MKAR				pP	**pP**	**12 34 00.0**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=76,slow=8.7,SNR=3.9						
MKAR				PcP	**PcP**	**12 35 32.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=67,slow=5.4,SNR=2.8						
MKAR				pPcP		12 35 42.4	
	comp=Z,0.8nm,0.7s,baz=78,slow=3.7,SNR=5.2						
KURK	**Kurchatov**	**45.83**	**304**	P	**P**	**12 33 55.9**	**-1.9**
KURK						12 35 35.2	
KURK						12 35 45.8	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.92**	**304**	P	**P**	**12 33 55.9**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=72,slow=8.6,SNR=2.9						
KURBB				PcP	**PcP**	**12 35 35.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=79,slow=3.8,SNR=7.9						
KURBB				pPcP		12 35 45.8	
	comp=Z,1.0nm,0.7s,baz=74,slow=3.5,SNR=9.9						
YKA	**Yellowknife Ar**	**55.48**	**34**	P	**P**	**12 35 10.9**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=298,slow=6.7,SNR=42						
YKA				sP	**sP**	**12 35 25.8**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=301,slow=7.1,SNR=7.8						
WRA	**Warramunga Arr**	**64.66**	**194**	P	**P**	**12 36 13.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=9.9,slow=7.5,SNR=3.6						
WRA				pP	**pP**	**12 36 24.7**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=10,slow=6.5,SNR=4.4						
FINES	**FINESS Array B**	**64.98**	**333**	P	**P**	**12 36 13.6**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=55,slow=7.2,SNR=6.7						
NVAR	**Mina Array Bea**	**67.16**	**58**	P	**P**	**12 36 31.0**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=285,slow=6.8,SNR=8.9						
AFI	**Afiamalu**	**68.31**	**137**	LR	LR	12 58 18.8	
	comp=Z,85nm,21.8s,baz=156,slow=29						
ASAR	**Alice Springs**	**68.37**	**194**	P	**P**	**12 36 38.3**	**+0.9**
	comp=Z,0.7nm,1.0s,baz=7.5,slow=5.9,SNR=3.2						
PDAR	**Pinedale Array**	**69.52**	**50**	P	**P**	**12 36 44.5**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=238,slow=1.4,SNR=5.8						
NOA	**NORSAR Array B**	**69.67**	**339**	P	**P**	**12 36 44.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=32,slow=5.8,SNR=2.4						
KBZ	**Khabaz**	**70.06**	**312**	P	**P**	**12 36 48.5**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBZ	**Khabaz**	**70.06**	**312**	P	**P**	**12 36 48.5**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=53,slow=5.0,SNR=7.3						
AKASG	**Malin Array Be**	**71.75**	**324**	*e*P	**P**	**12 36 57.6**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.75**	**324**	P	**P**	**12 36 57.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=37,slow=5.6,SNR=9.7						
AKASG				pP	**pP**	**12 37 07.0**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=38,slow=6.0,SNR=5.0						
SCHQ	**Schefferville**	**77.39**	**20**	P	**P**	**12 37 30.7**	**+0.2**
	comp=Z,4.9nm,1.1s,baz=254,slow=15,SNR=2.9						
CLL	**Collm**	**77.43**	**333**	∥*i*P	**P**	**12 37 30.7**	**-0.1**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**77.43**	**333**	∥*i*P	**P**	**12 37 30.7**	**-0.1**
	comp=Z,7.0nm,1.0s						
BRTR	**Keskin Array B**	**77.79**	**314**	P	**P**	**12 37 34.1**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=42,slow=6.7,SNR=3.0						
GERES	**GERESS Array B**	**79.28**	**331**	P	**P**	**12 37 41.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=52,slow=6.4,SNR=4.8						
GERES				pP	**PcP**	**12 37 50.6**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=28,slow=4.4,SNR=2.5						
TXAR	**Lajitas Array**	**82.24**	**57**	P	**P**	**12 37 58.2**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=297,slow=4.2,SNR=18						
TXAR				pP	**pP**	**12 38 08.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=294,slow=3.5,SNR=5.5						
H03N2	**Juan Fernandez**	**142.53**	**90**	T	T	15 24 14.5	
	baz=301,slow=75,SNR=168						
H03N3	**Juan Fernandez**	**142.55**	**90**	T	T	15 24 11.7	
	baz=301,slow=75,SNR=139						
H03N1	**Juan Fernandez**	**142.55**	**90**	T	T	15 24 15.5	
	baz=301,slow=75,SNR=172						

DDA ***21*** *12:29:46.4, 42.58N×42.89E, h11km, MD2.9*
CSEM 21 12:29:41.3±1.1, 42.64N×43.40E, h2km, MD2.9, Error ellipse: s-maj=105.4km s-min=13.8km az=138.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.07**	**143**	P	Pg	12 29 43.3	+0.6
ONI				S	Pg	12 29 43.3	+0.6
ONI	**Oni**	**0.07**	**143**	S	Sg	12 29 43.3	-0.4
ONI	**Oni**	**0.07**	**143**	P	Pg	12 29 43.3	+0.6
ARTV	**Artvin**	**1.82**	**217**	*i* P	Pn	12 30 13.4	-0.5
ARTV				*i* S	Sn	12 30 36.9	-0.7
ARTV	**Artvin**	**1.82**	**217**	*i* P	Pn	12 30 13.4	-0.5
ARTV				*i* S	Sn	12 30 36.9	-0.7
DAGI	**Agillar**	**1.92**	**216**	*i* P	Pn	12 30 15.5	+0.5
DAGI				*i* S	Sn	12 30 40.1	+0.4
DDEM	**Demirkent**	**2.14**	**216**	*i* P	Pn	12 30 18.5	+0.4
DDEM				*i* S	Sn	12 30 46.2	+0.9
DDEM	**Demirkent**	**2.14**	**216**	*i* P	Pn	12 30 18.5	+0.4
DDEM				*i* S	Sn	12 30 46.2	+0.9

IDC 21 12:34:45.5±1.6, 11.14S×165.55E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=51.8km s-min=30.6km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.90**	**176**	Pn	Pn	12 37 23.3	+0.3
	1.3nm,0.3s,baz=351,slow=13,SNR=19						
WRA	**Warramunga Arr**	**31.27**	**250**	P	P	12 41 07.8	+0.3
	1.0nm,1.0s,baz=83,slow=9.3,SNR=5.3						
ASAR	**Alice Springs**	**32.58**	**243**	P	P	12 41 18.2	-0.7
	0.4nm,0.9s,baz=67,slow=9.4,SNR=3.2						
ASAJ	**Asahikawa**	**58.82**	**341**	LR	LR	13 06 47.0	
	comp=Z,28nm,20.7s,baz=99,slow=33						
ILAR	**Eielson Array**	**83.66**	**19**	P	P	12 47 15.4	-0.3
	0.3nm,0.6s,baz=232,slow=5.3,SNR=8.1						
MKAR	**Makanchi Array**	**93.46**	**317**	P	P	12 48 03.8	+0.6
	0.2nm,0.7s,baz=113,slow=3.3,SNR=3.0						

IDC ***21*** *12:47:22.9±2.1, 7.31S×127.94E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=291.9km s-min=29.4km az=65.0*
ISC 21 12:47:24.5±1.2, 7.35S±0.08×128.3E±0.1, h10km, n10, σ1=92/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.92**	**42**	P	**Sn**	**12 50 01.5**	**+1.0**
	baz=7.6,SNR=4.7						
MTN	**Manton Dam**	**6.14**	**153**	P	Pn	12 49 03.1	+7.8
	baz=2.8,SNR=34						
MTN				S	**Sn**	**12 50 05.1**	**-0.6**
	baz=2.8,SNR=14						
KDU	**Kakadu**	**6.72**	**142**	P	Pn	12 49 10.1	+6.7
	baz=3.4,SNR=56						
KDU				S	**Sn**	**12 50 17.9**	**-2.1**
	baz=3.4,SNR=15						
KNRA	**Kununurra**	**8.29**	**177**	P	Pn	12 49 32.7	+7.9
	baz=5.6,SNR=32						
KNRA				S	**Sn**	**12 50 57.2**	**-1.4**
	baz=5.6,SNR=5.0						
WRA	**Warramunga Arr**	**13.83**	**155**	Pn	**Pn**	**12 50 41.9**	**+1.1**
	0.7nm,0.3s,baz=331,slow=13,SNR=34						
WRA				Sn	Sn	12 53 03.3	-11
	1.9nm,0.3s,baz=341,slow=23,SNR=14						
COEN	**Coen**	**16.04**	**115**	P	**P**	**12 51 13.4**	**-0.5**
	baz=13,SNR=4.5						
ASAR	**Al

JKE	**Kume jima 2**	**2.10**	**212**	P	**Pb**	**12 54 19.9**	**-1.2**
JNU	**Nakatsue**	**5.55**	**26**	Pn	Pn	12 55 13.1	+7.5
	0.8nm,0.3s,baz=186,slow=7.5,SNR=5.7						
JNU				LR	LR	12 58 09.7	
	comp=Z,48nm,18.7s,baz=247,slow=45						
KSRS	**Korea Array**	**9.30**	**360**	LR	LR	12 59 49.0	
	comp=Z,41nm,21.5s,baz=255,slow=39						
SONM	**Songino Array**	**25.87**	**325**	P	**P**	**12 59 13.5**	**-1.4**
	0.4nm,0.8s,baz=128,slow=9.3,SNR=2.1						
MKAR	**Makanchi Array**	**40.15**	**310**	P	**P**	**13 01 19.4**	**+0.3**
	0.3nm,0.8s,baz=111,slow=7.9,SNR=3.1						
WRA	**Warramunga Arr**	**48.18**	**172**	P	**P**	**13 02 23.8**	**+0.2**
	0.8nm,1.1s,baz=352,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**51.81**	**173**	P	**P**	**13 02 53.9**	**+2.7**
	0.3nm,0.9s,baz=355,slow=8.0,SNR=6.0						

*ATH **21** 12:54:42.9, 37˚.15N×20˚.73E, h10km±1km, MD3.7/18*
*CSEM **21** 12:54:44.2±0.4, 37˚.23N×20˚.79E, h2km, ML3.4, Error ellipse: s-maj=7.3km s-min=4.3km az=45.0*
*THE **21** 12:54:44.9, 37˚.26N×20˚.82E, h1km±2km, ML3.4/3, Error ellipse: s-maj=2.9km s-min=1.0km az=249.0*

ISC 21 12:54:43.7±1.5, 37˚.21N±0˚.03×20˚.76E±0˚.04, h0km±10km, n74, σ0s75/106, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFD	**Strofades**	**0.21**	**78**	P		**Pg**	**12 54 48.2**	**+0.6**
SFD				S		**Sg**	**12 54 50.8**	**+0.4**
SFD	**Strofades**	**0.21**	**78**	*e*PG		**Pg**	**12 54 48.3**	**+0.6**
SFD				*e*SG		**Sg**	**12 54 51.4**	**+1.0**
SFD	**Strofades**	**0.21**	**78**	P		**Pg**	**12 54 48.2**	**+0.6**
SFD				S		**Sg**	**12 54 50.8**	**+0.4**
SFD				*e*Sg		Sg	12 54 51.4	+1.0
AMT	**Artemida-Makis**	**0.82**	**66**	P		**Pg**	**12 55 00.1**	**+0.7**
AMT	**Artemida-Makis**	**0.82**	**66**	*e*PB		**Pg**	**12 54 59.7**	**+0.3**
AMT				*e*SB		**Sg**	**12 55 11.3**	**+1.2**
AMT	**Artemida-Makis**	**0.82**	**66**	*e*Pb		**Pg**	**12 54 59.7**	**+0.3**
AMT	**Artemida-Makis**	**0.82**	**66**	P		**Pg**	**12 55 00.1**	**+0.7**
PYL	**PYLOS**	**0.84**	**111**	P		**Pg**	**12 54 59.2**	**-0.6**
PYL				S		**Sg**	**12 55 11.6**	**+0.8**
PYL	**PYLOS**	**0.84**	**111**	*e*PB		**Pg**	**12 54 59.2**	**-0.6**
PYL				*e*SB		**Sg**	**12 55 10.8**	**0.0**
PYL	**PYLOS**	**0.84**	**111**	P		**Pg**	**12 54 59.2**	**-0.6**
PYL				S		**Sg**	**12 55 11.6**	**+0.8**
ITM	**Ithomi**	**0.93**	**91**	P		**Pg**	**12 55 00.8**	**-0.7**
ITM				S		**Sg**	**12 55 14.2**	**+0.6**
ITM	**Ithomi**	**0.93**	**91**	*e*PG		**Pg**	**12 55 00.8**	**-0.7**
ITM				*e*SB		**Sg**	**12 55 14.0**	**+0.4**
ITM	**Ithomi**	**0.93**	**91**	P		**Pg**	**12 55 00.8**	**-0.7**
ITM				S		**Sg**	**12 55 14.2**	**+0.6**
VLS	**Valsamata**	**0.98**	**352**	P		**Pg**	**12 55 02.3**	**-0.1**
VLS	**Valsamata**	**0.98**	**352**	*e*PG		**Pg**	**12 55 02.3**	**-0.1**
VLS				*e*SB		**Sb**	**12 55 17.0**	**+0.1**
VLS	**Valsamata**	**0.98**	**352**	P		**Pg**	**12 55 02.3**	**-0.1**
RLS	**Riolos of Patr**	**1.02**	**33**	P		**Pg**	**12 55 02.7**	**-0.5**
RLS				S		**Sg**	**12 55 16.2**	**-0.2**
RLS	**Riolos of Patr**	**1.02**	**33**	*e*PG		**Pg**	**12 55 02.7**	**-0.5**
RLS				*e*SB		**Sb**	**12 55 18.6**	**+0.5**
RLS	**Riolos of Patr**	**1.02**	**33**	P		**Pg**	**12 55 02.7**	**-0.5**
RLS				S		**Sg**	**12 55 16.2**	**-0.2**
DRO	**Drossia**	**1.06**	**45**	P		**Pg**	**12 55 03.2**	**-0.8**
DRO				S		**Sg**	**12 55 18.1**	**+0.3**
DRO	**Drossia**	**1.06**	**45**	*e*PB		**Pg**	**12 55 03.8**	**-0.2**
DRO				*e*SB		**Sb**	**12 55 19.3**	**0.0**
DRO	**Drossia**	**1.06**	**45**	P		**Pg**	**12 55 03.2**	**-0.8**
DRO	**Drossia**	**1.06**	**45**	*e*Pb		**Pg**	**12 55 03.8**	**-0.2**
DRO				S		**Sg**	**12 55 18.1**	**+0.3**
DRO				*e*Sb		**Sb**	**12 55 19.3**	**0.0**
VLX	**Vlachokerasia**	**1.30**	**82**	P		**Pg**	**12 55 08.1**	**-0.5**
VLX	**Vlachokerasia**	**1.30**	**82**	*e*PB		**Pg**	**12 55 07.9**	**-0.7**
VLX				*e*SB		**Sg**	**12 55 25.9**	**+0.4**
VLX	**Vlachokerasia**	**1.30**	**82**	P		**Pg**	**12 55 08.1**	**-0.5**
VLX				*e*Sb		**Sg**	**12 55 25.9**	**+0.4**
KLV	**Kalavryta, Ach**	**1.39**	**52**	P		**Pg**	**12 55 09.3**	**-1.0**
KLV	**Kalavryta, Ach**	**1.39**	**52**	P		**Pn**	**12 55 09.3**	**-1.0**
LAKA	**Lakka**	**1.41**	**43**	P		**Pn**	**12 55 10.0**	**-0.6**
LAKA	**Lakka**	**1.41**	**43**	*e*PB		**Pb**	**12 55 10.9**	**0.0**
LAKA	**Lakka**	**1.41**	**43**	P		**Pn**	**12 55 10.0**	**-0.6**
LAKA	**Lakka**	**1.41**	**43**	*e*Pb		**Pb**	**12 55 10.9**	**0.0**
PDO	**Prodromos**	**1.43**	**13**	P		**Pn**	**12 55 09.7**	**-1.1**
PDO	**Prodromos**	**1.43**	**13**	*e*PG		**Pn**	**12 55 10.3**	**-0.5**
PDO				*e*SB		**Sn**	**12 55 30.7**	**+0.4**
PDO	**Prodromos**	**1.43**	**13**	P		**Pn**	**12 55 09.7**	**-1.1**
PDO	**Prodromos**	**1.43**	**13**	*e*Pg		**Pn**	**12 55 10.3**	**-0.5**
PDO				*e*Sb		**Sn**	**12 55 30.7**	**+0.4**
GUR	**Goura**	**1.45**	**59**	P		**Pn**	**12 55 09.9**	**-1.3**
GUR				S		**Sg**	**12 55 29.8**	**-0.6**
GUR	**Goura**	**1.45**	**59**	*e*PG		**Pn**	**12 55 10.8**	**-0.4**
GUR				*e*SB		**Sn**	**12 55 31.8**	**+0.8**
GUR	**Goura**	**1.45**	**59**	P		**Pn**	**12 55 09.9**	**-1.3**
GUR	**Goura**	**1.45**	**59**	*e*Pg		**Pn**	**12 55 10.8**	**-0.4**
GUR				S		**Sg**	**12 55 29.8**	**-0.6**
GUR				*e*Sb		**Sn**	**12 55 31.8**	**+0.8**
EFP	**Efpalio**	**1.52**	**36**	*e*PB		**Pg**	**12 55 12.9**	**+0.1**
EFP				*e*SB		**Sg**	**12 55 34.0**	**+1.5**
EFP	**Efpalio**	**1.52**	**36**	*e*Pb		**Pg**	**12 55 12.9**	**+0.1**
EFP				*e*Sb		**Sg**	**12 55 34.0**	**+1.5**
LKD2	**Lefkada island**	**1.58**	**357**	P		**Pg**	**12 55 14.6**	**+0.6**
LKD2	**Lefkada island**	**1.58**	**357**	P		**Pg**	**12 55 14.6**	**+0.6**
KALE	**Kalithea**	**1.61**	**42**	*e*PB		**Pg**	**12 55 14.5**	**0.0**
KALE	**Kalithea**	**1.61**	**42**	*e*Pb		**Pg**	**12 55 14.5**	**0.0**
VLI	**Veliai**	**1.81**	**105**	P		**Pb**	**12 55 16.8**	**-0.8**
VLI				S		**Sb**	**12 55 40.8**	**0.0**
VLI	**Veliai**	**1.81**	**105**	P		**Pb**	**12 55 16.8**	**-0.8**
VLI				S		**Sb**	**12 55 40.8**	**0.0**
DSF	**Desfina**	**1.85**	**49**	*e*PN		**Pb**	**12 55 17.7**	**-0.6**
DSF	**Desfina**	**1.85**	**49**	*e*Pn		**Pb**	**12 55 17.7**	**-0.6**
EVR	**Evrytania**	**1.90**	**26**	*e*PN		**Pb**	**12 55 18.6**	**-0.6**
EVR	**Evrytania**	**1.90**	**26**	*e*Pn		**Pb**	**12 55 18.6**	**-0.6**
DID	**Didima**	**2.00**	**81**	P		**Pn**	**12 55 18.6**	**0.0**
DID				S		**Sn**	**12 55 44.0**	**-0.3**
DID	**Didima**	**2.00**	**81**	*e*PN		**Pn**	**12 55 19.0**	**+0.4**
DID	**Didima**	**2.00**	**81**	P		**Pn**	**12 55 18.6**	**0.0**
DID	**Didima**	**2.00**	**81**	*e*Pn		**Pn**	**12 55 19.0**	**+0.4**
DID				S		**Sn**	**12 55 44.0**	**-0.3**
KYTH	**Kithira**	**2.05**	**116**	P		**Pn**	**12 55 20.2**	**+0.9**
KYTH	**Kithira**	**2.05**	**116**	*e*PN		**Pn**	**12 55 20.1**	**+0.8**
KYTH	**Kithira**	**2.05**	**116**	*e*Pn		**Pn**	**12 55 20.1**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.10**	**31**	*e*PN		**Pb**	**12 55 21.6**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.10**	**31**	*e*Pn		**Pb**	**12 55 21.6**	**-1.1**
ANKY	**Antikythira Is**	**2.44**	**122**	*e*PN		**Pn**	**12 55 24.9**	**+0.2**
ANKY	**Antikythira Is**	**2.44**	**122**	*e*Pn		**Pn**	**12 55 24.9**	**+0.2**
THL	**Klokotos Trika**	**2.55**	**22**	*e*PB		**Pn**	**12 55 27.1**	**+0.9**
THL	**Klokotos Trika**	**2.55**	**22**	*e*Pb		**Pn**	**12 55 27.1**	**+0.9**
MRKA	**Markates**	**2.69**	**55**	*e*PB		**Pn**	**12 55 28.8**	**+0.6**
MRKA	**Markates**	**2.69**	**55**	*e*Pb		**Pn**	**12 55 28.8**	**+0.6**
APE	**Apeiranthos**	**3.81**	**91**	*e*PN		**Pn**	**12 55 44.4**	**+0.8**
APE	**Apeiranthos**	**3.81**	**91**	*e*Pn		**Pn**	**12 55 44.4**	**+0.8**
TREB	**Trebinje**	**5.81**	**342**	*e*Pn		**Pn**	**12 56 12.8**	**+1.8**
STON	**Ston**	**6.13**	**338**	*e*Pn		**Pn**	**12 56 14.9**	**-0.4**
IVAS	**Ivanjica**	**6.38**	**356**	*e*Pn		**Pn**	**12 56 17.0**	**-1.9**
GRUS	**Gruza**	**6.67**	**360**	*e*Pn		**Pn**	**12 56 20.6**	**-2.3**
BBLS	**Lazići**	**6.73**	**352**	*e*Pn		**Pn**	**12 56 25.4**	**+1.7**

*IDC **21** 13:15:16.8±0.8, 46˚.02N×154˚.23E, h0km, mb3.6/13, mb1 3.9/16, mb1mx3.8/28, mbtmp3.7/16, ML3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=24.4km s-min=16.4km az=149.0*
*ISCJB **21** 13:15:17.8±0.7, 45˚.91N±0˚.09×154˚.2E±0˚.1, h20km, mb3.6/13, MS2.7/1, Error ellipse: s-maj=15.8km s-min=8.6km az=135.3*

ISC 21 13:15:19.8±0.8, 45˚.9N±0˚.1×154˚.15E±0˚.09, h20km, n20, σ1s63/18, mb3.7/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PETK	**Petropavlovsk-**	**7.55**	**17**	Pn		**Pn**	**13 17 06.4**	**-2.2**
	1.5nm,0.3s,baz=192,slow=15,SNR=30							
PETK				Sn		**Sn**	**13 18 37.6**	**+4.1**
	0.1nm,0.3s,baz=61,slow=28,SNR=2.4							
ASAJ	**Asahikawa**	**8.38**	**262**	Pn		**Pn**	**13 17 21.3**	**+1.2**
	0.7nm,0.3s,baz=338,slow=15,SNR=6.0							
ASAJ				Sn		**Sn**	**13 18 51.9**	**-2.3**
	0.2nm,0.3s,baz=287,slow=17,SNR=2.0							
USRK	**Ussurisk Arra**	**15.75**	**272**	Pn		**Pn**	**13 19 00.4**	**+0.1**
	0.5nm,0.3s,baz=72,slow=13,SNR=12							
KSRS	**Korea Array**	**21.27**	**256**	P		**P**	**13 20 07.0**	**+2.3**
	1.3nm,0.7s,baz=55,slow=11,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**28.18**	**154**	T		T	13 50 34.9	
	baz=344,slow=77,SNR=10							
H11N1	**WAKE ISLAND Hy**	**28.18**	**154**	T		T	13 50 34.8	
	baz=344,slow=77,SNR=8.0							
H11N3	**WAKE ISLAND Hy**	**28.18**	**154**	T		T	13 50 36.5	
	baz=344,slow=77,SNR=9.4							
SONM	**Songino Array**	**32.29**	**291**	P		**P**	**13 21 47.0**	**-0.3**
	0.4nm,0.7s,baz=68,slow=8.0,SNR=2.9							
ILAR	**Eielson Array**	**36.75**	**38**	P		**P**	**13 22 25.3**	**-0.2**
	0.3nm,0.9s,baz=265,slow=7.2,SNR=3.0							
TGY	**Tagaytay City**	**42.27**	**232**	LR		LR	13 39 38.6	
	comp=Z,11nm,20.5s,baz=122,slow=34							
ZALV	**Zalesovo Beam**	**43.68**	**307**	P		**P**	**13 23 21.8**	**-1.1**
	0.8nm,0.5s,baz=60,slow=8.7,SNR=4.0							
MKAR	**Makanchi Array**	**47.96**	**298**	P		**P**	**13 23 57.0**	**+0.1**
	0.9nm,0.7s,baz=72,slow=7.2,SNR=8.8							
YKA	**Yellowknife Ar**	**51.15**	**37**	P		**P**	**13 24 20.5**	**-0.5**
	0.3nm,0.6s,baz=304,slow=7.5,SNR=5.1							
CMAR	**Chiang Mai Arr**	**52.89**	**258**	P		**P**	**13 24 35.6**	**+1.2**
	0.5nm,0.6s,baz=31,slow=7.2,SNR=4.2							
PDAR	**Pinedale Array**	**64.65**	**54**	P		**P**	**13 25 56.0**	**-0.3**
	0.5nm,0.8s,baz=302,slow=2.0,SNR=3.0							
FINES	**FINESS Array B**	**65.09**	**335**	P		**P**	**13 25 58.1**	**-0.3**
	0.7nm,0.4s,baz=48,slow=4.3,SNR=6.4							
WRA	**Warramunga Arr**	**67.98**	**200**	P		**P**	**13 26 16.7**	**-0.6**
	0.7nm,0.8s,baz=19,slow=6.6,SNR=4.4							
ASAR	**Alice Springs**	**71.67**	**200**	P		**P**	**13 26 41.5**	**+1.5**
	0.6nm,0.8s,baz=9.4,slow=5.8,SNR=4.6							
AKASG	**Malin Array Be**	**72.63**	**327**	P		**P**	**13 26 44.9**	**-0.6**
	0.8nm,0.6s,baz=34,slow=6.3,SNR=3.3							
TXAR	**Lajitas Array**	**77.27**	**61**	P		**P**	**13 27 12.5**	**-0.4**
	0.4nm,0.6s,baz=284,slow=3.3,SNR=6.0							

*IDC **21** 13:25:31.1±1.5, 8˚.57S×157˚.46E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/25, mbtmp3.8/8, MS3.4/1, Ms1 3.4/1, ms1mx2.7/21, Error ellipse: s-maj=51.1km s-min=23.2km az=122.0*

ISC 21 13:25:33.5±0.8, 8˚.6S±0˚.2×157˚.52E±0˚.09, h16km, n10, σ1s27/10, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**2.54**	**109**	*e*P		**Pb**	**13 26 18.0**	**-0.8**
HNR				S		**Sg**	**13 26 56.0**	**+0.7**
DZM	**Mont Dzumac**	**15.92**	**148**	LR		LR	13 33 28.9	
	comp=Z,122nm,20.0s,baz=29,slow=30							
WRA	**Warramunga Arr**	**25.10**	**241**	P		**P**	**13 30 56.3**	**-1.5**
	2.4nm,0.8s,baz=67,slow=9.1,SNR=16							
ASAR	**Alice Springs**	**27.12**	**234**	P		**P**	**13 31 14.5**	**-1.6**
	0.4nm,0.8s,baz=66,slow=9.2,SNR=4.5							
STKA	**Stephens Creek**	**27.50**	**210**	P		**P**	**13 31 21.2**	**+1.9**
	1.4nm,0.7s,baz=34,slow=14,SNR=4.7							
CMAR	**Chiang Mai Arr**	**63.72**	**295**	P		**P**	**13 36 05.7**	**+0.8**
	0.9nm,0.6s,baz=127,slow=5.3,SNR=8.0							
SONM	**Songino Array**	**72.03**	**327**	P		**P**	**13 36 57.7**	**+0.8**
	0.7nm,0.8s,baz=139,slow=4.9,SNR=4.3							
ILAR	**Eielson Array**	**83.95**	**21**	P		**P**	**13 38 02.2**	**-0.4**
	1.0nm,1.1s,baz=249,slow=4.7,SNR=4.1							
MKAR	**Makanchi Array**	**86.25**	**318**	P		**P**	**13 38 13.8**	**-0.8**
	0.6nm,0.6s,baz=97,slow=4.7,SNR=6.4							
YKA	**Yellowknife Ar**	**96.57**	**28**	P		**P**	**13 39 02.4**	**+0.1**
	0.3nm,0.9s,baz=257,slow=5.6,SNR=2.9							

IDC 21 13:29:16.5±2.3, 1˚.45N×127˚.12E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=195.8km s-min=26.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.41**	**162**	P		P	13 34 16.7	-0.2
	0.2nm,0.4s,baz=341,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**25.82**	**166**	P		P	13 34 49.8	+0.1
	0.3nm,0.9s,baz=340,slow=9.9,SNR=4.4							
MKAR	**Makanchi Array**	**59.64**	**326**	P		P	13 39 22.5	0.0
	0.3nm,0.5s,baz=114,slow=8.0,SNR=5.6							

*TIR **21** 13:42:50.5, 38˚.43N×22˚.14E, h7km, ML3.7*
*IDC **21** 13:42:54.2±1.3, 38˚.37N×22˚.07E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/27, mbtmp3.4/7, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/16, Error ellipse: s-maj=37.8km s-min=23.9km az=148.0*
*ATH **21** 13:42:55.4, 38˚.40N×22˚.01E, h11km±1km, ML3.5*
*ISCJB **21** 13:42:55.1±0.2, 38˚.41N±0˚.01×22˚.00E±0˚.02, h8km±2km, mb3.5/6, Error ellipse: s-maj=2.4km s-min=2.3km az=5.7*
*CSEM **21** 13:42:55.1±0.1, 38˚.41N×21˚.99E, h8km, ML3.5, Error ellipse: s-maj=2.1km s-min=2.1km az=83.0*
*THE **21** 13:42:55.7, 38˚.40N×22˚.00E, h3km±1km, ML3.6/7, Error ellipse: s-maj=1.1km s-min=0.4km az=269.0*
*SKO **21** 13:42:56.9, 38˚.57N×21˚.70E, h2km*

ISC 21 13:42:55.7±0.7, 38˚.40N±0˚.01×22˚.00E±0˚.01, h9km±4km, n119, σ0s70/172, mb3.6/6, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EFP	**Efpalio**	**0.08**	**291**	P		**Pg**	**13 42 57.4**	**-0.4**
EFP				S		**Sg**	**13 42 59.0**	**-0.3**
EFP	**Efpalio**	**0.08**	**291**	*e*PG		**Pg**	**13 42 57.4**	**-0.4**
EFP				*e*SG		**Sg**	**13 42 59.0**	**-0.3**
EFP	**Efpalio**	**0.08**	**291**	P		**Pg**	**13 42 57.4**	**-0.4**
EFP				S		**Sg**	**13 42 58.4**	**-0.9**
EFP				*e*Sg		Sg	13 42 59.0	-0.3
KALE	**Kalithea**	**0.11**	**94**	P		**Pg**	**13 42 58.6**	**+0.2**
KALE	**Kalithea**	**0.11**	**94**	*e*PG		**Pg**	**13 42 58.5**	**+0.2**
KALE				*e*SG		**Sg**	**13 43 01.0**	**+0.8**
KALE	**Kalithea**	**0.11**	**94**	*e*Pg		**Pg**	**13 42 58.5**	**+0.2**
KALE				S		**Sg**	**13 43 00.4**	**+0.2**
KALE				*e*Sg		Sg	13 43 01.0	+0.7
LAKA	**Lakka**	**0.16**	**185**	P		**Pg**	**13 42 59.2**	**+0.1**
LAKA	**Lakka**	**0.16**	**185**	*e*PG		**Pg**	**13 42 59.2**	**+0.1**
LAKA	**Lakka**	**0.16**	**185**	P		**Pg**	**13 42 59.2**	**+0.1**
UPR	**University Cam**	**0.20**	**235**	P		**Pg**	**13 42 59.8**	**0.0**
UPR	**University Cam**	**0.20**	**235**	P		**Pg**	**13 42 59.8**	**0.0**
UPR				S		**Sg**	**13 43 02.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.38**	**161**	P		**Pg**	**13 43 02.6**	**-0.4**
KLV	**Kalavryta, Ach**	**0.38**	**161**	*e*PB		**Pg**	**13 43 02.8**	**-0.2**
KLV				*e*SB		**Sg**	**13 43 08.3**	**+0.3**
KLV	**Kalavryta, Ach**	**0.38**	**161**	P		**Pg**	**13 43 02.8**	**-0.2**
KLV				*e*Sb		**Sg**	**13 43 08.3**	**+0.3**
DSF	**Desfina**	**0.42**	**88**	P		**Pg**	**13 43 03.4**	**-0.4**
DSF				S		**Sg**	**13 43 10.4**	**+1.1**
DSF	**Desfina**	**0.42**	**88**	*e*PB		**Pg**	**13 43 03.5**	**-0.4**
DSF				*e*SB		**Sg**	**13 43 09.6**	**+0.3**
DSF	**Desfina**	**0.42**	**88**	P		**Pg**	**13 43 03.4**	**-0.4**
DSF				S		**Sg**	**13 43 09.3**	**0.0**
PVO	**Paravola**	**0.43**	**301**	P		**Pg**	**13 43 03.7**	**-0.3**
PVO	**Paravola**	**0.43**	**301**	P		**Pg**	**13 43 03.6**	**-0.4**
PVO				S		**Sg**	**13 43 10.1**	**+0.4**
DRO	**Drossia**	**0.50**	**207**	P		**Pg**	**13 43 05.0**	**-0.3**
DRO				S		**Sg**	**13 43 12.7**	**+0.8**
DRO	**Drossia**	**0.50**	**207**	*e*PG		**Pg**	**13 43 05.1**	**-0.3**
DRO	**Drossia**	**0.50**	**207**	*e*Pg		**Pg**	**13 43 05.1**	**-0.3**
DRO				S		**Sg**	**13 43 12.1**	**+0.2**
GUR	**Goura**	**0.54**	**149**	P		**Pg**	**13 43 05.4**	**-0.6**
GUR				S		**Sg**	**13 43 13.9**	**+0.8**
GUR	**Goura**	**0.54**	**149**	*e*PG		**Pg**	**13 43 05.5**	**-0.6**
GUR				*e*SB		**Sg**	**13 43 14.1**	**+1.0**
GUR	**Goura**	**0.54**	**149**	*e*Pg		**Pg**	**13 43 05.5**	**-0.6**
GUR				*e*Sb		**Sg**	**13 43 14.1**	**+1.0**
EVR	**Evrytania**	**0.54**	**344**	P		**Pg**	**13 43 05.5**	**-0.6**
EVR				S		**Sg**	**13 43 14.2**	**+1.1**
EVR	**Evrytania**	**0.54**	**344**	*e*PB		**Pg**	**13 43 05.8**	**-0.3**
EVR				*e*SB		**Sg**	**13 43 14.3**	**+1.1**
EVR	**Evrytania**	**0.54**	**344**	P		**Pg**	**13 43 05.5**	**-0.6**
EVR	**Evrytania**	**0.54**	**344**	*e*Pb		**Pg**	**13 43 05.8**	**-0.3**
EVR				S		**Sg**	**13 43 13.1**	**-0.1**
EVR				*e*Sb		**Sg**	**13 43 14.3**	**+1.1**
RLS	**Riolos of Patr**	**0.54**	**231**	P		**Pg**	**13 43 05.8**	**-0.3**
RLS				S		**Sg**	**13 43 14.2**	**+1.1**
RLS	**Riolos of Patr**	**0.54**	**231**	*e*PG		**Pg**	**13 43 05.8**	**-0.3**
RLS				*e*SB		**Sg**	**13 43 14.3**	**+1.1**
RLS	**Riolos of Patr**	**0.54**	**231**	P		**Pg**	**13 43 05.8**	**-0.3**
RLS				*e*Sb		**Sg**	**13 43 14.3**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*PB		**Pg**	**13 43 07.3**	**-0.4**
MAKR				*e*SB		**Sg**	**13 43 16.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.62**	**10**	*e*Pb		**Pg**	**13 43 07.3**	**-0.4**
MAKR				*e*Sb		**Sg**	**13 43 16.1**	**+0.2**
AXAR	**Agios Charalam**	**0.64**	**55**	P		**Pg**	**13 43 07.5**	**-0.5**
AXAR				S		**Sg**	**13 43 17.0**	**+0.7**
AXAR	**Agios Charalam**	**0.64**	**55**	P		**Pg**	**13 43 07.5**	**-0.5**
AXAR				S		**Sg**	**13 43 16.8**	**+0.5**
PDO	**Prodromos**	**0.67**	**288**	P		**Pg**	**13 43 08.5**	**-0.1**
PDO	**Prodromos**	**0.67**	**288**	*e*PB		**Pg**	**13 43 08.5**	**-0.1**
PDO				*e*SB		**Sg**	**13 43 18.6**	**+1.3**
PDO	**Prodromos**	**0.67**	**288**	P		**Pg**	**13 43 07.7**	**-0.9**
PDO	**Prodromos**	**0.67**	**288**	*e*Pb		**Pg**	**13 43 08.5**	**-0.1**
PDO				S		**Sg**	**13 43 18.0**	**+0.7**
AGG	**Agios Georgios**	**0.68**	**23**	P		**Pg**	**13 43 07.5**	**-1.3**
AGG	**Agios Georgios**	**0.68**	**23**	*e*PB		**Pg**	**13 43 07.4**	**-1.3**
AGG				*e*SB		**Sg**	**13 43 18.4**	**+0.9**
AGG	**Agios Georgios**	**0.68**	**23**	*e*Pb		**Pg**	**13 43 07.4**	**-1.3**
AGG				*e*Sb		**Sg**	**13 43 18.4**	**+0.9**
LKR	**Lokris**	**0.82**	**72**	P		**Pg**	**13 43 10.6**	**-1.0**
LKR				S		**Sb**	**13 43 24.3**	**+0.9**
LKR	**Lokris**	**0.82**	**72**	*e*PG		**Pg**	**13 43 10.5**	**-1.0**
LKR				*e*SB		**Sb**	**13 43 23.1**	**-0.3**
LKR	**Lokris**	**0.82**	**72**	*e*Pg		**Pg**	**13 43 10.5**	**-1.0**
LKR				*e*Sb		**Sb**	**13 43 23.1**	**-0.3**
LKR				S		**Sb**	**13 43 24.3**	**+0.9**
LTK	**Loutraki**	**0.85**	**116**	P		**Pg**	**13 43 11.6**	**-0.5**
LTK				S		**Sg**	**13 43 23.7**	**+0.6**
LTK	**Loutraki**	**0.85**	**116**	*e*PB		**Pg**	**13 43 11.5**	**-0.5**
LTK				*e*SB		**Sg**	**13 43 23.5**	**+0.4**
LTK	**Loutraki**	**0.85**	**116**	*e*Pb		**Pg**	**13 43 11.5**	**-0.5**
LTK				*e*Sb		**Sg**	**13 43 23.5**	**+0.4**
AMT	**Artemida-Makis**	**0.90**	**195**	P		**Pg**	**13 43 12.4**	**-0.4**
AMT	**Artemida-Makis**	**0.90**	**195**	*e*PB		**Pg**	**13 43 12.4**	**-0.4**
AMT	**Artemida-Makis**	**0.90**	**195**	P		**Pg**	**13 43 12.5**	**-0.4**
AMT				S		**Sb**	**13 43 26.0**	**+0.6**
SMIA	**Simia**	**1.06**	**63**	P		**Pg**	**13 43 15.4**	**-0.7**
SMIA	**Simia**	**1.06**	**63**	*e*PB		**Pg**	**13 43 15.3**	**-0.8**
SMIA	**Simia**	**1.06**	**63**	*e*Pb		**Pg**	**13 43 15.3**	**-0.8**
VLX	**Vlachokerasia**	**1.07**	**163**	P		**Pg**	**13 43 15.1**	**-1.1**
VLX	**Vlachokerasia**	**1.07**	**163**	*e*PG		**Pg**	**13 43 14.9**	**-1.3**
VLX				*e*SB		**Sg**	**13 43 30.5**	**+0.4**
VLX	**Vlachokerasia**	**1.07**	**163**	*e*Pg		**Pg**	**13 43 14.9**	**-1.3**
VLX				*e*Sb		**Sg**	**13 43 30.5**	**+0.4**
**

1.0nm,0.8s,baz=54,slow=10.0,SNR=6.2
WRA PcP PcP 13 57 21.0 -1.4
0.3nm,0.6s,baz=72,slow=2.3,SNR=4.7
ASAR Alice Springs 26.43 222 P P 13 54 03.5 +0.8
0.2nm,0.6s,baz=60,slow=8.9,SNR=5.5
H11S3 WAKE ISLAND Hy 26.59 30 T T 14 22 29.4
baz=210
H11S2 WAKE ISLAND Hy 26.60 30 T T 14 22 28.5
baz=210
H11S1 WAKE ISLAND Hy 26.61 30 T T 14 22 28.8
baz=210
ILAR Eielson Array 81.85 22 P P 14 00 46.0 +1.2
0.4nm,1.0s,baz=219,slow=7.0,SNR=3.2
TORD Torodi Ar. Bea 150.32 289 PKPbc PKPbc 14 08 16.2 -2.1
0.6nm,0.4s,baz=65,slow=2.5,SNR=12

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*CSEM **21** 13:50:21.6, 40°.30N×29°.96E, h20km, MD2.6, After ISK*
ISK 21 13:50:21.6, 40°.30N×29°.96E, h20km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAVI	**Cavuskoy**	**0.13**	**225**	*e*PG	Pb	13 50 26.6	+0.7
CAVI	**Cavuskoy**	**0.13**	**225**	*e*Pg	Pb	13 50 26.6	+0.6
ADVT	**Abdulvahap**	**0.22**	**308**	*e*PG	Pb	13 50 27.3	+0.2
ADVT	**Abdulvahap**	**0.22**	**308**	*e*Pg	Pb	13 50 27.3	+0.2
GPA	**Golpazari**	**0.26**	**92**	*e*PG	Pb	13 50 27.5	-0.3
GPA				*e*Sg	Sb	13 50 33.2	+1.2
GPA	**Golpazari**	**0.26**	**92**	*e*Pg	Pb	13 50 27.5	-0.3
GPA				*e*Sg	Sb	13 50 33.2	+1.2
ORLT	**Orhaneli**	**0.86**	**253**	*e*PG	Pn	13 50 38.4	-0.2
ORLT	**Orhaneli**	**0.86**	**253**	*e*Pg	Pn	13 50 38.4	-0.2
ARMT	**Armutlu**	**0.88**	**288**	*e*PG	Pn	13 50 39.2	+0.3
ARMT				*e*SG	Sn	13 50 52.0	+0.8
ARMT	**Armutlu**	**0.88**	**288**	*e*Pg	Pn	13 50 39.2	+0.3
ARMT				*e*Sg	Sn	13 50 52.1	+0.9
MDUB	**Mudurnu**	**0.96**	**79**	*e*PG	Pn	13 50 40.2	+0.1
MDUB	**Mudurnu**	**0.96**	**79**	*e*Pg	Pn	13 50 40.2	+0.1
ALT	**Altintas**	**1.25**	**175**	*e*PN	Pb	13 50 44.5	0.0
ALT	**Altintas**	**1.25**	**175**	*e*Pn	Pb	13 50 44.5	-0.1
CTKS	**Kestanelik-??a**	**1.45**	**311**	*e*PN	Pb	13 50 47.5	-0.4
CTKS	**Kestanelik-??a**	**1.45**	**311**	*e*Pn	Pb	13 50 47.5	-0.4
GONE	**Gonen-Balikesi**	**1.76**	**263**	*e*PN	Pn	13 50 51.7	+0.7
GONE	**Gonen-Balikesi**	**1.76**	**263**	*e*Pn	Pn	13 50 51.7	+0.7
KULA	**Kula-Manisa**	**2.05**	**210**	*e*PN	Pn	13 50 55.8	+0.8
KULA	**Kula-Manisa**	**2.05**	**210**	*e*Pn	Pn	13 50 55.8	+0.8

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*IDC **21** 14:16:55.7±5.8, 7°.48S×102°.10E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=200.9km s-min=32.4km az=52.0*
*ISCJB **21** 14:17:01.8±1.1, 7°.01S±0°.07×102°.66E±0°.07, h33km, mb3.5/4, Error ellipse: s-maj=10.1km s-min=10.0km az=168.9*
*DJA **21** 14:17:04.0±0.9, 7°.5S±5°×10°.3E±°, h10km, M3.8/7, MLv3.8/7*
ISC 21 14:17:03.9±1.4, 6°.99S±0°.10×102°.7E±0°.1, h35km, n14, σ1°.92/14, mb3.5/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.30**	**51**	P	**Pn**	**14 17 38.8**	**-0.5**
KASI				S	**Sn**	**14 18 06.6**	**+0.2**
LWLI	**Liwa**	**2.38**	**35**	P	**Pn**	**14 17 39.7**	**-0.8**
LWLI				S	**Sn**	**14 18 09.5**	**+1.1**
MDSI	**Maura Dua**	**2.88**	**31**	P	**Pn**	**14 17 46.7**	**-0.7**
MDSI				S	**Sn**	**14 18 21.1**	**+0.3**
CGJI	**Cibinong**	**2.99**	**83**	P	**Pn**	**14 17 48.1**	**-0.7**
CGJI				S	**Sn**	**14 18 22.1**	**-1.4**
LHSI	**Lahat**	**3.24**	**15**	P	**Pn**	**14 17 51.8**	**-0.5**
DBJI	**Dramaga**	**4.04**	**84**	P	**Pn**	**14 18 04.7**	**+1.4**
CBJI	**Citeko**	**4.16**	**82**	P	Pn	14 18 07.5	+2.7
CNJI	**Cibinong**	**4.40**	**94**	P	Pn	14 18 00.5	-7.7
LEM	**Lembang**	**4.88**	**88**	P	Pn	14 18 17.8	+2.8
CISI	**Cisompet, Garu**	**5.10**	**97**	P	Pn	14 18 09.0	-8.9
CMAR	**Chiang Mai Arr**	**25.55**	**352**	P	**P**	**14 22 29.6**	**0.0**
	0.6nm,0.5s,baz=181,slow=8.8,SNR=6.4						
WRA	**Warramunga Arr**	**33.27**	**116**	P	**P**	**14 23 38.0**	**-0.4**
	0.4nm,0.8s,baz=284,slow=13,SNR=3.0						
SONM	**Songino Array**	**54.68**	**3**	P	**P**	**14 26 31.3**	**+1.7**
	0.4nm,0.6s,baz=184,slow=7.7,SNR=2.8						
MKAR	**Makanchi Array**	**56.54**	**343**	P	**P**	**14 26 41.7**	**-1.0**
	0.3nm,0.5s,baz=167,slow=7.2,SNR=3.5						

IDC 21 14:37:54.9±7.5, 17°.98S×178°.27E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=333.6km s-min=37.6km az=144.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.50**	**260**	P	P	14 45 43.0	-1.2
	0.5nm,0.8s,baz=94,slow=8.3,SNR=3.8						
ASAR	**Alice Springs**	**41.72**	**254**	P	P	14 45 46.6	+0.5
	1.6nm,0.5s,baz=86,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**86.70**	**14**	P	P	14 50 40.3	+0.1
	0.6nm,1.0s,baz=203,slow=5.9,SNR=5.3						

IDC 21 14:45:31.2±3.3, 30°.37N×140°.60E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/43, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=133.6km s-min=24.9km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.47**	**343**	Pn	Pn	14 47 06.2	-1.5
	0.5nm,0.3s,baz=160,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**47.35**	**307**	P	P	14 54 07.4	+0.5
	0.2nm,0.5s,baz=84,slow=9.6,SNR=2.4						
WRA	**Warramunga Arr**	**50.38**	**188**	P	P	14 54 30.2	-0.1
	0.6nm,0.5s,baz=3.6,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**54.11**	**188**	P	P	14 54 57.6	-0.4
	0.2nm,0.5s,baz=1.1,slow=5.5,SNR=6.5						

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*IDC **21** 15:01:46.7±0.5, 13°.19N×125°.81E, h0km, mb4.5/26, mb1 4.5/27, mb1mx4.5/33, mbtmp4.5/27, ML4.6/1, MS3.3/11, Ms1 3.4/11, ms1mx3.1/40, Error ellipse: s-maj=18.5km s-min=12.2km az=72.0*
*MAN **21** 15:01:49, 13°.41N×125°.84E, h34km, mb5.4, ML4.4, MS4.8*
MAN INTENSITY II - LEGASPI CITY.
*MOS **21** 15:01:50.6±0.7, 13°.21N×125°.81E, h38km, mb4.9/28, Error ellipse: s-maj=12.2km s-min=6.7km az=119.8*
*DJA **21** 15:01:50.6±1.3, 14°.9S×12°.6E±1°.4, h10km, M4.8/12, mb4.7/12, mB5.4/5, Mw(mB)4.8/5*
*ISCJB **21** 15:01:50.8±0.7, 13°.31N±0°.03×125°.81E±0°.04, h33km±5km, mb4.6/71, MS3.5/18, Error ellipse: s-maj=6.4km s-min=5.0km az=171.9*
*NEIC **21** 15:01:53.6±1.0, 13°.15N×125°.77E, h51km±8km, mb4.7/28, Error ellipse: s-maj=7.7km s-min=6.0km az=94.0*
NEIC Felt [II PIVS] at Legaspi, Luzon.
*BJI **21** 15:01:55.2, 13°.33N×125°.61E, h62km, mB4.9/23, mb4.5/34, Ms4.5/17, Ms7 4.2/18*
ISC 21 15:01:55.7±0.5, 13°.28N±0°.03×125°.66E±0°.05, h59km±3km, h59km:pP-P, n205, σ1°.48/234, mb4.6/71, MS3.5/18, 9C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.24**	**232**	*e*P	**Pn**	**15 02 14.1**	**-2.8**
CNP				*e*S	**Sn**	**15 02 31.6**	**-1.1**
PVCP	**Virac**	**1.50**	**282**↑	*e*P	Pn	15 02 17.3	-3.0
PVCP				*i* S	**Sn**	**15 02 36.2**	**-2.7**
MMPH	**Masbate**	**2.19**	**245**↓	*e*P	**Pn**	**15 02 28.1**	**-1.6**
MMPH				*i* S	**Sn**	**15 02 55.5**	**-0.2**
PLP	**Palo**	**2.21**	**198**↓	*e*P	Pn	15 02 27.2	-2.8
PLP				*e*S	**Sn**	**15 02 54.6**	**-1.6**
OCLP	**Ormoc**	**2.45**	**205**	*e*P	**Pn**	**15 02 31.4**	**-1.9**
AUQP	**San Andres**	**2.91**	**271**	*e*P	**Pn**	**15 02 38.8**	**-0.7**
GQP	**Guinayangan**	**3.19**	**282**↓	*e*P	**Pn**	**15 02 40.9**	**-2.4**
GQP				*e*S	**Sn**	**15 03 18.3**	**-1.9**
MSLP	**Maasin**	**3.23**	**194**	*e*P	Pn	15 02 41.1	-2.8
RCP	**Roxas**	**3.32**	**239**↑	*e*P	**Pn**	**15 02 44.3**	**-0.9**
RCP				*e*S	**Sn**	**15 03 23.6**	**0.0**
LLP	**Lapu-Lapu**	**3.38**	**210**↑	*e*P	Pn	15 02 42.8	-3.3
LLP				*e*S	**Sn**	**15 03 21.4**	**-3.7**
OTRP	**Odiongan**	**3.67**	**256**	*e*P	**Pn**	**15 02 48.4**	**-1.5**
BOAC	**Boac**	**3.72**	**273**	*e*P	**Pn**	**15 02 49.0**	**-1.6**
GUIM	**Jordan**	**4.00**	**229**	*e*P	**Pn**	**15 02 52.9**	**-1.7**
SJMP	**San Jose**	**4.50**	**260**	*e*P	**Pn**	**15 03 01.5**	**+0.1**
SNPH	**Sibulan**	**4.58**	**212**	*e*P	Pn	15 02 55.9	-6.6
SNPH				*e*S	Sn	15 03 48.2	-6.3
BALP	**Baler**	**4.65**	**302**	*e*P	Pn	15 02 58.9	-4.6
TGY	**Tagaytay City**	**4.66**	**281**	Pn	**Pn**	**15 03 02.4**	**-1.3**
TGY				Sn	**Sn**	**15 03 58.5**	**+2.0**
TGY	**Tagaytay City**	**4.66**	**281**	Pn	**Pn**	**15 03 02.4**	**-1.3**
	26nm,0.3s,baz=182,slow=12,SNR=5.2						
TGY				Sn	**Sn**	**15 03 58.5**	**+2.0**
	36nm,0.3s,baz=158,slow=18,SNR=2.6						
PALP	**Palanan**	**4.89**	**321**↑	*e*P	Pn	15 03 02.8	-3.8
PALP				*e*S	Sn	15 03 54.1	-7.9
PCPH	**Palayan**	**4.97**	**298**↓	*i*P	Pn	15 03 03.3	-4.5
PCPH				*i* S	Sn	15 03 57.9	-6.1
BUSP	**Coron**	**5.48**	**257**	*e*P	**Pn**	**15 03 14.8**	**0.0**
CVP	**Callao Caves**	**5.75**	**320**	*e*P	**Pn**	**15 03 15.6**	**-2.8**
CVP				*e*S	Sn	15 04 10.4	-13
BCPH	**Baguio City Da**	**5.80**	**303**↑	*i*P	Pn	15 03 15.8	-3.5
BCPH				*i* S	**Sn**	**15 04 19.8**	**-4.8**
BOLP	**Bolinao**	**6.35**	**300**	*e*P	Pn	15 03 23.8	-3.0
SZP	**Santa**	**6.57**	**311**	*e*Pn	**Pn**	**15 03 29.7**	**0.0**
SZP				*e*Sn	**Sn**	**15 04 38.6**	**-4.8**
NACB	**Ninganchiao**	**11.49**	**341**	P	**Pn**	**15 04 37.1**	**0.0**
YHNB	**Yeheng**	**12.03**	**341**	Pn	**Pn**	**15 04 46.2**	**+1.7**
	41nm,1.1s						
MRSI	**Marisa**	**13.25**	**196**	P	P	15 05 16.7	+7.7
APSI	**Ampana**	**14.65**	**196**	P	**Pn**	**15 05 20.4**	**+0.6**
	60nm,1.0s						
QIZ	**Qiongzhong**	**16.23**	**293**	P	**Pn**	**15 05 40.5**	**+0.5**
QIZ				sP	**sP**	**15 06 00.8**	**-1.6**
QIZ				S	**Sn**	**15 08 43.0**	**+3.8**
QIZ				pmax	pmax		
	comp=Z,17nm,1.8s						
QIZ				LR	LR		
	comp=Z,190nm,12.2s						
MSAI	**Masohi**	**16.84**	**169**	P	**P**	**15 05 52.8**	**+3.9**
	32nm,0.9s,325nm						
SBUM	**Sibu**	**17.11**	**232**	P	x	15 05 58.7	
	9.8nm,1.5s						
SBUM	**Sibu**	**17.11**	**232**	*e*P	**P**	**15 05 54.1**	**+2.2**
	6.5nm,0.7s						
MMSI	**Mamuju**	**17.23**	**203**	P	x	15 05 54.3	
	50nm,0.9s						
TTSI	**Tana Toraja**	**17.23**	**200**	P	**P**	**15 05 54.9**	**+1.7**
	146nm,1.3s,1μm						
SPSI	**Sidrap Palu**	**18.11**	**199**	P	**Pn**	**15 06 07.6**	**+4.4**
	87nm,0.8s						
BNSI	**Bone**	**18.41**	**198**	P	Pn	15 06 11.8	+4.9
	84nm,1.3s,2μm						
KAPI	**Kappang**	**19.10**	**198**	P	**Pn**	**15 06 16.0**	**+0.8**
	229nm,1.0s						
KSM	**Kuching**	**19.20**	**234**	P	x	15 06 21.0	
	15nm,0.8s						
KSM	**Kuching**	**19.20**	**234**	*e*P	**P**	**15 06 14.4**	**-0.5**
	7.5nm,0.9s						
NJ2	**Nanjing**	**19.70**	**343**	*e*P	**Pn**	**15 06 21.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BBKI	**Banjar Baru**	**19.80**	**214**	P	Pn	15 06 31.3	+7.8
	34nm,1.4s,2μm						
JNU	**Nakatsue**	**20.31**	**13**	P	**P**	**15 06 26.1**	**-0.8**
JNU	**Nakatsue**	**20.31**	**13**	P	**P**	**15 06 26.1**	**-0.8**
	12nm,0.9s,baz=169,slow=12,SNR=3.8						
JNU				LR	LR	15 13 31.3	
	comp=Z,47nm,20.9s,baz=182,slow=35						
GYA	**Guiyang**	**22.12**	**309**	P	**P**	**15 06 45.8**	**-0.7**
GYA				pP	**pP**	**15 07 00.8**	**+1.2**
GYA				sP	**sP**	**15 07 09.3**	**+2.3**
GYA				PP	**PnPn**	**15 07 16.4**	**+5.5**
GYA				S	**S**	**15 10 42.6**	**-4.4**
GYA				sS	**sS**	**15 11 06.9**	**-1.8**
GYA				ScP	**ScP**	**15 14 13.3**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.6s						
GYA				LR	LR		
	comp=N,420nm,15.8s						
GYA				LR	LR		
	comp=E,380nm,16.2s						
GYA				LR	LR		
	comp=Z,410nm,15.6s						
SLVN	**Son La**	**22.24**	**294**	*e*P	**P**	**15 06 48.0**	**+0.3**
ENH	**Enshi**	**22.57**	**321**	*e*P	**P**	**15 06 51.1**	**0.0**
	26nm,1.4s						
PBKT	**Sadao Pong**	**24.07**	**281**	P	x	15 07 07.2	
	13nm,1.4s						
PBKT	**Sadao Pong**	**24.07**	**281**	P	**P**	**15 07 06.8**	**+1.0**
	13nm,1.4s						
INCN	**Inchon**	**24.11**	**2**	P	**P**	**15 07 07.3**	**+1.4**
	41nm,1.0s						
KSAR	**Wonju Array Be**	**24.14**	**4**	P	**P**	**15 07 05.3**	**-0.9**
KSRS	**Korea Array**	**24.16**	**4**	P	**P**	**15 07 05.3**	**-1.0**
	9.3nm,0.9s,baz=184,slow=9.6,SNR=16						
KSRS				LR	LR	15 16 24.2	
	comp=Z,56nm,20.6s,baz=194,slow=36						
JAGI	**Jajag, Banyuwa**	**24.45**	**208**	P	**P**	**15 07 13.1**	**+3.9**
	63nm,1.2s						
JAGI	**Jajag, Banyuwa**	**24.45**	**208**	*e*P	**P**	**15 07 09.5**	**+0.4**
	101nm,1.2s						
KMI	**Kunming**	**24.60**	**302**	P	**P**	**15 07 12.4**	**+1.7**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LAMP	**Lampang**	**25.55**	**285**	P	**P**	**15 07 21.2**	**+2.0**
	8.8nm,0.8s,76nm						
XAN	**Xi'an**	**25.66**	**326**	P	**P**	**15 07 19.8**	**-0.2**
XAN				pP	**pP**	**15 07 34.4**	**-0.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,40nm,4.8s						
MJAR	**Matsushiro Arr**	**25.75**	**24**	LR	LR	15 17 50.9	
	comp=Z,46nm,18.8s,baz=210,slow=37						
IPM	**Ipoh**	**25.84**	**252**	*e*P	**P**	**15 07 21.3**	**-0.6**
	8.3nm,0.9s						
KULM	**Kulim**	**25.91**	**254**	*e*P	**P**	**15 07 19.4**	**-3.0**
	3.8nm,0.6s						
CM31	**Chiang Mai Arr**	**26.20**	**285**	*e*P	**P**	**15 07 24.9**	**-0.1**
	8.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.20**	**285**	P	**P**	**15 07 25.4**	**+0.4**
CMAR				PcP	**PcP**	**15 10 50.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**26.20**	**285**	P	**P**	**15 07 25.4**	**+0.4**
	11nm,0.8s,baz=96,slow=7.2,SNR=83						
CMAR				PcP	**PcP**	**15 10 50.8**	**-0.1**
	0.3nm,0.5s,baz=53,slow=1.7,SNR=4.3						
CMAR				LR	LR	15 17 48.2	
	comp=Z,102nm,18.1s,baz=126,slow=36						
CHTO	**Chiang Mai**	**26.24**	**286**	*e*P	**P**	**15 07 25.6**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CHTO	**Chiang Mai**	**26.24**	**286**	P	**P**	**15 07 27.1**	**+1.6**
	comp=Z,39nm,1.0s						
CHTO	**Chiang Mai**	**26.24**	**286**	*e*P	**P**	**15 07 25.6**	**+0.1**
	comp=Z,2.1nm,1.1s						
CMAI	**Chiengmai2**	**26.33**	**288**	P	**P**	**15 07 27.3**	**+0.9**
	comp=Z,144nm,0.8s,comp=Z,9μm						
CD2	**Chengdu**	**26.74**	**315**	*e*P	**P**	**15 07 30.8**	**+1.0**
CD2				pP	**pP**	**15 07 45.9**	**+1.5**
CD2				PP	**PnPn**	**15 08 18.5**	**+4.7**
CD2				S	**S**	**15 12 04.5**	**+3.0**
CD2				sS	**sS**	**15 12 28.0**	**+1.6**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,330nm,4.8s						
CD2				LR	LR		
	comp=Z,420nm,10.7s						
CD2				LR	LR		
	comp=Z,230nm,11.9s						
MHMT	**Maesarieng**	**27.12**	**284**	P	**P**	**15 07 34.2**	**+0.9**
	comp=Z,9.8nm,0.6s,comp=Z,320nm						
BJI	**Beijing**	**27.93**	**344**	P	**P**	**15 07 40.9**	**+0.6**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PSI	**Prapat**	**28.41**	**251**	P	**P**	**15 07 44.5**	**-0.6**
PSI	**Prapat**	**28.41**	**251**	P	**P**	**15 07 44.5**	**-0.6**
	comp=Z,4.3nm,0.6s,baz=95,slow=10,SNR=5.6						
PSI				LR	LR	15 19 38.1	
	comp=Z,69nm,19.2s,baz=59,slow=38						
LZH	**Lanzhou**	**30.00**	**323**	*e*P	**P**	**15 08 01.3**	**+2.3**
LZH				pP	**pP**	**15 08 14.8**	**+1.1**
LZH				sP	**sP**	**15 08 21.8**	**+1.1**
LZH				PP	**PnPn**	**15 09 01.5**	**+3.6**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,4.6s						
LZH				LR	LR		
	comp=Z,340nm,12.7s						
LZH				LR	LR		
	comp=Z,340nm,13.0s						
LZH				LR	LR		
	comp=Z,400nm,16.7s						
HHC	**Hu-ho-hao-te**	**30.11**	**338**	*e*P	**P**	**15 08 00.5**	**+0.7**
HHC				S	**S**	**15 12 56.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,4.2s						
HHC				LR	LR		
	comp=Z,190nm,14.2s						
HHC				LR	LR		
	comp=Z,230nm,8.3s						
HHC				LR	LR		
	comp=Z,150nm,13.7s						
FITZ	**Fitzroy Crossi**	**31.19**	**180**	*e*P	**P**	**15 08 07.3**	**-2.0**
USRK	**Ussuriysk Arra**	**31.28**	**9**	P	**P**	**15 08 08.9**	**-1.1**
	comp=Z,4.8nm,0.9s,baz=187,slow=10.0,SNR=4.9						
USRK				LR	LR	15 18 58.5	
	comp=Z,27nm,20.8s,baz=189,slow=33						
ASAJ	**Asahikawa**	**33.98**	**22**	LR	LR	15 22 28.4	
	comp=Z,40nm,19.4s,baz=98,slow=36						
SHL	**Shillong**	**34.01**	**296**	*ex*	**P**	**15 08 35.0**	**+0.6**
WRA	**Warramunga Arr**	**34.10**	**165**	P	P	15 08 31.7	-3.2
WRA				PcP	**PcP**	**15 11 10.7**	**-0.6**
WRA	**Warramunga Arr**	**34.10**	**165**	P	P	15 08 31.7	-3.2
	comp=Z,1.9nm,0.7s,baz=347,slow=8.7,SNR=9.6						
WRA				PcP	**PcP**	**15 11 10.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=340,slow=3.2,SNR=7.1						
GTA	**Gaotai**	**34.60**	**324**	*e*P	**P**	**15 08 39.8**	**+0.6**
GTA				pP	**pP**	**15 08 55.3**	**+1.3**
GTA				sP	**sP**	**15 09 02.3**	**+1.3**
GTA				PcP	**PcP**	**15 11 14.0**	**+1.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LSA	**Lhasa**	**35.85**	**303**	*e*P	**P**	**15 08 51.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,29nm,1.4s						
LSA	**Lhasa**	**35.85**	**303**	*e*P	**P**	**15 08 51.6**	**+1.1**
	comp=Z,28nm,1.4s						
HABR	**Khabarovsk**	**35.94**	**11**	*e*P	**P**	**15 08 49.7**	**-0.7**
HABR				*e*		15 10 13.2	
HABR				*e*S	**S**	**15 14 22.7**	**-1.7**
HABR				*e*		15 18 55.7	
HABR				pmax	pmax		
	comp=Z,19nm,1.3s						
HABR				MLR	MLR		
	comp=Z,179nm,19.0s						
ASAR	**Alice Springs**	**37.60**	**168**	P	**P**	**15 09 02.4**	**-2.4**
ASAR				PcP	**PcP**	**15 11 19.3**	**-2.3**
ASAR	**Alice Springs**	**37.60**	**168**	P	**P**	**15 09 02.4**	**-2.4**
	comp=Z,1.7nm,0.6s,baz=348,slow=6.4,SNR=27						
ASAR				PcP	**PcP**	**15 11 19.3**	**-2.3**
	comp=Z,1.3nm,0.7s,baz=350,slow=1.5,SNR=5.5						
ULN	**Ulaanbaatar**	**37.81**	**339**	*e*P	**P**	**15 09 06.4**	**-0.1**
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**38.01**	**339**	P	**P**	**15 09 08.3**	**+0.1**
SONM				PcP	**PcP**	**15 11 22.4**	**-0.3**
SONM	**Songino Array**	**38.01**	**339**	P	**P**	**15 09 08.3**	**+0.1**
	comp=Z,6.2nm,0.9s,baz=153,slow=8.6,SNR=33						
SONM				PcP	**PcP**	**15 11 22.4**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=158,slow=5.0,SNR=3.2						
TAPN	**Taplejung**	**38.08**	**298**	*e*P	**P**	**15 09 09.9**	**+0.7**
	comp=Z,25nm,1.0s						
ODAN	**Odare**	**38.24**	**297**	*e*P	**P**	**15 09 11.1**	**+0.6**
	comp=Z,42nm,0.9s						
RAMN	**Ramite**	**38.95**	**297**	*e*P	**P**	**15 09 17.2**	**+0.7**
	comp=Z,32nm,0.8s						
JIRN	**Jiri**	**39.46**	**297**	*e*P	**P**	**15 09 21.6**	**+0.7**
	comp=Z,22nm,0.7s						
GUN	**Gumba**	**39.79**	**298**	*e*P	**P**	**15 09 24.2**	**+0.6**
	comp=Z,37nm,0.7s						
PKI	**Pulchoki**	**40.12**	**297**	*e*P	**P**	**15 09 26.3**	**0.0**
	comp=Z,20nm,1.0s						
PKIN	**Phulchoki**	**40.13**	**297**	*e*P	**P**	**15 09 27.2**	**+0.9**
	comp=Z,9.7nm,0.8s						
KKN	**Kakani**	**40.28**	**297**	*e*P	**P**	**15 09 27.8**	**+0.3**
	comp=Z,25nm,1.0s						
DMN	**Daman**	**40.39**	**297**	*e*P	**P**	**15 09 28.8**	**+0.3**
	comp=Z,30nm,1.1s						
GKN	**Gorkha**	**40.88**	**298**	*e*P	**P**	**15 09 32.5**	**+0.1**
	comp=Z,22nm,0.8s						
DANN	**Dangsing**	**41.71**	**298**	*e*P	**P**	**15 09 39.2**	**-0.2**
	comp=Z,41nm,0.9s						
KOLN	**Koldanda**	**41.73**	**297**	*e*P	**P**	**15 09 39.8**	**+0.4**
	comp=Z,36nm,0.8s						
TLY	**Talaya**	**42.22**	**340**	*e*P	**P**	**15 09 42.4**	**-0.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY	**Talaya**	**42.22**	**340**	P	**P**	**15 09 42.9**	**+0.1**
	comp=Z,4.0nm,0.7s						
PYUN	**Piuthan**	**42.32**	**297**	*e*P	**P**	**15 09 44.9**	**+0.6**
	comp=Z,18nm,0.9s						
WMQ	**Urumqi**	**44.51**	**321**	P	**P**	**15 10 02.8**	**+1.3**
WMQ				pP	**pP**	**15 10 18.3**	**+1.5**
WMQ				sP	**sP**	**15 10 25.4**	**+1.8**
WMQ				PcP	**PP**	**15 11 44.8**	**-1.5**
WMQ				PP	PcP	15 11 48.9	+4.9
WMQ				ScP	**ScP**	**15 15 30.8**	**-0.4**
WMQ				S	**S**	**15 16 34.3**	**+1.6**
WMQ				ScS	**SS**	**15 19 52.3**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,11nm,5.2s						
WMQ				LR	LR		
	comp=Z,49nm,19.5s						
WMQ				LR	LR		
	comp=Z,46nm,18.1s						
WMQ				LR	LR		
	comp=Z,37nm,13.0s						
HYB	**Hyderabad**	**45.53**	**281**	*i* P	**P**	**15 10 10.0**	**+0.1**

comp=Z,17nm,0.9s
KURBB **Kurchatov Arra** 53.28 324 P **P** 15 11 08.9 +0.4
comp=Z,17nm,0.8s,baz=124,slow=6.1,SNR=134
EKS2 **Erkin-Say** 53.31 314 *eP* **P** 15 11 10.6 +1.6
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 **Erkin-Say** 53.31 314 *eP* **P** 15 11 10.6 +1.6
comp=Z,6.3nm,0.8s
KBL **Kabul** 55.18 303 *eP* **P** 15 11 23.5 +0.7
KBL pmax pmax
comp=Z,11nm,0.6s
KBL **Kabul** 55.18 303 *eP* **P** 15 11 23.5 +0.7
comp=Z,11nm,0.6s
KKAR **Karatay Array** 55.74 313 *eP* **P** 15 11 23.8 -2.7
KKAR **Karatay Array** 55.74 313 *eP* **P** 15 11 23.8 -2.7
TIXI **Tiksi** 58.37 1⇓ *eP* **P** 15 11 43.5 -1.0
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI **Tiksi** 58.37 1 *eP* **P** 15 11 43.0 -1.5
comp=Z,79nm,3.0s
BVAR **Borovoye Array** 58.87 325 P **P** 15 11 48.6 +0.3
BVAR **Borovoye Array** 58.87 325 P **P** 15 11 48.6 +0.3
BVAR **Borovoye Array** 58.87 325 P **P** 15 11 48.6 +0.3
comp=Z,6.1nm,0.8s,baz=117,slow=8.8,SNR=29
BRVK **Borovoye** 58.94 325 *d iP* **P** 15 11 49.3 +0.5
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK **Borovoye** 58.94 325 *eP* **P** 15 11 49.4 +0.6
comp=Z,12nm,0.9s
BILL **Bilibino** 60.69 16⇑ *eP* **P** 15 12 00.6 +0.1
BILL *i* 15 12 07.9
BILL pmax pmax
comp=Z,5.0nm,1.1s
ABKAR **Abkulak array** 64.23 318 *eP* **P** 15 12 24.2 -0.2
SVE **Sverdlovsk** 65.37 327⇓ *iP* **P** 15 12 32.4 +0.6
SVE pmax pmax
comp=Z,15nm,0.9s
AKTO **Aktyubinsk** 65.65 320 P **P** 15 12 34.0 +0.3
AKTO **Aktyubinsk** 65.65 320 P **P** 15 12 34.0 +0.3
AKTO **Aktyubinsk** 65.65 320 P **P** 15 12 34.0 +0.3
comp=Z,1.7nm,0.6s,baz=83,slow=7.6,SNR=8.3
ARU **Arti** 66.40 326 *d iP* **P** 15 12 37.9 -0.5
ARU 15 15 00.7
ARU S **S** 15 21 22.7 -1.2
ARU pmax pmax
comp=Z,17nm,1.7s
ARU **Arti** 66.40 326 *eP* **P** 15 12 37.4 -1.1
comp=Z,6.9nm,0.7s
PRGR **Permogore** 73.68 331 P **P** 15 13 21.7 -1.2
PRGR pmax pmax
comp=Z,12nm,0.8s
ZEI **Tsey** 75.09 311 *eP* **P** 15 13 31.6 -0.2
ZEI pmax pmax
comp=Z,9.0nm,0.8s
COLD **Coldfoot** 75.58 24 *eP* **P** 15 13 34.9 +1.1
comp=Z,6.2nm,0.8s
KBZ **Khabaz** 75.75 312 P **P** 15 13 35.5 +0.3
KBZ **Khabaz** 75.75 312 P **P** 15 13 35.5 +0.3
KBZ **Khabaz** 75.75 312 P **P** 15 13 35.5 +0.3
comp=Z,5.2nm,0.9s,baz=117,slow=4.7,SNR=8.4
KIV **Kislovodsk** 75.88 312 *c iP* **P** 15 13 37.3 +1.2
KIV pmax pmax
comp=Z,11nm,0.7s
KIV **Kislovodsk** 75.88 312 *eP* **P** 15 13 36.4 +0.2
RAYN **Ar Rayn** 75.92 291 *eP* **P** 15 13 37.4 +0.7
comp=Z,43nm,0.8s
PMR **Palmer** 76.15 29 *eP* **P** 15 13 35.9 -1.2
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR **Palmer** 76.15 29 *eP* **P** 15 13 35.9 -1.2
comp=Z,3.7nm,0.6s
MCK **McKinley** 76.16 27 *eP* **P** 15 13 35.8 -1.5
MCK **McKinley** 76.16 27 *eP* **P** 15 13 35.8 -1.5
COLA **College** 76.59 26 *eP* **P** 15 13 38.5 -1.1
COLA pmax pmax
comp=Z,17nm,1.1s
COLA **College** 76.59 26 *eP* **P** 15 13 37.7 -1.8
KLMR **Klimovskoe** 76.64 330 *eP* **P** 15 13 37.9 -2.0
KLMR pmax pmax
comp=Z,31nm,1.4s
ILAR **Eielson Array** 77.01 26 P **P** 15 13 41.2 -0.7
ILAR **Eielson Array** 77.01 26 P **P** 15 13 41.2 -0.7
comp=Z,1.4nm,0.7s,baz=241,slow=5.4,SNR=31
OBN **Obninsk** 78.71 324 *d iP* **P** 15 13 51.1 -0.5
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,73nm,15.0s
OBN **Obninsk** 78.71 324 P **P** 15 13 51.1 -0.5
OBN **Obninsk** 78.71 324 P **P** 15 13 51.4 -0.2
comp=Z,7.2nm,0.4s,baz=180,slow=20,SNR=3.2
EGAK **Eagle** 79.45 26 P **P** 15 13 55.1 -0.4
JOF **Joensuu** 80.26 332 *eP* **P** 15 13 59.6 -0.2
JOF **Joensuu** 80.26 332 *ep* **P** 15 13 59.6 -0.2
SPITS **Spitsbergen Ar** 80.96 349 P **P** 15 14 03.2 -0.2
SPITS **Spitsbergen Ar** 80.96 349 P **P** 15 14 03.2 -0.2
comp=Z,11nm,1.1s,baz=95,slow=18,SNR=8.0
ARCES **ARCESS Array B** 81.18 339 P **P** 15 14 04.7 0.0
ARCES **ARCESS Array B** 81.18 339 P **P** 15 14 04.7 0.0
comp=Z,3.5nm,0.7s,baz=79,slow=6.2,SNR=16
ARE0 **ARCESS Array S** 81.18 339 P **P** 15 14 02.5 -2.2
INK **Inuvik** 81.72 22 *eP* **P** 15 14 06.6 -0.9
comp=Z,5.8nm,0.9s
FINES **FINESS Array B** 82.97 331 P **P** 15 14 14.2 +0.1
FINES **FINESS Array B** 82.97 331 P **P** 15 14 14.2 +0.1
comp=Z,2.6nm,0.5s,baz=58,slow=4.8,SNR=19
BRTR **Keskin Array B** 83.17 309 P **P** 15 14 15.7 -0.2
BRTR **Keskin Array B** 83.17 309 P **P** 15 14 15.7 -0.2
comp=Z,1.5nm,0.7s,baz=116,slow=2.5,SNR=5.6
VSU **Vasula** 83.41 328 *deP* **P** 15 14 16.4 -0.1
AKASG **Malin Array Be** 83.87 321 P **P** 15 14 18.4 -0.6
AKASG **Malin Array Be** 83.87 321 P **P** 15 14 18.4 -0.6
AKASG **Malin Array Be** 83.87 321 P **P** 15 14 18.4 -0.6
comp=Z,4.9nm,0.8s,baz=64,slow=5.1,SNR=20
AK01 **Malin Array Si** 83.88 321 *eP* **P** 15 14 18.4 -0.6
KIEV **Kiev** 83.88 321⇑ *eP* **P** 15 14 18.8 -0.3
KIEV **Kiev** 83.88 321 *eP* **P** 15 14 18.7 -0.4
comp=Z,18nm,1.5s
NACGM **Naroch** 84.29 325 *e* **P** 15 14 20.0 -1.0
HFS **Hagfors** 89.12 332 P **P** 15 14 43.7 -0.8
HFS **Hagfors** 89.12 332 P **P** 15 14 43.7 -0.8
comp=Z,1.9nm,0.6s,baz=106,slow=5.3,SNR=6.7
HFS LR LR 15 56 23.7
comp=Z,41nm,20.3s,baz=75,slow=37
NB2 **NORSAR Subarra** 89.81 334 P **P** 15 14 45.9 -1.9
comp=Z,1.4nm,0.7s,baz=63,slow=4.6
NOA **NORSAR Array B** 89.81 334 P **P** 15 14 46.1 -1.6
NOA **NORSAR Array B** 89.81 334 P **P** 15 14 46.1 -1.6
comp=Z,1.2nm,0.7s,baz=63,slow=4.9,SNR=4.6
NOA LR LR 15 58 16.1
comp=Z,27nm,18.2s,baz=35,slow=38
YKA **Yellowknife Ar** 91.26 24 P **P** 15 14 53.8 -0.6
YKA **Yellowknife Ar** 91.26 24 P **P** 15 14 53.8 -0.6
comp=Z,0.4nm,0.6s,baz=301,slow=4.9,SNR=6.3
HRY **Holter Researc** 101.21 36 *e*Pdif **Pdif** 15 15 41.0 +0.9
TORD **Torodi Ar. Bea** 118.57 293 PKP **PKPdf** 15 20 37.2 -0.6
TORD PP PP 15 21 45.5 -10
TORD **Torodi Ar. Bea** 118.57 293 PKP **PKPdf** 15 20 37.2 -0.6
comp=Z,0.3nm,0.7s,baz=62,slow=2.6,SNR=2.4
TORD PP PP 15 21 45.4 -10
comp=Z,1.0nm,0.9s,baz=64,slow=5.6,SNR=5.2
PLCA **Paso Flores** 149.19 156 PKPbc **PKPbc** 15 21 38.0 0.0
PLCA **Paso Flores** 149.19 156 PKPbc **PKPbc** 15 21 38.0 0.0
comp=Z,1.0nm,0.5s,baz=201,slow=6.0,SNR=5.8

WEL 21 15:06:51.0±0.4,38°34S×176°07E,h156km±3km,ML3.9/17, 29C-4D,Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRRZ	**Plateau Road**	0.30	122	PN		Pn	15 07 12.0	-0.3
ALRZ	**Allen Road**	0.31	136	PN		Pn	15 07 12.4	0.0
WHTZ	**Whakaora**	0.34	194	PN		Pn	15 07 12.7	+0.2
RRRZ	**Republican Roa**	0.35	90	PN		Pn	15 07 12.4	-0.1
TLZ	**Tolley Road**	0.41	271	PN		Pn	15 07 13.0	+0.2
WATZ	**Wairara**	0.45	215	PN		Pn	15 07 13.0	+0.1
RATZ	**Rangitukua**	0.58	203	PN		Pn	15 07 13.5	-0.1
RITZ	**Rihia Road**	0.66	194	PN		Pn	15 07 14.2	+0.3
KATZ	**Kakaramea**	0.70	204	PN		Pn	15 07 14.3	0.0
TOZ	**Tahuroa Road**	0.75	324	SN		Sn	15 07 32.8	+0.4
KRVZ	**Karewarewa**	0.82	204	PN		Pn	15 07 15.0	-0.2
URZ	**Urewera**	0.83	85	⇑PN		Pn	15 07 14.5	-0.5
URZ				SN		Sn	15 07 32.0	-1.3
URZ				AML		AML	15 07 32.2	
WTVZ	**West Tongariro**	0.86	205	PN		Pn	15 07 15.3	-0.1
TWVZ	**Taurewa**	0.88	214	⇑PN		Pn	15 07 15.5	-0.1
OTVZ	**Oturere**	0.88	201	PN		Pn	15 07 15.7	0.0
BKZ	**Black Stump Fm**	0.89	158	⇓PN		Pn	15 07 15.3	-0.3
BKZ				SN		Sn	15 07 33.1	-1.3
BKZ				AML		AML	15 07 34.8	
NGZ	**Ngauruhoe**	0.91	203	PN		Pn	15 07 15.7	-0.2
COVZ	**Chateau Observ**	0.95	205	PN		Pn	15 07 15.9	-0.3
NMHZ	**Naumai**	0.95	143	⇑PN		Pn	15 07 16.8	+0.7
NMHZ				SN		Sn	15 07 36.2	+0.8
WPVZ	**Whakapapa**	0.96	205	PN		Pn	15 07 16.1	0.0
HIZ	**Hauiti**	0.97	259	PN		Pn	15 07 16.1	+0.1
HIZ				SN		Sn	15 07 35.5	+0.2
TUVZ	**Tukino**	0.98	199	⇑PN		Pn	15 07 16.4	0.0
RAHZ	**Arahi**	0.99	126	PN		Pn	15 07 16.6	+0.4
RAHZ				SN		Sn	15 07 36.0	+0.3
FWVZ	**Far West T-bar**	1.00	203	PN		Pn	15 07 16.2	-0.4
WHVZ	**Whangaehu Hut**	1.01	201	⇑PN		Pn	15 07 16.7	-0.1
DRZ	**Dome Shelter**	1.01	203	PN		Pn	15 07 16.8	-0.1
TRVZ	**Turoa**	1.04	203	PN		Pn	15 07 16.7	-0.3
WNVZ	**Wahianoa**	1.05	200	⇑PN		Pn	15 07 16.9	-0.2
SNGZ	**Shannon Statio**	1.09	114	⇑PN		Pn	15 07 17.5	+0.3
MOVZ	**Moawhango**	1.09	193	PN		Pn	15 07 16.8	-0.5
PKVZ	**Pokaka**	1.10	210	⇑PN		Pn	15 07 17.1	-0.2
MTVZ	**Mangateitei**	1.14	204	PN		Pn	15 07 17.5	-0.2
BHHZ	**Black Hill Sta**	1.15	180	⇑PN		Pn	15 07 17.3	-0.4
MWZ	**Matawai**	1.15	90	⇑PN		Pn	15 07 17.4	-0.3
MWZ				AML		AML	15 07 37.3	
MWZ				AML		AML	15 07 38.3	
MWZ				AML		AML	15 07 38.3	
MWZ				AML		AML	15 07 38.5	
WHHZ	**Waihua**	1.17	129	PN		Pn	15 07 18.2	+0.4
MCHZ	**McNeill Hill**	1.21	156	⇑PN		Pn	15 07 18.8	+0.6
VRZ	**Vera Road**	1.29	232	PN		Pn	15 07 18.7	-0.3
RIGZ	**Rimuhau**	1.38	106	PN		Pn	15 07 20.0	+0.1
MKAZ	**Moumakai**	1.42	330	PN		Pn	15 07 20.4	+0.1
KNZ	**Kokohu**	1.43	119	⇑PN		Pn	15 07 20.2	-0.1
HAZ	**Te Kaha**	1.48	67	PN		Pn	15 07 20.1	-0.7
CKHZ	**Cape Kidnapper**	1.54	149	⇑PN		Pn	15 07 21.6	+0.2
PRGZ	**Paritu Road**	1.54	113	⇓PN		Pn	15 07 21.5	0.0
PNHZ	**Pukenui**	1.58	176	⇑PN		Pn	15 07 21.3	-0.6
KAHZ	**Kahuranaki**	1.59	157	⇑PN		Pn	15 07 22.1	+0.1
MHGZ	**Mahia Peninsul**	1.65	120	PN		Pn	15 07 22.9	+0.2
CNGZ	**Carnagh Statio**	1.69	96	PN		Pn	15 07 23.5	+0.5
TSZ	**Takapari Road**	1.72	183	PN		Pn	15 07 22.6	-0.8
TSZ				AML		AML	15 07 23.3	
TSZ				AML		AML	15 07 49.2	
PUZ	**Puketiti**	1.75	82	PN		Pn	15 07 23.1	-0.6
PUZ				SN		Sn	15 07 46.6	-2.2
WPHZ	**Waipukurau**	1.75	171	⇑PN		Pn	15 07 23.1	-0.5
PXZ	**Pawanui**	1.80	160	PN		Pn	15 07 23.8	-0.5
PXZ				AML		AML	15 07 51.1	
PXZ				AML		AML	15 07 51.2	
PXZ				AML		AML	15 07 51.6	
PXZ				AML		AML	15 07 51.6	
DVHZ	**Dannevirke**	1.96	178	⇑PN		Pn	15 07 25.0	-1.1
PRHZ	**Porangahau**	1.98	167	⇑PN		Pn	15 07 25.6	-0.7
POWZ	**Post Office Ro**	2.06	186	⇑PN		Pn	15 07 26.1	-1.2
ANWZ	**Angora Road**	2.14	172	⇑PN		Pn	15 07 27.4	-0.7
PRWZ	**Pori Road**	2.21	182	PN		Pn	15 07 27.9	-1.1
BFZ	**Birch Farm**	2.34	177	⇓PN		Pn	15 07 29.1	-1.4
MRZ	**Mangatainoka R**	2.35	189	⇑PN		Pn	15 07 29.0	-1.7
MRZ				AML		AML	15 08 00.1	
MRZ				AML		AML	15 08 00.1	
TIWZ	**Tintock**	2.44	183	PN		Pn	15 07 30.1	-1.7
TIWZ				AML		AML	15 08 00.7	
TIWZ				AML		AML	15 08 01.0	
CPWZ	**Castlepoint**	2.57	178	⇑PN		Pn	15 07 32.1	-1.1
OGWZ	**Otaki Gorge**	2.57	195	⇑PN		Pn	15 07 31.5	-1.7
HOWZ	**Holdsworth Sta**	2.59	189	⇑PN		Pn	15 07 31.5	-2.1
KIW	**Kapiti Island**	2.67	199	PN		Pn	15 07 32.3	-2.2
KIW				AML		AML	15 08 05.8	
KIW				AML		AML	15 08 06.3	
TMWZ	**Te Maipa**	2.77	183	⇑PN		Pn	15 07 33.6	-2.1
MTW	**Mount Morrison**	2.85	189	⇑PN		Pn	15 07 34.3	-2.5
MTW				AML		AML	15 08 10.0	
MTW				AML		AML	15 08 10.3	
CAW	**Cannon Point**	2.87	195	⇑PN		Pn	15 07 34.6	-2.3
CAW				AML		AML	15 08 10.6	
CAW				AML		AML	15 08 12.6	
DUWZ	**D'Urville Isla**	2.97	213	PN		Pn	15 07 35.7	-2.5
TRWZ	**Traveller**	3.07	185	PN		Pn	15 07 37.0	-2.4
TRWZ				AML		AML	15 08 15.4	
TRWZ				AML		AML	15 08 16.5	
PAWZ	**Paruwai Farm**	3.08	189	⇑PN		Pn	15 07 37.0	-2.6
PAWZ				AML		AML	15 08 14.3	
PAWZ				AML		AML	15 08 15.4	
WEL	**Wellington**	3.11	198	PN		Pn	15 07 37.4	-2.5
MSWZ	**Moikau Station**	3.14	191	PN		Pn	15 07 37.6	-2.8
MSWZ				AML		AML	15 08 14.4	
MSWZ				AML		AML	15 08 14.7	
SNZO	**South Karori**	3.15	199	PN		Pn	15 07 37.7	-2.7
SNZO				AML		AML	15 08 16.2	
TCW	**Tory Channel**	3.18	205	PN		Pn	15 07 38.2	-2.7
TCW				AML		AML	15 08 17.2	
TCW				AML		AML	15 08 18.0	
BHW	**Baring Head**	3.20	196	⇑PN		Pn	15 07 38.3	-2.8
BHW				AML		AML	15 08 17.1	
BHW				AML		AML	15 08 17.9	
PLWZ	**Palliser**	3.29	191	PN		Pn	15 07 39.3	-3.0
TUMZ	**Tuamarina**	3.49	207	PN		Pn	15 07 41.8	-3.0
TUWZ				AML		AML	15 08 23.5	
NNZ	**Nelson**	3.54	215	⇓PN		Pn	15 07 42.5	-3.0
QRZ	**Quartz Range**	3.69	227	PN		Pn	15 07 44.0	-3.5
BSWZ	**Blackbirch Sta**	3.77	206	PN		Pn	15 07 45.5	-2.9
THZ	**Tophouse**	4.19	214	PN		Pn	15 07 50.6	-3.4
DSZ	**Denniston Nort**	4.72	223	PN		Pn	15 07 56.3	-4.5
LTZ	**Lake Taylor**	5.30	212	PN		Pn	15 08 03.8	-4.7
OXZ	**Oxford**	5.84	210	PN		Pn	15 08 10.4	-5.2
CRLZ	**Canterbury Las**	5.84	205	PN		Pn	15 08 11.0	-4.6
MQZ	**McQueen's Vall**	5.95	205	PN		Pn	15 08 11.7	-5.3

WEL 21 15:12:45.9±0.1,39°09S×177°47E,h33km±1km,ML2.8/6, 3C-6D,Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KNZ	**Kokohu**	0.17	67	⇓P*		Pn	15 12 51.6	-0.5
KNZ				*eS**		Sn	15 12 55.6	+0.1
WHHZ	**Waihua**	0.19	273	⇓P*		Pb	15 12 51.9	-0.4
WHHZ				*eS**		Sb	15 12 56.6	-0.1
SNGZ	**Shannon Statio**	0.32	341	⇑P*		Pb	15 12 53.6	-0.4
MHGZ	**Mahia Peninsul**	0.34	101	P*		Pn	15 12 54.4	-0.2
RAHZ	**Arahi**	0.35	299	⇓P*		Pb	15 12 53.9	-0.4
RAHZ				*eS**		Sb	15 13 00.1	+0.1
PRGZ	**Paritu Road**	0.36	63	⇓P*		Pb	15 12 54.3	-0.1
PRGZ				*eS**		Sn	15 13 00.7	-0.2
RIGZ	**Rimuhau**	0.44	31	⇓P*		Pb	15 12 55.4	-0.2
NMHZ	**Naumai**	0.52	269	PN		Pb	15 12 56.8	-0.1
CKHZ	**Cape Kidnapper**	0.65	208	PN		Pn	15 12 58.7	-0.1
MCHZ	**McNeill Hill**	0.70	239	PN		Pn	15 12 59.5	0.0
MWZ	**Matawai**	0.75	3	⇑PN		Pn	15 12 59.5	-0.8
MWZ				SN		Sb	15 13 10.7	+0.1
MWZ				AML		AML	15 13 11.7	
MWZ				AML		AML	15 13 11.9	
MWZ				AML		AML	15 13 11.9	
BKZ	**Black Stump Fm**	0.77	264	⇓PN		Pn	15 13 00.2	-0.4
BKZ				AML		AML	15 13 12.6	
BKZ				AML		AML	15 13 12.7	
BKZ	**Black Stump Fm** 37nm,0.3s	0.77	264	*eP*		Pn	15 13 00.6	+0.1
KAHZ	**Kahuranaki**	0.84	213	PN		Pn	15 13 01.3	-0.3
URZ	**Urewera**	0.87	341	⇑PN		Pn	15 13 01.4	-0.5
URZ	**Urewera** 33nm,0.5s	0.87	341	*eP*		Pn	15 13 01.7	-0.2
PXZ	**Pawanui**	1.06	206	PN		Pn	15 13 03.2	-1.2
TARZ	**Mount Tarawera**	1.14	318	PN		Pn	15 13 05.8	+0.1
BHHZ	**Black Hill Sta**	1.17	249	PN		Pn	15 13 05.7	-0.3
HAZ	**Te Kaha**	1.35	10	*e*PN		Pn	15 13 08.0	-0.5
WPVZ	**Whakapapa**	1.50	265	AML		AML	15 13 11.9	
TSZ	**Takapari Road**	1.52	230	PN		Pn	15 13 09.6	-1.2
BFZ	**Birch Farm**	1.85	210	PN		Pn	15 13 13.5	-1.9
MRZ	**Mangatainoka R**	2.15	222	PN		Pn	15 13 17.5	-1.9

*ISCJB **21** 15:17:53.0±0.5,54°46N±0°07×161°28W±0°06,h23km, mb4.2/26,Error ellipse: s-maj=10.0km s-min=3.8km az=160.1*
*MOS **21** 15:17:55.0±0.9,54°68N×161°70W,h32km,mb4.6/8,Error ellipse: s-maj=18.7km s-min=9.1km az=90.6*
*NEIC **21** 15:17:56.9,54°52N×161°58W,h2km,ML3.8(AEIC),After AEIC.*
*IDC **21** 15:17:58.6±4.2,54°65N×161°72W,h50km±35km,mb3.9/21, mb1 4.0/23,mb1mx3.9/36,mbtmp4.1/23,ML4.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/44,Error ellipse: s-maj=36.3km s-min=15.7km az=153.0*

ISC 21 15:17:53.9±0.7,54°37N±0°08×161°41W±0°04,h23km,n97, σ1ᵍ19/101,mb4.4/26,4C-3D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SDPT	**Sand Point**	1.12	28	P		Pb	15 18 15.5	+0.9
SDPT				S		Sn	15 18 31.1	+2.2
FALS	**False Pass**	1.27	294	P		Pb	15 18 16.6	-0.4
FALS				S		Sb	15 18 32.8	-0.1
SSLN	**Shishaldin Nor**	1.57	288	P		Pb	15 18 22.6	+0.3
SSLN				S		Sb	15 18 41.4	-0.3
SSLW	**Shishaldin Wes**	1.63	286	P		Pb	15 18 23.0	-0.3
SSBA	**Shishaldin**	1.63	286	P		Pb	15 18 22.9	-0.4
SSBA				S		Sb	15 18 44.1	+0.6
WESE	**West Dahl East**	1.86	275	P		Pb	15 18 26.2	-1.0
WESN	**West Dahl Nort**	1.86	278	P		Pb	15 18 26.6	-0.7
VNSG	**Veniaminof 6**	2.21	36	P		Pb	15 18 32.8	-0.3
VNHG	**Veniaminof 1**	2.26	34	P		Pb	15 18 33.6	-0.4
AKSA	**Akutan Strait**	2.53	266	P		Pn	15 18 35.3	+1.9
AKUT	**Akutan**	2.57	267	*e*Pn		Pn	15 18 35.6	+1.5
CHGN	**Chignik**	2.59	40	*e*Pn		Pb	15 18 37.2	-2.3
AHB	**Akutan Harbor**	2.60	266	P		Pn	15 18 36.5	+2.0
ZRO	**Akutan Zero**	2.70	266	P		Pn	15 18 37.9	+2.1
ANPB	**Aniakchak Plen**	3.02	35	P		Pb	15 18 44.2	-2.7
UNV	**Unalaska Valle**	3.04	262	P		Pn	15 18 42.3	+1.7
MREP	**Makushin Rep't**	3.19	262	P		Pn	15 18 44.2	+1.5
MSW	**Makushin Switc**	3.19	264	P		Pn	15 18 43.9	+1.3
CHIR	**Chirikof Islan**	3.63	64	P		Pn	15 18 51.2	+2.5
PLK4	**Peulik # 4**	4.33	39	P		Pn	15 19 01.1	+2.7
NIKH	**Nikolski High**	4.64	256	P		Pn	15 19 06.4	+3.8
KABR	**Katmai Barrier**	5.21	41	P		Pn	15 19 12.8	+2.4
OHAK	**Old Harbor**	5.40	55	P		Pn	15 19 14.1	+1.1
SPIA	**Saint Paul Isl**	5.73	303	P		Pn	15 19 18.6	+1.2
KDAK	**Kodiak Island**	6.01	52	P		Pn	15 19 22.5	+1.2
TT01	**Tatalina**	9.01	16	P		Pn	15 20 03.5	+1.0
PWL	**Port Wells**	9.56	42	P		Pn	15 20 10.9	+1.0
TNA	**Tin City** 6.0nm,0.7s	11.68	347	*e*Pn		Pn	15 20 40.6	+1.7
ILAR	**Eielson Array**	12.73	29	P		Pn	15 20 56.2	+3.0
ILAR				S		Sn	15 23 13.9	-0.1
ILAR	**Eielson Array** baz=225,slow=14,SNR=2.1	12.73	29	P		Pn	15 20 56.2	+3.0
ILAR	0.1nm,0.3s,baz=214,slow=22,SNR=3.0			S		Sn	15 23 13.9	-0.1
ILAR				LR		LR	15 25 02.9	
	comp=Z,69nm,21.5s,baz=256,slow=34							
INK	**Inuvik**	19.08	32	P		P	15 22 13.8	-0.6
INK	**Inuvik** 0.6nm,0.3s,baz=228,slow=14,SNR=17	19.08	32	P		P	15 22 13.8	-0.6
INK				LR		LR	15 30 28.3	
	comp=Z,113nm,18.6s,baz=243,slow=40							
BILL	**Bilibino**	20.39	325	*eP*		P	15 22 26.2	-2.5
BILL				*e*			15 22 42.2	
PETK	**Petropavlovsk-**	23.98	284	P		P	15 23 05.4	-1.0
PETK	**Petropavlovsk-**	23.98	284	P		P	15 23 05.4	-1.0
PETK	**Petropavlovsk-** 10nm,0.5s,baz=88,slow=13,SNR=142	23.98	284	P		P	15 23 05.4	-1.0
YKA	**Yellowknife Ar**	25.29	52	P		P	15 23 19.6	+1.4
YKA				PcP		PcP	15 26 50.4	-0.1
YKA	**Yellowknife Ar** 0.7nm,0.8s,baz=268,slow=8.2,SNR=12	25.29	52	P		P	15 23 19.5	+1.4
YKA				PcP		PcP	15 26 50.4	-0.1
	0.2nm,0.6s,baz=278,slow=2.2,SNR=4.1							
YAK	**Yakutsk**	35.47	311⇑	*eP*		P	15 24 47.6	-0.5
YAK				pmax		pmax		
	comp=Z,14nm,2.5s							
H11N2	**WAKE ISLAND Hy** baz=29,slow=76,SNR=9.9	42.17	227	T		T	16 10 41.2	
H11N3	**WAKE ISLAND Hy** baz=29,slow=76,SNR=11	42.17	227	T		T	16 10 41.7	
H11N1	**WAKE ISLAND Hy** baz=29,slow=76,SNR=8.8	42.19	227	T		T	16 10 42.6	
H11S1	**WAKE ISLAND Hy** baz=27,slow=77,SNR=12	43.34	227	T		T	16 12 04.3	
H11S2	**WAKE ISLAND Hy** baz=27,slow=77,SNR=5.5	43.35	227	T		T	16 12 05.4	
H11S3	**WAKE ISLAND Hy** baz=27,slow=77,SNR=5.7	43.35	227	T		T	16 12 05.2	
MJAR	**Matsushiro Arr**	44.47	272	P		P	15 26 03.1	+0.1
MJAR	**Matsushiro Arr**	44.47	272	P		P	15 26 03.1	+0.1
	comp=Z,5.0nm,0.8s,baz=35,slow=5.9,SNR=3.7							
KSRS	**Korea Array**	49.82	281	P		P	15 26 45.0	+0.2
	comp=Z,2.8nm,0.7s,baz=45,slow=7.6,SNR=9.7							
KSAR	**Wonju Array Be**	49.85	281	P		P	15 26 45.0	0.0
SONM	**Songino Array**	54.26	304	P		P	15 27 17.3	-0.5
SONM				PcP		PcP	15 28 22.1	+0.3
SONM	**Songino Array**	54.26	304	P		P	15 27 17.3	-0.5
	comp=Z,1.5nm,0.8s,baz=40,slow=7.8,SNR=11							
SONM				PcP		PcP	15 28 22.1	+0.3
	comp=Z,0.8nm,0.7s,baz=68,slow=2.3,SNR=4.7							
ARCES	**ARCESS Array B**	56.30	357	P		P	15 27 30.9	-1.1
ARCES	**ARCESS Array B**	56.30	357	P		P	15 27 30.9	-1.1
	comp=Z

CMAR	**Chiang Mai Arr**	**80.67**	**289**	P		**P**	**15 30 04.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**80.67**	**289**	P		**P**	**15 30 04.7**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=14,slow=5.5,SNR=14							
BRTR	**Keskin Array B**	**85.39**	**348**	P		**P**	**15 30 29.8**	**+0.5**
BRTR	**Keskin Array B**	**85.39**	**348**	P		**P**	**15 30 29.8**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=20,slow=3.9,SNR=5.8							
WRAB	**Tennant Creek**	**92.04**	**238**	P		**P**	**15 31 02.5**	**+1.7**
ASAR	**Alice Springs**	**95.41**	**236**	P		**P**	**15 31 17.5**	**+1.2**
ASAR	**Alice Springs**	**95.41**	**236**	P		**P**	**15 31 17.5**	**+1.2**
	comp=Z,0.3nm,0.9s,baz=33,slow=5.7,SNR=3.5							

KRSC 21 15:29:07.0±1.4, 54°.53N×161°.86E, h30$^{km}_{\pm 7}$, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.08**	**288**	*i* P	Pb	15 29 14.0	+1.8
MKZ				S	Sb	15 29 16.8	+1.1
KZV	**Kizimen**	**1.07**	**303**	P	Pb	15 29 28.1	+0.8
TUMR	**Tumrok**	**1.24**	**308**	*e*P	Pb	15 29 30.6	+0.6
TUMR				*e*S	Sb	15 29 45.8	0.0
KII	**Karymskiy**	**1.50**	**252**	*e*P	Pb	15 29 34.7	+0.4
KII				*e*S	Sb	15 29 52.7	-0.3
KMNR	**Kamenistaya**	**1.54**	**323**	*e*P	Pb	15 29 35.0	0.0
KMNR				*e*S	Sb	15 29 53.3	-0.9
KIRR	**Kirishev**	**1.67**	**329**	P	Pb	15 29 36.0	-1.3
KPT	**Kopyto**	**1.71**	**328**	*e*P	Pb	15 29 36.7	-1.3
KPT				*e*S	Sn	15 29 56.3	+0.4
KBTR	**Krutoberegovo**	**1.77**	**18**	*e*P	Pb	15 29 37.3	-1.5
KBTR				*e*S	Sn	15 29 57.2	+0.2
KBG	**Krutoberegovo**	**1.79**	**15**	*e*S	Sn	15 29 58.7	+1.1
KRSR	**Krestovskiy**	**1.84**	**337**	*e*P	Pb	15 29 39.4	-0.8
KRSR				*e*S	Sn	15 30 01.0	+1.9
KOZ	**Kozyrevsk**	**1.90**	**324**	*e*P	Pb	15 29 40.6	-0.5
KOZ				*e*S	Sb	15 30 02.8	-1.7
KLY	**Klyuchi**	**1.91**	**339**	*e*P	Pn	15 29 39.2	+1.7
KLY				*e*S	Sn	15 30 00.6	0.0
NLC	**Nalytchevo**	**2.02**	**229**	P	Pn	15 29 40.5	+1.5
NLC				S	Sn	15 30 03.0	-0.1
SMKR	**Semkarok**	**2.07**	**354**	*e*P	Pb	15 29 43.1	-0.9
SMKR				*e*S	Sb	15 30 07.2	-2.1
SDLR	**Sedlovina**	**2.16**	**236**	*e*P	Pb	15 29 44.0	-1.6
SDLR				*e*S	Sn	15 30 09.3	+2.3
SRKR	**Sorokina**	**2.16**	**350**	*e*P	Pb	15 29 43.9	-1.7
SRKR				*e*S	Sn	15 30 09.0	+2.1
SRDR	**Sredinnyy**	**2.17**	**327**	*e*P	Pb	15 29 43.4	-2.2
SRDR				*e*S	Sn	15 30 07.8	+0.8
SMAR	**Somma**	**2.21**	**236**	*e*P	Pb	15 29 44.5	-2.1
SMAR				*e*S	Sn	15 30 09.3	+0.9
KRER	**Koryakskii**	**2.21**	**237**	*e*P	Pb	15 29 45.1	-1.5
KRER				*e*S	Sn	15 30 10.8	+2.3
KRX	**Arik**	**2.23**	**239**	*e*P	Pb	15 29 45.1	-1.8
KRX				*e*S	Sn	15 30 10.7	+1.9
UGLR	**Uglovaya**	**2.23**	**235**	*e*P	Pb	15 29 45.0	-1.8
UGLR				*e*S	Sn	15 30 11.0	+2.3
AVH	**Avacha**	**2.24**	**237**	*e*P	Pb	15 29 45.6	-1.3
AVH				*e*S	Sb	15 30 11.7	-2.6
KOK	**Koryaka**	**2.27**	**238**	*e*P	Pb	15 29 45.7	-1.8
KOK				*e*S	Sn	15 30 11.9	+2.1
ESO	**Esso**	**2.28**	**309**	*e*P	Pb	15 29 45.3	-2.3
PET	**Petropavlovsk**	**2.43**	**233**	P	Pb	15 29 47.8	-2.2
PET				*e*S	Sn	15 30 15.3	+2.0
GNL	**Ganaly**	**2.45**	**252**	*e*P	Pb	15 29 48.8	-1.8
RUS	**Russkaya**	**2.90**	**225**	*e*P	Pn	15 29 53.8	+2.7
RUS				*e*S	Sn	15 30 26.2	+1.3
MTVR	**Mutnovka**	**3.00**	**228**	*e*P	Pb	15 29 56.4	-3.6
MTVR				*e*S	Sn	15 30 30.7	+2.8

FUNV 21 15:44:27.4, 6°.36N×73°.35W, h128^{km}, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.81**	**34**	*e*P	Pn	15 44 58.7	-0.6
CAPV				*e*S	Sn	15 45 21.8	-1.9
SOCV	**Socops**	**3.12**	**52**	*e*P	Pn	15 45 14.3	-1.3
SOCV				*e*S	Sn	15 45 48.6	-4.3
VIRV	**Villa del Rosa**	**4.22**	**13**	*e*P	Pn	15 45 27.6	-2.5
VIRV				*e*S	Sn	15 46 14.4	-4.3
SANV	**Sanarito**	**4.90**	**50**	*e*P	Pn	15 45 37.1	-2.1
CURV	**Curarigua**	**4.94**	**43**	*e*P	Pn	15 45 37.9	-1.9
DABV	**Dabajuro**	**5.26**	**30**	*e*P	Pn	15 45 41.7	-2.4
SIQV	**Siquisique**	**5.51**	**39**	*e*P	Pn	15 45 45.0	-2.5
BAUV	**El Baul**	**5.85**	**64**	*e*P	Pn	15 45 50.2	-1.7
MAPV	**Macapo**	**5.94**	**54**	*e*P	Pn	15 45 51.8	-1.4
MONV	**Montecano**	**6.48**	**31**	*e*P	Pn	15 45 58.4	-2.0
TURV	**Turiamo**	**6.79**	**53**	*e*P	Pn	15 46 02.5	-2.1

*ISCJB **21** 16:17:58.7±1.1, 36°.95N±0°.05×71°.3E±0°.1, h88^{km}, Error ellipse: s-maj=16.7km s-min=6.2km az=164.8*
*NNC **21** 16:18:08.9±6.7, 37°.59N×71°.24E, h226$^{km}_{\pm 101}$km, mb2.4, mpv3.6, Error ellipse: s-maj=69.6km s-min=41.0km az=21.0*

ISC 21 16:17:59.6±1.4, 36°.90N±0°.08×71°.2E±0°.1, h88^{km}, n11, σ1°54/14, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.84**	**137**	*e*P	**Sn**	**16 20 30.0**	**+0.4**
KK31	**Karatay Array**	**6.22**	**355**	⇑P	**Pn**	**16 19 30.6**	**+1.7**
	3.5nm,0.3s,baz=155,slow=12,SNR=5.4						
KK31				⇓S	**Sn**	**16 20 36.5**	**-2.0**
	0.8nm,0.3s,baz=183,slow=25,SNR=5.2						
AAK	**Ala-Archa**	**6.26**	**23**	⇓P	**Pn**	**16 19 31.3**	**+1.8**
	3.3nm,0.4s						
AAK				⇑S	**Sn**	**16 20 37.0**	**-2.6**
	3.3nm,0.6s						
TKM2	**Tokmak 2**	**6.89**	**28**	⇑P	**Pn**	**16 19 39.5**	**+1.4**
	3.0nm,0.7s						
TKM2				⇓S	**Sn**	**16 20 55.4**	**+0.3**
	2.2nm,0.9s						
PYUN	**Piuthan**	**13.24**	**128**	*e*P	**Pn**	**16 21 02.8**	**-1.5**
	4.5nm,0.4s						
DANN	**Dangsing**	**13.57**	**125**	*e*P	**Pn**	**16 21 07.9**	**-0.7**
KOLN	**Koldanda**	**13.86**	**128**	*e*P	**Pn**	**16 21 10.4**	**-1.9**
	2.8nm,0.3s						
GKN	**Gorkha**	**14.37**	**124**	*e*P	**Pn**	**16 21 18.8**	**-0.1**
	3.0nm,0.3s						
AB31	**Akbulak array**	**14.83**	**330**	P	**Pn**	**16 21 24.2**	**-0.2**
	0.3nm,0.4s,baz=150,slow=12,SNR=14						
AB31				⇓S	Sn	16 23 55.4	-12
	0.7nm,0.7s,baz=150,slow=23,SNR=4.3						
DMN	**Daman**	**14.95**	**124**	*e*P	**Pn**	**16 21 26.2**	**-0.2**
TAPN	**Taplejung**	**16.88**	**120**	*e*P	**P**	**16 21 51.9**	**+0.6**
	2.1nm,0.3s						

*NIED **21** 16:25:00, 42°.20N×144°.10E, h32^{km}, Mw4.1 Best double couple: M0 1.34000×10^{15} NP1:φ=180.00000°, δ=31.00000°, λ=-24.00000°. NP2:φ=291.00000°, δ=78.00000°, λ=-119.00000°.*
*ISCJB **21** 16:25:51.0±0.5, 42°.16N±0°.03×144°.10E±0°.04, h53$^{km}_{\pm 4}$km, mb4.0/23, MS3.3/1, Error ellipse: s-maj=6.7km s-min=3.7km az=140.6*
*MOS **21** 16:25:50.5±1.2, 42°.17N×144°.08E, h47^{km}, mb4.2/17, Error ellipse: s-maj=12.2km s-min=7.1km az=89.9*
*SKHL **21** 16:25:51.5±0.5, 42°.10N×144°.14E, h57$^{km}_{\pm 1}$km, mb5.1/4*
*JMA **21** 16:25:51.2±0.1, 42°.17N×144°.06E, h61$^{km}_{\pm 2}$km, M4.0 JMA Felt II J1.*
*IDC **21** 16:25:52.1±2.5, 42°.20N×144°.14E, h42$^{km}_{\pm 22}$km, mb3.7/16, mb1 3.9/19, mb1mx3.8/51, mbtmp4.0/19, ML3.7/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/59, Error ellipse: s-maj=20.6km s-min=13.6km az=95.0*

ISC 21 16:25:51.9±0.7, 42°.18N±0°.05×144°.08E±0°.04, h40$^{km}_{\pm 7}$km, n78, σ1°12/88, mb4.1/23, 6C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYR	**Moyori**	**0.60**	**281**	*e*P	**Pn**	**16 26 04.2**	**+0.2**
JCH	**Churui**	**0.69**	**310**	⇓P	**Pn**	**16 26 05.4**	**+0.2**
JCH				*e*S	**Sn**	**16 26 15.4**	**+0.7**
ERM	**Erimo**	**0.70**	**257**	*c i*PN	**Pn**	**16 26 05.7**	**+0.3**
ERM	**Erimo**	**0.70**	**257**	*e*P	**Pn**	**16 26 05.7**	**+0.3**
JEM	**Erimo**	**0.70**	**257**	P	**Pn**	**16 26 05.6**	**+0.2**
JEM				*e*S	**Sn**	**16 26 16.3**	**+1.2**
JOB	**Onbets**	**0.74**	**346**	P	**Pn**	**16 26 06.3**	**+0.3**
JOB				*e*S	**Sn**	**16 26 17.2**	**+1.1**
JAK	**Akkeshi**	**0.94**	**29**	⇑P	**Pn**	**16 26 08.6**	**0.0**
JAK				*e*S	**Sn**	**16 26 21.7**	**+0.9**
JNBK	**Urakawa-nobuka**	**0.99**	**276**	P	**Pn**	**16 26 09.2**	**-0.1**
JNBK				*e*S	**Sn**	**16 26 22.3**	**+0.2**
JAR	**Ashorobuto**	**1.14**	**349**	⇑P	**Pn**	**16 26 11.4**	**0.0**
JAR				*e*S	**Sn**	**16 26 26.3**	**+0.5**
JBT2	**Biratori 2**	**1.40**	**296**	P	**Pn**	**16 26 14.5**	**-0.5**
JBT2				*e*S	**Sn**	**16 26 31.9**	**-0.4**
JFR	**Furan**	**1.47**	**312**	P	**Pn**	**16 26 16.2**	**+0.2**
JFR				*e*S	**Sn**	**16 26 34.2**	**+0.2**
JNK	**Nakash**	**1.48**	**18**	P	**Pn**	**16 26 15.8**	**-0.3**
JNK				*e*S	**Sn**	**16 26 34.0**	**-0.2**
NEM2	**Nemuro 2**	**1.70**	**45**	P	**Pn**	**16 26 18.8**	**-0.3**
NEM2				*e*S	**Sn**	**16 26 39.6**	**-0.1**
JTKR	**Abashiri--Toko**	**1.79**	**356**	⇑P	**Pn**	**16 26 21.2**	**+0.8**
JTKR				*e*S	**Sn**	**16 26 43.3**	**+1.4**
JKA	**Kamikawa-asahi**	**2.22**	**331**	*e*P	**Pn**	**16 26 27.7**	**+1.5**
ASAJ	**Asahikawa**	**2.22**	**331**	P	**Pn**	**16 26 27.7**	**+1.5**
	22nm,0.3s,baz=186,slow=10.0,SNR=106						
ASAJ				S	**Sn**	**16 26 56.6**	**+4.3**
	70nm,0.3s,baz=254,slow=28,SNR=14						
ASAJ				LR	LR	16 27 44.7	
	comp=Z,557nm,20.5s,baz=164,slow=50						
YUK	**Yuzh-Kuril'sk**	**2.27**	**35**	*c i*PN	**Pn**	**16 26 27.4**	**+0.5**
YUK				*i* S	**Sn**	**16 26 54.7**	**+1.1**
YUK				pmax	pmax		
	comp=N,274nm,0.5s						
YUK				pmax	pmax		
	comp=E,204nm,0.5s						
YUK				pmax	pmax		
	comp=Z,629nm,0.5s						
YUK				smax	smax		
	comp=N,3μm,0.6s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.27**	**35**	*e*P	**Pn**	**16 26 27.4**	**+0.5**
YUK				AMB	AMB	16 26 33.0	
	comp=E,280nm,0.5s						
YUK				AMB	AMB	16 26 33.0	
	comp=E,200nm,0.5s						
YUK				AMB	AMB	16 26 33.0	
	comp=E,630nm,0.5s						
YUK				*e*S	**Sn**	**16 26 54.7**	**+1.1**
YUK				A	A	16 26 57.5	
	comp=E,3μm,0.6s						
YUK				A	A	16 26 57.5	
	comp=E,2μm,0.6s						
SHO	**Shikotan**	**2.63**	**49**	*e*P	**Pn**	**16 26 31.8**	**-0.1**
SHO				AMB	AMB	16 26 41.6	
	comp=E,2μm,0.8s						
SHO				*e*S	**Sn**	**16 27 01.7**	**-0.8**
SHO				A	A	16 27 06.5	
	comp=E,967nm,0.6s						
SHO				A	A	16 27 06.5	
	comp=E,882nm,0.6s						
KUR	**Kuril'sk**	**4.11**	**41**	PN	**Pn**	**16 26 55.0**	**+2.9**
KUR				S	**Sn**	**16 27 42.0**	**+3.1**
KUR				pmax	pmax		
	comp=Z,190nm,0.5s						
KUR				smax	smax		
	comp=N,90nm,0.3s						
KUR				smax	smax		
	comp=E,240nm,0.4s						
KUR	**Kuril'sk**	**4.11**	**41**	*e*P	**Pn**	**16 26 53.6**	**+1.5**
KUR				AMB	AMB	16 27 02.0	
	comp=E,190nm,0.5s						
KUR				*e*S	**Sn**	**16 27 39.0**	**+0.1**
KUR				A	A	16 27 44.0	
	comp=E,90nm,0.3s						
KUR				A	A	16 27 44.0	
	comp=E,240nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.87**	**349**	*e*PN	**Pn**	**16 27 04.0**	**+1.4**
YSS				*e*S	**Sn**	**16 27 57.7**	**+0.1**
YSS				smax	smax		
	comp=N,70nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.87**	**349**	*e*P	**Pn**	**16 27 04.0**	**+1.4**
YSS				*e*S	**Sn**	**16 27 57.7**	**+0.1**
YSS				A	A	16 27 59.0	
	comp=N,70nm,1.0s						
MAJO	**Matsushiro**	**7.24**	**221**	‖ *i*PN	**Pn**	**16 27 36.0**	**+0.8**
MAJO	**Matsushiro**	**7.24**	**221**	*e*P	**Pn**	**16 27 36.0**	**+0.8**
MAT	**Matsushiro**	**7.24**	**221**	P	**Pn**	**16 27 35.6**	**+0.4**
MAT				S	**Sn**	**16 28 55.1**	**-0.9**
MJAR	**Matsushiro Arr**	**7.24**	**221**	P	**Pn**	**16 27 35.4**	**+0.3**
	comp=N,1.6nm,0.3s,baz=24,slow=12,SNR=16						
MJAR				S	Sn	16 29 04.0	+8.0
	comp=N,0.4nm,0.3s,baz=40,slow=32,SNR=2.5						
MJAR				LR	LR	16 30 54.6	
	comp=N,248nm,21.0s,baz=35,slow=42						
TYV	**Tymovskoe**	**8.74**	**354**	*e*P	**Pn**	**16 27 56.0**	**+0.3**
TYV				AMB	AMB	16 27 59.2	
	comp=N,11nm,0.8s						
HABR	**Khabarovsk**	**8.94**	**318**	*e*PN	**Pn**	**16 27 57.7**	**-0.7**
HABR				pmax	pmax		
	comp=Z,29nm,1.6s						
KLR	**Kul'dur**	**11.13**	**314**	*e*PN	**Pn**	**16 28 25.7**	**-2.7**
KLR	**Kul'dur**	**11.13**	**314**	*e*rx	rx	16 28 25.7	
EKMR	**Ekimchan**	**13.21**	**329**	*e*rx	rx	16 28 48.1	
KSRS	**Korea Array**	**13.28**	**255**	LR	LR	16 34 03.7	
	comp=Z,76nm,18.4s,baz=43,slow=37						
JNU	**Nakatsue**	**13.81**	**233**	LR	LR	16 34 20.2	
	comp=Z,154nm,19.1s,baz=72,slow=37						
PETK	**Petropavlovsk-**	**14.25**	**35**	P	**Pn**	**16 29 09.4**	**-1.5**
PETK	**Petropavlovsk-**	**14.25**	**35**	P	**Pn**	**16 29 09.4**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=192,slow=10.0,SNR=7.5						
PETK				LR	LR	16 34 29.8	
	comp=Z,50nm,18.4s,baz=238,slow=36						
BMKR	**Bomnak**	**16.06**	**327**	*e*P	**Pn**	**16 29 33.9**	**-0.7**
SEY	**Seymchan**	**21.36**	**10**	*e*P	**P**	**16 30 33.5**	**-1.9**
SEY	**Seymchan**	**21.36**	**10**	P	**P**	**16 30 33.2**	**-2.2**
	comp=Z,4.2nm,0.5s,baz=188,slow=12,SNR=27						
YAK	**Yakutsk**	**21.66**	**341**	P	**P**	**16 30 36.3**	**-2.4**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**27.04**	**295**	P	**P**	**16 31 30.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=78,slow=7.8,SNR=9.5						
BILL	**Bilibino**	**28.51**	**17**	*e*P	**P**	**16 31 42.4**	**-0.8**
BILL				*e*		16 32 37.9	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.55**	**132**	T	T	17 03 20.5	
	baz=327,slow=76,SNR=219						
H11N1	**WAKE ISLAND Hy**	**29.57**	**132**	T	T	17 03 15.8	
	baz=327,slow=76,SNR=216						
H11N3	**WAKE ISLAND Hy**	**29.57**	**132**	T	T	17 03 17.4	
	baz=327,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**30.44**	**134**	T	T	17 04 26.7	
	baz=330,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**30.45**	**134**	T	T	17 04 32.3	
	baz=330,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**30.46**	**134**	T	T	17 04 35.9	
	baz=330,slow=76,SNR=121						
KMI	**Kunming**	**37.97**	**257**	P	**P**	**16 33 07.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.17**	**308**	*i* P	**P**	**16 33 25.0**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.17**	**308**	P	**P**	**16 33 24.2**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=84,slow=8.2,SNR=9.2						
ZALV				PcP	**PcP**	**16 35 27.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=85,slow=3.5,SNR=4.5						
ZALV				pPcP		16 35 42.4	
	comp=Z,1.5nm,0.7s,baz=48,slow=4.3,SNR=5.4						
MKAR	**Makanchi Array**	**43.32**	**298**	P	**P**	**16 33 49.4**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.32**	**298**	P	**P**	**16 33 49.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=82,slow=9.4,SNR=8.6						
KURK	**Kurchatov**	**44.55**	**304**	*de*P	**P**	**16 33 59.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**44.63**	**304**	P	**P**	**16 34 00.2**	**0.0**
	comp=Z,1.7nm,0.6s,baz=74,slow=8.6,SNR=15						
CMAR	**Chiang Mai Arr**	**44.91**	**252**	P	**P**	**16 34 03.6**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=38,slow=9.1,SNR=6.7						
BRVK	**Borovoye**	**48.81**	**310**	P	**P**	**16 34 34.0**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**48.88**	**29**	LR	LR	16 55 45.1	
	comp=Z,33nm,18.9s,baz=334,slow=37						
SVE	**Sverdlovsk**	**52.74**	**317**	*e*P	**P**	**16 35 01.6**	**-0.8**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	**Arti**	**53.95**	**317**	*c i*P	**P**	**16 35 10.8**	**-0.5**
ARU				S	**S**	**16 42 45.1**	**+1.4**
ARU				SS	**SKiKP**	**16 46 19.3**	**-1.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
RES	**Resolute Bay**	**57.10**	**16**	P	**P**	**16 35 34.2**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=297,slow=8.1,SNR=12						
YKA	**Yellowknife Ar**	**58.35**	**32**	P	**P**	**16 35 42.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=301,slow=6.4,SNR=2.5						
ARCES	**ARCESS Array B**	**59.92**	**339**	P	**P**	**16 35 53.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=41,slow=8.0,SNR=5.7						
CTA	**Charters Tower**	**61.99**	**178**	P	**P**	**16 36 08.4**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=8.1,slow=14,SNR=3.1						
JOF	**Joensuu**	**62.41**	**332**	*e*P	**P**	**16 36 10.1**	**-0.2**
JOF	**Joensuu**	**62.41**	**332**	*e*p	**P**	**16 36 10.1**	**-0.2**
WRA	**Warramunga Arr**	**62.46**	**190**	P	**P**	**16 36 10.0**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=8.0,slow=6.9,SNR=8.0						
FINES	**FINESS Array B**	**65.23**	**332**	P	**P**	**16 36 28.2**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=46,slow=7.5,SNR=25						
ASAR	**Alice Springs**	**66.19**	**190**	P	**P**	**16 36 35.7**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=21,slow=4.5,SNR=4.9						
KBZ	**Khabaz**	**69.13**	**310**	P	**P**	**16 36 55.0**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**69.13**	**310**	P	**P**	**16 36 55.0**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=63,slow=2.3,SNR=3.5						
NOA	**NORSAR Array B**	**70.22**	**338**	P	**P**	**16 37 00.2**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=20,slow=7.6,SNR=3.1						
AKASG	**Malin Array Be**	**71.48**	**323**	*i* P	**P**	**16 37 07.6**	**-0.5**
AKASG	**Malin Array Be**	**71.48**	**323**	P	**P**	**16 37 07.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=40,slow=5.7,SNR=7.2						
AKASG				pP	**pP**	**16 37 21.0**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=42,slow=5.8,SNR=4.4						
CLL	**Collm**	**77.63**	**331**	*i* P	**P**	**16 37 45.0**	**+1.2**
H03N2	**Juan Fernandez**	**145.22**	**90**	T	T	19 28 15.9	
	baz=297,slow=75,SNR=4.1						
H03N3	**Juan Fernandez**	**145.24**	**90**	T	T	19 28 15.9	
	baz=297,slow=75,SNR=6.0						
H03N1	**Juan Fernandez**	**145.24**	**90**	T	T	19 28 15.9	
	baz=297,slow=75,SNR=4.2						

*IDC **21** 16:29:34.0±1.5, 10°.06S×161°.33E, h0^{km}, mb3.5/5, mb1 3.8/6, mb1mx3.6/39, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=43.7km s-min=28.0km az=117.0*
*ISCJB **21** 16:29:36.1±1.0, 10°.4S±0°.1×161°.8E±0°.1, h33^{km}, mb3.4/5, Error ellipse: s-maj=21.2km s-min=8.8km az=139.7*

ISC 21 16:29:36.5±1.4, 10°.3S±0°.2×161°.9E±0°.2, h35^{km}, n7, σ2°56/8, mb3.4/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.09**	**293**	*e*P	**Pn**	**16 30 11.0**	**+2.0**
HNR				*i* S	**Sn**	**16 30 33.0**	**-0.9**
DZM	**Mont Dzumac**	**12.52**	**160**	Pn	**P**	**16 32 40.4**	**-3.1**
	0.6nm,0.3s,baz=309,slow=18,SNR=20						
DZM				Sn	**Sn**	**16 34 54.5**	**+3.9**
	0.1nm,0.3s,baz=90,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**28.24**	**247**	P	**P**	**16 35 25.0**	**-1.6**
	0.9nm,0.8s,baz=77,slow=8.9,SNR=9.1						
ASAR	**Alice Springs**	**29.82**	**240**	P	**P**	**16 35 40.0**	**-0.6**
	0.5nm,0.7s,baz=65,slow=10,SNR=3.8						
SONM	**Songino Array**	**75.84**	**325**	P	**P**	**16 41 20.2**	**+0.9**
	0.2nm,0.5s,baz=132,slow=6.2,SNR=3.0						
ILAR	**Eielson Array**	**84.02**	**20**	P	P	16 42 05.7	+2.6
	0.2nm,0.7s,baz=232,slow=4.7,SNR=4.9						
MKAR	**Makanchi Array**	**90.38**	**317**	P	**P**	**16 42 34.3**	**0.0**
	0.2nm,0.5s,baz=92,slow=7.1,SNR=3.8						

*CSEM **21** 16:35:16.9, 61°.70N×24°.07E, h0^{km}, ML0.4, Mining explosion. After HEL*

HEL 21 16:35:16.9±0.1, 61°.70N×24°.07E, h0^{km}, ML0.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEF	**Keuruu**	**0.60**	**38**	SG	Sg	16 35 35.5	-0.8
KEF	**Keuruu**	**0.60**	**38**	Sg	Sg	16 35 35.4	-0.9
FIA0	**FINESS Array S**	**0.99**	**104**	PB	Pg	16 35 35.2	-0.7
	baz=274						
FIA0				SG	Sg	16 35 46.5	-2.3
FIA0	**FINESS Array S**	**0.99**	**104**	Pb	Pg	16 35 35.2	-0.7
FIA0				Sg	Sg	16 35 46.5	-2.3
RAF	**Rauma**	**1.30**	**240**	PG	Pg	16 35 40.2	-1.6
	baz=71						
RAF	**Rauma**	**1.30**	**240**	Pg	Pg	16 35 40.2	-1.6
VAF	**Ylistaro**	**1.50**	**335**	PN	Pn	16 35 44.7	-0.3
	baz=145						
VAF				SN	Sn	16 36 05.5	+0.3
VAF				MSG		16 36 05.5	
	comp=Z,0.2nm,0.2s						
VAF	**Ylistaro**	**1.50**	**335**

ANWB Willy Bob 10.49 92 *e*Pn Pn 16 47 54.0 +3.4
LZG Guadaloupe-1 10.75 100 *e*P **Pn** **16 47 55.3 +1.0**
MLG Mont-d'or 10.83 101 *e*P **Pn** **16 47 56.2 +0.8**
FNG Fond-Bernard 10.85 101 *e*P **Pn** **16 47 56.8 +1.0**
SSG Sans Toucher 10.86 101 *e*P **Pn** **16 47 57.2 +1.4**
ECG Echelle 10.89 101 *e*P **Pn** **16 47 57.8 +1.5**
SEG Port Louis 10.95 99 *e*P Pn 16 47 48.6 -8.4
H05N1 Guadeloupe/Mar 11.39 99 Pn **Pn** **16 48 04.3 +1.3**
H05N1 Sn **Sn** **16 50 05.0 -5.3**
BCIP Isla Barro Col 11.46 218 *e*Pn **Pn** **16 48 02.5 -1.5**
159nm,0.9s
FDF Fort de France 11.73 106 *e*P **Pn** **16 48 09.1 +1.3**
FDF *e* 16 50 15.7
FDF pmax pmax
comp=Z,129nm,0.6s
FDF Fort de France 11.73 106 *e*P Pn 16 48 01.9 -5.9
FDF Fort de France 11.73 106 *e*Pn **Pn** **16 48 09.1 +1.3**
comp=Z,129nm,0.6s
FDF *e*Sn **Sn** **16 50 15.7 -3.2**
BVM Bellevue 11.81 106 *e*P **Pn** **16 48 11.8 +2.9**
BIM Bigot 11.88 107 *e*P **Pn** **16 48 10.1 +0.3**
TRMF Trois Ilets 11.89 107 *e*P **Pn** **16 48 10.8 +0.9**
H05S1 Guadeloupe/Mar 12.12 107 Pn **Pn** **16 48 14.0 +1.0**
H05S1 Sn Sn 16 50 19.3 -9.1
GRGR Grenville 12.41 119 *e*Pn **Pn** **16 48 17.0 0.0**
ROSC El Rosal 13.55 187 *e*Pn **Pn** **16 48 34.7 +1.8**
ROSC Sn **Sn** **16 51 03.5 -0.4**
ROSC El Rosal 13.55 187 Pn **Pn** **16 48 35.0 +2.0**
comp=Z,5.2nm,0.3s,baz=121,slow=12,SNR=15
ROSC Sn **Sn** **16 51 03.5 -0.4**
comp=Z,0.8nm,0.3s,baz=72,slow=20,SNR=5.4
JTS JuntasAbangare 14.28 237 *e*Pn **Pn** **16 48 45.3 +2.7**
comp=Z,78nm,0.9s
JTS JuntasAbangare 14.28 237 Pn **Pn** **16 48 45.4 +2.7**
comp=Z,1.2nm,0.3s,baz=54,slow=4.4,SNR=8.4
JTS LR LR 16 54 29.8
comp=Z,735nm,18.4s,baz=66,slow=39
TGUH Tegucigalpa,Un 14.57 255 *e*Pn **Pn** **16 48 47.2 +0.7**
comp=Z,81nm,0.9s
TEIG Tepich 14.74 280 *e*Pn **Pn** **16 48 47.2 -1.6**
comp=Z,45nm,0.8s
TEIG Tepich 14.74 280 Pn **Pn** **16 48 48.4 -0.4**
comp=Z,2.8nm,0.3s,baz=77,slow=12,SNR=9.4
TEIG LR LR 16 54 00.5
comp=Z,220nm,21.7s,baz=42,slow=36
BBSR BB Station 15.70 26 *e*Pn **Pn** **16 48 57.3 -4.1**
comp=Z,50nm,0.8s
BBSR *e*Sn Sn 16 51 42.6 -13
NHSC New Hope 16.07 337 *e*Pn **Pn** **16 49 04.0 -2.3**
comp=Z,115nm,1.3s
TIGA Tifton 16.25 325 Pn **Pn** **16 49 06.4 -2.2**
comp=Z,137nm,1.1s
APG El Apazote 17.27 261 P **Pn** **16 49 22.1 +0.3**
APG El Apazote 17.27 261 P **Pn** **16 49 22.1 +0.3**
comp=Z,0.6nm,0.3s,baz=69,slow=12,SNR=9.5
GOGA Godfrey 17.75 329 *e*P Pn 16 49 22.3 -5.1
GOGA pmax pmax
comp=Z,65nm,1.6s
GOGA Godfrey 17.75 329 *e*Pn Pn 16 49 22.3 -5.1
comp=Z,65nm,1.6s
KMSC Kings Mountain 18.32 337 *e*P **Pn** **16 49 34.4 0.0**
comp=Z,47nm,1.1s
KMSC Kings Mountain 18.32 337 ⇑P **P** **16 49 35.6 +1.1**
baz=18,SNR=14
OTAV Otavalo 18.89 198 *e*P **Pn** **16 49 44.1 +2.1**
comp=Z,37nm,0.8s
LRAL Lakeview Retre 19.36 322 *e*P **P** **16 49 46.0 0.0**
comp=Z,18nm,1.0s
JSRW J. Sargeant Re 19.73 348 *e*P **P** **16 49 49.3 -0.6**
TKL Tuckaleechee C 19.75 333 P **Pn** **16 49 51.8 0.0**
TKL S S 16 53 20.6 -12
TKL Tuckaleechee C 19.75 333 P **Pn** **16 49 51.8 0.0**
comp=Z,0.3nm,0.3s,baz=158,slow=11,SNR=14
TKL S S 16 53 20.6 -12
comp=Z,0.3nm,0.3s,baz=221,slow=20,SNR=2.4
BLA Blacksburg 19.90 342 *e*P **P** **16 49 52.5 +0.6**
BLA pmax pmax
comp=Z,75nm,0.9s
BLA Blacksburg 19.90 342 *e*P **P** **16 49 52.5 +0.6**
comp=Z,75nm,0.9s
CPCT Cooper Cave 19.91 331 *e*P **Pn** **16 49 53.3 -0.3**
CBN Corbin 20.13 349 *e*P **P** **16 49 50.8 -3.5**
comp=Z,92nm,0.7s
SWET Sewanee 20.41 328 *e*P Pn 16 49 59.6 0.0
comp=Z,154nm,1.7s
SDMD Soldier's Deli 21.22 351 *e*P **P** **16 50 06.6 +0.4**
comp=Z,44nm,0.9s
OXF Oxford 21.83 321 P **P** **16 50 11.2 -1.5**
OXF pmax pmax
comp=Z,93nm,1.0s
OXF Oxford 21.83 321 P **P** **16 50 11.2 -1.5**
comp=Z,93nm,1.0s
MCWV Mont Chateau 22.04 345 *e*P **P** **16 50 17.7 +2.7**
comp=Z,75nm,1.3s
BRNJ Basking Ridge 22.25 356 *e*P **P** **16 50 18.7 +1.5**
comp=Z,87nm,1.0s
CPNY Central Park 22.33 358 *e*P **P** **16 50 22.6 +4.5**
comp=Z,71nm,0.9s
PAL Palisades 22.54 358 *e*P **P** **16 50 21.2 +0.9**
PAL pmax pmax
comp=Z,43nm,0.9s
PAL Palisades 22.54 358 *e*P **P** **16 50 21.2 +0.9**
comp=Z,43nm,0.9s
PTGA Pitinga 22.81 145 *e*P **P** **16 50 24.3 +1.0**
comp=Z,20nm,0.8s
PTGA Pitinga 22.81 145 P **P** **16 50 24.4 +1.0**
comp=Z,16nm,0.7s,baz=337,slow=11,SNR=21
WCI Wyandotte Cave 23.00 332 *e*P **P** **16 50 26.8 +1.6**
WCI pmax pmax
comp=Z,30nm,0.9s
WCI Wyandotte Cave 23.00 332 *e*P **P** **16 50 26.8 +1.6**
comp=Z,30nm,0.9s
HBAR Harrisburg 23.29 321 *e*P **P** **16 50 29.1 +0.9**
USIN University of 23.43 329 P P 16 50 24.8 -4.8
comp=Z,64nm,1.0s
ACSO Alum Creek Sta 23.46 340 *e*P **P** **16 50 31.0 +1.2**
comp=Z,36nm,0.8s
UALR University of 23.84 317 P **P** **16 50 31.6 -2.0**
BINY Binghamton 23.87 354 *e*P **P** **16 50 35.8 +2.0**
comp=Z,42nm,1.1s
BLO Bloomington 23.88 333 *e*P **P** **16 50 35.1 +1.1**
BLO pmax pmax
comp=Z,46nm,1.0s
BLO Bloomington 23.88 333 *e*P **P** **16 50 35.1 +1.1**
comp=Z,46nm,1.0s
HKT Hockley 23.91 303 *e*P **P** **16 50 34.4 +0.1**
HKT pmax pmax
comp=Z,26nm,1.2s
HKT Hockley 23.91 303 *e*P **P** **16 50 34.4 +0.1**
comp=Z,26nm,1.2s
ALLY Alegheny Colle 24.01 346 *e*P **P** **16 50 35.9 +0.8**
comp=Z,36nm,0.9s
ERPA Erie 24.42 347 *e*P **P** **16 50 40.9 +2.0**
comp=Z,27nm,0.7s
MIAR Mount Ida 24.51 315 *e*P **P** **16 50 37.3 -2.5**
MIAR Mount Ida 24.51 315 *e*P **P** **16 50 37.3 -2.5**
comp=Z,6.7nm,0.9s
035A Encino 24.82 295 ⇓P **P** **16 50 43.7 +1.0**
baz=25,SNR=6.2
ACCN Adirondack Com 24.91 358 *e*P **P** **16 50 44.6 +1.3**
comp=Z,42nm,0.9s
735A Kenedy 25.13 299 ⇑P **P** **16 50 45.5 +0.1**
baz=25
SFIN Scholer Farm 25.13 334 *e*P **P** **16 50 47.5 +2.2**
comp=Z,73nm,1.0s
SFIN Scholer Farm 25.13 334 ⇓P **P** **16 50 47.1 +1.8**
baz=25,SNR=10.0
934A Benavides 25.36 296 ⇑P **P** **16 50 48.2 +0.7**
baz=25
034A Hebbronville 25.36 295 ⇑P **P** **16 50 48.3 +0.8**
baz=25,SNR=10
MDV Middlebury 25.52 359 *e*P **P** **16 50 50.8 +2.0**
834A Tilden 25.53 297 ⇓P **P** **16 50 49.8 +0.7**
baz=26
AAM Ann Arbor 25.55 341 P **P** **16 50 50.7 +1.6**
AAM pmax pmax
comp=Z,41nm,0.7s
AAM Ann Arbor 25.55 341 P **P** **16 50 50.7 +1.6**
comp=Z,41nm,0.7s
335A Moody 25.71 305 ⇑P **P** **16 50 51.3 +0.7**
baz=26
LBNH Lisbon 25.77 1 *e*P **P** **16 50 53.1 +2.1**
LBNH pmax pmax
comp=Z,26nm,0.8s
LBNH Lisbon 25.77 1 *e*P **P** **16 50 53.1 +2.1**
comp=Z,26nm,0.8s

ATAH Atahualpa 25.98 193 P **P** **16 50 55.0 +1.3**
ATAH Atahualpa 25.98 193 P **P** **16 50 55.0 +1.3**
comp=Z,10nm,0.7s,baz=7.6,slow=8.5,SNR=5.6
WHTX Lake Whitney 26.03 306 P **P** **16 50 53.7 +0.2**
comp=Z,18nm,0.7s
WHTX Lake Whitney 26.03 306 ⇓P **P** **16 50 54.3 +0.7**
baz=26
534A Blanco 26.07 301 ⇓P **P** **16 50 54.0 0.0**
baz=26,SNR=15
LONY Lake Ozonia 26.18 357 *e*P **P** **16 50 56.5 +1.7**
comp=Z,25nm,1.1s
833A Chaparral WMA, 26.30 297 ⇓P **P** **16 50 55.7 -0.3**
baz=26,SNR=8.0
334A Lometa 26.36 304 ⇑P **P** **16 50 56.6 0.0**
baz=26,SNR=8.0
633A Saathoff Ranch 26.45 300 ⇑P **P** **16 50 56.9 -0.6**
baz=26
Z35A Perchaven, San 26.47 309 ⇓P **P** **16 50 58.1 +0.5**
baz=26
234A Clairette 26.56 306 ⇓P **P** **16 50 58.4 0.0**
baz=26
134A White-Moore Ra 26.75 307 ⇓P **P** **16 51 00.2 +0.1**
baz=27
832A Faith Ranch, C 26.78 297 ⇓P **P** **16 51 00.1 -0.3**
baz=27,SNR=7.1
TUL1 Tulsa 26.78 315 *e*P **P** **16 51 00.4 +0.1**
comp=Z,44nm,1.0s
TUL1 Tulsa 26.78 315 ⇑P **P** **16 51 00.8 +0.5**
baz=27,SNR=5.3
SADO Sadowa 26.82 350 P **P** **16 51 03.8 +3.3**
SADO Sadowa 26.82 350 P **P** **16 51 03.8 +3.3**
comp=Z,6.2nm,0.6s,baz=228,slow=2.4,SNR=6.0
433A Art 26.82 302 ⇑P **P** **16 51 00.7 -0.1**
baz=27,SNR=7.2
732A Laxson Ranch, 26.90 297 ⇑P **P** **16 51 01.5 0.0**
baz=27
333A Richland Sprin 26.95 304 ⇓P **P** **16 51 01.9 -0.1**
baz=27,SNR=8.9
632A Uvalde 26.97 299 ⇑P **P** **16 51 01.9 -0.3**
baz=27
Y34A Reagan Ranch, 27.14 310 ⇑P **P** **16 51 04.5 +0.8**
baz=27,SNR=6.3
532A Rocksprings 27.27 300 ⇑P **P** **16 51 05.6 +0.7**
baz=27
JCT Junction City 27.30 301 *e*P **P** **16 51 04.2 -1.0**
JCT pmax pmax
comp=Z,13nm,0.8s
JCT Junction City 27.30 301 *e*P **P** **16 51 04.2 -1.0**
comp=Z,13nm,0.8s
JCT Junction City 27.30 301 ⇓P **P** **16 51 04.9 -0.2**
baz=27
432A Menard 27.43 302 ⇓P **P** **16 51 06.1 -0.2**
baz=27
X34A Smith Ranch, M 27.51 311 ⇑P **P** **16 51 06.8 -0.1**
baz=28,SNR=5.2
332A Millersview 27.57 303 ⇓P **P** **16 51 08.1 +0.5**
baz=28
Z33A Whitaker Ranch 27.58 308 ⇑P **P** **16 51 07.0 -0.6**
baz=28
631A Perdido Creek 27.60 299 ⇓P **P** **16 51 07.4 -0.4**
baz=28,SNR=6.5
232A Coleman 27.69 304 ⇓P **P** **16 51 08.5 -0.1**
baz=28
431A Sonora 28.02 301 ⇑P **P** **16 51 10.7 -0.9**
baz=28
331A San Angelo 28.09 302 ⇓P **P** **16 51 12.0 -0.2**
baz=28
Z32A Haskell 28.13 307 ⇑P **P** **16 51 11.9 -0.6**
baz=28
WMOK Wichita Mounta 28.26 310 P **P** **16 51 13.6 -0.1**
WMOK Wichita Mounta 28.26 310 P **P** **16 51 13.6 -0.1**
Y32A R-V Farms, Ver 28.40 308 ⇑P **P** **16 51 15.7 +0.8**
baz=28
530A J-C Ranch, Com 28.45 300 ⇓P **P** **16 51 16.5 +1.0**
baz=28
X32A Elmer 28.48 309 ⇓P **P** **16 51 16.1 +0.5**
baz=28
JFWS Jewell Farm 28.56 333 *e*P **P** **16 51 17.0 +0.8**
JFWS pmax pmax
comp=Z,38nm,0.8s
JFWS Jewell Farm 28.56 333 *e*P **P** **16 51 16.9 +0.8**
comp=Z,38nm,0.8s
430A Baggett Ranch, 28.57 301 ⇑P **P** **16 51 15.6 -0.9**
baz=28
330A Mertzon 28.73 302 ⇓P **P** **16 51 18.0 +0.1**
baz=29
W32A Sentinel 28.78 311 ⇑P **P** **16 51 18.4 +0.2**
baz=29
SAML Samuel 28.79 160 *e*P **P** **16 51 17.6 -0.8**
comp=Z,9.4nm,0.8s
230A Sterling City 28.84 303 P **P** **16 51 18.6 -0.4**
baz=29,SNR=5.8
529A Stev Forest Ra 29.18 299 ⇓P **P** **16 51 21.5 -0.4**
baz=29
329A Wagon Wheel Ra 29.40 302 ⇓P **P** **16 51 23.3 -0.6**
baz=29
V31A Spring Creek L 29.51 311 ⇓P **P** **16 51 25.3 +0.5**
baz=30
628A Black Gap, Mar 29.56 298 ⇓P **P** **16 51 25.6 +0.2**
baz=30
T32A Huddler Ranch, 29.59 315 ⇑P **P** **16 51 26.4 +1.0**
baz=30
528A Cox Ranch, San 29.66 299 ⇑P **P** **16 51 26.5 +0.2**
baz=30
Q33A Connelly Farm, 29.89 319 ⇑P **P** **16 51 28.5 +0.4**
baz=30,SNR=6.1
627A Terlingua Ranc 29.97 297 ⇓P **P** **16 51 29.1 0.0**
baz=30,SNR=15
T31A Randall Ranch, 30.06 314 ⇓P **P** **16 51 29.2 -0.4**
baz=30
TXAR Lajitas Array 30.18 297 P **P** **16 51 31.2 +0.4**
TXAR Lajitas Array 30.18 297 P **P** **16 51 31.2 +0.4**
comp=Z,2.0nm,0.7s,baz=117,slow=8.1,SNR=20
128A Castleberry Fa 30.19 304 ⇓P **P** **16 51 31.1 +0.2**
baz=30,SNR=7.8
S31A Mullinville 30.20 315 ⇑P **P** **16 51 31.5 +0.7**
baz=30
527A Woodward Ranch 30.34 298 ⇑P **P** **16 51 32.0 -0.4**
baz=30,SNR=9.8
Q32A Meitler Ranch, 30.35 318 ⇑P **P** **16 51 34.0 +1.8**
baz=30
427A Hayter Ranch, 30.36 300 ⇓P **P** **16 51 32.3 -0.1**
baz=30,SNR=6.2
U30A WK&E Inc. Balk 30.45 312 ⇓P **P** **16 51 34.6 +1.5**
baz=30
AMTX Amarillo 30.45 308 ⇓P **P** **16 51 33.5 +0.3**
baz=30
R31A Burdett 30.58 316 ⇑P **P** **16 51 35.0 +0.7**
baz=31
626A Big Bend Ranch 30.63 297 ⇑P **P** **16 51 34.6 -0.2**
baz=31
526A Mary Lane Ranc 30.72 298 ⇓P **P** **16 51 35.9 +0.2**
baz=31,SNR=14
COWI Conover 30.76 337 *e*P **P** **16 51 36.5 +0.9**
comp=Z,19nm,0.9s
426A McDonald Obser 30.83 299 ⇑P **P** **16 51 36.7 0.0**
baz=31,SNR=11
MSTX Muleshoe 30.91 306 *e*P **P** **16 51 36.0 -1.3**
comp=Z,7.0nm,0.7s
MSTX Muleshoe 30.91 306 ⇓P **P** **16 51 37.1 -0.2**
baz=31
Z27A Tatum 31.01 305 ⇑P **P** **16 51 37.0 -1.2**
baz=31
P31A Stockton 31.17 318 ⇓P **P** **16 51 39.9 +0.5**
baz=31,SNR=6.1
Y27A Causey 31.18 306 ⇓P **P** **16 51 38.5 -1.2**
baz=31
S29A Ulysses 31.31 314 ⇓P **P** **16 51 40.3 -0.5**
baz=31
Z26A Caprock 31.59 304 ⇑P **P** **16 51 40.7 -2.6**
baz=32
425A Indio Mountain 31.65 299 ⇓P **P** **16 51 43.7 -0.2**
baz=32,SNR=8.4
P30A Selden 31.74 317 ⇑P **P** **16 51 44.8 +0.3**
baz=32,SNR=6.5
Q29A Oakley 31.87 316 ⇓P **P** **16 51 45.7 +0.1**
baz=32,SNR=5.7
225A Deer Hill, Car 31.89 302 ⇓P **P** **16 51 46.1 +0.1**
baz=32,SNR=8.1
125A Gardner Draw, 31.93 303 ⇓P **P** **16 51 46.1 -0.2**
baz=32,SNR=8.4
O30A MW Ranch, Wils 31.98 318 ⇓P **P** **16 51 47.6 +1.1**
baz=32
W26A Owens Ranch, T 32.10 307 ⇓P **P** **16 51 47.6 -0.2**
baz=32
R28A Tribune 32.14 314 ⇓P **P** **16 51 48.2 +0.1**
baz=32,SNR=5.7
Z25A Roswell 32.18 304 ⇑P **P** **16 51 48.8 +0.4**
baz=32
MNTX Cornudas Mount 32.23 301 *e*P **P** **16 51 49.0 +0.2**
comp=Z,7.1nm,0.8s
ECSD EROS Data Cent 32.25 327 ⇑P **P** **16 51 49.3 +0.5**
baz=32
Y25A Mesa, Roswell 32.38 305 ⇓P **P** **16 51 49.6 -0.6**
baz=32
O29A 4D Ranch, Culb 32.42 318 ⇓P **P** **16 51 51.8 +1.4**
baz=32
Q28A Sharon Springs 32.52 315 ⇓P **P** **16 51 51.3 -0.1**
baz=32
U26A Atchley Ranch, 32.61 310 ⇑P **P** **16 51 51.8 -0.5**
baz=33
W25A X Bar L Ranch, 32.67 307 ⇑P **P** **16 51 52.9 +0.1**
baz=33,SNR=7.1
Z24A Sheeppen Canyo 32.71 303 ⇑P **P** **16 51 53.7 +0.5**
baz=33,SNR=18
P28A Saint Francis 32.74 316 ⇓P **P** **16 51 54.2 +0.9**
baz=33
T26A Comanche Natio 32.84 311 ⇑P **P** **16 51 54.2 -0.1**
baz=33
Y24A Capitan 32.96 304 ⇑P **P** **16 51 56.0 +0.6**
baz=33,SNR=10
U25A Circle Dot Ran 33.10 309 ⇓P **P** **16 51 56.8 +0.1**
baz=33
EYMN Ely 33.18 337 *e*P **P** **16 51 57.7 +0.7**
comp=Z,21nm,0.9s
W24A Lazy 6 Ranch, 33.39 307 ⇑P **P** **16 51 59.8 +0.7**
baz=33
T25A Trinidad 33.41 310 ⇑P **P** **16 51 59.2 -0.2**
baz=33
Y23A Lovelace Mesa, 33.45 304 ⇓P **P** **16 52 00.1 +0.5**
baz=33,SNR=14
R25A Fountain Ranch 33.77 312 ⇓P **P** **16 52 03.6 +1.3**
baz=34
W23A Warner Place, 33.94 306 ⇓P **P** **16 52 05.6 +1.6**
baz=34
Z22A Elephant Butte 33.96 303 ⇓P **P** **16 52 03.9 -0.1**
baz=34
BNM Barren Site 33.97 304 *e*P **P** **16 52 04.7 +0.5**
comp=Z,14nm,0.9s
LPM Los Pinos Moun 34.02 305 *e*P **P** **16 52 05.0 +0.3**
comp=Z,12nm,0.7s
T24B San Luis 34.09 310 ⇑P **P** **16 52 06.3 +1.0**
baz=34
ANMO Albuquerque 34.10 306 *e*P **P** **16 52 05.5 +0.2**
comp=Z,8.8nm,1.3s
V23A Ortiz Mt. (NFS 34.17 307 ⇑P **P** **16 52 07.0 +1.0**
baz=34
M27A Reverse DX Ran 34.20 319 ⇑P **P** **16 52 05.9 0.0**
baz=34
R24A Sanders Place, 34.38 312 ⇑P **P** **16 52 07.6 -0.1**
baz=34
U23A El Rito 34.40 308 ⇑P **P** **16 52 08.6 +0.7**
baz=34
121A Cookes Peak, D 34.42 301 *e*P **P** **16 52 09.0 +0.9**
comp=Z,7.9nm,0.8s
121A Cookes Peak, D 34.42 301 ⇓P **P** **16 52 08.8 +0.8**
baz=34
LAZ Ladron 34.45 304 *e*P **P** **16 52 09.0 +0.6**
comp=Z,8.0nm,1.1s
SDCO Great Sand Dun 34.46 311 *e*P **P** **16 52 08.2 -0.3**
comp=Z,5.8nm,0.9s
Q24A Divide 34.74 313 ⇓P **P** **16 52 11.4 +0.4**
baz=35
LPAZ La Paz 34.78 172 P **P** **16 52 12.3 +0.6**
LPAZ La Paz 34.78 172 P **P** **16 52 12.3 +0.6**
comp=Z,2.9nm,0.8s,baz=10,slow=10,SNR=8.2
V22A San Miguel Ran 34.78 307 ⇓P **P** **16 52 10.9 -0.4**
baz=35
R23A Moffat 34.88 311 ⇑P **P** **16 52 12.2 +0.1**
baz=35
319A Douglas 35.37 298 ⇓P **P** **16 52 17.6 +1.4**
baz=35
S22A 4UR Ranch, Cre 35.42 310 ⇓P **P** **16 52 15.8 -1.0**
baz=35
ISCO Idaho Springs 35.44 314 ⇓P **P** **16 52 15.5 -1.5**
baz=35
K25A Mack Ranch, Ha 35.71 319 ⇑P **P** **16 52 19.7 +0.6**
baz=36
M24A Cheyenne 35.72 317 ⇑P **P** **16 52 18.6 -0.6**
baz=36
H27A Howes 35.81 323 ⇓P **P** **16 52 20.3 +0.5**
baz=36
O23A Lake Granby, G 35.84 314 ⇓P **P** **16 52 20.9 +0.5**
baz=36
C30A Mose, Pekin 35.97 330 ⇑P **P** **16 52 22.9 +1.9**
baz=36
D29A Pettibone, Tap 36.06 328 ⇑P **P** **16 52 23.0 +1.1**
baz=36
P22A Eagle 36.14 313 ⇑P **P** **16 52 24.0 +1.2**
baz=36
O22A Kremmling 36.24 314 ⇓P **P** **16 52 24.6 +0.8**
baz=36
B30A Myrvik Farm, E 36.44 331 ⇑P **P** **16 52 26.3 +1.2**
baz=36
N22A Wattenberg Ran 36.47 315 ⇑P **P** **16 52 25.0 -0.8**
baz=36
L23A Garrett 36.61 317 ⇓P **P** **16 52 27.2 +0.4**
baz=37
D28A Regan 36.64 328 ⇓P **P** **16 52 28.6 +1.7**
baz=37
SCHQ Schefferville 36.64 6 *e*P **P** **16 52 27.2 +0.5**
comp=Z,13nm,0.7s
SCHQ Schefferville 36.64 6 P **P** **16 52 27.1 +0.3**
comp=Z,15nm,0.8s,baz=199,slow=12,SNR=16
RSSD Black Hills 36.65 321 P P 16 52 30.8 +3.6
RSSD Black Hills 36.65 321 P P 16 52 30.8 +3.6
X18A Snowflake 36.70 303 ⇓P **P** **16 52 28.2 +0.5**
baz=37
W18A Petrified Fore 36.70 304 ⇑P **P** **16 52 28.2 +0.5**
baz=37
ULM Lac du Bonnet 36.74 335 P **P** **16 52 28.9 +1.3**
ULM Lac du Bonnet 36.74 335 P **P** **16 52 28.9 +1.3**
comp=Z,20nm,0.9s,baz=143,slow=7.9,SNR=22
A30A Hoffart Farm, 36.78 332 ⇓P **P** **16 52 28.9 +0.9**
baz=37
B29A Wagenman Farm, 36.92 330 ⇓P **P** **16 52 29.1 -0.1**
baz=37
L22A Ellis Ranch, M 37.04 317 ⇑P **P** **16 52 30.9 +0.3**
baz=37
A29A Manning Farm, 37.19 331 ⇓P **P** **16 52 32.0 +0.6**
baz=37
H24A Dirks Ranch, A 37.31 322 ⇓P **P** **16 52 32.7 0.0**
baz=37
O20A White River Ci 37.40 313 ⇓P **P** **16 52 34.4 +0.8**
baz=37
K22A Casper 37.41 318 P **P** **16 52 31.0 -2.5**
comp=Z,11nm,0.7s
K22A Casper 37.41 318 ⇓P **P** **16 52 34.0 +0.4**
baz=37
J22A Midwest 37.76 319 ⇑P **P** **16 52 36.0 -0.5**
baz=38
K21A Alcova 37.87 317 ⇑P **P** **16 52 37.5 0.0**
baz=38
I22A 9 Mile Ranch, 38.01 319 ⇑P **P** **16 52 38.5 -0.1**
baz=38
WUAZ Wupatki 38.10 304 *e*P **P** **16 52 39.3 -0.3**
comp=Z,7.6nm,0.8s
J21A Lysite 38.34 318 ⇓P **P** **16 52 40.9 -0.6**
baz=38
I21A Big Trails, Te 38.47 319 ⇓P **P** **16 52 41.7 -0.9**
baz=38
A26A Wade Farm, Ken 38.51 329 ⇓P **P** **16 52 44.1 +1.4**
baz=38
J20A Shoshoni 38.75 318 ⇓P **P** **16 52 43.6 -1.2**
baz=39
F22A Rosebud 38.88 322 ⇑P **P** **16 52 43.9 -1.9**
baz=39
I20A Worland 39.06 318 ⇓P **P** **16 52 47.0 -0.5**
baz=39
U15A North Rim 39.07 306 ⇓P **P** **16 52 46.2 -1.6**
baz=39
J19A Crowheart 39.33 317 ⇑P **P** **16 52 49.1 -0.7**
baz=39
113A Mohawk Valley, 39.38 299 ⇓P **P** **16 52 47.3 -2.8**
baz=39
PDAR Pinedale Array 39.43 316 P **P** **16 52 49.8 -1.0**
PDAR PcP **PcP** **16 54 57.8 -0.9**
PDAR Pinedale Array 39.43 316 P **P** **16 52 49.8 -1.0**
comp=Z,1.6nm,0.8s,baz=119,slow=9.7,SNR=11
PDAR PcP **PcP** **16 54 57.8 -0.9**
comp=Z,2.3nm,0.8s,baz=126,slow=4.6,SNR=7.6
C23A Lambert 39.44 325 ⇓P **P** **16 52 50.4 -0.1**
baz=39
I19A Meeteetse 39.65 318 ⇑P **P** **16 52 52.2 -0.3**
baz=40
C22A Vida 39.79 325 ⇓P **P** **16 52 54.6 +1.2**

baz=40
H19A Powell 39.95 319 ⇓P P 16 52 55.7 +0.8
baz=40
HWUT Hardware Ranch 40.30 313 *e*P P 16 52 56.8 -1.1
comp=Z,8.1nm,1.3s
ARUT Antelope Range 40.34 307 *e*P P 16 52 57.7 -0.6
ARUT pmax pmax
comp=Z,114nm,0.8s
ARUT Antelope Range 40.34 307 *e*P P 16 52 57.7 -0.6
comp=Z,114nm,0.8s
RLMT Red Lodge 40.35 319 *e*P P 16 52 57.4 -0.9
comp=Z,22nm,1.3s
E20A Meyer Farm, Mu 40.37 322 ⇓P P 16 52 58.3 0.0
baz=40
H18A Shoshone NF, C 40.38 319 ⇓P P 16 52 57.9 -0.7
baz=40
A22A Carney Farms, 40.55 326 ⇓P P 16 53 01.2 +1.5
baz=40
I17A Pilgrim Ck. 40.61 317 ⇑P P 16 53 01.4 +0.9
baz=41
DUG Dugway 40.66 311 ⇓P P 16 53 01.5 +0.7
baz=41
E19A Rath Farm, Rou 40.73 321 ⇑P P 16 53 02.2 +1.0
baz=41
IRM Iron Mountain 40.79 301 ⇓P P 16 53 02.3 +0.4
baz=41
BC3 Big Chuckawall 40.94 300 ⇑P P 16 53 03.2 0.0
baz=41
LVC Limon Verde 40.94 175 *e*P P 16 53 02.3 -1.0
A21A Bergtoll Ranch 41.08 326 ⇓P P 16 53 06.2 +2.2
baz=41
SHPR Sheep Range 41.32 305 *e*P P 16 53 06.8 +0.5
comp=Z,9.0nm,0.9s
QLMT Earthquake Lak 41.57 318 *e*P P 16 53 09.6 +1.3
comp=Z,1.8nm,1.0s
BDFB Brasilia 41.71 143 PcP PcP 16 55 06.8 +0.6
BDFB Brasilia 41.71 143 PcP PcP 16 55 06.8 +0.6
comp=Z,5.0nm,0.7s,baz=90,slow=3.0,SNR=3.9
B19A Brinkman Farms 41.88 324 ⇑P P 16 53 12.4 +1.7
baz=42
A19A Klindworth Far 42.03 325 ⇑P P 16 53 12.3 +0.4
baz=42
MCMT McKenzie Canyo 42.48 317 *e*P P 16 53 15.7 0.0
comp=Z,4.2nm,0.8s
FFC Flin Flon 42.57 335 *e*P P 16 53 18.6 +2.5
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 42.57 335 *e*P P 16 53 18.6 +2.5
comp=Z,6.6nm,0.9s
ELK Elko 42.58 311 P P 16 53 16.7 0.0
ELK PcP PcP 16 55 09.4 +0.4
ELK Elko 42.58 311 P P 16 53 16.7 0.0
comp=Z,5.0nm,1.0s,baz=180,slow=9.1,SNR=8.6
ELK PcP PcP 16 55 09.4 +0.4
comp=Z,2.0nm,0.9s,baz=264,slow=2.9,SNR=3.5
HRY Holter Researc 42.68 320 *e*P P 16 53 20.2 +2.9
comp=Z,3.6nm,0.8s
HLID Hailey 43.00 315 ⇓P P 16 53 17.8 -2.2
baz=43
LRMC Laurel Mountai 43.10 303 ⇑P P 16 53 18.5 -2.3
baz=43
FCC Fort Churchill 43.21 344 *e*P P 16 53 20.4 -0.8
FCC Fort Churchill 43.21 344 *e*P P 16 53 20.4 -0.8
comp=Z,0.4nm,1.0s
TPH Tonopah 43.30 306 *e*P P 16 53 23.1 +0.5
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 43.30 306 *e*P P 16 53 23.1 +0.5
comp=Z,9.6nm,0.9s
RCBR Riachuelo 43.62 120 *e*P P 16 53 26.2 +1.1
CHMT Chamberlain Mo 43.64 320 P P 16 53 26.2 +1.0
comp=Z,3.2nm,1.1s
NVAR Mina Array Bea 44.21 307 P P 16 53 29.2 -0.6
NVAR Mina Array Bea 44.21 307 P P 16 53 29.2 -0.6
comp=Z,3.7nm,0.8s,baz=97,slow=7.1,SNR=9.4
VES Vestal, Richgr 44.28 303 ⇓P P 16 53 30.0 -0.1
baz=44
BSMT Bassoo Peak 44.99 320 P P 16 53 39.2 +3.3
comp=Z,4.2nm,1.0s
WALA Waterton Lakes 45.02 322 *e*P P 16 53 34.6 -1.4
FRB Frobisher Bay 45.40 3 P P 16 53 40.0 +1.5
FRB Frobisher Bay 45.40 3 P P 16 53 40.0 +1.5
comp=Z,11nm,0.8s,baz=187,slow=8.7,SNR=16
NEW Newport 46.59 320 *e*P P 16 53 47.3 -1.0
comp=Z,15nm,1.1s
EDM Edmonton 46.81 328 *e*P P 16 53 49.3 -0.7
EDM Edmonton 46.81 328 *e*P P 16 53 49.2 -0.7
CPUP Villa Florida 46.94 161 *e*P P 16 53 52.3 +1.1
comp=Z,0.2nm,0.6s
CPUP Villa Florida 46.94 161 P P 16 53 52.7 +1.6
comp=Z,2.4nm,0.6s,baz=346,slow=6.3,SNR=4.1
LCO Las Campanas 47.18 178 P P 16 53 54.1 +0.7
YBH Yreka Blue Hor 48.27 310 P P 16 54 00.1 -1.5
YBH Yreka Blue Hor 48.27 310 P P 16 54 00.1 -1.5
comp=Z,3.7nm,0.8s,baz=203,slow=7.3,SNR=5.6
YKA Yellowknife Ar 52.66 337 P P 16 54 33.5 -0.8
YKA Yellowknife Ar 52.66 337 P P 16 54 33.5 -0.8
comp=Z,5.9nm,0.8s,baz=125,slow=7.4,SNR=32
DLBC Dease Lake 57.51 328 *e*P P 16 55 09.9 +0.3
DLBC Dease Lake 57.51 328 P P 16 55 10.1 +0.5
comp=Z,18nm,0.8s,baz=113,slow=4.3,SNR=12
RES Resolute Bay 57.57 353 LR LR 17 19 15.8
comp=Z,208nm,20.7s,baz=178,slow=35
SUMG Summit 57.62 12 *e*P P 16 55 10.7 +0.2
SUMG pmax pmax
comp=Z,51nm,1.1s
SUMG Summit 57.62 12 *i*P P 16 55 10.6 +0.1
comp=Z,33nm,0.9s
SUMG Summit 57.62 12 *e*P P 16 55 10.7 +0.2
comp=Z,51nm,1.1s
PLCA Paso Flores 58.87 178 *e*P P 16 55 18.6 -0.6
comp=Z,19nm,1.3s
PLCA Paso Flores 58.87 178 P P 16 55 18.6 -0.6
comp=Z,4.2nm,0.7s,baz=8.6,slow=8.2,SNR=11
EVOP Sao Brissos 59.11 56 *e*P P 16 55 22.2 +1.3
EVOP pmax pmax
comp=Z,16nm,0.8s
EVOP Sao Brissos 59.11 56 *e*P P 16 55 22.2 +1.3
comp=Z,16nm,0.8s
EVO Evora 59.19 56 *e*P P 16 55 22.2 +0.6
comp=Z,16nm,0.8s
EVO *e*R
comp=Z,419nm,22.2s
EVO Evora 59.19 56 *e*P P 16 55 23.4 +1.8
comp=Z,38nm,1.6s
PCAB Cabril 59.25 52 *e*P P 16 55 23.3 +1.3
comp=Z,67nm,2.0s
PBDV Barranco-do-Ve 59.26 57 *e*P P 16 55 24.6 +2.5
comp=Z,43nm,1.7s
PBEJ Beja 59.31 56 *e*P P 16 55 24.1 +1.7
comp=Z,19nm,1.6s
PVIS Viseu 59.32 53 *e*P P 16 55 25.8 +3.3
comp=Z,30nm,2.4s
POLO Lamas de Olo 59.42 52 *e*P P 16 55 24.3 +1.1
comp=Z,25nm,1.4s
PVAQ Vaqueiros 59.43 57 *e*P P 16 55 24.8 +1.6
comp=Z,27nm,1.7s
MTE Manteigas 59.58 54 *e*P P 16 55 25.9 +1.6
comp=Z,42nm,2.2s
PCBR Castelo Branco 59.62 54 *e*P P 16 55 26.0 +1.5
comp=Z,40nm,2.2s
PMRV Marv??o 59.68 55 *e*P P 16 55 26.2 +1.2
comp=Z,32nm,1.5s
MVO Moncorvo 59.99 53 *e*P P 16 55 28.1 +1.0
comp=Z,48nm,1.8s
PAB San Pablo 62.04 55 *e*P P 16 55 41.1 0.0
PAB pmax pmax
comp=Z,9.0nm,0.8s
PAB San Pablo 62.04 55 *e*P P 16 55 41.1 0.0
comp=Z,9.5nm,0.8s
MDT Midelt 62.19 62 P P 16 55 45.9 +3.7
MDT Midelt 62.19 62 P P 16 55 45.9 +3.7
comp=Z,2.8nm,0.8s,baz=289,slow=9.6,SNR=8.2
MDT LR LR 17 17 25.9
comp=Z,208nm,19.7s,baz=311,slow=31
ESDC Sonseca Array 62.33 54 P P 16 55 44.1 +1.1
ESDC Sonseca Array 62.33 54 P P 16 55 44.1 +1.1
comp=Z,6.5nm,0.8s,baz=276,slow=7.1,SNR=16
ESDC LR LR 17 20 45.1
comp=Z,178nm,18.1s,baz=290,slow=34
ESLA Sonseca Array 62.33 54 *e*P P 16 55 44.0 +1.0
INK Inuvik 62.36 339 *e*P P 16 55 43.1 +0.5
comp=Z,64nm,2.1s
INK Inuvik 62.36 339 P P 16 55 42.2 -0.4
comp=Z,2.5nm,0.9s,baz=122,slow=4.9,SNR=8.8
QUIF Quistinic 62.95 45 *e*P P 16 55 47.4 +0.5
comp=Z,30nm,0.9s
QUIF Quistinic 62.95 45 *e*P P 16 55 47.4 +0.5
QUIF pmax pmax
comp=Z,31nm,0.9s
QUIF Quistinic 62.95 45 *e*P P 16 55 47.4 +0.5
comp=Z,30nm,0.9s
SGMF Saint Gilles 63.37 45 *e*P P 16 55 50.1 +0.4
SGMF Saint Gilles 63.37 45 *e*P P 16 55 50.1 +0.4
SGMF Saint Gilles 63.37 45 *e*P P 16 55 50.1 +0.4
DAWY Dawson 63.41 333 *e*P P 16 55 48.8 -0.9
ESK Eskdalemuir 63.45 37 P P 16 55 52.0 +1.9
ESK Eskdalemuir 63.45 37 P P 16 55 52.0 +1.9
EKA Eskdalemuir Ar 63.48 37 P P 16 55 51.3 +1.0
EKA Eskdalemuir Ar 63.48 37 P P 16 55 51.3 +1.0
comp=Z,3.6nm,0.6s,baz=275,slow=5.0
SJPF Ste Jean 64.30 50 *e*P P 16 55 57.0 +1.1
comp=Z,27nm,0.7s
SJPF Ste Jean 64.30 50 *e*P P 16 55 57.0 +1.1
SJPF pmax pmax
comp=Z,27nm,0.7s
SJPF Ste Jean 64.30 50 *e*P P 16 55 57.0 +1.1
comp=Z,27nm,0.7s
DAG Danmarks Havn 64.31 12 *i*P P 16 55 54.5 -0.9
DAG pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 64.31 12 *i*P P 16 55 54.5 -0.9
comp=Z,7.8nm,1.0s
EGAK Eagle 64.31 334 *e*P P 16 55 55.8 +0.3
comp=Z,5.7nm,0.8s
JMIC Jan Mayen 64.43 19 LR LR 17 19 52.8
comp=Z,108nm,21.7s,baz=256,slow=32
GRR Gorron 64.51 45 *e*P P 16 55 57.7 +0.5
comp=Z,13nm,0.7s
GRR Gorron 64.51 45 *e*P P 16 55 57.7 +0.5
GRR pmax pmax
comp=Z,13nm,0.6s
GRR Gorron 64.51 45 *e*P P 16 55 57.7 +0.5
comp=Z,13nm,0.6s
FLN La Foliniere 64.77 44 *e*P P 16 55 59.4 +0.6
comp=Z,22nm,0.7s
FLN *e*R
comp=Z,455nm,20.8s
FLN La Foliniere 64.77 44 *e*P P 16 55 59.4 +0.6
FLN pmax pmax
comp=Z,22nm,0.7s
FLN La Foliniere 64.77 44 *e*P P 16 55 59.4 +0.6
comp=Z,22nm,0.7s
ETSF Etsaut 64.79 51 *e*P P 16 56 00.2 +0.9
comp=Z,20nm,0.8s
ETSF Etsaut 64.79 51 *e*P P 16 56 00.2 +0.9
ETSF pmax pmax
comp=Z,20nm,0.8s
ETSF Etsaut 64.79 51 *e*P P 16 56 00.2 +0.9
comp=Z,20nm,0.8s
MFF Saint Martin d 65.00 47 *e*P P 16 56 01.0 +0.6
comp=Z,27nm,0.6s
MFF Saint Martin d 65.00 47 *e*P P 16 56 01.0 +0.6
MFF pmax pmax
comp=Z,27nm,0.6s
MFF Saint Martin d 65.00 47 *e*P P 16 56 01.0 +0.6
comp=Z,27nm,0.6s
LDF La Druitiere 65.00 44 *e*P P 16 56 00.9 +0.5
comp=Z,25nm,0.8s
LDF La Druitiere 65.00 44 *e*P P 16 56 00.9 +0.5
LDF pmax pmax
comp=Z,25nm,0.8s
LDF La Druitiere 65.00 44 *e*P P 16 56 00.9 +0.5
comp=Z,25nm,0.8s
MENT Mentasta 65.11 332 *e*P P 16 56 00.9 0.0
EPF Esparros 65.45 50 *e*P P 16 56 04.5 +1.0
comp=Z,32nm,0.9s
EPF Esparros 65.45 50 *e*P P 16 56 04.5 +1.0
EPF pmax pmax
comp=Z,32nm,0.9s
EPF Esparros 65.45 50 *e*P P 16 56 04.5 +1.0
comp=Z,32nm,0.9s
LFF La Frestale 65.66 48 *e*P P 16 56 05.1 +0.4
comp=Z,38nm,0.8s
LFF La Frestale 65.66 48 *e*P P 16 56 05.1 +0.4
LFF pmax pmax
comp=Z,38nm,0.8s
LFF La Frestale 65.66 48 *e*P P 16 56 05.1 +0.4
comp=Z,38nm,0.8s
DIV Divide 65.84 329 P P 16 56 05.4 -0.3
comp=Z,18nm,0.9s
PAX Paxson 65.90 331 *e*P P 16 56 06.6 +0.5
PAX pmax pmax
comp=Z,12nm,0.9s
PAX Paxson 65.90 331 *e*P P 16 56 06.6 +0.5
comp=Z,12nm,0.9s
RJF Les Rejaudoux 66.19 48 *e*P P 16 56 08.5 +0.3
RJF *e*R
comp=Z,279nm,20.2s
RJF Les Rejaudoux 66.19 48 *e*P P 16 56 08.5 +0.3
RJF Les Rejaudoux 66.19 48 *e*P P 16 56 08.5 +0.3
CAF Calviac 66.60 48 *e*P P 16 56 11.2 +0.4
comp=Z,25nm,0.8s
CAF Calviac 66.60 48 *e*P P 16 56 11.2 +0.4
CAF pmax pmax
comp=Z,25nm,0.8s
CAF Calviac 66.60 48 *e*P P 16 56 11.2 +0.4
comp=Z,25nm,0.8s
TCF Toulx Ste Croi 66.63 47 *e*P P 16 56 11.1 +0.1
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 66.63 47 *e*P P 16 56 11.1 +0.1
TCF pmax pmax
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 66.63 47 *e*P P 16 56 11.1 +0.1
comp=Z,24nm,0.9s
ILAR Eielson Array 66.73 333 P P 16 56 10.1 -1.2
ILAR Eielson Array 66.73 333 P P 16 56 10.1 -1.2
comp=Z,3.3nm,0.8s,baz=106,slow=4.8,SNR=20
MTLF Montolieu 66.80 50 *e*P P 16 56 12.6 +0.5
comp=Z,30nm,0.8s
MTLF Montolieu 66.80 50 *e*P P 16 56 12.6 +0.5
MTLF pmax pmax
comp=Z,30nm,0.8s
MTLF Montolieu 66.80 50 *e*P P 16 56 12.6 +0.5
comp=Z,30nm,0.8s
TIC Toumodi 66.86 91 *e*P P 16 56 12.5 -0.4
LIC Lamto 66.97 91 *e*P P 16 56 12.4 -1.3
comp=Z,9.0nm,0.4s
DBIC Dimbokro 67.00 90 P P 16 56 12.9 -0.9
DBIC Dimbokro 67.00 90 P P 16 56 13.4 -0.4
comp=Z,2.0nm,0.6s,baz=282,slow=7.6,SNR=4.8
DBIC LR LR 17 21 56.8
comp=Z,121nm,20.6s,baz=294,slow=33
BGF Bois d'Agland 67.06 47 *e*P P 16 56 13.8 +0.1
comp=Z,26nm,0.6s
BGF Bois d'Agland 67.06 47 *e*P P 16 56 13.8 +0.1
BGF pmax pmax
comp=Z,26nm,0.6s
BGF Bois d'Agland 67.06 47 *e*P P 16 56 13.8 +0.1
comp=Z,26nm,0.6s
COLA College 67.15 333 P P 16 56 13.8 -0.1
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 67.15 333 P P 16 56 13.8 -0.1
comp=Z,8.2nm,0.9s
KIC Kosan Boka 67.20 91 *e*P P 16 56 13.9 -1.2
comp=Z,12nm,0.9s
AVF Avril sur Loir 67.39 46 *e*P P 16 56 15.8 0.0
comp=Z,9.8nm,0.8s
AVF Avril sur Loir 67.39 46 *e*P P 16 56 15.8 0.0
AVF pmax pmax
comp=Z,10.0nm,0.8s
AVF Avril sur Loir 67.39 46 *e*P P 16 56 15.8 0.0
comp=Z,9.8nm,0.8s
SSF Saint Saulge 67.48 46 *e*P P 16 56 16.8 +0.4
comp=Z,8.4nm,0.7s
SSF Saint Saulge 67.48 46 *e*P P 16 56 16.8 +0.4
SSF pmax pmax
comp=Z,8.0nm,0.7s
SSF Saint Saulge 67.48 46 *e*P P 16 56 16.8 +0.4
comp=Z,8.4nm,0.7s
LOR Lormes 67.71 46 *e*P P 16 56 17.9 +0.1
comp=Z,26nm,0.7s
LOR *e*R
comp=Z,424nm,19.8s
LOR Lormes 67.71 46 *e*P P 16 56 17.9 +0.1
comp=Z,26nm,0.7s
SMF Signal de Mont 67.74 46 *e*P P 16 56 18.0 0.0
comp=Z,14nm,0.7s
SMF Signal de Mont 67.74 46 *e*P P 16 56 18.0 0.0
SMF pmax pmax
comp=Z,14nm,0.7s
SMF Signal de Mont 67.74 46 *e*P P 16 56 18.0 0.0
comp=Z,14nm,0.7s
RC01 Rabbit Creek A 67.76 329 P P 16 56 18.3 +0.5
BAIF Baives 67.81 43 *e*P P 16 56 18.2 -0.1
BAIF Baives 67.81 43 *e*P P 16 56 18.2 -0.1
BAIF Baives 67.81 43 *e*P P 16 56 18.2 -0.1
LASF Ste Croix 67.93 49 *e*P P 16 56 20.2 +0.9
comp=Z,27nm,0.9s
LASF Ste Croix 67.93 49 *e*P P 16 56 20.2 +0.9
comp=Z,27nm,0.9s
DOU Dourbes 68.05 43 P P 16 56 22.3 +2.4
TRF Thorofare Moun 68.12 332 *e*P P 16 56 19.7 -0.5
comp=Z,12nm,0.8s
GIVF Givet 68.20 43 *e*P P 16 56 21.1 +0.3
comp=Z,19nm,0.7s
GIVF Givet 68.20 43 *e*P P 16 56 21.1 +0.3
GIVF pmax pmax
comp=Z,19nm,0.7s
GIVF Givet 68.20 43 *e*P P 16 56 21.1 +0.3
comp=Z,19nm,0.7s
COLD Coldfoot 68.31 336 *e*P P 16 56 21.2 0.0
comp=Z,9.6nm,0.9s
KTH Kantishna Hill 68.41 332 *e*P P 16 56 21.5 -0.5
comp=Z,18nm,1.0s
MEZF Maizieres J'vi 68.44 44 *e*P P 16 56 22.8 +0.5
comp=Z,49nm,0.7s
MEZF Maizieres J'vi 68.44 44 *e*P P 16 56 22.8 +0.5
comp=Z,49nm,0.7s
VIVF Saint-Julien-l 68.45 48 *e*P P 16 56 23.7 +1.2
comp=Z,29nm,0.8s
VIVF Saint-Julien-l 68.45 48 *e*P P 16 56 23.7 +1.2
VIVF pmax pmax
comp=Z,29nm,0.8s
VIVF Saint-Julien-l 68.45 48 *e*P P 16 56 23.7 +1.2
comp=Z,29nm,0.8s
SFTF Sexfontaines 68.45 45 *e*P P 16 56 22.6 +0.2
comp=Z,23nm,0.7s
SFTF Sexfontaines 68.45 45 *e*P P 16 56 22.6 +0.2
comp=Z,23nm,0.7s
PAGF Fort de Pagny 68.88 44 *e*P P 16 56 25.4 +0.3
comp=Z,4.2nm,0.6s
PAGF Fort de Pagny 68.88 44 *e*P P 16 56 25.4 +0.3
comp=Z,4.2nm,0.6s
MEM Membach 68.93 42 P P 16 56 28.1 +2.7
SMRF Simiane la Rot 69.17 49 *e*P P 16 56 28.2 +1.1
comp=Z,27nm,0.9s
SMRF Simiane la Rot 69.17 49 *e*P P 16 56 28.2 +1.1
comp=Z,27nm,0.9s
RSO Redoubt South 69.23 329 *e*P P 16 56 26.8 -0.5
comp=Z,62nm,0.9s
CABF La Chapelle 69.28 46 *e*P P 16 56 28.0 +0.2
comp=Z,51nm,1.1s
CABF La Chapelle 69.28 46 *e*P P 16 56 28.0 +0.2
CABF pmax pmax
comp=Z,51nm,1.1s
CABF La Chapelle 69.28 46 *e*P P 16 56 28.0 +0.2
comp=Z,51nm,1.1s
ORIF Oris-en-Rattie 69.30 48 *e*P P 16 56 28.9 +1.0
comp=Z,19nm,0.9s
ORIF *e*R
comp=Z,202nm,19.5s
ORIF Oris-en-Rattie 69.30 48 *e*P P 16 56 28.9 +1.0
ORIF pmax pmax
comp=Z,19nm,0.9s
ORIF Oris-en-Rattie 69.30 48 *e*P P 16 56 28.9 +1.0
comp=Z,19nm,0.9s
HAU Haudompre 69.34 45 *e*P P 16 56 28.1 +0.1
HAU *e*R
comp=Z,390nm,20.0s
HAU Haudompre 69.34 45 *e*P P 16 56 28.1 +0.1
HAU Haudompre 69.34 45 *e*P P 16 56 28.1 +0.1
IM04 Indian Mountai 69.69 334 *e*P P 16 56 28.7 -1.1
HINF Hinteralfeld 69.70 45 *e*P P 16 56 29.9 -0.3
comp=Z,6.1nm,0.7s
HINF Hinteralfeld 69.70 45 *e*P P 16 56 29.9 -0.3
HINF pmax pmax
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 69.70 45 *e*P P 16 56 29.9 -0.3
comp=Z,6.1nm,0.6s
LPL La Plagne 69.84 47 *e*P P 16 56 32.2 +0.8
comp=Z,18nm,0.6s
LPL La Plagne 69.84 47 *e*P P 16 56 32.2 +0.8
LPL pmax pmax
comp=Z,18nm,0.6s
LPL La Plagne 69.84 47 *e*P P 16 56 32.2 +0.8
comp=Z,18nm,0.6s
LPG La Plagne 69.85 47 *e*P P 16 56 32.5 +0.9
comp=Z,19nm,0.7s
LPG La Plagne 69.85 47 *e*P P 16 56 32.5 +0.9
LPG pmax pmax
comp=Z,19nm,0.7s
LPG La Plagne 69.85 47 *e*P P 16 56 32.5 +0.9
comp=Z,19nm,0.7s
ECH Echery 69.86 45 *e*P P 16 56 31.1 -0.1
ECH pmax pmax
comp=Z,29nm,1.5s
ECH Echery 69.86 45 *e*P P 16 56 31.1 -0.1
comp=Z,29nm,1.5s
LMR La Mourre 69.92 50 *e*P P 16 56 32.6 +1.0
comp=Z,20nm,0.9s
LMR La Mourre 69.92 50 *e*P P 16 56 32.6 +1.0
LMR pmax pmax
comp=Z,20nm,0.9s
LMR La Mourre 69.92 50 *e*P P 16 56 32.6 +1.0
comp=Z,20nm,0.9s
CDF Champ du Feu 69.92 44 *e*P P 16 56 31.8 +0.1
comp=Z,6.8nm,0.7s
CDF Champ du Feu 69.92 44 *e*P P 16 56 31.8 +0.1
CDF pmax pmax
comp=Z,7.0nm,0.7s
CDF Champ du Feu 69.92 44 *e*P P 16 56 31.8 +0.1
comp=Z,6.8nm,0.7s
MBDF Montbardon 69.95 48 *e*P P 16 56 33.0 +1.0
comp=Z,23nm,0.7s
MBDF Montbardon 69.95 48 *e*P P 16 56 33.0 +1.0
MBDF pmax pmax
comp=Z,23nm,0.7s
MBDF Montbardon 69.95 48 *e*P P 16 56 33.0 +1.0
comp=Z,23nm,0.7s
SBF Sospel 70.52 49 *e*P P 16 56 35.7 +0.3
comp=Z,27nm,0.8s
SBF Sospel 70.52 49 *e*P P 16 56 35.7 +0.3
SBF pmax pmax
comp=Z,27nm,0.8s
SBF Sospel 70.52 49 *e*P P 16 56 35.7 +0.3
comp=Z,27nm,0.8s
BFO Black Forest 70.63 44 *e*P P 16 56 39.1 +3.2
NB2 NORSAR Subarra 71.19 31 P P 16 56 41.5 +2.4
comp=Z,23nm,1.7s,baz=276,slow=6.2
NOA NORSAR Array B 71.19 31 P P 16 56 41.4 +2.4
NOA NORSAR Array B 71.19 31 P P 16 56 41.4 +2.4
comp=Z,3.3nm,0.9s,baz=278,slow=6.2,SNR=5.3
NOA LR LR 17 23 13.9
comp=Z,100nm,21.5s,baz=270,slow=32
TORD Torodi Ar. Bea 71.43 82 P P 16 56 40.1 -1.2
TORD Torodi Ar. Bea 71.43 82 P P 16 56 40.1 -1.2
comp=Z,4.3nm,0.8s,baz=289,slow=5.3,SNR=15
TORD LR LR 17 25 43.4
comp=Z,100nm,20.6s,baz=285,slow=34
TUE Stuetta 71.54 46 *e*P P 16 56 42.1 +0.4
comp=Z,8.1nm,0.6s
CLZ Clausthal 71.56 40 *e*P P 16 56 42.6 +1.1
DAVA Damuels 71.79 45 ⇓*i*P P 16 56 43.8 +0.6
comp=Z,13nm,0.7s
DAVOX Davos/Dischmat 71.86 46 P P 16 56 47.3 +3.7
DAVOX Davos/Dischmat 71.86 46 P P 16 56 47.3 +3.7
comp=Z,10nm,0.7s,baz=337,slow=3.3,SNR=14
DAVOX LR LR 17 21 52.7
comp=Z,244nm,21.9s,baz=278,slow=30
GRF Grafenberg Arr 72.36 43 *e*P P 16 56 49.1 +2.8
FETA Feichten 72.40 45 ⇑*i*P P 16 56 46.7 -0.1
comp=Z,13nm,0.7s
HFS Hagfors 72.49 32 LR LR 17 21 59.9
comp=Z,101nm,21.6s,baz=258,slow=30
TAM Tamanrasset 72.63 71 P P 16 56 49.8 +1.2
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 72.63 71 P P 16 56 49.8 +1.2
comp=Z,3.0nm,0.8s
ROTZ Rotzenmuhle 72.98 42 *e*P P 16 56 51.2 +1.2
TANN Tannenbergstha 73.05 42 *e*P P 16 56 51.3 +0.8
comp=Z,10.0nm,0.8s
NKC Novy Kostel 73.06 42 *e*P P 16 56 51.1 +0.6
NKC Novy Kostel 73.06 42 *e*P P 16 56 51.1 +0.6
KEST Kesra 73.25 57 P P 16 56 52.6 +0.6
KEST Kesra 73.25 57 P P 16 56 52.6 +0.6
comp=Z,4.3nm,0.7s,baz=267,slow=1.5,SNR=9.4
KEST LR LR 17 23 59.2
comp=Z,66nm,21.8s,baz=230,slow=32

CLL	**Collm**	**73.25**	**41**	*e*P	**P**	**16 56 51.0**	**-0.6**
CLL				*e*		16 56 55.0	
CLL				*i*		16 56 58.1	
CLL	**Collm**	**73.25**	**41**	*e*P	**P**	**16 56 51.0**	**-0.6**
CLL				*e*(sP)	**sP**	**16 56 55.0**	**-1.3**
CLL				*i*		16 56 58.1	
CLL				*e*PP	**PP**	**16 59 33.0**	**-1.5**
CLL				LmV		17 25 00.0	
	comp=Z,200nm,19.4s						
CLL				LmH		17 31 00.0	
	comp=N,200nm,18.1s						
CLL				LmH		17 31 00.0	
	comp=E,100nm,21.8s						
RKT	**Rikitea**	**73.43**	**238**	*e*LR	LR	17 19 24.7	
	comp=E,186nm,28.8s						
WET	**Wettzell**	**73.51**	**43**	*e*P	**P**	**16 56 53.9**	**+0.7**
	comp=Z,4.0nm,0.7s						
BRG	**Berggiesshubel**	**73.91**	**41**	*e*P	**P**	**16 56 56.1**	**+0.7**
	comp=Z,11nm,1.0s						
BRG				*e*		17 01 56.4	
	comp=Z,11nm,1.7s						
BRG	**Berggiesshubel**	**73.91**	**41**	*e*P	**P**	**16 56 56.5**	**+1.1**
	comp=Z,7.0nm,0.9s						
KHC	**Kasperske Hory**	**73.96**	**43**	⇓*i*P	**P**	**16 56 56.8**	**+0.9**
KHC				pmax	pmax		
	comp=Z,53nm,0.7s						
KHC	**Kasperske Hory**	**73.96**	**43**	*e*P	**P**	**16 56 56.7**	**+0.9**
KHC				*ex*	x	16 57 02.9	
KHC				AMS	AMS	17 25 00.0	
	comp=Z,500nm,22.5s						
KHC	**Kasperske Hory**	**73.96**	**43**	*e*P	**P**	**16 56 56.3**	**+0.5**
	comp=Z,8.3nm,0.7s						
GEC2	**GERESS Array S**	**74.09**	**43**	*e*P	**P**	**16 56 57.6**	**+0.9**
	comp=Z,10.0nm,1.0s						
GERES	**GERESS Array B**	**74.09**	**43**	P	**P**	**16 56 56.9**	**+0.2**
GERES	**GERESS Array B**	**74.09**	**43**	P	**P**	**16 56 56.9**	**+0.2**
	comp=Z,11nm,0.8s,baz=272,slow=4.7,SNR=38						
GERES				LR	LR	17 24 09.8	
	comp=Z,290nm,21.8s,baz=270,slow=31						
PRU	**Pruhonice**	**74.44**	**42**	*e*P	**P**	**16 56 58.6**	**+0.1**
PRU				MLR	MLR		
	comp=Z,400nm,16.0s						
PRU	**Pruhonice**	**74.44**	**42**	*e*P	**P**	**16 56 58.6**	**+0.1**
PRU				AMS	AMS	17 24 50.0	
	comp=Z,400nm,16.0s						
MOA	**Molln**	**74.64**	**44**	⇑*i*P	**P**	**16 57 00.2**	**+0.4**
	comp=Z,15nm,0.7s						
TREC	**Trest**	**75.17**	**43**	*e*P	**P**	**16 57 03.7**	**+0.9**
TREC	**Trest**	**75.17**	**43**	*e*P	**P**	**16 57 03.7**	**+0.9**
KSP	**Ksiaz**	**75.38**	**41**	*e*P	**P**	**16 57 04.6**	**+0.6**
DPC	**Dobruska-Polom**	**75.49**	**41**	*e*P	**P**	**16 57 05.7**	**+1.0**
DPC				*e*		16 57 12.1	
DPC	**Dobruska-Polom**	**75.49**	**41**	*e*P	**P**	**16 57 05.7**	**+1.0**
DPC				*ex*	x	16 57 12.1	
DPC				AMS	AMS	17 26 20.0	
TNA	**Tin City**	**75.52**	**335**	*e*P	**P**	**16 57 04.1**	**-0.3**
	comp=Z,5.8nm,0.8s						
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**	**16 57 07.1**	**+1.2**
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**	**16 57 07.1**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=258,slow=3.6,SNR=18						
ARCES				LR	LR	17 25 29.8	
	comp=Z,144nm,21.4s,baz=285,slow=32						
VRAC	**Vranov**	**75.87**	**42**	⇓*i*P	**P**	**16 57 07.9**	**+1.1**
VRAC	**Vranov**	**75.87**	**42**	P	**P**	**16 57 07.9**	**+1.1**
VRAC	**Vranov**	**75.87**	**42**	P	**P**	**16 57 07.9**	**+1.1**
	comp=Z,5.3nm,0.7s,baz=297,slow=5.7,SNR=4.6						
MORC	**Moravsky Berou**	**76.38**	**42**	⇓P	**P**	**16 57 10.8**	**+1.0**
MORC	**Moravsky Berou**	**76.38**	**42**	⇓*i*P	**P**	**16 57 10.8**	**+1.0**
MORC	**Moravsky Berou**	**76.38**	**42**	*e*P	**P**	**16 57 10.3**	**+0.5**
	comp=Z,9.6nm,0.7s						
OKC	**Ostrava-Krasne**	**76.75**	**42**	*e*P	**P**	**16 57 12.1**	**+0.3**
OKC				*e*		16 57 15.7	
OKC				MLR	MLR		
	comp=Z,500nm,15.4s						
OKC	**Ostrava-Krasne**	**76.75**	**42**	*e*P	**P**	**16 57 12.1**	**+0.3**
OKC				*ep*P	**pP**	**16 57 15.7**	**+0.4**
OKC				AMS	AMS	17 36 40.0	
	comp=Z,500nm,15.4s						
GAMB	**Gambell**	**77.54**	**333**	*e*P	**P**	**16 57 16.2**	**+0.3**
	comp=Z,5.9nm,1.0s						
PKSM	**Moragy**	**77.91**	**45**	⇓P	**P**	**16 57 18.4**	**0.0**
PKSM	**Moragy**	**77.91**	**45**	⇓*i*P	**P**	**16 57 18.4**	**0.0**
FINES	**FINESS Array B**	**78.17**	**29**	P	**P**	**16 57 20.2**	**+0.7**
FINES	**FINESS Array B**	**78.17**	**29**	P	**P**	**16 57 20.2**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=301,slow=4.0,SNR=10						
FINES				LR	LR	17 27 53.9	
	comp=Z,166nm,20.6s,baz=266,slow=33						
PSZ	**Piszkesteto**	**78.32**	**43**	*e*P	**P**	**16 57 21.8**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,43nm,1.6s						
PSZ	**Piszkesteto**	**78.32**	**43**	*e*P	**P**	**16 57 21.8**	**+1.1**
	comp=Z,43nm,1.6s						
STHS	**Stebnicka Huta**	**78.81**	**42**	*e*P	**P**	**16 57 25.2**	**+1.9**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STHS	**Stebnicka Huta**	**78.81**	**42**	*e*P	**P**	**16 57 25.2**	**+1.9**
CRVS	**Cervenica-Dubn**	**79.08**	**42**	*e*P	**P**	**16 57 26.6**	**+1.8**
CRVS				pmax	pmax		
	comp=Z,73nm,2.3s						
CRVS	**Cervenica-Dubn**	**79.08**	**42**	*e*P	**P**	**16 57 26.6**	**+1.8**
KOLS	**Kolonicke sedl**	**79.58**	**42**	*e*P	**P**	**16 57 30.0**	**+2.4**
KOLS				pmax	pmax		
	comp=Z,35nm,2.2s						
KOLS	**Kolonicke sedl**	**79.58**	**42**	*e*P	**P**	**16 57 30.0**	**+2.4**
KWP	**Kalwaria Pacla**	**79.67**	**41**	⇓P	**P**	**16 57 30.0**	**+2.0**
KWP	**Kalwaria Pacla**	**79.67**	**41**	*e*P	**P**	**16 57 30.3**	**+2.3**
KWP	**Kalwaria Pacla**	**79.67**	**41**	⇓*i*P	**P**	**16 57 30.0**	**+2.0**
KWP	**Kalwaria Pacla**	**79.67**	**41**	*e*P	**P**	**16 57 29.6**	**+1.6**
	comp=Z,12nm,0.8s						
UZH	**Uzhgorod**	**79.68**	**42**	*e*P	P	16 57 33.5	+5.5
UZH				*e*		16 57 35.7	
UZH				*e*		16 57 39.5	
SIRR	**Siria**	**79.92**	**45**	⇑*i*P	**P**	**16 57 30.3**	**+0.9**
TRPA	**Tarpa**	**79.98**	**43**	⇓*i*P	**P**	**16 57 31.1**	**+1.4**
JOF	**Joensuu**	**80.02**	**27**	*e*P	**P**	**16 57 29.1**	**-0.5**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JOF	**Joensuu**	**80.02**	**27**	*ep*	**P**	**16 57 29.1**	**-0.5**
	comp=Z,8.1nm,0.6s						
BZS	**Buzias**	**80.07**	**45**	⇓P	**P**	**16 57 31.7**	**+1.5**
BZS	**Buzias**	**80.07**	**45**	⇓*i*P	**P**	**16 57 31.6**	**+1.4**
LVV	**L'vov**	**80.44**	**41**	*e*P	**P**	**16 57 32.0**	**-0.1**
DRGR		**80.47**	**44**	⇑P	**P**	**16 57 32.7**	**+0.2**
DRGR		**80.47**	**44**	⇑*i*P	**P**	**16 57 32.7**	**+0.2**
BMR	**Baia Mare**	**80.72**	**43**	⇑P	P	16 57 36.9	+3.2
BMR	**Baia Mare**	**80.72**	**43**	⇑*i*P	P	16 57 36.9	+3.2
GZR	**Gura Zlata**	**80.92**	**45**	⇓P	**P**	**16 57 35.6**	**+0.7**
GZR	**Gura Zlata**	**80.92**	**45**	⇓*i*P	**P**	**16 57 35.5**	**+0.7**
LOT	**Lotru**	**81.57**	**45**	⇑*i*P	**P**	**16 57 40.3**	**+1.9**
BUR08	**Bucovina Ar. S**	**81.83**	**43**	*e*P	**P**	**16 57 41.0**	**+1.3**
BURAR	**Bucovina Array**	**81.85**	**43**	⇓P	**P**	**16 57 42.0**	**+2.1**
BURAR	**Bucovina Array**	**81.85**	**43**	⇓*i*P	**P**	**16 57 42.0**	**+2.1**
VTS	**Vitosha**	**82.04**	**48**	⇑P	**P**	**16 57 41.9**	**+0.9**
VTS	**Vitosha**	**82.04**	**48**	⇑*i*P	**P**	**16 57 41.9**	**+0.9**
VTS	**Vitosha**	**82.04**	**48**	⇑*i*P	**P**	**16 57 41.9**	**+0.9**
VOIR		**82.43**	**45**	⇑P	**P**	**16 57 44.5**	**+1.6**
VOIR		**82.43**	**45**	⇑*i*P	**P**	**16 57 44.5**	**+1.6**
MLR	**Muntele Rosu**	**83.01**	**44**	⇑*i*P	**P**	**16 57 48.1**	**+2.1**
MLR	**Muntele Rosu**	**83.01**	**44**	P	**P**	**16 57 47.7**	**+1.7**
MLR	**Muntele Rosu**	**83.01**	**44**	P	**P**	**16 57 47.7**	**+1.7**
	comp=Z,4.8nm,0.7s,baz=176,slow=4.8,SNR=16						
KIEV	**Kiev**	**83.30**	**39**	*e*P	**P**	**16 57 47.5**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIEV	**Kiev**	**83.30**	**39**	*e*P	**P**	**16 57 47.5**	**+0.3**
	comp=Z,4.9nm,0.8s						
AKASG	**Malin Array Be**	**83.30**	**39**	P	**P**	**16 57 47.1**	**-0.1**
AKASG	**Malin Array Be**	**83.30**	**39**	P	**P**	**16 57 47.1**	**-0.1**
AKASG	**Malin Array Be**	**83.30**	**39**	P	**P**	**16 57 47.1**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=290,slow=4.0,SNR=12						
PLOR	**Plostina**	**83.36**	**44**	⇓P	P	16 57 52.9	+5.3
PLOR	**Plostina**	**83.36**	**44**	⇓*i*P	P	16 57 52.9	+5.3
VRI	**Vrincioaia**	**83.40**	**44**	⇓P	**P**	**16 57 48.3**	**+0.5**
VRI	**Vrincioaia**	**83.40**	**44**	⇓*i*P	**P**	**16 57 48.3**	**+0.5**
PPT	**Papeete**	**83.53**	**249**	LR	LR	17 27 31.6	
	comp=Z,75nm,18.2s,baz=72,slow=30						
PPT2	**Papeete2**	**83.53**	**249**	*e*LR	LR	17 24 05.4	
	comp=Z,172nm,23.0s						
BILL	**Bilibino**	**83.85**	**341**	*e*P	**P**	**16 57 49.6**	**-0.1**
BILL				pmax	pmax		
	comp=Z,19nm,1.3s						
BILL	**Bilibino**	**83.85**	**341**	*e*P	**P**	**16 57 49.6**	**-0.1**
	comp=Z,19nm,1.3s						
KLMR	**Klimovskoe**	**84.42**	**27**	*e*P	**P**	**16 57 52.9**	**+0.2**
KLMR				pmax	pmax		
	comp=Z,42nm,1.8s						
JMB	**Yambol**	**84.44**	**47**	⇓P	**P**	**16 57 55.1**	**+1.9**
JMB	**Yambol**	**84.44**	**47**	⇓*i*P	**P**	**16 57 55.1**	**+1.9**
JMB	**Yambol**	**84.44**	**47**	⇓*i*P	**P**	**16 57 55.1**	**+1.9**
TBI	**Tubuai**	**85.56**	**244**	*e*LR	LR	17 25 02.0	
	comp=Z,237nm,23.2s						
IDI	**Anoyia**	**85.59**	**54**	P	**P**	**16 58 00.2**	**+0.9**
IDI	**Anoyia**	**85.59**	**54**	P	**P**	**16 58 00.2**	**+0.9**
	comp=Z,8.3nm,0.7s,baz=313,slow=7.7,SNR=4.1						
OBN	**Obninsk**	**85.63**	**33**	*i* P	**P**	**16 57 59.5**	**+0.6**
OBN				*i*		16 58 02.7	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,130nm,15.0s						
MOS	**Moscow**	**85.89**	**32**	*e*P	**P**	**16 58 01.0**	**+0.8**
PRGR	**Permogore**	**86.56**	**25**	*e*P	**P**	**16 58 03.3**	**0.0**
TIXI	**Tiksi**	**88.96**	**353**	⇓*e*P	**P**	**16 58 13.9**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**88.96**	**353**	*e*P	**P**	**16 58 14.2**	**-0.4**
	comp=Z,3.4nm,0.6s						
BRTR	**Keskin Array B**	**90.41**	**48**	P	**P**	**16 58 21.5**	**-0.8**
BRTR	**Keskin Array B**	**90.41**	**48**	P	**P**	**16 58 21.5**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=275,slow=4.0,SNR=7.1						
BRTR				LR	LR	17 38 59.6	
	comp=Z,32nm,18.3s,baz=21,slow=36						
SEY	**Seymchan**	**91.56**	**341**	P	**P**	**16 58 27.2**	**+0.3**
KBZ	**Khabaz**	**94.71**	**41**	LR	LR	17 39 27.7	
	comp=Z,121nm,19.9s,baz=276,slow=34						
AKTO	**Aktyubinsk**	**98.94**	**29**	LR	LR	17 43 38.0	
	comp=Z,12nm,18.2s,baz=302,slow=35						
KSH	**Kashi**	**115.41**	**26**	*e*PKP	**PKPdf**	**17 04 04.1**	**+1.4**
KSH				*e*PP	PP	17 05 12.3	+9.5
KSH				*e*SKS	**SKSdf**	**17 11 11.3**	**-3.9**
KSH				*e*SKKS	**SKKSac**	**17 12 01.6**	**-4.1**
KSH				*e*SS	**SS**	**17 21 06.9**	**+6.2**
KSH				LR	LR		
	comp=Z,48nm,3.9s						
WMQ	**Urumqi**	**115.54**	**16**	PKP	**PKPdf**	**17 04 02.8**	**0.0**
WMQ				PP	PP	17 05 08.8	+5.3
WMQ				LR	LR		
	comp=Z,32nm,13.5s						
WMQ				LR	LR		
	comp=Z,72nm,15.0s						
HHC	**Hu-ho-hao-te**	**120.91**	**356**	*e*PKP	PKPdf	17 04 07.3	-6.0
LZH	**Lanzhou**	**125.71**	**3**	*e*PKP	**PKPdf**	**17 04 20.5**	**-2.2**
LZH				sPKP		17 04 25.0	
LZH				LR	LR		
	comp=Z,170nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,18.5s						
LZH				LR	LR		
	comp=Z,200nm,20.1s						
XAN	**Xi'an**	**127.82**	**358**	PKP	**PKPdf**	**17 04 28.6**	**+2.0**
NJ2	**Nanjing**	**128.60**	**347**	*e*PKP	**PKPdf**	**17 04 27.3**	**-0.8**
GYA	**Guiyang**	**135.40**	**1**	*e*Pdif	**Pdif**	**17 01 40.6**	**-3.2**
GYA				PKP	**PKPdf**	**17 04 40.8**	**-0.5**
GYA				PP	**PP**	**17 07 18.9**	**+3.0**
GYA				AMB	AMB		
	comp=Z,90nm,7.6s						
KMI	**Kunming**	**136.51**	**6**	PKP	**PKPdf**	**17 04 40.3**	**-3.2**
CMAR	**Chiang Mai Arr**	**142.47**	**13**	PKPpre	PKPpre	17 04 49.5	
CMAR	**Chiang Mai Arr**	**142.47**	**13**	PKhKP	PKPpre	17 04 49.5	
	comp=Z,1.0nm,0.8s,baz=322,slow=4.8,SNR=11						
STKA	**Stephens Creek**	**146.27**	**240**	PKPbc	**PKPdf**	**17 05 00.5**	**+0.1**
STKA	**Stephens Creek**	**146.27**	**240**	PKPbc	**PKPdf**	**17 05 00.5**	**+0.1**
	comp=Z,8.4nm,0.9s,baz=78,slow=6.5,SNR=9.0						
WRA	**Warramunga Arr**	**154.35**	**262**	PKP	**PKPdf**	**17 05 12.2**	**-1.1**
WRA				PKPbc	**PKPbc**	**17 05 20.2**	**-1.5**
WRA	**Warramunga Arr**	**154.35**	**262**	PKP	**PKPdf**	**17 05 12.2**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=78,slow=1.5,SNR=16						
WRA				PKPbc	**PKPbc**	**17 05 20.2**	**-1.5**
	comp=Z,4.0nm,0.8s,baz=82,slow=2.1,SNR=15						
ASAR	**Alice Springs**	**154.57**	**254**	PKP	**PKPdf**	**17 05 11.8**	**-1.7**
ASAR	**Alice Springs**	**154.57**	**254**	PKP	**PKPdf**	**17 05 11.8**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=92,slow=1.2,SNR=5.5						
PSI	**Prapat**	**157.40**	**22**	PKPab	**PKPab**	**17 05 48.6**	**-0.2**
PSI	**Prapat**	**157.40**	**22**	PKPab	**PKPab**	**17 05 48.6**	**-0.2**
	comp=Z,8.6nm,0.6s,baz=300,slow=6.2,SNR=9.7						

*JSN **21** 16:54:05.3±0.8, 18.69N×72.44W, h0km±999km, MD5.7*
*IDC **21** 16:54:07.5±0.5, 18.42N×72.78W, h0km, mb4.5/28, mb1 4.7/31, mb1mx4.6/50, mbtmp4.5/31, ML4.2/3, MS4.2/17, Ms1 4.2/17, ms1mx4.0/42, Error ellipse: s-maj=14.5km s-min=12.2km az=56.0*
*ISCJB **21** 16:54:08.3±0.1, 18.43N±0.03×72.74W±0.02, h13km, mb4.8/144, MS4.3/18, Error ellipse: s-maj=3.7km s-min=2.1km az=12.1*
*NEIC **21** 16:54:09.5±0.1, 18.46N×72.74W, h10km, mb4.8/72, Error ellipse: s-maj=3.8km s-min=2.6km az=192.0*
NEIC Felt at Petionville.
*MOS **21** 16:54:10.3±0.8, 18.71N×72.72W, h17km, mb5.2/51, Error ellipse: s-maj=20.2km s-min=6.4km az=50.4*

ISC 21 16:54:09.8±0.3, 18.47N±0.04×72.68W±0.04, h13km, n619, σ1s08/614, mb4.9/145, MS4.3/18, 120C-94D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.41**	**69**	*e*Pn		**Pn**		**16 54 33.9**	**-1.3**
GTBY	**Guantanamo Bay**	**2.72**	**303**	*e*Pn		Pn		16 54 49.9	-3.3
GRTK	**Grand Turk**	**3.35**	**25**	*e*Pn		**Pn**		**16 55 01.4**	**-0.5**
GRTK				*e*Sn		**Sn**		**16 55 41.5**	**-0.1**
YHJ	**Yallahs**	**3.67**	**262**	*i* P		**Pn**		**16 55 05.7**	**-0.7**
YHJ	**Yallahs**	**3.67**	**262**	*i* P		**Pn**		**16 55 05.7**	**-0.7**
GWJ	**Greenwich**	**3.87**	**265**	*i* P		**Pn**		**16 55 08.3**	**-0.8**
GWJ	**Greenwich**	**3.87**	**265**	*i* P		**Pn**		**16 55 08.3**	**-0.8**
HOJ	**Hope**	**3.90**	**264**	*i* P		**Pn**		**16 55 08.7**	**-0.7**
HOJ	**Hope**	**3.90**	**264**	*i* P		**Pn**		**16 55 08.7**	**-0.7**
HOJ	**Hope**	**3.90**	**264**	*i* P		**Pn**		**16 55 08.7**	**-0.7**
STH	**Stony Hill**	**3.95**	**265**	*i* P		**Pn**		**16 55 08.7**	**-1.4**
STH	**Stony Hill**	**3.95**	**265**	*i* P		**Pn**		**16 55 08.7**	**-1.4**
STH	**Stony Hill**	**3.95**	**265**	*i* P		**Pn**		**16 55 08.7**	**-1.4**
PCJ	**Portland Cotta**	**4.32**	**261**	*i* P		**Pn**		**16 55 15.1**	**-0.1**
PCJ	**Portland Cotta**	**4.32**	**261**	*i* P		**Pn**		**16 55 15.1**	**-0.1**
CVJ	**Coleyville**	**4.62**	**268**	*i* P		**Pn**		**16 55 18.5**	**-0.9**
CVJ	**Coleyville**	**4.62**	**268**	*i* P		**Pn**		**16 55 18.5**	**-0.9**
MTDJ	**Mount Denham**	**4.62**	**268**	*e*Pn		**Pn**		**16 55 17.4**	**-2.0**
MCJ	**Malvern**	**4.79**	**264**	*i* P		**Pn**		**16 55 21.4**	**-0.4**
MCJ	**Malvern**	**4.79**	**264**	*i* P		**Pn**		**16 55 21.4**	**-0.4**
MBJ	**Montego Bay**	**4.92**	**270**	⇑*i*S		**Sn**		**16 56 20.1**	**-0.3**
AGPR	**Aguadilla, PR**	**5.28**	**89**	*e*Pn		Pn		16 55 32.8	+4.4
CRPR	**Cabo Rojo, PR**	**5.31**	**94**	*e*Pn		**Pn**		**16 55 30.1**	**+1.3**
LSP	**Las Mesas**	**5.32**	**92**	*e*Pn		**Pn**		**16 55 30.2**	**+1.2**
LRS	**Lares**	**5.54**	**91**	*e*Pn		**Pn**		**16 55 34.1**	**+2.0**
OBIP	**Obispado Ponce**	**5.78**	**93**	*e*Pn		**Pn**		**16 55 36.6**	**+1.3**
CELP	**Cerrillos**	**5.81**	**93**	*e*Pn		**Pn**		**16 55 36.9**	**+1.2**
CBYP	**Canovanas**	**6.48**	**91**	*e*Pn		**Pn**		**16 55 46.9**	**+1.9**
STVI	**Saint Thomas**	**7.33**	**90**	*e*Pn		**Pn**		**16 55 56.7**	**+0.1**
CDVI	**St. Croix**	**7.56**	**94**	*e*Pn		**Pn**		**16 56 00.3**	**+0.6**
SDV	**Santo Domingo**	**9.73**	**168**	*e*Pn		**Pn**		**16 56 30.1**	**+0.3**
ANWB	**Willy Bob**	**10.39**	**93**	*e*Pn		**Pn**		**16 56 37.3**	**-1.2**
LZG	**Guadaloupe-1**	**10.67**	**101**	*e*P		**Pn**		**16 56 44.7**	**+2.3**
MLG	**Mont-d'or**	**10.75**	**101**	*e*P		**Pn**		**16 56 45.9**	**+2.4**
SSG	**Sans Toucher**	**10.77**	**101**	*e*P		**Pn**		**16 56 46.6**	**+2.7**
PHG	**Guadaloupe-2**	**10.82**	**101**	*e*P		**Pn**		**16 56 46.9**	**+2.4**
SEG	**Port Louis**	**10.86**	**99**	*e*P		**Pn**		**16 56 46.5**	**+1.5**
H05N1	**Guadeloupe/Mar**	**11.30**	**99**	Pn		**Pn**		**16 56 52.5**	**+1.5**
BCIP	**Isla Barro Col**	**11.57**	**218**	*e*Pn		**Pn**		**16 56 52.7**	**-2.0**
FDF	**Fort de France**	**11.66**	**107**	*e*P		**Pn**		**16 56 55.7**	**-0.3**
FDF	**Fort de France**	**11.66**	**107**	*e*Pn		**Pn**		**16 56 55.7**	**-0.3**
H05S1	**Guadeloupe/Mar**	**12.05**	**108**	Pn		**Pn**		**16 57 02.0**	**+0.7**
H05S1				Sn		**Sn**		**16 59 12.3**	**-3.3**
GRGR	**Grenville**	**12.36**	**119**	*e*Pn		**Pn**		**16 57 05.6**	**+0.1**
ROSC	**El Rosal**	**13.63**	**187**	*e*Pn		**Pn**		**16 57 24.5**	**+1.2**
ROSC				Sn		**Sn**		**16 59 53.1**	**-1.7**
ROSC	**El Rosal**	**13.63**	**187**	Pn		**Pn**		**16 57 24.5**	**+1.2**
	1.9nm,0.3s,baz=98,slow=12,SNR=17								
ROSC				Sn		**Sn**		**16 59 53.1**	**-1.7**
	0.7nm,0.3s,baz=270,slow=20,SNR=2.5								
BBGH	**Gun Hill**	**13.69**	**111**	Pn		P		16 57 28.9	-3.6
JTS	**JuntasAbangare**	**14.40**	**237**	*e*Pn		**Pn**		**16 57 36.0**	**+2.5**
	89nm,1.2s								
JTS	**JuntasAbangare**	**14.40**	**237**	Pn		**Pn**		**16 57 36.2**	**+2.7**
	0.7nm,0.3s,baz=347,slow=14,SNR=3.9								
JTS				LR		LR		17 03 19.2	
	comp=Z,724nm,18.1s,baz=73,slow=39								
TGUH	**Tegucigalpa,Un**	**14.68**	**255**	*e*Pn		**Pn**		**16 57 38.1**	**+0.8**
	138nm,1.2s								
TEIG	**Tepich**	**14.83**	**279**	*e*Pn		**Pn**		**16 57 38.9**	**-0.7**
	43nm,0.7s								
TEIG	**Tepich**	**14.83**	**279**	Pn		**Pn**		**16 57 38.9**	**-0.4**
	3.5nm,0.3s,baz=238,slow=2.9,SNR=8.8								
BBSR	**BB Station**	**15.60**	**26**	*e*Pn		**Pn**		**16 57 45.8**	**-3.6**
	51nm,0.7s								
TIGA	**Tifton**	**16.25**	**325**	Pn		**Pn**		**16 57 56.4**	**-1.4**
	307nm,1.6s								
TIGA	**Tifton**	**16.25**	**325**	⇑P		**Pn**		**16 57 57.0**	**-0.8**
	baz=16								
APG	**El Apazote**	**17.38**	**261**	Pn		**Pn**		**16 58 11.9**	**-0.5**
APG	**El Apazote**	**17.38**	**261**	Pn		**Pn**		**16 58 11.9**	**-0.5**
	0.4nm,0.3s,baz=89,slow=11,SNR=6.6								
KMSC	**Kings Mountain**	**18.30**	**337**	*e*Pn		**Pn**		**16 58 22.1**	**-1.2**
	44nm,1.1s								
KMSC	**Kings Mountain**	**18.30**	**337**	⇑P		**Pn**		**16 58 23.1**	**-0.3**
	baz=18								
OTAV	**Otavalo**	**18.99**	**198**	*e*P		**Pn**		**16 58 33.6**	**+1.3**
	28nm,0.9s								
LRAL	**Lakeview Retre**	**19.38**	**321**	P		**P**		**16 58 35.1**	**-0.2**
	18nm,1.1s								
JSRW	**J. Sargeant Re**	**19.69**	**348**	*e*Pn		**P**		**16 58 39.2**	**+0.6**
TKL	**Tuckaleechee C**	**19.74**	**332**	P		**P**		**16 58 40.0**	**+0.7**
TKL				S		S		17 02 06.3	-15
TKL	**Tuckaleechee C**	**19.74**	**332**	P		**P**		**16 58 40.0**	**+0.7**
	0.5nm,0.3s,baz=151,slow=12,SNR=11								
TKL				S		S		17 02 06.3	-15
	0.4nm,0.3s,baz=82,slow=16,SNR=2.8								
TKL				LR		LR		17 06 25.6	
	comp=Z,799nm,20.7s,baz=143,slow=37								
BLA	**Blacksburg**	**19.87**	**342**	*e*P		**P**		**16 58 41.4**	**+0.6**
BLA				pmax		pmax			
	comp=Z,59nm,0.8s								
BLA	**Blacksburg**	**19.87**	**342**	*e*P		**P**		**16 58 41.4**	**+0.6**
	comp=Z,59nm,0.8s								
CPCT	**Cooper Cave**	**19.91**	**331**	*e*P		**P**		**16 58 41.6**	**+0.5**
CBN	**Corbin**	**20.08**	**349**	*e*P		**P**		**16 58 40.4**	**-2.6**
	comp=Z,63nm,0.5s								
SWET	**Sewanee**	**20.41**	**327**	*e*P		Pn		16 58 47.7	-1.0
	comp=Z,16nm,0.8s								
OXF	**Oxford**	**21.84**	**320**	*e*P		**P**		**16 58 59.4**	**-2.7**
OXF				pmax		pmax			
	comp=Z,90nm,1.1s								
OXF	**Oxford**	**21.84**	**320**	*e*P		**P**		**16 58 59.4**	**-2.7**
	comp=Z,90nm,1.1s								
BRNJ	**Basking Ridge**	**22.20**	**356**	P		**P**		**16 59 09.1**	**+3.3**
	comp=Z,56nm,0.8s								
PTGA	**Pitinga**	**22.81**	**145**	P		**P**		**16 59 13.2**	**+0.6**
PTGA	**Pitinga**	**22.81**	**145**	P		**P**		**16 59 13.2**	**+0.6**
	comp=Z,48nm,1.1s,baz=338,slow=11,SNR=15					

231A **Bronte** 28.28 304 ⇑P P 17 00 03.5 +0.4
baz=28
WMOK **Wichita Mounta** 28.29 310 eP P 17 00 02.8 -0.3
WMOK **Wichita Mounta** 28.29 310 eP P 17 00 02.8 -0.3
Y32A **R-V Farms, Ver** 28.44 308 ⇑P P 17 00 05.2 +0.8
baz=28
V33A **Lossen Ranch,** 28.47 313 ⇑P P 17 00 04.8 +0.1
baz=28
530A **J-C Ranch, Com** 28.51 299 ⇓P P 17 00 05.0 -0.2
baz=28
X32A **Elmer** 28.51 309 ⇑P P 17 00 05.5 +0.4
baz=28
JFWS **Jewell Farm** 28.55 332 eP P 17 00 05.7 +0.4
JFWS pmax pmax
comp=Z,50nm,0.9s
JFWS **Jewell Farm** 28.55 332 eP P 17 00 05.7 +0.4
comp=Z,50nm,0.9s
430A **Baggett Ranch,** 28.62 301 ⇓P P 17 00 06.2 +0.1
baz=29
Z31A **Sharp Cattle R** 28.68 306 ⇑P P 17 00 06.8 +0.2
baz=29
330A **Mertzon** 28.78 302 ⇑P P 17 00 07.2 -0.3
baz=29
W32A **Sentinel** 28.81 310 ⇑P P 17 00 07.8 +0.1
baz=29,SNR=5.2
SAML **Samuel** 28.81 160 eP P 17 00 06.1 -1.7
comp=Z,12nm,1.0s
230A **Sterling City** 28.89 303 ⇓P P 17 00 07.9 -0.6
baz=29
V32A **Arapaho** 28.95 312 ⇑P P 17 00 08.7 -0.3
baz=29
Y31A **Rekieta Farm,** 29.04 308 ⇑P P 17 00 09.4 -0.4
baz=29
429A **Davenport Ranc** 29.11 300 ⇑P P 17 00 09.7 -0.8
baz=29
X31A **McDonald Ranch** 29.12 309 ⇑P P 17 00 09.9 -0.6
baz=29
KSU1 **Kansas State U** 29.21 320 P P 17 00 11.1 -0.1
529A **Stev Forest Ra** 29.23 299 ⇓P P 17 00 10.6 -0.9
baz=29
W31A **Holland Ranch,** 29.34 310 ⇑P P 17 00 12.5 0.0
baz=29
Z30A **Sanderson Ranc** 29.42 306 ⇓P P 17 00 13.0 -0.2
baz=29
329A **Wagon Wheel Ra** 29.45 302 ⇓P P 17 00 13.1 -0.4
baz=29
Y30A **Stafford Cattl** 29.48 307 ⇓P P 17 00 14.0 +0.2
baz=29
V31A **Spring Creek L** 29.55 311 ⇓P P 17 00 14.2 -0.1
baz=30
R33A **Olander Ranch,** 29.61 317 ⇓P P 17 00 15.0 +0.2
baz=30
T32A **Huddler Ranch,** 29.61 314 ⇓P P 17 00 15.1 +0.3
baz=30
628A **Black Gap, Mar** 29.62 297 ⇑P P 17 00 14.9 -0.1
baz=30
X30A **Coker Ranch, T** 29.70 308 ⇓P P 17 00 15.8 +0.1
baz=30
528A **Cox Ranch, San** 29.71 299 ⇓P P 17 00 15.5 -0.4
baz=30
Z29A **Hungry Hill Ra** 29.86 305 ⇓P P 17 00 17.0 -0.1
baz=30
Q33A **Connelly Farm,** 29.91 318 ⇑P P 17 00 18.4 +1.0
baz=30
627A **Terlingua Ranc** 30.03 297 ⇓P P 17 00 18.7 -0.1
baz=30,SNR=11
T31A **Randall Ranch,** 30.08 314 ⇑P P 17 00 19.4 +0.4
baz=30
328A **Wristen Ranch,** 30.09 301 ⇑P P 17 00 19.6 +0.5
baz=30
228A **UT Block 9, Go** 30.15 303 ⇑P P 17 00 20.3 +0.6
baz=30
S31A **Mullinville** 30.22 315 ⇑P P 17 00 20.4 +0.1
baz=30,SNR=5.5
128A **Castleberry Fa** 30.24 304 ⇓P P 17 00 20.3 -0.2
baz=30,SNR=10
TXAR **Lajitas Array** 30.24 297 P P 17 00 20.6 +0.1
TXAR PcP PcP 17 03 21.6 +0.3
TXAR **Lajitas Array** 30.24 297 P P 17 00 20.6 +0.1
comp=Z,1.3nm,0.7s,baz=110,slow=7.2,SNR=11
TXAR PcP PcP 17 03 21.6 +0.3
comp=Z,0.9nm,0.6s,baz=138,slow=3.7,SNR=5.7
TXAR LR LR 17 14 39.3
comp=Z,190nm,18.8s,baz=0.0,slow=41
Q32A **Meitler Ranch,** 30.37 318 ⇑P P 17 00 21.6 +0.1
baz=30
527A **Woodward Ranch** 30.40 298 ⇓P P 17 00 21.8 -0.2
baz=30,SNR=11
427A **Hayter Ranch,** 30.42 300 ⇓P P 17 00 21.7 -0.4
baz=30
U30A **WK&E Inc. Balk** 30.48 312 ⇑P P 17 00 22.7 +0.2
baz=30
AMTX **Amarillo** 30.49 308 ⇑P P 17 00 22.5 -0.2
baz=30
626A **Big Bend Ranch** 30.69 297 ⇑P P 17 00 24.1 -0.4
baz=31
526A **Mary Lane Ranc** 30.77 298 ⇑P P 17 00 25.2 -0.1
baz=31,SNR=14
426A **McDonald Obser** 30.88 299 ⇑P P 17 00 25.7 -0.7
baz=31,SNR=14
S30A **Montezuma** 30.90 314 ⇑P P 17 00 26.7 +0.4
baz=31
MSTX **Muleshoe** 30.95 306 eP P 17 00 29.3 +2.5
comp=Z,8.9nm,0.9s
MSTX **Muleshoe** 30.95 306 ⇑P P 17 00 26.9 +0.1
baz=31
W28A **Vega** 31.04 309 ⇓P P 17 00 28.0 +0.4
baz=31
Z27A **Tatum** 31.06 304 ⇑P P 17 00 27.6 -0.2
baz=31
R30A **Dighton** 31.10 315 ⇑P P 17 00 28.4 +0.4
baz=31
P31A **Stockton** 31.19 318 ⇓P P 17 00 29.0 +0.2
baz=31
S29A **Ulysses** 31.34 313 ⇑P P 17 00 31.0 +0.9
baz=31,SNR=5.9
126A **Clayton Basin,** 31.47 303 ⇓P P 17 00 32.1 +0.8
baz=31
O31A **Woolen Ranch,** 31.52 319 ⇑P P 17 00 32.2 +0.6
baz=32
W27A **Bowe Ranch, En** 31.60 308 ⇓P P 17 00 32.7 +0.2
baz=32
Z26A **Caprock** 31.64 304 ⇓P P 17 00 32.3 -0.6
baz=32
425A **Indio Mountain** 31.71 299 ⇑P P 17 00 34.0 +0.4
baz=32,SNR=8.4
P30A **Selden** 31.76 317 ⇓P P 17 00 34.6 +0.8
baz=32,SNR=5.4
T28A **Walsh** 31.80 312 ⇑P P 17 00 34.6 +0.5
baz=32
S28A **Manter** 31.86 313 ⇑P P 17 00 35.5 +0.7
baz=32
Q29A **Oakley** 31.89 316 ⇑P P 17 00 35.3 +0.3
baz=32,SNR=7.5
225A **Deer Hill, Car** 31.95 301 ⇓P P 17 00 35.7 0.0
baz=32
X26A **CR and CF Fran** 31.97 306 ⇓P P 17 00 35.9 +0.2
baz=32
125A **Gardner Draw,** 31.98 302 ⇓P P 17 00 35.8 -0.1
baz=32
U27A **Thompson Grove** 31.99 310 ⇑P P 17 00 35.1 -0.9
baz=32
W26A **Owens Ranch, T** 32.14 307 ⇓P P 17 00 36.8 -0.4
baz=32
R28A **Tribune** 32.17 314 ⇑P P 17 00 37.7 +0.3
baz=32,SNR=8.7
Z25A **Roswell** 32.23 304 ⇑P P 17 00 37.6 -0.5
baz=32
ECSD **EROS Data Cent** 32.25 327 ⇓P P 17 00 37.6 -0.3
baz=32
MNTX **Cornudas Mount** 32.28 300 eP P 17 00 38.3 -0.1
comp=Z,7.8nm,1.0s
Y25A **Mesa, Roswell** 32.42 305 ⇓P P 17 00 39.5 -0.3
baz=32
V26A **Tequesquite Ra** 32.43 308 ⇑P P 17 00 39.8 0.0
baz=32
O29A **4D Ranch, Culb** 32.44 318 ⇑P P 17 00 39.6 -0.1
baz=32
U26A **Atchley Ranch,** 32.65 309 ⇑P P 17 00 41.6 -0.2
baz=33
W25A **X Bar L Ranch,** 32.71 307 ⇓P P 17 00 41.9 -0.5
baz=33
Z24A **Sheeppen Canyo** 32.76 303 ⇓P P 17 00 42.4 -0.4
baz=33,SNR=9.5
P28A **Saint Francis** 32.76 316 ⇑P P 17 00 42.5 -0.1
baz=33
T26A **Comanche Natio** 32.87 311 ⇓P P 17 00 44.1 +0.3
baz=33

Y24A **Capitan** 33.01 304 ⇓P P 17 00 44.9 -0.1
baz=33
U25A **Circle Dot Ran** 33.14 309 ⇓P P 17 00 46.6 +0.5
baz=33
EYMN **Ely** 33.16 337 P P 17 00 47.3 +1.4
comp=Z,30nm,1.1s
N28A **Pribbeno Ranch** 33.22 318 ⇓P P 17 00 47.4 +0.8
baz=33
R26A **Arlington** 33.28 313 ⇑P P 17 00 47.6 +0.4
baz=33
W24A **Lazy 6 Ranch,** 33.43 307 ⇓P P 17 00 49.3 +0.7
baz=33,SNR=6.8
T25A **Trinidad** 33.45 310 ⇓P P 17 00 48.8 0.0
baz=33
Y23A **Lovelace Mesa,** 33.49 304 ⇓P P 17 00 49.5 +0.3
baz=33,SNR=13
R25A **Fountain Ranch** 33.80 312 ⇑P P 17 00 51.3 -0.4
baz=34
W23A **Werner Place,** 33.98 306 ⇑P P 17 00 54.0 +0.5
baz=34
Z22A **Elephant Butte** 34.01 302 ⇑P P 17 00 53.8 +0.1
baz=34
BNM **Barren Site** 34.02 304 eP P 17 00 53.7 -0.1
comp=Z,15nm,1.0s
LPM **Los Pinos Moun** 34.07 304 eP P 17 00 54.8 +0.6
comp=Z,9.9nm,0.7s
T24B **San Luis** 34.12 310 ⇓P P 17 00 54.6 -0.1
baz=34
M27A **Reverse DX Ran** 34.21 319 ⇑P P 17 00 55.9 +0.7
baz=34
V23A **Ortiz Mt. (NFS** 34.21 307 ⇑P P 17 00 55.8 +0.3
baz=34
S24A **Houchin Ranch,** 34.24 311 ⇑P P 17 00 55.8 0.0
baz=34
R24A **Sanders Place,** 34.41 312 ⇑P P 17 00 57.4 +0.2
baz=34
U23A **El Rito** 34.44 308 ⇓P P 17 00 57.3 -0.1
baz=34
121A **Cookes Peak, D** 34.47 301 P P 17 00 58.1 +0.4
comp=Z,12nm,1.0s
121A **Cookes Peak, D** 34.47 301 ⇓P P 17 00 58.0 +0.3
baz=34
SDCO **Great Sand Dun** 34.49 311 eP P 17 00 57.3 -0.6
comp=Z,7.5nm,1.0s
LAZ **Lazbon** 34.50 304 eP P 17 00 58.8 +0.8
comp=Z,8.3nm,1.2s
Q24A **Divide** 34.77 313 ⇑P P 17 01 00.3 -0.1
baz=35
V22A **San Miguel Ran** 34.83 307 ⇑P P 17 01 00.9 +0.1
baz=35
LPAZ **La Paz** 34.83 172 P P 17 01 00.9 -0.4
LPAZ **La Paz** 34.83 172 P P 17 01 00.9 -0.4
comp=Z,1.3nm,0.8s,baz=110,slow=7.2,SNR=3.7
LPAZ LR LR 17 16 29.4
comp=Z,708nm,19.8s,baz=350,slow=39
R23A **Moffat** 34.91 311 ⇑P P 17 01 01.2 -0.4
baz=35,SNR=6.6
U22A **Llaves** 34.95 308 ⇓P P 17 01 01.6 -0.3
baz=35
319A **Douglas** 35.43 298 ⇓P P 17 01 06.0 +0.1
baz=35
S22A **4UR Ranch, Cre** 35.45 310 ⇓P P 17 01 06.6 +0.3
baz=35
ISCO **Ida to Springs** 35.47 314 ⇑P P 17 01 07.0 +0.6
baz=35
K25A **Mack Ranch, Ha** 35.73 319 ⇑P P 17 01 08.1 -0.3
baz=36
M24A **Cheyenne** 35.74 317 ⇓P P 17 01 08.7 +0.1
baz=36
O23A **Lake Granby, G** 35.86 314 ⇑P P 17 01 10.9 +1.2
baz=36
C30A **Mose, Pekin** 35.96 330 ⇑P P 17 01 11.4 +1.3
baz=36,SNR=9.1
D29A **Pettibone, Tap** 36.06 328 ⇓P P 17 01 11.6 +0.6
baz=36
SIV **San Ignacio** 36.10 161 LR LR 17 16 40.3
comp=Z,686nm,19.1s,baz=358,slow=38
J25A **Sunshine Ranch** 36.11 320 ⇑P P 17 01 12.5 +0.9
baz=36
P22A **Eagle** 36.17 313 ⇑P P 17 01 12.6 +0.3
baz=36
N23A **Red Feather La** 36.20 315 ⇑P P 17 01 12.4 -0.2
baz=36
O22A **Kremmling** 36.27 314 ⇓P P 17 01 13.5 +0.3
baz=36
E28A **Huff** 36.29 327 ⇓P P 17 01 13.3 +0.3
baz=36
B30A **Myrvik Farm, E** 36.43 331 ⇑P P 17 01 14.8 +0.6
baz=36
N22A **Wattenberg Ran** 36.50 315 ⇑P P 17 01 15.3 +0.2
baz=36
SCHQ **Schefferville** 36.57 6 eP P 17 01 16.1 +0.9
comp=Z,11nm,0.7s
SCHQ **Schefferville** 36.57 6 P P 17 01 16.1 +0.9
comp=Z,8.1nm,0.6s,baz=190,slow=7.2,SNR=28
SCHQ LR LR 17 16 39.3
comp=Z,355nm,18.6s,baz=205,slow=37
L23A **Garrett** 36.63 317 ⇑P P 17 01 16.3 0.0
baz=37,SNR=7.5
D28A **Regan** 36.64 328 ⇑P P 17 01 16.0 0.0
baz=37
RSSD **Black Hills** 36.66 321 P P 17 01 16.3 -0.1
RSSD pmax pmax
comp=Z,3.0nm,1.0s
RSSD **Black Hills** 36.66 321 P P 17 01 16.3 -0.1
comp=Z,2.9nm,1.0s
ULM **Lac du Bonnet** 36.73 335 P P 17 01 16.2 -0.4
ULM **Lac du Bonnet** 36.73 335 P P 17 01 16.2 -0.4
comp=Z,18nm,0.9s,baz=140,slow=7.5,SNR=12
ULM LR LR 17 17 15.6
comp=Z,248nm,18.9s,baz=207,slow=38
A30A **Hoffart Farm,** 36.77 332 ⇑P P 17 01 16.6 -0.5
baz=37,SNR=26
B29A **Wagenman Farm,** 36.92 330 ⇓P P 17 01 19.5 +1.2
baz=37
G25A **Newell** 36.92 323 ⇑P P 17 01 18.8 +0.4
baz=37
L22A **Ellis Ranch, M** 37.06 317 ⇓P P 17 01 20.7 +0.8
baz=37
A29A **Manning Farm,** 37.19 331 ⇑P P 17 01 21.1 +0.5
baz=37,SNR=9.1
H24A **Dirks Ranch, A** 37.32 322 ⇓P P 17 01 22.3 +0.4
baz=37
B28A **Dugan Ranch, T** 37.39 329 ⇓P P 17 01 23.3 +1.0
baz=37
K22A **Casper** 37.42 317 eP P 17 01 25.7 +2.8
comp=Z,8.1nm,0.7s
K22A **Casper** 37.42 317 ⇓P P 17 01 23.3 +0.4
baz=37
O20A **White River Ci** 37.43 313 ⇓P P 17 01 23.2 +0.2
baz=37
A28A **Rude Farm, Bot** 37.66 330 ⇑P P 17 01 25.2 +0.6
baz=38
J22A **Midwest** 37.78 319 ⇓P P 17 01 25.9 0.0
baz=38,SNR=7.1
C26A **Wahner Farm, P** 37.84 327 ⇑P P 17 01 26.7 +0.6
baz=38
K21A **Alcova** 37.89 317 ⇑P P 17 01 27.1 +0.3
baz=38,SNR=9.3
X16A **Lo Mia Camp, P** 37.91 303 ⇑P P 17 01 27.4 +0.2
baz=38
G23A **Biddle** 38.07 322 ⇓P P 17 01 29.0 +0.8
baz=38
WUAZ **Wupatki** 38.15 304 eP P 17 01 29.4 +0.3
comp=Z,9.4nm,1.0s
J21A **Lysite** 38.36 318 ⇑P P 17 01 30.7 -0.1
baz=38,SNR=5.6
I21A **Big Trails, Te** 38.49 319 ⇓P P 17 01 31.6 -0.2
baz=38,SNR=8.7
A26A **Wade Farm, Ken** 38.51 329 ⇓P P 17 01 32.4 +0.7
baz=38
G22A **Birney** 38.61 321 ⇑P P 17 01 33.9 +1.1
baz=39
B25A **Knox Farm, Ray** 38.67 327 ⇑P P 17 01 34.6 +1.5
baz=39
F22A **Rosebud** 38.89 322 ⇑P P 17 01 35.7 +0.6
baz=39,SNR=6.2
I20A **Worland** 39.08 318 ⇓P P 17 01 37.3 +0.5
baz=39
U15A **North Rim** 39.12 305 ⇑P P 17 01 37.5 +0.2
baz=39
G21A **Lodge Grass** 39.16 321 ⇑P P 17 01 38.2 +0.8
baz=39
H20A **Greybull** 39.27 319 ⇑P P 17 01 39.1 +0.8
baz=39
J19A **Crowheart** 39.35 317 ⇓P P 17 01 39.1 0.0
baz=39,SNR=8.3
C23A **Lambert** 39.45 325 ⇑P P 17 01 40.1 +0.4
baz=39
PDAR **Pinedale Array** 39.45 316 P P 17 01 39.2 -0.8
PDAR **Pinedale Array** 39.45 316 P P 17 01 39.2 -0.8
comp=Z,1.9nm,0.7s,baz=122,slow=9.0,SNR=13
PDAR LR LR 17 19 12.6
comp=Z,176nm,21.0s,baz=120,slow=38
BW06 **Boulder Array** 39.46 316 eP P 17 01 38.6 -1.4
comp=Z,23nm,1.7s
A24A **Westby** 39.51 327 ⇑P P 17 01 40.2 0.0
baz=40
D22A **Cohagen** 39.62 324 ⇓P P 17 01 41.3 +0.2
baz=40
I19A **Meeteetse** 39.67 318 ⇓P P 17 01 42.0 +0.2
baz=40,SNR=7.2
H19A **Powell** 39.97 319 ⇓P P 17 01 43.7 -0.5
baz=40
W13A **Hualapai Mount** 40.03 303 ⇓P P 17 01 44.9 0.0
baz=40
D21A **La Casta Ranch** 40.03 323 ⇓P P 17 01 44.6 +0.1
baz=40
RLMT **Red Lodge** 40.37 319 eP P 17 01 47.2 -0.3
comp=Z,7.7nm,0.8s
E20A **Meyer Farm, Mu** 40.38 322 ⇑P P 17 01 47.1 -0.3
baz=40
ARUT **Antelope Range** 40.39 307 eP P 17 01 47.6 -0.2
ARUT **Antelope Range** 40.39 307 eP P 17 01 47.6 -0.2
comp=Z,39nm,0.8s
H18A **Shoshone NF, C** 40.40 319 ⇓P P 17 01 47.1 -0.8
baz=40,SNR=6.2
F19A **Roth Farm, Mol** 40.53 320 ⇑P P 17 01 49.0 +0.2
baz=40
A22A **Carney Farms,** 40.55 326 ⇓P P 17 01 49.5 +0.6
baz=40
I17A **Pilgrim Ck.** 40.63 317 ⇓P P 17 01 50.0 +0.2
baz=41,SNR=6.4
DUG **Dugway** 40.69 311 ⇓P P 17 01 50.6 +0.4
baz=41
D20A **Manuel Ranch,** 40.70 323 ⇑P P 17 01 50.5 +0.4
baz=41
E19A **Rath Farm, Rou** 40.74 321 ⇓P P 17 01 50.9 +0.4
baz=41,SNR=6.6
SPUT **South Promonto** 40.83 313 eP P 17 01 51.5 +0.1
comp=Z,8.6nm,1.0s
IRM **Iron Mountain** 40.84 301 ⇑P P 17 01 51.0 -0.4
baz=41
H17A **Grant Village** 40.85 318 P P 17 01 53.9 +2.3
comp=Z,15nm,1.5s
H17A **Grant Village** 40.85 318 ⇑P P 17 01 52.4 +0.8
baz=41
GCMT **Greycliff** 40.94 320 eP P 17 01 54.6 +2.4
comp=Z,12nm,1.2s
C20A **Veseth Ranch,** 40.96 323 ⇓P P 17 01 53.0 +0.8
baz=41
BC3 **Big Chuckawall** 40.99 300 ⇓P P 17 01 52.5 -0.3
baz=41
LVC **Limon Verde** 41.00 175 P P 17 01 52.3 -0.7
A21A **Bergtoll Ranch** 41.09 326 ⇓P P 17 01 54.0 +0.8
baz=41
D19A **Cripps Ranch,** 41.17 322 ⇓P P 17 01 55.2 +1.2
baz=41
SHPR **Sheep Range** 41.37 305 eP P 17 01 56.5 +0.6
comp=Z,12nm,1.2s
A20A **Cobblestone Ra** 41.56 325 ⇓P P 17 01 58.3 +1.1
baz=42,SNR=5.2
BDFB **Brasilia** 41.70 143 P P 17 01 58.6 -0.1
BDFB **Brasilia** 41.70 143 P P 17 01 58.6 -0.1
comp=Z,7.1nm,0.8s,baz=320,slow=13,SNR=7.0
BDFB LR LR 17 20 15.9
comp=Z,392nm,18.5s,baz=312,slow=38
B19A **Brinkman Farms** 41.89 324 ⇓P P 17 02 00.8 +0.9
baz=42
A19A **Klindworth Far** 42.04 325 ⇑P P 17 02 02.3 +1.2
baz=42,SNR=6.0
BOZ **Bozeman (W)** 42.08 319 P P 17 02 03.5 +1.9
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ **Bozeman (W)** 42.08 319 P P 17 02 03.5 +1.9
comp=Z,5.0nm,0.8s
EGMT **Eagleton** 42.12 323 eP P 17 02 02.5 +0.7
comp=Z,14nm,1.3s
EGMT **Eagleton** 42.12 323 ⇓P P 17 02 02.0 +0.2
baz=42
GSC **Goldstone** 42.41 302 ⇓P P 17 02 03.8 -0.5
baz=42
MCMT **McKenzie Canyo** 42.50 317 eP P 17 02 05.1 0.0
comp=Z,4.1nm,0.9s
FFC **Flin Flon** 42.55 335 *i* P P 17 02 08.1 +3.0
LRM **Limekiln Ridge** 42.67 319 eP P 17 02 06.0 -0.6
comp=Z,24nm,0.9s
FURC **Furnace Creek,** 42.69 304 ⇑P P 17 02 06.3 -0.2
baz=43
HRY **Holter Researc** 42.70 320 P P 17 02 08.2 +1.7
comp=Z,1.5nm,0.5s
HLID **Hailey** 43.02 315 ⇑P P 17 02 09.6 +0.3
baz=43
LRMC **Laurel Mountai** 43.15 302 ⇑P P 17 02 09.7 -0.7
baz=43
FCC **Fort Churchill** 43.17 344 eP P 17 02 10.5 +0.5
FCC **Fort Churchill** 43.17 344 eP P 17 02 10.5 +0.5
comp=Z,0.4nm,0.9s
TPH **Tonopah** 43.34 306 P P 17 02 13.1 +1.1
TPH pmax pmax
comp=Z,12nm,1.0s
TPH **Tonopah** 43.34 306 P P 17 02 13.1 +1.1
comp=Z,12nm,1.0s
RCBR **Riachuelo** 43.56 120 eP P 17 02 16.3 +2.5
comp=Z,20nm,1.2s
NVAR **Mina Array Bea** 44.26 306 P P 17 02 19.4 0.0
NVAR **Mina Array Bea** 44.26 306 P P 17 02 19.4 0.0
comp=Z,2.6nm,0.6s,baz=118,slow=5.9,SNR=7.5
NVAR LR LR 17 23 21.7
comp=Z,240nm,18.6s,baz=264,slow=40
WALA **Waterton Lakes** 45.03 322 P P 17 02 25.5 +0.2
FRB **Frobisher Bay** 45.33 3 P P 17 02 27.6 +0.4
FRB **Frobisher Bay** 45.33 3 P P 17 02 27.6 +0.4
comp=Z,18nm,0.8s,baz=185,slow=7.7,SNR=18
NEW **Newport** 46.60 320 P P 17 02 36.7 -0.9
comp=Z,19nm,1.1s
EDM **Edmonton** 46.81 327 eP P 17 02 37.8 -1.3
EDM **Edmonton** 46.81 327 eP P 17 02 37.8 -1.3
CPUP **Villa Florida** 46.96 161 LR LR 17 24 36.5
comp=Z,370nm,18.6s,baz=328,slow=39
LCO **Las Campanas** 47.24 178 eP P 17 02 42.1 -0.9
SFJD **Kangerlussuaq** 50.56 11 *i* P P 17 03 11.9 +4.3
comp=Z,1.6nm,0.9s
SFJD **Kangerlussuaq** 50.56 11 P P 17 03 10.5 +2.9
SFJD **Kangerlussuaq** 50.56 11 P P 17 03 10.5 +2.9
comp=Z,10nm,0.6s,baz=182,slow=9.5,SNR=4.8
SFJD LR LR 17 21 20.5
comp=Z,501nm,20.3s,baz=206,slow=32
ILULI **Ilulissat** 52.46 10 eP P 17 03 11.9 -10
ILULI pmax pmax
comp=Z,14nm,0.9s
YKA **Yellowknife Ar** 52.64 337 P P 17 03 22.6 -0.7
YKA **Yellowknife Ar** 52.64 337 P P 17 03 22.6 -0.7
comp=Z,7.6nm,0.8s,baz=123,slow=7.4,SNR=29
BBTS **Babate** 53.77 85 LR LR 17 24 00.3
comp=Z,95nm,18.2s,baz=302,slow=33
KULLO **Kullorsuaq** 56.76 5 eP P 17 03 53.9 +0.9
KULLO pmax pmax
comp=Z,9.0nm,0.8s
KULLO **Kullorsuaq** 56.76 5 *i* P P 17 03 53.9 +0.9
comp=Z,9.3nm,0.7s
DLBC **Dease Lake** 57.51 328 eP P 17 03 58.9 +0.2
RES **Resolute Bay** 57.51 353 P P 17 03 58.2 -0.1
RES **Resolute Bay** 57.51 353 P P 17 03 58.2 -0.1
comp=Z,9.0nm,0.9s,baz=166,slow=9.4,SNR=14
SUMG **Summit** 57.54 12 *i* P P 17 03 59.9 +0.8
SUMG pmax pmax
comp=Z,49nm,0.9s
SUMG **Summit** 57.54 12 *i* P P 17 03 59.9 +0.8
comp=Z,49nm,0.9s
SUMG **Summit** 57.54 12 eP P 17 03 58.9 -0.2
comp=Z,58nm,0.9s
PLCA **Paso Flores** 58.93 178 eP P 17 04 08.0 -0.8
comp=Z,1.1nm,1.3s
PLCA **Paso Flores** 58.93 178 P P 17 04 08.1 -0.6
comp=Z,4.0nm,0.8s,baz=357,slow=9.8,SNR=6.6
EVOP **Sao Brissos** 58.99 56 eP P 17 04 10.6 +1.3
EVOP pmax pmax
comp=Z,15nm,0.9s
EVOP **Sao Brissos** 58.99 56 eP P 17 04 10.6 +1.3
comp=Z,15nm,0.9s
EVO **Evora** 59.07 56 eP P 17 04 10.6 +0.7
comp=Z,15nm,0.9s
EVO eR
comp=Z,210nm,18.8s

EVO Evora 59.07 56 *e*P **P** 17 04 12.2 +2.3
comp=Z,21nm,1.4s
PVAQ Vaqueiros 59.31 57 *e*P **P** 17 04 13.5 +2.0
comp=Z,28nm,1.6s
PVRL Vila Real 59.35 53 *e*P **P** 17 04 12.8 +1.0
comp=Z,37nm,1.8s
PCBR Castelo Branco 59.50 54 *e*P **P** 17 04 14.3 +1.5
comp=Z,33nm,1.6s
PMRV Marv??o 59.56 55 *e*P **P** 17 04 14.7 +1.4
comp=Z,34nm,1.6s
SCO Scoresbysund 60.10 17 *e*P P 17 04 20.3 +3.9
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 60.10 17 *i* P P 17 04 20.3 +3.9
comp=Z,4.7nm,0.9s
PAB San Pablo 61.92 55 *e*P **P** 17 04 30.3 +0.9
PAB pmax pmax
comp=Z,24nm,1.3s
PAB San Pablo 61.92 55 *e*P **P** 17 04 30.3 +0.9
comp=Z,24nm,1.3s
ESDC Sonseca Array 62.21 54 P P 17 04 32.2 +0.8
ESDC Sonseca Array 62.21 54 P P 17 04 32.2 +0.8
comp=Z,7.8nm,1.0s,baz=276,slow=8.1,SNR=10
ESLA Sonseca Array 62.21 54 *e*P **P** 17 04 32.6 +1.2
comp=Z,5.8nm,1.1s
INK Inuvik 62.34 338 *e*P **P** 17 04 29.5 -2.1
comp=Z,12nm,1.4s
INK Inuvik 62.34 338 P P 17 04 30.4 -1.2
comp=Z,3.1nm,1.0s,baz=117,slow=8.2,SNR=7.6
ROSF Rostrenen 62.78 45 *e*P **P** 17 04 36.0 +1.1
comp=Z,113nm,1.5s
ROSF Rostrenen 62.78 45 *e*P **P** 17 04 36.0 +1.1
ROSF pmax pmax
comp=Z,113nm,1.5s
ROSF Rostrenen 62.78 45 *e*P **P** 17 04 36.0 +1.1
comp=Z,113nm,1.5s
QUIF Quistinic 62.84 45 *e*P **P** 17 04 36.2 +0.9
comp=Z,33nm,0.9s
QUIF Quistinic 62.84 45 *e*P **P** 17 04 36.2 +0.9
QUIF pmax pmax
comp=Z,33nm,0.9s
QUIF Quistinic 62.84 45 *e*P **P** 17 04 36.2 +0.9
comp=Z,33nm,0.9s
SGMF Saint Gilles 63.26 45 *e*P **P** 17 04 39.0 +0.9
comp=Z,126nm,1.6s
SGMF Saint Gilles 63.26 45 *e*P **P** 17 04 39.0 +0.9
SGMF pmax pmax
comp=Z,126nm,1.6s
SGMF Saint Gilles 63.26 45 *e*P **P** 17 04 39.0 +0.9
comp=Z,126nm,1.6s
EKA Eskdalemuir Ar 63.37 37 P P 17 04 38.5 -0.2
EKA Eskdalemuir Ar 63.37 37 P P 17 04 38.5 -0.2
comp=Z,4.5nm,0.6s,baz=274,slow=5.2,SNR=13
DAWY Dawson 63.40 333 *e*P **P** 17 04 38.4 -0.4
SJPF Ste Jean 64.18 50 *e*P **P** 17 04 45.8 +1.5
comp=Z,43nm,1.0s
SJPF Ste Jean 64.18 50 *e*P **P** 17 04 45.8 +1.5
SJPF pmax pmax
comp=Z,43nm,1.0s
SJPF Ste Jean 64.18 50 *e*P **P** 17 04 45.8 +1.5
comp=Z,43nm,1.0s
DAG Danmarks Havn 64.22 12 *i* P **P** 17 04 43.7 -0.3
DAG pmax pmax
comp=Z,17nm,1.0s
DAG Danmarks Havn 64.22 12 *i* P **P** 17 04 43.7 -0.3
comp=Z,17nm,1.0s
EGAK Eagle 64.30 334 *e*P **P** 17 04 44.8 +0.2
comp=Z,7.7nm,1.0s
GRR Gorron 64.39 45 *e*P **P** 17 04 46.5 +0.9
comp=Z,18nm,0.8s
GRR Gorron 64.39 45 *e*P **P** 17 04 46.5 +0.9
GRR pmax pmax
comp=Z,19nm,0.8s
GRR Gorron 64.39 45 *e*P **P** 17 04 46.5 +0.9
comp=Z,18nm,0.8s
FLN La Foliniere 64.65 44 *e*P **P** 17 04 48.3 +1.1
comp=Z,50nm,1.1s
FLN *e*R
comp=Z,587nm,21.8s
FLN La Foliniere 64.65 44 *e*P **P** 17 04 48.3 +1.1
FLN pmax pmax
comp=Z,50nm,1.1s
FLN La Foliniere 64.65 44 *e*P **P** 17 04 48.3 +1.1
comp=Z,50nm,1.1s
ETSF Etsaut 64.67 51 *e*P **P** 17 04 49.0 +1.4
comp=Z,21nm,1.0s
ETSF Etsaut 64.67 51 *e*P **P** 17 04 49.0 +1.4
ETSF pmax pmax
comp=Z,21nm,1.0s
ETSF Etsaut 64.67 51 *e*P **P** 17 04 49.0 +1.4
comp=Z,21nm,1.0s
MFF Saint Martin d 64.88 47 *e*P **P** 17 04 50.0 +1.2
comp=Z,32nm,0.9s
MFF Saint Martin d 64.88 47 *e*P **P** 17 04 50.0 +1.2
MFF pmax pmax
comp=Z,32nm,0.9s
MFF Saint Martin d 64.88 47 *e*P **P** 17 04 50.0 +1.2
comp=Z,32nm,0.9s
LDF La Druitiere 64.89 44 *e*P **P** 17 04 49.8 +1.0
comp=Z,72nm,1.3s
LDF La Druitiere 64.89 44 *e*P **P** 17 04 49.8 +1.0
LDF pmax pmax
comp=Z,73nm,1.3s
LDF La Druitiere 64.89 44 *e*P **P** 17 04 49.8 +1.0
comp=Z,72nm,1.3s
BMRM Bremner River 65.26 329 *e*P **P** 17 04 51.5 +0.5
comp=Z,36nm,1.1s
EPF Esparros 65.33 51 *e*P **P** 17 04 53.3 +1.5
comp=Z,84nm,1.6s
EPF Esparros 65.33 51 *e*P **P** 17 04 53.3 +1.5
EPF pmax pmax
comp=Z,84nm,1.6s
EPF Esparros 65.33 51 *e*P **P** 17 04 53.3 +1.5
comp=Z,84nm,1.6s
LFF La Frestale 65.54 48 *e*P **P** 17 04 54.0 +0.9
LFF La Frestale 65.54 48 *e*P **P** 17 04 54.0 +0.9
LFF La Frestale 65.54 48 *e*P **P** 17 04 54.0 +0.9
DIV Divide 65.84 329 *e*P **P** 17 04 55.4 +0.6
comp=Z,30nm,1.0s
PAX Paxson 65.89 331 *e*P **P** 17 04 55.8 +0.6
PAX pmax pmax
comp=Z,13nm,1.0s
PAX Paxson 65.89 331 *e*P **P** 17 04 55.8 +0.6
comp=Z,13nm,1.0s
RJF Les Rejaudoux 66.07 48 *e*P **P** 17 04 57.4 +0.8
comp=Z,39nm,1.1s
RJF *e*R
comp=Z,225nm,19.5s
RJF Les Rejaudoux 66.07 48 *e*P **P** 17 04 57.4 +0.8
RJF pmax pmax
comp=Z,39nm,1.1s
RJF Les Rejaudoux 66.07 48 *e*P **P** 17 04 57.4 +0.8
comp=Z,39nm,1.1s
CAF Calviac 66.48 48 *e*P **P** 17 05 00.1 +0.9
comp=Z,19nm,0.8s
CAF Calviac 66.48 48 *e*P **P** 17 05 00.1 +0.9
CAF pmax pmax
comp=Z,19nm,0.8s
CAF Calviac 66.48 48 *e*P **P** 17 05 00.1 +0.9
comp=Z,19nm,0.8s
TCF Toulx Ste Croi 66.51 47 *e*P **P** 17 05 00.0 +0.6
comp=Z,46nm,1.2s
TCF Toulx Ste Croi 66.51 47 *e*P **P** 17 05 00.0 +0.6
TCF pmax pmax
comp=Z,46nm,1.2s
TCF Toulx Ste Croi 66.51 47 *e*P **P** 17 05 00.0 +0.6
comp=Z,46nm,1.2s
MTLF Montolieu 66.68 50 *e*P **P** 17 05 01.3 +0.8
MTLF Montolieu 66.68 50 *e*P **P** 17 05 01.3 +0.8
MTLF Montolieu 66.68 50 *e*P **P** 17 05 01.3 +0.8
ILAR Eielson Array 66.72 333 P P 17 04 59.7 -0.6
ILAR Eielson Array 66.72 333 P P 17 04 59.7 -0.6
comp=Z,3.5nm,0.9s,baz=101,slow=4.4,SNR=20
ILAR LR LR 17 36 14.8
comp=Z,177nm,18.1s,baz=92,slow=38
HYF Humbligny 66.77 46 *e*P **P** 17 05 02.0 +1.0
HYF Humbligny 66.77 46 *e*P **P** 17 05 02.0 +1.0
LIC Lamto 66.87 91 *e*P **P** 17 05 01.2 -1.0
LIC Lamto 66.87 91 *e*P **P** 17 05 01.2 -1.0
BGF Bois d'Agland 66.94 47 *e*P **P** 17 05 02.8 +0.7
comp=Z,16nm,0.8s
BGF Bois d'Agland 66.94 47 *e*P **P** 17 05 02.8 +0.7
BGF pmax pmax
comp=Z,16nm,0.8s
BGF Bois d'Agland 66.94 47 *e*P **P** 17 05 02.8 +0.7
comp=Z,16nm,0.8s
COLA College 67.14 333 *e*P **P** 17 05 03.3 +0.3
COLA pmax pmax
comp=Z,27nm,1.3s
COLA College 67.14 333 *e*P **P** 17 05 02.1 -0.9
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 67.28 46 *e*P **P** 17 05 04.5 +0.3
comp=Z,47nm,1.4s
AVF Avril sur Loir 67.28 46 *e*P **P** 17 05 04.5 +0.3
AVF pmax pmax
comp=Z,47nm,1.4s
AVF Avril sur Loir 67.28 46 *e*P **P** 17 05 04.5 +0.3
comp=Z,47nm,1.4s
SSF Saint Saulge 67.37 46 *e*P **P** 17 05 05.2 +0.4
comp=Z,34nm,1.1s
SSF Saint Saulge 67.37 46 *e*P **P** 17 05 05.2 +0.4
SSF pmax pmax
comp=Z,34nm,1.1s
SSF Saint Saulge 67.37 46 *e*P **P** 17 05 05.2 +0.4
comp=Z,34nm,1.1s
MCK McKinley 67.52 332 P P 17 05 05.8 +0.3
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 67.52 332 P P 17 05 05.8 +0.3
comp=Z,15nm,1.1s
LOR Lormes 67.60 46 *e*P **P** 17 05 06.8 +0.6
comp=Z,84nm,1.5s
LOR *e*R
comp=Z,443nm,19.8s
LOR Lormes 67.60 46 *e*P **P** 17 05 06.8 +0.6
comp=Z,84nm,1.5s
SMF Signal de Mont 67.62 46 *e*P **P** 17 05 06.9 +0.5
comp=Z,22nm,1.0s
SMF Signal de Mont 67.62 46 *e*P **P** 17 05 06.9 +0.5
SMF pmax pmax
comp=Z,22nm,1.0s
SMF Signal de Mont 67.62 46 *e*P **P** 17 05 06.9 +0.5
comp=Z,22nm,1.0s
BAIF Baives 67.69 43 *e*P **P** 17 05 07.1 +0.4
BAIF Baives 67.69 43 *e*P **P** 17 05 07.1 +0.4
BAIF Baives 67.69 43 *e*P **P** 17 05 07.1 +0.4
LASF Ste Croix 67.81 49 *e*P **P** 17 05 09.0 +1.3
comp=Z,37nm,1.1s
LASF Ste Croix 67.81 49 *e*P **P** 17 05 09.0 +1.3
comp=Z,37nm,1.1s
GIVF Givet 68.08 43 *e*P **P** 17 05 09.9 +0.7
comp=Z,72nm,1.4s
GIVF Givet 68.08 43 *e*P **P** 17 05 09.9 +0.7
GIVF pmax pmax
comp=Z,72nm,1.4s
GIVF Givet 68.08 43 *e*P **P** 17 05 09.9 +0.7
comp=Z,72nm,1.4s
TRF Thorofare Moun 68.11 332 *e*P **P** 17 05 09.0 -0.4
comp=Z,5.8nm,0.7s
COLD Coldfoot 68.29 336 *e*P **P** 17 05 10.8 +0.6
comp=Z,14nm,1.0s
MEZF Maizieres J'vi 68.32 44 *e*P **P** 17 05 11.7 +0.9
comp=Z,83nm,1.2s
MEZF Maizieres J'vi 68.32 44 *e*P **P** 17 05 11.7 +0.9
comp=Z,83nm,1.2s
VIVF Saint-Julien-l 68.33 48 *e*P **P** 17 05 12.5 +1.6
comp=Z,37nm,1.0s
VIVF Saint-Julien-l 68.33 48 *e*P **P** 17 05 12.5 +1.6
VIVF pmax pmax
comp=Z,37nm,1.0s
VIVF Saint-Julien-l 68.33 48 *e*P **P** 17 05 12.5 +1.6
comp=Z,37nm,1.0s
SFTF Sexfontaines 68.33 45 *e*P **P** 17 05 11.4 +0.6
comp=Z,36nm,1.0s
SFTF Sexfontaines 68.33 45 *e*P **P** 17 05 11.4 +0.6
comp=Z,36nm,1.0s
KTH Kantishna Hill 68.40 332 *e*P **P** 17 05 10.4 -0.7
comp=Z,24nm,1.0s
PAGF Fort de Pagny 68.77 44 *e*P **P** 17 05 14.4 +0.9
comp=Z,9.4nm,1.1s
PAGF Fort de Pagny 68.77 44 *e*P **P** 17 05 14.4 +0.9
comp=Z,9.4nm,1.1s
MEM Membach 68.81 42 P P 17 05 16.9 +3.1
SMRF Simiane la Rot 69.06 49 *e*P **P** 17 05 17.2 +1.7
SMRF Simiane la Rot 69.06 49 *e*P **P** 17 05 17.2 +1.7
CABF La Chapelle 69.17 46 *e*P **P** 17 05 16.9 +0.7
comp=Z,38nm,1.3s
CABF La Chapelle 69.17 46 *e*P **P** 17 05 16.9 +0.7
CABF pmax pmax
comp=Z,38nm,1.3s
CABF La Chapelle 69.17 46 *e*P **P** 17 05 16.9 +0.7
comp=Z,38nm,1.3s
ORIF Oris-en-Rattie 69.18 48 *e*P **P** 17 05 17.9 +1.6
comp=Z,48nm,1.3s
ORIF *e*R
comp=Z,210nm,22.5s
ORIF Oris-en-Rattie 69.18 48 *e*P **P** 17 05 17.9 +1.6
ORIF pmax pmax
comp=Z,48nm,1.3s
ORIF Oris-en-Rattie 69.18 48 *e*P **P** 17 05 17.9 +1.6
comp=Z,48nm,1.3s
HAU Haudompre 69.22 45 *e*P **P** 17 05 17.3 +0.9
comp=Z,36nm,1.4s
HAU *e*R
comp=Z,478nm,21.2s
HAU Haudompre 69.22 45 *e*P **P** 17 05 17.3 +0.9
HAU pmax pmax
comp=Z,36nm,1.4s
HAU Haudompre 69.22 45 *e*P **P** 17 05 17.3 +0.9
comp=Z,36nm,1.4s
RSO Redoubt South 69.23 329 *e*P **P** 17 05 16.1 -0.3
comp=Z,49nm,0.8s
IM04 Indian Mountai 69.67 334 *e*P **P** 17 05 18.4 -0.5
LPL La Plagne 69.72 47 *e*P **P** 17 05 21.2 +1.4
comp=Z,27nm,1.1s
LPL La Plagne 69.72 47 *e*P **P** 17 05 21.2 +1.4
LPL pmax pmax
comp=Z,27nm,1.0s
LPL La Plagne 69.72 47 *e*P **P** 17 05 21.2 +1.4
comp=Z,27nm,1.0s
BNI Bardonecchia 69.73 48 *e*P **P** 17 05 20.2 +0.5
comp=Z,21nm,1.4s
BNI pmax pmax
BNI Bardonecchia 69.73 48 *e*P **P** 17 05 20.2 +0.5
comp=Z,21nm,1.4s
LPG La Plagne 69.74 47 *e*P **P** 17 05 21.3 +1.3
comp=Z,25nm,1.0s
LPG La Plagne 69.74 47 *e*P **P** 17 05 21.3 +1.3
LPG pmax pmax
comp=Z,25nm,1.0s
LPG La Plagne 69.74 47 *e*P **P** 17 05 21.3 +1.3
comp=Z,25nm,1.0s
LMR La Mourre 69.80 50 *e*P **P** 17 05 20.9 +0.9
LMR La Mourre 69.80 50 *e*P **P** 17 05 20.9 +0.9
LMR La Mourre 69.80 50 *e*P **P** 17 05 20.9 +0.9
CDF Champ du Feu 69.81 44 *e*P **P** 17 05 20.7 +0.6
CDF Champ du Feu 69.81 44 *e*P **P** 17 05 20.7 +0.6
CDF Champ du Feu 69.81 44 *e*P **P** 17 05 20.7 +0.6
MBDF Montbardon 69.83 48 *e*P **P** 17 05 21.9 +1.5
comp=Z,29nm,1.0s
MBDF Montbardon 69.83 48 *e*P **P** 17 05 21.9 +1.5
MBDF pmax pmax
comp=Z,29nm,1.0s
MBDF Montbardon 69.83 48 *e*P **P** 17 05 21.9 +1.5
comp=Z,29nm,1.0s
SBF Sospel 70.41 49 *e*P **P** 17 05 24.6 +0.8
SBF Sospel 70.41 49 *e*P **P** 17 05 24.6 +0.8
SBF Sospel 70.41 49 *e*P **P** 17 05 24.6 +0.8
NB2 NORSAR Subarra 71.08 31 P P 17 05 28.6 +1.0
comp=Z,6.4nm,0.8s,baz=276,slow=6.2
NOA NORSAR Array B 71.08 31 P P 17 05 28.9 +1.3
NOA NORSAR Array B 71.08 31 P P 17 05 28.9 +1.3
comp=Z,6.8nm,0.9s,baz=275,slow=6.3,SNR=9.0
TORD Torodi Ar. Bea 71.32 82 P P 17 05 28.9 -0.9
TORD Torodi Ar. Bea 71.32 82 P P 17 05 28.9 -0.9
comp=Z,3.5nm,1.0s,baz=293,slow=5.4,SNR=7.3
PGF Pioggiola 71.72 50 *e*P **P** 17 05 32.4 +0.5
comp=Z,117nm,1.5s
PGF Pioggiola 71.72 50 *e*P **P** 17 05 32.4 +0.5
PGF pmax pmax
comp=Z,117nm,1.5s
PGF Pioggiola 71.72 50 *e*P **P** 17 05 32.4 +0.5
comp=Z,117nm,1.5s
DAVOX Davos/Dischmat 71.74 46 P P 17 05 32.5 +0.4
DAVOX Davos/Dischmat 71.74 46 P P 17 05 32.5 +0.4
comp=Z,5.0nm,0.9s,baz=319,slow=5.5,SNR=4.6
FETA Feichten 72.29 46 *i*/*p*P **P** 17 05 36.8 +1.5
comp=Z,17nm,1.0s
NKC Novy Kostel 72.95 42 *e*P **P** 17 05 40.3 +1.3
NKC *e* 17 05 42.9
NKC Novy Kostel 72.95 42 *e*P **P** 17 05 40.3 +1.3
NKC *e*pP **pP** 17 05 42.9 -0.3
KEST Kesra 73.12 57 *e*P **P** 17 05 41.5 +1.2
KEST Kesra 73.12 57 P P 17 05 41.6 +1.3
comp=Z,2.7nm,0.8s,baz=187,slow=5.8,SNR=3.7
CLL Collm 73.14 41 *e*P **P** 17 05 40.0 0.0
CLL *e* 17 05 43.0
CLL Collm 73.14 41 *e*P **P** 17 05 40.0 0.0
CLL *e*(sP) **sP** 17 05 43.0 -2.9
CLL LmV 17 35 00.0
comp=Z,100nm,19.3s
BRG Berggiesshubel 73.79 41 *i* P **P** 17 05 44.8 +0.9
comp=Z,14nm,1.1s
KHC Kasperske Hory 73.85 43 *e*P **P** 17 05 45.6 +1.3
KHC Kasperske Hory 73.85 43 *e*P **P** 17 05 45.6 +1.3
KHC Kasperske Hory 73.85 43 *e*P **P** 17 05 45.3 +0.9
comp=Z,17nm,1.0s
GERES GERESS Array B 73.98 43 P **P** 17 05 45.9 +0.8
GERES GERESS Array B 73.98 43 P **P** 17 05 45.9 +0.8
comp=Z,11nm,1.0s,baz=274,slow=5.1,SNR=24
PRU Pruhonice 74.32 42 *e*P **P** 17 05 48.6 +1.6
PRU *e* 17 05 50.6
PRU Pruhonice 74.32 42 *e*P **P** 17 05 48.6 +1.6
PRU *e*pP **pP** 17 05 50.6 -0.7
MOA Molln 74.52 44 ⇑*i*P **P** 17 05 48.8 +0.6
comp=Z,17nm,0.9s
TREC Trest 75.05 43 *e*P **P** 17 05 51.8 +0.5
TREC *e* 17 05 55.1
TREC Trest 75.05 43 *e*P **P** 17 05 51.8 +0.5
TREC *e*pP **pP** 17 05 55.1 -0.5
KSP Ksiaz 75.26 41 *e*P P 17 05 56.8 +4.4
DPC Dobruska-Polom 75.38 41 *e*P **P** 17 05 54.5 +1.3
DPC *e* 17 05 57.3
DPC Dobruska-Polom 75.38 41 *e*P **P** 17 05 54.5 +1.3
DPC *e*pP **pP** 17 05 57.3 -0.2
TNA Tin City 75.51 335 *e*P **P** 17 05 53.8 +0.3
comp=Z,12nm,1.1s
ARCES ARCESS Array B 75.68 21 P **P** 17 05 54.7 +0.2
ARCES ARCESS Array B 75.68 21 P **P** 17 05 54.7 +0.2
comp=Z,5.4nm,0.7s,baz=306,slow=4.3,SNR=8.1
VRAC Vranov 75.76 42 P **P** 17 05 55.9 +0.6
VRAC Vranov 75.76 42 P **P** 17 05 55.9 +0.6
comp=Z,9.4nm,1.1s,baz=304,slow=8.4,SNR=4.0
OKC Ostrava-Krasne 76.63 42 *e*P **P** 17 06 02.0 +1.7
OKC *e* 17 06 04.2
OKC Ostrava-Krasne 76.63 42 *e*P **P** 17 06 02.0 +1.7
OKC *e*pP **pP** 17 06 04.2 -0.4
GAMB Gambell 77.53 333 *e*P **P** 17 06 05.3 +0.4
comp=Z,4.7nm,0.9s
FINES FINESS Array B 78.07 29 P **P** 17 06 08.9 +0.9
FINES FINESS Array B 78.07 29 P **P** 17 06 08.9 +0.9
comp=Z,7.5nm,1.0s,baz=259,slow=3.9,SNR=8.7
STHS Stebnicka Huta 78.69 42 *e*P **P** 17 06 14.1 +2.3
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 78.69 42 *e*P **P** 17 06 14.1 +2.3
CRVS Cervenica-Dubn 78.96 42 *e*P P 17 06 17.5 +4.2
CRVS pmax pmax
comp=Z,18nm,1.5s
CRVS Cervenica-Dubn 78.96 42 *e* P 17 06 17.5 +4.2
VSU Vasula 79.26 32 ⇑*e*P **P** 17 06 17.4 +2.7
VSU pmax pmax
comp=Z,48nm,1.1s
KOLS Kolonicke sedl 79.47 42 *e*P P 17 06 20.3 +4.2
KOLS pmax pmax
comp=Z,18nm,1.5s
KOLS Kolonicke sedl 79.47 42 *e* P 17 06 20.3 +4.2
KWP Kalwaria Pacla 79.55 41 *e*P **P** 17 06 19.0 +2.5
KWP Kalwaria Pacla 79.55 41 *e*P **P** 17 06 19.0 +2.5
KWP Kalwaria Pacla 79.55 41 *e*P **P** 17 06 17.5 +1.0
comp=Z,30nm,1.0s
UZH Uzhgorod 79.56 42 *e*P P 17 06 20.1 +3.5
UZH *e* 17 06 22.3
UZH *e* 17 06 29.1
JOF Joensuu 79.92 27 *e*P **P** 17 06 18.5 +0.3
JOF Joensuu 79.92 27 *e*p **P** 17 06 18.5 +0.3
LVV L'vov 80.32 41 *e*P **P** 17 06 22.8 +2.2
NACGM Naroch 80.39 35 *e* **P** 17 06 21.0 +0.1
BUR08 Bucovina Ar. S 81.72 43 *e*P **P** 17 06 28.5 +0.2
MLR Muntele Rosu 82.89 44 P **P** 17 06 36.3 +1.8
MLR Muntele Rosu 82.89 44 P **P** 17 06 36.3 +1.8
comp=Z,5.2nm,0.9s,baz=208,slow=1.6,SNR=14
KIEV Kiev 83.18 39 *e*P P 17 06 39.0 +3.3
KIEV Kiev 83.18 39 *e*P P 17 06 39.0 +3.3
AKASG Malin Array Be 83.19 39 *i* P P 17 06 38.9 +3.2
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 83.19 39 P **P** 17 06 35.9 +0.1
AKASG Malin Array Be 83.19 39 P **P** 17 06 35.9 +0.1
comp=Z,0.7nm,0.4s,baz=277,slow=4.3,SNR=12
BILL Bilibino 83.82 341 ⇓*e*P **P** 17 06 39.8 +1.1
BILL *e* 17 06 43.1
BILL pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 84.31 27 *e*P **P** 17 06 41.4 +0.1
KLMR pmax pmax
comp=Z,22nm,1.2s
IDI Anoyia 85.48 54 P **P** 17 06 48.6 +0.8
IDI Anoyia 85.48 54 P **P** 17 06 48.6 +0.8
comp=Z,4.0nm,0.5s,baz=244,slow=12,SNR=4.4
OBN Obninsk 85.53 33 ⇑*e*P **P** 17 06 50.2 +2.7
OBN *e* 17 06 52.8
OBN pmax pmax
comp=Z,42nm,1.9s
PRGR Permogore 86.46 25 *e*P **P** 17 06 51.2 -0.8
TIXI Tiksi 88.91 353 ⇑*e*P **P** 17 07 03.7 +0.2
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 88.91 353 *e*P **P** 17 07 02.4 -1.1
comp=Z,7.6nm,1.0s
FX1 Attu Island--F 89.14 326 LR LR 17 46 06.9
comp=Z,110nm,18.0s,baz=87,slow=35
BRTR Keskin Array B 90.30 48 P **P** 17 07 12.0 +1.1
BRTR Keskin Array B 90.30 48 P **P** 17 07 12.0 +1.1
comp=Z,3.6nm,0.9s,baz=261,slow=3.5,SNR=9.2
KIV Kislovodsk 94.35 41 *e*P **P** 17 07 27.5 -2.0
KIV pmax pmax
comp=Z,8.0nm,1.3s
YAK Yakutsk 97.82 350 ⇑*e*P Pdif 17 07 45.2 +0.4
YAK pmax pmax
comp=Z,4.0nm,1.0s
KSH Kashi 115.30 26 *e*PKP **PKPdf** 17 12 52.8 +1.1
KSH *e*PP PP 17 14 00.4 +9.1
KSH *e*SKS **SKSdf** 17 19 58.0 -5.9
KSH *e*SKKS **SKKSac** 17 20 49.3 -4.6
KSH AMB AMB
comp=Z,31nm,3.5s
KSH LR LR
comp=Z,23nm,4.0s
KSH LR LR
comp=Z,47nm,5.2s
WMQ Urumqi 115.45 16 PKP **PKPdf** 17 12 52.4 +0.6
WMQ PP PP 17 13 58.4 +6.4
WMQ AMB AMB
comp=Z,11nm,9.6s
WMQ LR LR
comp=Z,110nm,20.9s
WMQ LR LR
comp=Z,83nm,18.5s
HHC Hu-ho-hao-te 120.85 356 *e*PKP **PKPdf** 17 12 57.8 -4.5
HHC AMB AMB
comp=Z,300nm,10.0s
HHC LR LR
comp=Z,290nm,14.3s
HHC LR LR
comp=Z,290nm,12.7s
HHC LR LR
comp=Z,280nm,15.6s
LZH Lanzhou 125.64 3 *e*PKP **PKPdf** 17 13 11.8 +0.1
LZH sPKP 17 13 16.3
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,170nm,18.1s
LZH LR LR
comp=Z,190nm,20.2s
NJ2 Nanjing 128.56 347 *e*PKP **PKPdf** 17 13 16.3 -0.8
KMI Kunming 136.44 6 PKP **PKPdf** 17 13 32.0 -0.5
CMAR Chiang Mai Arr 142.39 13 PKPpre PKPpre 17 13 39.6
CMAR Chiang Mai Arr 142.39 13 PKhKP PKPpre 17 13 39.6
comp=Z,1.4nm,0.9s,baz=323,slow=4.0,SNR=7.2
STKA Stephens Creek 146.39 240 PKPbc **PKPdf** 17 13 49.6 -0.1
STKA Stephens Creek 146.39 240 PKPbc **PKPdf** 17 13 49.6 -0.1
comp=Z,4.8nm,0.9s,baz=223,slow=14,SNR=6.2
WRA Warramunga Arr 154.46 262 PKP **PKPdf** 17 14 01.8 -0.8
WRA PKPbc **PKPbc** 17 14 09.3 -1.7
WRA Warramunga Arr 154.46 262 PKP **PKPdf** 17 14 01.8 -0.8

comp=Z,2.4nm,1.1s,baz=94,slow=0.9,SNR=5.7
WRA PKPbc **PKPbc** **17 14 09.3 -1.7**
comp=Z,3.4nm,1.0s,baz=88,slow=3.1,SNR=10
ASAR Alice Springs 154.68 254 PKP **PKPdf** **17 14 01.9 -0.9**
ASAR PKPbc **PKPbc** **17 14 09.7 -1.7**
ASAR PKPab **PKPab** **17 14 25.9 -0.3**
ASAR Alice Springs 154.68 254 PKP **PKPdf** **17 14 01.9 -0.9**
comp=Z,0.4nm,0.7s,baz=30,slow=1.3,SNR=4.5
ASAR PKPbc **PKPbc** **17 14 09.7 -1.7**
comp=Z,1.0nm,0.6s,baz=99,slow=2.2,SNR=7.1
ASAR PKPab **PKPab** **17 14 25.9 -0.3**
comp=Z,1.1nm,0.9s,baz=98,slow=3.2,SNR=4.9
PSI Prapat 157.30 22 PKPab **PKPab** **17 14 37.5 -0.1**
PSI Prapat 157.30 22 PKPab **PKPab** **17 14 37.5 -0.1**
comp=Z,8.8nm,1.0s,baz=268,slow=4.1,SNR=6.0

*ISCJB **21** 16:56:33.5±0.3, 38°29N±0°02×22°12E±0°03, h6^{km}±3^{km}, Error ellipse: s-maj=3.4km s-min=2.5km az=10.1*
*THE **21** 16:56:33.8, 38°29N×22°12E, h7^{km}±2^{km}, ML2.5/6, Error ellipse: s-maj=2.5km s-min=0.4km az=342.0*
*CSEM **21** 16:56:33.5±0.1, 38°29N×22°10E, h8^{km}, ML2.5, Error ellipse: s-maj=2.7km s-min=2.2km az=117.0*
*ATH **21** 16:56:34.0, 38°29N×22°11E, h9^{km}±2^{km}, MD2.9/19*
ISC 21 16:56:33.8±0.8,**38°29N**±0°01×**22°11E**±0°02,**h8**^{km}±5km, **n62**,σ0**§60**/102,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KALE	**Kalithea**	**0.10**	**13**	P		**Pg**	**16 56 36.2**	**-0.1**
KALE				S		**Sg**	**16 56 37.9**	**-0.1**
KALE	**Kalithea**	**0.10**	**13**	*e*PG		**Pg**	**16 56 36.2**	**-0.1**
KALE				*e*SG		**Sg**	**16 56 38.7**	**+0.7**
KALE	**Kalithea**	**0.10**	**13**	P		**Pg**	**16 56 36.2**	**-0.1**
KALE				S		**Sg**	**16 56 37.9**	**-0.1**
KALE				*e*Sg		Sg	16 56 38.7	+0.6
LAKA	**Lakka**	**0.12**	**244**	P		**Pg**	**16 56 36.3**	**-0.2**
LAKA	**Lakka**	**0.12**	**244**	*e*PG		**Pg**	**16 56 36.2**	**-0.2**
LAKA	**Lakka**	**0.12**	**244**	*e*Pg		**Pg**	**16 56 36.2**	**-0.2**
EFP	**Efpalio**	**0.21**	**310**	P		**Pg**	**16 56 37.7**	**-0.3**
EFP	**Efpalio**	**0.21**	**310**	*e*PG		**Pg**	**16 56 37.8**	**-0.3**
EFP	**Efpalio**	**0.21**	**310**	*e*Pg		**Pg**	**16 56 37.8**	**-0.3**
KLV	**Kalavryta, Ach**	**0.25**	**173**	P		**Pg**	**16 56 38.5**	**-0.3**
KLV				S		**Sg**	**16 56 42.6**	**+0.5**
KLV	**Kalavryta, Ach**	**0.25**	**173**	*e*PG		**Pg**	**16 56 38.5**	**-0.3**
KLV				*e*SG		**Sg**	**16 56 43.3**	**+1.2**
KLV	**Kalavryta, Ach**	**0.25**	**173**	P		**Pg**	**16 56 38.5**	**-0.3**
KLV				S		**Sg**	**16 56 42.6**	**+0.5**
KLV				*e*Sg		**Sg**	**16 56 43.3**	**+1.2**
UPR	**University Cam**	**0.26**	**268**	P		**Pg**	**16 56 39.1**	**+0.2**
UPR	**University Cam**	**0.26**	**268**	P		**Pg**	**16 56 39.1**	**+0.2**
DSF	**Desfina**	**0.35**	**70**	P		**Pg**	**16 56 40.3**	**-0.3**
DSF				S		**Sg**	**16 56 45.1**	**-0.2**
DSF	**Desfina**	**0.35**	**70**	*e*PG		**Pg**	**16 56 40.3**	**-0.3**
DSF				*e*SB		**Sg**	**16 56 46.7**	**+1.4**
DSF	**Desfina**	**0.35**	**70**	P		**Pg**	**16 56 40.3**	**-0.3**
DSF				S		**Sg**	**16 56 45.1**	**-0.2**
DSF				*e*Sb		**Sg**	**16 56 46.7**	**+1.4**
GUR	**Goura**	**0.40**	**153**	P		**Pg**	**16 56 41.1**	**-0.5**
GUR				S		**Sg**	**16 56 47.3**	**+0.5**
GUR	**Goura**	**0.40**	**153**	*e*PG		**Pg**	**16 56 41.2**	**-0.4**
GUR				*e*SB		**Sg**	**16 56 47.9**	**+1.1**
GUR	**Goura**	**0.40**	**153**	*e*Pg		**Pg**	**16 56 41.2**	**-0.4**
GUR				S		**Sg**	**16 56 47.3**	**+0.5**
DRO	**Drossia**	**0.46**	**223**	P		**Pg**	**16 56 42.4**	**-0.4**
DRO	**Drossia**	**0.46**	**223**	*e*PB		**Pg**	**16 56 42.4**	**-0.4**
DRO				*e*SB		**Sg**	**16 56 50.1**	**+1.3**
DRO	**Drossia**	**0.46**	**223**	P		**Pg**	**16 56 42.4**	**-0.4**
DRO				*e*Sb		**Sg**	**16 56 50.1**	**+1.3**
RLS	**Riolos of Patr**	**0.56**	**245**	P		**Pg**	**16 56 44.7**	**+0.1**
RLS	**Riolos of Patr**	**0.56**	**245**	*e*PB		**Pg**	**16 56 44.4**	**-0.2**
RLS				*e*SB		**Sb**	**16 56 53.1**	**-0.8**
RLS	**Riolos of Patr**	**0.56**	**245**	*e*Pb		**Pg**	**16 56 44.4**	**-0.2**
RLS	**Riolos of Patr**	**0.56**	**245**	P		**Pg**	**16 56 44.7**	**+0.1**
RLS				*e*Sb		**Sb**	**16 56 53.1**	**-0.8**
AXAR	**Agios Charalam**	**0.64**	**42**	P		**Pg**	**16 56 45.5**	**-0.6**
AXAR				S		**Sg**	**16 56 54.8**	**+0.3**
AXAR	**Agios Charalam**	**0.64**	**42**	P		**Pg**	**16 56 45.5**	**-0.6**
AXAR				S		**Sg**	**16 56 54.8**	**+0.3**
EVR	**Evrytania**	**0.67**	**339**	P		**Pg**	**16 56 46.0**	**-0.7**
EVR				S		**Sb**	**16 56 56.7**	**-0.5**
EVR	**Evrytania**	**0.67**	**339**	*e*PB		**Pg**	**16 56 46.2**	**-0.5**
EVR				*e*SB		**Sg**	**16 56 56.4**	**+1.0**
EVR	**Evrytania**	**0.67**	**339**	*e*Pb		**Pg**	**16 56 46.2**	**-0.5**
EVR				*e*Sb		**Sg**	**16 56 56.4**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P		**Pg**	**16 56 47.6**	**-0.1**
MAKR				S		**Sg**	**16 56 57.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	*e*PB		**Pg**	**16 56 47.7**	**0.0**
MAKR				*e*SB		**Sb**	**16 56 58.4**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	*e*Pb		**Pg**	**16 56 47.7**	**0.0**
MAKR				S		**Sg**	**16 56 57.9**	**+0.8**
MAKR				*e*Sb		**Sb**	**16 56 58.4**	**-0.3**
LTK	**Loutraki**	**0.73**	**111**	P		**Pg**	**16 56 48.2**	**+0.5**
LTK	**Loutraki**	**0.73**	**111**	*e*PB		**Pg**	**16 56 48.1**	**+0.4**
LTK	**Loutraki**	**0.73**	**111**	*e*Pb		**Pg**	**16 56 48.1**	**+0.4**
AGG	**Agios Georgios**	**0.75**	**13**	P		**Pg**	**16 56 47.2**	**-1.0**
AGG				S		**Sb**	**16 56 59.0**	**-0.4**
AGG	**Agios Georgios**	**0.75**	**13**	*e*PB		**Pg**	**16 56 47.5**	**-0.7**
AGG				*e*SB		**Sb**	**16 56 59.1**	**-0.4**
AGG	**Agios Georgios**	**0.75**	**13**	P		**Pg**	**16 56 47.2**	**-1.0**
AGG	**Agios Georgios**	**0.75**	**13**	*e*Pb		**Pg**	**16 56 47.5**	**-0.7**
AGG				S		**Sb**	**16 56 59.0**	**-0.4**
LKR	**Lokris**	**0.78**	**63**	P		**Pg**	**16 56 48.4**	**-0.5**
LKR	**Lokris**	**0.78**	**63**	*e*PB		**Pg**	**16 56 48.4**	**-0.5**
LKR	**Lokris**	**0.78**	**63**	P		**Pg**	**16 56 48.4**	**-0.5**
PDO	**Prodromos**	**0.79**	**293**	P		**Pg**	**16 56 49.2**	**+0.2**
PDO	**Prodromos**	**0.79**	**293**	*e*PB		**Pg**	**16 56 49.4**	**+0.4**
PDO				*e*SB		**Sb**	**16 57 00.1**	**-0.5**
PDO	**Prodromos**	**0.79**	**293**	P		**Pg**	**16 56 49.2**	**+0.2**
PDO				*e*Sb		**Sb**	**16 57 00.1**	**-0.5**
AMT	**Artemida-Makis**	**0.82**	**203**	*e*PB		**Pg**	**16 56 49.7**	**+0.1**
AMT				*e*SB		**Sb**	**16 57 01.3**	**-0.2**
AMT	**Artemida-Makis**	**0.82**	**203**	*e*Pb		**Pg**	**16 56 49.7**	**+0.1**
AMT				*e*Sb		**Sb**	**16 57 01.3**	**-0.2**
SMIA	**Simia**	**1.04**	**55**	*e*PG		**Pg**	**16 56 53.6**	**-0.2**
SMIA	**Simia**	**1.04**	**55**	*e*Pg		**Pg**	**16 56 53.6**	**-0.2**
ITM	**Ithomi**	**1.12**	**188**	*e*PB		**Pg**	**16 56 54.1**	**-1.2**
ITM				*e*SB		**Sn**	**16 57 11.1**	**-0.2**
ITM	**Ithomi**	**1.12**	**188**	*e*Pb		**Pg**	**16 56 54.1**	**-1.2**
ITM				*e*Sb		**Sn**	**16 57 11.1**	**-0.2**
DID	**Didima**	**1.19**	**131**	*e*PB		**Pn**	**16 56 57.2**	**+0.5**
DID	**Didima**	**1.19**	**131**	*e*Pb		**Pn**	**16 56 57.2**	**+0.5**
VLS	**Valsamata**	**1.20**	**265**	*e*PB		**Pb**	**16 56 55.4**	**-1.4**
VLS				*e*SB		**Sn**	**16 57 14.0**	**+0.6**
VLS	**Valsamata**	**1.20**	**265**	*e*Pb		**Pb**	**16 56 55.4**	**-1.4**
VLS				*e*Sb		**Sn**	**16 57 14.0**	**+0.6**
MRKA	**Markates**	**1.23**	**70**	*e*PB		**Pg**	**16 56 57.9**	**+0.5**
MRKA	**Markates**	**1.23**	**70**	*e*Pb		**Pg**	**16 56 57.9**	**+0.5**
THL	**Klokotos Trika**	**1.27**	**357**	*e*PB		**Pb**	**16 56 58.0**	**0.0**
THL				*e*SB		**Sn**	**16 57 15.4**	**+0.3**
THL	**Klokotos Trika**	**1.27**	**357**	*e*Pb		**Pb**	**16 56 58.0**	**0.0**
THL				*e*Sb		**Sn**	**16 57 15.4**	**+0.3**

*BJI **21** 16:57:00.9, 34°90N×5°80W, h10^{km}, mB4.8/2, mb4.4/2*
*IDC **21** 16:57:03.3±0.7, 34°83N×5°60W, h0^{km}, mb4.2/23, mb1 4.4/26, mb1mx4.2/60, mbtmp4.2/26, ML4.7/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/61, Error ellipse: s-maj=17.8km s-min=14.0km az=88.0*
*CSEM **21** 16:57:04.7±0.1, 34°80N×5°74W, h10^{km}, mb4.6/10, ML4.7/5, Error ellipse: s-maj=3.5km s-min=2.7km az=83.0*
*SFS **21** 16:57:04.0, 34°77N×5°86W, h0^{km}, ML3.9*
*NEIC **21** 16:57:04.5±0.4, 34°86N×5°57W, h10^{km}, mb4.5/15, Error ellipse: s-maj=8.6km s-min=5.1km az=93.0*
*LDG **21** 16:57:05.1±0.3, 34°93N×5°64W, h2^{km}, Md3.8/1, Ml4.3/5, Error ellipse: s-maj=8.1km s-min=6.5km az=28.0*
*IGIL **21** 16:57:06.4, 34°78N×5°86W, h0^{km}, ML4.4*
*INMG **21** 16:57:06.7±1.2, 34°90N×5°67W, h7^{km}±5^{km}, ML4.1, Error ellipse: s-maj=3.6km s-min=3.5km az=83.0*
*CNRM **21** 16:57:06.6, 34°73N×5°64W, h1^{km}, MD4.2*
*MDD **21** 16:57:07.1±0.4, 34°78N×5°73W, h18^{km}±2^{km}, mbLg3.9/35, Error ellipse: s-maj=4.3km s-min=3.1km az=77.0, PRXIMO*
ISC 21 16:57:04.7±0.7,**34°80N**±0°02×**5°70W**±0°02,**h13**^{km}±4km, **n461**,σ1**§49**/602,**mb4.4**/34,**39C-12D,Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RSA	**Sarsar**	**0.13**	**307**	P		**Pb**	**16 57 10.0**	**+1.0**
RSA				S		**Sb**	**16 57 15.0**	**+3.1**
RSA	**Sarsar**	**0.13**	**307**	*i* P		**Pb**	**16 57 10.0**	**+1.0**
RSA				S		**Sb**	**16 57 15.0**	**+3.1**
TGT	**Taghat**	**0.90**	**143**	P		**Pb**	**16 57 23.0**	**+0.8**
TGT				S		**Sb**	**16 57 32.0**	**-2.2**
TGT	**Taghat**	**0.90**	**143**	P		**Pb**	**16 57 23.0**	**+0.8**
TGT				*i* S		**Sb**	**16 57 32.0**	**-2.2**
ECEU	**Ceuta**	**1.13**	**14**	⇑P		**Pg**	**16 57 27.8**	**+1.4**
	287nm,0.4s,SNR=18							
ECEU				S		**Sg**	**16 57 42.7**	**+1.5**
	595nm,0.4s,SNR=7.9							
ECEU	**Ceuta**	**1.13**	**14**	P		**Pg**	**16 57 27.8**	**+1.4**
	287nm,0.4s,SNR=18							
ECEU				S		**Sg**	**16 57 42.7**	**+1.5**
	595nm,0.4s,SNR=7.9							
RTC	**Rabat Centre**	**1.25**	**230**	P		**Pb**	**16 57 29.0**	**+0.9**
RTC				S		**Sg**	**16 57 46.0**	**+1.0**
RTC	**Rabat Centre**	**1.25**	**230**	*e*Pn		**Pb**	**16 57 29.1**	**+1.0**
RTC				*e*Sn		**Sg**	**16 57 47.4**	**+2.4**
RTC	**Rabat Centre**	**1.25**	**230**	P		**Pb**	**16 57 29.0**	**+0.9**
RTC				S		**Sg**	**16 57 46.0**	**+1.0**
RTC				*e*Sn		**Sg**	**16 57 47.4**	**+2.4**
MIF	**Mishlifen**	**1.44**	**164**	P		**Pn**	**16 57 31.0**	**+0.3**
MIF				S		**Sn**	**16 57 50.0**	**+0.4**
MIF	**Mishlifen**	**1.44**	**164**	P		**Pn**	**16 57 31.0**	**+0.3**
MIF				S		**Sn**	**16 57 50.0**	**+0.4**
MPAL	**Palemas**	**1.51**	**73**	P		**Pb**	**16 57 33.0**	**+0.5**
MPAL				S		**Sg**	**16 57 53.0**	**-0.2**
MPAL	**Palemas**	**1.51**	**73**	P		**Pb**	**16 57 33.0**	**+0.5**
MPAL				S		**Sg**	**16 57 53.0**	**-0.2**
CNIL	**Conil**	**1.59**	**350**	⇑P		**Pg**	**16 57 35.4**	**+0.1**
CNIL				S		Sg	16 58 03.0	+7.0
CNIL	**Conil**	**1.59**	**350**	P		**Pg**	**16 57 35.4**	**+0.1**
TOU	**Touzarine**	**1.61**	**84**	P		**Pn**	**16 57 33.0**	**+0.1**
TOU				S		**Sn**	**16 57 53.0**	**-0.6**
TOU	**Touzarine**	**1.61**	**84**	P		**Pn**	**16 57 33.0**	**+0.1**
TOU				S		**Sn**	**16 57 53.0**	**-0.6**
SFS	**San Fernando**	**1.71**	**346**	⇑P		**Pb**	**16 57 36.3**	**+0.3**
SFS				S		Sg	16 58 11.2	+11
SFS	**San Fernando**	**1.71**	**346**	P		**Pb**	**16 57 36.3**	**+0.3**
REAL	**Reales**	**1.73**	**13**	⇓P		**Pb**	**16 57 36.9**	**+0.5**
REAL				S		Sg	16 58 11.4	+11
REAL	**Reales**	**1.73**	**13**	P		**Pb**	**16 57 36.9**	**+0.5**
EMIJ	**Mijas**	**1.92**	**23**	P		**Pn**	**16 57 37.1**	**0.0**
	172nm,0.6s,SNR=38							
EMIJ				S		**Sb**	**16 58 02.9**	**-0.5**
	216nm,0.4s,SNR=6.0							
EMIJ	**Mijas**	**1.92**	**23**	P		**Pn**	**16 57 37.1**	**0.0**
	172nm,0.6s,SNR=38							
EMIJ				S		**Sb**	**16 58 02.9**	**-0.5**
	216nm,0.4s,SNR=6.0							
ESPR	**Espera**	**2.07**	**357**	⇑P		**Pn**	**16 57 40.4**	**+1.3**
	151nm,0.4s,SNR=18							
ESPR				S		**Sb**	**16 58 06.2**	**-1.5**
	502nm,0.5s,SNR=7.4							
ESPR	**Espera**	**2.07**	**357**	P		**Pn**	**16 57 40.4**	**+1.3**
	151nm,0.4s,SNR=18							
ESPR				S		**Sb**	**16 58 06.2**	**-1.5**
	502nm,0.5s,SNR=7.4							
LIJA	**Lijar**	**2.12**	**7**	⇓P		**Pb**	**16 57 42.3**	**-0.7**
LIJA				S		**Sg**	**16 58 15.3**	**+2.6**
LIJA	**Lijar**	**2.12**	**7**	P		**Pb**	**16 57 42.3**	**-0.7**
MDT	**Midelt**	**2.17**	**155**	Pn		**Pn**	**16 57 41.0**	**+0.3**
MDT				Sn		**Sn**	**16 58 06.7**	**-0.9**
MDT	**Midelt**	**2.17**	**155**	Pn		**Pn**	**16 57 41.0**	**+0.3**
	47nm,0.3s,baz=331,slow=16,SNR=708							
MDT				LR		LR	16 58 01.9	
	comp=Z,89nm,20.2s,baz=356,slow=27							
MDT				Sn		**Sn**	**16 58 06.7**	**-0.9**
	74nm,0.3s,baz=4.4,slow=13,SNR=6.9							
MDT	**Midelt**	**2.17**	**155**	Pn		**Pn**	**16 57 41.0**	**+0.3**
MDT				Sn		**Sn**	**16 58 06.7**	**-0.9**
EMAL	**Malaga-Limoner**	**2.22**	**27**	⇓P		**Pn**	**16 57 41.8**	**+0.7**
EMAL				S		**Sn**	**16 58 07.0**	**-1.4**
EMAL	**Malaga-Limoner**	**2.22**	**27**	P		**Pn**	**16 57 41.8**	**+0.7**
EMAL				S		**Sn**	**16 58 07.0**	**-1.4**
KIB	**El Ksiba**	**2.23**	**187**	P		**Pn**	**16 57 42.0**	**+0.5**
KIB				S		**Sn**	**16 58 10.0**	**+1.0**
KIB	**El Ksiba**	**2.23**	**187**	P		**Pn**	**16 57 42.0**	**+0.5**
KIB				S		**Sn**	**16 58 10.0**	**+1.0**
EMEL	**Melilla**	**2.31**	**77**	P		**Pb**	**16 57 45.7**	**-0.4**
	121nm,0.2s,SNR=7.9							
EMEL				S		**Sb**	**16 58 12.8**	**-1.8**
	198nm,0.2s,SNR=7.9							
EMLI	**Melilla**	**2.31**	**77**	P		**Pb**	**16 57 45.7**	**-0.5**
	121nm,0.2s,SNR=7.9							
EMLI				S		**Sb**	**16 58 12.8**	**-1.9**
	198nm,0.2s,SNR=7.9							
ZAI	**Zaio**	**2.44**	**85**	P		**Pn**	**16 57 46.0**	**+1.8**
ZAI				S		**Sn**	**16 58 14.0**	**0.0**
ZAI	**Zaio**	**2.44**	**85**	P		**Pn**	**16 57 46.0**	**+1.8**
ZAI				S		**Sn**	**16 58 14.0**	**0.0**
EGUA	**Guajares**	**2.67**	**40**	P		**Pn**	**16 57 47.6**	**+0.2**
	85nm,0.3s,SNR=7.9							
EGUA				S		**Sn**	**16 58 20.5**	**+0.8**
	152nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**2.67**	**40**	P		**Pn**	**16 57 47.6**	**+0.2**
	85nm,0.3s,SNR=7.9							
EGUA				S		**Sn**	**16 58 20.5**	**+0.8**
	152nm,0.4s,SNR=7.9							
TZC	**Tazercounte**	**2.72**	**194**	P		**Pn**	**16 57 49.0**	**+0.7**
TZC				S		**Sn**	**16 58 21.0**	**-0.2**
TZC	**Tazercounte**	**2.72**	**194**	P		**Pn**	**16 57 49.0**	**+0.7**
TZC				S		**Sn**	**16 58 21.0**	**-0.2**
ZFT	**Errachidia**	**2.98**	**157**	P		**Pn**	**16 57 53.0**	**+1.2**
ZFT				S		**Sn**	**16 58 26.0**	**-1.6**
ZFT	**Errachidia**	**2.98**	**157**	P		**Pn**	**16 57 53.0**	**+1.2**
ZFT				S		**Sn**	**16 58 26.0**	**-1.6**
ELUQ	**Luque**	**2.99**	**22**	P		**Pn**	**16 57 53.3**	**+1.5**
	14nm,0.3s,SNR=7.9							
ELUQ				S		**Sn**	**16 58 30.4**	**+2.8**
	65nm,0.3s,SNR=7.9							
ELUQ	**Luque**	**2.99**	**22**	P		**Pn**	**16 57 53.3**	**+1.5**
	14nm,0.3s,SNR=7.9							
ECOG	**Cogollos-Vega**	**3.02**	**34**	P		**Pn**	**16 57 54.6**	**+2.3**
	27nm,0.4s,SNR=7.9							
ECOG	**Cogollos-Vega**	**3.02**	**34**	P		**Pn**	**16 57 54.6**	**+2.3**
	27nm,0.4s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**3.04**	**324**	*i* Pn		**Pn**	**16 57 52.7**	**+0.3**
PBDV				*e*Sn		**Sn**	**16 58 27.9**	**-0.8**
PBDV				A		A	16 58 32.2	
	452nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.04**	**324**	⇑P		**Pn**	**16 57 52.7**	**+0.3**
PBDV				S		**Sn**	**16 58 27.9**	**-0.8**
	452nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.04**	**324**	P		**Pn**	**16 57 52.7**	**+0.3**
PBDV				S		**Sn**	**16 58 27.9**	**-0.8**
	452nm,0.5s							
EMIN	**Mina Concepcio**	**3.06**	**345**	⇑P		**Pn**	**16 57 53.1**	**+0.3**
	75nm,0.3s,SNR=18							
EMIN				S		**Sn**	**16 58 29.0**	**-0.3**
	96nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.06**	**345**	P		**Pn**	**16 57 53.1**	**+0.3**
	75nm,0.3s,SNR=18							
EMIN				S		**Sn**	**16 58 29.0**	**-0.3**
	96nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**3.07**	**328**	*i* Pn		**Pn**	**16 57 53.4**	**+0.5**
PVAQ				*e*Sn		**Sn**	**16 58 28.3**	**-1.2**
PVAQ				A		A	16 58 29.8	
	1µm,0.5s							
PVAQ	**Vaqueiros**	**3.07**	**328**	⇑P		**Pn**	**16 57 53.4**	**+0.5**
PVAQ				S		**Sn**	**16 58 28.3**	**-1.2**
	1µm,0.5s							
PVAQ	**Vaqueiros**	**3.07**	**328**	P		**Pn**	**16 57 53.4**	**+0.5**
PVAQ				S		**Sn**	**16 58 28.3**	**-1.2**
	1µm,0.5s							
EGRO	**El Granado**	**3.09**	**333**	⇑P		**Pn**	**16 57 52.5**	**-0.6**
	557nm,0.3s,SNR=18							
EGRO				S		**Sn**	**16 58 28.3**	**-1.6**
	638nm,0.4s,SNR=26							
EGRO	**El Granado**	**3.09**	**333**	P		**Pn**	**16 57 52.5**	**-0.6**
	557nm,0.3s,SNR=18							
EGRO				S		**Sn**	**16 58 28.3**	**-1.6**
	638nm,0.4s,SNR=26							
EBER	**Berja**	**3.10**	**47**	P		**Pn**	**16 57 53.9**	**+0.4**
	182nm,0.6s,SNR=72							
EBER				S		**Sn**	**16 58 31.5**	**+1.0**
	206nm,0.7s,SNR=7.9							
EBER	**Berja**	**3.10**	**47**	P		**Pn**	**16 57 53.9**	**+0.4**
	182nm,0.6s,SNR=72							
EBER				S		**Sn**	**16 58 31.5**	**+1.0**
	206nm,0.7s,SNR=7.9							
ECAB	**El Cabril**	**3.28**	**4**	P		**Pn**	**16 57 56.1**	**+0.3**
	66nm,0.5s,SNR=54							
ECAB				S		**Sn**	**16 58 33.3**	**-1.4**
	80nm,0.3s,SNR=6.2							
ECAB	**El Cabril**	**3.28**	**4**	P		**Pn**	**16 57 56.1**	**+0.3**
	66nm,0.5s,SNR=54							
ECAB				S		**Sn**	**16 58 33.3**	**-1.4**
	80nm,0.3s,SNR=6.2							
MORF	**Marmelete**	**3.46**	**317**	*i* Pn		**Pn**	**16 57 58.0**	**-0.3**
MORF				*e*Sn		**Sn**	**16 58 37.3**	**-1.9**
MORF				A		A	16 58 41.7	
	173nm,0.3s							
MORF	**Marmelete**	**3.46**	**317**	⇑P		**Pn**	**16 57 58.0**	**-0.3**
MORF				S		**Sn**	**16 58 37.3**	**-1.9**
	173nm,0.3s							
MORF	**Marmelete**	**3.46**	**317**	P		**Pn**	**16 57 58.0**	**-0.3**
MORF				S		**Sn**	**16 58 37.3**	**-1.9**
	173nm,0.3s							
EADA	**Adamuz**	**3.48**	**15**	P		**Pn**	**16 57 59.3**	**+0.7**
	35nm,0.4s,SNR=45							
EADA				S		**Sn**	**16 58 40.5**	**+0.8**
	154nm,0.4s,SNR=4.5							
EADA	**Adamuz**	**3.48**	**15**	P		**Pn**	**16 57 59.3**	**+0.7**
	35nm,0.4s,SNR=45							
EADA				S		**Sn**	**16 58 40.5**	**+0.8**
	154nm,0.4s,SNR=4.5							
MESJ	**Messejana**	**3.65**	**327**	*e*P		**Pn**	**16 58 01.3**	**+0.4**
MESJ				*e*S		**Sn**	**16 58 41.5**	**-2.3**
MESJ				AML		AML	16 58 45.7	
	comp=N,1µm,0.5s							
MESJ	**Messejana**	**3.65**	**327**	*e*P		**Pn**	**16 58 01.3**	**+0.4**
MESJ				*e*S		**Sn**	**16 58 41.5**	**-2.3**
MESJ	**Messejana**	**3.65**	**327**	P		**Pn**	**16 58 01.3**	**+0.4**
MESJ				S		**Sn**	**16 58 41.5**	**-2.3**
MESJ	**Messejana**	**3.65**	**327**	P		**Pn**	**16 58 01.3**	**+0.4**
MESJ				S		**Sn**	**16 58 41.5**	**-2.3**
PBEJ	**Beja**	**3.66**	**332**	*i* Pn		**Pn**	**16 58 01.2**	**+0.1**
PBEJ				*e*Sn		**Sn**	**16 58 42.7**	**-1.4**
PBEJ				A		A	16 58 51.0	
	comp=N,346nm,0.4s							
PBEJ	**Beja**	**3.66**	**332**	⇑P		**Pn**	**16 58 01.2**	**+0.1**
PBEJ				S		**Sn**	**16 58 42.7**	**-1.4**
	comp=N,173nm,0.4s							
PBEJ	**Beja**	**3.66**	**332**	P		**Pn**	**16 58 01.2**	**+0.1**
PBEJ				S		**Sn**	**16 58 42.7**	**-1.4**
	comp=N,173nm,0.4s							
PTEO	**Sao Teotonio**	**3.67**	**319**	*i* Pn		**Pn**	**16 58 01.4**	**+0.2**
PTEO				*e*Sn		**Sn**	**16 58 43.5**	**-0.8**
PTEO				A		A	16 58 48.5	
	comp=N,295nm,0.3s							
PTEO	**Sao Teotonio**	**3.67**	**319**	⇑P		**Pn**	**16 58 01.4**	**+0.2**
PTEO				S		**Sn**	**16 58 43.5**	**-0.8**
	comp=N,148nm,0.3s							
PTEO	**Sao Teotonio**	**3.67**	**319**	P		**Pn**	**16 58 01.4**	**+0.2**
PTEO				S		**Sn**	**16 58 43.5**	**-0.8**
	comp=N,148nm,0.3s							
EQES	**Quesada**	**3.67**	**35**	P		**Pn**	**16 58 03.0**	**+1.7**
	comp=N,24nm,0.3s,SNR=22							
EQES				S		**Sn**	**16 58 47.4**	**+2.8**
	comp=N,38nm,0.3s,SNR=4.2							
EQES	**Quesada**	**3.67**	**35**	P		**Pn**	**16 58 03.0**	**+1.7**
	comp=N,24nm,0.3s,SNR=22							
EQES				S		**Sn**	**16 58 47.4**	**+2.8**
	comp=N,38nm,0.3s,SNR=4.2							
EHUE	**Huescar**	**3.92**	**39**	P		Pn	16 58 07.9	+3.3
	comp=N,26nm,0.2s,SNR=7.9						

PMAFR eSn Sn 16 59 16.4 -1.8
comp=N,361nm,0.3s
ESDC Sonseca Array 5.06 15 P Pn 16 58 20.3 +0.1
comp=N,8.7nm,0.3s,baz=200,slow=13,SNR=61
ESDC S Sn 16 59 16.0 -2.7
SNR=7.9
ESDC Sonseca Array 5.06 15 Pn Pn 16 58 20.4 +0.1
ESDC Sn Sn 16 59 11.6 -7.1
ESDC Sonseca Array 5.06 15 Pn Pn 16 58 20.4 +0.1
comp=N,14nm,0.3s,baz=198,slow=12,SNR=65
ESDC Sn Sn 16 59 11.6 -7.1
comp=N,8.7nm,0.3s,baz=196,slow=23,SNR=5.2
ESDC Sonseca Array 5.06 15 Pn Pn 16 58 20.4 +0.1
ESLA Sonseca Array 5.06 15 ePn Pn 16 58 20.3 0.0
ESLA eSn Sn 16 59 14.8 -3.9
ESLA Sonseca Array 5.06 15 ePn Pn 16 58 20.3 0.0
ESLA eSn Sn 16 59 14.8 -3.9
PCBR Castelo Branco 5.23 345 ePn Pn 16 58 23.1 +0.6
PCBR eSn Sn 16 59 20.6 -2.1
PCBR A A 16 59 21.4
comp=N,184nm,0.4s
PCBR Castelo Branco 5.23 345 P Pn 16 58 23.1 +0.6
PCBR S Sn 16 59 20.6 -2.1
comp=N,92nm,0.4s
PCBR Castelo Branco 5.23 345 P Pn 16 58 23.1 +0.6
PCBR S Sn 16 59 20.6 -2.1
comp=N,92nm,0.4s
EPLA Plasencia 5.26 357 P Pn 16 58 23.6 +0.5
comp=N,69nm,0.4s,SNR=7.9
EPLA S Sn 16 59 21.8 -1.9
comp=N,64nm,0.2s,SNR=12
EPLA Plasencia 5.26 357 P Pn 16 58 23.6 +0.5
comp=N,69nm,0.4s,SNR=7.9
EPLA S Sn 16 59 21.8 -1.9
comp=N,64nm,0.2s,SNR=12
PTOM Tomar 5.27 337 ePn Pn 16 58 23.7 +0.5
PTOM eSn Sn 16 59 22.1 -1.7
PTOM AnL 16 59 22.8
PTOM A A 16 59 35.2
comp=N,218nm,0.4s
PTOM Tomar 5.27 337 P Pn 16 58 23.7 +0.5
PTOM S Sn 16 59 22.1 -1.7
PTOM Tomar 5.27 337 P Pn 16 58 23.7 +0.5
PTOM S Sn 16 59 22.1 -1.7
AFS Agadir Fac de 5.42 217 P Pn 16 58 27.0 +1.9
AFS S Sn 16 59 27.0 -0.3
AFS Agadir Fac de 5.42 217 P Pn 16 58 27.0 +1.9
AFS S Sn 16 59 27.0 -0.3
EANR 'Ain N'Sour 5.68 76 P Pn 16 58 33.0 +4.2
PCAS Casmilo, Conde 5.70 338 ePn Pn 16 58 29.4 +0.4
PCAS eSn Sn 16 59 32.0 -2.3
PCAS A A 16 59 59.1
comp=N,113nm,0.7s
PCAS Casmilo, Conde 5.70 338 ePn Pn 16 58 29.4 +0.4
PCAS eSn Sn 16 59 32.0 -2.3
comp=N,113nm,0.7s
ETRT Tiaret 5.77 82 P Pn 16 58 35.7 +5.6
MTE Manteigas 5.78 346 ePn Pn 16 58 30.9 +0.7
MTE eSn Sn 16 59 34.1 -2.3
MTE A A 17 00 06.7
comp=N,192nm,0.5s
MTE Manteigas 5.78 346 P Pn 16 58 30.9 +0.7
MTE S Sn 16 59 34.1 -2.3
comp=N,96nm,0.5s
MTE Manteigas 5.78 346 ePn Pn 16 58 30.5 +0.3
comp=N,212nm,0.6s
MTE eSn Sn 16 59 26.4 -10
MTE Manteigas 5.78 346 ePn Pn 16 58 30.5 +0.3
comp=N,212nm,0.6s
MTE Manteigas 5.78 346 P Pn 16 58 30.9 +0.7
MTE S Sn 16 59 34.1 -2.3
comp=N,96nm,0.5s
EBEN Beniarda 5.88 47 P Pn 16 58 33.7 +2.2
comp=N,6.2nm,0.4s,SNR=12
EBEN Beniarda 5.88 47 P Pn 16 58 33.7 +2.2
comp=N,6.2nm,0.4s,SNR=12
YBT Youssef Ben Ta 5.89 214 P Pn 16 58 32.0 +0.3
YBT S Sn 16 59 39.0 0.0
YBT Youssef Ben Ta 5.89 214 P Pn 16 58 32.0 +0.3
YBT S Sn 16 59 39.0 0.0
GUD Guadarrama 5.96 11 P Pn 16 58 33.5 +0.7
comp=N,19nm,0.2s,SNR=50
GUD S Sn 16 59 36.9 -4.1
comp=N,30nm,0.3s,SNR=6.6
GUD Guadarrama 5.96 11 P Pn 16 58 33.5 +0.7
comp=N,19nm,0.2s,SNR=50
PVIS Viseu 6.16 344 ePn Pn 16 58 35.7 +0.3
PVIS eSn Sn 16 59 42.8 -2.9
PVIS A A 16 59 45.0
comp=N,110nm,0.5s
PVIS Viseu 6.16 344 P Pn 16 58 35.7 +0.3
PVIS S Sn 16 59 42.8 -2.9
comp=N,55nm,0.5s
PVIS Viseu 6.16 344 P Pn 16 58 35.7 +0.3
PVIS S Sn 16 59 42.8 -2.9
comp=N,55nm,0.5s
MVO Moncorvo 6.44 351 ePn Pn 16 58 40.0 +0.8
MVO eSn Sn 16 59 50.2 -2.5
MVO A A 16 59 56.7
comp=N,105nm,0.5s
MVO Moncorvo 6.44 351 P Pn 16 58 40.1 +0.8
comp=N,159nm,0.5s,SNR=140
MVO S Sn 16 59 49.8 -2.9
comp=N,75nm,0.4s,SNR=7.9
MVO Moncorvo 6.44 351 ePn Pn 16 58 40.0 +0.8
MVO S Sn 16 59 49.8 -2.9
comp=N,75nm,0.4s,SNR=7.9
MVO eSn Sn 16 59 50.2 -2.5
comp=N,105nm,0.5s
PVRL Vila Real 6.66 347 ePn Pn 16 58 43.0 +0.8
PVRL eSn Sn 16 59 54.9 -3.1
PVRL A A 17 00 01.0
comp=N,121nm,0.4s
PVRL Vila Real 6.66 347 P Pn 16 58 43.0 +0.8
PVRL S Sn 16 59 54.9 -3.1
comp=N,60nm,0.4s
PVRL Vila Real 6.66 347 P Pn 16 58 43.0 +0.8
PVRL S Sn 16 59 54.9 -3.1
comp=N,60nm,0.4s
ETOR Torete 6.67 25 P Pn 16 58 43.0 +0.6
comp=N,50nm,0.3s,SNR=41
ETOR S Sn 16 59 57.1 -1.2
comp=N,70nm,0.3s,SNR=7.9
ETOR Torete 6.67 25 P Pn 16 58 43.0 +0.6
comp=N,50nm,0.3s,SNR=41
ETOR S Sn 16 59 57.1 -1.2
comp=N,70nm,0.3s,SNR=7.9
PTO Porto 6.73 341 ePn Pn 16 58 43.7 +0.5
PTO eSn Sn 16 59 56.1 -3.6
PTO Porto 6.73 341 P Pn 16 58 43.7 +0.5
PTO S Sn 16 59 56.1 -3.6
PTO Porto 6.73 341 P Pn 16 58 43.7 +0.5
POLO Lamas de Olo 6.77 347 ePn Pn 16 58 44.2 +0.4
POLO eSn Sn 16 59 57.8 -3.0
POLO A A 17 00 01.4
comp=N,33nm,0.5s
POLO Lamas de Olo 6.77 347 ePn Pn 16 58 44.2 +0.4
POLO eSn Sn 16 59 57.8 -3.0
comp=N,33nm,0.5s
EMOS Mosqueruela 6.94 35 P Pn 16 58 47.2 +1.0
comp=N,13nm,0.5s,SNR=13
EMOS S Sn 17 00 01.7 -3.3
SNR=7.9
EMOS Mosqueruela 6.94 35 P Pn 16 58 47.2 +1.0
comp=N,13nm,0.5s,SNR=13
PBRG Braganca 7.04 354 *i* Pn Pn 16 58 48.4 +0.9
PBRG eSn Sn 17 00 02.9 -4.6
PBRG A A 17 00 45.9
comp=N,46nm,0.5s
PBRG Braganca 7.04 354 ⇓P Pn 16 58 48.4 +0.9
PBRG S Sn 17 00 02.9 -4.6
comp=N,23nm,0.5s
PBRG Braganca 7.04 354 P Pn 16 58 48.4 +0.9
EIBI Ibiza 7.05 51 P Pn 16 58 50.2 +2.7
comp=N,36nm,0.7s,SNR=7.1
EIBI Ibiza 7.05 51 P Pn 16 58 50.2 +2.7
comp=N,36nm,0.7s,SNR=7.1
PCAB Cabril 7.14 346 *i* Pn Pn 16 58 49.3 +0.5
PCAB eSn Sn 17 00 06.3 -3.5
PCAB A A 17 00 20.6
comp=N,70nm,0.5s
PCAB Cabril 7.14 346 ⇓P Pn 16 58 49.3 +0.5
PCAB S Sn 17 00 06.3 -3.5
comp=N,35nm,0.5s
PCAB Cabril 7.14 346 P Pn 16 58 49.3 +0.5

ECAL Calabor 7.18 354 P Pn 16 58 50.1 +0.7
comp=N,98nm,0.5s,SNR=66
ECAL S Sn 17 00 07.2 -3.6
comp=N,125nm,0.6s,SNR=7.9
ECAL Calabor 7.18 354 P Pn 16 58 50.1 +0.7
comp=N,98nm,0.5s,SNR=66
EMHD Djebel Mahouad 7.20 76 P Pn 16 58 55.0 +5.3
EZAM Zamans 7.70 343 P Pn 16 58 56.8 +0.2
comp=N,38nm,0.2s,SNR=7.9
EZAM S Sn 17 00 18.3 -5.4
comp=N,50nm,0.4s,SNR=7.9
EZAM Zamans 7.70 343 P Pn 16 58 56.8 +0.2
comp=N,38nm,0.2s,SNR=7.9
ERTA Horta de San J 7.78 36 P Pn 16 58 59.9 +2.2
comp=N,4.5nm,0.2s,SNR=7.9
ERTA Horta de San J 7.78 36 P Pn 16 58 59.9 +2.2
comp=N,4.5nm,0.2s,SNR=7.9
STS Santiago 8.38 345 P Pn 16 59 06.3 +0.6
comp=N,39nm,0.4s,SNR=8.8
STS Santiago 8.38 345 P Pn 16 59 06.3 +0.6
comp=N,39nm,0.4s,SNR=8.8
ETOS Mallorca 8.40 51 P Pn 16 59 08.5 +2.3
comp=N,17nm,0.7s,SNR=5.7
ETOS Mallorca 8.40 51 P Pn 16 59 08.5 +2.3
comp=N,17nm,0.7s,SNR=5.7
EPOB Poblet 8.45 37 P Pn 16 59 08.1 +1.3
comp=N,7.1nm,0.6s,SNR=6.8
EPOB Poblet 8.45 37 P Pn 16 59 08.1 +1.3
comp=N,7.1nm,0.6s,SNR=6.8
EARI Arriondas 8.50 2 P Pn 16 59 08.7 +1.2
comp=N,9.6nm,0.3s,SNR=48
EARI S Sn 17 00 37.9 -5.3
SNR=7.9
EARI Arriondas 8.50 2 P Pn 16 59 08.7 +1.2
comp=N,9.6nm,0.3s,SNR=48
EMAZ Mazaricos 8.53 344 P Pn 16 59 08.3 +0.4
comp=N,14nm,0.3s,SNR=15
EMAZ S Sn 17 00 37.9 -6.0
SNR=7.9
EMAZ Mazaricos 8.53 344 P Pn 16 59 08.3 +0.4
comp=N,14nm,0.3s,SNR=15
EPON Pontenova 8.59 353 P Pn 16 59 10.1 +1.4
comp=N,29nm,0.6s,SNR=5.9
EPON Pontenova 8.59 353 P Pn 16 59 10.1 +1.4
comp=N,29nm,0.6s,SNR=5.9
IUNC Unciti 8.60 21 P Pn 16 59 10.0 +1.2
comp=N,4.0nm,0.2s,SNR=7.9
IUNC Unciti 8.60 21 P Pn 16 59 10.0 +1.2
comp=N,4.0nm,0.2s,SNR=7.9
ELAN Lanestosa 8.60 11 P Pn 16 59 09.8 +0.9
comp=N,6.7nm,0.3s,SNR=28
ELAN S Sn 17 00 41.4 -4.4
SNR=7.9
ELAN Lanestosa 8.60 11 P Pn 16 59 09.8 +0.9
comp=N,6.7nm,0.3s,SNR=28
IEPA Eparoz 8.69 22 P Pn 16 59 10.9 +0.8
comp=N,39nm,0.6s,SNR=7.9
IEPA S Sn 17 00 46.4 -1.5
SNR=7.9
IEPA Eparoz 8.69 22 P Pn 16 59 10.9 +0.8
comp=N,39nm,0.6s,SNR=7.9
IEPA S Sn 17 00 46.4 -1.5
SNR=7.9
IZUN Zunzarren 8.70 21 P Pn 16 59 11.5 +1.2
comp=N,12nm,0.3s,SNR=7.9
IZUN Zunzarren 8.70 21 P Pn 16 59 11.5 +1.2
comp=N,12nm,0.3s,SNR=7.9
IELO Elcoad 8.76 22 P Pn 16 59 11.8 +0.8
comp=N,19nm,0.4s,SNR=7.9
IELO Elcoad 8.76 22 P Pn 16 59 11.8 +0.8
comp=N,19nm,0.4s,SNR=7.9
IUSE Utxeti 8.76 20 P Pn 16 59 13.3 +2.2
comp=N,12nm,0.3s,SNR=7.9
IUSE Utxeti 8.76 20 P Pn 16 59 13.3 +2.2
comp=N,12nm,0.3s,SNR=7.9
ELIZ Elizondo 8.96 20 P Pn 16 59 15.1 +1.3
comp=N,18nm,0.4s,SNR=15
ELIZ Elizondo 8.96 20 P Pn 16 59 15.1 +1.3
comp=N,18nm,0.4s,SNR=15
SJPF Ste Jean 9.00 21 ePn Pn 16 59 11.5 -2.9
SJPF Ste Jean 9.00 21 eP Pn 16 59 16.2 +1.8
SJPF eSn Sn 17 00 47.1 -8.5
comp=N,28nm,0.7s
SJPF Ste Jean 9.00 21 P Pn 16 59 16.2 +1.8
SJPF S Sn 17 00 47.1 -8.5
comp=N,14nm,0.7s
SJPF Ste Jean 9.00 21 ePn Pn 16 59 11.5 -2.9
SJPF eP Pn 16 59 16.2 +1.8
SJPF eSn Sn 17 00 47.1 -8.5
LARF Larrau 9.01 23 eP Pn 16 59 16.3 +1.8
LARF Larrau 9.01 23 eP Pn 16 59 16.3 +1.8
EALK Alkurruntz 9.02 20 P Pn 16 59 15.6 +1.1
comp=N,24nm,0.4s,SNR=20
EALK S Sn 17 00 55.0 -0.9
SNR=7.9
EALK Alkurruntz 9.02 20 P Pn 16 59 15.6 +1.1
comp=N,24nm,0.4s,SNR=20
EALK S Sn 17 00 55.0 -0.9
SNR=7.9
ETSF Etsaut 9.03 25 ePn Pn 16 59 11.7 -3.0
ETSF Etsaut 9.03 25 eP Pn 16 59 16.0 +1.3
ETSF eSn Sn 17 00 47.0 -9.3
comp=N,23nm,0.8s
ETSF Etsaut 9.03 25 P Pn 16 59 16.0 +1.3
ETSF S Sn 17 00 47.0 -9.3
comp=N,12nm,0.8s
ETSF Etsaut 9.03 25 ePn Pn 16 59 11.7 -3.0
ETSF eSn Sn 17 00 47.0 -9.3
ETSF Etsaut 9.03 25 P Pn 16 59 16.0 +1.3
EMIR Miracle 9.09 36 P Pn 16 59 17.6 +2.0
comp=N,13nm,0.7s,SNR=6.7
EMIR Miracle 9.09 36 P Pn 16 59 17.6 +2.0
comp=N,13nm,0.7s,SNR=6.7
OSSF Osses 9.12 21 eP Pn 16 59 16.9 +0.9
OSSF Osses 9.12 21 eP Pn 16 59 16.9 +0.9
ATE Arette 9.14 24 P Pn 16 59 17.9 +1.6
comp=N,11nm,0.4s,SNR=7.9
ATE S Sn 17 00 56.2 -2.9
SNR=7.9
ATE Arette 9.14 24 eP Pn 16 59 18.1 +1.8
ATE Arette 9.14 24 P Pn 16 59 17.9 +1.6
comp=N,11nm,0.4s,SNR=7.9
ORDF Ordiarp 9.18 22 eP Pn 16 59 18.5 +1.7
ORDF Ordiarp 9.18 22 eP Pn 16 59 18.5 +1.7
REYF Montagne du Re 9.23 25 eP Pn 16 59 19.2 +1.6
REYF Montagne du Re 9.23 25 eP Pn 16 59 19.2 +1.6
CSOR Sort 9.26 33 P Pn 16 59 18.5 +0.5
SNR=7.9
CSOR Sort 9.26 33 P Pn 16 59 18.5 +0.5
SNR=7.9
EPF Esparros 9.47 28 ePn Pn 16 59 17.7 -3.1
EPF Esparros 9.47 28 eP Pn 16 59 22.8 +2.0
EPF eSn Sn 17 00 58.1 -9.0
comp=N,22nm,0.6s
EPF Esparros 9.47 28 P Pn 16 59 22.8 +2.0
EPF S Sn 17 00 58.1 -9.0
comp=N,11nm,0.6s
EPF Esparros 9.47 28 ePn Pn 16 59 17.7 -3.1
EPF eSn Sn 17 00 58.1 -9.0
EPF Esparros 9.47 28 P Pn 16 59 22.8 +2.0
CAF Calviac 11.74 28 ePn Pn 16 59 50.0 -1.8
CAF Calviac 11.74 28 P Pn 16 59 50.0 -1.8
CAF Calviac 11.74 28 ePn Pn 16 59 50.0 -1.8
RJF Les Rejaudoux 11.86 26 ePn Pn 16 59 50.4 -3.0
RJF eSn Sn 17 01 54.8 -11
comp=N,3.7nm,0.3s
RJF Les Rejaudoux 11.86 26 P Pn 16 59 50.4 -3.0
RJF S Sn 17 01 54.8 -11
comp=N,1.9nm,0.3s
RJF Les Rejaudoux 11.86 26 ePn Pn 16 59 50.4 -3.0
RJF eSn Sn 17 01 54.8 -11
MFF Saint Martin d 12.52 18 ePn Pn 17 00 02.0 -0.4
MFF Saint Martin d 12.52 18 P Pn 17 00 02.0 -0.4
MFF Saint Martin d 12.52 18 ePn Pn 17 00 02.0 -0.4
MFF Saint Martin d 12.52 18 P Pn 17 00 02.0 -0.4
QUIF Quistinic 13.24 7 ePn Pn 17 00 11.6 -0.7
QUIF Quistinic 13.24 7 P Pn 17 00 11.6 -0.7
QUIF Quistinic 13.24 7 ePn Pn 17 00 11.6 -0.7
QUIF Quistinic 13.24 7 P Pn 17 00 11.6 -0.7
BGF Bois d'Agland 13.41 26 ePn Pn 17 00 13.5 -1.1
BGF Bois d'Agland 13.41 26 P Pn 17 00 13.5 -1.1
BGF Bois d'Agland 13.41 26 ePn Pn 17 00 13.5 -1.1
BGF Bois d'Agland 13.41 26 P Pn 17 00 13.5 -1.1
ROSF Rostrenen 13.65 7 ePn Pn 17 00 17.0 -0.8
ROSF Rostrenen 13.65 7 P Pn 17 00 17.0 -0.8
ROSF Rostrenen 13.65 7 ePn Pn 17 00 17.0 -0.8

ROSF Rostrenen 13.65 7 P Pn 17 00 17.0 -0.8
SGMF Saint Gilles 13.65 9 ePn Pn 17 00 16.8 -1.0
SGMF Saint Gilles 13.65 9 P Pn 17 00 16.8 -1.0
SGMF Saint Gilles 13.65 9 ePn Pn 17 00 16.8 -1.0
SGMF Saint Gilles 13.65 9 ePn Pn 17 00 16.8 -1.0
GRR Gorron 14.05 13 ePn Pn 17 00 21.9 -1.4
GRR Gorron 14.05 13 P Pn 17 00 21.9 -1.4
GRR Gorron 14.05 13 ePn Pn 17 00 21.9 -1.4
GRR Gorron 14.05 13 ePn Pn 17 00 21.9 -1.4
LOR Lormes 14.38 27 eP Pn 17 00 30.3 +2.4
baz=206
LOR Lormes 14.38 27 P Pn 17 00 30.3 +2.4
LOR Lormes 14.38 27 eP Pn 17 00 30.3 +2.4
LDF La Druitiere 14.39 15 ePn Pn 17 00 26.9 -1.2
LDF La Druitiere 14.39 15 ePn Pn 17 00 26.9 -1.2
LDF La Druitiere 14.39 15 ePn Pn 17 00 26.9 -1.2
FLN La Foliniere 14.48 14 ePn Pn 17 00 28.1 -1.1
baz=198
FLN La Foliniere 14.48 14 P Pn 17 00 28.1 -1.1
FLN La Foliniere 14.48 14 ePn Pn 17 00 28.1 -1.1
FLN La Foliniere 14.48 14 ePn Pn 17 00 28.1 -1.1
TAM Tamanrasset 15.47 138 Pn Pn 17 00 42.8 -0.1
comp=N,6.1nm,0.8s
TAM Tamanrasset 15.47 138 Pn Pn 17 00 42.8 -0.1
comp=N,6.1nm,0.8s
DAVOX Davos/Dischmat 16.77 40 Pn P 17 01 02.7 +1.1
DAVOX Davos/Dischmat 16.77 40 Pn P 17 01 02.7 +1.1
comp=N,1.0nm,0.3s,baz=212,slow=18,SNR=9.0
DAVOX LR LR 17 08 02.5
comp=N,151nm,21.2s,baz=262,slow=40
DAVOX Davos/Dischmat 16.77 40 Pn P 17 01 02.7 +1.1
WLF Walferdange 17.22 27 Pn P 17 01 05.7 -0.6
comp=N,25nm,0.9s
WLF Walferdange 17.22 27 Pn P 17 01 05.7 -0.6
comp=N,25nm,0.9s
CADS Cadrg 18.62 46 eP Pn 17 01 25.2 +3.0
CRES Cresnjev 19.48 49 eP P 17 01 31.5 +0.3
GERES GERESS Array B 20.07 40 P P 17 01 36.8 -1.0
GERES GERESS Array B 20.07 40 P P 17 01 36.8 -1.0
comp=N,2.4nm,0.3s,baz=222,slow=12,SNR=41
GERES LR LR 17 09 36.1
comp=N,111nm,21.6s,baz=278,slow=38
GERES GERESS Array B 20.07 40 P P 17 01 36.8 -1.0
KHC Kasperske Hory 20.18 39 eP P 17 01 38.4 -0.5
KHC epP Pn 17 01 41.3 +0.5
KHC ex x 17 01 52.0
KHC Kasperske Hory 20.18 39 eP P 17 01 38.4 -0.5
comp=N,10.0nm,0.7s
KHC Kasperske Hory 20.18 39 eP P 17 01 38.4 -0.5
comp=N,10.0nm,0.7s
NKC Novy Kostel 20.34 35 eP P 17 01 40.6 +0.1
NKC epP Pn 17 01 43.1 +0.5
NKC Novy Kostel 20.34 35 P P 17 01 40.6 +0.1
EKA Eskdalemuir Ar 20.61 4 P P 17 01 44.1 +0.7
EKA Eskdalemuir Ar 20.61 4 P P 17 01 44.1 +0.7
comp=N,4.8nm,0.8s,baz=184,slow=9.2,SNR=5.5
EKA Eskdalemuir Ar 20.61 4 P P 17 01 44.1 +0.7
PRU Pruhonice 21.20 38 eP P 17 01 49.3 -0.6
PRU Pruhonice 21.20 38 P P 17 01 49.3 -0.6
TREC Trest 21.29 41 eP P 17 01 50.1 -0.7
TREC epP pP 17 01 53.1 -1.4
TREC Trest 21.29 41 P P 17 01 50.1 -0.7
CLL Collm 21.33 34 eP P 17 01 51.0 -0.2
CLL *i* (sP) sP 17 01 54.5 -2.0
comp=Z,6.0nm,0.6s
BBLS Lazići 21.36 57 eP P 17 01 53.5 +1.7
PKSM Moragy 21.65 51⇑*i*P P 17 01 55.5 +0.8
PKSM Moragy 21.65 51⇑*i*P P 17 01 55.5 +0.8
TEKS Tekeris 21.65 56 eP P 17 01 54.2 -0.6
IVAS Ivanjica 21.81 59 eP P 17 01 56.7 +0.2
DIVS Divibare 21.84 57 eP P 17 01 55.7 -1.1
VRAC Vranov 21.89 42⇑*i*P P 17 01 54.7 -2.6
VRAC Vranov 21.89 42 P P 17 01 56.2 -1.1
VRAC Vranov 21.89 42 P P 17 01 56.2 -1.1
comp=Z,8.9nm,0.6s,baz=233,slow=9.5,SNR=9.2
VRAC Vranov 21.89 42 P P 17 01 56.2 -1.1
SMOL Smolenice 21.95 44 eP P 17 02 00.4 +2.5
SMOL Smolenice 21.95 44 eP P 17 02 00.4 +2.5
FGSL Fruska Gora 22.03 54 eP P 17 01 59.4 +0.5
TRUS Trudelj 22.16 57 eP P 17 02 01.9 +1.7
GRUS Gruza 22.28 58 eP P 17 02 01.7 +0.2
DPC Dobruska-Polom 22.34 39 eP P 17 02 01.1 -1.0
DPC Dobruska-Polom 22.34 39 P P 17 02 01.1 -1.0
TORD Torodi Ar. Bea 22.57 161 P P 17 02 05.1 +0.3
TORD Torodi Ar. Bea 22.57 161 P P 17 02 05.1 +0.3
comp=Z,2.4nm,0.5s,baz=337,slow=12,SNR=21
TORD Torodi Ar. Bea 22.57 161 P P 17 02 05.1 +0.3
KSP Ksiaz 22.61 38 eP P 17 02 07.2 +2.2
MORC Moravsky Berou 22.67 42⇑*i*P P 17 02 04.9 -0.8
MORC Moravsky Berou 22.67 42 eP P 17 02 03.4 -2.2
comp=Z,12nm,0.8s
MORC Moravsky Berou 22.67 42 eP P 17 02 03.9 -1.8
PSZ Piszkesteto 23.13 48 P P 17 02 08.3 -2.2
comp=Z,10nm,1.0s
BZS Buzias 23.39 54⇑*i*P P 17 02 13.0 -0.1
BZS Buzias 23.39 54⇑*i*P P 17 02 13.0 -0.1
SIRR Siria 23.62 53⇑*i*P P 17 02 15.6 +0.2
SIRR Siria 23.62 53⇑*i*P P 17 02 15.6 +0.2
VTS Vitosha 23.79 62⇑*i*P P 17 02 22.0 +4.8
MMB Musomiste 24.03 65⇓*i*P P 17 02 21.7 +2.3
MMB Musomiste 24.03 65⇓*i*P P 17 02 21.7 +2.3
GZR Gura Zlata 24.10 55⇑*i*P P 17 02 20.2 +0.2
GZR Gura Zlata 24.10 55⇑*i*P P 17 02 20.2 +0.2
CRVS Cervenica-Dubn 24.49 47 eP P 17 02 25.5 +2.0
CRVS *e* 17 10 48.1
CRVS *e* 17 14 25.9
CRVS Cervenica-Dubn 24.49 47 eP P 17 02 25.5 +2.0
comp=Z,5.7nm,0.8s
STHS Stebnicka Huta 24.59 45 eP P 17 02 26.1 +1.7
STHS Stebnicka Huta 24.59 45 eP P 17 02 26.1 +1.7
LOT Lotru 24.79 56⇑*i*P P 17 02 28.9 +2.5
LOT Lotru 24.79 56⇑*i*P P 17 02 28.9 +2.5
KOLS Kolonicke sedl 24.99 47 eP P 17 02 29.8 +1.8
KOLS Kolonicke sedl 24.99 47 eP P 17 02 29.8 +1.8
IDI Anoyia 25.01 80 P P 17 02 29.5 +1.2
IDI Anoyia 25.01 80 P P 17 02 29.5 +1.2
comp=Z,8.1nm,0.8s,baz=286,slow=12,SNR=6.2
IDI Anoyia 25.01 80 P P 17 02 29.5 +1.2
ARR Arges 25.36 56⇑*i*P P 17 02 32.4 +0.9
ARR Arges 25.36 56⇑*i*P P 17 02 32.4 +0.9
KWP Kalwaria Pacla 25.54 46 eP P 17 02 32.3 -0.7
KWP Kalwaria Pacla 25.54 46⇓*i*P P 17 02 32.2 -0.7
KWP Kalwaria Pacla 25.54 46 eP P 17 02 32.6 -0.4
comp=Z,25nm,1.1s
KWP Kalwaria Pacla 25.54 46 eP P 17 02 32.6 -0.4
comp=Z,25nm,1.1s
VOIR 25.66 56⇑*i*P P 17 02 36.7 +2.5
VOIR 25.66 56⇑*i*P P 17 02 36.7 +2.5
DOPR Dopca 26.02 55⇑*i*P P 17 02 37.3 -0.1
DOPR Dopca 26.02 55⇑*i*P P 17 02 37.3 -0.1
MLR Muntele Rosu 26.29 56⇑*i*P P 17 02 40.8 +0.9
MLR Muntele Rosu 26.29 56 P P 17 02 40.5 +0.6
MLR Muntele Rosu 26.29 56 P P 17 02 40.5 +0.6
comp=Z,2.0nm,0.7s,baz=296,slow=8.2,SNR=7.7
MLR Muntele Rosu 26.29 56 P P 17 02 40.5 +0.6
BURAR Bucovina Array 26.36 52⇓*i*P P 17 02 41.0 +0.4
BURAR Bucovina Array 26.36 52⇓*i*P P 17 02 41.0 +0.4
PLOR Plostina 26.85 56⇓*i*P P 17 02 45.5 +0.6
PLOR Plostina 26.85 56⇓*i*P P 17 02 45.5 +0.6
VRI Vrincioaia 26.91 56⇑*i*P P 17 02 45.3 -0.1
VRI Vrincioaia 26.91 56⇑*i*P P 17 02 45.3 -0.1
TESR Tescani 27.00 54⇑*i*P P 17 02 45.7 -0.5
TESR Tescani 27.00 54⇑*i*P P 17 02 45.7 -0.5
TLB Topalu 27.57 59⇑*i*P P 17 02 53.3 +1.9
TLB Topalu 27.57 59⇑*i*P P 17 02 53.3 +1.9
DBIC Dimbokro 28.00 178 eP P 17 02 55.6 +0.2
comp=Z,23nm,1.4s
DBIC Dimbokro 28.00 178 P P 17 02 55.8 +0.4
comp=Z,2.5nm,0.6s,baz=359,slow=9.7,SNR=6.2
DBIC Dimbokro 28.00 178 eP P 17 02 55.6 +0.2
comp=Z,23nm,1.4s
HFS Hagfors 28.32 21 P P 17 02 57.7 -0.1
HFS Hagfors 28.32 21 P P 17 02 57.7 -0.1
comp=Z,5.6nm,0.7s,baz=202,slow=8.8,SNR=20
HFS Hagfors 28.32 21 P P 17 02 57.7 -0.1
NOA NORSAR Array B 28.42 17 P P 17 02 59.2 +0.4
NOA NORSAR Array B 28.42 17 P P 17 02 59.2 +0.4
comp=Z,1.4nm,0.8s,baz=198,slow=8.4,SNR=2.8
NOA NORSAR Array B 28.42 17 P P 17 02 59.2 +0.4
LIC Lamto 28.44 179 eP P 17 03 04.9 +5.6
comp=Z,35nm,1.3s
LIC Lamto 28.44 179 eP P 17 03 04.9 +5.6

	comp=Z,35nm,1.3s								
AKASG	**Malin Array Be**	**29.83**	**47**	P		**P**	17 03 10.1	**-1.2**	
AKASG	**Malin Array Be**	**29.83**	**47**	P		**P**	17 03 10.1	-1.2	
	comp=Z,0.5nm,0.4s,baz=243,slow=9.3,SNR=4.2								
AKASG	**Malin Array Be**	**29.83**	**47**	P		**P**	17 03 10.1	-1.2	
FINES	**FINESS Array B**	**33.45**	**27**	P		**P**	17 03 42.1	**-0.9**	
FINES	**FINESS Array B**	**33.45**	**27**	P		**P**	17 03 42.1	-0.9	
	comp=Z,2.9nm,0.5s,baz=227,slow=7.6,SNR=26								
FINES	**FINESS Array B**	**33.45**	**27**	P		**P**	17 03 42.1	**-0.9**	
KAF	**Kangasniemi**	**33.95**	**27**	*e*p		**P**	17 03 46.7	**-0.7**	
KAF	**Kangasniemi**	**33.95**	**27**	*e*P		**P**	17 03 46.7	**-0.7**	
JOF	**Joensuu**	**36.31**	**28**	*e*p		**P**	17 04 06.7	**-1.0**	
JOF	**Joensuu**	**36.31**	**28**	*e*P		**P**	17 04 06.7	**-1.0**	
KBZ	**Khabaz**	**38.20**	**62**	P		**P**	17 04 24.5	**+0.5**	
KBZ	**Khabaz**	**38.20**	**62**	P		**P**	17 04 24.5	**+0.5**	
	comp=Z,2.9nm,0.8s,baz=224,slow=3.6,SNR=5.4								
KBZ	**Khabaz**	**38.20**	**62**	P		**P**	17 04 24.5	**+0.5**	
ARCES	**ARCESS Array B**	**38.80**	**17**	P		**P**	17 04 29.2	**+0.5**	
ARCES	**ARCESS Array B**	**38.80**	**17**	P		**P**	17 04 29.2	**+0.5**	
	comp=Z,8.6nm,1.0s,baz=217,slow=10,SNR=17								
ARCES	**ARCESS Array B**	**38.80**	**17**	P		**P**	17 04 29.2	**+0.5**	
ARE0	**ARCESS Array S**	**38.80**	**17**	*e*P		**P**	17 04 28.0	**-0.7**	
ARE0	**ARCESS Array S**	**38.80**	**17**	*e*P		**P**	17 04 28.0	**-0.7**	
KEV	**Kevo**	**39.32**	**17**	*e*p		**P**	17 04 33.2	**+0.2**	
KEV	**Kevo**	**39.32**	**17**	*e*P		**P**	17 04 33.2	**+0.2**	
GNI	**Garni**	**39.95**	**67**	P		**P**	17 04 41.7	**+2.8**	
	comp=Z,14nm,1.2s								
GNI	**Garni**	**39.95**	**67**	P		**P**	17 04 41.7	**+2.8**	
	comp=Z,14nm,1.2s								
SCHQ	**Schefferville**	**46.11**	**315**	P		**P**	17 05 28.9	**+0.5**	
SCHQ	**Schefferville**	**46.11**	**315**	P		**P**	17 05 28.9	**+0.5**	
	comp=Z,3.8nm,0.8s,baz=112,slow=5.4,SNR=4.5								
SCHQ	**Schefferville**	**46.11**	**315**	P		**P**	17 05 28.9	**+0.5**	
ARU	**Arti**	**47.86**	**42**	*e*P		**P**	17 05 40.4	**-1.6**	
	comp=Z,17nm,0.6s								
ARU	**Arti**	**47.86**	**42**	*e*P		**P**	17 05 40.4	**-1.6**	
	comp=Z,17nm,0.6s								
AKTO	**Aktyubinsk**	**47.95**	**51**	P		**P**	17 05 42.5	**-0.3**	
AKTO	**Aktyubinsk**	**47.95**	**51**	P		**P**	17 05 42.5	**-0.3**	
	comp=Z,4.7nm,0.6s,baz=262,slow=7.2,SNR=1.9								
AKTO	**Aktyubinsk**	**47.95**	**51**	P		**P**	17 05 42.5	**-0.3**	
ABKAR	**Akbulak array**	**49.34**	**52**	*e*P		**P**	17 05 52.8	**-0.7**	
	comp=Z,3.8nm,0.6s								
ABKAR	**Akbulak array**	**49.34**	**52**	*e*P		**P**	17 05 52.8	**-0.7**	
	comp=Z,3.8nm,0.6s								
BRVK	**Borovoye**	**55.02**	**46**	*e*P		**P**	17 06 34.2	**-1.5**	
BRVK	**Borovoye**	**55.02**	**46**	*e*P		**P**	17 06 34.2	**-1.5**	
KKAR	**Karatay Array**	**57.97**	**57**	*e*P		**P**	17 06 57.2	**+0.4**	
	comp=Z,0.9nm,0.4s								
KKAR	**Karatay Array**	**57.97**	**57**	*e*P		**P**	17 06 57.2	**+0.4**	
	comp=Z,0.9nm,0.4s								
EKS2	**Erkin-Say**	**60.37**	**57**	*e*P		**P**	17 07 14.6	**+0.9**	
	comp=Z,2.7nm,0.6s								
EKS2	**Erkin-Say**	**60.37**	**57**	*e*P		**P**	17 07 14.6	**+0.9**	
	comp=Z,2.7nm,0.6s								
KURBB	**Kurchatov Array**	**60.62**	**47**	P		**P**	17 07 14.6	**-0.5**	
	comp=Z,7.3nm,0.6s,baz=294,slow=7.3,SNR=18								
KURK	**Kurchatov**	**60.64**	**47**	*e*P		**P**	17 07 14.4	**-0.8**	
	comp=Z,5.1nm,0.7s								
KURK	**Kurchatov**	**60.64**	**47**	*e*P		**P**	17 07 14.4	**-0.8**	
	comp=Z,5.1nm,0.7s								
AAK	**Ala-Archa**	**60.87**	**56**	*e*P		**P**	17 07 16.0	**-1.1**	
	comp=Z,1.0nm,0.4s								
AAK	**Ala-Archa**	**60.87**	**56**	P		**P**	17 07 16.6	**-0.5**	
	comp=Z,3.9nm,0.5s,baz=207,slow=2.4,SNR=4.7								
AAK	**Ala-Archa**	**60.87**	**56**	*e*P		**P**	17 07 16.0	**-1.1**	
	comp=Z,1.0nm,0.4s								
TKM2	**Tokmak 2**	**61.52**	**56**	P		**P**	17 07 23.3	**+1.7**	
TKM2	**Tokmak 2**	**61.52**	**56**	P		**P**	17 07 23.3	**+1.7**	
ZALV	**Zalesovo Beam**	**63.01**	**42**	P		**P**	17 07 31.1	**0.0**	
ZALV	**Zalesovo Beam**	**63.01**	**42**	P		**P**	17 07 31.1	**0.0**	
	comp=Z,1.5nm,0.4s,baz=284,slow=7.5,SNR=6.3								
ZALV	**Zalesovo Beam**	**63.01**	**42**	P		**P**	17 07 31.1	**0.0**	
KSH	**Kashi**	**63.12**	**59**	*e*P		**P**	17 07 32.9	**+0.7**	
KSH				*e*PP		**PP**	17 09 46.8	**-4.0**	
KSH				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KSH				pmax	pmax				
	comp=Z,45nm,6.6s								
MK31	**Makanchi Array**	**64.37**	**50**	*e*P		**P**	17 07 39.4	**-0.8**	
MK31	**Makanchi Array**	**64.37**	**50**	*e*P		**P**	17 07 39.4	**-0.8**	
MKAR	**Makanchi Array**	**64.37**	**50**	P		**P**	17 07 39.9	**-0.3**	
MKAR	**Makanchi Array**	**64.37**	**50**	P		**P**	17 07 39.9	**-0.3**	
	comp=Z,5.6nm,0.7s,baz=291,slow=5.2,SNR=29								
MKAR	**Makanchi Array**	**64.37**	**50**	P		**P**	17 07 39.9	**-0.3**	
YKA	**Yellowknife Ar**	**67.70**	**332**	P		**P**	17 08 01.7	**+0.4**	
YKA	**Yellowknife Ar**	**67.70**	**332**	P		**P**	17 08 01.7	**+0.4**	
	comp=Z,0.5nm,0.6s,baz=64,slow=6.2,SNR=7.4								
YKA	**Yellowknife Ar**	**67.70**	**332**	P		**P**	17 08 01.7	**+0.4**	
PDAR	**Pinedale Array**	**76.16**	**313**	P		**P**	17 08 53.6	**+0.8**	
PDAR	**Pinedale Array**	**76.16**	**313**	P		**P**	17 08 53.6	**+0.8**	
	comp=Z,1.3nm,0.7s,baz=50,slow=6.0,SNR=10								
PDAR	**Pinedale Array**	**76.16**	**313**	P		**P**	17 08 53.6	**+0.8**	
ILAR	**Eielson Array**	**76.20**	**344**	P		**P**	17 08 54.3	**+2.0**	
ILAR	**Eielson Array**	**76.20**	**344**	P		**P**	17 08 54.3	**+2.0**	
	comp=Z,0.8nm,0.6s,baz=16,slow=4.9,SNR=15								
ILAR	**Eielson Array**	**76.20**	**344**	P		**P**	17 08 54.3	**+2.0**	
SONM	**Songino Array**	**77.81**	**40**	P		**P**	17 09 02.6	**+0.8**	
SONM	**Songino Array**	**77.81**	**40**	P		**P**	17 09 02.6	**+0.8**	
	comp=Z,0.2nm,0.5s,baz=300,slow=7.4,SNR=3.2								
SONM	**Songino Array**	**77.81**	**40**	P		**P**	17 09 02.6	**+0.8**	
CMAR	**Chiang Mai Arr**	**91.07**	**67**	P		**P**	17 10 11.2	**+1.7**	
CMAR	**Chiang Mai Arr**	**91.07**	**67**	P		**P**	17 10 11.2	**+1.7**	
	comp=Z,1.2nm,0.9s,baz=304,slow=6.2,SNR=7.0								
CMAR	**Chiang Mai Arr**	**91.07**	**67**	P		**P**	17 10 11.1	**+1.7**	
WRA	**Warramunga Arr**	**141.82**	**78**	PKP		**PKPdf**	17 16 34.9	**-1.7**	
WRA	**Warramunga Arr**	**141.82**	**78**	PKP		**PKPdf**	17 16 34.9	**-1.7**	
	comp=Z,0.5nm,0.8s,baz=319,slow=2.2,SNR=3.0								
WRA	**Warramunga Arr**	**141.82**	**78**	PKIKP		**PKPdf**	17 16 34.9	**-1.7**	
ASAR	**Alice Springs**	**143.27**	**83**	PKPpre	PKPpre		17 16 35.4		
ASAR	**Alice Springs**	**143.27**	**83**	PKhKP	PKPpre		17 16 35.4		
	comp=Z,0.2nm,0.6s,baz=302,slow=2.4,SNR=4.1								
PMG	**Port Moresby**	**144.58**	**51**	*e*PKPdf		**PKPab**	17 16 38.8	**-1.2**	
PMG	**Port Moresby**	**144.58**	**51**	*e*PKIKP		**PKPab**	17 16 38.8	**-1.2**	
STKA	**Stephens Creek**	**152.59**	**93**	*e*PKPbc		**PKPbc**	17 17 01.1	**+0.1**	
STKA	**Stephens Creek**	**152.59**	**93**	PKPbc		**PKPbc**	17 17 01.6	**+0.6**	
	comp=Z,5.0nm,1.0s,baz=285,slow=7.9,SNR=5.5								
STKA	**Stephens Creek**	**152.59**	**93**	*e*PKPbc		**PKPbc**	17 17 01.1	**+0.1**	

*IDC **21** 17:00:45.6±0.5, 1.°36N×122.°14E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.3/50, mbtmp4.4/20, MS4.4/18, Ms1 4.4/18, ms1mx4.2/37, Error ellipse: s-maj=26.3km s-min=10.9km az=66.0*

*MOS **21** 17:00:48.9±0.9, 1.°41N×122.°18E, h33km, mb5.1/22, Error ellipse: s-maj=18.8km s-min=7.0km az=116.2*

*ISCJB **21** 17:00:49.7±0.2, 1.°51N±0.°02×122.°29E±0.°02, h33km, mb4.8/76, MS4.5/36, Error ellipse: s-maj=3.5km s-min=2.7km az=159.2*

*DJA **21** 17:00:50.8±0.2, 1.°N±2.°×122.°2E±.°, h10km, M4.8/57, mb4.9/57, mB5.3/32, MLv5.2/19, Mw(mB)4.8/32*

*NEIC **21** 17:00:51.1±0.7, 1.°45N×122.°20E, h32km±5km, mb5.1/28, Error ellipse: s-maj=7.4km s-min=5.1km az=53.0*

*GCMT **21** 17:00:51.1±0.2, 1.°73N×122.°22E, h21km, MW5.2/92, Moment Tensor Solution. s51,c77; s92,c152; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr5.23±.20; Mθθ-4.93±.13; Mϕϕ~0.29±.13; Mrθ-5.44±.25; Mθϕ0.23±.10; Mϕr~0.28±.26; Best double couple: Mo7.45100×10^16 NP1:ϕs96.00000°, δ22.00000°, λ97.00000°. Principal axes: T 7.6090, Plg66.0000°, Azm174.0000°; N -0.3120, Plg3.0000°, Azm270.0000°; P -7.2940, Plg23.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*KLM **21** 17:00:52.0, 1.°70N×122.°42E, h50km, mb5.0, ML4.8, MS5.7*

ISC 21 17:00:51.7±0.3, 1.°44N±0.°03×122.°22E±0.°05, h35km, h35km:pP-P, n254, σ1s67/285, mb4.9/75, MS4.5/36, 19C-17D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.99**	**196**	P			**Pn**	**17 01 08.3**	**-0.9**
MRSI				S			**Sn**	**17 01 24.8**	**+2.8**
TOLI	**Toli-Toli**	**1.46**	**258**	P			x	17 01 13.3	
TOLI				S			x	17 01 31.8	
TOLI	**Toli-Toli**	**1.46**	**258**	*e*P			**Pn**	**17 01 13.3**	**-2.3**
KMSI	**Cibinong**	**1.96**	**116**	P			**Pn**	**17 01 22.2**	**-0.3**
APSI	**Ampana**	**2.40**	**194**	P			**Pn**	**17 01 29.6**	**+1.0**
LUWI	**Luwuk**	**2.52**	**167**	P			**Pn**	**17 01 32.7**	**+2.4**
LUWI				S			Sn	17 02 06.6	+6.8
LUWI	**Luwuk**	**2.52**	**167**	*e*Pn			**Pn**	**17 01 32.5**	**+2.2**
TTSI	**Tana Toraja**	**5.06**	**208**	P			**Pn**	**17 02 07.0**	**+1.8**
	394nm,1.0s,4μm1.9nm								
SANI	**Sanana**	**5.12**	**133**	P			**Pn**	**17 02 04.9**	**-1.1**
	165nm,1.5s,2μm1.4nm								
TNTI	**Ternate**	**5.19**	**97**	P			**Pn**	**17 02 05.8**	**-1.1**
	184nm,1.1s,3μm0.9nm								
TNTI	**Ternate**	**5.19**	**97**	*e*Pn			**Pn**	**17 02 09.1**	**+2.1**
TSM	**Tawau**	**5.19**	**303**	⇓S			**Sn**	**17 03 02.2**	**-3.4**
TSM	**Tawau**	**5.19**	**303**	⇓P			**Pn**	**17 02 04.9**	**-2.0**
MMSI	**Mamuju**	**5.27**	**219**	P			x	17 02 08.9	
	239nm,1.4s,4μm1.2nm								
KKSI	**Kolaka, Sulawe**	**5.60**	**186**	P			x	17 02 15.3	
	198nm,1.2s,3μm1.3nm								
LBMI	**Labuha**	**5.67**	**111**	P			**Pn**	**17 02 12.9**	**-0.6**
	312nm,1.2s,3μm2.9nm								
SPSI	**Sidrap Palu**	**5.90**	**205**	P			**Pn**	**17 02 19.0**	**+2.3**
	235nm,0.9s,3μm0.9nm								
MJSI	**Majene**	**5.92**	**213**	P			x	17 02 36.8	
BKB	**Balikpapan**	**5.96**	**243**	P			**Pn**	**17 02 17.8**	**+0.2**
	133nm,1.0s,3μm0.9nm								
CTBH	**Cotabato--PC H**	**6.09**	**19**	⇓*e*P			Pn	17 02 15.3	-4.0
BNSI	**Bone**	**6.17**	**200**	P			**Pn**	**17 02 22.8**	**+2.3**
	460nm,1.0s,5μm1.4nm								
IPIL	**Ipil**	**6.32**	**3**	⇑*e*P			**Pn**	**17 02 20.6**	**-1.9**
IPIL				*e*S			Sn	17 03 26.3	-7.2
PAGZ	**Pagadian**	**6.47**	**10**	*e*P			**Pn**	**17 02 21.7**	**-2.9**
DAV	**Davao City (W)**	**6.52**	**31**	*e*Pn			**Pn**	**17 02 25.1**	**-0.2**
SDKM	**Sandakan**	**6.53**	**310**	⇓P			**Pn**	**17 02 25.1**	**-0.3**
NLAI	**Namlea**	**6.74**	**134**	P			**Pn**	**17 02 28.7**	**+0.5**
	107nm,1.1s,2μm1.3nm								
MATI	**Mati**	**6.79**	**36**	*e*P			**Pn**	**17 02 27.6**	**-1.4**
MATI				*e*S			Sn	17 03 12.2	-33
KAPI	**Kappang**	**6.87**	**201**	Pn			**Pn**	**17 02 32.3**	**+2.3**
	350nm,1.0s,SNR=5.9								
KAPI	**Kappang**	**6.87**	**201**	*e*Pn			**Pn**	**17 02 32.1**	**+2.1**
BUKP	**Musuan**	**7.00**	**24**	*e*P			**Pn**	**17 02 29.0**	**-2.9**
BKSI	**Bulukumba**	**7.03**	**197**	P			**Pn**	**17 02 33.9**	**+1.6**
	106nm,1.2s,1μm0.3nm								
CGP	**Cagayan de Oro**	**7.39**	**19**	⇓*e*P			Pn	17 02 43.2	+5.9
KKM	**Kota Kinabalu**	**7.54**	**308**	P			x	17 02 36.3	
	50nm,0.8s,697nm0.2nm								
KKM	**Kota Kinabalu**	**7.54**	**308**	*e*Pn			**Pn**	**17 02 36.6**	**-2.8**
KKM	**Kota Kinabalu**	**7.54**	**308**	⇓P			**Pn**	**17 02 38.6**	**-0.7**
	baz=7.5,SNR=6.6								
KKM	**Kota Kinabalu**	**7.54**	**308**	⇑P			**Pn**	**17 02 40.2**	**+0.8**
BUTP	**Butuan**	**8.21**	**24**	*e*P			**Pn**	**17 02 47.6**	**-0.9**
MSAI	**Masohi**	**8.22**	**125**	P			**Pn**	**17 02 49.3**	**+0.7**
	63nm,0.9s,620nm								
BBKI	**Banjar Baru**	**8.84**	**237**	P			**Pn**	**17 02 56.3**	**-0.8**
	59nm,1.0s								
BTM	**Bintulu**	**9.30**	**281**	⇓P			Pn	17 03 14.1	+11
SWI	**Sorong**	**9.32**	**104**	P			Pn	17 03 16.0	+12
BNDI	**Bandanaira**	**9.69**	**128**	P			**Pn**	**17 03 10.5**	**+1.7**
	369nm,1.3s								
MMRI	**Maumere**	**10.01**	**180**	P			Pn	17 03 08.9	-4.2
	72nm,1.0s								
SBUM	**Sibu**	**10.05**	**276**	P			x	17 03 10.8	
	15nm,1.7s								
SBUM	**Sibu**	**10.05**	**276**	*e*Pn			**Pn**	**17 03 15.5**	**+1.8**
SBUM	**Sibu**	**10.05**	**276**	⇓P			**Pn**	**17 03 16.7**	**+3.0**
FAKI	**Fak Fak**	**10.92**	**113**	P			**Pn**	**17 03 25.2**	**-0.4**
	36nm,1.1s								
FAKI	**Fak Fak**	**10.92**	**113**	*e*Pn			**Pn**	**17 03 22.9**	**-2.7**
SOEI	**Soe**	**11.30**	**170**	P			Pn	17 03 36.9	+5.9
	103nm,1.2s								
MTNI	**Mataram**	**11.68**	**211**	P			x	17 03 34.6	
	59nm,1.1s,867nm								
KSM	**Kuching**	**11.91**	**270**	P			x	17 03 56.4	
KSM	**Kuching**	**11.91**	**270**	*e*Pn			**Pn**	**17 03 37.9**	**-1.3**
KSM	**Kuching**	**11.91**	**270**	⇓P			**Pn**	**17 03 41.7**	**+2.5**
MWPI	**Manokwari, Pap**	**12.05**	**101**	P			x	17 03 42.7	
	195nm,1.6s								
BYJI	**Banyuwangi**	**12.39**	**219**	P			x	17 03 51.6	
	95nm,1.6s,5μm								
TGY	**Tagaytay City**	**12.65**	**354**	LR			LR	17 08 50.2	
	comp=Z,93nm,18.8s,baz=123,slow=38								
BJII	**Banjamegara**	**15.22**	**235**	P			x	17 04 30.4	
	36nm,1.6s								
KPJI	**Karang Pucung**	**15.87**	**237**	P			**P**	**17 04 38.0**	**+2.0**
	40nm,1.4s								
SZP	**Santa**	**16.11**	**354**	*e*Pn			**Pn**	**17 04 36.5**	**+0.9**
	359nm,2.0s								
MTN	**Manton Dam**	**16.72**	**148**	⇓P			**Pn**	**17 04 44.3**	**+0.9**
	baz=17,SNR=10								
LEM	**Lembang**	**16.73**	**240**	P			**P**	**17 04 48.2**	**+2.5**
	66nm,0.9s,2μm								
CISI	**Cisompet, Garu**	**16.92**	**238**	P			**P**	**17 04 51.2**	**+3.5**
	77nm,1.2s,1μm								
CISI	**Cisompet, Garu**	**16.92**	**238**	P			**P**	**17 04 47.1**	**-0.6**
	18nm,0.7s								
DLV	**T Lat**	**17.16**	**308**	P			**P**	**17 04 51.2**	**+0.6**
CBJI	**Citeko**	**17.22**	**243**	P			**P**	**17 04 55.0**	**+4.1**
	207nm,1.3s,8μm								
TNG	**Tangerang**	**17.29**	**244**	P			**P**	**17 04 53.8**	**+2.0**
	1μm,0.5s,16μm								
TNG	**Tangerang**	**17.29**	**244**	P			**P**	**17 04 53.7**	**+2.0**
	754nm,0.5s,9μm								
KNRA	**Kunununra**	**18.19**	**159**	⇑P			**P**	**17 05 02.4**	**+0.7**
	baz=18,SNR=5.6								
CGJI	**Cibinong**	**18.34**	**244**	P			**Pn**	**17 05 05.7**	**+2.2**
	70nm,1.5s,2μm								
MYKOM	**Kota Tinggi**	**18.37**	**271**	⇑P			**Pn**	**17 05 05.3**	**+1.4**
MDSI	**Maura Dua**	**18.96**	**252**	P			**Pn**	**17 05 11.4**	**+0.3**
	34nm,1.2s,884nm								
KASI	**Kota Agung**	**19.01**	**249**	P			**Pn**	**17 05 12.4**	**+0.8**
	71nm,1.0s,1μm								
LWLI	**Liwa**	**19.24**	**250**	P			**Pn**	**17 05 16.0**	**+1.4**
	78nm,0.9s,3μm								
LHSI	**Lahat**	**19.41**	**254**	P			**Pn**	**17 05 16.7**	**+0.3**
	53nm,1.2s,2μm								
FITZ	**Fitzroy Crossi**	**19.71**	**170**	*e*P			**P**	**17 05 17.3**	**-1.0**
	36nm,0.8s								
FITZ	**Fitzroy Crossi**	**19.71**	**170**	⇓P			**P**	**17 05 17.4**	**-0.8**
	baz=20,SNR=28								
QIZ	**Qiongzhong**	**21.28**	**326**	P			**P**	**17 05 34.8**	**-0.6**
QIZ				sP			**sP**	**17 05 47.8**	**-1.3**
QIZ				S			**S**	**17 09 29.5**	**-0.6**
QIZ				pmax			pmax		
	comp=Z,160nm,5.7s								
QIZ				LR			LR		
	comp=N,750nm,16.9s								
QIZ				LR			LR		
	comp=Z,890nm,21.2s								
IPM	**Ipoh**	**21.38**	**279**	P			x	17 05 36.6	
	26nm,1.6s,527nm								
IPM	**Ipoh**	**21.38**	**279**	*e*P			**P**	**17 05 36.4**	**-0.1**
	78nm,1.4s								
IPM	**Ipoh**	**21.38**	**279**	⇓P			**P**	**17 05 36.6**	**+0.1**
UBPT	**Khong Chiam**	**21.51**	**311**	P			x	17 05 47.1	
	37nm,1.4s								
YULB	**Yu-li**	**21.84**	**358**	*e*P			**P**	**17 05 39.9**	**-1.5**
KULM	**Kulim**	**21.87**	**281**	P			x	17 05 48.7	
	27nm,1.3s								
KULM	**Kulim**	**21.87**	**281**	*e*P			**P**	**17 05 40.7**	**-1.0**
	31nm,1.2s								
KULM				*e*pP			**pP**	**17 05 47.7**	**-3.3**
KULM				*e*pP			**pwP**	**17 05 52.5**	**+1.4**
KULM	**Kulim**	**21.87**	**281**	⇓P			**P**	**17 05 41.1**	**-0.6**
PDSI	**Padang**	**21.88**	**264**	P			**P**	**17 05 42.9**	**+1.0**
	37nm,1.2s,584nm								
PPI	**Padang Panjang**	**21.90**	**265**	P			**P**	**17 05 44.6**	**+2.5**
	28nm,1.4s,758nm								
SSLB	**Suanglung**	**22.25**	**357**	*e*pP			pP	17 05 58.8	+3.7
	66nm,1.2s								
MNSI	**Mandailing Nat**	**22.65**	**269**	P			**P**	**17 05 50.4**	**+0.3**
	30nm,1.3s,912nm								
CHBT	**CHBT**	**22.69**	**301**	P			x	17 06 02.1	
CHBT	**CHBT**	**22.69**	**301**	P			P	17 06 04.4	+14
	30nm,1.4s,741nm								
PSI	**Prapat**	**23.32**	**274**	LR			LR	17 16 44.6	
	comp=Z,640nm,19.3s,baz=104,slow=41								
TSI	**Tuntungan**	**23.72**	**275**	P			**P**	**17 06 02.6**	**+1.7**
	94nm,1.1s								
WRAB	**Tennant Creek**	**24.34**	**151**	P			**P**	**17 06 05.8**	**-0.8**
	175nm,1.3s,SNR=5.4								
WRAB	**Tennant Creek**	**24.34**	**151**	⇑*e*P			**P**	**17 06 05.2**	**-1.4**
WRAB				pmax			pmax		
	comp=Z,91nm,1.0s								
WRAB	**Tennant Creek**	**24.34**	**151**	*e*P			**P**	**17 06 05.3**	**-1.2**
	comp=Z,50nm,1.2s								
WRA	**Warramunga Arr**	**24.35**	**151**	P			**P**	**17 06 04.7**	**-1.9**
WRA	**Warramunga Arr**	**24.35**	**151**	P			**P**	**17 06 04.7**	**-1.9**
	comp=Z,27nm,0.9s,baz=330,slow=10,SNR=78								
WRA				LR			LR	17 16 45.0	
	comp=Z,624nm,19.8s,baz=320,slow=40								
KCSI	**Kotacane, Aceh**	**24.51**	**275**	P			**P**	**17 06 08.1**	**-0.1**
	comp=Z,50nm,1.1s,comp=Z,707nm								
GSI	**Gunungsitoli**	**24.64**	**270**	P			**P**	**17 06 08.4**	**-0.9**
	comp=Z,50nm,0.8s								
GSI	**Gunungsitoli**	**24.64**	**270**	*e*P			**P**	**17 06 07.2**	**-2.1**
PBKT	**Sadao Pong**	**25.77**	**307**	P			x	17 06 36.0	
PBKT	**Sadao Pong**	**25.77**	**307**	P			P	17 06 35.6	+16
	comp=Z,19nm,2.0s								
COEN	**Coen**	**25.79**	**127**	*e*P			**P**	**17 06 20.5**	**+0.8**
	comp=Z,221nm,1.0s								
COEN	**Coen**	**25.79**	**127**	⇑P			**P**	**17 06 20.4**	**+0.6**
	baz=26,SNR=8.2								
SLVN	**Son La**	**26.64**	**319**	*e*P			**P**	**17 06 25.6**	**-1.8**
WRKA	**Warakurna**	**26.97**	**168**	⇑P			**P**	**17 06 28.7**	**-1.6**
	baz=27,SNR=14								
AS31	**Alice Springs**	**27.42**	**156**	*e*P			**P**	**17 06 34.5**	**+0.1**
ASAR	**Alice Springs**	**27.42**	**156**	P			**P**	**17 06 33.4**	**-1.0**
ASAR				PcP			**PcP**	**17 09 52.8**	**-0.1**
ASAR	**Alice Springs**	**27.42**	**156**	P			**P**	**17 06 33.4**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=328,slow=7.8,SNR=23								
ASAR				PcP			**PcP**	**17 09 52.8**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=345,slow=3.2,SNR=4.1								
ASAR				LR			LR	17 18 23.3	
	comp=Z,853nm,20.1s,baz=338,slow=39								
QIS	**Mount Isa**	**27.71**	**143**	⇓P			**P**	**17 06 36.5**	**-0.5**
	baz=28,SNR=14								
MEEK	**Meekatharra**	**28.13**	**187**	P			**P**	**17 06 38.3**	**-2.4**
	baz=28,SNR=11								
CMAR	**Chiang Mai Arr**	**28.42**	**308**	P			**P**	**17 06 42.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**28.42**	**308**	P			**P**	**17 06 42.3**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=120,slow=5.5,SNR=2.9								
CMAR				LR			LR	17 19 36.3	
	comp=Z,676nm,18.4s,baz=163,slow=40								
CHTO	**Chiang Mai**	**28.62**	**309**	P			P	17 06 57.9	+13
	comp=Z,46nm,1.4s								
GYA	**Guiyang**	**29.03**	**330**	⇑*i*P			**P**	**17 06 49.6**	**+0.8**
GYA				pP			**pP**	**17 07 01.3**	**+2.4**
GYA				PP			**PnPn**	**17 07 44.8**	**+3.1**
GYA				PcP			**PcP**	**17 09 57.0**	**+0.2**
GYA				S			**S**	**17 11 38.6**	**+0.5**
GYA				sS			**sS**	**17 11 53.4**	**-1.3**
GYA				SS			**SnSn**	**17 13 08.9**	**+5.6**
GYA				ScP			**ScP**	**17 13 35.3**	**-0.6**
GYA				ScS			**ScS**	**17 17 28.0**	**-2.1**
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,130nm,4.9s								
GYA				LR	LR				
	comp=Z,640nm,17.8s								
GYA				LR	LR				
	comp=Z,580nm,18.2s								
GYA				LR	LR				
	comp=Z,760nm,17.6s								
CMAI	**Chiengmai2**	**29.18**	**311**	P			P	17 07 04.1	+14
	comp=Z,31nm,0.7s

LZH				sP	**sP**	**17 08 24.8**	**-0.2**
LZH				PP	**PnPn**	**17 09 44.3**	**+3.3**
LZH				*e*S	**S**	**17 14 05.3**	**+1.5**
LZH				sS	**sS**	**17 14 21.0**	**+0.4**
LZH				SS	**SnSn**	**17 16 46.5**	**-5.4**
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,5.4s						
LZH				LR	LR		
	comp=Z,640nm,14.0s						
LZH				LR	LR		
	comp=Z,700nm,13.5s						
LZH				LR	LR		
	comp=Z,790nm,16.3s						
BJI	**Beijing**	**38.81**	**353**	P	**P**	**17 08 14.3**	**+1.0**
BJI				sP	**sP**	**17 08 26.1**	**-1.6**
BJI				S	**ScP**	**17 14 11.5**	**+1.6**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BJI				LR	LR		
	comp=Z,430nm,16.6s						
BJI				LR	LR		
	comp=Z,330nm,15.3s						
BJI				LR	LR		
	comp=Z,400nm,20.3s						
CMSA	**Cobar Meteorol**	**39.65**	**148**	P	**P**	**17 08 20.4**	**0.0**
	baz=40,SNR=15						
SNY	**Shenyang**	**40.23**	**2** ⇑P	P	17 08 35.1	+10	
SNY				S	**S**	**17 14 30.8**	**+1.0**
SNY				pmax	pmax		
	comp=Z,14nm,1.0s						
SNY				pmax	pmax		
	comp=Z,300nm,4.0s						
SNY				LR	LR		
	comp=N,780nm,16.9s						
SNY				LR	LR		
	comp=E,690nm,19.2s						
SNY				LR	LR		
	comp=Z,740nm,19.4s						
HHC	**Hu-ho-hao-te**	**40.40**	**347**	*e*P	**P**	**17 08 27.3**	**+0.7**
HHC				pP	**pP**	**17 08 35.8**	**-1.1**
HHC				S	**S**	**17 14 33.4**	**+0.7**
HHC				sS	**sS**	**17 14 54.3**	**+4.7**
HHC				ScS	**ScS**	**17 18 26.9**	**-3.4**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,4.9s						
HHC				LR	LR		
	comp=Z,1μm,18.6s						
HHC				LR	LR		
	comp=Z,1μm,18.6s						
HHC				LR	LR		
	comp=Z,1μm,17.1s						
TAPN	**Taplejung**	**41.92**	**311**	*e*P	**P**	**17 08 40.2**	**+0.6**
ARPS	**Mount Arapiles**	**42.16**	**156**	P	**P**	**17 08 40.7**	**-0.3**
	baz=42,SNR=15						
CN2	**Changchun**	**42.28**	**3**	*e*P	**P**	**17 08 44.0**	**+2.1**
CN2				*e*sP	**sP**	**17 08 57.8**	**+1.4**
CN2				*e*S	**S**	**17 15 03.0**	**+2.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
ARMA	**Armidale**	**42.29**	**141**	*e*P	**P**	**17 08 43.3**	**+0.9**
	comp=Z,32nm,0.8s						
ARMA	**Armidale**	**42.29**	**141**	⇑P	**P**	**17 08 43.2**	**+0.9**
	baz=42,SNR=26						
RAMN	**Ramite**	**42.56**	**310**	*e*P	**P**	**17 08 45.9**	**+1.2**
GTA	**Gaotai**	**42.97**	**334**	*e*P	**P**	**17 08 48.3**	**+0.6**
GTA				pP	**pP**	**17 08 58.1**	**+0.1**
GTA				sP	**sP**	**17 09 02.0**	**-0.2**
GTA				S	**S**	**17 15 11.8**	**+1.0**
GTA				sS	**sS**	**17 15 28.1**	**+0.3**
GTA				SS	**SS**	**17 18 17.3**	**-6.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,5.7s						
GTA				LR	LR		
	comp=Z,440nm,17.6s						
GTA				LR	LR		
	comp=Z,470nm,18.0s						
GTA				LR	LR		
	comp=Z,720nm,18.3s						
YNG	**Young**	**43.22**	**148**	⇓P	**P**	**17 08 50.2**	**+0.5**
	baz=43,SNR=7.4						
USRK	**Ussuriysk Arra**	**43.45**	**10**	P	**P**	**17 08 50.5**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=232,slow=7.1,SNR=4.5						
USRK				LR	LR	17 27 07.3	
	comp=Z,185nm,20.6s,baz=176,slow=36						
MDJ	**Mudanjiang**	**43.49**	**8**	P	**P**	**17 08 52.8**	**+1.1**
MDJ				pP	**pP**	**17 09 01.3**	**-0.7**
MDJ				sP	**sP**	**17 09 04.8**	**-1.4**
MDJ				PP	**PP**	**17 10 33.1**	**-0.2**
MDJ				ScP	**ScP**	**17 14 27.5**	**-0.8**
MDJ				PcS	**PcS**	**17 14 30.6**	**-1.3**
MDJ				S	**S**	**17 15 21.1**	**+3.1**
MDJ				sS	**sS**	**17 15 37.3**	**+2.3**
MDJ				ScS	**ScS**	**17 18 50.1**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.5s						
MDJ				LR	LR		
	comp=Z,380nm,11.1s						
MDJ				LR	LR		
	comp=Z,150nm,5.9s						
MDJ				LR	LR		
	comp=Z,410nm,11.9s						
GUN	**Gumba**	**43.60**	**310**	*e*P	**P**	**17 08 53.2**	**0.0**
MGCD	**Mangrove Creek**	**43.93**	**144**	⇑P	**P**	**17 08 57.4**	**+2.0**
	baz=44,SNR=4.9						
CAN	**Canberra**	**44.32**	**148**	*e*P	**P**	**17 08 58.6**	**+0.1**
CAN				pmax	pmax		
	comp=Z,27nm,0.6s						
CAN	**Canberra**	**44.32**	**148**	*e*P	**P**	**17 08 58.6**	**+0.1**
	comp=Z,27nm,0.6s						
TOO	**Toolangi**	**44.39**	**153**	⇑P	**P**	**17 08 59.7**	**+0.6**
	baz=45,SNR=9.2						
CNB	**Canberra Magne**	**44.51**	**148**	⇓P	**P**	**17 09 00.7**	**+0.7**
	baz=45,SNR=11						
GKN	**Gorkha**	**44.59**	**310**	*e*P	**P**	**17 09 01.5**	**+0.5**
KOLN	**Koldanda**	**45.28**	**309**	*e*P	**P**	**17 09 06.5**	**0.0**
	comp=Z,46nm,1.0s						
DANN	**Dangsing**	**45.44**	**310**	*e*P	**P**	**17 09 08.5**	**+0.6**
HYB	**Hyderabad**	**45.75**	**293**	*i*P	**P**	**17 09 09.0**	**-1.2**
PYUN	**Piuthan**	**45.91**	**309**	*e*P	**P**	**17 09 12.6**	**+1.1**
	comp=Z,15nm,0.5s						
ASAJ	**Asahikawa**	**46.19**	**20**	LR	LR	17 26 47.5	
	comp=Z,596nm,21.9s,baz=170,slow=34						
YUK	**Yuzh-Kuril'sk**	**47.33**	**23**	*e*P	P	17 09 32.7	+11
YUK				S	**S**	**17 16 15.3**	**+1.9**
ULN	**Ulaanbaatar**	**48.08**	**346**	*e*P	**P**	**17 09 27.9**	**-0.1**
	comp=Z,81nm,2.1s						
SONM	**Songino Array**	**48.21**	**346**	P	**P**	**17 09 28.7**	**-0.3**
SONM	**Songino Array**	**48.21**	**346**	P	**P**	**17 09 28.7**	**-0.3**
	comp=Z,6.4nm,1.1s,baz=164,slow=9.0,SNR=22						
SONM				LR	LR	17 31 14.7	
	comp=Z,947nm,19.4s,baz=174,slow=38						
KLR	**Kul'dur**	**48.31**	**8**	*e*P	P	17 09 23.8	-5.8
ZAK	**Zakamensk**	**51.35**	**345**	*e*P	**P**	**17 09 51.2**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WMQ	**Urumqi**	**52.17**	**329**	P	**P**	**17 09 59.9**	**+0.9**
WMQ				pP	**pP**	**17 10 09.9**	**+0.3**
WMQ				sP	**sP**	**17 10 13.8**	**+0.1**
WMQ				PcP	**PcP**	**17 11 11.8**	**+1.3**
WMQ				PP	**PP**	**17 11 58.9**	**+1.2**
WMQ				S	**S**	**17 17 23.3**	**+2.0**
WMQ				sS	**sS**	**17 17 36.3**	**-2.3**
WMQ				SS	**SS**	**17 20 54.8**	**-4.3**
WMQ				pmax	pmax		
	comp=Z,14nm,4.0s						
WMQ				LR	LR		
	comp=Z,330nm,14.8s						
WMQ				LR	LR		
	comp=Z,280nm,12.5s						
WMQ				LR	LR		
	comp=Z,230nm,25.0s						
TLY	**Talaya**	**52.45**	**346**	*e*P	**P**	**17 10 01.6**	**+0.7**
TLY				*e*S	**S**	**17 17 21.0**	**-3.7**
TLY				pmax	pmax		
	comp=Z,28nm,1.1s						
TLY				MLR	MLR		
	comp=Z,590nm,20.0s						
TLY	**Talaya**	**52.45**	**346**	*e*P	**P**	**17 10 01.6**	**+0.7**
	comp=Z,21nm,0.9s						
IRK	**Irkutsk**	**52.81**	**346**	*e*P	P	17 09 59.7	-3.9
IRK				pmax	pmax		
	comp=Z,27nm,1.6s						
MOY	**Mondy**	**53.14**	**344**	*e*P	**P**	**17 10 06.4**	**+0.3**
KSH	**Kashi**	**56.59**	**318**	*e*P	**P**	**17 10 33.3**	**+1.9**
KSH				*e*PP	**PP**	**17 12 40.5**	**+2.9**
KSH				*e*PcS	**PcS**	**17 15 29.4**	**+1.0**
KSH				S	**S**	**17 18 20.1**	**-1.1**
KSH				*e*sS	**sS**	**17 18 37.6**	**-1.1**
KSH				*e*SS	**SS**	**17 22 07.3**	**-1.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,150nm,5.2s						
KSH				LR	LR		
	comp=Z,100nm,4.7s						
KSH				LR	LR		
	comp=Z,160nm,5.2s						
KSH				LR	LR		
	comp=Z,74nm,6.2s						
MK31	**Makanchi Array**	**56.99**	**328**	*e*P	**P**	**17 10 33.9**	**0.0**
MK31	**Makanchi Array**	**56.99**	**328**	*e*P	**P**	**17 10 33.9**	**0.0**
MKAR	**Makanchi Array**	**56.99**	**328**	*e*P	**P**	**17 10 34.7**	**+0.7**
MKAR	**Makanchi Array**	**56.99**	**328**	*e*P	**P**	**17 10 34.7**	**+0.7**
MKAR	**Makanchi Array**	**56.99**	**328**	P	**P**	**17 10 33.8**	**-0.2**
	comp=Z,6.5nm,1.1s,baz=125,slow=8.2,SNR=12						
TKM2	**Tokmak 2**	**58.59**	**321**	*e*P	**P**	**17 10 46.0**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,25nm,1.3s						
TKM2	**Tokmak 2**	**58.59**	**321**	*e*P	**P**	**17 10 46.0**	**+0.6**
	comp=Z,25nm,1.3s						
AAK	**Ala-Archa**	**59.13**	**320**	*c i*P	**P**	**17 10 49.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,28nm,1.7s						
AAK	**Ala-Archa**	**59.13**	**320**	*e*P	**P**	**17 10 50.1**	**+0.9**
	comp=Z,16nm,1.2s						
AAK	**Ala-Archa**	**59.13**	**320**	P	**P**	**17 10 49.8**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=131,slow=6.9,SNR=8.6						
PETK	**Petropavlovsk-**	**59.29**	**24**	LR	LR	17 35 09.2	
	comp=Z,207nm,20.6s,baz=227,slow=35						
KBL	**Kabul**	**59.43**	**310**	*e*P	**P**	**17 10 51.3**	**-0.2**
KBL	**Kabul**	**59.43**	**310**	*e*P	**P**	**17 10 51.3**	**-0.2**
EKS2	**Erkin-Say**	**59.60**	**320**	*e*P	**P**	**17 10 53.8**	**+1.4**
EKS2				pmax	pmax		
	comp=Z,14nm,1.2s						
EKS2	**Erkin-Say**	**59.60**	**320**	*e*P	**P**	**17 10 53.8**	**+1.4**
	comp=Z,14nm,1.2s						
PET	**Petropavlovsk**	**59.62**	**25**	*e*P	P	17 10 58.9	+6.8
PET				*e*S	**S**	**17 19 04.2**	**+4.3**
ZALV	**Zalesovo Beam**	**60.69**	**336**	*i*P	**P**	**17 10 58.4**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**60.69**	**336**	P	**P**	**17 10 58.1**	**-1.3**
ZALV	**Zalesovo Beam**	**60.69**	**336**	P	**P**	**17 10 58.1**	**-1.3**
	comp=Z,3.5nm,0.9s,baz=134,slow=6.4,SNR=10						
YAK	**Yakutsk**	**60.71**	**4**	*e*P	**P**	**17 10 57.5**	**-1.9**
YAK				*e*		17 20 41.9	
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,17nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				MLR	MLR		
	comp=E,223nm,16.0s						
YAK				MLR	MLR		
	comp=N,292nm,16.0s						
YAK				MLR	MLR		
	comp=Z,314nm,17.0s						
YAK	**Yakutsk**	**60.71**	**4**	*e*P	**P**	**17 10 59.5**	**+0.2**
DCZ	**Deep Cove**	**61.30**	**145**	*e*P	**P**	**17 11 04.5**	**+0.8**
	comp=Z,63nm,1.2s						
KURBB	**Kurchatov Arra**	**61.34**	**330**	P	**P**	**17 11 03.8**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=126,slow=6.3,SNR=19						
KURK	**Kurchatov**	**61.35**	**330**	P	**P**	**17 11 03.9**	**-0.1**
	comp=Z,38nm,1.2s,SNR=9.5						
KURK	**Kurchatov**	**61.35**	**330**	*c i*P	**P**	**17 11 03.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**61.35**	**330**	*e*P	**P**	**17 11 03.7**	**-0.3**
	comp=Z,17nm,1.1s						
NVS	**Novosibirsk**	**61.98**	**336**	*e*P	**P**	**17 11 07.5**	**-0.6**
NVS				pmax	pmax		
	comp=N,15nm,1.6s						
NVS				pmax	pmax		
	comp=Z,27nm,1.6s						
NVS				pmax	pmax		
	comp=E,16nm,1.5s						
WHZ	**Wether Hill Ro**	**61.99**	**146**	*e*P	**P**	**17 11 09.1**	**+0.6**
	comp=E,303nm,2.4s						
RPZ	**Rata Peaks**	**62.61**	**142**	*e*P	**P**	**17 11 13.4**	**+0.7**
	comp=E,132nm,1.0s						
SNZO	**South Karori**	**63.75**	**138**	*e*P	**P**	**17 11 19.5**	**-0.7**
	comp=E,56nm,1.1s						
BKZ	**Black Stump Fm**	**64.02**	**135**	*e*P	**P**	**17 11 22.7**	**+0.6**
	comp=E,61nm,1.4s						
URZ	**Urewera**	**64.07**	**134**	P	**P**	**17 11 21.4**	**-1.0**
URZ	**Urewera**	**64.07**	**134**	P	**P**	**17 11 21.4**	**-1.0**
	comp=E,6.1nm,0.6s,baz=344,slow=8.0,SNR=3.9						
BVAR	**Borovoye Array**	**66.86**	**329**	P	**P**	**17 11 39.6**	**-0.6**
BVAR	**Borovoye Array**	**66.86**	**329**	P	**P**	**17 11 39.6**	**-0.6**
BVAR	**Borovoye Array**	**66.86**	**329**	P	**P**	**17 11 39.6**	**-0.6**
	comp=E,1.6nm,0.8s,baz=134,slow=10,SNR=8.5						
BRVK	**Borovoye**	**66.93**	**329**	*e*P	**P**	**17 11 40.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,14nm,1.0s						
BRVK	**Borovoye**	**66.93**	**329**	*e*P	**P**	**17 11 40.4**	**-0.2**
	comp=Z,14nm,1.0s						
TIXI	**Tiksi**	**70.23**	**2**	*e*P	**P**	**17 11 59.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TIXI	**Tiksi**	**70.23**	**2**	*e*P	**P**	**17 11 59.8**	**-1.0**
ABKAR	**Akbulak array**	**71.12**	**322**	*e*P	**P**	**17 12 06.0**	**-0.7**
AKTO	**Aktyubinsk**	**72.70**	**323**	P	**P**	**17 12 15.3**	**-0.9**
AKTO	**Aktyubinsk**	**72.70**	**323**	P	**P**	**17 12 15.2**	**-0.9**
AKTO	**Aktyubinsk**	**72.70**	**323**	P	**P**	**17 12 15.2**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=113,slow=4.3,SNR=9.9						
BILL	**Bilibino**	**72.94**	**16**	*e*P	**P**	**17 12 16.7**	**-0.5**
BILL				*e*		17 12 36.7	
BILL				*i*		17 14 57.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.5s						
SVE	**Sverdlovsk**	**73.60**	**330**	*e*P	**P**	**17 12 20.6**	**-0.7**
SVE				pmax	pmax		
	comp=Z,26nm,1.1s						
ARU	**Arti**	**74.51**	**329**	*c i*P	**P**	**17 12 24.9**	**-1.7**
ARU						17 15 10.6	
ARU				S	**S**	**17 21 58.7**	**-0.5**
ARU				pmax	pmax		
	comp=Z,17nm,2.0s						
ARU	**Arti**	**74.51**	**329**	*e*P	**P**	**17 12 25.2**	**-1.4**
	comp=Z,14nm,1.0s						
ARU				*e*pP	**pP**	**17 12 36.5**	**-1.1**
RAYN	**Ar Rayn**	**77.25**	**294**	*e*P	**P**	**17 12 41.6**	**-1.4**
	comp=Z,14nm,1.0s						
GAMB	**Gambell**	**78.32**	**24**	*e*pP	pP	17 12 57.9	-1.1
MAW	**Mawson**	**80.08**	**200**	LR	LR	17 48 28.0	
	comp=Z,216nm,18.0s,baz=350,slow=36						
ZEI	**Tsey**	**80.45**	**313**	*e*P	**P**	**17 13 01.9**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
VNDA	**Vanda**	**81.77**	**172**	*e*P	**P**	**17 13 05.7**	**-0.8**
VNDA	**Vanda**	**81.77**	**172**	P	**P**	**17 13 05.3**	**-1.2**
	comp=Z,5.1nm,0.9s,baz=303,slow=5.2,SNR=9.1						
VNDA				LR	LR	17 48 55.5	
	comp=Z,281nm,20.8s,baz=353,slow=35						
PRGR	**Permogore**	**82.38**	**332**	P	P	17 13 14.7	+4.8
KMBO	**Kilima Mbogo**	**85.00**	**269**	P	**P**	**17 13 23.9**	**-0.8**
KMBO				*e*pP	**pP**	**17 13 35.7**	**-0.1**
KMBO	**Kilima Mbogo**	**85.00**	**269**	P	**P**	**17 13 23.9**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=66,slow=10.0,SNR=3.9						
KLMR	**Klimovskoe**	**85.19**	**331**	*e*P	**P**	**17 13 21.9**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,37nm,1.5s						
OBN	**Obninsk**	**86.33**	**325**	⇓*e*P	**P**	**17 13 31.1**	**+1.0**
OBN				*e*		17 16 54.1	
OBN				pmax	pmax		
	comp=Z,31nm,1.7s						
COLD	**Coldfoot**	**87.74**	**23**	*e*P	**P**	**17 13 37.6**	**+0.8**
	comp=Z,41nm,2.3s						
SYO	**Syowa Base**	**88.68**	**201**	⇑*e*X	**P**	**17 13 38.7**	**-2.4**
ILAR	**Eielson Array**	**89.09**	**25**	P	**P**	**17 13 43.5**	**+0.3**
ILAR	**Eielson Array**	**89.09**	**25**	P	**P**	**17 13 43.5**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=248,slow=4.8,SNR=4.4						
ILAR				LR	LR	17 52 07.6	
	comp=Z,75nm,21.9s,baz=174,slow=35						
AKASG	**Malin Array Be**	**90.80**	**321**	P	**P**	**17 13 49.4**	**-2.1**
AKASG	**Malin Array Be**	**90.80**	**321**	P	**P**	**17 13 49.4**	**-2.1**
AKASG	**Malin Array Be**	**90.80**	**321**	P	**P**	**17 13 49.4**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=64,slow=5.3,SNR=3.3						
ARCES	**ARCESS Array B**	**91.02**	**340**	LR	LR	17 58 59.6	
	comp=Z,237nm,18.2s,baz=100,slow=38						
QSPA	**South Pole Qui**	**91.36**	**180**	*e*P	**P**	**17 13 52.9**	**-1.0**
	comp=Z,17nm,1.4s						
EGAK	**Eagle**	**91.54**	**25**	*e*pP	pP	17 14 03.9	-1.9
BOSA	**Boshof**	**96.80**	**242**	LR	LR	17 52 27.4	
	comp=Z,165nm,21.5s,baz=115,slow=32						
NOA	**NORSAR Array B**	**98.78**	**333**	LR	LR	18 02 15.2	
	comp=Z,154nm,18.8s,baz=70,slow=37						
TORD	**Torodi Ar. Bea**	**119.28**	**286**	PKP	**PKPdf**	**17 19 36.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**119.28**	**286**	PKP	**PKPdf**	**17 19 36.6**	**-1.8**
	comp=Z,0.8nm,0.9s,baz=93,slow=3.6,SNR=3.4						

ISCJB ***21*** *17:01:09.6±1.0, 20.06S±0.10×169.1E±0.1, h35km, mb4.3/7, MS3.9/1, Error ellipse: s-maj=17.5km s-min=12.1km az=31.9*
NEIC ***21*** *17:01:09.9±4.8, 19.91S×169.27E, h42km±41km, mb4.5/1, Error ellipse: s-maj=41.3km s-min=19.7km az=209.0*
IDC ***21*** *17:01:11.3±3.4, 19.96S×169.21E, h50km±26km, mb4.2/7, mb1 4.3/9, mb1mx4.0/32, mbtmp4.4/9, ML4.0/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/33, Error ellipse: s-maj=33.4km s-min=26.0km az=15.0*

ISC 21 17:01:09.6±0.8, 20.0S±0.1×169.2E±0.1, h35km, n39, σ1°53/42, mb4.4/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.30**	**231**	*e*P		**Pn**	**17 01 58.9**	**+0.1**
DZM				S		**Sn**	**17 02 34.1**	**-2.9**
DZM	**Mont Dzumac**	**3.30**	**231**	P		**Pn**	**17 01 59.1**	**+0.2**
	9.0nm,0.3s,baz=7.0,slow=19,SNR=212							
DZM				S		**Sn**	**17 02 34.1**	**-2.9**
	134nm,0.3s,baz=325,slow=21,SNR=19							
DZM				LR		LR	17 03 08.9	
	comp=Z,218nm,20.8s,baz=37,slow=35							
HNR	**Honiara**	**13.80**	**318**	LR		LR	17 08 17.7	
	comp=Z,118nm,19.2s,baz=160,slow=31							
AFI	**Afiamalu**	**19.17**	**75**	LR		LR	17 11 02.1	
	comp=Z,37nm,18.9s,baz=284,slow=31							
URZ	**Urewera**	**19.44**	**161**	P		**Pn**	**17 05 35.9**	**+1.5**
URZ	**Urewera**	**19.44**	**161**	P		**Pn**	**17 05 35.9**	**+1.5**
	0.9nm,0.3s,baz=34,slow=5.0,SNR=6.6							
RMQ	**Roma**	**19.85**	**247**	P		**Pn**	**17 05 41.6**	**+2.2**
	baz=19,SNR=4.3							
CTA	**Charters Tower**	**21.56**	**266**	P		**P**	**17 05 57.9**	**+1.6**
CTA	**Charters Tower**	**21.56**	**266**	P		**P**	**17 05 57.9**	**+1.6**
	12nm,0.5s,baz=89,slow=11,SNR=18							
CTAO	**Charters Tower**	**21.56**	**266**	*e*P		**P**	**17 05 58.1**	**+1.9**
	15nm,0.6s							
PMG	**Port Moresby**	**23.76**	**293**	P		**P**	**17 06 19.9**	**+1.0**
PMG	**Port Moresby**	**23.76**	**293**	P		**P**	**17 06 19.9**	**+1.0**
	19nm,0.8s,baz=133,slow=11,SNR=4.2							
QLP	**Quilpie**	**23.83**	**249**	P		**P**	**17 06 20.4**	**+0.9**
	baz=23,SNR=8.6							
CMSA	**Cobar Meteorol**	**24.03**	**237**	P		**P**	**17 06 22.2**	**+0.7**
	baz=23,SNR=19							
STKA	**Stephens Creek**	**27.42**	**239**	*e*P		**P**	**17 06 51.6**	**-0.5**
STKA	**Stephens Creek**	**27.42**	**239**	P		**P**	**17 06 52.9**	**+0.8**
	1.9nm,0.4s,baz=53,slow=8.0,SNR=7.6							
STKA	**Stephens Creek**	**27.42**	**239**	P		**P**	**17 06 53.0**	**+1.0**
	baz=27,SNR=5.8							
WRA	**Warramunga Arr**	**32.74**	**264**	P		**P**	**17 07 38.5**	**-0.9**
WRA	**Warramunga Arr**	**32.74**	**264**	P		**P**	**17 07 38.5**	**-0.9**
	2.0nm,0.4s,baz=90,slow=8.5,SNR=14							
ASAR	**Alice Springs**	**32.92**	**257**	P		**P**	**17 07 40.7**	**-0.2**
ASAR	**Alice Springs**	**32.92**	**257**	P		**P**	**17 07 40.7**	**-0.2**
	14nm,0.6s,baz=85,slow=9.0,SNR=47							
FAKI	**Fak Fak**	**39.85**	**290**	P		**P**	**17 08 40.1**	**-0.1**
	baz=40,SNR=3.8							
CMAR	**Chiang Mai Arr**	**78.79**	**294**	P		**P**	**17 13 10.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**78.79**	**294**	P		**P**	**17 13 10.3**	**+1.0**
	0.7nm,0.8s,baz=133,slow=4.8,SNR=5.6							
SONM	**Songino Array**	**87.81**	**323**	P		**P**	**17 13 55.3**	**+0.1**
SONM	**Songino Array**	**87.81**	**323**	P		**P**	**17 13 55.3**	**+0.1**
	0.9nm,0.8s,baz=138,slow=4.5,SNR=3.6							
YBH	**Yreka Blue Hor**	**87.87**	**44**	LR		LR	17 44 32.6	
	comp=Z,52nm,20.0s,baz=302,slow=30							
ARCES	**ARCESS Array B**	**125.80**	**345**	PKP		**PKPdf**	**17 20 05.8**	**-1.1**
ARCES	**ARCESS Array B**	**125.80**	**345**	PKP		**PKPdf**	**17 20 05.8**	**-1.1**
	1.7nm,0.8s,baz=64,slow=2.0,SNR=9.5							
SFJD	**Kangerlussuaq**	**126.62**	**18**	PKP		**PKPdf**	**17 20 06.6**	**-1.9**
SFJD	**Kangerlussuaq**	**126.62**	**18**	PKP		**PKPdf**	**17 20 06.6**	**-1.9**
	17nm,1.0s,baz=269,slow=8.6,SNR=3.7							
FINES	**FINESS Array B**	**131.28**	**337**	PKP		**PKPdf**	**17 20 16.5**	**-1.0**
FINES				SKPbc		**SKPbc**	**17 23 36.9**	**-2.9**
FINES	**FINESS Array B**	**131.28**	**337**	PKP		**PKPdf**	**17 20 16.5**	**-1.0**
	0.5nm,0.6s,baz=74,slow=4.8,SNR=2.5							
FINES				SKPbc		**SKPbc**	**17 23 36.9**	**-2.9**
	2.5nm,1.0s,baz=25,slow=4.6,SNR=5.2							
EKA	**Eskdalemuir Ar**	**144.26**	**353**	PKP		**PKPab**	**17 20 38.6**	**-0.9**
EKA	**Eskdalemuir Ar**	**144.26**	**353**	PKP		**PKPab**	**17 20 38.6**	**-0.9**
	1.2nm,0.8s,baz=351,slow=2.6,SNR=3.2							
GERES	**GERESS Array B**	**145.15**	**331**	PKPbc		**PKPbc**	**17 20 42.3**	**-0.7**
GERES				pPKPbc		pPKPbc	17 20 56.9	+2.3
GERES	**GERESS Array B**	**145.15**	**331**	PKPbc		**PKPbc**	**17 20 42.3**	**-0.7**
	2.0nm,0.6s,baz=36,slow=4.8,SNR=22							
GERES				pPKPbc		pP

Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.10**	**6**	⇓*i*Pg	**Pg**	**17 09 14.5**	**-0.4**
GCIS				*i* Sg	**Sg**	**17 09 16.4**	**-0.5**
GCIS	comp=Z,8μm,0.1s						
GCIS	**Gornji Cirnik**	**0.10**	**6**	⇓*i*Pg	**Pg**	**17 09 14.5**	**-0.4**
GCIS	comp=Z,8μm,0.1s			*i* Sg	**Sg**	**17 09 16.5**	**-0.5**
CRES	**Cresnjev**	**0.12**	**296**	*i* Pg	**Pg**	**17 09 15.2**	**0.0**
CRES				*i* Sg	**Sg**	**17 09 18.1**	**+0.5**
CRES	comp=Z,2μm,0.1s						
CRES	**Cresnjev**	**0.12**	**296**	*i* Pg	**Pg**	**17 09 15.2**	**0.0**
CRES	comp=Z,2μm,0.1s			*i* Sg	**Sg**	**17 09 18.1**	**+0.5**
CESS	**Cesta pri Krsk**	**0.23**	**333**	*i* Pg	**Pg**	**17 09 17.0**	**+0.2**
CESS				*i* Sg	**Sg**	**17 09 21.4**	**+1.2**
CESS	comp=Z,2μm,0.3s						
CESS	**Cesta pri Krsk**	**0.23**	**333**	*i* Pg	**Pg**	**17 09 17.0**	**+0.2**
CESS	comp=Z,2μm,0.3s			*i* Sg	**Sg**	**17 09 21.4**	**+1.2**
GOLS	**Golise**	**0.24**	**2**	*i* Pg	**Pg**	**17 09 16.9**	**-0.1**
GOLS				*i* Sg	**Sg**	**17 09 21.1**	**+0.6**
GOLS	comp=Z,719nm,0.1s						
GOLS	**Golise**	**0.24**	**2**	*i* Pg	**Pg**	**17 09 16.9**	**-0.1**
GOLS	comp=Z,719nm,0.1s			*i* Sg	**Sg**	**17 09 21.1**	**+0.6**
LEGS	**Legarje**	**0.27**	**311**	*i* Pg	**Pb**	**17 09 18.3**	**-0.3**
LEGS				*i* Sg	**Sb**	**17 09 23.1**	**0.0**
LEGS	**Legarje**	**0.27**	**311**	*i* Pg	**Pb**	**17 09 18.3**	**-0.3**
LEGS				*i* Sg	**Sb**	**17 09 23.1**	**0.0**
BOJS	**Bojanci**	**0.37**	**223**	*i* Pg	**Pg**	**17 09 18.9**	**-0.4**
BOJS				*i* Sg	**Sg**	**17 09 24.2**	**-0.1**
BOJS	comp=Z,202nm,0.1s						
BOJS	**Bojanci**	**0.37**	**223**	⇓*i*Pg	**Pg**	**17 09 18.7**	**-0.6**
BOJS	**Bojanci**	**0.37**	**223**	⇓*i*Pg	**Pg**	**17 09 18.7**	**-0.6**
BOJS	comp=Z,202nm,0.1s			*i* Sg	**Sg**	**17 09 24.2**	**-0.1**
DOBS	**Dobrina**	**0.39**	**345**	*i* Pg	**Pg**	**17 09 20.2**	**+0.5**
DOBS				*i* Sg	**Sb**	**17 09 26.4**	**-0.1**
DOBS	comp=Z,599nm,0.1s						
DOBS	**Dobrina**	**0.39**	**345**	*i* Pg	**Pg**	**17 09 20.2**	**+0.5**
DOBS	comp=Z,599nm,0.1s			*i* Sg	**Sb**	**17 09 26.4**	**-0.1**
PDKS	**Podkum**	**0.52**	**304**	*i* Pg	**Pb**	**17 09 22.8**	**0.0**
PDKS				*i* Sg	**Sb**	**17 09 30.4**	**+0.2**
PDKS	comp=Z,252nm,0.1s						
PDKS	**Podkum**	**0.52**	**304**	*i* Pg	**Pb**	**17 09 22.8**	**0.0**
PDKS	comp=Z,252nm,0.1s			*i* Sg	**Sb**	**17 09 30.4**	**+0.2**
VISS	**Visnje**	**0.54**	**274**	*i* Pg	**Pb**	**17 09 23.0**	**-0.2**
VISS				*i* Sg	**Sb**	**17 09 30.5**	**-0.4**
VISS	**Visnje**	**0.54**	**274**	*i* Pg	**Pb**	**17 09 23.0**	**-0.2**
VISS				*i* Sg	**Sb**	**17 09 30.5**	**-0.4**
SISC	**Sisak**	**0.61**	**119**	*e*Pg	**Pg**	**17 09 23.0**	**0.9**
SISC				Sg	**Sg**	**17 09 31.8**	**-0.1**
SISC	**Sisak**	**0.61**	**119**	*e*Pg	**Pg**	**17 09 22.9**	**-0.9**
SISC				Sg	**Sg**	**17 09 31.8**	**-0.1**
GBRS	**Gornja Briga**	**0.61**	**247**	*i* Pg	**Pg**	**17 09 24.0**	**+0.2**
LJU	comp=Z,335nm,0.2s **Ljubljana**	**0.81**	**290**	*i* Pg	**Pb**	**17 09 27.9**	**+0.3**
LJU				*i* Sg	**Sn**	**17 09 40.0**	**-0.7**
LJU	comp=Z,186nm,0.2s						
LJU	**Ljubljana**	**0.81**	**290**	*e*Pg	**Pb**	**17 09 27.8**	**+0.1**
LJU				*e*Sg	**Sb**	**17 09 39.2**	**+0.8**
LJU	**Ljubljana**	**0.81**	**290**	*i* Pg	**Pb**	**17 09 27.9**	**+0.3**
LJU				*i*Sg	**Sb**	**17 09 39.2**	**+0.8**
CEY	**Cerknica**	**0.83**	**268**	*e*Pg	**Pg**	**17 09 28.1**	**+0.1**
CEY				*e*Sg	**Sn**	**17 09 40.7**	**-0.6**
CEY	**Cerknica**	**0.83**	**268**	*e*Pg	**Pg**	**17 09 28.1**	**+0.1**
CEY				*e*Sg	**Sn**	**17 09 40.7**	**-0.6**
PERS	**Pernice**	**0.93**	**338**	*i* Pg	**Pb**	**17 09 30.1**	**+0.3**
PERS	comp=Z,456nm,0.2s						
PERS	**Pernice**	**0.93**	**338**	*i* Pg	**Pb**	**17 09 30.1**	**+0.3**
MOZS	comp=Z,456nm,0.2s **Mozjanca**	**0.97**	**303**	⇑*i*Pg	**Pb**	**17 09 31.0**	**+0.5**
MOZS	comp=Z,182nm,0.3s						
MOZS	**Mozjanca**	**0.97**	**303**	⇑*i*Pg	**Pb**	**17 09 31.0**	**+0.5**
SOKA	comp=Z,182nm,0.3s **Soboth**	**0.99**	**336**	*e*Pg	**Pb**	**17 09 31.2**	**+0.3**
SOKA	SNR=96			⇓*i*Sg	**Sg**	**17 09 43.9**	**0.0**
SOKA	comp=Z,117nm,0.4s **Soboth**	**0.99**	**336**	Pg	**Pb**	**17 09 31.2**	**+0.3**
SOKA	SNR=96			Sg	**Sg**	**17 09 43.9**	**0.0**
OBKA	comp=Z,117nm,0.4s **Obir**	**1.04**	**315**	*e*Pn	**Pn**	**17 09 32.4**	**+0.2**
OBKA				*e*Pg	**Pg**	**17 09 33.5**	**+1.5**
OBKA				*e*Sg	**Sn**	**17 09 46.9**	**+0.2**
OBKA	**Obir**	**1.04**	**315**	*e*Pg	**Pn**	**17 09 32.4**	**+0.2**
OBKA	SNR=218			⇑*i*Sg	**Sn**	**17 09 47.2**	**+0.5**
OBKA	comp=Z,380nm,0.3s **Obir**	**1.04**	**315**	Pg	**Pn**	**17 09 32.4**	**+0.2**
OBKA	SNR=218			Sg	**Sn**	**17 09 47.2**	**+0.5**
BEHE	comp=Z,380nm,0.3s **Becsehely**	**1.07**	**49**	⇑*e*Pn	**Pb**	**17 09 32.1**	**0.0**
BEHE				*e*		17 09 32.8	
BEHE				*e*Sn	**Sn**	**17 09 48.5**	**+1.4**
BEHE	**Becsehely**	**1.07**	**49**	⇑*e*Pn	**Pb**	**17 09 32.1**	**0.0**
BEHE	**Becsehely**	**1.07**	**49**	*e*Pg	**Pg**	**17 09 32.8**	**+0.3**
BEHE				*e*Sn	**Sn**	**17 09 48.5**	**+1.4**
SKDS	**Skadanscina**	**1.14**	**259**	*e*Pg	**Pb**	**17 09 33.6**	**+0.2**
SKDS				*e*Sg	**Sn**	**17 09 50.4**	**+1.4**
SKDS	**Skadanscina**	**1.14**	**259**	*e*Pg	**Pb**	**17 09 33.6**	**+0.2**
SKDS				*e*Sg	**Sn**	**17 09 50.4**	**+1.4**
UDBI	**Udbina**	**1.25**	**175**	*e*Pg	**Pn**	**17 09 34.5**	**-0.6**
UDBI				Sg	**Sb**	**17 09 51.2**	**0.0**
UDBI	**Udbina**	**1.25**	**175**	*e*Pg	**Pn**	**17 09 34.4**	**-0.6**
UDBI				Sg	**Sb**	**17 09 51.2**	**0.0**
TRI	**Trieste**	**1.30**	**268**	⇑*e*Pg	**Pb**	**17 09 36.4**	**+0.4**
TRI				*e*Sg	**Sg**	**17 09 54.2**	**+0.6**
TRI	**Trieste**	**1.30**	**268**	*e*P	**Pb**	**17 09 36.4**	**+0.4**
TRI				*e*Sg	**Sg**	**17 09 54.2**	**+0.6**
NVLJ	**Novalja**	**1.32**	**204**	*e*Pg	**Pn**	**17 09 36.0**	**+0.1**
NVLJ				Sg	**Sb**	**17 09 53.2**	**0.0**
NVLJ	**Novalja**	**1.32**	**204**	*e*Pg	**Pn**	**17 09 35.9**	**+0.1**
NVLJ				Sg	**Sb**	**17 09 53.1**	**0.0**
SABO	**M.te Sabotino**	**1.42**	**279**	*e*Pg	**Pb**	**17 09 38.1**	**-0.1**
SABO				*e*Sg	**Sg**	**17 09 57.8**	**+0.1**
SABO	**M.te Sabotino**	**1.42**	**279**	*e*P	**Pb**	**17 09 38.1**	**-0.1**
SABO				*e*Sg	**Sg**	**17 09 57.8**	**+0.1**
DRE	**Drenchia**	**1.43**	**287**	⇓*e*Pg	**Pn**	**17 09 38.0**	**+0.5**
DRE				*e*Sg	**Sg**	**17 09 59.6**	**+1.6**
DRE	**Drenchia**	**1.43**	**287**	*e*P	**Pn**	**17 09 38.0**	**+0.5**
DRE				*e*Sg	**Sg**	**17 09 59.6**	**+1.6**
ARSA	**Arzberg**	**1.48**	**358**	*e*Pn	**Pn**	**17 09 38.6**	**+0.4**
ARSA				*e*Pg	**Pg**	**17 09 41.1**	**+0.8**
ARSA	**Arzberg**	**1.48**	**358**	⇑*e*Pn	**Pn**	**17 09 38.6**	**+0.4**
ARSA	SNR=25			⇑*i*Sg	**Sg**	**17 10 00.6**	**+1.1**
ARSA	comp=Z,42nm,0.2s **Arzberg**	**1.48**	**358**	*e*Pn	**Pn**	**17 09 38.6**	**+0.4**
ARSA	**Arzberg**	**1.48**	**358**	*e*Pg	**Pg**	**17 09 41.1**	**+0.8**
ARSA	comp=Z,42nm,0.2s			Sg	**Sg**	**17 10 00.6**	**+1.1**
BLY	**Banja Luka**	**1.51**	**132**	*e*Pn	**Pn**	**17 09 39.4**	**+0.9**
BLY				*e*Sg	**Sb**	**17 09 59.8**	**+1.1**
BLY	**Banja Luka**	**1.51**	**132**	*e*Pn	**Pn**	**17 09 39.4**	**+0.9**
BLY				*e*Sg	**Sb**	**17 09 59.8**	**+1.1**
COLI	**Coloredo**	**1.60**	**284**	*e*Pg	**Pb**	**17 09 42.0**	**+0.8**
COLI				*e*Sg	**Sg**	**17 10 04.7**	**+1.4**
COLI	**Coloredo**	**1.60**	**284**	*e*P	**Pb**	**17 09 42.0**	**+0.8**
COLI				*e*Sg	**Sg**	**17 10 04.7**	**+1.4**
LSR	**Lussari**	**1.61**	**297**	⇑*e*Pg	**Pb**	**17 09 42.1**	**+0.6**
LSR				*e*Sg	**Sg**	**17 10 05.1**	**+1.3**
LSR	**Lussari**	**1.61**	**297**	*e*P	**Pb**	**17 09 42.1**	**+0.6**
LSR				*e*Sg	**Sg**	**17 10 05.1**	**+1.3**
MYKA	**Terra Mystica**	**1.61**	**303**	⇑*i*Pn	**Pn**	**17 09 40.6**	**+0.5**
MYKA				⇓*i*Pg	**Pg**	**17 09 43.2**	**+0.3**
MYKA				⇑*i*Sn	**Sb**	**17 10 02.7**	**+0.8**
MYKA				⇓*i*Sg	**Sg**	**17 10 06.4**	**+2.6**
	comp=Z,47nm,0.3s						
MYKA	**Terra Mystica**	**1.61**	**303**	Pn	**Pn**	**17 09 40.6**	**+0.5**
ACOM	**Acomizza, Ital**	**1.65**	**299**	⇓*e*Pg	**Pb**	**17 09 41.9**	**-0.4**
ACOM	**Acomizza, Ital**	**1.65**	**299**	*e*Pg	**Pb**	**17 09 41.8**	**-0.4**
VINO	**Villanova**	**1.69**	**287**	*e*Pg	**Pb**	**17 09 42.6**	**-0.2**
VINO				*e*Sg	**Sg**	**17 10 06.8**	**+0.4**
VINO	**Villanova**	**1.69**	**287**	*e*P	**Pb**	**17 09 42.7**	**-0.2**
VINO				*e*Sg	**Sg**	**17 10 06.8**	**+0.4**
BAD	**Bernadia**	**1.71**	**287**	*e*Pg	**Pb**	**17 09 43.2**	**0.0**
BAD	**Bernadia**	**1.71**	**287**	*e*Pg	**Pb**	**17 09 43.2**	**0.0**
PLRO	**Paularo**	**1.88**	**295**	*e*Pn	**Pb**	**17 09 46.9**	**+0.8**
PLRO	**Paularo**	**1.88**	**295**	*e*Pn	**Pb**	**17 09 46.9**	**+0.8**
FUSE	**Fusea**	**1.93**	**290**	*e*Pn	**Pb**	**17 09 47.3**	**+0.5**
FUSE	**Fusea**	**1.93**	**290**	*e*Pn	**Pb**	**17 09 47.3**	**+0.5**
ZOU	**Zoufplan**	**2.00**	**294**	*e*Pn	**Pb**	**17 09 47.8**	**-0.2**
ZOU	**Zoufplan**	**2.00**	**294**	*e*Pn	**Pb**	**17 09 47.9**	**-0.2**
ZOU	**Zoufplan**	**2.00**	**294**	*e*Pn	**Pb**	**17 09 47.8**	**-0.2**
SOP	**Sopron**	**2.02**	**18**	⇑*e*Pn	Pn	17 09 37.5	-8.0
SOP				*e*Sg	Pn	17 09 39.5	-6.0
SOP				*e*Sn	**Sb**	**17 10 14.4**	**+1.1**
PKS9	**Tamasi**	**2.02**	**65**	*e*Pn	**Pn**	**17 09 44.2**	**-1.4**
PKS9				*e*		17 09 51.4	
PKS9				*e*Sn	**Sg**	**17 10 21.2**	**+4.3**
PKS9	**Tamasi**	**2.02**	**65**	*e*Pn	**Pn**	**17 09 44.2**	**-1.4**
PKS9	**Tamasi**	**2.02**	**65**	*e*Pg	**Pg**	**17 09 51.4**	**+0.7**
KBA	**Koelnbreinsper**	**2.04**	**311**	*e*Pn	**Pg**	**17 09 50.7**	**-0.3**
KBA	**Koelnbreinsper**	**2.04**	**311**	⇑*i*Pn	**Pb**	**17 09 49.1**	**+0.3**
KBA				⇑*i*Pg	**Pg**	**17 09 51.0**	**0.0**
KBA	**Koelnbreinsper**	**2.04**	**311**	Pn	**Pb**	**17 09 49.1**	**+0.3**
KBA	**Koelnbreinsper**	**2.04**	**311**	Pg	**Pg**	**17 09 51.0**	**0.0**
MLNI	**Malnisio**	**2.13**	**281**	*e*Pn	**Pb**	**17 09 50.4**	**+0.1**
MLNI	**Malnisio**	**2.13**	**281**	*e*Pn	**Pb**	**17 09 50.4**	**+0.1**
PKSM	**Moragy**	**2.16**	**77**	*e*Pn	**Pn**	**17 09 45.5**	**-1.9**
PKSM				*e*Sn	**Sg**	**17 10 20.5**	**-0.7**
PKSM	**Moragy**	**2.16**	**77**	*e*Pn	**Pn**	**17 09 45.5**	**-1.9**
CONA	**Conrad Observa** SNR=16	**2.16**	**4**	*e*Pn	**Pn**	**17 09 48.4**	**+0.8**
CONA	**Conrad Observa** SNR=16	**2.16**	**4**	Pn	**Pn**	**17 09 48.4**	**+0.8**
CAE	**Caneva**	**2.23**	**277**	*e*Pn	**Pn**	**17 09 50.3**	**+1.8**
CAE	**Caneva**	**2.23**	**277**	*e*Pn	**Pn**	**17 09 50.3**	**+1.8**
PKST	**T˜˜s**	**2.24**	**47**	*e*Pn	**Pn**	**17 09 48.3**	**-0.2**
PKST				*e*		17 09 51.1	
PKST				*e*Sn	Sg	17 10 30.4	+6.6
PKST	**T˜˜s**	**2.24**	**47**	*e*Pn	**Pn**	**17 09 48.3**	**-0.2**
PKST	**T˜˜s**	**2.24**	**47**	*e*Pg	**Pb**	**17 09 51.1**	**-1.0**
MOA	**Molln**	**2.27**	**336**	*e*Pn	**Pn**	**17 09 50.5**	**+1.4**
MOA				*e*Sg	**Sn**	**17 10 19.1**	**+2.1**
MOA	**Molln**	**2.27**	**336**	⇑*i*Pn	**Pn**	**17 09 50.7**	**+1.6**
MOA				*e*Sn	**Sn**	**17 10 19.0**	**+2.1**
MOA	**Molln** SNR=36	**2.27**	**336**	⇑*e*Pn	**Pn**	**17 09 49.5**	**+0.4**
MOA	**Molln** SNR=36	**2.27**	**336**	Pn	**Pn**	**17 09 49.5**	**+0.4**
MOA				*e*Sn	**Sn**	**17 10 19.0**	**+2.1**
CSKK	**Cs˜‡kako**	**2.42**	**48**	*e*Pn	**Pg**	**17 09 57.3**	**-1.0**
CSKK				*e*Sn	Sg	17 10 37.0	+7.3
PKSG		**2.51**	**49**	*e*Pn	**Pn**	**17 09 54.8**	**+2.6**
PKSG		**2.51**	**49**	*e*Pn	**Pn**	**17 09 54.8**	**+2.6**
RJOB	**Jochberg**	**2.76**	**316**	*e*Pn	**Pn**	**17 09 58.5**	**+2.7**
RJOB	**Jochberg**	**2.76**	**316**	*e*Pn	**Pn**	**17 09 58.5**	**+2.7**
PKS7	**Kunszentmiklos**	**2.77**	**61**	*e*Sn	**Sg**	**17 10 46.1**	**+5.4**
SMOL	**Smolenice**	**3.01**	**24**	*e*PN	**Pn**	**17 09 59.3**	**+0.2**
SMOL				*e*		17 10 08.1	
SMOL	**Smolenice**	**3.01**	**24**	*e*Pn	**Pn**	**17 09 59.3**	**+0.2**
FGSL	**Fruska Gora**	**3.02**	**100**	*e*Pn	**Pn**	**17 10 02.1**	**+2.8**
FGSL				*e*Sn	**Sn**	**17 10 38.2**	**+3.0**
FRGS	**Fruska Gora**	**3.02**	**100**	*e*Pn	**Pn**	**17 10 02.1**	**+2.8**
FRGS				*e*Sn	**Sn**	**17 10 38.2**	**+3.0**
KOSI	**Kohlern**	**3.02**	**285**	*e*Pn	**Pn**	**17 10 02.2**	**+2.7**
TEKS	**Tekeris**	**3.03**	**112**	*e*Pn	**Pn**	**17 10 02.0**	**+2.6**
TEKS				*e*Sn	**Sn**	**17 10 38.8**	**+3.3**
TEKS	**Tekeris**	**3.03**	**112**	*e*Pn	**Pn**	**17 10 02.0**	**+2.6**
TEKS				*e*Sn	**Sn**	**17 10 38.8**	**+3.3**
ABSI	**Aberstueckl**	**3.13**	**289**	⇓*e*Pn	**Pn**	**17 10 03.8**	**+2.9**
PKSN	**Nyarlorinc**	**3.15**	**68**	*e*Sn	**Sg**	**17 10 50.7**	**-2.4**
BBLS	**Lazići**	**3.30**	**124**	*e*Pn	**Pn**	**17 10 06.0**	**+2.7**
BBLS	**Lazići**	**3.30**	**124**	*e*Pn	**Pn**	**17 10 06.0**	**+2.7**
GEC2	**GERESS Array S**	**3.34**	**338**	*e*Pn	**Pn**	**17 10 04.9**	**+1.2**
GEC2	**GERESS Array S**	**3.34**	**338**	*e*Pn	**Pn**	**17 10 04.9**	**+1.2**
TREC	**Trest**	**3.52**	**359**	⇑*e*SN	**Sn**	**17 10 47.3**	**-0.5**
TREC				*e*SG	**Sg**	**17 11 03.4**	**-1.6**
	comp=Z,18nm,0.8s						
TREC	**Trest**	**3.52**	**359**	Sn	**Sn**	**17 10 47.3**	**-0.5**
TREC				Sg	**Sg**	**17 11 03.4**	**-1.6**
	comp=Z,18nm,0.8s						
DIVS	**Divibare**	**3.53**	**117**	*e*Pn	Pn	17 10 10.3	+3.9
DIVS	**Divibare**	**3.53**	**117**	*e*Pn	Pn	17 10 10.3	+3.9
VRAC	**Vranov**	**3.60**	**10**	*e*Pn	**Pn**	**17 10 07.5**	**+0.2**
VRAC				*e*Sn	**Sn**	**17 10 47.5**	**-2.1**
KHC	**Kasperske Hory**	**3.63**	**338**	*e*PN	**Pn**	**17 10 08.8**	**+1.1**
KHC				*e*PG	Pg	17 10 26.0	+4.6
KHC				*e*SN	**Sn**	**17 10 50.1**	**-0.3**
KHC				*e*SG	**Sg**	**17 11 07.2**	**-1.2**
	comp=Z,18nm,0.8s						
KHC	**Kasperske Hory**	**3.63**	**338**	Pn	**Pn**	**17 10 08.8**	**+1.1**
KHC				Sn	**Sn**	**17 10 50.1**	**-0.3**
KHC				Sg	**Sg**	**17 11 07.2**	**-1.2**
	comp=Z,18nm,0.8s						
PSZ	**Piszkesteto**	**3.64**	**52**	*e*Pn	**Pn**	**17 10 10.9**	**+3.0**
PSZ	**Piszkesteto**	**3.64**	**52**	*e*Pn	**Pn**	**17 10 10.9**	**+3.0**
WET	**Wettzell**	**3.85**	**332**	*e*Pn	**Pn**	**17 10 11.6**	**+0.9**
WET	**Wettzell**	**3.85**	**332**	*e*Pn	**Pn**	**17 10 11.6**	**+0.9**
GRUS	**Gruza**	**4.09**	**116**	*e*Pn	Pn	17 10 17.5	+3.5
GRUS	**Gruza**	**4.09**	**116**	*e*Pn	Pn	17 10 17.5	+3.5
MORC	**Moravsky Berou**	**4.21**	**17**	*e*Pn	**Pn**	**17 10 16.5**	**+0.8**
PRU	**Pruhonice**	**4.28**	**351**	⇑*e*PN	**Pn**	**17 10 17.5**	**+0.9**
PRU				*e*SN	**Sn**	**17 11 05.2**	**-1.1**
PRU				*e*SG	**Sg**	**17 11 28.4**	**-0.8**
	comp=Z,21nm,0.7s						
PRU	**Pruhonice**	**4.28**	**351**	Pn	**Pn**	**17 10 17.5**	**+0.9**
PRU				Sn	**Sn**	**17 11 05.2**	**-1.1**
PRU				Sg	**Sg**	**17 11 28.4**	**-0.8**
	comp=Z,21nm,0.7s						
DPC	**Dobruska-Polom**	**4.61**	**6**	*e*PN	**Pn**	**17 10 22.1**	**+1.0**
DPC				*ex*	x	17 10 33.0	
DPC				*e*PG	**Pg**	**17 10 37.0**	**-3.0**
DPC				*e*SG	**Sg**	**17 11 38.1**	**-1.5**
DPC	**Dobruska-Polom**	**4.61**	**6**	Pn	**Pn**	**17 10 22.1**	**+1.0**
DPC				Sg	**Sg**	**17 11 38.1**	**-1.5**
ROTZ	**Rotzenmuhle**	**4.61**	**331**	*e*Pn	**Pn**	**17 10 21.6**	**+0.5**
ROTZ	**Rotzenmuhle**	**4.61**	**331**	*e*Pn	**Pn**	**17 10 21.6**	**+0.5**
MANZ	**Manzenberg**	**4.83**	**332**	*e*Pn	**Pn**	**17 10 25.2**	**+1.0**
MANZ	**Manzenberg**	**4.83**	**332**	*e*Pn	**Pn**	**17 10 25.2**	**+1.0**
NKC	**Novy Kostel**	**4.94**	**336**	⇑*e*PN	**Pn**	**17 10 25.8**	**+0.1**
NKC				*e*SG	**Sg**	**17 11 49.7**	**-0.7**
	comp=Z,18nm,0.9s						
NKC	**Novy Kostel**	**4.94**	**336**	Pn	**Pn**	**17 10 25.8**	**+0.1**
NKC				Sg	**Sg**	**17 11 49.7**	**-0.7**
	comp=Z,18nm,0.9s						
WERN	**Wernitzgruen**	**5.01**	**336**	*e*Pn	**Pn**	**17 10 27.2**	**+0.5**
WERN	**Wernitzgruen**	**5.01**	**336**	*e*Pn	**Pn**	**17 10 27.2**	**+0.5**
TANN	**Tannenbergstha**	**5.10**	**337**	*e*Pn	**Pn**	**17 10 29.1**	**+1.2**
TANN	**Tannenbergstha**	**5.10**	**337**	*e*Pn	**Pn**	**17 10 29.1**	**+1.2**
BRG	**Berggiesshubel**	**5.22**	**348**	PN	**Pn**	**17 10 29.9**	**+0.4**
BRG				SN	**Sn**	**17 11 28.1**	**-1.5**
BRG				SG	**Sg**	**17 11 54.1**	**-5.3**
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**5.22**	**348**	*e*Pn	**Pn**	**17 10 29.8**	**+0.3**
BRG	**Berggiesshubel**	**5.22**	**348**	*e*Pn	**Pn**	**17 10 29.8**	**+0.3**
STHS	**Stebnicka Huta**	**5.27**	**44**	*e*PN	**Pn**	**17 10 30.6**	**+0.4**
STHS	**Stebnicka Huta**	**5.27**	**44**	*e*Pn	**Pn**	**17 10 30.6**	**+0.4**
MOX	**Moxa**	**5.56**	**333**	*e*Pn	**Pn**	**17 10 35.0**	**+0.8**
MOX	**Moxa**	**5.56**	**333**	*e*Pn	**Pn**	**17 10 35.0**	**+0.8**
PGF	**Pioggiola**	**5.75**	**238**	*e*Pn	**Pn**	**17 10 35.6**	**-1.2**
PGF	**Pioggiola**	**5.75**	**238**	*e*Pn	**Pn**	**17 10 35.6**	**-1.2**
CLL	**Collm**	**5.80**	**344**	*i* Pn	**Pn**	**17 10 37.7**	**+0.2**
CLL				*e*Sn	**Sn**	**17 11 42.0**	**-1.8**
CLL				*e*Sg	**Sg**	**17 12 16.0**	**-2.0**
	comp=Z,19nm,0.8s						
CLL				LmH		18 03 00.0	
	comp=N,300nm,19.0s						
CLL				LmH		18 03 00.0	
	comp=E,200nm,20.5s						
CLL				LmV		18 07 00.0	
	comp=Z,200nm,18.9s						
SBF	**Sospel**	**6.12**	**255**	*e*Pn	**Pn**	**17 10 40.8**	**-1.2**
SBF				*e*Sn	**Sn**	**17 11 48.0**	**-3.8**
	comp=Z,1.5nm,0.2s						
SBF	**Sospel**	**6.12**	**255**	*e*Pn	**Pn**	**17 10 40.8**	**-1.2**
LPL	**La Plagne**	**6.23**	**271**	*e*Pn	**Pn**	**17 10 43.2**	**-0.4**
LPL	**La Plagne**	**6.23**	**271**	*e*P	Pn	17 10 47.3	+3.7
LPL				*e*Sn	**Sn**	**17 11 51.1**	**-3.6**
	comp=Z,3.9nm,0.5s						
LPL	**La Plagne**	**6.23**	**271**	*e*Pn	**Pn**	**17 10 43.2**	**-0.4**
MBDF	**Montbardon**	**6.33**	**264**	*e*Pn	**Pn**	**17 10 44.4**	**-0.5**
MBDF				*e*Sn	**Sn**	**17 11 53.6**	**-3.4**
	comp=Z,2.6nm,0.4s						
MBDF	**Montbardon**	**6.33**	**264**	*e*Pn	**Pn**	**17 10 44.4**	**-0.5**
CABF	**La Chapelle**	**6.67**	**281**	*e*Pn	**Pn**	**17 10 48.2**	**-1.2**
CABF				*e*Sn	**Sn**	**17 12 01.0**	**-4.2**
	comp=Z,0.7nm,0.2s						
CABF	**La Chapelle**	**6.67**	**281**	*e*Pn	**Pn**	**17 10 48.2**	**-1.2**
LMR	**La Mourre**	**6.95**	**253**	*e*Pn	**Pn**	**17 10 52.6**	**-0.6**
LMR	**La Mourre**	**6.95**	**253**	*e*Pn	**Pn**	**17 10 52.6**	**-0.6**

IDC ***21*** *17:11:18.5±11.0, 15°.45N×61°.39W, h94km±114km, mb3.6/11, mb1 3.8/12, mb1mx3.5/56, mbtmp4.0/12, ML4.5/1, Error ellipse: s-maj=39.1km s-min=19.4km az=31.0*
TRN ***21*** *17:11:21.0, 15°.47N×61°.16W, h128km, MD3.5, M3.3(FDF)*
NEIC ***21*** *17:11:22.2±0.5, 15°.43N×61°.30W, h129km±6km, mb4.7/3, Error ellipse: s-maj=12.3km s-min=6.3km az=53.0*

ISC 21 17:11:22.2±0.6, 15°44N±0°03×61°26W±0°07, h129km±5km, n79, σ0s77/92, mb3.8/11, 13C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDN	**Morne-Daniel**	**0.18**	**226**	*e*P	**Pn**	**17 11 41.0**	**+1.0**
MDN				*e*S	**Sn**	**17 11 54.6**	**+1.3**
DBCT	**Belle View Cho**	**0.19**	**206**	*e*P	**Pn**	**17 11 41.1**	**+1.1**
DBCT				*e*S	**Sn**	**17 11 54.4**	**+0.9**
DPMT	**Pointe Michel**	**0.21**	**212**	*e*P	**Pn**	**17 11 41.0**	**+1.0**
DPMT				*e*S	**Sn**	**17 11 53.7**	**+0.3**
BBL	**Barber's Block**	**0.22**	**292**	⇓*i*P	**Pn**	**17 11 40.1**	**+0.1**
DSHT	**Scott's Head**	**0.25**	**206**	*e*P	**Pn**	**17 11 41.1**	**+1.0**
DSHT				*e*S	**Sn**	**17 11 53.6**	**0.0**
TBG	**Guadaloupe-3**	**0.55**	**318**	⇑*i*P	**Pn**	**17 11 41.4**	**-0.1**
PHG	**Guadaloupe-2**	**0.68**	**327**	⇑*i*P	**Pn**	**17 11 42.5**	**0.0**
DOG	**Dongo Capester**	**0.68**	**329**	⇑*i*P	**Pn**	**17 11 42.4**	**-0.1**
ECG	**Echelle**	**0.71**	**327**	*e*P	**Pn**	**17 11 42.6**	**-0.2**
SCG	**Saint Claude**	**0.71**	**325**	*e*P	**Pn**	**17 11 42.8**	**+0.2**
SCG				*e*S	**Sn**	**17 11 58.4**	**+0.2**
LKG	**Breislack**	**0.71**	**327**	*e*P	**Pn**	**17 11 42.7**	**-0.1**
FDF	**Fort de France**	**0.71**	**172**	⇓*i*P	**Pn**	**17 11 42.3**	**-0.4**
FDF				*e*S	**Sn**	**17 11 57.8**	**-0.4**
**

WRA	**Warramunga Arr**	**22.55**	**165**	P		**P**	**17 22 31.5**	**0.0**
	0.2nm,0.5s,baz=346,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.03**	**168**	P		**P**	**17 23 03.9**	**+0.2**
	0.2nm,0.7s,baz=349,slow=8.7,SNR=3.4							
ASAR				PcP		**PcP**	**17 26 28.2**	**-1.5**
	0.6nm,1.1s,baz=350,slow=1.9,SNR=5.7							
STKA	**Stephens Creek**	**35.94**	**160**	P		**P**	**17 24 31.1**	**+0.5**
	0.9nm,0.3s,baz=340,slow=9.3,SNR=10							
SONM	**Songino Array**	**49.48**	**341**	P		**P**	**17 26 20.4**	**+0.4**
	0.5nm,0.8s,baz=148,slow=9.2,SNR=4.0							
MKAR	**Makanchi Array**	**59.87**	**325**	P		**P**	**17 27 35.3**	**+0.3**
	1.1nm,0.5s,baz=114,slow=8.0,SNR=24							
KURBB	**Kurchatov Arra**	**64.04**	**327**	P		**P**	**17 28 02.6**	**-0.3**
	1.0nm,0.7s,baz=126,slow=6.5,SNR=14							

IDC 21 17:23:41.9±61.0, 20°49'S×175°76'W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/29, mbtmp3.7/3, Error ellipse: s-maj=1147.0km s-min=176.0km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.69**	**245**	P	P	17 31 15.4	-0.5
	2.3nm,1.0s,baz=82,slow=7.1,SNR=3.8						
ASAR	**Alice Springs**	**46.56**	**256**	P	P	17 32 11.4	-0.4
	0.6nm,0.7s,baz=93,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**46.68**	**262**	P	P	17 32 13.2	+0.4
	0.3nm,0.2s,baz=96,slow=8.0,SNR=24						

*ISCJB **21** 17:33:55.9±0.6, 3°97'N±0°07'×95°57'E±0°07', h51km,*
mb3.9/10, MS4.3/1, Error ellipse: s-maj=13.0km
s-min=6.8km az=43.5
*DJA **21** 17:33:57.8±2.2, 4°N±6°×9°6E±1°7, h21km±26km, M4.2/10,*
mb4.2/3, mB4.7/2, MLv4.1/10, Mw(mB)3.9/2
*IDC **21** 17:34:00.8±5.0, 4°14N×95°75'E, h75km±41km, mb3.6/10,*
mb1 3.7/11, mb1mx3.4/39, mbtmp3.9/11, ML3.5/1, MS4.3/1,
Ms1 4.3/1, ms1mx2.9/37, Error ellipse: s-maj=64.1km
s-min=15.1km az=57.0

ISC 21 17:33:57.7±0.8, 3°96'N±0°07'×95°60'E±0°10, h51km, n28, σ0s94/22, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.70**	**155**	P	**Pn**	**17 34 26.1**	**+1.1**
TPTI		**1.72**	**114**	P	**Pn**	**17 34 24.4**	**-0.8**
LHMI	**Lhok Sumawe**	**1.84**	**47**	P	**Pn**	**17 34 27.7**	**+0.8**
KCSI	**Kotacane, Aceh**	**2.21**	**101**	P	**Pn**	**17 34 32.1**	**+0.2**
LASI	**Langsa, Aceh**	**2.41**	**78**	P	x	17 34 38.7	
TSI	**Tuntungan**	**2.99**	**99**	P	**Pn**	**17 34 42.5**	**-0.1**
GSI	**Gunungsitoli**	**3.29**	**143**	P	**Pn**	**17 34 46.7**	**-0.1**
PSI	**Prapat**	**3.51**	**109**	P	x	17 34 54.1	
PSI	**Prapat**	**3.51**	**109**	P	Pn	17 34 53.5	+3.7
	4.0nm,0.3s,baz=315,slow=8.5,SNR=10						
PSI				S	**Sn**	**17 35 30.1**	**-0.1**
	3.3nm,0.3s,baz=291,slow=17,SNR=3.7						
MNSI	**Mandailing Nat**	**5.07**	**128**	P	**Pn**	**17 35 11.5**	**+0.4**
	26nm,0.8s,1µm0.2nm						
KULM	**Kulim**	**5.20**	**75**	P	x	17 35 11.4	
	20nm,0.8s,0.2nm						
IPM	**Ipoh**	**5.43**	**84**	P	x	17 35 16.8	
PBKT	**Sadao Pong**	**13.60**	**22**	P	x	17 37 20.5	
CMAR	**Chiang Mai Arr**	**14.78**	**13**	P	**Pn**	**17 37 26.0**	**+2.3**
	0.1nm,0.3s,baz=202,slow=10,SNR=8.2						
H08S2	**Diego Garcia H**	**25.78**	**243**	T	T	18 06 32.3	
	baz=67,slow=75						
H08S3	**Diego Garcia H**	**25.78**	**243**	T	T	18 06 32.7	
	baz=67,slow=75						
H08S1	**Diego Carcia H**	**25.80**	**243**	T	T	18 06 36.6	
	baz=67						
MKAR	**Makanchi Array**	**44.20**	**347**	P	**P**	**17 42 00.9**	**-0.8**
	0.5nm,0.4s,baz=160,slow=8.0,SNR=15						
SONM	**Songino Array**	**44.69**	**10**	P	**P**	**17 42 04.2**	**-1.5**
	1.2nm,0.7s,baz=191,slow=8.6,SNR=10						
SONM				pP	**pP**	**17 42 18.0**	**-1.3**
	0.7nm,0.7s,baz=191,slow=8.5,SNR=4.2						
SONM				PcP	**PcP**	**17 43 48.0**	**+0.5**
	0.2nm,0.5s,baz=176,slow=5.8,SNR=2.9						
SONM				pPcP		17 44 03.7	
	1.4nm,0.9s,baz=185,slow=2.2,SNR=7.3						
WRA	**Warramunga Arr**	**44.86**	**123**	P	**P**	**17 42 07.1**	**-0.3**
	1.9nm,0.8s,baz=302,slow=9.1,SNR=9.1						
WRA				pP	**pP**	**17 42 21.4**	**+0.4**
	2.8nm,0.5s,baz=303,slow=9.3,SNR=9.6						
ASAR	**Alice Springs**	**46.33**	**128**	P	**P**	**17 42 18.9**	**-0.1**
	0.4nm,0.6s,baz=303,slow=7.7,SNR=11						
KURBB	**Kurchatov Arra**	**48.67**	**346**	P	**P**	**17 42 36.1**	**-0.6**
	0.6nm,0.4s,baz=164,slow=6.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**50.61**	**352**	P	**P**	**17 42 50.2**	**-1.1**
	1.8nm,0.4s,baz=170,slow=7.1,SNR=13						
CTA	**Charters Tower**	**55.17**	**118**	LR	LR	18 09 28.5	
	comp=Z,264nm,19.4s,slow=39						
STKA	**Stephens Creek**	**56.38**	**133**	P	**P**	**17 43 35.1**	**+1.0**
	2.2nm,0.7s,baz=326,slow=16,SNR=4.8						
AKASG	**Malin Array Be**	**72.11**	**322**	P	**P**	**17 45 16.1**	**-0.7**
	0.3nm,0.5s,baz=91,slow=5.3,SNR=2.8						
FINES	**FINESS Array B**	**76.83**	**332**	P	**P**	**17 45 44.4**	**+0.5**
	1.5nm,0.9s,baz=106,slow=3.0,SNR=3.4						
ARCES	**ARCESS Array B**	**79.42**	**340**	P	**P**	**17 45 58.3**	**+0.1**
	1.7nm,0.7s,baz=81,slow=5.7,SNR=7.4						

*ISCJB **21** 17:44:53.5±0.4, 50°79'N±0°07'×97°87'E±0°06, h10km,*
mb3.8/10, Error ellipse: s-maj=10.7km s-min=5.5km
az=169.9
*IDC **21** 17:44:53.4±1.2, 50°91'N×97°98'E, h0km, mb3.7/5,*
mb1 3.6/11, mb1mx3.4/44, mbtmp3.5/11, ML3.0/6, Error
ellipse: s-maj=33.8km s-min=17.6km az=17.0
*MOS **21** 17:44:54.1±1.7, 50°69N×98°07'E, h10km, mb4.1/10, Error*
ellipse: s-maj=11.3km s-min=9.5km az=0.1
*ASRS **21** 17:44:56.2±1.5, 51°02N×97°81'E, h15km, Ms3.8/4*
*BJI **21** 17:44:59.6, 50°19N×97°48'E, h5km, mB4.7/3, mb3.9/7,*
ML4.5/2, Ms4.1/3

ISC 21 17:44:56.1±0.6, 50°75N±0°06×98°17E±0°04, h10km, n42, σ2s02/43, mb3.9/10, 2C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**2.00**	**62**	*e*P	**Pn**	**17 45 31.3**	**+1.3**
MOY				*e*		17 45 59.4	
MOY				pmax	pmax		
	comp=Z,1µm,0.5s						
MOY				smax	smax		
	comp=N,3µm,0.7s						
ORL	**Orlik**	**2.06**	**29**	*e*PN	**Pn**	**17 45 31.2**	**+0.3**
ARS	**Arshan**	**2.91**	**65**	*e*PN	**Pb**	**17 45 47.5**	**-0.7**
ZAK	**Zakamensk**	**3.28**	**95**	*e*PN	**Pn**	**17 45 48.0**	**+0.4**
ZAK				*e*		17 45 54.0	
ZAK				*e*		17 46 40.6	
ZAK				pmax	pmax		
	comp=Z,324nm,1.2s						
ZAK				smax	smax		
	comp=N,1µm,1.1s						
TLY	**Talaya**	**3.56**	**73**	*e*PN	**Pn**	**17 45 52.1**	**+0.6**
TLY				*e*		17 45 58.5	
TLY				*e*		17 46 47.8	
TLY				pmax	pmax		
	comp=Z,41nm,0.6s						
TLY				smax	smax		
	comp=E,169nm,0.6s						
IRK	**Irkutsk**	**4.09**	**66**	*e*PN	**Pb**	**17 46 08.9**	**+0.7**
IRK				*e*		17 47 03.1	
IRK				pmax	pmax		
	comp=Z,379nm,0.8s						
IRK				smax	smax		
	comp=N,2µm,1.1s						
LSTR	**Listvyanka**	**4.33**	**72**	*e*PN	**Pb**	**17 46 13.1**	**+0.9**
LSTR				*e*		17 47 12.1	
LSTR				pmax	pmax		
	comp=Z,57nm,0.9s						
LSTR				smax	smax		
	comp=N,609nm,1.1s						
KAB	**Kabansk**	**5.47**	**73**	*e*PN	Pb	17 46 36.6	+5.0
KAB				*e*		17 47 46.5	
KAB				pmax	pmax		
	comp=Z,111nm,1.4s						
KAB				smax	smax		
	comp=N,1µm,2.0s						
SONM	**Songino Array**	**6.12**	**115**	Pn	**Pn**	**17 46 25.7**	**-1.0**
	comp=N,1.0nm,0.3s,baz=298,slow=15,SNR=14						
SONM				Pg	**Pb**	**17 46 43.8**	**+0.9**
	comp=N,3.8nm,0.3s,baz=297,slow=18,SNR=49						
SONM				Lg	Lg	17 48 08.8	
	comp=N,19nm,0.3s,baz=296,slow=30,SNR=18						
OGRR	**Ongureny**	**6.48**	**60**	*e*PN	**Pn**	**17 46 31.3**	**-0.1**
OGRR				*e*		17 46 52.0	
OGRR				*e*		17 48 15.7	
OGRR				pmax	pmax		
	comp=Z,56nm,0.9s						
OGRR				smax	smax		
	comp=E,946nm,1.6s						
AKAR	**Aktash**	**6.74**	**270**	*e*PN	**Pn**	**17 46 32.4**	**-2.8**
AKAR				*e*		17 46 54.1	
AKAR				*e*		17 48 18.4	
AKAR	**Aktash**	**6.74**	**270**	*e*Pn	**Pn**	**17 46 32.4**	**-2.8**
AKAR				*e*Pg	**Pb**	**17 46 54.1**	**+0.7**
AKAR				*e*Sg	**Sb**	**17 48 18.4**	**+4.5**
ELT	**Yel'tsovka**	**7.78**	**293**	*e*Pg	**Pb**	**17 47 10.5**	**-0.5**
ELT				*e*Sg	**Sb**	**17 48 45.9**	**+2.3**
NIZ	**Nizh Angarsk**	**8.47**	**49**	*e*P	**Pn**	**17 46 59.9**	**+1.2**
NIZ				*e*S	**Sn**	**17 48 33.1**	**-1.2**
NIZ				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NIZ				smax	smax		
	comp=N,317nm,0.8s						
UKR	**Ust'-Kan**	**8.48**	**276**	*e*P	**Pn**	**17 46 57.0**	**-2.0**
UKR	**Ust'-Kan**	**8.48**	**276**	*e*Pn	**Pn**	**17 46 57.7**	**-1.3**
UKR				*e*Pg	**Pb**	**17 47 25.7**	**+2.7**
UKR				*e*Sg	Sb	17 49 13.8	+10
ZALV	**Zalesovo Beam**	**8.78**	**297**	P	Pn	17 46 58.6	-4.3
ZALV	**Zalesovo Beam**	**8.78**	**297**	Pn	Pn	17 46 58.6	-4.3
	comp=N,0.2nm,0.3s,baz=122,slow=10,SNR=2.6						
ZALV				Lg	Lg	17 49 14.3	
	comp=N,0.8nm,0.3s,baz=115,slow=26,SNR=3.6						
NVS	**Novosibirsk**	**9.93**	**300**	*e*Sg	Sn	17 49 54.2	+44
MKAR	**Makanchi Array**	**11.20**	**255**	P	**Pn**	**17 47 33.9**	**-2.3**
MKAR	**Makanchi Array**	**11.20**	**255**	Pn	**Pn**	**17 47 33.9**	**-2.3**
	comp=N,0.1nm,0.3s,baz=73,slow=10,SNR=4.1						
MKAR				Lg	Lg	17 50 40.0	
	comp=N,0.4nm,0.3s,baz=64,slow=29,SNR=4.2						
GTA	**Gaotai**	**11.40**	**174**	*e*P	**Pn**	**17 47 39.4**	**+0.3**
GTA				pP		17 47 42.9	
GTA				sP		17 47 46.3	
GTA				pmax	pmax		
	comp=N,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=N,130nm,5.2s						
GTA				LR	LR		
	comp=N,260nm,10.2s						
GTA				LR	LR		
	comp=N,420nm,9.5s						
KURK	**Kurchatov**	**12.39**	**277**	*e*P	**Pn**	**17 47 53.5**	**+1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
KURBB	**Kurchatov Arra**	**12.46**	**277**	Pn	Pn	17 47 48.7	-4.6
	comp=Z,0.1nm,0.3s,baz=92,slow=12,SNR=3.8						
KURBB				Lg	Lg	17 51 19.0	
	comp=Z,0.3nm,0.3s,baz=78,slow=32,SNR=5.0						
BVAR	**Borovoye Array**	**17.26**	**288**	P	**Pn**	**17 48 53.6**	**-3.4**
BVAR	**Borovoye Array**	**17.26**	**288**	P	**Pn**	**17 48 53.6**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=9.6,SNR=4.5						
BRVK	**Borovoye**	**17.32**	**288**	*e*P	**Pn**	**17 48 57.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**18.10**	**253**	P	**Pn**	**17 49 04.5**	**-3.2**
AAK	**Ala-Archa**	**18.10**	**253**	P	**Pn**	**17 49 04.5**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=79,slow=9.3,SNR=5.7						
AAK				Lg	Lg	17 54 17.5	
	comp=Z,0.0nm,0.3s,baz=143,slow=22,SNR=4.0						
YAK	**Yakutsk**	**20.54**	**45**	*e*P	**P**	**17 49 35.3**	**+0.9**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SVE	**Sverdlovsk**	**22.77**	**300**	*i*P	**P**	**17 49 59.6**	**+1.3**
SVE				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	**Arti**	**23.93**	**299**	*d i*P	**P**	**17 50 09.6**	**-0.4**
ARU						17 50 36.0	
ARU				S	**S**	**17 54 26.1**	**0.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TIXI	**Tiksi**	**25.10**	**22**	*e*P	**P**	**17 50 19.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO	**Aktyubinsk**	**25.28**	**285**	P	**P**	**17 50 19.1**	**-3.3**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**25.28**	**285**	P	**P**	**17 50 19.1**	**-3.3**
	comp=Z,2.7nm,0.8s,baz=83,slow=11,SNR=10.0						
OBN	**Obninsk**	**36.32**	**301**	*e*P	**P**	**17 52 02.1**	**+2.5**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
FINES	**FINESS Array B**	**39.54**	**314**	P	**P**	**17 52 23.9**	**-2.8**
	comp=Z,0.8nm,0.7s,baz=82,slow=13,SNR=2.9						
AKASG	**Malin Array Be**	**42.17**	**298**	*ce*P	**P**	**17 52 49.0**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**42.17**	**298**	P	P	17 52 45.2	-3.3
	comp=Z,0.6nm,0.5s,baz=57,slow=9.0,SNR=4.8						
BRTR	**Keskin Array B**	**45.39**	**282**	P	**P**	**17 53 13.8**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=51,slow=5.7,SNR=3.5						
WRA	**Warramunga Arr**	**77.26**	**145**	P	**P**	**17 56 52.6**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=345,slow=6.4,SNR=3.4						
ASAR	**Alice Springs**	**80.53**	**147**	P	**P**	**17 57 08.8**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=342,slow=5.7,SNR=3.5						

SIGU 21 17:53:46.1±0.5, 44°79N×34°44E, h15km±7km, mb1.1/4, Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALU	**Alushta**	**0.11**	**194**	*e*Pg	Pg	17 53 49.6	+0.1
	baz=195						
ALU				Pgm		17 53 50.0	
	comp=Z,59nm,baz=195						
ALU				*e*Sg	Sb	17 53 52.2	-0.3
	baz=195						
ALU				Sgm		17 53 52.3	
	comp=N,564nm,baz=195						
ALU				Sgm		17 53 52.6	
	comp=E,463nm,baz=195						
SIM	**Simferopol'**	**0.28**	**305**	*e*Pg	Pg	17 53 52.1	0.0
	baz=306						
SIM				Pgm		17 53 52.2	
	comp=Z,61nm,baz=306						
SIM				*e*Sg	Sg	17 53 56.5	+0.3
	baz=306						
SIM				Sgm		17 53 56.7	
	comp=N,150nm,baz=306						
SIM				Sgm		17 53 56.8	
	comp=E,120nm,baz=306						
YAL	**Yalta**	**0.36**	**214**	*e*Pg	Pb	17 53 54.2	-0.1
	baz=215						
YAL				Sgm		17 53 01.0	
	comp=E,38nm,baz=215						
YAL				Pgm		17 53 54.5	
	comp=Z,16nm,baz=215						
YAL				*e*Sg	Sb	17 53 59.9	+0.1
	baz=215						
YAL				Sgm		17 54 01.0	
	comp=N,34nm,baz=215						
SUDU	**Sudak**	**0.41**	**76**	*e*Pg	Pg	17 53 54.2	-0.2
	baz=77						
SUDU				Pgm		17 53 54.6	
	comp=Z,4.0nm,baz=77						
SUDU				*e*Pg	Pn	17 54 00.1	+2.6
	baz=77						
SUDU				Sgm		17 54 05.1	
	comp=N,24nm,baz=77						
SUDU				Sgm		17 54 05.2	
	comp=E,52nm,baz=77						

IDC 21 18:03:54.2±1.7, 1°63N×125°93E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, Error ellipse: s-maj=161.0km s-min=22.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.98**	**159**	P	P	18 09 00.2	-0.4
	1.2nm,0.3s,baz=338,slow=11,SNR=45						
ASAR	**Alice Springs**	**26.32**	**163**	P	P	18 09 32.2	+0.3
	0.2nm,0.5s,baz=338,slow=6.8,SNR=14						
STKA	**Stephens Creek**	**36.49**	**157**	P	P	18 11 01.1	-0.2
	3.8nm,1.0s,baz=339,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**58.83**	**326**	P	P	18 13 54.6	0.0
	0.4nm,0.4s,baz=119,slow=8.4,SNR=3.3						

*IDC **21** 18:19:31.9±2.0, 3°85N×126°29E, h49km±19km, mb4.0/20,*
mb1 4.1/20, mb1mx4.0/37, mbtmp4.3/20, MS3.4/13,
Ms1 3.5/13, ms1mx3.3/32, Error ellipse: s-maj=25.9km
s-min=11.0km az=75.0
*ISCJB **21** 18:19:32.4±0.5, 3°92N±0°02×126°62E±0°04, h68km±4km,*
mb4.3/29, Error ellipse: s-maj=6.8km s-min=3.5km
az=167.3
*BJI **21** 18:19:33.2, 3°95N×126°58E, h73km, mB4.9/4, mb4.2/8*
*DJA **21** 18:19:33.5±0.4, 4°N±3°×12°7E±1°, h10km, M4.8/28,*
mb4.8/28, mB5.3/10, MLv5.0/11, Mw(mB)4.7/10
*KLM **21** 18:19:35.1, 4°39N×126°72E, h56km, mb4.6, MS5.5*

ISC 21 18:19:34.3±0.8, 3°89N±0°04×126°62E±0°06, h71km±7km, n126, σ1s64/99, mb4.3/27, 8C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.10**	**260**	P	Pn	18 19 50.9	-3.2
SGSI				S	**Sn**	**18 20 04.8**	**-4.1**
MATI	**Mati**	**3.06**	**353**	*e*P	**Pn**	**18 20 18.3**	**-2.0**
MATI				*e*S	**Sn**	**18 20 54.8**	**-1.0**
TNTI	**Ternate**	**3.19**	**166**	P	**Pn**	**18 20 21.4**	**-0.7**
TNTI				S	**Sn**	**18 20 58.5**	**-0.4**
DMPH	**Davao City--Mi**	**3.36**	**341**	*i*P	**Pn**	**18 20 23.7**	**-0.8**
DMPH				*e*S	**Sn**	**18 21 03.2**	**0.0**
KMSI	**Cibinong**	**4.22**	**219**	P	**Pn**	**18 20 36.5**	**+0.4**
KMSI				S	**Sn**	**18 21 24.0**	**-0.1**
BUKP	**Musuan**	**4.25**	**339**	*e*P	**Pn**	**18 20 35.2**	**-1.4**
BUKP				*e*S	Sn	18 21 15.9	-9.2
BIPH	**Bislig**	**4.27**	**357**	*i*P	Pn	18 20 46.5	+10
BIPH				*i* S	**Sn**	**18 21 29.5**	**+3.9**
LBMI	**Labuha**	**4.58**	**169**	P	**Pn**	**18 20 41.5**	**+0.4**
GTOI	**Gorontalo**	**4.84**	**228**	P	**Pn**	**18 20 44.3**	**-0.3**
CGP	**Cagayan de Oro**	**4.92**	**337**	*i*P	**Pn**	**18 20 47.3**	**+1.5**
CGP				*e*S	**Sn**	**18 21 40.3**	**-1.1**
PAGZ	**Pagadian**	**5.08**	**321**	*e*P	**Pn**	**18 20 47.2**	**-0.7**
BUTP	**Butuan**	**5.14**	**349**	*e*P	**Pn**	**18 20 49.3**	**+0.5**
IPIL	**Ipil**	**5.58**	**314**	*e*P	**Pn**	**18 20 53.0**	**-1.8**
MRSI	**Marisa**	**5.77**	**234**	P	**Pn**	**18 20 57.5**	**+0.1**
	166nm,0.5s,2µm0.7nm						
SANI	**Sanana**	**5.93**	**186**	P	Pn	18 20 56.2	-3.4
	41nm,0.8s,1µm0.3nm						
LUWI	**Luwuk**	**6.22**	**218**	P	**Pn**	**18 21 06.0**	**+2.4**
	298nm,1.3s,3µm1.1nm						
LUWI	**Luwuk**	**6.22**	**218**	P	**Pn**	**18 21 04.9**	**+1.3**
	baz=6.0,SNR=7.0						
TOLI	**Toli-Toli**	**6.43**	**245**	P	x	18 21 11.3	
	140nm,0.7s,2µm1.4nm						
MSLP	**Maasin**	**6.45**	**344**	*e*P	**Pn**	**18 21 06.5**	**-0.1**
SWI	**Sorong**	**6.62**	**135**	P	**Pn**	**18 21 07.4**	**-1.6**
	40nm,1.1s						
APSI	**Ampana**	**6.88**	**226**	P	**Pn**	**18 21 15.5**	**+2.9**
	200nm,1.1s,2µm0.7nm						
NLAI	**Namlea**	**7.10**	**176**	P	**Pn**	**18 21 15.3**	**-0.2**
	48nm,0.5s,1µm0.4nm						
OCLP	**Ormoc**	**7.39**	**344**	*e*P	**Pn**	**18 21 19.2**	**-0.3**
FAKI	**Fak Fak**	**8.80**	**140**	P	**Pn**	**18 21 40.7**	**+1.9**
	33nm,1.0s						
FAKI	**Fak Fak**	**8.80**	**140**	P	**Pn**	**18 21 39.4**	**+0.6**
	baz=8.5,SNR=8.9						
SDKM	**Sandakan**	**9.55**	**281**	*i*P	**Pn**	**18 21 48.0**	**-1.1**
TTSI	**Tana Toraja**	**9.67**	**225**	P	**Pn**	**18 21 53.0**	**+2.2**
	40nm,0.9s,470nm						
MMSI	**Mamuju**	**10.10**	**230**	P	x	18 21 54.8	
	36nm,0.9s						
SPSI	**Sidrap Palu**	**10.38**	**221**	P	**Pn**	**18 22 00.0**	**-0.4**
	19nm,0.9s						
BNSI	**Bone**	**10.49**	**218**	P	Pn	18 22 06.0	+4.1
	25nm,2.5s						
KKM	**Kota Kinabalu**	**10.58**	**282**	P	x	18 22 04.2	
	26nm,1.5s						
KKM	**Kota Kinabalu**	**10.58**	**282**	P	**Pn**	**18 22 05.2**	**+1.9**
BTM	**Bintulu**	**13.53**	**268**	*i*P	**Pn**	**18 22 45.6**	**+2.4**
SOEI	**Soe**	**13.76**	**190**	P	P	18 23 00.4	+7.8
	baz=14,SNR=3.1						
BBKI	**Banjar Baru**	**13.85**	**238**	P	**Pn**	**18 22 48.1**	**+0.7**
	38nm,0.9s						
LBFI	**Labuan Bajo,**	**14.00**	**209**	P	x	18 22 55.9	
	69nm,0.7s						
SBUM	**Sibu**	**14.45**	**265**	P	x	18 22 58.8	
	22nm,1.2s						
SBUM	**Sibu**	**14.45**	**265**	P	**P**	**18 22 58.9**	**-1.2**
WSI	**Waingapu**	**14.87**	**205**	P	P	18 23 20.5	+16
WSI	**Waingapu**	**14.87**	**205**	P	P	18 23 12.5	+7.7
	baz=15,SNR=7.7						
JAY	**Jayapura**	**15.45**	**114**	LR	LR	18 27 57.1	
	comp=Z,332nm,20.8s,baz=282,slow=32						
MTNI	**Mataram**	**16.23**	**220**	P	x	18 23 24.1	
	32nm,0.6s						
PBKI	**Pangkalan Bun**	**16.31**	**247**	P	P	18 23 26.4	+5.6
	54nm,0.8s						
KSM	**Kuching**	**16.46**	**262**	P	x	18 23 26.5	
	31nm,1.0s						
KSM	**Kuching**	**16.46**	**262**	P	**P**	**18 23 24.2**	**+1.7**
	baz=16,SNR=17						
KSM	**Kuching**	**16.46**	**262**	*i*P	**P**	**18 23 24.6**	**+2.1**
MTN	**Manton Dam**	**17.22**	**165**	P	**Pn**	**18 23 27.5**	**-2.8**
	baz=17,SNR=10						
MTN				S	Sn	18 26 14.1	-27
	baz=17,SNR=3.4						
KDU	**Kakadu**	**17.47**	**161**	P	**Pn**	**18 23 31.7**	**-1.6**
	baz=17,SNR=15						
JAGI	**Jajag, Banyuwa**	**17.47**	**225**	P	**P**	**18 23 36.3**	**+2.7**
	baz=17,SNR=7.5						
KNRA	**Kununurra**	**19.56**	**174**	P	**P**	**18 23 57.0**	**+0.6**
	baz=19,SNR=21						
TPI	**Tanjungpandan**	**20.07**	**251**	P	Pn	18 24 07.0	+2.5
	15nm,0.8s						
LEM	**Lembang**	**21.75**	**241**	P	P	18 24 28.1	+7.8
	26nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**18 24 20.5**	**-0.9**
	baz=22,SNR=24						
QIZ	**Qiongzhong**	**22.25**	**314**	P	**P**	**18 24 27.8**	**+2.3**
MYKOM	**Kota Tinggi**	**22.83**	**265**	*i*P	**P**	**18 24 31.7**	**-0.1**
KTGM	**Kuala Trenggan**	**23.45**	**274**	*i*P	**P**	**18 24 39.9**	**+2

MJAR	**Matsushiro Arr**	**34.20**	**17**	LR	LR	18 41 50.3		
	comp=Z,30nm,19.5s,baz=145,slow=39							
XAN	**Xi'an**	**34.22**	**333**	P	**P**	**18 26 11.3**	**-2.1**	
XAN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
QLP	**Quilpie**	**34.76**	**152**	P	**P**	**18 26 18.3**	**+0.3**	
	baz=34,SNR=6.7							
HNR	**Honiara**	**35.76**	**112**	LR	LR	18 39 37.4		
	comp=Z,106nm,18.9s,baz=296,slow=34							
EIDS	**Eidsvold**	**37.55**	**142**	P	**P**	**18 26 42.7**	**+0.9**	
	baz=37,SNR=4.8							
BBOO	**Buckleboo**	**37.58**	**167**	P	**P**	**18 26 42.5**	**+0.5**	
	baz=37,SNR=14							
NWAO	**Narrogin (SRO)**	**37.68**	**193**	P	**P**	**18 26 41.5**	**-1.3**	
	4.7nm,0.7s,baz=11,slow=8.5,SNR=6.4							
STKA	**Stephens Creek**	**38.32**	**159**	P	**P**	**18 26 49.1**	**+0.9**	
	24nm,0.8s,baz=335,slow=8.2,SNR=44							
STKA	**Stephens Creek**	**38.32**	**159**	P	**P**	**18 26 49.3**	**+1.1**	
	baz=38,SNR=26							
HTT	**Hallett**	**38.90**	**164**	P	**P**	**18 26 54.5**	**+1.3**	
	baz=39,SNR=5.9							
CMSA	**Cobar Meteorol**	**39.64**	**154**	P	**P**	**18 27 00.5**	**+1.2**	
	baz=39,SNR=12							
SHL	**Shillong**	**39.69**	**306**	*ex*	**P**	**18 27 00.0**	**-0.1**	
USRK	**Ussuriysk Arra**	**40.42**	**6**	P	**P**	**18 27 06.8**	**+1.2**	
	1.8nm,0.7s,baz=177,slow=5.5,SNR=4.7							
ARMA	**Armidale**	**41.66**	**147**	P	**P**	**18 27 18.1**	**+2.0**	
	baz=42,SNR=18							
H11S3	**WAKE ISLAND Hy**	**41.77**	**66**	T	T	19 10 47.6		
	baz=260,slow=73,SNR=9.7							
H11S1	**WAKE ISLAND Hy**	**41.79**	**66**	T	T	19 10 49.0		
	baz=260,slow=73,SNR=6.9							
H11S2	**WAKE ISLAND Hy**	**41.79**	**67**	T	T	19 10 47.9		
	baz=260,slow=73,SNR=8.3							
H11N1	**WAKE ISLAND Hy**	**42.29**	**65**	T	T	19 11 19.4		
	baz=259,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hy**	**42.30**	**65**	T	T	19 11 20.0		
	baz=259,slow=75,SNR=7.9							
H11N3	**WAKE ISLAND Hy**	**42.31**	**65**	T	T	19 11 20.7		
	baz=259,slow=75,SNR=13							
ASAJ	**Asahikawa**	**42.47**	**17**	P	**P**	**18 27 24.5**	**+2.1**	
	7.3nm,0.9s,baz=204,slow=18,SNR=2.5							
ASAJ				LR	LR	18 46 10.7		
	comp=Z,48nm,19.6s,baz=114,slow=38							
ARPS	**Mount Arapiles**	**42.87**	**162**	P	**P**	**18 27 27.2**	**+1.5**	
	baz=43,SNR=9.2							
GTA	**Gaotai**	**42.90**	**329**	*eP*	**P**	**18 27 25.8**	**-0.3**	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
YNG	**Young**	**43.18**	**153**	P	**P**	**18 27 30.4**	**+2.2**	
	baz=43,SNR=5.7							
TAPN	**Taplejung**	**43.83**	**306**	*eP*	**P**	**18 27 33.3**	**-0.7**	
	9.6nm,0.8s							
ODAN	**Odare**	**43.88**	**305**	*eP*	**P**	**18 27 33.3**	**-1.1**	
CNB	**Canberra Magne**	**44.46**	**153**	P	**P**	**18 27 41.0**	**+2.4**	
	baz=44,SNR=5.1							
RAMN	**Ramite**	**44.57**	**305**	*eP*	**P**	**18 27 38.6**	**-1.2**	
JIRN	**Jiri**	**45.19**	**306**	*eP*	**P**	**18 27 44.1**	**-0.8**	
	10nm,0.7s							
GUN	**Gumba**	**45.54**	**306**	*eP*	**P**	**18 27 46.5**	**-1.2**	
	17nm,0.7s							
GKN	**Gorkha**	**46.58**	**305**	*eP*	**P**	**18 27 54.6**	**-1.0**	
LHI	**Lord Howe Isla**	**46.84**	**141**	S	**S**	**18 34 38.1**	**-4.7**	
	baz=47,SNR=4.1							
SONM	**Songino Array**	**47.11**	**341**	P	**P**	**18 27 58.6**	**-0.8**	
	1.5nm,0.6s,baz=155,slow=9.3,SNR=11							
SONM				PcP	**PcP**	**18 29 31.1**	**+0.9**	
	0.8nm,0.7s,baz=178,slow=2.3,SNR=3.1							
SONM				LR	LR	18 48 11.9		
	comp=Z,68nm,20.6s,baz=237,slow=37							
KOLN	**Koldanda**	**47.34**	**305**	*eP*	**P**	**18 28 00.2**	**-1.4**	
	16nm,0.6s							
DANN	**Dangsing**	**47.43**	**306**	*eP*	**P**	**18 28 00.7**	**-1.7**	
	24nm,0.6s							
PYUN	**Piuthan**	**47.96**	**305**	*eP*	**P**	**18 28 05.1**	**-1.3**	
	6.0nm,0.6s							
PETK	**Petropavlovsk-**	**55.33**	**22**	P	**P**	**18 29 01.8**	**+1.1**	
	2.9nm,0.8s,baz=129,slow=2.1,SNR=5.0							
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**18 29 13.7**	**-1.6**	
	2.2nm,0.6s,baz=117,slow=7.7,SNR=31							
MKAR				ScP	**ScP**	**18 34 04.0**	**+1.7**	
	0.7nm,0.6s,baz=119,slow=4.0,SNR=6.0							
AAK	**Ala-Archa**	**60.16**	**318**	P	**P**	**18 29 34.3**	**-0.7**	
	0.6nm,0.5s,baz=163,slow=12,SNR=5.9							
AAK				ScP	**ScP**	**18 34 16.9**	**+1.8**	
	0.4nm,0.4s,baz=329,slow=19,SNR=7.2							
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	**P**	**18 29 34.2**	**-1.9**	
	0.9nm,0.5s,baz=129,slow=8.8,SNR=4.7							
VNDA	**Vanda**	**83.60**	**173**	P	**P**	**18 31 55.0**	**+0.7**	
	1.9nm,0.6s,baz=321,slow=9.3,SNR=12							
ILAR	**Eielson Array**	**85.01**	**25**	P	**P**	**18 32 01.7**	**-0.1**	
	0.3nm,0.6s,baz=254,slow=5.8,SNR=5.9							
BRTR	**Keskin Array B**	**89.83**	**310**	LR	LR	19 19 04.6		
	comp=Z,10nm,18.2s,baz=331,slow=40							
ARCES	**ARCESS Array B**	**90.26**	**340**	P	**P**	**18 32 25.1**	**-1.8**	
	1.5nm,0.7s,baz=80,slow=6.7,SNR=6.7							
ARCES				LR	LR	19 16 40.2		
	comp=Z,28nm,18.4s,baz=134,slow=38							
FINES	**FINESS Array B**	**91.64**	**332**	P	**P**	**18 32 31.6**	**-1.8**	
	2.1nm,0.8s,baz=47,slow=3.6,SNR=8.1							
AKASG	**Malin Array Be**	**91.70**	**321**	P	**P**	**18 32 31.8**	**-2.1**	
	0.2nm,0.3s,baz=68,slow=5.0,SNR=6.2							
NOA	**NORSAR Array B**	**98.59**	**334**	P	Pdif	18 33 05.7	+0.4	
	0.9nm,0.7s,baz=70,slow=4.5,SNR=4.0							
NOA				LR	LR	19 22 05.4		
	comp=Z,35nm,18.0s,baz=40,slow=38							
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	**PKPdf**	**18 38 22.9**	**-0.3**	
	0.4nm,0.5s,baz=41,slow=0.7,SNR=3.6							

MAN 21 18:35:21,12.31N×123.73E, h19km, mb4.7, ML3.5, MS3.5, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.11**	**293**	⇓*iP*	Pg	18 35 26.1	+1.1
MMPH				*i* S	Sg	18 35 30.0	+2.4
CNP	**Catarman**	**0.93**	**78**	*eP*	Pb	18 35 38.4	-0.2
RCP	**Roxas**	**1.22**	**232**	⇑*eP*	Pn	18 35 42.2	-0.9
RCP				*eS*	Sg	18 36 02.9	+2.1
PVCP	**Virac**	**1.34**	**18**	*eP*	Pb	18 35 46.2	+0.6
PVCP				*eS*	Sb	18 36 02.6	+0.3
AUQP	**San Andres**	**1.44**	**314**	*eP*	Pg	18 35 50.9	+2.1
OCLP	**Ormoc**	**1.52**	**146**	*eP*	Pb	18 35 48.9	+0.3
OCLP				*eS*	Sb	18 36 07.1	-0.4
PLP	**Palo**	**1.67**	**133**	⇑*iP*	Pb	18 35 50.8	-0.4
PLP				*eS*	Sn	18 36 09.6	-0.7
LLP	**Lapu-Lapu**	**2.00**	**173**	⇑*eP*	Pn	18 35 54.6	+0.8
LLP				*eS*	Sn	18 36 19.5	+1.2
GUIM	**Jordan**	**2.02**	**214**	*eP*	Pb	18 35 56.2	-0.9
MSLP	**Maasin**	**2.43**	**153**	*eP*	Pn	18 36 01.7	+1.9
BUSP	**Coron**	**3.47**	**265**	*eP*	Pn	18 36 16.9	+2.9

WEL 21 18:45:40.4±0.6, 36.75S×176.82E, h209km±4km, ML3.8/5, 1C-1D, Error ellipse: s-maj=6.8km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.27**	**143**	PN	Pn	18 46 13.0	+0.1
HAZ				SN	S	18 46 37.8	-0.4
MXZ	**Matakaoa Point**	**1.44**	**125**	PN	Pn	18 46 14.4	0.0
MXZ				AML	AML	18 46 42.7	
MXZ				AML	AML	18 46 48.5	
URZ	**Urewera**	**1.53**	**171**	PN	Pn	18 46 15.4	+0.4
URZ				SN	S	18 46 42.5	+0.6
URZ				AML	AML	18 46 44.6	
MWZ	**Matawai**	**1.68**	**161**	PN	Pn	18 46 16.9	+0.4
MWZ				SN	S	18 46 44.3	-0.2
MWZ				AML	AML	18 46 53.3	
PUZ	**Puketiti**	**1.75**	**140**	⇑PN	Pn	18 46 17.0	-0.1
PUZ				AML	AML	18 46 46.1	
PUZ				AML	AML	18 46 48.8	
CNGZ	**Carnagh Statio**	**2.05**	**148**	PN	Pn	18 46 20.4	+0.3
SNGZ	**Shannon Statio**	**2.07**	**169**	⇓PN	Pn	18 46 20.5	+0.1
SNGZ				SN	S	18 46 50.5	-0.7
RIGZ	**Rimuhau**	**2.09**	**159**	PN	Pn	18 46 20.7	+0.1
NMHZ	**Naumai**	**2.35**	**180**	PN	Pn	18 46 23.9	+0.6
WHHZ	**Waihua**	**2.35**	**172**	PN	Pn	18 46 23.4	+0.2
KNZ	**Kokohu**	**2.37**	**164**	PN	Pn	18 46 22.7	-0.6
BKZ	**Black Stump Fm**	**2.43**	**186**	PN	Pn	18 46 23.7	-0.4
BKZ				AML	AML	18 46 59.1	
BKZ				AML	AML	18 47 00.9	
MHGZ	**Mahia Peninsul**	**2.55**	**161**	PN	Pn	18 46 25.5	+0.2
MCHZ	**McNeill Hill**	**2.69**	**182**	PN	Pn	18 46 26.8	-0.2
WNVZ	**Wahianoa**	**2.75**	**200**	PN	Pn	18 46 28.2	+0.4
BHHZ	**Black Hill Sta**	**2.80**	**192**	PN	Pn	18 46 27.7	-0.6
PNHZ	**Pukenui**	**3.20**	**189**	PN	Pn	18 46 31.5	-1.3
PXZ	**Pawanui**	**3.28**	**179**	PN	Pn	18 46 32.1	-1.6
TSZ	**Takapari Road**	**3.37**	**191**	PN	Pn	18 46 33.6	-1.3
PRHZ	**Porangahau**	**3.52**	**182**	PN	Pn	18 46 34.7	-1.8
ANWZ	**Angora Road**	**3.72**	**184**	PN	Pn	18 46 37.3	-1.7
BFZ	**Birch Farm**	**3.95**	**186**	*e*PN	Pn	18 46 38.9	-3.0
MRZ	**Mangatainoka R**	**4.03**	**194**	PN	Pn	18 46 40.4	-2.4
OGWZ	**Otaki Gorge**	**4.26**	**197**	PN	Pn	18 46 43.3	-2.4
HOWZ	**Holdsworth Sta**	**4.27**	**193**	PN	Pn	18 46 43.1	-2.7
KIW	**Kapiti Island**	**4.37**	**199**	PN	Pn	18 46 44.9	-2.2
MTW	**Mount Morrison**	**4.52**	**193**	PN	Pn	18 46 46.4	-2.5
TCW	**Tory Channel**	**4.88**	**203**	PN	Pn	18 46 51.6	-1.8
BHW	**Baring Head**	**4.89**	**197**	PN	Pn	18 46 50.4	-3.2
PLWZ	**Palliser**	**4.97**	**194**	PN	Pn	18 46 51.7	-2.9
THZ	**Tophouse**	**5.86**	**210**	PN	Pn	18 47 04.6	-1.3
LTZ	**Lake Taylor**	**6.97**	**209**	PN	Pn	18 47 17.7	-2.6

IDC 21 18:46:07.6±1.9, 7.36S×123.77E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/28, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=301.0km s-min=29.8km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.17**	**142**	Pn	P	18 49 58.3	-1.5
	0.2nm,0.3s,baz=321,slow=12,SNR=13						
WRA				Sn	Sn	18 52 46.0	-11
	0.2nm,0.3s,baz=310,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**18.91**	**150**	P	P	18 50 29.2	-0.8
	0.2nm,0.3s,baz=332,slow=13,SNR=12						
ASAR				S	Sn	18 53 51.5	-12
	0.0nm,0.3s,baz=310,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**65.29**	**330**	P	P	18 56 51.4	0.0
	0.2nm,0.5s,baz=135,slow=8.3,SNR=4.5						

*IDC **21** 19:40:48.9±2.6, 21.39S×67.37W, h165km±24km, mb3.3/2, mb1 3.4/5, mb1mx3.2/21, mbtmp3.7/5, Error ellipse: s-maj=37.4km s-min=27.0km az=104.0*

*ISCJB **21** 19:40:51.0±1.7, 21.15S±0.1×67.2W±0.1, h183km, mb3.4/2, Error ellipse: s-maj=17.4km s-min=14.9km az=21.9*

ISC 21 19:40:50.5±1.2, 21.25S±0.1×67.3W±0.1, h183km, n6, σ1.9 99/8, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.96**	**350**	P	**Pn**	**19 42 05.2**	**+0.6**
	2.5nm,0.3s,baz=150,slow=7.8,SNR=39						
LPAZ				S	**Sn**	**19 43 00.8**	**-1.9**
	baz=263,slow=17,SNR=1.7						
SIV	**San Ignacio**	**7.83**	**50**	P	**Pn**	**19 42 42.3**	**+0.7**
	1.9nm,0.3s,baz=257,slow=12,SNR=20						
SIV				S	**Sn**	**19 44 07.3**	**-2.3**
	0.1nm,0.3s,baz=143,slow=20,SNR=3.0						
PLCA	**Paso Flores**	**19.67**	**187**	P	**P**	**19 45 03.0**	**-2.5**
	0.0nm,0.3s,baz=32,slow=19,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.81**	**70**	P	**P**	**19 52 18.4**	**+1.6**
	0.4nm,0.4s,baz=260,slow=5.8,SNR=9.2						
YKA	**Yellowknife Ar**	**91.43**	**340**	P	**P**	**19 53 35.9**	**+0.7**
	0.2nm,0.5s,baz=132,slow=4.4,SNR=5.5						
MKAR	**Makanchi Array**	**144.48**	**37**	PKP	**PKPdf**	**20 00 05.6**	**+0.6**
	0.3nm,0.4s,baz=300,slow=2.9,SNR=5.5						

*ISCJB **21** 20:25:50.9±0.3, 59.98N±0.03×153.27W±0.07, h140km±3km, mb3.4/1, Error ellipse: s-maj=6.1km s-min=3.5km az=31.2*

*NEIC **21** 20:25:53.3, 59.98N×153.33W, h131km, MG3.2(AEIC), After AEIC.*

*IDC **21** 20:25:59.3±6.3, 60.63N×153.22W, h170km±60km, mb3.1/1, mb1 3.4/5, mb1mx3.0/40, mbtmp3.7/5, Error ellipse: s-maj=58.5km s-min=27.3km az=33.0*

ISC 21 20:25:51.8±0.8, 59.98N±0.03×153.28W±0.04, h141km±5km, n83, σ1.9 04/99, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.11**	**101**	P	**Pn**	**20 26 10.3**	**-0.6**
INE	**Iliamna NE**	**0.14**	**53**	P	**Pn**	**20 26 10.7**	**-0.3**
INE				S	**Sn**	**20 26 24.8**	**-0.8**
ILIM	**Iliamna**	**0.19**	**58**	P	**Pn**	**20 26 10.6**	**-0.4**
OPT	**Oil Point**	**0.33**	**176**	P	**Pn**	**20 26 11.3**	**-0.1**
PDB	**Pedro Bay**	**0.50**	**248**	P	**Pn**	**20 26 11.4**	**-0.6**
PDB				S	**Sn**	**20 26 25.8**	**-1.5**
RSO	**Redoubt South**	**0.55**	**28**	*e*Pn	**Pn**	**20 26 12.3**	**-0.3**
RDWB	**Redoubt West**	**0.56**	**23**	P	**Pn**	**20 26 11.7**	**-0.8**
RDWB				S	**Sn**	**20 26 26.8**	**-1.5**
RDN	**Redoubt North**	**0.59**	**25**	P	**Pn**	**20 26 12.7**	**-0.1**
AUL	**Augustine Lava**	**0.60**	**188**	P	**Pn**	**20 26 12.7**	**+0.1**
AUL				S	**Sn**	**20 26 28.2**	**-0.3**
NCT	**North Crescent**	**0.61**	**16**	P	**Pn**	**20 26 12.6**	**-0.2**
AUP	**Augustine Pinn**	**0.62**	**187**	P	**Pn**	**20 26 13.0**	**+0.1**
AUI	**Augustine Isla**	**0.65**	**187**	P	**Pn**	**20 26 12.9**	**-0.1**
AUI				S	**Sn**	**20 26 29.1**	**-0.9**
DFR	**Drift River**	**0.68**	**25**	P	**Pn**	**20 26 13.0**	**-0.2**
HOM	**Homer**	**0.89**	**111**	P	**Pn**	**20 26 15.0**	**+0.4**
HOM				S	**Sn**	**20 26 32.5**	**+0.5**
MCNL	**McNeil River**	**0.96**	**215**	P	**Pn**	**20 26 14.9**	**-0.4**
BRLK	**Bradley Lake**	**1.23**	**99**	P	**Pn**	**20 26 18.0**	**+0.2**
BRLK				S	**Sn**	**20 26 37.2**	**-0.4**
CKL	**Chakachamna La**	**1.31**	**20**	P	**Pn**	**20 26 19.1**	**+0.4**
SPBG	**Spurr Blockage**	**1.36**	**19**	P	**Pn**	**20 26 19.7**	**+0.5**
SPBG				S	**Sn**	**20 26 40.4**	**+0.2**
BGL	**Barrier Glacie**	**1.36**	**18**	P	**Pn**	**20 26 19.8**	**+0.6**
CGLM	**Capps Glacier**	**1.47**	**25**	P	**Pn**	**20 26 20.7**	**+0.3**
KAPH	**Katmai Pasha**	**1.49**	**202**	P	**Pn**	**20 26 20.5**	**-0.1**
KAPH				S	**Sn**	**20 26 42.0**	**-0.5**
SVW2	**Sparrevohn**	**1.60**	**316**	P	**Pn**	**20 26 20.9**	**-0.8**
SVW2				S	**Sn**	**20 26 42.2**	**-2.4**
KAHC	**Katmai Hardscr**	**1.60**	**214**	P	**Pn**	**20 26 21.4**	**-0.4**
SLKM	**Skilak Lake**	**1.61**	**69**	P	**Pn**	**20 26 22.0**	**+0.1**
KARR	**Katmai Rainbow**	**1.66**	**207**	P	**Pn**	**20 26 22.3**	**-0.1**
STLK	**Strandline Lak**	**1.68**	**24**	P	**Pn**	**20 26 23.1**	**+0.4**
KVTA	**Katmai Vly 10**	**1.91**	**214**	P	**Pn**	**20 26 25.1**	**-0.2**
SEW	**Seward**	**1.93**	**85**	P	**Pn**	**20 26 25.3**	**-0.1**
SEW				S	**Sn**	**20 26 49.4**	**-1.7**
FIB	**Fire Island**	**1.94**	**51**	P	**Pn**	**20 26 26.5**	**+1.0**
SUA	**Susitna One**	**1.94**	**39**	P	**Pn**	**20 26 26.1**	**+0.4**
SUA				S	**Sn**	**20 26 51.9**	**+0.1**
KELA	**Mount Kelaz**	**2.00**	**220**	P	**Pn**	**20 26 26.0**	**-0.4**
KCE	**Katmai Mt Cerb**	**2.00**	**210**	P	**Pn**	**20 26 26.6**	**+0.2**
KABR	**Katmai Barrier**	**2.05**	**206**	P	**Pn**	**20 26 26.6**	**-0.4**
RC01	**Rabbit Creek A**	**2.08**	**56**	P	**Pn**	**20 26 27.0**	**-0.2**
SKT	**Skwentna**	**2.18**	**22**	P	**Pn**	**20 26 28.7**	**+0.2**
KDAK	**Kodiak Island**	**2.23**	**170**	P	**Pn**	**20 26 27.9**	**-1.2**
KDAK				S	**Sn**	**20 26 55.2**	**-2.5**
PTE	**Portage**	**2.29**	**65**	P	**Pn**	**20 26 29.2**	**-0.6**
PMR	**Palmer**	**2.60**	**50**	P	**Pn**	**20 26 32.9**	**-0.7**
PWL	**Port Wells**	**2.61**	**68**	P	**Pn**	**20 26 33.0**	**-0.8**
PLK2	**Peulik 2**	**2.73**	**217**	P	**Pn**	**20 26 35.5**	**+0.2**
OHAK	**Old Harbor**	**2.77**	**180**	P	**Pn**	**20 26 34.1**	**-1.6**
OHAK				S	**Sn**	**20 27 06.2**	**-3.4**
PLK3	**Peulik 3**	**2.77**	**215**	P	**Pn**	**20 26 36.1**	**+0.2**
PLK1	**Peulik 1**	**2.78**	**220**	P	**Pn**	**20 26 36.3**	**+0.4**
PLK4	**Peulik 4**	**2.85**	**216**	P	**Pn**	**20 26 37.1**	**+0.3**
PPLA	**Purkeypile**	**2.98**	**10**	P	**Pn**	**20 26 39.5**	**+1.0**
TT01	**Tatalina**	**3.22**	**337**	P	**Pn**	**20 26 41.0**	**-0.6**
SCM	**Sheep Creek Mo**	**3.45**	**55**	P	**Pn**	**20 26 43.8**	**-0.8**
MID	**Middleton Isla**	**3.56**	**96**	P	**Pn**	**20 26 46.1**	**+0.2**
KTH	**Kantishna Hill**	**3.76**	**16**	P	**Pn**	**20 26 48.3**	**-0.3**
TRF	**Thorofare Moun**	**3.76**	**21**	P	**Pn**	**20 26 48.6**	**-0.1**
RND	**Reindeer**	**4.03**	**30**	P	**Pn**	**20 26 52.0**	**-0.2**
SGAM	**Sherman Glacie**	**4.06**	**79**	P	**Pn**	**20 26 52.2**	**-0.3**
DHY	**Denali Highway**	**4.20**	**40**	P	**Pn**	**20 26 54.1**	**-0.3**
MCK	**McKinley**	**4.29**	**27**	P	**Pn**	**20 26 55.4**	**-0.1**
HARP	**HAARP**	**4.62**	**45**	P	**Pn**	**20 26 59.9**	**-0.1**
PAX	**Paxson**	**4.80**	**48**	P	**Pn**	**20 27 02.2**	**-0.1**
VNHG	**Veniaminof 1**	**4.89**	**222**	P	**Pn**	**20 27 04.8**	**+1.2**
WRH	**Wood River Hil**	**5.12**	**26**	P	**Pn**	**20 27 05.7**	**-0.7**
DDM	**Donnelly Dome**	**5.19**	**39**	P	**Pn**	**20 27 08.6**	**+1.2**
MLY	**Manley**	**5.21**	**12**	P	**Pn**	**20 27 06.9**	**-0.8**
CCB	**Clear Creek Bu**	**5.33**	**26**	P	**Pn**	**20 27 08.5**	**-0.8**
HDA	**Harding Lake**	**5.34**	**31**	P	**Pn**	**20 27 08.9**	**-0.5**
PS08	**TAPS Pump Stn8**	**5.48**	**31**	P	**Pn**	**20 27 10.8**	**-0.6**
MDM	**Murphy Dome**	**5.52**	**23**	P	**Pn**	**20 27 11.2**	**-0.6**
COLA	**College**	**5.52**	**25**	P	**Pn**	**20 27 11.3**	**-0.5**
IL1	**Eielson Array**	**5.65**	**29**	P	**Pn**	**20 27 12.8**	**-0.8**
ILAR	**Eielson Array**	**5.65**	**29**	P	**Pn**	**20 27 12.8**	**-0.8**
ILAR				S	**Sn**	**20 28 13.3**	**-4.2**
ILAR	**Eielson Array**	**5.65**	**29**	P	**Pn**	**20 27 12.8**	**-0.8**
	6.4nm,0.3s,baz=216,slow=13,SNR=573						
ILAR				S	**Sn**	**20 28 13.3**	**-4.2**
	2.6nm,0.3s,baz=216,slow=21,SNR=12						
IM04	**Indian Mountai**	**6.02**	**358**	*e*P	**Pn**	**20 27 18.6**	**+0.1**
IM3	**Indian Mountai**	**6.03**	**358**	P	**Pn**	**20 27 18.9**	**+0.3**
BCA3	**Beaver Creek A**	**6.31**	**56**	P	**Pn**	**20 27 22.8**	**+0.3**
EGAK	**Eagle**	**7.40**	**44**	P	**Pn**	**20 27 36.4**	**-0.6**
COLD	**Coldfoot**	**7.41**	**9**	P	**Pn**	**20 27 37.7**	**+0.2**
DAWY	**Dawson**	**7.70**	**52**	*e*P	**Pn**	**20 27 41.7**	**+0.6**
BM3	**Burnt Mountain**	**8.39**	**24**	P	**Pn**	**20 27 48.9**	**-1.4**
INK	**Inuvik**	**11.94**	**37**	P	**Pn**	**20 28 37.8**	**+0.6**
INK	**Inuvik**	**11.94**	**37**	P	**Pn**	**20 28 37.8**	**+0.6**
	0.2nm,0.3s,baz=233,slow=13,SNR=9.2						
DLBC	**Dease Lake**	**12.00**	**87**	P	**P**	**20 28 45.7**	**+0.6**
DLBC	**Dease Lake**	**12.00**	**87**	P	**P**	**20 28 45.7**	**+0.6**
	0.7nm,0.3s,baz=279,slow=19,SNR=9.5						
YKA	**Yellowknife Ar**	**18.59**	**66**	P	**Pn**	**20 29 59.4**	**-0.3**
YKA	**Yellowknife Ar**	**18.59**	**66**	P	**Pn**	**20 29 59.3**	**-0.3**
	0.1nm,0.3s,baz=284,slow=11,SNR=10						
SONM	**Songino Array**	**54.69**	**306**	P	**P**	**20 35 07.9**	**+1.9**
SONM	**Songino Array**	**54.69**	**306**	P	**P**	**20 35 07.9**	**+1.9**
	0.5nm,0.6s,baz=35,slow=6.7,SNR=3.8						

MAN 21 21:09:55.7±17.7N×126.42E, h106km, mb4.7, ML3.6, MS3.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.28**	**216**	*eP*	Pn	21 10 11.2	+1.0
MATI				*eS*	Sn	21 10 21.3	-0.3
DMPH	**Davao City--Mi**	**0.91**	**264**	⇑*iP*	Pn	21 10 17.4	+2.4
DMPH				*i* S	Sn	21 10 35.5	+5.5
BIPH	**Bislig**	**1.00**	**357**	⇑*eP*	Pn	21 10 17.7	+1.8
BIPH				*eS*	Sn	21 10 33.6	+1.8
BUKP	**Musuan**	**1.52**	**298**	*eP*	Pn	21 10 23.0	+1.1
BUKP				*eS*	Sn	21 10 38.2	-4.1
PAGZ	**Pagadian**	**3.09**	**283**	*eP*	Pn	21 10 43.1	+1.1
MSLP	**Maasin**	**3.32**	**332**	*eP*	Pn	21 10 43.0	-2.2

*ISCJB **21** 21:17:03.7±0.4, 39.15S±0.04×174.76E±0.05, h233km±4km, mb3.2/3, Error ellipse: s-maj=7.8km s-min=4.5km az=38.5*

*IDC **21** 21:17:03.8±3.1, 39.38S×175.06E, h231km±17km, mb3.1/3, mb1 3.4/3, mb1mx3.2/27, mbtmp3.7/3, Error ellipse: s-maj=101.5km s-min=26.3km az=174.0*

*NEIC **21** 21:17:05.3, 39.05S×174.85E, h228km, MG5.1(WEL), After WEL.*

NEIC Felt in the southern part of the North Island.

*WEL **21** 21:17:06.1±0.3, 39.07S×174.89E, h221km±2km, ML5.1/20, Error ellipse: s-maj=2.1km s-min=1.5km az=90.0*

WEL Felt from Hawke''s Bay to Nelson, maximum reported intensity MM 4.

ISC 21 21:17:04.0±0.7, 39.11S±0.06×174.78E±0.06, h232km±5km, n233, σ1.9 07/245, mb3.2/3, 45C-29D, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.02**	**239**	PN	**Pn**	**21 17 34.2**	**+0.2**
VRZ	**Vera Road**	**0.02**	**239**	Pn	**Pn**	**21 17 34.2**	**+0.2**
RAEZ	**Rainy Point**	**

KARZ	Kaharoa	1.58	47	⇓PN	Pn	21 17 41.3	0.0		
KARZ	Kaharoa	1.58	47	Pn	Pn	21 17 41.3	0.0		
DVHZ	Dannevirke	1.59	138	⇑PN	Pn	21 17 42.0	+0.7		
DVHZ	Dannevirke	1.59	138	Pn	Pn	21 17 42.0	+0.7		
WPHZ	Waipukurau	1.59	127	⇑PN	Pn	21 17 42.3	+1.0		
WPHZ	Waipukurau	1.59	127	Pn	Pn	21 17 42.3	+1.0		
TARZ	Mount Tarawera	1.61	57	⇓PN	Pn	21 17 41.6	-0.1		
TARZ	Mount Tarawera	1.61	57	Pn	Pn	21 17 41.6	-0.1		
MRZ	Mangatainoka R	1.66	159	⇓PN	Pn	21 17 42.4	+0.5		
MRZ				SN	S	21 18 09.8	-1.8		
MRZ				AML	AML	21 18 11.7			
MRZ	Mangatainoka R	1.66	159	Pn	Pn	21 17 42.5	+0.5		
PRWZ	Pori Road	1.71	148	⇑PN	Pn	21 17 43.2	+0.9		
OGWZ	Otaki Gorge	1.73	170	⇑PN	Pn	21 17 43.4	+1.0		
OGWZ	Otaki Gorge	1.73	170	Pn	Pn	21 17 43.4	+1.0		
KIW	Kapiti Island	1.75	177	⇑PN	Pn	21 17 43.3	+0.7		
KIW				AML	AML	21 18 12.2			
KIW				AML	AML	21 18 13.8			
KIW	Kapiti Island	1.75	177	Pn	Pn	21 17 43.4	+0.7		
KAHZ	Kahuranaki	1.76	113	PN	Pn	21 17 44.0	+1.2		
KAHZ	Kahuranaki	1.76	113	Pn	Pn	21 17 44.0	+1.2		
RAHZ	Arahi	1.80	84	⇓PN	Pn	21 17 43.7	+0.5		
RAHZ	Arahi	1.80	84	Pn	Pn	21 17 43.7	+0.5		
DUWZ	D'Urville Isla	1.81	201	⇑PN	Pn	21 17 44.0	+0.8		
DUWZ	D'Urville Isla	1.81	201	Pn	Pn	21 17 44.0	+0.8		
EDRZ	Edgecumbe	1.83	57	PN	Pn	21 17 43.2	-0.4		
EDRZ	Edgecumbe	1.83	57	Pn	Pn	21 17 43.2	-0.4		
PRHZ	Porangahau	1.83	129	⇑PN	Pn	21 17 44.3	+0.9		
PRHZ	Porangahau	1.83	129	Pn	Pn	21 17 44.4	+0.9		
PXZ	Pawanui	1.85	120	⇑PN	Pn	21 17 44.4	+0.9		
PXZ				AML	AML	21 18 13.6			
PXZ				AML	AML	21 18 13.6			
PXZ				AML	AML	21 18 15.9			
PXZ				AML	AML	21 18 15.9			
PXZ	Pawanui	1.85	120	Pn	Pn	21 17 44.4	+0.9		
CKHZ	Cape Kidnapper	1.86	108	⇓PN	Pn	21 17 44.8	+1.1		
CKHZ	Cape Kidnapper	1.86	108	Pn	Pn	21 17 44.8	+1.1		
MARZ	Manawahe	1.86	53	⇓PN	Pn	21 17 43.5	-0.3		
MARZ	Manawahe	1.86	53	Pn	Pn	21 17 43.5	-0.3		
TIWZ	Tintock	1.86	153	⇑PN	Pn	21 17 44.3	+0.6		
TIWZ	Tintock	1.86	153	Pn	Pn	21 17 44.3	+0.6		
HOWZ	Holdsworth Sta	1.87	163	⇑PN	Pn	21 17 44.2	+0.5		
HOWZ	Holdsworth Sta	1.87	163	Pn	Pn	21 17 44.2	+0.5		
ANWZ	Angora Road	1.87	136	⇑PN	Pn	21 17 44.7	+1.0		
OPRZ	Ohinepanea	1.88	48	⇓PN	Pn	21 17 43.6	-0.3		
OPRZ	Ohinepanea	1.88	48	Pn	Pn	21 17 43.6	-0.3		
WHHZ	Waihua	1.91	90	⇓PN	Pn	21 17 44.7	+0.6		
BFZ	Birch Farm	1.93	145	⇓PN	Pn	21 17 44.8	+0.5		
BFZ	Birch Farm	1.93	145	Pn	Pn	21 17 44.8	+0.5		
CAW	Cannon Point	2.00	174	⇑PN	Pn	21 17 45.6	+0.7		
CAW				AML	AML	21 18 17.4			
CAW				AML	AML	21 18 17.4			
CAW	Cannon Point	2.00	174	Pn	Pn	21 17 45.6	+0.7		
URZ	Urewera	2.01	66	⇑PN	Pn	21 17 44.2	-0.9		
URZ				AML	AML	21 18 14.1			
URZ				AML	AML	21 18 14.1			
URZ	Urewera	2.01	66	Pn	Pn	21 17 44.2	-0.9		
URZ	Urewera	2.01	66	P	Pn	21 17 44.2	-0.9		
	145nm,0.3s,baz=254,slow=7.7,SNR=1143								
URZ				S	S	21 18 11.7	-5.5		
	76nm,0.3s,baz=144,slow=18,SNR=3.6								
SNGZ	Shannon Statio	2.02	81	⇓PN	Pn	21 17 45.4	+0.2		
CPWZ	Castlepoint	2.10	149	⇑PN	Pn	21 17 46.9	+1.1		
MTW	Mount Morrison	2.12	165	⇑PN	Pn	21 17 46.4	+0.4		
MTW				AML	AML	21 18 18.8			
MTW				AML	AML	21 18 24.1			
MTW	Mount Morrison	2.12	165	Pn	Pn	21 17 46.4	+0.4		
TCW	Tory Channel	2.13	190	⇑PN	Pn	21 17 47.1	+0.9		
TCW				AML	AML	21 18 18.0			
TCW				AML	AML	21 18 18.6			
TCW	Tory Channel	2.13	190	Pn	Pn	21 17 47.1	+0.9		
TMWZ	Te Maipa	2.17	157	⇑PN	Pn	21 17 47.0	+0.5		
TMWZ	Te Maipa	2.17	157	Pn	Pn	21 17 47.0	+0.5		
WEL	Wellington	2.17	180	PN	Pn	21 17 47.1	+0.6		
WEL	Wellington	2.17	180	Pn	Pn	21 17 47.1	+0.6		
SNZO	South Karori	2.19	182	⇑PN	Pn	21 17 47.2	+0.5		
SNZO				AML	AML	21 18 20.5			
SNZO				AML	AML	21 18 20.9			
SNZO				AML	AML	21 18 21.0			
SNZO				AML	AML	21 18 21.1			
SNZO	South Karori	2.19	182	Pn	Pn	21 17 47.2	+0.5		
KNZ	Kokohu	2.25	89	⇑PN	Pn	21 17 47.5	+0.1		
KNZ	Kokohu	2.25	89	Pn	Pn	21 17 47.5	+0.1		
MWZ	Matawai	2.28	71	PN	Pn	21 17 47.3	-0.6		
MWZ				AML	AML	21 18 18.3			
MWZ				AML	AML	21 18 18.4			
MWZ				AML	AML	21 18 18.5			
MWZ				AML	AML	21 18 18.5			
MWZ	Matawai	2.28	71	Pn	Pn	21 17 47.3	-0.6		
BHW	Baring Head	2.29	178	⇑PN	Pn	21 17 48.1	+0.4		
BHW				AML	AML	21 18 22.0			
BHW				AML	AML	21 18 22.1			
BHW	Baring Head	2.29	178	Pn	Pn	21 17 48.1	+0.4		
PAWZ	Paruwai Farm	2.32	168	⇑PN	Pn	21 17 48.5	+0.5		
PAWZ				AML	AML	21 18 21.3			
PAWZ				AML	AML	21 18 21.7			
PAWZ	Paruwai Farm	2.32	168	Pn	Pn	21 17 48.5	+0.5		
MSWZ	Moikau Station	2.33	171	⇑PN	Pn	21 17 48.5	+0.4		
MSWZ				AML	AML	21 18 22.8			
MSWZ				AML	AML	21 18 23.5			
MSWZ	Moikau Station	2.33	171	Pn	Pn	21 17 48.5	+0.4		
RIGZ	Rimuhau	2.36	81	⇓PN	Pn	21 17 48.6	+0.1		
NNZ	Nelson	2.36	207	⇑PN	Pn	21 17 49.0	+0.6		
NNZ	Nelson	2.36	207	Pn	Pn	21 17 49.0	+0.6		
TRWZ	Traveller	2.38	163	⇑PN	Pn	21 17 49.2	+0.4		
TRWZ	Traveller	2.38	163	Pn	Pn	21 17 49.2	+0.4		
TUWZ	Tuamarina	2.40	195	⇓PN	Pn	21 17 49.7	+0.8		
TUWZ				AML	AML	21 18 23.5			
TUWZ				AML	AML	21 18 24.0			
TUWZ	Tuamarina	2.40	195	Pn	Pn	21 17 49.7	+0.8		
PRGZ	Paritu Road	2.42	86	⇓PN	Pn	21 17 49.4	+0.2		
PRGZ	Paritu Road	2.42	86	Pn	Pn	21 17 49.4	+0.2		
MHGZ	Mahia Peninsul	2.43	92	⇓PN	Pn	21 17 49.7	+0.5		
MHGZ	Mahia Peninsul	2.43	92	Pn	Pn	21 17 49.7	+0.5		
QRZ	Quartz Range	2.44	225	PN	Pn	21 17 49.1	-0.1		
QRZ	Quartz Range	2.44	225	Pn	Pn	21 17 49.1	-0.1		
PLWZ	Palliser	2.48	172	⇑PN	Pn	21 17 50.0	+0.2		
PLWZ	Palliser	2.48	172	Pn	Pn	21 17 50.0	+0.2		
CMWZ	Cape Campbell	2.67	189	AML	AML	21 18 33.8			
CMWZ				AML	AML	21 18 35.7			
BSWZ	Blackbirch Sta	2.69	195	PN	Pn	21 17 52.8	+0.9		
BSWZ				AML	AML	21 18 31.6			
BSWZ				AML	AML	21 18 31.8			
BSWZ	Blackbirch Sta	2.69	195	Pn	Pn	21 17 52.8	+0.9		
HAZ	Te Kaha	2.72	61	PN	Pn	21 17 50.8	-1.5		
CNGZ	Carnagh Statio	2.75	78	⇓PN	Pn	21 17 52.8	+0.2		
CNGZ	Carnagh Statio	2.75	78	Pn	Pn	21 17 52.8	+0.2		
PUZ	Puketiti	2.91	70	PN	Pn	21 17 53.6	-0.9		
PUZ				AML	AML	21 18 29.9			
PUZ				AML	AML	21 18 30.2			
PUZ	Puketiti	2.91	70	Pn	Pn	21 17 53.6	-0.9		
THZ	Tophouse	3.01	208	⇓PN	Pn	21 17 55.7	+0.2		
THZ	Tophouse	3.01	208	Pn	Pn	21 17 55.7	+0.2		
MXZ	Matakaoa Point	3.17	62	⇓PN	Pn	21 17 56.5	-0.8		
MXZ				AML	AML	21 18 36.6			
MXZ				AML	AML	21 18 37.2			
MXZ	Matakaoa Point	3.17	62	Pn	Pn	21 17 56.5	-0.8		
KHZ	Kahutara	3.43	196	PN	Pn	21 18 00.5	+0.3		
KHZ				AML	AML	21 18 42.7			
KHZ				AML	AML	21 18 44.2			
KHZ	Kahutara	3.43	196	Pn	Pn	21 18 00.5	+0.3		
DSZ	Denniston Nort	3.48	220	⇓PN	Pn	21 18 00.5	-0.4		
DSZ	Denniston Nort	3.48	220	Pn	Pn	21 18 00.5	-0.4		
LTZ	Lake Taylor	4.13	207	⇓PN	Pn	21 18 08.4	-0.1		
LTZ	Lake Taylor	4.13	207	Pn	Pn	21 18 08.4	-0.1		
OXZ	Oxford	4.69	205	PN	Pn	21 18 14.6	-0.8		
CRLZ	Canterbury Las	4.75	199	PN	Pn	21 18 15.0	-0.9		
CRLZ	Canterbury Las	4.75	199	Pn	Pn	21 18 15.0	-0.9		
MQZ	McQueen's Vall	4.86	199	⇓PN	Pn	21 18 16.0	-1.4		
MQZ	McQueen's Vall	4.86	199	Pn	Pn	21 18 16.0	-1.4		
WVZ	Waitaha Valley	5.00	216	PN	Pn	21 18 17.9	-1.2		
WVZ	Waitaha Valley	5.00	216	Pn	Pn	21 18 17.9	-1.2		
RPZ	Rata Peaks	5.38	210	⇑PN	Pn	21 18 23.0	-1.0		
RPZ	Rata Peaks	5.38	210	Pn	Pn	21 18 23.0	-1.0		
FOZ	Fox Glacier	5.87	219	PN	Pn	21 18 27.4	-2.6		
FOZ	Fox Glacier	5.87	219	Pn	Pn	21 18 27.4	-2.6		
LBZ	Lake Benmore	6.29	212	PN	Pn	21 18 33.6	-1.8		
LBZ	Lake Benmore	6.29	212	Pn	Pn	21 18 33.6	-1.8		
ODZ	Otahua Downs	6.68	206	⇓PN	Pn	21 18 39.7	-0.5		
ODZ	Otahua Downs	6.68	206	Pn	Pn	21 18 39.8	-0.5		
JCZ	Jackson Bay	6.70	220	⇑PN	Pn	21 18 38.6	-2.1		
JCZ	Jackson Bay	6.70	220	Pn	Pn	21 18 38.6	-2.1		
WKZ	Wanaka	7.14	215	PN	Pn	21 18 43.9	-2.3		
WKZ	Wanaka	7.14	215	Pn	Pn	21 18 44.0	-2.3		
EAZ	Earnscleugh	7.34	212	PN	Pn	21 18 46.7	-2.0		
EAZ	Earnscleugh	7.34	212	Pn	Pn	21 18 46.7	-2.0		
HHSZ	Highcliff Hill	7.44	203	PN	Pn	21 18 50.7	+0.7		
MSZ	Milford Sound	7.55	220	PN	Pn	21 18 49.4	-2.0		
MSZ	Milford Sound	7.55	220	Pn	Pn	21 18 49.4	-2.0		
TUZ	Tuapeka	7.82	207	PN	Pn	21 18 55.3	+0.5		
TUZ	Tuapeka	7.82	207	Pn	Pn	21 18 55.3	+0.5		
MLZ	Mavora Lakes	7.93	216	PN	Pn	21 18 55.2	-1.1		
MLZ	Mavora Lakes	7.93	216	Pn	Pn	21 18 55.2	-1.1		
WHZ	Wether Hill Ro	8.45	214	PN	Pn	21 19 00.4	-2.5		
WHZ	Wether Hill Ro	8.45	214	Pn	Pn	21 19 00.4	-2.5		
SYZ	Scrubby Hill	8.50	207	PN	Pn	21 19 03.2	-0.3		
SYZ	Scrubby Hill	8.50	207	Pn	Pn	21 19 03.2	-0.3		
DCZ	Deep Cove	8.51	219	PN	Pn	21 18 60.0	-3.6		
DCZ	Deep Cove	8.51	219	Pn	Pn	21 18 60.0	-3.6		
APZ	The Paps	9.18	211	PN	Pn	21 19 10.6	-1.7		
APZ	The Paps	9.18	211	Pn	Pn	21 19 10.6	-1.7		
PYZ	Puysegur Point	9.23	218	PN	Pn	21 19 11.4	-1.4		
ASAR	Alice Springs	37.80	282	P	P	21 24 00.3	+2.0		
	0.9nm,0.7s,baz=136,slow=8.8,SNR=8.5								
ASAR				PcP	PcP	21 26 09.8	0.0		
	0.4nm,0.3s,baz=122,slow=3.9,SNR=6.5								
WRA	Warramunga Arr	39.64	287	P	P	21 24 15.4	+1.8		
	0.3nm,0.3s,baz=124,slow=8.1,SNR=7.7								
CMAR	Chiang Mai Arr	90.98	293	P	P	21 29 44.3	+2.3		
	0.1nm,0.3s,baz=147,slow=3.9,SNR=4.3								
KBZ	Khabaz	144.03	293	PKP	PKPbc	21 36 10.1	0.0		
	2.6nm,0.8s,baz=105,slow=3.7,SNR=4.8								
KEV	Kevo	144.90	341	*ep*	PKPbc	21 36 12.2	+0.3		
ARCES	ARCESS Array B	145.43	342	PKPbc	PKPbc	21 36 13.9	+0.3		
	1.6nm,0.4s,baz=60,slow=2.1,SNR=56								
JOF	Joensuu	147.65	329	*ep*	PKPbc	21 36 20.7	+0.7		
KAF	Kangasniemi	150.04	331	*ep*	PKPbc	21 36 26.0	0.0		
BRTR	Keskin Array B	150.13	284	PKPab	PKPab	21 36 35.0	+0.8		
	2.3nm,0.7s,baz=140,slow=6.2,SNR=9.0								
FINES	FINESS Array B	150.51	330	PKPbc	PKPbc	21 36 27.8	+0.6		
	0.4nm,0.3s,baz=35,slow=3.1,SNR=9.1								
FINES				PKPab	PKPab	21 36 34.9	+0.1		
	2.9nm,0.5s,baz=60,slow=3.8,SNR=22								

GUC 21 21:28:29.8±0.3, 20.07S×70.69W, h33km±1km, ML3.6, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PSGC	Pisagua	0.71	48	*i* P	Pn	21 28 43.1	-0.7	
PSGC				*i* S	Sb	21 28 53.1	-0.6	
PATCX	Punta Patache	0.90	146	⇓*i* P	Pn	21 28 46.1	-0.1	
PATCX				*i* S	Sn	21 28 58.3	+0.1	
PB11	Plate Boundary	1.02	72	⇓*i* P	Pn	21 28 48.2	+0.1	
PB11				*i* S	Sb	21 29 02.1	-0.4	
PB11				AML	AML	21 29 06.2		
	comp=N,6μm,0.2s							
MNMC	Minimini	1.39	48	⇓*i* P	Pn	21 28 54.5	+1.1	
MNMC				*i* S	Sb	21 29 13.0	-0.4	
MNMC				AML	AML	21 29 17.6		
	comp=E,3μm,0.4s							
PB01	Plate Boundary	1.48	131	*eP*	Pn	21 28 55.4	+1.0	
PB01				*i* S	Sb	21 29 15.2	-0.3	
PB01				AML	AML	21 29 19.3		
	comp=N,738nm,0.2s							
PB07	Plate Boundary	1.81	156	⇓*i* P	Pn	21 28 59.6	+0.6	
PB07				*i* S	Sb	21 29 23.1	-1.9	
PB07				AML	AML	21 29 34.1		
	comp=E,482nm,0.8s							
PB09	Plate Boundary	2.18	142	⇑*i* P	Pn	21 29 06.2	+2.1	
PB09				*i* S	Sb	21 29 33.8	-2.0	
PB09				AML	AML	21 29 42.9		
	comp=E,1μm,0.3s							
PB04	Plate Boundary	2.45	153	AML	AML	21 29 47.3		
	comp=N,326nm,0.6s							
PB06	Plate Boundary	2.82	159	AML	AML	21 30 01.1		
	comp=E,182nm,0.7s							

KRSC 21 21:29:17.1±1.1, 54.96N×163.29E, h20km±8km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MKZ	Mys Kozlova	0.99	246	*eP*	Pn	21 29 36.9	+1.1	
MKZ				*eS*	Sn	21 29 50.5	+1.3	
KBG	Krutoberegovo	1.34	346	*eP*	Pn	21 29 41.0	+0.4	
KBG				*eS*	Sn	21 29 57.7	-0.1	
BKI	Bering	1.56	80	*eS*	Sb	21 30 05.3	+0.7	
TUMR	Tumrok	1.83	281	*eP*	Pb	21 29 49.9	-0.2	
TUMR				*eS*	Sb	21 30 13.1	+0.4	
KMNR	Kamenistaya	1.92	296	*eP*	Pb	21 29 50.6	-0.9	
KMNR				*eS*	Sb	21 30 14.2	-0.9	
KPT	Kopyto	2.02	301	P	Pn	21 29 51.6	+1.5	
KOZ	Kozyrevsk	2.23	301	P	Pb	21 29 55.4	-1.4	
KII	Karymskiy	2.42	249	*eP*	Pb	21 29 58.1	-2.0	
KII				*eS*	Sn	21 30 26.8	+2.0	
SRDR	Sredinnyy	2.44	305	*eP*	Pn	21 29 58.0	+2.1	
ESO	Esso	2.79	292	*eP*	Pn	21 30 02.3	+1.7	
NLC	Nalytchevo	2.94	234	S	Sn	21 30 38.3	+1.1	
SDLR	Sedlovina	3.09	239	*eP*	Pn	21 30 07.6	+2.7	
SMAR	Somma	3.14	239	*eP*	Pn	21 30 07.9	+2.2	
KRER	Koryakskii	3.15	240	*eP*	Pb	21 30 09.2	-3.4	
UGLR	Uglovaya	3.16	238	*eP*	Pn	21 30 08.8	+2.9	
KRX	Arik	3.17	241	*eP*	Pn	21 30 09.1	+3.1	
AVH	Avacha	3.17	239	*eP*	Pb	21 30 09.6	-3.3	
AVH				S	Sn	21 30 46.8	+3.5	
KOK	Koryaka	3.21	240	*eP*	Pn	21 30 09.8	+3.3	
PET	Petropavlovsk	3.35	237	S	Sn	21 30 51.1	+3.6	
GNL	Ganaly	3.38	250	*eP*	Pn	21 30 11.8	+2.9	
RUS	Russkaya	3.80	230	*eP*	Pn	21 30 17.6	+3.1	

*IDC **21** 21:35:07.5±7.1, 56.27N×156.19W, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.3/39, mbtmp3.3/4, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/14, Error ellipse: s-maj=118.0km s-min=28.4km az=85.0*

*ISCJB **21** 21:35:08.4±0.4, 56.44N×160.04×156.51W±0.06, h64km, mb3.2/2, Error ellipse: s-maj=6.2km s-min=4.2km az=160.9*

*NEIC **21** 21:35:10.3, 56.38N×156.52W, h46km, ML3.0(AEIC), After AEIC.*

ISC 21 21:35:09.1±1.0, 56.44N±0.06×156.57W±0.04, h64km, n41, σ1Ꝋ42/45, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CHIR	Chirikof Islan	0.82	139	P	Pn	21 35 24.6	-0.5	
CHIR				S	Sn	21 35 35.2	-1.5	
ANPB	Aniakchak Plen	1.01	292	P	Pn	21 35 27.2	-0.3	
ANPB				S	Sn	21 35 41.0	-0.1	
CHGN	Chignik	1.04	263	P	Pn	21 35 27.1	-0.6	
PLK4	Peulik 4	1.20	5	P	Pn	21 35 31.2	+1.3	
PLK3	Peulik 3	1.26	7	P	Pn	21 35 32.2	+1.6	
SII	Sitkinak Islan	1.33	84	P	Pn	21 35 33.0	+1.4	
SII				S	Sn	21 35 48.9	+0.4	
PLK2	Peulik 2	1.33	6	P	Pn	21 35 33.3	+1.7	
VNSG	Veniaminof 6	1.44	258	P	Pn	21 35 33.6	+0.5	
VNSG				S	Sn	21 35 52.5	+1.4	
VNHG	Veniaminof 1	1.46	262	P	Pn	21 35 34.3	+0.9	
KABR	Katmai Barrier	1.90	27	P	Pn	21 35 40.4	+1.1	
OHAK	Old Harbor	1.96	65	P	Pn	21 35 39.8	-0.3	
KBM	Katmai Bkd Mtn	1.98	21	P	Pn	21 35 40.8	+0.4	
KVTA	Katmai Vly 10	2.06	19	P	Pn	21 35 42.7	+1.3	
KAHC	Katmai Hardscr	2.37	20	P	Pn	21 35 46.7	+1.0	
KAPH	Katmai Pasha	2.47	28	P	Pn	21 35 48.2	+1.2	
KDAK	Kodiak Island	2.56	57	P	Pn	21 35 48.0	-0.1	
MCNL	McNeil River	3.00	23	P	Pn	21 35 55.1	+0.9	
BRLK	Bradley Lake	4.49	40	P	Pn	21 36 14.5	-0.1	
RDWB	Redoubt West	4.50	24	P	Pn	21 36 16.3	+1.4	
SLKM	Skilak Lake	5.26	37	P	Pn	21 36 25.7	+0.6	
STLK	Strandline Lak	5.63	24	P	Pn	21 36 31.7	+1.5	
RC01	Rabbit Creek A	5.86	35	P	Pn	21 36 33.4	+0.2	
PWL	Port Wells	6.17	41	P	Pn	21 36 36.9	-0.6	
MSW	Makushin Switc	6.38	251	P	Pn	21 36 41.0	+0.6	
TT01	Tatalina	6.49	2	P	Pn	21 36 43.1	+1.2	
PPLA	Purkeypile	6.84	17	P	Pn	21 36 48.3	+1.5	
SCM	Sheep Creek Mo	7.19	37	P	Pn	21 36 51.4	-0.2	
RAGM	Ragged Mountai	7.39	53	P	Pn	21 36 54.4	+0.2	
GOAT	Goat Mountain	7.46	51	P	Pn	21 36 55.0	-0.2	
TRF	Thorofare Moun	7.70	22	P	Pn	21 36 58.9	+0.3	
HARP	HAARP	8.33	39	P	Pn	21 37 07.7	+0.6	
PAX	Paxson	8.61	36	P	Pn	21 37 11.4	+0.4	
BALM	Baldy	8.70	52	P	Pn	21 37 12.4	+0.2	
WRH	Wood River Hil	9.07	24	P	Pn	21 37 15.5	-1.5	
CCB	Clear Creek Bu	9.28	24	P	Pn	21 37 18.3	-1.6	
MDM	Murphy Dome	9.46	22	P	Pn	21 37 21.5	-0.9	
ILAR	Eielson Array	9.60	26	Pn	Pn	21 37 22.4	-1.9	
	0.1nm,0.3s,baz=214,slow=13,SNR=8.6							
ILAR				Sn	Sn	21 39 04.8	-5.6	
	0.0nm,0.3s,baz=233,slow=18,SNR=3.0							
ILB	Eielson Array	9.60	26	P	Pn	21 37 23.1	-1.2	
INK	Inuvik	15.85	32	Pn	P	21 38 50.9	+0.5	
	0.2nm,0.3s,baz=234,slow=9.4,SNR=5.0							
INK				LR	LR	21 45 00.6		
	comp=Z,34nm,20.1s,baz=354,slow=37							
YKA	Yellowknife Ar	21.83	57	P	P	21 40 01.6	+5.9	
	0.3nm,0.5s,baz=276,slow=10,SNR=5.9							
PDAR	Pinedale Array	32.70	94	P	P	21 41 38.6	+3.1	
	0.2nm,0.4s,baz=309,slow=5.7,SNR=2.8							

*ISCJB **21** 22:09:03.4±1.1, 11.3N±0.1×142.8E±0.4, h33km, mb3.8/7, Error ellipse: s-maj=51.1km s-min=17.9km az=0.7*

*IDC **21** 22:09:05.7±0.9, 11.41N×142.53E, h35km±6km, mb3.6/6, mb1 3.8/6, mb1mx3.6/32, mbtmp3.8/6, Error ellipse: s-maj=49.6km s-min=18.1km az=99.0*

ISC 21 22:09:05.7±1.0, 11.4N±0.1×142.8E±0.3, h35km, n8, σ1Ꝋ48/11, mb3.7/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	Warramunga Arr	32.20	195	P	P	22 15 29.7	-0.9	
	0.9nm,1.0s,baz=15,slow=9.8,SNR=6.0							
WRA				pP	pP	22 15 41.7	+1.0	
	0.5nm,0.7s,baz=16,slow=9.4,SNR=1.9							
ASAR	Alice Springs	35.88	194	P	P	22 16 02.6	+0.1	
	0.2nm,0.5s,baz=24,slow=11,SNR=5.0							
SONM	Songino Array	47.43	327	P	P	22 17 36.4	-0.6	
	0.3nm,0.5s,baz=134,slow=8.4,SNR=2.2							
MKAR	Makanchi Array	61.70	317	P	P	22 19 22.8	+2.3	
	0.5nm,0.7s,baz=88,slow=9.1,SNR=5.0							
ILAR	Eielson Array	71.44	25	P	P	22 20 22.6	+0.3	
	0.9nm,0.6s,baz=248,slow=5.9,SNR=23							
ILAR				pP	pP	22 20 34.2	+1.0	
	1.2nm,0.7s,baz=248,slow=6.2,SNR=6.4							
YKA	Yellowknife Ar	85.76	27	pP	pP	22 21 53.9	+1.8	
	0.4nm,0.7s,baz=295,slow=6.0,SNR=3.4							
ARCES	ARCESS Array B	88.56	342	P	P	22 21 54.4	-0.2	
	2.1nm,0.9s,baz=58,slow=9.0,SNR=3.9							
ARCES				pP	pP	22 22 04.5	-1.2	
	1.8nm,0.8s,baz=60,slow=7.2,SNR=1.9							
FINES	FINESS Array B	92.30	335	P	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.31**	**220**	*eP*	Pb	22 24 50.8	-0.3
MSLP				*eS*	Sb	22 25 01.4	+4.9
SCPH	**Surigao**	**0.72**	**145**	*eP*	Pg	22 24 56.7	-0.3
SCPH				*i* S	Sg	22 25 06.2	-0.1
PLP	**Palo**	**0.79**	**354**	⇑*eP*	Pg	22 24 58.4	+0.2
PLP				*eS*	Sg	22 25 09.0	+0.5
OCLP	**Ormoc**	**0.81**	**326**	*eP*	Pb	22 24 59.8	+0.2
OCLP				*eS*	Sn	22 25 12.8	-0.7
LLP	**Lapu-Lapu**	**1.08**	**267**	*eP*	Pb	22 25 04.2	0.0
LLP				*eS*	Sn	22 25 20.6	+0.3
GUIM	**Jordan**	**2.45**	**276**	*eP*	Pb	22 25 25.8	-1.7
RCP	**Roxas**	**2.56**	**298**	⇑*eP*	Pn	22 25 26.6	+1.4

*PRE **21** 22:53:23.6±8.6,27.°89S×26.°70E,h2km,ML3.6*
*NEIC **21** 22:53:24.6,27.°87S×26.°68E,h2km,mb4.3/1,After PRE.*
*IDC **21** 22:53:26.0±2.3,27.°75S×26.°68E,h0km,mb4.0/3,*
mb1 4.0/7,mb1mx3.6/35,mbtmp4.0/7,ML3.7/2,Error
ellipse: s-maj=41.4km s-min=17.1km az=101.0
ISC 21 22:53:23.5±1.2,27.°89S±0.°02×26.°70E±0.°02,h3km±8km,
n53,σ2s07/106,mb4.3/3,9C-8D,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.90**	**6**	*eP*	**Pn**	**22 53 42.3**	**-0.8**
MOAB				*eS*	**Sb**	**22 53 54.9**	**+0.6**
MOAB				AML	AML	22 53 59.6	
	comp=Z,250nm,0.1s						
MOAB	**Moab Khotsong**	**0.90**	**6**	*eP*	**Pn**	**22 53 42.3**	**-0.8**
MOAB				*eS*	**Sb**	**22 53 54.9**	**+0.6**
TLEK	**Tau Lekoa**	**0.92**	**359**	*eP*	**Pn**	**22 53 43.1**	**-0.3**
TLEK				*eS*	**Sb**	**22 53 54.8**	**-0.1**
TLEK				AML	AML	22 54 03.7	
	comp=Z,299nm,0.8s						
TLEK	**Tau Lekoa**	**0.92**	**359**	*eP*	**Pn**	**22 53 43.1**	**-0.3**
TLEK				*eS*	**Sb**	**22 53 54.8**	**-0.1**
BFSD	**Buffelsfontein**	**1.02**	**4**	*eP*	**Pn**	**22 53 45.0**	**+0.2**
BFSD				*eP*	**Pb**	**22 53 45.5**	**+1.6**
BFSD				*eS*	**Sb**	**22 53 57.0**	**-0.7**
BFSD				*eS*	**Sb**	**22 53 57.4**	**-0.3**
BFSD				AML	AML	22 54 02.6	
	comp=Z,619nm,0.1s						
BFSD	**Buffelsfontein**	**1.02**	**4**	*eP*	**Pn**	**22 53 45.0**	**+0.2**
BFSD				*eS*	**Sb**	**22 53 57.4**	**-0.3**
PRYS	**Parys**	**1.12**	**32**	*eP*	**Pn**	**22 53 46.6**	**+0.4**
PRYS				*i* P	**Pb**	**22 53 47.8**	**+2.2**
PRYS				*eS*	**Sg**	**22 53 59.2**	**-0.4**
PRYS				*eS*	**Sn**	**22 54 02.7**	**+0.4**
PRYS				AML	AML	22 54 04.4	
	comp=Z,14μm,0.5s						
PRYS				AML	AML	22 54 04.8	
	comp=Z,369nm,0.4s						
PRYS	**Parys**	**1.12**	**32**	*eP*	**Pn**	**22 53 46.6**	**+0.4**
PRYS				*eS*	**Sn**	**22 54 02.7**	**+0.4**
SWZ	**Schweizer**	**1.40**	**300**	⇓*iP*	**Pb**	**22 53 52.5**	**+2.1**
SWZ				*i* S	**Sg**	**22 54 04.4**	**-4.1**
SWZ				*eS*	**Sb**	**22 54 04.6**	**-4.1**
SWZ				AML	AML	22 54 10.6	
	comp=Z,15μm,0.3s						
SWZ	**Schweizer**	**1.40**	**300**	⇓*iP*	**Pb**	**22 53 52.5**	**+2.1**
SWZ				*eS*	**Sn**	**22 54 09.0**	**-0.1**
BOSA	**Boshof**	**1.46**	**240**	⇑*eP*	**Pg**	**22 53 54.1**	**+2.5**
BOSA				*eS*	**Sb**	**22 54 07.9**	**-2.6**
BOSA				AML	AML	22 54 14.3	
	comp=Z,176nm,0.3s						
BOSA	**Boshof**	**1.46**	**240**	*e*Pn	**Pg**	**22 53 53.6**	**+2.1**
BOSA				*e*Sg	**Sn**	**22 54 12.3**	**+1.7**
BOSA				Lg	Lg	22 54 12.3	
BOSA	**Boshof**	**1.46**	**240**	Pg	**Pg**	**22 53 53.9**	**+2.3**
	comp=Z,64nm,0.3s,baz=56,slow=15,SNR=1590						
BOSA				Lg	Lg	22 54 12.3	
	comp=Z,71nm,0.3s,baz=334,slow=21,SNR=28						
WDLM	**Western Deep L**	**1.59**	**24**	*eP*	**Pg**	**22 53 55.6**	**+1.5**
WDLM				⇓*eP*	**Pg**	**22 53 55.6**	**+1.5**
WDLM				*i* S	**Sn**	**22 54 11.5**	**-2.5**
WDLM				*eS*	**Sg**	**22 54 15.4**	**+0.7**
WDLM				AML	AML	22 54 16.3	
	comp=Z,456nm,0.5s						
WDLM				AML	AML	22 54 16.3	
	comp=Z,438nm,0.5s						
KLOF	**Kloof**	**1.73**	**28**	⇑*iP*	**Pg**	**22 53 57.0**	**+0.3**
KLOF				⇓*iP*	**Pb**	**22 53 57.2**	**+1.1**
KLOF				*eS*	**Sn**	**22 54 14.4**	**-3.0**
KLOF				*i* S	**Sb**	**22 54 17.1**	**-1.2**
KLOF				*eS*	**Sg**	**22 54 18.8**	**-0.4**
KLOF				AML	AML	22 54 22.1	
	comp=Z,534nm,0.2s						
KLOF				AML	AML	22 54 22.1	
	comp=Z,4μm,0.1s						
KLOF	**Kloof**	**1.73**	**28**	⇑*iP*	**Pg**	**22 53 57.0**	**+0.3**
KLOF				*eS*	**Sg**	**22 54 18.8**	**-0.4**
ERPM	**east rand prop**	**2.06**	**42**	⇓*eP*	**Pb**	**22 54 01.9**	**+0.2**
ERPM				⇑*iP*	**Pb**	**22 54 02.0**	**+0.4**
ERPM				*eS*	Sn	22 54 18.8	-6.7
ERPM				*eS*	**Sb**	**22 54 27.7**	**-0.1**
ERPM				AML	AML	22 54 32.9	
	comp=Z,164nm,0.4s						
ERPM				AML	AML	22 54 33.1	
	comp=Z,164nm,0.4s						
ERPM	**east rand prop**	**2.06**	**42**	⇑*iP*	**Pb**	**22 54 02.0**	**+0.4**
ERPM				*eS*	**Sb**	**22 54 27.7**	**-0.1**
OBSV	**Observatory**	**2.09**	**36**	⇑*iP*	**Pb**	**22 54 01.5**	**-0.7**
OBSV				⇓*iP*	**Pb**	**22 54 01.6**	**-0.7**
OBSV				*i* S	**Sn**	**22 54 22.1**	**-4.1**
OBSV				*eS*	**Sb**	**22 54 28.0**	**-0.7**
OBSV				AML	AML	22 54 30.4	
	comp=Z,1μm,0.2s						
OBSV				AML	AML	22 54 31.4	
	comp=Z,304nm,0.5s						
OBSV	**Observatory**	**2.09**	**36**	⇑*iP*	**Pb**	**22 54 01.5**	**-0.7**
OBSV				*eS*	**Sb**	**22 54 28.0**	**-0.7**
SLR	**Silverton**	**2.57**	**34**	⇓*iP*	**Pb**	**22 54 08.1**	**-2.1**
SLR				*eS*	**Sn**	**22 54 39.1**	**+1.1**
SLR				AML	AML	22 54 53.7	
	comp=Z,406nm,0.6s						
SLR	**Silverton**	**2.57**	**34**	⇓*iP*	**Pb**	**22 54 08.1**	**-2.1**
SLR				*eS*	**Sn**	**22 54 39.1**	**+1.1**
HVD	**Gariep Dam**	**2.91**	**201**	⇓*iP*	**Pb**	**22 54 13.5**	**-2.5**
HVD				*eS*	**Sn**	**22 54 47.9**	**+1.6**
HVD				AML	AML	22 55 02.1	
	comp=Z,80nm,0.5s						
HVD	**Gariep Dam**	**2.91**	**201**	*eP*	**Pb**	**22 54 13.5**	**-2.5**
HVD				*eS*	**Sn**	**22 54 47.9**	**+1.6**
LBTB	**Lobatse**	**3.02**	**341**	⇑*iP*	**Pb**	**22 54 15.4**	**-2.7**
LBTB				*eS*	**Sn**	**22 54 50.2**	**+1.0**
LBTB				AML	AML	22 55 05.5	
	comp=Z,108nm,0.6s						
LBTB	**Lobatse**	**3.02**	**341**	*e*Pn	**Pb**	**22 54 15.1**	**-2.9**
LBTB				*e*Sn	**Sn**	**22 54 50.1**	**+1.0**
LBTB				Lg	Lg	22 54 57.4	
LBTB				*e*Sg	**Sg**	**22 54 58.2**	**-2.6**
LBTB	**Lobatse**	**3.02**	**341**	Pn	**Pb**	**22 54 15.2**	**-2.8**
	comp=Z,14nm,0.3s,baz=174,slow=12,SNR=312						
LBTB				Sn	**Sn**	**22 54 50.0**	**+0.8**
	comp=Z,8.4nm,0.3s,baz=248,slow=17,SNR=12						
LBTB				Lg	Lg	22 54 57.4	
	comp=Z,36nm,0.3s,baz=268,slow=22,SNR=31						
KSD	**Kokstad**	**3.56**	**139**	*eP*	Pn	22 54 22.9	+3.2
KSD				*eP*	**Pg**	**22 54 29.3**	**-2.4**
KSD				*eS*	**Sn**	**22 55 03.8**	**+1.4**
KSD				*eS*	**Sn**	**22 55 03.9**	**+1.6**
KSD				AML	AML	22 55 21.4	
	comp=Z,1μm,0.4s						
KSD				AML	AML	22 55 23.1	
	comp=Z,44nm,0.6s						
KSD	**Kokstad**	**3.56**	**139**	*eP*	**Pb**	**22 54 23.9**	**-3.2**
KSD				*eS*	**Sn**	**22 55 03.8**	**+1.4**
UPI	**Upington**	**4.83**	**263**	*eP*	**Pn**	**22 54 40.1**	**+2.9**
UPI				*eS*	**Sn**	**22 55 33.6**	**-0.1**
UPI				AML	AML	22 55 56.7	
	comp=Z,67nm,0.5s						
UPI	**Upington**	**4.83**	**263**	*eP*	**Pn**	**22 54 40.1**	**+2.9**
UPI				*eS*	**Sn**	**22 55 33.6**	**-0.1**
GRM	**Grahamstown**	**5.41**	**182**	*eP*	Pn	22 54 48.5	+3.3
GRM				*eS*	**Sn**	**22 55 46.9**	**-1.1**
GRM				AML	AML	22 56 24.7	
	comp=Z,24nm,0.6s						
GRM	**Grahamstown**	**5.41**	**182**	*eP*	Pn	22 54 48.5	+3.3
GRM				*eS*	**Sn**	**22 55 45.9**	**-2.1**
MOPA	**Mopani**	**6.07**	**45**	*eS*	**Sn**	**22 56 02.4**	**-1.9**
MOPA				AML	AML	22 56 34.4	
	comp=Z,26nm,0.6s						
BUFB	**Buffelsbos**	**6.47**	**195**	*eP*	**Pn**	**22 55 01.9**	**+2.4**
BUFB				*eP*	**Pn**	**22 55 02.1**	**+2.6**
BUFB				*eS*	x	22 55 55.2	
BUFB				*eS*	**Sn**	**22 56 12.0**	**-1.8**
BUFB				AML	AML	22 56 50.7	
	comp=Z,2.7nm,0.3s						
BUFB	**Buffelsbos**	**6.47**	**195**	*eP*	**Pn**	**22 55 02.1**	**+2.6**
BUFB				*eS*	**Sn**	**22 56 12.0**	**-1.8**
SUR	**Sutherland**	**6.78**	**227**	*e*Pn	**Pn**	**22 55 02.7**	**+2.6**
SUR				Sn	**Sn**	**22 56 20.9**	**-1.1**
SUR				Lg	Lg	22 56 54.2	
SUR	**Sutherland**	**6.78**	**227**	Pn	**Pn**	22 55 07.5	+3.4
	comp=Z,1.5nm,0.3s,baz=73,slow=15,SNR=16						
SUR				Sn	**Sn**	**22 56 20.9**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=311,slow=20,SNR=3.5						
SUR				Lg	Lg	22 56 54.2	
	comp=Z,6.0nm,0.3s,baz=138,slow=22,SNR=16						
KOMG	**Komaggas**	**8.30**	**255**	*eP*	**Pn**	**22 55 27.3**	**+2.5**
KOMG				*eS*	**Sn**	**22 56 54.8**	**-4.3**
KOMG				AML	AML	22 57 53.7	
	comp=Z,28nm,0.4s						
KOMG	**Komaggas**	**8.30**	**255**	*eP*	**Pn**	**22 55 27.3**	**+2.5**
KOMG				*eS*	**Sn**	**22 56 53.8**	**-5.3**
CER	**Ceres**	**8.39**	**228**	*eP*	Pn	22 55 28.9	+2.9
CER				*eS*	**Sn**	**22 56 58.6**	**-2.7**
CER				AML	AML	22 57 50.5	
	comp=Z,34nm,0.6s						
CER	**Ceres**	**8.39**	**228**	*eP*	Pn	22 55 28.9	+2.9
CER				*eS*	**Sn**	**22 56 58.6**	**-2.7**
ELIM	**Elim**	**8.95**	**220**	*eP*	Pn	22 55 36.8	+3.1
ELIM				*eS*	**Sn**	**22 57 11.0**	**-4.1**
ELIM				AML	AML	22 58 16.5	
	comp=Z,19nm,0.6s						
TSUM	**Tsumeb**	**12.02**	**314**	*e*Pn	**Pn**	**22 56 15.8**	**0.0**
TSUM				Sn	**Sn**	**22 58 25.5**	**-5.0**
TSUM				Lg	Lg	22 59 38.6	
TSUM	**Tsumeb**	**12.02**	**314**	Pn	**Pn**	**22 56 16.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=136,slow=14,SNR=14						
TSUM				Sn	**Sn**	**22 58 25.5**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=60,slow=20,SNR=2.9						
TSUM				Lg	Lg	22 59 38.6	
	comp=Z,0.3nm,0.3s,baz=80,slow=19,SNR=3.0						
LSZ	**Lusaka**	**12.62**	**7**	*e*Pn	**Pn**	**22 56 23.1**	**-1.1**
LSZ				Sn	Sn	22 58 36.8	-8.6
LSZ				Lg	Lg	22 59 55.4	
LSZ	**Lusaka**	**12.62**	**7**	Pn	**Pn**	**22 56 23.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=188,slow=16,SNR=7.4						
LSZ				Sn	Sn	22 58 36.8	-8.6
	comp=Z,0.3nm,0.3s,baz=89,slow=16,SNR=3.3						
LSZ				Lg	Lg	22 59 55.4	
	comp=Z,0.2nm,0.3s,baz=107,slow=19,SNR=3.5						
DBIC	**Dimbokro**	**45.93**	**314**	*eP*	**P**	**23 01 49.0**	**+1.2**
	comp=Z,1.6nm,0.5s						
DBIC	**Dimbokro**	**45.93**	**314**	P	**P**	**23 01 50.0**	**+2.3**
	comp=Z,2.3nm,0.7s,baz=136,slow=7.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**47.44**	**326**	P	**P**	**23 02 01.5**	**+1.9**
TORD	**Torodi Ar. Bea**	**47.44**	**326**	P	**P**	**23 02 01.5**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=143,slow=5.9,SNR=17						
ESDC	**Sonseca Array**	**73.03**	**336**	P	**P**	**23 04 57.2**	**+2.5**
ESDC	**Sonseca Array**	**73.03**	**336**	P	**P**	**23 04 57.2**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=152,slow=5.7,SNR=4.7						

IDC 21 23:04:23.5±10.0,18.°55N×108.°94W,h0km,mb3.1/3,
mb1 3.8/4,mb1mx3.6/26,mbtmp3.3/4,ML3.5/1,MS3.2/3,
Ms1 3.2/3,ms1mx3.1/4,Error ellipse: s-maj=172.0km
s-min=80.5km az=163.0,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.90**	**277**	Pn	Pg	23 05 05.6	+5.6
H06E1				Sn	Sg	23 05 25.5	+0.9
	SNR=80						
H06E1				T	T	23 07 11.0	
	SNR=6.7						
TXAR	**Lajitas Array**	**11.76**	**23**	Pn	Pn	23 07 13.7	+0.9
	0.1nm,0.3s,baz=205,slow=13,SNR=28						
TXAR				LR	LR	23 11 17.9	
	comp=Z,114nm,20.1s,baz=0.0,slow=35						
NVAR	**Mina Array Bea**	**21.42**	**340**	P	P	23 09 13.7	+0.2
	0.6nm,0.3s,baz=146,slow=10,SNR=2.2						
NVAR				LR	LR	23 15 58.3	
	comp=Z,33nm,18.4s,baz=196,slow=32						
PDAR	**Pinedale Array**	**24.14**	**359**	P	P	23 09 42.0	+0.4
	0.3nm,0.7s,baz=184,slow=7.1,SNR=3.2						
PDAR				LR	LR	23 18 04.4	
	comp=Z,75nm,18.8s,baz=212,slow=34						
YKA	**Yellowknife Ar**	**44.08**	**356**	P	P	23 12 32.5	-0.6
	0.3nm,0.8s,baz=176,slow=7.7,SNR=7.4						
H03N2	**Juan Fernandez**	**59.11**	**151**	T	T	00 20 17.6	
	baz=328						
H03N1	**Juan Fernandez**	**59.12**	**151**	T	T	00 20 17.6	
	baz=328						
H03N3	**Juan Fernandez**	**59.12**	**151**	T	T	00 20 18.1	
	baz=328						

NNC 21 23:35:30.8±7.9,36.°95N×70.°62E,h0km,mb3.6,mpv3.5,
7C-1D,Error ellipse: s-maj=63.4km s-min=48.3km
az=166.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.15**	**359**	⇓P	Pn	23 37 05.2	+2.3
	2.1nm,0.3s,baz=179,slow=13,SNR=228						
KK31				⇑S	Sn	23 38 16.9	+3.0
	2.2nm,0.3s,baz=187,slow=26,SNR=14						
AAK	**Ala-Archa**	**6.41**	**27**	⇑P	Pn	23 37 05.7	-1.0
	1.0nm,0.4s						
AAK				⇑S	Sn	23 38 20.4	-0.4
	2.8nm,0.7s						
AB31	**Akbulak array**	**14.54**	**331**	⇑P	Pn	23 38 57.7	-0.1
	0.1nm,0.3s,baz=166,slow=9.5,SNR=10.0						
AB31				⇑S	Sn	23 41 36.6	-3.0
	2.2nm,1.0s,baz=153,slow=24,SNR=5.0						
AKTO	**Aktyubinsk**	**16.24**	**330**	⇑P	Pn	23 39 19.1	-1.1
	1.1nm,0.7s						
AKTO				⇑S	Sn	23 42 18.2	-2.7
	7.8nm,2.2s						

*ISCJB **21** 23:41:58.6±0.6,21.°81S±0.°04×68.°3W±0.°1,h127km±12km,*
mb3.9/4,Error ellipse: s-maj=18.8km s-min=6.7km az=5.0
*IDC **21** 23:41:59.5±2.4,21.°86S×68.°11W,h110km±21km,mb3.7/4,*
mb1 3.6/8,mb1mx3.4/34,mbtmp4.0/8,Error ellipse:
s-maj=41.8km s-min=18.8km az=101.0
*GUC **21** 23:42:01.0±0.4,21.°80S×68.°61W,h132km±2km,ML4.0*
ISC 21 23:41:59.5±0.9,21.°74S±0.°06×68.°3W±0.°1,h117km±12km,
n20,σ1s63/29,mb4.0/4,5C-2D,Chile-Bolivia border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.92**	**266**	⇑*iP*	**Pn**	**23 42 21.7**	**+1.0**
PB09				*i* S	**Sn**	**23 42 37.0**	**+0.5**
PB09				AML	AML	23 42 40.2	
	comp=E,6μm,0.5s						
PB04	**Plate Boundary**	**1.26**	**245**	⇑*iP*	Pn	23 42 30.5	+6.6
PB04				*i* S	Sn	23 42 53.0	+11
PB04				AML	AML	23 42 55.3	
	comp=N,780nm,0.2s						
PB01	**Plate Boundary**	**1.34**	**301**	⇓*iP*	**Pn**	**23 42 25.7**	**+0.7**
PB01				*i* S	**Sn**	**23 42 44.3**	**0.0**
PB01				AML	AML	23 42 46.9	
	comp=N,3μm,0.4s						
MACH	**Maria Elena**	**1.47**	**252**	*i* P	**Pn**	**23 42 26.4**	**-0.2**
MACH				*i* S	**Sn**	**23 42 45.8**	**-1.3**
PB07	**Plate Boundary**	**1.52**	**270**	⇑*eP*	**Pn**	**23 42 26.9**	**-0.2**
PB07				*i* S	**Sn**	**23 42 46.4**	**-1.6**
PB07				AML	AML	23 42 48.1	
	comp=N,4μm,0.2s						
PB06	**Plate Boundary**	**1.55**	**231**	⇑*iP*	**Pn**	**23 42 27.5**	**0.0**
PB06				*i* S	**Sn**	**23 42 47.7**	**-1.1**
PB06				AML	AML	23 42 49.1	
	comp=N,2μm,0.5s						
PATCX	**Punta Patache**	**1.99**	**297**	*eP*	**Pn**	**23 42 32.9**	**+0.1**
PATCX				*eS*	**Sn**	**23 42 56.9**	**-1.3**
PATCX				AML	AML	23 43 03.2	
	comp=N,1μm,0.4s						
PB11	**Plate Boundary**	**2.36**	**326**	⇓*iP*	**Pn**	**23 42 38.3**	**+0.6**
PB11				*i* S	**Sn**	**23 43 07.3**	**+0.5**
PB11				AML	AML	23 43 08.7	
	comp=N,3μm,0.3s						
CEN1	**Los Morros**	**2.43**	**227**	⇑*iP*	**Pn**	**23 42 40.6**	**+2.2**
CEN1				*i* S	**Sn**	**23 43 11.1**	**+2.7**
PSGC	**Pisagua**	**2.76**	**320**	AML	AML	23 43 17.4	
	comp=E,274nm,0.3s						
MNMC	**Minimini**	**2.88**	**334**	*eP*	**Pn**	**23 42 45.7**	**+1.2**
MNMC				*i* S	**Sn**	**23 43 20.1**	**+1.1**
MNMC				AML	AML	23 43 23.4	
	comp=N,640nm,0.2s						
LPAZ	**La Paz**	**5.42**	**1**	P	**Pn**	**23 43 21.8**	**+3.0**
	comp=N,3.0nm,0.3s,baz=184,slow=5.2,SNR=48						
LPAZ				S	**Sn**	**23 44 22.4**	**+2.0**
	comp=N,0.1nm,0.3s,baz=254,slow=17,SNR=1.8						
SIV	**San Ignacio**	**8.88**	**51**	P	**Pn**	**23 44 04.6**	**-0.5**
	comp=N,7.9nm,0.3s,baz=244,slow=11,SNR=55						
SIV				S	**Sn**	**23 45 39.2**	**-4.3**
	comp=N,0.3nm,0.3s,baz=221,slow=20,SNR=2.3						
CFAA	**Coronel Fontan**	**9.82**	**180**	P	**Pn**	**23 44 14.7**	**-3.0**
	comp=N,0.1nm,0.3s,baz=355,slow=13,SNR=20						
CFAA				S	Sn	23 45 55.8	-10
	comp=N,0.1nm,0.3s,baz=103,slow=21,SNR=7.2						
BDFB	**Brasilia**	**20.10**	**76**	P	**P**	**23 46 24.7**	**+0.3**
	comp=N,0.7nm,0.3s,baz=236,slow=15,SNR=4.3						
PTGA	**Pitinga**	**22.39**	**22**	P	**P**	**23 46 48.0**	**-0.5**
	comp=N,2.0nm,0.3s,baz=180,slow=20,SNR=6.6						
SNAA	**Sanae**	**61.86**	**161**	P	**P**	**23 52 06.1**	**+0.1**
	comp=N,0.4nm,0.8s,baz=288,slow=13,SNR=3.1						
DBIC	**Dimbokro**	**68.22**	**73**	P	**P**	**23 52 48.2**	**+0.2**
	comp=N,1.8nm,0.4s,baz=226,slow=8.6,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**23 53 39.1**	**-0.2**
	comp=N,0.8nm,0.3s,baz=260,slow=5.7,SNR=58						
MKAR	**Makanchi Array**	**145.47**	**37**	PKPbc	**PKPab**	**00 01 24.8**	**+0.4**
	comp=N,0.4nm,0.8s,baz=325,slow=2.3,SNR=3.2						

IDC 22 00:01:15.6±14.0,5.°24S×104.°59W,h0km,mb3.3/4,
mb1 3.8/4,mb1mx3.5/20,mbtmp3.3/4,MS3.5/3,Ms1 3.5/3,
ms1mx3.0/14,Error ellipse: s-maj=519.7km
s-min=125.2km az=117.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**26.11**	**95**	LR	LR	00 14 48.6	
	comp=Z,101nm,21.0s,baz=302,slow=31						
TXAR	**Lajitas Array**	**34.39**	**1**	P	P	00 08 05.3	+0.6
	0.5nm,0.9s,baz=188,slow=7.4,SNR=3.6						
H03N2	**Juan Fernandez**	**36.84**	**143**	T	T	00 48 49.9	
	baz=315,slow=75,SNR=29						
H03N1	**Juan Fernandez**	**36.85**	**143**	T	T	00 48 48.0	
	baz=315,slow=75,SNR=39						
H03N3	**Juan Fernandez**	**36.85**	**143**	T	T	00 48 48.1	
	baz=315,slow=75,SNR=35						
PLCA	**Paso Flores**	**46.68**	**144**	LR	LR	00 24 14.9	
	comp=Z,60nm,19.8s,baz=282,slow=30						
PDAR	**Pinedale Array**	**47.99**	**355**	P	P	00 09 56.1	-0.5
	0.5nm,0.9s,baz=167,slow=4.4,SNR=2.7						
CPUP	**Villa Florida**	**49.72**	**120**	LR	LR	00 28 18.0	
	comp=Z,54nm,18.4s,baz=221,slow=33						
YKA	**Yellowknife Ar**	**67.98**	**355**	P	P	00 12 15.7	-0.4
	0.2nm,0.9s,baz=167,slow=6.5,SNR=5.0						
ILAR	**Eielson Array**	**76.48**	**343**	P	P	00 13 07.4	+0.3
	0.2nm,0.7s,baz=162,slow=5.3,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**90.33**	**290**	T	T	01 53 39.8	
	baz=99,slow=75,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**90.35**	**290**	T	T	01 53 43.6	
	baz=99,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**90.35**	**290**	T	T	01 53 39.6	
	baz=99,slow=75,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**90.41**	**288**	T	T	01 53 45.8	
	baz=97,slow=73,SNR=12						
H11S1	**WAKE ISLAND Hy**	**90.42**	**288**	T	T	01 53 38.8	
	baz=97,slow=73,SNR=16						
H11S3	**WAKE ISLAND Hy**	**90.43**	**288**	T	T	01 53 37.3	
	baz=97,slow=73,SNR=11						

*ISCJB **22** 00:04:42.4±0.8,23.°32N±0.°08×143.°4E±0.°2,h39km,*
mb3.8/10,Error ellipse: s-maj=28.2km s-min=9.7km
az=169.2
*IDC **22** 00:04:45.1±3.6,23.°26N×143.°42E,h47km±33km,mb3.6/10,*
mb1 3.7/12,mb1mx3.6/26,mbtmp3.8/12,ML4.0/2,MS2.8/2,
Ms1 2.8/2,ms1mx2.5/34,Error ellipse: s-maj=31.0km
s-min=17.2km az=90.0
ISC 22 00:04:44.8±0.9,23.°29N±0.°10×143.°3E±0.°2,h39km,n14,
σ1s37/17,mb3.8/10,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.91**	**346**	P	**Pn**	**00 05 42.4**	**+0.1**
	32nm,0.3s,baz=100,slow=14,SNR=7.5						
JCJ				S	**Sn**	**00 06 26.6**	**-0.3**
	23nm,0.3s,baz=115,slow=23,SNR=5.7						
MJAR	**Matsushiro Arr**	**13.90**	**343**	P	**Pn**	**00 07 57.3**	**-2.0**
	0.7nm,0.3s,baz=158,slow=13,SNR=3.3						
MJAR				LR	LR	00 13 38.3	
	comp=Z,46nm,19.4s,baz=35,slow=38						
KSRS	**Korea Array**	**19.30**	**320**	P	**Pn**	**00 09 08.2**	**+0.6**
	0.1nm,0.3s,baz=141,slow=12,SNR=3.2						
KSRS				LR	LR	00 16 16.4	
	comp=Z,23nm,18.6s,baz=345,slow=36						
USRK	**Ussuriysk Arra**	**22.81**	**339**	P	**P**	**00 09 45.8**	**+1.6**

TUWZ	**Tuamarina**	**7.32**	**213**	PN	Pn	00 31 30.3	-0.8
NNZ	**Nelson**	**7.41**	**216**	PN	Pn	00 31 30.9	-1.4
THZ	**Tophouse**	**8.06**	**216**	PN	Pn	00 31 40.3	-0.5
KHZ	**Kahutara**	**8.30**	**210**	PN	Pn	00 31 42.4	-1.5
LTZ	**Lake Taylor**	**9.15**	**214**	PN	Pn	00 31 53.1	-1.8
OXZ	**Oxford**	**9.68**	**213**	*e*PN	Pn	00 31 59.6	-2.1
MQZ	**McQueen's Vall**	**9.74**	**209**	PN	Pn	00 32 00.1	-2.3

WEL 22 00:36:57.1±0.1, 39°.93S×175°.29E, h23km±1km, ML3.6/42, 21C-6D, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.29**	**306**	P*	Pb	00 37 04.5	+0.6
WAZ				AML	AML	00 37 10.5	
WAZ				AML	AML	00 37 10.5	
WAZ				AML	AML	00 37 10.6	
WAZ				AML	AML	00 37 10.7	
TSZ	**Takapari Road**	**0.53**	**104**	P*	Pb	00 37 07.8	0.0
TSZ				S*	Sb	00 37 15.7	+0.7
TSZ				AML	AML	00 37 15.9	
MTVZ	**Mangateitei**	**0.56**	**14**	⇑P*	Pb	00 37 08.2	-0.2
MTVZ				AML	AML	00 37 18.8	
MTVZ				AML	AML	00 37 19.1	
POWZ	**Post Office Ro**	**0.59**	**142**	⇑P*	Pb	00 37 08.8	0.0
MOVZ	**Moawhango**	**0.63**	**34**	⇓P*	Pb	00 37 08.9	-0.7
MOVZ				S*	Sb	00 37 18.0	-0.1
MOVZ				AML	AML	00 37 19.4	
PKVZ	**Pokaka**	**0.64**	**4**	⇑P*	Pb	00 37 09.3	-0.4
PKVZ				AML	AML	00 37 21.0	
PKVZ				AML	AML	00 37 24.6	
WNVZ	**Wahianoa**	**0.65**	**22**	⇑P*	Pb	00 37 09.5	-0.5
WNVZ				AML	AML	00 37 20.9	
WNVZ				AML	AML	00 37 21.1	
TRVZ	**Turoa**	**0.66**	**18**	⇑P*	Pb	00 37 09.7	-0.5
TRVZ				S*	Sb	00 37 19.1	-0.2
TRVZ				AML	AML	00 37 21.8	
DRZ	**Dome Shelter**	**0.69**	**18**	P*	Pb	00 37 10.0	-0.8
DRZ				AML	AML	00 37 21.7	
DRZ				AML	AML	00 37 22.1	
WHVZ	**Whangaehu Hut**	**0.69**	**20**	⇑P*	Pb	00 37 10.1	-0.6
PNHZ	**Pukenui**	**0.70**	**89**	P*	Pb	00 37 10.3	-0.3
FWVZ	**Far West T-bar**	**0.70**	**17**	⇑P*	Pb	00 37 10.3	-0.6
FWVZ				S*	Sb	00 37 20.0	-0.4
FWVZ				AML	AML	00 37 20.8	
TUVZ	**Tukino**	**0.72**	**23**	⇑P*	Pb	00 37 10.7	-0.4
TUVZ				AML	AML	00 37 23.2	
TUVZ				AML	AML	00 37 23.3	
BHHZ	**Black Hill Sta**	**0.74**	**54**	⇓P*	Pb	00 37 10.4	-1.0
WPVZ	**Whakapapa**	**0.75**	**15**	⇑P*	Pb	00 37 11.2	-0.5
WPVZ				AML	AML	00 37 24.0	
WPVZ				AML	AML	00 37 24.2	
COVZ	**Chateau Observ**	**0.76**	**15**	⇑P*	Pb	00 37 11.1	-0.6
MRZ	**Mangatainoka R**	**0.76**	**163**	⇓P*	Pb	00 37 11.2	-0.5
MRZ				AML	AML	00 37 11.7	
MRZ				AML	AML	00 37 12.6	
DVHZ	**Dannevirke**	**0.77**	**119**	⇓P*	Pb	00 37 12.1	+0.3
NCZ	**Ngauruhoe**	**0.79**	**18**	⇑P*	Pb	00 37 11.9	-0.6
NGZ				AML	AML	00 37 26.7	
NGZ				AML	AML	00 37 32.2	
PRWZ	**Pori Road**	**0.81**	**140**	P*	Pb	00 37 12.6	0.0
OTVZ	**Oturere**	**0.82**	**21**	⇑P*	Pb	00 37 12.3	-0.5
OTVZ				AML	AML	00 37 26.5	
OTVZ				AML	AML	00 37 26.9	
WTVZ	**West Tongariro**	**0.84**	**16**	⇑P*	Pb	00 37 12.5	-0.8
WTVZ				AML	AML	00 37 27.1	
WTVZ				AML	AML	00 37 29.1	
TWVZ	**Taurewa**	**0.86**	**8**	P*	Pb	00 37 12.5	-1.0
TWVZ				AML	AML	00 37 26.3	
TWVZ				AML	AML	00 37 28.7	
KRVZ	**Karewarewa**	**0.88**	**18**	P*	Pb	00 37 13.1	-0.7
KRVZ				AML	AML	00 37 26.7	
KRVZ				AML	AML	00 37 27.2	
OGWZ	**Otaki Gorge**	**0.89**	**186**	⇑P*	Pb	00 37 12.7	-1.2
WPHZ	**Waipukurau**	**0.89**	**99**	⇑P*	Pn	00 37 14.8	+0.5
VRZ	**Vera Road**	**0.90**	**333**	P*	Pb	00 37 13.3	-0.8
VRZ				AML	AML	00 37 27.3	
VRZ				AML	AML	00 37 28.8	
RAEZ	**Rainy Point**	**0.95**	**312**	*e*PN	Pb	00 37 14.8	0.0
TIWZ	**Tintock**	**0.96**	**152**	⇑PN	Pb	00 37 14.8	-0.3
TIWZ				AML	AML	00 37 30.5	
TIWZ				AML	AML	00 37 33.0	
KIW	**Kapiti Island**	**0.97**	**197**	⇑PN	Pb	00 37 13.7	-1.6
KIW				AML	AML	00 37 27.8	
KIW				AML	AML	00 37 30.4	
HOWZ	**Holdsworth Sta**	**0.98**	**170**	⇑PN	Pb	00 37 14.6	-0.8
KATZ	**Kakaramea**	**1.00**	**18**	PN	Pn	00 37 15.1	-0.8
KATZ				AML	AML	00 37 32.5	
KATZ				AML	AML	00 37 34.4	
BFZ	**Birch Farm**	**1.05**	**136**	⇓PN	Pn	00 37 15.9	-0.4
RITZ	**Rihia Road**	**1.05**	**25**	PN	Pn	00 37 15.9	-0.4
RITZ				AML	AML	00 37 34.9	
RITZ				AML	AML	00 37 36.1	
ANWZ	**Angora Road**	**1.05**	**121**	PN	Pb	00 37 16.5	0.0
PRHZ	**Porangahau**	**1.08**	**109**	⇑PN	Pb	00 37 17.1	0.0
DREZ	**Durham Road**	**1.12**	**311**	PN	Pn	00 37 17.3	0.0
RATZ	**Rangitukua**	**1.12**	**19**	PN	Pn	00 37 17.2	-0.2
RATZ				AML	AML	00 37 36.2	
RATZ				AML	AML	00 37 39.5	
MHEZ	**Mangahewa**	**1.14**	**318**	PN	Pb	00 37 17.8	-0.2
NEZ	**North Egmont**	**1.14**	**305**	PN	Pn	00 37 17.5	-0.1
KHEZ	**Kahui Hut**	**1.17**	**302**	*e*PN	Pn	00 37 17.8	-0.4
MCHZ	**McNeill Hill**	**1.19**	**66**	⇑PN	Pb	00 37 20.1	+1.2
CAW	**Cannon Point**	**1.19**	**188**	PN	Pn	00 37 17.5	-0.8
CAW				AML	AML	00 37 35.9	
CAW				AML	AML	00 37 36.6	
CPWZ	**Castlepoint**	**1.20**	**145**	PN	Pb	00 37 19.2	+0.1
BKZ	**Black Stump Fm**	**1.20**	**51**	PN	Pn	00 37 18.1	-0.4
BKZ				AML	AML	00 37 40.0	
BKZ				AML	AML	00 37 40.1	
NMZ	**Namu Road**	**1.21**	**295**	PN	Pn	00 37 18.4	-0.1
HATZ	**Hinemaiaia**	**1.21**	**31**	AML	AML	00 37 37.0	
HATZ				AML	AML	00 37 37.3	
PXZ	**Pawanui**	**1.21**	**95**	PN	Pn	00 37 18.8	+0.3
PXZ				AML	AML	00 37 42.2	
PXZ				AML	AML	00 37 42.2	
PXZ				AML	AML	00 37 47.4	
PXZ				AML	AML	00 37 47.4	
KAHZ	**Kahuranaki**	**1.23**	**84**	PN	Pb	00 37 19.6	-0.1
MTW	**Mount Morrison**	**1.24**	**173**	PN	Pn	00 37 18.2	-0.8
MTW				AML	AML	00 37 38.5	
MTW				AML	AML	00 37 38.6	
PKE	**Pukeiti**	**1.25**	**306**	PN	Pn	00 37 19.4	+0.3
PKE				AML	AML	00 37 36.9	
PKE				AML	AML	00 37 37.6	
TMWZ	**Te Maipa**	**1.26**	**159**	PN	Pn	00 37 19.0	-0.3
WATZ	**Wairara**	**1.27**	**16**	PN	Pn	00 37 19.3	-0.1
WATZ				AML	AML	00 37 39.1	
WATZ				AML	AML	00 37 49.6	
DUWZ	**D'Urville Isla**	**1.36**	**230**	PN	Pn	00 37 19.1	-1.6
DUWZ				AML	AML	00 37 41.7	
DUWZ				AML	AML	00 37 41.9	
CKHZ	**Cape Kidnapper**	**1.40**	**79**	PN	Pn	00 37 21.8	+0.6
WEL	**Wellington**	**1.41**	**196**	PN	Pn	00 37 20.8	-0.6
NMHZ	**Naumai**	**1.44**	**55**	PN	Pb	00 37 23.4	+0.2
SNZO	**South Karori**	**1.45**	**198**	*e*PN	Pn	00 37 21.0	-0.8
SNZO				AML	AML	00 37 42.0	
SNZO				AML	AML	00 37 44.6	
PAWZ	**Paruwai Farm**	**1.45**	**176**	*e*PN	Pn	00 37 21.9	-0.1
PAWZ				AML	AML	00 37 44.0	
PAWZ				AML	AML	00 37 46.2	
HIZ	**Hauiti**	**1.46**	**346**	⇑PN	Pn	00 37 21.1	-0.8
HIZ				AML	AML	00 37 42.4	
HIZ				AML	AML	00 37 46.0	
MSWZ	**Moikau Station**	**1.48**	**181**	PN	Pn	00 37 21.5	-0.9
MSWZ				AML	AML	00 37 44.7	
MSWZ				AML	AML	00 37 47.0	
TCW	**Tory Channel**	**1.50**	**211**	PN	Pn	00 37 21.7	-0.8
TCW				AML	AML	00 37 45.3	
TCW				AML	AML	00 37 46.6	
TRWZ	**Traveller**	**1.50**	**169**	⇓PN	Pn	00 37 22.9	+0.4
TRWZ				AML	AML	00 37 48.8	
TRWZ				AML	AML	00 37 50.3	
BHW	**Baring Head**	**1.51**	**192**	PN	Pn	00 37 22.0	-0.7
BHW				AML	AML	00 37 47.8	
BHW				AML	AML	00 37 48.1	
ALRZ	**Allen Road**	**1.59**	**31**	PN	Pb	00 37 25.7	-0.1
PLWZ	**Palliser**	**1.64**	**181**	PN	Pn	00 37 23.5	-1.1
PRRZ	**Plateau Road**	**1.67**	**31**	PN	Pb	00 37 26.7	-0.4
WHHZ	**Waihua**	**1.73**	**61**	PN	Pb	00 37 27.1	-1.0
TUWZ	**Tuamarina**	**1.82**	**214**	PN	Pn	00 37 26.4	-0.4
TUWZ				AML	AML	00 37 57.0	
TUWZ				AML	AML	00 37 57.2	
NNZ	**Nelson**	**1.94**	**228**	PN	Pn	00 37 28.2	-0.5
NNZ				AML	AML	00 37 59.0	
KNZ	**Kokohu**	**2.06**	**65**	PN	Pn	00 37 30.2	+0.1
BSWZ	**Blackbirch Sta**	**2.08**	**211**	AML	AML	00 38 07.6	
BSWZ				AML	AML	00 38 11.0	
MHGZ	**Mahia Peninsul**	**2.17**	**70**	PN	Pn	00 37 32.0	+0.3
URZ	**Urewera**	**2.19**	**41**	PN	Pn	00 37 31.2	-0.7
TOZ	**Tahuroa Road**	**2.20**	**4**	*e*PN	Pn	00 37 31.9	-0.2
RIGZ	**Rimuhau**	**2.27**	**58**	PN	Pn	00 37 33.7	+0.5
QRZ	**Quartz Range**	**2.29**	**246**	*e*PN	Pn	00 37 32.5	-0.9
MWZ	**Matawai**	**2.36**	**48**	PN	Pn	00 37 35.0	+0.6
THZ	**Tophouse**	**2.58**	**224**	PN	Pn	00 37 37.1	-0.3
THZ				AML	AML	00 38 23.7	
THZ				AML	AML	00 38 25.2	
KHZ	**Kahutara**	**2.81**	**207**	PN	Pn	00 37 39.1	-1.5
HAZ	**Te Kaha**	**2.92**	**43**	PN	Pn	00 37 41.7	-0.3
PUZ	**Puketiti**	**2.96**	**52**	PN	Pn	00 37 42.1	-0.6
DSZ	**Denniston Nort**	**3.21**	**234**	PN	Pn	00 37 45.5	-0.6
LTZ	**Lake Taylor**	**3.65**	**218**	PN	Pn	00 37 50.1	-2.0
MQZ	**McQueen's Vall**	**4.26**	**207**	*e*PN	Pn	00 37 56.4	-4.0

*NIED **22** 00:43:00, 28°.10N×128°.00E, h8km, Mw3.8 Best double couple: M₀5.92000×10¹⁴ NP1:φs139.00000°, δ72.00000°, λ4.00000°. NP2:φs48.00000°, δ86.00000°, λ162.00000°.*

*ISCJB **22** 00:43:36.8±2.8, 28°.11N±0°.04×128°.04E±0°.05, h7km±21km, mb3.2/4, Error ellipse: s-maj=8.1km s-min=6.0km az=144.7*

*IDC **22** 00:43:36.6±1.7, 27°.68N×127°.63E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/27, mbtmp3.5/5, ML3.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/28, Error ellipse: s-maj=51.6km s-min=29.0km az=73.0*

*JMA **22** 00:43:37.1±0.3, 28°.10N×128°.03E, h9km±4km, M3.6*

ISC 22 00:43:36.4±1.6, 28°.01N±0°.06×128°.04E±0°.06, h4km±11km, n15, σ0°85/17, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.84**	**106**	P	**Pb**	**00 43 53.7**	**+0.1**
JTK				S	**Sb**	**00 44 05.5**	**+0.2**
JIH	**Iheya**	**0.98**	**184**	P	**Pn**	**00 43 57.0**	**+0.1**
JIH				*e*S	**Sn**	**00 44 11.1**	**-0.1**
JAMN	**Amaminishikomi**	**1.03**	**77**	P	**Pg**	**00 43 56.3**	**+0.1**
JAMN				*e*S	**Sg**	**00 44 10.3**	**+0.7**
JOW	**Kunigami**	**1.20**	**170**	P	**Pn**	**00 44 00.4**	**+0.5**
JOW				*e*S	**Sn**	**00 44 17.8**	**+1.2**
JAM	**Amami Oshima**	**1.44**	**74**	P	**Pn**	**00 44 02.8**	**-0.5**
JAM				*e*S	**Sb**	**00 44 21.1**	**-1.4**
JAGN	**Aguni-jima**	**1.59**	**207**	P	**Pg**	**00 44 07.1**	**+0.3**
JJT2	**Tamagusuku 2**	**1.89**	**188**	P	**Pb**	**00 44 11.2**	**-0.2**
JKE	**Kume jima 2**	**2.02**	**214**	P	**Pg**	**00 44 14.3**	**-0.8**
JNU	**Nakatsue**	**5.65**	**25**	Pn	Pn	00 45 08.6	+7.4
	2.9nm,0.3s,baz=198,slow=9.6,SNR=6.7						
JNU				LR	LR	00 47 19.3	
	comp=Z,137nm,18.2s,baz=218,slow=36						
KSRS	**Korea Array**	**9.41**	**359**	LR	LR	00 49 41.2	
	comp=Z,54nm,19.6s,baz=190,slow=37						
USRK	**Ussuriysk Arra**	**16.46**	**10**	LR	LR	00 52 48.9	
	comp=Z,70nm,21.4s,baz=232,slow=33						
SONM	**Songino Array**	**25.98**	**325**	P	**P**	**00 49 11.4**	**+1.2**
	0.5nm,0.7s,baz=134,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**00 51 15.0**	**+0.8**
	0.3nm,0.7s,baz=105,slow=9.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**43.46**	**315**	P	**P**	**00 51 40.7**	**+0.2**
	0.3nm,0.4s,baz=104,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**00 52 15.6**	**-1.5**
	0.1nm,0.4s,baz=357,slow=8.1,SNR=3.0						

*ISCJB **22** 00:46:33.6±0.7, 38°.99N±0°.05×29°.96E±0°.04, h5km±8km, Error ellipse: s-maj=7.9km s-min=4.3km az=16.9*

*DDA **22** 00:46:33.3, 39°.03N×29°.93E, h7km, MD2.5*

*ISK **22** 00:46:34.1, 38°.93N×29°.97E, h17km, MD2.8*

*CSEM **22** 00:46:34.0±0.2, 38°.95N×29°.95E, h10km, MD2.5, Error ellipse: s-maj=6.2km s-min=4.3km az=26.0*

ISC 22 00:46:33.7±1.2, 38°.98N±0°.04×29°.95E±0°.02, h4km±13km, n30, σ0°62/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.38**	**286**	*i* P	**Pg**	**00 46 40.2**	**-0.8**
GDZ				*i* S	**Sg**	**00 46 45.9**	**-0.1**
GDZ	**Gediz**	**0.38**	**286**	*i* P	**Pg**	**00 46 40.2**	**-0.8**
GDZ				*i* S	**Sg**	**00 46 45.9**	**-0.1**
TVSB	**Tavsanli**	**0.60**	**321**	*e*PG	**Pb**	**00 46 47.8**	**+0.9**
TVSB	**Tavsanli**	**0.60**	**321**	*e*Pg	**Pb**	**00 46 47.8**	**+0.9**
SHUT	**Suhut-Afyon**	**0.64**	**132**	*e*PG	**Pg**	**00 46 45.7**	**-0.2**
SHUT				*e*SG	**Sb**	**00 46 55.5**	**-1.3**
SHUT	**Suhut-Afyon**	**0.64**	**132**	*e*Pg	**Pg**	**00 46 45.7**	**-0.2**
SHUT				*e*Sg	**Sb**	**00 46 55.5**	**-1.3**
KHAL	**Karahalli**	**0.71**	**210**	*i* P	**Pg**	**00 46 47.5**	**+0.3**
KHAL				*i* S	**Sb**	**00 46 58.9**	**+0.1**
KHAL	**Karahalli**	**0.71**	**210**	*i* P	**Pg**	**00 46 47.5**	**+0.3**
KHAL				*i* S	**Sb**	**00 46 58.9**	**+0.1**
KHL	**Karahalli**	**0.74**	**207**	*e*PG	**Pg**	**00 46 48.2**	**+0.4**
KHL	**Karahalli**	**0.74**	**207**	*e*Pg	**Pg**	**00 46 48.2**	**+0.4**
BOLV	**Bolvadin**	**0.83**	**108**	*i* P	**Pg**	**00 46 49.9**	**+0.4**
BOLV				*i* S	**Sg**	**00 47 01.0**	**+0.8**
BOLV	**Bolvadin**	**0.83**	**108**	*i* P	**Pg**	**00 46 49.9**	**+0.4**
BOLV				*i* S	**Sg**	**00 47 01.0**	**+0.8**
DEMI	**Demirci**	**0.96**	**274**	*i* P	**Pg**	**00 46 51.3**	**-0.8**
DEMI				*i* S	**Sb**	**00 47 06.3**	**+0.2**
DEMI	**Demirci**	**0.96**	**274**	*i* P	**Pg**	**00 46 51.3**	**-0.8**
DEMI				*i* S	**Sb**	**00 47 06.3**	**+0.2**
KULA	**Kula-Manisa**	**1.11**	**245**	*e*PN	**Pb**	**00 46 55.2**	**-0.3**
KULA	**Kula-Manisa**	**1.11**	**245**	*e*Pn	**Pb**	**00 46 55.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.31**	**69**	*e*PN	**Pn**	**00 46 58.0**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.31**	**69**	*e*Pn	**Pn**	**00 46 58.0**	**-0.9**
ORLT	**Orhaneli**	**1.34**	**323**	*e*PN	**Pn**	**00 46 58.7**	**-0.5**
ORLT	**Orhaneli**	**1.34**	**323**	*e*Pn	**Pn**	**00 46 58.7**	**-0.5**
KIZT	**Kizilcal**	**1.51**	**93**	*e*PN	**Pn**	**00 47 01.3**	**-0.4**
KIZT	**Kizilcal**	**1.51**	**93**	*e*Pn	**Pn**	**00 47 01.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.61**	**330**	*e*PN	**Pn**	**00 47 03.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.61**	**330**	*e*Pn	**Pn**	**00 47 03.2**	**+0.3**
BALB	**Balikesir**	**1.73**	**293**	*e*PN	**Pn**	**00 47 05.0**	**+0.4**
BALB	**Balikesir**	**1.73**	**293**	*e*Pn	**Pn**	**00 47 05.0**	**+0.4**
KCTX	**Karacabey (Bur**	**1.77**	**317**	*e*PN	**Pn**	**00 47 05.9**	**+0.7**
KCTX	**Karacabey (Bur**	**1.77**	**317**	*e*Pn	**Pn**	**00 47 05.9**	**+0.7**
ARMT	**Armutlu**	**1.79**	**332**	*e*PN	**Pn**	**00 47 05.7**	**+0.3**
ARMT	**Armutlu**	**1.79**	**332**	*e*Pn	**Pn**	**00 47 05.7**	**+0.3**

*HLW **22** 00:46:54.4, 38°.36N×21°.87E, h7km±16km, Ml5.0*

*ISCJB **22** 00:46:55.4±0.2, 38°.446N±0°.009×21°.973E±0°.009, h2km±1km, mb5.5/318, MS4.9/171, Error ellipse: s-maj=1.5km s-min=1.1km az=14.8*

*PDG **22** 00:46:56.5±0.8, 38°.45N×22°.03E, h6km±1km, MD5.4/9, ML5.3/10, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*

*NEIC **22** 00:46:56.7±0.3, 38°.42N×22°.04E, h5km±2km, mb5.6/222, MS5.0/115, MW5.2, ML5.2(THE), Error ellipse: s-maj=2.2km s-min=1.7km az=206.0, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁶Nm; Mrr=7.27; Mθθ=7.27; Mφφ=0.00; Mrθ=1.28; Mθφ=0.41; Mφr=0.49; Best double couple: M₀7.40000×10¹⁶ NP1:φs90.00000°, δ40.00000°, λ-85.00000°. NP2:φs263.00000°, δ50.00000°, λ-94.00000°. Principal axes: T 7.4100, Plg5.0000°, Azm356.0000°; N 0.0000, Plg3.0000°, Azm266.0000°; P -7.4100, Plg83.0000°, Azm144.0000°;*

NEIC Felt at Aigion, Lamia, Nafpaktos, Patrai and Rion. Also felt at Gevgelija, Macedonia.

*MOS **22** 00:46:56.5±1.0, 38°.47N×22°.00E, h12km, mb5.6/88, MS4.9/65 Error ellipse: s-maj=3.7km s-min=2.4km az=101.6*

*IDC **22** 00:46:56.3±0.3, 38°.48N×22°.03E, h0km, mb5.2/46, mb1 5.2/57, mb1mx5.2/59, mbtmp5.2/57, ML4.3/10, MS4.8/37, Ms1 4.7/37, ms1mx4.6/50, Error ellipse: s-maj=8.8km s-min=8.4km az=126.0*

*THE **22** 00:46:56.7, 38°.43N×22°.01E, h0km±2km, ML5.2/14, Error ellipse: s-maj=2.3km s-min=0.8km az=241.0*

*GCMT **22** 00:46:56.7±0.1, 38°.34N×22°.04E, h14km, MW5.4/111, Moment Tensor Solution. s79,c118; s111,c237; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr=1.24±.03; Mθθ=1.52±.02; Mφφ=0.27±.02; Mrθ=0.04±.04; Mθφ=0.13±.02; Mφr=0.53±.06; Best double couple: M₀1.50300×10¹⁷ NP1:φs296.00000°, δ51.00000°, λ-59.00000°. NP2:φs72.00000°, δ48.00000°, λ-123.00000°. Principal axes: T 1.5320, Plg2.0000°, Azm5.0000°; N -0.0530, Plg24.0000°, Azm95.0000°; P -1.4740, Plg66.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ATH **22** 00:46:56.2, 38°.42N×21°.97E, h12km, ML5.1*

*CSEM **22** 00:46:56.5±0.1, 38°.41N×21°.94E, h2km, mb5.6/99, Ms4.8, Mw5.4, Error ellipse: s-maj=1.7km s-min=1.2km az=16.0*

*BJI **22** 00:46:57.1, 38°.87N×22°.20E, h7km, mB5.3/40, mb5.3/61, Ms5.2/54, Ms7 4.8/53*

*SFS **22** 00:46:59.0, 38°.40N×21°.97E, h19km, ML5.4*

*SZGRF **22** 00:47:08.1, 38°.86N×21°.05E, h10km, mb5.2, MS4.9, Greece*

ISC 22 00:46:57.9±0.3, 38°.42N±0°.01×21°.99E±0°.01, h12km±1km, n2812, σ1°26/2980, mb5.5/326, MS5.0/172, 304C-293D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**280**	P	**Pg**	**00 46 57.2**	**-3.2**
EFP	**Efpalio**	**0.07**	**280**	*e*PG	**Pg**	**00 46 57.6**	**-2.8**
EFP				*e*SG	**Sg**	**00 47 00.0**	**-2.2**
EFP	**Efpalio**	**0.07**	**280**	P	**Pg**	**00 46 57.2**	**-3.2**
EFP	**Efpalio**	**0.07**	**280**	*e*Pg	**Pg**	**00 46 57.6**	**-2.8**
EFP				*e*Sg	**Sg**	**00 47 00.0**	**-2.2**
KALE	**Kalithea**	**0.12**	**102**	P	**Pg**	**00 46 59.2**	**-1.8**
KALE				S	**Sg**	**00 47 01.9**	**-1.4**
KALE	**Kalithea**	**0.12**	**102**	*e*PG	**Pg**	**00 47 00.4**	**-0.6**
KALE				*e*SG	**Sg**	**00 47 02.5**	**-0.8**
KALE	**Kalithea**	**0.12**	**102**	P	**Pg**	**00 46 59.2**	**-1.8**
KALE	**Kalithea**	**0.12**	**102**	P	**Pg**	**00 46 59.2**	**-1.8**
KALE	**Kalithea**	**0.12**	**102**	*e*Pg	**Pg**	**00 47 00.4**	**-0.6**
KALE				S	**Sg**	**00 47 01.9**	**-1.4**
KALE				*e*Sg	**Sg**	**00 47 02.5**	**-0.8**
LAKA	**Lakka**	**0.17**	**184**	P	**Pg**	**00 46 59.8**	**-2.0**
LAKA	**Lakka**	**0.17**	**184**	*e*PG	**Pg**	**00 47 00.1**	**-1.7**
LAKA	**Lakka**	**0.17**	**184**	P	**Pg**	**00 46 59.8**	**-2.0**
LAKA	**Lakka**	**0.17**	**184**	P	**Pg**	**00 46 59.8**	**-2.0**
LAKA	**Lakka**	**0.17**	**184**	*e*Pg	**Pg**	**00 47 00.1**	**-1.7**
UPR	**University Cam**	**0.21**	**231**	P	**Pg**	**00 46 59.9**	**-2.5**
UPR	**University Cam**	**0.21**	**231**	P	**Pg**	**00 46 59.9**	**-2.5**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**00 47 03.4**	**-2.3**
KLV	**Kalavryta, Ach**	**0.39**	**162**	*e*PB	**Pg**	**00 47 04.0**	**-1.7**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**00 47 03.4**	**-2.3**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**00 47 03.4**	**-2.3**
KLV	**Kalavryta, Ach**	**0.39**	**162**	*e*Pb	**Pg**	**00 47 04.0**	**-1.7**
DSF	**Desfina**	**0.42**	**90**	P	**Pg**	**00 47 03.9**	**-2.3**
DSF				S	**Sg**	**00 47 11.9**	**+0.1**
DSF	**Desfina**	**0.42**	**90**	*e*PB	**Pg**	**00 47 05.4**	**-0.8**
DSF				*e*SB	**Sg**	**00 47 11.2**	**-0.6**
DSF	**Desfina**	**0.42**	**90**	P	**Pg**	**00 47 03.9**	**-2.3**
DSF				S	**Sg**	**00 47 11.9**	**+0.1**
DSF	**Desfina**	**0.42**	**90**	P	**Pg**	**00 47 03.9**	**-2.3**
DSF	**Desfina**	**0.42**	**90**	*e*Pb	**Pg**	**00 47 05.4**	**-0.8**
DSF				*e*Sb	**Sg**	**00 47 11.2**	**-0.6**
PVO	**Paravola**	**0.42**	**299**	P	**Pg**	**00 47 03.3**	**-2.9**
DRO	**Drossia**	**0.51**	**206**	P	**Pg**	**00 47 05.8**	**-2.1**
DRO	**Drossia**	**0.51**	**206**	*e*PG	**Pg**	**00 47 05.9**	**-2.0**
DRO				*e*SB	**Sg**	**00 47 13.6**	**-1.1**
DRO	**Drossia**	**0.51**	**206**	P	**Pg**	**00 47 05.8**	**-2.1**
DRO				*e*Sb	**Sg**	**00 47 13.6**	**-1.1**
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**00 47 05.3**	**-2.9**
EVR				S	**Sg**	**00 47 15.3**	**+0.2**
EVR	**Evrytania**	**0.52**	**344**	*e*PB	**Pg**	**00 47 06.2**	**-2.0**
EVR	**Evrytania**	**0.52**	**344**	*e*Pg	**Pg**	**00 47 05.3**	**-2.9**
EVR				*e*Sg	**Sg**	**00 47 15.3**	**+0.2**
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**00 47 05.3**	**-2.9**
EVR	**Evrytania**	**0.52**	**344**	*e*Pb	**Pg**	**00 47 06.2**	**-2.0**
EVR				S	**Sg**	**00 47 15.3**	**+0.2**
RLS	**Riolos of Patr**	**0.55**	**230**	P	**Pg**	**00 47 06.1**	**-2.5**
RLS	**Riolos of Patr**	**0.55**	**230**

ITM	Ithomi	1.23	182	ePn	Pn	00 47 19.3	-1.7	KBN	Korca	2.40	337	*i* PN	Pb	00 47 39.3	-1.7	ALN	Alexandroupoli	3.99	50	eP	Pn	00 47 58.1	-0.8
ITM				eSn	Sn	00 47 38.8	+1.2	KBN				*i* SN	Sg	00 48 14.0	-0.9	ALN	Alexandroupoli	3.99	50	ePN	Pn	00 47 59.3	+0.4
ITM	Ithomi	1.23	182	ePn	Pn	00 47 19.0	-2.0	KBN	Korca	2.40	337	P	Pn	00 47 38.1	+1.1	ALN	Alexandroupoli	3.99	50	ePn	Pn	00 47 58.1	-0.8
ITM	Ithomi	1.23	182	P	Pn	00 47 19.3	-1.7	KBN	Korca	2.40	337	eP	Pn	00 47 38.1	+1.1	ALN	Alexandroupoli	3.99	50	P	Pn	00 47 58.1	-0.8
ITM				S	Sn	00 47 38.8	+1.2	KBN	Korca	2.40	337	ePn	Pn	00 47 38.1	+1.1	ALN	Alexandroupoli	3.99	50	ePn	Pn	00 47 59.3	+0.4
FYTO	Fytoko, Volos	1.24	36	P	Pb	00 47 18.5	-2.7	KBN	Korca	2.40	337	P	Pn	00 47 38.1	+1.1	GELI	Tayfur-Gelibol	4.00	59	ePN	Pn	00 47 59.0	0.0
FYTO	Fytoko, Volos	1.24	36	P	Pb	00 47 18.5	-2.7	KBN	Korca	2.40	337	*i* Pn	Pb	00 47 39.3	-1.7	GELI	Tayfur-Gelibol	4.00	59	ePn	Pn	00 47 59.0	0.0
FYTO	Fytoko, Volos	1.24	36	P	Pb	00 47 18.5	-2.7	FNA	Florina	2.41	349	P	Pn	00 47 36.9	-0.4	ULC	Ulcinj	4.12	330	⇓*i* Pn	Pn	00 48 01.2	+0.5
MRKA	Markates	1.28	76	P	Pn	00 47 20.8	-0.9	FNA	Florina	2.41	349	eP	Pn	00 47 36.9	-0.4	ULC				eSn	Sn	00 48 50.3	+1.4
MRKA				S	Sn	00 47 39.0	+0.2	FNA	Florina	2.41	349	ePN	Pn	00 47 37.2	-0.1	ULC	Ulcinj	4.12	330	⇓*i* Pn	Pn	00 48 01.2	+0.5
MRKA	Markates	1.28	76	ePB	Pn	00 47 21.2	-0.5	FNA	Florina	2.41	349	ePn	Pn	00 47 36.9	-0.4	ULC				eSn	Sn	00 48 50.3	+1.4
MRKA				eSB	Sn	00 47 38.7	-0.1	FNA	Florina	2.41	349	P	Pn	00 47 36.9	-0.4	IZM	Izmir	4.14	89	ePN	Pn	00 48 02.5	+1.5
MRKA	Markates	1.28	76	P	Pn	00 47 20.8	-0.9	FNA	Florina	2.41	349	ePn	Pn	00 47 37.2	-0.1	IZM	Izmir	4.14	89	ePn	Pn	00 48 02.5	+1.5
MRKA	Markates	1.28	76	ePb	Pn	00 47 21.2	-0.5	OUR	Ouranopolis	2.46	38	P	Pn	00 47 36.9	-0.9	ERIK	Erikli-Kesan	4.16	56	ePN	Pn	00 48 01.4	+0.2
MRKA				eSb	Sn	00 47 38.7	-0.1	OUR	Ouranopolis	2.46	38	eP	Pn	00 47 36.9	-0.9	ERIK	Erikli-Kesan	4.16	56	ePn	Pn	00 48 01.4	+0.2
MRKA				S	Sn	00 47 39.0	+0.2	OUR	Ouranopolis	2.46	38	ePN	Pn	00 47 38.2	+0.4	TIP	Timpagrande	4.16	282	ePn	Pn	00 48 02.2	+0.9
NEO	Neokhori	1.31	47	P	Pn	00 47 19.8	-2.3	OUR	Ouranopolis	2.46	38	ePn	Pn	00 47 36.9	-0.9	TIP				eSn	Sn	00 48 48.4	-1.5
NEO	Neokhori	1.31	47	ePG	Pn	00 47 20.7	-1.4	OUR	Ouranopolis	2.46	38	P	Pn	00 47 36.9	-0.9	TIP	Timpagrande	4.16	282	ePn	Pn	00 48 02.2	+0.9
NEO	Neokhori	1.31	47	ePn	Pn	00 47 19.8	-2.3	OUR	Ouranopolis	2.46	38	ePn	Pn	00 47 38.2	+0.4	TIP				eSn	Sn	00 48 48.4	-1.5
NEO	Neokhori	1.31	47	P	Pn	00 47 19.8	-2.3	GRG	Griva	2.56	7	P	Pn	00 47 38.1	-1.2	KDZ	Kurdzhali	4.17	38	⇓*i* P	Pn	00 47 59.9	-1.4
NEO	Neokhori	1.31	47	ePg	Pn	00 47 20.7	-1.4	GRG	Griva	2.56	7	eP	Pn	00 47 38.1	-1.2	KDZ	Kurdzhali	4.17	38	⇓*i* P	Pn	00 47 59.9	-1.4
XOR	Xorichti	1.33	44	P	Pn	00 47 20.6	-1.8	GRG	Griva	2.56	7	ePB	Pn	00 47 38.7	-0.6	LPK	Lapseki	4.18	61	ePN	Pn	00 48 02.4	+0.9
XOR				S	Sn	00 47 42.0	+1.9	GRG	Griva	2.56	7	ePn	Pn	00 47 38.1	-1.2	LPK	Lapseki	4.18	61	ePn	Pn	00 48 02.4	+0.9
XOR	Xorichti	1.33	44	ePB	Pn	00 47 21.4	-1.0	GRG	Griva	2.56	7	P	Pn	00 47 38.1	-1.2	TAR1	Taranto	4.21	302	ePn	Pn	00 48 02.1	+0.2
XOR	Xorichti	1.33	44	ePn	Pn	00 47 20.6	-1.8	GRG	Griva	2.56	7	ePb	Pn	00 47 38.7	-0.6	PLD	Plovdiv	4.23	28	P	Pn	00 48 02.5	+0.3
XOR				eSn	Sn	00 47 42.0	+1.9	SOH	Sokhos	2.62	23	P	Pn	00 47 39.4	-0.8	PLD	Plovdiv	4.23	28	eP	Pn	00 48 02.5	+0.3
XOR	Xorichti	1.33	44	P	Pn	00 47 20.6	-1.8	SOH	Sokhos	2.62	23	eP	Pn	00 47 39.4	-0.8	PLD	Plovdiv	4.23	28	ePn	Pn	00 48 02.5	+0.3
XOR	Xorichti	1.33	44	ePb	Pn	00 47 21.4	-1.0	SOH	Sokhos	2.62	23	ePB	Pn	00 47 40.3	+0.1	PLD	Plovdiv	4.23	28	P	Pn	00 48 02.5	+0.3
XOR				S	Sn	00 47 42.0	+1.9	SOH	Sokhos	2.62	23	ePn	Pn	00 47 39.4	-0.8	PE1	Pezze di Greco	4.26	305	ePn	Pn	00 48 02.7	+0.1
DID	Didima	1.34	132	P	Pn	00 47 21.4	-1.0	SOH	Sokhos	2.62	23	P	Pn	00 47 39.4	-0.8	VTS	Vitosha	4.27	12	P	Pn	00 48 02.7	-0.2
DID				S	Sg	00 47 41.6	+0.6	SOH	Sokhos	2.62	23	ePb	Pn	00 47 40.3	+0.1	VTS	Vitosha	4.27	12	eP	Pn	00 48 02.7	-0.2
DID	Didima	1.34	132	ePB	Pn	00 47 22.0	-0.2	BIA	Bitola	2.65	349	P	Pn	00 47 40.2	-0.4	VTS	Vitosha	4.27	12	⇓*i* P	Pn	00 48 02.7	+0.4
DID				eSB	Sb	00 47 40.0	0.0	BIA	Bitola	2.65	349	ePn	Pn	00 47 40.2	-0.4	VTS	Vitosha	4.27	12	ePn	Pn	00 48 02.7	-0.2
DID	Didima	1.34	132	P	Pn	00 47 21.4	-1.0	BIA	Bitola	2.65	349	P	Pn	00 47 40.2	-0.4	VTS	Vitosha	4.27	12	P	Pn	00 48 02.7	-0.2
DID				S	Sg	00 47 41.6	+0.6	ANKY	Antikythira Is	2.75	157	P	Pn	00 47 42.8	+1.0	NPS	Neapolis	4.28	136	P	Pn	00 48 03.8	+0.9
DID	Didima	1.34	132	P	Pn	00 47 21.4	-1.0	ANKY	Antikythira Is	2.75	157	ePB	Pn	00 47 43.2	+1.4	NPS	Neapolis	4.28	136	eP	Pn	00 48 03.8	+0.9
DID	Didima	1.34	132	ePb	Pn	00 47 22.2	-0.2	ANKY	Antikythira Is	2.75	157	P	Pn	00 47 42.8	+1.0	NPS	Neapolis	4.28	136	ePN	Pn	00 48 03.4	+0.5
DID				eSb	Sb	00 47 40.0	0.0	ANKY	Antikythira Is	2.75	157	P	Pn	00 47 42.8	+1.0	NPS	Neapolis	4.28	136	ePn	Pn	00 48 03.8	+0.9
DID				S	Sg	00 47 41.6	+0.6	ANKY	Antikythira Is	2.75	157	ePb	Pn	00 47 43.2	+1.4	NPS	Neapolis	4.28	136	ePn	Pn	00 48 03.4	+0.5
NAIG	Nisos Aigina	1.35	119	ePB	Pn	00 47 22.1	-0.5	VLO	Vlora	2.82	317	P	Pn	00 47 44.6	+1.8	NPS	Neapolis	4.28	136	P	Pn	00 48 03.8	+0.9
NAIG	Nisos Aigina	1.35	119	ePb	Pn	00 47 22.1	-0.5	VLO	Vlora	2.82	317	eP	Pn	00 47 44.6	+1.8	DRME	Dracevica, Mon	4.34	331	⇓*i* Pn	Pn	00 48 04.2	+0.5
SKIA	Skiathos	1.37	56	P	Pn	00 47 21.5	-1.4	VLO	Vlora	2.82	317	ePn	Pn	00 47 44.6	+1.8	DRME				eSn	Sn	00 48 55.8	+1.7
SKIA	Skiathos	1.37	56	ePG	Pn	00 47 21.9	-1.0	VLO	Vlora	2.82	317	P	Pn	00 47 44.6	+1.8	DRME	Dracevica, Mon	4.34	331	⇓*i* Pn	Pn	00 48 04.2	+0.5
SKIA	Skiathos	1.37	56	P	Pn	00 47 21.5	-1.4	KNT	Kendrikon	2.83	14	P	Pn	00 47 42.0	-1.0	DRME				eSn	Sn	00 48 55.8	+1.7
SKIA	Skiathos	1.37	56	ePg	Pn	00 47 21.9	-1.0	KNT				S	Sn	00 48 18.1	+1.1	BODT	Bodrum	4.42	106	ePN	Pn	00 48 08.7	+3.8
SFD	Strofades	1.40	214	P	Pg	00 47 24.4	-0.3	KNT	Kendrikon	2.83	14	eP	Pn	00 47 42.0	-1.0	BODT	Bodrum	4.42	106	ePn	Pn	00 48 08.7	+3.8
SFD	Strofades	1.40	214	ePB	Pn	00 47 22.9	-0.3	KNT				*e*		00 48 18.1		PVY	Plav	4.45	340	⇑*i* Pn	Pn	00 48 06.6	+1.2
SFD	Strofades	1.40	214	ePb	Pn	00 47 22.9	-0.3	KNT	Kendrikon	2.83	14	ePN	Pn	00 47 43.1	+0.1	PVY				eSn	Sn	00 48 57.8	+0.6
SFD	Strofades	1.40	214	P	Pg	00 47 24.4	-0.3	KNT	Kendrikon	2.83	14	ePn	Pn	00 47 42.0	-1.0	PVY	Plav	4.45	340	⇑*i* Pn	Pn	00 48 06.6	+1.2
ERET	Eretria	1.42	88	P	Pn	00 47 23.2	-0.5	KNT				eSn	Sn	00 48 18.1	+1.1	PVY				eSn	Sn	00 48 57.8	+0.6
ERET				S	Sg	00 47 42.9	-0.9	KNT	Kendrikon	2.83	14	P	Pn	00 47 42.0	-1.0	NIS1	Nisyros Isl.	4.50	112	ePN	Pn	00 48 07.4	+1.5
ERET	Eretria	1.42	88	P	Pn	00 47 23.2	-0.5	KNT	Kendrikon	2.83	14	ePn	Pn	00 47 43.1	+0.1	NIS1	Nisyros Isl.	4.50	112	ePn	Pn	00 48 07.4	+1.5
ERET				S	Sg	00 47 42.9	-0.9	KNT				S	Sn	00 48 18.1	+1.1	PDG	Podgorica	4.52	333	P	Pn	00 48 06.7	+0.5
ATH	Athens Observa	1.43	107	P	Pn	00 47 22.9	-0.7	LIA	Limnos Island	2.89	58	P	Pn	00 47 43.0	-0.7	PDG	Podgorica	4.52	333	P	Pn	00 48 06.7	+0.5
ATH				S	Sg	00 47 43.3	-0.6	LIA	Limnos Island	2.89	58	ePN	Pn	00 47 44.2	+0.5	PDG				eSn	Sn	00 49 00.0	+1.3
ATH	Athens Observa	1.43	107	eP	Pn	00 47 22.9	-0.7	LIA	Limnos Island	2.89	58	ePn	Pn	00 47 43.0	-0.7	TTG	Podgorica	4.52	333	⇑*i* Pn	Pn	00 48 06.7	+0.5
ATH				*e*		00 47 43.3		LIA	Limnos Island	2.89	58	P	Pn	00 47 43.0	-0.7	TTG				eSn	Sn	00 49 00.0	+1.3
ATH	Athens Observa	1.43	107	ePG	Pn	00 47 23.1	-0.5	LIA	Limnos Island	2.89	58	ePn	Pn	00 47 44.2	+0.5	TTG	Podgorica	4.52	333	eP	Pn	00 48 06.7	+0.5
ATH	Athens Observa	1.43	107	ePn	Pn	00 47 22.9	-0.7	VAY	Valandovo	2.94	9	P	Pn	00 47 43.6	-0.8	TTG	Podgorica	4.52	333	ePn	Pn	00 48 06.7	+0.5
ATH				eSn	Sg	00 47 43.3	-0.6	VAY	Valandovo	2.94	9	eP	Pn	00 47 43.6	-0.8	TTG	Podgorica	4.52	333	eP	Pn	00 48 06.7	+0.5
ATH	Athens Observa	1.43	107	P	Pn	00 47 22.9	-0.7	VAY	Valandovo	2.94	9	ePn	Pn	00 47 43.6	-0.8	BDRM	Kayabasi	4.53	106	*i* P	Pn	00 47 59.4	-6.9
ATH				S	Sg	00 47 43.3	-0.6	VAY	Valandovo	2.94	9	P	Pn	00 47 43.6	-0.8	BUM	Brajici-Budva	4.55	330	⇓*i* Pn	Pn	00 48 06.4	-0.2
ATHU	Athens Univers	1.48	107	P	Pn	00 47 24.5	+0.1	SRS	Serrai	2.97	24	P	Pn	00 47 43.8	-1.0	BUM				eSn	Sn	00 49 00.5	+1.1
ATHU	Athens Univers	1.48	107	P	Pn	00 47 24.5	+0.1	SRS	Serrai	2.97	24	eP	Pn	00 47 43.8	-1.0	BUM	Brajici-Budva	4.55	330	⇓*i* Pn	Pn	00 48 06.4	-0.2
ATHU	Athens Univers	1.48	107	P	Pn	00 47 24.5	+0.1	SRS	Serrai	2.97	24	ePN	Pn	00 47 45.1	+0.3	BUM				eSn	Sn	00 49 00.5	+1.1
MEV	Metsovon	1.49	337	P	Pn	00 47 24.2	-0.5	SRS	Serrai	2.97	24	ePn	Pn	00 47 43.8	-1.0	KRBG	Karabiga-Canak	4.56	63	ePN	Pn	00 48 06.5	-0.2
MEV	Metsovon	1.49	337	ePn	Pn	00 47 24.2	-0.5	SRS	Serrai	2.97	24	P	Pn	00 47 43.8	-1.0	KRBG	Karabiga-Canak	4.56	63	ePn	Pn	00 48 06.5	-0.2
MEV	Metsovon	1.49	337	P	Pn	00 47 24.2	-0.5	SRS	Serrai	2.97	24	ePn	Pn	00 47 45.1	+0.3	BALY	Balya	4.57	71	*i* P	Pn	00 48 06.8	-0.1
PTL	Penteli	1.52	103	P	Pn	00 47 24.7	-0.2	APE	Apeiranthos	3.11	115	P	Pn	00 47 46.4	-0.4	BALY	Balya	4.57	71	*i* P	Pn	00 48 06.8	-0.1
PTL	Penteli	1.52	103	ePG	Pn	00 47 24.9	0.0	APE	Apeiranthos	3.11	115	*c* iP	Pn	00 47 46.2	-0.6	AKS	Akhisar	4.58	82	ePN	Pn	00 48 08.2	+1.2
PTL	Penteli	1.52	103	ePn	Pn	00 47 24.7	-0.2	APE	Apeiranthos	3.11	115	ePN	Pn	00 47 47.6	+0.8	AKS	Akhisar	4.58	82	ePn	Pn	00 48 08.2	+1.2
PTL	Penteli	1.52	103	P	Pn	00 47 24.7	-0.2	APE	Apeiranthos	3.11	115	⇑*i* P	Pn	00 47 47.3	+0.5	AKHS	Akhisar	4.58	82	*i* P	Pn	00 48 06.8	-0.2
JAN	Janina	1.53	325	P	Pn	00 47 23.7	-1.4	APE	Apeiranthos	3.11	115	*i* Pn	Pn	00 47 46.4	-0.4	AKHS	Akhisar	4.58	82	*i* P	Pn	00 48 06.8	-0.2
JAN				S	Sg	00 47 47.1	0.0	APE	Apeiranthos	3.11	115	*i* P	Pn	00 47 46.2	-0.6	RKY	Sarkoy-Tekirda	4.61	59	ePN	Pn	00 48 07.5	+0.2
JAN	Janina	1.53	325	eP	Pn	00 47 23.7	-1.4	APE	Apeiranthos	3.11	115	ePn	Pn	00 47 47.6	+0.8	RKY	Sarkoy-Tekirda	4.61	59	ePn	Pn	00 48 07.6	+0.2
JAN				*e*		00 47 47.1		SIGR	SIGRI	3.12	74	P	Pn	00 47 46.9	0.0	SART	Tekirdag	4.61	59	*i* P	Pn	00 48 07.9	+0.5
JAN	Janina	1.53	325	ePB	Pn	00 47 24.9	-0.2	SIGR	SIGRI	3.12	74	ePN	Pn	00 47 47.5	+0.6	SART	Tekirdag	4.61	59	*i* P	Pn	00 48 07.9	+0.5
JAN	Janina	1.53	325	ePn	Pn	00 47 23.7	-1.4	SIGR	SIGRI	3.12	74	P	Pn	00 47 46.9	0.0	AYDB	Zeytinkoy-Aydi	4.67	94	ePN	Pn	00 48 09.9	+1.6
JAN				eSn	Sg	00 47 47.1	0.0	SIGR	SIGRI	3.12	74	ePn	Pn	00 47 46.9	0.0	AYDB	Zeytinkoy-Aydi	4.67	94	ePn	Pn	00 48 09.9	+1.6
JAN	Janina	1.53	325	P	Pn	00 47 23.7	-1.4	SIGR	SIGRI	3.12	74	ePn	Pn	00 47 47.5	+0.6	GONE	Gonen-Balikesi	4.71	68	ePN	Pn	00 48 09.4	+0.6
JAN	Janina	1.53	325	ePb	Pn	00 47 24.9	-0.2	CHOS	Chios island	3.19	89	P	Pn	00 47 47.9	-0.1	GONE	Gonen-Balikesi	4.71	68	ePn	Pn	00 48 09.4	+0.6
JAN				S	Sg	00 47 47.1	0.0	CHOS	Chios island	3.19	89	ePN	Pn	00 47 48.7	+0.7	ZKR	Zakros	4.73	133	ePN	Pn	00 48 10.2	+1.2
PYL	PYLOS	1.53	188	P	Pn	00 47 24.2	-0.9	CHOS	Chios island	3.19	89	P	Pn	00 47 47.9	-0.1	ZKR	Zakros	4.73	133	ePn	Pn	00 48 10.2	+1.2
PYL	PYLOS	1.53	188	ePG	Pn	00 47 24.4	-0.7	CHOS	Chios island	3.19	89	P	Pn	00 47 47.9	-0.1	BEY	Berane	4.73	341	ePn	Pn	00 48 10.5	+1.4
PYL				eSN	Sg	00 47 47.2	-0.1	CHOS	Chios island	3.19	89	ePn	Pn	00 47 48.2	+0.7	BEY				eSn	Sn	00 49 04.5	+0.8
PYL	PYLOS	1.53	188	P	Pn	00 47 24.2	-0.9	KAVA	Kavala	3.23	36	P	Pn	00 47 47.8	-0.6	IVA	Berane	4.73	341	ePn	Pn	00 48 10.5	+1.4
PYL	PYLOS	1.53	188	P	Pn	00 47 24.2	-0.9	KAVA	Kavala	3.23	36	ePN	Pn	00 47 49.3	+0.9	IVA				eSn	Sn	00 49 04.8	+0.8
PYL				eSn	Sg	00 47 47.0	-0.1	KAVA	Kavala	3.23	36	P	Pn	00 47 47.8	-0.6	BALB	Balikesir	4.74	73	ePN	Pn	00 48 10.4	+1.1
AOS	Alonnisos	1.66	62	P	Pn	00 47 24.8	-2.0	KAVA	Kavala	3.23	36	P	Pn	00 47 47.8	-0.6	BALB	Balikesir	4.74	73	ePn	Pn	00 48 10.4	+1.1
AOS				S	Sg	00 47 49.8	-1.4	KAVA	Kavala	3.23	36	ePn	Pn	00 47 49.3	+0.9	SG1	Sgolgore (BA)	4.76	302	ePn	Pn	00 48 10.7	+1.1
AOS	Alonnisos	1.66	62	ePn	Pn	00 47 24.8	-2.0	NVR	Nevrokopi	3.27	26	P	Pn	00 47 48.2	-0.8	BAI	Bari	4.77	306	ePn	Pn	00 48 09.4	-0.2
AOS				eSn	Sg	00 47 49.8	-1.4	NVR	Nevrokopi	3.27	26	ePN	Pn	00 47 49.6	+0.6	CEL	Celeste	4.80	270	ePn	Pn	00 48 10.4	+0.4
AOS	Alonnisos	1.66	62	P	Pn	00 47 24.8	-2.0	NVR	Nevrokopi	3.27	26	ePn	Pn	00 47 48.2	-0.8	CEL				eSn	Sn	00 49 05.2	-0.4
AOS				S	Sg	00 47 49.8	-1.4	NVR	Nevrokopi	3.27	26	P	Pn	00 47 48.2	-0.8	CEL	Celeste	4.80	270	ePn	Pn	00 48 10.4	+0.4
IGT	Igoumenitsa	1.71	311	P	Pn	00 47 27.8	+0.2	NVR	Nevrokopi	3.27	26	ePn	Pn	00 47 49.6	+0.6	CEL				eSn	Sn	00 49 05.2	-0.4
IGT				S	Sg	00 47 52.6	-0.3	SMTH	Samothraki Isl	3.42	52	P	Pn	00 47 49.2	-1.9	HCY	Herceg Novi	4.83	328	⇑*i* Pn	Pn	00 48 10.4	-0.1
IGT	Igoumenitsa	1.71	311	eP	Pn	00 47 27.8	+0.2	SMTH	Samothraki Isl	3.42	52	ePN	Pn	00 47 52.0	+0.9	HCY				eSn	Sn	00 49 07.5	+1.1
IGT				*e*		00 47 52.6		SMTH	Samothraki Isl	3.42	52	P	Pn	00 47 49.2	-1.9	HCY	Herceg Novi	4.83	328	⇑*i* Pn	Pn	00 48 10.4	-0.1
IGT	Igoumenitsa	1.71	311	ePG	Pn	00 47 28.1	+0.5	SMTH	Samothraki Isl	3.42	52	P	Pn	00 47 49.2	-1.9	HCY				eSn	Sn	00 49 07.5	+1.1
IGT	Igoumenitsa	1.71	311	ePn	Pn	00 47 27.8	+0.2	SMTH	Samothraki Isl	3.42	52	ePn	Pn	00 47 52.0	+0.9	NKME	Niksic	4.92	333	ePn	Pn	00 48 11.7	-0.1
IGT				eSn	Sg	00 47 52.6	-0.3	SANT	Santorini	3.43	125	P	Pn	00 47 52.5	+1.3	NKME				eSn	Sn	00 49 10.0	+1.3
IGT	Igoumenitsa	1.71	311	P	Pn	00 47 27.8	+0.2	SANT	Santorini	3.43	125	ePN	Pn	00 47 52.6	+1.3	NKME	Niksic	4.92	333	ePn	Pn	00 48 11.7	-0.1
IGT	Igoumenitsa	1.71	311	ePg	Pn	00 47 28.4	+0.5	SANT	Santorini	3.43	125	ePn	Pn	00 47 52.8	+1.5	NKME				eSn	Sn	00 49 10.0	+1.3
IGT				S	Sg	00 47 52.6	-0.3	SANT	Santorini	3.43	125	P	Pn	00 47 52.5	+1.3	EDC	Edincik	4.94	65	ePN	Pn	00 48 12.6	+0.7
LIT	Litokhoron	1.73	13	P	Pn	00 47 26.8	-1.0	SANT	Santorini	3.43	125	ePn	Pn	00 47 52.8	+1.5	EDC	Edincik	4.94	65	ePn	Pn	00 48 12.6	+0.7
LIT	Litokhoron	1.73	13	eP	Pn	00 47 26.8	-1.0	MMB	Musomiste	3.44	22	⇑*i* P	Pn	00 47 50.6	-0.8	NKY	Niksic	4.95	333	⇓*i* Pn	Pn	00 48 12.2	0.0
LIT	Litokhoron	1.73	13	ePN	Pn	00 47 27.4	-0.4	MMB	Musomiste	3.44	22	⇑*i* P	Pn	00 47 50.6	-0.8	NKY				eSn	Sn	00 49 10.3	+0.9
LIT	Litokhoron	1.73	13	ePn	Pn	00 47 26.8	-1.0	PRK	Paraskevi	3.44	75	P	Pn	00 47 51.2	-0.1	NKY	Niksic	4.95	333	⇓*i* Pn	Pn	00 48 12.2	0.0
LIT	Litokhoron	1.73	13	P	Pn	00 47 26.8	-1.0	PRK	Paraskevi	3.44	75	eP	Pn	00 47 51.2	-0.1	NKY				eSn	Sn	00 49 10.3	+0.9
LIT	Litokhoron	1.73	13	ePn	Pn	00 47 27.4	-0.4	PRK	Paraskevi	3.44	75	ePN	Pn	00 47 52.4	+1.1	BNT	Bandirma	4.98	65	ePN	Pn	00 48 12.4	-0.2
VLI	Veliai	1.85	156	P	Pn	00 47 29.5	0.0	PRK	Paraskevi	3.44	75	ePn	Pn	00 47 51.2	-0.1	BNT	Bandirma	4.98	65	ePn	Pn	00 48 12.4	-0.2
VLI	Veliai	1.85	156	ePN	Pn	00 47 29.7	+0.2	PRK	Paraskevi	3.44	75	P	Pn	00 47 51.2	-0.1	EDRB	Edirne	5.00	45	ePN	Pn	00 48 13.2	+0.4
VLI	Veliai	1.85	156	ePn	Pn	00 47 29.5	0.0	PRK	Paraskevi	3.44	75	ePn	Pn	00 47 52.4	+1.1	EDRB	Edirne	5.00	45	ePn	Pn	00 48 13.2	+0.4
VLI	Veliai	1.85	156	P	Pn	00 47 29.5	0.0	PHP	Peshkopia	3.48	340	*i* PN	Pn	00 47 54.6	+2.7	KARP	Karpathos	5.03	123	P	Pn	00 48 15.7	+2.5
KZN	Kozani	1.90	355	P	Pn	00 47 29.4	-0.8	PHP				*i* SN	Sb	00 48 40.1	-1.5	KARP	Karpathos	5.03	123	ePN	Pn	00 48 15.5	+2.3
KZN	Kozani	1.90	355	eP	Pn	00 47 29.4	-0.8	PHP	Peshkopia	3.48	340	P	Pn	00 47 53.4	+1.5	KARP	Karpathos	5.03	123	ePn	Pn	00 48 15.7	+2.5
KZN	Kozani	1.90	355	ePN	Pn	00 47 30.1	-0.1	PHP	Peshkopia	3.48	340	eP	Pn	00 47 53.4	+1.5	KARP	Karpathos	5.03	123	ePn	Pn	00 48 15.5	+2.3
KZN	Kozani	1.90	355	ePn	Pn	00 47 29.4	-0.8	PHP	Peshkopia	3.48	340	ePn	Pn	00 47 53.4	+1.5	CUC	Castrocucco	5.05	290	ePn	Pn	00 48 16.1	+2.6
KZN	Kozani	1.90	355	P	Pn	00 47 29.4	-0.8	PHP	Peshkopia	3.48	340	P	Pn	00 47 53.4	+1.5	CUC				eSn	Sn	00 49 16.0	+4.1
KZN	Kozani	1.90	355	ePn	Pn	00 47 30.1	-0.1	PHP	Peshkopia	3.48	340	*i* Pn	Pn	00 47 53.8	+2.7	CUC	Castrocucco	5.05	290	ePn	Pn	00 48 16.1	+2.6
PAIG	Paliouri	2.00	40	P	Pn	00 47 29.8	-1.7	VAM	Vamos	3.48	149	P	Pn	00 47 52.2	+0.3	CUC				eSn	Sn	00 49 16.0	+4.1
PAIG	Paliouri	2.00	40	eP	Pn	00 47 29.8	-1.7	VAM	Vamos	3.48	149	eP	Pn	00 47 52.2	+0.3	YER	Yerkesik	5.14	102	ePN	Pn	00 48 17.9	+3.1
PAIG	Paliouri	2.00	40	ePn	Pn	00 47 29.8	-1.7	VAM	Vamos	3.48	149	ePN	Pn	00 47 52.3	+0.3	YER	Yerkesik	5.14	102	ePn	Pn	00 48 17.9	+3.1
PAIG	Paliouri	2.00	40	P	Pn	00 47 29.8	-1.7	VAM	Vamos	3.48	149	ePn	Pn	00 47 52.2	+0.3	BRY	Bratogost	5.20	331	⇓*i* Pn	Pn	00 48 15.9	+0.3
NEST	Nestorio	2.13

STON	Ston	5.52	325	ePn	Pn	00 48 18.7	-1.2
SLVT	Silivri	5.55	58	ePN	Pn	00 48 21.4	+1.1
SLVT	Silivri	5.55	58	ePN	Pn	00 48 21.4	+1.1
GRUS	Gruza	5.55	350	ePn	Pn	00 48 21.4	+1.0
ORLT	Orhaneli	5.60	71	ePN	Pn	00 48 22.5	+1.4
ORLT	Orhaneli	5.60	71	ePn	Pn	00 48 22.5	+1.4
DNZL	Cakiroluk	5.61	95	iP	Pn	00 48 19.6	-1.8
DNZL	Cakiroluk	5.61	95	iP	Pn	00 48 19.6	-1.8
ELBA	Catalca	5.66	59	iP	Pn	00 48 20.7	-1.1
ELBA	Catalca	5.66	59	iP	Pn	00 48 20.7	-1.1
MDNY	Mudanya-Bursa	5.68	68	ePN	Pn	00 48 22.5	+0.4
MDNY	Mudanya-Bursa	5.68	68	ePn	Pn	00 48 22.5	+0.4
MS1	Monte Sant'Ang	5.69	307	ePn	Pn	00 48 21.9	-0.4
ARMT	Armutlu	5.73	66	ePN	Pn	00 48 24.1	+1.3
ARMT	Armutlu	5.73	66	ePn	Pn	00 48 24.1	+1.3
CTKS	Kestanelik-??a	5.75	59	ePN	Pn	00 48 24.2	+1.1
CTKS	Kestanelik-??a	5.75	59	ePn	Pn	00 48 24.2	+1.1
BBLS	Lazići	5.79	341	ePn	Pn	00 48 23.5	-0.1
ZIMR		5.82	25⇑	iP	Pn	00 48 24.6	+0.5
DIVS	Divibare	5.88	346	ePn	Pn	00 48 25.6	+0.7
KHAL	Karahalli	5.89	88	iP	Pn	00 48 27.7	+2.6
KHAL	Karahalli	5.89	88	iP	Pn	00 48 27.7	+2.6
GDZ	Gediz	5.89	81	iP	Pn	00 48 25.0	-0.2
GDZ	Gediz	5.89	81	iP	Pn	00 48 25.0	-0.2
BGKT	Bogazkoy	5.91	60	ePN	Pn	00 48 25.9	+0.7
BGKT	Bogazkoy	5.91	60	ePn	Pn	00 48 25.9	+0.7
FETY	Fethiye	5.91	105	ePN	Pn	00 48 30.6	+5.3
TVSB	Tavsanli	5.91	78	ePN	Pn	00 48 27.5	+2.1
TVSB	Tavsanli	5.91	78	ePn	Pn	00 48 27.5	+2.1
KHL	Karahalli	5.92	89	ePn	Pn	00 48 27.6	+2.1
KHL	Karahalli	5.92	89	ePn	Pn	00 48 27.6	+2.1
GEMT	Gemlik	5.92	68	ePN	Pn	00 48 27.6	+2.1
GEMT	Gemlik	5.92	68	ePn	Pn	00 48 27.6	+2.1
TRUS	Trudelj	5.92	349	ePn	Pn	00 48 24.6	-0.9
ISK	Istanbul-Kandi	6.05	62	ePN	Pn	00 48 29.2	+2.0
ISK	Istanbul-Kandi	6.05	62	ePn	Pn	00 48 29.3	+2.0
GOLH	Golhisar	6.11	99	iP	Pn	00 48 22.8	-5.2
KLYT	Kilyos	6.12	60	ePN	Pn	00 48 29.2	+1.1
KLYT	Kilyos	6.12	60	ePn	Pn	00 48 29.3	+1.1
CAVI	Cavuskoy	6.34	71	ePN	Pn	00 48 32.8	+1.6
CAVI	Cavuskoy	6.34	71	ePn	Pn	00 48 32.8	+1.6
ALT	Altintas	6.38	82	ePN	Pn	00 48 34.3	+2.5
ALT	Altintas	6.38	82	ePn	Pn	00 48 34.3	+2.5
HRT	Hereke	6.39	66	ePN	Pn	00 48 34.3	+2.3
HRT	Hereke	6.39	66	ePn	Pn	00 48 34.3	+2.3
AKAS	Kas	6.44	107	iP	Pn	00 48 34.6	+1.9
AKAS	Kas	6.44	107	iP	Pn	00 48 34.6	+1.9
WDD	Wield Dalam	6.49	249	ePn	Pn	00 48 32.8	-0.4
WDD				eSn	Sn	00 49 46.8	-0.3
WDD	Wield Dalam	6.49	249	ePn	Pn	00 48 32.8	-0.4
WDD				eSn	Sn	00 49 46.8	-0.3
SILT	Sile	6.50	63	ePN	Pn	00 48 34.3	+1.0
SILT	Sile	6.50	63	ePn	Pn	00 48 34.3	+1.0
ELL	Elmali	6.50	102	ePN	Pn	00 48 38.5	+5.0
HUMR	Humele	6.51	19⇑	iP	Pn	00 48 34.4	+1.0
HUMR	Humele	6.51	19⇑	iP	Pn	00 48 34.4	+1.0
CIOR	Ciorogarla	6.70	25⇑	iP	Pn	00 48 43.1	+7.0
GPA	Golpazari	6.71	71	ePN	Pn	00 48 38.0	+1.7
GPA	Golpazari	6.71	71	ePn	Pn	00 48 38.0	+1.7
SHUT	Suhut-Afyon	6.71	86	ePN	Pn	00 48 39.0	+2.5
SHUT	Suhut-Afyon	6.71	86	ePn	Pn	00 48 39.0	+2.5
ISP	Isparta	6.75	92	P	Pn	00 48 39.1	+2.2
ISP	Isparta	6.75	92	eP	Pn	00 48 38.7	+1.8
ISP	Isparta	6.75	92	⇓iP	Pn	00 48 39.1	+2.2
ISP	Isparta	6.75	92	ePn	Pn	00 48 38.7	+1.8
ISP	Isparta	6.75	92	eP	Pn	00 48 38.7	+1.8
KORT	Korkueli	6.77	99	iP	Pn	00 48 39.6	+1.6
KORT	Korkueli	6.77	99	iP	Pn	00 48 38.9	+1.6
INCR	INCERC-Sediu C	6.79	26⇑	iP	Pn	00 48 42.7	+5.4
GOLR		6.79	18⇑	iP	Pn	00 48 39.3	+1.9
GOLR		6.79	18⇑	iP	Pn	00 48 39.3	+1.9
SPNC	Sapanca-Adapaz	6.81	68	ePN	Pn	00 48 39.4	+1.7
SPNC	Sapanca-Adapaz	6.81	68	ePn	Pn	00 48 39.4	+1.7
BCK	Bucak	6.86	95	ePN	Pn	00 48 42.7	+4.3
FGSL	Fruska Gora	6.93	347	ePn	Pn	00 48 39.1	-0.2
BANR	Banloc	6.99	355	⇑iP	Pn	00 48 45.4	+5.3
GZR	Gura Zlata	7.00	5	⇓iP	Pn	00 48 40.1	-0.2
GZR	Gura Zlata	7.00	5	⇓iP	Pn	00 48 40.1	-0.2
BOLV	Bolvadin	7.03	85	iP	Pn	00 48 44.2	+3.5
SULR		7.03	26	⇓iP	Pn	00 48 41.9	+1.3
SULR		7.03	26	⇓iP	Pn	00 48 41.9	+1.3
ANTB	Antalya	7.04	100	ePN	Pn	00 48 45.1	+4.4
PSN	Preselentsi	7.04	40	⇑iP	Pn	00 48 40.6	-0.2
PSN	Preselentsi	7.04	40	⇑iP	Pn	00 48 40.6	-0.2
LOT	Lotru	7.15	10	⇑iP	Pn	00 48 42.0	-0.4
LOT	Lotru	7.15	10	⇑iP	Pn	00 48 42.0	-0.4
SUTC	Sutluce-Ispart	7.18	95	ePN	Pn	00 48 47.0	+4.1
MTUR	Matau	7.18	18	⇓iP	Pn	00 48 44.7	+1.9
MTUR	Matau	7.18	18	⇓iP	Pn	00 48 44.7	+1.9
BZS	Buzias	7.20	358	⇑iP	Pn	00 48 42.7	-0.3
BZS	Buzias	7.20	358	⇑iP	Pn	00 48 42.7	-0.3
ARR	Arges	7.22	15	⇑iP	Pn	00 48 43.5	+0.2
ARR	Arges	7.22	15	⇑iP	Pn	00 48 43.5	+0.2
SECR		7.28	23	⇓iP	Pn	00 48 45.8	+1.7
SECR		7.28	23	⇓iP	Pn	00 48 45.8	+1.7
BTAS	Taskesti	7.29	70	iP	Pn	00 48 37.8	-6.5
MANR	Mangalia	7.34	41	⇑iP	Pn	00 48 47.2	+2.3
MANR	Mangalia	7.34	41	⇑iP	Pn	00 48 47.2	+2.3
AMRR	Amara	7.37	31	⇓iP	Pn	00 48 46.8	+1.5
AMRR	Amara	7.37	31	⇓iP	Pn	00 48 46.8	+1.5
VOIR		7.38	17	⇑iP	Pn	00 48 46.1	+0.6
VOIR		7.38	17	⇑iP	Pn	00 48 46.1	+0.6
SLUM		7.39	158	P	Pn	00 48 43.1	-2.5
	baz=157						
SLUM				S	Sn	00 50 05.1	-4.4
	baz=157						
SLUM		7.39	158	P	Pn	00 48 43.1	-2.5
MDUB	Mudurnu	7.41	71	ePN	Pn	00 48 47.8	+1.8
MDUB	Mudurnu	7.41	71	ePn	Pn	00 48 47.8	+1.8
CVD	Cernavoda	7.44	36	⇑iP	Pn	00 48 48.3	+2.1
CVD	Cernavoda	7.44	36	⇑iP	Pn	00 48 48.3	+2.1
PGOR	Pogoanele	7.49	28	⇓iP	Pn	00 48 48.8	+1.9
PGOR	Pogoanele	7.49	28	⇓iP	Pn	00 48 48.8	+1.9
DEV	Deva	7.49	5	⇑iP	Pn	00 48 48.2	+1.2
DEV	Deva	7.49	5	⇑iP	Pn	00 48 48.2	+1.2
SVRH	Sivrihisar-ESK	7.50	79	ePN	Pn	00 48 48.6	+1.4
SVRH	Sivrihisar-ESK	7.50	79	ePn	Pn	00 48 48.6	+1.4
ISR	Istrita	7.51	25	⇑iP	Pn	00 48 49.4	+2.1
ISR	Istrita	7.51	25	⇑iP	Pn	00 48 49.4	+2.1
AQU	L'Aquila	7.65	304	ePn	Pn	00 48 50.8	+1.6
AQU				eSn	Sn	00 50 07.1	-8.6
AQU	L'Aquila	7.65	304	eP	Pn	00 48 50.8	+1.6
TLB	Topalu	7.65	34	⇑iP	Pn	00 48 49.8	+0.6
TLB	Topalu	7.65	34	⇑iP	Pn	00 48 49.8	+0.6
MLR	Muntele Rosu	7.66	21	⇓iP	Pn	00 48 50.5	+1.1
MLR	Muntele Rosu	7.66	21	Pn	Pn	00 48 49.9	+0.5
MLR				Sn	Sn	00 50 20.2	+4.0
MLR	Muntele Rosu	7.66	21	Pn	Pn	00 48 49.9	+0.5
	baz=220,slow=8.5						
MLR				Sn	Sn	00 50 20.2	+4.0
	baz=155,slow=14,SNR=1.1						
MLR				LR	LR	00 52 36.6	
	comp=Z,3µm,18.5s,baz=198,slow=45						
MLR	Muntele Rosu	7.66	21	P	Pn	00 48 49.9	+0.5
UDBI	Udbina	7.69	325	iPn	Pn	00 48 49.4	-0.3
UDBI	Udbina	7.69	325	iPn	Pn	00 48 49.4	-0.3
TIRR	Tirgusor	7.72	37	eP	Pn	00 48 49.5	-0.7
TIRR				e		00 50 21.1	
TIRR	Tirgusor	7.72	37	ePn	Pn	00 48 49.5	-0.7
TIRR				eSn	Sn	00 50 21.1	+3.6
TIRR	Tirgusor	7.72	37	eP	Pn	00 48 49.5	-0.7
TIRR				eS	Sn	00 50 21.1	+3.6
KIZT	Kizilcal	7.75	83	ePN	Pn	00 48 53.7	+3.0
KDZE	Karadeniz Ereo	7.82	65	ePN	Pn	00 48 53.7	+2.2
KDZE	Karadeniz Ereo	7.82	65	ePn	Pn	00 48 53.7	+2.2
SIRR	Siria	7.85	358	⇓iP	Pn	00 48 52.6	+0.7
SIRR	Siria	7.85	358	⇓iP	Pn	00 48 52.6	+0.7
GRER		7.89	26	⇓iP	Pn	00 48 54.5	+2.1
GRER		7.89	26	⇓iP	Pn	00 48 54.5	+2.1
MDB	Medias	7.92	12	⇓iP	Pn	00 48 54.2	+1.3
MDB	Medias	7.92	12	⇓iP	Pn	00 48 54.2	+1.3
DOPR	Dopca	7.96	17	⇓iP	Pn	00 48 54.3	+0.9
DOPR	Dopca	7.96	17	⇓iP	Pn	00 48 54.3	+0.9
BCAM	Yenicaga	8.14	70	iP	Pn	00 48 57.0	+1.1
BCAM	Yenicaga	8.14	70	iP	Pn	00 48 57.0	+1.1
NVLJ	Novalja	8.14	321	ePn	Pn	00 48 55.0	-0.8
NVLJ	Novalja	8.14	321	ePn	Pn	00 48 55.0	-0.8
LADK	Ladik-KONYA	8.16	88	ePN	Pn	00 48 59.6	+3.4
CFR	Carcaliu	8.17	32	⇑iP	Pn	00 48 56.3	+0.1
CFR	Carcaliu	8.17	32	⇑iP	Pn	00 48 56.3	+0.1
PKSM	Moragy	8.18	343	⇑iP	Pn	00 48 55.8	-0.6
PKSM	Moragy	8.18	343	⇑ePn	Pn	00 48 56.0	-0.4
PKSM	Moragy	8.18	343	⇑iP	Pn	00 48 55.8	-0.6
KONT	Konya--Tatoy	8.18	90	ePN	Pn	00 48 59.6	+3.1
PLOR	Plostina	8.20	23	⇑iP	Pn	00 48 57.7	+1.0
PLOR	Plostina	8.20	23	⇑iP	Pn	00 48 57.7	+1.0
VRI	Vrincioaia	8.23	24	⇓iP	Pn	00 48 59.0	+1.8
VRI	Vrincioaia	8.23	24	⇓iP	Pn	00 48 59.0	+1.8
MATC	Matruh	8.26	147	P	Pn	00 48 55.2	-2.3
	baz=146						
PETR	Petresti	8.28	26	⇓iP	Pn	00 48 59.8	+2.1
PETR	Petresti	8.28	26	⇓iP	Pn	00 48 59.8	+2.1
CJR	Cluj-Napoca	8.38	8	⇓iP	Pn	00 49 00.5	+1.3
CJR	Cluj-Napoca	8.38	8	⇓iP	Pn	00 49 00.5	+1.3
TLCR		8.47	35	⇓iP	Pn	00 49 03.2	+2.9
LOD	Lodumlu	8.50	77	ePN	Pn	00 49 02.6	+1.8
LOD	Lodumlu	8.50	77	ePn	Pn	00 49 02.6	+1.8
BR231	Keskin MP Arra	8.50	77	ePn	Pn	00 49 11.1	+10
GAZI	Gazipasa	8.51	102	iP	Pn	00 49 05.6	+4.6
ANTO	Ankara	8.52	77	eP	Pn	00 49 02.3	+1.2
ANTO	Ankara	8.52	77	⇑iP	Pn	00 49 02.3	+1.2
ANTO	Ankara	8.52	77	ePn	Pn	00 49 02.3	+1.2
ANTO	Ankara	8.52	77	eP	Pn	00 49 02.3	+1.2
PKS9	Tamasi	8.61	343	ePn	Pn	00 49 01.9	-0.5
PKS9	Tamasi	8.61	343	eP	Pn	00 49 01.9	-0.5
PKSN	Nyarlorinc	8.62	350	ePn	Pn	00 49 03.5	+1.1
PKSN	Nyarlorinc	8.62	350	eP	Pn	00 49 03.5	+1.1
BOJS	Bojanci	8.68	327	iPn	Pn	00 49 02.7	-0.6
BOJS				iSn	Sn	00 50 38.1	-2.9
BOJS	Bojanci	8.68	327	iPn	Pn	00 49 02.7	-0.6
AFSR	Af˙ar-Bala (A	8.70	80	ePN	Pn	00 49 06.3	+2.7
AFSR	Af˙ar-Bala (A	8.70	80	ePn	Pn	00 49 06.3	+2.7
SAFT	Safranbolu	8.70	68	ePN	Pn	00 49 04.7	+1.1
SAFT	Safranbolu	8.70	68	ePn	Pn	00 49 04.7	+1.1
BBAL	Bala	8.74	79	iP	Pn	00 49 05.6	+1.3
BBAL	Bala	8.74	79	iP	Pn	00 49 05.6	+1.3
TESR	Tescani	8.79	22	⇓iP	Pn	00 49 06.3	+1.5
TESR	Tescani	8.79	22	⇓iP	Pn	00 49 06.3	+1.5
PKS7	Kunszentmiklos	8.88	347	ePn	Pn	00 49 07.9	+2.0
PKS7	Kunszentmiklos	8.88	347	eP	Pn	00 49 07.9	+2.0
BEHE	Becsehely	8.92	336	⇑ePn	Pn	00 49 06.4	-0.2
BEHE	Becsehely	8.92	336	⇑eP	Pn	00 49 06.4	-0.2
SULT	Sultanhani-AKS	9.06	88	ePN	Pn	00 49 10.6	+2.0
SULT	Sultanhani-AKS	9.06	88	ePn	Pn	00 49 10.6	+2.0
BRTR	Keskin Array B	9.15	78	Pn	Pn	00 49 11.2	+1.3
BRTR				ScP	ScP	00 59 06.5	+3.1
BRTR	Keskin Array B	9.15	78	Pn	Pn	00 49 11.2	+1.3
	9.9nm,0.3s,baz=259,slow=13,SNR=111						
BRTR				LR	LR	00 52 39.4	
	comp=Z,1µm,21.3s,baz=256,slow=38						
BRTR				ScP	ScP	00 59 06.5	+3.1
	0.1nm,0.3s,baz=180,slow=2.9,SNR=4.5						
BRTR	Keskin Array B	9.15	78	iP	Pn	00 49 11.1	+1.2
	41nm,0.5s						
BRTR				ScP	ScP	00 59 06.6	+3.1
CANT	Cankiri	9.25	73	ePN	Pn	00 49 12.2	+1.1
LEOM	Leova	9.28	28	⇑iP	Pn	00 49 12.5	+1.0
LEOM	Leova	9.28	28	⇑iP	Pn	00 49 12.5	+1.0
PKST	T˜'s	9.30	343	⇓ePn	Pn	00 49 11.5	-0.3
PKST	T˜'s	9.30	343	⇓eP	Pn	00 49 11.5	-0.3
BMR	Baia Mare	9.32	6	⇓iP	Pn	00 49 15.8	+3.8
BUD	Budapest	9.32	347	⇓ePn	Pn	00 49 14.0	+2.0
BUD	Budapest	9.32	347	⇓eP	Pn	00 49 14.0	+2.0
LEF	Lefka	9.34	107	ePN	Pn	00 49 16.5	+4.1
CSKK	Cs˙‡kako	9.35	344	⇓ePn	Pn	00 49 13.0	+0.5
CSKK	Cs˙‡kako	9.35	344	⇓eP	Pn	00 49 13.0	+0.5
PKSG		9.35	345	ePn	Pn	00 49 12.9	+0.4
PKSG		9.35	345	eP	Pn	00 49 12.9	+0.4
LJU	Ljubljana	9.42	326	ePn	Pn	00 49 13.0	-0.4
LJU				eSn	Sn	00 51 00.0	+0.8
LJU	Ljubljana	9.42	326	iPn	Pn	00 49 12.8	-0.6
LJU				iSn	Sn	00 51 00.6	+1.4
BURAR	Bucovina Array	9.49	13	⇑iP	Pn	00 49 14.8	+0.3
BURAR	Bucovina Array	9.49	13	⇑iP	Pn	00 49 14.8	+0.3
BUR04	Bucovina Ar. S	9.49	13	ePn	Pn	00 49 13.8	-0.7
BUR04	Bucovina Ar. S	9.49	13	ePn	Pn	00 49 13.8	-0.7
JAVS	Javornik	9.51	324	iPn	Pn	00 49 13.5	-1.2
JAVS				iSn	Sn	00 50 58.1	-3.5
JAVS	Javornik	9.51	324	iPn	Pn	00 49 13.5	-1.2
TRI	Trieste	9.51	323	eP	Pn	00 49 14.3	-0.4
TRI				e		00 50 58.6	
TRI	Trieste	9.51	323	ePn	Pn	00 49 14.3	-0.4
TRI				eSn	Sn	00 50 58.6	-2.9
TRI	Trieste	9.51	323	eP	Pn	00 49 14.3	-0.4
SWA2		9.59	162	P	Pn	00 49 12.9	-2.9
	baz=160						
SWA2				AMP		00 51 00.0	
	comp=E,650µm,0.7s,logA/T=6.0,baz=160						
SWA2		9.59	162	P	Pn	00 49 12.9	-2.9
PSZ	Piszkesteto	9.62	352	eP	Pn	00 49 16.9	+0.7
PSZ				e		00 51 06.2	
PSZ	Piszkesteto	9.62	352	⇑iP	Pn	00 49 16.1	-0.1
PSZ	Piszkesteto	9.62	352	ePn	Pn	00 49 16.9	+0.7
PSZ				eSn	Sn	00 51 06.2	+1.9
PSZ	Piszkesteto	9.62	352	⇓ePn	Pn	00 49 17.3	+1.1
PSZ	Piszkesteto	9.62	352	⇑iP	Pn	00 49 16.1	-0.1
PSZ	Piszkesteto	9.62	352	ePn	Pn	00 49 16.9	+0.7
PSZ				eS	Sn	00 51 06.2	+1.9
TOS	Tosya	9.63	70	ePN	Pn	00 49 18.1	+1.8
TOS	Tosya	9.63	70	ePn	Pn	00 49 18.2	+1.8
PERS	Pernice	9.65	331	iPn	Pn	00 49 16.6	-0.1
PERS				iSn	Sn	00 51 02.6	-2.4
PERS	Pernice	9.65	331	iPn	Pn	00 49 16.6	-0.1
IAS	Iasi	9.68	23	⇓iP	Pn	00 49 18.7	+1.8
IAS	Iasi	9.68	23	⇓iP	Pn	00 49 18.7	+1.8
CDAG	Cicekdag	9.71	79	iP	Pn	00 49 22.6	+5.1
TRPA	Tarpa	9.72	2	⇑iP	Pn	00 49 17.4	-0.1
TRPA	Tarpa	9.72	2	⇑epPn	Pn	00 49 22.0	+4.5
TRPA	Tarpa	9.72	2	⇑iP	Pn	00 49 17.4	-0.1
SOKA	Soboth	9.72	330	⇓iPn	Pn	00 49 16.0	-1.6
	SNR=29						
SOKA				⇓iSn	Sn	00 51 01.5	-5.2
SOKA	Soboth	9.72	330	Pn	Pn	00 49 16.0	-1.6
	SNR=29						
CSS	Prodhromos	9.73	107	ePn	Pn	00 49 18.1	+0.3
CSS				eSn	Sn	00 51 07.7	+0.7
CSS	Prodhromos	9.73	107	ePn	Pn	00 49 18.1	+0.3
CSS				eSn	Sn	00 51 07.7	+0.7
LFK	Lefkose	9.76	105	ePN	Pn	00 49 22.4	+4.2
OBKA	Obir	9.78	328	⇓iPn	Pn	00 49 16.7	-1.7
OBKA				⇓iSn	Sn	00 51 03.2	-4.9
OBKA	Obir	9.78	328	Pn	Pn	00 49 16.7	-1.7
KIZK	Mersin	9.85	98	iP	Pn	00 49 14.1	-5.3
NIG	Nigde	9.93	88	ePN	Pn	00 49 22.4	+1.7
NIG	Nigde	9.93	88	ePn	Pn	00 49 22.4	+1.7
KIS	Kishinev	9.94	28	eP	Pn	00 49 21.0	+0.6
KIS				iS	Sn	00 51 22.0	+10
KIS				MLR	MLR		
	comp=N,14µm,10.0s						
KIS				MLR	MLR		
	comp=E,21µm,10.0s						
KIS				MLR	MLR		
	comp=Z,15µm,10.0s						
KIS				MLR	MLR		
	comp=Z,14µm,10.0s						
KIS	Kishinev	9.94	28	eP	Pn	00 49 21.0	+0.6
KIS				iS	Sn	00 51 22.0	+10
KIS				iLi		00 51 48.0	
KIS				iLQ	LQ	00 52 26.0	
KIS				iLR	LR	00 52 48.0	
	comp=Z,14µm,10.0s						
KIS	Kishinev	9.94	28	eP	Pn	00 49 21.0	+0.6
CORM	Corum	9.95	76	ePN	Pn	00 49 22.1	+1.3
CORM	Corum	9.95	76	ePn	Pn	00 49 22.1	+1.3
ARSA	Arzberg	10.02	334	⇓iPn	Pn	00 49 21.0	-0.7
	SNR=34						
ARSA	Arzberg	10.02	334	Pn	Pn	00 49 21.0	-0.7
	SNR=34						
MERS	Mersin	10.06	95	ePN	Pn	00 49 24.9	+2.7
AVNT	Avonos	10.08	84	iP	Pn	00 49 26.2	+3.6
SOP	Sopron	10.08	339	⇓ePn	Pn	00 49 22.6	+0.2
SOP	Sopron	10.08	339	⇓eP	Pn	00 49 22.6	+0.2
CTKT	Corum	10.13	73	iP	Pn	00 49 24.8	+1.4
CTKT	Corum	10.13	73	iP	Pn	00 49 24.8	+1.4
HBRG	Burj al 'Arab	10.15	138	P	Pn	00 49 21.8	-1.6
	baz=137						
HBRG	Burj al 'Arab	10.15	138	P	Pn	00 49 21.8	-1.6
EREN	Erenkoy	10.16	103	ePN	Pn	00 49 27.2	+3.7
GULE	Gulek	10.17	92	iP	Pn	00 49 17.3	-6.6
UZH	Uzhgorod	10.21	1	eP	Pn	00 49 24.3	0.0
UZH				eS	Sn	00 51 19.5	+0.8
UZH				MLR	MLR		
	comp=N,6µm,9.0s						
UZH				MLR	MLR		
	comp=E,3µm,9.0s						
UZH				MLR	MLR		
	comp=Z,4µm,9.0s						
UZH	Uzhgorod	10.21	1	eP	Pn	00 49 24.3	0.0
UZH				eS	Sn	00 51 19.5	+0.8
MYKA	Terra Mystica	10.26	326	⇑iPn	Pn	00 49 23.0	-2.0
	SNR=11						
MYKA	Terra Mystica	10.26	326	Pn	Pn	00 49 23.0	-2.0
	SNR=11						
KARA	Karaisali	10.40	92	ePN	Pn	00 49 29.1	+2.3
KARA	Karaisali	10.40	92	ePn	Pn	00 49 29.1	+2.3
VLC	Villacollemand	10.45	307	ePn	Pn	00 49 28.6	+1.0
VLC				eSn	Sn	00 51 22.4	-2.1
VLC	Villacollemand	10.45	307	ePn	Pn	00 49 28.5	+1.0
VLC				eSn	Sn	00 51 22.4	-2.1
KEST	Kesra	10.46	259	ePn	Pn	00 49 28.0	+0.3
KEST	Kesra	10.46	259	Pn	Pn	00 49 29.1	+1.5
	comp=Z,0.6nm,0.3s,baz=2.7,slow=5.7,SNR=15						
KEST				LR	LR	00 54 19.4	
	comp=Z,1µm,20.3s,baz=8.0,slow=42						
KEST	Kesra	10.46	259	ePn	Pn	00 49 28.0	+0.3
CRVS	Cervenica-Dubn	10.49	358	eP	Pn	00 49 29.1	+1.0
CRVS	Cervenica-Dubn	10.49	358	ePN	Pn	00 49 29.1	+1.0
CRVS				e		00 52 45.5	
CRVS	Cervenica-Dubn	10.49	358	eP	Pn	00 49 29.1	+1.0
CONA	Conrad Observa	10.51	337	⇑iPn	Pn	00 49 27.2	-1.2
	SNR=46						
CONA	Conrad Observa	10.51	337	Pn	Pn	00 49 27.2	-1.2
	SNR=46						
KOLS	Kolonicke sedl	10.52	1	eP	Pn	00 49 30.4	+2.0
KOLS	Kolonicke sedl	10.52	1	ePN	Pn	00 49 30.4	+2.0
KOLS				e		00 52 42.9	
KOLS	Kolonicke sedl	10.52	1	eP	Pn	00 49 30.4	+2.0
SMOL	Smolenice	10.62	343	eP	Pn	00 49 29.3	-0.6
SMOL	Smolenice	10.62	343	ePN	Pn	00 49 29.2	-0.6
SMOL	Smolenice	10.62	343	eP	Pn	00 49 29.3	-0.6
DIKM	Dikmen	10.67	68	ePN	Pn	00 49 31.6	+1.1
DIKM	Dikmen	10.67	68	ePn	Pn	00 49 31.6	+1.1
PGF	Pioggiola	10.72	297	eP	Pn	00 49 32.7	+1.3
	comp=Z,534nm,1.2s						
PGF	Pioggiola	10.72	297	eP	Pn	00 49 32.7	+1.3
PGF				pmax	pmax		
	comp=Z,534nm,1.2s						
PGF	Pioggiola	10.72	297	eP	Pn	00 49 32.7	+1.3
	comp=Z,534nm,1.2s						
PGF	Pioggiola	10.72	297	eP	Pn	00 49 32.7	+1.3
	comp=Z,267

SNR=78
MOTA ⇓*i*Sn **Sn** **00 51 57.8 -4.0**
MOTA Moosalm 11.97 322 Pn **Pn** **00 49 46.9 -1.5**
SNR=78
GEC2 GERESS Array S 12.02 333 *e*P **Pn** **00 49 49.4 +0.3**
GEC2 *e* 00 52 03.9
GEC2 GERESS Array S 12.02 333 *e*P **Pn** **00 49 50.0 +0.8**
GEC2 GERESS Array S 12.02 333 *e*Pn **Pn** **00 49 49.4 +0.3**
GEC2 *e*Sn **Sn** **00 52 03.9 +0.7**
GEC2 GERESS Array S 12.02 333 *e*P **Pn** **00 49 49.4 +0.3**
GEC2 *e*Sn **Sn** **00 52 03.8 +0.7**
GERES GERESS Array B 12.02 333 Pn **Pn** **00 49 49.9 +0.8**
GERES Sn **Sn** **00 52 04.5 +1.3**
GERES ScP **ScP** **00 59 05.9 -1.1**
GERES GERESS Array B 12.02 333 Pn **Pn** **00 49 49.9 +0.8**
comp=Z,1.1nm,0.3s,baz=149,slow=14,SNR=31
GERES Sn **Sn** **00 52 04.4 +1.3**
comp=Z,1.8nm,0.3s,baz=153,slow=22,SNR=5.7
GERES LR LR 00 55 25.5
comp=Z,13μm,19.7s,baz=146,slow=42
GERES ScP **ScP** **00 59 05.9 -1.1**
comp=Z,0.1nm,0.3s,baz=225,slow=2.4,SNR=4.1
GERES GERESS Array B 12.02 333 P **Pn** **00 49 49.9 +0.8**
comp=Z,1.0nm,0.3s
GERES S **Sn** **00 52 04.4 +1.3**
comp=Z,2.0nm,0.3s
RSDY Resadiye-TOKAT 12.03 76 *e*PN **Pn** **00 49 50.2 +1.0**
RSDY Resadiye-TOKAT 12.03 76 *e*Pn **Pn** **00 49 50.2 +1.0**
CAEH 'Ain El Ouahch 12.12 267 P **Pn** **00 49 51.8 +1.3**
CAEH 'Ain El Ouahch 12.12 267 P **Pn** **00 49 51.8 +1.3**
DARE Darende-Malaty 12.14 84 *e*PN **Pn** **00 49 51.9 +1.1**
DARE Darende-Malaty 12.14 84 *e*Pn **Pn** **00 49 51.9 +1.1**
MMAI Mount Meron Ar 12.15 112 Pn **Pn** **00 49 50.5 -0.4**
MMAI Mount Meron Ar 12.15 112 Pn **Pn** **00 49 50.5 -0.4**
comp=Z,5.2nm,0.3s,baz=304,slow=12,SNR=18
MMAI LR LR 00 55 20.3
comp=Z,1μm,20.4s,baz=290,slow=42
MMAI Mount Meron Ar 12.15 112 Pn **Pn** **00 49 50.5 -0.4**
SAOF Saorge 12.21 302 *e*P Pn 00 49 55.1 +3.4
RETA Reutte 12.23 321 ⇓*i*Pn **Pn** **00 49 51.4 -0.6**
SNR=18
RETA ⇑*i*Sn **Sn** **00 52 03.0 -5.3**
RETA Reutte 12.23 321 Pn **Pn** **00 49 51.4 -0.6**
SNR=18
SBF Sospel 12.25 301 *e*P **Pn** **00 49 54.5 +2.3**
comp=Z,297nm,1.0s
SBF Sospel 12.25 301 *e*P **Pn** **00 49 54.5 +2.3**
SBF pmax pmax
comp=Z,297nm,1.0s
SBF Sospel 12.25 301 *e*P **Pn** **00 49 54.5 +2.3**
comp=Z,297nm,1.0s
REVF Revere 12.25 300 *e*P Pn 00 49 56.4 +4.2
AUTN L'Aution 12.30 302 *e*P Pn 00 49 56.6 +3.6
KHC Kasperske Hory 12.31 333 *e*P **Pn** **00 49 53.0 0.0**
KHC *e* 00 52 08.9
KHC Kasperske Hory 12.31 333 *e*P **Pn** **00 49 50.4 -2.6**
KHC *ex* x 00 49 54.0
KHC *ex* x 00 50 02.3
KHC AMS AMS 00 55 10.0
comp=Z,14μm,11.5s
KHC Kasperske Hory 12.31 333 *e*Pn **Pn** **00 49 53.0 0.0**
KHC *e*Sn **Sn** **00 52 08.9 -1.1**
KHC Kasperske Hory 12.31 333 *e*P **Pn** **00 49 53.0 0.0**
KHC *e*S **Sn** **00 52 08.9 -1.1**
CKFL Kef-Lekhel 12.31 265 P **Pn** **00 49 55.3 +2.1**
LUCF Luceram 12.32 301 *e*P Pn 00 49 57.9 +4.7
TUE Stuetta 12.32 315 *e*Pn **Pn** **00 49 53.4 +0.1**
TUE *e*Sn **Sn** **00 52 05.6 -5.0**
TUE Stuetta 12.32 315 *e*Pn **Pn** **00 49 53.4 +0.1**
TOUF Mont Tournerai 12.43 301 *e*P Pn 00 49 59.5 +4.8
MVIF Mont Vial 12.45 301 *e*P Pn 00 49 59.9 +4.9
FUR Furstenfeldbru 12.47 325 *e*P **Pn** **00 49 54.4 -0.8**
FUR Furstenfeldbru 12.47 325 *e*P **Pn** **00 49 54.4 -0.8**
AKCD Akcadag 12.51 86 *i*P Pn 00 50 02.0 +4.2
CASM Ain Smara 12.53 265 P **Pn** **00 49 57.8 +1.8**
CASM Ain Smara 12.53 265 P **Pn** **00 49 57.8 +1.8**
DAVA Damuels 12.54 319 ⇑*i*Pn **Pn** **00 49 56.9 +0.6**
SNR=18
DAVA ⇓*i*Sn **Sn** **00 52 11.3 -4.6**
DAVA Damuels 12.54 319 Pn **Pn** **00 49 56.9 +0.6**
SNR=18
WET Wettzell 12.57 331 *e*P **Pn** **00 49 55.3 -1.3**
WET Wettzell 12.57 331 *e*P **Pn** **00 49 55.3 -1.3**
CALN Calern 12.58 300 *e*P Pn 00 50 01.3 +4.6
DPC Dobruska-Polom 12.60 343 *e*P **Pn** **00 49 57.3 +0.4**
DPC *e* 00 52 16.0
DPC Dobruska-Polom 12.60 343 *e*P **Pn** **00 49 55.9 -1.0**
DPC *ex* x 00 50 01.0
DPC AMS AMS 00 56 20.0
DPC Dobruska-Polom 12.60 343 *e*Pn **Pn** **00 49 57.3 +0.4**
DPC *e*Sn **Sn** **00 52 16.0 -1.1**
DPC Dobruska-Polom 12.60 343 *e*P **Pn** **00 49 57.3 +0.4**
DPC *e*S **Sn** **00 52 16.0 -1.1**
LMR La Mourre 12.70 298 *e*P **Pn** **00 49 59.5 +1.2**
comp=Z,196nm,1.4s
LMR La Mourre 12.70 298 *e*P **Pn** **00 49 59.5 +1.2**
LMR pmax pmax
comp=Z,196nm,1.4s
LMR La Mourre 12.70 298 *e*P **Pn** **00 49 59.5 +1.2**
comp=Z,196nm,1.4s
LMR La Mourre 12.70 298 *e*P **Pn** **00 49 59.5 +1.2**
comp=Z,98nm,1.4s
PRU Pruhonice 12.74 338 *e*P **Pn** **00 49 57.7 -1.1**
PRU MLR MLR
comp=Z,11μm,11.4s
PRU Pruhonice 12.74 338 *e*P **Pn** **00 49 57.7 -1.1**
PRU AMS AMS 00 55 20.0
comp=Z,11μm,11.4s
PRU Pruhonice 12.74 338 *e*P **Pn** **00 49 57.7 -1.1**
comp=Z,11μm,11.4s
SURF Saint Ours 12.89 303 *e*P Pn 00 50 05.1 +4.0
ATAB Bozova 12.91 89 *i*P Pn 00 50 07.5 +6.3
DFRA Djebel Bou Aff 12.94 267 P Px 00 50 13.8
OG22 Abries 12.94 304 *e*P Pn 00 50 09.6 +7.8
MBDF Montbardon 13.02 304 *e*P **Pn** **00 50 04.1 +1.3**
comp=Z,139nm,1.0s
MBDF Montbardon 13.02 304 *e*P **Pn** **00 50 04.1 +1.3**
MBDF pmax pmax
comp=Z,139nm,1.0s
MBDF Montbardon 13.02 304 *e*P **Pn** **00 50 04.1 +1.3**
comp=Z,139nm,1.0s
MBDF Montbardon 13.02 304 *e*P **Pn** **00 50 04.1 +1.3**
comp=Z,70nm,1.0s
KSP Ksiaz 13.07 344 *e*P **Pn** **00 50 02.4 -0.9**
KSP Ksiaz 13.07 344 *e*P Pn 00 50 06.6 +3.3
KSP *e*Sn **Sn** **00 52 26.1 -2.4**
KSP Ksiaz 13.07 344 *e*P **Pn** **00 50 02.4 -0.9**
BNI Bardonecchia 13.21 305 *e*P **Pn** **00 50 08.2 +2.8**
BNI Bardonecchia 13.21 305 *e*Pn **Pn** **00 50 08.2 +2.8**
AK11 Malin Array Si 13.28 20 *e*Pn **Pn** **00 50 05.2 -0.9**
AK11 *e*ScP **ScP** **00 59 08.8 +0.1**
AK11 Malin Array Si 13.28 20 *e*Pn **Pn** **00 50 05.2 -0.9**
AK11 *e*ScP **ScP** **00 59 08.8 +0.1**
KIEV Kiev 13.30 20*c* *i*P **Pn** **00 50 05.7 -0.8**
KIEV Kiev 13.30 20 *e*Pn **Pn** **00 50 05.7 -0.8**
KIEV *e*ScP **ScP** **00 59 09.4 +0.7**
KIEV Kiev 13.30 20 *i*P **Pn** **00 50 05.7 -0.8**
KIEV *e*ScP **ScP** **00 59 09.4 +0.7**
AKASG Malin Array Be 13.31 20 P **Pn** **00 50 06.0 -0.6**
AKASG Malin Array Be 13.31 20 Pn **Pn** **00 50 06.0 -0.6**
AKASG ScP **ScP** **00 59 08.2 -0.5**
AKASG Malin Array Be 13.31 20 Pn **Pn** **00 50 06.0 -0.6**
comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=28
AKASG LR LR 00 55 29.2
comp=Z,6μm,20.0s,baz=200,slow=39
AKASG ScP **ScP** **00 59 08.2 -0.5**
comp=Z,0.3nm,0.3s,baz=240,slow=1.3,SNR=12
AKASG Malin Array Be 13.31 20 P **Pn** **00 50 06.0 -0.6**
AKASG ScP **ScP** **00 59 08.2 -0.5**
ELZG Elazig 13.32 84 *i*P **P** **00 50 17.1 +0.4**
URFA Urfa 13.32 89 *e*PN **Pn** **00 50 07.9 +1.0**
URFA Urfa 13.32 89 *e*Pn **Pn** **00 50 07.9 +1.0**
ROTZ Rotzenmuhle 13.34 331 *e*P **Pn** **00 50 05.2 -1.8**
ROTZ Rotzenmuhle 13.34 331 *e*P **Pn** **00 50 05.2 -1.8**
LPG La Plagne 13.36 307 *e*P **Pn** **00 50 08.3 +0.8**
comp=Z,274nm,0.9s
LPG La Plagne 13.36 307 *e*P **Pn** **00 50 08.3 +0.8**
LPG pmax pmax
comp=Z,274nm,0.9s
LPG La Plagne 13.36 307 *e*P **Pn** **00 50 08.3 +0.8**
comp=Z,274nm,0.9s
LPG La Plagne 13.36 307 *e*P **Pn** **00 50 08.3 +0.8**
comp=Z,137nm,0.9s
LPL La Plagne 13.38 307 *e*P **Pn** **00 50 08.6 +0.8**
comp=Z,160nm,0.9s
LPL La Plagne 13.38 307 *e*P **Pn** **00 50 08.6 +0.8**
LPL pmax pmax
comp=Z,160nm,0.9s
LPL La Plagne 13.38 307 *e*P **Pn** **00 50 08.6 +0.8**
comp=Z,160nm,0.9s
LPL La Plagne 13.38 307 *e*P **Pn** **00 50 08.6 +0.8**
comp=Z,80nm,0.9s
SET Setif 13.40 266 P **Pn** **00 50 10.0 +2.1**
BEL Belsk 13.45 357 *e*P **Pn** **00 50 10.1 +1.7**
BEL Belsk 13.45 357 *e*P **Pn** **00 50 10.1 +1.7**
BEL *e*Sn **S** **00 53 06.9 +5.3**
BEL Belsk 13.45 357 *e*P **Pn** **00 50 10.1 +1.7**
KELT Kelkit 13.49 77 *i*P **Pn** **00 50 11.7 +2.5**
KELT Kelkit 13.49 77 *i*P **Pn** **00 50 11.7 +2.5**
RSL Roselend 13.52 307 *e*P Pn 00 50 13.3 +3.6
SMRF Simiane la Rot 13.55 299 *e*P **Pn** **00 50 11.0 +1.1**
comp=Z,170nm,1.2s
SMRF Simiane la Rot 13.55 299 *e*P **Pn** **00 50 11.0 +1.1**
comp=Z,170nm,1.2s
SMRF Simiane la Rot 13.55 299 *e*P **Pn** **00 50 11.0 +1.1**
comp=Z,85nm,1.2s
PTK Pertek 13.61 83 *e*PN **Pn** **00 50 11.8 +0.9**
PTK Pertek 13.61 83 *e*Pn **Pn** **00 50 11.8 +0.9**
NKC Novy Kostel 13.63 333 *e*P **Pn** **00 50 11.6 +0.6**
NKC MLR MLR
comp=Z,6μm,12.7s
NKC Novy Kostel 13.63 333 *e*P **Pn** **00 50 11.6 +0.6**
NKC AMS AMS 00 56 00.0
comp=Z,6μm,12.7s
NKC Novy Kostel 13.63 333 *e*P **Pn** **00 50 11.6 +0.6**
comp=Z,6μm,12.7s
GDM Grand'Maison 13.64 305 *e*P **P** **00 50 17.7 -2.5**
GRA1 Grafenberg Arr 13.66 329 *e*P **Pn** **00 50 10.2 -1.2**
GRF Grafenberg Arr 13.66 329 *e*P **Pn** **00 50 10.2 -1.2**
GRF *e*L L 00 56 18.3
comp=Z,11μm,21.3s
ASF Jabal al Asfar 13.67 113 Pn **Pn** **00 50 13.1 +1.4**
ASF Jabal al Asfar 13.67 113 Pn **Pn** **00 50 13.1 +1.4**
comp=Z,0.5nm,0.3s,baz=178,slow=2.0,SNR=8.8
ORIF Oris-en-Rattie 13.68 303 *e*P **Pn** **00 50 13.3 +1.6**
comp=Z,145nm,1.1s
ORIF *e*R
comp=Z,7μm,18.8s
ORIF Oris-en-Rattie 13.68 303 *e*P **Pn** **00 50 13.3 +1.6**
ORIF pmax pmax
comp=Z,145nm,1.1s
ORIF Oris-en-Rattie 13.68 303 *e*P **Pn** **00 50 13.3 +1.6**
comp=Z,145nm,1.1s
ORIF Oris-en-Rattie 13.68 303 *e*P **Pn** **00 50 13.3 +1.6**
comp=Z,73nm,1.1s
BRG Berggiesshubel 13.70 338 *i*P **Pn** **00 50 11.6 -0.3**
comp=Z,173nm,2.3s
BRG *e* 00 50 22.9
comp=Z,46nm,1.1s
BRG
comp=Z,12μm,11.0s
BRG
comp=N,7μm,11.7s
BRG
comp=E,10μm,11.7s
BRG Berggiesshubel 13.70 338 *i*P **Pn** **00 50 11.6 -0.3**
BRG pmax pmax
comp=Z,173nm,2.3s
BRG MLR MLR
comp=Z,12μm,11.0s
BRG MLR MLR
comp=N,7μm,11.7s
BRG MLR MLR
comp=E,10μm,11.7s
BRG Berggiesshubel 13.70 338 *e*P **Pn** **00 50 10.4 -1.5**
BRG Berggiesshubel 13.70 338 *e*P **Pn** **00 50 10.4 -1.5**
TANN Tannenbergstha 13.78 334 *e*P **Pn** **00 50 13.5 +0.4**
TANN Tannenbergstha 13.78 334 *e*P **Pn** **00 50 13.5 +0.4**
OG01 Vacheresse 13.79 310 *e*P Pn 00 50 16.3 +3.0
EUZM Uzumlu 13.82 79 *i*P **Pn** **00 50 16.0 +2.3**
EUZM Uzumlu 13.82 79 *i*P **Pn** **00 50 16.0 +2.3**
EIL Elat 13.83 125 Pn **Pn** **00 50 12.2 -1.5**
EIL Elat 13.83 125 Pn **Pn** **00 50 12.2 -1.5**
comp=E,1.6nm,0.3s,baz=334,slow=13,SNR=13
EIL Elat 13.83 125 Pn **Pn** **00 50 12.2 -1.5**
STU Stuttgart 13.88 322 *e*P **Pn** **00 50 12.0 -2.4**
STU *e* 00 52 41.8
STU Stuttgart 13.88 322 *e*P Pn 00 50 10.6 -3.8
STU *e*S Sn 00 52 39.9 -8.4
STU Stuttgart 13.88 322 *e*Pn **Pn** **00 50 12.0 -2.4**
STU *e*Sn Sn 00 52 41.8 -6.5
STU Stuttgart 13.88 322 *e*P **Pn** **00 50 12.0 -2.4**
GRN Grenoble 13.89 305 *e*P **P** **00 50 20.0 -2.9**
KTUT Trabzon 13.93 74 *e*PN **Pn** **00 50 14.6 -0.4**
KTUT Trabzon 13.93 74 *e*Pn **Pn** **00 50 14.6 -0.4**
OG26 St.-Nazaire-De 13.93 302 *e*P **Pn** **00 50 16.9 +1.7**
OG26 St.-Nazaire-De 13.93 302 *e*P **Pn** **00 50 16.9 +1.7**
BFO Black Forest 14.01 319 Pn **Pn** **00 50 15.4 -0.8**
comp=E,487nm,0.9s,SNR=12
BFO Black Forest 14.01 319 *i*P **Pn** **00 50 15.6 -0.6**
BFO Black Forest 14.01 319 *e*P **Pn** **00 50 15.0 -1.2**
BFO Black Forest 14.01 319 *e*Pn **Pn** **00 50 15.3 -0.9**
BFO Black Forest 14.01 319 *e*P **Pn** **00 50 15.0 -1.2**
BFO Black Forest 14.01 319 *e*Pn **Pn** **00 50 15.3 -0.9**
BAYT Ayd¨–ntepe-Bay 14.17 76 *e*PN **Pn** **00 50 18.9 +0.3**
BAYT Ayd¨–ntepe-Bay 14.17 76 *e*Pn **Pn** **00 50 18.9 +0.3**
DIYA Diyarbakir 14.27 86 *i*P **Pn** **00 50 21.4 +1.5**
MOX Moxa 14.27 332 *e*P **Pn** **00 50 20.0 +0.2**
MOX *e*L L 00 56 35.3
comp=Z,10μm,21.0s
DYBB Diyarbakir 14.28 86 *e*PN **Pn** **00 50 20.6 +0.5**
CABF La Chapelle 14.29 310 *e*P **Pn** **00 50 20.0 -0.1**
comp=Z,446nm,1.1s
CABF La Chapelle 14.29 310 *e*P **Pn** **00 50 20.0 -0.1**
CABF pmax pmax
comp=Z,446nm,1.1s
CABF La Chapelle 14.29 310 *e*P **Pn** **00 50 20.0 -0.1**
comp=Z,446nm,1.1s
SOC Sochi 14.34 63 *i*P **Pn** **00 50 22.4 +1.7**
SOC *e* 00 53 02.9
SOC pmax pmax
comp=Z,35nm,0.9s
SOC MLR MLR
comp=E,529nm,11.0s
SOC MLR MLR
comp=N,1μm,11.0s
SOC MLR MLR
comp=Z,1μm,11.0s
DIY Diyarbakir 14.36 86 *e*Pn **Pn** **00 50 20.6 -0.5**
CLL Collm 14.37 337 *e*P **Pn** **00 50 20.5 -0.5**
VIVF Saint-Julien-l 14.45 302 *e*P **Pn** **00 50 23.5 +1.2**
comp=Z,140nm,1.3s
VIVF Saint-Julien-l 14.45 302 *e*P **Pn** **00 50 23.5 +1.2**
VIVF pmax pmax
comp=Z,140nm,1.3s
VIVF Saint-Julien-l 14.45 302 *e*P **Pn** **00 50 23.5 +1.2**
comp=Z,140nm,1.3s
BINT Bingol 14.47 82 *e*Pn **Pn** **00 50 24.8 +2.2**
HINF Hinteralfeld 14.49 315 *e*P **Pn** **00 50 21.9 -0.9**
comp=Z,122nm,1.0s
HINF Hinteralfeld 14.49 315 *e*P **Pn** **00 50 21.9 -0.9**
HINF pmax pmax
comp=Z,122nm,1.0s
HINF Hinteralfeld 14.49 315 *e*P **Pn** **00 50 21.9 -0.9**
comp=Z,122nm,1.0s
MAZI Mazidag 14.60 88 *e*PN **Pn** **00 50 25.6 +1.2**
MAZI Mazidag 14.60 88 *e*Pn **Pn** **00 50 25.6 +1.2**
BNGB Bing¶l 14.61 82 *e*PN **Pn** **00 50 24.8 +0.3**
CDF Champ du Feu 14.61 318 *e*P **Pn** **00 50 23.9 -0.6**
comp=Z,196nm,1.1s
CDF Champ du Feu 14.61 318 *e*P **Pn** **00 50 23.9 -0.6**
CDF pmax pmax
comp=Z,196nm,1.1s
CDF Champ du Feu 14.61 318 *e*P **Pn** **00 50 23.9 -0.6**
comp=Z,196nm,1.1s
LASF Ste Croix 14.76 298 *e*P **Pn** **00 50 26.4 -0.1**
comp=Z,263nm,1.4s
LASF Ste Croix 14.76 298 *e*P **Pn** **00 50 26.4 -0.1**
comp=Z,263nm,1.4s
HAU Haudompre 14.88 315 *e*P **Pn** **00 50 27.6 -0.4**
comp=Z,229nm,0.9s
HAU *e*R
comp=Z,2μm,18.2s
HAU Haudompre 14.88 315 *e*P **Pn** **00 50 27.6 -0.4**
HAU pmax pmax
comp=Z,229nm,0.9s
HAU Haudompre 14.88 315 *e*P **Pn** **00 50 27.6 -0.4**
comp=Z,229nm,0.9s
ADJB Djebel Djouab 14.94 267 P **Pn** **00 50 30.2 +1.1**
EZM Erzurum 15.10 78 *e*PN **Pn** **00 50 31.5 +0.2**
ABA Alger-Bouzarea 15.12 270 P **Pn** **00 50 31.0 -0.3**
RUE Ruedersdorf 15.19 341 *e*Pn **Pn** **00 50 33.3 +1.3**
comp=Z,383nm,1.6s
RUE Ruedersdorf 15.19 341 *e*Pn **Pn** **00 50 33.3 +1.3**
comp=Z,383nm,1.6s
VRTB Varto-Mus 15.20 81 *e*PN **Pn** **00 50 33.2 +0.7**
VRTB Varto-Mus 15.20 81 *e*Pn **Pn** **00 50 33.2 +0.7**
GKP Gorka Klasztor 15.22 349 *e*P **P** **00 50 38.0 +0.6**
GKP Gorka Klasztor 15.22 349 *e*P **P** **00 50 38.0 +0.6**
GKP *e*Sn **S** **00 53 40.3 +2.6**
GKP Gorka Klasztor 15.22 349 *e*P **P** **00 50 38.0 +0.6**
TNS Taunus Mts 15.24 325 *e*P **Pn** **00 50 32.2 -0.7**
BTMT Batman 15.31 85 *e*PN **Pn** **00 50 34.9 +1.0**
BTMT Batman 15.31 85 *e*Pn **Pn** **00 50 34.9 +1.0**
EMHD Djebel Mahouad 15.31 268 P **P** **00 50 42.0 +3.2**
COLF Collangettes 15.33 303 *e*P **P** **00 50 40.3 +1.4**
COLF Collangettes 15.33 303 *e*P **P** **00 50 40.3 +1.4**
BCA Borcka 15.36 72 *e*PN **Pn** **00 50 34.0 -0.4**
BCA Borcka 15.36 72 *e*Pn **Pn** **00 50 34.0 -0.4**
DBAD Bademkaya 15.38 74 *i*P **P** **00 50 38.6 -0.9**
DBAD Bademkaya 15.38 74 *i*P **P** **00 50 38.6 -0.9**
DDEM Demirkent 15.42 75 *i*P **Pn** **00 50 31.0 -4.4**
LRDF Laroque-de-Fa 15.43 293 *e*P **P** **00 50 40.7 +0.8**
LRDF Laroque-de-Fa 15.43 293 *e*P **P** **00 50 40.7 +0.8**
LBL Lubilhac 15.53 302 *e*P **P** **00 50 42.8 +1.7**
LBL Lubilhac 15.53 302 *e*P **P** **00 50 42.8 +1.7**
PAGF Fort de Pagny 15.53 316 *e*P **Pn** **00 50 35.2 -1.4**
comp=Z,156nm,1.4s,baz=121
PAGF Fort de Pagny 15.53 316 *e*P **Pn** **00 50 35.2 -1.4**
comp=Z,156nm,1.4s
PLDF La Plantade 15.55 305 *e*P **P** **00 50 42.5 +1.2**
PLDF La Plantade 15.55 305 *e*P **P** **00 50 42.5 +1.2**
DAGI Agillar 15.55 74 *i*P **Pn** **00 50 37.9 +0.8**
ARTV Artvin 15.57 73 *i*P **Pn** **00 50 39.2 +1.8**
SUW Suwalki 15.62 3 *e*P **Pn** **00 50 37.8 0.0**
SUW pmax pmax
comp=Z,778nm,0.9s
SUW Suwalki 15.62 3 *e*P **Pn** **00 50 36.4 -1.4**
SUW *e*Sn **Sn** **00 53 31.5 +0.9**
SUW Suwalki 15.62 3 *e*Pn **Pn** **00 50 37.8 0.0**
comp=Z,778nm,0.9s
SUW Suwalki 15.62 3 *e*Pn **Pn** **00 50 37.8 0.0**
comp=Z,778nm,0.9s
SUW *e*Sn **Sn** **00 53 31.6 +0.9**
EKAR Karacoban 15.67 81 *i*P Pn 00 50 33.1 -5.6
SMF Signal de Mont 15.68 307 *e*P **Pn** **00 50 37.6 -1.0**
comp=Z,187nm,0.9s
SMF Signal de Mont 15.68 307 *e*P **Pn** **00 50 37.6 -1.0**
SMF pmax pmax
comp=Z,187nm,0.9s
SMF Signal de Mont 15.68 307 *e*P **Pn** **00 50 37.6 -1.0**
comp=Z,187nm,0.9s
SFTF Sexfontaines 15.72 314 *e*P **Pn** **00 50 39.5 +0.4**
comp=Z,634nm,1.3s,baz=133
SFTF Sexfontaines 15.72 314 *e*P **Pn** **00 50 39.5 +0.4**
comp=Z,634nm,1.3s
VALF Valcebollere 15.72 291 *e*P **P** **00 50 44.8 +1.4**
VALF Valcebollere 15.72 291 *e*P **P** **00 50 44.8 +1.4**
MTLF Montolieu 15.74 294 *e*P **Pn** **00 50 38.8 -0.6**
comp=Z,203nm,1.2s
MTLF Montolieu 15.74 294 *e*P **Pn** **00 50 38.8 -0.6**
MTLF pmax pmax
comp=Z,203nm,1.2s
MTLF Montolieu 15.74 294 *e*P **Pn** **00 50 38.8 -0.6**
comp=Z,203nm,1.2s
PYM Petit Puy Mans 15.87 304 *e*P **P** **00 50 43.1 -1.7**
PYM Petit Puy Mans 15.87 304 *e*P **P** **00 50 43.1 -1.7**
MEZF Maizieres J'vi 15.87 315 *e*P **Pn** **00 50 41.3 +0.3**
baz=114
MEZF Maizieres J'vi 15.87 315 *e*P **Pn** **00 50 41.3 +0.3**
AGO Saint Agoulin 15.90 305 *e*P **P** **00 50 45.7 +0.6**
AGO Saint Agoulin 15.90 305 *e*P **P** **00 50 45.7 +0.6**
LOR Lormes 15.95 310 *e*P **Pn** **00 50 41.4 -0.6**
comp=Z,549nm,1.5s,baz=125
LOR *e*R
comp=Z,4μm,17.5s
LOR Lormes 15.95 310 *e*P **Pn** **00 50 41.4 -0.6**
comp=Z,549nm,1.5s
WLF Walferdange 15.97 320 P **Pn** **00 50 42.6 +0.3**
comp=Z,152nm,1.6s
WLF Walferdange 15.97 320 *e*P **Pn** **00 50 43.6 +1.3**
WLF pmax pmax
comp=Z,195nm,1.1s
WLF Walferdange 15.97 320 *e*P **Pn** **00 50 41.1 -1.2**
WLF Walferdange 15.97 320 *e*Pn **Pn** **00 50 43.6 +1.3**
comp=Z,195nm,1.1s
WLF Walferdange 15.97 320 *e*P **Pn** **00 50 43.6 +1.3**
comp=Z,195nm,1.1s
AVF Avril sur Loir 16.05 307 *e*P **Pn** **00 50 42.4 -0.9**
comp=Z,824nm,1.3s
AVF Avril sur Loir 16.05 307 *e*P **Pn** **00 50 42.4 -0.9**
AVF pmax pmax
comp=Z,824nm,1.3s
AVF Avril sur Loir 16.05 307 *e*P **Pn** **00 50 42.4 -0.9**
comp=Z,824nm,1.3s
SSF Saint Saulge 16.07 308 *e*P **Pn** **00 50 44.7 +1.1**
comp=Z,800nm,1.1s
SSF Saint Saulge 16.07 308 *e*P **Pn** **00 50 44.7 +1.1**
SSF pmax pmax
comp=Z,800nm,1.1s
SSF Saint Saulge 16.07 308 *e*P **Pn** **00 50 44.7 +1.1**
comp=Z,800nm,1.1s
SSF Saint Saulge 16.07 308 *e*P **Pn** **00 50 44.7 +1.1**
comp=Z,400nm,1.1s
CAF Calviac 16.23 300 *e*P **Pn** **00 50 46.6 +0.9**
comp=Z,176nm,1.1s
CAF Calviac 16.23 300 *e*P **Pn** **00 50 46.6 +0.9**
CAF pmax pmax
comp=Z,176nm,1.1s
CAF Calviac 16.23 300 *e*P **Pn** **00 50 46.6 +0.9**
comp=Z,176nm,1.1s
CAF Calviac 16.23 300 *e*P **Pn** **00 50 46.6 +0.9**
comp=Z,88nm,1.1s
BGF Bois d'Agland 16.27 306 *e*P **Pn** **00 50 45.8 -0.4**
comp=Z,632nm,1.1s
BGF Bois d'Agland 16.27 306 *e*P **Pn** **00 50 45.8 -0.4**
BGF pmax pmax
comp=Z,632nm,1.1s
BGF Bois d'Agland 16.27 306 *e*P **Pn** **00 50 45.8 -0.4**
comp=Z,632nm,1.1s
NRDL Niedersach Rie 16.33 333 *e*P **Pn** **00 50 46.2 -0.6**
NRDL *e*L L 00 57 35.4
comp=Z,9μm,19.9s
AGRB Hanur-Agry 16.37 79 *e*PN **Pn** **00 50 48.4 +0.7**
AGRB Hanur-Agry 16.37 79 *e*Pn **Pn** **00 50 48.4 +0.7**
EBNR Beni Rached 16.41 269 P **Pn** **00 50 48.4 +0.3**
EBNR Beni Rached 16.41 269 P **Pn** **00 50 48.4 +0.3**
MLS Moulis 16.48 293 *e*P **P** **00 50 51.5 -0.1**
MLS Moulis 16.48 293 *e*P **P** **00 50 51.5 -0.1**
KIV Kislovodsk 16.52 64 Pn **P** **00 50 51.4 -0.7**
comp=Z,537nm,1.0s,SNR=7.6
KIV Kislovodsk 16.52 64*c* *i*P **Pn** **00 50 50.4 +1.0**
KIV *i*S **Sn** **00 53 53.7 +1.0**
KIV pmax pmax
comp=Z,142nm,1.6s
KIV MLR MLR
comp=Z,900nm,17.0s
KIV Kislovodsk 16.52 64 ⇓*i*P **Pn** **00 50 50.5 +1.0**
SNR=16
KIV Kislovodsk 16.52 64 P **Pn** **00 50 50.5 +1.0**
SNR=16
GEVA Gevas 16.52 84 *i*P **P** **00 50 53.4 +1.1**
GEVA Gevas 16.52 84 *i*P **P** **00 50 53.4 +1.1**
ECHA Ech Chlef 16.57 269 P **Pn** **00 50 50.0 -0.1**
ECHA Ech Chlef 16.57 269 P **Pn** **00 50 50.0 -0.1**
MNK Minsk 16.57 12 *e*P **Pn** **00 50 49.0 -1.0**
TCF Toulx Ste Croi 16.58 305 *e*P **Pn** **00 50 50.6 +0.5**
comp=Z,350nm,1.5s
TCF Toulx Ste Croi 16.58 305 *e*P **Pn** **00 50 50.6 +0.5**
TCF pmax pmax
comp=Z,350nm,1.5s
TCF Toulx Ste Croi 16.58 305 *e*P **Pn** **00 50 50.6 +0.5**
comp=Z,350nm,1.5s
TCF Toulx Ste Croi 16.58 305 *e*P **Pn** **00 50 50.6 +0.5**
comp=Z,175nm,1.5s
MICGM Minsk 16.58 12 *e*P **Pn** **00 50 49.0 -1.1**
KBZ Khabaz 16.62 65 P **P** **00 50 55.1 +2.0**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ MLR MLR
comp=Z,1μm,21.2s
KBZ Khabaz 16.62 65 Pn **P** **00 50 55.1 +2.0**
KBZ Khabaz 16.62 65 Pn **P** **00 50 55.1 +2.0**

comp=Z,0.5nm,0.3s,baz=290,slow=7.2,SNR=22
KBZ LR LR 00 58 44.9
comp=Z,1µm,21.2s,baz=267,slow=43
KBZ Khabaz 16.62 65 P **P** **00 50 55.1 +2.0**
comp=Z,1µm,21.2s
MEM Membach 16.65 322 P **P** **00 50 55.1 +1.8**
comp=Z,118nm,1.3s
MEM Membach 16.65 322 *e*P **P** **00 50 52.2 -1.2**
MEM pmax pmax
comp=Z,232nm,1.2s
MEM Membach 16.65 322 *e*Pn **P** **00 50 52.1 -1.2**
comp=Z,232nm,1.2s
MEM Membach 16.65 322 *e*P **P** **00 50 52.2 -1.2**
comp=Z,232nm,1.2s
HYF Humbligny 16.69 308 *e*P **Pn** **00 50 51.7 +0.1**
HYF Humbligny 16.69 308 *e*P **Pn** **00 50 51.7 +0.1**
HYF Humbligny 16.69 308 *e*P **Pn** **00 50 51.7 +0.1**
MELF Melles 16.71 292 *e*P **P** **00 50 55.9 +1.7**
MELF Melles 16.71 292 *e*P **P** **00 50 55.9 +1.7**
RJF Les Rejaudoux 16.71 301 *e*P **Pn** **00 50 51.9 +0.1**
comp=Z,183nm,1.2s
RJF *e*R
comp=Z,5µm,18.2s
RJF Les Rejaudoux 16.71 301 *e*P **Pn** **00 50 51.9 +0.1**
RJF pmax pmax
comp=Z,183nm,1.2s
RJF Les Rejaudoux 16.71 301 *e*P **Pn** **00 50 51.9 +0.1**
comp=Z,183nm,1.2s
RJF Les Rejaudoux 16.71 301 *e*P **Pn** **00 50 51.9 +0.1**
comp=Z,91nm,1.2s
AKH Akhalkalaki 16.76 73 P **P** **00 50 56.5 +1.7**
AKH Akhalkalaki 16.76 73 P **P** **00 50 56.5 +1.7**
HGN Heimansgroeve 16.79 323 *e*P **P** **00 50 55.8 +1.0**
comp=Z,405nm,1.5s
HGN *e*S **Sn** **00 54 01.1 +2.2**
HGN *e*L L 00 58 22.0
comp=Z,5µm,20.1s
NACGM **Naroch 16.81 10** *e*P Pn 00 50 48.0 -4.9
ETRT Tiaret 16.82 266 P **Pn** **00 50 52.5 -0.9**
EANR 'Ain N'Sour 16.83 268 P **Pn** **00 50 53.4 0.0**
EANR 'Ain N'Sour 16.83 268 P **Pn** **00 50 53.4 0.0**
ONI Oni 16.84 69 P **P** **00 50 57.2 +1.6**
ONI Oni 16.84 69 P **P** **00 50 57.2 +1.6**
BCLA Clavier 16.87 321 P **P** **00 50 57.3 +1.4**
comp=Z,80nm,1.6s
BCLA Clavier 16.87 321 P **P** **00 50 57.2 +1.4**
comp=Z,80nm,1.6s
GIVF Givet 16.92 319 *e*P **Pn** **00 50 54.7 +0.3**
comp=Z,658nm,1.5s
GIVF Givet 16.92 319 *e*P **Pn** **00 50 54.7 +0.3**
GIVF pmax pmax
comp=Z,658nm,1.5s
GIVF Givet 16.92 319 *e*P **Pn** **00 50 54.7 +0.3**
comp=Z,658nm,1.5s
GIVF Givet 16.92 319 *e*P **Pn** **00 50 54.7 +0.3**
comp=Z,329nm,1.5s
BEBN Eben Emael 16.93 322 P **P** **00 50 59.0 +2.6**
comp=Z,43nm,1.4s
DOU Dourbes 17.03 319 P **Pn** **00 50 56.0 +0.2**
comp=Z,102nm,2.0s
DOU Dourbes 17.03 319 P **Pn** **00 50 56.0 +0.2**
comp=Z,102nm,2.0s
GOF Gofitskoye 17.03 60 *e*P **P** **00 50 56.9 -0.8**
GOF pmax pmax
comp=Z,249nm,1.2s
GOF Gofitskoye 17.03 60 *e*P **P** **00 50 56.9 -0.8**
comp=Z,249nm,1.2s
EPF Esparros 17.04 293 *e*P **Pn** **00 50 55.1 -0.9**
comp=Z,87nm,1.2s
EPF Esparros 17.04 293 *e*P **Pn** **00 50 55.1 -0.9**
EPF pmax pmax
comp=Z,87nm,1.2s
EPF Esparros 17.04 293 *e*P **Pn** **00 50 55.1 -0.9**
comp=Z,87nm,1.2s
EPF Esparros 17.04 293 *e*P **Pn** **00 50 55.1 -0.9**
comp=Z,44nm,1.2s
CLDR Caldiran 17.11 81 *e*PN **P** **00 50 59.3 +0.5**
CLDR Caldiran 17.11 81 *e*Pn **P** **00 50 59.3 +0.5**
CUKT Cukurca 17.11 87 *e*PN **P** **00 50 59.3 +0.5**
CUKT Cukurca 17.11 87 *e*Pn **P** **00 50 59.3 +0.5**
HAKT HAKKARI 17.14 86 *i* P **P** **00 50 58.7 -0.4**
HAKT HAKKARI 17.14 86 *i* P **P** **00 50 58.7 -0.4**
LFF La Frestale 17.14 299 *e*P **P** **00 50 58.0 -0.8**
comp=Z,341nm,1.5s
LFF La Frestale 17.14 299 *e*P **P** **00 50 58.0 -0.8**
LFF pmax pmax
comp=Z,341nm,1.5s
LFF La Frestale 17.14 299 *e*P **P** **00 50 58.0 -0.8**
comp=Z,341nm,1.5s
LFF La Frestale 17.14 299 *e*P **P** **00 50 58.0 -0.8**
comp=Z,171nm,1.5s
IIGN Ignalina 17.18 8 *e*P **Pn** **00 50 57.5 -0.1**
IIGN AMB AMB 00 51 03.7
comp=Z,52nm,1.4s
IIGN *e*S **S** **00 54 21.0 +3.2**
IIGN Ignalina 17.18 8 *e*P **Pn** **00 50 57.5 -0.1**
comp=Z,52nm,1.4s,SNR=34
IIGN *e*S **S** **00 54 21.0 +3.2**
ZEI Tsey 17.19 68 *e*P **P** **00 50 58.9 -0.7**
ZEI pmax pmax
comp=Z,59nm,1.2s
ZEI MLR MLR
comp=Z,812nm,10.0s
ZEI Tsey 17.19 68 *e*P **P** **00 50 58.9 -0.7**
comp=Z,812nm,10.0s
IDID Didziasalis 17.21 9 *e*P **Pn** **00 50 58.0 0.0**
IDID AMB AMB 00 51 04.1
comp=Z,50nm,1.1s
IDID *e*S **S** **00 54 19.2 +0.9**
IDID Didziasalis 17.21 9 *e*P **Pn** **00 50 58.0 0.0**
comp=Z,50nm,1.1s,SNR=34
IDID *e*S **S** **00 54 19.2 +0.9**
BAIF Baives 17.21 318 *e*P **Pn** **00 50 58.6 +0.6**
comp=Z,509nm,1.5s
BAIF Baives 17.21 318 *e*P **Pn** **00 50 58.6 +0.6**
BAIF pmax pmax
comp=Z,509nm,1.5s
BAIF Baives 17.21 318 *e*P **Pn** **00 50 58.6 +0.6**
comp=Z,509nm,1.5s
BAIF Baives 17.21 318 *e*P **Pn** **00 50 58.6 +0.6**
comp=Z,254nm,1.5s
WTSB Winterswijk 17.22 327 *e*P **P** **00 51 01.7 +2.0**
comp=Z,319nm,1.3s
WTSB Winterswijk 17.22 327 *e*P **P** **00 51 01.7 +2.0**
comp=Z,319nm,1.3s
VIEF Viey 17.25 292 *e*P **P** **00 51 00.0 -0.2**
VIEF Viey 17.25 292 *e*P **P** **00 51 00.0 -0.2**
BSD Bornholm Skovb 17.38 346 *e*P **Pn** **00 51 00.4 +0.3**
BSD pmax pmax
comp=Z,35nm,0.9s
BSD MLR MLR
comp=Z,4µm,14.0s
BSD Bornholm Skovb 17.38 346 *i* P **Pn** **00 51 00.4 +0.3**
comp=Z,35nm,0.8s
BSD
comp=Z,4µm,13.0s
BSD Bornholm Skovb 17.38 346 *e*P **Pn** **00 51 00.4 +0.3**
comp=Z,4µm,14.0s
ISAL Salakas 17.39 8 *e*P **Pn** **00 50 59.6 -0.6**
ISAL AMB AMB 00 51 06.5
comp=Z,34nm,1.4s
ISAL Salakas 17.39 8 *e*P **Pn** **00 50 59.6 -0.6**
comp=Z,34nm,1.4s,SNR=34
SNF Seneffe 17.44 320 P **P** **00 51 01.5 -0.6**
SNF Seneffe 17.44 320 P **P** **00 51 01.5 -0.6**
BSEG Bad Segeberg 17.46 336 *e*P **Pn** **00 50 59.2 -1.9**
comp=Z,240nm,1.3s
VORD Divnogorie 17.52 39 *e*P **P** **00 51 02.2 -0.7**
VORD pmax pmax
comp=Z,20nm,1.2s
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,60nm,1.1s
VORD MLR MLR
comp=E,3µm,13.0s
VORD MLR MLR
comp=Z,2µm,13.0s
VORD MLR MLR
comp=N,4µm,14.0s
VORD Divnogorie 17.52 39 *e*P **P** **00 51 02.2 -0.7**
comp=N,4µm,14.0s
REYF Montagne du Re 17.57 292 *e*P **P** **00 51 04.3 +0.5**
REYF Montagne du Re 17.57 292 *e*P **P** **00 51 04.3 +0.5**
VSR Storozhevoye 17.61 38 *e*P **P** **00 51 04.4 +0.4**
VSR pmax pmax
comp=N,60nm,1.0s
VSR pmax pmax
comp=E,60nm,1.0s
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=E,2µm,13.0s
VSR MLR MLR
comp=Z,3µm,13.0s
VSR MLR MLR
comp=N,3µm,18.0s
VSR Storozhevoye 17.61 38 *e*P **P** **00 51 04.4 +0.4**
comp=N,3µm,18.0s
ETSF Etsaut 17.67 292 *e*P **P** **00 51 04.6 -0.3**
comp=N,284nm,1.3s
ETSF Etsaut 17.67 292 *e*P **P** **00 51 04.6 -0.3**
ETSF pmax pmax
comp=Z,284nm,1.3s
ETSF Etsaut 17.67 292 *e*P **P** **00 51 04.6 -0.3**
comp=Z,284nm,1.3s
ETSF Etsaut 17.67 292 *e*P **P** **00 51 04.6 -0.3**
comp=Z,142nm,1.3s
GNI Garni 17.69 77 *e*Pn **Pn** **00 51 03.7 -0.6**
comp=Z,119nm,1.3s
GNI Garni 17.69 77 P **P** **00 51 07.9 +2.7**
comp=Z,0.5nm,0.3s,baz=189,slow=4.4,SNR=11
GNI LR LR 00 58 04.3
comp=Z,2µm,18.2s,baz=286,slow=38
GNI Garni 17.69 77 ǁ *i* P **P** **00 51 05.3 +0.1**
SNR=14
GNI Garni 17.69 77 *e*Pn **Pn** **00 51 03.7 -0.6**
comp=Z,119nm,1.3s
GNI Garni 17.69 77 P **P** **00 51 05.3 +0.1**
SNR=14
DUS Dusheti 17.71 71 P **P** **00 51 09.2 +4.0**
TBLG Delisi 17.71 72 P **P** **00 51 08.5 +3.3**
ATE Arette 17.80 292 *e*P **Pn** **00 51 04.7 -0.8**
ATE Arette 17.80 292 *e*P **Pn** **00 51 04.7 -0.8**
WIT Witteveen 17.89 329 *e*P **P** **00 51 08.7 +1.6**
comp=Z,551nm,1.2s
WIT Witteveen 17.89 329 *e*P **P** **00 51 08.7 +1.6**
comp=Z,551nm,1.2s
ORDF Ordiarp 17.99 293 *e*P **P** **00 51 08.0 -0.2**
ORDF Ordiarp 17.99 293 *e*P **P** **00 51 08.0 -0.2**
LARF Larrau 18.00 292 *e*P **P** **00 51 08.2 -0.3**
LARF Larrau 18.00 292 *e*P **P** **00 51 08.2 -0.3**
CART Cartagena 18.14 275 *i* S **S** **00 54 35.7 -1.8**
LLD Lille Linde 18.16 342 *i* P **Pn** **00 51 06.1 -3.7**
LLD Lille Linde 18.16 342 *i* P **Pn** **00 51 06.1 -3.7**
SJPF Ste Jean 18.18 292 *e*P **Pn** **00 51 09.7 -0.5**
comp=Z,78nm,0.8s
SJPF Ste Jean 18.18 292 *e*P **Pn** **00 51 09.7 -0.5**
SJPF pmax pmax
comp=Z,78nm,0.8s
SJPF Ste Jean 18.18 292 *e*P **Pn** **00 51 09.7 -0.5**
comp=Z,78nm,0.8s
SJPF Ste Jean 18.18 292 *e*P **Pn** **00 51 09.7 -0.5**
comp=Z,39nm,0.8s
MFF Saint Martin d 18.22 304 *e*P **P** **00 51 11.1 +0.4**
comp=Z,662nm,1.3s
MFF Saint Martin d 18.22 304 *e*P **P** **00 51 11.1 +0.4**
MFF pmax pmax
comp=Z,662nm,1.3s
MFF Saint Martin d 18.22 304 *e*P **P** **00 51 11.1 +0.4**
comp=Z,662nm,1.3s
MFF Saint Martin d 18.22 304 *e*P **P** **00 51 11.1 +0.4**
comp=Z,331nm,1.3s
OSSF Osses 18.23 293 *e*P **Pn** **00 51 10.5 -0.2**
OSSF Osses 18.23 293 *e*P **Pn** **00 51 10.5 -0.2**
COP Copenhagen 18.43 343 *i* P **Pn** **00 51 16.7 +3.7**
COP pmax pmax
comp=Z,58nm,1.0s
COP MLR MLR
comp=Z,2µm,16.0s
COP Copenhagen 18.43 343 *i* P **Pn** **00 51 16.7 +3.7**
comp=Z,58nm,1.0s
COP
comp=Z,2µm,15.0s
IMRD Marand 18.54 82 *e*P **Pn** **00 51 16.0 +1.3**
IMRD Marand 18.54 82 *e*P **Pn** **00 51 16.0 +1.3**
LCHF La Chataignera 18.63 304 *e*P **Pn** **00 51 17.4 +1.9**
LCHF La Chataignera 18.63 304 *e*P **Pn** **00 51 17.4 +1.9**
VRHR Novokhopersk 18.77 41 *e*P **Pn** **00 51 18.7 +1.5**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,100nm,1.2s
VRHR pmax pmax
comp=E,80nm,1.2s
VRHR MLR MLR
comp=Z,2µm,13.0s
VRHR MLR MLR
comp=N,4µm,12.0s
VRHR MLR MLR
comp=E,2µm,12.0s
VRHR Novokhopersk 18.77 41 *e*P **Pn** **00 51 18.7 +1.5**
comp=E,2µm,13.0s
IAZR Azarshahr 18.90 85 *e*P **Pn** **00 51 20.6 +1.4**
IAZR Azarshahr 18.90 85 *e*P **Pn** **00 51 20.6 +1.4**
LDF La Druitiere 18.93 310 *e*P **P** **00 51 18.7 +0.1**
comp=E,273nm,1.2s
LDF La Druitiere 18.93 310 *e*P **P** **00 51 18.7 +0.1**
LDF pmax pmax
comp=Z,273nm,1.2s
LDF La Druitiere 18.93 310 *e*P **P** **00 51 18.7 +0.1**
comp=Z,273nm,1.2s
LDF La Druitiere 18.93 310 *e*P **P** **00 51 18.7 +0.1**
comp=Z,137nm,1.2s
ITBZ Tabriz 18.94 83 *e*P **Pn** **00 51 20.7 +1.1**
ITBZ Tabriz 18.94 83 *e*P **Pn** **00 51 20.7 +1.1**
FLN La Foliniere 19.22 310 *e*P **Pn** **00 51 22.7 0.0**
comp=Z,173nm,0.8s,baz=120
FLN *e*R
comp=Z,3µm,19.2s
FLN La Foliniere 19.22 310 *e*P **Pn** **00 51 22.7 0.0**
FLN pmax pmax
comp=Z,173nm,0.8s
FLN La Foliniere 19.22 310 *e*P **Pn** **00 51 22.7 0.0**
comp=Z,173nm,0.8s
FLN La Foliniere 19.22 310 *e*P **Pn** **00 51 22.7 0.0**
comp=Z,87nm,0.8s
GRR Gorron 19.30 308 *e*P **P** **00 51 21.1 -1.5**
comp=Z,321nm,1.0s
GRR Gorron 19.30 308 *e*P **P** **00 51 21.1 -1.5**
GRR pmax pmax
comp=Z,321nm,1.0s
GRR Gorron 19.30 308 *e*P **P** **00 51 21.1 -1.5**
comp=Z,321nm,1.0s
GRR Gorron 19.30 308 *e*P **P** **00 51 21.1 -1.5**
comp=Z,160nm,1.0s
OBN Obninsk 19.39 26 P **P** **00 51 23.6 +0.1**
comp=Z,711nm,1.2s,SNR=12
OBN Obninsk 19.39 26 *ce*P **P** **00 51 22.7 -0.8**
OBN pmax pmax
comp=Z,197nm,1.7s
OBN MLR MLR
comp=Z,5µm,24.0s
OBN Obninsk 19.39 26 P **Pn** **00 51 23.9 -0.7**
OBN Obninsk 19.39 26 P **Pn** **00 51 23.9 -0.7**
comp=Z,3.8nm,0.3s,baz=353,slow=2.7,SNR=20
OBN LR LR 00 58 53.9
comp=Z,5µm,20.4s,baz=220,slow=37
OBN Obninsk 19.39 26 *e*P **P** **00 51 22.7 -0.8**
comp=Z,5µm,24.0s
IHRS Heris 19.63 82 *e*P **P** **00 51 26.3 -0.3**
IHRS Heris 19.63 82 *e*P **P** **00 51 26.3 -0.3**
MAK Makhachkala 19.84 69 *e*P **P** **00 51 28.5 0.0**
MAK pmax pmax
comp=Z,287nm,1.6s
MAK MLR MLR
comp=Z,853nm,10.0s
MAK Makhachkala 19.84 69 *e*P **P** **00 51 28.5 0.0**
comp=Z,853nm,10.0s
IDHR Dehrash 19.93 93 *e*P **P** **00 51 30.2 +0.4**
IDHR Dehrash 19.93 93 *e*P **P** **00 51 30.2 +0.4**
MUD Monsted U'grnd 19.96 339 *i* P **P** **00 51 30.2 +0.5**
MUD pmax pmax
comp=Z,59nm,1.0s
MUD Monsted U'grnd 19.96 339 *i* P **P** **00 51 30.2 +0.5**
comp=Z,59nm,0.9s
MUD Monsted U'grnd 19.96 339 *i* P **P** **00 51 30.2 +0.5**
comp=Z,59nm,1.0s
ZAI Zaio 20.12 268 *i* P **P** **00 51 32.0 +0.3**
ES19 SONSECA Array 20.13 282 *e*P **P** **00 51 32.6 +0.8**
ES19 SONSECA Array 20.13 282 *e*P **P** **00 51 32.6 +0.8**
ESDC Sonseca Array 20.18 282 P **P** **00 51 32.4 0.0**
ESDC ScP **ScP** **00 59 25.5 +2.8**
ESDC Sonseca Array 20.18 282 P **P** **00 51 32.4 0.0**
comp=Z,58nm,0.7s,baz=76,slow=11,SNR=252
ESDC ScP **ScP** **00 59 25.5 +2.8**
comp=Z,0.7nm,0.7s,baz=45,slow=2.0,SNR=5.0
ESDC Sonseca Array 20.18 282 P **P** **00 51 32.3 0.0**
ESDC ScP **ScP** **00 59 25.5 +2.8**
IGHG Ghaleghazi 20.18 94 *e*P **P** **00 51 33.1 +0.5**
IGHG Ghaleghazi 20.18 94 *e*P **P** **00 51 33.1 +0.5**
MOS Moscow 20.25 26 *e*P P 00 51 26.9 -6.0
MOS *e* 00 51 47.0
MOS *e*S S 00 55 12.4 -7.3
MOS pmax pmax
comp=E,400nm,1.6s
MOS pmax pmax
comp=Z,1µm,1.6s
MOS pmax pmax
comp=N,500nm,1.5s
MOS pmax pmax
comp=Z,720nm,1.5s
MOS pmax pmax
comp=N,277nm,1.3s
MOS pmax pmax
comp=E,264nm,1.3s
MOS smax smax
comp=N,2µm,5.0s
MOS smax smax
comp=E,2µm,4.1s
MOS MLR MLR
comp=E,4µm,11.0s
MOS MLR MLR
comp=Z,4µm,11.0s
MOS MLR MLR
comp=N,2µm,10.0s
VSU Vasula 20.30 7 *c i* P **P** **00 51 32.9 -0.5**
VSU pmax pmax
comp=Z,96nm,0.7s
VSU MLR MLR
comp=Z,8µm,16.0s
VSU Vasula 20.30 7 *i* P **P** **00 51 32.9 -0.5**
comp=Z,8µm,16.0s
SGMF Saint Gilles 20.31 307 *e*P Pn 00 51 34.8 -0.8
comp=Z,143nm,0.8s
SGMF pmax pmax
comp=Z,143nm,0.8s
SGMF Saint Gilles 20.31 307 *e*P Pn 00 51 34.8 -0.8
comp=Z,143nm,0.8s
SGMF Saint Gilles 20.31 307 *e*P Pn 00 51 34.8 -0.8
comp=Z,72nm,0.8s
ILIN Lien 20.31 92 *e*P **P** **00 51 34.3 +0.3**
ILIN Lien 20.31 92 *e*P **P** **00 51 34.3 +0.3**
PAB San Pablo 20.49 281 *e*P **P** **00 51 35.8 0.0**
PAB pmax pmax
comp=Z,37nm,1.1s
PAB MLR MLR
comp=Z,906nm,21.0s
PAB San Pablo 20.49 281 *e*P **P** **00 51 35.8 0.0**
comp=Z,37nm,1.1s
PAB LR LR
comp=Z,906nm,21.0s
PAB San Pablo 20.49 281 *e*P **P** **00 51 35.8 0.0**
comp=Z,906nm,21.0s
QUIF Quistinic 20.58 306 *e*P **P** **00 51 36.0 -0.6**
comp=Z,162nm,0.7s
QUIF Quistinic 20.58 306 *e*P **P** **00 51 36.0 -0.6**
QUIF pmax pmax
comp=Z,162nm,0.7s
QUIF Quistinic 20.58 306 *e*P **P** **00 51 36.0 -0.6**
comp=Z,162nm,0.7s
QUIF Quistinic 20.58 306 *e*P **P** **00 51 36.0 -0.6**
comp=Z,81nm,0.7s
ROSF Rostrenen 20.79 307 *e*P **P** **00 51 38.1 -0.7**
comp=Z,449nm,1.1s
ROSF Rostrenen 20.79 307 *e*P **P** **00 51 38.1 -0.7**
ROSF pmax pmax
comp=Z,449nm,1.1s
ROSF Rostrenen 20.79 307 *e*P **P** **00 51 38.1 -0.7**
comp=Z,449nm,1.1s
ROSF Rostrenen 20.79 307 *e*P **P** **00 51 38.1 -0.7**
comp=Z,225nm,1.1s
WOL Wolverton 20.80 316 *e*P **P** **00 51 39.5 +0.7**
WOL AMB AMB 00 51 44.3
comp=Z,266nm,1.9s
WOL AMS AMS 01 01 11.9
comp=Z,5µm,10.3s
WOL Wolverton 20.80 316 *e*P **P** **00 51 39.5 +0.7**
TOU Touzarine 20.91 268 *i* P Pn 00 51 42.0 -0.9
MPAL Palemas 20.98 269 *i* P **P** **00 51 41.0 -0.1**
TAM Tamanrasset 21.01 227 PFAKE 00 51 50.0 +8.5
TAM LR LR
comp=Z,2µm,22.0s
SWN1 Swindon 21.21 316 *e*P **P** **00 51 44.6 +1.3**
SWN1 AMB AMB 00 51 49.1
comp=Z,354nm,1.4s
SWN1 AMS AMS 01 01 26.6
comp=Z,5µm,8.4s
SWN1 Swindon 21.21 316 *e*P **P** **00 51 44.6 +1.3**
BATH Bath 21.47 315 *e*P **P** **00 51 46.1 0.0**
BATH AMB AMB 00 51 51.4
comp=Z,287nm,1.1s
BATH Bath 21.47 315 *e*P **P** **00 51 46.1 0.0**
STRD Stroud 21.54 316 *e*P **P** **00 51 48.2 +1.4**
STRD AMB AMB 00 51 51.3
comp=Z,478nm,1.9s
STRD Stroud 21.54 316 *e*P **P** **00 51 48.2 +1.4**
OLDB Oldbury-Upon-S 21.69 316 *e*P **P** **00 51 48.7 +0.2**
OLDB AMB AMB 00 51 53.8
comp=Z,293nm,1.5s
OLDB Oldbury-Upon-S 21.69 316 *e*P **P** **00 51 48.7 +0.2**
LIJA Lijar 21.72 275 *e*P **P** **00 51 47.2 -1.8**
HOMB Homborsund 21.72 341 *e*P **P** **00 51 46.5 -2.1**
HOMB Homborsund 21.72 341 *e*P **P** **00 51 46.5 -2.1**
SNR=35
MONM Monmouth 21.92 316 *e*P **P** **00 51 51.2 +0.3**
MONM AMB AMB 00 51 56.3
comp=Z,406nm,1.3s
MONM Monmouth 21.92 316 *e*P **P** **00 51 51.2 +0.3**
KBI1 Birley Grange 21.96 320 *e*P **P** **00 51 51.8 +0.4**
KBI1 Birley Grange 21.96 320 *e*P **P** **00 51 51.8 +0.4**
PUL Pulkovo 22.02 11 *e*P **P** **00 51 53.2 +1.3**
PUL pmax pmax
comp=Z,201nm,1.0s
PUL MLR MLR
comp=Z,4µm,19.0s
PUL Pulkovo 22.02 11 *e*P **P** **00 51 53.2 +1.3**
comp=Z,4µm,19.0s
MCH1 Michaelchurch 22.10 316 *e*P **P** **00 51 52.9 +0.1**
MCH1 AMB AMB 00 51 57.8
comp=Z,419nm,1.3s
MCH1 AMS AMS 01 02 02.1
comp=Z,3µm,13.6s
MCH1 Michaelchurch 22.10 316 *e*P **P** **00 51 52.9 +0.1**
HEX Exmoor 22.13 313 *e*P **P** **00 51 53.7 +0.5**
HEX Exmoor 22.13 313 *e*P **P** **00 51 53.7 +0.5**
PBRG Braganca 22.19 288 *e*P **P** **00 51 54.0 0.0**
comp=Z,139nm,1.7s
PBRG Braganca 22.19 288 *e*P **P** **00 51 54.0 0.0**
comp=Z,139nm,1.7s
HLM1 Long Mynd 22.28 317 *e*P **P** **00 51 54.6 -0.3**
HLM1 AMB AMB 00 52 00.4
comp=Z,152nm,1.1s
HLM1 Long Mynd 22.28 317 *e*P **P** **00 51 54.6 -0.3**
LHO Holmfirth 22.29 320 *e*P **P** **00 51 55.8 +0.9**
LHO Holmfirth 22.29 320 *e*P **P** **00 51 55.8 +0.9**
MDT Midelt 22.30 264 P **P** **00 51 54.4 -1.0**
MDT Midelt 22.30 264 P **P** **00 51 54.4 -1.0**
comp=Z,42nm,0.9s,baz=80,slow=12,SNR=43
MDT LR LR 01 02 23.9
comp=Z,894nm,21.1s,baz=78,slow=42
MDT Midelt 22.30 264 P **P** **00 51 54.4 -1.0**
HFS Hagfors 22.37 349 P **P** **00 51 53.9 -1.8**
HFS Hagfors 22.37 349 P **P** **00 51 53.9 -1.8**
comp=Z,46nm,0.8s,baz=153,slow=10.0,SNR=57
HFS LR LR 01 02 20.5
comp=Z,4µm,18.3s,baz=175,slow=41
HFS Hagfors 22.37 349 P **P** **00 51 53.9 -1.8**
comp=Z,46nm,0.8s
HPK Haverah Park 22.40 322 *e*P **P** **00 51 56.0 -0.1**
HPK AMB AMB 00 52 00.7
comp=Z,342nm,1.5s
HPK AMS AMS 01 02 22.0
comp=Z,3µm,13.3s
HPK Haverah Park 22.40 322 *e*P **P** **00 51 56.0 -0.1**
MVO Moncorvo 22.43 286 *e*P **P** **00 51 56.1 -0.5**
comp=Z,132nm,1.4s

MVO					*e*S	**S**	**00 56 06.2**	**+3.5**
MVO					*e*LQ	LQ	00 56 43.3	
MVO					*e*LR	LR	00 57 32.3	
	comp=Z,877nm,16.0s							
MVO	**Moncorvo**	**22.43**	**286**	*e*P	**P**	**00 51 56.1**	**-0.5**
	comp=Z,132nm,1.4s							
MIF	**Mishlifen**	**22.57**	**266**	*i* P	**P**	**00 51 58.0**	**-0.3**
FOEL	**Foel Wylfa**	**22.64**	**318**	*e*P	**P**	**00 51 58.8**	**+0.2**
FOEL	**Foel Wylfa**	**22.64**	**318**	*e*P	**P**	**00 51 58.8**	**+0.2**
KONO	**Kongsberg**	**22.68**	**344**	*e*P	**P**	**00 51 57.8**	**-1.2**
KONO				pmax	pmax			
	comp=Z,73nm,1.1s							
KONO				MLR	MLR			
	comp=Z,3µm,20.0s							
KONO	**Kongsberg**	**22.68**	**344**	*e*P	**P**	**00 51 58.0**	**-0.9**
KONO	**Kongsberg**	**22.68**	**344**	*e*P	**P**	**00 51 57.8**	**-1.2**
	comp=Z,73nm,1.1s							
KONO				LR	LR			
	comp=Z,3µm,20.0s							
KONO	**Kongsberg**	**22.68**	**344**	*e*P	**P**	**00 51 57.8**	**-1.2**
	comp=Z,3µm,20.0s							
PMRV	**Marv??o**	**22.84**	**282**	*e*P	**P**	**00 51 59.6**	**-1.4**
	comp=Z,163nm,1.6s							
PMRV				*e*S	**S**	**00 56 12.4**	**+2.2**
PMRV				*e*LR	LR	00 59 18.3		
	comp=Z,782nm,20.0s							
PMRV	**Marv??o**	**22.84**	**282**	*e*P	**P**	**00 51 59.6**	**-1.4**
	comp=Z,163nm,1.6s							
PMRV				*e*S	**S**	**00 56 12.4**	**+2.2**
MTE	**Manteigas**	**22.86**	**284**	*e*P	**P**	**00 52 00.6**	**-0.6**
	comp=Z,198nm,1.4s							
MTE				*e*S	**S**	**00 56 11.0**	**+0.4**
MTE				*e*LR	LR	00 59 58.6		
	comp=Z,2µm,18.0s							
MTE	**Manteigas**	**22.86**	**284**	*e*P	**P**	**00 51 59.3**	**-1.9**
	comp=Z,156nm,1.3s							
MTE				LR	LR			
	comp=Z,1µm,19.0s							
MTE	**Manteigas**	**22.86**	**284**	*e*P	**P**	**00 51 59.3**	**-1.9**
	comp=Z,156nm,1.3s							
MTE				*e*S	**S**	**00 56 11.0**	**+0.4**
PCBR	**Castelo Branco**	**22.86**	**283**	*e*P	**P**	**00 52 00.6**	**-0.5**
PCBR	**Castelo Branco**	**22.86**	**283**	*e*P	**P**	**00 52 00.6**	**-0.5**
PVRL	**Vila Real**	**22.94**	**287**	*e*P	**P**	**00 52 02.5**	**+0.5**
	comp=Z,74nm,1.8s							
PVRL	**Vila Real**	**22.94**	**287**	*e*P	**P**	**00 52 02.5**	**+0.5**
	comp=Z,74nm,1.8s							
POLO	**Lamas de Olo**	**22.99**	**287**	*e*P	**P**	**00 52 03.8**	**+1.2**
	comp=Z,35nm,1.9s							
POLO				*e*S	**S**	**00 56 14.5**	**+1.6**
POLO	**Lamas de Olo**	**22.99**	**287**	*e*P	**P**	**00 52 03.8**	**+1.2**
	comp=Z,35nm,1.9s							
POLO				*e*S	**S**	**00 56 14.5**	**+1.6**
PESTR	**Estremoz**	**23.07**	**280**	*e*P	**P**	**00 52 02.1**	**-1.2**
	comp=Z,128nm,1.2s							
PESTR				*e*S	**S**	**00 56 15.4**	**+1.3**
PESTR	**Estremoz**	**23.07**	**280**	*e*P	**P**	**00 52 02.1**	**-1.2**
	comp=Z,128nm,1.2s							
PESTR				*e*S	**S**	**00 56 15.4**	**+1.3**
PVIS	**Viseu**	**23.11**	**285**	*e*P	**P**	**00 52 02.9**	**-0.8**
	comp=Z,134nm,1.6s							
PVIS	**Viseu**	**23.11**	**285**	*e*P	**P**	**00 52 02.9**	**-0.8**
	comp=Z,134nm,1.6s							
PCAB	**Cabril**	**23.16**	**288**	*e*P	**P**	**00 52 06.0**	**+1.8**
	comp=Z,138nm,1.5s							
PCAB	**Cabril**	**23.16**	**288**	*e*P	**P**	**00 52 06.0**	**+1.8**
	comp=Z,138nm,1.5s							
WPM1	**Penmaenmawr**	**23.19**	**318**	*e*P	**P**	**00 52 05.0**	**+0.7**
WPM1	**Penmaenmawr**	**23.19**	**318**	*e*P	**P**	**00 52 05.0**	**+0.7**
FINES	**FINESS Array B**	**23.19**	**5**	P	**P**	**00 52 02.2**	**-2.1**
FINES				ScP	**ScP**	**00 59 30.1**	**+0.4**
FINES	**FINESS Array B**	**23.19**	**5**	P	**P**	**00 52 02.2**	**-2.1**
	comp=Z,27nm,0.7s,baz=168,slow=9.0,SNR=54							
FINES				ScP	**ScP**	**00 59 30.1**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=186,slow=2.8,SNR=5.3							
FINES				LR	LR	01 01 58.2		
	comp=Z,4µm,18.6s,baz=192,slow=39							
XAL	**Allendale**	**23.20**	**323**	*e*P	**P**	**00 52 04.8**	**+0.3**
XAL	**Allendale**	**23.20**	**323**	*e*P	**P**	**00 52 04.8**	**+0.3**
BLS5	**Blasjo**	**23.26**	**340**	*e*P	**P**	**00 52 05.0**	**0.0**
BLS5				IAmb	IAmb	00 52 18.4		
	comp=Z,49nm,1.0s							
BLS5	**Blasjo**	**23.26**	**340**	*e*P	**P**	**00 52 05.0**	**0.0**
	SNR=34							
YRE	**Yr Eifl**	**23.33**	**317**	*e*P	**P**	**00 52 05.6**	**-0.2**
YRE	**Yr Eifl**	**23.33**	**317**	*e*P	**P**	**00 52 05.6**	**-0.2**
PBEJ	**Beja**	**23.42**	**278**	*e*P	**P**	**00 52 05.6**	**-1.2**
	comp=Z,123nm,1.7s							
PBEJ	**Beja**	**23.42**	**278**	*e*P	**P**	**00 52 05.6**	**-1.2**
	comp=Z,123nm,1.7s							
PVAQ	**Vaqueiros**	**23.42**	**277**	*e*P	**P**	**00 52 06.5**	**-0.3**
	comp=Z,98nm,1.3s							
PVAQ				*e*S	**S**	**00 56 20.3**	**+0.4**
PVAQ				*e*LR	LR	00 57 29.1		
	comp=Z,539nm,18.0s							
PVAQ	**Vaqueiros**	**23.42**	**277**	*e*P	**P**	**00 52 06.5**	**-0.3**
	comp=Z,98nm,1.3s							
PVAQ				*e*S	**S**	**00 56 20.3**	**+0.4**
KMY	**Karmoy**	**23.42**	**338**	*e*P	**P**	**00 52 04.4**	**-2.2**
EVO	**Evora**	**23.45**	**280**	*e*P	**P**	**00 52 06.8**	**-0.3**
	comp=Z,94nm,1.1s							
EVO				*e*R				
	comp=Z,1µm,18.0s							
EVO	**Evora**	**23.45**	**280**	*e*P	**P**	**00 52 06.0**	**-1.1**
	comp=Z,100nm,1.4s							
EVO	**Evora**	**23.45**	**280**	*e*P	**P**	**00 52 06.0**	**-1.1**
	comp=Z,100nm,1.4s							
WME	**Myndd Eilian**	**23.46**	**318**	*e*P	**P**	**00 52 08.0**	**+0.9**
WME	**Myndd Eilian**	**23.46**	**318**	*e*P	**P**	**00 52 08.0**	**+0.9**
KIB	**El Ksiba**	**23.51**	**264**	*i* P	**P**	**00 52 09.0**	**+1.2**
EVOP	**Sao Brissos**	**23.54**	**280**	*e*P	**P**	**00 52 06.8**	**-1.1**
EVOP				pmax	pmax			
	comp=Z,94nm,1.1s							
EVOP	**Sao Brissos**	**23.54**	**280**	*e*P	**P**	**00 52 06.8**	**-1.1**
	comp=Z,94nm,1.1s							
EVOP	**Sao Brissos**	**23.54**	**280**	*e*P	**P**	**00 52 06.8**	**-1.1**
	comp=Z,47nm,1.1s							
PTOM	**Tomar**	**23.60**	**283**	*e*P	**P**	**00 52 07.6**	**-1.0**
PTOM	**Tomar**	**23.60**	**283**	*e*P	**P**	**00 52 07.6**	**-1.0**
PTO	**Porto**	**23.61**	**286**	*e*P	**P**	**00 52 08.3**	**-0.4**
	comp=Z,97nm,1.3s							
PTO	**Porto**	**23.61**	**286**	*e*P	**P**	**00 52 08.3**	**-0.4**
	comp=Z,97nm,1.3s							
PBDV	**Barranco-do-Ve**	**23.62**	**277**	*e*P	**P**	**00 52 07.5**	**-1.3**
	comp=Z,161nm,1.4s							
PBDV				*e*S	**S**	**00 56 23.6**	**+0.4**
PBDV	**Barranco-do-Ve**	**23.62**	**277**	*e*P	**P**	**00 52 07.5**	**-1.3**
	comp=Z,161nm,1.4s							
PBDV				*e*S	**S**	**00 56 23.6**	**+0.4**
PCAS	**Casmilo, Conde**	**23.62**	**284**	*e*P	**P**	**00 52 08.3**	**-0.5**
	comp=Z,128nm,1.4s							
PCAS				*e*S	**S**	**00 56 27.2**	**+4.1**
PCAS	**Casmilo, Conde**	**23.62**	**284**	*e*P	**P**	**00 52 08.3**	**-0.5**
	comp=Z,128nm,1.4s							
NB2	**NORSAR Subarra**	**23.63**	**347**	P	**P**	**00 52 07.6**	**-1.1**
	comp=Z,95nm,0.9s,baz=154,slow=10							
NB2	**NORSAR Subarra**	**23.63**	**347**	P	**P**	**00 52 07.6**	**-1.1**
	baz=154,slow=10							
NB2	**NORSAR Subarra**	**23.63**	**347**	P	**P**	**00 52 07.6**	**-1.1**
	SNR=34							
NOA	**NORSAR Array B**	**23.63**	**347**	P	**P**	**00 52 06.9**	**-1.9**
NOA				ScP	**ScP**	**00 59 30.9**	**-0.2**
NOA	**NORSAR Array B**	**23.63**	**347**	P	**P**	**00 52 06.9**	**-1.9**
	comp=Z,27nm,0.8s,baz=167,slow=10,SNR=92							
NOA				ScP	**ScP**	**00 59 30.9**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=143,slow=2.5,SNR=3.5							
NOA				LR	LR	01 03 35.5		
	comp=Z,2µm,21.8s,baz=155,slow=42							
NOA	**NORSAR Array B**	**23.63**	**347**	P	**P**	**00 52 06.9**	**-1.9**
	comp=Z,75nm,0.9s							
NOA				ScP	**ScP**	**00 59 30.9**	**-0.2**
RTC	**Rabat Centre**	**23.65**	**268**	PFAKE		00 52 20.0	+11	
RTC				LR	LR			
	comp=Z,476nm,22.0s							
NBO02	**NORSAR Array S**	**23.71**	**346**	*e*P	**P**	**00 52 09.7**	**+0.3**
NBO02	**NORSAR Array S**	**23.71**	**346**	*e*P	**P**	**00 52 09.7**	**+0.3**
MESJ	**Messejana**	**23.73**	**278**	*e*P	**P**	**00 52 08.8**	**-1.0**
MESJ				AMb	AMB	00 52 12.5		
	comp=Z,100nm,1.4s							
MESJ				*e*S	**S**	**00 56 25.5**	**+0.7**
MESJ	**Messejana**	**23.73**	**278**	*e*P	**P**	**00 52 08.8**	**-1.0**
	comp=Z,100nm,1.4s							
MESJ				*e*S	**S**	**00 56 25.5**	**+0.7**
MESJ	**Messejana**	**23.73**	**278**	*e*P	**P**	**00 52 08.8**	**-1.0**
MESJ				*e*S	**S**	**00 56 25.5**	**+0.7**
KAF	**Kangasniemi**	**23.87**	**5**	*e*P	**P**	**00 52 07.8**	**-3.2**
KAF				pmax	pmax			
	comp=Z,27nm,0.5s							
KAF	**Kangasniemi**	**23.87**	**5**	*e*p	**P**	**00 52 07.8**	**-3.2**
	comp=Z,27nm,0.5s							
EKA	**Eskdalemuir Ar**	**23.92**	**323**	P	**P**	**00 52 10.8**	**-0.7**
EKA				ScP	**ScP**	**00 59 33.9**	**+2.0**
EKA	**Eskdalemuir Ar**	**23.92**	**323**	P	**P**	**00 52 10.8**	**-0.7**
	comp=Z,199nm,0.9s,baz=123,slow=10,SNR=50							
EKA				ScP	**ScP**	**00 59 33.9**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=116,slow=3.2,SNR=4.7							
EKA				LR	LR	01 03 16.5		
	comp=Z,3µm,20.5s,baz=155,slow=41							
EKA	**Eskdalemuir Ar**	**23.92**	**323**	P	**P**	**00 52 10.8**	**-0.7**
	comp=Z,3µm,20.5s							
EKA				ScP	**ScP**	**00 59 33.9**	**+2.0**
PNCL	**Nicolau / Gran**	**23.92**	**279**	*e*P	**P**	**00 52 10.9**	**-0.8**
	comp=Z,142nm,1.4s							
PNCL				*e*S	S	00 56 35.0	+7.2	
PNCL	**Nicolau / Gran**	**23.92**	**279**	*e*P	**P**	**00 52 10.9**	**-0.8**
	comp=Z,142nm,1.4s							
ESK	**Eskdalemuir**	**23.93**	**323**	P	**P**	**00 52 11.4**	**-0.2**
	comp=Z,2µm,0.9s,SNR=15							
ESK	**Eskdalemuir**	**23.93**	**323**	*e*P	**P**	**00 52 11.7**	**0.0**
ESK				AMB	AMB	00 52 14.7		
	comp=Z,244nm,1.1s							
ESK	**Eskdalemuir**	**23.93**	**323**	*i* P	**P**	**00 52 11.6**	**0.0**
ESK	**Eskdalemuir**	**23.93**	**323**	*e*P	**P**	**00 52 10.8**	**-0.8**
	comp=Z,252nm,0.9s							
ESK				LR	LR			
	comp=Z,4µm,19.0s							
ESK	**Eskdalemuir**	**23.93**	**323**	*e*P	**P**	**00 52 10.8**	**-0.8**
	comp=Z,252nm,0.9s							
ESY	**Stoneypath**	**24.01**	**325**	*e*P	**P**	**00 52 13.1**	**+0.8**
ESY	**Stoneypath**	**24.01**	**325**	*e*P	**P**	**00 52 13.1**	**+0.8**
EBL	**Broad Law**	**24.12**	**324**	*e*P	**P**	**00 52 13.4**	**0.0**
EBL	**Broad Law**	**24.12**	**324**	*e*P	**P**	**00 52 13.4**	**0.0**
IPIR	**Pirpir**	**24.14**	**95**	*e*P	**P**	**00 52 13.2**	**-0.9**
IPIR	**Pirpir**	**24.14**	**95**	*e*P	**P**	**00 52 13.2**	**-0.9**
MORF	**Marmelete**	**24.17**	**277**	*e*P	**P**	**00 52 14.8**	**+0.7**
	comp=Z,66nm,1.8s							
MORF				*e*S	**S**	**00 56 34.6**	**+2.6**
MORF	**Marmelete**	**24.17**	**277**	*e*P	**P**	**00 52 14.8**	**+0.7**
	comp=Z,66nm,1.8s							
MORF				*e*S	**S**	**00 56 34.6**	**+2.6**
IPRN	**Peran**	**24.18**	**86**	*e*P	**P**	**00 52 14.4**	**+0.2**
PTEO	**Sao Teotonio**	**24.18**	**278**	*e*P	**P**	**00 52 13.3**	**-0.8**
	comp=Z,146nm,1.4s							
PTEO	**Sao Teotonio**	**24.18**	**278**	*e*P	**P**	**00 52 13.3**	**-0.8**
	comp=Z,146nm,1.4s							
QAM	**Ghamsar**	**24.19**	**92**	*e*P	**P**	**00 52 16.1**	**+1.5**
EDI	**Edinburgh**	**24.27**	**324**	AMB	AMB	00 52 07.8		
	comp=Z,412nm,1.3s							
EDI	**Edinburgh**	**24.27**	**324**	*e*P	P	00 52 03.4	-11	
EDI	**Edinburgh**	**24.27**	**324**	*e*P	P	00 52 03.4	-11	
PMAFR	**Mafra**	**24.36**	**281**	*e*P	**P**	**00 52 15.7**	**-0.1**
	comp=Z,163nm,1.6s							
PMAFR				*e*S	**S**	**00 56 39.8**	**+4.8**
PMAFR	**Mafra**	**24.36**	**281**	*e*P	**P**	**00 52 15.7**	**-0.1**
	comp=Z,163nm,1.6s							
BER	**Bergen**	**24.38**	**340**	*e*P	**P**	**00 52 14.7**	**-1.0**
BER	**Bergen**	**24.38**	**340**	*e*P	**P**	**00 52 14.7**	**-1.0**
	SNR=33							
IKLH	**Kolahrood**	**24.45**	**93**	*e*P	**P**	**00 52 18.0**	**+1.0**
IKLH	**Kolahrood**	**24.45**	**93**	*e*P	**P**	**00 52 18.0**	**+1.0**
ASK	**Askoy**	**24.50**	**340**	*e*P	**P**	**00 52 16.4**	**-0.4**
HYA	**Hoyanger**	**24.82**	**342**	*e*P	**P**	**00 52 19.7**	**0.0**
HYA				IAmb	IAmb	00 52 23.9		
	comp=Z,280nm,1.0s							
HYA	**Hoyanger**	**24.82**	**342**	*e*P	**P**	**00 52 19.7**	**0.0**
	SNR=33							
EAB	**Aberfoyle**	**24.95**	**324**	*e*P	**P**	**00 52 21.5**	**+0.6**
EAB	**Aberfoyle**	**24.95**	**324**	*e*P	**P**	**00 52 21.5**	**+0.6**
DOMB	**Dombas**	**24.96**	**346**	*e*P	**P**	**00 52 22.7**	**+1.7**
DOMB				IAmb	IAmb	00 52 28.0		
	comp=Z,255nm,1.2s							
DOMB	**Dombas**	**24.96**	**346**	*e*P	**P**	**00 52 22.7**	**+1.7**
	SNR=29							
KLMR	**Klimovskoe**	**25.00**	**20**	*c i*P	**P**	**00 52 20.4**	**-0.9**
KLMR				*i* S	**S**	**00 56 41.4**	**-3.4**
KLMR				pmax	pmax			
	comp=Z,374nm,1.0s							
KLMR				pmax	pmax			
	comp=Z,324nm,1.0s							
KLMR				MLR	MLR			
	comp=Z,3µm,8.0s							
KLMR	**Klimovskoe**	**25.00**	**20**	*i* P	**P**	**00 52 20.4**	**-0.9**
	comp=Z,324nm,1.0s							
JOF	**Joensuu**	**25.18**	**10**	*e*P	**P**	**00 52 21.3**	**-1.6**
JOF				pmax	pmax			
	comp=Z,19nm,0.7s							
JOF	**Joensuu**	**25.18**	**10**	*e*p	**P**	**00 52 21.3**	**-1.6**
	comp=Z,19nm,0.7s							
JOF	**Joensuu**	**25.18**	**10**	*e*P	**P**	**00 52 21.3**	**-1.6**
	comp=Z,19nm,0.7s							
IZEF	**Zefreh**	**25.19**	**93**	*e*P	**P**	**00 52 23.0**	**-0.7**
IZEF	**Zefreh**	**25.19**	**93**	*e*P	**P**	**00 52 23.0**	**-0.7**
FOO	**Floro**	**25.48**	**341**	*e*P	**P**	**00 52 27.0**	**+1.4**
FOO				IAmb	IAmb	00 52 28.9		
	comp=Z,28nm,1.2s							
FOO	**Floro**	**25.48**	**341**	*e*P	**P**	**00 52 27.0**	**+1.4**
	SNR=28							
AKN	**Aaknes**	**25.52**	**344**	*e*P	**P**	**00 52 25.0**	**-1.0**
AKN	**Aaknes**	**25.52**	**344**	*e*P	**P**	**00 52 25.0**	**-1.0**
	SNR=28							
MDO	**Dochfour**	**25.69**	**326**	*e*P	**P**	**00 52 28.5**	**+0.9**
MDO	**Dochfour**	**25.69**	**326**	*e*P	**P**	**00 52 28.5**	**+0.9**
MOL	**Molde**	**25.75**	**345**	*e*P	**P**	**00 52 29.0**	**+1.0**
MOL				IAmb	IAmb	00 52 35.9		
	comp=Z,116nm,1.2s							
MOL	**Molde**	**25.75**	**345**	*e*P	**P**	**00 52 29.0**	**+1.0**
	SNR=28							
MVH1	**Achvaich**	**25.91**	**327**	*e*P	**P**	**00 52 30.3**	**+0.8**
MVH1	**Achvaich**	**25.91**	**327**	*e*P	**P**	**00 52 30.3**	**+0.8**
CIA	**Chichaoua**	**26.02**	**264**	*i* P	**P**	**00 52 30.0**	**-0.9**
KAC	**Achnashellach**	**26.14**	**326**	*e*P	**P**	**00 52 32.9**	**+1.2**
KAC	**Achnashellach**	**26.14**	**326**	*e*P	**P**	**00 52 32.9**	**+1.2**
BIGH	**Upper Bighouse**	**26.14**	**329**	*e*P	**P**	**00 52 32.2**	**+0.5**
BIGH	**Upper Bighouse**	**26.14**	**329**	*e*P	**P**	**00 52 32.2**	**+0.5**
KPL	**Plockton**	**26.20**	**325**	*e*P	**P**	**00 52 32.5**	**+0.3**
KPL				AMB	AMB	00 52 38.2		
	comp=Z,237nm,1.9s							
KPL				AMS	AMS	01 04 58.4		
	comp=Z,6µm,19.8s							
KPL	**Plockton**	**26.20**	**325**	*e*P	**P**	**00 52 32.5**	**+0.3**
PRGR	**Permogore**	**27.46**	**25**	*i*P	**P**	**00 52 42.7**	**-0.8**
PRGR				*e*S	**S**	**00 57 25.0**	**+1.4**
PRGR				pmax	pmax			
	comp=Z,255nm,1.6s							
PRGR	**Permogore**	**27.46**	**25**	*i* P	**P**	**00 52 42.7**	**-0.8**
	comp=Z,255nm,1.6s							
PRGR				*e*S	**S**	**00 57 25.0**	**+1.4**
AKTK	**Aktyubinsk**	**28.11**	**53**	P	**P**	**00 52 50.9**	**+1.4**
	comp=Z,40nm,1.3s							
AKTO	**Aktyubinsk**	**28.11**	**53**	P	**P**	**00 52 50.9**	**+1.4**
AKTO				pmax	pmax			
	comp=Z,40nm,1.3s							
AKTO	**Aktyubinsk**	**28.11**	**53**	P	**P**	**00 52 48.7**	**-0.8**
AKTO	**Aktyubinsk**	**28.11**	**53**	P	**P**	**00 52 48.7**	**-0.8**
	comp=Z,7.4nm,0.9s,baz=266,slow=7.2,SNR=15							
AKTO				LR	LR	01 07 59.6		
	comp=Z,1µm,19.6s,baz=266,slow=45							
AKTO	**Aktyubinsk**	**28.11**	**53**	P	**P**	**00 52 48.7**	**-0.8**
MOR8	**Moi Rana**	**28.14**	**353**	*e*P	**P**	**00 52 49.9**	**+0.3**
MOR8				IAmb	IAmb	00 52 53.7		
	comp=Z,42nm,1.0s							
MOR8	**Moi Rana**	**28.14**	**353**	*e*P	**P**	**00 52 49.9**	**+0.3**
	SNR=28							
ABKT	**Ailbek**	**28.29**	**80**	P	**P**	**00 52 53.9**	**+2.6**
	comp=Z,101nm,0.6s,SNR=5.4							
AB31	**Akbulak array**	**29.15**	**56**	*e*P	**P**	**00 52 58.1**	**-0.6**
AB31				pmax	pmax			
	comp=Z,9.0nm,0.7s							
AB31	**Akbulak array**	**29.15**	**56**	*e*P	**P**	**00 52 58.1**	**-0.6**
	comp=Z,9.0nm,0.7s							
ABKAR	**Akbulak array**	**29.15**	**56**	*e*P	**P**	**00 52 58.0**	**-0.8**
ABKAR	**Akbulak array**	**29.15**	**56**	*e*P	**P**	**00 52 58.0**	**-0.8**
STEI	**Steigen**	**29.81**	**355**	*e*P	**P**	**00 53 04.1**	**-0.2**
STEI				IAmb	IAmb	00 53 08.2		
	comp=Z,204nm,0.9s							
STEI	**Steigen**	**29.81**	**355**	*e*P	**P**	**00 53 04.1**	**-0.2**
	SNR=28							
APA	**Apatity**	**29.90**	**9**	*i*P	**P**	**00 53 05.4**	**+0.3**
APA				*i* S	**S**	**00 57 58.0**	**-3.8**
APA				*i* SS	**ScP**	**00 59 50.0**	**+0.5**
APA				MLR	MLR			
	comp=Z,5µm,16.0s							
APA	**Apatity**	**29.90**	**9**	*i* P	**P**	**00 53 05.4**	**+0.3**
ARU	**Arti**	**30.11**	**41**	P	**P**	**00 53 06.0**	**-1.3**
	comp=Z,229nm,0.6s,SNR=25							
ARU	**Arti**	**30.11**	**41**	*c i*P	**P**	**00 53 05.9**	**-1.3**
ARU						00 54 02.0		
ARU				PPP	PPP	00 54 12.7		
ARU						00 56 07.5		
ARU				S	**S**	**00 58 04.8**	**-0.7**
ARU				pmax	pmax			
	comp=Z,36nm,1.0s							
ARU				MLR	MLR			
	comp=Z,2µm,19.0s							
ARU	**Arti**	**30.11**	**41**	PFAKE		00 53 20.0	+13	
ARU				LR	LR			
	comp=Z,2µm,19.0s							
ARU	**Arti**	**30.11**	**41**	*i* P	**P**	**00 53 05.9**	**-1.3**
	comp=Z,36nm,1.0s							
ARU	**Arti**	**30.11**	**41**	PcP	**PcP**	**00 56 07.5**	**-0.9**
LVZ	**Lovozero**	**30.36**	**9**	*e*P	**P**	**00 53 11.4**	**+2.1**
LVZ				pmax	pmax			
	comp=Z,55nm,2.3s							
LVZ				MLR	MLR			
	comp=Z,4µm,19.0s							
LVZ	**Lovozero**	**30.36**	**9**	PFAKE		00 53 20.0	+11	
LVZ				LR	LR			
	comp=Z,5µm,20.0s							
LVZ	**Lovozero**	**30.36**	**9**	*e*P	**P**	**00 53 11.4**	**+2.1**
	comp=Z,4µm,19.0s							
KTK1	**Kautokeino**	**30.66**	**1**	*e*P	**P**	**00 53 12.4**	**+0.5**
KTK1	**Kautokeino**	**30.66**	**1**	*e*P	**P**	**00 53 12.4**	**+0.5**
	SNR=28							
DAMY	**Dhamar**	**30.91**	**134**	*e*P	**P**	**00 53 16.1**	**+1.2**
DAMY	**Dhamar**	**30.91**	**134**	*e*P	**P**	**00 53 16.1**	**+1.2**
TOA0	**Torodi Ar. Sit**	**30.96**	**221**	*e*P	**P**	**00 53 14.2**	**-0.8**
TOA0	**Torodi Ar. Sit**	**30.96**	**221**	*e*P	**P**	**00 53 14.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**00 53 14.3**	**-0.7**
TORD				ScP	**ScP**	**00 59 57.2**	**+3.4**
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**00 53 14.3**	**-0.7**
	comp=Z,40nm,0.7s,baz=33,slow=7.8,SNR=213							
TORD				ScP	**ScP**	**00 59 57.2**	**+3.4**
	comp=Z,1.6nm,1.0s,baz=32,slow=6.8,SNR=6.9							
TORD				LR	LR	01 07 18.1		
	comp=Z,777nm,18.3s,baz=30,slow=39							
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**00 53 14.3**	**-0.7**
TORD				ScP	**ScP**	**00 59 57.2**	**+3.4**
ARA0	**ARCESS Array S**	**31.24**	**2**	*e*P	**P**	**00 53 15.8**	**-1.2**
ARA0	**ARCESS Array S**	**31.24**	**2**	*e*P	**P**	**00 53 15.8**	**-1.2**
ARCES	**ARCESS Array B**	**31.24**	**2**	P	**P**	**00 53 16.2**	**-0.8**
ARCES	**ARCESS Array B**	**31.24**	**2**	P	**P**	**00 53 16.2**	**-0.8**
	comp=Z,22nm,0.7s,baz=194,slow=9.6,SNR=59							
ARCES				LR	LR	01 06 48.4		
	comp=Z,4µm,19.3s,baz=184,slow=38							
ARCES	**ARCESS Array B**	**31.24**	**2**	P	**P**	**00 53 16.2**	**-0.8**
	comp=Z,22nm,0.7s							
TRO	**Tromso**	**31.32**	**358**	*e*P	P	00 53 20.9	+3.2	
TRO				IAmb	IAmb	00 53 25.3		
	comp=Z,137nm,1.0s							
SVE	**Sverdlovsk**	**31.33**	**41**	*e*P	**P**	**00 53 17.6**	**-0.3**
SVE				*e*S	**S**	**00 58 25.9**	**+1.4**
SVE				pmax	pmax			
	comp=Z,67nm,0.9s							
SVE				MLR	MLR			
	comp=Z,2µm,18.0s							
SVE	**Sverdlovsk**	**31.33**	**41**	*e*P	**P**	**00 53 17.6**	**-0.3**
	comp=Z,67nm,0.9s							
SVE				*e*S	**S**	**00 58 25.9**	**+1.4**
	comp=Z,2µm,18.0s							
ASUD	**Al Ashush, Dub**	**31.38**	**106**	*i*P	**P**	**00 53 20.5**	**+1.8**
	SNR=7.3							
ASUD	**Al Ashush, Dub**	**31.38**	**106**	P	**P**	**00 53 20.5**	**+1.8**
	SNR=7.3							
NAZ	**Nazwa, Dubai**	**31.43**	**105**	*i*P	**P**	**00 53 20.3**	**+1.2**
	SNR=17							
NAZ	**Nazwa, Dubai**	**31.43**	**105**	P	**P**	**00 53 20.3**	**+1.2**
	SNR=17							
FAQ	**Al Faqa, Dubai**	**31.51**	**106**	*i*P	**P**	**00 53 20.9**	**+1.1**
	SNR=7.0							
FAQ	**Al Faqa,

comp=Z,8.0nm,0.9s
EKS2 Erkin-Say 39.08 67 *e*P **P 00 54 24.7 -0.2**
EKS2 pmax pmax
comp=Z,140nm,1.4s
EKS2 MLR MLR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 39.08 67 *e*P **P 00 54 24.7 -0.2**
EKS2 LR LR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 39.08 67 *e*P **P 00 54 24.7 -0.2**
comp=Z,1μm,20.0s
AML Almayashu 39.13 68 P **P 00 54 27.0 +1.3**
SNR=27
SCO Scoresbysund 39.39 338 *i* P **P 00 54 28.6 +1.6**
SCO pmax pmax
comp=Z,27nm,0.9s
SCO Scoresbysund 39.39 338 *i* P **P 00 54 28.6 +1.6**
comp=Z,27nm,0.9s
SCO Scoresbysund 39.39 338 *i* P **P 00 54 28.6 +1.6**
comp=Z,27nm,0.9s
AAK Ala-Archa 39.60 67 P **P 00 54 29.3 -0.1**
comp=Z,243nm,1.1s,SNR=15
AAK Ala-Archa 39.60 67 *de*P **P 00 54 28.8 -0.6**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK MLR MLR
comp=Z,3μm,18.0s
AAK Ala-Archa 39.60 67 *e*P **P 00 54 29.6 +0.2**
comp=Z,57nm,1.0s
AAK PcP **PcP 00 56 38.3 +1.9**
AAK LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 39.60 67 P **P 00 54 29.5 +0.2**
comp=Z,23nm,1.0s,baz=242,slow=7.4,SNR=40
AAK PcP **PcP 00 56 38.3 +1.9**
comp=Z,17nm,1.1s,baz=228,slow=3.1,SNR=3.1
AAK Ala-Archa 39.60 67 *e*P **P 00 54 28.8 -0.6**
comp=Z,3μm,18.0s
FRU Bishkek 39.65 66 *e*P **P 00 54 30.5 +0.9**
FRU pmax pmax
comp=Z,300nm,1.8s
FRU Bishkek 39.65 66 *e*P **P 00 54 30.5 +0.9**
comp=Z,300nm,1.8s
DBIC Dimbokro 39.86 224 ⇓ *i* P **P 00 54 31.6 +0.1**
DBIC Dimbokro 39.86 224 *e*P **P 00 54 30.9 -0.6**
comp=Z,51nm,1.0s
DBIC Dimbokro 39.86 224 P **P 00 54 31.3 -0.2**
comp=Z,32nm,0.9s,baz=9.8,slow=9.6,SNR=40
DBIC LR LR 01 12 05.1
comp=Z,748nm,18.5s,baz=13,slow=38
DBIC Dimbokro 39.86 224 *e*P **P 00 54 30.9 -0.6**
comp=Z,51nm,1.0s
SPITS Spitsbergen Ar 39.94 358 P **P 00 54 31.5 -0.1**
SPITS Spitsbergen Ar 39.94 358 P **P 00 54 31.5 -0.1**
comp=Z,15nm,0.5s,baz=143,slow=13,SNR=37
SPITS Spitsbergen Ar 39.94 358 P **P 00 54 31.5 -0.1**
comp=Z,15nm,0.5s
TIC Toumodi 39.97 225 *e*P **P 00 54 32.3 -0.2**
KIC Kosan Boka 40.06 224 *e*P **P 00 54 32.9 -0.3**
comp=Z,107nm,1.1s
LIC Lamto 40.33 224 *e*P **P 00 54 35.5 +0.1**
comp=Z,53nm,0.7s,baz=40
LIC *e*R
comp=Z,2μm,23.0s
LIC Lamto 40.33 224 *e*P **P 00 54 35.3 -0.1**
comp=Z,171nm,0.9s
LIC Lamto 40.33 224 *e*P **P 00 54 35.5 +0.1**
comp=Z,53nm,0.7s
LIC Lamto 40.33 224 *e*P **P 00 54 35.5 +0.1**
comp=Z,26nm,0.7s
TKM2 Tokmak 2 40.34 66 *e*P **P 00 54 35.5 0.0**
TKM2 pmax pmax
comp=Z,20nm,0.9s
TKM2 MLR MLR
comp=Z,572nm,21.0s
TKM2 Tokmak 2 40.34 66 *e*P **P 00 54 35.5 0.0**
comp=Z,20nm,0.9s
TKM2 LR LR
comp=Z,572nm,21.0s
TKM2 Tokmak 2 40.34 66 *e*P **P 00 54 35.5 0.0**
comp=Z,572nm,21.0s
MSKU Masuku 40.62 193 *e*P **P 00 54 37.7 0.0**
comp=Z,87nm,1.0s
MSKU LR LR
comp=Z,2.0nm,21.0s
MSKU Masuku 40.62 193 P **P 00 54 37.8 0.0**
comp=Z,45nm,0.8s,baz=15,slow=2.8,SNR=6.1
MSKU Masuku 40.62 193 *e*P **P 00 54 37.7 0.0**
comp=Z,87nm,1.0s
KBS Kingsbay 40.83 357 *e*P **P 00 54 40.0 +1.1**
KBS pmax pmax
comp=Z,169nm,1.1s
KBS MLR MLR
comp=Z,1μm,19.0s
KBS Kingsbay 40.83 357 *e*P **P 00 54 40.0 +1.1**
comp=Z,170nm,1.1s
KBS LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 40.83 357 *e*P **P 00 54 40.0 +1.1**
comp=Z,1μm,19.0s
KURBB Kurchatov Arra 41.16 54 P **P 00 54 41.0 -0.9**
comp=Z,28nm,0.9s,baz=282,slow=8.9,SNR=56
KURBB PcP **PcP 00 56 42.3 +1.3**
comp=Z,19nm,1.0s,baz=272,slow=3.8,SNR=8.1
KURBB ScP **ScP 01 00 33.1 +2.4**
comp=Z,0.8nm,0.3s,baz=277,slow=5.0,SNR=6.3
KURK Kurchatov 41.20 54 P **P 00 54 41.4 -0.9**
comp=Z,199nm,1.0s,SNR=44
KURK Kurchatov 41.20 54 *e*P **P 00 54 41.1 -1.2**
KURK 00 56 42.3
KURK pmax pmax
comp=Z,39nm,1.1s
KURK MLR MLR
comp=Z,584nm,21.0s
KURK Kurchatov 41.20 54 *e*P **P 00 54 41.1 -1.2**
comp=Z,40nm,1.1s
KURK PcP **PcP 00 56 42.3 +1.1**
KURK ScP **ScP 01 00 33.0 +2.3**
KURK LR LR
comp=Z,584nm,21.0s
KURK Kurchatov 41.20 54 *e*P **P 00 54 41.1 -1.2**
comp=Z,39nm,1.1s
AAA Alma-Ata 41.23 65 *e*P **P 00 54 44.6 +2.0**
AAA pmax pmax
comp=Z,400nm,3.9s
AAA MLR MLR
comp=Z,600nm,14.0s
AAA Alma-Ata 41.23 65 *e*P **P 00 54 44.6 +2.0**
comp=Z,600nm,14.0s
BBTS Babate 41.37 246 P **P 00 54 45.5 +1.5**
BBTS Babate 41.37 246 P **P 00 54 45.5 +1.5**
comp=Z,11nm,0.5s,baz=233,slow=1.3,SNR=3.7
BBTS Babate 41.37 246 P **P 00 54 45.5 +1.5**
KSH Kashi 41.45 71 ⇓ *i* P **P 00 54 42.9 -1.7**
KSH *e*PP **PP 00 56 21.3 +1.0**
KSH *e*PcS **PcS 01 00 32.9 -0.8**
KSH *e*S **S 01 00 54.3 -5.4**
KSH *es*S **sS 01 01 03.3 -2.5**
KSH *e*SS SS 01 03 52.0 -12
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH LR LR
comp=Z,420nm,12.2s
KSH LR LR
comp=Z,630nm,13.8s
KSH LR LR
comp=Z,450nm,9.0s
KMBO Kilima Mbogo 41.79 157 *e*P **P 00 54 46.8 -0.9**
comp=Z,14nm,1.4s
KMBO Kilima Mbogo 41.79 157 P **P 00 54 49.8 +2.1**
comp=Z,1.9nm,0.7s,baz=348,slow=8.9,SNR=6.9
KMBO LR LR 01 15 15.8
comp=Z,818nm,19.9s,baz=327,slow=41
KMBO Kilima Mbogo 41.79 157 *e*P **P 00 54 46.8 -0.9**
comp=Z,14nm,1.4s
DAG Danmarks Havn 42.32 347 *i* P **P 00 54 51.1 0.0**
DAG pmax pmax
comp=Z,14nm,1.0s
DAG Danmarks Havn 42.32 347 *i* P **P 00 54 51.1 0.0**
comp=Z,14nm,1.0s
NVS Novosibirsk 43.67 47 *i* P **P 00 55 01.3 -0.9**
NVS *i* 00 56 42.8
NVS *i* S **S 01 01 30.5 -1.1**
NVS pmax pmax
comp=E,52nm,1.5s
NVS pmax pmax
comp=Z,107nm,1.5s
NVS pmax pmax
comp=N,12nm,1.1s
NVS smax smax
comp=N,29nm,1.7s
NVS smax smax
comp=E,31nm,1.7s
NVS Novosibirsk 43.67 47 *i* P **P 00 55 01.3 -0.9**
comp=E,12nm,1.1s
MK31 Makanchi Array 44.19 59 P **P 00 55 05.6 -1.0**
MK31 pmax pmax
comp=Z,26nm,0.5s
MK31 Makanchi Array 44.19 59 P **P 00 55 05.6 -1.0**
comp=Z,26nm,0.5s
MKAR Makanchi Array 44.19 59 *e*P **P 00 55 06.1 -0.5**
MKAR 00 56 53.2
MKAR Makanchi Array 44.19 59 *e*P **P 00 55 06.1 -0.5**
MKAR PcP **PcP 00 56 53.2 +1.9**
MKAR ScP **ScP 01 00 42.1 -0.8**
MKAR Makanchi Array 44.19 59 P **P 00 55 05.8 -0.8**
comp=Z,57nm,0.7s,baz=276,slow=7.4,SNR=146
MKAR PcP **PcP 00 56 53.2 +1.9**
comp=Z,20nm,1.0s,baz=298,slow=3.3,SNR=4.3
MKAR ScP **ScP 01 00 42.1 -0.8**
comp=Z,7.0nm,0.8s,baz=280,slow=3.9,SNR=5.4
MKAR LR LR 01 16 52.5
comp=Z,465nm,19.4s,baz=277,slow=41
MKAR Makanchi Array 44.19 59 *e*P **P 00 55 06.1 -0.5**
DHRM DHARAMSHALA 44.20 81 *e*P **P 00 55 06.9 -0.2**
MK01 Makanchi Array 44.20 59 *e*P **P 00 55 06.0 -0.8**
MK01 Makanchi Array 44.20 59 *e*P **P 00 55 05.9 -0.8**
ZAA0 Zalesovo Array 44.67 48 *e*P **P 00 55 09.2 -1.1**
ZAA0 Zalesovo Array 44.67 48 *e*P **P 00 55 09.2 -1.1**
ZALV Zalesovo Beam 44.67 48 P **P 00 55 09.0 -1.3**
ZALV pmax pmax
comp=Z,64nm,0.8s
ZALV Zalesovo Beam 44.67 48 P **P 00 55 09.0 -1.3**
ZALV Zalesovo Beam 44.67 48 P **P 00 55 09.0 -1.3**
comp=Z,65nm,0.8s,baz=273,slow=8.8,SNR=80
ZALV LR LR 01 14 43.1
comp=Z,560nm,20.1s,baz=273,slow=37
ZALV Zalesovo Beam 44.67 48 P **P 00 55 09.0 -1.3**
comp=Z,64nm,0.8s
SUMG Summit 45.03 338 *i* P **P 00 55 13.5 +0.1**
SUMG pmax pmax
comp=Z,34nm,0.9s
SUMG Summit 45.03 338 *i* P **P 00 55 13.5 +0.1**
comp=Z,34nm,0.9s
SUMG Summit 45.03 338 *e*P **P 00 55 13.3 -0.1**
comp=Z,62nm,1.1s
SUMG *e*PcP **PcP 00 56 55.5 +1.3**
SUMG Summit 45.03 338 *e*P **P 00 55 13.3 -0.1**
comp=Z,62nm,1.1s
SMLA Simla 45.33 82 *e*P **P 00 55 14.4 -1.4**
SACV Santiago Islan 46.37 253 PFAKE 00 55 40.0 +16
SACV LR LR
comp=Z,306nm,20.0s
NDI New Delhi 46.44 85 *e*P **P 00 55 24.0 -0.7**
SFJD Kangerlussuaq 48.61 330 *i* P **P 00 55 41.1 +0.2**
comp=Z,30nm,1.0s
SFJD Kangerlussuaq 48.61 330 *e*P **P 00 55 41.5 +0.5**
comp=Z,72nm,1.1s
SFJD LR LR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 48.61 330 *e*P **P 00 55 41.5 +0.5**
comp=Z,2μm,21.0s
WMQ Urumqi 48.63 62 P **P 00 55 43.5 +1.9**
WMQ pP **pP 00 55 48.0 +2.7**
WMQ sP sP 00 55 50.5 +3.7
WMQ PcP **PcP 00 57 09.4 +2.4**
WMQ ScP **ScP 01 01 04.8 +3.2**
WMQ S **S 01 02 46.4 +3.0**
WMQ ScS **ScS 01 05 32.8 -1.3**
WMQ SS **SS 01 06 09.1 -4.1**
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,310nm,4.2s
WMQ LR LR
comp=Z,1μm,12.7s
WMQ LR LR
comp=Z,680nm,9.9s
WMQ LR LR
comp=Z,710nm,24.0s
ILULI Ilulissat 48.73 333 *i* P **P 00 55 41.1 -0.8**
ILULI pmax pmax
comp=Z,30nm,1.1s
ILULI Ilulissat 48.73 333 *i* P **P 00 55 41.1 -0.8**
comp=Z,30nm,1.1s
POO Poona 49.02 99 *e*P **P 00 55 42.0 -2.8**
BHPL Bhopal 49.25 91 *e*P **P 00 55 46.4 -0.1**
BHPL AMB AMB 00 55 50.8
comp=Z,37nm,0.3s
PYUN Piuthan 51.21 82 *e*P **P 00 55 59.3 -2.3**
comp=Z,23nm,0.6s
ALE Alert 51.42 350 P **P 00 56 02.8 +0.6**
comp=Z,233nm,0.8s,SNR=11
DANN Dangsing 51.69 82 *e*P **P 00 56 03.4 -1.9**
comp=Z,160nm,1.1s
KOLN Koldanda 51.84 82 *e*P **P 00 56 04.1 -2.2**
comp=Z,130nm,1.3s
GKN Gorkha 52.54 82 *e*P **P 00 56 08.9 -2.6**
comp=Z,78nm,1.0s
MSEY Mahe Island 52.92 136 *e*P **P 00 56 14.0 -0.2**
comp=Z,47nm,1.0s
MSEY LR LR
comp=Z,378nm,20.0s
MSEY Mahe Island 52.92 136 *e*P **P 00 56 14.0 -0.2**
comp=Z,378nm,20.0s
DMN Daman 53.09 82 *e*P **P 00 56 13.6 -2.1**
comp=Z,85nm,1.0s
KKN Kakani 53.14 82 *e*P **P 00 56 13.7 -2.3**
comp=Z,26nm,0.7s
HYB Hyderabad 53.32 97 *i* P **P 00 56 16.0 -1.1**
HYB *e*S S 01 03 40.0 -8.8
PKIN Phulchoki 53.33 82 *e*P **P 00 56 15.9 -1.6**
comp=Z,60nm,1.2s
PKI Pulchoki 53.35 82 *e*P **P 00 56 16.0 -1.6**
comp=Z,62nm,1.2s
GUN Gumba 53.55 81 *e*P **P 00 56 16.6 -2.5**
comp=Z,75nm,0.9s
LSZ Lusaka 53.72 173 *e*P **P 00 56 20.3 +0.3**
comp=Z,21nm,1.1s
LSZ LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 53.72 173 *e*P **P 00 56 20.3 +0.3**
comp=Z,1μm,19.0s
JIRN Jiri 53.91 81 *e*P **P 00 56 19.8 -2.0**
comp=Z,42nm,0.9s
RAMN Ramite 54.57 82 *e*P **P 00 56 24.6 -1.9**
comp=Z,115nm,1.0s
MOY Mondy 54.73 48 *e*P **P 00 56 27.8 +0.7**
MOY pmax pmax
comp=Z,32nm,1.7s
MOY Mondy 54.73 48 *e*P **P 00 56 27.8 +0.7**
comp=Z,32nm,1.7s
ODAN Odare 55.23 81 *e*P **P 00 56 29.7 -1.6**
comp=Z,78nm,1.3s
TAPN Taplejung 55.24 81 *e*P **P 00 56 29.0 -2.4**
comp=Z,89nm,1.1s
BOK Bokaro 55.60 85 *e*P **P 00 56 31.5 -2.2**
DRLN Deer Lake 55.86 309 *e*P **P 00 56 34.5 -0.6**
comp=Z,242nm,1.4s
DRLN Deer Lake 55.86 309 *e*P **P 00 56 34.5 -0.6**
comp=Z,242nm,1.4s
RUDU RUNDU 56.06 183 *e*P **P 00 56 37.8 +0.9**
RUDU AMB AMB 00 56 40.7
comp=Z,49nm,5.0s
TLY Talaya 56.27 48 P **P 00 56 38.0 -0.1**
comp=Z,226nm,1.1s,SNR=5.3
TLY Talaya 56.27 48 *c i* P **P 00 56 38.5 +0.4**
TLY *e*S **S 01 04 28.2 +0.5**
TLY pmax pmax
comp=Z,53nm,1.1s
TLY MLR MLR
comp=Z,891nm,15.0s
TLY Talaya 56.27 48 PFAKE 00 56 50.0 +12
TLY LR LR
comp=Z,816nm,21.0s
TLY Talaya 56.27 48 *i* P **P 00 56 38.5 +0.4**
comp=Z,53nm,1.1s
IRK Irkutsk 56.43 47 *e*P **P 00 56 37.7 -1.5**
IRK pmax pmax
comp=Z,59nm,1.3s
IRK Irkutsk 56.43 47 *e*P **P 00 56 37.7 -1.5**
comp=Z,59nm,1.3s
ZAK Zakamensk 56.53 49 *e*P **P 00 56 39.4 -0.6**
ZAK pmax pmax
comp=Z,25nm,1.0s
ZAK Zakamensk 56.53 49 *e*P **P 00 56 39.4 -0.6**
comp=Z,25nm,1.0s
LSA Lhasa 56.75 76 *e*P **P 00 56 41.0 -1.4**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA MLR MLR
comp=Z,352nm,21.0s
LSA Lhasa 56.75 76 *e*P **P 00 56 41.0 -1.4**
comp=Z,14nm,0.8s
LSA LR LR
comp=Z,352nm,21.0s
LSA Lhasa 56.75 76 *e*P **P 00 56 41.0 -1.4**
comp=Z,352nm,21.0s
TSUM Tsumeb 57.46 185 *e*P **P 00 56 46.6 -0.3**
comp=Z,36nm,1.5s
TSUM LR LR
comp=Z,2μm,19.0s
TSUM Tsumeb 57.46 185 *e*P **P 00 56 46.6 -0.3**
comp=Z,36nm,1.5s
GTA Gaotai 58.69 62 *e*P **P 00 56 54.0 -1.5**
GTA pP **pP 00 56 58.6 -0.7**
GTA sP **sP 00 57 01.1 +0.4**
GTA PP **PP 00 59 05.8 +0.8**
GTA ScP **ScP 01 01 41.1 -4.5**
GTA S **S 01 04 57.3 -2.7**
GTA sS **sS 01 05 04.9 -1.4**
GTA SS **SS 01 08 52.0 -0.6**
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,500nm,16.7s
GTA LR LR
comp=Z,540nm,15.4s
GTA LR LR
comp=Z,690nm,19.6s
TIXI Tiksi 59.02 21 ⇓ *i* P **P 00 56 57.3 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI MLR MLR
comp=Z,3μm,15.0s
TIXI Tiksi 59.02 21 PFAKE 00 57 10.0 +13
TIXI LR LR
comp=Z,1μm,19.0s
TIXI Tiksi 59.02 21 *i* P **P 00 56 57.3 +0.2**
comp=Z,3μm,15.0s
SCHQ Schefferville 59.07 318 *e*P **P 00 56 56.9 -0.8**
comp=Z,50nm,1.0s
SCHQ Schefferville 59.07 318 P **P 00 56 56.1 -1.6**
comp=Z,16nm,0.5s,baz=70,slow=7.0,SNR=46
SCHQ LR LR 01 21 26.8
comp=Z,693nm,21.0s,baz=73,slow=35
SCHQ Schefferville 59.07 318 *e*P **P 00 56 56.9 -0.8**
comp=Z,50nm,1.0s
SHL Shillong 59.37 80 *e*P **P 00 56 58.3 -2.1**
SONA1 Songino Array 59.41 51 *e*P **P 00 56 59.3 -1.0**
SONA1 Songino Array 59.41 51 *e*P **P 00 56 59.3 -1.0**
SONM Songino Array 59.41 51 P **P 00 56 59.5 -0.9**
SONM ScP **ScP 01 01 50.5 +1.9**
SONM Songino Array 59.41 51 P **P 00 56 59.5 -0.9**
comp=Z,36nm,1.0s,baz=281,slow=5.0,SNR=66
SONM ScP **ScP 01 01 50.5 +1.9**
comp=Z,2.0nm,0.9s,baz=287,slow=4.7,SNR=3.0
SONM LR LR 01 24 06.4
comp=Z,860nm,21.2s,baz=312,slow=38
SONM Songino Array 59.41 51 P **P 00 56 59.5 -0.9**
comp=Z,861nm,21.3s
SONM ScP **ScP 01 01 50.5 +1.9**
ULN Ulaanbaatar 59.80 51 *e*P **P 00 57 02.2 -0.8**
comp=Z,40nm,0.9s
ULN LR LR
comp=Z,808nm,21.0s
ULN Ulaanbaatar 59.80 51 *e*P **P 00 57 02.2 -0.8**
comp=Z,40nm,0.9s
RES Resolute Bay 59.86 344 *e*P **P 00 57 03.3 +0.5**
comp=Z,48nm,1.0s
RES Resolute Bay 59.86 344 P **P 00 57 03.5 +0.7**
comp=Z,35nm,1.0s,baz=22,slow=8.8,SNR=32
RES Resolute Bay 59.86 344 *e*P **P 00 57 03.3 +0.5**
comp=Z,48nm,1.0s
WIN Windhoek 60.83 185 *e*P **P 00 57 09.9 -0.4**
WIN AMB AMB 00 57 28.6
comp=Z,12nm,3.9s
PALK Pallekele 61.15 105 *e*P **P 00 57 12.3 -0.2**
comp=Z,48nm,1.0s
PALK Pallekele 61.15 105 *e*P **P 00 57 12.3 -0.2**
comp=Z,48nm,1.0s
ABPO Ambohimpanom 61.84 153 *e*P **P 00 57 17.5 +0.3**
ABPO pmax pmax
comp=Z,21nm,0.9s
ABPO MLR MLR
comp=Z,532nm,20.0s
ABPO Ambohimpanom 61.84 153 *e*P **P 00 57 17.5 +0.3**
comp=Z,21nm,0.9s
ABPO LR LR
comp=Z,532nm,20.0s
ABPO Ambohimpanom 61.84 153 *e*P **P 00 57 17.5 +0.3**
comp=Z,532nm,20.0s
LZH Lanzhou 63.06 64 ⇑ P **P 00 57 26.4 +1.1**
LZH pP **pP 00 57 32.5 +3.4**
LZH sP sP 00 57 35.4 +4.9
LZH PP **PP 00 59 46.5 +2.8**
LZH S **S 01 05 53.0 -2.9**
LZH sS **sS 01 06 02.5 +0.3**
LZH SS **SS 01 10 00.3 -0.9**
LZH pmax pmax
comp=Z,75nm,1.5s
LZH pmax pmax
comp=Z,200nm,5.4s
LZH LR LR
comp=Z,720nm,17.0s
LZH LR LR
comp=Z,640nm,15.0s
LZH LR LR
comp=Z,880nm,19.6s
LBTB Lobatse 63.19 176 *e*P **P 00 57 26.4 +0.5**
LBTB AMB AMB 00 57 35.5
comp=Z,24nm,1.0s
LBTB Lobatse 63.19 176 *e*P **P 00 57 26.1 +0.2**
comp=Z,28nm,1.0s
LBTB Lobatse 63.19 176 *e*P **P 00 57 26.1 +0.2**
comp=Z,28nm,1.0s
PQI Presque Isle 63.35 310 *e*P **P 00 57 27.2 +0.4**
PQI Presque Isle 63.35 310 *e*P **P 00 57 27.2 +0.4**
EMMW East Machias 63.95 307 *e*P **P 00 57 31.3 +0.5**
EMMW East Machias 63.95 307 *e*P **P 00 57 31.3 +0.5**
SLR Silverton 64.08 174 *e*P **P 00 57 32.5 +0.6**
SLR AMB AMB 00 57 53.1
comp=Z,48nm,4.8s
YAK Yakutsk 64.33 30 *e*P **P 00 57 32.0 -1.0**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK MLR MLR
comp=Z,1μm,22.0s
YAK MLR MLR
comp=E,955nm,16.0s
YAK MLR MLR
comp=N,1μm,19.0s
YAK Yakutsk 64.33 30 PFAKE 00 57 40.0 +7.0
YAK LR LR
comp=Z,1μm,21.0s
YAK Yakutsk 64.33 30 *e*P **P 00 57 32.0 -1.0**
comp=Z,1μm,19.0s
ERPM east rand prop 64.68 174 *e*P **P 00 57 35.9 0.0**
ERPM AMB AMB 00 57 47.2
comp=Z,37nm,4.2s
WDLM Western Deep L 64.70 175 *e*P **P 00 57 37.0 +1.0**
WDLM AMB AMB 00 57 56.9
comp=Z,26nm,3.4s
PKME Peaks-Kenny Pk 64.81 309 *e*P **P 00 57 35.0 -1.4**
comp=Z,82nm,1.3s
PKME Peaks-Kenny Pk 64.81 309 *e*P **P 00 57 35.0 -1.4**
comp=Z,82nm,1.3s
CLNS Chul'man 65.13 36 *e*P **P 00 57 36.7 -1.7**
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,12nm,0.8s

CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS MLR MLR
comp=E,1µm,16.0s
CLNS MLR MLR
comp=Z,912nm,15.0s
CLNS MLR MLR
comp=N,523nm,10.0s
CLNS Chul'man 65.13 36 *e*P **P 00 57 36.7 -1.7**
comp=N,523nm,10.0s
SWZ Schweizer 65.33 177 *e*P **P 00 57 39.7 -0.3**
SWZ AMB AMB 00 58 14.6
comp=Z,62nm,4.9s
CD2 Chengdu 65.61 69 P **P 00 57 42.8 +0.9**
CD2 sP sP 00 57 55.1 +7.9
CD2 PcP **PcP 00 58 12.4 -1.1**
CD2 PP **PP 01 00 09.9 +3.9**
CD2 S S 01 06 20.5 -6.9
CD2 ScS **SKSac 01 07 34.0 -3.5**
CD2 pmax pmax
comp=Z,90nm,0.9s
CD2 pmax pmax
comp=Z,210nm,9.5s
CD2 LR LR
comp=Z,520nm,16.2s
CD2 LR LR
comp=Z,750nm,15.5s
CD2 LR LR
comp=Z,320nm,14.3s
HHC Hu-ho-hao-te 65.94 56 *e*P **P 00 57 44.9 +0.9**
HHC pP **pP 00 57 51.4 +3.6**
HHC sP sP 00 57 54.6 +5.3
HHC PP **PP 01 00 10.1 +1.3**
HHC S **S 01 06 30.6 -0.7**
HHC sS **sS 01 06 38.6 +1.0**
HHC SS **SS 01 10 42.6 -3.2**
HHC pmax pmax
comp=Z,95nm,1.1s
HHC pmax pmax
comp=Z,440nm,4.2s
HHC LR LR
comp=Z,1µm,12.8s
HHC LR LR
comp=Z,980nm,13.2s
HHC LR LR
comp=Z,1µm,14.9s
HIA Hailar 66.54 45 PFAKE 00 58 00.0 +12
HIA LR LR
comp=Z,1µm,20.0s
BOSA Boshof 66.75 177 *e*P **P 00 57 48.7 -0.4**
BOSA AMB AMB 00 57 56.5
comp=Z,42nm,4.3s
BOSA Boshof 66.75 177 *e*P **P 00 57 48.8 -0.3**
comp=Z,30nm,1.3s
BOSA Boshof 66.75 177 P **P 00 57 48.8 -0.3**
comp=Z,12nm,0.9s,baz=8.8,slow=7.5,SNR=22
BOSA LR LR 01 29 53.4
comp=Z,2µm,18.9s,baz=358,slow=39
BOSA Boshof 66.75 177 P **P 00 57 48.8 -0.3**
comp=Z,2µm,18.9s
LBNH Lisbon 66.94 309 *e*P **P 00 57 52.2 +2.0**
LBNH pmax pmax
comp=Z,67nm,1.3s
LBNH MLR MLR
comp=Z,812nm,20.0s
LBNH Lisbon 66.94 309 *e*P **P 00 57 52.2 +2.0**
comp=Z,67nm,1.3s
LBNH LR LR
comp=Z,812nm,20.0s
LBNH Lisbon 66.94 309 *e*P **P 00 57 52.2 +2.0**
comp=Z,812nm,20.0s
DGPR DIGLIPUR 67.04 91 *e*P **P 00 57 50.0 -1.2**
FFD Franklin Falls 67.18 308 *e*P **P 00 57 53.6 +1.9**
FFD Franklin Falls 67.18 308 *e*P **P 00 57 53.6 +1.9**
HNH Hanover 67.45 308 *e*P **P 00 57 54.2 +0.8**
HNH Hanover 67.45 308 *e*P **P 00 57 54.2 +0.8**
WES Weston 67.55 307 *e*P **P 00 57 55.3 +1.3**
WES Weston 67.55 307 *e*P **P 00 57 55.3 +1.3**
WES Weston 67.55 307 *e*P **P 00 57 55.3 +1.3**
HRV Adam Dziewonsk 67.63 307 *e*P **P 00 57 54.5 -0.1**
HRV pmax pmax
comp=Z,165nm,1.8s
HRV Adam Dziewonsk 67.63 307 *e*P **P 00 57 54.5 -0.1**
comp=Z,165nm,1.8s
HRV Adam Dziewonsk 67.63 307 *e*P **P 00 57 54.5 -0.1**
comp=Z,165nm,1.8s
FRNY Flat Rock 67.64 310 *e*P **P 00 57 56.1 +1.5**
comp=Z,14nm,1.1s
FRNY Flat Rock 67.64 310 *e*P **P 00 57 56.1 +1.5**
comp=Z,14nm,1.1s
XAN Xi'an 67.68 64 P **P 00 57 55.8 +0.7**
XAN pP **pP 00 58 01.1 +2.1**
XAN pmax pmax
comp=Z,17nm,1.2s
XAN LR LR
comp=Z,410nm,13.3s
XAN LR LR
comp=Z,140nm,12.2s
XAN LR LR
comp=Z,120nm,11.2s
MDV Middlebury 67.84 309 *e*P **P 00 57 56.8 +1.0**
MDV Middlebury 67.84 309 *e*P **P 00 57 56.8 +1.0**
KMI Kunming 67.93 75 ⇓P **P 00 57 57.8 +0.8**
KMI pP pP 00 58 04.9 +4.0
KMI sP sP 00 58 07.3 +5.0
KMI PcP **PcP 00 58 25.4 +2.0**
KMI PP **PP 01 00 29.5 +2.9**
KMI S **S 01 06 54.6 -1.3**
KMI sS **sS 01 07 04.5 +2.2**
KMI pmax pmax
comp=Z,17nm,1.0s
KMI pmax pmax
comp=Z,190nm,4.3s
KMI LR LR
comp=Z,340nm,23.9s
KMI LR LR
comp=Z,390nm,19.1s
KMI LR LR
comp=Z,370nm,24.4s
BRYW Bryant College 67.93 307 *e*P **P 00 57 57.7 +1.2**
BRYW Bryant College 67.93 307 *e*P **P 00 57 57.7 +1.2**
CMAI Chiengmai2 67.96 82 P **P 00 57 57.5 +0.3**
comp=Z,8.0nm,1.0s,comp=Z,3µm
MHMT Maesarieng 68.08 84 P **P 00 57 59.1 +1.4**
comp=Z,19nm,1.0s
QUA2 Belchertown 68.25 307 *e*P **P 00 57 58.1 -0.4**
QUA2 Belchertown 68.25 307 *e*P **P 00 57 58.1 -0.4**
LONY Lake Ozonia 68.35 310 *e*P **P 00 58 00.2 +1.1**
comp=Z,69nm,1.2s
LONY LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 68.35 310 *e*P **P 00 58 00.2 +1.1**
comp=Z,69nm,1.2s
ACCN Adirondack Com 68.47 309 *e*P **P 00 58 00.7 +0.8**
comp=Z,63nm,1.1s
ACCN Adirondack Com 68.47 309 *e*P **P 00 58 00.7 +0.8**
comp=Z,63nm,1.1s
NCB Newcomb 68.49 310 *e*P **P 00 58 00.9 +0.9**
comp=Z,34nm,0.7s
NCB LR LR
comp=Z,973nm,19.0s
NCB Newcomb 68.49 310 *e*P **P 00 58 00.9 +0.9**
comp=Z,34nm,0.7s
CHTO Chiang Mai 68.51 83 *e*P **P 00 57 57.9 -2.6**
CHTO MLR MLR
comp=Z,178nm,21.0s
CHTO Chiang Mai 68.51 83 P **P 00 58 00.8 +0.3**
comp=Z,59nm,1.2s
CHTO Chiang Mai 68.51 83 *e*P **P 00 57 57.9 -2.6**
comp=Z,3.4nm,1.0s
CHTO LR LR
comp=Z,178nm,21.0s
PTN Potsdam (NY) 68.62 310 *e*P **P 00 58 01.7 +0.9**
PTN pmax pmax
comp=Z,102nm,0.9s
PTN Potsdam (NY) 68.62 310 *e*P **P 00 58 01.7 +0.9**
comp=Z,102nm,0.9s
PTN Potsdam (NY) 68.62 310 *e*P **P 00 58 01.7 +0.9**
comp=Z,102nm,0.9s
CMAR Chiang Mai Arr 68.71 83 P **P 00 57 59.9 -1.8**
CMAR Chiang Mai Arr 68.71 83 P **P 00 57 59.9 -1.8**
comp=Z,4.1nm,0.8s,baz=302,slow=7.1,SNR=24
CMAR Chiang Mai Arr 68.71 83 P **P 00 57 59.9 -1.8**
comp=Z,4.0nm,0.8s
CM01 Chiang Mai Arr 68.74 83 *e*P **P 00 57 59.7 -2.2**
CM01 Chiang Mai Arr 68.74 83 *e*P **P 00 57 59.7 -2.2**

LAMP Lampang 69.21 82 P **P 00 58 06.2 +1.4**
comp=Z,4.5nm,1.0s,comp=Z,81nm
RCBR Riachuelo 69.33 244 LR LR 01 29 06.4
comp=Z,295nm,18.1s,baz=44,slow=36
BJI Beijing 69.36 55 P **P 00 58 07.0 +1.6**
BJI S **S 01 07 14.1 +2.1**
BJI LR LR
comp=Z,940nm,15.7s
BJI LR LR
comp=Z,860nm,16.9s
BJI LR LR
comp=Z,620nm,33.0s
BJT Baijiatuan 69.36 55 *e*P **P 00 58 04.3 -1.2**
comp=Z,46nm,1.0s
BJT LR LR
comp=Z,814nm,19.0s
BJT Baijiatuan 69.36 55 *e*P **P 00 58 04.3 -1.2**
comp=Z,814nm,19.0s
FCC Fort Churchill 69.63 330 *e*P **P 00 58 06.4 -0.3**
FCC Fort Churchill 69.63 330 *e*P **P 00 58 06.4 -0.3**
FCC Fort Churchill 69.63 330 *e*P **P 00 58 06.4 -0.3**
PAL Palisades 69.92 307 *e*P **P 00 58 08.9 0.0**
PAL pmax pmax
comp=Z,31nm,0.9s
PAL Palisades 69.92 307 *e*P **P 00 58 08.9 0.0**
comp=Z,31nm,0.9s
PAL Palisades 69.92 307 *e*P **P 00 58 08.9 0.0**
comp=Z,31nm,0.9s
CPNY Central Park 70.07 307 *e*P **P 00 58 09.1 -0.7**
comp=Z,124nm,1.6s
CPNY Central Park 70.07 307 *e*P **P 00 58 09.1 -0.7**
comp=Z,124nm,1.6s
ENH Enshi 70.12 67 *e*P **P 00 58 10.6 +0.3**
comp=Z,18nm,0.8s
ENH LR LR
comp=Z,44nm,19.0s
ENH Enshi 70.12 67 *e*P **P 00 58 10.6 +0.3**
comp=Z,18nm,0.8s
GYA Guiyang 70.15 72 ⇑P **P 00 58 10.4 -0.3**
GYA PP **PP 01 00 48.3 +2.7**
GYA S **S 01 07 19.5 -2.5**
GYA SKS **SKSac 01 08 07.6 -4.6**
GYA SS **SS 01 11 51.4 0.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,540nm,19.8s
GYA LR LR
comp=Z,460nm,20.2s
GYA LR LR
comp=Z,520nm,18.6s
ODNJ Ogdensburg 70.32 307 *e*P **P 00 58 12.9 +1.6**
comp=Z,94nm,1.8s
ODNJ Ogdensburg 70.32 307 *e*P **P 00 58 12.9 +1.6**
comp=Z,94nm,1.8s
SUR Sutherland 70.44 181 PFAKE 00 58 20.0 +7.8
SUR LR LR
comp=Z,2µm,19.0s
BRNJ Basking Ridge 70.52 307 *e*P **P 00 58 11.7 -0.8**
comp=Z,16µm,1.3s
BRNJ Basking Ridge 70.52 307 *e*P **P 00 58 11.7 -0.8**
comp=Z,10µm,1.3s
BILL Bilibino 70.52 13 *e*P **P 00 58 14.5 +2.4**
BILL pmax pmax
comp=Z,42nm,1.2s
BILL MLR MLR
comp=Z,8µm,25.0s
BILL Bilibino 70.52 13 PFAKE 00 58 20.0 +7.9
BILL LR LR
comp=Z,2µm,21.0s
BILL Bilibino 70.52 13 *e*P **P 00 58 14.5 +2.4**
comp=Z,8µm,25.0s
KHLT Khaolaem Dam 70.54 86 P **P 00 58 13.7 +0.7**
comp=Z,5.5nm,1.4s
BINY Binghamton 70.54 309 *e*P **P 00 58 13.7 +1.0**
comp=Z,70nm,1.2s
BINY LR LR
comp=Z,902nm,22.0s
BINY Binghamton 70.54 309 *e*P **P 00 58 13.7 +1.0**
comp=Z,70nm,1.2s
UTHA Uthaitani 70.77 85 P **P 00 58 15.1 +0.7**
comp=Z,4.3nm,1.1s
SADO Sadowa 70.96 312 P **P 00 58 15.4 +0.3**
SADO Sadowa 70.96 312 P **P 00 58 15.4 +0.3**
comp=Z,44nm,0.8s,baz=81,slow=5.2,SNR=19
SADO LR LR 01 28 45.7
comp=Z,667nm,19.3s,baz=6.5,slow=3s
SADO Sadowa 70.96 312 P **P 00 58 15.4 +0.3**
LUPA Lehigh Univers 71.07 307 *e*P **P 00 58 17.0 +1.1**
comp=Z,28nm,1.1s
LUPA Lehigh Univers 71.07 307 *e*P **P 00 58 17.0 +1.1**
comp=Z,28nm,1.1s
SRDT SRDT 71.22 86 P **P 00 58 17.7 +0.6**
comp=Z,44nm,1.2s
PBKT Sadao Pong 71.37 83 P **P 00 58 19.3 +1.3**
comp=Z,15nm,1.2s,comp=Z,1µm
MMNY Mt. Morris Dam 71.41 310 *e*P **P 00 58 18.1 +0.2**
comp=Z,181nm,1.1s
MMNY Mt. Morris Dam 71.41 310 *e*P **P 00 58 18.1 +0.2**
comp=Z,181nm,1.1s
SEY Seymchan 71.50 22 P **P 00 58 18.4 +0.3**
SEY pmax pmax
comp=Z,21nm,1.0s
SEY Seymchan 71.50 22 P **P 00 58 18.4 +0.3**
SEY Seymchan 71.50 22 P **P 00 58 18.4 +0.3**
comp=Z,21nm,0.9s,baz=327,slow=7.0,SNR=18
SEY Seymchan 71.50 22 P **P 00 58 18.4 +0.3**
comp=Z,21nm,1.0s
INK Inuvik 72.02 351 *e*P **P 00 58 21.3 +0.2**
comp=Z,72nm,1.4s
INK Inuvik 72.02 351 P **P 00 58 21.3 +0.2**
comp=Z,28nm,1.0s,baz=17,slow=6.3,SNR=34
INK Inuvik 72.02 351 P **P 00 58 21.3 +0.2**
comp=Z,28nm,1.0s
MVL Millersville 72.03 307 *e*P **P 00 58 22.5 +0.8**
comp=Z,62nm,1.2s
MVL Millersville 72.03 307 *e*P **P 00 58 22.5 +0.8**
comp=Z,62nm,1.2s
TIA Tai'an 72.11 58 ⇓P **P 00 58 21.8 -0.5**
TIA pmax pmax
comp=Z,50nm,1.2s
TIA LR LR
comp=Z,430nm,13.0s
TIA LR LR
comp=Z,1µm,17.0s
TIA LR LR
comp=Z,680nm,27.0s
PHET Kaeng Krachan 72.46 87 P **P 00 58 25.6 +1.0**
comp=Z,40nm,1.0s,comp=Z,346nm
SDMD Soldier's Deli 72.67 307 *e*P **P 00 58 25.4 -0.1**
SDMD Soldier's Deli 72.67 307 *e*P **P 00 58 25.4 -0.1**
CN2 Changchun 72.88 47 *e*P **P 00 58 27.0 +0.3**
CN2 *ep*P **pP 00 58 33.3 +2.7**
CN2 *es*P sP 00 58 36.1 +4.1
CN2 *e*S **S 01 07 49.8 -2.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,900nm,14.0s
KLR Kul'dur 72.95 40 *e*P P 00 58 22.3 -4.7
ERPA Erie 73.02 310 *e*P **P 00 58 27.3 -0.2**
comp=Z,162nm,1.0s
ERPA LR LR
comp=Z,1µm,19.0s
ERPA Erie 73.02 310 *e*P **P 00 58 27.3 -0.2**
comp=Z,162nm,1.0s
ALLY Alegheny Colle 73.39 310 *e*P **P 00 58 30.5 +0.7**
comp=Z,80nm,1.0s
ALLY Alegheny Colle 73.39 310 *e*P **P 00 58 30.5 +0.7**
comp=Z,80nm,1.0s
WHN Wuhan 73.44 64 *e*P P 00 58 33.6 +3.4
YKA Yellowknife Ar 73.56 341 P **P 00 58 29.7 -0.7**
YKA P'P' 01 26 11.3
YKA Yellowknife Ar 73.56 341 P **P 00 58 29.7 -0.7**
comp=Z,35nm,1.1s,baz=36,slow=5.1,SNR=108
YKA PKPPKP **P'P'df 01 26 11.3 -2.6**
comp=Z,0.4nm,1.0s,baz=212,slow=2.6,SNR=4.2
YKA Yellowknife Ar 73.56 341 P **P 00 58 29.7 -0.7**
comp=Z,38nm,1.1s

CBN Corbin 73.72 306 *e*P **P 00 58 33.0 +1.3**
comp=Z,149nm,1.4s
CBN LR LR
comp=Z,692nm,19.0s
CBN Corbin 73.72 306 *e*P **P 00 58 33.0 +1.3**
comp=Z,149nm,1.4s
SURT Suratani 74.16 91 P **P 00 58 35.5 +0.8**
comp=Z,6.1nm,1.1s
JSRW J. Sargeant Re 74.34 306 *e*P **P 00 58 36.5 +1.1**
JSRW J. Sargeant Re 74.34 306 *e*P **P 00 58 36.5 +1.1**
MCWV Mont Chateau 74.40 308 *e*P **P 00 58 36.5 +0.8**
comp=Z,381nm,1.8s
MCWV LR LR
comp=Z,958nm,21.0s
MCWV Mont Chateau 74.40 308 *e*P **P 00 58 36.5 +0.8**
comp=Z,381nm,1.8s
ANWB Willy Bob 74.47 280 PFAKE 00 58 50.0 +14
ANWB LR LR
comp=Z,288nm,19.0s
COLD Coldfoot 74.52 357 *e*P **P 00 58 36.8 +0.9**
comp=Z,127nm,1.1s
COLD Coldfoot 74.52 357 *e*P **P 00 58 36.8 +0.9**
comp=Z,127nm,1.1s
CHBT CHBT 74.67 86 P P 00 58 48.9 +11
MDJ Mudanjiang 74.72 45 P **P 00 58 38.6 +1.1**
MDJ pP **pP 00 58 41.8 +0.4**
MDJ sP **sP 00 58 43.0 +0.2**
MDJ PcP **PcP 00 58 53.0 +1.3**
MDJ PP **PP 01 01 21.3 -2.7**
MDJ S **S 01 08 11.8 -1.7**
MDJ ScS **ScS 01 08 48.4 -0.6**
MDJ SS **SS 01 12 58.9 -1.2**
MDJ pmax pmax
comp=Z,17nm,1.2s
MDJ pmax pmax
comp=Z,130nm,3.6s
MDJ LR LR
comp=Z,350nm,19.2s
MDJ LR LR
comp=Z,600nm,20.0s
MDJ LR LR
comp=Z,340nm,20.8s
MDJ Mudanjiang 74.72 45 *e*P **P 00 58 36.2 -1.3**
comp=Z,20nm,1.0s
MDJ LR LR
comp=Z,738nm,22.0s
MDJ Mudanjiang 74.72 45 *e*P **P 00 58 36.2 -1.3**
comp=Z,20nm,1.0s
AAM Ann Arbor 75.07 312 *e*P **P 00 58 39.5 0.0**
AAM pmax pmax
comp=Z,93nm,1.1s
AAM MLR MLR
comp=Z,754nm,20.0s
AAM Ann Arbor 75.07 312 *e*P **P 00 58 39.5 0.0**
comp=Z,93nm,1.1s
AAM LR LR
comp=Z,754nm,20.0s
AAM Ann Arbor 75.07 312 *e*P **P 00 58 39.5 0.0**
comp=Z,754nm,20.0s
FFC Flin Flon 75.56 330 P **P 00 58 42.5 +0.4**
comp=Z,242nm,1.1s,SNR=13
FFC Flin Flon 75.56 330 *e*P **P 00 58 42.2 +0.1**
FFC pmax pmax
comp=Z,29nm,1.2s
FFC MLR MLR
comp=Z,959nm,20.0s
FFC Flin Flon 75.56 330 *e*P **P 00 58 42.2 +0.1**
comp=Z,29nm,1.2s
FFC LR LR
comp=Z,959nm,20.0s
FFC Flin Flon 75.56 330 *e*P **P 00 58 42.2 +0.1**
comp=Z,959nm,20.0s
EYMN Ely 75.67 320 *e*P **P 00 58 42.7 -0.2**
comp=Z,92nm,1.4s
EYMN LR LR
comp=Z,880nm,19.0s
EYMN Ely 75.67 320 *e*P **P 00 58 42.7 -0.2**
comp=Z,92nm,1.4s
FDF Fort de France 75.69 278 PFAKE 00 59 00.0 +16
FDF LR LR
comp=Z,160nm,19.0s
NJ2 Nanjing 75.69 60 *e*P **P 00 58 43.8 +0.5**
NJ2 pmax pmax
comp=Z,80nm,1.2s
CNNC Cliffs of the 75.81 304 *e*P **P 00 58 45.4 +1.4**
comp=Z,707nm,2.9s
CNNC LR LR
comp=Z,708nm,20.0s
CNNC Cliffs of the 75.81 304 *e*P **P 00 58 45.3 +1.4**
comp=Z,707nm,2.9s
ACSO Alum Creek Sta 75.95 310 *e*P **P 00 58 45.1 +0.4**
comp=Z,109nm,1.1s
ACSO LR LR
comp=Z,976nm,19.0s
ACSO Alum Creek Sta 75.95 310 *e*P **P 00 58 45.1 +0.4**
comp=Z,109nm,1.1s
TNA Tin City 76.07 4 *e*P **P 00 58 45.5 +0.7**
comp=Z,171nm,1.1s
TNA Tin City 76.07 4 *e*P **P 00 58 45.5 +0.7**
comp=Z,171nm,1.1s
ULM Lac du Bonnet 76.19 324 *e*P **P 00 58 45.7 -0.1**
comp=Z,156nm,1.1s
ULM Lac du Bonnet 76.19 324 P **P 00 58 45.5 -0.3**
comp=Z,125nm,1.1s,baz=47,slow=6.0,SNR=44
ULM LR LR 01 34 11.2
comp=Z,920nm,18.7s,baz=46,slow=37
ULM Lac du Bonnet 76.19 324 *e*P **P 00 58 45.7 -0.1**
comp=Z,156nm,1.1s
BLA Blacksburg 76.24 307 *e*P **P 00 58 46.4 0.0**
BLA pmax pmax
comp=Z,213nm,2.0s
BLA MLR MLR
comp=Z,810nm,20.0s
BLA Blacksburg 76.24 307 *e*P **P 00 58 46.4 0.0**
comp=Z,213nm,2.0s
BLA LR LR
comp=Z,810nm,20.0s
BLA Blacksburg 76.24 307 *e*P **P 00 58 46.4 0.0**
comp=Z,810nm,20.0s
EGAK Eagle 76.29 353 *e*P **P 00 58 46.9 +0.8**
comp=Z,36nm,1.1s
EGAK LR LR
comp=Z,526nm,20.0s
EGAK Eagle 76.29 353 *e*P **P 00 58 46.9 +0.8**
comp=Z,36nm,1.1s
USRK Ussuriysk Arra 76.31 44 P **P 00 58 45.9 -0.7**
comp=Z,45nm,0.9s,baz=296,slow=4.6,SNR=30
USRK LR LR 01 35 58.5
comp=Z,814nm,19.4s,baz=316,slow=39
CDVI St. Croix 76.71 282 *e*P **P 00 58 48.2 -1.1**
comp=Z,65nm,0.8s
CDVI St. Croix 76.71 282 *e*P **P 00 58 48.2 -1.1**
comp=Z,65nm,0.8s
COLA College 76.74 356 ⇑*e*P **P 00 58 49.6 +1.0**
COLA pmax pmax
comp=Z,76nm,1.9s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA College 76.74 356 *e*P **P 00 58 49.0 +0.4**
comp=Z,26nm,1.3s
COLA LR LR
comp=Z,480nm,19.0s
COLA College 76.74 356 *e*P **P 00 58 49.0 +0.4**
comp=Z,26nm,1.3s
IL1 Eielson Array 76.78 355 *e*P **P 00 58 49.1 +0.2**
IL1 Eielson Array 76.78 355 *e*P **P 00 58 49.1 +0.2**
ILAR Eielson Array 76.78 355 P **P 00 58 49.4 +0.4**
ILAR Eielson Array 76.78 355 P **P 00 58 49.4 +0.4**
comp=Z,38nm,1.1s,baz=3.5,slow=4.3,SNR=62
ILAR LR LR 01 33 14.0
comp=Z,343nm,21.4s,baz=3.0,slow=36
ILAR Eielson Array 76.78 355 P **P 00 58 49.3 +0.4**
QIZ Qiongzhong 76.80 76 P **P 00 58 50.1 +0.3**
QIZ PP **PP 01 01 44.1 +1.8**
QIZ S **S 01 08 39.3 +2.1**
QIZ SS **SS 01 13 34.8 +1.9**
QIZ pmax pmax
comp=Z,25nm,1.0s
QIZ LR LR
comp=Z,130nm,21.6s
QIZ LR LR
comp=Z,400nm,30.6s
QIZ Qiongzhong 76.80 76 *e*P **P 00 58 48.9 -0.8**
comp=Z,34nm,1.1s
QIZ LR LR
comp=Z,316nm,19.0s
QIZ Qiongzhong 76.80 76 *e*P **P 00 58 48.9 -0.8**

comp=Z,34nm,1.1s
DAWY Dawson 76.80 352 *e*P P 00 58 48.7 -0.4
DAWY Dawson 76.80 352 *e*P P 00 58 48.7 -0.4
VLA Vladivostok 76.95 45 *c i*P P 00 58 50.7 +0.5
VLA pmax pmax
comp=Z,55nm,1.0s
VLA MLR MLR
comp=Z,245nm,17.0s
VLA Vladivostok 76.95 45 *i*P P 00 58 50.7 +0.5
comp=Z,245nm,17.0s
CBYP Canovanas 77.24 283 *e*P P 00 58 51.4 -1.0
comp=Z,29nm,1.0s
CBYP Canovanas 77.24 283 *e*P P 00 58 51.4 -1.0
comp=Z,29nm,1.0s
HUMP Col San Antoni 77.31 283 *e*P P 00 58 54.0 +1.3
comp=Z,69nm,1.3s
HUMP Col San Antoni 77.31 283 *e*P P 00 58 54.0 +1.3
comp=Z,69nm,1.3s
CPD Cerro la Pandu 77.43 283 *e*P P 00 58 53.7 +0.4
CPD pmax pmax
comp=Z,73nm,1.0s
CPD Cerro la Pandu 77.43 283 *e*P P 00 58 53.7 +0.4
comp=Z,73nm,1.0s
CPD Cerro la Pandu 77.43 283 *e*P P 00 58 53.7 +0.4
comp=Z,73nm,1.0s
INCN Inchon 77.47 52 PFAKE 00 59 00.0 +6.7
INCN LR LR
comp=Z,739nm,19.0s
AGMN Agassiz Nation 77.55 323 *e*P P 00 58 53.5 -0.1
comp=Z,45nm,1.0s
AGMN LR LR
comp=Z,967nm,21.0s
AGMN Agassiz Nation 77.55 323 ⇓P P 00 58 53.3 -0.3
baz=77,SNR=19
AGMN Agassiz Nation 77.55 323 *e*P P 00 58 53.5 -0.1
comp=Z,45nm,1.0s
GAMB Gambell 77.57 6 *e*P P 00 58 53.5 +0.2
comp=Z,29nm,1.0s
GAMB Gambell 77.57 6 *e*P P 00 58 53.5 +0.2
comp=Z,29nm,1.0s
GRGR Grenville 77.63 276 *e*P P 00 58 54.3 -0.2
comp=Z,374nm,1.1s
GRGR Grenville 77.63 276 *e*P P 00 58 54.3 -0.2
comp=Z,374nm,1.1s
DOT Dot Lake 77.67 354 *e*P P 00 58 55.2 +1.2
comp=Z,160nm,1.2s
DOT Dot Lake 77.67 354 *e*P P 00 58 55.2 +1.2
comp=Z,160nm,1.2s
KULM Kulim 77.85 93 *e*P P 00 58 53.8 -1.9
comp=Z,19nm,1.0s
KULM LR LR
comp=Z,157nm,20.0s
KULM Kulim 77.85 93 *e*P P 00 58 53.8 -1.9
comp=Z,19nm,1.0s
SSE Sheshan 77.86 60 *e*P P 00 58 56.4 +0.9
SSE pP PcP 00 59 02.8 -2.6
SSE S S 01 08 47.3 -1.0
SSE sS sS 01 08 58.5 +3.7
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,100nm,3.5s
SSE LR LR
comp=Z,270nm,22.8s
SSE LR LR
comp=Z,120nm,22.7s
SSE LR LR
comp=Z,220nm,24.2s
AOPR Arecibo Observ 77.88 284 *e*P P 00 58 54.6 -1.3
comp=Z,36nm,0.9s
AOPR Arecibo Observ 77.88 284 *e*P P 00 58 54.6 -1.3
comp=Z,36nm,0.9s
GSI Gunungsitoli 77.91 98 *e*P P 00 58 56.2 +0.2
comp=Z,28nm,0.9s
GSI Gunungsitoli 77.91 98 *e*P P 00 58 56.2 +0.2
comp=Z,28nm,0.9s
CELP Cerrillos 77.91 283 *e*P P 00 58 54.9 -1.1
CELP Cerrillos 77.91 283 *e*P P 00 58 54.9 -1.1
MCK McKinley 77.94 356 *e*P P 00 58 56.1 +0.7
MCK pmax pmax
comp=Z,232nm,1.2s
MCK McKinley 77.94 356 *e*P P 00 58 56.1 +0.7
comp=Z,232nm,1.2s
MCK McKinley 77.94 356 *e*P P 00 58 56.1 +0.7
comp=Z,232nm,1.2s
OBIP Obispado Ponce 77.95 283 *e*P P 00 58 57.6 +1.4
comp=Z,641nm,2.4s
OBIP Obispado Ponce 77.95 283 *e*P P 00 58 57.6 +1.4
comp=Z,641nm,2.4s
LRS Lares 77.98 284 *e*P P 00 58 55.1 -1.4
LRS Lares 77.98 284 *e*P P 00 58 55.1 -1.4
PSI Prapat 78.03 96 P P 00 58 57.1 +0.3
PSI Prapat 78.03 96 P P 00 58 57.1 +0.3
comp=Z,13nm,0.6s,baz=312,slow=6.0,SNR=13
KMSC Kings Mountain 78.10 305 *e*P P 00 58 57.7 +0.9
KMSC Kings Mountain 78.10 305 ⇓P P 00 58 57.3 +0.4
baz=78
KMSC Kings Mountain 78.10 305 *e*P P 00 58 57.7 +0.9
AGP Aguadilla 78.14 284 *e*P P 00 58 55.7 -1.6
comp=Z,244nm,1.3s
AGP Aguadilla 78.14 284 *e*P P 00 58 55.7 -1.6
comp=Z,244nm,1.3s
SPMN St. Paul 78.17 319 *e*P P 00 58 57.0 0.0
SPMN St. Paul 78.17 319 ⇑P P 00 58 57.1 0.0
baz=78,SNR=32
SPMN St. Paul 78.17 319 *e*P P 00 58 57.0 0.0
KTH Kantishna Hill 78.22 357 *e*P P 00 58 57.5 +0.4
comp=Z,581nm,1.3s
KTH Kantishna Hill 78.22 357 *e*P P 00 58 57.5 +0.4
comp=Z,581nm,1.3s
A30A Hoffart Farm, 78.23 324 ⇑P P 00 58 57.1 -0.3
baz=78,SNR=77
KS01 Wonju Array Si 78.25 51 *e*P P 00 58 55.6 -2.0
KS01 Wonju Array Si 78.25 51 *e*P P 00 58 55.6 -2.0
KSAR Wonju Array Be 78.26 51 P P 00 58 57.6 -0.1
KSAR Wonju Array Be 78.26 51 P P 00 58 57.6 -0.1
KSRS Korea Array 78.28 51 P P 00 58 57.6 -0.2
comp=Z,47nm,1.0s,baz=313,slow=4.7,SNR=37
KSRS LR LR 01 38 22.7
comp=Z,608nm,18.8s,baz=322,slow=40
KSRS Korea Array 78.28 51 P P 00 58 57.6 -0.2
comp=Z,608nm,18.8s
SFIN Scholer Farm 78.28 313 *e*P P 00 58 57.8 0.0
SFIN Scholer Farm 78.28 313 ⇑P P 00 58 57.8 0.0
baz=78
SFIN Scholer Farm 78.28 313 *e*P P 00 58 57.8 0.0
TRF Thorofare Moun 78.29 356 *e*P P 00 58 58.2 +0.6
comp=Z,98nm,1.2s
TRF Thorofare Moun 78.29 356 *e*P P 00 58 58.2 +0.6
comp=Z,98nm,1.2s
MENT Mentasta 78.34 353 *e*P P 00 58 58.8 +1.1
MENT Mentasta 78.34 353 *e*P P 00 58 58.8 +1.1
CRPR Cabo Rojo, PR 78.36 284 *e*P P 00 58 57.7 -0.7
comp=Z,80nm,1.1s
CRPR Cabo Rojo, PR 78.36 284 *e*P P 00 58 57.7 -0.7
comp=Z,80nm,1.1s
JFWS Jewell Farm 78.38 316 *e*P P 00 58 58.0 -0.3
JFWS pmax pmax
comp=Z,147nm,1.1s
JFWS MLR MLR
comp=Z,817nm,19.0s
JFWS Jewell Farm 78.38 316 *e*P P 00 58 58.0 -0.3
comp=Z,147nm,1.1s
JFWS LR LR
comp=Z,817nm,19.0s
JFWS Jewell Farm 78.38 316 *e*P P 00 58 58.0 -0.3
comp=Z,817nm,19.0s
CAST Castle Rocks 78.40 357 *e*P P 00 58 59.3 +1.3
comp=Z,90nm,1.1s
CAST Castle Rocks 78.40 357 *e*P P 00 58 59.3 +1.3
comp=Z,90nm,1.1s
PAX Paxson 78.46 354 *e*P P 00 58 57.3 -1.1
PAX pmax pmax
comp=Z,60nm,1.4s
PAX Paxson 78.46 354 *e*P P 00 58 57.3 -1.1
comp=Z,60nm,1.4s
PAX Paxson 78.46 354 *e*P P 00 58 57.3 -1.1
comp=Z,60nm,1.4s
B30A Myrvik Farm, E 78.60 324 ⇑P P 00 58 59.2 -0.2
baz=78,SNR=57
TZTN Tazewell 78.62 308 *e*P P 00 58 59.0 -0.7
comp=Z,86nm,1.2s
TZTN Tazewell 78.62 308 *e*P P 00 58 59.0 -0.7
comp=Z,86nm,1.2s
IPM Ipoh 78.64 93 *e*P P 00 58 59.4 -0.7
comp=Z,19nm,1.3s
IPM Ipoh 78.64 93 *e*P P 00 58 59.4 -0.7
comp=Z,19nm,1.3s
A29A Manning Farm, 78.67 325 ⇑P P 00 58 59.8 +0.1
baz=78,SNR=88
PPLA Purkeypile 78.92 357 *e*P P 00 59 02.1 +1.0
comp=Z,199nm,1.3s
PPLA Purkeypile 78.92 357 *e*P P 00 59 02.1 +1.0
comp=Z,199nm,1.3s
B29A Wagenman Farm, 79.06 325 ⇑P P 00 59 01.8 0.0
baz=79,SNR=22
A28A Rude Farm, Bot 79.14 325 ⇑P P 00 59 02.7 +0.3
baz=79,SNR=22
C30A Mose, Pekin 79.21 324 ⇓P P 00 59 02.4 -0.3
baz=79,SNR=64
WCI Wyandotte Cave 79.21 310 *e*P P 00 59 02.9 0.0
WCI pmax pmax
comp=Z,89nm,0.9s
WCI Wyandotte Cave 79.21 310 *e*P P 00 59 02.9 0.0
comp=Z,89nm,0.9s
WCI Wyandotte Cave 79.21 310 *e*P P 00 59 02.9 0.0
comp=Z,89nm,0.9s
GRTK Grand Turk 79.30 289 PFAKE 00 59 20.0 +16
GRTK LR LR
comp=Z,267nm,19.0s
TKL Tuckaleechee C 79.32 307 *e*P P 00 59 04.2 +0.6
TKL Tuckaleechee C 79.32 307 P P 00 59 03.8 +0.2
comp=Z,29nm,0.8s,baz=78,slow=6.6,SNR=20
TKL LR LR 01 35 21.2
comp=Z,433nm,18.3s,baz=70,slow=37
TKL Tuckaleechee C 79.32 307 *e*P P 00 59 04.2 +0.6
B28A Dugan Ranch, T 79.53 325 ⇑P P 00 59 04.6 +0.2
baz=79,SNR=22
A27A Ledoux Ranch, 79.54 326 ⇑P P 00 59 04.5 -0.1
baz=79
D30A Buchanan 79.77 323 ⇑P P 00 59 05.5 -0.3
baz=80,SNR=56
YSS Yuzh-Sakhalins 79.89 37 ⇑ *i*P P 00 59 07.7 +1.3
YSS pmax pmax
comp=Z,160nm,1.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=E,1μm,18.0s
YSS Yuzh-Sakhalins 79.89 37 PFAKE 00 59 20.0 +14
YSS LR LR
comp=Z,335nm,19.0s
YSS Yuzh-Sakhalins 79.89 37 *i*P P 00 59 07.7 +1.3
comp=Z,1μm,17.0s
CPCT Cooper Cave 79.92 307 *e*P P 00 59 07.3 +0.4
CPCT Cooper Cave 79.92 307 *e*P P 00 59 07.3 +0.4
A26A Wade Farm, Ken 79.93 326 ⇑P P 00 59 07.2 +0.5
baz=80,SNR=64
B27A Peters Farms, 79.96 326 ⇓P P 00 59 07.5 +0.7
baz=80,SNR=9.6
C28A Hausauer Farms 80.08 325 ⇑P P 00 59 07.8 +0.3
baz=80,SNR=10
PMR Palmer 80.08 356 *e*P P 00 59 08.0 +0.9
PMR pmax pmax
comp=Z,144nm,1.2s
PMR Palmer 80.08 356 *e*P P 00 59 08.0 +0.9
comp=Z,144nm,1.2s
PMR Palmer 80.08 356 *e*P P 00 59 08.0 +0.9
comp=Z,144nm,1.2s
D29A Pettibone, Tap 80.20 324 ⇓P P 00 59 08.2 0.0
baz=80,SNR=84
USIN University of 80.20 311 *e*P P 00 59 09.3 +1.0
comp=Z,126nm,1.1s
USIN University of 80.20 311 *e*P P 00 59 09.3 +1.0
comp=Z,126nm,1.1s
E30A Jud 80.28 323 ⇓P P 00 59 09.0 +0.4
baz=80,SNR=66
DIV Divide 80.30 354 *e*P P 00 59 07.6 -0.9
comp=Z,75nm,1.3s
DIV Divide 80.30 354 *e*P P 00 59 07.6 -0.9
comp=Z,75nm,1.3s
BMRM Bremner River 80.36 353 *e*P P 00 59 09.8 +1.0
comp=Z,181nm,1.2s
BMRM Bremner River 80.36 353 *e*P P 00 59 09.8 +1.0
comp=Z,181nm,1.2s
A25A Svangstu Ranch 80.37 327 ⇓P P 00 59 09.6 +0.5
baz=80,SNR=21
B26A Jensen Ranch, 80.41 326 ⇑P P 00 59 09.4 +0.1
baz=80,SNR=6.1
D28A Regan 80.55 324 ⇑P P 00 59 10.2 +0.2
baz=80,SNR=12
GOGA Godfrey 80.56 305 *e*P P 00 59 09.7 -0.6
GOGA pmax pmax
comp=Z,68nm,1.0s
GOGA MLR MLR
comp=Z,585nm,19.0s
GOGA Godfrey 80.56 305 *e*P P 00 59 09.7 -0.6
comp=Z,68nm,1.0s
GOGA LR LR
comp=Z,585nm,19.0s
GOGA Godfrey 80.56 305 *e*P P 00 59 09.7 -0.6
comp=Z,585nm,19.0s
E29A Napeon 80.58 323 ⇑P P 00 59 10.5 +0.3
baz=80,SNR=114
C27A Sayler Ranch, 80.58 325 ⇑P P 00 59 10.5 +0.3
baz=80,SNR=14
RC01 Rabbit Creek A 80.62 356 *e*P P 00 59 10.7 +0.6
comp=Z,235nm,1.2s
RC01 Rabbit Creek A 80.62 356 *e*P P 00 59 10.7 +0.6
comp=Z,235nm,1.2s
SPU Mount Spurr 80.64 357 *e*P P 00 59 10.1 -0.1
SPU Mount Spurr 80.64 357 *e*P P 00 59 10.1 -0.1
SCIA State Center 80.68 317 *e*P P 00 59 10.5 -0.3
comp=Z,82nm,0.8s
SCIA LR LR
comp=Z,1μm,20.0s
SCIA State Center 80.68 317 *e*P P 00 59 10.5 -0.3
comp=Z,82nm,0.8s
SKAG Skagway 80.69 348 *e*P P 00 59 11.4 +1.0
comp=Z,34nm,1.0s
SKAG Skagway 80.69 348 *e*P P 00 59 11.4 +1.0
comp=Z,34nm,1.0s
DLBC Dease Lake 80.71 346 *e*P P 00 59 12.6 +1.8
DLBC Dease Lake 80.71 346 P P 00 59 12.7 +2.0
comp=Z,23nm,1.1s,baz=14,slow=5.0,SNR=19
DLBC LR LR 01 37 13.5
comp=Z,768nm,19.8s,baz=334,slow=37
DLBC Dease Lake 80.71 346 *e*P P 00 59 12.6 +1.8
A24A Westby 80.76 327 ⇓P P 00 59 11.7 +0.5
baz=80,SNR=43
C26A Wahner Farm, P 80.76 326 ⇓P P 00 59 11.6 +0.4
baz=80,SNR=25
SVW2 Sparrevohn 80.82 359 *e*P P 00 59 12.6 +1.4
comp=Z,82nm,1.1s
SVW2 Sparrevohn 80.82 359 *e*P P 00 59 12.6 +1.4
comp=Z,82nm,1.1s
F30A Leola 80.83 323 ⇑P P 00 59 11.6 0.0
baz=81,SNR=30
EDM Edmonton 80.89 335 *e*P P 00 59 11.9 +0.2
EDM Edmonton 80.89 335 *e*P P 00 59 11.9 +0.2
EDM Edmonton 80.89 335 *e*P P 00 59 11.9 +0.2
B25A Knox Farm, Ray 80.89 326 ⇓P P 00 59 12.6 +0.8
baz=81,SNR=19
SDDR Presa de Saban 80.94 287 *e*P P 00 59 14.0 +1.4
comp=Z,108nm,1.0s
SDDR LR LR
comp=Z,299nm,20.0s
SDDR Presa de Saban 80.94 287 *e*P P 00 59 14.0 +1.4
comp=Z,108nm,1.0s
RAGM Ragged Mountai 80.94 353 *e*P P 00 59 13.6 +1.7
comp=Z,166nm,1.3s
RAGM Ragged Mountai 80.94 353 *e*P P 00 59 13.6 +1.7
comp=Z,166nm,1.3s
SWET Sewanee 80.95 308 *e*P P 00 59 11.6 -0.8
SWET Sewanee 80.95 308 *e*P P 00 59 11.6 -0.8
D27A Center 81.05 325 ⇓P P 00 59 13.3 +0.6
baz=81,SNR=6.9
E28A Huff 81.06 324 ⇑P P 00 59 13.1 +0.3
baz=81,SNR=18
PETK Petropavlovsk- 81.10 25 LR LR 01 38 34.0
comp=Z,715nm,20.2s,baz=313,slow=38
A23A Restone 81.10 328 ⇓P P 00 59 13.1 +0.1
baz=81,SNR=12
ECSD EROS Data Cent 81.16 320 *e*P P 00 59 12.9 -0.5
comp=Z,85nm,0.9s
ECSD LR LR
comp=Z,850nm,19.0s
ECSD EROS Data Cent 81.16 320 ⇓P P 00 59 13.2 -0.2
baz=81,SNR=74
ECSD EROS Data Cent 81.16 320 *e*P P 00 59 12.9 -0.5
comp=Z,85nm,0.9s
DGMT Dagmar 81.19 327 *e*P P 00 59 13.6 +0.1
comp=Z,64nm,1.1s
DGMT LR LR
comp=Z,1μm,22.0s
DGMT Dagmar 81.19 327 ⇑P P 00 59 14.1 +0.6
baz=81,SNR=16
DGMT Dagmar 81.19 327 *e*P P 00 59 13.6 +0.1
comp=Z,64nm,1.1s
F29A Eureka 81.21 323 ⇓P P 00 59 13.6 0.0
baz=81,SNR=18
SLM Saint Louis 81.26 313 *e*P P 00 59 14.3 +0.4
SLM pmax pmax
comp=Z,139nm,1.0s
SLM Saint Louis 81.26 313 *e*P P 00 59 14.3 +0.4
comp=Z,139nm,1.0s
SLM Saint Louis 81.26 313 *e*P P 00 59 14.3 +0.4
comp=Z,139nm,1.0s
SIUC Southern Illin 81.28 312 *e*P P 00 59 13.3 -0.8
comp=Z,116nm,0.9s
SIUC Southern Illin 81.28 312 *e*P P 00 59 13.3 -0.8
comp=Z,116nm,0.9s
C25A Freed Ranch, W 81.36 326 ⇑P P 00 59 14.9 +0.5
baz=81,SNR=8.6
RSO Redoubt South 81.38 357 *e*P P 00 59 14.7 +0.3
RSO Redoubt South 81.38 357 *e*P P 00 59 14.7 +0.3
G30A Faulkton 81.40 322 ⇓P P 00 59 14.8 +0.2
baz=81,SNR=79
DHAK Deception Hill 81.47 350 *e*P P 00 59 12.2 -2.5
comp=Z,202nm,1.4s
PET Petropavlovsk 81.49 25 *e*S S 01 09 34.4 +8.4
PET MLR MLR
comp=Z,1μm,21.0s
PET Petropavlovsk 81.49 25 PFAKE 00 59 30.0 +15
PET LR LR
comp=Z,1μm,20.0s
A22A Carney Farms, 81.51 328 ⇓P P 00 59 15.2 +0.1
baz=81
D26A Manning 81.52 325 ⇓P P 00 59 16.1 +0.9
baz=81,SNR=21
B23A Brockton 81.53 327 ⇓P P 00 59 15.6 +0.4
baz=81,SNR=49
E27A Carson 81.57 324 ⇑P P 00 59 15.2 -0.4
baz=81,SNR=16
SEW Seward 81.58 356 *e*P P 00 59 14.8 -0.4
comp=Z,89nm,1.2s
SEW Seward 81.58 356 *e*P P 00 59 14.8 -0.4
comp=Z,89nm,1.2s
F28A McLaughlin 81.66 324 ⇓P P 00 59 16.1 +0.1
baz=81,SNR=25
G29A Hoven 81.73 323 ⇑P P 00 59 16.6 +0.3
baz=82,SNR=11
BRSD Miller 81.81 322 *e*P P 00 59 16.6 -0.2
BRSD Miller 81.81 322 ⇑P P 00 59 17.0 +0.2
baz=82,SNR=26
BRSD Miller 81.81 322 *e*P P 00 59 16.6 -0.2
D25A Fairfield 81.82 326 ⇓P P 00 59 17.2 +0.4
baz=82,SNR=24
ASAJ Asahikawa 81.88 39 P P 00 59 17.6 +0.5
ASAJ Asahikawa 81.88 39 P P 00 59 17.6 +0.5
comp=Z,22nm,0.8s,baz=318,slow=12,SNR=5.7
ASAJ LR LR 01 39 40.1
comp=Z,1μm,18.7s,baz=290,slow=39
ASAJ Asahikawa 81.88 39 P P 00 59 17.6 +0.5
JKA Kamikawa-asahi 81.88 39 P P 00 59 17.6 +0.5
comp=Z,1μm,18.7s
TIGA Tifton 81.91 304 *e*P P 00 59 17.9 +0.4
TIGA Tifton 81.91 304 ⇓P P 00 59 18.3 +0.8
baz=82
TIGA Tifton 81.91 304 *e*P P 00 59 17.9 +0.4
A21A Bergtoll Ranch 81.92 329 P P 00 59 17.7 +0.4
baz=82
E26A Carlson Angus 81.95 325 ⇑P P 00 59 17.9 +0.4
baz=82,SNR=18
C24A Savage 82.01 327 ⇑P P 00 59 18.6 +0.7
baz=82,SNR=45
B22A Reddig Ranch S 82.08 328 ⇓P P 00 59 18.8 +0.6
baz=82,SNR=12
C23A Lambert 82.13 327 ⇓P P 00 59 18.9 +0.5
baz=82,SNR=36
F27A Lemmon 82.20 324 ⇑P P 00 59 19.1 +0.2
baz=82,SNR=36
G28A Parade 82.29 323 ⇑P P 00 59 19.5 +0.2
baz=82,SNR=35
H29A Onida 82.29 322 ⇑P P 00 59 19.7 +0.4
baz=82,SNR=20
D24A Glendive 82.29 326 ⇑P P 00 59 19.6 +0.4
baz=82,SNR=10.0
GLAT Glass 82.30 311 *e*P P 00 59 17.8 -1.6
GLAT Glass 82.30 311 *e*P P 00 59 17.8 -1.6
PARMO Parma 82.31 311 *e*P P 00 59 20.0 +0.5
PARMO Parma 82.31 311 *e*P P 00 59 20.0 +0.5
E25A Miller Ranch, 82.35 325 ⇓P P 00 59 20.2 +0.6
baz=82,SNR=20
B21A Ellsworth Farm 82.40 329 ⇓P P 00 59 20.3 +0.5
baz=82,SNR=12
A20A Cobblestone Ra 82.41 329 ⇓P P 00 59 20.0 +0.1
baz=82,SNR=39
PVMO Portageville 82.44 311 *e*P P 00 59 19.6 -0.6
comp=Z,708nm,1.4s
PVMO Portageville 82.44 311 *e*P P 00 59 19.6 -0.6
comp=Z,708nm,1.4s
C22A Vida 82.47 327 ⇓P P 00 59 20.8 +0.6
baz=82,SNR=45
F26A Lodgepole 82.52 325 ⇑P P 00 59 21.5 +1.0
baz=82,SNR=19
G27A Dupree 82.53 324 ⇓P P 00 59 20.7 +0.1
baz=82,SNR=20
HALT Halls 82.57 310 *e*P P 00 59 21.2 +0.4
HALT Halls 82.57 310 *e*P P 00 59 21.2 +0.4
D23A Lindsay 82.62 327 ⇓P P 00 59 21.9 +0.8
baz=82,SNR=27
H28A Mission Ridge 82.63 323 ⇓P P 00 59 21.5 +0.4
baz=82,SNR=48
A19A Klindworth Far 82.70 330 ⇓P P 00 59 22.4 +0.9
baz=82,SNR=19
E24A Baker 82.71 326 ⇓P P 00 59 22.3 +0.8
baz=82,SNR=6.9
I29A Vivian Onida 82.78 322 ⇑P P 00 59 22.3 +0.4
baz=82,SNR=15
B20A Solberg Farm, 82.80 329 ⇑P P 00 59 22.4 +0.5
baz=82,SNR=11
F25A Bowman 82.81 325 ⇑P P 00 59 22.3 +0.2
baz=82,SNR=12
J30A Dallas 82.90 321 ⇑P P 00 59 23.3 +0.8
baz=83,SNR=39
JNU Nakatsue 82.93 53 P P 00 59 23.9 +1.0
JNU Nakatsue 82.93 53 P P 00 59 23.9 +1.0
comp=Z,34nm,1.1s,baz=11,slow=5.0,SNR=5.6
JNU Nakatsue 82.93 53 P P 00 59 23.9 +1.0
GNAR Gosnell 82.94 311 *e*P P 00 59 22.4 -0.4
GNAR Gosnell 82.94 311 *e*P P 00 59 22.4 -0.4
WRAK Wrangell Islan 83.05 346 *e*P P 00 59 23.3 +0.3
comp=Z,57nm,1.1s
WRAK LR LR
comp=Z,930nm,22.0s
WRAK Wrangell Islan 83.05 346 *e*P P 00 59 23.3 +0.3
comp=Z,57nm,1.1s
D22A Cohagen 83.06 327 ⇓P P 00 59 24.3 +1.0
baz=83,SNR=63
B19A Brinkman Farms 83.16 330 ⇑P P 00 59 24.4 +0.6
baz=83,SNR=23
H27A Howes 83.16 323 ⇓P P 00 59 23.7 -0.1
baz=83
I28A Midland 83.21 323 ⇓P P 00 59 24.5 +0.4
baz=83,SNR=24
J29A Okreek 83.25 322 ⇓P P 00 59 24.6 +0.3
baz=83,SNR=60
F24A Ekalaka 83.32 326 ⇓P P 00 59 25.1 +0.4
baz=83,SNR=58
G25A Newell 83.36 325 P P 00 59 25.3 +0.4
baz=83
C20A Veseth Ranch, 83.37 329 ⇑P P 00 59 25.5 +0.6
baz=83,SNR=82
L31A Butterfield Fa 83.42 320 ⇓P P 00 59 25.7 +0.5
baz=83,SNR=8.5
K30A Basset 83.44 321 ⇓P P 00 59 25.6 +0.2
baz=83,SNR=23
LAO LASA Array 83.44 327 *e*P P 00 59 26.5 +1.2
comp=Z,234nm,1.1s
LAO LR LR
comp=Z,2μm,22.0s
LAO LASA Array 83.44 327 *e*P P 00 59 26.5 +1.2
comp=Z,234nm,1.1s
D21A La Casta Ranch 83.47 328 ⇑P P 00 59 26.1 +0.7
baz=83,SNR=47
H26A Fairpoint 83.50 324 ⇓P P 00 59 25.9 +0.2
baz=83,SNR=18
E22A Miles City 83.52 327 ⇑P P 00 59 25.4 -0.3
baz=83,SNR=12
I27A Quinn 83.58 323 ⇓P P 00 59 26.0 0.0

baz=83,SNR=25
HBAR Harrisburg 83.60 311 eP P 00 59 27.3 +1.1
HBAR Harrisburg 83.60 311 eP P 00 59 27.3 +1.1
BGNE Belgrade 83.63 319 eP P 00 59 26.5 +0.2
BGNE Belgrade 83.63 319 ⇓P P 00 59 26.5 +0.2
baz=83,SNR=77
BGNE Belgrade 83.63 319 eP P 00 59 26.5 +0.2
J28A Allard Ranch, 83.67 322 ⇓P P 00 59 27.1 +0.6
baz=83,SNR=47
ERM Erimo 83.70 40 PFAKE 00 59 40.0 +13
ERM LR LR
comp=Z,601nm,21.0s
G24A Alzada 83.70 325 ⇓P P 00 59 26.9 +0.2
baz=83,SNR=20
K29A Lazy Trails An 83.72 321 ⇓P P 00 59 27.3 +0.5
baz=84,SNR=52
C19A Slack Wire Ran 83.78 329 ⇓P P 00 59 27.6 +0.6
baz=84,SNR=39
EGMT Eagleton 83.83 330 eP P 00 59 27.4 +0.1
comp=Z,273nm,1.1s
EGMT LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 83.83 330 ⇓P P 00 59 27.7 +0.4
baz=84,SNR=126
EGMT Eagleton 83.83 330 eP P 00 59 27.4 +0.1
comp=Z,273nm,1.1s
F23A Volborg 83.84 326 ⇑P P 00 59 27.6 +0.2
baz=84,SNR=85
H25A Fruitdale 83.88 324 ⇑P P 00 59 27.5 -0.1
baz=84,SNR=46
E21A Keefer Ranch, 83.92 327 ⇓P P 00 59 28.2 +0.5
baz=84,SNR=51
D20A Manuel Ranch, 83.92 328 ⇓P P 00 59 28.1 +0.3
baz=84,SNR=64
I26A New Underwood 83.99 323 ⇑P P 00 59 28.2 +0.1
baz=84,SNR=18
L30A Spencer Herefo 84.03 320 ⇑P P 00 59 29.0 +0.6
baz=84,SNR=26
KDAK Kodiak Island 84.06 357 P P 00 59 30.3 +2.2
comp=Z,724nm,1.1s,SNR=6.2
KDAK Kodiak Island 84.06 357 eP P 00 59 26.5 -1.6
comp=Z,154nm,1.1s
KDAK LR LR
comp=Z,713nm,21.0s
KDAK Kodiak Island 84.06 357 eP P 00 59 26.5 -1.6
comp=Z,154nm,1.1s
M31A Lambtecht Ranc 84.10 320 ⇓P P 00 59 29.1 +0.4
baz=84,SNR=32
PTGA Pitinga 84.14 264 P P 00 59 30.9 +1.6
PTGA LR LR
comp=Z,240nm,22.0s
PTGA Pitinga 84.14 264 P P 00 59 30.9 +1.6
comp=Z,18nm,1.1s,baz=44,slow=8.7,SNR=9.8
PTGA Pitinga 84.14 264 P P 00 59 30.9 +1.6
F22A Rosebud 84.17 326 ⇑P P 00 59 29.3 +0.3
baz=84,SNR=33
D19A Cripps Ranch, 84.17 329 ⇑P P 00 59 29.1 0.0
baz=84,SNR=26
J27A Elkhorn Farm, 84.17 322 ⇓P P 00 59 29.7 +0.5
baz=84,SNR=16
N32A Stulken Farm, 84.17 319 ⇑P P 00 59 29.4 +0.3
baz=84,SNR=19
H24A Dirks Ranch, A 84.22 325 ⇓P P 00 59 29.7 +0.4
baz=84,SNR=45
G23A Biddle 84.24 326 ⇑P P 00 59 29.7 +0.3
baz=84,SNR=69
K28A Ten Mile Ranch 84.27 322 ⇑P P 00 59 30.7 +1.1
baz=84,SNR=20
L29A Maesberg Ranch 84.32 321 ⇑P P 00 59 30.3 +0.4
baz=84,SNR=33
E20A Meyer Farm, Mu 84.39 328 ⇑P P 00 59 30.5 +0.3
baz=84,SNR=22
M30A Dale-Ortello V 84.41 320 ⇑P P 00 59 30.8 +0.5
baz=84,SNR=25
RSSD Black Hills 84.46 324 eP P 00 59 31.0 +0.2
RSSD pmax pmax
comp=Z,21nm,1.2s
RSSD Black Hills 84.46 324 eP P 00 59 31.0 +0.2
comp=Z,21nm,1.2s
RSSD Black Hills 84.46 324 eP P 00 59 31.0 +0.2
comp=Z,21nm,1.2s
N31A Bailey Ranch, 84.47 319 ⇓P P 00 59 30.7 +0.1
baz=84,SNR=20
KSU1 Kansas State U 84.49 317 eP P 00 59 30.9 +0.2
comp=Z,239nm,0.9s
KSU1 LR LR
comp=Z,779nm,22.0s
KSU1 Kansas State U 84.49 317 ⇓P P 00 59 30.9 +0.2
baz=84,SNR=25
KSU1 Kansas State U 84.49 317 eP P 00 59 30.9 +0.2
comp=Z,239nm,0.9s
F21A Absaloka Mine, 84.50 327 ⇓P P 00 59 30.7 -0.1
baz=84
O32A Brockman Farm, 84.53 318 ⇑P P 00 59 30.9 0.0
baz=84,SNR=34
WALA Waterton Lakes 84.55 333 eP P 00 59 30.0 -1.0
WALA Waterton Lakes 84.55 333 eP P 00 59 30.0 -1.0
G22A Birney 84.62 326 ⇑P P 00 59 31.7 +0.3
baz=84,SNR=19
J26A Sides Ranch, S 84.63 323 ⇓P P 00 59 31.9 +0.4
baz=84,SNR=34
OHAK Old Harbor 84.64 357 eP P 00 59 31.9 +0.8
comp=Z,133nm,1.1s
OHAK Old Harbor 84.64 357 eP P 00 59 31.9 +0.8
comp=Z,133nm,1.1s
BDFB Brasilia 84.67 245 eP P 00 59 31.7 -0.2
BDFB Brasilia 84.67 245 P P 00 59 33.5 +1.5
comp=Z,7.7nm,0.9s,baz=74,slow=3.3,SNR=8.9
BDFB LR LR 01 38 59.6
comp=Z,622nm,18.0s,baz=54,slow=37
BDFB Brasilia 84.67 245 eP P 00 59 31.7 -0.2
E19A Rath Farm, Rou 84.70 328 ⇓P P 00 59 31.6 -0.1
baz=84,SNR=57
K27A Fleckinger Fa 84.70 322 ⇑P P 00 59 32.3 +0.5
baz=84,SNR=22
H23A Clabaugh Cattl 84.74 325 ⇑P P 00 59 31.8 -0.2
baz=84
P33A Williams Farm, 84.83 318 ⇑P P 00 59 32.8 +0.4
baz=85,SNR=70
L28A Connealy Angus 84.88 321 ⇑P P 00 59 33.6 +0.9
baz=85,SNR=6.4
M29A Burnside Ranch 84.89 321 ⇑P P 00 59 33.2 +0.4
baz=85,SNR=12
J25A Sunshine Ranch 84.92 324 ⇓P P 00 59 33.2 +0.3
baz=85,SNR=22
I24A Kuemmerle Ranc 84.94 324 ⇑P P 00 59 32.9 -0.1
baz=85,SNR=15
F20A Billings 84.96 328 ⇓P P 00 59 32.5 -0.6
baz=85,SNR=46
MAJO Matsushiro 84.99 46 dP P 00 59 34.4 +1.1
MAJO pmax pmax
comp=Z,196nm,0.9s
MAJO MLR MLR
comp=Z,3μm,20.0s
MAJO Matsushiro 84.99 46 eP P 00 59 32.6 -0.6
comp=Z,36nm,1.1s
MAJO LR LR
comp=Z,516nm,19.0s
MAJO Matsushiro 84.99 46 eP P 00 59 32.7 -0.6
comp=Z,36nm,1.1s
MAT Matsushiro 84.99 46 P P 00 59 33.9 +0.6
MAT S SKSac 01 09 43.4 -14
MJAR Matsushiro Arr 84.99 46 P P 00 59 33.7 +0.4
MJAR Matsushiro Arr 84.99 46 P P 00 59 33.7 +0.4
comp=Z,31nm,0.9s,baz=302,slow=5.1,SNR=29
MJAR Matsushiro Arr 84.99 46 P P 00 59 33.7 +0.4
comp=Z,31nm,0.9s
G21A Lodge Grass 85.01 327 ⇑P P 00 59 33.0 -0.4
baz=85,SNR=30
N30A Hueftle Ranch, 85.08 320 ⇑P P 00 59 33.8 +0.1
baz=85,SNR=20
UALR University of 85.13 311 eP P 00 59 33.3 -0.7
comp=Z,61nm,0.9s
UALR University of 85.13 311 eP P 00 59 33.3 -0.7
comp=Z,61nm,0.9s
H22A Clearmont 85.14 326 ⇑P P 00 59 33.8 -0.3
baz=85,SNR=29
K26A Motz Farm, Whi 85.15 323 ⇑P P 00 59 33.7 -0.3
baz=85,SNR=8.4
O31A Woolen Ranch, 85.16 319 ⇑P P 00 59 34.1 0.0
baz=85,SNR=42
P32A Huiting Farm, 85.17 318 ⇓P P 00 59 34.3 +0.1
baz=85,SNR=71
L27A T5 Ranch, Ells 85.21 322 ⇑P P 00 59 34.4 0.0
baz=85
Q33A Connelly Farm, 85.22 317 ⇑P P 00 59 34.9 +0.5
baz=85,SNR=91
I23A Meade Ranch, G 85.24 325 ⇓P P 00 59 34.1 -0.4
baz=85
F19A Roth Farm, Mol 85.25 328 ⇑P P 00 59 34.4 -0.1
baz=85,SNR=79
M28A Bar X Bar Ranc 85.26 321 ⇑P P 00 59 35.1 +0.4
baz=85,SNR=21
N29A Votaw Ranch, W 85.32 320 ⇑P P 00 59 35.5 +0.6
baz=85,SNR=19
JOW Kunigami 85.35 59 eP P 00 59 33.4 -1.8
comp=Z,162nm,1.3s
JOW Kunigami 85.35 59 eP P 00 59 33.4 -1.8
comp=Z,162nm,1.3s
J24A Dixon Ranch, L 85.36 324 ⇓P P 00 59 35.4 +0.2
baz=85,SNR=15
H21A Big Horn, Sher 85.42 326 ⇓P P 00 59 35.6 +0.2
baz=85,SNR=24
G20A Bridger 85.45 327 ⇓P P 00 59 35.8 +0.2
baz=85,SNR=81
O30A MW Ranch, Wils 85.51 319 ⇓P P 00 59 35.9 0.0
baz=85,SNR=45
K25A Mack Ranch, Ha 85.55 323 ⇑P P 00 59 36.6 +0.5
baz=85,SNR=15
YBMT Yellow Bay 85.59 332 eP P 00 59 36.2 0.0
YBMT Yellow Bay 85.59 332 eP P 00 59 36.2 0.0
BLMT Blacktail Moun 85.59 332 eP P 00 59 36.8 +0.5
BLMT Blacktail Moun 85.59 332 eP P 00 59 36.8 +0.5
GCMT Greycliff 85.60 328 eP P 00 59 36.8 +0.5
GCMT Greycliff 85.60 328 eP P 00 59 36.8 +0.5
Q32A Meitler Ranch, 85.61 318 ⇓P P 00 59 36.5 +0.1
baz=85,SNR=42
L26A Underwood Farm 85.61 322 ⇑P P 00 59 35.8 -0.6
baz=85
P31A Stockton 85.65 319 ⇓P P 00 59 36.2 -0.4
baz=85,SNR=66
M27A Reverse DX Ran 85.66 322 ⇑P P 00 59 36.3 -0.4
baz=85
J23A Dilts Ranch, B 85.71 325 ⇓P P 00 59 36.3 -0.7
baz=85
HRY Holter Researc 85.72 330 eP P 00 59 37.2 +0.4
HRY Holter Researc 85.72 330 eP P 00 59 37.2 +0.4
I22A 9 Mile Ranch, 85.75 325 ⇓P P 00 59 37.3 +0.2
baz=86,SNR=40
JTMT Jette 85.79 332 eP P 00 59 37.7 +0.5
JTMT Jette 85.79 332 eP P 00 59 37.7 +0.5
R33A Olander Ranch, 85.80 317 ⇑P P 00 59 37.7 +0.4
baz=86,SNR=29
SWMT Swartz Lake 85.88 332 eP P 00 59 38.0 +0.3
SWMT Swartz Lake 85.88 332 eP P 00 59 38.0 +0.3
N28A Pribbeno Ranch 85.88 321 ⇑P P 00 59 38.4 +0.7
baz=86,SNR=17
BSMT Bassoo Peak 85.88 332 eP P 00 59 38.1 +0.3
BSMT Bassoo Peak 85.88 332 eP P 00 59 38.1 +0.3
K24A Anderson Ranch 85.90 324 ⇑P P 00 59 37.1 -0.8
baz=86,SNR=7.8
SLMT Seeley Lake 85.92 331 eP P 00 59 37.7 -0.2
SLMT Seeley Lake 85.92 331 eP P 00 59 37.7 -0.2
O29A 4D Ranch, Culb 85.93 320 ⇓P P 00 59 38.1 +0.1
baz=86,SNR=10.0
OGNE Ogallala 85.93 321 PFAKE 00 59 50.0 +12
OGNE LR LR
comp=Z,896nm,22.0s
OGNE Ogallala 85.93 321 ⇓P P 00 59 38.5 +0.5
baz=86,SNR=5.3
H20A Greybull 85.94 327 ⇑P P 00 59 37.6 -0.4
baz=86,SNR=77
L25A Engebretsen Ra 85.94 323 ⇓P P 00 59 37.9 -0.1
baz=86
RLMT Red Lodge 85.97 328 eP P 00 59 39.2 +0.9
comp=Z,134nm,1.3s
RLMT LR LR
comp=Z,2μm,22.0s
RLMT Red Lodge 85.97 328 eP P 00 59 39.2 +0.9
comp=Z,134nm,1.3s
MIAR Mount Ida 86.02 312 eP P 00 59 39.3 +0.9
MIAR pmax pmax
comp=Z,159nm,1.0s
MIAR MLR MLR
comp=Z,1μm,20.0s
MIAR Mount Ida 86.02 312 eP P 00 59 39.3 +0.9
comp=Z,159nm,1.0s
MIAR LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 86.02 312 eP P 00 59 39.3 +0.9
comp=Z,1μm,20.0s
Q31A Ellis 86.04 318 ⇓P P 00 59 38.4 -0.1
baz=86,SNR=43
M26A McRoberts Ranc 86.08 322 ⇓P P 00 59 37.1 -1.6
baz=86
P30A Selden 86.08 319 ⇓P P 00 59 38.6 -0.2
baz=86,SNR=29
CHMT Chamberlain Mo 86.10 331 eP P 00 59 38.9 0.0
CHMT Chamberlain Mo 86.10 331 eP P 00 59 38.9 0.0
R32A Long Quarter, 86.11 317 ⇑P P 00 59 39.0 +0.1
baz=86,SNR=48
J22A Midwest 86.12 325 ⇓P P 00 59 38.6 -0.4
baz=86,SNR=43
I21A Big Trails, Te 86.17 326 ⇑P P 00 59 38.9 -0.3
baz=86,SNR=71
H19A Powell 86.22 327 ⇓P P 00 59 39.2 -0.2
baz=86,SNR=173
K23A Bowen Ranch, D 86.25 324 ⇓P P 00 59 38.7 -0.9
baz=86,SNR=19
N27A Anderson Farm, 86.28 321 ⇓P P 00 59 39.4 -0.4
baz=86
TUL1 Tulsa 86.33 314 eP P 00 59 40.1 +0.2
TUL1 Tulsa 86.33 314 ⇓P P 00 59 40.4 +0.4
baz=86,SNR=91
TUL1 Tulsa 86.33 314 eP P 00 59 40.1 +0.2
S33A Kaszmaul Farm, 86.33 316 ⇑P P 00 59 39.7 -0.2
baz=86,SNR=17
NEW Newport 86.36 334 eP P 00 59 40.2 +0.3
comp=Z,138nm,1.1s
NEW LR LR
comp=Z,918nm,19.0s
NEW Newport 86.36 334 ⇓P P 00 59 39.2 -0.7
baz=86
NEW Newport 86.36 334 eP P 00 59 40.2 +0.3
comp=Z,918nm,19.0s
P29A Atwood 86.39 319 ⇑P P 00 59 40.0 -0.3
baz=86,SNR=7.0
O28A Krutsinger Ran 86.42 320 ⇓P P 00 59 39.9 -0.6
baz=86,SNR=7.5
I20A Worland 86.43 326 ⇑P P 00 59 40.5 +0.1
baz=86,SNR=104
MSO Missoula 86.43 331 eP P 00 59 40.6 +0.2
comp=Z,78nm,1.2s
MSO Missoula 86.43 331 ⇑P P 00 59 40.2 -0.2
baz=86
MSO Missoula 86.43 331 eP P 00 59 40.6 +0.2
comp=Z,78nm,1.2s
L24A Wheatland 86.48 323 ⇑P P 00 59 39.9 -0.9
baz=86,SNR=8.1
Q30A Quinter 86.49 319 ⇑P P 00 59 41.2 +0.5
baz=86,SNR=26
H18A Shoshone NF, C 86.50 328 ⇑P P 00 59 41.5 +0.6
baz=86,SNR=117
BOZ Bozeman (W) 86.51 329 eP P 00 59 41.2 +0.3
BOZ pmax pmax
comp=Z,96nm,1.1s
BOZ MLR MLR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 86.51 329 eP P 00 59 41.2 +0.3
comp=Z,96nm,1.1s
BOZ LR LR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 86.51 329 eP P 00 59 41.2 +0.3
comp=Z,2μm,19.0s
M25A Palm-Egli Farm 86.54 322 ⇓P P 00 59 40.9 -0.2
baz=86,SNR=10
SDV Santo Domingo 86.60 279 eP P 00 59 41.8 0.0
comp=Z,67nm,1.0s
SDV LR LR
comp=Z,177nm,21.0s
SDV Santo Domingo 86.60 279 eP P 00 59 41.8 0.0
comp=Z,67nm,1.0s
N26A Koester Ranch, 86.60 322 ⇓P P 00 59 40.6 -0.8
baz=86
J21A Lysite 86.61 326 ⇑P P 00 59 40.8 -0.6
baz=86,SNR=50
R31A Burdett 86.64 318 ⇓P P 00 59 41.3 -0.1
baz=86,SNR=41
LRM Limekiln Ridge 86.69 330 eP P 00 59 42.4 +0.5
LRM Limekiln Ridge 86.69 330 eP P 00 59 42.4 +0.5
O27A Beecher Island 86.72 321 ⇑P P 00 59 41.8 -0.1
baz=86,SNR=11
I19A Meeteetse 86.73 327 ⇓P P 00 59 41.6 -0.4
baz=86,SNR=80
K22A Casper 86.74 325 eP P 00 59 41.4 -0.7
baz=85
K22A Casper 86.74 325 ⇓P P 00 59 42.0 -0.1
baz=86,SNR=38
K22A Casper 86.74 325 eP P 00 59 41.4 -0.7
S32A Newby Ranch, P 86.76 317 ⇓P P 00 59 41.9 -0.1
baz=86,SNR=16
L23A Garrett 86.79 324 ⇑P P 00 59 41.8 -0.5
baz=86,SNR=22
P28A Saint Francis 86.83 320 ⇓P P 00 59 42.1 -0.3
baz=87,SNR=15
T33A Patterson Ranc 86.84 316 ⇑P P 00 59 41.9 -0.6
baz=87
M24A Cheyenne 86.88 323 ⇑P P 00 59 43.3 +0.5
baz=87,SNR=16
J20A Shoshoni 86.88 326 ⇓P P 00 59 42.5 -0.2
baz=87,SNR=62
U34A Anderson Ranch 86.92 315 ⇓P P 00 59 43.8 +0.9
baz=87,SNR=26
Q29A Oakley 86.95 319 ⇓P P 00 59 43.5 +0.4
baz=87,SNR=29
B08A Colville Reser 87.02 335 eP P 00 59 42.8 -0.3
comp=Z,23nm,1.1s
B08A Colville Reser 87.02 335 eP P 00 59 42.8 -0.3
comp=Z,23nm,1.1s
N25A Grover 87.03 322 ⇑P P 00 59 44.0 +0.4
baz=87
R30A Dighton 87.04 318 ⇓P P 00 59 43.7 +0.2
baz=87,SNR=29
YMR Madison River 87.05 328 eP P 00 59 42.9 -0.7
comp=Z,87nm,0.4s
YMR Madison River 87.05 328 eP P 00 59 42.9 -0.7
comp=Z,87nm,0.4s
K21A Alcova 87.09 325 ⇓P P 00 59 43.8 0.0
baz=87,SNR=17
O26A Horse Wrangler 87.10 321 ⇑P P 00 59 43.3 -0.5
baz=87
QLMT Earthquake Lak 87.10 329 eP P 00 59 42.9 -1.0
QLMT Earthquake Lak 87.10 329 eP P 00 59 42.9 -1.0
H17A Grant Village 87.11 328 eP P 00 59 44.8 +0.8
H17A Grant Village 87.11 328 ⇓P P 00 59 45.2 +1.3
baz=87,SNR=45
H17A Grant Village 87.11 328 eP P 00 59 44.8 +0.8
S31A Mullinville 87.11 317 ⇑P P 00 59 42.7 -1.1
baz=87,SNR=8.8
DLMT Dillon 87.13 330 eP P 00 59 44.3 +0.4
comp=Z,87nm,1.1s
DLMT Dillon 87.13 330 eP P 00 59 44.3 +0.4
comp=Z,87nm,1.1s
T32A Huddler Ranch, 87.14 317 ⇑P P 00 59 44.0 +0.1
baz=87,SNR=13
C09A Chrisman Ranch 87.15 334 eP P 00 59 44.5 +0.8
comp=Z,236nm,1.3s
C09A Chrisman Ranch 87.15 334 eP P 00 59 44.5 +0.8
comp=Z,236nm,1.3s
L22A Ellis Ranch, M 87.19 324 ⇓P P 00 59 44.6 +0.2
baz=87,SNR=35
U33A Lingo Farm, Me 87.24 316 ⇓P P 00 59 45.0 +0.5
baz=87,SNR=18
Q28A Sharon Springs 87.25 320 ⇑P P 00 59 44.2 -0.4
baz=87,SNR=18
P27A Ficken Ranch, 87.26 320 ⇑P P 00 59 44.2 -0.4
baz=87,SNR=12
M23A Laramie 87.30 323 ⇓P P 00 59 45.0 +0.1
baz=87,SNR=24
PHWY Pilot Hill 87.31 323 eP P 00 59 45.1 +0.1
comp=Z,104nm,1.2s
PHWY Pilot Hill 87.31 323 eP P 00 59 45.1 +0.1
comp=Z,104nm,1.2s
A05A Maple Falls 87.33 337 eP P 00 59 43.0 -1.5
comp=Z,17nm,1.0s
A05A Maple Falls 87.33 337 eP P 00 59 43.0 -1.5
comp=Z,17nm,1.0s
V34A Guthrie 87.35 315 ⇑P P 00 59 45.0 +0.1
baz=87,SNR=19
J19A Crowheart 87.38 327 ⇑P P 00 59 45.4 +0.3
baz=87,SNR=49
R29A Marienthal 87.38 319 ⇑P P 00 59 45.1 -0.1
baz=87,SNR=12
FLWY Flagg Ranch 87.41 328 eP P 00 59 46.2 +0.8
comp=Z,50nm,1.3s
FLWY Flagg Ranch 87.41 328 eP P 00 59 46.2 +0.8
comp=Z,50nm,1.3s
I17A Pilgrim Ck. 87.50 328 ⇑P P 00 59 46.8 +1.1
baz=87,SNR=28
B06A Marblemount 87.57 337 eP P 00 59 43.5 -2.2
comp=Z,16nm,1.1s
B06A Marblemount 87.57 337 eP P 00 59 43.5 -2.2
comp=Z,16nm,1.1s
O25A Wiggins 87.59 322 ⇑P P 00 59 45.4 -0.8
baz=87
T31A Randall Ranch, 87.60 317 ⇓P P 00 59 46.3 +0.1
baz=87,SNR=11
S30A Montezuma 87.61 318 ⇑P P 00 59 46.5 +0.2
baz=87,SNR=7.7
P26A Davis Ranch, A 87.64 321 ⇓P P 00 59 47.0 +0.6
baz=87,SNR=18
IMW Indian Meadow 87.67 328 eP P 00 59 47.3 +0.6
comp=Z,42nm,1.0s
IMW Indian Meadow 87.67 328 eP P 00 59 47.3 +0.6
comp=Z,42nm,1.0s
MCMT McKenzie Canyo 87.67 330 eP P 00 59 47.6 +0.9
MCMT McKenzie Canyo 87.67 330 eP P 00 59 47.6 +0.9
KSCO Kaye Shedlock' 87.70 320 eP P 00 59 46.2 -0.5
KSCO Kaye Shedlock' 87.70 320 ⇑P P 00 59 47.3 +0.6
baz=87,SNR=12
KSCO Kaye Shedlock' 87.70 320 eP P 00 59 46.2 -0.5
MOOW Moose Ponds 87.71 328 eP P 00 59 47.1 +0.3
comp=Z,49nm,1.5s
MOOW Moose Ponds 87.71 328 eP P 00 59 47.1 +0.3
comp=Z,49nm,1.5s
LOHW Long Hollow 87.76 328 eP P 00 59 46.6 -0.4
comp=Z,35nm,1.3s
LOHW Long Hollow 87.76 328 eP P 00 59 46.6 -0.4
comp=Z,35nm,1.3s
M22A Cedar Creek Ra 87.76 324 ⇓P P 00 59 47.2 +0.1
baz=88,SNR=40
U32A Winter Ranch, 87.77 316 ⇑P P 00 59 47.6 +0.6
baz=88,SNR=23
KSM Kuching 87.77 90 eP P 00 59 44.8 -2.5
comp=Z,32nm,1.1s
KSM LR LR
comp=Z,250nm,21.0s
KSM Kuching 87.77 90 eP P 00 59 44.8 -2.5
comp=Z,32nm,1.1s
V33A Lossen Ranch, 87.79 315 ⇑P P 00 59 47.1 0.0
baz=88,SNR=11
R28A Tribune 87.79 319 ⇓P P 00 59 46.9 -0.2
baz=88,SNR=17
N23A Red Feather La 87.86 323 ⇓P P 00 59 47.5 -0.1
baz=88,SNR=51
W34A Bridge Creek, 87.93 315 ⇑P P 00 59 48.3 +0.5
baz=88,SNR=16
SNOW Snow King Moun 87.94 328 eP P 00 59 46.6 -1.4
comp=Z,43nm,1.3s
SNOW Snow King Moun 87.94 328 eP P 00 59 46.6 -1.4
comp=Z,43nm,1.3s
S29A Ulysses 87.97 318 ⇑P P 00 59 47.9 -0.1
baz=88,SNR=9.5
BW06 Boulder Array 88.00 327 eP P 00 59 47.4 -0.9
comp=Z,28nm,1.0s
BW06 LR LR
comp=Z,2μm,22.0s
BW06 Boulder Array 88.00 327 eP P 00 59 47.3 -0.9
comp=Z,28nm,1.0s
PDAR Pinedale Array 88.00 327 P P 00 59 47.5 -0.8
PDAR Pinedale Array 88.00 327 P P 00 59 47.5 -0.8
comp=Z,22nm,1.0s,baz=64,slow=4.5,SNR=66
PDAR LR LR 01 39 27.2
comp=Z,961nm,21.7s,baz=33,slow=36
PDAR Pinedale Array 88.00 327 P P 00 59 47.5 -0.8
TPAW Teton Pass 88.00 328 eP P 00 59 48.7 +0.4
comp=Z,55nm,0.8s
TPAW Teton Pass 88.00 328 eP P 00 59 48.7 +0.4
comp=Z,35nm,0.8s
D08A Wollman Farm, 88.01 334 eP P 00 59 45.9 -2.0
comp=Z,28nm,1.1s
D08A Wollman Farm, 88.01 334 eP P 00 59 45.9 -2.0
comp=Z,28nm,1.1s
O24A Longmont 88.05 322 ⇑P P 00 59 48.3 -0.1
baz=88,SNR=16
PGC Sidney 88.05 338 eP P 00 59 46.2 -1.8
PGC Sidney 88.05 338 eP P 00 59 46.2 -1.8
REDW Red Top Meadow 88.07 328 eP P 00 59 47.7 -0.8
comp=Z,48nm,1.4s
REDW Red Top Meadow 88.07 328 eP P 00 59 47.7 -0.8
comp=Z,48nm,1.4s
P25A Willow Gulch B 88.08 321 ⇓P P 00 59 48.9 +0.3
baz=88,SNR=9.0
T30A Plains 88.09 318 ⇓P P 00 59 48.9 +0.3

baz=88,SNR=5.6
N22A Wattenberg Ran 88.17 323 ⇓P P 00 59 49.0 -0.1
baz=88,SNR=34
Q26A Hugo 88.21 321 ⇓P P 00 59 48.6 -0.6
baz=88
E09A Wood Farm, Sta 88.22 334 eP P 00 59 49.3 +0.4
comp=Z,91nm,1.3s
E09A Wood Farm, Sta 88.22 334 eP P 00 59 49.3 +0.4
comp=Z,91nm,1.3s
U31A Nine Bar Ranch 88.23 317 ⇓P P 00 59 49.8 +0.6
baz=88,SNR=8.5
V32A Arapaho 88.28 316 ⇓P P 00 59 49.5 +0.1
baz=88,SNR=22
R27A Eads 88.33 320 ⇑P P 00 59 49.2 -0.5
baz=88,SNR=15
F10A Beach Ranch, E 88.36 333 eP P 00 59 50.1 +0.4
comp=Z,77nm,1.1s
F10A Beach Ranch, E 88.36 333 eP P 00 59 50.1 +0.4
comp=Z,77nm,1.1s
W33A Caddo, Fort Co 88.38 315 ⇑P P 00 59 50.6 +0.8
baz=88,SNR=11
O23A Lake Granby, G 88.38 323 ⇓P P 00 59 49.6 -0.5
baz=88,SNR=28
S28A Manter 88.40 319 ⇓P P 00 59 50.4 +0.4
baz=88,SNR=37
T29A Hugoton 88.41 318 ⇑P P 00 59 50.3 +0.2
baz=88,SNR=21
LTY Liberty 88.42 336 eP P 00 59 48.9 -1.0
comp=Z,26nm,1.2s
LTY Liberty 88.42 336 eP P 00 59 48.9 -1.0
comp=Z,26nm,1.2s
X34A Smith Ranch, M 88.42 314 ⇓P P 00 59 50.4 +0.3
baz=88,SNR=25
P24A Kohler Place, 88.44 322 ⇓P P 00 59 50.4 +0.1
baz=88
U30A WK&E Inc. Balk 88.54 317 ⇓P P 00 59 50.5 -0.2
baz=88
ISCO Idaho Springs 88.56 322 eP P 00 59 51.1 +0.1
ISCO pmax pmax
comp=Z,51nm,1.1s
ISCO MLR MLR
comp=Z,835nm,20.0s
ISCO Idaho Springs 88.56 322 eP P 00 59 51.1 +0.1
comp=Z,51nm,1.1s
ISCO LR LR
comp=Z,835nm,20.0s
ISCO Idaho Springs 88.56 322 ⇑P P 00 59 50.9 -0.1
baz=88,SNR=57
ISCO Idaho Springs 88.56 322 eP P 00 59 51.1 +0.1
comp=Z,835nm,20.0s
Q25A Bedland, Calha 88.58 321 ⇑P P 00 59 51.2 +0.2
baz=88,SNR=7.7
NATX Nacogdoches 88.63 310 eP P 00 59 51.7 +0.6
comp=Z,130nm,1.3s
NATX Nacogdoches 88.63 310 eP P 00 59 51.7 +0.6
comp=Z,130nm,1.3s
R26A Arlington 88.65 320 ⇓P P 00 59 51.4 +0.1
baz=88,SNR=29
AHID Auburn Hatcher 88.66 327 eP P 00 59 50.5 -0.8
comp=Z,76nm,1.3s
AHID LR LR
comp=Z,1μm,21.0s
AHID Auburn Hatcher 88.66 327 eP P 00 59 50.5 -0.8
comp=Z,76nm,1.3s
SBUM Sibu 88.67 88 eP P 00 59 50.6 -0.9
comp=Z,25nm,1.1s
SBUM Sibu 88.67 88 eP P 00 59 50.6 -0.9
comp=Z,25nm,1.1s
V31A Spring Creek L 88.67 316 ⇑P P 00 59 52.0 +0.7
baz=88,SNR=17
O22A Kremmling 88.72 323 ⇓P P 00 59 52.7 +1.0
baz=88,SNR=33
HAWA Hanford 88.80 334 eP P 00 59 51.5 -0.2
comp=Z,98nm,1.2s
HAWA LR LR
comp=Z,995nm,19.0s
HAWA Hanford 88.80 334 eP P 00 59 51.5 -0.2
comp=Z,98nm,1.2s
W32A Sentinel 88.83 315 ⇓P P 00 59 52.5 +0.5
baz=89,SNR=34
X33A Lawton 88.84 315 ⇓P P 00 59 52.9 +0.8
baz=89,SNR=11
S27A Las Animas 88.84 319 ⇓P P 00 59 52.2 0.0
baz=89
Y34A Reagan Ranch, 88.85 314 ⇓P P 00 59 53.0 +0.9
baz=89,SNR=12
WMOK Wichita Mounta 88.86 315 eP P 00 59 52.9 +0.8
WMOK pmax pmax
comp=Z,106nm,1.1s
WMOK MLR MLR
comp=Z,812nm,19.0s
WMOK Wichita Mounta 88.86 315 eP P 00 59 52.9 +0.8
comp=Z,106nm,1.1s
WMOK LR LR
comp=Z,812nm,19.0s
WMOK Wichita Mounta 88.86 315 eP P 00 59 52.9 +0.8
comp=Z,812nm,19.0s
T28A Walsh 88.87 319 ⇓P P 00 59 52.4 +0.1
baz=89,SNR=19
D05A Enumclaw 88.90 336 eP P 00 59 51.5 -0.6
comp=Z,37nm,1.1s
D05A Enumclaw 88.90 336 eP P 00 59 51.5 -0.6
comp=Z,37nm,1.1s
U29A Oasis Ranch, S 88.93 318 ⇑P P 00 59 52.8 +0.3
baz=89
N20A Spence Gulch, 88.98 325 ⇓P P 00 59 52.3 -0.6
baz=89,SNR=66
Q24A Divide 88.98 322 ⇓P P 00 59 52.9 -0.2
baz=89,SNR=23
P23A Jefferson 89.00 322 ⇑P P 00 59 54.1 +0.9
baz=89,SNR=49
Z35A Perchaven, San 89.02 313 ⇑P P 00 59 53.6 +0.7
baz=89,SNR=17
V30A Spur Ranch, Mi 89.14 317 ⇓P P 00 59 53.8 +0.3
baz=89,SNR=14
W31A Holland Ranch, 89.16 316 ⇑P P 00 59 54.0 +0.4
baz=89,SNR=19
S26A Kim 89.19 320 ⇓P P 00 59 53.6 -0.2
baz=89,SNR=13
R25A Fountain Ranch 89.19 321 ⇓P P 00 59 53.3 -0.6
baz=89,SNR=18
T27A Campo 89.23 319 ⇑P P 00 59 54.2 +0.2
baz=89,SNR=17
LON Longmire 89.23 336 eP P 00 59 52.1 -1.6
LON pmax pmax
comp=Z,17nm,1.2s
LON Longmire 89.23 336 eP P 00 59 52.1 -1.6
comp=Z,17nm,1.2s
LON Longmire 89.23 336 eP P 00 59 52.1 -1.6
comp=Z,17nm,1.2s
P22A Eagle 89.26 323 ⇑P P 00 59 54.4 +0.2
baz=89,SNR=18
NLWA Neilton Lookou 89.30 338 PFAKE 01 00 10.0 +16
NLWA LR LR
comp=Z,3μm,19.0s
Y33A Hilltop Ranch, 89.31 314 ⇑P P 00 59 55.2 +0.9
baz=89,SNR=38
HLID Hailey 89.35 330 eP P 00 59 53.1 -1.4
comp=Z,13nm,1.3s
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 89.35 330 P P 00 59 54.8 +0.2
baz=89
HLID Hailey 89.35 330 eP P 00 59 53.1 -1.4
comp=Z,13nm,1.3s
BMO Blue Mountains 89.35 332 eP P 00 59 53.6 -0.8
comp=Z,64nm,1.4s
BMO LR LR
comp=Z,2μm,20.0s
BMO Blue Mountains 89.35 332 eP P 00 59 53.6 -0.8
comp=Z,64nm,1.4s
X32A Elmer 89.37 315 ⇓P P 00 59 55.3 +0.8
baz=89,SNR=89
Z34A Collier Ranch, 89.37 313 ⇓P P 00 59 55.4 +0.8
baz=89,SNR=13
U28A Mallet 89.49 318 ⇓P P 00 59 55.6 +0.4
baz=89,SNR=18
V29A Stinnett 89.50 317 ⇓P P 00 59 55.5 +0.3
baz=89
W30A Crocket Farms 89.51 316 ⇓P P 00 59 55.2 -0.1
baz=89
O20A White River Ci 89.53 324 eP P 00 59 55.0 -0.4
O20A White River Ci 89.53 324 ⇑P P 00 59 55.3 -0.2
baz=89,SNR=45
O20A White River Ci 89.53 324 eP P 00 59 55.0 -0.4
R24A Sanders Place, 89.53 321 ⇑P P 00 59 55.2 -0.3
baz=89,SNR=19
G08A Pilot Rock 89.56 334 eP P 00 59 56.5 +1.1
comp=Z,19nm,1.3s
G08A Pilot Rock 89.56 334 eP P 00 59 56.5 +1.1
comp=Z,19nm,1.3s
KKM Kota Kinabalu 89.59 83 PFAKE 01 00 10.0 +14
KKM LR LR
comp=Z,309nm,20.0s
T26A Comanche Natio 89.59 319 ⇑P P 00 59 55.8 0.0
baz=89,SNR=9.5
X31A McDonald Ranch 89.60 316 ⇑P P 00 59 56.1 +0.5
baz=89,SNR=29
S25A Robets Cordova 89.64 320 ⇑P P 00 59 55.7 -0.2
baz=89
135A Vickery Place, 89.67 313 ⇓P P 00 59 55.8 -0.2
baz=89
SMCO Snowmass 89.69 323 eP P 00 59 55.2 -1.3
comp=Z,24nm,0.9s
SMCO Snowmass 89.69 323 eP P 00 59 55.2 -1.3
comp=Z,24nm,0.9s
Y32A R-V Farms, Ver 89.77 315 ⇓P P 00 59 57.3 +0.9
baz=90,SNR=47
U27A Thompson Grove 89.77 319 ⇓P P 00 59 55.9 -0.7
baz=90,SNR=15
HWUT Hardware Ranch 89.81 327 eP P 00 59 56.4 -0.3
comp=Z,72nm,0.9s
HWUT LR LR
comp=Z,1μm,22.0s
HWUT Hardware Ranch 89.81 327 eP P 00 59 56.4 -0.3
comp=Z,72nm,0.9s
Z33A Whitaker Ranch 89.91 314 ⇓P P 00 59 57.6 +0.5
baz=90,SNR=27
R23A Moffat 89.92 322 ⇓P P 00 59 57.4 0.0
baz=90,SNR=22
V28A Channing 89.97 318 ⇓P P 00 59 57.1 -0.4
baz=90,SNR=6.6
MFID Camas Ranch 90.03 331 eP P 00 59 57.7 +0.1
comp=Z,73nm,1.3s
MFID Camas Ranch 90.03 331 eP P 00 59 57.7 +0.1
comp=Z,73nm,1.3s
T25A Trinidad 90.03 320 ⇓P P 00 59 58.0 +0.1
baz=90,SNR=14
S24A Houchin Ranch, 90.05 321 ⇑P P 00 59 58.6 +0.6
baz=90,SNR=11
134A White-Moore Ra 90.05 313 ⇑P P 00 59 58.8 +1.0
baz=90,SNR=31
SDCO Great Sand Dun 90.11 321 eP P 00 59 58.2 -0.1
comp=Z,54nm,1.2s
SDCO LR LR
comp=Z,812nm,21.0s
SDCO Great Sand Dun 90.11 321 eP P 00 59 58.2 -0.1
comp=Z,54nm,1.2s
WHTX Lake Whitney 90.11 312 eP P 00 59 58.3 +0.3
WHTX Lake Whitney 90.11 312 ⇓P P 00 59 58.3 +0.3
baz=90,SNR=31
WHTX Lake Whitney 90.11 312 eP P 00 59 58.3 +0.3
W29A Amarillo 90.14 317 ⇓P P 00 59 58.5 +0.3
baz=90
TCUT Toone Canyon 90.14 327 eP P 00 59 58.2 -0.1
comp=Z,67nm,1.1s
TCUT Toone Canyon 90.14 327 eP P 00 59 58.2 -0.1
comp=Z,67nm,1.1s
HVU Hansel Valley 90.17 328 eP P 00 59 58.5 +0.1
HVU pmax pmax
comp=Z,96nm,1.2s
HVU Hansel Valley 90.17 328 eP P 00 59 58.5 +0.1
comp=Z,96nm,1.2s
HVU Hansel Valley 90.17 328 eP P 00 59 58.5 +0.1
comp=Z,96nm,1.2s
G06A Carlson Farm, 90.19 335 eP P 00 59 56.3 -1.9
comp=Z,42nm,1.3s
G06A Carlson Farm, 90.19 335 eP P 00 59 56.3 -1.9
comp=Z,42nm,1.3s
F04D Rainier, OR 90.21 336 ⇓P P 00 59 58.8 +0.6
baz=90
X30A Coker Ranch, T 90.22 316 ⇑P P 00 59 59.1 +0.5
baz=90,SNR=92
Y31A Rekieta Farm, 90.25 315 ⇑P P 00 59 59.2 +0.5
baz=90,SNR=33
U26A Atchley Ranch, 90.27 319 ⇑P P 00 59 58.9 0.0
baz=90,SNR=16
V27A Dan Oppiter Fa 90.28 318 ⇓P P 00 59 59.0 +0.1
baz=90
Z32A Haskell 90.30 314 ⇓P P 00 59 59.4 +0.5
baz=90,SNR=182
W28A Vega 90.33 317 ⇑P P 00 59 59.3 +0.1
baz=90,SNR=7.5
AMTX Amarillo 90.33 317 ⇑P P 00 59 59.0 -0.1
baz=90
S23A Nye Farm, Mont 90.38 321 ⇓P P 00 59 59.8 +0.3
baz=90,SNR=6.3
SPUT South Promonto 90.43 327 eP P 00 59 58.0 -1.6
comp=Z,20nm,1.0s
SPUT South Promonto 90.43 327 eP P 00 59 58.0 -1.6
comp=Z,20nm,1.0s
234A Clairette 90.50 313 ⇑P P 01 00 00.3 +0.4
baz=90,SNR=16
133A Hamilton Ranch 90.50 314 ⇑P P 01 00 00.4 +0.5
baz=90,SNR=51
T24B San Luis 90.58 321 ⇓P P 01 00 01.2 +0.7
baz=90,SNR=29
JLU Jordanelle 90.58 326 eP P 01 00 00.4 0.0
comp=Z,103nm,1.2s
JLU Jordanelle 90.58 326 eP P 01 00 00.4 0.0
comp=Z,103nm,1.2s
U25A Circle Dot Ran 90.60 320 ⇑P P 01 00 01.2 +0.7
baz=90,SNR=55
335A Moody 90.61 312 ⇓P P 01 00 01.2 +0.8
baz=90,SNR=20
HKT Hockley 90.62 310 eP P 01 00 00.3 0.0
HKT pmax pmax
comp=Z,61nm,1.2s
HKT Hockley 90.62 310 eP P 01 00 00.3 0.0
comp=Z,61nm,1.2s
HKT Hockley 90.62 310 eP P 01 00 00.3 0.0
comp=Z,61nm,1.2s
CTU Camp Tracy 90.64 327 eP P 01 00 00.2 -0.3
comp=Z,62nm,1.2s
CTU Camp Tracy 90.64 327 eP P 01 00 00.2 -0.3
comp=Z,62nm,1.2s
Y30A Stafford Cattl 90.67 316 ⇑P P 01 00 01.4 +0.7
baz=90
Z31A Sharp Cattle R 90.67 315 ⇑P P 01 00 01.6 +1.0
baz=90,SNR=53
X29A Tulia 90.67 317 ⇓P P 01 00 02.0 +1.3
baz=90,SNR=11
V26A Tequesquite Ra 90.75 319 ⇑P P 01 00 01.8 +0.7
baz=90,SNR=28
S22A 4UR Ranch, Cre 90.76 322 ⇑P P 01 00 01.0 -0.3
baz=90,SNR=36
I07A Izee 90.81 333 eP P 01 00 01.8 +0.6
comp=Z,42nm,1.3s
I07A Izee 90.81 333 eP P 01 00 01.8 +0.6
comp=Z,42nm,1.3s
X28A Dimmitt 90.89 317 ⇓P P 01 00 03.2 +1.5
baz=91,SNR=12
ABTX Abilene, Hawle 90.90 314 eP P 01 00 02.0 +0.3
ABTX Abilene, Hawle 90.90 314 ⇑P P 01 00 02.6 +0.9
baz=91,SNR=102
ABTX Abilene, Hawle 90.90 314 eP P 01 00 02.0 +0.3
233A Rising Star 90.92 313 ⇓P P 01 00 03.1 +1.2
baz=91,SNR=54
T23A Casias Ranch, 90.93 321 ⇓P P 01 00 03.3 +1.2
baz=91,SNR=27
W27A Bowe Ranch, En 90.93 318 ⇓P P 01 00 03.2 +1.2
baz=91,SNR=22
BGU Big Grassy Mou 90.99 328 eP P 01 00 02.3 +0.1
comp=Z,38nm,1.1s
BGU Big Grassy Mou 90.99 328 eP P 01 00 02.3 +0.1
comp=Z,38nm,1.1s
U24A Mono Valley 91.04 320 ⇑P P 01 00 03.4 +0.7
baz=91,SNR=19
334A Lometa 91.05 312 ⇓P P 01 00 03.2 +0.8
baz=91,SNR=89
435B Jarrell 91.07 312 ⇑P P 01 00 03.1 +0.6
baz=91,SNR=14
G03D McMinnville, O 91.07 336 ⇓P P 01 00 02.8 +0.6
baz=91
J08A Circle Bar Ran 91.07 332 eP P 01 00 02.0 -0.4
comp=Z,29nm,1.1s
J08A Circle Bar Ran 91.07 332 eP P 01 00 02.0 -0.4
comp=Z,29nm,1.1s
Y29A Porterfield Fa 91.10 316 ⇓P P 01 00 03.1 +0.4
baz=91,SNR=15
MPU Maple Canyon 91.14 326 eP P 01 00 02.8 -0.2
comp=Z,84nm,1.3s
MPU Maple Canyon 91.14 326 eP P 01 00 02.8 -0.2
comp=Z,84nm,1.3s
V25A Rancho No Teng 91.14 319 ⇑P P 01 00 04.1 +1.1
baz=91,SNR=8.8
H04A Detroit Lake 91.19 335 eP P 01 00 01.4 -1.5
comp=Z,62nm,1.4s
H04A Detroit Lake 91.19 335 eP P 01 00 01.4 -1.5
comp=Z,62nm,1.4s
I05D Terrebonne, OR 91.21 335 ⇓P P 01 00 03.1 +0.1
baz=91
PV04 Paradox Valley 91.23 324 eP P 01 00 03.5 +0.1
PV04 Paradox Valley 91.23 324 eP P 01 00 03.5 +0.1
Z30A Sanderson Ranc 91.23 315 ⇓P P 01 00 03.1 -0.2
baz=91,SNR=32
PV09 Paradox Valley 91.25 324 eP P 01 00 03.5 -0.1
PV09 Paradox Valley 91.25 324 eP P 01 00 03.5 -0.1
X27A F and S Farms, 91.27 318 ⇑P P 01 00 02.9 -0.7
baz=91
536A Bastrop 91.27 311 ⇑P P 01 00 04.7 +1.2
baz=91
PV01 Paradox Valley 91.28 323 eP P 01 00 03.3 -0.4
PV01 Paradox Valley 91.28 323 eP P 01 00 03.3 -0.4
W26A Owens Ranch, T 91.28 318 ⇑P P 01 00 04.3 +0.7
baz=91,SNR=22
131A Roby 91.28 315 ⇓P P 01 00 04.0 +0.5
baz=91,SNR=18
PV10 Paradox Valley 91.31 324 eP P 01 00 03.8 0.0
PV10 Paradox Valley 91.31 324 eP P 01 00 03.8 0.0
Y28A McKinney Farm, 91.38 317 ⇓P P 01 00 05.4 +1.4
baz=91,SNR=32
CISI Cisompet, Garu 91.38 98 eP P 01 00 03.2 -1.0
CISI Cisompet, Garu 91.38 98 eP P 01 00 03.2 -1.0
NLU North Lily Min 91.39 326 eP P 01 00 03.9 -0.2
comp=Z,26nm,1.0s
NLU North Lily Min 91.39 326 eP P 01 00 03.9 -0.2
comp=Z,26nm,1.0s
SRU San Rafael 91.39 325 eP P 01 00 03.1 -1.0
SRU pmax pmax
comp=Z,120nm,1.2s
SRU San Rafael 91.39 325 eP P 01 00 03.1 -1.0
comp=Z,120nm,1.2s
SRU San Rafael 91.39 325 eP P 01 00 03.1 -1.0
comp=Z,120nm,1.2s
434A Burnet 91.44 312 ⇑P P 01 00 05.2 +0.9
baz=91,SNR=42
232A Coleman 91.45 314 ⇑P P 01 00 04.8 +0.5
baz=91,SNR=89
333A Richland Sprin 91.48 313 ⇑P P 01 00 05.2 +0.8
baz=91,SNR=66
DUG Dugway 91.50 327 eP P 01 00 04.4 -0.2
DUG pmax pmax
comp=Z,64nm,1.1s
DUG MLR MLR
comp=Z,1μm,19.0s
DUG Dugway 91.50 327 eP P 01 00 04.4 -0.2
comp=Z,64nm,1.1s
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway 91.50 327 ⇑P P 01 00 04.8 +0.2
baz=91
DUG Dugway 91.50 327 eP P 01 00 04.4 -0.2
comp=Z,1μm,19.0s
W25A X Bar L Ranch, 91.54 319 ⇓P P 01 00 05.0 +0.2
baz=91,SNR=27
TMUT Trail Mountain 91.55 326 eP P 01 00 04.8 -0.2
comp=Z,62nm,1.1s
TMUT Trail Mountain 91.55 326 eP P 01 00 04.8 -0.2
comp=Z,62nm,1.1s
U23A El Rito 91.56 321 ⇓P P 01 00 06.2 +1.2
baz=91,SNR=14
V24A Rampart Ranch, 91.57 320 ⇑P P 01 00 05.3 +0.3
baz=91,SNR=9.1
PV05 Paradox Valley 91.57 323 eP P 01 00 03.7 -1.3
PV05 Paradox Valley 91.57 323 eP P 01 00 03.7 -1.3
Z29A Hungry Hill Ra 91.57 316 ⇑P P 01 00 05.3 +0.4
baz=91,SNR=26
535A Dale 91.61 311 ⇓P P 01 00 05.8 +0.8
baz=91
MSTX Muleshoe 91.61 317 eP P 01 00 05.1 0.0
MSTX Muleshoe 91.61 317 ⇑P P 01 00 05.4 +0.2
baz=91,SNR=17
MSTX Muleshoe 91.61 317 eP P 01 00 05.1 0.0
130A Snyder 91.66 315 ⇑P P 01 00 05.8 +0.4
baz=91,SNR=21
X26A CR and CF Fran 91.72 318 ⇑P P 01 00 06.2 +0.6
baz=92,SNR=14
SAML Samuel 91.74 260 eP P 01 00 05.5 -0.3
comp=Z,8.5nm,1.1s
SAML LR LR
comp=Z,397nm,21.0s
SAML Samuel 91.74 260 eP P 01 00 05.5 -0.3
comp=Z,8.5nm,1.1s
231A Bronte 91.79 314 ⇓P P 01 00 06.6 +0.7
baz=92,SNR=45
U22A Llaves 91.85 321 ⇓P P 01 00 06.6 +0.3
baz=92,SNR=42
332A Millersview 91.88 313 ⇓P P 01 00 06.8 +0.5
baz=92,SNR=79
Y27A Causey 91.89 317 ⇑P P 01 00 06.0 -0.4
baz=92,SNR=23
Z28A Tucker Farm, M 91.92 316 ⇑P P 01 00 06.9 +0.4
baz=92,SNR=20
WVOR Wild Horse Val 91.92 332 eP P 01 00 06.1 -0.3
WVOR MLR MLR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 91.92 332 eP P 01 00 06.1 -0.3
WVOR LR LR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 91.92 332 eP P 01 00 06.1 -0.3
comp=Z,1μm,22.0s
ROSC El Rosal 91.96 278 eP P 01 00 05.5 -1.9
ROSC El Rosal 91.96 278 P P 01 00 09.6 +2.3
comp=Z,9.2nm,0.4s,baz=94,slow=19,SNR=4.4
ROSC El Rosal 91.96 278 eP P 01 00 05.5 -1.9
433A Art 91.97 312 ⇓P P 01 00 07.0 +0.3
baz=92,SNR=67
MVCO Mesa Verde 91.98 323 eP P 01 00 06.7 -0.2
comp=Z,64nm,1.1s
MVCO LR LR
comp=Z,988nm,21.0s
MVCO Mesa Verde 91.98 323 ⇓P P 01 00 07.1 +0.1
baz=92,SNR=25
MVCO Mesa Verde 91.98 323 eP P 01 00 06.7 -0.2
comp=Z,64nm,1.1s
V23A Ortiz Mt. (NFS 92.01 320 ⇑P P 01 00 07.3 +0.2
baz=92,SNR=11
W24A Lazy 6 Ranch, 92.04 319 ⇓P P 01 00 06.8 -0.4
baz=92,SNR=23
ELK Elko 92.05 329 eP P 01 00 08.4 +1.2
comp=Z,30nm,1.1s
ELK Elko 92.05 329 P P 01 00 08.9 +1.7
comp=Z,23nm,1.1s,baz=348,slow=2.6,SNR=28
ELK Elko 92.05 329 eP P 01 00 08.4 +1.2
comp=Z,30nm,1.1s
I04A Tendick Farm, 92.05 335 ⇓P P 01 00 07.6 +0.7
baz=92
J05D Fort Rock, OR 92.11 334 ⇓P P 01 00 07.4 +0.1
baz=92
129A Stewart Farms, 92.14 315 ⇑P P 01 00 08.4 +0.9
baz=92
534A Blanco 92.14 312 ⇓P P 01 00 07.9 +0.4
baz=92,SNR=14
X25A Clemmons Ranch 92.18 318 ⇓P P 01 00 08.5 +0.6
baz=92
635A Leesville 92.19 311 ⇑P P 01 00 08.3 +0.6
baz=92,SNR=8.1
Y26A Elida 92.21 318 ⇑P P 01 00 08.2 +0.3
baz=92,SNR=5.4
V22A San Miguel Ran 92.24 321 ⇑P P 01 00 08.7 +0.5
baz=92,SNR=11
230A Sterling City 92.28 315 ⇓P P 01 00 08.6 +0.4
baz=92,SNR=17
432A Menard 92.28 313 ⇑P P 01 00 08.7 +0.5
baz=92,SNR=12
331A San Angelo 92.32 314 ⇑P P 01 00 08.8 +0.5
baz=92,SNR=23
Z27A Tatum 92.35 317 ⇑P P 01 00 08.4 -0.2
baz=92,SNR=27
533A Kerrville 92.44 312 ⇑P P 01 00 09.1 +0.2
baz=92
J04D Umpqua Nationa 92.44 335 ⇑P P 01 00 09.8 +0.9
baz=92
I03D Drain, OR 92.45 336 ⇑P P 01 00 09.3 +0.7
baz=92
W23A Werner Place, 92.45 320 ⇑P P 01 00 09.6 +0.4
baz=92,SNR=8.0
TEIG Tepich 92.46 298 P P 01 00 09.9 +0.8
TEIG LR LR
comp=Z,328nm,19.0s
TEIG Tepich 92.46 298 P P 01 00 09.9 +0.8
comp=Z,30nm,1.0s,baz=83,slow=8.5,SNR=4.7

TEIG	Tepich	92.46 298	P	P	01 00 09.9	+0.8
128A	Castleberry Fa	92.48 316	⇑P	P	01 00 10.4	+1.2
	baz=92,SNR=34					
K05A	Summer Lake	92.48 334	*e*P	P	01 00 10.1	+1.0
	comp=Z,85nm,1.3s					
K05A	Summer Lake	92.48 334	*e*P	P	01 00 10.1	+1.0
	comp=Z,85nm,1.3s					
634A	China Grove, S	92.54 311	⇑P	P	01 00 10.4	+1.0
	baz=92					
X24A	Lazy VL Ranch,	92.55 319	⇑P	P	01 00 10.3	+0.7
	baz=92					
JCT	Junction City	92.58 313	*e*P	P	01 00 07.2	-2.4
JCT			pmax	pmax		
	comp=Z,95nm,1.6s					
JCT			MLR	MLR		
	comp=Z,980nm,22.0s					
JCT	Junction City	92.58 313	*e*P	P	01 00 07.2	-2.4
	comp=Z,95nm,1.6s					
JCT			LR	LR		
	comp=Z,980nm,22.0s					
JCT	Junction City	92.58 313	⇓P	P	01 00 10.3	+0.7
	baz=92,SNR=14					
JCT	Junction City	92.58 313	*e*P	P	01 00 07.2	-2.4
	comp=Z,980nm,22.0s					
735A	Kenedy	92.60 310	⇑P	P	01 00 10.4	+0.8
	baz=92					
229A	Bryant Ranch,	92.61 315	⇓P	P	01 00 10.2	+0.5
	baz=92,SNR=14					
MVU	Marysvale	92.64 326	*e*P	P	01 00 10.2	+0.2
	comp=Z,66nm,1.3s					
MVU	Marysvale	92.64 326	*e*P	P	01 00 10.2	+0.2
	comp=Z,66nm,1.3s					
Y25A	Mesa, Roswell	92.67 318	⇓P	P	01 00 11.3	+1.3
	baz=92,SNR=18					
330A	Mertzon	92.67 314	⇓P	P	01 00 11.2	+1.2
	baz=92,SNR=40					
ANMO	Albuquerque	92.78 320	*e*P	P	01 00 08.8	-1.8
	comp=Z,30nm,1.4s					
ANMO			LR	LR		
	comp=Z,1μm,22.0s					
ANMO	Albuquerque	92.78 320	*e*P	P	01 00 08.8	-1.8
	comp=Z,1μm,22.0s					
Z26A	Caprock	92.79 317	⇑P	P	01 00 10.8	+0.2
	baz=92,SNR=66					
K04D	Chiloquin, OR	92.87 334	⇑P	P	01 00 11.4	+0.6
	baz=92					
431A	Sonora	92.89 313	⇑P	P	01 00 12.1	+1.1
	baz=93,SNR=53					
532A	Rocksprings	92.90 313	⇑P	P	01 00 11.9	+0.8
	baz=93,SNR=25					
127A	Arkansas Junct	92.91 316	⇑P	P	01 00 12.5	+1.3
	baz=93,SNR=7.8					
CPRX	Cap Rock	92.92 317	*e*P	P	01 00 13.8	+2.6
228A	UT Block 9, Go	92.92 316	⇓P	P	01 00 12.2	+1.0
	baz=93,SNR=10					
633A	Saathoff Ranch	92.97 312	⇑P	P	01 00 12.1	+0.8
	baz=93,SNR=9.9					
MOD	Modoc	93.00 333	*e*P	P	01 00 09.2	-2.3
	comp=Z,12nm,1.1s					
MOD	Modoc	93.00 333	*e*P	P	01 00 09.1	-2.3
	comp=Z,12nm,1.1s					
Y24A	Capitan	93.05 319	⇓P	P	01 00 12.8	+0.9
	baz=93,SNR=15					
734A	La Parita Cree	93.06 311	⇓P	P	01 00 12.5	+0.8
	baz=93					
329A	Wagon Wheel Ra	93.06 315	⇑P	P	01 00 12.3	+0.5
	baz=93,SNR=50					
BMN	Battle Mountai	93.11 330	*e*P	P	01 00 11.6	-0.4
BMN			pmax	pmax		
	comp=Z,29nm,1.3s					
BMN	Battle Mountai	93.11 330	*e*P	P	01 00 11.6	-0.4
	comp=Z,28nm,1.3s					
BMN	Battle Mountai	93.11 330	*e*P	P	01 00 11.6	-0.4
	comp=Z,29nm,1.3s					
430A	Baggett Ranch,	93.17 314	⇑P	P	01 00 13.2	+0.9
	baz=93,SNR=50					
Z25A	Roswell	93.18 318	⇓P	P	01 00 12.9	+0.6
	baz=93,SNR=29					
531A	Rocksprings	93.24 313	⇑P	P	01 00 13.0	+0.3
	baz=93,SNR=34					
632A	Uvalde	93.29 312	⇓P	P	01 00 13.6	+0.7
	baz=93,SNR=16					
HUMO	Hull Mountain	93.29 335	*e*P	P	01 00 13.1	+0.5
	comp=Z,34nm,1.3s					
HUMO	Hull Mountain	93.29 335	*e*P	P	01 00 13.1	+0.5
	comp=Z,34nm,1.3s					
126A	Clayton Basin,	93.30 317	⇓P	P	01 00 13.0	+0.1
	baz=93,SNR=18					
LPM	Los Pinos Moun	93.36 320	*e*P	P	01 00 14.8	+1.5
LPM	Los Pinos Moun	93.36 320	*e*P	P	01 00 14.8	+1.5
Y23A	Lovelace Mesa,	93.37 319	⇓P	P	01 00 13.7	+0.3
	baz=93,SNR=14					
227A	Bennet, Jal	93.39 316	⇑P	P	01 00 13.9	+0.6
	baz=93,SNR=5.7					
Z24A	Sheeppen Canyo	93.48 318	⇓P	P	01 00 14.3	+0.4
	baz=93,SNR=22					
BNM	Barren Site	93.49 320	*e*P	P	01 00 12.1	-1.8
BNM	Barren Site	93.49 320	*e*P	P	01 00 12.1	-1.8
BCIP	Isla Barro Col	93.50 284	PFAKE		01 00 30.0	+16
BCIP			LR	LR		
	comp=Z,221nm,20.0s					
CLNB	Carlsbad	93.51 317	*e*P	P	01 00 13.8	-0.1
CLNB	Carlsbad	93.51 317	*e*P	P	01 00 13.8	-0.1
LAZ	Ladron	93.55 320	*e*P	P	01 00 14.0	-0.2
LAZ	Ladron	93.55 320	*e*P	P	01 00 14.0	-0.2
834A	Tilden	93.58 310	⇑P	P	01 00 15.3	+1.2
	baz=93,SNR=5.8					
733A	Divot King Ran	93.58 311	⇑P	P	01 00 15.4	+1.3
	baz=93,SNR=13					
328A	Wristen Ranch,	93.60 315	⇑P	P	01 00 14.8	+0.5
	baz=93,SNR=28					
KVTX	Kingsville	93.61 310	PFAKE		01 00 30.0	+16
KVTX			LR	LR		
	comp=Z,370nm,19.0s					
125A	Gardner Draw,	93.63 317	⇑P	P	01 00 15.4	+0.9
	baz=93,SNR=26					
LENM	Lemitar	93.65 320	*e*P	P	01 00 13.3	-1.3
LENM	Lemitar	93.65 320	*e*P	P	01 00 13.3	-1.3
429A	Davenport Ranc	93.67 314	⇑P	P	01 00 15.0	+0.4
	baz=93,SNR=8.4					
530A	J-C Ranch, Com	93.71 314	⇑P	P	01 00 15.2	+0.4
	baz=94,SNR=36					
ARUT	Antelope Range	93.78 326	*e*P	P	01 00 13.7	-1.4
ARUT	Antelope Range	93.78 326	*e*P	P	01 00 13.7	-1.4
ARUT	Antelope Range	93.78 326	*e*P	P	01 00 13.7	-1.4
226B	Tecolote Peak,	93.81 317	⇓P	P	01 00 15.6	+0.3
	baz=94,SNR=33					
631A	Perdido Creek	93.82 313	⇓P	P	01 00 15.8	+0.5
	baz=94,SNR=56					
GDL2	Guadalupe Moun	93.82 317	*e*P	P	01 00 15.5	+0.1
GDL2	Guadalupe Moun	93.82 317	*e*P	P	01 00 15.5	+0.1
L02D	Cave Junction,	93.91 335	⇓P	P	01 00 16.0	+0.6
	baz=94					
833A	Chaparral WMA,	93.94 311	⇓P	P	01 00 17.2	+1.4
	baz=94,SNR=15					
CCUT	Cedar City	93.94 326	*e*P	P	01 00 15.5	-0.4
	comp=Z,16nm,1.0s					
CCUT	Cedar City	93.94 326	*e*P	P	01 00 15.5	-0.4
	comp=Z,16nm,1.0s					
934A	Benavides	93.94 310	⇑P	P	01 00 17.2	+1.4
	baz=94					
732A	Laxson Ranch,	93.98 312	⇓P	P	01 00 16.6	+0.6
	baz=94,SNR=18					
327A	Balmorhea Ranc	93.99 316	⇑P	P	01 00 16.9	+0.9
	baz=94					
YBH	Yreka Blue Hor	93.99 334	*e*P	P	01 00 15.3	-0.6
	comp=Z,34nm,1.3s					
YBH	Yreka Blue Hor	93.99 334	P	P	01 00 15.8	-0.1
	comp=Z,17nm,1.1s,baz=16,slow=4.0,SNR=8.7					
YBH	Yreka Blue Hor	93.99 334	*e*P	P	01 00 15.3	-0.6
	comp=Z,34nm,1.3s					
428A	Kincaid Ranch,	94.03 315	⇓P	P	01 00 16.8	+0.5
	baz=94,SNR=18					
225A	Deer Hill, Car	94.14 317	⇓P	P	01 00 17.7	+0.8
	baz=94,SNR=6.5					
KNB	Kanab	94.14 325	*e*P	P	01 00 16.1	-0.7
KNB			pmax	pmax		
	comp=Z,26nm,1.3s					
KNB	Kanab	94.14 325	*e*P	P	01 00 16.1	-0.7
	comp=Z,26nm,1.3s					
KNB	Kanab	94.14 325	*e*P	P	01 00 16.1	-0.7
	comp=Z,26nm,1.3s					
035A	Encino	94.18 309	⇓P	P	01 00 18.6	+1.7
	baz=94					
R11A	Troy Canyon, C	94.22 328	*e*P	P	01 00 17.7	+0.5
	comp=Z,23nm,1.3s					
R11A	Troy Canyon, C	94.22 328	⇑P	P	01 00 18.2	+1.0
	baz=94					
R11A	Troy Canyon, C	94.22 328	*e*P	P	01 00 17.7	+0.5
	comp=Z,23nm,1.3s					
529A	Stev Forest Ra	94.23 314	⇓P	P	01 00 18.2	+1.0
	baz=94,SNR=36					
W18A	Petrified Fore	94.26 322	⇑P	P	01 00 18.6	+1.2
	baz=94					
326A	Caldwell Ranch	94.29 316	⇓P	P	01 00 18.2	+0.7
	baz=94,SNR=21					
832A	Faith Ranch, C	94.31 311	⇓P	P	01 00 18.8	+1.2
	baz=94,SNR=13					
427A	Hayter Ranch,	94.33 315	⇓P	P	01 00 18.8	+1.1
	baz=94,SNR=26					
M02C	Callahan	94.34 334	⇓P	P	01 00 18.8	+1.2
	baz=94					
Z22A	Elephant Butte	94.37 319	⇑P	P	01 00 19.1	+1.2
	baz=94,SNR=6.6					
933A	Laredo	94.39 310	⇑P	P	01 00 18.9	+1.0
	baz=94					
U15A	North Rim	94.39 325	⇓P	P	01 00 18.6	+0.5
	baz=94					
034A	Hebbronville	94.44 310	⇑P	P	01 00 19.1	+1.0
	baz=94,SNR=8.8					
035Z	Hargill	94.50 309	⇑P	P	01 00 19.9	+1.6
	baz=94					
528A	Otax Ranch, San	94.52 314	⇑P	P	01 00 19.3	+0.7
	baz=94,SNR=48					
PAHR	Pah Rah Range	94.57 331	*e*P	P	01 00 16.9	-1.8
	comp=Z,22nm,1.1s					
PAHR	Pah Rah Range	94.57 331	*e*P	P	01 00 16.9	-1.8
	comp=Z,22nm,1.1s					
N02D	Trinity Center	94.66 334	⇑P	P	01 00 20.1	+1.1
	baz=94					
WUAZ	Wupatki	94.71 323	*e*P	P	01 00 19.6	+0.1
WUAZ			LR	LR		
	comp=Z,749nm,20.0s					
WUAZ	Wupatki	94.71 323	⇓P	P	01 00 20.5	+1.0
	baz=94,SNR=19					
WUAZ	Wupatki	94.71 323	*e*P	P	01 00 19.6	+0.1
	comp=Z,67nm,1.2s					
MNTX	Cornudas Mount	94.76 317	*e*P	P	01 00 19.4	-0.2
	comp=Z,45nm,1.3s					
MNTX			LR	LR		
	comp=Z,578nm,19.0s					
MNTX	Cornudas Mount	94.76 317	*e*P	P	01 00 19.4	-0.2
	comp=Z,45nm,1.3s					
426A	McDonald Obser	94.82 316	⇑P	P	01 00 20.6	+0.5
	baz=95,SNR=86					
X18A	Snowflake	94.84 322	⇑P	P	01 00 21.1	+1.0
	baz=95					
527A	Woodward Ranch	94.99 315	⇑P	P	01 00 21.8	+1.0
	baz=95,SNR=26					
628A	Black Gap, Mar	95.09 314	⇑P	P	01 00 22.4	+1.3
	baz=95,SNR=24					
KHMM	Horse Mountain	95.10 335	*e*P	P	01 00 20.6	-0.5
	comp=Z,794nm,2.8s					
KHMM	Horse Mountain	95.10 335	*e*P	P	01 00 20.6	-0.5
	comp=Z,794nm,2.8s					
TPH	Tonopah	95.13 329	*e*P	P	01 00 21.5	+0.1
TPH			pmax	pmax		
	comp=Z,23nm,1.4s					
TPH	Tonopah	95.13 329	*e*P	P	01 00 21.5	+0.1
	comp=Z,23nm,1.4s					
TPH	Tonopah	95.13 329	*e*P	P	01 00 21.5	+0.1
	comp=Z,23nm,1.4s					
425A	Indio Mountain	95.25 316	⇓P	P	01 00 23.0	+1.0
	baz=95,SNR=11					
NV01	Mina Array Sit	95.26 330	*e*P	P	01 00 21.6	-0.3
NV01	Mina Array Sit	95.26 330	*e*P	P	01 00 21.6	-0.3
NVAR	Mina Array Bea	95.26 330	P	P	01 00 23.3	+1.3
NVAR			PKKPbc	PKKPbc	01 17 18.0	+3.6
NVAR	Mina Array Bea	95.26 330	P	P	01 00 23.3	+1.3
	comp=Z,6.5nm,0.9s,baz=52,slow=4.6,SNR=13					
NVAR			PKKPbc	PKKPbc	01 17 18.0	+3.6
	comp=Z,2.1nm,1.1s,baz=201,slow=4.7,SNR=4.0					
NVAR	Mina Array Bea	95.26 330	P	P	01 00 23.3	+1.3
526A	Mary Lane Ranc	95.32 315	⇑P	P	01 00 23.2	+0.9
	baz=95,SNR=19					
121A	Cookes Peak, D	95.36 319	⇓P	P	01 00 22.9	+0.4
	baz=95,SNR=8.7					
627A	Terlingua Ranc	95.39 314	⇑P	P	01 00 23.5	+0.9
	baz=95,SNR=33					
SHPR	Sheep Range	95.60 327	*e*P	P	01 00 24.9	+1.4
SHPR	Sheep Range	95.60 327	*e*P	P	01 00 24.9	+1.4
WAKR	Walker	95.64 331	*e*P	P	01 00 23.6	0.0
WAKR	Walker	95.64 331	*e*P	P	01 00 23.6	0.0
TX31	Lajitas Ar. Si	95.64 315	*e*P	P	01 00 24.3	+0.6
TX31	Lajitas Ar. Si	95.64 315	*e*P	P	01 00 24.3	+0.6
TXAR	Lajitas Array	95.64 315	P	P	01 00 24.2	+0.5
TXAR			PKiKP	PKiKP	01 05 05.4	+1.9
TXAR	Lajitas Array	95.64 315	P	P	01 00 24.2	+0.5
	comp=Z,37nm,1.1s,baz=64,slow=4.1,SNR=61					
TXAR			PKiKP	PKiKP	01 05 05.4	+1.9
	comp=Z,1.6nm,0.8s,baz=300,slow=2.6,SNR=4.3					
TXAR	Lajitas Array	95.64 315	P	P	01 00 24.2	+0.5
	comp=Z,37nm,1.1s					
X16A	Lo Mia Camp, P	95.64 323	⇑P	P	01 00 25.0	+1.2
	baz=95,SNR=6.2					
626A	Big Bend Ranch	95.73 315	⇑P	P	01 00 24.6	+0.4
	baz=96,SNR=19					
TGUH	Tegucigalpa,Un	95.87 293	PFAKE		01 00 40.0	+15
TGUH			LR	LR		
	comp=Z,282nm,21.0s					
GRAC	Grapevine Rang	96.11 328	⇑P	P	01 00 26.7	+1.0
	baz=96					
MLAC	Mammoth Lakes	96.16 330	⇓P	P	01 00 26.5	+0.4
	baz=96					
W13A	Hualapai Mount	96.21 325	⇑P	P	01 00 27.3	+0.9
	baz=96					
FURC	Furnace Creek,	96.35 328	⇑P	P	01 00 27.4	+0.8
	baz=96					
SHOC	Shoshone	96.59 327	⇑P	P	01 00 28.7	+0.9
	baz=96					
JTS	JuntasAbangare	96.63 289	PFAKE		01 00 40.0	+12
JTS			LR	LR		
	comp=Z,250nm,19.0s					
TUC	Tucson	97.04 321	*e*P	P	01 00 27.2	-2.8
TUC			pmax	pmax		
	comp=Z,24nm,1.2s					
TUC			MLR	MLR		
	comp=Z,842nm,22.0s					
TUC	Tucson	97.04 321	*e*P	P	01 00 27.2	-2.8
	comp=Z,24nm,1.2s					
TUC			LR	LR		
	comp=Z,842nm,22.0s					
319A	Douglas	97.05 320	⇓P	Pdif	01 00 30.5	+0.3
	baz=97					
Z14A	Wintersburg	97.22 323	⇑P	Pdif	01 00 31.4	+0.6
	baz=97					
GSC	Goldstone	97.32 327	⇓P	Pdif	01 00 31.9	+0.6
	baz=97					
RCTC	Rector, Farmer	97.47 329	⇑P	Pdif	01 00 32.8	+1.0
	baz=97					
APG	El Apazote	97.52 296	P	P	01 00 31.3	-1.3
APG	El Apazote	97.52 296	P	P	01 00 31.3	-1.3
	comp=Z,9.5nm,0.7s,baz=128,slow=3.1,SNR=14					
APG	El Apazote	97.52 296	P	P	01 00 31.3	-1.3
HEC	Hector,Ludlow	97.52 327	⇑P	Pdif	01 00 33.4	+1.2
	baz=97					
LRMC	Laurel Mountai	97.55 328	⇑P	Pdif	01 00 33.5	+1.1
	baz=97					
ISA	Isabella	97.71 328	⇑P	Pdif	01 00 34.1	+1.1
	baz=97					
VES	Vestal, Richgr	97.81 329	⇓P	P	01 00 33.0	-0.2
	baz=98					
OTAV	Otavalo	98.04 277	*e*P	P	01 00 32.7	-2.5
	comp=Z,8.9nm,1.1s					
OTAV			LR	LR		
	comp=Z,196nm,20.0s					
OTAV	Otavalo	98.04 277	*e*P	P	01 00 32.7	-2.5
	comp=Z,8.9nm,1.1s					
113A	Mohawk Valley,	98.10 324	⇓P	Pdif	01 00 35.0	+0.4
	baz=98					
EDW2	Edwards Air Fo	98.19 328	⇓P	Pdif	01 00 36.0	+0.9
	baz=98					
GLA	Glamis	98.35 324	*e*P	P	01 00 34.0	-1.9
GLA			pmax	pmax		
	comp=Z,117nm,1.1s					
GLA	Glamis	98.35 324	*e*P	P	01 00 34.0	-1.9
	comp=Z,117nm,1.1s					
GLA	Glamis	98.35 324	⇑P	Pdif	01 00 37.0	+1.2
	baz=98					
GLA	Glamis	98.35 324	*e*P	P	01 00 34.0	-1.9
	comp=Z,117nm,1.1s					
PTRM	Twissleman Ran	98.42 330	*e*P	P	01 00 31.1	-5.0
PFO	Pinyon Flat Ob	98.61 326	*e*P	P	01 00 33.5	-3.6
	comp=Z,37nm,1.2s					
KAPI	Kappang	99.17 89	PFAKE		01 00 50.0	+10
KAPI			LR	LR		
	comp=Z,381nm,19.0s					
NNA	Nana	104.23 266	PFAKE		01 01 10.0	+7.8
NNA			LR	LR		
	comp=Z,236nm,20.0s					
HOPE	Hope Point	105.10 211	PFAKE		01 05 30.0	
HOPE			LR	LR		
	comp=Z,1.0nm,20.0s					
TRQA	Tornquist	108.35 236	PFAKE		01 05 40.0	
TRQA			LR	LR		
	comp=Z,417nm,20.0s					
LCO	Las Campanas	109.32 248	PFAKE		01 05 40.0	
LCO			LR	LR		
	comp=Z,305nm,19.0s					
NWAO	Narrogin (SRO)	113.27 114	PFAKE		01 05 50.0	
NWAO			LR	LR		
	comp=Z,1.0nm,21.0s					
WRA	Warramunga Arr	119.39 93	PKP	PKPdf	01 05 46.5	-1.2
WRA			PKKPab	PKKPab	01 16 01.9	+0.8
WRA	Warramunga Arr	119.39 93	PKP	PKPdf	01 05 46.5	-1.2
	comp=Z,1.4nm,0.7s,baz=323,slow=1.9,SNR=17					
WRA			PKKPab	PKKPab	01 16 01.9	+0.8
	comp=Z,1.7nm,1.0s,baz=122,slow=3.9,SNR=5.6					
WRAB	Tennant Creek	119.39 93	PFAKE		01 06 00.0	+12
WRAB			LR	LR		
	comp=Z,806nm,19.0s					
ASAR	Alice Springs	121.05 97	PKP	PKPdf	01 05 50.5	-0.2
ASAR			PKKPab	PKKPab	01 15 53.7	0.0
ASAR	Alice Springs	121.05 97	PKP	PKPdf	01 05 50.5	-0.2
	comp=Z,4.7nm,0.9s,baz=308,slow=1.4,SNR=22					
ASAR			PKKPab	PKKPab	01 15 53.7	0.0
	comp=Z,1.0nm,0.8s,baz=104,slow=3.9,SNR=3.2					
PMG	Port Moresby	123.16 74	PFAKE		01 06 10.0	+15
PMG			LR	LR		
	comp=Z,365nm,20.0s					
CASY	Casey	123.90 151	PFAKE		01 06 10.0	+15
CASY			LR	LR		
	comp=Z,516nm,21.0s					
QSPA	South Pole Qui	128.27 180	*e*PKPdf	PKPdf	01 06 03.1	-0.1
QSPA	South Pole Qui	128.27 180	PKP	PKPdf	01 06 03.0	-0.3
	comp=Z,6.0nm,0.8s,baz=268,slow=1.6,SNR=12					
CTA	Charters Tower	128.82 86	PKP	PKPdf	01 06 06.1	+0.4
CTA	Charters Tower	128.82 86	PKP	PKPdf	01 06 06.1	+0.4
	comp=Z,6.1nm,0.8s,baz=0.1,slow=7.9,SNR=3.7					
CTAO	Charters Tower	128.82 86	PFAKE		01 06 20.0	+14
CTAO			LR	LR		
	comp=Z,407nm,20.0s					
STKA	Stephens Creek	130.94 102	SKPab	SKPbc	01 09 33.1	-0.3
STKA	Stephens Creek	130.94 102	SKPab	SKPbc	01 09 33.1	-0.3
	comp=Z,6.5nm,1.0s,baz=324,slow=8.7,SNR=3.3					
TARA	Tarawa	132.21 41	PFAKE		01 06 20.0	+7.7
TARA			LR	LR		
	comp=Z,2μm,21.0s					
SBA	Scott Base	137.79 170	PFAKE		01 06 30.0	+9.2
SBA			LR	LR		
	comp=Z,493nm,19.0s					
CAN	Canberra	137.97 103	PFAKE		01 06 30.0	+7.5
CAN			LR	LR		
	comp=Z,373nm,19.0s					
TAU	Tasmania Unive	138.90 114	PFAKE		01 06 40.0	+16
TAU			LR	LR		
	comp=Z,537nm,20.0s					
DZM	Mont Dzumac	145.49 72	PKPbc	PKPab	01 06 37.6	+1.0
DZM			SKPbc	SKPbc	01 10 15.8	-0.1
DZM	Mont Dzumac	145.49 72	PKPbc	PKPab	01 06 37.6	+1.0
	comp=Z,70nm,1.0s,baz=71,slow=8.5,SNR=14					
DZM			SKPbc	SKPbc	01 10 15.8	-0.1
	comp=Z,8.3nm,0.9s,baz=2.3,slow=6.3,SNR=4.1					
AFI	Afiamalu	152.71 30	PKPbc	PKPbc	01 06 56.8	+1.7
AFI	Afiamalu	152.71 30	PKPbc	PKPbc	01 06 56.8	+1.7
	comp=Z,42nm,0.8s,baz=31,slow=5.4,SNR=6.1					
SNZO	South Karori	158.89 107	PFAKE		01 07 10.0	+15
SNZO			LR	LR		
	comp=Z,461nm,19.0s					

IDC ***22*** *00:50:11.7±1.0,38°.41N×22°.02E,h0km,mb4.1/13, mb1 4.2/16,mb1mx4.1/33,mbtmp4.2/16,ML3.4/3,Error ellipse: s-maj=19.9km s-min=17.6km az=152.0*

ISCJB ***22*** *00:50:12.6±0.3,38°.43N±0°.02×21°.95E±0°.02,h11km±2km, mb4.2/12,Error ellipse: s-maj=3.2km s-min=2.9km az=177.8*

CSEM ***22*** *00:50:12.9±0.2,38°.44N×22°.01E,h2km,ML4.3,Error ellipse: s-maj=4.1km s-min=3.3km az=91.0*

THE ***22*** *00:50:13.1,38°.42N×21°.98E,h7km±1km,ML4.3/5,Error ellipse: s-maj=1.7km s-min=0.8km az=214.0*

ATH ***22*** *00:50:13.1,38°.43N×22°.02E,h16km,ML4.2*

ISC 22 00:50:13.0±0.8,38°.42N±0°.01×21°.99E±0°.02,h7km±5km, n144,s0s75/172,mb4.2/12,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	Efpalio	0.06	273	P	Pg	00 50 14.5	-0.2
EFP				S	Sg	00 50 15.2	-0.7
EFP	Efpalio	0.06	273	P	Pg	00 50 14.5	-0.2
EFP				S	Sg	00 50 15.2	-0.7
KALE	Kalithea	0.12	105	P	Pg	00 50 16.1	+0.4
KALE				S	Sg	00 50 18.5	+1.0
KALE	Kalithea	0.12	105	*e*PB	Pg	00 50 16.2	+0.5
KALE	Kalithea	0.12	105	*e*Pb	Pg	00 50 16.2	+0.5
KALE				S	Sg	00 50 18.5	+1.0
LAKA	Lakka	0.18	182	P	Pg	00 50 17.0	+0.3
LAKA	Lakka	0.18	182	*e*PB	Pg	00 50 17.0	+0.3
LAKA	Lakka	0.18	182	P	Pg	00 50 17.0	+0.3
UPR	University Cam	0.21	228	P	Pg	00 50 17.0	-0.2
UPR	University Cam	0.21	228	P	Pg	00 50 17.0	-0.2
KLV	Kalavryta, Ach	0.40	161	P	Pg	00 50 20.7	-0.1
KLV	Kalavryta, Ach	0.40	161	*e*PB	Pb	00 50 22.0	-0.5
KLV				*e*SB	Sg	00 50 27.1	+1.1
KLV	Kalavryta, Ach	0.40	161	P	Pg	00 50 20.7	-0.1
KLV	Kalavryta, Ach	0.40	161	*e*Pb	Pb	00 50 22.0	-0.5
KLV				*e*Sb	Sg	00 50 27.1	+1.1
DSF	Desfina	0.42	91	P	Pg	00 50 20.9	-0.3
DSF				S	Sg	00 50 28.1	+1.3
DSF	Desfina	0.42	91	*e*PB	Pg	00 50 21.0	-0.3
DSF	Desfina	0.42	91	*e*Pb	Pg	00 50 21.0	-0.3
DSF				S	Sg	00 50 28.1	+1.3
EVR	Evrytania	0.51	344	P	Pg	00 50 22.4	-0.5
EVR				S	Sg	00 50 31.0	+1.4
EVR	Evrytania	0.51	344	*e*PN	Pg	00 50 22.7	-0.2
EVR				*e*SN	Sg	00 50 30.8	+1.2
EVR	Evrytania	0.51	344	P	Pg	00 50 22.4	-0.5
EVR	Evrytania	0.51	344	*e*Pn	Pg	00 50 22.7	-0.2
EVR				*e*Sn	Sg	00 50 30.8	+1.2
DRO	Drossia	0.52	205	P	Pg	00 50 22.9	-0.1
DRO	Drossia	0.52	205	*e*PN	Pg	00 50 23.2	+0.2
DRO				*e*SN	Sb	00 50 31.9	-0.3
DRO	Drossia	0.52	205	P	Pg	00 50 22.9	-0.1
DRO	Drossia	0.52	205	*e*Pn	Pg	00 50 23.2	+0.2
DRO				*e*Sn	Sb	00 50 31.9	-0.3
RLS	Riolos of Patr	0.55	228	*e*PN	Pb	00 50 24.9	0.0
RLS	Riolos of Patr	0.55	228	*e*Pn

SMIA	**Simia**	**1.06**	**64**	*e*PN	**Pg**	00 50 33.3	0.0
SMIA	**Simia**	**1.06**	**64**	*e*Pn	**Pg**	00 50 33.3	0.0
LKD2	**Lefkada island**	**1.10**	**290**	*e*PN	**Pg**	00 50 33.9	-0.3
LKD2	**Lefkada island**	**1.10**	**290**	*e*Pn	**Pg**	00 50 33.9	-0.3
VLS	**Valsamata**	**1.13**	**258**	*e*PN	**Pn**	00 50 35.3	+0.1
VLS	**Valsamata**	**1.13**	**258**	*e*Pn	**Pn**	00 50 35.3	+0.1
THL	**Klokotos Trika**	**1.14**	**1**	*e*PN	**Pg**	00 50 34.8	-0.1
THL	**Klokotos Trika**	**1.14**	**1**	*e*Pn	**Pg**	00 50 34.8	-0.1
ITM	**Ithomi**	**1.24**	**182**	*e*PN	**Pg**	00 50 37.1	+0.3
ITM				*e*SN	**Sn**	00 50 54.7	+0.9
ITM	**Ithomi**	**1.24**	**182**	*e*Pn	**Pg**	00 50 37.1	+0.3
ITM				*e*Sn	**Sn**	00 50 54.7	+0.9
MRKA	**Markates**	**1.29**	**77**	*e*PN	**Pn**	00 50 37.2	-0.2
MRKA				*e*SN	**Sn**	00 50 54.8	-0.1
MRKA	**Markates**	**1.29**	**77**	*e*Pn	**Pn**	00 50 37.2	-0.2
MRKA				*e*Sn	**Sn**	00 50 54.8	-0.1
NEO	**Neokhori**	**1.31**	**47**	P	**Pn**	00 50 37.8	+0.1
NEO				S	**Sb**	00 50 54.6	-0.4
NEO	**Neokhori**	**1.31**	**47**	*e*PN	**Pn**	00 50 37.5	-0.2
NEO				*e*SN	**Sb**	00 50 54.5	-0.4
NEO	**Neokhori**	**1.31**	**47**	*e*Pn	**Pn**	00 50 37.5	-0.2
NEO	**Neokhori**	**1.31**	**47**	P	**Pn**	00 50 37.8	+0.1
NEO				S	**Sb**	00 50 54.6	-0.4
DID	**Didima**	**1.35**	**132**	*e*PN	**Pb**	00 50 38.6	0.0
DID	**Didima**	**1.35**	**132**	*e*Pn	**Pb**	00 50 38.6	0.0
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*PN	**Pb**	00 50 38.8	0.0
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*Pn	**Pb**	00 50 38.8	0.0
SKIA	**Skiathos**	**1.37**	**57**	*e*PN	**Pb**	00 50 38.9	-0.1
SKIA	**Skiathos**	**1.37**	**57**	*e*Pn	**Pb**	00 50 38.9	-0.1
ATH	**Athens Observa**	**1.44**	**108**	*e*PN	**Pn**	00 50 39.4	0.0
ATH	**Athens Observa**	**1.44**	**108**	*e*Pn	**Pn**	00 50 39.4	0.0
JAN	**Janina**	**1.52**	**325**	*e*PN	**Pg**	00 50 42.3	+0.2
JAN	**Janina**	**1.52**	**325**	*e*Pn	**Pg**	00 50 42.3	+0.2
PTL	**Penteli**	**1.53**	**104**	*e*PN	**Pn**	00 50 40.9	+0.2
PTL	**Penteli**	**1.53**	**104**	*e*Pn	**Pn**	00 50 40.9	+0.2
PYL	**PYLOS**	**1.54**	**187**	*e*PN	**Pb**	00 50 41.8	0.0
PYL	**PYLOS**	**1.54**	**187**	*e*Pn	**Pb**	00 50 41.8	0.0
IGT	**Igoumenitsa**	**1.70**	**311**	*e*PN	**Pb**	00 50 44.5	-0.1
IGT	**Igoumenitsa**	**1.70**	**311**	*e*Pn	**Pb**	00 50 44.5	-0.1
LIT	**Litokhoron**	**1.72**	**13**	*e*PN	**Pb**	00 50 45.2	+0.2
LIT	**Litokhoron**	**1.72**	**13**	*e*Pn	**Pb**	00 50 45.2	+0.2
VLI	**Veliai**	**1.86**	**156**	*e*PB	**Pn**	00 50 45.7	+0.4
VLI	**Veliai**	**1.86**	**156**	*e*Pb	**Pn**	00 50 45.7	+0.4
KZN	**Kozani**	**1.89**	**355**	*e*PB	**Pn**	00 50 46.1	+0.3
KZN	**Kozani**	**1.89**	**355**	*e*Pb	**Pn**	00 50 46.1	+0.3
NEST	**Nestorio**	**2.12**	**340**	*e*PN	**Pn**	00 50 50.3	+1.4
NEST	**Nestorio**	**2.12**	**340**	*e*Pn	**Pn**	00 50 50.3	+1.4
KEK	**Kerkira**	**2.13**	**308**	*e*PN	**Pb**	00 50 51.0	-1.0
KEK	**Kerkira**	**2.13**	**308**	*e*Pn	**Pb**	00 50 51.0	-1.0
PLG	**Polygyros**	**2.25**	**30**	*e*PB	**Pn**	00 50 51.1	+0.4
PLG	**Polygyros**	**2.25**	**30**	*e*Pb	**Pn**	00 50 51.1	+0.4
KYTH	**Kithira**	**2.30**	**158**	*e*PN	**Pb**	00 50 53.8	-1.0
KYTH	**Kithira**	**2.30**	**158**	*e*Pn	**Pb**	00 50 53.8	-1.0
THE	**Thessaloniki**	**2.33**	**19**	*e*PB	**Pn**	00 50 52.4	+0.6
THE	**Thessaloniki**	**2.33**	**19**	*e*Pb	**Pn**	00 50 52.4	+0.6
HORT	**Hortiatis**	**2.34**	**21**	*e*PB	**Pn**	00 50 52.6	+0.7
HORT	**Hortiatis**	**2.34**	**21**	*e*Pb	**Pn**	00 50 52.6	+0.7
FNA	**Florina**	**2.40**	**349**	*e*PN	**Pn**	00 50 54.3	+1.5
FNA	**Florina**	**2.40**	**349**	*e*Pn	**Pn**	00 50 54.3	+1.5
OUR	**Ouranopolis**	**2.46**	**38**	*e*PN	**Pn**	00 50 54.9	+1.4
OUR	**Ouranopolis**	**2.46**	**38**	*e*Pn	**Pn**	00 50 54.9	+1.4
GRG	**Griva**	**2.55**	**7**	*e*PB	**Pn**	00 50 56.3	+1.5
GRG	**Griva**	**2.55**	**7**	*e*Pb	**Pn**	00 50 56.3	+1.5
SOH	**Sokhos**	**2.62**	**23**	*e*PN	**Pn**	00 50 56.2	+0.4
SOH	**Sokhos**	**2.62**	**23**	*e*Pn	**Pn**	00 50 56.2	+0.4
ANKY	**Antikythira Is**	**2.76**	**157**	*e*PN	**Pn**	00 50 59.0	+1.3
ANKY	**Antikythira Is**	**2.76**	**157**	*e*Pn	**Pn**	00 50 59.0	+1.3
KNT	**Kendrikon**	**2.82**	**14**	*e*PN	**Pn**	00 51 00.2	+1.6
KNT	**Kendrikon**	**2.82**	**14**	*e*Pn	**Pn**	00 51 00.2	+1.6
LIA	**Limnos Island**	**2.89**	**58**	*e*PN	**Pn**	00 50 59.8	+0.4
LIA	**Limnos Island**	**2.89**	**58**	*e*Pn	**Pn**	00 50 59.8	+0.4
SRS	**Serrai**	**2.96**	**24**	*e*PN	**Pn**	00 51 01.5	+1.0
SRS	**Serrai**	**2.96**	**24**	*e*Pn	**Pn**	00 51 01.5	+1.0
APE	**Apeiranthos**	**3.12**	**115**	*e*PN	**Pn**	00 51 03.7	+1.1
APE	**Apeiranthos**	**3.12**	**115**	*e*Pn	**Pn**	00 51 03.7	+1.1
SIGR	**SIGRI**	**3.12**	**74**	*e*PN	**Pn**	00 51 02.9	+0.3
SIGR	**SIGRI**	**3.12**	**74**	*e*Pn	**Pn**	00 51 02.9	+0.3
CHOS	**Chios island**	**3.20**	**89**	*e*PN	**Pn**	00 51 04.5	+0.8
CHOS	**Chios island**	**3.20**	**89**	*e*Pn	**Pn**	00 51 04.5	+0.8
KAVA	**Kavala**	**3.23**	**36**	*e*PN	**Pn**	00 51 05.3	+1.2
KAVA	**Kavala**	**3.23**	**36**	*e*Pn	**Pn**	00 51 05.3	+1.2
NVR	**Nevrokopi**	**3.26**	**26**	*e*PN	**Pn**	00 51 05.7	+1.1
NVR	**Nevrokopi**	**3.26**	**26**	*e*Pn	**Pn**	00 51 05.7	+1.1
PRK	**Paraskevi**	**3.45**	**75**	*e*PN	**Pn**	00 51 08.4	+1.3
PRK	**Paraskevi**	**3.45**	**75**	*e*Pn	**Pn**	00 51 08.4	+1.3
VAM	**Vamos**	**3.49**	**149**	*e*PN	**Pn**	00 51 09.4	+1.6
VAM	**Vamos**	**3.49**	**149**	*e*Pn	**Pn**	00 51 09.4	+1.6
SMG	**Samos**	**3.89**	**99**	*e*PN	**Pn**	00 51 14.5	+1.2
SMG	**Samos**	**3.89**	**99**	*e*Pn	**Pn**	00 51 14.5	+1.2
IDI	**Anoyia**	**3.90**	**142**	PN	**Pn**	00 51 13.5	+0.1
	0.7nm,0.3s,baz=309,slow=14,SNR=6.3						
MLR	**Muntele Rosu**	**7.65**	**21**	Pn	**Pn**	00 52 07.1	+2.2
	0.2nm,0.3s,baz=225,slow=11,SNR=3.3						
BRTR	**Keskin Array B**	**9.16**	**78**	Pn	**Pn**	00 52 27.8	+2.1
	0.9nm,0.3s,baz=259,slow=12,SNR=11						
ESDC	**Sonseca Array**	**20.18**	**282**	P	**P**	00 54 48.6	+0.6
	3.7nm,0.9s,baz=81,slow=11,SNR=7.6						
HFS	**Hagfors**	**22.36**	**349**	P	**P**	00 55 11.3	-0.1
	8.5nm,0.9s,baz=171,slow=10,SNR=4.6						
FINES	**FINESS Array B**	**23.19**	**5**	P	**P**	00 55 18.2	-1.9
	3.6nm,0.7s,baz=188,slow=8.4,SNR=3.9						
NOA	**NORSAR Array B**	**23.62**	**347**	P	**P**	00 55 24.2	-0.3
	2.5nm,0.6s,baz=155,slow=9.3,SNR=4.2						
EKA	**Eskdalemuir Ar**	**23.91**	**323**	P	**P**	00 55 26.8	-0.4
	5.9nm,0.7s,baz=125,slow=9.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	00 56 30.6	-0.3
	2.7nm,0.7s,baz=28,slow=8.9,SNR=6.1						
SPITS	**Spitsbergen Ar**	**39.93**	**358**	P	**P**	00 57 47.6	+0.3
	2.6nm,0.5s,baz=123,slow=13,SNR=5.2						
MKAR	**Makanchi Array**	**44.19**	**59**	P	**P**	00 58 22.0	-0.5
	2.3nm,0.5s,baz=277,slow=7.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	00 58 25.0	-1.2
	4.2nm,0.6s,baz=273,slow=8.3,SNR=6.9						
SCHQ	**Schefferville**	**59.06**	**318**	P	**P**	01 00 13.4	-0.1
	2.5nm,0.7s,baz=76,slow=8.3,SNR=4.1						
SONM	**Songino Array**	**59.41**	**51**	P	**P**	01 00 15.2	-1.0
	1.2nm,0.9s,baz=282,slow=7.2,SNR=2.4						
SADO	**Sadowa**	**70.95**	**312**	P	**P**	01 01 31.6	+0.5
	15nm,1.3s,baz=82,slow=7.4,SNR=2.8						
YKA	**Yellowknife Ar**	**73.55**	**341**	P	**P**	01 01 46.2	0.0
	0.9nm,0.8s,baz=37,slow=5.6,SNR=3.4						

*JSN **22** 00:50:28.5±4.0, 16°.73N×74°.27W, h0km±229km, MD4.9*
*ISCJB **22** 00:50:30.4±0.6, 16°.23N±0°.05×74°.90W±0°.05, h10km, mb4.0/3, Error ellipse: s-maj=7.3km s-min=6.2km az=18.3*
*NEIC **22** 00:50:32.2±0.5, 16°.16N×75°.09W, h10km, mb4.0/4, Error ellipse: s-maj=9.6km s-min=6.8km az=56.0*

ISC 22 00:50:31.9±0.8, 16°.17N±0°.06×74°.94W±0°.05, h10km, n24, σ1§98/30, mb4.0/3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
YHJ	**Yallahs**	**2.27**	**319**	*e*P		**Pn**	00 51 09.2	-0.4
YHJ	**Yallahs**	**2.27**	**319**	*e*P		**Pn**	00 51 09.2	-0.4
HOJ	**Hope**	**2.52**	**317**	*e*P		**Pn**	00 51 13.0	+0.1
HOJ	**Hope**	**2.52**	**317**	*e*P		**Pn**	00 51 13.0	+0.1
GWJ	**Greenwich**	**2.55**	**318**	*e*P		**Pn**	00 51 12.2	-1.3
GWJ				*i* P		**Pn**	00 51 12.3	-1.3
GWJ	**Greenwich**	**2.55**	**318**	*e*P		**Pn**	00 51 12.2	-1.3
STH	**Stony Hill**	**2.61**	**317**	*e*P		**Pn**	00 51 12.9	-1.3
STH				*i* S		**Sn**	00 51 44.2	-1.8
STH	**Stony Hill**	**2.61**	**317**	*e*P		**Pn**	00 51 12.9	-1.3
STH				*e*S		**Sn**	00 51 44.2	-1.8
PCJ	**Portland Cotta**	**2.64**	**307**	*e*P		**Pn**	00 51 14.6	0.0
PCJ				*e*P		Pb	00 51 15.4	-3.9
PCJ	**Portland Cotta**	**2.64**	**307**	*e*P		**Pn**	00 51 14.6	0.0
MTDJ	**Mount Denham**	**3.21**	**310**	*e*Pn		**Pn**	00 51 21.1	-1.5
MTDJ				*e*Pg		**Pb**	00 51 29.6	+0.4
CVJ	**Coleyville**	**3.22**	**310**	*e*P		**Pn**	00 51 21.4	-1.2
CVJ	**Coleyville**	**3.22**	**310**	*e*P		**Pn**	00 51 21.4	-1.2
MBJ	**Montego Bay**	**3.57**	**309**	*i* S		**Sn**	00 52 14.0	+4.3
GTBY	**Guantanamo Bay**	**3.75**	**358**	*e*Pn		**Pn**	00 51 29.3	-0.5
SDDR	**Presa de Saban**	**4.47**	**51**	*e*Pn		**Pn**	00 51 42.1	+2.3
SDDR				*e*Sn		**Sn**	00 52 29.7	-2.3
GRTK	**Grand Turk**	**6.43**	**34**	*e*Pn		**Pn**	00 52 07.6	+1.0
GRTK				*e*Sn		**Sn**	00 53 18.6	-1.5
CELP	**Cerrillos**	**8.22**	**75**	Pn		**Pn**	00 52 31.4	+0.1
CELP				*e*Sn		Sn	00 53 57.2	-7.1
SDV	**Santo Domingo**	**8.37**	**149**	*e*Pn		**Pn**	00 52 36.3	+2.7
SDV				*e*Sn		**Sn**	00 54 03.1	-5.2
BCIP	**Isla Barro Col**	**8.44**	**215**	*e*Pn		**Pn**	00 52 32.2	-2.1
OTAV	**Otavalo**	**16.20**	**193**	*e*P		**Pn**	00 54 18.4	-1.8
	6.4nm,0.7s							
PTGA	**Pitinga**	**22.37**	**137**	P		**P**	00 55 33.5	+3.1
	3.7nm,0.8s							
SAML	**Samuel**	**27.53**	**154**	*e*P		**P**	00 56 20.1	+1.1
	3.2nm,1.0s							
AGMN	**Agassiz Nation**	**36.36**	**336**	P		P	00 57 43.1	+7.0
	2.2nm,0.7s							

*BJI **22** 00:50:31.5, 38°.61N×21°.21E, h26km, mB5.1/21, mb4.8/26, Ms5.1/17, Ms7 4.8/18*
*NEIC **22** 00:50:32.7±1.6, 38°.45N×21°.96E, h1km±10km, mb5.0/47, Error ellipse: s-maj=6.4km s-min=4.8km az=191.0*
*MOS **22** 00:50:32.1±1.4, 38°.40N×21°.82E, h15km, mb4.9/30, Error ellipse: s-maj=7.0km s-min=4.7km az=118.7*
*IDC **22** 00:50:32.2±0.6, 38°.46N×22°.03E, h0km, mb4.7/26, mb1 4.7/32, mb1mx4.6/41, mbtmp4.6/32, ML3.9/5, Error ellipse: s-maj=14.7km s-min=11.9km az=134.0*
*CSEM **22** 00:50:33.1±0.1, 38°.44N×21°.99E, h5km, mb4.9/46, Error ellipse: s-maj=4.3km s-min=4.3km az=84.0*
*ISCJB **22** 00:50:33.6±0.1, 38°.44N±0°.02×22°.05E±0°.03, h10km, mb4.8/71, MS4.9/9, Error ellipse: s-maj=3.0km s-min=2.8km az=27.7*
*SKO **22** 00:50:36.4, 38°.40N×22°.13E, h3km, M2.7, ML3.2*

ISC 22 00:50:34.2±0.7, 38°.44N±0°.03×21°.99E±0°.02, h14km±4km, n643, σ1§57/668, mb4.9/71, MS4.8/9, 129C-141D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
KALE	**Kalithea**	**0.13**	**110**	P		**Pg**	00 50 36.1	-1.6
KALE				S		**Sg**	00 50 38.6	-1.5
LAKA	**Lakka**	**0.20**	**182**	P		**Pg**	00 50 36.9	-1.7
UPR	**University Cam**	**0.22**	**226**	P		**Pg**	00 50 37.6	-1.4
PVO	**Paravola**	**0.40**	**297**	P		**Pb**	00 50 40.9	-2.2
KLV	**Kalavryta, Ach**	**0.41**	**162**	P		**Pg**	00 50 40.9	-1.5
DSF	**Desfina**	**0.43**	**93**	P		**Pg**	00 50 41.4	-1.3
DSF				S		**Sg**	00 50 48.0	-0.4
EVR	**Evrytania**	**0.50**	**344**	P		**Pb**	00 50 42.5	-2.4
EVR				S		**Sb**	00 50 50.1	-2.0
DRO	**Drossia**	**0.53**	**204**	P		**Pg**	00 50 42.1	-2.5
DRO				S		**Sg**	00 50 50.2	-1.4
AMT	**Artemida-Makis**	**0.93**	**194**	P		**Pn**	00 50 51.9	-1.0
AMT				S		**Sb**	00 51 04.5	+0.2
MMB	**Musomiste**	**3.42**	**22**	P		**Pn**	00 51 28.0	+0.8
MMB	**Musomiste**	**3.42**	**22**	P		**Pn**	00 51 28.0	+0.8
SANT	**Santorini**	**3.45**	**126**	*e*Pn		**Pn**	00 51 25.3	-2.2
SANT	**Santorini**	**3.45**	**126**	*e*Pn		**Pn**	00 51 25.3	-2.2
IDI	**Anoyia**	**3.91**	**143**	Pn		**Pn**	00 51 34.3	+0.4
IDI				Sn		**Sn**	00 52 17.9	-1.8
IDI	**Anoyia**	**3.91**	**143**	Pn		**Pn**	00 51 34.3	+0.4
	8.3nm,0.3s,baz=335,slow=14,SNR=4.0							
IDI				Sn		**Sn**	00 52 17.9	-1.8
	15nm,0.3s,baz=90,slow=20,SNR=3.1							
IDI	**Anoyia**	**3.91**	**143**	Pn		**Pn**	00 51 34.3	+0.4
IDI				Sn		**Sn**	00 52 17.9	-1.8
GVD	**Gavdhos**	**3.97**	**154**	*e*Pb		**Pb**	00 51 43.8	-0.1
GVD	**Gavdhos**	**3.97**	**154**	*e*Pb		**Pb**	00 51 43.8	-0.1
TIP	**Timpagrande**	**4.15**	**282**	*e*Pn		Pb	00 51 41.2	-5.9
TIP	**Timpagrande**	**4.15**	**282**	*e*Pn		Pb	00 51 41.2	-5.9
VTS	**Vitosha**	**4.25**	**12**	P		**Pn**	00 51 40.0	+1.3
VTS	**Vitosha**	**4.25**	**12**	P		**Pn**	00 51 40.0	+1.3
CEL	**Celeste**	**4.79**	**270**	*e*Pn		**Pn**	00 51 46.9	+0.8
CEL				*e*Sn		**Sn**	00 52 41.0	-0.4
CEL	**Celeste**	**4.79**	**270**	*e*Pn		**Pn**	00 51 46.8	+0.8
CEL				*e*Sn		**Sn**	00 52 41.0	-0.4
CUC	**Castrocucco**	**5.04**	**290**	*e*Pn		Pn	00 51 51.8	+2.4
CUC				*e*Sn		Sb	00 52 55.9	-6.8
CUC	**Castrocucco**	**5.04**	**290**	*e*Pn		Pn	00 51 51.8	+2.4
WDD	**Wield Dalam**	**6.49**	**249**	*e*Pn		**Pn**	00 52 11.4	+2.2
WDD				*e*Sn		**Sn**	00 53 23.1	0.0
WDD	**Wield Dalam**	**6.49**	**249**	*e*Pn		**Pn**	00 52 11.4	+2.2
WDD				*e*Sn		**Sn**	00 53 23.1	0.0
ISP	**Isparta**	**6.76**	**93**	*e*P		**Pn**	00 52 15.3	+2.2
ISP	**Isparta**	**6.76**	**93**	*e*Pn		**Pn**	00 52 15.3	+2.2
ISP	**Isparta**	**6.76**	**93**	*e*P		**Pn**	00 52 15.3	+2.2
AQU	**L'Aquila**	**7.63**	**304**	*e*Pn		Pn	00 52 27.6	+2.7
AQU				*e*Sn		**Sn**	00 53 56.6	+5.4
MLR	**Muntele Rosu**	**7.64**	**21**	Pn		**Pn**	00 52 26.2	+1.0
MLR	**Muntele Rosu**	**7.64**	**21**	Pn		**Pn**	00 52 26.2	+1.0
	0.4nm,0.3s,baz=276,slow=9.2,SNR=3.8							
MLR	**Muntele Rosu**	**7.64**	**21**	P		**Pn**	00 52 26.2	+1.0
TIRR	**Tirgusor**	**7.71**	**37**	*e*P		**Pn**	00 52 27.2	+1.2
TIRR	**Tirgusor**	**7.71**	**37**	*e*Pn		**Pn**	00 52 27.2	+1.2
TIRR	**Tirgusor**	**7.71**	**37**	*e*P		**Pn**	00 52 27.2	+1.2
BRTR	**Keskin Array B**	**9.15**	**78**	Pn		**Pn**	00 52 47.9	+1.8
BRTR	**Keskin Array B**	**9.15**	**78**	Pn		**Pn**	00 52 47.9	+1.8
	2.2nm,0.3s,baz=260,slow=14,SNR=8.1							
BRTR	**Keskin Array B**	**9.15**	**78**	Pn		**Pn**	00 52 47.8	+1.8
BUR04	**Bucovina Ar. S**	**9.48**	**13**	*e*Pn		**Pn**	00 52 52.5	+2.2
BUR04	**Bucovina Ar. S**	**9.48**	**13**	*e*Pn		**Pn**	00 52 52.5	+2.2
TRI	**Trieste**	**9.49**	**323**	*e*P		**Pn**	00 52 52.5	+2.1
TRI	**Trieste**	**9.49**	**323**	*e*Pn		**Pn**	00 52 52.5	+2.1
TRI	**Trieste**	**9.49**	**323**	*e*P		**Pn**	00 52 52.5	+2.1
PSZ	**Piszkesteto**	**9.60**	**352**	*e*P		**Pn**	00 52 52.4	+0.4
PSZ				*e*			00 54 39.3	
PSZ	**Piszkesteto**	**9.60**	**352**	*e*Pn		**Pn**	00 52 52.4	+0.4
PSZ				*e*Sn		**Sn**	00 54 39.3	-0.4
PSZ	**Piszkesteto**	**9.60**	**352**	*e*P		**Pn**	00 52 52.4	+0.4
PSZ				*e*S		**Sn**	00 54 39.3	-0.4
UZH	**Uzhgorod**	**10.19**	**1**	*e*P		**Pn**	00 53 02.0	+2.0
UZH	**Uzhgorod**	**10.19**	**1**	*e*P		**Pn**	00 53 02.0	+2.0
KEST	**Kesra**	**10.45**	**259**	*e*Pn		**Pn**	00 53 05.2	+1.5
KEST	**Kesra**	**10.45**	**259**	*e*Pn		**Pn**	00 53 05.2	+1.5
PGF	**Pioggiola**	**10.71**	**297**	*e*P		**Pn**	00 53 05.7	-1.5
	38nm,0.8s							
PGF	**Pioggiola**	**10.71**	**297**	*e*P		**Pn**	00 53 05.7	-1.5
PGF					pmax	pmax		
	comp=Z,38nm,0.8s							
PGF	**Pioggiola**	**10.71**	**297**	*e*P		**Pn**	00 53 05.7	-1.5
	comp=Z,38nm,0.8s							
PGF	**Pioggiola**	**10.71**	**297**	*e*P		**Pn**	00 53 05.7	-1.5
	comp=Z,19nm,0.8s							
SBF	**Sospel**	**12.23**	**301**	*e*P		**Pn**	00 53 28.1	+0.1
	comp=Z,140nm,1.0s							
SBF	**Sospel**	**12.23**	**301**	*e*P		**Pn**	00 53 28.1	+0.1
SBF					pmax	pmax		
	comp=Z,140nm,1.0s							
SBF	**Sospel**	**12.23**	**301**	*e*P		**Pn**	00 53 28.1	+0.1
	comp=Z,140nm,1.0s							
SBF	**Sospel**	**12.23**	**301**	*e*P		**Pn**	00 53 28.1	+0.1
	comp=Z,70nm,1.0s							
AKASG	**Malin Array Be**	**13.29**	**20**	P		**Pn**	00 53 41.3	-1.1
AKASG	**Malin Array Be**	**13.29**	**20**	Pn		**Pn**	00 53 41.3	-1.1
AKASG	**Malin Array Be**	**13.29**	**20**	Pn		**Pn**	00 53 41.3	-1.1
	comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=3.2							
AKASG	**Malin Array Be**	**13.29**	**20**	P		**Pn**	00 53 41.3	-1.1
LPG	**La Plagne**	**13.34**	**307**	*e*P		**Pn**	00 53 41.9	-1.5
	comp=Z,107nm,1.1s							
LPG	**La Plagne**	**13.34**	**307**	*e*P		**Pn**	00 53 41.9	-1.5
LPG					pmax	pmax		
	comp=Z,107nm,1.1s							
LPG	**La Plagne**	**13.34**	**307**	*e*P		**Pn**	00 53 41.9	-1.5
	comp=Z,107nm,1.1s							
LPG	**La Plagne**	**13.34**	**307**	*e*P		**Pn**	00 53 41.9	-1.5
	comp=Z,54nm,1.1s							
LPL	**La Plagne**	**13.36**	**307**	*e*P		**Pn**	00 53 42.0	-1.6
	comp=Z,130nm,1.2s							
LPL	**La Plagne**	**13.36**	**307**	*e*P		**Pn**	00 53 42.0	-1.6
LPL					pmax	pmax		
	comp=Z,130nm,1.2s							
LPL	**La Plagne**	**13.36**	**307**	*e*P		**Pn**	00 53 42.0	-1.6
	comp=Z,130nm,1.2s							
LPL	**La Plagne**	**13.36**	**307**	*e*P		**Pn**	00 53 42.0	-1.6
	comp=Z,65nm,1.2s							
SMRF	**Simiane la Rot**	**13.53**	**299**	*e*P		**Pn**	00 53 45.2	-0.5
	comp=Z,91nm,1.3s							
SMRF	**Simiane la Rot**	**13.53**	**299**	*e*P		**Pn**	00 53 45.2	-0.5
	comp=Z,91nm,1.3s							
SMRF	**Simiane la Rot**	**13.53**	**299**	*e*P		**Pn**	00 53 45.2	-0.5
	comp=Z,46nm,1.3s							
SOC	**Sochi**	**14.34**	**63**	*e*P		**Pn**	00 53 56.8	+0.1
CLL	**Collm**	**14.34**	**337**	*e*P		**Pn**	00 53 57.0	+0.3
CLL	**Collm**	**14.34**	**337**	*e*(P)		**Pn**	00 53 57.0	+0.3
CLL				*e*(PPP)			00 54 12.0	
VIVF	**Saint-Julien-l**	**14.44**	**302**	*e*P		**Pn**	00 53 56.6	-1.5
	comp=Z,36nm,1.1s							
VIVF	**Saint-Julien-l**	**14.44**	**302**	*e*P		**Pn**	00 53 56.6	-1.5
VIVF					pmax	pmax		
	comp=Z,36nm,1.1s							
VIVF	**Saint-Julien-l**	**14.44**	**302**	*e*P		**Pn**	00 53 56.6	-1.5
	comp=Z,36nm,1.1s							
CDF	**Champ du Feu**	**14.59**	**318**	*e*P		**Pn**	00 53 58.3	-2.0
	comp=Z,72nm,1.1s							
CDF	**Champ du Feu**	**14.59**	**318**	*e*P		**Pn**	00 53 58.3	-2.0
CDF					pmax	pmax		
	comp=Z,72nm,1.1s							
CDF	**Champ du Feu**	**14.59**	**318**	*e*P		**Pn**	00 53 58.3	-2.0
	comp=Z,72nm,1.1s							
LASF	**Ste Croix**	**14.74**	**298**	*e*P		**Pn**	00 54 00.2	-2.1
	comp=Z,83nm,1.3s							
LASF	**Ste Croix**	**14.74**	**298**	*e*P		**Pn**	00 54 00.2	-2.1
	comp=Z,83nm,1.3s							
SUW	**Suwalki**	**15.60**	**3**	*e*P		**P**	00 54 16.0	-1.8
SUW					pmax	pmax		
	comp=Z,134nm,0.9s							
SUW	**Suwalki**	**15.60**	**3**	*e*Pn		**P**	00 54 16.0	-1.8
	comp=Z,134nm,0.9s							
SUW	**Suwalki**	**15.60**	**3**	*e*P		**P**	00 54 16.0	-1.8
	comp=Z,134nm,0.9s							
MTLF	**Montolieu**	**15.72**	**294**	*e*P		**Pn**	00 54 12.5	-2.7
	comp=Z,55nm,1.2s							
MTLF	**Montolieu**	**15.72**	**294**	*e*P		**Pn**	00 54 12.5	-2.7
MTLF					pmax	pmax		
	comp=Z,55nm,1.2s							
**MTL

MOS Moscow 20.24 26 *e*P **P 00 55 07.0 -1.8**
comp=Z,300nm,2.0s
VSU Vasula 20.28 7 ⇓*i*P Pn 00 55 10.2 -0.9
VSU pmax pmax
comp=Z,285nm,1.1s
VSU Vasula 20.28 7 *i* P Pn 00 55 10.2 -0.9
comp=Z,285nm,1.1s
SGMF Saint Gilles 20.29 307 *e*P Pn 00 55 09.8 -1.6
comp=Z,105nm,1.2s
SGMF Saint Gilles 20.29 307 *e*P Pn 00 55 09.8 -1.6
SGMF pmax pmax
comp=Z,105nm,1.2s
SGMF Saint Gilles 20.29 307 *e*P Pn 00 55 09.8 -1.6
comp=Z,105nm,1.2s
SGMF Saint Gilles 20.29 307 *e*P Pn 00 55 09.8 -1.6
comp=Z,53nm,1.2s
PAB San Pablo 20.48 281 *e*P **P 00 55 11.7 +0.1**
PAB pmax pmax
comp=Z,11nm,1.3s
PAB San Pablo 20.48 281 *e*P **P 00 55 11.7 +0.1**
comp=Z,11nm,1.3s
PAB San Pablo 20.48 281 *e*P **P 00 55 11.7 +0.1**
comp=Z,11nm,1.3s
QUIF Quistinic 20.57 306 *e*P **P 00 55 12.7 +0.3**
comp=Z,44nm,0.8s
QUIF Quistinic 20.57 306 *e*P **P 00 55 12.7 +0.3**
QUIF pmax pmax
comp=Z,44nm,0.8s
QUIF Quistinic 20.57 306 *e*P **P 00 55 12.7 +0.3**
comp=Z,44nm,0.8s
QUIF Quistinic 20.57 306 *e*P **P 00 55 12.7 +0.3**
comp=Z,22nm,0.8s
ROSF Rostrenen 20.77 307 *e*P **P 00 55 11.8 -2.8**
comp=Z,177nm,1.2s
ROSF Rostrenen 20.77 307 *e*P **P 00 55 11.8 -2.8**
ROSF pmax pmax
comp=Z,177nm,1.2s
ROSF Rostrenen 20.77 307 *e*P **P 00 55 11.8 -2.8**
comp=Z,177nm,1.2s
MDT Midelt 22.30 264 P **P 00 55 32.1 +0.7**
MDT Midelt 22.30 264 P **P 00 55 32.1 +0.7**
comp=Z,9.6nm,0.8s,baz=80,slow=9.5,SNR=5.6
MDT Midelt 22.30 264 P **P 00 55 32.1 +0.7**
HFS Hagfors 22.35 349 P **P 00 55 32.4 +0.9**
HFS Hagfors 22.35 349 P **P 00 55 32.4 +0.9**
comp=Z,6.2nm,0.5s,baz=163,slow=12,SNR=4.8
HFS Hagfors 22.35 349 P **P 00 55 32.4 +0.9**
comp=Z,5.0nm,0.5s
KONO Kongsberg 22.66 344 *e*P **P 00 55 34.9 +0.2**
KONO pmax pmax
comp=Z,19nm,1.4s
KONO Kongsberg 22.66 344 *e*P **P 00 55 34.9 +0.2**
comp=Z,20nm,1.4s
KONO Kongsberg 22.66 344 *e*P **P 00 55 34.9 +0.2**
comp=Z,20nm,1.4s
MTE Manteigas 22.85 284 *e*P **P 00 55 39.2 +2.1**
comp=Z,141nm,2.0s
MTE Manteigas 22.85 284 *e*P **P 00 55 39.2 +2.1**
comp=Z,141nm,2.0s
FINES FINESS Array B 23.17 5 P **P 00 55 38.6 -1.5**
FINES FINESS Array B 23.17 5 P **P 00 55 38.6 -1.5**
comp=Z,12nm,0.9s,baz=181,slow=9.3,SNR=5.2
FINES FINESS Array B 23.17 5 P **P 00 55 38.6 -1.5**
comp=Z,12nm,0.9s
EVO Evora 23.44 280 *e*P **P 00 55 40.5 -2.5**
comp=Z,20nm,1.0s
EVOP Sao Brissos 23.52 280 *e*P **P 00 55 40.5 -3.3**
EVOP pmax pmax
comp=Z,20nm,1.0s
EVOP Sao Brissos 23.52 280 *e*P **P 00 55 40.5 -3.3**
comp=Z,20nm,1.0s
NB2 NORSAR Subarra 23.61 347 P **P 00 55 42.8 -1.7**
comp=Z,18nm,0.9s,baz=154,slow=10
NB2 NORSAR Subarra 23.61 347 P **P 00 55 42.8 -1.7**
comp=Z,18nm,0.9s,SNR=5.9
NOA NORSAR Array B 23.61 347 P **P 00 55 44.1 -0.4**
NOA NORSAR Array B 23.61 347 P **P 00 55 44.1 -0.4**
comp=Z,35nm,1.2s,baz=154,slow=9.3,SNR=5.3
NOA NORSAR Array B 23.61 347 P **P 00 55 44.1 -0.4**
comp=Z,35nm,1.2s
NBO02 NORSAR Array S 23.68 346 *e*P **P 00 55 43.8 -1.4**
NBO02 NORSAR Array S 23.68 346 *e*P **P 00 55 43.8 -1.4**
KAF Kangasniemi 23.85 5 *e*P **P 00 55 44.6 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 23.85 5 *e*p **P 00 55 44.6 -2.2**
comp=Z,4.8nm,0.6s
EKA Eskdalemuir Ar 23.90 323 P **P 00 55 46.2 -1.1**
EKA Eskdalemuir Ar 23.90 323 P **P 00 55 46.2 -1.1**
comp=Z,25nm,0.8s,baz=122,slow=10,SNR=8.8
EKA Eskdalemuir Ar 23.90 323 P **P 00 55 46.2 -1.1**
comp=Z,25nm,0.8s
ESK Eskdalemuir 23.91 323 *i* P **P 00 55 48.5 +1.1**
ESK Eskdalemuir 23.91 323 *e*P **P 00 55 47.4 0.0**
comp=Z,65nm,1.0s
ESK Eskdalemuir 23.91 323 *i* P **P 00 55 48.5 +1.1**
JOF Joensuu 25.16 10 *e*P **P 00 55 55.1 -3.6**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 25.16 10 *e*p **P 00 55 55.1 -3.6**
comp=Z,3.7nm,0.6s
TOA0 Torodi Ar. Sit 30.97 221 *e*P **P 00 56 50.9 -0.2**
TOA0 Torodi Ar. Sit 30.97 221 *e*P **P 00 56 50.9 -0.2**
TORD Torodi Ar. Bea 30.97 221 P **P 00 56 50.7 -0.4**
TORD Torodi Ar. Bea 30.97 221 P **P 00 56 50.7 -0.4**
comp=Z,8.4nm,0.8s,baz=33,slow=8.8,SNR=8.3
TORD Torodi Ar. Bea 30.97 221 P **P 00 56 50.7 -0.4**
ARCES ARCESS Array B 31.22 2 P **P 00 56 51.2 -1.6**
ARCES ARCESS Array B 31.22 2 P **P 00 56 51.2 -1.6**
comp=Z,5.9nm,0.9s,baz=191,slow=9.2,SNR=3.3
ARCES ARCESS Array B 31.22 2 P **P 00 56 51.2 -1.6**
comp=Z,6.0nm,0.9s
BRVK Borovoye 36.01 50 *e*P **P 00 57 37.4 +2.8**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 36.01 50 *e*P **P 00 57 37.4 +2.8**
comp=Z,11nm,1.2s
KKAR Karatay Array 36.64 67 *e*P **P 00 57 41.0 +0.8**
KKAR Karatay Array 36.64 67 *e*P **P 00 57 41.0 +0.8**
KKAR Karatay Array 36.64 67 *e*P **P 00 57 41.0 +0.8**
DBIC Dimbokro 39.87 224 *e*P **P 00 58 07.7 +0.1**
comp=Z,11nm,0.9s
DBIC Dimbokro 39.87 224 P **P 00 58 07.7 +0.1**
comp=Z,12nm,1.0s,baz=4.1,slow=9.2,SNR=4.0
DBIC Dimbokro 39.87 224 *e*P **P 00 58 07.7 +0.1**
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 39.92 358 P **P 00 58 06.3 -1.0**
SPITS Spitsbergen Ar 39.92 358 P **P 00 58 06.3 -1.0**
comp=Z,6.7nm,0.8s,baz=172,slow=13,SNR=4.1
SPITS Spitsbergen Ar 39.92 358 P **P 00 58 06.4 -1.0**
comp=Z,7.0nm,0.8s
LIC Lamto 40.34 224 *e*P **P 00 58 11.4 -0.1**
comp=Z,35nm,0.9s
LIC Lamto 40.34 224 *e*P **P 00 58 11.4 -0.1**
comp=Z,35nm,0.9s
LIC Lamto 40.34 224 *e*P **P 00 58 11.4 -0.1**
comp=Z,18nm,0.9s
KURBB Kurchatov Arra 41.15 54 P **P 00 58 17.0 -0.8**
comp=Z,12nm,1.2s,baz=275,slow=8.6,SNR=4.0
KURK Kurchatov 41.20 54 P **P 00 58 17.0 -1.2**
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 41.20 54 P **P 00 58 17.0 -1.2**
KURK Kurchatov 41.20 54 P **P 00 58 17.0 -1.2**
comp=Z,12nm,1.2s
KSH Kashi 41.45 71 *e*P **P 00 58 23.6 +3.0**
KSH *e*PP **PnPn 01 00 01.0 0.0**
KSH *e*PcS **PcS 01 04 12.3 +2.6**
KSH *e*S **S 01 04 35.8 +0.3**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,130nm,4.4s
KSH LR LR
comp=Z,360nm,13.1s
KSH LR LR
comp=Z,630nm,13.8s
KSH LR LR
comp=Z,450nm,9.0s
MKAR Makanchi Array 44.18 59 P **P 00 58 42.0 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.4s
MKAR Makanchi Array 44.18 59 P **P 00 58 42.0 -0.6**
MKAR Makanchi Array 44.18 59 P **P 00 58 42.0 -0.6**
comp=Z,8.6nm,0.4s,baz=275,slow=7.3,SNR=12
MKAR Makanchi Array 44.18 59 P **P 00 58 42.0 -0.6**
comp=Z,9.0nm,0.4s
ZALV Zalesovo Beam 44.66 48 P **P 00 58 45.4 -0.8**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 44.66 48 P **P 00 58 45.4 -0.8**
ZALV Zalesovo Beam 44.66 48 P **P 00 58 45.4 -0.8**
comp=Z,7.5nm,0.7s,baz=277,slow=8.6,SNR=5.5
ZALV Zalesovo Beam 44.66 48 P **P 00 58 45.4 -0.8**
comp=Z,7.0nm,0.7s
WMQ Urumqi 48.62 62 P P 00 59 20.8 +3.2
WMQ pP pP 00 59 28.3 +6.5
WMQ sP sP 00 59 31.5 +8.0
WMQ PcP **PcP 01 00 47.3 +4.4**
WMQ PP PP 01 01 16.6 +6.3
WMQ ScP **ScP 01 04 38.9 +1.5**
WMQ S **S 01 06 20.5 +1.4**
WMQ ScS **ScS 01 09 09.0 -0.8**
WMQ SS **SS 01 09 43.5 -5.4**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,35nm,4.8s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,930nm,11.4s
WMQ LR LR
comp=Z,990nm,26.0s
DRLN Deer Lake 55.84 309 *e*P **P 01 00 11.2 +0.2**
comp=Z,885nm,2.6s
DRLN Deer Lake 55.84 309 *e*P **P 01 00 11.2 +0.2**
comp=Z,885nm,2.6s
GTA Gaotai 58.69 62 ⇑P **P 01 00 31.3 -0.1**
GTA pP pP 01 00 38.9 +3.1
GTA sP sP 01 00 42.3 +4.9
GTA PP **PP 01 02 41.8 +0.8**
GTA ScP **ScP 01 05 18.4 -3.0**
GTA PcS **PcS 01 05 21.4 -1.7**
GTA S **S 01 08 32.8 -3.0**
GTA SS **SS 01 12 26.9 -1.4**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,430nm,17.6s
GTA LR LR
comp=Z,480nm,16.6s
GTA LR LR
comp=Z,510nm,18.1s
SCHQ Schefferville 59.05 318 P **P 01 00 33.4 -0.2**
SCHQ Schefferville 59.05 318 P **P 01 00 33.4 -0.2**
comp=Z,4.5nm,0.6s,baz=49,slow=8.0,SNR=5.4
SCHQ Schefferville 59.05 318 P **P 01 00 33.4 -0.2**
SONM Songino Array 59.40 51 P **P 01 00 35.6 -0.7**
SONM Songino Array 59.40 51 P **P 01 00 35.6 -0.7**
comp=Z,8.1nm,1.1s,baz=289,slow=8.8,SNR=6.2
SONM Songino Array 59.40 51 P **P 01 00 35.6 -0.7**
ULN Ulaanbaatar 59.79 51 *e*P **P 01 00 40.1 +1.1**
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 59.79 51 *e*P **P 01 00 40.1 +1.1**
comp=Z,7.0nm,0.9s
LZH Lanzhou 63.05 64 ⇑P **P 01 01 02.3 +1.1**
LZH pP pP 01 01 11.0 +5.4
LZH sP sP 01 01 14.5 +7.2
LZH PP **PP 01 03 22.4 +2.7**
LZH eS **S 01 09 27.3 -4.4**
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,130nm,6.0s
LZH LR LR
comp=Z,700nm,16.0s
LZH LR LR
comp=Z,630nm,15.2s
LZH LR LR
comp=Z,850nm,19.3s
LBTB Lobatse 63.21 176 *e*P **P 01 01 01.2 -0.9**
comp=Z,115nm,2.5s
LBTB Lobatse 63.21 176 *e*P **P 01 01 01.2 -0.9**
comp=Z,115nm,2.5s
CD2 Chengdu 65.60 69 *e*P **P 01 01 19.1 +1.2**
CD2 pmax pmax
comp=Z,20nm,1.3s
HHC Hu-ho-hao-te 65.94 56 *e*P **P 01 01 20.4 +0.4**
HHC pP pP 01 01 31.4 +7.0
HHC PP **PP 01 03 48.0 +3.3**
HHC S **S 01 10 07.0 0.0**
HHC sS sS 01 10 19.3 +5.0
HHC SS **SS 01 14 21.6 +0.1**
HHC pmax pmax
comp=Z,55nm,1.2s
HHC pmax pmax
comp=Z,270nm,4.8s
HHC LR LR
comp=Z,1μm,15.5s
HHC LR LR
comp=Z,910nm,14.5s
HHC LR LR
comp=Z,1μm,13.9s
HIA Hailar 66.53 45 *e*P **P 01 01 23.8 +0.3**
comp=Z,13nm,1.0s
BOSA Boshof 66.77 177 P **P 01 01 25.7 +0.5**
BOSA Boshof 66.77 177 P **P 01 01 25.7 +0.5**
comp=Z,3.8nm,0.8s,baz=4.9,slow=7.3,SNR=4.3
BOSA Boshof 66.77 177 P **P 01 01 25.7 +0.5**
comp=Z,4.0nm,0.8s
XAN Xi'an 67.68 64 P **P 01 01 31.3 +0.2**
XAN pmax pmax
comp=Z,2.0nm,1.1s
KMI Kunming 67.93 75 P **P 01 01 34.5 +1.5**
KMI pP pP 01 01 43.3 +5.9
KMI sP sP 01 01 46.8 +7.7
KMI PP **PP 01 04 05.9 +3.3**
KMI S **S 01 10 28.6 -3.1**
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,130nm,3.8s
KMI LR LR
comp=Z,270nm,18.6s
KMI LR LR
comp=Z,300nm,17.2s
KMI LR LR
comp=Z,370nm,20.0s
BJI Beijing 69.35 55 P **P 01 01 42.4 +1.1**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI LR LR
comp=Z,790nm,18.8s
GYA Guiyang 70.14 72 P **P 01 01 47.4 +0.8**
GYA PP **PP 01 04 23.8 +2.2**
GYA S **S 01 10 55.0 -2.7**
GYA SKS **SKSac 01 11 44.3 -3.7**
GYA SS **SS 01 15 27.3 +0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.3s
GYA LR LR
comp=Z,440nm,19.6s
GYA LR LR
comp=Z,380nm,20.0s
GYA LR LR
comp=Z,460nm,18.9s
SADO Sadowa 70.94 312 P **P 01 01 51.7 +0.7**
SADO Sadowa 70.94 312 P **P 01 01 51.7 +0.7**
comp=Z,13nm,1.1s,baz=82,slow=5.9,SNR=3.2
SADO Sadowa 70.94 312 P **P 01 01 51.7 +0.7**
INK Inuvik 72.00 351 P **P 01 01 58.5 +1.5**
INK Inuvik 72.00 351 P **P 01 01 58.5 +1.5**
comp=Z,2.7nm,0.8s,baz=19,slow=10,SNR=3.8
INK Inuvik 72.00 351 P **P 01 01 58.5 +1.5**
comp=Z,3.0nm,0.8s
CN2 Changchun 72.87 47 *e*P **P 01 02 02.1 -0.5**
CN2 *e*pP pP 01 02 09.9 +2.9
CN2 *e*S **S 01 11 24.0 -4.4**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
YKA Yellowknife Ar 73.54 341 P **P 01 02 06.0 -0.1**
YKA Yellowknife Ar 73.54 341 P **P 01 02 06.0 -0.1**
comp=Z,3.2nm,0.8s,baz=34,slow=5.1,SNR=7.2
YKA Yellowknife Ar 73.54 341 P **P 01 02 06.1 -0.1**
NJ2 Nanjing 75.69 60 *e*P **P 01 02 20.0 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
TNA Tin City 76.05 4 *e*P **P 01 02 21.6 +0.9**
comp=Z,22nm,1.2s
TNA Tin City 76.05 4 *e*P **P 01 02 21.6 +0.9**
comp=Z,22nm,1.2s
ULM Lac du Bonnet 76.17 324 *e*P **P 01 02 22.3 +0.6**
comp=Z,17nm,0.9s
ULM Lac du Bonnet 76.17 324 P **P 01 02 21.8 +0.1**
comp=Z,20nm,1.0s,baz=39,slow=7.2,SNR=8.1
ULM Lac du Bonnet 76.17 324 *e*P **P 01 02 22.3 +0.6**
comp=Z,17nm,0.9s
EGAK Eagle 76.27 353 *e*P **P 01 02 23.7 +1.7**
comp=Z,28nm,1.8s
EGAK Eagle 76.27 353 *e*P **P 01 02 23.7 +1.7**
comp=Z,28nm,1.8s
COLA College 76.72 356 *e*P **P 01 02 26.5 +2.0**
COLA pmax pmax
comp=Z,53nm,1.4s
COLA College 76.72 356 *e*P **P 01 02 26.5 +2.0**
comp=Z,53nm,1.4s
IL1 Eielson Array 76.76 355 *e*P **P 01 02 27.2 +2.4**
IL1 Eielson Array 76.76 355 *e*P **P 01 02 27.2 +2.4**
ILAR Eielson Array 76.76 355 P **P 01 02 25.7 +0.9**
ILAR Eielson Array 76.76 355 P **P 01 02 25.7 +0.9**
comp=Z,2.9nm,1.0s,baz=352,slow=3.0,SNR=4.5
ILAR Eielson Array 76.76 355 P **P 01 02 25.7 +0.9**
comp=Z,3.0nm,1.0s
DAWY Dawson 76.78 352 *e*P **P 01 02 26.1 +1.1**
DAWY Dawson 76.78 352 *e*P **P 01 02 26.0 +1.1**
AGMN Agassiz Nation 77.53 323 ⇑P **P 01 02 30.5 +1.1**
baz=77
MCK McKinley 77.92 356 *e*P **P 01 02 31.6 +0.3**
MCK pmax pmax
comp=Z,37nm,1.4s
MCK McKinley 77.92 356 *e*P **P 01 02 31.6 +0.3**
comp=Z,36nm,1.4s
MCK McKinley 77.92 356 *e*P **P 01 02 31.6 +0.3**
comp=Z,36nm,1.4s
KMSC Kings Mountain 78.08 305 ⇑P **P 01 02 34.4 +1.7**
baz=78
SPMN St. Paul 78.15 319 ⇑P **P 01 02 34.3 +1.3**
baz=78
A30A Hoffart Farm, 78.21 324 ⇑P **P 01 02 34.3 +1.1**
baz=78
KSAR Wonju Array Be 78.26 51 P **P 01 02 33.8 +0.2**
KSAR Wonju Array Be 78.26 51 P **P 01 02 33.8 +0.2**
SFIN Scholer Farm 78.27 312 ⇓P **P 01 02 34.7 +1.0**
baz=78
KSRS Korea Array 78.27 51 P **P 01 02 33.8 +0.1**
comp=Z,4.5nm,0.8s,baz=310,slow=4.0,SNR=5.0
KSRS Korea Array 78.27 51 P **P 01 02 33.8 +0.1**
comp=Z,5.0nm,0.8s
B30A Myrvik Farm, E 78.58 324 ⇑P **P 01 02 37.0 +1.8**
baz=78,SNR=5.1
A29A Manning Farm, 78.65 325 ⇑P **P 01 02 37.1 +1.5**
baz=78,SNR=6.5
PPLA Purkeypile 78.90 357 *e*P **P 01 02 38.1 +1.2**
comp=Z,73nm,1.6s
PPLA Purkeypile 78.90 357 *e*P **P 01 02 38.1 +1.2**
comp=Z,73nm,1.6s
B29A Wagenman Farm, 79.04 325 ⇓P **P 01 02 39.2 +1.5**
baz=79
A28A Rude Farm, Bot 79.12 325 ⇓P **P 01 02 39.6 +1.3**
baz=79
C30A Mose, Pekin 79.19 324 ⇑P **P 01 02 40.1 +1.5**
baz=79
WCI Wyandotte Cave 79.19 310 *e*P **P 01 02 39.8 +1.0**
WCI pmax pmax
comp=Z,24nm,0.9s
WCI Wyandotte Cave 79.19 310 *e*P **P 01 02 39.8 +1.0**
comp=Z,24nm,0.9s
WCI Wyandotte Cave 79.19 310 *e*P **P 01 02 39.8 +1.0**
comp=Z,24nm,0.9s
TKL Tuckaleechee C 79.31 307 *e*P **P 01 02 41.0 +1.5**
TKL Tuckaleechee C 79.31 307 P **P 01 02 40.4 +0.9**
comp=Z,14nm,1.0s,baz=90,slow=5.5,SNR=4.9
TKL Tuckaleechee C 79.31 307 P **P 01 02 40.4 +0.9**
comp=Z,14nm,1.0s
B28A Dugan Ranch, T 79.50 325 ⇓P **P 01 02 41.5 +1.2**
baz=79
D30A Buchanan 79.75 323 ⇓P **P 01 02 42.8 +1.1**
baz=79
A26A Wade Farm, Ken 79.91 326 ⇑P **P 01 02 44.3 +1.8**
baz=80
D29A Pettibone, Tap 80.18 324 ⇓P **P 01 02 45.2 +1.2**
baz=80,SNR=6.4
E30A Jud 80.27 323 ⇓P **P 01 02 45.8 +1.3**
baz=80,SNR=6.4
A25A Svangstu Ranch 80.35 327 ⇓P **P 01 02 46.5 +1.7**
baz=80
B26A Jensen Ranch, 80.39 326 ⇑P **P 01 02 46.9 +1.8**
baz=80
E29A Napoleon 80.56 323 ⇑P **P 01 02 47.3 +1.2**
baz=80,SNR=7.0
A24A Westby 80.74 327 ⇑P **P 01 02 48.6 +1.6**
baz=80
C26A Wahner Farm, P 80.74 326 ⇓P **P 01 02 48.8 +1.8**
baz=80
F30A Leola 80.81 323 ⇑P **P 01 02 48.8 +1.4**
baz=80
B25A Knox Farm, Ray 80.87 326 ⇑P **P 01 02 49.6 +1.9**
baz=81
E28A Huff 81.04 324 ⇑P **P 01 02 49.7 +1.0**
baz=81
ECSD EROS Data Cent 81.14 320 *e*P **P 01 02 50.0 +0.8**
comp=Z,21nm,1.0s
ECSD EROS Data Cent 81.14 320 ⇑P **P 01 02 50.8 +1.6**
baz=81
ECSD EROS Data Cent 81.14 320 *e*P **P 01 02 50.0 +0.8**
comp=Z,21nm,1.0s
RSO Redoubt South 81.36 357 *e*P **P 01 02 50.3 0.0**
RSO Redoubt South 81.36 357 *e*P **P 01 02 50.3 0.0**
G30A Faulkton 81.38 322 ⇓P **P 01 02 51.3 +0.8**
baz=81,SNR=5.5
A22A Carney Farms, 81.49 328 ⇓P **P 01 02 52.2 +1.2**
baz=81
D26A Manning 81.50 325 ⇓P **P 01 02 52.6 +1.5**
baz=81
B23A Brockton 81.51 327 ⇓P **P 01 02 52.7 +1.6**
baz=81
E27A Carson 81.55 324 ⇓P **P 01 02 53.0 +1.6**
baz=81
F28A McLaughlin 81.63 324 ⇓P **P 01 02 53.5 +1.6**
baz=81,SNR=5.2
G29A Hoven 81.71 323 ⇑P **P 01 02 54.5 +2.3**
baz=81
BRSD Miller 81.79 322 ⇓P **P 01 02 54.2 +1.6**
baz=82
D25A Fairfield 81.80 326 ⇓P **P 01 02 55.0 +2.3**
baz=82
TIGA Tifton 81.89 304 ⇑P **P 01 02 55.7 +2.3**
baz=82
E26A Carlson Angus 81.93 325 ⇓P **P 01 02 55.5 +2.1**
baz=82
C24A Savage 81.99 327 ⇑P **P 01 02 55.3 +1.6**
baz=82
C23A Lambert 82.11 327 ⇑P **P 01 02 56.0 +1.7**
baz=82
F27A Lemmon 82.18 324 ⇓P **P 01 02 56.3 +1.6**
baz=82
G28A Parade 82.27 323 ⇓P **P 01 02 56.7 +1.5**
baz=82
H29A Onida 82.27 322 ⇑P **P 01 02 56.9 +1.8**
baz=82
E25A Miller Ranch, 82.33 325 ⇑P **P 01 02 57.6 +2.1**
baz=82
B21A Ellsworth Farm 82.38 329 ⇓P **P 01 02 57.3 +1.6**
baz=82
A20A Cobblestone Ra 82.39 329 ⇓P **P 01 02 57.3 +1.5**
baz=82
C22A Vida 82.45 327 ⇑P **P 01 02 57.6 +1.6**
baz=82
F26A Lodgepole 82.49 325 ⇓P **P 01 02 58.1 +1.7**
baz=82
G27A Dupree 82.51 324 ⇑P **P 01 02 58.2 +1.7**
baz=82
D23A Lindsay 82.60 327 ⇓P **P 01 02 58.6 +1.7**
baz=82
H28A Mission Ridge 82.61 323 ⇑P **P 01 02 58.5 +1.5**
baz=82

I29A	Vivian Onida baz=82	82.76	322	⇑P	P	01 02 59.2 +1.5
J30A	Dallas baz=83	82.88	321	⇓P	P	01 02 59.8 +1.4
D22A	Cohagen baz=83	83.04	327	⇓P	P	01 03 01.0 +1.8
B19A	Brinkman Farms baz=83	83.14	330	⇑P	P	01 03 01.3 +1.6
H27A	Howes baz=83	83.14	323	⇑P	P	01 03 01.3 +1.6
I28A	Midland baz=83	83.19	323	⇑P	P	01 03 01.6 +1.6
J29A	Okreek baz=83	83.22	322	⇓P	P	01 03 01.8 +1.6
F24A	Ekalaka baz=83	83.30	326	⇑P	P	01 03 02.1 +1.5
C20A	Veseth Ranch, baz=83,SNR=6.0	83.35	329	⇑P	P	01 03 02.4 +1.7
L31A	Butterfield Fa baz=83	83.40	320	⇑P	P	01 03 02.8 +1.8
K30A	Basset baz=83	83.42	321	⇑P	P	01 03 02.6 +1.4
D21A	La Casta Ranch baz=83,SNR=5.1	83.45	328	⇓P	P	01 03 02.8 +1.5
H26A	Fairpoint baz=83	83.48	324	⇓P	P	01 03 02.6 +1.1
I27A	Quinn baz=83	83.56	323	⇓P	P	01 03 03.2 +1.3
BGNE	Belgrade	83.61	319	eP	P	01 03 03.3 +1.1
BGNE	Belgrade baz=83,SNR=5.7	83.61	319	⇓P	P	01 03 03.3 +1.1
BGNE	Belgrade	83.61	319	eP	P	01 03 03.3 +1.1
J28A	Allard Ranch, baz=83	83.65	322	⇑P	P	01 03 03.9 +1.4
G24A	Alzada baz=83	83.68	325	⇑P	P	01 03 04.2 +1.6
K29A	Lazy Trails An baz=83	83.70	321	⇓P	P	01 03 04.3 +1.6
C19A	Slack Wire Ran baz=83	83.76	329	⇑P	P	01 03 04.1 +1.2
EGMT	Eagleton comp=Z,46nm,1.0s	83.81	330	eP	P	01 03 05.9 +2.8
EGMT	Eagleton baz=84,SNR=7.7	83.81	330	⇓P	P	01 03 04.0 +0.8
EGMT	Eagleton comp=Z,46nm,1.0s	83.81	330	eP	P	01 03 05.9 +2.8
F23A	Volborg baz=84,SNR=7.6	83.82	326	⇑P	P	01 03 03.8 +0.5
H25A	Fruitdale baz=84,SNR=5.2	83.86	324	⇓P	P	01 03 04.6 +1.2
E21A	Keefer Ranch, baz=84,SNR=5.3	83.90	327	⇓P	P	01 03 04.5 +0.9
D20A	Manuel Ranch, baz=84,SNR=5.6	83.90	328	⇑P	P	01 03 05.2 +1.6
L30A	Spencer Herefo baz=84	84.01	320	⇓P	P	01 03 05.5 +1.2
M31A	Lambtecht Ranc baz=84,SNR=7.1	84.08	320	⇓P	P	01 03 06.0 +1.4
F22A	Rosebud baz=84	84.14	326	⇑P	P	01 03 06.6 +1.8
D19A	Cripps Ranch, baz=84	84.15	329	⇓P	P	01 03 06.6 +1.7
J27A	Elkhorn Farm, baz=84	84.15	322	⇑P	P	01 03 06.3 +1.3
N32A	Stulken Farm, baz=84	84.15	319	⇓P	P	01 03 06.7 +1.8
H24A	Dirks Ranch, A baz=84	84.19	325	⇑P	P	01 03 06.8 +1.6
G23A	Biddle baz=84,SNR=8.5	84.22	326	⇓P	P	01 03 06.3 +1.0
K28A	Ten Mile Ranch baz=84	84.25	322	⇓P	P	01 03 06.8 +1.3
L29A	Maesberg Ranch baz=84,SNR=5.4	84.30	321	⇑P	P	01 03 06.9 +1.2
E20A	Meyer Farm, Mu baz=84	84.37	328	⇑P	P	01 03 07.1 +1.1
M30A	Dale-Ortello V baz=84,SNR=5.7	84.39	320	⇑P	P	01 03 07.5 +1.3
N31A	Bailey Ranch, baz=84	84.45	319	⇓P	P	01 03 07.6 +1.1
KSU1	Kansas State U baz=84	84.47	317	⇑P	P	01 03 08.3 +1.7
O32A	Brockman Farm, baz=84	84.51	318	⇑P	P	01 03 08.1 +1.3
WALA	Waterton Lakes	84.53	333	eP	P	01 03 07.2 +0.3
WALA	Waterton Lakes	84.53	333	eP	P	01 03 07.2 +0.3
G22A	Birney baz=84	84.60	326	⇓P	P	01 03 08.8 +1.6
J26A	Sides Ranch, S baz=84	84.61	323	⇑P	P	01 03 08.8 +1.5
E19A	Rath Farm, Rou baz=84	84.67	328	⇑P	P	01 03 08.9 +1.3
K27A	Fleckinger Fa baz=84	84.68	322	⇑P	P	01 03 09.3 +1.6
P33A	Williams Farm, baz=84,SNR=8.2	84.81	318	⇑P	P	01 03 09.6 +1.3
I24A	Kuemmerle Ranc baz=85	84.91	324	⇑P	P	01 03 10.2 +1.3
F20A	Billings baz=85,SNR=8.2	84.94	328	⇓P	P	01 03 10.2 +1.3
G21A	Lodge Grass baz=85	84.99	327	⇑P	P	01 03 11.0 +1.8
N30A	Hueftle Ranch, baz=85	85.05	320	⇓P	P	01 03 11.4 +1.8
H22A	Clearmont baz=85,SNR=6.1	85.12	326	⇑P	P	01 03 11.4 +1.5
O31A	Woolen Ranch, baz=85,SNR=5.8	85.14	319	⇑P	P	01 03 11.2 +1.2
P32A	Huiting Farm, baz=85,SNR=5.5	85.15	318	⇓P	P	01 03 11.4 +1.4
Q33A	Connelly Farm, baz=85,SNR=6.2	85.20	317	⇑P	P	01 03 11.5 +1.3
F19A	Roth Farm, Mol baz=85,SNR=8.4	85.23	328	⇓P	P	01 03 11.6 +1.2
M28A	Bar X Bar Ranc baz=85	85.24	321	⇓P	P	01 03 12.2 +1.6
N29A	Votaw Ranch, W baz=85	85.30	320	⇓P	P	01 03 12.4 +1.5
J24A	Dixon Ranch, L baz=85	85.34	324	⇓P	P	01 03 13.2 +2.2
H21A	Big Horn, Sher baz=85	85.39	326	⇓P	P	01 03 12.9 +1.6
G20A	Bridger baz=85,SNR=6.3	85.43	327	⇓P	P	01 03 12.8 +1.4
O30A	MW Ranch, Wils baz=85,SNR=6.4	85.49	319	⇓P	P	01 03 13.1 +1.3
K25A	Mack Ranch, Ha baz=85	85.53	323	⇑P	P	01 03 13.7 +1.7
Q32A	Meitler Ranch, baz=85	85.59	318	⇑P	P	01 03 14.0 +1.7
P31A	Stockton baz=85,SNR=8.3	85.63	319	⇓P	P	01 03 14.0 +1.6
HRY	Holter Researc	85.69	330	eP	P	01 03 11.3 -1.4
HRY	Holter Researc	85.69	330	eP	P	01 03 11.3 -1.4
I22A	9 Mile Ranch, baz=85	85.73	325	⇓P	P	01 03 14.4 +1.4
JTMT	Jette	85.76	332	eP	P	01 03 14.3 +1.2
JTMT	Jette	85.76	332	eP	P	01 03 14.3 +1.2
R33A	Olander Ranch, baz=86,SNR=5.4	85.78	317	⇓P	P	01 03 14.6 +1.4
SWMT	Swartz Lake	85.86	332	eP	P	01 03 13.8 +0.3
SWMT	Swartz Lake	85.86	332	eP	P	01 03 13.8 +0.3
N28A	Pribbeno Ranch baz=86	85.86	321	⇓P	P	01 03 15.1 +1.5
BSMT	Bassoo Peak	85.86	332	eP	P	01 03 14.5 +0.9
BSMT	Bassoo Peak	85.86	332	eP	P	01 03 14.5 +0.9
SLMT	Seeley Lake	85.89	331	eP	P	01 03 15.3 +1.5
SLMT	Seeley Lake	85.89	331	eP	P	01 03 15.3 +1.5
H20A	Greybull baz=86	85.92	327	⇓P	P	01 03 15.5 +1.6
RLMT	Red Lodge comp=Z,18nm,1.1s	85.95	328	eP	P	01 03 14.7 +0.5
RLMT	Red Lodge comp=Z,18nm,1.1s	85.95	328	eP	P	01 03 14.6 +0.5
MIAR	Mount Ida	86.00	312	eP	P	01 03 15.9 +1.6
MIAR	comp=Z,34nm,1.0s			pmax	pmax	
MIAR	Mount Ida comp=Z,34nm,1.0s	86.00	312	eP	P	01 03 15.9 +1.6
MIAR	Mount Ida comp=Z,34nm,1.0s	86.00	312	eP	P	01 03 15.9 +1.6
Q31A	Ellis baz=86	86.02	318	⇓P	P	01 03 15.6 +1.2
CHMT	Chamberlain Mo	86.08	331	eP	P	01 03 14.6 -0.1
CHMT	Chamberlain Mo	86.08	331	eP	P	01 03 14.6 -0.1
R32A	Long Quarter, baz=86,SNR=6.9	86.09	317	⇓P	P	01 03 16.0 +1.2
J22A	Midwest baz=86	86.10	325	⇓P	P	01 03 16.0 +1.1
I21A	Big Trails, Te baz=86,SNR=5.2	86.15	326	⇑P	P	01 03 15.9 +0.8
H19A	Powell baz=86,SNR=11	86.20	327	⇓P	P	01 03 16.6 +1.3
K23A	Bowen Ranch, D baz=86	86.23	324	⇓P	P	01 03 16.6 +1.1
TUL1	Tulsa	86.31	314	eP	P	01 03 16.8 +1.0
TUL1	Tulsa baz=86	86.31	314	⇓P	P	01 03 17.2 +1.4
TUL1	Tulsa	86.31	314	eP	P	01 03 16.8 +1.0
S33A	Kaszmaul Farm, baz=86	86.31	316	⇓P	P	01 03 17.3 +1.5
NEW	Newport comp=Z,19nm,1.0s	86.34	334	eP	P	01 03 16.8 +1.0
NEW	Newport comp=Z,16nm,1.0s,baz=33,slow=4.6,SNR=7.9	86.34	334	P	P	01 03 16.1 +0.3
NEW	Newport baz=86	86.34	334	⇓P	P	01 03 17.0 +1.3
NEW	Newport comp=Z,16nm,1.0s	86.34	334	P	P	01 03 16.1 +0.3
I20A	Worland baz=86,SNR=8.4	86.41	326	⇑P	P	01 03 17.3 +1.0
MSO	Missoula baz=86	86.41	331	⇑P	P	01 03 17.3 +1.1
Q30A	Quinter baz=86	86.47	319	⇓P	P	01 03 18.4 +1.8
H18A	Shoshone NF, C baz=86,SNR=8.7	86.48	328	⇓P	P	01 03 18.0 +1.2
J21A	Lysite baz=86	86.59	326	⇓P	P	01 03 19.2 +1.9
R31A	Burdett baz=86	86.62	318	⇓P	P	01 03 19.3 +1.9
LRM	Limekiln Ridge	86.67	330	eP	P	01 03 20.5 +2.7
LRM	Limekiln Ridge	86.67	330	eP	P	01 03 20.5 +2.7
I19A	Meeteetse baz=86,SNR=6.4	86.71	327	⇓P	P	01 03 18.5 +0.6
K22A	Casper baz=86	86.72	325	⇑P	P	01 03 18.9 +0.9
S32A	Newby Ranch, P baz=86	86.74	317	⇑P	P	01 03 19.4 +1.5
M24A	Cheyenne baz=86	86.86	323	⇑P	P	01 03 19.9 +1.2
J20A	Shoshoni baz=86,SNR=6.0	86.86	326	⇑P	P	01 03 20.1 +1.5
U34A	Anderson Ranch baz=87	86.90	315	⇑P	P	01 03 20.6 +1.9
Q29A	Oakley baz=87	86.93	319	⇓P	P	01 03 20.0 +1.1
R30A	Dighton baz=87	87.02	318	⇓P	P	01 03 20.9 +1.5
K21A	Alcova baz=87	87.06	325	⇑P	P	01 03 20.4 +0.8
H17A	Grant Village baz=87	87.09	328	⇓P	P	01 03 20.8 +1.0
T32A	Huddler Ranch, baz=87	87.12	317	⇓P	P	01 03 21.3 +1.5
Q28A	Sharon Springs baz=87	87.23	320	⇑P	P	01 03 21.5 +1.1
M23A	Laramie baz=87	87.28	323	⇓P	P	01 03 22.1 +1.4
V34A	Guthrie baz=87	87.33	315	⇓P	P	01 03 22.5 +1.6
J19A	Crowheart baz=87	87.36	327	⇓P	P	01 03 23.1 +2.0
I17A	Pilgrim Ck. baz=87	87.47	328	⇑P	P	01 03 23.6 +1.9
T31A	Randall Ranch, baz=87	87.58	317	⇑P	P	01 03 23.6 +1.6
P26A	Davis Ranch, A baz=87	87.61	321	⇓P	P	01 03 23.6 +1.2
KSCO	Kaye Shedlock' baz=87	87.67	320	⇓P	P	01 03 24.0 +1.4
MOOW	Moose Ponds comp=Z,4.7nm,0.8s	87.69	328	eP	P	01 03 22.5 -0.1
MOOW	Moose Ponds comp=Z,4.7nm,0.8s	87.69	328	eP	P	01 03 22.5 -0.1
M22A	Cedar Creek Ra baz=87	87.74	324	⇓P	P	01 03 24.7 +1.7
U32A	Winter Ranch, baz=88	87.75	316	⇑P	P	01 03 24.7 +1.8
V33A	Lossen Ranch, baz=88	87.77	315	⇓P	P	01 03 24.8 +1.8
N23A	Red Feather La baz=88	87.83	323	⇑P	P	01 03 25.2 +1.7
S29A	Ulysses baz=88	87.95	318	⇑P	P	01 03 25.5 +1.6
BW06	Boulder Array	87.98	327	eP	P	01 03 23.6 -0.5
BW06	Boulder Array	87.98	327	eP	P	01 03 23.6 -0.5
PDAR	Pinedale Array	87.98	327	P	P	01 03 24.6 +0.4
PDAR	Pinedale Array comp=Z,5.1nm,0.9s,baz=57,slow=5.5,SNR=5.9	87.98	327	P	P	01 03 24.6 +0.4
PDAR	Pinedale Array	87.98	327	P	P	01 03 24.5 +0.4
TPAW	Teton Pass comp=Z,10nm,0.8s	87.98	328	eP	P	01 03 26.7 +2.5
TPAW	Teton Pass comp=Z,10nm,0.8s	87.98	328	eP	P	01 03 26.7 +2.5
O24A	Longmont baz=88	88.02	322	⇓P	P	01 03 26.2 +2.0
REDW	Red Top Meadow comp=Z,15nm,1.4s	88.05	328	eP	P	01 03 26.4 +2.0
REDW	Red Top Meadow comp=Z,15nm,1.4s	88.05	328	eP	P	01 03 26.4 +2.0
P25A	Willow Gulch B baz=88	88.06	321	⇑P	P	01 03 27.0 +2.5
T30A	Plains baz=88	88.07	318	⇑P	P	01 03 27.1 +2.7
S28A	Manter baz=88	88.38	319	⇑P	P	01 03 27.4 +1.4
T29A	Hugoton baz=88,SNR=5.1	88.39	318	⇓P	P	01 03 27.3 +1.3
X34A	Smith Ranch, M baz=88	88.41	314	⇓P	P	01 03 27.7 +1.7
ISCO	Idaho Springs	88.53	322	eP	P	01 03 27.4 +0.5
ISCO	comp=Z,6.0nm,0.8s			pmax	pmax	
ISCO	Idaho Springs comp=Z,6.3nm,0.8s	88.53	322	eP	P	01 03 27.4 +0.5
ISCO	Idaho Springs baz=88	88.53	322	⇓P	P	01 03 27.9 +1.0
ISCO	Idaho Springs comp=Z,6.3nm,0.8s	88.53	322	eP	P	01 03 27.4 +0.5
R26A	Arlington baz=88	88.63	320	⇓P	P	01 03 28.1 +1.0
V31A	Spring Creek L baz=88	88.65	316	⇑P	P	01 03 28.8 +1.6
O22A	Kremmling baz=88	88.69	323	⇑P	P	01 03 29.2 +1.6
W32A	Sentinel baz=88,SNR=6.0	88.81	315	⇓P	P	01 03 29.9 +2.1
X33A	Lawton baz=88	88.82	315	⇓P	P	01 03 29.9 +2.0
WMOK	Wichita Mounta	88.84	315	eP	P	01 03 29.3 +1.3
WMOK	comp=Z,19nm,0.9s			pmax	pmax	
WMOK	Wichita Mounta comp=Z,19nm,0.9s	88.84	315	eP	P	01 03 29.3 +1.3
WMOK	Wichita Mounta comp=Z,19nm,0.9s	88.84	315	eP	P	01 03 29.3 +1.3
T28A	Walsh baz=88	88.85	319	⇓P	P	01 03 29.9 +1.8
N20A	Spence Gulch, baz=89	88.96	325	⇑P	P	01 03 30.3 +1.5
Q24A	Divide baz=89	88.96	322	⇓P	P	01 03 29.9 +1.0
Z35A	Perchaven, San baz=89	89.00	313	⇑P	P	01 03 30.2 +1.4
V30A	Spur Ranch, Mi baz=89	89.12	317	⇓P	P	01 03 31.1 +1.7
W31A	Holland Ranch, baz=89	89.14	316	⇓P	P	01 03 31.1 +1.6
R25A	Fountain Ranch baz=89	89.17	321	⇓P	P	01 03 30.6 +1.0
T27A	Campo baz=89	89.21	319	⇓P	P	01 03 31.1 +1.2
P22A	Eagle baz=89	89.24	323	⇑P	P	01 03 31.6 +1.4
Y33A	Hilltop Ranch, baz=89	89.29	314	⇑P	P	01 03 32.1 +2.0
BMO	Blue Mountains comp=Z,6.2nm,0.9s	89.33	332	eP	P	01 03 30.8 +0.5
BMO	Blue Mountains comp=Z,6.2nm,0.9s	89.33	332	eP	P	01 03 30.8 +0.5
X32A	Elmer baz=89,SNR=6.8	89.35	315	⇑P	P	01 03 31.9 +1.4
Z34A	Collier Ranch, baz=89	89.35	313	⇓P	P	01 03 32.0 +1.6
U28A	Mallet baz=89	89.47	318	⇓P	P	01 03 32.5 +1.4
O20A	White River Ci	89.50	324	eP	P	01 03 30.8 -0.5
O20A	White River Ci baz=89,SNR=6.8	89.50	324	⇓P	P	01 03 32.8 +1.5
O20A	White River Ci	89.50	324	eP	P	01 03 30.8 -0.5
X31A	McDonald Ranch baz=89,SNR=5.0	89.58	316	⇓P	P	01 03 33.1 +1.5
S25A	Roberts Cordova baz=89	89.62	320	⇓P	P	01 03 33.5 +1.6
Y32A	R-V Farms, Ver baz=90,SNR=8.4	89.75	315	⇓P	P	01 03 33.9 +1.6
U27A	Thompson Grove baz=89	89.75	319	⇑P	P	01 03 33.8 +1.4
HWUT	Hardware Ranch comp=Z,14nm,0.8s	89.78	327	eP	P	01 03 33.6 +1.0
HWUT	Hardware Ranch comp=Z,14nm,0.8s	89.78	327	eP	P	01 03 33.6 +1.0
Z33A	Whitaker Ranch baz=90	89.89	314	⇑P	P	01 03 34.7 +1.7
134A	White-Moore Ra baz=90	90.03	313	⇑P	P	01 03 35.2 +1.6
SDCO	Great Sand Dun comp=Z,9.9nm,1.0s	90.09	321	eP	P	01 03 35.2 +1.0
SDCO	Great Sand Dun comp=Z,9.9nm,1.0s	90.09	321	eP	P	01 03 35.2 +1.0
WHTX	Lake Whitney baz=90	90.09	312	⇓P	P	01 03 35.5 +1.6
X30A	Coker Ranch, T baz=90,SNR=8.1	90.20	316	⇑P	P	01 03 36.1 +1.6
Y31A	Rekieta Farm, baz=90	90.23	315	⇑P	P	01 03 35.9 +1.3
U26A	Atchley Ranch, baz=90	90.25	319	⇓P	P	01 03 36.6 +1.8
Z32A	Haskell baz=90,SNR=7.1	90.28	314	⇓P	P	01 03 36.6 +1.8
234A	Clairette baz=90,SNR=6.2	90.48	313	⇑P	P	01 03 37.3 +1.6
133A	Hamilton Ranch baz=90,SNR=5.7	90.48	314	⇑P	P	01 03 37.4 +1.7
U25A	Circle Dot Ran baz=90,SNR=5.1	90.58	319	⇓P	P	01 03 37.8 +1.4
335A	Moody baz=90	90.59	312	⇑P	P	01 03 38.1 +1.9
Z31A	Sharp Cattle R baz=90,SNR=5.9	90.64	315	⇑P	P	01 03 38.0 +1.5
V26A	Tequesquite Ra baz=90	90.73	319	⇑P	P	01 03 38.6 +1.6
S22A	4UR Ranch, Cre baz=90	90.73	322	⇓P	P	01 03 38.3 +1.1
X28A	Dimmitt baz=91	90.87	317	⇓P	P	01 03 39.5 +1.9
ABTX	Abilene, Hawle baz=91,SNR=7.1	90.88	314	⇑P	P	01 03 39.0 +1.4
233A	Rising Star baz=91,SNR=7.0	90.91	313	⇓P	P	01 03 39.4 +1.7
T23A	Casias Ranch, baz=91	90.91	321	⇑P	P	01 03 39.1 +1.1
W27A	Bowe Ranch, En baz=91	90.91	318	⇑P	P	01 03 39.1 +1.2
334A	Lometa baz=91	91.03	312	⇑P	P	01 03 39.8 +1.5
435B	Jarrell baz=91	91.05	312	⇑P	P	01 03 40.2 +1.9
Y29A	Porterfield Fa baz=91	91.08	316	⇓P	P	01 03 40.0 +1.4
Z30A	Sanderson Ranc baz=91	91.22	315	⇑P	P	01 03 40.1 +0.9
W26A	Owens Ranch, T baz=91	91.26	318	⇓P	P	01 03 40.6 +1.1
131A	Roby baz=91	91.26	315	⇓P	P	01 03 40.1 +0.6
Y28A	McKinney Farm, baz=91	91.36	317	⇓P	P	01 03 41.1 +1.2
434A	Burnet baz=91	91.42	312	⇓P	P	01 03 41.6 +1.4
232A	Coleman baz=91,SNR=8.5	91.43	314	⇓P	P	01 03 41.7 +1.5
333A	Richland Sprin baz=91	91.47	313	⇓P	P	01 03 41.9 +1.6
DUG	Dugway	91.48	327	eP	P	01 03 40.6 +0.2
DUG	comp=Z,9.0nm,0.8s			pmax	pmax	
DUG	Dugway comp=Z,9.2nm,0.8s	91.48	327	eP	P	01 03 40.6 +0.2
DUG	Dugway baz=91	91.48	327	⇓P	P	01 03 41.5 +1.1
DUG	Dugway comp=Z,9.2nm,0.8s	91.48	327	eP	P	01 03 40.6 +0.2
Z29A	Hungry Hill Ra baz=91	91.55	316	⇑P	P	01 03 43.0 +2.2
130A	Snyder baz=91	91.64	315	⇓P	P	01 03 42.7 +1.5
X26A	CR and CF Fran baz=91	91.70	318	⇓P	P	01 03 42.9 +1.3
231A	Bronte baz=92	91.77	314	⇓P	P	01 03 43.7 +1.9
U22A	Llaves baz=92,SNR=7.4	91.83	321	⇓P	P	01 03 43.6 +1.4
332A	Millersview baz=92,SNR=5.6	91.86	313	⇓P	P	01 03 44.0 +1.8
Y27A	Causey baz=92	91.87	317	⇑P	P	01 03 43.9 +1.6
Z28A	Tucker Farm, M baz=92	91.90	316	⇓P	P	01 03 44.2 +1.8
433A	Art baz=92	91.95	312	⇓P	P	01 03 44.1 +1.5
MVCO	Mesa Verde baz=92	91.96	323	⇑P	P	01 03 44.1 +1.3
I04A	Tendick Farm, baz=92	92.03	335	⇑P	P	01 03 44.6 +1.9
534A	Blanco baz=92	92.12	312	⇑P	P	01 03 44.7 +1.3
635A	Leesville baz=92	92.17	311	⇓P	P	01 03 44.7 +1.1
V22A	San Miguel Ran baz=92	92.22	321	⇓P	P	01 03 45.0 +0.9
331A	San Angelo baz=92,SNR=5.5	92.30	314	⇓P	P	01 03 46.0 +1.7
Z27A	Tatum baz=92	92.33	317	⇑P	P	01 03 46.3 +1.9
128A	Castleberry Fa baz=92	92.46	316	⇑P	P	01 03 47.1 +2.0
X24A	Lazy VL Ranch, baz=92	92.53	319	⇓P	P	01 03 46.8 +1.3
JCT	Junction City baz=92	92.56	313	⇑P	P	01 03 48.1 +2.6
229A	Bryant Ranch, baz=92	92.59	315	⇑P	P	01 03 47.4 +1.8
330A	Mertzon baz=92	92.65	314	⇓P	P	01 03 47.7 +1.8
Z26A	Caprock baz=92,SNR=5.9	92.77	317	⇑P	P	01 03 47.7 +1.2
431A	Sonora baz=93	92.87	313	⇑P	P	01 03 48.9 +2.0
532A	Rocksprings baz=93	92.88	313	⇑P	P	01 03 49.7 +2.7
633A	Saathoff Ranch baz=93	92.95	312	⇓P	P	01 03 49.4 +2.2
329A	Wagon Wheel Ra baz=93	93.04	315	⇑P	P	01 03 49.5 +1.8
430A	Baggett Ranch, baz=93,SNR=6.8	93.15	314	⇓P	P	01 03 49.9 +1.7
Z25A	Roswell baz=93	93.16	318	⇓P	P	01 03 50.0 +1.7
632A	Uvalde baz=93	93.27	312	⇑P	P	01 03 50.8 +2.0
126A	Clayton Basin, baz=93	93.28	317	⇓P	P	01 03 50.1 +1.4
Z24A	Sheeppen Canyo baz=93	93.46	318	⇑P	P	01 03 50.6 +0.8
834A	Tilden baz=93	93.56	310	⇑P	P	01 03 51.8 +1.7
733A	Divot King Ran baz=93	93.57	311	⇑P	P	01 03 52.5 +2.4
328A	Wristen Ranch, baz=93	93.58	315	⇓P	P	01 03 52.0 +1.8
125A	Gardner Draw, baz=93	93.61	317	⇓P	P	01 03 51.4 +1.1
M04C	Macdoel baz=93	93.62	334	⇓P	P	01 03 52.1 +1.8
429A	Davenport Ranc baz=93	93.64	314	⇓P	P	01 03 52.3 +1.8
530A	J-C Ranch, Com baz=93	93.69	314	⇓P	P	01 03 52.4 +1.7
226B	Tecolote Peak, baz=94	93.79	317	⇑P	P	01 03 52.5 +1.4
631A	Perdido Creek	93.80	313	⇓P	P	01 03 52.9 +1.8

	baz=94							
732A	Laxson Ranch, baz=94	93.96	312	⇑P		P	01 03 52.9	+1.1
428A	Kincaid Ranch, baz=94	94.01	315	⇑P		P	01 03 53.7	+1.5
R11A	Troy Canyon, C baz=94	94.20	328	⇓P		P	01 03 54.6	+1.6
529A	Stev Forest Ra baz=94	94.21	314	⇑P		P	01 03 54.4	+1.3
326A	Caldwell Ranch baz=94	94.27	316	⇑P		P	01 03 54.3	+0.9
832A	Faith Ranch, C baz=94	94.29	311	⇑P		P	01 03 55.2	+1.8
427A	Hayter Ranch, baz=94	94.31	315	⇑P		P	01 03 55.8	+2.2
U15A	North Rim baz=94	94.37	325	⇑P		P	01 03 56.1	+2.1
034A	Hebbronville baz=94	94.42	310	⇑P		P	01 03 56.1	+2.1
528A	Cox Ranch, San baz=94	94.50	314	⇑P		P	01 03 56.7	+2.2
WUAZ	Wupatki baz=94	94.69	323	⇑P		P	01 03 57.5	+2.1
MNTX	Cornudas Mount comp=Z,6.0nm,1.1s	94.74	317	*eP*		P	01 03 56.1	+0.7
MNTX	Cornudas Mount comp=Z,6.0nm,1.1s	94.74	317	*eP*		P	01 03 56.1	+0.7
426A	McDonald Obser baz=94	94.80	316	⇓P		P	01 03 57.4	+1.4
TX31	Lajitas Ar. Si	95.62	315	*eP*		P	01 03 59.1	-0.5
TX31	Lajitas Ar. Si	95.62	315	*eP*		P	01 03 59.1	-0.5
TXAR	Lajitas Array	95.62	315	P		P	01 04 00.6	+1.0
TXAR	Lajitas Array comp=Z,7.4nm,1.0s,baz=54,slow=4.6,SNR=11	95.62	315	P		P	01 04 00.6	+1.0
TXAR	Lajitas Array comp=Z,7.0nm,1.0s	95.62	315	P		P	01 04 00.6	+1.0
626A	Big Bend Ranch baz=95	95.71	315	⇑P		P	01 04 01.5	+1.4
WRA	Warramunga Arr	119.40	93	PKP		PKPdf	01 09 22.9	-0.7
WRA	Warramunga Arr comp=Z,0.5nm,0.8s,baz=298,slow=1.8,SNR=4.0	119.40	93	PKP		PKPdf	01 09 22.9	-0.7
ASAR	Alice Springs	121.06	97	PKP		PKPdf	01 09 28.5	+1.8
ASAR	Alice Springs comp=Z,0.9nm,0.8s,baz=274,slow=1.3,SNR=4.1	121.06	97	PKP		PKPdf	01 09 28.5	+1.8

ISCJB ***22*** *00:50:38.4±0.3,28.31N±0.04×139.91E±0.08, h441km±4km, mb4.0/25, Error ellipse: s-maj=12.0km s-min=5.7km az=163.3*

IDC ***22*** *00:50:39.4±1.0,28.29N×139.73E, h433km±10km, mb3.7/22, mb1 3.8/26, mb1mx3.7/33, mbtmp4.4/26, Error ellipse: s-maj=16.5km s-min=8.7km az=74.0*

JMA ***22*** *00:50:39.7±0.1,28.39N×140.09E, h439km, M4.5*

ISC 22 00:50:39.2±0.6, 28.35N±0.06×139.95E±0.09, h437km±5km, n59, σ1°32/75, mb4.2/25, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.34	122	P	P	00 51 40.9	+0.2
CBIJ				S	S	00 52 30.1	-0.3
JCJ	Chichijima 314nm,0.3s,baz=90,slow=2.7,SNR=81	2.34	122	P	P	00 51 41.0	+0.3
JCJ				S	S	00 52 29.2	-1.2
	703nm,0.3s,baz=270,slow=20,SNR=26						
JHHJ	Haha-jima-NKT	2.62	130	P	P	00 51 43.1	+0.6
JHHJ				S	S	00 52 33.3	-0.5
JHCJ	Hachijojimakas	4.71	358	P	P	00 52 00.3	+0.4
JHCJ				S	S	00 53 03.3	-2.6
JHJ2	Mitsune	4.75	359	P	P	00 52 01.6	+1.3
JHJ2				S	S	00 53 04.2	-2.4
TTO1	TONANKAI O.B.S	5.92	333	P	P	00 52 14.9	+3.3
BSO1	Boso 1	6.35	8	P	P	00 52 17.9	+2.1
BSO1				S	S	00 53 34.9	-0.3
JIE	Ise	6.63	336	P	P	00 52 22.4	+2.8
JIE				S	S	00 53 41.7	+0.1
JOD2	Odawara 2	6.93	354	P	P	00 52 25.7	+2.9
JTO	Tosashimizu	7.62	308	P	P	00 52 32.0	+1.7
JRY	Ryogami san	7.70	354	P	P	00 52 31.5	+0.4
JRY				S	S	00 53 58.2	-4.6
MJAR	Matsushiro Arr 2.5nm,0.3s,baz=177,slow=12,SNR=11	8.30	350	P	P	00 52 37.2	-0.3
MJAR				S	S	00 54 11.1	-3.8
	1.2nm,0.3s,baz=294,slow=25,SNR=6.7						
MAT	Matsushiro	8.30	350	P	P	00 52 37.9	+0.3
MAT				S	S	00 54 12.5	-2.4
JHS	Saijyo	8.82	320	P	P	00 52 45.3	+2.0
JNU	Nakatsue 3.2nm,0.3s,baz=92,slow=4.7,SNR=5.6	9.14	304	P	P	00 52 48.4	+1.5
SAI	Saigo	9.62	326	P	P	00 52 53.6	+1.6
JOW	Kunigami	10.46	264	P	P	00 53 02.0	+0.6
JMK	Ichinoseki	10.63	5	P	P	00 53 05.3	+2.3
JKB	Kayabe	13.54	3	P	P	00 53 37.8	+3.2
KSRS	Korea Array 0.3nm,0.3s,baz=134,slow=12,SNR=4.1	13.57	315	P	P	00 53 35.1	0.0
JOSM	Okushiri--Mats	13.71	359	P	P	00 53 38.9	+2.4
JCH	Churui	14.50	10	P	P	00 53 48.3	+3.3
USRK	Ussuriysk Arra 1.0nm,0.3s,baz=159,slow=12,SNR=12	17.05	340	P	P	00 54 13.1	+0.9
SONM	Songino Array 1.2nm,0.5s,baz=125,slow=8.2,SNR=13	32.44	316	P	P	00 56 31.6	+0.2
SONM				PcP	PcP	00 59 06.6	+0.3
	1.0nm,0.5s,baz=129,slow=3.0,SNR=6.7						
SONM				ScP	ScP	01 02 08.0	+0.1
	1.7nm,0.6s,baz=134,slow=3.6,SNR=7.7						
CMAR	Chiang Mai Arr 1.3nm,0.7s,baz=46,slow=9.5,SNR=8.0	38.74	264	P	P	00 57 23.7	-0.6
PSI	Prapat 8.7nm,0.9s,baz=102,slow=4.4,SNR=7.5	46.60	244	P	P	00 58 25.8	-0.9
ZALV	Zalesovo Beam 3.9nm,0.5s,baz=111,slow=3.9,SNR=8.0	47.24	319	PcP	PcP	00 59 53.5	-0.3
ZALV				ScP	ScP	01 03 04.3	-1.0
	1.6nm,0.6s,baz=103,slow=4.6,SNR=5.3						
MKAR	Makanchi Array 1.3nm,0.4s,baz=70,slow=5.1,SNR=4.0	48.15	309	PcP	PcP	00 59 57.5	+0.2
MKAR				ScP	ScP	01 03 08.4	-1.0
	1.6nm,0.7s,baz=83,slow=4.8,SNR=6.3						
WRA	Warramunga Arr 2.5nm,0.4s,baz=4.6,slow=7.7,SNR=48	48.31	187	P	P	00 58 38.7	-0.6
WRA				PcP	PcP	00 59 59.0	+0.9
	3.3nm,0.6s,baz=359,slow=4.0,SNR=18						
WRA				ScP	ScP	01 03 09.9	-0.3
	0.7nm,0.7s,baz=360,slow=4,3,SNR=5.5						
KURBB	Kurchatov Arra 2.7nm,0.5s,baz=91,slow=7.3,SNR=8.2	50.75	314	P	P	00 58 57.0	0.0
ASAR	Alice Springs 0.7nm,0.4s,baz=11,slow=6.9,SNR=16	52.04	187	P	P	00 59 06.5	-0.3
ASAR				PcP	PcP	01 00 13.2	+1.3
	2.2nm,0.8s,baz=6.5,slow=3.3,SNR=11						
AAK	Ala-Archa 0.9nm,0.3s,baz=144,slow=8.7,SNR=2.6	53.91	304	P	P	00 59 20.2	-0.1
AAK				PcP	PcP	01 00 18.9	-0.2
	2.2nm,0.7s,baz=56,slow=3.2,SNR=4.6						
BVAR	Borovoye Array 6.5nm,0.7s,baz=95,slow=7.0,SNR=18	55.78	317	P	P	00 59 33.2	+0.1
BVAR				PcP	PcP	01 00 26.2	+0.3
	3.3nm,0.7s,baz=111,slow=3.1,SNR=4.4						
BVAR				ScP	ScP	01 03 41.4	-0.9
	0.9nm,0.6s,baz=108,slow=4.7,SNR=4.5						
STKA	Stephens Creek 3.6nm,0.7s,baz=2.8,slow=4.2,SNR=6.2	59.91	178	P	P	01 00 01.3	-0.2
AKTO	Aktyubinsk 3.8nm,0.6s,baz=81,slow=15,SNR=9.5	63.75	315	P	P	01 00 26.1	-0.4
SPITS	Spitsbergen Ar 11nm,0.9s,baz=96,slow=6.8,SNR=2.9	68.80	349	P	P	01 00 58.4	+0.8
KEV	Kevo 3.9nm,0.6s	71.14	340	*ep*	P	01 01 11.4	-0.3
ARCES	ARCESS Array B 3.8nm,0.5s,baz=68,slow=8.4,SNR=33	71.70	340	P	P	01 01 16.1	+1.0
YKA	Yellowknife Ar 0.6nm,0.8s,baz=298,slow=6.3,SNR=3.7	71.98	28	P	P	01 01 18.6	+1.8
JOF	Joensuu 8.3nm,0.5s	73.08	333	*ep*	P	01 01 22.7	-0.5
KAF	Kangasniemi 4.6nm,0.4s	75.48	334	*ep*	P	01 01 36.3	-0.5
KBZ	Khabaz 11nm,0.8s,baz=77,slow=5.4,SNR=21	75.70	312	P	P	01 01 39.0	+0.6
FINES	FINESS Array B 6.1nm,0.3s,baz=64,slow=6.3,SNR=63	75.94	333	P	P	01 01 39.8	+0.4
AKASG	Malin Array Be 1.6nm,0.3s,baz=52,slow=5.6,SNR=20	80.43	323	P	P	01 02 03.8	-0.1
NVAR	Mina Array Bea 2.3nm,0.8s,baz=284,slow=6.4,SNR=4.6	81.29	51	pP	pP	01 03 51.7	+5.4
HFS	Hagfors 5.1nm,0.4s,baz=90,slow=3.6,SNR=26	81.48	336	P	P	01 02 08.7	-0.5
NB2	NORSAR Subarra comp=Z,2.9nm,0.6s,baz=49,slow=4.8	81.71	337	P	P	01 02 09.8	-0.6
NOA	NORSAR Array B comp=Z,5.3nm,0.7s,baz=48,slow=4.9,SNR=12	81.71	337	P	P	01 02 10.3	0.0
BRTR	Keskin Array B comp=Z,3.2nm,0.6s,baz=89,slow=3.4,SNR=13	83.69	312	P	P	01 02 20.8	-0.3
MMAI	Mount Meron Ar comp=Z,3.9nm,0.7s,baz=57,slow=5.5,SNR=6.1	85.97	305	P	P	01 02 32.2	-0.1
GERES	GERESS Array B comp=Z,1.3nm,0.8s,baz=46,slow=5.6,SNR=8.4	89.41	328	P	P	01 02 47.5	-0.6
EKA	Eskdalemuir Ar comp=Z,0.7nm,0.5s,baz=54,slow=3.6,SNR=3.7	90.86	340	P	P	01 02 54.4	-0.2
QSPA	South Pole Qui comp=Z,1.5nm,0.6s,baz=290,slow=1.8,SNR=5.2	118.12	180	PKP	PKPdf	01 08 34.5	-0.1
TORD	Torodi Ar. Bea comp=Z,1.6nm,0.6s,baz=57,slow=1.0,SNR=48	122.26	310	PKP	PKPdf	01 08 43.9	-0.2
BOSA	Boshof comp=Z,1.8nm,0.7s,baz=93,slow=3.1,SNR=3.1	123.28	253	PKP	PKPdf	01 08 46.1	+0.3
DBIC	Dimbokro comp=Z,1.0nm,0.5s,baz=37,slow=3.5,SNR=4.2	131.37	310	PKP	PKPdf	01 09 01.5	0.0
PTGA	Pitinga comp=Z,2.8nm,0.6s,baz=9.5,slow=6.1,SNR=5.9	146.58	38	PKPbc	PKPab	01 09 32.5	-0.9
LPAZ	La Paz comp=Z,2.1nm,0.7s,baz=335,slow=3.3,SNR=6.9	151.46	71	PKPbc	PKPbc	01 09 46.0	+2.0
PLCA	Paso Flores comp=Z,1.7nm,0.6s,baz=200,slow=7.0,SNR=6.3	152.15	124	PKPbc	PKPbc	01 09 45.4	+1.2

MEX 22 00:52:13.7±0.7, 18.51N×102.80W, h22km±29km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.57	247	*i* P	Pb	00 52 22.6	-2.4
MMIG				*i* S	Sb	00 52 31.1	-1.6
EZ5V		1.23	322	*i* P	Pn	00 52 32.7	-3.2
EZ5V				*eS*	Sn	00 52 48.6	-3.5
R15V		1.30	300	*i* P	Pn	00 52 33.6	-3.0
R15V				*eS*	Sn	00 52 49.8	-3.5
ZIIG	Zihuatanejo	1.56	125	*eP*	Pn	00 52 37.4	-2.7
ZIIG				*eS*	Sn	00 52 56.0	-3.6
MOIG	Morelia	1.91	52	*eP*	Pn	00 52 42.2	-3.1
MOIG				*eS*	Sn	00 53 05.1	-3.9
ARIG	Puente Sto Nin	2.34	95	*eP*	Pn	00 52 49.0	-1.9
ARIG				*eS*	Sn	00 53 15.9	-3.1

IDC ***22*** *00:57:00.6±1.0,38.39N×22.00E, h0km, mb3.7/9, mb1 3.7/13, mb1mx3.7/32, mbtmp3.6/13, ML3.2/4, Error ellipse: s-maj=19.6km s-min=18.3km az=141.0*

ISCJB ***22*** *00:57:01.4±0.3,38.39N±0.01×21.93E±0.02, h12km±2km, mb3.7/8, Error ellipse: s-maj=2.4km s-min=2.4km az=29.7*

CSEM ***22*** *00:57:01.6±0.1,38.40N×21.97E, h5km, ML3.6, Error ellipse: s-maj=2.3km s-min=2.2km az=98.0*

THE ***22*** *00:57:01.9,38.40N×21.98E, h0km±1km, ML3.7/11, Error ellipse: s-maj=1.3km s-min=0.4km az=282.0*

ATH ***22*** *00:57:01.2,38.40N×21.97E, h22km±1km, ML3.4*

SKO ***22*** *00:57:03.3,38.48N×22.18E, h0km*

ISC 22 00:57:01.8±0.7, 38.41N±0.01×21.95E±0.01, h9km±4km, n139, σ0°88/206, mb3.9/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.04	301	P	Pg	00 57 03.1	-0.6
EFP				S	Sg	00 57 04.5	-0.5
EFP	Efpalio	0.04	301	P	Pg	00 57 03.1	-0.6
EFP				S	Sg	00 57 04.2	-0.8
KALE	Kalithea	0.15	95	P	Pg	00 57 04.6	-0.6
KALE				S	Sg	00 57 07.3	-0.2
KALE	Kalithea	0.15	95	*e*PB	Pg	00 57 04.6	-0.6
KALE				*e*SB	Sg	00 57 09.9	+2.4
KALE	Kalithea	0.15	95	P	Pg	00 57 04.6	-0.6
KALE				S	Sg	00 57 07.3	-0.2
KALE				*e*Sb	Sg	00 57 09.9	+2.4
LAKA	Lakka	0.17	173	P	Pg	00 57 05.2	-0.2
LAKA	Lakka	0.17	173	*e*PB	Pg	00 57 05.2	-0.2
LAKA	Lakka	0.17	173	P	Pg	00 57 05.3	-0.2
UPR	University Cam	0.18	227	P	Pg	00 57 05.8	+0.2
UPR				S	Sg	00 57 08.9	+0.7
UPR	University Cam	0.18	227	P	Pg	00 57 05.7	+0.2
UPR				S	Sg	00 57 08.0	-0.2
KLV	Kalavryta, Ach	0.39	157	P	Pg	00 57 08.9	-0.6
KLV				S	Sg	00 57 15.1	+0.3
KLV	Kalavryta, Ach	0.39	157	*e*PB	Pg	00 57 09.0	-0.6
KLV				*e*SB	Sg	00 57 15.8	+1.0
KLV	Kalavryta, Ach	0.39	157	P	Pg	00 57 09.0	-0.6
KLV				S	Sg	00 57 15.1	+0.3
PVO	Paravola	0.40	302	P	Pg	00 57 09.3	-0.3
PVO				S	Sb	00 57 16.6	-0.6
PVO	Paravola	0.40	302	P	Pg	00 57 09.0	-0.6
PVO				S	Sb	00 57 16.3	-0.9
DSF	Desfina	0.45	89	P	Pg	00 57 10.2	-0.5
DSF				S	Sg	00 57 17.5	+0.9
DSF	Desfina	0.45	89	*e*PB	Pg	00 57 09.7	-1.0
DSF				*e*SB	Sb	00 57 17.9	-0.9
DSF	Desfina	0.45	89	P	Pg	00 57 09.7	-1.0
DSF				S	Sg	00 57 17.5	+0.9
DRO	Drossia	0.49	203	P	Pg	00 57 10.8	-0.6
DRO				S	Sg	00 57 18.0	+0.2
DRO	Drossia	0.49	203	*e*PB	Pg	00 57 11.0	-0.4
DRO				*e*SB	Sg	00 57 18.0	+0.2
DRO	Drossia	0.49	203	P	Pg	00 57 11.0	-0.4
DRO				S	Sg	00 57 17.5	-0.3
DRO				*e*Sb	Sg	00 57 18.0	+0.2
RLS	Riolos of Patr	0.52	228	P	Pg	00 57 11.8	-0.1
RLS				S	Sb	00 57 20.0	-0.6
RLS	Riolos of Patr	0.52	228	*e*PN	Pg	00 57 11.8	-0.1
RLS				*e*SN	Sb	00 57 19.9	-0.6
RLS	Riolos of Patr	0.52	228	P	Pg	00 57 11.7	-0.1
RLS				*e*Sn	Sb	00 57 19.9	-0.6
EVR	Evrytania	0.52	348	P	Pg	00 57 11.2	-0.9
EVR				S	Sg	00 57 20.1	+1.1
EVR	Evrytania	0.52	348	*e*PN	Pg	00 57 11.2	-0.9
EVR				*e*SN	Sg	00 57 19.4	+0.4
EVR	Evrytania	0.52	348	P	Pg	00 57 11.2	-0.9
EVR				S	Sg	00 57 19.4	+0.4
GUR	Goura	0.56	147	P	Pg	00 57 12.0	-0.7
GUR				S	Sg	00 57 21.0	+0.9
GUR	Goura	0.56	147	*e*PN	Pg	00 57 12.2	-0.5
GUR	Goura	0.56	147	*e*Pn	Pg	00 57 12.2	-0.5
GUR				S	Sg	00 57 20.9	+0.9
MAKR	Makrakomi, Fth	0.62	13	P	Pg	00 57 13.5	-0.4
MAKR				S	Sb	00 57 23.7	-0.1
MAKR	Makrakomi, Fth	0.62	13	*e*PB	Pg	00 57 13.3	-0.6
MAKR				*e*SN	Sb	00 57 23.5	-0.3
MAKR	Makrakomi, Fth	0.62	13	*e*Pb	Pg	00 57 13.3	-0.6
MAKR				S	Sg	00 57 23.0	+0.9
PDO	Prodromos	0.63	288	P	Pg	00 57 14.2	+0.1
PDO				S	Sb	00 57 24.5	+0.5
PDO	Prodromos	0.63	288	*e*PN	Pg	00 57 14.3	+0.1
PDO				*e*SN	Sb	00 57 23.9	-0.1
PDO	Prodromos	0.63	288	P	Pg	00 57 14.1	0.0
PDO				*e*Sn	Sb	00 57 23.9	-0.1
PDO				S	Sb	00 57 24.5	+0.5
AXAR	Agios Charalam	0.66	57	P	Pg	00 57 13.7	-0.9
AXAR				S	Sb	00 57 24.5	-0.3
AXAR	Agios Charalam	0.66	57	*e*PB	Pg	00 57 13.6	-1.0
AXAR				*e*SN	Sb	00 57 24.5	-0.3
AXAR	Agios Charalam	0.66	57	P	Pg	00 57 13.7	-0.9
AXAR				S	Sb	00 57 24.5	-0.3
AGG	Agios Georgios	0.68	26	P	Pg	00 57 14.0	-1.1
AGG	Agios Georgios	0.68	26	*e*PB	Pg	00 57 14.0	-1.1
AGG	Agios Georgios	0.68	26	P	Pg	00 57 14.0	-1.1
VTN	Vitineika	0.78	231	P	Pb	00 57 17.9	+0.4
VTN	Vitineika	0.78	231	P	Pb	00 57 17.9	+0.4
LKR	Lokris	0.86	73	P	Pg	00 57 17.6	-0.8
LKR	Lokris	0.86	73	*e*PN	Pg	00 57 17.6	-0.8
LKR	Lokris	0.86	73	P	Pg	00 57 17.6	-0.8
LTK	Loutraki	0.89	115	P	Pg	00 57 18.6	-0.3
LTK	Loutraki	0.89	115	*e*PN	Pg	00 57 18.5	-0.3
LTK	Loutraki	0.89	115	P	Pg	00 57 18.6	-0.3
AMT	Artemida-Makis	0.89	193	P	Pg	00 57 18.9	-0.1
AMT	Artemida-Makis	0.89	193	*e*PN	Pg	00 57 19.0	-0.1
AMT	Artemida-Makis	0.89	193	P	Pg	00 57 18.9	-0.1
LKD2	Lefkada island	1.08	291	P	Pg	00 57 22.2	-0.5
LKD2	Lefkada island	1.08	291	P	Pg	00 57 22.2	-0.5
SMIA	Simia	1.09	64	P	Pg	00 57 22.7	-0.1
SMIA				S	Sb	00 57 37.2	0.0
SMIA	Simia	1.09	64	*e*PN	Pg	00 57 21.6	-1.2
SMIA	Simia	1.09	64	*e*Pn	Pg	00 57 21.6	-1.2
SMIA	Simia	1.09	64	P	Pg	00 57 22.7	-0.1
SMIA				S	Sb	00 57 37.2	0.0

VLS	Valsamata	1.10	258	*e*PB		Pg	00 57 21.2	-1.7
VLS				*e*SN		Sn	00 57 38.5	-0.1
VLS	Valsamata	1.10	258	*e*Pb		Pg	00 57 21.2	-1.7
VLS				*e*Sn		Sn	00 57 38.5	-0.1
THL	Klokotos Trika	1.16	2	P		Pb	00 57 23.2	-0.8
THL				S		Sn	00 57 40.3	+0.2
THL	Klokotos Trika	1.16	2	*e*PN		Pb	00 57 23.2	-0.8
THL				*e*SN		Sn	00 57 40.1	0.0
THL	Klokotos Trika	1.16	2	P		Pb	00 57 23.2	-0.8
THL				*e*Sn		Sn	00 57 40.1	0.0
ITM	Ithomi	1.22	181	P		Pn	00 57 23.9	-1.2
ITM				S		Sn	00 57 43.0	+1.3
ITM	Ithomi	1.22	181	*e*PN		Pn	00 57 23.7	-1.4
ITM	Ithomi	1.22	181	P		Pn	00 57 23.9	-1.2
ITM				S		Sn	00 57 43.0	+1.3
FYTO	Fytoko, Volos	1.26	37	P		Pn	00 57 25.3	-0.3
FYTO				S		Sn	00 57 44.5	+1.8
FYTO	Fytoko, Volos	1.26	37	P		Pn	00 57 25.3	-0.3
FYTO				S		Sn	00 57 44.5	+1.8
MRKA	Markates	1.32	76	P		Pn	00 57 25.8	-0.6
MRKA	Markates	1.32	76	P		Pn	00 57 25.8	-0.6
NEO	Neokhori	1.34	47	P		Pn	00 57 26.2	-0.5
NEO	Neokhori	1.34	47	*e*PN		Pn	00 57 26.0	-0.7
NEO				*e*SN		Sg	00 57 45.5	+0.5
NEO	Neokhori	1.34	47	P		Pn	00 57 26.2	-0.5
NEO				*e*Sn		Sg	00 57 45.5	+0.5
DID	Didima	1.35	131	P		Pb	00 57 27.1	-0.3
DID				S		Sg	00 57 47.2	+1.8
DID	Didima	1.35	131	*e*PN		Pb	00 57 27.2	-0.2
DID	Didima	1.35	131	*e*Pn		Pb	00 57 27.2	-0.2
DID				S		Sg	00 57 47.2	+1.8
XOR	Xorichti	1.36	45	P		Pn	00 57 27.4	-0.6
XOR				S		Sg	00 57 46.6	+0.9
XOR	Xorichti	1.36	45	*e*PN		Pn	00 57 27.4	-0.1
XOR	Xorichti	1.36	45	P		Pn	00 57 26.4	-0.6
XOR	Xorichti	1.36	45	*e*Pn		Pb	00 57 27.4	-0.1
XOR				S		Sg	00 57 46.6	+0.9
NAIG	Nisos Aigina	1.37	118	*e*PN		Pn	00 57 26.7	-0.4
NAIG	Nisos Aigina	1.37	118	*e*Pn		Pn	00 57 26.7	-0.4
SKIA	Skiathos	1.41	57	*e*PN		Pn	00 57 27.3	-0.3
SKIA	Skiathos	1.41	57	*e*Pn		Pn	00 57 27.3	-0.3
ATH	Athens Observa	1.46	107	P		Pn	00 57 28.3	0.0
ATH	Athens Observa	1.46	107	*e*PN		Pn	00 57 28.2	0.0
ATH				*e*SN		Sb	00 57 47.5	-0.2
ATH	Athens Observa	1.46	107	*e*Pn		Pn	00 57 28.2	0.0
ATH				*e*Sn		Sb	00 57 47.5	-0.2
MEV	Metsovon	1.49	338	P		Pb	00 57 29.7	0.0
MEV	Metsovon	1.49	338	P		Pb	00 57 29.7	0.0
ATHU	Athens Univers	1.51	106	P		Pn	00 57 28.7	-0.3
ATHU				S		Sg	00 57 50.2	-0.2
ATHU	Athens Univers	1.51	106	P		Pn	00 57 28.7	-0.3
ATHU				S		Sg	00 57 50.2	-0.2
JAN	Janina	1.52	326	P		Pb	00 57 30.4	+0.3
JAN	Janina	1.52	326	P		Pb	00 57 30.4	+0.3
PYL	PYLOS	1.52	186	P		Pn	00 57 29.2	+0.1
PYL	PYLOS	1.52	186	*e*PN		Pn	00 57 29.1	0.0
PYL	PYLOS	1.52	186	P		Pn	00 57 29.2	+0.1
PTL	Penteli	1.55	103	P		Pn	00 57 29.4	-0.2
PTL				S		Sg	00 57 51.3	-0.3
PTL	Penteli	1.55	103	*e*PN		Pn	00 57 29.4	-0.2
PTL				*e*SN		Sn	00 57 49.1	-0.7
PTL	Penteli	1.55	103	P		Pn	00 57 29.4	-0.2
PTL				*e*Sn		Sn	00 57 49.1	-0.7
PTL				S		Sg	00 57 51.3	-0.3
AOS	Alonnisos	1.69	62	P		Pn	00 57 31.5	-0.1
AOS	Alonnisos	1.69	62	*e*PN		Pn	00 57 31.4	-0.1
AOS	Alonnisos	1.69	62	*e*Pn		Pn	00 57 31.4	-0.1
LIT	Litokhoron	1.75	14	P		Pn	00 57 32.8	+0.5
LIT	Litokhoron	1.75	14	*e*PN		Pn	00 57 32.5	+0.2
LIT	Litokhoron	1.75	14	*e*Pn		Pn	00 57 32.5	+0.2
LIT	Litokhoron	1.75	14	P		Pn	00 57 32.8	+0.5
VLI	Veliai	1.86	155	P		Pn	00 57 33.9	+0.1
VLI	Veliai	1.86	155	*e*PN		Pn	00 57 33.8	0.0
VLI	Veliai	1.86	155	P		Pn	00 57 33.9	+0.1
KZN	Kozani	1.91	356	P		Pn	00 57 35.6	+1.1
KZN	Kozani	1.91	356	P		Pn	00 57 35.6	+1.1
FNA	Florina	2.42	350	P		Pn	00 57 43.2	+1.6
FNA	Florina	2.42	350	P		Pn	00 57 43.2	+1.6
BIA	Bitola	2.66	350	P		Pn	00 57 46.3	+1.5
BIA	Bitola	2.66	350	P		Pn	00 57 46.3	+1.5
MMB	Musomiste	3.46	23	P		Pn	00 57 55.0	-0.9
MMB	Musomiste	3.46	23	P		Pn	00 57 55.0	-0.9
IDI	Anoyia 1.6nm,0.3s,baz=317,slow=16,SNR=7.9	3.90	142	Pn		Pn	00 58 02.4	+0.4
IDI						Sn	00 58 46.0	-1.9
	3.4nm,0.3s,baz=38,slow=19,SNR=3.0							
VTS	Vitosha	4.29	12	P		Pn	00 58 09.5	+2.1
VTS	Vitosha	4.29	12	P		Pn	00 58 09.5	+2.

MTVZ	Mangateitei	0.95	197	⇑PN	Pn	01 00 59.0	0.0		
MTVZ				*e*SN	Sn	01 01 18.0	+0.2		
NMHZ	Naumai	0.99	130	PN	Pn	01 00 59.6	+0.4		
URZ	Urewera	1.03	79	⇑PN	Pn	01 00 58.4	-1.1		
URZ				AML	AML	01 01 16.9			
URZ				AML	AML	01 01 17.2			
BHHZ	Black Hill Sta	1.03	170	⇑PN	Pn	01 00 59.2	-0.5		
VRZ	Vera Road	1.06	232	⇑PN	Pn	01 01 00.3	+0.5		
RAHZ	Arahi	1.08	115	PN	Pn	01 01 00.1	+0.1		
MCHZ	McNeill Hill	1.18	145	PN	Pn	01 01 01.5	+0.6		
SNGZ	Shannon Statio	1.22	105	PN	Pn	01 01 01.5	+0.2		
WHHZ	Waihua	1.25	119	⇑PN	Pn	01 01 01.7	+0.2		
MWZ	Matawai	1.34	85	⇓PN	Pn	01 01 01.7	-0.7		
MWZ				AML	AML	01 01 21.7			
MWZ				AML	AML	01 01 21.7			
MWZ				AML	AML	01 01 21.8			
MWZ				AML	AML	01 01 21.8			
WAZ	Wanganui	1.44	207	PN	Pn	01 01 03.6	+0.2		
PNHZ	Pukenui	1.47	169	⇑PN	Pn	01 01 03.3	-0.4		
CKHZ	Cape Kidnapper	1.53	141	⇑PN	Pn	01 01 04.5	+0.1		
RIGZ	Rimuhau	1.53	99	⇓PN	Pn	01 01 04.3	-0.1		
KNZ	Kokohu	1.54	111	PN	Pn	01 01 04.3	-0.2		
KAHZ	Kahuranaki	1.55	149	⇑PN	Pn	01 01 04.7	+0.1		
TSZ	Takapari Road	1.59	176	⇑PN	Pn	01 01 04.6	-0.4		
TSZ				AML	AML	01 01 05.3			
TSZ				AML	AML	01 01 28.8			
WPHZ	Waipukurau	1.66	164	⇑PN	Pn	01 01 05.4	-0.4		
PRGZ	Paritu Road	1.67	106	PN	Pn	01 01 06.0	+0.1		
HAZ	Te Kaha	1.70	66	⇓PN	Pn	01 01 04.9	-1.3		
PXZ	Pawanui	1.75	153	⇑PN	Pn	01 01 06.3	-0.4		
PXZ				AML	AML	01 01 30.5			
PXZ				AML	AML	01 01 33.0			
MHGZ	Mahia Peninsul	1.76	113	PN	Pn	01 01 06.7	-0.2		
DVHZ	Dannevirke	1.84	172	⇑PN	Pn	01 01 07.0	-0.8		
PRHZ	Porangahau	1.90	161	⇑PN	Pn	01 01 07.9	-0.5		
POWZ	Post Office Ro	1.92	181	⇑PN	Pn	01 01 07.8	-0.8		
PUZ	Puketiti	1.95	79	PN	Pn	01 01 08.2	-0.8		
PUZ				AML	AML	01 01 33.7			
PUZ				AML	AML	01 01 34.4			
ANWZ	Angora Road	2.05	166	⇑PN	Pn	01 01 09.6	-0.5		
PRWZ	Pori Road	2.08	177	⇑PN	Pn	01 01 09.9	-0.7		
MXZ	Matakaoa Point	2.16	66	PN	Pn	01 01 11.1	-0.3		
MXZ				AML	AML	01 01 11.6			
MXZ				AML	AML	01 01 12.5			
MXZ				AML	AML	01 01 13.6			
MRZ	Mangatainoka R	2.20	185	PN	Pn	01 01 10.6	-1.3		
MRZ				AML	AML	01 01 39.6			
MRZ				AML	AML	01 01 39.6			
BFZ	Birch Farm	2.23	172	PN	Pn	01 01 11.2	-1.1		
TIWZ	Tintock	2.30	179	⇑PN	Pn	01 01 12.0	-1.2		
TIWZ				AML	AML	01 01 43.0			
TIWZ				AML	AML	01 01 43.4			
OGWZ	Otaki Gorge	2.40	192	⇑PN	Pn	01 01 13.1	-1.2		
HOWZ	Holdsworth Sta	2.44	186	⇑PN	Pn	01 01 13.3	-1.6		
CPWZ	Castlepoint	2.45	173	⇑PN	Pn	01 01 14.2	-0.8		
KIW	Kapiti Island	2.49	196	⇑PN	Pn	01 01 13.9	-1.6		
KIW				AML	AML	01 01 46.0			
KIW				AML	AML	01 01 46.2			
TMWZ	Te Maipa	2.63	179	⇑PN	Pn	01 01 15.5	-1.7		
MTW	Mount Morrison	2.70	185	PN	Pn	01 01 16.1	-1.9		
MTW				AML	AML	01 01 49.6			
MTW				AML	AML	01 01 49.7			
CAW	Cannon Point	2.70	192	PN	Pn	01 01 16.2	-1.8		
CAW				AML	AML	01 01 51.0			
CAW				AML	AML	01 01 51.3			
DUWZ	D'Urville Isla	2.75	212	PN	Pn	01 01 17.3	-1.4		
PAWZ	Paruwai Farm	2.92	186	⇑PN	Pn	01 01 16.7	-2.1		
PAWZ				AML	AML	01 01 53.8			
PAWZ				AML	AML	01 01 54.1			
TRWZ	Traveller	2.93	182	PN	Pn	01 01 18.8	-2.1		
TRWZ				AML	AML	01 01 55.1			
TRWZ				AML	AML	01 01 55.1			
SNZO	South Karori	2.96	197	PN	Pn	01 01 19.2	-2.1		
SNZO				AML	AML	01 01 55.4			
SNZO				AML	AML	01 01 56.1			
MSWZ	Moikau Station	2.97	188	⇑PN	Pn	01 01 19.3	-2.2		
MSWZ				AML	AML	01 01 55.1			
MSWZ				AML	AML	01 01 55.5			
TCW	Tory Channel	2.99	203	PN	Pn	01 01 20.1	-1.6		
TCW				AML	AML	01 01 56.2			
TCW				AML	AML	01 01 56.2			
BHW	Baring Head	3.02	194	PN	Pn	01 01 19.9	-2.2		
BHW				AML	AML	01 01 56.2			
BHW				AML	AML	01 01 56.8			
PLWZ	Palliser	3.13	188	PN	Pn	01 01 21.0	-2.5		
TUWZ	Tuamarina	3.29	206	PN	Pn	01 01 23.4	-2.1		
TUWZ				AML	AML	01 02 03.3			
TUWZ				AML	AML	01 02 04.0			
NNZ	Nelson	3.33	214	⇑PN	Pn	01 01 24.0	-2.0		
QRZ	Quartz Range	3.47	226	PN	Pn	01 01 25.6	-2.2		
BSWZ	Blackbirch Sta	3.57	204	AML	AML	01 02 10.3			
BSWZ				AML	AML	01 02 10.5			
THZ	Tophouse	3.98	213	PN	Pn	01 01 32.0	-2.5		
KHZ	Kahutara	4.31	203	⇓PN	Pn	01 01 36.2	-2.5		
KHZ				AML	AML	01 02 25.4			
KHZ				AML	AML	01 02 25.7			
DSZ	Denniston Nort	4.50	222	PN	Pn	01 01 38.1	-3.2		
LTZ	Lake Taylor	5.09	211	PN	Pn	01 01 45.2	-3.8		
OXZ	Oxford	5.63	209	PN	Pn	01 01 51.7	-4.5		
MQZ	McQueen's Vall	5.75	204	PN	Pn	01 01 53.2	-4.6		
RPZ	Rata Peaks	6.36	213	*e*PN	Pn	01 02 02.0	-3.9		
FOZ	Fox Glacier	6.89	220	*e*PN	Pn	01 02 07.3	-5.5		
LBZ	Lake Benmore	7.27	214	PN	Pn	01 02 13.0	-5.1		
ODZ	Otahua Downs	7.62	209	PN	Pn	01 02 18.2	-4.6		
JCZ	Jackson Bay	7.72	221	PN	Pn	01 02 18.7	-5.6		

*ISCJB **22** 01:02:21.7±1.0, 11.4N×0.2×142.0E±0.3, h49km, mb3.7/7, Error ellipse: s-maj=43.2km s-min=23.0km az=2.5*
*IDC **22** 01:02:22.2±1.2, 11.49N×142.06E, h39km±7km, mb3.5/7, mb1 3.7/7, mb1mx3.5/24, mbtmp3.7/7, Error ellipse: s-maj=42.9km s-min=28.3km az=102.0*

ISC 22 01:02:22.8±1.0, 11.5N±0.2×142.2E±0.3, h49km, n7, σ1956/10, mb3.5/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.17**	**194**	P	**P**	**01 08 46.4**	**+0.2**
	0.3nm,0.6s,baz=14,slow=9.8,SNR=4.5						
SONM	**Songino Array**	**46.98**	**327**	P	**P**	**01 10 50.7**	**+1.6**
	0.2nm,0.4s,baz=134,slow=8.1,SNR=2.5						
MKAR	**Makanchi Array**	**61.18**	**317**	P	**P**	**01 12 31.8**	**-0.7**
	0.3nm,0.8s,baz=100,slow=6.0,SNR=3.0						
ILAR	**Eielson Array**	**71.58**	**25**	P	**P**	**01 13 39.0**	**+0.3**
	0.6nm,0.5s,baz=247,slow=6.1,SNR=21						
ILAR				pP	**pP**	**01 13 51.0**	**-1.8**
	0.9nm,0.6s,baz=248,slow=6.0,SNR=5.4						
YKA	**Yellowknife Ar**	**85.92**	**27**	P	**P**	**01 14 59.1**	**+1.7**
	0.1nm,0.6s,baz=291,slow=4.9,SNR=4.6						
YKA				pP	**pP**	**01 15 10.9**	**-0.8**
	0.2nm,0.4s,baz=289,slow=5.0,SNR=4.4						
ARCES	**ARCESS Array B**	**88.23**	**342**	P	**P**	**01 15 09.1**	**+0.6**
	1.5nm,0.9s,baz=82,slow=4.2,SNR=4.8						
FINES	**FINESS Array B**	**91.91**	**334**	P	**P**	**01 15 25.4**	**-0.4**
	1.3nm,0.8s,baz=71,slow=3.9,SNR=6.5						
FINES				pP	**pP**	**01 15 37.6**	**-2.6**
	1.2nm,0.8s,baz=62,slow=6.5,SNR=1.9						

IDC 22 01:03:11.6±1.3, 28.08S×177.31W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/17, mbtmp3.7/2, Error ellipse: s-maj=43.5km s-min=28.5km az=108.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.28**	**205**	Pn	Pn	01 03 37.5	+0.7
	1μm,0.3s,baz=70,slow=3.9,SNR=70						
RAO				Sn	Sg	01 03 51.7	-1.2
	7μm,0.3s,baz=261,slow=23,SNR=30						
URZ	**Urewera**	**11.17**	**203**	Sn	Sn	01 07 45.3	-13
	2.3nm,0.3s,baz=274,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**43.89**	**264**	P	P	01 11 19.9	-0.4
	0.5nm,0.5s,baz=94,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**44.67**	**269**	P	P	01 11 25.2	-1.3
	1.1nm,0.8s,baz=108,slow=7.6,SNR=7.4						
H03N3	**Juan Fernandez**	**81.42**	**123**	T	T	02 45 29.6	
	baz=242,slow=75,SNR=7.0						
H03N2	**Juan Fernandez**	**81.42**	**123**	T	T	02 45 30.7	
	baz=242,slow=75,SNR=8.7						
H03N1	**Juan Fernandez**	**81.43**	**123**	T	T	02 45 29.2	
	baz=242,slow=75,SNR=8.3						
HFS	**Hagfors**	**147.09**	**350**	PKPbc	PKPbc	01 22 55.4	-0.5
	2.7nm,1.0s,baz=177,slow=7.2,SNR=3.1						
AKASG	**Malin Array Be**	**149.78**	**326**	PKPbc	PKPbc	01 23 01.1	-2.0
	0.6nm,0.4s,baz=34,slow=3.4,SNR=3.4						
MMAI	**Mount Meron Ar**	**151.47**	**288**	PKPbc	PKPbc	01 23 09.8	+1.9
	3.2nm,0.6s,baz=95,slow=3.6,SNR=6.4						
EIL	**Eilat**	**151.76**	**281**	PKPbc	PKPbc	01 23 09.9	+1.4
	3.8nm,0.7s,baz=135,slow=1.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**165.11**	**176**	PKPab	PKPab	01 24 12.4	-2.8
	0.2nm,0.5s,baz=193,slow=3.9,SNR=4.7						

*NEIC **22** 01:05:07.6, 17.81N×66.76W, h5km, MD2.7(RSPR), After RSPR.*

RSPR 22 01:05:07.6, 17.81N×66.76W, h5km, MD2.2/9, 19C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBPR	**Guanica, Bosqu**	**0.20**	**325**	⇑*e*P	Pg	01 05 12.1	+0.4
GBPR				*e*S	Sg	01 05 16.0	+1.7
OBIP	**Obispado Ponce**	**0.27**	**31**	⇑*e*P	Pg	01 05 13.2	+0.2
OBIP	**Obispado Ponce**	**0.27**	**31**	⇑*e*P	Pg	01 05 13.2	+0.2
OBIP	**Obispado Ponce**	**0.27**	**31**	*e*S	Sg	01 05 18.2	+1.7
OBIP	**Obispado Ponce**	**0.27**	**31**	⇑*e*P	Pg	01 05 13.2	+0.2
OBIP				*e*S	Sg	01 05 18.2	+1.7
CELP	**Cerrillos**	**0.31**	**32**	⇓*e*P	Pg	01 05 14.0	+0.3
CELP				*e*S	Sg	01 05 19.4	+1.5
CELP	**Cerrillos**	**0.31**	**32**	⇑*e*P	Pg	01 05 14.1	+0.3
CELP				*e*S	Sg	01 05 19.4	+1.5
CELP	**Cerrillos**	**0.31**	**32**	⇓*e*P	Pg	01 05 14.0	+0.3
CELP				*e*S	Sg	01 05 19.4	+1.5
CRPR	**Cabo Rojo, PR**	**0.39**	**300**	⇑*e*P	Pg	01 05 15.4	+0.3
CRPR	**Cabo Rojo, PR**	**0.39**	**300**	⇑*e*P	Pg	01 05 15.4	+0.2
CRPR	**Cabo Rojo, PR**	**0.39**	**300**	*e*S	Sg	01 05 21.8	+1.5
CRPR	**Cabo Rojo, PR**	**0.39**	**300**	⇑*e*P	Pg	01 05 15.4	+0.2
CRPR				*e*S	Sg	01 05 21.8	+1.5
LSP	**Las Mesas**	**0.48**	**319**	⇓*e*P	Pg	01 05 17.0	0.0
LSP	**Las Mesas**	**0.48**	**319**	*e*S	Sb	01 05 24.9	-1.2
LSP	**Las Mesas**	**0.48**	**319**	⇑*e*P	Pg	01 05 17.1	+0.1
LSP	**Las Mesas**	**0.48**	**319**	*e*S	Sb	01 05 25.4	-0.7
LSP	**Las Mesas**	**0.48**	**319**	⇓*e*P	Pg	01 05 17.0	0.0
LSP				*e*S	Sb	01 05 25.4	-0.7
LRS	**Lares**	**0.49**	**350**	⇓*e*P	Pg	01 05 17.1	0.0
LRS				*e*S	Sg	01 05 24.5	+1.0
LRS	**Lares**	**0.49**	**350**	⇑*e*P	Pg	01 05 17.2	+0.1
LRS				*e*S	Sg	01 05 24.3	+0.8
LRS	**Lares**	**0.49**	**350**	⇑*e*P	Pg	01 05 17.2	+0.1
LRS				*e*S	Sg	01 05 24.5	+1.0
AOPR	**Arecibo Observ**	**0.54**	**0**	⇑*e*P	Pg	01 05 17.9	-0.1
AOPR	**Arecibo Observ**	**0.54**	**0**	⇑*e*P	Pg	01 05 17.9	-0.1
AOPR	**Arecibo Observ**	**0.54**	**0**	*e*S	Sg	01 05 25.9	+0.9
AOPR	**Arecibo Observ**	**0.54**	**0**	⇑*e*P	Pg	01 05 17.9	-0.1
AOPR				*e*S	Sg	01 05 25.9	+0.9
SJG	**San Juan**	**0.65**	**62**	⇓*e*P	Pg	01 05 19.6	-0.5
SJG				*e*S	Sg	01 05 29.4	+0.8
SJG	**San Juan**	**0.65**	**62**	⇑*i*P	Pg	01 05 19.8	-0.4
SJG				*e*S	Sg	01 05 29.3	+0.7
SJG	**San Juan**	**0.65**	**62**	⇓*e*P	Pg	01 05 19.6	-0.5
SJG				*e*S	Sg	01 05 29.3	+0.7
CPD	**Cerro la Pandu**	**0.83**	**74**	⇑*e*P	Pg	01 05 22.6	-1.0
CPD				*e*S	Sg	01 05 35.0	+0.4
CPD	**Cerro la Pandu**	**0.83**	**74**	⇑*e*P	Pg	01 05 22.6	-1.0
CPD				*e*S	Sg	01 05 35.0	+0.4
HUMP	**Col San Antoni**	**0.92**	**69**	⇑*e*P	Pg	01 05 24.2	-1.1
HUMP	**Col San Antoni**	**0.92**	**69**	⇑*e*P	Pg	01 05 24.2	-1.2
HUMP	**Col San Antoni**	**0.92**	**69**	*e*S	Sg	01 05 37.3	-0.1
HUMP	**Col San Antoni**	**0.92**	**69**	⇑*e*P	Pg	01 05 24.2	-1.2
HUMP				*e*S	Sg	01 05 37.3	-0.1

AUST 22 01:09:47.4±11.0, 31.01S×150.57E, h0km, Error ellipse: s-maj=4.0km s-min=1.2km az=262.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMA	**Armidale**	**1.09**	**57**	P	Pg	01 10 07.2	-1.3
	baz=1.1,SNR=68						
ARMA				S	Sb	01 10 23.7	-0.5
	baz=1.1,SNR=14						
MGCD	**Mangrove Creek**	**2.24**	**168**	P	Pb	01 10 28.3	-0.5
	baz=2.2,SNR=14						
MGCD				S	Sg	01 11 07.6	+8.1
	baz=2.2,SNR=5.3						
YNG	**Young**	**3.75**	**209**	P	Pn	01 10 45.1	-1.6
	baz=3.8,SNR=10						
RMQ	**Roma**	**4.78**	**340**	P	Pn	01 11 02.0	+1.3
	baz=4.8,SNR=5.4						

IDC 22 01:18:43.6±12.0, 1.48N×126.72E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/45, mbtmp3.9/3, Error ellipse: s-maj=197.9km s-min=161.4km az=159.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.57**	**161**	P	P	01 23 46.3	+0.7
	2.0nm,0.4s,baz=339,slow=12,SNR=39						
ASAR	**Alice Springs**	**25.95**	**165**	P	P	01 24 18.2	+0.2
	0.7nm,0.6s,baz=348,slow=7.6,SNR=12						
STKA	**Stephens Creek**	**36.05**	**158**	P	P	01 25 45.9	-1.0
	2.6nm,0.7s,baz=319,slow=9.3,SNR=3.7						

*SKO **22** 01:20:13.3, 38.26N×22.24E, h0km, M2.4, ML3.2*
*IDC **22** 01:20:13.7±0.9, 38.43N×22.01E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.6/44, mbtmp3.6/13, ML3.2/2, Error ellipse: s-maj=19.4km s-min=17.2km az=105.0*
*ATH **22** 01:20:14.9, 38.43N×22.00E, h17km, ML3.4*
*CSEM **22** 01:20:15.2±0.1, 38.43N×21.99E, h3km, ML3.6, Error ellipse: s-maj=2.8km s-min=2.4km az=91.0*
*ISCJB **22** 01:20:15.2±0.3, 38.44N±0.01×21.97E±0.02, h14km±2km, mb3.6/9, Error ellipse: s-maj=2.5km s-min=2.3km az=12.8*
*THE **22** 01:20:15.7, 38.44N×21.98E, h5km±1km, ML3.7/8, Error ellipse: s-maj=1.4km s-min=0.5km az=223.0*

ISC 22 01:20:15.4±0.7, 38.44N±0.01×21.98E±0.01, h10km±4km, n164, σ088/215, mb3.8/9, 13C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**260**	P	**Pg**	**01 20 17.2**	**-0.3**
EFP				S	**Sg**	**01 20 18.6**	**-0.5**
EFP	**Efpalio**	**0.06**	**260**	*e*PB	**Pg**	**01 20 17.2**	**-0.3**
EFP	**Efpalio**	**0.06**	**260**	P	**Pg**	**01 20 17.2**	**-0.3**
EFP				S	**Sg**	**01 20 18.2**	**-0.9**
KALE	**Kalithea**	**0.13**	**110**	P	**Pg**	**01 20 18.7**	**+0.2**
KALE				S	**Sg**	**01 20 21.2**	**+0.4**
KALE	**Kalithea**	**0.13**	**110**	*e*PB	**Pg**	**01 20 18.7**	**+0.2**
KALE				*e*SB	**Sg**	**01 20 21.5**	**+0.7**
KALE	**Kalithea**	**0.13**	**110**	P	**Pg**	**01 20 18.7**	**+0.2**
KALE				S	**Sg**	**01 20 21.0**	**+0.2**
LAKA	**Lakka**	**0.20**	**181**	P	**Pg**	**01 20 19.6**	**0.0**
LAKA	**Lakka**	**0.20**	**181**	*e*PB	**Pg**	**01 20 19.5**	**0.0**
LAKA	**Lakka**	**0.20**	**181**	P	**Pg**	**01 20 19.6**	**0.0**
UPR	**University Cam**	**0.22**	**225**	P	**Pg**	**01 20 19.8**	**-0.1**
UPR	**University Cam**	**0.22**	**225**	P	**Pg**	**01 20 19.8**	**-0.1**
UPR				S	**Sg**	**01 20 22.9**	**-0.1**
PVO	**Paravola**	**0.40**	**297**	P	**Pg**	**01 20 23.0**	**-0.3**
PVO	**Paravola**	**0.40**	**297**	P	**Pg**	**01 20 22.8**	**-0.5**
PVO				S	**Sb**	**01 20 30.5**	**-0.3**
KLV	**Kalavryta, Ach**	**0.41**	**161**	P	**Pg**	**01 20 23.3**	**-0.3**
KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*PB	**Pg**	**01 20 23.3**	**-0.3**
KLV				*e*SB	**Sg**	**01 20 29.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.41**	**161**	P	**Pg**	**01 20 23.3**	**-0.3**
KLV				*e*Sb	**Sg**	**01 20 29.5**	**+0.4**
DSF	**Desfina**	**0.43**	**93**	P	**Pg**	**01 20 23.5**	**-0.3**
DSF				S	**Sg**	**01 20 30.6**	**+1.1**
DSF	**Desfina**	**0.43**	**93**	*e*PB	**Pg**	**01 20 23.6**	**-0.3**
DSF				*e*SB	**Sg**	**01 20 30.2**	**+0.7**
DSF	**Desfina**	**0.43**	**93**	P	**Pg**	**01 20 23.5**	**-0.3**
DSF				S	**Sg**	**01 20 30.0**	**+0.5**
EVR	**Evrytania**	**0.50**	**344**	P	**Pg**	**01 20 24.8**	**-0.3**
EVR				S	**Sg**	**01 20 32.7**	**+1.0**
EVR	**Evrytania**	**0.50**	**344**	*e*PN	**Pg**	**01 20 24.9**	**-0.2**
EVR				*e*SN	**Sg**	**01 20 32.7**	**+1.0**
EVR	**Evrytania**	**0.50**	**344**	*e*Pn	**Pg**	**01 20 24.9**	**-0.2**
EVR				S	**Sg**	**01 20 32.5**	**+0.8**
DRO	**Drossia**	**0.53**	**204**	P	**Pg**	**01 20 25.3**	**-0.4**
DRO				S	**Sb**	**01 20 34.1**	**-0.4**
DRO	**Drossia**	**0.53**	**204**	*e*PN	**Pg**	**01 20 25.3**	**-0.4**
DRO	**Drossia**	**0.53**	**204**	P	**Pg**	**01 20 25.3**	**-0.4**
DRO				S	**Sg**	**01 20 32.7**	**0.0**
RLS	**Riolos of Patr**	**0.56**	**227**	P	**Pg**	**01 20 25.9**	**-0.3**
RLS				S	**Sg**	**01 20 34.5**	**+0.9**
RLS	**Riolos of Patr**	**0.56**	**227**	*e*PN	**Pg**	**01 20 26.0**	**-0.3**
RLS				*e*SN	**Sg**	**01 20 34.4**	**+0.9**
RLS	**Riolos of Patr**	**0.56**	**227**	P	**Pg**	**01 20 25.9**	**-0.3**
RLS				S	**Sg**	**01 20 34.3**	**+0.8**
GUR	**Goura**	**0.58**	**150**	P	**Pg**	**01 20 26.3**	**-0.3**
GUR				S	**Sg**	**01 20 34.9**	**+0.7**
GUR	**Goura**	**0.58**	**150**	*e*PN	**Pg**	**01 20 26.2**	**-0.3**
GUR	**Goura**	**0.58**	**150**	P	**Pg**	**01 20 26.3**	**-0.3**
GUR				S	**Sg**	**01 20 34.9**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	**Pg**	**01 20 26.9**	**+0.1**
MAKR				S	**Sb**	**01 20 36.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	*e*PN	**Pg**	**01 20 26.6**	**-0.2**
MAKR				*e*SN	**Sg**	**01 20 35.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	**Pg**	**01 20 26.6**	**-0.2**
MAKR				*e*Sn	**Sg**	**01 20 35.2**	**+0.6**
MAKR				S	**Sb**	**01 20 36.1**	**-0.1**
AXAR	**Agios Charalam**	**0.62**	**58**	P	**Pg**	**01 20 27.0**	**-0.5**
AXAR	**Agios Charalam**	**0.62**	**58**	*e*PN	**Pg**	**01 20 27.0**	**-0.5**
AXAR	**Agios Charalam**	**0.62**	**58**	P	**Pg**	**01 20 27.0**	**-0.5**
AXAR				S	**Sg**	**01 20 36.3**	**+0.6**
AGG	**Agios Georgios**	**0.64**	**25**	P	**Pg**	**01 20 27.0**	**-0.9**
AGG	**Agios Georgios**	**0.64**	**25**	*e*PN	**Pg**	**01 20 27.3**	**-0.6**
AGG				*e*SN	**Sg**	**01 20 37.2**	**+0.8**
AGG	**Agios Georgios**	**0.64**	**25**	P	**Pg**	**01 20 27.0**	**-0.9**
AGG	**Agios Georgios**	**0.64**	**25**	*e*Pn	**Pg**	**01 20 27.3**	**-0.6**
AGG				*e*Sn	**Sg**	**01 20 37.2**	**+0.8**
PDO	**Prodromos**	**0.65**	**285**	P	**Pg**	**01 20 28.0**	**-0.7**
PDO				S	**Sb**	**01 20 38.2**	**+0.3**
PDO	**Prodromos**	**0.65**	**285**	*e*PN	**Pg**	**01 20 28.0**	**+0.1**
PDO				*e*SN	**Sb**	**01 20 38.1**	**+0.2**
PDO	**Prodromos**	**0.65**	**285**	P	**Pg**	**01 20 27.5**	**-0.4**
PDO	**Prodromos**	**0.65**	**285**	*e*Pn	**Pg**	**01 20 28.0**	**+0.1**
PDO				S	**Sb**	**01 20 38.1**	**+0.2**
LKR	**Lokris**	**0.83**	**75**	P	**Pb**	**01 20 31.8**	**0.0**
LKR				S	**Sb**	**01 20 43.4**	**+0.4**
LKR	**Lokris**	**0.83**	**75**	*e*PN	**Pg**	**01 20 30.2**	**-1.1**
LKR	**Lokris**	**0.83**	**75**	*e*Pn	**Pg**	**01 20 30.2**	**-1.1**
LKR	**Lokris**	**0.83**	**75**	P	**Pb**	**01 20 31.8**	**0.0**
LKR				S	**Sb**	**01 20 43.4**	**+0.4**
LTK	**Loutraki**	**0.88**	**118**	P	**Pg**	**01 20 32.2**	**-0.1**
LTK	**Loutraki**	**0.88**	**118**	*e*PN	**Pg**	**01 20 32.3**	**-0.1**
LTK	**Loutraki**	**0.88**	**118**	P	**Pg**	**01 20 32.2**	**-0.1**
AMT	**Artemida-Makis**	**0.93**	**194**	P	**Pg**	**01 20 33.3**	**0.0**
AMT				S	**Sn**	**01 20 47.8**	**-0.6**
AMT	**Artemida-Makis**	**0.93**	**194**	*e*PN	**Pg**	**01 20 33.0**	**-0.3**
AMT	**Artemida-Makis**	**0.93**	**194**	*e*Pn	**Pg**	**01 20 33.0**	**-0.3**
AMT	**Artemida-Makis**	**0.93**	**194**	P	**Pg**	**01 20 33.3**	**0.0**
AMT				S	**Sb**	**01 20 46.8**	**+0.8**
SMIA	**Simia**	**1.06**	**65**	P	**Pg**	**01 20 34.9**	**-0.8**
SMIA	**Simia**	**1.06**	**65**	*e*PN	**Pg**	**01 20 35.2**	**-0.5**
SMIA	**Simia**	**1.06**	**65**	P	**Pg**	**01 20 34.9**	**-0.8**
SMIA	**Simia**	**1.06**	**65**	*e*Pn	**Pg**	**01 20 35.2**	**-0.5**
LKD2	**Lefkada island**	**1.09**	**289**	P	**Pb**	**01 20 35.9**	**-0.6**
LKD2	**Lefkada island**	**1.09**	**289**	*e*PN	**Pb**	**01 20 35.7**	**-0.8**
LKD2	**Lefkada island**	**1.09**	**289**	P	**Pb**	**01 20 35.9**	**-0.6**
THL	**Klokotos Trika**	**1.13**	**1**	P	**Pb**	**01 20 35.9**	**-1.1**
THL				S	**Sn**	**01 20 52.6**	**-0.1**
THL	**Kl

VOIR		**7.36**	**17**⇑	*i*P		**Pn**	**01 22 04.3**	**+1.4**
MLR	**Muntele Rosu**	**7.64**	**21**⇑	*i*P		**Pn**	**01 22 08.3**	**+1.5**
MLR	**Muntele Rosu**	**7.64**	**21**	Pn		**Pn**	**01 22 09.1**	**+2.3**
	baz=187,slow=16							
MLR	**Muntele Rosu**	**7.64**	**21**⇑	*i*P		**Pn**	**01 22 08.3**	**+1.5**
PLOR	**Plostina**	**8.18**	**24**⇑	*i*P		**Pn**	**01 22 16.4**	**+2.3**
PLOR	**Plostina**	**8.18**	**24**⇑	*i*P		**Pn**	**01 22 16.4**	**+2.3**
VRI	**Vrincioaia**	**8.22**	**24**⇓	*i*P		**Pn**	**01 22 16.3**	**+1.7**
VRI	**Vrincioaia**	**8.22**	**24**⇓	*i*P		**Pn**	**01 22 16.3**	**+1.7**
BRTR	**Keskin Array B**	**9.16**	**78**	Pn		**Pn**	**01 22 29.9**	**+2.3**
	0.4nm,0.3s,baz=254,slow=12,SNR=12							
ESDC	**Sonseca Array**	**20.117**	**287**	P		Pn	01 24 51.5	-0.4
	1.6nm,0.8s,baz=75,slow=11,SNR=7.5							
HFS	**Hagfors**	**22.34**	**349**	P		**P**	**01 25 13.8**	**+0.6**
	1.1nm,0.5s,baz=152,slow=9.4,SNR=3.6							
FINES	**FINESS Array B**	**23.17**	**5**	P		**P**	**01 25 20.0**	**-1.8**
	1.9nm,0.8s,baz=186,slow=9.5,SNR=3.0							
NB2	**NORSAR Subarra**	**23.61**	**347**	P		**P**	**01 25 26.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=158,slow=9.3							
NB2	**NORSAR Subarra**	**23.61**	**347**	P		**P**	**01 25 26.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=158,slow=9.1,SNR=3.7							
NOA	**NORSAR Array B**	**23.61**	**347**	P		**P**	**01 25 26.1**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=158,slow=8.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	**30.97**	**221**	P		**P**	**01 26 32.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=37,slow=9.2,SNR=13							
ARCES	**ARCESS Array B**	**31.22**	**2**	P		**P**	**01 26 33.6**	**-1.0**
	comp=Z,2.6nm,1.0s,baz=179,slow=8.1,SNR=4.0							
MKAR	**Makanchi Array**	**44.19**	**59**	P		**P**	**01 28 23.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=279,slow=8.0,SNR=14							
ZALV	**Zalesovo Beam**	**44.66**	**48**	P		**P**	**01 28 27.4**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=273,slow=8.2,SNR=5.1							
SONM	**Songino Array**	**59.40**	**51**	P		**P**	**01 30 17.8**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=308,slow=7.2,SNR=3.0							
YKA	**Yellowknife Ar**	**73.53**	**341**	P		**P**	**01 31 47.5**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=20,slow=5.5,SNR=3.7							

*IDC **22** 01:22:09.8±2.4,3.°80S×154.°19E,h450km±27km,mb3.6/16, mb1 3.8/17,mb1mx3.7/21,mbtmp4.4/17,Error ellipse: s-maj=18.7km s-min=9.8km az=82.0*

*ISCJB **22** 01:22:10.7±0.5,3.°80S±0.°06×154.°1E±0.°1,h476km, mb3.9/16,Error ellipse: s-maj=13.9km s-min=7.4km az=8.0*

ISC 22 01:22:11.8±0.6,3.°81S±0.°08×154.°1E±0.°1,h476km,n42, σ1§20/44,mb4.0/16,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.96**	**259**	P	P	01 23 11.3	-3.2
	baz=1.9,SNR=8.9						
RABL				S	**S**	**01 24 00.3**	**-5.0**
	baz=1.9,SNR=8.5						
COEN	**Coen**	**14.75**	**226**	P	**P**	**01 25 21.0**	**+1.0**
	baz=14,SNR=6.7						
CTA	**Charters Tower**	**17.89**	**205**	P	**P**	**01 25 51.6**	**-0.8**
	1.4nm,0.3s,baz=30,slow=11,SNR=17						
EIDS	**Eidsvold**	**21.63**	**187**	P	**P**	**01 26 26.9**	**+0.3**
	baz=21,SNR=3.4						
DZM	**Mont Dzumac**	**21.76**	**148**	P	**P**	**01 26 27.5**	**-0.4**
	13nm,0.7s,baz=313,slow=11,SNR=14						
QIS	**Mount Isa**	**21.82**	**219**	P	**P**	**01 26 28.9**	**+0.5**
	baz=22,SNR=4.9						
PALU	**Palau**	**22.49**	**299**	P	P	01 26 42.4	+8.0
	baz=23,SNR=3.9						
KDU	**Kakadu**	**23.12**	**246**	P	**P**	**01 26 40.2**	**+0.1**
	baz=23,SNR=7.0						
MTN	**Manton Dam**	**24.40**	**247**	P	**P**	**01 26 51.7**	**+0.2**
	baz=24,SNR=3.9						
QLP	**Quilpie**	**24.53**	**202**	P	**P**	**01 26 53.0**	**+0.5**
	baz=24,SNR=7.9						
WRA	**Warramunga Arr**	**25.06**	**229**	P	**P**	**01 26 57.4**	**0.0**
	9.0nm,0.6s,baz=52,slow=9.3,SNR=54						
WRA				PcP	**PcP**	**01 30 17.1**	**+0.5**
	1.0nm,0.6s,baz=55,slow=2.6,SNR=5.2						
ARMA	**Armidale**	**26.57**	**185**	P	**P**	**01 27 11.6**	**+0.9**
	baz=26,SNR=8.2						
KNRA	**Kununurra**	**27.56**	**243**	P	**P**	**01 27 19.3**	**-0.2**
	baz=27,SNR=11						
ASAR	**Alice Springs**	**27.74**	**223**	P	**P**	**01 27 20.7**	**-0.3**
	5.7nm,0.4s,baz=55,slow=8.8,SNR=88						
ASAR				PcP	**PcP**	**01 30 23.4**	**+0.5**
	0.2nm,0.3s,baz=60,slow=3.0,SNR=4.3						
CMSA	**Cobar Meteorol**	**28.70**	**195**	P	**P**	**01 27 29.3**	**+0.1**
	baz=28,SNR=6.2						
STKA	**Stephens Creek**	**30.29**	**201**	P	**P**	**01 27 42.6**	**-0.5**
	3.2nm,0.5s,baz=38,slow=13,SNR=8.1						
STKA	**Stephens Creek**	**30.29**	**201**	P	**P**	**01 27 43.0**	**-0.1**
	baz=30,SNR=4.6						
FITZ	**Fitzroy Crossi**	**31.26**	**241**	P	**P**	**01 27 51.0**	**-0.7**
	baz=31,SNR=24						
WRKA	**Warakurna**	**32.57**	**227**	P	**P**	**01 28 02.3**	**-0.6**
	baz=32,SNR=11						
HTT	**Hallett**	**32.70**	**204**	P	**P**	**01 28 04.0**	**+0.1**
	baz=32,SNR=12						
BBOO	**Buckleboo**	**33.43**	**208**	P	**P**	**01 28 09.6**	**-0.4**
	baz=33,SNR=9.0						
WSI	**Waingapu**	**34.04**	**258**	S	S	01 33 13.1	+6.5
	baz=34,SNR=5.3						
FORT	**Forrest**	**36.36**	**220**	P	**P**	**01 28 34.5**	**-0.1**
	baz=36,SNR=28						
MEEK	**Meekatharra**	**40.82**	**233**	P	**P**	**01 29 11.0**	**-0.2**
	baz=41,SNR=20						
MJAR	**Matsushiro Arr**	**42.79**	**341**	P	**P**	**01 29 25.8**	**-0.8**
	5.6nm,0.7s,baz=163,slow=8.0,SNR=7.4						
JNU	**Nakatsue**	**42.80**	**331**	P	**P**	**01 29 26.5**	**-0.2**
	19nm,0.6s,baz=124,slow=3.6,SNR=8.8						
MORW	**Morawa**	**43.96**	**231**	P	**P**	**01 29 35.3**	**-0.5**
	baz=44,SNR=7.2						
CISI	**Cisompet, Garu**	**46.17**	**263**	P	**P**	**01 29 52.8**	**-0.4**
	baz=46,SNR=3.4						
KSRS	**Korea Array**	**47.72**	**332**	P	**P**	**01 30 04.8**	**+0.4**
	3.1nm,0.5s,baz=146,slow=8.4,SNR=8.5						
USRK	**Ussuriysk Arra**	**51.74**	**340**	P	**P**	**01 30 34.5**	**+0.4**
	2.5nm,0.7s,baz=146,slow=4.1,SNR=4.6						
PETK	**Petropavlovsk-**	**56.79**	**3**	P	**P**	**01 31 09.7**	**+0.2**
	4.2nm,0.6s,baz=186,slow=9.7,SNR=7.2						
CMAR	**Chiang Mai Arr**	**58.63**	**294**	P	**P**	**01 31 24.8**	**+1.9**
	1.0nm,0.5s,baz=110,slow=4.7,SNR=5.2						
SONM	**Songino Array**	**66.18**	**327**	P	**P**	**01 32 13.1**	**+1.5**
	2.3nm,0.5s,baz=142,slow=5.1,SNR=27						
VNDA	**Vanda**	**73.77**	**178**	P	**P**	**01 32 57.2**	**+1.0**
	3.3nm,0.6s,baz=338,slow=6.2,SNR=22						
MKAR	**Makanchi Array**	**80.43**	**319**	P	**P**	**01 33 34.3**	**+1.1**
	0.3nm,0.4s,baz=93,slow=5.8,SNR=6.7						
ILAR	**Eielson Array**	**80.76**	**22**	P	**P**	**01 33 33.5**	**-1.0**
	1.0nm,0.6s,baz=240,slow=5.3,SNR=25						
ILAR				pP	**pP**	**01 35 15.5**	**-3.5**
	1.2nm,1.0s,baz=255,slow=5.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**81.05**	**326**	P	**P**	**01 33 36.4**	**+0.2**
	0.5nm,0.4s,baz=109,slow=6.7,SNR=2.8						
YKA	**Yellowknife Ar**	**93.95**	**28**	P	**P**	**01 34 37.8**	**+0.2**
	0.2nm,0.6s,baz=268,slow=4.8,SNR=4.9						
YKA				pP	**pP**	**01 36 23.4**	**-1.6**
	0.3nm,0.8s,baz=266,slow=4.5,SNR=4.8						
GERES	**GERESS Array B**	**123.87**	**330**	PKP	**PKPdf**	**01 40 15.8**	**+0.4**
	0.2nm,0.5s,baz=57,slow=3.6,SNR=3.4						
LPAZ	**La Paz**	**133.74**	**117**	PKP	**PKPdf**	**01 40 37.4**	**+1.8**
	0.8nm,0.6s,baz=299,slow=1.4,SNR=4.1						
BDFB	**Brasilia**	**150.81**	**132**	PKPbc	**PKPbc**	**01 41 11.3**	**+0.4**
	2.8nm,0.5s,baz=223,slow=1.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**151.19**	**290**	PKPbc	**PKPbc**	**01 41 11.6**	**-0.2**
	1.6nm,0.4s,baz=66,slow=1.9,SNR=53						

*SZGRF **22** 01:24:50.3,20.°10S×174.°88E,h33km, Vanuatu Islands region*

*ISCJB **22** 01:24:50.3±0.1,19.°48S±0.°05×175.°26E±0.°03,h33km, mb5.2/148,MS4.6/42,Error ellipse: s-maj=6.9km s-min=3.6km az=159.3*

*MOS **22** 01:24:50.6±1.1,19.°35S×175.°20E,h33km,mb5.5/32, MS4.7/9,Error ellipse: s-maj=9.9km s-min=9.0km az=139.0*

*BJI **22** 01:24:51.9,19.°08S×175.°27E,h36km,mB5.3/29,mb5.1/38, Ms5.2/28,Ms7 4.9/28*

*NEIC **22** 01:24:51.5±0.1,19.°51S×175.°28E,h35km,mb5.4/111, Error ellipse: s-maj=6.4km s-min=3.7km az=149.0*

*IDC **22** 01:24:52.8±2.8,19.°60S×175.°37E,h50km±25km,mb4.6/20, mb1 4.8/23,mb1mx4.7/27,mbtmp4.9/23,ML4.3/3,MS4.5/27, Ms1 4.5/27,ms1mx4.4/33,Error ellipse: s-maj=19.5km s-min=14.1km az=146.0*

*GCMT **22** 01:24:56.4±0.1,19.°42S×175.°42E,h16km,MW5.4/107, Moment Tensor Solution. s77,c126; s107,c188; Duration: 1§2 Moment tensor: Scale 10^17^Nm;*

Mrr=0.80±.03; Mθθ=0.21±.03; Mφφ=1.02±.03; Mrθ=0.22±.07; Mθφ=1.10±.02; Mrφ=-0.10±.06; Best double couple: M₀1.33000×10^17^ NP1:φ₁66.00000°,δ66.00000°, λ-34.00000°. NP2:φ₂172.00000°,δ59.00000°, λ-152.00000°. Principal axes: T 1.6800, Plg5.0000°, Azm121.0000°; N -0.6960, Plg49.0000°, Azm216.0000°; P -0.9800, Plg41.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 22 01:24:51.2±0.3,19.°52S±0.°05×175.°41E±0.°05,h35km, h35km:pP-P,n780,σ1§09/787,mb5.3/148,MS4.6/42, 188C-168D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.76**	**252**	*e*Pn	**Pn**	**01 26 56.7**	**+1.1**
DZM				*e*LR	LR	01 28 55.3	
	4μm,25.4s						
DZM	**Mont Dzumac**	**8.76**	**252**	P	**Pn**	**01 26 57.1**	**+1.5**
DZM	**Mont Dzumac**	**8.76**	**252**	P	**Pn**	**01 26 57.1**	**+1.5**
	1.4nm,0.3s,baz=66,slow=18,SNR=24						
DZM				LR	LR	01 29 35.6	
	comp=Z,2μm,19.4s,baz=67,slow=32						
DZM	**Mont Dzumac**	**8.76**	**252**	*e*P	**Pn**	**01 26 56.7**	**+1.1**
NOUC	**Port Laguerre**	**8.90**	**252**	*e*P	**Pn**	**01 26 59.8**	**+2.4**
RAO	**Raoul Island**	**11.44**	**149**	LR	LR	01 31 04.7	
	comp=Z,5μm,18.2s,baz=316,slow=33						
AFI	**Afiamalu**	**13.48**	**68**	P	**Pn**	**01 28 00.7**	**+0.5**
AFI	**Afiamalu**	**13.48**	**68**	P	**Pn**	**01 28 00.7**	**+0.5**
	3.7nm,0.3s,baz=234,slow=8.7,SNR=2.6						
AFI				LR	LR	01 32 22.4	
	comp=Z,952nm,18.3s,baz=239,slow=33						
HNR	**Honiara**	**18.00**	**302**	LR	LR	01 34 51.9	
	comp=Z,2μm,20.8s,baz=138,slow=33						
URZ	**Urewera**	**18.74**	**176**	P	**Pn**	**01 29 07.5**	**-0.1**
URZ				*e*Pn	**P**	**01 29 08.4**	**+1.4**
URZ	**Urewera**	**18.74**	**176**	P	**Pn**	**01 29 07.5**	**-0.1**
	1.2nm,0.3s,baz=22,slow=9.4,SNR=9.6						
BKZ	**Black Stump Fm**	**19.61**	**177**	*e*Pn	**Pn**	**01 29 18.5**	**+0.4**
	52nm,2.8s						
BFZ	**Birch Farm**	**21.11**	**178**	*e*Pn	**P**	**01 29 34.5**	**+1.7**
	60nm,0.9s						
EIDS	**Eidsvold**	**23.21**	**251**	*e*P	**P**	**01 29 55.8**	**+0.5**
	21nm,0.9s						
EIDS	**Eidsvold**	**23.21**	**251**	P	**P**	**01 29 56.2**	**+0.9**
	baz=23,SNR=3.1						
RAR	**Rarotonga**	**23.32**	**98**	LR	LR	01 37 02.3	
	comp=Z,1μm,20.6s,baz=268,slow=31						
RPZ	**Rata Peaks**	**24.41**	**188**	*e*P	**P**	**01 30 08.2**	**+1.8**
	34nm,0.9s						
RMQ	**Roma**	**25.46**	**249**	P	**P**	**01 30 17.8**	**+1.7**
	baz=25,SNR=7.5						
CTA	**Charters Tower**	**27.42**	**264**	P	**P**	**01 30 33.9**	**0.0**
CTA	**Charters Tower**	**27.42**	**264**	P	**P**	**01 30 33.9**	**0.0**
	3.2nm,0.3s,baz=62,slow=19,SNR=2.2						
CTA				LR	LR	01 40 55.9	
	comp=Z,908nm,20.0s,baz=88,slow=35						
CTAO	**Charters Tower**	**27.42**	**264**	*e*P	**P**	**01 30 33.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,38nm,1.3s						
CTAO	**Charters Tower**	**27.42**	**264**	*e*P	**P**	**01 30 33.7**	**-0.2**
	comp=Z,38nm,1.3s						
CAN	**Canberra**	**28.12**	**231**	*e*P	**P**	**01 30 41.3**	**+1.3**
CAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CAN	**Canberra**	**28.12**	**231**	*e*P	**P**	**01 30 41.3**	**+1.3**
	comp=Z,6.9nm,0.6s						
PMG	**Port Moresby**	**29.10**	**286**	*e*P	**P**	**01 30 49.0**	**+0.1**
	comp=Z,10nm,0.9s						
PMG	**Port Moresby**	**29.10**	**286**	P	**P**	**01 30 48.9**	**0.0**
	comp=Z,26nm,0.9s,baz=134,slow=7.8,SNR=4.9						
PMG				LR	LR	01 41 33.5	
	comp=Z,2μm,18.5s,baz=110,slow=34						
QLP	**Quilpie**	**29.48**	**250**	P	**P**	**01 30 52.5**	**+0.3**
	baz=29,SNR=6.0						
COEN	**Coen**	**31.33**	**275**	*e*P	**P**	**01 31 08.4**	**-0.2**
TOO	**Toolangi**	**31.65**	**229**	P	**P**	**01 31 14.5**	**+3.2**
	baz=31,SNR=4.0						
STKA	**Stephens Creek**	**32.73**	**241**	*e*P	**P**	**01 31 21.6**	**+0.8**
	comp=Z,3.7nm,0.8s						
STKA				*e*PcP	**PcP**	**01 34 05.5**	**-0.2**
STKA	**Stephens Creek**	**32.73**	**241**	P	**P**	**01 31 20.6**	**-0.1**
	comp=Z,14nm,1.0s,baz=93,slow=10.0,SNR=13						
STKA				PcP	**PcP**	**01 34 05.6**	**-0.2**
	comp=Z,8.6nm,1.0s,baz=350,slow=4.0,SNR=3.9						
STKA	**Stephens Creek**	**32.73**	**241**	P	**P**	**01 31 21.6**	**+0.8**
	baz=32,SNR=5.3						
TBI	**Tubuai**	**32.87**	**103**	*e*S	S	01 36 47.8	+10
	comp=Z,506nm,27.2s						
TBI				*e*LQ	LQ	01 38 34.4	
	comp=Z,2μm,28.2s						
TBI				*e*LR	LR	01 40 07.7	
	comp=Z,4μm,30.5s						
PPT2	**Papeete2**	**33.22**	**93**	*e*S	S	01 36 51.5	+8.4
	comp=Z,179nm,21.2s						
PPT2				*e*LQ	LQ	01 38 39.6	
	comp=Z,4μm,31.0s						
PPT2				*e*LR	LR	01 40 30.0	
	comp=Z,4μm,26.2s,baz=251						
PPT	**Papeete**	**33.22**	**92**	LR	LR	01 41 26.4	
	comp=Z,915nm,21.3s,baz=258,slow=30						
BBOO	**Buckleboo**	**37.50**	**241**	*e*P	**P**	**01 32 02.1**	**+0.2**
	comp=Z,35nm,1.0s						
JAY	**Jayapura**	**37.89**	**292**	LR	LR	01 47 34.3	
	comp=Z,809nm,18.2s,baz=86,slow=36						
WRAB	**Tennant Creek**	**38.58**	**262**	*e*P	**P**	**01 32 10.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,36nm,1.2s						
WRAB				MLR	MLR		
	comp=Z,1μm,13.0s						
WRAB	**Tennant Creek**	**38.58**	**262**	*e*P	**P**	**01 32 09.1**	**-2.0**
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**38.59**	**262**	P	**P**	**01 32 09.5**	**-1.7**
WRA				PcP	**PcP**	**01 34 22.8**	**-0.6**
WRA	**Warramunga Arr**	**38.59**	**262**	P	**P**	**01 32 09.5**	**-1.7**
	comp=Z,4.0nm,0.9s,baz=95,slow=8.6,SNR=14						
WRA				PcP	**PcP**	**01 34 22.8**	**-0.6**
	comp=Z,5.1nm,1.0s,baz=90,slow=3.2,SNR=6.3						
WRA				LR	LR	01 46 55.6	
	comp=Z,769nm,20.0s,baz=90,slow=34						
AS31	**Alice Springs**	**38.72**	**256**	*e*P	**P**	**01 32 11.7**	**-0.6**
ASAR	**Alice Springs**	**38.72**	**256**	P	**P**	**01 32 11.7**	**-0.6**
ASAR				PcP	**PcP**	**01 34 23.1**	**-0.6**
ASAR	**Alice Springs**	**38.72**	**256**	P	**P**	**01 32 11.7**	**-0.6**
	comp=Z,26nm,0.8s,baz=84,slow=8.7,SNR=110						
ASAR				PcP	**PcP**	**01 34 23.1**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=101,slow=3.3,SNR=7.3						
ASAR				LR	LR	01 46 56.1	
	comp=Z,881nm,19.3s,baz=88,slow=34						
WRKA	**Warakurna**	**43.77**	**254**	P	**P**	**01 32 53.7**	**-0.1**
	baz=43,SNR=19						
FORT	**Forrest**	**44.02**	**246**	*e*P	**P**	**01 32 55.5**	**-0.1**
	comp=Z,48nm,0.9s						
FAKI	**Fak Fak**	**45.25**	**286**	*e*P	**P**	**01 33 05.4**	**-0.3**
	comp=Z,54nm,1.2s						
RKT	**Rikitea**	**46.19**	**104**	*e*S	S	01 40 05.2	+8.0
	comp=Z,563nm,29.5s						
RKT				*e*LQ	LQ	01 43 46.7	
	comp=Z,1μm,36.2s						
RKT				*e*LR	LR	01 46 16.8	
	comp=Z,3μm,30.5s,baz=263						
MEEK	**Meekatharra**	**52.38**	**251**	P	**P**	**01 33 59.9**	**-0.4**
	baz=52,SNR=5.2						
NWAO	**Narrogin (SRO)**	**53.27**	**243**	P	**P**	**01 34 05.8**	**-1.0**
NWAO	**Narrogin (SRO)**	**53.27**	**243**	P	**P**	**01 34 05.8**	**-1.0**
	comp=Z,18nm,1.1s,baz=96,slow=6.7,SNR=3.9						
MORW	**Morawa**	**54.46**	**248**	P	**P**	**01 34 18.1**	**+2.5**
	baz=54,SNR=3.2						
KAPI	**Kappang**	**56.02**	**277**	*e*P	**P**	**01 34 26.7**	**-0.2**
	comp=Z,22nm,1.1s						
JCJ	**Chichijima**	**56.43**	**324**	LR	LR	01 54 36.0	
	comp=Z,168nm,21.2s,baz=155,slow=32						
VNDA	**Vanda**	**58.43**	**183**	*e*P	**P**	**01 34 44.3**	**+1.3**
	comp=Z,8.8nm,1.3s						
KKM	**Kota Kinabalu**	**63.53**	**287**	*e*P	**P**	**01 35 17.7**	**-1.0**
	comp=Z,14nm,0.8s						
MJAR	**Matsushiro Arr**	**65.91**	**328**	P	**P**	**01 35 33.6**	**-0.1**
MJAR	**Matsushiro Arr**	**65.91**	**328**	P	**P**	**01 35 33.6**	**-0.1**
	comp=Z,25nm,1.0s,baz=145,slow=6.6,SNR=28						
MJAR				LR	LR	02 00 47.0	
	comp=Z,196nm,20.9s,baz=125,slow=33						
MAJO	**Matsushiro**	**65.91**	**328**	*d*iP	**P**	**01 35 33.2**	**-0.5**
MAJO	**Matsushiro**	**65.91**	**328**	*e*P	**P**	**01 35 34.3**	**+0.6**
	comp=Z,8.6nm,1.0s						
MAT	**Matsushiro**	**65.91**	**328**	P	**P**	**01 35 34.0**	**+0.3**
MAT				S	S	01 44 33.8	+15

KSM	**Kuching**	**67.14**	**280**	*e*P		**P**	**01 35 41.8**	**-0.2**
	comp=Z,23nm,1.0s							
JNU	**Nakatsue**	**67.44**	**320**	P		**P**	**01 35 43.6**	**+0.1**
JNU	**Nakatsue**	**67.44**	**320**	P		**P**	**01 35 43.6**	**+0.1**
	comp=Z,14nm,0.9s,baz=108,slow=6.4,SNR=3.7							
JNU				LR		LR	01 59 28.5	
	comp=Z,251nm,20.9s,baz=113,slow=31							
YUK	**Yuzh-Kuril'sk**	**68.79**	**338**	P		P	01 35 48.5	-3.2
YUK				*e*			01 38 22.9	
YUK				*e*PPP		PPP	01 40 07.6	
YUK				*e*S		**S**	**01 44 51.0**	**-1.8**
YUK				*i* SS		**SS**	**01 49 22.9**	**+4.2**
ASAJ	**Asahikawa**	**70.08**	**335**	LR		LR	02 01 27.3	
	comp=Z,617nm,21.1s,baz=160,slow=31							
QSPA	**South Pole Qui**	**70.54**	**180**	*e*P		**P**	**01 36 01.9**	**-0.7**
	comp=Z,39nm,1.2s							
KSRS	**Korea Array**	**72.17**	**322**	P		**P**	**01 36 13.1**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=137,slow=5.5,SNR=8.9							
KSRS				LR		LR	02 05 57.9	
	comp=Z,201nm,19.0s,baz=132,slow=34							
KSAR	**Wonju Array Be**	**72.19**	**322**	P		**P**	**01 36 13.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**72.42**	**337**⇑	*e*P		**P**	**01 36 15.0**	**+1.3**
YSS				*e*			01 36 22.0	
YSS				pmax		pmax		
	comp=Z,40nm,1.1s							
YSS	**Yuzh-Sakhalins**	**72.42**	**337**	*e*P		**P**	**01 36 14.6**	**+0.9**
	comp=Z,145nm,1.5s							
DLV	**T Lat**	**72.93**	**290**	*e*P		**P**	**01 36 18.0**	**+0.2**
PETK	**Petropavlovsk-**	**73.93**	**349**	P		**P**	**01 36 22.7**	**+0.1**
PETK	**Petropavlovsk-**	**73.93**	**349**	P		**P**	**01 36 22.7**	**+0.1**
PETK	**Petropavlovsk-**	**73.93**	**349**	P		**P**	**01 36 22.7**	**+0.1**
	comp=Z,15nm,0.8s,baz=124,slow=7.8,SNR=7.3							
PETK				LR		LR	02 01 39.6	
	comp=Z,156nm,21.5s,baz=165,slow=30							
NJ2	**Nanjing**	**74.57**	**313**	*e*P		**P**	**01 36 28.0**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,20nm,1.0s							
USRK	**Ussuriysk Arra**	**74.81**	**329**	P		**P**	**01 36 28.8**	**+1.0**
	comp=Z,7.3nm,0.9s,baz=149,slow=6.7,SNR=10							
USRK				LR		LR	02 03 43.3	
	comp=Z,203nm,21.7s,baz=121,slow=31							
QIZ	**Qiongzhong**	**74.84**	**297**	P		**P**	**01 36 29.3**	**+0.7**
QIZ				S		**S**	**01 46 01.8**	**-1.7**
QIZ				LR		LR		
	comp=Z,160nm,27.0s							
QIZ				LR		LR		
	comp=Z,630nm,31.3s							
MDJ	**Mudanjiang**	**76.29**	**328**	P		**P**	**01 36 36.3**	**0.0**
MDJ				pP		**pP**	**01 36 45.3**	**-2.0**
MDJ				sP		**sP**	**01 36 49.4**	**-1.9**
MDJ				PP		**PP**	**01 39 24.8**	**-3.5**
MDJ				S		**S**	**01 46 20.3**	**+1.8**
MDJ				ScS		**ScS**	**01 46 48.0**	**-0.9**
MDJ				SS		**SS**	**01 51 12.6**	**-0.9**
MDJ				pmax		pmax		
	comp=Z,15nm,1.3s							
MDJ				pmax		pmax		
	comp=Z,390nm,10.3s							
MDJ				LR		LR		
	comp=Z,80nm,27.8s							
MDJ				LR		LR		
	comp=Z,250nm,24.3s							
MDJ				LR		LR		
	comp=Z,330nm,29.5s							
HABR	**Khabarovsk**	**76.68**	**334**	*e*P		**P**	**01 36 37.3**	**-1.1**
HABR				*e*			01 36 48.6	
HABR				*e**SP		**sP**	**01 36 51.9**	**-1.5**
HABR				*e*PPP		PPP	01 41 16.8	
HABR				*e*S		**S**	**01 46 21.5**	**-1.0**
HABR				*e**SS		**sS**	**01 46 39.7**	**-0.9**
HABR				*e*			01 46 50.3	
HABR				*e*SS		**SS**	**01 51 18.7**	**-0.5**
HABR				pmax		pmax		
	comp=Z,116nm,1.8s							
HABR				MLR		MLR		
	comp=Z,270nm,19.0s							
IPM	**Ipoh**	**76.86**	**280**	*e*P		**P**	**01 36 39.1**	**-1.2**
	comp=Z,25nm,1.0s							
WHN	**Wuhan**	**76.94**	**309**	*e*P		**P**	**01 36 42.0**	**+1.6**
KULM	**Kulim**	**77.50**	**280**	*e*P		**P**	**01 36 43.3**	**-0.5**
	comp=Z,14nm,1.0s							
CN2	**Changchun**	**77.86**	**325**	*e*P		**P**	**01 36 45.8**	**+0.6**
CN2				*e*pP		**pP**	**01 36 56.5**	**+0.3**
CN2				*e*S		**S**	**01 46 35.0**	**-0.6**

CMB	**Columbia Colle**	83.09	46	*e*P		**P**	01 37 14.4	+0.9
	comp=Z,30nm,1.0s							
MURC	**Murrieta**	83.12	51	⇓P		**P**	01 37 15.2	+1.4
	baz=83							
N02D	**Trinity Center**	83.13	42	⇓P		**P**	01 37 15.6	+1.9
	baz=84							
EDW2	**Edwards Air Fo**	83.17	49	⇓P		**P**	01 37 15.1	+1.1
	baz=84							
UMPA	**Umpang Tak**	83.18	290	P		P	01 37 23.5	+9.1
M02C	**Callahan**	83.26	42	⇓P		**P**	01 37 15.7	+1.3
	baz=84							
LAMP	**Lampang**	83.39	292	P		**P**	01 37 16.5	+1.1
	comp=Z,12nm,0.9s							
KMI	**Kunming**	83.42	299	P		**P**	01 37 16.8	+1.1
KMI				pP		**pP**	01 37 28.0	+1.2
KMI				sP		**sP**	01 37 32.0	+1.2
KMI				PP		**PP**	01 40 30.8	+2.5
KMI				S		**S**	01 47 34.1	-1.0
KMI				sS		**sS**	01 47 52.0	-1.4
KMI				SS		**SS**	01 53 01.3	-0.3
KMI				pmax		pmax		
	comp=Z,11nm,0.9s							
KMI				pmax		pmax		
	comp=Z,170nm,3.8s							
KMI				LR		LR		
	comp=Z,340nm,18.3s							
KMI				LR		LR		
	comp=Z,360nm,21.6s							
KMI				LR		LR		
	comp=Z,510nm,21.0s							
YBH	**Yreka Blue Hor**	83.54	42	*e*P		**P**	01 37 17.5	+1.8
	comp=Z,60nm,1.5s							
GAMB	**Gambell**	83.63	6	*e*P		**P**	01 37 15.9	+0.4
	comp=Z,20nm,1.0s							
RSO	**Redoubt South**	83.76	15	*e*P		**P**	01 37 15.8	-0.8
HUMO	**Hull Mountain**	83.86	41	*e*P		**P**	01 37 19.1	+1.8
	comp=Z,27nm,1.1s							
MLAC	**Mammoth Lakes**	83.94	47	⇑P		**P**	01 37 19.1	+1.0
	baz=84							
WAKR	**Walker**	83.97	46	*e*P		**P**	01 37 18.8	+0.6
CMAR	**Chiang Mai Arr**	83.97	292	P		**P**	01 37 19.4	+1.0
CMAR	**Chiang Mai Arr**	83.97	292	P		**P**	01 37 19.4	+1.0
	comp=Z,11nm,0.8s,baz=128,slow=3.8,SNR=51							
CMAR				LR		LR	02 12 23.3	
	comp=Z,104nm,21.5s,baz=120,slow=34							
MTUM	**Tungsten Hills**	83.99	47	*e*P		**P**	01 37 19.6	+1.3
TIN	**Tinemaha**	84.07	47	⇑P		**P**	01 37 19.5	+0.8
	baz=84							
CHTO	**Chiang Mai**	84.11	292	*e*P		**P**	01 37 19.7	+0.6
CHTO				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CHTO	**Chiang Mai**	84.11	292	P		**P**	01 37 19.5	+0.4
	comp=Z,88nm,1.1s							
CHTO	**Chiang Mai**	84.11	292	*e*P		**P**	01 37 19.7	+0.6
	comp=Z,4.1nm,1.0s							
M04C	**Macdoel**	84.11	42	⇑P		**P**	01 37 19.5	+0.7
	baz=84							
DAC	**Darwin (Calif)**	84.13	48	*e*P		**P**	01 37 20.1	+1.0
DAC				pmax		pmax		
	comp=Z,81nm,2.1s							
DAC	**Darwin (Calif)**	84.13	48	*e*P		**P**	01 37 20.1	+1.0
	comp=Z,81nm,2.1s							
GSC	**Goldstone**	84.22	50	⇑P		**P**	01 37 20.5	+1.1
	baz=84							
I03D	**Drain, OR**	84.23	40	⇑P		**P**	01 37 20.7	+1.6
	baz=85							
HHC	**Hu-ho-hao-te**	84.31	317	*e*P		**P**	01 37 21.0	+1.2
HHC				pP		**pP**	01 37 33.8	+2.9
HHC				PP		**PP**	01 40 36.6	+1.4
HHC				S		**S**	01 47 44.3	+1.1
HHC				sS		**sS**	01 48 00.3	-1.2
HHC				pmax		pmax		
	comp=Z,56nm,1.1s							
HHC				pmax		pmax		
	comp=Z,490nm,7.0s							
HHC				LR		LR		
	comp=Z,630nm,18.8s							
HHC				LR		LR		
	comp=Z,570nm,17.1s							
HHC				LR		LR		
	comp=Z,970nm,20.6s							
SEW	**Seward**	84.32	17	*e*P		**P**	01 37 19.6	+0.5
	comp=Z,376nm,2.4s							
HEC	**Hector,Ludlow**	84.34	50	⇑P		**P**	01 37 21.2	+1.2
	baz=85							
PMSA	**Palmer Station**	84.57	158	LR		LR	02 07 12.5	
	comp=Z,197nm,21.4s,baz=246,slow=30							
PAHR	**Pah Rah Range**	84.62	45	*e*P		**P**	01 37 22.4	+1.0
	comp=Z,23nm,1.0s							
K04D	**Chiloquin, OR**	84.62	41	⇑P		**P**	01 37 22.8	+1.5
	baz=85							
GLA	**Glamis**	84.62	52	⇓P		**P**	01 37 22.6	+1.2
	baz=85							
GRAC	**Grapevine Rang**	84.64	48	⇑P		**P**	01 37 22.7	+1.3
	baz=85							
NVAR	**Mina Array Bea**	84.70	46	P		**P**	01 37 22.6	+0.7
NVAR	**Mina Array Bea**	84.70	46	P		**P**	01 37 22.6	+0.7
	comp=Z,8.6nm,0.8s,baz=231,slow=5.7,SNR=44							
J04D	**Umpqua Nationa**	84.73	41	⇓P		**P**	01 37 23.1	+1.1
	baz=85							
FURC	**Furnace Creek,**	84.74	49	⇑P		**P**	01 37 23.1	+1.2
	baz=85							
I04A	**Tendick Farm,**	84.85	40	⇑P		**P**	01 37 23.2	+0.9
	baz=85							
SHOC	**Shoshone**	84.88	49	⇑P		**P**	01 37 23.3	+0.7
	baz=85							
IRM	**Iron Mountain**	84.89	51	⇑P		**P**	01 37 24.0	+1.2
	baz=85							
RC01	**Rabbit Creek A**	85.07	16	*e*P		**P**	01 37 22.6	-0.4
	comp=Z,51nm,1.2s							
CD2	**Chengdu**	85.10	305	*e*P		**P**	01 37 24.4	+0.5
CD2				pP		**pP**	01 37 35.5	+0.5
CD2				PP		**PP**	01 40 42.8	+1.1
CD2				SKS		S	01 47 42.9	-8.4
CD2				S		**SKKSac**	01 47 50.9	-1.6
CD2				sS		**ScS**	01 48 03.8	+2.1
CD2				pmax		pmax		
	comp=Z,20nm,1.3s							
CD2				pmax		pmax		
	comp=Z,210nm,8.2s							
CD2				LR		LR		
	comp=Z,440nm,19.0s							
CD2				LR		LR		
	comp=Z,320nm,17.8s							
CD2				LR		LR		
	comp=Z,490nm,22.6s							
G03D	**McMinnville, O**	85.12	38	⇑P		**P**	01 37 25.3	+1.7
	baz=86							
MOD	**Modoc**	85.15	42	*e*P		**P**	01 37 25.1	+1.1
	comp=Z,13nm,1.3s							
K05A	**Summer Lake**	85.21	42	*e*P		**P**	01 37 25.7	+1.3
	comp=Z,51nm,1.1s							
TPH	**Tonopah**	85.27	47	*e*P		**P**	01 37 26.2	+1.4
TPH				pmax		pmax		
	comp=Z,38nm,1.3s							
TPH	**Tonopah**	85.27	47	*e*P		**P**	01 37 26.2	+1.4
	comp=Z,38nm,1.3s							
113A	**Mohawk Valley,**	85.29	53	⇑P		**P**	01 37 26.2	+1.5
	baz=86							
J05D	**Fort Rock, OR**	85.30	41	⇑P		**P**	01 37 26.3	+1.6
	baz=86							
H04A	**Detroit Lake**	85.47	39	*e*P		**P**	01 37 26.4	+1.0
	comp=Z,85nm,1.4s							
214A	**Organ Pipe Nat**	85.65	54	⇑P		**P**	01 37 28.5	+1.8
	baz=86							
PMR	**Palmer**	85.65	16	*e*P		**P**	01 37 25.6	-0.2
PMR				pmax		pmax		
	comp=Z,57nm,1.4s							
PMR	**Palmer**	85.65	16	*e*P		**P**	01 37 25.6	-0.2
	comp=Z,57nm,1.4s							
E03A	**Lebam**	85.69	37	*e*P		**P**	01 37 27.9	+1.6
	comp=Z,89nm,1.1s							
BPO	**Bald Peter**	85.75	40	P		**P**	01 37 28.2	+1.2
F04D	**Rainier, OR**	85.75	38	⇑P		**P**	01 37 28.4	+1.7
	baz=86							
TNA	**Tin City**	85.76	7	*e*P		**P**	01 37 26.8	+0.6
	comp=Z,22nm,1.0s							
I05D	**Terrebonne, OR**	85.79	40	⇑P		**P**	01 37 28.5	+1.4
	baz=86							
SHPR	**Sheep Range**	85.97	49	*e*P		**P**	01 37 29.1	+0.8
F04A	**Amboy**	86.02	38	*e*P		**P**	01 37 29.1	+1.1
	comp=Z,66nm,1.1s							
LVP	**Lakeview Peak**	86.10	38	P		**P**	01 37 29.6	+1.1
Z14A	**Wintersburg**	86.17	53	⇓P		**P**	01 37 30.6	+1.5
	baz=86							
VLL	**Laurance Lake**	86.19	39	P		**P**	01 37 30.4	+1.3
DIV	**Divide**	86.20	18	*e*P		**P**	01 37 28.5	-0.2
	comp=Z,25nm,0.8s							
SYO	**Syowa Base**	86.21	195	⇑*e*X			01 37 25.2	
W13A	**Hualapai Mount**	86.25	51	⇓P		**P**	01 37 30.9	+1.2
	baz=87							
BMRM	**Bremner River**	86.41	18	*e*P		**P**	01 37 29.7	0.0
	comp=Z,16nm,0.8s							
BMN	**Battle Mountai**	86.42	45	*e*P		**P**	01 37 31.8	+1.4
BMN				pmax		pmax		
	comp=Z,21nm,1.0s							
BMN	**Battle Mountai**	86.42	45	*e*P		**P**	01 37 31.8	+1.4
	comp=Z,20nm,1.0s							
WVOR	**Wild Horse Val**	86.49	43	*e*P		**P**	01 37 32.1	+1.5
WVOR				pmax		pmax		
	comp=Z,21nm,1.0s							
WVOR	**Wild Horse Val**	86.49	43	*e*P		**P**	01 37 32.1	+1.5
	comp=Z,21nm,1.0s							
R11A	**Troy Canyon, C**	86.53	47	⇑P		**P**	01 37 32.1	+1.1
	baz=87							
G06A	**Carlson Farm,**	86.70	39	*e*P		**P**	01 37 31.8	+0.3
	comp=Z,40nm,1.4s							
I07A	**Izee**	86.78	41	*e*P		**P**	01 37 33.1	+1.1
	comp=Z,31nm,1.2s							
LON	**Longmire**	86.81	38	*e*P		**P**	01 37 32.7	+0.7
LON				pmax		pmax		
	comp=Z,29nm,1.6s							
LON	**Longmire**	86.81	38	*e*P		**P**	01 37 32.7	+0.7
	comp=Z,28nm,1.6s							
TRF	**Thorofare Moun**	86.93	15	*e*P		**P**	01 37 30.9	-1.4
	comp=Z,12nm,0.9s							
D05A	**Enumclaw**	86.95	37	*e*P		**P**	01 37 34.3	+1.7
	comp=Z,126nm,1.4s							
TRW	**Toppenish Ridg**	87.31	39	P		**P**	01 37 35.6	+1.2
LZH	**Lanzhou**	87.31	310	⇑P		**P**	01 37 36.5	+1.7
LZH				pP		**pP**	01 37 47.6	+1.6
LZH				sP		**sP**	01 37 51.4	+1.4
LZH				PP		**PP**	01 41 03.8	+4.2
LZH				SKS		**SKSac**	01 47 59.0	-1.1
LZH				*e*S		**S**	01 48 12.8	-0.1
LZH				sS		**sS**	01 48 31.0	-0.3
LZH				*e*SS		**SS**	01 53 59.0	+0.6
LZH				pmax		pmax		
	comp=Z,69nm,1.5s							
LZH				pmax		pmax		
	comp=Z,280nm,9.4s							
LZH				LR		LR		
	comp=Z,700nm,16.0s							
LZH				LR		LR		
	comp=Z,630nm,15.2s							
LZH				LR		LR		
	comp=Z,850nm,19.3s							
MCK	**McKinley**	87.50	15	*e*P		**P**	01 37 33.6	-1.3
MCK				pmax		pmax		
	comp=Z,14nm,1.2s							
MCK	**McKinley**	87.50	15	*e*P		**P**	01 37 33.6	-1.3
	comp=Z,14nm,1.2s							
BILL	**Bilibino**	87.56	357	⇑*i*P		**P**	01 37 34.3	-0.7
BILL				pmax		pmax		
	comp=Z,35nm,1.7s							
BILL	**Bilibino**	87.56	357	*e*P		**P**	01 37 32.9	-2.1
	comp=Z,147nm,1.9s							
CCUT	**Cedar City**	87.72	49	*e*P		**P**	01 37 38.8	+1.9
	comp=Z,68nm,2.1s							
G08A	**Pilot Rock**	87.73	40	*e*P		**P**	01 37 37.5	+0.9
TBM	**Table Mountain**	87.74	38	P		**P**	01 37 37.6	+1.0
LTY	**Liberty**	87.75	38	*e*P		**P**	01 37 36.7	+0.2
	comp=Z,23nm,1.1s							
X16A	**Lo Mia Camp, P**	87.75	52	⇑P		**P**	01 37 38.4	+1.4
	baz=88							
E07A	**Sunnyside**	87.85	39	*e*P		**P**	01 37 38.1	+1.1
	comp=Z,41nm,1.2s							
A05A	**Maple Falls**	87.89	36	*e*P		**P**	01 37 37.5	+0.5
	comp=Z,46nm,1.6s							
HAWA	**Hanford**	87.96	39	*e*P		**P**	01 37 38.5	+1.0
	comp=Z,71nm,1.3s							
U15A	**North Rim**	88.00	50	⇓P		**P**	01 37 39.8	+1.5
	baz=88							
H2OWA	**Water**	88.03	39	P		**P**	01 37 39.0	+1.3
ETW	**Entiat**	88.12	38	P		**P**	01 37 39.2	+0.8
319A	**Douglas**	88.14	56	⇓P		**P**	01 37 40.3	+1.5
	baz=88							
WUAZ	**Wupatki**	88.27	51	*e*P		**P**	01 37 41.4	+1.9
	comp=Z,22nm,1.2s							
WUAZ	**Wupatki**	88.27	51	⇓P		**P**	01 37 41.0	+1.5
	baz=89							
IM04	**Indian Mountai**	88.35	12	*e*P		**P**	01 37 38.3	-0.6
NLW	**Nelson Butte**	88.37	37	P		**P**	01 37 40.2	+0.7
WTV	**Waterville**	88.39	38	P		**P**	01 37 40.0	+0.4
D08A	**Wollman Farm,**	88.66	39	*e*P		**P**	01 37 41.0	+0.2
	comp=Z,52nm,1.3s							
SAW	**Saint Andrews**	88.71	38	P		**P**	01 37 41.8	+0.7
COLA	**College**	88.71	15	⇑*i*P		**P**	01 37 39.7	-0.9
COLA				pmax		pmax		
	comp=Z,65nm,1.0s							
COLA	**College**	88.71	15	*e*P		**P**	01 37 38.9	-1.7
	comp=Z,5.5nm,1.1s							
MFID	**Camas Ranch**	88.77	43	*e*P		**P**	01 37 42.5	+1.0
E09A	**Wood Farm, Sta**	88.84	39	*e*P		**P**	01 37 42.2	+0.6
	comp=Z,45nm,1.3s							
ILAR	**Eielson Array**	88.86	15	P		**P**	01 37 39.6	-1.7
ILAR	**Eielson Array**	88.86	15	P		**P**	01 37 39.6	-1.7
	comp=Z,8.7nm,1.0s,baz=231,slow=4.9,SNR=49							
ILAR				LR		LR	02 10 15.9	
	comp=Z,256nm,21.9s,baz=222,slow=31							
X18A	**Snowflake**	88.92	53	⇑P		**P**	01 37 43.7	+1.2
	baz=89							
OD2	**Odessa Site #2**	88.95	38	P		**P**	01 37 43.2	+1.0
MVU	**Marysvale**	88.96	48	*e*P		**P**	01 37 44.7	+2.0
	comp=Z,36nm,1.8s							
YAK	**Yakutsk**	88.99	340	*e*P		**P**	01 37 41.2	-0.7
YAK				*e*			01 37 47.4	
YAK				pmax		pmax		
	comp=Z,42nm,0.9s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.3s							
YAK	**Yakutsk**	88.99	340	*e*P		**P**	01 37 42.5	+0.6
	comp=E,61nm,0.9s							
SNAA	**Sanae**	89.04	181	P		**P**	01 37 41.1	-1.2
SNAA	**Sanae**	89.04	181	*e*P		**P**	01 37 41.2	-1.2
	comp=E,15nm,1.2s							
B08A	**Colville Reser**	89.09	37	*e*P		**P**	01 37 43.0	+0.2
	comp=E,33nm,1.1s							
F10A	**Beach Ranch, E**	89.13	40	*e*P		**P**	01 37 43.5	+0.4
	comp=E,60nm,1.1s							
DUG	**Dugway**	89.29	47	*e*P		**P**	01 37 44.9	+0.8
DUG				pmax		pmax		
	comp=Z,27nm,1.6s							
DUG	**Dugway**	89.29	47	*e*P		**P**	01 37 44.9	+0.8
	comp=Z,27nm,1.6s							
DUG	**Dugway**	89.29	47	⇑P		**P**	01 37 45.1	+1.0
	baz=90							
W18A	**Petrified Fore**	89.32	52	*e*P		**P**	01 37 46.6	+2.2
	comp=Z,30nm,1.3s							
W18A	**Petrified Fore**	89.32	52	⇓P		**P**	01 37 45.8	+1.3
	baz=90							
C09A	**Chrisman Ranch**	89.42	38	*e*P		**P**	01 37 45.1	+0.8
	comp=Z,30nm,1.1s							
BGU	**Big Grassy Mou**	89.46	46	*e*P		**P**	01 37 46.2	+1.3
	comp=Z,5.5nm,1.1s							
NLU	**North Lily Min**	89.69	47	*e*P		**P**	01 37 47.6	+1.5
	comp=Z,23nm,1.4s							
DLBC	**Dease Lake**	89.70	25	P		**P**	01 37 45.2	-0.2
DLBC	**Dease Lake**	89.70	25	P		**P**	01 37 45.2	-0.2
	comp=Z,15nm,1.1s,baz=231,slow=5.3,SNR=13							
HLID	**Hailey**	89.74	43	*e*P		**P**	01 37 47.2	+1.0
	comp=Z,14nm,1.1s							
HLID	**Hailey**	89.74	43	⇑P		**P**	01 37 47.5	+1.3
	baz=90							
121A	**Cookes Peak, D**	89.76	55	⇓P		**P**	01 37 48.2	+1.6
	baz=90							
VNA2	**Neumayer--Watz**	89.78	179	P		**P**	01 37 44.8	-1.0
	baz=152,slow=6.8							
TMUT	**Trail Mountain**	90.01	48	*e*P		**P**	01 37 49.7	+2.0
	comp=Z,49nm,1.1s							
HVU	**Hansel Valley**	90.02	45	*e*P		**P**	01 37 49.0	+1.5
HVU				*e*			01 41 19.9	
HVU				pmax		pmax		
	comp=Z,48nm,1.1s							
HVU	**Hansel Valley**	90.02	45	*e*P		**P**	01 37 49.0	+1.5
	comp=Z,40nm,1.1s							
HVU				*e*PP		**PP**	01 41 19.9	-1.3
MPU	**Maple Canyon**	90.02	47	*e*P		**P**	01 37 49.2	+1.6
	comp=Z,25nm,1.0s							
SPUT	**South Promonto**	90.03	46	*e*P		**P**	01 37 48.3	+0.8
	comp=Z,28nm,1.2s							
VNA1	**Neumayer--Stat**	90.04	179	P		**P**	01 37 44.0	-2.9
COLD	**Coldfoot**	90.16	13	*e*P		**P**	01 37 46.3	-1.0
	comp=Z,5.8nm,1.1s							
CTU	**Camp Tracy**	90.23	47	*e*P		**P**	01 37 49.2	+0.7
	comp=Z,29nm,1.0s							
NEW	**Newport**	90.32	38	*e*P		**P**	01 37 49.0	+0.4
	comp=Z,17nm,1.1s							
NEW	**Newport**	90.32	38	⇑P		**P**	01 37 48.8	+0.2
	baz=91,SNR=7.8							
DAWY	**Dawson**	90.34	18	*e*P		**P**	01 37 47.9	-0.4
	comp=Z,25nm,1.0s							
EGAK	**Eagle**	90.38	17	*e*P		**P**	01 37 47.8	-0.6
	comp=Z,27nm,0.9s							
JLU	**Jordanelle**	90.40	47	*e*P		**P**	01 37 50.9	+1.5
	comp=Z,28nm,1.1s							
SRU	**San Rafael**	90.41	48	*e*P		**P**	01 37 50.1	+0.7
SRU				pmax		pmax		
	comp=Z,38nm,1.1s							
SRU	**San Rafael**	90.41	48	*e*P		**P**	01 37 50.1	+0.7
	comp=Z,38nm,1.1s							
ULN	**Ulaanbaatar**	90.64	321	*e*P		**P**	01 37 50.2	0.0
	comp=Z,9.2nm,1.0s							
TCUT	**Toone Canyon**	90.65	46	*e*P		**P**	01 37 51.6	+1.0
	comp=Z,115nm,1.5s							
Z22A	**Elephant Butte**	90.68	55	⇑P		**P**	01 37 51.9	+1.2
	baz=91							
HWUT	**Hardware Ranch**	90.75	46	*e*P		**P**	01 37 51.5	+0.6
	comp=Z,19nm,1.2s							
LAZ	**Ladron**	90.99	54	*e*P		**P**	01 37 53.4	+1.1
	comp=Z,12nm,1.5s							
SONM	**Songino Array**	91.02	321	P		**P**	01 37 51.9	-0.1
SONM	**Songino Array**	91.02	321	P		**P**	01 37 51.9	-0.1
	comp=Z,5.0nm,1.0s,baz=118,slow=4.5,SNR=23							
SONM				LR		LR	02 15 53.5	
	comp=Z,292nm,21.2s,baz=112,slow=34							
LENM	**Lemitar**	91.03	54	*e*P		**P**	01 37 53.2	+0.8
MVCO	**Mesa Verde**	91.09	51	⇑P		**P**	01 37 54.0	+1.3
	baz=91							
PV04	**Paradox Valley**	91.27	50	*e*P		**P**	01 37 54.9	+1.5
BNM	**Barren Site**	91.28	54	*e*P		**P**	01 37 54.7	+1.0
	comp=Z,23nm,1.2s							
425A	**Indio Mountain**	91.30	58	⇑P		**P**	01 37 54.9	+1.2
	baz=92,SNR=18							
MCMT	**McKenzie Canyo**	91.32	43	*e*P		**P**	01 37 54.2	+0.7
	comp=Z,6.9nm,1.2s							
MNTX	**Cornudas Mount**	91.32	57	*e*P		**P**	01 37 54.5	+0.9
	comp=Z,25nm,1.1s							
LPM	**Los Pinos Moun**	91.34	54	*e*P		**P**	01 37 55.4	+1.5
PV01	**Paradox Valley**	91.41	50	*e*P		**P**	01 37 54.9	+0.8
	comp=Z,4μm,1.5s							
BSMT	**Bassoo Peak**	91.50	39	*e*P		**P**	01 37 54.0	-0.2
626A	**Big Bend Ranch**	91.53	59	⇓P		**P**	01 37 56.3	+1.6
	baz=92,SNR=20							
MSO	**Missoula**	91.54	40	⇓P		**P**	01 37 54.7	+0.3
	baz=92							
GTA	**Gaotai**	91.61	311	*e*P		**P**	01 37 56.0	+1.1
GTA				pP		**pP**	01 38 06.9	+0.8
GTA				sP		**sP**	01 38 10.6	+0.5
GTA				SKS		**SKSac**	01 48 24.8	-0.3
GTA				S		**S**	01 48 54.0	+1.1
GTA				sS		**sS**	01 49 12.1	+0.7
GTA				pmax		pmax		
	comp=Z,17nm,0.9s							
GTA				pmax		pmax		
	comp=Z,100nm,7.3s							
GTA				LR		LR		
	comp=Z,250nm,19.6s							
GTA				LR		LR		
	comp=Z,350nm,20.8s							
GTA				LR		LR		
	comp=Z,460nm,20.2s							
Y23A	**Lovelace Mesa,**	91.64	55	⇑P		**P**	01 37 56.1	+0.9
	baz=92,SNR=12							
ANMO	**Albuquerque**	91.72	54	*e*P		**P**	01 37 56.2	+0.6
	comp=Z,21nm,1.0s							
526A	**Mary Lane Ranc**	91.75	59	⇓P		**P**	01 37 57.1	+1.3
	baz=92,SNR=11							
V22A	**San Miguel Ran**	91.75	53	⇓P		**P**	01 37 57.1	+1.3
	baz=92							
TXAR	**Lajitas Array**	91.83	60	P		**P**	01 37 57.6	+1.5
TXAR				PKKP		**PKKPbc**	01 55 14.0	-0.6
TXAR	**Lajitas Array**	91.83	60	P		**P**	01 37 57.6	+1.5
	comp=Z,11nm,0.8s,baz=224,slow=5.2,SNR=100							
TXAR				PKKP		**PKKPbc**	01 55 14.0	-0.6
	comp=Z,0.7nm,0.9s,baz=90,slow=3.1,SNR=5.7							
TXAR				LR		LR	02 13 16.2	
	comp=Z,230nm,18.1s,baz=0.0,slow=32							
225A	**Deer Hill, Car**	91.92	57	⇑P		**P**	01 37 57.6	+1.1
	baz=92,SNR=7.7							
Z24A	**Sheeppen Canyo**	91.95	55	⇓P		**P**	01 37 57.5	+0.8
	baz=92,SNR=8.4							
TPAW	**Teton Pass**	91.97	44	*e*P		**P**	01 37 57.9	+1.3
	comp=Z,14nm,1.3s							
U22A	**Llaves**	91.97	52	⇓P		**P**	01 37 57.8	+1.0
	baz=92							
REDW	**Red Top Meadow**	91.98	44	*e*P		**P**	01 37 57.9	+1.3
	comp=Z,26nm,1.1s							
FXWY	**Fox Creek**	91.98	44	*e*P		**P**	01 37 57.9	+1.2
	comp=Z,8.8nm,1.1s							
CHMT	**Chamberlain Mo**	92.00	41	*e*P		**P**	01 37 57.0	+0.4
LRM	**Limekiln Ridge**	92.01	42	*e*P		**P**	01 37 57.0	+0.2
LRM				*e*PP		**PP**	01 41 36.6	-0.4
426A	**McDonald Obser**	92.02	58	⇓P		**P**	01 37 58.2	+1.1
	baz=92,SNR=24							
W23A	**Werner Place,**	92.03	53	⇑P		**P**	01 37 58.4	+1.3
	baz=92							
627A	**Terlingua Ranc**	92.10	60	⇓P		**P**	01 37 58.6	+1.2
	baz=92,SNR=19							
Y24A	**Capitan**	92.11	55	⇑P		**P**	01 37 58.3	+0.8
	baz=92,SNR=26							
IMW

	baz=93						
HRY	Holter Researc	92.78	41	eP	P	01 38 01.1	+1.0
T23A	Casias Ranch,	92.83	52	⇑P	P	01 38 01.8	+1.0
	baz=93						
528A	Cox Ranch, San	92.84	59	⇓P	P	01 38 02.0	+1.2
	baz=93,SNR=7.8						
X25A	Clemmons Ranch	92.93	54	⇓P	P	01 38 01.6	+0.4
	baz=93,SNR=7.7						
SMCO	Snowmass	92.96	49	eP	P	01 38 02.4	+0.9
	comp=Z,12nm,0.9s						
Z26A	Caprock	93.00	56	⇑P	P	01 38 01.9	+0.4
	baz=93,SNR=16						
S23A	Nye Farm, Mont	93.11	51	⇓P	P	01 38 03.1	+1.1
	baz=93						
428A	Kincaid Ranch,	93.12	59	⇑P	P	01 38 02.8	+0.7
	baz=93						
J19A	Crowheart	93.14	45	⇓P	P	01 38 02.4	+0.5
	baz=93,SNR=5.8						
328A	Wristen Ranch,	93.25	58	⇓P	P	01 38 03.3	+0.7
	baz=94,SNR=7.7						
P22A	Eagle	93.28	49	⇑P	P	01 38 03.5	+0.8
	baz=94,SNR=6.9						
127A	Arkansas Junct	93.28	57	⇑P	P	01 38 03.5	+0.7
	baz=94						
529A	Stev Forest Ra	93.29	59	⇓P	P	01 38 03.5	+0.7
	baz=94						
H18A	Shoshone NF, C	93.31	44	⇓P	P	01 38 03.2	+0.4
	baz=94						
T24B	San Luis	93.33	52	⇓P	P	01 38 03.6	+0.5
	baz=94						
W25A	X Bar L Ranch,	93.34	54	⇓P	P	01 38 03.7	+0.6
	baz=94,SNR=19						
Y26A	Elida	93.36	55	⇓P	P	01 38 03.4	+0.2
	baz=94,SNR=6.9						
R23A	Moffat	93.42	51	⇑P	P	01 38 04.4	+0.9
	baz=94,SNR=7.9						
V25A	Rancho No Teng	93.45	53	⇓P	P	01 38 04.2	+0.6
	baz=94,SNR=8.2						
I19A	Meeteetse	93.49	44	⇑P	P	01 38 04.6	+1.0
	baz=94,SNR=6.2						
SDCO	Great Sand Dun	93.49	51	eP	P	01 38 04.3	+0.4
	comp=Z,14nm,1.2s						
X26A	CR and CF Fran	93.60	55	⇓P	P	01 38 04.7	+0.5
	baz=94						
Z27A	Tatum	93.62	56	⇓P	P	01 38 04.7	+0.4
	baz=94,SNR=6.1						
O22A	Kremmling	93.64	49	⇑P	P	01 38 05.2	+0.7
	baz=94,SNR=7.6						
S24A	Houchin Ranch,	93.67	51	⇑P	P	01 38 05.9	+1.2
	baz=94,SNR=8.4						
228A	UT Block 9, Go	93.69	57	⇑P	P	01 38 05.1	+0.5
	baz=94						
429A	Davenport Ranc	93.72	59	⇑P	P	01 38 05.5	+0.7
	baz=94,SNR=23						
H19A	Powell	93.75	44	⇑P	P	01 38 05.7	+1.0
	baz=94,SNR=10						
U25A	Circle Dot Ran	93.81	53	⇓P	P	01 38 05.8	+0.6
	baz=94						
J20A	Shoshoni	93.82	45	⇑P	P	01 38 05.6	+0.6
	baz=94,SNR=7.4						
W26A	Owens Ranch, T	93.82	54	⇑P	P	01 38 05.6	+0.4
	baz=94						
P23A	Jefferson	93.85	50	⇑P	P	01 38 06.3	+0.7
	baz=94						
Y27A	Causey	93.86	56	⇓P	P	01 38 06.0	+0.6
	baz=94,SNR=10						
128A	Castleberry Fa	93.95	57	⇑P	P	01 38 06.2	+0.4
	baz=94,SNR=6.1						
329A	Wagon Wheel Ra	93.95	58	⇑P	P	01 38 06.7	+0.9
	baz=94						
N22A	Wattenberg Ran	93.95	48	⇓P	P	01 38 07.1	+1.2
	baz=94						
R24A	Sanders Place,	93.96	51	⇑P	P	01 38 06.6	+0.7
	baz=94						
ZAK	Zakamensk	94.00	322	eP	P	01 38 04.2	-1.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
530A	J-C Ranch, Com	94.01	60	⇓P	P	01 38 07.0	+0.9
	baz=94						
I20A	Worland	94.03	45	⇑P	P	01 38 06.2	+0.3
	baz=94,SNR=5.9						
V26A	Tequesquite Ra	94.06	54	⇑P	P	01 38 06.5	+0.2
	baz=94,SNR=6.0						
M22A	Cedar Creek Ra	94.08	48	⇑P	P	01 38 07.6	+1.1
	baz=94						
K21A	Alcova	94.10	46	⇑P	P	01 38 06.8	+0.4
	baz=94,SNR=6.4						
ISCO	Idaho Springs	94.17	49	eP	P	01 38 08.9	+1.9
ISCO				pmax	pmax		
	comp=Z,24nm,2.0s						
ISCO	Idaho Springs	94.17	49	eP	P	01 38 08.9	+1.9
	comp=Z,24nm,2.0s						
ISCO	Idaho Springs	94.17	49	⇓P	P	01 38 07.6	+0.7
	baz=94						
X27A	F and S Farms,	94.18	55	⇓P	P	01 38 07.6	+0.7
	baz=94,SNR=9.7						
MSTX	Muleshoe	94.19	56	eP	P	01 38 07.2	+0.3
	comp=Z,93nm,1.5s						
MSTX	Muleshoe	94.19	56	⇑P	P	01 38 07.5	+0.5
	baz=94,SNR=12						
Q24A	Divide	94.20	50	⇑P	P	01 38 08.0	+0.9
	baz=94,SNR=8.1						
J21A	Lysite	94.25	45	⇑P	P	01 38 07.6	+0.5
	baz=95,SNR=6.0						
S25A	Robets Cordova	94.25	52	⇑P	P	01 38 07.8	+0.6
	baz=94						
F19A	Roth Farm, Mol	94.25	43	⇑P	P	01 38 07.5	+0.6
	baz=95						
229A	Bryant Ranch,	94.26	58	⇑P	P	01 38 07.5	+0.2
	baz=94						
Z28A	Tucker Farm, M	94.26	56	⇑P	P	01 38 07.9	+0.6
	baz=95						
U26A	Atchley Ranch,	94.31	53	⇑P	P	01 38 08.3	+0.8
	baz=95						
430A	Baggett Ranch,	94.31	59	⇑P	P	01 38 08.5	+1.0
	baz=95						
H20A	Greybull	94.32	44	⇓P	P	01 38 07.9	+0.7
	baz=95						
N23A	Red Feather La	94.35	48	⇓P	P	01 38 08.5	+0.8
	baz=95						
W27A	Bowe Ranch, En	94.35	54	⇑P	P	01 38 08.2	+0.5
	baz=95,SNR=8.5						
TLY	Talaya	94.36	324	eP	P	01 38 06.9	-0.3
TLY				eSS	SS	01 55 42.7	+3.4
TLY				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,117nm,17.0s						
PLCA	Paso Flores	94.37	136	eP	P	01 38 08.5	+0.8
	comp=Z,26nm,1.8s						
PLCA	Paso Flores	94.37	136	LR	LR	02 10 47.0	
	comp=Z,232nm,21.9s,baz=264,slow=29						
631A	Perdido Creek	94.38	60	⇑P	P	01 38 08.5	+0.7
	baz=95,SNR=8.0						
L22A	Ellis Ranch, M	94.43	47	⇑P	P	01 38 08.4	+0.5
	baz=95						
129A	Stewart Farms,	94.44	57	⇑P	P	01 38 08.8	+0.7
	baz=95						
G20A	Bridger	94.47	44	⇓P	P	01 38 08.7	+0.8
	baz=95						
832A	Faith Ranch, C	94.50	62	⇓P	P	01 38 09.1	+0.7
	baz=95,SNR=7.3						
I21A	Big Trails, Te	94.53	45	⇑P	P	01 38 08.7	+0.4
	baz=95,SNR=9.2						
R25A	Fountain Ranch	94.53	51	⇓P	P	01 38 09.0	+0.6
	baz=95						
Y28A	McKinney Farm,	94.58	56	⇓P	P	01 38 09.3	+0.6
	baz=95						
E19A	Rath Farm, Rou	94.59	42	⇓P	P	01 38 09.7	+1.2
	baz=95						
K22A	Casper	94.61	46	⇑P	P	01 38 09.3	+0.6
	baz=95						
EGMT	Eagleton	94.62	41	⇓P	P	01 38 09.3	+0.8
	baz=95						
732A	Laxson Ranch,	94.65	61	⇓P	P	01 38 10.1	+1.1
	baz=95						
531A	Rocksprings	94.66	60	⇑P	P	01 38 09.7	+0.6
	baz=95,SNR=6.0						
M23A	Laramie	94.72	48	⇑P	P	01 38 09.8	+0.5
	baz=95						
V27A	Dan Oppiter Fa	94.77	54	⇑P	P	01 38 10.2	+0.6
	baz=95						
Z29A	Hungry Hill Ra	94.78	57	⇓P	P	01 38 10.0	+0.4
	baz=95						
431A	Sonora	94.79	59	⇓P	P	01 38 10.2	+0.6
	baz=95						
D19A	Cripps Ranch,	94.81	42	⇓P	P	01 38 10.3	+0.9
	baz=95,SNR=6.9						
X28A	Dimmitt	94.83	55	⇓P	P	01 38 10.3	+0.5
	baz=95						
Q25A	Bedland, Calha	94.84	51	⇓P	P	01 38 10.5	+0.6
	baz=95						
933A	Laredo	94.86	63	⇑P	P	01 38 11.0	+0.9
	baz=95						
J22A	Midwest	94.92	46	⇓P	P	01 38 10.8	+0.7
	baz=95,SNR=7.2						
C19A	Slack Wire Ran	94.94	41	⇓P	P	01 38 10.7	+0.8
	baz=95,SNR=5.7						
S26A	Kim	94.95	52	⇓P	P	01 38 10.3	-0.1
	baz=95						
L23A	Garrett	94.97	47	⇑P	P	01 38 11.0	+0.5
	baz=95						
833A	Chaparral WMA,	95.00	62	⇓P	P	01 38 11.8	+1.2
	baz=95						
U27A	Thompson Grove	95.01	53	⇓P	P	01 38 11.3	+0.6
	baz=95						
Y29A	Porterfield Fa	95.02	56	⇑P	P	01 38 11.4	+0.7
	baz=95						
E20A	Meyer Farm, Mu	95.03	42	⇓P	P	01 38 11.5	+1.1
	baz=95						
INK	Inuvik	95.04	17	eP	P	01 38 08.8	-1.1
	comp=Z,12nm,1.1s						
632A	Uvalde	95.06	61	⇑P	P	01 38 12.6	+1.7
	baz=95						
W28A	Vega	95.08	55	⇑P	P	01 38 11.5	+0.5
	baz=95						
I22A	9 Mile Ranch,	95.10	45	⇓P	P	01 38 11.5	+0.6
	baz=95						
P25A	Willow Gulch B	95.11	50	⇓P	P	01 38 11.9	+0.8
	baz=95						
G21A	Lodge Grass	95.13	44	⇓P	P	01 38 12.2	+1.3
	baz=95						
331A	San Angelo	95.14	59	⇑P	P	01 38 12.0	+0.7
	baz=95						
130A	Snyder	95.14	57	⇓P	P	01 38 11.8	+0.5
	baz=95						
532A	Rocksprings	95.17	60	⇑P	P	01 38 12.4	+0.9
	baz=96						
034A	Hebbronville	95.18	63	⇑P	P	01 38 12.1	+0.7
	baz=96						
X29A	Tulia	95.19	55	⇑P	P	01 38 12.1	+0.6
	baz=96						
R26A	Arlington	95.20	51	⇑P	P	01 38 11.9	+0.4
	baz=96,SNR=7.3						
V28A	Channing	95.23	54	⇑P	P	01 38 12.3	+0.6
	baz=96						
Z30A	Sanderson Ranc	95.25	57	⇑P	P	01 38 12.2	+0.5
	baz=96						
D20A	Manuel Ranch,	95.25	42	⇓P	P	01 38 12.1	+0.7
	baz=96,SNR=6.8						
B19A	Brinkman Farms	95.29	40	⇑P	P	01 38 12.3	+0.8
	baz=96						
T27A	Campo	95.31	53	⇑P	P	01 38 12.5	+0.5
	baz=96						
AMTX	Amarillo	95.36	55	eP	P	01 38 12.9	+0.7
	comp=Z,22nm,1.0s						
AMTX	Amarillo	95.36	55	⇑P	P	01 38 12.9	+0.7
	baz=96						
231A	Bronte	95.44	58	⇓P	P	01 38 12.8	+0.2
	baz=96,SNR=5.9						
H22A	Clearmont	95.45	45	⇑P	P	01 38 13.4	+1.0
	baz=96						
U28A	Mallet	95.45	53	⇓P	P	01 38 13.4	+0.8
	baz=96						
W29A	Amraillo	95.46	55	⇑P	P	01 38 13.1	+0.4
	baz=96,SNR=7.5						
432A	Menard	95.51	59	⇓P	P	01 38 13.3	+0.3
	baz=96,SNR=8.2						
C20A	Veseth Ranch,	95.58	41	⇑P	P	01 38 13.7	+0.9
	baz=96						
A19A	Klindworth Far	95.60	40	⇑P	P	01 38 13.9	+1.0
	baz=96						
R27A	Eads	95.68	52	⇓P	P	01 38 14.3	+0.7
	baz=96						
E21A	Keefer Ranch,	95.71	43	⇓P	P	01 38 14.8	+1.3
	baz=96						
332A	Millersview	95.72	59	⇑P	P	01 38 14.4	+0.5
	baz=96,SNR=7.5						
G22A	Birney	95.72	44	⇑P	P	01 38 14.6	+1.0
	baz=96						
T28A	Walsh	95.79	53	⇑P	P	01 38 14.7	+0.5
	baz=96						
V29A	Stinnett	95.81	54	⇑P	P	01 38 15.0	+0.8
	baz=96						
B20A	Solberg Farm,	95.85	41	⇓P	P	01 38 15.3	+1.2
	baz=96						
533A	Kerrville	95.87	60	⇓P	P	01 38 15.4	+0.8
	baz=96						
232A	Coleman	95.96	58	⇑P	P	01 38 15.2	+0.2
	baz=96						
D21A	La Casta Ranch	95.96	42	⇓P	P	01 38 15.5	+0.8
	baz=96						
O26A	Horse Wrangler	95.98	50	⇑P	P	01 38 15.8	+0.8
	baz=96						
Z31A	Sharp Cattle R	96.03	57	⇑P	P	01 38 16.0	+0.7
	baz=96						
433A	Art	96.04	60	⇑P	P	01 38 15.6	+0.2
	baz=96,SNR=5.2						
A20A	Cobblestone Ra	96.07	40	⇑P	P	01 38 15.7	+0.6
	baz=96						
S28A	Manter	96.11	52	⇑P	P	01 38 16.4	+0.8
	baz=96						
J24A	Dixon Ranch, L	96.13	46	⇑P	P	01 38 16.3	+0.8
	baz=96						
Y31A	Rekieta Farm,	96.15	56	⇓P	P	01 38 16.3	+0.5
	baz=96						
ABTX	Abilene, Hawle	96.20	58	eP	P	01 38 16.9	+0.8
	comp=Z,16nm,1.4s						
ABTX	Abilene, Hawle	96.20	58	⇑P	P	01 38 17.0	+1.0
	baz=96						
TIXI	Tiksi	96.28	347	⇑iP	P	01 38 15.0	-0.4
TIXI				pmax	pmax		
	comp=Z,14nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,210nm,19.0s						
TIXI	Tiksi	96.28	347	eP	P	01 38 14.8	-0.6
	comp=Z,11nm,1.2s						
G23A	Biddle	96.31	44	⇑P	P	01 38 17.3	+1.0
	baz=97,SNR=5.7						
534A	Blanco	96.31	61	⇑P	P	01 38 17.9	+1.3
	baz=97						
LAO	LASA Array	96.31	43	eP	P	01 38 17.7	+1.5
	comp=Z,29nm,1.5s						
V30A	Spur Ranch, Mi	96.41	54	⇓P	P	01 38 18.0	+1.0
	baz=97,SNR=5.2						
T29A	Hugoton	96.42	53	⇓P	P	01 38 17.9	+0.9
	baz=97						
R28A	Tribune	96.43	52	⇑P	P	01 38 17.3	+0.3
	baz=97,SNR=6.6						
B21A	Ellsworth Farm	96.46	41	⇓P	P	01 38 17.8	+1.0
	baz=97						
F23A	Volborg	96.49	44	⇓P	P	01 38 18.0	+0.9
	baz=97,SNR=6.5						
735A	Kenedy	96.49	62	⇑P	P	01 38 18.7	+1.3
	baz=97						
D22A	Cohagen	96.51	42	⇓P	P	01 38 18.3	+1.2
	baz=97						
Z32A	Haskell	96.56	57	⇓P	P	01 38 18.1	+0.5
	baz=97,SNR=5.9						
X31A	McDonald Ranch	96.59	56	⇓P	P	01 38 18.2	+0.4
	baz=97						
233A	Rising Star	96.60	59	⇓P	P	01 38 18.6	+0.7
	baz=97						
H24A	Dirks Ranch, A	96.70	45	⇓P	P	01 38 18.3	+0.2
	baz=97,SNR=11						
434A	Burnet	96.73	60	⇑P	P	01 38 18.8	+0.3
	baz=97						
133A	Hamilton Ranch	96.78	58	⇑P	P	01 38 18.9	+0.2
	baz=97						
W31A	Holland Ranch,	96.80	55	⇑P	P	01 38 19.4	+0.6
	baz=97,SNR=5.4						
PALK	Pallekele	96.81	275	eP	P	01 38 19.0	-0.2
Y32A	R-V Farms, Ver	96.81	56	⇑P	P	01 38 19.1	+0.4
	baz=97						
RSSD	Black Hills	96.83	46	eP	P	01 38 19.2	+0.3
RSSD				pmax	pmax		
	comp=Z,2.0nm,1.1s						
RSSD	Black Hills	96.83	46	eP	P	01 38 19.1	+0.3
	comp=Z,2.2nm,1.1s						
C22A	Vida	96.91	42	⇑P	P	01 38 19.2	+0.3
	baz=97						
334A	Lometa	96.92	59	⇑P	P	01 38 19.7	+0.4
	baz=97						
K26A	Motz Farm, Whi	96.92	47	⇓P	P	01 38 20.7	+1.5
	baz=97						
O28A	Krutsinger Ran	97.05	50	⇑P	Pdif	01 38 20.8	+0.9
	baz=97						
X32A	Elmer	97.07	56	⇑P	Pdif	01 38 20.8	+0.8
	baz=97						
V31A	Spring Creek L	97.07	55	⇓P	Pdif	01 38 20.9	+0.9
	baz=97,SNR=7.4						
Z33A	Whitaker Ranch	97.12	57	⇓P	Pdif	01 38 21.1	+0.9
	baz=97						
D23A	Lindsay	97.14	43	⇓P	Pdif	01 38 21.1	+1.0
	baz=97						
F24A	Ekalaka	97.16	44	⇑P	Pdif	01 38 21.0	+0.7
	baz=98						
Q29A	Oakley	97.22	51	⇓P	Pdif	01 38 21.4	+0.7
	baz=98						
U31A	Nine Bar Ranch	97.25	54	⇓P	Pdif	01 38 21.9	+1.0
	baz=98						
H25A	Fruitdale	97.30	45	⇑P	Pdif	01 38 21.7	+0.8
	baz=98						
W32A	Sentinel	97.32	55	⇓P	Pdif	01 38 22.2	+1.0
	baz=98						
C23A	Lambert	97.38	42	⇑P	Pdif	01 38 22.2	+1.1
	baz=98						
P29A	Atwood	97.49	51	⇓P	Pdif	01 38 22.4	+0.6
	baz=98						
R30A	Dighton	97.55	52	⇓P	Pdif	01 38 23.2	+1.1
	baz=98						
T31A	Randall Ranch,	97.62	53	⇓P	Pdif	01 38 23.3	+0.8
	baz=98						
V32A	Arapaho	97.67	55	⇓P	Pdif	01 38 23.7	+1.0
	baz=98						
D24A	Glendive	97.68	43	⇓P	Pdif	01 38 23.8	+1.3
	baz=98						
Q30A	Quinter	97.81	52	⇑P	Pdif	01 38 24.2	+1.0
	baz=98						
U32A	Winter Ranch,	97.91	54	⇓P	Pdif	01 38 24.8	+1.1
	baz=98						
J27A	Elkhorn Farm,	97.92	47	⇑P	Pdif	01 38 24.3	+0.6
	baz=98						
S31A	Mullinville	97.93	53	⇑P	Pdif	01 38 24.4	+0.6
	baz=98						
W33A	Caddo, Fort Co	97.94	56	⇓P	Pdif	01 38 25.0	+1.2
	baz=98						
P30A	Selden	97.97	51	⇓P	Pdif	01 38 24.5	+0.5
	baz=98						
R31A	Burdett	98.11	52	⇓Pdiff	Pdif	01 38 25.4	+0.8
	baz=98						
T32A	Huddler Ranch,	98.22	54	⇑Pdiff	Pdif	01 38 26.1	+1.1
	baz=98						
V33A	Lossen Ranch,	98.28	55	⇑Pdiff	Pdif	01 38 26.1	+0.7
	baz=99						
YKA	Yellowknife Ar	98.29	26	P	P	01 38 24.3	-0.4
YKA				PP	PP	01 42 28.6	+3.7
YKA	Yellowknife Ar	98.29	26	P	P	01 38 24.3	-0.4
	comp=Z,1.7nm,0.8s,baz=249,slow=4.5,SNR=30						
YKA				PP	PP	01 42 28.6	+3.7
	comp=Z,0.5nm,1.0s,baz=245,slow=8.3,SNR=4.6						
H27A	Howes	98.32	46	⇓Pdiff	Pdif	01 38 26.1	+0.7
	baz=99						
S32A	Newby Ranch, P	98.37	53	⇓Pdiff	Pdif	01 38 26.6	+0.8
	baz=99						
U33A	Lingo Farm, Me	98.61	54	⇑Pdiff	Pdif	01 38 27.4	+0.6
	baz=99						
T33A	Patterson Ranc	98.70	54	⇓Pdiff	Pdif	01 38 28.3	+1.1
	baz=99						
R32A	Long Quarter,	98.76	52	⇑Pdiff	Pdif	01 38 28.1	+0.6
	baz=99						
F27A	Lemmon	98.76	45	⇑Pdiff	Pdif	01 38 28.3	+1.0
	baz=99						
F28A	McLaughlin	99.56	45	⇓Pdiff	Pdif	01 38 31.9	+1.0
	baz=100						
Q33A	Connelly Farm,	99.59	52	⇓Pdiff	Pdif	01 38 31.9	+0.7
	baz=100						
WMQ	Urumqi	101.65	312	P	Pdif	01 38 41.9	+1.7
WMQ				pP	pP	01 38 52.5	+0.9
WMQ				sP		01 38 56.4	
WMQ				PP	PP	01 42 54.3	+3.2
WMQ				S	Sdif	01 50 18.3	-0.6
WMQ				SS	SS	01 57 21.1	-1.0
WMQ				pmax	pmax		
	comp=Z,3.0nm,1.8s						
WMQ				pmax	pmax		
	comp=Z,11nm,8.2s						
WMQ				LR	LR		
	comp=Z,190nm,24.7s						
WMQ				LR	LR		
	comp=Z,250nm,25.7s						
WMQ				LR	LR		
	comp=Z,340nm,26.8s						
MK31	Makanchi Array	106.05	314	eP	Pdif	01 38 59.9	+0.2
MK31	Makanchi Array	106.05	314	ePdif	Pdif	01 38 59.9	+0.2
MKAR	Makanchi Array	106.05	314	P	Pdif	01 39 00.0	+0.3
MKAR	Makanchi Array	106.05	314	Pdif	Pdif	01 39 00.0	+0.3
MKAR				PKiKP	PKiKP	01 43 09.5	-2.2
MKAR	Makanchi Array	106.05	314	Pdiff	Pdif	01 39 00.0	+0.3
	comp=Z,1.1nm,0.8s,baz=96,slow=6.7,SNR=8.8						
MKAR				PKiKP	PKiKP	01 43 09.5	-2.2
	comp=Z,0.4nm,0.9s,baz=108,slow=0.5,SNR=2.9						
RES	Resolute Bay	108.59	16	ePKP	PKiKP	01 43 14.3	-1.2
KURK	Kurchatov	109.10	318	ePKP	PKiKP	01 43 15.0	-2.2
KSH	Kashi	109.27	306	eSS	SS	01 59 01.3	-5.4
KSH				AMB	AMB		
	comp=Z,41nm,3.4s						
KSH				LR	LR		
	comp=N,130nm,7.0s						
KSH				LR	LR		
	comp=E,150nm,5.6s						
KSH				LR	LR		
	comp=Z,100nm,6.6s						
TKM2	Tokmak 2	110.08	310	ePKP	PKiKP	01 43 18.6	-1.0
AAK	Ala-Archa	110.85	309	i PKIKP	PKiKP	01 43 20.4	-0.5
AAK	Ala-Archa	110.85	309	ePKP	PKiKP	01 43 20.2	-0.7
EKS2	Erkin-Say	111.38	309	ePKIKP	PKiKP	01 43 21.3	-0.6
EKS2	Erkin-Say	111.38	309	ePKP	PKiKP	01 43 21.3	-0.6
KKAR	Karatay Array	113.81	309	ePKIKP	PKiKP	01 43 25.3	-1.1
KKAR	Karatay Array	113.81	309	ePKP	PKiKP	01 43 25.3	-1.1
KBL	Kabul	114.00	300	ePKIKP	PKiKP	01 43 26.0	-1.3
KBL	Kabul	114.00	300	ePKP	PKiKP	01 43 26.0	-1.3
BRVK	Borovoye	114.41	320	⇑iPKIKP	PKPdf	01 43 26.4	-0.8
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BRVK				MLR	MLR		
	comp=Z,189nm,18.0s						
BRVK	Borovoye	114.41	320	ePKP	PKPdf	01 43 26.0	-1.2
SAML	Samuel	115.74	111	ePKPdf	PKPdf	01 43 29.3	-1.6
SVE	Sverdlovsk	119.65	325	ePKIKP	PKPdf	01 43 36.6	-0.5
SVE				pmax	pmax		
	comp=Z,13nm,1.1s						
ARU	Arti	120.85	325	i PKIKP	PKPdf	01 43 38.4	-1.0
ARU						01 45 04.8	
ARU						01 50 32.5	
ARU	Arti	120.85	325	ePKPdf	PKPdf	01 43 37.9	-1.5
ABKAR	Akbulak array	121.10	316	ePKPdf	PKPdf	01 43 38.5	-1.7
AKTO	Aktyubinsk	122.20	318	PKIKP	PKPdf	01 43 40.9	-1.3
AKTO	Aktyubinsk	122.20	318	PKP	PKPdf	01 43 40.9	-1.3
AKTO	Aktyubinsk	122.20	318	PKP	PKPdf	01 43 40.9	-1.3
	comp=Z,3.9nm,0.9s,baz=90,slow=1.0,SNR=14						
SUR	Sutherland	122.95	206	ePKPdf	PKPdf	01 43 48.7	+4.0
BOSA	Boshof	124.13	212	ePKPdf	PKPdf	01 43 46.4	-0.5
BOSA	Boshof	124.13	212	PKP	PKPdf	01 43 46.0	-0.9
	comp=Z,3.9nm,0.9s,baz=162,slow=3.2,SNR=4.3						
PRGR	Permogore	125.45	333	ePKIKP	PKPdf	01 43 45.6	-2.5
PRGR				pmax	pmax		
	comp=Z,161nm,1.7s						
KEV	Kevo	126.22	347	ePKIKP	PKPdf	01 43 47.6	-1.8
KEV	Kevo	126.22	347	epkp	PKPdf	01 43 47.6	-1.8
ARCES	ARCESS Array B	126.72	347	PKP	PKPdf	01 43 49.9	-0.5
ARCES	ARCESS Array B	126.72	347	PKP	PKPdf	01 43 49.9	-0.5
	comp=Z,9.6nm,0.8s,baz=38,slow=1.6,SNR=17						
LBTB	Lobatse	126.88	215	ePKPdf	PKPdf	01 43 51.8	-0.4
KLMR	Klimovskoe	128.40	334	ePKIKP	PKPdf	01 43 51.6	-2.2
KLMR				pmax	pmax		
	comp=Z,31nm,1.4s						
JOF	Joensuu	130.16	339	ePKIKP	PKPdf	01 43 56.6	-0.5
JOF	Joensuu	130.16	339	epkp	PKPdf	01 43 56.6	-0.5
KAF	Kangasniemi	132.35	341	ePKIKP	PKPdf	01 44 00.2	-1.0
KAF	Kangasniemi	132.35	341	epkp	PKPdf	01 44 00.2	-1.0
LSZ	Lusaka	132.72	225	ePKPdf	PKPdf	01 44 03.2	-0.3
OBN	Obninsk	132.83	329	⇓iPKIKP	PKPdf	01 44 02.4	+0.1
OBN				pmax	pmax		
	comp=Z,20nm,1.5s						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s						
FINES	FINESS Array B	132.93	340	PKP	PKPdf	01 44 02.1	-0.2
FINES	FINESS Array B	132.93	340	PKP	PKPdf	01 44 02.1	-0.2
	comp=Z,5.8nm,0.9s,baz=64,slow=3.2,SNR=9.9						
GNI	Garni	133.19	307	ePKPdf	PKPdf	01 44 04.5	+0.7

RAYN Ar Rayn 133.41 284 ePKPdf PKPdf 01 44 03.9 -0.6
KIV Kislovodsk 133.78 313 ePKIKP PKPdf 01 44 01.2 -3.4
KIV Kislovodsk 133.78 313 ePKPdf PKPdf 01 44 01.2 -3.4
KMBO Kilima Mbogo 134.11 248 ePKPdf PKPdf 01 44 07.1 +0.8
KMBO Kilima Mbogo 134.11 248 PKP PKPdf 01 44 07.2 +0.8
comp=Z,2.4nm,0.8s,baz=69,slow=5.6,SNR=7.0
TSUM Tsumeb 135.80 211 ePKPdf PKPdf 01 44 09.6 +0.3
NOA NORSAR Array B 137.04 349 PKP PKPdf 01 44 10.7 +0.6
NOA NORSAR Array B 137.04 349 PKP PKPdf 01 44 10.7 +0.6
comp=Z,3.5nm,1.1s,baz=28,slow=2.0,SNR=3.5
NAO01 NORSAR Array S 137.28 349 ePKPdf PKPdf 01 44 11.5 +1.0
HFS Hagfors 137.37 347 PKP PKPdf 01 44 09.7 -1.0
HFS Hagfors 137.37 347 PKP PKPdf 01 44 09.7 -1.0
comp=Z,2.9nm,0.8s,baz=50,slow=2.3,SNR=4.2
AKASG Malin Array Be 138.99 327c *i* PKIKP PKPdf 01 44 15.5 +1.6
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 138.99 327 PKP PKPdf 01 44 15.1 +1.2
AKASG Malin Array Be 138.99 327 PKP PKPdf 01 44 15.1 +1.2
comp=Z,5.4nm,0.9s,baz=44,slow=2.2,SNR=14
AKBB Malin Array Si 138.99 327 ePKIKP PKPdf 01 44 13.9 -0.1
AKBB Malin Array Si 138.99 327 ePKPdf PKPdf 01 44 13.9 -0.1
KIEV Kiev 139.01 327 ⇓*i* PKIKP PKPdf 01 44 15.4 +1.4
KIEV Kiev 139.01 327 ePKPdf PKPdf 01 44 15.1 +1.1
RCBR Riachuelo 140.20 126 ePKPdf PKPdf 01 44 17.4 0.0
BR131 Keskin Array S 141.52 310 ePKPdf PKPdf 01 44 16.5 -2.6
BRTR Keskin Array B 141.52 310 PKPpre PKPpre 01 44 15.6
BRTR Keskin Array B 141.52 310 PKhKP PKPpre 01 44 15.6
comp=Z,0.8nm,0.7s,baz=90,slow=2.9,SNR=4.3
CFR Carcaliu 142.75 321 ⇑PKIKP PKPdf 01 44 17.2 -3.7
CFR Carcaliu 142.75 321 ⇑*i* P PKPdf 01 44 17.2 -3.7
TESR Tescani 142.86 324 ⇑*i* P PKPdf 01 44 17.8 -3.3
BUR08 Bucovina Ar. S 142.96 326 ePKPdf PKPdf 01 44 17.9 -3.4
BURAR Bucovina Array 142.97 326 ⇑PKIKP PKPdf 01 44 18.4 -3.0
BURAR Bucovina Array 142.97 326 ⇑*i* P PKPdf 01 44 18.4 -3.0
HARR Harsova 143.13 320 ⇓PKIKP PKPbc 01 44 19.2 +0.7
HARR Harsova 143.13 320 ⇓*i* P PKPbc 01 44 19.1 +0.6
VRI Vrincioaia 143.19 323 ⇓PKIKP PKPbc 01 44 18.7 0.0
VRI Vrincioaia 143.19 323 ⇓*i* P PKPbc 01 44 18.7 0.0
PLOR Plostina 143.24 323 ⇑PKIKP PKPab 01 44 18.4 +0.8
PLOR Plostina 143.24 323 ⇑*i* P PKPab 01 44 18.4 +0.8
KOLS Kolonicke sedl 143.56 330 ePKIKP PKPdf 01 44 22.4 +0.1
KOLS Kolonicke sedl 143.56 330 ePKP PKPdf 01 44 22.4 +0.1
STHS Stebnicka Huta 143.70 331 ePKIKP PKPbc 01 44 21.1 +1.1
STHS Stebnicka Huta 143.70 331 ePKP PKPbc 01 44 21.1 +1.1
ISR Istrita 143.72 322 ⇑PKIKP PKPbc 01 44 21.0 +0.7
ISR Istrita 143.72 322 ⇑*i* P PKPbc 01 44 21.0 +0.7
UZH Uzhgorod 143.76 330 *de* PKIKP PKPbc 01 44 20.3 +0.1
UZH *i* 01 44 24.7
UZH *e* 01 44 31.5
BMR Baia Mare 143.82 327 ⇑PKIKP PKPbc 01 44 20.7 +0.3
BMR Baia Mare 143.82 327 ⇑*i* P PKPbc 01 44 20.7 +0.3
MLR Muntele Rosu 143.85 323 ⇑*i* P PKPab 01 44 19.0 -1.1
DOPR Dopca 143.88 324 ⇑*i* P PKPbc 01 44 21.6 +0.9
CRVS Cervenica-Dubn 143.97 330 ePKIKP PKPbc 01 44 20.8 0.0
CRVS Cervenica-Dubn 143.97 330 ePKP PKPab 01 44 20.8 0.0
TRPA Tarpa 143.99 329 ⇑*i* P PKPab 01 44 21.2 +0.9
TRPA Tarpa 143.99 329 ⇑*i* *e* PKPab 01 44 22.4 +2.1
SECR 144.04 322 ⇑*i* P PKPbc 01 44 21.7 +0.5
NIE Niedzica 144.11 332 ePKIKP PKPbc 01 44 22.1 +0.8
NIE Niedzica 144.11 332 ePKP PKPbc 01 44 22.1 +0.8
SULR 144.14 321 ⇓*i* P PKPbc 01 44 21.7 +0.2
EKA Eskdalemuir Ar 144.22 359 PKP PKPab 01 44 20.6 -0.4
EKA Eskdalemuir Ar 144.22 359 PKP PKPab 01 44 20.6 -0.4
comp=Z,13nm,0.8s,baz=12,slow=3.6,SNR=13
PRD Provadia 144.24 318 ⇑PKIKP PKPbc 01 44 22.8 +1.0
PRD Provadia 144.24 318 P PKPbc 01 44 22.3 +0.5
NEF NEVSHA 144.29 319 P PKPdf 01 44 23.1 -0.6
MDB Medias 144.33 325 ⇓PKIKP PKPdf 01 44 23.3 -0.4
MDB Medias 144.33 325 ⇓*i* P PKPdf 01 44 23.3 -0.4
BAPR Bucharest-Chil 144.37 321 ⇓*i* P PKPbc 01 44 22.8 +0.6
CJR Cluj-Napoca 144.39 326 ⇑PKIKP PKPdf 01 44 23.3 -0.5
CJR Cluj-Napoca 144.39 326 ⇑*i* P PKPdf 01 44 23.3 -0.5
VOIR 144.39 323 ⇑PKIKP PKPbc 01 44 22.6 +0.2
VOIR 144.39 323 ⇑*i* P PKPbc 01 44 22.6 +0.2
ISP Isparta 144.47 308 ⇓PKIKP PKPab 01 44 22.4 -0.3
ISP Isparta 144.47 308 ⇓*i* P PKPab 01 44 22.4 -0.3
CIOR Ciorogarla 144.49 321 ⇑*i* P PKPbc 01 44 22.8 +0.2
MTUR Matau 144.51 323 ⇑PKIKP PKPab 01 44 22.5 0.0
MTUR Matau 144.51 323 ⇑*i* P PKPab 01 44 22.5 0.0
KSP Ksiaz 144.64 337 ⇓*i* PKIKP PKPbc 01 44 23.1 +0.2
KSP *e* 01 44 29.8
KSP Ksiaz 144.64 337 *e* PKP PKPbc 01 44 23.3 +0.4
ARR Arges 144.67 323 ⇓*i* P PKPbc 01 44 23.8 +0.6
OKC Ostrava-Krasne 144.72 334 *e* PKIKP PKPab 01 44 23.1 +0.1
OKC *e* 01 44 30.2
OKC Ostrava-Krasne 144.72 334 *e* PKP PKPab 01 44 23.1 +0.1
OKC *ex* x 01 44 30.2
DRGR 144.80 327 ⇓PKIKP PKPbc 01 44 23.8 +0.2
DRGR 144.80 327 P PKPbc 01 44 23.8 +0.3
DRGR 144.80 327 ⇓*i* P PKPbc 01 44 23.8 +0.2
HUMR Humele 144.97 322 ⇑*i* P PKPab 01 44 24.0 -0.1
MORC Moravsky Berou 145.01 335 ePKIKP PKPbc 01 44 24.0 -0.2
MORC Moravsky Berou 145.01 335 ⇓*i* P PKPbc 01 44 23.4 -0.8
MORC Moravsky Berou 145.01 335 ePKPdf PKPbc 01 44 24.0 -0.2
DPC Dobruska-Polom 145.03 336 ePKIKP PKPdf 01 44 24.8 0.0
DPC *e* 01 44 31.8
DPC Dobruska-Polom 145.03 336 *e* PKP PKPdf 01 44 24.8 0.0
DPC *ex* x 01 44 31.8
LOT Lotru 145.10 324 ⇓*i* P PKPab 01 44 25.0 +0.3
SZH Strazhica 145.12 320 P PKPab 01 44 25.1 +0.4
JMB Yambol 145.14 318 ⇓PKIKP PKPdf 01 44 26.6 +1.4
JMB Yambol 145.14 318 P PKPdf 01 44 26.4 +1.2
JMB Yambol 145.14 318 ⇓*i* P PKPdf 01 44 26.6 +1.4
NRDL Niedersach Rie 145.15 344 ePKPbc PKPbc 01 44 24.5 +0.2
ZIMR 145.24 321 ⇓PKIKP PKPdf 01 44 26.2 +0.9
ZIMR 145.24 321 ⇓*i* P PKPdf 01 44 26.2 +0.9
DEV Deva 145.29 326 ⇑PKIKP PKPdf 01 44 25.7 +0.4
DEV Deva 145.29 326 ⇑*i* P PKPdf 01 44 25.7 +0.4
CLL Collm 145.37 340 ⇓*i* PKIKP PKPbc 01 44 25.4 +0.2
CLL *i* 01 44 32.2
CLL pmax pmax
comp=Z,104nm,0.9s
CLL MLR MLR
comp=Z,200nm,18.3s
CLL Collm 145.37 340 *e* PKPbc PKPbc 01 44 25.2 0.0
CLL Collm 145.37 340 ⇓*i* PKPbc PKPbc 01 44 25.4 +0.2
comp=Z,104nm,0.9s
CLL *i* PKiKP PKiKP 01 44 28.1 -1.1
CLL *i* 01 44 32.2
CLL eSSS SSS 02 12 06.0
CLL Lm MLR 02 54 00.0
comp=Z,200nm,18.3s
PSZ Piszkesteto 145.40 331 ⇓PKIKP PKPbc 01 44 25.6 +0.1
PSZ Piszkesteto 145.40 331 ⇓*i* P PKPbc 01 44 25.6 +0.1
PSZ Piszkesteto 145.40 331 *e* PKPbc PKPbc 01 44 25.3 -0.2
PSZ Piszkesteto 145.40 331 ⇓*e* PKPbc 01 44 25.7 +0.2
BRG Berggiesshubel 145.44 339 *i* PKP PKPab 01 44 25.9 +0.2
comp=Z,76nm,1.0s
BRG *e* 01 44 39.1
comp=Z,34nm,1.3s
BRG *e* 01 44 48.3
comp=Z,63nm,1.8s
BRG Berggiesshubel 145.44 339 *i* PKIKP PKPab 01 44 25.9 +0.2
BRG *e* 01 44 39.1
BRG pmax pmax
comp=Z,76nm,1.0s
BRG Berggiesshubel 145.44 339 *e* PKPbc PKPab 01 44 25.9 +0.2
CLZ Clausthal 145.67 343 *e* PKPbc PKPdf 01 44 26.2 +0.3
GZR Gura Zlata 145.68 325 ⇑PKIKP PKPbc 01 44 26.5 0.0
GZR Gura Zlata 145.68 325 ⇑*i* P PKPbc 01 44 26.5 0.0
SIRR Siria 145.69 327 ⇑*i* P PKPab 01 44 27.4 +0.6
VRAC Vranov 145.76 335 ⇓*i* P PKPab 01 44 26.8 +0.3
SRE Strehaia 145.90 324 ⇑PKP2 PKPab 01 44 27.6 0.0
SRE Strehaia 145.90 324 ⇑*i* P PKPab 01 44 27.6 0.0
PRU Pruhonice 145.98 338 ePKP2 PKPbc 01 44 27.2 +0.1
PRU Pruhonice 145.98 338 ePKP PKPbc 01 44 27.2 +0.1
PRU *ex* x 01 44 33.9
DIM Dimitrovgrad 146.02 318 P PKPbc 01 44 27.7 +0.2
SMOL Smolenice 146.04 333 ePKP2 PKPab 01 44 28.2 +0.2
SMOL Smolenice 146.04 333 ePKP PKPab 01 44 28.2 +0.2
BUD Budapest 146.12 331 ⇑*e* PKPbc 01 44 28.0 +0.4
BZS Buzias 146.15 326 ⇓PKP2 PKPdf 01 44 26.8 0.0
BZS Buzias 146.15 326 ⇓*i* P PKPdf 01 44 26.8 0.0
TREC Trest 146.20 336 ePKP2 PKPdf 01 44 27.4 +0.6
TREC Trest 146.20 336 ePKP PKPdf 01 44 27.4 +0.6
TREC *ex* x 01 44 33.3
KDZ Kurdzhali 146.31 317 ⇑PKP2 PKPbc 01 44 28.3 -0.1
KDZ Kurdzhali 146.31 317 ⇑*i* P PKPbc 01 44 28.3 -0.1
PKS7 Kunszentmiklos 146.38 330 ⇑*e* PKPbc 01 44 28.7 +0.3
WTSB Winterswijk 146.41 347 *e* PKP PKPdf 01 44 27.0 0.0
comp=Z,66nm,1.1s
PKSG 146.48 331 ⇓*e* PKPbc 01 44 28.6 -0.1
NKC Novy Kostel 146.48 340 *e* PKP2 PKPbc 01 44 29.1 +0.4
NKC Novy Kostel 146.48 340 *e* PKP PKPbc 01 44 29.1 +0.4
CSKK Cs˘˙tkako 146.56 331 ⇓*e* PKPbc 01 44 29.1 +0.1
BANR Banloc 146.56 326 ⇑*i* P PKPab 01 44 29.8 -0.2
PGB Panagyurishte 146.59 320 P PKPbc 01 44 28.9 -0.4
RZN Rozhen 146.73 318 P PKPbc 01 44 30.3 +0.4
PKST T˜˙s 146.74 331 ⇓*e* PKPbc 01 44 28.9 -0.6
KHC Kasperske Hory 147.04 338 *e* PKIKP PKPdf 01 44 28.6 +0.3
KHC *e* 01 44 41.5
KHC Kasperske Hory 147.04 338 *e* PKP PKPdf 01 44 28.6 +0.3
KHC *ex* x 01 44 41.5
KHC Kasperske Hory 147.04 338 *e* PKPdf PKPdf 01 44 27.5 -0.8
KHC *e* PKPbc PKPbc 01 44 30.2 -0.1
SOP Sopron 147.06 333 ⇓*e* PKPbc 01 44 30.6 +0.2
PKS9 Tamasi 147.12 330 ⇓*e* PKPdf 01 44 29.4 +1.0
VTS Vitosha 147.15 321 ⇑PKP2 PKPbc 01 44 31.2 +0.2
VTS Vitosha 147.15 321 P PKPbc 01 44 30.8 -0.2
VTS Vitosha 147.15 321 ⇑*i* P PKPbc 01 44 31.2 +0.2
CONA Conrad Observa 147.15 334 *i* PKPab PKPbc 01 44 30.8 0.0
comp=Z,57nm,0.9s,SNR=23
PKSM Moragy 147.23 330 ⇑PKP2 PKPbc 01 44 30.3 -0.6
PKSM Moragy 147.23 330 ⇑*i* P PKPbc 01 44 30.3 -0.6
PKSM Moragy 147.23 330 ⇓*e* PKPbc 01 44 30.6 -0.3
GEC2 GERESS Array S 147.24 337 ePKPbc PKPbc 01 44 30.8 -0.1
GERES GERESS Array B 147.24 337 PKPbc PKPbc 01 44 30.9 -0.1
GERES GERESS Array B 147.24 337 PKPbc PKPbc 01 44 30.9 -0.1
comp=Z,16nm,0.8s,baz=28,slow=2.7,SNR=117
GRF Grafenberg Arr 147.34 341 ePKPbc PKPbc 01 44 31.5 +0.4
MMB Musomiste 147.40 319 ⇓PKP2 PKPbc 01 44 31.1 -0.5
MMB Musomiste 147.40 319 P PKPbc 01 44 31.3 -0.3
MMB Musomiste 147.40 319 ⇓*i* P PKPbc 01 44 31.1 -0.5
TNS Taunus Mts 147.65 344 ePKPbc PKPbc 01 44 32.1 +0.1
TNS ePKPab PKPab 01 44 35.0 +0.8
HGN Heimansgroeve 147.72 347 *e* PKP PKPab 01 44 34.6 +0.2
comp=Z,52nm,1.1s
ARSA Arzberg 147.83 334 ⇑*i* PKPbc PKPdf 01 44 30.5 +0.8
comp=Z,16nm,1.2s,SNR=5.6
MOA Melin 147.85 336 *i* PKPbc PKPbc 01 44 32.7 +0.1
comp=Z,32nm,1.0s,SNR=8.3
MEM Membach 147.85 347 PKP PKPbc 01 44 32.7 +0.2
BCLA Clavier 148.18 348 PKPbc PKPbc 01 44 33.4 +0.1
BCLA PKPab PKPab 01 44 36.4 +0.2
SNF Seneffe 148.28 349 PKPbc PKPbc 01 44 33.6 +0.1
PERS Pernice 148.49 334 *i* PKPbc PKPbc 01 44 33.8 -0.5
SOKA Soboth 148.49 334 *i* PKPbc PKPbc 01 44 34.2 -0.2
comp=Z,25nm,1.2s,SNR=6.5
RJOB Jochberg 148.50 337 ePKPbc PKPbc 01 44 33.9 -0.4
DOU Dourbes 148.62 349 PKPbc PKPbc 01 44 34.5 +0.1
FUR Furstenfeldbru 148.66 339 ePKPbc PKPbc 01 44 34.5 -0.2
WLF Walferdange 148.71 347 PKPbc PKPbc 01 44 35.4 +0.6
WLF Walferdange 148.71 347 ePKP2 PKPbc 01 44 35.3 +0.6
WLF Walferdange 148.71 347 ePKPbc PKPbc 01 44 35.4 +0.6
WLF ePKPab PKPab 01 44 39.4 +1.0
WLF Walferdange 148.71 347 ePKPbc PKPbc 01 44 35.3 +0.6
WLF ePKPab PKPab 01 44 38.4 0.0
STU Stuttgart 148.77 342 ePKIKP PKPdf 01 44 31.2 +0.1
STU *e* 01 44 35.2
STU Stuttgart 148.77 342 ePKPdf PKPdf 01 44 31.2 +0.1
STU ePKPbc PKPbc 01 44 35.2 +0.3
KBA Koelnbreinsper 148.84 336 *i* PKPbc PKPbc 01 44 34.9 -0.5
comp=Z,26nm,1.0s,SNR=7.1
LANF Langenberg 148.96 344 PKP PKPbc 01 44 36.0 +0.6
MYKA Terra Mystica 149.10 335 *i* PKPbc PKPbc 01 44 35.1 -0.8
comp=Z,19nm,0.9s,SNR=5.6
LJU Ljubljana 149.21 334 *i* PKPbc PKPbc 01 44 36.0 -0.1
WATA Walderalm 149.27 338 *i* PKiKP PKPbc 01 44 36.2 -0.2
comp=Z,42nm,1.2s,SNR=7.4
WTTA Wattenberg 149.31 338 *i* PKiKP PKPbc 01 44 36.4 -0.2
comp=Z,61nm,1.2s,SNR=12
BOJS Bojanci 149.32 332 ePKPbc PKPbc 01 44 36.4 0.0
BFO Black Forest 149.41 343 *i* PKP2 PKPbc 01 44 36.7 +0.1
BFO Black Forest 149.41 343 ePKPbc PKPbc 01 44 36.4 -0.2
BFO ePKPab PKPab 01 44 41.8 +0.5
BFO Black Forest 149.41 343 ePKPbc PKPbc 01 44 36.2 -0.4
BFO ePKPab PKPab 01 44 41.8 +0.5
RETA Reutte 149.42 339 *i* PKiKP PKPbc 01 44 36.8 +0.1
comp=Z,19nm,0.9s,SNR=5.6
MOTA Moosalm 149.43 339 ⇑*i* PKPdf PKPdf 01 44 31.8 -0.6
comp=Z,6.6nm,1.2s
MOTA ⇓*i* PKPbc PKPbc 01 44 36.4 -0.5
comp=Z,39nm,1.0s,SNR=17
ABTA Abfaltersbach 149.43 337 ⇑*i* PKPdf PKPdf 01 44 31.1 -1.2
comp=Z,9.6nm,0.9s
ABTA ⇓*i* PKPbc PKPbc 01 44 35.7 -1.0
comp=Z,36nm,1.2s,SNR=7.3
JAVS Javornik 149.52 334 ePKPbc PKPbc 01 44 36.5 -0.5
ECH Echery 149.83 344 ePKP2 PKPbc 01 44 37.1 -0.5
ECH Echery 149.83 344 PKP PKPbc 01 44 37.7 +0.1
ECH Echery 149.83 344 ePKPbc PKPbc 01 44 37.1 -0.5
ECH ePKPab PKPab 01 44 43.1 0.0
FETA Feichten 149.84 339 ⇑*i* PKPdf PKPdf 01 44 32.6 -0.5
comp=Z,11nm,1.1s
FETA *i* PKiKP PKPbc 01 44 37.8 -0.1
comp=Z,50nm,1.0s,SNR=9.9
DAVA Damuels 149.88 340 ⇓*i* PKPdf PKPdf 01 44 33.1 0.0
comp=Z,6.4nm,1.0s
DAVA *i* PKiKP PKPbc 01 44 38.2 +0.2
comp=Z,44nm,1.1s,SNR=8.0
THEF They Montfort 150.15 346 PKP PKPbc 01 44 38.4 +0.1
MOF Molkenrain 150.17 344 PKP PKPbc 01 44 38.6 +0.1
LOMF Lomont 150.71 344 PKP PKPbc 01 44 40.2 +0.4
TUE Stuetta 150.78 340 ePKPbc PKPbc 01 44 39.6 -0.6
ASCN Ascension 151.08 160 ePKPbc PKPbc 01 44 41.9 +0.3
RSL Roselend 152.30 343 PKP PKPbc 01 44 43.8 +0.1
AQU L'Aquila 152.61 330 ePKPbc PKPbc 01 44 44.5 +0.2
AQU ePKPab PKPab 01 44 55.2 +0.3
PLDF La Plantade 152.76 347 PKP PKPbc 01 44 45.7 +1.1
AGO Saint Agoulin 152.78 348 PKP PKPbc 01 44 45.6 +1.1
BNI Bardonecchia 152.87 342 ePKIKP PKPdf 01 44 37.6 -0.1
BNI *e* 01 44 44.7
BNI *e* 01 44 55.8
BNI Bardonecchia 152.87 342 ePKPdf PKPdf 01 44 37.6 -0.1
BNI ePKPbc PKPbc 01 44 44.7 -0.2
BNI ePKPab PKPab 01 44 55.8 -0.2
TIP Timpagrande 153.10 321 ePKPbc PKPbc 01 44 45.4 -0.2
SSB Saint Sauveur 153.21 346 ePKIKP PKPdf 01 44 38.3 +0.2
SSB *e* 01 44 45.8
SSB *i* 01 44 57.5
SSB Saint Sauveur 153.21 346 ePKPdf PKPdf 01 44 38.3 +0.2
SSB ePKPbc PKPbc 01 44 45.8 +0.3
SSB ePKPab PKPab 01 44 57.5 +0.2
ESDC Sonseca Array 159.90 359 PKP PKPdf 01 44 46.4 -0.5
ESDC PKPab PKPab 01 45 26.2 +0.1
ESDC Sonseca Array 159.90 359 PKP PKPdf 01 44 46.4 -0.5
comp=Z,2.0nm,0.8s,baz=7.9,slow=2.6,SNR=9.6
ESDC PKPab PKPab 01 45 26.2 +0.1
comp=Z,3.9nm,0.8s,baz=6.5,slow=3.6,SNR=13
ESLA Sonseca Array 159.90 359 ePKPdf PKPdf 01 44 46.2 -0.7
MDT Midelt 166.75 0 PKP PKPdf 01 44 53.7 0.0
MDT PKPab PKPab 01 44 53.7 -0.4
MDT Midelt 166.75 0 PKP PKPdf 01 44 53.7 0.0
comp=Z,3.7nm,1.0s,baz=297,slow=2.3,SNR=5.7
MDT PKPab PKPab 01 45 56.0 -0.4
comp=Z,10nm,1.2s,baz=354,slow=4.9,SNR=6.1
DBIC Dimbokro 167.23 179 ePKPdf PKPdf 01 44 53.4 -1.0
DBIC ePKPab PKPab 01 45 57.6 -1.1
DBIC Dimbokro 167.23 179 PKP PKPdf 01 44 52.8 -1.6
comp=Z,2.4nm,0.9s,baz=146,slow=3.6,SNR=3.5
DBIC PKPab PKPab 01 45 57.1 -1.6
comp=Z,4.1nm,0.8s,baz=159,slow=5.2,SNR=5.2
TAM Tamanrasset 170.01 291 ePKIKP PKPdf 01 44 56.5 +0.3
TAM Tamanrasset 170.01 291 ePKPdf PKPdf 01 44 56.5 +0.3
TAM ePKPab PKPab 01 46 11.9 +0.4
TOA0 Torodi Ar. Sit 171.25 225 ePKPdf PKPdf 01 44 55.5 -1.4
TOA0 ePKPab PKPab 01 46 16.6 -0.2
TORD Torodi Ar. Bea 171.25 225 PKP PKPdf 01 44 55.1 -1.7
TORD PKPab PKPab 01 46 15.3 -1.4
TORD Torodi Ar. Bea 171.25 225 PKP PKPdf 01 44 55.1 -1.7
comp=Z,5.8nm,0.9s,baz=112,slow=1.6,SNR=26
TORD PKPab PKPab 01 46 15.3 -1.4
comp=Z,2.3nm,0.8s,baz=112,slow=4.7,SNR=6.5

*IDC **22** 01:27:14.2±1.0, 38.47N×21.95E, h0km, mb3.7/9, mb1 3.7/14, mb1mx3.6/33, mbtmpg3.6/14, ML3.3/5, Error ellipse: s-maj=18.1km s-min=16.9km az=76.0*
*ATH **22** 01:27:14.8, 38.41N×21.95E, h14km±1km, ML3.3*
*SOF **22** 01:27:14.1, 38.52N×21.53E, h2km, MD2.8*
*ISCJB **22** 01:27:14.8±0.2, 38.42N±0.01×21.94E±0.02, h10km±2km, mb3.7/8, Error ellipse: s-maj=2.5km s-min=2.1km az=162.6*
*SKO **22** 01:27:15.7, 38.42N×22.17E, h0km, M3.0, ML3.3*
*CSEM **22** 01:27:15.3±0.1, 38.40N×21.97E, h2km, ML3.7, Error ellipse: s-maj=2.7km s-min=2.4km az=79.0*
*THE **22** 01:27:15.4, 38.41N×21.97E, h0km±1km, ML3.6/11, Error ellipse: s-maj=1.3km s-min=0.4km az=290.0*

ISC 22 01:27:15.4±0.7, 38.42N±0.01×21.95E±0.01, h8km±4km, n193, σ1♀02/259, mb3.9/8, 15C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.04	280	P	P	Pg	01 27 16.8	-0.3
EFP				S	S	Sg	01 27 18.0	-0.2
EFP	Efpalio	0.04	280	ePG	P	Pg	01 27 16.7	-0.3
EFP				eSG	S	Sg	01 27 18.0	-0.2
EFP	Efpalio	0.04	280	P	P	Pg	01 27 16.8	-0.3
EFP				S	S	Sg	01 27 17.8	-0.4
KALE	Kalithea	0.15	101	P	P	Pg	01 27 18.6	0.0
KALE				S	S	Sg	01 27 21.1	+0.2
KALE	Kalithea	0.15	101	ePG	P	Pg	01 27 18.6	0.0
KALE				eSG	S	Sg	01 27 21.7	+0.8
KALE	Kalithea	0.15	101	P	P	Pg	01 27 18.6	0.0
KALE				S	S	Sg	01 27 21.0	+0.2
LAKA	Lakka	0.18	174	P	P	Pg	01 27 19.0	-0.1
LAKA	Lakka	0.18	174	ePG	P	Pg	01 27 19.1	-0.1
LAKA	Lakka	0.18	174	P	P	Pg	01 27 19.0	-0.1
UPR	University Cam	0.19	224	P	P	Pg	01 27 19.2	-0.1
UPR				S	S	Sg	01 27 21.8	-0.2
UPR	University Cam	0.19	224	P	P	Pg	01 27 19.2	-0.1
UPR				S	S	Sg	01 27 21.7	-0.2
PVO	Paravola	0.39	300	P	P	Pg	01 27 22.8	-0.2
PVO				S	S	Sg	01 27 29.5	+1.4
PVO	Paravola	0.39	300	P	P	Pg	01 27 22.8	-0.2
PVO				S	S	Sg	01 27 29.5	+1.4
KLV	Kalavryta, Ach	0.41	157	P	P	Pg	01 27 22.8	-0.6
KLV				S	S	Sg	01 27 29.4	+0.7
KLV	Kalavryta, Ach	0.41	157	ePB	P	Pg	01 27 22.8	-0.6
KLV	Kalavryta, Ach	0.41	157	P	P	Pg	01 27 22.8	-0.6
KLV				S	S	Sg	01 27 29.4	+0.7
DSF	Desfina	0.45	91	P	P	Pg	01 27 23.7	-0.5
DSF				S	S	Sg	01 27 30.7	+0.6
DSF	Desfina	0.45	91	ePB	P	Pg	01 27 23.6	-0.6
DSF	Desfina	0.45	91	P	P	Pg	01 27 23.6	-0.6
DSF				S	S	Sg	01 27 30.3	+0.2
DRO	Drossia	0.51	202	P	P	Pg	01 27 24.5	-0.7
DRO				S	S	Sg	01 27 32.6	+0.8
DRO	Drossia	0.51	202	ePB	P	Pg	01 27 24.7	-0.5
DRO	Drossia	0.51	202	ePb	P	Pg	01 27 24.7	-0.5
DRO				S	S	Sg	01 27 31.6	-0.2
EVR	Evrytania	0.51	347	P	P	Pg	01 27 24.9	-0.4
EVR				S	S	Sg	01 27 33.4	+1.4
EVR	Evrytania	0.51	347	ePB	P	Pg	01 27 24.7	-0.6
EVR				eSB	S	Sg	01 27 32.8	+0.8
EVR	Evrytania	0.51	347	P	P	Pg	01 27 24.9	-0.4
EVR				S	S	Sg	01 27 32.2	+0.2
RLS	Riolos of Patr	0.53	227	P	P	Pg	01 27 25.1	-0.5
RLS				S	S	Sg	01 27 33.1	+0.6
RLS	Riolos of Patr	0.53	227	ePB	P	Pg	01 27 25.2	-0.4
RLS				eSB	S	Sg	01 27 33.2	+0.7
RLS	Riolos of Patr	0.53	227	P	P	Pg	01 27 25.2	-0.4
RLS				S	S	Sg	01 27 32.3	-0.2
RLS				eSb	S	Sg	01 27 33.2	+0.7
GUR	Goura	0.57	147	P	P	Pg	01 27 25.4	-1.1
GUR				S	S	Sg	01 27 33.5	-0.5
GUR	Goura	0.57	147	ePB	P	Pg	01 27 25.8	-0.7
GUR				eSB	S	Sg	01 27 34.5	+0.6
GUR	Goura	0.57	147	ePb	P	Pg	01 27 25.8	-0.7
GUR				S	S	Sg	01 27 33.5	-0.5
GUR				eSb	S	Sg	01 27 34.6	+0.6
MAKR	Makrakomi, Fth	0.61	13	P	P	Pg	01 27 27.3	+0.1
MAKR				S	S	Sb	01 27 36.4	-0.6
MAKR	Makrakomi, Fth	0.61	13	ePB	P	Pg	01 27 27.1	-0.1
MAKR				eSB	S	Sb	01 27 36.4	-0.6
MAKR	Makrakomi, Fth	0.61	13	P	P	Pg	01 27 27.3	+0.1
MAKR				S	S	Sg	01 27 36.0	+0.8
PDO	Prodromos	0.63	287	P	P	Pg	01 27 27.7	+0.1
PDO				S	S	Sb	01 27 38.0	+0.4
PDO	Prodromos	0.63	287	ePB	P	Pg	01 27 27.5	-0.1
PDO	Prodromos	0.63	287	P	P	Pg	01 27 27.7	+0.1
PDO				S	S	Sb	01 27 37.3	-0.3
AXAR	Agios Charalam	0.65	58	P	P	Pg	01 27 27.6	-0.4
AXAR				S	S	Sg	01 27 36.7	+0.2
AXAR	Agios Charalam	0.65	58	ePB	P	Pg	01 27 27.4	-0.6
AXAR				eSB	S	Sg	01 27 36.9	+0.2
AXAR	Agios Charalam	0.65	58	P	P	Pg	01 27 27.6	-0.4
AXAR				S	S	Sg	01 27 36.7	+0.2
AGG	Agios Georgios	0.67	26	P	P	Pg	01 27 27.5	-0.8
AGG	Agios Georgios	0.67	26	ePG	P	Pg	01 27 27.5	-0.8
AGG				eSB	S	Sg	01 27 38.0	+0.9
AGG	Agios Georgios	0.67	26	P	P	Pg	01 27 27.5	-0.8
AGG				eSb	S	Sg	01 27 38.0	+0.9
VTN	Vitineika	0.79	231	P	P	Pg	01 27 30.8	+0.3
VTN	Vitineika	0.79	231	P	P	Pg	01 27 30.8	+0.3
LKR	Lokris	0.85	74	P	P	Pg	01 27 30.9	-0.9
LKR				S	S	Sb	01 27 44.1	+0.1
LKR	Lokris	0.85	74	ePB	P	Pg	01 27 31.8	0.0
LKR				eSB	S	Sb	01 27 43.7	-0.3
LKR	Lokris	0.85	74	P	P	Pg	01 27 30.9	-0.9
LKR	Lokris	0.85	74	ePb	P	Pg	01 27 31.8	0.0
LKR				eSb	S	Sb	01 27 43.7	-0.3
LKR				S	S	Sb	01 27 44.1	+0.1
LTK	Loutraki	0.89	116	P	P	Pg	01 27 32.6	0.0
LTK	Loutraki	0.89	116	ePB	P	Pg	01 27 32.5	0.0
LTK	Loutraki	0.89	116	ePb	P	Pg	01 27 32.5	0.0
AMT	Artemida-Makis	0.91	192	P	P	Pg	01 27 32.1	-0.7
AMT	Artemida-Makis	0.91	192	ePB	P	Pg	01 27 32.2	-0.6
AMT	Artemida-Makis	0.91	192	ePb	P	Pg	01 27 32.2	-0.6
LKD2	Lefkada island	1.08	290	P	P	Pg	01 27 35.5	-0.6
LKD2	Lefkada island	1.08	290	ePN	P	Pg	01 27 35.5	-0.6
LKD2	Lefkada island	1.08	290	P	P	Pg	01 27 35.5	-0.6
SMIA	Simia	1.08	65	P

ATH				*e*Sb	**Sb**	**01 28 01.8 +0.4**	
MEV	**Metsovon**	**1.48**	**338**	P	**Pb**	**01 27 43.3 +0.2**	
MEV	**Metsovon**	**1.48**	**338**	P	**Pb**	**01 27 43.3 +0.2**	
JAN	**Janina**	**1.50**	**326**	P	**Pb**	**01 27 43.8 +0.2**	
JAN	**Janina**	**1.50**	**326**	P	**Pb**	**01 27 43.8 +0.2**	
PYL	**PYLOS**	**1.53**	**186**	P	**Pn**	**01 27 42.9 -0.1**	
PYL	**PYLOS**	**1.53**	**186**	*e*PG	**Pn**	**01 27 42.7 -0.3**	
PYL	**PYLOS**	**1.53**	**186**	P	**Pn**	**01 27 42.9 -0.1**	
PTL	**Penteli**	**1.55**	**103**	*e*PB	**Pn**	**01 27 43.3 0.0**	
PTL				*e*SB	**Sb**	**01 28 04.3 +0.2**	
PTL	**Penteli**	**1.55**	**103**	*e*Pb	**Pn**	**01 27 43.3 0.0**	
PTL				*e*Sb	**Sb**	**01 28 04.3 +0.2**	
AOS	**Alonnisos**	**1.68**	**63**	P	**Pn**	**01 27 44.3 -0.8**	
AOS	**Alonnisos**	**1.68**	**63**	*e*PN	**Pn**	**01 27 44.2 -0.8**	
AOS	**Alonnisos**	**1.68**	**63**	P	**Pn**	**01 27 44.3 -0.8**	
LIT	**Litokhoron**	**1.73**	**14**	P	**Pn**	**01 27 45.9 +0.2**	
LIT	**Litokhoron**	**1.73**	**14**	*e*PN	**Pn**	**01 27 45.9 +0.2**	
LIT	**Litokhoron**	**1.73**	**14**	P	**Pn**	**01 27 45.9 +0.2**	
VLI	**Veliai**	**1.87**	**155**	P	**Pn**	**01 27 47.9 +0.3**	
VLI	**Veliai**	**1.87**	**155**	*e*PN	**Pn**	**01 27 47.7 +0.1**	
VLI	**Veliai**	**1.87**	**155**	P	**Pn**	**01 27 47.9 +0.3**	
KZN	**Kozani**	**1.89**	**356**	P	**Pn**	**01 27 49.1 +1.1**	
KZN	**Kozani**	**1.89**	**356**	*e*PN	**Pn**	**01 27 48.8 +0.8**	
KZN	**Kozani**	**1.89**	**356**	*e*Pn	**Pn**	**01 27 48.8 +0.8**	
KZN	**Kozani**	**1.89**	**356**	P	**Pn**	**01 27 49.1 +1.1**	
SRN	**Sarande**	**2.10**	**314**	*i* PN	**Pb**	**01 27 54.4 +0.6**	
SRN	**Sarande**	**2.10**	**314**	*i* Pn	**Pb**	**01 27 54.4 +0.6**	
NEST	**Nestorio**	**2.11**	**341**	*e*PG	**Pb**	**01 27 53.5 -0.5**	
NEST	**Nestorio**	**2.11**	**341**	*e*Pg	**Pb**	**01 27 53.5 -0.5**	
KYTH	**Kithira**	**2.30**	**158**	*e*PN	**Pn**	**01 27 55.3 +1.7**	
KYTH	**Kithira**	**2.30**	**158**	*e*Pn	**Pn**	**01 27 55.3 +1.7**	
HORT	**Hortiatis**	**2.35**	**22**	*e*PB	**Pn**	**01 27 54.2 -0.1**	
HORT	**Hortiatis**	**2.35**	**22**	*e*Pb	**Pn**	**01 27 54.2 -0.1**	
FNA	**Florina**	**2.40**	**349**	P	**Pn**	**01 27 56.3 +1.2**	
FNA	**Florina**	**2.40**	**349**	*e*PN	**Pn**	**01 27 56.2 +1.2**	
FNA	**Florina**	**2.40**	**349**	*e*Pn	**Pn**	**01 27 56.2 +1.2**	
GRG	**Griva**	**2.56**	**8**	P	**Pn**	**01 27 57.7 +0.6**	
GRG	**Griva**	**2.56**	**8**	*e*PB	**Pn**	**01 27 57.7 +0.6**	
GRG	**Griva**	**2.56**	**8**	P	**Pn**	**01 27 57.7 +0.6**	
SOH	**Sokhos**	**2.63**	**24**	*e*PB	**Pn**	**01 27 58.7 +0.5**	
SOH	**Sokhos**	**2.63**	**24**	*e*Pb	**Pn**	**01 27 58.7 +0.5**	
KNT	**Kendrikon**	**2.83**	**15**	*e*PN	**Pn**	**01 28 01.3 +0.4**	
KNT	**Kendrikon**	**2.83**	**15**	*e*Pn	**Pn**	**01 28 01.3 +0.4**	
MMB	**Musomiste**	**3.45**	**23**	P	**Pn**	**01 28 09.7 +0.3**	
MMB				S	**Sn**	**01 28 52.0 +1.6**	
MMB	**Musomiste**	**3.45**	**23**	P	**Pn**	**01 28 09.7 +0.3**	
MMB				S	**Sn**	**01 28 52.0 +1.6**	
VAM	**Vamos**	**3.50**	**148**	*e*PN	**Pn**	**01 28 11.0 +0.9**	
VAM	**Vamos**	**3.50**	**148**	*e*Pn	**Pn**	**01 28 11.0 +0.9**	
RZN	**Rozhen**	**3.89**	**32**	*e*P	**Pn**	**01 28 18.6 +3.0**	
RZN	**Rozhen**	**3.89**	**32**	*e*P	**Pn**	**01 28 18.6 +3.0**	
IDI	**Anoyia**	**3.91**	**142**	Pn	**Pn**	**01 28 17.3 +1.5**	
	2.4nm,0.3s,baz=336,slow=17,SNR=10						
IDI				Sn	**Sn**	**01 29 01.3 -0.6**	
	3.4nm,0.3s,baz=285,slow=20,SNR=5.7						
VTS	**Vitosha**	**4.28**	**13**	P	**Pn**	**01 28 22.5 +1.6**	
VTS				S	**Sn**	**01 29 11.7 +0.7**	
VTS	**Vitosha**	**4.28**	**13**	⇓*i*P	**Pn**	**01 28 22.5 +1.6**	
VTS	**Vitosha**	**4.28**	**13**	P	**Pn**	**01 28 22.5 +1.6**	
VTS				S	**Sn**	**01 29 11.7 +0.7**	
MPEP	**Malo Peshtene**	**5.11**	**15**	P	**Pn**	**01 28 34.7 +2.5**	
MPEP	**Malo Peshtene**	**5.11**	**15**	P	**Pn**	**01 28 34.7 +2.5**	
IVAS	**Ivanjica**	**5.33**	**346**	⇓*i*Pn	Pn	01 28 39.0 +4.2	
BOLS	**Boljevac**	**5.40**	**360**	*e*Pn	**Pn**	**01 28 35.5 -0.7**	
STON	**Ston**	**5.50**	**325**	*i* Pn	**Pn**	**01 28 38.1 +0.6**	
STON				Sn	**Sn**	**01 29 39.2 -1.7**	
STON	**Ston**	**5.50**	**325**	*i* Pn	**Pn**	**01 28 38.1 +0.6**	
GRUS	**Gruza**	**5.54**	**351**	⇑*i*Pn	**Pn**	**01 28 40.2 +2.1**	
BBLS	**Lazići**	**5.77**	**341**	*e*Pn	Pn	01 28 44.6 +3.3	
DIVS	**Divibare**	**5.86**	**346**	⇑*i*Pn	**Pn**	**01 28 44.8 +2.2**	
TRUS	**Trudelj**	**5.91**	**349**	*e*Pn	**Pn**	**01 28 43.9 +0.7**	
GZR	**Gura Zlata**	**7.00**	**5**	⇑*i*P	Pn	01 29 03.3 +5.2	
MTUR	**Matau**	**7.19**	**18**	⇓*i*P	**Pn**	**01 29 03.0 +2.2**	
MTUR	**Matau**	**7.19**	**18**	⇓*i*P	**Pn**	**01 29 03.0 +2.2**	
ARR	**Arges**	**7.22**	**15**	⇑*i*P	**Pn**	**01 29 02.4 +1.1**	
ARR	**Arges**	**7.22**	**15**	⇑*i*P	**Pn**	**01 29 02.4 +1.1**	
VOIR		**7.38**	**17**	⇓*i*P	**Pn**	**01 29 04.9 +1.5**	
VOIR		**7.38**	**17**	⇓*i*P	**Pn**	**01 29 04.9 +1.5**	
MLR	**Muntele Rosu**	**7.67**	**22**	⇓*i*P	**Pn**	**01 29 09.2 +1.8**	
MLR	**Muntele Rosu**	**7.67**	**22**	Pn	**Pn**	**01 29 09.0 +1.6**	
	0.2nm,0.3s,baz=181,slow=13,SNR=13						
MLR	**Muntele Rosu**	**7.67**	**22**	⇓*i*P	**Pn**	**01 29 09.2 +1.8**	
DOPR	**Dopca**	**7.96**	**18**	⇑*i*P	**Pn**	**01 29 12.0 +0.7**	
DOPR	**Dopca**	**7.96**	**18**	⇑*i*P	**Pn**	**01 29 12.0 +0.7**	
NVLJ	**Novalja**	**8.12**	**321**	*e*Pn	**Pn**	**01 29 12.4 -1.0**	
NVLJ				Sn	**Sn**	**01 30 40.9 -4.4**	
NVLJ	**Novalja**	**8.12**	**321**	*e*Pn	**Pn**	**01 29 12.4 -1.0**	
PKSM	**Moragy**	**8.16**	**344**	⇑*i*P	**Pn**	**01 29 14.2 +0.1**	
PKSM	**Moragy**	**8.16**	**344**	⇑*i*P	**Pn**	**01 29 14.2 +0.1**	
PLOR	**Plostina**	**8.20**	**24**	⇑*i*P	**Pn**	**01 29 17.6 +2.9**	
PLOR	**Plostina**	**8.20**	**24**	⇑*i*P	**Pn**	**01 29 17.6 +2.9**	
VRI	**Vrincioaia**	**8.24**	**24**	⇑*i*P	**Pn**	**01 29 17.6 +2.4**	
VRI	**Vrincioaia**	**8.24**	**24**	⇑*i*P	**Pn**	**01 29 17.6 +2.4**	
BOJS	**Bojanci**	**8.66**	**327**	*i* Pn	**Pn**	**01 29 23.6 +2.7**	
BOJS				*i* Sn	**Sn**	**01 30 58.4 -0.3**	
BOJS	**Bojanci**	**8.66**	**327**	*i* Pn	**Pn**	**01 29 23.6 +2.7**	
VISS	**Visnje**	**9.07**	**327**	*i* Pn	**Pn**	**01 29 20.7 +1.5**	
VISS				*i* Sn	**Sn**	**01 31 06.2 -2.6**	
VISS	**Visnje**	**9.07**	**327**	*i* Pn	**Pn**	**01 29 28.0 +1.5**	
BRTR	**Keskin Array B**	**9.18**	**78**	Pn	**Pn**	**01 29 30.1 +1.9**	
	0.3nm,0.3s,baz=256,slow=13,SNR=12						
PSZ	**Piszkesteto**	**9.61**	**352**	⇑*i*P	**Pn**	**01 29 34.6 +0.6**	
PSZ	**Piszkesteto**	**9.61**	**352**	⇑*i*P	**Pn**	**01 29 34.6 +0.6**	
PERS	**Pernice**	**9.63**	**331**	*i* Pn	**Pn**	**01 29 35.0 +0.7**	
PERS				*i* Sn	**Sn**	**01 31 20.4 -2.2**	
PERS	**Pernice**	**9.63**	**331**	*i* Pn	**Pn**	**01 29 35.0 +0.7**	
GERES	**GERESS Array B**	**12.00**	**333**	Pn	**Pn**	**01 30 08.1 +1.4**	
	0.1nm,0.3s,baz=160,slow=16,SNR=2.5						
MMAI	**Mount Meron Ar**	**12.19**	**112**	Pn	**Pn**	**01 30 10.9 +1.7**	
	0.2nm,0.3s,baz=305,slow=10,SNR=2.8						
ESDC	**Sonseca Array**	**20.15**	**282**	P	**P**	**01 31 50.6 +0.6**	
	0.8nm,0.7s,baz=75,slow=11,SNR=5.6						
HFS	**Hagfors**	**22.36**	**349**	P	**P**	**01 32 12.1 -1.4**	
	2.4nm,0.5s,baz=165,slow=12,SNR=12						
FINES	**FINESS Array B**	**23.19**	**5**	P	**P**	**01 32 20.5 -1.7**	
	1.3nm,0.8s,baz=171,slow=9.8,SNR=6.1						
NB2	**NORSAR Subarra**	**23.62**	**347**	P	**P**	**01 32 26.0 -0.6**	
	comp=Z,1.4nm,0.5s,baz=153,slow=10						
NB2	**NORSAR Subarra**	**23.62**	**347**	P	**P**	**01 32 26.0 -0.6**	
	comp=Z,1.4nm,0.5s,SNR=5.9						
NOA	**NORSAR Array B**	**23.62**	**347**	P	**P**	**01 32 25.4 -1.2**	
	comp=Z,1.5nm,0.6s,baz=152,slow=8.6,SNR=5.9						
EKA	**Eskdalemuir Ar**	**23.89**	**323**	P	**P**	**01 32 29.4 +0.2**	
	comp=Z,2.1nm,0.7s,baz=122,slow=9.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**30.94**	**221**	P	**P**	**01 33 33.0 +0.2**	
	comp=Z,0.6nm,0.5s,baz=36,slow=8.8,SNR=14						
ARCES	**ARCESS Array B**	**31.23**	**2**	P	**P**	**01 33 34.3 -0.6**	
	comp=Z,1.5nm,0.8s,baz=190,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**44.21**	**59**	P	**P**	**01 35 24.1 -0.7**	
	comp=Z,0.7nm,0.3s,baz=280,slow=7.7,SNR=17						
ZALV	**Zalesovo Beam**	**44.69**	**48**	P	**P**	**01 35 27.6 -0.9**	
	comp=Z,0.7nm,0.4s,baz=268,slow=9.8,SNR=3.6						

*CSEM **22** 01:42:08.0,38°.43N×21°.97E,h9km,ML2.5/5,After THE*
THE 22 01:42:08.0,38°.43N×21°.97E,h9km±2km,ML2.5/5,Error ellipse: s-maj=2.3km s-min=0.5km az=169.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.05**	**265**	P	Pg	01 42 09.3	-0.5
EFP	**Efpalio**	**0.05**	**265**	P	Pg	01 42 09.3	-0.5
KALE	**Kalithea**	**0.14**	**107**	P	Pg	01 42 11.0	-0.1
KALE				S	Sg	01 42 13.5	+0.2
KALE	**Kalithea**	**0.14**	**107**	P	Pg	01 42 11.0	-0.1
KALE				S	Sg	01 42 13.5	+0.2
LAKA	**Lakka**	**0.19**	**179**	P	Pg	01 42 11.9	-0.1
LAKA	**Lakka**	**0.19**	**179**	P	Pg	01 42 11.9	-0.1
UPR	**University Cam**	**0.21**	**225**	P	Pg	01 42 12.6	+0.3
UPR	**University Cam**	**0.21**	**225**	P	Pg	01 42 12.6	+0.3
PVO	**Paravola**	**0.40**	**298**	P	Pg	01 42 15.5	-0.3
PVO				S	Sg	01 42 21.7	+0.7
PVO	**Paravola**	**0.40**	**298**	P	Pg	01 42 15.5	-0.3
PVO				S	Sg	01 42 21.7	+0.7
KLV	**Kalavryta, Ach**	**0.41**	**160**	P	Pg	01 42 15.7	-0.5
KLV				S	Sg	01 42 22.5	+0.8
KLV	**Kalavryta, Ach**	**0.41**	**160**	P	Pg	01 42 15.7	-0.5
KLV				S	Sg	01 42 22.5	+0.8
DSF	**Desfina**	**0.44**	**93**	P	Pg	01 42 15.8	-0.8
DSF	**Desfina**	**0.44**	**93**	P	Pg	01 42 15.8	-0.8
EVR	**Evrytania**	**0.50**	**345**	P	Pg	01 42 17.4	-0.5
EVR				S	Sg	01 42 24.9	+0.3
EVR	**Evrytania**	**0.50**	**345**	P	Pg	01 42 17.4	-0.5
EVR				S	Sg	01 42 24.9	+0.3
DRO	**Drossia**	**0.52**	**203**	P	Pg	01 42 17.8	-0.4
DRO	**Drossia**	**0.52**	**203**	P	Pg	01 42 17.8	-0.4
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	Pg	01 42 19.4	-0.2
MAKR				S	Sg	01 42 28.2	+0.8
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	Pg	01 42 19.4	-0.2
MAKR				S	Sg	01 42 28.2	+0.8
AXAR	**Agios Charalam**	**0.63**	**58**	P	Pg	01 42 19.6	-0.7
AXAR				S	Sg	01 42 29.4	+0.8
AXAR	**Agios Charalam**	**0.63**	**58**	P	Pg	01 42 19.6	-0.7
AXAR				S	Sg	01 42 29.4	+0.8
AGG	**Agios Georgios**	**0.65**	**25**	P	Pg	01 42 19.8	-0.9
AGG				S	Sb	01 42 30.4	-0.6
AGG	**Agios Georgios**	**0.65**	**25**	P	Pg	01 42 19.8	-0.9
AGG				S	Sb	01 42 30.4	-0.6

*UPP **22** 01:42:27.3,67°.85N×20°.20E,h1km,ML0.8,Mining explosion.*
*HEL **22** 01:42:28.8,67°.87N×20°.34E,h0km,ML0.9,Explosion*
CSEM 22 01:42:27.1±0.3,67.84N×20.22E,h2km,ML0.8,1C,Error ellipse: s-maj=7.2km s-min=5.3km az=112.0,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**21**	*i* P	Pg	01 42 29.7	+0.2
KUA				*i* S	Sg	01 42 31.5	+0.3
KUA	**Kurravaara**	**0.12**	**21**	P	Pg	01 42 29.7	+0.2
KUA				S	Sg	01 42 31.5	+0.3
LANU	**Lannavaara**	**0.70**	**72**	*i* P	Pg	01 42 40.6	0.0
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	01 42 40.5	-0.1
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	01 42 41.0	-0.2
DUNU	**Dundret**	**0.73**	**169**	P	Pg	01 42 40.9	-0.3
MASU	**Masugnsbyn**	**0.78**	**119**	*i* P	Pg	01 42 42.1	0.0
MASU	**Masugnsbyn**	**0.78**	**119**	P	Pg	01 42 42.1	0.0
SALU	**Saltoluokta**	**0.80**	**236**	*i* P	Pg	01 42 42.3	-0.2
SALU	**Saltoluokta**	**0.80**	**236**	P	Pg	01 42 42.3	-0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	Pb	01 42 50.2	-0.1
	baz=184						
KIF				*e*S	Sg	01 43 05.6	+0.3
KIF	**Kilpisjarvi**	**1.19**	**10**	Pb	Pb	01 42 50.2	-0.1
KIF				S	Sg	01 43 05.6	+0.3
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	01 42 53.1	-0.6
	baz=250						
HEF				MSG	S	01 43 11.4	-1.1
	comp=Z,0.4nm,0.3s						
HEF				*e*S	S	01 43 11.4	-1.1
HEF	**Hetta**	**1.41**	**65**	P	Pn	01 42 53.1	-0.7
HEF				S	Sg	01 43 11.4	-1.0
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pb	01 43 12.7	-1.2
RNF				MSG	Sb	01 43 46.0	+0.1
	comp=Z,0.7nm,0.2s						
RNF				*e*SB	Sb	01 43 46.0	+0.1
RNF	**Rovaniemi**	**2.57**	**116**	Pb	Pb	01 43 12.7	-1.2
RNF				Sb	Sb	01 43 45.9	0.0
	comp=Z,0.3nm,0.3s						
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	01 43 10.5	+0.7
	baz=225						
ARA0				*e*SB	Sb	01 43 44.1	-1.9
ARA0				MSG		01 43 44.1	
	comp=Z,0.3nm,0.2s						
ARA0	**ARCESS Array S**	**2.58**	**46**	P	Pn	01 43 10.5	+0.7
ARA0				Sb	Sb	01 43 44.1	-1.9
	comp=Z,0.3nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	MSG	S	01 43 57.0	+1.8
	comp=Z,0.3nm,0.3s						
KEV				*e*S	S	01 43 57.0	+1.8
KEV	**Kevo**	**3.13**	**49**	S	Sn	01 43 57.0	+1.8
MSF	**Maaselka**	**3.98**	**115**	*e*P	Pn	01 43 31.3	+2.2
MSF	**Maaselka**	**3.98**	**115**	P	Pn	01 43 31.3	+2.2
PRV	**Porvoo**	**7.86**	**160**	⇑*i*P	Pn	01 44 22.8	+0.5

*ISCJB **22** 01:44:50.1±0.5,8°.45N±0°.04×126°.16E±0°.06,h119km±3km, mb3.7/11,Error ellipse: s-maj=10.0km s-min=6.6km az=163.1*
*IDC **22** 01:44:51.4±7.2,8°.62N×126°.31E,h121km±64km,mb3.5/11, mb1 3.7/11,mb1mx3.5/24,mbtmp3.9/11,MS3.9/1, Ms1 3.9/1,ms1mx2.9/27,Error ellipse: s-maj=39.4km s-min=15.7km az=63.0*
ISC 22 01:44:51.1±0.8,8°.47N±0°.05×126°.13E±0°.07,h118km±6km, n32,σ1°06/41,mb3.9/11,4C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.36**	**141**	⇑*e*P	**Pn**	**01 45 08.6**	**+0.5**
BIPH				*e*S	**Sn**	**01 45 19.6**	**-1.3**
CGP	**Cagayan de Oro**	**1.42**	**270**	⇑*i*P	**Pn**	**01 45 16.3**	**-1.1**
CGP				*i* S	**Sn**	**01 45 36.0**	**-1.4**
SCPH	**Surigao**	**1.45**	**334**	*e*P	**Pn**	**01 45 17.6**	**-0.2**
SCPH				*e*S	**Sn**	**01 45 39.2**	**+1.1**
DMPH	**Davao City--Mi**	**1.51**	**204**	⇑*i*P	**Pn**	**01 45 19.1**	**+0.6**
DMPH				*i* S	**Sn**	**01 45 39.9**	**+0.6**
CTBH	**Cotabato--PC H**	**2.24**	**237**	⇑*i*P	**Pn**	**01 45 27.3**	**-0.2**
CTBH				*i* S	**Sn**	**01 45 54.9**	**-0.4**
TBP	**Tagbilaran**	**2.55**	**299**	*e*P	**Pn**	**01 45 31.7**	**+0.2**
TBP				*e*S	**Sn**	**01 46 02.3**	**-0.1**
LLP	**Lapu-Lapu**	**2.81**	**311**	*e*P	**Pn**	**01 45 34.5**	**-0.4**
LLP				*e*S	Sn	01 45 58.8	-10
PLP	**Palo**	**2.91**	**337**	⇓*e*P	**Pn**	**01 45 35.5**	**-0.6**
PLP				*e*S	**Sn**	**01 46 12.6**	**+1.7**
JAY	**Jayapura**	**18.18**	**126**	LR	LR	01 56 38.7	
	comp=Z,327nm,18.2s,baz=341,slow=39						
CMAR	**Chiang Mai Arr**	**28.20**	**293**	P	**P**	**01 50 34.9**	**+2.0**
	1.1nm,0.3s,baz=106,slow=9.5,SNR=4.9						
WRA	**Warramunga Arr**	**29.37**	**164**	P	**P**	**01 50 42.8**	**-0.4**
	0.4nm,0.9s,baz=347,slow=9.6,SNR=3.3						
WRA				PcP	**PcP**	**01 53 47.2**	**+0.4**
	1.2nm,0.9s,baz=341,slow=2.6,SNR=6.9						
ASAR	**Alice Springs**	**32.83**	**167**	P	**P**	**01 51 15.1**	**+1.4**
	0.2nm,0.8s,baz=356,slow=9.4,SNR=3.0						
ASAR				PcP	**PcP**	**01 53 56.9**	**+0.9**
	1.7nm,0.9s,baz=358,slow=2.4,SNR=8.9						
TAPN	**Taplejung**	**40.86**	**302**	*e*P	**P**	**01 52 23.4**	**+1.4**
	18nm,0.5s						
ODAN	**Odare**	**40.97**	**302**	*e*P	**P**	**01 52 24.6**	**+1.8**
RAMN	**Ramite**	**41.66**	**301**	*e*P	**P**	**01 52 30.5**	**+2.0**
JIRN	**Jiri**	**42.24**	**302**	*e*P	**P**	**01 52 34.6**	**+1.3**
	34nm,0.7s						
GUN	**Gumba**	**42.58**	**302**	*e*P	**P**	**01 52 37.2**	**+1.1**
	28nm,0.8s						
STKA	**Stephens Creek**	**42.76**	**160**	P	**P**	**01 52 37.1**	**+0.2**
	1.5nm,0.7s,baz=0.0,slow=11,SNR=2.8						
PKI	**Pulchoki**	**42.87**	**302**	*e*P	**P**	**01 52 39.4**	**+1.0**
GKN	**Gorkha**	**43.65**	**302**	*e*P	**P**	**01 52 45.3**	**+0.8**
	11nm,0.7s						
KOLN	**Koldanda**	**44.45**	**301**	*e*P	**P**	**01 52 52.0**	**+1.0**
DANN	**Dangsing**	**44.49**	**302**	*e*P	**P**	**01 52 52.2**	**+0.8**
PYUN	**Piuthan**	**45.07**	**301**	*e*P	**P**	**01 52 56.9**	**+1.1**
	3.6nm,0.5s						
MKAR	**Makanchi Array**	**53.38**	**324**	P	**P**	**01 53 58.7**	**+0.2**
	1.0nm,0.6s,baz=114,slow=7.3,SNR=11						
MKAR				PcP	**PcP**	**01 55 04.2**	**-0.2**
	0.3nm,0.6s,baz=117,slow=5.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**56.13**	**332**	P	**P**	**01 54 17.6**	**-0.6**
	0.6nm,0.3s,baz=125,slow=7.4,SNR=4.7						
ILAR	**Eielson Array**	**81.11**	**26**	P	**P**	**01 56 52.7**	**-0.4**
	0.5nm,0.7s,baz=232,slow=5.2,SNR=7.6						
ARCES	**ARCESS Array B**	**85.82**	**340**	P	**P**	**01 57 16.3**	**-0.8**
	1.6nm,0.8s,baz=91,slow=6.8,SNR=3.9						
BRTR	**Keskin Array B**	**86.56**	**309**	P	**P**	**01 57 20.3**	**-1.2**
	0.5nm,0.6s,baz=99,slow=4.8,SNR=4.2						
FINES	**FINESS Array B**	**87.40**	**332**	P	**P**	**01 57 23.8**	**-1.1**
	1.9nm,1.0s,baz=76,slow=5.9,SNR=6.7						
YKA	**Yellowknife Ar**	**95.45**	**24**	P	**P**	**01 58 00.6**	**-1.7**
	0.4nm,0.7s,baz=296,slow=4.2,SNR=9.8						
TORD	**Torodi Ar. Bea**	**120.78**	**291**	PKP	**PKPdf**	**02 03 29.6**	**-0.8**
	0.5nm,0.4s,baz=60,slow=1.5,SNR=14						
PLCA	**Paso Flores**	**144.61**	**158**	PKP	**PKPdf**	**02 04 14.4**	**+0.1**
	4.1nm,1.0s,baz=198,slow=4.1,SNR=6.1						

NNC 22 01:52:28.1±5.2,36°.90N×71°.12E,h0km,mb3.6,mpv3.4, 6C,Error ellipse: s-maj=44.4km s-min=36.6km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.22**	**356**	P	Pn	01 54 02.1	+1.0
	0.8nm,0.3s,baz=175,slow=12,SNR=53						
KK31				⇑S	Sn	01 55 14.5	+1.6
	0.5nm,0.4s,baz=186,slow=24,SNR=4.7						
AAK	**Ala-Archa**	**6.29**	**23**	⇑P	Pn	01 54 03.4	+1.1
	1.8nm,0.5s						
AAK				⇑S	Sn	01 55 16.8	+1.7
	2.2nm,0.7s						
TKM2	**Tokmak 2**	**6.93**	**28**	⇑P	Pn	01 54 10.8	-0.4
	1.7nm,0.6s						
TKM2				⇑S	Sn	01 55 30.0	-0.9
	0.9nm,0.8s						
AB31	**Akbulak array**	**14.78**	**330**	⇑P	Pn	01 55 54.3	-4.0
	0.1nm,0.3s,baz=160,slow=13,SNR=4.5						

*IDC **22** 01:53:00.6±1.5,38°.39N×22°.04E,h0km,mb3.6/3, mb1 3.5/4,mb1mx3.2/41,mbtmp3.5/4,ML2.9/1,MS4.0/2, Ms1 3.9/2,ms1mx2.9/39,Error ellipse: s-maj=40.3km s-min=27.0km az=139.0*
*ISCJB **22** 01:53:01.1±0.3,38°.42N±0°.02×21°.97E±0°.02,h9km±2km, mb3.5/3,MS4.0/2,Error ellipse: s-maj=3.1km s-min=2.8km az=163.4*
*CSEM **22** 01:53:01.4±0.1,38°.41N×21°.97E,h5km,ML3.1,Error ellipse: s-maj=2.4km s-min=2.1km az=76.0*
*THE **22** 01:53:01.7,38°.42N×21°.96E,h8km±1km,ML3.2/5,Error ellipse: s-maj=1.0km s-min=0.4km az=251.0*
*ATH **22** 01:53:01.4,38°.41N×21°.95E,h11km±1km,ML3.1*
*SKO **22** 01:53:02.1,38°.40N×22°.20E,h0km,M2.9,ML3.4*
ISC 22 01:53:01.6±0.8,38°.42N±0°.02×21°.96E±0°.02,h8km±4km, n78,σ0°63/107,mb3.6/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.04**	**285**	P	**Pg**	**01 53 03.1**	**-0.2**
EFP				S	**Sg**	**01 53 04.6**	**+0.1**
EFP	**Efpalio**	**0.04**	**285**	*e*PG	**Pg**	**01 53 03.1**	**-0.2**
EFP				*e*SG	**Sg**	**01 53 04.6**	**+0.1**
EFP	**Efpalio**	**0.04**	**285**	P	**Pg**	**01 53 03.2**	**-0.1**
EFP				S	**Sg**	**01 53 04.6**	**+0.1**
KALE	**Kalithea**	**0.15**	**100**	P	**Pg**	**01 53 04.7**	**-0.1**
KALE				S	**Sg**	**01 53 07.3**	**+0.3**
KALE	**Kalithea**	**0.15**	**100**	*e*PG	**Pg**	**01 53 04.7**	**-0.1**
KALE				*e*SG	**Sg**	**01 53 07.3**	**+0.3**
KALE	**Kalithea**	**0.15**	**100**	P	**Pg**	**01 53 04.7**	**-0.1**
KALE				S	**Sg**	**01 53 06.9**	**-0.1**
KALE				*e*Sg	Sg	01 53 07.3	+0.2
LAKA	**Lakka**	**0.18**	**174**	P	**Pg**	**01 53 05.5**	**+0.2**
LAKA	**Lakka**	**0.18**	**174**	*e*PG	**Pg**	**01 53 05.5**	**+0.2**
LAKA	**Lakka**	**0.18**	**174**	P	**Pg**	**01 53 05.5**	**+0.2**
UPR	**University Cam**	**0.19**	**225**	P	**Pg**	**01 53 05.8**

DJA 22 02:04:28.8±0.5, 8°S±3°×10°7E±°, h20km±6km, M3.6/12, MLv3.6/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.75**	**11**	P	Pb	02 04 43.1	-0.1
CNJI				S	Sb	02 04 53.9	+0.9
CISI	**Cisompet, Garu**	**0.96**	**59**	P	Pb	02 04 46.0	-0.9
CISI				S	Sb	02 04 57.2	-2.1
SKJI	**Sukabumi**	**1.12**	**338**	P	Pn	02 04 48.7	-0.7
SKJI				S	Sb	02 05 02.8	-0.9
LEM	**Lembang**	**1.37**	**28**	P	Pn	02 04 52.6	-0.4
LEM				S	Sb	02 05 11.8	+0.6
CMJI	**Cimerak**	**1.48**	**80**	P	Pn	02 04 54.3	0.0
CMJI				S	Sn	02 05 12.9	-0.1
DBJI	**Dramaga**	**1.50**	**351**	P	Pn	02 04 53.4	-1.3
DBJI				S	Sn	02 05 13.4	-0.3
CGJI	**Cibinong**	**1.92**	**318**	P	Pn	02 04 59.3	-1.0
KPJI	**Karang Pucung**	**2.06**	**70**	P	Pn	02 05 03.2	+0.9
SBJI	**Serang**	**2.10**	**336**	P	Pn	02 05 03.1	+0.3
TGJI	**Tegal**	**2.43**	**61**	P	x	02 05 07.8	
TGJI				S	x	02 05 36.9	

*ISCJB **22** 02:07:36.2±1.4, 18°.0S±0°.6×174°.6E±0°.4, h33km, mb3.7/5, Error ellipse: s-maj=97.3km s-min=16.7km az=149.5*
*IDC **22** 02:07:40.3±6.3, 18°.45S×174°.73E, h64km±63km, mb3.5/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=138.7km s-min=30.6km az=159.0*
ISC 22 02:07:38.0±1.5, 18°.0S±0°.5×174°.6E±0°.4, h35km, n7, σ0s80/7, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.70**	**241**	P	**Pn**	**02 09 42.2**	**+0.7**
	0.3nm,0.3s,baz=73,slow=19,SNR=4.9						
WRA	**Warramunga Arr**	**38.08**	**260**	P	**P**	**02 14 53.0**	**-0.7**
	0.4nm,0.9s,baz=103,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**38.38**	**254**	P	**P**	**02 14 55.2**	**-0.9**
	2.4nm,0.8s,baz=87,slow=8.8,SNR=16						
NVAR	**Mina Array Bea**	**84.18**	**47**	P	**P**	**02 20 06.6**	**+0.4**
	0.5nm,0.7s,baz=240,slow=9.0,SNR=4.1						
ILAR	**Eielson Array**	**87.58**	**15**	P	**P**	**02 20 22.3**	**+0.3**
	0.3nm,0.8s,baz=229,slow=5.5,SNR=4.0						
TXAR	**Lajitas Array**	**91.70**	**60**	P	**P**	**02 20 41.8**	**-0.6**
	1.0nm,0.9s,baz=231,slow=4.3,SNR=8.4						
GERES	**GERESS Array B**	**145.52**	**338**	PKPbc	**PKPab**	**02 27 13.3**	**+0.4**
	0.4nm,0.5s,baz=28,slow=4.4,SNR=5.2						

*IDC **22** 02:09:55.3±1.0, 46°.08N×151°.78E, h0km, mb3.7/15, mb1 4.0/16, mb1mx3.8/27, mbtmp3.7/16, ML3.4/1, Error ellipse: s-maj=29.8km s-min=17.8km az=169.0*
*ISCJB **22** 02:10:00.4±0.7, 46°.1N±0°.1×151°.8E±0°.1, h48km, mb3.7/15, Error ellipse: s-maj=19.3km s-min=6.0km az=142.9*
*MOS **22** 02:10:00.5±1.4, 46°.08N×151°.79E, h52km, mb4.1/8, Error ellipse: s-maj=19.9km s-min=13.9km az=69.3*
*SKHL **22** 02:10:00.1±0.1, 45°.66N×152°.34E, h73km±4km, mb4.8/1*
SKHL Felt (III) at Malokurilskoe.
ISC 22 02:10:02.0±0.8, 46°.0N±0°.1×151°.93E±0°.10, h48km, n32, σ1s37/31, mb3.8/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.96**	**256**	PN	**Pn**	**02 10 48.0**	**+1.5**
KUR				*e*S	**Sn**	**02 11 23.9**	**+3.2**
KUR				smax	smax		
	comp=N,380nm,0.5s						
KUR				smax	smax		
	comp=E,380nm,1.0s						
KUR	**Kuril'sk**	**2.96**	**256**	*e*P	**Pn**	**02 10 48.0**	**+1.5**
KUR				*e*S	**Sn**	**02 11 23.9**	**+3.2**
KUR				A	A	02 11 37.4	
	comp=E,380nm,0.5s						
SHO	**Shikotan**	**4.22**	**241**	*e*P	**Pn**	**02 11 03.9**	**+0.2**
SHO				AMB	AMB	02 11 08.6	
	comp=E,112nm,0.7s						
SHO				*e*S	**Sn**	**02 11 51.8**	**+0.1**
SHO				A	A	02 12 09.0	
	comp=E,192nm,0.6s						
SHO				A	A	02 12 09.0	
	comp=E,206nm,0.6s						
ASAJ	**Asahikawa**	**6.88**	**257**	Pn	**Pn**	**02 11 37.1**	**-3.1**
	comp=E,0.8nm,0.3s,baz=73,slow=12,SNR=2.5						
MYR	**Moyori**	**7.26**	**242**	*e*P	**Pn**	**02 11 45.6**	**+0.2**
MYR				*e*S	**Sn**	**02 13 04.6**	**-1.8**
PETK	**Petropavlovsk-**	**8.01**	**26**	PN	**Pn**	**02 11 56.5**	**+0.8**
PETK	**Petropavlovsk-**	**8.01**	**26**	Pn	**Pn**	**02 11 56.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=198,slow=9.3,SNR=3.5						
PETK				Sn	Sn	02 13 13.6	-11
	comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.98**	**150**	T	T	02 46 24.1	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**29.00**	**150**	T	T	02 46 27.3	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**29.00**	**150**	T	T	02 46 22.9	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**30.05**	**151**	T	T	02 47 48.8	
	baz=342						
H11S3	**WAKE ISLAND Hy**	**30.06**	**151**	T	T	02 47 47.0	
	baz=342,slow=75						
H11S2	**WAKE ISLAND Hy**	**30.07**	**151**	T	T	02 47 46.3	
	baz=342,slow=75						
ILAR	**Eielson Array**	**37.62**	**38**	P	**P**	**02 17 10.8**	**-0.8**
	comp=E,0.3nm,0.6s,baz=272,slow=7.4,SNR=5.1						
INK	**Inuvik**	**42.69**	**32**	P	**P**	**02 17 53.9**	**+0.3**
	comp=E,0.8nm,0.8s,baz=310,slow=7.5,SNR=3.1						
MKAR	**Makanchi Array**	**46.55**	**297**	P	**P**	**02 18 23.7**	**-0.9**
MKAR						02 19 58.5	
MKAR	**Makanchi Array**	**46.55**	**297**	P	**P**	**02 18 23.7**	**-0.9**
	comp=E,0.2nm,0.4s,baz=60,slow=8.5,SNR=6.1						
MKAR				PcP	**PcP**	**02 19 58.5**	**+0.4**
	comp=E,0.5nm,0.6s,baz=38,slow=2.6,SNR=5.4						
KURK	**Kurchatov**	**47.08**	**304**	P	**P**	**02 18 27.6**	**-1.1**
KURBB	**Kurchatov Arra**	**47.17**	**304**	P	**P**	**02 18 27.6**	**-1.8**
	comp=E,0.3nm,0.4s,baz=74,slow=8.4,SNR=4.9						
YKA	**Yellowknife Ar**	**51.98**	**36**	P	**P**	**02 19 06.1**	**+0.3**
	comp=E,0.7nm,0.7s,baz=295,slow=6.9,SNR=9.1						
ARCES	**ARCESS Array B**	**58.26**	**341**	P	**P**	**02 19 50.6**	**-0.3**
	comp=E,4.3nm,1.1s,baz=42,slow=7.3,SNR=3.9						
NVAR	**Mina Array Bea**	**63.49**	**61**	P	**P**	**02 20 28.5**	**+1.2**
	comp=E,0.6nm,0.6s,baz=300,slow=7.2,SNR=4.5						
FINES	**FINESS Array B**	**64.34**	**334**	P	**P**	**02 20 30.8**	**-1.3**
	comp=E,0.8nm,0.5s,baz=36,slow=7.3,SNR=6.5						
PDAR	**Pinedale Array**	**65.83**	**53**	P	**P**	**02 20 43.0**	**+0.5**
	comp=E,0.7nm,0.8s,baz=284,slow=3.6,SNR=6.0						
WRA	**Warramunga Arr**	**67.58**	**198**	P	**P**	**02 20 53.1**	**-0.3**
	comp=E,0.4nm,0.8s,baz=13,slow=6.5,SNR=3.2						
KBZ	**Khabaz**	**70.76**	**313**	P	**P**	**02 21 13.5**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**70.76**	**313**	P	**P**	**02 21 13.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=137,slow=11,SNR=4.3						
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**	**02 21 17.5**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**	**02 21 17.5**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=34,slow=6.7,SNR=4.4						
BRTR	**Keskin Array B**	**78.34**	**316**	P	**P**	**02 21 57.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=48,slow=3.7,SNR=4.1						
TXAR	**Lajitas Array**	**78.56**	**60**	P	**P**	**02 21 59.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=311,slow=4.9,SNR=8.2						
GERES	**GERESS Array B**	**78.73**	**333**	P	**P**	**02 21 59.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=27,slow=4.6,SNR=7.0						

IDC 22 02:36:45.0±9.0, 5°.83N×125°.21E, h85km±83km, mb3.2/5, mb1 3.4/5, mb1mx3.2/25, mbtmp3.6/5, Error ellipse: s-maj=155.8km s-min=17.6km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.14**	**161**	P	P	02 42 21.2	+0.7
	1.7nm,0.6s,baz=335,slow=9.6,SNR=20						
WRA				PcP	PcP	02 45 38.9	-0.4
	0.2nm,0.5s,baz=333,slow=2.5,SNR=6.3						
ASAR	**Alice Springs**	**30.52**	**164**	P	P	02 42 49.6	-0.9
	0.1nm,0.3s,baz=347,slow=7.6,SNR=4.3						
ASAR				PcP	PcP	02 45 47.0	-0.8
	0.4nm,0.4s,baz=338,slow=2.4,SNR=4.8						
SONM	**Songino Array**	**44.84**	**342**	P	P	02 44 49.9	-1.0
	0.4nm,0.7s,baz=168,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**54.98**	**325**	P	P	02 46 07.5	-0.1
	0.2nm,0.5s,baz=130,slow=7.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**59.16**	**327**	P	P	02 46 37.9	+0.9
	0.5nm,0.8s,baz=136,slow=5.4,SNR=6.4						

MEX 22 02:37:24.4±0.5, 15°.49N×94°.99W, h16km±19km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.11**	**285**	*i* P	Pb	02 37 42.2	-3.1
HUIG				*e*S	Sb	02 37 54.6	-4.9
PANG	**Puerto Angel**	**1.44**	**277**	*i* P	Pn	02 37 45.6	-4.2
PANG				*i* S	Sn	02 38 02.6	-5.7
PCIG		**1.72**	**83**	*i* P	Pn	02 37 50.5	-3.2
PCIG				*e*S	Sn	02 38 09.8	-5.4
VHO	**Vista Hermosa**	**2.30**	**313**	*i* P	Pn	02 37 59.5	-2.4
VHO				*e*S	Sn	02 38 25.3	-4.7

IDC 22 02:42:24.8±1.8, 14°.95S×175°.08W, h243km±36km, mb3.2/4, mb1 3.6/5, mb1mx3.2/20, mbtmp3.8/5, Error ellipse: s-maj=129.1km s-min=17.8km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.37**	**73**	P	Pn	02 43 20.4	-0.7
	9.9nm,0.3s,baz=320,slow=9.6,SNR=5.8						
AFI				S	S	02 44 06.3	+0.7
	14nm,0.3s,baz=259,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**48.37**	**256**	P	P	02 50 42.3	-0.3
	0.4nm,0.5s,baz=90,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**48.71**	**252**	P	P	02 50 45.3	+0.1
	4.8nm,0.5s,baz=87,slow=8.0,SNR=65						
ILAR	**Eielson Array**	**82.33**	**12**	P	P	02 54 19.0	+0.1
	0.2nm,0.6s,baz=224,slow=5.5,SNR=9.3						
PDAR	**Pinedale Array**	**83.02**	**42**	P	P	02 54 22.9	-0.4
	0.3nm,0.6s,baz=165,slow=3.7,SNR=3.3						
BRTR	**Keskin Array B**	**144.78**	**320**	PKP	PKPdf	03 01 33.2	+0.1
	1.0nm,0.8s,baz=66,slow=2.1,SNR=3.8						

*SKO **22** 02:58:38.8, 38°.29N×22°.33E, h0km, M1.7, ML2.0*
*ISCJB **22** 02:58:39.7±0.2, 38°.43N±0°.01×21°.97E±0°.02, h6km±2km, mb3.4/2, Error ellipse: s-maj=2.5km s-min=2.1km az=15.0*
*IDC **22** 02:58:39.6±2.4, 38°.33N×22°.04E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/38, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=138.9km s-min=26.9km az=145.0*
*CSEM **22** 02:58:40.0±0.1, 38°.43N×21°.97E, h5km, ML2.9, Error ellipse: s-maj=1.7km s-min=1.6km az=103.0*
*THE **22** 02:58:40.2, 38°.43N×21°.98E, h2km, ML3.2/11, Error ellipse: s-maj=0.9km s-min=0.3km az=293.0*
*ATH **22** 02:58:40.0, 38°.42N×21°.97E, h12km±1km, ML2.9*
ISC 22 02:58:40.4±0.8, 38°.43N±0°.01×21°.97E±0°.01, h4km±6km, n129, σ0s65/183, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.05**	**266**	P	**Pg**	**02 58 41.4**	**-0.2**
EFP				S	**Sg**	**02 58 42.2**	**-0.4**
EFP	**Efpalio**	**0.05**	**266**	*e*Pg	**Pg**	**02 58 41.5**	**-0.2**
EFP	**Efpalio**	**0.05**	**266**	*e*Pg	**Pg**	**02 58 41.5**	**-0.2**
EFP				S	**Sg**	**02 58 42.2**	**-0.4**
KALE	**Kalithea**	**0.14**	**107**	P	**Pg**	**02 58 43.2**	**0.0**
KALE				S	**Sg**	**02 58 45.5**	**+0.5**
KALE	**Kalithea**	**0.14**	**107**	*e*Pg	**Pg**	**02 58 43.5**	**+0.3**
KALE				*e*Sg	**Sg**	**02 58 45.7**	**+0.7**
KALE	**Kalithea**	**0.14**	**107**	P	**Pg**	**02 58 43.2**	**0.0**
KALE	**Kalithea**	**0.14**	**107**	*e*Pg	**Pg**	**02 58 43.5**	**+0.3**
KALE				S	**Sg**	**02 58 45.5**	**+0.5**
LAKA	**Lakka**	**0.19**	**179**	P	**Pg**	**02 58 43.9**	**-0.2**
LAKA	**Lakka**	**0.19**	**179**	*e*PG	**Pg**	**02 58 44.0**	**-0.2**
LAKA	**Lakka**	**0.19**	**179**	*e*Pg	**Pg**	**02 58 44.0**	**-0.2**
UPR	**University Cam**	**0.21**	**225**	P	**Pg**	**02 58 44.5**	**0.0**
UPR				S	**Sg**	**02 58 47.9**	**+0.7**
UPR	**University Cam**	**0.21**	**225**	P	**Pg**	**02 58 44.5**	**0.0**
UPR				S	**Sg**	**02 58 47.9**	**+0.7**
PVO	**Paravola**	**0.40**	**298**	P	**Pg**	**02 58 47.8**	**-0.3**
PVO				S	**Sg**	**02 58 53.7**	**+0.4**
PVO	**Paravola**	**0.40**	**298**	P	**Pg**	**02 58 47.8**	**-0.3**
PVO				S	**Sg**	**02 58 53.7**	**+0.4**
KLV	**Kalavryta, Ach**	**0.41**	**160**	P	**Pg**	**02 58 47.9**	**-0.4**
KLV				S	**Sg**	**02 58 53.9**	**+0.2**
KLV	**Kalavryta, Ach**	**0.41**	**160**	*e*PB	**Pg**	**02 58 53.7**	**-0.6**
KLV				*e*SB	**Sg**	**02 58 53.7**	**0.0**
KLV	**Kalavryta, Ach**	**0.41**	**160**	P	**Pg**	**02 58 47.9**	**-0.4**
KLV				*e*Sb	**Sg**	**02 58 53.7**	**0.0**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**02 58 48.1**	**-0.7**
DSF				S	**Sg**	**02 58 54.9**	**+0.4**
DSF	**Desfina**	**0.43**	**92**	*e*PG	**Pg**	**02 58 48.1**	**-0.7**
DSF				*e*SB	**Sg**	**02 58 55.2**	**+0.7**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**02 58 48.1**	**-0.7**
DSF				S	**Sg**	**02 58 54.9**	**+0.4**
DSF				*e*Sb	**Sg**	**02 58 55.2**	**+0.7**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**02 58 49.8**	**-0.3**
EVR				S	**Sg**	**02 58 56.8**	**+0.2**
EVR	**Evrytania**	**0.50**	**345**	*e*PG	**Pg**	**02 58 49.8**	**-0.3**
EVR				*e*SB	**Sg**	**02 58 57.8**	**+1.2**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**02 58 49.8**	**-0.3**
EVR				S	**Sg**	**02 58 56.8**	**+0.2**
EVR				*e*Sb	**Sg**	**02 58 57.8**	**+1.2**
DRO	**Drossia**	**0.52**	**204**	P	**Pg**	**02 58 49.8**	**-0.6**
DRO				S	**Sg**	**02 58 57.4**	**+0.2**
DRO	**Drossia**	**0.52**	**204**	*e*PB	**Pg**	**02 58 49.8**	**-0.6**
DRO				*e*SB	**Sg**	**02 58 57.8**	**+0.6**
DRO	**Drossia**	**0.52**	**204**	P	**Pg**	**02 58 49.8**	**-0.6**
DRO				S	**Sg**	**02 58 57.4**	**+0.2**
RLS	**Riolos of Patr**	**0.55**	**227**	P	**Pg**	**02 58 50.9**	**0.0**
RLS				S	**Sg**	**02 58 58.6**	**+0.6**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*PB	**Pg**	**02 58 50.8**	**-0.1**
RLS				*e*SB	**Sg**	**02 58 58.3**	**+0.3**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*Pb	**Pg**	**02 58 50.8**	**-0.1**
RLS				*e*Sb	**Sg**	**02 58 58.3**	**+0.3**
GUR	**Goura**	**0.57**	**149**	P	**Pg**	**02 58 50.7**	**-0.7**
GUR				S	**Sg**	**02 58 59.0**	**+0.1**
GUR	**Goura**	**0.57**	**149**	*e*PB	**Pg**	**02 58 50.5**	**-0.9**
GUR				*e*SB	**Sg**	**02 58 58.7**	**-0.2**
GUR	**Goura**	**0.57**	**149**	P	**Pg**	**02 58 50.7**	**-0.7**
GUR				*e*Sb	**Sg**	**02 58 58.7**	**-0.2**
GUR				S	**Sg**	**02 58 59.0**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	**Pg**	**02 58 51.7**	**-0.2**
MAKR				S	**Sg**	**02 58 59.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	*e*PB	**Pg**	**02 58 51.9**	**0.0**
MAKR				*e*SB	**Sg**	**02 59 00.4**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	**Pg**	**02 58 51.7**	**-0.2**
MAKR				S	**Sg**	**02 58 59.8**	**+0.2**
MAKR				*e*Sb	**Sg**	**02 59 00.4**	**+0.8**
AXAR	**Agios Charalam**	**0.63**	**58**	P	**Pg**	**02 58 51.9**	**-0.6**
AXAR				S	**Sg**	**02 59 01.4**	**+0.6**
AXAR	**Agios Charalam**	**0.63**	**58**	*e*PG	**Pg**	**02 58 52.0**	**-0.6**
AXAR				*e*SB	**Sg**	**02 59 02.0**	**+1.2**
AXAR	**Agios Charalam**	**0.63**	**58**	*e*Pg	**Pg**	**02 58 52.0**	**-0.6**
AXAR				S	**Sg**	**02 59 01.4**	**+0.6**
AXAR				*e*Sb	**Sg**	**02 59 02.0**	**+1.2**
PDO	**Prodromos**	**0.64**	**285**	P	**Pg**	**02 58 52.8**	**0.0**
PDO				S	**Sg**	**02 59 01.7**	**+0.6**
PDO	**Prodromos**	**0.64**	**285**	*e*PB	**Pg**	**02 58 53.1**	**+0.3**
PDO	**Prodromos**	**0.64**	**285**	P	**Pg**	**02 58 52.8**	**0.0**
PDO	**Prodromos**	**0.64**	**285**	*e*Pb	**Pg**	**02 58 53.1**	**+0.3**
PDO				S	**Sg**	**02 59 01.7**	**+0.6**
AGG	**Agios Georgios**	**0.65**	**25**	P	**Pg**	**02 58 52.3**	**-0.7**
AGG				S	**Sg**	**02 59 01.8**	**+0.3**
AGG	**Agios Georgios**	**0.65**	**25**	*e*PB	**Pg**	**02 58 52.3**	**-0.7**
AGG	**Agios Georgios**	**0.65**	**25**	P	**Pg**	**02 58 52.3**	**-0.7**
AGG				S	**Sg**	**02 59 01.8**	**+0.3**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**02 58 55.8**	**-0.7**
LKR				S	**Sg**	**02 59 08.1**	**+0.9**
LKR	**Lokris**	**0.83**	**74**	*e*PG	**Pg**	**02 58 55.7**	**-0.7**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**02 58 55.8**	**-0.7**
LKR				S	**Sg**	**02 59 08.1**	**+0.9**
LTK	**Loutraki**	**0.88**	**117**	P	**Pg**	**02 58 57.1**	**-0.2**
LTK	**Loutraki**	**0.88**	**117**	*e*PB	**Pg**	**02 58 57.6**	**+0.3**
LTK	**Loutraki**	**0.88**	**117**	P	**Pg**	**02 58 57.1**	**-0.2**
LTK	**Loutraki**	**0.88**	**117**	*e*Pb	**Pg**	**02 58 57.6**	**+0.3**
AMT	**Artemida-Makis**	**0.92**	**193**	P	**Pg**	**02 58 57.6**	**-0.5**
AMT				S	**Sb**	**02 59 11.4**	**-0.1**
AMT	**Artemida-Makis**	**0.92**	**193**	*e*PB	**Pg**	**02 58 57.7**	**-0.4**
AMT	**Artemida-Makis**	**0.92**	**193**	*e*Pb	**Pg**	**02 58 57.7**	**-0.4**
AMT				S	**Sb**	**02 59 11.4**	**-0.1**
SMIA	**Simia**	**1.07**	**65**	P	**Pg**	**02 58 59.9**	**-1.0**
SMIA				S	**Sb**	**02 59 15.4**	**-0.3**
SMIA	**Simia**	**1.07**	**65**	*e*PB	**Pg**	**02 59 00.4**	**-0.5**
SMIA	**Simia**	**1.07**	**65**	P	**Pg**	**02 58 59.9**	**-1.0**
SMIA	**Simia**	**1.07**	**65**	*e*Pb	**Pg**	**02 59 00.4**	**-0.5**
SMIA				S	**Sb**	**02 59 15.4**	**-0.3**
LKD2	**Lefkada island**	**1.09**	**290**	P	**Pg**	**02 59 00.7**	**-0.6**
LKD2	**Lefkada island**	**1.09**	**290**	*e*PG	**Pg**	**02 58 59.8**	**-1.5**
LKD2	**Lefkada island**	**1.09**	**290**	*e*Pg	**Pg**	**02 58 59.8**	**-1.5**
LKD2	**Lefkada island**	**1.09**	**290**	P	**Pg**	**02 59 00.7**	**-0.6**
VLS	**Valsamata**	**1.12**	**257**	P	**Pg**	**02 59 01.0**	**-0.9**
VLS	**Valsamata**	**1.12**	**257**	*e*PB	**Pg**	**02 59 00.1**	**-1.8**
VLS	**Valsamata**	**1.12**	**257**	*e*Pb	**Pg**	**02 59 00.1**	**-1.8**
VLS	**Valsamata**	**1.12**	**257**	P	**Pg**	**02 59 01.0**	**-0.9**
THL	**Klokotos Trika**	**1.13**	**2**	P	**Pg**	**02 59 01.1**	**-1.1**
THL				S	**Sb**	**02 59 17.5**	**-0.1**
THL	**Klokotos Trika**	**1.13**	**2**	*e*PG	**Pg**	**02 59 01.4**	**-0.8**
THL	**Klokotos Trika**	**1.13**	**2**	P	**Pg**	**02 59 01.1**	**-1.1**
THL	**Klokotos Trika**	**1.13**	**2**	*e*Pg	**Pg**	**02 59 01.4**	**-0.8**
THL				S	**Sb**	**02 59 17.5**	**-0.1**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pg**	**02 59 03.5**	**-0.6**
FYTO	**Fytoko, Volos**	**1.23**	**37**	P	**Pg**	**02 59 03.5**	**-0.6**
ITM	**Ithomi**	**1.25**	**182**	P	**Pg**	**02 59 03.2**	**-1.2**
ITM	**Ithomi**	**1.25**	**182**	*e*PG	**Pg**	**02 59 03.1**	**-1.3**
ITM	**Ithomi**	**1.25**	**182**	P	**Pg**	**02 59 03.2**	**-1.2**
MRKA	**Markates**	**1.29**	**77**	P	**Pn**	**02 59 04.4**	**-0.9**
MRKA	**Markates**	**1.29**	**77**	*e*PG	**Pn**	**02 59 04.1**	**-1.2**
MRKA	**Markates**	**1.29**	**77**	*e*Pg	**Pn**	**02 59 04.1**	**-1.2**
MRKA	**Markates**	**1.29**	**77**	P	**Pn**	**02 59 04.4**	**-0.9**
NEO	**Neokhori**	**1.31**	**48**	P	**Pn**	**02 59 04.7**	**-0.8**
NEO	**Neokhori**	**1.31**	**48**	*e*PG	**Pn**	**02 59 04.7**	**-0.8**
NEO	**Neokhori**	**1.31**	**48**	P	**Pn**	**02 59 04.7**	**-0.8**
XOR	**Xorichti**	**1.33**	**45**	P	**Pn**	**02 59 05.4**	**-0.4**
XOR	**Xorichti**	**1.33**	**45**	*e*PB	**Pn**	**02 59 05.5**	**-0.4**
XOR	**Xorichti**	**1.33**	**45**	*e*Pb	**Pn**	**02 59 05.5**	**-0.4**
DID	**Didima**	**1.36**	**132**	P	**Pn**	**02 59 05.7**	**-0.5**
DID				S	**Sn**	**02 59 24.6**	**-0.1**
DID	**Didima**	**1.36**	**132**	*e*PB	**Pn**	**02 59 06.1**	**-0.1**
DID	**Didima**	**1.36**	**132**	P	**Pn**	**02 59 05.7**	**-0.5**
DID	**Didima**	**1.36**	**132**	*e*Pb	**Pn**	**02 59 06.1**	**-0.1**
DID				S	**Sn**	**02 59 24.6**	**-0.1**
NAIG	**Nisos Aigina**	**1.37**	**119**	*e*PB	**Pb**	**02 59 06.6**	**0.0**
NAIG	**Nisos Aigina**	**1.37**	**119**	*e*Pb	**Pb**	**02 59 06.6**	**0.0**
ERET	**Eretria**	**1.44**	**89**	P	**Pn**	**02 59 06.5**	**-0.8**
ERET				S	**Sg**	**02 59 27.4**	**+0.7**
ERET	**Eretria**	**1.44**	**89**	P	**Pn**	**02 59 06.5**	**-0.8**
ERET				S	**Sg**	**02 59 27.4**	**+0.7**
ATH	**Athens Observa**	**1.45**	**108**	*e*PB	**Pg**	**02 59 08.3**	**+0.1**
ATH	**Athens Observa**	**1.45**	**108**	*e*Pb	**Pg**	**02 59 08.3**	**+0.1**
JAN	**Janina**	**1.50**	**325**	*e*PB	**Pg**	**02 59 10.1**	**+0.8**
JAN	**Janina**	**1.50**	**325**	*e*Pb	**Pg**	**02 59 10.1**	**+0.8**
PTL	**Penteli**	**1.54**	**104**	*e*PG	**Pg**	**02 59 09.8**	**-0.1**
PTL	**Penteli**	**1.54**	**104**	*e*Pg	**Pg**	**02 59 09.8**	**-0.1**
PYL	**PYLOS**	**1.54**	**187**	P	**Pn**	**02 59 07.8**	**-0.9**
PYL	**PYLOS**	**1.54**	**187**	*e*PG	**Pn**	**02 59 08.4**	**-0.3**
PYL	**PYLOS**	**1.54**	**187**	P	**Pn**	**02 59 07.8**	**-0.9**
PYL	**PYLOS**	**1.54**	**187**	*e*Pg	**Pn**	**02 59 08.4**	**-0.3**
IGT	**Igoumenitsa**	**1.69**	**311**	*e*PN	**Pg**	**02 59 13.0**	**+0.2**
LIT	**Litokhoron**	**1.71**	**13**	P	**Pn**	**02 59 10.5**	**-0.6**
LIT	**Litokhoron**	**1.71**	**13**	*e*PN	**Pn**	**02 59 11.2**	**+0.1**
LIT	**Litokhoron**	**1.71**	**13**	P	**Pn**	**02 59 10.5**	**-0.6**
LIT	**Litokhoron**	**1

	UPR				S	Sg	03 09 42.0	+1.2
	UPR	**University Cam**	**0.22**	**226**	P	Pg	03 09 37.8	0.0
	UPR				S	Sg	03 09 40.9	+0.1
	PVO	**Paravola**	**0.40**	**297**	P	Pg	03 09 41.1	-0.2
	PVO				S	Sg	03 09 47.8	+1.2
	PVO	**Paravola**	**0.40**	**297**	P	Pg	03 09 41.1	-0.2
	PVO				S	Sg	03 09 47.7	+1.2
	KLV	**Kalavryta, Ach**	**0.41**	**161**	P	Pg	03 09 41.0	-0.5
	KLV				S	Sg	03 09 47.9	+1.0
	KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*PB	Pg	03 09 41.2	-0.3
	KLV				*e*SB	Sg	03 09 47.9	+1.0
	KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*Pb	Pg	03 09 41.2	-0.3
	KLV				S	Sg	03 09 47.4	+0.5
	DSF	**Desfina**	**0.43**	**93**	P	Pg	03 09 41.3	-0.5
	DSF				S	Sg	03 09 48.5	+1.1
	DSF	**Desfina**	**0.43**	**93**	*e*PB	Pg	03 09 41.4	-0.4
	DSF				*e*SB	Sg	03 09 48.2	+0.8
	DSF	**Desfina**	**0.43**	**93**	P	Pg	03 09 41.3	-0.5
	DSF				S	Sg	03 09 47.4	0.0
	DSF				*e*Sb	Sg	03 09 48.2	+0.8
	EVR	**Evrytania**	**0.50**	**344**	P	Pg	03 09 42.8	-0.3
	EVR				S	Sb	03 09 51.2	-0.7
	EVR	**Evrytania**	**0.50**	**344**	*e*PN	Pg	03 09 43.0	-0.1
	EVR				*e*SN	Sb	03 09 51.4	-0.5
	EVR	**Evrytania**	**0.50**	**344**	P	Pg	03 09 42.8	-0.3
	EVR				S	Sg	03 09 49.4	-0.3
	EVR				*e*Sn	Sb	03 09 51.4	-0.5
	DRO	**Drossia**	**0.53**	**204**	P	Pg	03 09 43.4	-0.3
	DRO				S	Sg	03 09 51.5	+0.9
	DRO	**Drossia**	**0.53**	**204**	*e*PN	Pg	03 09 43.3	-0.4
	DRO				*e*SN	Sg	03 09 51.3	+0.7
	DRO	**Drossia**	**0.53**	**204**	P	Pg	03 09 43.4	-0.3
	DRO				S	Sg	03 09 50.8	+0.2
	DRO				*e*Sn	Sg	03 09 51.3	+0.7
	RLS	**Riolos of Patr**	**0.56**	**227**	P	Pg	03 09 44.0	-0.2
	RLS				S	Sb	03 09 52.7	-0.7
	RLS	**Riolos of Patr**	**0.56**	**227**	*e*PN	Pg	03 09 44.0	-0.2
	RLS				*e*SN	Sg	03 09 52.4	+1.0
	RLS	**Riolos of Patr**	**0.56**	**227**	P	Pg	03 09 44.0	-0.2
	RLS				S	Sg	03 09 51.4	0.0
	RLS				*e*Sn	Sg	03 09 52.4	+1.0
	GUR	**Goura**	**0.57**	**150**	P	Pg	03 09 44.0	-0.5
	GUR	**Goura**	**0.57**	**150**	P	Pg	03 09 44.3	-0.2
	MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	Pg	03 09 44.7	-0.1
	MAKR				S	Sb	03 09 54.8	+0.4
	MAKR	**Makrakomi, Fth**	**0.59**	**11**	*e*PN	Pg	03 09 44.7	-0.1
	MAKR	**Makrakomi, Fth**	**0.59**	**11**	P	Pg	03 09 44.7	-0.1
	MAKR				S	Sb	03 09 54.8	+0.4
	AXAR	**Agios Charalam**	**0.62**	**58**	P	Pg	03 09 44.9	-0.5
	AXAR				S	Sb	03 09 55.7	+0.3
	AXAR	**Agios Charalam**	**0.62**	**58**	*e*PB	Pg	03 09 45.0	-0.5
	AXAR	**Agios Charalam**	**0.62**	**58**	*e*Pb	Pg	03 09 45.0	-0.5
	AXAR				S	Sg	03 09 53.8	+0.1
	AGG	**Agios Georgios**	**0.65**	**25**	P	Pg	03 09 45.0	-0.9
	AGG	**Agios Georgios**	**0.65**	**25**	*e*PB	Pg	03 09 45.2	-0.7
	AGG	**Agios Georgios**	**0.65**	**25**	*e*Pb	Pg	03 09 45.2	-0.7
	PDO	**Prodromos**	**0.65**	**285**	P	Pg	03 09 45.7	-0.2
	PDO				S	Sb	03 09 55.9	-0.2
	PDO	**Prodromos**	**0.65**	**285**	*e*PN	Pg	03 09 46.2	+0.3
	PDO	**Prodromos**	**0.65**	**285**	P	Pg	03 09 45.7	-0.2
	PDO	**Prodromos**	**0.65**	**285**	*e*Pn	Pg	03 09 46.2	+0.3
	PDO				S	Sb	03 09 55.5	-0.6
	LKR	**Lokris**	**0.82**	**75**	P	Pg	03 09 48.2	-1.0
	LKR				S	Sb	03 10 01.9	+0.8
	LKR	**Lokris**	**0.82**	**75**	*e*PB	Pg	03 09 48.3	-1.0
	LKR	**Lokris**	**0.82**	**75**	*e*Pb	Pg	03 09 48.3	-1.0
	LKR				S	Sb	03 10 01.9	+0.8
	LTK	**Loutraki**	**0.88**	**118**	P	Pg	03 09 50.2	-0.1
	LTK				S	Sb	03 10 02.5	-0.2
	LTK	**Loutraki**	**0.88**	**118**	*e*PN	Pg	03 09 50.4	+0.1
	LTK	**Loutraki**	**0.88**	**118**	P	Pg	03 09 50.2	-0.1
	LTK				S	Sb	03 10 02.5	-0.2
	AMT	**Artemida-Makis**	**0.93**	**194**	P	Pg	03 09 50.7	-0.5
	AMT				S	Sn	03 10 08.0	+1.9
	AMT	**Artemida-Makis**	**0.93**	**194**	*e*PN	Pg	03 09 50.9	-0.3
	AMT	**Artemida-Makis**	**0.93**	**194**	*e*Pn	Pg	03 09 50.9	-0.3
	AMT	**Artemida-Makis**	**0.93**	**194**	P	Pg	03 09 51.3	+0.1
	AMT				S	Sb	03 10 04.5	+0.4
	SMIA	**Simia**	**1.06**	**65**	P	Pg	03 09 52.9	-0.8
	SMIA				S	Sn	03 10 09.1	-0.2
	SMIA	**Simia**	**1.06**	**65**	*e*PN	Pg	03 09 52.9	-0.8
	SMIA	**Simia**	**1.06**	**65**	P	Pg	03 09 52.9	-0.8
	SMIA				S	Sn	03 10 09.1	-0.2
	LKD2	**Lefkada island**	**1.10**	**289**	P	Pg	03 09 53.9	-0.6
	LKD2				S	Sn	03 10 10.7	+0.4
	LKD2	**Lefkada island**	**1.10**	**289**	*e*PN	Pg	03 09 54.1	-0.4
	LKD2	**Lefkada island**	**1.10**	**289**	P	Pg	03 09 53.9	-0.6
	LKD2				S	Sn	03 10 10.7	+0.4
	THL	**Klokotos Trika**	**1.13**	**1**	P	Pb	03 09 54.2	-0.9
	THL				S	Sn	03 10 11.1	+0.1
	THL	**Klokotos Trika**	**1.13**	**1**	*e*PN	Pb	03 09 54.2	-0.9
	THL	**Klokotos Trika**	**1.13**	**1**	P	Pb	03 09 54.2	-0.9
	THL				S	Sn	03 10 11.1	+0.1
	VLS	**Valsamata**	**1.13**	**257**	P	Pb	03 09 53.4	-1.7
	VLS				S	Sn	03 10 10.8	-0.2
	VLS	**Valsamata**	**1.13**	**257**	*e*PB	Pb	03 09 53.6	-1.5
	VLS	**Valsamata**	**1.13**	**257**	*e*Pb	Pb	03 09 53.6	-1.5
	VLS				S	Sn	03 10 10.8	-0.2
	ITM	**Ithomi**	**1.25**	**182**	*e*PN	Pn	03 09 56.7	-0.5
	ITM	**Ithomi**	**1.25**	**182**	*e*Pn	Pn	03 09 56.7	-0.5
	MRKA	**Markates**	**1.29**	**77**	*e*PN	Pn	03 09 57.4	-0.2
	MRKA	**Markates**	**1.29**	**77**	*e*Pn	Pn	03 09 57.4	-0.2
	NEO	**Neokhori**	**1.30**	**48**	*e*PN	Pn	03 09 57.8	0.0
	NEO	**Neokhori**	**1.30**	**48**	*e*Pn	Pn	03 09 57.8	0.0
	XOR	**Xorichti**	**1.32**	**45**	*e*PN	Pn	03 09 58.0	-0.1
	XOR	**Xorichti**	**1.32**	**45**	*e*Pn	Pn	03 09 58.0	-0.1
	DID	**Didima**	**1.36**	**133**	*e*PN	Pn	03 09 58.8	+0.2
	DID	**Didima**	**1.36**	**133**	*e*Pn	Pn	03 09 58.8	+0.2
	NAIG	**Nisos Aigina**	**1.37**	**119**	*e*PN	Pn	03 09 58.9	+0.2
	NAIG	**Nisos Aigina**	**1.37**	**119**	*e*Pn	Pn	03 09 58.9	+0.2
	ATH	**Athens Observa**	**1.44**	**108**	*e*PN	Pn	03 09 59.7	0.0
	ATH	**Athens Observa**	**1.44**	**108**	*e*Pn	Pn	03 09 59.7	0.0
	JAN	**Janina**	**1.50**	**324**	*e*PN	Pg	03 10 02.5	+0.2
	JAN	**Janina**	**1.50**	**324**	*e*Pn	Pg	03 10 02.5	+0.2
	PTL	**Penteli**	**1.53**	**104**	*e*PN	Pn	03 10 01.3	+0.3
	PTL	**Penteli**	**1.53**	**104**	*e*Pn	Pn	03 10 01.3	+0.3
	PYL	**PYLOS**	**1.55**	**187**	*e*PN	Pn	03 10 01.3	+0.1
	PYL	**PYLOS**	**1.55**	**187**	*e*Pn	Pn	03 10 01.3	+0.1
	AOS	**Alonnisos**	**1.65**	**63**	*e*PN	Pn	03 10 02.6	0.0
	AOS	**Alonnisos**	**1.65**	**63**	*e*Pn	Pn	03 10 02.6	0.0
	IGT	**Igoumenitsa**	**1.69**	**311**	*e*PN	Pg	03 10 05.9	+0.1
	IGT	**Igoumenitsa**	**1.69**	**311**	*e*Pn	Pg	03 10 05.9	+0.1
	LIT	**Litokhoron**	**1.71**	**13**	*e*PN	Pn	03 10 04.0	+0.6
	LIT	**Litokhoron**	**1.71**	**13**	*e*Pn	Pn	03 10 04.0	+0.6
	KZN	**Kozani**	**1.88**	**355**	*e*PN	Pb	03 10 07.0	-0.9
	KZN	**Kozani**	**1.88**	**355**	*e*Pn	Pb	03 10 07.0	-0.9
	VLI	**Veliai**	**1.88**	**156**	*e*PN	Pn	03 10 06.1	+0.4
	VLI	**Veliai**	**1.88**	**156**	*e*Pn	Pn	03 10 06.1	+0.4
	PAIG	**Paliouri**	**1.99**	**41**	*e*PB	Pn	03 10 06.9	-0.3
	PAIG	**Paliouri**	**1.99**	**41**	*e*Pb	Pn	03 10 06.9	-0.3
	NEST	**Nestorio**	**2.10**	**340**	*e*PN	Pb	03 10 11.7	-0.1
	NEST	**Nestorio**	**2.10**	**340**	*e*Pn	Pb	03 10 11.7	-0.1
	KEK	**Kerkira**	**2.13**	**308**	*e*PN	Pb	03 10 11.5	-0.6
	KEK	**Kerkira**	**2.13**	**308**	*e*Pn	Pb	03 10 11.5	-0.6
	PLG	**Polygyros**	**2.24**	**30**	*e*PB	Pn	03 10 10.5	-0.3
	PLG	**Polygyros**	**2.24**	**30**	*e*Pb	Pn	03 10 10.5	-0.3
	KYTH	**Kithira**	**2.31**	**158**	*e*PN	Pb	03 10 13.9	-1.3
	KYTH	**Kithira**	**2.31**	**158**	*e*Pn	Pb	03 10 13.9	-1.3
	HORT	**Hortiatis**	**2.33**	**21**	*e*PB	Pn	03 10 11.7	-0.2
	HORT	**Hortiatis**	**2.33**	**21**	*e*Pb	Pn	03 10 11.7	-0.2
	FNA	**Florina**	**2.39**	**349**	*e*PB	Pn	03 10 14.0	+1.2
	FNA	**Florina**	**2.39**	**349**	*e*Pb	Pn	03 10 14.0	+1.2
	GRG	**Griva**	**2.54**	**7**	*e*PN	Pn	03 10 15.0	+0.2
	GRG	**Griva**	**2.54**	**7**	*e*Pn	Pn	03 10 15.0	+0.2
	SOH	**Sokhos**	**2.61**	**24**	*e*PN	Pn	03 10 16.5	+0.7
	SOH	**Sokhos**	**2.61**	**24**	*e*Pn	Pn	03 10 16.5	+0.7
	KNT	**Kendrikon**	**2.81**	**14**	*e*PN	Pn	03 10 19.3	+0.7
	KNT	**Kendrikon**	**2.81**	**14**	*e*Pn	Pn	03 10 19.3	+0.7
	SRS	**Serrai**	**2.95**	**24**	*e*PN	Pn	03 10 20.6	+0.1
	SRS	**Serrai**	**2.95**	**24**	*e*Pn	Pn	03 10 20.6	+0.1
	SIGR	**SIGRI**	**3.12**	**74**	*e*PN	Pn	03 10 23.3	+0.5
	SIGR	**SIGRI**	**3.12**	**74**	*e*Pn	Pn	03 10 23.3	+0.5
	NVR	**Nevrokopi**	**3.25**	**26**	*e*PN	Pn	03 10 25.0	+0.4
	NVR	**Nevrokopi**	**3.25**	**26**	*e*Pn	Pn	03 10 25.0	+0.4
	IDI	**Anoyia**	**3.91**	**143**	Pn	Pn	03 10 35.5	+1.7
		1.4nm,0.3s,baz=333,slow=18,SNR=7.2						
	IDI				S	Sn	03 11 19.3	-0.5
		2.4nm,0.3s,baz=52,slow=22,SNR=2.0						
	IVAS	**Ivanjica**	**5.32**	**345**	*e*Pn	Pn	03 10 56.8	+3.7
	STON	**Ston**	**5.50**	**325**	*e*Pn	Pn	03 10 53.5	-1.9
	STON				S	Sn	03 11 59.6	+0.8
	STON	**Ston**	**5.50**	**325**	*e*Pn	Pn	03 10 53.5	-1.9
	STON				S	Sn	03 11 59.6	+0.8
	GRUS	**Gruza**	**5.53**	**350**	*e*Pn	Pn	03 10 57.7	+1.8
	DIVS	**Divibare**	**5.85**	**346**	*e*Pn	Pn	03 11 02.0	+1.6
	TRUS	**Trudelj**	**5.90**	**349**	*e*Pn	Pn	03 11 02.5	+1.5
	TEKS	**Tekeris**	**6.38**	**344**	*e*Pn	Pn	03 11 05.5	-2.1
	FGSL	**Fruska Gora**	**6.91**	**347**	*e*Pn	Pn	03 11 15.6	+0.7
	MLR	**Muntele Rosu**	**7.64**	**21**	Pn	Pn	03 11 27.8	+2.8
		0.1nm,0.3s,baz=184,slow=19,SNR=4.9						
	NVLJ	**Novalja**	**8.12**	**321**	*e*Pn	Pn	03 11 30.5	-0.9
	NVLJ				S	Sn	03 12 59.9	-3.3
	NVLJ	**Novalja**	**8.12**	**321**	*e*Pn	Pn	03 11 30.5	-0.9
	BRTR	**Keskin Array B**	**9.16**	**78**	Pn	Pn	03 11 48.1	+2.3
		0.3nm,0.3s,baz=251,slow=11,SNR=14						
	ESDC	**Sonseca Array**	**20.17**	**282**	P	P	03 14 08.7	+0.5
		1.1nm,0.7s,baz=77,slow=11,SNR=6.7						
	HFS	**Hagfors**	**22.34**	**349**	P	P	03 14 30.7	-0.7
		3.0nm,0.9s,baz=132,slow=11,SNR=4.1						
	FINES	**FINESS Array B**	**23.17**	**5**	P	P	03 14 39.0	-1.0
		1.0nm,0.8s,baz=192,slow=11,SNR=4.1						
	NB2	**NORSAR Subarra**	**23.61**	**347**	P	P	03 14 44.2	-0.3
		comp=Z,0.1nm,0.6s,baz=152,slow=11						
	NB2	**NORSAR Subarra**	**23.61**	**347**	P	P	03 14 44.2	-0.3
		comp=Z,0.1nm,0.6s,SNR=3.3						
	NOA	**NORSAR Array B**	**23.61**	**347**	P	P	03 14 44.4	-0.1
		comp=Z,1.5nm,0.9s,baz=154,slow=9.3,SNR=3.5						
	TORD	**Torodi Ar. Bea**	**30.97**	**221**	P	P	03 15 51.5	+0.5
		comp=Z,0.6nm,0.5s,baz=29,slow=8.8,SNR=12						
	ARCES	**ARCESS Array B**	**31.22**	**2**	P	P	03 15 52.4	-0.4
		comp=Z,0.9nm,0.8s,baz=202,slow=4.5,SNR=6.3						
	KURBB	**Kurchatov Arra**	**41.15**	**54**	P	P	03 17 17.6	-0.2
		comp=Z,0.2nm,0.3s,baz=287,slow=8.7,SNR=2.9						
	MKAR	**Makanchi Array**	**44.18**	**59**	P	P	03 17 42.0	-0.5
		comp=Z,0.6nm,0.5s,baz=279,slow=7.1,SNR=11						
	ZALV	**Zalesovo Beam**	**44.66**	**48**	P	P	03 17 45.7	-0.5
		comp=Z,0.8nm,0.5s,baz=270,slow=8.7,SNR=3.6						
	YKA	**Yellowknife Ar**	**73.53**	**341**	P	P	03 21 07.0	+0.7
		comp=Z,0.2nm,0.7s,baz=56,slow=7.7,SNR=3.8						

IDC ***22*** *03:10:35.8±1.2, 3°.74N×126°.97E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/42, mbtmp3.6/6, Error ellipse: s-maj=122.1km s-min=18.0km az=68.0*

ISC 22 03:10:42.0±1.5, 3°.9N±0°.5×12°.8E±°, h48km, n6, σ1s87/6, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.65**	**165**	P		**P**	**03 15 56.4**	**-2.0**
	0.7nm,0.5s,baz=343,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**28.13**	**169**	P		**P**	**03 16 31.2**	**+1.5**
	0.1nm,0.3s,baz=353,slow=15,SNR=3.4							
STKA	**Stephens Creek**	**38.04**	**160**	P		**P**	**03 17 55.7**	**-0.2**
	1.7nm,0.7s,baz=330,slow=8.1,SNR=4.2							
SONM	**Songino Array**	**47.37**	**341**	P		**P**	**03 19 12.5**	**+1.0**
	0.2nm,0.5s,baz=144,slow=5.2,SNR=2.4							
MKAR	**Makanchi Array**	**57.85**	**325**	P		**P**	**03 20 29.0**	**+0.1**
	0.4nm,0.6s,baz=123,slow=8.8,SNR=5.0							
KURBB	**Kurchatov Arra**	**62.00**	**327**	P		**P**	**03 20 55.4**	**-1.8**
	0.2nm,0.2s,baz=128,slow=6.0,SNR=3.9							

IDC ***22*** *03:11:29.2±1.2, 3°.39N×126°.34E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/25, mbtmp3.9/8, Error ellipse: s-maj=156.2km s-min=16.6km az=67.0*

ISC 22 03:11:36.2±1.1, 3°.4N±0°.4×126°.5E±1°.0, h53km, n9, σ0s64/9, mb4.0/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.46**	**162**	P		**P**	**03 16 49.8**	**-0.7**
	2.5nm,0.6s,baz=337,slow=11,SNR=11							
ASAR	**Alice Springs**	**27.87**	**165**	P		**P**	**03 17 21.4**	**+0.1**
	0.3nm,0.4s,baz=345,slow=7.1,SNR=6.7							
STKA	**Stephens Creek**	**37.93**	**159**	P		**P**	**03 18 48.9**	**+0.2**
	1.7nm,0.6s,baz=334,slow=8.9,SNR=5.6							
SONM	**Songino Array**	**47.51**	**342**	P		**P**	**03 20 06.7**	**+0.4**
	0.6nm,0.6s,baz=151,slow=8.8,SNR=5.3							
MKAR	**Makanchi Array**	**57.67**	**325**	P		**P**	**03 21 21.5**	**+0.2**
	0.8nm,0.6s,baz=125,slow=8.9,SNR=11							
KURBB	**Kurchatov Arra**	**61.86**	**328**	P		**P**	**03 21 50.2**	**+0.2**
	0.8nm,0.4s,baz=131,slow=6.5,SNR=8.6							
AKTO	**Aktyubinsk**	**73.74**	**322**	P		**P**	**03 23 04.1**	**-0.7**
	1.0nm,0.8s,baz=116,slow=6.2,SNR=5.4							
ARCES	**ARCESS Array B**	**90.65**	**340**	P		**P**	**03 24 32.3**	**-0.5**
	1.7nm,0.8s,baz=82,slow=6.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP		**PKPdf**	**03 30 28.3**	**+1.0**
	0.2nm,0.6s,baz=108,slow=2.1,SNR=2.9							

IDC 22 03:12:43.8±1.7, 38°.99N×110°.89W, h0km, mb2.6/1, mb1 3.0/5, mb1mx3.0/31, mbtmp2.7/5, ML2.7/4, Error ellipse: s-maj=20.8km s-min=11.4km az=150.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELK	**Elko**	**3.78**	**299**	Pn		Pn	03 13 45.6	+2.0
	0.2nm,0.3s,baz=176,slow=9.8,SNR=10							
ELK				Sn		Sn	03 14 29.2	+0.1
	0.2nm,0.3s,baz=331,slow=19,SNR=3.8							
PDAR	**Pinedale Array**	**3.91**	**15**	Pn		Pn	03 13 46.2	+0.7
	0.2nm,0.3s,baz=185,slow=13,SNR=4.1							
PDAR				Pg		Pb	03 13 55.2	+1.3
	0.4nm,0.3s,baz=200,slow=12,SNR=14							
PDAR				Lg		Lg	03 14 49.3	
	0.2nm,0.3s,baz=186,slow=34,SNR=1.9							
ANMO	**Albuquerque**	**5.37**	**137**	Pn		Pn	03 14 07.5	+2.0
	0.3nm,0.3s,baz=326,slow=15,SNR=8.3							
ANMO				Pg		Pg	03 14 26.4	-0.6
	0.2nm,0.3s,baz=338,slow=15,SNR=6.0							
ANMO				Lg		Lg	03 15 39.6	
	0.2nm,0.3s,baz=239,slow=23,SNR=4.0							
NVAR	**Mina Array Bea**	**5.83**	**267**	Pn		Pn	03 14 11.4	-0.4
	0.1nm,0.3s,baz=86,slow=14,SNR=3.2							
NVAR				Pg		Pb	03 14 24.0	-2.6
	0.1nm,0.3s,baz=85,slow=14,SNR=3.3							
YKA	**Yellowknife Ar**	**23.64**	**356**	P		P	03 17 54.7	-1.8
	0.1nm,0.7s,baz=172,slow=10.0,SNR=4.1							

IDC 22 03:29:44.2±3.0, 4°.23S×151°.79E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=104.3km s-min=31.4km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.09**	**226**	P		P	03 34 52.5	+0.7
	0.9nm,0.3s,baz=50,slow=10,SNR=37							
ASAR	**Alice Springs**	**25.91**	**220**	P		P	03 35 18.5	+0.2
	0.2nm,0.4s,baz=49,slow=9.3,SNR=3.5							
SONM	**Songino Array**	**65.31**	**328**	P		P	03 40 30.2	+1.9
	0.5nm,0.9s,baz=147,slow=5.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**149.17**	**289**	PKPbc		PKPdf	03 49 33.2	+1.6
	0.5nm,0.3s,baz=93,slow=3.1,SNR=17							

ISCJB ***22*** *03:42:12.1±0.7, 12°.42S±0°.07×166°.5E±0°.1, h59km, mb4.1/12, MS3.5/3, Error ellipse: s-maj=17.0km s-min=10.1km az=2.8*

IDC ***22*** *03:42:12.3±0.9, 12°.32S×166°.53E, h48km±6km, mb3.9/9, mb1 4.1/10, mb1mx3.8/34, mbtmp4.1/10, MS3.4/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=27.7km s-min=17.1km az=117.0*

NEIC ***22*** *03:42:12.1±0.6, 12°.23S×166°.50E, mb4.3/5, Error ellipse: s-maj=16.5km s-min=10.7km az=116.0*

ISC 22 03:42:12.7±0.6, 12°.31S±0°.07×166°.6E±0°.1, h59km, n38, σ1s28/46, mb4.2/12, MS3.6/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.11**	**293**	LR		LR	03 46 32.6	
	comp=Z,205nm,20.7s,baz=270,slow=37							
DZM	**Mont Dzumac**	**9.70**	**181**	P		**Pn**	**03 44 30.7**	**+0.9**
DZM				S		**Sn**	**03 46 16.0**	**-1.3**
DZM	**Mont Dzumac**	**9.70**	**181**	P		**Pn**	**03 44 30.7**	**+0.9**
	2.1nm,0.3s,baz=40,slow=17,SNR=18							
DZM				S		**Sn**	**03 46 16.0**	**-1.3**
	baz=331,slow=23,SNR=1.1							
DZM				LR		LR	03 47 33.6	
	comp=Z,131nm,21.9s,baz=51,slow=33							
DZM	**Mont Dzumac**	**9.70**	**181**	*e*P		**Pn**	**03 44 28.8**	**-0.9**
DZM				*e*S		Sn	03 46 30.3	+13
EIDS	**Eidsvold**	**19.56**	**226**	*e*P		**Pn**	**03 46 37.8**	**+0.2**
	27nm,1.1s							
CTAO	**Charters Tower**	**20.97**	**246**	*e*P		**P**	**03 46 50.5**	**-0.7**
	17nm,1.2s							
ARMA	**Armidale**	**22.72**	**215**	*e*P		**P**	**03 47 09.9**	**0.0**
	46nm,1.6s							
URZ	**Urewera**	**27.50**	**162**	LR		LR	03 57 39.2	
	comp=Z,166nm,20.8s,baz=26,slow=34							
STKA	**Stephens Creek**	**30.11**	**226**	P		**P**	**03 48 18.0**	**+1.1**
STKA	**Stephens Creek**	**30.11**	**226**	P		**P**	**03 48 18.0**	**+1.1**
	5.2nm,0.9s,baz=25,slow=11,SNR=4.2							
WRAB	**Tennant Creek**	**31.83**	**252**	*e*P		**P**	**03 48 33.2**	**+1.0**
	4.2nm,0.9s							
WRA	**Warramunga Arr**	**31.84**	**252**	P		**P**	**03 48 31.7**	**-0.6**
WRA	**Warramunga Arr**	**31.84**	**252**	P		**P**	**03 48 31.7**	**-0.6**
	0.7nm,0.6s,baz=82,slow=8.8,SNR=16							
AS31	**Alice Springs**	**32.98**	**245**	*e*P		**P**	**03 48 41.4**	**-0.9**
ASAR	**Alice Springs**	**32.98**	**245**	P		**P**	**03 48 41.6**	**-0.7**
ASAR	**Alice Springs**	**32.98**	**245**	P		**P**	**03 48 41.6**	**-0.7**
	2.2nm,0.6s,baz=73,slow=9.3,SNR=21							
NWAO	**Narrogin (SRO)**	**49.45**	**237**	P		**P**	**03 50 57.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**49.45**	**237**	P		**P**	**03 50 57.6**	**+0.5**
	4.4nm,0.8s,baz=82,slow=2.9,SNR=3.7							
KSRS	**Korea Array**	**61.38**	**326**	LR		LR	04 14 21.4	
	comp=Z,14nm,21.2s,baz=300,slow=31							
VNDA	**Vanda**	**65.25**	**181**	*e*P		**P**	**03 52 48.8**	**+1.1**
	2.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P		**P**	**03 53 41.1**	**+2.2**
CMAR				pP		**PcP**	**03 53 53.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P		**P**	**03 53 41.1**	**+2.2**
	0.9nm,0.3s,baz=119,slow=4.2,SNR=5.4							
CMAR				pP		**PcP**	**03 53 53.6**	**-1.3**
	1.2nm,0.3s,baz=101,slow=2.8,SNR=2.0							
SONM	**Songino Array**	**80.16**	**324**	P		**P**	**03 54 17.5**	**+0.7**
SONM				pP		**pP**	**03 54 31.9**	**-1.4**
SONM	**Songino Array**	**80.16**	**324**	P		**P**	**03 54 17.5**	**+0.7**
	0.2nm,0.4s,baz=140,slow=3.8,SNR=4.1							
SONM				pP		**pP**	**03 54 31.9**	**-1.4**
	0.3nm,0.7s,baz=208,slow=2.5,SNR=2.4							
ILAR	**Eielson Array**	**84.45**	**18**	P		**P**	**03 54 38.4**	**-0.2**
ILAR				pP		**pP**	**03 54 53.0**	**-2.2**
ILAR	**Eielson Array**	**84.45**	**18**	P		**P**	**03 54 38.4**	**-0.2**
	0.6nm,0.6s,baz=244,slow=5.1,SNR=15							
ILAR				pP		**pP**	**03 54 53.0**	**-2.2**

PDO				*e*SB		**Sg**	03 44 17.4	+0.1
PDO	**Prodromos**	**0.62**	**285**	P		**Pg**	03 44 08.4	-0.8
PDO	**Prodromos**	**0.62**	**285**	*e*Pb		**Pg**	03 44 08.9	-0.3
PDO				S		**Sg**	03 44 17.2	-0.1
AXAR	**Agios Charalam**	**0.65**	**60**	P		**Pg**	03 44 08.8	-1.0
AXAR				S		**Sg**	03 44 18.1	-0.1
AXAR	**Agios Charalam**	**0.65**	**60**	*e*PB		**Pg**	03 44 09.1	-0.7
AXAR				*e*SB		**Sg**	03 44 18.9	+0.7
AXAR	**Agios Charalam**	**0.65**	**60**	P		**Pg**	03 44 08.8	-1.0
AXAR	**Agios Charalam**	**0.65**	**60**	*e*Pb		**Pg**	03 44 09.1	-0.7
AXAR				S		**Sg**	03 44 18.1	-0.1
AGG	**Agios Georgios**	**0.65**	**28**	P		**Pg**	03 44 08.9	-1.0
AGG	**Agios Georgios**	**0.65**	**28**	*e*PB		**Pg**	03 44 08.8	-1.1
AGG				*e*SB		**Sg**	03 44 19.2	+0.8
AGG	**Agios Georgios**	**0.65**	**28**	P		**Pg**	03 44 08.9	-1.0
AGG				*e*Sb		**Sg**	03 44 19.2	+0.8
LKR	**Lokris**	**0.85**	**76**	P		**Sg**	03 44 12.7	-1.0
LKR				S		**Sg**	03 44 25.5	+0.7
LKR	**Lokris**	**0.85**	**76**	*e*PB		**Pg**	03 44 13.0	-0.7
LKR				*e*SB		**Sb**	03 44 25.8	-0.2
LKR	**Lokris**	**0.85**	**76**	P		**Pg**	03 44 12.7	-1.0
LKR	**Lokris**	**0.85**	**76**	*e*Pb		**Pg**	03 44 13.0	-0.7
LKR				S		**Sg**	03 44 25.5	+0.7
LTK	**Loutraki**	**0.91**	**117**	P		**Pg**	03 44 14.0	-0.8
LTK				S		**Sb**	03 44 27.4	-0.3
LTK	**Loutraki**	**0.91**	**117**	*e*PB		**Pg**	03 44 14.3	-0.5
LTK	**Loutraki**	**0.91**	**117**	P		**Pg**	03 44 14.0	-0.8
LTK	**Loutraki**	**0.91**	**117**	*e*Pb		**Pg**	03 44 14.3	-0.5
LTK				S		**Sb**	03 44 27.4	-0.3
AMT	**Artemida-Makis**	**0.93**	**192**	P		**Pg**	03 44 14.5	-0.7
AMT				S		**Sg**	03 44 27.2	-0.1
AMT	**Artemida-Makis**	**0.93**	**192**	P		**Pg**	03 44 14.5	-0.7
AMT				S		**Sg**	03 44 27.2	-0.1
LKD2	**Lefkada island**	**1.06**	**289**	P		**Pg**	03 44 16.5	-1.3
LKD2	**Lefkada island**	**1.06**	**289**	*e*PG		**Pg**	03 44 16.8	-1.0
LKD2	**Lefkada island**	**1.06**	**289**	P		**Pg**	03 44 16.5	-1.3
LKD2	**Lefkada island**	**1.06**	**289**	*e*Pg		**Pg**	03 44 16.8	-1.0
VLS	**Valsamata**	**1.10**	**256**	P		**Pg**	03 44 16.6	-1.8
VLS	**Valsamata**	**1.10**	**256**	*e*PB		**Pg**	03 44 16.4	-2.0
VLS				*e*SB		**Sb**	03 44 34.0	+0.8
VLS	**Valsamata**	**1.10**	**256**	P		**Pg**	03 44 16.6	-1.8
VLS				*e*Sb		**Sb**	03 44 34.0	+0.8
THL	**Klokotos Trika**	**1.12**	**3**	P		**Pg**	03 44 17.4	-1.4
THL				S		**Sb**	03 44 34.1	+0.4
THL	**Klokotos Trika**	**1.12**	**3**	*e*PG		**Pg**	03 44 17.6	-1.2
THL	**Klokotos Trika**	**1.12**	**3**	*e*Pg		**Pg**	03 44 17.6	-1.2
THL				S		**Sb**	03 44 34.1	+0.4
FYTO	**Fytoko, Volos**	**1.24**	**39**	P		**Pb**	03 44 20.2	-0.8
FYTO	**Fytoko, Volos**	**1.24**	**39**	P		**Pn**	03 44 20.2	-0.8
ITM	**Ithomi**	**1.26**	**181**	P		**Pn**	03 44 19.7	-1.7
ITM				S		**Sg**	03 44 38.2	+0.2
ITM	**Ithomi**	**1.26**	**181**	*e*PN		**Pn**	03 44 19.5	-1.9
ITM	**Ithomi**	**1.26**	**181**	P		**Pn**	03 44 19.7	-1.7
ITM				S		**Sg**	03 44 38.2	+0.2
MRKA	**Markates**	**1.31**	**78**	P		**Pn**	03 44 21.5	-0.6
MRKA	**Markates**	**1.31**	**78**	*e*PB		**Pn**	03 44 21.5	-0.6
MRKA	**Markates**	**1.31**	**78**	P		**Pn**	03 44 21.5	-0.6
NEO	**Neokhori**	**1.32**	**49**	P		**Pn**	03 44 21.2	-0.9
NEO	**Neokhori**	**1.32**	**49**	*e*PB		**Pn**	03 44 21.7	-0.4
NEO				*e*SB		**Sb**	03 44 39.2	-0.3
NEO	**Neokhori**	**1.32**	**49**	P		**Pn**	03 44 21.2	-0.9
NEO	**Neokhori**	**1.32**	**49**	*e*Pb		**Pn**	03 44 21.7	-0.4
NEO				*e*Sb		**Sb**	03 44 39.2	-0.3
XOR	**Xorichti**	**1.34**	**46**	*e*PB		**Pb**	03 44 23.0	+0.2
XOR	**Xorichti**	**1.34**	**46**	*e*Pb		**Pb**	03 44 23.0	+0.2
DID	**Didima**	**1.39**	**132**	P		**Pn**	03 44 22.2	-0.9
DID				S		**Sb**	03 44 41.6	+0.1
DID	**Didima**	**1.39**	**132**	*e*PG		**Pn**	03 44 22.3	-0.9
DID	**Didima**	**1.39**	**132**	P		**Pn**	03 44 22.2	-0.9
DID				S		**Sb**	03 44 41.6	+0.1
SKIA	**Skiathos**	**1.39**	**58**	*e*PG		**Pn**	03 44 22.9	-0.2
SKIA	**Skiathos**	**1.39**	**58**	*e*Pg		**Pn**	03 44 22.9	-0.2
NAIG	**Nisos Aigina**	**1.40**	**119**	*e*PG		**Pn**	03 44 22.5	-0.7
NAIG	**Nisos Aigina**	**1.40**	**119**	*e*Pg		**Pn**	03 44 22.5	-0.7
MEV	**Metsovon**	**1.45**	**338**	P		**Pn**	03 44 22.9	-1.2
MEV	**Metsovon**	**1.45**	**338**	P		**Pn**	03 44 22.9	-1.2
ATH	**Athens Observa**	**1.47**	**108**	*e*PB		**Pb**	03 44 25.1	+0.1
ATH				*e*SB		**Sn**	03 44 43.8	+0.1
ATH	**Athens Observa**	**1.47**	**108**	*e*Pb		**Pb**	03 44 25.1	+0.1
ATH				*e*Sb		**Sn**	03 44 43.8	+0.1
JAN	**Janina**	**1.48**	**325**	P		**Pn**	03 44 24.1	-0.3
JAN	**Janina**	**1.48**	**325**	P		**Pn**	03 44 24.1	-0.3
PYL	**PYLOS**	**1.56**	**186**	P		**Pn**	03 44 24.7	-0.7
PYL	**PYLOS**	**1.56**	**186**	*e*PG		**Pn**	03 44 24.9	-0.5
PYL	**PYLOS**	**1.56**	**186**	P		**Pn**	03 44 24.7	-0.7
PTL	**Penteli**	**1.56**	**104**	*e*PB		**Pn**	03 44 25.2	-0.3
PTL	**Penteli**	**1.56**	**104**	*e*Pb		**Pn**	03 44 25.2	-0.3
IGT	**Igoumenitsa**	**1.66**	**311**	*e*PB		**Pb**	03 44 28.3	+0.1
IGT	**Igoumenitsa**	**1.66**	**311**	*e*Pb		**Pb**	03 44 28.3	+0.1
LIT	**Litokhoron**	**1.71**	**14**	P		**Pn**	03 44 26.9	-0.6
LIT				S		**Sb**	03 44 50.5	-0.2
LIT	**Litokhoron**	**1.71**	**14**	*e*PN		**Pn**	03 44 27.8	+0.3
LIT	**Litokhoron**	**1.71**	**14**	P		**Pn**	03 44 26.9	-0.6
LIT	**Litokhoron**	**1.71**	**14**	*e*Pn		**Pn**	03 44 27.8	+0.3
LIT				S		**Sb**	03 44 50.5	-0.2
KZN	**Kozani**	**1.86**	**356**	P		**Pn**	03 44 28.5	-1.2
KZN	**Kozani**	**1.86**	**356**	*e*PN		**Pn**	03 44 30.0	+0.3
KZN	**Kozani**	**1.86**	**356**	P		**Pn**	03 44 28.5	-1.2
KZN	**Kozani**	**1.86**	**356**	*e*Pn		**Pn**	03 44 30.0	+0.3
VLI	**Veliai**	**1.90**	**155**	P		**Pn**	03 44 29.4	-0.7
VLI	**Veliai**	**1.90**	**155**	P		**Pn**	03 44 29.4	-0.7
NEST	**Nestorio**	**2.08**	**341**	P		**Pb**	03 44 34.5	-1.0
NEST	**Nestorio**	**2.08**	**341**	*e*PG		**Pb**	03 44 34.5	-0.4
NEST	**Nestorio**	**2.08**	**341**	P		**Pb**	03 44 34.5	-1.0
NEST	**Nestorio**	**2.08**	**341**	*e*Pg		**Pb**	03 44 35.1	-0.4
KYTH	**Kithira**	**2.33**	**158**	*e*PN		**Pn**	03 44 37.3	+1.3
KYTH	**Kithira**	**2.33**	**158**	*e*Pn		**Pn**	03 44 37.3	+1.3
FNA	**Florina**	**2.38**	**350**	P		**Pn**	03 44 36.7	0.0
FNA	**Florina**	**2.38**	**350**	P		**Pn**	03 44 36.7	0.0
SOH	**Sokhos**	**2.61**	**24**	*e*PB		**Pn**	03 44 39.9	0.0
BIA	**Bitola**	**2.62**	**350**	*i* Pn		**Pn**	03 44 41.5	+1.5
BIA				*e*Sn		**Sb**	03 45 15.2	-1.7
KNT	**Kendrikon**	**2.81**	**15**	*e*PN		**Pn**	03 44 42.4	-0.3
KNT	**Kendrikon**	**2.81**	**15**	*e*Pn		**Pn**	03 44 42.4	-0.3
VAY	**Valandovo**	**2.91**	**9**	*i* Pn		**Pn**	03 44 44.9	+0.9
VAY				*e*Sn		**Sb**	03 45 23.1	-2.3
VAY				*e*Lg	Lg		03 45 31.1	
	comp=E,167nm,2.0s							
VAY				*e*Lg	Lg		03 45 35.1	
	comp=N,79nm,1.2s							
SKO	**Skopje**	**3.54**	**354**	*i* Pn		**Pn**	03 44 53.5	+0.7
SKO				*e*Sn		**Sn**	03 45 36.7	+1.8
SKO				*e*Lg	Lg		03 45 39.0	
	comp=E,442nm,3.5s							
SKO				*e*Lg	Lg		03 45 39.7	
	comp=N,111nm,2.1s							
IDI	**Anoyia**	**3.94**	**142**	Pn		**Pn**	03 44 58.4	+0.2
	comp=N,1.7nm,0.3s,baz=300,slow=16,SNR=7.9							
IDI				Sn		**Sn**	03 45 42.1	-2.6
	comp=N,3.5nm,0.3s,baz=310,slow=20,SNR=6.1							
IVAS	**Ivanjica**	**5.30**	**346**	*e*Pn		**Pn**	03 45 18.5	+1.6
GRUS	**Gruza**	**5.52**	**351**	*e*Pn		**Pn**	03 45 21.3	+1.5
DIVS	**Divibare**	**5.84**	**346**	*e*Pn		**Pn**	03 45 24.9	+0.6
TRUS	**Trudelj**	**5.89**	**349**	*e*Pn		**Pn**	03 45 25.2	+0.3
TEKS	**Tekeris**	**6.36**	**344**	*e*Pn		**Pn**	03 45 30.8	-0.7
MLR	**Muntele Rosu**	**7.64**	**22**	Pn		**Pn**	03 45 51.5	+2.3
	baz=232,slow=18							
BRTR	**Keskin Array B**	**9.18**	**78**	Pn		**Pn**	03 46 11.6	+1.3
	comp=N,0.2nm,0.3s,baz=261,slow=14,SNR=6.7							
GNI	**Garni**	**17.72**	**77**	LR		LR	03 55 09.7	
	comp=N,27nm,18.2s,baz=120,slow=38							
ESDC	**Sonseca Array**	**20.14**	**282**	P		Pn	03 48 33.1	-0.7
	comp=N,0.3nm,0.6s,baz=92,slow=13,SNR=4.1							
HFS	**Hagfors**	**22.33**	**349**	P		**P**	03 48 55.3	0.0
	comp=N,2.9nm,0.9s,baz=181,slow=9.8,SNR=3.2							
FINES	**FINESS Array B**	**23.17**	**5**	P		**P**	03 49 04.7	+0.6
	comp=N,1.4nm,0.9s,baz=203,slow=18,SNR=2.9							
NB2	**NORSAR Subarra**	**23.59**	**347**	P		**P**	03 49 07.9	-0.6
	comp=Z,0.8nm,0.7s,baz=153,slow=10							
NB2	**NORSAR Subarra**	**23.59**	**347**	P		**P**	03 49 07.9	-0.6
	comp=Z,0.8nm,0.7s,SNR=4.3							
NOA	**NORSAR Array B**	**23.59**	**347**	P		**P**	03 49 08.3	-0.1
	comp=Z,1.4nm,0.8s,baz=154,slow=9.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**30.95**	**221**	P		**P**	03 50 14.8	-0.3
	comp=Z,0.4nm,0.6s,baz=34,slow=9.5,SNR=5.3							
MKAR	**Makanchi Array**	**44.21**	**59**	P		**P**	03 52 06.3	-0.6
	comp=Z,0.6nm,0.4s,baz=283,slow=7.2,SNR=11							
ZALV	**Zalesovo Beam**	**44.68**	**48**	P		**P**	03 52 10.6	+0.1
	comp=Z,0.5nm,0.4s,baz=273,slow=10.0,SNR=2.8							

*ISCJB **22** 03:48:23.3±0.6, 25°.21S±0°.09×176°.5W±0°.1, h33km, mb4.2/13, MS3.4/4, Error ellipse: s-maj=14.5km s-min=13.2km az=25.6*

*IDC **22** 03:48:25.9±0.8, 25°.19S×176°.55W, h46km±7km, mb3.7/8, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, ML4.4/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=27.6km s-min=20.2km az=133.0*

*NEIC **22** 03:48:25.3±0.4, 25°.15S×176°.43W, mb4.5/5, Error ellipse: s-maj=13.7km s-min=10.9km az=115.0*

ISC 22 03:48:25.0±0.5, 25°.17S±0°.09×176°.6W±0°.1, h35km, n67, σ1=20/57, mb4.2/13, MS3.4/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.25**	**196**	P		**Pn**		**03 49 28.8**	**+1.5**
RAO				S		Sn		03 50 03.5	-12
RAO	**Raoul Island**	**4.25**	**196**	P		**Pn**		**03 49 28.7**	**+1.5**
	97nm,0.3s,baz=116,slow=20,SNR=2.3								
RAO				S		Sn		03 50 03.5	-12
	192nm,0.3s,baz=101,slow=22,SNR=2.6								
AFI	**Afiamalu**	**12.07**	**23**	*e*Pn		Pn		03 51 07.9	-6.8
AFI				*e*Sn		Sn		03 53 13.4	-15
AFI	**Afiamalu**	**12.07**	**23**	P		Pn		03 51 08.2	-6.5
	24nm,0.3s,baz=120,slow=3.0,SNR=17								
AFI				S		Sn		03 53 13.7	-14
	11nm,0.3s,baz=44,slow=21,SNR=5.8								
URZ	**Urewera**	**14.12**	**201**	*e*Pn		**Pn**		**03 51 42.5**	**+0.1**
URZ				S		Sn		03 54 05.3	-13
URZ	**Urewera**	**14.12**	**201**	P		**Pn**		**03 51 42.0**	**-0.4**
	0.4nm,0.3s,baz=30,slow=20,SNR=3.0								
URZ				S		Sn		03 54 05.3	-13
	0.8nm,0.3s,baz=27,slow=18,SNR=1.3								
RAR	**Rarotonga**	**15.93**	**79**	P		Pn		03 51 58.0	-8.6
RAR	**Rarotonga**	**15.93**	**79**	P		Pn		03 51 58.0	-8.6
	2.0nm,0.3s,baz=245,slow=14,SNR=3.2								
TBI	**Tubuai**	**24.76**	**92**	*e*LR		LR		03 59 28.4	
	127nm,25.5s								
TBI	**Tubuai**	**24.76**	**92**	*e*T		T		04 18 48.8	
	39nm,0.3s								
PAE	**Paea**	**26.17**	**79**	*e*T		T		04 20 39.3	
	7.7nm,0.3s								
PPT2	**Papeete2**	**26.20**	**79**	*e*LR		LR		04 00 04.0	
	126nm,23.8s								
PPT2	**Papeete2**	**26.20**	**79**	*e*T		T		04 20 42.4	
	11nm,0.4s								
PPT	**Papeete**	**26.21**	**79**	LR		LR		04 03 48.7	
	comp=Z,76nm,18.2s,baz=267,slow=35								
TVO	**Taravao**	**26.42**	**79**	*e*T		T		04 20 58.0	
	2.1nm,0.3s								
MEH	**Mehetia**	**27.45**	**80**	*e*T		T		04 22 14.9	
	28nm,0.3s								
VAH	**Vaihoa**	**28.84**	**76**	*e*T		T		04 23 58.9	
	6.7nm,0.3s								
CTAO	**Charters Tower**	**34.62**	**271**	*e*P		**P**		**03 55 11.9**	**+0.8**
	4.3nm,0.6s								
STKA	**Stephens Creek**	**37.20**	**250**	LR		LR		04 09 45.6	
	comp=Z,50nm,19.1s,baz=27,slow=34								
RKT	**Rikitea**	**37.90**	**96**	*e*T		T		04 35 18.9	
	2.3nm,0.3s								
COEN	**Coen**	**39.41**	**279**	*e*P		**P**		**03 55 52.9**	**+1.1**
AS31	**Alice Springs**	**44.93**	**261**	*e*P		**P**		**03 56 37.9**	**+1.1**
ASAR	**Alice Springs**	**44.93**	**261**	P		**P**		**03 56 35.7**	**-1.1**
ASAR	**Alice Springs**	**44.93**	**261**	P		**P**		**03 56 35.7**	**-1.1**
	0.8nm,0.6s,baz=108,slow=8.6,SNR=4.2								
WRAB	**Tennant Creek**	**45.44**	**266**	*e*P		**P**		**03 56 42.5**	**+1.6**
	5.6nm,0.8s								
WRA	**Warramunga Arr**	**45.45**	**266**	P		**P**		**03 56 40.4**	**-0.5**
WRA	**Warramunga Arr**	**45.45**	**266**	P		**P**		**03 56 40.4**	**-0.5**
	1.3nm,0.6s,baz=102,slow=8.3,SNR=4.8								
WRA				LR		LR		04 15 16.8	
	comp=Z,40nm,18.2s,baz=40,slow=35								
VNDA	**Vanda**	**53.41**	**186**	P		**P**		**03 57 40.3**	**-0.5**
VNDA	**Vanda**	**53.41**	**186**	P		**P**		**03 57 40.3**	**-0.5**
	0.5nm,0.3s,baz=11,slow=5.2,SNR=4.9								
QSPA	**South Pole Qui**	**64.92**	**180**	*e*P		**P**		**03 59 00.7**	**-0.2**
	1.8nm,0.4s								
ASAJ	**Asahikawa**	**78.44**	**331**	LR		LR		04 28 47.4	
	comp=Z,26nm,20.8s,baz=60,slow=31								
H03N2	**Juan Fernandez**	**82.45**	**123**	T		T		05 31 32.4	
	baz=248,slow=74,SNR=58								
H03N3	**Juan Fernandez**	**82.45**	**123**	T		T		05 31 33.9	
	baz=248,slow=74,SNR=42								
H03N1	**Juan Fernandez**	**82.47**	**123**	T		T		05 31 34.9	
	baz=248,slow=74,SNR=39								
SNAA	**Sanae**	**83.33**	**178**	*e*P		**P**		**04 00 46.8**	**-1.2**
	5.3nm,1.2s								
NVAR	**Mina Array Bea**	**83.53**	**42**	P		**P**		**04 00 49.7**	**0.0**
NVAR				pP		**pP**		**04 01 03.4**	**+2.6**
NVAR	**Mina Array Bea**	**83.53**	**42**	P		**P**		**04 00 49.7**	**0.0**
	0.5nm,0.9s,baz=218,slow=11,SNR=3.6								
NVAR				pP		**pP**		**04 01 03.4**	**+2.6**
	0.9nm,0.7s,baz=226,slow=9.4,SNR=4.4								
PLCA	**Paso Flores**	**85.12**	**133**	P		**P**		**04 00 57.1**	**-0.6**
PLCA	**Paso Flores**	**85.12**	**133**	P		**P**		**04 00 57.1**	**-0.6**
	1.1nm,0.7s,baz=303,slow=5.9,SNR=3.9								
KULM	**Kulim**	**85.73**	**278**	*e*P		**P**		**04 01 00.4**	**-0.7**
	2.0nm,0.6s								
TXAR	**Lajitas Array**	**88.47**	**57**	P		**P**		**04 01 13.8**	**-0.4**
TXAR				pP		**pP**		**04 01 27.7**	**+2.4**
TXAR	**Lajitas Array**	**88.47**	**57**	P		**P**		**04 01 13.8**	**-0.4**
	0.7nm,0.9s,baz=207,slow=6.9,SNR=5.3								
TXAR				pP		**pP**		**04 01 27.7**	**+2.4**
	0.3nm,0.7s,baz=214,slow=7.6,SNR=2.8								
PDAR	**Pinedale Array**	**91.46**	**43**	P		**P**		**04 01 27.8**	**-0.2**
PDAR				pP		**pP**		**04 01 40.2**	**+1.2**
PDAR	**Pinedale Array**	**91.46**	**43**	P		**P**		**04 01 27.8**	**-0.2**
	0.3nm,0.4s,baz=187,slow=5.4,SNR=3.1								
PDAR				pP		**pP**		**04 01 40.2**	**+1.2**
	0.9nm,0.8s,baz=278,slow=2.6,SNR=3.2								
CMAR	**Chiang Mai Arr**	**92.90**	**289**	P		**P**		**04 01 36.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**92.90**	**289**	P		**P**		**04 01 36.1**	**+1.3**
	0.9nm,0.3s,baz=144,slow=3.2,SNR=4.6								
YKA	**Yellowknife Ar**	**100.18**	**25**	P		**Pdif**		**04 02 06.1**	**-0.7**
YKA	**Yellowknife Ar**	**100.18**	**25**	P		**Pdif**		**04 02 06.1**	**-0.7**
	0.1nm,0.8s,baz=246,slow=4.7,SNR=3.7								
MK31	**Makanchi Array**	**115.32**	**312**	*e*PKPdf		**PKPdf**		**04 07 01.3**	**-1.5**
MKAR	**Makanchi Array**	**115.32**	**312**	PKP		**PKPdf**		**04 07 01.4**	**-1.4**
MKAR	**Makanchi Array**	**115.32**	**312**	PKP		**PKPdf**		**04 07 01.4**	**-1.4**
	0.5nm,0.5s,baz=172,slow=2.0,SNR=6.8								
KURK	**Kurchatov**	**118.28**	**316**	PKP		**PKPdf**		**04 07 06.5**	**-1.8**
KURBB	**Kurchatov Arra**	**118.33**	**316**	PKP		**PKPdf**		**04 07 06.5**	**-1.9**
	0.5nm,0.5s,baz=108,slow=2.0,SNR=5.7								
TKM2	**Tokmak 2**	**119.40**	**307**	*e*PKPdf		**PKPdf**		**04 07 09.6**	**-1.4**
AAK	**Ala-Archa**	**120.17**	**306**	*e*PKPdf		**PKPdf**		**04 07 11.3**	**-1.2**
BVAR	**Borovoye Array**	**123.46**	**318**	PKP		**PKPdf**		**04 07 17.1**	**-1.1**
BVAR	**Borovoye Array**	**123.46**	**318**	PKP		**PKPdf**		**04 07 17.2**	**-1.1**
	0.7nm,0.5s,baz=329,slow=1.7,SNR=3.1								
BRVK	**Borovoye**	**123.52**	**318**	*e*PKPdf		**PKPdf**		**04 07 16.5**	**-1.9**
NOA	**NORSAR Array B**	**143.75**	**354**	PKP		PKPab		04 07 52.7	0.0
NOA	**NORSAR Array B**	**143.75**	**354**	PKP		PKPab		04 07 52.7	0.0
	1.3nm,0.7s,baz=28,slow=5.5,SNR=3.7								
HFS	**Hagfors**	**144.33**	**351**	PKP		**PKPab**		**04 07 54.3**	**-0.6**
HFS	**Hagfors**	**144.33**	**351**	PKP		**PKPab**		**04 07 54.3**	**-0.6**
	2.6nm,0.5s,baz=72,slow=4.7,SNR=27								
BR131	**Keskin Array S**	**150.84**	**307**	*e*PKPbc		**PKPbc**		**04 08 13.1**	**-1.0**
BR131				*e*PKPab		**PKPab**		**04 08 20.6**	**-0.8**
BRTR	**Keskin Array B**	**150.84**	**307**	PKPbc		**PKPbc**		**04 08 13.3**	**-0.8**
BRTR				PKPab		**PKPab**		**04 08 20.9**	**-0.4**
BRTR	**Keskin Array B**	**150.84**	**307**	PKPbc		**PKPbc**		**04 08 13.4**	**-0.8**
	1.0nm,0.6s,baz=136,slow=4.3,SNR=8.7								
BRTR				PKPab		**PKPab**		**04 08 21.0**	**-0.4**
	1.1nm,0.6s,baz=114,slow=3.4,SNR=5.6								
MMAI	**Mount Meron Ar**	**151.08**	**293**	PKPbc		**PKPbc**		**04 08 15.6**	**+0.8**
MMAI				PKPab		**PKPab**		**04 08 21.9**	**-0.6**
MMAI	**Mount Meron Ar**	**151.08**	**293**	PKPbc		**PKPbc**		**04 08 15.6**	**+0.8**
	1.6nm,0.6s,baz=69,slow=7.9,SNR=3.9								
MMAI				PKPab		**PKPab**		**04 08 21.9**	**-0.6**
	2.9nm,0.5s,baz=82,slow=6.1,SNR=16								

*DJA **22** 03:48:51.8±2.6, 6°.5S±18°.1×14°.7E±2°.1, h61km±15km, M5.0/9, mb5.0/9, mB5.5/3, MLv4.9/1, Mw(mB)5.0/3*

*ISCJB **22** 03:48:52.2±0.4, 6°.01S±0°.04×146°.53E±0°.06, h100km, mb4.3/25, Error ellipse: s-maj=9.1km s-min=5.0km az=168.6*

*IDC **22** 03:48:55.5±0.7, 6°.1S×146°.59E, h118km±5km, mb4.0/12, mb1 4.2/15, mb1mx4.1/20, mbtmp4.4/15, MS3.0/1, Ms1 3.0/1, ms1mx2.5/31, Error ellipse: s-maj=19.9km s-min=8.3km az=90.0*

*NEIC **22** 03:48:55.0±0.9, 6°.03S×146°.49E, h113km±8km, mb4.4/15, Error ellipse: s-maj=10.3km s-min=6.4km az=71.0*

ISC 22 03:48:54.7±0.5, 6°.11S±0°.05×146°.53E±0°.07, h100km, n83, σ1=70/99, mb4.5/25, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**169**	P		x		03 49 46.0	
PMG	**Port Moresby**	**3.34**	**169**	P		**Pn**		**03 49 45.8**	**+0.8**
PMG				S		**Sn**		**03 50 23.8**	**-0.1**
PMG	**Port Moresby**	**3.34**	**169**	P		**Pn**		**03 49 45.8**	**+0.8**
	147nm,0.3s,baz=341,slow=5.4,SNR=302								
PMG				S		**Sn**		**03 50 23.8**	**-0.1**
	48nm,0.3s,baz=301,slow=21,SNR=3.4								
PMG				LR		LR		03 51 01.7	
	comp=Z,252nm,20.5s,baz=76,slow=38								
PMG	**Port Moresby**	**3.34**	**169**	P		**Pn**		**03 49 45.8**	**+0.8**
	baz=3.6,SNR=200								
JAY	**Jayapura**	**6.82**	**301**	P		**Pn**		**03 50 32.2**	**0.0**
JAY	**Jayapura**	**6.82**	**301**	P		**Pn**		**03 50 32.2**	**0.0**
	4.8nm,0.3s,baz=157,slow=1.2,SNR=6.2								
COEN	**Coen**	**8.47**	**203**	*e*Pn		**Pn**		**03 50 55.8**	**+1.1**
COEN				*e*Sn		**Sn**		**03 52 27.3**	**-1.3**
COEN	**Coen**	**8.47**	**203**	P		**Pn**		**03 50 56.1**	**+1.5**
	baz=8.8,SNR=149								
CTA	**Charters Tower**	**13.90**	**181**	P		**P**		**03 52 12.0**	**-0.3**
CTA	**Charters Tower**	**13.90**	**181**	P		**P**		**03 52 12.0**	**-0.3**
	8.8nm,0.3s,baz=0.4,slow=14,SNR=35								
CTAO	**Charters Tower**	**13.90**	**181**	*e*Pn		**P**		**03 52 11.7**	**-0.6**
	64nm,0.8s								
FAKI	**Fak Fak**	**14.58**	**282**	P		**Pn**		**03 52 17.1**	**+0.8**
	baz=15,SNR=8.6								
KDU	**Kakadu**	**15.33**	**244**	P		**Pn**		**03 52 24.4**	**-1.2**
	baz=16,SNR=36								
QIS	**Mount Isa**	**15.86**	**204**	P		**Pn**		**03 52 34.1**	**+1.8**
	baz=

TORD Torodi Ar. Bea 144.66 284 PKP **PKPab 04 08 19.0 -0.6**
8.3nm,0.7s,baz=75,slow=3.7,SNR=57
TORD pPKP **pPKPdf 04 08 49.9 +1.6**
0.9nm,0.6s,baz=78,slow=1.9,SNR=1.9
KIC Kosan Boka 151.44 272 *e*PKIKP **PKPbc 04 08 37.9 -0.2**
12nm,0.7s
DBIC Dimbokro 151.56 273 PKPbc **PKPbc 04 08 37.9 -0.5**
DBIC Dimbokro 151.56 273 PKPbc **PKPbc 04 08 37.9 -0.5**
5.1nm,0.6s,baz=90,slow=1.8,SNR=18
TIC Toumodi 151.72 273 *e*PKIKP **PKPbc 04 08 38.4 -0.3**
LIC Lamto 151.72 272 *e*PKIKP **PKPbc 04 08 38.4 -0.3**
25nm,0.6s

NNC 22 03:52:24.8±4.8, 37°.73N×71°.65E, *h*0km, mb 3.6, mpv 3.4, 4C-2D, Error ellipse: s-maj=38.7km s-min=30.6km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.36**	**23**	⇑*P*	Pn	03 53 46.8	+0.5
	1.9nm,0.4s						
AAK				⇑*S*	Sn	03 54 50.7	+1.8
	3.8nm,0.5s						
KK31	**Karatay Array**	**5.44**	**351**	⇓*P*	Pn	03 53 48.7	+1.5
	3.4nm,0.5s,baz=156,slow=11,SNR=58						
KK31				⇑*S*	Sn	03 54 51.3	+0.8
	0.5nm,0.2s,baz=158,slow=16,SNR=11						
TKM2	**Tokmak 2**	**6.00**	**29**	⇓*P*	Pn	03 53 54.0	-1.1
	1.8nm,0.7s						
TKM2				⇑*S*	Sn	03 55 04.9	+0.1
	0.9nm,0.8s						
AB31	**Akbulak array**	**14.29**	**327**	*P*	Pn	03 55 45.0	-3.4
	0.1nm,0.3s,baz=134,slow=14,SNR=8.1						

NIED ***22*** *04:02:00, 27°.90N×127°.60E, h150km, Mw 4.1 Best double couple: M0 1.64000×10^15 NP1: ϕ=283.00000°, δ=39.00000°, λ=-64.00000°. NP2: ϕ=71.00000°, δ=55.00000°, λ=-110.00000°.*

ISCJB ***22*** *04:02:08.1±0.4, 27°.79N±0°.04×127°.65E±0°.06, h145km±4km, mb 3.8/14, Error ellipse: s-maj=10.2km s-min=5.1km az=34.5*

JMA ***22*** *04:02:09.8±0.2, 27°.89N×127°.59E, h125km±4km, M4.0*

IDC ***22*** *04:02:10.7±0.8, 27°.88N×127°.54E, h156km±7km, mb 3.6/14, mb1 3.8/16, mb1mx3.7/30, mbtmp4.0/16, Error ellipse: s-maj=16.3km s-min=11.0km az=85.0*

ISC 22 04:02:09.5±0.6, 27.77N±0°.05×127.68E±0°.06, h146km±5km, n29, σ1°9 20/49, mb 3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.78**	**161**	*P*	**Pn**	**04 02 31.8**	**-0.3**
JIH				*S*	**Sn**	**04 02 48.3**	**-1.1**
JOW	**Kunigami**	**1.07**	**150**	*P*	**Pn**	**04 02 34.5**	**-0.1**
JOW				*S*	**Sn**	**04 02 53.0**	**-0.7**
JTK	**Tokunoshima**	**1.12**	**89**	*P*	**Pn**	**04 02 34.5**	**-0.5**
JTK				*S*	**Sn**	**04 02 52.9**	**-1.6**
JAGN	**Aguni-jima**	**1.24**	**199**	*P*	**Pn**	**04 02 35.9**	**-0.2**
JAGN				*S*	**Sn**	**04 02 54.9**	**-1.6**
JAMN	**Amaminishikomi**	**1.40**	**70**	*P*	**Pn**	**04 02 37.0**	**-0.7**
JAMN				*S*	**Sn**	**04 02 57.7**	**-1.6**
JJT2	**Tamagusuku 2**	**1.63**	**178**	*P*	**Pn**	**04 02 40.9**	**+0.7**
JJT2				*S*	**Sn**	**04 03 03.5**	**-0.1**
JKE	**Kume jima 2**	**1.65**	**209**	*P*	**Pn**	**04 02 39.9**	**-0.5**
JKE				*S*	**Sn**	**04 03 02.3**	**-1.7**
JAM	**Amami Oshima**	**1.81**	**69**	*P*	**Pn**	**04 02 41.7**	**-0.5**
JAM				*S*	**Sn**	**04 03 05.6**	**-1.7**
JZK	**Kikaishima**	**2.10**	**75**	*P*	**Pn**	**04 02 46.0**	**+0.5**
JZK				*eS*	**Sn**	**04 03 13.4**	**+0.2**
JNN	**Nakanoshima**	**2.82**	**42**	*P*	**Pn**	**04 02 54.2**	**-0.2**
JMZ	**Minamidaito 2**	**3.71**	**121**	*P*	**Pn**	**04 03 06.3**	**+0.4**
JMZ				*S*	**Sn**	**04 03 47.1**	**-2.5**
JTN	**Tanegashima 3**	**4.07**	**44**	*P*	**Pn**	**04 03 10.0**	**-0.5**
JTN				*S*	**Sn**	**04 03 56.8**	**-1.2**
JNU	**Nakatsue**	**6.00**	**27**	*P*	**Pn**	**04 03 37.1**	**+0.9**
	2.9nm,0.3s,baz=201,slow=10.0,SNR=18						
JNU				*S*	**Sn**	**04 04 45.5**	**+1.4**
	0.3nm,0.3s,baz=294,slow=0.2,SNR=2.0						
KSRS	**Korea Array**	**9.66**	**1**	*P*	**Pn**	**04 04 25.1**	**+0.2**
	0.2nm,0.3s,baz=179,slow=13,SNR=6.9						
SONM	**Songino Array**	**26.00**	**326**	*P*	**P**	**04 07 29.5**	**+0.8**
	6.1nm,0.9s,baz=139,slow=11,SNR=32						
SONM				*pP*	**pP**	**04 08 01.7**	**+2.3**
	1.5nm,0.9s,baz=118,slow=12,SNR=2.9						
SONM				*PcP*	**PcP**	**04 10 53.8**	**+0.7**
	0.2nm,0.3s,baz=163,slow=3.9,SNR=3.2						
MKAR	**Makanchi Array**	**40.15**	**311**	*P*	**P**	**04 09 29.7**	**-1.4**
	1.4nm,0.7s,baz=94,slow=9.2,SNR=16						
MKAR				*pP*	**pP**	**04 10 03.8**	**+0.5**
	0.9nm,0.8s,baz=106,slow=10,SNR=3.5						
MKAR				*PcP*	**PcP**	**04 11 32.3**	**-0.2**
	0.6nm,0.4s,baz=90,slow=2.7,SNR=9.4						
ZALV	**Zalesovo Beam**	**40.73**	**322**	*P*	**P**	**04 09 33.9**	**-1.8**
	0.9nm,0.4s,baz=116,slow=10,SNR=5.4						
ZALV				*pP*	**pP**	**04 10 08.3**	**+0.4**
	0.5nm,0.4s,baz=116,slow=10,SNR=1.5						
ZALV				*PcP*	**PcP**	**04 11 33.0**	**-1.2**
	0.7nm,0.3s,baz=83,slow=4.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**43.41**	**315**	*P*	**P**	**04 09 55.5**	**-2.0**
	0.6nm,0.4s,baz=103,slow=8.9,SNR=4.1						
KURBB				*PcP*	**PP**	**04 11 41.7**	**+0.5**
	0.4nm,0.5s,baz=124,slow=3.6,SNR=5.8						
WRA	**Warramunga Arr**	**47.87**	**172**	*P*	**P**	**04 10 34.0**	**+1.2**
	0.9nm,0.6s,baz=354,slow=8.6,SNR=10						
WRA				*pP*	**pP**	**04 11 07.5**	**+1.6**
	0.5nm,0.6s,baz=353,slow=8.5,SNR=2.7						
ASAR	**Alice Springs**	**51.49**	**173**	*P*	**P**	**04 11 01.6**	**+1.5**
	0.7nm,0.5s,baz=0.8,slow=14,SNR=13						
STKA	**Stephens Creek**	**60.78**	**166**	*P*	**P**	**04 12 07.2**	**+1.4**
	0.9nm,0.4s,baz=360,slow=13,SNR=3.0						
ILAR	**Eielson Array**	**63.32**	**29**	*P*	**P**	**04 12 21.3**	**-1.2**
	0.5nm,0.9s,baz=273,slow=4.9,SNR=14						
INK	**Inuvik**	**67.67**	**23**	*P*	**P**	**04 12 50.0**	**-0.4**
	1.2nm,0.7s,baz=282,slow=5.2,SNR=5.9						
FINES	**FINESS Array B**	**71.29**	**330**	*P*	**P**	**04 13 10.2**	**-2.4**
	8.6nm,1.0s,baz=36,slow=13,SNR=2.7						
YKA	**Yellowknife Ar**	**77.34**	**25**	*P*	**P**	**04 13 47.6**	**0.0**
	1.2nm,0.4s,baz=305,slow=5.8,SNR=51						
NEW	**Newport**	**84.68**	**37**	*P*	**P**	**04 14 27.6**	**+0.8**
	2.9nm,1.1s,baz=330,slow=9.1,SNR=3.5						
NVAR	**Mina Array Bea**	**89.79**	**46**	*P*	**P**	**04 14 53.5**	**+1.6**
	0.5nm,0.6s,baz=285,slow=6.4,SNR=3.6						
PDAR	**Pinedale Array**	**92.26**	**38**	*P*	**P**	**04 15 03.5**	**+0.3**
	1.1nm,0.7s,baz=107,slow=1.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**113.73**	**301**	PKiKP	**PKiKP**	**04 20 30.4**	**-0.9**
	0.1nm,0.5s,baz=123,slow=2.1,SNR=4.6						

ISCJB ***22*** *04:05:40.6±0.2, 51°.27N±0°.01×19°.02E±0°.02, h0km, mb 3.4/6, MS2.8/1, Error ellipse: s-maj=2.0km s-min=1.8km az=13.3*

MOS ***22*** *04:05:41.3±1.4, 51°.38N×19°.06E, h10km, mb 3.9/2, Error ellipse: s-maj=7.4km s-min=4.7km az=81.0*

IPEC ***22*** *04:05:42.9±0.4, 51°.16N×19°.02E, h0km±2km, ML 4.2/3, Error ellipse: s-maj=2.0km s-min=1.3km az=28.0, Mining induced.*

CSEM ***22*** *04:05:42.3±0.1, 51°.27N×19°.04E, h1km, ML 4.7/6, Error ellipse: s-maj=3.4km s-min=2.6km az=8.0, Mining induced.*

LDG ***22*** *04:05:42.1±0.2, 51°.18N×19°.09E, h1km, Ml 4.7/15, Error ellipse: s-maj=5.0km s-min=1.9km az=11.0, Suspected Mining induced.*

BGR ***22*** *04:05:43.4±0.6, 51°.04N×19°.09E, h1km, ML 4.7/6, Error ellipse: s-maj=14.5km s-min=5.6km az=169.0*

PRU ***22*** *04:05:43.8, 51°.19N×18°.98E, h0km, Strong Rockburst In Belchatow Mining induced.*

IDC ***22*** *04:05:43.6±0.6, 51°.18N×19°.05E, h0km, mb 3.4/5, mb1 3.6/14, mb1mx3.5/31, mbtmp3.5/14, ML 3.5/8, MS 3.0/8, Ms1 3.0/8, ms1mx2.7/35, Error ellipse: s-maj=8.4km s-min=6.6km az=121.0*

VIE ***22*** *04:05:43.7, 51°.23N×18°.94E, h0km, mb 3.4, ML 3.6, Suspected Mining induced.*

UPP ***22*** *04:05:46.1, 51°.45N×18°.85E, h0km, ML 2.5, Mining explosion.*

ISC 22 04:05:41.8±0.5, 51°.22N±0°.02×19°.06E±0°.02, h0km, n265, σ1°6 2/323, mb 3.4/6, 28C-20D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.93**	**183**	*eP*x	**Pg**	**04 06 01.2**	**+1.5**
CHZP				*eP*g	**Pn**	**04 06 01.8**	**-0.4**
CHZP				*eS*g	**Sn**	**04 06 15.1**	**-1.1**
BEL	**Belsk**	**1.25**	**60**	*eP*	**Pn**	**04 06 07.2**	**+0.7**
BEL				*e*		04 06 27.3	
BEL	**Belsk**	**1.25**	**60**	*eP*n	**Pn**	**04 06 07.1**	**+0.6**
BEL				*eP*g	**Pn**	**04 06 07.9**	**+1.5**
BEL				*eS*g	**Sn**	**04 06 27.2**	**+3.3**
BEL	**Belsk**	**1.25**	**60**	*eP*	**Pn**	**04 06 07.2**	**+0.7**
BEL	**Belsk**	**1.25**	**60**	*eP*g	**Pn**	**04 06 08.0**	**+1.5**
RAC	**Raciborz**	**1.27**	**206**	*eP*	**Pn**	**04 06 07.5**	**+0.8**
RAC				*e*		04 06 25.6	
RAC	**Raciborz**	**1.27**	**206**	*eP*g	**Pn**	**04 06 07.5**	**+0.8**
RAC				*eS*g	**Sn**	**04 06 25.6**	**+1.2**
OKC	**Ostrava-Krasne**	**1.50**	**203**	*eP*	**Pg**	**04 06 10.8**	**+0.2**
OKC				*e*		04 06 30.7	
OKC				smax	smax		
	comp=N,1μm,0.7s						
OKC	**Ostrava-Krasne**	**1.50**	**203**	*eP*G	**Pg**	**04 06 10.8**	**+0.2**
OKC				*eSG*	**Sn**	**04 06 30.7**	**+0.4**
	comp=N,1μm,0.7s						
OKC	**Ostrava-Krasne**	**1.50**	**203**	Pg	**Pg**	**04 06 10.8**	**+0.2**
OKC				Sg	**Sn**	**04 06 30.7**	**+0.4**
	comp=N,1μm,0.7s						
MORC	**Moravsky Berou**	**1.74**	**214**	⇓*iP*		**04 06 14.3**	**-0.4**
MORC	**Moravsky Berou**	**1.74**	**214**	*eP*n	**Pn**	**04 06 13.7**	**+0.4**
MORC	**Moravsky Berou**	**1.74**	**214**	⇓*iP*	**Pb**	**04 06 14.3**	**-0.4**
KSP	**Ksiaz**	**1.79**	**259**	*eP*	**Pn**	**04 06 13.6**	**-0.3**
KSP				*e*		04 06 40.9	
KSP	**Ksiaz**	**1.79**	**259**	*eP*n	**Pn**	**04 06 13.9**	**0.0**
KSP				*eP*b	**Pb**	**04 06 15.5**	**+0.1**
KSP				*eP*g	**Pg**	**04 06 17.7**	**+1.6**
KSP				*eS*g	**Sg**	**04 06 40.9**	**+1.7**
KSP	**Ksiaz**	**1.79**	**259**	*eP*n	**Pn**	**04 06 13.6**	**-0.3**
KSP				*eS*g	**Sg**	**04 06 40.9**	**+1.7**
DPC	**Dobruska-Polom**	**1.94**	**244**	*eP*	**Pn**	**04 06 16.7**	**+0.6**
DPC				*e*		04 06 44.6	
DPC	**Dobruska-Polom**	**1.94**	**244**	*eP*G	**Pn**	**04 06 16.7**	**+0.6**
DPC				*eSG*	**Sg**	**04 06 44.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.94**	**244**	Pg	**Pn**	**04 06 16.7**	**+0.6**
DPC				Sg	**Sg**	**04 06 44.6**	**+0.4**
NIE	**Niedzica**	**1.98**	**156**	*eP*	**Pn**	**04 06 17.6**	**+1.1**
NIE				*e*		04 06 47.9	
NIE	**Niedzica**	**1.98**	**156**	*eP*n	**Pn**	**04 06 17.6**	**+1.1**
NIE				*eP*g	**Pn**	**04 06 20.4**	**+0.8**
NIE				*eS*g	**Sg**	**04 06 47.9**	**+2.7**
NIE	**Niedzica**	**1.98**	**156**	*eP*n	**Pn**	**04 06 17.6**	**+1.1**
STHS	**Stebnicka Huta**	**2.29**	**141**	*eP*	**Pn**	**04 06 21.7**	**+0.9**
STHS				pmax	pmax		
	comp=N,560nm,0.7s						
STHS	**Stebnicka Huta**	**2.29**	**141**	*eP*N	**Pn**	**04 06 21.6**	**+0.8**
STHS				*e*		04 06 29.1	
STHS				*e*		04 07 02.5	
STHS	**Stebnicka Huta**	**2.29**	**141**	*eP*	**Pn**	**04 06 21.7**	**+0.9**
	comp=N,560nm,0.7s						
GKP	**Gorka Klasztor**	**2.34**	**332**	*eP*	**Pn**	**04 06 22.6**	**+1.1**
GKP	**Gorka Klasztor**	**2.34**	**332**	*eP*n	**Pn**	**04 06 22.6**	**+1.1**
GKP				*eP*b	**Pb**	**04 06 25.0**	**+0.2**
GKP				*eP*g	**Pg**	**04 06 28.8**	**+2.2**
GKP				*eS*g	**Sg**	**04 06 59.0**	**+2.1**
GKP	**Gorka Klasztor**	**2.34**	**332**	*eP*n	**Pn**	**04 06 22.6**	**+1.1**
VRAC	**Vranov**	**2.48**	**221**	⇑*iP*	**Pb**	**04 06 25.6**	**-1.7**
VRAC	**Vranov**	**2.48**	**221**	Pn	**Pn**	**04 06 24.6**	**+1.1**
	comp=N,9.6nm,0.3s,baz=37,slow=13,SNR=53						
VRAC				Pg	**Pg**	**04 06 32.0**	**+2.6**
	comp=N,44nm,0.3s,baz=38,slow=15,SNR=68						
VRAC				Lg	Lg	04 07 01.6	
	comp=N,55nm,0.3s,baz=322,slow=19,SNR=11						
VRAC	**Vranov**	**2.48**	**221**	*eP*n	**Pn**	**04 06 24.2**	**+0.7**
VRAC	**Vranov**	**2.48**	**221**	P	**Pn**	**04 06 24.6**	**+1.1**
	comp=N,10.0nm,0.3s						
KRUC	**Moravsky**	**2.76**	**219**	*eP*n	**Pn**	**04 06 27.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.79**	**145**	*eP*	**Pn**	**04 06 28.5**	**+0.8**
CRVS				*e*		04 07 13.8	
CRVS				pmax	pmax		
	comp=N,262nm,0.8s						
CRVS	**Cervenica-Dubn**	**2.79**	**145**	*eP*N	**Pn**	**04 06 28.5**	**+0.8**
CRVS				*e*		04 06 36.5	
CRVS	**Cervenica-Dubn**	**2.79**	**145**	*eSG*	**Sg**	**04 07 13.8**	**+2.4**
CRVS	**Cervenica-Dubn**	**2.79**	**145**	*eP*	**Pn**	**04 06 28.5**	**+0.8**
CRVS				*eSg*	**Sg**	**04 07 13.8**	**+2.4**
KWP	**Kalwaria Pacla**	**2.82**	**123**	*eP*	**Pn**	**04 06 29.1**	**+0.9**
KWP	**Kalwaria Pacla**	**2.82**	**123**	*eP*n	**Pn**	**04 06 29.0**	**+0.9**
KWP				*eP*b	**Pb**	**04 06 34.4**	**+1.3**
KWP				*eP*g	**Pg**	**04 06 37.1**	**+1.2**
KWP				*eS*g	**Sg**	**04 07 13.7**	**+1.2**
KWP				*eSS*	SS	04 07 23.1	
KWP	**Kalwaria Pacla**	**2.82**	**123**	⇑*iP*	**Pn**	**04 06 29.1**	**+0.9**
KWP	**Kalwaria Pacla**	**2.82**	**123**	*eP*	**Pn**	**04 06 29.1**	**+0.9**
SMOL	**Smolenice**	**2.91**	**202**	*eP*	**Pn**	**04 06 30.7**	**+1.4**
SMOL				*e*		04 07 06.1	
SMOL	**Smolenice**	**2.91**	**202**	*eP*N	**Pn**	**04 06 30.7**	**+1.4**
SMOL				*e*		04 06 39.5	
SMOL	**Smolenice**	**2.91**	**202**	*eSN*	**Sn**	**04 07 06.1**	**+1.1**
SMOL	**Smolenice**	**2.91**	**202**	*eP*n	**Pn**	**04 06 30.7**	**+1.4**
SMOL				*eSn*	**Sn**	**04 07 06.1**	**+1.1**
TREC	**Trest**	**3.00**	**231**	*eP*	**Pn**	**04 06 31.3**	**+0.7**
TREC				*e*		04 07 17.3	
TREC				smax	smax		
	comp=N,586nm,0.7s						
TREC	**Trest**	**3.00**	**231**	*eP*N	**Pn**	**04 06 31.3**	**+0.7**
TREC				*eP*G	**Pb**	**04 06 37.1**	**+1.1**
TREC				*eSG*	**Sg**	**04 07 17.3**	**-0.7**
	comp=N,586nm,0.7s						
TREC	**Trest**	**3.00**	**231**	Pn	**Pn**	**04 06 31.3**	**+0.7**
KOLS	**Kolonicke sedl**	**3.09**	**137**	*eP*	**Pn**	**04 06 32.3**	**+0.5**
KOLS				*e*		04 07 20.2	
KOLS				pmax	pmax		
	comp=N,724nm,1.4s						
KOLS	**Kolonicke sedl**	**3.09**	**137**	*eP*N	**Pn**	**04 06 32.3**	**+0.5**
KOLS				*e*		04 06 40.8	
KOLS	**Kolonicke sedl**	**3.09**	**137**	*eSG*	**Sg**	**04 07 20.2**	**-0.7**
KOLS	**Kolonicke sedl**	**3.09**	**137**	*eP*n	**Pn**	**04 06 32.3**	**+0.5**
KOLS				*eSg*	**Sg**	**04 07 20.2**	**-0.7**
PRU	**Pruhonice**	**3.13**	**249**	*eP*	**Pn**	**04 06 32.5**	**+0.1**
PRU	**Pruhonice**	**3.13**	**249**	*eP*N	**Pn**	**04 06 32.5**	**+0.1**
PRU				*eP*G	**Pb**	**04 06 39.2**	**+0.9**
PRU				*eSG*	**Sg**	**04 07 22.2**	**-0.2**
	comp=N,320nm,0.7s						
PRU	**Pruhonice**	**3.13**	**249**	Pn	**Pn**	**04 06 32.5**	**+0.1**
PRA	**Prague**	**3.16**	**250**	PN	**Pn**	**04 06 33.0**	**+0.2**
BRG	**Berggiesshubel**	**3.25**	**266**	PN	**Pn**	**04 06 35.0**	**+1.0**
	comp=N,6.0nm,0.7s						
BRG				PG	**Pg**	**04 06 45.5**	**+1.5**
	comp=N,110nm,0.6s						
BRG				SG	**Sg**	**04 07 26.4**	**+0.3**
	comp=N,742nm,0.8s						
BRG	**Berggiesshubel**	**3.25**	**266**	*eP*n	**Pn**	**04 06 35.3**	**+1.3**
BRG				*eSg*	**Sg**	**04 07 27.2**	**+1.1**
BRG	**Berggiesshubel**	**3.25**	**266**	P	**Pn**	**04 06 35.0**	**+1.0**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**3.25**	**266**	P	**Pn**	**04 06 35.0**	**+1.0**
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**3.25**	**266**	Pn	**Pn**	**04 06 35.3**	**+1.3**
BRG				Sg	**Sg**	**04 07 27.2**	**+1.1**
UZH	**Uzhgorod**	**3.33**	**140**	*eP*	**Pn**	**04 06 35.5**	**+0.4**
UZH				*eS*	**Sn**	**04 07 15.9**	**+0.6**
UZH				MLR	MLR		
	comp=N,220nm,1.0s						
UZH				MLR	MLR		
	comp=E,370nm,1.0s						
UZH				MLR	MLR		
	comp=Z,280nm,1.0s						
UZH	**Uzhgorod**	**3.33**	**140**	*eP*	**Pn**	**04 06 35.5**	**+0.4**
UZH				*eS*	**Sn**	**04 07 15.9**	**+0.6**
PSZ	**Piszkesteto**	**3.35**	**170**	⇑*iP*	**Pn**	**04 06 37.1**	**+1.6**
PSZ	**Piszkesteto**	**3.35**	**170**	*e*	**Pn**	**04 06 36.4**	**+0.9**
PSZ	**Piszkesteto**	**3.35**	**170**	⇑*iP*	**Pn**	**04 06 37.1**	**+1.6**
LVV	**L'vov**	**3.47**	**112**	*eP*	**Pn**	**04 06 38.5**	**+1.5**
LVV				*eS*	**Sn**	**04 07 21.3**	**+2.5**
LVV				MLR	MLR		
	comp=Z,730nm,2.0s						
LVV	**L'vov**	**3.47**	**112**	*eP*	**Pn**	**04 06 38.5**	**+1.5**
	comp=Z,730nm,2.0s						
LVV				*eS*	**Sn**	**04 07 21.3**	**+2.5**
FBE	**Freiberg**	**3.61**	**267**	*eP*n	**Pn**	**04 06 41.2**	**+2.2**
FBE				*eSg*	**Sg**	**04 07 38.9**	**+1.1**
FBE	**Freiberg**	**3.61**	**267**	Pn	**Pn**	**04 06 41.2**	**+2.2**
FBE				Sg	**Sg**	**04 07 38.9**	**+1.1**
SUW	**Suwalki**	**3.76**	**40**	*eP*	**Pn**	**04 06 41.5**	**+0.5**
SUW	**Suwalki**	**3.76**	**40**	*eP*n	**Pn**	**04 06 41.4**	**+0.5**
SUW				*ePP*	**PbPb**	**04 06 51.5**	**-0.6**
SUW				*eP*g	Pg	04 06 57.7	+3.9
SUW				*eS*n	**Sn**	**04 07 26.3**	**+0.4**
SUW				*eS*g	**Sg**	**04 07 45.2**	**+2.7**
SUW	**Suwalki**	**3.76**	**40**	*eP*	**Pn**	**04 06 41.5**	**+0.5**
SUW				*eSn*	**Sn**	**04 07 26.4**	**+0.5**
CLL	**Collm**	**3.81**	**274**	*ePn*	**Pn**	**04 06 43.6**	**+2.0**
CLL	**Collm**	**3.81**	**274**	*eP*	**Pn**	**04 06 44.0**	**+2.3**
CLL	**Collm**	**3.81**	**274**	*ePn*	**Pn**	**04 06 44.0**	**+2.3**
CLL				*ePg*	**Pg**	**04 06 55.0**	**+0.3**
CLL				*eSn*	**Sb**	**04 07 39.0**	**+2.6**
CLL				*eSg*	**Sg**	**04 07 48.0**	**+4.0**
	comp=Z,400nm,0.8s						
CLL				*e*		04 08 11.0	
CLL	**Collm**	**3.81**	**274**	Pn	**Pn**	**04 06 43.6**	**+2.0**
TRPA	**Tarpa**	**3.83**	**143**	⇑*iP*	**Pn**	**04 06 41.8**	**-0.2**
TRPA	**Tarpa**	**3.83**	**143**	*e*	**Pn**	**04 06 41.5**	**-0.5**
TRPA	**Tarpa**	**3.83**	**143**	⇑*iP*	**Pn**	**04 06 41.8**	**-0.2**
PKSG		**3.86**	**187**	*e*	**Pn**	**04 06 43.7**	**+1.3**
PKSG		**3.86**	**187**	*eP*	**Pn**	**04 06 43.7**	**+1.3**
CSKK	**Cs˙‡kako**	**3.90**	**188**	*e*	**Pn**	**04 06 42.1**	**-0.8**
CSKK	**Cs˙‡kako**	**3.90**	**188**	*eP*	**Pn**	**04 06 42.1**	**-0.8**
CONA	**Conrad Observa**	**3.90**	**214**	⇑*iPn*	**Pn**	**04 06 43.4**	**+0.4**
CONA				⇓*iSn*	**Sn**	**04 07 25.5**	**-4.0**
CONA	**Conrad Observa**	**3.90**	**214**	Pn	**Pn**	**04 06 43.4**	**+0.4**
SOP	**Sopron**	**3.90**	**206**	*e*	**Pn**	**04 06 44.3**	**+1.4**
SOP	**Sopron**	**3.90**	**206**	*eP*	**Pn**	**04 06 44.3**	**+1.4**
PKST	**T˜˜s**	**4.02**	**190**	*e*	**Pn**	**04 06 45.6**	**+0.9**
PKST	**T˜˜s**	**4.02**	**190**	*eP*	**Pn**	**04 06 45.6**	**+0.9**
KHC	**Kasperske Hory**	**4.10**	**241**	*eP*	**Pn**	**04 06 46.4**	**+0.7**
KHC	**Kasperske Hory**	**4.10**	**241**	*ePN*	**Pn**	**04 06 46.4**	**+0.7**
KHC				*eP*G	**Pb**	**04 06 57.0**	**+2.2**
KHC				*eSG*	**Sg**	**04 07 53.7**	**+0.3**
	comp=Z,658nm,1.0s						
KHC	**Kasperske Hory**	**4.10**	**241**	Pn	**Pn**	**04 06 46.4**	**+0.7**
GEC2	**GERESS Array S**	**4.19**	**238**	*eSg*	**Sg**	**04 07 54.1**	**-2.4**
GEC2	**GERESS Array S**	**4.19**	**238**	Sg	**Sg**	**04 07 54.1**	**-2.4**
GERES	**GERESS Array B**	**4.19**	**238**	Pn	**Pn**	**04 06 47.5**	**+0.5**
	comp=Z,2.1nm,0.3s,baz=51,slow=14,SNR=67						
GERES				Pg	**Pg**	**04 07 03.7**	**+1.5**
	comp=Z,9.6nm,0.3s,baz=55,slow=17,SNR=22						
GERES				Lg	Lg	04 07 56.5	
	comp=Z,43nm,0.3s,baz=57,slow=27,SNR=19						
GERES	**GERESS Array B**	**4.19**	**238**	*eP*	**Pn**	**04 06 47.6**	**+0.5**
	comp=Z,2.0nm,0.3s						
SCHF	**Schoenfels**	**4.25**	**265**	*ePn*	**Pn**	**04 06 49.3**	**+1.6**
SCHF				*eSg*	**Sg**	**04 07 58.2**	**+0.1**
SCHF	**Schoenfels**	**4.25**	**265**	Pn	**Pn**	**04 06 49.3**	**+1.6**
SCHF				Sg	**Sg**	**04 07 58.2**	**+0.1**
TANN	**Tannenbergstha**	**4.26**	**262**	*ePn*	**Pn**	**04 06 48.3**	**+0.3**
TANN				*eSg*	**Sg**	**04 07 57.6**	**-1.1**
TANN	**Tannenbergstha**	**4.26**	**262**	Pn	**Pn**	**04 06 48.3**	**+0.3**
TANN				Sg	**Sg**	**04 07 57.6**	**-1.1**
MULD	**Muldenberg**	**4.30**	**262**	*ePn*	**Pn**	**04 06 48.4**	**-0.1**
MULD	**Muldenberg**	**4.30**	**262**	Pn	**Pn**	**04 06 48.4**	**-0.1**
NKC	**Novy Kostel**	**4.32**	**259**	*ePn*	**Pn**	**04 06 49.9**	**+1.3**
NKC				*eSg*	**Sg**	**04 08 01.2**	**+0.8**
NKC	**Novy Kostel**	**4.32**	**259**	*eP*	**Pn**	**04 06 50.0**	**+1.3**
NKC	**Novy Kostel**	**4.32**	**259**	*ePN*	**Pn**	**04 06 50.0**	**+1.3**
NKC				*ex*	x	04 06 58.4	
NKC				*eSG*	**Sg**	**04 07 59.8**	**-0.6**
	comp=Z,438nm,1.1s						
NKC	**Novy Kostel**	**4.32**	**259**	Pn	**Pn**	**04 06 49.9**	**+1.3**
NKC				Sg	**Sg**	**04 07 59.8**	**-0.6**
	comp=Z,438nm,1.1s						
WERN	**Wernitzgruen**	**4.35**	**260**	*ePn*	**Pn**	**04 06 49.9**	**+0.8**
WERN	**Wernitzgruen**	**4.35**	**260**	Pn	**Pn**	**04 06 49.9**	**+0.8**
WERD	**Werda**	**4.35**	**262**	*ePn*	**P

	comp=Z,4.0nm,0.3s								
AKASG	**Malin Array Be**		**6.44**	**91**	Pn		**Pn**	04 07 17.5	**-0.3**
	comp=Z,3.9nm,0.3s,baz=273,slow=13,SNR=15								
AKASG					Pg		Pb	04 07 39.2	+4.5
	comp=Z,4.1nm,0.3s,baz=280,slow=15,SNR=16								
AKASG					Sn		**Sn**	**04 08 29.7**	**-2.3**
	comp=Z,6.1nm,0.3s,baz=277,slow=23,SNR=7.2								
AKASG					Lg		Lg	04 09 02.1	
	comp=Z,7.2nm,0.3s,baz=278,slow=28,SNR=8.5								
AKASG	**Malin Array Be**		**6.44**	**91**	*e*P		**Pn**	**04 07 17.1**	**-0.8**
	comp=Z,4.0nm,0.3s								
LOT	**Lotru**		**6.57**	**150**⇑	*i*P		**Pn**	**04 07 21.9**	**+2.1**
LOT	**Lotru**		**6.57**	**150**⇑	*i*P		**Pn**	**04 07 21.9**	**+2.1**
VSTU	**Vaestervik**		**6.62**	**348**	P		**Pn**	**04 07 19.4**	**-0.8**
DOPR	**Dopca**		**6.72**	**139**⇓	*i*P		**Pn**	**04 07 23.3**	**+1.5**
DOPR	**Dopca**		**6.72**	**139**⇓	*i*P		**Pn**	**04 07 23.3**	**+1.5**
EKSU	**Eksjoe**		**6.73**	**342**	P		**Pn**	**04 07 20.7**	**-1.1**
GNOU	**Gnosjoe**		**6.83**	**335**	P		**Pn**	**04 07 22.8**	**-0.3**
TESR	**Tescani**		**6.87**	**130**⇓	*i*P		**Pn**	**04 07 26.2**	**+2.4**
TESR	**Tescani**		**6.87**	**130**⇓	*i*P		**Pn**	**04 07 26.2**	**+2.4**
ARR	**Arges**		**6.94**	**145**⇓	*i*P		**Pn**	**04 07 26.0**	**+1.3**
ARR	**Arges**		**6.94**	**145**⇓	*i*P		**Pn**	**04 07 26.0**	**+1.3**
VOIR			**7.03**	**143**⇓	*i*P		**Pn**	**04 07 26.7**	**+0.7**
VOIR			**7.03**	**143**⇓	*i*P		**Pn**	**04 07 26.7**	**+0.7**
TRUS	**Trudelj**		**7.06**	**172**	*e*Pn		**Pn**	**04 07 26.9**	**+0.5**
DIVS	**Divibare**		**7.16**	**175**	*e*Pn		**Pn**	**04 07 29.3**	**+1.6**
MLR	**Muntele Rosu**		**7.34**	**139**⇑	*i*P		**Pn**	**04 07 32.2**	**+1.9**
MLR	**Muntele Rosu**		**7.34**	**139**	Pn		**Pn**	**04 07 31.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=334,slow=17,SNR=6.4								
MLR					LR		LR	04 11 06.5	
	comp=Z,61nm,18.2s,baz=322,slow=44								
MLR	**Muntele Rosu**		**7.34**	**139**	P		**Pn**	**04 07 31.3**	**+1.0**
VRI	**Vrincioaia**		**7.39**	**134**⇑	*i*P		**Pn**	**04 07 32.5**	**+1.6**
VRI	**Vrincioaia**		**7.39**	**134**⇑	*i*P		**Pn**	**04 07 32.5**	**+1.6**
GRUS	**Gruza**		**7.42**	**171**	*e*Pn		**Pn**	**04 07 32.4**	**+1.1**
DAVOX	**Davos/Dischmat**		**7.50**	**237**	Pn		**Pn**	**04 07 34.3**	**+1.8**
	baz=51,slow=13								
DAVOX					Sn		Sn	04 08 47.8	-11
	comp=Z,0.6nm,0.3s,baz=98,slow=14,SNR=2.4								
DAVOX					Lg		Lg	04 09 42.9	
	comp=Z,2.4nm,0.3s,baz=163,slow=20,SNR=5.4								
DAVOX	**Davos/Dischmat**		**7.50**	**237**	P		**Pn**	**04 07 34.3**	**+1.8**
KIS	**Kishinev**		**7.67**	**120**	*e*		Pg	04 08 12.0	+3.3
KIS					LRM		MLR	04 10 25.0	
	comp=Z,400nm,7.0s								
WTSB	**Winterswijk**		**7.68**	**280**	*e*Sg		**Sg**	**04 09 53.4**	**+5.2**
	comp=Z,164nm,1.1s								
SJES	**Sjenica**		**7.99**	**175**	*e*Pn		**Pn**	**04 07 40.5**	**+1.3**
CDF	**Champ du Feu**		**8.12**	**254**	*e*Pn		**Pn**	**04 07 39.1**	**-1.9**
CDF	**Champ du Feu**		**8.12**	**254**	*e*Pn		**Pn**	**04 07 39.1**	**-1.9**
MEM	**Membach**		**8.28**	**271**	PN		**Pn**	**04 07 45.0**	**+2.0**
HGN	**Heimansgroeve**		**8.30**	**272**	*e*Sg		**Sg**	**04 10 08.3**	**+0.2**
	comp=Z,196nm,1.2s								
HGN	**Heimansgroeve**		**8.30**	**272**	*e*Sg		**Sg**	**04 10 08.3**	**+0.2**
	comp=Z,196nm,1.2s								
VSU	**Vasula**		**8.49**	**28**⇑	*e*P		**Pn**	**04 07 47.1**	**+1.1**
HINF	**Hinteralfeld**		**8.64**	**252**	*e*Pn		**Pn**	**04 07 46.1**	**-2.0**
HINF					*e*Sg		Sg	04 10 12.2	-6.9
	comp=Z,210nm,1.1s								
HINF	**Hinteralfeld**		**8.64**	**252**	*e*Pn		**Pn**	**04 07 46.1**	**-2.0**
HINF					*e*Sg		Sg	04 10 12.2	-6.9
	comp=Z,105nm,1.1s								
HAU	**Haudompre**		**8.86**	**254**	*e*P		**Pn**	**04 07 52.8**	**+1.8**
HAU	**Haudompre**		**8.86**	**254**	*e*P		**Pn**	**04 07 52.8**	**+1.8**
PAGF	**Fort de Pagny**		**9.01**	**258**	*e*Pn		**Pn**	**04 07 51.1**	**-2.0**
PAGF					*e*Sg		Sn	04 10 23.1	+48
	comp=Z,60nm,1.1s								
PAGF	**Fort de Pagny**		**9.01**	**258**	*e*Pn		**Pn**	**04 07 51.1**	**-2.0**
GIVF	**Givet**		**9.12**	**268**	*e*Pn		**Pn**	**04 07 52.0**	**-2.5**
GIVF					*e*Sg		Sn	04 10 28.1	+50
	comp=Z,300nm,1.4s								
GIVF	**Givet**		**9.12**	**268**	*e*Pn		**Pn**	**04 07 52.0**	**-2.5**
GIVF					*e*Sg		Sn	04 10 28.1	+50
	comp=Z,150nm,1.4s								
HFS	**Hagfors**		**9.43**	**343**	Pn		**Pn**	**04 07 57.1**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=160,slow=13,SNR=34								
HFS					Sn		**Sn**	**04 09 39.7**	**-5.7**
	comp=Z,0.7nm,0.3s,baz=150,slow=22,SNR=5.8								
HFS					Lg		Lg	04 10 42.2	
	comp=Z,0.5nm,0.3s,baz=144,slow=27,SNR=3.1								
HFS					LR		LR	04 11 56.5	
	comp=Z,211nm,18.7s,baz=143,slow=39								
HFS	**Hagfors**		**9.43**	**343**	P		**Pn**	**04 07 57.1**	**-1.7**
	comp=Z,1.0nm,0.3s								
HFS					S		**Sn**	**04 09 39.7**	**-5.7**
BAIF	**Baives**		**9.51**	**269**	*e*Pn		**Pn**	**04 07 57.5**	**-2.4**
BAIF					*e*Sg		Sn	04 10 39.6	+52
	comp=Z,128nm,1.2s								
MBDF	**Montbardon**		**10.48**	**236**	*e*Pn		**Pn**	**04 08 11.4**	**-2.0**
MBDF	**Montbardon**		**10.48**	**236**	*e*Pn		**Pn**	**04 08 11.4**	**-2.0**
LOR	**Lormes**		**10.69**	**254**	*e*P		**Pn**	**04 08 19.2**	**+3.0**
	baz=73								
LOR	**Lormes**		**10.69**	**254**	*e*P		**Pn**	**04 08 19.2**	**+3.0**
SBF	**Sospel**		**10.76**	**231**	*e*P		Pn	04 08 20.3	+3.2
SBF	**Sospel**		**10.76**	**231**	*e*P		Pn	04 08 20.3	+3.2
NOA	**NORSAR Array B**		**10.76**	**339**	Pn		Pn	04 08 13.8	-3.2
	comp=Z,0.6nm,0.3s,baz=152,slow=12,SNR=4.5								
NOA					Lg		Lg	04 11 27.0	
	comp=Z,0.6nm,0.3s,baz=48,slow=22,SNR=4.7								
NOA					LR		LR	04 13 19.2	
	comp=Z,86nm,21.6s,baz=150,slow=42								
NOA	**NORSAR Array B**		**10.76**	**339**	*e*P		**Pn**	**04 08 15.6**	**-1.4**
	comp=Z,1.0nm,0.3s								
ORIF	**Oris-en-Rattie**		**10.83**	**240**	*e*P		**Pn**	**04 08 21.1**	**+2.9**
ORIF	**Oris-en-Rattie**		**10.83**	**240**	*e*P		**Pn**	**04 08 21.1**	**+2.9**
FINES	**FINESS Array B**		**10.95**	**18**	Pn		**Pn**	**04 08 17.2**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=191,slow=12,SNR=29								
FINES					Sn		Sn	04 10 15.2	-7.5
	comp=Z,0.9nm,0.3s,baz=201,slow=22,SNR=4.5								
FINES					Lg		Lg	04 11 28.1	
	comp=Z,0.6nm,0.3s,baz=210,slow=22,SNR=2.5								
FINES					LR		LR	04 13 15.0	
	comp=Z,57nm,19.7s,baz=207,slow=41								
OBN	**Obninsk**		**11.20**	**63**⇓	*e*P		**Pn**	**04 08 21.9**	**-1.1**
OBN					pmax		pmax		
	comp=Z,9.0nm,0.6s								
OBN	**Obninsk**		**11.20**	**63**	Pn		**Pn**	**04 08 21.6**	**-1.4**
	comp=Z,4.7nm,0.3s,baz=129,slow=9.8,SNR=3.5								
OBN					Lg		Lg	04 11 38.4	
	comp=Z,1.5nm,0.3s,baz=284,slow=22,SNR=2.2								
OBN	**Obninsk**		**11.20**	**63**	*e*P		**Pn**	**04 08 21.9**	**-1.1**
	comp=Z,9.0nm,0.6s								
KAF	**Kangasniemi**		**11.61**	**17**	*e*P		**Pn**	**04 08 26.0**	**-2.6**
KAF					pmax		pmax		
	comp=Z,1.0nm,0.3s								
KAF	**Kangasniemi**		**11.61**	**17**	*e*p		**Pn**	**04 08 26.0**	**-2.6**
	comp=Z,0.9nm,0.3s								
KAF	**Kangasniemi**		**11.61**	**17**	*e*P		**Pn**	**04 08 26.0**	**-2.6**
	comp=Z,1.0nm,0.3s								
MOS	**Moscow**		**11.94**	**61**	*e*P		Pn	04 08 23.9	-9.2
LASF	**Ste Croix**		**12.48**	**241**	*e*Sn		Sn	04 10 49.8	-11
	comp=Z,37nm,1.0s								
LASF	**Ste Croix**		**12.48**	**241**	*e*Sn		Sn	04 10 49.8	-11
	comp=Z,19nm,1.0s								
JOF	**Joensuu**		**13.45**	**25**	*e*P		Pn	04 08 48.8	-4.9
JOF					pmax		pmax		
	comp=Z,2.0nm,0.3s								
JOF	**Joensuu**		**13.45**	**25**	*e*p		Pn	04 08 48.8	-4.9
	comp=Z,1.9nm,0.3s								
EKA	**Eskdalemuir Ar**		**13.90**	**296**	Pn		Pn	04 08 56.6	-3.2
	baz=102,slow=13,SNR=12								
KLMR	**Klimovskoe**		**14.89**	**42**	*i* P		Pn	04 09 09.2	-4.2
KLMR					*e*S		**Sn**	**04 11 56.8**	**-2.1**
KLMR					pmax		pmax		
	comp=Z,23nm,1.6s								
BRTR	**Keskin Array B**		**15.35**	**133**	LR		LR	04 15 15.4	
	comp=Z,40nm,20.1s,baz=315,slow=37								
BRTR	**Keskin Array B**		**15.35**	**133**	*e*P		**P**	**04 09 26.2**	**+1.5**
IDI	**Anoyia**		**16.47**	**163**	LR		LR	04 17 35.9	
	comp=Z,37nm,18.1s,baz=92,slow=43								
KBZ	**Khabaz**		**17.72**	**106**	LR		LR	04 17 19.0	
	comp=Z,107nm,18.0s,baz=3.0,slow=39								
PRGR	**Permogore**		**17.88**	**44**	P		**Pn**	**04 09 51.0**	**-0.6**
PRGR					*e*S		**Sn**	**04 13 13.5**	**+2.3**
PRGR					pmax		pmax		
	comp=Z,64nm,2.0s								
PRGR	**Permogore**		**17.88**	**44**	P		**Pn**	**04 09 51.0**	**-0.6**
	comp=Z,64nm,2.0s								
ARCES	**ARCESS Array B**		**18.63**	**7**	Pn		**P**	**04 09 56.1**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=190,slow=14,SNR=18								
ARCES					Lg		Lg	04 15 34.5	
	comp=Z,0.2nm,0.3s,baz=186,slow=25,SNR=5.4								
KEV	**Kevo**		**18.97**	**9**	*e*P		**P**	**04 10 00.4**	**-3.9**
KEV	**Kevo**		**18.97**	**9**	*e*p		**P**	**04 10 00.4**	**-3.9**
	comp=Z,0.4nm,0.3s								
MAK	**Makhachkala**		**20.95**	**102**	*e*P		Pn	04 10 45.4	+17
MAK					MLR		MLR		
	comp=Z,173nm,6.0s								
MMAI	**Mount Meron Ar**		**21.77**	**140**	LR		LR	04 20 29.8	
	comp=Z,34nm,19.8s,baz=60,slow=41								
ARU	**Arti**		**23.64**	**62**	P		**P**	**04 10 55.2**	**+0.8**
ARU								04 11 20.5	
ARU					SS		SS	04 15 54.6	
ARU	**Arti**		**23.64**	**62**	P		**P**	**04 10 55.2**	**+0.8**
AKTO	**Aktyubinsk**		**24.43**	**76**	P		**P**	**04 11 00.6**	**-1.3**
AKTO					S		**S**	**04 15 22.8**	**+0.3**
AKTO					pmax		pmax		
	comp=Z,1.0nm,0.5s								
AKTO	**Aktyubinsk**		**24.43**	**76**	P		**P**	**04 11 00.6**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=277,slow=9.0,SNR=7.6								
AKTO					S		**S**	**04 15 22.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=93,slow=20,SNR=1.3								
KURBB	**Kurchatov Arra**		**36.60**	**67**	P		**P**	**04 12 49.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=309,slow=9.5,SNR=3.0								
KURK	**Kurchatov**		**36.61**	**67**	P		**P**	**04 12 49.4**	**0.0**
TORD	**Torodi Ar. Bea**		**40.50**	**207**	P		**P**	**04 13 23.5**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=17,slow=8.6,SNR=4.2								
MKAR	**Makanchi Array**		**40.58**	**71**	P		**P**	**04 13 22.8**	**0.0**
MKAR	**Makanchi Array**		**40.58**	**71**	P		**P**	**04 13 22.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=292,slow=7.6,SNR=5.2								
SONM	**Songino Array**		**53.54**	**57**	P		**P**	**04 15 05.6**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=291,slow=9.1,SNR=4.7								
YKA	**Yellowknife Ar**		**60.85**	**337**	P		**P**	**04 15 56.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=25,slow=6.8,SNR=5.2								

IDC ***22*** *04:29:37.7±3.6, 17°.41N×62°.18W, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.5/6, Error ellipse: s-maj=135.2km s-min=30.2km az=23.0*

ISCJB ***22*** *04:29:48.3±0.5, 17°.25N±0°.08×62°.20W±0°.10, h108km±4km, mb3.5/6, Error ellipse: s-maj=18.9km s-min=7.0km az=141.5*

TRN ***22*** *04:29:49.9, 17°.08N×62°.32W, h86km, MD3.1*

ISC 22 04:29:48.9±0.9, 17°.3N±0°.1×62°.2W±0°.1, h97km±10km, n29, σ0s52/30, mb3.6/6, 1C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.40**	**123**	*e*P		Pn		04 30 05.3	+1.6
BPA				*e*S		Sn		04 30 15.9	+1.1
NVBH	**Bath Hotel, Ne**	**0.42**	**249**	*e*P		Pn		04 30 05.9	+2.1
BSK	**Brimstone Hill**	**0.61**	**278**	*e*P		Pn		04 30 06.3	+1.1
BSK				*e*S		**Sn**		**04 30 17.4**	**-0.1**
SEG	**Port Louis**	**1.09**	**142**⇓	*i*P		**Pn**		**04 30 10.5**	**+0.4**
LZG	**Guadaloupe-1**	**1.19**	**160**	*e*P		**Pn**		**04 30 11.4**	**+0.1**
SSG	**Sans Toucher**	**1.28**	**157**	*e*P		**Pn**		**04 30 12.7**	**+0.2**
MLG	**Mont-d'or**	**1.29**	**158**	*e*P		**Pn**		**04 30 12.8**	**+0.2**
FNG	**Fond-Bernard**	**1.30**	**157**	*e*P		**Pn**		**04 30 12.8**	**+0.1**
BCG	**Bois Riant Cap**	**1.30**	**154**⇓	*e*P		**Pn**		**04 30 13.0**	**+0.3**
ECG	**Echelle**	**1.33**	**156**	*e*P		**Pn**		**04 30 13.2**	**+0.1**
SCG	**Saint Claude**	**1.33**	**158**	*e*P		**Pn**		**04 30 13.4**	**+0.4**
DOG	**Dongo Capester**	**1.35**	**155**	*e*P		**Pn**		**04 30 13.6**	**+0.3**
PHG	**Guadaloupe-2**	**1.36**	**156**⇑	*i*P		**Pn**		**04 30 13.9**	**+0.5**
HMG	**Houelmont**	**1.37**	**159**	*e*P		**Pn**		**04 30 13.9**	**+0.5**
H05N1	**Guadeloupe/Mar**	**1.45**	**130**	Pn		**Pn**		**04 30 14.6**	**+0.1**
	SNR=804								
H05N1						Sn		**Sn**	**04 30 33.3**	**-0.5**
TBG	**Guadaloupe-3**	**1.51**	**159**	*e*P		**Pn**		**04 30 15.2**	**+0.1**
MGG	**Marie-Galante**	**1.59**	**147**	*e*P		**Pn**		**04 30 16.7**	**+0.6**
FDF	**Fort de France**	**2.72**	**158**	*e*P		**Pn**		**04 30 32.0**	**+1.1**
FDF				*e*S		**Sn**		**04 31 03.3**	**+0.2**
BVM	**Bellevue**	**2.75**	**156**	*e*P		**Pn**		**04 30 31.9**	**+0.6**
ZAM	**Aeronautique**	**2.91**	**157**	*e*P		**Pn**		**04 30 33.5**	**+0.1**
LPMF	**Morne Lapointe**	**2.93**	**156**	*e*P		**Pn**		**04 30 33.4**	**-0.3**
TRMF	**Trois Ilets**	**2.93**	**158**	*e*P		**Pn**		**04 30 34.2**	**+0.5**
H05S1	**Guadeloupe/Mar**	**3.12**	**155**	Pn		**Pn**		**04 30 36.8**	**+0.6**
H05S1				Sn		**Sn**		**04 31 11.2**	**-1.4**
	SNR=78								
ULM	**Lac du Bonnet**	**42.55**	**328**	P		**P**		**04 37 34.3**	**-0.7**
	1.3nm,0.5s,baz=131,slow=8.5,SNR=4.1								
PDAR	**Pinedale Array**	**47.45**	**313**	P		**P**		**04 38 14.0**	**-0.2**
	0.4nm,0.4s,baz=109,slow=9.9,SNR=3.6								
NVAR	**Mina Array Bea**	**53.04**	**305**	P		**P**		**04 38 56.6**	**+0.1**
	0.4nm,0.6s,baz=98,slow=6.5,SNR=2.7								
YKA	**Yellowknife Ar**	**53.39**	**334**	P		**P**		**04 39 30.3**	**0.0**
	0.3nm,0.5s,baz=108,slow=7.6,SNR=8.5								
TORD	**Torodi Ar. Bea**	**61.57**	**84**	P		**P**		**04 39 57.1**	**+0.6**
	0.3nm,0.6s,baz=266,slow=6.1,SNR=4.9								
ILAR	**Eielson Array**	**72.27**	**333**	P		**P**		**04 41 03.5**	**0.0**
	0.1nm,0.5s,baz=92,slow=4.7,SNR=5.2								

IDC 22 04:35:26.2±5.3, 15°.34S×173°.25W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/22, mbtmp3.5/4, ML3.0/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/23, Error ellipse: s-maj=259.9km s-min=25.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**45**	Pn		Pn		04 35 59.5	-2.0
	6.1nm,0.3s,baz=67,slow=6.8,SNR=6.3								
AFI				*e*Sn		Sn		04 36 21.7	-5.8
	13nm,0.3s,baz=42,slow=22,SNR=5.6								
AFI				LR		LR		04 36 49.5	
	comp=Z,136nm,20.3s,baz=109,slow=41								
WRA	**Warramunga Arr**	**50.00**	**257**	P		P		04 44 22.0	-0.8
	0.2nm,0.5s,baz=90,slow=6.7,SNR=6.8								
ASAR	**Alice Springs**	**50.27**	**252**	P		P		04 44 23.8	-1.0
	0.6nm,0.5s,baz=98,slow=6.9,SNR=4.1								
ILAR	**Eielson Array**	**82.36**	**11**	P		P		04 47 50.0	+0.5
	0.5nm,0.9s,baz=224,slow=5.6,SNR=5.5								
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc		PKPab		04 55 10.7	+0.9
	0.9nm,0.9s,baz=60,slow=4.9,SNR=3.5								

IDC ***22*** *04:37:17.8±0.9, 40°.16N×29°.76W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/31, mbtmp3.6/8, ML4.5/1, MS3.7/15, Ms1 3.7/15, ms1mx3.4/38, Error ellipse: s-maj=28.9km s-min=17.2km az=173.0*

ISCJB ***22*** *04:37:20.2±0.7, 40°.02N±0°.04×29°.14W±0°.07, h11km, mb3.6/6, MS3.7/14, Error ellipse: s-maj=8.5km s-min=5.4km az=158.6*

CSEM ***22*** *04:37:21.0, 40°.19N×29°.36W, h0km, ML3.9, After PDA*

PDA ***22*** *04:37:21.0±1.0, 40°.19N×29°.36W, h0km, MD3.9, ML3.9, Error ellipse: s-maj=6.6km s-min=4.5km az=88.0*

ISC 22 04:37:19.9±0.8, 39°.98N±0°.06×29°.36W±0°.06, h11km, n45, σ1s23/54, mb3.5/7, MS3.6/14, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.39**	**259**	Pn		**Pg**		**04 37 46.9**	**+0.4**
PGRA	**Graciosa**	**1.42**	**131**	*e*P		**Pn**		**04 37 45.0**	**-0.7**
PGRA				*e*S		**Sn**		**04 38 03.2**	**-1.2**
PGRA				A		A		04 38 09.2	
	243nm,0.4s								
PGRA	**Graciosa**	**1.42**	**131**	*e*P		**Pn**		**04 37 45.0**	**-0.7**
PGRA				*e*S		**Sn**		**04 38 03.2**	**-1.2**
PCED	**Cedros**	**1.44**	**159**	*e*S		**Sb**		**04 38 05.0**	**0.0**
PCED				A		A		04 38 12.0	
	300nm,0.6s								
PCED	**Cedros**	**1.44**	**159**	*e*S		**Sb**		**04 38 05.0**	**0.0**
CALA	**Caldeira**	**1.48**	**160**	*e*S		**Sb**		**04 38 06.3**	**0.0**
CALA	**Caldeira**	**1.48**	**160**	*e*S		**Sb**		**04 38 06.3**	**0.0**
ROSA	**Rosais**	**1.52**	**145**	*e*P		**Pn**		**04 37 46.9**	**-0.1**
ROSA				*e*S		**Sb**		**04 38 06.8**	**-0.6**
ROSA				A		A		04 38 14.3	
	244nm,0.5s								
ROSA	**Rosais**	**1.52**	**145**	*e*P		**Pn**		**04 37 46.9**	**-0.1**
ROSA				*e*S		**Sb**		**04 38 06.8**	**-0.6**
H07S1	**FLORES T-PHASE**	**1.55**	**248**	Pn		Pn		04 37 44.1	-3.3
	SNR=11								
H07S1				T		T		04 39 05.4	
	SNR=9.2								
HOR	**Horta**	**1.55**	**158**	*e*P		**Pn**		**04 37 47.5**	**+0.1**
HOR				*e*S		**Sb**		**04 38 08.0**	**-0.3**
HOR	**Horta**	**1.55**	**158**	*e*P		**Pn**		**04 37 47.5**	**+0.1**
HOR				*e*S		**Sb**		**04 38 08.0**	**-0.3**
PICO	**Pico**	**1.64**	**154**	*e*P		**Pn**		**04 37 48.9**	**+0.2**
PICO				*e*S		**Sb**		**04 38 10.1**	**-0.8**
PICO	**Pico**	**1.64**	**154**	*e*P		**Pn**		**04 37 48.9**	**+0.2**
PICO				*e*S		**Sb**		**04 38 10.1**	**-0.8**
PCAN	**Candelaria**	**1.66**	**156**	*e*P		**Pn**		**04 37 49.4**	**+0.5**
PCAN				*e*S		**Sn**		**04 38 09.9**	**-0.2**
PCAN				A		A		04 38 16.6	
	597nm,0.4s								
PCAN	**Candelaria**	**1.66**	**156**	*e*P		**Pn**		**04 37 49.4**	**+0.5**
PCAN				*e*S		**Sn**		**04 38 09.9**	**-0.2**
PMAN	**Manadas**	**1.66**	**143**	*e*P		**Pn**		**04 37 48.7**	**-0.2**
PMAN				*e*S		**Sn**		**04 38 10.0**	**-0.3**
PMAN				A		A		04 38 16.5	
	241nm,0.6s								
PMAN	**Manadas**	**1.66**	**143**	*e*P		**Pn**		**04 37 48.7**	**-0.2**
PMAN				*e*S		**Sn**		**04 38 10.0**	**-0.3**
TOPO	**Topo**	**1.78**	**141**	*e*P		**Pn**		**04 37 50.5**	**-0.1**
TOPO	**Topo**	**1.78**	**141**	*e*P		**Pn**		**04 37 50.5**	**-0.1**
ADH	**Angra Heroismo**	**2.11**	**128**	*e*P		**Pn**		**04 37 54.7**	**-0.4**
ADH				*e*S		**Sn**		**04 38 20.0**	**-1.3**
ADH				A		A		04 38 26.4	
	148nm,0.6s								
ADH	**Angra Heroismo**	**2.11**	**128**	*e*P		**Pn**		**04 37 54.7**	**-0.4**
ADH				*e*S		**Sn**		**04 38 20.0**	**-1.3**
PSET	**Sete Cidades**	**3.56**	**126**	*e*P		**Pn**		**04 38 15.6**	**+0.5**
PSET				*e*S		**Sn**		**04 38 54.9**	**-2.2**
PSET				A		A		04 39 13.8	
	96nm,0.6s								
PSET	**Sete Cidades**	**3.56**	**126**	*e*P		**Pn**		**04 38 15.6**	**+0.5**
PSET				*e*S		**Sn**		**04 38 54.9**	**-2.2**
PDA	**Ponta Delgada**	**3.64**	**126**	*e*P		**Pn**		**04 38 15.8**	**-0.3**
PDA				*e*S		**Sn**		**04 38 57.1**	**-2.0**
PDA				A		A		04 39 07.0	
	64nm,0.4s								
PDA	**Ponta Delgada**	**3.64**	**126**	*e*P		**Pn**		**04 38 15.8**	**-0.3**
PDA				*e*S		**Sn**		**04 38 57.1**	**-2.0**
BART	**Pico Bartolome**	**3.94**	**123**	*e*P		**Pn**		**04 38 19.8**	**-0.5**
BART				*e*S		**Sn**		**04 39 04.0**	**-2.5**
BART				A		A		04 39 13.7	
	45nm,0.6s								
BART	**Pico Bartolome**	**3.94**	**123**	*e*P		**Pn**		**04 38 19.8**	**-0.5**
BART				*e*S		**Sn**		**04 39 04.0**	**-2.5**
ESDC	**Sonseca Array**	**19.49**	**83**	P		**Pn**		**04 41 51.0**	**+2.8**
	0.3nm,0.3s,baz=268,slow=13,SNR=9.1								
ESDC				LR		LR		04 48 14.2	
	comp=Z,192nm,19.0s,baz=210,slow=33								
MDT	**Midelt**	**21.12**	**102**	P		**P**		**04 42 07.3**	**+2.6**
	1.8nm,0.9s,baz=312,slow=15,SNR=3.0								
MDT				LR		LR		04 48 36.3	
	comp=Z,226nm,20.6s,baz=305,slow=32								
BBTS	**Babate**	**27.61**	**152**	LR		LR		04 52 47.9	
	comp=Z,118nm,19.9s,baz=328,slow=33								
SCHQ	**Schefferville**	**28.98**	**313**	LR		LR		04 52 36.7	
	comp=Z,182nm,21.

MAKR S Sg 04 37 55.8 +0.5
MAKR Makrakomi, Fth 0.59 12 *e*PN **Pg 04 37 47.3 -0.3**
MAKR Makrakomi, Fth 0.59 12 *e*Pn **Pg 04 37 47.3 -0.3**
MAKR S Sg 04 37 55.8 +0.5
AXAR Agios Charalam 0.63 58 P **Pg 04 37 47.4 -0.9**
AXAR S Sg 04 37 57.2 +0.7
AXAR Agios Charalam 0.63 58 *e*PN **Pg 04 37 47.5 -0.9**
AXAR Agios Charalam 0.63 58 P **Pg 04 37 47.5 -0.9**
AXAR S Sg 04 37 57.2 +0.7
AGG Agios Georgios 0.65 25 P **Pg 04 37 47.6 -1.1**
AGG Agios Georgios 0.65 25 *e*PB **Pg 04 37 47.6 -1.1**
AGG *e*SN Sg 04 37 57.3 +0.1
AGG Agios Georgios 0.65 25 P **Pg 04 37 47.6 -1.1**
AGG *e*Sn Sg 04 37 57.3 +0.1
PDO Prodromos 0.65 285 P **Pg 04 37 47.6 -1.1**
PDO Prodromos 0.65 285 *e*PN **Pg 04 37 48.4 -0.3**
PDO *e*SN Sb 04 37 58.7 -0.4
PDO Prodromos 0.65 285 P **Pg 04 37 48.3 -0.4**
PDO S Sg 04 37 57.8 +0.7
PDO *e*Sn Sb 04 37 58.7 -0.4
VTN Vitineika 0.81 231 P **Pg 04 37 51.9 0.0**
VTN S Sb 04 38 03.9 +0.1
VTN Vitineika 0.81 231 P **Pg 04 37 51.9 0.0**
VTN S Sb 04 38 03.9 +0.1
LKR Lokris 0.83 75 P **Pg 04 37 50.8 -1.4**
LKR Lokris 0.83 75 *e*PN **Pg 04 37 51.1 -1.1**
LKR Lokris 0.83 75 P **Pg 04 37 50.8 -1.4**
LKR Lokris 0.83 75 *e*Pn **Pg 04 37 51.1 -1.1**
LTK Loutraki 0.88 118 P **Pg 04 37 52.7 -0.4**
LTK Loutraki 0.88 118 *e*PN **Pg 04 37 52.8 -0.4**
LTK Loutraki 0.88 118 P **Pg 04 37 52.7 -0.4**
AMT Artemida-Makis 0.93 193 P **Pg 04 38 07.8 -0.6**
AMT S Sb 04 37 53.3 -0.8
AMT Artemida-Makis 0.93 193 *e*PN **Pg 04 37 53.3 -0.8**
AMT Artemida-Makis 0.93 193 P **Pg 04 37 53.3 -0.8**
AMT S Sb 04 38 06.8 -0.4
KFL Anninata 0.99 251 P **Pg 04 37 54.2 -1.1**
KFL Anninata 0.99 251 P **Pg 04 37 54.2 -1.1**
SMIA Simia 1.06 65 P **Pg 04 37 55.5 -1.1**
SMIA Simia 1.06 65 *e*PN **Pg 04 37 55.5 -1.1**
SMIA Simia 1.06 65 P **Pg 04 37 55.5 -1.1**
LKD2 Lefkada island 1.09 289 P **Pg 04 37 56.3 -1.0**
LKD2 S Sn 04 38 12.9 -0.5
LKD2 Lefkada island 1.09 289 *e*PN **Pg 04 37 56.5 -0.8**
LKD2 Lefkada island 1.09 289 P **Pg 04 37 56.3 -1.0**
LKD2 S Sn 04 38 12.9 -0.5
VLS Valsamata 1.12 257 P **Pg 04 37 55.9 -1.9**
VLS S Sb 04 38 13.2 +0.4
VLS Valsamata 1.12 257 *e*PB **Pg 04 37 56.0 -1.9**
VLS *e*SN Sn 04 38 14.1 0.0
VLS Valsamata 1.12 257 *e*Pb **Pg 04 37 56.0 -1.9**
VLS S Sb 04 38 13.2 +0.4
VLS *e*Sn Sn 04 38 14.1 0.0
THL Klokotos Trika 1.13 1 P **Pg 04 37 56.8 -1.1**
THL S Sb 04 38 12.9 0.0
THL Klokotos Trika 1.13 1 *e*PN **Pg 04 37 56.6 -1.3**
THL *e*SN Sn 04 38 13.7 -0.5
THL Klokotos Trika 1.13 1 P **Pg 04 37 56.8 -1.1**
THL S Sb 04 38 12.9 0.0
THL *e*Sn Sn 04 38 13.7 -0.5
FYTO Fytoko, Volos 1.23 37 P **Pb 04 37 59.2 -0.5**
FYTO Fytoko, Volos 1.23 37 P **Pb 04 37 59.2 -0.5**
ITM Ithomi 1.25 182 P **Pn 04 37 58.7 -1.5**
ITM S Sg 04 38 16.8 +0.2
ITM Ithomi 1.25 182 *e*PN **Pn 04 37 58.6 -1.6**
ITM Ithomi 1.25 182 P **Pn 04 37 58.7 -1.5**
ITM S Sg 04 38 16.8 +0.2
MRKA Markates 1.29 77 P **Pn 04 37 59.6 -1.1**
MRKA Markates 1.29 77 *e*PN **Pn 04 37 59.8 -0.9**
MRKA Markates 1.29 77 P **Pn 04 37 59.6 -1.1**
NEO Neokhori 1.30 48 *e*PN **Pn 04 38 00.1 -0.8**
NEO Neokhori 1.30 48 *e*Pn **Pn 04 38 00.1 -0.8**
XOR Xorichti 1.32 45 P **Pn 04 38 00.9 -0.3**
XOR S Sb 04 38 18.4 -0.3
XOR Xorichti 1.32 45 P **Pn 04 38 00.9 -0.3**
XOR S Sb 04 38 18.4 -0.3
DID Didima 1.36 133 P **Pn 04 38 01.5 -0.2**
DID S Sg 04 38 20.9 +0.9
DID Didima 1.36 133 *e*PN **Pn 04 38 01.5 -0.2**
DID *e*SN Sg 04 38 21.1 +1.1
DID Didima 1.36 133 P **Pn 04 38 01.5 -0.2**
DID *e*Sn Sg 04 38 21.1 +1.1
NAIG Nisos Aigina 1.37 119 *e*PN **Pn 04 38 01.5 -0.3**
NAIG Nisos Aigina 1.37 119 *e*Pn **Pn 04 38 01.5 -0.3**
SKIA Skiathos 1.37 57 *e*PN **Pn 04 38 01.5 -0.3**
SKIA Skiathos 1.37 57 *e*Pn **Pn 04 38 01.5 -0.3**
ERET Eretria 1.43 89 P **Pn 04 38 02.4 -0.3**
ERET S Sg 04 38 22.4 0.0
ERET Eretria 1.43 89 P **Pn 04 38 02.4 -0.3**
ERET S Sg 04 38 22.4 0.0
ATH Athens Observa 1.44 108 P **Pn 04 38 02.6 -0.2**
ATH S Sg 04 38 23.0 +0.3
ATH Athens Observa 1.44 108 *e*PN **Pb 04 38 02.9 -0.5**
ATH Athens Observa 1.44 108 P **Pn 04 38 02.6 -0.2**
ATH Athens Observa 1.44 108 *e*Pn **Pb 04 38 02.9 -0.5**
ATH S Sg 04 38 23.0 +0.3
MEV Metsovon 1.47 337 P **Pn 04 38 03.4 +0.1**
MEV Metsovon 1.47 337 P **Pn 04 38 03.4 +0.1**
ATHU Athens Univers 1.50 108 P **Pn 04 38 03.2 -0.3**
ATHU S Sg 04 38 24.1 -0.3
ATHU Athens Univers 1.50 108 P **Pn 04 38 03.2 -0.3**
ATHU S Sg 04 38 24.1 -0.3
JAN Janina 1.50 325 P **Pn 04 38 03.1 -0.5**
JAN S Sb 04 38 23.8 0.0
JAN Janina 1.50 325 P **Pn 04 38 03.1 -0.5**
JAN S Sb 04 38 23.8 0.0
PTL Penteli 1.53 104 P **Pn 04 38 03.8 -0.2**
PTL S Sg 04 38 25.7 +0.2
PTL Penteli 1.53 104 *e*PN **Pn 04 38 03.9 -0.1**
PTL Penteli 1.53 104 *e*Pn **Pn 04 38 03.9 -0.1**
PTL S Sg 04 38 25.7 +0.2
PYL PYLOS 1.55 187 P **Pn 04 38 04.0 -0.2**
PYL S Sg 04 38 26.5 +0.4
PYL PYLOS 1.55 187 *e*PN **Pn 04 38 04.2 0.0**
PYL PYLOS 1.55 187 P **Pn 04 38 04.0 -0.2**
PYL S Sg 04 38 26.5 +0.4
AOS Alonnisos 1.66 63 P **Pn 04 38 04.7 -1.0**
AOS S Sb 04 38 28.3 +0.2
AOS Alonnisos 1.66 63 *e*PN **Pn 04 38 04.9 -0.8**
AOS Alonnisos 1.66 63 *e*Pn **Pn 04 38 04.9 -0.8**
AOS S Sb 04 38 28.3 +0.2
IGT Igoumenitsa 1.69 311 *e*PN **Pb 04 38 07.7 +0.1**
IGT Igoumenitsa 1.69 311 *e*Pn **Pb 04 38 07.7 +0.1**
LIT Litokhoron 1.71 13 P **Pn 04 38 06.3 -0.2**
LIT Litokhoron 1.71 13 *e*PN **Pn 04 38 06.0 -0.5**
LIT Litokhoron 1.71 13 *e*Pn **Pn 04 38 06.0 -0.5**
LIT Litokhoron 1.71 13 P **Pn 04 38 06.3 -0.2**
KZN Kozani 1.88 355 P **Pn 04 38 08.9 +0.1**
KZN Kozani 1.88 355 *e*PN **Pn 04 38 09.3 +0.5**
KZN Kozani 1.88 355 P **Pn 04 38 08.9 +0.1**
KZN Kozani 1.88 355 *e*Pn **Pn 04 38 09.3 +0.5**
VLI Veliai 1.88 156 P **Pn 04 38 08.9 +0.2**
VLI S Sn 04 38 32.6 0.0
VLI Veliai 1.88 156 *e*PN **Pn 04 38 08.5 -0.2**
VLI Veliai 1.88 156 *e*Pn **Pn 04 38 08.5 -0.2**
VLI Veliai 1.88 156 P **Pn 04 38 08.9 +0.2**
VLI S Sn 04 38 32.6 0.0
PAIG Paliouri 1.99 41 *e*PB **Pn 04 38 09.1 -1.2**
PAIG Paliouri 1.99 41 *e*Pb **Pn 04 38 09.1 -1.2**
NEST Nestorio 2.10 340 *e*PN **Pb 04 38 14.0 -0.8**
NEST Nestorio 2.10 340 *e*Pn **Pb 04 38 14.0 -0.8**
SRN Sarande 2.11 314 *i* PN **Pb 04 38 15.5 +0.7**
SRN *i* SN Sg 04 38 46.3 +2.3
SRN Sarande 2.11 314 *i* Pn **Pb 04 38 15.5 +0.7**
KYTH Kithira 2.31 158 P **Pn 04 38 15.3 +0.6**
KYTH Kithira 2.31 158 *e*PN **Pn 04 38 16.0 +1.3**
KYTH Kithira 2.31 158 P **Pn 04 38 15.3 +0.6**
KYTH Kithira 2.31 158 *e*Pn **Pn 04 38 16.0 +1.3**
FNA Florina 2.39 349 P **Pn 04 38 16.3 +0.4**
FNA S Sn 04 38 46.5 +1.1
FNA Florina 2.39 349 P **Pn 04 38 16.3 +0.4**
FNA S Sn 04 38 46.5 +1.1
GRG Griva 2.54 7 P **Pn 04 38 17.6 -0.3**
GRG Griva 2.54 7 P **Pn 04 38 17.6 -0.3**
SOH Sokhos 2.61 24 P **Pn 04 38 18.7 -0.1**
SOH Sokhos 2.61 24 *e*PN **Pn 04 38 18.6 -0.2**
SOH Sokhos 2.61 24 P **Pn 04 38 18.7 -0.1**
BIA Bitola 2.63 349 *i* Pn **Pn 04 38 20.2 +1.0**
BIA *i* Sn **Sb 04 38 55.3 -0.9**

BIA Bitola 2.63 349 *i* Pn **Pn 04 38 20.1 +1.0**
BIA *i* Sn **Sb 04 38 55.3 -0.9**
KNT Kendrikon 2.81 14 P **Pn 04 38 21.5 -0.1**
KNT Kendrikon 2.81 14 *e*PN **Pn 04 38 21.6 -0.1**
KNT Kendrikon 2.81 14 P **Pn 04 38 21.5 -0.1**
VAY Valandovo 2.92 9 *i* Pn **Pn 04 38 23.8 +0.8**
VAY *i* Sn **Sn 04 39 01.3 +3.0**
VAY *i* Lg Lg 04 39 03.6
comp=E,181nm,1.1s
VAY *i* Lg Lg 04 39 08.3
comp=N,289nm,1.3s
VAY Valandovo 2.92 9 *i* Pn **Pn 04 38 23.8 +0.8**
VAY *i* Sn **Sn 04 39 01.2 +2.9**
VAY *i* Lg Lg 04 39 08.2
comp=N,289nm,1.3s
APE Apeiranthos 3.13 115 ⇑*i*P **Pn 04 38 26.1 +0.1**
APE Apeiranthos 3.13 115 ⇑*i*P **Pn 04 38 26.1 +0.1**
MMB Musomiste 3.42 23 ⇓*i*P **Pn 04 38 29.7 -0.3**
MMB Musomiste 3.42 23 ⇓*i*P **Pn 04 38 29.7 -0.3**
SKO Skopje 3.56 353 *i* Pn **Pn 04 38 33.0 +1.2**
SKO *i* Sn **Sn 04 39 16.5 +2.4**
SKO *i* Lg Lg 04 39 31.3
comp=N,163nm,1.2s
SKO *i* Lg Lg 04 39 36.7
comp=E,139nm,0.9s
SKO Skopje 3.56 353 *i* Pn **Pn 04 38 33.0 +1.2**
SKO *i* Sn **Sn 04 39 16.4 +2.3**
SKO *i* Lg Lg 04 39 36.6
comp=E,139nm,0.9s
IDI Anoyia 3.91 143 Pn **Pn 04 38 37.4 +0.6**
IDI Sn **Sn 04 39 21.4 -1.6**
IDI Anoyia 3.91 143 Pn **Pn 04 38 37.4 +0.6**
comp=E,1.6nm,0.3s,baz=336,slow=19,SNR=14.0
IDI Sn **Sn 04 39 21.4 -1.6**
comp=E,4.3nm,0.3s,baz=57,slow=23,SNR=2.3
IDI LR LR 04 40 38.6
comp=E,127nm,20.4s,baz=40,slow=46
IDI Anoyia 3.91 143 Pn **Pn 04 38 37.4 +0.6**
IDI Sn **Sn 04 39 21.4 -1.6**
ULC Ulcinj 4.10 330 ⇑*i*Pn **Pn 04 38 39.2 -0.1**
ULC *e*Sn **Sn 04 39 28.0 +0.5**
ULC Ulcinj 4.10 330 ⇑*i*Pn **Pn 04 38 39.2 -0.1**
ULC *e*Sn **Sn 04 39 28.0 +0.5**
TIP Timpagrande 4.15 282 *e*Pn **Pn 04 38 41.3 +1.3**
TIP *e*Sn **Sn 04 39 27.3 -1.5**
TIP Timpagrande 4.15 282 *e*Pn **Pn 04 38 41.3 +1.3**
TIP *e*Sn **Sn 04 39 27.3 -1.5**
KDZ Kurdzhali 4.15 38 ⇑*i*P **Pn 04 38 40.3 +0.2**
KDZ Kurdzhali 4.15 38 ⇑*i*P **Pn 04 38 40.3 +0.2**
VTS Vitosha 4.25 12 ⇑*i*P **Pn 04 38 42.7 +1.1**
VTS Vitosha 4.25 12 ⇑*i*P **Pn 04 38 42.7 +1.1**
DRME Dracevica, Mon 4.31 331 ⇑*i*Pn **Pn 04 38 43.3 +1.1**
DRME *e*Sn **Sn 04 39 33.3 +0.5**
DRME Dracevica, Mon 4.31 331 ⇑*i*Pn **Pn 04 38 43.3 +1.1**
DRME *e*Sn **Sn 04 39 33.3 +0.5**
PVY Plav 4.43 340 *e*Pn **Pn 04 38 45.0 +1.0**
PVY *e*Sn **Sn 04 39 36.1 +0.3**
PVY Plav 4.43 340 *e*Pn **Pn 04 38 45.0 +1.0**
PVY *e*Sn **Sn 04 39 36.1 +0.3**
PDG Podgorica 4.50 333 *e*Pn **Pn 04 38 45.2 +0.4**
PDG *e*Sn **Sn 04 39 37.8 +0.5**
TTG Podgorica 4.50 333 *e*Pn **Pn 04 38 45.2 +0.4**
TTG *e*Sn **Sn 04 39 37.8 +0.5**
BUM Brajici-Budva 4.52 330 *e*Pn **Pn 04 38 45.8 +0.6**
BUM *e*Sn **Sn 04 39 38.4 +0.4**
BUM Brajici-Budva 4.52 330 *e*Pn **Pn 04 38 45.8 +0.6**
BUM *e*Sn **Sn 04 39 38.4 +0.4**
BEY Berane 4.71 341 ⇑*i*Pn **Pn 04 38 48.0 +0.3**
BEY *e*Sn **Sn 04 39 42.8 +0.2**
IVA Berane 4.71 341 ⇑*i*Pn **Pn 04 38 48.0 +0.3**
IVA *e*Sn **Sn 04 39 42.8 +0.2**
HCY Herceg Novi 4.81 328 ⇑*i*Pn **Pn 04 38 48.6 -0.5**
HCY *e*Sn **Sn 04 39 45.3 +0.3**
HCY Herceg Novi 4.81 328 ⇑*i*Pn **Pn 04 38 48.6 -0.5**
HCY *e*Sn **Sn 04 39 45.3 +0.3**
NKME Niksic 4.90 333 *e*Pn **Pn 04 38 50.9 +0.5**
NKME *e*Sn **Sn 04 39 47.5 +0.2**
NKME Niksic 4.90 333 *e*Pn **Pn 04 38 50.9 +0.5**
NKME *e*Sn **Sn 04 39 47.5 +0.2**
NKY Niksic 4.93 333 ⇑*i*Pn **Pn 04 38 51.2 +0.4**
NKY *e*Sn **Sn 04 39 48.3 +0.2**
NKY Niksic 4.93 333 ⇑*i*Pn **Pn 04 38 51.2 +0.4**
NKY *e*Sn **Sn 04 39 48.3 +0.2**
CUC Castrocucco 5.03 290 *e*Pn Pn 04 38 55.4 +3.2
comp=E,29nm,0.8s
CUC Castrocucco 5.03 290 *e*Pn Pn 04 38 55.4 +3.2
comp=E,29nm,0.8s
BRY Bratogost 5.17 331 ⇑*i*Pn **Pn 04 38 54.7 +0.5**
BRY *e*Sn **Sn 04 39 53.6 -0.5**
BRY Bratogost 5.17 331 ⇑*i*Pn **Pn 04 38 54.7 +0.5**
BRY *e*Sn **Sn 04 39 53.6 -0.5**
PLE Pljevlja 5.27 339 *e*Pn **Pn 04 38 56.9 +1.4**
PLE *e*Sn **Sn 04 39 56.1 -0.4**
PLE Pljevlja 5.27 339 *e*Pn **Pn 04 38 56.9 +1.4**
PLE *e*Sn **Sn 04 39 56.1 -0.4**
UPM Unac-Piva 5.30 335 ⇓*i*Pn **Pn 04 38 56.1 +0.1**
UPM *e*Sn **Sn 04 39 56.9 -0.5**
UPM Unac-Piva 5.30 335 ⇓*i*Pn **Pn 04 38 56.1 +0.1**
UPM *e*Sn **Sn 04 39 56.9 -0.5**
IVAS Ivanjica 5.32 346 ⇓*i*Pn **Pn 04 38 57.1 +1.0**
JMB Yambol 5.34 40 ⇑*i*P **Pn 04 38 55.2 -1.2**
JMB Yambol 5.34 40 ⇑*i*P **Pn 04 38 55.2 -1.2**
BOLS Boljevac 5.39 360 *e*Pn **Pn 04 38 57.1 +0.1**
STON Ston 5.50 325 *e*Pn **Pn 04 38 58.1 -0.3**
STON Sn **Sn 04 39 56.6 -5.3**
STON Ston 5.50 325 *e*Pn **Pn 04 38 58.1 -0.3**
GRUS Gruza 5.53 350 ⇓*i*Pn **Pn 04 39 00.5 +1.6**
BBLS Lazići 5.76 341 ⇓*i*Pn **Pn 04 39 03.4 +1.2**
DIVS Divibare 5.85 346 ⇓*i*Pn **Pn 04 39 04.4 +0.9**
TRUS Trudelj 5.90 349 *e*Pn **Pn 04 39 04.8 +0.7**
TEKS Tekeris 6.38 344 ⇓*i*Pn **Pn 04 39 11.6 +1.0**
ISP Isparta 6.76 93 ⇑*i*P **Pn 04 39 16.0 0.0**
ISP Isparta 6.76 93 ⇑*i*P **Pn 04 39 16.0 0.0**
FGSL Fruska Gora 6.91 347 *e*Pn **Pn 04 39 18.9 +1.0**
PSN Preselentsi 7.03 40 ⇑*i*P **Pn 04 39 19.9 +0.4**
PSN Preselentsi 7.03 40 ⇑*i*P **Pn 04 39 19.9 +0.4**
BZS Buzias 7.18 358 ⇑*i*P **Pn 04 39 24.3 +2.7**
VOIR 7.36 17 ⇑*i*P **Pn 04 39 25.0 +0.9**
VOIR 7.36 17 ⇑*i*P **Pn 04 39 25.0 +0.9**
ISR Istrita 7.50 26 ⇑*i*P **Pn 04 39 25.9 -0.1**
ISR Istrita 7.50 26 ⇑*i*P **Pn 04 39 25.9 -0.1**
AQU L'Aquila 7.63 304 *e*Pn **Pn 04 39 30.8 +3.1**
MLR Muntele Rosu 7.64 21 ⇑*i*P **Pn 04 39 29.5 +1.4**
MLR Muntele Rosu 7.64 21 Pn **Pn 04 39 29.7 +1.7**
MLR Muntele Rosu 7.64 21 Pn **Pn 04 39 29.7 +1.7**
baz=187,slow=16
MLR LR LR 04 43 15.6
comp=E,42nm,20.3s,baz=183,slow=45
MLR Muntele Rosu 7.64 21 ⇑*i*P **Pn 04 39 29.5 +1.4**
DOPR Dopca 7.94 17 ⇑*i*P **Pn 04 39 33.8 +1.8**
DOPR Dopca 7.94 17 ⇑*i*P **Pn 04 39 33.8 +1.8**
NVLJ Novalja 8.12 321 *i* Pn **Pn 04 39 36.1 +1.7**
NVLJ Sn **Sn 04 41 02.7 -3.7**
NVLJ Novalja 8.12 321 *i* Pn **Pn 04 39 36.1 +1.7**
CFR Carcaliu 8.15 32 ⇑*i*P **Pn 04 39 36.3 +1.4**
CFR Carcaliu 8.15 32 ⇑*i*P **Pn 04 39 36.3 +1.4**
PKSM Moragy 8.15 343 ⇑*i*P **Pn 04 39 34.6 -0.3**
PKSM Moragy 8.15 343 ⇑*i*P **Pn 04 39 34.6 -0.3**
PLOR Plostina 8.18 24 ⇑*i*P **Pn 04 39 36.8 +1.4**
PLOR Plostina 8.18 24 ⇑*i*P **Pn 04 39 36.8 +1.4**
VRI Vrincioaia 8.22 24 ⇓*i*P **Pn 04 39 36.5 +0.6**
VRI Vrincioaia 8.22 24 ⇓*i*P **Pn 04 39 36.5 +0.6**
BOJS Bojanci 8.66 327 *e*Pn **Pn 04 39 41.9 0.0**
BOJS *i* Sn **Sn 04 41 18.0 -1.7**
BR131 Keskin Array S 9.16 78 *e*Pn **Pn 04 39 50.8 +1.9**
comp=E,1.5nm,0.5s
BR131 Keskin Array S 9.16 78 *e*Pn **Pn 04 39 50.8 +1.9**
comp=E,1.5nm,0.5s
BRTR Keskin Array B 9.16 78 Pn **Pn 04 39 51.0 +2.1**
BRTR Keskin Array B 9.16 78 Pn **Pn 04 39 51.0 +2.1**
comp=E,0.4nm,0.3s,baz=258,slow=12,SNR=19
BRTR Keskin Array B 9.16 78 Pn **Pn 04 39 51.0 +2.1**
BURAR Bucovina Array 9.47 13 ⇑*i*P **Pn 04 39 53.8 +0.7**
BURAR Bucovina Array 9.47 13 ⇑*i*P **Pn 04 39 53.8 +0.7**
JAVS Javornik 9.48 324 *i* Pn **Pn 04 39 53.8 +0.5**
JAVS *e*Sn **Sn 04 41 38.4 -1.8**
BUR08 Bucovina Ar. S 9.50 13 *e*Pn **Pn 04 39 53.1 -0.4**
BUR08 Bucovina Ar. S 9.50 13 *e*Pn **Pn 04 39 53.1 -0.4**
PSZ Piszkesteto 9.60 352 ⇑*i*P **Pn 04 39 57.0 +2.2**
PSZ Piszkesteto 9.60 352 *e*Pn **Pn 04 39 56.5 +1.7**
comp=E,8.2nm,0.7s

PSZ Piszkesteto 9.60 352 ⇑*i*P **Pn 04 39 57.0 +2.2**
comp=E,8.2nm,0.7s
PERS Pernice 9.63 331 *i* Pn **Pn 04 39 55.7 +0.5**
PERS *i* Sn **Sn 04 41 42.0 -1.6**
MOA Molln 10.96 332 ⇑*i*Pn **Pn 04 40 14.7 +1.3**
MOA Molln 10.96 332 Pn **Pn 04 40 14.7 +1.3**
VRAC Vranov 11.54 342 LR LR 04 45 14.9
comp=E,69nm,20.6s,baz=170,slow=40
MORC Moravsky Berou 11.77 346 *e*Pn **Pn 04 40 25.4 +0.8**
MORC Moravsky Berou 11.77 346 *e*Pn **Pn 04 40 25.4 +0.8**
GERES GERESS Array B 12.00 333 Pn **Pn 04 40 28.0 +0.3**
GERES GERESS Array B 12.00 333 Pn **Pn 04 40 28.0 +0.3**
comp=E,0.1nm,0.3s,baz=151,slow=25,SNR=6.2
GERES LR LR 04 46 17.3
comp=E,157nm,19.5s,baz=106,slow=44
GERES GERESS Array B 12.00 333 Pn **Pn 04 40 28.0 +0.3**
SBF Sospel 12.23 301 *e*P **Pn 04 40 32.1 +1.3**
comp=E,28nm,0.8s
SBF Sospel 12.23 301 *e*P **Pn 04 40 32.1 +1.3**
comp=E,28nm,0.8s
SBF Sospel 12.23 301 *e*P **Pn 04 40 32.1 +1.3**
comp=E,28nm,0.8s
MBDF Montbardon 13.00 304 *e*P **Pn 04 40 43.7 +2.3**
MBDF Montbardon 13.00 304 *e*P **Pn 04 40 43.7 +2.3**
MBDF Montbardon 13.00 304 *e*P **Pn 04 40 43.7 +2.3**
AKASG Malin Array Be 13.30 20 Pn **Pn 04 40 44.4 -0.9**
AKASG Malin Array Be 13.30 20 Pn **Pn 04 40 44.4 -0.9**
comp=E,0.4nm,0.3s,baz=203,slow=12,SNR=4.5
AKASG Malin Array Be 13.30 20 Pn **Pn 04 40 44.4 -0.9**
LPG La Plagne 13.34 307 *e*P **Pn 04 40 48.1 +1.9**
comp=E,13nm,1.0s
LPG La Plagne 13.34 307 *e*P **Pn 04 40 48.1 +1.9**
comp=E,13nm,1.0s
LPG La Plagne 13.34 307 *e*P **Pn 04 40 48.1 +1.9**
comp=E,13nm,1.0s
LPL La Plagne 13.36 307 *e*P **Pn 04 40 48.8 +2.4**
LPL La Plagne 13.36 307 *e*P **Pn 04 40 48.8 +2.4**
LPL La Plagne 13.36 307 *e*P **Pn 04 40 48.8 +2.4**
CLL Collm 14.34 337 *e*(PP) 04 41 06.0
SMF Signal de Mont 15.66 307 *e*P **Pn 04 41 18.7 +1.4**
comp=E,11nm,0.9s
SMF Signal de Mont 15.66 307 *e*P **Pn 04 41 18.7 +1.4**
comp=E,11nm,0.9s
SSF Saint Saulge 16.05 308 *e*P **P 04 41 25.8 +0.1**
comp=E,33nm,1.3s
SSF Saint Saulge 16.05 308 *e*P **P 04 41 25.8 +0.1**
comp=E,33nm,1.3s
SSF Saint Saulge 16.05 308 *e*P **P 04 41 25.8 +0.1**
comp=E,33nm,1.3s
GNI Garni 17.70 77 *e*Pn **P 04 41 44.3 +0.1**
GNI Garni 17.70 77 *e*Pn **P 04 41 44.3 +0.1**
FLN La Foliniere 19.20 310 *e*P **Pn 04 42 02.4 +1.0**
FLN La Foliniere 19.20 310 *e*P **Pn 04 42 02.4 +1.0**
FLN La Foliniere 19.20 310 *e*P **Pn 04 42 02.4 +1.0**
ESDC Sonseca Array 20.17 282 P **P 04 42 12.1 +0.9**
ESDC Sonseca Array 20.17 282 P **P 04 42 12.1 +0.9**
comp=E,1.2nm,0.6s,baz=76,slow=10,SNR=8.8
ESDC Sonseca Array 20.17 282 P Pn 04 42 12.1 -1.0
TAM Tamanrasset 21.01 227 *e*P **P 04 42 21.0 +0.4**
comp=E,20nm,1.8s
TAM Tamanrasset 21.01 227 *e*P **P 04 42 21.0 +0.4**
comp=E,20nm,1.8s
HFS Hagfors 22.34 349 P **P 04 42 33.4 -1.0**
HFS Hagfors 22.34 349 P **P 04 42 33.4 -1.0**
comp=E,2.0nm,0.6s,baz=143,slow=11,SNR=11
HFS Hagfors 22.34 349 P **P 04 42 33.4 -1.0**
FINES FINESS Array B 23.17 5 P **P 04 42 41.4 -1.7**
FINES FINESS Array B 23.17 5 P **P 04 42 41.4 -1.7**
comp=E,1.7nm,0.6s,baz=183,slow=7.6,SNR=8.7
FINES FINESS Array B 23.17 5 P **P 04 42 41.4 -1.7**
NB2 NORSAR Subarra 23.61 347 P **P 04 42 46.5 -1.0**
comp=Z,1.7nm,0.6s,baz=154,slow=10
NB2 NORSAR Subarra 23.61 347 P **P 04 42 46.5 -1.0**
comp=Z,1.7nm,0.6s,SNR=8.7
NOA NORSAR Array B 23.61 347 P **P 04 42 46.1 -1.4**
NOA NORSAR Array B 23.61 347 P **P 04 42 46.1 -1.4**
comp=Z,0.9nm,0.6s,baz=153,slow=9.2,SNR=7.0
NOA NORSAR Array B 23.61 347 P **P 04 42 46.2 -1.4**
EKA Eskdalemuir Ar 23.89 323 P **P 04 42 49.8 -0.5**
EKA Eskdalemuir Ar 23.89 323 P **P 04 42 49.8 -0.5**
comp=Z,4.3nm,0.8s,baz=121,slow=9.8,SNR=5.8
EKA Eskdalemuir Ar 23.89 323 P **P 04 42 49.8 -0.5**
TOA0 Torodi Ar. Sit 30.96 221 *e*P **P 04 43 53.6 -0.4**
TOA0 Torodi Ar. Sit 30.96 221 *e*P **P 04 43 53.7 -0.4**
TORD Torodi Ar. Bea 30.96 221 P **P 04 43 54.1 0.0**
TORD Torodi Ar. Bea 30.96 221 P **P 04 43 54.1 0.0**
comp=Z,2.6nm,0.7s,baz=36,slow=9.0,SNR=24
TORD Torodi Ar. Bea 30.96 221 P **P 04 43 54.1 0.0**
ARCES ARCESS Array B 31.22 2 P **P 04 43 55.1 -0.8**
ARCES ARCESS Array B 31.22 2 P **P 04 43 55.1 -0.8**
comp=Z,3.0nm,1.0s,baz=180,slow=9.7,SNR=5.9
ARCES ARCESS Array B 31.22 2 P **P 04 43 55.1 -0.8**
BVAR Borovoye Array 36.07 50 P **P 04 44 38.3 0.0**
BVAR Borovoye Array 36.07 50 P **P 04 44 38.3 0.0**
comp=Z,0.3nm,0.5s,baz=246,slow=9.3,SNR=2.3
BVAR Borovoye Array 36.07 50 P **P 04 44 38.3 0.0**
KKAR Karatay Array 36.64 67 *e*P **P 04 44 43.8 +0.5**
comp=Z,13nm,1.2s
KKAR Karatay Array 36.64 67 *e*P **P 04 44 43.8 +0.5**
comp=Z,13nm,1.2s
EKS2 Erkin-Say 39.08 67 *e*P **P 04 45 03.4 -0.6**
comp=Z,10nm,1.5s
EKS2 Erkin-Say 39.08 67 *e*P **P 04 45 03.4 -0.6**
comp=Z,10nm,1.5s
DBIC Dimbokro 39.87 224 *e*P **P 04 45 10.8 +0.1**
comp=Z,5.0nm,1.0s
DBIC Dimbokro 39.87 224 *e*P **P 04 45 10.8 +0.1**
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 39.92 358 P **P 04 45 10.9 +0.4**
SPITS Spitsbergen Ar 39.92 358 P **P 04 45 10.9 +0.4**
comp=Z,5.6nm,0.8s,baz=143,slow=10,SNR=4.4
SPITS Spitsbergen Ar 39.92 358 P **P 04 45 10.9 +0.4**
LIC Lamto 40.33 224 *e*P **P 04 45 15.0 +0.5**
comp=Z,2.0nm,0.3s
LIC Lamto 40.33 224 *e*P **P 04 45 15.0 +0.5**
comp=Z,2.0nm,0.3s
LIC Lamto 40.33 224 *e*P **P 04 45 15.0 +0.5**
comp=Z,2.0nm,0.3s
KURBB Kurchatov Arra 41.15 54 P **P 04 45 22.3 +1.4**
comp=Z,2.7nm,0.2s,baz=284,slow=9.0,SNR=5.1
KURK Kurchatov 41.20 54 P **P 04 45 22.3 +1.0**
KURK Kurchatov 41.20 54 P **P 04 45 22.3 +1.0**
MK31 Makanchi Array 44.19 59 *e*P **P 04 45 45.2 -0.5**
MK31 Makanchi Array 44.19 59 *e*P **P 04 45 45.2 -0.5**
MKAR Makanchi Array 44.19 59 P **P 04 45 45.3 -0.4**
MKAR Makanchi Array 44.19 59 P **P 04 45 45.3 -0.4**
comp=Z,1.2nm,0.4s,baz=277,slow=7.1,SNR=31
MKAR Makanchi Array 44.19 59 P **P 04 45 45.3 -0.4**
ZAA0 Zalesovo Array 44.66 48 *e*P **P 04 45 49.3 0.0**
ZAA0 Zalesovo Array 44.66 48 *e*P **P 04 45 49.3 0.0**
ZALV Zalesovo Beam 44.66 48 P **P 04 45 49.0 -0.3**
ZALV Zalesovo Beam 44.66 48 P **P 04 45 49.0 -0.3**
comp=Z,3.5nm,0.9s,baz=292,slow=7.8,SNR=7.4
ZALV Zalesovo Beam 44.66 48 P **P 04 45 49.0 -0.3**
SCHQ Schefferville 59.05 318 P **P 04 47 36.6 0.0**
SCHQ Schefferville 59.05 318 P **P 04 47 36.6 0.0**
comp=Z,4.4nm,1.0s,baz=72,slow=13,SNR=3.3
SCHQ Schefferville 59.05 318 P **P 04 47 36.6 0.0**
SONM Songino Array 59.40 51 P **P 04 47 40.1 +0.7**
SONM Songino Array 59.40 51 P **P 04 47 40.1 +0.7**
comp=Z,0.9nm,0.9s,baz=284,slow=9.3,SNR=6.8
SONM Songino Array 59.40 51 P **P 04 47 40.1 +0.7**
ULN Ulaanbaatar 59.79 51 *e*P **P 04 47 42.1 0.0**
ULN Ulaanbaatar 59.79 51 *e*P **P 04 47 42.1 0.0**
PALK Pallekele 61.16 105 *e*P **P 04 47 49.1 -2.6**
PALK Pallekele 61.16 105 *e*P **P 04 47 49.1 -2.6**
**YKA Y

WRA	**Warramunga Arr**	**119.40**	**93**	PKP		**PKPdf**	**04 56 25.4**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=355,slow=2.0,SNR=3.0							
WRA	**Warramunga Ar**	**119.40**	**93**	PKIKP		**PKPdf**	**04 56 25.4**	**-1.3**
ASAR	**Alice Springs**	**121.06**	**97**	PKP		**PKPdf**	**04 56 27.6**	**-2.3**
ASAR	**Alice Springs**	**121.06**	**97**	PKP		**PKPdf**	**04 56 27.6**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=317,slow=3.9,SNR=2.8							
ASAR	**Alice Springs**	**121.06**	**97**	PKIKP		**PKPdf**	**04 56 27.6**	**-2.3**

IDC ***22*** *04:43:10.5±1.1,35°.76N×57°.43E, h0km, mb3.5/10, mb1 3.8/15, mb1mx3.7/31, mbtmp3.6/15, ML3.3/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=21.3km s-min=16.5km az=173.0*

ISCJB ***22*** *04:43:11.4±0.3,35°.71N±0°.04×57°.66E±0°.03, h10km, mb3.5/11, MS3.0/2, Error ellipse: s-maj=5.6km s-min=2.8km az=149.4*

THR ***22*** *04:43:12.2±0.6,35°.59N×57°.68E, h14km±5km, ML3.8*

CSEM ***22*** *04:43:14.0±0.2,35°.71N×57°.68E, h20km, ML3.9, Error ellipse: s-maj=6.2km s-min=4.0km az=151.0*

TEH ***22*** *04:43:14.4,35°.72N×57°.67E, h21km, ML3.9*

ISC 22 04:43:12.1±0.6, 35°.68N±0°.04×57°.67E±0°.03, h10km, n77, σ1§18/80, mb3.6/11, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IAKL	**Akhelmad**	**1.27**	**43**	*e*Pg		**Pn**	**04 43 34.5**	**-1.7**
IAKL				*e*Sg		**Sb**	**04 43 54.1**	**+1.2**
IAKL				*e*			04 43 54.1	
	comp=Z,13μm,0.2s							
IKRD	**Kardeh**	**1.29**	**32**	*e*Pn		Pg	04 43 45.1	+8.2
IKRD				*e*			04 44 17.3	
	comp=Z,8μm,0.4s							
IPAY	**Payeh**	**1.32**	**54**	*e*Pg		**Pn**	**04 43 36.2**	**-0.6**
IPAY				*e*Sg		**Sb**	**04 43 55.3**	**+1.1**
IPAY				*e*			04 43 55.8	
	comp=Z,13μm,0.2s							
IPAY	**Payeh**	**1.32**	**54**	*e*Pg		**Pn**	**04 43 36.2**	**-0.6**
IPAY				*e*Sg		**Sb**	**04 43 55.3**	**+1.1**
SHRO	**Shahrood**	**1.39**	**283**	*e*Pg		**Pb**	**04 43 38.4**	**+0.1**
SHRO	**Shahrood**	**1.39**	**283**	*e*Pg		**Pb**	**04 43 38.4**	**+0.1**
ISFR	**Sfrayin**	**1.40**	**11**	*e*Pn		**Pn**	**04 43 36.4**	**-1.5**
ISFR				*e*Sg		**Sn**	**04 43 57.7**	**+1.0**
ISFR				*e*			04 44 06.0	
	comp=Z,17μm,0.3s							
IMOG	**Moghan**	**1.42**	**72**	*e*Pn		**Pn**	**04 43 38.7**	**+0.4**
IMOG				*e*			04 44 06.4	
	comp=Z,9μm,0.3s							
IMOG	**Moghan**	**1.42**	**72**	*e*Pn		**Pn**	**04 43 38.7**	**+0.4**
ISRO	**Mashad**	**1.59**	**66**	*e*Pn		**Pn**	**04 43 41.1**	**+0.7**
ISRO				*e*Sg		**Sb**	**04 44 03.2**	**+1.4**
ISRO				*e*			04 44 08.0	
	comp=Z,16μm,0.4s							
ISRO	**Mashad**	**1.59**	**66**	*e*Pn		**Pn**	**04 43 41.1**	**+0.7**
ISRO				*e*Sg		**Sb**	**04 44 03.2**	**+1.4**
ISHV	**Shirvan**	**1.85**	**1**	*e*Pn		**Pn**	**04 43 44.4**	**+0.2**
ISHV				*e*			04 44 32.7	
	comp=Z,20μm,0.5s							
ISHV	**Shirvan**	**1.85**	**1**	*e*Pn		**Pn**	**04 43 44.4**	**+0.2**
TABS	**Tabas**	**2.08**	**193**	*e*Pg		**Pb**	**04 43 48.4**	**-1.6**
	comp=Z,834nm,0.7s							
TABS	**Tabas**	**2.08**	**193**	*e*Pg		**Pb**	**04 43 48.4**	**-1.6**
TABS				AML		AML	04 44 32.9	
	comp=N,834nm,0.7s							
IMYA	**Miami**	**2.08**	**71**	*e*Pn		**Pn**	**04 43 48.8**	**+1.6**
IMYA				*e*			04 43 53.7	
	comp=Z,4μm,0.3s							
IMYA	**Miami**	**2.08**	**71**	*e*Pn		**Pn**	**04 43 48.8**	**+1.6**
MRVT	**Maraveh tapeh**	**2.35**	**328**	*e*Pn		**Pn**	**04 43 53.5**	**+2.6**
MRVT	**Maraveh tapeh**	**2.35**	**328**	*e*Pn		**Pn**	**04 43 53.5**	**+2.6**
IANJ	**Anjilo**	**3.07**	**267**	*e*Pn		**Pn**	**04 44 00.9**	**0.0**
IANJ				*e*			04 44 56.0	
	comp=Z,3μm,0.5s							
IANJ	**Anjilo**	**3.07**	**267**	*e*Pn		**Pn**	**04 44 00.9**	**0.0**
IGLO	**Ghaloghah**	**3.22**	**286**	*e*Pn		**Pn**	**04 44 03.7**	**+0.7**
IGLO				*e*			04 45 13.1	
	comp=Z,5μm,0.4s							
IKIA	**Kiasar**	**3.28**	**280**	*e*Pn		**Pn**	**04 44 04.7**	**+0.9**
IKIA				*e*			04 45 06.6	
	comp=Z,1μm,0.3s							
IKIA	**Kiasar**	**3.28**	**280**	*e*Pn		**Pn**	**04 44 04.7**	**+0.9**
IKOO	**Kooshah**	**3.43**	**161**	*e*Pn		**Pn**	**04 44 07.2**	**+1.3**
IKOO				*e*			04 45 13.3	
	comp=Z,2μm,0.4s							
IKOO	**Kooshah**	**3.43**	**161**	*e*Pn		**Pn**	**04 44 07.2**	**+1.3**
IDAH	**Dahanechah**	**3.45**	**148**	*e*Pn		**Pn**	**04 44 07.4**	**+1.2**
IDAH				*e*			04 45 21.4	
	comp=Z,2μm,0.3s							
IDAH	**Dahanechah**	**3.45**	**148**	*e*Pn		**Pn**	**04 44 07.4**	**+1.2**
ISHM	**Shahmirzad**	**3.57**	**273**	*e*Pn		**Pn**	**04 44 07.9**	**+0.1**
ISHM				*e*			04 45 09.3	
	comp=Z,4μm,0.3s							
ISHM	**Shahmirzad**	**3.57**	**273**	*e*Pn		**Pn**	**04 44 07.9**	**+0.1**
ILAS	**Lasjerd**	**3.86**	**267**	*e*Pn		**Pn**	**04 44 12.0**	**+0.2**
ILAS				*e*			04 45 21.4	
	comp=Z,3μm,0.4s							
ILAS	**Lasjerd**	**3.86**	**267**	*e*Pn		**Pn**	**04 44 12.0**	**+0.2**
IALA	**Alasht**	**3.97**	**277**	*e*Pn		**Pn**	**04 44 14.5**	**+1.1**
IALA				*e*			04 45 30.0	
	comp=Z,1μm,0.3s							
IALA	**Alasht**	**3.97**	**277**	*e*Pn		**Pn**	**04 44 14.5**	**+1.1**
IFIR	**Firoozkooh**	**4.01**	**271**	*e*Pn		**Pn**	**04 44 14.6**	**+0.7**
IFIR				*e*			04 45 29.1	
	comp=Z,1μm,0.2s							
IFIR	**Firoozkooh**	**4.01**	**271**	*e*Pn		**Pn**	**04 44 14.6**	**+0.7**
ICHK	**Chekchek**	**4.37**	**219**	*e*Pn		**Pn**	**04 44 20.0**	**+1.2**
ICHK				*e*			04 45 44.4	
	comp=Z,3μm,0.4s							
ICHK	**Chekchek**	**4.37**	**219**	*e*Pn		**Pn**	**04 44 20.0**	**+1.2**
IBAF	**Bafgh**	**4.44**	**204**	*e*Pn		**Pn**	**04 44 20.9**	**+1.1**
IBAF				*e*			04 45 42.8	
	comp=Z,2μm,0.4s							
IBAF	**Bafgh**	**4.44**	**204**	*e*Pn		**Pn**	**04 44 20.8**	**+1.1**
IDMV	**Damavand**	**4.60**	**270**	*e*Pn		**Pn**	**04 44 21.8**	**-0.2**
IDMV				*e*			04 45 58.9	
	comp=Z,2μm,0.4s							
IDMV	**Damavand**	**4.60**	**270**	*e*Pn		**Pn**	**04 44 21.8**	**-0.2**
IVRN	**Varamin**	**4.91**	**264**	*e*Pn		**Pn**	**04 44 26.5**	**+0.4**
IVRN				*e*			04 46 19.9	
	comp=Z,1μm,0.6s							
IVRN	**Varamin**	**4.91**	**264**	*e*Pn		**Pn**	**04 44 26.5**	**+0.4**
NASN	**Na'in**	**4.95**	**236**	*e*Pn		**Pn**	**04 44 28.4**	**+1.5**
	comp=Z,50nm,0.6s							
NASN	**Na'in**	**4.95**	**236**	*e*Pn		**Pn**	**04 44 28.4**	**+1.5**
NASN					AML	AML	04 45 58.7	
	comp=N,49nm,0.6s							
NASN					AML	AML	04 46 08.0	
	comp=E,50nm,0.6s							
ISAD	**Sadrabad**	**5.01**	**223**	*e*Pn		**Pn**	**04 44 28.6**	**+0.9**
ISAD				*e*			04 46 05.3	
	comp=Z,2μm,0.3s							
ISAD	**Sadrabad**	**5.01**	**223**	*e*Pn		**Pn**	**04 44 28.6**	**+0.9**
IZEF	**Zefreh**	**5.22**	**239**	*e*Pn		**Pn**	**04 44 31.2**	**+0.6**
IZEF				*e*			04 46 17.9	
	comp=Z,694nm,0.3s							
IZEF	**Zefreh**	**5.22**	**239**	*e*Pn		**Pn**	**04 44 31.2**	**+0.6**
CHTH	**Charan**	**5.33**	**274**	*e*Pn		**Pn**	**04 44 33.9**	**+1.9**
CHTH	**Charan**	**5.33**	**274**	*e*Pn		**Pn**	**04 44 33.9**	**+1.9**
GHVR	**GHOM**	**5.37**	**259**	*e*Pn		**Pn**	**04 44 34.2**	**+1.9**
	comp=Z,72nm,0.6s							
GHVR	**GHOM**	**5.37**	**259**	*e*Pn		**Pn**	**04 44 34.2**	**+1.9**
GHVR					AML	AML	04 46 20.4	
	comp=N,68nm,0.6s							
GHVR					AML	AML	04 46 37.3	
	comp=E,72nm,0.6s							
QAM	**Ghamsar**	**5.48**	**251**	*e*Pn		**Pn**	**04 44 35.3**	**+1.3**
IKLH	**Kolahrood**	**5.56**	**247**	*e*Pn		**Pn**	**04 44 35.9**	**+0.8**
IKLH				*e*			04 46 37.5	
	comp=Z,1μm,0.3s							
IKLH	**Kolahrood**	**5.56**	**247**	*e*Pn		**Pn**	**04 44 35.9**	**+0.8**
IPIR	**Pirpir**	**6.36**	**244**	*e*Pn		**Pn**	**04 44 47.2**	**+0.9**
IPIR	**Pirpir**	**6.36**	**244**	*e*Pn		**Pn**	**04 44 47.2**	**+0.9**
KHMZ	**Khomeyn**	**6.64**	**255**	*e*Pn		**Pn**	**04 44 51.4**	**+1.4**
KHMZ	**Khomeyn**	**6.64**	**255**	*e*Pn		**Pn**	**04 44 51.4**	**+1.4**
KBZ	**Khabaz**	**13.91**	**310**	Pn		Pn	04 46 26.2	-3.1
	comp=Z,0.1nm,0.3s,baz=117,slow=4.5,SNR=3.6							
AKTO	**Aktyubinsk**	**14.75**	**1**	Pn		Pn	04 46 36.7	-4.0
	comp=Z,0.2nm,0.3s,baz=179,slow=13,SNR=9.2							
AKTO					Sn	Sn	04 49 17.3	-6.8
	comp=Z,0.0nm,0.3s,baz=246,slow=20,SNR=1.4							
AAK	**Ala-Archa**	**14.77**	**57**	Pn		**Pn**	**04 46 41.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=230,slow=9.6,SNR=7.3							
AAK					LR	LR	04 53 13.0	
	comp=Z,55nm,20.1s,baz=261,slow=40							

BRTR	**Keskin Array B**	**19.43**	**289**	P		**P**	**04 47 36.5**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=95,slow=9.0,SNR=2.5							
BVAR	**Borovoye Array**	**19.53**	**23**	P		**P**	**04 47 39.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=212,slow=10,SNR=11							
BVAR					LR	LR	04 55 14.2	
	comp=Z,47nm,19.7s,baz=180,slow=37							
KURBB	**Kurchatov Arra**	**21.21**	**39**	P		**P**	**04 47 59.8**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=236,slow=11,SNR=3.4							
MKAR	**Makanchi Array**	**21.50**	**51**	P		**P**	**04 48 01.7**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=241,slow=12,SNR=4.5							
MKAR					LR	LR	04 57 46.9	
	comp=Z,59nm,19.0s,baz=346,slow=41							
AKASG	**Malin Array Be**	**25.40**	**315**	P		**P**	**04 48 39.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=115,slow=9.3,SNR=2.9							
MLR	**Muntele Rosu**	**25.87**	**302**	P		**P**	**04 48 46.0**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=198,slow=9.6,SNR=6.7							
ZALV	**Zalesovo Beam**	**26.29**	**38**	P		**P**	**04 48 48.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=229,slow=17,SNR=2.4							
NOA	**NORSAR Array B**	**38.72**	**326**	P		**P**	**04 50 34.9**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=114,slow=8.1,SNR=3.1							
NOA					LR	LR	05 09 18.2	
	comp=Z,27nm,18.9s,baz=5.0,slow=41							
CMAR	**Chiang Mai Arr**	**40.22**	**104**	P		**P**	**04 50 50.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=308,slow=10,SNR=3.0							
ESDC	**Sonseca Array**	**48.11**	**294**	P		**P**	**04 51 51.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=50,slow=8.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**54.90**	**261**	P		**P**	**04 52 41.7**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=50,slow=6.4,SNR=8.0							
YKA	**Yellowknife Ar**	**81.97**	**356**	P		**P**	**04 55 31.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=0.5,slow=6.2,SNR=8.7							
WRA	**Warramunga Arr**	**91.16**	**114**	P		**P**	**04 56 18.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=320,slow=3.7,SNR=4.0							

ISCJB ***22*** *04:43:38.0±0.2,38°.44N±0°.01×21°.98E±0°.02, h6km±2km, mb3.6/5, Error ellipse: s-maj=2.2km s-min=2.0km az=176.6*

ATH ***22*** *04:43:38.3,38°.42N×21°.97E, h11km±1km, ML3.2*

THE ***22*** *04:43:38.6,38°.44N×21°.97E, h2km±1km, ML3.3/14, Error ellipse: s-maj=1.2km s-min=0.4km az=317.0*

CSEM ***22*** *04:43:38.4±0.1,38°.43N×21°.99E, h2km, ML3.2, Error ellipse: s-maj=2.3km s-min=2.0km az=72.0*

IDC ***22*** *04:43:38.0±1.1,38°.39N×21°.98E, h0km, mb3.6/6, mb1 3.6/9, mb1mx3.4/44, mbtmp3.5/9, ML2.9/3, Error ellipse: s-maj=22.0km s-min=18.4km az=114.0*

ISC 22 04:43:39.0±0.8, 38°.43N±0°.01×21°.98E±0°.01, h5km±5km, n128, σ0§79/204, mb3.7/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**268**	P		**Pg**	**04 43 40.0**	**-0.5**
EFP				S		**Sg**	**04 43 41.1**	**-0.4**
EFP	**Efpalio**	**0.06**	**268**	*e*PG		**Pg**	**04 43 40.0**	**-0.5**
EFP	**Efpalio**	**0.06**	**268**	P		**Pg**	**04 43 40.0**	**-0.5**
EFP				S		**Sg**	**04 43 41.1**	**-0.4**
KALE	**Kalithea**	**0.13**	**106**	P		**Pg**	**04 43 40.9**	**-0.8**
KALE				S		**Sg**	**04 43 44.0**	**+0.4**
KALE	**Kalithea**	**0.13**	**106**	*e*PG		**Pg**	**04 43 41.7**	**0.0**
KALE				*e*SG		**Sg**	**04 43 44.2**	**+0.6**
KALE	**Kalithea**	**0.13**	**106**	P		**Pg**	**04 43 40.9**	**-0.8**
KALE	**Kalithea**	**0.13**	**106**	*e*Pg		**Pg**	**04 43 41.7**	**0.0**
KALE				S		**Sg**	**04 43 43.8**	**+0.2**
KALE				*e*Sg		Sg	04 43 44.2	+0.5
LAKA	**Lakka**	**0.19**	**180**	P		**Pg**	**04 43 42.6**	**-0.1**
LAKA	**Lakka**	**0.19**	**180**	*e*PG		**Pg**	**04 43 42.7**	**0.0**
LAKA	**Lakka**	**0.19**	**180**	P		**Pg**	**04 43 42.6**	**-0.1**
UPR	**University Cam**	**0.21**	**226**	P		**Pg**	**04 43 42.9**	**-0.2**
UPR				S		**Sg**	**04 43 46.3**	**+0.4**
UPR	**University Cam**	**0.21**	**226**	P		**Pg**	**04 43 42.9**	**-0.2**
UPR				S		**Sg**	**04 43 46.1**	**+0.2**
PVO	**Paravola**	**0.40**	**298**	P		**Pg**	**04 43 45.9**	**-0.8**
PVO	**Paravola**	**0.40**	**298**	P		**Pg**	**04 43 46.0**	**-0.8**
PVO				S		**Sg**	**04 43 51.9**	**-0.1**
KLV	**Kalavryta, Ach**	**0.41**	**161**	P		**Pg**	**04 43 46.2**	**-0.6**
KLV				S		**Sg**	**04 43 52.5**	**+0.3**
KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*PB		**Pg**	**04 43 46.3**	**-0.6**
KLV				*e*SB		**Sg**	**04 43 52.2**	**0.0**
KLV	**Kalavryta, Ach**	**0.41**	**161**	P		**Pg**	**04 43 46.3**	**-0.6**
KLV				*e*Sb		**Sg**	**04 43 52.2**	**0.0**
DSF	**Desfina**	**0.43**	**92**	P		**Pg**	**04 43 46.4**	**-0.9**
DSF				S		**Sg**	**04 43 53.2**	**+0.2**
DSF	**Desfina**	**0.43**	**92**	*e*PG		**Pg**	**04 43 46.4**	**-0.9**
DSF				*e*SB		**Sg**	**04 43 53.5**	**+0.5**
DSF	**Desfina**	**0.43**	**92**	P		**Pg**	**04 43 46.4**	**-0.9**
DSF				S		**Sg**	**04 43 53.2**	**+0.2**
EVR	**Evrytania**	**0.51**	**345**	P		**Pg**	**04 43 47.7**	**-1.0**
EVR				S		**Sg**	**04 43 55.1**	**-0.3**
EVR	**Evrytania**	**0.51**	**345**	*e*PB		**Pg**	**04 43 47.8**	**-1.0**
EVR				*e*SB		**Sg**	**04 43 55.4**	**0.0**
EVR	**Evrytania**	**0.51**	**345**	P		**Pg**	**04 43 47.8**	**-1.0**
EVR				S		**Sg**	**04 43 55.1**	**-0.3**
DRO	**Drossia**	**0.52**	**204**	P		**Pg**	**04 43 48.5**	**-0.5**
DRO				S		**Sg**	**04 43 56.2**	**+0.4**
DRO	**Drossia**	**0.52**	**204**	*e*PB		**Pg**	**04 43 48.5**	**-0.5**
DRO				*e*SB		**Sg**	**04 43 55.4**	**-0.4**
DRO	**Drossia**	**0.52**	**204**	P		**Pg**	**04 43 48.5**	**-0.5**
DRO				*e*Sb		**Sg**	**04 43 55.4**	**-0.4**
DRO				S		**Sb**	**04 43 56.1**	**-2.3**
RLS	**Riolos of Patr**	**0.55**	**228**	P		**Pg**	**04 43 49.1**	**-0.4**
RLS				S		**Sg**	**04 43 57.3**	**+0.7**
RLS	**Riolos of Patr**	**0.55**	**228**	*e*PB		**Pg**	**04 43 49.2**	**-0.3**
RLS				*e*SB		**Sg**	**04 43 57.4**	**+0.1**
RLS	**Riolos of Patr**	**0.55**	**228**	*e*Pb		**Pg**	**04 43 49.2**	**-0.3**
RLS				*e*Sb		**Sg**	**04 43 56.7**	**+0.1**
GUR	**Goura**	**0.57**	**150**	P		**Pg**	**04 43 49.0**	**-0.9**
GUR				S		**Sg**	**04 43 57.4**	**0.0**
GUR	**Goura**	**0.57**	**150**	*e*PB		**Pg**	**04 43 49.2**	**-0.7**
GUR				*e*SB		**Sg**	**04 43 57.3**	**-0.1**
GUR	**Goura**	**0.57**	**150**	P		**Pg**	**04 43 49.2**	**-0.7**
GUR				*e*Sb		**Sg**	**04 43 57.3**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.60**	**12**	P		**Pg**	**04 43 49.6**	**-0.9**
MAKR				S		**Sg**	**04 43 58.1**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.60**	**12**	*e*PB		**Pg**	**04 43 50.0**	**-0.5**
MAKR				*e*SB		**Sg**	**04 43 58.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.60**	**12**	P		**Pg**	**04 43 49.6**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.60**	**12**	*e*Pb		**Pg**	**04 43 50.0**	**-0.5**
MAKR				S		**Sg**	**04 43 58.1**	**-0.2**
AXAR	**Agios Charalam**	**0.63**	**57**	P		**Pg**	**04 43 50.2**	**-0.9**
AXAR				S		**Sg**	**04 43 59.8**	**+0.4**
AXAR	**Agios Charalam**	**0.63**	**57**	*e*PG		**Pg**	**04 43 50.3**	**-0.9**
AXAR				*e*SB		**Sg**	**04 43 59.7**	**+0.4**
AXAR	**Agios Charalam**	**0.63**	**57**	P		**Pg**	**04 43 50.2**	**-0.9**
AXAR				*e*Sb		**Sg**	**04 43 59.7**	**+0.4**
PDO	**Prodromos**	**0.65**	**285**	P		**Pg**	**04 43 50.9**	**-0.5**
PDO	**Prodromos**	**0.65**	**285**	*e*PB		**Pg**	**04 43 51.2**	**-0.2**
PDO				*e*SB		**Sg**	**04 43 59.9**	**+0.1**
PDO	**Prodromos**	**0.65**	**285**	P		**Pg**	**04 43 50.9**	**-0.5**
PDO	**Prodromos**	**0.65**	**285**	*e*Pb		**Pg**	**04 43 51.2**	**-0.2**
PDO				*e*Sb		**Sg**	**04 43 59.8**	**0.0**
AGG	**Agios Georgios**	**0.65**	**25**	P		**Pg**	**04 43 50.2**	**-1.3**
AGG	**Agios Georgios**	**0.65**	**25**	*e*PG		**Pg**	**04 43 50.8**	**-0.8**
AGG				*e*SB		**Sg**	**04 44 00.4**	**+0.3**
AGG	**Agios Georgios**	**0.65**	**25**	P		**Pg**	**04 43 50.3**	**-1.3**
AGG	**Agios Georgios**	**0.65**	**25**	*e*Pg		**Pg**	**04 43 50.8**	**-0.8**
AGG				*e*Sb		**Sg**	**04 44 00.4**	**+0.3**
LKR	**Lokris**	**0.83**	**74**	P		**Pg**	**04 43 54.2**	**-0.7**
LKR				S		**Sb**	**04 44 07.0**	**-0.3**
LKR	**Lokris**	**0.83**	**74**	*e*PB		**Pg**	**04 43 54.6**	**-0.3**
LKR				*e*SB		**Sg**	**04 44 05.2**	**-0.5**
LKR	**Lokris**	**0.83**	**74**	P		**Pg**	**04 43 54.2**	**-0.7**
LKR	**Lokris**	**0.83**	**74**	*e*Pb		**Pg**	**04 43 54.6**	**-0.3**
LKR				*e*Sb		**Sg**	**04 44 05.2**	**-0.5**
LKR				S		**Sb**	**04 44 07.0**	**-0.3**
LTK	**Loutraki**	**0.88**	**117**	P		**Pg**	**04 43 55.6**	**-0.2**
LTK				S		**Sb**	**04 44 08.2**	**-0.5**
LTK	**Loutraki**	**0.88**	**117**	*e*PB		**Pg**	**04 43 55.0**	**-0.8**
LTK				*e*SB		**Sg**	**04 44 07.4**	**+0.2**
LTK	**Loutraki**	**0.88**	**117**	*e*Pb		**Pg**	**04 43 55.0**	**-0.8**
LTK	**Loutraki**	**0.88**	**117**	P		**Pg**	**04 43 55.6**	**-0.2**
LTK				*e*Sb		**Sg**	**04 44 07.4**	**+0.2**
LTK				S		**Sb**	**04 44 08.2**	**-0.5**
AMT	**Artemida-Makis**	**0.92**	**193**	P		**Pg**	**04 43 56.1**	**-0.5**
AMT				S		**Sb**	**04 44 10.2**	**+0.3**
AMT	**Artemida-Makis**	**0.92**	**193**	*e*PN		**Pg**	**04 43 56.2**	**-0.4**
AMT				*e*SB		**Sg**	**04 44 08.5**	**-0.1**
AMT	**Artemida-Makis**	**0.92**	**193**	P		**Pg**	**04 43 56.1**	**-0.5**
AMT				*e*Sb		**Sg**	**04 44 08.5**	**-0.1**
AMT				S		**Sb**	**04 44 10.2**	**+0.3**
SMIA	**Simia**	**1.06**	**65**	*e*PN		**Pg**	**04 43 59.1**	**-0.3**
SMIA				*e*SB		**Sg**	**04 44 13.3**	**+0.1**
SMIA				*e*Sb		**Sg**	**04 44 13.3**	**+0.1**
LKD2	**Lefkada island**	**1.10**	**290**	P		**Pg**	**04 43 59.2**	**-0.8**
LKD2				S		**Sg**	**04 44 14.7**	**+0.5**
LKD2	**Lefkada island**	**1.10**	**290**	*e*PN		**Pg**	**04 43 59.2**	**-0.8**
LKD2				*e*SB		**Sg**	**04 44 14.3**	**+0.1**
LKD2	**Lefkada island**	**1.10**	**290**	P		**Pg**	**04 43 59.2**	**-0.8**
LKD2				*e*Sb		**Sg**	**04 44 14.3**	**+0.1**
VLX	**Vlachokerasia**	**1.10**	**163**	P		**Pg**	**04 43 58.5**	**-1.6**
VLX				S		**Sb**	**04 44 16.0**	**+0.7**
VLX	**Vlachokerasia**	**1.10**	**163**	P		**Pg**	**04 43 58.5**	**-1.6**
VLX				S		**Sb**	**04 44 16.0**	**+0.7**
VLS	**Valsamata**	**1.12**	**258**	P		**Pg**	**04 43 58.7**	**-1.8**
VLS				S		**Sg**	**04 44 14.9**	**-0.1**
VLS	**Valsamata**	**1.12**	**258**	*e*PG		**Pg**	**04 43 59.0**	**-1.5**
VLS				*e*SB		**Sg**	**04 44 14.7**	**-0.3**
VLS	**Valsamata**	**1.12**	**258**	P		**Pg**	**04 43 58.7**	**-1.8**
VLS	**Valsamata**	**1.12**	**258**	*e*Pg		**Pg**	**04 43 59.0**	**-1.5**
VLS				S		**Sg**	**04 44 14.9**	**-0.1**
THL	**Klokotos Trika**	**1.14**	**1**	P		**Pg**	**04 43 59.5**	**-1.3**
THL				S		**Sb**	**04 44 16.6**	**+0.5**
THL	**Klokotos Trika**	**1.14**	**1**	*e*PN		**Pg**	**04 43 59.7**	**-1.1**
THL				*e*SB		**Sg**	**04 44 15.5**	**0.0**
THL	**Klokotos Trika**	**1.14**	**1**	P		**Pg**	**04 43 59.5**	**-1.3**
THL				*e*Sb		**Sg**	**04 44 15.5**	**0.0**
THL				S		**Sb**	**04 44 16.6**	**+0.5**
ITM	**Ithomi**	**1.25**	**182**	P		**Pg**	**04 44 01.6**	**-1.3**
ITM				S		**Sn**	**04 44 21.3**	**+1.1**
ITM	**Ithomi**	**1.25**	**182**	*e*PG		**Pg**	**04 44 01.5**	**-1.3**
ITM	**Ithomi**	**1.25**	**182**	P		**Pg**	**04 44 01.6**	**-1.3**
ITM				S		**Sn**	**04 44 21.3**	**+1.1**
MRKA	**Markates**	**1.29**	**77**	*e*PB		**Pn**	**04 44 02.7**	**-1.0**
MRKA	**Markates**	**1.29**	**77**	*e*Pb		**Pn**	**04 44 02.7**	**-1.0**
NEO	**Neokhori**	**1.31**	**48**	*e*PB		**Pn**	**04 44 03.5**	**-0.4**
NEO	**Neokhori**	**1.31**	**48**	*e*Pb		**Pn**	**04 44 03.5**	**-0.4**
DID	**Didima**	**1.35**	**132**	P		**Pn**	**04 44 04.0**	**-0.5**
DID				S		**Sn**	**04 44 23.0**	**+0.1**
DID	**Didima**	**1.35**	**132**	*e*PB		**Pn**	**04 44 04.1**	**-0.5**
DID	**Didima**	**1.35**	**132**	P		**Pn**	**04 44 04.0**	**-0.5**
DID				S		**Sn**	**04 44 23.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.37**	**119**	*e*PB		**Pn**	**04 44 04.0**	**-0.7**
NAIG	**Nisos Aigina**	**1.37**	**119**	*e*Pb		**Pn**	**04 44 04.0**	**-0.7**
**ATH

KURBB	**Kurchatov Arra**	**68.67 328**	P		**P**	**05 05 14.4**	**+0.7**
	0.3nm,0.2s,baz=113,slow=5.9,SNR=3.5						
BVAR	**Borovoye Array**	**74.24 328**	LR		LR	05 39 39.2	
	comp=Z,16nm,19.8s,baz=104,slow=37						

*ISCJB **22** 04:55:16.8±1.0, 38.68N±0.06×39.03E±0.10, h11km, Error ellipse: s-maj=11.5km s-min=7.8km az=29.5*
*CSEM **22** 04:55:17.3±0.9, 38.65N×38.92E, h15km, MD2.6, Error ellipse: s-maj=39.2km s-min=21.2km az=147.0*
*DDA **22** 04:55:18.9, 38.52N×38.97E, h13km, MD2.6*

ISC 22 04:55:17.3±1.0, 38.65N±0.05×38.88E±0.07, h11km, n8, σ0§47/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ELZG	**Elazig**	**0.17**	**151**	*i* P		**Pg**	**04 55 21.3**	**+0.1**
ELZG				*i* S		**Sg**	**04 55 23.2**	**-0.7**
ELZG	**Elazig**	**0.17**	**151**	*i* P		**Pg**	**04 55 21.3**	**+0.1**
ELZG				*i* S		**Sg**	**04 55 23.2**	**-0.7**
PTK	**Pertek**	**0.47**	**58**	*e*PN		**Pb**	**04 55 28.1**	**+0.4**
PTK	**Pertek**	**0.47**	**58**	*e*Pn		**Pb**	**04 55 28.1**	**+0.4**
AKCD	**Akcadag**	**0.83**	**245**	*i* P		**Pn**	**04 55 34.8**	**-0.2**
AKCD				*i* S		**Sn**	**04 55 47.8**	**+0.5**
AKCD	**Akcadag**	**0.83**	**245**	*i* P		**Pn**	**04 55 34.8**	**-0.2**
AKCD				*i* S		**Sn**	**04 55 47.8**	**+0.5**
ILIC	**ilic-Erzincan**	**0.84**	**343**	*e*PN		**Pg**	**04 55 33.4**	**-0.1**
ILIC	**ilic-Erzincan**	**0.84**	**343**	*e*Pn		**Pg**	**04 55 33.4**	**-0.1**

GUC 22 04:55:50.4±0.8, 36.47S×72.19W, h38km±4km, MD3.9, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.83**	**243**	*e*P		Pn	04 56 05.5	-0.1
CCSP				*i* S		Sn	04 56 16.7	+0.1
CTCH	**Constitucion**	**1.15**	**351**	*e*P		Pn	04 56 10.6	+0.7
CTCH				*e*S		Sn	04 56 25.8	+1.5
TALC	**Talca**	**1.16**	**23**	*e*P		Pn	04 56 11.0	+1.0
TALC				*e*S		Sn	04 56 25.9	+1.3
LNV	**Longovilo**	**2.58**	**15**	*e*P		Pn	04 56 30.7	+1.0
LNV				*i* S		Sn	04 57 01.9	+2.1
CHCH	**Chadas Angostu**	**2.82**	**27**	*e*P		Pn	04 56 34.6	+1.6
CLCH	**Cerro Calan**	**3.35**	**24**	*e*P		Pn	04 56 41.4	+1.1
CLCH				*e*S		Sn	04 57 20.6	+1.7
CLCH				AML		AML	04 57 42.1	
	comp=N,303nm,0.8s							
FCH	**Farellones**	**3.50**	**27**	*e*P		Pn	04 56 44.1	+1.4
FCH				*e*S		Sn	04 57 25.1	+2.0
FCH				AML		AML	04 57 35.0	
	comp=N,314nm,0.3s							
ROCH	**El Roble**	**3.62**	**16**	*e*P		Pn	04 56 44.4	+0.2
ROCH				*e*S		Sn	04 57 26.2	+0.3
ROCH				AML		AML	04 57 40.3	
	comp=N,220nm,0.2s							

IDC 22 05:00:28.4±3.0, 31.67S×177.55W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.9/19, mbtmp4.0/3, ML3.1/1, Error ellipse: s-maj=72.6km s-min=44.4km az=125.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**7.90**	**212**	Pn		Pn	05 02 23.0	-1.5
	0.3nm,0.3s,baz=315,slow=2.9,SNR=2.1							
URZ				Sn		Sn	05 03 50.7	-3.9
	0.5nm,0.3s,baz=142,slow=19,SNR=3.3							
ASAR	**Alice Springs**	**43.44**	**268**	P		P	05 08 33.6	+0.3
	1.1nm,0.6s,baz=105,slow=7.5,SNR=12							
WRA	**Warramunga Arr**	**44.55**	**273**	P		P	05 08 42.0	-0.2
	3.5nm,0.8s,baz=112,slow=8.0,SNR=31							
FINES	**FINESS Array B**	**146.47**	**340**	PKPbc		PKPdf	05 20 09.8	+0.5
	1.6nm,0.7s,baz=45,slow=4.5,SNR=8.7							

*ISCJB **22** 05:34:13.2±1.9, 40.07N±0.07×29.35W±0.08, h10km±14km, mb3.3/2, MS3.2/1, Error ellipse: s-maj=13.8km s-min=7.8km az=30.6*
*PDA **22** 05:34:13.0±1.1, 40.28N×29.75W, h10km, MD4.0, ML3.8, Error ellipse: s-maj=11.2km s-min=6.1km az=78.0*
*CSEM **22** 05:34:13.0, 40.28N×29.75W, h10km, ML3.8, After PDA*
*IDC **22** 05:34:15.6±1.6, 38.94N×29.96W, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/13, Error ellipse: s-maj=88.4km s-min=29.5km az=13.0*

ISC 22 05:34:14.0±2.4, 40.0N±0.1×29.42W±0.06, h4km±17km, n27, σ0§67/36, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H07N1	**FLORES T-PHASE**	**1.34**	**259**	Pn		**Pg**	**05 34 40.0**	**+0.3**
	SNR=3.1							
PGRA	**Graciosa**	**1.45**	**129**	*e*P		**Pn**	**05 34 39.9**	**-1.1**
PGRA				*e*S		**Sn**	**05 35 00.3**	**-0.2**
PGRA				A		A	05 35 05.4	
	126nm,0.5s							
PGRA	**Graciosa**	**1.45**	**129**	*e*P		**Pn**	**05 34 39.9**	**-1.1**
PGRA				*e*S		**Sn**	**05 35 00.3**	**-0.2**
CALA	**Caldeira**	**1.48**	**158**	*e*S		**Sn**	**05 35 01.5**	**+0.1**
CALA	**Caldeira**	**1.48**	**158**	*e*S		**Sn**	**05 35 01.5**	**+0.1**
H07S1	**FLORES T-PHASE**	**1.50**	**248**	Pn		**Pn**	**05 34 40.0**	**-1.7**
	SNR=3.4							
ROSA	**Rosais**	**1.54**	**143**	*e*P		**Pn**	**05 34 41.1**	**-1.2**
ROSA				*e*S		**Sn**	**05 35 02.5**	**-0.2**
ROSA				A		A	05 35 09.3	
	93nm,0.5s							
ROSA	**Rosais**	**1.54**	**143**	*e*P		**Pn**	**05 34 41.1**	**-1.2**
ROSA				*e*S		**Sn**	**05 35 02.5**	**-0.2**
HOR	**Horta**	**1.55**	**157**	*e*S		**Sn**	**05 35 03.6**	**+0.5**
HOR	**Horta**	**1.55**	**157**	*e*S		**Sn**	**05 35 03.6**	**+0.5**
PICO	**Pico**	**1.65**	**152**	*e*S		**Sn**	**05 35 05.3**	**-0.2**
PICO	**Pico**	**1.65**	**152**	*e*S		**Sn**	**05 35 05.3**	**-0.2**
PCAN	**Candelaria**	**1.66**	**154**	*e*S		**Sn**	**05 35 06.0**	**+0.3**
PCAN				A		A	05 35 11.5	
	220nm,0.5s							
PCAN	**Candelaria**	**1.66**	**154**	*e*S		**Sn**	**05 35 06.0**	**+0.3**
PMAN	**Manadas**	**1.68**	**142**	*e*P		**Pn**	**05 34 43.6**	**-0.6**
PMAN	**Manadas**	**1.68**	**142**	*e*P		**Pn**	**05 34 43.6**	**-0.6**
TOPO	**Topo**	**1.79**	**139**	*e*P		**Pn**	**05 34 45.5**	**-0.3**
TOPO	**Topo**	**1.79**	**139**	*e*P		**Pn**	**05 34 45.5**	**-0.3**
ADH	**Angra Heroismo**	**2.13**	**127**	*e*P		**Pn**	**05 34 49.7**	**-0.8**
ADH				*e*S		**Sn**	**05 35 17.0**	**-0.4**
ADH				A		A	05 35 22.1	
	80nm,0.5s							
ADH	**Angra Heroismo**	**2.13**	**127**	*e*P		**Pn**	**05 34 49.7**	**-0.8**
ADH				*e*S		**Sn**	**05 35 17.0**	**-0.4**
PSET	**Sete Cidades**	**3.59**	**125**	*e*P		**Pn**	**05 35 10.0**	**-0.5**
PSET				*e*S		**Sn**	**05 35 52.9**	**-0.4**
PSET				A		A	05 36 02.6	
	73nm,0.5s							
PSET	**Sete Cidades**	**3.59**	**125**	*e*P		**Pn**	**05 35 10.0**	**-0.5**
PSET				*e*S		**Sn**	**05 35 52.9**	**-0.4**
PDA	**Ponta Delgada**	**3.67**	**126**	*e*P		**Pn**	**05 35 11.3**	**-0.3**
PDA				*e*S		**Sn**	**05 35 54.7**	**-0.6**
PDA				A		A	05 36 01.8	
	35nm,0.6s							
PDA	**Ponta Delgada**	**3.67**	**126**	*e*P		**Pn**	**05 35 11.3**	**-0.3**
PDA				*e*S		**Sn**	**05 35 54.7**	**-0.6**
ESDC	**Sonseca Array**	**19.54**	**83**	P		Pn	05 38 51.1	+7.2
	0.2nm,0.4s,baz=277,slow=10,SNR=4.4							
TORD	**Torodi Ar. Bea**	**38.22**	**126**	P		**P**	**05 41 35.3**	**+0.1**
	0.3nm,0.9s,baz=309,slow=11,SNR=2.3							
TORD				LR		LR	05 55 55.0	
	comp=Z,34nm,18.9s,baz=310,slow=34							
TXAR	**Lajitas Array**	**60.40**	**285**	P		**P**	**05 44 26.0**	**+1.2**
	0.4nm,0.7s,baz=70,slow=6.9,SNR=5.0							

*IDC **22** 05:38:37.3±2.5, 44.76N×110.77W, h0km, mb1 3.1/2, mb1mx3.0/27, mbtmp2.7/2, ML2.9/2, Error ellipse: s-maj=43.4km s-min=22.6km az=71.0*
*NEIC **22** 05:38:40.0, 44.55N×110.97W, h0km, ML3.0(SLC), After SLC.*
NEIC Felt [II] in Yellowstone National Park. Also felt at West Yellowstone, Montana.

ISC 22 05:38:40.4±0.6, 44.62N±0.02×110.95W±0.02, h15km±5km, n80, σ1§85/113, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YMR	**Madison River**	**0.05**	**347**	*e*Pg		**Pg**	**05 38 43.5**	**0.0**
YMR				*e*Sg		**Sg**	**05 38 46.2**	**+0.6**
H17A	**Grant Village**	**0.34**	**130**	*e*Pg		**Pg**	**05 38 47.0**	**-0.6**
H17A				*e*Sg		**Sg**	**05 38 52.3**	**-0.2**
H17A	**Grant Village**	**0.34**	**130**	P		**Pg**	**05 38 47.2**	**-0.4**
	baz=0.3							
H17A				S		**Sg**	**05 38 51.6**	**-0.9**
	baz=0.3							
QLMT	**Earthquake Lak**	**0.41**	**302**	*e*Pg		**Pg**	**05 38 48.7**	**+0.1**
QLMT				*e*Sg		**Sg**	**05 38 55.0**	**+0.7**
FLWY	**Flagg Ranch**	**0.56**	**161**	*e*Pg		**Pg**	**05 38 50.7**	**-0.8**
I17A	**Pilgrim Ck.**	**0.74**	**159**	P		**Pg**	**05 38 54.5**	**-0.4**
	baz=0.7							
MOOW	**Moose Ponds**	**0.88**	**170**	*e*Pg		**Pg**	**05 38 55.9**	**-1.5**
H18A	**Shoshone NF, C**	**0.92**	**86**	P		**Pg**	**05 38 57.7**	**-0.5**
	baz=0.9							
FXWY	**Fox Creek**	**0.98**	**183**	*e*Pg		**Pb**	**05 38 57.3**	**-1.9**
BOZ	**Bozeman (W)**	**1.14**	**335**	*e*Pg		**Pb**	**05 39 01.5**	**-0.4**
BOZ				*e*Sg		**Sb**	**05 39 15.2**	**-1.3**
RLMT	**Red Lodge**	**1.30**	**66**	*e*Pn		**Pg**	**05 39 04.7**	**-0.7**
RLMT				*e*Sg		**Sg**	**05 39 22.7**	**+0.4**
MCMT	**McKenzie Canyo**	**1.37**	**280**	*e*Pn		**Pb**	**05 39 06.3**	**+0.4**
MCMT				*e*Sn		**Sg**	**05 39 25.1**	**+0.4**
DLMT	**Dillon**	**1.39**	**303**	*e*Pn		**Pb**	**05 39 04.7**	**+0.6**
H19A	**Powell**	**1.40**	**87**	P		**Pg**	**05 39 06.8**	**-0.5**
	baz=1.4							
I19A	**Meeteetse**	**1.52**	**112**	P		**Pb**	**05 39 08.4**	**0.0**
	baz=1.5							
LRM	**Limekiln Ridge**	**1.61**	**319**	*e*Pn		**Pb**	**05 39 10.4**	**+0.5**
AHID	**Auburn Hatcher**	**1.85**	**183**	*e*Pn		**Pn**	**05 39 12.7**	**+0.9**
F19A	**Roth Farm, Mol**	**1.88**	**48**	Pb		**Pg**	**05 39 15.7**	**-0.8**
	baz=1.9							
J19A	**Crowheart**	**1.92**	**134**	Pb		**Pb**	**05 39 15.1**	**-0.1**
	baz=1.9							
G20A	**Bridger**	**2.03**	**72**	Pb		**Pb**	**05 39 16.9**	**-0.2**
	baz=2.1							
G20A				Sb		**Sg**	**05 39 45.0**	**-0.8**
	baz=2.1							
BW06	**Boulder Array**	**2.10**	**151**	*e*Pn		**Pb**	**05 39 17.6**	**-0.8**
PDAR	**Pinedale Array**	**2.10**	**151**	Pn		**Pb**	**05 39 17.4**	**-1.0**
PDAR				Sn		**Sg**	**05 39 48.1**	**0.0**
PDAR	**Pinedale Array**	**2.10**	**151**	Pn		**Pb**	**05 39 17.4**	**-1.0**
	2.0nm,0.3s,baz=339,slow=16,SNR=78							
PDAR				Sn		**Sg**	**05 39 48.1**	**0.0**
	1.1nm,0.3s,baz=340,slow=20,SNR=2.1							
H20A	**Greybull**	**2.11**	**92**	Pb		**Pb**	**05 39 18.4**	**0.0**
	baz=2.1							
I20A	**Worland**	**2.13**	**107**	Pb		**Pb**	**05 39 18.5**	**-0.3**
	baz=2.1							
I20A				Sb		**Sg**	**05 39 48.4**	**-0.5**
	baz=2.1							
HRY	**Holter Researc**	**2.19**	**344**	*e*Pn		**Pb**	**05 39 18.4**	**-1.2**
HRY				*e*Pg		**Pg**	**05 39 22.4**	**+0.1**
HRY				*e*Sn		**Sb**	**05 39 47.9**	**+1.3**
F20A	**Billings**	**2.31**	**58**	Pb		**Pb**	**05 39 22.1**	**+0.4**
	baz=2.4							
E19A	**Rath Farm, Rou**	**2.39**	**39**	Sb		**Sg**	**05 39 56.6**	**-0.5**
	baz=2.4							
J20A	**Shoshoni**	**2.42**	**120**	Pb		**Pb**	**05 39 23.9**	**+0.2**
	baz=2.4							
HLID	**Hailey**	**2.71**	**248**	*e*Pn		**Pn**	**05 39 25.4**	**+1.8**
HLID				*e*Sg		**Sb**	**05 40 03.8**	**+2.0**
HLID	**Hailey**	**2.71**	**248**	P		**Pn**	**05 39 25.5**	**+1.9**
	baz=2.7							
G21A	**Lodge Grass**	**2.73**	**76**	Pb		**Pb**	**05 39 28.9**	**+0.1**
	baz=2.8							
I21A	**Big Trails, Te**	**2.75**	**106**	P		**Pb**	**05 39 27.5**	**-1.8**
	baz=2.7							
CHMT	**Chamberlain Mo**	**2.81**	**326**	*e*Pn		**Pn**	**05 39 27.2**	**+2.2**
CHMT				*e*Pg		**Pg**	**05 39 33.2**	**-1.0**
CHMT				*e*Sg		**Sg**	**05 40 09.7**	**-0.9**
HWUT	**Hardware Ranch**	**3.04**	**189**	*e*Pn		**Pn**	**05 39 30.6**	**+2.5**
MSO	**Missoula**	**3.05**	**318**	*e*Pn		**Pn**	**05 39 30.5**	**+2.4**
MSO	**Missoula**	**3.05**	**318**	P		**Pn**	**05 39 30.4**	**+2.2**
	baz=3.1							
HVU	**Hansel Valley**	**3.13**	**206**	*e*Pn		**Pn**	**05 39 30.8**	**+1.5**
HVU				*e*Sg		**Sb**	**05 40 17.1**	**+3.1**
SLMT	**Seeley Lake**	**3.17**	**327**	*e*Pn		**Pn**	**05 39 31.8**	**+1.9**
SLMT				*e*Pg		**Pg**	**05 39 40.4**	**-0.7**
SLMT				*e*Sg		**Sg**	**05 40 22.6**	**+0.5**
SPUT	**South Promonto**	**3.48**	**199**	*e*Pn		Pn	05 39 37.6	+3.4
EGMT	**Eagleton**	**3.51**	**13**	*e*Pn		Pn	05 39 38.0	+3.6
EGMT				*e*Sg		**Sb**	**05 40 27.9**	**+3.3**
TCUT	**Toone Canyon**	**3.51**	**186**	*e*Pg		**Pb**	**05 39 42.8**	**+0.5**
SWMT	**Swartz Lake**	**3.59**	**325**	*e*Pn		**Pn**	**05 39 37.7**	**+2.1**
SWMT				*e*Pg		**Pg**	**05 39 48.2**	**-0.9**
SWMT				*e*Sg		**Sg**	**05 40 32.0**	**-3.6**
MFID	**Camas Ranch**	**3.72**	**253**	*e*Pn		**Pn**	**05 39 39.5**	**+2.1**
MFID				*e*Sg		**Sg**	**05 40 37.3**	**-2.5**
K22A	**Casper**	**3.76**	**120**	*e*Pn		**Pn**	**05 39 40.0**	**+2.0**
YBMT	**Yellow Bay**	**3.88**	**328**	*e*Pn		**Pn**	**05 39 42.8**	**+3.2**
JTMT	**Jette**	**3.90**	**325**	*e*Pn		**Pn**	**05 39 42.7**	**+2.9**
JTMT				*e*Pg		**Pg**	**05 39 53.7**	**-1.3**
JTMT				*e*Sg		**Sg**	**05 40 45.1**	**-0.3**
LAO	**LASA Array**	**3.91**	**56**	*e*Pg		Pg	05 39 51.9	-3.3
CTU	**Camp Tracy**	**3.96**	**189**	*e*Pg		**Pg**	**05 39 54.4**	**-1.9**
BGU	**Big Grassy Mou**	**3.99**	**203**	Pn		**Pn**	**05 39 42.5**	**+1.3**
BGU				*e*Pg		**Pg**	**05 39 49.3**	**-1.2**
BGU				*e*Sg		**Sg**	**05 40 52.7**	**+4.1**
JLU	**Jordanelle**	**4.03**	**185**	*e*Pg		**Pb**	**05 39 54.1**	**+2.9**
BLMT	**Blacktail Moun**	**4.14**	**326**	*e*Pn		**Pn**	**05 39 45.9**	**+2.6**
BLMT				*e*Pg		**Pg**	**05 39 58.3**	**-1.4**
BLMT				*e*Sg		**Sg**	**05 40 52.3**	**-0.9**
BSMT	**Bassoo Peak**	**4.19**	**322**	*e*Pn		**Pn**	**05 39 46.8**	**+2.9**
BMO	**Blue Mountains**	**4.54**	**275**	*e*Pn		**Pn**	**05 39 50.4**	**+1.8**
BMO				*e*Pg		**Pg**	**05 40 04.9**	**-2.3**
BMO				*e*Sg		**Sg**	**05 41 04.3**	**-1.7**
DUG	**Dugway**	**4.63**	**198**	*e*Pn		**Pn**	**05 39 51.5**	**+1.6**
F10A	**Beach Ranch, E**	**4.63**	**289**	*e*Pn		**Pn**	**05 39 53.0**	**+3.1**
NLU	**North Lily Min**	**4.73**	**191**	*e*Pg		**Pb**	**05 40 02.7**	**-0.4**
WALA	**Waterton Lakes**	**4.89**	**336**	*e*Pn		Pn	05 39 56.6	+3.2
WALA				*e*Pg		Pg	05 40 10.6	-3.3
WALA				*e*Sg		**Sg**	**05 41 13.2**	**-4.0**
O20A	**White River Ci**	**4.91**	**155**	*e*Pn		**Pn**	**05 39 55.6**	**+1.8**
O20A				*e*Pg		**Pg**	**05 40 13.1**	**-1.2**
RSSD	**Black Hills**	**4.98**	**93**	*e*Pg		**Pg**	**05 40 13.7**	**-2.0**
ELK	**Elko**	**5.00**	**221**	*e*Pn		**Pn**	**05 39 53.6**	**-1.4**
ELK				*e*Pb		Pb	05 40 04.4	-3.3
ELK				*e*Sg		**Sg**	**05 41 17.0**	**-3.8**
E09A	**Wood Farm, Sta**	**5.40**	**293**	*e*Pn		**Pn**	**05 40 03.4**	**+3.1**
SRU	**San Rafael**	**5.51**	**177**	*e*Pn		**Pn**	**05 40 02.6**	**+0.6**
SRU				*e*Pg		**Pg**	**05 40 23.2**	**-2.7**
NEW	**Newport**	**5.61**	**313**	*e*Pn		**Pn**	**05 40 05.8**	**+2.5**
NEW				*e*Pg		Pg	05 40 24.4	-3.4
NEW				*e*Sg		**Sg**	**05 41 38.2**	**-2.2**
G08A	**Pilot Rock**	**5.73**	**280**	*e*Pn		**Pn**	**05 40 07.8**	**+2.9**
C09A	**Chrisman Ranch**	**6.00**	**305**	*e*Pn		**Pn**	**05 40 11.3**	**+2.7**
WVOR	**Wild Horse Val**	**6.00**	**251**	*e*Pg		Pb	05 40 29.9	+5.2
DGMT	**Dagmar**	**6.04**	**48**	*e*Pg		Pg	05 40 32.8	-3.2
D08A	**Wollman Farm,**	**6.08**	**296**	*e*Pn		**Pn**	**05 40 12.8**	**+3.1**
D08A				*e*Sg		**Sg**	**05 41 56.0**	**+0.6**
I07A	**Izee**	**6.16**	**268**	*e*Sg		**Sg**	**05 41 56.0**	**-2.0**
SMCO	**Snowmass**	**6.19**	**150**	*e*Pg		**Pg**	**05 40 37.8**	**-1.0**
BMN	**Battle Mountai**	**6.24**	**230**	*e*Pg		**Pb**	**05 40 30.6**	**+1.8**
	19nm,1.4s							
HAWA	**Hanford**	**6.29**	**289**	*e*Pn		**Pn**	**05 40 15.0**	**+2.4**
HAWA				*e*Sg		**Sg**	**05 41 59.6**	**-2.5**
E07A	**Sunnyside**	**6.55**	**290**	*e*Pn		**Pn**	**05 40 18.6**	**+2.5**
B08A	**Colville Reser**	**6.89**	**306**	*e*Pn		**Pn**	**05 40 23.0**	**+2.1**
LTY	**Liberty**	**7.28**	**295**	*e*Pn		**Pn**	**05 40 29.0**	**+2.9**
LTY				*e*Sg		**Sg**	**05 42 37.8**	**+4.1**
NVAR	**Mina Array Bea**	**8.28**	**224**	Pg		**Pb**	**05 41 05.0**	**+1.4**
NVAR				Lg		Lg	05 42 57.0	
NVAR	**Mina Array Bea**	**8.28**	**224**	Pg		**Pb**	**05 41 05.0**	**+1.4**
	0.1nm,0.3s,baz=45,slow=15,SNR=3.0							
NVAR				Lg		Lg	05 42 57.0	
	0.1nm,0.3s,baz=39,slow=23,SNR=2.8							
YKA	**Yellowknife Ar**	**18.04**	**355**	P		**Pn**	**05 42 48.4**	**-1.8**
YKA	**Yellowknife Ar**	**18.04**	**355**	P		**Pn**	**05 42 48.4**	**-1.8**
	0.0nm,0.3s,baz=171,slow=12,SNR=2.9							

*IDC **22** 05:43:54.9±10.0, 6.77S×127.17E, h388km±135km, mb3.0/3, mb1 3.1/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=128.2km s-min=47.0km az=59.0*
*ISCJB **22** 05:43:55.0±0.9, 6.65S±0.1×127.6E±0.1, h407km, mb3.3/3, Error ellipse: s-maj=23.7km s-min=10.9km az=142.6*

ISC 22 05:43:56.4±1.3, 6.7S±0.2×127.6E±0.3, h407km, n11, σ1§21/11, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MTN	**Manton Dam**	**7.04**	**151**	P		**P**	**05 45 41.9**	**+0.8**
	baz=6.3,SNR=7.7							
KDU	**Kakadu**	**7.65**	**142**	P		**P**	**05 45 49.0**	**+1.0**
	baz=7.1,SNR=4.8							
WSI	**Waingapu**	**7.83**	**247**	P		P	05 45 48.6	-1.3
	baz=7.0,SNR=3.2							
KNRA	**Kununurra**	**9.01**	**173**	P		**P**	**05 46 04.1**	**+1.2**
	baz=8.0,SNR=3.3							
WRA	**Warramunga Arr**	**14.71**	**154**	P		**P**	**05 47 06.0**	**+0.4**
	0.6nm,0.3s,baz=331,slow=11,SNR=48							
WRA				S		**S**	**05 49 39.6**	**-2.6**
	0.2nm,0.3s,baz=332,slow=20,SNR=7.5							
ASAR	**Alice Springs**	**17.94**	**161**	P		**P**	**05 47 40.3**	**+0.3**
	0.5nm,0.3s,baz=344,slow=12,SNR=20							
QIS	**Mount Isa**	**18.04**	**141**	P		**P**	**05 47 41.9**	**+0.7**
	baz=18,SNR=3.2							
WRKA	**Warakurna**	**18.27**	**178**	P		**P**	**05 47 43.7**	**+0.2**
	baz=17,SNR=8.0							
STKA	**Stephens Creek**	**28.27**	**154**	P		**P**	**05 49 15.1**	**+0.6**
	0.9nm,0.3s,baz=336,slow=12,SNR=3.3							
MKAR	**Makanchi Array**	**66.68**	**328**	P		**P**	**05 54 04.4**	**-0.7**
	0.2nm,0.5s,baz=132,slow=7.7,SNR=5.3							
KURBB	**Kurchatov Arra**	**71.02**	**329**	P		**P**	**05 54 30.9**	**-0.5**
	0.5nm,0.7s,baz=128,slow=5.0,SNR=7.3							

*IDC **22** 05:55:53.6±1.4, 12.31N×87.32W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, ML2.8/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/30, Error ellipse: s-maj=56.6km s-min=17.6km az=48.0*
*ISCJB **22** 05:55:57.0±0.7, 11.91N±0.10×87.71W±0.09, h48km, mb4.0/8, Error ellipse: s-maj=18.3km s-min=4.3km az=42.4*
*NEIC **22** 05:55:58.4±1.5, 12.01N×87.65W, h43km±13km, mb4.2/3, Error ellipse: s-maj=28.2km s-min=11.2km az=50.0*
*CASC **22** 05:55:58.5±3.9, 11.99N×87.65W, h46km±745km, MD4.1*

ISC 22 05:55:58.6±0.7, 11.98N±0.08×87.69W±0.08, h48km, n36, σ1§36/41, mb4.1/8, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
COPN	**Copaltepe**	**1.10**	**79**	*e*P		**Pn**	**05 56 17.5**	**0.0**
CNCH	**Conchagua**	**1.29**	**354**	*e*P		**Pn**	**05 56 20.4**	**0.0**
VSM	**San Miguel**	**1.55**	**339**	*e*P		**Pn**	**05 56 23.5**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.10**	**11**	*e*Pn		**Pn**	**05 56 32.3**	**+1.0**
LBRS	**Las Brisas**	**2.19**	**323**	*e*P		**Pn**	**05 56 32.5**	**-0.1**
LFU	**La Fuente**	**2.24**	**322**	*e*P		**Pn**	**05 56 34.0**	**+0.7**
SBLS	**San Blas**	**2.64**	**315**	*e*P		**Pn**	**05 56 38.7**	**-0.2**
RBDL	**Robledal**	**2.87**	**318**	*e*P		**Pn**	**05 56 43.3**	**+1.2**
JTS	**JuntasAbangare**	**3.17**	**122**	*e*Pn		**Pn**	**05 56 45.4**	**-0.6**
JTS				*e*Sn		**Sn**	**05 57 22.7**	**0.0**
JTS	**JuntasAbangare**	**3.17**	**122**	Pn		**Pn**	**05 56 45.4**	**-0.6**
	1.7nm,0.3s,baz=318,slow=19,SNR=2.1							
JTS				Sn		**Sn**	**05 57 20.8**	**-1.8**
	6.5nm,0.3s,baz=323,slow=19,SNR=4.9							
JTS				LR		LR	05 57 45.7	
	comp=Z,44nm,19.1s,baz=300,slow=36							
JCR	**Jicaral**	**3.30**	**130**	*e*P		**Pn**	**05 56 46.1**	**-1.8**
CGA2	**Cerro Gallo 2**	**3.72**	**121**	*e*P		**Pn**	**05 56 56.7**	**+3.0**
CGA2				*e*S		**Sn**	**05 57 32.8**	**-3.6**
APG	**El Apazote**	**4.04**	**318**	Pn		**Pn**	**05 56 56.5**	**-1.6**
APG	**El Apazote**	**4.04**	**318**	Pn		**Pn**	**05 56 56.5**	**-1.6**
	0.4nm,0.3s,baz=119,slow=7.2,SNR=6.4							
QCR	**Quepos**	**4.30**	**126**	*e*P		**Pn**	**05 57 01.5**	**+0.1**
URSC	**Urasca**	**4.40**	**119**	*e*P		**Pn**	**05 57 05.4**	**+2.4**
BUS	**Buena Vista**	**4.56**	**122**	*e*P		**Pn**	**05 57 06.6**	**+1.2**

baz=52,slow=75,SNR=15
H11S2 WAKE ISLAND Hy 61.09 269 T T 07 20 18.9
baz=52,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 61.10 269 T T 07 20 19.8
baz=52,slow=75,SNR=15

*ISCJB **22** 06:20:57.7±1.1,20°.4S±0°.1×66°.2W±0°.3,h233km,mb3.1/2, Error ellipse: s-maj=38.3km s-min=12.6km az=161.0*
*IDC **22** 06:20:58.2±2.0,20°.40S×66°.37W,h226km±19km,mb2.9/3, mb1 3.3/4,mb1mx3.1/21,mbtmp3.6/4,Error ellipse: s-maj=40.6km s-min=16.7km az=86.0*

ISC 22 06:20:58.9±1.1,20°.4S±0°.1×66°.4W±0°.3,h233km,n6, σ0§48/7,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.40**	**338**	P			**Pn**	**06 22 07.8**	**+0.3**
	3.9nm,0.3s,baz=142,slow=7.0,SNR=73								
LPAZ				S			**S**	**06 23 01.0**	**-0.6**
	0.5nm,0.3s,baz=269,slow=20,SNR=9.6								
PLCA	**Paso Flores**	**20.58**	**189**	P			**P**	**06 25 19.9**	**-0.4**
	1.9nm,0.8s,baz=13,slow=14,SNR=7.4								
PDAR	**Pinedale Array**	**74.36**	**328**	P			**P**	**06 32 11.4**	**+0.1**
	0.2nm,0.4s,baz=116,slow=8.2,SNR=3.0								
TORD	**Torodi Ar. Bea**	**74.78**	**70**	P			**P**	**06 32 13.8**	**-0.2**
	0.2nm,0.4s,baz=262,slow=6.1,SNR=4.9								
WRA	**Warramunga Arr**	**135.06**	**208**	PKP			**PKPdf**	**06 39 51.7**	**+0.4**
	0.1nm,0.5s,baz=154,slow=1.8,SNR=3.8								
SONM	**Songino Array**	**152.01**	**10**	PKPbc			**PKPbc**	**06 40 26.8**	**+0.3**
	0.3nm,0.5s,baz=5.0,slow=4.9,SNR=3.3								

MAN 22 06:29:43,9°.32N×126°.08E,h31km,mb4.4,ML3.3,MS3.1, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.58**	**232**	*eP*			Pb	06 29 54.8	0.0
BUTP				*eS*			Sn	06 30 05.1	+1.6
SCPH	**Surigao**	**0.74**	**308**	*eP*			Pb	06 29 57.6	+0.1
SCPH				*eS*			Sn	06 30 08.1	+0.5
BIPH	**Bislig**	**1.17**	**166**	⇓*eP*			Pn	06 30 03.2	0.0
BIPH				*eS*			Sn	06 30 16.5	-1.5
MSLP	**Maasin**	**1.45**	**304**	*eP*			Pb	06 30 10.2	+0.8
BUKP	**Musuan**	**1.75**	**215**	*eP*			Pb	06 30 13.2	-1.4
BUKP				*eS*			Sn	06 30 32.7	0.0
MATI	**Mati**	**2.37**	**176**	*eP*			Pn	06 30 19.4	-0.4
PAGZ	**Pagadian**	**3.05**	**241**	*eP*			Pn	06 30 31.5	+2.4

CASC 22 06:42:04.0±1.5,13°.64N×90°.48W,h52km±23km,MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.76**	**350**	*eP*			Pn	06 42 19.5	+0.4
PCG				*eS*			Sn	06 42 30.8	+0.8
RTR	**El Retiro**	**0.85**	**72**	*eP*			Pn	06 42 20.1	+0.1
RTR				*eS*			Sn	06 42 33.0	+1.3
SBLS	**San Blas**	**0.85**	**76**	*eP*			Pn	06 42 19.9	-0.2
SBLS				*eS*			Sn	06 42 31.9	-0.1
SNJE	**San Jose**	**0.88**	**75**	*eP*			Pn	06 42 20.3	-0.1
SNJE				*eS*			Sn	06 42 32.5	0.0
BOQS	**Boqueron**	**1.17**	**85**	*eP*			Pn	06 42 24.4	0.0
BOQS				*eS*			Sn	06 42 39.8	+0.3
SNET	**Serv Nac Est T**	**1.21**	**87**	*eP*			Pn	06 42 24.5	-0.2
SNET				*eS*			Sn	06 42 41.1	+1.0
LFRS	**El Faro**	**1.38**	**90**	*eP*			Pn	06 42 27.3	+0.3
LFRS				*eS*			Sn	06 42 45.3	+1.0
LBRS	**Las Brisas**	**1.40**	**86**	*eP*			Pn	06 42 27.5	+0.2
MRL	**Marmol**	**1.61**	**28**	*eP*			Pn	06 42 31.2	+0.8

*BJI **22** 06:46:08.6,2°.50N×93°.55E,h15km,mB5.1/31,mb4.9/45, Ms4.7/35,Ms7 4.3/35*
*ISCJB **22** 06:46:10.9±0.9,3°.01N±0°.03×93°.67E±0°.02,h4km±5km, mb4.9/98,MS4.2/32,Error ellipse: s-maj=5.4km s-min=3.8km az=26.5*
*MOS **22** 06:46:15.3±1.0,3°.10N×93°.81E,h33km,mb5.3/44,Error ellipse: s-maj=9.3km s-min=4.9km az=115.7*
*IDC **22** 06:46:16.8±7.1,2°.98N×93°.72E,h33km±54km,mb4.5/23, mb1 4.6/25,mb1mx4.4/41,mbtmp4.7/25,ML4.7/2,MS4.0/18, Ms1 4.0/18,ms1mx3.8/30,Error ellipse: s-maj=23.4km s-min=12.3km az=56.0*
*KLM **22** 06:46:17.2,2°.94N×93°.80E,h21km,mb5.1,ML4.9,MS6.3*
*NEIC **22** 06:46:17.3±0.9,3°.03N×93°.79E,h37km±8km,mb5.1/32, Error ellipse: s-maj=7.8km s-min=4.9km az=61.0*
*GCMT **22** 06:46:17.3±0.3,2°.95N×93°.75E,h13km±1km,MW5.0/74, Moment Tensor Solution. s28,c38; s74,c103; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.13±.13; Mθθ=0.50±.10; Mφφ 1.63±.12; Mrθ=0.09±.25; Mrφ=-2.96±.12; Mθφ=1.91±.37; Best double couple: Mo3.73900×10^16^ NP1:φ5.00000°,δ80.00000°,λ=36.00000°. NP2: φs102.00000°,δ55.00000°,λ=168.00000°. Principal axes: T 4.1590, Plg17.0000°, Azm58.0000°; N -0.8390, Plg53.0000°, Azm171.0000°; P -3.3190, Plg32.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **22** 06:46:22.2±0.6,3°.N±4°.,9°.4E±°,h10km,M5.2/21,mb5.3/21, mB5.6/13,MLv5.3/11,Mw(mB)5.1/13*

ISC 22 06:46:16.1±0.4,3°.08N±0°.04×93°.72E±0°.04,h25km±1km, h25km:pP-P,n394,σ1§38/421,mb5.0/98,MS4.1/33, 47C-16D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**2.69**	**104**	P			**Pn**	**06 46 56.7**	**-1.2**
SNSI				S			**Sn**	**06 47 25.3**	**-4.4**
TPTI		**3.46**	**87**	P			**Pn**	**06 47 06.9**	**-1.6**
TPTI				S			**Sn**	**06 47 43.2**	**-5.5**
LHMI	**Lhok Sumawe**	**3.87**	**56**	P			**Pn**	**06 47 14.6**	**+0.6**
LHMI	**Lhok Sumawe**	**3.87**	**56**	*e*Pn			**Pn**	**06 47 14.8**	**+0.8**
LHMI	**Lhok Sumawe**	**3.87**	**56**	P			**Pn**	**06 47 14.9**	**+0.8**
	baz=3.9,SNR=27								
CMBY	**CAMPBELL BAY**	**3.91**	**3**	*e*S			**Sn**	**06 47 57.4**	**-2.5**
KCSI	**Kotacane, Aceh**	**4.07**	**84**	P			**Pn**	**06 47 17.5**	**+0.6**
LASI	**Langsa, Aceh**	**4.46**	**72**	P			x	06 47 34.5	
TSI	**Tuntungan**	**4.86**	**85**	P			**Pn**	**06 47 29.5**	**+1.8**
PSI	**Prapat**	**5.21**	**93**	P			x	06 47 32.5	
PSI	**Prapat**	**5.21**	**93**	Pn			**Pn**	**06 47 32.5**	**-0.2**
PSI				Sn			**Sn**	**06 48 29.4**	**-2.7**
PSI	**Prapat**	**5.21**	**93**	Pn			**Pn**	**06 47 32.5**	**-0.2**
	45nm,0.3s,baz=278,slow=9.2,SNR=59								
PSI				Sn			**Sn**	**06 48 29.4**	**-2.7**
	65nm,0.3s,baz=186,slow=20,SNR=11								
PSI				LR			LR	06 49 44.2	
	comp=Z,1μm,21.7s,baz=264,slow=40								
PSI	**Prapat**	**5.21**	**93**	P			**Pn**	**06 47 32.5**	**-0.2**
	baz=5.2,SNR=88								
MNSI	**Mandailing Nat**	**6.28**	**111**	P			**Pn**	**06 47 46.3**	**-1.0**
	771nm,0.7s,18μm11nm								
PKDT	**Phuket**	**6.63**	**44**	P			**Pn**	**06 47 51.5**	**-0.6**
	269nm,1.0s								
KULM	**Kulim**	**7.25**	**72**	P			x	06 48 00.2	
	447nm,1.0s,5μm1.9nm								
KULM	**Kulim**	**7.25**	**72**	*e*Pn			**Pn**	**06 48 00.1**	**-0.6**
KULM				*e*Sn			**Sn**	**06 49 16.3**	**-6.0**
KULM	**Kulim**	**7.25**	**72**	⇑P			**Pn**	**06 48 00.3**	**-0.4**
IPM	**Ipoh**	**7.42**	**79**	P			x	06 48 02.1	
	196nm,0.9s,3μm0.8nm								
IPM	**Ipoh**	**7.42**	**79**	*e*Pn			**Pn**	**06 48 02.3**	**-0.7**
IPM				*e*Sn			Sn	06 49 18.2	-8.4
IPM	**Ipoh**	**7.42**	**79**	⇑P			**Pn**	**06 48 02.3**	**-0.7**
PPI	**Padang Panjang**	**7.54**	**118**	P			**Pn**	**06 48 04.0**	**-0.6**
	994nm,0.9s,7μm3.0nm								
PPI	**Padang Panjang**	**7.54**	**118**	P			**Pn**	**06 48 04.0**	**-0.6**
	baz=7.5,SNR=12								
SURT	**Suratani**	**7.72**	**41**	P			**Pn**	**06 48 06.3**	**-0.7**
	67nm,1.1s								
BKNI	**Bangkinang**	**7.81**	**110**	P			**Pn**	**06 48 11.3**	**+3.0**
	295nm,0.9s,3μm1.1nm								
BKNI	**Bangkinang**	**7.81**	**110**	*e*Pn			**Pn**	**06 48 07.2**	**-1.2**
FRIM	**Kepong**	**7.90**	**89**	⇑P			**Pn**	**06 48 08.9**	**-0.6**
PBA	**Port Blair**	**8.58**	**354**	*e*P			Pn	06 48 18.0	-0.8
PBA				*e*S			Sn	06 49 48.5	-6.3
KGM	**Kluang**	**9.65**	**96**	⇓P			**Pn**	**06 48 32.6**	**-0.9**
DGPR	**DIGLIPUR**	**10.06**	**356**	*e*P			**Pn**	**06 48 37.2**	**-2.0**
DGPR				*e*S			Sn	06 50 24.3	-7.1
MYKOM	**Kota Tinggi**	**10.20**	**97**	P			x	06 48 40.6	
	53nm,1.0s								
MYKOM	**Kota Tinggi**	**10.20**	**97**	*e*Pn			**Pn**	**06 48 40.1**	**-1.0**
MYKOM	**Kota Tinggi**	**10.20**	**97**	⇑P			**Pn**	**06 48 40.1**	**-1.0**
TPRI	**Tanjung Pinang**	**11.01**	**101**	P			**Pn**	**06 48 50.0**	**-2.2**
	378nm,0.4s,41μm								
MNAI	**Manna**	**11.82**	**129**	P			**Pn**	**06 49 01.1**	**-2.2**
MNAI	**Manna**	**11.82**	**129**	*e*Pn			**Pn**	**06 49 01.1**	**-2.2**
MNAI	**Manna**	**11.82**	**129**	P			**Pn**	**06 49 01.4**	**-2.0**
	baz=12,SNR=6.6								
LHSI	**Lahat**	**11.96**	**125**	P			**Pn**	**06 49 07.4**	**+2.2**
	378nm,1.0s,4μm								
PMBI	**Palembang**	**12.56**	**118**	P			P	06 49 20.3	-4.4
KHLT	**Khaolaem Dam**	**12.60**	**22**	P			**Pn**	**06 49 15.0**	**+1.1**
	8.4nm,1.1s								
CHBT	**CHBT**	**12.85**	**41**	P			x	06 49 18.8	
	72nm,1.1s								
MDSI	**Maura Dua**	**12.87**	**126**	P			**Pn**	**06 49 16.1**	**-1.6**
	163nm,0.9s,2μm								
LWLI	**Liwa**	**13.09**	**128**	P			**Pn**	**06 49 19.6**	**-1.2**
	488nm,0.7s								
PALK	**Pallekele**	**13.61**	**288**	*e*Pn			**Pn**	**06 49 25.9**	**-2.0**
PALK				*e*Sn			Sn	06 51 47.6	-11
UTHA	**Uthaitani**	**13.62**	**24**	P			**Pn**	**06 49 27.6**	**-0.3**
	9.5nm,0.9s,96nm								
KLI	**Kotabumi**	**13.64**	**125**	P			P	06 49 45.3	+8.5
KASI	**Kota Agung**	**13.74**	**128**	P			**Pn**	**06 49 30.1**	**+0.5**
	198nm,0.9s,2μm								
TPI	**Tanjungpandan**	**15.09**	**112**	P			P	06 49 59.1	+6.2
PBKT	**Sadao Pong**	**15.19**	**28**	P			**Pn**	**06 49 48.6**	**-0.5**
	68nm,0.7s								
CM31	**Chiang Mai Arr**	**16.12**	**18**	*e*P			**Pn**	**06 50 01.0**	**-0.2**
	34nm,0.8s								
CMAR	**Chiang Mai Arr**	**16.12**	**18**	Pn			**Pn**	**06 50 00.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.12**	**18**	Pn			**Pn**	**06 50 00.4**	**-0.8**
	0.7nm,0.3s,baz=208,slow=13,SNR=31								
CMAR				LR			LR	06 57 13.9	
	comp=Z,551nm,18.7s,baz=208,slow=40								
DBJI	**Dramaga**	**16.15**	**126**	P			**P**	**06 50 07.0**	**+2.3**
	111nm,1.1s,2μm								
LAMP	**Lampang**	**16.41**	**20**	P			**Pn**	**06 50 06.0**	**+1.1**
	26nm,0.8s,178nm								
CHTO	**Chiang Mai**	**16.45**	**18**	*e*P			**Pn**	**06 50 03.9**	**-1.6**
CHTO	**Chiang Mai**	**16.45**	**18**	P			**Pn**	**06 50 04.5**	**-1.0**
	119nm,1.0s,1μm								
CHTO	**Chiang Mai**	**16.45**	**18**	*e*P			**Pn**	**06 50 03.9**	**-1.6**
KSM	**Kuching**	**16.65**	**95**	P			x	06 50 09.0	
	157nm,0.9s,1μm								
KSM	**Kuching**	**16.65**	**95**	*e*P			**Pn**	**06 50 08.0**	**-0.1**
	135nm,0.9s								
UBPT	**Khong Chiam**	**16.77**	**43**	P			x	06 50 09.5	
	95nm,1.4s								
UBPT	**Khong Chiam**	**16.77**	**43**	P			**Pn**	**06 50 09.6**	**+0.1**
	95nm,1.3s								
LEM	**Lembang**	**17.01**	**125**	P			**P**	**06 50 17.4**	**+3.0**
	91nm,1.1s								
DLV	**T Lat**	**17.07**	**58**	*e*P			**Pn**	**06 50 13.7**	**+0.1**
	95nm,1.1s								
CMAI	**Chiengmai2**	**17.54**	**17**	P			**Pn**	**06 50 19.7**	**+0.4**
	17nm,1.1s,844nm								
VIS	**Vishakhapatnam**	**17.77**	**326**	*e*P			**Pn**	**06 50 21.6**	**-0.3**
VIS				AMB			AMB	06 50 22.8	
	comp=Z,76nm,1.2s								
TGJI	**Tegal**	**18.28**	**123**	P			x	06 50 42.8	
KPJI	**Karang Pucung**	**18.37**	**124**	P			**Pn**	**06 50 31.0**	**+1.6**
	comp=Z,58nm,0.9s								
SBUM	**Sibu**	**18.49**	**91**	P			x	06 50 31.4	
	comp=Z,32nm,0.9s								
SBUM	**Sibu**	**18.49**	**91**	*e*Pn			**P**	**06 50 30.3**	**-0.3**
SBUM	**Sibu**	**18.49**	**91**	⇑P			**Pn**	**06 50 31.6**	**+0.8**
BJII	**Banjamegara**	**19.02**	**123**	P			x	06 50 46.2	
NGJI	**Ngawi**	**20.52**	**120**	P			Pn	06 51 08.8	+14
HYB	**Hyderabad**	**20.60**	**315**	*e*P			**P**	**06 50 54.5**	**+0.8**
HYB				*e*S			Sn	06 54 49.0	+1.0
HYB	**Hyderabad**	**20.60**	**315**	⇓*i*P			**P**	**06 50 54.5**	**+0.8**
HYB				*e*S			**S**	**06 54 37.5**	**-5.6**
HYB	**Hyderabad**	**20.60**	**315**	*e*P			Pn	06 50 55.0	-1.0
HYB	**Hyderabad**	**20.60**	**315**	*e*P			**P**	**06 50 54.5**	**+0.8**
HYB				*e*S			Sn	06 54 49.0	+1.0
SLVN	**Son La**	**20.68**	**28**	*e*P			**P**	**06 50 54.7**	**+0.2**
BOK	**Bokaro**	**21.94**	**340**	*e*P			**P**	**06 51 09.7**	**+1.7**
BOK				AMB			AMB	06 51 10.8	
	comp=Z,287nm,0.9s								
BBKI	**Banjar Baru**	**22.09**	**107**	P			**P**	**06 51 10.6**	**+0.9**
	comp=Z,98nm,0.8s,comp=Z,3μm								
QIZ	**Qiongzhong**	**22.36**	**44**	P			**P**	**06 51 13.1**	**+0.5**
QIZ				pP			**pP**	**06 51 18.5**	**-1.0**
QIZ				S			**S**	**06 51 18.5**	**+1.2**
QIZ				sS			**sS**	**06 55 28.1**	**-0.6**
QIZ				pmax			pmax		
	comp=Z,23nm,1.8s								
QIZ				LR			LR		
	comp=Z,1μm,15.4s								
QIZ				LR			LR		
	comp=Z,490nm,23.1s								
SHL	**Shillong**	**22.43**	**356**	*e*P			**P**	**06 51 12.0**	**-1.4**
KKM	**Kota Kinabalu**	**22.62**	**82**	P			x	06 51 17.4	
	comp=Z,115nm,0.9s,comp=Z,1μm								
KKM	**Kota Kinabalu**	**22.62**	**82**	*e*P			**P**	**06 51 17.1**	**+1.6**
	comp=Z,81nm,0.8s								
KKM	**Kota Kinabalu**	**22.62**	**82**	⇑P			**P**	**06 51 16.2**	**+0.7**
KDM	**Kudat**	**23.34**	**80**	⇑P			**P**	**06 51 24.1**	**+1.3**
SDKM	**Sandakan**	**23.55**	**83**	⇓P			**P**	**06 51 25.2**	**+0.3**
KMI	**Kunming**	**23.58**	**21**	P			**P**	**06 51 26.6**	**+1.3**
KMI				pP			**pP**	**06 51 33.8**	**+1.3**
KMI				sP			**sP**	**06 51 36.0**	**+0.4**
KMI				PP			PnPn	06 52 00.6	+7.9
KMI				S			**S**	**06 55 38.5**	**+0.1**
KMI				sS			**sS**	**06 55 48.5**	**-2.0**
KMI				SS			SnSn	06 56 28.5	+12
KMI				pmax			pmax		
	comp=Z,21nm,1.0s								
KMI				LR			LR		
	comp=Z,580nm,15.5s								
KMI				LR			LR		
	comp=Z,1μm,15.5s								
KMI				LR			LR		
	comp=Z,460nm,16.0s								
DGAR	**Diego Garcia**	**23.64**	**244**	*e*P			**P**	**06 51 27.8**	**+2.1**
DGAR				pmax			pmax		
	comp=Z,83nm,1.0s								
DGAR	**Diego Garcia**	**23.64**	**244**	*e*P			**P**	**06 51 27.8**	**+2.1**
	comp=Z,83nm,1.0s								
H08S2	**Diego Garcia H**	**23.70**	**243**	T			T	07 16 47.2	
	baz=64,slow=75,SNR=696								
H08S3	**Diego Garcia H**	**23.70**	**243**	T			T	07 16 21.8	
	baz=64,slow=75,SNR=731								
H08S1	**Diego Garcia H**	**23.72**	**243**	T			T	07 16 27.8	
	baz=64,slow=75,SNR=80								
TSM	**Tawau**	**24.14**	**86**	⇓P			**P**	**06 51 30.3**	**-0.1**
ODAN	**Odire**	**24.41**	**346**	*e*P			**P**	**06 51 33.6**	**+0.5**
	comp=Z,190nm,1.4s								
H08N1	**Diego Garcia H**	**24.52**	**248**	T			T	07 18 25.1	
	baz=149,slow=75,SNR=14								
H08N2	**Diego Garcia H**	**24.53**	**248**	T			T	07 18 16.8	
	baz=149,slow=75,SNR=14								
H08N3	**Diego Garcia H**	**24.55**	**248**	T			T	07 18 29.4	
	baz=149,slow=75,SNR=13								
RAMN	**Ramite**	**24.70**	**345**	*e*P			**P**	**06 51 36.8**	**+1.1**
	comp=Z,47nm,0.6s								
POO	**Poona**	**24.78**	**310**	*e*P			**P**	**06 51 35.6**	**-0.7**
POO				*i* x			x	06 52 45.0	
TAPN	**Taplejung**	**24.81**	**347**	*e*P			**P**	**06 51 37.4**	**+0.6**
JIRN	**Jiri**	**25.48**	**344**	*e*P			**P**	**06 51 43.7**	**+0.8**
	comp=Z,66nm,0.7s								
BHPL	**Bhopal**	**25.51**	**323**	*e*P			**P**	**06 51 44.0**	**+1.2**
BHPL				AMB			AMB	06 51 45.8	
	comp=Z,37nm,2.2s								
PKI	**Pulchoki**	**25.62**	**343**	*e*P			**P**	**06 51 44.3**	**+0.2**
PKIN	**Phulchoki**	**25.63**	**343**	*e*P			**P**	**06 51 44.4**	**+0.3**
	comp=Z,26nm,0.6s								
DMN	**Daman**	**25.74**	**342**	*e*P			**P**	**06 51 45.7**	**+0.5**
	comp=Z,41nm,0.8s								
GUN	**Gumba**	**25.80**	**344**	*e*P			**P**	**06 51 46.4**	**+0.6**
	comp=Z,67nm,0.7s								
MMSI	**Mamuju**	**25.83**	**103**	P			x	06 51 58.5	
KKN	**Kakani**	**25.86**	**343**	*e*P			**P**	**06 51 46.6**	**+0.4**
	comp=Z,59nm,0.9s								
GKN	**Gorkha**	**26.26**	**342**	*e*P			**P**	**06 51 50.3**	**+0.6**
	comp=Z,120nm,0.9s								
GYA	**Guiyang**	**26.36**	**27**	P			**P**	**06 51 52.3**	**+1.7**
GYA				pP			**pP**	**06 51 58.6**	**+0.6**
GYA				PP			**PnPn**	**06 52 35.5**	**+4.9**
GYA				PcP			**PcP**	**06 55 19.0**	**+2.7**
GYA				S			**S**	**06 56 23.8**	**+1.3**
GYA				ScP			**ScP**	**06 58 55.3**	**+0.5**
GYA				pmax			pmax		
	comp=Z,20nm,0.8s								
GYA				pmax			pmax		
	comp=Z,120nm,4.6s								
GYA				LR			LR		
	comp=Z,680nm,14.7s								
GYA				LR			LR		
	comp=Z,590nm,15.0s								
GYA				LR			LR		
	comp=Z,640nm,14.6s								
KOLN	**Koldanda**	**26.39**	**339**	*e*P			**P**	**06 51 51.7**	**+0.7**
	comp=Z,68nm,0.8s								
LSA	**Lhasa**	**26.59**	**355**	*e*P			**P**	**06 51 54.9**	**+1.9**
LSA				pmax			pmax		
	comp=Z,126nm,0.7s								
LSA	**Lhasa**	**26.59**	**355**	*e*P			**P**	**06 51 54.9**	**+1.9**
	comp=Z,126nm,0.7s								
DANN	**Dangsing**	**26.86**	**340**	*e*P			**P**	**06 51 55.8**	**+0.4**
	comp=Z,74nm,0.9s								
PYUN	**Piuthan**	**26.91**	**339**	*e*P			**P**	**06 51 56.2**	**+0.6**
	comp=Z,14nm,0.6s								
CD2	**Chengdu**	**29.26**	**18**	*e*P			**P**	**06 52 17.3**	**+0.8**
CD2				sP			**sP**	**06 52 26.8**	**-0.1**
CD2				PP			**PnPn**	**06 53 12.6**	**+2.5**
CD2				S			**S**	**06 57 10.3**	**+2.2**
CD2				sS			**sS**	**06 57 19.3**	**-1.0**
CD2				pmax			pmax		
	comp=Z,20nm,0.7s								
CD2				pmax			pmax		
	comp=Z,230nm,5.9s								
CD2				LR			LR		
	comp=Z,660nm,13.1s								
CD2				LR			LR		
	comp=Z,1μm,17.8s								
CD2				LR			LR		
	comp=Z,650nm,10.7s								
NDI	**New Delhi**	**29.92**	**330**	*e*P			**P**	**06 52 21.0**	**-1.3**
ENH	**Enshi**	**30.89**	**27**	*e*P			**P**	**06 52 29.9**	**-1.0**
	comp=Z,12nm,0.7s								
SMLA	**Simla**	**31.98**	**333**	*e*P			**P**	**06 52 40.7**	**+0.4**
SMLA				AMB			AMB	06 52 41.8	
	comp=Z,34nm,1.1s								
DHRM	**DHARAMSHALA**	**33.31**	**332**	*e*P			**P**	**06 52 52.4**	**0.0**
WHN	**Wuhan**	**33.57**	**33**	P			**P**	**06 52 56.1**	**+1.8**
XAN	**Xi'an**	**33.91**	**23**	P			**P**	**06 52 56.6**	**-0.7**
XAN				pP			**pP**	**06 53 02.3**	**-2.5**
XAN				S			**S**	**06 58 16.3**	**-4.3**
XAN				pmax			pmax		
	comp=Z,4.0nm,0.7s								
XAN				LR			LR		
	comp=Z,470nm,20.4s								
XAN				LR			LR		
	comp=Z,360nm,22.5s								
XAN				LR			LR		
	comp=Z,190nm,16.3s								
LZH	**Lanzhou**	**34.15**	**15**	*e*P			**P**	**06 53 01.0**	**+1.5**
LZH				pP			**pP**	**06 53 07.0**	**0.0**
LZH				sP			**sP**	**06 53 10.0**	**-0.1**
LZH				*e*PP			**PP**	**06 54 17.3**	**+0.1**
LZH				*e*S			**S**	**06 58 25.0**	**+0.4**
LZH				sS			**sS**	**06 58 36.1**	**-0.8**
LZH				pmax			pmax		
	comp=Z,23nm,1.3s								
LZH				pmax			pmax		
	comp=Z,130nm,5.6s								
LZH				LR			LR		
	comp=Z,430nm,13.0s								
LZH				LR			LR		
	comp=Z,400nm,12.5s								
LZH				LR			LR		
	comp=Z,590nm,16.3s								
GTA	**Gaotai**	**36.59**	**8**	*e*P			**P**	**06 53 20.8**	**+0.4**
GTA				pP			**pP**	**06 53 26.6**	**-1.3**
GTA				sP			**sP**	**06 53 29.8**	**-1.1**
GTA				PP			**PP**	**06 54 45.9**	**+1.9**
GTA				PcP			**PcP**	**06 55 42.9**	**-0.6**
GTA				S			**S**	**06 59 02.3**	**+0.5**
GTA				ScP			**ScP**	**06 59 27.1**	**-1.6**
GTA				pmax			pmax		
	comp=Z,7.0nm,1.3s								
GTA				pmax			pmax		
	comp=Z,67nm,6.2s								
GTA				LR			LR		
	comp=Z,150nm,16.1s								
GTA				LR			LR		
	comp=Z,220nm,16.6s								
GTA				LR			LR		
	comp=Z,210nm,13.5s								
NJ2	**Nanjing**	**37.27**	**37**	*e*P			**P**	**06 53 27.1**	**+1.0**
NJ2				sP			**sP**	**06 53 37.6**	**+1.0**
NJ2				pmax			pmax		
	comp=Z,20nm,1.0s								
SWI	**Sorong**	**37.73**	**95**	P			P	06 53 41.5	+11
MEEK	**Meekatharra**	**38.10**	**142**	P			**P**	**06 53 32.9**	**-0.4**
	baz=38,SNR=6.9								
FAKI	**Fak Fak**	**38.97**	**98**	P			P	06 53 50.8	+10
KSH	**Kashi**	**39.69**	**338**	*i* P			**P**	**06 53 44.8**	**-1.8**
KSH				*e*PP			**PP**	**06 55 18.0**	**0.0**
KSH				*e*PcP			**PcP**	**06 55 53.4**	**+0.3**
KSH

TKM2 pmax pmax
comp=Z,36nm,1.3s
TKM2 Tokmak 2 42.83 340 *e*P **P** 06 54 12.9 +0.4
comp=Z,36nm,1.3s
AAK Ala-Archa 42.96 339 P **P** 06 54 14.6 +1.2
comp=Z,64nm,0.8s,SNR=9.8
AAK Ala-Archa 42.96 339 P **P** 06 54 14.6 +1.2
AAK Ala-Archa 42.96 339 P **P** 06 54 14.6 +1.2
AAK Ala-Archa 42.96 339 P **P** 06 54 14.6 +1.2
comp=Z,6.9nm,0.8s,baz=127,slow=4.5,SNR=22
FRU Bishkek 43.09 339 *e*P **P** 06 54 16.0 +1.7
EKS2 Erkin-Say 43.24 338 *e*P **P** 06 54 16.5 +0.8
EKS2 pmax pmax
comp=Z,21nm,0.4s
EKS2 Erkin-Say 43.24 338 *e*P **P** 06 54 16.4 +0.8
comp=Z,21nm,0.4s
IDAH Dahanechah 43.31 317 *e*P **P** 06 54 17.0 +0.4
WRKA Warakurna 43.67 132 P **P** 06 54 18.3 -0.9
baz=44,SNR=6.3
IKOO Kooshah 43.72 316 *e*P **P** 06 54 20.3 +0.4
ITEG Tejag 44.17 316 *e*P **P** 06 54 23.9 +0.5
MK31 Makanchi Array 44.66 349 *e*P **P** 06 54 27.4 +0.5
MK31 Makanchi Array 44.66 349 *e*P **P** 06 54 27.4 +0.5
MKAR Makanchi Array 44.66 349 P **P** 06 54 27.6 +0.7
MKAR Makanchi Array 44.66 349 P **P** 06 54 27.6 +0.7
MKAR Makanchi Array 44.66 349 P **P** 06 54 27.6 +0.7
comp=Z,36nm,0.7s,baz=165,slow=9.0,SNR=379
MKAR LR LR 07 17 43.3
comp=Z,91nm,18.7s,baz=172,slow=42
KK31 Karatay Array 44.89 336 *i*P **P** 06 54 28.5 -0.2
KK31 pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 44.89 336 *e*P **P** 06 54 28.8 +0.1
KKAR pmax pmax
comp=Z,12nm,0.3s
KKAR Karatay Array 44.89 336 *e*P **P** 06 54 28.8 +0.1
comp=Z,12nm,0.3s
IMYA Miami 45.34 321 *e*P **P** 06 54 31.0 -1.6
SONM Songino Array 45.91 12 P **P** 06 54 37.4 +0.5
SONM Songino Array 45.91 12 P **P** 06 54 37.4 +0.5
comp=Z,7.0nm,0.8s,baz=190,slow=8.5,SNR=60
WRA Warramunga Arr 45.98 122 P **P** 06 54 36.6 -1.1
WRA Warramunga Arr 45.98 122 P **P** 06 54 36.6 -1.1
comp=Z,18nm,1.0s,baz=302,slow=8.7,SNR=120
WRA LR LR 07 15 32.0
comp=Z,121nm,21.0s,baz=295,slow=38
WRAB Tennant Creek 45.98 122 P **P** 06 54 36.0 -1.7
comp=Z,323nm,0.7s,SNR=26
WRAB Tennant Creek 45.98 122 *d i*P **P** 06 54 36.9 -0.8
WRAB pmax pmax
comp=Z,74nm,1.0s
WRAB Tennant Creek 45.98 122 *e*P **P** 06 54 36.6 -1.2
comp=Z,36nm,0.8s
ULN Ulaanbaatar 46.08 12 *e*P **P** 06 54 37.8 -0.4
comp=Z,3.3nm,0.8s
KSAR Wonju Array Be 46.38 38 P **P** 06 54 41.2 +0.7
KSRS Korea Array 46.41 38 P **P** 06 54 41.2 +0.5
comp=Z,1.3nm,0.6s,baz=230,slow=31,SNR=4.2
KSRS LR LR 07 14 53.7
comp=Z,189nm,18.6s,baz=234,slow=37
AS31 Alice Springs 47.30 126 *e*P **P** 06 54 46.7 -1.4
ASAR Alice Springs 47.30 126 P **P** 06 54 47.0 -1.1
ASAR Alice Springs 47.30 126 P **P** 06 54 47.0 -1.1
comp=Z,7.8nm,0.8s,baz=301,slow=7.4,SNR=37
ABKT Ailbek 47.57 321 P **P** 06 54 50.8 +0.9
comp=Z,234nm,0.9s,SNR=6.0
ZAK Zakamensk 47.83 8 *e*P **P** 06 54 52.0 +0.2
IZEF Zefreh 48.77 312 *e*P P 06 54 55.8 -3.8
KURBB Kurchatov Arra 49.08 347 P **P** 06 55 01.9 +0.5
comp=Z,16nm,0.7s,baz=171,slow=7.1,SNR=278
TLY Talaya 49.14 8 *e*P **P** 06 55 03.3 +1.5
TLY *e* 06 55 14.3
TLY pmax pmax
comp=Z,1.0nm,0.3s
TLY MLR MLR
comp=Z,162nm,16.0s
TLY Talaya 49.14 8 *e*P **P** 06 55 03.0 +1.2
comp=Z,1.9nm,0.6s
KURK Kurchatov 49.15 347 P **P** 06 55 02.7 +0.9
comp=Z,85nm,1.1s,SNR=22
KURK Kurchatov 49.15 347 P **P** 06 55 02.4 +0.6
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 49.15 347 *e*P **P** 06 55 02.4 +0.6
comp=Z,14nm,0.9s
IGLO Ghaloghah 49.54 317 *e*P **P** 06 55 03.4 -1.9
IPIR Pirpir 49.74 311 *e*P **P** 06 55 04.7 -2.4
IALA Alasht 50.01 316 *e*P **P** 06 55 09.2 +0.1
RAYN Ar Rayn 50.81 298 *e*P **P** 06 55 15.2 +0.2
comp=Z,29nm,0.9s
HIA Hailar 51.09 22 *e*P **P** 06 55 17.2 +0.6
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 51.23 353 *e*P **P** 06 55 18.0 +0.5
ZALV Zalesovo Beam 51.23 353 P **P** 06 55 18.1 +0.6
ZALV Zalesovo Beam 51.23 353 P **P** 06 55 18.1 +0.6
ZALV Zalesovo Beam 51.23 353 P **P** 06 55 18.1 +0.6
comp=Z,30nm,0.6s,baz=188,slow=8.4,SNR=109
ZALV LR LR 07 19 20.0
comp=Z,115nm,19.5s,baz=228,slow=39
MDJ Mudanjiang 52.03 32 P **P** 06 55 24.8 +1.1
MDJ pP **pP** 06 55 31.3 -0.1
MDJ sP **sP** 06 55 33.8 -0.6
MDJ PcP **PcP** 06 56 36.4 +0.6
MDJ PP **PP** 06 57 22.9 +0.8
MDJ ScP **ScP** 07 00 32.0 +0.7
MDJ PcS **PcS** 07 00 34.5 +0.7
MDJ S **S** 07 02 48.0 +2.1
MDJ ScS **ScS** 07 05 13.6 +1.3
MDJ SS **SS** 07 06 26.8 +3.5
MDJ pmax pmax
comp=Z,13nm,2.3s
MDJ pmax pmax
comp=Z,170nm,4.6s
MDJ LR LR
comp=Z,170nm,22.8s
MDJ LR LR
comp=Z,180nm,22.8s
MDJ LR LR
comp=Z,190nm,19.0s
NVS Novosibirsk 52.30 352 ⇓*i*P **P** 06 55 24.3 -1.2
NVS *i* 06 55 36.1
NVS pmax pmax
comp=Z,32nm,1.0s
NVS pmax pmax
comp=N,14nm,0.9s
NVS pmax pmax
comp=E,10.0nm,0.9s
VLA Vladivostok 52.33 35 ⇑P **P** 06 55 25.9 0.0
VLA pmax pmax
comp=Z,36nm,1.2s
MJAR Matsushiro Arr 52.75 45 LR LR 07 19 43.0
comp=Z,304nm,19.5s,baz=245,slow=38
VOSK Vostochnaya 52.95 343 P **P** 06 55 30.0 -0.4
VOSK pmax pmax
comp=Z,32nm,1.0s
USRK Ussuriysk Arra 53.06 34 P **P** 06 55 31.6 +0.3
comp=Z,3.9nm,0.8s,baz=221,slow=5.5,SNR=6.1
USRK LR LR 07 21 09.5
comp=Z,286nm,18.2s,baz=210,slow=39
BVAR Borovoye Array 53.39 343 P **P** 06 55 33.2 -0.4
BVAR Borovoye Array 53.39 343 P **P** 06 55 33.2 -0.4
BVAR Borovoye Array 53.39 343 P **P** 06 55 33.2 -0.4
comp=Z,12nm,0.8s,baz=147,slow=8.5,SNR=66
BRVK Borovoye 53.45 343 P **P** 06 55 33.9 -0.1
comp=Z,109nm,1.1s,SNR=9.8
BRVK Borovoye 53.45 343 *d i*P **P** 06 55 33.7 -0.4
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 53.45 343 *e*P **P** 06 55 33.6 -0.4
comp=Z,15nm,0.9s
IGHG Ghaleghazi 53.70 311 *e*P **P** 06 55 34.6 -1.9
IDHR Dehrash 53.99 312 *e*P **P** 06 55 36.9 -1.8
AB31 Akbulak array 54.26 333 *i*P **P** 06 55 39.6 -0.4
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 54.26 333 *e*P **P** 06 55 39.4 -0.6
comp=Z,12nm,0.8s
IHRS Heris 55.12 316 *e*P **P** 06 55 44.9 -1.9
AKTO Aktyubinsk 55.97 333 P **P** 06 55 51.4 -1.0
AKTO Aktyubinsk 55.97 333 P **P** 06 55 51.4 -1.0
AKTO Aktyubinsk 55.97 333 P **P** 06 55 51.4 -1.0
comp=Z,3.0nm,0.6s,baz=123,slow=7.4,SNR=15
KLR Kul'dur 56.23 29 *e*P **P** 06 55 51.7 -2.5
KLR *e* 06 56 01.8
KLR pmax pmax
comp=Z,56nm,1.8s
IMRD Marand 56.23 316 *e*P **P** 06 55 54.6 -0.2
KMBO Kilima Mbogo 56.60 267 P **P** 06 55 58.0 +0.2
KMBO Kilima Mbogo 56.60 267 P **P** 06 55 58.0 +0.2
comp=Z,2.1nm,0.8s,baz=79,slow=9.5,SNR=4.0
STKA Stephens Creek 57.20 131 *e*P **P** 06 56 00.5 -0.9
comp=Z,1.3nm,0.7s
STKA Stephens Creek 57.20 131 P **P** 06 56 00.6 -0.9
comp=Z,2.2nm,0.5s,baz=320,slow=7.6,SNR=5.2
STKA Stephens Creek 57.20 131 ⇓P **P** 06 56 02.4 +1.0
baz=57,SNR=5.2
HABR Khabarovsk 57.40 31 *e*P **P** 06 56 01.4 -1.1
HABR *e**SP **sP** 06 56 08.8 -4.5
HABR 06 56 53.8
HABR *e* 06 58 08.1
HABR *e*S **S** 07 03 57.8 -0.1
HABR *e**SS **sS** 07 04 06.8 -3.9
HABR *e* 07 05 48.2
HABR *e*SS **SS** 07 07 47.8 0.0
HABR pmax pmax
comp=Z,33nm,1.1s
HABR MLR MLR
comp=Z,407nm,19.0s
ZEI Tsey 59.31 319 *e*P **P** 06 56 15.9 -0.4
ZEI pmax pmax
comp=Z,19nm,0.9s
SVE Sverdlovsk 59.70 340 ⇓*i*P **P** 06 56 18.4 0.0
SVE pmax pmax
comp=Z,42nm,1.1s
ARU Arti 60.14 338 *d i*P **P** 06 56 20.3 -1.2
ARU 06 58 29.4
ARU S **S** 07 04 34.5 +1.2
ARU pmax pmax
comp=Z,30nm,1.7s
ARU Arti 60.14 338 *e*P **P** 06 56 20.2 -1.2
comp=Z,14nm,0.9s
CMSA Cobar Meteorol 60.17 129 P **P** 06 56 21.6 -0.5
baz=60,SNR=20
KBZ Khabaz 60.39 320 P **P** 06 56 23.7 +0.3
KBZ Khabaz 60.39 320 P **P** 06 56 23.6 +0.3
KBZ Khabaz 60.39 320 P **P** 06 56 23.6 +0.3
comp=Z,9.6nm,0.9s,baz=117,slow=7.9,SNR=13
KIV Kislovodsk 60.63 320 ⇓*i*P **P** 06 56 25.4 +0.2
KIV *i* 06 56 37.1
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,100nm,15.0s
KIV Kislovodsk 60.63 320 *e*P **P** 06 56 25.2 0.0
comp=Z,9.6nm,0.8s
RMQ Roma 60.72 123 P **P** 06 56 26.6 +0.6
baz=61,SNR=4.8
YSS Yuzh-Sakhalins 60.84 36 *e*P P 06 56 37.0 +11
YSS pmax pmax
comp=Z,60nm,1.1s
VRHR Novokhopersk 64.64 327 *e*P **P** 06 56 49.2 -2.5
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
YAK Yakutsk 64.65 18 *e*P **P** 06 56 50.2 -1.3
YAK *e**PP **pP** 06 57 01.3 +1.9
YAK *e* 06 57 25.4
YAK *e*PPP PPP 07 00 42.5
YAK *e*S **S** 07 05 31.7 +1.8
YAK *e* 07 06 39.0
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK smax smax
comp=E,172nm,4.2s
YAK smax smax
comp=N,158nm,3.8s
YAK MLR MLR
comp=Z,204nm,18.0s
YAK MLR MLR
comp=N,170nm,19.0s
YAK MLR MLR
comp=E,165nm,22.0s
BR131 Keskin Array S 65.28 313 *e*P **P** 06 56 55.5 -0.8
comp=E,5.3nm,0.8s
BRTR Keskin Array B 65.28 313 P **P** 06 56 55.8 -0.6
BRTR Keskin Array B 65.28 313 P **P** 06 56 55.8 -0.6
comp=E,5.7nm,0.7s,baz=124,slow=7.1,SNR=34
BRTR LR LR 07 28 31.9
comp=E,52nm,18.0s,baz=96,slow=39
VORD Divnogorie 65.88 326 *e*P P 06 56 49.8 -10
VORD pmax pmax
comp=N,80nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=E,80nm,0.7s
VSR Storozhevoye 66.06 326 *e*P **P** 06 56 58.1 -2.8
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
SIM Simferopol' 66.65 318 *e*P **P** 06 57 05.0 +0.2
SIM S **S** 07 05 52.0 -2.9
SIM pmax pmax
comp=Z,34nm,0.9s
PRGR Permogore 68.57 338 ⇑*i*P **P** 06 57 15.3 -1.2
PRGR pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 69.21 329 ⇑*i*P **P** 06 57 19.3 -1.4
OBN *i* 06 57 30.2
OBN pmax pmax
comp=Z,26nm,1.6s
OBN MLR MLR
comp=Z,100nm,18.0s
PSN Preselentsi 70.32 315 ⇑P **P** 06 57 26.9 -0.9
PSN Preselentsi 70.32 315 ⇑*i*P **P** 06 57 26.9 -0.9
TIRR Tirgusor 70.37 316 ⇑P **P** 06 57 27.6 -0.4
TIRR Tirgusor 70.37 316 ⇑*i*P **P** 06 57 27.6 -0.4
KLMR Klimovskoe 70.58 335 *e*P **P** 06 57 26.8 -2.2
KLMR pmax pmax
comp=Z,18nm,1.0s
TLB Topalu 70.66 316 ⇑P **P** 06 57 29.7 -0.1
TLB Topalu 70.66 316 ⇑*i*P **P** 06 57 29.7 -0.1
CFR Carcaliu 70.75 317 ⇑P **P** 06 57 30.1 -0.2
CFR Carcaliu 70.75 317 ⇑*i*P **P** 06 57 30.1 -0.2
PRD Provadia 70.75 315 ⇑P **P** 06 57 28.8 -1.6
HARR Harsova 70.76 316 ⇓P **P** 06 57 30.2 -0.2
HARR Harsova 70.76 316 ⇓*i*P **P** 06 57 30.1 -0.3
JMB Yambol 71.16 314 ⇑P **P** 06 57 34.3 +1.4
JMB Yambol 71.16 314 ⇑*i*P **P** 06 57 34.3 +1.4
KIEV Kiev 71.67 323 *e*P **P** 06 57 34.0 -1.8
KIEV pmax pmax
comp=Z,12nm,1.1s
KIEV Kiev 71.67 323 *e*P **P** 06 57 34.0 -1.8
comp=Z,12nm,1.1s
VRI Vrincioaia 71.89 317 ⇑P **P** 06 57 38.1 +0.8
VRI Vrincioaia 71.89 317 ⇑*i*P **P** 06 57 38.1 +0.8
PLOR Plostina 71.94 317 ⇑P **P** 06 57 38.3 +0.7
PLOR Plostina 71.94 317 ⇑*i*P **P** 06 57 38.3 +0.7
TIXI Tiksi 71.99 11 ⇓*i*P **P** 06 57 37.0 -0.3
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 71.99 11 *e*P **P** 06 57 36.7 -0.6
comp=Z,36nm,0.7s
TESR Tescani 72.10 318 ⇑*i*P **P** 06 57 38.2 -0.3
PETK Petropavlovsk- 72.14 35 LR LR 07 32 35.3
comp=Z,102nm,18.5s,baz=249,slow=38
MLR Muntele Rosu 72.32 317 ⇑*i*P **P** 06 57 40.7 +0.6
BOSA Boshof 72.73 239 LR LR 07 27 28.3
comp=Z,73nm,18.8s,baz=108,slow=34
VOIR 72.92 317 ⇑P **P** 06 57 43.0 -0.6
VOIR 72.92 317 ⇑*i*P **P** 06 57 43.0 -0.6
BURAR Bucovina Array 73.33 319 ⇑P **P** 06 57 46.1 +0.2
BURAR Bucovina Array 73.33 319 ⇑*i*P **P** 06 57 46.1 +0.2
BUR08 Bucovina Ar. S 73.35 319 *e*P **P** 06 57 46.3 +0.2
SEY Seymchan 73.44 24 P **P** 06 57 45.9 -0.3
SEY Seymchan 73.44 24 P **P** 06 57 45.9 -0.3
SEY Seymchan 73.44 24 P **P** 06 57 45.9 -0.3
comp=Z,1.0nm,0.4s,baz=214,slow=7.3,SNR=5.2
VTS Vitosha 73.62 313 ⇑P **P** 06 57 47.5 -0.3
VTS Vitosha 73.62 313 ⇑*i*P **P** 06 57 47.5 -0.3
JOF Joensuu 74.98 335 *e*P **P** 06 57 53.0 -2.1
JOF pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 74.98 335 *ep* **P** 06 57 53.0 -2.1
comp=Z,7.1nm,0.8s
TRPA Tarpa 75.20 319 ⇑*i*P **P** 06 57 56.2 -0.5
BZS Buzias 75.32 316 ⇓P **P** 06 57 57.2 -0.2
BZS Buzias 75.32 316 ⇓*i*P **P** 06 57 57.2 -0.2
KWP Kalwaria Pacla 75.42 321 *e*P **P** 06 57 58.1 +0.1
KWP Kalwaria Pacla 75.42 321 *e*P **P** 06 57 58.0 +0.1
SIRR Siria 75.42 317 ⇑*i*P **P** 06 57 57.1 -0.9
KOLS Kolonicke sedl 75.54 320 *e*P **P** 06 57 59.5 +0.8
KOLS pmax pmax
comp=Z,27nm,1.6s
KOLS Kolonicke sedl 75.54 320 *e*P **P** 06 57 59.5 +0.8
KOLS *e*PCP **PcP** 06 58 11.3 -0.3
CRVS Cervenica-Dubn 76.06 320 *e*P **P** 06 58 02.8 +1.2
CRVS pmax pmax
comp=Z,14nm,1.4s
CRVS Cervenica-Dubn 76.06 320 *e*P **P** 06 58 02.8 +1.2
SUW Suwalki 76.15 325 *e*P **P** 06 58 00.9 -1.1
SUW Suwalki 76.15 325 *e*P **P** 06 58 00.8 -1.2
APA Apatity 76.17 340 *e*P P 06 58 07.0 +5.2
APA MLR MLR
comp=Z,400nm,22.0s
STHS Stebnicka Huta 76.30 320 *e*P **P** 06 58 03.6 +0.6
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 76.30 320 *e*P **P** 06 58 03.6 +0.6
STHS *e*PCP **PcP** 06 58 15.4 +0.5
FINES FINESS Array B 76.74 333 P **P** 06 58 04.5 -0.7
FINES FINESS Array B 76.74 333 P **P** 06 58 04.5 -0.7
comp=Z,7.1nm,0.8s,baz=100,slow=6.1,SNR=24
FINES LR LR 07 35 46.4
comp=Z,95nm,18.6s,baz=142,slow=39
KAF Kangasniemi 76.85 334 *e*P **P** 06 58 04.5 -1.3
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 76.85 334 *ep* **P** 06 58 04.5 -1.3
comp=Z,6.7nm,0.7s
PSZ Piszkesteto 76.90 318 ⇑P **P** 06 58 05.2 -1.3
PSZ Piszkesteto 76.90 318 ⇑*i*P **P** 06 58 05.2 -1.3
PKSM Moragy 77.47 317 ⇑P **P** 06 58 09.5 -0.1
PKSM Moragy 77.47 317 ⇑*i*P **P** 06 58 09.5 -0.1
OKC Ostrava-Krasne 78.36 320 *e*P **P** 06 58 14.6 +0.1
OKC *e* 06 58 24.0
OKC Ostrava-Krasne 78.36 320 *e*P **P** 06 58 14.6 +0.1
OKC *e*pP **PcP** 06 58 24.0 +0.3
MORC Moravsky Berou 78.74 320 ⇑P **P** 06 58 17.3 +0.7
MORC Moravsky Berou 78.74 320 ⇑*i*P **P** 06 58 17.3 +0.7
DPC Dobruska-Polom 79.60 321 *e*P **P** 06 58 21.9 +0.6
DPC *e* 06 58 33.4
DPC Dobruska-Polom 79.60 321 *e*P **P** 06 58 21.9 +0.6
DPC *e*pP **pP** 06 58 33.4 +4.0
ARCES ARCESS Array B 79.61 341 P **P** 06 58 20.7 -0.2
ARCES ARCESS Array B 79.61 341 P **P** 06 58 20.7 -0.2
comp=Z,7.7nm,0.8s,baz=92,slow=5.1,SNR=16
KSP Ksiaz 79.68 321 ⇓*e*P **P** 06 58 22.2 +0.5
KSP *e**PP **pP** 06 58 34.5 +4.7
KSP Ksiaz 79.68 321 *e*P **P** 06 58 22.2 +0.5
BOJS Bojanci 79.73 316 *e*P **P** 06 58 21.3 -0.8
ARSA Arzberg 79.73 317 ⇑*i*P **P** 06 58 22.7 +0.5
comp=Z,32nm,1.4s
PERS Pernice 79.94 317 *i*P **P** 06 58 23.6 +0.3
SOKA Soboth 80.00 317 ⇑*i*P **P** 06 58 24.2 +0.5
comp=Z,26nm,1.1s
VISS Visnje 80.05 316 *e*P **P** 06 58 23.9 +0.1
VISS *i* 06 58 35.0
BILL Bilibino 80.67 21 *e*P **P** 06 58 26.8 +0.1
BILL pmax pmax
comp=Z,18nm,1.3s
PRU Pruhonice 80.69 320 *e*P **P** 06 58 27.0 -0.2
PRU Pruhonice 80.69 320 *e*P **P** 06 58 27.0 -0.2
SYO Syowa Base 80.73 197 ⇑*e*P **P** 06 58 26.5 -0.4
SYO Syowa Base 80.73 197 ⇑*eX* 06 58 30.3
GERES GERESS Array B 81.12 319 P **P** 06 58 29.7 +0.1
GERES GERESS Array B 81.12 319 P **P** 06 58 29.7 +0.1
comp=Z,9.2nm,0.7s,baz=99,slow=5.4,SNR=65
GERES LR LR 07 38 54.7
comp=Z,35nm,20.4s,baz=86,slow=39
BRG Berggiesshubel 81.17 321 *i*P **P** 06 58 29.8 +0.1
comp=Z,14nm,1.2s
BRG *e* 06 58 42.2
comp=Z,7.7nm,1.0s
BRG Berggiesshubel 81.17 321 *i*P **P** 06 58 29.8 +0.1
BRG *e* 06 58 42.2
BRG pmax pmax
comp=Z,14nm,1.2s
KHC Kasperske Hory 81.22 319 *e*P **P** 06 58 29.9 -0.2
KHC *e* 06 58 42.4
KHC Kasperske Hory 81.22 319 *e*P **P** 06 58 29.9 -0.2
KHC *e*pP **pP** 06 58 42.4 +4.2
CLL Collm 81.80 321 *e*P **P** 06 58 33.0 0.0
CLL Collm 81.80 321 *e*P **P** 06 58 33.0 0.0
GRF Grafenberg Arr 82.80 320 *e*P **P** 06 58 38.7 +0.3
comp=Z,18nm,1.4s
FETA Feichten 82.97 317 ⇑*i*P **P** 06 58 39.3 -0.2
comp=Z,11nm,1.1s
KEST Kesra 83.64 305 P **P** 06 58 44.4 +1.3
KEST Kesra 83.64 305 P **P** 06 58 44.4 +1.3
comp=Z,4.7nm,0.9s,baz=339,slow=4.4,SNR=7.7
NB2 NORSAR Subarra 83.68 331 P **P** 06 58 40.9 -1.8
comp=Z,7.0nm,0.9s,baz=94,slow=5.3
NOA NORSAR Array B 83.68 331 P **P** 06 58 41.9 -0.8
NOA NORSAR Array B 83.68 331 P **P** 06 58 41.9 -0.8
comp=Z,4.3nm,0.9s,baz=95,slow=5.4,SNR=7.2
NOA LR LR 07 39 31.8
comp=Z,44nm,19.4s,baz=55,slow=38
TUE Stuetta 83.90 316 *e*P **P** 06 58 43.8 -0.5
comp=Z,7.0nm,0.9s
LPG La Plagne 85.69 315 *e*P **P** 06 58 53.2 -0.3
comp=Z,16nm,0.9s
LPG La Plagne 85.69 315 *e*P **P** 06 58 53.2 -0.3
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 85.69 315 *e*P **P** 06 58 53.2 -0.3
comp=Z,16nm,0.9s
LPL La Plagne 85.71 315 *e*P **P** 06 58 53.2 -0.3
comp=Z,34nm,1.1s
LPL La Plagne 85.71 315 *e*P **P** 06 58 53.2 -0.3
LPL pmax pmax
comp=Z,34nm,1.1s
LPL La Plagne 85.71 315 *e*P **P** 06 58 53.2 -0.3
comp=Z,34nm,1.1s
SFTF Sexfontaines 86.84 318 *e*P **P** 06 58 58.2 -0.5
comp=Z,19nm,0.7s
SFTF Sexfontaines 86.84 318 *e*P **P** 06 58 58.2 -0.5
comp=Z,19nm,0.7s
TAM Tamanrasset 87.16 293 *e*P **P** 06 59 02.5 +1.5
TAM pmax pmax
comp=Z,10.0nm,1.3s
TAM Tamanrasset 87.16 293 *e*P **P** 06 59 02.5 +1.5
comp=Z,10.0nm,1.3s
BAIF Baives 87.35 320 *e*P **P** 06 59 00.9 -0.2
comp=Z,26nm,1.0s
BAIF Baives 87.35 320 *e*P **P** 06 59 00.9 -0.2
BAIF pmax pmax
comp=Z,27nm,1.0s
BAIF Baives 87.35 320 *e*P **P** 06 59 00.9 -0.2
comp=Z,26nm,1.0s
LOR Lormes 87.67 317 *e*P **P** 06 59 02.3 -0.4
comp=Z,12nm,0.8s
LOR Lormes 87.67 317 *e*P **P** 06 59 02.3 -0.4
comp=Z,12nm,0.8s
SMF Signal de Mont 87.70 316 *e*P **P** 06 59 02.4 -0.5
comp=Z,9.3nm,0.7s
SMF Signal de Mont 87.70 316 *e*P **P** 06 59 02.4 -0.5
SMF pmax pmax
comp=Z,9.0nm,0.7s
SMF Signal de Mont 87.70 316 *e*P **P** 06 59 02.4 -0.5
comp=Z,9.3nm,0.7s
AVF Avril sur Loir 88.03 317 *e*P **P** 06 59 04.8 +0.4
AVF Avril sur Loir 88.03 317 *e*P **P** 06 59 04.8 +0.4
AVF Avril sur Loir 88.03 317 *e*P **P** 06 59 04.8 +0.4
VNDA Vanda 88.35 168 LR LR 07 32 28.7
comp=Z,108nm,20.0s,baz=304,slow=31
BGF Bois d'Agland 88.39 316 *e*P **P** 06 59 06.2 0.0
BGF Bois d'Agland 88.39 316 *e*P **P** 06 59 06.2 0.0
BGF Bois d'Agland 88.39 316 *e*P **P** 06 59 06.2 0.0
MTLF Montolieu 89.00 313 *e*P **P** 06 59 09.2 +0.1
comp=Z,20nm,1.1s
MTLF Montolieu 89.00 313 *e*P **P** 06 59 09.2 +0.1
MTLF pmax pmax
comp=Z,20nm,1.1s

MTLF	**Montolieu**	**89.00**	**313**	*e*P		**P**	**06 59 09.2**	**+0.1**
	comp=Z,20nm,1.1s							
TORD	**Torodi Ar. Bea**	**91.28**	**283**	P		**P**	**06 59 20.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**91.28**	**283**	P		**P**	**06 59 20.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=84,slow=4.6,SNR=8.4							
ESDC	**Sonseca Array**	**93.96**	**310**	LR		LR	07 44 24.2	
	comp=Z,45nm,20.8s,baz=120,slow=37							
DBIC	**Dimbokro**	**98.15**	**277**	LR		LR	07 39 54.2	
	comp=Z,59nm,21.9s,baz=68,slow=33							
ILAR	**Eielson Array**	**99.31**	**22**	LR		LR	07 49 58.0	
	comp=Z,76nm,19.3s,baz=302,slow=38							
PDAR	**Pinedale Array**	**129.75**	**22**	PKP		**PKPdf**	**07 05 22.8**	**-1.2**
PDAR	**Pinedale Array**	**129.75**	**22**	PKP		**PKPdf**	**07 05 22.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=224,slow=2.5,SNR=4.0							
428A	**Kincaid Ranch,**	**142.92**	**24**	P		**PKPdf**	**07 05 45.1**	**-3.5**
	baz=143							
234A	**Clairette**	**143.34**	**17**	P		PKPab	07 05 45.4	+0.4
	baz=143							
TXAR	**Lajitas Array**	**143.72**	**26**	PKP		PKPbc	07 05 47.8	+0.4
TXAR	**Lajitas Array**	**143.72**	**26**	PKP		PKPbc	07 05 47.8	+0.4
	comp=Z,0.3nm,0.4s,baz=222,slow=0.5,SNR=11							
627A	**Terlingua Ranc**	**143.74**	**26**	P		PKPbc	07 05 47.2	-0.3
	baz=144							
CPUP	**Villa Florida**	**143.87**	**227**	PKP		PKPab	07 05 47.3	+0.1
CPUP	**Villa Florida**	**143.87**	**227**	PKP		PKPab	07 05 47.3	+0.1
	comp=Z,3.2nm,0.6s,baz=74,slow=2.3,SNR=7.4							
530A	**J-C Ranch, Com**	**143.96**	**22**	P		PKPbc	07 05 48.0	-0.1
	baz=144							
JCT	**Junction City**	**144.22**	**20**	*e*PKIKP		**PKPdf**	**07 05 50.6**	**-0.1**
JCT	**Junction City**	**144.22**	**20**	*e*PKPdf		**PKPdf**	**07 05 50.6**	**-0.1**
JCT	**Junction City**	**144.22**	**20**	P		**PKPab**	**07 05 48.5**	**0.0**
	baz=144							
531A	**Rocksprings**	**144.24**	**21**	P		**PKPab**	**07 05 47.7**	**-0.9**
	baz=144							
434A	**Burnet**	**144.41**	**18**	P		**PKPab**	**07 05 47.9**	**-1.2**
	baz=144							
535A	**Dale**	**145.35**	**17**	P		**PKPbc**	**07 05 50.1**	**-2.3**
	baz=145							
633A	**Seathoff Ranch**	**145.37**	**20**	P		**PKPbc**	**07 05 52.5**	**0.0**
	baz=145							
732A	**Laxson Ranch,**	**145.75**	**22**	P		**PKPbc**	**07 05 53.9**	**+0.1**
	baz=146							
733A	**Divot King Ran**	**146.00**	**21**	P		**PKPbc**	**07 05 54.5**	**0.0**
	baz=146							
832A	**Faith Ranch, C**	**146.15**	**22**	P		**PKPbc**	**07 05 54.7**	**-0.2**
	baz=146							
833A	**Chaparral WMA,**	**146.33**	**21**	P		**PKPbc**	**07 05 55.7**	**+0.2**
	baz=146							
834A	**Tilden**	**146.81**	**20**	P		**PKPab**	**07 05 57.9**	**-0.2**
	baz=147							
835A	**Beeville**	**146.90**	**19**	P		**PKPab**	**07 05 58.2**	**-0.2**
	baz=147							
934A	**Benavides**	**147.30**	**20**	P		**PKPbc**	**07 05 58.6**	**+0.3**
	baz=147							

IDC ***22*** *07:30:07.8±1.3,38°.51N×21°.95E,h0km,mb3.8/4, mb1 3.8/5,mb1mx3.5/37,mbtmp3.7/5,ML3.2/1,Error ellipse: s-maj=60.6km s-min=24.8km az=147.0*

ISCJB ***22*** *07:30:08.2±0.2,38°.44N±0°.01×21°.96E±0°.02,h6km±2km, mb3.7/4,Error ellipse: s-maj=2.4km s-min=2.2km az=177.5*

CSEM ***22*** *07:30:08.7±0.1,38°.43N×21°.96E,h2km,ML3.6,Error ellipse: s-maj=2.2km s-min=2.0km az=63.0*

THE ***22*** *07:30:08.5,38°.46N×21°.95E,h10km,ML3.5/7,Error ellipse: s-maj=0.9km s-min=0.4km az=178.0*

ATH ***22*** *07:30:08.7,38°.43N×21°.96E,h14km±1km,ML3.3*

ISC 22 07:30:09.2±0.7,38°.45N±0°.01×21°.96E±0°.01,h8km±4km, n152,σ0.94/193,mb3.8/4.1,10C-5D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**245**	P		**Pg**		**07 30 10.4**	**-0.4**
EFP				S		**Sg**		**07 30 11.8**	**-0.1**
EFP	**Efpalio**	**0.04**	**245**	*e*PG		**Pg**		**07 30 10.4**	**-0.4**
EFP	**Efpalio**	**0.04**	**245**	P		**Pg**		**07 30 10.3**	**-0.5**
EFP				S		**Sg**		**07 30 11.4**	**-0.5**
KALE	**Kalithea**	**0.15**	**110**	P		**Pg**		**07 30 12.3**	**-0.2**
KALE				S		**Sg**		**07 30 15.2**	**+0.5**
KALE	**Kalithea**	**0.15**	**110**	*e*PG		**Pg**		**07 30 12.4**	**-0.1**
KALE	**Kalithea**	**0.15**	**110**	P		**Pg**		**07 30 12.3**	**-0.2**
KALE				S		**Sg**		**07 30 14.6**	**-0.1**
LAKA	**Lakka**	**0.21**	**175**	P		**Pg**		**07 30 13.1**	**-0.3**
LAKA	**Lakka**	**0.21**	**175**	*e*PG		**Pg**		**07 30 13.1**	**-0.3**
LAKA	**Lakka**	**0.21**	**175**	P		**Pg**		**07 30 13.0**	**-0.3**
UPR	**University Cam**	**0.21**	**220**	P		**Pg**		**07 30 13.1**	**-0.3**
UPR	**University Cam**	**0.21**	**220**	P		**Pg**		**07 30 12.8**	**-0.6**
UPR				S		**Sg**		**07 30 15.4**	**-0.9**
PVO	**Paravola**	**0.38**	**297**	P		**Pg**		**07 30 15.9**	**-0.7**
PVO				S		**Sg**		**07 30 20.6**	**-1.0**
KLV	**Kalavryta, Ach**	**0.43**	**159**	P		**Pg**		**07 30 16.6**	**-1.0**
KLV				S		**Sg**		**07 30 24.0**	**+0.8**
KLV	**Kalavryta, Ach**	**0.43**	**159**	*e*PB		**Pg**		**07 30 16.8**	**-0.8**
KLV				*e*SB		**Sg**		**07 30 23.6**	**+0.4**
KLV	**Kalavryta, Ach**	**0.43**	**159**	*e*Pb		**Pg**		**07 30 16.8**	**-0.8**
KLV				S		**Sg**		**07 30 23.2**	**0.0**
DSF	**Desfina**	**0.45**	**94**	P		**Pg**		**07 30 16.9**	**-1.1**
DSF				S		**Sg**		**07 30 24.1**	**+0.2**
DSF	**Desfina**	**0.45**	**94**	*e*PB		**Pg**		**07 30 17.1**	**-0.9**
DSF				*e*SB		**Sg**		**07 30 24.5**	**+0.6**
DSF	**Desfina**	**0.45**	**94**	*e*Pb		**Pg**		**07 30 17.1**	**-0.9**
DSF				S		**Sg**		**07 30 23.9**	**0.0**
DSF				*e*Sb		**Sg**		**07 30 24.5**	**+0.6**
EVR	**Evrytania**	**0.48**	**346**	P		**Pg**		**07 30 17.9**	**-0.7**
EVR				S		**Sg**		**07 30 24.5**	**-0.5**
EVR	**Evrytania**	**0.48**	**346**	*e*PB		**Pg**		**07 30 18.0**	**-0.7**
EVR				*e*SB		**Sg**		**07 30 25.4**	**+0.4**
EVR	**Evrytania**	**0.48**	**346**	*e*Pb		**Pg**		**07 30 18.0**	**-0.7**
EVR				S		**Sg**		**07 30 24.5**	**-0.5**
EVR				*e*Sb		**Sg**		**07 30 25.4**	**+0.4**
DRO	**Drossia**	**0.53**	**201**	P		**Pg**		**07 30 18.6**	**-0.8**
DRO				S		**Sg**		**07 30 26.9**	**+0.5**
DRO	**Drossia**	**0.53**	**201**	*e*PB		**Pg**		**07 30 18.7**	**-0.7**
DRO				*e*SB		**Sg**		**07 30 26.5**	**+0.1**
DRO	**Drossia**	**0.53**	**201**	*e*Pb		**Pg**		**07 30 18.7**	**-0.7**
DRO				S		**Sg**		**07 30 26.3**	**-0.1**
RLS	**Riolos of Patr**	**0.55**	**225**	P		**Pg**		**07 30 19.1**	**-0.7**
RLS	**Riolos of Patr**	**0.55**	**225**	*e*PB		**Pg**		**07 30 19.3**	**-0.5**
RLS	**Riolos of Patr**	**0.55**	**225**	*e*Pb		**Pg**		**07 30 19.3**	**-0.5**
RLS				S		**Sg**		**07 30 26.3**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.58**	**14**	P		**Pg**		**07 30 20.0**	**-0.5**
MAKR				S		**Sg**		**07 30 27.2**	**-1.0**
MAKR	**Makrakomi, Fth**	**0.58**	**14**	*e*PG		**Pg**		**07 30 20.2**	**-0.3**
MAKR				*e*SB		**Sb**		**07 30 29.6**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.58**	**14**	P		**Pg**		**07 30 20.0**	**-0.5**
MAKR				S		**Sg**		**07 30 27.2**	**-1.0**
MAKR				*e*Sb		**Sb**		**07 30 29.6**	**-0.6**
PDO	**Prodromos**	**0.62**	**284**	P		**Pg**		**07 30 20.6**	**-0.7**
PDO	**Prodromos**	**0.62**	**284**	*e*PB		**Pg**		**07 30 21.1**	**-0.2**
PDO				*e*SB		**Sb**		**07 30 30.6**	**-0.8**
PDO	**Prodromos**	**0.62**	**284**	P		**Pg**		**07 30 20.7**	**-0.6**
PDO	**Prodromos**	**0.62**	**284**	*e*Pb		**Pg**		**07 30 21.1**	**-0.2**
PDO				*e*Sb		**Sb**		**07 30 30.6**	**-0.8**
PDO				S		**Sg**		**07 30 31.1**	**+1.7**
AXAR	**Agios Charalam**	**0.64**	**60**	P		**Pg**		**07 30 20.2**	**-1.3**
AXAR	**Agios Charalam**	**0.64**	**60**	*e*PG		**Pg**		**07 30 20.8**	**-0.7**
AXAR				*e*SB		**Sg**		**07 30 30.6**	**+0.7**
AXAR	**Agios Charalam**	**0.64**	**60**	*e*Pg		**Pg**		**07 30 20.8**	**-0.7**
AXAR				S		**Sg**		**07 30 30.3**	**+0.4**
AGG	**Agios Georgios**	**0.65**	**27**	P		**Pg**		**07 30 20.6**	**-1.2**
AGG	**Agios Georgios**	**0.65**	**27**	*e*PB		**Pg**		**07 30 20.7**	**-1.0**
AGG	**Agios Georgios**	**0.65**	**27**	*e*Pb		**Pg**		**07 30 20.7**	**-1.0**
LKR	**Lokris**	**0.84**	**76**	P		**Pg**		**07 30 23.7**	**-1.8**
LKR	**Lokris**	**0.84**	**76**	*e*PG		**Pg**		**07 30 24.6**	**-0.9**
LKR				*e*SB		**Sb**		**07 30 37.2**	**-0.5**
LKR	**Lokris**	**0.84**	**76**	P		**Pg**		**07 30 23.7**	**-1.8**
LKR	**Lokris**	**0.84**	**76**	*e*Pg		**Pg**		**07 30 24.6**	**-0.9**
LKR				*e*Sb		**Sb**		**07 30 37.2**	**-0.5**
LTK	**Loutraki**	**0.90**	**118**	P		**Pg**		**07 30 25.6**	**-0.9**
LTK				S		**Sg**		**07 30 38.6**	**+0.3**
LTK	**Loutraki**	**0.90**	**118**	*e*PB		**Pg**		**07 30 26.4**	**-0.1**
LTK	**Loutraki**	**0.90**	**118**	P		**Pg**		**07 30 26.0**	**-0.5**
LTK	**Loutraki**	**0.90**	**118**	*e*Pb		**Pg**		**07 30 26.4**	**-0.1**
LTK				S		**Sg**		**07 30 38.6**	**+0.3**
AMT	**Artemida-Makis**	**0.93**	**192**	P		**Pg**		**07 30 26.4**	**-0.7**
AMT	**Artemida-Makis**	**0.93**	**192**	*e*PN		**Pg**		**07 30 26.6**	**-0.5**
AMT	**Artemida-Makis**	**0.93**	**192**	P		**Pg**		**07 30 26.4**	**-0.7**
AMT				S		**Sg**		**07 30 39.7**	**+0.5**
LKD2	**Lefkada island**	**1.07**	**289**	P		**Pg**		**07 30 28.6**	**-1.2**
LKD2	**Lefkada island**	**1.07**	**289**	*e*PG		**Pg**		**07 30 29.0**	**-0.8**
LKD2	**Lefkada island**	**1.07**	**289**	P		**Pg**		**07 30 28.6**	**-1.2**
LKD2	**Lefkada island**	**1.07**	**289**	*e*Pg		**Pg**		**07 30 29.0**	**-0.8**
SMIA	**Simia**	**1.07**	**66**	P		**Pg**		**07 30 28.7**	**-1.1**
SMIA	**Simia**	**1.07**	**66**	*e*PN		**Pg**		**07 30 29.4**	**-0.4**
SMIA	**Simia**	**1.07**	**66**	P		**Pg**		**07 30 28.7**	**-1.1**
SMIA	**Simia**	**1.07**	**66**	*e*Pn		**Pg**		**07 30 29.4**	**-0.4**
VLS	**Valsamata**	**1.11**	**256**	P		**Pg**		**07 30 28.6**	**-1.9**
VLS	**Valsamata**	**1.11**	**256**	*e*PG		**Pg**		**07 30 28.9**	**-1.6**
VLS	**Valsamata**	**1.11**	**256**	P		**Pg**		**07 30 28.6**	**-1.9**
VLS	**Valsamata**	**1.11**	**256**	*e*Pg		**Pg**		**07 30 28.9**	**-1.6**
THL	**Klokotos Trika**	**1.12**	**2**	P		**Pg**		**07 30 29.4**	**-1.3**
THL	**Klokotos Trika**	**1.12**	**2**	*e*PG		**Pg**		**07 30 29.8**	**-0.9**
THL	**Klokotos Trika**	**1.12**	**2**	P		**Pg**		**07 30 29.4**	**-1.3**
THL	**Klokotos Trika**	**1.12**	**2**	*e*Pg		**Pg**		**07 30 29.8**	**-0.9**
VLX	**Vlachokerasia**	**1.12**	**163**	P		**Pg**		**07 30 29.1**	**-1.7**
VLX	**Vlachokerasia**	**1.12**	**163**	*e*PG		**Pg**		**07 30 29.0**	**-1.7**
VLX	**Vlachokerasia**	**1.12**	**163**	P		**Pg**		**07 30 29.1**	**-1.7**
ITM	**Ithomi**	**1.26**	**181**	*e*PG		**Pn**		**07 30 32.1**	**-1.1**
ITM	**Ithomi**	**1.26**	**181**	*e*Pg		**Pn**		**07 30 32.1**	**-1.1**
MRKA	**Markates**	**1.31**	**78**	*e*PB		**Pg**		**07 30 34.6**	**+0.3**
MRKA	**Markates**	**1.31**	**78**	*e*Pb		**Pg**		**07 30 34.6**	**+0.3**
NEO	**Neokhori**	**1.31**	**49**	P		**Pn**		**07 30 32.1**	**-1.8**
NEO	**Neokhori**	**1.31**	**49**	*e*PG		**Pn**		**07 30 33.5**	**-0.4**
NEO	**Neokhori**	**1.31**	**49**	P		**Pn**		**07 30 32.1**	**-1.8**
NEO	**Neokhori**	**1.31**	**49**	*e*Pg		**Pn**		**07 30 33.5**	**-0.4**
XOR	**Xorichti**	**1.33**	**46**	*e*PB		**Pn**		**07 30 34.2**	**0.0**
XOR	**Xorichti**	**1.33**	**46**	*e*Pb		**Pn**		**07 30 34.2**	**0.0**
DID	**Didima**	**1.38**	**132**	*e*PB		**Pn**		**07 30 34.4**	**-0.5**
DID	**Didima**	**1.38**	**132**	*e*Pb		**Pn**		**07 30 34.4**	**-0.5**
NAIG	**Nisos Aigina**	**1.39**	**119**	*e*PG		**Pn**		**07 30 34.5**	**-0.5**
NAIG	**Nisos Aigina**	**1.39**	**119**	*e*Pg		**Pn**		**07 30 34.5**	**-0.5**
ATH	**Athens Observa**	**1.47**	**108**	*e*PB		**Pg**		**07 30 37.1**	**-0.2**
ATH	**Athens Observa**	**1.47**	**108**	*e*Pb		**Pg**		**07 30 37.1**	**-0.2**
JAN	**Janina**	**1.48**	**325**	*e*PB		**Pg**		**07 30 37.7**	**0.0**
JAN	**Janina**	**1.48**	**325**	*e*Pb		**Pg**		**07 30 37.7**	**0.0**
PTL	**Penteli**	**1.56**	**104**	*e*PG		**Pb**		**07 30 38.1**	**-0.2**
PTL	**Penteli**	**1.56**	**104**	*e*Pg		**Pb**		**07 30 38.1**	**-0.2**
PYL	**PYLOS**	**1.56**	**186**	*e*PG		**Pn**		**07 30 36.9**	**-0.3**
PYL	**PYLOS**	**1.56**	**186**	*e*Pg		**Pn**		**07 30 36.9**	**-0.3**
IGT	**Igoumenitsa**	**1.67**	**311**	*e*PG		**Pb**		**07 30 40.6**	**+0.4**
IGT	**Igoumenitsa**	**1.67**	**311**	*e*Pg		**Pb**		**07 30 40.6**	**+0.4**
AOS	**Alonnisos**	**1.67**	**64**	*e*PB		**Pn**		**07 30 39.5**	**+0.7**
AOS	**Alonnisos**	**1.67**	**64**	*e*Pb		**Pn**		**07 30 39.5**	**+0.7**
LIT	**Litokhoron**	**1.71**	**14**	*e*PN		**Pn**		**07 30 39.8**	**+0.5**
LIT	**Litokhoron**	**1.71**	**14**	*e*Pn		**Pn**		**07 30 39.8**	**+0.5**
KZN	**Kozani**	**1.86**	**356**	*e*PN		**Pn**		**07 30 42.1**	**+0.5**
KZN	**Kozani**	**1.86**	**356**	*e*Pn		**Pn**		**07 30 42.1**	**+0.5**
VLI	**Veliai**	**1.89**	**155**	*e*PN		**Pn**		**07 30 42.2**	**+0.3**
VLI	**Veliai**	**1.89**	**155**	*e*Pn		**Pn**		**07 30 42.2**	**+0.3**
NEST	**Nestorio**	**2.09**	**341**	*e*PN		**Pb**		**07 30 46.7**	**-0.8**
NEST	**Nestorio**	**2.09**	**341**	*e*Pn		**Pb**		**07 30 46.7**	**-0.8**
KEK	**Kerkira**	**2.10**	**308**	*e*PN		**Pn**		**07 30 46.1**	**+1.3**
KEK	**Kerkira**	**2.10**	**308**	*e*Pn		**Pn**		**07 30 46.1**	**+1.3**
PLG	**Polygyros**	**2.25**	**30**	*e*PB		**Pn**		**07 30 46.3**	**-0.5**
PLG	**Polygyros**	**2.25**	**30**	*e*Pb		**Pn**		**07 30 46.3**	**-0.5**
HORT	**Hortiatis**	**2.33**	**22**	*e*PN		**Pn**		**07 30 49.0**	**+1.1**
HORT	**Hortiatis**	**2.33**	**22**	*e*Pn		**Pn**		**07 30 49.0**	**+1.1**
KYTH	**Kithira**	**2.33**	**158**	*e*PN		**Pn**		**07 30 49.2**	**+1.3**
KYTH	**Kithira**	**2.33**	**158**	*e*Pn		**Pn**		**07 30 49.2**	**+1.3**
FNA	**Florina**	**2.38**	**349**	*e*PN		**Pn**		**07 30 49.7**	**+1.1**
FNA	**Florina**	**2.38**	**349**	*e*Pn		**Pn**		**07 30 49.7**	**+1.1**
OUR	**Ouranopolis**	**2.46**	**39**	*e*PB		**Pn**		**07 30 49.7**	**+0.1**
OUR	**Ouranopolis**	**2.46**	**39**	*e*Pb		**Pn**		**07 30 49.7**	**+0.1**
GRG	**Griva**	**2.53**	**8**	*e*PB		**Pn**		**07 30 51.2**	**+0.5**
GRG	**Griva**	**2.53**	**8**	*e*Pb		**Pn**		**07 30 51.2**	**+0.5**
SOH	**Sokhos**	**2.61**	**24**	*e*PB		**Pn**		**07 30 52.7**	**+0.9**
SOH	**Sokhos**	**2.61**	**24**	*e*Pb		**Pn**		**07 30 52.7**	**+0.9**
BIA	**Bitola**	**2.62**	**349**	*i* Pn		**Pn**		**07 30 53.6**	**+1.7**
BIA				*i* Sn		**Sn**		**07 31 24.8**	**+0.9**
BIA				*e*Lg		Lg		07 31 33.6	
	comp=N,31nm,0.6s								
BIA				*e*Lg		Lg		07 31 39.6	
	comp=E,44nm,0.6s								
BIA	**Bitola**	**2.62**	**349**	*i* Pn		**Pn**		**07 30 53.6**	**+1.7**
BIA				*i* Sn		**Sn**		**07 31 24.8**	**+0.9**
BIA				*e*Lg		Lg		07 31 39.6	
	comp=E,44nm,0.6s								
VAY	**Valandovo**	**2.91**	**9**	*i* Pn		**Pn**		**07 30 56.7**	**+0.8**
VAY				*i* Sn		**Sn**		**07 31 31.5**	**+0.5**
VAY				*e*Lg		Lg		07 31 34.1	
	comp=E,36nm,0.9s								
VAY				*e*Lg		Lg		07 31 48.0	
	comp=N,656nm,2.9s								
VAY	**Valandovo**	**2.91**	**9**	*i* Pn		**Pn**		**07 30 56.6**	**+0.8**
VAY				*i* Sn		**Sn**		**07 31 31.5**	**+0.5**
VAY				*e*Lg		Lg		07 31 47.9	
	comp=N,656nm,2.9s								
APE	**Apeiranthos**	**3.15**	**115**	⇑ *i*P		**Pn**		**07 30 59.0**	**-0.2**
APE	**Apeiranthos**	**3.15**	**115**	⇑ *i*P		**Pn**		**07 30 59.0**	**-0.2**
CHOS	**Chios island**	**3.22**	**90**	*e*PN		**Pn**		**07 31 01.0**	**+0.8**
CHOS	**Chios island**	**3.22**	**90**	*e*Pn		**Pn**		**07 31 01.0**	**+0.8**
MMB	**Musomiste**	**3.42**	**23**	⇓ *i*P		**Pn**		**07 31 02.5**	**-0.5**
MMB	**Musomiste**	**3.42**	**23**	⇓ *i*P		**Pn**		**07 31 02.5**	**-0.5**
VAM	**Vamos**	**3.52**	**149**	*e*PN		**Pn**		**07 31 05.2**	**+0.9**
VAM	**Vamos**	**3.52**	**149**	*e*Pn		**Pn**		**07 31 05.2**	**+0.9**
SKO	**Skopje**	**3.54**	**354**	*i* Pn		**Pn**		**07 31 06.5**	**+1.9**
SKO				*i* Sn		**Sn**		**07 31 46.4**	**-0.3**
SKO	**Skopje**	**3.54**	**354**	*i* Pn		**Pn**		**07 31 06.5**	**+1.9**
SKO				*i* Sn		**Sn**		**07 31 46.4**	**-0.3**
VTS	**Vitosha**	**4.25**	**13**	⇑ *i*P		**Pn**		**07 31 16.0**	**+1.6**
VTS	**Vitosha**	**4.25**	**13**	⇑ *i*P		**Pn**		**07 31 16.0**	**+1.6**
IVAS	**Ivanjica**	**5.30**	**346**	*e*Pn		**Pn**		**07 31 30.5**	**+1.7**
GRUS	**Gruza**	**5.52**	**351**	⇓ *i*Pn		**Pn**		**07 31 33.1**	**+1.4**
DIVS	**Divibare**	**5.84**	**346**	⇑ *i*Pn		**Pn**		**07 31 37.2**	**+1.0**
TRUS	**Trudelj**	**5.89**	**349**	⇑ *i*Pn		**Pn**		**07 31 37.1**	**+0.3**
TEKS	**Tekeris**	**6.37**	**344**	*e*Pn		**Pn**		**07 31 43.5**	**+0.1**
MLR	**Muntele Rosu**	**7.64**	**22**	⇑ *i*P		**Pn**		**07 32 02.9**	**+1.9**
MLR	**Muntele Rosu**	**7.64**	**22**	⇑ *i*P		**Pn**		**07 32 02.9**	**+1.9**
PLOR	**Plostina**	**8.18**	**24**	⇓ *i*P		**Pn**		**07 32 09.1**	**+0.8**
PLOR	**Plostina**	**8.18**	**24**	⇓ *i*P		**Pn**		**07 32 09.1**	**+0.8**
VRI	**Vrincioaia**	**8.22**	**24**	⇑ *i*P		**Pn**		**07 32 11.4**	**+2.6**
VRI	**Vrincioaia**	**8.22**	**24**	⇑ *i*P		**Pn**		**07 32 11.4**	**+2.6**
BRTR	**Keskin Array B**	**9.18**	**78**	Pn		**Pn**		**07 32 24.5**	**+2.5**
	comp=N,0.2nm,0.3s,baz=256,slow=12,SNR=7.2								
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P		**P**		**07 36 27.0**	**0.0**
	comp=N,0.8nm,0.7s,baz=28,slow=8.9,SNR=5.4								
MKAR	**Makanchi Array**	**44.20**	**59**	P		**P**		**07 38 18.1**	**-0.6**
	comp=N,0.6nm,0.5s,baz=278,slow=6.8,SNR=11								
ZALV	**Zalesovo Beam**	**44.67**	**48**	P		**P**		**07 38 21.1**	**-1.2**
	comp=N,0.8nm,0.4s,baz=265,slow=8.5,SNR=3.8								
PDAR	**Pinedale Array**	**87.36**	**327**	P		**P**		**07 42 59.8**	**-0.2**
	comp=N,0.4nm,0.8s,baz=51,slow=7.1,SNR=3.4								

KRSC ***22*** *07:40:19.0±2.8,50°.17N×157°.15E,h60km±22km,ML4.7*

MOS ***22*** *07:40:20.3±1.1,50°.27N×156°.67E,h56km,mb4.1/7,Error ellipse: s-maj=17.5km s-min=7.4km az=80.1*

MOS Felt (II) at Severo-Kuril'sk.

ISCJB ***22*** *07:40:22.0±0.7,50°.30N±0°.06×156°.73E±0°.10,h72km±6km, mb3.8/14,Error ellipse: s-maj=13.0km s-min=4.9km az=41.6*

SKHL ***22*** *07:40:22.0±0.1,50°.24N×156°.73E,h68km±1km,mb5.0/3*

IDC ***22*** *07:40:25.2±2.6,50°.41N×156°.56E,h83km±24km,mb3.5/12, mb1 3.8/14,mb1mx3.6/43,mbtmp3.9/14,MS3.2/6, Ms1 3.2/6,ms1mx2.8/46,Error ellipse: s-maj=20.3km s-min=12.8km az=144.0*

ISC 22 07:40:21.9±1.3,50°.23N±0°.08×156°.85E±0°.07,h55km±11km, n76,σ1.948/84,mb3.8/14,MS3.5/4,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.65**	**314**	*i* P		Pn		07 40 31.5	-3.7
SKR				*e*S		**Sn**		**07 40 41.5**	**-3.4**
SKR				pmax		pmax			
	comp=N,2μm,0.4s								
SKR				pmax		pmax			
	comp=E,2μm,0.4s								
SKR				pmax		pmax			
	comp=Z,3μm,0.4s								
SKR				pmax		pmax			
	comp=Z,10μm,0.4s								
SKR				smax		smax			
	comp=N,2μm,0.3s								
SKR				smax		smax			
	comp=E,2μm,0.3s								
SKR				smax		smax			
	comp=N,10μm,0.4s								
SKR				smax		smax			
	comp=E,5μm,0.4s								
SKR	**Severo-Kuril's**	**0.65**	**314**	*i* P		**Pn**		**07 40 35.1**	**-0.1**
SKR				*i* S		**Sn**		**07 40 44.7**	**-0.2**
SKR				AMB		AMB		07 40 35.4	
	comp=E,550nm,0.4s								
SKR				*e*S		**Sn**		**07 40 45.0**	**+0.1**
SKR				A		A		07 40 45.3	
	comp=E,2μm,0.3s								
PAU	**Pauzhetka**	**1.23**	**359**	PN		**Pn**		**07 40 43.1**	**+0.2**
PAU				S		**Sn**		**07 40 58.7**	**+0.2**
PAU	**Pauzhetka**	**1.23**	**359**	*i* P		**Pn**		**07 40 43.1**	**+0.2**
PAU	**Pauzhetka**	**1.23**	**359**	*e*P		**Pn**		**07 40 43.1**	**+0.2**
PAU				AMB		AMB		07 40 43.5	
	comp=E,404nm,0.4s								
PAU				*e*S		**Sn**		**07 40 58.9**	**+0.4**
PAU				A		A		07 40 59.6	
	comp=E,1μm,0.3s								
PAU				A		A		07 40 59.6	
	comp=E,790nm,0.3s								
MIPR	**Malaya Ipel'ka**	**2.05**	**359**	*e*P		**Pn**		**07 40 54.7**	**+0.8**
ASAK	**Asacha**	**2.25**	**17**	*e*P		**Pn**		**07 40 57.8**	**+1.0**
ASAK				*e*S		**Sn**		**07 41 24.6**	**+1.2**
MTVR	**Mutnovka**	**2.40**	**20**	*e*P		**Pn**		**07 40 59.3**	**+0.4**
MTVR				*e*S		**Sn**		**07 41 26.2**	**-1.0**
RUS	**Russkaya**	**2.44**	**25**	PN		**Pn**		**07 40 58.7**	**-0.6**
RUS				S		**Sn**		**07 41 25.5**	**-2.3**
RUS	**Russkaya**	**2.44**	**25**	*e*P		**Pn**		**07 40 58.7**	**-0.6**
RUS				*e*S		**Sn**		**07 41 25.5**	**-2.3**
GRL	**Gorelyy**	**2.44**	**18**	*e*P		**Pn**		**07 41 00.3**	**+0.8**
GRL				*e*S		**Sn**		**07 41 28.1**	**-0.1**
PETK	**Petropavlovsk-**	**2.93**	**10**	PN		**Pn**		**07 41 07.2**	**+1.2**
PETK				pmax		pmax	

baz=310,slow=75,SNR=80
H03N1 Juan Fernandez 136.27 89 T T 10 31 43.4
baz=310,slow=75,SNR=53
H03N3 Juan Fernandez 136.27 89 T T 10 31 43.6
baz=310,slow=75,SNR=64

*IDC **22** 07:57:22.4±1.7, 9°.50S×117°.22E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.6/38, mbtmp3.7/7, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=84.1km s-min=21.7km az=52.0*
*ISCJB **22** 07:57:30.2±0.5, 9°.59S±0°.06×117°.57E±0°.05, h71km, mb3.9/5, Error ellipse: s-maj=9.9km s-min=4.9km az=32.1*
*DJA **22** 07:57:35.0±0.9, 9°S±13°×11°8E±°, h75km±38km, M4.1/5, MLv4.1/5*
ISC 22 07:57:30.9±0.7, **9°.64S**±0°.08×**117°.64E**±0°.06, **h71**km, **n24, σ2s25/21, mb3.9/5, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.76**	**304**	P		x	07 58 01.4	
LBFI	**Labuhan Bajo,**	**2.50**	**63**	P		x	07 58 12.4	
DNP	**Denpasar**	**2.58**	**292**	S		**Sn**	**07 58 40.7**	**-0.1**
SRBI	**Singaraja**	**2.85**	**303**	P		**Pn**	**07 58 14.3**	**+0.2**
SRBI				S		**Sn**	**07 58 44.7**	**-2.7**
JAGI	**Jajag, Banyuwa**	**3.63**	**288**	P		**Pn**	**07 58 24.8**	**0.0**
JAGI	**Jajag, Banyuwa** baz=3.5,SNR=12	**3.63**	**288**	P		**Pn**	**07 58 25.1**	**+0.4**
JAGI				S		**Sn**	**07 59 04.3**	**-2.2**
	baz=3.5,SNR=7.8							
ABJI	**Asem Bagus**	**3.83**	**298**	P		**Pn**	**07 58 29.8**	**+2.4**
BKSI	**Bulukumba**	**4.95**	**30**	P		**Pn**	**07 58 44.3**	**+1.6**
GIRL	**Giralia** baz=14,SNR=5.2	**13.34**	**194**	P		**Pn**	**08 00 36.5**	**-0.6**
MTN	**Manton Dam** baz=14,SNR=4.6	**13.61**	**105**	P		**Pn**	**08 00 41.4**	**+0.5**
MTN				S		**Sn**	**08 03 06.0**	**-4.6**
	baz=14,SNR=4.5							
MEEK	**Meekatharra** baz=17,SNR=20	**16.93**	**177**	P		**P**	**08 01 27.2**	**+3.0**
MEEK				S		Sn	08 04 18.5	-12
	baz=17,SNR=11							
WRKA	**Warakurna** baz=19,SNR=5.5	**18.36**	**148**	P		**Pn**	**08 01 44.8**	**+4.0**
WRKA				S		**Sn**	**08 05 01.5**	**-4.0**
	baz=19,SNR=3.1							
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=297,slow=13,SNR=10	**19.10**	**124**	P		**Pn**	**08 01 51.2**	**+1.6**
WRA				S		S	08 05 13.1	-8.2
	0.1nm,0.3s,baz=292,slow=22,SNR=3.9							
MORW	**Morawa** baz=20,SNR=7.7	**19.39**	**184**	P		Pn	08 01 58.3	+5.4
MORW				S		S	08 05 15.7	-11
	baz=20,SNR=4.2							
ASAR	**Alice Springs** 0.7nm,0.5s,baz=314,slow=11,SNR=13	**20.88**	**134**	P		Pn	08 02 11.2	+0.6
BLDU	**Ballidu** baz=21,SNR=8.0	**20.89**	**182**	P		Pn	08 02 19.3	+8.8
PALU	**Palau** baz=24,SNR=4.6	**23.79**	**45**	S		Sn	08 07 11.6	-4.1
DZM	**Mont Dzumac** comp=Z,24nm,21.4s,baz=216,slow=38	**48.35**	**111**	LR		LR	08 27 56.6	
USRK	**Ussuriysk Arra** 2.5nm,0.5s,baz=192,slow=7.5,SNR=5.6	**55.14**	**13**	P		**P**	**08 06 56.5**	**+0.6**
SONM	**Songino Array** 0.6nm,0.7s,baz=169,slow=8.5,SNR=4.9	**58.09**	**351**	P		**P**	**08 07 16.1**	**-0.8**
MKAR	**Makanchi Array** 0.6nm,0.3s,baz=146,slow=6.6,SNR=16	**64.42**	**334**	P		**P**	**08 07 58.9**	**-0.7**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=161,slow=5.4,SNR=4.1	**69.17**	**340**	P		**P**	**08 08 27.9**	**-1.7**
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=134,slow=8.3,SNR=3.6	**74.23**	**333**	P		**P**	**08 08 59.8**	**-0.3**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=296,slow=2.1,SNR=6.7	**115.32**	**24**	PKP		**PKPdf**	**08 16 05.1**	**+1.1**

IDC 22 07:58:14.8±2.6, **8°.18S**×**74°.58W, h156**km±29km, **mb2.9**/3, **mb1 3.4**/5, **mb1mx3.1**/29, **mbtmp3.6**/5, **Error ellipse: s-maj=46.5km s-min=20.7km az=36.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa** 9.6nm,0.3s,baz=90,slow=7.6,SNR=84	**3.92**	**285**	P		Pn	07 59 15.8	+1.0
ATAH				S		Sn	08 00 01.0	-0.3
	11nm,0.3s,baz=298,slow=19,SNR=16							
SIV	**San Ignacio** 0.2nm,0.3s,baz=316,slow=14,SNR=5.7	**15.31**	**122**	P		P	08 01 48.3	+4.1
PTGA	**Pitinga** 1.3nm,0.3s,baz=264,slow=15,SNR=8.6	**16.33**	**64**	P		Pn	08 01 54.9	-0.5
CPUP	**Villa Florida** 1.0nm,0.4s,baz=336,slow=12,SNR=3.5	**24.38**	**140**	P		P	08 03 18.6	-0.1
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=144,slow=7.7,SNR=3.1	**46.65**	**324**	P		P	08 06 28.1	+0.3
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=140,slow=6.1,SNR=6.4	**76.89**	**342**	P		P	08 09 49.1	-0.3

IDC 22 07:59:59.4±19.0, **20°.73S**×**178°.06W, h510**km±166km, **mb2.6**/3, **mb1 2.9**/3, **mb1mx2.7**/31, **mbtmp3.5**/3, **Error ellipse: s-maj=269.7km s-min=58.0km az=139.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.2nm,0.4s,baz=91,slow=8.1,SNR=4.1	**44.42**	**257**	P		P	08 07 24.9	+0.3
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=96,slow=8.0,SNR=5.7	**44.52**	**262**	P		P	08 07 24.7	-0.7
ILAR	**Eielson Array** 0.3nm,0.8s,baz=218,slow=5.2,SNR=6.0	**88.55**	**13**	P		P	08 11 57.0	+0.1
AKASG	**Malin Array Be** 1.4nm,0.4s,baz=42,slow=4.7,SNR=17	**143.19**	**331**	PKP		PKPab	08 18 32.6	-0.1
BRTR	**Keskin Array B** 0.5nm,0.5s,baz=142,slow=4.9,SNR=3.5	**146.96**	**312**	PKPbc		PKPbc	08 18 44.9	0.0

IDC 22 08:05:52.9±1.2, **3°.77N**×**126°.85E, h0**km, **mb3.8**/5, **mb1 3.9**/5, **mb1mx3.6**/45, **mbtmp3.8**/5, **MS2.7**/1, **Ms1 2.7**/1, **ms1mx2.2**/33, **Error ellipse: s-maj=140.8km s-min=19.5km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 6.3nm,1.1s,baz=344,slow=10.0,SNR=14	**24.68**	**163**	P		P	08 11 14.7	-1.1
JCJ	**Chichijima** comp=Z,14nm,18.1s,baz=103,slow=40	**27.44**	**31**	LR		LR	08 24 11.7	
ASAR	**Alice Springs** 0.2nm,0.3s,baz=347,slow=13,SNR=7.5	**28.12**	**166**	P		P	08 11 47.7	+0.9
ASAR				PcP		PcP	08 15 01.3	0.0
	0.2nm,0.4s,baz=347,slow=2.1,SNR=4.6							
STKA	**Stephens Creek** 1.1nm,0.5s,baz=314,slow=10,SNR=3.3	**38.12**	**159**	P		P	08 13 14.0	+0.2
SONM	**Songino Array** 0.5nm,0.7s,baz=159,slow=9.5,SNR=3.7	**47.30**	**341**	P		P	08 14 28.9	+0.5
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=120,slow=7.0,SNR=19	**57.60**	**325**	P		P	08 15 44.0	-0.7

*UCR **22** 08:13:44.3, 8°.05N×83°.08W, h0km, MD4.1*
CASC 22 08:13:45.4±2.6, **8°.10N**×**82°.97W, h11**km±11km, **MD4.1, 4C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.59**	**341**⇑	*eP*		Pg	08 13 55.9	-1.1
ACR				*eS*		Sb	08 14 07.2	+1.0
BRU2	**Volcan**	**0.75**	**22**⇓	*iP*		Pg	08 13 59.4	-0.7
BRU2				*eS*		Sg	08 14 10.4	+0.3
TBS2		**0.76**	**24**⇑	*eP*		Pn	08 14 02.0	-0.4
TBS2				*eS*		Sn	08 14 12.8	-1.2
BRU	**Baru**	**0.81**	**30**⇑	*iP*		Pg	08 14 00.7	-1.1
BRU				*eS*		Sb	08 14 14.0	+0.4
BUS	**Buena Vista**	**1.65**	**332**	*eP*		Pn	08 14 14.4	-0.5
BUS				*eS*		Sn	08 14 36.3	-0.2
QCR	**Quepos**	**1.77**	**318**⇑	*eP*		Pn	08 14 15.4	-0.6
QCR				*eS*		Sn	08 14 38.3	-0.3
URSC	**Urasca**	**1.90**	**335**	*eP*		Pn	08 14 18.7	+0.6
URSC				*eS*		Sb	08 14 43.6	-0.8
CGA2	**Cerro Gallo 2**	**2.41**	**322**	*eP*		Pn	08 14 26.3	+1.2
PTP	**Ponta Puerca**	**19.66**	**57**⇓	*iP*		x	08 13 49.2	

IDC 22 08:17:42.9±48.0, **16°.48S**×**176°.74W, h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/28, **mbtmp3.9**/3, **Error ellipse: s-maj=898.0km s-min=171.2km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.5s,baz=90,slow=12,SNR=2.9	**40.71**	**240**	P		P	08 25 25.9	+0.4
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=94,slow=7.7,SNR=11	**46.47**	**258**	P		P	08 26 11.7	-0.4
ASAR	**Alice Springs** 3.0nm,0.5s,baz=89,slow=8.1,SNR=66	**46.72**	**253**	P		P	08 26 13.9	-0.2

*CSEM **22** 08:19:49.9±0.1, 38°.41N×21°.99E, h5km, ML3.8, Error ellipse: s-maj=3.0km s-min=2.5km az=98.0*
*ISCJB **22** 08:19:49.8±0.3, 38°.42N±0°.01×21°.96E±0°.02, h13km±2km, mb3.6/12, MS3.1/2, Error ellipse: s-maj=2.8km s-min=2.4km az=24.9*
*IDC **22** 08:19:49.4±0.9, 38°.46N×21°.98E, h0km, mb3.7/13, mb1 3.8/16, mb1mx3.7/40, mbtmp3.6/16, ML3.2/3, MS3.1/3, Ms1 3.1/3, ms1mx2.4/49, Error ellipse: s-maj=19.8km s-min=17.4km az=153.0*
*ATH **22** 08:19:49.7, 38°.44N×21°.99E, h16km±1km, ML3.5*
*THE **22** 08:19:50.0, 38°.45N×21°.97E, h5km±1km, ML3.8/6, Error ellipse: s-maj=1.3km s-min=0.4km az=308.0*
*SKO **22** 08:19:51.1, 38°.48N×22°.26E, h0km*
ISC 22 08:19:50.3±0.7, **38°.44N**±0°.01×**21°.98E**±0°.01, **h7**km±4km, **n152, σ0s99/205, mb3.7**/12, **9C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**254**	P		Pg	08 19 51.5	-0.5
EFP				S		Sg	08 19 52.7	-0.5
EFP	**Efpalio**	**0.06**	**254**	*e*PB		Pg	08 19 51.5	-0.5
EFP	**Efpalio**	**0.06**	**254**	P		Pg	08 19 51.5	-0.5
EFP				S		Sg	08 19 52.7	-0.5
KALE	**Kalithea**	**0.14**	**113**	P		Pg	08 19 53.2	0.0
KALE				S		Sg	08 19 55.9	+0.7
KALE	**Kalithea**	**0.14**	**113**	*e*PB		Pg	08 19 53.2	0.0
KALE				*e*SB		Sg	08 19 55.9	+0.7
KALE	**Kalithea**	**0.14**	**113**	P		Pg	08 19 53.2	0.0
KALE				S		Sg	08 19 55.9	+0.7
LAKA	**Lakka**	**0.20**	**180**	P		Pg	08 19 54.1	-0.3
LAKA	**Lakka**	**0.20**	**180**	*e*PB		Pg	08 19 54.1	-0.3
LAKA	**Lakka**	**0.20**	**180**	P		Pg	08 19 54.1	-0.3
UPR	**University Cam**	**0.22**	**224**	P		Pg	08 19 54.5	-0.2
UPR				S		Sg	08 19 58.4	+0.7
UPR	**University Cam**	**0.22**	**224**	P		Pg	08 19 54.5	-0.2
UPR				S		Sg	08 19 58.4	+0.7
KLV	**Kalavryta, Ach**	**0.42**	**161**	P		Pg	08 19 57.8	-0.7
KLV				S		Sg	08 20 04.5	+0.5
KLV	**Kalavryta, Ach**	**0.42**	**161**	*e*PB		Pg	08 19 57.8	-0.7
KLV	**Kalavryta, Ach**	**0.42**	**161**	P		Pg	08 19 57.8	-0.7
KLV				S		Sg	08 20 04.5	+0.5
DSF	**Desfina**	**0.43**	**94**	P		Pg	08 19 58.0	-0.8
DSF				S		Sg	08 20 05.3	+0.9
DSF	**Desfina**	**0.43**	**94**	*e*PB		Pg	08 19 57.9	-0.8
DSF	**Desfina**	**0.43**	**94**	*e*Pb		Pg	08 19 57.9	-0.8
DSF				S		Sg	08 20 05.3	+0.9
EVR	**Evrytania**	**0.49**	**344**	P		Pg	08 19 59.2	-0.7
EVR				S		Sg	08 20 06.5	+0.2
EVR	**Evrytania**	**0.49**	**344**	*e*PB		Pg	08 19 59.2	-0.7
EVR				*e*SB		Sg	08 20 07.6	+1.3
EVR	**Evrytania**	**0.49**	**344**	P		Pg	08 19 59.2	-0.7
EVR				S		Sg	08 20 06.5	+0.2
EVR				*e*Sb		Sg	08 20 07.6	+1.3
DRO	**Drossia**	**0.53**	**203**	P		Pg	08 20 00.0	-0.6
DRO				S		Sg	08 20 07.6	0.0
DRO	**Drossia**	**0.53**	**203**	*e*PN		Pg	08 20 00.0	-0.6
DRO	**Drossia**	**0.53**	**203**	P		Pg	08 20 00.0	-0.6
DRO				S		Sg	08 20 07.6	0.0
RLS	**Riolos of Patr**	**0.56**	**226**	P		Pg	08 20 00.5	-0.6
RLS				S		Sg	08 20 08.9	+0.6
RLS	**Riolos of Patr**	**0.56**	**226**	*e*PN		Pg	08 20 00.8	-0.3
RLS				*e*SN		Sg	08 20 09.0	+0.6
RLS	**Riolos of Patr**	**0.56**	**226**	P		Pg	08 20 00.5	-0.6
RLS	**Riolos of Patr**	**0.56**	**226**	*e*Pn		Pg	08 20 00.8	-0.3
RLS				S		Sg	08 20 08.9	+0.6
MAKR	**Makrakomi, Fth**	**0.58**	**12**	P		Pg	08 20 01.0	-0.5
MAKR	**Makrakomi, Fth**	**0.58**	**12**	*e*PN		Pg	08 20 01.1	-0.5
MAKR	**Makrakomi, Fth**	**0.58**	**12**	*e*Pn		Pg	08 20 01.1	-0.5
GUR	**Goura**	**0.58**	**150**	*e*PN		Pg	08 20 01.2	-0.4
GUR	**Goura**	**0.58**	**150**	*e*Pn		Pg	08 20 01.2	-0.4
AXAR	**Agios Charalam**	**0.62**	**59**	P		Pg	08 20 01.3	+1.0
AXAR				S		Sg	08 20 11.5	+1.0
AXAR	**Agios Charalam**	**0.62**	**59**	*e*PB		Pg	08 20 01.4	-0.9
AXAR				*e*SN		Sg	08 20 11.2	+0.7
AXAR	**Agios Charalam**	**0.62**	**59**	*e*Pb		Pg	08 20 01.4	-0.9
AXAR				*e*Sn		Sg	08 20 11.2	+0.7
AGG	**Agios Georgios**	**0.64**	**25**	P		Pg	08 20 01.5	-1.2
AGG				S		Sg	08 20 11.5	+0.5
AGG	**Agios Georgios**	**0.64**	**25**	*e*PB		Pg	08 20 01.3	-1.4
AGG	**Agios Georgios**	**0.64**	**25**	P		Pg	08 20 01.5	-1.2
AGG				S		Sg	08 20 11.5	+0.5
PDO	**Prodromos**	**0.64**	**284**	P		Pg	08 20 01.7	-1.0
PDO	**Prodromos**	**0.64**	**284**	*e*PN		Pg	08 20 02.8	+0.1
PDO				*e*SN		Sg	08 20 11.4	+0.3
PDO	**Prodromos**	**0.64**	**284**	P		Pg	08 20 01.7	-1.0
PDO	**Prodromos**	**0.64**	**284**	*e*Pn		Pg	08 20 02.8	+0.1
PDO				*e*Sn		Sg	08 20 11.4	+0.3
LKR	**Lokris**	**0.83**	**75**	P		Pg	08 20 05.4	-0.8
LKR				S		Sg	08 20 17.7	+0.8
LKR	**Lokris**	**0.83**	**75**	*e*PN		Pg	08 20 05.4	-0.8
LKR				*e*SN		Sg	08 20 17.1	+0.2
LKR	**Lokris**	**0.83**	**75**	P		Pg	08 20 05.1	-1.1
LKR	**Lokris**	**0.83**	**75**	*e*Pn		Pg	08 20 05.4	-0.8
LKR				*e*Sn		Sg	08 20 17.1	+0.2
LTK	**Loutraki**	**0.88**	**118**	P		Pg	08 20 07.2	-0.1
LTK	**Loutraki**	**0.88**	**118**	*e*PN		Pg	08 20 07.0	-0.3
LTK				*e*SN		Sg	08 20 19.1	+0.3
LTK	**Loutraki**	**0.88**	**118**	P		Pg	08 20 07.2	-0.1
LTK				*e*Sn		Sg	08 20 19.1	+0.3
AMT	**Artemida-Makis**	**0.93**	**193**	P		Pg	08 20 07.7	-0.6
AMT	**Artemida-Makis**	**0.93**	**193**	*e*PN		Pg	08 20 08.1	-0.2
AMT				*e*SN		Sg	08 20 20.5	+0.1
AMT	**Artemida-Makis**	**0.93**	**193**	P		Pg	08 20 07.7	-0.6
AMT	**Artemida-Makis**	**0.93**	**193**	*e*Pn		Pg	08 20 08.1	-0.2
AMT				*e*Sn		Sg	08 20 20.5	+0.1
SMIA	**Simia**	**1.06**	**65**	P		Pg	08 20 09.7	-0.9
SMIA				S		Sb	08 20 24.9	-0.1
SMIA	**Simia**	**1.06**	**65**	*e*PN		Pg	08 20 10.1	-0.5
SMIA	**Simia**	**1.06**	**65**	P		Pg	08 20 09.7	-0.9
SMIA	**Simia**	**1.06**	**65**	*e*Pn		Pg	08 20 10.1	-0.5
SMIA				S		Sb	08 20 24.9	-0.1
LKD2	**Lefkada island**	**1.09**	**289**	*e*PN		Pg	08 20 10.6	-0.7
LKD2	**Lefkada island**	**1.09**	**289**	*e*Pn		Pg	08 20 10.6	-0.7
VLX	**Vlachokerasia**	**1.12**	**163**	P		Pg	08 20 10.2	-1.6
VLX				S		Sb	08 20 27.4	+0.6
VLX	**Vlachokerasia**	**1.12**	**163**	*e*PB		Pg	08 20 09.9	-1.9
VLX				*e*SN		Sg	08 20 26.1	-0.2
VLX	**Vlachokerasia**	**1.12**	**163**	*e*Pb		Pg	08 20 09.9	-1.9
VLX	**Vlachokerasia**	**1.12**	**163**	P		Pg	08 20 10.2	-1.6
VLX				*e*Sn		Sg	08 20 26.1	-0.2
VLX				S		Sb	08 20 27.4	+0.6
THL	**Klokotos Trika**	**1.12**	**1**	P		Pg	08 20 10.6	-1.2
THL	**Klokotos Trika**	**1.12**	**1**	*e*PB		Pg	08 20 10.2	-1.6
THL	**Klokotos Trika**	**1.12**	**1**	*e*Pb		Pg	08 20 10.2	-1.6
THL	**Klokotos Trika**	**1.12**	**1**	P		Pg	08 20 10.6	-1.2
VLS	**Valsamata**	**1.12**	**257**	P		Pg	08 20 10.2	-1.7
VLS				S		Sb	08 20 27.8	+0.8
VLS	**Valsamata**	**1.12**	**257**	P		Pg	08 20 10.2	-1.7
VLS				S		Sb	08 20 27.8	+0.8
ITM	**Ithomi**	**1.26**	**182**	P		Pn	08 20 13.2	-1.2
ITM				S		Sn	08 20 32.4	+0.8
ITM	**Ithomi**	**1.26**	**182**	*e*PN		Pn	08 20 12.9	-1.5
ITM	**Ithomi**	**1.26**	**182**	*e*Pn		Pn	08 20 12.9	-1.5
ITM	**Ithomi**	**1.26**	**182**	P		Pn	08 20 13.2	-1.2
ITM				S		Sn	08 20 32.4	+0.8
MRKA	**Markates**	**1.29**	**78**	*e*PN		Pn	08 20 14.1	-0.7
MRKA	**Markates**	**1.29**	**78**	*e*Pn		Pn	08 20 14.1	-0.7
NEO	**Neokhori**	**1.30**	**48**	*e*PN		Pn	08 20 14.4	-0.5
NEO				*e*SN		Sb	08 20 32.2	+0.2
NEO	**Neokhori**	**1.30**	**48**	*e*Pn		Pn	08 20 14.4	-0.5
NEO				*e*Sn		Sb	08 20 32.2	+0.2
XOR	**Xorichti**	**1.32**	**45**	*e*PN		Pg	08 20 15.8	+0.1
XOR	**Xorichti**	**1.32**	**45**	*e*Pn		Pg	08 20 15.8	+0.1
DID	**Didima**	**1.36**	**133**	P		Pn	08 20 15.3	-0.5
DID	**Didima**	**1.36**	**133**	*e*PN		Pn	08 20 15.3	-0.5
DID	**Didima**	**1.36**	**133**	P		Pn	08 20 15.3	-0.5
SKIA	**Skiathos**	**1.37**	**58**	*e*PN		Pn	08 20 15.8	-0.1
SKIA				*e*SN		Sg	08 20 35.7	+1.4
SKIA	**Skiathos**	**1.37**	**58**	*e*Pn		Pn	08 20 15.8	-0.1
SKIA				*e*Sn		Sg	08 20 35.7	+1.4
ATH	**Athens Observa**	**1.45**	**108**	*e*PN		Pn	08 20 17.0	+0.1
ATH	**Athens Observa**	**1.45**	**108**	*e*Pn		Pn	08 20 17.0	+0.1
JAN	**Janina**	**1.50**	**324**	*e*PN		Pn	08 20 18.0	+0.3
JAN	**Janina**	**1.50**	**324**	*e*Pn		Pn	08 20 18.0	+0.3
PTL	**Penteli**	**1.54**	**104**	*e*PN		Pn	08 20 18.1	-0.1
PTL	**Penteli**	**1.54**	**104**	*e*Pn		Pn	08 20 18.1	-0.1
PYL	**PYLOS**	**1.56**	**187**	*e*PN		Pn	08 20 18.3	-0.1
PYL	**PYLOS**	**1.56**	**187**	*e*Pn		Pn	08 20 18.3	-0.1
LIT	**Litokhoron**	**1.70**	**13**	*e*PN		Pn	08 20 20.1	-0.4
LIT	**Litokhoron**	**1.70**	**13**	*e*Pn		Pn	08 20 20.1	-0.4
KZN	**Kozani**	**1.87**	**355**	*e*PN		Pn	08 20 23.8	+1.0
KZN	**Kozani**	**1.87**	**355**	*e*Pn		Pn	08 20 23.8	+1.0
NEST	**Nestorio**	**2.10**	**340**	*e*PN		Pb	08 20 27.8	-0.9
NEST	**Nestorio**	**2.10**	**340**	*e*Pn		Pb	08 20 27.8	-0.9
HORT	**Hortiatis**	**2.32**	**22**	*e*PB		Pn	08 20 28.2	-0.8
HORT	**Hortiatis**	**2.32**	**22**	*e*Pb		Pn	08 20 28.2	-0.8
FNA	**Florina**	**2.38**	**349**	*e*PB		Pn	08 20 30.4	+0.5
FNA	**Florina**	**2.38**	**349**	*e*Pb		Pn	08 20 30.4	+0.5
GRG	**Griva**	**2.53**	**7**	*e*PN		Pn	08 20 31.7	-0.2
GRG	**Griva**	**2.53**	**7**	*e*Pn		Pn	08 20 31.7	-0.2
SOH	**Sokhos**	**2.60**	**24**	*e*PN		Pn	08 20 32.9	0.0
SOH	**Sokhos**	**2.60**	**24**	*e*Pn		Pn	08 20 32.9	0.0
BIA	**Bitola**	**2.62**	**349**	*i* Pn		Pn	08 20 35.1	+2.0
BIA				*i* Sn		Sn	08 21 06.3	+1.0
BIA	**Bitola**	**2.62**	**349**	*i* Pn		Pn	08 20 35.1	+2.0
BIA				*i* Sn		Sn	08 21 06.3	+1.0
KNT	**Kendrikon**	**2.81**	**14**	*e*PN		Pn	08 20 35.4	-0.2
KNT	**Kendrikon**	**2.81**	**14**	*e*Pn		Pn	08 20 35.4	-0.2
VAY	**Valandovo**	**2.91**	**9**	*i* Pn		Pn	08 20 37.7	+0.7
VAY				*i* Sn		Sn	08 21 12.5	+0.2
VAY				*e*Lg		Lg	08 21 17.2	
VAY	comp=E,154nm,1.3s			*e*Lg		Lg	08 21 20.2	
VAY	**Valandovo** comp=N,411nm,2.3s	**2.91**	**9**	*i* Pn		**Pn**	**08 20 37.7**	**+0.7**
VAY				*i* Sn		**Sn**	**08 21 12.4**	**+0.2**
VAY				*e*Lg		Lg	08 21 17.2	
	comp=N,154nm,1.3s							
APE	**Apeiranthos**	**3.13**	**115**⇑	*i*P		**Pn**	**08 20 38.3**	**-1.8**
APE	**Apeiranthos**	**3.13**	**115**⇑	*i*P		**Pn**	**08 20 38.3**	**-1.8**
CHOS	**Chios island**	**3.20**	**90**	*e*PN		Pn	08 20 42.0	+0.9
CHOS	**Chios island**	**3.20**	**90**	*e*Pn		Pn	08 20 42.0	+0.9
MMB	**Musomiste**	**3.42**	**23**⇑	*i*P		**Pn**	**08 20 44.0**	**-0.1**
MMB	**Musomiste**	**3.42**	**23**⇑	*i*P		**Pn**	**08 20 44.0**	**-0.1**
SKO	**Skopje**	**3.55**	**353**	*i* Pn		**Pn**	**08 20 46.6**	**+0.7**
SKO				*i* Sn		**Sn**	**08 21 22.8**	**-5.3**
SKO				*e*Lg		Lg	08 21 26.4	
SKO	comp=N,619nm,3.2s			*e*Lg		Lg	08 21 33.2	
SKO	**Skopje** comp=E,216nm,2.0s	**3.55**	**353**	*i* Pn		**Pn**	**08 20 46.5**	**+0.7**
SKO				*e*Lg		Lg	08 21 33.1	
	comp=E,216nm,2.0s							
IDI	**Anoyia** comp=E,1.2nm,0.3s,baz=332,slow=15,SNR=4.1	**3.92**	**143**	Pn		**Pn**	**08 20 52.4**	**+1.4**
IDI				Sn		**Sn**	**08 21 34.5**	**-2.8**
	comp=E,5.6nm,0.3s,baz=123,slow=21,SNR=8.1							
VTS	**Vitosha**	**4.25**	**12**⇓	*i*P		**Pn**	**08 20 56.1**	**+0.5**
VTS	**Vitosha**	**4.25**	**12**⇓	*i*P		**Pn**	**08 20 56.1**	**+0.5**
IVAS	**Ivanjica**	**5.31**	**346**	*e*Pn		**Pn**	**08 21 11.7**	**+1.6**
GRUS	**Gruza**	**5.52**	**350**	*e*Pn		**Pn**	**08 21 14.5**	**+1.5**
DIVS	**Divibare**	**5.84**	**346**	*e*Pn		**Pn**	**08 21 18.5**	**+1.0**
TRUS	**Trudelj**	**5.89**	**349**	*e*Pn		**Pn**	**08 21 18.7**	**+0.6**
TEKS	**Tekeris**	**6.37**	**344**	*e*Pn		**Pn**	**08 21 25.7**	**+1.1**
FGSL	**Frusˇka Gora**	**6.90**	**347**	*e*Pn		**Pn**	**08 21 33.7**	**+1.8**
MLR	**Muntele Rosu**	**7.63**	**21**⇑	*i*P		**Pn**	**08 21 44.0**	**+1.9**
MLR	**Muntele Rosu** comp=E,0.1nm,0.3s,baz=175,slow=23,SNR=3.9	**7.63**	**21**	Pn		**Pn**	**08 21 43.9**	**+1.8**
MLR	**Muntele Rosu**	**7.63**	**21**⇑	*i*P		**Pn**	**08 21 44.0

s-min=17.0km az=86.0

ISC 22 08:51:43.8±1.0,**4°86S**±0°10×**151°3E**±0°1,**h129**km,**n28,** σ1ᵍ**28**/24,**mb4.1/9,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.12**	**54**	S	Sn	08 52 13.7	-12
	baz=0.5,SNR=9.2						
MANU	**Manus Island**	**4.79**	**306**	S	**Sn**	**08 53 45.8**	**-2.9**
	baz=5.0,SNR=6.6						
PMG	**Port Moresby**	**6.08**	**222**	P	**Pn**	**08 53 11.1**	**-0.4**
	3.0nm,0.3s,baz=39,slow=12,SNR=7.0						
PMG	**Port Moresby**	**6.08**	**222**	P	**Pn**	**08 53 13.8**	**+2.3**
	baz=6.8,SNR=5.7						
PMG				S	Sn	08 54 03.5	-16
	baz=6.8,SNR=5.6						
CTA	**Charters Tower**	**15.91**	**197**	P	**Pn**	**08 55 20.4**	**-0.1**
	0.9nm,0.3s,baz=28,slow=14,SNR=5.2						
QIS	**Mount Isa**	**19.29**	**215**	P	**P**	**08 55 59.2**	**+0.4**
	baz=20,SNR=5.5						
KDU	**Kakadu**	**20.12**	**246**	P	**P**	**08 56 08.9**	**+1.2**
	baz=21,SNR=5.0						
EIDS	**Eidsvold**	**20.40**	**180**	P	**P**	**08 56 09.9**	**-0.7**
	baz=21,SNR=5.8						
RMQ	**Roma**	**21.64**	**186**	P	**P**	**08 56 23.4**	**-0.5**
	baz=22,SNR=5.7						
WRA	**Warramunga Arr**	**22.28**	**226**	P	**P**	**08 56 29.9**	**-0.8**
	10nm,0.8s,baz=49,slow=9.9,SNR=41						
WRA				ScP	**ScP**	**09 03 46.7**	**-1.0**
	1.5nm,0.8s,baz=45,slow=2.4,SNR=6.3						
DZM	**Mont Dzumac**	**22.56**	**141**	P	**P**	**08 56 31.8**	**-1.6**
	6.5nm,0.5s,baz=311,slow=11,SNR=13						
QLP	**Quilpie**	**22.62**	**197**	P	**P**	**08 56 33.2**	**-0.7**
	baz=23,SNR=25						
KNRA	**Kununurra**	**24.58**	**242**	P	**P**	**08 56 53.7**	**+1.7**
	baz=25,SNR=4.5						
ASAR	**Alice Springs**	**25.10**	**220**	P	**P**	**08 56 56.5**	**-0.1**
	3.3nm,0.6s,baz=56,slow=8.9,SNR=39						
ARMA	**Armidale**	**25.43**	**179**	P	**P**	**08 56 59.2**	**-0.5**
	baz=26,SNR=4.3						
CMSA	**Cobar Meteorol**	**27.05**	**190**	P	**P**	**08 57 13.2**	**-0.9**
	baz=28,SNR=6.2						
STKA	**Stephens Creek**	**28.37**	**197**	P	**P**	**08 57 24.1**	**-1.8**
	4.7nm,0.9s,baz=3.1,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**28.37**	**197**	P	**P**	**08 57 24.6**	**-1.3**
	baz=29,SNR=5.1						
WRKA	**Warakurna**	**29.81**	**225**	P	**P**	**08 57 38.0**	**-0.8**
	baz=30,SNR=5.3						
HTT	**Hallett**	**30.67**	**201**	P	**P**	**08 57 45.7**	**-0.6**
	baz=31,SNR=3.6						
MEEK	**Meekatharra**	**37.96**	**232**	P	**P**	**08 58 49.2**	**0.0**
	baz=39,SNR=19						
JNU	**Nakatsue**	**42.43**	**334**	LR	LR	09 18 04.1	
	comp=Z,38nm,18.6s,baz=69,slow=37						
CMAR	**Chiang Mai Arr**	**56.52**	**296**	P	P	09 01 17.1	+4.1
	1.4nm,0.3s,baz=126,slow=6.1,SNR=7.3						
SONM	**Songino Array**	**65.56**	**329**	P	P	09 02 18.4	+4.7
	1.5nm,0.6s,baz=144,slow=5.0,SNR=14						
MKAR	**Makanchi Array**	**79.36**	**319**	P	P	09 03 38.5	+3.0
	0.8nm,0.6s,baz=105,slow=6.2,SNR=9.7						
ZALV	**Zalesovo Beam**	**80.35**	**327**	P	**P**	**09 03 42.2**	**+1.6**
	1.4nm,0.6s,baz=108,slow=4.8,SNR=7.4						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**09 03 53.7**	**+0.5**
	1.1nm,0.7s,baz=252,slow=5.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**148.86**	**287**	PKPbc	**PKPbc**	**09 11 18.1**	**+0.7**
	3.3nm,0.7s,baz=74,slow=2.6,SNR=25						

*NEIC **22** 08:56:58.8, 65°.93N×149°.38W, h14km, ML3.8(AEIC), After AEIC.*
*IDC **22** 08:57:01.7±3.1, 65°.99N×148°.70W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.3/42, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=44.3km s-min=18.9km az=91.0*

ISC 22 08:56:57.6±1.0,**65°99N**±0°04×**149°32W**±0°03,**h9**km±7km, **n50,** σ1ᵍ**13**/55,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS06	**TAPS Pump Stn6**	**0.22**	**232**	P	**Pb**	**08 57 02.8**	**+0.7**
PS06				S	**Sb**	**08 57 05.5**	**+0.5**
MDM	**Murphy Dome**	**1.13**	**156**	P	**Pg**	**08 57 19.1**	**-0.2**
MDM				S	**Sn**	**08 57 35.4**	**+0.1**
MLY	**Manley**	**1.13**	**212**	P	**Pb**	**08 57 18.4**	**-0.9**
COLA	**College**	**1.28**	**151**	P	**Pb**	**08 57 21.2**	**-0.6**
COLA				S	**Sg**	**08 57 38.6**	**0.0**
GLM	**Gilmore Dome**	**1.29**	**140**	P	**Pb**	**08 57 21.7**	**-0.4**
COLD	**Coldfoot**	**1.29**	**345**	P	**Pb**	**08 57 22.7**	**+0.6**
CCB	**Clear Creek Bu**	**1.49**	**154**	P	**Pn**	**08 57 23.9**	**-0.6**
CCB				S	**Sg**	**08 57 45.2**	**-0.2**
IL1	**Eielson Array**	**1.59**	**139**	P	**Pn**	**08 57 25.6**	**-0.4**
ILAR	**Eielson Array**	**1.59**	**139**	Pn	**Pg**	**08 57 28.2**	**+0.1**
ILAR				Lg	Lg	08 57 46.8	
ILAR	**Eielson Array**	**1.59**	**139**	Pn	**Pg**	**08 57 28.2**	**+0.1**
	130nm,0.3s,baz=313,slow=12,SNR=4179						
ILAR				LR	LR	08 57 42.6	
	comp=Z,370nm,18.6s,baz=93,slow=28						
ILAR				Lg	Lg	08 57 46.8	
	342nm,0.3s,baz=321,slow=32,SNR=44						
ILB	**Eielson Array**	**1.59**	**139**	P	**Pn**	**08 57 25.6**	**-0.4**
WRH	**Wood River Hil**	**1.61**	**161**	P	**Pn**	**08 57 25.6**	**-0.6**
FYU	**Fort Yukon**	**1.75**	**69**	P	**Pn**	**08 57 28.5**	**+0.3**
PS08	**TAPS Pump Stn8**	**1.79**	**143**	P	**Pn**	**08 57 28.2**	**+0.5**
IM3	**Indian Mountai**	**1.81**	**272**	P	**Pn**	**08 57 28.6**	**-0.4**
IM04	**Indian Mountai**	**1.83**	**272**	*e*Pn	**Pn**	**08 57 28.6**	**-0.6**
IM04				*e*Sn	**Sb**	**08 57 54.6**	**+0.4**
HDA	**Harding Lake**	**1.88**	**147**	P	**Pn**	**08 57 29.4**	**-0.4**
MCK	**McKinley**	**2.27**	**176**	P	**Pn**	**08 57 35.3**	**0.0**
BM3	**Burnt Mountain**	**2.36**	**50**	P	**Pn**	**08 57 36.9**	**+0.3**
KTH	**Kantishna Hill**	**2.54**	**196**	P	**Pn**	**08 57 38.5**	**-0.6**
TRF	**Thorofare Moun**	**2.58**	**190**	P	**Pn**	**08 57 39.4**	**-0.3**
RND	**Reindeer**	**2.60**	**175**	P	**Pn**	**08 57 40.6**	**+0.7**
DDM	**Donnelly Dome**	**2.66**	**145**	P	**Pn**	**08 57 40.4**	**-0.2**
SCRK	**Sand Creek**	**3.03**	**129**	P	**Pn**	**08 57 46.2**	**+0.3**
DHY	**Denali Highway**	**3.04**	**163**	P	**Pn**	**08 57 47.2**	**+1.1**
DOT	**Dot Lake**	**3.25**	**134**	Pn	**Pn**	**08 57 50.3**	**+1.5**
DOT				*e*Pg	**Pb**	**08 57 55.7**	**+0.2**
DOT				*e*Sg	**Sb**	**08 58 37.8**	**+2.7**
PPLA	**Purkeypile**	**3.34**	**203**	P	**Pn**	**08 57 49.7**	**-0.5**
GCSA	**Galena City Sc**	**3.40**	**252**	P	**Pn**	**08 57 50.2**	**-0.6**
PAX	**Paxson**	**3.46**	**149**	P	**Pn**	**08 57 52.1**	**+0.5**
EGAK	**Eagle**	**3.62**	**106**	P	**Pn**	**08 57 53.7**	**-0.2**
MENT	**Mentasta**	**3.90**	**139**	Pn	Pn	08 58 00.7	+2.9
MENT				*e*Pg	**Pg**	**08 58 11.4**	**-1.0**
MENT				*e*Sg	**Sg**	**08 58 59.2**	**-3.7**
TT01	**Tatalina**	**4.24**	**226**	P	**Pn**	**08 58 01.1**	**-1.2**
SCM	**Sheep Creek Mo**	**4.26**	**167**	P	**Pn**	**08 58 03.7**	**+1.0**
BCA3	**Beaver Creek A**	**4.38**	**129**	P	**Pn**	**08 58 04.0**	**-0.3**
PMR	**Palmer**	**4.42**	**179**	P	**Pn**	**08 58 05.9**	**+1.2**
SUA	**Susitna One**	**4.59**	**189**	P	**Pn**	**08 58 08.6**	**+1.4**
DAWY	**Dawson**	**4.63**	**110**	P	**Pn**	**08 58 07.2**	**-0.5**
STLK	**Strandline Lak**	**4.64**	**195**	P	**Pn**	**08 58 08.5**	**+0.6**
RC01	**Rabbit Creek A**	**4.92**	**182**	*e*Pn	Pn	08 58 14.4	+2.8
DIV	**Divide**	**5.13**	**160**	*e*Pn	Pn	08 58 19.8	+5.2
	23nm,0.6s						
BMRM	**Bremner River**	**5.46**	**155**	*e*Pn	**Pn**	**08 58 20.9**	**+1.8**
	12nm,0.4s						
RSO	**Redoubt South**	**5.76**	**197**	*e*Pn	Pn	08 58 29.2	+5.8
	66nm,0.6s						
INK	**Inuvik**	**6.57**	**62**	Pn	**Pn**	**08 58 35.0**	**+0.7**
INK				Sn	**Sn**	**08 59 47.4**	**-1.8**
INK	**Inuvik**	**6.57**	**62**	Pn	**Pn**	**08 58 35.0**	**+0.7**
	0.9nm,0.3s,baz=250,slow=13,SNR=79						
INK				Sn	**Sn**	**08 59 47.4**	**-1.8**
	1.5nm,0.3s,baz=164,slow=19,SNR=4.7						
YKA	**Yellowknife Ar**	**15.35**	**87**	Pn	**Pn**	**09 00 32.4**	**-1.7**
YKA	**Yellowknife Ar**	**15.35**	**87**	Pn	**Pn**	**09 00 32.4**	**-1.7**
	0.1nm,0.3s,baz=293,slow=14,SNR=11						
PDAR	**Pinedale Array**	**31.90**	**117**	P	**P**	**09 03 25.4**	**+2.2**
PDAR	**Pinedale Array**	**31.90**	**117**	P	**P**	**09 03 25.4**	**+2.2**
	0.7nm,1.0s,baz=284,slow=5.5,SNR=2.9						
TXAR	**Lajitas Array**	**46.01**	**120**	P	P	09 05 24.2	+3.0
TXAR	**Lajitas Array**	**46.01**	**120**	P	P	09 05 24.2	+3.0
	0.3nm,0.7s,baz=319,slow=5.3,SNR=4.5						

*ISCJB **22** 08:57:54.7±0.9, 39°.98N±0°.05×22°.85E±0°.05, h21km±7km, Error ellipse: s-maj=9.0km s-min=5.9km az=164.4*
*ATH **22** 08:57:54.7, 39°.98N×22°.80E, h22km±1km, MD2.9/13*
*CSEM **22** 08:57:54.4±0.2, 39°.99N×22°.83E, h15km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.1km az=162.0*
*SKO **22** 08:57:56.2, 40°.02N×22°.78E, h6km*

ISC 22 08:57:54.7±1.3,**39°99N**±0°04×**22°80E**±0°02,**h14**km±10km, **n32,** σ0ᵍ**31**/42,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.26**	**295**	*e*PB	**Pg**	**08 58 00.2**	**-0.1**
LIT				*e*SB	**Sb**	**08 58 05.7**	**+0.1**
LIT	**Litokhoron**	**0.26**	**295**	*e*Pb	**Pg**	**08 58 00.2**	**-0.1**
LIT				*e*Sb	**Sb**	**08 58 05.7**	**+0.1**
PLG	**Polygyros**	**0.63**	**52**	*e*PB	**Pg**	**08 58 06.7**	**-0.3**
PLG				*e*SN	**Sb**	**08 58 16.2**	**+0.1**
PLG	**Polygyros**	**0.63**	**52**	*e*Pb	**Pg**	**08 58 06.7**	**-0.3**
PLG				*e*Sn	**Sb**	**08 58 16.2**	**+0.1**
HORT	**Hortiatis**	**0.65**	**21**	*e*PN	**Pg**	**08 58 07.5**	**+0.1**
HORT				*e*SN	**Sb**	**08 58 17.2**	**+0.4**
HORT	**Hortiatis**	**0.65**	**21**	*e*Pn	**Pg**	**08 58 07.5**	**+0.1**
HORT				*e*Sn	**Sb**	**08 58 17.2**	**+0.4**
THE	**Thessaloniki**	**0.65**	**11**	*e*PN	**Pb**	**08 58 07.8**	**-0.1**
THE	**Thessaloniki**	**0.65**	**11**	*e*Pn	**Pb**	**08 58 07.8**	**-0.1**
PAIG	**Paliouri**	**0.68**	**95**	*e*PN	**Pg**	**08 58 08.0**	**+0.1**
PAIG	**Paliouri**	**0.68**	**95**	*e*Pn	**Pg**	**08 58 08.0**	**+0.1**
KZN	**Kozani**	**0.85**	**292**	*e*PN	**Pg**	**08 58 11.4**	**+0.2**
KZN				*e*SN	**Sn**	**08 58 24.0**	**-0.6**
KZN	**Kozani**	**0.85**	**292**	*e*Pn	**Pg**	**08 58 11.4**	**+0.2**
KZN				*e*Sn	**Sn**	**08 58 24.0**	**-0.6**
SOH	**Sokhos**	**0.93**	**27**	*e*PB	**Pb**	**08 58 12.2**	**-0.5**
SOH	**Sokhos**	**0.93**	**27**	*e*Pb	**Pb**	**08 58 12.2**	**-0.5**
OUR	**Ouranopolis**	**0.97**	**69**	*e*PN	**Pg**	**08 58 13.6**	**+0.2**
OUR	**Ouranopolis**	**0.97**	**69**	*e*Pn	**Pg**	**08 58 13.6**	**+0.2**
GRG	**Griva**	**1.01**	**343**	*e*PN	**Pb**	**08 58 13.9**	**-0.1**
GRG	**Griva**	**1.01**	**343**	*e*Pn	**Pb**	**08 58 13.9**	**-0.1**
AGG	**Agios Georgios**	**1.03**	**201**	*e*PN	**Pb**	**08 58 14.2**	**-0.1**
AGG	**Agios Georgios**	**1.03**	**201**	*e*Pn	**Pb**	**08 58 14.2**	**-0.1**
KNT	**Kendrikon**	**1.17**	**4**	*e*PN	**Pn**	**08 58 16.5**	**-0.2**
KNT	**Kendrikon**	**1.17**	**4**	*e*Pn	**Pn**	**08 58 16.5**	**-0.2**
SRS	**Serrai**	**1.28**	**28**	*e*PN	**Pn**	**08 58 18.2**	**+0.1**
SRS	**Serrai**	**1.28**	**28**	*e*Pn	**Pn**	**08 58 18.2**	**+0.1**
VAY	**Valandovo**	**1.34**	**353**	*i* Pg	**Pb**	**08 58 19.5**	**-0.1**
VAY				*i* Sg	**Sb**	**08 58 37.3**	**+0.7**
VAY				*e*Lg	Lg	08 58 40.3	
	comp=E,44nm,1.1s						
VAY				*e*Lg	Lg	08 58 40.4	
	comp=N,58nm,1.4s						
VAY	**Valandovo**	**1.34**	**353**	*i* Pg	**Pb**	**08 58 19.5**	**-0.1**
VAY				*i* Sg	**Sb**	**08 58 37.3**	**+0.7**
VAY				*e*Lg	Lg	08 58 40.4	
	comp=N,58nm,1.4s						
FNA	**Florina**	**1.35**	**307**	*e*PN	**Pg**	**08 58 20.5**	**-0.1**
FNA	**Florina**	**1.35**	**307**	*e*Pn	**Pg**	**08 58 20.5**	**-0.1**
NEST	**Nestorio**	**1.41**	**288**	*e*PN	**Pb**	**08 58 21.0**	**+0.2**
NEST	**Nestorio**	**1.41**	**288**	*e*Pn	**Pb**	**08 58 21.0**	**+0.2**
NVR	**Nevrokopi**	**1.58**	**30**	*e*PB	**Pn**	**08 58 22.9**	**+0.6**
NVR	**Nevrokopi**	**1.58**	**30**	*e*Pb	**Pn**	**08 58 22.9**	**+0.6**

*ISCJB **22** 09:02:43.6±0.7, 31°.81S±0°.03×69°.67W±0°.04, h126km±6km, Error ellipse: s-maj=6.5km s-min=4.3km az=39.9*
*GUC **22** 09:02:43.4±0.4, 31°.82S×70°.08W, h150km±4km, MD3.7, ML3.7*
*SJA **22** 09:02:44.9±0.8, 31°.85S×69°.54W, h118km±3km, MD3.7, ML3.5, MW3.5*

ISC 22 09:02:43.9±1.6,**31°82S**±0°04×**69°67W**±0°04, **h126**km±11km,**n23,** σ0ᵍ**61**/41,**3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.32**	**86**	*e*P	**Pn**	**09 03 02.2**	**+0.2**
RTLS				⇓*i*S	**Sn**	**09 03 15.9**	**+0.3**
AUSP	**Uspallata**	**0.47**	**149**	*e*P	**Pn**	**09 03 03.1**	**+0.3**
AUSP				*i* S	**Sn**	**09 03 16.6**	**-0.3**
AUSP				*e*S		09 03 17.4	
RTCV	**Cerro Valdivia**	**0.96**	**93**	*e*P	**Pn**	**09 03 06.6**	**+0.4**
RTCV				*i* S	**Sn**	**09 03 21.7**	**-1.3**
SJA	**San Juan**	**0.99**	**73**	*e*P	**Pn**	**09 03 06.1**	**-0.4**
RTLL	**Cerro Villicun**	**1.13**	**65**	*e*P	**Pn**	**09 03 08.2**	**+0.3**
RTLL				*i* S	**Sn**	**09 03 25.3**	**-0.6**
JACH	**Jahuel**	**1.16**	**222**	*i* P	**Pn**	**09 03 08.6**	**+0.4**
JACH				*i* S	**Sn**	**09 03 27.3**	**+0.7**
ARCO	**CERRO ARCO**	**1.20**	**149**	*e*P	**Pn**	**09 03 09.4**	**+0.8**
ARCO				*e*S	**Sn**	**09 03 26.6**	**-0.8**
ARCO				AML	AML	09 03 32.1	
	comp=Z,1μm,0.4s						
CFAA	**Coronel Fontan**	**1.24**	**80**	*e*P	**Pn**	**09 03 09.1**	**+0.2**
CFAA				*e*P	**Pn**	**09 03 09.1**	**+0.2**
CMCH	**Combarbala**	**1.31**	**299**	⇓*i*P	**Pn**	**09 03 09.7**	**0.0**
CMCH				*i* S	**Sn**	**09 03 29.2**	**0.0**
AAGR	**Agrelo**	**1.45**	**151**	*e*P	**Pn**	**09 03 12.1**	**+0.8**
AAGR				*e*S	**Sn**	**09 03 31.6**	**-0.5**
AAGR				AML	AML	09 03 35.6	
PEL	**Peldehue**	**1.57**	**213**	*e*P	**Pn**	**09 03 12.6**	**-0.1**
PEL				*e*S	**Sn**	**09 03 34.5**	**0.0**
PEL				AML	AML	09 03 35.7	
	comp=E,1μm,0.4s						
ROCH	**El Roble**	**1.61**	**224**	⇓*i*P	**Pn**	**09 03 13.0**	**-0.3**
ROCH				*i* S	**Sn**	**09 03 35.2**	**-0.5**
ROCH				AML	AML	09 03 37.4	
	comp=N,934nm,0.5s						
CLCH	**Cerro Calan**	**1.73**	**205**	*e*P	**Pn**	**09 03 14.8**	**+0.3**
CLCH				*i* S	**Sn**	**09 03 38.5**	**+0.6**
CLCH				AML	AML	09 03 40.7	
	comp=E,556nm,0.4s						
SAN	**Santiago**	**1.83**	**207**	*e*P	**Pn**	**09 03 15.6**	**-0.1**
SAN				*i* S	**Sn**	**09 03 40.0**	**0.0**
AVIZ	**Vizcacheras**	**1.91**	**150**	*i* P	**Pn**	**09 03 17.1**	**+0.4**
AVIZ				*e*P		09 03 17.5	
AVIZ				*i* S	**Sn**	**09 03 41.1**	**-0.7**
ANTU	**Antumapu**	**1.92**	**205**	*e*P	**Pn**	**09 03 16.9**	**+0.1**
ANTU				*e*S	**Sn**	**09 03 42.0**	**0.0**
ANTU				AML	AML	09 03 43.0	
	comp=N,855nm,0.5s						
PCH	**Pirque**	**1.93**	**201**	*e*P	**Pn**	**09 03 17.3**	**+0.4**
PCH				*i* S	**Sn**	**09 03 42.8**	**+0.6**
ACAN	**Cantantal**	**2.16**	**103**	*e*P	**Pn**	**09 03 20.2**	**+0.6**
AVFE	**Valle Fertil**	**2.22**	**59**	*e*P	**Pn**	**09 03 20.9**	**+0.4**
AVFE				*e*S	**Sn**	**09 03 47.7**	**-0.8**
AVFE				AML	AML	09 03 52.7	
	comp=Z,143nm,0.4s						
CHCH	**Chadas Angostu**	**2.26**	**201**	*e*P	**Pn**	**09 03 21.0**	**0.0**
CHCH				*i* S	**Sn**	**09 03 49.5**	**0.0**
AGUA	**GUANDACOL**	**2.54**	**24**	*e*P	**Pn**	**09 03 26.1**	**+1.5**
LNV	**Longovilo**	**2.58**	**214**	*e*P	**Pn**	**09 03 23.7**	**-1.3**
VACH	**Vallenar**	**3.37**	**343**	*e*S	**Sn**	**09 04 14.1**	**-0.9**

*ISCJB **22** 09:18:22.1±0.3, 38°.44N±0°.01×21°.99E±0°.02, h7km±2km, Error ellipse: s-maj=2.7km s-min=2.3km az=175.0*
*ATH **22** 09:18:22.3, 38°.45N×21°.96E, h8km±1km, ML3.0*
*THE **22** 09:18:22.4, 38°.43N×21°.99E, h8km±1km, ML3.1/8, Error ellipse: s-maj=1.7km s-min=0.5km az=232.0*
*CSEM **22** 09:18:22.1±0.1, 38°.44N×21°.98E, h5km, ML3.0, Error ellipse: s-maj=2.3km s-min=2.1km az=78.0*
*SKO **22** 09:18:25.2, 38°.44N×22°.15E, h14km*

ISC 22 09:18:22.5±0.8,**38°44N**±0°01×**21°98E**±0°02,**h8**km±4km, **n84,** σ0ᵍ**73**/136,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**260**	P	**Pg**	**09 18 24.0**	**-0.3**
EFP				S	**Sg**	**09 18 25.3**	**-0.2**
EFP	**Efpalio**	**0.06**	**260**	*e*PG	**Pg**	**09 18 24.0**	**-0.3**
EFP				*e*SG	**Sg**	**09 18 25.3**	**-0.2**
EFP	**Efpalio**	**0.06**	**260**	*e*Pg	**Pg**	**09 18 24.0**	**-0.3**
EFP				*e*Sg	**Sg**	**09 18 25.3**	**-0.2**
KALE	**Kalithea**	**0.14**	**110**	P	**Pg**	**09 18 25.5**	**-0.1**
KALE				S	**Sg**	**09 18 28.0**	**+0.5**
KALE	**Kalithea**	**0.14**	**110**	*e*PG	**Pg**	**09 18 25.4**	**-0.1**
KALE				*e*SG	**Sg**	**09 18 28.6**	**+1.1**
KALE	**Kalithea**	**0.14**	**110**	*e*Pg	**Pg**	**09 18 25.4**	**-0.1**
KALE				S	**Sg**	**09 18 27.5**	**0.0**
KALE				*e*Sg	**Sg**	**09 18 28.6**	**+1.0**
LAKA	**Lakka**	**0.20**	**180**	P	**Pg**	**09 18 26.5**	**-0.1**
LAKA	**Lakka**	**0.20**	**180**	*e*PG	**Pg**	**09 18 26.4**	**-0.1**
LAKA	**Lakka**	**0.20**	**180**	*e*Pg	**Pg**	**09 18 26.4**	**-0.1**
UPR	**University Cam**	**0.21**	**225**	P	**Pg**	**09 18 27.0**	**+0.2**
UPR				S	**Sg**	**09 18 30.5**	**+0.8**
UPR	**University Cam**	**0.21**	**225**	P	**Pg**	**09 18 27.0**	**+0.2**
UPR				S	**Sg**	**09 18 30.2**	**+0.5**
PVO	**Paravola**	**0.40**	**297**	P	**Pg**	**09 18 30.0**	**-0.3**
PVO				S	**Sg**	**09 18 36.1**	**+0.6**
KLV	**Kalavryta, Ach**	**0.42**	**161**	P	**Pg**	**09 18 30.1**	**-0.5**
KLV				S	**Sg**	**09 18 35.7**	**-0.4**
KLV	**Kalavryta, Ach**	**0.42**	**161**	*e*PG	**Pg**	**09 18 30.1**	**-0.5**
KLV				*e*SB	**Sg**	**09 18 37.0**	**+0.9**
KLV	**Kalavryta, Ach**	**0.42**	**161**	P	**Pg**	**09 18 30.1**	**-0.5**
KLV				S	**Sg**	**09 18 37.0**	**+0.9**
KLV				*e*Sb	**Sg**	**09 18 37.0**	**+0.9**
DSF	**Desfina**	**0.43**	**93**	P	**Pg**	**09 18 30.3**	**-0.7**
DSF				S	**Sg**	**09 18 37.1**	**+0.5**
DSF	**Desfina**	**0.43**	**93**	*e*PG	**Pg**	**09 18 30.2**	**-0.7**
DSF				*e*SB	**Sg**	**09 18 37.6**	**+1.0**
DSF	**Desfina**	**0.43**	**93**	*e*Pg	**Pg**	**09 18 30.2**	**-0.7**
DSF				S	**Sg**	**09 18 36.9**	**+0.3**
DSF				*e*Sb	**Sg**	**09 18 37.6**	**+1.0**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**09 18 31.6**	**-0.6**
EVR				S	**Sg**	**09 18 39.0**	**+0.3**
EVR	**Evrytania**	**0.50**	**345**	*e*PB	**Pg**	**09 18 31.7**	**-0.5**
EVR				*e*SB	**Sg**	**09 18 38.7**	**0.0**
EVR	**Evrytania**	**0.50**	**345**	*e*Pb	**Pg**	**09 18 31.7**	**-0.5**
EVR				*e*Sb	**Sg**	**09 18 38.7**	**0.0**
EVR				S	**Sg**	**09 18 39.0**	**+0.3**
DRO	**Drossia**	**0.53**	**204**	P	**Pg**	**09 18 32.4**	**-0.3**
DRO				S	**Sg**	**09 18 40.7**	**+1.1**
DRO	**Drossia**	**0.53**	**204**	*e*PB	**Pg**	**09 18 32.3**	**-0.4**
DRO	**Drossia**	**0.53**	**204**	*e*Pb	**Pg**	**09 18 32.3**	**-0.4**
DRO				S	**Sg**	**09 18 40.7**	**+1.1**
RLS	**Riolos of Patr**	**0.55**	**227**	P	**Pg**	**09 18 32.9**	**-0.2**
RLS				S	**Sg**	**09 18 41.2**	**+0.8**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*PB	**Pg**	**09 18 33.0**	**-0.2**
RLS				*e*SB	**Sg**	**09 18 41.0**	**+0.6**
RLS	**Riolos of Patr**	**0.55**	**227**	*e*Pb	**Pg**	**09 18 33.0**	**-0.2**
RLS				*e*Sb	**Sg**	**09 18 41.0**	**+0.6**
GUR	**Goura**	**0.58**	**150**	P	**Pg**	**09 18 33.0**	**-0.8**
GUR				S	**Sg**	**09 18 41.7**	**+0.5**
GUR	**Goura**	**0.58**	**150**	*e*PB	**Pg**	**09 18 32.9**	**-0.8**
GUR				*e*SB	**Sg**	**09 18 41.7**	**+0.5**
GUR	**Goura**	**0.58**	**150**	*e*Pb	**Pg**	**09 18 32.9**	**-0.8**
GUR				S	**Sg**	**09 18 41.7**	**+0.5**
GUR				*e*Sb	**Sb**	**09 18 42.5**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	P	**Pg**	**09 18 33.7**	**-0.2**
MAKR				S	**Sb**	**09 18 42.9**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	*e*PB	**Pg**	**09 18 33.5**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.59**	**12**	*e*Pb	**Pg**	**09 18 33.5**	**-0.4**
MAKR				S	**Sg**	**09 18 42.4**	**+0.8**
AXAR	**Agios Charalam**	**0.63**	**58**	P	**Pg**	**09 18 34.0**	**-0.6**
AXAR	**Agios Charalam**	**0.63**	**58**	*e*PB	**Pg**	**09 18 34.0**	**-0.6**
AXAR				*e*SB	**Sb**	**09 18 43.7**	**-1.1**
AXAR	**Agios Charalam**	**0.63**	**58**	*e*Pb	**Pg**	**09 18 34.0**	**-0.6**
AXAR				*e*Sb	**Sb**	**09 18 43.7**	**-1.1**
PDO	**Prodromos**	**0.64**	**285**	P	**Pg**	**09 18 34.7**	**-0.2**
PDO	**Prodromos**	**0.64**	**285**	*e*PB	**Pg**	**09 18 34.4**	**-0.5**
PDO	**Prodromos**	**0.64**	**285**	*e*Pb	**Pg**	**09 18 34.4**	**-0.5**
PDO	**Prodromos**	**0.64**	**285**	P	**Pg**	**09 18 34.7**	**-0.2**
PDO				S	**Sb**	**09 18 44.7**	**-0.5**
AGG	**Agios Georgios**	**0.65**	**25**	*e*PB	**Pg**	**09 18 33.9**	**-1.1**
AGG				*e*SB	**Sg**	**09 18 44.2**	**+0.7**
AGG	**Agios Georgios**	**0.65**	**25**	*e*Pb	**Pg**	**09 18 33.9**	**-1.1**
AGG				*e*Sb	**Sg**	**09 18 44.2**	**+0.7**
LKR	**Lokris**	**0.83**	**75**	*e*PG	**Pg**	**09 18 38.0**	**-0.5

STKA	**Stephens Creek**	**32.03**	**256**	P		**P**	**09 30 06.4**	**-0.7**
	baz=34,SNR=22							
STKA				S		S	09 35 07.7	+30
	baz=34,SNR=4.6							
HTT	**Hallett**	**34.14**	**253**	P		**P**	**09 30 23.1**	**-1.7**
	baz=36,SNR=11							
COEN	**Coen**	**36.37**	**287**	P		P	09 30 47.1	+3.8
	baz=38,SNR=8.9							
QIS	**Mount Isa**	**36.50**	**275**	P		**P**	**09 30 46.4**	**+1.9**
	baz=38,SNR=5.4							
BBOO	**Buckleboo**	**36.59**	**254**	P		**P**	**09 30 43.1**	**-1.9**
	baz=38,SNR=12							
ASAR	**Alice Springs**	**40.41**	**267**	P		**P**	**09 31 16.4**	**+0.5**
	6.3nm,0.5s,baz=105,slow=7.0,SNR=159							
PATS	**Pohnpei**	**41.12**	**328**	P		P	09 31 26.5	+4.9
	baz=43,SNR=3.2							
WRA	**Warramunga Arr**	**41.31**	**273**	P		**P**	**09 31 24.3**	**+1.2**
	15nm,0.5s,baz=111,slow=8.0,SNR=136							
RKT	**Rikitea**	**41.68**	**92**	*e*LR		LR	09 41 07.1	
	239nm,29.5s							
WRKA	**Warakurna**	**44.87**	**263**	P		**P**	**09 31 51.0**	**+0.3**
	baz=47,SNR=6.8							
KNRA	**Kununurra**	**47.89**	**275**	P		P	09 32 17.0	+3.6
	baz=50,SNR=5.8							
RPN	**Rapa Nui**	**62.34**	**107**	P		**P**	**09 33 54.3**	**+0.8**
	1.5nm,0.4s,baz=195,slow=18,SNR=4.1							
PETK	**Petropavlovsk-**	**84.25**	**347**	P		**P**	**09 35 54.8**	**-2.4**
	3.3nm,0.7s,baz=96,slow=8.9,SNR=3.7							
NVAR	**Mina Array Bea**	**89.44**	**44**	P		**P**	**09 36 23.0**	**+0.7**
	1.1nm,0.7s,baz=225,slow=8.7,SNR=5.0							
MKAR	**Makanchi Array**	**115.07**	**311**	PKP		**PKPdf**	**09 41 59.8**	**-1.9**
	0.6nm,0.6s,baz=220,slow=2.0,SNR=5.7							
ZALV	**Zalesovo Beam**	**115.51**	**319**	PKP		**PKPdf**	**09 42 00.3**	**-1.9**
	0.4nm,0.3s,baz=126,slow=2.0,SNR=3.3							
KURBB	**Kurchatov Arra**	**118.45**	**315**	PKP		**PKPdf**	**09 42 06.1**	**-1.9**
	1.9nm,0.6s,baz=104,slow=1.8,SNR=14							
BVAR	**Borovoye Array**	**123.81**	**316**	PKP		**PKPdf**	**09 42 17.2**	**-1.1**
	1.9nm,0.5s,baz=132,slow=2.2,SNR=12							
AKTO	**Aktyubinsk**	**131.44**	**313**	PKP		**PKPdf**	**09 42 31.5**	**-1.4**
	1.0nm,0.6s,baz=146,slow=2.6,SNR=5.2							
ARCES	**ARCESS Array B**	**137.05**	**347**	PKhKP		PKPpre	09 42 31.3	
	2.1nm,0.8s,baz=90,slow=1.2,SNR=4.3							
JOF	**Joensuu**	**140.50**	**337**	*e*pkp		PKPpre	09 42 41.3	
KBZ	**Khabaz**	**142.31**	**304**	PKP		**PKPdf**	**09 42 56.0**	**+2.9**
	3.3nm,0.9s,baz=106,slow=4.3,SNR=4.3							
KAF	**Kangasniemi**	**142.71**	**339**	*e*pkp		PKPpre	09 42 47.4	
	3.3nm,0.6s							
FINES	**FINESS Array B**	**143.28**	**338**	PKP		PKPab	09 42 50.6	-2.0
	17nm,0.8s,baz=60,slow=4.6,SNR=52							
NB2	**NORSAR Subarra**	**147.34**	**349**	PKP		**PKPdf**	**09 43 01.0**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=7.7,slow=3.8							
NOA	**NORSAR Array B**	**147.34**	**349**	PKPbc		**PKPdf**	**09 43 01.4**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=7.2,slow=3.9,SNR=9.4							
NACGM	**Naroch**	**147.60**	**330**	*e*		**PKPbc**	**09 43 07.0**	**+1.6**
HFS	**Hagfors**	**147.71**	**346**	PKPbc		**PKPdf**	**09 43 02.6**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=58,slow=3.6,SNR=5.3							
MMAI	**Mount Meron Ar**	**148.63**	**286**	PKPbc		**PKPbc**	**09 43 09.6**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=73,slow=5.0,SNR=4.1							
EIL	**Elat**	**148.66**	**279**	PKPbc		**PKPbc**	**09 43 09.3**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=42,slow=6.1,SNR=4.2							
AKASG	**Malin Array Be**	**148.86**	**322**	PKPbc		**PKPbc**	**09 43 07.9**	**-0.8**
	comp=Z,6.4nm,0.5s,baz=51,slow=2.6,SNR=24							
BRTR	**Keskin Array B**	**149.74**	**299**	PKPbc		**PKPbc**	**09 43 10.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=157,slow=4.0,SNR=3.6							

*IDC **22** 09:28:31.0±0.5, 15°.47S×173°.27W, h0km, mb4.5/20, mb1 4.7/20, mb1mx4.5/39, mbtmp4.5/20, MS4.0/9, Ms1 4.0/9, ms1mx3.7/33, Error ellipse: s-maj=24.4km s-min=13.9km az=134.0*

*BJI **22** 09:28:30.5, 15°.18S×172°.93W, h8km, mB5.4/14, mb5.0/15, Ms5.3/8, Ms7 4.9/10*

*NEIC **22** 09:28:32.4±0.2, 15°.52S×173°.26W, h10km, mb4.8/37, Error ellipse: s-maj=11.5km s-min=6.4km az=148.0*

*ISCJB **22** 09:28:33.7±0.2, 15°.53S±0°.06×173°.29W±0°.04, h29km, mb4.7/62, MS4.2/11, Error ellipse: s-maj=9.1km s-min=5.6km az=170.5*

*MOS **22** 09:28:35.3±1.4, 15°.33S×173°.42W, h33km, mb5.1/12, Error ellipse: s-maj=16.2km s-min=12.2km az=59.5*

ISC 22 09:28:35.6±0.4, 15°.51S±0°.08×173°.22W±0°.06, h29km, n378, σ1s00/361, mb4.8/64, MS4.0/11, 110C-105D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**42**	*e*Pn			Pn	09 29 02.4	-6.7
AFI				Sn			Sn	09 29 21.9	-13
AFI				*e*Sn			Sb	09 29 22.7	-17
AFI	**Afiamalu**	**2.12**	**42**	Pn			Pn	09 29 02.5	-6.7
	378nm,0.3s,baz=199,slow=1.0,SNR=348								
AFI				Sn			Sn	09 29 21.9	-13
	3µm,0.3s,baz=82,slow=19,SNR=44								
AFI				LR			LR	09 29 52.6	
	comp=Z,1µm,19.8s,baz=227,slow=38								
RAR	**Rarotonga**	**13.97**	**116**	*e*Pn			Pn	09 31 47.2	-4.4
RAR				*e*Sn			**Sn**	**09 34 28.1**	**+2.3**
RAR	**Rarotonga**	**13.97**	**116**	Pn			Pn	09 31 46.7	-4.9
	4.6nm,0.3s,baz=270,slow=4.8,SNR=7.0								
RAR				LR			LR	09 36 04.2	
	comp=Z,459nm,18.7s,baz=263,slow=32								
DZM	**Mont Dzumac**	**20.32**	**248**	*e*P			**P**	**09 33 11.3**	**+1.8**
	48nm,0.8s								
DZM				*e*LR			LR	09 38 01.5	
	946nm,24.9s								
DZM	**Mont Dzumac**	**20.32**	**248**	*e*P			**P**	**09 33 08.6**	**-1.0**
	55nm,0.6s								
DZM				*e*S			**S**	**09 36 57.3**	**+1.3**
DZM	**Mont Dzumac**	**20.32**	**248**	P			**P**	**09 33 09.3**	**-0.2**
	6.8nm,0.7s,baz=76,slow=19,SNR=7.1								
DZM				LR			LR	09 39 50.6	
	comp=Z,637nm,19.4s,baz=34,slow=34								
PAE	**Paea**	**22.76**	**99**	*e*T			T	09 56 46.7	
	4.3nm,0.3s								
PPT	**Papeete**	**22.76**	**98**	LR			LR	09 39 55.2	
	comp=Z,306nm,20.5s,baz=266,slow=30								
PPT2	**Papeete2**	**22.76**	**99**	*e*LQ			LQ	09 37 59.1	
	602nm,24.2s								
PPT2				*e*LR			LR	09 39 03.2	
	724nm,24.8s								
PPT2	**Papeete2**	**22.76**	**99**	*e*T			T	09 56 47.9	
	9.8nm,0.3s								
TIAR	**Tiarei**	**22.98**	**98**	*e*T			T	09 57 03.3	
	5.2nm,0.3s								
TVO	**Taravao**	**23.08**	**99**	*e*T			T	09 57 11.0	
	3.0nm,0.3s								
TBI	**Tubuai**	**23.70**	**113**	*e*LR			LR	09 39 23.1	
	801nm,26.8s								
TBI	**Tubuai**	**23.70**	**113**	*e*T			T	09 58 06.2	
	22nm,0.3s								
URZ	**Urewera**	**24.22**	**199**	*e*P			**P**	**09 33 50.0**	**+0.2**
URZ	**Urewera**	**24.22**	**199**	P			**P**	**09 33 49.7**	**-0.1**
	9.6nm,0.7s,baz=121,slow=8.9,SNR=4.2								
VAH	**Vaihoa**	**24.68**	**93**	*e*T			T	09 59 07.1	
	8.7nm,0.3s								
HNR	**Honiara**	**26.87**	**280**	LR			LR	09 43 29.2	
	comp=Z,314nm,20.1s,baz=114,slow=34								
RKT	**Rikitea**	**36.80**	**108**	*e*S			**S**	**09 41 22.3**	**-1.4**
	237nm,26.8s								
RKT				*e*LR			LR	09 45 37.1	
	406nm,25.0s								
RKT	**Rikitea**	**36.80**	**108**	*e*T			T	10 14 24.2	
	7.1nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**39.14**	**329**	T			T	10 17 19.7	
	baz=152,slow=77,SNR=26								
H11S3	**WAKE ISLAND Hy**	**39.16**	**329**	T			T	10 17 21.7	
	baz=152,slow=77,SNR=25								
H11S1	**WAKE ISLAND Hy**	**39.16**	**329**	T			T	10 17 22.7	
	baz=152,slow=77,SNR=22								
H11N3	**WAKE ISLAND Hy**	**40.09**	**330**	T			T	10 18 52.4	
	baz=152,slow=77,SNR=33								
H11N1	**WAKE ISLAND Hy**	**40.09**	**330**	T			T	10 18 50.6	
	baz=152,slow=77,SNR=31								
H11N2	**WAKE ISLAND Hy**	**40.10**	**330**	T			T	10 18 53.8	
	baz=152,slow=77,SNR=34								
COEN	**Coen**	**42.14**	**266**	*e*P			**P**	**09 36 26.3**	**+0.4**
	136nm,0.8s								
STKA	**Stephens Creek**	**44.13**	**240**	*e*P			**P**	**09 36 40.6**	**-1.2**
	3.1nm,1.0s								
STKA	**Stephens Creek**	**44.13**	**240**	P			**P**	**09 36 40.5**	**-1.2**
	11nm,0.8s,baz=75,slow=6.8,SNR=12								
STKA				LR			LR	09 52 49.1	
	comp=Z,121nm,20.9s,baz=37,slow=33								
JAY	**Jayapura**	**47.17**	**281**	LR			LR	09 55 56.3	
	comp=Z,188nm,19.4s,baz=303,slow=35								
WRAB	**Tennant Creek**	**49.97**	**257**	*e*P			**P**	**09 37 25.6**	**-1.9**
WRAB	**Tennant Creek**	**49.97**	**257**	*e*P			**P**	**09 37 25.6**	**-1.9**
WRA	**Warramunga Arr**	**49.98**	**257**	P			**P**	**09 37 25.6**	**-2.0**
WRA				PcP			**PcP**	**09 38 47.1**	**-0.4**
WRA	**Warramunga Arr**	**49.98**	**257**	P			**P**	**09 37 25.6**	**-2.0**
	6.6nm,0.8s,baz=92,slow=6.8,SNR=73								
WRA				PcP			**PcP**	**09 38 47.1**	**-0.4**
	3.2nm,0.7s,baz=90,slow=3.7,SNR=7.8								
WRA				LR			LR	09 57 18.5	
	comp=Z,254nm,19.4s,baz=90,slow=35								
AS31	**Alice Springs**	**50.24**	**252**	*e*P			**P**	**09 37 27.8**	**-1.7**
ASAR	**Alice Springs**	**50.24**	**252**	P			**P**	**09 37 27.9**	**-1.7**
ASAR	**Alice Springs**	**50.24**	**252**	P			**P**	**09 37 27.9**	**-1.7**
	11nm,0.5s,baz=90,slow=7.5,SNR=129								
ASAR				LR			LR	09 57 17.2	
	comp=Z,415nm,20.9s,baz=89,slow=34								
VNDA	**Vanda**	**63.29**	**186**	*e*P			**P**	**09 39 03.5**	**+2.3**
	4.8nm,1.0s								
KAPI	**Kappang**	**66.55**	**271**	*e*P			**P**	**09 39 22.6**	**-0.9**
	12nm,0.3s								
MAJO	**Matsushiro**	**69.13**	**320**	*e*P			**P**	**09 39 39.6**	**+0.3**
MAJO				pmax			pmax		
	comp=Z,24nm,0.9s								
ASAJ	**Asahikawa**	**71.72**	**328**	P			**P**	**09 39 55.8**	**+0.8**
ASAJ	**Asahikawa**	**71.72**	**328**	P			**P**	**09 39 55.8**	**+0.8**
	comp=Z,16nm,0.8s,baz=194,slow=4.2,SNR=6.1								
CHGN	**Chignik**	**72.61**	**9**	*e*P			P	09 39 57.1	-2.8
PETK	**Petropavlovsk-**	**72.78**	**342**	P			**P**	**09 40 00.9**	**-0.2**
PETK	**Petropavlovsk-**	**72.78**	**342**	P			**P**	**09 40 00.9**	**-0.2**
PETK	**Petropavlovsk-**	**72.78**	**342**	P			**P**	**09 40 00.9**	**-0.2**
	comp=Z,13nm,0.8s,baz=132,slow=10,SNR=9.5								
YBH	**Yreka Blue Hor**	**73.58**	**37**	P			**P**	**09 40 06.4**	**+0.2**
YBH	**Yreka Blue Hor**	**73.58**	**37**	P			**P**	**09 40 06.4**	**+0.2**
	comp=Z,5.6nm,0.9s,baz=324,slow=4.0,SNR=9.4								
YSS	**Yuzh-Sakhalins**	**73.66**	**330**	⇑*iP*			**P**	**09 40 06.8**	**+0.4**
YSS				pmax			pmax		
	comp=Z,30nm,0.9s								
IRM	**Iron Mountain**	**74.08**	**47**	⇑P			**P**	**09 40 09.1**	**-0.1**
	baz=74								
M04C	**Macdoel**	**74.12**	**37**	⇑P			**P**	**09 40 10.1**	**+0.7**
	baz=74								
NVAR	**Mina Array Bea**	**74.30**	**42**	P			**P**	**09 40 10.9**	**+0.3**
NVAR	**Mina Array Bea**	**74.30**	**42**	P			**P**	**09 40 10.9**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=226,slow=9.0,SNR=6.6								
QSPA	**South Pole Qui**	**74.54**	**180**	*e*P			**P**	**09 40 12.7**	**+1.2**
QSPA	**South Pole Qui**	**74.54**	**180**	P			**P**	**09 40 12.5**	**+1.0**
	comp=Z,7.1nm,0.7s,baz=44,slow=1.7,SNR=17								
TPH	**Tonopah**	**74.80**	**43**	*e*P			**P**	**09 40 13.9**	**+0.4**
TPH	**Tonopah**	**74.80**	**43**	*e*P			**P**	**09 40 13.9**	**+0.4**
J04D	**Umpqua Nationa**	**74.88**	**36**	⇓P			**P**	**09 40 13.7**	**-0.1**
	baz=75								
I04A	**Tendick Farm,**	**75.06**	**36**	⇓P			**P**	**09 40 14.5**	**-0.1**
	baz=75								
MOD	**Modoc**	**75.10**	**38**	*e*P			**P**	**09 40 15.4**	**+0.3**
	comp=Z,9.3nm,0.9s								
Z14A	**Wintersburg**	**75.25**	**49**	⇓P			**P**	**09 40 16.2**	**+0.2**
	baz=75								
G03D	**McMinnville, O**	**75.50**	**34**	⇓P			**P**	**09 40 17.5**	**+0.4**
	baz=76								
Y14A	**Wickenburg**	**75.50**	**48**	⇓P			**P**	**09 40 17.1**	**-0.4**
	baz=76								
I05D	**Terrebonne, OR**	**76.00**	**36**	⇓P			**P**	**09 40 20.7**	**+0.6**
	baz=76								
R11A	**Troy Canyon, C**	**76.02**	**43**	⇑P			**P**	**09 40 20.6**	**+0.1**
	baz=76								
WVOR	**Wild Horse Val**	**76.41**	**38**	*e*P			**P**	**09 40 22.8**	**+0.2**
WVOR				pmax			pmax		
	comp=Z,8.0nm,1.0s								
WVOR	**Wild Horse Val**	**76.41**	**38**	*e*P			**P**	**09 40 22.8**	**+0.2**
	comp=Z,7.7nm,1.0s								
I07A	**Izee**	**76.89**	**37**	*e*P			**P**	**09 40 25.6**	**+0.5**
	comp=Z,71nm,2.5s								
VLA	**Vladivostok**	**77.00**	**322**	⇑*e*P			**P**	**09 40 25.8**	**+0.2**
VLA				pmax			pmax		
	comp=Z,8.0nm,0.7s								
WUAZ	**Wupatki**	**77.45**	**47**	⇓P			**P**	**09 40 28.5**	**-0.1**
	baz=78								
USRK	**Ussuriysk Arra**	**77.57**	**323**	P			**P**	**09 40 29.6**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=64,slow=8.7,SNR=4.9								
G08A	**Pilot Rock**	**77.92**	**36**	*e*P			**P**	**09 40 31.1**	**+0.2**
	comp=Z,7.9nm,1.0s								
X18A	**Snowflake**	**77.99**	**49**	⇓P			**P**	**09 40 31.5**	**-0.2**
	baz=78								
E07A	**Sunnyside**	**78.19**	**34**	*e*P			**P**	**09 40 32.5**	**+0.2**
	comp=Z,9.7nm,0.9s								
HAWA	**Hanford**	**78.27**	**35**	*e*P			**P**	**09 40 33.0**	**+0.2**
	comp=Z,8.2nm,0.9s								
MVU	**Marysvale**	**78.36**	**44**	*e*P			**P**	**09 40 34.8**	**+1.1**
	comp=Z,5.2nm,0.8s								
W18A	**Petrified Fore**	**78.43**	**48**	⇑P			**P**	**09 40 34.3**	**+0.2**
	baz=79								
MFID	**Camas Ranch**	**78.66**	**39**	*e*P			**P**	**09 40 35.2**	**+0.1**
	comp=Z,8.4nm,1.0s								
121A	**Cookes Peak, D**	**78.68**	**52**	⇓P			**P**	**09 40 34.7**	**-0.8**
	baz=79								
DUG	**Dugway**	**78.82**	**43**	*e*P			**P**	**09 40 36.3**	**+0.2**
DUG				pmax			pmax		
	comp=Z,59nm,2.6s								
DUG	**Dugway**	**78.82**	**43**	*e*P			**P**	**09 40 36.3**	**+0.2**
	comp=Z,58nm,2.6s								
DUG	**Dugway**	**78.82**	**43**	⇑P			**P**	**09 40 35.9**	**-0.2**
	baz=79								
D08A	**Wollman Farm,**	**79.01**	**34**	*e*P			**P**	**09 40 36.9**	**+0.2**
	comp=Z,11nm,1.1s								
E09A	**Wood Farm, Sta**	**79.11**	**35**	*e*P			**P**	**09 40 37.2**	**-0.1**
	comp=Z,122nm,3.0s								
F10A	**Beach Ranch, E**	**79.31**	**36**	*e*P			**P**	**09 40 37.9**	**-0.7**
	comp=Z,9.1nm,0.8s								
B08A	**Colville Reser**	**79.58**	**33**	*e*P			**P**	**09 40 39.2**	**-0.7**
	comp=Z,5.7nm,0.8s								
HLID	**Hailey**	**79.60**	**39**	*e*P			**P**	**09 40 40.6**	**+0.2**
	comp=Z,10nm,0.9s								
HLID	**Hailey**	**79.60**	**39**	⇓P			**P**	**09 40 40.3**	**0.0**
	baz=80								
SRU	**San Rafael**	**79.80**	**45**	*e*P			**P**	**09 40 41.9**	**+0.4**
SRU				pmax			pmax		
	comp=Z,7.0nm,1.0s								
SRU	**San Rafael**	**79.80**	**45**	*e*P			**P**	**09 40 41.9**	**+0.4**
	comp=Z,6.5nm,1.0s								
C09A	**Chrisman Ranch**	**79.80**	**34**	*e*P			**P**	**09 40 40.6**	**-0.5**
	comp=Z,5.2nm,0.7s								
JLU	**Jordanelle**	**79.93**	**43**	*e*P			**P**	**09 40 41.9**	**-0.4**
	comp=Z,4.2nm,0.9s								
LENM	**Lemitar**	**80.01**	**50**	*e*P			**P**	**09 40 45.7**	**+2.9**
425A	**Indio Mountain**	**80.08**	**54**	⇓P			**P**	**09 40 43.0**	**-0.1**
	baz=80								
626A	**Big Bend Ranch**	**80.25**	**56**	⇓P			**P**	**09 40 43.3**	**-0.8**
	baz=80								
NJ2	**Nanjing**	**80.36**	**307**	*e*P			**P**	**09 40 45.4**	**+0.9**
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
526A	**Mary Lane Ranc**	**80.49**	**55**	⇓P			**P**	**09 40 44.4**	**-1.0**
	baz=81								
TXAR	**Lajitas Array**	**80.53**	**56**	P			**P**	**09 40 46.0**	**+0.4**
TXAR	**Lajitas Array**	**80.53**	**56**	P			**P**	**09 40 46.0**	**+0.4**
	comp=Z,3.4nm,1.1s,baz=222,slow=5.2,SNR=16								
Y23A	**Lovelace Mesa,**	**80.60**	**51**	⇓P			**P**	**09 40 45.4**	**-0.6**
	baz=81								
NEW	**Newport**	**80.70**	**34**	P			**P**	**09 40 45.1**	**-0.9**
NEW	**Newport**	**80.70**	**34**	P			**P**	**09 40 45.1**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=246,slow=8.6,SNR=3.6								
ANMO	**Albuquerque**	**80.74**	**50**	*e*P			**P**	**09 40 47.2**	**+0.5**
	comp=Z,81nm,3.0s								
225A	**Deer Hill, Car**	**80.76**	**53**	⇑P			**P**	**09 40 46.8**	**0.0**
	baz=81								
426A	**McDonald Obser**	**80.78**	**55**	⇓P			**P**	**09 40 46.6**	**-0.4**
	baz=81								
627A	**Terlingua Ranc**	**80.80**	**56**	⇓P			**P**	**09 40 47.1**	**0.0**
	baz=81								
Z24A	**Sheeppen Canyo**	**80.86**	**52**	⇑P			**P**	**09 40 47.2**	**-0.1**
	baz=81								
527A	**Woodward Ranch**	**80.90**	**55**	⇑P			**P**	**09 40 47.3**	**-0.3**
	baz=81								
TNA	**Tin City**	**80.92**	**2**	*e*P			**P**	**09 40 47.1**	**+0.5**
	comp=Z,6.3nm,1.1s								
Y24A	**Capitan**	**81.06**	**51**	⇑P			**P**	**09 40 47.8**	**-0.6**
	baz=81,SNR=5.6								
W23A	**Werner Place,**	**81.06**	**50**	⇑P			**P**	**09 40 48.2**	**-0.2**
	baz=81								
125A	**Gardner Draw,**	**81.11**	**53**	⇑P			**P**	**09 40 48.8**	**+0.2**
	baz=81								
628A	**Black Gap, Mar**	**81.22**	**56**	⇓P			**P**	**09 40 48.9**	**-0.3**
	baz=81								
MCMT	**McKenzie Canyo**	**81.23**	**39**	*e*P			**P**	**09 40 49.3**	**+0.1**
	comp=Z,3.1nm,0.9s								
226B	**Tecolote Peak,**	**81.25**	**53**	⇓P			**P**	**09 40 48.9**	**-0.4**
	baz=81,SNR=6.3								
CN2	**Changchun**	**81.28**	**320**	*e*P			**P**	**09 40 48.5**	**-0.6**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
V23A	**Ortiz Mt. (NFS**	**81.29**	**49**	⇑P			**P**	**09 40 50.0**	**+0.3**
	baz=82								
Z25A	**Roswell**	**81.33**	**52**	⇑P			**P**	**09 40 50.0**	**+0.2**
	baz=82								
427A	**Hayter Ranch,**	**81.35**	**55**	⇓P			**P**	**09 40 49.7**	**-0.3**
	baz=82,SNR=5.5								
U23A	**El Rito**	**81.54**	**49**	⇓P			**P**	**09 40 50.7**	**-0.3**
	baz=82,SNR=6.3								
528A	**Cox Ranch, San**	**81.56**	**56**	⇑P			**P**	**09 40 51.1**	**+0.1**
	baz=82								
126A	**Clayton Basin,**	**81.60**	**53**	⇑P			**P**	**09 40 50.9**	**-0.3**
	baz=82								
Y25A	**Mesa, Roswell**	**81.62**	**51**	⇓P			**P**	**09 40 51.3**	**0.0**
	baz=82								
W24A	**Lazy 6 Ranch,**	**81.63**	**50**	⇑P			**P**	**09 40 51.3**	**-0.2**
	baz=82								
MSO	**Missoula**	**81.67**	**37**	*e*P			**P**	**09 40 50.3**	**-0.9**
	comp=Z,7.7nm,1.0s								
MSO	**Missoula**	**81.67**	**37**	⇓P			**P**	**09 40 50.8**	**-0.5**
	baz=82,SNR=6.1								
DLMT	**Dillon**	**81.67**	**38**	*e*P			**P**	**09 40 51.6**	**+0.3**
BSMT	**Bassoo Peak**	**81.75**	**35**	*e*P			**P**	**09 40 51.0**	**-0.7**
428A	**Kincaid Ranch,**	**81.87**	**55**	⇑P			**P**	**09 40 52.6**	**0.0**
	baz=82								
Z26A	**Caprock**	**81.89**	**52**	⇓P			**P**	**09 40 51.5**	**-1.2**
	baz=82,SNR=6.3								
MOOW	**Moose Ponds**	**81.97**	**40**	*e*P			**P**	**09 40 53.7**	**+0.7**
	comp=Z,23nm,2.0s								
T23A	**Casias Ranch,**	**81.97**	**48**	⇑P			**P**	**09 40 53.2**	**-0.1**
	baz=82								
LRM	**Limekiln Ridge**	**82.00**	**38**	*e*P			**P**	**09 40 53.1**	**-0.1**
	comp=Z,14nm,0.8s								
529A	**Stev Forest Ra**	**82.00**	**56**	⇑P			**P**	**09 40 52.9**	**-0.4**
	baz=82								
328A	**Wristen Ranch,**	**82.03**	**54**	⇓P			**P**	**09 40 53.2**	**-0.2**
	baz=82								
CHMT	**Chamberlain Mo**	**82.11**	**37**	*e*P			**P**	**09 40 53.0**	**-0.7**
127A	**Arkansas Junct**	**82.12**	**53**	⇑P			**P**	**09 40 53.9**	**-0.1**
	baz=82								
FLWY	**Flagg Ranch**	**82.16**	**40**	*e*P			**P**	**09 40 54.7**	**+0.7**
	comp=Z,14nm,1.1s								
PDAR	**Pinedale Array**	**82.23**	**42**	P			**P**	**09 40 53.8**	**-0.7**
PDAR	**Pinedale Array**	**82.23**	**42**	P			**P**	**09 40 53.8**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=211,slow=3.3,SNR=15								
SMCO	**Snowmass**	**82.26**	**46**	*e*P			**P**	**09 40 55.0**	**+0.1**
	comp=Z,127nm,2.9s								
YMR	**Madison River**	**82.30**	**40**	*e*P			**P**	**09 40 55.3**	**+0.6**
	comp=Z,45nm,1.6s								
W25A	**X Bar L Ranch,**	**82.33**	**50**	⇓P			**P**	**09 40 54.8**	**-0.3**
	baz=82								
BOZ	**Bozeman (W)**	**82.39**	**38**	*e*P			**P**	**09 40 55.2**	**+0.1**
BOZ				pmax			pmax		
	comp=Z,9.0nm,1.4s								
BOZ	**Bozeman (W)**	**82.39**	**38**	*e*P			**P**	**09 40 55.2**	**+0.1**
	comp=Z,9.3nm,1.4s								
H17A	**Grant Village**	**82.40**	**40**	*e*P			**P**	**09 40 56.6**	**+1.3**
	comp=Z,2.4nm,0.5s								
COLA	**College**	**82.44**	**11**	*e*P			**P**	**09 40 53.8**	**-0.9**
COLA				pmax			pmax		
	comp=Z,4.0nm,1.1s	

N23A	Red Feather La	83.74	45	⇑P		P	09 41 01.8	-0.6
	baz=84,SNR=5.2							
X28A	Dimmitt	83.75	52	⇓P		P	09 41 02.0	-0.3
	baz=84							
034A	Hebbronville	83.75	60	⇑P		P	09 41 01.9	-0.5
	baz=84							
V27A	Dan Oppiter Fa	83.77	50	⇓P		P	09 41 02.3	-0.1
	baz=84							
532A	Rocksprings	83.86	57	⇓P		P	09 41 02.5	-0.4
	baz=84							
J21A	Lysite	83.87	42	⇓P		P	09 41 02.3	-0.6
	baz=84,SNR=9.1							
Y29A	Porterfield Fa	83.89	53	⇓P		P	09 41 02.9	-0.2
	baz=84							
L22A	Ellis Ranch, M	83.93	44	⇓P		P	09 41 03.6	+0.4
	baz=84							
O24A	Longmont	84.00	46	⇑P		P	09 41 04.0	+0.4
	baz=84							
U27A	Thompson Grove	84.04	50	⇓P		P	09 41 03.2	-0.6
	baz=84							
H20A	Greybull	84.05	41	⇑P		P	09 41 03.3	-0.3
	baz=84							
Q25A	Bedland, Calha	84.05	47	⇑P		P	09 41 03.6	-0.4
	baz=84							
S26A	Kim	84.06	49	⇑P		P	09 41 03.6	-0.3
	baz=84							
JCT	Junction City	84.07	56	⇑P		P	09 41 03.3	-0.7
	baz=84							
Z30A	Sanderson Ranc	84.08	53	⇓P		P	09 41 03.6	-0.4
	baz=84							
X29A	Tulia	84.09	52	⇑P		P	09 41 03.9	-0.2
	baz=84							
F19A	Roth Farm, Mol	84.12	39	⇓P		P	09 41 04.0	0.0
	baz=84,SNR=8.6							
K22A	Casper	84.15	43	⇓P		P	09 41 03.7	-0.6
	baz=84							
I21A	Big Trails, Te	84.19	42	⇓P		P	09 41 03.6	-0.8
	baz=84,SNR=8.8							
633A	Saathoff Ranch	84.20	57	⇓P		P	09 41 04.6	0.0
	baz=84							
231A	Bronte	84.20	55	⇑P		P	09 41 04.0	-0.6
	baz=84							
432A	Menard	84.22	56	⇓P		P	09 41 04.1	-0.6
	baz=84							
834A	Tilden	84.23	59	⇓P		P	09 41 04.9	+0.1
	baz=84							
AMTX	Amarillo	84.28	52	*e*P		P	09 41 04.9	-0.1
	comp=Z,14nm,1.0s							
AMTX	Amarillo	84.28	52	⇓P		P	09 41 04.3	-0.8
	baz=84							
P25A	Willow Gulch B	84.36	47	⇓P		P	09 41 05.5	+0.1
	baz=84							
R26A	Arlington	84.36	48	⇑P		P	09 41 04.8	-0.7
	baz=84,SNR=7.8							
T27A	Campo	84.38	49	⇓P		P	09 41 05.2	-0.4
	baz=85							
W29A	Amraillo	84.40	51	⇑P		P	09 41 05.1	-0.5
	baz=85							
332A	Millersview	84.45	55	⇓P		P	09 41 05.4	-0.5
	baz=85							
L23A	Garrett	84.45	44	⇑P		P	09 41 05.0	-0.9
	baz=85,SNR=7.1							
U28A	Mallet	84.47	50	⇓P		P	09 41 05.0	-1.0
	baz=85							
Y30A	Stafford Cattl	84.49	53	⇓P		P	09 41 05.9	-0.2
	baz=85							
E19A	Rath Farm, Rou	84.52	39	⇑P		P	09 41 05.9	-0.1
	baz=85,SNR=6.4							
533A	Kerrville	84.54	57	⇓P		P	09 41 05.8	-0.6
	baz=85							
F20A	Billings	84.59	40	⇑P		P	09 41 06.2	-0.2
	baz=85							
BILL	Bilibino	84.64	352	*e*P		P	09 41 03.1	-2.8
BILL				pmax	pmax			
	comp=Z,11nm,1.3s							
O25A	Wiggins	84.65	46	⇑P		P	09 41 06.5	-0.3
	baz=85							
232A	Coleman	84.71	55	⇑P		P	09 41 06.9	-0.4
	baz=85							
H21A	Big Horn, Sher	84.72	41	⇓P		P	09 41 07.0	-0.1
	baz=85							
X30A	Coker Ranch, T	84.72	52	⇓P		P	09 41 06.4	-0.9
	baz=85							
433A	Art	84.74	56	⇓P		P	09 41 06.8	-0.5
	baz=85							
I22A	9 Mile Ranch,	84.74	42	⇓P		P	09 41 07.0	-0.2
	baz=85							
D19A	Cripps Ranch,	84.80	38	⇓P		P	09 41 07.4	+0.1
	baz=85,SNR=9.7							
R27A	Eads	84.82	48	⇑P		P	09 41 06.7	-1.0
	baz=85							
T28A	Walsh	84.85	49	⇓P		P	09 41 06.9	-1.0
	baz=85							
Z31A	Sharp Cattle R	84.86	54	⇓P		P	09 41 07.4	-0.5
	baz=85							
L24A	Wheatland	84.93	44	⇑P		P	09 41 08.2	0.0
	baz=85							
E20A	Meyer Farm, Mu	84.93	39	⇓P		P	09 41 07.8	-0.2
	baz=85,SNR=5.6							
P26A	Davis Ranch, A	84.96	47	⇑P		P	09 41 08.5	+0.1
	baz=85							
534A	Blanco	84.97	57	⇓P		P	09 41 08.1	-0.4
	baz=85							
C19A	Slack Wire Ran	84.98	38	⇓P		P	09 41 08.2	0.0
	baz=85,SNR=7.5							
ABTX	Abilene, Hawle	84.99	54	*e*P		P	09 41 08.3	-0.3
	comp=Z,17nm,1.0s							
ABTX	Abilene, Hawle	84.99	54	⇑P		P	09 41 08.3	-0.3
	baz=85							
Y31A	Rekieta Farm,	85.01	53	⇓P		P	09 41 08.1	-0.5
	baz=85							
H22A	Clearmont	85.14	41	⇑P		P	09 41 09.2	0.0
	baz=85							
D20A	Manuel Ranch,	85.21	38	⇓P		P	09 41 09.6	+0.2
	baz=85,SNR=9.5							
233A	Rising Star	85.35	55	⇓P		P	09 41 09.9	-0.5
	baz=86							
Z32A	Haskell	85.37	54	⇑P		P	09 41 10.5	+0.1
	baz=86							
V30A	Spur Ranch, Mi	85.37	51	⇓P		P	09 41 10.4	-0.1
	baz=86							
B19A	Brinkman Farms	85.40	37	⇑P		P	09 41 10.5	+0.3
	baz=86							
434A	Burnet	85.42	56	⇑P		P	09 41 10.4	-0.4
	baz=86							
X31A	McDonald Ranch	85.48	52	⇓P		P	09 41 10.1	-0.9
	baz=86							
P27A	Ficken Ranch,	85.50	47	⇓P		P	09 41 10.3	-0.8
	baz=86							
133A	Hamilton Ranch	85.55	55	⇓P		P	09 41 10.6	-0.8
	baz=86							
R28A	Tribune	85.56	48	⇓P		P	09 41 10.7	-0.7
	baz=86							
C20A	Veseth Ranch,	85.59	38	⇓P		P	09 41 11.1	-0.2
	baz=86,SNR=8.2							
E21A	Keefer Ranch,	85.59	39	⇑P		P	09 41 11.5	+0.1
	baz=86							
334A	Lometa	85.63	56	⇓P		P	09 41 11.0	-0.7
	baz=86							
Y32A	R-V Farms, Ver	85.66	53	⇓P		P	09 41 11.5	-0.4
	baz=86							
W31A	Holland Ranch,	85.71	52	⇓P		P	09 41 12.0	-0.1
	baz=86							
A19A	Klindworth Far	85.75	37	⇑P		P	09 41 11.9	-0.1
	baz=86							
D21A	La Casta Ranch	85.89	39	⇑P		P	09 41 12.9	+0.1
	baz=86							
Z33A	Whitaker Ranch	85.92	54	⇓P		P	09 41 13.1	0.0
	baz=86							
X32A	Elmer	85.93	53	⇑P		P	09 41 13.0	-0.2
	baz=86							
234A	Clairette	85.95	55	⇓P		P	09 41 13.4	0.0
	baz=86							
V31A	Spring Creek L	86.01	51	⇑P		P	09 41 14.0	+0.4
	baz=86							
134A	White-Moore Ra	86.20	55	⇑P		P	09 41 14.7	+0.2
	baz=86							
W32A	Sentinel	86.22	52	⇓P		P	09 41 14.7	0.0
	baz=86							
F23A	Volborg	86.25	41	⇑P		P	09 41 15.0	+0.4
	baz=86							
Y33A	Hilltop Ranch,	86.29	53	⇓P		P	09 41 14.7	-0.3
	baz=86							
R30A	Dighton	86.64	49	⇑P		P	09 41 16.2	-0.5
	baz=87							
J26A	Sides Ranch, S	86.71	43	⇑P		P	09 41 16.5	-0.4
	baz=87							
135A	Vickery Place,	86.72	55	⇓P		P	09 41 17.2	0.0
	baz=87							
F24A	Ekalaka	86.91	41	⇑P		P	09 41 18.2	+0.4
	baz=87							
O29A	4D Ranch, Culb	86.98	47	⇑P		P	09 41 18.4	0.0
	baz=87							
Z35A	Perchaven, San	87.11	54	⇑P		P	09 41 18.7	-0.3
	baz=87							
J27A	Elkhorn Farm,	87.40	44	⇓P		P	09 41 19.8	-0.5
	baz=88							
I27A	Quinn	87.70	43	⇑P		P	09 41 21.0	-0.7
	baz=88							
R32A	Long Quarter,	87.84	49	⇑P		P	09 41 22.1	-0.3
	baz=88							
GYA	Guiyang	88.24	298	*e*P		P	09 41 25.0	+0.3
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
I28A	Midland	88.26	43	⇓P		P	09 41 24.2	-0.1
	baz=88							
HHC	Hu-ho-hao-te	89.22	313	*e*P		P	09 41 28.3	-0.7
HHC				pP		PcP	09 41 33.8	+3.4
HHC				sP		sP	09 41 37.9	-3.8
HHC				PP		PP	09 45 02.3	+2.3
HHC				S		S	09 52 17.4	+0.7
HHC				sS		ScS	09 52 26.4	+4.9
HHC				SS		SS	09 58 14.6	+3.0
HHC				pmax	pmax			
	comp=Z,31nm,1.1s							
HHC				pmax	pmax			
	comp=Z,180nm,4.9s							
HHC				LR	LR			
	comp=Z,290nm,15.1s							
HHC				LR	LR			
	comp=Z,400nm,15.3s							
HHC				LR	LR			
	comp=Z,250nm,15.3s							
YKA	Yellowknife Ar	90.13	23	P		P	09 41 31.6	-1.0
YKA	Yellowknife Ar	90.13	23	P		P	09 41 31.6	-1.0
	comp=Z,0.6nm,0.8s,baz=232,slow=4.6,SNR=12							
KMI	Kunming	91.22	296	P		P	09 41 40.5	+1.6
KMI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CMAR	Chiang Mai Arr	92.81	288	P		P	09 41 44.3	-1.8
CMAR	Chiang Mai Arr	92.81	288	P		P	09 41 44.3	-1.8
	comp=Z,1.1nm,0.3s,baz=74,slow=3.2,SNR=6.0							
LZH	Lanzhou	93.42	306	*e*P		P	09 41 47.5	-1.2
LZH				pP		PcP	09 41 50.8	+1.5
LZH				sP		sP	09 41 52.3	-9.1
LZH				PP		PP	09 45 35.6	+2.2
LZH				pmax	pmax			
	comp=Z,15nm,1.5s							
LZH				pmax	pmax			
	comp=Z,78nm,9.2s							
LZH				LR	LR			
	comp=Z,190nm,18.0s							
LZH				LR	LR			
	comp=Z,190nm,17.5s							
LZH				LR	LR			
	comp=Z,230nm,19.8s							
ULM	Lac du Bonnet	93.91	39	P		P	09 41 48.4	-1.9
ULM	Lac du Bonnet	93.91	39	P		P	09 41 48.4	-1.9
	comp=Z,1.8nm,0.6s,baz=233,slow=5.1,SNR=3.0							
SONM	Songino Array	95.04	318	P		P	09 41 56.3	+0.5
SONM	Songino Array	95.04	318	P		P	09 41 56.3	+0.5
	comp=Z,0.6nm,0.9s,baz=90,slow=4.3,SNR=2.7							
SDV	Santo Domingo	104.39	85	*e*Pdif		Pdif	09 42 37.0	-1.5
	comp=Z,18nm,0.7s							
WMQ	Urumqi	107.06	312	Pdif		Pdif	09 42 50.3	+0.7
WMQ				PP		PP	09 47 19.8	+3.2
WMQ				AMB	AMB			
	comp=Z,15nm,8.9s							
WMQ				LR	LR			
	comp=Z,39nm,17.8s							
WMQ				LR	LR			
	comp=Z,35nm,18.9s							
KSH	Kashi	115.67	307	*e*PKP		PKPdf	09 47 15.1	-0.5
KSH				*e*PP		PP	09 48 24.4	+5.8
KSH				*e*SKS		SKSdf	09 54 22.3	-3.6
KSH				*e*SKKS		SKKSac	09 55 12.1	-5.8
KSH				*e*SS		SS	10 04 20.3	+3.0
KSH				AMB	AMB			
	comp=Z,41nm,3.5s							
KSH				LR	LR			
	comp=Z,53nm,4.5s							
KSH				LR	LR			
	comp=Z,53nm,4.2s							
BVAR	Borovoye Array	118.07	322	PKIKP		PKPdf	09 47 18.9	-0.7
BVAR	Borovoye Array	118.07	322	PKP		PKPdf	09 47 18.9	-0.7
BVAR	Borovoye Array	118.07	322	PKP		PKPdf	09 47 18.9	-0.7
	comp=Z,0.9nm,0.6s,baz=143,slow=3.2,SNR=5.0							
ARCES	ARCESS Array B	124.74	352	PKP		PKPdf	09 47 31.4	-0.6
ARCES	ARCESS Array B	124.74	352	PKP		PKPdf	09 47 31.4	-0.6
	comp=Z,1.7nm,0.7s,baz=20,slow=3.9,SNR=8.5							
KWP	Kalwaria Pacla	143.58	343	⇑PKIKP		PKPab	09 48 04.8	+0.7
KWP	Kalwaria Pacla	143.58	343	⇑P		PKPab	09 48 04.8	+0.7
CLL	Collm	143.94	353	*e*PKIKP		PKPab	09 48 06.0	+0.6
CLL	Collm	143.94	353	*e*PKPdf		PKPab	09 48 06.0	+0.6
STHS	Stebnicka Huta	144.18	344	*e*PKIKP		PKPab	09 48 07.4	+1.0
STHS	Stebnicka Huta	144.18	344	*e*PKP		PKPab	09 48 07.4	+1.0
KOLS	Kolonicke sedl	144.33	342	*e*PKIKP		PKPdf	09 48 09.6	+0.7
KOLS	Kolonicke sedl	144.33	342	*e*PKP		PKPdf	09 48 09.6	+0.7
BUR08	Bucovina Ar. S	144.51	338	*e*PKPdf		PKPab	09 48 07.8	0.0
BURAR	Bucovina Array	144.53	338	⇑PKIKP		PKPab	09 48 08.3	+0.4
BURAR	Bucovina Array	144.53	338	⇑*i*P		PKPab	09 48 08.3	+0.4
CRVS	Cervenica-Dubn	144.59	343	*e*PKIKP		PKPab	09 48 07.8	-0.1
CRVS	Cervenica-Dubn	144.59	343	*e*PKP		PKPab	09 48 07.8	-0.1
UZH	Uzhgorod	144.59	342	*e*PKIKP		PKPab	09 48 07.6	-0.3
UZH				*e*			09 48 13.6	
TRPA	Tarpa	144.97	342	⇑*i*P		PKPab	09 48 09.0	-0.3
VRAC	Vranov	145.35	349	PKPbc		PKPbc	09 48 10.1	-0.4
VRAC	Vranov	145.35	349	PKPbc		PKPbc	09 48 10.1	-0.4
	comp=Z,2.4nm,0.5s,baz=121,slow=1.2,SNR=6.2							
CFR	Carcaliu	145.37	333	⇑PKP2		PKPbc	09 48 08.0	-2.7
CFR	Carcaliu	145.37	333	⇑*i*P		PKPbc	09 48 08.0	-2.7
VRI	Vrincioaia	145.41	335	⇑PKIKP		PKPbc	09 48 09.6	-1.3
VRI	Vrincioaia	145.41	335	⇑*i*P		PKPbc	09 48 09.6	-1.3
PLOR	Plostina	145.46	335	⇑PKIKP		PKPdf	09 48 10.1	-0.9
PLOR	Plostina	145.46	335	⇑*i*P		PKPdf	09 48 10.1	-0.9
KMBO	Kilima Mbogo	145.64	244	PKPbc		PKPdf	09 48 13.4	+0.9
KMBO	Kilima Mbogo	145.64	244	PKPbc		PKPdf	09 48 13.4	+0.9
	comp=Z,3.9nm,0.7s,baz=25,slow=5.3,SNR=10							
GRF	Grafenberg Arr	145.72	355	*e*PKP		PKPdf	09 48 11.3	0.0
HARR	Harsova	145.84	333	⇓PKP2		PKPdf	09 48 12.9	+1.3
HARR	Harsova	145.84	333	⇓*i*P		PKPdf	09 48 12.9	+1.3
DOPR	Dopca	145.86	337	⇑*i*P		PKPdf	09 48 12.9	+1.2
KHC	Kasperske Hory	146.01	352	*e*PKP2		PKPdf	09 48 12.3	+0.4
KHC	Kasperske Hory	146.01	352	*e*PKP		PKPdf	09 48 12.0	+0.1
KHC				ex		x	09 48 24.0	
KHC	Kasperske Hory	146.01	352	*e*PKPdf		PKPdf	09 48 12.3	+0.4
MLR	Muntele Rosu	146.04	336	⇑*i*P		PKPdf	09 48 12.6	+0.4
MLR	Muntele Rosu	146.04	336	PKPbc		PKPdf	09 48 13.4	+1.3
MLR	Muntele Rosu	146.04	336	PKPbc		PKPdf	09 48 13.4	+1.3
	baz=181,slow=4.6							
ISR	Istrita	146.10	335	⇓PKP2		PKPdf	09 48 13.3	+1.1
ISR	Istrita	146.10	335	⇓*i*P		PKPdf	09 48 13.3	+1.1
DRGR		146.10	340	⇑PKP2		PKPdf	09 48 13.6	+1.5
DRGR		146.10	340	⇑*i*P		PKPdf	09 48 13.6	+1.5
GERES	GERESS Array B	146.27	352	PKPbc		PKPdf	09 48 13.1	+0.7
GERES	GERESS Array B	146.27	352	PKPbc		PKPdf	09 48 13.1	+0.7
	comp=Z,2.8nm,1.0s,baz=77,slow=2.9,SNR=12							
BR131	Keskin Array S	146.35	321	*e*PKPbc		PKPdf	09 48 14.1	+1.2
BRTR	Keskin Array B	146.35	321	PKPbc		PKPdf	09 48 13.9	+1.0
BRTR	Keskin Array B	146.35	321	PKPbc		PKPdf	09 48 13.9	+1.0
	comp=Z,11nm,1.0s,baz=131,slow=1.9,SNR=24							
VOIR		146.43	336	⇑PKP2		PKPdf	09 48 14.3	+1.5
VOIR		146.43	336	⇑*i*P		PKPdf	09 48 14.3	+1.5
ARR	Arges	146.65	337	⇓*i*P		PKPbc	09 48 15.6	+0.9
ANTO	Ankara	146.76	322	⇑PKP2		PKPbc	09 48 15.7	+0.5
ANTO	Ankara	146.76	322	⇑*i*P		PKPbc	09 48 15.7	+0.5
CONA	Conrad Observa	146.81	349	⇓*i*PKPbc		PKPdf	09 48 13.4	+0.1
	comp=Z,5.8nm,0.8s							
SIRR	Siria	146.90	341	⇑*i*P		PKPdf	09 48 15.0	+1.6
GZR	Gura Zlata	147.30	339	⇑PKIKP		PKPdf	09 48 13.2	-1.0
GZR	Gura Zlata	147.30	339	⇑*i*P		PKPdf	09 48 13.2	-1.0
BZS	Buzias	147.49	340	⇑PKIKP		PKPdf	09 48 12.8	-1.6
BZS	Buzias	147.49	340	⇑*i*P		PKPdf	09 48 12.8	-1.6
PKSM	Moragy	147.82	344	⇑PKP2		PKPdf	09 48 17.4	+2.5
PKSM	Moragy	147.82	344	⇑*i*P		PKPdf	09 48 17.4	+2.5
FETA	Feichten	148.41	355	⇑*i*PKiKP		PKPbc	09 48 20.2	+0.6
	comp=Z,4.1nm,1.0s							
DAVOX	Davos/Dischmat	148.71	356	PKPbc		PKPbc	09 48 20.1	-0.4
DAVOX	Davos/Dischmat	148.71	356	PKPbc		PKPbc	09 48 20.1	-0.4
	comp=Z,4.1nm,0.8s,baz=258,slow=2.8,SNR=5.2							
MMAI	Mount Meron Ar	148.77	309	PKPbc		PKPbc	09 48 21.5	+0.6
MMAI	Mount Meron Ar	148.77	309	PKPbc		PKPbc	09 48 21.5	+0.6
	comp=Z,2.6nm,0.6s,baz=30,slow=9.0,SNR=3.6							
APE	Apeiranthos	152.83	326	⇑PKIKP		PKPdf	09 48 15.2	-7.9
APE	Apeiranthos	152.83	326	⇑*i*P		PKPdf	09 48 15.2	-7.9

IDC 22 09:28:37.6±4.5, 30.48S×178.04W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/34, mbtmp4.0/4, Error ellipse: s-maj=149.4km s-min=54.6km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	Tubuai	26.41	81	*e*LR	LR	09 35 20.7	
	206nm,27.2s						
CTA	Charters Tower	33.77	279	P	P	09 35 22.7	+1.4
	1.7nm,0.4s,baz=102,slow=14,SNR=2.3						
STKA	Stephens Creek	34.43	257	P	P	09 35 28.2	+1.3
	1.7nm,0.5s,baz=95,slow=11,SNR=3.0						
ASAR	Alice Springs	43.07	267	P	P	09 36 38.5	-1.1
	0.5nm,0.5s,baz=105,slow=7.1,SNR=9.3						
WRA	Warramunga Arr	44.06	272	P	P	09 36 46.3	-1.3
	0.8nm,0.3s,baz=110,slow=8.1,SNR=31						
FINES	FINESS Array B	145.20	340	PKPbc	PKPbc	09 48 15.5	-0.6
	0.7nm,0.4s,baz=42,slow=4.3,SNR=4.2						

ISCJB 22 09:32:16.5±0.5, 37.62N±0.02×23.47E±0.03, h12km±4km, Error ellipse: s-maj=5.1km s-min=2.7km az=44.8
CSEM 22 09:32:16.9±0.1, 37.64N×23.44E, h10km, ML3.5, Error ellipse: s-maj=3.2km s-min=2.0km az=138.0
ATH 22 09:32:16.4, 37.63N×23.42E, h21km, ML3.5
THE 22 09:32:17.1, 37.65N×23.42E, h6km, ML3.7/10, Error ellipse: s-maj=1.0km s-min=0.4km az=121.0
SKO 22 09:32:58.7, 41.78N×22.73E, h25km

ISC 22 09:32:17.0±0.8, 37.64N±0.02×23.43E±0.02, h15km±6km, n115,s0s62/168, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	Nisos Aigina	0.13	21	*e*PB	Pg	09 32 20.4	-0.3
NAIG	Nisos Aigina	0.13	21	*e*Pb	Pg	09 32 20.4	-0.3
DID	Didima	0.20	230	P	Pg	09 32 21.4	-0.3
DID				S	Sg	09 32 24.9	-0.1
DID	Didima	0.20	230	*e*PB	Pg	09 32 21.5	-0.3
DID				*e*SB	Sg	09 32 25.4	+0.4
DID	Didima	0.20	230	P	Pg	09 32 21.4	-0.3
DID				S	Sg	09 32 24.9	-0.1
DID				*e*Sb	Sg	09 32 25.4	+0.4
ATH	Athens Observa	0.40	34	P	Pg	09 32 25.1	-0.1
ATH				S	Sg	09 32 31.2	+0.5
ATH	Athens Observa	0.40	34	*e*PB	Pg	09 32 25.1	-0.1
ATH				*e*SB	Sb	09 32 31.4	-0.4
ATH	Athens Observa	0.40	34	P	Pg	09 32 25.1	-0.1
ATH				S	Sg	09 32 31.2	+0.5
ATHU	Athens Univers	0.43	40	P	Pg	09 32 25.4	-0.3
ATHU				S	Sg	09 32 31.1	-0.5
ATHU	Athens Univers	0.43	40	P	Pg	09 32 25.4	-0.3
ATHU				S	Sg	09 32 31.1	-0.5
LTK	Loutraki	0.53	316	P	Pg	09 32 27.0	-0.5
LTK				S	Sg	09 32 34.8	+0.1
LTK	Loutraki	0.53	316	*e*PN	Pg	09 32 27.1	-0.5
LTK				*e*SN	Sg	09 32 35.1	+0.4
LTK	Loutraki	0.53	316	*e*Pn	Pg	09 32 27.1	-0.5
LTK				S	Sg	09 32 34.8	+0.1
LTK				*e*Sn	Sg	09 32 35.1	+0.4
PTL	Penteli	0.53	40	P	Pg	09 32 27.4	-0.2
PTL				S	Sg	09 32 34.7	-0.1
PTL	Penteli	0.53	40	*e*PN	Pg	09 32 27.4	-0.2
PTL				*e*SN	Sg	09 32 34.7	-0.1
PTL	Penteli	0.53	40	P	Pg	09 32 27.4	-0.2
PTL				S	Sg	09 32 34.7	-0.1
ERET	Eretria	0.85	20	P	Pb	09 32 32.7	+0.7
ERET				S	Sb	09 32 46.0	+1.0
ERET	Eretria	0.85	20	P	Pb	09 32 32.9	-0.7
ERET				S	Sb	09 32 46.0	+1.0
VLX	Vlachokerasia	0.88	253	P	Pb	09 32 33.6	-0.5
VLX	Vlachokerasia	0.88	253	*e*PN	Pb	09 32 33.4	-0.7
VLX	Vlachokerasia	0.88	253	P	Pb	09 32 33.6	-0.5
GUR	Goura	0.91	289	P	Pb	09 32 33.9	-0.8
GUR				S	Sb	09 32 46.9	+0.3
GUR	Goura	0.91	289	*e*PN	Pb	09 32 33.9	-0.8
GUR				*e*SN	Sb	09 32 47.0	+0.3
GUR	Goura	0.91	289	P	Pb	09 32 33.9	-0.8
GUR				S	Sb	09 32 46.9	+0.3
VLI	Veliai	1.00	203	P	Pb	09 32 35.5	-0.6
VLI				S	Sg	09 32 49.8	+0.3
VLI	Veliai	1.00	203	P	Pb	09 32 35.5	-0.6
VLI				S	Sg	09 32 49.8	+0.3
DSF	Desfina	1.05	317	P	Pb	09 32 36.8	-0.2
DSF				S	Sn	09 32 52.0	+0.3
DSF	Desfina	1.05	317	*e*PN	Pb	09 32 37.1	+0.1
DSF				*e*SN	Sg	09 32 51.3	+0.2
DSF	Desfina	1.05	317	P	Pb	09 32 36.8	-0.2
DSF	Desfina	1.05	317	*e*Pn	Pb	09 32 37.1	+0.1
DSF				*e*Sn	Sg	09 32 51.3	+0.2
DSF				S	Sn	09 32 52.0	+0.3
LKR	Lokris	1.07	341	P	Pb	09 32 36.2	-1.0
LKR				S	Sn	09 32 52.5	+0.5
LKR	Lokris	1.07

AOS	Alonnisos	1.57	13	*e*PB	Pn	09 32 43.7	-0.7
RLS	Riolos of Patr	1.61	286	*e*PN	Pb	09 32 46.6	+0.1
RLS	Riolos of Patr	1.61	286	*e*Pn	Pb	09 32 46.6	+0.1
AGG	Agios Georgios	1.63	328	*e*PN	Pn	09 32 45.8	+0.5
AGG	Agios Georgios	1.63	328	*e*Pn	Pn	09 32 45.8	+0.5
NEO	Neokhori	1.67	354	P	Pn	09 32 45.7	-0.1
NEO	Neokhori	1.67	354	*e*PB	Pn	09 32 46.0	+0.2
NEO	Neokhori	1.67	354	P	Pn	09 32 45.7	-0.1
MAKR	Makrakomi, Fth	1.71	324	*e*PN	Pb	09 32 47.4	-0.8
MAKR	Makrakomi, Fth	1.71	324	*e*Pn	Pb	09 32 47.4	-0.8
EVR	Evrytania	1.81	315	*e*PN	Pn	09 32 48.7	+1.0
EVR	Evrytania	1.81	315	*e*Pn	Pn	09 32 48.7	+1.0
PDO	Prodromos	2.02	299	*e*PN	Pn	09 32 51.3	+0.8
PDO	Prodromos	2.02	299	*e*Pn	Pn	09 32 51.3	+0.8
CHOS	Chios island	2.20	69	*e*PN	Pn	09 32 54.3	+1.2
CHOS	Chios island	2.20	69	*e*Pn	Pn	09 32 54.3	+1.2
THL	Klokotos Trika	2.22	330	*e*PN	Pn	09 32 53.6	+0.3
THL	Klokotos Trika	2.22	330	*e*Pn	Pn	09 32 53.6	+0.3
PAIG	Paliouri	2.29	5	*e*PN	Pn	09 32 54.2	-0.1
PAIG	Paliouri	2.29	5	*e*Pn	Pn	09 32 54.2	-0.1
SIGR	SIGRI	2.47	50	*e*PN	Pn	09 32 56.9	+0.2
SIGR	SIGRI	2.47	50	*e*Pn	Pn	09 32 56.9	+0.2
LKD2	Lefkada island	2.47	299	*e*PN	Pn	09 32 57.7	+0.9
LKD2	Lefkada island	2.47	299	*e*Pn	Pn	09 32 57.7	+0.9
LIT	Litokhoron	2.57	344	*e*PN	Pn	09 32 58.3	+0.2
LIT	Litokhoron	2.57	344	*e*Pn	Pn	09 32 58.3	+0.2
OUR	Ouranopolis	2.73	9	*e*PN	Pn	09 33 00.1	-0.1
OUR	Ouranopolis	2.73	9	*e*Pn	Pn	09 33 00.1	-0.1
PLG	Polygyros	2.73	0	*e*PN	Pn	09 32 59.8	-0.6
PLG	Polygyros	2.73	0	*e*Pn	Pn	09 32 59.8	-0.6
HORT	Hortiatis	2.97	355	*e*PN	Pn	09 33 04.1	+0.4
HORT	Hortiatis	2.97	355	*e*Pn	Pn	09 33 04.1	+0.4
SOH	Sokhos	3.18	359	*e*PN	Pn	09 33 07.0	+0.4
SOH	Sokhos	3.18	359	*e*Pn	Pn	09 33 07.0	+0.4
GRG	Griva	3.41	347	*e*PN	Pn	09 33 09.6	-0.1
GRG	Griva	3.41	347	*e*Pn	Pn	09 33 09.6	-0.1
FNA	Florina	3.52	334	*e*PN	Pn	09 33 12.1	+0.8
FNA	Florina	3.52	334	*e*Pn	Pn	09 33 12.1	+0.8
KNT	Kendrikon	3.54	353	*e*PN	Pn	09 33 12.3	+0.8
KNT	Kendrikon	3.54	353	*e*Pn	Pn	09 33 12.3	+0.8
NVR	Nevrokopi	3.72	5	*e*PN	Pn	09 33 14.0	0.0
NVR	Nevrokopi	3.72	5	*e*Pn	Pn	09 33 14.0	0.0
BIA	Bitola	3.75	335	*e*Pn	Pb	09 33 25.5	+2.5
BIA				*e*Sn	Sn	09 33 55.2	-3.2
BIA	Bitola	3.75	335	*e*Sn	Sn	09 33 55.1	-3.2
DIVS	Divibare	6.96	339	*e*Pn	Pn	09 33 59.9	+1.4
TRUS	Trudelj	6.96	342	*e*Pn	Pn	09 33 58.2	-0.3

IDC ***22*** *09:38:43.0±0.9, 1°.80S×139°.16E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/25, Error ellipse: s-maj=27.8km s-min=17.4km az=51.0*

DJA ***22*** *09:38:44.2±1.4, 2°.5±9°.3×139°.9E±°, h10km, M4.3/3, MLv4.3/3*

ISCJB ***22*** *09:38:46.4±0.6, 1°.85S±0°.09×139°.07E±0°.06, h33km, mb3.8/7, MS3.8/1, Error ellipse: s-maj=14.0km s-min=7.6km az=24.5*

ISC 22 09:38:48.2±0.8, 1°.8S±0°.1×139°.10E±0°.05, h35km, n18, σ1s52/14, mb3.9/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.42	247	P	Pn	09 38 55.4	-2.4
SMPI				S	Sn	09 39 07.0	+2.6
GENI	Genyem	1.31	125	P	Pn	09 39 09.3	-0.8
GENI				S	Sn	09 39 29.1	+2.7
JAY	Jayapura	1.75	113	Pn	Pn	09 39 14.8	-1.3
	10.0nm,0.3s,baz=225,slow=11,SNR=23						
JAY				Sn	Sn	09 39 36.5	-0.7
	47nm,0.3s,baz=106,slow=19,SNR=12						
WRA	Warramunga Arr	18.60	194	P	P	09 43 01.6	-1.0
	0.7nm,0.3s,baz=18,slow=12,SNR=22						
WRA				S	Sn	09 46 19.2	-11
	0.1nm,0.3s,baz=8.7,slow=22,SNR=4.4						
ASAR	Alice Springs	22.29	193	P	P	09 43 42.7	0.0
	2.0nm,0.8s,baz=17,slow=10,SNR=23						
H11S3	WAKE ISLAND Hy	33.83	52	T	T	10 21 06.2	
	baz=236,slow=75,SNR=74						
H11S2	WAKE ISLAND Hy	33.84	52	T	T	10 21 07.0	
	baz=236,slow=75,SNR=58						
H11S1	WAKE ISLAND Hy	33.85	52	T	T	10 21 07.5	
	baz=236,slow=75,SNR=66						
H11N1	WAKE ISLAND Hy	34.67	51	T	T	10 22 12.8	
	baz=238						
H11N2	WAKE ISLAND Hy	34.69	51	T	T	10 22 19.4	
	baz=238						
H11N3	WAKE ISLAND Hy	34.69	51	T	T	10 22 18.6	
	baz=238						
CMAR	Chiang Mai Arr	44.34	299	P	P	09 46 56.2	+0.8
	3.0nm,0.3s,baz=128,slow=7.4,SNR=4.7						
ASAJ	Asahikawa	45.84	4	LR	LR	10 05 13.0	
	comp=Z,114nm,19.2s,baz=50,slow=35						
SONM	Songino Array	57.09	334	P	P	09 48 31.9	+0.6
	0.2nm,0.5s,baz=142,slow=7.2,SNR=2.7						
MKAR	Makanchi Array	69.33	322	P	P	09 49 52.3	0.0
	1.4nm,0.9s,baz=108,slow=7.9,SNR=8.6						
KURBB	Kurchatov Arra	73.23	325	P	P	09 50 15.7	-0.1
	1.2nm,0.9s,baz=110,slow=5.3,SNR=5.9						
BVAR	Borovoye Array	78.81	325	P	P	09 50 48.0	+0.5
	1.5nm,0.8s,baz=104,slow=6.3,SNR=6.7						
ILAR	Eielson Array	84.87	24	P	P	09 51 18.6	-0.6
	0.7nm,1.0s,baz=262,slow=5.4,SNR=5.4						

IDC ***22*** *09:43:10.8±1.3, 38°.44N×22°.06E, h0km, mb3.7/4, mb1 3.6/7, mb1mx3.4/40, mbtmp3.5/7, ML2.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.1/42, Error ellipse: s-maj=36.5km s-min=20.0km az=119.0*

ISCJB ***22*** *09:43:11.2±0.3, 38°.40N±0°.02×21°.99E±0°.02, h9km, 2km, mb3.6/5, Error ellipse: s-maj=2.9km s-min=2.7km az=38.6*

CSEM ***22*** *09:43:11.4±0.1, 38°.39N×22°.02E, h5km, ML3.2, Error ellipse: s-maj=3.3km s-min=2.8km az=91.0*

ATH ***22*** *09:43:11.6, 38°.39N×21°.99E, h5km, 2km, ML3.2*

ISC 22 09:43:11.4±0.8, 38°.40N±0°.01×22°.00E±0°.02, h8km±5km, n76, σ0s82/111, mb3.7/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.08	293	*e*PG	Pg	09 43 13.1	-0.4
EFP				*e*SG	Sg	09 43 14.8	-0.1
EFP	Efpalio	0.08	293	*e*Pg	Pg	09 43 13.1	-0.4
EFP				S	Sg	09 43 14.6	-0.3
KALE	Kalithea	0.11	93	*e*PG	Pg	09 43 14.1	0.0
KALE	Kalithea	0.11	93	P	Pg	09 43 14.0	0.0
KALE				S	Sg	09 43 15.9	+0.1
LAKA	Lakka	0.16	186	*e*PG	Pg	09 43 15.0	+0.3
LAKA	Lakka	0.16	186	P	Pg	09 43 15.0	+0.3
UPR	University Cam	0.20	236	P	Pg	09 43 15.9	+0.4
UPR				S	Sg	09 43 19.4	+1.2
KLV	Kalavryta, Ach	0.37	161	*e*PG	Pg	09 43 18.6	-0.1
KLV				*e*SB	Sg	09 43 24.6	+1.0
KLV	Kalavryta, Ach	0.37	161	P	Pg	09 43 18.6	-0.1
KLV				*e*Sb	Sg	09 43 24.6	+1.0
DSF	Desfina	0.42	88	*e*PG	Pg	09 43 19.0	-0.6
DSF				*e*SB	Sg	09 43 26.0	+1.0
DSF	Desfina	0.42	88	*e*Pg	Pg	09 43 19.0	-0.6
DSF				S	Sg	09 43 25.8	+0.8
PVO	Paravola	0.43	301	P	Pg	09 43 19.7	-0.1
DRO	Drossia	0.50	207	*e*PB	Pg	09 43 21.0	0.0
DRO	Drossia	0.50	207	P	Pg	09 43 21.1	0.0
DRO				S	Sb	09 43 29.1	-0.8
GUR	Goura	0.53	149	*e*PB	Pg	09 43 21.2	-0.6
GUR				*e*SB	Sb	09 43 30.1	-1.0
GUR	Goura	0.53	149	*e*Pb	Pg	09 43 21.2	-0.6
GUR	Goura	0.53	149	P	Pg	09 43 21.6	-0.2
GUR				*e*Sb	Sb	09 43 30.1	-1.0
RLS	Riolos of Patr	0.54	231	*e*PB	Pg	09 43 22.1	+0.3
RLS				*e*SB	Sg	09 43 29.2	+0.3
RLS	Riolos of Patr	0.54	231	*e*Pb	Pg	09 43 22.1	+0.3
RLS				*e*Sb	Sg	09 43 29.2	+0.3
RLS				S	Sb	09 43 30.2	-0.9
EVR	Evrytania	0.54	344	*e*PB	Pg	09 43 21.6	-0.3
EVR				*e*SB	Sg	09 43 30.0	+1.0
EVR	Evrytania	0.54	344	*e*Pb	Pg	09 43 21.6	-0.3
EVR				S	Sg	09 43 30.0	+1.0
MAKR	Makrakomi, Fth	0.62	10	*e*PG	Pg	09 43 23.5	-0.1
MAKR				*e*SB	Sg	09 43 32.8	+1.1
MAKR	Makrakomi, Fth	0.62	10	P	Pg	09 43 23.4	-0.1
MAKR				S	Sg	09 43 32.8	+1.1
AXAR	Agios Charalam	0.64	54	*e*PB	Pg	09 43 23.2	-0.5
AXAR				*e*SB	Sb	09 43 33.1	-0.8
AXAR	Agios Charalam	0.64	54	*e*Pb	Pg	09 43 23.2	-0.5
AXAR				*e*Sb	Sb	09 43 33.1	-0.8
AXAR				S	Sg	09 43 34.3	+2.3
PDO	Prodromos	0.67	288	*e*PB	Pg	09 43 24.7	+0.3
PDO	Prodromos	0.67	288	P	Pg	09 43 24.7	+0.3
PDO				S	Sb	09 43 35.2	+0.3
AGG	Agios Georgios	0.68	22	*e*PB	Pg	09 43 24.0	-0.5
AGG	Agios Georgios	0.68	22	P	Pg	09 43 23.5	-1.0
AGG	Agios Georgios	0.68	22	*e*Pb	Pg	09 43 24.0	-0.5
LKR	Lokris	0.82	72	*e*PB	Pg	09 43 26.7	-0.6
LKR				*e*SB	Sb	09 43 39.0	-0.4
LKR	Lokris	0.82	72	*e*Pb	Pg	09 43 26.7	-0.6
LKR				*e*Sb	Sb	09 43 39.0	-0.4
LTK	Loutraki	0.85	116	*e*PB	Pb	09 43 28.3	-0.2
LTK				*e*SB	Sb	09 43 39.8	-0.3
LTK	Loutraki	0.85	116	*e*Pb	Pb	09 43 28.3	-0.2
LTK				*e*Sb	Sb	09 43 39.8	-0.3
AMT	Artemida-Makis	0.89	195	*e*PB	Pb	09 43 28.9	-0.3
AMT	Artemida-Makis	0.89	195	P	Pg	09 43 28.5	-0.1
AMT	Artemida-Makis	0.89	195	*e*Pb	Pb	09 43 28.9	-0.3
AMT				S	Sn	09 43 42.9	-0.6
SMIA	Simia	1.06	63	*e*PN	Pn	09 43 32.7	0.0
SMIA	Simia	1.06	63	*e*Pn	Pn	09 43 32.7	0.0
VLX	Vlachokerasia	1.07	163	*e*PG	Pg	09 43 31.0	-1.0
VLX	Vlachokerasia	1.07	163	*e*Pg	Pg	09 43 31.0	-1.0
LKD2	Lefkada island	1.12	291	*e*PN	Pg	09 43 32.8	-0.2
LKD2	Lefkada island	1.12	291	*e*Pn	Pg	09 43 32.8	-0.2
VLS	Valsamata	1.13	259	*e*PG	Pg	09 43 32.2	-0.9
VLS	Valsamata	1.13	259	*e*Pg	Pg	09 43 32.2	-0.9
THL	Klokotos Trika	1.17	1	*e*PN	Pg	09 43 33.4	-0.4
THL				*e*SB	Sn	09 43 50.1	-0.1
THL	Klokotos Trika	1.17	1	*e*Pn	Pg	09 43 33.4	-0.4
THL				*e*Sb	Sn	09 43 50.1	-0.1
ITM	Ithomi	1.22	183	*e*PN	Pb	09 43 34.0	-0.7
ITM				*e*SB	Sn	09 43 51.6	+0.1
ITM	Ithomi	1.22	183	*e*Pn	Pb	09 43 34.0	-0.7
ITM				*e*Sb	Sn	09 43 51.6	+0.1
MRKA	Markates	1.28	76	*e*PN	Pn	09 43 35.0	-0.8
MRKA	Markates	1.28	76	*e*Pn	Pn	09 43 35.0	-0.8
DID	Didima	1.32	132	*e*PG	Pb	09 43 36.4	-0.2
DID	Didima	1.32	132	*e*Pg	Pb	09 43 36.4	-0.2
NAIG	Nisos Aigina	1.34	118	*e*PB	Pg	09 43 37.2	+0.1
NAIG	Nisos Aigina	1.34	118	*e*Pb	Pg	09 43 37.2	+0.1
ATH	Athens Observa	1.42	107	*e*PB	Pg	09 43 39.0	+0.3
ATH				*e*SB	Sg	09 43 58.1	+1.0
ATH	Athens Observa	1.42	107	*e*Pb	Pg	09 43 39.0	+0.3
ATH				*e*Sb	Sg	09 43 58.1	+1.0
PYL	PYLOS	1.51	188	*e*PG	Pb	09 43 39.7	-0.1
PYL	PYLOS	1.51	188	*e*Pg	Pb	09 43 39.7	-0.1
BIA	Bitola	2.67	349	*e*PN	Pb	09 43 59.1	-0.4
BIA	Bitola	2.67	349	*e*Pn	Pb	09 43 59.1	-0.4
VAY	Valandovo	2.95	8	*e*PN	Pb	09 44 03.4	-1.0
VAY				*i* Sn	Sn	09 44 34.4	0.0
VAY	Valandovo	2.95	8	*e*Pn	Pb	09 44 03.3	-1.0
VAY				*i* Sn	Sn	09 44 34.3	0.0
IDI	Anoyia	3.87	142	Pn	Pn	09 44 13.2	+1.7
	0.6nm,0.3s,baz=346,slow=13,SNR=3.6						
IDI				Sn	Sn	09 44 55.1	-2.1
	1.4nm,0.3s,baz=294,slow=19,SNR=3.5						
DIVS	Divibare	5.89	346	*e*Pn	Pn	09 44 42.2	+3.0
TRUS	Trudelj	5.94	349	*e*Pn	Pn	09 44 42.6	+2.8
TEKS	Tekeris	6.42	344	*e*Pn	Pn	09 44 47.1	+0.8
MLR	Mutele Rosu	7.67	21	Pn	Pn	09 45 05.1	+1.4
	0.1nm,0.3s,baz=201,slow=8.6,SNR=3.5						
BRTR	Keskin Array B	9.15	78	Pn	Pn	09 45 26.1	+2.1
	0.2nm,0.3s,baz=260,slow=12,SNR=6.4						
GERES	GERESS Array B	12.04	333	LR	LR	09 51 28.0	
	comp=Z,67nm,18.2s,baz=134,slow=41						
NB2	NORSAR Subarra	23.65	347	P	P	09 48 22.4	-0.7
	comp=Z,2.5nm,1.0s,baz=153,slow=9.3						
NB2	NORSAR Subarra	23.65	347	P	P	09 48 22.4	-0.7
	comp=Z,2.5nm,1.0s,SNR=4.0						
TORD	Torodi Ar. Bea	30.95	221	P	P	09 49 30.2	+1.1
	comp=Z,1.3nm,0.8s,baz=30,slow=8.9,SNR=8.1						
MKAR	Makanchi Array	44.20	59	P	P	09 51 20.4	-0.5
	comp=Z,0.6nm,0.6s,baz=282,slow=7.2,SNR=5.3						
ZALV	Zalesovo Beam	44.68	48	P	P	09 51 23.7	-0.9
	comp=Z,0.6nm,0.5s,baz=302,slow=8.3,SNR=2.4						
SONM	Songino Array	59.42	51	P	P	09 53 14.8	+0.2
	comp=Z,0.6nm,0.9s,baz=305,slow=5.1,SNR=3.7						

CASC 22 09:51:01.4±17.0, 8°.61N×82°.64W, h13km±38km, MD3.8, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBS2		0.18	354	*e*P	Pg	09 51 06.0	+0.2
TBS2				*e*S	Sb	09 51 09.9	-0.6
BRU2	Volcan	0.19	344	*i* P	Pb	09 51 07.3	+0.3
BRU2				*e*S	Sb	09 51 11.9	+1.2
BRU	Baru	0.21	21	↑*i* P	Pg	09 51 04.8	-1.7
CTCR	Cotoan	0.31	337	*e*P	Pb	09 51 08.8	-0.2
CTCR				↑*i* P	Pg	09 51 08.9	+0.9
ACR	Cerro Adams	0.53	274	*e*P	Pn	09 51 14.9	+0.1
ACR				*e*S	Sn	09 51 25.8	+2.2
BUS	Buena Vista	1.45	310	↑*e*P	Pb	09 51 29.2	+0.2
BUS				*e*S	Sg	09 51 51.0	+1.8
URSC	Urasca	1.66	317	*e*P	Pb	09 51 32.3	+0.2
URSC				*e*S	Sg	09 51 55.6	+0.3
QCR	Quepos	1.71	298	*e*P	Pn	09 51 30.5	-0.5
SJS	Escuela Geolog	1.92	313	*e*P	Pb	09 51 37.5	+0.9
SJS				*e*S	Sg	09 52 06.5	+2.8
CGA2	Cerro Gallo 2	2.28	308	*e*P	Pb	09 51 42.3	-0.4
CGA2				*e*S	Sg	09 52 15.7	+0.5
ZANG	Zanguenga, Cho	2.76	83	*e*P	Pn	09 51 43.7	-1.7
ZANG				*e*S	Sn	09 52 15.2	-3.4
BCIP	Isla Barro Col	2.82	79	*e*P	Pn	09 51 42.8	-3.5
BCIP				*e*S	Sn	09 52 15.2	-5.0
PTP	Ponta Puerca	19.10	58	*e*P	x	09 51 16.0	

IDC ***22*** *09:54:55.1±0.7, 15°.37S×173°.42W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/29, mbtmp4.3/14, MS4.1/22, Ms1 4.1/22, ms1mx4.0/30, Error ellipse: s-maj=28.5km s-min=14.8km az=135.0*

NEIC ***22*** *09:54:57.0±0.3, 15°.28S×173°.45W, h10km, mb4.9/17, Error ellipse: s-maj=12.8km s-min=8.2km az=142.0*

ISCJB ***22*** *09:54:58.2±0.2, 15°.50S±0°.08×173°.31W±0°.05, h33km, mb4.7/38, MS4.2/26, Error ellipse: s-maj=12.7km s-min=5.0km az=151.1*

BJI ***22*** *09:54:58.3, 15°.00S×173°.70W, h10km, mB5.2/19, mb5.0/17, Ms5.2/14, Ms7 4.8/16*

MOS ***22*** *09:54:59.4±1.9, 15°.46S×173°.53W, h33km, mb5.0/8, Error ellipse: s-maj=15.2km s-min=12.6km az=172.8*

ISC 22 09:54:58.1±0.7, 15°.46S±0°.09×173°.29W±0°.08, h17km±3km, n252, σ1s18/220, mb4.9/39, MS4.2/26, 21C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.13	44	*e*Pn	Pn	09 55 25.6	-7.3
AFI				*e*Sn	Sn	09 55 45.3	-14
AFI	Afiamalu	2.13	44	Pn	Pn	09 55 26.5	-6.4
	52nm,0.3s,baz=4.0,slow=0.8,SNR=94						
AFI				Sn	Sn	09 55 45.9	-13
	700nm,0.3s,baz=68,slow=19,SNR=22						
AFI				LR	LR	09 56 28.1	
	comp=Z,2µm,20.0s,baz=238,slow=43						
NIUE	Niue	4.82	139	P	Pn	09 56 04.6	-5.4
	baz=4.8,SNR=42						
RAR	Rarotonga	14.05	116	Pn	Pn	09 58 17.6	+1.2
RAR	Rarotonga	14.05	116	Pn	Pn	09 58 10.9	-5.5
	3.4nm,0.3s,baz=270,slow=7.0,SNR=4.8						
RAR				LR	LR	10 02 26.9	
	comp=Z,827nm,18.1s,baz=279,slow=32						
RAO	Raoul Island	14.38	196	LR	LR	10 03 12.3	
	comp=Z,760nm,19.5s,baz=38,slow=34						
DZM	Mont Dzumac	20.27	248	*e*S	Sn	10 03 22.9	-0.3
	216nm,28.1s						
DZM				*e*LR	LR	10 04 33.6	
	1µm,24.8s						
DZM	Mont Dzumac	20.27	248	*e*P	P	09 59 33.6	+0.5
DZM	Mont Dzumac	20.27	248	P	P	09 59 33.1	+0.1
	5.0nm,0.6s,baz=77,slow=17,SNR=6.7						
DZM				LR	LR	10 06 14.9	
	comp=Z,740nm,20.2s,baz=52,slow=34						
PAE	Paea	22.83	99	*e*T	T	09 59 08.3	
	6.5nm,0.3s						
PAE	Paea	22.83	99	*e*T	T	10 23 13.4	
	4.6nm,0.4s						
PPT	Papeete	22.83	99	LR	LR	10 06 58.2	
	comp=Z,284nm,18.6s,baz=258,slow=32						
PPT2	Papeete2	22.83	99	*e*LQ	LQ	10 04 12.0	
	491nm,24.8s						
PPT2				*e*LR	LR	10 05 25.5	
	1µm,24.8s						
PPT2	Papeete2	22.83	99	*e*T	T	10 23 14.2	
	8.1nm,0.4s						
TVO	Taravao	23.15	99	*e*T	T	10 23 37.4	
	2.6nm,0.4s						
TBI	Tubuai	23.78	113	*e*LQ	LQ	10 04 49.1	
	592nm,23.5s						
TBI				*e*LR	LR	10 05 59.3	
	1µm,25.0s						
TBI	Tubuai	23.78	113	*e*T	T	10 24 22.8	
	25nm,0.4s						
URZ	Urewera	24.24	199	*e*P	P	10 00 16.1	+2.0
URZ	Urewera	24.24	199	P	P	10 00 12.8	-1.3
	2.9nm,0.5s,baz=350,slow=17,SNR=3.5						
VAH	Vaihoa	24.75	93	*e*T	T	10 25 32.8	
	8.7nm,0.4s						
HNR	Honiara	26.80	280	LR	LR	10 09 52.7	
	comp=Z,604nm,18.5s,baz=118,slow=34						
TAOE	Nuku Hiva Isla	33.03	82	*e*T	T	10 35 47.4	
	230nm,0.3s						
RKT	Rikitea	36.88	108	*e*LR	LR	10 12 00.2	
	655nm,25.8s						
RKT	Rikitea	36.88	108	*e*T	T	10 40 45.7	
	6.5nm,0.4s						
RMQ	Roma	36.97	246	P	P	10 02 07.5	+0.8
	baz=37,SNR=5.0						
CTA	Charters Tower	38.73	257	P	P	10 02 20.2	-1.4
CTA	Charters Tower	38.73	257	P	P	10 02 20.2	-1.4
	6.0nm,0.9s,baz=86,slow=14,SNR=2.9						
CTAO	Charters Tower	38.73	257	*e*P	P	10 02 17.0	-4.7
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s						
CTAO	Charters Tower	38.73	257	*e*P	P	10 02 17.0	-4.7
	comp=Z,17nm,1.1s						
CNB	Canberra Magne	38.80	232	P	P	10 02 22.8	+0.7
	baz=39,SNR=4.4						
PMG	Port Moresby	39.04	274	LR	LR	10 16 30.9	
	comp=Z,162nm,18.1s,baz=254,slow=33						
H11S2	WAKE ISLAND Hy	39.07	329	T	T	10 43 42.5	
	baz=152,slow=77,SNR=24						
H11S3	WAKE ISLAND Hy	39.08	329	T	T	10 44 02.9	
	baz=152,slow=77,SNR=14						
H11S1	WAKE ISLAND Hy	39.09	329	T	T	10 43 49.8	
	baz=152,slow=77,SNR=19						
H11N3	WAKE ISLAND Hy	40.01	330	T	T	10 45 06.9	
	baz=152,slow=78,SNR=16						
H11N1	WAKE ISLAND Hy	40.02	330	T	T	10 45 07.1	
	baz=152,slow=78,SNR=27						
H11N2	WAKE ISLAND Hy	40.03	330	T	T	10 45 09.1	
	baz=152,slow=78,SNR=16						
CMSA	Cobar Meteorol	40.61	239	P	P	10 02 35.8	-1.4
	baz=41,SNR=11						
QLP	Quilpie	40.99	247	P	P	10 02 39.3	-1.1
	baz=41,SNR=4.8						
COEN	Coen	42.08	266	P	P	10 02 49.5	+0.1
	baz=42,SNR=8.6						
STKA	Stephens Creek	44.10	240	*e*P	P	10 03 04.8	-0.8
STKA	Stephens Creek	44.10	240	P	P	10 03 03.9	-1.7
	comp=Z,6.1nm,0.7s,baz=61,slow=8.0,SNR=11						
STKA				LR	LR	10 18 48.7	
	comp=Z,205nm,21.9s,baz=44,slow=33						
STKA	Stephens Creek	44.10	240	P	P	10 03 04.7	-0.8
	baz=44,SNR=9.1						
QIS	Mount Isa	44.97	256	P	P	10 03 11.6	-1.1
	baz=45,SNR=3.5						
HTT	Hallett	46.60	238	P	P	10 03 24.4	-1.1
	baz=47,SNR=5.0						
JAY	Jayapura	47.10	281	LR	LR	10 21 01.4	
	comp=Z,274nm,18.9s,baz=80,slow=33						
BBOO	Buckleboo	48.87	240	P	P	10 03 41.7	-1.4
	baz=49,SNR=6.7						
WRAB	Tennant Creek	49.92	257	P	P	10 03 49.6	-1.7
	comp=Z,62nm,0.9s,SNR=12						
WRAB	Tennant Creek	49.92	257	*e*P	P	10 03 49.9	-1.4
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	Tennant Creek	49.92	257	*c i*P	P	10 03 50.0	-1.4
WRAB	Tennant Creek	49.92	257	*e*P	P	10 03 49.9	-1.4
	comp=Z,14nm,1.0s						
WRA	Warramunga Arr	49.93	257	P	P	10 03 50.0	-1.4
WRA				PcP	PcP	10 05 10.9	-0.7
WRA	Warramunga Arr	49

comp=Z,74nm,18.6s,baz=0.0,slow=31
225A **Deer Hill, Car** **80.78** **53** P **P** **10 07 10.9 -0.3**
baz=81
627A **Terlingua Ranc** **80.83** **56** P **P** **10 07 10.9 -0.5**
baz=81
Z24A **Sheeppen Canyo** **80.88** **52** P **P** **10 07 11.8 +0.1**
baz=81
527A **Woodward Ranch** **80.93** **55** P **P** **10 07 12.1 +0.1**
baz=81
Y24A **Capitan** **81.08** **51** P **P** **10 07 12.0 -0.8**
baz=81
MCK **McKinley** **81.16** **11** *e*P **P** **10 07 11.4 -0.9**
MCK pmax pmax
comp=Z,1.0nm,0.4s
MCK **McKinley** **81.16** **11** *e*P **P** **10 07 11.4 -0.9**
comp=Z,1.4nm,0.4s
CN2 **Changchun** **81.20** **320** *e*P **P** **10 07 12.9 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MCMT **McKenzie Canyo** **81.23** **39** *e*P **P** **10 07 13.2 -0.2**
comp=Z,2.1nm,0.9s
226B **Tecolote Peak,** **81.28** **53** P **P** **10 07 12.5 -1.2**
baz=81
Z25A **Roswell** **81.35** **52** P **P** **10 07 14.8 +0.6**
baz=82
427A **Hayter Ranch,** **81.37** **55** P **P** **10 07 13.8 -0.5**
baz=82
U23A **El Rito** **81.56** **49** P **P** **10 07 15.1 -0.2**
baz=82
528A **Cox Ranch, San** **81.59** **56** P **P** **10 07 14.6 -0.9**
baz=82
126A **Clayton Basin,** **81.62** **53** P **P** **10 07 14.8 -0.8**
baz=82
Y25A **Mesa, Roswell** **81.64** **51** P **P** **10 07 15.0 -0.7**
baz=82
W24A **Lazy 6 Ranch,** **81.65** **50** P **P** **10 07 14.6 -1.2**
baz=82
MSO **Missoula** **81.67** **37** *e*P **P** **10 07 15.1 -0.4**
comp=Z,39nm,2.3s
MSO **Missoula** **81.67** **37** P **P** **10 07 14.4 -1.1**
baz=82
DLMT **Dillon** **81.67** **38** *e*P **P** **10 07 16.4 +0.8**
S22A **4UR Ranch, Cre** **81.73** **47** P **P** **10 07 16.4 +0.1**
baz=82
BSMT **Bassoo Peak** **81.75** **35** *e*P **P** **10 07 15.0 -1.0**
428A **Kincaid Ranch,** **81.89** **55** P **P** **10 07 16.5 -0.5**
baz=82
Z26A **Caprock** **81.91** **52** P **P** **10 07 16.2 -0.9**
baz=82
X25A **Clemmons Ranch** **81.91** **51** P **P** **10 07 17.1 -0.1**
baz=82
V24A **Rampart Ranch,** **81.97** **50** P **P** **10 07 18.4 +0.8**
baz=82
CHMT **Chamberlain Mo** **82.11** **37** *e*P **P** **10 07 17.2 -0.8**
comp=Z,2.8nm,1.0s
FLWY **Flagg Ranch** **82.17** **40** *e*P **P** **10 07 19.0 +0.6**
comp=Z,15nm,1.3s
PDAR **Pinedale Array** **82.24** **42** P **P** **10 07 17.5 -1.3**
PDAR **Pinedale Array** **82.24** **42** P **P** **10 07 17.5 -1.3**
comp=Z,1.6nm,0.8s,baz=203,slow=2.7,SNR=9.1
SMCO **Snowmass** **82.28** **46** *e*P **P** **10 07 18.2 -1.0**
YMR **Madison River** **82.30** **40** *e*P **P** **10 07 20.5 +1.5**
comp=Z,12nm,0.3s
COLA **College** **82.40** **11** ⇑*i*P **P** **10 07 17.8 -0.9**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA **College** **82.40** **11** *e*P P 10 07 21.8 +3.0
comp=Z,145nm,2.9s
429A **Davenport Ranc** **82.48** **55** P **P** **10 07 18.6 -1.5**
baz=83
ILAR **Eielson Array** **82.48** **11** P **P** **10 07 17.9 -1.3**
ILAR **Eielson Array** **82.48** **11** P **P** **10 07 17.9 -1.3**
comp=Z,0.8nm,0.6s,baz=231,slow=6.6,SNR=18
ILAR LR LR 10 35 30.4
comp=Z,91nm,21.1s,baz=220,slow=30
V25A **Rancho No Teng** **82.50** **50** P **P** **10 07 18.9 -1.3**
baz=83
P22A **Eagle** **82.61** **46** P **P** **10 07 19.3 -1.5**
baz=83
Y27A **Causey** **82.78** **52** P **P** **10 07 21.0 -0.7**
baz=83
128A **Castleberry Fa** **82.80** **53** P **P** **10 07 19.8 -1.9**
baz=83
J19A **Crowheart** **82.81** **42** P **P** **10 07 20.6 -1.0**
baz=83
W26A **Owens Ranch, T** **82.82** **51** P **P** **10 07 21.1 -0.8**
baz=83
HRY **Holter Researc** **82.83** **38** *e*P **P** **10 07 20.6 -1.0**
S24A **Houchin Ranch,** **82.84** **48** P **P** **10 07 20.6 -1.5**
baz=83
U25A **Circle Dot Ran** **82.89** **49** P **P** **10 07 20.9 -1.4**
baz=83
O22A **Kremmling** **83.02** **45** P **P** **10 07 21.3 -1.7**
baz=83
QIZ **Qiongzhong** **83.03** **292** P **P** **10 07 20.8 -2.3**
QIZ S **S** **10 17 42.4 +0.3**
QIZ LR LR
comp=Z,99nm,26.7s
631A **Perdido Creek** **83.08** **57** P **P** **10 07 22.1 -1.1**
baz=83
R24A **Sanders Place,** **83.17** **47** P **P** **10 07 23.5 -0.2**
baz=83
I19A **Meeteetse** **83.22** **41** P **P** **10 07 22.4 -1.4**
baz=83
330A **Mertzon** **83.35** **55** P **P** **10 07 23.4 -1.2**
baz=84
N22A **Wattenberg Ran** **83.37** **45** P **P** **10 07 23.9 -0.8**
baz=84
531A **Rocksprings** **83.38** **56** P **P** **10 07 23.6 -1.2**
baz=84
S25A **Robets Cordova** **83.40** **48** P **P** **10 07 24.1 -0.8**
baz=84
Q24A **Divide** **83.45** **47** P **P** **10 07 24.0 -1.3**
baz=84
J20A **Shoshoni** **83.47** **42** P **P** **10 07 24.1 -0.9**
baz=84
O23A **Lake Granby, G** **83.47** **45** P **P** **10 07 24.5 -0.8**
baz=84
933A **Laredo** **83.48** **59** P **P** **10 07 25.5 +0.2**
baz=84
ISCO **Idaho Springs** **83.50** **46** P **P** **10 07 24.2 -1.3**
baz=84
H19A **Powell** **83.53** **40** P **P** **10 07 23.9 -1.4**
baz=84
M22A **Cedar Creek Ra** **83.54** **44** P **P** **10 07 23.8 -1.7**
baz=84
K21A **Alcova** **83.67** **43** P **P** **10 07 24.6 -1.6**
baz=84
R25A **Fountain Ranch** **83.72** **48** P **P** **10 07 26.2 -0.2**
baz=84
I20A **Worland** **83.72** **41** P **P** **10 07 25.0 -1.3**
baz=84
N23A **Red Feather La** **83.75** **45** P **P** **10 07 25.3 -1.4**
baz=84
X28A **Dimmitt** **83.77** **52** P **P** **10 07 25.7 -1.0**
baz=84
J21A **Lysite** **83.88** **42** P **P** **10 07 25.8 -1.4**
baz=84
Y29A **Porterfield Fa** **83.91** **53** P **P** **10 07 26.8 -0.6**
baz=84
L22A **Ellis Ranch, M** **83.94** **44** P **P** **10 07 26.9 -0.6**
baz=84
H20A **Greybull** **84.06** **41** P **P** **10 07 26.7 -1.3**
baz=84
U27A **Thompson Grove** **84.06** **50** P **P** **10 07 27.4 -0.8**
baz=84
PMSA **Palmer Station** **84.08** **156** *e*P P 10 07 31.8 +4.2
comp=Z,65nm,0.5s
Z30A **Sanderson Ranc** **84.11** **53** P **P** **10 07 27.8 -0.6**
baz=84
F19A **Roth Farm, Mol** **84.13** **39** P **P** **10 07 27.0 -1.2**
baz=84
K22A **Casper** **84.16** **43** P **P** **10 07 27.5 -1.0**
baz=84
I21A **Big Trails, Te** **84.19** **42** P **P** **10 07 27.4 -1.4**
baz=84
432A **Menard** **84.25** **56** P **P** **10 07 28.1 -1.0**
baz=84
834A **Tilden** **84.26** **59** P **P** **10 07 29.2 -0.1**
baz=84
G20A **Bridger** **84.27** **40** P **P** **10 07 29.0 0.0**
baz=84
P25A **Willow Gulch B** **84.38** **47** P **P** **10 07 28.9 -0.9**
baz=84
L23A **Garrett** **84.46** **44** P **P** **10 07 28.7 -1.6**
baz=85
Y30A **Stafford Cattl** **84.51** **53** P **P** **10 07 29.4 -1.1**
baz=85
E19A **Rath Farm, Rou** **84.52** **39** P **P** **10 07 29.8 -0.5**
baz=85
533A **Kerrville** **84.56** **57** P **P** **10 07 29.6 -1.2**
baz=85
BILL **Bilibino** **84.58** **352** ⇑*i*P **P** **10 07 30.1 +0.2**
BILL pmax pmax
comp=Z,35nm,1.5s
Q26A **Hugo** **84.59** **47** P **P** **10 07 29.8 -1.0**
baz=85
433A **Art** **84.77** **56** P **P** **10 07 30.6 -1.2**
baz=85
D19A **Cripps Ranch,** **84.81** **38** P **P** **10 07 32.0 +0.3**
baz=85
Z31A **Sharp Cattle R** **84.88** **54** P **P** **10 07 31.1 -1.2**
baz=85
E20A **Meyer Farm, Mu** **84.94** **39** P **P** **10 07 32.4 +0.1**
baz=85
C19A **Slack Wire Ran** **84.98** **38** P **P** **10 07 32.1 -0.4**
baz=85
ABTX **Abilene, Hawle** **85.01** **54** *e*P **P** **10 07 31.5 -1.4**
comp=Z,5.8nm,0.7s
ABTX **Abilene, Hawle** **85.01** **54** P **P** **10 07 31.6 -1.4**
baz=85
Y31A **Rekieta Farm,** **85.03** **53** P **P** **10 07 31.5 -1.6**
baz=85
D20A **Manuel Ranch,** **85.21** **38** P **P** **10 07 33.2 -0.4**
baz=85
Z32A **Haskell** **85.39** **54** P **P** **10 07 33.1 -1.7**
baz=86
R28A **Tribune** **85.57** **48** P **P** **10 07 34.2 -1.6**
baz=86
133A **Hamilton Ranch** **85.58** **55** P **P** **10 07 35.1 -0.6**
baz=86
C20A **Veseth Ranch,** **85.59** **38** P **P** **10 07 34.6 -0.9**
baz=86
334A **Lometa** **85.66** **56** P **P** **10 07 36.0 -0.2**
baz=86
Y32A **R-V Farms, Ver** **85.68** **53** P **P** **10 07 34.9 -1.4**
baz=86
Z33A **Whitaker Ranch** **85.94** **54** P **P** **10 07 36.9 -0.6**
baz=86
X32A **Elmer** **85.95** **53** P **P** **10 07 36.2 -1.4**
baz=86
MAW **Mawson** **87.77** **199** LR LR 10 46 03.0
comp=Z,168nm,18.6s,baz=123,slow=35
GYA **Guiyang** **88.16** **298** P **P** **10 07 50.0 +1.4**
GYA SKS **SKSac** **10 18 16.8 -0.3**
GYA S **S** **10 18 35.6 +2.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,520nm,21.8s
GYA LR LR
comp=Z,470nm,22.0s
GYA LR LR
comp=Z,540nm,20.6s
HHC **Hu-ho-hao-te** **89.14** **313** *e*P **P** **10 07 54.5 +1.6**
HHC pP **pP** **10 07 59.4 +0.6**
HHC sP **sP** **10 08 03.3 +2.5**
HHC sS **ScS** **10 18 51.8 +5.5**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,250nm,4.4s
HHC LR LR
comp=Z,170nm,16.1s
HHC LR LR
comp=Z,350nm,16.3s
HHC LR LR
comp=Z,170nm,17.9s
PLCA **Paso Flores** **89.39** **132** LR LR 10 38 44.2
comp=Z,137nm,20.6s,baz=257,slow=29
YKA **Yellowknife Ar** **90.11** **23** P **P** **10 07 55.4 -1.4**
YKA **Yellowknife Ar** **90.11** **23** P **P** **10 07 55.4 -1.4**
comp=Z,1.2nm,1.1s,baz=241,slow=4.4,SNR=8.7
KMI **Kunming** **91.15** **296** P **P** **10 08 04.0 +1.2**
KMI S **S** **10 19 02.9 +2.1**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI LR LR
comp=Z,74nm,26.6s
CD2 **Chengdu** **91.93** **301** *e*P **P** **10 08 07.4 +1.3**
CD2 sP **sP** **10 08 14.5 +0.5**
CD2 SKS **SKSac** **10 18 39.5 +0.8**
CD2 S **ScS** **10 19 10.1 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,110nm,9.5s
CD2 LR LR
comp=Z,300nm,13.1s
CD2 LR LR
comp=Z,220nm,13.1s
CMAR **Chiang Mai Arr** **92.73** **288** LR LR 10 43 32.2
comp=Z,71nm,21.6s,baz=125,slow=32
LZH **Lanzhou** **93.34** **306** *e*P **P** **10 08 14.3 +1.7**
LZH pP **pP** **10 08 17.5 -1.0**
LZH sP **sP** **10 08 19.1 -1.4**
LZH pmax pmax
comp=Z,15nm,1.6s
LZH pmax pmax
comp=Z,130nm,9.5s
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,170nm,18.2s
LZH LR LR
comp=Z,220nm,20.0s
ULM **Lac du Bonnet** **93.91** **39** LR LR 10 46 47.2
comp=Z,138nm,18.9s,baz=266,slow=33
SONM **Songino Array** **94.96** **318** LR LR 10 45 55.0
comp=Z,69nm,21.8s,baz=124,slow=32
TIXI **Tiksi** **95.09** **344** ⇑*i*P **P** **10 08 17.4 -2.2**
TIXI pmax pmax
comp=Z,2.0nm,1.4s
LPAZ **La Paz** **99.69** **110** *e*Pdif **Pdif** **10 08 44.4 +2.0**
WMQ **Urumqi** **106.98** **312** Pdif **Pdif** **10 09 15.3 +1.7**
WMQ AMB AMB
comp=Z,13nm,9.5s
WMQ LR LR
comp=Z,38nm,22.0s
WMQ LR LR
comp=Z,43nm,20.8s
KSH **Kashi** **115.59** **307** *e*PKP PKPdf 10 13 34.5 -5.2
KSH *es*PKP 10 13 48.3
KSH AMB AMB
comp=Z,42nm,6.1s
KSH LR LR
comp=Z,54nm,5.0s
KSH LR LR
comp=Z,58nm,5.7s
KSH LR LR
comp=Z,110nm,5.0s
ABKAR **Akbulak array** **125.33** **320** *e*PKPdf **PKPdf** **10 13 57.4 -0.5**
FINES **FINESS Array B** **132.02** **348** PKP **PKPdf** **10 14 10.6 +0.3**
FINES **FINESS Array B** **132.02** **348** PKP **PKPdf** **10 14 10.6 +0.3**
comp=Z,0.7nm,0.5s,baz=328,slow=6.8,SNR=4.3
STHS **Stebnicka Huta** **144.11** **344** *e*PKIKP PKPbc 10 14 31.1 +0.2
STHS **Stebnicka Huta** **144.11** **344** *e*PKP PKPbc 10 14 31.1 +0.2
KOLS **Kolonicke sedl** **144.26** **342** *e*PKIKP **PKPab** **10 14 30.2 -0.8**
KOLS **Kolonicke sedl** **144.26** **342** *e*PKP **PKPab** **10 14 30.2 -0.8**
BURAR **Bucovina Array** **144.46** **338** ⇓*i*P **PKPab** **10 14 29.7 -2.2**
CRVS **Cervenica-Dubn** **144.52** **343** *e*PKIKP PKPbc 10 14 32.5 +0.3
CRVS **Cervenica-Dubn** **144.52** **343** *e*PKP PKPbc 10 14 32.5 +0.3
UZH **Uzhgorod** **144.53** **342** *e*PKHKP PKPpre 10 14 26.8
TRPA **Tarpa** **144.90** **341** ⇓*i*P **PKPab** **10 14 33.5 +0.2**
KECS **Kecovo** **145.17** **344** *e*PKIKP **PKPbc** **10 14 34.1 -0.2**
KECS **Kecovo** **145.17** **344** *e*PKP **PKPbc** **10 14 34.1 -0.2**
CFR **Carcaliu** **145.30** **333** ⇑PKP2 **PKPbc** **10 14 31.9 -2.9**
CFR **Carcaliu** **145.30** **333** ⇑*i*P **PKPbc** **10 14 31.9 -2.9**
KMBO **Kilima Mbogo** **145.60** **244** *e*PKPbc **PKPab** **10 14 37.5 +0.2**
KMBO **Kilima Mbogo** **145.60** **244** PKPbc **PKPbc** **10 14 37.3 +0.3**
comp=Z,3.1nm,0.8s,baz=103,slow=4.3,SNR=9.2
GRF **Grafenberg Arr** **145.66** **355** *e*PKP **PKPdf** **10 14 35.0 -0.6**
GRF *e*L L 11 08 27.1
comp=Z,725nm,18.7s
DOPR **Dopca** **145.79** **337** ⇑*i*P **PKPdf** **10 14 36.3 +0.4**
KHC **Kasperske Hory** **145.95** **352** *e*PKP2 **PKPab** **10 14 37.3 0.0**
KHC **Kasperske Hory** **145.95** **352** *e*PKPbc **PKPab** **10 14 37.3 0.0**
MLR **Muntele Rosu** **145.97** **336** ⇑*i*P **PKPdf** **10 14 36.4 0.0**
ISR **Istrita** **146.03** **335** ⇑PKP2 **PKPbc** **10 14 37.6 +0.4**
ISR **Istrita** **146.03** **335** ⇑*i*P **PKPbc** **10 14 37.6 +0.4**
GERES **GERESS Array B** **146.22** **352** PKPbc **PKPdf** **10 14 36.9 +0.3**
GERES **GERESS Array B** **146.22** **352** PKPbc **PKPdf** **10 14 36.9 +0.3**
comp=Z,1.8nm,0.9s,baz=38,slow=2.4,SNR=8.8
BR131 **Keskin Array S** **146.27** **321** *e*PKPbc **PKPbc** **10 14 38.0 -0.2**
BRTR **Keskin Array B** **146.27** **321** PKPbc **PKPdf** **10 14 37.7 +0.6**
BRTR **Keskin Array B** **146.27** **321** PKPbc **PKPdf** **10 14 37.7 +0.6**
comp=Z,3.1nm,0.7s,baz=117,slow=1.8,SNR=18
VOIR **146.36** **336** ⇑PKP2 **PKPab** **10 14 38.9 -0.1**
VOIR **146.36** **336** ⇑*i*P **PKPab** **10 14 38.8 -0.2**
ARR **Arges** **146.58** **337** ⇑*i*P **PKPbc** **10 14 39.1 +0.3**
CONA **Conrad Observa** **146.75** **349** ⇑*i*PKPab **PKPbc** **10 14 39.2 -0.1**
comp=Z,5.5nm,0.9s
SIRR **Siria** **146.83** **341** ⇑*i*P **PKPbc** **10 14 39.8 +0.3**
BFO **Black Forest** **147.19** **358** *i* PKP2 **PKPbc** **10 14 40.5 +0.1**
GZR **Gura Zlata** **147.23** **339** ⇑PKP2 **PKPbc** **10 14 40.6 -0.1**
GZR **Gura Zlata** **147.23** **339** ⇑*i*P **PKPbc** **10 14 40.6 -0.1**
BZS **Buzias** **147.43** **340** ⇑PKP2 **PKPbc** **10 14 41.3 +0.2**
BZS **Buzias** **147.43** **340** ⇑*i*P **PKPbc** **10 14 41.3 +0.2**
ARSA **Arzberg** **147.47** **349** ⇑*i*PKPab **PKPbc** **10 14 41.4 +0.2**
comp=Z,7.3nm,1.2s

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*ISCJB **22** 09:59:56.1±0.5, 64°.73N±0°.02×30°.64E±0°.09, h0km, Error ellipse: s-maj=5.7km s-min=3.4km az=7.1*
*IDC **22** 09:59:57.6±2.9, 64°.77N×31°.40E, h0km, mb1 3.3/4, mb1mx3.1/29, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=42.8km s-min=10.1km az=98.0*
*UPP **22** 09:59:57.5, 64°.59N×30°.83E, h0km, ML1.6, Suspected Mining explosion.*
*HEL **22** 09:59:58.3±0.2, 64°.76N×30°.64E, h0km, ML1.8, ML1.6(UPP), Explosion*
*CSEM **22** 09:59:58.5±0.5, 64°.83N×30°.68E, h1km, ML1.8, Error ellipse: s-maj=12.3km s-min=7.1km az=95.0, Mining explosion.*
*NAO **22** 09:59:58.7±1.4, 64°.80N×30°.56E, ML2.2*
*KOLA **22** 09:59:59.1, 64°.79N×30°.50E, h0km*
*BER **22** 10:00:00.1±2.5, 64°.83N×30°.19E, h0km, ML2.2(NAO), Suspected explosion*

ISC 22 09:59:57.9±0.9, 64°.84N±0°.03×30°.76E±0°.04, h0km, n69, σ1§41/93, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.24**	**343**	*e*P	**Pg**	**10 00 21.3**	**-0.4**
	baz=169						
KU6				*e*S	**Sg**	**10 00 38.0**	**+0.3**
KU6	**Riekki**	**1.24**	**343**	P	**Pg**	**10 00 21.3**	**-0.4**
KU6				S	**Sg**	**10 00 38.0**	**+0.3**
MSF	**Maaselka**	**1.29**	**327**	*e*P	**Pg**	**10 00 22.0**	**-0.6**
	baz=154						
MSF				*e*S	**Sg**	**10 00 39.5**	**+0.1**
MSF				MSG		10 00 39.5	
	comp=Z,5.0nm,0.2s						
MSF	**Maaselka**	**1.29**	**327**	P	**Pg**	**10 00 22.0**	**-0.6**
MSF				S	**Sg**	**10 00 39.5**	**+0.1**
	comp=Z,5.0nm,0.2s						
JOF	**Joensuu**	**1.95**	**172**	*e*P	**Pn**	**10 00 31.0**	**-1.1**
	baz=352						
JOF				*e*SG	**Sn**	**10 00 56.0**	**-1.2**
JOF				MSG		10 00 56.0	
	comp=Z,4.8nm,0.3s						
JOF	**Joensuu**	**1.95**	**172**	P	**Pn**	**10 00 31.0**	**-1.1**
JOF				Sg	**Sn**	**10 00 56.0**	**-1.2**
	comp=Z,4.8nm,0.3s						
OUL	**Oulu**	**2.08**	**279**	*e*PG	**Pb**	**10 00 34.9**	**-1.5**
OUL				*e*SG	**Sn**	**10 01 01.0**	**+0.5**
OUL				MSG		10 01 01.0	
	comp=Z,6.9nm,0.3s						
OUL	**Oulu**	**2.08**	**279**	Pg	**Pb**	**10 00 34.9**	**-1.5**
OUL				Sg	**Sn**	**10 01 01.0**	**+0.5**
	comp=Z,6.9nm,0.3s						
RNF	**Rovaniemi**	**2.65**	**314**	*e*PB	**Pb**	**10 00 44.4**	**-1.6**
	baz=129						
RNF				*e*SB	**Sb**	**10 01 18.6**	**-0.4**
RNF				MSG		10 01 18.6	
	comp=Z,6.0nm,0.2s						
RNF	**Rovaniemi**	**2.65**	**314**	Pb	**Pb**	**10 00 44.4**	**-1.6**
APA0	**Apatity Array**	**2.92**	**17**	Pn	**Pn**	**10 00 46.4**	**+0.9**
	baz=201,slow=12						
APA0				Sn	**Sn**	**10 01 22.4**	**+1.1**
	baz=197,slow=28						
APA0	**Apatity Array**	**2.92**	**17**	Pn	**Pn**	**10 00 46.4**	**+0.9**
	baz=201,slow=12						
APA0				Sn	**Sn**	**10 01 22.4**	**+1.1**
	baz=197,slow=28						
APA0	**Apatity Array**	**2.92**	**17**	P	**Pn**	**10 00 47.2**	**+1.7**
APA0				S	**Sn**	**10 01 23.3**	**+2.1**
APA0	**Apatity Array**	**2.92**	**17**	Pn	**Pn**	**10 00 46.4**	**+0.9**
	SNR=50						
APA0				Sn	**Sn**	**10 01 22.4**	**+1.1**
	SNR=50						
APA	**Apatity**	**2.94**	**20**	P	**Pn**	**10 00 47.7**	**+1.9**
APA				S	**Sn**	**10 01 23.9**	**+2.1**
SUF	**Sumiainen**	**2.95**	**226**	*e*PB	**Pn**	**10 00 47.2**	**+1.3**
	baz=36						
SUF				MSG	Sg	10 01 25.4	-7.2
	comp=Z,2.7nm,0.3s						
SUF				*e*SG	Sg	10 01 25.4	-7.2
SUF	**Sumiainen**	**2.95**	**226**	Pb	**Pn**	**10 00 47.2**	**+1.3**
VRF	**Varrio**	**2.96**	**351**	*e*P	**Pn**	**10 00 47.8**	**+1.8**
	baz=172						
VRF	**Varrio**	**2.96**	**351**	P	**Pn**	**10 00 47.8**	**+1.8**
KALU	**Kalix**	**3.27**	**292**	*e*P	**Pn**	**10 00 51.5**	**+1.3**
KALU	**Kalix**	**3.27**	**292**	P	**Pn**	**10 00 51.5**	**+1.3**
KALU	**Kalix**	**3.27**	**292**	P	**Pn**	**10 00 51.5**	**+1.3**
KAF	**Kangasniemi**	**3.39**	**218**	*e*PB	**Pn**	**10 00 53.4**	**+1.4**
	baz=40						
KAF				*e*SB	**Sn**	**10 01 34.1**	**+1.4**
KAF				MSG		10 01 34.1	
	comp=Z,0.8nm,0.3s						
KAF	**Kangasniemi**	**3.39**	**218**	Pb	**Pn**	**10 00 53.3**	**+1.4**
KAF				Sb	**Sn**	**10 01 34.1**	**+1.4**
	comp=Z,0.8nm,0.3s						
KEF	**Keuruu**	**3.76**	**227**	*e*P	**Pn**	**10 00 58.2**	**+1.2**
	baz=47						
KEF				*e*SG	**Sb**	**10 01 52.4**	**+1.3**
KEF				MSG		10 01 52.4	
	comp=Z,1.7nm,0.3s						
KEF	**Keuruu**	**3.76**	**227**	P	**Pn**	**10 00 58.2**	**+1.2**
SJUU	**Sjulsmark**	**3.92**	**284**	*e*P	**Pn**	**10 00 59.1**	**-0.1**
SJUU				*e*S	**Sn**	**10 01 46.9**	**+1.1**
SJUU	**Sjulsmark**	**3.92**	**284**	P	**Pn**	**10 00 59.1**	**-0.1**
SJUU				S	**Sn**	**10 01 46.8**	**+1.1**
SJUU	**Sjulsmark**	**3.92**	**284**	P	**Pn**	**10 00 59.1**	**-0.1**
SJUU				S	**Sn**	**10 01 46.9**	**+1.1**
VAF	**Ylistaro**	**4.00**	**247**	*e*P	**Pn**	**10 01 02.0**	**+1.8**
	baz=64						
VAF				*e*		10 01 50.3	
VAF				MSG		10 01 50.3	
	comp=Z,0.6nm,0.3s						
VAF	**Ylistaro**	**4.00**	**247**	P	**Pn**	**10 01 02.0**	**+1.8**
FIA0	**FINESS Array S**	**4.02**	**214**	Pn	**Pn**	**10 01 00.2**	**-0.3**
	baz=39,slow=12						
FIA0				Lg	Lg	10 01 59.0	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**4.02**	**214**	Pn	**Pn**	**10 01 00.2**	**-0.3**
	baz=39,slow=12						
FIA0				Lg	Lg	10 01 59.0	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**4.02**	**214**	*e*P	**Pn**	**10 01 01.2**	**+0.7**
	baz=28						
FIA0				MSG	Sg	10 01 58.3	-8.4
	comp=Z,5.4nm,0.8s						
FIA0				*e*SG	Sg	10 01 58.3	-8.4
FIA0	**FINESS Array S**	**4.02**	**214**	Pn	**Pn**	**10 01 00.2**	**-0.3**
	SNR=50						
FIA0	**FINESS Array S**	**4.02**	**214**	P	**Pn**	**10 01 01.2**	**+0.7**
FINES	**FINESS Array B**	**4.02**	**214**	Pn	**Pn**	**10 01 00.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=15						
FINES				Pg	**Pb**	**10 01 09.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=34,slow=15,SNR=13						
FINES				Lg	Lg	10 01 59.9	
	comp=Z,1.4nm,0.3s,baz=22,slow=28,SNR=23						
BURU	**Burvik**	**4.03**	**271**	*e*P	**Pn**	**10 01 00.3**	**-0.5**
BURU	**Burvik**	**4.03**	**271**	P	**Pn**	**10 01 00.3**	**-0.5**
BURU	**Burvik**	**4.03**	**271**	P	**Pn**	**10 01 00.3**	**-0.5**
HARU	**Harads**	**4.29**	**292**	*e*P	**Pn**	**10 01 05.5**	**+1.3**
HARU	**Harads**	**4.29**	**292**	P	**Pn**	**10 01 05.4**	**+1.3**
HARU	**Harads**	**4.29**	**292**	P	**Pn**	**10 01 05.5**	**+1.3**
MASU	**Masugnsbyn**	**4.42**	**310**	*e*P	**Pn**	**10 01 08.5**	**+2.4**
MASU	**Masugnsbyn**	**4.42**	**310**	P	**Pn**	**10 01 08.5**	**+2.4**
MASU	**Masugnsbyn**	**4.42**	**310**	P	**Pn**	**10 01 08.5**	**+2.4**
HEF	**Hetta**	**4.56**	**325**	*e*P	**Pn**	**10 01 09.5**	**+1.5**
HEF				*e*SG	**Sb**	**10 02 18.8**	**+4.7**

HEF				MSG			10 02 18.8	
	comp=Z,1.1nm,0.3s							
HEF	**Hetta**	**4.56**	**325**	P		**Pn**	**10 01 09.5**	**+1.5**
LILU	**Lilltraesk**	**4.64**	**280**	*e*P		**Pn**	**10 01 09.8**	**+0.7**
LILU	**Lilltraesk**	**4.64**	**280**	P		**Pn**	**10 01 09.8**	**+0.7**
LILU	**Lilltraesk**	**4.64**	**280**	P		**Pn**	**10 01 09.8**	**+0.7**
LANU	**Lannavaara**	**4.77**	**316**	*e*P		**Pn**	**10 01 11.7**	**+0.8**
LANU	**Lannavaara**	**4.77**	**316**	P		**Pn**	**10 01 11.7**	**+0.8**
LANU	**Lannavaara**	**4.77**	**316**	P		**Pn**	**10 01 11.7**	**+0.8**
SVAU	**Svanoeiden**	**4.82**	**271**	*e*P		**Pn**	**10 01 11.5**	**0.0**
SVAU	**Svanoeiden**	**4.82**	**271**	P		**Pn**	**10 01 11.5**	**0.0**
SVAU	**Svanoeiden**	**4.82**	**271**	P		**Pn**	**10 01 11.5**	**0.0**
ARA0	**ARCESS Array S**	**5.14**	**339**	Pn		**Pn**	**10 01 15.8**	**-0.1**
	baz=155,slow=14							
ARA0				Sn		**Sn**	**10 02 12.6**	**-3.3**
	baz=158,slow=28							
ARA0				Lg		Lg	10 02 34.3	
	baz=159,slow=37							
ARA0	**ARCESS Array S**	**5.14**	**339**	Pn		**Pn**	**10 01 15.9**	**-0.1**
	SNR=50							
ARCES	**ARCESS Array B**	**5.14**	**339**	Pn		**Pn**	**10 01 16.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=158,slow=14,SNR=41							
ARCES				Sn		**Sn**	**10 02 13.6**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=154,slow=25,SNR=6.0							
ARCES				Lg		Lg	10 02 36.2	
	comp=Z,0.7nm,0.3s,baz=156,slow=30,SNR=9.1							
NIKU	**Nikkaluokta**	**5.61**	**308**	*e*P		**Pn**	**10 01 23.4**	**+1.0**
NIKU	**Nikkaluokta**	**5.61**	**308**	P		**Pn**	**10 01 23.4**	**+1.0**
NIKU	**Nikkaluokta**	**5.61**	**308**	P		**Pn**	**10 01 23.4**	**+1.0**
I43RU	**DUBNA INFRASON**	**8.73**	**156**	*i*			10 54 40.0	
	baz=351,slow=332,SNR=1.0							
HFS	**Hagfors**	**9.18**	**247**	Pn		**Pn**	**10 02 09.1**	**-2.3**
	baz=57,slow=14							
HFS	**Hagfors**	**9.18**	**247**	Pn		**Pn**	**10 02 09.1**	**-2.3**
	baz=57,slow=14							
HFS	**Hagfors**	**9.18**	**247**	Pn		**Pn**	**10 02 11.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=63,slow=13,SNR=5.5							
HFS				Lg		Lg	10 04 41.0	
	comp=Z,0.2nm,0.3s,baz=52,slow=28,SNR=4.4							
NOA	**NORSAR Array B**	**9.67**	**256**	Pn		**Pn**	**10 02 15.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=42,slow=16,SNR=2.0							

IDC 22 10:08:31.6±1.8, 1°38N×126°92E, *h*0km, mb3.1/4, mb1 3.3/4, mb1mx3.2/32, mbtmp3.1/4, Error ellipse: s-maj=175.9km s-min=22.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.40**	**161**	P	P	10 13 32.2	+0.3
	0.3nm,0.6s,baz=340,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**25.80**	**165**	P	P	10 14 04.5	-0.2
	0.3nm,0.8s,baz=347,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**59.59**	**326**	P	P	10 18 37.2	-0.1
	0.1nm,0.4s,baz=123,slow=5.4,SNR=2.7						
KURBB	**Kurchatov Array**	**63.82**	**328**	P	P	10 19 05.8	+0.1
	0.2nm,0.6s,baz=127,slow=6.4,SNR=3.3						

*CRAAG **22** 10:16:05.5, 37°.08N×4°.03E, Ml3.8*
*CSEM **22** 10:16:08.9±0.3, 36°.94N×4°.01E, h10km, ML3.8, Error ellipse: s-maj=7.7km s-min=5.9km az=69.0*
*MDD **22** 10:16:09.5±0.6, 36°.98N×3°.98E, h0km, mb3.7/7, Error ellipse: s-maj=7.6km s-min=5.8km az=79.0, PRXIMO*
ISC 22 10:16:08.5±1.4, 36°.95N±0°.04×4°.06E±0°.03, h21km±8km, n45, σ1§75/56, 2C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.84**	**260**	P	**Pb**	**10 16 22.7**	**-1.6**
ABA	**Alger-Bouzarea**	**0.84**	**260**	P	**Pb**	**10 16 22.7**	**-1.6**
ABA	**Alger-Bouzarea**	**0.84**	**260**	P	**Pb**	**10 16 22.7**	**-1.6**
AKET	**Djebel Ketaf**	**0.92**	**189**	P	**Pn**	**10 16 27.6**	**+1.3**
AKET	**Djebel Ketaf**	**0.92**	**189**	P	**Pn**	**10 16 27.6**	**+1.3**
AKET	**Djebel Ketaf**	**0.92**	**189**	P	**Pn**	**10 16 27.6**	**+1.3**
ADJB	**Djebel Djoubb**	**0.94**	**212**	P	**Pn**	**10 16 26.6**	**0.0**
ADJB	**Djebel Djoubb**	**0.94**	**212**	P	**Pn**	**10 16 26.6**	**0.0**
ADJB	**Djebel Djoubb**	**0.94**	**212**	P	**Pn**	**10 16 26.6**	**0.0**
EMHD	**Djebel Mahouad**	**1.17**	**230**	P	**Pb**	**10 16 30.4**	**+0.4**
EMHD	**Djebel Mahouad**	**1.17**	**230**	P	**Pb**	**10 16 30.4**	**+0.4**
EMHD	**Djebel Mahouad**	**1.17**	**230**	P	**Pb**	**10 16 30.4**	**+0.4**
SET	**Setif**	**1.31**	**124**	P	**Pb**	**10 16 35.0**	**+2.5**
SET	**Setif**	**1.31**	**124**	P	**Pb**	**10 16 35.0**	**+2.5**
SET	**Setif**	**1.31**	**124**	P	**Pb**	**10 16 35.0**	**+2.5**
DFRA	**Djebel Bou Aff**	**1.52**	**105**	P	**Pb**	**10 16 36.1**	**+0.1**
DFRA	**Djebel Bou Aff**	**1.52**	**105**	P	**Pb**	**10 16 36.1**	**+0.1**
DFRA	**Djebel Bou Aff**	**1.52**	**105**	P	**Pb**	**10 16 36.1**	**+0.1**
CASM	**Ain Smara**	**2.07**	**109**	P	**Pn**	**10 16 42.3**	**+0.1**
CASM	**Ain Smara**	**2.07**	**109**	P	**Pn**	**10 16 42.3**	**+0.1**
CASM	**Ain Smara**	**2.07**	**109**	P	**Pn**	**10 16 42.3**	**+0.1**
CAEH	**'Ain El Ouahch**	**2.24**	**94**	P	Pn	10 16 37.6	-6.9
CAEH	**'Ain El Ouahch**	**2.24**	**94**	P	Pn	10 16 37.6	-6.9
CAEH	**'Ain El Ouahch**	**2.24**	**94**	P	Pn	10 16 37.6	-6.9
CMAH	**Djebel Manchou**	**2.72**	**96**	P	**Pn**	**10 16 48.2**	**-2.8**
CMAH	**Djebel Manchou**	**2.72**	**96**	P	**Pn**	**10 16 48.2**	**-2.8**
CMAH	**Djebel Manchou**	**2.72**	**96**	P	**Pn**	**10 16 48.2**	**-2.8**
ETOS	**Mallorca**	**2.98**	**341**	⇑P	**Pn**	**10 16 56.4**	**+1.8**
	1.1nm,0.1s,SNR=18						
ETOS				S	**Sn**	**10 17 27.7**	**-2.0**
	2.2nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.98**	**341**	P	**Pn**	**10 16 56.4**	**+1.8**
	1.1nm,0.1s,SNR=18						
ETOS				S	**Sn**	**10 17 27.7**	**-2.0**
	2.2nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.98**	**315**	P	**Pn**	**10 16 56.2**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**10 17 28.0**	**-1.8**
	4.4nm,0.2s,SNR=8.0						
EIBI	**Ibiza**	**2.98**	**315**	P	**Pn**	**10 16 56.2**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**10 17 28.0**	**-1.8**
	4.4nm,0.2s,SNR=8.0						
EBEN	**Beniarda**	**3.82**	**299**	P	**Pn**	**10 17 07.9**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**10 17 50.8**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**3.82**	**299**	P	**Pn**	**10 17 07.9**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**10 17 50.8**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.92**	**315**	P	**Pn**	**10 17 22.7**	**+1.3**
	0.1nm,0.1s,SNR=4.0						
EMOS				S	**Sn**	**10 18 15.9**	**-1.8**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.92**	**315**	P	**Pn**	**10 17 22.7**	**+1.3**
	0.1nm,0.1s,SNR=4.0						
EMOS				S	**Sn**	**10 18 15.9**	**-1.8**
	0.6nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**4.96**	**346**	⇑P	**Pn**	**10 17 23.5**	**+1.6**
	11nm,0.2s,SNR=18						
CFON				S	**Sn**	**10 18 16.1**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**4.96**	**346**	P	**Pn**	**10 17 23.5**	**+1.6**
	11nm,0.2s,SNR=18						
CFON				S	**Sn**	**10 18 16.1**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.97**	**333**	P	**Pn**	**10 17 23.8**	**+1.8**
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**10 18 17.2**	**-1.6**
	3.4nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.97**	**333**	P	**Pn**	**10 17 23.8**	**+1.8**
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**10 18 17.2**	**-1.6**
	3.4nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.33**	**339**	P	**Pn**	**10 17 29.5**	**+2.6**
	2.9nm,0.2s,SNR=6.5						
EMIR				S	**Sn**	**10 18 27.3**	**-0.4**
	SNR=7.9						
EMIR	**Miracle**	**5.33**	**339**	P	**Pn**	**10 17 29.5**	**+2.6**
	2.9nm,0.2s,SNR=6.5						
EMIR				S	**Sn**	**10 18 27.3**	**-0.4**
	SNR=7.9						
EJON	**La Jonquera**	**5.56**	**351**	P	**Pn**	**10 17 32.4**	**+2.3**
	5.2nm,0.2s,SNR=15						
EJON	**La Jonquera**	**5.56**	**351**	P	**Pn**	**10 17 32.4**	**+2.3**
	5.2nm,0.2s,SNR=15						
SJAF	**Saint Jean de**	**5.60**	**351**	P	**Pn**	**10 17 32.4**	**+1.8**
	34nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.60**	**351**	P	**Pn**	**10 17 32.4**	**+1.8**
	34nm,0.2s,SNR=7.9						

ISK 22 10:22:51.0, 38°.50N×27°.28E, *h*2km, MD1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.10**	**187**	*e*PG	Pg	10 22 53.4	+0.3
IZM				*e*SG	Sg	10 22 55.2	+0.8
BLCB	**Balcova**	**0.21**	**239**	*e*PG	Pg	10 22 56.3	+1.1
BLCB				*e*SG	Sg	10 23 00.1	+2.1
KULA	**Kula-Manisa**	**1.09**	**89**	*e*PG	Pb	10 23 12.6	0.0

*KRNET **22** 10:29:34.4±0.1, 39°.66N×73°.80E, h3km, mb3.5*
*ISCJB **22** 10:29:38.0±1.2, 39°.66N±0°.07×73°.79E±0°.07, h10km, Error ellipse: s-maj=10.7km s-min=7.2km az=157.8*
*NNC **22** 10:29:41.0±4.1, 39°.91N×73°.90E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=34.8km s-min=23.2km az=175.0*
ISC 22 10:29:38.1±1.8, 39°.69N±0°.07×73°.72E±0°.07, h10km, n11, σ1§90/17, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.37**	**333**	*i* P	Pg	10 29 41.0	-4.4
	baz=328						
SFK				*e*S	**Sg**	**10 29 48.0**	**-2.3**
	baz=328						
OHH	**Osh**	**1.10**	**320**	*e*P	**Pb**	**10 29 56.3**	**-3.0**
	baz=318						
OHH				*e*S	**Sb**	**10 30 13.5**	**-0.2**
	baz=318						
DRK	**Karamyk**	**1.50**	**263**	*e*P	**Pn**	**10 30 04.0**	**-1.3**
	baz=264						
DRK				*e*S	**Sg**	**10 30 26.7**	**+0.4**
	baz=264						
ARSB	**Arslanbob**	**1.73**	**341**	*e*P	**Pn**	**10 30 08.0**	**-0.4**
	baz=340						
ARSB				*e*S	**Sg**	**10 30 33.2**	**-0.5**
	baz=340						
ARLS	**Aral**	**2.22**	**12**	⇓*i*P	**Pn**	**10 30 15.2**	**+0.1**
	baz=10.0						
BTK	**Batken**	**2.26**	**280**	*e*P	**Pb**	**10 30 18.8**	**-0.3**
	baz=281						
BTK				*e*S	**Sg**	**10 30 52.3**	**+1.5**
	baz=281						
NRN	**Naryn**	**2.46**	**44**	*e*P	**Pn**	**10 30 19.0**	**+0.4**
	baz=43						
ARK	**Arkit**	**2.50**	**328**	*e*P	**Pb**	**10 30 20.6**	**-2.5**
	baz=327						
ARK				*e*S	**Sg**	**10 31 00.5**	**+2.2**
	baz=327						
AAK	**Ala-Archa**	**3.00**	**11**	⇑Pn	**Pn**	**10 30 26.7**	**+0.8**
	5.7nm,0.5s						
AAK				⇓Lg	Lg	10 31 07.2	
	11nm,0.8s						
TKM2	**Tokmak 2**	**3.53**	**23**	⇓Pn	**Pn**	**10 30 34.4**	**+1.2**
	1.4nm,0.5s						
TKM2				⇑Lg	Lg	10 31 25.7	
	3.2nm,0.5s						
KK31	**Karatay Array**	**4.18**	**326**	⇑Pn	**Pn**	**10 30 42.9**	**+0.9**
	0.4nm,0.3s,baz=132,slow=13,SNR=4.1						
KK31				⇑Sn	**Sn**	**10 31 34.9**	**+4.1**
	3.7nm,0.7s,baz=141,slow=25,SNR=4.5						
KK31				⇑Lg	Lg	10 31 51.3	
	2.7nm,0.5s						

*IDC **22** 10:34:15.9±0.9, 15°.57S×172°.37W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.1/33, mbtmp4.2/9, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=39.5km s-min=18.4km az=134.0*
*NEIC **22** 10:34:17.3±0.8, 15°.40S×172°.40W, h10km, mb4.2/2, Error ellipse: s-maj=32.6km s-min=11.8km az=131.0*
*ISCJB **22** 10:34:19.2±0.7, 15°.35S±0°.1×172°.5W±0°.2, h35km, mb4.2/11, MS3.3/5, Error ellipse: s-maj=29.6km s-min=7.8km az=36.5*
ISC 22 10:34:21.2±0.8, 15°.45S±0°.1×172°.4W±0°.2, h35km, n34, σ1§30/27, mb4.2/11, MS3.3/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.57**	**23**	*e*Pn	Pn	10 34 43.0	-3.7
AFI				*e*Sn	**Sn**	**10 35 03.2**	**-2.6**
AFI	**Afiamalu**	**1.57**	**23**	Pn	Pn	10 34 43.2	-3.5
	104nm,0.3s,baz=176,slow=1.4,SNR=119						
AFI				Sn	**Sn**	**10 35 03.4**	**-2.4**
	794nm,0.3s,baz=144,slow=19,SNR=29						
AFI				LR	LR	10 35 28.5	
	comp=Z,343nm,20.6s,baz=214,slow=42						
DZM	**Mont Dzumac**	**21.10**	**248**	*e*LR	LR	10 44 18.4	
	288nm,25.4s						
DZM	**Mont Dzumac**	**21.10**	**248**	LR	LR	10 45 54.5	
	comp=Z,213nm,20.4s,baz=36,slow=33						
PPT	**Papeete**	**22.00**	**99**	LR	LR	10 46 49.4	
	comp=Z,63nm,18.1s,baz=326,slow=34						
PPT2	**Papeete2**	**22.00**	**99**	*e*LR	LR	10 43 47.6	
	146nm,27.2s						
TBI	**Tubuai**	**23.04**	**114**	*e*LR	LR	10 44 21.4	
	111nm,28.0s						
URZ	**Urewera**	**24.61**	**200**	P	**P**	**10 39 37.5**	**-0.7**
URZ	**Urewera**	**24.61**	**200**	P	**P**	**10 39 37.5**	**-0.7**
	7.2nm,0.5s,baz=343,slow=2.4,SNR=22						
HNR	**Honiara**	**27.62**	**279**	LR	LR	10 49 42.1	
	comp=Z,63nm,20.0s,baz=116,slow=33						
ARMA	**Armidale**	**36.18**	**239**	*e*P	**P**	**10 41 19.6**	**-1.2**
	2.5nm,0.6s						
STKA	**Stephens Creek**	**44.88**	**240**	P	**P**	**10 42 31.0**	**-1.5**
STKA	**Stephens Creek**	**44.88**	**240**	P	**P**	**10 42 31.0**	**-1.5**
	2.1nm,0.6s,baz=79,slow=13,SNR=7.6						
STKA				LR	LR	10 59 12.2	
	comp=Z,35nm,19.3s,baz=25,slow=33						
WRAB	**Tennant Creek**	**50.77**	**257**	*e*P	**P**	**10 43 18.1**	**-0.2**
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**50.78**	**257**	P	**P**	**10 43 17.4**	**-1.0**
WRA	**Warramunga Arr**	**50.78**	**257**	P	**P**	**10 43 17.4**	**-1.0**
	1.7nm,0.8s,baz=92,slow=6.7,SNR=35						
WRA				LR	LR	11 03 42.5	
	comp=Z,42nm,18.6s,baz=35,slow=35						
AS31	**Alice Springs**	**51.03**	**252**	*e*P	**P**	**10 43 20.2**	**-0.1**
ASAR	**Alice Springs**	**51.03**	**252**	P	**P**	**10 43 19.6**	**-0.7**
ASAR	**Alice Springs**	**51.03**	**252**	P	**P**	**10 43 19.6**	**-0.7**
	5.0nm,0.7s,baz=87,slow=8.1,SNR=39						
PETK	**Petropavlovsk-**	**72.90**	**342**	P	**P**	**10 45 48.6**	**+2.1**
PETK	**Petropavlovsk-**	**72.90**	**342**	P	**P**	**10 45 48.6**	**+2.1**
	3.4nm,0.8s,baz=132,slow=8.6,SNR=3.4						
NVAR	**Mina Array Bea**	**73.67**	**42**	P	**P**	**10 45 52.2**	**+0.5**
NVAR	**Mina Array Bea**	**73.67**	**42**	P	**P**	**10 45 52.2**	**+0.5**
	0.9nm,0.9s,baz=226,slow=9.8,SNR=5.5						
TXAR	**Lajitas Array**	**79.80**	**56**	P	**P**	**10 46 26.3**	**0.0**
TXAR	**Lajitas Array**	**79.80**	**56**	P	**P**	**10 46 26.3**	**0.0**
	1.3nm,1.0s,baz=212,slow=3.8,SNR=6.6						
KTH	**Kantishna Hill**	**80.42**	**10**	*e*P	P	10 46 18.6	-10
SEY	**Seymchan**	**82.74**	**345**	P	**P**	**10 46 43.0**	**+2.0**
SEY	**Seymchan**	**82.74**	**345**	P	**P**	**10 46 43.0**	**+2.0**
	2.2nm,1.0s,baz=9.5,slow=23,SNR=4.4						
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**10 47 15.5**	**+0.3**
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**10 47 15.5**	**+0.3**
	0.8nm,0.9s,baz=236,slow=4.3,SNR=14						
GERES	**GERESS Array B**	**146.24**	**353**	PKPbc	**PKPab**	**10 53 58.9**	**0.0**
GERES	**GERESS Array B**	**146.24**	**353**	PKPbc	**PKPab**	**10 53 58.9**	**0.0**
	0.3nm,0.5s,baz=9.5,slow=4.1,SNR=4.9						
BRTR	**Keskin Array B**	**146.73**	**322**	PKPbc	**PKPab**	**10 54 00.8**	**-0.3**
BRTR	**Keskin Array B**	**146.73**	**322**	PKPbc	**PKPab**	**10 54 00.8**	**-0.3**
	3.6nm,0.9s,baz=105,slow=2.8,SNR=13						

*BJI **22** 10:38:46.6, 42°.43N×148°.73E, h2km, mB4.9/16, mb4.5/20, Ms4.6/9, Ms7 4.5/8*
*NIED **22** 10:39:00, 43°.50N×147°.60E, h74km, Mw4.1 Best double couple: M0 1.53000×10^15 NP1:φs 155.00000°, δ56.00000°, λ19.00000°. NP2:φs 54.00000°, δ75.00000°, λ144.00000°.*
*ISCJB **22** 10:39:06.0±0.7, 43°.63N±0°.06×147°.55E±0°.07, h81km±4km, mb4.2/37, Error ellipse: s-maj=11.5km s-min=5.1km az=144.8*
*IDC **22** 10:39:06.4±4.2, 43°.84N×147°.46E, h59km±31km, mb3.8/20, mb1 4.0/23, mb1mx3.8/51, mbtmp4.1/23, ML3.0/3, Error ellipse: s-maj=43.6km s-min=13.8km az=171.0*
*MOS **22** 10:39:06.2±1.2, 43°.79N×147°.59E, h78km, mb4.4/19, Error ellipse: s-maj=11.6km s-min=8.1km az=105.3*
MOS Felt (III) at Malokuril'skoe.
*SKHL **22** 10:39:06.5±0.3, 43°.61N×147°.65E, h82km±7km, mb5.0/4, msh6.0/3*
*JMA **22** 10:39:07.0±0.2, 43°.52N×147°.52E, h57km, M4.4*
JMA Felt I J1.
*NEIC **22** 10:39:09.1±1.8, 43°.87N×147°.61E, h83km±10km, mb4.5/9, Error ellipse: s-maj=24.6km s-min=7.9km az=165.0*
NEIC Felt [III] at Shakotan. Recorded [1 JMA] in eastern Hokkaido.
ISC 22 10:39:05.3±0.8, 43°.60N±0°.06×147°.68E±0°.05, h59km±6km, n137, σ1§64/146, mb4.2/37, MS4.4/3, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.67**	**294**	*e*P	**Pn**	**10 39 20.4**	**+1.2**
SHO				AMB	AMB	10 39 21.2	
	588nm,0.6s						
SHO				*e*S	**Sn**	**10 39 30.6**	**+1.3**
SHO				A	A	10 39 31.6	
	3μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.39**	**289**	*i* PN	**Pn**	**10 39 29.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.39**	**289**	*e*P	**Pn**	**10 39 29.0**	**+0.6**
YUK				AMB	AMB	10 39 29.2	
	450nm,0.2s						
YUK				AMB	AMB	10 39 29.2	
	390nm,0.2s						
YUK				AMB	AMB	10 39 29.2	
	3μm,0.2s						
YUK				*e*S	**Sn**	**10 39 46.1**	**+0.4**
YUK				A	A	10 39 46.9	
	3μm,0.3s						
YUK				A	A	10 39 46.9	
	3μm,0.3s						
NEM2	**Nemuro 2**	**1.43**	**261**	P	**Pn**	**10 39 29.4**	**+0.4**
NEM2				*e*S	**Sn**	**10 39 46.1**	**-0.7**
KUR	**Kuril'sk**	**1.64**	**5**	*d*/*i* PN	**Pn**	**10 39 33.0**	**+1.2**
KUR	**Kuril'sk**	**1.64**	**5**	*e*P	**Pn**	**10 39 33.0**	**+1.2**
KUR				AMB	AMB	10 39 33.9	
	140nm,0.6s						
KUR				AMB	AMB	10 39 33.9	
	100nm,0.6s						
KUR				AMB	AMB	10 39 33.9	
	540nm,0.6s						
KUR				*e*S	**Sn**	**10 39 52.9**	**+1.0**
KUR				A	A	10 39 53.5	
	2μm,0.5s						
KUR				A	A	10 39 53.5	
	3μm,0.5s						
KUR				A	A	10 39 56.4	
	10μm,3.0s						
KUR				A	A	10 39 56.4	
	8μm,3.0s						
JRA	**Rausu**	**1.88**	**281**	P	**Pn**	**10 39 36.2**	**+1.1**
JRA				*e*S	**Sn**	**10 39 58.3**	**+0.5**
JNK	**Nakash**	**2.15**	**271**	P	**Pn**	**10 39 39.3**	**+0.5**
JNK				*e*S	**Sn**	**10 40 03.6**	**-0.7**
JAK	**Akkeshi**	**2.26**	**256**	P	**Pn**	**10 39 40.6**	**+0.3**
JAK				*e*S	**Sn**	**10 40 05.5**	**-1.5**
JTKR	**Abashiri--Toko**	**2.75**	**279**	P	**Pn**	**10 39 48.5**	**+1.5**
JAR	**Ashorobuto**	**2.86**	**265**	P	**Pn**	**10 39 49.6**	**+1.1**
JAR				*e*S	**Sn**	**10 40 21.9**	**+0.1**
JOB	**Onbets**	**2.89**	**257**	P	**Pn**	**10 39 49.6**	**+0.7**
JOB				*e*S	**Sn**	**10 40 21.5**	**-1.0**
JMP	**Maruseppu**	**3.15**	**279**	P	**Pn**	**10 39 54.1**	**+1.6**
JCH	**Churui**	**3.31**	**254**	P	**Pn**	**10 39 54.8**	**+0.2**
JCH				*e*S	**Sn**	**10 40 31.3**	**-1.4**
HRK	**Horoka**	**3.31**	**269**	*e*P	**Pn**	**10 39 56.6**	**+1.9**
JKK2	**Kamakawa 2**	**3.58**	**276**	P	**Pn**	**10 40 00.4**	**+2.0**
ERM	**Erimo**	**3.68**	**246**	*e*PN	**Pn**	**10 40 00.7**	**+0.9**
ERM	**Erimo**	**3.68**	**246**	*e*P	**Pn**	**10 40 00.7**	**+0.9**
JKA	**Kamikawa-asahi**	**3.71**	**280**	*e*P	**Pn**	**10 40 02.3**	**+2.2**
ASAJ	**Asahikawa**	**3.71**	**280**	*e*Pn	**Pn**	**10 40 02.6**	**+2.5**
ASAJ				S	Sn	10 40 52.1	+10
ASAJ				*e*Sn	Sn	10 40 52.8	+10
ASAJ	**Asahikawa**	**3.71**	**280**	P	**Pn**	**10 40 02.3**	**+2.2**
	7.2nm,0.3s,baz=109,slow=10,SNR=37						
ASAJ				S	Sn	10 40 52.1	+10
	4.9nm,0.3s,baz=351,slow=30,SNR=3.7						
JFR	**Furan**	**3.73**	**265**	P	**Pn**	**10 40 02.1**	**+1.7**
JFR				*e*S	**Sn**	**10 40 43.3**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.85**	**252**	P	**Pn**	**10 40 02.5**	**+0.5**
JNBK				*e*S	**Sn**	**10 40 43.7**	**-2.3**
JSE	**Soyaes**	**3.90**	**292**	P	**Pn**	**10 40 04.4**	**+1.7**
JHR	**Hokuryu**	**4.32**	**274**	P	**Pn**	**10 40 11.3**	**+2.8**
JWK2	**Keihoku**	**4.48**	**295**	P	**Pn**	**10 40 13.7**	**+3.1**
JEW	**Eniwo**	**4.62**	**263**	P	**Pn**	**10 40 14.8**	**+2.3**
JEW				*e*S	**Sn**	**10 41 05.9**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.83**	**316**	⇑*e*PN	**Pn**	**10 40 17.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.83**	**316**	*e*Pn	**Pn**	**10 40 18.0**	**+2.6**
YSS				*e*Sn	**Sn**	**10 41 07.8**	**-2.2**
YSS	**Yuzh-Sakhalins**	**4.83**	**316**	*e*P	**Pn**	**10 40 17.0**	**+1.6**
YSS				AMB	AMB	10 40 18.8	
	comp=Z,20nm,0.8s						
YSS				*e*S	**Sn**	**10 41 09.0**	**-0.9**
YSS				A	A	10 41 20.8	
	comp=Z,60nm,0.9s						
USRK	**Ussuriysk Arra**	**11.34**	**278**	P	**Pn**	**10 41 42.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=78,slow=15,S

GYA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GYA					pmax	pmax		
	comp=Z,90nm,5.0s							
GYA					LR	LR		
	comp=Z,520nm,17.5s							
GYA					LR	LR		
	comp=Z,490nm,18.6s							
GYA					LR	LR		
	comp=Z,500nm,17.9s							
IM04	**Indian Mountai**	**38.54**	**34**	*e*P	**P**		**10 46 22.6**	**+0.9**
RSO	**Redoubt South**	**38.81**	**43**	P	P		10 46 21.7	-2.5
TRF	**Thorofare Moun**	**39.92**	**38**	*e*P	P		10 46 26.0	-7.3
	comp=Z,166nm,2.6s							
COLD	**Coldfoot**	**40.07**	**32**	*e*P	**P**		**10 46 35.8**	**+1.4**
	comp=Z,7.4nm,0.6s							
RC01	**Rabbit Creek A**	**40.26**	**42**	*e*P	P		10 46 28.7	-7.3
	comp=Z,5.6nm,0.8s							
KMI	**Kunming**	**40.86**	**258**	P	P		10 46 37.3	-4.4
KMI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
COLA	**College**	**40.97**	**36**	*e*P	**P**		**10 46 39.3**	**-2.5**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
COLA	**College**	**40.97**	**36**	*e*P	**P**		**10 46 39.2**	**-2.5**
	comp=Z,2.8nm,0.6s							
ILAR	**Eielson Array**	**41.38**	**36**	P	**P**		**10 46 46.0**	**+0.8**
ILAR	**Eielson Array**	**41.38**	**36**	P	**P**		**10 46 46.0**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=262,slow=7.4,SNR=9.5							
WMQ	**Urumqi**	**42.51**	**292**	P	**P**		**10 46 55.3**	**+0.5**
WMQ				pP	pP		10 46 59.8	-10
WMQ				sP	sP		10 47 02.3	-15
WMQ				PP	**PP**		**10 48 38.8**	**+4.8**
WMQ				PcP	**PcP**		**10 48 43.3**	**-3.1**
WMQ				ScP	**ScP**		**10 52 32.9**	**+1.0**
WMQ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
WMQ				LR	LR			
	comp=Z,74nm,38.5s							
WMQ				LR	LR			
	comp=Z,59nm,22.3s							
MK31	**Makanchi Array**	**44.99**	**298**	*e*P	**P**		**10 47 14.5**	**-0.1**
MK31	**Makanchi Array**	**44.99**	**298**	*e*P	**P**		**10 47 14.5**	**-0.1**
MKAR	**Makanchi Array**	**44.99**	**298**	*e*P	**P**		**10 47 14.7**	**+0.1**
MKAR	**Makanchi Array**	**44.99**	**298**	*e*P	**P**		**10 47 14.7**	**+0.1**
MKAR	**Makanchi Array**	**44.99**	**298**	P	**P**		**10 47 13.7**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=84,slow=9.0,SNR=10							
KURK	**Kurchatov**	**45.93**	**304**	P	**P**		**10 47 21.6**	**-0.3**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KURK	**Kurchatov**	**45.93**	**304**	*e*P	**P**		**10 47 21.5**	**-0.5**
	comp=Z,1.2nm,0.7s							
KURBB	**Kurchatov Arra**	**46.02**	**304**	P	**P**		**10 47 21.6**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=69,slow=8.5,SNR=6.7							
INK	**Inuvik**	**46.34**	**30**	*e*P	**P**		**10 47 26.3**	**+1.4**
	comp=Z,12nm,1.0s							
INK	**Inuvik**	**46.34**	**30**	P	**P**		**10 47 26.1**	**+1.3**
	comp=Z,8.0nm,0.8s,baz=289,slow=6.6,SNR=31							
BRVK	**Borovoye**	**49.94**	**310**	*e*P	**P**		**10 47 53.2**	**+0.3**
BRVK	**Borovoye**	**49.94**	**310**	*e*P	**P**		**10 47 53.2**	**+0.3**
	comp=Z,32nm,0.9s							
TKM2	**Tokmak 2**	**50.91**	**296**	*e*P	**P**		**10 48 01.3**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TKM2	**Tokmak 2**	**50.91**	**296**	*e*P	**P**		**10 48 01.2**	**+0.6**
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**51.77**	**296**	*e*P	**P**		**10 48 07.1**	**+0.1**
AAK	**Ala-Archa**	**51.77**	**296**	*e*P	**P**		**10 48 07.1**	**+0.1**
AAK	**Ala-Archa**	**51.77**	**296**	P	**P**		**10 48 06.8**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=61,slow=13,SNR=4.1							
KSH	**Kashi**	**52.27**	**292**	*e*P	P		10 48 17.3	+6.6
KSH				*e*PP	PP		10 50 20.3	+11
KSH				*e*PcS	**PcS**		**10 53 19.1**	**-0.7**
KSH				*e*S	S		10 55 52.5	+21
KSH				*e*sS	sS		10 56 00.3	+2.5
KSH				*e*SS	**SKiKP**		**10 59 33.3**	**+5.2**
KSH				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,130nm,4.5s							
KSH				LR	LR			
	comp=Z,99nm,5.3s							
KSH				LR	LR			
	comp=Z,110nm,6.5s							
KSH				LR	LR			
	comp=Z,98nm,4.5s							
KKAR	**Karatay Array**	**54.12**	**298**	*e*P	**P**		**10 48 23.6**	**-0.5**
KKAR	**Karatay Array**	**54.12**	**298**	*e*P	**P**		**10 48 23.6**	**-0.5**
	comp=Z,0.4nm,0.3s							
ARU	**Arti**	**54.72**	**317**	P	**P**		**10 48 27.1**	**-1.1**
RES	**Resolute Bay**	**55.00**	**17**	P	**P**		**10 48 29.9**	**-0.1**
RES	**Resolute Bay**	**55.00**	**17**	P	**P**		**10 48 29.9**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=329,slow=8.2,SNR=28							
YKA	**Yellowknife Ar**	**55.71**	**34**	P	**P**		**10 48 35.7**	**+0.4**
YKA	**Yellowknife Ar**	**55.71**	**34**	P	**P**		**10 48 35.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=304,slow=7.6,SNR=25							
ABKAR	**Akbulak array**	**57.45**	**309**	*e*P	**P**		**10 48 47.5**	**-0.3**
AKTO	**Aktyubinsk**	**57.92**	**311**	P	**P**		**10 48 50.6**	**-0.5**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**57.92**	**311**	P	**P**		**10 48 50.6**	**-0.5**
AKTO	**Aktyubinsk**	**57.92**	**311**	P	**P**		**10 48 50.6**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=72,slow=9.6,SNR=6.3							
ARCES	**ARCESS Array B**	**59.52**	**340**	P	**P**		**10 49 00.7**	**-1.3**
ARCES	**ARCESS Array B**	**59.52**	**340**	P	**P**		**10 49 00.7**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=50,slow=6.9,SNR=8.5							
JOF	**Joensuu**	**62.40**	**332**	*e*P	**P**		**10 49 18.6**	**-2.9**
JOF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**62.40**	**332**	*e*p	**P**		**10 49 18.6**	**-2.9**
	comp=Z,2.5nm,0.6s							
HYB	**Hyderabad**	**63.16**	**269**	*i* P	**P**		**10 49 29.0**	**+1.8**
HYB				*e*pP	pP		10 49 52.0	+8.8
WRA	**Warramunga Arr**	**64.41**	**194**	pP	pP		10 49 55.6	+4.3
	comp=Z,1.0nm,0.8s,baz=9.5,slow=6.7,SNR=10							
KAF	**Kangasniemi**	**64.62**	**334**	*e*P	**P**		**10 49 33.7**	**-2.4**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KAF	**Kangasniemi**	**64.62**	**334**	*e*p	**P**		**10 49 33.7**	**-2.4**
	comp=Z,3.3nm,0.8s							
FINES	**FINESS Array B**	**65.18**	**333**	P	**P**		**10 49 38.1**	**-1.7**
FINES	**FINESS Array B**	**65.18**	**333**	P	**P**		**10 49 38.1**	**-1.7**
	comp=Z,4.9nm,0.6s,baz=41,slow=7.5,SNR=24							
NVAR	**Mina Array Bea**	**67.33**	**58**	P	**P**		**10 49 55.6**	**+1.4**
NVAR	**Mina Array Bea**	**67.33**	**58**	P	**P**		**10 49 55.6**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=316,slow=7.6,SNR=3.5							
ASAR	**Alice Springs**	**68.12**	**194**	pP	pP		10 50 20.1	+5.0
	comp=Z,0.6nm,0.7s,baz=16,slow=7.0,SNR=6.6							
PDAR	**Pinedale Array**	**69.71**	**50**	P	**P**		**10 50 09.4**	**+0.3**
PDAR	**Pinedale Array**	**69.71**	**50**	P	**P**		**10 50 09.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=313,slow=3.2,SNR=2.9							
NB2	**NORSAR Subarra**	**69.88**	**339**	P	**P**		**10 50 08.6**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=31,slow=6.2							
NOA	**NORSAR Array B**	**69.88**	**339**	P	**P**		**10 50 08.7**	**-0.9**
NOA	**NORSAR Array B**	**69.88**	**339**	P	**P**		**10 50 08.7**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=32,slow=6.1,SNR=7.9							
HFS	**Hagfors**	**69.97**	**337**	P	**P**		**10 50 09.2**	**-0.9**
HFS	**Hagfors**	**69.97**	**337**	P	**P**		**10 50 09.2**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=57,slow=6.0,SNR=15							
KBZ	**Khabaz**	**70.18**	**312**	P	**P**		**10 50 12.5**	**+0.9**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**70.18**	**312**	P	**P**		**10 50 12.5**	**+0.9**
KBZ	**Khabaz**	**70.18**	**312**	P	**P**		**10 50 12.5**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=54,slow=7.4,SNR=5.4							
AKASG	**Malin Array Be**	**71.93**	**324**	*e*P	**P**		**10 50 21.1**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**71.93**	**324**	P	**P**		**10 50 21.2**	**-0.8**
AKASG	**Malin Array Be**	**71.93**	**324**	P	**P**		**10 50 21.2**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=39,slow=5.9,SNR=18							
KIEV	**Kiev**	**71.94**	**324**	*e*P	**P**		**10 50 21.0**	**-1.1**
KIEV	**Kiev**	**71.94**	**324**	*e*P	**P**		**10 50 21.0**	**-1.1**
CLL	**Collm**	**77.62**	**333**	*i* P	**P**		**10 50 54.5**	**-0.4**
CLL	**Collm**	**77.62**	**333**	*i* P	**P**		**10 50 54.5**	**-0.4**
BRTR	**Keskin Array B**	**77.92**	**314**	P	**P**		**10 50 56.7**	**-0.3**
BRTR	**Keskin Array B**	**77.92**	**314**	P	**P**		**10 50 56.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=60,slow=5.7,SNR=3.2							
GERES	**GERESS Array B**	**79.47**	**331**	P	**P**		**10 51 04.0**	**-1.3**
GERES	**GERESS Array B**	**79.47**	**331**	P	**P**		**10 51 04.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=43,slow=4.6,SNR=2.4							
TXAR	**Lajitas Array**	**82.41**	**57**	P	**P**		**10 51 22.0**	**+0.7**
TXAR				pP	**pP**		**10 51 41.8**	**+3.8**
TXAR	**Lajitas Array**	**82.41**	**57**	P	**P**		**10 51 22.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=282,slow=3.2,SNR=5.2							
TXAR				pP	**pP**		**10 51 41.8**	**+3.8**
	comp=Z,0.9nm,0.8s,baz=299,slow=3.7,SNR=7.9							
KEST	**Kesra**	**92.41**	**327**	*e*P	**P**		**10 52 09.1**	**-0.5**
LPAZ	**La Paz**	**139.23**	**59**	PKP	**PKPdf**		**10 58 26.3**	**-0.3**
LPAZ	**La Paz**	**139.23**	**59**	PKP	**PKPdf**		**10 58 26.3**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=285,slow=5.2,SNR=9.6							
H03N2	**Juan Fernandez**	**142.58**	**90**	T	T		13 37 48.9	
	baz=301,slow=75,SNR=8.6							
H03N3	**Juan Fernandez**	**142.59**	**90**	T	T		13 37 50.1	
	baz=301,slow=75,SNR=10.0							
H03N1	**Juan Fernandez**	**142.60**	**90**	T	T		13 37 50.2	
	baz=301,slow=75,SNR=6.9							

*CSEM **22** 10:40:30.8, 45.89N×15.41E, h0km, ML1.0, After LJU*

LJU 22 10:40:30.8, 45.89N×15.41E, h2km, ML1.0, 3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRES	**Cresnjev**	**0.07**	**152**	⇓*i*	Pg	Pg	10 40 32.3	-0.1
CRES				*i*	Sg	Sg	10 40 33.4	+0.1
CRES								
	comp=Z,56nm,0.1s							
CRES	**Cresnjev**	**0.07**	**152**		Pg	Pg	10 40 32.3	0.0
CRES				*i*	Sg	Sg	10 40 33.4	0.0
	comp=Z,56nm,0.1s							
LEGS	**Legarje**	**0.09**	**313**	⇓*i*	Pg	Pg	10 40 32.2	-0.4
LEGS				*i*	Sg	Sg	10 40 34.0	+0.3
LEGS	**Legarje**	**0.09**	**313**	⇓*i*	Pg	Pg	10 40 32.2	-0.4
LEGS				*i*	Sg	Sg	10 40 34.0	+0.3
CESS	**Cesta pri Krsk**	**0.09**	**25**	*i*	Pg	Pg	10 40 32.4	-0.3
CESS				*i*	Sg	Sg	10 40 33.9	-0.1
CESS								
	comp=Z,74nm,0.1s							
CESS	**Cesta pri Krsk**	**0.09**	**25**	*i*	Pg	Pg	10 40 32.3	-0.4
CESS				*i*	Sg	Sg	10 40 33.9	0.0
	comp=Z,74nm,0.1s							
GCIS	**Gornji Cirnik**	**0.16**	**99**	*i*	Pg	Pg	10 40 33.9	0.0
GCIS				*i*	Sg	Sg	10 40 36.3	+0.4
GCIS								
	comp=Z,13nm,0.1s							
GCIS	**Gornji Cirnik**	**0.16**	**99**	*i*	Pg	Pg	10 40 33.9	0.0
GCIS				*i*	Sg	Sg	10 40 36.3	+0.3
	comp=Z,13nm,0.1s							
GOLS	**Golise**	**0.19**	**52**	*i*	Pg	Pg	10 40 34.9	+0.3
GOLS								
	comp=Z,11nm,0.2s							
GOLS	**Golise**	**0.19**	**52**	*i*	Pg	Pg	10 40 34.9	+0.3
	comp=Z,11nm,0.2s							
DOBS	**Dobrina**	**0.26**	**9**	*i*	Pg	Pg	10 40 35.9	0.0
DOBS	**Dobrina**	**0.26**	**9**	*i*	Pg	Pg	10 40 35.9	0.0
BOJS	**Bojanci**	**0.40**	**196**	*i*	Pg	Pg	10 40 38.5	0.0
BOJS	**Bojanci**	**0.40**	**196**	*i*	Pg	Pg	10 40 38.5	0.0
VISS	**Visnje**	**0.41**	**258**	*i*	Pg	Pg	10 40 39.0	+0.3
VISS	**Visnje**	**0.41**	**258**	*i*	Pg	Pg	10 40 39.0	+0.3

IDC 22 10:44:42.9±3.3, 53.68N×87.98E, h0km, mb1 3.1/2, mb1mx2.9/30, mbtmp3.1/2, ML3.0/2, 1C-2D, Error ellipse: s-maj=31.8km s-min=17.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**280**	*i*			10 55 10.0	
	baz=98,slow=342,SNR=1.2							
ZALV	**Zalesovo Beam**	**1.90**	**280**	Pg		Pn	10 45 16.4	-0.1
	3.2nm,0.3s,baz=106,slow=12,SNR=42							
ZALV				Lg		Lg	10 45 43.4	
	8.5nm,0.3s,baz=98,slow=31,SNR=44							
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn		Pn	10 46 21.3	+0.6
	0.4nm,0.3s,baz=64,slow=15,SNR=17							
MK31	**Makanchi Array**	**7.79**	**210**	⇑Pn		Pn	10 46 38.2	+0.6
	0.7nm,0.7s,baz=29,slow=13,SNR=9.8							
MK31				⇓Sn		Sn	10 48 04.4	-2.1
	0.9nm,0.8s							
MK31				⇓Lg		Lg	10 48 47.1	
	1.1nm,0.5s,baz=29,slow=31,SNR=3.0							
MKAR	**Makanchi Array**	**7.79**	**210**	Pn		Pn	10 46 38.8	+1.2
	0.2nm,0.3s,baz=29,slow=13,SNR=9.5							
MKAR				Lg		Lg	10 48 51.1	
	0.3nm,0.3s,baz=30,slow=32,SNR=7.4							

*ISCJB **22** 10:46:47.8±0.5, 34.07N±0.05×70.15E±0.06, h10km, mb3.8/13, Error ellipse: s-maj=9.4km s-min=4.5km az=44.8*

*IDC **22** 10:46:48.4±0.8, 34.10N×70.00E, h0km, mb3.9/13, mb1 4.0/17, mb1mx3.8/53, mbtmp3.9/17, ML3.7/4, Error ellipse: s-maj=19.7km s-min=17.3km az=160.0*

ISC 22 10:46:49.7±0.6, 34.06N±0.06×70.04E±0.06, h10km, n39, σ1§94/46, mb4.0/13, 1C-1D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**1.91**	**131**	⇓P		**Pg**	**10 47 26.3**	**+0.1**
THW				S		**Sg**	**10 47 56.0**	**+5.1**
CHCP	**Chirah Chowk**	**2.72**	**98**	P		**Pb**	**10 47 37.1**	**-1.3**
CHCP				S		**Sg**	**10 48 17.0**	**0.0**
SARP	**Sargodha**	**3.07**	**133**	P		**Pb**	**10 47 41.4**	**-3.1**
DLH	**Dalhousie**	**5.19**	**105**	*e*P		**Pn**	**10 48 09.0**	**+1.3**
DLH				*e*S		**Sn**	**10 49 12.0**	**+4.3**
DHRM	**DHARAMSHALA**	**5.55**	**107**	*e*P		**Pn**	**10 48 14.9**	**+2.2**
DHRM				*e*S		**Sn**	**10 49 16.7**	**0.0**
DHRM				AML		AML	10 49 47.9	
	comp=E,332nm,0.8s							
DHRM				AML		AML	10 50 05.8	
	comp=N,259nm,0.1s							
BHK	**Bhakra**	**5.99**	**114**	*ex*		**Pg**	**10 48 44.2**	**-0.2**
SDNR	**Sundarnagar**	**6.37**	**112**	*e*P		**Pn**	**10 48 25.0**	**+1.3**
SDNR				*ex*		**Sn**	**10 49 33.0**	**-3.6**
SMLA	**Simla**	**6.69**	**114**	*e*P		Pn	10 48 31.4	+3.4
SMLA				*e*S		**Sn**	**10 49 43.2**	**-1.1**
SMLA				AML		AML	10 50 36.4	
	comp=N,141nm,0.8s							
SMLA				AML		AML	10 50 39.3	
	comp=E,163nm,0.8s							
NDI	**New Delhi**	**8.15**	**129**	*e*P		**Pn**	**10 48 48.0**	**-0.1**
NDI				*e*S		**Sn**	**10 50 21.0**	**+0.8**
AAK	**Ala-Archa**	**9.25**	**21**	⇑Pn		**Pn**	**10 49 05.1**	**+1.9**
	comp=E,4.3nm,0.5s							
AAK				Sn		**Sn**	**10 50 46.6**	**-0.9**
	comp=E,7.1nm,0.7s							
AAK	**Ala-Archa**	**9.25**	**21**	Pn		**Pn**	**10 49 05.2**	**+1.9**
	comp=E,2.0nm,0.3s,baz=196,slow=5.0,SNR=16							
AAK				Sn		**Sn**	**10 50 46.7**	**-0.7**
	comp=E,0.4nm,0.3s,baz=336,slow=20,SNR=4.4							
PYUN	**Piuthan**	**12.59**	**115**	*e*P		**Pn**	**10 49 47.6**	**-1.5**
	comp=E,22nm,0.4s							
DANN	**Dangsing**	**13.05**	**112**	*e*P		**Pn**	**10 49 54.4**	**-1.0**
	comp=E,12nm,0.4s							
KOLN	**Koldanda**	**13.22**	**115**	*e*P		**Pn**	**10 49 56.9**	**-0.8**
	comp=E,13nm,0.4s							
GKN	**Gorkha**	**13.89**	**112**	*e*P		**Pn**	**10 50 05.6**	**-1.3**
	comp=E,13nm,0.4s							
DMN	**Daman**	**14.45**	**112**	*e*P		**Pn**	**10 50 12.2**	**-2.4**
	comp=E,11nm,0.4s							
KKN	**Kakani**	**14.49**	**111**	*e*P		**Pn**	**10 50 12.2**	**-2.9**
	comp=E,21nm,0.5s							
PKIN	**Phulchoki**	**14.69**	**112**	*e*P		**Pn**	**10 50 15.3**	**-2.5**
	comp=E,16nm,0.4s							
PKI	**Pulchoki**	**14.70**	**112**	*e*P		**Pn**	**10 50 15.4**	**-2.7**
	comp=E,15nm,0.4s							
GUN	**Gumba**	**14.90**	**110**	*e*P		Pn	10 50 17.4	-3.4
	comp=E,15nm,0.3s							
JIRN	**Jiri**	**15.26**	**110**	*e*P		**Pn**	**10 50 23.5**	**-2.1**
	comp=E,18nm,0.4s							
MKAR	**Makanchi Array**	**15.75**	**32**	Pn		**Pn**	**10 50 29.8**	**-1.8**
	comp=E,0.2nm,0.3s,baz=230,slow=16,SNR=4.1							
RAMN	**Ramite**	**15.93**	**112**	*e*P		**Pn**	**10 50 31.0**	**-3.2**
	comp=E,13nm,0.4s							
TAPN	**Taplejung**	**16.60**	**109**	*e*P		**Pn**	**10 50 39.9**	**-2.9**
	comp=E,15nm,0.7s							
KURBB	**Kurchatov Arra**	**17.68**	**18**	P		**Pn**	**10 50 54.9**	**-1.1**
	comp=E,0.2nm,0.3s,baz=206,slow=11,SNR=3.3							
BVAR	**Borovoye Array**	**18.96**	**1**	P		**Pn**	**10 51 11.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=165,slow=9.1,SNR=6.2							
ZALV	**Zalesovo Beam**	**22.46**	**23**	P		**P**	**10 51 48.4**	**-0.4**
	comp=E,2.2nm,0.4s,baz=211,slow=10,SNR=5.1							
BRTR	**Keskin Array B**	**29.51**	**292**	P		**P**	**10 52 53.0**	**-1.3**
	comp=E,0.9nm,0.9s,baz=106,slow=11,SNR=2.9							
SONM	**Songino Array**	**30.41**	**52**	P		**P**	**10 53 03.9**	**+1.7**
	comp=E,0.3nm,0.5s,baz=242,slow=9.9,SNR=4.0							
AKASG	**Malin Array Be**	**33.92**	**312**	P		**P**	**10 53 34.1**	**+1.4**
	comp=E,1.1nm,0.6s,baz=91,slow=7.5,SNR=4.3							
IDI	**Anoyia**	**36.91**	**285**	P		**P**	**10 53 60.0**	**+1.3**
	comp=E,7.0nm,0.8s,baz=40,slow=13,SNR=2.4							
ARCES	**ARCESS Array B**	**43.11**	**339**	P		**P**	**10 54 49.5**	**-0.3**
	comp=E,2.0nm,0.8s,baz=103,slow=2.6,SNR=6.4							
HFS	**Hagfors**	**44.53**	**324**	P		**P**	**10 55 02.3**	**+1.1**
	comp=E,2.9nm,0.8s,baz=97,slow=12,SNR=3.6							
TORD	**Torodi Ar. Bea**	**64.88**	**269**	P		**P**	**10 57 28.0**	**-1.5**
	comp=E,0.3nm,0.4s,baz=47,slow=6.6,SNR=3.8							
INK	**Inuvik**	**76.43**	**9**	P		**P**	**10 58 38.3**	**-0.7**
	comp=E,0.9nm,0.7s,baz=345,slow=14,SNR=5.7							
ILAR	**Eielson Array**	**77.34**	**15**	P		**P**	**10 58 44.0**	**-0.2**
	comp=E,0.8nm,1.0s,baz=342,slow=4.7,SNR=5.7							
WRA	**Warramunga Arr**	**81.39**	**121**	P		**P**	**10 59 07.6**	**+0.6**
	comp=E,0.9nm,0.6s,baz=321,slow=4.9,SNR=14							
ASAR	**Alice Springs**	**83.53**	**124**	P		**P**	**10 59 19.3**	**+1.2**
	comp=E,0.6nm,0.6s,baz=312,slow=5.1,SNR=7.8							
YKA	**Yellowknife Ar**	**83.71**	**2**	P		**P**	**10 59 18.4**	**0.0**
	comp=E,0.6nm,0.8s,baz=350,slow=5.5,SNR=11							

*IDC **22** 10:48:06.7±0.8, 55.56N×163.53E, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.6/56, mbtmp3.7/10, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/51, Error ellipse: s-maj=23.8km s-min=14.5km az=166.0*

*MOS **22** 10:48:08.3±1.0, 55.45N×163.73E, h19km, mb4.3/2, Error ellipse: s-maj=15.1km s-min=9.9km az=57.4*

*KRSC **22** 10:48:09.1±1.1, 55.41N×163.68E, h63km±21km, ML4.4*

ISC 22 10:48:07.3±1.5, 55.39N±0.04×163.67E±0.04, h3km±10km, n62, σ1§61/79, mb3.6/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**1.02**	**328**	PN		**Pg**	**10 48 26.1**	**-0.9**
KBG	**Krutoberegovo**	**1.02**	**328**	*i* P		**Pg**	**10 48 26.1**	**-0.9**
BKI	**Bering**	**1.33**	**97**	PN		**Pg**	**10 48 32.9**	**+0.1**
BKI				S		**Sg**	**10 48 49.7**	**-0.4**
BKI	**Bering**	**1.33**	**97**	*e*P		**Pg**	**10 48 32.9**	**+0.1**
BKI				*e*S		**Sg**	**10 48 49.7**	**-0.4**
MKZ	**Mys Kozlova**	**1.39**	**234**	PN		**Pn**	**10 48 33.9**	**+0.3**
MKZ				S		**Sb**	**10 48 50.6**	**-1.4**
MKZ	**Mys Kozlova**	**1.39**	**234**	*i* P		**Pn**	**10 48 33.9**	**+0.3**
MKZ				*e*S		**Sb**	**10 48 50.6**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**1.77**	**289**	*e*P		**Pn**	**10 48 39.9**	**+1.0**
BZGR				*e*S		**Sn**	**10 49 02.0**	**0.0**
BZMR	**Bezymyannaya**	**1.88**	**288**	*e*P		**Pn**	**10 48 41.9**	**+1.4**
BZMR				*e*S		**Sn**	**10 49 04.6**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.89**	**289**	*e*P		**Pn**	**10 48 41.8**	**+1.2**
BZWR				*e*S		**Sn**	**10 49 04.6**	**-0.3**
KZV	**Kizimen**	**1.95**	**263**	P		**Pn**	**10 48 42.5**	**+1.1**
KMNR	**Kamenistaya**	**1.98**	**282**	*e*P		**Pn**	**10 48 43.6**	**+1.8**
KMNR				*e*S		**Sn**	**10 49 07.7**	**+0.5**
TUMR	**Tumrok**	**2.01**	**268**	*e*P		**Pn**	**10 48 44.0**	**+1.7**
TUMR				*e*S		**Sn**	**10 49 08.2**	**+0.2**
KPT	**Kopyto**	**2.03**	**288**	*e*P		**Pn**	**10 48 43.9**	**+1.4**
KPT				*e*S		**Sn**	**10 49 07.8**	**-0.7**
KOZR	**Kozyr**	**2.24**	**289**	PN		**Pn**	**10 48 47.5**	**+2.2**
KOZR				S		**Sn**	**10 49 14.4**	**+1.0**
KOZ	**Kozyrevsk**	**2.25**	**289**	*e*P		**Pn**	**10 48 47.5**	**+2.1**
KOZ				*e*S		**Sn**	**10 49 14.4**	**+0.8**
SRDR	**Sredinnyy**	**2.41**	**294**	*e*P		**Pn**	**10 48 49.3**	**+1.6**
SRDR				*e*S		**Sn**	**10 49 17.8**	**+0.1**
KII	**Karymskiy**	**2.80**	**243**	*e*P		**Pn**	**10 48 54.9**	**+1.9**
KII				*e*S		**Sn**	**10 49 27.3**	**+0.1**
**

VOSK			⇓Lg	Lg	10 55 20.5		
	13nm,0.6s						
AKTO	**Aktyubinsk**	**5.46 216**	⇑Pn	Pn	10 53 54.1	+1.8	
	2.3nm,1.2s						
AKTO			⇑Pg	Pg	10 54 10.3	-4.0	
	2.8nm,0.6s						
AKTO			⇓Sn	Sn	10 54 56.3	+0.7	
	14nm,0.9s						
AKTO	**Aktyubinsk**	**5.46 216**	Pn	Pn	10 53 54.1	+1.9	
	2.3nm,1.2s						
AB31	**Akbulak array**	**6.03 199**	⇑Pn	Pn	10 54 00.4	+0.4	
	1.4nm,0.7s,baz=25,slow=13,SNR=4.7						
AB31			⇓Sn	Sn	10 55 09.1	-0.6	
	11nm,0.6s,baz=19,slow=27,SNR=8.2						
AB31	**Akbulak array**	**6.03 199**	Pn	Pn	10 54 00.4	+0.4	
	1.4nm,0.7s,SNR=4.7						
AB31			Sn	Sn	10 55 09.1	-0.5	
	11nm,0.6s,SNR=8.2						
KURBB	**Kurchatov Arra**	**10.37 108**	⇑Lg	Lg	10 58 03.2		
	12nm,1.4s						
KURBB	**Kurchatov Arra**	**10.37 108**	Lg	Lg	10 58 03.2		
	12nm,1.4s						
KURK	**Kurchatov**	**10.38 108**	⇑Lg	Lg	10 58 01.1		
	2.9nm,1.1s						
KURK	**Kurchatov**	**10.38 108**	Lg	Lg	10 58 01.1		
	2.9nm,1.1s						

*BJI **22** 10:53:29.6,38°.82N×21°.37E,h12km,mB4.9/11,mb4.6/17, Ms4.7/6,Ms7 4.5/6*

*SKO **22** 10:53:30.1,38°.11N×22°.35E,h10km*

*IDC **22** 10:53:31.9±0.6,38°.44N×22°.02E,h0km,mb4.1/22, mb1 4.1/30,mb1mx4.1/40,mbtmp4.0/30,ML3.5/6, Error ellipse: s-maj=12.4km s-min=11.7km az=146.0*

*ISCJB **22** 10:53:32.0±0.2,38°.39N±0°.01×21°.94E±0°.01,h9km±1km, mb4.2/39,MS4.4/3, Error ellipse: s-maj=2.0km s-min=1.6km az=144.4*

*ATH **22** 10:53:32.2,38°.41N×21°.92E,h18km±1km,ML4.1*

*THE **22** 10:53:32.6,38°.43N×21°.92E,h3km,ML4.2/14, Error ellipse: s-maj=0.8km s-min=0.4km az=269.0*

*MOS **22** 10:53:32.7±1.1,38°.43N×22°.03E,h14km,mb4.4/25, Error ellipse: s-maj=6.2km s-min=4.3km az=90.3*

*CSEM **22** 10:53:32.7±0.1,38°.39N×21°.95E,h5km,mb4.2/27, Error ellipse: s-maj=2.7km s-min=2.2km az=55.0*

*NEIC **22** 10:53:33.2±0.2,38°.41N×21°.95E,h10km,mb4.3/11, ML4.1(ATH),ML4.2(THE), Error ellipse: s-maj=3.9km s-min=3.4km az=40.0*

*PDG **22** 10:53:33.0±0.7,38°.38N×21°.95E,h3km±1km,ML4.3/10, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*

*HLW **22** 10:53:34.3,38°.39N×22°.50E,h10km±11km,Md4.1,Ml3.8*

ISC 22 10:53:33.4±0.5,38°.41N±0°.01×21°.92E±0°.01,h11km±2km, n596,σ1ᵗ50/704,mb4.2/39,MS4.5/3,39C-24D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.02**	**334**	P	**Pg**	**10 53 33.8**	**-1.7**
EFP				S	**Sg**	**10 53 34.2**	**-2.4**
EFP	**Efpalio**	**0.02**	**334**	P	**Pg**	**10 53 33.7**	**-1.7**
EFP				S	**Sg**	**10 53 34.4**	**-2.4**
UPR	**University Cam**	**0.16**	**220**	P	**Pg**	**10 53 36.0**	**-1.1**
UPR				S	**Sg**	**10 53 39.2**	**-0.4**
UPR	**University Cam**	**0.16**	**220**	P	**Pg**	**10 53 36.0**	**-1.1**
UPR				S	**Sg**	**10 53 39.2**	**-0.4**
LAKA	**Lakka**	**0.17**	**164**	P	**Pg**	**10 53 36.5**	**-0.8**
LAKA	**Lakka**	**0.17**	**164**	*e*PB	**Pg**	**10 53 36.5**	**-0.8**
LAKA	**Lakka**	**0.17**	**164**	P	**Pg**	**10 53 36.5**	**-0.8**
LAKA	**Lakka**	**0.17**	**164**	P	**Pg**	**10 53 36.5**	**-0.8**
KALE	**Kalithea**	**0.18**	**95**	P	**Pg**	**10 53 36.5**	**-0.8**
KALE				S	**Sg**	**10 53 39.1**	**-1.0**
KALE	**Kalithea**	**0.18**	**95**	*e*PB	**Pg**	**10 53 36.5**	**-0.8**
KALE				*e*SB	**Sg**	**10 53 40.0**	**-0.1**
KALE	**Kalithea**	**0.18**	**95**	P	**Pg**	**10 53 36.5**	**-0.8**
KALE				S	**Sg**	**10 53 39.1**	**-1.0**
KALE	**Kalithea**	**0.18**	**95**	P	**Pg**	**10 53 36.5**	**-0.8**
KALE				S	**Sg**	**10 53 39.1**	**-1.0**
KALE				*e*Sb	**Sg**	**10 53 40.0**	**-0.1**
PVO	**Paravola**	**0.37**	**304**	P	**Pg**	**10 53 39.5**	**-1.3**
PVO				S	**Sg**	**10 53 44.9**	**-0.9**
PVO	**Paravola**	**0.37**	**304**	P	**Pg**	**10 53 39.5**	**-1.3**
PVO				S	**Sg**	**10 53 44.9**	**-0.9**
KLV	**Kalavryta, Ach**	**0.41**	**153**	P	**Pg**	**10 53 40.4**	**-1.1**
KLV				S	**Sg**	**10 53 47.5**	**+0.5**
KLV	**Kalavryta, Ach**	**0.41**	**153**	*e*PB	**Pg**	**10 53 40.4**	**-1.1**
KLV				*e*SB	**Sg**	**10 53 47.4**	**+0.5**
KLV	**Kalavryta, Ach**	**0.41**	**153**	P	**Pg**	**10 53 40.4**	**-1.1**
KLV				S	**Sg**	**10 53 47.5**	**+0.5**
KLV	**Kalavryta, Ach**	**0.41**	**153**	P	**Pg**	**10 53 40.4**	**-1.1**
KLV				*e*Sb	**Sg**	**10 53 47.4**	**+0.5**
DSF	**Desfina**	**0.48**	**89**	P	**Pg**	**10 53 41.3**	**-1.5**
DSF				S	**Sg**	**10 53 49.2**	**0.0**
DSF	**Desfina**	**0.48**	**89**	*e*PB	**Pg**	**10 53 41.4**	**-1.4**
DSF				*e*SB	**Sg**	**10 53 49.1**	**-0.1**
DSF	**Desfina**	**0.48**	**89**	P	**Pg**	**10 53 41.3**	**-1.5**
DSF				S	**Sg**	**10 53 49.2**	**0.0**
DSF	**Desfina**	**0.48**	**89**	P	**Pg**	**10 53 41.3**	**-1.5**
DSF				S	**Sg**	**10 53 48.7**	**-0.5**
DSF				*e*Sb	**Sg**	**10 53 49.1**	**-0.1**
DRO	**Drossia**	**0.48**	**200**	P	**Pg**	**10 53 41.7**	**-1.1**
DRO				S	**Sg**	**10 53 49.1**	**-0.2**
DRO	**Drossia**	**0.48**	**200**	*e*PB	**Pg**	**10 53 41.8**	**-1.1**
DRO				*e*SB	**Sg**	**10 53 49.5**	**+0.2**
DRO	**Drossia**	**0.48**	**200**	*e*Pb	**Pg**	**10 53 41.8**	**-1.1**
DRO				S	**Sg**	**10 53 48.5**	**-0.8**
DRO				*e*Sb	**Sg**	**10 53 49.5**	**+0.2**
RLS	**Riolos of Patr**	**0.50**	**226**	P	**Pg**	**10 53 42.1**	**-1.1**
RLS				S	**Sg**	**10 53 49.8**	**+0.1**
RLS	**Riolos of Patr**	**0.50**	**226**	*e*PN	**Pg**	**10 53 42.2**	**-1.0**
RLS				*e*SN	**Sg**	**10 53 50.0**	**+0.2**
RLS	**Riolos of Patr**	**0.50**	**226**	P	**Pg**	**10 53 42.1**	**-1.1**
RLS				S	**Sg**	**10 53 49.8**	**+0.1**
RLS	**Riolos of Patr**	**0.50**	**226**	*e*Pn	**Pg**	**10 53 42.2**	**-1.0**
RLS				S	**Sg**	**10 53 49.8**	**+0.1**
EVR	**Evrytania**	**0.52**	**351**	P	**Pg**	**10 53 42.0**	**-1.5**
EVR				S	**Sg**	**10 53 49.1**	**-1.3**
EVR	**Evrytania**	**0.52**	**351**	*e*PN	**Pg**	**10 53 42.0**	**-1.5**
EVR				*e*SN	**Sg**	**10 53 50.8**	**+0.4**
EVR	**Evrytania**	**0.52**	**351**	P	**Pg**	**10 53 42.0**	**-1.5**
EVR				S	**Sg**	**10 53 49.1**	**-1.3**
EVR	**Evrytania**	**0.52**	**351**	P	**Pg**	**10 53 42.0**	**-1.5**
EVR				S	**Sg**	**10 53 49.1**	**-1.3**
EVR				*e*Sn	**Sg**	**10 53 50.8**	**+0.4**
GUR	**Goura**	**0.58**	**144**	P	**Pg**	**10 53 43.3**	**-1.4**
GUR				S	**Sg**	**10 53 52.6**	**+0.3**
GUR	**Goura**	**0.58**	**144**	*e*PN	**Pg**	**10 53 43.5**	**-1.2**
GUR				*e*SN	**Sg**	**10 53 52.3**	**0.0**
GUR	**Goura**	**0.58**	**144**	P	**Pg**	**10 53 43.3**	**-1.4**
GUR				S	**Sg**	**10 53 52.6**	**+0.3**
GUR	**Goura**	**0.58**	**144**	*e*Pn	**Pg**	**10 53 43.5**	**-1.2**
GUR				*e*Sn	**Sg**	**10 53 52.3**	**0.0**
PDO	**Prodromos**	**0.61**	**289**	P	**Pg**	**10 53 43.4**	**-1.8**
PDO				S	**Sg**	**10 53 52.6**	**-0.6**
PDO	**Prodromos**	**0.61**	**289**	*e*PB	**Pg**	**10 53 43.5**	**-1.8**
PDO				*e*SN	**Sg**	**10 53 53.1**	**-0.1**
PDO	**Prodromos**	**0.61**	**289**	*e*Pb	**Pg**	**10 53 43.5**	**-1.8**
PDO				S	**Sg**	**10 53 52.1**	**-1.1**
PDO				*e*Sn	**Sg**	**10 53 53.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	P	**Pg**	**10 53 44.4**	**-1.2**
MAKR				S	**Sg**	**10 53 52.5**	**-1.4**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	*e*PN	**Pg**	**10 53 44.6**	**-1.0**
MAKR				*e*SN	**Sg**	**10 53 53.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	P	**Pg**	**10 53 44.4**	**-1.2**
MAKR				S	**Sg**	**10 53 52.5**	**-1.4**
MAKR	**Makrakomi, Fth**	**0.63**	**15**	P	**Pg**	**10 53 44.4**	**-1.2**
MAKR				S	**Sg**	**10 53 52.5**	**-1.4**
MAKR				*e*Sn	**Sg**	**10 53 53.8**	**-0.1**
AXAR	**Agios Charalam**	**0.68**	**58**	P	**Pg**	**10 53 45.0**	**-1.7**
AXAR				S	**Sg**	**10 53 55.3**	**-0.3**
AXAR	**Agios Charalam**	**0.68**	**58**	*e*PN	**Pg**	**10 53 45.2**	**-1.5**
AXAR				*e*SN	**Sg**	**10 53 55.3**	**-0.3**
AXAR	**Agios Charalam**	**0.68**	**58**	P	**Pg**	**10 53 45.0**	**-1.7**
AXAR				S	**Sg**	**10 53 55.3**	**-0.3**
AXAR	**Agios Charalam**	**0.68**	**58**	P	**Pg**	**10 53 45.0**	**-1.7**
AXAR				S	**Sg**	**10 53 55.3**	**-0.3**
AGG	**Agios Georgios**	**0.69**	**28**	P	**Pg**	**10 53 45.0**	**-1.9**
AGG				S	**Sg**	**10 53 54.9**	**-1.1**
AGG	**Agios Georgios**	**0.69**	**28**	P	**Pg**	**10 53 45.0**	**-1.9**
AGG				S	**Sg**	**10 53 54.9**	**-1.1**
AGG				*e*Sn	**Sg**	**10 53 55.3**	**-0.7**
LKR	**Lokris**	**0.88**	**74**	P	**Pg**	**10 53 48.6**	**-1.8**
LKR	**Lokris**	**0.88**	**74**	*e*PN	**Pg**	**10 53 48.7**	**-1.7**
LKR				*e*SN	**Sg**	**10 54 01.3**	**-0.7**
LKR	**Lokris**	**0.88**	**74**	P	**Pg**	**10 53 48.6**	**-1.8**
LKR	**Lokris**	**0.88**	**74**	P	**Pg**	**10 53 48.6**	**-1.8**
LKR				*e*Sn	**Sg**	**10 54 01.3**	**-0.7**
AMT	**Artemida-Makis**	**0.89**	**191**	P	**Pg**	**10 53 49.0**	**-1.6**
AMT				S	**Sb**	**10 54 02.8**	**+0.1**
AMT	**Artemida-Makis**	**0.89**	**191**	*e*PN	**Pg**	**10 53 49.5**	**-1.1**
AMT	**Artemida-Makis**	**0.89**	**191**	P	**Pg**	**10 53 49.0**	**-1.6**
AMT	**Artemida-Makis**	**0.89**	**191**	*e*Pn	**Pg**	**10 53 49.5**	**-1.1**
AMT				S	**Sb**	**10 54 02.8**	**+0.1**
LTK	**Loutraki**	**0.91**	**115**	P	**Pg**	**10 53 49.5**	**-1.5**
LTK				S	**Sb**	**10 54 03.5**	**+0.1**
LTK	**Loutraki**	**0.91**	**115**	*e*PN	**Pg**	**10 53 49.7**	**-1.3**
LTK	**Loutraki**	**0.91**	**115**	P	**Pg**	**10 53 49.5**	**-1.5**
LTK	**Loutraki**	**0.91**	**115**	P	**Pg**	**10 53 49.6**	**-1.5**
LTK				S	**Sb**	**10 54 03.5**	**+0.1**
LKD2	**Lefkada island**	**1.06**	**291**	P	**Pb**	**10 53 52.0**	**-1.7**
LKD2				S	**Sb**	**10 54 07.2**	**-0.4**
LKD2	**Lefkada island**	**1.06**	**291**	*e*PN	**Pb**	**10 53 52.1**	**-1.7**
LKD2	**Lefkada island**	**1.06**	**291**	P	**Pb**	**10 53 52.0**	**-1.7**
LKD2	**Lefkada island**	**1.06**	**291**	P	**Pb**	**10 53 52.0**	**-1.7**
LKD2				S	**Sb**	**10 54 07.2**	**-0.4**
VLS	**Valsamata**	**1.07**	**258**	P	**Pb**	**10 53 51.4**	**-2.5**
VLS	**Valsamata**	**1.07**	**258**	P	**Pb**	**10 53 51.4**	**-2.5**
VLS	**Valsamata**	**1.07**	**258**	*e*PB	**Pb**	**10 53 51.4**	**-2.5**
VLS	**Valsamata**	**1.07**	**258**	P	**Pb**	**10 53 51.4**	**-2.5**
VLS	**Valsamata**	**1.07**	**258**	*e*Pb	**Pb**	**10 53 51.5**	**-2.5**
VLX	**Vlachokerasia**	**1.10**	**160**	*e*PN	**Pb**	**10 53 52.7**	**-1.8**
VLX				*e*SN	**Sg**	**10 54 08.9**	**0.0**
VLX	**Vlachokerasia**	**1.10**	**160**	P	**Pb**	**10 53 52.5**	**-2.0**
VLX				*e*Sn	**Sg**	**10 54 08.9**	**0.0**
SMIA	**Simia**	**1.11**	**65**	P	**Pb**	**10 53 53.2**	**-1.5**
SMIA	**Simia**	**1.11**	**65**	*e*PN	**Pb**	**10 53 53.2**	**-1.5**
SMIA	**Simia**	**1.11**	**65**	P	**Pb**	**10 53 53.2**	**-1.5**
THL	**Klokotos Trika**	**1.16**	**4**	P	**Pb**	**10 53 53.9**	**-1.5**
THL				S	**Sb**	**10 54 10.1**	**-0.3**
THL	**Klokotos Trika**	**1.16**	**4**	*e*PN	**Pb**	**10 53 53.7**	**-1.7**
THL				*e*SN	**Sg**	**10 54 10.9**	**+0.2**
THL	**Klokotos Trika**	**1.16**	**4**	P	**Pb**	**10 53 53.9**	**-1.5**
THL				S	**Sb**	**10 54 10.1**	**-0.3**
ITM	**Ithomi**	**1.23**	**180**	P	**Pn**	**10 53 55.1**	**-1.4**
ITM				S	**Sg**	**10 54 14.3**	**+1.4**
ITM	**Ithomi**	**1.23**	**180**	*e*PN	**Pn**	**10 53 55.2**	**-1.3**
ITM	**Ithomi**	**1.23**	**180**	P	**Pn**	**10 53 55.1**	**-1.4**
ITM				S	**Sg**	**10 54 14.3**	**+1.4**
ITM	**Ithomi**	**1.23**	**180**	P	**Pn**	**10 53 55.1**	**-1.4**
ITM				S	**Sg**	**10 54 14.3**	**+1.4**
FYTO	**Fytoko, Volos**	**1.28**	**38**	P	**Pn**	**10 53 56.5**	**-0.7**
FYTO				S	**Sn**	**10 54 14.1**	**-0.2**
FYTO	**Fytoko, Volos**	**1.28**	**38**	P	**Pn**	**10 53 56.5**	**-0.7**
FYTO				S	**Sn**	**10 54 14.1**	**-0.2**
FYTO	**Fytoko, Volos**	**1.28**	**38**	P	**Pn**	**10 53 56.5**	**-0.7**
FYTO				S	**Sn**	**10 54 14.1**	**-0.2**
MRKA	**Markates**	**1.34**	**77**	*e*PN	**Pn**	**10 53 57.5**	**-0.6**
MRKA	**Markates**	**1.34**	**77**	*e*Pn	**Pn**	**10 53 57.5**	**-0.6**
NEO	**Neokhori**	**1.36**	**48**	P	**Pn**	**10 53 57.7**	**-0.6**
NEO	**Neokhori**	**1.36**	**48**	*e*PN	**Pn**	**10 53 57.9**	**-0.4**
NEO	**Neokhori**	**1.36**	**48**	P	**Pn**	**10 53 57.7**	**-0.6**
NEO	**Neokhori**	**1.36**	**48**	*e*Pn	**Pn**	**10 53 57.9**	**-0.4**
DID	**Didima**	**1.38**	**130**	P	**Pn**	**10 53 58.5**	**-0.5**
DID				S	**Sb**	**10 54 17.1**	**+0.3**
DID	**Didima**	**1.38**	**130**	*e*PN	**Pn**	**10 53 58.7**	**+0.1**
DID				*e*SN	**Sg**	**10 54 17.7**	**-0.1**
DID	**Didima**	**1.38**	**130**	P	**Pn**	**10 53 58.1**	**-0.5**
DID				S	**Sb**	**10 54 17.1**	**+0.3**
DID	**Didima**	**1.38**	**130**	P	**Pn**	**10 53 58.1**	**-0.5**
DID	**Didima**	**1.38**	**130**	*e*Pn	**Pn**	**10 53 58.7**	**+0.1**
DID				S	**Sb**	**10 54 17.0**	**+0.3**
XOR	**Xorichti**	**1.38**	**46**	*e*PN	**Pg**	**10 53 59.7**	**-0.2**
XOR				*e*SN	**Sn**	**10 54 16.4**	**-0.5**
XOR	**Xorichti**	**1.38**	**46**	P	**Pg**	**10 54 02.5**	**+2.6**
XOR	**Xorichti**	**1.38**	**46**	*e*Pn	**Pg**	**10 53 59.7**	**-0.2**
XOR	**Xorichti**	**1.38**	**46**	P	**Pg**	**10 54 02.5**	**+2.6**
XOR				*e*Sn	**Sn**	**10 54 16.4**	**-0.5**
NAIG	**Nisos Aigina**	**1.40**	**117**	*e*PN	**Pn**	**10 53 58.5**	**-0.4**
NAIG	**Nisos Aigina**	**1.40**	**117**	*e*Pn	**Pn**	**10 53 58.5**	**-0.4**
SKIA	**Skiathos**	**1.43**	**57**	P	**Pn**	**10 53 59.0**	**-0.3**
SKIA	**Skiathos**	**1.43**	**57**	P	**Pn**	**10 53 59.0**	**-0.3**
ATH	**Athens Observa**	**1.48**	**107**	P	**Pn**	**10 53 59.5**	**-0.5**
ATH	**Athens Observa**	**1.48**	**107**	P	**Pn**	**10 53 59.5**	**-0.5**
ATH	**Athens Observa**	**1.48**	**107**	*e*PN	**Pn**	**10 53 59.8**	**-0.2**
ATH	**Athens Observa**	**1.48**	**107**	P	**Pn**	**10 53 59.5**	**-0.5**
ATH	**Athens Observa**	**1.48**	**107**	P	**Pn**	**10 53 59.5**	**-0.5**
ATH	**Athens Observa**	**1.48**	**107**	*e*Pn	**Pn**	**10 53 59.8**	**-0.2**
ERET	**Eretria**	**1.48**	**88**	P	**Pn**	**10 53 59.7**	**-0.4**
ERET				S	**Sg**	**10 54 20.6**	**-0.6**
ERET	**Eretria**	**1.48**	**88**	P	**Pn**	**10 53 59.7**	**-0.4**
ERET				S	**Sg**	**10 54 20.6**	**-0.6**
JAN	**Janina**	**1.50**	**327**	P	**Pb**	**10 54 01.4**	**+0.1**
JAN	**Janina**	**1.50**	**327**	P	**Pb**	**10 54 01.4**	**+0.1**
JAN	**Janina**	**1.50**	**327**	*e*PN	**Pb**	**10 54 01.6**	**+0.3**
JAN	**Janina**	**1.50**	**327**	P	**Pb**	**10 54 01.4**	**+0.1**
JAN	**Janina**	**1.50**	**327**	*e*Pn	**Pb**	**10 54 01.6**	**+0.3**
PYL	**PYLOS**	**1.52**	**185**	P	**Pn**	**10 53 59.9**	**-0.6**
PYL				S	**Sg**	**10 54 21.6**	**-0.6**
PYL	**PYLOS**	**1.52**	**185**	*e*PN	**Pn**	**10 53 59.9**	**-0.6**
PYL	**PYLOS**	**1.52**	**185**	P	**Pn**	**10 53 59.9**	**-0.6**
PYL				S	**Sg**	**10 54 21.6**	**-0.6**
PYL	**PYLOS**	**1.52**	**185**	P	**Pn**	**10 53 59.9**	**-0.6**
PYL				S	**Sg**	**10 54 21.6**	**-0.6**
ATHU	**Athens Univers**	**1.54**	**106**	P	**Pn**	**10 54 00.2**	**-0.6**
ATHU	**Athens Univers**	**1.54**	**106**	P	**Pn**	**10 54 00.2**	**-0.6**
ATHU	**Athens Univers**	**1.54**	**106**	P	**Pn**	**10 54 00.2**	**-0.6**
PTL	**Penteli**	**1.57**	**103**	P	**Pn**	**10 54 01.0**	**-0.3**
PTL	**Penteli**	**1.57**	**103**	*e*PN	**Pn**	**10 54 01.0**	**-0.3**
PTL	**Penteli**	**1.57**	**103**	P	**Pn**	**10 54 01.0**	**-0.3**
PTL	**Penteli**	**1.57**	**103**	P	**Pn**	**10 54 01.0**	**-0.3**
AOS	**Alonnisos**	**1.71**	**63**	P	**Pn**	**10 54 02.2**	**-1.0**
AOS	**Alonnisos**	**1.71**	**63**	*e*PB	**Pn**	**10 54 01.8**	**-1.4**
AOS	**Alonnisos**	**1.71**	**63**	P	**Pn**	**10 54 02.2**	**-1.0**
AOS	**Alonnisos**	**1.71**	**63**	*e*Pb	**Pn**	**10 54 01.8**	**-1.4**
AOS	**Alonnisos**	**1.71**	**63**	P	**Pn**	**10 54 02.2**	**-1.0**
LIT	**Litokhoron**	**1.75**	**15**	P	**Pn**	**10 54 03.0**	**-0.7**
LIT				S	**Sb**	**10 54 26.8**	**-0.7**
LIT	**Litokhoron**	**1.75**	**15**	P	**Pn**	**10 54 03.0**	**-0.7**
LIT				S	**Sb**	**10 54 26.8**	**-0.7**
LIT	**Litokhoron**	**1.75**	**15**	*e*PN	**Pn**	**10 54 04.0**	**+0.3**
LIT	**Litokhoron**	**1.75**	**15**	P	**Pn**	**10 54 03.0**	**-0.7**
LIT				S	**Sb**	**10 54 26.8**	**-0.7**
LIT	**Litokhoron**	**1.75**	**15**	P	**Pn**	**10 54 03.0**	**-0.7**
LIT	**Litokhoron**	**1.75**	**15**	*e*Pn	**Pn**	**10 54 04.0**	**+0.3**
LIT				S	**Sb**	**10 54 26.8**	**-0.7**
VLI	**Veliai**	**1.87**	**154**	P	**Pn**	**10 54 05.2**	**-0.2**
VLI				S	**Sb**	**10 54 29.8**	**-1.2**
VLI	**Veliai**	**1.87**	**154**	*e*PN	**Pn**	**10 54 05.4**	**0.0**
VLI				*e*SN	**Sn**	**10 54 29.6**	**+0.6**
VLI	**Veliai**	**1.87**	**154**	P	**Pn**	**10 54 05.2**	**-0.2**
VLI				S	**Sb**	**10 54 29.8**	**-1.2**
VLI	**Veliai**	**1.87**	**154**	*e*Pn	**Pn**	**10 54 05.4**	**0.0**
VLI				S	**Sb**	**10 54 29.8**	**-1.2**
KZN	**Kozani**	**1.90**	**357**	P	**Pn**	**10 54 06.2**	**+0.4**
KZN	**Kozani**	**1.90**	**357**	P	**Pn**	**10 54 06.2**	**+0.4**
KZN	**Kozani**	**1.90**	**357**	P	**Pn**	**10 54 06.2**	**+0.4**
KZN	**Kozani**	**1.90**	**357**	P	**Pn**	**10 54 06.2**	**+0.4**
PAIG	**Paliouri**	**2.04**	**42**	P	**Pn**	**10 54 06.5**	**-1.2**
PAIG	**Paliouri**	**2.04**	**42**	P	**Pn**	**10 54 06.5**	**-1.2**
PAIG	**Paliouri**	**2.04**	**42**	*e*PB	**Pn**	**10 54 06.7**	**-1.0**
PAIG	**Paliouri**	**2.04**	**42**	P	**Pn**	**10 54 06.5**	**-1.2**
PAIG	**Paliouri**	**2.04**	**42**	P	**Pn**	**10 54 06.5**	**-1.2**
KEK	**Kerkira**	**2.10**	**309**	P	**Pn**	**10 54 08.0**	**-0.5**
KEK				S	**Sn**	**10 54 35.2**	**+0.5**
KEK	**Kerkira**	**2.10**	**309**	*e*PN	**Pn**	**10 54 09.7**	**+1.2**
KEK	**Kerkira**	**2.10**	**309**	P	**Pn**	**10 54 08.0**	**-0.5**
KEK				S	**Sn**	**10 54 35.2**	**+0.5**
KEK	**Kerkira**	**2.10**	**309**	P	**Pn**	**10 54 08.0**	**-0.5**
KEK	**Kerkira**	**2.10**	**309**	*e*Pn	**Pn**	**10 54 09.7**	**+1.2**
KEK				S	**Sn**	**10 54 35.2**	**+0.5**
PLG	**Polygyros**	**2.29**	**31**	*e*PN	**Pn**	**10 54 10.9**	**-0.3**
PLG	**Polygyros**	**2.29**	**31**	*e*Pn	**Pn**	**10 54 10.9**	**-0.3**
KYTH	**Kithira**	**2.30**	**157**	*e*PN	**Pb**	**10 54 13.0**	**-2.0**
KYTH	**Kithira**	**2.30**	**157**	P	**Pb**	**10 54 13.9**	**-1.1**
KYTH	**Kithira**	**2.30**	**157**	*e*Pn	**Pb**	**10 54 13.0**	**-2.0**
KYTH	**Kithira**	**2.30**	**157**	P	**Pb**	**10 54 13.9**	**-1.1**
HORT	**Hortiatis**	**2.37**	**22**	P	**Pn**	**10 54 11.5**	**-0.8**
HORT	**Hortiatis**	**2.37**	**22**	*e*PN	**Pn**	**10 54 11.8**	**-0.5**
HORT	**Hortiatis**	**2.37**	**22**	P	**Pn**	**10 54 11.5**	**-0.8**
HORT	**Hortiatis**	**2.37**	**22**	P	**Pn**	**10 54 11.5**	**-0.8**
HORT	**Hortiatis**	**2.37**	**22**	*e*Pn	**Pn**	**10 54 11.8**	**-0.5**
KBN	**Korca**	**2.38**	**339**	*i* PN	**Pb**	**10 54 15.8**	**-0.4**
KBN				*i* SN	**Sg**	**10 54 50.9**	**+1.0**
KBN	**Korca**	**2.38**	**339**	P	**Pb**	**10 54 15.9**	**-0.4**
KBN	**Korca**	**2.38**	**339**	P	**Pb**	**10 54 15.9**	**-0.4**
KBN	**Korca**	**2.38**	**339**	P	**Pb**	**10 54 15.9**	**-0.4**
KBN	**Korca**	**2.38**	**339**	*i* Pn	**Pb**	**10 54 15.8**	**-0.4**
FNA	**Florina**	**2.41**	**350**	P	**Pn**	**10 54 13.8**	**+1.0**
FNA	**Florina**	**2.41**	**350**	P	**Pn**	**10 54 13.8**	**+1.0**
FNA	**Florina**	**2.41**	**350**	*e*PB	**Pn**	**10 54 13.9**	**+1.1**
FNA	**Florina**	**2.41**	**350**	P	**Pn**	**10 54 13.8**	**+1.0**
FNA	**Florina**	**2.41**	**350**	P	**Pn**	**10 54 13.8**	**+1.0**
OUR	**Ouranopolis**	**2.50**	**39**	P	**Pn**	**10 54 13.8**	**-0.2**
OUR	**Ouranopolis**	**2.50**	**39**	P	**Pn**	**10 54 13.8**	**-0.2**
OUR	**Ouranopolis**	**2.50**	**39**	*e*PN	**Pn**	**10 54 13.8**	**-0.2**
OUR	**Ouranopolis**	**2.50**	**39**	P	**Pn**	**10 54 13.8**	**-0.2**
OUR	**Ouranopolis**	**2.50**	**39**	P	**Pn**	**10 54 13.8**	**-0.2**
GRG	**Griva**	**2.57**	**8**	P	**Pg**	**10 54 21.6**	**-1.1**
GRG	**Griva**	**2.57**	**8**	P	**Pg**	**10 54 21.6**	**-1.1**
GRG	**Griva**	**2.57**	**8**	*e*PN	**Pn**	**10 54 14.6**	**-0.4**
GRG	**Griva**	**2.57**	**8**	P	**Pg**	**10 54 21.6**	**-1.1**
GRG	**Griva**	**2.57**	**8**	*e*Pn	**Pn**	**10 54 14.6**	**-0.4**
BIA	**Bitola**	**2.65**	**350**	P	**Pn**	**10 54 17.0**	**+0.9**
BIA	**Bitola**	**2.65**	**350**	*i* Pn	**Pn**	**10 54 17.9**	**+1.8**
BIA				*i* Sn	**Sb**	**10 54 54.2**	**+0.8**
BIA	**Bitola**	**2.65**	**350**	P	**Pn**	**10 54 17.0**	**+0.9**
BIA	**Bitola**	**2.65**	**350**	P	**Pn**	**10 54 17.0**	**+0.9**
BIA	**Bitola**	**2.65**	**350**	*i* Pn	**Pn**	**10 54 17.9**	**+1.8**
SOH	**Sokhos**	**2.65**	**24**	P	**Pn**	**10 54 16.0**	**-0.2**
SOH	**Sokhos**	**2.65**	**24**	P	**Pn**	**10 54 16.0**	**-0.2**
SOH	**Sokhos**	**2.65**	**24**	*e*PN	**Pn**	**10 54 16.4**	**+0.2**
SOH	**Sokhos**	**2.65**	**24**	P	**Pn**	**10 54 16.0**	**-0.2**
SOH	**Sokhos**	**2.65**	**24**	P	**Pn**	**10 54 16.0**	**-0.2**
SOH	**Sokhos**	**2.65**	**24**	*e*Pn	**Pn**	**10 54 16.4**	**+0.2**
KNT	**Kendrikon**	**2.85**	**15**	P	**Pn**	**10 54 18.4**	**-0.5**
KNT	**Kendrikon**	**2.85**	**15**	P	**Pn**	**10 54

HCY eSn **Sn** **10 55 45.8 +4.4**
HCY Herceg Novi 4.81 328 ⇑ i Pn **Pn** **10 54 47.5 +1.8**
HCY eSn **Sn** **10 55 45.8 +4.4**
NKME Niksic 4.90 334 ⇑ i Pn **Pn** **10 54 48.9 +1.8**
NKME eSn **Sn** **10 55 47.7 +3.9**
NKME Niksic 4.90 334 ⇑ i Pn **Pn** **10 54 48.9 +1.8**
NKME eSn **Sn** **10 55 47.7 +3.9**
CUC Castrocucco 5.00 290 e Pn **Pn** **10 54 46.1 -2.3**
CUC eSn **Sn** **10 55 44.0 -2.2**
CUC Castrocucco 5.00 290 e Pn **Pn** **10 54 46.1 -2.3**
CUC eSn **Sn** **10 55 44.0 -2.2**
EDRB Edirne 5.05 46 e P **Pn** **10 54 46.7 -2.3**
EDRB Edirne 5.05 46 e P **Pn** **10 54 46.7 -2.3**
TREB Trebinje 5.09 320 e Pn **Pn** **10 54 52.4 -2.2**
CDT Castel del Mon 5.10 303 e Pn **Pn** **10 54 50.8 +1.0**
BRY Bratogost 5.17 331 ⇓ i Pn **Pn** **10 54 52.5 +1.6**
BRY eSn **Sn** **10 55 53.8 +3.2**
BRY Bratogost 5.17 331 ⇓ i Pn **Pn** **10 54 52.5 +1.6**
BRY eSn **Sn** **10 55 53.8 +3.2**
YER Yerkesik 5.20 102 e P **Pn** **10 54 51.8 +0.6**
YER Yerkesik 5.20 102 e P **Pn** **10 54 51.8 +0.6**
PLE Pljevlja 5.28 340 ⇑ i Pn **Pn** **10 54 55.0 +2.7**
PLE eSn **Sn** **10 55 56.4 +3.3**
PLE Pljevlja 5.28 340 ⇑ i Pn **Pn** **10 54 55.0 +2.7**
PLE eSn **Sn** **10 55 56.4 +3.3**
KULA Kula-Manisa 5.29 87 e P **Pn** **10 54 52.6 +0.1**
KULA Kula-Manisa 5.29 87 e P **Pn** **10 54 52.6 +0.1**
UPM Unac-Piva 5.31 335 ⇑ i Pn **Pn** **10 54 54.9 +2.1**
UPM eSn **Sn** **10 55 57.2 +3.2**
UPM Unac-Piva 5.31 335 ⇑ i Pn **Pn** **10 54 54.9 +2.1**
UPM eSn **Sn** **10 55 57.2 +3.2**
IVAS Ivanjica 5.33 346 ⇑ i Pn **Pn** **10 54 56.9 +1.9**
JMB Yambol 5.39 40 ⇑ i P **Pn** 10 54 56.9 +3.1
JMB Yambol 5.39 40 ⇑ i P Pn 10 54 56.9 +3.1
STON Ston 5.49 326 e Pn **Pn** **10 54 54.8 -0.3**
STON Ston 5.49 326 e Pn **Pn** **10 54 54.8 -0.3**
GRUS Gruza 5.55 351 ⇑ i Pn **Pn** **10 54 57.5 +1.6**
BBLS Lazići 5.77 342 e Pn **Pn** **10 54 59.7 +0.7**
DIVS Divibare 5.87 346 ⇑ i Pn **Pn** **10 55 01.3 +0.9**
TRUS Trudelj 5.92 349 ⇑ i Pn **Pn** **10 55 01.9 +0.9**
KHL Karahalli 5.98 88 e P **Pn** **10 55 03.1 +1.2**
KHL Karahalli 5.98 88 e P **Pn** **10 55 03.1 +1.2**
TEKS Tekeris 6.39 344 ⇑ i Pn **Pn** **10 55 07.9 +0.4**
ELL Elmali 6.56 102 e P **Pn** **10 55 09.3 -0.6**
ELL Elmali 6.56 102 e P **Pn** **10 55 09.3 -0.6**
ISP Isparta 6.81 92 e P **Pn** **10 55 15.1 +1.8**
ISP Isparta 6.81 92 ⇑ i P **Pn** **10 55 15.4 +2.1**
ISP Isparta 6.81 92 e Pn **Pn** **10 55 15.1 +1.8**
ISP Isparta 6.81 92 e P **Pn** **10 55 15.1 +1.8**
BCK Bucak 6.92 95 e P **Pn** **10 55 13.2 -1.6**
BCK Bucak 6.92 95 e P **Pn** **10 55 13.2 -1.6**
FGSL Fruska Gora 6.92 348 e Pn **Pn** **10 55 15.9 +1.1**
GZR Gura Zlata 7.01 5 ⇑ i P Pn 10 55 19.6 +3.6
LOT Lotru 7.17 11 ⇑ i P **Pn** **10 55 19.0 +0.8**
LOT Lotru 7.17 11 ⇑ i P **Pn** **10 55 19.0 +0.8**
BZS Buzias 7.21 358 ⇑ i P **Pn** **10 55 21.5 +2.9**
MSAB Monastry St. A 7.21 36 ⇓ i P Pn 10 55 22.3 +3.6
SUTC Sutluce-Ispart 7.24 95 e P **Pn** **10 55 18.3 -0.9**
SUTC Sutluce-Ispart 7.24 95 e P **Pn** **10 55 18.3 -0.9**
VOIR 7.40 17 ⇑ i P **Pn** **10 55 24.0 +2.6**
SLUM 7.41 158 P **Pn** **10 55 20.4 -1.1**
baz=161
SLUM AMP 10 56 00.0
comp=N,80µm,0.7s,logA/T=5.1,baz=161
SLUM 7.41 158 P **Pn** **10 55 20.4 -1.1**
MDUB Mudurnu 7.47 71 e P **Pn** **10 55 23.7 +1.3**
MDUB Mudurnu 7.47 71 e P **Pn** **10 55 23.7 +1.3**
ISR Istrita 7.54 26 ⇓ i P Pn 10 55 26.8 +3.5
AQU L'Aquila 7.60 304 e Pn **Pn** **10 55 23.9 -0.2**
AQU L'Aquila 7.60 304 e P **Pn** **10 55 23.9 -0.2**
UDBI Udbina 7.66 325 e Pn **Pn** **10 55 25.8 +0.8**
UDBI Udbina 7.66 325 e Pn **Pn** **10 55 25.7 +0.8**
MLR Muntele Rosu 7.69 22 ⇓ i P **Pn** **10 55 27.4 +2.0**
MLR Muntele Rosu 7.69 22 P n **Pn** **10 55 26.9 +1.6**
MLR Muntele Rosu 7.69 22 P n **Pn** **10 55 26.9 +1.6**
comp=N,0.1nm,0.3s,baz=178,slow=9.5,SNR=7.7
MLR Muntele Rosu 7.69 22 P **Pn** **10 55 26.9 +1.6**
KIZT Kizilcal 7.81 83 e P Pn 10 55 18.7 -8.4
SIRR Siria 7.86 359 ⇓ i P **Pn** 10 55 32.5 +4.9
DOPR Dopca 7.98 18 ⇓ i P **Pn** **10 55 29.4 +0.1**
DOPR Dopca 7.98 18 ⇓ i P **Pn** **10 55 29.4 +0.1**
NVLJ Novalja 8.11 322 e Pn **Pn** **10 55 31.3 +0.3**
NVLJ Sn **Sn** **10 56 57.9 -4.7**
NVLJ Novalja 8.11 322 e Pn **Pn** **10 55 31.3 +0.3**
PKSM Moragy 8.17 344 ⇑ i P **Pn** **10 55 30.5 -1.3**
PKSM Moragy 8.17 344 ⇑ i P **Pn** **10 55 30.5 -1.3**
LADK Ladik-KONYA 8.22 88 e P **Pn** **10 55 33.1 +0.4**
LADK Ladik-KONYA 8.22 88 e P **Pn** **10 55 33.1 +0.4**
PLOR Plostina 8.22 24 ⇑ i P **Pn** **10 55 34.5 +1.8**
PLOR Plostina 8.22 24 ⇑ i P **Pn** **10 55 34.5 +1.8**
VRI Vrincioaia 8.26 24 ⇑ i P **Pn** **10 55 35.9 +2.7**
HMAT Matruh 8.45 148 P **Pn** **10 55 33.6 -2.1**
baz=151
HMAT AMP 10 57 00.0
comp=E,50µm,1.4s,logA/T=4.6,baz=151
HMAT Matruh 8.45 148 P **Pn** **10 55 33.6 -2.1**
BOJS Bojanci 8.65 327 i Pn **Pn** **10 55 39.8 +1.3**
BOJS i Sn **Sn** **10 57 12.5 -3.5**
BOJS Bojanci 8.65 327 i Pn **Pn** **10 55 39.8 +1.3**
BOJS i Sn **Sn** **10 57 12.5 -3.5**
VISS Visnje 9.07 327 e Pn **Pn** **10 55 43.9 -0.3**
VISS i Sn Sn 10 57 18.5 -7.7
VISS Visnje 9.07 327 e Pn **Pn** **10 55 43.9 -0.3**
VISS i Sn Sn 10 57 18.5 -7.7
BR131 Keskin Array S 9.21 78 e Pn **Pn** **10 55 46.4 +0.1**
comp=E,2.6nm,0.4s
BR131 Keskin Array S 9.21 78 e Pn **Pn** **10 55 46.4 +0.1**
comp=E,2.6nm,0.4s
BRTR Keskin Array B 9.21 78 Pn **Pn** **10 55 48.1 +1.8**
BRTR Keskin Array B 9.21 78 Pn **Pn** **10 55 48.1 +1.8**
comp=E,1.3nm,0.3s,baz=258,slow=13,SNR=20
BRTR Keskin Array B 9.21 78 P **Pn** **10 55 48.2 +1.8**
comp=E,1.0nm,0.3s
JAVS Javornik 9.48 325 i Pn **Pn** **10 55 50.1 +0.2**
JAVS i Sn **Sn** **10 57 33.8 -2.7**
JAVS Javornik 9.48 325 i Pn **Pn** **10 55 50.1 +0.2**
JAVS i Sn **Sn** **10 57 33.8 -2.7**
BURAR Bucovina Array 9.51 14 ⇑ i P **Pn** **10 55 51.8 +1.4**
BURAR Bucovina Array 9.51 14 ⇑ i P **Pn** **10 55 51.8 +1.4**
SWA2 9.60 161 P **Pn** **10 55 51.2 -0.4**
baz=164
SWA2 AMP 10 57 00.0
comp=N,80µm,0.8s,logA/T=5.0,baz=164
SWA2 9.60 161 P **Pn** **10 55 51.2 -0.4**
PSZ Piszkesteto 9.62 352 e P **Pn** **10 55 50.0 -1.8**
PSZ Piszkesteto 9.62 352 ⇓ i P **Pn** **10 55 53.2 +1.4**
PSZ Piszkesteto 9.62 352 e Pn **Pn** **10 55 50.0 -1.8**
PSZ Piszkesteto 9.62 352 e P **Pn** **10 55 50.0 -1.8**
PERS Pernice 9.63 331 i Pn **Pn** **10 55 52.4 +0.5**
PERS i Sn **Sn** **10 57 40.4 +0.3**
PERS Pernice 9.63 331 i Pn **Pn** **10 55 52.4 +0.5**
PERS i Sn **Sn** **10 57 40.4 +0.3**
SOKA Soboth 9.70 331 ⇑ i Pn **Pn** **10 55 51.0 -1.9**
SOKA Soboth 9.70 331 Pn **Pn** **10 55 51.0 -1.9**
KECS Kecovo 10.12 355 e Pn **Pn** 10 56 05.5 +6.9
KECS Kecovo 10.12 355 e Pn **Pn** 10 56 05.5 +6.9
UZH Uzhgorod 10.22 1 e P **Pn** **10 56 00.7 +0.7**
UZH Uzhgorod 10.22 1 e P **Pn** **10 56 00.7 +0.7**
CRVS Cervenica-Dubn 10.50 358 e P Pn 10 56 10.4 +6.7
CRVS Cervenica-Dubn 10.50 358 e Pn 10 56 10.4 +6.7
PGF Pioggiola 10.67 297 e P **Pn** **10 56 09.1 +2.8**
comp=N,21nm,0.9s
PGF Pioggiola 10.67 297 e P **Pn** 10 56 09.1 +2.8
PGF pmax pmax
comp=Z,21nm,0.9s
PGF Pioggiola 10.67 297 e P **Pn** **10 56 09.1 +2.8**
comp=Z,21nm0.9s
PGF Pioggiola 10.67 297 e P **Pn** **10 56 09.1 +2.8**
comp=Z,21nm0.9s
MOA Molln 10.96 332 ⇑ i Pn **Pn** **10 56 09.5 -0.7**
MOA Molln 10.96 332 Pn **Pn** **10 56 09.5 -0.7**
LVV L'vov 11.51 7 e P Pn 10 56 10.5 -7.1
GERES GERESS Array B 12.00 333 Pn **Pn** **10 56 27.4 +3.0**
GERES GERESS Array B 12.00 333 Pn **Pn** **10 56 27.4 +3.0**
comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=4.3
GERES GERESS Array B 12.00 333 Pn **Pn** **10 56 27.5 +3.0**
DAVOX Davos/Dischmat 12.18 317 Pn Pn 10 56 30.7 +3.7
DAVOX Davos/Dischmat 12.18 317 Pn Pn 10 56 30.7 +3.7
comp=Z,0.3nm,0.3s,baz=144,slow=17,SNR=3.8
DAVOX Davos/Dischmat 12.18 317 Pn Pn 10 56 30.7 +3.7
SBF Sospel 12.20 301 e P Pn 10 56 30.9 +3.8
comp=Z,17nm,0.4s
SBF Sospel 12.20 301 e P Pn 10 56 30.9 +3.8
SBF pmax pmax
comp=Z,17nm,0.4s
SBF Sospel 12.20 301 e P Pn 10 56 30.9 +3.8
comp=Z,17nm,0.4s
SBF Sospel 12.20 301 e P Pn 10 56 30.9 +3.8
comp=Z,17nm,0.4s
MMAI Mount Meron Ar 12.21 112 Pn **Pn** **10 56 26.7 -0.6**
MMAI Mount Meron Ar 12.21 112 Pn **Pn** **10 56 26.7 -0.6**
baz=297,slow=11,SNR=5.4
MMAI Mount Meron Ar 12.21 112 Pn **Pn** **10 56 26.7 -0.6**
RSH 12.22 124 P **Pn** **10 56 25.1 -2.3**
baz=125
RSH 12.22 124 P **Pn** **10 56 25.1 -2.3**
KHC Kasperske Hory 12.29 333 e P **Pn** **10 56 26.8 -1.5**
KHC pmax pmax
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 12.29 333 e P 10 56 37.0 -3.6
KHC Kasperske Hory 12.29 333 e Pn **Pn** **10 56 26.8 -1.5**
comp=Z,2.6nm,0.7s
KHC Kasperske Hory 12.29 333 e P **Pn** **10 56 26.8 -1.5**
comp=Z,3.0nm,0.7s
PRU Pruhonice 12.72 338 e P **P** **10 56 42.3 -3.1**
PRU Pruhonice 12.72 338 e P **P** **10 56 42.3 -3.1**
MBDF Montbardon 12.97 304 e P Pn 10 56 41.2 +3.5
comp=Z,33nm,1.3s
MBDF Montbardon 12.97 304 e P Pn 10 56 41.2 +3.5
MBDF pmax pmax
comp=Z,33nm,1.3s
MBDF Montbardon 12.97 304 e P Pn 10 56 41.2 +3.5
comp=Z,33nm,1.3s
MBDF Montbardon 12.97 304 e P Pn 10 56 41.2 +3.5
comp=Z,33nm,1.3s
LPG La Plagne 13.31 307 e P Pn 10 56 46.3 +3.8
comp=Z,19nm,0.9s
LPG La Plagne 13.31 307 e P Pn 10 56 46.3 +3.8
LPG pmax pmax
comp=Z,19nm,0.9s
LPG La Plagne 13.31 307 e P Pn 10 56 46.3 +3.8
comp=Z,19nm,0.9s
LPG La Plagne 13.31 307 e P Pn 10 56 46.3 +3.8
comp=Z,19nm,0.9s
KIEV Kiev 13.33 20 ⇑ e P **Pn** **10 56 43.5 +1.1**
KIEV Kiev 13.33 20 e P **Pn** **10 56 43.5 +1.1**
AKASG Malin Array Be 13.34 21 i P **Pn** **10 56 43.0 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 13.34 21 Pn **Pn** **10 56 42.8 +0.2**
AKASG Malin Array Be 13.34 21 Pn **Pn** **10 56 42.8 +0.2**
baz=206,slow=12,SNR=4.2
AKASG Malin Array Be 13.34 21 Pn **Pn** **10 56 42.8 +0.2**
ASF Jabal al Asfar 13.72 112 Pn **Pn** **10 56 47.5 -0.4**
ASF Jabal al Asfar 13.72 112 Pn **Pn** **10 56 47.5 -0.4**
comp=Z,0.2nm,0.3s,baz=277,slow=11,SNR=3.2
EIL Elat 13.87 125 Pn **Pn** **10 56 48.9 -1.0**
EIL Elat 13.87 125 Pn **Pn** **10 56 48.9 -1.0**
comp=Z,0.4nm,0.3s,baz=350,slow=14,SNR=3.8
EIL Elat 13.87 125 Pn **Pn** **10 56 48.9 -1.0**
CLL Collm 14.35 337 e P **Pn** 10 56 53.0 -3.3
CLL MLR MLR
comp=Z,200nm,18.6s
CLL Collm 14.35 337 e PP **P** **10 57 04.0 +0.6**
CLL i (PPP) 10 57 10.4
CLL Lm MLR 11 02 00.0
comp=Z,200nm,18.6s
HAU Haudompre 14.84 315 e P **Pn** **10 57 03.8 +0.7**
comp=Z,27nm,1.1s
HAU Haudompre 14.84 315 e P **Pn** **10 57 03.8 +0.7**
HAU pmax pmax
comp=Z,27nm,1.1s
HAU Haudompre 14.84 315 e P **Pn** **10 57 03.8 +0.7**
comp=Z,27nm,1.1s
HAU Haudompre 14.84 315 e P **Pn** **10 57 03.8 +0.7**
comp=Z,27nm,1.1s
SUW Suwalki 15.63 3 e P **P** **10 57 17.8 +0.1**
SUW pmax pmax
comp=Z,47nm,1.0s
SUW Suwalki 15.63 3 e P **P** **10 57 17.7 +0.1**
SUW Suwalki 15.63 3 e P **P** **10 57 17.8 +0.1**
comp=Z,47nm,1.0s
SUW Suwalki 15.63 3 e P **P** **10 57 17.8 +0.1**
comp=Z,47nm,1.0s
SMF Signal de Mont 15.64 308 e P **Pn** **10 57 13.4 -0.3**
comp=Z,28nm,1.1s
SMF Signal de Mont 15.64 308 e P **Pn** **10 57 13.4 -0.3**
SMF pmax pmax
comp=Z,28nm,1.1s
SMF Signal de Mont 15.64 308 e P **Pn** **10 57 13.4 -0.3**
comp=Z,28nm,1.1s
SMF Signal de Mont 15.64 308 e P **Pn** **10 57 13.4 -0.3**
comp=Z,28nm,1.1s
SSF Saint Saulge 16.03 309 e P **P** **10 57 20.7 -1.4**
comp=Z,81nm,1.4s
SSF Saint Saulge 16.03 309 e P **P** **10 57 20.7 -1.4**
SSF pmax pmax
comp=Z,81nm,1.4s
SSF Saint Saulge 16.03 309 e P **P** **10 57 20.7 -1.4**
comp=Z,81nm,1.4s
SSF Saint Saulge 16.03 309 e P **P** **10 57 20.7 -1.4**
comp=Z,81nm,1.4s
SJPF Ste Jean 18.13 292 e P **P** **10 57 49.2 +3.7**
comp=Z,19nm,1.0s
SJPF Ste Jean 18.13 292 e P **P** **10 57 49.2 +3.7**
SJPF pmax pmax
comp=Z,19nm,1.0s
SJPF Ste Jean 18.13 292 e P **P** **10 57 49.2 +3.7**
comp=Z,19nm,1.0s
SJPF Ste Jean 18.13 292 e P **P** **10 57 49.2 +3.7**
comp=Z,19nm,1.0s
OBN Obninsk 19.42 26 P **Pn** **10 58 01.7 +1.1**
OBN Obninsk 19.42 26 P **Pn** **10 58 01.7 +1.1**
ESDC Sonseca Array 20.12 282 P Pn 10 58 09.3 0.0
ESDC Sonseca Array 20.12 282 P Pn 10 58 09.3 0.0
comp=Z,4.7nm,0.8s,baz=74,slow=11,SNR=17
ESDC Sonseca Array 20.12 282 P Pn 10 58 09.3 +0.1
VSU Vasula 20.31 7 e P Pn 10 58 10.6 -0.5
VSU pmax pmax
comp=Z,39nm,1.0s
VSU Vasula 20.31 7 e P Pn 10 58 10.6 -0.5
comp=Z,39nm,1.0s
PAB San Pablo 20.43 281 e P Pn 10 58 13.6 +0.7
PAB pmax pmax
comp=Z,4.0nm,1.3s
PAB San Pablo 20.43 281 e P Pn 10 58 13.6 +0.7
comp=Z,3.7nm,1.3s
PAB San Pablo 20.43 281 e P Pn 10 58 13.6 +0.7
comp=Z,3.7nm,1.3s
TAM Tamanrasset 20.96 227 e P Pn 10 58 22.1 +2.9
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 20.96 227 e P Pn 10 58 22.1 +2.8
comp=Z,2.4nm,0.8s
TAM Tamanrasset 20.96 227 e P Pn 10 58 22.0 +2.8
comp=Z,2.4nm,0.8s
MDT Midelt 22.24 264 P **P** **10 58 32.2 +1.9**
MDT Midelt 22.24 264 P **P** **10 58 32.2 +1.9**
comp=Z,3.1nm,0.7s,baz=81,slow=14,SNR=8.5
MDT Midelt 22.24 264 P **P** **10 58 32.2 +1.9**
HFS Hagfors 22.36 349 P **P** **10 58 30.7 -0.5**
HFS Hagfors 22.36 349 P **P** **10 58 30.7 -0.5**
comp=Z,5.0nm,0.6s,baz=155,slow=11,SNR=11
HFS Hagfors 22.36 349 P **P** **10 58 30.7 -0.5**
comp=Z,5.0nm,0.6s
FINES FINESS Array B 23.21 5 P **P** **10 58 40.4 +0.4**
FINES FINESS Array B 23.21 5 P **P** **10 58 40.4 +0.4**
comp=Z,3.8nm,0.9s,baz=199,slow=4.0,SNR=6.2
FINES FINESS Array B 23.21 5 P **P** **10 58 40.4 +0.4**
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 23.62 347 P **P** **10 58 43.1 -1.2**
comp=Z,6.5nm,1.0s,baz=156,slow=9.3
NB2 NORSAR Subarra 23.62 347 P **P** **10 58 43.1 -1.2**
comp=Z,6.5nm,1.0s,SNR=9.0
NOA NORSAR Array B 23.62 347 P **P** **10 58 42.7 -1.6**
NOA NORSAR Array B 23.62 347 P **P** **10 58 42.7 -1.6**
comp=Z,1.8nm,0.8s,baz=167,slow=10,SNR=6.6
NOA NORSAR Array B 23.62 347 P **P** **10 58 42.7 -1.6**
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 23.89 323 P **P** **10 58 45.8 -1.0**
EKA Eskdalemuir Ar 23.89 323 P **P** **10 58 45.8 -1.0**
comp=Z,6.7nm,0.9s,baz=117,slow=10,SNR=5.9
EKA Eskdalemuir Ar 23.89 323 P **P** **10 58 45.8 -1.0**
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 24.99 120 e P **P** **10 58 57.9 +0.7**
comp=Z,12nm,0.9s
RAYN Ar Rayn 24.99 120 e P **P** **10 58 57.9 +0.7**
comp=Z,12nm,0.9s
KLMR Klimovskoe 25.03 20 e P **P** **10 58 57.3 +0.1**
KLMR pmax pmax
comp=Z,11nm,0.6s
KLMR Klimovskoe 25.03 20 e P **P** **10 58 57.3 +0.1**
comp=Z,11nm,0.6s
PRGR Permogore 27.49 25 P **P** **10 59 18.5 -0.9**
PRGR S **S** **11 03 55.4 -4.3**
PRGR pmax pmax
comp=Z,6.0nm,0.7s
PRGR Permogore 27.49 25 P **P** **10 59 18.5 -0.9**
comp=Z,6.0nm,0.7s
ARU Arti 30.16 41 e P **P** **10 59 42.4 -0.8**
ARU pmax pmax
comp=Z,1.0nm,0.5s
ARU Arti 30.16 41 e P **P** **10 59 42.4 -0.8**
comp=Z,1.4nm,0.5s
ARU Arti 30.16 41 e P **P** **10 59 42.4 -0.8**
comp=Z,1.4nm,0.5s
TOA0 Torodi Ar. Sit 30.91 221 e P **P** **10 59 50.7 +0.5**
TOA0 Torodi Ar. Sit 30.91 221 e P **P** **10 59 50.7 +0.5**
TORD Torodi Ar. Bea 30.91 221 P **P** **10 59 50.6 +0.4**
TORD Torodi Ar. Bea 30.91 221 P **P** **10 59 50.6 +0.4**
comp=Z,3.0nm,0.8s,baz=31,slow=9.0,SNR=10
TORD Torodi Ar. Bea 30.91 221 P **P** **10 59 50.6 +0.4**
ARCES ARCESS Array B 31.25 2 P **P** **10 59 52.2 -0.5**
ARCES ARCESS Array B 31.25 2 P **P** **10 59 52.2 -0.5**
comp=Z,2.0nm,0.8s,baz=188,slow=7.2,SNR=4.3
ARCES ARCESS Array B 31.25 2 P **P** **10 59 52.2 -0.5**
comp=Z,2.0nm,0.9s
BRVK Borovoye 36.07 50 ⇑ e P **P** **11 00 35.1 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 36.07 50 e P **P** **11 00 35.1 +0.3**
comp=Z,2.0nm,1.2s
BVAR Borovoye Array 36.13 50 P **P** **11 00 34.3 -1.0**
BVAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 36.13 50 P **P** **11 00 34.3 -1.0**
BVAR Borovoye Array 36.13 50 P **P** **11 00 34.3 -1.0**
comp=Z,1.0nm,0.7s,baz=266,slow=5.9,SNR=5.2
BVAR Borovoye Array 36.13 50 P **P** **11 00 34.3 -1.0**
comp=Z,1.0nm,0.8s
KKAR Karatay Array 36.70 67 e P **P** **11 00 39.8 -0.5**
KKAR Karatay Array 36.70 67 e P **P** **11 00 39.8 -0.5**
KKAR Karatay Array 36.70 67 e P **P** **11 00 39.8 -0.5**
EKS2 Erkin-Say 39.14 67 e P **P** **11 01 00.9 -0.1**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 39.14 67 e P **P** **11 01 00.9 -0.1**
comp=Z,4.3nm,0.9s
EKS2 Erkin-Say 39.14 67 e P **P** **11 01 00.9 -0.1**
comp=Z,4.2nm,0.9s
AAK Ala-Archa 39.66 67 ⇑ e P **P** **11 01 05.9 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.1s
AAK Ala-Archa 39.66 67 e P **P** **11 01 05.3 -0.2**
comp=Z,2.8nm,0.8s
AAK Ala-Archa 39.66 67 P **P** **11 01 05.3 -0.2**
comp=Z,1.7nm,0.7s,baz=216,slow=6.6,SNR=4.7
AAK Ala-Archa 39.66 67 e P **P** **11 01 05.3 -0.2**
comp=Z,2.8nm,0.8s
DBIC Dimbokro 39.82 224 P **P** **11 01 07.4 +0.6**
DBIC Dimbokro 39.82 224 P **P** **11 01 07.4 +0.6**
comp=Z,1.6nm,0.6s,baz=4.8,slow=12,SNR=2.6
DBIC Dimbokro 39.82 224 P **P** **11 01 07.4 +0.6**
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 41.21 54 P **P** **11 01 16.4 -1.5**
comp=Z,2.7nm,0.7s,baz=282,slow=8.7,SNR=18
KURK Kurchatov 41.26 54 e P **P** **11 01 17.5 -0.8**
KURK Kurchatov 41.26 54 e P **P** **11 01 17.5 -0.8**
KURK Kurchatov 41.26 54 e P **P** **11 01 17.5 -0.8**
KSH Kashi 41.51 71 e P **P** **11 01 19.3 -1.4**
KSH e PP **PP** **11 02 58.3 +1.8**
KSH e PcS **PcS** **11 07 08.0 -1.6**
KSH e S **S** **11 07 32.3 -4.0**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,210nm,5.2s
KSH LR LR
comp=Z,35nm,4.9s
KSH LR LR
comp=Z,24nm,4.1s
KSH LR LR
comp=Z,50nm,3.9s
NVS Novosibirsk 43.71 47 e P **P** **11 01 37.1 -1.1**
NVS Novosibirsk 43.71 47 e P **P** **11 01 37.1 -1.1**
MK31 Makanchi Array 44.24 59 e P **P** **11 01 41.8 -0.9**
MK31 Makanchi Array 44.24 59 e P **P** **11 01 41.8 -0.9**
MK31 Makanchi Array 44.24 59 e P **P** **11 01 41.8 -0.9**
MKAR Makanchi Array 44.24 59 i P **P** **11 01 42.2 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 44.24 59 P **P** **11 01 42.2 -0.5**
MKAR Makanchi Array 44.24 59 P **P** **11 01 42.2 -0.5**
comp=Z,2.7nm,0.5s,baz=279,slow=7.0,SNR=22
MKAR Makanchi Array 44.24 59 i P **P** **11 01 42.2 -0.5**
comp=Z,3.0nm,0.5s
ZAA0 Zalesovo Array 44.72 48 e P **P** **11 01 45.5 -0.8**
ZAA0 Zalesovo Array 44.72 48 e P **P** **11 01 45.5 -0.8**
ZALV Zalesovo Beam 44.72 48 P **P** **11 01 45.6 -0.7**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 44.72 48 P **P** **11 01 45.6 -0.7**
ZALV Zalesovo Beam 44.72 48 P **P** **11 01 45.6 -0.7**
comp=Z,2.6nm,0.5s,baz=280,slow=8.6,SNR=14
ZALV Zalesovo Beam 44.72 48 P **P** **11 01 45.6 -0.7**
comp=Z,3.0nm,0.5s
WMQ Urumqi 48.69 62 P **P** **11 02 19.8 +2.2**
WMQ pmax pmax
comp=Z,2.0nm,0.9s
WMQ pmax pmax
comp=Z,11nm,6.5s
TLY Talaya 56.32 48 e P **P** **11 03 14.6 +0.5**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 56.32 48 e P **P** **11 03 14.6 +0.5**
comp=Z,5.0nm,0.8s
ZAK Zakamensk 56.58 49 e P **P** **11 03 15.5 -0.5**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAK Zakamensk 56.58 49 e P **P** **11 03 15.5 -0.5**
comp=Z,2.0nm,1.2s
GTA Gaotai 58.75 62 e P **P** **11 03 30.8 -0.7**
GTA pP **pP** **11 03 35.4 +0.3**
GTA sP **sP** **11 03 37.8 +1.4**
GTA S **S** **11 11 33.1 -3.3**
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,110nm,11.2s
GTA LR LR
comp=Z,120nm,12.0s
GTA LR LR
comp=Z,90nm,12.4s
SCHQ Schefferville 59.03 318 P **P** **11 03 33.1 0.0**
SCHQ Schefferville 59.03 318 P **P** **11 03 33.1 0.0**
comp=Z,4.8nm,0.9s,baz=43,slow=12,SNR=3.6
SCHQ Schefferville 59.03 318 P **P** **11 03 33.1 0.0**
SONM Songino Array 59.46 51 P **P** **11 03 35.6 -0.7**
SONM Songino Array 59.46 51 P **P** **11 03 35.6 -0.7**
comp=Z,1.8nm,1.0s,baz=289,slow=9.0,SNR=13
SONM Songino Array 59.46 51 P **P** **11 03 35.6 -0.7**
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 59.85 51 i P **P** **11 03 38.5 -0.5**
comp=Z,3.0nm,1.0s
LZH Lanzhou 63.12 64 e P **P** **11 04 01.8 +0.5**
LZH pP **pP** **11 04 05.1 +0.2**
LZH sP **sP** **11 04 06.5 +0.2**
LZH e PP **PP** **11 06 22.3 +2.5**
LZH pmax pmax
comp=Z,16nm,1.5s
LZH pmax pmax
comp=Z,49nm,8.7s
LZH LR LR
comp=Z,200nm,15.4s
LZH LR LR
comp=Z,190nm,15.0s
LZH LR LR
comp=Z,260nm,19.2s
HHC Hu-ho-hao-te 66.00 56 e P **P** **11 04 19.8 -0.2**
HHC pP **pP** **11 04 26.3 +2.7**

HHC				sP	sP	11 04 30.4	+5.4	
HHC				PP	**PP**	**11 06 42.1**	**-2.8**	
HHC				S	**S**	**11 13 06.8**	**-0.9**	
HHC				SS	**SS**	**11 17 20.4**	**-1.9**	
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC				pmax	pmax			
	comp=Z,260nm,4.8s							
HHC				LR	LR			
	comp=Z,180nm,17.7s							
HHC				LR	LR			
	comp=Z,290nm,16.7s							
HHC				LR	LR			
	comp=Z,240nm,15.0s							
BOSA	**Boshof**	**66.75**	**177**	P	**P**	**11 04 26.8**	**+2.1**	
BOSA	**Boshof**	**66.75**	**177**	P	**P**	**11 04 26.8**	**+2.1**	
	comp=Z,1.1nm,0.5s,baz=2.3,slow=10,SNR=4.0							
BOSA	**Boshof**	**66.75**	**177**	P	**P**	**11 04 26.8**	**+2.1**	
	comp=Z,1.0nm,0.5s							
KMI	**Kunming**	**67.99**	**75**	P	**P**	**11 04 33.0**	**0.0**	
KMI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CN2	**Changchun**	**72.92**	**47**	*e*P	P	11 05 07.8	+5.2	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
YKA	**Yellowknife Ar**	**73.54**	**341**	P	**P**	**11 05 05.7**	**-0.2**	
YKA	**Yellowknife Ar**	**73.54**	**341**	P	**P**	**11 05 05.7**	**-0.2**	
	comp=Z,0.5nm,0.7s,baz=35,slow=5.5,SNR=9.9							
YKA	**Yellowknife Ar**	**73.54**	**341**	P	**P**	**11 05 05.7**	**-0.2**	
	comp=Z,1.0nm,0.7s							
NJ2	**Nanjing**	**75.75**	**60**	*e*P	**P**	**11 05 19.3**	**+0.1**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ULM	**Lac du Bonnet**	**76.16**	**324**	P	**P**	**11 05 20.5**	**-0.8**	
ULM	**Lac du Bonnet**	**76.16**	**324**	P	**P**	**11 05 20.5**	**-0.8**	
	comp=Z,3.6nm,0.9s,baz=33,slow=6.4,SNR=5.7							
ULM	**Lac du Bonnet**	**76.16**	**324**	P	**P**	**11 05 20.5**	**-0.8**	
	comp=Z,4.0nm,1.0s							
VLA	**Vladivostok**	**77.00**	**45**	⇓P	**P**	**11 05 27.8**	**+1.7**	
VLA	**Vladivostok**	**77.00**	**45**	P	**P**	**11 05 27.8**	**+1.7**	
DOT	**Dot Lake**	**77.67**	**354**	P	P	11 05 32.7	+3.1	
DOT	**Dot Lake**	**77.67**	**354**	P	P	11 05 32.7	+3.1	
KSAR	**Wonju Array Be**	**78.31**	**51**	P	**P**	**11 05 32.6**	**-1.0**	
KSAR	**Wonju Array Be**	**78.31**	**51**	P	**P**	**11 05 32.6**	**-1.0**	
KSRS	**Korea Array**	**78.33**	**51**	P	**P**	**11 05 32.6**	**-1.1**	
	comp=Z,1.4nm,0.7s,baz=306,slow=2.9,SNR=3.1							
KSRS	**Korea Array**	**78.33**	**51**	P	**P**	**11 05 32.6**	**-1.1**	
	comp=Z,1.0nm,0.7s							
SWMT	**Swartz Lake**	**85.86**	**332**	*e*P	**P**	**11 06 16.1**	**+2.9**	
	comp=Z,4.1nm,1.1s							
SWMT	**Swartz Lake**	**85.86**	**332**	*e*P	**P**	**11 06 16.1**	**+2.9**	
	comp=Z,4.1nm,1.1s							
PDAR	**Pinedale Array**	**87.97**	**326**	P	**P**	**11 06 23.8**	**+0.1**	
PDAR	**Pinedale Array**	**87.97**	**326**	P	**P**	**11 06 23.8**	**+0.1**	
	comp=Z,0.6nm,0.8s,baz=76,slow=7.5,SNR=3.9							
PDAR	**Pinedale Array**	**87.97**	**326**	P	**P**	**11 06 23.8**	**+0.1**	
TXAR	**Lajitas Array**	**95.60**	**314**	P	**P**	**11 07 01.1**	**+1.9**	
TXAR	**Lajitas Array**	**95.60**	**314**	P	**P**	**11 07 01.1**	**+1.9**	
	comp=Z,1.1nm,1.0s,baz=93,slow=6.3,SNR=5.7							
TXAR	**Lajitas Array**	**95.60**	**314**	P	**P**	**11 07 01.1**	**+1.9**	
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**119.45**	**93**	PKP	**PKPdf**	**11 12 24.4**	**+1.1**	
WRA	**Warramunga Arr**	**119.45**	**93**	PKP	**PKPdf**	**11 12 24.4**	**+1.1**	
	comp=Z,0.5nm,1.1s,baz=329,slow=1.7,SNR=2.8							
WRA	**Warramunga Arr**	**119.45**	**93**	PKIKP	**PKPdf**	**11 12 24.4**	**+1.1**	
ASAR	**Alice Springs**	**121.11**	**97**	PKP	**PKPdf**	**11 12 25.9**	**-0.6**	
ASAR	**Alice Springs**	**121.11**	**97**	PKP	**PKPdf**	**11 12 25.9**	**-0.6**	
	comp=Z,0.4nm,1.0s,baz=293,slow=1.4,SNR=2.9							
ASAR	**Alice Springs**	**121.11**	**97**	PKIKP	**PKPdf**	**11 12 25.9**	**-0.6**	

*ISCJB **22** 10:58:56.1±0.5,30.37N±0.05×138.03E±0.08,h477km, mb3.4/15, Error ellipse: s-maj=9.3km s-min=6.4km az=12.9*
*JMA **22** 10:58:57.3±0.5,30.59N×138.15E,h514km,M3.9*
*IDC **22** 10:58:58.4±1.3,30.47N×137.90E,h490km±13km, mb3.1/15,mb1 3.2/20,mb1mx3.1/56,mbtmp4.0/20,Error ellipse: s-maj=20.0km s-min=12.4km az=86.0*

ISC 22 10:58:56.9±0.7,**30.41N**±0.08×**138.07E**±0.10,**h477**km,**n33,** σ1§**50**/39,**mb3.5**/15,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.08**	**28**	P	**P**	**11 00 09.0**	**+2.5**
JHJ2				*e*S	**S**	**11 01 01.3**	**-1.9**
TTO2	**TONANKAI O.B.S**	**3.43**	**345**	P	P	11 00 12.7	+3.9
JWZ	**Kozaga**	**3.70**	**328**	P	**P**	**11 00 13.9**	**+2.7**
JIE	**Ise**	**4.13**	**344**	P	**P**	**11 00 17.8**	**+3.0**
BSO1	**Boso 1**	**4.89**	**29**	P	**P**	**11 00 22.7**	**+1.8**
BSO1				*e*S	**S**	**11 01 29.0**	**-0.7**
JCJ	**Chichijima**	**4.89**	**131**	S	**S**	**11 01 29.4**	**-1.5**
	13nm,0.3s,baz=287,slow=19,SNR=4.8						
JOD2	**Odawara 2**	**4.92**	**10**	P	**P**	**11 00 23.7**	**+1.9**
JOD2				*e*S	**S**	**11 01 30.2**	**-0.9**
JTO	**Tosashimizu**	**5.11**	**300**	P	**P**	**11 00 25.6**	**+2.0**
JRY	**Ryogami san**	**5.64**	**7**	P	**P**	**11 00 30.1**	**+1.5**
JRY				*e*S	**S**	**11 01 42.1**	**-1.5**
JAG	**Ashikaga**	**6.11**	**11**	P	**P**	**11 00 33.4**	**+0.2**
JAG				*e*S	**S**	**11 01 49.0**	**-3.1**
MJAR	**Matsushiro Arr**	**6.12**	**1**	P	**P**	**11 00 33.8**	**+0.5**
	1.5nm,0.3s,baz=185,slow=11,SNR=26						
MJAR				S	**S**	**11 01 51.9**	**-0.4**
	0.6nm,0.3s,baz=194,slow=15,SNR=4.0						
MAT	**Matsushiro**	**6.12**	**1**	P	**P**	**11 00 34.1**	**+0.8**
MAT				S	**S**	**11 01 52.0**	**-0.3**
JNU	**Nakatsue**	**6.69**	**296**	P	**P**	**11 00 41.1**	**+1.9**
	3.8nm,0.3s,baz=93,slow=2.0,SNR=35						
JMK	**Ichinoseki**	**8.91**	**16**	P	**P**	**11 01 03.6**	**+1.4**
KSRS	**Korea Array**	**10.97**	**315**	P	**P**	**11 01 24.7**	**+0.4**
	0.5nm,0.3s,baz=125,slow=11,SNR=12						
ASAJ	**Asahikawa**	**14.15**	**13**	P	**P**	**11 02 01.2**	**+3.0**
	0.7nm,0.3s,baz=328,slow=9.5,SNR=4.0						
USRK	**Ussuriysk Arra**	**14.58**	**342**	P	**P**	**11 02 04.0**	**+1.1**
	0.8nm,0.3s,baz=164,slow=11,SNR=18						
CMAR	**Chiang Mai Arr**	**37.38**	**261**	P	**P**	**11 05 27.4**	**-0.8**
	1.1nm,0.3s,baz=64,slow=5.9,SNR=5.5						
MKAR	**Makanchi Array**	**45.59**	**307**	P	**P**	**11 06 32.5**	**-0.6**
	0.4nm,0.3s,baz=85,slow=10,SNR=11						
KURBB	**Kurchatov Arra**	**48.15**	**313**	P	**P**	**11 06 51.7**	**-0.7**
	1.0nm,0.6s,baz=92,slow=8.2,SNR=18						
WRA	**Warramunga Arr**	**50.19**	**185**	P	**P**	**11 07 08.2**	**+0.2**
	0.3nm,0.4s,baz=0.2,slow=7.6,SNR=9.5						
BVAR	**Borovoye Array**	**53.16**	**316**	P	**P**	**11 07 28.8**	**-0.3**
	1.4nm,0.4s,baz=92,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**53.91**	**185**	P	**P**	**11 07 36.4**	**+1.5**
	0.3nm,0.6s,baz=19,slow=12,SNR=5.6						
AKTO	**Aktyubinsk**	**61.14**	**314**	P	**P**	**11 08 23.3**	**-0.6**
	2.0nm,0.7s,baz=80,slow=13,SNR=5.0						
ARCES	**ARCESS Array B**	**69.21**	**340**	P	**P**	**11 09 14.8**	**+0.2**
	0.9nm,0.4s,baz=69,slow=8.5,SNR=12						
YKA	**Yellowknife Ar**	**70.94**	**28**	P	**P**	**11 09 26.0**	**+1.1**
	0.1nm,0.7s,baz=297,slow=5.5,SNR=4.3						
KBZ	**Khabaz**	**73.11**	**311**	P	**P**	**11 09 37.7**	**-0.2**
	1.2nm,0.5s,baz=113,slow=5.2,SNR=4.1						
FINES	**FINESS Array B**	**73.37**	**332**	P	**P**	**11 09 38.7**	**-0.4**
	0.9nm,0.4s,baz=65,slow=4.4,SNR=12						
AKASG	**Malin Array Be**	**77.80**	**322**	P	**P**	**11 10 03.3**	**-0.7**
	0.5nm,0.3s,baz=48,slow=5.4,SNR=7.6						
HFS	**Hagfors**	**78.94**	**335**	P	**P**	**11 10 09.3**	**-0.6**
	1.2nm,0.4s,baz=70,slow=4.9,SNR=9.6						
NB2	**NORSAR Subarra**	**79.18**	**337**	P	**P**	**11 10 09.9**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**79.18**	**337**	P	**P**	**11 10 10.6**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=43,slow=5.3,SNR=4.1						
BRTR	**Keskin Array B**	**81.11**	**311**	P	**P**	**11 10 21.1**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=77,slow=7.6,SNR=3.4						

*BJI **22** 10:59:13.5,38.30N×22.00E,h10km,mB5.1/23,mb4.7/32, Ms5.0/11,Ms7 4.6/10*
*SKO **22** 10:59:13.5,38.20N×22.17E,h0km*
*HLW **22** 10:59:14.2,38.67N×22.24E,h20km±12km,Md4.0,Ml3.8*
*ATH **22** 10:59:15.6,38.40N×21.92E,h16km±1km,ML4.2*
*IDC **22** 10:59:15.4±0.6,38.47N×22.00E,h0km,mb4.3/32, mb1 4.4/42,mb1mx4.4/65,mbtmp4.3/42,ML3.8/9,MS3.6/22, Ms1 3.7/22,ms1mx3.5/48,Error ellipse: s-maj=12.9km s-min=10.1km az=16.0*
*ISCJB **22** 10:59:15.4±0.2,38.42N±0.01×21.95E±0.01,h6km±1km, mb4.5/90,MS3.9/18,Error ellipse: s-maj=1.9km s-min=1.7km az=37.5*
*MOS **22** 10:59:16.1±1.0,38.47N×21.95E,h14km,mb4.6/41,Error ellipse: s-maj=4.8km s-min=2.9km az=97.1*

*CSEM **22** 10:59:16.0±0.1,38.38N×21.96E,h5km,mb4.6/53,Ms3.4, Error ellipse: s-maj=2.5km s-min=2.2km az=42.0*
*PDG **22** 10:59:16.2±0.6,38.39N×21.92E,h8km,MD4.6/1,ML4.6/9, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*THE **22** 10:59:16.1,38.40N×21.94E,h0km±1km,ML4.4/5,Error ellipse: s-maj=1.9km s-min=0.5km az=260.0*
*NEIC **22** 10:59:16.8±0.2,38.39N×22.00E,h10km,mb4.7/42, ML4.2(ATH),ML4.5(THE),Error ellipse: s-maj=3.0km s-min=2.3km az=209.0*

ISC 22 10:59:16.8±0.3,**38.40N**±0.01×**21.93E**±0.01,**h13**km±1km, **h13**km:**pP-P,n984,**σ1§**30**/1092,**mb4.6**/91,**MS3.7**/18, **151C-110D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.04**	**323**	P	**Pg**	**10 59 17.2**	**-2.0**
EFP				S	**Sg**	**10 59 18.1**	**-2.8**
EFP	**Efpalio**	**0.04**	**323**	P	**Pg**	**10 59 17.2**	**-2.0**
EFP				S	**Sg**	**10 59 18.1**	**-2.8**
KALE	**Kalithea**	**0.16**	**92**	P	**Pg**	**10 59 19.8**	**-0.9**
KALE				S	**Sg**	**10 59 22.2**	**-1.2**
KALE	**Kalithea**	**0.16**	**92**	*e*PB	**Pg**	**10 59 19.9**	**-0.8**
KALE				*e*SB	**Sg**	**10 59 23.0**	**-0.4**
KALE	**Kalithea**	**0.16**	**92**	P	**Pg**	**10 59 19.8**	**-0.9**
KALE				S	**Sg**	**10 59 22.2**	**-1.2**
KALE				S	**Sg**	**10 59 23.3**	**-0.1**
KALE	**Kalithea**	**0.16**	**92**	P	**Pg**	**10 59 19.8**	**-0.9**
KALE				S	**Sg**	**10 59 22.2**	**-1.2**
KALE				*e*Sb	**Sg**	**10 59 23.0**	**-0.4**
LAKA	**Lakka**	**0.16**	**167**	P	**Pg**	**10 59 19.8**	**-0.9**
LAKA	**Lakka**	**0.16**	**167**	*e*PB	**Pg**	**10 59 19.8**	**-0.9**
LAKA	**Lakka**	**0.16**	**167**	P	**Pg**	**10 59 19.8**	**-0.9**
LAKA	**Lakka**	**0.16**	**167**	P	**Pg**	**10 59 19.7**	**-0.9**
UPR	**University Cam**	**0.16**	**225**	P	**Pg**	**10 59 19.5**	**-1.1**
UPR	**University Cam**	**0.16**	**225**	P	**Pg**	**10 59 19.5**	**-1.1**
PVO	**Paravola**	**0.39**	**304**	P	**Pg**	**10 59 22.8**	**-1.8**
KLV	**Kalavryta, Ach**	**0.39**	**154**	P	**Pg**	**10 59 23.7**	**-1.0**
KLV	**Kalavryta, Ach**	**0.39**	**154**	*e*PB	**Pg**	**10 59 23.7**	**-1.0**
KLV				*e*SB	**Sg**	**10 59 30.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.39**	**154**	P	**Pg**	**10 59 23.7**	**-1.0**
KLV	**Kalavryta, Ach**	**0.39**	**154**	P	**Pg**	**10 59 23.7**	**-1.0**
KLV				*e*Sb	**Sg**	**10 59 30.2**	**+0.2**
DSF	**Desfina**	**0.47**	**88**	P	**Pg**	**10 59 24.6**	**-1.4**
DSF				S	**Sg**	**10 59 32.2**	**-0.1**
DSF	**Desfina**	**0.47**	**88**	*e*PB	**Pg**	**10 59 24.7**	**-1.3**
DSF	**Desfina**	**0.47**	**88**	P	**Pg**	**10 59 24.6**	**-1.4**
DSF				S	**Sg**	**10 59 32.2**	**-0.1**
DSF	**Desfina**	**0.47**	**88**	P	**Pg**	**10 59 24.7**	**-1.3**
DSF				S	**Sg**	**10 59 32.2**	**-0.1**
DRO	**Drossia**	**0.48**	**202**	P	**Pg**	**10 59 25.0**	**-1.2**
DRO	**Drossia**	**0.48**	**202**	*e*PB	**Pg**	**10 59 25.1**	**-1.2**
DRO	**Drossia**	**0.48**	**202**	*e*Pb	**Pg**	**10 59 25.1**	**-1.2**
DRO				S	**Sg**	**10 59 30.7**	**-1.9**
RLS	**Riolos of Patr**	**0.50**	**227**	P	**Pg**	**10 59 25.5**	**-1.1**
RLS	**Riolos of Patr**	**0.50**	**227**	*e*PB	**Pg**	**10 59 25.5**	**-0.9**
RLS				*e*SB	**Sg**	**10 59 33.2**	**-0.1**
RLS	**Riolos of Patr**	**0.50**	**227**	P	**Pg**	**10 59 25.5**	**-1.1**
RLS	**Riolos of Patr**	**0.50**	**227**	*e*Pb	**Pg**	**10 59 25.7**	**-0.9**
RLS				*e*Sb	**Sg**	**10 59 33.2**	**-0.1**
EVR	**Evrytania**	**0.53**	**349**	P	**Pg**	**10 59 25.4**	**-1.7**
EVR				S	**Sg**	**10 59 34.1**	**-0.1**
EVR	**Evrytania**	**0.53**	**349**	*e*PN	**Pg**	**10 59 25.5**	**-1.7**
EVR				*e*SN	**Sg**	**10 59 33.9**	**-0.3**
EVR	**Evrytania**	**0.53**	**349**	P	**Pg**	**10 59 25.4**	**-1.7**
EVR				S	**Sg**	**10 59 34.1**	**-0.1**
EVR	**Evrytania**	**0.53**	**349**	*e*Pn	**Pg**	**10 59 25.5**	**-1.7**
EVR				*e*Sn	**Sg**	**10 59 33.9**	**-0.3**
GUR	**Goura**	**0.56**	**145**	P	**Pg**	**10 59 26.5**	**-1.3**
GUR				S	**Sg**	**10 59 34.8**	**-0.5**
GUR	**Goura**	**0.56**	**145**	*e*PN	**Pg**	**10 59 26.6**	**-1.3**
GUR	**Goura**	**0.56**	**145**	P	**Pg**	**10 59 26.5**	**-1.3**
GUR				S	**Sg**	**10 59 34.8**	**-0.5**
GUR				S	**Sb**	**10 59 35.8**	**-0.7**
GUR	**Goura**	**0.56**	**145**	*e*Pn	**Pg**	**10 59 26.6**	**-1.3**
GUR				S	**Sg**	**10 59 34.8**	**-0.5**
PDO	**Prodromos**	**0.62**	**289**	P	**Pg**	**10 59 26.8**	**-2.1**
PDO	**Prodromos**	**0.62**	**289**	*e*PB	**Pg**	**10 59 27.1**	**-1.8**
PDO	**Prodromos**	**0.62**	**289**	P	**Pg**	**10 59 26.8**	**-2.1**
PDO	**Prodromos**	**0.62**	**289**	*e*Pb	**Pg**	**10 59 27.1**	**-1.8**
PDO				S	**Sg**	**10 59 35.4**	**-1.8**
MAKR	**Makrakomi, Fth**	**0.63**	**14**	P	**Pg**	**10 59 27.9**	**-1.3**
MAKR				S	**Sg**	**10 59 37.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**14**	*e*PN	**Pg**	**10 59 28.0**	**-1.3**
MAKR				*e*SN	**Sg**	**10 59 37.6**	**0.0**
MAKR	**Makrakomi, Fth**	**0.63**	**14**	P	**Pg**	**10 59 27.9**	**-1.3**
MAKR				S	**Sg**	**10 59 37.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**14**	P	**Pg**	**10 59 27.9**	**-1.3**
MAKR				*e*Sn	**Sg**	**10 59 37.6**	**0.0**
AXAR	**Agios Charalam**	**0.68**	**57**	P	**Pg**	**10 59 28.4**	**-1.6**
AXAR				S	**Sb**	**10 59 39.6**	**-0.2**
AXAR	**Agios Charalam**	**0.68**	**57**	*e*PN	**Pg**	**10 59 28.7**	**-1.3**
AXAR				*e*SN	**Sg**	**10 59 39.0**	**+0.1**
AXAR	**Agios Charalam**	**0.68**	**57**	P	**Pg**	**10 59 28.4**	**-1.6**
AXAR				S	**Sb**	**10 59 39.6**	**-0.2**
AXAR	**Agios Charalam**	**0.68**	**57**	P	**Pg**	**10 59 28.4**	**-1.6**
AXAR	**Agios Charalam**	**0.68**	**57**	*e*Pn	**Pg**	**10 59 28.7**	**-1.3**
AXAR				*e*Sn	**Sg**	**10 59 39.0**	**+0.1**
AGG	**Agios Georgios**	**0.70**	**26**	P	**Pg**	**10 59 28.5**	**-1.9**
AGG				S	**Sg**	**10 59 39.5**	**0.0**
AGG	**Agios Georgios**	**0.70**	**26**	P	**Pg**	**10 59 28.5**	**-1.9**
AGG				S	**Sg**	**10 59 39.5**	**0.0**
AGG	**Agios Georgios**	**0.70**	**26**	*e*PB	**Pg**	**10 59 28.5**	**-1.9**
AGG				*e*SN	**Sg**	**10 59 38.7**	**-0.8**
AGG	**Agios Georgios**	**0.70**	**26**	P	**Pg**	**10 59 28.5**	**-1.9**
AGG				S	**Sg**	**10 59 39.5**	**0.0**
AGG	**Agios Georgios**	**0.70**	**26**	P	**Pg**	**10 59 28.5**	**-1.9**
AGG				*e*Sn	**Sg**	**10 59 38.7**	**-0.8**
AGG				S	**Sg**	**10 59 45.6**	**+0.2**
LTK	**Loutraki**	**0.90**	**114**	P	**Pg**	**10 59 33.1**	**-1.0**
LTK	**Loutraki**	**0.90**	**114**	*e*PN	**Pg**	**10 59 33.2**	**-0.9**
LTK	**Loutraki**	**0.90**	**114**	P	**Pg**	**10 59 33.1**	**-1.0**
LTK	**Loutraki**	**0.90**	**114**	P	**Pg**	**10 59 33.1**	**-1.0**
LTK				S	**Sb**	**10 59 45.3**	**+0.2**
KFL	**Anninata**	**0.95**	**253**	P	**Pb**	**10 59 32.9**	**-2.2**
KFL	**Anninata**	**0.95**	**253**	P	**Pb**	**10 59 32.9**	**-2.2**
LKD2	**Lefkada island**	**1.07**	**292**	P	**Pb**	**10 59 35.4**	**-1.8**
LKD2	**Lefkada island**	**1.07**	**292**	*e*PN	**Pb**	**10 59 35.4**	**-1.8**
LKD2	**Lefkada island**	**1.07**	**292**	P	**Pb**	**10 59 35.4**	**-1.8**
LKD2	**Lefkada island**	**1.07**	**292**	P	**Pb**	**10 59 35.4**	**-1.8**
VLS	**Valsamata**	**1.08**	**259**	P	**Pb**	**10 59 34.8**	**-2.6**
VLS	**Valsamata**	**1.08**	**259**	P	**Pb**	**10 59 34.8**	**-2.6**
VLS	**Valsamata**	**1.08**	**259**	*e*PB	**Pb**	**10 59 34.8**	**-2.6**
VLS				*e*SN	**Sb**	**10 59 51.9**	**+0.5**
VLS	**Valsamata**	**1.08**	**259**	P	**Pb**	**10 59 34.8**	**-2.6**
VLS	**Valsamata**	**1.08**	**259**	P	**Pb**	**10 59 34.8**	**-2.6**
VLS				*e*Sn	**Sb**	**10 59 51.9**	**+0.5**
VLX	**Vlachokerasia**	**1.08**	**161**	P	**Pb**	**10 59 36.0**	**-1.5**
VLX	**Vlachokerasia**	**1.08**	**161**	*e*PN	**Pb**	**10 59 36.0**	**-1.5**
VLX	**Vlachokerasia**	**1.08**	**161**	P	**Pb**	**10 59 36.0**	**-1.5**
VLX	**Vlachokerasia**	**1.08**	**161**	P	**Pb**	**10 59 36.1**	**-1.5**
SMIA	**Simia**	**1.11**	**64**	P	**Pb**	**10 59 36.4**	**-1.4**
SMIA	**Simia**	**1.11**	**64**	*e*PN	**Pb**	**10 59 37.0**	**-0.8**
SMIA				*e*SN	**Sg**	**10 59 52.8**	**+0.2**
SMIA	**Simia**	**1.11**	**64**	P	**Pb**	**10 59 36.4**	**-1.4**
SMIA				*e*Sn	**Sg**	**10 59 52.8**	**+0.2**
THL	**Klokotos Trika**	**1.17**	**3**	*e*PN	**Pn**	**10 59 37.5**	**-1.3**
THL				*e*SN	**Sb**	**10 59 54.1**	**+0.2**
THL	**Klokotos Trika**	**1.17**	**3**	*e*Pn	**Pn**	**10 59 37.5**	**-1.3**
THL				*e*Sn	**Sb**	**10 59 54.1**	**+0.2**
ITM	**Ithomi**	**1.22**	**180**	P	**Pn**	**10 59 38.1**	**-1.4**
ITM	**Ithomi**	**1.22**	**180**	*e*PN	**Pn**	**10 59 38.0**	**-1.4**
ITM	**Ithomi**	**1.22**	**180**	P	**Pn**	**10 59 38.1**	**-1.4**
ITM	**Ithomi**	**1.22**	**180**	P	**Pn**	**10 59 38.1**	**-1.4**
FYTO	**Fytoko, Volos**	**1.28**	**38**	P	**Pn**	**10 59 40.0**	**-0.4**
FYTO	**Fytoko, Volos**	**1.28**	**38**	P	**Pn**	**10 59 40.0**	**-0.4**
FYTO	**Fytoko, Volos**	**1.28**	**38**	P	**Pn**	**10 59 40.0**	**-0.4**
NEO	**Neokhori**	**1.35**	**48**	P	**Pn**	**10 59 41.0**	**-0.5**

NEO	**Neokhori**	**1.35**	**48**	*e*PN	**Pn**	**10 59 41.3**	**-0.2**
NEO	**Neokhori**	**1.35**	**48**	P	**Pn**	**10 59 41.0**	**-0.5**
NEO	**Neokhori**	**1.35**	**48**	*e*PN	**Pn**	**10 59 41.3**	**-0.2**
DID	**Didima**	**1.36**	**130**	P	**Pn**	**10 59 41.7**	**+0.2**
DID	**Didima**	**1.36**	**130**	*e*PN	**Pn**	**10 59 41.8**	**+0.2**
DID	**Didima**	**1.36**	**130**	P	**Pn**	**10 59 41.7**	**+0.2**
DID	**Didima**	**1.36**	**130**	P	**Pn**	**10 59 41.5**	**0.0**
DID				S	**Sn**	**10 59 57.1**	**-2.4**
XOR	**Xorichti**	**1.38**	**45**	P	**Pn**	**10 59 41.6**	**-0.2**
XOR	**Xorichti**	**1.38**	**45**	*e*PN	**Pn**	**10 59 41.8**	**0.0**
XOR	**Xorichti**	**1.38**	**45**	P	**Pn**	**10 59 41.6**	**-0.2**
XOR	**Xorichti**	**1.38**	**45**	*e*Pn	**Pn**	**10 59 41.8**	**0.0**
NAIG	**Nisos Aigina**	**1.38**	**117**	*e*PN	**Pn**	**10 59 41.8**	**0.0**
NAIG	**Nisos Aigina**	**1.38**	**117**	*e*Pn	**Pn**	**10 59 41.8**	**0.0**
SKIA	**Skiathos**	**1.42**	**57**	P	**Pn**	**10 59 42.1**	**-0.3**
SKIA	**Skiathos**	**1.42**	**57**	*e*PN	**Pn**	**10 59 42.4**	**0.0**
SKIA	**Skiathos**	**1.42**	**57**	P	**Pn**	**10 59 42.1**	**-0.3**
SKIA	**Skiathos**	**1.42**	**57**	*e*Pn	**Pn**	**10 59 42.4**	**0.0**
ATH	**Athens Observa**	**1.47**	**106**	P	**Pn**	**10 59 43.1**	**+0.2**
ATH	**Athens Observa**	**1.47**	**106**	P	**Pn**	**10 59 43.1**	**+0.2**
ATH	**Athens Observa**	**1.47**	**106**	*e*PN	**Pn**	**10 59 43.1**	**+0.2**
ATH	**Athens Observa**	**1.47**	**106**	P	**Pn**	**10 59 43.1**	**+0.2**
ATH	**Athens Observa**	**1.47**	**106**	P	**Pn**	**10 59 43.1**	**+0.2**
ERET	**Eretria**	**1.47**	**88**	P	**Pn**	**10 59 43.2**	**+0.1**
ERET	**Eretria**	**1.47**	**88**	P	**Pn**	**10 59 43.2**	**+0.1**
PYL	**PYLOS**	**1.51**	**186**	P	**Pn**	**10 59 43.3**	**-0.2**
PYL	**PYLOS**	**1.51**	**186**	*e*PN	**Pn**	**10 59 43.3**	**-0.2**
PYL	**PYLOS**	**1.51**	**186**	P	**Pn**	**10 59 43.3**	**-0.2**
PYL	**PYLOS**	**1.51**	**186**	P	**Pn**	**10 59 43.3**	**-0.2**
JAN	**Janina**	**1.51**	**326**	P	**Pb**	**10 59 44.6**	**-0.2**
JAN	**Janina**	**1.51**	**326**	P	**Pb**	**10 59 44.6**	**-0.2**
JAN	**Janina**	**1.51**	**326**	*e*PN	**Pb**	**10 59 44.6**	**-0.2**
JAN	**Janina**	**1.51**	**326**	P	**Pb**	**10 59 44.6**	**-0.2**
JAN	**Janina**	**1.51**	**326**	*e*Pn	**Pb**	**10 59 44.5**	**-0.2**
ATHU	**Athens Univers**	**1.52**	**106**	P	**Pn**	**10 59 43.7**	**0.0**
ATHU	**Athens Univers**	**1.52**	**106**	P	**Pn**	**10 59 43.7**	**0.0**
ATHU	**Athens Univers**	**1.52**	**106**	P	**Pn**	**10 59 43.7**	**0.0**
PTL	**Penteli**	**1.56**	**102**	P	**Pn**	**10 59 44.5**	**+0.2**
PTL	**Penteli**	**1.56**	**102**	*e*PN	**Pn**	**10 59 44.4**	**+0.2**
PTL	**Penteli**	**1.56**	**102**	P	**Pn**	**10 59 44.5**	**+0.2**
PTL	**Penteli**	**1.56**	**102**	*e*Pn	**Pn**	**10 59 44.4**	**+0.2**
IGT	**Igoumenitsa**	**1.69**	**313**	*e*PN	**Pb**	**10 59 47.8**	**+0.1**
IGT	**Igoumenitsa**	**1.69**	**313**	*e*Pn	**Pb**	**10 59 47.8**	**+0.1**
AOS	**Alonnisos**	**1.71**	**63**	P	**Pn**	**10 59 46.1**	**-0.1**
AOS	**Alonnisos**	**1.71**	**63**	*e*PN	**Pn**	**10 59 46.1**	**-0.1**
AOS	**Alonnisos**	**1.71**	**63**	P	**Pn**	**10 59 46.1**	**-0.1**
AOS	**Alonnisos**	**1.71**	**63**

comp=E,728nm,0.9s
IDI Anoyia 3.91 142 Pn Pn 11 00 17.3 +0.8
IDI Sn Sn 11 01 02.4 0.0
IDI Anoyia 3.91 142 Pn Pn 11 00 17.3 +0.8
comp=E,3.7nm,0.3s,baz=298,slow=18,SNR=13
IDI Sn Sn 11 01 02.4 0.0
comp=E,10nm,0.3s,baz=255,slow=20,SNR=3.0
IDI Anoyia 3.91 142 Pn Pn 11 00 17.3 +0.8
IDI Sn Sn 11 01 02.3 0.0
GVD Gavdhos 3.95 153 *e*Pg **Pg 11 00 31.1 -1.4**
GVD Gavdhos 3.95 153 *e*Pg **Pg 11 00 31.1 -1.4**
ULC Ulcinj 4.11 331 ⇓ *i*Pn **Pn 11 00 20.5 +1.1**
ULC *e*Sn **Sn 11 01 09.5 +2.1**
ULC Ulcinj 4.11 331 ⇓ *i*Pn **Pn 11 00 20.5 +1.1**
ULC *e*Sn **Sn 11 01 09.5 +2.1**
TIP Timpagrande 4.12 283 P **Pn 11 00 19.8 +0.3**
TIP Timpagrande 4.12 283 *e*Pn **Pn 11 00 20.0 +0.5**
TIP *e*Sn **Sn 11 01 08.4 +0.9**
TIP Timpagrande 4.12 283 P **Pn 11 00 19.8 +0.3**
TIP *e*Sn **Sn 11 01 08.4 +0.9**
KDZ Kurdzhali 4.21 38 ⇓ *i*P **Pn 11 00 20.8 +0.2**
BCI Bajram Curri 4.21 341 *i* PN **Pn 11 00 22.5 +1.8**
BCI Bajram Curri 4.21 341 *i* Pn **Pn 11 00 22.5 +1.8**
VTS Vitosha 4.30 13 P **Pn 11 00 25.2 +3.1**
VTS Vitosha 4.30 13 ⇑ *i*P **Pn 11 00 22.6 +0.6**
VTS Vitosha 4.30 13 P **Pn 11 00 25.2 +3.1**
VTS Vitosha 4.30 13 P **Pn 11 00 25.2 +3.1**
DRME Dracevica, Mon 4.33 332 ⇑ *i*Pn **Pn 11 00 23.8 +1.5**
DRME *e*Sn **Sn 11 01 14.5 +1.9**
DRME Dracevica, Mon 4.33 332 ⇑ *i*Pn **Pn 11 00 23.8 +1.5**
DRME *e*Sn **Sn 11 01 14.5 +1.9**
PVY Plav 4.45 341 ⇑ *i*Pn **Pn 11 00 25.9 +1.8**
PVY *e*Sn **Sn 11 01 17.8 +1.9**
PVY Plav 4.45 341 ⇑ *i*Pn **Pn 11 00 25.9 +1.8**
PVY *e*Sn **Sn 11 01 17.8 +1.9**
PDG Podgorica 4.52 334 ⇓ *i*Pn **Pn 11 00 27.2 +2.3**
PDG *e*Sn **Sn 11 01 19.7 +2.5**
TTG Podgorica 4.52 334 ⇓ *i*Pn **Pn 11 00 27.2 +2.3**
TTG *e*Sn **Sn 11 01 19.7 +2.5**
BUM Brajici-Budva 4.54 330 ⇑ *i*Pn **Pn 11 00 25.9 +0.7**
BUM *e*Sn **Sn 11 01 20.0 +2.1**
BUM Brajici-Budva 4.54 330 ⇑ *i*Pn **Pn 11 00 25.9 +0.7**
BUM *e*Sn **Sn 11 01 20.0 +2.1**
BEY Berane 4.73 341 ⇓ *i*Pn **Pn 11 00 29.5 +1.6**
BEY *e*Sn **Sn 11 01 25.0 +2.3**
IVA Berane 4.73 341 ⇓ *i*Pn **Pn 11 00 29.5 +1.6**
IVA *e*Sn **Sn 11 01 25.0 +2.3**
CEL Celeste 4.75 270 *e*Pn **Pn 11 00 28.1 -0.1**
CEL *e*Sn **Sn 11 01 24.7 +1.6**
CEL Celeste 4.75 270 *e*Pn **Pn 11 00 28.1 -0.1**
CEL *e*Sn **Sn 11 01 24.7 +1.6**
HCY Herceg Novi 4.82 328 ⇓ *i*Pn **Pn 11 00 28.7 -0.4**
HCY *e*Sn **Sn 11 01 27.0 +2.2**
HCY Herceg Novi 4.82 328 ⇓ *i*Pn **Pn 11 00 28.7 -0.4**
HCY *e*Sn **Sn 11 01 27.0 +2.2**
CUC Castrocucco 5.01 290 *e*Sn **Sn 11 01 32.5 +2.9**
CUC Castrocucco 5.01 290 *e*Sn **Sn 11 01 32.5 +2.9**
BRY Bratogost 5.19 331 ⇑ *i*Pn **Pn 11 00 34.5 +0.3**
BRY *e*Sn **Sn 11 01 35.9 +1.9**
BRY Bratogost 5.19 331 ⇑ *i*Pn **Pn 11 00 34.5 +0.3**
BRY *e*Sn **Sn 11 01 35.9 +1.9**
PLE Pljevlja 5.29 339 ⇑ *i*Pn **Pn 11 00 36.6 +1.0**
PLE *e*Sn **Sn 11 01 38.8 +2.3**
PLE Pljevlja 5.29 339 ⇑ *i*Pn **Pn 11 00 36.6 +1.0**
PLE *e*Sn **Sn 11 01 38.8 +2.3**
UPM Unac-Piva 5.32 335 ⇑ *i*Pn **Pn 11 00 37.8 +1.7**
UPM *e*Sn **Sn 11 01 39.5 +2.1**
UPM Unac-Piva 5.32 335 ⇑ *i*Pn **Pn 11 00 37.8 +1.7**
UPM *e*Sn **Sn 11 01 39.5 +2.1**
JMB Yambol 5.39 40 ⇑ *i*P **Pn 11 00 38.7 +1.8**
STON Ston 5.51 326 *e*Pn Pn 11 00 31.4 -7.0
STON Sn **Sn 11 01 39.5 -2.2**
ISP Isparta 6.80 92 *e*P **Pn 11 00 58.6 +2.3**
ISP pmax pmax
comp=Z,27nm,0.6s
ISP Isparta 6.80 92 *e*Pn **Pn 11 00 58.6 +2.3**
comp=Z,27nm,0.6s
ISP Isparta 6.80 92 *e*P **Pn 11 00 58.6 +2.3**
comp=Z,27nm,0.6s
GZR Gura Zlata 7.02 5 ⇑ *i*P **Pn 11 00 59.8 +0.5**
PSN Preselentsi 7.08 40 ⇓ *i*P Pn 11 01 04.7 +4.6
LOT Lotru 7.18 10 ⇑ *i*P **Pn 11 01 01.4 -0.1**
MSAB Monastry St. A 7.21 36 ⇑ *i*P **Pn 11 01 04.0 +2.1**
BZS Buzias 7.22 358 ⇑ *i*P **Pn 11 01 04.0 +2.1**
ARR Arges 7.25 15 ⇑ *i*P **Pn 11 01 03.5 +1.0**
SECR 7.32 24 ⇑ *i*P **Pn 11 01 05.9 +2.6**
SLUM 7.40 158 P **Pn 11 01 03.8 -0.7**
baz=160
SLUM S **Sn 11 02 23.8 -4.4**
baz=160
SLUM 7.40 158 P **Pn 11 01 03.8 -0.7**
VOIR 7.41 17 ⇑ *i*P **Pn 11 01 05.5 +0.9**
ISR Istrita 7.55 26 ⇑ *i*P **Pn 11 01 08.8 +2.3**
AQU L'Aquila 7.62 304 *e*Sn **Sn 11 02 35.9 +2.2**
AQU L'Aquila 7.62 304 *e*Sn **Sn 11 02 35.9 +2.2**
UDBI Udbina 7.68 325 *e*Pn **Pn 11 01 09.3 +0.9**
UDBI Sn **Sn 11 02 33.2 -2.0**
MLR Muntele Rosu 7.69 22 ⇑ *i*P **Pn 11 01 10.3 +1.7**
MLR Muntele Rosu 7.69 22 Pn **Pn 11 01 10.3 +1.7**
MLR Muntele Rosu 7.69 22 Pn **Pn 11 01 10.3 +1.7**
comp=Z,0.5nm,0.3s,baz=179,slow=11,SNR=14
MLR LR LR 11 04 15.1
comp=Z,100nm,19.7s,baz=317,slow=39
MLR Muntele Rosu 7.69 22 P **Pn 11 01 10.3 +1.7**
comp=Z,1.0nm,0.3s
TIRR Tirgusor 7.77 37 *e*P Pn 11 01 13.0 +3.5
TIRR Tirgusor 7.77 37 ⇑ *i*P Pn 11 01 06.2 -3.3
TIRR Tirgusor 7.77 37 *e*Pn Pn 11 01 13.0 +3.5
TIRR Tirgusor 7.77 37 *e*Pn Pn 11 01 13.0 +3.5
SIRR Siria 7.87 359 ⇑ *i*P **Pn 11 01 13.5 +2.6**
DOPR Dopca 7.99 18 ⇓ *i*P **Pn 11 01 13.1 +0.6**
NVLJ Novalja 8.12 322 *e*Pn **Pn 11 01 15.2 +0.8**
NVLJ Sn **Sn 11 02 42.4 -3.6**
PKSM Moragy 8.18 344 ⇓ *i*P **Pn 11 01 14.4 -0.7**
PKSM Moragy 8.18 344 *e* **Pn 11 01 14.0 -1.1**
PLOR Plostina 8.23 24 ⇑ *i*P **Pn 11 01 17.8 +1.9**
VRI Vrincioaia 8.27 24 ⇑ *i*P **Pn 11 01 18.1 +1.7**
HMAT Matruh 8.43 148 P **Pn 11 01 17.7 -1.0**
baz=150
HMAT Matruh 8.43 148 P **Pn 11 01 17.7 -1.0**
PKS9 Tamasi 8.62 343 *e* **Pn 11 01 19.0 -2.1**
BOJS Bojanci 8.67 327 *i* Pn **Pn 11 01 22.4 +0.5**
BOJS *e*Sn **Sn 11 02 55.4 -4.0**
BOJS Bojanci 8.67 327 *i* Pn **Pn 11 01 22.4 +0.5**
BOJS *e*Sn **Sn 11 02 55.4 -4.0**
TESR Tescani 8.82 22 ⇓ *i*P **Pn 11 01 25.5 +1.5**
VISS Visnje 9.08 327 *i* Pn **Pn 11 01 28.1 +0.6**
VISS *i* Sn **Sn 11 03 09.5 -0.1**
VISS Visnje 9.08 327 *i* Pn **Pn 11 01 28.1 +0.6**
VISS *i* Sn **Sn 11 03 09.5 -0.1**
BR131 Keskin Array S 9.20 78 *e*Pn **Pn 11 01 31.5 +2.2**
comp=Z,3.5nm,0.5s
BR131 Keskin Array S 9.20 78 *e*Pn **Pn 11 01 31.5 +2.2**
comp=Z,3.5nm,0.5s
BRTR Keskin Array B 9.20 78 Pn **Pn 11 01 31.1 +1.8**
BRTR Keskin Array B 9.20 78 Pn **Pn 11 01 31.1 +1.8**
comp=Z,1.0nm,0.3s,baz=255,slow=13,SNR=26
BRTR LR LR 11 05 43.7
comp=Z,489nm,19.4s,baz=260,slow=42
BRTR Keskin Array B 9.20 78 P **Pn 11 01 31.1 +1.8**
comp=Z,489nm,19.4s
JAVS Javornik 9.49 325 *e*Pn **Pn 11 01 33.2 -0.1**
JAVS *i* Sn **Sn 11 03 17.8 -2.1**
JAVS Javornik 9.49 325 *e*Pn **Pn 11 01 33.2 -0.1**
JAVS *i* Sn **Sn 11 03 17.8 -2.1**
BURAR Bucovina Array 9.52 14 ⇑ *i*P **Pn 11 01 34.6 +1.0**
BUR08 Bucovina Ar. S 9.54 13 *e*Pn **Pn 11 01 34.3 +0.3**
BUR08 *e*Sn Sn 11 03 14.0 -7.1
BUR08 Bucovina Ar. S 9.54 13 *e*Pn **Pn 11 01 34.3 +0.3**
BUR08 *e*Sn Sn 11 03 14.0 -7.1
SWA2 9.59 161 P **Pn 11 01 34.4 -0.1**
baz=163
SWA2 9.59 161 P **Pn 11 01 34.4 -0.1**
PSZ Piszkesteto 9.63 352 *e*P **Pn 11 01 35.5 +0.4**
PSZ *e* 11 03 30.1
PSZ Piszkesteto 9.63 352 ⇑ *i*P **Pn 11 01 35.7 +0.6**
PSZ Piszkesteto 9.63 352 *e*Pn **Pn 11 01 35.5 +0.4**
PSZ *e*Sn Sn 11 03 30.1 +6.9
PSZ Piszkesteto 9.63 352 *e* **Pn 11 01 36.7 +1.6**
PSZ Piszkesteto 9.63 352 *e*P **Pn 11 01 35.5 +0.4**
PSZ *e*Sn Sn 11 03 30.1 +6.9

PERS Pernice 9.64 331 *i* Pn **Pn 11 01 35.7 +0.4**
PERS *i* Sn **Sn 11 03 22.0 -1.4**
PERS Pernice 9.64 331 *i* Pn **Pn 11 01 35.7 +0.4**
PERS *i* Sn **Sn 11 03 22.0 -1.5**
SOKA Soboth 9.71 331 ⇓ *i*Pn **Pn 11 01 35.2 -1.0**
OBKA Obir 9.77 328 ⇓ *i*Pn **Pn 11 01 37.8 +0.8**
ARSA Arzberg 10.02 334 ⇑ *i*Pn **Pn 11 01 41.3 +0.9**
KECS Kecovo 10.14 355 *e*P **Pn 11 01 43.5 +1.5**
KECS Kecovo 10.14 355 *e*PN **Pn 11 01 43.5 +1.5**
KECS Kecovo 10.14 355 *e*P **Pn 11 01 43.5 +1.5**
UZH Uzhgorod 10.23 1 *e*P **Pn 11 01 44.0 +0.7**
UZH Uzhgorod 10.23 1 *e*P **Pn 11 01 44.0 +0.7**
KEST Kesra 10.40 259 Pn **Pn 11 01 48.7 +2.9**
KEST Kesra 10.40 259 Pn **Pn 11 01 48.7 +2.9**
comp=Z,0.1nm,0.3s,baz=226,slow=5.0,SNR=7.9
KEST LR LR 11 06 47.2
comp=Z,91nm,18.5s,baz=21,slow=43
KEST Kesra 10.40 259 Pn **Pn 11 01 48.7 +2.9**
CRVS Cervenica-Dubn 10.51 358 *e*P **Pn 11 01 49.0 +2.0**
CRVS Cervenica-Dubn 10.51 358 *e*PN **Pn 11 01 49.0 +2.0**
KOLS Kolonicke sedl 10.54 1 *e*P Pn 11 01 52.2 +4.8
KOLS Kolonicke sedl 10.54 1 *e* Pn 11 01 52.2 +4.8
PGF Pioggiola 10.69 297 *e*P **Pn 11 01 51.6 +2.0**
comp=Z,88nm,1.1s
PGF Pioggiola 10.69 297 *e*P **Pn 11 01 51.6 +2.0**
PGF pmax pmax
comp=Z,88nm,1.1s
PGF Pioggiola 10.69 297 *e*P **Pn 11 01 51.6 +2.0**
comp=Z,88nm,1.1s
PGF Pioggiola 10.69 297 *e*P **Pn 11 01 51.6 +2.0**
comp=Z,44nm,1.1s
MOA Molln 10.98 332 ⇓ *i*Pn **Pn 11 01 55.6 +2.1**
STHS Stebnicka Huta 11.03 358 *e*P **Pn 11 01 54.1 -0.1**
STHS Stebnicka Huta 11.03 358 *e*PN **Pn 11 01 54.1 -0.1**
STHS Stebnicka Huta 11.03 358 *e*P **Pn 11 01 54.1 -0.1**
LVV L'vov 11.52 7 *e*P Pn 11 01 56.1 -4.7
VRAC Vranov 11.56 342 ⇑ *i*P **Pn 11 02 01.4 -0.1**
VRAC Vranov 11.56 342 Pn **Pn 11 02 01.4 -0.1**
VRAC Vranov 11.56 342 Pn **Pn 11 02 01.4 -0.1**
comp=Z,0.3nm,0.3s,baz=172,slow=13,SNR=6.1
VRAC LR LR 11 07 53.3
comp=Z,346nm,19.1s,baz=187,slow=45
VRAC Vranov 11.56 342 Pn **Pn 11 02 01.4 -0.1**
WTTA Wattenberg 11.64 323 ⇓ *i*Pn **Pn 11 02 04.0 +1.3**
WATA Walderalm 11.72 323 ⇓ *i*Pn **Pn 11 02 03.2 -0.5**
OKC Ostrava-Krasne 11.75 348 AMS AMS 11 07 10.0
comp=Z,700nm,10.5s
MORC Moravsky Berou 11.80 346 *e*P **Pn 11 02 07.4 +2.6**
MORC *e* 11 04 15.2
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 11.80 346 *e*Pn **Pn 11 02 07.4 +2.6**
comp=Z,8.5nm,1.0s
MORC *e*Sn **Sn 11 04 15.2 -1.1**
MORC Moravsky Berou 11.80 346 *e*P **Pn 11 02 07.4 +2.6**
comp=Z,8.0nm,1.0s
MORC *e*Sn **Sn 11 04 15.2 -1.1**
TREC Trest 11.84 339 *e*P **Pn 11 02 04.3 -1.0**
TREC MLR MLR
comp=Z,600nm,10.9s
TREC Trest 11.84 339 *e*P **Pn 11 02 04.3 -1.0**
TREC AMS AMS 11 07 10.0
comp=Z,600nm,10.9s
TREC Trest 11.84 339 P **Pn 11 02 04.3 -1.0**
FUORN Ofenpass-Fuorn 11.89 317 *e*Pn **Pn 11 02 09.1 +2.9**
FUORN Ofenpass-Fuorn 11.89 317 *e*Pn **Pn 11 02 09.1 +2.9**
FETA Feichten 11.91 320 ⇑ *i*Pn **Pn 11 02 06.1 -0.3**
MOTA Moosalm 11.95 322 ⇑ *i*Pn **Pn 11 02 06.0 -0.9**
GEC2 GERESS Array S 12.02 333 *e*P **Pn 11 02 09.0 +1.2**
GEC2 GERESS Array S 12.02 333 *e*Pn **Pn 11 02 08.9 +1.2**
GEC2 GERESS Array S 12.02 333 *e*Pn **Pn 11 02 08.9 +1.2**
GERES GERESS Array B 12.02 333 Pn **Pn 11 02 08.5 +0.7**
GERES Sn **Sn 11 04 20.7 -1.0**
GERES GERESS Array B 12.02 333 Pn **Pn 11 02 08.5 +0.7**
comp=Z,0.4nm,0.3s,baz=158,slow=14,SNR=8.5
GERES Sn **Sn 11 04 20.7 -1.0**
comp=Z,0.4nm,0.3s,baz=152,slow=23,SNR=4.7
GERES LR LR 11 07 57.7
comp=Z,680nm,20.4s,baz=148,slow=44
GERES GERESS Array B 12.02 333 P **Pn 11 02 08.5 +0.7**
GERES S **Sn 11 04 20.7 -1.0**
MMAI Mount Meron Ar 12.19 112 Pn **Pn 11 02 10.0 -0.2**
MMAI Mount Meron Ar 12.19 112 Pn **Pn 11 02 10.0 -0.2**
baz=303,slow=11,SNR=5.4
MMAI LR LR 11 07 59.2
comp=Z,231nm,18.7s,baz=320,slow=43
MMAI Mount Meron Ar 12.19 112 Pn **Pn 11 02 10.0 -0.2**
DAVOX Davos/Dischmat 12.20 317 Pn **Pn 11 02 12.0 +1.7**
DAVOX Sn **Sn 11 04 23.1 -3.1**
DAVOX Davos/Dischmat 12.20 317 Pn **Pn 11 02 12.0 +1.7**
comp=Z,7.0nm,0.3s,baz=149,slow=16,SNR=5.9
DAVOX Sn **Sn 11 04 23.1 -3.1**
comp=Z,0.4nm,0.3s,baz=307,slow=20,SNR=3.0
DAVOX Davos/Dischmat 12.20 317 P **Pn 11 02 12.0 +1.7**
comp=Z,1.0nm,0.3s
DAVOX Sn **Sn 11 04 23.1 -3.1**
RSH 12.21 124 P **Pn 11 02 08.5 -1.9**
baz=125
RSH 12.21 124 P **Pn 11 02 08.5 -1.9**
SBF Sospel 12.21 301 *e*P Pn 11 02 13.7 +3.2
comp=Z,50nm,1.0s
SBF Sospel 12.21 301 *e*P Pn 11 02 13.7 +3.2
SBF pmax pmax
comp=Z,50nm,1.0s
SBF Sospel 12.21 301 *e*P Pn 11 02 13.7 +3.2
comp=Z,50nm,1.0s
KHC Kasperske Hory 12.30 333 *e*P **Pn 11 02 13.5 +1.9**
KHC *e* 11 04 33.0
KHC MLR MLR
comp=Z,1μm,7.9s
KHC Kasperske Hory 12.30 333 *e*P **Pn 11 02 13.5 +1.9**
KHC *ex* x 11 02 19.6
KHC *e*S **Sn 11 04 24.5 -4.0**
KHC *ex* x 11 04 33.0
KHC AMS AMS 11 08 10.0
comp=Z,1μm,7.9s
KHC Kasperske Hory 12.30 333 *e*Pn **Pn 11 02 12.6 +1.0**
KHC *e*Sn **Sn 11 04 29.7 +1.2**
KHC Kasperske Hory 12.30 333 *e*Pn **Pn 11 02 12.6 +1.0**
KHC Kasperske Hory 12.30 333 P **Pn 11 02 13.5 +1.9**
KHC *e*Sn **Sn 11 04 29.7 +1.2**
DPC Dobruska-Polom 12.60 343 *e*P **Pn 11 02 12.2 -3.5**
DPC Dobruska-Polom 12.60 343 *e*P Pn 11 02 12.2 -3.5
DPC *ex* x 11 02 23.2
DPC AMS AMS 11 08 20.0
DPC Dobruska-Polom 12.60 343 P Pn 11 02 12.2 -3.5
PRU Pruhonice 12.73 338 *e*P P 11 02 24.1 -4.5
PRU Pruhonice 12.73 338 *e*P P 11 02 24.1 -4.5
PRU *ex* x 11 02 29.1
PRU AMS AMS 11 08 00.0
comp=Z,700nm,12.4s
PRU Pruhonice 12.73 338 P P 11 02 24.1 -4.5
MBDF Montbardon 12.99 304 *e*P **Pn 11 02 23.1 +2.0**
comp=Z,12nm,0.6s
MBDF Montbardon 12.99 304 *e*P **Pn 11 02 23.1 +2.0**
MBDF pmax pmax
comp=Z,12nm,0.6s
MBDF Montbardon 12.99 304 *e*P **Pn 11 02 23.1 +2.0**
comp=Z,12nm,0.6s
MBDF Montbardon 12.99 304 *e*Pn **Pn 11 02 23.1 +2.0**
comp=Z,6.0nm,0.6s
LPG La Plagne 13.33 307 *e*P **Pn 11 02 27.9 +2.0**
comp=Z,47nm,0.8s
LPG La Plagne 13.33 307 *e*P **Pn 11 02 27.9 +2.0**
LPG pmax pmax
comp=Z,47nm,0.8s
LPG La Plagne 13.33 307 *e*P **Pn 11 02 27.9 +2.0**
comp=Z,47nm,0.8s
LPG La Plagne 13.33 307 *e*P **Pn 11 02 27.9 +2.0**
comp=Z,24nm,0.8s
KIEV Kiev 13.33 20 ⇑ *e*P **Pn 11 02 26.2 +0.6**
KIEV Kiev 13.33 20 *e*Pn **Pn 11 02 26.7 +1.1**
KIEV Kiev 13.33 20 *e*P **Pn 11 02 26.2 +0.6**
KIEV Kiev 13.33 20 *e*Pn **Pn 11 02 26.7 +1.1**
AKASG Malin Array Be 13.34 20 P **Pn 11 02 25.0 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 13.34 20 Pn **Pn 11 02 24.9 -0.8**
AKASG Malin Array Be 13.34 20 Pn **Pn 11 02 24.9 -0.8**
comp=Z,0.6nm,0.3s,baz=206,slow=12,SNR=9.1
AKASG Malin Array Be 13.34 20 P **Pn 11 02 25.0 -0.8**
comp=Z,1.0nm,0.3s
LPL La Plagne 13.35 307 *e*P **Pn 11 02 28.3 +2.2**
LPL La Plagne 13.35 307 *e*P **Pn 11 02 28.3 +2.2**

LPL La Plagne 13.35 307 *e*P **Pn 11 02 28.3 +2.2**
LPL La Plagne 13.35 307 *e*P **Pn 11 02 28.3 +2.2**
SENIN Lac Senin/Sane 13.42 311 *e*Pn Pn 11 02 30.4 +3.4
SENIN Lac Senin/Sane 13.42 311 *e*Pn Pn 11 02 30.4 +3.4
SMRF Simiane la Rot 13.52 300 *e*P **Pn 11 02 30.2 +2.0**
SMRF Simiane la Rot 13.52 300 *e*P **Pn 11 02 30.2 +2.0**
SMRF Simiane la Rot 13.52 300 *e*P **Pn 11 02 30.2 +2.0**
ORIF Oris-en-Rattie 13.65 304 *e*P **Pn 11 02 32.2 +2.2**
comp=Z,18nm,0.8s
ORIF *e*R
comp=Z,618nm,18.8s
ORIF Oris-en-Rattie 13.65 304 *e*P **Pn 11 02 32.2 +2.2**
ORIF pmax pmax
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 13.65 304 *e*P **Pn 11 02 32.2 +2.2**
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 13.65 304 *e*P **Pn 11 02 32.2 +2.2**
comp=Z,8.8nm,0.8s
BRG Berggiesshubel 13.70 338 *e*P **P 11 02 36.7 -2.6**
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 13.70 338 *e*P **P 11 02 36.7 -2.6**
BRG pmax pmax
comp=Z,5.0nm,0.9s
ASF Jabal al Asfar 13.70 112 Pn **P 11 02 36.5 -3.1**
ASF Jabal al Asfar 13.70 112 Pn **P 11 02 36.5 -3.1**
comp=Z,0.1nm,0.3s,baz=45,slow=10.0,SNR=2.5
EIL Elat 13.86 125 Pn **P 11 02 39.2 -2.0**
EIL Elat 13.86 125 Pn **P 11 02 39.2 -2.0**
comp=Z,0.5nm,0.3s,baz=79,slow=10,SNR=2.5
EIL Elat 13.86 125 Pn **P 11 02 39.2 -2.0**
BFO Black Forest 14.00 320 *i* P **Pn 11 02 36.3 +1.6**
BFO Black Forest 14.00 320 *e*Sn **Sn 11 05 12.4 +2.5**
BFO Black Forest 14.00 320 *i* P **Pn 11 02 36.3 +1.6**
BFO *e*Sn **Sn 11 05 12.4 +2.5**
CABF La Chapelle 14.26 310 *e*P **Pn 11 02 37.9 -0.6**
comp=Z,124nm,1.5s
CABF La Chapelle 14.26 310 *e*P **Pn 11 02 37.9 -0.6**
CABF pmax pmax
comp=Z,124nm,1.5s
CABF La Chapelle 14.26 310 *e*P **Pn 11 02 37.9 -0.6**
comp=Z,124nm,1.5s
CLL Collm 14.36 337 *e*P **Pn 11 02 38.0 -1.7**
CLL Collm 14.36 337 *e*P **Pn 11 02 38.0 -1.7**
CLL *i* PP **PnPn 11 02 47.3 -0.3**
comp=Z,26nm,1.2s
CLL *i* (PPP) 11 02 53.6
VIVF Saint-Julien-l 14.42 302 *e*P **Pn 11 02 42.3 +1.7**
comp=Z,40nm,1.3s
VIVF Saint-Julien-l 14.42 302 *e*P **Pn 11 02 42.3 +1.7**
VIVF pmax pmax
comp=Z,40nm,1.3s
VIVF Saint-Julien-l 14.42 302 *e*P **Pn 11 02 42.3 +1.7**
comp=Z,40nm,1.3s
HINF Hinteralfeld 14.47 315 *e*P **Pn 11 02 40.0 -1.2**
HINF Hinteralfeld 14.47 315 *e*P **Pn 11 02 40.0 -1.2**
HINF Hinteralfeld 14.47 315 *e*P **Pn 11 02 40.0 -1.2**
CDF Champ du Feu 14.59 318 *e*P **Pn 11 02 43.0 0.0**
comp=Z,23nm,1.0s
CDF Champ du Feu 14.59 318 *e*P **Pn 11 02 43.0 0.0**
CDF pmax pmax
comp=Z,23nm,1.0s
CDF Champ du Feu 14.59 318 *e*P **Pn 11 02 43.0 0.0**
comp=Z,23nm,1.0s
LASF Ste Croix 14.73 298 *e*P **Pn 11 02 44.1 -0.7**
comp=Z,29nm,1.1s
LASF Ste Croix 14.73 298 *e*P **Pn 11 02 44.1 -0.7**
comp=Z,29nm,1.0s
HAU Haudompre 14.85 315 *e*P **Pn 11 02 45.2 -1.3**
comp=Z,63nm,1.1s
HAU *e*R
comp=Z,266nm,17.2s
HAU Haudompre 14.85 315 *e*P **Pn 11 02 45.2 -1.3**
HAU pmax pmax
comp=Z,63nm,1.1s
HAU Haudompre 14.85 315 *e*P **Pn 11 02 45.2 -1.3**
comp=Z,63nm,1.1s
SUW Suwalki 15.64 3 *e*P **P 11 03 01.1 +0.2**
SUW Suwalki 15.64 3 *e*P **P 11 03 01.1 +0.2**
SUW Suwalki 15.64 3 *e*Sn **Sn 11 05 50.3 +0.5**
SUW Suwalki 15.64 3 *e*P **P 11 03 01.1 +0.2**
SUW *e*Sn **Sn 11 05 50.3 +0.5**
SMF Signal de Mont 15.65 308 *e*P **Pn 11 02 56.6 -0.4**
comp=Z,86nm,1.3s
SMF Signal de Mont 15.65 308 *e*P **Pn 11 02 56.6 -0.4**
SMF pmax pmax
comp=Z,86nm,1.3s
SMF Signal de Mont 15.65 308 *e*P **Pn 11 02 56.6 -0.4**
comp=Z,86nm,1.3s
MEZF Maizieres J'vi 15.85 315 *e*P **Pn 11 03 01.3 +1.8**
comp=Z,45nm,0.8s
MEZF Maizieres J'vi 15.85 315 *e*P **Pn 11 03 01.3 +1.8**
comp=Z,45nm,0.8s
MEZF Maizieres J'vi 15.85 315 *e*P **Pn 11 03 01.3 +1.8**
comp=Z,22nm,0.8s
LOR Lormes 15.92 310 *e*P **Pn 11 02 59.9 -0.6**
comp=Z,65nm,1.3s
LOR *e*R
comp=Z,285nm,23.0s
LOR Lormes 15.92 310 *e*P **Pn 11 02 59.9 -0.6**
comp=Z,65nm,1.3s
AVF Avril sur Loir 16.02 308 *e*P **Pn 11 03 02.6 +0.9**
comp=Z,74nm,1.1s
AVF Avril sur Loir 16.02 308 *e*P **Pn 11 03 02.6 +0.9**
AVF pmax pmax
comp=Z,74nm,1.1s
AVF Avril sur Loir 16.02 308 *e*P **Pn 11 03 02.6 +0.9**
comp=Z,74nm,1.1s
SSF Saint Saulge 16.04 309 *e*P **Pn 11 03 03.8 +1.8**
comp=Z,87nm,1.1s
SSF Saint Saulge 16.04 309 *e*P **Pn 11 03 03.8 +1.8**
SSF pmax pmax
comp=Z,87nm,1.1s
SSF Saint Saulge 16.04 309 *e*P **Pn 11 03 03.8 +1.8**
comp=Z,87nm,1.1s
SSF Saint Saulge 16.04 309 *e*P **Pn 11 03 03.8 +1.8**
comp=Z,44nm,1.1s
CAF Calviac 16.20 300 *e*P **P 11 03 06.4 -0.8**
comp=Z,27nm,1.1s
CAF Calviac 16.20 300 *e*P **P 11 03 06.4 -0.8**
CAF pmax pmax
comp=Z,27nm,1.1s
CAF Calviac 16.20 300 *e*P **P 11 03 06.4 -0.8**
comp=Z,27nm,1.1s
CAF Calviac 16.20 300 *e*P **P 11 03 06.4 -0.8**
comp=Z,13nm,1.1s
BGF Bois d'Agland 16.24 306 *e*P **Pn 11 03 05.2 +0.6**
comp=Z,181nm,1.4s
BGF Bois d'Agland 16.24 306 *e*P **Pn 11 03 05.2 +0.6**
BGF pmax pmax
comp=Z,181nm,1.4s
BGF Bois d'Agland 16.24 306 *e*P **Pn 11 03 05.2 +0.6**
comp=Z,181nm,1.4s
KIV Kislovodsk 16.57 64 ⇑ *e*P **P 11 03 12.9 +1.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 16.57 64 *e*P **P 11 03 12.9 +1.6**
comp=Z,12nm,1.0s
KBZ Khabaz 16.67 65 P **P 11 03 11.2 -1.2**
KBZ MLR MLR
comp=Z,120nm,20.4s
KBZ Khabaz 16.67 65 Pn **P 11 03 11.2 -1.2**
KBZ Khabaz 16.67 65 Pn **P 11 03 11.2 -1.2**
comp=Z,0.1nm,0.3s,baz=242,slow=17,SNR=1.8
KBZ LR LR 11 11 12.3
comp=Z,120nm,20.4s,baz=306,slow=43
KBZ Khabaz 16.67 65 Pn **P 11 03 11.1 -1.2**
NACGM Naroch 16.83 10 *e* **Pn 11 03 13.0 +1.0**
EPF Esparros 17.00 293 *e*P **Pn 11 03 14.0 -0.3**
comp=Z,9.2nm,0.8s
EPF Esparros 17.00 293 *e*P **Pn 11 03 14.0 -0.3**
EPF pmax pmax
comp=Z,9.0nm,0.8s
EPF Esparros 17.00 293 *e*P **Pn 11 03 14.0 -0.3**
comp=Z,9.2nm,0.8s
EPF Esparros 17.00 293 *e*P **Pn 11 03 14.0 -0.3**
comp=Z,4.6nm,0.8s
DOU Dourbes 17.01 319 P **P 11 03 18.0 +1.9**
BAIF Baives 17.19 318 *e*P **P 11 03 17.7 -0.4**
comp=Z,31nm,0.9s
BAIF Baives 17.19 318 *e*P **P 11 03 17.7 -0.4**
BAIF pmax pmax
comp=Z,31nm,0.9s
BAIF Baives 17.19 318 *e*P **P 11 03 17.7 -0.4**
comp=Z,31nm,0.9s
BAIF Baives 17.19 318 *e*P **P 11 03 17.7 -0.4**
comp=Z,16nm,0.9s

ZEI	**Tsey**	**17.24**	**68**	*e*P		P		11 03 23.7 +4.8
ZEI					pmax	pmax		
	comp=Z,7.0nm,0.9s							
VORD	**Divnogorie**	**17.56**	**39**	*e*P		**P**		**11 03 22.4 +0.3**
VORD					pmax	pmax		
	comp=Z,9.0nm,1.0s							
VORD					pmax	pmax		
	comp=N,10.0nm,0.9s							
VORD					pmax	pmax		
	comp=E,40nm,0.9s							
VORD	**Divnogorie**	**17.56**	**39**	*e*P		**P**		**11 03 22.4 +0.3**
	comp=E,9.0nm,1.0s							
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**P**		**11 03 23.6 +0.4**
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**P**		**11 03 23.6 +0.4**
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**P**		**11 03 23.6 +0.4**
ETSF	**Etsaut**	**17.64**	**292**	*e*P		**P**		**11 03 23.6 +0.4**
VSR	**Storozhevoye**	**17.66**	**38**	*e*P		**P**		**11 03 23.4 +0.2**
VSR					pmax	pmax		
	comp=Z,7.0nm,1.2s							
VSR					pmax	pmax		
	comp=N,9.0nm,0.9s							
VSR					pmax	pmax		
	comp=E,10.0nm,0.9s							
VSR	**Storozhevoye**	**17.66**	**38**	*e*P		**P**		**11 03 23.4 +0.2**
	comp=E,7.0nm,1.2s							
GNI	**Garni**	**17.74**	**77**	LR		LR		11 11 08.3
	comp=E,202nm,19.9s,baz=264,slow=40							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**		**11 03 30.1 +1.4**
	comp=E,18nm,0.8s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**		**11 03 30.1 +1.4**
SJPF					pmax	pmax		
	comp=Z,18nm,0.8s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**		**11 03 30.1 +1.4**
	comp=Z,18nm,0.8s							
SJPF	**Ste Jean**	**18.15**	**292**	*e*P		**P**		**11 03 30.1 +1.4**
	comp=Z,8.9nm,0.8s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**		**11 03 29.7 +0.6**
	comp=Z,84nm,1.3s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**		**11 03 29.7 +0.6**
MFF					pmax	pmax		
	comp=Z,84nm,1.3s							
MFF	**Saint Martin d**	**18.19**	**304**	*e*P		**P**		**11 03 29.7 +0.6**
	comp=Z,84nm,1.3s							
VRHR	**Novokhopersk**	**18.81**	**41**	*e*P		**Pn**		**11 03 38.8 +2.3**
VRHR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
VRHR					pmax	pmax		
	comp=N,20nm,0.9s							
VRHR					pmax	pmax		
	comp=E,20nm,0.9s							
VRHR	**Novokhopersk**	**18.81**	**41**	*e*P		**Pn**		**11 03 38.8 +2.3**
	comp=E,10.0nm,1.0s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**		**11 03 41.6 +0.5**
	comp=E,40nm,0.9s							
FLN				*e*R				
	comp=E,267nm,17.2s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**		**11 03 41.6 +0.5**
FLN					pmax	pmax		
	comp=Z,40nm,0.9s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**		**11 03 41.6 +0.5**
	comp=Z,40nm,0.9s							
FLN	**La Foliniere**	**19.19**	**310**	*e*P		**Pn**		**11 03 41.6 +0.5**
	comp=Z,20nm,0.9s							
OBN	**Obninsk**	**19.43**	**26**⇑	*e*P		**Pn**		**11 03 43.7 -0.1**
OBN	**Obninsk**	**19.43**	**26**	LR		LR		11 11 22.2
	comp=Z,234nm,18.4s,baz=92,slow=38							
OBN	**Obninsk**	**19.43**	**26**	*e*P		**Pn**		**11 03 43.7 -0.1**
ESDC	**Sonseca Array**	**20.14**	**282**	P		Pn		11 03 52.2 -0.3
ESDC	**Sonseca Array**	**20.14**	**282**	P		Pn		11 03 52.2 -0.3
	comp=Z,13nm,0.8s,baz=75,slow=11,SNR=40							
ESDC				LR		LR		11 11 43.1
	comp=Z,169nm,18.9s,baz=20,slow=37							
ESDC	**Sonseca Array**	**20.14**	**282**	P		Pn		11 03 52.2 -0.3
ESLA	**Sonseca Array**	**20.14**	**282**	*e*P		Pn		11 03 52.2 -0.3
	comp=Z,5.6nm,0.9s							
ESLA	**Sonseca Array**	**20.14**	**282**	*e*P		Pn		11 03 52.2 -0.3
	comp=Z,5.6nm,0.9s							
MOS	**Moscow**	**20.29**	**26**	*e*P		**P**		**11 03 48.6 -3.4**
VSU	**Vasula**	**20.32**	**7**⇑	*i*P		**P**		**11 03 52.8 +0.5**
VSU					pmax	pmax		
	comp=Z,59nm,1.0s							
VSU	**Vasula**	**20.32**	**7**	*i* P		**P**		**11 03 52.8 +0.5**
	comp=Z,59nm,1.0s							
ROSF	**Rostrenen**	**20.76**	**307**	*e*P		**P**		**11 03 56.5 -0.7**
	comp=Z,134nm,1.2s							
ROSF	**Rostrenen**	**20.76**	**307**	*e*P		**P**		**11 03 56.5 -0.7**
ROSF					pmax	pmax		
	comp=Z,134nm,1.2s							
ROSF	**Rostrenen**	**20.76**	**307**	*e*P		**P**		**11 03 56.5 -0.7**
	comp=Z,134nm,1.2s							
ROSF	**Rostrenen**	**20.76**	**307**	*e*P		**P**		**11 03 56.5 -0.7**
	comp=Z,67nm,1.2s							
TAM	**Tamanrasset**	**20.96**	**227**	*e*P		Pn		11 04 03.9 +1.5
TAM					pmax	pmax		
	comp=Z,6.0nm,1.0s							
TAM	**Tamanrasset**	**20.96**	**227**	*e*P		Pn		11 04 03.9 +1.5
	comp=Z,5.9nm,1.0s							
TAM	**Tamanrasset**	**20.96**	**227**	*e*P		Pn		11 04 03.9 +1.5
	comp=Z,5.9nm,1.0s							
PBRG	**Braganca**	**22.15**	**288**	*e*P		**P**		**11 04 13.4 +1.1**
	comp=Z,39nm,1.6s							
PBRG				*e*pP		**pP**		**11 04 16.0 0.0**
MDT	**Midelt**	**22.25**	**264**	P		**P**		**11 04 13.6 +0.1**
MDT	**Midelt**	**22.25**	**264**	P		**P**		**11 04 13.6 +0.1**
	comp=Z,8.6nm,0.8s,baz=89,slow=12,SNR=23							
MDT				LR		LR		11 12 28.5
	comp=Z,173nm,20.9s,baz=56,slow=36							
MDT	**Midelt**	**22.25**	**264**	P		**P**		**11 04 13.6 +0.1**
HFS	**Hagfors**	**22.38**	**349**	P		**P**		**11 04 14.1 -0.4**
HFS	**Hagfors**	**22.38**	**349**	P		**P**		**11 04 14.1 -0.4**
	comp=Z,12nm,0.7s,baz=153,slow=10.0,SNR=16							
HFS				LR		LR		11 14 21.3
	comp=Z,256nm,19.6s,baz=161,slow=41							
HFS	**Hagfors**	**22.38**	**349**	P		**P**		**11 04 14.1 -0.4**
	comp=Z,256nm,19.6s							
MVO	**Moncorvo**	**22.39**	**286**	*e*P		**P**		**11 04 16.3 +1.4**
	comp=Z,30nm,1.6s							
KONO	**Kongsberg**	**22.68**	**344**	*e*P		**P**		**11 04 16.6 -1.1**
KONO					pmax	pmax		
	comp=Z,34nm,1.1s							
KONO	**Kongsberg**	**22.68**	**344**	*e*P		**P**		**11 04 16.6 -1.1**
	comp=Z,34nm,1.1s							
KONO	**Kongsberg**	**22.68**	**344**	*e*P		**P**		**11 04 16.6 -1.1**
	comp=Z,34nm,1.1s							
PMRV	**Marv??o**	**22.80**	**282**	*e*P		**P**		**11 04 19.7 +0.5**
	comp=Z,48nm,1.8s							
MTE	**Manteigas**	**22.82**	**284**	*e*P		**P**		**11 04 20.5 +1.0**
	comp=Z,46nm,1.7s							
PCBR	**Castelo Branco**	**22.82**	**283**	*e*P		**P**		**11 04 20.3 +0.9**
	comp=Z,31nm,1.9s							
PCBR				*e*pP		**pP**		**11 04 23.1 0.0**
PESTR	**Estremoz**	**23.03**	**280**	*e*P		**P**		**11 04 21.8 +0.2**
	comp=Z,46nm,1.4s							
FINES	**FINESS Array B**	**23.21**	**5**	P		**P**		**11 04 22.0 -1.2**
FINES				PcP		**PcP**		**11 08 10.7 -0.1**
FINES	**FINESS Array B**	**23.21**	**5**	P		**P**		**11 04 22.0 -1.2**
	comp=Z,9.2nm,0.9s,baz=173,slow=7.7,SNR=11							
FINES				PcP		**PcP**		**11 08 10.7 -0.1**
	comp=Z,2.1nm,0.8s,baz=132,slow=2.8,SNR=4.1							
FINES				LR		LR		11 14 16.0
	comp=Z,254nm,18.1s,baz=185,slow=39							
FINES	**FINESS Array B**	**23.21**	**5**	*e*P		**P**		**11 04 22.2 -1.0**
	comp=Z,9.0nm,0.9s							
FIA1	**FINESS Array S**	**23.22**	**5**	*e*P		**P**		**11 04 23.4 +0.2**
FIA1	**FINESS Array S**	**23.22**	**5**	*e*P		**P**		**11 04 23.4 +0.2**
PBEJ	**Beja**	**23.38**	**278**	*e*P		**P**		**11 04 25.6 +0.5**
	comp=Z,29nm,1.6s							
PVAQ	**Vaqueiros**	**23.38**	**277**	*e*P		**P**		**11 04 26.4 +1.3**
	comp=Z,38nm,1.4s							
EVO	**Evora**	**23.41**	**280**	*e*P		**P**		**11 04 26.3 +0.9**
	comp=Z,23nm,0.9s							
EVO				*e*R				
	comp=Z,211nm,21.5s							
EVO	**Evora**	**23.41**	**280**	*e*P		**P**		**11 04 25.6 +0.2**
EVOP	**Sao Brissos**	**23.49**	**280**	*e*P		**P**		**11 04 26.3 +0.1**
EVOP					pmax	pmax		
	comp=Z,23nm,0.9s							
EVOP	**Sao Brissos**	**23.49**	**280**	*e*P		**P**		**11 04 26.3 +0.1**
	comp=Z,23nm,0.9s							
EVOP	**Sao Brissos**	**23.49**	**280**	*e*P		**P**		**11 04 26.3 +0.1**
	comp=Z,12nm,0.9s							
NAO01	**NORSAR Array S**	**23.52**	**346**	*e*P		**P**		**11 04 24.8 -1.4**
	comp=Z,21nm,0.9s							
NAO01	**NORSAR Array S**	**23.52**	**346**	*e*P		**P**		**11 04 24.8 -1.4**
	comp=Z,21nm,0.9s							
PBDV	**Barranco-do-Ve**	**23.58**	**277**	*e*P		**P**		**11 04 28.4 +1.3**
	comp=Z,50nm,1.7s							
PCAS	**Casmilo, Conde**	**23.58**	**284**	*e*P		**P**		**11 04 28.5 +1.4**
	comp=Z,74nm,1.8s							
NB2	**NORSAR Subarra**	**23.64**	**347**	P		**P**		**11 04 26.5 -1.0**
	comp=Z,21nm,0.9s,baz=153,slow=9.3							
NB2	**NORSAR Subarra**	**23.64**	**347**	P		**P**		**11 04 26.5 -1.0**
	comp=Z,21nm,0.9s,SNR=5.9							
NOA	**NORSAR Array B**	**23.64**	**347**	P		**P**		**11 04 26.3 -1.2**
NOA	**NORSAR Array B**	**23.64**	**347**	P		**P**		**11 04 26.3 -1.2**
	comp=Z,10nm,0.8s,baz=167,slow=10,SNR=26							
NOA				LR		LR		11 15 25.8
	comp=Z,162nm,19.7s,baz=160,slow=41							
NOA	**NORSAR Array B**	**23.64**	**347**	P		**P**		**11 04 26.3 -1.2**
	comp=Z,10.0nm,0.8s							
KAF	**Kangasniemi**	**23.89**	**5**	*e*P		**P**		**11 04 28.3 -1.6**
KAF					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KAF	**Kangasniemi**	**23.89**	**5**	*e*p		**P**		**11 04 28.3 -1.6**
	comp=Z,4.0nm,0.7s							
KAF	**Kangasniemi**	**23.89**	**5**	*e*P		**P**		**11 04 28.3 -1.6**
	comp=Z,4.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P		**P**		**11 04 28.9 -1.2**
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P		**P**		**11 04 28.9 -1.2**
	comp=Z,19nm,0.8s,baz=123,slow=10,SNR=16							
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P		**P**		**11 04 28.9 -1.2**
	comp=Z,19nm,0.8s							
KLMR	**Klimovskoe**	**25.04**	**20**	*e*P		**P**		**11 04 39.6 -0.7**
KLMR					pmax	pmax		
	comp=Z,32nm,1.5s							
KLMR	**Klimovskoe**	**25.04**	**20**	*e*P		**P**		**11 04 39.6 -0.7**
	comp=Z,32nm,1.5s							
JOF	**Joensuu**	**25.21**	**10**	*e*P		**P**		**11 04 40.6 -1.2**
JOF					pmax	pmax		
	comp=Z,3.0nm,0.8s							
JOF	**Joensuu**	**25.21**	**10**	*e*p		**P**		**11 04 40.6 -1.2**
	comp=Z,3.0nm,0.8s							
JOF	**Joensuu**	**25.21**	**10**	*e*P		**P**		**11 04 40.6 -1.2**
	comp=Z,3.0nm,0.8s							
PRGR	**Permogore**	**27.49**	**25**	P		**P**		**11 04 59.2 -3.3**
PRGR								11 05 43.6
PRGR								11 08 19.4
PRGR					S	**S**		**11 09 39.9 -2.8**
PRGR					pmax	pmax		
	comp=Z,4.0nm,0.2s							
PRGR	**Permogore**	**27.49**	**25**	PcP		**PcP**		**11 08 19.4 -1.0**
AKTK	**Aktyubinsk**	**28.16**	**53**	P		**P**		**11 05 09.0 +0.4**
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**28.16**	**53**	P		**P**		**11 05 09.0 +0.3**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**28.16**	**53**	P		**P**		**11 05 09.0 +0.3**
AKTO	**Aktyubinsk**	**28.16**	**53**	P		**P**		**11 05 09.0 +0.3**
	comp=Z,1.3nm,0.6s,baz=247,slow=7.7,SNR=3.2							
AKTO	**Aktyubinsk**	**28.16**	**53**	P		**P**		**11 05 09.0 +0.3**
ARU	**Arti**	**30.16**	**41**	*d* iP		**P**		**11 05 26.4 +0.1**
ARU								11 06 18.7
ARU					S	**S**		**11 10 27.4 +2.6**
ARU					SS	**SnSn**		**11 11 58.0 +0.2**
ARU					pmax	pmax		
	comp=Z,7.0nm,1.0s							
ARU	**Arti**	**30.16**	**41**	*e*P		**P**		**11 05 25.7 -0.6**
	comp=Z,6.8nm,1.0s							
ARU	**Arti**	**30.16**	**41**	*i* P		**P**		**11 05 26.4 +0.1**
	comp=Z,7.0nm,1.0s							
ARU					S	**S**		**11 10 27.4 +2.6**
ARCES	**ARCESS Array B**	**31.26**	**2**	P		**P**		**11 05 36.2 +0.4**
ARCES	**ARCESS Array B**	**31.26**	**2**	P		**P**		**11 05 36.2 +0.4**
	comp=Z,2.9nm,0.8s,baz=184,slow=7.3,SNR=7.9							
ARCES					LR	LR		11 19 06.7
	comp=Z,242nm,18.9s,baz=179,slow=38							
ARCES	**ARCESS Array B**	**31.26**	**2**	P		**P**		**11 05 36.2 +0.4**
	comp=Z,3.0nm,0.8s							
SVE	**Sverdlovsk**	**31.37**	**41**⇑	*i*P		**P**		**11 05 37.5 +0.5**
SVE					pmax	pmax		
	comp=Z,16nm,1.1s							
SVE	**Sverdlovsk**	**31.37**	**41**	*i* P		**P**		**11 05 37.5 +0.5**
	comp=Z,16nm,1.1s							
KEV	**Kevo**	**31.54**	**3**	*e*P		P		11 05 42.8 +4.5
KEV					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KEV	**Kevo**	**31.54**	**3**	*e*p		P		11 05 42.8 +4.5
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**36.06**	**50**⇑	*i*P		**P**		**11 06 17.7 -0.1**
BRVK					pmax	pmax		
	comp=Z,6.0nm,1.1s							
BRVK	**Borovoye**	**36.06**	**50**	*i* P		**P**		**11 06 17.7 -0.1**
	comp=Z,6.0nm,1.1s							
BVAR	**Borovoye Array**	**36.12**	**50**	P		**P**		**11 06 18.5 +0.1**
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**36.12**	**50**	P		**P**		**11 06 18.5 +0.1**
BVAR	**Borovoye Array**	**36.12**	**50**	P		**P**		**11 06 18.5 +0.1**
	comp=Z,1.2nm,0.6s,baz=259,slow=5.6,SNR=10							
BVAR	**Borovoye Array**	**36.12**	**50**	P		**P**		**11 06 18.5 +0.1**
	comp=Z,1.0nm,0.6s							
KKAR	**Karatay Array**	**36.69**	**67**	*e*P		**P**		**11 06 24.2 +0.9**
KKAR	**Karatay Array**	**36.69**	**67**	*e*P		**P**		**11 06 24.2 +0.9**
KKAR	**Karatay Array**	**36.69**	**67**	*e*P		**P**		**11 06 24.2 +0.9**
EKS2	**Erkin-Say**	**39.13**	**67**	*e*P		**P**		**11 06 44.5 +0.4**
EKS2					pmax	pmax		
	comp=Z,9.0nm,0.9s							
EKS2	**Erkin-Say**	**39.13**	**67**	*e*P		**P**		**11 06 44.5 +0.4**
	comp=Z,9.0nm,0.9s							
EKS2	**Erkin-Say**	**39.13**	**67**	*e*P		**P**		**11 06 44.5 +0.4**
	comp=Z,9.0nm,0.9s							
AAK	**Ala-Archa**	**39.65**	**67**⇓	*i*P		**P**		**11 06 49.1 +0.6**
AAK					pmax	pmax		
	comp=Z,10.0nm,0.9s							
AAK	**Ala-Archa**	**39.65**	**67**	P		**P**		**11 06 49.0 +0.5**
	comp=Z,0.9nm,1.0s							
AAK	**Ala-Archa**	**39.65**	**67**	P		**P**		**11 06 49.0 +0.5**
	comp=Z,5.0nm,0.9s,baz=238,slow=4.5,SNR=11							
AAK	**Ala-Archa**	**39.65**	**67**	P		**P**		**11 06 49.0 +0.5**
	comp=Z,0.9nm,1.0s							
DBIC	**Dimbokro**	**39.82**	**224**	*e*P		**P**		**11 06 51.3 +1.4**
	comp=Z,5.4nm,0.9s							
DBIC	**Dimbokro**	**39.82**	**224**	P		**P**		**11 06 51.8 +1.9**
	comp=Z,4.5nm,1.0s,baz=13,slow=17,SNR=3.2							
DBIC				LR		LR		11 23 26.6
	comp=Z,120nm,20.5s,baz=43,slow=36							
DBIC	**Dimbokro**	**39.82**	**224**	*e*P		**P**		**11 06 51.3 +1.4**
	comp=Z,5.4nm,0.9s							
SPITS	**Spitsbergen Ar**	**39.96**	**358**	P		**P**		**11 06 50.7 +0.3**
SPITS	**Spitsbergen Ar**	**39.96**	**358**	P		**P**		**11 06 50.7 +0.3**
	comp=Z,7.2nm,1.0s,baz=187,slow=11,SNR=4.8							
SPITS				LR		LR		11 24 53.9
	comp=Z,112nm,19.5s,baz=100,slow=39							
SPITS	**Spitsbergen Ar**	**39.96**	**358**	P		**P**		**11 06 50.7 +0.3**
	comp=Z,112nm,19.5s							
TKM2	**Tokmak 2**	**40.38**	**66**	*e*P		**P**		**11 06 54.3 -0.4**
TKM2					pmax	pmax		
	comp=Z,6.0nm,1.3s							
TKM2	**Tokmak 2**	**40.38**	**66**	*e*P		**P**		**11 06 54.2 -0.4**
	comp=Z,5.8nm,1.3s							
TKM2	**Tokmak 2**	**40.38**	**66**	*e*P		**P**		**11 06 54.2 -0.4**
	comp=Z,5.8nm,1.3s							
KURBB	**Kurchatov Arra**	**41.20**	**54**	P		**P**		**11 07 00.7 -0.3**
	comp=Z,4.6nm,0.9s,baz=281,slow=8.7,SNR=32							
KURK	**Kurchatov**	**41.25**	**54**	*e*P		**P**		**11 07 01.1 -0.3**
KURK	**Kurchatov**	**41.25**	**54**	*e*P		**P**		**11 07 01.1 -0.3**
KURK	**Kurchatov**	**41.25**	**54**	*e*P		**P**		**11 07 01.1 -0.3**
KSH	**Kashi**	**41.50**	**71**	*i* P		**P**		**11 07 02.5 -1.3**
KSH				*e*PP		**PnPn**		**11 08 43.3 -1.0**
KSH				*e*S		**S**		**11 13 16.3 -2.8**
KSH				*e*sS		**sS**		**11 13 21.8 -3.9**
KSH				*e*SS		SS		11 16 16.0 -7.4
KSH					pmax	pmax		
	comp=Z,5.0nm,0.9s							
KSH					pmax	pmax		
	comp=Z,64nm,3.8s							
KSH					LR	LR		
	comp=Z,76nm,4.7s							
KSH					LR	LR		
	comp=Z,38nm,3.6s							
DAG	**Danmarks Havn**	**42.32**	**347**	*i* P		**P**		**11 07 09.7 -0.1**
DAG					pmax	pmax		
	comp=Z,2.0nm,0.9s							
DAG	**Danmarks Havn**	**42.32**	**347**	*i* P		**P**		**11 07 09.7 -0.1**
	comp=Z,2.8nm,0.9s							
NVS	**Novosibirsk**	**43.71**	**47**	*e*P		**P**		**11 07 20.4 -0.9**
NVS					pmax	pmax		
	comp=N,5.0nm,0.6s							
NVS					pmax	pmax		
	comp=E,8.0nm,0.6s							
NVS					pmax	pmax		
	comp=Z,11nm,0.6s							
NVS	**Novosibirsk**	**43.71**	**47**	*e*P		**P**		**11 07 20.4 -0.9**
MK31	**Makanchi Array**	**44.24**	**59**	*e*P		**P**		**11 07 25.1 -0.6**
MK31	**Makanchi Array**	**44.24**	**59**	*e*P		**P**		**11 07 25.1 -0.6**
MK31	**Makanchi Array**	**44.24**	**59**	*e*P		**P**		**11 07 25.1 -0.6**
MKAR	**Makanchi Array**	**44.24**	**59**	*c e*P		**P**		**11 07 25.2 -0.5**
MKAR					pmax	pmax		
	comp=Z,5.0nm,0.5s							
MKAR	**Makanchi Array**	**44.24**	**59**	*e*P		**P**		**11 07 25.3 -0.5**
MKAR					PcP	**PcP**		**11 09 10.3 +0.2**
MKAR					ScP	**ScP**		**11 13 02.3 +0.6**
MKAR	**Makanchi Array**	**44.24**	**59**	P		**P**		**11 07 25.2 -0.5**
	comp=Z,4.7nm,0.5s,baz=284,slow=6.7,SNR=34							
MKAR				PcP		**PcP**		**11 09 10.3 +0.2**
	comp=Z,1.4nm,0.7s,baz=268,slow=2.6,SNR=2.7							
MKAR				ScP		**ScP**		**11 13 02.3 +0.6**
	comp=Z,0.7nm,0.8s,baz=280,slow=3.6,SNR=5.1							
MKAR				LR		LR		11 29 04.4
	comp=Z,39nm,19.6s,baz=312,slow=40							
MKAR	**Makanchi Array**	**44.24**	**59**	*e*P		**P**		**11 07 25.3 -0.5**
MKAR	**Makanchi Array**	**44.24**	**59**	PcP		**PcP**		**11 09 10.3 +0.2**
ZALV	**Zalesovo Beam**	**44.72**	**48**	P		**P**		**11 07 28.9 -0.5**
ZALV					pmax	pmax		
	comp=Z,7.0nm,0.6s							
ZALV	**Zalesovo Beam**	**44.72**	**48**	P		**P**		**11 07 28.9 -0.5**
ZALV	**Zalesovo Beam**	**44.72**	**48**	P		**P**		**11 07 28.9 -0.5**
	comp=Z,6.9nm,0.6s,baz=280,slow=8.6,SNR=34							
ZALV				LR		LR		11 26 22.6
	comp=Z,37nm,18.8s,baz=249,slow=36							
ZALV	**Zalesovo Beam**	**44.72**	**48**	P		**P**		**11 07 28.9 -0.5**
	comp=Z,7.0nm,0.6s							
WMQ	**Urumqi**	**48.68**	**62**	P		**P**		**11 08 01.3 +0.6**
WMQ				pP		**pP**		**11 08 05.8 +1.0**
WMQ				sP		**sP**		**11 08 08.3 +1.9**
WMQ				PcP		**PcP**		**11 09 27.3 +1.5**
WMQ				ScP		**ScP**		**11 13 20.1 -0.3**
WMQ				S		**S**		**11 14 58.4 -4.3**
WMQ					pmax	pmax		
	comp=Z,8.0nm,1.5s							
TLY	**Talaya**	**56.32**	**48**	*e*P		**P**		**11 08 58.0 +0.9**
TLY					pmax	pmax		
	comp=Z,13nm,1.4s							
TLY					MLR	MLR		
	comp=Z,89nm,17.0s							
TLY	**Talaya**	**56.32**	**48**	*e*P		**P**		**11 08 58.0 +0.9**
	comp=Z,89nm,17.0s							
FRB	**Frobisher Bay**	**56.56**	**328**	P		**P**		**11 08 58.9 +0.3**
FRB	**Frobisher Bay**	**56.56**	**328**	P		**P**		**11 08 58.9 +0.3**
	comp=Z,5.8nm,0.7s,baz=78,slow=8.5,SNR=16							
FRB	**Frobisher Bay**	**56.56**	**328**	P		**P**		**11 08 58.9 +0.3**
	comp=Z,6.0nm,0.7s							
ZAK	**Zakamensk**	**56.57**	**49**	*e*P		**P**		**11 08 59.1 0.0**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.1s							
ZAK	**Zakamensk**	**56.57**	**49**	*e*P		**P**		**11 08 59.1 0.0**
	comp=Z,3.0nm,1.1s							
GTA	**Gaotai**	**58.74**	**62**	*e*P		**P**		**11 09 15.3 +0.8**
GTA					pP	**pP**		**11 09 20.4 +1.7**
GTA					sP	**sP**		**11 09 23.1 +2.8**
GTA					S	**S**		**11 17 19.8 +0.6**
GTA					sS	**sS**		**11 17 27.3 +1.2**
GTA					SS	**SS**		**11 21 14.8 +2.9**
GTA					pmax	pmax		
	comp=Z,5.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,170nm,5.2s							
GTA					LR	LR		
	comp=Z,130nm,16.6s							
GTA					LR	LR		
	comp=Z,120nm,15.7s							
GTA					LR	LR		
	comp=Z,85nm,15.2s							
SCHQ	**Schefferville**	**59.05**	**318**	P		**P**		**11 09 16.6 +0.3**
SCHQ	**Schefferville**	**59.05**	**318**	P		**P**		**11 09 16.6 +0.3**
	comp=Z,7.7nm,0.8s,baz=64,slow=7.2,SNR=7.7							
SCHQ	**Schefferville**	**59.05**	**318**	P		**P**		**11 09 16.6 +0.3**
TIXI	**Tiksi**	**59.05**	**21**⇓	*i*P		**P**		**11 09 16.3 +0.3**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.9s							
TIXI	**Tiksi**	**59.05**	**21**	*i* P		**P**		**11 09 16.3 +0.3**
	comp=Z,2.0nm,0.9s							
SONM	**Songino Array**	**59.46**	**51**	P		**P**		**11 09 19.0 -0.4**
SONM	**Songino Array**	**59.46**	**51**	P		**P**		**11 09 19.0 -0.4**
	comp=Z,5.6nm,1.1s,baz=287,slow=7.9,SNR=29							
SONM	**Songino Array**	**59.46**	**51**	P		**P**		**11 09 19.0 -0.4**
	comp=Z,6.0nm,1.1s							
ULN	**Ulaanbaatar**	**59.85**	**51**	*e*P		**P

BILL Bilibino 70.55 13 eP P 11 10 31.2 +0.2
BILL pmax pmax
comp=Z,15nm,1.1s
BILL Bilibino 70.55 13 eP P 11 10 31.2 +0.2
comp=Z,15nm,1.1s
SEY Seymchan 71.53 22 P P 11 10 37.6 +0.6
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 71.53 22 P P 11 10 37.6 +0.6
SEY Seymchan 71.53 22 P P 11 10 37.6 +0.6
comp=Z,1.4nm,0.7s,baz=333,slow=23,SNR=5.4
SEY Seymchan 71.53 22 P P 11 10 37.6 +0.6
comp=Z,1.0nm,0.3s
INK Inuvik 72.03 351 P P 11 10 40.0 +0.1
INK Inuvik 72.03 351 P P 11 10 40.0 +0.1
comp=Z,1.7nm,0.9s,baz=35,slow=10.0,SNR=3.2
INK Inuvik 72.03 351 P P 11 10 40.0 +0.1
comp=Z,2.0nm,0.9s
CN2 Changchun 72.92 47 eP P 11 10 44.3 -1.4
CN2 esP sP 11 10 51.3 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
WHN Wuhan 73.49 64 eP P 11 10 51.5 +2.3
YKA Yellowknife Ar 73.56 341 P P 11 10 49.0 0.0
YKA Yellowknife Ar 73.56 341 P P 11 10 49.0 0.0
comp=Z,1.9nm,0.9s,baz=36,slow=5.5,SNR=24
YKA Yellowknife Ar 73.56 341 P P 11 10 49.0 0.0
NJ2 Nanjing 75.74 60 eP P 11 11 00.9 -1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
TNA Tin City 76.09 4 eP P 11 11 05.0 +1.4
comp=Z,16nm,1.4s
TNA Tin City 76.09 4 eP P 11 11 05.1 +1.4
comp=Z,16nm,1.4s
ULM Lac du Bonnet 76.18 324 P P 11 11 04.8 +0.4
ULM Lac du Bonnet 76.18 324 P P 11 11 04.8 +0.4
comp=Z,7.7nm,0.8s,baz=43,slow=5.7,SNR=12
ULM Lac du Bonnet 76.18 324 P P 11 11 04.8 +0.4
comp=Z,9.0nm,1.0s
USRK Ussuriysk Arra 76.35 44 P P 11 11 04.4 -1.1
comp=Z,5.6nm,1.0s,baz=276,slow=5.6,SNR=5.7
ILAR Eielson Array 76.79 355 P P 11 11 08.8 +1.2
ILAR Eielson Array 76.79 355 P P 11 11 08.8 +1.2
comp=Z,0.9nm,0.9s,baz=6.7,slow=5.9,SNR=6.6
ILAR Eielson Array 76.79 355 P P 11 11 08.9 +1.2
comp=Z,1.0nm,0.9s
DAWY Dawson 76.81 352 eP P 11 11 08.8 +1.0
DAWY Dawson 76.81 352 eP P 11 11 08.8 +1.0
AGMN Agassiz Nation 77.54 323 ⇓P P 11 11 12.0 -0.2
baz=77
DOT Dot Lake 77.68 354 eP P 11 11 12.4 -0.3
comp=Z,18nm,1.1s
DOT Dot Lake 77.68 354 eP P 11 11 12.4 -0.3
comp=Z,18nm,1.1s
SPMN St. Paul 78.16 319 ⇑P P 11 11 15.6 0.0
baz=78
A30A Hoffart Farm, 78.22 324 ⇓P P 11 11 16.6 +0.7
baz=78,SNR=6.8
KSAR Wonju Array Be 78.31 51 P P 11 11 17.2 +0.6
KSAR Wonju Array Be 78.31 51 P P 11 11 17.2 +0.6
KSRS Korea Array 78.33 51 P P 11 11 17.3 +0.6
comp=Z,1.8nm,0.7s,baz=305,slow=4.2,SNR=4.4
KSRS Korea Array 78.33 51 P P 11 11 17.3 +0.6
comp=Z,2.0nm,0.7s
B30A Myrvik Farm, E 78.58 324 ⇑P P 11 11 17.7 -0.3
baz=78
A29A Manning Farm, 78.66 325 ⇑P P 11 11 18.8 +0.4
baz=78,SNR=9.8
B29A Wagenman Farm, 79.04 325 ⇓P P 11 11 20.7 +0.2
baz=79
A28A Rude Farm, Bot 79.13 325 ⇓P P 11 11 21.2 +0.1
baz=79
C30A Mose, Pekin 79.19 324 ⇑P P 11 11 21.8 +0.4
baz=79
D30A Buchanan 79.76 323 ⇓P P 11 11 25.1 +0.7
baz=80,SNR=6.3
A26A Wade Farm, Ken 79.92 326 ⇑P P 11 11 25.9 +0.6
baz=80
B27A Peters Farms, 79.95 326 ⇑P P 11 11 26.2 +0.8
baz=80
D29A Pettibone, Tap 80.18 324 ⇑P P 11 11 27.5 +0.8
baz=80,SNR=7.0
E30A Jud 80.27 323 ⇓P P 11 11 28.0 +0.8
baz=80,SNR=5.5
E29A Napoleon 80.57 323 ⇑P P 11 11 29.6 +0.7
baz=80,SNR=8.8
A24A Westby 80.75 327 ⇑P P 11 11 30.2 +0.5
baz=80
C26A Wahner Farm, P 80.75 326 ⇓P P 11 11 30.4 +0.6
baz=80
F30A Leola 80.81 323 ⇓P P 11 11 30.8 +0.6
baz=81
E28A Huff 81.05 324 ⇓P P 11 11 32.3 +0.9
baz=81
A23A Redstone 81.09 328 ⇓P P 11 11 31.9 +0.3
baz=81
ECSD EROS Data Cent 81.15 320 eP P 11 11 32.9 +0.9
comp=Z,7.9nm,0.9s
ECSD EROS Data Cent 81.15 320 ⇑P P 11 11 32.2 +0.3
baz=81
ECSD EROS Data Cent 81.15 320 eP P 11 11 32.9 +0.9
comp=Z,7.9nm,0.9s
F29A Eureka 81.19 323 ⇓P P 11 11 32.6 +0.4
baz=81
G30A Faulkton 81.39 322 ⇓P P 11 11 34.0 +0.8
baz=81
B23A Brockton 81.52 327 ⇓P P 11 11 35.0 +1.1
baz=81
E27A Carson 81.56 324 ⇑P P 11 11 35.4 +1.2
baz=81
F28A McLaughlin 81.64 324 ⇓P P 11 11 35.1 +0.5
baz=81
G29A Hoven 81.71 323 ⇓P P 11 11 35.6 +0.6
baz=82
BRSD Miller 81.80 322 eP P 11 11 36.8 +1.4
BRSD Miller 81.80 322 ⇑P P 11 11 36.3 +0.9
baz=82
BRSD Miller 81.80 322 eP P 11 11 36.8 +1.4
E26A Carlson Angus 81.94 325 ⇓P P 11 11 37.3 +1.2
baz=82
C23A Lambert 82.11 327 ⇑P P 11 11 38.2 +1.2
baz=82
F27A Lemmon 82.19 324 ⇑P P 11 11 38.5 +1.1
baz=82
H29A Onida 82.27 322 ⇓P P 11 11 38.4 +0.5
baz=82
G28A Parade 82.27 323 ⇑P P 11 11 38.9 +1.0
baz=82
E25A Miller Ranch, 82.34 325 ⇓P P 11 11 39.1 +0.8
baz=82
C22A Vida 82.46 327 ⇑P P 11 11 39.5 +0.7
baz=82
F26A Lodgepole 82.50 325 ⇑P P 11 11 40.3 +1.2
baz=82
G27A Dupree 82.52 324 ⇑P P 11 11 40.0 +0.8
baz=82
D23A Lindsay 82.61 327 ⇓P P 11 11 41.0 +1.3
baz=82
H28A Mission Ridge 82.62 323 ⇑P P 11 11 40.8 +1.1
baz=82
A19A Klindworth Far 82.69 330 ⇓P P 11 11 41.0 +0.9
baz=82
J30A Dallas 82.88 321 ⇓P P 11 11 42.2 +1.1
baz=83
D22A Cohagen 83.05 327 ⇑P P 11 11 43.2 +1.3
baz=83
H27A Howes 83.15 323 ⇑P P 11 11 43.3 +0.8
baz=83
B19A Brinkman Farms 83.15 330 ⇑P P 11 11 43.5 +1.0
baz=83
I28A Midland 83.19 322 ⇑P P 11 11 43.6 +0.8
baz=83
J29A Okreek 83.23 322 ⇑P P 11 11 44.3 +1.3
baz=83,SNR=5.5
F24A Ekalaka 83.31 325 ⇓P P 11 11 44.2 +0.9
baz=83
C20A Veseth Ranch, 83.36 329 ⇑P P 11 11 44.5 +0.9
baz=83,SNR=5.5
L31A Butterfield Fa 83.40 320 ⇑P P 11 11 45.5 +1.7
baz=83
K30A Basset 83.42 321 ⇓P P 11 11 45.0 +1.1
baz=83,SNR=8.4
LAO LASA Array 83.43 327 eP P 11 11 46.0 +2.1
comp=Z,20nm,1.2s
LAO LASA Array 83.43 327 eP P 11 11 46.0 +2.1
comp=Z,20nm,1.2s
D21A La Casta Ranch 83.46 328 ⇑P P 11 11 44.6 +0.5
baz=83
I27A Quinn 83.56 323 ⇓P P 11 11 45.0 +0.3
baz=83
BGNE Belgrade 83.61 319 eP P 11 11 46.6 +1.7
comp=Z,32nm,0.9s
BGNE Belgrade 83.61 319 ⇑P P 11 11 45.9 +1.0
baz=83
BGNE Belgrade 83.61 319 eP P 11 11 46.6 +1.7
comp=Z,32nm,0.9s
J28A Allard Ranch, 83.66 322 ⇓P P 11 11 46.6 +1.4
baz=83
G24A Alzada 83.69 325 ⇑P P 11 11 45.8 +0.5
baz=83
K29A Lazy Trails An 83.70 321 ⇓P P 11 11 46.3 +0.9
baz=84
C19A Slack Wire Ran 83.77 329 ⇑P P 11 11 46.8 +1.1
baz=84
EGMT Eagleton 83.82 330 eP P 11 11 47.3 +1.3
comp=Z,13nm,1.0s
EGMT Eagleton 83.82 330 ⇓P P 11 11 46.8 +0.8
baz=84,SNR=7.6
EGMT Eagleton 83.82 330 eP P 11 11 47.3 +1.3
comp=Z,13nm,1.0s
F23A Volborg 83.83 326 ⇑P P 11 11 46.5 +0.5
baz=84
H25A Fruitdale 83.86 324 ⇓P P 11 11 46.7 +0.5
baz=84
D20A Manuel Ranch, 83.91 328 ⇓P P 11 11 47.3 +0.9
baz=84
I26A New Underwood 83.97 323 ⇑P P 11 11 47.3 +0.5
baz=84
M31A Lambtecht Ranc 84.08 319 ⇓P P 11 11 48.5 +1.2
baz=84
F22A Rosebud 84.15 326 ⇓P P 11 11 48.7 +1.0
baz=84
D19A Cripps Ranch, 84.16 329 ⇓P P 11 11 48.7 +1.0
baz=84
H24A Dirks Ranch, A 84.20 325 ⇑P P 11 11 48.7 +0.7
baz=84
G23A Biddle 84.22 326 ⇑P P 11 11 48.8 +0.7
baz=84
K28A Ten Mile Ranch 84.25 322 ⇑P P 11 11 49.4 +1.1
baz=84
L29A Maesberg Ranch 84.30 321 ⇓P P 11 11 49.6 +1.1
baz=84
E20A Meyer Farm, Mu 84.38 328 ⇓P P 11 11 49.2 +0.4
baz=84
M30A Dale-Ortello V 84.39 320 ⇓P P 11 11 49.9 +0.9
baz=84
RSSD Black Hills 84.45 324 eP P 11 11 50.9 +1.5
RSSD pmax pmax
comp=Z,6.0nm,1.2s
RSSD Black Hills 84.45 324 eP P 11 11 50.9 +1.5
comp=Z,5.7nm,1.2s
RSSD Black Hills 84.45 324 eP P 11 11 50.9 +1.5
comp=Z,5.7nm,1.2s
KSU1 Kansas State U 84.47 317 eP P 11 11 50.6 +1.3
comp=Z,18nm,0.7s
KSU1 Kansas State U 84.47 317 eP P 11 11 50.6 +1.3
comp=Z,18nm,0.7s
O32A Brockman Farm, 84.51 318 ⇓P P 11 11 50.6 +1.1
baz=84,SNR=6.3
WALA Waterton Lakes 84.55 333 eP P 11 11 42.9 -6.8
comp=Z,3.0nm,3.0s
K27A Flueckinger Fa 84.68 322 ⇑P P 11 11 51.4 +1.0
baz=84
E19A Rath Farm, Rou 84.69 328 ⇑P P 11 11 50.8 +0.5
baz=84
P33A Williams Farm, 84.81 317 ⇓P P 11 11 52.1 +1.1
baz=85
G21A Logs Grass 85.00 327 ⇑P P 11 11 52.8 +0.8
baz=85
MJAR Matsushiro Arr 85.03 46 P P 11 11 52.2 0.0
MJAR Matsushiro Arr 85.03 46 P P 11 11 52.2 0.0
comp=Z,3.3nm,1.1s,baz=295,slow=8.9,SNR=4.2
MJAR Matsushiro Arr 85.03 46 P P 11 11 52.2 0.0
N30A Hueftle Ranch, 85.06 320 ⇓P P 11 11 53.1 +0.8
baz=85
H22A Clearmont 85.12 326 ⇓P P 11 11 52.6 -0.1
baz=85
O31A Woolen Ranch, 85.14 319 ⇑P P 11 11 53.4 +0.7
baz=85
P32A Huiting Farm, 85.15 318 ⇑P P 11 11 54.1 +1.3
baz=85,SNR=6.9
Q33A Connelly Farm, 85.20 317 ⇑P P 11 11 54.0 +1.0
baz=85,SNR=7.3
M28A Bar X Bar Ranc 85.25 321 ⇑P P 11 11 54.4 +1.1
baz=85
N29A Votaw Ranch, W 85.31 320 ⇑P P 11 11 54.7 +1.1
baz=85
J24A Dixon Ranch, L 85.35 324 ⇑P P 11 11 54.5 +0.7
baz=85
H21A Big Horn, Sher 85.40 326 ⇓P P 11 11 54.7 +0.6
baz=85,SNR=5.1
G20A Bridger 85.44 327 ⇑P P 11 11 54.6 +0.4
baz=85
O30A MW Ranch, Wils 85.49 319 ⇑P P 11 11 55.2 +0.7
baz=85
K25A Mak Ranch, Ha 85.53 323 ⇓P P 11 11 55.5 +0.8
baz=85
YBMT Yellow Bay 85.58 332 eP P 11 11 55.9 +1.0
YBMT Yellow Bay 85.58 332 eP P 11 11 55.9 +1.0
Q32A Meitler Ranch, 85.59 318 ⇓P P 11 11 55.4 +0.5
baz=85
P31A Stockton 85.63 318 ⇑P P 11 11 56.2 +1.1
baz=85,SNR=7.2
HRY Holter Researc 85.71 330 eP P 11 11 56.9 +1.4
HRY Holter Researc 85.71 330 eP P 11 11 56.9 +1.4
I22A 9 Mile Ranch, 85.73 325 ⇓P P 11 11 56.3 +0.5
baz=86
JTMT Jette 85.78 332 eP P 11 11 56.2 +0.3
JTMT Jette 85.78 332 eP P 11 11 56.2 +0.3
R33A Olander Ranch, 85.78 317 ⇓P P 11 11 56.9 +1.0
baz=86
N28A Pribbeno Ranch 85.86 321 ⇑P P 11 11 57.5 +1.1
baz=86
SWMT Swartz Lake 85.87 332 eP P 11 11 57.4 +1.1
SWMT Swartz Lake 85.87 332 eP P 11 11 57.4 +1.1
MIAR Mount Ida 85.99 312 eP P 11 11 59.2 +2.2
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR Mount Ida 85.99 312 eP P 11 11 59.1 +2.2
comp=Z,7.4nm,0.8s
MIAR Mount Ida 85.99 312 eP P 11 11 59.2 +2.2
comp=Z,7.4nm,0.8s
R32A Long Quarter, 86.09 317 ⇓P P 11 11 58.3 +0.8
baz=86
I21A Big Trails, Te 86.16 326 ⇑P P 11 11 58.3 +0.5
baz=86
H19A Powell 86.21 327 ⇓P P 11 11 58.9 +0.9
baz=86,SNR=10
K23A Bowen Ranch, D 86.24 324 ⇑P P 11 11 58.9 +0.6
baz=86
TUL1 Tulsa 86.31 314 eP P 11 11 59.8 +1.3
comp=Z,14nm,0.9s
TUL1 Tulsa 86.31 314 ⇓P P 11 11 59.5 +1.0
baz=86,SNR=5.8
TUL1 Tulsa 86.31 314 eP P 11 11 59.8 +1.3
comp=Z,14nm,0.9s
NEW Newport 86.35 334 eP P 11 11 59.8 +1.3
comp=Z,9.0nm,1.3s
NEW Newport 86.35 334 P P 11 11 59.9 +1.3
comp=Z,4.3nm,0.9s,baz=19,slow=6.5,SNR=5.7
NEW Newport 86.35 334 ⇑P P 11 11 59.3 +0.7
baz=86
NEW Newport 86.35 334 eP P 11 11 59.8 +1.3
comp=Z,9.0nm,1.3s
I20A Worland 86.42 326 ⇑P P 11 11 59.7 +0.6
baz=86,SNR=5.7
MSO Missoula 86.42 331 ⇓P P 11 11 59.0 0.0
baz=86
Q30A Quinter 86.47 319 ⇓P P 11 12 00.3 +0.9
baz=86
H18A Shoshone NF, C 86.49 328 ⇓P P 11 12 00.8 +1.2
baz=86,SNR=7.1
J21A Lysite 86.59 326 ⇓P P 11 12 00.7 +0.7
baz=86
R31A Burdett 86.62 318 ⇑P P 11 12 00.9 +0.8
baz=86
I19A Meeteetse 86.72 327 ⇓P P 11 12 01.5 +0.8
baz=86,SNR=5.5
K22A Casper 86.73 325 ⇑P P 11 12 01.4 +0.7
baz=86
S32A Newby Ranch, P 86.74 317 ⇑P P 11 12 01.4 +0.7
baz=86
U34A Anderson Ranch 86.90 315 ⇑P P 11 12 02.7 +1.2
baz=87
Q29A Oakley 86.93 319 ⇑P P 11 12 02.9 +1.2
baz=87
H17A Grant Village 87.10 328 eP P 11 12 06.5 +4.0
comp=Z,16nm,1.6s
DLMT Dillon 87.12 330 eP P 11 12 05.3 +2.7
comp=Z,40nm,2.3s
DLMT Dillon 87.12 330 eP P 11 12 05.3 +2.7
comp=Z,40nm,2.3s
C09A Chrisman Ranch 87.14 334 eP P 11 12 03.6 +1.2
comp=Z,8.0nm,0.8s
C09A Chrisman Ranch 87.14 334 eP P 11 12 03.7 +1.2
comp=Z,8.0nm,0.8s
U33A Lingo Farm, Me 87.22 316 ⇑P P 11 12 04.2 +1.2
baz=87
P27A Ficken Ranch, 87.24 320 ⇑P P 11 12 03.7 +0.5
baz=87
M23A Laramie 87.29 323 ⇑P P 11 12 04.4 +0.9
baz=87
V34A Guthrie 87.33 315 ⇑P P 11 12 04.8 +1.2
baz=87
J19A Crowheart 87.36 326 ⇓P P 11 12 04.2 +0.4
baz=87
I17A Pilgrim Ck. 87.48 328 ⇓P P 11 12 05.3 +0.9
baz=87
O25A Wiggins 87.58 322 ⇑P P 11 12 06.1 +1.3
baz=87
T31A Randall Ranch, 87.58 317 ⇑P P 11 12 05.7 +0.9
baz=87
M22A Cedar Creek Ra 87.75 324 ⇓P P 11 12 07.0 +1.2
baz=88
V33A Lossen Ranch, 87.77 315 ⇑P P 11 12 07.4 +1.7
baz=88
N23A Red Feather La 87.84 323 ⇑P P 11 12 07.7 +1.4
baz=88
PDAR Pinedale Array 87.99 326 P P 11 12 07.1 +0.2
PDAR Pinedale Array 87.99 326 P P 11 12 07.1 +0.2
comp=Z,1.7nm,0.8s,baz=70,slow=4.6,SNR=12
PDAR Pinedale Array 87.99 326 P P 11 12 07.1 +0.2
O24A Longmont 88.03 322 ⇑P P 11 12 08.5 +1.5
baz=88
V32A Arapaho 88.25 316 ⇓P P 11 12 09.8 +1.8
baz=88
O23A Lake Granby, G 88.36 323 ⇑P P 11 12 10.2 +1.4
baz=88
S28A Manter 88.38 319 ⇓P P 11 12 09.7 +1.1
baz=88
T29A Hugoton 88.39 318 ⇑P P 11 12 10.0 +1.3
baz=88
X34A Smith Ranch, M 88.40 314 ⇓P P 11 12 10.3 +1.6
baz=88
ISCO Idaho Springs 88.54 322 ⇓P P 11 12 10.0 +0.4
baz=88
R26A Arlington 88.63 320 ⇑P P 11 12 11.1 +1.3
baz=88
O22A Kremmling 88.70 323 ⇑P P 11 12 10.5 +0.1
baz=88
W32A Sentinel 88.81 315 ⇑P P 11 12 12.2 +1.6
baz=89
T28A Walsh 88.85 319 ⇓P P 11 12 11.8 +0.9
baz=89
P23A Jefferson 88.98 322 ⇑P P 11 12 12.7 +1.0
baz=89
Y33A Hilltop Ranch, 89.28 314 ⇑P P 11 12 14.3 +1.5
baz=89
X32A Elmer 89.35 315 ⇓P P 11 12 14.6 +1.4
baz=89,SNR=7.0
U28A Mallet 89.47 318 ⇑P P 11 12 14.8 +1.0
baz=89
O20A White River Ci 89.51 324 ⇑P P 11 12 14.9 +0.9
baz=89
X31A McDonald Ranch 89.58 316 ⇓P P 11 12 14.9 +0.7
baz=89
Y32A R-V Farms, Ver 89.74 315 ⇑P P 11 12 16.3 +1.3
baz=90
HWUT Hardware Ranch 89.80 327 eP P 11 12 15.9 +0.6
comp=Z,5.6nm,0.8s
HWUT Hardware Ranch 89.80 327 eP P 11 12 15.9 +0.6
comp=Z,5.6nm,0.8s
Z33A Whitaker Ranch 89.89 314 ⇓P P 11 12 16.7 +1.0
baz=90
134A White-Moore Ra 90.02 313 ⇓P P 11 12 17.4 +1.1
baz=90
X30A Coker Ranch, T 90.20 316 ⇑P P 11 12 18.3 +1.1
baz=90,SNR=9.5
Y31A Rekieta Farm, 90.23 315 ⇑P P 11 12 18.5 +1.2
baz=90
U26A Atchley Ranch, 90.25 319 ⇑P P 11 12 18.5 +0.9
baz=90
Z32A Haskell 90.28 314 ⇑P P 11 12 19.0 +1.4
baz=90,SNR=11
234A Clairette 90.47 313 ⇓P P 11 12 20.3 +1.8
baz=90
133A Hamilton Ranch 90.48 314 ⇓P P 11 12 19.5 +1.1
baz=90
U25A Circle Dot Ran 90.58 319 ⇓P P 11 12 20.5 +1.4
baz=90
Z31A Sharp Cattle R 90.64 315 ⇑P P 11 12 20.6 +1.4
baz=90
X29A Tulia 90.65 317 ⇑P P 11 12 20.7 +1.3
baz=90
V26A Tequesquite Ra 90.73 319 ⇑P P 11 12 20.6 +0.9
baz=90
ABTX Abilene, Hawle 90.88 314 eP P 11 12 22.4 +2.1
ABTX Abilene, Hawle 90.88 314 ⇓P P 11 12 21.9 +1.5
baz=91
ABTX Abilene, Hawle 90.88 314 eP P 11 12 22.4 +2.1
233A Rising Star 90.90 313 ⇓P P 11 12 22.5 +2.0
baz=91
T23A Casias Ranch, 90.91 321 ⇓P P 11 12 22.3 +1.5
baz=91
334A Lometa 91.02 312 ⇑P P 11 12 22.3 +1.3
baz=91
Z30A Sanderson Ranc 91.21 315 ⇑P P 11 12 23.0 +1.1
baz=91
Y28A McKinney Farm, 91.36 317 ⇑P P 11 12 23.9 +1.3
baz=91
SRU San Rafael 91.38 325 eP P 11 12 23.4 +0.7
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael 91.38 325 eP P 11 12 23.4 +0.7
comp=Z,5.4nm,1.0s
SRU San Rafael 91.38 325 eP P 11 12 23.4 +0.7
comp=Z,5.4nm,1.0s
434A Burnet 91.42 312 ⇓P P 11 12 24.3 +1.4
baz=91
232A Coleman 91.42 314 ⇓P P 11 12 24.8 +1.9
baz=91,SNR=5.5
333A Richland Sprin 91.46 313 ⇑P P 11 12 24.5 +1.4
baz=91
DUG Dugway 91.49 327 ⇑P P 11 12 24.1 +0.9
baz=91
U23A El Rito 91.54 321 ⇑P P 11 12 24.3 +0.7
baz=91
Z29A Hungry Hill Ra 91.55 316 ⇑P P 11 12 24.2 +0.7
baz=91
MSTX Muleshoe 91.59 317 ⇑P P 11 12 24.5 +0.8
baz=91
231A Bronte 91.77 314 ⇓P P 11 12 26.0 +1.5
baz=92
U22A Llaves 91.83 321 ⇑P P 11 12 26.2 +1.2
baz=92
332A Millersview 91.85 313 ⇓P P 11 12 26.2 +1.3
baz=92
Y27A Causey 91.87 317 ⇓P P 11 12 26.1 +1.1
baz=92
Z28A Tucker Farm, M 91.90 316 ⇑P P 11 12 25.9 +0.8
baz=92
433A Art 91.94 312 ⇓P P 11 12 26.8 +1.5
baz=92
MVCO Mesa Verde 91.97 323 ⇓P P 11 12 26.1 +0.6
baz=92
X25A Clemmons Ranch 92.16 318 ⇓P P 11 12 27.1 +0.7
baz=92
V22A San Miguel Ran 92.22 321 ⇑P P 11 12 28.2 +1.4
baz=92
432A Menard 92.26 313 ⇑P P 11 12 28.5 +1.7
baz=92
330A Mertzon 92.65 314 ⇓P P 11 12 29.9 +1.3
baz=92
ANMO Albuquerque 92.76 320 LR LR 11 54 22.7
comp=Z,94nm,18.9s,baz=71,slow=36
431A Sonora 92.87 313 ⇓P P 11 12 30.7 +1.1
baz=93
532A Rocksprings 92.88 313 ⇑P P 11 12 30.4 +0.7
baz=93
228A UT Block 9, Go 92.90 316 ⇑P P 11 12 31.2 +1.4
baz=93

734A	**La Parita Cree** baz=93	**93.03**	**311**	⇓P	**P**	**11 12 31.8**	**+1.5**
Y24A	**Capitan** baz=93	**93.03**	**319**	⇑P	**P**	**11 12 31.9**	**+1.4**
329A	**Wagon Wheel Ra** baz=93	**93.04**	**315**	⇑P	**P**	**11 12 32.0**	**+1.6**
430A	**Baggett Ranch,** baz=93	**93.15**	**314**	⇑P	**P**	**11 12 32.7**	**+1.8**
Z25A	**Roswell** baz=93	**93.16**	**318**	⇑P	**P**	**11 12 32.3**	**+1.3**
531A	**Rocksprings** baz=93	**93.22**	**313**	⇓P	**P**	**11 12 32.7**	**+1.5**
328A	**Wristen Ranch,** baz=93	**93.58**	**315**	⇑P	**P**	**11 12 34.5**	**+1.6**
530A	**J-C Ranch, Com** baz=94	**93.69**	**313**	⇑P	**P**	**11 12 35.1**	**+1.7**
226B	**Tecolote Peak,** baz=94	**93.79**	**317**	⇑P	**P**	**11 12 35.4**	**+1.5**
631A	**Perdido Creek** baz=94	**93.80**	**312**	⇑P	**P**	**11 12 35.6**	**+1.8**
L02D	**Cave Junction,** baz=94	**93.90**	**335**	⇑P	**P**	**11 12 35.6**	**+1.5**
833A	**Chaparral WMA,** baz=94	**93.91**	**311**	⇑P	**P**	**11 12 36.3**	**+1.9**
529A	**Stev Forest Ra** baz=94	**94.20**	**314**	⇓P	**P**	**11 12 36.8**	**+1.1**
326A	**Caldwell Ranch** baz=94	**94.27**	**316**	⇑P	**P**	**11 12 37.2**	**+1.1**
832A	**Faith Ranch, C** baz=94	**94.28**	**311**	⇓P	**P**	**11 12 37.5**	**+1.4**
427A	**Hayter Ranch,** baz=94	**94.31**	**315**	⇑P	**P**	**11 12 37.6**	**+1.2**
034A	**Hebbronville** baz=94	**94.41**	**310**	⇓P	**P**	**11 12 38.6**	**+1.9**
528A	**Cox Ranch, San** baz=94	**94.50**	**314**	⇓P	**P**	**11 12 38.4**	**+1.2**
426A	**McDonald Obser** baz=95	**94.80**	**316**	⇓P	**P**	**11 12 40.0**	**+1.3**
NVAR	**Mina Array Bea**	**95.25**	**330**	P	**P**	**11 12 42.1**	**+1.5**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.4s,baz=64,slow=4.1,SNR=3.1	**95.25**	**330**	P	**P**	**11 12 42.1**	**+1.5**
NVAR	**Mina Array Bea**	**95.25**	**330**	P	**P**	**11 12 42.1**	**+1.5**
526A	**Mary Lane Ranc** baz=95	**95.30**	**315**	⇑P	**P**	**11 12 42.4**	**+1.5**
TXAR	**Lajitas Array**	**95.62**	**314**	P	**P**	**11 12 44.0**	**+1.7**
TXAR	**Lajitas Array** comp=Z,1.8nm,0.9s,baz=82,slow=3.3,SNR=13	**95.62**	**314**	P	**P**	**11 12 44.0**	**+1.7**
TXAR	**Lajitas Array**	**95.62**	**314**	P	**P**	**11 12 44.0**	**+1.7**
WRA	**Warramunga Arr**	**119.44**	**93**	PKP	**PKPdf**	**11 18 07.2**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.6nm,1.0s,baz=307,slow=1.5,SNR=4.2	**119.44**	**93**	PKP	**PKPdf**	**11 18 07.2**	**+0.8**
WRA	**Warramunga Arr**	**119.44**	**93**	PKIKP	**PKPdf**	**11 18 07.2**	**+0.8**
ASAR	**Alice Springs**	**121.09**	**97**	PKP	**PKPdf**	**11 18 10.8**	**+1.4**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=309,slow=1.6,SNR=4.0	**121.09**	**97**	PKP	**PKPdf**	**11 18 10.8**	**+1.4**
ASAR	**Alice Springs**	**121.09**	**97**	PKIKP	**PKPdf**	**11 18 10.9**	**+1.4**

NEIC 22 11:04:51.8,63.11N×149.70W,h90km,MG2.9(AEIC)**,1D, After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.43**	**322**	P	Pn	11 05 07.0	+0.7
TRF				S	Sn	11 05 18.4	+1.3
RND	**Reindeer**	**0.48**	**52**	P	Pn	11 05 06.5	0.0
RND				S	Sn	11 05 17.6	+0.2
KTH	**Kantishna Hill**	**0.71**	**309**	P	Pn	11 05 08.9	+0.5
KTH				S	Sn	11 05 21.2	+0.3
MCK	**McKinley**	**0.71**	**28**	P	Pn	11 05 08.6	+0.1
MCK				S	Sn	11 05 21.6	+0.7
CUT	**Chulitna**	**0.76**	**201**	P	Pn	11 05 08.9	+0.1
DHY	**Denali Highway**	**1.06**	**91**	P	Pn	11 05 12.1	-0.2
DHY				S	Sn	11 05 28.1	+0.3
CAST	**Castle Rocks**	**1.12**	**287**	P	Pn	11 05 12.9	0.0
CAST				S	Sn	11 05 28.4	-0.4
PPLA	**Purkeypile**	**1.16**	**260**	P	Pn	11 05 14.1	+0.6
PPLA				S	Sn	11 05 30.9	+1.2
CHUM	**Lake Minchumin**	**1.41**	**305**	P	Pn	11 05 16.9	+0.6
CHUM				S	Sn	11 05 35.1	+0.3
SKT	**Skwentna**	**1.42**	**218**	P	Pn	11 05 16.3	-0.1
WRH	**Wood River Hil**	**1.54**	**27**	P	Pn	11 05 17.9	-0.1
PMR	**Palmer**	**1.55**	**170**	P	Pn	11 05 18.2	+0.2
SCM	**Sheep Creek Mo**	**1.65**	**188**	P	Pn	11 05 19.7	-0.3
SUA	**Susitna One**	**1.72**	**197**	P	Pn	11 05 20.6	+0.1
CCB	**Clear Creek Bu**	**1.75**	**28**	P	Pn	11 05 20.5	-0.2
HDA	**Harding Lake**	**1.78**	**42**	P	Pn	11 05 20.9	-0.2
PS10	**TAPS Pump St10**	**1.80**	**78**	P	Pn	11 05 21.9	+0.5
DDM	**Donnelly Dome**	**1.85**	**67**	P	Pn	11 05 22.5	+0.4
STLK	**Strandline Lak**	**1.90**	**213**	P	Pn	11 05 22.8	+0.1
PS08	**TAPS Pump Stn8**	**1.92**	**40**	P	Pn	11 05 22.7	-0.2
PAX	**Paxson**	**1.93**	**92**	P	Pn	11 05 23.7	+0.5
COLA	**College**	**1.95**	**24**	⇓*i*P	Pn	11 05 23.2	0.0
COLA	**College**	**1.95**	**24**	P	Pn	11 05 23.2	0.0
COLA	**College**	**1.95**	**24**	*e*Pn	Pn	11 05 23.1	-0.1
COLA				*e*Sn	Sn	11 05 46.4	-0.8
COLA	**College**	**1.95**	**24**	*i* P	Pn	11 05 23.2	0.0
FIB	**Fire Island**	**1.96**	**187**	P	Pn	11 05 24.6	+1.2
MDM	**Murphy Dome**	**1.96**	**19**	P	Pn	11 05 23.5	0.0
MLY	**Manley**	**1.98**	**347**	P	Pn	11 05 23.9	+0.2
RC01	**Rabbit Creek A**	**2.03**	**181**	P	Pn	11 05 24.7	+0.4
ILB	**Eielson Array**	**2.08**	**35**	P	Pn	11 05 24.6	-0.3
IL1	**Eielson Array**	**2.08**	**35**	P	Pn	11 05 24.6	-0.3
CGLM	**Capps Glacier**	**2.11**	**212**	P	Pn	11 05 25.9	+0.5
GLM	**Gilmore Dome**	**2.14**	**27**	P	Pn	11 05 25.8	0.0
HARP	**HAARP**	**2.21**	**107**	P	Pn	11 05 27.0	+0.3
PS11	**TAPS Pump St11**	**2.21**	**116**	P	Pn	11 05 27.1	+0.4
SPBG	**Spurr Blockage**	**2.24**	**215**	P	Pn	11 05 28.2	+0.9
BGL	**Barrier Glacie**	**2.24**	**215**	P	Pn	11 05 28.5	+1.3
CKL	**Chakachamna La**	**2.29**	**214**	P	Pn	11 05 28.2	+0.3
PWL	**Port Wells**	**2.35**	**164**	P	Pn	11 05 28.6	0.0
JPK	**Jack Peak**	**2.53**	**143**	P	Pn	11 05 29.9	-1.0
GLI	**Glacier Island**	**2.55**	**150**	P	Pn	11 05 30.2	-1.0
SLKM	**Skilak Lake**	**2.62**	**186**	P	Pn	11 05 32.9	+0.7
SCRK	**Sand Creek**	**2.70**	**69**	P	Pn	11 05 33.0	-0.3
DIV	**Divide**	**2.71**	**135**	P	Pn	11 05 32.0	-1.4
TT01	**Tatalina**	**2.89**	**269**	P	Pn	11 05 36.0	+0.3
DFR	**Drift River**	**2.90**	**211**	P	Pn	11 05 37.3	+1.3
NCT	**North Crescent**	**2.98**	**212**	P	Pn	11 05 37.8	+0.7
SEW	**Seward**	**3.02**	**178**	P	Pn	11 05 37.7	+0.2
RDWB	**Redoubt West**	**3.03**	**211**	P	Pn	11 05 38.8	+1.0
RSO	**Redoubt South**	**3.03**	**210**	*e*Pn	Pn	11 05 39.5	+1.6
RSO				*e*Sn	Sn	11 06 22.7	+9.3
EYAK	**Cordova Ski Ar**	**3.18**	**142**	P	Pn	11 05 38.9	-0.7
GLB	**Gilahina Butte**	**3.22**	**119**	P	Pn	11 05 40.0	-0.3
BMRM	**Bremner River**	**3.22**	**130**	P	Pn	11 05 39.0	-1.3
IM04	**Indian Mountai**	**3.37**	**330**	*e*Pn	Pn	11 05 42.4	+0.1
IM04				*e*Sn	Sn	11 06 23.3	+2.0
IM3	**Indian Mountai**	**3.37**	**331**	P	Pn	11 05 42.5	+0.2
BRLK	**Bradley Lake**	**3.41**	**190**	P	Pn	11 05 42.9	+0.1
SVW2	**Sparrevohn**	**3.42**	**236**	P	Pn	11 05 43.0	0.0
ILW	**Iliamna West**	**3.48**	**210**	P	Pn	11 05 46.3	+2.5
GCSA	**Galena City Sc**	**3.57**	**301**	P	Pn	11 05 45.3	+0.5
BCA3	**Beaver Creek A**	**3.60**	**87**	P	Pn	11 05 44.6	-0.7
RAGM	**Ragged Mountai**	**3.63**	**137**	P	Pn	11 05 45.2	-0.6
EGAK	**Eagle**	**4.12**	**62**	P	Pn	11 05 52.8	+0.5
COLD	**Coldfoot**	**4.14**	**357**	P	Pn	11 05 53.1	+0.5
DAWY	**Dawson**	**4.70**	**74**	P	Pn	11 05 59.8	+0.5
BM3	**Burnt Mountain**	**4.82**	**24**	P	Pn	11 06 01.9	0.0
KAKN	**Katmai Knife C**	**5.50**	**211**	P	Pn	11 06 12.4	+1.2
KDAK	**Kodiak Island**	**5.53**	**196**	P	Pn	11 06 10.1	-1.4
KABR	**Katmai Barrier**	**5.63**	**210**	P	Pn	11 06 12.2	-0.7
INK	**Inuvik**	**8.44**	**45**	P	Pn	11 06 49.5	-1.5

*IDC **22** 11:06:55.6±0.8,2.65S×102.54W,h0km,mb4.2/17, mb1 4.4/17,mb1mx4.2/42,mbtmp4.2/17,MS4.6/17, Ms1 4.6/17,ms1mx4.5/25,Error ellipse: s-maj=28.1km s-min=14.5km az=52.0*

*ISCJB **22** 11:06:56.6±0.5,2.68S±0.06×102.43W±0.08,h10km, mb4.7/51,MS4.7/22,Error ellipse: s-maj=13.2km s-min=5.8km az=148.6*

*NEIC **22** 11:06:57.9±0.5,2.73S×102.46W,h10km,mb5.0/37,Error ellipse: s-maj=13.7km s-min=6.8km az=59.0*

*GCMT **22** 11:06:57.9±0.2,2.77S×102.47W,h15km±1km,MW5.2/105, Moment Tensor Solution. s57,c78; s105,c165; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr0.02±.02; Mθθ-0.73±.02; Mϕϕ0.71±.02; Mrθ-0.11±.06; Mθϕ-0.44±.02; Mϕr-0.15±.06; Best double couple: M0.87000×10^17^ NP1:ϕs29.00000°,δ89.00000°, λ-12.00000°. NP2:ϕs119.00000°,δ78.00000°, λ-179.00000°. Principal axes: T 0.8570, Plg8.0000°, Azm75.0000°; N 0.0260, Plg78.0000°, Azm205.0000°; P -0.8830, Plg9.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 11:06:57.0±0.4,2.87S±0.07×102.61W±0.08,h10km,n351, σ1s02/343,mb4.8/52,MS4.7/23,112C-119D,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**21.44**	**34**	P	**P**	**11 11 43.4**	**-2.4**
APG	**El Apazote** 11nm,1.0s,baz=228,slow=21,SNR=7.4	**21.44**	**34**	P	**P**	**11 11 43.4**	**-2.4**
JTS	**JuntasAbangare** 198nm,1.3s,SNR=7.0	**21.90**	**53**	P	**P**	**11 11 50.5**	**-0.1**
JTS	**JuntasAbangare** 9.6nm,1.3s	**21.90**	**53**	*e*P	**P**	**11 11 48.8**	**-1.7**
JTS	**JuntasAbangare** 20nm,1.0s,baz=247,slow=7.2,SNR=11	**21.90**	**53**	P	**P**	**11 11 50.5**	**-0.1**
TGUH	**Tegucigalpa,Un** 72nm,1.4s	**22.67**	**42**	*e*P	**P**	**11 12 00.3**	**+1.6**
OTAV	**Otavalo** 118nm,1.7s	**24.34**	**83**	*e*P	**P**	**11 12 15.8**	**0.0**
ATAH	**Atahualpa**	**24.48**	**101**	P	**P**	**11 12 17.5**	**+0.4**
ATAH	**Atahualpa** 6.7nm,0.8s,baz=229,slow=9.3,SNR=4.3	**24.48**	**101**	P	**P**	**11 12 17.5**	**+0.4**
ATAH	comp=Z,3μm,19.3s,baz=274,slow=31			LR	LR	11 19 32.6	
LPIG	**La Paz** comp=Z,2μm,21.4s,baz=178,slow=31	**27.83**	**345**	LR	LR	11 21 00.7	
035A	**Encino** baz=30	**29.95**	**8**	⇑P	**P**	**11 13 05.6**	**+0.1**
034A	**Hebbronville** baz=30,SNR=6.3	**30.00**	**7**	⇑P	**P**	**11 13 06.7**	**+0.8**
933A	**Laredo** baz=30	**30.47**	**6**	⇓P	**P**	**11 13 10.2**	**+0.1**
934A	**Benavides** baz=31	**30.55**	**7**	⇑P	**P**	**11 13 10.4**	**-0.3**
834A	**Tilden** baz=31,SNR=7.9	**31.06**	**7**	⇑P	**P**	**11 13 15.6**	**+0.3**
832A	**Faith Ranch, C** baz=31	**31.07**	**4**	⇓P	**P**	**11 13 15.0**	**-0.5**
833A	**Chaparral WMA,** baz=31	**31.16**	**5**	⇑P	**P**	**11 13 16.2**	**0.0**
835A	**Beeville** baz=31	**31.31**	**8**	⇓P	**P**	**11 13 17.5**	**0.0**
732A	**Laxson Ranch,** baz=32	**31.52**	**4**	⇑P	**P**	**11 13 19.2**	**-0.1**
733A	**Divot King Ran** baz=32	**31.56**	**6**	⇑P	**P**	**11 13 19.9**	**+0.1**
734A	**La Parita Cree** baz=32	**31.77**	**7**	⇓P	**P**	**11 13 21.1**	**-0.4**
TXAR	**Lajitas Array**	**32.03**	**358**	P	**P**	**11 13 23.7**	**-0.3**
TXAR				PcP	**PcP**	**11 16 14.7**	**+0.9**
TXAR	**Lajitas Array** 2.0nm,1.2s,baz=184,slow=13,SNR=4.7	**32.03**	**358**	P	**P**	**11 13 23.7**	**-0.3**
TXAR	0.4nm,0.8s,baz=173,slow=3.6,SNR=3.5			PcP	**PcP**	**11 16 14.7**	**+0.9**
TXAR	comp=Z,4μm,20.4s,baz=0.0,slow=34			LR	LR	11 24 56.9	
627A	**Terlingua Ranc** baz=32	**32.14**	**359**	⇑P	**P**	**11 13 24.9**	**-0.1**
631A	**Perdido Creek** baz=32	**32.15**	**3**	⇓P	**P**	**11 13 24.6**	**-0.3**
628A	**Black Gap, Mar** baz=32	**32.17**	**360**	⇓P	**P**	**11 13 25.4**	**+0.3**
626A	**Big Bend Ranch** baz=32	**32.27**	**358**	⇓P	**P**	**11 13 26.4**	**+0.3**
632A	**Uvalde** baz=32	**32.30**	**5**	⇓P	**P**	**11 13 26.4**	**+0.1**
633A	**Saathoff Ranch** baz=32	**32.31**	**6**	⇓P	**P**	**11 13 26.3**	**0.0**
526A	**Mary Lane Ranc** baz=33	**32.77**	**358**	⇑P	**P**	**11 13 30.9**	**+0.4**
529A	**Stev Forest Ra** baz=33	**32.81**	**1**	⇑P	**P**	**11 13 30.6**	**-0.1**
527A	**Woodward Ranch** baz=33,SNR=10	**32.84**	**358**	⇑P	**P**	**11 13 30.6**	**-0.5**
528A	**Cox Ranch, San** baz=33	**32.84**	**360**	⇓P	**P**	**11 13 30.8**	**-0.3**
530A	**J-C Ranch, Com** baz=33,SNR=7.1	**32.85**	**2**	⇓P	**P**	**11 13 30.7**	**-0.4**
531A	**Rocksprings** baz=33	**32.90**	**3**	⇓P	**P**	**11 13 30.5**	**-1.1**
532A	**Rocksprings** baz=33	**32.91**	**4**	⇑P	**P**	**11 13 31.1**	**-0.5**
533A	**Kerrville** baz=33	**32.93**	**6**	⇑P	**P**	**11 13 31.7**	**-0.1**
534A	**Blanco** baz=33	**32.95**	**7**	⇓P	**P**	**11 13 31.6**	**-0.3**
535A	**Dale** baz=33	**33.06**	**8**	⇓P	**P**	**11 13 33.3**	**+0.4**
536A	**Bastrop** baz=33	**33.18**	**9**	⇑P	**P**	**11 13 34.4**	**+0.5**
JCT	**Junction City** 68nm,1.9s	**33.27**	**4**	*e*P	**P**	**11 13 34.1**	**-0.6**
JCT	**Junction City** baz=33	**33.27**	**4**	⇓P	**P**	**11 13 34.4**	**-0.4**
HKT	**Hockley** 42nm,1.9s	**33.27**	**11**	*e*P	**P**	**11 13 35.5**	**+0.9**
429A	**Davenport Ranc** baz=33	**33.31**	**1**	⇑P	**P**	**11 13 35.1**	**0.0**
426A	**McDonald Obser** baz=33	**33.37**	**358**	⇑P	**P**	**11 13 35.3**	**-0.6**
428A	**Kincaid Ranch,** baz=34	**33.40**	**360**	⇓P	**P**	**11 13 35.7**	**-0.3**
431A	**Sonora** baz=34	**33.41**	**3**	⇑P	**P**	**11 13 35.8**	**-0.2**
430A	**Baggett Ranch,** baz=34	**33.49**	**2**	⇑P	**P**	**11 13 36.6**	**-0.1**
427A	**Hayter Ranch,** baz=34	**33.53**	**359**	⇓P	**P**	**11 13 37.4**	**+0.3**
425A	**Indio Mountain** baz=34	**33.54**	**356**	⇓P	**P**	**11 13 36.9**	**-0.3**
433A	**Art** baz=34	**33.60**	**5**	⇑P	**P**	**11 13 36.7**	**-0.9**
432A	**Menard** baz=34	**33.66**	**4**	⇑P	**P**	**11 13 37.0**	**-1.1**
434A	**Burnet** baz=34	**33.75**	**7**	⇓P	**P**	**11 13 38.0**	**-0.9**
326A	**Caldwell Ranch** baz=34	**34.02**	**358**	⇑P	**P**	**11 13 40.9**	**-0.4**
330A	**Mertzon** baz=34	**34.11**	**2**	⇑P	**P**	**11 13 41.3**	**-0.8**
329A	**Wagon Wheel Ra** baz=34	**34.17**	**1**	⇓P	**P**	**11 13 42.1**	**-0.5**
332A	**Millersview** baz=34	**34.17**	**4**	⇓P	**P**	**11 13 41.7**	**-0.8**
333A	**Richland Sprin** baz=34,SNR=5.7	**34.17**	**6**	⇓P	**P**	**11 13 41.7**	**-0.9**
334A	**Lometa** baz=34	**34.26**	**7**	⇑P	**P**	**11 13 42.4**	**-0.9**
335A	**Moody** baz=34	**34.31**	**8**	⇓P	**P**	**11 13 43.3**	**-0.4**
229A	**Bryant Ranch,** baz=35	**34.65**	**1**	⇑P	**P**	**11 13 45.9**	**-0.9**
232A	**Coleman** baz=35	**34.68**	**4**	⇑P	**P**	**11 13 46.0**	**-1.0**
231A	**Bronte** baz=35,SNR=6.8	**34.68**	**3**	⇓P	**P**	**11 13 45.8**	**-1.2**
226B	**Tecolote Peak,** baz=35,SNR=7.7	**34.78**	**358**	⇓P	**P**	**11 13 47.3**	**-0.7**
233A	**Rising Star** baz=35	**34.87**	**6**	⇓P	**P**	**11 13 48.2**	**-0.4**
234A	**Clairette** baz=35	**34.94**	**7**	⇓P	**P**	**11 13 48.5**	**-0.7**
WHTX	**Lake Whitney** 68nm,1.7s	**35.01**	**8**	*e*P	**P**	**11 13 48.9**	**-0.9**
WHTX	**Lake Whitney** baz=35	**35.01**	**8**	⇓P	**P**	**11 13 49.5**	**-0.3**
NATX	**Nacogdoches** 56nm,1.2s	**35.25**	**12**	*e*P	**P**	**11 13 52.0**	**+0.2**
128A	**Castleberry Fa** baz=35	**35.29**	**0**	⇓P	**P**	**11 13 52.1**	**-0.2**
130A	**Snyder** baz=35	**35.30**	**2**	⇓P	**P**	**11 13 51.9**	**-0.5**
129A	**Stewart Farms,** baz=35	**35.31**	**1**	⇓P	**P**	**11 13 51.8**	**-0.6**
126A	**Clayton Basin,** baz=35	**35.34**	**358**	⇓P	**P**	**11 13 52.2**	**-0.5**
127A	**Arkansas Junct** baz=35	**35.35**	**359**	⇓P	**P**	**11 13 52.3**	**-0.6**
125A	**Gardner Draw,** baz=35	**35.38**	**357**	⇑P	**P**	**11 13 52.9**	**-0.3**
ABTX	**Abilene, Hawle** 19nm,1.1s	**35.41**	**4**	*e*P	**P**	**11 13 52.7**	**-0.6**
ABTX	**Abilene, Hawle** baz=36	**35.41**	**4**	⇓P	**P**	**11 13 52.3**	**-0.9**
131A	**Roby** baz=36	**35.41**	**3**	⇓P	**P**	**11 13 52.7**	**-0.5**
133A	**Hamilton Ranch** baz=36,SNR=8.6	**35.45**	**5**	⇑P	**P**	**11 13 52.9**	**-0.7**
134A	**White-Moore Ra** baz=36	**35.51**	**7**	⇓P	**P**	**11 13 53.3**	**-0.8**
121A	**Cookes Peak, D** baz=36	**35.55**	**352**	⇓P	**P**	**11 13 54.0**	**-0.6**
Z29A	**Hungry Hill Ra** baz=36	**35.94**	**1**	⇓P	**P**	**11 13 57.1**	**-0.8**
Z28A	**Tucker Farm, M** baz=36	**35.96**	**0**	⇑P	**P**	**11 13 57.9**	**-0.1**
Z26A	**Caprock** baz=36	**35.97**	**358**	⇓P	**P**	**11 13 57.8**	**-0.3**
Z30A	**Sanderson Ranc** baz=36,SNR=13	**35.98**	**2**	⇓P	**P**	**11 13 56.7**	**-1.5**
Z27A	**Tatum** baz=36,SNR=14	**35.99**	**359**	⇓P	**P**	**11 13 57.6**	**-0.7**
Z25A	**Roswell** baz=36	**36.01**	**357**	⇓P	**P**	**11 13 58.0**	**-0.5**
Z31A	**Sharp Cattle R** baz=36	**36.06**	**4**	⇓P	**P**	**11 13 58.1**	**-0.8**
Z32A	**Haskell** baz=36,SNR=6.6	**36.10**	**4**	⇑P	**P**	**11 13 58.4**	**-0.8**
Z33A	**Whitaker Ranch** baz=36,SNR=14	**36.14**	**5**	⇑P	**P**	**11 13 58.7**	**-0.8**
Z35A	**Perchaven, San** baz=36	**36.35**	**8**	⇑P	**P**	**11 14 00.8**	**-0.5**
LPAZ	**La Paz** 13nm,1.4s	**36.43**	**114**	*e*P	**P**	**11 14 02.9**	**0.0**
LPAZ	**La Paz** 1.3nm,0.4s,baz=288,slow=3.6,SNR=5.6	**36.43**	**114**	P	**P**	**11 14 03.3**	**+0.4**
Y29A	**Porterfield Fa** baz=37	**36.54**	**1**	⇓P	**P**	**11 14 02.4**	**-0.6**
Y28A	**McKinney Farm,** baz=37	**36.58**	**0**	⇓P	**P**	**11 14 03.0**	**-0.4**
MSTX	**Muleshoe** 45nm,1.5s	**36.64**	**360**	*e*P	**P**	**11 14 03.0**	**-0.9**
MSTX	**Muleshoe** baz=37,SNR=7.6	**36.64**	**360**	⇓P	**P**	**11 14 03.0**	**-0.9**
Y25A	**Mesa, Roswell** baz=37	**36.64**	**357**	⇑P	**P**	**11 14 03.4**	**-0.5**
Y24A	**Capitan** baz=37	**36.69**	**356**	⇑P	**P**	**11 14 04.1**	**-0.3**
Y31A	**Rekieta Farm,** baz=37	**36.70**	**3**	⇓P	**P**	**11 14 03.9**	**-0.4**
Y32A	**R-V Farms, Ver** baz=37	**36.79**	**4**	⇓P	**P**	**11 14 04.6**	**-0.5**
Y33A	**Hilltop Ranch,** baz=37	**36.87**	**6**	⇓P	**P**	**11 14 05.4**	**-0.3**
Y34A	**Reagan Ranch,** baz=37	**36.91**	**7**	⇑P	**P**	**11 14 05.5**	**-0.6**
X28A	**Dimmitt** baz=37	**37.19**	**1**	⇓P	**P**	**11 14 08.4**	**-0.1**
X32A	**Elmer** baz=37,SNR=10.0	**37.22**	**5**	⇓P	**P**	**11 14 08.2**	**-0.5**
RKT	**Rikitea** 267nm,28.8s	**37.25**	**235**	*e*S	**S**	**11 19 55.0**	**-1.5**
RKT	1μm,28.8s			*e*LQ	LQ	11 22 56.8	
RKT	3μm,26.2s,baz=53			*e*LR	LR	11 24 21.6	
RKT	**Rikitea** 3.0nm,0.3s	**37.25**	**235**	*e*T	T	11 53 26.5	
LAZ	**Ladron** 13nm,1.8s	**37.31**	**354**	*e*P	**P**	**11 14 10.1**	**+0.4**
X31A	**McDonald Ranch** baz=37,SNR=11	**37.38**	**4**	⇓P	**P**	**11 14 09.6**	**-0.5**
X34A	**Smith Ranch, M** baz=38	**37.54**	**6**	⇓P	**P**	**11 14 11.4**	**0.0**
AMTX	**Amarillo** baz=38	**37.56**	**1**	⇓P	**P**	**11 14 11.8**	**+0.1**
H03N2	**Juan Fernandez** baz=320,slow=75,SNR=114	**37.62**	**147**	T	T	11 54 14.1	
H03N1	**Juan Fernandez** baz=320,slow=75,SNR=154	**37.63**	**147**	T	T	11 54 16.3	
H03N3	**Juan Fernandez** baz=320,slow=75,SNR=150	**37.63**	**147**	T	T	11 54 12.1	
W27A	**Bowe Ranch, En** baz=38	**37.73**	**359**	⇓P	**P**	**11 14 13.1**	**-0.1**
SWSC	**Sam W. Stewart** baz=38	**37.74**	**342**	⇓P	**P**	**11 14 14.0**	**+0.9**
W26A	**Owens Ranch, T** baz=38	**37.77**	**358**	⇓P	**P**	**11 14 13.2**	**-0.3**
ANMO	**Albuquerque** 47nm,2.3s	**37.78**	**355**	*e*P	**P**	**11 14 16.1**	**+2.4**
TAOE	**Nuku Hiva Isla** 173nm,0.3s	**37.80**	**259**	*e*T	T	11 54 01.0	
X18A	**Snowflake** baz=38	**37.83**	**350**	⇓P	**P**	**11 14 14.1**	**0.0**
W32A	**Sentinel** baz=38	**37.92**	**4**	⇑P	**P**	**11 14 14.3**	**-0.4**
W25A	**X Bar L Ranch,** baz=38	**37.92**	**358**	⇑P	**P**	**11 14 14.9**	**+0.1**
W31A	**Holland Ranch,** baz=38,SNR=5.5	**37.93**	**4**	⇓P	**P**	**11 14 14.3**	**-0.5**
W24A	**Lazy 6 Ranch,** baz=38	**37.97**	**356**	⇓P	**P**	**11 14 15.2**	**-0.1**
W33A	**Caddo, Fort Co** baz=38	**38.02**	**6**	⇑P	**P**	**11 14 15.3**	**-0.2**
LVC	**Limon Verde** 3.5nm,0.8s	**38.11**	**124**	*e*P	**P**	**11 14 19.1**	**+2.4**
MIAR	**Mount Ida** 94nm,1.9s	**38.17**	**12**	*e*P	**P**	**11 14 15.8**	**-0.9**
V26A	**Tequesquite Ra** baz=38	**38.48**	**358**	⇓P	**P**	**11 14 18.9**	**-0.6**
V31A	**Spring Creek L** baz=39	**38.52**	**4**	⇓P	**P**	**11 14 19.6**	**-0.1**
V25A	**Rancho No Teng** baz=39	**38.55**	**357**	⇓P	**P**	**11 14 19.9**	**-0.2**
V23A	**Ortiz Mt. (NFS** baz=39	**38.55**	**355**	⇑P	**P**	**11 14 20.7**	**+0.5**
V33A	**Lossen Ranch,** baz=39	**38.70**	**6**	⇑P	**P**	**11 14 21.1**	**0.0**
V22A	**San Miguel Ran** baz=39	**38.79**	**354**	⇓P	**P**	**11 14 22.3**	**+0.1**
V34A	**Guthrie** baz=39	**38.79**	**7**	⇑P	**P**	**11 14 21.9**	**-0.1**
CIS	**Catalina Islan** baz=39	**39.04**	**339**	⇓P	**P**	**11 14 24.7**	**+0.6**
U28A	**Mallet** baz=39	**39.04**	**0**	⇓P	**P**	**11 14 24.2**	**0.0**
WUAZ	**Wupatki** baz=39	**39.06**	**349**	⇑P	**P**	**11 14 24.7**	**+0.3**
U26A	**Atchley Ranch,** baz=39	**39.07**	**359**	⇓P	**P**	**11 14 24.0**	**-0.5**
U27A	**Thompson Grove** baz=39	**39.08**	**360**	⇑P	**P**	**11 14 24.3**	**-0.2**
TUL1	**Tulsa** 24nm,1.1s	**39.10**	**9**	*e*P	**P**	**11 14 22.8**	**-1.7**
TUL1	**Tulsa** baz=39	**39.10**	**9**	⇑P	**P**	**11 14 24.4**	**-0.1**
U25A	**Circle Dot Ran** baz=39	**39.10**	**358**	⇑P	**P**	**11 14 24.4**	**-0.3**
U31A	**Nine Bar Ranch** baz=39	**39.12**	**4**	⇑P	**P**	**11 14 24.7**	**0.0**
U22A	**Llaves** baz=39	**39.24**	**355**	⇑P	**P**	**11 14 26.5**	**+0.5**
U33A	**Lingo Farm,

R27A	Eads	40.95	360	⇓P		P	11 14 40.3	+0.3	
	baz=41								
R23A	Moffat	40.96	356	⇑P		P	11 14 40.5	+0.3	
	baz=41								
R26A	Arlington	40.97	359	⇑P		P	11 14 40.3	+0.1	
	baz=41								
R30A	Dighton	41.00	3	⇓P		P	11 14 40.2	-0.2	
	baz=41								
PBMO	Poplar Bluff	41.04	15	*e*P		P	11 14 40.5	-0.1	
	72nm,1.5s								
R31A	Burdett	41.05	4	⇓P		P	11 14 40.6	-0.1	
	baz=41								
R33A	Olander Ranch,	41.19	6	⇑P		P	11 14 42.1	+0.2	
	baz=41								
R32A	Long Quarter,	41.24	5	⇓P		P	11 14 42.9	+0.6	
	baz=41								
Q29A	Oakley	41.58	2	⇓P		P	11 14 45.3	+0.2	
	baz=42								
Q25A	Bedland, Calha	41.60	358	⇓P		P	11 14 45.4	-0.1	
	baz=42								
KSCO	Kaye Shedlock'	41.67	360	*e*P		P	11 14 46.7	+0.8	
	191nm,2.1s								
Q30A	Quinter	41.69	3	⇓P		P	11 14 46.0	-0.1	
	baz=42								
Q32A	Meitler Ranch,	41.82	5	⇓P		P	11 14 46.9	-0.1	
	baz=42								
Q33A	Connelly Farm,	41.89	6	⇓P		P	11 14 47.9	+0.3	
	baz=42								
P23A	Jefferson	42.14	356	⇓P		P	11 14 50.1	+0.1	
	baz=42								
P27A	Ficken Ranch,	42.21	0	⇓P		P	11 14 50.6	+0.2	
	baz=42								
P26A	Davis Ranch, A	42.22	359	⇑P		P	11 14 50.7	+0.2	
	baz=42								
P30A	Selden	42.26	3	⇑P		P	11 14 50.5	-0.2	
	baz=42								
P31A	Stockton	42.28	4	⇑P		P	11 14 50.6	-0.2	
	baz=42								
P29A	Atwood	42.29	2	⇑P		P	11 14 50.9	0.0	
	baz=42								
P22A	Eagle	42.42	355	⇓P		P	11 14 52.2	0.0	
	baz=42								
P32A	Huiting Farm,	42.44	5	⇓P		P	11 14 52.3	+0.2	
	baz=42								
ISCO	Idaho Springs	42.55	357	*e*P		P	11 14 52.8	-0.5	
	14nm,1.4s								
ISCO	Idaho Springs	42.55	357	⇓P		P	11 14 53.2	-0.1	
	baz=43								
PTGA	Pitinga	42.67	88	*e*P		P	11 14 53.3	-1.0	
PTGA	Pitinga	42.67	88	P		P	11 14 53.2	-1.1	
	20nm,1.1s,baz=281,slow=9.6,SNR=9.9								
R11A	Troy Canyon, C	42.73	345	*e*P		P	11 14 57.2	+2.5	
	88nm,3.0s								
R11A	Troy Canyon, C	42.73	345	⇑P		P	11 14 55.4	+0.7	
	baz=43								
O29A	4D Ranch, Culb	42.81	2	⇑P		P	11 14 55.0	-0.1	
	baz=43								
O24A	Longmont	42.84	357	⇑P		P	11 14 55.8	+0.3	
	baz=43								
O27A	Beecher Island	42.85	0	⇑P		P	11 14 55.9	+0.4	
	baz=43								
O30A	MW Ranch, Wils	42.90	3	⇑P		P	11 14 55.9	+0.1	
	baz=43								
O31A	Woolen Ranch,	42.91	4	⇑P		P	11 14 56.0	+0.1	
	baz=43								
O22A	Kremmling	42.97	356	⇑P		P	11 14 57.1	+0.4	
	baz=43								
O23A	Lake Granby, G	42.98	356	⇑P		P	11 14 57.3	+0.5	
	baz=43								
N28A	Pribbeno Ranch	43.35	1	⇓P		P	11 15 00.3	+0.7	
	baz=43								
N29A	Votaw Ranch, W	43.51	2	⇑P		P	11 15 01.4	+0.6	
	baz=44								
N30A	Hueftle Ranch,	43.51	3	⇑P		P	11 15 01.3	+0.5	
	baz=44								
NVAR	Mina Array Bea	43.58	342	LR		LR	11 29 36.8		
	comp=Z,595nm,19.8s,baz=210,slow=31								
N22A	Wattenberg Ran	43.60	356	⇓P		P	11 15 02.3	+0.6	
	baz=44								
N23A	Red Feather La	43.66	356	⇓P		P	11 15 02.8	+0.6	
	baz=44								
M31A	Lambtecht Ranc	44.12	4	⇑P		P	11 15 06.6	+1.0	
	baz=44								
M23A	Laramie	44.22	357	⇑P		P	11 15 06.8	+0.1	
	baz=44								
L29A	Maesberg Ranch	44.76	2	⇑P		P	11 15 10.9	+0.1	
	baz=45								
L22A	Ellis Ranch, M	44.82	356	⇑P		P	11 15 11.9	+0.4	
	baz=45								
L23A	Garrett	44.86	357	⇑P		P	11 15 11.5	-0.3	
	baz=45								
L31A	Butterfield Fa	44.96	4	⇓P		P	11 15 12.7	+0.3	
	baz=45								
HWUT	Hardware Ranch	45.01	350	*e*P		P	11 15 13.2	+0.2	
	23nm,1.6s								
SFIN	Scholer Farm	45.32	17	⇑P		P	11 15 15.3	+0.1	
	baz=45								
K28A	Ten Mile Ranch	45.38	1	⇑P		P	11 15 15.5	-0.2	
	baz=46								
K30A	Basset	45.41	3	⇑P		P	11 15 15.7	-0.2	
	baz=46								
K22A	Casper	45.44	356	⇑P		P	11 15 16.3	0.0	
	baz=46								
K29A	Lazy Trails An	45.46	2	⇑P		P	11 15 16.0	-0.4	
	baz=46								
K21A	Alcova	45.48	355	⇓P		P	11 15 16.4	-0.3	
	baz=46								
K23A	Bowen Ranch, D	45.49	357	⇓P		P	11 15 16.9	+0.2	
	baz=46								
PDAR	Pinedale Array	45.85	353	P		P	11 15 18.4	-1.3	
PDAR	Pinedale Array	45.85	353	P		P	11 15 18.4	-1.3	
	1.5nm,0.6s,baz=164,slow=7.4,SNR=9.0								
PDAR				LR		LR	11 32 24.4		
	comp=Z,322nm,19.4s,baz=184,slow=34								
J27A	Elkhorn Farm,	45.91	1	⇑P		P	11 15 19.6	-0.3	
	baz=46								
J26A	Sides Ranch, S	45.97	360	⇑P		P	11 15 19.7	-0.7	
	baz=46								
J30A	Dallas	46.06	3	⇓P		P	11 15 20.9	-0.2	
	baz=46								
J28A	Allard Ranch,	46.09	1	⇑P		P	11 15 21.3	-0.1	
	baz=46								
J29A	Okreek	46.11	2	⇓P		P	11 15 21.4	-0.1	
	baz=46								
I21A	Big Trails, Te	46.66	355	⇑P		P	11 15 26.4	+0.5	
	baz=47								
I22A	9 Mile Ranch,	46.68	356	⇑P		P	11 15 26.2	+0.1	
	baz=47								
ECSD	EROS Data Cent	46.70	6	*e*P		P	11 15 24.8	-1.2	
	140nm,2.6s								
ECSD	EROS Data Cent	46.70	6	⇓P		P	11 15 25.6	-0.4	
	baz=47								
I29A	Vivian Onida	46.72	2	⇓P		P	11 15 26.3	+0.1	
	baz=47								
I27A	Quinn	46.73	1	⇑P		P	11 15 26.4	+0.1	
	baz=47								
LOHW	Long Hollow	46.82	352	*e*P		P	11 15 26.6	-0.7	
	6.7nm,1.1s								
I20A	Worland	46.87	355	⇓P		P	11 15 27.6	+0.1	
	baz=47								
I19A	Meeteetse	47.04	354	⇓P		P	11 15 28.8	-0.1	
	baz=47								
I17A	Pilgrim Ck.	47.12	352	⇑P		P	11 15 29.5	-0.1	
	baz=47								
H25A	Fruitdale	47.28	359	⇑P		P	11 15 30.8	+0.1	
	baz=47								
H27A	Howes	47.29	1	⇑P		P	11 15 30.4	-0.3	
	baz=47								
H28A	Mission Ridge	47.35	2	⇑P		P	11 15 30.8	-0.4	
	baz=47								
MOD	Modoc	47.37	342	*e*P		P	11 15 32.0	+0.5	
	40nm,1.9s								
WVOR	Wild Horse Val	47.37	344	*e*P		P	11 15 31.7	+0.3	
	73nm,2.5s								
HLID	Hailey	47.42	348	*e*P		P	11 15 31.9	-0.1	
	64nm,2.8s								
HLID	Hailey	47.42	348	⇓P		P	11 15 31.5	-0.5	
	baz=48								
H24A	Dirks Ranch, A	47.43	358	⇓P		P	11 15 31.6	-0.2	
	baz=48								
PLCA	Paso Flores	47.50	147	*e*P		P	11 15 34.2	+1.7	
	1.9nm,0.8s								
PLCA	Paso Flores	47.50	147	P		P	11 15 34.7	+2.2	
	3.4nm,0.9s,baz=334,slow=8.9,SNR=5.0								
PLCA				LR		LR	11 31 18.2		
	comp=Z,672nm,18.1s,baz=283,slow=31								
H18A	Shoshone NF, C	47.75	353	⇑P		P	11 15 34.5	0.0	
	baz=48								
M02C	Callahan	47.75	339	⇓P		P	11 15 34.9	+0.5	
	baz=48								
M04C	Macdoel	47.75	341	⇓P		P	11 15 34.8	+0.4	
	baz=48								
G30A	Faulkton	47.88	3	⇓P		P	11 15 34.8	-0.4	
	baz=48								
G29A	Hoven	47.91	3	⇑P		P	11 15 35.4	0.0	
	baz=48								
G24A	Alzada	48.01	358	⇑P		P	11 15 36.2	-0.1	
	baz=48								
G27A	Dupree	48.04	1	⇑P		P	11 15 36.2	-0.2	
	baz=48								
G20A	Bridger	48.13	355	⇓P		P	11 15 37.7	+0.3	
	baz=48								
PPT	Papeete	48.32	249	LR		LR	11 30 45.8		
	comp=Z,1μm,19.3s,baz=72,slow=30								
PPT2	Papeete2	48.32	249	*e*S		S	11 22 35.6	-4.1	
	419nm,25.0s								
PPT2				*e*LR		LR	11 29 22.0		
	3μm,26.0s,baz=74								
F26A	Lodgepole	48.51	360	⇑P		P	11 15 39.9	-0.2	
	baz=49								
F24A	Ekalaka	48.53	358	⇑P		P	11 15 40.1	-0.2	
	baz=49								
F27A	Lemmon	48.53	1	⇓P		P	11 15 40.0	-0.2	
	baz=49								
SPMN	St. Paul	48.67	9	⇓P		P	11 15 41.2	-0.1	
	baz=49								
E27A	Carson	49.09	1	⇑P		P	11 15 44.0	-0.6	
	baz=49								
E26A	Carlson Angus	49.12	0	⇑P		P	11 15 44.0	-0.8	
	baz=49								
I07A	Izee	49.13	344	*e*P		P	11 15 45.5	+0.5	
E25A	Miller Ranch,	49.16	359	⇑P		P	11 15 44.2	-1.0	
	baz=49								
E22A	Miles City	49.18	357	⇓P		P	11 15 45.2	-0.1	
	baz=49								
E28A	Huff	49.26	2	⇑P		P	11 15 45.7	-0.1	
	baz=49								
CPUP	Villa Florida	49.26	123	P		P	11 15 46.4	+0.2	
CPUP	Villa Florida	49.26	123	P		P	11 15 46.4	+0.2	
	0.4nm,0.3s,baz=294,slow=12,SNR=3.5								
E29A	Napoleon	49.29	3	⇑P		P	11 15 46.2	+0.1	
	baz=49								
E20A	Meyer Farm, Mu	49.40	355	⇑P		P	11 15 47.5	+0.5	
	baz=50								
E19A	Rath Farm, Rou	49.42	354	⇑P		P	11 15 47.9	+0.8	
	baz=50								
TBI	Tubuai	49.66	242	*e*S		S	11 22 56.1	-2.1	
	404nm,26.2s								
TBI				*e*LR		LR	11 30 08.7		
	2μm,27.5s,baz=68								
TBI	Tubuai	49.66	242	*e*T		T	12 08 54.5		
	11nm,0.3s								
I04A	Tendick Farm,	49.74	341	⇓P		P	11 15 49.8	+0.2	
	baz=50								
D29A	Pettibone, Tap	49.78	3	⇑P		P	11 15 49.5	-0.4	
	baz=50								
D21A	La Casta Ranch	49.87	356	⇓P		P	11 15 51.2	+0.6	
	baz=50								
D30A	Buchanan	49.88	3	⇓P		P	11 15 51.0	+0.5	
	baz=50								
D23A	Lindsay	49.88	358	⇑P		P	11 15 51.3	+0.7	
	baz=50								
I05D	Terrebonne, OR	49.90	342	⇑P		P	11 15 51.6	+0.8	
	baz=50								
D22A	Cohagen	49.90	357	⇓P		P	11 15 51.4	+0.6	
	baz=50								
D20A	Manuel Ranch,	49.98	355	⇑P		P	11 15 52.1	+0.7	
	baz=50								
D19A	Cripps Ranch,	50.12	354	⇓P		P	11 15 51.9	-0.6	
	baz=50								
F10A	Beach Ranch, E	50.33	347	*e*P		P	11 15 56.2	+2.1	
	74nm,2.3s								
C26A	Wahner Farm, P	50.48	0	⇑P		P	11 15 55.2	+0.1	
	baz=51								
C30A	Mose, Pekin	50.49	4	⇑P		P	11 15 55.1	0.0	
	baz=51								
C23A	Lambert	50.51	358	⇓P		P	11 15 55.6	+0.2	
	baz=51								
C20A	Veseth Ranch,	50.59	355	⇓P		P	11 15 55.9	-0.1	
	baz=51								
G05D	Wamic, OR	50.72	343	⇓P		P	11 15 56.9	0.0	
	baz=51								
TRQA	Tornquist	51.03	139	*e*P		P	11 15 59.9	+0.4	
	2.8nm,0.8s								
E09A	Wood Farm, Sta	51.05	346	*e*P		P	11 16 00.1	+0.7	
	90nm,2.7s								
B28A	Dugan Ranch, T	51.14	2	⇑P		P	11 16 00.7	+0.7	
	baz=51								
B30A	Myrvik Farm, E	51.24	4	⇓P		P	11 16 00.7	-0.1	
	baz=51								
AGMN	Agassiz Nation	51.29	6	*e*P		P	11 16 01.4	+0.2	
	38nm,1.8s								
AGMN	Agassiz Nation	51.29	6	⇑P		P	11 16 00.9	-0.3	
	baz=51								
A26A	Wade Farm, Ken	51.55	0	⇑P		P	11 16 03.1	0.0	
	baz=52								
A24A	Westby	51.59	359	⇓P		P	11 16 03.6	+0.1	
	baz=52								
A28A	Rue Farm, Bot	51.60	2	⇓P		P	11 16 03.5	-0.1	
	baz=52								
A23A	Redstone	51.65	358	⇓P		P	11 16 04.2	+0.3	
	baz=52								
NEW	Newport	52.48	348	*e*P		P	11 16 09.2	-0.9	
	11nm,1.4s								
NEW	Newport	52.48	348	P		P	11 16 09.6	-0.5	
	1.4nm,0.6s,baz=160,slow=7.0,SNR=4.9								
NEW	Newport	52.48	348	⇓P		P	11 16 10.3	+0.2	
	baz=53								
ULM	Lac du Bonnet	53.22	5	P		P	11 16 14.0	-1.5	
ULM	Lac du Bonnet	53.22	5	P		P	11 16 14.0	-1.5	
	4.8nm,0.9s,baz=170,slow=5.2,SNR=6.9								
ULM				LR		LR	11 38 04.0		
	comp=Z,1μm,18.1s,baz=197,slow=35								
BDFB	Brasilia	55.19	107	P		P	11 16 29.8	-0.9	
BDFB	Brasilia	55.19	107	P		P	11 16 29.8	-0.9	
	7.5nm,0.8s,baz=272,slow=9.4,SNR=9.0								
BDFB				LR		LR	11 38 17.6		
	comp=Z,662nm,19.9s,baz=279,slow=34								
RAR	Rarotonga	58.46	247	LR		LR	11 35 07.9		
	comp=Z,606nm,20.7s,baz=64,slow=29								
SCHQ	Schefferville	64.64	22	LR		LR	11 45 07.9		
	comp=Z,224nm,19.5s,baz=210,slow=36								
YKA	Yellowknife Ar	65.82	354	P		P	11 17 40.3	-1.9	
YKA	Yellowknife Ar	65.82	354	P		P	11 17 40.3	-1.9	
	1.3nm,0.7s,baz=161,slow=6.7,SNR=30								
FRB	Frobisher Bay	71.12	15	P		P	11 18 13.8	-1.5	
FRB	Frobisher Bay	71.12	15	P		P	11 18 13.8	-1.5	
	4.7nm,1.0s,baz=227,slow=5.7,SNR=5.6								
EGAK	Eagle	73.15	344	*e*P		P	11 18 28.9	+1.4	
	56nm,2.1s								
INK	Inuvik	74.19	349	*e*P		P	11 18 33.2	-0.4	
INK	Inuvik	74.19	349	P		P	11 18 31.8	-1.7	
	2.0nm,0.9s,baz=251,slow=4.6,SNR=4.5								
ILAR	Eielson Array	74.84	342	P		P	11 18 36.3	-1.1	
ILAR	Eielson Array	74.84	342	P		P	11 18 36.3	-1.1	
	1.5nm,0.8s,baz=151,slow=4.8,SNR=19								
PPLA	Purkeypile	75.38	339	*e*P		P	11 18 42.2	+1.5	
RAO	Raoul Island	75.79	241	LR		LR	11 43 41.1		
	comp=Z,211nm,21.1s,baz=88,slow=29								
COLD	Coldfoot	77.50	343	*e*P		P	11 18 53.0	+0.5	
	31nm,1.7s								
RES	Resolute Bay	77.58	2	P		P	11 18 51.1	-1.7	
RES	Resolute Bay	77.58	2	P		P	11 18 51.1	-1.7	
	2.0nm,0.9s,baz=181,slow=12,SNR=4.3								
URZ	Urewera	80.60	232	LR		LR	11 49 17.6		
	comp=Z,343nm,18.1s,baz=100,slow=32								
SUMG	Summit	85.19	16	*i* P		P	11 19 34.1	+0.4	
	10nm,1.0s								
QSPA	South Pole Qui	87.18	180	*e*P		P	11 19 45.1	+1.8	
	11nm,1.0s								
VNDA	Vanda	88.42	193	LR		LR	11 52 37.5		
	comp=Z,234nm,18.3s,baz=104,slow=31								
DZM	Mount Dzumac	89.82	248	*e*LR		LR	11 48 29.6		
	412nm,23.3s								
H11N3	WAKE ISLAND Hy	91.41	290	T		T	13 01 14.2		
	baz=96,slow=75,SNR=17								
H11N2	WAKE ISLAND Hy	91.42	290	T		T	13 01 21.1		
	baz=96,slow=75,SNR=22								
H11N1	WAKE ISLAND Hy	91.43	290	T		T	13 01 11.9		
	baz=96,slow=75,SNR=22								
H11S2	WAKE ISLAND Hy	91.55	288	T		T	13 01 27.4		
	baz=94,slow=73,SNR=34								
H11S1	WAKE ISLAND Hy	91.56	288	T		T	13 01 21.4		
	baz=94,slow=73,SNR=29								
H11S3	WAKE ISLAND Hy	91.57	288	T		T	13 01 31.7		
	baz=94,slow=73,SNR=29								
DBIC	Dimbokro	98.02	84	LR		LR	12 02 41.0		
	comp=Z,251nm,18.4s,baz=246,slow=34								
PETK	Petropavlovsk-	98.11	323	LR		LR	11 57 07.7		
	comp=Z,94nm,19.9s,baz=75,slow=31								
ESDC	Sonseca Array	98.48	50	LR		LR	11 57 35.9		
	comp=Z,124nm,21.7s,baz=280,slow=31								
ESLA	Sonseca Array	98.48	50	*e*P		P	11 20 35.8	-0.3	
	0.1nm,0.3s								
CLL	Collm	108.04	37	*e*PKiKP		PKiKP	11 25 25.0	-0.1	
KECS	Kecovo	113.57	37	PDIF		Pdif	11 21 43.5	+0.6	
STHS	Stebnicka Huta	113.64	36	PDIF		Pdif	11 21 44.6	+1.4	
CRVS	Cervenica-Dubn	113.98	37	PDIF		Pdif	11 21 43.8	-1.0	
WRA	Warramunga Arr	119.72	245	PKP		PKPdf	11 25 48.5	+0.1	
WRA	Warramunga Arr	119.72	245	PKP		PKPdf	11 25 48.5	+0.1	
	0.9nm,0.9s,baz=108,slow=2.5,SNR=3.3								
SONM	Songino Array	128.70	335	PKP		PKPdf	11 26 05.9	+0.9	
SONM	Songino Array	128.70	335	PKP		PKPdf	11 26 05.9	+0.9	
	0.7nm,1.0s,baz=111,slow=3.3,SNR=4.0								
ZALV	Zalesovo Beam	128.72	354	PKP		PKPdf	11 26 04.7	0.0	
ZALV	Zalesovo Beam	128.72	354	PKP		PKPdf	11 26 04.7	0.0	
	1.1nm,0.8s,baz=342,slow=0.5,SNR=4.5								
HHC	Hu-ho-hao-te	131.24	325	*e*PKP		PKPdf	11 26 10.8	+0.8	
HHC				PP		PP	11 28 30.6	+3.6	
HHC				SKS		SKSdf	11 33 21.5	-0.4	
HHC				SKKS		SKKSac	11 35 25.0	+0.4	
HHC				AMB		AMB			
	comp=Z,120nm,7.3s								
HHC				LR		LR			
	comp=N,470nm,20.4s								
HHC				LR		LR			
	comp=E,470nm,20.6s								
HHC				LR		LR			
	comp=Z,340nm,20.2s								
MK31	Makanchi Array	136.04	355	*e*PKPdf		PKPdf	11 26 21.2	+2.5	
MKAR	Makanchi Array	136.04	355	PKP		PKPdf	11 26 19.1	+0.3	
MKAR	Makanchi Array	136.04	355	PKP		PKPdf	11 26 19.1	+0.3	
	1.1nm,0.9s,baz=0.0,slow=2.4,SNR=7.7								
WMQ	Urumqi	138.21	349	PKP		PKPdf	11 26 23.5	+0.6	
WMQ				PP		PP	11 29 15.6	+5.2	
WMQ				PKS		PKSdf	11 29 58.3	-0.7	
WMQ				SKS		SKSdf	11 33 32.5	-1.4	
WMQ				SKKS		SKKSac	11 36 05.6	-0.7	
WMQ				SS		SS	11 47 24.6	+2.9	
WMQ				AMB		AMB			
	comp=Z,31nm,7.0s								
WMQ				LR		LR			
	comp=N,110nm,21.8s								
WMQ				LR		LR			
	comp=E,130nm,36.5s								
WMQ				LR		LR			
	comp=Z,130nm,29.5s								
LZH	Lanzhou	138.89	327	*e*PKP		PKPdf	11 26 27.0	+2.5	
LZH				sPKP			11 26 31.5		
LZH				*e*PP		PP	11 29 24.3	+8.9	
LZH				SKKS			11 36 11.3		
LZH				*e*SS		SS	11 47 34.5	+3.4	
LZH				AMB		AMB			
	comp=Z,130nm,9.0s								
LZH				LR		LR			
	comp=N,150nm,18.5s								
LZH				LR		LR			
	comp=E,150nm,19.0s								
LZH				LR		LR			
	comp=Z,200nm,20.4s								
CD2	Chengdu	142.61	321	*e*PKP		PKPdf	11 26 31.1	-0.1	
CD2				PP		PP	11 29 45.0	+6.7	
CD2				SKS		SKSdf	11 33 34.9	-6.6	
CD2				SKKS		SKKSac	11 36 32.0	-0.6	
CD2				SS		SS	11 48 16.8	+2.0	
CD2				AMB		AMB			
	comp=Z,90nm,9.5s								
CD2				LR		LR			
	comp=E,350nm,16.7s								
CD2				LR		LR			
	comp=Z,290nm,15.5s								
GYA	Guiyang	143.42	313	*e*PKP		PKPdf	11 26 32.0	-0.8	
GYA				PP		PP	11 29 47.3	+3.7	
GYA				AMB		AMB			
	comp=Z,120nm,8.0s								
KSH	Kashi	143.50	2	*e*PKP		PKPdf	11 26 32.1	-0.5	
KSH				*e*SKS		SKSdf	11 33 36.5	-6.2	
KSH				AMB		AMB			
	comp=Z,58nm,4.0s								
KSH				LR		LR			
	comp=N,50nm,4.0s								
KSH				LR		LR			
	comp=E,28nm,3.4s								
KSH				LR		LR			
	comp=Z,67nm,4.4s								
QIZ	Qiongzhong	144.43	299	PKP		PKPab	11 26 32.9	+0.1	
QIZ				SS		SS	11 48 39.6	+2.2	
QIZ				LR		LR			
	comp=Z,110nm,20.6s								
KMI	Kunming	147.06	314	PKPbc		PKPdf	11 26 38.9	-0.3	
KMI				sPKP			11 26 43.4		
KMI				PP		PP	11 30 09.1	+3.8	
KMI				SKKS			11 36 58.0		
KMI				SS		SS	11 49 07.3	+0.7	
KMI				LR		LR			
	comp=Z,100nm,22.2s								

CSEM ***22*** *11:09:08.2, 45.77N×14.19E, h0km, ML1.2, After LJU*
LJU 22 11:09:08.2, 45.77N×14.19E, h15km, ML1.2, 2C-2D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAVS	Javornik	0.15	323	⇑	*i*	Pg	Pg	11 09 12.3	0.0
JAVS					*i*	Sg	Sg	11 09 15.2	+0.2
JAVS									
	comp=Z,38nm,0.1s								
JAVS	Javornik	0.15	323	⇑	*i*	Pg	Pg	11 09 12.3	0.0
JAVS					*i*	Sg	Sg	11 09 15.1	+0.1
	comp=Z,38nm,0.1s								
CEY	Cerknica	0.17	102		*i*	Pg	Pg	11 09 12.4	0.0
CEY					*i*	Sg	Sg	11 09 15.4	+0.2
CEY									
	comp=Z,6.0nm,0.0s								
CEY	Cerknica	0.17	102		*i*	Pg	Pg	11 09 12.4	0.0
CEY					*i*	Sg	Sg	11 09 15.4	+0.2
	comp=Z,6.0n

LAKA	**Lakka**	**0.18**	**163**	*e*PG	**Pg**	**11 48 46.6**	**0.0**
LAKA	**Lakka**	**0.18**	**163**	P	**Pg**	**11 48 46.7**	**+0.1**
KALE	**Kalithea**	**0.18**	**97**	P	**Pg**	**11 48 46.6**	**0.0**
KALE				S	**Sg**	**11 48 49.5**	**+0.4**
KALE	**Kalithea**	**0.18**	**97**	*e*PG	**Pg**	**11 48 46.6**	**0.0**
KALE				*e*SG	**Sg**	**11 48 49.8**	**+0.7**
KALE	**Kalithea**	**0.18**	**97**	P	**Pg**	**11 48 46.6**	**0.0**
KALE				S	**Sg**	**11 48 49.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.41**	**153**	P	**Pg**	**11 48 50.6**	**-0.4**
KLV				S	**Sg**	**11 48 57.5**	**+1.1**
KLV	**Kalavryta, Ach**	**0.41**	**153**	*e*PG	**Pg**	**11 48 50.6**	**-0.4**
KLV				*e*SB	**Sg**	**11 48 57.8**	**+1.4**
KLV	**Kalavryta, Ach**	**0.41**	**153**	P	**Pg**	**11 48 50.6**	**-0.4**
KLV				S	**Sg**	**11 48 57.5**	**+1.1**
DSF	**Desfina**	**0.48**	**90**	P	**Pg**	**11 48 51.5**	**-0.9**
DSF				S	**Sg**	**11 48 59.6**	**+0.9**
DSF	**Desfina**	**0.48**	**90**	*e*PB	**Pg**	**11 48 51.4**	**-0.9**
DSF				*e*SB	**Sg**	**11 48 59.2**	**+0.5**
DSF	**Desfina**	**0.48**	**90**	P	**Pg**	**11 48 51.5**	**-0.9**
DSF				*e*Sb	**Sg**	**11 48 59.2**	**+0.5**
DRO	**Drossia**	**0.49**	**199**	P	**Pg**	**11 48 51.9**	**-0.5**
DRO				S	**Sg**	**11 48 59.5**	**+0.8**
DRO	**Drossia**	**0.49**	**199**	*e*PB	**Pg**	**11 48 51.9**	**-0.5**
DRO				*e*SB	**Sg**	**11 48 59.7**	**+1.0**
DRO	**Drossia**	**0.49**	**199**	P	**Pg**	**11 48 51.9**	**-0.5**
DRO				S	**Sg**	**11 48 59.5**	**+0.8**
RLS	**Riolos of Patr**	**0.50**	**225**	*e*PB	**Pg**	**11 48 52.5**	**-0.1**
RLS				*e*SB	**Sg**	**11 49 00.2**	**+1.1**
RLS	**Riolos of Patr**	**0.50**	**225**	*e*Pb	**Pg**	**11 48 52.5**	**-0.1**
RLS				*e*Sb	**Sg**	**11 49 00.2**	**+1.1**
EVR	**Evrytania**	**0.51**	**351**	P	**Pg**	**11 48 52.5**	**-0.4**
EVR				S	**Sg**	**11 49 00.8**	**+1.2**
EVR	**Evrytania**	**0.51**	**351**	*e*PB	**Pg**	**11 48 52.5**	**-0.4**
EVR				*e*SB	**Sg**	**11 49 00.7**	**+1.2**
EVR	**Evrytania**	**0.51**	**351**	P	**Pg**	**11 48 52.5**	**-0.4**
EVR				*e*Sb	**Sg**	**11 49 00.7**	**+1.2**
GUR	**Goura**	**0.58**	**144**	*e*PB	**Pg**	**11 48 53.4**	**-0.9**
GUR				*e*SB	**Sg**	**11 49 01.5**	**-0.4**
GUR	**Goura**	**0.58**	**144**	*e*Pb	**Pg**	**11 48 53.4**	**-0.9**
GUR				*e*Sb	**Sg**	**11 49 01.5**	**-0.4**
PDO	**Prodromos**	**0.60**	**288**	P	**Pg**	**11 48 54.3**	**-0.3**
PDO				S	**Sb**	**11 49 03.9**	**-0.9**
PDO	**Prodromos**	**0.60**	**288**	*e*PB	**Pg**	**11 48 54.3**	**-0.3**
PDO				*e*SB	**Sb**	**11 49 04.1**	**-0.7**
PDO	**Prodromos**	**0.60**	**288**	P	**Pg**	**11 48 54.3**	**-0.3**
PDO				S	**Sb**	**11 49 03.9**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.62**	**16**	*e*PG	**Pg**	**11 48 54.8**	**-0.3**
MAKR				*e*SB	**Sg**	**11 49 04.1**	**+0.9**
MAKR	**Makrakomi, Fth**	**0.62**	**16**	*e*Pg	**Pg**	**11 48 54.8**	**-0.3**
MAKR				*e*Sb	**Sg**	**11 49 04.1**	**+0.9**
AXAR	**Agios Charalam**	**0.68**	**59**	*e*PB	**Pg**	**11 48 55.4**	**-0.8**
AXAR	**Agios Charalam**	**0.68**	**59**	*e*Pb	**Pg**	**11 48 55.4**	**-0.8**
AGG	**Agios Georgios**	**0.69**	**28**	*e*PB	**Pg**	**11 48 56.6**	**+0.3**
AGG	**Agios Georgios**	**0.69**	**28**	*e*Pb	**Pg**	**11 48 56.6**	**+0.3**
AMT	**Artemida-Makis**	**0.89**	**190**	*e*PB	**Pg**	**11 49 00.1**	**-0.1**
AMT	**Artemida-Makis**	**0.89**	**190**	*e*Pb	**Pg**	**11 49 00.1**	**-0.1**
VLS	**Valsamata**	**1.07**	**258**	*e*PB	**Pg**	**11 49 01.8**	**-1.7**
VLS				*e*SB	**Sb**	**11 49 18.8**	**+0.6**
VLS	**Valsamata**	**1.07**	**258**	*e*Pb	**Pg**	**11 49 01.8**	**-1.7**
VLS				*e*Sb	**Sb**	**11 49 18.8**	**+0.6**

*ISCJB **22** 11:49:46.0±0.5, 40°.74N±0°.04×29°.29E±0°.05, h11km, Error ellipse: s-maj=5.5km s-min=4.9km az=168.2*
*CSEM **22** 11:49:46.5±0.2, 40°.74N×29°.30E, h5km, MD2.7, Error ellipse: s-maj=4.9km s-min=4.2km az=21.0*
*ISK **22** 11:49:46.3, 40°.75N×29°.31E, h7km, MD2.7*
*DDA **22** 11:49:48.0, 40°.66N×29°.37E, h3km, MD2.6*

ISC 22 11:49:46.2±1.1, 40°.74N±0°.03×29°.31E±0°.03, h11km, n29, σ0938/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRT	**Hereke**	**0.28**	**73**	*e*PG	**Pg**	**11 49 52.9**	**+0.8**
HRT				*e*SG	**Sb**	**11 49 57.8**	**-0.4**
HRT	**Hereke**	**0.28**	**73**	*e*Pg	**Pg**	**11 49 52.9**	**+0.8**
HRT				*e*Sg	**Sb**	**11 49 57.8**	**-0.4**
GEMT	**Gemlik**	**0.32**	**197**	*e*PG	**Pg**	**11 49 53.2**	**+0.6**
GEMT	**Gemlik**	**0.32**	**197**	*e*Pg	**Pg**	**11 49 53.2**	**+0.6**
ISK	**Istanbul-Kandi**	**0.38**	**330**	*e*PG	**Pg**	**11 49 54.1**	**+0.4**
ISK	**Istanbul-Kandi**	**0.38**	**330**	*e*Pg	**Pg**	**11 49 54.1**	**+0.4**
ARMT	**Armutlu**	**0.38**	**243**	*e*PG	**Pb**	**11 49 54.9**	**-0.2**
ARMT	**Armutlu**	**0.38**	**243**	*e*Pg	**Pb**	**11 49 54.9**	**-0.2**
ADVT	**Abdulvahap**	**0.45**	**133**	*e*PG	**Pg**	**11 49 55.0**	**0.0**
ADVT	**Abdulvahap**	**0.45**	**133**	*e*Pg	**Pg**	**11 49 55.0**	**0.0**
MDNY	**Mudanya-Bursa**	**0.49**	**221**	*e*PG	**Pg**	**11 49 56.3**	**+0.5**
MDNY	**Mudanya-Bursa**	**0.49**	**221**	*e*Pg	**Pg**	**11 49 56.3**	**+0.5**
BGKT	**Bogazkoy**	**0.60**	**318**	*e*PG	**Pg**	**11 49 58.0**	**+0.1**
BGKT	**Bogazkoy**	**0.60**	**318**	*e*Pg	**Pg**	**11 49 58.0**	**+0.1**
ULDT	**Uludag**	**0.61**	**192**	*i* P	**Pb**	**11 49 58.8**	**-0.2**
ULDT				*i* S	**Sb**	**11 50 07.4**	**-0.3**
ULDT	**Uludag**	**0.61**	**192**	*i* P	**Pb**	**11 49 58.8**	**-0.2**
ULDT				*i* S	**Sb**	**11 50 07.4**	**-0.3**
CAVI	**Cavuskoy**	**0.67**	**143**	*e*PG	**Pg**	**11 49 59.3**	**0.0**
CAVI	**Cavuskoy**	**0.67**	**143**	*e*Pg	**Pg**	**11 49 59.3**	**0.0**
SLVT	**Silivri**	**0.96**	**301**	*e*PG	**Pg**	**11 50 04.9**	**+0.1**
SLVT	**Silivri**	**0.96**	**301**	*e*Pg	**Pg**	**11 50 04.9**	**+0.1**
TVSB	**Tavsanli**	**1.29**	**175**	*e*PG	**Pg**	**11 50 11.6**	**+0.5**
TVSB	**Tavsanli**	**1.29**	**175**	*e*Pg	**Pg**	**11 50 11.6**	**+0.5**
GONE	**Gonen-Balikesi**	**1.42**	**241**	*e*PG	**Pb**	**11 50 13.1**	**+0.4**
GONE	**Gonen-Balikesi**	**1.42**	**241**	*e*Pg	**Pb**	**11 50 13.1**	**+0.4**
MDUB	**Mudurnu**	**1.46**	**100**	*e*PG	**Pb**	**11 50 13.5**	**0.0**
MDUB	**Mudurnu**	**1.46**	**100**	*e*Pg	**Pb**	**11 50 13.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.57**	**258**	*e*PG	**Pb**	**11 50 15.1**	**-0.2**
KRBG	**Karabiga-Canak**	**1.57**	**258**	*e*Pg	**Pb**	**11 50 15.1**	**-0.2**
ALT	**Altintas**	**1.79**	**160**	*e*PG	**Pb**	**11 50 18.9**	**-0.2**

MEX 22 12:22:02.1±0.4, 18°.03N×101°.09W, h16km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.74**	**71**	*i* P	Pg	12 22 13.8	-2.9
ARIG				*e*S	Sg	12 22 23.4	-3.2
PLIG	**Platanillo**	**1.55**	**76**	*i* P	Pn	12 22 26.0	-3.1
PLIG				*e*S	Sn	12 22 44.3	-4.7
YAIG	**Yautepec**	**2.08**	**66**	*e*P	Pn	12 22 32.7	-3.9
YAIG				*e*S	Sn	12 22 56.9	-5.5
MMIG	**Aquila**	**2.16**	**277**	*e*P	Pn	12 22 34.0	-3.5
MMIG				*i* S	Sn	12 22 59.3	-4.7
TLIG	**Tlapa**	**2.44**	**101**	*i* P	Pn	12 22 38.7	-2.9
TLIG				*e*S	Sn	12 23 06.1	-5.1
EZ5V		**2.79**	**301**	*i* P	Pn	12 22 43.7	-2.7
R15V		**2.97**	**293**	*i* P	Pn	12 22 46.0	-2.7

*ROM **22** 12:30:50.7±0.1, 42°.24N×13°.52E, h9km, Ml3.5/25, Error ellipse: s-maj=1.2km s-min=0.8km az=55.0*
*ISCJB **22** 12:30:50.9±0.2, 42°.23N±0°.02×13°.53E±0°.03, h12km±2km, mb3.4/4, MS3.8/1, Error ellipse: s-maj=3.5km s-min=2.4km az=148.1*
*LDG **22** 12:30:51.3±0.1, 42°.20N×13°.50E, h2km, Ml3.3/6, Error ellipse: s-maj=4.9km s-min=3.0km az=48.0*
*CSEM **22** 12:30:51.3±0.1, 42°.22N×13°.51E, h2km, ML3.8/8, Ms3.4, Error ellipse: s-maj=3.7km s-min=2.8km az=51.0*
*IDC **22** 12:30:52.0±1.1, 42°.40N×13°.57E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.5/39, mbtmp3.5/8, ML3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/37, Error ellipse: s-maj=29.9km s-min=14.3km az=93.0*
*VIE **22** 12:30:53.8±1.0, 42°.33N×13°.58E, h10km, mb3.4/10, ML3.3/8, Ms3.4/3, Error ellipse: s-maj=10.1km s-min=7.2km az=109.0 102 km ENE of Rome*

ISC 22 12:30:51.5±0.8, 42°.24N±0°.02×13°.50E±0°.02, h7km±5km, n115, σ1942/146, mb3.5/4, 9C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.07**	**66**	Pg	**Pg**	**12 30 53.0**	**-0.4**
FAGN				Sg	**Sg**	**12 30 54.1**	**-0.7**
FAGN	**Fagnano**	**0.07**	**66**	Pg	**Pg**	**12 30 53.0**	**-0.4**
FAGN				Sg	**Sg**	**12 30 54.1**	**-0.7**
AQU	**L'Aquila**	**0.14**	**327**	Pg	**Pg**	**12 30 54.7**	**+0.2**
AQU				Sg	**Sg**	**12 30 57.0**	**+0.5**
	9µm,0.7s						
AQU	**L'Aquila**	**0.14**	**327**	Pg	**Pg**	**12 30 54.7**	**+0.2**
AQU				Sg	**Sg**	**12 30 57.0**	**+0.5**
	9µm,0.7s						
T0104	**Madonna delle**	**0.17**	**315**	Pg	**Pg**	**12 30 55.4**	**+0.3**
T0104				Sg	**Sg**	**12 30 58.7**	**+1.2**
FIAM	**Fiamignano**	**0.29**	**276**	Pg	**Pg**	**12 30 57.5**	**+0.3**
FIAM				Sg	**Sg**	**12 31 02.4**	**+1.3**
	13µm,1.1s						
FIAM	**Fiamignano**	**0.29**	**276**	Pg	**Pg**	**12 30 57.5**	**+0.3**
FIAM				Sg	**Sg**	**12 31 02.4**	**+1.3**
	13µm,1.1s						
VCEL	**Villa Celiera**	**0.29**	**58**	Pg	**Pg**	**12 30 57.6**	**+0.2**
VCEL				Sg	**Sg**	**12 31 01.9**	**+0.6**
	15µm,0.4s						
VCEL	**Villa Celiera**	**0.29**	**58**	Pg	**Pg**	**12 30 57.6**	**+0.2**
VCEL				Sg	**Sg**	**12 31 01.9**	**+0.6**
	15µm,0.4s						
CAMP	**Campotosto**	**0.30**	**347**	Pg	**Pg**	**12 30 57.5**	**-0.1**
CAMP				Sg	**Sg**	**12 31 02.0**	**+0.3**
	5µm,0.5s						
CAMP	**Campotosto**	**0.30**	**347**	Pg	**Pg**	**12 30 57.5**	**-0.1**
CAMP				Sg	**Sg**	**12 31 02.0**	**+0.3**
	5µm,0.5s						
INTR	**Introdacqua**	**0.38**	**127**	Pg	**Pg**	**12 30 58.7**	**-0.2**
INTR				Sg	**Sg**	**12 31 04.7**	**+0.9**
	7µm,0.6s						
INTR	**Introdacqua**	**0.38**	**127**	Pg	**Pg**	**12 30 58.7**	**-0.2**
INTR				Sg	**Sg**	**12 31 04.7**	**+0.9**
	7µm,0.6s						
VVLD	**Villa Vallelon**	**0.38**	**166**	Pg	**Pg**	**12 30 58.8**	**-0.1**
VVLD				Sg	**Sg**	**12 31 04.9**	**+1.0**
	3µm,0.6s						
VVLD	**Villa Vallelon**	**0.38**	**166**	Pg	**Pg**	**12 30 58.8**	**-0.1**
VVLD				Sg	**Sg**	**12 31 04.9**	**+1.0**
	3µm,0.6s						
RM29	**Verrico (Monte**	**0.39**	**325**	Pg	**Pg**	**12 30 59.2**	**0.0**
RM29				Sg	**Sb**	**12 31 06.5**	**-0.6**
	36µm,1.3s						
TERO	**Teramo**	**0.39**	**11**	Pg	**Pg**	**12 30 58.7**	**-0.5**
TERO				Sg	**Sg**	**12 31 04.7**	**+0.4**
	5µm,0.6s						
TERO	**Teramo**	**0.39**	**11**	Pg	**Pg**	**12 30 58.7**	**-0.5**
TERO				Sg	**Sg**	**12 31 04.7**	**+0.4**
	5µm,0.6s						
SMA1	**SAN MARTINO**	**0.41**	**342**	Pg	**Pg**	**12 30 59.2**	**-0.4**
SMA1				Sg	**Sg**	**12 31 06.6**	**+1.6**
	6µm,0.6s						
GUAR	**Guarcino**	**0.47**	**198**	Pg	**Pg**	**12 31 00.5**	**-0.1**
	2µm,0.6s						
GUAR	**Guarcino**	**0.47**	**198**	Pg	**Pg**	**12 31 00.5**	**-0.1**
	2µm,0.6s						
POFI	**Posta Fibreno**	**0.54**	**163**	Pg	**Pg**	**12 31 01.5**	**-0.5**
POFI				Sg	**Sb**	**12 31 10.5**	**-0.9**
	1µm,0.6s						
POFI	**Posta Fibreno**	**0.54**	**163**	Pg	**Pg**	**12 31 01.5**	**-0.5**
SDI	**San Donato**	**0.58**	**156**	Pg	**Pg**	**12 31 02.1**	**-0.6**
SDI	**San Donato**	**0.58**	**156**	Pg	**Pg**	**12 31 02.1**	**-0.6**
MTCE	**Montecelio**	**0.61**	**249**	Pg	**Pg**	**12 31 02.8**	**-0.4**
	2µm,0.5s						
MTCE	**Montecelio**	**0.61**	**249**	Pg	**Pg**	**12 31 02.8**	**-0.4**
	2µm,0.5s						
MNS	**Montasola**	**0.63**	**284**	Pg	**Pg**	**12 31 03.1**	**-0.5**
	2µm,0.5s						
MNS	**Montasola**	**0.63**	**284**	Pg	**Pg**	**12 31 03.1**	**-0.5**
	2µm,0.5s						
NRCA	**Norcia**	**0.66**	**334**	Pg	**Pg**	**12 31 03.6**	**-0.7**
NRCA				Sg	**Sg**	**12 31 13.8**	**+0.9**
	1µm,0.3s						
NRCA	**Norcia**	**0.66**	**334**	Pg	**Pg**	**12 31 03.6**	**-0.7**
NRCA				Sg	**Sg**	**12 31 13.8**	**+0.9**
	1µm,0.3s						
GIUL	**Giuliano Di Ro**	**0.70**	**195**	Pg	**Pg**	**12 31 04.5**	**-0.6**
	1µm,0.6s						
GIUL	**Giuliano Di Ro**	**0.70**	**195**	Pg	**Pg**	**12 31 04.5**	**-0.6**
	1µm,0.6s						
OFFI	**Offida**	**0.71**	**11**	Pg	**Pg**	**12 31 05.3**	**+0.1**
	7µm,0.6s						
OFFI	**Offida**	**0.71**	**11**	Pg	**Pg**	**12 31 05.3**	**+0.1**
	7µm,0.6s						
RNI2	**Rionero Sannit**	**0.72**	**138**	Pg	**Pg**	**12 31 04.9**	**-0.5**
RNI2	**Rionero Sannit**	**0.72**	**138**	Pg	**Pg**	**12 31 04.9**	**-0.5**
RMP	**Rome, Mte Porz**	**0.73**	**235**	Pg	**Pg**	**12 31 05.0**	**-0.6**
	3µm,0.8s						
RMP	**Rome, Mte Porz**	**0.73**	**235**	Pg	**Pg**	**12 31 05.0**	**-0.6**
	3µm,0.8s						
CERA	**Filignano**	**0.75**	**149**	Pg	**Pg**	**12 31 04.8**	**-1.1**
	2µm,0.7s						
CERA	**Filignano**	**0.75**	**149**	Pg	**Pg**	**12 31 04.8**	**-1.1**
	2µm,0.7s						
CESX	**Cesi**	**0.78**	**299**	Pg	**Pg**	**12 31 05.8**	**-0.7**
	2µm,0.6s						
CESX	**Cesi**	**0.78**	**299**	Pg	**Pg**	**12 31 05.8**	**-0.7**
	2µm,0.6s						
MIDA	**Miranda**	**0.82**	**137**	Pg	**Pg**	**12 31 06.1**	**-1.1**
	997nm,0.4s						
MIDA	**Miranda**	**0.82**	**137**	Pg	**Pg**	**12 31 06.1**	**-1.1**
	997nm,0.4s						
T0401	**Montottone (Fe**	**0.83**	**5**	Pg	**Pb**	**12 31 07.9**	**-0.3**
	6µm,0.8s						
FDMO	**Fiordimonte**	**0.85**	**339**	Pg	**Pg**	**12 31 06.7**	**-1.2**
	716nm,0.5s						
FDMO	**Fiordimonte**	**0.85**	**339**	Pg	**Pg**	**12 31 06.7**	**-1.2**
	716nm,0.5s						
CESI	**CESI - Serrava**	**0.88**	**330**	Pg	**Pg**	**12 31 07.6**	**-0.9**
	414nm,0.6s						
CESI	**CESI - Serrava**	**0.88**	**330**	Pg	**Pg**	**12 31 07.6**	**-0.9**
	414nm,0.6s						
TRIV	**Trivento**	**0.91**	**121**	Pg	**Pg**	**12 31 08.1**	**-0.9**
	724nm,0.8s						
TRIV	**Trivento**	**0.91**	**121**	Pg	**Pg**	**12 31 08.1**	**-0.9**
	724nm,0.8s						
VAGA	**Valle Agricola**	**0.99**	**146**	Pg	**Pg**	**12 31 09.8**	**-0.7**
VAGA	**Valle Agricola**	**0.99**	**146**	Pg	**Pg**	**12 31 09.8**	**-0.7**
BSSO	**Busso**	**1.07**	**130**	Pg	**Pg**	**12 31 10.9**	**-1.1**
BSSO	**Busso**	**1.07**	**130**	Pg	**Pg**	**12 31 10.9**	**-1.1**
CING	**Cingoli**	**1.16**	**349**	Pg	**Pg**	**12 31 12.6**	**-1.2**
	411nm,0.4s						
CING	**Cingoli**	**1.16**	**349**	Pg	**Pg**	**12 31 12.6**	**-1.2**
	411nm,0.4s						
MS1	**Monte Sant'Ang**	**1.90**	**106**	*e*Pn	**Pg**	**12 31 27.8**	**0.0**
NVLJ	**Novalja**	**2.53**	**23**	*i* Pn	**Pn**	**12 31 33.2**	**+0.3**
NVLJ				Sn	**Sn**	**12 32 05.8**	**+1.9**
MAIM	**Mastiano**	**2.77**	**308**	P	**Pn**	**12 31 37.6**	**+1.4**
UDBI	**Udbina**	**2.82**	**35**	*e*Pn	**Pn**	**12 31 38.0**	**+1.0**
UDBI				Sn	**Sb**	**12 32 14.8**	**-2.2**
UDBI	**Udbina**	**2.82**	**35**	*e*Pn	**Pn**	**12 31 38.0**	**+1.0**
UDBI				Sn	**Sb**	**12 32 14.7**	**-2.2**
STON	**Ston**	**3.16**	**77**	*e*Pn	**Pn**	**12 31 41.9**	**+0.2**
STON				Sn	**Sn**	**12 32 18.5**	**-1.1**
STON	**Ston**	**3.16**	**77**	*e*Pn	**Pn**	**12 31 41.8**	**+0.2**
STON				Sn	**Sn**	**12 32 18.5**	**-1.1**
PGF	**Pioggiola**	**3.35**	**277**	*e*P	**Pn**	**12 31 45.7**	**+1.4**
PGF				*e*Sn	**Sn**	**12 32 19.5**	**-4.9**
	15nm,0.5s						
PGF	**Pioggiola**	**3.35**	**277**	*e*P	**Pn**	**12 31 45.7**	**+1.4**
MYKA	**Terra Mystica**	**4.39**	**1**	*i* Pn	**Pn**	**12 31 59.3**	**+0.7**
MYKA				*i* Sn	**Sn**	**12 32 49.6**	**-0.4**
MYKA	**Terra Mystica**	**4.39**	**1**	Pn	**Pn**	**12 31 59.3**	**+0.7**
MYKA				Sn	**Sn**	**12 32 49.6**	**-0.4**
ABTA	**Abfaltersbach**	**4.56**	**351**	*i* Pn	**Pn**	**12 32 02.0**	**+1.0**
ABTA	**Abfaltersbach**	**4.56**	**351**	Pn	**Pn**	**12 32 02.0**	**+1.0**
BBLS	**Lazići**	**4.62**	**67**	*e*Pn	**Pn**	**12 32 04.2**	**+2.4**
SBF	**Sospel**	**4.73**	**292**	*e*P	**Pn**	**12 32 05.2**	**+1.9**
SBF				*e*Sn	**Sn**	**12 32 54.5**	**-3.9**
	13nm,0.6s						
SBF	**Sospel**	**4.73**	**292**	*e*P	**Pn**	**12 32 05.2**	**+1.9**
TEKS	**Tekeris**	**4.96**	**60**	*e*Pn	**Pn**	**12 32 06.5**	**+0.1**
IVAS	**Ivanjica**	**5.06**	**72**	*e*Pn	**Pn**	**12 32 08.9**	**+1.1**
DIVS	**Divibare**	**5.10**	**66**	*e*Pn	Pn	12 32 11.6	+3.3
FETA	**Feichten**	**5.17**	**338**	*i* Pn	**Pn**	**12 32 11.3**	**+1.9**
	SNR=9.0						
FETA	**Feichten**	**5.17**	**338**	Pn	**Pn**	**12 32 11.3**	**+1.9**
	SNR=9.0						
FRF	**La Foret Royal**	**5.21**	**287**	*e*Pn	**Pn**	**12 32 08.6**	**-1.1**
FRF				*e*Sn	**Sn**	**12 33 05.4**	**-4.6**
	4.8nm,0.5s						
FRF	**La Foret Royal**	**5.21**	**287**	*e*Pn	**Pn**	**12 32 08.6**	**-1.1**
DAVOX	**Davos/Dischmat**	**5.23**	**332**	Pn	**Pn**	**12 32 11.3**	**+1.1**
	1.1nm,0.3s,baz=164,slow=19,SNR=21						
DAVOX				Sn	**Sn**	**12 33 11.2**	**+0.4**
	0.6nm,0.3s,baz=310,slow=22,SNR=3.0						
LMR	**La Mourre**	**5.26**	**284**	*e*Pn	**Pn**	**12 32 09.5**	**-1.0**
LMR	**La Mourre**	**5.26**	**284**	*e*Pn	**Pn**	**12 32 09.5**	**-1.0**
MOTA	**Moosalm**	**5.38**	**342**	*i* Pn	**Pn**	**12 32 13.9**	**+1.6**
	SNR=6.7						
TRUS	**Trudelj**	**5.42**	**66**	*i* Pn	**Pn**	**12 32 12.9**	**+0.2**
MBDF	**Montbardon**	**5.49**	**299**	*e*P	Pn	12 32 17.2	+3.4
GRUS	**Gruza**	**5.54**	**70**	*e*Pn	**Pn**	**12 32 14.8**	**+0.6**
RETA	**Reutte**	**5.60**	**341**	*i* Pn	**Pn**	**12 32 17.2**	**+2.1**
	SNR=7.0						
RETA				*i* Sn	**Sn**	**12 33 22.0**	**+2.3**
MOA	**Molln**	**5.64**	**5**	*i* Pn	**Pn**	**12 32 16.5**	**+0.8**
MOA				*i* Sn	**Sn**	**12 33 20.5**	**-0.1**
MOA	**Molln**	**5.64**	**5**	Pn	**Pn**	**12 32 16.5**	**+0.8**
DAVA	**Damuels**	**5.67**	**334**	*i* Pn	**Pn**	**12 32 18.8**	**+2.6**
DAVA	**Damuels**	**5.67**	**334**	Pn	**Pn**	**12 32 18.8**	**+2.6**
SELS	**Selova**	**5.70**	**78**	*e*Pn	**Pn**	**12 32 14.9**	**-1.6**
SMRF	**Simiane la Rot**	**6.06**	**289**	*e*P	**Pn**	**12 32 23.5**	**+2.0**
SMRF	**Simiane la Rot**	**6.06**	**289**	*e*P	**Pn**	**12 32 23.5**	**+2.0**
ORIF	**Oris-en-Rattie**	**6.15**	**298**	*e*P	Pn	12 32 26.1	+3.3
ORIF	**Oris-en-Rattie**	**6.15**	**298**	*e*P	Pn	12 32 26.1	+3.3
GERES	**GERESS Array B**	**6.61**	**1**	Pn	**Pn**	**12 32 28.0**	**-1.1**
	0.6nm,0.3s,baz=171,slow=13,SNR=11						
GERES				Sn	**Sn**	**12 33 43.1**	**-1.5**
	0.8nm,0.3s,baz=187,slow=32,SNR=5.1						
KEST	**Kesra**	**7.26**	**208**	Pn	Pn	12 32 43.7	+5.7
	0.8nm,0.3s,baz=213,slow=1.5,SNR=14						
LASF	**Ste Croix**	**7.29**	**288**	*e*P	**Pn**	**12 32 40.9**	**+2.5**
LASF	**Ste Croix**	**7.29**	**288**	*e*P	**Pn**	**12 32 40.9**	**+2.5**
HINF	**Hinteralfeld**	**7.30**	**322**	*e*Pn	**Pn**	**12 32 36.9**	**-1.6**
HINF				*e*Sn	**Sn**	**12 33 55.9**	**-5.6**
	7.5nm,0.6s						
HINF	**Hinteralfeld**	**7.30**	**322**	*e*Pn	**Pn**	**12 32 36.9**	**-1.6**
CDF	**Champ du Feu**	**7.57**	**327**	*e*Pn	**Pn**	**12 32 42.9**	**+0.6**
CDF				*e*Sn	**Sn**	**12 34 02.7**	**-5.6**
	5.0nm,0.4s						
CDF	**Champ du Feu**	**7.57**	**327**	*e*Pn	**Pn**	**12 32 42.9**	**+0.6**
HAU	**Haudompre**	**7.67**	**321**	*e*Pn	**Pn**	**12 32 42.9**	**-0.7**
HAU				*e*Sn	Sn	12 34 04.4	-6.2
	6.3nm,0.5s						
HAU	**Haudompre**	**7.67**	**321**	*e*Pn	**Pn**	**12 32 42.9**	**-0.7**
MLR	**Muntele Rosu**	**9.56**	**66**	LR	LR	12 37 39.9	
	comp=Z,28nm,20.6s,baz=249,slow=43						
FINES	**FINESS Array B**	**20.67**	**17**	P	**P**	**12 35 31.7**	**+0.1**
	2.9nm,0.8s,baz=187,slow=9.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**30.75**	**203**	P	**P**	**12 37 09.3**	**+2.0**
	0.6nm,0.8s,baz=15,slow=8.7,SNR=4.3						
AAK	**Ala-Archa**	**44.13**	**68**	LR	LR	13 02 28.4	
	comp=Z,100nm,19.0s,baz=194,slow=43						
MKAR	**Makanchi Array**	**47.84**	**60**	P	**P**	**12 39 30.0**	**+0.4**
	0.4nm,0.8s,baz=304,slow=10,SNR=3.1						
SONM	**Songino Array**	**61.99**	**50**	P	**P**	**12 41 13.5**	**+1.4**
	0.2nm,0.6s,baz=250,slow=2.9,SNR=3.1						
YKA	**Yellowknife Ar**	**67.64**	**337**	P	**P**	**12 41 49.3**	**+0.7**
	0.2nm,0.6s,baz=41,slow=6.0,SNR=4.0						

*NAO **22** 12:34:14.3±1.9, 67°.55N×33°.86E, ML2.7*
*HEL **22** 12:34:14.7±0.6, 67°.65N×33°.91E, h0km, ML2.0, Explosion*
*KOLA **22** 12:34:15.1, 67°.64N×33°.91E, h0km*
*CSEM **22** 12:34:15.2±1.2, 67°.55N×33°.63E, h2km, ML2.1, Error ellipse: s-maj=21.3km s-min=9.7km az=92.0, Mining explosion.*

**ISC 22 12:34:16.8±1.7, 67°.69N±0°.04×33°.52E±0°.09, h0km, n26, σ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.50**	**290**	LR	LR	12 43 34.9	
	comp=Z,268nm,20.9s,baz=161,slow=40						
DZM	**Mont Dzumac**	**10.72**	**174**	Pn	**Pn**	**12 42 27.8**	**0.0**
	0.6nm,0.3s,baz=118,slow=23,SNR=18						
PMG	**Port Moresby**	**17.84**	**275**	LR	LR	12 49 53.1	
	comp=Z,143nm,20.0s,baz=82,slow=34						
CTA	**Charters Tower**	**20.17**	**242**	P	**P**	**12 44 29.2**	**+0.9**
	8.8nm,0.9s,baz=58,slow=15,SNR=3.0						
AFI	**Afiamalu**	**22.62**	**99**	LR	LR	12 51 42.5	
	comp=Z,101nm,19.7s,baz=290,slow=31						
STKA	**Stephens Creek**	**29.84**	**223**	P	**P**	**12 46 00.9**	**+0.2**
	2.0nm,0.8s,baz=26,slow=9.6,SNR=3.9						
STKA				LR	LR	12 57 20.1	
	comp=Z,68nm,18.1s,baz=25,slow=35						
WRA	**Warramunga Arr**	**30.86**	**250**	P	**P**	**12 46 08.5**	**-1.4**
	4.7nm,0.7s,baz=82,slow=8.6,SNR=34						
WRA				pP	**pP**	**12 46 19.8**	**+0.1**
	1.8nm,0.8s,baz=81,slow=8.6,SNR=4.9						
WRA				PcP	**PcP**	**12 49 07.2**	**+0.7**
	1.3nm,0.9s,baz=75,slow=2.9,SNR=6.9						
ASAR	**Alice Springs**	**32.17**	**243**	P	**P**	**12 46 20.4**	**-1.0**
	2.5nm,0.9s,baz=66,slow=10,SNR=22						
ASAR				pP	**pP**	**12 46 31.4**	**+0.2**
	1.5nm,1.0s,baz=81,slow=8.9,SNR=4.4						
ASAR				PcP	**PcP**	**12 49 09.8**	**-0.1**
	0.8nm,0.7s,baz=72,slow=2.4,SNR=8.0						
ASAR				pPcP		12 49 21.2	
	0.6nm,0.8s,baz=51,slow=3.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**71.74**	**294**	P	**P**	**12 51 16.9**	**+1.1**
	1.4nm,0.8s,baz=121,slow=4.5,SNR=8.8						
SONM	**Songino Array**	**78.59**	**324**	P	**P**	**12 51 54.9**	**0.0**
	0.6nm,0.7s,baz=133,slow=6.0,SNR=4.3						
ILAR	**Eielson Array**	**83.98**	**19**	P	**P**	**12 52 22.5**	**-0.4**
	0.5nm,0.6s,baz=235,slow=5.2,SNR=16						
ILAR				pP	**pP**	**12 52 34.4**	**+0.6**
	0.5nm,0.6s,baz=241,slow=5.0,SNR=3.1						
NVAR	**Mina Array Bea**	**86.64**	**50**	pP	pP	12 52 48.4	+0.4
	1.6nm,1.0s,baz=240,slow=7.2,SNR=3.5						
MKAR	**Makanchi Array**	**93.37**	**317**	P	**P**	**12 53 08.2**	**-0.1**
	1.5nm,0.7s,baz=84,slow=6.2,SNR=15						
ZALV	**Zalesovo Beam**	**93.49**	**324**	P	**P**	**12 53 07.7**	**-0.8**
	0.6nm,0.5s,baz=101,slow=3.0,SNR=4.9						

*IDC **22** 12:42:33.2±1.1,38°.34N×22°.01E,h0km,mb3.5/5, mb1 3.6/8,mb1mx3.4/47,mbtmp3.5/8,ML3.0/3,Error ellipse: s-maj=23.9km s-min=19.2km az=122.0*
*ATH **22** 12:42:34.5,38°.43N×22°.00E,h17km,ML3.3*
*THE **22** 12:42:35.6,38°.43N×21°.99E,h0km±1km,ML3.5/13,Error ellipse: s-maj=1.2km s-min=0.4km az=298.0*
*CSEM **22** 12:42:35.1±0.1,38°.41N×21°.99E,h8km,ML3.5,Error ellipse: s-maj=2.2km s-min=1.9km az=87.0*
*ISCJB **22** 12:42:35.1±0.3,38°.42N±0°.01×21°.99E±0°.02,h12km±2km, mb3.8/5,Error ellipse: s-maj=2.2km s-min=1.9km az=165.8*
*SKO **22** 12:42:36.0,38°.42N×22°.38E,h0km*

ISC 22 12:42:35.2±0.7,38°.42N±0°.01×22°.00E±0°.01,h11km±4km, n179,σ0673/285,mb3.7/5,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**275**	P	**Pg**	**12 42 37.1**	**-0.4**
EFP				S	**Sg**	**12 42 38.6**	**-0.7**
EFP	**Efpalio**	**0.07**	**275**	*e*PB	**Pg**	**12 42 37.1**	**-0.4**
EFP	**Efpalio**	**0.07**	**275**	P	**Pg**	**12 42 37.1**	**-0.4**
EFP				S	**Sg**	**12 42 38.6**	**-0.7**
KALE	**Kalithea**	**0.12**	**105**	P	**Pg**	**12 42 38.4**	**+0.2**
KALE				S	**Sg**	**12 42 40.6**	**+0.2**
KALE	**Kalithea**	**0.12**	**105**	*e*PB	**Pg**	**12 42 38.3**	**+0.1**
KALE				*e*SB	**Sg**	**12 42 40.8**	**+0.4**
KALE	**Kalithea**	**0.12**	**105**	P	**Pg**	**12 42 38.4**	**+0.2**
KALE				S	**Sg**	**12 42 40.6**	**+0.2**
LAKA	**Lakka**	**0.18**	**184**	P	**Pg**	**12 42 39.4**	**+0.3**
LAKA	**Lakka**	**0.18**	**184**	*e*PB	**Pg**	**12 42 39.3**	**+0.2**
LAKA	**Lakka**	**0.18**	**184**	P	**Pg**	**12 42 39.4**	**+0.3**
UPR	**University Cam**	**0.21**	**230**	P	**Pg**	**12 42 39.9**	**0.2**
UPR				S	**Sg**	**12 42 43.2**	**+0.4**
UPR	**University Cam**	**0.21**	**230**	P	**Pg**	**12 42 39.9**	**+0.2**
UPR				S	**Sg**	**12 42 43.2**	**+0.4**
KLV	**Kalavryta, Ach**	**0.40**	**162**	P	**Pg**	**12 42 43.0**	**0.0**
KLV				S	**Sg**	**12 42 49.2**	**+0.9**
KLV	**Kalavryta, Ach**	**0.40**	**162**	*e*PB	**Pg**	**12 42 42.8**	**-0.2**
KLV				*e*SB	**Sg**	**12 42 48.8**	**+0.5**
KLV	**Kalavryta, Ach**	**0.40**	**162**	P	**Pg**	**12 42 42.8**	**-0.2**
KLV				*e*Sb	**Sg**	**12 42 48.8**	**+0.5**
KLV				S	**Sg**	**12 42 49.2**	**+0.9**
DSF	**Desfina**	**0.42**	**91**	P	**Pg**	**12 42 43.1**	**-0.3**
DSF				S	**Sg**	**12 42 50.1**	**+1.1**
DSF	**Desfina**	**0.42**	**91**	*e*PB	**Pg**	**12 42 43.1**	**-0.3**
DSF				*e*SB	**Sg**	**12 42 49.2**	**+0.2**
DSF	**Desfina**	**0.42**	**91**	P	**Pg**	**12 42 43.1**	**-0.3**
DSF				*e*Sb	**Sg**	**12 42 49.2**	**+0.2**
DSF				S	**Sg**	**12 42 50.0**	**+1.1**
PVO	**Paravola**	**0.42**	**298**	P	**Pg**	**12 42 43.3**	**-0.1**
PVO				S	**Sg**	**12 42 49.3**	**+0.4**
PVO	**Paravola**	**0.42**	**298**	P	**Pg**	**12 42 43.3**	**-0.1**
PVO				S	**Sg**	**12 42 49.3**	**+0.4**
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**12 42 45.0**	**-0.3**
EVR				S	**Sg**	**12 42 53.2**	**+1.1**
EVR	**Evrytania**	**0.52**	**344**	*e*PN	**Pg**	**12 42 44.9**	**-0.3**
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**12 42 45.0**	**-0.3**
EVR				S	**Sg**	**12 42 53.1**	**+1.0**
DRO	**Drossia**	**0.52**	**206**	P	**Pg**	**12 42 45.2**	**0.0**
DRO				S	**Sb**	**12 42 53.2**	**-0.6**
DRO	**Drossia**	**0.52**	**206**	*e*PN	**Pg**	**12 42 45.3**	**0.0**
DRO				*e*SN	**Sg**	**12 42 52.3**	**+0.1**
DRO	**Drossia**	**0.52**	**206**	*e*Pn	**Pg**	**12 42 45.3**	**0.0**
DRO				*e*Sn	**Sg**	**12 42 52.3**	**+0.1**
DRO				S	**Sb**	**12 42 53.2**	**-0.6**
RLS	**Riolos of Patr**	**0.55**	**229**	P	**Pg**	**12 42 46.0**	**0.0**
RLS				S	**Sb**	**12 42 54.4**	**-0.3**
RLS	**Riolos of Patr**	**0.55**	**229**	*e*PN	**Pg**	**12 42 45.9**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**229**	*e*Pn	**Pg**	**12 42 45.9**	**0.0**
RLS				S	**Sb**	**12 42 54.4**	**-0.3**
GUR	**Goura**	**0.56**	**150**	P	**Pg**	**12 42 46.0**	**0.0**
GUR				S	**Sb**	**12 42 54.8**	**-0.1**
GUR	**Goura**	**0.56**	**150**	*e*PN	**Pg**	**12 42 45.1**	**-0.9**
GUR				*e*SN	**Sg**	**12 42 53.8**	**+0.4**
GUR	**Goura**	**0.56**	**150**	*e*Pn	**Pg**	**12 42 45.1**	**-0.9**
GUR	**Goura**	**0.56**	**150**	P	**Pg**	**12 42 45.8**	**-0.2**
GUR				*e*Sn	**Sg**	**12 42 53.8**	**+0.4**
GUR				S	**Sb**	**12 42 54.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.60**	**10**	P	**Pg**	**12 42 46.8**	**-0.1**
MAKR				S	**Sb**	**12 42 55.8**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.60**	**10**	*e*PN	**Pg**	**12 42 46.2**	**-0.7**
MAKR				*e*SN	**Sg**	**12 42 54.8**	**0.0**
MAKR	**Makrakomi, Fth**	**0.60**	**10**	*e*Pn	**Pg**	**12 42 46.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.60**	**10**	P	**Pg**	**12 42 46.8**	**-0.1**
MAKR				*e*Sn	**Sg**	**12 42 54.8**	**0.0**
MAKR				S	**Sb**	**12 42 55.8**	**-0.4**
AXAR	**Agios Charalam**	**0.62**	**56**	P	**Pg**	**12 42 47.0**	**-0.3**
AXAR				S	**Sb**	**12 42 57.3**	**+0.5**
AXAR	**Agios Charalam**	**0.62**	**56**	*e*PN	**Pg**	**12 42 46.9**	**-0.3**
AXAR				*e*SN	**Sg**	**12 42 55.2**	**-0.3**
AXAR	**Agios Charalam**	**0.62**	**56**	P	**Pg**	**12 42 47.0**	**-0.3**
AXAR				*e*Sn	**Sg**	**12 42 55.2**	**-0.3**
AXAR				S	**Sb**	**12 42 56.1**	**-0.7**
AGG	**Agios Georgios**	**0.66**	**23**	P	**Pg**	**12 42 47.3**	**-0.6**
AGG	**Agios Georgios**	**0.66**	**23**	*e*PN	**Pg**	**12 42 47.0**	**-0.9**
AGG				*e*SN	**Sg**	**12 42 55.9**	**-0.6**
AGG	**Agios Georgios**	**0.66**	**23**	*e*Pn	**Pg**	**12 42 47.0**	**-0.9**
AGG	**Agios Georgios**	**0.66**	**23**	P	**Pb**	**12 42 48.6**	**0.0**
AGG				*e*Sn	**Sg**	**12 42 55.9**	**-0.6**
PDO	**Prodromos**	**0.66**	**286**	P	**Pg**	**12 42 48.2**	**+0.2**
PDO				S	**Sb**	**12 42 58.2**	**+0.3**
PDO	**Prodromos**	**0.66**	**286**	*e*PN	**Pg**	**12 42 47.7**	**-0.3**
PDO				*e*SN	**Sg**	**12 42 56.8**	**+0.1**
PDO	**Prodromos**	**0.66**	**286**	*e*Pn	**Pg**	**12 42 47.7**	**-0.3**
PDO	**Prodromos**	**0.66**	**286**	P	**Pg**	**12 42 48.2**	**+0.2**
PDO				*e*Sn	**Sg**	**12 42 56.8**	**+0.1**
PDO				S	**Sb**	**12 42 58.2**	**+0.3**
LKR	**Lokris**	**0.82**	**73**	P	**Pg**	**12 42 50.7**	**-0.3**
LKR				S	**Sb**	**12 43 03.2**	**+0.7**
LKR	**Lokris**	**0.82**	**73**	*e*PN	**Pg**	**12 42 50.2**	**-0.8**
LKR				*e*SN	**Sg**	**12 43 01.6**	**-0.1**
LKR	**Lokris**	**0.82**	**73**	*e*Pn	**Pg**	**12 42 50.2**	**-0.8**
LKR	**Lokris**	**0.82**	**73**	P	**Pg**	**12 42 50.7**	**-0.3**
LKR				*e*Sn	**Sg**	**12 43 01.6**	**-0.1**
LKR				S	**Sb**	**12 43 03.2**	**+0.7**
LTK	**Loutraki**	**0.86**	**117**	P	**Pb**	**12 42 52.5**	**+0.4**
LTK				S	**Sn**	**12 43 04.9**	**-0.9**
LTK	**Loutraki**	**0.86**	**117**	*e*PN	**Pg**	**12 42 51.0**	**-0.8**
LTK				*e*SN	**Sb**	**12 43 03.6**	**-0.1**
LTK	**Loutraki**	**0.86**	**117**	*e*Pn	**Pg**	**12 42 51.0**	**-0.8**
LTK	**Loutraki**	**0.86**	**117**	P	**Pb**	**12 42 52.5**	**+0.4**
LTK				*e*Sn	**Sb**	**12 43 03.6**	**-0.1**
LTK				S	**Sn**	**12 43 04.9**	**-0.9**
AMT	**Artemida-Makis**	**0.92**	**194**	P	**Pb**	**12 42 53.2**	**+0.1**
AMT				S	**Sn**	**12 43 06.9**	**-0.3**
AMT	**Artemida-Makis**	**0.92**	**194**	*e*PN	**Pg**	**12 42 52.3**	**-0.5**
AMT				*e*SN	**Sg**	**12 43 04.8**	**+0.1**
AMT	**Artemida-Makis**	**0.92**	**194**	*e*Pn	**Pg**	**12 42 52.3**	**-0.5**
AMT	**Artemida-Makis**	**0.92**	**194**	P	**Pb**	**12 42 53.2**	**+0.1**
AMT				*e*Sn	**Sg**	**12 43 04.8**	**+0.1**
AMT				S	**Sn**	**12 43 06.9**	**-0.3**
SMIA	**Simia**	**1.05**	**64**	P	**Pb**	**12 42 54.9**	**-0.5**
SMIA				S	**Sn**	**12 43 10.7**	**+0.1**
SMIA	**Simia**	**1.05**	**64**	*e*PN	**Pb**	**12 42 54.8**	**-0.6**
SMIA				*e*SN	**Sb**	**12 43 08.7**	**-0.5**
SMIA	**Simia**	**1.05**	**64**	P	**Pb**	**12 42 54.9**	**-0.5**
SMIA				*e*Sn	**Sb**	**12 43 08.7**	**-0.5**
SMIA				S	**Sn**	**12 43 10.7**	**+0.1**
VLX	**Vlachokerasia**	**1.09**	**164**	P	**Pb**	**12 42 56.0**	**-0.1**
VLX				S	**Sn**	**12 43 11.9**	**+0.3**
VLX	**Vlachokerasia**	**1.09**	**164**	*e*PN	**Pb**	**12 42 55.3**	**-0.8**
VLX				*e*SN	**Sb**	**12 43 10.3**	**-0.1**
VLX	**Vlachokerasia**	**1.09**	**164**	*e*Pn	**Pb**	**12 42 55.3**	**-0.8**
VLX	**Vlachokerasia**	**1.09**	**164**	P	**Pb**	**12 42 56.0**	**-0.1**
VLX				*e*Sn	**Sb**	**12 43 10.3**	**-0.1**
VLX				S	**Sn**	**12 43 11.9**	**+0.3**
LKD2	**Lefkada island**	**1.11**	**290**	P	**Pb**	**12 42 55.4**	**-0.4**
LKD2				S	**Sn**	**12 43 12.4**	**+0.4**
LKD2	**Lefkada island**	**1.11**	**290**	*e*PN	**Pb**	**12 42 55.7**	**-0.7**
LKD2				*e*SN	**Sb**	**12 43 10.7**	**-0.2**
LKD2	**Lefkada island**	**1.11**	**290**	*e*Pn	**Pb**	**12 42 55.7**	**-0.7**
LKD2	**Lefkada island**	**1.11**	**290**	P	**Pb**	**12 42 56.0**	**-0.4**
LKD2				*e*Sn	**Sb**	**12 43 10.7**	**-0.2**
LKD2				S	**Sn**	**12 43 12.4**	**+0.4**
VLS	**Valsamata**	**1.13**	**258**	P	**Pb**	**12 42 55.8**	**-1.0**
VLS	**Valsamata**	**1.13**	**258**	*e*PB	**Pb**	**12 42 55.5**	**-1.3**
VLS				*e*SN	**Sg**	**12 43 12.0**	**+0.3**
VLS	**Valsamata**	**1.13**	**258**	*e*Pb	**Pb**	**12 42 55.5**	**-1.3**
VLS	**Valsamata**	**1.13**	**258**	P	**Pb**	**12 42 55.8**	**-1.0**
VLS				*e*Sn	**Sg**	**12 43 12.0**	**+0.3**
THL	**Klokotos Trika**	**1.14**	**1**	P	**Pb**	**12 42 56.4**	**-0.5**
THL	**Klokotos Trika**	**1.14**	**1**	*e*PN	**Pb**	**12 42 56.2**	**-0.7**
THL				*e*SN	**Sb**	**12 43 11.7**	**0.0**
THL	**Klokotos Trika**	**1.14**	**1**	P	**Pb**	**12 42 56.4**	**-0.5**
THL				*e*Sn	**Sb**	**12 43 11.7**	**0.0**
FYTO	**Fytoko, Volos**	**1.23**	**36**	P	**Pb**	**12 42 58.6**	**+0.2**
FYTO	**Fytoko, Volos**	**1.23**	**36**	P	**Pb**	**12 42 58.6**	**+0.2**
ITM	**Ithomi**	**1.24**	**183**	P	**Pn**	**12 42 58.4**	**0.0**
ITM	**Ithomi**	**1.24**	**183**	*e*PN	**Pn**	**12 42 58.1**	**-0.3**
ITM				*e*SN	**Sn**	**12 43 14.9**	**-0.3**
ITM	**Ithomi**	**1.24**	**183**	*e*Pn	**Pn**	**12 42 58.1**	**-0.3**
ITM	**Ithomi**	**1.24**	**183**	P	**Pn**	**12 42 58.4**	**0.0**
ITM				*e*Sn	**Sn**	**12 43 14.9**	**-0.3**
MRKA	**Markates**	**1.28**	**77**	P	**Pb**	**12 42 59.2**	**-0.1**
MRKA	**Markates**	**1.28**	**77**	*e*PN	**Pn**	**12 42 58.7**	**-0.3**
MRKA				*e*SN	**Sb**	**12 43 15.8**	**+0.1**
MRKA	**Markates**	**1.28**	**77**	*e*Pn	**Pn**	**12 42 58.7**	**-0.3**
MRKA	**Markates**	**1.28**	**77**	P	**Pb**	**12 42 59.2**	**-0.1**
MRKA				*e*Sn	**Sb**	**12 43 15.8**	**+0.1**
NEO	**Neokhori**	**1.30**	**47**	P	**Pb**	**12 42 59.7**	**0.0**
NEO	**Neokhori**	**1.30**	**47**	*e*PN	**Pn**	**12 42 59.5**	**+0.2**
NEO				*e*SN	**Sg**	**12 43 19.3**	**+0.1**
NEO	**Neokhori**	**1.30**	**47**	P	**Pb**	**12 42 59.7**	**0.0**
NEO				*e*Sn	**Sg**	**12 43 17.1**	**-0.1**
XOR	**Xorichti**	**1.33**	**44**	*e*PN	**Pn**	**12 42 59.5**	**-0.2**
XOR				*e*SN	**Sg**	**12 43 17.9**	**0.0**
XOR	**Xorichti**	**1.33**	**44**	*e*Pn	**Pn**	**12 42 59.5**	**-0.2**
XOR				*e*Sn	**Sg**	**12 43 17.9**	**0.0**
DID	**Didima**	**1.34**	**133**	P	**Pb**	**12 43 00.3**	**0.0**
DID				S	**Sg**	**12 43 20.9**	**+2.6**
DID	**Didima**	**1.34**	**133**	*e*PN	**Pn**	**12 42 59.9**	**+0.1**
DID				*e*SN	**Sn**	**12 43 18.0**	**+0.4**
DID	**Didima**	**1.34**	**133**	*e*Pn	**Pn**	**12 42 59.9**	**+0.1**
DID	**Didima**	**1.34**	**133**	P	**Pb**	**12 43 00.3**	**0.0**
DID				*e*Sn	**Sn**	**12 43 18.0**	**+0.4**
DID				S	**Sg**	**12 43 20.9**	**+2.6**
NAIG	**Nisos Aigina**	**1.35**	**119**	*e*PN	**Pb**	**12 43 00.5**	**0.0**
NAIG	**Nisos Aigina**	**1.35**	**119**	*e*Pn	**Pb**	**12 43 00.5**	**0.0**
SKIA	**Skiathos**	**1.37**	**57**	*e*PN	**Pb**	**12 43 00.9**	**+0.1**
SKIA				*e*SN	**Sg**	**12 43 19.3**	**+0.1**
SKIA	**Skiathos**	**1.37**	**57**	*e*Pn	**Pb**	**12 43 00.9**	**+0.1**
SKIA				*e*Sn	**Sg**	**12 43 19.3**	**+0.1**
ATH	**Athens Observa**	**1.43**	**108**	*e*PN	**Pn**	**12 43 01.2**	**+0.2**
ATH				*e*SN	**Sg**	**12 43 20.9**	**-0.2**
ATH	**Athens Observa**	**1.43**	**108**	*e*Pn	**Pn**	**12 43 01.2**	**+0.2**
ATH				*e*Sn	**Sg**	**12 43 20.9**	**-0.2**
JAN	**Janina**	**1.52**	**324**	*e*PN	**Pb**	**12 43 03.1**	**-0.3**
JAN				*e*SN	**Sb**	**12 43 22.7**	**0.0**
JAN	**Janina**	**1.52**	**324**	*e*Pn	**Pb**	**12 43 03.1**	**-0.3**
JAN				*e*Sn	**Sb**	**12 43 22.7**	**0.0**
PYL	**PYLOS**	**1.54**	**188**	*e*PN	**Pn**	**12 43 02.8**	**+0.3**
PYL				*e*SN	**Sg**	**12 43 25.0**	**+0.4**
PYL	**PYLOS**	**1.54**	**188**	*e*Pn	**Pn**	**12 43 02.8**	**+0.3**
PYL				*e*Sn	**Sg**	**12 43 25.0**	**+0.4**
AOS	**Alonnisos**	**1.65**	**62**	*e*PN	**Pb**	**12 43 04.9**	**-0.7**
AOS				*e*SN	**Sb**	**12 43 26.3**	**-0.1**
AOS	**Alonnisos**	**1.65**	**62**	*e*Pn	**Pb**	**12 43 04.9**	**-0.7**
AOS				*e*Sn	**Sb**	**12 43 26.3**	**-0.1**
IGT	**Igoumenitsa**	**1.71**	**311**	*e*PN	**Pn**	**12 43 05.7**	**+0.9**
IGT				*e*SN	**Sb**	**12 43 28.4**	**+0.4**
IGT	**Igoumenitsa**	**1.71**	**311**	*e*Pn	**Pn**	**12 43 05.7**	**+0.9**
IGT				*e*Sn	**Sb**	**12 43 28.4**	**+0.4**
LIT	**Litokhoron**	**1.72**	**13**	P	**Pn**	**12 43 05.7**	**+0.6**
LIT	**Litokhoron**	**1.72**	**13**	*e*PN	**Pn**	**12 43 05.6**	**+0.5**
LIT				*e*SN	**Sb**	**12 43 28.9**	**+0.5**
LIT	**Litokhoron**	**1.72**	**13**	*e*Pn	**Pn**	**12 43 05.6**	**+0.5**
LIT				*e*Sn	**Sb**	**12 43 28.9**	**+0.5**
VLI	**Veliai**	**1.86**	**156**	*e*PN	**Pn**	**12 43 07.9**	**+1.0**
VLI				*e*SN	**Sb**	**12 43 32.2**	**-0.1**
VLI	**Veliai**	**1.86**	**156**	*e*Pn	**Pn**	**12 43 07.9**	**+1.0**
VLI				*e*Sn	**Sb**	**12 43 32.2**	**-0.1**
KZN	**Kozani**	**1.89**	**355**	P	**Pb**	**12 43 08.7**	**-1.0**
KZN	**Kozani**	**1.89**	**355**	*e*PN	**Pn**	**12 43 08.3**	**+0.8**
KZN				*e*SN	**Sb**	**12 43 33.4**	**0.0**
KZN	**Kozani**	**1.89**	**355**	*e*Pn	**Pn**	**12 43 08.3**	**+0.8**
KZN	**Kozani**	**1.89**	**355**	P	**Pb**	**12 43 08.7**	**-1.0**
KZN				*e*Sn	**Sb**	**12 43 33.4**	**0.0**
PAIG	**Paliouri**	**1.99**	**41**	*e*PB	**Pn**	**12 43 08.6**	**-0.2**
PAIG	**Paliouri**	**1.99**	**41**	*e*Pb	**Pn**	**12 43 08.6**	**-0.2**
NEST	**Nestorio**	**2.12**	**340**	*e*PN	**Pn**	**12 43 11.9**	**+1.3**
NEST	**Nestorio**	**2.12**	**340**	*e*Pn	**Pn**	**12 43 11.9**	**+1.3**
KEK	**Kerkira**	**2.14**	**308**	*e*PN	**Pn**	**12 43 11.5**	**+0.7**
KEK	**Kerkira**	**2.14**	**308**	*e*Pn	**Pn**	**12 43 11.5**	**+0.7**
PLG	**Polygyros**	**2.25**	**29**	*e*PN	**Pn**	**12 43 12.2**	**-0.2**
PLG	**Polygyros**	**2.25**	**29**	*e*Pn	**Pn**	**12 43 12.2**	**-0.2**
KYTH	**Kithira**	**2.29**	**158**	P	**Pb**	**12 43 15.1**	**-1.4**
KYTH	**Kithira**	**2.29**	**158**	*e*PN	**Pn**	**12 43 14.6**	**+1.7**
KYTH	**Kithira**	**2.29**	**158**	*e*Pn	**Pn**	**12 43 14.6**	**+1.7**
KYTH	**Kithira**	**2.29**	**158**	P	**Pb**	**12 43 15.1**	**-1.4**
THE	**Thessaloniki**	**2.33**	**18**	*e*PN	**Pn**	**12 43 14.6**	**+1.2**
THE	**Thessaloniki**	**2.33**	**18**	*e*Pn	**Pn**	**12 43 14.6**	**+1.2**
HORT	**Hortiatis**	**2.33**	**21**	*e*PB	**Pn**	**12 43 13.7**	**+0.1**
HORT	**Hortiatis**	**2.33**	**21**	*e*Pb	**Pn**	**12 43 13.7**	**+0.1**
FNA	**Florina**	**2.41**	**349**	P	**Pn**	**12 43 16.1**	**+1.6**
FNA	**Florina**	**2.41**	**349**	*e*PN	**Pn**	**12 43 15.9**	**+1.4**
FNA	**Florina**	**2.41**	**349**	*e*Pn	**Pn**	**12 43 15.9**	**+1.4**
OUR	**Ouranopolis**	**2.45**	**38**	*e*PN	**Pn**	**12 43 15.6**	**+0.5**
OUR	**Ouranopolis**	**2.45**	**38**	*e*Pn	**Pn**	**12 43 15.6**	**+0.5**
GRG	**Griva**	**2.55**	**7**	*e*PN	**Pn**	**12 43 16.9**	**+0.4**
GRG	**Griva**	**2.55**	**7**	*e*Pn	**Pn**	**12 43 16.9**	**+0.4**
SOH	**Sokhos**	**2.62**	**23**	*e*PN	**Pn**	**12 43 18.5**	**+1.1**
SOH				*e*SN	**Sn**	**12 43 50.5**	**+1.3**
SOH	**Sokhos**	**2.62**	**23**	*e*Pn	**Pn**	**12 43 18.5**	**+1.1**
SOH				*e*Sn	**Sn**	**12 43 50.5**	**+1.3**
BIA	**Bitola**	**2.65**	**349**	*e*Pn	**Pb**	**12 43 21.9**	**-0.7**
BIA				*i* Sn	**Sb**	**12 43 55.9**	**+0.8**
KNT	**Kendrikon**	**2.82**	**14**	*e*PN	**Pn**	**12 43 21.3**	**+1.1**
KNT				*e*SN	**Sn**	**12 43 55.3**	**+1.1**
KNT	**Kendrikon**	**2.82**	**14**	*e*Pn	**Pn**	**12 43 21.3**	**+1.1**
KNT				*e*Sn	**Sn**	**12 43 55.3**	**+1.1**
LIA	**Limnos Island**	**2.88**	**58**	*e*PN	**Pn**	**12 43 21.3**	**+0.3**
LIA	**Limnos Island**	**2.88**	**58**	*e*Pn	**Pn**	**12 43 21.3**	**+0.3**
VAY	**Valandovo**	**2.93**	**8**	*e*Pn	**Pn**	**12 43 24.2**	**+2.5**
VAY				*i* Sn	**Sn**	**12 43 58.9**	**+2.1**
VAY				*e*Lg	Lg	12 43 59.1	
	comp=N,429nm,2.9s						
VAY				*e*Lg	Lg	12 44 11.0	
	comp=E,537nm,3.4s						
SRS	**Serrai**	**2.96**	**24**	*e*PN	**Pn**	**12 43 22.3**	**+0.2**
SRS	**Serrai**	**2.96**	**24**	*e*Pn	**Pn**	**12 43 22.3**	**+0.2**
APE	**Apeiranthos**	**3.11**	**115**	*e*PN	**Pn**	**12 43 25.1**	**+0.9**
APE	**Apeiranthos**	**3.11**	**115**	*e*Pn	**Pn**	**12 43 25.1**	**+0.9**
CHOS	**Chios island**	**3.19**	**89**	*e*PN	**Pn**	**12 43 26.2**	**+0.9**
CHOS	**Chios island**	**3.19**	**89**	*e*Pn	**Pn**	**12 43 26.2**	**+0.9**
KAVA	**Kavala**	**3.22**	**36**	*e*PN	**Pn**	**12 43 26.8**	**+1.1**
KAVA	**Kavala**	**3.22**	**36**	*e*Pn	**Pn**	**12 43 26.8**	**+1.1**
NVR	**Nevrokopi**	**3.26**	**26**	*e*PN	**Pn**	**12 43 27.4**	**+1.2**
NVR	**Nevrokopi**	**3.26**	**26**	*e*Pn	**Pn**	**12 43 27.4**	**+1.2**
PRK	**Paraskevi**	**3.44**	**75**	*e*PN	**Pn**	**12 43 30.0**	**+1.4**
PRK	**Paraskevi**	**3.44**	**75**	*e*Pn	**Pn**	**12 43 30.0**	**+1.4**
VAM	**Vamos**	**3.49**	**149**	*e*PN	**Pn**	**12 43 30.3**	**+1.0**
VAM	**Vamos**	**3.49**	**149**	*e*Pn	**Pn**	**12 43 30.3**	**+1.0**
SKO	**Skopje**	**3.57**	**353**	*e*Pn	**Pb**	**12 43 37.7**	**-0.6**
SKO				*e*Sn	Sn	12 44 05.5	-7.2
	comp=N,21nm,0.4s						
SKO				*e*Lg	Lg	12 44 06.7	
	comp=N,13nm,0.3s						
SKO				*e*Lg	Lg	12 44 09.7	
	comp=E,90nm,1.9s						
SMG	**Samos**	**3.89**	**99**	*e*PN	**Pn**	**12 43 36.3**	**+1.5**
SMG	**Samos**	**3.89**	**99**	*e*Pn	**Pn**	**12 43 36.3**	**+1.5**
IDI	**Anoyia**	**3.89**	**143**	Pn	**Pn**	**12 43 35.0**	**0.0**
	comp=E,0.3nm,0.3s,baz=354,slow=19,SNR=4.8						
IDI				Sn	**Sn**	**12 44 20.7**	**0.0**
	comp=E,2.2nm,0.3s,baz=214,slow=11,SNR=3.6						
GRUS	**Gruza**	**5.55**	**350**	*e*Pn	**Pn**	**12 43 59.3**	**+1.7**
DIVS	**Divibare**	**5.87**	**346**	*e*Pn	**Pn**	**12 44

MSF	**Maaselka**	**2.57 231**	P	**Pn**	**12 52 06.3 +1.8**
MSF			Sb	**Sb**	**12 52 41.1 +0.4**
RNF	**Rovaniemi**	**3.24 256**	*e*P	**Pn**	**12 52 13.7 -0.1**
RNF	**Rovaniemi**	**3.24 256**	P	**Pn**	**12 52 13.6 -0.1**
KEV	**Kevo**	**3.31 314**	*e*P	**Pn**	**12 52 15.0 +0.3**
KEV			MSG		12 53 04.8
	comp=Z,13nm,0.3s				
KEV	**Kevo**	**3.31 314**	P	**Pn**	**12 52 14.9 +0.3**
ARA0	**ARCESS Array S**	**3.63 306**	Pn	**Pn**	**12 52 18.8 -0.3**
	baz=122,slow=16				
ARA0			Pg	**Pb**	**12 52 27.8 +1.1**
	baz=117,slow=16				
ARA0			Sn	**Sn**	**12 53 01.2 -1.4**
	baz=127,slow=28				
ARA0			Lg	Lg	12 53 13.1
	baz=116,slow=37				
ARA0	**ARCESS Array S**	**3.63 306**	Pn	**Pn**	**12 52 18.8 -0.3**
	baz=122,slow=16				
ARA0			Pg	**Pb**	**12 52 27.8 +1.1**
	baz=117,slow=16				
ARA0			Sn	**Sn**	**12 53 01.2 -1.4**
	baz=127,slow=28				
ARA0			Lg	Lg	12 53 13.1
	baz=116,slow=37				
ARA0	**ARCESS Array S**	**3.63 306**	Pn	**Pn**	**12 52 18.8 -0.3**
	SNR=50				
ARA0	**ARCESS Array S**	**3.63 306**	Pg	**Pb**	**12 52 27.8 +1.1**
	SNR=7.0				
ARA0			Sn	**Sn**	**12 53 01.2 -1.4**
	SNR=50				
ARA0			Lg	Lg	12 53 13.1
	SNR=4.0				
HEF	**Hetta**	**3.93 286**	*e*P	**Pn**	**12 52 23.5 +0.2**
HEF			MSG		12 53 27.4
	comp=Z,4.1nm,0.2s				
HEF	**Hetta**	**3.93 286**	P	**Pn**	**12 52 23.4 +0.2**
FIA0	**FINESS Array S**	**7.04 212**	Pn	**Pn**	**12 53 06.1 +0.2**
	baz=16,slow=14				
FIA0			Sn	**Sn**	**12 54 23.2 -3.4**
	baz=36,slow=28				
FIA0			Lg	Lg	12 54 58.3
	baz=25,slow=28				
FIA0	**FINESS Array S**	**7.04 212**	Pn	**Pn**	**12 53 06.1 +0.2**
	baz=16,slow=14				
FIA0			Sn	**Sn**	**12 54 23.2 -3.4**
	baz=36,slow=28				
FIA0			Lg	Lg	12 54 58.3
	baz=25,slow=28				
FIA0	**FINESS Array S**	**7.04 212**	Pn	**Pn**	**12 53 06.1 +0.2**
	SNR=50				

MAN 22 12:53:38,13°75N×120°75E,h35km,mb4.2,ML3.0,MS2.7, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.31**	**141**↓	*e*P	Pn	12 53 42.9	-3.3
PGP				*i* S	Sn	12 53 45.0	-6.7
LUBP	**Lubang**	**0.49**	**268**	*e*P	Pn	12 53 49.8	+1.3
LUBP				*e*S	Sn	12 53 57.8	+2.0
BOAC	**Boac**	**1.10**	**105**	*e*P	Pn	12 53 56.8	-0.2
SJMP	**San Jose**	**1.33**	**164**	*e*P	Pn	12 54 00.7	+0.6
SJMP				*e*S	Sn	12 54 16.6	+0.1
BUSP	**Coron**	**1.82**	**197**	*e*P	Pn	12 54 07.7	+0.9
OTRP	**Odiongan**	**1.85**	**138**	*e*P	Pn	12 54 09.0	+1.7

*IDC **22** 12:54:14.9±2.5,0.°10N×99.°50E,h66km±6km,mb3.3/5, mb1 3.4/6,mb1mx3.2/52,mbtmp3.6/6,Error ellipse: s-maj=110.9km s-min=15.7km az=57.0*
*DJA **22** 12:54:16.2±0.6,0.°7N±8.°×9.°9E±.°,h77km±10km,M3.5/7, MLv3.5/7*
ISC 22 12:54:14.4±0.9,0.°01N±0.°09×99.°22E±0.°09,h50km,n14, σ2§33/17,mb3.6/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.86**	**24**	P	Pn	12 54 32.7	+2.3
MNSI				S	**Sn**	**12 54 45.1**	**+3.1**
PPI	**Padang Panjang**	**1.26**	**111**	P	Pn	12 54 39.4	+3.7
PDSI	**Padang**	**1.54**	**126**	S	**Sn**	**12 55 01.6**	**+3.2**
BKNI	**Bangkinang**	**1.84**	**80**	P	**Pn**	**12 54 43.6**	**-0.1**
GSI	**Gunungsitoli**	**2.09**	**308**	P	**Pn**	**12 54 48.5**	**+1.4**
PSI	**Prapat**	**2.79**	**354**	P	x	12 54 56.7	
PSI	**Prapat**	**2.79**	**354**	P	**Pn**	**12 54 56.6**	**-0.2**
	5.9nm,0.3s,baz=159,slow=9.2,SNR=24						
KCSI	**Kotacane, Aceh**	**3.78**	**337**	P	**Pn**	**12 55 10.6**	**+0.3**
KCSI				S	**Sn**	**12 55 53.6**	**0.0**
TPTI		**3.82**	**328**	P	**Pn**	**12 55 11.0**	**+0.2**
WRA	**Warramunga Arr**	**39.69**	**122**	P	**P**	**13 01 39.2**	**-3.0**
	0.6nm,0.7s,baz=310,slow=9.0,SNR=6.7						
WRA				sP	**sP**	**13 02 03.6**	**+2.4**
	0.6nm,0.6s,baz=302,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**41.07**	**127**	P	**P**	**13 01 51.0**	**-2.5**
	0.3nm,0.4s,baz=294,slow=7.3,SNR=17						
SONM	**Songino Array**	**48.05**	**6**	P	**P**	**13 02 46.7**	**-2.2**
	0.6nm,0.6s,baz=187,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**48.90**	**345**	P	**P**	**13 02 53.5**	**-1.9**
	0.2nm,0.3s,baz=163,slow=7.2,SNR=5.4						
MKAR				pP	**pP**	**13 03 11.5**	**+2.5**
	0.3nm,0.5s,baz=152,slow=8.4,SNR=3.3						
MKAR				sP	**sP**	**13 03 18.1**	**+3.4**
	0.6nm,0.7s,baz=148,slow=7.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**55.07**	**350**	P	**P**	**13 03 39.2**	**-1.8**
	0.7nm,0.5s,baz=174,slow=4.7,SNR=3.9						
ZALV				pP	**pP**	**13 03 56.6**	**+1.7**
	0.4nm,0.4s,baz=147,slow=2.9,SNR=1.7						

*JSN **22** 12:54:09.2±0.6,20.°41N×72.°67W,h0km±999km,MD5.1*
*IDC **22** 12:54:12.9±0.6,18.°49N×72.°54W,h0km,mb3.9/14, mb1 4.2/15,mb1mx3.9/50,mbtmp3.9/15,ML3.9/1,MS3.4/11, Ms1 3.4/11,ms1mx3.1/46,Error ellipse: s-maj=20.5km s-min=16.6km az=78.0*
*ISCJB **22** 12:54:13.1±0.3,18.°44N±0.°05×72.°44W±0.°03,h13km, mb4.0/22,MS3.6/11,Error ellipse: s-maj=6.6km s-min=3.5km az=178.4*
*NEIC **22** 12:54:14.2±0.3,18.°46N×72.°43W,h10km,mb4.2/9,Error ellipse: s-maj=6.0km s-min=4.4km az=180.0*
NEIC Felt [IV] at Port-au-Prince. Also felt at Delmas and Petionville.
*BJI **22** 12:54:15.7,18.°50N×72.°50W,h10km,Ms7 4.8/2*
ISC 22 12:54:14.8±0.4,18.°44N±0.°05×72.°44W±0.°04,h13km,n80, σ1§44/95,mb4.1/22,MS3.5/11,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.21**	**64**	*e*Pn	**Pn**	**12 54 34.8**	**-2.8**
SDDR				*e*Sg	**Sb**	**12 54 51.7**	**-1.6**
GTBY	**Guantanamo Bay**	**2.93**	**301**	*e*Pn	**Pn**	**12 54 59.1**	**-2.0**
GTBY				*e*Sg	**Sg**	**12 55 45.9**	**-3.0**
GRTK	**Grand Turk**	**3.29**	**22**	*e*Pn	**Pn**	**12 55 05.7**	**-0.4**
YHJ	**Yallahs**	**3.90**	**263**	*i* P	**Pn**	**12 55 16.3**	**+1.9**
YHJ	**Yallahs**	**3.90**	**263**	*i* P	**Pn**	**12 55 16.3**	**+1.9**
GWJ	**Greenwich**	**4.09**	**266**	*i* P	**Pn**	**12 55 17.3**	**0.0**
GWJ				*i* S	**Sn**	**12 56 08.4**	**+3.2**
GWJ	**Greenwich**	**4.09**	**266**	*i* P	**Pn**	**12 55 17.3**	**0.0**
GWJ				*i* S	**Sn**	**12 56 08.4**	**+3.2**
HOJ	**Hope**	**4.12**	**265**	*i* P	**Pn**	**12 55 17.8**	**+0.2**
HOJ	**Hope**	**4.12**	**265**	*i* P	**Pn**	**12 55 17.8**	**+0.2**
STH	**Stony Hill**	**4.17**	**266**	*i* P	**Pn**	**12 55 18.3**	**+0.1**
STH	**Stony Hill**	**4.17**	**266**	*i* P	**Pn**	**12 55 18.3**	**+0.1**
MTDJ	**Mount Denham**	**4.85**	**268**	*e*Pn	**Pn**	**12 55 26.6**	**-1.0**
CRPR	**Cabo Rojo, PR**	**5.08**	**94**	*e*Pn	**Pn**	**12 55 30.7**	**0.0**
	91nm,0.7s						
CRPR				*e*Sn	**Sn**	**12 56 29.3**	**0.0**
LSP	**Las Mesas**	**5.09**	**92**	*e*Pn	**Pn**	**12 55 31.7**	**+0.8**
LSP				*e*Sn	**Sn**	**12 56 31.6**	**+2.1**
LRS	**Lares**	**5.31**	**91**	*e*Pn	**Pn**	**12 55 36.0**	**+2.1**
OBIP	**Obispado Ponce**	**5.55**	**93**	*e*Pn	**Pn**	**12 55 37.4**	**+0.1**
	52nm,0.6s						
CELP	**Cerrillos**	**5.58**	**93**	*e*Pn	**Pn**	**12 55 37.6**	**0.0**
CELP				*e*Sn	Sn	12 56 48.2	+6.6
CBYP	**Canovanas**	**6.25**	**91**	*e*Pn	**Pn**	**12 55 49.6**	**+2.7**
STVI	**Saint Thomas**	**7.11**	**90**	Pn	**Pn**	**12 55 57.4**	**-1.1**
STVI				*e*Sn	**Sn**	**12 57 22.6**	**+3.4**
SDV	**Santo Domingo**	**9.66**	**169**	*e*Pn	**Pn**	**12 56 34.3**	**+0.5**
SDV				*e*Sn	**Sn**	**12 58 17.7**	**-4.6**
MLG	**Mont-d'or**	**10.52**	**101**	*e*P	**Pn**	**12 56 47.0**	**+1.6**
BCIP	**Isla Barro Col**	**11.69**	**219**	*e*Pn	**Pn**	**12 56 60.0**	**-1.4**
JTS	**JuntasAbangare**	**14.58**	**238**	Pn	**Pn**	**12 57 41.9**	**+0.9**
JTS				*e*		12 57 49.6	
JTS	**JuntasAbangare**	**14.58**	**238**	Pn	**Pn**	**12 57 41.5**	**+0.5**
	0.6nm,0.3s,baz=357,slow=19,SNR=2.3						
JTS				LR	LR	13 03 02.8	
	comp=Z,55nm,20.0s,baz=90,slow=36						
OTAV	**Otavalo**	**19.03**	**199**	*e*P	**P**	**12 58 36.2**	**-1.0**
	5.3nm,0.8s						
TKL	**Tuckaleechee C**	**19.87**	**332**	LR	LR	13 06 31.4	
	comp=Z,117nm,19.9s,baz=98,slow=37						
BLA	**Blacksburg**	**19.97**	**341**	*e*P	**P**	**12 58 44.8**	**-2.1**
	20nm,0.8s						
PTGA	**Pitinga**	**22.66**	**146**	P	**P**	**12 59 14.8**	**-1.2**
	9.7nm,1.1s						
PTGA	**Pitinga**	**22.66**	**146**	P	**P**	**12 59 18.6**	**+2.6**
	6.5nm,1.0s,baz=325,slow=16,SNR=6.0						
PTGA				LR	LR	13 07 44.9	
	comp=Z,72nm,20.4s,baz=334,slow=36						
SAML	**Samuel**	**28.71**	**161**	*e*P	**P**	**13 00 11.7**	**-0.3**
	2.8nm,0.9s						
TXAR	**Lajitas Array**	**30.45**	**297**	P	**P**	**13 00 26.3**	**-1.2**
TXAR				PcP	**PcP**	**13 03 27.7**	**+0.8**
TXAR	**Lajitas Array**	**30.45**	**297**	P	**P**	**13 00 26.3**	**-1.2**
	0.7nm,1.1s,baz=111,slow=5.5,SNR=3.8						
TXAR				PcP	**PcP**	**13 03 27.7**	**+0.8**
	0.5nm,0.9s,baz=127,slow=1.9,SNR=3.4						
TXAR				LR	LR	13 13 45.5	
	comp=Z,33nm,19.5s,baz=0.0,slow=39						
SIV	**San Ignacio**	**36.00**	**161**	LR	LR	13 17 04.3	
	comp=Z,55nm,18.7s,baz=343,slow=38						
SMCO	**Snowmass**	**36.33**	**312**	*e*P	**P**	**13 01 18.8**	**-0.1**
	12nm,1.0s						
SCHQ	**Schefferville**	**36.58**	**5**	LR	LR	13 16 40.1	
	comp=Z,64nm,18.3s,baz=177,slow=37						
RSSD	**Black Hills**	**36.83**	**321**	P	**P**	**13 01 24.2**	**+1.3**
	1.1nm,0.7s						
ULM	**Lac du Bonnet**	**36.85**	**335**	LR	LR	13 17 04.0	
	comp=Z,76nm,18.1s,baz=334,slow=37						
PDAR	**Pinedale Array**	**39.63**	**316**	P	**P**	**13 01 46.3**	**-0.3**
PDAR				PcP	**PcP**	**13 03 53.1**	**-0.4**
PDAR	**Pinedale Array**	**39.63**	**316**	P	**P**	**13 01 46.3**	**-0.3**
	0.7nm,0.7s,baz=124,slow=9.3,SNR=6.1						
PDAR				PcP	**PcP**	**13 03 53.1**	**-0.4**
	0.4nm,0.6s,baz=104,slow=3.8,SNR=4.6						
PDAR				LR	LR	13 19 05.2	
	comp=Z,64nm,19.0s,baz=77,slow=38						
LOHW	**Long Hollow**	**40.69**	**316**	*e*P	**P**	**13 01 56.3**	**+0.9**
	8.6nm,1.0s						
REDW	**Red Top Meadow**	**40.75**	**316**	*e*P	**P**	**13 01 56.0**	**+0.2**
	8.8nm,1.0s						
MOOW	**Moose Ponds**	**40.84**	**317**	*e*P	**P**	**13 01 57.2**	**+0.6**
	4.2nm,0.9s						
NVAR	**Mina Array Bea**	**44.46**	**306**	P	**P**	**13 02 26.2**	**+0.2**
NVAR	**Mina Array Bea**	**44.46**	**306**	P	**P**	**13 02 26.2**	**+0.2**
	0.8nm,0.7s,baz=96,slow=6.6,SNR=5.1						
FRB	**Frobisher Bay**	**45.34**	**2**	P	**P**	**13 02 32.1**	**-0.2**
FRB	**Frobisher Bay**	**45.34**	**2**	P	**P**	**13 02 32.1**	**-0.2**
	3.7nm,0.9s,baz=179,slow=10,SNR=4.5						
CPUP	**Vila Florida**	**46.86**	**161**	LR	LR	13 22 22.5	
	comp=Z,48nm,19.0s,baz=324,slow=36						
CFAA	**Coronel Fontan**	**49.92**	**175**	P	**P**	**13 03 08.8**	**+0.4**
CFAA	**Coronel Fontan**	**49.92**	**175**	P	**P**	**13 03 08.8**	**+0.4**
	0.2nm,0.5s,baz=330,slow=7.6,SNR=3.8						
YKA	**Yellowknife Ar**	**52.76**	**337**	P	**P**	**13 03 28.8**	**-0.4**
YKA	**Yellowknife Ar**	**52.76**	**337**	P	**P**	**13 03 28.8**	**-0.4**
	1.0nm,0.8s,baz=122,slow=7.2,SNR=18						
SUMG	**Summit**	**57.52**	**12**	*i* P	**P**	**13 04 03.9**	**-0.1**
	5.7nm,1.0s						
PLCA	**Paso Flores**	**58.90**	**178**	P	**P**	**13 04 13.4**	**-0.1**
PLCA	**Paso Flores**	**58.90**	**178**	P	**P**	**13 04 13.4**	**-0.1**
	1.3nm,0.7s,baz=352,slow=8.8,SNR=5.6						
ESDC	**Sonseca Array**	**62.05**	**54**	P	**P**	**13 04 35.6**	**+0.3**
ESDC	**Sonseca Array**	**62.05**	**54**	P	**P**	**13 04 35.6**	**+0.3**
	0.7nm,0.5s,baz=276,slow=7.0,SNR=4.9						
DAG	**Danmarks Havn**	**64.20**	**12**	*i* P	**P**	**13 04 48.4**	**-0.5**
	2.5nm,0.9s						
ILAR	**Eielson Array**	**66.85**	**333**	P	**P**	**13 05 05.5**	**-0.7**
ILAR	**Eielson Array**	**66.85**	**333**	P	**P**	**13 05 05.5**	**-0.7**
	1.2nm,1.2s,baz=118,slow=3.7,SNR=5.9						
SPITS	**Spitsbergen Ar**	**71.83**	**13**	LR	LR	13 36 01.2	
	comp=Z,35nm,20.7s,baz=210,slow=35						
GERES	**GERESS Array B**	**73.84**	**43**	P	**P**	**13 05 49.9**	**+0.5**
GERES	**GERESS Array B**	**73.84**	**43**	P	**P**	**13 05 49.9**	**+0.5**
	1.1nm,0.8s,baz=261,slow=3.8,SNR=7.0						
GERES				LR	LR	13 32 32.7	
	comp=Z,37nm,21.9s,baz=290,slow=31						
ARCES	**ARCESS Array B**	**75.63**	**21**	P	**P**	**13 05 60.0**	**+0.7**
ARCES	**ARCESS Array B**	**75.63**	**21**	P	**P**	**13 05 60.0**	**+0.7**
	2.6nm,0.8s,baz=325,slow=7.4,SNR=3.6						
FINES	**FINESS Array B**	**77.98**	**29**	P	**P**	**13 06 12.6**	**-0.1**
FINES	**FINESS Array B**	**77.98**	**29**	P	**P**	**13 06 12.6**	**-0.1**
	1.9nm,0.8s,baz=241,slow=14,SNR=2.5						
MLR	**Muntele Rosu**	**82.75**	**45**	P	**P**	**13 06 39.8**	**+1.0**
MLR	**Muntele Rosu**	**82.75**	**45**	P	**P**	**13 06 39.8**	**+1.0**
	0.6nm,0.7s,baz=274,slow=4.0,SNR=3.2						
KSH	**Kashi**	**115.23**	**27**	*e*PKP	**PKPdf**	**13 13 00.3**	**+3.7**
KSH				*e*PP	PP	13 14 08.0	+12
KSH				*e*SKS	**SKSdf**	**13 20 07.3**	**-1.5**
KSH				SKKS	**SKKSac**	**13 20 57.3**	**-1.1**
WMQ	**Urumqi**	**115.42**	**16**	PKP	**PKPdf**	**13 12 57.6**	**+0.9**
HHC	**Hu-ho-hao-te**	**120.90**	**356**	*e*PKP	**PKPdf**	**13 13 08.3**	**+0.9**
HHC				PP	PP	13 14 40.4	+5.7
HHC				SKS	**SKSdf**	**13 20 20.9**	**+1.4**
HHC				SKKS	**SKKSac**	**13 21 32.3**	**-3.5**
HHC				SS	**SS**	**13 31 07.8**	**+2.8**
HHC				LR	LR		
	comp=Z,290nm,20.9s						
LZH	**Lanzhou**	**125.66**	**4**	*e*PKP	**PKPdf**	**13 13 17.3**	**+0.5**
LZH				sPKP		13 13 22.0	
LZH				LR	LR		
	comp=Z,160nm,20.0s						
CMAR	**Chiang Mai Ar**	**142.37**	**13**	PKP	**PKPdf**	**13 13 47.9**	**-0.3**
CMAR	**Chiang Mai Ar**	**142.37**	**13**	PKP	**PKPdf**	**13 13 47.9**	**-0.3**
	0.3nm,0.6s,baz=295,slow=4.3,SNR=4.6						
STKA	**Stephens Creek**	**146.57**	**240**	PKPbc	**PKPbc**	**13 13 56.4**	**-0.2**
STKA	**Stephens Creek**	**146.57**	**240**	PKPbc	**PKPbc**	**13 13 56.4**	**-0.2**
	1.8nm,0.8s,baz=343,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**154.68**	**262**	PKP	**PKPdf**	**13 14 08.2**	**+0.2**
WRA				PKPbc	**PKPbc**	**13 14 14.9**	**-1.6**
WRA	**Warramunga Arr**	**154.68**	**262**	PKP	**PKPdf**	**13 14 08.2**	**+0.2**
	0.9nm,0.9s,baz=182,slow=8.7,SNR=4.7						
WRA				PKPbc	**PKPbc**	**13 14 14.9**	**-1.6**
	0.7nm,0.7s,baz=86,slow=2.3,SNR=7.5						
ASAR	**Alice Springs**	**154.89**	**253**	PKPbc	**PKPbc**	**13 14 15.2**	**-1.7**
ASAR				PKPab	**PKPab**	**13 14 32.4**	**+0.2**
ASAR	**Alice Springs**	**154.89**	**253**	PKPbc	**PKPbc**	**13 14 15.2**	**-1.7**
	0.7nm,0.7s,baz=100,slow=2.0,SNR=9.3						
ASAR				PKPab	**PKPab**	**13 14 32.4**	**+0.2**
	1.3nm,0.8s,baz=110,slow=3.8,SNR=8.7						

*ISCJB **22** 13:13:12.1±0.6,6.°85N±0.°06×73.°05W±0.°07,h166km, mb3.4/4,Error ellipse: s-maj=12.1km s-min=6.3km az=39.0*
*IDC **22** 13:13:12.2±2.1,6.°74N×72.°92W,h156km±21km,mb3.2/4, mb1 3.4/5,mb1mx3.1/43,mbtmp3.7/5,Error ellipse: s-maj=27.7km s-min=22.3km az=31.0*
*FUNV **22** 13:13:15.7,6.°88N×72.°98W,h164km,MW3.6*
ISC 22 13:13:13.1±0.7,6.°85N±0.°07×73.°02W±0.°08,h166km,n23, σ1§11/28,mb3.4/4,3C-10D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**35**↓	*i*P	**Pn**	**13 13 42.7**	**+1.1**
CAPV				*e*S	**Sn**	**13 14 03.5**	**-0.1**
ROSC	**El Rosal**	**2.37**	**214**	P	**Pn**	**13 13 53.4**	**-0.5**
	38nm,0.3s,baz=267,slow=23,SNR=21						
ROSC				S	**Sn**	**13 14 23.1**	**-2.4**
	44nm,0.3s,baz=101,slow=18,SNR=14						
SOCV	**Socops**	**2.57**	**56**↓	*i*P	**Pn**	**13 13 56.7**	**+0.8**
SOCV				*e*S	**Sn**	**13 14 26.7**	**-2.5**
ELOV	**Elorza**	**3.51**	**87**↓	*i*P	**Pn**	**13 14 08.8**	**+1.2**
VIRV	**Villa del Rosa**	**3.68**	**9**↓	*i*P	**Pn**	**13 14 09.5**	**-0.2**
VIRV				*e*S	**Sn**	**13 14 51.4**	**-2.5**
SANV	**Sanarito**	**4.34**	**52**↓	*i*P	**Pn**	**13 14 18.9**	**+0.6**
CURV	**Curarigua**	**4.36**	**44**↓	*i*P	**Pn**	**13 14 19.3**	**+0.7**
TEPV	**Terepaima**	**4.89**	**50**↓	*i*P	**Pn**	**13 14 26.1**	**+0.7**
SIQV	**Siquisique**	**4.93**	**40**↓	*e*P	**Pn**	**13 14 26.4**	**+0.4**
BAUV	**El Baul**	**5.35**	**67**↓	*i*P	**Pn**	**13 14 30.7**	**-0.7**
MAPV	**Macapo**	**5.40**	**56**↓	*i*P	**Pn**	**13 14 32.5**	**+0.4**
MONV	**Montecano**	**5.90**	**30**↑	*i*P	**Pn**	**13 14 38.6**	**0.0**
TURV	**Turiamo**	**6.24**	**55**↑	*e*P	**Pn**	**13 14 43.7**	**+0.5**
CUPV	**Cœpira**	**7.83**	**65**↑	*i*P	**Pn**	**13 15 04.0**	**-0.3**
TXAR	**Lajitas Array**	**36.52**	**312**	P	**P**	**13 20 04.3**	**+1.5**
	0.2nm,0.6s,baz=128,slow=12,SNR=2.8						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**13 23 24.4**	**+0.6**
	0.3nm,0.5s,baz=134,slow=6.7,SNR=11						
DBIC	**Dimbokro**	**67.63**	**86**	P	**P**	**13 23 52.7**	**0.0**
	2.0nm,0.7s,baz=238,slow=9.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**73.63**	**78**	P	**P**	**13 24 28.7**	**-0.3**
	0.2nm,0.3s,baz=285,slow=7.0,SNR=8.3						
MKAR	**Makanchi Array**	**122.26**	**20**	PKP	**PKPdf**	**13 31 47.4**	**-1.2**
	0.3nm,0.5s,baz=279,slow=2.8,SNR=7.7						
SONM	**Songino Array**	**125.55**	**0**	PKP	**PKPdf**	**13 31 55.8**	**+0.8**
	0.2nm,0.5s,baz=289,slow=1.0,SNR=2.3						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**13 32 43.0**	**0.0**
	0.4nm,0.5s,baz=119,slow=3.7,SNR=16						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**13 32 46.0**	**+0.1**
	0.4nm,0.4s,baz=108,slow=2.7,SNR=16						
WRA				pPKPbc	**pPKPbc**	**13 33 28.5**	**-0.9**
	0.3nm,0.4s,baz=106,slow=2.7,SNR=6.8						
CMAR	**Chiang Mai Arr**	**153.63**	**17**	PKPbc	**PKPbc**	**13 32 54.0**	**+0.8**
	0.7nm,0.5s,baz=308,slow=3.8,SNR=4.3						

*CSEM **22** 13:19:42.7±1.3,35.°28N×42.°28E,h100km,ML3.8,Error ellipse: s-maj=32.2km s-min=17.0km az=164.0*
*DDA **22** 13:19:45.0,35.°85N×42.°23E,h5km,MD3.2*
ISC 22 13:19:45.1±1.7,35.°82N±0.°08×42.°21E±0.°04,h10km,n13, σ1§22/24,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**1.27**	**271**	*e*P	**Pb**	**13 20 09.2**	**+0.1**
	SNR=149						
MZRK				*e*S	**Sg**	**13 20 27.5**	**+1.5**
	2µm,0.2s,SNR=149						
SIRN	**S˜−rnak**	**1.69**	**5**	*i* P	**Pg**	**13 20 17.0**	**-0.5**
SIRN				*i* S	**Sg**	**13 20 39.9**	**+0.5**
SIRN	**S˜−rnak**	**1.69**	**5**	*i* P	**Pg**	**13 20 17.0**	**-0.5**
SIRN				*i* S	**Sg**	**13 20 39.9**	**+0.5**
KBSD	**Kabsdagh**	**1.79**	**312**	*e*P	**Pb**	**13 20 17.2**	**-0.9**
	SNR=128						
KBSD				*e*S	**Sg**	**13 20 43.6**	**+0.8**
	1µm,0.2s,SNR=128						
SFNV	**Sufian**	**1.80**	**290**	*e*P	**Pn**	**13 20 15.7**	**-0.7**
	SNR=132						
SFNV				*e*S	**Sn**	**13 20 38.8**	**-0.6**
	2µm,0.1s,SNR=132						
MARD	**Mardin**	**1.89**	**323**	*e*P	**Pb**	**13 20 20.3**	**+0.4**
MARD				*i* S	**Sg**	**13 20 46.9**	**+1.0**
HAKT	**HAKKARI**	**2.11**	**34**	*i* P	**Pb**	**13 20 22.8**	**-0.9**
HAKT				*i* S	**Sg**	**13 20 54.8**	**+1.7**
HAKT	**HAKKARI**	**2.11**	**34**	*i* P	**Pb**	**13 20 22.8**	**-0.9**
HAKT				*i* S	**Sg**	**13 20 54.8**	**+1.7**
MAZI	**Mazidag**	**2.17**	**320**	*e*PG	**Pb**	**13 20 25.4**	**+0.8**
MAZI				*e*SG	**Sg**	**13 20 54.0**	**-0.9**
MAZI	**Mazidag**	**2.17**	**320**	*e*Pg	**Pb**	**13 20 25.4**	**+0.8**
MAZI				*e*Sg	**Sg**	**13 20 54.0**	**-0.9**
BEST	**Besiri**	**2.21**	**340**	*e*P	**Pg**	**13 20 29.2**	**+1.8**
BEST				*i* S	**Sg**	**13 20 58.2**	**+2.2**
DIYA	**Diyarbakir**	**2.69**	**322**	*e*P	Pg	13 20 43.1	+6.4
DIYA				*i* S	**Sg**	**13 21 09.8**	**-1.8**
DIYA	**Diyarbakir**	**2.69**	**322**	*e*P	Pg	13 20 43.1	+6.4
DIYA				*i* S	**Sg**	**13 21 09.8**	**-1.8**

MAN 22 13:34:31,18°28N×122°00E,h40km,mb4.1,ML2.9,MS2.7, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.06**	**127**	*e*P	Pn	13 34 39.1	+1.6
SGCP				*e*S	Sn	13 34 44.3	+2.4
CVP	**Callao Caves**	**0.59**	**197**	*e*P	Pn	13 34 46.4	+3.4
CVP				*i* S	Sn	13 34 56.1	+4.6
APYP	**Conner**	**0.83**	**240**	*e*P	Pn	13 34 52.8	+6.6
APYP				*e*S	Sn	13 35 09.0	+12
PALP	**Palanan**	**1.27**	**161**↓	*i*P	Pn	13 34 53.5	+1.2
PALP				*e*S	Sn	13 35 10.5	+2.3
CAUP	**Cauayan**	**1.33**	**187**	*e*P	Pn	13 34 57.8	+4.6
ABRA	**Dolores**	**1.38**	**243**	*e*P	Pn	13 35 01.3	+7.6
SIPP	**Brgy, Tapao**

*JMA **22** 13:52:42.9±0.2,24°.22N×125°.19E, h18km±5km, M3.7*
*IDC **22** 13:52:44.1±0.8,24°.17N×124°.98E, h36km±6km, mb3.5/9, mb1 3.7/10, mb1mx3.6/33, mbtmp3.7/10, ML3.3/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=22.4km s-min=15.8km az=76.0*
ISC 22 13:52:43.8±0.8, 24°.30N±0°.07×125°.20E±0°.05, h34km±2km, n28, σ1°00/34, mb3.6/9, MS3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.49**	**23**	P	**Pb**	**13 52 54.2**	**-0.2**
JOGS				eS	**Sn**	**13 53 02.4**	**+0.6**
JMJ	**Miyako jima 2**	**0.52**	**10**	P	**Pb**	**13 52 54.4**	**-0.3**
JMJ				eS	**Sn**	**13 53 02.8**	**+0.4**
JTJ	**Tarama**	**0.56**	**307**	P	**Pn**	**13 52 54.7**	**-0.7**
JTJ				eS	**Sn**	**13 53 02.8**	**-0.7**
JIJ	**Ishigaki jima**	**0.96**	**274**	P	**Pn**	**13 53 00.5**	**-0.5**
JIJ				eS	**Sn**	**13 53 13.4**	**-0.1**
JKRS	**Kuro-shima**	**1.09**	**267**	P	**Pn**	**13 53 03.3**	**+0.6**
JKRS				eS	**Sb**	**13 53 18.1**	**0.0**
HATJ	**Hateruma jima**	**1.30**	**259**	P	**Pn**	**13 53 05.7**	**+0.2**
HATJ				eS	**Sn**	**13 53 22.4**	**+0.7**
IRIF	**Iriomote-Funau**	**1.34**	**272**	P	**Pn**	**13 53 06.5**	**+0.4**
YOJ	**Yonaguni jima**	**2.00**	**275**	P	**Pn**	**13 53 16.6**	**+1.4**
JKE	**Kume jima 2**	**2.47**	**35**	P	**Pn**	**13 53 21.7**	**0.0**
JIH	**Iheya**	**3.69**	**42**	P	**Pn**	**13 53 38.5**	**0.0**
JOW	**Kunigami**	**3.75**	**47**	P	**Pn**	**13 53 40.3**	**+1.0**
JTK	**Tokunoshima**	**4.84**	**43**	P	**Pn**	**13 53 52.8**	**-1.5**
JAMN	**Amaminishikomi**	**5.30**	**41**	P	**Pn**	**13 54 00.4**	**-0.2**
JMZ	**Minamidaito 2**	**5.67**	**73**	P	Pn	13 54 02.1	-3.5
JAM	**Amami Oshima**	**5.69**	**43**	P	**Pn**	**13 54 04.7**	**-1.2**
KSRS	**Korea Array** comp=Z,48nm,20.0s,baz=260,slow=41	**13.31**	**9**	LR	LR	14 01 51.3	
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=228,slow=13,SNR=3.7	**16.55**	**40**	Pn	**P**	**13 56 36.7**	**+1.1**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=58,slow=6.8,SNR=3.9	**25.11**	**262**	P	**P**	**13 58 04.3**	**-1.3**
CMAR				pP	**pP**	**13 58 14.6**	**-0.8**
CMAR	1.0nm,0.6s,baz=64,slow=8.2,SNR=3.7			LR	LR	14 09 09.9	
SONM	**Songino Array** 0.3nm,0.4s,baz=148,slow=10,SNR=4.4 comp=Z,31nm,18.4s,baz=320,slow=40	**27.83**	**332**	P	**P**	**13 58 30.0**	**0.0**
SONM				LR	LR	14 10 06.7	
MKAR	**Makanchi Array** 1.5nm,0.4s,baz=90,slow=8.6,SNR=50	**40.84**	**314**	P	**P**	**14 00 21.7**	**-0.6**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=120,slow=7.9,SNR=5.6	**42.19**	**325**	P	**P**	**14 00 31.3**	**-1.8**
ZALV	comp=Z,36nm,18.4s,baz=61,slow=39			LR	LR	14 19 54.1	
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=348,slow=8.9,SNR=9.6	**44.87**	**168**	P	**P**	**14 00 53.3**	**-1.8**
WRA				pP	**pP**	**14 01 04.5**	**-0.8**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=356,slow=7.8,SNR=7.0 1.0nm,0.8s,baz=348,slow=8.8,SNR=4.2	**48.43**	**169**	P	**P**	**14 01 22.8**	**-0.2**
STKA	**Stephens Creek** comp=Z,51nm,21.0s,baz=25,slow=36	**58.02**	**164**	LR	LR	14 27 13.5	
ILAR	**Eielson Array** 0.6nm,1.1s,baz=264,slow=5.8,SNR=6.2	**67.42**	**28**	P	**P**	**14 03 38.0**	**+2.3**
FINES	**FINESS Array B** 2.1nm,0.6s,baz=59,slow=5.1,SNR=13	**73.18**	**330**	P	**P**	**14 04 11.1**	**+0.3**
FINES	0.6nm,0.4s,baz=35,slow=5.1,SNR=1.8			pP	**pP**	**14 04 21.9**	**+0.4**
BRTR	**Keskin Array B** 1.5nm,0.9s,baz=96,slow=4.5,SNR=4.5	**76.03**	**307**	pP	pP	14 04 37.8	-0.9
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=308,slow=4.8,SNR=6.3	**81.41**	**24**	P	**P**	**14 04 57.5**	**+0.5**
YKA	0.5nm,0.7s,baz=308,slow=5.4,SNR=7.1			pP	**pP**	**14 05 09.6**	**+1.9**

*ISCJB **22** 14:09:17.2±0.6,50°.35N±0°.04×18°.77E±0°.03, h0km, Error ellipse: s-maj=6.6km s-min=2.6km az=15.3*
*CSEM **22** 14:09:17.9±0.4,50°.35N×18°.83E, h2km, Error ellipse: s-maj=8.7km s-min=4.0km az=15.0*
*IDC **22** 14:09:18.9±1.8,50°.36N×18°.77E, h0km, mb1 3.5/3, mb1mx3.1/41, mbtmp3.3/3, ML2.8/2, Error ellipse: s-maj=36.5km s-min=10.9km az=132.0*
*PRU **22** 14:09:19.9,50°.29N×18°.76E, h0km*
ISC 22 14:09:17.5±0.8, 50°.34N±0°.04×18°.85E±0°.02, h0km, n32, σ1°23/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.10**	**115**	*e*Pg	**Pg**	**14 09 20.2**	**+0.7**
CHZP				*e*Sg	**Sg**	**14 09 22.0**	**+1.2**
OKC	**Ostrava-Krasne**	**0.67**	**222**	*e*P[G]	**Pg**	**14 09 31.0**	**+0.7**
OKC				*e*SG	**Sg**	**14 09 39.1**	**+0.1**
	comp=Z,33nm,0.5s						
OKC	**Ostrava-Krasne**	**0.67**	**222**	Pg	**Pg**	**14 09 31.0**	**+0.7**
OKC				Sg	**Sg**	**14 09 39.1**	**+0.1**
	33nm,0.5s						
MORC	**Moravsky Berou**	**1.01**	**237**	*e*Pg	**Pb**	**14 09 37.9**	**0.0**
MORC				*e*Sg	**Sb**	**14 09 52.1**	**+0.4**
NIE	**Niedzica**	**1.32**	**133**	*e*Pg	**Pn**	**14 09 43.6**	**+0.4**
NIE				*e*Sg	**Sg**	**14 10 00.2**	**+0.3**
NIE	**Niedzica**	**1.32**	**133**	*e*Pg	**Pn**	**14 09 43.6**	**+0.4**
NIE				*e*Sg	**Sg**	**14 10 00.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.62**	**272**	*e*P[G]	**Pn**	**14 09 47.5**	**+0.2**
DPC				*e*SG	**Sb**	**14 10 09.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.62**	**272**	Pg	**Pn**	**14 09 47.5**	**+0.2**
DPC				Sg	**Sb**	**14 10 09.7**	**+0.5**
KSP	**Ksiaz**	**1.71**	**288**	*e*Pg	**Pb**	**14 09 50.0**	**+0.3**
KSP				*e*Sg	**Sg**	**14 10 12.8**	**+0.6**
KSP	**Ksiaz**	**1.71**	**288**	*e*Pg	**Pb**	**14 09 50.0**	**+0.3**
KSP				*e*Sg	**Sg**	**14 10 12.8**	**+0.6**
VRAC	**Vranov** 2.4nm,0.3s,baz=58,slow=14,SNR=13	**1.78**	**236**	Pn	**Pn**	**14 09 50.2**	**+0.6**
VRAC	2.7nm,0.3s,baz=140,slow=22,SNR=11			Lg	Lg	14 10 15.5	
VRAC	**Vranov**	**1.78**	**236**	*e*Pn	**Pn**	**14 09 50.2**	**+0.6**
VRAC				*e*Sg	**Sg**	**14 10 15.2**	**+0.4**
STHS	**Stebnicka Huta**	**1.80**	**120**	*e*PN	**Pb**	**14 09 51.3**	**-0.1**
STHS				*e*SN	**Sg**	**14 10 17.0**	**+1.6**
STHS	**Stebnicka Huta**	**1.80**	**120**	*e*Pn	**Pb**	**14 09 51.3**	**-0.1**
STHS				*e*Sn	**Sg**	**14 10 17.0**	**+1.6**
KECS	**Kecovo**	**2.14**	**149**	*e*PN	**Pn**	**14 09 54.2**	**-0.3**
KECS				*e*SN	**Sn**	**14 10 20.2**	**-1.5**
KECS	**Kecovo**	**2.14**	**149**	*e*Pn	**Pn**	**14 09 54.2**	**-0.3**
KECS				*e*Sn	**Sn**	**14 10 20.2**	**-1.5**
CRVS	**Cervenica-Dubn**	**2.23**	**129**	*e*PN	**Pb**	**14 09 59.4**	**+0.8**
CRVS				*e*SN	**Sb**	**14 10 26.5**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.23**	**129**	*e*Pn	**Pb**	**14 09 59.4**	**+0.8**
TREC	**Trest** comp=Z,12nm,0.4s	**2.41**	**246**	*e*SG	**Sb**	**14 10 33.3**	**+1.3**
TREC	**Trest** 12nm,0.4s	**2.41**	**246**	Sg	**Sb**	**14 10 33.3**	**+1.3**
KOLS	**Kolonicke sedl**	**2.63**	**121**	*e*	**Pg**	**14 10 10.1**	**+2.2**
KOLS	**Kolonicke sedl**	**2.63**	**121**	*e*SN	**Sn**	**14 10 31.4**	**-2.5**
KOLS	**Kolonicke sedl**	**2.63**	**121**	*e*Sn	**Sn**	**14 10 31.4**	**-2.5**
PRU	**Pruhonice** comp=Z,7.3nm,0.6s	**2.79**	**265**	*e*SG	**Sg**	**14 10 46.9**	**-0.2**
PRU	**Pruhonice** 7.3nm,0.6s	**2.79**	**265**	Sg	**Sg**	**14 10 46.9**	**-0.2**
BRG	**Berggiesshubel**	**3.17**	**282**	PG	**Pg**	**14 10 18.5**	**+0.3**
BRG				SG	**Sg**	**14 11 01.4**	**+2.1**
	7.2nm,0.7s						
KHC	**Kasperske Hory**	**3.62**	**253**	*e*PN	**Pn**	**14 10 15.5**	**+0.6**
KHC				*e*SG	**Sg**	**14 11 11.2**	**-2.6**
	comp=Z,7.8nm,0.5s						
KHC	**Kasperske Hory**	**3.62**	**253**	Pn	**Pn**	**14 10 15.5**	**+0.6**
GERES	**GERESS Array B** baz=64,slow=11,SNR=2.9	**3.66**	**248**	Pn	**Pn**	**14 10 15.3**	**-0.2**
GERES	0.5nm,0.3s,baz=62,slow=16,SNR=10			Pg	**Pb**	**14 10 24.9**	**+1.8**
GERES	2.0nm,0.3s,baz=60,slow=28,SNR=12			Lg	Lg	14 11 14.9	
CLL	**Colln**	**3.83**	**287**	*e*Sg	**Sg**	**14 11 23.0**	**+2.5**
FINES	**FINESS Array B** 0.1nm,0.3s,baz=199,slow=12,SNR=4.0	**11.84**	**17**	Pn	Pn	14 12 04.0	-3.4
ARCES	**ARCESS Array B** 0.1nm,0.3s,baz=184,slow=11,SNR=2.9	**19.52**	**7**	Pn	**P**	**14 13 42.7**	**-3.4**

*IDC **22** 14:09:51.4±1.5, 12°.35S×166°.17E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/30, mbtmp3.8/8, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=45.6km s-min=24.3km az=123.0*
*ISCJB **22** 14:09:55.4±1.2, 12°.5S±0°.1×166°.1E±0°.2, h40km, mb3.7/6, Error ellipse: s-maj=27.0km s-min=18.3km az=5.0*
ISC 22 14:09:57.1±1.3, 12°.4S±0°.1×166°.2E±0°.2, h40km, n9, σ1°00/8, mb3.8/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.60**	**179**	Pn	**Pn**	**14 12 12.9**	**+0.1**
	0.4nm,0.3s,baz=177,slow=18,SNR=5.9						
DZM				Sn	Sn	14 14 10.1	+11
	0.2nm,0.3s,baz=128,slow=19,SNR=1.7						
PMG	**Port Moresby** comp=Z,69nm,18.2s,baz=152,slow=36	**18.91**	**277**	LR	LR	14 21 17.2	
CTA	**Charters Tower** 4.3nm,0.7s,baz=48,slow=18,SNR=3.4	**20.58**	**246**	P	**P**	**14 14 32.5**	**-0.2**
STKA	**Stephens Creek** 2.6nm,0.7s,baz=47,slow=9.9,SNR=7.5	**29.76**	**225**	P	**P**	**14 16 00.4**	**+0.4**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=84,slow=8.0,SNR=6.2	**31.44**	**252**	P	**P**	**14 16 14.1**	**-0.9**
ASAR	**Alice Springs** 0.5nm,0.6s,baz=69,slow=9.6,SNR=12	**32.58**	**245**	P	**P**	**14 16 24.6**	**-0.4**
CMAR	**Chiang Mai Arr** 0.5nm,0.5s,baz=133,slow=4.3,SNR=6.2	**73.05**	**294**	P	**P**	**14 21 25.3**	**+1.7**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=244,slow=4.9,SNR=18	**84.68**	**18**	P	**P**	**14 22 26.2**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=64,slow=5.8,SNR=5.0	**94.81**	**317**	P	**P**	**14 23 13.8**	**-0.9**

*ISCJB **22** 14:13:15.4±0.8, 40°.02N±0°.08×29°.6W±0°.1, h11km, mb3.6/3, MS3.4/11, Error ellipse: s-maj=17.5km s-min=6.9km az=142.3*
*IDC **22** 14:13:15.4±1.3, 39°.68N×29°.91W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.3/47, mbtmp3.5/3, ML4.3/1, MS3.4/12, Ms1 3.4/12, ms1mx3.1/43, Error ellipse: s-maj=77.3km s-min=23.8km az=19.0*
*CSEM **22** 14:13:18.7, 40°.24N×29°.57W, h5km, ML3.7, After PDA*
*PDA **22** 14:13:18.7±1.1, 40°.24N×29°.57W, h5km, ML3.7, Error ellipse: s-maj=16.4km s-min=6.7km az=78.0*
ISC 22 14:13:17.4±1.4, 40°.0N±0°.1×29°.5W±0°.1, h11km, n28, σ0°73/29, mb3.8/3, MS3.3/11, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.53**	**129**	*e*P	**Pn**	**14 13 44.0**	**-0.7**
PGRA				*e*S	**Sn**	**14 14 04.0**	**-0.7**
PGRA				A	A	14 14 07.6	
	139nm,0.2s						
PGRA	**Graciosa**	**1.53**	**129**	*e*P	**Pn**	**14 13 44.0**	**-0.7**
PGRA				*e*S	**Sn**	**14 14 04.0**	**-0.7**
CALA	**Caldeira**	**1.56**	**156**	*e*S	**Sn**	**14 14 05.6**	**+0.1**
CALA	**Caldeira**	**1.56**	**156**	*e*S	**Sn**	**14 14 05.6**	**+0.1**
ROSA	**Rosais**	**1.62**	**143**	*e*P	**Pn**	**14 13 45.8**	**-0.2**
ROSA				*e*S	**Sn**	**14 14 05.8**	**-1.0**
ROSA				A	A	14 14 12.3	
	105nm,0.5s						
ROSA	**Rosais**	**1.62**	**143**	*e*P	**Pn**	**14 13 45.8**	**-0.2**
ROSA				*e*S	**Sn**	**14 14 05.8**	**-1.0**
PICO	**Pico**	**1.73**	**151**	*e*P	**Pn**	**14 13 47.6**	**+0.1**
PICO				*e*S	**Sn**	**14 14 09.9**	**+0.3**
PICO	**Pico**	**1.73**	**151**	*e*P	**Pn**	**14 13 47.6**	**+0.1**
PICO				*e*S	**Sn**	**14 14 09.9**	**+0.3**
PCAN	**Candelaria**	**1.74**	**153**	*e*P	**Pn**	**14 13 47.8**	**+0.2**
PCAN				*e*S	**Sn**	**14 14 09.3**	**-0.5**
PCAN				A	A	14 14 11.6	
	373nm,0.3s						
PCAN	**Candelaria**	**1.74**	**153**	*e*P	**Pn**	**14 13 47.8**	**+0.2**
PCAN				*e*S	**Sn**	**14 14 09.3**	**-0.5**
PMAN	**Manadas**	**1.76**	**141**	*e*P	**Pn**	**14 13 48.4**	**+0.5**
PMAN				*e*S	**Sn**	**14 14 09.8**	**-0.5**
PMAN				A	A	14 14 12.0	
	97nm,0.1s						
PMAN	**Manadas**	**1.76**	**141**	*e*P	**Pn**	**14 13 48.4**	**+0.5**
PMAN				*e*S	**Sn**	**14 14 09.8**	**-0.5**
ADH	**Angra Heroismo**	**2.22**	**127**	*e*P	**Pn**	**14 13 53.6**	**-0.6**
ADH	**Angra Heroismo**	**2.22**	**127**	*e*P	**Pn**	**14 13 53.6**	**-0.6**
PSET	**Sete Cidades**	**3.67**	**125**	*e*P	**Pn**	**14 14 14.3**	**+0.1**
PSET	**Sete Cidades**	**3.67**	**125**	*e*P	**Pn**	**14 14 14.3**	**+0.1**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=269,slow=12,SNR=3.3	**19.60**	**83**	P	**Pn**	**14 17 49.5**	**+2.5**
ESDC	comp=Z,82nm,20.3s,baz=270,slow=32			LR	LR	14 24 03.1	
MDT	**Midelt** comp=Z,82nm,18.5s,baz=321,slow=32	**21.24**	**102**	LR	LR	14 24 43.1	
BBTS	**Babate** comp=Z,59nm,19.1s,baz=345,slow=31	**27.70**	**152**	LR	LR	14 27 38.0	
GERES	**GERESS Array B** comp=Z,31nm,18.6s,baz=285,slow=34	**31.72**	**59**	LR	LR	14 31 39.6	
HFS	**Hagfors** comp=Z,32nm,19.4s,baz=274,slow=32	**33.42**	**38**	LR	LR	14 31 18.6	
VRAC	**Vranov** comp=Z,32nm,18.5s,baz=273,slow=33	**33.61**	**58**	LR	LR	14 32 13.1	
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=317,slow=8.7,SNR=3.5	**38.31**	**126**	P	**P**	**14 20 38.0**	**-0.1**
TORD	comp=Z,46nm,19.1s,baz=290,slow=35			LR	LR	14 35 55.6	
ULM	**Lac du Bonnet** comp=Z,71nm,19.0s,baz=31,slow=34	**46.48**	**306**	LR	LR	14 39 23.9	
PDAR	**Pinedale Array** 0.8nm,0.9s,baz=72,slow=9.5,SNR=4.2	**57.93**	**301**	P	P	14 23 07.8	-2.0
PDAR	comp=Z,64nm,18.8s,baz=97,slow=35			LR	LR	14 47 23.0	
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=81,slow=7.7,SNR=5.5	**60.32**	**285**	P	**P**	**14 23 25.5**	**-0.9**
TXAR	comp=Z,33nm,19.2s,baz=0.0,slow=35			LR	LR	14 48 00.6	
KMBO	**Kilima Mbogo** comp=Z,34nm,20.2s,baz=96,slow=35	**73.11**	**106**	LR	LR	14 55 54.1	
BOSA	**Boshof** comp=Z,40nm,18.2s,baz=296,slow=36	**85.15**	**134**	LR	LR	15 03 48.2	

CASC 22 14:25:37.3±5.5, 8°.55N×82°.89W, h12km±22km, MD4.1, 9C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.29**	**291**	⇓*i*P	Pb	14 25 46.0	+1.4
ACR				⇓*i*P	Pn	14 25 46.0	-1.5
BRU2	**Volcan**	**0.31**	**39**	⇓*i*P	Pb	14 25 45.9	+0.9
BRU2				*e*S	Sb	14 25 53.0	+2.8
TBS2		**0.34**	**43**	*e*P	Pn	14 25 47.0	-1.3
TBS2				*e*S	Sb	14 25 52.8	+1.9
CTCR	**Cotoan**	**0.37**	**20**	⇓*i*P	Pb	14 25 46.9	+0.8
BRU	**Baru**	**0.41**	**52**	⇑*i*P	Pb	14 25 47.0	-0.1
CNI	**Buenguinola**	**0.94**	**22**	*e*P	Pg	14 25 54.5	-0.9
BUS	**Buena Vista**	**1.32**	**319**	⇑*e*P	Pn	14 26 00.4	-1.7
BUS				⇑*i*P	Pb	14 26 00.5	-2.1
BUS				*e*S	Sb	14 26 19.4	-0.5
BUS				*e*S	Sn	14 26 19.7	-0.4
QCR	**Quepos**	**1.53**	**305**	*e*P	Pn	14 26 02.9	-1.5
QCR				⇑*e*P	Pb	14 26 03.8	-1.8
QCR				*e*S	Sb	14 26 25.1	0.0
URSC	**Urasca**	**1.55**	**326**	⇑*e*P	Pn	14 26 04.0	-1.0
SJS	**Escuela Geolog**	**1.80**	**320**	⇑*e*P	Pn	14 26 08.1	-0.2
SJS				*e*S	Sb	14 26 32.1	-0.9
SJS				*e*S	Sg	14 26 35.8	+0.3
CGA2	**Cerro Gallo 2**	**2.13**	**313**	*e*P	Pn	14 26 12.2	-0.8
CGA2				⇑*i*P	Pb	14 26 12.4	-3.7
CGA2				*e*S	Sb	14 26 42.1	-0.6
CAO	**Cobano**	**2.47**	**298**	*i*P	Pn	14 26 16.6	-0.8
JCR	**Jicaral**	**2.55**	**301**	*e*P	Pn	14 26 19.1	+0.6
JCR				⇑*i*P	Pb	14 26 20.2	-2.9
JCR				*e*S	Sn	14 26 47.2	-2.4
CEDE	**Laguna Cede¯–o**	**2.63**	**317**	*i*P	Pn	14 26 20.6	+0.9
CEDE				*i*S	Sb	14 26 55.7	-1.2
PTEN	**Parque Tenorio**	**2.99**	**316**	*i*P	Pn	14 26 25.0	+0.4
ZANG	**Zanguenga, Cho**	**3.02**	**82**	*e*P	Pn	14 26 23.1	-1.9
ZANG				*e*S	Sn	14 27 03.5	+2.5
BCIP	**Isla Barro Col**	**3.08**	**78**	⇑*i*P	Pn	14 26 22.3	-3.4
BCIP				*e*S	Sn	14 27 00.6	-1.9
COLC	**Colonia**	**3.10**	**313**	*i*P	Pn	14 26 26.7	+0.5
UPA	**Univ. de Panam**	**3.34**	**82**	*e*P	Pn	14 26 27.5	-2.0
UPA				*e*S	Sn	14 27 11.1	+2.0

TAP 22 14:31:54.4, 23°.31N×120°.41E, h16km, ML1.9, 2C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying** baz=117	**0.09**	**119**	⇑*i*P	Pg	14 31 57.9	+0.3
TWK				*i*S	Sg	14 32 00.9	+1.1
	baz=117						
CHN1	**Nanshi** baz=137	**0.17**	**138**	*i*P	Pb	14 31 59.0	-0.1
CHN1				*i*S	Sb	14 32 02.6	+0.2
	baz=137						
CHY	**Chiayi** baz=7.0	**0.19**	**5**	*e*P	Pb	14 31 59.8	+0.3
WTP	**Ta-pu** baz=108	**0.20**	**108**	⇑*i*P	Pb	14 31 59.9	+0.2
WTP				*i*S	Sb	14 32 04.3	+0.9
	baz=108						
CHN2	**Minshiung** baz=15	**0.23**	**16**	*e*P	Pb	14 32 00.8	+0.6
CHN3	**Shinhua** baz=189	**0.23**	**189**	P	Pb	14 32 00.3	0.0
CHN3				*e*S	Sb	14 32 05.4	+1.1
	baz=189						
SCLT	**Jiali** baz=234	**0.24**	**236**	P	Pb	14 31 60.0	-0.3
SCLT				*e*S	Sb	14 32 04.6	+0.3
	baz=234						
SGST	**Jiashian** baz=143	**0.28**	**144**	*e*P	Pb	14 32 00.9	-0.1
SGST				S	Sb	14 32 06.4	+0.8
	baz=143						
TAI1	**Yung-k'ang** baz=210	**0.31**	**212**	*e*P	Pb	14 32 01.6	0.0
TAI1				*e*S	Sb	14 32 07.1	+0.6
	baz=210						
STYT	**Tauyuan** baz=114	**0.35**	**114**	*e*P	Pb	14 32 02.1	-0.3
STYT				*e*S	Sb	14 32 08.5	+0.7
	baz=114						
WSF	**Szhu** baz=333	**0.37**	**333**	*e*P	Pb	14 32 02.5	-0.1
WSF				S	Sb	14 32 09.0	+0.9
	baz=333						
CHN5	**Tsauling** baz=40	**0.38**	**41**	P	Pb	14 32 03.0	+0.1
CHN5				*e*S	Sb	14 32 09.6	+0.9
	baz=40						
ALS	**Alishan** baz=61	**0.42**	**61**	P	Pg	14 32 02.5	-0.7
ALS				S	Sg	14 32 09.6	+0.4
	baz=61						
YUS	**Yu-Shan** baz=70	**0.53**	**70**	*e*P	Pn	14 32 07.1	-0.9
YUS				*e*S	Sb	14 32 14.0	+0.1
	baz=70						
ELDTW	**Lidau** baz=102	**0.57**	**102**	*e*P	Pb	14 32 06.2	0.0
ELDTW				*e*S	Sg	14 32 13.5	-0.1
	baz=102						
SSD	**Sandimen** baz=159	**0.60**	**160**	*e*P	Pg	14 32 05.6	-0.5
SSD				*e*S	Sb	14 32 15.2	+0.5
	baz=159						
TYC	**Yuchr** baz=35	**0.72**	**35**	*e*P	Pb	14 32 09.1	+0.5
TYC				*e*S	Sb	14 32 19.4	+1.1
	baz=35						
SMLT	**Sun Moon Lake** baz=38	**0.73**	**38**	*e*P	Pg	14 32 08.5	-0.3

IDC 22 14:33:02.4±1.6, 30°.08S×178°.07W, h143km±13km, mb3.3/3, mb1 3.5/4, mb1mx3.3/28, mbtmp3.8/4, Error ellipse: s-maj=49.0km s-min=22.1km az=112.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 165nm,0.3s,baz=72,slow=22,SNR=6.1	**0.84**	**9**	P	Pn	14 33 25.4	+0.3
URZ	**Urewera** 0.1nm,0.3s,baz=190,slow=12,SNR=4.0	**9.08**	**205**	P	Pn	14 35 10.0	-0.2
URZ				S	Sn	14 36 50.4	-0.4
	0.8nm,0.3s,baz=97,slow=19,SNR=8.3						
STKA	**Stephens Creek** 1.3nm,0.7s,baz=107,slow=14,SNR=3.5	**34.49**	**257**	P	P	14 39 38.4	+1.5
ASAR	**Alice Springs** 0.5nm,0.4s,baz=105,slow=7.0,SNR=13	**43.07**	**267**	P	P	14 40 47.6	-0.8
ASAR				PcP	PcP	14 42 36.3	+0.4
	0.3nm,0.7s,baz=118,slow=4.3,SNR=5.0						
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=110,slow=8.0,SNR=21	**44.03**	**272**	P	P	14 40 55.4	-0.7
FINES	**FINESS Array B** 2.3nm,0.5s,baz=56,slow=4.1,SNR=28	**144.83**	**340**	PKP	PKPbc	14 52 20.4	-0.6

*ISCJB **22** 14:35:25.3±0.7,2°.94N±0°.07×93°.81E±0°.05, h18km, mb3.8/8, Error ellipse: s-maj=10.9km s-min=6.3km az=17.5*
*IDC **22** 14:35:30.6±1.1,3°.14N×94°.00E, h38km±5km, mb3.5/8, mb1 3.7/10, mb1mx3.5/47, mbtmp3.7/10, ML4.0/2, Error ellipse: s-maj=38.3km s-min=12.8km az=53.0*
*DJA **22** 14:35:34.6±0.9,3°.N±5°.×9°.4E±°, h80km±27km, M4.2/9, mb4.4/3, mB5.2/1, MLv4.2/9, Mw(mB)4.5/1*
ISC 22 14:35:29.0±0.8, 3°.06N±0°.08×93°.97E±0°.07, h18km, n21, σ2°56/27, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**2.44**	**105**	P	**Pn**	**14 36 08.6**	**+0.7**
SNSI				S	**Sn**	**14 36 37.3**	**0.0**
TPTI		**3.21**	**86**	P	**Pn**	**14 36 19.7**	**+1.2**
TPTI				S	**Sn**	**14 36 58.0**	**+1.7**
LHMI	**Lhok Sumawe**	**3.66**	**54**	P	**Pn**	**14 36 27.5**	**+2.7**
LHMI				S	**Sb**	**14 37 13.3**	**-4.1**
KCSI	**Kotacane, Aceh**	**3.82**	**83**	P	Pn	14 36 30.4	+3.4
KCSI				S	**Sn**	**14 37 13.1**	**+1.6**
GSI	**Gunungsitoli**	**4.00**	**116**	P	**Pn**	**14 36 29.8**	**+0.3**
GSI				S	**Sn**	**14 37 13.8**	**-2.1**
PSI	**Prapat**	**4.95**	**93**	P	x	14 36 44.6	
PSI				S	x	14 37 39.6	
PSI	**Prapat** 1.8nm,0.3s,baz=297,slow=12,SNR=7.3	**4.95**	**93**	Pn	**Pn**	**14 36 41.8**	**-0.8**
PSI	3.8nm,0.3s,baz=188,slow=23,SNR=6.4			Sn	**Sn**	**14 37 41.3**	**+1.8**
MNSI	**Mandailing Nat

16nm,0.3s,baz=40,slow=2.8,SNR=28

AFI				Sn	Sn	14 44 35.3	-12
	60nm,0.3s,baz=119,slow=22,SNR=9.8						
STKA	**Stephens Creek**	**43.62**	**240**	P	P	14 51 35.9	-0.4
	0.8nm,0.5s,baz=77,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**49.55**	**257**	P	P	14 52 22.4	-0.5
	0.7nm,0.7s,baz=90,slow=7.1,SNR=4.6						
ASAR	**Alice Springs**	**49.78**	**252**	P	P	14 52 25.0	+0.3
	1.9nm,0.7s,baz=91,slow=7.7,SNR=64						
ILAR	**Eielson Array**	**82.99**	**11**	P	P	14 55 56.5	0.0
	0.3nm,0.7s,baz=221,slow=6.8,SNR=5.8						

NNC 22 15:04:17.0±8.1, 36°.93N×70°.44E, h76km±172km, mb3.6, mpv3.9, 5C-2D, Error ellipse: s-maj=58.2km s-min=55.2km az=6.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.17**	**1**	⇑Pn	Pn	15 05 47.1	+1.6
	1.7nm,0.3s,baz=183,slow=14,SNR=23						
KK31				Sn	Sn	15 06 56.9	+2.3
	1.6nm,0.3s,baz=189,slow=21,SNR=8.3						
AAK	**Ala-Archa**	**6.50**	**27**	⇓Pn	Pn	15 05 48.3	-1.8
	7.3nm,0.4s						
AAK				⇑Sn	Sn	15 07 01.6	-1.3
	5.9nm,0.9s						
AB31	**Akbulak array**	**14.49**	**332**	⇓Pn	Pn	15 07 38.8	+0.8
	0.4nm,0.3s,baz=143,slow=12,SNR=34						
AB31				⇑Sn	Sn	15 10 15.1	-2.2
	0.6nm,0.6s,baz=150,slow=23,SNR=3.8						
AKTO	**Aktyubinsk**	**16.18**	**330**	⇑Pn	P	15 08 01.1	-0.3
	1.9nm,0.7s						
AKTO				⇑Sn	Sn	15 10 57.3	-1.0
	1.5nm,1.1s						

*ISCJB **22** 15:34:48.8±0.7, 23°.78S±0°.06×66°.69W±0°.05, h222km±8km, mb3.0/1, Error ellipse: s-maj=10.2km s-min=5.9km az=30.7*
*SJA **22** 15:34:48.3±0.7, 23°.77S×66°.52W, h234km±8km, MD2.9, ML2.8, MW3.2*
*GUC **22** 15:34:50.8±0.3, 23°.71S×67°.00W, h224km±35km, ML4.1*
*IDC **22** 15:34:53.0±2.3, 23°.45S×66°.34W, h231km±25km, mb3.0/1, mb1 3.2/4, mb1mx3.0/30, mbtmp3.7/4, Error ellipse: s-maj=41.0km s-min=19.5km az=102.0*
ISC 22 15:34:49.9±0.9, 23°.71S±0°.06×66°.62W±0°.05, h213km±8km, n21, σ1ᵖ34/29, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.43**	**135**	*e*P	**Pn**	**15 35 24.6**	**+0.3**
SLA				IAML		15 35 27.3	
	comp=Z,43nm,0.3s						
SLA				*e*S	**S**	**15 35 51.0**	**+0.1**
AZAP	**Zapla**	**1.51**	**110**	*e*P	**Pn**	**15 35 24.8**	**-0.3**
YJA	**Yavi**	**1.84**	**34**	*e*P	**Pn**	**15 35 29.7**	**+1.4**
ASTB	**Santa Barbara**	**1.97**	**97**	*e*P	**Pn**	**15 35 29.0**	**-0.2**
LVC	**Limon Verde**	**2.38**	**297**	*e*P	**Pn**	**15 35 34.9**	**+1.4**
PB06	**Plate Boundary**	**2.90**	**290**	⇑*i*P	**Pn**	**15 35 40.2**	**+1.1**
PB06				*e*S	**S**	**15 36 16.8**	**-0.6**
PB06				AML	AML	15 36 19.5	
	comp=N,217nm,0.3s						
PB04	**Plate Boundary**	**3.01**	**298**	AML	AML	15 36 32.4	
	comp=N,172nm,0.6s						
PB09	**Plate Boundary**	**3.08**	**308**	⇑*e*P	**Pn**	**15 35 42.9**	**+1.5**
PB09				*e*S	**S**	**15 36 21.8**	**+0.5**
PB09				AML	AML	15 36 25.1	
	comp=N,343nm,0.1s						
ANCH	**Antofagasta**	**3.48**	**270**	*e*P	**Pn**	**15 35 45.0**	**-0.8**
ANCH				*i* S	**S**	**15 36 26.4**	**-2.8**
PB07	**Plate Boundary**	**3.61**	**303**	⇑*e*P	**Pn**	**15 35 48.2**	**+0.6**
PB07				*e*S	**S**	**15 36 31.3**	**-1.1**
PB07				AML	AML	15 36 32.2	
	comp=N,192nm,0.5s						
PB10	**Plate Boundary**	**3.62**	**272**	⇑*e*P	**Pn**	**15 35 47.9**	**+0.4**
PB10				*e*S	**S**	**15 36 30.5**	**-1.8**
PB01	**Plate Boundary**	**3.76**	**314**	*e*P	**Pn**	**15 35 49.8**	**+0.5**
PB01				*i* S	**S**	**15 36 35.1**	**-0.5**
PATCX	**Punta Patache**	**4.36**	**311**	*e*P	**Pn**	**15 35 56.5**	**-0.2**
PATCX				*e*S	**S**	**15 36 47.1**	**-1.9**
ACLC	**CERRO LA CRUZ**	**5.70**	**183**	*e*P	**Pn**	**15 36 12.6**	**-1.0**
LPAZ	**La Paz**	**7.52**	**349**	P	**Pn**	**15 36 38.4**	**+0.8**
	comp=N,1.4nm,0.3s,baz=163,slow=7.8,SNR=31						
LPAZ				S	**S**	**15 38 02.2**	**-1.1**
	comp=N,0.1nm,0.3s,baz=328,slow=15,SNR=2.8						
SIV	**San Ignacio**	**9.28**	**35**	P	**Pn**	**15 36 58.6**	**-1.3**
	comp=N,0.2nm,0.3s,baz=228,slow=16,SNR=6.2						
PLCA	**Paso Flores**	**17.29**	**190**	P	**Pn**	**15 38 42.5**	**+3.6**
	comp=N,0.4nm,0.3s,baz=354,slow=10,SNR=10						
TORD	**Torodi Ar. Bea**	**76.14**	**69**	P	**P**	**15 46 13.6**	**-1.3**
	comp=N,0.2nm,0.5s,baz=248,slow=5.6,SNR=4.2						
ASAR	**Alice Springs**	**128.86**	**204**	PKP	**PKPdf**	**15 53 32.8**	**-0.1**
	comp=N,0.3nm,0.5s,baz=143,slow=1.7,SNR=6.9						
WRA	**Warramunga Arr**	**132.04**	**207**	PKP	**PKPdf**	**15 53 39.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=151,slow=2.0,SNR=9.0						
MKAR	**Makanchi Array**	**146.08**	**39**	PKPbc	**PKPbc**	**15 54 04.5**	**-0.3**
	comp=N,0.6nm,0.5s,baz=297,slow=3.0,SNR=14						

MAN 22 15:37:58, 7°.06N×125°.98E, h28km, mb4.3, ML3.2, MS3.0, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.30**	**112**	*e*P	Pn	15 38 06.7	+0.2
MATI				*e*S	Sn	15 38 14.3	+2.3
DMPH	**Davao City--Mi**	**0.47**	**273**	⇑*e*P	Pn	15 38 09.1	+0.2
DMPH				*e*S	Sn	15 38 17.8	+1.6
BIPH	**Bislig**	**1.18**	**19**	⇓*e*P	Pb	15 38 19.4	-0.4
BIPH				*e*S	Sn	15 38 34.2	+0.3
BUKP	**Musuan**	**1.22**	**312**	*e*P	Pn	15 38 18.1	-1.2
CGP	**Cagayan de Oro**	**1.89**	**318**	⇓*e*P	Pn	15 38 27.9	-0.5
CGP				*e*S	Sb	15 38 55.7	+0.8
BUTP	**Butuan**	**1.93**	**349**	*e*P	Pn	15 38 30.1	+1.0
PAGZ	**Pagadian**	**2.69**	**287**	*e*P	Pn	15 38 41.3	+1.8

*ISCJB **22** 15:46:55.8±1.1, 60°.29N±0°.04×140°.69W±0°.06, h10km±8km, Error ellipse: s-maj=7.0km s-min=4.4km az=35.2*
*NEIC **22** 15:46:56.1, 60°.27N×140°.66W, h0km, ML2.9(OTT), ML3.0(AEIC), After AEIC.*
*PGC **22** 15:46:58.9±10.0, 60°.37N×140°.29W, h1km, ML2.9/2, 127km northwest of Yakutat, Ak Southeastern Alaska*
ISC 22 15:46:56.0±1.3, 60°.28N±0°.04×140°.62W±0°.04, h8km±10km, n21, σ1ᵖ21/23, 2D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.33**	**229**	P	**Pg**	**15 47 02.5**	**0.0**
CTGM	**Chitina Glacie**	**0.77**	**333**	P	**Pg**	**15 47 10.7**	**-0.2**
YKU2	**Yakutat**	**0.91**	**148**	P	**Pg**	**15 47 13.1**	**-0.3**
YKU2				S	**Sg**	**15 47 27.2**	**+2.0**
BALM	**Baldy**	**1.14**	**312**	P	Pg	15 47 16.0	-1.8
DHAK	**Deception Hill**	**1.71**	**133**	P	**Pg**	**15 47 25.2**	**-0.9**
DHAK				S	**Sn**	**15 47 48.1**	**0.0**
GLB	**Gilahina Butte**	**1.95**	**308**	P	Pn	15 47 28.6	-0.8
GLB				S	**Sn**	**15 47 53.0**	**-1.1**
RAGM	**Ragged Mountai**	**2.02**	**275**	P	Pn	15 47 30.0	-0.4
RAGM				S	**Sn**	**15 47 55.4**	**-0.5**
GOAT	**Goat Mountain**	**2.06**	**280**	P	Pn	15 47 30.7	-0.3
GOAT				S	**Sn**	**15 47 55.8**	**-1.0**
SGAM	**Sherman Glacie**	**2.29**	**278**	P	Pn	15 47 33.5	-0.6
WASW	**Wrangell South**	**2.39**	**315**	P	**Pn**	**15 47 36.2**	**+0.6**
BCA3	**Beaver Creek A**	**2.85**	**349**	P	**Pn**	**15 47 42.8**	**+0.9**
WHY	**Whitehorse**	**2.87**	**80**	⇓Pn	**Pn**	**15 47 42.8**	**+0.7**
WHY				⇑Sn	**Sn**	**15 48 18.5**	**+1.6**
WHY				⇑Sg	**Sg**	**15 48 27.0**	**-1.0**
WHY	**Whitehorse**	**2.87**	**80**	P	**Pn**	**15 47 42.7**	**+0.6**
PS11	**TAPS Pump St11**	**2.96**	**310**	P	**Pn**	**15 47 43.9**	**+0.6**
JPK	**Jack Peak**	**3.04**	**287**	P	Pn	15 47 43.7	-0.8
MENT	**Mentasta**	**3.05**	**332**	*e*Pn	**Pn**	**15 47 45.3**	**+0.7**
MENT				*e*Sn	**Sn**	**15 48 22.1**	**+0.8**
DAWY	**Dawson**	**3.84**	**8**	⇑Pn	**Pn**	**15 47 56.9**	**+1.4**
DAWY				⇑Sn	**Sn**	**15 48 40.9**	**+0.1**
DAWY				⇑Sg	**Sg**	**15 48 57.2**	**-2.0**
EGAK	**Eagle**	**4.52**	**357**	*e*Pn	**Pn**	**15 48 05.9**	**+1.2**
RC01	**Rabbit Creek A**	**4.56**	**284**	*e*Pn	Pn	15 48 04.8	-0.4
CUT	**Chulitna**	**5.11**	**299**	P	Pn	15 48 11.2	-1.6
DLBC	**Dease Lake**	**5.72**	**104**	⇓Pn	Pn	15 48 18.9	-2.4
DLBC				⇑Sn	**Sn**	**15 49 24.8**	**-2.3**

NEIC 22 15:47:57.5, 61°.64N×149°.72W, h30km, ML2.8(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.29**	**98**	P	Pb	15 48 04.2	-0.6
PMR				S	Sn	15 48 10.9	+0.1
SUA	**Susitna One**	**0.52**	**251**	P	Pb	15 48 07.0	-1.4
SUA				S	Sb	15 48 16.2	+0.3
FIB	**Fire Island**	**0.52**	**205**	P	Pb	15 48 07.8	-0.4
FIB				S	Sn	15 48 17.6	+1.1
RC01	**Rabbit Creek A**	**0.55**	**181**	P	Pb	15 48 07.5	-1.3
RC01				S	Sb	15 48 16.6	+0.1
PTE	**Portage**	**0.84**	**156**	P	Pn	15 48 11.6	-1.7
SKT	**Skwentna**	**0.93**	**293**	P	Pn	15 48 12.7	-1.9
SKT				S	Sn	15 48 25.7	-1.1
STLK	**Strandline Lak**	**1.02**	**263**	P	Pn	15 48 14.5	-1.4
PWL	**Port Wells**	**1.03**	**139**	P	Pn	15 48 14.2	-1.7
CGLM	**Capps Glacier**	**1.15**	**254**	P	Pn	15 48 16.6	-1.1
SCM	**Sheep Creek Mo**	**1.16**	**79**	P	Pn	15 48 16.4	-1.4
SCM				S	Sn	15 48 32.3	-0.3
SLKM	**Skilak Lake**	**1.16**	**192**	P	Pn	15 48 16.6	-1.1
SPBG	**Spurr Blockage**	**1.33**	**255**	P	Pn	15 48 19.3	-0.8
SPBG				S	Sn	15 48 37.2	+0.4
CKL	**Chakachamna La**	**1.33**	**252**	P	Pn	15 48 19.3	-0.9
BGL	**Barrier Glacie**	**1.33**	**255**	P	Pn	15 48 19.3	-0.9
SEW	**Seward**	**1.54**	**175**	*e*Pn	Pn	15 48 21.8	-1.1
SEW				*e*Sn	Sn	15 48 41.8	0.0
JPK	**Jack Peak**	**1.61**	**110**	P	Pn	15 48 22.7	-1.3
VLZ	**Valdez**	**1.71**	**106**	P	Pn	15 48 24.5	-0.7
VMT	**TAPS TI Valdez**	**1.71**	**107**	P	Pn	15 48 24.8	-0.4
PPLA	**Purkeypile**	**1.71**	**319**	P	Pn	15 48 24.4	-1.1
DFR	**Drift River**	**1.78**	**235**	P	Pn	15 48 25.5	-0.8
DHY	**Denali Highway**	**1.81**	**36**	P	Pn	15 48 26.1	-0.8
RND	**Reindeer**	**1.82**	**12**	P	Pn	15 48 26.3	-0.6
TRF	**Thorofare Moun**	**1.84**	**352**	*e*Pn	Pn	15 48 26.6	-0.7
TRF				*e*Sn	Sn	15 48 48.6	-1.1
RSO	**Redoubt South**	**1.89**	**233**	*e*Pn	Pn	15 48 26.7	-1.2
NCT	**North Crescent**	**1.89**	**237**	P	Pn	15 48 27.3	-0.6
RDWB	**Redoubt West**	**1.90**	**234**	P	Pn	15 48 26.8	-1.3
BRLK	**Bradley Lake**	**1.96**	**197**	P	Pn	15 48 29.1	+0.3
DIV	**Divide**	**1.97**	**103**	P	Pn	15 48 28.5	-0.4
KTH	**Kantishna Hill**	**2.00**	**344**	P	Pn	15 48 28.8	-0.6
KTH	**Kantishna Hill**	**2.00**	**344**	*e*Pn	Pn	15 48 28.8	-0.6
KTH				*e*Sn	Sn	15 48 53.1	-0.4
PS11	**TAPS Pump St11**	**2.06**	**76**	P	Pn	15 48 28.9	-1.2
CAST	**Castle Rocks**	**2.10**	**330**	P	Pn	15 48 30.2	-0.4
MCK	**McKinley**	**2.14**	**9**	*e*Pn	Pn	15 48 30.7	-0.4
MCK				*e*Sn	Sn	15 48 56.2	-0.5
EYAK	**Cordova Ski Ar**	**2.22**	**118**	P	Pn	15 48 30.6	-1.6
HARP	**HAARP**	**2.29**	**68**	P	Pn	15 48 33.5	+0.2
PAX	**Paxson**	**2.40**	**54**	P	Pn	15 48 34.2	-0.6
CHUM	**Lake Minchumin**	**2.55**	**333**	P	Pn	15 48 36.0	-0.8
DDM	**Donnelly Dome**	**2.80**	**38**	P	Pn	15 48 40.2	-0.1
WRH	**Wood River Hil**	**2.94**	**14**	P	Pn	15 48 41.4	-0.8
CCB	**Clear Creek Bu**	**3.15**	**15**	P	Pn	15 48 43.9	-1.1
PS08	**TAPS Pump Stn8**	**3.20**	**23**	P	Pn	15 48 45.2	-0.5
COLA	**College**	**3.36**	**14**	P	Pn	15 48 47.3	-0.5
IL1	**Eielson Array**	**3.40**	**21**	P	Pn	15 48 47.6	-0.8
ILB	**Eielson Array**	**3.40**	**21**	P	Pn	15 48 48.4	-0.1
MDM	**Murphy Dome**	**3.40**	**11**	P	Pn	15 48 47.9	-0.6
MLY	**Manley**	**3.44**	**353**	P	Pn	15 48 48.0	-1.1
KDAK	**Kodiak Island**	**4.13**	**202**	P	Pn	15 48 58.4	0.0
IM04	**Indian Mountai**	**4.71**	**339**	*e*Pn	Pn	15 49 05.4	-1.1
IM3	**Indian Mountai**	**4.72**	**340**	P	Pn	15 49 05.6	-0.9
BM3	**Burnt Mountain**	**6.21**	**19**	P	Pn	15 49 26.0	-1.1

IGQ 22 15:48:38±0.3, 0°.80S×77°.32W, h3km±11km, Mb4.0, 10C-29D, Error ellipse: s-maj=1.8km s-min=0.7km az=10.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAV4	**Lava4-Reventad**	**0.77**	**336**	⇓P	Pg	15 48 53.2	0.0
CHAR	**Charly**	**0.79**	**334**	⇓P	Pb	15 48 54.9	-0.2
CONE	**Cono NE Rev Vo**	**0.79**	**336**	⇓P	Pb	15 48 54.8	-0.2
ANTI	**Antisana**	**0.91**	**292**	⇓P	Pg	15 48 56.8	+0.5
COV1	**Cotopaxi Volc**	**1.03**	**278**	⇓P	Pn	15 49 00.2	-0.1
TAMB	**Tambo**	**1.05**	**276**	⇓P	Pb	15 48 59.8	+0.1
CAYR	**Refugio Cayamb**	**1.06**	**320**	⇓P	Pb	15 48 59.6	-0.3
BTAM	**Cotopaxi Volca**	**1.09**	**277**	⇓P	Pg	15 48 59.4	-0.2
ANGU	**Angureal**	**1.09**	**321**	⇓S	Sg	15 49 13.5	-0.9
ANGU	**Angureal**	**1.09**	**321**	⇓P	Pg	15 48 59.1	-0.6
CAYA	**Cayambe**	**1.10**	**322**	⇓P	Pg	15 48 59.1	-0.7
VC1	**Cotopaxi 1**	**1.10**	**278**	⇓P	Pg	15 48 59.4	-0.3
PISA	**Pisayambo**	**1.10**	**256**	⇑P	Pg	15 48 59.4	-0.4
BVC2	**Cotopaxi Volca**	**1.10**	**277**	⇓P	Pb	15 49 00.7	+0.2
BVC2	**Cotopaxi Volca**	**1.10**	**277**	⇓S	Sn	15 49 16.6	-0.8
MOV1	**Cotopaxi Vol s**	**1.13**	**274**	⇓S	Sb	15 49 16.6	0.0
MOV1	**Cotopaxi Vol s**	**1.13**	**274**	⇓P	Pb	15 49 00.9	-0.1
BREF	**Cotopaxi Volca**	**1.13**	**277**	⇓P	Pg	15 49 00.2	-0.3
PITA	**Cotopaxi Volc**	**1.14**	**282**	⇓P	Pb	15 49 00.9	-0.1
BMOR	**Cotopaxi Volca**	**1.14**	**273**	⇓P	Pg	15 49 00.2	-0.5
BMOR	**Cotopaxi Volca**	**1.14**	**273**	⇓S	Sb	15 49 16.9	0.0
NAS2	**Nasa**	**1.16**	**278**	P	Pb	15 49 01.6	+0.2
CAMI	**Rancho Maria**	**1.19**	**276**	⇑P	Pg	15 49 01.3	-0.2
CAMI	**Rancho Maria**	**1.19**	**276**	⇑S	Sn	15 49 19.6	+0.1
BRUN	**Tungurahua Vol**	**1.26**	**241**	⇓S	Sg	15 49 19.1	-0.1
BRUN	**Tungurahua Vol**	**1.26**	**241**	⇓P	Pg	15 49 02.3	-0.3
BULB	**Ulba Tungurahu**	**1.26**	**240**	⇓P	Pg	15 49 02.8	0.0
BULB	**Ulba Tungurahu**	**1.26**	**240**	⇓S	Sg	15 49 19.6	+0.1
RUN5	**Runtun**	**1.26**	**241**	P	Pg	15 49 02.2	-0.5
RUN5	**Runtun**	**1.26**	**241**	S	Sn	15 49 20.5	-0.4
JUI6	**Juive**	**1.31**	**242**	P	Pb	15 49 03.7	0.0
JUI6	**Juive**	**1.31**	**242**	S	Sg	15 49 20.1	-0.7
BPAT	**Tungurahua Vol**	**1.32**	**238**	P	Pg	15 49 03.8	-0.1
BPAT	**Tungurahua Vol**	**1.32**	**238**	S	Sg	15 49 21.6	+0.2
PAT1	**Patacocha**	**1.32**	**238**	⇓S	Sg	15 49 20.2	-1.4
PAT1	**Patacocha**	**1.32**	**238**	⇓P	Pg	15 49 03.1	-0.9
PAST	**Pastocalle**	**1.33**	**275**	⇓P	Pn	15 49 04.1	0.0
ARRY	**Arrayan**	**1.34**	**238**	P	Pn	15 49 03.2	-0.9
BBIL	**Ulba Tungurahu**	**1.34**	**241**	P	Pn	15 49 03.3	-0.7
BBIL	**Ulba Tungurahu**	**1.34**	**241**	S	Sg	15 49 21.9	+0.1
BMAS	**Trigal station**	**1.35**	**239**	⇑P	Pn	15 49 03.4	-0.9
BMAS	**Trigal station**	**1.35**	**239**	⇑S	Sg	15 49 21.9	-0.5
JUA2	**San Juan 2**	**1.41**	**294**	P	Pn	15 49 05.3	0.0
GGP	**Refugio Guagua**	**1.42**	**296**	⇑P	Pg	15 49 06.7	+0.7
TERV	**Terraza Guagua**	**1.43**	**296**	⇑P	Pg	15 49 06.9	+0.8
PINO	**Pino**	**1.44**	**296**	⇑P	Pb	15 49 06.1	-0.2
IGUA	**Igualata**	**1.49**	**243**	P	Pn	15 49 06.5	0.0
OTAV	**Otavalo**	**1.53**	**312**	⇓P	Pb	15 49 07.8	+0.1
OTAV	**Otavalo**	**1.53**	**312**	⇓S	Sn	15 49 26.1	-1.7
RIOE	**Riobamba**	**1.62**	**234**	P	Pn	15 49 08.2	+0.2
MACE	**Macas**	**1.69**	**211**	S	Sb	15 49 32.2	+0.2
MACE	**Macas**	**1.69**	**211**	P	Pb	15 49 09.6	-0.5
LITE	**Lita**	**1.91**	**327**	⇑S	Sb	15 49 38.4	+0.3
LITE	**Lita**	**1.91**	**327**	⇑P	Pb	15 49 13.9	+0.2

*ISCJB **22** 15:49:22.1±0.3, 9°.58N±0°.06×84°.12W±0°.04, h67km±2km, mb4.4/40, Error ellipse: s-maj=10.6km s-min=2.9km az=30.2*
*CASC **22** 15:49:23.3±2.4, 9°.59N×84°.13W, h39km±9km, MD4.1*
*IDC **22** 15:49:24.1±1.5, 10°.09N×83°.93W, h52km±16km, mb4.0/18, mb1 4.2/20, mb1mx3.9/47, mbtmp4.3/20, ML3.5/2, MS3.6/17, Ms1 3.6/17, ms1mx3.4/33, Error ellipse: s-maj=25.8km s-min=12.6km az=33.0*
*NEIC **22** 15:49:24.2±1.3, 9°.70N×84°.09W, h69km±8km, mb4.9/23, Error ellipse: s-maj=17.1km s-min=7.6km az=185.0*
ISC 22 15:49:21.9±0.7, 9°.54N±0°.05×84°.14W±0°.04, h51km±6km, n170, σ1ᵖ25/178, mb4.6/40, MS3.6/15, 9C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.12**	**191**	⇓*i*P	**Pn**	**15 49 30.2**	**+0.3**
QCR				*e*S	**Sn**	**15 49 36.0**	**+0.3**
BUS	**Buena Vista**	**0.38**	**88**	⇑*i*P	**Pn**	**15 49 32.5**	**+0.1**
BUS				*e*S	**Sn**	**15 49 40.8**	**+0.9**
SJS	**Escuela Geolog**	**0.41**	**12**	⇑*i*P	**Pn**	**15 49 32.1**	**-0.2**
URSC	**Urasca**	**0.46**	**51**	⇑*i*P	**Pn**	**15 49 33.1**	**+0.1**
CAO	**Cobano**	**0.96**	**280**	⇑*i*P	**Pn**	**15 49 38.9**	**-0.2**
JCR	**Jicaral**	**1.00**	**288**	⇓*i*P	**Pn**	**15 49 40.1**	**+0.4**
CASO	**Castillo**	**1.06**	**327**	*i* P	**Pn**	**15 49 41.0**	**+0.5**
CEDE	**Laguna Cedeˆ–o**	**1.09**	**330**	⇑*i*P	**Pn**	**15 49 41.8**	**+0.9**
CEDE				*i* S	**Sn**	**15 49 57.4**	**+2.3**
JTS	**JuntasAbangare**	**1.09**	**313**	*e*Pn	**Pn**	**15 49 41.5**	**+0.6**
JTS				*e*Sn	**Sn**	**15 49 58.0**	**+2.9**
JTS	**JuntasAbangare**	**1.09**	**313**	P	**Pn**	**15 49 41.4**	**+0.5**
	4µm,0.3s,baz=127,slow=7.5,SNR=5343						
JTS				S	**Sn**	**15 49 55.9**	**+0.9**
	3µm,0.3s,baz=300,slow=20,SNR=55						
BANL	**Banca Lucia**	**1.19**	**325**	*i* P	**Pn**	**15 49 43.4**	**+1.1**
ACR	**Cerro Adams**	**1.31**	**132**	⇓*e*P	**Pn**	**15 49 44.4**	**+0.6**
ACR				*e*S	**Sn**	**15 50 01.1**	**+0.9**
PTEN	**Parque Tenorio**	**1.43**	**325**	*i* P	**Pn**	**15 49 46.9**	**+1.3**
PTEN				*i* S	**Sn**	**15 50 05.7**	**+2.3**
CTCR	**Cotoan**	**1.51**	**115**	⇑*i*P	**Pn**	**15 49 48.0**	**+1.2**
COLC	**Colonia**	**1.53**	**317**	*i* P	**Pn**	**15 49 47.9**	**+1.0**
GUAB	**Guayabo de Bag**	**1.58**	**317**	*i* P	**Pn**	**15 49 48.5**	**+0.9**
VCR	**Vista de Mar**	**1.58**	**292**	⇑*i*P	**Pn**	**15 49 47.8**	**+0.2**
MESS	**Mesas**	**1.58**	**319**	*i* P	**Pn**	**15 49 48.5**	**+0.9**
LIM1	**Limonal**	**1.59**	**317**	*i* P	**Pn**	**15 49 48.5**	**+0.8**
CNI	**Changuinola**	**1.61**	**94**	*e*P	**Pn**	**15 49 49.6**	**+1.7**
CNI				*e*S	**Sn**	**15 50 10.4**	**+2.9**
BRU2	**Volcan**	**1.61**	**117**	*e*P	**Pn**	**15 49 49.3**	**+1.2**
BRU2				*e*S	**Sn**	**15 50 10.6**	**+2.6**
TBS2		**1.65**	**117**	*e*P	**Pn**	**15 49 50.5**	**+1.9**
TBS2				*e*S	**Sn**	**15 50 11.0**	**+2.4**
GPS2	**Hotel Rinc˜‡n**	**1.69**	**315**	*i* P	**Pn**	**15 49 50.0**	**+0.8**
GPS1	**Guardaparques**	**1.71**	**316**	*i* P	**Pn**	**15 49 50.1**	**+0.7**
BRU	**Baru**	**1.72**	**115**	*e*P	**Pn**	**15 49 51.4**	**+1.5**
LAPC	**Finca la Perla**	**1.76**	**314**	*i* P	**Pn**	**15 49 50.8**	**+0.7**
BUEV	**Buena Vista**	**1.76**	**315**	*i* P	**Pn**	**15 49 50.8**	**+0.7**
GB1A	**Boringuen Arri**	**1.77**	**316**	*i* P	**Pn**	**15 49 51.0**	**+0.7**
GBS3	**Finca Las Im˜¡**	**1.79**	**314**	*i* P	**Pn**	**15 49 51.1**	**+0.7**
GBS2	**Las Lilas**	**1.82**	**315**	*i* P	**Pn**	**15 49 51.8**	**+0.9**
ZANG	**Zanguenga, Cho**	**4.26**	**97**	*e*P	**Pn**	**15 50 26.9**	**+2.6**
BCIP	**Isla Barro Col**	**4.26**	**95**	*e*P	**Pn**	**15 50 26.4**	**+2.1**
BCIP				*e*S	**Sn**	**15 51 12.1**	**-0.8**
BCIP	**Isla Barro Col**	**4.26**	**95**	*e*Pn	**Pn**	**15 50 25.5**	**+1.1**
UPA	**Univ. de Panam**	**4.58**	**97**	*e*P	**Pn**	**15 50 30.1**	**+1.3**
UPA				*e*S	**Sn**	**15 51 22.6**	**+1.9**
CNCH	**Conchagua**	**5.18**	**316**	*e*P	**Pn**	**15 50 39.4**	**+2.3**
TGUH	**Tegucigalpa,Un**	**5.43**	**326**	*e*P	**Pn**	**15 50 41.8**	**+1.4**
TGUH	**Tegucigalpa,Un**	**5.43**	**326**	*e*Pn	**Pn**	**15 50 41.6**	**+1.2**
TGUH				*e*Sn	Sn	15 51 48.9	+7.3
BLLM	**Bellamira**	**5.58**	**314**	*e*P	Pn	15 50 45.8	+3.3
LFRS	**El Faro**	**6.30**	**311**	*e*P	**Pn**	**15 50 55.1**	**+2.8**
LFRS				*e*S	**Sn**	**15 52 03.1**	**0.0**
LBRS	**Las Brisas**	**6.36**	**311**	*e*P	**Pn**	**15 50 55.7**	**+2.6**
SBLS	**San Blas**	**6.86**	**309**	*e*P	**Pn**	**15 51 03.0**	**+2.9**
RBDL	**Robledal**	**7.08**	**310**	*e*P	**Pn**	**15 51 05.9**	**+2.8**
MRL	**Marmol**	**7.72**	**316**	*e*P	Pn	15 51 15.5	+3.7
APG	**El Apazote**	**8.22**	**312**	P	**Pn**	**15 51 19.1**	**+0.3**
APG	**

LDF	La Druitiere	78.97	42	*e*P	P	16 01 19.7	-0.6
	30nm,0.8s						
MFF	Saint Martin d	79.02	44	*e*P	P	16 01 20.0	-0.7
	15nm,0.7s						
MFF	Saint Martin d	79.02	44	*e*P	P	16 01 20.0	-0.7
	15nm,0.7s						
EPF	Esparros	79.54	48	*e*P	P	16 01 23.3	-0.3
	16nm,1.0s						
EPF	Esparros	79.54	48	*e*P	P	16 01 23.3	-0.3
	16nm,1.0s						
CAF	Calviac	80.66	46	*e*P	P	16 01 28.9	-0.7
CAF	Calviac	80.66	46	*e*P	P	16 01 28.9	-0.7
TCF	Toulx Ste Croi	80.67	45	*e*P	P	16 01 28.6	-1.0
	8.3nm,0.6s						
TCF	Toulx Ste Croi	80.67	45	*e*P	P	16 01 28.6	-1.0
	8.3nm,0.6s						
MTLF	Montolieu	80.89	48	*e*P	P	16 01 30.2	-0.6
MTLF	Montolieu	80.89	48	*e*P	P	16 01 30.2	-0.6
BGF	Bois d'Agland	81.09	44	*e*P	P	16 01 30.9	-0.9
	14nm,0.6s						
BGF	Bois d'Agland	81.09	44	*e*P	P	16 01 30.9	-0.9
	14nm,0.6s						
AVF	Avril sur Loir	81.42	44	*e*P	P	16 01 32.2	-1.3
	6.7nm,0.7s						
AVF	Avril sur Loir	81.42	44	*e*P	P	16 01 32.2	-1.3
	6.7nm,0.7s						
SSF	Saint Saulge	81.50	44	*e*P	P	16 01 32.6	-1.4
	11nm,0.7s						
SSF	Saint Saulge	81.50	44	*e*P	P	16 01 32.6	-1.4
	11nm,0.7s						
LOR	Lormes	81.72	43	*e*P	P	16 01 33.8	-1.4
LOR				*e*R			
	117nm,19.2s						
LOR	Lormes	81.72	43	*e*P	P	16 01 33.8	-1.4
SMF	Signal de Mont	81.76	44	*e*P	P	16 01 34.1	-1.3
	8.3nm,0.6s						
SMF	Signal de Mont	81.76	44	*e*P	P	16 01 34.1	-1.3
	8.3nm,0.6s						
LASF	Ste Croix	82.01	47	*e*P	P	16 01 36.5	-0.3
	18nm,1.0s						
LASF	Ste Croix	82.01	47	*e*P	P	16 01 36.5	-0.3
	18nm,1.0s						
SFTF	Sexfontaines	82.42	42	*e*P	P	16 01 37.8	-1.0
SFTF	Sexfontaines	82.42	42	*e*P	P	16 01 37.8	-1.0
VIVF	Saint-Julien-l	82.52	46	*e*P	P	16 01 39.3	-0.1
	18nm,0.9s						
VIVF	Saint-Julien-l	82.52	46	*e*P	P	16 01 39.3	-0.1
	18nm,0.9s						
HAU	Haudompre	83.32	43	*e*P	P	16 01 42.5	-1.0
HAU				*e*R			
	121nm,19.0s						
HAU	Haudompre	83.32	43	*e*P	P	16 01 42.5	-1.0
HINF	Hinteralfeld	83.68	43	*e*P	P	16 01 44.2	-1.2
HINF	Hinteralfeld	83.68	43	*e*P	P	16 01 44.2	-1.2
TORD	Torodi Ar. Bea	83.86	78	P	P	16 01 46.1	-0.7
TORD	Torodi Ar. Bea	83.86	78	P	P	16 01 46.1	-0.7
	1.9nm,0.8s,baz=274,slow=3.9,SNR=11						
TORD				LR	LR	16 40 01.8	
	comp=Z,22nm,18.6s,baz=310,slow=36						
CDF	Champ du Feu	83.89	42	*e*P	P	16 01 45.4	-1.1
	7.1nm,0.7s						
CDF	Champ du Feu	83.89	42	*e*P	P	16 01 45.4	-1.1
	7.1nm,0.7s						
MBDF	Montbardon	84.02	46	*e*P	P	16 01 46.9	-0.4
	11nm,0.9s						
MBDF	Montbardon	84.02	46	*e*P	P	16 01 46.9	-0.4
	11nm,0.9s						
NOA	NORSAR Array B	84.32	29	P	P	16 01 45.9	-2.5
NOA	NORSAR Array B	84.32	29	P	P	16 01 45.9	-2.5
	1.4nm,0.8s,baz=282,slow=5.1,SNR=3.5						
NOA				LR	LR	16 36 22.5	
	comp=Z,12nm,20.8s,baz=305,slow=34						
HFS	Hagfors	85.69	30	P	P	16 01 53.6	-1.6
HFS	Hagfors	85.69	30	P	P	16 01 53.6	-1.6
	3.2nm,1.0s,baz=260,slow=8.9,SNR=5.0						
DAVA	Damuels	85.78	43	⇓*i*P	P	16 01 56.5	+0.3
	13nm,0.8s						
FETA	Feichten	86.40	43	⇑*i*P	P	16 01 59.6	+0.4
	11nm,1.1s						
CLL	Collm	87.07	39	⇑*i*P	P	16 02 02.5	+0.4
KEST	Kesra	87.31	54	P	P	16 02 03.9	+0.1
KEST	Kesra	87.31	54	P	P	16 02 03.9	+0.1
	2.6nm,1.0s,baz=325,slow=6.3,SNR=3.9						
BRG	Berggiesshubel	87.74	39	*i* P	P	16 02 06.0	+0.7
	3.4nm,0.8s						
ARCES	ARCESS Array B	87.85	19	P	P	16 02 05.2	-0.3
ARCES	ARCESS Array B	87.85	19	P	P	16 02 05.2	-0.3
	3.4nm,0.8s,baz=270,slow=6.1,SNR=4.1						
GERES	GERESS Array B	88.01	41	P	P	16 02 07.0	+0.2
GERES	GERESS Array B	88.01	41	P	P	16 02 07.0	+0.2
	1.8nm,0.7s,baz=278,slow=3.6,SNR=14						
GERES				LR	LR	16 35 29.2	
	comp=Z,64nm,21.3s,baz=272,slow=32						
FINES	FINESS Array B	91.11	27	P	P	16 02 19.8	-1.2
FINES	FINESS Array B	91.11	27	P	P	16 02 19.8	-1.2
	1.9nm,0.9s,baz=253,slow=5.8,SNR=4.1						
FINES				LR	LR	16 42 19.3	
	comp=Z,26nm,19.6s,baz=233,slow=35						
KURK	Kurchatov	118.15	12	PKP	PKPdf	16 08 03.0	-0.4
KURBB	Kurchatov Arra	118.22	12	PKP	PKPdf	16 08 03.0	-0.5
	0.3nm,0.9s,baz=342,slow=2.0,SNR=5.8						
SONM	Songino Array	122.12	352	PKP	PKPdf	16 08 10.8	-0.4
SONM	Songino Array	122.12	352	PKP	PKPdf	16 08 10.8	-0.4
	0.4nm,0.9s,baz=192,slow=3.4,SNR=2.4						
MKAR	Makanchi Array	122.62	11	PKP	PKPdf	16 08 11.5	-0.6
MKAR	Makanchi Array	122.62	11	PKP	PKPdf	16 08 11.5	-0.6
	0.1nm,0.4s,baz=346,slow=3.0,SNR=4.3						
KSRS	Korea Array	124.44	329	PKP	PKPdf	16 08 16.7	+0.9
	0.8nm,0.5s,baz=4.4,slow=2.2,SNR=4.7						
KSAR	Wonju Array Be	124.46	329	PKP	PKPdf	16 08 16.7	+0.8
ASAR	Alice Springs	141.07	244	PKP	PKPdf	16 08 48.3	+0.8
ASAR	Alice Springs	141.07	244	PKhKP	PKPpre	16 08 41.4	
	0.3nm,0.8s,baz=119,slow=3.5,SNR=6.9						
ASAR				PKP	PKPdf	16 08 48.3	+0.8
	0.5nm,0.7s,baz=114,slow=3.4,SNR=8.1						
WRA	Warramunga Arr	141.46	250	PKPpre	PKPpre	16 08 43.6	
WRA				PKP	PKiKP	16 08 50.4	-0.6
WRA	Warramunga Arr	141.46	250	PKhKP	PKPpre	16 08 43.6	
	0.5nm,0.7s,baz=97,slow=3.4,SNR=6.8						
WRA				PKP	PKiKP	16 08 50.4	-0.6
	0.6nm,0.7s,baz=94,slow=2.5,SNR=10						
CMAR	Chiang Mai Arr	152.01	354	PKP	PKPdf	16 09 06.2	+0.4
CMAR				PKPbc	PKiKP	16 09 12.5	-0.3
CMAR				PKPab	PKPab	16 09 20.9	-0.8
CMAR	Chiang Mai Arr	152.01	354	PKP	PKPdf	16 09 06.2	+0.4
	0.3nm,0.6s,baz=304,slow=2.1,SNR=3.7						
CMAR				PKPbc	PKiKP	16 09 12.5	-0.3
	1.1nm,0.7s,baz=332,slow=2.6,SNR=8.9						
CMAR				PKPab	PKPab	16 09 20.9	-0.8
	1.7nm,0.8s,baz=334,slow=3.9,SNR=10						

*IDC **22** 15:49:52.7±1.0,30°.30S×177°.57W,h0km,mb4.5/5, mb1 4.5/6,mb1mx4.0/42,mbtmp4.4/6,ML3.3/1,MS3.4/1, Ms1 3.3/1,ms1mx2.7/25,Error ellipse: s-maj=29.0km s-min=21.7km az=117.0*

*ISCJB **22** 15:49:55.8±1.8,30°.39S±0°.06×177°.6W±0°.3,h35km, mb4.5/5,MS3.3/1,Error ellipse: s-maj=38.8km s-min=7.0km az=8.7*

ISC 22 15:49:58.2±1.0,30°.23S±0°.07×177°.7W±0°.2,h35km,n25, σ1s41°/27,mb4.5/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.99	350			Pn	Pn	15 50 15.4	-0.2
	515nm,0.3s,baz=102,slow=17,SNR=15								
RAO						Sn	Sn	15 50 25.7	-2.7
	3µm,0.3s,baz=108,slow=20,SNR=39								
RAO				LR		LR	LR	15 50 45.5	
	comp=Z,427nm,19.3s,baz=146,slow=49								
HAZ	Te Kaha	8.38	205	PN		Pn	Pn	15 51 56.1	-1.1
PUZ	Puketiti	8.50	202	PN		Pn	Pn	15 51 57.9	-0.9
PUZ				SN		Sn	Sn	15 53 34.6	+1.1
MWZ	Matawai	8.98	205	PN		Pn	Pn	15 52 03.7	-1.8
MWZ				SN		Sn	Sn	15 53 45.4	-0.1
URZ	Urewera	9.07	207	Pn		Pn	Pn	15 52 04.6	-2.1
	0.3nm,0.3s,baz=154,slow=21,SNR=8.8								
URZ				Sn		Sn	Sn	15 53 46.0	-1.6
	2.2nm,0.3s,baz=133,slow=10,SNR=17								
URZ	Urewera	9.07	207	PN		Pn	Pn	15 52 04.1	-2.6
URZ				SN		Sn	Sn	15 53 46.8	-0.7
CTA	Charters Tower	34.00	279	P		P	P	15 56 40.0	+1.1
	6.9nm,0.8s,baz=99,slow=14,SNR=5.2								
STKA	Stephens Creek	34.74	257	P		P	P	15 56 47.6	+2.4
	2.5nm,0.4s,baz=102,slow=8.5,SNR=14								
STKA				LR		LR		16 09 39.6	
	comp=Z,51nm,18.2s,baz=26,slow=34								
ASAR	Alice Springs	43.35	267	P		P		15 57 57.0	-0.3
	1.4nm,0.4s,baz=106,slow=7.5,SNR=54								
WRA	Warramunga Arr	44.33	272	P		P		15 58 04.8	-0.3
	4.4nm,0.5s,baz=110,slow=7.9,SNR=53								
H03N3	Juan Fernandez	80.55	123	T		T		17 31 43.5	
	baz=241,slow=75,SNR=18								
H03N2	Juan Fernandez	80.56	123	T		T		17 31 41.2	
	baz=241,slow=75,SNR=9.9								
H03N1	Juan Fernandez	80.57	123	T		T		17 31 46.4	
	baz=241,slow=75,SNR=13								
PETK	Petropavlovsk-	85.71	345	P		P		16 02 35.2	+2.1
	7.1nm,1.0s,baz=134,slow=6.9,SNR=4.6								
MKAR	Makanchi Array	117.84	310	PKP		PKPdf		16 08 40.0	-0.7
	0.2nm,0.4s,baz=270,slow=0.3,SNR=5.8								
KURBB	Kurchatov Arra	121.14	314	PKP		PKPdf		16 08 45.4	-1.4
	0.8nm,0.7s,baz=106,slow=1.7,SNR=6.6								
BVAR	Borovoye Array	126.45	316	PKP		PKPdf		16 08 56.7	-0.3
	0.7nm,0.6s,baz=11,slow=2.9,SNR=4.1								
KAF	Kangasniemi	144.47	341	*ep*		PKPab		16 09 27.3	-1.1
	0.4nm,0.4s								
FINES	FINESS Array B	145.07	340	PKPbc		PKPbc		16 09 29.9	-0.7
	5.3nm,0.5s,baz=48,slow=3.5,SNR=23								
NB2	NORSAR Subarra	148.62	352	PKP		PKPbc		16 09 40.6	-0.3
	comp=Z,11nm,1.7s,baz=17,slow=2.6								
NOA	NORSAR Array B	148.62	352	PKPbc		PKPbc		16 09 40.4	-0.5
	comp=Z,1.5nm,0.7s,baz=14,slow=4.3,SNR=4.5								
HFS	Hagfors	149.12	349	PKPbc		PKPbc		16 09 42.8	+0.6
	comp=Z,4.0nm,0.8s,baz=62,slow=3.5,SNR=8.8								
AKASG	Malin Array Be	151.31	323	PKPbc		PKPbc		16 09 47.4	-0.3
	comp=Z,1.2nm,0.5s,baz=48,slow=2.8,SNR=8.8								
BRTR	Keskin Array B	152.72	299	PKPbc		PKPbc		16 09 53.0	+1.5
	comp=Z,0.7nm,0.4s,baz=135,slow=4.4,SNR=7.7								
TORD	Torodi Ar. Bea	162.99	178	PKPab		PKPab		16 10 47.4	+0.6
	comp=Z,0.4nm,0.6s,baz=179,slow=3.1,SNR=4.4								

IDC 22 15:50:02.1±3.2,8°.91S×156°.53E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/41,mbtmp3.7/4,MS3.7/1,Ms1 3.7/1, ms1mx2.6/24,Error ellipse: s-maj=66.7km s-min=40.4km az=101.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	14.90	221	LR		LR	LR	15 58 06.1	
	comp=Z,340nm,21.7s,baz=174,slow=32								
WRA	Warramunga Arr	24.09	241	P		P		15 55 21.0	+1.3
	1.7nm,0.8s,baz=68,slow=9.9,SNR=9.0								
ASAR	Alice Springs	26.15	233	P		P		15 55 38.1	-0.2
	0.4nm,0.7s,baz=72,slow=8.9,SNR=4.3								
STKA	Stephens Creek	26.73	209	P		P		15 55 43.3	-0.2
	2.1nm,0.8s,baz=23,slow=10,SNR=3.4								
CMAR	Chiang Mai Arr	62.98	296	P		P		16 00 30.4	-0.9
	0.5nm,0.3s,baz=126,slow=4.7,SNR=4.5								

MEX 22 15:51:39.2±0.4,14°.70N×93°.78W,h16km±120km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		1.14	28	*i* P		Pn		15 51 56.7	-3.8
PCIG				*i* S		Sb		15 52 10.5	-4.6
HUIG	Huatulco	2.49	296	*i* P		Pn		15 52 16.0	-3.1
HUIG				*e*S		Sn		15 52 44.9	-4.3
VHO	Vista Hermosa	3.69	310	*e*P		Pn		15 52 34.8	-1.1

IDC 22 16:09:41.0±15.0,11°.61S×166°.88E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/33,mbtmp3.6/4,ML3.2/1,MS2.7/1, Ms1 2.7/1,ms1mx2.5/19,Error ellipse: s-maj=259.1km s-min=42.5km az=62.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.16	287	LR		LR		16 14 24.8	
	comp=Z,58nm,18.9s,baz=134,slow=40								
DZM	Mont Dzumac	10.41	182	Pn		Pn		16 12 12.2	+0.4
	0.2nm,0.3s,baz=46,slow=16,SNR=6.1								
DZM						Sn	Sn	16 14 07.9	-1.5
	0.1nm,0.3s,baz=270,slow=19,SNR=1.9								
STKA	Stephens Creek	30.82	225	P		P		16 15 58.5	-0.3
	1.1nm,0.7s,baz=51,slow=3.4,SNR=3.5								
WRA	Warramunga Arr	32.35	251	P		P		16 16 12.3	-0.1
	0.4nm,0.9s,baz=81,slow=8.7,SNR=4.8								
ASAR	Alice Springs	33.55	245	P		P		16 16 23.2	+0.3
	0.4nm,0.9s,baz=69,slow=9.6,SNR=5.5								

MAN 22 16:16:31,13°.69N×120°.76E,h6km,mb4.5,ML3.4,MS3.3, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.26	135	⇑*i*P		Pg		16 16 37.1	+0.9
PGP				*i* S		Sg		16 16 40.0	+0.2
SJMP	San Jose	1.27	164	*e*P		Pn		16 16 55.0	-0.3
SJMP				*e*S		Sg		16 17 05.6	-6.3
BUSP	Coron	1.77	198	*e*P		Pn		16 17 02.1	0.0
OTRP	Odiongan	1.80	137	*e*P		Pn		16 17 02.6	0.0

IDC 22 16:20:56.7±2.9,30°.52S×178°.04W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.7/27,mbtmp3.8/4,ML2.9/1,Error ellipse: s-maj=69.9km s-min=23.4km az=119.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.27	5	Pn		Pg		16 21 20.9	-0.1
	baz=53,slow=20,SNR=1.8								
RAO				Sn		Sg		16 21 34.0	-3.6
	191nm,0.3s,baz=81,slow=21,SNR=5.8								
URZ	Urewera	8.70	206	Pn		Pn		16 23 01.6	-2.2
	0.1nm,0.3s,baz=95,slow=7.3,SNR=1								
URZ				Sn		Sn		16 24 39.4	-3.1
	0.2nm,0.3s,baz=249,slow=8.9,SNR=4.9								
STKA	Stephens Creek	34.42	257	P		P		16 27 47.2	+1.3
	0.8nm,0.5s,baz=105,slow=16,SNR=2.9								
ASAR	Alice Springs	43.07	267	P		P		16 28 58.1	-0.5
	0.2nm,0.4s,baz=107,slow=7.3,SNR=11								
WRA	Warramunga Arr	44.07	272	P		P		16 29 06.0	-0.7
	0.5nm,0.3s,baz=110,slow=8.1,SNR=28								
FINES	FINESS Array B	145.25	340	PKPbc		PKPdf		16 40 35.7	+0.1
	1.3nm,0.8s,baz=66,slow=4.6,SNR=4.1								

CASC 22 16:28:00.7±1.9,9°.59N×84°.15W,h39km±8km,MD3.5, 1C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.17	184	⇓*i*P		Pn		16 28 07.8	-1.5
QCR				*e*S		Sn		16 28 13.6	-3.0
SJS	Escuela Geolog	0.36	16	*e*P		Pn		16 28 09.7	+0.1
SJS				*e*S		Sn		16 28 17.2	+0.9
BUS	Buena Vista	0.39	95	⇓*i*P		Pn		16 28 09.9	-0.5
URSC	Urasca	0.44	57	⇑*e*P		Pn		16 28 10.5	-0.3
CAO	Cobano	0.94	277	*e*P		Pn		16 28 16.3	-1.2
CAO				*e*S		Sn		16 28 30.0	+0.2
JCR	Jicaral	0.98	285	*e*P		Pn		16 28 17.5	-0.5
JCR				*e*S		Sn		16 28 31.6	+0.8
AMAS	Alto Masis	1.31	321	*i* P		Pn		16 28 22.1	-0.5
AMAS				*i* S		Sn		16 28 40.5	+1.5
ACR	Cerro Adams	1.35	134	*e*P		Pn		16 28 22.8	-0.3
ACR				*e*S		Sn		16 28 39.8	-0.1
PTEN	Parque Tenorio	1.39	324	*i* P		Pn		16 28 24.1	+0.5
PTEN				*i* S		Sn		16 28 43.5	+2.7
MESS	Mesas	1.53	318	*i* P		Pn		16 28 26.5	+0.9
MESS				*i* S		Sn		16 28 45.9	+1.4
CTCR	Cotoan	1.54	117	*e*P		Pn		16 28 26.4	+0.4
CTCR				*e*S		Sn		16 28 45.3	+0.4
VCR	Vista de Mar	1.55	290	*e*P		Pn		16 28 25.2	-0.7
BRU2	Volcan	1.65	119	*e*P		Pn		16 28 26.9	-0.4
BRU2				*e*S		Sn		16 28 50.0	+2.5
TBS2		1.68	118	*e*P		Pn		16 28 28.6	+0.8
TBS2				*e*S		Sn		16 28 49.1	+0.9
BRU	Baru	1.75	116	*e*P		Pn		16 28 30.0	+0.8
BRU				*e*S		Sn		16 28 53.2	+2.5

*IDC **22** 16:28:24.8±8.8,2°.73N×128°.65E,h173km±85km,mb3.2/6, mb1 3.4/6,mb1mx3.2/30,mbtmp3.7/6,Error ellipse: s-maj=71.8km s-min=14.1km az=63.0*

*ISCJB **22** 16:28:25.9±0.6,2°.64N±0°.06×128°.35E±0°.06,h200km, mb3.4/6,Error ellipse: s-maj=9.0km s-min=7.4km az=33.5*

*DJA **22** 16:28:30.5±1.0,2°.N±9°×12°.8E±°,h231km±15km,M3.9/6, mb3.9/1,MLv4.0/6*

ISC 22 16:28:27.2±0.8,2°.61N±0°.08×128°.40E±0°.08,h200km,n21, σ2s13/21,mb3.5/6,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.10	210	P		Pn		16 29 07.0	+0.3
LBMI	Labuha	3.34	196	P		Pn		16 29 21.9	+0.9
LBMI				S		Sn		16 30 00.7	-2.5
SWI	Sorong	4.47	140	P		Pn		16 29 38.3	+3.3
KMSI	Cibinong	4.86	246	P		Pn		16 29 37.3	-2.5
KMSI				S		Sn		16 30 35.8	-1.2
SANI	Sanana	5.22	208	P		Pn		16 29 42.9	-1.5
SANI				S		Sn		16 30 38.2	-7.2
CTBH	Cotabato--PC H	6.18	318	⇑*i*P		Pn		16 29 54.3	-2.5
LUWI	Luwuk	6.69	237	P		Pn		16 29 59.3	-4.2
JAY	Jayapura	13.31	112	S		S		16 33 51.7	-5.5
	baz=14,SNR=3.2								
WSI	Waingapu	14.62	213	P		P		16 31 51.6	+5.6
	baz=15,SNR=3.8								
WSI				S		Sn		16 34 37.5	+8.9
	baz=15,SNR=4.3								
MTN	Manton Dam	15.59	170	P		Pn		16 31 58.9	+2.3
	baz=17,SNR=5.3								
KDU	Kakadu	15.72	165	P		Pn		16 32 02.1	+3.8
	baz=17,SNR=4.1								
KNRA	Kununurra	18.17	179	P		Pn		16 32 26.4	-0.9
	baz=19,SNR=3.9								
WRA	Warramunga Arr	23.15	166	P		P		16 33 16.2	+0.2
	1.7nm,0.5s,baz=343,slow=10,SNR=100								
QIS	Mount Isa	25.51	155	P		P		16 33 38.8	+1.4
	baz=27,SNR=3.4								
ASAR	Alice Springs	26.66	169	P		P		16 33 48.2	+0.5
	0.5nm,0.5s,baz=351,slow=7.3,SNR=30								
ASAR				PcP		PcP		16 37 07.2	+0.8
	0.6nm,0.6s,baz=354,slow=2.5,SNR=11								
WRKA	Warakurna	27.48	180	P		P		16 33 55.6	+0.5
	baz=29,SNR=6.3								
CMAR	Chiang Mai Arr	32.88	301	P		P		16 34 44.3	+1.7
	0.7nm,0.7s,baz=118,slow=7.9,SNR=7.1								
STKA	Stephens Creek	36.51	161	P		P		16 35 14.0	+0.5
	1.7nm,0.3s,baz=335,slow=5.1,SNR=12								
STKA	Stephens Creek	36.51	161	P		P		16 35 14.4	+0.8
	baz=38,SNR=8.9								
SONM	Songino Array	48.90	340	P		P		16 36 53.3	+0.3
	0.2nm,0.6s,baz=134,slow=4.2,SNR=3.1								
MKAR	Makanchi Array	59.43	325	P		P		16 38 08.8	-0.1
	0.3nm,0.5s,baz=109,slow=7.6,SNR=6.0								

*IDC **22** 16:34:49.4±1.3,1°.67N×126°.25E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/29,mbtmp3.7/4,Error ellipse: s-maj=134.8km s-min=19.8km az=69.0*

*ISCJB **22** 16:34:54.1±0.8,1°.87N±0°.06×126°.70E±0°.07,h47km, mb3.7/4,Error ellipse: s-maj=10.2km s-min=7.5km az=153.2*

*DJA **22** 16:34:54.4±0.5,2°.N±3°×12°.7E±°,h11km,M4.1/9,mb4.5/1, MLv3.9/9*

ISC 22 16:34:56.5±1.0,1°.84N±0°.06×126°.63E±0°.07,h47km,n13, σ2s30/15,mb3.7/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.29	145	P		Pn		16 35 16.3	-1.8
TNTI				S		Sn		16 35 39.6	+5.4
SGSI	Sangihe	2.14	329	P		Pn		16 35 32.5	+2.7
SGSI				S		Sn		16 35 54.7	-0.5
LBMI	Labuha	2.61	161	P		Pn		16 35 37.5	+1.3
KMSI	Cibinong	2.93	245	P		Pn		16 35 38.9	-1.8
GTOI	Gorontalo	3.81	252	P		Pn		16 35 53.8	+1.1
SANI	Sanana	3.92	189	P		Pn		16 35 54.1	-0.1
LUWI	Luwuk	4.81	233	P		Pn		16 36 02.5	-3.9
LUWI				S		Sn		16 37 03.3	+2.5
MRSI	Marisa	4.88	254	P		Pn		16 36 07.4	0.0
APSI	Ampana	5.68	241	P		Pn		16 36 19.8	+1.4
WRA	Warramunga Arr	22.93	161	P		P		16 39 54.0	-2.8
	1.6nm,0.5s,baz=338,slow=11,SNR=23								
ASAR	Alice Springs	26.32	165	P		P		16 40 27.4	-0.7
	0.7nm,0.3s,baz=349,slow=9.4,SNR=20								
SONM	Songino Array	49.05	342	P		P		16 43 38.6	-0.4
	0.3nm,0.7s,baz=151,slow=7.8,SNR=2.6								
MKAR	Makanchi Array	59.05	326	P		P		16 44 50.6	-1.2
	0.7nm,0.4s,baz=117,slow=7.6,SNR=21								

*ISCJB **22** 16:41:55.0±0.7,25°.05N±0°.09×123°.24E±0°.08, h147km±7km,mb3.1/3,Error ellipse: s-maj=16.0km s-min=9.4km az=152.1*

*JMA **22** 16:41:56.7±0.2,24°.99N×123°.25E,h141km±4km,M3.5*

*IDC **22** 16:41:58.8±5.9,25°.14N×123°.22E,h175km±59km,mb3.0/3, mb1 3.1/4,mb1mx2.8/34,mbtmp3.5/4,MS2.8/1,Ms1 2.8/1, ms1mx2.4/8,Error ellipse: s-maj=40.6km s-min=21.5km az=67.0*

**ISC 22 16:41:55.7±0.9,25°.1N±0°.1×123°.22E±0°.08,h144km±9km, n14,σ0s65/22,mb3.1/3

comp=Z,129nm,18.5s,baz=208,slow=42
CMAR Chiang Mai Arr 23.60 259 P **P** 17 00 54.0 +0.7
0.7nm,0.8s,baz=55,slow=8.1,SNR=6.4
SONM Songino Array 26.58 334 P **P** 17 01 20.3 -0.1
1.7nm,0.8s,baz=142,slow=7.8,SNR=15
SONM LR LR 17 12 32.2
comp=Z,114nm,20.5s,baz=224,slow=38
PETK Petropavlovsk- 38.17 33 LR LR 17 19 52.4
comp=Z,25nm,18.0s,baz=87,slow=38
MKAR Makanchi Array 39.28 314 P **P** 17 03 11.0 +0.1
2.8nm,0.9s,baz=96,slow=9.9,SNR=17
ZALV Zalesovo Beam 40.79 326 P **P** 17 03 22.8 -0.5
4.3nm,0.9s,baz=111,slow=8.1,SNR=19
ZALV LR LR 17 21 26.2
comp=Z,81nm,18.4s,baz=70,slow=38
WRA Warramunga Ar 45.80 166 P **P** 17 04 05.8 +1.8
4.7nm,0.7s,baz=348,slow=8.6,SNR=16
HNR Honiara 49.31 129 LR LR 17 23 40.5
comp=Z,27nm,20.2s,baz=344,slow=34
ASAR Alice Springs 49.32 167 P **P** 17 04 33.9 +2.5
0.4nm,0.6s,baz=344,slow=6.6,SNR=7.5
FINES FINESS Array B 71.87 330 P **P** 17 07 04.6 -0.1
2.3nm,0.9s,baz=43,slow=12,SNR=4.6
AKASG Malin Array Be 73.70 319 P **P** 17 07 13.4 -2.3
0.3nm,0.3s,baz=58,slow=6.1,SNR=5.0
BRTR Keskin Array B 74.39 307 P **P** 17 07 20.1 -0.2
0.6nm,0.7s,baz=325,slow=1.8,SNR=2.6
YKA Yellowknife Ar 81.54 23 P **P** 17 07 60.0 +0.7
0.4nm,0.9s,baz=313,slow=5.4,SNR=7.0

CSEM ***22*** *17:02:42.4±1.5,28°.89N×47°.34E,h5km,ML3.4,Error ellipse: s-maj=38.4km s-min=9.8km az=31.0*
TEH ***22*** *17:02:42.8,28°.86N×47°.29E,h6km,ML3.6*
ISN ***22*** *17:03:03.9±2.5,30°.69N×47°.23E,h0km±54km,ML3.4*
ISC 22 17:02:46.2±2.2,29°.1N±0°.1×47°.51E±0°.08,h13km,n30,
σ0.96/31,Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NSR	**Nassriya**	**2.27**	**329**		*e*PG		**Pn**	**17 03 22.6**	**-0.7**
NSR					eSG		Sn	17 03 39.2	-12
NSR	**Nassriya**	**2.27**	**329**		*e*Pg		**Pn**	**17 03 22.6**	**-0.7**
	SNR=90								
NSR					*e*Sg		Sn	17 03 39.2	-12
	SNR=90								
IKAZ	**Kazeroun**	**3.84**	**78**		*e*Pn		**Pn**	**17 03 45.6**	**+0.3**
IKAZ					*e*			17 04 59.9	
	comp=Z,1μm,0.3s								
IKAZ	**Kazeroun**	**3.84**	**78**		*e*Pn		**Pn**	**17 03 45.6**	**+0.3**
IBDR	**Badra**	**4.25**	**342**		*e*PN4		**Pn**	**17 03 48.6**	**-1.9**
IBDR					eSN4		x	17 04 18.9	
IKFM	**Kafar-mosalman**	**4.45**	**4**		*e*Pn		**Pn**	**17 03 54.0**	**+0.7**
IKFM	**Kafar-mosalman**	**4.45**	**4**		*e*Pn		**Pn**	**17 03 54.0**	**+0.7**
IKMR	**Kamar-syah**	**4.49**	**9**		*e*Pn		**Pn**	**17 03 54.8**	**+0.9**
IKMR	**Kamar-syah**	**4.49**	**9**		*e*Pn		**Pn**	**17 03 54.8**	**+0.9**
IPIR	**Pirpir**	**4.62**	**38**		*e*Pn		**Pn**	**17 03 56.5**	**+0.4**
IPIR					*e*			17 04 53.2	
	comp=Z,316nm,0.3s								
IPIR	**Pirpir**	**4.62**	**38**		*e*Pn		**Pn**	**17 03 56.5**	**+0.4**
IDOB	**Doab**	**4.73**	**7**		*e*Pn		**Pn**	**17 03 58.0**	**+0.5**
IDOB	**Doab**	**4.73**	**7**		*e*Pn		**Pn**	**17 03 58.0**	**+0.5**
IPAR	**Pars**	**4.89**	**80**		*e*Sn		**Sn**	**17 04 56.2**	**-0.1**
IPAR	**Pars**	**4.89**	**80**		*e*Sn		**Sn**	**17 04 56.2**	**-0.1**
ISRV	**Sarvestan**	**4.90**	**85**		*e*Pn		**Pn**	**17 03 59.8**	**-0.1**
ISRV					*e*			17 05 11.0	
	comp=Z,310nm,0.4s								
ISRV	**Sarvestan**	**4.90**	**85**		*e*Pn		**Pn**	**17 03 59.8**	**-0.1**
BHD	**Baghdad**	**4.97**	**328**		*e*PN4			17 04 01.9	
BHD	**Baghdad**	**4.97**	**328**		*e*Pn		**Pn**	**17 04 01.9**	**+1.4**
	SNR=39								
IKOM	**Komasi**	**5.09**	**360**		*e*Pn		**Pn**	**17 04 01.9**	**-0.4**
IKOM					*e*			17 05 11.0	
	comp=E,371nm,0.2s								
IKOM	**Komasi**	**5.09**	**360**		*e*Pn		**Pn**	**17 04 01.9**	**-0.4**
IGHG	**Ghaleghazi**	**5.30**	**352**		*e*Pn		**Pn**	**17 04 05.1**	**-0.2**
IGHG					*e*			17 05 12.6	
	comp=Z,276nm,0.1s								
IGHG	**Ghaleghazi**	**5.30**	**352**		*e*Pn		**Pn**	**17 04 05.1**	**-0.2**
IVIS	**Veis**	**5.47**	**354**		*e*Pn		**Pn**	**17 04 06.8**	**-0.6**
IVIS	**Veis**	**5.47**	**354**		*e*Pn		**Pn**	**17 04 06.8**	**-0.6**
IZEF	**Zefreh**	**5.62**	**46**		*e*Pn		**Pn**	**17 04 09.5**	**-0.2**
IZEF					*e*			17 05 17.9	
	comp=Z,88nm,0.2s								
IZEF	**Zefreh**	**5.62**	**46**		*e*Pn		**Pn**	**17 04 09.5**	**-0.2**
IDHR	**Dehrash**	**5.69**	**351**		*e*		**Sn**	**17 05 19.0**	**+3.1**
	comp=Z,550nm,0.1s								
IRAZ	**Razeghan**	**6.64**	**17**		*e*Pn		**Pn**	**17 04 23.4**	**-0.2**
IRAZ					*e*			17 04 28.1	
	comp=Z,199nm,0.2s								
IRAZ					*e*Sn		**Sn**	**17 05 37.7**	**-1.5**
IRAZ	**Razeghan**	**6.64**	**17**		*e*Pn		**Pn**	**17 04 23.4**	**-0.2**
IRAZ					*e*Sn		**Sn**	**17 05 37.7**	**-1.5**

NEIC ***22*** *17:03:37.0±1.1,17°.81S×178°.56W,h537km±14km, mb4.7/13,Error ellipse: s-maj=24.0km s-min=11.2km az=149.0*
BJI ***22*** *17:03:36.2,17°.80S×178°.60W,h536km,mB4.9/8, mb4.4/19*
IDC ***22*** *17:03:37.7±1.5,17°.87S×178°.58W,h548km±19km, mb3.6/11,mb1 3.8/13,mb1mx3.6/30,mbtmp4.6/13,Error ellipse: s-maj=18.7km s-min=11.5km az=157.0*
ISCJB ***22*** *17:03:39.1±0.4,17°.94S±0°.08×178°.60W±0°.07,h579km, mb4.4/28,Error ellipse: s-maj=11.7km s-min=7.7km az=146.3*
ISC 22 17:03:39.8±0.5,18°.03S±0°.10×178°.52W±0°.08,h579km,
n87,σ1§38/88,mb4.5/28,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**7.67**	**59**		*e*P		P	17 05 30.4	-5.1
	89nm,0.6s								
AFI	**Afiamalu**	**7.67**	**59**		P		P	17 05 30.6	-4.8
	17nm,0.3s,baz=106,slow=5.5,SNR=28								
NIUE	**Niue**	**8.22**	**99**		P		**P**	**17 05 40.0**	**-0.6**
	baz=8.7,SNR=5.7								
RAO	**Raoul Island**	**11.19**	**177**		Pn		P	17 05 59.5	-11
DZM	**Mont Dzumac**	**14.69**	**252**		P		**P**	**17 06 43.9**	**-1.9**
	3.0nm,0.3s,baz=76,slow=18,SNR=22								
URZ	**Urewera**	**20.52**	**190**		P		**P**	**17 07 38.3**	**-0.7**
	13nm,0.7s,baz=50,slow=4.4,SNR=8.1								
EIDS	**Eidsvold**	**29.13**	**250**		*e*P		**P**	**17 08 54.4**	**-0.8**
	20nm,0.8s								
EIDS	**Eidsvold**	**29.13**	**250**		P		**P**	**17 08 54.9**	**-0.4**
	baz=29,SNR=5.8								
ARMA	**Armidale**	**29.79**	**240**		*e*P		**P**	**17 09 02.0**	**+0.9**
	19nm,0.6s								
ARMA	**Armidale**	**29.79**	**240**		P		**P**	**17 09 02.3**	**+1.3**
	baz=30,SNR=41								
MGCD	**Mangrove Creek**	**31.14**	**235**		P		**P**	**17 09 14.4**	**+2.0**
	baz=31,SNR=9.8								
RMQ	**Roma**	**31.36**	**249**		P		**P**	**17 09 15.2**	**+0.7**
	baz=31,SNR=33								
CNB	**Canberra Magne**	**33.27**	**232**		P		**P**	**17 09 32.1**	**+1.6**
	baz=33,SNR=26								
CTA	**Charters Tower**	**33.32**	**261**		P		**P**	**17 09 30.6**	**-0.5**
	14nm,0.6s,baz=98,slow=12,SNR=18								
CTAO	**Charters Tower**	**33.32**	**261**		*e*P		**P**	**17 09 30.0**	**-1.1**
	18nm,0.7s								
PMG	**Port Moresby**	**34.37**	**280**		*e*P		**P**	**17 09 39.6**	**-0.3**
	63nm,0.9s								
PMG	**Port Moresby**	**34.37**	**280**		P		**P**	**17 09 39.3**	**-0.7**
	57nm,1.0s,baz=103,slow=6.7,SNR=7.1								
PMG	**Port Moresby**	**34.37**	**280**		P		**P**	**17 09 40.1**	**+0.1**
	baz=34,SNR=4.2								
CMSA	**Cobar Meteorol**	**35.00**	**241**		P		**P**	**17 09 45.7**	**+0.8**
	baz=35,SNR=60								
QLP	**Quilpie**	**35.39**	**249**		P		**P**	**17 09 48.4**	**+0.1**
	baz=35,SNR=30								
COEN	**Coen**	**37.00**	**271**		P		**P**	**17 10 01.5**	**-0.1**
	baz=37,SNR=27								
TOO	**Toolangi**	**37.01**	**231**		P		**P**	**17 10 03.1**	**+1.6**
	baz=37,SNR=19								
STKA	**Stephens Creek**	**38.48**	**241**		*e*P		**P**	**17 10 14.3**	**+0.9**
	7.2nm,0.8s								
STKA	**Stephens Creek**	**38.48**	**241**		P		**P**	**17 10 14.7**	**+1.3**
	19nm,0.5s,baz=94,slow=9.9,SNR=76								
STKA	**Stephens Creek**	**38.48**	**241**		P		**P**	**17 10 14.7**	**+1.3**
	baz=38,SNR=54								
ARPS	**Mount Arapiles**	**39.49**	**234**		P		**P**	**17 10 22.7**	**+1.2**
	baz=39,SNR=6.7								
QIS	**Mount Isa**	**39.53**	**259**		P		**P**	**17 10 25.2**	**+3.1**
	baz=39,SNR=3.6								
HTT	**Hallett**	**40.99**	**240**		P		**P**	**17 10 34.7**	**+1.1**
	baz=41,SNR=21								
BBOO	**Buckleboo**	**43.26**	**241**		P		**P**	**17 10 51.9**	**+0.7**
	baz=43,SNR=85								
WRAB	**Tennant Creek**	**44.50**	**260**		*e*P		**P**	**17 10 59.7**	**-1.3**
	9.6nm,0.6s								
WRA	**Warramunga Arr**	**44.51**	**260**		P		**P**	**17 10 59.9**	**-1.2**
	10nm,0.5s,baz=95,slow=6.9,SNR=255								
AS31	**Alice Springs**	**44.66**	**254**		*e*P		**P**	**17 11 02.1**	**-0.2**
ASAR	**Alice Springs**	**44.66**	**254**		P		**P**	**17 11 02.2**	**0.0**
	116nm,0.6s,baz=89,slow=8.0,SNR=3388								
ASAR					S		**S**	**17 16 56.4**	**-1.0**
	0.8nm,0.8s,baz=92,slow=16,SNR=4.4								
KDU	**Kakadu**	**47.45**	**269**		P		**P**	**17 11 22.9**	**-0.5**
	baz=47,SNR=10								
MTN	**Manton Dam**	**48.69**	**269**		P		**P**	**17 11 31.9**	**-0.8**
	baz=48,SNR=3.8								
WRKA	**Warakurna**	**49.71**	**252**		P		**P**	**17 11 40.3**	**+0.2**
	baz=49,SNR=137								
FORT	**Forrest**	**49.86**	**245**		P		**P**	**17 11 41.0**	**-0.1**
	baz=50,SNR=28								
KNRA	**Kununurra**	**50.37**	**264**		P		**P**	**17 11 44.5**	**-0.5**
	baz=50,SNR=15								
FAKI	**Fak Fak**	**50.50**	**281**		P		**P**	**17 11 45.2**	**-0.7**
	baz=50,SNR=4.9								
SOEI	**Soe**	**55.97**	**270**		*e*P		**P**	**17 12 26.0**	**+1.2**
	32nm,0.6s								
SOEI	**Soe**	**55.97**	**270**		P		**P**	**17 12 26.2**	**+1.4**
	baz=56,SNR=10								
MEEK	**Meekatharra**	**58.29**	**249**		P		**P**	**17 12 40.2**	**-0.2**
	baz=58,SNR=4.5								
LUWI	**Luwuk**	**60.02**	**279**		P		P	17 12 44.4	-7.6
	baz=60,SNR=5.8								
MORW	**Morawa**	**60.34**	**246**		P		**P**	**17 12 54.1**	**+0.2**
	baz=60,SNR=4.2								
RPN	**Rapa Nui**	**63.84**	**112**		P		**P**	**17 13 17.9**	**+1.3**
	1.9nm,0.6s,baz=52,slow=2.6,SNR=5.9								
JAGI	**Jajag, Banyuwa**	**65.93**	**269**		P		**P**	**17 13 28.6**	**-1.4**
	baz=66,SNR=4.6								
MJAR	**Matsushiro Arr**	**67.94**	**323**		P		**P**	**17 13 40.0**	**-1.8**
	2.6nm,0.7s,baz=165,slow=7.0,SNR=7.3								
KKM	**Kota Kinabalu**	**68.67**	**284**		*e*P		**P**	**17 13 46.1**	**-0.7**
	20nm,0.9s								
UGM	**Wanagama**	**69.54**	**268**		P		**P**	**17 13 51.8**	**-0.1**
	baz=69,SNR=8.0								
QSPA	**South Pole Qui**	**72.03**	**180**		*e*P		**P**	**17 14 08.2**	**+2.5**
	1.7nm,0.7s								
KSM	**Kuching**	**72.59**	**277**		*e*P		**P**	**17 14 10.2**	**+0.4**
	30nm,0.9s								
KSM	**Kuching**	**72.59**	**277**		P		**P**	**17 14 10.4**	**+0.6**
	baz=72,SNR=8.6								
MDJ	**Mudanjiang**	**78.22**	**325**		P		**P**	**17 14 39.6**	**-0.7**
CN2	**Changchun**	**80.05**	**322**		*e*P		**P**	**17 14 50.6**	**+0.6**
CN2						pmax	pmax		
	comp=Z,100nm,0.6s								
WHN	**Wuhan**	**80.59**	**306**		*e*P		**P**	**17 14 53.4**	**+0.3**
PMR	**Palmer**	**82.74**	**14**		P		**P**	**17 15 04.9**	**+1.6**
SEY	**Seymchan**	**83.87**	**347**		P		**P**	**17 15 08.2**	**-0.7**
	baz=185,slow=12								
ENH	**Enshi**	**84.25**	**304**		*e*P		**P**	**17 15 12.2**	**+0.7**
	9.9nm,1.2s								
GYA	**Guiyang**	**85.00**	**300**		P		**P**	**17 15 16.0**	**+0.6**
GYA						pP	pP	17 17 13.8	-5.9
GYA						sP	sP	17 18 07.5	-11
GYA						PP	**PP**	**17 18 45.3**	**+1.7**
GYA						SKS	**SKSac**	**17 24 44.0**	**-1.6**
GYA						S	**S**	**17 24 59.6**	**+2.3**
GYA						pmax	pmax		
	comp=Z,10.0nm,1.0s								
ILAR	**Eielson Array**	**86.03**	**13**		P		**P**	**17 15 18.2**	**-1.1**
	0.4nm,0.9s,baz=210,slow=6.3,SNR=4.3								
PV01	**Paradox Valley**	**86.10**	**48**		P		**P**	**17 15 19.2**	**-1.4**
XAN	**Xi'an**	**86.25**	**307**		P		**P**	**17 15 21.9**	**+0.8**
XAN						pmax	pmax		
	comp=Z,3.0nm,1.0s								
BILL	**Bilibino**	**86.54**	**354**		P		**P**	**17 15 21.4**	**-0.2**
HHC	**Hu-ho-hao-te**	**87.28**	**314**		*e*P		P	17 15 30.9	+5.0
HHC						pP	pP	17 17 29.0	-2.1
HHC						sP	sP	17 18 21.8	-7.4
HHC						S	**ScS**	**17 25 24.9**	**+2.2**
HHC						SS	**SS**	**17 31 26.9**	**+6.0**
HHC						pmax	pmax		
	comp=Z,38nm,1.0s								
HHC						pmax	pmax		
	comp=Z,160nm,7.1s								
PDAR	**Pinedale Array**	**87.51**	**43**		P		**P**	**17 15 27.8**	**+0.7**
	0.4nm,0.5s,baz=229,slow=6.8,SNR=3.1								
KMI	**Kunming**	**87.79**	**297**		P		**P**	**17 15 29.3**	**+0.5**
KMI						S	**S**	**17 25 25.6**	**+1.8**
KMI						pmax	pmax		
	comp=Z,5.0nm,1.4s								
CMAR	**Chiang Mai Arr**	**88.82**	**290**		P		**P**	**17 15 34.5**	**+1.0**
	2.6nm,0.9s,baz=109,slow=2.9,SNR=22								
CHTO	**Chiang Mai**	**88.94**	**290**		*e*P		**P**	**17 15 34.7**	**+0.7**
	5.1nm,1.0s								
CD2	**Chengdu**	**89.04**	**303**		*e*P		**P**	**17 15 34.1**	**-0.2**
CD2						pmax	pmax		
	comp=Z,10.0nm,1.2s								
LZH	**Lanzhou**	**90.88**	**308**		ǁP		**P**	**17 15 40.8**	**-2.0**
LZH						pP	pP	17 17 39.5	-9.3
LZH						sP	sP	17 18 38.0	-8.6
LZH						PP	**PP**	**17 19 27.6**	**-2.1**
LZH						pmax	pmax		
	comp=Z,14nm,1.6s								
LZH						pmax	pmax		
	comp=Z,78nm,9.3s								
SONM	**Songino Array**	**93.57**	**319**		P		**P**	**17 15 55.1**	**+0.2**
	0.6nm,1.0s,baz=113,slow=3.9,SNR=3.5								
GTA	**Gaotai**	**95.03**	**310**		*e*P		**P**	**17 16 02.4**	**+0.8**
GTA						pP	**pP**	**17 18 03.1**	**-5.0**
GTA						sP	sP	17 18 56.0	-10
GTA						pmax	pmax		
	comp=Z,2.0nm,1.2s								
ZALV	**Zalesovo Beam**	**108.26**	**322**		PKiKP		**PKiKP**	**17 21 01.9**	**-0.7**
	0.2nm,0.4s,baz=93,slow=3.0,SNR=3.7								
MKAR	**Makanchi Array**	**109.14**	**314**		PKiKP		**PKiKP**	**17 21 04.3**	**-0.2**
	0.4nm,0.6s,baz=97,slow=0.8,SNR=5.1								
KSH	**Kashi**	**113.06**	**306**		*e*SS		SS	17 37 19.8	+5.1
KSH						AMB	AMB		
	comp=Z,79nm,4.0s								
KSH						LR	LR		
	comp=N,29nm,5.8s								
KSH						LR	LR		
	comp=E,44nm,4.8s								
KSH						LR	LR		
	comp=Z,68nm,4.4s								
BR131	**Keskin Array S**	**144.79**	**315**		*e*PKPdf		PKPbc	17 22 12.5	+0.1
BRTR	**Keskin Array B**	**144.79**	**315**		PKP		**PKPab**	**17 22 12.8**	**-0.5**
	comp=Z,4.2nm,0.9s,baz=120,slow=1.8,SNR=15								
KOLS	**Kolonicke sedl**	**144.87**	**336**		*e*PKP		PKPbc	17 22 12.1	-0.1
CRVS	**Cervenica-Dubn**	**145.20**	**337**		*e*PKP		**PKPab**	**17 22 13.8**	**-0.6**
CLL	**Collm**	**145.56**	**347**		*i* PKPbc		**PKPbc**	**17 22 14.4**	**+0.3**
	comp=Z,11nm,1.3s								
DPC	**Dobruska-Polom**	**145.63**	**343**		*e*PKP		**PKPbc**	**17 22 14.8**	**+0.4**
BRG	**Bergqjesshubel**	**145.75**	**346**		*e*PKP		**PKPbc**	**17 22 15.2**	**+0.5**
	comp=Z,9.4nm,1.5s								
KECS	**Kecovo**	**145.91**	**337**		*e*PKP		**PKPbc**	**17 22 16.0**	**+0.8**
PRU	**Pruhonice**	**146.43**	**345**		*e*PKP		**PKPbc**	**17 22 16.1**	**-0.5**
KHC	**Kasperske Hory**	**147.46**	**345**		*e*PKP		**PKPbc**	**17 22 19.8**	**+0.4**
GERES	**GERESS Array B**	**147.70**	**345**		PKPbc		**PKPbc**	**17 22 20.7**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=17,slow=2.5,SNR=19								
DOU	**Dourbes**	**147.91**	**356**		PKP		**PKPbc**	**17 22 19.7**	**-0.7**

NIED ***22*** *17:17:00,44°.00N×148°.00E,h53km,Mw3.7 Best double couple: M0 4.08000×10^14 NP1:φs282.00000°,δ18.00000°, λ158.00000°. NP2:φs33.00000°,δ83.00000°,λ73.00000°.*
JMA ***22*** *17:17:55.9±0.3,43°.96N×148°.01E,h0km,M4.4*
ISCJB ***22*** *17:17:55.2±0.7,44°.36N±0°.05×148°.24E±0°.08,h55km, mb3.4/6,Error ellipse: s-maj=9.2km s-min=5.6km az=39.6*
SKHL ***22*** *17:17:56.5±0.6,44°.44N×148°.26E,h68km±4km,mb4.5/4*
MOS ***22*** *17:17:56.2±0.8,44°.53N×148°.14E,h65km,mb4.0/1,Error ellipse: s-maj=20.8km s-min=17.4km az=23.5*
IDC ***22*** *17:17:58.8±4.4,44°.51N×148°.12E,h70km±39km,mb3.1/6, mb1 3.3/7,mb1mx3.2/31,mbtmp3.4/7,ML3.3/1,Error ellipse: s-maj=34.1km s-min=21.9km az=142.0*
ISC 22 17:17:56.2±0.9,44°.35N±0°.05×148°.30E±0°.08,h55km,n27,
σ1§31/37,mb3.4/6,2C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KUR	**Kuril'sk**	**0.94**	**341**		ǁ*i*PN		**Pn**	**17 18 11.8**	**-1.4**
KUR					*e*S		**Sn**	**17 18 23.8**	**-2.0**
KUR						pmax	pmax		
	comp=N,300nm,0.5s								
KUR						pmax	pmax		
	comp=Z,530nm,0.5s								
KUR						pmax	pmax		
	comp=E,190nm,0.4s								
KUR						smax	smax		
	comp=N,2μm,0.5s								
KUR						smax	smax		
	comp=E,1μm,0.5s								
KUR						smax	smax		
	comp=N,8μm,4.0s								
KUR	**Kuril'sk**	**0.94**	**341**		*e*P		**Pn**	**17 18 11.8**	**-1.4**
KUR						AMB	AMB	17 18 12.3	
	comp=N,300nm,0.5s								
KUR						AMB	AMB	17 18 12.3	
	comp=N,190nm,0.5s								
KUR						AMB	AMB	17 18 12.3	
	comp=N,530nm,0.5s								
KUR					*e*S		**Sn**	**17 18 23.8**	**-2.0**
KUR					A		A	17 18 25.0	
	comp=N,2μm,0.5s								
KUR					A		A	17 18 25.0	
	comp=N,1μm,0.5s								
KUR					A		A	17 18 34.4	
	comp=N,8μm,4.0s								
SHO	**Shikotan**	**1.16**	**246**		*e*P		**Pn**	**17 18 15.0**	**-1.2**
SHO						AMB	AMB	17 18 15.3	
	comp=N,160nm,0.3s								
SHO					*e*S		**Sn**	**17 18 28.6**	**-2.5**
SHO					A		A	17 18 30.6	
	comp=N,840nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**1.78**	**261**		*i* PN		**Pn**	**17 18 24.4**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.78**	**261**		*e*P		**Pn**	**17 18 24.4**	**-0.2**
YUK						AMB	AMB	17 18 25.5	
	comp=N,54nm,0.3s								
YUK						AMB	AMB	17 18 25.5	
	comp=N,64nm,0.3s								
YUK						AMB	AMB	17 18 25.5	
	comp=N,294nm,0.3s								
YUK					*e*S		**Sn**	**17 18 45.0**	**-1.1**
YUK					A		A	17 18 47.8	
	comp=N,512nm,0.5s								
YUK					A		A	17 18 47.8	
	comp=N,959nm,0.5s								
NEM2	**Nemuro 2**	**2.09**	**243**		P		**Pn**	**17 18 27.8**	**-1.1**
NEM2					*e*S		**Sn**	**17 18 51.2**	**-2.5**
JRA	**Rausu**	**2.32**	**261**		P		**Pn**	**17 18 32.7**	**+0.7**
JNK	**Nakash**	**2.69**	**255**		P		**Pn**	**17 18 37.3**	**+0.2**
JNK					*e*S		**Sn**	**17 19 07.6**	**-0.9**
JAK	**Akkeshi**	**2.94**	**244**		P		**Pn**	**17 18 40.0**	**-0.5**
JTKR	**Abashiri--Toko**	**3.18**	**265**		P		**Pn**	**17 18 45.6**	**+1.9**
JAR	**Ashorobuto**	**3.44**	**254**		P		**Pn**	**17 18 48.3**	**+1.0**
JCH	**Churui**	**3.99**	**246**		P		**Pn**	**17 18 55.0**	**+0.2**
JKA	**Kamikawa-asahi**	**4.10**	**269**		*e*P		**Pn**	**17 18 57.4**	**+1.0**
ASAJ	**Asahikawa**	**4.10**	**269**		P		**Pn**	**17 18 57.4**	**+1.0**
	comp=N,1.6nm,0.3s,baz=232,slow=29,SNR=16								
JNBK	**Urakawa-nobuka**	**4.54**	**245**		P		**Pn**	**17 19 03.2**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.68**	**306**		ǁ*e*PN		**Pn**	**17 19 04.2**	**0.0**
YSS					*e*S		**Sn**	**17 19 58.0**	**+0.8**
YSS					pmax		pmax		
	comp=Z,20nm,0.4s								
YSS					smax		smax		
	comp=E,20nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.68**	**306**		*e*P		**Pn**	**17 19 04.2**	**0.0**
YSS					AMB		AMB	17 19 06.1	
	comp=E,20nm,0.4s								
YSS					*e*S		**Sn**	**17 19 58.0**	**+0.8**
YSS					A		A	17 19 59.0	
	comp=E,20nm,0.8s								
JKB	**Kayabe**	**5.86**	**248**		P		**Pn**	**17 19 21.1**	**+0.7**
JKB					*e*S		**Sn**	**17 20 24.4**	**-1.8**
JOT	**Ohata**	**6.10**	**243**		P		**Pn**	**17 19 23.8**	**+0.1**
JOT					*e*S		**Sn**	**17 20 28.7**	**-3.3**
YAK	**Yakutsk**	**20.79**	**335**		ǁ*e*P		Pn	17 22 46.9	+11
SONM	**Songino Array**	**29.01**	**292**		P		**P**	**17 23 50.3**	**-0.6**
	comp=E,0.3nm,0.7s,baz=97,slow=10.0,SNR=3.5								
ILAR	**Eielson Array**	**40.52**	**37**		P		**P**	**17 25 30.1**	**+0.6**
	comp=E,0.2nm,0.5s,baz=277,slow=9.3,SNR=4.4								
MKAR	**Makanchi Array**	**45.04**	**297**		P		**P**	**17 26 05.7**	**-0.7**
MKAR								17 27 46.2	
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**45.04**	**297**		P		**P**	**17 26 05.7**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=74,slow=9.0,SNR=7.4								
MKAR					PcP		**PcP**	**17 27 46.1**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=62,slow=4.7,SNR=4.0								
CMAR	**Chiang Mai Arr**	**48.49**	**254**		P		**P**	**17 26 34.6**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=33,slow=6.9,SNR=4.2								
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YUK **Yuzh-Kuril'sk** 6.86 23*c* *i*P **Pn** 17 34 03.6 -0.1
YUK *i* S **Sn** 17 35 16.6 -4.1
YUK pmax pmax
comp=Z,95nm,0.4s
YUK pmax pmax
comp=N,66nm,0.6s
YUK pmax pmax
comp=E,35nm,0.6s
YUK smax smax
comp=N,358nm,0.4s
YUK smax smax
comp=E,333nm,0.6s
YSS **Yuzh-Sakhalins** 9.20 3 *e*P **Pn** 17 34 36.0 +0.3
YSS *e*S **Sn** 17 36 16.0 -2.1
YSS pmax pmax
comp=Z,20nm,0.8s
YSS **Yuzh-Sakhalins** 9.20 3 Pn **Pn** 17 34 35.3 -0.4
comp=Z,29nm,0.9s
VLA **Vladivostok** 9.49 308 ⇓P **Pn** 17 34 40.4 +0.7
VLA pmax pmax
comp=Z,12nm,0.9s
USRK **Ussuriysk Arra** 10.02 313 Pn **Pn** 17 34 48.0 +1.0
comp=Z,0.9nm,0.3s,baz=126,slow=13,SNR=35
USRK LR LR 17 38 25.2
comp=Z,636nm,19.5s,baz=97,slow=36
JNU **Nakatsue** 10.30 247 Pn **Pn** 17 34 52.6 +1.7
JNU **Nakatsue** 10.30 247 Pn **Pn** 17 34 52.6 +1.7
comp=Z,0.4nm,0.3s,baz=22,slow=5.4,SNR=3.7
JNU LR LR 17 39 22.0
comp=Z,530nm,18.9s,baz=64,slow=40
KSRS **Korea Array** 11.30 273 Pn **Pn** 17 35 06.1 +1.5
comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=18
KSRS LR LR 17 39 16.0
comp=Z,473nm,19.2s,baz=88,slow=36
KSAR **Wonju Array Be** 11.34 273 Pn **Pn** 17 35 06.1 +1.1
MDJ **Mudanjiang** 11.68 310 P **Pn** 17 35 10.3 +0.6
MDJ S **Sn** 17 37 19.6 +0.6
MDJ PcP **PcP** 17 40 58.0 -0.2
MDJ ScP **ScP** 17 44 27.5 -1.2
MDJ PcS **PcS** 17 44 32.3 +0.3
MDJ ScS **ScS** 17 48 03.0 -1.2
MDJ pmax pmax
comp=Z,8.0nm,2.2s
MDJ pmax pmax
comp=Z,170nm,4.9s
MDJ LR LR
comp=Z,340nm,17.2s
MDJ LR LR
comp=Z,310nm,17.2s
MDJ LR LR
comp=Z,570nm,21.9s
MDJ **Mudanjiang** 11.68 310 *e*Pn **Pn** 17 35 12.1 +2.4
comp=Z,28nm,1.2s
HABR **Khabarovsk** 11.89 336 *e*P **Pn** 17 35 09.6 -3.0
HABR pmax pmax
comp=Z,94nm,2.5s
HABR MLR MLR
comp=Z,598nm,17.0s
KLR **Kul'dur** 13.71 330 *e*P **Pn** 17 35 35.4 -2.0
CN2 **Changchun** 14.02 301 *e*P **Pn** 17 35 42.6 +0.9
CN2 *e*SP 17 35 57.9
CN2 *e*S **Sn** 17 38 16.3 +0.1
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,500nm,13.0s
CN2 LR LR
comp=Z,300nm,20.0s
PETK **Petropavlovsk-** 18.76 30 LR LR 17 44 24.7
comp=Z,74nm,18.7s,baz=215,slow=38
HIA **Hailar** 19.84 313 *e*P **Pn** 17 36 56.6 +1.5
comp=Z,11nm,0.9s
NJ2 **Nanjing** 19.93 260 *e*P **P** 17 36 54.3 -0.2
NJ2 pmax pmax
comp=Z,20nm,1.1s
TIA **Tai'an** 20.05 273 ⇑P **P** 17 36 54.3 -1.5
TIA pmax pmax
comp=Z,30nm,1.3s
TIA LR LR
comp=Z,220nm,10.4s
TIA LR LR
comp=Z,500nm,13.0s
TIA LR LR
comp=Z,310nm,18.0s
BJI **Beijing** 20.34 285 P **P** 17 36 56.6 -2.2
BJI S **S** 17 40 43.4 -1.7
BJI pmax pmax
comp=Z,12nm,0.8s
BJI LR LR
comp=Z,130nm,21.8s
TPUB **Ta-pu** 23.41 238 *e*P **P** 17 37 28.6 -3.1
comp=Z,48nm,1.1s
HHC **Hu-ho-hao-te** 23.82 287 *e*P **P** 17 37 34.3 -1.3
HHC pP **pP** 17 37 46.0 +1.9
HHC PP **PnPn** 17 38 07.6 +3.7
HHC S **S** 17 41 43.8 -5.7
HHC sS **sS** 17 42 03.5 -0.3
HHC SS **SnSn** 17 42 37.8 +8.5
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=Z,250nm,12.1s
HHC LR LR
comp=Z,560nm,10.6s
HHC LR LR
comp=Z,460nm,14.9s
WHN **Wuhan** 24.06 261 ⇓P **P** 17 37 38.8 +1.1
WHN S **S** 17 41 52.4 -0.8
WHN LR LR
comp=Z,1μm,16.2s
CIT **Chita** 24.58 315 *e*P **P** 17 37 41.7 -0.7
CIT *e* 17 37 52.2
YAK **Yakutsk** 25.50 346 *e*P **P** 17 37 48.7 -1.8
YAK *e**PP **pP** 17 37 58.9 -0.3
YAK *e* 17 38 25.3
YAK *e*PPP PPP 17 38 34.6
YAK *e*S **S** 17 42 18.5 +2.8
YAK *e**SS **sS** 17 42 33.5 +3.5
YAK *e*SS **SnSn** 17 43 13.8 +4.0
YAK *e*SSS SSS 17 43 37.1
YAK *e* 17 48 44.7
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=Z,54nm,3.0s
YAK pmax pmax
comp=N,69nm,2.8s
YAK pmax pmax
comp=E,53nm,3.0s
YAK smax smax
comp=E,75nm,2.8s
YAK smax smax
comp=N,102nm,2.4s
YAK MLR MLR
comp=Z,229nm,16.0s
YAK MLR MLR
comp=N,273nm,22.0s
YAK **Yakutsk** 25.50 346 *e*P **P** 17 37 48.7 -1.8
comp=N,31nm,1.0s
SEY **Seymchan** 25.96 11 P **P** 17 37 55.4 +0.7
SEY pmax pmax
comp=Z,3.0nm,0.7s
SEY **Seymchan** 25.96 11 P **P** 17 37 55.4 +0.7
SEY **Seymchan** 25.96 11 P **P** 17 37 55.4 +0.7
comp=Z,2.9nm,0.7s,baz=358,slow=23,SNR=17
XAN **Xi'an** 27.10 272 P **P** 17 38 03.6 -1.8
XAN pP **pP** 17 38 12.0 -2.1
XAN S S 17 42 34.1 -7.6
XAN pmax pmax
comp=Z,2.0nm,1.0s
XAN pmax pmax
comp=Z,38nm,5.5s
XAN LR LR
comp=Z,150nm,9.4s
XAN LR LR
comp=Z,63nm,10.1s
XAN LR LR
comp=Z,54nm,13.3s
ULN **Ulaanbaatar** 27.45 303 *e*P **P** 17 38 07.7 -0.8
comp=Z,3.6nm,0.8s
SONM **Songino Array** 27.89 303 P **P** 17 38 12.0 -0.4
SONM **Songino Array** 27.89 303 P **P** 17 38 12.0 -0.4
comp=Z,11nm,0.8s,baz=100,slow=8.9,SNR=83
SONM LR LR 17 49 48.2
comp=Z,155nm,18.2s,baz=94,slow=38
ENH **Enshi** 28.00 264 *e*P **P** 17 38 11.6 -1.8
comp=Z,48nm,1.4s
H11N2 **WAKE ISLAND Hy** 28.02 123 T T 18 07 29.3
baz=318,slow=76,SNR=1088
H11N1 **WAKE ISLAND Hy** 28.03 123 T T 18 07 34.3
baz=318,slow=76,SNR=832
H11N3 **WAKE ISLAND Hy** 28.04 123 T T 18 07 36.8
baz=318,slow=76,SNR=766
H11S1 **WAKE ISLAND Hy** 28.77 125 T T 18 08 29.5
baz=320,slow=76,SNR=378
H11S3 **WAKE ISLAND Hy** 28.77 125 T T 18 08 39.6
baz=320,slow=76,SNR=429
H11S2 **WAKE ISLAND Hy** 28.79 125 T T 18 08 37.2
baz=320,slow=76,SNR=247
ZAK **Zakamensk** 30.30 307 ⇑*i*P **P** 17 38 32.7 -1.0
ZAK pmax pmax
comp=Z,7.0nm,1.2s
TLY **Talaya** 30.32 310 *e*P **P** 17 38 33.9 +0.1
TLY pmax pmax
comp=Z,6.0nm,1.2s
TLY MLR MLR
comp=Z,192nm,13.0s
TLY **Talaya** 30.32 310 P **P** 17 38 33.1 -0.6
comp=Z,6.1nm,0.9s
GYA **Guiyang** 31.93 260 ⇑*i*P **P** 17 38 46.0 -2.4
GYA pP **pP** 17 39 02.0 +4.8
GYA sP sP 17 39 08.4 +7.6
GYA PP **PnPn** 17 39 55.5 +1.8
GYA S **S** 17 43 55.3 -2.5
GYA sS **sS** 17 44 16.8 +4.5
GYA ScP **ScP** 17 45 16.0 -3.5
GYA ScS **ScS** 17 49 13.6 -4.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.0s
CD2 **Chengdu** 32.27 269 *e*P **P** 17 38 50.8 -0.5
CD2 sP **sP** 17 39 06.9 +3.2
CD2 S **S** 17 43 58.1 -4.8
CD2 SS **SnSn** 17 45 57.8 +2.2
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,170nm,7.1s
CD2 LR LR
comp=Z,280nm,11.9s
CD2 LR LR
comp=Z,340nm,14.3s
CD2 LR LR
comp=Z,370nm,11.9s
GTA **Gaotai** 32.93 286 ⇓P **P** 17 38 57.0 0.0
GTA pP **pP** 17 39 09.3 +3.5
GTA sP **sP** 17 39 14.1 +4.7
GTA PcP **PcP** 17 41 41.0 +0.2
GTA S **S** 17 44 11.3 -1.8
GTA sS **sS** 17 44 29.3 +1.7
GTA SS **SnSn** 17 46 13.3 +1.9
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,89nm,6.0s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,270nm,14.1s
GTA LR LR
comp=Z,230nm,14.7s
BILL **Bilibino** 33.16 16 *e*P **P** 17 38 58.0 -0.5
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL **Bilibino** 33.16 16 *e*P **P** 17 38 58.0 -0.5
comp=Z,5.0nm,1.1s
QIZ **Qiongzhong** 33.77 245 P **P** 17 39 04.1 -0.3
QIZ S **S** 17 44 24.8 -1.4
QIZ LR LR
comp=Z,83nm,17.7s
TIXI **Tiksi** 34.64 353 P **P** 17 39 10.2 -1.1
KMI **Kunming** 35.66 261 P **P** 17 39 20.3 -0.6
KMI pP **pP** 17 39 30.6 +0.8
KMI S **S** 17 44 55.3 -0.5
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=Z,250nm,9.6s
KMI LR LR
comp=Z,290nm,7.4s
KMI LR LR
comp=Z,230nm,16.6s
WMQ **Urumqi** 41.05 296 P **P** 17 40 06.3 +0.4
WMQ pP **pP** 17 40 18.6 +3.8
WMQ sP sP 17 40 24.0 +5.6
WMQ PP **PnPn** 17 41 46.3 +1.2
WMQ PcP **PcP** 17 42 08.9 +3.6
WMQ ScP **ScP** 17 45 53.1 +0.3
WMQ S **S** 17 46 17.6 +1.1
WMQ sS sS 17 46 39.3 +8.1
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,16nm,6.1s
WMQ LR LR
comp=Z,33nm,21.7s
WMQ LR LR
comp=Z,140nm,27.1s
WMQ LR LR
comp=Z,110nm,24.4s
ZAA0 **Zalesovo Array** 41.87 312 *e*P **P** 17 40 10.8 -1.6
ZAA0 *e* 17 40 22.4
ZALV **Zalesovo Beam** 41.87 312 *i*P **P** 17 40 11.6 -0.8
ZALV pmax pmax
comp=Z,11nm,0.9s
ZALV **Zalesovo Beam** 41.87 312 P **P** 17 40 11.6 -0.8
ZALV **Zalesovo Beam** 41.87 312 P **P** 17 40 11.6 -0.8
comp=Z,11nm,0.9s,baz=90,slow=7.4,SNR=41
ZALV LR LR 17 58 15.6
comp=Z,185nm,18.7s,baz=70,slow=37
CM31 **Chiang Mai Arr** 42.26 255 P **P** 17 40 15.3 -0.7
CMAR **Chiang Mai Arr** 42.26 255 P **P** 17 40 15.6 -0.3
CMAR **Chiang Mai Arr** 42.26 255 P **P** 17 40 15.6 -0.3
comp=Z,0.9nm,0.6s,baz=48,slow=6.3,SNR=11
CMAR LR LR 17 58 04.0
comp=Z,30nm,21.9s,baz=76,slow=36
LSA **Lhasa** 42.74 275 *e*P **P** 17 40 20.5 +0.2
LSA pmax pmax
comp=Z,19nm,1.3s
LSA **Lhasa** 42.74 275 *e*P **P** 17 40 20.5 +0.2
comp=Z,19nm,1.3s
NVS **Novosibirsk** 42.77 313 *e*P **P** 17 40 17.5 -2.2
NVS *e*S **S** 17 46 40.4 -1.1
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS pmax pmax
comp=Z,11nm,1.2s
NVS smax smax
comp=E,9.0nm,1.9s
MKAR **Makanchi Array** 44.24 302 *i*P **P** 17 40 31.2 -0.5
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR **Makanchi Array** 44.24 302 P **P** 17 40 30.5 -1.2
MKAR pP **pP** 17 40 41.5 +0.8
MKAR **Makanchi Array** 44.24 302 P **P** 17 40 30.5 -1.2
comp=Z,4.8nm,0.9s,baz=74,slow=8.9,SNR=34
MKAR pP **pP** 17 40 41.5 +0.8
comp=Z,9.6nm,0.8s,baz=52,slow=9.3,SNR=18
IM04 **Indian Mountai** 45.71 31 *e*P **P** 17 40 43.9 +0.8
KURK **Kurchatov** 45.96 308 P **P** 17 40 44.7 -0.5
KURK *PP **pP** 17 40 56.1 +1.9
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK **Kurchatov** 45.96 308 *e*P **P** 17 40 43.7 -1.5
comp=Z,17nm,0.9s
KURK *e* 17 40 55.6
KURK pP **pP** 17 40 56.1 +1.9
KURBB **Kurchatov Arra** 46.03 308 P **P** 17 40 44.7 -1.0
comp=Z,8.2nm,0.7s,baz=83,slow=8.1,SNR=61
KURBB pP **pP** 17 40 56.1 +1.3
comp=Z,19nm,0.8s,baz=80,slow=8.1,SNR=16
TAPN **Taplejung** 46.49 274 *e*P **P** 17 40 49.7 -0.3
comp=Z,17nm,0.9s
ODAN **Odare** 46.97 273 *e*P **P** 17 40 53.0 -0.7
comp=Z,24nm,1.0s
PMG **Port Moresby** 47.15 173 LR LR 17 59 45.7
comp=Z,28nm,20.4s,baz=5.0,slow=35
JIRN **Jiri** 47.55 275 *e*P **P** 17 40 57.8 -0.6
comp=Z,7.6nm,0.5s
RAMN **Ramite** 47.55 274 *e*P **P** 17 40 57.5 -0.8
comp=Z,26nm,0.9s
GUN **Gumba** 47.68 275 *e*P **P** 17 40 58.6 -0.8
comp=Z,52nm,1.0s
MCK **McKinley** 47.70 34 P **P** 17 40 58.3 -0.3
MCK **McKinley** 47.70 34 P **P** 17 40 58.3 -0.3
PKI **Pulchoki** 48.21 275 *e*P **P** 17 41 02.3 -1.1
KKN **Kakani** 48.21 276 *e*P **P** 17 41 02.5 -0.8
comp=Z,26nm,0.9s
PKIN **Phulchoki** 48.21 275 *e*P **P** 17 41 02.3 -1.1
comp=Z,4.1nm,0.5s
DMN **Daman** 48.43 275 *e*P **P** 17 41 04.3 -0.8
ILAR **Eielson Array** 48.56 33 P **P** 17 41 04.5 -0.8
ILAR **Eielson Array** 48.56 33 P **P** 17 41 04.5 -0.8
comp=Z,1.7nm,0.6s,baz=263,slow=5.7,SNR=22
ILAR LR LR 18 02 22.4
comp=Z,34nm,18.5s,baz=306,slow=37
GKN **Gorkha** 48.62 276 *e*P **P** 17 41 05.5 -0.9
comp=Z,46nm,1.0s
DANN **Dangsing** 49.15 277 *e*P **P** 17 41 10.0 -0.7
comp=Z,76nm,0.9s
KOLN **Koldanda** 49.54 276 *e*P **P** 17 41 13.0 -0.5
comp=Z,31nm,1.0s
HNR **Honiara** 49.81 157 LR LR 18 00 42.3
comp=Z,88nm,18.7s,baz=356,slow=34
TKM2 **Tokmak 2** 49.81 298 *e*P **P** 17 41 15.0 -0.5
TKM2 pmax pmax
comp=Z,13nm,1.0s
TKM2 **Tokmak 2** 49.81 298 *e*P **P** 17 41 15.0 -0.5
comp=Z,13nm,1.0s
PYUN **Piuthan** 49.87 277 *e*P **P** 17 41 15.0 -1.1
comp=Z,5.8nm,0.4s
BVAR **Borovoye Array** 50.53 312 P **P** 17 41 18.9 -1.5
BVAR *PP **pP** 17 41 30.0 +0.5
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR **Borovoye Array** 50.53 312 P **P** 17 41 18.9 -1.5
BVAR pP **pP** 17 41 30.0 +0.5
BVAR **Borovoye Array** 50.53 312 P **P** 17 41 18.9 -1.5
comp=Z,1.5nm,0.5s,baz=74,slow=8.2,SNR=10
BVAR pP **pP** 17 41 30.0 +0.5
comp=Z,1.4nm,0.6s,baz=64,slow=6.9,SNR=5.4
BRVK **Borovoye** 50.58 312 ⇑*e*P **P** 17 41 20.4 -0.4
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK **Borovoye** 50.58 312 P **P** 17 41 19.3 -1.5
KSH **Kashi** 50.66 294 *i*P P 17 41 25.3 +3.5
KSH *e*PP **PP** 17 43 22.1 +4.4
KSH *e*PcS **PcS** 17 46 37.8 +1.4
KSH *e*S **S** 17 48 36.3 +1.4
KSH *e*SS sS 17 48 57.3 +7.5
KSH *e*SS **SS** 17 52 07.9 -1.1
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,68nm,3.6s
KSH LR LR
comp=Z,76nm,4.9s
KSH LR LR
comp=Z,130nm,5.8s
KSH LR LR
comp=Z,160nm,4.9s
AAK **Ala-Archa** 50.67 298 ⇓*i*P **P** 17 41 21.6 -0.3
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK **Ala-Archa** 50.67 298 *e*P **P** 17 41 20.7 -1.2
comp=Z,3.1nm,0.8s
AAK **Ala-Archa** 50.67 298 P **P** 17 41 21.6 -0.3
comp=Z,2.5nm,0.7s,baz=111,slow=6.2,SNR=9.2
EKS2 **Erkin-Say** 51.17 298 *e*P **P** 17 41 24.5 -1.1
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 **Erkin-Say** 51.17 298 *e*P **P** 17 41 24.4 -1.1
comp=Z,3.3nm,0.8s
KKAR **Karatay Array** 53.28 300 *e*P **P** 17 41 40.0 -1.1
KKAR pmax pmax
comp=Z,13nm,1.1s
KKAR **Karatay Array** 53.28 300 *e*P **P** 17 41 40.0 -1.1
comp=Z,13nm,1.1s
INK **Inuvik** 53.47 27 *e*P **P** 17 41 42.1 0.0
comp=Z,8.1nm,1.4s
SVE **Sverdlovsk** 55.00 318 ⇑*i*P **P** 17 41 53.3 -0.1
SVE pmax pmax
comp=Z,21nm,1.1s
SVE MLR MLR
comp=Z,410nm,19.0s
ARU **Arti** 56.21 318 *d i*P **P** 17 42 01.0 -1.1
ARU 17 44 02.4
ARU S **S** 17 49 48.6 -0.9
ARU SS **SS** 17 53 31.9 -3.8
ARU pmax pmax
comp=Z,17nm,1.2s
ARU **Arti** 56.21 318 *e*P **P** 17 42 00.7 -1.4
comp=Z,12nm,0.9s
KBL **Kabul** 57.72 291 *e*P **P** 17 42 12.0 -1.4
KBL *e* 17 42 23.7
KBL pmax pmax
comp=Z,2.0nm,0.4s
KBL **Kabul** 57.72 291 *e*P **P** 17 42 11.9 -1.4
comp=Z,2.1nm,0.4s
KBL *e* 17 42 23.6
WRAB **Tennant Creek** 57.85 189 ⇓*e*P **P** 17 42 14.3 +0.2
WRAB pmax pmax
comp=Z,20nm,1.2s
WRAB **Tennant Creek** 57.85 189 *e*P **P** 17 42 13.3 -0.7
comp=Z,19nm,1.2s
WRA **Warramunga Arr** 57.87 189 P **P** 17 42 13.4 -0.7
WRA **Warramunga Arr** 57.87 189 P **P** 17 42 13.4 -0.7
comp=Z,4.8nm,0.6s,baz=6.1,slow=7.2,SNR=107
ABKAR **Akbulak array** 57.93 310 *e*P **P** 17 42 13.2 -1.1
comp=Z,2.0nm,0.6s
AKTO **Aktyubinsk** 58.63 312 P **P** 17 42 18.1 -1.2
AKTO pmax pmax
comp=Z,4.0nm,0.8s
AKTO **Aktyubinsk** 58.63 312 P **P** 17 42 18.1 -1.2
AKTO **Aktyubinsk** 58.63 312 P **P** 17 42 18.1 -1.2
comp=Z,3.8nm,0.8s,baz=75,slow=10,SNR=12
ASAR **Alice Springs** 61.59 189 P **P** 17 42 39.5 -0.2
ASAR pP **pP** 17 42 51.8 +2.8
ASAR **Alice Springs** 61.59 189 P **P** 17 42 39.5 -0.2
comp=Z,1.8nm,0.8s,baz=9.8,slow=5.4,SNR=23
ASAR pP **pP** 17 42 51.8 +2.8
comp=Z,1.8nm,0.8s,baz=6.8,slow=5.9,SNR=8.4
YKA **Yellowknife Ar** 62.88 31 P **P** 17 42 47.9 -0.1
YKA **Yellowknife Ar** 62.88 31 P **P** 17 42 47.8 -0.1
comp=Z,0.8nm,0.6s,baz=302,slow=6.6,SNR=16
ARCES **ARCESS Array B** 63.53 339 P **P** 17 42 50.9 -1.2
ARCES **ARCESS Array B** 63.53 339 P **P** 17 42 50.9 -1.2
comp=Z,3.1nm,0.8s,baz=53,slow=16,SNR=4.1
ARCES LR LR 18 13 17.9
comp=Z,67nm,19.2s,baz=30,slow=39
DZM **Mont Dzumac** 63.75 155 *e*LR LR 18 02 00.0
comp=Z,153nm,22.1s
DZM **Mont Dzumac** 63.75 155 LR LR 18 08 46.9
comp=Z,93nm,19.1s,baz=24,slow=34
JOF **Joensuu** 65.60 332 *e*P **P** 17 43 03.2 -2.6
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF **Joensuu** 65.60 332 *e*p **P** 17 43 03.2 -2.6
comp=Z,1.7nm,0.7s
OBN **Obninsk** 67.87 323 P **P** 17 43 20.0 -0.3
OBN pmax pmax
comp=Z,6.0nm,1.5s
KAF **Kangasniemi** 67.94 333 *e*P **P** 17 43 19.3 -1.3
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF **Kangasniemi** 67.94 333 *e*p **P** 17 43 19.3 -1.3
comp=Z,2.1nm,0.5s
FINES **FINESS Array B** 68.45 332 P **P** 17 43 23.4 -0.5
FINES **FINESS Array B** 68.45 332 P **P** 17 43 23.4 -0.5
comp=Z,3.7nm,0.7s,baz=41,slow=7.3,SNR=13
FINES LR LR 18 14 29.9
comp=Z,86nm,19.6s,baz=22,slow=37
STKA **Stephens Creek** 69.28 181 P **P** 17 43 29.6 +0.3
STKA **Stephens Creek** 69.28 181 P **P** 17 43 29.6 +0.3
comp=Z,1.9nm,0.7s,baz=328,slow=10,SNR=3.6
KIV **Kislovodsk** 70.88 311 *e*P **P** 17 43 38.5 -0.8

KIV					pmax	pmax		
	comp=Z,12nm,0.9s							
KIV	**Kislovodsk**	**70.88**	**311**	*eP*	**P**	**P**	**17 43 38.5**	**-0.8**
	comp=Z,12nm,0.9s							
KBZ	**Khabaz**	**70.88**	**311**	P	**P**	**P**	**17 43 38.5**	**-0.6**
KBZ				*PP	**pP**	**pP**	**17 43 50.0**	**+1.4**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**70.88**	**311**	P	**P**	**P**	**17 43 38.5**	**-0.6**
KBZ				pP	**pP**	**pP**	**17 43 50.0**	**+1.4**
KBZ	**Khabaz**	**70.88**	**311**	P	**P**	**P**	**17 43 38.5**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=196,slow=4.4,SNR=3.8							
KBZ				pP	**pP**	**pP**	**17 43 50.0**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=20,slow=5.8,SNR=3.8							
GNI	**Garni**	**71.75**	**307**	LR	LR	LR	18 17 32.3	
	comp=Z,72nm,18.5s,baz=76,slow=38							
FFC	**Flin Flon**	**72.77**	**33**	*eP*	**P**	**P**	**17 43 50.2**	**-0.1**
FFC				pmax	pmax			
	comp=Z,3.0nm,0.9s							
FFC	**Flin Flon**	**72.77**	**33**	*eP*	**P**	**P**	**17 43 50.2**	**-0.1**
	comp=Z,3.3nm,0.9s							
HFS	**Hagfors**	**73.67**	**336**	LR	LR	LR	18 18 59.6	
	comp=Z,164nm,19.1s,baz=41,slow=38							
NB2	**NORSAR Subarra**	**73.75**	**337**	P	**P**	**P**	**17 43 55.1**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**73.75**	**337**	P	**P**	**P**	**17 43 55.6**	**-0.4**
NOA	**NORSAR Array B**	**73.75**	**337**	P	**P**	**P**	**17 43 55.6**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=39,slow=5.8,SNR=6.5							
NOA				LR	LR	LR	18 19 02.8	
	comp=Z,89nm,21.6s,baz=40,slow=38							
NVAR	**Mina Array Bea**	**74.08**	**54**	P	**P**	**P**	**17 43 59.2**	**+0.6**
NVAR	**Mina Array Bea**	**74.08**	**54**	P	**P**	**P**	**17 43 59.2**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=290,slow=6.3,SNR=8.4							
AKASG	**Malin Array Be**	**74.09**	**322**	*i* P	**P**	**P**	**17 43 57.2**	**-0.9**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**74.09**	**322**	P	**P**	**P**	**17 43 57.3**	**-0.9**
AKASG				pP	**pP**	**pP**	**17 44 09.2**	**+1.6**
AKASG	**Malin Array Be**	**74.09**	**322**	P	**P**	**P**	**17 43 57.3**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=45,slow=5.9,SNR=33							
AKASG				pP	**pP**	**pP**	**17 44 09.2**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=45,slow=6.1,SNR=7.3							
AKASG				LR	LR	LR	18 19 13.2	
	comp=Z,48nm,18.8s,baz=70,slow=38							
KIEV	**Kiev**	**74.10**	**322**	*eP*	**P**	**P**	**17 43 56.6**	**-1.6**
KIEV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIEV	**Kiev**	**74.10**	**322**	*eP*	**P**	**P**	**17 43 56.6**	**-1.6**
	comp=Z,4.6nm,1.0s							
PDAR	**Pinedale Array**	**76.73**	**46**	P	**P**	**P**	**17 44 14.0**	**+0.2**
PDAR				pP	**PcP**	**PcP**	**17 44 26.4**	**+1.3**
PDAR	**Pinedale Array**	**76.73**	**46**	P	**P**	**P**	**17 44 14.0**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=276,slow=1.3,SNR=14							
PDAR				pP	**PcP**	**PcP**	**17 44 26.4**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=271,slow=3.6,SNR=4.6							
STHS	**Stebnicka Huta**	**78.71**	**325**	*eP*	**P**	**P**	**17 44 24.9**	**+0.5**
STHS				pmax	pmax			
	comp=Z,4.0nm,1.3s							
STHS	**Stebnicka Huta**	**78.71**	**325**	*eP*	**P**	**P**	**17 44 24.8**	**+0.4**
BRTR	**Keskin Array B**	**78.82**	**312**	P	**P**	**P**	**17 44 25.1**	**-0.3**
BRTR	**Keskin Array B**	**78.82**	**312**	P	**P**	**P**	**17 44 25.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=122,slow=4.9,SNR=4.9							
BRTR				LR	LR	LR	18 25 26.4	
	comp=Z,25nm,18.1s,baz=64,slow=40							
MLR	**Muntele Rosu**	**79.22**	**320**	LR	LR	LR	18 22 03.3	
	comp=Z,33nm,18.4s,baz=36,slow=38							
MORC	**Moravsky Berou**	**80.07**	**327**	*eP*	**P**	**P**	**17 44 31.1**	**-0.8**
MORC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MORC	**Moravsky Berou**	**80.07**	**327**	*eP*	**P**	**P**	**17 44 31.1**	**-0.8**
	comp=Z,3.6nm,1.0s							
CLL	**Collm**	**80.76**	**330**	*eP*	**P**	**P**	**17 44 35.0**	**-0.5**
CLL	**Collm**	**80.76**	**330**	*eP*	**P**	**P**	**17 44 35.0**	**-0.5**
RAYN	**Ar Rayn**	**80.93**	**293**	*eP*	**P**	**P**	**17 44 35.8**	**-1.2**
	comp=Z,9.7nm,1.1s							
RAYN				*e*			17 44 47.3	
MMAI	**Mount Meron Ar**	**82.03**	**306**	LR	LR	LR	18 23 04.8	
	comp=Z,59nm,20.7s,baz=20,slow=37							
GERES	**GERESS Array B**	**82.41**	**329**	P	**P**	**P**	**17 44 44.0**	**-0.4**
GERES	**GERESS Array B**	**82.41**	**329**	P	**P**	**P**	**17 44 44.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=42,slow=6.2,SNR=8.2							
PMOR	**Pomariorio Ree**	**83.92**	**114**	*eT*	T	T	19 17 10.5	
	comp=Z,11nm,0.2s							
PPT2	**Papeete2**	**84.44**	**117**	*e*LR	LR	LR	18 11 40.1	
	comp=Z,139nm,25.2s							
SCHQ	**Schefferville**	**84.47**	**16**	LR	LR	LR	18 26 03.8	
	comp=Z,41nm,18.3s,baz=94,slow=38							
EIL	**Elat**	**84.48**	**303**	LR	LR	LR	18 26 53.3	
	comp=Z,38nm,19.1s,baz=44,slow=39							
TBI	**Tubuai**	**88.39**	**121**	*e*LR	LR	LR	18 13 04.7	
	comp=Z,84nm,31.8s							
TBI	**Tubuai**	**88.39**	**121**	*eT*	T	T	19 22 37.6	
	comp=Z,11nm,0.2s							
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**P**	**17 45 18.0**	**-0.4**
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**P**	**17 45 18.0**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=291,slow=3.0,SNR=5.3							
TXAR				LR	LR	LR	18 22 47.4	
	comp=Z,19nm,19.2s,baz=0.0,slow=34							
KEST	**Kesra**	**94.80**	**325**	LR	LR	LR	18 32 50.4	
	comp=Z,31nm,18.6s,baz=274,slow=38							
ESDC	**Sonseca Array**	**96.90**	**334**	LR	LR	LR	18 35 01.0	
	comp=Z,73nm,18.1s,baz=250,slow=39							
RKT	**Rikitea**	**98.48**	**113**	*e*LR	LR	LR	18 17 59.7	
	comp=Z,165nm,28.5s							
LPAZ	**La Paz**	**145.81**	**60**	PKPbc	**PKPdf**	**PKPdf**	**17 52 01.8**	**-0.2**
LPAZ				*e*PKPdf	**PKPbc**	**PKPbc**	**17 52 02.2**	**-0.3**
LPAZ	**La Paz**	**145.81**	**60**	PKPbc	**PKPdf**	**PKPdf**	**17 52 01.8**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=20,slow=12,SNR=16							

IDC 22 17:33:16.5±57.0, 19°56.5S×178°13.E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/27, mbtmp3.6/3, Error ellipse: s-maj=1010.0km s-min=137.3km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.97**	**242**	P		P	17 40 10.3	-0.2
	1.6nm,0.8s,baz=72,slow=6.4,SNR=2.3							
WRA	**Warramunga Arr**	**41.13**	**262**	P		P	17 41 02.6	-0.1
	0.2nm,0.3s,baz=96,slow=7.7,SNR=18							
ASAR	**Alice Springs**	**41.20**	**256**	P		P	17 41 03.2	-0.1
	0.7nm,0.8s,baz=89,slow=8.8,SNR=9.8							

IDC 22 17:57:22.3±1.1,8.8°S×157.°34E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/27, mbtmp3.7/7, Error ellipse: s-maj=44.1km s-min=23.1km az=129.0

ISCJB 22 17:57:23.7±0.7,8.8°S±0.1°×157.°28E±0.°07, h17km, mb3.6/7, Error ellipse: s-maj=20.5km s-min=9.7km az=4.5

ISC 22 17:57:24.8±0.8, 8.9°S±0.°2×157.°43E±0.°09, h17km, n9, σ1°9°06/10, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**103**	*e*P		**Pn**	**17 58 05.0**	**-0.3**
HNR				*e*S		**Sb**	**17 58 41.0**	**0.0**
WRA	**Warramunga Arr**	**24.89**	**241**	P		**P**	**18 02 46.4**	**-0.5**
	1.4nm,0.6s,baz=68,slow=9.9,SNR=16							
ASAR	**Alice Springs**	**26.88**	**234**	P		**P**	18 03 04.3	-0.8
	0.7nm,1.1s,baz=67,slow=10,SNR=5.0							
STKA	**Stephens Creek**	**27.20**	**211**	P		**P**	18 03 09.3	+1.6
	2.5nm,0.9s,baz=46,slow=6.3,SNR=3.5							
SONM	**Songino Array**	**72.22**	**327**	P		**P**	18 08 49.0	-0.1
	0.3nm,0.6s,baz=103,slow=6.5,SNR=3.5							
ILAR	**Eielson Array**	**84.25**	**21**	P		**P**	18 09 57.0	+1.8
	0.7nm,1.0s,baz=209,slow=9.2,SNR=4.5							
MKAR	**Makanchi Array**	**86.41**	**318**	P		**P**	18 10 05.6	-0.8
	0.2nm,0.6s,baz=94,slow=4.3,SNR=3.2							
NVAR	**Mina Array Bea**	**91.00**	**51**	P		**P**	18 10 28.1	-0.6
	0.2nm,0.3s,baz=270,slow=7.8,SNR=3.2							
BDFB	**Brasilia**	**144.94**	**134**	PKPbc		**PKPab**	**18 17 00.8**	**-0.6**
	2.2nm,0.6s,baz=194,slow=7.9,SNR=3.5							

ISCJB 22 18:09:32.6±0.6,37.°24N±0.°04×70.°03E±0.°09, h10km, mb3.5/6, MS3.0/1, Error ellipse: s-maj=11.0km s-min=4.4km az=156.2

IDC 22 18:09:32.2±1.1,37.°03N×70.°29E, h0km, mb3.6/6, mb1 3.8/12, mb1mx3.5/55, mbtmp3.7/12, ML3.7/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/39, Error ellipse: s-maj=20.5km s-min=16.6km az=105.0

NNC 22 18:09:41.1±4.2,37.°43N×69.°84E, h116km±60km, mb3.3, mpv3.8, Error ellipse: s-maj=34.5km s-min=22.7km az=27.0

ISC 22 18:09:34.8±0.9, 37°24N±0.°06×70°0E±0.°1, h10km, n36, σ1°43°37, mb3.5°6, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.76**	**155**	P		**Pb**	**18 10 42.7**	**+1.4**
CEP				S		**Sg**	**18 11 36.0**	**+0.5**
CHCP	**Chirah Chowk**	**4.47**	**142**	P		Pn	18 10 48.0	+5.4
THW	**Thamme Wali**	**4.67**	**161**	⇓P		Pn	18 10 49.6	+4.2
KK31	**Karatay Array**	**5.87**	**4**	Pn		**Pn**	**18 11 03.9**	**+2.0**
	1.9nm,0.4s,baz=190,slow=13,SNR=33							
KK31				⇑Sn		**Sn**	**18 12 08.6**	**-0.5**
	12nm,0.7s							
KK31				⇑Lg		Lg	18 12 41.9	
	9.6nm,0.5s,baz=184,slow=28,SNR=6.9							
AAK	**Ala-Archa**	**6.40**	**31**	⇓Pn		**Pn**	**18 11 11.3**	**+2.0**
	3.5nm,0.3s							
AAK				⇑Sn		**Sn**	**18 12 22.7**	**+0.2**
	11nm,0.8s							
AAK	**Ala-Archa**	**6.40**	**31**	Pn		**Pn**	**18 11 11.1**	**+1.8**
	4.4nm,0.3s,baz=196,slow=5.4,SNR=59							
AAK				Sn		**Sn**	**18 12 24.9**	**+2.4**
	0.3nm,0.3s,baz=162,slow=20,SNR=2.5							
AAK				Lg		Lg	18 12 55.0	
	0.9nm,0.3s,baz=7.5,slow=13,SNR=4.2							
AAK				LR		LR	18 13 58.9	
	comp=Z,75nm,18.1s,baz=60,slow=41							
TKM2	**Tokmak 2**	**7.12**	**35**	⇓Pn		**Pn**	**18 11 21.1**	**+1.9**
	12nm,0.8s							
SMLA	**Simla**	**8.52**	**134**	*e*P		**Pn**	**18 11 41.1**	**+2.9**
SMLA				*e*S		**Sn**	**18 13 14.8**	**+0.4**
MK09	**Makanchi Array**	**13.18**	**40**	⇓Pn		**Pn**	**18 12 42.3**	**+0.3**
	2.3nm,0.8s							
MKAR	**Makanchi Array**	**13.20**	**40**	Pn		**Pn**	**18 12 42.8**	**+0.4**
	0.1nm,0.3s,baz=233,slow=12,SNR=20							
AB31	**Akbulak array**	**14.04**	**332**	Pn		**Pn**	**18 12 52.1**	**-1.6**
	0.9nm,0.4s,baz=166,slow=12,SNR=53							
AB31				⇑Sn		Sn	18 15 20.6	-9.0
	1.0nm,0.4s,baz=157,slow=23,SNR=6.2							
PYUN	**Piuthan**	**14.24**	**126**	*e*P		**Pn**	**18 12 55.3**	**-1.4**
	5.3nm,0.4s							
DANN	**Dangsing**	**14.58**	**124**	*e*P		**Pn**	**18 13 00.2**	**-1.2**
	8.9nm,0.5s							
KUR17	**Kurchatov Arra**	**14.70**	**22**	⇑Pn		**Pn**	**18 13 00.0**	**-2.7**
	0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**14.71**	**22**	Pn		Pn	18 12 59.4	-3.4
	0.3nm,0.3s,baz=213,slow=12,SNR=5.0							
KOLN	**Koldanda**	**14.86**	**126**	*e*P		**Pn**	**18 13 04.2**	**-1.0**
	5.7nm,0.5s							
GKN	**Gorkha**	**15.39**	**123**	*e*P		**Pn**	**18 13 10.3**	**-1.9**
	18nm,0.7s							
VOSK	**Vostochnaya**	**15.49**	**2**	⇑Pn		**Pn**	**18 13 13.5**	**+0.2**
	1.9nm,0.8s							
AKTO	**Aktyubinsk**	**15.73**	**331**	⇓Pn		**Pn**	**18 13 15.6**	**-0.8**
	7.8nm,1.0s							
AKTO				⇓Sn		Sn	18 16 03.5	-7.3
	1.4nm,0.8s							
AKTO	**Aktyubinsk**	**15.73**	**331**	Pn		**Pn**	**18 13 16.4**	**0.0**
	1.1nm,0.3s,baz=142,slow=9.3,SNR=12							
AKTO				Sn		Sn	18 16 02.0	-8.7
	0.0nm,0.3s,baz=342,slow=20,SNR=3.8							
BVAR	**Borovoye Array**	**15.78**	**1**	Pn		**Pn**	**18 13 15.7**	**-1.3**
	0.2nm,0.3s,baz=169,slow=13,SNR=7.9							
DMN	**Pamun**	**15.96**	**123**	*e*P		**Pn**	**18 13 18.0**	**-1.7**
	7.3nm,0.5s							
PKIN	**Phulchoki**	**16.18**	**122**	*e*P		**Pn**	**18 13 21.2**	**-1.3**
	4.4nm,0.4s							
PKI	**Pulchoki**	**16.19**	**122**	*e*P		**Pn**	**18 13 21.5**	**-1.2**
	9.0nm,0.7s							
GUN	**Gumba**	**16.29**	**120**	*e*P		**Pn**	**18 13 23.2**	**-0.9**
	8.3nm,0.4s							
JIRN	**Jiri**	**16.66**	**120**	*e*P		**Pn**	**18 13 27.6**	**-1.2**
	7.1nm,0.3s							
RAMN	**Ramite**	**17.40**	**121**	*e*P		**Pn**	**18 13 37.2**	**-0.7**
	6.8nm,0.4s							
TAPN	**Taplejung**	**17.91**	**118**	*e*P		**Pn**	**18 13 43.5**	**-0.9**
	7.8nm,0.5s							
ODAN	**Odare**	**18.00**	**120**	*e*P		**Pn**	**18 13 45.3**	**0.0**
	11nm,0.6s							
ZALV	**Zalesovo Beam**	**19.60**	**27**	P		**P**	**18 14 02.2**	**-0.7**
	0.6nm,0.3s,baz=219,slow=9.8,SNR=17							
SONM	**Songino Array**	**28.59**	**57**	P		**P**	**18 15 30.1**	**-1.1**
	0.1nm,0.4s,baz=271,slow=8.1,SNR=2.2							
SONM				LR		LR	18 27 52.2	
	comp=Z,40nm,20.1s,baz=268,slow=39							
HFS	**Hagfors**	**41.98**	**322**	P		**P**	**18 17 26.5**	**+0.8**
	2.0nm,0.6s,baz=98,slow=11,SNR=6.9							
NOA	**NORSAR Array B**	**43.30**	**323**	P		**P**	**18 17 37.3**	**+0.9**
	1.0nm,0.8s,baz=98,slow=7.9,SNR=2.7							
YKA	**Yellowknife Ar**	**80.54**	**2**	P		**P**	**18 21 47.2**	**+0.4**
	0.2nm,0.4s,baz=352,slow=5.5,SNR=7.3							
WRA	**Warramunga Arr**	**83.04**	**121**	P		**P**	**18 21 58.7**	**-2.1**
	0.2nm,0.7s,baz=317,slow=4.1,SNR=3.8							
ASAR	**Alice Springs**	**85.34**	**124**	P		P	18 22 08.7	-3.6
	0.5nm,0.9s,baz=315,slow=5.0,SNR=7.0							

ISCJB 22 18:11:40.7±0.4,67.°06N±0.°03×20.°79E±0.°10, h0km, Error ellipse: s-maj=5.5km s-min=4.1km az=17.6

UPP 22 18:11:41.7,67.°07N×20.°91E, h0km, ML2.1, Mining explosion.

CSEM 22 18:11:41.8±0.2,67.°08N×20.°82E, h1km, ML2.1, Error ellipse: s-maj=6.4km s-min=4.7km az=68.0, Mining explosion.

IDC 22 18:11:42.3±0.8,67.°06N×21.°25E, h0km, mb1 3.1/4, mb1mx2.9/46, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=14.6km s-min=6.2km az=115.0

HEL 22 18:11:42.5±0.1,67.°07N×20.°89E, h0km, ML2.1, ML2.1(UPP), Explosion

ISC 22 18:11:41.1±0.8, 67.°07N±0.°02×20.°75E±0.°04, h0km, n46, σ0°67/57, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.62**	**51**	*i* P		**Pg**	**18 11 52.7**	**-0.3**
MASU				*i* S		**Sg**	**18 12 01.1**	**+0.1**
MASU	**Masugnsbyn**	**0.62**	**51**	P		**Pg**	**18 11 52.7**	**-0.3**
MASU				S		**Sg**	**18 12 01.1**	**+0.1**
KUA	**Kurravaara**	**0.90**	**350**	*e*P		**Pg**	**18 11 58.7**	**+0.3**
KUA	**Kurravaara**	**0.90**	**350**	P		**Pg**	**18 11 58.7**	**+0.3**
KUA	**Kurravaara**	**0.90**	**350**	P		**Pg**	**18 11 58.7**	**+0.3**
HARU	**Harads**	**0.91**	**174**	*e*P		**Pg**	**18 11 58.7**	**+0.1**
HARU	**Harads**	**0.91**	**174**	P		**Pg**	**18 11 58.6**	**+0.1**
HARU	**Harads**	**0.91**	**174**	P		**Pg**	**18 11 58.7**	**+0.1**
SALU	**Saltoluokta**	**0.93**	**291**	*e*P		**Pb**	**18 12 00.5**	**+0.4**
SALU	**Saltoluokta**	**0.93**	**291**	P		**Pb**	**18 12 00.4**	**+0.4**
SALU	**Saltoluokta**	**0.93**	**291**	P		**Pb**	**18 12 00.5**	**+0.5**
NIKU	**Nikkaluokta**	**1.04**	**321**	*e*P		**Pb**	**18 12 01.8**	**-0.1**
NIKU	**Nikkaluokta**	**1.04**	**321**	P		**Pb**	**18 12 01.8**	**-0.1**
NIKU	**Nikkaluokta**	**1.04**	**321**	P		**Pb**	**18 12 01.8**	**-0.1**
LANU	**Lannavaara**	**1.09**	**25**	*e*P		**Pg**	**18 12 01.3**	**-0.7**
LANU	**Lannavaara**	**1.09**	**25**	P		**Pg**	**18 12 01.3**	**-0.7**
LANU	**Lannavaara**	**1.09**	**25**	P		**Pg**	**18 12 01.3**	**-0.7**
KALU	**Kalix**	**1.60**	**138**	*e*P		**Pn**	**18 12 10.2**	**-0.4**
KALU	**Kalix**	**1.60**	**138**	P		**Pn**	**18 12 10.2**	**-0.4**
KALU	**Kalix**	**1.60**	**138**	P		**Pn**	**18 12 10.2**	**-0.4**
SJUU	**Sjulsmark**	**1.61**	**167**	*e*P		**Pn**	**18 12 11.0**	**+0.3**
SJUU	**Sjulsmark**	**1.61**	**167**	P		**Pn**	**18 12 11.0**	**+0.3**
SJUU	**Sjulsmark**	**1.61**	**167**	P		**Pn**	**18 12 11.0**	**+0.3**
HEF	**Hetta**	**1.74**	**38**	*e*P		**Pn**	**18 12 12.4**	**-0.3**
HEF				*e*S		**Sn**	**18 12 35.5**	**0.0**
HEF				MSG			18 12 39.1	
	comp=Z,9.6nm,0.1s							
HEF	**Hetta**	**1.74**	**38**	P		**Pn**	**18 12 12.3**	**-0.3**
HEF				S		**Sn**	**18 12 35.5**	**0.0**
LILU	**Lilltraesk**	**1.83**	**192**	*e*P		**Pb**	**18 12 15.1**	**-0.3**
LILU	**Lilltraesk**	**1.83**	**192**	P		**Pb**	**18 12 15.0**	**-0.3**
LILU	**Lilltraesk**	**1.83**	**192**	P		**Pb**	**18 12 15.1**	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**1**	*e*P		**Pb**	**18 12 17.6**	**+0.3**
KIF				*e*S		**Sg**	**18 12 43.9**	**+0.4**
KIF				MSG			18 12 49.6	
	comp=Z,15nm,0.1s							
KIF	**Kilpisjarvi**	**1.94**	**1**	P		**Pb**	**18 12 17.6**	**+0.3**
RNF	**Rovaniemi**	**2.13**	**100**	*e*P		**Pn**	**18 12 18.5**	**+0.6**
RNF				*e*S		**Sn**	**18 12 45.8**	**+0.8**
RNF	**Rovaniemi**	**2.13**	**100**	P		**Pn**	**18 12 18.5**	**+0.6**
RNF				S		**Sn**	**18 12 45.8**	**+0.8**
OUL	**Oulu**	**2.89**	**131**	*e*P		**Pn**	**18 12 30.3**	**+1.9**
OUL	**Oulu**	**2.89**	**131**	P		**Pn**	**18 12 30.2**	**+1.9**
ARCES	**ARCESS Array B**	**3.04**	**33**	Pn		**Pn**	**18 12 30.7**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=212,slow=14,SNR=58							
ARCES				Sn		**Sn**	**18 13 06.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=211,slow=25,SNR=8.0							
ARCES				Lg		Lg	18 13 14.8	
	comp=Z,1.2nm,0.3s,baz=212,slow=27,SNR=9.5							
VRF	**Varrio**	**3.49**	**75**	*e*P		**Pn**	**18 12 37.1**	**+0.5**
VRF				MSG			18 13 35.4	
	comp=Z,5.6nm,0.2s							
VRF	**Varrio**	**3.49**	**75**	P		**Pn**	**18 12 37.0**	**+0.5**
MSF	**Maaselka**	**3.52**	**105**	*e*P		**Pn**	**18 12 37.6**	**+0.6**
MSF	**Maaselka**	**3.52**	**105**	P		**Pn**	**18 12 37.5**	**+0.6**
KEV	**Kevo**	**3.55**	**38**	*e*P		**Pn**	**18 12 37.5**	**0.0**
KEV	**Kevo**	**3.55**	**38**	P		**Pn**	**18 12 37.4**	**0.0**
KU6	**Riekki**	**3.80**	**102**	*e*P		**Pn**	**18 12 41.4**	**+0.5**
KU6	**Riekki**	**3.80**	**102**	P		**Pn**	**18 12 41.3**	**+0.5**
FINES	**FINESS Array B**	**6.11**	**155**	Pn		**Pn**	**18 13 13.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=6.2							
FINES				Sn		**Sn**	**18 14 21.3**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=342,slow=22,SNR=4.5							
FINES				Lg		Lg	18 14 50.5	
	comp=Z,0.1nm,0.3s,baz=330,slow=29,SNR=2.7							
NOA	**NORSAR Array B**	**7.35**	**219**	Pn		**Pn**	**18 13 30.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=2.6							
NOA				Sn		**Sn**	**18 14 53.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=44,slow=17,SNR=2.4							
HFS	**Hagfors**	**7.63**	**208**	Pn		**Pn**	**18 13 33.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=7.3							
HFS				Sn		**Sn**	**18 14 58.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=28,slow=28,SNR=2.5							

BEO 22 18:14:14.0±6.1,38.°09N×22.°28E, h0km, ML3.5/3

ATH 22 18:14:17.9,38.°45N×22.°00E, h17km±1km, ML3.8

IDC 22 18:14:17.1±0.8,38.°38N×21.°98E, h0km, mb3.7/16, mb1 3.8/22, mb1mx3.7/48, mbtmp3.6/22, ML3.3/6, MS3.2/8, Ms1 3.2/8, ms1mx2.8/43, Error ellipse: s-maj=14.9km s-min=13.9km az=177.0

ISCJB 22 18:14:18.0±0.2,38.°43N±0.°01×21.°99E±0.°02, h10km±2km, mb3.7/15, MS3.2/6, Error ellipse: s-maj=2.4km s-min=1.9km az=155.4

PDG 22 18:14:18.8±0.6,38.°44N×22.°02E, h8km±1km, ML3.7/7, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0

CSEM 22 18:14:18.3±0.1,38.°42N×22.°01E, h2km, ML4.0, Error ellipse: s-maj=2.4km s-min=2.0km az=72.0

THE 22 18:14:18.3,38.°43N×21.°99E, h0km±1km, ML3.9/11, Error ellipse: s-maj=1.1km s-min=0.3km az=274.0

ISC 22 18:14:18.5±0.7, 38°44N±0.°01×21°99E±0.°01, h6km±5km, n260, σ1°8°08/325, mb3.7/15, MS3.2/6, 15C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**255**	P		**Pg**	**18 14 19.8**	**-0.4**
EFP				S		**Sg**	**18 14 21.0**	**-0.4**
EFP	**Efpalio**	**0.07**	**255**	P		**Pg**	**18 14 19.8**	**-0.4**
EFP				S		**Sg**	**18 14 21.0**	**-0.4**
KALE	**Kalithea**	**0.13**	**114**	P		**Pg**	**18 14 21.4**	**+0.1**
KALE				S		**Sg**	**18 14 23.7**	**+0.6**
KALE	**Kalithea**	**0.13**	**114**	*e*PB		**Pg**	**18 14 21.3**	**+0.1**
KALE				*e*SB		**Sg**	**18 14 24.1**	**+1.0**
KALE	**Kalithea**	**0.13**	**114**	P		**Pg**	**18 14 21.4**	**+0.1**
KALE				S		**Sg**	**18 14 23.5**	**+0.4**
KALE				*e*Sb		**Sg**	**18 14 24.1**	**+1.0**
LAKA	**Lakka**	**0.20**	**182**	P		**Pg**	**18 14 22.4**	**-0.1**
LAKA	**Lakka**	**0.20**	**182**	*e*PB		**Pg**	**18 14 22.4**	**-0.1**
LAKA	**Lakka**	**0.20**	**182**	P		**Pg

VLX				S	Sb	18 14 54.9	-0.1		
VLX	**Vlachokerasia**	**1.12**	**164**	*e*PN	**Pg**	**18 14 38.6**	**-1.3**		
VLX	**Vlachokerasia**	**1.12**	**164**	P	**Pg**	**18 14 38.6**	**-1.3**		
VLX				S	Sb	18 14 54.9	-0.1		
THL	**Klokotos Trika**	**1.12**	**1**	P	**Pg**	**18 14 39.5**	**-0.5**		
THL				S	Sn	18 14 56.0	-0.4		
THL	**Klokotos Trika**	**1.12**	**1**	*e*PN	**Pg**	**18 14 39.1**	**-0.9**		
THL	**Klokotos Trika**	**1.12**	**1**	*e*Pn	**Pg**	**18 14 39.1**	**-0.9**		
THL	**Klokotos Trika**	**1.12**	**1**	P	**Pg**	**18 14 39.5**	**-0.5**		
THL				S	Sn	18 14 56.0	-0.4		
VLS	**Valsamata**	**1.13**	**257**	P	**Pg**	**18 14 38.8**	**-1.4**		
VLS	**Valsamata**	**1.13**	**257**	*e*PB	**Pg**	**18 14 38.4**	**-1.8**		
VLS	**Valsamata**	**1.13**	**257**	*e*Pb	**Pg**	**18 14 38.4**	**-1.8**		
VLS	**Valsamata**	**1.13**	**257**	P	**Pg**	**18 14 38.8**	**-1.4**		
ITM	**Ithomi**	**1.26**	**182**	P	**Pn**	**18 14 41.5**	**-1.2**		
ITM	**Ithomi**	**1.26**	**182**	*e*PN	**Pn**	**18 14 41.3**	**-1.4**		
ITM	**Ithomi**	**1.26**	**182**	P	**Pn**	**18 14 41.5**	**-1.2**		
MRKA	**Markates**	**1.28**	**78**	*e*PN	**Pn**	**18 14 42.6**	**-0.3**		
MRKA	**Markates**	**1.28**	**78**	*e*Pn	**Pn**	**18 14 42.6**	**-0.3**		
NEO	**Neokhori**	**1.29**	**48**	P	**Pn**	**18 14 42.2**	**-0.9**		
NEO	**Neokhori**	**1.29**	**48**	*e*PN	**Pn**	**18 14 42.3**	**-0.9**		
NEO	**Neokhori**	**1.29**	**48**	P	**Pn**	**18 14 42.2**	**-0.9**		
XOR	**Xorichti**	**1.31**	**45**	P	**Pn**	**18 14 43.0**	**-0.4**		
XOR	**Xorichti**	**1.31**	**45**	*e*PN	**Pn**	**18 14 42.2**	**-1.2**		
XOR	**Xorichti**	**1.31**	**45**	*e*Pn	**Pn**	**18 14 42.2**	**-1.2**		
XOR	**Xorichti**	**1.31**	**45**	P	**Pn**	**18 14 43.0**	**-0.4**		
DID	**Didima**	**1.36**	**133**	P	**Pn**	**18 14 43.7**	**-0.3**		
DID				S	**Sg**	**18 15 03.5**	**+1.3**		
DID	**Didima**	**1.36**	**133**	*e*PN	**Pb**	**18 14 44.0**	**-0.4**		
DID	**Didima**	**1.36**	**133**	P	**Pn**	**18 14 43.7**	**-0.3**		
DID	**Didima**	**1.36**	**133**	*e*Pn	**Pb**	**18 14 44.0**	**-0.4**		
DID				S	**Sg**	**18 15 03.5**	**+1.3**		
SKIA	**Skiathos**	**1.36**	**58**	*e*PN	**Pn**	**18 14 43.6**	**-0.4**		
SKIA	**Skiathos**	**1.36**	**58**	*e*Pn	**Pn**	**18 14 43.6**	**-0.4**		
NAIG	**Nisos Aigina**	**1.37**	**120**	*e*PN	**Pn**	**18 14 43.7**	**-0.4**		
NAIG	**Nisos Aigina**	**1.37**	**120**	*e*Pn	**Pn**	**18 14 43.7**	**-0.4**		
ERET	**Eretria**	**1.43**	**90**	P	**Pn**	**18 14 45.0**	**0.0**		
ERET	**Eretria**	**1.43**	**90**	P	**Pn**	**18 14 45.0**	**0.0**		
ATH	**Athens Observa**	**1.44**	**109**	*e*PN	**Pn**	**18 14 44.8**	**-0.3**		
ATH	**Athens Observa**	**1.44**	**109**	*e*Pn	**Pn**	**18 14 44.8**	**-0.3**		
JAN	**Janina**	**1.50**	**324**	*e*PN	**Pn**	**18 14 46.2**	**+0.2**		
JAN	**Janina**	**1.50**	**324**	*e*Pn	**Pn**	**18 14 46.2**	**+0.2**		
PTL	**Penteli**	**1.53**	**104**	P	**Pn**	**18 14 46.0**	**-0.4**		
PTL	**Penteli**	**1.53**	**104**	*e*PN	**Pn**	**18 14 45.9**	**-0.4**		
PTL	**Penteli**	**1.53**	**104**	P	**Pn**	**18 14 46.0**	**-0.4**		
PYL	**PYLOS**	**1.56**	**187**	P	**Pn**	**18 14 46.6**	**-0.1**		
PYL	**PYLOS**	**1.56**	**187**	*e*PN	**Pn**	**18 14 46.8**	**+0.1**		
PYL	**PYLOS**	**1.56**	**187**	*e*Pn	**Pn**	**18 14 46.8**	**+0.1**		
AOS	**Alonnisos**	**1.65**	**63**	*e*PN	**Pn**	**18 14 47.1**	**-0.8**		
AOS	**Alonnisos**	**1.65**	**63**	*e*Pn	**Pn**	**18 14 47.1**	**-0.8**		
IGT	**Igoumenitsa**	**1.69**	**311**	*e*PN	**Pb**	**18 14 49.4**	**-0.5**		
IGT	**Igoumenitsa**	**1.69**	**311**	*e*Pn	**Pb**	**18 14 49.4**	**-0.5**		
LIT	**Litokhoron**	**1.70**	**13**	P	**Pn**	**18 14 48.2**	**-0.5**		
LIT				S	**Sg**	**18 15 13.1**	**0.0**		
LIT	**Litokhoron**	**1.70**	**13**	*e*PN	**Pn**	**18 14 48.2**	**-0.5**		
LIT	**Litokhoron**	**1.70**	**13**	P	**Pn**	**18 14 48.2**	**-0.5**		
LIT				S	**Sg**	**18 15 13.1**	**0.0**		
KZN	**Kozani**	**1.87**	**355**	*e*PN	**Pn**	**18 14 51.7**	**+0.6**		
KZN	**Kozani**	**1.87**	**355**	*e*Pn	**Pn**	**18 14 51.7**	**+0.6**		
VLI	**Veliai**	**1.88**	**156**	P	**Pn**	**18 14 51.2**	**+0.1**		
VLI	**Veliai**	**1.88**	**156**	*e*PN	**Pn**	**18 14 51.0**	**-0.1**		
VLI	**Veliai**	**1.88**	**156**	P	**Pn**	**18 14 51.2**	**+0.1**		
PAIG	**Paliouri**	**1.98**	**41**	*e*PB	**Pn**	**18 14 51.5**	**-1.0**		
PAIG	**Paliouri**	**1.98**	**41**	*e*Pb	**Pn**	**18 14 51.5**	**-1.0**		
NEST	**Nestorio**	**2.10**	**340**	*e*PN	**Pn**	**18 14 55.5**	**+1.3**		
NEST	**Nestorio**	**2.10**	**340**	*e*Pn	**Pn**	**18 14 55.5**	**+1.3**		
KEK	**Kerkira**	**2.12**	**307**	*e*PN	**Pn**	**18 14 55.5**	**+1.0**		
KEK	**Kerkira**	**2.12**	**307**	*e*Pn	**Pn**	**18 14 55.5**	**+1.0**		
PLG	**Polygyros**	**2.23**	**30**	*e*PN	**Pn**	**18 14 55.3**	**-0.7**		
PLG	**Polygyros**	**2.23**	**30**	*e*Pn	**Pn**	**18 14 55.3**	**-0.7**		
THE	**Thessaloniki**	**2.31**	**19**	*e*PB	**Pn**	**18 14 57.2**	**+0.1**		
THE	**Thessaloniki**	**2.31**	**19**	*e*Pb	**Pn**	**18 14 57.2**	**+0.1**		
KYTH	**Kithira**	**2.31**	**159**	P	**Pn**	**18 14 56.8**	**-0.3**		
KYTH	**Kithira**	**2.31**	**159**	*e*PN	**Pn**	**18 14 58.5**	**+1.4**		
KYTH	**Kithira**	**2.31**	**159**	P	**Pn**	**18 14 56.8**	**-0.3**		
KYTH	**Kithira**	**2.31**	**159**	*e*Pn	**Pn**	**18 14 58.5**	**+1.4**		
HORT	**Hortiatis**	**2.32**	**21**	*e*PB	**Pn**	**18 14 56.7**	**-0.5**		
HORT	**Hortiatis**	**2.32**	**21**	*e*Pb	**Pn**	**18 14 56.7**	**-0.5**		
FNA	**Florina**	**2.38**	**349**	P	**Pn**	**18 14 58.9**	**+0.8**		
FNA	**Florina**	**2.38**	**349**	*e*PN	**Pn**	**18 14 58.6**	**+0.5**		
FNA	**Florina**	**2.38**	**349**	*e*Pn	**Pn**	**18 14 58.6**	**+0.5**		
FNA	**Florina**	**2.38**	**349**	P	**Pn**	**18 14 58.9**	**+0.8**		
OUR	**Ouranopolis**	**2.44**	**39**	*e*PN	**Pn**	**18 14 58.0**	**-0.8**		
OUR	**Ouranopolis**	**2.44**	**39**	*e*Pn	**Pn**	**18 14 58.0**	**-0.8**		
GRG	**Griva**	**2.53**	**7**	*e*PN	**Pn**	**18 14 59.7**	**-0.4**		
GRG	**Griva**	**2.53**	**7**	*e*Pn	**Pn**	**18 14 59.7**	**-0.4**		
SOH	**Sokhos**	**2.60**	**24**	P	**Pn**	**18 15 00.9**	**-0.2**		
SOH	**Sokhos**	**2.60**	**24**	*e*PN	**Pn**	**18 15 00.9**	**-0.2**		
SOH	**Sokhos**	**2.60**	**24**	P	**Pn**	**18 15 00.9**	**-0.2**		
BIA	**Bitola**	**2.62**	**349**	*e*PN	**Pb**	**18 15 04.4**	**-1.5**		
KNT	**Kendrikon**	**2.80**	**14**	*e*PN	**Pn**	**18 15 03.8**	**0.0**		
KNT	**Kendrikon**	**2.80**	**14**	*e*Pn	**Pn**	**18 15 03.8**	**0.0**		
VAY	**Valandovo**	**2.91**	**9**	*e*Pn	**Pn**	**18 15 04.5**	**-0.8**		
VAY	**Valandovo**	**2.91**	**9**	*e*PN	**Pn**	**18 15 06.9**	**+1.6**		
VAY	**Valandovo**	**2.91**	**9**	*e*Pn	**Pn**	**18 15 04.5**	**-0.8**		
SRS	**Serrai**	**2.94**	**24**	*e*PN	**Pn**	**18 15 05.3**	**-0.5**		
SRS	**Serrai**	**2.94**	**24**	*e*Pn	**Pn**	**18 15 05.3**	**-0.5**		
APE	**Apeiranthos**	**3.12**	**115**	*e*PN	**Pn**	**18 15 08.7**	**+0.4**		
APE	**Apeiranthos**	**3.12**	**115**	⇓*i*P	**Pn**	**18 15 08.7**	**+0.4**		
APE	**Apeiranthos**	**3.12**	**115**	*e*Pn	**Pn**	**18 15 08.7**	**+0.4**		
CHOS	**Chios island**	**3.19**	**90**	*e*PN	**Pn**	**18 15 09.9**	**+0.6**		
CHOS	**Chios island**	**3.19**	**90**	*e*Pn	**Pn**	**18 15 09.9**	**+0.6**		
KAVA	**Kavala**	**3.21**	**37**	*e*PN	**Pn**	**18 15 09.2**	**-0.2**		
KAVA	**Kavala**	**3.21**	**37**	*e*Pn	**Pn**	**18 15 09.2**	**-0.2**		
MMB	**Musomiste**	**3.41**	**22**	⇓*i*P	**Pn**	**18 15 12.5**	**+0.2**		
MMB	**Musomiste**	**3.41**	**22**	⇓*i*P	**Pn**	**18 15 12.5**	**+0.2**		
PRK	**Paraskevi**	**3.44**	**75**	*e*PN	**Pn**	**18 15 14.0**	**+1.4**		
PRK	**Paraskevi**	**3.44**	**75**	*e*Pn	**Pn**	**18 15 14.0**	**+1.4**		
VAM	**Vamos**	**3.51**	**149**	*e*PN	**Pn**	**18 15 14.1**	**+0.5**		
VAM	**Vamos**	**3.51**	**149**	*e*Pn	**Pn**	**18 15 14.1**	**+0.5**		
SKO	**Skopje**	**3.55**	**353**	*e*PN	**Pn**	**18 15 15.7**	**+1.6**		
SKO	**Skopje**	**3.55**	**353**	*e*Pn	**Pn**	**18 15 15.7**	**+1.6**		
SMG	**Samos**	**3.90**	**99**	*e*PN	**Pn**	**18 15 19.1**	**+0.2**		
SMG	**Samos**	**3.90**	**99**	*e*Pn	**Pn**	**18 15 19.1**	**+0.2**		
IDI	**Anoyia**	**3.92**	**143**	Pn	**Pn**	**18 15 19.7**	**+0.5**		
IDI	1.8nm,0.3s,baz=304,slow=11,SNR=15			Sn	**Sn**	**18 16 04.0**	**-1.5**		
IDI	5.0nm,0.3s,baz=300,slow=20,SNR=3.8			LR	LR	18 17 21.0			
	comp=Z,93nm,18.4s,baz=332,slow=48								
ULC	**Ulcinj**	**4.09**	**330**	⇑*i*Pn	**Pn**	**18 15 23.3**	**+1.7**		
ULC				*e*Sn	**Sn**	**18 16 12.5**	**+2.7**		
ULC	**Ulcinj**	**4.09**	**330**	⇑*i*Pn	**Pn**	**18 15 23.3**	**+1.7**		
ULC				*e*Sn	**Sn**	**18 16 12.5**	**+2.7**		
VTS	**Vitosha**	**4.25**	**12**	*e*Pn	**Pn**	**18 15 24.4**	**+0.6**		
VTS	**Vitosha**	**4.25**	**12**	⇑*i*P	**Pn**	**18 15 25.5**	**+1.7**		
VTS	**Vitosha**	**4.25**	**12**	*e*Pn	**Pn**	**18 15 24.4**	**+0.6**		
VTS	**Vitosha**	**4.25**	**12**	⇑*i*P	**Pn**	**18 15 25.5**	**+1.7**		
LAST	**Lasithi**	**4.31**	**138**	*e*PN	**Pn**	**18 15 24.6**	**0.0**		
LAST	**Lasithi**	**4.31**	**138**	*e*Pn	**Pn**	**18 15 24.6**	**0.0**		
PDG	**Podgorica**	**4.49**	**333**	*e*Pn	**Pn**	**18 15 28.1**	**+1.0**		
PDG	**Podgorica**	**4.49**	**333**	*e*PN	**Pn**	**18 15 28.1**	**+1.0**		
PDG				*e*Sn	**Sn**	**18 16 21.3**	**+1.7**		
TTG	**Podgorica**	**4.49**	**333**	⇓*i*Pn	**Pn**	**18 15 28.9**	**+1.8**		
TTG				*e*Sn	**Sn**	**18 16 21.3**	**+1.7**		
BUM	**Brajici-Budva**	**4.52**	**329**	⇓*i*Pn	**Pn**	**18 15 28.8**	**+1.3**		
BUM				*e*Sn	**Sn**	**18 16 22.4**	**+2.0**		
BUM	**Brajici-Budva**	**4.52**	**329**	⇓*i*Pn	**Pn**	**18 15 28.8**	**+1.3**		
BUM				*e*Sn	**Sn**	**18 16 22.4**	**+2.0**		
BEY	**Berane**	**4.70**	**341**	⇓*i*Pn	**Pn**	**18 15 32.2**	**+2.2**		
BEY				*e*Sn	**Sn**	**18 16 26.6**	**+1.7**		
IVA	**Berane**	**4.70**	**341**	⇓*i*Pn	**Pn**	**18 15 32.2**	**+2.2**		
IVA				*e*Sn	**Sn**	**18 16 26.6**	**+1.7**		
HCY	**Herceg Novi**	**4.80**	**327**	⇑*i*Pn	**Pn**	**18 15 32.4**	**+1.0**		
HCY				*e*Sn	**Sn**	**18 16 28.9**	**+1.6**		
HCY	**Herceg Novi**	**4.80**	**327**	⇑*i*Pn	**Pn**	**18 15 32.4**	**+1.0**		
HCY				*e*Sn	**Sn**	**18 16 28.9**	**+1.6**		
SELS	**Selova**	**4.82**	**352**	*e*Pn	**Pn**	**18 15 33.1**	**+1.6**		
ZAPS	**Zavoj**	**4.85**	**6**	*e*Pn	**Pn**	**18 15 32.7**	**+0.7**		
NKME	**Niksic**	**4.90**	**333**	*e*Pn	**Pn**	**18 15 34.5**	**+1.8**		
NKME				*e*Sn	**Sn**	**18 16 31.4**	**+1.8**		
NKME	**Niksic**	**4.90**	**333**	*e*Pn	**Pn**	**18 15 34.5**	**+1.8**		
NKME				*e*Sn	**Sn**	**18 16 31.4**	**+1.8**		
SJES	**Sjenica**	**5.05**	**343**	*e*Pn	**Pn**	**18 15 36.5**	**+1.7**		
TREB	**Trebinje**	**5.09**	**328**	*e*Pn	**Pn**	**18 15 36.7**	**+1.5**		
TREB	**Trebinje**	**5.09**	**328**	*e*Pn	**Pn**	**18 15 36.7**	**+1.5**		
UPM	**Unac-Piva**	**5.30**	**335**	⇓*i*Pn	**Pn**	**18 15 40.8**	**+2.5**		
UPM				*e*Sn	**Sn**	**18 16 41.6**	**+1.9**		
UPM	**Unac-Piva**	**5.30**	**335**	⇓*i*Pn	**Pn**	**18 15 40.8**	**+2.5**		
UPM				*e*Sn	**Sn**	**18 16 41.6**	**+1.9**		
IVAS	**Ivanjica**	**5.31**	**345**	*e*Pn	**Pn**	**18 15 39.2**	**+0.8**		
IVAS	**Ivanjica**	**5.31**	**345**	*e*Pn	**Pn**	**18 15 39.2**	**+0.8**		
GRUS	**Gruza**	**5.52**	**350**	*e*Pn	**Pn**	**18 15 42.6**	**+1.4**		
GRUS	**Gruza**	**5.52**	**350**	*e*Pn	**Pn**	**18 15 42.6**	**+1.4**		
BBLS	**Lazići**	**5.76**	**341**	*e*Pn	**Pn**	**18 15 45.8**	**+1.3**		
BBLS	**Lazići**	**5.76**	**341**	*e*Pn	**Pn**	**18 15 45.8**	**+1.3**		
DIVS	**Divibare**	**5.84**	**346**	*e*Pn	**Pn**	**18 15 47.0**	**+1.3**		
DIVS	**Divibare**	**5.84**	**346**	*e*Pn	**Pn**	**18 15 47.0**	**+1.3**		
TRUS	**Trudelj**	**5.89**	**349**	*e*Pn	**Pn**	**18 15 45.0**	**-1.3**		
TRUS	**Trudelj**	**5.89**	**349**	*e*Pn	**Pn**	**18 15 45.0**	**-1.3**		
BZS	**Buzias**	**7.17**	**358**	⇓*i*P	**Pn**	**18 16 05.4**	**+1.6**		
BZS	**Buzias**	**7.17**	**358**	⇓*i*P	**Pn**	**18 16 05.4**	**+1.6**		
VOIR		**7.35**	**17**	⇑*i*P	**Pn**	**18 16 08.2**	**+1.8**		
VOIR		**7.35**	**17**	⇑*i*P	**Pn**	**18 16 08.2**	**+1.8**		
MLR	**Muntele Rosu**	**7.63**	**21**	⇑*i*P	**Pn**	**18 16 13.4**	**+3.1**		
MLR	**Muntele Rosu**	**7.63**	**21**	Pn	**Pn**	**18 16 12.7**	**+2.4**		
	0.1nm,0.3s,baz=204,slow=12,SNR=2.9								
DOPR	**Dopca**	**7.93**	**17**	⇑*i*P	**Pn**	**18 16 16.7**	**+2.5**		
DOPR	**Dopca**	**7.93**	**17**	⇑*i*P	**Pn**	**18 16 16.7**	**+2.5**		
PKSM	**Moragy**	**8.15**	**343**	⇓*i*P	**Pn**	**18 16 16.8**	**-0.4**		
PLOR	**Plostina**	**8.17**	**24**	⇑*i*P	Pn	18 16 21.6	+4.0		
VRI	**Vrincioaia**	**8.21**	**24**	⇑*i*P	**Pn**	**18 16 20.2**	**+2.1**		
VRI	**Vrincioaia**	**8.21**	**24**	⇑*i*P	**Pn**	**18 16 19.2**	**+1.1**		
BOJS	**Bojanci**	**8.65**	**327**	*e*Pn	**Pn**	**18 16 25.3**	**+1.1**		
BOJS				*e*Sn	**Sn**	**18 18 00.3**	**-1.7**		
BRTR	**Keskin Array B**	**9.15**	**78**	Pn	**Pn**	**18 16 33.0**	**+1.9**		
	0.3nm,0.3s,baz=258,slow=13,SNR=14								
JAVS	**Javornik**	**9.48**	**324**	*i* Pn	**Pn**	**18 16 37.4**	**+1.8**		
JAVS				*e*Sn	**Sn**	**18 18 19.1**	**-3.5**		
JAVS	**Javornik**	**9.48**	**324**	*i* Pn	**Pn**	**18 16 37.4**	**+1.8**		
PSZ	**Piszkesteto**	**9.59**	**352**	⇓*i*P	**Pn**	**18 16 38.8**	**+1.7**		
PSZ	**Piszkesteto**	**9.59**	**352**	⇓*i*P	**Pn**	**18 16 38.8**	**+1.7**		
PERS	**Pernice**	**9.62**	**330**	*i* Pn	**Pn**	**18 16 39.0**	**+1.4**		
PERS				*e*Sn	**Sn**	**18 18 24.6**	**-1.4**		
PERS	**Pernice**	**9.62**	**330**	*i* Pn	**Pn**	**18 16 39.0**	**+1.4**		
CRVS	**Cervenica-Dubn**	**10.46**	**358**	*e*PN	**Pn**	**18 16 51.9**	**+3.0**		
MOA	**Molln**	**10.96**	**332**	⇑*i*Pn	**Pn**	**18 16 58.2**	**+2.5**		
MOA	**Molln**	**10.96**	**332**	Pn	**Pn**	**18 16 58.2**	**+2.5**		
GERES	**GERESS Array B**	**12.00**	**333**	Pn	**Pn**	**18 17 11.9**	**+1.9**		
	0.1nm,0.3s,baz=158,slow=13,SNR=2.9								
GERES				LR	LR	18 22 56.1			
	comp=Z,108nm,20.6s,baz=159,slow=43								
MMAI	**Mount Meron Ar**	**12.17**	**112**	Pn	**Pn**	**18 17 11.4**	**-1.0**		
	0.2nm,0.3s,baz=291,slow=20,SNR=2.6								
AKASG	**Malin Array Be**	**13.29**	**20**	Pn	**Pn**	**18 17 28.7**	**+1.2**		
	0.3nm,0.3s,baz=206,slow=12,SNR=3.3								
CLL	**Collm**	**14.34**	**337**	*e*PP	**P**	**18 17 51.0**	**+1.9**		
SMF	**Signal de Mont**	**15.66**	**307**	*e*P	**P**	**18 18 04.5**	**+0.7**		
SMF	**Signal de Mont**	**15.66**	**307**	*e*P	**P**	**18 18 04.5**	**+0.7**		
AVF	**Avril sur Loir**	**16.03**	**307**	*e*P	**P**	**18 18 09.5**	**+1.6**		
AVF	**Avril sur Loir**	**16.03**	**307**	*e*P	**P**	**18 18 09.5**	**+1.6**		
SSF	**Saint Saulge**	**16.05**	**308**	*e*P	**P**	**18 18 09.4**	**+1.3**		
	14nm,0.9s								
SSF	**Saint Saulge**	**16.05**	**308**	*e*P	**P**	**18 18 09.4**	**+1.3**		
	13nm,0.9s								
ESDC	**Sonseca Array**	**20.17**	**282**	P	**P**	**18 18 52.2**	**-1.5**		
	1.7nm,0.6s,baz=78,slow=11,SNR=11								
MDT	**Midelt**	**22.30**	**264**	P	**P**	**18 19 16.7**	**-0.1**		
	1.6nm,0.8s,baz=75,slow=12,SNR=4.0								
HFS	**Hagfors**	**22.34**	**349**	P	**P**	**18 19 17.7**	**+0.9**		
	1.9nm,0.5s,baz=155,slow=10,SNR=4.9								
HFS				LR	LR	18 28 10.0			
	comp=Z,71nm,18.1s,baz=82,slow=37								
FINES	**FINESS Array B**	**23.16**	**5**	P	**P**	**18 19 24.4**	**-0.9**		
	0.6nm,0.4s,baz=198,slow=8.5,SNR=4.5								
FINES				LR	LR	18 28 52.9			
	comp=Z,75nm,18.2s,baz=7.5,slow=38								
NB2	**NORSAR Subarra**	**23.60**	**347**	P	**P**	**18 19 29.1**	**-0.8**		
	comp=Z,1.8nm,0.8s,baz=158,slow=9.3								
NB2	**NORSAR Subarra**	**23.60**	**347**	P	**P**	**18 19 29.1**	**-0.8**		
	comp=Z,1.8nm,0.8s,SNR=6.2								
NOA	**NORSAR Array B**	**23.60**	**347**	P	**P**	**18 19 29.0**	**-0.8**		
	comp=Z,0.7nm,0.7s,baz=170,slow=12,SNR=5.1								
NOA				LR	LR	18 28 58.4			
	comp=Z,28nm,19.4s,baz=170,slow=37								
EKA	**Eskdalemuir Ar**	**23.89**	**323**	P	**P**	**18 19 32.0**	**-0.6**		
	comp=Z,5.7nm,1.0s,baz=119,slow=9.9,SNR=5.4								
TORD	**Torodi Ar. Bea**	**30.98**	**221**	P	**P**	**18 20 36.5**	**-0.1**		
	comp=Z,2.5nm,0.6s,baz=32,slow=9.3,SNR=19								
ARCES	**ARCESS Array B**	**31.21**	**2**	P	**P**	**18 20 37.8**	**-0.3**		
	comp=Z,2.8nm,1.1s,baz=203,slow=7.9,SNR=4.8								
ARCES				LR	LR	18 34 36.0			
	comp=Z,61nm,18.8s,baz=196,slow=39								
BVAR	**Borovoye Array**	**36.06**	**50**	P	**P**	**18 21 22.1**	**+1.6**		
	comp=Z,0.3nm,0.6s,baz=274,slow=7.1,SNR=2.7								
BVAR				LR	LR	18 38 20.1			
	comp=Z,21nm,18.7s,baz=225,slow=40								
KURBB	**Kurchatov Arra**	**41.14**	**54**	P	**P**	**18 22 02.2**	**-1.0**		
	comp=Z,0.5nm,0.3s,baz=282,slow=8.7,SNR=6.5								
MKAR	**Makanchi Array**	**44.18**	**59**	P	**P**	**18 22 27.3**	**-0.7**		
	comp=Z,1.2nm,0.5s,baz=258,slow=6.1,SNR=23								
ZALV	**Zalesovo Beam**	**44.65**	**48**	P	**P**	**18 22 30.2**	**-1.4**		
	comp=Z,1.1nm,0.4s,baz=277,slow=8.2,SNR=6.8								
SONM	**Songino Array**	**59.39**	**51**	P	**P**	**18 24 20.7**	**-1.0**		
	comp=Z,0.4nm,0.7s,baz=291,slow=9.1,SNR=3.3								
YKA	**Yellowknife Ar**	**73.53**	**341**	P	**P**	**18 25 51.3**	**-0.4**		
	comp=Z,0.3nm,0.8s,baz=36,slow=5.5,SNR=5.5								
ILAR	**Eielson Array**	**76.75**	**355**	P	**P**	**18 26 10.8**	**+0.5**		
	comp=Z,0.2nm,0.5s,baz=348,slow=3.5,SNR=6.7								
PETK	**Petropavlovsk-**	**81.08**	**25**	LR	LR	19 06 23.8			
	comp=Z,47nm,18.1s,baz=165,slow=38								
PDAR	**Pinedale Array**	**87.97**	**327**	P	**P**	**18 27 09.3**	**-0.3**		
	comp=Z,0.5nm,1.0s,baz=15,slow=3.7,SNR=2.6								

IDC ***22*** *18:26:41.6±0.7,8.°32S×129.°05E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/28, mbtmp4.1/14, ML4.2/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/32, Error ellipse: s-maj=33.5km s-min=16.7km az=66.0*

NEIC ***22*** *18:26:42.0±0.3,8.°43S×128.°99E, h10km, mb4.4/15, Error ellipse: s-maj=10.9km s-min=6.3km az=60.0*

BJI ***22*** *18:26:42.1,7.°95S×130.°00E, h28km, mB4.8/2, mb4.5/9*

ISCJB ***22*** *18:26:43.6±0.3,8.°47S±0.°03×129.°03E±0.°04, h33km, mb4.3/29, MS3.8/13, Error ellipse: s-maj=6.2km s-min=4.7km az=160.0*

DJA ***22*** *18:26:53.2±0.4,8.°5S×13.°0E±.°, h116km±9.9km, M4.5/15, mb4.6/15, mB5.0/10, MLv4.8/10, Mw(mB)4.3/10*

ISC 22 18:26:45.1±0.4, 8.°56S±0.°04×129.°13E±0.°05, h35km, n111,
σ2s 13/88, mb4.3/29, MS3.7/13, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.22**	**75**	P	P		Pn	18 27 25.2	+5.7
SAUI				S	S		**Sn**	**18 27 48.5**	**+2.8**
BNDI	**Bandanaira**	**4.09**	**11**	P	P		Pn	18 27 50.9	+5.7
MTN	**Manton Dam**	**4.69**	**155**	P	P		Pn	18 28 00.2	+6.8
	baz=4.9,SNR=23								
MTN				S	S		Sn	18 28 56.4	+10
	baz=4.9,SNR=5.2								
SOEI	**Soe**	**4.95**	**256**	P	P		Pn	18 28 12.9	+16
	155nm,1.2s,2μm1.1nm								
SOEI	**Soe**	**4.95**	**256**	*e*Pn	**Pn**		**18 27 55.3**	**-1.8**	
SOEI				*e*Sn	Sn		18 29 12.1	+19	
SOEI	**Soe**	**4.95**	**256**	P	**Pn**		**18 27 59.9**	**+2.8**	
	baz=5.0,SNR=6.2								
MSAI	**Masohi**	**5.19**	**358**	P	**Pn**		**18 28 02.4**	**+2.1**	
MSAI				S	**Sn**		**18 29 03.6**	**+4.6**	
KDU	**Kakadu**	**5.25**	**142**	P	Pn		18 28 06.8	+5.6	
	baz=5.5,SNR=76								
NLAI	**Namlea**	**5.66**	**339**	P	Pn		18 28 11.6	+4.8	
	132nm,1.0s,1μm0.4nm								
FAKI	**Fak Fak**	**6.41**	**29**	P	**Pn**		**18 28 17.4**	**+0.3**	
	79nm,0.7s,0.4nm								
FAKI				S	**Sn**		**18 29 26.6**	**-2.5**	
	79nm,0.7s,0.4nm								
FAKI	**Fak Fak**	**6.41**	**29**	*e*P	**Pn**		**18 28 16.9**	**-0.1**	
	42nm,0.5s								
FAKI				*e*Sn	**Sn**		**18 29 26.1**	**-3.0**	
FAKI	**Fak Fak**	**6.41**	**29**	P	**Pn**		**18 28 17.1**	**0.0**	
	baz=6.3,SNR=30								
FAKI				S	**Sn**		**18 29 26.8**	**-2.3**	
	baz=6.3,SNR=11								
KMPI	**Kaimana, Papua**	**6.66**	**43**	P	Pn		18 28 33.9	+13	
KNRA	**Kununurra**	**7.08**	**183**	P	Pn		18 28 31.1	+4.8	
	baz=7.3,SNR=51								
KNRA				S	**Sn**		**18 29 50.5**	**+4.9**	
	baz=7.3,SNR=7.9								
SANI	**Sanana**	**7.19**	**334**	P	Pn		18 28 32.9	+5.1	
	45nm,1.1s,739nm0.2nm								
SWI	**Sorong**	**7.94**	**16**	P	**Pn**		**18 28 40.9**	**+2.8**	
	50nm,1.3s,1μ

KURK	**Kurchatov**	**73.40**	**329**	*e*P		**P**		**18 38 13.3**	**-0.3**
	comp=Z,4.3nm,1.0s								
KKAR	**Karatay Array**	**73.95**	**319**	P		**P**		**18 38 15.0**	**-2.0**
	comp=Z,3.6nm,1.2s								
BVAR	**Borovoye Array**	**78.93**	**328**	P		**P**		**18 38 45.0**	**0.0**
BVAR	**Borovoye Array**	**78.93**	**328**	P		**P**		**18 38 45.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.5,SNR=4.7								
BRVK	**Borovoye**	**79.00**	**328**	*e*P		**P**		**18 38 45.0**	**-0.3**
QSPA	**South Pole Qui**	**81.42**	**180**	P		P		18 39 02.5	+4.1
	comp=Z,10nm,1.5s								
ABKAR	**Akbulak array**	**83.20**	**322**	*e*P		**P**		**18 39 08.2**	**+0.4**
	comp=Z,6.3nm,1.2s								
AKTO	**Aktyubinsk**	**84.78**	**323**	P		**P**		**18 39 16.0**	**+0.2**
AKTO	**Aktyubinsk**	**84.78**	**323**	P		**P**		**18 39 16.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=94,slow=13,SNR=1.8								
AKTO				LR		LR		19 22 01.1	
	comp=Z,30nm,18.6s,baz=123,slow=39								
KMBO	**Kilima Mbogo**	**91.69**	**269**	LR		LR		19 14 37.0	
	comp=Z,42nm,20.3s,baz=104,slow=31								
KIV	**Kislovodsk**	**93.33**	**314**	P		P		18 40 00.2	+3.5
ILAR	**Eielson Array**	**95.12**	**25**	P		**P**		**18 40 04.3**	**0.0**
ILAR	**Eielson Array**	**95.12**	**25**	P		**P**		**18 40 04.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=258,slow=4.0,SNR=12								
BOSA	**Boshof**	**97.94**	**240**	LR		LR		19 20 31.8	
	comp=Z,31nm,20.3s,baz=157,slow=33								
BRTR	**Keskin Array B**	**99.62**	**309**	LR		LR		19 33 41.6	
	comp=Z,16nm,19.4s,baz=106,slow=40								
TORD	**Torodi Ar. Bea**	**128.25**	**280**	PKP		**PKPdf**		**18 45 50.7**	**+1.8**
TORD	**Torodi Ar. Bea**	**128.25**	**280**	PKP		**PKPdf**		**18 45 50.7**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=103,slow=1.2,SNR=2.0								
CPUP	**Villa Florida**	**144.75**	**170**	PKPbc		**PKPdf**		**18 46 20.8**	**+1.7**
CPUP	**Villa Florida**	**144.75**	**170**	PKPbc		**PKPdf**		**18 46 20.8**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=286,slow=2.7,SNR=3.7								
LPAZ	**La Paz**	**149.97**	**145**	PKPbc		**PKPab**		**18 46 37.5**	**-1.8**
LPAZ	**La Paz**	**149.97**	**145**	PKPbc		**PKPab**		**18 46 37.5**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=214,slow=1.1,SNR=6.5								

IDC 22 18:59:48.9±2.4, 6°22N×122°83E, *h*0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/48, mbtmp3.5/3, Error ellipse: s-maj=324.3km s-min=25.4km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**28.36**	**157**	P	P	19	05	44.5	-0.5
	0.5nm,0.4s,baz=335,slow=9.8,SNR=15								
ASAR	**Alice Springs**	**31.61**	**160**	P	P	19	06	14.2	+0.4
	0.4nm,0.6s,baz=341,slow=7.3,SNR=15								
MKAR	**Makanchi Array**	**53.32**	**326**	P	P	19	09	09.8	-0.1
	0.2nm,0.3s,baz=122,slow=6.9,SNR=6.9								

*IDC **22** 19:01:43.8±3.2, 34.84N×5.48W, *h*0km, mb3.6/4, mb1 3.6/7, mb1mx3.3/49, mbtmp3.4/7, ML3.6/3, Error ellipse: s-maj=97.1km s-min=17.2km az=88.0*

*IGIL **22** 19:01:44.5, 34.75N×5.67W, *h*2km, ML3.2*

*SFS **22** 19:01:45.0, 34.78N×5.78W, *h*7km, ML2.6*

*INMG **22** 19:01:46.0±1.2, 34.71N×5.77W, *h*20km±3km, ML2.9, Error ellipse: s-maj=4.6km s-min=2.7km az=10.0*

*CSEM **22** 19:01:47.1±0.2, 34.85N×5.76W, *h*23km±1km, ML3.6/7, Error ellipse: s-maj=2.1km s-min=1.8km az=83.0*

*MDD **22** 19:01:47.8±0.3, 34.83N×5.74W, *h*18km±2km, mbLg2.8/40, Error ellipse: s-maj=4.1km s-min=3.1km az=85.0, PRXIMO*

*LDG **22** 19:01:48.6±0.6, 34.99N×5.53W, *h*30km, Ml3.2/4, Error ellipse: s-maj=11.5km s-min=6.1km az=4.0*

*CNRM **22** 19:01:48.2, 34.84N×5.75W, *h*17km, MD3.3*

ISC 22 19:01:46.5±0.8, 34.84N±0.02×5.74W±0.02, h25km±5km, n186, σ1§12/325, mb3.6/4, 4C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RSA	**Sarsar**	**0.09**	**297**	P	**Pb**	**19**	**01**	**50.0**	**-1.2**
RSA				S	**Sb**	**19**	**01**	**55.5**	**+1.2**
RSA	**Sarsar**	**0.09**	**297**	*i* P	**Pb**	**19**	**01**	**50.0**	**-1.2**
RSA				*i* S	**Sb**	**19**	**01**	**55.5**	**+1.2**
TGT	**Taghat**	**0.95**	**144**	P	**Pb**	**19**	**02**	**05.0**	**+0.6**
TGT				S	**Sn**	**19**	**02**	**17.0**	**-0.1**
TGT	**Taghat**	**0.95**	**144**	*i* P	**Pb**	**19**	**02**	**05.0**	**+0.6**
TGT				*i* S	**Sn**	**19**	**02**	**17.0**	**-0.1**
ECEU	**Ceuta**	**1.10**	**15**	P	**Pb**	**19**	**02**	**06.7**	**-0.1**
	9.1nm,0.2s,SNR=12								
ECEU				S	**Sb**	**19**	**02**	**22.2**	**+1.4**
	58nm,0.5s,SNR=7.9								
ECEU	**Ceuta**	**1.10**	**15**	P	**Pb**	**19**	**02**	**06.7**	**-0.1**
	9.1nm,0.2s,SNR=12								
ECEU				S	**Sb**	**19**	**02**	**22.2**	**+1.4**
	58nm,0.5s,SNR=7.9								
RTC	**Rabat Centre**	**1.26**	**228**	P	**Pb**	**19**	**02**	**10.0**	**+0.5**
RTC				S	**Sb**	**19**	**02**	**27.0**	**+1.7**
RTC	**Rabat Centre**	**1.26**	**228**	*i* P	**Pb**	**19**	**02**	**10.0**	**+0.5**
RTC				*i* S	**Sb**	**19**	**02**	**27.0**	**+1.7**
MIF	**Mishlifen**	**1.49**	**163**	P	**Pb**	**19**	**02**	**13.0**	**-0.6**
MIF				S	**Sn**	**19**	**02**	**31.0**	**+0.4**
MIF	**Mishlifen**	**1.49**	**163**	*i* P	**Pb**	**19**	**02**	**13.0**	**-0.6**
MIF				*i* S	**Sn**	**19**	**02**	**31.0**	**+0.4**
TOU	**Touzarine**	**1.63**	**85**	P	**Pb**	**19**	**02**	**16.0**	**0.0**
TOU				S	**Sn**	**19**	**02**	**35.0**	**+0.9**
TOU	**Touzarine**	**1.63**	**85**	*i* P	**Pb**	**19**	**02**	**16.0**	**0.0**
TOU				*e*S	**Sn**	**19**	**02**	**35.0**	**+0.9**
EMIJ	**Mijas**	**1.89**	**24**	P	**Pn**	**19**	**02**	**17.6**	**+0.3**
	1.1nm,0.2s,SNR=9.3								
EMIJ				S	**Sb**	**19**	**02**	**42.4**	**-1.2**
	25nm,0.6s								
EMIJ	**Mijas**	**1.89**	**24**	P	**Pn**	**19**	**02**	**17.6**	**+0.3**
	1.1nm,0.2s,SNR=9.3								
EMIJ				S	**Sb**	**19**	**02**	**42.4**	**-1.2**
	25nm,0.6s								
ESPR	**Espera**	**2.03**	**357**	P	**Pn**	**19**	**02**	**20.1**	**+1.0**
	9.0nm,0.3s,SNR=16								
ESPR				S	**Sn**	**19**	**02**	**45.4**	**+1.8**
	34nm,0.4s								
ESPR	**Espera**	**2.03**	**357**	P	**Pn**	**19**	**02**	**20.1**	**+1.0**
	9.0nm,0.3s,SNR=16								
ESPR				S	**Sn**	**19**	**02**	**45.4**	**+1.8**
	34nm,0.4s								
LIJA	**Lijar**	**2.08**	**7**	P	**Pn**	**19**	**02**	**20.8**	**+0.8**
LIJA	**Lijar**	**2.08**	**7**	P	**Pn**	**19**	**02**	**20.8**	**+0.8**
EMAL	**Malaga-Limoner**	**2.19**	**29**	P	**Pn**	**19**	**02**	**21.1**	**-0.3**
EMAL				S	**Sn**	**19**	**02**	**48.7**	**+1.0**
EMAL	**Malaga-Limoner**	**2.19**	**29**	P	**Pn**	**19**	**02**	**21.1**	**-0.3**
EMAL				S	**Sn**	**19**	**02**	**48.7**	**+1.0**
MDT	**Midelt**	**2.22**	**155**	Pn	**Pn**	**19**	**02**	**21.4**	**-0.5**
	5.2nm,0.3s,baz=338,slow=11,SNR=100								
MDT				Sn	**Sn**	**19**	**02**	**47.6**	**-1.0**
	14nm,0.3s,baz=329,slow=8.3,SNR=16								
KIB	**El Ksiba**	**2.27**	**186**	P	**Pn**	**19**	**02**	**24.0**	**+1.5**
KIB				S	**Sn**	**19**	**02**	**51.0**	**+1.3**
KIB	**El Ksiba**	**2.27**	**186**	*e*P	**Pn**	**19**	**02**	**24.0**	**+1.5**
KIB				*i* S	**Sn**	**19**	**02**	**51.0**	**+1.3**
ZAI	**Zaio**	**2.46**	**86**	P	**Pn**	**19**	**02**	**26.0**	**+0.9**
ZAI				S	**Sn**	**19**	**02**	**54.0**	**-0.4**
ZAI	**Zaio**	**2.46**	**86**	*e*P	**Pn**	**19**	**02**	**26.0**	**+0.9**
ZAI				*e*S	**Sn**	**19**	**02**	**54.0**	**-0.4**
EGUA	**Guajares**	**2.66**	**41**	P	**Pn**	**19**	**02**	**27.6**	**-0.2**
	6.4nm,0.3s,SNR=7.9								
EGUA				S	**Sn**	**19**	**03**	**00.7**	**+1.4**
	8.6nm,0.4s,SNR=7.9								
EGUA	**Guajares**	**2.66**	**41**	P	**Pn**	**19**	**02**	**27.6**	**-0.2**
	6.4nm,0.3s,SNR=7.9								
EGUA				S	**Sn**	**19**	**03**	**00.7**	**+1.4**
	8.6nm,0.4s,SNR=7.9								
TZC	**Tazercounte**	**2.75**	**193**	P	**Pn**	**19**	**02**	**29.0**	**-0.3**
TZC				S	**Sn**	**19**	**03**	**01.0**	**-0.9**
TZC	**Tazercounte**	**2.75**	**193**	*i* P	**Pn**	**19**	**02**	**29.0**	**-0.3**
TZC				*i* S	**Sn**	**19**	**03**	**01.0**	**-0.9**
SELV	**Sierra Elvira**	**2.90**	**34**	P	**Pn**	**19**	**02**	**32.0**	**+0.9**
	10.0nm,0.4s,SNR=7.9								
SELV				S	**Sn**	**19**	**03**	**05.9**	**+0.8**
	16nm,0.7s,SNR=7.9								
SELV	**Sierra Elvira**	**2.90**	**34**	P	**Pn**	**19**	**02**	**32.0**	**+0.9**
	10.0nm,0.4s,SNR=7.9								
SELV				S	**Sn**	**19**	**03**	**05.9**	**+0.8**
	16nm,0.7s,SNR=7.9								
ELUQ	**Luque**	**2.97**	**23**	P	**Pn**	**19**	**02**	**32.8**	**+0.8**
	3.4nm,0.2s,SNR=7.9								
ELUQ				S	**Sn**	**19**	**03**	**07.6**	**+0.7**
	5.9nm,0.2s,SNR=7.9								
ELUQ	**Luque**	**2.97**	**23**	P	**Pn**	**19**	**02**	**32.8**	**+0.8**
	3.4nm,0.2s,SNR=7.9								
ELUQ				S	**Sn**	**19**	**03**	**07.6**	**+0.7**
	5.9nm,0.2s,SNR=7.9								
PBDV	**Barranco-do-Ve**	**2.99**	**324**	*e*Pn	**Pn**	**19**	**02**	**32.6**	**+0.3**
PBDV				*e*Sn	**Sn**	**19**	**03**	**07.8**	**+0.4**
PBDV					A	A		19 03 12.1	
	27nm,0.6s								
PBDV	**Barranco-do-Ve**	**2.99**	**324**	P	**Pn**	**19**	**02**	**32.6**	**+0.3**
PBDV				S	**Sn**	**19**	**03**	**07.8**	**+0.4**
	27nm,0.6s								
PBDV	**Barranco-do-Ve**	**2.99**	**324**	P	**Pn**	**19**	**02**	**32.6**	**+0.3**
PBDV				S	**Sn**	**19**	**03**	**07.8**	**+0.4**
	27nm,0.6s								
ECOG	**Cogollos-Vega**	**3.00**	**35**	P	**Pn**	**19**	**02**	**33.9**	**+1.3**
	4.1nm,0.2s,SNR=7.9								
ECOG				S	**Sn**	**19**	**03**	**09.0**	**+1.1**
	3.0nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**3.00**	**35**	P	**Pn**	**19**	**02**	**33.9**	**+1.3**
	4.1nm,0.2s,SNR=7.9								
ECOG				S	**Sn**	**19**	**03**	**09.0**	**+1.1**
	3.0nm,0.2s,SNR=7.9								
EQUE	**Quentar**	**3.01**	**38**	P	**Pn**	**19**	**02**	**33.4**	**+0.7**
	3.5nm,0.3s,SNR=7.9								
EQUE				S	**Sn**	**19**	**03**	**09.3**	**+1.4**
	1.9nm,0.3s,SNR=7.9								
EQUE	**Quentar**	**3.01**	**38**	P	**Pn**	**19**	**02**	**33.4**	**+0.7**
	3.5nm,0.3s,SNR=7.9								
EQUE				S	**Sn**	**19**	**03**	**09.3**	**+1.4**
	1.9nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.02**	**346**	⇑P	**Pn**	**19**	**02**	**33.0**	**+0.3**
	3.9nm,0.3s,SNR=18								
EMIN				S	**Sn**	**19**	**03**	**08.3**	**+0.2**
	5.1nm,0.1s,SNR=6.7								
EMIN	**Mina Concepcio**	**3.02**	**346**	P	**Pn**	**19**	**02**	**33.0**	**+0.3**
	3.9nm,0.3s,SNR=18								
EMIN				S	**Sn**	**19**	**03**	**08.3**	**+0.2**
	5.1nm,0.1s,SNR=6.7								
PVAQ	**Vaqueiros**	**3.02**	**329**	*i* Pn	**Pn**	**19**	**02**	**33.3**	**+0.5**
PVAQ				*e*Sn	**Sn**	**19**	**03**	**08.3**	**+0.1**
PVAQ					A	A		19 03 09.7	
	70nm,0.5s								
PVAQ	**Vaqueiros**	**3.02**	**329**	⇑P	**Pn**	**19**	**02**	**33.3**	**+0.5**
PVAQ				S	**Sn**	**19**	**03**	**08.3**	**+0.1**
	70nm,0.5s								
PVAQ	**Vaqueiros**	**3.02**	**329**	P	**Pn**	**19**	**02**	**33.3**	**+0.5**
PVAQ				S	**Sn**	**19**	**03**	**08.3**	**+0.1**
	70nm,0.5s								
ZFT	**Errachidia**	**3.03**	**157**	P	**Pn**	**19**	**02**	**35.0**	**+2.0**
ZFT				S	**Sn**	**19**	**03**	**10.0**	**+1.4**
ZFT	**Errachidia**	**3.03**	**157**	*i* P	**Pn**	**19**	**02**	**35.0**	**+2.0**
ZFT				*i* S	**Sn**	**19**	**03**	**10.0**	**+1.4**
EGRO	**El Granado**	**3.04**	**333**	⇑P	**Pn**	**19**	**02**	**33.6**	**+0.6**
	16nm,0.2s,SNR=18								
EGRO				S	**Sn**	**19**	**03**	**08.7**	**+0.1**
	47nm,0.2s,SNR=16								
EGRO	**El Granado**	**3.04**	**333**	P	**Pn**	**19**	**02**	**33.6**	**+0.6**
	16nm,0.2s,SNR=18								
EGRO				S	**Sn**	**19**	**03**	**08.7**	**+0.1**
	47nm,0.2s,SNR=16								
EBER	**Berja**	**3.09**	**48**	P	**Pn**	**19**	**02**	**34.3**	**+0.4**
	6.2nm,0.3s,SNR=22								
EBER				S	**Sn**	**19**	**03**	**11.1**	**+0.9**
	6.0nm,0.3s								
EBER	**Berja**	**3.09**	**48**	P	**Pn**	**19**	**02**	**34.3**	**+0.4**
	6.2nm,0.3s,SNR=22								
EBER				S	**Sn**	**19**	**03**	**11.1**	**+0.9**
	6.0nm,0.3s								
ECAB	**El Cabril**	**3.24**	**4**	P	**Pn**	**19**	**02**	**36.0**	**+0.2**
	3.0nm,0.4s,SNR=16								
ECAB				S	**Sn**	**19**	**03**	**13.8**	**+0.2**
	5.3nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**3.24**	**4**	P	**Pn**	**19**	**02**	**36.0**	**+0.2**
	3.0nm,0.4s,SNR=16								
ECAB				S	**Sn**	**19**	**03**	**13.8**	**+0.2**
	5.3nm,0.1s,SNR=7.9								
MORF	**Marmelete**	**3.41**	**317**	*e*Pn	**Pn**	**19**	**02**	**38.5**	**+0.3**
MORF				*e*Sn	**Sn**	**19**	**03**	**18.1**	**+0.2**
MORF					A	A		19 03 22.8	
	18nm,0.2s								
MORF	**Marmelete**	**3.41**	**317**	P	**Pn**	**19**	**02**	**38.5**	**+0.3**
MORF				S	**Sn**	**19**	**03**	**18.1**	**+0.2**
	18nm,0.2s								
MORF	**Marmelete**	**3.41**	**317**	P	**Pn**	**19**	**02**	**38.5**	**+0.3**
MORF				S	**Sn**	**19**	**03**	**18.1**	**+0.2**
	18nm,0.2s								
EADA	**Adamuz**	**3.45**	**15**	P	**Pn**	**19**	**02**	**39.4**	**+0.7**
	2.0nm,0.4s,SNR=11								
EADA				S	**Sn**	**19**	**03**	**18.7**	**-0.1**
	4.0nm,0.2s								
EADA	**Adamuz**	**3.45**	**15**	P	**Pn**	**19**	**02**	**39.4**	**+0.7**
	2.0nm,0.4s,SNR=11								
EADA				S	**Sn**	**19**	**03**	**18.7**	**-0.1**
	4.0nm,0.2s								
MESJ	**Messejana**	**3.61**	**327**	*e*P	**Pn**	**19**	**02**	**41.3**	**+0.5**
MESJ				*e*S	**Sn**	**19**	**03**	**22.7**	**+0.2**
MESJ					AML	AML		19 03 25.6	
	comp=N,81nm,0.4s								
MESJ	**Messejana**	**3.61**	**327**	*e*P	**Pn**	**19**	**02**	**41.3**	**+0.5**
MESJ				*e*S	**Sn**	**19**	**03**	**22.7**	**+0.2**
MESJ	**Messejana**	**3.61**	**327**	P	**Pn**	**19**	**02**	**41.3**	**+0.5**
MESJ				S	**Sn**	**19**	**03**	**22.7**	**+0.2**
	comp=N,81nm,0.4s								
MESJ	**Messejana**	**3.61**	**327**	P	**Pn**	**19**	**02**	**41.3**	**+0.5**
MESJ				S	**Sn**	**19**	**03**	**22.7**	**+0.2**
	comp=N,81nm,0.4s								
PBEJ	**Beja**	**3.62**	**332**	*e*Pn	**Pn**	**19**	**02**	**41.3**	**+0.4**
PBEJ				*e*Sn	**Sn**	**19**	**03**	**22.8**	**0.0**
PBEJ					A	A		19 03 30.6	
	comp=N,17nm,0.5s								
PBEJ	**Beja**	**3.62**	**332**	P	**Pn**	**19**	**02**	**41.3**	**+0.4**
PBEJ				S	**Sn**	**19**	**03**	**22.8**	**0.0**
	comp=N,8.4nm,0.5s								
PBEJ	**Beja**	**3.62**	**332**	P	**Pn**	**19**	**02**	**41.3**	**+0.4**
PBEJ				S	**Sn**	**19**	**03**	**22.8**	**0.0**
	comp=N,8.4nm,0.5s								
PTEO	**Sao Teotonio**	**3.63**	**319**	*i* Pn	**Pn**	**19**	**02**	**41.5**	**+0.4**
PTEO				*e*Sn	**Sn**	**19**	**03**	**23.3**	**+0.3**
PTEO					A	A		19 03 28.4	
	comp=N,18nm,0.3s								
PTEO	**Sao Teotonio**	**3.63**	**319**	⇓P	**Pn**	**19**	**02**	**41.5**	**+0.4**
PTEO				S	**Sn**	**19**	**03**	**23.3**	**+0.3**
	comp=N,8.9nm,0.3s								
PTEO	**Sao Teotonio**	**3.63**	**319**	P	**Pn**	**19**	**02**	**41.5**	**+0.4**
PTEO				S	**Sn**	**19**	**03**	**23.3**	**+0.3**
	comp=N,8.9nm,0.3s								
EQES	**Quesada**	**3.66**	**35**	P	**Pn**	**19**	**02**	**42.9**	**+1.3**
	comp=N,1.7nm,0.3s,SNR=12								
EQES				S	**Sn**	**19**	**03**	**24.6**	**+0.5**
	comp=N,3.8nm,0.3s								
EQES	**Quesada**	**3.66**	**35**	P	**Pn**	**19**	**02**	**42.9**	**+1.3**
	comp=N,1.7nm,0.3s,SNR=12								
EQES				S	**Sn**	**19**	**03**	**24.5**	**+0.5**
	comp=N,3.8nm,0.3s								
EHUE	**Huescar**	**3.91**	**40**	P	**Pn**	**19**	**02**	**46.3**	**+1.3**
	comp=N,2.7nm,0.2s,SNR=7.9								
EHUE				S	**Sn**	**19**	**03**	**30.4**	**+0.3**
	comp=N,2.2nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**3.91**	**40**	P	**Pn**	**19**	**02**	**46.3**	**+1.3**
	comp=N,2.7nm,0.2s,SNR=7.9								
EHUE				S	**Sn**	**19**	**03**	**30.4**	**+0.3**
	comp=N,2.2nm,0.2s,SNR=7.9								
PNCL	**Nicolau / Gran**	**3.97**	**326**	*e*Pn	**Pn**	**19**	**02**	**46.2**	**+0.4**
PNCL				*e*Sn	**Sn**	**19**	**03**	**31.1**	**-0.4**
PNCL					A	A		19 03 41.8	
	comp=N,16nm,0.6s								
PNCL	**Nicolau / Gran**	**3.97**	**326**	*e*Pn	**Pn**	**19**	**02**	**46.2**	**+0.4**
PNCL				*e*Sn	**Sn**	**19**	**03**	**31.1**	**-0.4**
	comp=N,16nm,0.6s								
OUK	**Oukaimeden**	**4.04**	**207**	P	**Pn**	**19**	**02**	**47.0**	**0.0**
OUK				S	**Sn**	**19**	**03**	**31.0**	**-2.7**
OUK	**Oukaimeden**	**4.04**	**207**	*i* P	**Pn**	**19**	**02**	**47.0**	**0.0**
OUK				S	**Sn**	**19**	**03**	**31.0**	**-2.7**
EBAD	**Badajoz**	**4.04**	**346**	P	**Pn**	**19**	**02**	**47.1**	**+0.3**
	comp=N,9.7nm,0.4s,SNR=34								
EBAD				S	**Sn**	**19**	**03**	**32.1**	**-1.2**
	comp=N,20nm,0.2s,SNR=5.2								
EBAD	**Badajoz**	**4.04**	**346**	P	**Pn**	**19**	**02**	**47.1**	**+0.3**
	comp=N,9.7nm,0.4s,SNR=34								
EBAD				S	**Sn**	**19**	**03**	**32.1**	**-1.2**
	comp=N,20nm,0.2s,SNR=5.2								
EVO	**Evora**	**4.12**	**334**	*e*Pn	**Pn**	**19**	**02**	**48.8**	**+1.0**
EVO				*e*Sn	**Sn**	**19**	**03**	**34.9**	**-0.3**
	comp=N,86nm,0.4s								
EVO	**Evora**	**4.12**	**334**	*e*Pn	**Pn**	**19**	**02**	**48.4**	**+0.6**
EVO				*e*Sn	**Sn**	**19**	**03**	**35.3**	**+0.1**
EVO					A	A		19 03 36.0	
	comp=N,36nm,0.2s								
EVO	**Evora**	**4.12**	**334**	⇑P	**Pn**	**19**	**02**	**48.4**	**+0.6**
EVO				S	**Sn**	**19**	**03**	**35.3**	**+0.1**
	comp=N,36nm,0.2s								
EVO	**Evora**	**4.12**	**334**	P	**Pn**	**19**	**02**	**48.4**	**+0.6**
EVO				S	**Sn**	**19**	**03**	**35.3**	**+0.1**
	comp=N,36nm,0.2s								
CIA	**Chichaoua**	**4.13**	**219**	P	**Pn**	**19**	**02**	**49.0**	**+0.9**
CIA				S	**Sn**	**19**	**03**	**35.0**	**-0.6**
CIA	**Chichaoua**	**4.13**	**219**	*i* P	**Pn**	**19**	**02**	**49.0**	**+0.9**
CIA				*i* S	**Sn**	**19**	**03**	**35.0**	**-0.6**
EVOP	**Sao Brissos**	**4.15**	**333**	*e*Pn	**Pn**	**19**	**02**	**48.8**	**+0.5**
EVOP				*e*Sn	**Sn**	**19**	**03**	**34.9**	**-1.1**
	comp=N,43nm,0.4s								
PESTR	**Estremoz**	**4.29**	**340**	*e*Pn	**Pn**	**19**	**02**	**50.6**	**+0.4**
PESTR				*e*Sn	**Sn**	**19**	**03**	**38.7**	**-0.7**
PESTR					A	A		19 03 41.2	
	comp=N,14nm,0.3s								
PESTR	**Estremoz**	**4.29**	**340**	*e*Pn	**Pn**	**19**	**02**	**50.6**	**+0.4**
PESTR				*e*Sn	**Sn**	**19**	**03**	**38.7**	**-0.7**
	comp=N,14nm,0.3s								
EVIA	**Vianos**	**4.60**	**33**	P	**Pn**	**19**	**02**	**55.4**	**+0.9**
	comp=N,7.3nm,0.3s,SNR=5.1								
EVIA				S	**Sn**	**19**	**03**	**46.4**	**-0.8**
	comp=N,8.8nm,0.3s								
EVIA	**Vianos**	**4.60**	**33**	P	**Pn**	**19**	**02**	**55.4**	**+0.9**
	comp=N,7.3nm,0.3s,SNR=5.1								
EVIA				S	**Sn**	**19**	**03**	**46.4**	**-0.8**
	comp=N,8.8nm,0.3s								
EMUR	**La Murta**	**4.71**	**49**	P	**Pn**	**19**	**02**	**57.0**	**+1.1**
	comp=N,2.2nm,0.3s,SNR=7.9								
EMUR				S	**Sn**	**19**	**03**	**48.8**	**-1.0**
	comp=N,0.8nm,0.5s,SNR=7.9								
EMUR	**La Murta**	**4.71**	**49**	P	**Pn**	**19**	**02**	**57.0**	**+1.1**
	comp=N,2.2nm,0.3s,SNR=7.9								
EMUR				S	**Sn**	**19**	**03**	**48.8**	**-1.0**
	comp=N,0.8nm,0.5s,SNR=7.9								
PMRV	**Marv??o**	**4.77**	**344**	*e*Pn	**Pn**	**19**	**02**	**57.5**	**+0.7**
PMRV				*e*Sn	**Sn**	**19**	**03**	**50.4**	**-0.9**
PMRV					A	A		19 04 09.3	
	comp=N,12nm,0.5s								
PMRV	**Marv??o**	**4.77**	**344**	P	**Pn**	**19**	**02**	**57.5**	**+0.7**
PMRV				S	**Sn**	**19**	**03**	**50.4**	**-0.9**
	comp=N,12nm,0.5s								
PMRV	**Marv??o**	**4.77**	**344**	P	**Pn**	**19**	**02**	**57.5**	**+0.7**
PMRV				S	**Sn**	**19**	**03**	**50.4**	**-0.9**
	comp=N,12nm,0.5s								
PMAFR	**Mafra**	**5.00**	**326**	*e*Pn	**Pn**	**19**	**03**	**01.1**	**+1.2**
PMAFR				*e*Sn	**Sn**	**19**	**03**	**56.8**	**-0.1**
PMAFR					A	A		19 03 57.1	
	comp=N,26nm,0.7s								
PMAFR	**Mafra**	**5.00**	**326**	P	**Pn**	**19**	**03**	**00.3**	**+0.4**
	comp=N,8.2nm,0.1s,SNR=8.2								
PMAFR				S	**Sn**	**19**	**03**	**53.9**	**-3.0**
	comp=N,29nm,0.4s								
PMAFR	**Mafra**	**5.00**	**326**	P	**Pn**	**19**	**03**	**00.3**	**+0.4**
	comp=N,8.2nm,0.1s,SNR=8.2								
PMAFR	**Mafra**	**5.00**	**326**	*e*Pn	**Pn**	**19**	**03**	**01.1**	**+1.2**
PMAFR				S	**Sn**	**19**	**03**	**53.9**	**-3.0**
	comp=N,29nm,0.4s								
PMAFR				*e*Sn	**Sn**	**19**	**03**	**56.8**	**-0.1**
	comp=N,26nm,0.7s								
ESDC	**Sonseca Array**	**5.03**	**16**	P	**Pn**	**19**	**03**	**01.0**

comp=N,6.2nm,0.3s,SNR=11
POLO Lamas de Olo 6.72 347 *e*Pn **Pn 19 03 24.6 +0.9**
POLO **Sn 19 04 37.8 -1.7**
POLO A A 19 04 39.7
comp=N,2.2nm,0.3s
POLO Lamas de Olo 6.72 347 *e*Pn **Pn 19 03 24.6 +0.9**
POLO *e*Sn **Sn 19 04 37.8 -1.7**
comp=N,2.2nm,0.3s
EMOS Mosqueruela 6.92 36 P **Pn 19 03 27.2 +0.7**
comp=N,0.4nm,0.2s,SNR=7.9
EMOS S **Sn 19 04 41.6 -2.8**
comp=N,0.9nm,0.4s,SNR=7.9
EMOS Mosqueruela 6.92 36 P **Pn 19 03 27.2 +0.7**
comp=N,0.4nm,0.2s,SNR=7.9
PBRG Braganca 7.00 354 *e*Pn **Pn 19 03 28.3 +0.8**
PBRG *e*Sn **Sn 19 04 44.9 -1.4**
PBRG Braganca 7.00 354 P **Pn 19 03 28.3 +0.8**
PBRG S **Sn 19 04 44.9 -1.4**
PBRG Braganca 7.00 354 P **Pn 19 03 28.3 +0.8**
PBRG S **Sn 19 04 44.9 -1.4**
EIBI Ibiza 7.04 52 P **Pn 19 03 28.5 +0.5**
comp=N,1.0nm,0.3s,SNR=7.9
EIBI S **Sn 19 04 44.5 -2.8**
comp=N,3.1nm,1.0s,SNR=7.9
EIBI Ibiza 7.04 52 P **Pn 19 03 28.5 +0.5**
comp=N,1.0nm,0.3s,SNR=7.9
PCAB Cabril 7.09 346 *e*Pn **Pn 19 03 29.9 +1.2**
PCAB Cabril 7.09 346 P **Pn 19 03 29.9 +1.2**
PCAB Cabril 7.09 346 P **Pn 19 03 29.9 +1.2**
ECAL Calabor 7.14 354 P **Pn 19 03 30.0 +0.6**
comp=N,4.0nm,0.4s,SNR=7.9
ECAL S **Sn 19 04 46.7 -3.0**
comp=N,4.7nm,0.5s,SNR=4.8
ECAL Calabor 7.14 354 P **Pn 19 03 30.0 +0.6**
comp=N,4.0nm,0.4s,SNR=7.9
ELOB Lobios 7.25 346 P **Pn 19 03 31.9 +0.9**
comp=N,3.9nm,0.4s,SNR=6.7
ELOB S **Sn 19 04 49.0 -3.5**
comp=N,2.0nm,0.5s,SNR=7.9
ELOB Lobios 7.25 346 P **Pn 19 03 31.9 +0.9**
comp=N,3.9nm,0.4s,SNR=6.7
EARI Arriondas 8.46 3 P **Pn 19 03 48.5 +1.0**
comp=N,2.5nm,0.8s,SNR=12
EARI S **Sn 19 05 18.4 -3.7**
comp=N,1.6nm,1.0s,SNR=7.9
EARI Arriondas 8.46 3 P **Pn 19 03 48.5 +1.0**
comp=N,2.5nm,0.8s,SNR=12
ELAN Lanestosa 8.57 11 P **Pn 19 03 49.5 +0.6**
comp=N,0.6nm,0.2s,SNR=7.9
ELAN S **Sn 19 05 21.1 -3.7**
comp=N,0.5nm,0.3s,SNR=7.9
ELAN Lanestosa 8.57 11 P **Pn 19 03 49.5 +0.6**
comp=N,0.6nm,0.2s,SNR=7.9
IEPA Eparoz 8.66 22 P **Pn 19 03 51.2 +1.0**
comp=N,1.0nm,0.3s,SNR=7.9
IEPA S **Sn 19 05 23.5 -3.6**
comp=N,1.9nm,0.5s,SNR=7.9
IEPA Eparoz 8.66 22 P **Pn 19 03 51.2 +1.0**
comp=N,1.0nm,0.3s,SNR=7.9
IZUN Zunzarren 8.68 21 P **Pn 19 03 51.4 +0.9**
comp=N,1.0nm,0.2s,SNR=7.9
IZUN Zunzarren 8.68 21 P **Pn 19 03 51.4 +0.9**
comp=N,1.0nm,0.2s,SNR=7.9
IELO Elcoad 8.73 22 P **Pn 19 03 52.3 +1.1**
comp=N,0.6nm,0.4s,SNR=7.9
IELO S **Sn 19 05 24.7 -4.1**
comp=N,8.3nm,0.7s,SNR=7.9
IELO Elcoad 8.73 22 P **Pn 19 03 52.3 +1.1**
comp=N,0.6nm,0.4s,SNR=7.9
ELIZ Elizondo 8.93 20 P **Pn 19 03 55.0 +1.0**
comp=N,0.4nm,0.3s,SNR=7.9
ELIZ Elizondo 8.93 20 P **Pn 19 03 55.0 +1.0**
comp=N,0.4nm,0.3s,SNR=7.9
SJPF Ste Jean 8.98 22 *e*P **Pn 19 03 56.0 +1.5**
SJPF *e*Sn Sn 19 05 23.7 -11
comp=N,0.9nm,0.3s
SJPF Ste Jean 8.98 22 P **Pn 19 03 56.0 +1.5**
SJPF S Sn 19 05 23.7 -11
comp=N,0.4nm,0.3s
SJPF Ste Jean 8.98 22 *e*P **Pn 19 03 56.0 +1.5**
EALK Alkurruntz 8.99 20 P **Pn 19 03 56.1 +1.4**
comp=N,0.5nm,0.4s,SNR=7.9
EALK Alkurruntz 8.99 20 P **Pn 19 03 56.1 +1.4**
comp=N,0.5nm,0.4s,SNR=7.9
ETSF Etsaut 9.00 25 *e*P **Pn 19 03 56.0 +1.1**
ETSF *e*Sn Sn 19 05 24.1 -12
comp=N,0.5nm,0.3s
ETSF Etsaut 9.00 25 P **Pn 19 03 56.0 +1.1**
ETSF S Sn 19 05 24.1 -12
comp=N,0.2nm,0.3s
ETSF Etsaut 9.00 25 *e*P **Pn 19 03 56.0 +1.1**
EMIR Miracle 9.07 37 P **Pn 19 03 57.1 +1.1**
comp=N,0.2nm,0.3s,SNR=7.9
EMIR Miracle 9.07 37 P **Pn 19 03 57.1 +1.1**
comp=N,0.2nm,0.3s,SNR=7.9
ATE Arette 9.12 24 P **Pn 19 03 57.7 +1.2**
comp=N,0.3nm,0.3s,SNR=7.9
ATE Arette 9.12 24 P **Pn 19 03 57.7 +1.2**
comp=N,0.3nm,0.3s,SNR=7.9
CSOR Sort 9.25 33 P **Pn 19 03 59.6 +1.3**
comp=N,0.2nm,0.4s,SNR=7.9
CSOR Sort 9.25 33 P **Pn 19 03 59.6 +1.3**
comp=N,0.2nm,0.4s,SNR=7.9
EPF Esparros 9.45 28 *e*P **Pn 19 04 02.7 +1.7**
EPF *e*Sn Sn 19 05 34.5 -12
comp=N,1.0nm,0.3s
EPF Esparros 9.45 28 P **Pn 19 04 02.7 +1.7**
EPF S Sn 19 05 34.5 -12
comp=N,0.5nm,0.3s
EPF Esparros 9.45 28 *e*P **Pn 19 04 02.7 +1.7**
QUIF Quistinic 13.21 8 *e*P **Pn 19 04 53.9 +1.5**
QUIF Quistinic 13.21 8 P **Pn 19 04 53.9 +1.5**
QUIF Quistinic 13.21 8 *e*P **Pn 19 04 53.9 +1.5**
GERES GERESS Array B 20.06 40 P **P 19 06 17.3 -0.6**
comp=N,0.2nm,0.3s,baz=225,slow=12,SNR=5.4
TORD Torodi Ar. Bea 22.62 161 P **P 19 06 45.8 +0.2**
comp=N,0.2nm,0.4s,baz=344,slow=9.9,SNR=3.6
HFS Hagfors 28.29 21 P **P 19 07 37.8 +0.1**
comp=N,4.8nm,1.1s,baz=224,slow=10,SNR=3.4
FINES FINESS Array B 33.43 27 P **P 19 08 22.7 -0.2**
comp=N,0.4nm,0.4s,baz=248,slow=7.4,SNR=2.7
MKAR Makanchi Array 64.36 50 P **P 19 12 20.3 +0.1**
comp=N,0.3nm,0.7s,baz=297,slow=6.3,SNR=4.8

*ISCJB **22** 19:03:15.7±0.3,5.96S±0.03×131.37E±0.04, h86km, mb3.9/8, Error ellipse: s-maj=6.2km s-min=4.7km az=12.4*
*DJA **22** 19:03:16.3±0.3,6.6S±2.3×13.1E±.7, h73km±13km, M4.8/13, mb4.7/7, mB5.6/1, MLv4.8/13, Mw(mB)5.1/1*
*IDC **22** 19:03:17.2±1.2,6.22S±.131.19E, h70km±7km, mb3.7/7, mb1 4.0/8, mb1mx3.7/33, mbtmp4.1/8, Error ellipse: s-maj=52.7km s-min=23.7km az=68.0*

ISC 22 19:03:18.2±0.6,5.83S±0.05×131.23E±0.05, h86km, n51, σ1§96/51, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m	s	ISC
BNDI	**Bandanaira**	**1.85**	**314**	P	**Pn**	**19 03 45.5**		**-2.8**
BNDI				S	**Sn**	**19 04 07.5**		**-3.7**
SAUI	**Saumlaki**	**2.14**	**178**	P	**Pn**	**19 03 51.1**		**-1.1**
SAUI				S	**Pn**	**19 03 51.1**		**-1.1**
FAKI	**Fak Fak**	**3.06**	**19**	P	**Pn**	**19 04 03.1**		**-1.5**
FAKI				S	**Sn**	**19 04 39.8**		**-0.5**
FAKI	**Fak Fak** baz=3.1,SNR=218	**3.06**	**19**	P	**Pn**	**19 04 03.1**		**-1.5**
FAKI	baz=3.1,SNR=11			S	**Sn**	**19 04 40.0**		**-0.3**
KMPI	**Kaimana, Papua**	**3.27**	**49**	P	**Pn**	**19 04 07.3**		**-0.1**
MSAI	**Masohi**	**3.37**	**317**	P	**Pn**	**19 04 06.3**		**-2.4**
MSAI				S	Sn	19 04 42.3		-5.3
NLAI	**Namlea**	**4.85**	**302**	P	**Pn**	**19 04 26.0**		**-2.9**
SWI	**Sorong**	**4.93**	**0**	P	**Pn**	**19 04 28.8**		**-1.2**
SWI				S	**Sn**	**19 05 22.5**		**-3.3**
MWPI	**Manokwari, Pap** 235nm,0.8s,3.3nm	**5.62**	**30**	P	x	19 04 39.3		
LBMI	**Labuha** 39nm,1.0s,0.3nm	**6.36**	**324**	P	**Pn**	**19 04 48.2**		**-1.2**
SRPI	**Serui, Papua**	**6.36**	**52**	P	**Pn**	**19 04 47.0**		**-2.5**
SRPI				S	**Sn**	**19 05 59.0**		**-1.7**
SANI	**Sanana** 36nm,0.8s,0.2nm	**6.43**	**305**	P	**Pn**	**19 04 51.1**		**+0.7**
KDU	**Kakadu** baz=6.8,SNR=117	**6.92**	**170**	P	Pn	19 04 53.5		-3.7
MTN	**Manton Dam** baz=6.9,SNR=260	**6.97**	**181**	P	**Pn**	**19 04 54.6**		**-3.2**
SOEI	**Soe** 57nm,1.1s,0.3nm	**7.92**	**240**	P	**Pn**	**19 05 11.1**		**+0.2**
SOEI	**Soe** baz=8.1,SNR=13	**7.92**	**240**	P	**Pn**	**19 05 10.5**		**-0.3**
KNRA	**Kununurra** baz=10,SNR=176	**10.08**	**194**	P	Pn	19 05 35.6		-4.6
KNRA	baz=10,SNR=8.6			S	Sn	19 07 22.5		-9.0
LBFI	**Labuhan Bajo,** 36nm,1.1s	**11.55**	**256**	P	x	19 06 00.2		
COEN	**Coen** baz=14,SNR=26	**14.27**	**125**	P	**Pn**	**19 06 33.2**		**-3.1**
COEN	baz=14,SNR=4.6			S	Sn	19 09 02.3		-11
WRA	**Warramunga Arr** 5.2nm,0.3s,baz=343,slow=14,SNR=90	**14.35**	**168**	P	Pn	19 06 30.3		-7.1
WRA	2.9nm,0.3s,baz=347,slow=23,SNR=7.6			S	Sn	19 09 00.8		-15
QIS	**Mount Isa** baz=17,SNR=10	**16.75**	**152**	P	**Pn**	**19 07 04.5**		**-3.2**
QIS	baz=17,SNR=4.4			S	Sn	19 09 59.9		-13
JAGI	**Jajag, Banyuwa** baz=17,SNR=5.1	**17.14**	**260**	P	**Pn**	**19 07 11.4**		**-1.2**
ASAR	**Alice Springs** 4.0nm,0.3s,baz=334,slow=8.5,SNR=155	**17.92**	**172**	P	**P**	**19 07 17.4**		**-4.0**
ASAR	0.8nm,0.3s,baz=354,slow=24,SNR=6.4			S	Sn	19 10 28.8		-13
WRKA	**Warakurna** baz=19,SNR=27	**19.31**	**188**	P	**P**	**19 07 35.5**		**-1.1**
CTA	**Charters Tower** 10nm,0.9s,baz=333,slow=16,SNR=4.7	**20.35**	**136**	P	Pn	19 07 49.7		-1.0
CISI	**Cisompet, Garu** baz=24,SNR=5.2	**23.32**	**264**	P	**P**	**19 08 19.3**		**+0.2**
MEEK	**Meekatharra** baz=24,SNR=4.3	**23.94**	**209**	P	**P**	**19 08 26.7**		**+2.1**
QLP	**Quilpie** baz=24,SNR=3.8	**24.08**	**150**	P	**P**	**19 08 28.6**		**+2.8**
STKA	**Stephens Creek** 1.3nm,0.4s,baz=309,slow=5.4,SNR=6.5	**27.67**	**161**	P	**P**	**19 09 00.1**		**+1.9**
LHI	**Lord Howe Isla** baz=36,SNR=3.0	**36.50**	**138**	S	S	19 15 37.7		-14
CMAR	**Chiang Mai Arr** 2.7nm,0.5s,baz=134,slow=6.9,SNR=43	**39.95**	**308**	P	**P**	**19 10 45.8**		**+1.2**
ODAN	**Odare** 6.4nm,0.5s	**53.43**	**310**	*e*P	**P**	**19 12 30.8**		**+0.8**
TAPN	**Taplejung** 11nm,0.4s	**53.44**	**310**	*e*P	**P**	**19 12 31.3**		**+1.2**
RAMN	**Ramite** 20nm,0.5s	**54.09**	**309**	*e*P	**P**	**19 12 36.2**		**+1.4**
JIRN	**Jiri** 6.1nm,0.6s	**54.76**	**310**	*e*P	**P**	**19 12 40.9**		**+1.1**
GUN	**Gumba** 16nm,0.6s	**55.12**	**310**	*e*P	**P**	**19 12 43.5**		**+1.1**
PKI	**Pulchoki** 3.8nm,0.4s	**55.31**	**309**	*e*P	**P**	**19 12 44.5**		**+0.8**
PKIN	**Phulchoki** 4.8nm,0.6s	**55.33**	**309**	*e*P	**P**	**19 12 44.4**		**+0.6**
KKN	**Kakani** 4.7nm,0.4s	**55.52**	**309**	*e*P	**P**	**19 12 46.1**		**+1.0**
DMN	**Daman** 5.5nm,0.4s	**55.57**	**309**	*e*P	**P**	**19 12 46.6**		**+1.1**
GKN	**Gorkha** 13nm,0.5s	**56.12**	**309**	*e*P	**P**	**19 12 50.5**		**+1.2**
KOLN	**Koldanda** 7.2nm,0.4s	**56.81**	**309**	*e*P	**P**	**19 12 55.4**		**+1.1**
DANN	**Dangsing** 6.9nm,0.5s	**56.97**	**309**	*e*P	**P**	**19 12 56.3**		**+0.8**
PYUN	**Piuthan** 5.2nm,0.4s	**57.44**	**309**	*e*P	**P**	**19 13 00.0**		**+1.3**
SONM	**Songino Array** 0.4nm,0.5s,baz=155,slow=6.6,SNR=3.8	**57.74**	**340**	P	P	19 13 04.0		+3.7
SONM	0.8nm,0.6s,baz=158,slow=7.1,SNR=5.6			pP	pP	19 13 21.5		-0.4
MKAR	**Makanchi Array** 2.6nm,0.6s,baz=119,slow=7.2,SNR=12	**67.93**	**326**	P	**P**	**19 14 10.6**		**+2.7**
MKAR	1.8nm,0.5s,baz=107,slow=7.6,SNR=6.1			pP	**pP**	**19 14 29.2**		**-0.8**
AAK	**Ala-Archa** 0.7nm,0.4s,baz=122,slow=5.5,SNR=2.5	**70.45**	**319**	P	**P**	**19 14 26.2**		**+2.5**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=128,slow=5.3,SNR=6.9	**72.17**	**328**	P	**P**	**19 14 36.2**		**+2.6**
KURBB	0.9nm,0.6s,baz=129,slow=4.9,SNR=3.7			pP	**pP**	**19 14 55.2**		**-0.8**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=96,slow=7.4,SNR=3.6	**77.73**	**327**	P	**P**	**19 15 08.4**		**+2.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=276,slow=4.2,SNR=3.0	**91.77**	**25**	P	**P**	**19 16 17.6**		**+1.5**
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=106,slow=2.2,SNR=4.8	**129.77**	**282**	PKP	**PKPdf**	**19 22 21.3**		**+2.7**

*NIED **22** 19:05:00, 42.30N×140.80E, h125km, Mw4.1 Best double couple: M0 1.85000×10^15 NP1:φ=105.00000°, δ=28.00000°, λ=142.00000°. NP2:φ=230.00000°, δ=73.00000°, λ=68.00000°.*
*MOS **22** 19:05:04.9±0.9, 42.34N×140.73E, h147km, mb4.1/30, Error ellipse: s-maj=9.2km s-min=6.2km az=104.2*
*BJI **22** 19:05:04.1, 41.99N×140.70E, h154km, mB4.7/8, mb4.5/13*
*NEIC **22** 19:05:04.9±0.6, 42.32N×140.65E, h130km±6km, mb4.3/13, Error ellipse: s-maj=9.2km s-min=6.2km az=118.0*
*ISCJB **22** 19:05:04.1±0.2, 42.29N±0.03×140.72E±0.04, h138km±2km, mb4.0/52, Error ellipse: s-maj=5.3km s-min=3.9km az=32.6*
*SKHL **22** 19:05:05.0±1.3, 42.31N×140.84E, h140km±5km, mb5.3/2, msh6.2/2*
*JMA **22** 19:05:05.6±0.1, 42.30N×140.76E, h131km±1km, M3.7*
*IDC **22** 19:05:05.7±1.0, 42.34N×140.69E, h134km±8km, mb3.8/25, mb1 3.9/29, mb1mx3.8/53, mbtmp4.2/29, MS2.0/1, Ms1 2.0/1, ms1mx1.9/48, Error ellipse: s-maj=11.9km s-min=9.3km az=143.0*

ISC 22 19:05:04.9±0.6, 42°30N±0°03×140°76E±0°04, h131km±4km, n152, σ1§20/177, mb4.2/52, 9C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m	s	ISC
JNB	**Noboribetsu**	**0.27**	**50**	⇑P	**Pn**	**19 05 23.6**		**+0.6**
JNB				*e*S	**Sn**	**19 05 37.2**		**+0.5**
JYM2	**Yakumo 2**	**0.34**	**238**	⇑P	**Pn**	**19 05 24.1**		**+0.9**
JYM2				*e*S	**Sn**	**19 05 38.0**		**+0.9**
JKB	**Kayabe**	**0.46**	**153**	⇓P	**Pn**	**19 05 24.5**		**+0.7**
JKB				*e*S	**Sn**	**19 05 38.8**		**+0.8**
JSH	**Shimam**	**0.63**	**303**	⇑P	**Pn**	**19 05 25.4**		**+0.6**
JEW	**Eniwo**	**0.74**	**43**	⇑P	**Pn**	**19 05 26.9**		**+1.2**
JEW				*e*S	**Sn**	**19 05 43.1**		**+1.7**
JSR	**Shiriuchi**	**0.81**	**198**	⇓P	**Pn**	**19 05 26.9**		**+0.7**
JSR				*e*S	**Sn**	**19 05 42.5**		**+0.2**
JOT	**Ohata**	**0.94**	**167**	⇓P	**Pn**	**19 05 27.9**		**+0.6**
JOSM	**Okushiri--Mats**	**0.98**	**258**	⇑P	**Pn**	**19 05 28.2**		**+0.6**
JOSM				*e*S	**Sn**	**19 05 45.5**		**+0.7**
JSK	**Shakotan**	**1.07**	**349**	⇑P	**Pn**	**19 05 29.5**		**+1.0**
JSK				*e*S	**Sn**	**19 05 48.1**		**+1.6**
JBT2	**Biratori 2**	**1.28**	**67**	P	**Pn**	**19 05 31.4**		**+0.8**
JNBK	**Urakawa-nobuka**	**1.48**	**90**	⇓P	**Pn**	**19 05 33.4**		**+0.6**
JFR	**Furan**	**1.61**	**57**	P	**Pn**	**19 05 34.6**		**+0.4**
JHR	**Hokuryu**	**1.61**	**26**	P	**Pn**	**19 05 35.9**		**+1.7**
ERM	**Erimo**	**1.81**	**98**	*i*PN	**Pn**	**19 05 37.9**		**+1.4**
ERM	**Erimo**	**1.81**	**98**	*e*Pn	**Pn**	**19 05 37.3**		**+0.8**
ERM	**Erimo**	**1.81**	**98**	*e*P	**Pn**	**19 05 37.9**		**+1.4**
JCH	**Churui**	**1.95**	**80**	P	**Pn**	**19 05 38.9**		**+0.6**
JCH				*e*S	**Sn**	**19 06 04.1**		**+0.3**
JANG	**Nango**	**2.00**	**163**	⇓P	**Pn**	**19 05 38.6**		**-0.4**
JANG				*e*S	**Sn**	**19 06 04.5**		**-0.5**
JKK2	**Kamakawa 2**	**2.15**	**42**	⇓P	**Pn**	**19 05 41.8**		**+1.1**
JKK2				*e*S	**Sn**	**19 06 09.1**		**+1.0**
JYG	**Yagishiri**	**2.18**	**13**	P	**Pn**	**19 05 42.3**		**+1.2**
ASAJ	**Asahikawa**	**2.26**	**36**	*e*Pn	**Pn**	**19 05 43.0**		**+0.9**
ASAJ				S	**Sn**	**19 06 12.2**		**+1.6**
ASAJ	**Asahikawa** 16nm,0.3s,baz=226,slow=12,SNR=74	**2.26**	**36**	P	**Pn**	**19 05 43.5**		**+1.4**
ASAJ	20nm,0.3s,baz=289,slow=28,SNR=11			S	**Sn**	**19 06 12.2**		**+1.6**
YUK	**Yuzh-Kuril'sk**	**4.12**	**63**	*d*iPN	**Pn**	**19 06 07.1**		**+1.0**
YUK				*i* S	**Sn**	**19 06 53.7**		**0.0**
YUK	comp=N,103nm,0.6s			pmax	pmax			
YUK	comp=E,133nm,0.6s			pmax	pmax			
YUK	comp=Z,214nm,0.6s			smax	smax			
YUK	comp=E,858nm,0.6s			smax	smax			
YUK	**Yuzh-Kuril'sk** comp=N,697nm,0.5s	**4.12**	**63**	*e*P	**Pn**	**19 06 07.1**		**+1.0**
YUK	comp=N,214nm,0.6s			AMB	AMB	19 06 14.1		
YUK				*e*S	**Sn**	**19 06 53.7**		**0.0**
YUK	comp=N,860nm,0.6s			A	A	19 06 56.4		
YUK	comp=N,700nm,0.6s			A	A	19 06 56.4		
SHO	**Shikotan**	**4.72**	**68**	*e*P	**Pn**	**19 06 13.4**		**-0.7**
SHO	comp=N,200nm,0.8s			AMB	AMB	19 06 14.7		
SHO				*e*S	**Sn**	**19 07 03.8**		**-4.2**
SHO	comp=N,535nm,0.5s			A	A	19 07 06.0		
SHO	comp=N,600nm,0.5s			A	A	19 07 06.0		
YSS	**Yuzh-Sakhalins**	**4.87**	**16**	⇓*i*PN	**Pn**	**19 06 17.7**		**+1.6**
YSS				*e*S	**Sn**	**19 07 13.2**		**+1.6**
YSS	comp=Z,90nm,0.7s			pmax	pmax			
YSS	comp=N,30nm,0.9s			smax	smax			
YSS	**Yuzh-Sakhalins**	**4.87**	**16**	*e*Pn	**Pn**	**19 06 16.9**		**+0.8**
YSS	**Yuzh-Sakhalins**	**4.87**	**16**	*e*P	**Pn**	**19 06 17.7**		**+1.6**
YSS				*e*S	**Sn**	**19 07 13.2**		**+1.6**
MJA0	**Matsu Arr-Jizo**	**6.07**	**199**	*e*PN	**Pn**	**19 06 34.9**		**+2.5**
MJA0	comp=Z,3.0nm,0.3s			pmax	pmax			
MAJO	**Matsushiro**	**6.08**	**200**	⇓*i*PN	**Pn**	**19 06 33.6**		**+1.1**
MAJO	**Matsushiro** comp=Z,13nm,0.4s	**6.08**	**200**	*e*Pn	**Pn**	**19 06 33.5**		**+1.0**
MAT	**Matsushiro**	**6.08**	**200**	P	**Pn**	**19 06 34.0**		**+1.5**
MAT				*e*S	**Sn**	**19 07 40.3**		**-0.5**
MJAR	**Matsushiro Arr**	**6.08**	**200**	P	**Pn**	**19 06 33.9**		**+1.4**
MJAR	**Matsushiro Arr** comp=Z,2.9nm,0.3s,baz=9.5,slow=14,SNR=37	**6.08**	**200**	P	**Pn**	**19 06 33.9**		**+1.4**
VLA	**Vladivostok**	**6.59**	**280**	⇑*i*PN	**Pn**	**19 06 40.6**		**+1.4**
USRK	**Ussuriysk Arra** comp=Z,1.4nm,0.3s,baz=93,slow=14,SNR=15	**6.68**	**289**	P	**Pn**	**19 06 41.7**		**+1.2**
HABR	**Khabarovsk**	**7.37**	**329**	*e*PN	**Pn**	**19 06 48.1**		**-1.5**
HABR				*e*S	**Sn**	**19 08 10.8**		**-0.9**
HABR	comp=N,23nm,1.5s			pmax	pmax			
HABR	comp=E,37nm,1.9s			pmax	pmax			
HABR	comp=Z,55nm,1.4s			pmax	pmax			
HABR	comp=Z,110nm,15.0s			MLR	MLR			
JHJ2	**Mitsune**	**9.20**	**185**	*e*Pn	Pn	19 07 11.1		-3.4
KLR	**Kul'dur**	**9.36**	**321**	*e*PN	Pn	19 07 12.7		-3.8
KSRS	**Korea Array** comp=Z,8.8nm,20.4s,baz=145,slow=35	**10.98**	**248**	LR	LR	19 11 26.2		
PETK	**Petropavlovsk-**	**15.67**	**41**	P	**Pn**	**19 08 38.7**		**+0.4**
PETK	**Petropavlovsk-**	**15.67**	**41**	P	**Pn**	**19 08 38.7**		**+0.4**
PETK	**Petropavlovsk-** comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=5.9	**15.67**	**41**	P	**Pn**	**19 08 38.7**		**+0.4**
YAK	**Yakutsk**	**20.84**	**345**	*e*P	**P**	**19 09 32.4**		**-3.5**
YAK	comp=Z,23nm,0.9s			pmax	pmax			
YAK	comp=E,3.0nm,1.0s			pmax	pmax			
YAK	comp=N,7.0nm,0.9s			pmax	pmax			
YAK	**Yakutsk** comp=N,27nm,0.7s	**20.84**	**345**	*e*Pn	**P**	**19 09 32.5**		**-3.3**
SEY	**Seymchan**	**21.77**	**14**	P	**P**	**19 09 44.6**		**-1.3**
SEY	comp=Z,11nm,0.4s			pmax	pmax			
SEY	**Seymchan**	**21.77**	**14**	P	**P**	**19 09 44.6**		**-1.3**
SEY	**Seymchan** comp=Z,11nm,0.4s,baz=200,slow=8.2,SNR=53	**21.77**	**14**	P	**P**	**19 09 44.6**		**-1.3**
ULN	**Ulaanbaatar** comp=Z,2.0nm,0.5s	**24.31**	**295**	*e*Pn	**P**	**19 10 08.9**		**-1.4**
SONM	**Songino Array**	**24.76**	**295**	P	**P**	**19 10 13.9**		**-0.4**
SONM	**Songino Array** comp=Z,2.4nm,0.5s,baz=88,slow=7.6,SNR=36	**24.76**	**295**	P	**P**	**19 10 13.9**		**-0.4**
TLY	**Talaya**	**26.74**	**303**	*e*P	**P**	**19 10 32.4**		**+0.4**
TLY	comp=Z,3.0nm,0.6s			pmax	pmax			
ZAK	**Zakamensk**	**26.87**	**300**	*e*P	**P**	**19 10 32.1**		**-1.2**
ZAK	comp=Z,3.0nm,0.9s			pmax	pmax			
MOY	**Mondy**	**28.39**	**303**	*e*P	**P**	**19 10 46.8**		**0.0**
BILL	**Bilibino**	**29.18**	**19**	P	**P**	**19 10 53.4**		**-0.1**
BILL	comp=Z,1.0nm,1.1s			pmax	pmax			
GTA	**Gaotai**	**30.89**	**279**	*e*P	**P**	**19 11 08.3**		**-0.8**
GTA	comp=Z,2.0nm,0.8s			pmax	pmax			
H11N2	**WAKE ISLAND Hy** baz=327,slow=76,SNR=12	**31.52**	**127**	T	T	19 43 23.0		
H11N1	**WAKE ISLAND Hy** baz=327,slow=76,SNR=13	**31.53**	**127**	T	T	19 43 28.8		
H11N3	**WAKE ISLAND Hy** baz=327,slow=76,SNR=11	**31.54**	**127**	T	T	19 43 43.9		
H11S1	**WAKE ISLAND Hy** baz=332,slow=76,SNR=11	**32.37**	**129**	T	T	19 44 36.8		
H11S3	**WAKE ISLAND Hy** baz=332,slow=76,SNR=17	**32.37**	**129**	T	T	19 44 37.2		
H11S2	**WAKE ISLAND Hy** baz=332,slow=76,SNR=11	**32.38**	**129**	T	T	19 44 35.8		
ZAA0	**Zalesovo Array**	**38.15**	**308**	*e*P	**P**	**19 12 10.7**		**-0.4**
ZALV	**Zalesovo Beam**	**38.15**	**308**	*e*P	**P**	**19 12 11.0**		**-0.1**
ZALV	**Zalesovo Beam**	**38.15**	**308**	P	**P**	**19 12 11.0**		**-0.1**
ZALV				PcP	**PcP**	**19 14 23.5**		**+0.4**
ZALV				ScP	**ScP**	**19 17 58.3**		**-0.2**
ZALV	**Zalesovo Beam** comp=Z,12nm,0.3s,baz=95,slow=8.4,SNR=50	**38.15**	**308**	P	**P**	**19 12 11.0**		**-0.1**
ZALV	comp=Z,1.5nm,0.5s,baz=87,slow=3.8,SNR=4.6			PcP	**PcP**	**19 14 23.5**		**+0.4**
ZALV	comp=Z,0.9nm,0.4s,baz=79,slow=3.2,SNR=7.5			ScP	**ScP**	**19 17 58.3**		**-0.2**
NVS	**Novosibirsk**	**38.98**	**309**	*e*P	**P**	**19 12 17.0**		**-1.0**
NVS	comp=N,1.0nm,0.5s			pmax	pmax			
NVS	comp=E,3.0nm,0.5s			pmax	pmax			
NVS	comp=Z,4.0nm,0.5s			pmax	pmax			
MKAR	**Makanchi Array**	**41.08**	**297**	*e*P	**P**	**19 12 35.3**		**-0.2**
MKAR	comp=Z,5.0nm,0.5s			pmax	pmax			
MKAR	**Makanchi Array**	**41.08**	**297**	P	**P**	**19 12 35.4**		**-0.2**
MKAR				ScP	**ScP**	**19 18 09.8**		**-0.3**
MKAR	**Makanchi Array** comp=Z,5.4nm,0.5s,baz=72,slow=9.9,SNR=158	**41.08**	**297**	P	**P**	**19 12 35.4**		**-0.2**
MKAR	comp=Z,0.4nm,0.8s,baz=69,slow=4.8,SNR=3.4			ScP	**ScP**	**19 18 09.8**		**-0.3**
KURK	**Kurchatov**	**42.44**	**304**	P	**P**	**19 12 46.8**		**+0.3**
KURK	comp=Z,6.0nm,0.4s			pmax	pmax			
KURK	**Kurchatov** comp=Z,3.5nm,0.4s	**42.44**	**304**	*e*P	**P**	**19 12 45.9**		**-0.6**
KURK				ScP	**ScP**	**19 18 15.8**		**+0.4**
IM04	**Indian Mountai**	**42.45**	**33**	*e*P	**P**	**19 12 46.6**		**+0.3**
KURBB	**Kurchatov Arra** comp=Z,5.5nm,0.4s,baz=76,slow=8.8,SNR=39	**42.52**	**303**	P	**P**	**19 12 46.8**		**-0.3**
KURBB	comp=Z,0.5nm,0.3s,baz=74,slow=3.3,SNR=4.0			ScP	**ScP**	**19 18 15.8**		**+0.1**
CMAR	**Chiang Mai Arr**	**42.62**	**249**	P	**P**	**19 12 49.5**		**+1.1**
CMAR				ScP	**ScP**	**19 18 16.9**		**+0.2**
CMAR

	comp=Z,7.0nm,0.7s							
TKM2	**Tokmak 2**	**46.85**	**294**	*e*P		**P**	**19 13 22.3**	**+0.5**
	comp=Z,7.1nm,0.7s							
AAK	**Ala-Archa**	**47.71**	**294**	P		**P**	**19 13 28.6**	**+0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AAK	**Ala-Archa**	**47.71**	**294**	*e*P		**P**	**19 13 27.4**	**-1.0**
	comp=Z,1.5nm,0.4s							
AAK				*e*PcP		pP	19 14 15.8	+17
AAK	**Ala-Archa**	**47.71**	**294**	P		**P**	**19 13 28.6**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=118,slow=6.7,SNR=13							
KSH	**Kashi**	**47.98**	**290**	*e*P		P	19 13 35.0	+4.5
KSH				*e*PP		**PP**	**19 15 26.1**	**+2.6**
KSH				*e*S		**S**	**19 20 23.3**	**+4.9**
KSH				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,57nm,4.9s							
KSH				LR	LR			
	comp=Z,44nm,4.7s							
KSH				LR	LR			
	comp=Z,20nm,4.1s							
KSH				LR	LR			
	comp=Z,28nm,4.4s							
EKS2	**Erkin-Say**	**48.19**	**294**	*e*P		**P**	**19 13 31.4**	**-0.7**
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.6s							
EKS2	**Erkin-Say**	**48.19**	**294**	*e*P		**P**	**19 13 31.4**	**-0.7**
	comp=Z,2.3nm,0.6s							
INK	**Inuvik**	**49.98**	**29**	*e*P		**P**	**19 13 45.8**	**+0.7**
	comp=Z,2.4nm,0.6s							
KK31	**Karatay Array**	**50.20**	**296**	*e*P		**P**	**19 13 46.5**	**-0.7**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**50.20**	**296**	*e*P		**P**	**19 13 46.6**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**50.20**	**296**	*e*P		**P**	**19 13 46.6**	**-0.6**
	comp=Z,2.5nm,0.6s							
SVE	**Sverdlovsk**	**50.94**	**316**↑	*e*P		**P**	**19 13 53.5**	**+0.9**
SVE				pmax	pmax			
	comp=Z,19nm,0.9s							
ARU	**Arti**	**52.16**	**316**	*d i*P		**P**	**19 14 01.1**	**-0.5**
ARU							19 15 09.3	
ARU							19 15 59.0	
ARU				S		**S**	**19 21 16.0**	**+0.4**
ARU				SS		**SS**	**19 24 47.4**	**-6.6**
ARU				pmax	pmax			
	comp=Z,18nm,2.5s							
ARU	**Arti**	**52.16**	**316**	*e*P		**P**	**19 14 00.1**	**-1.5**
	comp=Z,3.3nm,0.3s							
AB31	**Akbulak array**	**54.26**	**307**	P		**P**	**19 14 16.6**	**-0.5**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ABKAR	**Akbulak array**	**54.26**	**307**	*e*P		**P**	**19 14 16.6**	**-0.5**
	comp=Z,1.7nm,0.4s							
AKTO	**Aktyubinsk**	**54.87**	**309**	P		**P**	**19 14 21.4**	**0.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**54.87**	**309**	P		**P**	**19 14 21.4**	**0.0**
AKTO	**Aktyubinsk**	**54.87**	**309**	P		**P**	**19 14 21.4**	**0.0**
	comp=Z,0.8nm,0.4s,baz=69,slow=14,SNR=5.4							
KBL	**Kabul**	**55.21**	**287**	*e*P		**P**	**19 14 22.6**	**-1.8**
KBL				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KBL	**Kabul**	**55.21**	**287**	*e*P		**P**	**19 14 22.6**	**-1.8**
	comp=Z,1.4nm,0.4s							
KEV	**Kevo**	**58.36**	**338**	*e*P		**P**	**19 14 47.1**	**+1.3**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**58.36**	**338**	*e*p		**P**	**19 14 47.1**	**+1.3**
	comp=Z,0.5nm,0.3s							
ARCES	**ARCESS Array B**	**58.91**	**338**	P		**P**	**19 14 49.5**	**-0.2**
ARCES	**ARCESS Array B**	**58.91**	**338**	P		**P**	**19 14 49.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=40,slow=7.7,SNR=8.6							
YKA	**Yellowknife Ar**	**59.55**	**31**	P		**P**	**19 14 55.0**	**+0.9**
YKA				PcP		**PcP**	**19 15 40.6**	**+0.5**
YKA	**Yellowknife Ar**	**59.55**	**31**	P		**P**	**19 14 55.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=302,slow=6.6,SNR=15							
YKA				PcP		**PcP**	**19 15 40.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=305,slow=3.3,SNR=4.8							
JOF	**Joensuu**	**61.11**	**330**	*e*P		**P**	**19 15 03.3**	**-1.4**
JOF				pmax	pmax			
	comp=Z,3.0nm,0.4s							
JOF	**Joensuu**	**61.11**	**330**	*e*p		**P**	**19 15 03.3**	**-1.4**
	comp=Z,3.0nm,0.4s							
WRA	**Warramunga Arr**	**62.21**	**187**	P		**P**	**19 15 11.6**	**-0.9**
WRA	**Warramunga Arr**	**62.21**	**187**	P		**P**	**19 15 11.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=6.5,slow=6.8,SNR=5.3							
KAF	**Kangasniemi**	**63.42**	**331**	*e*P		**P**	**19 15 18.5**	**-1.6**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KAF	**Kangasniemi**	**63.42**	**331**	*e*p		**P**	**19 15 18.5**	**-1.6**
	comp=Z,2.3nm,0.5s							
FINES	**FINESS Array B**	**63.95**	**331**	P		**P**	**19 15 22.9**	**-0.6**
FINES	**FINESS Array B**	**63.95**	**331**	P		**P**	**19 15 22.9**	**-0.6**
	comp=Z,4.8nm,0.5s,baz=52,slow=7.3,SNR=50							
ASAR	**Alice Springs**	**65.94**	**187**	P		**P**	**19 15 37.1**	**+0.3**
ASAR	**Alice Springs**	**65.94**	**187**	P		**P**	**19 15 37.1**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=5.4,slow=6.7,SNR=4.8							
HFS	**Hagfors**	**69.10**	**335**	P		**P**	**19 15 56.1**	**-0.3**
HFS	**Hagfors**	**69.10**	**335**	P		**P**	**19 15 56.1**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=30,slow=4.6,SNR=46							
NB2	**NORSAR Subarra**	**69.15**	**336**	P		**P**	**19 15 56.1**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**69.15**	**336**	P		**P**	**19 15 56.2**	**-0.5**
NOA	**NORSAR Array B**	**69.15**	**336**	P		**P**	**19 15 56.2**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=39,slow=6.2,SNR=14							
AKASG	**Malin Array Be**	**69.86**	**321**	*e*P		**P**	**19 16 00.3**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**69.86**	**321**	P		**P**	**19 16 00.3**	**-0.8**
AKASG	**Malin Array Be**	**69.86**	**321**	P		**P**	**19 16 00.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=44,slow=6.6,SNR=7.0							
NVAR	**Mina Array Bea**	**72.27**	**54**	P		**P**	**19 16 16.9**	**+0.7**
NVAR	**Mina Array Bea**	**72.27**	**54**	P		**P**	**19 16 16.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=286,slow=5.3,SNR=13							
STKA	**Stephens Creek**	**73.81**	**179**	P		**P**	**19 16 25.8**	**+1.0**
STKA	**Stephens Creek**	**73.81**	**179**	P		**P**	**19 16 25.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=324,slow=8.7,SNR=2.0							
PDAR	**Pinedale Array**	**74.36**	**46**	P		**P**	**19 16 28.8**	**+0.4**
PDAR	**Pinedale Array**	**74.36**	**46**	P		**P**	**19 16 28.8**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=270,slow=2.1,SNR=8.9							
ULM	**Lac du Bonnet**	**75.40**	**34**	P		**P**	**19 16 34.6**	**+0.7**
ULM	**Lac du Bonnet**	**75.40**	**34**	P		**P**	**19 16 34.6**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=326,slow=6.2,SNR=3.3							
CLL	**Collm**	**76.30**	**329**	*e*P		**P**	**19 16 39.0**	**0.0**
CLL				pmax	pmax			
	comp=Z,10.0nm,1.5s							
CLL	**Collm**	**76.30**	**329**	*e*P		**P**	**19 16 39.0**	**0.0**
	comp=Z,10.0nm,1.5s							
VRAC	**Vranov**	**76.45**	**326**	P		**P**	**19 16 40.8**	**+0.9**
VRAC	**Vranov**	**76.45**	**326**	P		**P**	**19 16 40.8**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=141,slow=6.5,SNR=3.0							
GERES	**GERESS Array B**	**77.99**	**327**	P		**P**	**19 16 48.7**	**+0.1**
GERES	**GERESS Array B**	**77.99**	**327**	P		**P**	**19 16 48.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=49,slow=6.6,SNR=3.1							
EKA	**Eskdalemuir Ar**	**78.01**	**340**	P		**P**	**19 16 47.3**	**-1.2**
EKA	**Eskdalemuir Ar**	**78.01**	**340**	P		**P**	**19 16 47.3**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=27,slow=5.6,SNR=4.3							
LPL	**La Plagne**	**83.44**	**329**	*e*P		**P**	**19 17 18.0**	**+0.1**
	comp=Z,3.0nm,0.5s							
LPG	**La Plagne**	**83.45**	**329**	*e*P		**P**	**19 17 18.1**	**+0.1**
	comp=Z,4.3nm,0.5s							
AVF	**Avril sur Loir**	**83.58**	**332**	*e*P		**P**	**19 17 18.2**	**0.0**
	comp=Z,16nm,1.2s							
SNAA	**Sanae**	**145.59**	**199**	P		**PKPab**	**19 24 27.2**	**-0.2**
VNA2	**Neumayer--Watz**	**147.19**	**199**	P		**PKPbc**	**19 24 31.6**	**+0.1**
	baz=333,slow=8.0							
VNA1	**Neumayer--Stat**	**147.58**	**199**	P		**PKPbc**	**19 24 31.2**	**-1.3**

KRSC 22 19:19:36.0±1.4, 48.05N×157.27E, h6km±5km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.74**	**344**	*e*S	Sn	19 20 54.9	+1.2
PAU	**Pauzhetka**	**3.43**	**355**	*e*S	Sb	19 21 15.1	-3.9
RUS	**Russkaya**	**4.46**	**10**	*e*P	Pn	19 20 47.4	+3.4
RUS				*e*S	Sn	19 21 40.8	+4.7
MTVR	**Mutnovka**	**4.47**	**7**	*e*P	Pn	19 20 47.8	+3.4
MTVR				*e*S	Sn	19 21 41.5	+4.6
PET	**Petropavlovsk**	**5.05**	**10**	*e*S	Sn	19 21 57.4	+6.6
UGLR	**Uglovaya**	**5.26**	**10**	P	Pn	19 21 00.5	+5.4
AVH	**Avacha**	**5.30**	**10**	P	Pn	19 21 00.3	+4.6
SMAR	**Somma**	**5.31**	**10**	*e*P	Pn	19 20 59.3	+3.4
KOK	**Koryaka**	**5.32**	**9**	P	Pn	19 21 00.8	+4.9
SDLR	**Sedlovina**	**5.33**	**10**	*e*P	Pn	19 20 59.9	+3.7
KRER	**Koryakskii**	**5.34**	**10**	P	Pn	19 21 00.6	+4.2
KRX	**Arik**	**5.38**	**9**	P	Pn	19 21 01.2	+4.3
GNL	**Ganaly**	**5.67**	**4**	P	Pn	19 21 04.9	+4.2

IDC 22 19:21:19.7±1.2, 57.91S×25.66W, h51km±8km, mb3.7/2, mb1 3.6/2, mb1mx3.4/21, mbtmp3.9/2, Error ellipse: s-maj=68.7km s-min=51.2km az=130.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**66.54**	**23**	P	P	19 32 03.5	-0.5
	1.0nm,0.5s,baz=226,slow=7.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.29**	**28**	P	P	19 32 51.9	+0.6
	0.4nm,0.4s,baz=200,slow=6.0,SNR=14						
YKA	**Yellowknife Ar**	**138.10**	**316**	PKP	PKPdf	19 40 36.8	-0.5
	0.1nm,0.7s,baz=132,slow=2.3,SNR=3.1						
YKA				pPKP	pPKPdf	19 40 51.8	-0.7
	0.5nm,0.6s,baz=128,slow=2.4,SNR=8.0						
SONM	**Songino Array**	**149.97**	**89**	PKPbc	PKPbc	19 41 02.9	-0.5
	0.5nm,0.4s,baz=220,slow=4.2,SNR=6.7						
SONM				pPKPbc	pPKPbc	19 41 18.3	-0.4
	0.2nm,0.4s,baz=215,slow=3.0,SNR=2.8						
ILAR	**Eielson Array**	**151.96**	**309**	PKPbc	PKPbc	19 41 07.2	-0.1
	0.7nm,0.8s,baz=108,slow=2.8,SNR=6.0						
ILAR				pPKPbc	pPKPbc	19 41 22.6	0.0
	0.8nm,0.9s,baz=120,slow=2.5,SNR=4.9						

*IPEC **22** 19:23:03.9±3.5, 50.39N×18.97E, h0km, ML2.7/3, Error ellipse: s-maj=26.2km s-min=22.2km az=157.0*
*ISCJB **22** 19:23:04.7±0.4, 50.36N±0.04×18.74E±0.02, h0km, Error ellipse: s-maj=5.3km s-min=1.9km az=8.0*
*CSEM **22** 19:23:05.3±0.3, 50.38N×18.84E, h2km, ML3.3/5, Error ellipse: s-maj=6.7km s-min=2.9km az=14.0*
*IDC **22** 19:23:06.1±0.9, 50.33N×18.85E, h0km, mb1 3.5/3, mb1mx3.1/35, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=17.9km s-min=7.3km az=145.0*
*PRU **22** 19:23:06.8, 50.31N×18.76E, h0km*
*SIGU **22** 19:23:07.3±0.3, 50.16N±0.03×18.82E±0.02, h10km, mb2.9/10*

ISC 22 19:23:06.1±0.7, 50.30N±0.03×18.83E±0.02, h0km, n46, σ1s54/85, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.11**	**93**	*i* Pg	**Pg**	**19 23 07.7**	**-0.4**
CHZP				*e*Sg	**Sg**	**19 23 09.4**	**-0.1**
OKC	**Ostrava-Krasne**	**0.64**	**224**	*e*PG	**Pg**	**19 23 19.1**	**+0.9**
OKC				*e*SG	**Sg**	**19 23 28.2**	**+1.7**
	comp=Z,103nm,0.4s						
OKC	**Ostrava-Krasne**	**0.64**	**224**	Pg	**Pg**	**19 23 19.1**	**+0.9**
OKC				Sg	**Sg**	**19 23 28.2**	**+1.7**
	103nm,0.4s						
MORC	**Moravsky Berou**	**0.98**	**238**	*e*Pg	**Pg**	**19 23 25.0**	**+0.2**
	baz=56						
MORC				*e*Sg	**Sg**	**19 23 38.7**	**+1.2**
	153nm,0.4s,baz=56						
NIE	**Niedzica**	**1.30**	**132**	*e*Pg	**Pg**	**19 23 30.3**	**-0.7**
NIE				*e*		19 23 48.6	
NIE				*e*Sg	**Sn**	**19 23 49.7**	**0.0**
NIE	**Niedzica**	**1.30**	**132**	*e*Pg	**Pg**	**19 23 30.3**	**-0.7**
NIE				*e*Sg	**Sn**	**19 23 49.7**	**0.0**
DPC	**Dobruska-Polom**	**1.61**	**273**	*e*PG	**Pn**	**19 23 35.0**	**-0.8**
DPC				*e*SG	**Sn**	**19 23 56.3**	**-0.9**
DPC	**Dobruska-Polom**	**1.61**	**273**	Pg	**Pn**	**19 23 35.0**	**-0.8**
DPC				Sg	**Sn**	**19 23 56.3**	**-0.9**
KSP	**Ksiaz**	**1.71**	**290**	*e*Pn	**Pb**	**19 23 38.1**	**-0.2**
KSP				*e*Pg	**Pg**	**19 23 41.6**	**+2.8**
KSP				*e*Sn	**Sg**	**19 24 00.7**	**-0.2**
KSP				*e*Sg	**Sb**	**19 24 03.2**	**+2.9**
KSP	**Ksiaz**	**1.71**	**290**	*e*Pn	**Pn**	**19 23 36.1**	**-1.0**
KSP	**Ksiaz**	**1.71**	**290**	*e*Pn	**Pn**	**19 23 36.1**	**-1.0**
KSP	**Ksiaz**	**1.71**	**290**	*e*Pg	**Pb**	**19 23 38.1**	**-0.2**
KSP				*e*Sg	**Sb**	**19 24 00.1**	**-0.2**
VRAC	**Vranov**	**1.75**	**237**	Pn	**Pn**	**19 23 38.0**	**+0.2**
	3.7nm,0.3s,baz=57,slow=15,SNR=28						
VRAC				Lg	Lg	19 24 03.1	
	6.9nm,0.3s,baz=320,slow=20,SNR=14						
VRAC	**Vranov**	**1.75**	**237**	*e*Pn	**Pn**	**19 23 37.4**	**-0.3**
	baz=54						
VRAC				*e*Sg	**Sg**	**19 24 02.8**	**+0.4**
	27nm,0.4s,baz=54						
STHS	**Stebnicka Huta**	**1.79**	**118**	*e*PN	**Pn**	**19 23 38.2**	**-0.1**
STHS				*e*SN	**Sg**	**19 24 04.4**	**+0.7**
STHS	**Stebnicka Huta**	**1.79**	**118**	*e*Pn	**Pn**	**19 23 38.2**	**-0.1**
STHS				*e*Sn	**Sg**	**19 24 04.4**	**+0.7**
KRUC	**Moravsky**	**2.01**	**233**	*e*Pn	**Pn**	**19 23 40.8**	**-0.4**
	baz=50						
KRUC				*e*Sn	**Sb**	**19 24 09.3**	**+0.4**
	39nm,0.5s,baz=50						
KECS	**Kecovo**	**2.11**	**149**	*e*PN	**Pn**	**19 23 41.8**	**-0.9**
KECS				*e*SN	**Sn**	**19 24 07.9**	**-1.7**
KECS	**Kecovo**	**2.11**	**149**	*e*Pn	**Pn**	**19 23 41.8**	**-0.9**
KECS				*e*Sn	**Sn**	**19 24 07.9**	**-1.7**
CRVS	**Cervenica-Dubn**	**2.21**	**128**	*e*PN	**Pn**	**19 23 43.6**	**-0.4**
CRVS				*e*SN	**Sb**	**19 24 14.2**	**-0.6**
CRVS	**Cervenica-Dubn**	**2.21**	**128**	*e*Pn	**Pn**	**19 23 43.6**	**-0.4**
CRVS				*e*Sn	**Sb**	**19 24 14.2**	**-0.6**
TREC	**Trest**	**2.38**	**246**	*e*SG	**Sb**	**19 24 20.7**	**+0.8**
	comp=Z,26nm,0.7s						
PSZ	**Piszkesteto**	**2.48**	**163**	*e*Pn	**Pn**	**19 23 48.9**	**+1.1**
PSZ				*e*Sn	**Sg**	**19 24 26.8**	**+1.0**
PSZ	**Piszkesteto**	**2.48**	**163**	*e*P	**Pn**	**19 23 48.9**	**+1.1**
KOLS	**Kolonicke sedl**	**2.62**	**120**	*e*PN	**Pn**	**19 23 49.2**	**-0.5**
KOLS				*e*SN	**Sn**	**19 24 21.4**	**-0.8**
KOLS	**Kolonicke sedl**	**2.62**	**120**	*e*Pn	**Pn**	**19 23 49.2**	**-0.5**
KOLS				*e*Sn	**Sn**	**19 24 21.4**	**-0.8**
PRU	**Pruhonice**	**2.77**	**265**	*e*PG	**Pb**	**19 23 55.2**	**-1.3**
PRU				*e*SG	**Sb**	**19 24 32.9**	**+1.9**
	comp=Z,24nm,0.6s						
UZH	**Uzhgorod**	**2.81**	**125**	*e*Pn	**Pn**	**19 23 53.0**	**+0.8**
UZH				*e*Sn	**Sn**	**19 24 27.5**	**+0.7**
UZH				Snm		19 24 53.7	
ONO	**Onokovtsy**	**2.81**	**124**	*e*Pn	**Pn**	**19 23 52.4**	**+0.2**
ONO				*e*Sn	**Sn**	**19 24 28.2**	**+1.4**
MUKU	**Mukachevo**	**3.12**	**125**	*e*Pn	**Pn**	**19 23 56.4**	**-0.2**
MUKU				*e*Sn	**Sn**	**19 24 36.2**	**+1.7**
SHIU	**Shidnytsya**	**3.13**	**108**	*e*Pn	**Pn**	**19 23 59.2**	**+2.5**
SHIU				*e*Sn	**Sn**	**19 24 37.3**	**+2.5**
BRG	**Berggiesshubel**	**3.17**	**282**	PG	**Pb**	**19 24 04.3**	**+1.1**
BRG				SG	**Sg**	**19 24 47.5**	**-0.3**
	32nm,0.9s						
LVV	**L'vov**	**3.39**	**96**	*e*Pn	**Pn**	**19 24 02.9**	**+2.7**
LVV				Pnm		19 24 10.9	
LVV				*e*Sn	**Sb**	**19 24 44.9**	**-3.8**
LVV				Snm		19 24 56.5	
MORU	**Morshyn**	**3.48**	**108**	*e*Pn	**Pn**	**19 24 04.1**	**+2.6**
MORU				*e*Sn	**Sn**	**19 24 46.2**	**+2.9**
KORU	**Korolevo**	**3.54**	**126**	*e*Pn	**Pn**	**19 24 04.8**	**+2.5**
KORU				*e*Sn	**Sn**	**19 24 46.0**	**+1.2**
MEZ	**Mezhgor'ye**	**3.54**	**118**	*e*Pn	**Pn**	**19 24 04.0**	**+1.7**
MEZ				*e*Sn	**Sn**	**19 24 47.6**	**+2.7**
KHC	**Kasperske Hory**	**3.60**	**253**	*e*PN	**Pn**	**19 24 03.3**	**+0.1**
KHC				*e*PG	**Pb**	**19 24 10.3**	**-0.3**
KHC				*e*SN	**Sn**	**19 24 43.0**	**-3.4**
KHC				*e*SG	**Sg**	**19 24 59.0**	**-2.7**
	comp=Z,19nm,0.6s						
KHC	**Kasperske Hory**	**3.60**	**253**	Pn	**Pn**	**19 24 03.3**	**+0.1**
GERES	**GERESS Array B**	**3.64**	**248**	Pn	**Pn**	**19 24 02.5**	**-1.3**
	0.2nm,0.3s,baz=66,slow=13,SNR=7.4						
GERES				Pg	**Pb**	**19 24 13.7**	**+2.4**
	1.7nm,0.3s,baz=62,slow=16,SNR=40						
GERES				Sn	**Sn**	**19 24 45.9**	**-1.5**
	0.6nm,0.3s,baz=66,slow=23,SNR=6.3						
GERES				Lg	Lg	19 25 02.0	
	2.0nm,0.3s,baz=62,slow=29,SNR=4.9						
CLL	**Collm**	**3.83**	**288**	*e*Pg	**Pg**	**19 24 21.0**	**+1.5**
CLL				*e*Sg	**Sg**	**19 25 08.0**	**-1.1**
	comp=Z,19nm,0.8s						
HORU	**Horodok**	**5.04**	**99**	*e*Pn	**Pn**	**19 24 25.6**	**+2.7**
HORU				*e*Sn	**Sn**	**19 25 25.0**	**+3.1**
KMPD	**K-Podol'skiy**	**5.27**	**106**	*e*Pn	Pn	19 24 30.0	+3.9
KMPD				*e*Sn	**Sn**	**19 25 29.0**	**+1.5**
NDNU	**Novodnistrovsk**	**5.82**	**104**	*e*Pn	Pn	19 24 37.1	+3.5
NDNU				*e*Sn	**Sn**	**19 25 41.5**	**+0.4**
NDNU				Snm		19 25 53.2	
AKASG	**Malin Array Be**	**6.65**	**83**	Pg	**Pb**	**19 25 00.1**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=271,slow=14,SNR=3.7						
AKASG				Sn	Sn	19 25 55.0	-6.3
	comp=Z,0.6nm,0.3s,baz=272,slow=22,SNR=4.7						
AKASG				Lg	Lg	19 26 27.2	
	comp=Z,0.8nm,0.3s,baz=277,slow=28,SNR=5.2						
FINES	**FINESS Array B**	**11.88**	**17**	Pn	Pn	19 25 49.7	-6.8
	comp=Z,0.2nm,0.3s,baz=196,slow=11,SNR=8.6						
FINES				Sn	Sn	19 27 58.5	-11
	comp=Z,0.1nm,0.3s,baz=190,slow=22,SNR=3.3						
ARCES	**ARCESS Array B**	**19.57**	**7**	Pn	**P**	**19 27 31.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=4.2						

IDC 22 19:44:51.8±4.8, 5.66S×132.09E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/29, mbtmp3.4/3, ML3.0/2, Error ellipse: s-maj=319.2km s-min=32.1km az=74.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.36**	**171**	Pn	Pn	19 48 15.5	-1.1
	0.1nm,0.3s,baz=351,slow=14,SNR=4.4						
WRA				Sn	Sn	19 50 43.2	-14
	0.4nm,0.3s,baz=336,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**17.99**	**175**	P	P	19 49 03.9	-0.2
	0.1nm,0.3s,baz=349,slow=10,SNR=9.2						
ASAR				S	Sn	19 52 08.0	-17
	0.1nm,0.3s,baz=342,slow=27,SNR=5.2						
MKAR	**Makanchi Array**	**68.28**	**326**	P	P	19 55 54.8	+0.1
	0.3nm,0.5s,baz=126,slow=7.3,SNR=5.0						

DJA 22 19:52:34.6±0.4, 7.7S±3.7×10.6E±, h13km, M3.6/17, MLv3.6/17, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.54**	**15**	P	Pg	19 52 44.0	-1.3
CGJI				S	Sg	19 52 50.1	-2.4
SKJI	**Sukabumi**	**1.01**	**82**	P	Pn	19 52 54.4	-0.1
SKJI				S	Sb	19 53 05.5	-1.6
SBJI	**Serang**	**1.17**	**30**	P	Pb	19 52 55.5	-1.1
TNG	**Tangerang**	**1.45**	**49**	P	Pn	19 53 00.3	-0.3
TNG				S	Sn	19 53 19.6	+0.1
TNG	**Tangerang**	**1.45**	**49**	P	Pn	19 53 00.3	-0.3
CBJI	**Citeko**	**1.48**	**61**	P	Pn	19 53 00.5	-0.4
CBJI				S	Sn	19 53 19.7	-0.4
CNJI	**Cibinong**	**1.58**	**96**	P	Pn	19 53 00.3	-2.0
BLSI	**Bandar Lampung**	**1.79**	**350**	P	Pn	19 53 05.5	+0.3
KASI	**Kota Agung**	**1.92**	**327**	P	Pn	19 53 07.5	+0.5
LEM	**Lembang**	**2.08**	**82**	P	Pn	19 53 09.9	+0.5
CISI	**Cisompet, Garu**	**2.29**	**101**	P	Pn	19 53 11.3	-0.8
CISI				S	Sn	19 53 39.8	-0.4
KLI	**Kotabumi**	**2.37**	**343**	P	Pn	19 53 13.6	+0.5
LWLI	**Liwa**	**2.58**	**325**	P	Pn	19 53 16.3	+0.1
LWLI				S	Sn	19 53 48.3	+0.7
CMJI	**Cimerak**	**2.94**	**103**	P	Pn	19 53 21.1	0.0
MDSI	**Maura Dua**	**2.97**	**333**	P	Pn	19 53 21.2	-0.2
KPJI	**Karang Pucung**	**3.36**	**93**	P	Pn	19 53 28.1	+1.3

IDC 22 19:59:01.3±3.3, 3.53S×135.56E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/30, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=142.2km s-min=31.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.36**	**184**	Pn	Pn	20 02 53.8	+1.2
	0.1nm,0.3s,baz=4.1,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**20.09**	**184**	P	P	20 03 36.1	-0.5
	1.0nm,0.6s,baz=7.2,slow=9.8,SNR=14						
MKAR	**Makanchi Array**	**68.55**	**324**	P	P	20 10 06.0	0.0
	0.3nm,0.6s,baz=101,slow=7.5,SNR=4.1						

*IDC **22** 20:12:10.5±1.1,

baz=22,SNR=6.1
MEEK S **S** **20 20 41.2 -1.4**
baz=22,SNR=4.8
KNRA Kununurra 21.52 112 P **P** **20 17 03.0 +1.2**
baz=22,SNR=4.0
KNRA S **S** **20 21 00.2 +2.6**
baz=22,SNR=4.1
NWAO Narrogin (SRO) 25.89 162 LR LR 20 27 23.8
comp=Z,48nm,21.7s,baz=332,slow=35
WRA Warramunga Arr 27.93 117 P **P** **20 18 03.5 +1.0**
WRA PcP **PcP** **20 21 18.2 +1.1**
WRA Warramunga Arr 27.93 117 P **P** **20 18 03.5 +1.0**
0.7nm,0.7s,baz=291,slow=11,SNR=5.6
WRA PcP **PcP** **20 21 18.2 +1.1**
0.4nm,0.5s,baz=302,slow=1.9,SNR=4.7
WRAB Tennant Creek 27.93 117 P P 20 18 08.6 +6.0
CMAR Chiang Mai Arr 28.12 341 P **P** **20 18 01.7 -2.4**
CMAR Chiang Mai Arr 28.12 341 P **P** **20 18 01.7 -2.4**
0.7nm,0.9s,baz=180,slow=8.0,SNR=6.8
CMAR LR LR 20 28 48.4
comp=Z,39nm,20.1s,baz=190,slow=36
ASAR Alice Springs 29.07 125 P **P** **20 18 13.3 +0.7**
ASAR PcP **PcP** **20 21 21.1 +1.2**
ASAR Alice Springs 29.07 125 P **P** **20 18 13.3 +0.7**
0.3nm,0.7s,baz=307,slow=9.5,SNR=5.9
ASAR PcP **PcP** **20 21 21.1 +1.2**
0.7nm,0.8s,baz=320,slow=2.4,SNR=5.3
STKA Stephens Creek 38.97 132 *e*P **P** **20 19 39.9 +1.7**
1.2nm,0.6s
STKA Stephens Creek 38.97 132 P **P** **20 19 40.5 +2.3**
6.4nm,0.6s,baz=306,slow=7.7,SNR=14
STKA Stephens Creek 38.97 132 P **P** **20 19 40.7 +2.5**
baz=40,SNR=13
LSA Lhasa 41.18 337 *e*P **P** **20 19 56.6 -0.5**
1.3nm,0.6s
SONM Songino Array 55.97 359 P **P** **20 21 48.2 -1.8**
SONM PcP **PcP** **20 22 48.4 +0.5**
SONM Songino Array 55.97 359 P **P** **20 21 48.2 -1.8**
0.8nm,0.5s,baz=180,slow=8.2,SNR=7.4
SONM PcP **PcP** **20 22 48.4 +0.5**
0.8nm,0.6s,baz=170,slow=4.2,SNR=4.9
ULN Ulaanbaatar 55.98 359 *e*P **P** **20 21 48.6 -1.5**
1.0nm,0.6s
KBL Kabul 56.41 321 *e*P **P** **20 21 52.4 -1.1**
2.2nm,0.7s
TKM2 Tokmak 2 58.98 333 *e*P **P** **20 22 10.9 -0.5**
2.2nm,0.5s
MKAR Makanchi Array 59.51 340 P **P** **20 22 13.7 -1.1**
MKAR Makanchi Array 59.51 340 P **P** **20 22 13.7 -1.1**
1.7nm,0.6s,baz=146,slow=6.6,SNR=24
EKS2 Erkin-Say 59.62 331 P **P** **20 22 14.2 -1.6**
KURBB Kurchatov Arra 64.08 340 P **P** **20 22 44.9 -0.4**
1.0nm,0.6s,baz=154,slow=5.5,SNR=11
KURK Kurchatov 64.12 340 P **P** **20 22 44.9 -0.7**
BVAR Borovoye Array 69.01 337 P **P** **20 23 16.1 -0.7**
BVAR Borovoye Array 69.01 337 P **P** **20 23 16.1 -0.7**
0.9nm,0.7s,baz=142,slow=9.4,SNR=7.3
ABKAR Akbulak array 71.10 329 *e*P **P** **20 23 29.4 -0.3**
3.8nm,0.6s
AKTO Aktyubinsk 72.81 329 P **P** **20 23 39.2 -0.7**
AKTO Aktyubinsk 72.81 329 P **P** **20 23 39.2 -0.7**
1.2nm,0.8s,baz=172,slow=7.1,SNR=3.5
BRTR Keskin Array B 83.50 312 P **P** **20 24 39.9 +0.4**
BRTR Keskin Array B 83.50 312 P **P** **20 24 39.9 +0.4**
1.7nm,0.8s,baz=131,slow=5.6,SNR=6.2
FINES FINESS Array B 93.45 332 P **P** **20 25 26.6 +0.1**
FINES FINESS Array B 93.45 332 P **P** **20 25 26.5 +0.1**
2.3nm,1.1s,baz=113,slow=11,SNR=3.3
YKA Yellowknife Ar 117.76 21 PKP **PKPdf** **20 30 56.9 -0.2**
YKA Yellowknife Ar 117.76 21 PKP **PKPdf** **20 30 56.8 -0.2**
0.1nm,0.5s,baz=333,slow=1.8,SNR=4.5
JCT Junction City 145.91 46 *e*PKPdf **PKPab** **20 31 53.0 +1.1**
WVT Waverly 148.79 25 *e*PKPbc **PKPbc** **20 31 59.6 +0.5**

*IDC **22** 20:17:02.2±5.1,23˚69N×108˚73W,h0km,mb3.1/2, mb1 3.8/6,mb1mx3.7/26,mbtmp3.4/6,ML3.3/3,MS3.5/9, Ms1 3.5/9,ms1mx3.4/12,Error ellipse: s-maj=76.4km s-min=21.3km az=155.0*
*MEX **22** 20:17:07.2±0.9,24˚63N×109˚17W,h10km,MD4.2*
ISC 22 20:17:01.2±1.3,23˚7N±0˚1×108˚64W±0˚06,h10km,n17, σ2⅋97/12,MS3.4/4,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.59**	**286**	*e*P	**Pn**	**20 17 26.8**	**-2.6**
LPIG				*i*S	Sn	20 17 39.4	-11
LPIG	**La Paz**	**1.59**	**286**	Pg	**Pn**	**20 17 27.9**	**-1.6**
217nm,0.3s,baz=108,slow=5.4,SNR=32							
LPIG				LR	LR	20 17 37.6	
comp=Z,238nm,20.4s,baz=39,slow=24							
LPIG				Lg	Lg	20 17 43.6	
206nm,0.3s,baz=24,slow=10.0,SNR=13							
MAIG	**Mazatlaan**	**2.08**	**103**	*i*P	Pg	20 17 51.0	+10
MAIG				*i*S	Sg	20 18 23.3	+15
HPIG		**4.22**	**39**	*e*P	**Pn**	**20 18 03.6**	**-2.3**
HPIG				*i*S	**Sn**	**20 18 50.0**	**-5.4**
ZAIG	**Zacatecas**	**5.65**	**98**	*i*P	**Pb**	**20 18 39.0**	**-1.2**
ZAIG				*i*S	**Sb**	**20 19 49.3**	**+1.2**
TXAR	**Lajitas Array**	**7.19**	**37**	Pn	**Pn**	**20 18 48.9**	**+2.3**
0.2nm,0.3s,baz=212,slow=12,SNR=4.9							
TXAR				Sn	**Sn**	**20 20 05.4**	**-3.0**
0.3nm,0.3s,baz=206,slow=32,SNR=3.7							
TXAR				Lg	Lg	20 20 47.5	
0.6nm,0.3s,baz=230,slow=29,SNR=4.8							
TXAR				LR	LR	20 21 19.0	
comp=Z,164nm,18.7s,baz=0.0,slow=36							
NVAR	**Mina Array Bea**	**16.87**	**333**	Pn	**P**	**20 21 02.0**	**+2.2**
0.0nm,0.3s,baz=161,slow=11,SNR=7.5							
ELK	**Elko**	**17.91**	**343**	P	**P**	**20 21 13.7**	**+2.3**
ELK							
0.1nm,0.3s,baz=163,slow=12,SNR=4.7							
comp=Z,150nm,19.0s,baz=182,slow=40				LR	LR	20 28 57.5	
PDAR	**Pinedale Array**	**19.07**	**358**	P	**Pn**	**20 21 27.0**	**+2.2**
baz=172,slow=11,SNR=9.6							
PDAR				LR	LR	20 28 51.5	
comp=Z,127nm,21.4s,baz=205,slow=37							
APG	**El Apazote**	**19.17**	**113**	LR	LR	20 29 52.4	
comp=Z,122nm,18.4s,baz=281,slow=40							
TEIG	**Tepich**	**19.19**	**96**	LR	LR	20 31 02.2	
comp=Z,98nm,18.1s,baz=115,slow=44							
YBH	**Yreka Blue Hor**	**21.51**	**330**	LR	LR	20 30 27.0	
comp=Z,126nm,20.0s,baz=190,slow=38							
TKL	**Tuckaleechee C**	**24.62**	**55**	LR	LR	20 32 58.3	
comp=Z,235nm,19.1s,baz=204,slow=39							
NEW	**Newport**	**25.46**	**347**	LR	LR	20 33 04.6	
comp=Z,122nm,18.5s,baz=195,slow=38							
ULM	**Lac du Bonnet**	**28.35**	**17**	LR	LR	20 33 49.2	
comp=Z,87nm,20.9s,baz=238,slow=36							
YKA	**Yellowknife Ar**	**39.02**	**356**	P	**P**	**20 24 29.5**	**+1.7**
0.2nm,0.8s,baz=172,slow=7.7,SNR=4.5							
ILAR	**Eielson Array**	**48.00**	**339**	P	P	20 25 43.9	+3.8
0.1nm,0.6s,baz=130,slow=7.2,SNR=2.9							

*IDC **22** 20:31:44.6±0.8,20˚53N×120˚64E,h0km,mb3.4/8, mb1 3.7/8,mb1mx3.6/23,mbtmp3.5/8,MS2.9/1,Ms1 3.1/1, ms1mx2.4/22,Error ellipse: s-maj=37.4km s-min=19.1km az=67.0*
*MAN **22** 20:31:50,20˚16N×120˚14E,h32km,mb4.8,ML3.7,MS3.7*
ISC 22 20:31:48.0±0.8,20˚33N±0˚09×120˚5E±0˚2,h26km,n14, σ1⅋37/14,mb3.5/7,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**2.40**	**181**	⇑*i*P	Pn	20 32 16.7	-8.9
SIPP				*e*S	Sn	20 32 40.5	-14
SGCP	**Mt. Cagua**	**2.54**	**145**	*e*P	**Pb**	**20 32 31.0**	**-1.9**
APYP	**Conner**	**2.56**	**164**	*e*P	**Pn**	**20 32 30.0**	**+2.3**
APYP				*e*S	**Sb**	**20 33 03.0**	**-1.2**
ABRA	**Dolores**	**2.68**	**176**	*e*P	**Pn**	**20 32 30.2**	**+0.8**
ABRA				*e*S	**Sn**	**20 33 00.2**	**-0.8**
CAUP	**Cauayan**	**3.60**	**159**	*e*P	Pb	20 32 47.5	-3.4
PALP	**Palanan**	**3.73**	**150**	*e*P	Pn	20 32 48.3	+4.4
CMAR	**Chiang Mai Arr**	**20.42**	**268**	P	Pn	20 36 27.0	+1.4
0.2nm,0.7s,baz=79,slow=9.3,SNR=3.0							
CMAR				LR	LR	20 44 16.9	
comp=Z,28nm,18.2s,baz=5.0,slow=37							
SONM	**Songino Array**	**29.72**	**341**	P	**P**	**20 37 51.6**	**-0.5**
0.3nm,0.6s,baz=150,slow=8.1,SNR=2.6							
MKAR	**Makanchi Array**	**40.74**	**319**	P	**P**	**20 39 25.4**	**-1.3**
0.6nm,0.7s,baz=104,slow=10,SNR=5.5							
MKAR				PcP	**PcP**	**20 41 28.0**	**+0.2**
0.2nm,0.6s,baz=60,slow=3.5,SNR=2.6							
WRA	**Warramunga Arr**	**42.26**	**160**	P	**P**	**20 39 40.5**	**+1.2**
1.5nm,0.9s,baz=342,slow=9.0,SNR=7.7							
WRA				PcP	**PcP**	**20 41 34.5**	**+1.4**
0.4nm,0.6s,baz=344,slow=3.5,SNR=5.3							
ZALV	**Zalesovo Beam**	**43.18**	**330**	P	**P**	**20 39 45.4**	**-1.1**
0.8nm,0.6s,baz=122,slow=8.4,SNR=4.3							
ASAR	**Alice Springs**	**45.64**	**163**	P	**P**	**20 40 08.0**	**+1.4**
0.8nm,0.9s,baz=325,slow=6.5,SNR=5.8							
ILAR	**Eielson Array**	**72.92**	**27**	P	**P**	**20 43 14.2**	**-0.4**
0.3nm,0.9s,baz=275,slow=5.3,SNR=3.5							
YKA	**Yellowknife Ar**	**86.75**	**22**	P	**P**	**20 44 30.3**	**+0.8**
0.2nm,0.7s,baz=312,slow=4.3,SNR=5.3							

*IDC **22** 20:36:38.1±1.0,45˚44S×166˚73E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.9/15,mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=47.8km s-min=28.7km az=12.0*
*NEIC **22** 20:36:41.9,45˚45S×166˚73E,h12km,mb4.2/1, ML4.7(WEL),After WEL.*
*WEL **22** 20:36:41.4±0.2,45˚48S×166˚69E,h12km,ML4.6/17,Error ellipse: s-maj=1.8km s-min=1.3km az=90.0*
ISC 22 20:36:41.3±1.1,45˚42S±0˚04×166˚75E±0˚05,h24km,gKm, n84,σ1⅋40/93,mb3.7/5,2C-1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.29**	**102**	P*	**Pb**	**20 36 48.2**	**+0.2**
DCZ				*e*S*	**Sb**	**20 36 52.2**	**-0.3**
DCZ				AML	AML	20 36 53.0	
DCZ				AML	AML	20 36 53.0	
DCZ				AML	AML	20 36 53.1	
DCZ	**Deep Cove**	**0.29**	**102**	P*	**Pb**	**20 36 48.2**	**+0.2**
DCZ				S*	**Sb**	**20 36 52.3**	**-0.3**
PYZ	**Puysegur Point**	**0.75**	**184**	P*	**Pb**	**20 36 54.2**	**-1.5**
PYZ				S*	**Sb**	**20 37 03.7**	**-1.9**
WHZ	**Wether Hill Ro**	**0.96**	**120**	P*	**Pb**	**20 36 59.2**	**-0.1**
WHZ				S*	**Sn**	**20 37 12.1**	**-0.2**
WHZ				AML	AML	20 37 13.6	
WHZ	**Wether Hill Ro**	**0.96**	**120**	*e*Pg	**Pb**	**20 36 59.1**	**-0.2**
WHZ				P*	**Pb**	**20 36 59.2**	**-0.1**
WHZ				*e*Sg	**Sn**	**20 37 12.2**	**-0.1**
WHZ				S*	**Sb**	**20 37 12.6**	**+1.0**
MLZ	**Mavora Lakes**	**1.00**	**86**	⇑P*	**Pn**	**20 36 59.4**	**-0.5**
MLZ				AML	AML	20 37 22.8	
MLZ				AML	AML	20 37 22.8	
MLZ	**Mavora Lakes**	**1.00**	**86**	P*	**Pn**	**20 36 59.5**	**-0.5**
MLZ				S*	**Sb**	**20 37 13.3**	**+0.5**
MSZ	**Milford Sound**	**1.12**	**49**	P*	**Pn**	**20 37 00.5**	**-0.9**
MSZ				AML	AML	20 37 23.0	
MSZ				AML	AML	20 37 23.1	
MSZ				AML	AML	20 37 24.1	
MSZ				AML	AML	20 37 24.2	
MSZ	**Milford Sound**	**1.12**	**49**	P*	**Pn**	**20 37 00.5**	**-0.9**
APZ	**The Paps**	**1.66**	**149**	PN	**Pb**	**20 37 09.8**	**-1.3**
APZ				AML	AML	20 37 36.6	
APZ				AML	AML	20 37 39.1	
APZ	**The Paps**	**1.66**	**149**	Pn	**Pb**	**20 37 09.8**	**-1.3**
WKZ	**Wanaka**	**1.71**	**71**	PN	**Pn**	**20 37 11.1**	**+1.5**
WKZ				AML	AML	20 37 39.4	
WKZ				AML	AML	20 37 39.5	
WKZ				AML	AML	20 37 40.6	
WKZ				AML	AML	20 37 40.6	
WKZ	**Wanaka**	**1.71**	**71**	Pn	**Pn**	**20 37 11.9**	**+1.5**
WKZ				Sn	**Sb**	**20 37 35.1**	**+2.0**
EAZ	**Earnscleugh**	**1.81**	**85**	⇓PN	**Pb**	**20 37 12.8**	**-0.9**
EAZ				AML	AML	20 37 40.3	
EAZ				AML	AML	20 37 40.5	
EAZ				AML	AML	20 37 44.6	
EAZ				AML	AML	20 37 44.7	
EAZ	**Earnscleugh**	**1.81**	**85**	Pn	**Pb**	**20 37 12.8**	**-0.9**
JCZ	**Jackson Bay**	**1.96**	**47**	PN	**Pn**	**20 37 14.3**	**+1.1**
JCZ				AML	AML	20 37 48.3	
JCZ				AML	AML	20 37 50.7	
JCZ	**Jackson Bay**	**1.96**	**47**	Pn	**Pn**	**20 37 14.5**	**+1.3**
SYZ	**Scrubby Hill**	**2.00**	**125**	PN	**Pn**	**20 37 15.2**	**+1.6**
SYZ				AML	AML	20 37 44.0	
SYZ				AML	AML	20 37 44.0	
SYZ				AML	AML	20 37 50.8	
SYZ				AML	AML	20 37 50.8	
SYZ	**Scrubby Hill**	**2.00**	**125**	Pn	**Pn**	**20 37 15.3**	**+1.6**
TUZ	**Tuapeka**	**2.09**	**106**	PN	**Pb**	**20 37 16.9**	**-1.6**
TUZ				AML	AML	20 37 46.2	
TUZ				AML	AML	20 37 49.7	
TUZ	**Tuapeka**	**2.09**	**106**	Pn	**Pb**	**20 37 16.9**	**-1.6**
LBZ	**Lake Benmore**	**2.65**	**68**	PN	**Pn**	**20 37 23.3**	**+0.8**
LBZ				AML	AML	20 37 59.4	
LBZ				AML	AML	20 37 59.4	
LBZ				AML	AML	20 38 15.5	
LBZ				AML	AML	20 38 15.5	
LBZ	**Lake Benmore**	**2.65**	**68**	Pn	**Pn**	**20 37 23.3**	**+0.8**
HHSZ	**Highcliff Hill**	**2.74**	**101**	PN	**Pn**	**20 37 25.1**	**+1.3**
ODZ	**Otahua Downs**	**2.77**	**84**	⇑PN	**Pn**	**20 37 25.1**	**+0.8**
ODZ	**Otahua Downs**	**2.77**	**84**	Pn	**Pn**	**20 37 25.1**	**+0.8**
FOZ	**Fox Glacier**	**2.80**	**50**	PN	**Pn**	**20 37 26.6**	**+2.0**
FOZ				AML	AML	20 38 17.9	
FOZ				AML	AML	20 38 17.9	
FOZ				AML	AML	20 38 19.9	
FOZ				AML	AML	20 38 20.4	
FOZ	**Fox Glacier**	**2.80**	**50**	Pn	**Pn**	**20 37 26.6**	**+2.0**
RPZ	**Rata Peaks**	**3.51**	**63**	PN	**Pn**	**20 37 34.5**	**+0.1**
RPZ				AML	AML	20 38 37.3	
RPZ				AML	AML	20 38 40.7	
RPZ	**Rata Peaks**	**3.51**	**63**	*e*Pn	**Pn**	**20 37 34.2**	**-0.3**
RPZ				*e*Sn	**Sn**	**20 38 12.5**	**-2.8**
WVZ	**Waitaha Valley**	**3.70**	**52**	*e*PN	**Pn**	**20 37 38.1**	**+1.2**
WVZ				AML	AML	20 38 42.7	
WVZ	**Waitaha Valley**	**3.70**	**52**	Pn	**Pn**	**20 37 38.2**	**+1.3**
OXZ	**Oxford**	**4.33**	**63**	PN	**Pn**	**20 37 47.0**	**+1.3**
MQZ	**McQueen's Vall**	**4.55**	**70**	PN	**Pn**	**20 37 48.1**	**-0.5**
MQZ	**McQueen's Vall**	**4.55**	**70**	Pn	**Pn**	**20 37 48.1**	**-0.5**
LTZ	**Lake Taylor**	**4.77**	**58**	PN	**Pn**	**20 37 52.8**	**+1.1**
LTZ				AML	AML	20 38 56.1	
LTZ				AML	AML	20 38 57.3	
LTZ	**Lake Taylor**	**4.77**	**58**	Pn	**Pn**	**20 37 52.8**	**+1.1**
DSZ	**Denniston Nort**	**5.19**	**47**	PN	**Pn**	**20 37 57.6**	**+0.1**
DSZ	**Denniston Nort**	**5.19**	**47**	Pn	**Pn**	**20 37 58.0**	**+0.5**
KHZ	**Kahutara**	**5.75**	**61**	*e*PN	**Pn**	**20 38 07.1**	**+2.0**
KHZ	**Kahutara**	**5.75**	**61**	Pn	**Pn**	**20 38 07.1**	**+2.0**
THZ	**Tophouse**	**5.77**	**53**	PN	**Pn**	**20 38 06.4**	**+1.0**
THZ				AML	AML	20 39 20.1	
THZ				AML	AML	20 39 22.2	
THZ	**Tophouse**	**5.77**	**53**	Pn	**Pn**	**20 38 07.2**	**+1.7**
QRZ	**Quartz Range**	**6.24**	**45**	PN	**Pn**	**20 38 12.0**	**+0.2**
QRZ	**Quartz Range**	**6.24**	**45**	Pn	**Pn**	**20 38 10.5**	**-1.4**
NNZ	**Nelson**	**6.40**	**51**	PN	**Pn**	**20 38 14.9**	**+0.8**
NNZ				AML	AML	20 39 38.5	
NNZ				AML	AML	20 39 39.3	
NNZ	**Nelson**	**6.40**	**51**	Pn	**Pn**	**20 38 14.9**	**+0.8**
TUWZ	**Tuamarina**	**6.58**	**55**	Pn	**Pn**	**20 38 19.6**	**+3.1**
TCW	**Tory Channel**	**6.91**	**55**	Pn	**Pn**	**20 38 24.1**	**+3.0**
SNZO	**South Karori**	**7.10**	**57**	*e*Pn	**Pn**	**20 38 26.3**	**+2.6**
SNZO				*e*Sn	**Sn**	**20 39 40.1**	**-3.5**
CAW	**Cannon Point**	**7.44**	**58**	Pn	**Pn**	**20 38 29.9**	**+1.6**
URZ	**Urewera**	**10.52**	**51**	Pn	**Pn**	**20 39 12.1**	**+1.5**
URZ				Sn	**Sn**	**20 41 03.6**	**-4.0**
URZ	**Urewera**	**10.52**	**51**	Pn	**Pn**	**20 39 12.1**	**+1.5**
0.7nm,0.3s,baz=234,slow=14,SNR=3.6							
URZ				Sn	**Sn**	**20 41 03.7**	**-4.0**
1.0nm,0.3s,baz=19,slow=18,SNR=3.2							
TAU	**Tasmania Unive**	**14.17**	**273**	Pn	**Pn**	**20 39 59.3**	**-1.2**
EIDS	**Eidsvold**	**23.66**	**322**	*e*P	**P**	**20 41 52.7**	**+1.8**
7.5nm,1.0s							
STKA	**Stephens Creek**	**23.73**	**296**	P	**P**	**20 41 53.0**	**+1.4**
STKA	**Stephens Creek**	**23.73**	**296**	P	**P**	**20 41 53.0**	**+1.4**
1.0nm,0.5s,baz=151,slow=15,SNR=4.7							
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**20 43 26.0**	**-0.1**
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**20 43 26.0**	**-0.1**
0.3nm,0.6s,baz=132,slow=7.4,SNR=5.7							
WRA	**Warramunga Arr**	**36.87**	**303**	P	**P**	**20 43 47.5**	**-0.4**
WRA	**Warramunga Arr**	**36.87**	**303**	P	**P**	**20 43 47.5**	**-0.4**
1.0nm,0.7s,baz=134,slow=8.2,SNR=8.2							
H01W1	**Cape Leeuwin H**	**40.90**	**266**	T	T	21 27 43.0	
baz=121,slow=75,SNR=86							
H01W2	**Cape Leeuwin H**	**40.91**	**266**	T	T	21 27 43.1	
baz=121,slow=75,SNR=78							
H01W3	**Cape Leeuwin H**	**40.91**	**266**	T	T	21 27 44.3	
baz=121,slow=75,SNR=78							
CMAR	**Chiang Mai Arr**	**88.33**	**298**	P	**P**	**20 49 32.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**88.33**	**298**	P	**P**	**20 49 32.5**	**+1.4**
0.8nm,0.9s,baz=126,slow=2.4,SNR=5.8							
H08N1	**Diego Carcia H**	**89.55**	**261**	T	T	22 28 22.4	
baz=145,SNR=59							
H08N3	**Diego Garcia H**	**89.56**	**261**	T	T	22 28 22.9	
baz=145,SNR=64							
H08N2	**Diego Garcia H**	**89.57**	**261**	T	T	22 28 22.5	
baz=145,SNR=72							
KURBB	**Kurchatov Arra**	**122.23**	**311**	PKP	**PKPdf**	**20 55 33.2**	**-0.1**
0.4nm,0.6s,baz=111,slow=2.1,SNR=7.9							
KURK	**Kurchatov**	**122.24**	**311**	PKP	**PKPdf**	**20 55 33.2**	**-0.1**
SCHQ	**Schefferville**	**145.18**	**55**	PKPbc	**PKPbc**	**20 56 14.8**	**-0.8**
SCHQ	**Schefferville**	**145.18**	**55**	PKPbc	**PKPbc**	**20 56 14.8**	**-0.8**
4.1nm,0.9s,baz=288,slow=6.4,SNR=4.0							
BRTR	**Keskin Array B**	**145.40**	**278**	PKPbc	**PKPbc**	**20 56 16.7**	**-0.2**
BRTR	**Keskin Array B**	**145.40**	**278**	PKPbc	**PKPbc**	**20 56 16.7**	**-0.2**
2.2nm,0.9s,baz=130,slow=6.7,SNR=7.9							
TORD	**Torodi Ar. Bea**	**145.42**	**206**	PKPbc	**PKPab**	**20 56 17.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**145.42**	**206**	PKPbc	**PKPab**	**20 56 17.9**	**+0.2**
4.8nm,0.6s,baz=148,slow=2.3,SNR=60							
ARCES	**ARCESS Array B**	**149.06**	**335**	PKPbc	**PKPbc**	**20 56 26.3**	**+0.2**
ARCES	**ARCESS Array B**	**149.06**	**335**	PKPbc	**PKPbc**	**20 56 26.3**	**+0.2**
3.1nm,0.7s,baz=50,slow=3.8,SNR=11							
AKASG	**Malin Array Be**	**151.43**	**296**	PKPbc	**PKPbc**	**20 56 32.7**	**+0.4**
AKASG	**Malin Array Be**	**151.43**	**296**	PKPbc	**PKPbc**	**20 56 32.7**	**+0.4**
1.3nm,0.7s,baz=72,slow=3.0,SNR=3.8							
KAF	**Kangasniemi**	**151.87**	**321**	*e*p	**PKPbc**	**20 56 32.4**	**-0.5**
1.8nm,0.5s							
FINES	**FINESS Array B**	**152.17**	**319**	PKPbc	**PKPbc**	**20 56 34.2**	**+0.6**
FINES				PKPab	**PKPab**	**20 56 44.2**	**+0.7**
FINES	**FINESS Array B**	**152.17**	**319**	PKPbc	**PKPbc**	**20 56 34.2**	**+0.6**
1.5nm,0.5s,baz=102,slow=3.6,SNR=15							
FINES				PKPab	**PKPab**	**20 56 44.2**	**+0.7**
1.0nm,0.6s,baz=106,slow=4.2,SNR=4.6							

*NEIC **22** 20:38:13.3,45˚49S×166˚81E,h12km,ML4.1(WEL),After WEL.*
WEL 22 20:38:12.7±0.3,45˚47S×166˚76E,h12km,ML4.1/11,1D, Error ellipse: s-maj=2.5km s-min=1.7km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**93**	⇓P*	Pg	20 38 18.4	0.0
DCZ				S*	Sg	20 38 23.0	+0.8
DCZ				AML	AML	20 38 23.2	
DCZ				AML	AML	20 38 23.4	
DCZ				AML	AML	20 38 23.4	
DCZ	**Deep Cove**	**0.28**	**93**	P*	Pg	20 38 18.4	0.0
DCZ				S*	Sg	20 38 21.9	-0.3
WHZ	**Wether Hill Ro**	**0.94**	**118**	P*	Pg	20 38 29.5	-1.2
WHZ				S*	Sg	20 38 42.6	-0.4
WHZ				AML	AML	20 38 44.0	
WHZ	**Wether Hill Ro**	**0.94**	**118**	P*	Pg	20 38 29.6	-1.2
WHZ				S*	Sg	20 38 42.6	-0.4
MLZ	**Mavora Lakes**	**1.00**	**84**	P*	Pb	20 38 29.7	-2.4
MLZ				S*	Sg	20 38 42.8	-2.4
MLZ				AML	AML	20 38 44.6	
MLZ	**Mavora Lakes**	**1.00**	**84**	P*	Pb	20 38 29.7	-2.4
MSZ	**Milford Sound**	**1.15**	**47**	P*	Pb	20 38 33.3	-1.1
MSZ				AML	AML	20 38 51.7	
MSZ				AML	AML	20 38 52.7	
MSZ				AML	AML	20 38 53.3	
MSZ				AML	AML	20 38 53.3	
APZ	**The Paps**	**1.61**	**148**	PN	Pn	20 38 40.3	-0.8
APZ				AML	AML	20 39 04.1	
APZ				AML	AML	20 39 07.7	
APZ	**The Paps**	**1.61**	**148**	Pn	Pn	20 38 40.3	-0.8
WKZ	**Wanaka**	**1.72**	**69**	PN	Pn	20 38 42.6	+0.1
WKZ				AML	AML	20 39 06.2	
WKZ				AML	AML	20 39 07.2	
WKZ				AML	AML	20 39 09.0	
WKZ				AML	AML	20 39 10.8	
WKZ	**Wanaka**	**1.72**	**69**	Pn	Pn	20 38 42.6	+0.1
WKZ				Sn	Sn	20 39 04.2	-0.2
EAZ	**Earnscleugh**	**1.81**	**84**	PN	Pn	20 38 43.3	-0.4
EAZ				AML	AML	20 39 11.5	
EAZ				AML	AML	20 39 11.5	
EAZ				AML	AML	20 39 11.5	
EAZ				AML	AML	20 39 12.0	
EAZ	**Earnscleugh**	**1.81**	**84**	Pn	Pn	20 38 43.5	-0.2
EAZ				Sn	Sn	20 39 06.2	-0.4
SYZ	**Scrubby Hill**	**1.98**	**124**	*e*PN	Pn	20 38 46.2	+0.3
SYZ				AML	AML	20 39 14.7	
SYZ				AML	AML	20 39 14.9	
SYZ				AML	AML	20 39 15.3	
SYZ				AML	AML	20 39 15.4	
SYZ	**Scrubby Hill**	**1.98**	**124**	Pn	Pn	20 38 45.6	-0.4
JCZ	**Jackson Bay**	**1.99**	**46**	*e*PN	Pn	20 38 47.1	+0.8
JCZ				AML	AML	20 39 16.4	
JCZ				AML	AML	20 39 16.9	
JCZ	**Jackson Bay**	**1.99**	**46**	Pn	Pb	20 38 48.9	-0.1
TUZ	**Tuapeka**	**2.07**	**105**	*e*PN	Pn	20 38 47.6	+0.3
TUZ				AML	AML	20 39 16.2	
TUZ				AML	AML	20 39 18.4	
TUZ	**Tuapeka**	**2.07**	**105**	Pn	Pn	20 38 47.7	+0.6

Mining explosion.
NEIC 70 km [45 miles] SSE of Gillette.
*IDC **22** 21:07:27.4±1.4, 43.61N×105.36W, h0km, mb3.9/6, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML2.8/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/40, Error ellipse: s-maj=44.4km s-min=8.2km az=152.0*

ISC 22 21:07:27.9±0.5, 43.68N±0.02×105.33W±0.02, h0km, n116, σ1§41/142, mb3.9/6, 26C-34D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.29**	**341**	P	**Pg**	**21 07 34.7**	**+1.1**
	baz=0.3,SNR=248						
I23A				⇓S	**Sg**	**21 07 38.0**	**+0.6**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.32**	**210**	⇑P	**Pb**	**21 07 35.8**	**-0.9**
	baz=0.3,SNR=382						
J23A				⇑S	**Sg**	**21 07 40.1**	**+1.9**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.54**	**71**	P	**Pg**	**21 07 38.9**	**+0.6**
	baz=0.5,SNR=270						
J24A	**Dixon Ranch, L**	**0.60**	**125**	⇓P	**Pg**	**21 07 40.3**	**+0.8**
	baz=0.6,SNR=80						
I22A	**9 Mile Ranch,**	**0.86**	**285**	⇓P	**Pg**	**21 07 45.1**	**+0.7**
	baz=0.9,SNR=146						
I22A				⇑S	**Sg**	**21 07 56.6**	**+1.0**
	baz=0.9						
J22A	**Midwest**	**0.88**	**252**	P	**Pg**	**21 07 45.2**	**+0.5**
	baz=0.9						
H23A	**Clabaugh Cattl**	**0.88**	**357**	⇓P	**Pg**	**21 07 44.7**	**-0.1**
	baz=0.9,SNR=24						
K24A	**Anderson Ranch**	**1.03**	**158**	⇓P	**Pg**	**21 07 48.2**	**+0.5**
	baz=1.0,SNR=310						
RSSD	**Black Hills**	**1.03**	**64**	*e*Pg	**Pg**	**21 07 47.4**	**-0.4**
RSSD				*e*Sn	**Sn**	**21 08 04.7**	**-0.6**
J25A	**Sunshine Ranch**	**1.15**	**104**	P	**Pg**	**21 07 50.0**	**0.0**
	baz=1.1,SNR=193						
H22A	**Clearmont**	**1.17**	**322**	P	**Pg**	**21 07 50.5**	**+0.1**
	baz=1.2						
H24A	**Dirks Ranch, A**	**1.20**	**28**	⇑P	**Pg**	**21 07 50.2**	**-0.8**
	baz=1.2,SNR=230						
I25A	**Rochford**	**1.21**	**73**	P	**Pg**	**21 07 50.6**	**-0.4**
	baz=1.2						
K22A	**Casper**	**1.35**	**221**	*e*Pn	**Pg**	**21 07 53.7**	**-0.1**
K22A				*e*Sn	**Sn**	**21 08 16.9**	**+4.0**
K22A	**Casper**	**1.35**	**221**	⇓P	**Pg**	**21 07 53.8**	**+0.1**
	baz=1.4,SNR=58						
I21A	**Big Trails, Te**	**1.43**	**276**	⇑P	**Pn**	**21 07 54.1**	**-1.1**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.51**	**134**	⇑P	**Pg**	**21 07 57.3**	**+0.4**
	baz=1.5,SNR=217						
G23A	**Biddle**	**1.52**	**358**	⇓P	**Pn**	**21 07 55.9**	**-0.6**
	baz=1.5,SNR=198						
H21A	**Big Horn, Sher**	**1.55**	**308**	⇓P	**Pn**	**21 07 57.3**	**+0.3**
	baz=1.6						
H25A	**Fruitdale**	**1.56**	**52**	⇓P	**Pn**	**21 07 56.9**	**-0.2**
	baz=1.5,SNR=42						
J21A	**Lysite**	**1.57**	**258**	⇑P	**Pn**	**21 07 57.2**	**-0.1**
	baz=1.6,SNR=24						
J21A				⇑S	**Sg**	**21 08 19.0**	**+0.5**
	baz=1.6						
L23A	**Garrett**	**1.59**	**190**	⇓P	**Pn**	**21 07 57.9**	**+0.3**
	baz=1.6,SNR=294						
L24A	**Wheatland**	**1.66**	**170**	⇓P	**Pb**	**21 07 59.3**	**-0.2**
	baz=1.7,SNR=26						
G22A	**Birney**	**1.68**	**336**	⇓P	**Pn**	**21 07 59.3**	**+0.5**
	baz=1.7,SNR=174						
J26A	**Sides Ranch, S**	**1.68**	**102**	⇓P	**Pb**	**21 07 59.2**	**-0.6**
	baz=1.6,SNR=298						
K21A	**Alcova**	**1.75**	**234**	P	**Pb**	**21 08 00.9**	**-0.2**
	baz=1.8,SNR=235						
K21A				⇓Sb	**Sg**	**21 08 25.9**	**+1.7**
	baz=1.8						
G24A	**Alzada**	**1.77**	**21**	⇑P	**Pn**	**21 08 00.5**	**+0.5**
	baz=1.8,SNR=20						
I26A	**New Underwood**	**1.82**	**78**	⇑P	**Pb**	**21 08 01.6**	**-0.6**
	baz=1.8,SNR=45						
L25A	**Engebretsen Ra**	**1.83**	**146**	⇓Pb	**Pg**	**21 08 02.6**	**-0.3**
	baz=1.8,SNR=35						
L22A	**Ellis Ranch, M**	**1.84**	**207**	⇑P	**Pb**	**21 08 02.3**	**-0.2**
	baz=1.9,SNR=72						
K26A	**Motz Farm, Whi**	**1.86**	**121**	⇑P	**Pb**	**21 08 02.2**	**-0.6**
	baz=1.8,SNR=20						
J20A	**Shoshoni**	**2.03**	**262**	⇓Pb	**Pb**	**21 08 06.2**	**+0.5**
	baz=2.1						
F23A	**Volborg**	**2.04**	**359**	⇓P	**Pn**	**21 08 04.0**	**+0.4**
	baz=2.0,SNR=141						
I20A	**Worland**	**2.04**	**278**	P	**Pb**	**21 08 05.0**	**-0.9**
	baz=2.1,SNR=290						
G21A	**Lodge Grass**	**2.04**	**320**	⇓P	**Pn**	**21 08 04.3**	**+0.6**
	baz=2.1,SNR=85						
H20A	**Greybull**	**2.08**	**294**	⇓P	**Pn**	**21 08 04.9**	**+0.7**
	baz=2.1,SNR=21						
F22A	**Rosebud**	**2.20**	**343**	⇓P	**Pn**	**21 08 06.0**	**+0.3**
	baz=2.2,SNR=63						
M23A	**Laramie**	**2.23**	**188**	⇓P	**Pb**	**21 08 07.9**	**-1.3**
	baz=2.2,SNR=68						
M23A				⇓Sb	**Sg**	**21 08 39.7**	**+0.1**
	baz=2.2						
M24A	**Cheyenne**	**2.25**	**170**	⇓P	**Pb**	**21 08 08.1**	**-1.3**
	baz=2.2,SNR=92						
M24A				⇓Sb	**Sg**	**21 08 40.7**	**+0.7**
	baz=2.2						
L26A	**Underwood Farm**	**2.33**	**134**	⇓Sb	**Sg**	**21 08 43.6**	**+0.7**
	baz=2.3						
I27A	**Quinn**	**2.40**	**80**	⇑P	**Pn**	**21 08 09.9**	**+1.3**
	baz=2.4						
M25A	**Palm-Egli Farm**	**2.44**	**157**	⇓P	**Pb**	**21 08 10.9**	**-1.8**
	baz=2.4						
J27A	**Elkhorn Farm,**	**2.46**	**99**	⇑S	**Sb**	**21 08 42.2**	**-1.8**
	baz=2.4						
M22A	**Cedar Creek Ra**	**2.46**	**203**	⇑P	**Pb**	**21 08 11.6**	**-1.6**
	baz=2.5						
K27A	**Fluecklinger Fa**	**2.47**	**112**	⇓P	**Pn**	**21 08 10.1**	**+0.6**
	baz=2.4						
F21A	**Absaloka Mine,**	**2.49**	**330**	⇑P	**Pn**	**21 08 10.0**	**+0.1**
	baz=2.5						
H27A	**Howes**	**2.53**	**67**	⇓P	**Pn**	**21 08 11.7**	**+1.4**
	baz=2.5						
H27A				⇑Sb	**Sg**	**21 08 48.1**	**-1.1**
	baz=2.5						
G20A	**Bridger**	**2.57**	**308**	P	**Pn**	**21 08 11.1**	**+0.1**
	baz=2.6,SNR=121						
F25A	**Bowman**	**2.61**	**30**	⇑P	**Pn**	**21 08 12.9**	**+1.5**
	baz=2.6						
I19A	**Meeteetse**	**2.67**	**279**	⇓P	**Pn**	**21 08 13.9**	**+1.5**
	baz=2.7,SNR=61						
H19A	**Powell**	**2.81**	**292**	⇑P	**Pn**	**21 08 15.3**	**+1.1**
	baz=2.8,SNR=29						
F20A	**Billings**	**2.92**	**318**	⇓P	**Pn**	**21 08 15.7**	**0.0**
	baz=2.9,SNR=11						
E24A	**Baker**	**2.97**	**14**	⇑P	**Pn**	**21 08 17.3**	**+0.9**
	baz=3.0,SNR=11						
LAO	**LASA Array**	**3.07**	**348**	*e*Pn	**Pn**	**21 08 17.7**	**-0.1**
LAO				*e*Sn	**Sn**	**21 08 57.9**	**+2.7**
RLMT	**Red Lodge**	**3.17**	**298**	*e*Pn	**Pn**	**21 08 20.0**	**+0.8**
RLMT				*e*Sn	**Sb**	**21 09 02.7**	**-1.7**
PDAR	**Pinedale Array**	**3.22**	**255**	Pn	**Pn**	**21 08 21.4**	**+1.4**
PDAR				Lg	Lg	21 09 07.5	
PDAR	**Pinedale Array**	**3.22**	**255**	Pn	**Pn**	**21 08 21.4**	**+1.4**
	3.6nm,0.3s,baz=72,slow=16,SNR=68						
PDAR				Lg	Lg	21 09 07.5	
	19nm,0.3s,baz=75,slow=23,SNR=13						
BW06	**Boulder Array**	**3.22**	**255**	*e*Pn	**Pn**	**21 08 21.5**	**+1.5**
BW06				*e*Sn	**Sn**	**21 09 01.0**	**+1.8**
H18A	**Shoshone NF, C**	**3.27**	**289**	⇑P	**Pn**	**21 08 21.2**	**+0.5**
	baz=3.3,SNR=31						
D23A	**Lindsay**	**3.49**	**1**	⇓P	**Pn**	**21 08 24.3**	**+0.7**
	baz=3.5,SNR=18						
OGNE	**Ogallala**	**3.67**	**137**	*e*Pn	**Pn**	**21 08 27.1**	**+1.1**
OGNE				*e*Pg	**Pg**	**21 08 37.7**	**-0.5**
OGNE				*e*Sg	**Sg**	**21 09 24.5**	**-1.3**
OGNE	**Ogallala**	**3.67**	**137**	⇑P	**Pn**	**21 08 27.1**	**+1.1**
	baz=3.6,SNR=15						
M28A	**Bar X Bar Ranc**	**3.71**	**127**	⇑P	**Pn**	**21 08 27.7**	**+1.1**
	baz=3.7,SNR=12						
GCMT	**Greycliff**	**3.74**	**306**	*e*Pn	**Pn**	**21 08 27.9**	**+0.9**
GCMT				*e*Pg	**Pg**	**21 08 38.0**	**-1.6**
GCMT				*e*Sg	**Sg**	**21 09 29.0**	**+1.0**
O26A	**Horse Wrangler**	**3.75**	**156**	⇑P	**Pn**	**21 08 28.9**	**+1.7**
	baz=3.7,SNR=9.6						
H17A	**Grant Village**	**3.85**	**282**	*e*Pn	**Pn**	**21 08 31.3**	**+2.7**
H17A				*e*Sn	**Sn**	**21 09 15.1**	**+0.5**
ISCO	**Idaho Springs**	**3.88**	**183**	*e*Pn	**Pn**	**21 08 28.3**	**-0.8**
ISCO				*e*Pg	**Pb**	**21 08 39.8**	**+2.3**
ISCO				*e*Sg	**Sg**	**21 09 29.5**	**-3.3**
C23A	**Lambert**	**4.12**	**1**	⇑P	**Pn**	**21 08 33.3**	**+1.1**
	baz=4.1,SNR=27						
O20A	**White River Ci**	**4.16**	**212**	*e*Pn	**Pn**	**21 08 35.0**	**+2.2**
O20A				*e*Sg	**Sg**	**21 09 42.1**	**+0.7**
YMR	**Madison River**	**4.17**	**286**	*e*Pn	Pn	21 08 36.8	+3.8
YMR				*e*Sg	**Sg**	**21 09 42.7**	**+0.8**
AHID	**Auburn Hatcher**	**4.31**	**260**	*e*Pg	**Pg**	**21 08 48.3**	**-2.3**
AHID				*e*Sg	**Sg**	**21 09 43.7**	**-2.8**
BRSD	**Miller**	**4.66**	**78**	*e*Pg	**Pb**	**21 08 53.2**	**+2.7**
C19A	**Slack Wire Ran**	**4.82**	**329**	⇑P	**Pn**	**21 08 42.5**	**+0.8**
	baz=4.8,SNR=11						
DGMT	**Dagmar**	**4.85**	**9**	*e*Pn	**Pn**	**21 08 43.7**	**+1.5**
DGMT				*e*Sg	**Sg**	**21 10 06.0**	**+2.2**
BOZ	**Bozeman (W)**	**4.90**	**296**	*e*Pn	**Pn**	**21 08 42.9**	**-0.1**
BOZ				*e*Pg	**Pg**	**21 08 59.7**	**-2.2**
BOZ				*e*Sg	**Sg**	**21 10 03.4**	**-1.9**
HWUT	**Hardware Ranch**	**5.04**	**248**	*e*Pn	**Pn**	**21 08 43.0**	**-2.0**
	11nm,0.4s						
HWUT				*e*Sn	Sn	21 09 36.8	-7.2
EGMT	**Eagleton**	**5.33**	**326**	*e*Pn	**Pn**	**21 08 48.7**	**-0.1**
	19nm,0.5s						
DAU	**Daniels Canyon**	**5.49**	**235**	*e*Pn	**Pn**	**21 08 50.7**	**-0.5**
	13nm,0.5s						
DAU				*e*Sg	**Sb**	**21 10 15.1**	**+3.8**
JLU	**Jordanelle**	**5.49**	**238**	*e*Pn	**Pn**	**21 08 51.8**	**+0.6**
	6.6nm,0.5s						
HRY	**Holter Researc**	**5.50**	**306**	*e*Pn	**Pn**	**21 08 51.3**	**+0.1**
	18nm,0.5s						
HRY				*e*Pg	**Pg**	**21 09 11.1**	**-2.2**
MCMT	**McKenzie Canyo**	**5.52**	**285**	*e*Pn	**Pn**	**21 08 51.0**	**-0.6**
	1.9nm,0.5s						
MCMT				*e*Pg	**Pg**	**21 09 11.4**	**-2.3**
R26A	**Arlington**	**5.56**	**165**	⇓P	**Pn**	**21 08 53.0**	**+1.0**
	baz=5.6,SNR=17						
CTU	**Camp Tracy**	**5.62**	**240**	*e*Pn	**Pn**	**21 08 53.2**	**+0.3**
	7.4nm,0.4s						
BGNE	**Belgrade**	**5.77**	**111**	*e*Pn	**Pn**	**21 08 55.6**	**+0.7**
HVU	**Hansel Valley**	**5.80**	**253**	*e*Pn	**Pn**	**21 08 54.2**	**-1.2**
	8.4nm,0.8s						
HVU				*e*Sg	**Sg**	**21 10 29.7**	**-4.5**
NLU	**North Lily Min**	**6.26**	**236**	*e*Pn	**Pn**	**21 09 03.3**	**+1.6**
ECSD	**EROS Data Cent**	**6.32**	**87**	*e*Pn	**Pn**	**21 09 02.9**	**+0.5**
	7.3nm,0.4s						
ECSD				*e*Sg	**Sg**	**21 10 45.4**	**-5.5**
ECSD	**EROS Data Cent**	**6.32**	**87**	⇓P	**Pn**	**21 09 02.8**	**+0.5**
	baz=6.3,SNR=8.5						
DUG	**Dugway**	**6.58**	**241**	*e*Pn	**Pn**	**21 09 06.3**	**+0.3**
	6.7nm,0.5s						
DUG	**Dugway**	**6.58**	**241**	⇓P	**Pn**	**21 09 07.6**	**+1.6**
	baz=6.6,SNR=12						
HLID	**Hailey**	**6.59**	**272**	*e*Pn	**Pn**	**21 09 04.6**	**-1.7**
	1.9nm,0.6s						
MVCO	**Mesa Verde**	**6.90**	**202**	*e*Pn	**Pn**	**21 09 12.6**	**+2.0**
	2.8nm,0.5s						
ELK	**Elko**	**7.92**	**252**	Pn	**Pn**	**21 09 26.4**	**+2.0**
ELK	**Elko**	**7.92**	**252**	Pn	**Pn**	**21 09 26.4**	**+2.0**
	0.2nm,0.3s,baz=270,slow=20,SNR=3.9						
AGMN	**Agassiz Nation**	**8.05**	**52**	*e*Pn	Pn	21 09 18.6	-7.5
	837nm,0.5s						
ULM	**Lac du Bonnet**	**9.21**	**41**	*e*Pn	**Pn**	**21 09 40.7**	**-1.3**
	2.7nm,0.4s						
ULM				Lg	Lg	21 12 17.0	
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**21 09 40.5**	**-1.4**
	1.2nm,0.3s,baz=234,slow=11,SNR=9.7						
ULM				Lg	Lg	21 12 17.0	
	0.3nm,0.3s,baz=146,slow=21,SNR=3.6						
NEW	**Newport**	**9.40**	**303**	Lg	Lg	21 12 17.9	
NEW	**Newport**	**9.40**	**303**	Lg	Lg	21 12 17.9	
	0.2nm,0.3s,baz=72,slow=16,SNR=1.7						
NEW				LR	LR	21 13 45.9	
	comp=Z,167nm,18.1s,baz=148,slow=40						
NVAR	**Mina Array Bea**	**11.11**	**246**	Pn	**Pn**	**21 10 09.2**	**+1.1**
NVAR	**Mina Array Bea**	**11.11**	**246**	Pn	**Pn**	**21 10 09.3**	**+1.1**
	0.1nm,0.3s,baz=65,slow=15,SNR=2.9						
YBH	**Yreka Blue Hor**	**12.93**	**267**	LR	LR	21 15 29.1	
	comp=Z,126nm,20.5s,baz=26,slow=37						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**21 11 57.2**	**-0.3**
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**21 11 57.2**	**-0.3**
	0.0nm,0.3s,baz=156,slow=11,SNR=5.1						
ARCES	**ARCESS Array B**	**61.48**	**18**	P	**P**	**21 17 45.2**	**-0.6**
ARCES	**ARCESS Array B**	**61.48**	**18**	P	**P**	**21 17 45.2**	**-0.6**
	1.7nm,0.6s,baz=325,slow=6.1,SNR=6.9						
FINES	**FINESS Array B**	**68.10**	**23**	P	**P**	**21 18 28.9**	**-0.2**
FINES	**FINESS Array B**	**68.10**	**23**	P	**P**	**21 18 28.9**	**-0.2**
	2.2nm,1.0s,baz=273,slow=12,SNR=2.4						
ZALV	**Zalesovo Beam**	**82.36**	**354**	P	**P**	**21 19 50.6**	**-0.7**
ZALV	**Zalesovo Beam**	**82.36**	**354**	P	**P**	**21 19 50.6**	**-0.7**
	0.7nm,0.5s,baz=349,slow=5.1,SNR=3.5						
SONM	**Songino Array**	**84.67**	**339**	P	**P**	**21 20 03.6**	**+0.1**
SONM	**Songino Array**	**84.67**	**339**	P	**P**	**21 20 03.6**	**+0.1**
	0.3nm,0.5s,baz=11,slow=5.0,SNR=3.5						
MKAR	**Makanchi Array**	**89.66**	**355**	P	**P**	**21 20 27.1**	**-0.5**
MKAR	**Makanchi Array**	**89.66**	**355**	P	**P**	**21 20 27.1**	**-0.5**
	0.4nm,0.8s,baz=0.0,slow=5.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**92.95**	**69**	P	**P**	**21 20 43.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**92.95**	**69**	P	**P**	**21 20 43.8**	**+0.5**
	0.2nm,0.8s,baz=312,slow=5.9,SNR=3.5						

NNC 22 21:15:56.2±6.9, 36.98N×70.71E, h0km, mb3.7, mpv3.5, 2C-2D, Error ellipse: s-maj=55.0km s-min=38.8km az=164.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.12**	**359**	Pn	Pn	21 17 29.8	+1.8
	1.9nm,0.3s,baz=177,slow=13,SNR=110						
KK31				Sn	Sn	21 18 41.3	+2.6
	1.5nm,0.4s,baz=184,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.35**	**26**	⇓Pn	Pn	21 17 30.3	-1.1
	4.0nm,1.2s						
AAK				⇑Sn	Sn	21 18 43.8	-1.0
	3.6nm,0.7s						
AB31	**Akbulak array**	**14.55**	**331**	⇓Pn	Pn	21 19 22.3	-1.0
	0.1nm,0.3s,baz=156,slow=11,SNR=10.0						
AB31				Sn	Sn	21 22 04.9	-0.3
	0.3nm,0.6s,baz=151,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**16.25**	**330**	⇑Pn	Pn	21 19 46.5	+0.7
	2.9nm,1.1s						

*IDC **22** 21:48:17.4±1.6, 28.57S×177.80W, h79km±14km, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp4.1/7, MS3.4/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=34.4km s-min=28.0km az=164.0*
*ISCJB **22** 21:48:18.8±0.8, 28.76S±0.10×177.9W±0.2, h100km, mb4.2/9, Error ellipse: s-maj=21.4km s-min=13.6km az=175.9*
*NEIC **22** 21:48:18.4±1.5, 28.58S×177.88W, h86km±15km, mb5.0/3, Error ellipse: s-maj=29.5km s-min=17.8km az=155.0*

ISC 22 21:48:19.4±0.8, 28.85S±0.1×177.9W±0.2, h100km, n44, σ1§09/43, mb4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.51**	**184**	*e*Pn	**Pn**	**21 48 34.1**	**-1.1**
RAO				*e*Sn	**Sn**	**21 48 45.6**	**-1.5**
RAO				S	**Sn**	**21 48 45.8**	**-1.2**
RAO	**Raoul Island**	**0.51**	**184**	P	**Pn**	**21 48 34.1**	**-1.1**
	1µm,0.3s,baz=72,slow=1.8,SNR=37						
RAO				S	**Sn**	**21 48 45.8**	**-1.2**
	810nm,0.3s,baz=296,slow=23,SNR=39						
URZ	**Urewera**	**10.37**	**202**	P	**Pn**	**21 50 46.1**	**+1.1**
URZ				S	Sn	21 52 32.0	-7.1
URZ	**Urewera**	**10.37**	**202**	P	**Pn**	**21 50 46.1**	**+1.1**
	0.4nm,0.3s,baz=0.0,slow=4.0,SNR=3.4						
URZ				S	Sn	21 52 32.0	-7.1
	2.0nm,0.3s,baz=350,slow=22,SNR=16						
DZM	**Mont Dzumac**	**15.64**	**292**	*e*LR	LR	21 55 41.3	
	233nm,28.6s						
DZM	**Mont Dzumac**	**15.64**	**292**	LR	LR	21 56 37.8	
	comp=Z,150nm,20.9s,baz=50,slow=32						
TBI	**Tubuai**	**26.06**	**85**	*e*LR	LR	21 59 56.6	
	123nm,34.0s						
TBI	**Tubuai**	**26.06**	**85**	*e*T	T	22 20 30.0	
	11nm,0.3s						
PAE	**Paea**	**28.18**	**73**	*e*T	T	22 22 58.7	
	7.1nm,0.3s						
PPT2	**Papeete2**	**28.22**	**73**	*e*LR	LR	22 00 54.1	
	152nm,28.2s						
VAH	**Vaihoa**	**31.00**	**71**	*e*T	T	22 26 27.2	
	11nm,0.2s						
STKA	**Stephens Creek**	**34.98**	**255**	P	P	21 55 04.3	+2.2
STKA	**Stephens Creek**	**34.98**	**255**	P	P	21 55 04.3	+2.2
	1.4nm,0.6s,baz=84,slow=9.2,SNR=3.1						
STKA				LR	LR	22 07 21.3	
	comp=Z,47nm,19.6s,baz=24,slow=33						
RKT	**Rikitea**	**38.84**	**92**	*e*T	T	22 36 34.1	
	1.7nm,0.3s						
ASAR	**Alice Springs**	**43.33**	**265**	P	**P**	**21 56 12.2**	**+0.4**
ASAR				pP	**pP**	**21 56 33.9**	**-1.2**
ASAR				PcP	**PcP**	**21 57 57.8**	**-1.1**
ASAR	**Alice Springs**	**43.33**	**265**	P	**P**	**21 56 12.2**	**+0.4**
	1.7nm,0.5s,baz=98,slow=6.8,SNR=26						
ASAR				pP	**pP**	**21 56 33.9**	**-1.2**
	1.7nm,0.7s,baz=108,slow=7.6,SNR=5.5						
ASAR				PcP	**PcP**	**21 57 57.8**	**-1.1**
	0.2nm,0.3s,baz=102,slow=3.9,SNR=4.1						
WRAB	**Tennant Creek**	**44.16**	**270**	*e*P	**P**	**21 56 18.1**	**-0.3**
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**44.16**	**270**	P	**P**	**21 56 19.1**	**+0.7**
WRA				pP	**pP**	**21 56 40.5**	**-1.3**
WRA				PcP	**PcP**	**21 58 00.7**	**-1.0**
WRA	**Warramunga Arr**	**44.16**	**270**	P	**P**	**21 56 19.1**	**+0.7**
	1.8nm,0.6s,baz=109,slow=7.9,SNR=23						
WRA				pP	**pP**	**21 56 40.5**	**-1.3**
	2.3nm,0.7s,baz=108,slow=7.6,SNR=7.9						
WRA				PcP	**PcP**	**21 58 00.7**	**-1.0**
	0.4nm,0.7s,baz=107,slow=3.3,SNR=5.5						
MJAR	**Matsushiro Arr**	**76.95**	**325**	P	**P**	**22 00 00.5**	**-0.3**
MJAR	**Matsushiro Arr**	**76.95**	**325**	P	**P**	**22 00 00.5**	**-0.3**
	3.0nm,0.8s,baz=177,slow=0.1,SNR=5.1						
PETK	**Petropavlovsk-**	**84.24**	**345**	P	**P**	**22 00 40.0**	**+0.6**
PETK	**Petropavlovsk-**	**84.24**	**345**	P	**P**	**22 00 39.9**	**+0.6**
	2.4nm,0.7s,baz=126,slow=7.3,SNR=2.0						
MFID	**Camas Ranch**	**91.59**	**40**	*e*P	P	22 01 09.0	-6.0
	6.7nm,0.6s						
HLID	**Hailey**	**92.49**	**41**	*e*P	P	22 01 21.2	+1.9
	3.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P	**P**	**22 01 22.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P	**P**	**22 01 22.7**	**+1.0**
	0.5nm,0.8s,baz=139,slow=4.3,SNR=4.9						
MKAR	**Makanchi Array**	**116.78**	**311**	PKP	**PKPdf**	**22 06 51.5**	**-0.4**
MKAR	**Makanchi Array**	**116.78**	**311**	PKP	**PKPdf**	**22 06 51.5**	**-0.4**
	0.3nm,0.6s,baz=90,slow=1.2,SNR=5.2						
KURK	**Kurchatov**	**119.98**	**314**	PKP	**PKPdf**	**22 06 58.0**	**+0.2**
KURBB	**Kurchatov Arra**	**120.02**	**314**	PKP	**PKPdf**	**22 06 58.0**	**+0.1**
	0.7nm,0.6s,baz=102,slow=2.0,SNR=11						
BVAR	**Borovoye Array**	**125.29**	**317**	PKP	**PKPdf**	**22 07 08.6**	**+0.7**
BVAR	**Borovoye Array**	**125.29**	**317**	PKP	**PKPdf**	**22 07 08.6**	**+0.7**
	1.0nm,0.6s,baz=175,slow=1.3,SNR=4.2						
FINES	**FINESS Array B**	**143.63**	**341**	PKPpre	PKPpre	22 07 38.0	
FINES	**FINESS Array B**	**143.63**	**341**	PKhKP	PKPpre	22 07 38.0	
	0.6nm,0.5s,baz=116,slow=4.4,SNR=6.2						
NB2	**NORSAR Subarra**	**147.14**	**352**	PKP	**PKPbc**	**22 07 48.5**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**147.14**	**352**	PKPbc	**PKPbc**	**22 07 48.8**	**-1.5**
NOA	**NORSAR Array B**	**147.14**	**352**	PKPbc	**PKPbc**	**22 07 48.8**	**-1.5**
	comp=Z,1.4nm,0.5s,baz=14,slow=4.5,SNR=5.6						
MMAI	**Mount Meron Ar**	**151.19**	**287**	PKPbc	**PKPbc**	**22 08 03.1**	**+1.8**
MMAI	**Mount Meron Ar**	**151.19**	**287**	PKPbc	**PKPbc**	**22 08 03.1**	**+1.8**
	baz=54,slow=7.3						
BRTR	**Keskin Array B**	**151.87**	**301**	PKPbc	**PKPbc**	**22 08 02.4**	**-0.4**
BRTR	**Keskin Array B**	**151.87**	**301**	PKPbc	**PKPbc**	**22 08 02.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=154,slow=5.5,SNR=10						
TORD	**Torodi Ar. Bea**	**164.47**	**178**	PKP	**PKPdf**	**22 08 13.0**	**+1.0**
TORD				PKPab	**PKPab**	**22 09 08.4**	**+1.6**
TORD	**Torodi Ar. Bea**	**164.47**	**178**	PKP	**PKPdf**	**22 08 13.0**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=284,slow=1.8,SNR=3.3						
TORD				PKPab	**PKPab**	**22 09 08.4**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=177,slow=3.1,SNR=5.7						

*IDC **22** 22:08:04.9±4.2, 36.04N×71.06E, h57km±36km, mb3.7/11, mb1 3.8/15, mb1mx3.6/29, mbtmp4.0/15, ML3.9/4,

ODAN	**Odare**	**16.60**	**120**	*e*P		**Pn**	**22 11 55.4**	**-1.2**
	comp=E,5.3nm,0.4s							
BVAR	**Borovoye Array**	**16.72**	**358**	P		**Pn**	**22 11 55.9**	**-1.8**
	comp=E,0.4nm,0.3s,baz=174,slow=11,SNR=7.5							
BVAR				S		Sn	22 14 53.0	-10
	comp=E,0.3nm,0.3s,baz=166,slow=22,SNR=5.7							
BVAR				LR		LR	22 19 11.7	
	comp=E,46nm,19.2s,baz=98,slow=39							
AKTO	**Aktyubinsk**	**17.07**	**330**	⇓P		**Pn**	**22 12 00.5**	**-1.5**
	comp=E,3.9nm,0.6s							
AKTO				⇓S		Sn	22 14 56.5	-15
	comp=E,1.5nm,0.5s							
AKTO	**Aktyubinsk**	**17.07**	**330**	P		**Pn**	**22 12 00.3**	**-1.7**
	comp=E,0.6nm,0.3s,baz=119,slow=10.0,SNR=10							
AKTO				S		Sn	22 14 59.2	-12
	comp=E,0.2nm,0.3s,baz=172,slow=20,SNR=6.2							
ZALV	**Zalesovo Beam**	**19.98**	**24**	P		**P**	**22 12 34.2**	**+0.4**
	comp=E,4.8nm,0.3s,baz=221,slow=11,SNR=33							
SONM	**Songino Array**	**28.23**	**55**	P		**P**	**22 13 56.4**	**+3.2**
	comp=E,0.2nm,0.4s,baz=261,slow=9.0,SNR=3.5							
JOF	**Joensuu**	**36.16**	**330**	*e*p		**P**	**22 15 02.1**	**+0.1**
	comp=E,2.6nm,0.4s							
FINES	**FINESS Array B**	**37.78**	**326**	P		**P**	**22 15 16.5**	**+0.7**
	comp=E,1.5nm,0.4s,baz=120,slow=9.9,SNR=18							
ARCES	**ARCESS Array B**	**41.42**	**338**	P		**P**	**22 15 46.8**	**+0.9**
	comp=E,1.8nm,0.6s,baz=115,slow=8.1,SNR=10							
NB2	**NORSAR Subarra**	**44.69**	**323**	P		**P**	**22 16 12.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.69**	**323**	P		**P**	**22 16 12.4**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=96,slow=7.7,SNR=6.1							
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P		**P**	**22 18 43.2**	**-2.5**
	comp=Z,1.1nm,0.5s,baz=51,slow=5.8,SNR=15							
ILAR	**Eielson Array**	**74.89**	**16**	P		**P**	**22 19 40.2**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=323,slow=5.7,SNR=3.2							
BOSA	**Boshof**	**77.77**	**220**	P		**P**	**22 19 55.0**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=14,slow=4.2,SNR=2.9							
YKA	**Yellowknife Ar**	**81.42**	**3**	P		**P**	**22 20 17.5**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=349,slow=5.4,SNR=25							
WRA	**Warramunga Ar**	**81.67**	**122**	P		**P**	**22 20 16.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=292,slow=5.2,SNR=5.5							
ASAR	**Alice Springs**	**83.93**	**125**	P		**P**	**22 20 28.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=311,slow=5.4,SNR=6.0							

*IDC **22** 22:20:31.7±0.9, 26.°84N×143.°14E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.8/25, mbtmp3.7/10, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/35, Error ellipse: s-maj=22.0km s-min=18.1km az=42.0*
*ISCJB **22** 22:20:34.1±0.8, 26.°9N±0.°1×143.°25E±0.°09, h32km, mb3.7/9, MS3.6/1, Error ellipse: s-maj=16.9km s-min=11.2km az=15.6*
ISC 22 22:20:36.4±1.0, 26.°9N±0.°1×143.°1E±0.°1, h32km, n12, σ0s83/12, mb4.0/9, Bonin Islands region

JCJ	**Chichijima**	**0.87**	**285**	Pn		**Pn**	**22 20 51.9**	**-0.5**
	498nm,0.3s,baz=97,slow=22,SNR=82							
JCJ				Sn		**Sb**	**22 21 05.3**	**+1.0**
	210nm,0.3s,baz=285,slow=23,SNR=11							
JCJ				LR		LR	22 21 15.4	
	comp=Z,124nm,18.4s,baz=344,slow=49							
MJAR	**Matsushiro Arr**	**10.51**	**338**	Pn		**Pn**	**22 23 03.6**	**-1.2**
	0.4nm,0.3s,baz=275,slow=18,SNR=4.6							
WRA	**Warramunga Ar**	**47.31**	**191**	P		**P**	**22 29 07.0**	**-0.1**
	2.7nm,0.6s,baz=12,slow=8.7,SNR=18							
ASAR	**Alice Springs**	**51.03**	**191**	P		**P**	**22 29 34.9**	**-0.7**
	0.1nm,0.4s,baz=0.3,slow=5.7,SNR=4.3							
MKAR	**Makanchi Array**	**51.26**	**310**	P		**P**	**22 29 36.3**	**-0.9**
	0.1nm,0.4s,baz=72,slow=9.3,SNR=3.6							
KURBB	**Kurchatov Arra**	**53.79**	**315**	P		**P**	**22 29 55.8**	**0.0**
	1.0nm,0.3s,baz=92,slow=8.4,SNR=5.7							
ILAR	**Eielson Array**	**57.50**	**29**	P		**P**	**22 30 22.4**	**+0.2**
	0.4nm,0.9s,baz=280,slow=5.4,SNR=3.4							
BVAR	**Borovoye Array**	**58.77**	**318**	P		**P**	**22 30 32.2**	**+0.9**
	1.0nm,0.5s,baz=96,slow=6.3,SNR=8.1							
AKTO	**Aktyubinsk**	**66.77**	**316**	P		**P**	**22 31 25.5**	**+0.8**
	0.7nm,0.5s,baz=94,slow=15,SNR=4.0							
YKA	**Yellowknife Ar**	**71.94**	**29**	P		**P**	**22 31 57.0**	**+0.7**
	0.1nm,0.4s,baz=296,slow=6.3,SNR=3.9							
FINES	**FINESS Array B**	**78.51**	**334**	P		**P**	**22 32 34.6**	**+0.4**
	0.6nm,0.3s,baz=78,slow=4.3,SNR=14							
ELK	**Elko**	**81.06**	**49**	LR		LR	23 04 44.3	
	comp=Z,31nm,20.9s,baz=8.5,slow=33							

*IDC **22** 22:21:13.2±2.5, 51.°40N×98.°24E, h0km, mb1 2.9/2, mb1mx2.9/27, mbtmp2.9/2, ML2.4/1, Error ellipse: s-maj=57.6km s-min=15.2km az=19.0*
*MOS **22** 22:21:14.9±3.1, 51.°12N×97.°83E, h10km, mb4.4/1, Error ellipse: s-maj=22.0km s-min=12.6km az=154.5*
ISC 22 22:21:16.5±1.2, 51.°18N±0.°08×98.°00E±0.°08, h10km, n13, σ1s60/12, 1C, Tuva-Buryatia-Mongolia border region

ORL	**Orlik**	**1.76**	**39**	⇑*i*PN		**Pb**	**22 21 49.0**	**0.0**
ORL				*e*			22 22 12.0	
ORL				pmax		pmax		
	comp=Z,81nm,0.2s							
ORL				smax		smax		
	comp=E,380nm,1.1s							
MOY	**Mondy**	**1.94**	**74**	*e*PN		**Pn**	**22 21 50.1**	**+0.5**
MOY				*e*			22 22 14.2	
MOY				pmax		pmax		
	comp=Z,151nm,0.4s							
MOY				smax		smax		
	comp=E,613nm,0.5s							
ARS	**Arshan**	**2.86**	**73**	*e*PN		**Pn**	**22 22 03.8**	**+1.6**
ARS				*e*			22 22 43.3	
ARS				pmax		pmax		
	comp=Z,47nm,0.2s							
ARS				smax		smax		
	comp=N,506nm,5.0s							
ZAK	**Zakamensk**	**3.45**	**101**	*e*PN		**Pn**	**22 22 10.3**	**0.0**
ZAK				*e*			22 22 58.4	
ZAK				pmax		pmax		
	comp=Z,25nm,0.4s							
ZAK				smax		smax		
	comp=N,276nm,0.9s							
TLY	**Talaya**	**3.57**	**80**	*e*PN		**Pn**	**22 22 13.1**	**+1.2**
TLY				*e*			22 23 02.9	
TLY				pmax		pmax		
	comp=Z,7.0nm,0.4s							
TLY				smax		smax		
	comp=E,58nm,0.4s							
IRK	**Irkutsk**	**4.04**	**72**	*e*PN		**Pb**	**22 22 26.2**	**-1.6**
IRK				*e*			22 23 17.6	
IRK				pmax		pmax		
	comp=Z,61nm,0.4s							
IRK				smax		smax		
	comp=E,365nm,0.7s							
OGRR	**Ongureny**	**6.37**	**63**	*e*PN		**Pn**	**22 22 47.5**	**-2.8**
OGRR				*e*			22 24 30.4	
OGRR				pmax		pmax		
	comp=Z,21nm,0.9s							
OGRR				smax		smax		
	comp=E,133nm,0.9s							
SONM	**Songino Array**	**6.41**	**118**	Pn		**Pn**	**22 22 50.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=306,slow=14,SNR=4.3							
SONM				Pg		**Pb**	**22 23 09.0**	**+0.9**
	comp=E,2.5nm,0.3s,baz=304,slow=20,SNR=62							
SONM				Lg		Lg	22 24 32.9	
	comp=E,5.2nm,0.3s,baz=310,slow=30,SNR=10							
NIZ	**Nizh Angarsk**	**8.28**	**52**	*e*P		**Pn**	**22 23 19.1**	**+2.6**
NIZ				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**8.49**	**294**	Pg		Pb	22 23 48.3	+4.8
	comp=Z,0.3nm,0.3s,baz=96,slow=13,SNR=5.7							
ZALV				Lg		Lg	22 25 42.8	
	comp=Z,0.2nm,0.3s,baz=102,slow=29,SNR=3.9							
MKAR	**Makanchi Array**	**11.21**	**253**	Pg		Pn	22 24 41.9	+45
	comp=Z,0.0nm,0.3s,baz=61,slow=15,SNR=3.4							
MKAR				Lg		Lg	22 27 15.2	
	comp=Z,0.1nm,0.3s,baz=60,slow=34,SNR=5.0							
KURK	**Kurchatov**	**12.23**	**275**	P		**Pn**	**22 24 10.8**	**+0.2**
KURBB	**Kurchatov Arra**	**12.30**	**275**	Pn		**Pn**	**22 24 10.8**	**-0.8**
	baz=71,slow=9.9,SNR=2.4							
KURBB				Lg		Lg	22 27 48.3	
	comp=Z,0.2nm,0.3s,baz=80,slow=32,SNR=4.7							

IDC 22 22:24:44.8±1.2, 21.°94N×143.°25E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/39, mbtmp3.8/5, Error ellipse: s-maj=57.2km s-min=28.5km az=92.0, Mariana Islands region

WRA	**Warramunga Arr**	**42.52**	**192**	P		P	22 32 42.3	0.0
	0.2nm,0.3s,baz=16,slow=9.7,SNR=4.0							
BVAR	**Borovoye Array**	**62.53**	**319**	P		P	22 35 11.1	+0.8
	0.6nm,0.3s,baz=98,slow=8.4,SNR=8.1							
YKA	**Yellowknife Ar**	**76.22**	**28**	P		P	22 36 35.4	+0.6
	0.1nm,0.5s,baz=293,slow=5.8,SNR=3.7							
ARCES	**ARCESS Array B**	**78.71**	**341**	P		P	22 36 48.7	0.0
	3.4nm,0.9s,baz=54,slow=9.2,SNR=3.8							
FINES	**FINESS Array B**	**82.99**	**334**	P		P	22 37 09.8	-1.8
	1.2nm,0.6s,baz=64,slow=4.4,SNR=5.0							

*IDC **22** 22:40:35.6±0.7, 18.°25N×72.°11W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/26, mbtmp4.1/15, ML3.2/1, MS3.3/14, Ms1 3.3/14, ms1mx3.1/38, Error ellipse: s-maj=21.8km s-min=16.1km az=58.0*
*NEIC **22** 22:40:37.9±0.4, 18.°40N×72.°10W, h10km, mb4.1/2, Error ellipse: s-maj=8.6km s-min=5.8km az=186.0*
ISC 22 22:40:38.5±3.7, 18.°35N±0.°05×72.°11W±0.°04, h13km±23km, n67, σ1s57/67, mb4.3/19, MS3.4/12, Haiti region

SDDR	**Presa de Saban**	**1.00**	**51**	*e*Pg		Pb	22 40 53.2	-4.5
SDDR				*e*Sg		**Sb**	**22 41 06.8**	**-4.0**
GTBY	**Guantanamo Bay**	**3.25**	**299**	*e*Pn		**Pn**	**22 41 28.6**	**-0.5**
GTBY				*e*S		**Sn**	**22 42 09.7**	**+2.1**
GRTK	**Grand Turk**	**3.28**	**16**	*e*Pn		**Pn**	**22 41 28.2**	**-1.3**
GRTK				*e*Sg		**Sb**	**22 42 17.7**	**+1.3**
AGP	**Aguadilla**	**4.71**	**88**	*e*Pn		**Pn**	**22 41 50.4**	**+1.1**
AGP				*e*Sn		**Sb**	**22 42 55.2**	**-2.6**
MPR	**Mayaguez**	**4.72**	**91**	*e*Pn		**Pn**	**22 41 50.3**	**+1.0**
AGPR	**Aguadilla, PR**	**4.74**	**88**	*e*Pn		**Pn**	**22 41 48.7**	**-1.0**
AGPR				*e*S		Sb	22 42 53.0	-5.5
CRPR	**Cabo Rojo, PR**	**4.76**	**93**	*e*Pn		**Pn**	**22 41 48.6**	**-1.3**
CRPR				*e*S		**Sn**	**22 42 47.2**	**+2.2**
LSP	**Las Mesas**	**4.77**	**91**	*e*Pn		**Pn**	**22 41 50.6**	**+0.5**
LSP				*e*S		**Sn**	**22 42 47.3**	**+2.0**
LRS	**Lares**	**5.00**	**90**	*e*Pn		**Pn**	**22 41 53.5**	**+0.3**
LRS				*e*S		Sn	22 42 57.9	+7.0
AOPR	**Arecibo Observ**	**5.08**	**89**	*e*Pn		**Pn**	**22 41 56.4**	**+2.0**
AOPR				*e*Sn		**Sn**	**22 42 56.2**	**+3.2**
OBIP	**Obispado Ponce**	**5.24**	**92**	*e*Pn		**Pn**	**22 41 55.0**	**-1.5**
OBIP				*e*S		**Sn**	**22 42 59.7**	**+3.0**
CELP	**Cerrillos**	**5.26**	**92**	*e*Pn		**Pn**	**22 41 56.6**	**-0.2**
CELP				*e*S		**Sn**	**22 42 56.1**	**-1.2**
CPD	**Cerro la Pandu**	**5.89**	**92**	*e*Pn		**Pn**	**22 42 06.2**	**+0.7**
HUMP	**Col San Antoni**	**5.95**	**91**	*e*Pn		**Pn**	**22 42 07.5**	**+1.3**
STVI	**Saint Thomas**	**6.79**	**89**	*e*Pn		**Pn**	**22 42 16.9**	**-1.0**
STVI				*e*S		**Sn**	**22 43 36.5**	**+1.4**
SDV	**Santo Domingo**	**9.51**	**171**	*e*Pn		**Pn**	**22 42 56.7**	**+1.3**
SDV				*e*S		**Sn**	**22 44 42.8**	**+0.5**
BCIP	**Isla Barro Col**	**11.81**	**220**	*e*Pn		**Pn**	**22 43 27.5**	**+0.7**
	10nm,0.4s							
JTS	**JuntasAbangare**	**14.79**	**239**	LR		LR	22 49 06.5	
	comp=Z,49nm,21.6s,baz=156,slow=35							
APG	**El Apazote**	**17.90**	**262**	P		**Pn**	**22 44 46.2**	**-1.3**
APG	**El Apazote**	**17.90**	**262**	P		**Pn**	**22 44 46.2**	**-1.3**
	0.1nm,0.3s,baz=86,slow=13,SNR=3.0							
APG				LR		LR	22 50 45.7	
	comp=Z,34nm,21.9s,baz=160,slow=34							
TKL	**Tuckaleechee C**	**20.10**	**331**	LR		LR	22 53 42.2	
	comp=Z,57nm,18.1s,baz=6.5,slow=39							
PTGA	**Pitinga**	**22.40**	**147**	*e*P		**P**	**22 45 38.3**	**+1.4**
	12nm,1.0s							
PTGA	**Pitinga**	**22.40**	**147**	P		**P**	**22 45 39.1**	**+2.2**
	9.4nm,0.9s,baz=334,slow=15,SNR=10							
PTGA				LR		LR	22 55 13.7	
	comp=Z,49nm,19.9s,baz=310,slow=39							
ATAH	**Atahualpa**	**26.07**	**194**	LR		LR	22 57 51.9	
	comp=Z,69nm,19.0s,baz=332,slow=40							
SADO	**Sadowa**	**27.00**	**349**	LR		LR	22 55 58.1	
	comp=Z,52nm,18.6s,baz=194,slow=34							
TXAR	**Lajitas Array**	**30.78**	**297**	P		**P**	**22 46 55.5**	**+1.5**
TXAR				PcP		**PcP**	**22 49 48.2**	**-3.3**
TXAR	**Lajitas Array**	**30.78**	**297**	P		**P**	**22 46 55.5**	**+1.5**
	0.6nm,0.8s,baz=84,slow=8.3,SNR=2.4							
TXAR				PcP		**PcP**	**22 49 48.0**	**-3.3**
	0.7nm,0.6s,baz=126,slow=4.6,SNR=2.1							
MNTX	**Cornudas Mount**	**32.81**	**300**	*e*P		**P**	**22 47 12.2**	**+0.4**
	0.9nm,0.6s							
LPAZ	**La Paz**	**34.64**	**173**	LR		LR	23 02 09.7	
	comp=Z,57nm,18.1s,baz=322,slow=38							
SIV	**San Ignacio**	**35.81**	**162**	P		**P**	**22 47 35.8**	**-2.0**
SIV	**San Ignacio**	**35.81**	**162**	P		**P**	**22 47 35.8**	**-2.0**
	1.5nm,0.6s,baz=244,slow=14,SNR=3.9							
SCHQ	**Schefferville**	**36.64**	**5**	LR		LR	23 01 28.9	
	comp=Z,63nm,20.6s,baz=172,slow=34							
ULM	**Lac du Bonnet**	**37.07**	**335**	P		**P**	**22 47 49.0**	**+0.8**
ULM	**Lac du Bonnet**	**37.07**	**335**	P		**P**	**22 47 49.0**	**+0.8**
	4.1nm,1.0s,baz=128,slow=5.1,SNR=4.2							
PDAR	**Pinedale Array**	**39.92**	**316**	P		**P**	**22 48 12.3**	**-0.3**
PDAR	**Pinedale Array**	**39.92**	**316**	P		**P**	**22 48 12.3**	**-0.3**
	0.8nm,0.6s,baz=127,slow=10.0,SNR=7.6							
PDAR				LR		LR	23 04 56.6	
	comp=Z,36nm,21.5s,baz=122,slow=36							
BDFB	**Brasilia**	**41.28**	**143**	P		**P**	**22 48 22.9**	**-0.9**
BDFB	**Brasilia**	**41.28**	**143**	P		**P**	**22 48 22.9**	**-0.9**
	5.3nm,0.9s,baz=325,slow=5.0,SNR=7.0							
FRB	**Frobisher Bay**	**45.43**	**2**	P		**P**	**22 48 56.3**	**-0.3**
FRB	**Frobisher Bay**	**45.43**	**2**	P		**P**	**22 48 56.3**	**-0.3**
	5.1nm,0.9s,baz=178,slow=9.1,SNR=5.4							
CPUP	**Villa Florida**	**46.67**	**162**	LR		LR	23 11 07.6	
	comp=Z,46nm,18.3s,baz=298,slow=39							
YKA	**Yellowknife Ar**	**52.97**	**337**	P		**P**	**22 49 53.5**	**-0.9**
YKA	**Yellowknife Ar**	**52.97**	**337**	P		**P**	**22 49 53.5**	**-0.9**
	3.6nm,0.9s,baz=121,slow=7.1,SNR=27							
BBB	**Bella Bella**	**55.01**	**321**	LR		LR	23 14 39.7	
	comp=Z,81nm,18.4s,baz=150,slow=37							
SUMG	**Summit**	**57.55**	**11**	*i* P		**P**	**22 50 30.1**	**+2.3**
	9.4nm,1.0s							
DLBC	**Dease Lake**	**57.90**	**328**	LR		LR	23 15 41.4	
	comp=Z,69nm,19.0s,baz=107,slow=36							
PLCA	**Paso Flores**	**58.79**	**179**	P		**P**	**22 50 35.5**	**-0.9**
PLCA	**Paso Flores**	**58.79**	**179**	P		**P**	**22 50 35.5**	**-0.9**
	5.6nm,1.0s,baz=355,slow=5.3,SNR=5.3							
ESDC	**Sonseca Array**	**61.84**	**54**	P		**P**	**22 50 57.5**	**0.0**
ESDC	**Sonseca Array**	**61.84**	**54**	P		**P**	**22 50 57.5**	**0.0**
	2.0nm,0.9s,baz=273,slow=6.7,SNR=7.6							
INK	**Inuvik**	**62.65**	**338**	LR		LR	23 19 36.3	
	comp=Z,31nm,18.5s,baz=20,slow=37							
DAG	**Danmarks Havn**	**64.23**	**12**	*i* P		**P**	**22 51 14.8**	**+2.1**
	2.4nm,0.7s							
ILAR	**Eielson Array**	**67.07**	**333**	P		**P**	**22 51 30.4**	**-0.8**
ILAR	**Eielson Array**	**67.07**	**333**	P		**P**	**22 51 30.4**	**-0.8**
	1.0nm,1.0s,baz=95,slow=4.4,SNR=6.1							
TORD	**Torodi Ar. Bea**	**70.80**	**82**	P		**P**	**22 51 53.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**70.80**	**82**	P		**P**	**22 51 53.6**	**-1.7**
	0.9nm,0.9s,baz=296,slow=4.1,SNR=4.6							
BRG	**Berggiesshubel**	**73.53**	**41**	*e*P		**P**	**22 52 12.6**	**+1.6**
	3.2nm,0.9s							
GERES	**GERESS Array B**	**73.69**	**43**	P		**P**	**22 52 12.0**	**-0.1**
GERES	**GERESS Array B**	**73.69**	**43**	P		**P**	**22 52 12.0**	**-0.1**
	2.7nm,0.9s,baz=273,slow=5.2,SNR=14							
GERES				LR		LR	23 19 34.1	
	comp=Z,27nm,21.0s,baz=280,slow=32							
FINES	**FINESS Array B**	**77.91**	**29**	P		**P**	**22 52 36.1**	**+0.3**
FINES	**FINESS Array B**	**77.91**	**29**	P		**P**	**22 52 36.1**	**+0.3**
	7.1nm,1.2s,baz=251,slow=4.3,SNR=3.7							
AKASG	**Malin Array Be**	**82.95**	**39**	P		**P**	**22 53 04.4**	**+1.3**
AKASG	**Malin Array Be**	**82.95**	**39**	P		**P**	**22 53 04.4**	**+1.3**
	0.1nm,0.2s,baz=288,slow=4.2,SNR=3.7							
WRA	**Warramunga Arr**	**154.97**	**262**	PKPbc		**PKPbc**	**23 00 39.4**	**-1.3**
WRA	**Warramunga Arr**	**154.97**	**262**	PKPbc		**PKPbc**	**23 00 39.4**	**-1.3**
	0.5nm,0.5s,baz=83,slow=2.5,SNR=3.7							
ASAR	**Alice Springs**	**155.17**	**253**	PKPbc		PKPdf	23 00 40.8	+8.6
ASAR	**Alice Springs**	**155.17**	**253**	PKPbc		PKPdf	23 00 40.8	+8.6
	0.8nm,1.0s,baz=100,slow=2.6,SNR=4.2							

MAN 22 22:45:19, 7.°02N×123.°89E, h5km, mb4.7, ML3.6, MS3.6, 1C-1D, Mindanao

CTBH	**Cotabato--PC H**	**0.41**	**61**	⇓*i*P		Pb	22 45 28.0	-0.8
CTBH				*i* S		Sg	22 45 33.8	+1.5
PAGZ	**Pagadian**	**0.96**	**329**	*e*P		Pb	22 45 38.5	+0.3
PAGZ				*e*S		Sn	22 45 53.0	-0.2
BUKP	**Musuan**	**1.44**	**54**	*e*P		Pn	22 45 45.5	-0.4
BUKP				*e*S		Sg	22 46 05.9	+0.3
IPIL	**Ipil**	**1.51**	**300**	*e*P		Pb	22 45 47.4	-0.2
CGP	**Cagayan de Oro**	**1.63**	**29**	⇑*e*P		Pn	22 45 48.7	+0.3
CGP				*e*S		Sg	22 46 11.5	0.0

IDC 22 23:08:06.3±55.0, 15.°97S×175.°07W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.2/3, Error ellipse: s-maj=1049.0km s-min=187.0km az=78.0, Tonga Islands

STKA	**Stephens Creek**	**42.36**	**240**	P		P	23 16 02.6	+0.2
	0.7nm,0.3s,baz=91,slow=7.6,SNR=4.3							
WRA	**Warramunga Arr**	**48.15**	**257**	P		P	23 16 48.2	-0.5
	0.5nm,0.5s,baz=94,slow=7.6,SNR=3.3							
ASAR	**Alice Springs**	**48.40**	**252**	P		P	23 16 50.5	-0.1
	7.5nm,0.5s,baz=89,slow=8.2,SNR=107							

*IDC **22** 23:08:45.4±1.6, 63.°26N×145.°05W, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.5/26, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=22.9km s-min=14.6km az=17.0*
*ISCJB **22** 23:08:47.6±0.7, 63.°38N±0.°02×145.°09W±0.°06, h8km±5km, mb3.6/3, Error ellipse: s-maj=4.5km s-min=3.2km az=171.6*
*NEIC **22** 23:08:48.0, 63.°34N×145.°12W, h8km, ML3.5(AEIC), After AEIC.*
ISC 22 23:08:47.3±0.9, 63.°34N±0.°02×145.°12W±0.°02, h10km±7km, n69, σ1s55/73, mb3.7/3, Central Alaska

PS10	**TAPS Pump St10**	**0.31**	**286**	P		**Pg**	**23 08 53.9**	**+0.4**
PS10				S		**Sg**	**23 08 58.0**	**+0.4**
PAX	**Paxson**	**0.40**	**204**	P		**Pb**	**23 08 55.2**	**-1.3**
DDM	**Donnelly Dome**	**0.56**	**324**	P		**Pg**	**23 08 58.7**	**+0.4**
DDM				S		**Sg**	**23 09 06.1**	**+0.4**
PS09	**TAPS Pump Stn9**	**0.66**	**334**	P		**Pg**	**23 09 00.9**	**+0.7**
PS09				S		**Sg**	**23 09 10.0**	**+1.2**
SCRK	**Sand Creek**	**0.82**	**38**	P		**Pg**	**23 09 03.5**	**+0.4**
SCRK				S		**Sg**	**23 09 14.2**	**+0.5**
HARP	**HAARP**	**0.94**	**181**	P		**Pn**	**23 09 05.6**	**-0.9**
DHY	**Danali Highway**	**1.06**	**257**	P		**Pg**	**23 09 07.0**	**-0.6**
PS11	**TAPS Pump St11**	**1.27**	**188**	P		**Pn**	**23 09 11.7**	**+0.5**
HDA	**Harding Lake**	**1.35**	**324**	P		**Pn**	**23 09 12.0**	**-0.1**
HDA				S		**Sg**	**23 09 30.6**	**0.0**
PS08	**TAPS Pump Stn8**	**1.42**	**329**	P		**Pn**	**23 09 12.8**	**-0.4**
PS08				S		**Sb**	**23 09 32.6**	**+0.5**
BCA3	**Beaver Creek A**	**1.53**	**99**	P		**Pb**	**23 09 15.2**	**-0.7**
BCA3				S		**Sg**	**23 09 37.0**	**+0.4**
IL1	**Eielson Array**	**1.64**	**332**	P		**Pn**	**23 09 16.2**	**+0.1**
ILAR	**Eielson Array**	**1.64**	**332**	Pn		**Pn**	**23 09 15.7**	**-0.5**
ILAR				Sn		**Sn**	**23 09 38.7**	**+1.4**
ILAR	**Eielson Array**	**1.64**	**332**	Pn		**Pn**	**23 09 15.7**	**-0.5**
	89nm,0.3s,baz=151,slow=15,SNR=648							
ILAR				Sn		**Sn**	**23 09 38.7**	**+1.4**
	396nm,0.3s,baz=147,slow=30,SNR=58							
RND	**Reindeer**	**1.69**	**274**	P		**Pb**	**23 09 18.4**	**0.0**
WRH	**Wood River Hil**	**1.74**	**312**	P		**Pn**	**23 09 17.6**	**0.0**
MCK	**McKinley**	**1.76**	**285**	P		**Pb**	**23 09 19.7**	**+0.1**
CCB	**Clear Creek Bu**	**1.77**	**319**	P		**Pn**	**23 09 18.2**	**+0.2**
SCM	**Sheep Creek Mo**	**1.82**	**215**	P		**Pb**	**23 09 19.9**	**-0.9**
GLM	**Gilmore Dome**	**1.93**	**330**	P		**Pn**	**23 09 20.0**	**-0.2**
COLA	**College**	**1.95**	**323**	P		**Pn**	**23 09 20.6**	**+0.1**
GLB	**Gilahina Butte**	**2.00**	**162**	P		**Pb**	**23 09 22.4**	**-1.4**
BWN	**Browne**	**2.11**	**295**	P		**Pn**	**23 09 22.2**	**-0.4**
MDM	**Murphy Dome**	**2.12**	**321**	P		**Pn**	**23 09 23.3**	**+0.4**
DIV	**Divide**	**2.24**	**188**	P		**Pb**	**23 09 26.2**	**-1.7**
EGAK	**Eagle**	**2.26**	**49**	P		**Pn**	**23 09 26.6**	**+1.9**
VLZ	**Valdez**	**2.29**	**195**	P		**Pb**	**23 09 26.9**	**-1.7**
TRF	**Thorofare Moun**	**2.33**	**275**	P		**Pn**	**23 09 27.8**	**+2.0**
BMRM	**Bremner River**	**2.39**	**174**	P		**Pb**	**23 09 28.5**	**-1.9**

*ISCJB **22** 23:30:06.8±0.9, 10.58S±0.09×161.3E±0.1, h61km, mb3.7/6, Error ellipse: s-maj=18.7km s-min=10.1km az=145.7*

ISC 22 23:30:07.8±1.0, 10.6S±0.1×161.3E±0.2, h61km, n13, σ1.8°75/11, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.77**	**312**	*i* P	**Pn**	**23 30 35.0**	**-1.2**
HNR				*i* S	**Sn**	**23 30 57.0**	**-0.6**
DZM	**Mont Dzumac**	**12.41**	**157**	Pn	**Pn**	**23 33 03.8**	**+2.0**
	2.2nm,0.3s,baz=0.0,slow=19,SNR=30						
DZM				Sn	**Sn**	**23 35 15.0**	**-3.6**
	1.4nm,0.3s,baz=204,slow=19,SNR=3.5						
CTA	**Charters Tower**	**17.26**	**235**	Pn	**P**	**23 34 07.0**	**+1.5**
	0.5nm,0.3s,baz=60,slow=20,SNR=9.3						
WRA	**Warramunga Arr**	**27.55**	**247**	P	**P**	**23 35 50.0**	**+0.8**
	0.3nm,0.5s,baz=74,slow=9.1,SNR=5.9						
STKA	**Stephens Creek**	**27.90**	**218**	LR	LR	23 45 58.9	
	comp=Z,93nm,18.2s,baz=29,slow=34						
ASAR	**Alice Springs**	**29.12**	**240**	P	**P**	**23 36 02.8**	**-0.5**
	0.3nm,0.6s,baz=62,slow=10.0,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**30.65**	**10**	T	T	00 06 56.6	
	baz=195,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**30.66**	**10**	T	T	00 06 56.1	
	baz=195,slow=76,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**30.67**	**10**	T	T	00 06 60.0	
	baz=195,slow=76,SNR=16						
SONM	**Songino Array**	**75.78**	**325**	P	**P**	**23 41 48.4**	**+1.1**
	1.3nm,0.7s,baz=144,slow=6.0,SNR=9.8						
MKAR	**Makanchi Array**	**90.23**	**318**	P	**P**	**23 43 01.7**	**-0.2**
	0.8nm,0.5s,baz=83,slow=6.3,SNR=24						
ZALV	**Zalesovo Beam**	**90.67**	**325**	P	**P**	**23 43 02.4**	**-1.3**
	0.3nm,0.3s,baz=116,slow=3.4,SNR=2.7						
YKA	**Yellowknife Ar**	**96.63**	**28**	P	**P**	**23 43 31.3**	**+0.4**
	0.2nm,0.8s,baz=270,slow=4.3,SNR=3.0						

*ISCJB **22** 23:36:52.3±0.3, 7.54S±0.03×128.09E±0.04, h142km, mb4.0/9, Error ellipse: s-maj=5.7km s-min=4.2km az=140.7*

*NEIC **22** 23:36:55.3±0.8, 7.61S×128.07E, h157km±9km, mb4.3/5, Error ellipse: s-maj=10.7km s-min=8.3km az=47.0*

*DJA **22** 23:36:56.7±0.5, 8°S±3°×12°E±°, h117km±15km, M4.5/5, mb4.5/3, mB5.2/1, MLv4.6/5, Mw(mB)4.6/1*

*IDC **22** 23:36:57.4±3.6, 7.60S×127.94E, h172km±35km, mb3.8/6, mb1 3.9/9, mb1mx3.7/20, mbtmp4.4/9, Error ellipse: s-maj=26.0km s-min=14.6km az=46.0*

ISC 22 23:36:53.4±0.4, 7.73S±0.05×128.13E±0.05, h142km, n72, σ2.8°11/83, mb4.0/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.31**	**242**	P	**Pn**	**23 38 00.4**	**+2.6**
SOEI				S	**Sn**	**23 38 42.1**	**-5.6**
SOEI	**Soe**	**4.31**	**242**	*e*Pn	**Pn**	**23 38 00.4**	**+2.6**
SOEI				*e*Sn	**Sn**	**23 38 50.3**	**+2.6**
SOEI	**Soe**	**4.31**	**242**	P	**Pn**	**23 38 00.4**	**+2.6**
	baz=4.3,SNR=63						
MSAI	**Masohi**	**4.42**	**10**	P	Pn	23 38 02.3	+3.2
MTN	**Manton Dam**	**5.88**	**150**	P	Pn	23 38 22.2	+3.6
	baz=6.1,SNR=107						
MMRI	**Maumere**	**5.90**	**261**	P	Pn	23 38 11.1	-7.7
MMRI	**Maumere**	**5.90**	**261**	*e*Pn	**Pn**	**23 38 20.8**	**+2.0**
MMRI				*e*Sn	**Sn**	**23 39 26.1**	**+0.7**
FAKI	**Fak Fak**	**6.30**	**41**	P	**Pn**	**23 38 24.3**	**+0.2**
	49nm,0.8s,0.2nm						
FAKI				S	**Sn**	**23 39 33.7**	**-1.3**
	49nm,0.8s,0.2nm						
FAKI	**Fak Fak**	**6.30**	**41**	*e*Pn	**Pn**	**23 38 24.4**	**+0.2**
FAKI				*e*Sn	**Sn**	**23 39 33.8**	**-1.2**
FAKI	**Fak Fak**	**6.30**	**41**	P	**Pn**	**23 38 24.8**	**+0.7**
	baz=6.3,SNR=22						
FAKI				S	**Sn**	**23 39 34.6**	**-0.4**
	baz=6.3,SNR=6.1						
KDU	**Kakadu**	**6.53**	**139**	P	**Pn**	**23 38 30.3**	**+3.2**
	baz=6.8,SNR=200						
KDU				S	**Sn**	**23 39 41.0**	**+0.5**
	baz=6.8,SNR=11						
SWI	**Sorong**	**7.50**	**25**	P	**Pn**	**23 38 42.2**	**+2.0**
KNRA	**Kununurra**	**7.93**	**176**	P	**Pn**	**23 38 48.3**	**+2.4**
	baz=8.1,SNR=85						
KNRA				S	**Sn**	**23 40 11.6**	**-2.6**
	baz=8.1,SNR=14						
WSI	**Waingapu**	**7.98**	**255**	P	**Pn**	**23 38 47.0**	**+0.4**
	baz=7.9,SNR=3.7						
WRAB	**Tennant Creek**	**13.55**	**154**	*e*Pn	**Pn**	**23 40 01.3**	**+1.3**
	7.9nm,0.4s						
WRAB				*e*Sn	Sn	23 42 23.0	-7.0
JAY	**Jayapura**	**13.55**	**68**	P	**P**	**23 40 03.8**	**-0.5**
JAY	**Jayapura**	**13.55**	**68**	P	**P**	**23 40 03.8**	**-0.5**
	3.5nm,0.3s,baz=102,slow=8.6,SNR=6.4						
WRA	**Warramunga Arr**	**13.55**	**154**	P	**Pn**	**23 40 00.6**	**+0.5**
WRA				S	**Sn**	**23 42 26.1**	**-4.0**
WRA	**Warramunga Arr**	**13.55**	**154**	P	**Pn**	**23 40 00.6**	**+0.5**
	2.5nm,0.3s,baz=339,slow=13,SNR=48						
WRA				S	**Sn**	**23 42 26.1**	**-4.0**
	3.6nm,0.3s,baz=322,slow=24,SNR=14						
COEN	**Coen**	**16.02**	**114**	P	**P**	**23 40 35.3**	**+3.7**
	baz=16,SNR=5.5						
COEN				S	**Sn**	**23 43 25.1**	**-4.3**
	baz=16,SNR=5.5						
AS31	**Alice Springs**	**16.79**	**161**	*e*P	**Pn**	**23 40 43.7**	**+3.4**
AS31				*e*S	**S**	**23 43 41.2**	**-6.5**
ASAR	**Alice Springs**	**16.79**	**161**	P	**Pn**	**23 40 43.2**	**+2.9**
ASAR				S	**S**	**23 43 44.6**	**-3.1**
ASAR	**Alice Springs**	**16.79**	**161**	P	**Pn**	**23 40 43.2**	**+2.9**
	0.7nm,0.3s,baz=339,slow=12,SNR=29						
ASAR				S	**S**	**23 43 44.6**	**-3.1**
	1.1nm,0.3s,baz=318,slow=18,SNR=6.2						
QIS	**Mount Isa**	**16.91**	**140**	P	**Pn**	**23 40 45.8**	**+4.0**
	baz=17,SNR=5.1						
WRKA	**Warakurna**	**17.21**	**179**	P	**Pn**	**23 40 48.0**	**+2.6**
	baz=18,SNR=35						
PMG	**Port Moresby**	**18.89**	**96**	P	**Pn**	**23 41 08.4**	**+3.0**
PMG	**Port Moresby**	**18.89**	**96**	P	**Pn**	**23 41 08.4**	**+3.0**
	1.9nm,0.3s,baz=269,slow=6.2,SNR=8.4						
KSM	**Kuching**	**19.98**	**296**	*e*P	**P**	**23 41 15.7**	**+0.7**
	15nm,0.8s						
MEEK	**Meekatharra**	**20.87**	**205**	P	Pn	23 41 28.0	-0.6
	baz=21,SNR=6.8						
MEEK				S	Sn	23 45 23.3	-1.9
	baz=21,SNR=3.4						
MORW	**Morawa**	**24.09**	**207**	P	**P**	**23 41 59.3**	**+3.4**
	baz=24,SNR=3.9						
QLP	**Quilpie**	**24.21**	**143**	P	P	23 42 05.5	+8.5
	baz=24,SNR=3.5						
STKA	**Stephens Creek**	**27.11**	**154**	P	**P**	**23 42 25.1**	**+1.9**
STKA	**Stephens Creek**	**27.11**	**154**	P	**P**	**23 42 25.1**	**+1.9**
	2.2nm,0.7s,baz=86,slow=3.2,SNR=3.9						
PSI	**Prapat**	**30.95**	**289**	P	**P**	**23 42 56.4**	**-1.2**
PSI	**Prapat**	**30.95**	**289**	P	**P**	**23 42 56.4**	**-1.2**
	16nm,0.8s,baz=109,slow=4.5,SNR=16						
PSI	**Prapat**	**30.95**	**289**	P	**P**	**23 42 56.7**	**-0.9**
	baz=31,SNR=8.5						
CMAR	**Chiang Mai Arr**	**38.81**	**312**	P	**P**	**23 44 05.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**38.81**	**312**	P	**P**	**23 44 05.5**	**+0.8**
	1.7nm,0.7s,baz=141,slow=6.4,SNR=8.0						
CHTO	**Chiang Mai**	**39.03**	**313**	*e*P	**P**	**23 44 05.4**	**-1.2**
LSA	**Lhasa**	**51.46**	**318**	*e*P	**P**	**23 45 44.0**	**-1.0**
	4.6nm,0.5s						
ODAN	**Odare**	**52.35**	**313**	*e*P	**P**	**23 45 50.9**	**-0.5**
TAPN	**Taplejung**	**52.40**	**313**	*e*P	**P**	**23 45 50.8**	**-1.0**
	5.4nm,0.5s						
RAMN	**Ramite**	**52.98**	**312**	*e*P	**P**	**23 45 55.4**	**-0.6**
	25nm,0.6s						
JIRN	**Jiri**	**53.68**	**313**	*e*P	**P**	**23 46 00.3**	**-1.0**
	6.8nm,0.6s						
GUN	**Gumba**	**54.05**	**313**	*e*P	**P**	**23 46 02.9**	**-1.0**
	12nm,0.5s						
PKI	**Pulchoki**	**54.21**	**312**	*e*P	**P**	**23 46 03.7**	**-1.3**
	7.6nm,0.5s						
PKIN	**Phulchoki**	**54.22**	**312**	*e*P	**P**	**23 46 04.1**	**-0.9**
	5.3nm,0.5s						
KKN	**Kakani**	**54.42**	**312**	*e*P	**P**	**23 46 05.3**	**-1.2**
DMN	**Daman**	**54.45**	**312**	*e*P	**P**	**23 46 05.3**	**-1.4**
GKN	**Gorkha**	**55.01**	**312**	*e*P	**P**	**23 46 08.9**	**-1.7**
	11nm,0.5s						
KOLN	**Koldanda**	**55.66**	**311**	*e*P	**P**	**23 46 14.0**	**-1.3**
	8.7nm,0.6s						
DANN	**Dangsing**	**55.85**	**312**	*e*P	**P**	**23 46 15.7**	**-1.1**
	8.9nm,0.8s						
PYUN	**Piuthan**	**56.29**	**311**	*e*P	**P**	**23 46 18.6**	**-1.2**
	8.0nm,0.6s						
ULN	**Ulaanbaatar**	**58.40**	**343**	*e*P	**P**	**23 46 33.6**	**-0.6**
SONM	**Songino Array**	**58.56**	**343**	P	**P**	**23 46 35.0**	**-0.2**
SONM				PcP	**PcP**	**23 47 23.3**	**-0.7**
SONM	**Songino Array**	**58.56**	**343**	P	**P**	**23 46 35.0**	**-0.2**
	1.2nm,0.8s,baz=158,slow=8.3,SNR=10						
SONM				PcP	**PcP**	**23 47 23.3**	**-0.7**
	0.5nm,0.7s,baz=155,slow=3.9,SNR=3.6						
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**23 47 35.1**	**-1.2**
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**23 47 35.1**	**-1.2**
	0.6nm,0.5s,baz=123,slow=8.0,SNR=20						
KBL	**Kabul**	**69.82**	**311**	*e*P	**P**	**23 47 47.6**	**-1.5**
	1.3nm,0.5s						
AAK	**Ala-Archa**	**69.91**	**321**	*e*P	**P**	**23 47 47.3**	**-2.1**
	3.0nm,1.3s						
ZALV	**Zalesovo Beam**	**71.42**	**335**	P	**P**	**23 47 56.6**	**-1.4**
ZALV	**Zalesovo Beam**	**71.42**	**335**	P	**P**	**23 47 56.6**	**-1.4**
	3.3nm,0.7s,baz=127,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**109.22**	**26**	PKiKP	**PKiKP**	**23 55 05.8**	**-0.4**
YKA	**Yellowknife Ar**	**109.22**	**26**	PKiKP	**PKiKP**	**23 55 05.8**	**-0.4**
	0.2nm,0.6s,baz=285,slow=1.4,SNR=5.6						
PDAR	**Pinedale Array**	**118.72**	**45**	PKP	**PKPdf**	**23 55 25.1**	**-0.3**
PDAR	**Pinedale Array**	**118.72**	**45**	PKP	**PKPdf**	**23 55 25.1**	**-0.3**
	0.4nm,0.7s,baz=146,slow=2.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**127.12**	**281**	PKP	**PKPdf**	**23 55 41.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**127.12**	**281**	PKP	**PKPdf**	**23 55 41.1**	**-0.8**
	0.5nm,0.7s,baz=67,slow=1.5,SNR=5.4						
CPUP	**Villa Florida**	**145.73**	**171**	PKPbc	**PKPab**	**23 56 17.9**	**+1.0**
CPUP	**Villa Florida**	**145.73**	**171**	PKPbc	**PKPab**	**23 56 17.9**	**+1.0**
	0.3nm,0.3s,baz=135,slow=2.9,SNR=3.3						
LPAZ	**La Paz**	**151.22**	**146**	PKPbc	**PKPbc**	**23 56 33.4**	**+1.5**
LPAZ	**La Paz**	**151.22**	**146**	PKPbc	**PKPbc**	**23 56 33.4**	**+1.5**
	1.1nm,0.7s,baz=209,slow=3.8,SNR=3.4						

WEL 22 23:39:22.8±0.2, 44.16S×168.42E, h5km, ML4.1/15, 1D, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.26**	**70**	⇓PG	Pg	23 39 28.5	+0.5
JCZ				SG	Sg	23 39 31.9	+0.4
JCZ				AML	AML	23 39 32.5	
MSZ	**Milford Sound**	**0.62**	**215**	P*	Pg	23 39 35.0	+0.3
MSZ				SG	Sg	23 39 43.3	+0.5
MSZ				AML	AML	23 39 49.4	
MSZ				AML	AML	23 39 49.4	
MSZ				AML	AML	23 39 49.4	
WKZ	**Wanaka**	**0.79**	**148**	P*	Pg	23 39 37.7	-0.3
WKZ				S*	Sg	23 39 48.4	+0.1
WKZ				AML	AML	23 39 49.7	
WKZ				AML	AML	23 39 49.7	
WKZ				AML	AML	23 39 49.7	
FOZ	**Fox Glacier**	**1.09**	**57**	P*	Pn	23 39 44.7	0.0
FOZ				AML	AML	23 40 02.4	
FOZ				AML	AML	23 40 02.7	
FOZ				AML	AML	23 40 02.7	
FOZ				AML	AML	23 40 02.9	
MLZ	**Mavora Lakes**	**1.20**	**188**	P*	Pg	23 39 45.3	-0.5
MLZ				AML	AML	23 40 05.5	
MLZ				AML	AML	23 40 10.3	
EAZ	**Earnscleugh**	**1.24**	**150**	P*	Pg	23 39 45.9	-0.7
EAZ				AML	AML	23 40 02.9	
EAZ				AML	AML	23 40 06.1	
EAZ				AML	AML	23 40 06.5	
EAZ				AML	AML	23 40 06.6	
LBZ	**Lake Benmore**	**1.28**	**101**	P*	Pn	23 39 46.8	-0.6
LBZ				AML	AML	23 40 04.0	
LBZ				AML	AML	23 40 04.5	
LBZ				AML	AML	23 40 04.5	
LBZ				AML	AML	23 40 08.8	
DCZ	**Deep Cove**	**1.59**	**214**	PN	Pn	23 39 51.1	-0.5
DCZ				AML	AML	23 40 16.8	
DCZ				AML	AML	23 40 16.8	
DCZ				AML	AML	23 40 16.9	
DCZ				AML	AML	23 40 16.9	
WHZ	**Wether Hill Ro**	**1.76**	**191**	PN	Pn	23 39 54.1	+0.1
WHZ				AML	AML	23 40 20.7	
WHZ				AML	AML	23 40 24.4	
ODZ	**Otahua Downs**	**1.81**	**120**	PN	Pn	23 39 54.6	-0.1
RPZ	**Rata Peaks**	**1.95**	**78**	PN	Pn	23 39 56.5	0.0
RPZ				AML	AML	23 40 29.3	
RPZ				AML	AML	23 40 29.8	
TUZ	**Tuapeka**	**1.99**	**155**	PN	Pn	23 39 57.9	+0.9
TUZ				AML	AML	23 40 26.0	
TUZ				AML	AML	23 40 26.4	
WVZ	**Waitaha Valley**	**2.00**	**58**	PN	Pn	23 39 55.9	-1.3
WVZ				AML	AML	23 40 29.0	
HHSZ	**Highcliff Hill**	**2.31**	**139**	*e*PN	Pn	23 40 01.8	+0.3
PYZ	**Puysegur Point**	**2.35**	**211**	PN	Pn	23 40 03.4	+1.3
SYZ	**Scrubby Hill**	**2.43**	**168**	PN	Pn	23 40 03.1	0.0
SYZ				AML	AML	23 40 43.7	
SYZ				AML	AML	23 40 43.7	
SYZ				AML	AML	23 40 47.2	
SYZ				AML	AML	23 40 47.2	
APZ	**The Paps**	**2.69**	**186**	PN	Pn	23 40 07.3	+0.6
APZ				AML	AML	23 40 45.8	
OXZ	**Oxford**	**2.75**	**74**	PN	Pn	23 40 06.2	-1.4
MQZ	**McQueen's Vall**	**3.09**	**83**	PN	Pn	23 40 11.2	-0.9
LTZ	**Lake Taylor**	**3.12**	**65**	PN	Pn	23 40 12.2	-0.5
LTZ				AML	AML	23 40 54.2	
LTZ				AML	AML	23 40 54.9	

*JMA **22** 23:41:22.7±0.3, 37.50N×134.55E, h411km, M3.6*

*ISCJB **22** 23:41:23.2±0.7, 37.5N±0.1×134.45E±0.09, h385km, mb3.0/2, Error ellipse: s-maj=16.8km s-min=9.5km az=10.3*

*IDC **22** 23:41:23.8±1.3, 37.48N×134.49E, h396km±20km, mb2.7/2, mb1 2.8/5, mb1mx2.6/28, mbtmp3.3/5, Error ellipse: s-maj=42.4km s-min=20.4km az=50.0*

ISC 22 23:41:23.6±1.0, 37.5N±0.1×134.51E±0.10, h385km, n11, σ1.8°03/12, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**3.11**	**107**	P	**Pn**	**23 42 27.6**	**+1.0**
MJAR	**Matsushiro Arr**	**3.11**	**107**	P	**Pn**	**23 42 28.1**	**+1.5**
	0.9nm,0.3s,baz=293,slow=10,SNR=13						
JFT	**Otama**	**4.63**	**88**	P	**Pn**	**23 42 42.2**	**+1.2**
JMM	**Marumori**	**4.99**	**84**	P	**Pn**	**23 42 45.4**	**+0.7**
KSRS	**Korea Array**	**5.24**	**271**	P	**Pn**	**23 42 48.3**	**+0.9**
	0.3nm,0.3s,baz=102,slow=12,SNR=4.8						
BSO4	**Boso 4**	**5.34**	**116**	P	**Pn**	**23 42 49.1**	**+0.8**
JMK	**Ichinoseki**	**5.47**	**73**	P	**Pn**	**23 42 50.2**	**+0.4**
JMK				S	**S**	**23 43 59.0**	**-0.9**
BSO3	**Boso 3**	**5.55**	**117**	P	**Pn**	**23 42 51.0**	**+0.5**
USRK	**Ussuriysk Arra**	**6.95**	**345**	P	**P**	**23 43 06.9**	**0.0**
	0.4nm,0.3s,baz=162,slow=11,SNR=7.6						
SONM	**Songino Array**	**22.99**	**306**	P	**P**	**23 45 55.6**	**-0.5**
	0.6nm,0.9s,baz=108,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**57.15**	**180**	P	**P**	**23 50 30.6**	**-1.1**
	0.3nm,0.4s,baz=360,slow=7.5,SNR=3.0						

*SKO **22** 23:57:13.0, 39.87N×21.35E, h34km*

*CSEM **22** 23:57:16.1, 40.15N×20.73E, h17km±3km, MD3.1, After ATH*

ATH 22 23:57:16.1, 40.15N×20.73E, h17km±3km, MD3.1/10, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.50**	**169**	*e*PN	Pg	23 57 25.1	-1.1
JAN				*e*SN	Sg	23 57 33.3	+0.3
JAN	**Janina**	**0.50**	**169**	*e*Pn	Pg	23 57 25.1	-1.1
JAN				*e*Sn	Sg	23 57 33.3	+0.3
IGT	**Igoumenitsa**	**0.69**	**207**	*e*PB	Pg	23 57 28.7	-1.0
IGT	**Igoumenitsa**	**0.69**	**207**	*e*Pb	Pg	23 57 28.7	-1.0
FNA	**Florina**	**0.80**	**38**	*e*PB	Pb	23 57 31.1	-0.6
FNA				*e*SN	Sg	23 57 43.2	+0.6
FNA	**Florina**	**0.80**	**38**	*e*Pb	Pb	23 57 31.1	-0.6
FNA				*e*Sn	Sg	23 57 43.2	+0.6
KEK	**Kerkira**	**0.84**	**239**	*e*PB	Pb	23 57 31.7	-0.5
KEK				*e*SN	Sn	23 57 44.8	-0.3
KEK	**Kerkira**	**0.84**	**239**	*e*Pb	Pb	23 57 31.7	-0.5
KEK				*e*Sn	Sn	23 57 44.8	-0.3
BIA	**Bitola**	**0.98**	**27**	*e*Sn	Sg	23 57 48.2	0.0
BIA				*e*Lg	Lg	23 57 48.3	
	comp=E,14nm,0.3s						
BIA				*e*Lg	Lg	23 57 49.2	
	comp=N,7.4nm,0.2s						
LIT	**Litokhoron**	**1.35**	**92**	*e*PN	Pg	23 57 41.9	-0.3
LIT	**Litokhoron**	**1.35**	**92**	*e*Pn	Pg	23 57 41.9	-0.3
EVR	**Evrytania**	**1.49**	**146**	*e*PN	Pb	23 57 43.8	+0.4
EVR	**Evrytania**	**1.49**	**146**	*e*Pn	Pb	23 57 43.8	+0.4
MAKR	**Makrakomi, Fth**	**1.57**	**136**	*e*PN	Pg	23 57 45.8	-0.6
MAKR	**Makrakomi, Fth**	**1.57**	**136**	*e*Pn	Pg	23 57 45.8	-0.6
PDO	**Prodromos**	**1.59**	**167**	*e*PN	Pg	23 57 46.5	-0.2
PDO	**Prodromos**	**1.59**	**167**	*e*Pn	Pg	23 57 46.5	-0.2
AGG	**Agios Georgios**	**1.67**	**132**	*e*PN	Pb	23 57 47.0	+0.5
AGG	**Agios Georgios**	**1.67**	**132**	*e*Pn	Pb	23 57 47.0	+0.5
KNT	**Kendrikon**	**1.93**	**58**	*e*PB	Pn	23 57 49.1	+0.9
KNT	**Kendrikon**	**1.93**	**58**	*e*Pb	Pn	23 57 49.1	+0.9

*ISCJB **23** 00:02:32.7±2.3, 27.86N±0.04×127.64E±0.05, h13km±15km, mb3.3/6, MS3.3/4, Error ellipse: s-maj=7.7km s-min=6.1km az=37.7*

*JMA **23** 00:02:33.6±0.2, 27.82N×127.69E, h14km±3km, M3.3*

*IDC **23** 00:02:33.2±1.0, 27.59N×127.05E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.6/27, mbtmp3.5/7, ML3.4/1, MS3.0/8, Ms1 3.1/8, ms1mx2.9/25, Error ellipse: s-maj=39.0km s-min=19.4km az=73.0*

ISC 23 00:02:32.3±2.0, 27.79N±0.06×127.67E±0.06, h4km±13km, n20, σ0.8°43/17, mb3.4/6, MS3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.80**	**160**	P	**Pb**	**00 02 49.1**	**+0.3**
JIH				*e*S	**Sb**	**00 02 59.9**	**0.0**
JOW	**Kunigami**	**1.10**	**150**	P	**Pb**	**00 02 54.2**	**+0.3**
JOW				*e*S	**Sn**	**00 03 09.1**	**-1.0**
JTK	**Tokunoshima**	**1.14**	**90**	P	**Pg**	**00 02 54.0**	**-0.1**
JTK				*e*S	**Sg**	**00 03 08.7**	**-0.2**
JAGN	**Aguni-jima**	**1.26**	**198**	P	**Pn**	**00 02 56.7**	**+0.1**
JAGN				*e*S	**Sn**	**00 03 13.8**	**-0.2**
JAMN	**Amaminishikomi**	**1.41**	**71**	P	**Pn**	**00 02 58.7**	**0.0**
JKE	**Kume jima 2**	**1.66**	**208**	P	**Pb**	**00 03 03.4**	**0.0**
JKE				*e*S	**Sb**	**00 03 24.6**	**0.0**
JAM	**Amami Oshima**	**1.82**	**70**	*e*S	**Sn**	**00 03 27.9**	**0.0**
JNU	**Nakatsue**	**5.99**	**27**	Pn	Pn	00 04 09.2	+7.4
	0.9nm,0.3s,baz=169,slow=7.2,SNR=6.2						
JNU				LR	LR	00 07 00.4	
	comp=Z,45nm,19.8s,baz=216,slow=42						
KSRS	**Korea Array**	**9.64**	**1**	LR	LR	00 08 38.6	
	comp=Z,47nm,20.1s,baz=180,slow=37						
MJAR	**Matsushiro Arr**	**12.48**	**43**	LR	LR	00 10 58.0	
	comp=Z,88nm,18.9s,baz=180,slow=39						
JCJ	**Chichijima**	**12.91**	**90**	LR	LR	00 09 50.9	
	comp=Z,35nm,21.9s,baz=158,slow=32						
SONM	**Songino Array**	**25.98**	**326**	P	**P**	**00 08 06.4**	**+0.3**
	0.7nm,0.7s,baz=141,slow=10,SNR=5.5						
SONM				LR	LR	00 18 33.5	
	comp=Z,32nm,20.1s,baz=228,slow=37						
CMAR	**Chiang Mai Arr**	**27.94**	**257**	LR	LR	00 19 56.7	
	comp=Z,48nm,18.0s,baz=25,slow=38						
MKAR	**Makanchi Array**	**40.13**	**311**	P	**P**	**00 10 08.5**	**-0.7**
	0.3nm,0.6s,baz=101,slow=7.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**40.71**	**322**	P	**P**	**00 10 13.7**	**-0.2**
	0.3nm,0.5s,baz=105,slow=9.3,SNR=2.4						
WRA	**Warramunga Arr**	**47.89**	**172**	P	**P**	**00 11 12.2**	**+0.5**
	0.6nm,0.7s,baz=353,slow=8.5,SNR=3.8						
ASAR	**Alice Springs**	**51.51**	**173**	P	**P**	**00 11 39.7**	**+0.5**
	0.2nm,0.6s,baz=6.2,slow=9.5,SNR=3.2						
OBN	**Obninsk**	**68.29**	**322**	LR	LR	00 46 00.0	
	comp=Z,45nm,19.1s,baz=93,slow=38						
YKA	**Yellowknife Ar**	**77.33**	**25**	P	P	00 14 31.9	+4.1
	0.4nm,0.8s,baz=309,slow=5.8,SNR=5.8						
NOA	**NORSAR Array B**	**77.69**	**334**	LR	LR	00 51 35.8	
	comp=Z,22nm,20.9s,baz=5.0,slow=38						

WEL 23 00:12:18.2±0.5, 39.18S×174.86E, h222km±3km, ML4.2/20, 13C-14D, Error ellipse: s-maj=1.9km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.09**	**302**	PN	Pn	00 12 46.3	-0.7
PKVZ	**Pokaka**	**0.39**	**107**	PN	Pn	00 12 47.3	-0.2
PKVZ				SN	S	00 13 09.4	-1.2
TWVZ	**Taurewa**	**0.46**	**77**	PN	Pn	00 12 47.4	-0.5
TWVZ				SN	S	00 13 09.4	-1.5
DREZ	**Durham Road**	**0.51**	**268**	PN	Pn	00 12 47.7	-0.1
MTVZ	**Mangateitei**	**0.52**	**114**	PN	Pn	00 12 47.9	0.0
WPVZ	**Whakapapa**	**0.53**	**93**	PN	Pn	00 12 47.8	-0.3
TRVZ	**Turoa**	**0.55**	**103**	PN	Pn	00 12 48.0	-0.2
WTVZ	**West Tongariro**	**0.57**	**84**	PN	Pn	00 12 47.8	-0.4
WTVZ				SN	S	00 13 10.5	-1.1
NGZ	**Ngauruhoe**	**0.57**	**90**

MWZ					AML	AML	00 13 32.5			
MSWZ	**Moikau Station**	**2.26**	**173**	⇑PN	Pn	00 13 00.2	-0.7			
MSWZ					AML	AML	00 13 01.0			
MSWZ					AML	AML	00 13 40.4			
TRWZ	**Traveller**	**2.31**	**164**	PN	Pn	00 13 00.9	-0.5			
TRWZ					AML	AML	00 13 35.1			
TRWZ					AML	AML	00 13 42.0			
RIGZ	**Rimuhau**	**2.31**	**79**	PN	Pn	00 13 00.7	-0.8			
NNZ	**Nelson**	**2.33**	**209**	⇑PN	Pn	00 13 00.8	-0.8			
TUWZ	**Tuamarina**	**2.36**	**197**	PN	Pn	00 13 01.4	-0.5			
TUWZ					AML	AML	00 13 34.9			
TUWZ					AML	AML	00 13 36.5			
PRQZ	**Paritu Road**	**2.37**	**85**	PN	Pn	00 13 01.4	-0.7			
MHQZ	**Mahia Peninsul**	**2.37**	**90**	PN	Pn	00 13 01.6	-0.5			
PLWZ	**Palliser**	**2.41**	**173**	PN	Pn	00 13 01.7	-0.8			
QRZ	**Quartz Range**	**2.44**	**227**	PN	Pn	00 13 00.9	-1.8			
BSWZ	**Blackbirch Sta**	**2.65**	**196**	PN	Pn	00 13 04.4	-0.5			
BSWZ					AML	AML	00 13 42.9			
BSWZ					AML	AML	00 13 43.3			
HAZ	**Te Kaha**	**2.70**	**59**	⇓PN	Pn	00 13 02.8	-2.7			
PUZ	**Puketiti**	**2.88**	**69**	PN	Pn	00 13 05.6	-2.1			
PUZ					AML	AML	00 13 42.4			
PUZ					AML	AML	00 13 43.9			
THZ	**Tophouse**	**2.98**	**209**	⇑PN	Pn	00 13 07.4	-1.4			
MXZ	**Matakaoa Point**	**3.15**	**60**	PN	Pn	00 13 08.6	-2.1			
MXZ					AML	AML	00 13 49.6			
MXZ					AML	AML	00 13 51.2			
KHZ	**Kahutara**	**3.39**	**197**	PN	Pn	00 13 12.1	-1.3			
KHZ					AML	AML	00 13 54.5			
KHZ					AML	AML	00 13 56.0			
DSZ	**Denniston Nort**	**3.47**	**221**	PN	Pn	00 13 12.3	-2.1			
LTZ	**Lake Taylor**	**4.10**	**208**	PN	Pn	00 13 20.2	-1.8			
OXZ	**Oxford**	**4.66**	**206**	PN	Pn	00 13 25.9	-2.9			
CRLZ	**Canterbury Las**	**4.71**	**200**	SN	S	00 14 20.1	-5.5			
MQZ	**McQueen's Vall**	**4.82**	**199**	PN	Pn	00 13 27.7	-3.0			
RPZ	**Rata Peaks**	**5.36**	**211**	SN	S	00 14 33.4	-7.2			
FOZ	**Fox Glacier**	**5.86**	**220**	PN	Pn	00 13 39.1	-4.7			
LBZ	**Lake Benmore**	**6.27**	**212**	PN	Pn	00 13 46.5	-2.7			
ODZ	**Otahua Downs**	**6.65**	**207**	PN	Pn	00 13 51.8	-2.1			
JCZ	**Jackson Bay**	**6.70**	**221**	*e*PN	Pn	00 13 50.4	-4.3			

ISCJB ***23*** *00:22:57.7±0.2, 15°51S±0'06×173°34W±0'05, h10km, mb5.0/42, MS4.0/23, Error ellipse: s-maj=10.2km s-min=4.8km az=139.4*

BJI ***23*** *00:22:57.0, 16°01S×173°63W, h9km, mB5.4/12, mb5.0/12, Ms5.2/7, Ms7 4.9/6*

IDC ***23*** *00:22:57.8±0.6, 15°37S×173°38W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/28, mbtmp4.4/13, MS3.8/23, Ms1 3.8/23, ms1mx3.7/34, Error ellipse: s-maj=30.7km s-min=15.2km az=132.0*

NEIC ***23*** *00:22:58.6±0.2, 15°34S×173°35W, h10km, mb5.3/25, Error ellipse: s-maj=10.4km s-min=5.4km az=130.0*

MOS ***23*** *00:23:01.6±1.7, 15°68S×173°16W, h33km, mb5.3/9, Error ellipse: s-maj=15.4km s-min=12.1km az=157.1*

ISC 23 00:22:59.2±0.4, 15°43S±0'09×173°37W±0'08, h10km, n302, σ0.93/272, mb5.1/43, MS4.0/24, 82C-75D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**46**	*e*Pn	Pn	00 23 29.5	-5.8
AFI				*e*Sn	Sn	00 23 48.8	-13
AFI	**Afiamalu**	**2.16**	**46**	Pn	Pn	00 23 29.7	-5.6
	227nm,0.3s,baz=35,slow=3.3,SNR=241						
AFI				Sn	Sn	00 23 49.3	-13
	294nm,0.3s,baz=79,slow=19,SNR=6.9						
AFI				LR	LR	00 24 19.5	
	comp=Z,754nm,20.2s,baz=193,slow=38						
KNTN	**Kanton**	**12.68**	**8**	*e*Pn	Pn	00 25 55.4	-4.3
KNTN				*e*Sn	Sn	00 28 06.6	-14
RAR	**Rarotonga**	**14.13**	**116**	*e*Pn	Pn	00 26 14.8	-4.7
RAR				Sn	Sn	00 28 39.9	-16
RAR	**Rarotonga**	**14.13**	**116**	Pn	Pn	00 26 14.0	-5.5
	8.4nm,0.3s,baz=262,slow=7.7,SNR=9.6						
RAR				Sn	Sn	00 28 39.9	-16
	2.3nm,0.3s,baz=106,slow=14,SNR=3.2						
RAR				LR	LR	00 30 19.3	
	comp=Z,439nm,18.2s,baz=289,slow=31						
RAO	**Raoul Island**	**14.38**	**196**	LR	LR	00 31 22.7	
	comp=Z,227nm,20.4s,baz=1.0,slow=35						
DZM	**Mont Dzumac**	**20.21**	**248**	*e*P	Pn	00 27 37.8	+1.3
	40nm,1.1s						
DZM				*e*LR	LR	00 32 29.4	
	267nm,24.9s						
DZM	**Mont Dzumac**	**20.21**	**248**	P	Pn	00 27 36.2	-0.3
DZM	**Mont Dzumac**	**20.21**	**248**	P	Pn	00 27 36.2	-0.3
	5.1nm,0.7s,baz=79,slow=18,SNR=5.8						
PAE	**Paea**	**22.91**	**99**	*e*T	T	00 51 10.7	
	11nm,0.3s						
PPT	**Papeete**	**22.91**	**99**	*e*P	**P**	**00 28 01.7**	**-1.8**
PPT	**Papeete**	**22.91**	**99**	LR	LR	00 34 20.6	
	comp=Z,132nm,21.3s,baz=266,slow=30						
PPT2	**Papeete2**	**22.91**	**99**	*e*LQ	LQ	00 32 22.1	
	592nm,26.8s						
PPT2				*e*LR	LR	00 33 11.4	
	551nm,27.2s						
OUZ	**Omahuta**	**22.92**	**208**	*e*P	**P**	**00 28 03.7**	**+0.4**
	76nm,1.3s						
TIAR	**Tiarei**	**23.13**	**99**	*e*T	T	00 51 27.3	
	7.3nm,0.3s						
TVO	**Taravao**	**23.22**	**99**	*e*T	T	00 51 34.4	
	5.1nm,0.4s						
TBI	**Tubuai**	**23.86**	**113**	*e*LR	LR	00 33 46.5	
	634nm,27.5s						
TBI	**Tubuai**	**23.86**	**113**	*e*T	T	00 52 21.6	
	27nm,0.3s						
URZ	**Urewera**	**24.24**	**198**	*e*P	**P**	**00 28 16.8**	**+0.4**
	443nm,2.6s						
URZ	**Urewera**	**24.24**	**198**	P	**P**	**00 28 15.7**	**-0.7**
	12nm,0.6s,baz=15,slow=4.9,SNR=14						
URZ				LR	LR	00 36 29.3	
	comp=Z,257nm,19.1s,baz=27,slow=33						
VAH	**Vaihoa**	**24.82**	**93**	*e*T	T	00 53 34.6	
	14nm,0.3s						
BKZ	**Black Stump Fm**	**25.27**	**199**	*e*P	**P**	**00 28 25.4**	**-0.3**
	257nm,2.4s						
HNR	**Honiara**	**26.72**	**280**	LR	LR	00 37 57.1	
	comp=Z,128nm,18.8s,baz=120,slow=34						
BFZ	**Birch Farm**	**26.73**	**198**	*e*P	**P**	**00 28 37.7**	**-1.2**
	1µm,2.9s						
KHZ	**Kahutara**	**29.16**	**200**	*e*P	**P**	**00 28 60.0**	**-0.5**
	66nm,1.2s						
RPZ	**Rata Peaks**	**31.16**	**202**	*e*P	**P**	**00 29 19.6**	**+1.2**
	239nm,2.3s						
TAOE	**Nuku Hiva Isla**	**33.10**	**83**	*e*T	T	01 03 56.9	
	112nm,0.2s						
DCZ	**Deep Cove**	**34.15**	**205**	*e*P	**P**	**00 29 44.0**	**-0.3**
	275nm,2.5s						
WHZ	**Wether Hill Ro**	**34.18**	**203**	*e*P	**P**	**00 29 43.9**	**-0.8**
	331nm,2.3s						
ARMA	**Armidale**	**35.35**	**239**	*e*P	**P**	**00 29 54.9**	**-0.2**
	33nm,1.6s						
RKT	**Rikitea**	**36.95**	**108**	*e*LR	LR	00 40 02.6	
	342nm,26.0s						
RKT	**Rikitea**	**36.95**	**108**	*e*T	T	01 08 42.8	
	13nm,0.3s						
CTAO	**Charters Tower**	**38.67**	**257**	*e*P	**P**	**00 30 23.3**	**0.0**
CTAO				pmax	pmax		
	comp=Z,149nm,1.0s						
CTAO	**Charters Tower**	**38.67**	**257**	*e*P	**P**	**00 30 23.3**	**0.0**
	comp=Z,149nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	01 12 08.1	
	baz=152,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	01 12 09.6	
	baz=152,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	01 12 09.1	
	baz=152,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	01 13 13.1	
	baz=152,slow=77,SNR=58						
H11N1	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	01 13 14.3	
	baz=152,slow=77,SNR=33						
H11N2	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	01 13 14.0	
	baz=152,slow=77,SNR=69						
PTCN	**Pitcairn Islan**	**41.56**	**110**	*e*P	**P**	**00 30 48.6**	**+1.2**
	comp=Z,265nm,0.4s						
COEN	**Coen**	**42.01**	**266**	*e*P	**P**	**00 30 50.3**	**-0.8**
	comp=Z,2µm,2.6s						
STKA	**Stephens Creek**	**44.05**	**240**	*e*P	**P**	**00 31 07.6**	**+0.2**
	comp=Z,44nm,2.9s						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**00 31 07.0**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=78,slow=11,SNR=12						
BBOO	**Buckleboo**	**48.82**	**240**	*e*P	**P**	**00 31 44.5**	**-0.5**
	comp=Z,256nm,1.4s						
WRAB	**Tennant Creek**	**49.86**	**257**	⇓*e*P	**P**	**00 31 53.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**00 31 52.5**	**-0.6**
WRA				PcP	**PcP**	**00 33 13.7**	**0.0**
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**00 31 52.5**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=91,slow=7.0,SNR=39						
WRA				PcP	**PcP**	**00 33 13.7**	**0.0**
	comp=Z,1.3nm,0.6s,baz=87,slow=3.8,SNR=5.0						
WRA				LR	LR	00 51 17.9	
	comp=Z,106nm,20.1s,baz=145,slow=34						
AS01	**Alice Springs**	**50.09**	**252**	*e*P	**P**	**00 31 54.2**	**-0.6**
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**00 31 54.8**	**-0.3**
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**00 31 54.8**	**-0.3**
	comp=Z,9.7nm,0.6s,baz=88,slow=8.4,SNR=152						
FORT	**Forrest**	**55.43**	**243**	*e*P	**P**	**00 32 32.7**	**-1.4**
	comp=Z,113nm,2.0s						
VNDA	**Vanda**	**63.35**	**186**	*e*P	**P**	**00 33 27.6**	**-0.5**
	comp=Z,29nm,1.6s						
VNDA	**Vanda**	**63.35**	**186**	P	**P**	**00 33 29.7**	**+1.6**
	comp=Z,4.0nm,0.9s,baz=357,slow=7.5,SNR=4.4						
VNDA				LR	LR	01 00 20.0	
	comp=Z,47nm,18.0s,baz=18,slow=35						
NWAO	**Narrogin (SRO)**	**64.63**	**241**	LR	LR	01 01 47.1	
	comp=Z,75nm,18.1s,slow=36						
MJAR	**Matsushiro Arr**	**68.98**	**320**	LR	LR	00 58 53.4	
	comp=Z,97nm,21.8s,baz=105,slow=31						
ASAJ	**Asahikawa**	**71.58**	**328**	LR	LR	00 59 52.9	
	comp=Z,42nm,21.9s,baz=14,slow=31						
VES	**Vestal, Richgr**	**72.34**	**44**	⇑P	**P**	**00 34 25.9**	**+0.5**
	baz=72						
EDW2	**Edwards Air Fo**	**72.55**	**45**	⇓P	**P**	**00 34 26.9**	**+0.2**
	baz=73						
PETK	**Petropavlovsk-**	**72.67**	**342**	*e*P	**P**	**00 34 28.4**	**+1.5**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PETK	**Petropavlovsk-**	**72.67**	**342**	P	**P**	**00 34 27.3**	**+0.4**
PETK	**Petropavlovsk-**	**72.67**	**342**	P	**P**	**00 34 27.3**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=156,slow=7.4,SNR=3.6						
PETK				LR	LR	00 59 25.6	
	comp=Z,42nm,22.0s,baz=127,slow=30						
GRAC	**Grapevine Rang**	**74.14**	**44**	⇑P	**P**	**00 34 36.5**	**+0.5**
	baz=74						
NV01	**Mina Array Sit**	**74.33**	**42**	*e*P	**P**	**00 34 37.4**	**0.0**
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**00 34 37.3**	**-0.1**
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**00 34 37.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=226,slow=8.4,SNR=6.7						
QSPA	**South Pole Qui**	**74.61**	**180**	*e*P	**P**	**00 34 39.9**	**+1.4**
	comp=Z,16nm,0.8s						
J04D	**Umpqua Nationa**	**74.90**	**36**	⇓P	**P**	**00 34 41.5**	**+1.0**
	baz=75						
PDMCI	**Parker Dam,Lak**	**74.92**	**47**	⇑P	**P**	**00 34 41.3**	**+0.7**
	baz=75						
J05D	**Fort Rock, OR**	**75.42**	**37**	⇑P	**P**	**00 34 43.8**	**+0.3**
	baz=76						
W13A	**Hualapai Mount**	**75.51**	**47**	⇓P	**P**	**00 34 44.2**	**0.0**
	baz=76						
Y14A	**Wickenburg**	**75.55**	**48**	⇑P	**P**	**00 34 44.3**	**0.0**
	baz=76						
R11A	**Troy Canyon, C**	**76.06**	**43**	⇑P	**P**	**00 34 47.4**	**+0.1**
	baz=76						
BMN	**Battle Mountai**	**76.16**	**41**	*e*P	**P**	**00 34 46.6**	**-1.1**
BMN				pmax	pmax		
	comp=Z,41nm,2.5s						
BMN	**Battle Mountai**	**76.16**	**41**	*e*P	**P**	**00 34 46.6**	**-1.1**
	comp=Z,41nm,2.5s						
KSRS	**Kosa Array**	**76.20**	**316**	LR	LR	01 01 06.9	
	comp=Z,58nm,21.5s,baz=105,slow=30						
X16A	**Lo Mia Camp, P**	**76.91**	**48**	⇑P	**P**	**00 34 52.0**	**-0.2**
	baz=77						
ARUT	**Antelope Range**	**77.20**	**45**	*e*P	**P**	**00 34 53.1**	**-0.7**
ARUT	**Antelope Range**	**77.20**	**45**	*e*P	**P**	**00 34 53.0**	**-0.7**
KNB	**Kanab**	**77.23**	**46**	*e*P	P	00 34 56.6	+2.7
KNB				pmax	pmax		
	comp=Z,70nm,2.2s						
KNB	**Kanab**	**77.23**	**46**	*e*P	P	00 34 56.6	+2.7
	comp=Z,70nm,2.2s						
USRK	**Usuriysk Arra**	**77.43**	**323**	LR	LR	01 02 33.2	
	comp=Z,141nm,21.8s,baz=142,slow=31						
G08A	**Pilot Rock**	**77.94**	**36**	*e*P	**P**	**00 34 56.9**	**-0.8**
	comp=Z,8.3nm,1.1s						
MVU	**Marysvale**	**78.40**	**45**	*e*P	**P**	**00 35 00.4**	**-0.1**
	comp=Z,77nm,2.9s						
121A	**Cookes Peak, D**	**78.74**	**52**	⇓P	**P**	**00 35 02.5**	**+0.1**
	baz=79						
DUG	**Dugway**	**78.86**	**43**	*e*P	**P**	**00 35 00.4**	**-2.5**
DUG				pmax	pmax		
	comp=Z,50nm,2.6s						
DUG	**Dugway**	**78.86**	**43**	*e*P	**P**	**00 35 00.4**	**-2.5**
	comp=Z,50nm,2.6s						
DUG	**Dugway**	**78.86**	**43**	⇑P	**P**	**00 35 02.9**	**0.0**
	baz=79						
MDJ	**Mudanjiang**	**79.07**	**322**	P	**P**	**00 35 05.0**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,18nm,3.5s						
HLID	**Hailey**	**79.63**	**39**	*e*P	**P**	**00 35 06.9**	**-0.1**
	comp=Z,5.7nm,0.9s						
HLID	**Hailey**	**79.63**	**39**	⇓P	**P**	**00 35 07.6**	**+0.5**
	baz=80						
Z22A	**Elephant Butte**	**79.68**	**51**	⇑P	**P**	**00 35 07.6**	**+0.1**
	baz=80						
425A	**Indio Mountain**	**80.15**	**54**	⇓P	**P**	**00 35 10.4**	**+0.3**
	baz=80						
NJ2	**Nanjing**	**80.21**	**307**	*e*P	**P**	**00 35 11.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
MNTX	**Cornudas Mount**	**80.22**	**53**	*e*P	**P**	**00 35 08.3**	**-2.0**
	comp=Z,30nm,2.0s						
626A	**Big Bend Ranch**	**80.32**	**56**	⇓P	**P**	**00 35 10.4**	**-0.6**
	baz=80						
PV10	**Paradox Valley**	**80.51**	**46**	*e*P	**P**	**00 35 09.1**	**-2.9**
526A	**Mary Lane Ranc**	**80.56**	**55**	⇑P	**P**	**00 35 11.9**	**-0.5**
	baz=81						
TX31	**Lajitas Ar. Si**	**80.60**	**56**	*e*P	**P**	**00 35 11.8**	**-0.7**
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**00 35 12.8**	**+0.2**
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**00 35 12.8**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=237,slow=5.0,SNR=8.5						
TXAR				LR	LR	01 04 30.5	
	comp=Z,61nm,18.4s,baz=0.0,slow=31						
PV01	**Paradox Valley**	**80.72**	**46**	*e*P	**P**	**00 35 11.4**	**-1.7**
ANMO	**Albuquerque**	**80.80**	**50**	*e*P	**P**	**00 35 11.9**	**-1.6**
	comp=Z,93nm,3.0s						
225A	**Deer Hill, Car**	**80.82**	**53**	⇓P	**P**	**00 35 13.3**	**-0.4**
	baz=81						
426A	**McDonald Obser**	**80.85**	**55**	⇓P	**P**	**00 35 14.2**	**+0.2**
	baz=81,SNR=6.0						
627A	**Terlingua Ranc**	**80.87**	**56**	⇓P	**P**	**00 35 13.2**	**-0.8**
	baz=81						
V22A	**San Miguel Ran**	**80.89**	**49**	⇑P	**P**	**00 35 14.2**	**+0.1**
	baz=81						
527A	**Woodward Ranch**	**80.97**	**55**	⇑P	**P**	**00 35 14.6**	**0.0**
	baz=81						
Y24A	**Capitan**	**81.12**	**51**	⇑P	**P**	**00 35 15.5**	**+0.2**
	baz=81,SNR=5.9						
CN2	**Changchun**	**81.13**	**320**	*e*P	**P**	**00 35 16.5**	**+1.6**
CN2				*es*P	sP	00 35 24.3	+4.9
CN2				*e*S	**S**	**00 45 24.8**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
U22A	**Llaves**	**81.14**	**49**	⇑P	**P**	**00 35 15.9**	**+0.5**
	baz=81						
125A	**Gardner Draw,**	**81.18**	**53**	⇑P	**P**	**00 35 15.8**	**+0.2**
	baz=81						
MCMT	**McKenzie Canyo**	**81.26**	**39**	*e*P	**P**	**00 35 14.0**	**-1.9**
628A	**Black Gap, Mar**	**81.29**	**56**	⇓P	**P**	**00 35 16.6**	**+0.5**
	baz=81						
226B	**Tecolote Peak,**	**81.32**	**53**	⇓P	**P**	**00 35 16.4**	**+0.1**
	baz=81,SNR=5.6						
V23A	**Ortiz Mt. (NFS**	**81.35**	**49**	⇓P	**P**	**00 35 16.4**	**-0.1**
	baz=81						
X24A	**Lazy VL Ranch,**	**81.39**	**51**	⇑P	**P**	**00 35 16.5**	**-0.3**
	baz=82						
427A	**Hayter Ranch,**	**81.42**	**55**	⇓P	**P**	**00 35 17.0**	**+0.2**
	baz=82						
U23A	**El Rito**	**81.60**	**49**	⇓P	**P**	**00 35 17.8**	**-0.1**
	baz=82						
528A	**Cox Ranch, San**	**81.63**	**56**	⇓P	**P**	**00 35 18.3**	**+0.3**
	baz=82						
Y25A	**Mesa, Roswell**	**81.68**	**52**	⇑P	**P**	**00 35 17.9**	**-0.3**
	baz=82						
MSO	**Missoula**	**81.69**	**37**	⇑P	**P**	**00 35 18.0**	**+0.1**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.69**	**50**	⇑P	**P**	**00 35 17.9**	**-0.4**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.77**	**47**	⇓P	**P**	**00 35 19.3**	**+0.5**
	baz=82,SNR=8.0						
O20A	**White River Ci**	**81.88**	**45**	⇑P	**P**	**00 35 19.0**	**-0.2**
	baz=82						
428A	**Kincaid Ranch,**	**81.94**	**55**	⇑P	**P**	**00 35 19.6**	**0.0**
	baz=82						
Z26A	**Caprock**	**81.95**	**52**	⇑P	**P**	**00 35 19.1**	**-0.5**
	baz=82,SNR=6.7						
X25A	**Clemmons Ranch**	**81.95**	**51**	⇑P	**P**	**00 35 19.6**	**-0.1**
	baz=82						
V24A	**Rampart Ranch,**	**82.01**	**50**	⇓P	**P**	**00 35 20.2**	**+0.2**
	baz=82						
529A	**Stev Forest Ra**	**82.07**	**56**	⇓P	**P**	**00 35 19.7**	**-0.6**
	baz=82						
328A	**Wristen Ranch,**	**82.10**	**55**	⇓P	**P**	**00 35 20.4**	**+0.1**
	baz=82						
I17A	**Pilgrim Ck.**	**82.19**	**40**	⇓P	**P**	**00 35 21.4**	**+0.6**
	baz=82						
N20A	**Spence Gulch,**	**82.19**	**44**	⇑P	**P**	**00 35 21.1**	**+0.2**
	baz=82						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**00 35 20.9**	**-0.3**
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**00 35 20.9**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=218,slow=4.7,SNR=11						
PDAR				LR	LR	01 06 47.7	
	comp=Z,62nm,18.3s,baz=267,slow=32						
SMCO	**Snowmass**	**82.31**	**46**	*e*P	**P**	**00 35 20.1**	**-1.6**
	comp=Z,4.4nm,0.9s						
COLA	**College**	**82.39**	**11**	⇑*e*P	**P**	**00 35 22.0**	**+1.0**
COLA				pmax	pmax		
	comp=Z,22nm,1.1s						
W25A	**X Bar L Ranch,**	**82.39**	**50**	⇑P	**P**	**00 35 21.9**	**0.0**
	baz=82						
H17A	**Grant Village**	**82.43**	**40**	⇓P	**P**	**00 35 23.1**	**+1.0**
	baz=82						
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**00 35 20.8**	**-0.6**
ILAR	**Eielson Array**	**82.47**	**11**	P	**P**	**00 35 20.8**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=193,slow=6.2,SNR=8.9						
ILAR				LR	LR	01 04 58.5	
	comp=Z,75nm,19.6s,baz=210,slow=31						
IL1	**Eielson Array**	**82.47**	**11**	*e*P	**P**	**00 35 20.6**	**-0.9**
T24B	**San Luis**	**82.50**	**48**	⇑P	**P**	**00 35 23.7**	**+1.0**
	baz=83						
429A	**Davenport Ranc**	**82.52**	**56**	⇓P	**P**	**00 35 22.6**	**0.0**
	baz=83						
V25A	**Rancho No Teng**	**82.54**	**50**	⇑P	**P**	**00 35 23.2**	**+0.5**
	baz=83,SNR=5.2						
228A	**UT Block 9, Go**	**82.56**	**54**	⇑P	**P**	**00 35 23.3**	**+0.5**
	baz=83						
P22A	**Eagle**	**82.65**	**46**	⇓P	**P**	**00 35 23.0**	**-0.3**
	baz=83						
R23A	**Moffat**	**82.67**	**47**	⇓P	**P**	**00 35 23.7**	**+0.2**
	baz=83						
329A	**Wagon Wheel Ra**	**82.79**	**55**	⇓P	**P**	**00 35 23.4**	**-0.5**
	baz=83						
Y27A	**Causey**	**82.82**	**52**	⇓P	**P**	**00 35 23.7**	**-0.5**
	baz=83						
J19A	**Crowheart**	**82.83**	**42**	⇑P	**P**	**00 35 24.0**	**-0.1**
	baz=83						
128A	**Castleberry Fa**	**82.84**	**53**	⇑P	**P**	**00 35 24.2**	**-0.1**
	baz=83						
S24A	**Houchin Ranch,**	**82.87**	**48**	⇑P	**P**	**00 35 24.4**	**-0.2**
	baz=83						
U25A	**Circle Dot Ran**	**82.93**	**49**	⇑P	**P**	**00 35 24.2**	**-0.5**
	baz=83						
QIZ	**Qiongzhong**	**82.95**	**292**	P	**P**	**00 35 25.9**	**+0.9**
QIZ				S	**S**	**00 45 44.6**	**+0.2**
O22A	**Kremmling**	**83.05**	**45**	⇓P	**P**	**00 35 25.1**	**-0.4**
	baz=83						
430A	**Baggett Ranch,**	**83.11**	**56**	⇑P	**P**	**00 35 25.0**	**-0.7**
	baz=83						
631A	**Perdido Creek**	**83.12**	**57**	⇑P	**P**	**00 35 25.1**	**-0.6**
	baz=83						
H18A	**Shoshone NF, C**	**83.14**	**40**	⇑P	**P**	**00 35 24.8**	**-0.9**
	baz=83						
P23A	**Jefferson**	**83.19**	**46**	⇓P	**P**	**00 35 26.1**	**-0.2**
	baz=83						
832A	**Faith Ranch, C**	**83.20**	**58**	⇑P	**P**	**00 35 25.4**	**-0.7**
	baz=83						
R24A	**Sanders Place,**	**83.20**	**47**	⇑P	**P**	**00 35 26.6**	**+0.4**
	baz=83						
T25A	**Trinidad**	**83.24**	**49**	⇓P	**P**	**00 35 26.1**	**-0.2**
	baz=83						
I19A	**Meeteetse**	**83.24**	**41**	⇓P	**P**	**00 35 26.4**	**+0.2**
	baz=83						
W27A	**Bowe Ranch, En**	**83.37**	**51**	⇑P	**P**	**00 35 26.7**	**-0.3**
	baz=83						
N22A	**Wattenberg Ran**	**83.40**	**45**	⇓P	**P**	**00 35 26.7**	**-0.5**
	baz=84,SNR=5.9

baz=85
F20A Billings 84.62 40 ⇑P P 00 35 33.4 +0.3
baz=85
Q26A Hugo 84.62 47 ⇑P P 00 35 33.5 +0.1
baz=85
EGMT Eagleton 84.74 37 ⇓P P 00 35 33.6 0.0
baz=85
H21A Big Horn, Sher 84.76 41 ⇓P P 00 35 34.2 +0.4
baz=85
I22A 9 Mile Ranch, 84.78 42 ⇓P P 00 35 33.6 -0.4
baz=85
232A Coleman 84.78 55 ⇑P P 00 35 33.9 -0.3
baz=85
433A Art 84.81 56 ⇓P P 00 35 33.9 -0.4
baz=85
D19A Cripps Ranch, 84.83 38 ⇓P P 00 35 34.8 +0.7
baz=85
R27A Eads 84.88 48 ⇑P P 00 35 34.7 +0.2
baz=85
Z31A Sharp Cattle R 84.92 54 ⇓P P 00 35 34.7 -0.1
baz=85
E20A Meyer Farm, Mu 84.96 39 ⇑P P 00 35 35.3 +0.5
baz=85
C19A Slack Wire Ran 85.01 38 ⇑P P 00 35 35.8 +0.8
baz=85,SNR=5.9
534A Blanco 85.05 57 ⇑P P 00 35 34.9 -0.6
baz=85
ABTX Abilene, Hawle 85.06 54 *e*P P 00 35 33.5 -2.0
ABTX Abilene, Hawle 85.06 54 ⇑P P 00 35 35.0 -0.5
baz=85
333A Richland Sprin 85.10 56 ⇑P P 00 35 35.6 -0.1
baz=85
D20A Manuel Ranch, 85.24 39 ⇑P P 00 35 36.2 +0.1
baz=85
Z32A Haskell 85.44 54 ⇑P P 00 35 36.7 -0.7
baz=86
434A Burnet 85.49 57 ⇑P P 00 35 37.5 -0.2
baz=86
BJI Beijing 85.51 313 P P 00 35 39.3 +1.8
BJI pmax pmax
comp=Z,6.0nm,0.8s
R28A Tribune 85.61 48 ⇓P P 00 35 37.6 -0.6
baz=86
C20A Veseth Ranch, 85.61 38 ⇓P P 00 35 38.5 +0.6
baz=86
133A Hamilton Ranch 85.62 55 ⇓P P 00 35 38.1 -0.3
baz=86
334A Lometa 85.70 56 ⇓P P 00 35 38.7 0.0
baz=86
Y32A R-V Farms, Ver 85.72 53 ⇓P P 00 35 38.6 -0.2
baz=86
A19A Klindworth Far 85.77 37 ⇓P P 00 35 38.9 +0.1
baz=86
W31A Holland Ranch, 85.78 52 ⇑P P 00 35 39.4 +0.4
baz=86
A20A Cobblestone Ra 86.22 37 ⇑P P 00 35 41.2 +0.3
baz=86
W32A Sentinel 86.28 52 ⇑P P 00 35 41.5 0.0
baz=86
F23A Volborg 86.28 41 ⇓P P 00 35 41.9 +0.6
baz=86
H24A Dirks Ranch, A 86.40 42 ⇑P P 00 35 41.7 -0.2
baz=86
MAW Mawson 87.77 199 P P 00 35 49.4 +1.2
MAW Mawson 87.77 199 P P 00 35 49.4 +1.2
comp=Z,8.0nm,0.7s,baz=161,slow=6.3,SNR=3.9
MAW LR LR 01 12 48.4
comp=Z,88nm,19.7s,baz=120,slow=34
GYA Guiyang 88.09 298 P P 00 35 50.0 -0.6
GYA PP **PP** 00 39 19.4 +1.8
GYA SKS **SKSac** 00 46 16.3 -3.5
GYA S **S** 00 46 33.0 -2.1
GYA SS **SS** 00 52 25.4 +1.6
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,540nm,20.8s
GYA LR LR
comp=Z,480nm,21.4s
GYA LR LR
comp=Z,510nm,20.6s
HHC Hu-ho-hao-te 89.07 313 *e*P P 00 35 55.8 +0.9
HHC sP sP 00 36 04.8 +5.4
HHC PP PP 00 39 31.6 +6.5
HHC SKS **SKSac** 00 46 20.4 -4.6
HHC S **ScS** 00 46 46.4 -2.5
HHC pmax pmax
comp=Z,48nm,1.2s
HHC pmax pmax
comp=Z,250nm,7.5s
HHC LR LR
comp=Z,390nm,17.9s
HHC LR LR
comp=Z,420nm,17.7s
HHC LR LR
comp=Z,220nm,17.2s
PLCA Paso Flores 89.47 132 LR LR 01 06 45.8
comp=Z,65nm,20.6s,baz=262,slow=29
YKA Yellowknife Ar 90.11 23 P P 00 35 59.0 -0.1
YKA Yellowknife Ar 90.11 23 P P 00 35 59.0 -0.1
comp=Z,0.7nm,1.0s,baz=237,slow=5.0,SNR=7.9
CMAR Chiang Mai Arr 92.66 288 LR LR 01 12 10.3
comp=Z,32nm,19.9s,baz=138,slow=32
ULM Lac du Bonnet 92.94 39 LR LR 01 13 36.1
comp=Z,81nm,19.9s,baz=356,slow=32
SONM Songino Array 94.89 318 LR LR 01 13 14.9
comp=Z,62nm,21.9s,baz=62,slow=32
LPAZ La Paz 99.77 110 LR LR 01 11 07.9
comp=Z,56nm,21.6s,baz=307,slow=29
WMQ Urumqi 106.91 312 Pdif **Pdif** 00 37 16.1 +0.5
WMQ PP **PP** 00 41 45.0 +3.1
WMQ AMB AMB
comp=Z,19nm,6.8s
WMQ LR LR
comp=Z,39nm,18.4s
KSH Kashi 115.52 307 *e*PKP **PKPdf** 00 41 42.9 +1.0
KSH *e*PP **PP** 00 42 44.4 +0.5
KSH *e*SKS **SKSdf** 00 48 50.3 -4.1
KSH AMB AMB
comp=Z,64nm,4.0s
KSH LR LR
comp=Z,67nm,4.7s
KSH LR LR
comp=Z,26nm,3.5s
KSH LR LR
comp=Z,25nm,4.0s
ARU Arti 123.38 328 *i* PKIKP **PKPdf** 00 41 56.3 0.0
ARU 00 43 37.7
ARU 00 48 56.0
FINES FINESS Array B 131.98 348 PKP **PKPdf** 00 42 12.4 -0.1
FINES FINESS Array B 131.98 348 PKP **PKPdf** 00 42 12.4 -0.1
comp=Z,0.8nm,0.7s,baz=304,slow=3.2,SNR=4.0
KIV Kislovodsk 138.25 320 *e*PKIKP **PKPdf** 00 42 24.8 -0.2
KIV pmax pmax
comp=Z,5.0nm,1.2s
AKASG Malin Array Be 140.38 337 PKIKP **PKPdf** 00 42 28.3 -0.2
AKASG Malin Array Be 140.38 337 PKP **PKPdf** 00 42 28.3 -0.2
AKASG Malin Array Be 140.38 337 PKP **PKPdf** 00 42 28.3 -0.2
comp=Z,0.3nm,0.4s,baz=29,slow=2.1,SNR=3.0
KWP Kalwaria Pacla 143.46 342 ⇑PKIKP PKPdf 00 42 38.0 +3.9
KWP Kalwaria Pacla 143.46 342 ⇑*i*P PKPdf 00 42 38.0 +3.9
CLL Collm 143.85 353 *e*PKIKP **PKPdf** 00 42 33.0 -1.7
CLL *e* 00 42 44.0
CLL Collm 143.85 353 *e*PKPdf **PKPdf** 00 42 33.0 -1.7
CLL *e*(pPKiKP) 00 42 44.0
STHS Stebnicka Huta 144.07 344 *e*PKIKP **PKPdf** 00 42 34.6 -0.6
STHS Stebnicka Huta 144.07 344 *e*PKP **PKPdf** 00 42 34.5 -0.6
DPC Dobruska-Polom 144.30 349 *e*PKIKP **PKPdf** 00 42 34.5 -1.1
DPC *e* 00 42 44.4
DPC Dobruska-Polom 144.30 349 *e*PKP **PKPdf** 00 42 34.5 -1.1
DPC *ex* x 00 42 44.4
BURAR Bucovina Array 144.41 338 ⇑P **PKPab** 00 42 31.6 -2.5
OKC Ostrava-Krasne 144.43 347 *e*PKIKP **PKPdf** 00 42 35.2 -0.5
OKC Ostrava-Krasne 144.43 347 *e*PKP **PKPdf** 00 42 35.2 -0.5
CRVS Cervenica-Dubn 144.47 343 *e*PKIKP **PKPdf** 00 42 35.0 -0.9
CRVS Cervenica-Dubn 144.47 343 *e*PKP **PKPdf** 00 42 35.0 -0.9
UZH Uzhgorod 144.48 342 *d i*PKIKP **PKPdf** 00 42 34.5 -1.4
UZH *i* 00 42 44.5
TRPA Tarpa 144.85 341 ⇓*i*P **PKPdf** 00 42 36.1 -0.4
KECS Kecovo 145.12 344 *e*PKIKP **PKPdf** 00 42 37.3 +0.3
KECS Kecovo 145.12 344 *e*PKP **PKPdf** 00 42 37.3 +0.3
VRI Vrincioaia 145.29 335 ⇑PKP2 **PKPdf** 00 42 37.0 -0.4
VRI Vrincioaia 145.29 335 ⇑*i*P **PKPdf** 00 42 37.0 -0.4
TREC Trest 145.46 350 *e*PKP2 **PKPdf** 00 42 37.9 +0.3
TREC Trest 145.46 350 *e*PKP **PKPdf** 00 42 37.9 +0.3
KMBO Kilima Mbogo 145.55 244 *e*PKPdf **PKPdf** 00 42 36.7 -2.4
KMBO Kilima Mbogo 145.55 244 PKPbc **PKPab** 00 42 39.9 +0.4
comp=Z,1.3nm,0.5s,baz=60,slow=2.9,SNR=5.7
GRF Grafenberg Arr 145.63 355 *e*PKP **PKPab** 00 42 38.5 +0.2
DOPR Dopca 145.73 337 ⇓*i*P **PKPab** 00 42 39.2 +0.3
MLR Muntele Rosu 145.91 335 ⇓*i*P **PKPab** 00 42 39.3 -0.4
MLR Muntele Rosu 145.91 335 PKPbc **PKPab** 00 42 39.6 -0.1
MLR Muntele Rosu 145.91 335 PKPbc **PKPab** 00 42 39.6 -0.1
comp=Z,2.0nm,1.0s,baz=169,slow=5.2,SNR=6.5
KHC Kasperske Hory 145.91 352 *e*PKIKP **PKPab** 00 42 38.0 -1.4
KHC Kasperske Hory 145.91 352 *e*PKP **PKPab** 00 42 39.6 +0.1
KHC *ex* x 00 42 49.4
KHC Kasperske Hory 145.91 352 *e*PKPdf **PKPab** 00 42 38.0 -1.4
DRGR 145.98 340 ⇑PKP2 **PKPab** 00 42 39.3 -0.5
DRGR 145.98 340 ⇑*i*P **PKPab** 00 42 39.3 -0.5
GERES GERESS Array B 146.18 352 PKPbc **PKPab** 00 42 39.5 -1.1
GERES GERESS Array B 146.18 352 PKPbc **PKPab** 00 42 39.5 -1.1
comp=Z,1.2nm,0.8s,baz=35,slow=3.6,SNR=11
BRTR Keskin Array B 146.20 321 PKPbc **PKPab** 00 42 40.3 -0.7
BRTR Keskin Array B 146.20 321 PKPbc **PKPab** 00 42 40.3 -0.7
comp=Z,2.5nm,0.9s,baz=46,slow=4.2,SNR=7.3
VOIR 146.31 336 ⇓PKP2 **PKPab** 00 42 41.5 +0.4
VOIR 146.31 336 ⇓*i*P **PKPab** 00 42 41.5 +0.4
BR231 Keskin MP Arra 146.65 322 *e*PKPdf **PKPdf** 00 42 39.0 -1.0
CSNA Conrad Observa 146.71 349 ⇑*i*pPKPbc pPKPbc 00 42 42.3 -2.6
comp=Z,4.8nm,1.2s
SIRR Siria 146.78 341 ⇑*i*P **PKPab** 00 42 42.1 -0.7
GZR Gura Zlata 147.18 339 ⇓PKIKP **PKPab** 00 42 43.1 -1.4
GZR Gura Zlata 147.18 339 ⇓*i*P **PKPab** 00 42 43.1 -1.4
BZS Buzias 147.38 340 ⇑PKP2 **PKPab** 00 42 43.6 -1.6
BZS Buzias 147.38 340 ⇑*i*P **PKPab** 00 42 43.6 -1.6
DAVA Damuels 148.12 356 ⇑*i*PKiKP **PKiKP** 00 42 45.7 -1.6
comp=Z,6.2nm,1.1s
FUORN Ofenpass-Fuorn 148.76 355 *e*PKPdf **PKPdf** 00 42 42.1 -1.4

IDC 23 00:25:39.7±2.2,7°33S×127°38E,h0km,mb3.2/1, mb1 3.4/3,mb1mx3.2/31,mbtmp3.2/3,ML3.6/2,MS3.3/1, Ms1 3.5/1,ms1mx2.7/10,Error ellipse: s-maj=255.6km s-min=32.3km az=64.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**152**	Pn	Pn	00 29 02.5	-0.3
	0.3nm,0.3s,baz=330,slow=13,SNR=4.5						
WRA				Sn	Sn	00 31 26.5	-15
	0.3nm,0.3s,baz=332,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.41**	**160**	P	Pn	00 29 44.1	-0.1
	0.1nm,0.3s,baz=336,slow=11,SNR=7.2						
CMAR	**Chiang Mai Arr**	**37.99**	**313**	LR	LR	00 50 58.4	
	comp=Z,38nm,18.1s,baz=236,slow=40						
MKAR	**Makanchi Array**	**67.10**	**328**	P	P	00 36 35.2	+0.1
	0.1nm,0.4s,baz=113,slow=6.6,SNR=5.0						

*IDC **23** 00:29:05.8±1.1,32°.42N×3°.09W,h0km,mb3.2/1,mb1 3.2/4, mb1mx3.1/50,mbtmp3.2/4,ML3.4/3,Error ellipse: s-maj=17.9km s-min=11.2km az=48.0*
*CNRM **23** 00:29:07.7,32°.30N×2°.68W,h30km,MD3.7*
*CRAAG **23** 00:29:07.0,32°.52N×3°.24W,Mb3.7*
*SFS **23** 00:29:07.0,32°.52N×3°.73W,h0km,ML3.7*
*INMG **23** 00:29:08.6±0.8,32°.61N×3°.36W,h0km,ML2.8,Error ellipse: s-maj=5.6km s-min=4.9km az=53.0*
*MDD **23** 00:29:09.0±1.2,32°.63N×3°.12W,h0km,mb3.7/13,Error ellipse: s-maj=14.6km s-min=5.1km az=129.0,PRXIMO*
*IGIL **23** 00:29:08.4,32°.52N×3°.24W,h0km,ML2.6*
*CSEM **23** 00:29:09.4±0.4,32°.79N×3°.31W,h0km,mb3.7,Error ellipse: s-maj=8.7km s-min=4.2km az=127.0*

ISC 23 00:29:08.9±0.8,32°.70N±0°.03×3°.18W±0°.04,h10km,n84, σ1ᵍ56/137,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFT	**Errachidia**	**1.19**	**237**	P	Pb	**00 29 31.0**	**-0.7**
ZFT				S	Sb	**00 29 48.0**	**+0.8**
ZFT	**Errachidia**	**1.19**	**237**	*i* P	Pb	**00 29 31.0**	**-0.7**
ZFT				*i* S	Sb	**00 29 48.0**	**+0.8**
MDT	**Midelt**	**1.21**	**276**	Pg	Pn	**00 29 31.4**	**-0.7**
	97nm,0.3s,baz=96,slow=18,SNR=1799						
MDT				Lg	Lg	00 29 49.1	
	119nm,0.3s,baz=315,slow=16,SNR=25						
MDT				LR	LR	00 30 10.8	
	comp=Z,101nm,21.2s,baz=152,slow=48						
MIF	**Mishlifen**	**1.86**	**293**	P	Pn	**00 29 43.0**	**+2.0**
MIF				S	Sg	**00 30 11.0**	**+2.2**
MIF	**Mishlifen**	**1.86**	**293**	P	Pn	**00 29 43.0**	**+2.0**
MIF				*i* S	Sg	**00 30 11.0**	**+2.2**
TGT	**Taghat**	**2.08**	**312**	P	Pb	**00 29 48.0**	**+1.2**
TGT				S	Sg	**00 30 19.0**	**+3.2**
TGT	**Taghat**	**2.08**	**312**	P	Pb	**00 29 48.0**	**+1.2**
ZAI	**Zaio**	**2.30**	**9**	P	Pn	**00 29 48.0**	**+1.1**
ZAI				S	Sn	**00 30 16.0**	**+0.8**
ZAI	**Zaio**	**2.30**	**9**	P	Pn	**00 29 48.0**	**+1.1**
ZAI				S	Sn	**00 30 16.0**	**+0.8**
TOU	**Touzarine**	**2.31**	**348**	P	Pn	**00 29 50.0**	**+2.9**
TOU				S	Sb	**00 30 19.0**	**-0.3**
TOU	**Touzarine**	**2.31**	**348**	P	Pn	**00 29 50.0**	**+2.9**
TOU				S	Sb	**00 30 19.0**	**-0.3**
KIB	**El Ksiba**	**2.42**	**268**	P	Pn	**00 29 49.0**	**+0.5**
KIB				S	Sn	**00 30 20.0**	**+1.8**
KIB	**El Ksiba**	**2.42**	**268**	P	Pn	**00 29 49.0**	**+0.5**
KIB				S	Sn	**00 30 20.0**	**+1.8**
EMEL	**Melilla**	**2.60**	**4**	P	Pn	**00 29 52.2**	**+1.2**
	22nm,0.2s						
EMEL				S	Sn	**00 30 24.7**	**+2.0**
	5.9nm,0.1s,SNR=5.4						
EMLI	**Melilla**	**2.60**	**4**	P	Pn	**00 29 52.2**	**+1.2**
	22nm,0.2s						
EMLI				S	Sn	**00 30 24.7**	**+2.0**
	5.9nm,0.1s,SNR=5.4						
TZC	**Tazercounte**	**2.85**	**260**	P	Pn	**00 29 54.0**	**-0.6**
TZC				S	Sn	**00 30 30.0**	**+0.9**
TZC	**Tazercounte**	**2.85**	**260**	P	Pn	**00 29 54.0**	**-0.6**
TZC				S	Sn	**00 30 30.0**	**+0.9**
ODJA	**Bouhanifia**	**3.64**	**43**	P	Sg	00 31 20.0	+14
ODJA	**Bouhanifia**	**3.64**	**43**	P	Sg	00 31 20.0	+14
ODJA	**Bouhanifia**	**3.64**	**43**	P	Sg	00 31 20.0	+14
USTO	**Oran**	**3.73**	**35**	P	Sg	00 31 12.0	+3.3
USTO	**Oran**	**3.73**	**35**	P	Sg	00 31 12.0	+3.3
EMIJ	**Mijas**	**4.08**	**342**	P	Pn	**00 30 12.0**	**+0.7**
	0.2nm,0.1s,SNR=6.5						
EMIJ				S	Sn	**00 30 59.0**	**-0.1**
	5.7nm,0.4s						
EMIJ	**Mijas**	**4.08**	**342**	P	Pn	**00 30 12.0**	**+0.7**
	0.2nm,0.1s,SNR=6.5						
EMIJ				S	Sn	**00 30 59.0**	**-0.1**
	5.7nm,0.4s						
EGUA	**Guajares**	**4.14**	**356**	P	Pn	**00 30 11.9**	**-0.2**
	3.4nm,0.2s,SNR=7.9						
EGUA				S	Sn	**00 30 58.3**	**-2.3**
	1.7nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**4.14**	**356**	P	Pn	**00 30 11.9**	**-0.2**
	3.4nm,0.2s,SNR=7.9						
EGUA				S	Sn	**00 30 58.3**	**-2.3**
	1.7nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**4.18**	**346**	P	Pn	**00 30 12.7**	**0.0**
EMAL				S	Sn	**00 30 58.4**	**-3.3**
EMAL	**Malaga-Limoner**	**4.18**	**346**	P	Pn	**00 30 12.7**	**0.0**
EMAL				S	Sn	**00 30 58.4**	**-3.3**
EBER	**Berja**	**4.20**	**3**	P	Pn	**00 30 14.7**	**+1.6**
	0.6nm,0.2s,SNR=12						
EBER				S	Sn	**00 31 01.9**	**-0.4**
	16nm,0.4s,SNR=7.3						
EBER	**Berja**	**4.20**	**3**	P	Pn	**00 30 14.7**	**+1.6**
	0.6nm,0.2s,SNR=12						
EBER				S	Sn	**00 31 01.9**	**-0.4**
	16nm,0.4s,SNR=7.3						
OUK	**Oukaimeden**	**4.25**	**251**	P	Pn	**00 30 16.0**	**+2.0**
OUK				S	Sn	**00 31 03.0**	**-0.8**
OUK	**Oukaimeden**	**4.25**	**251**	P	Pn	**00 30 16.0**	**+2.0**
OUK				S	Sn	**00 31 03.0**	**-0.8**
EQUE	**Quentar**	**4.50**	**357**	P	Pn	**00 30 19.6**	**+2.4**
	1.2nm,0.1s,SNR=7.7						
EQUE	**Quentar**	**4.50**	**357**	P	Pn	**00 30 19.6**	**+2.4**
	1.2nm,0.1s,SNR=7.7						
ECOG	**Cogollos-Vega**	**4.58**	**356**	P	Pn	**00 30 18.9**	**+0.6**
	0.6nm,0.1s,SNR=9.9						
ECOG	**Cogollos-Vega**	**4.58**	**356**	P	Pn	**00 30 18.9**	**+0.6**
	0.6nm,0.1s,SNR=9.9						
OKGL	**Djebel Kef Gue**	**4.59**	**42**	P	Pn	**00 30 17.9**	**-0.5**
	3.7nm,0.1s,SNR=7.9						
OKGL				S	Sn	**00 31 12.6**	**+0.7**
	64nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**4.59**	**42**	P	Pn	**00 30 17.9**	**-0.5**
	3.7nm,0.1s,SNR=7.9						
OKGL				S	Sn	**00 31 12.6**	**+0.7**
	64nm,0.3s,SNR=7.9						
CIA	**Chichaoua**	**4.87**	**258**	P	Pn	**00 30 22.0**	**-0.1**
CIA				S	Sn	**00 31 19.0**	**+0.4**
CIA	**Chichaoua**	**4.87**	**258**	P	Pn	**00 30 22.0**	**-0.1**
CIA				S	Sn	**00 31 19.0**	**+0.4**
EQES	**Quesada**	**5.10**	**1**	P	Pn	**00 30 26.8**	**+1.4**
	0.6nm,0.2s,SNR=12						
EQES				S	Sn	**00 31 24.6**	**+0.3**
	3.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.10**	**1**	P	Pn	**00 30 26.8**	**+1.4**
	0.6nm,0.2s,SNR=12						
EQES				S	Sn	**00 31 24.6**	**+0.3**
	3.6nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.13**	**5**	P	Pn	**00 30 26.8**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EHUE				S	Sn	**00 31 25.3**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.13**	**5**	P	Pn	**00 30 26.8**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EHUE				S	Sn	**00 31 25.3**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.58**	**349**	P	Pn	**00 30 31.9**	**0.0**
	0.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.58**	**349**	P	Pn	**00 30 31.9**	**0.0**
	SNR=7.9						
ECAB	**El Cabril**	**5.67**	**342**	P	Pn	**00 30 33.9**	**+0.7**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	Sn	**00 31 37.6**	**-0.8**
	0.1nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**5.67**	**342**	P	Pn	**00 30 33.9**	**+0.7**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	Sn	**00 31 37.6**	**-0.8**
	0.1nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.81**	**332**	P	Pn	**00 30 35.7**	**+0.6**
	0.4nm,0.1s,SNR=14						
EMIN				S	Sn	**00 31 39.8**	**-2.0**
	1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.81**	**332**	P	Pn	**00 30 35.7**	**+0.6**
	0.4nm,0.1s,SNR=14						
EMIN				S	Sn	**00 31 39.8**	**-2.0**
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.98**	**325**	P	Pn	**00 30 36.4**	**-1.0**
	1.3nm,0.1s,SNR=12						
EGRO				S	Sn	**00 31 43.7**	**-2.1**
	2.7nm,0.3s,SNR=5.3						
EGRO	**El Granado**	**5.98**	**325**	P	Pn	**00 30 36.4**	**-1.0**
	1.3nm,0.1s,SNR=12						
EGRO				S	Sn	**00 31 43.7**	**-2.1**
	2.7nm,0.3s,SNR=5.3						
PBDV	**Barranco-do-Ve**	**5.98**	**321**	*e*P	Pn	**00 30 37.4**	**-0.1**
PBDV				*e*S	Sn	**00 31 43.9**	**-2.1**
PBDV				A	A	00 31 51.9	
	4.2nm,1.0s						
PBDV	**Barranco-do-Ve**	**5.98**	**321**	P	Pn	**00 30 37.4**	**-0.1**
PBDV				S	Sn	**00 31 43.9**	**-2.1**
	4.2nm,1.0s						
PBDV	**Barranco-do-Ve**	**5.98**	**321**	P	Pn	**00 30 37.4**	**-0.1**
PBDV				*e*S	Sn	**00 31 43.9**	**-2.1**
	4.2nm,1.0s						
PVAQ	**Vaqueiros**	**5.99**	**323**	*e*P	Pn	**00 30 36.5**	**-1.1**
PVAQ				*e*S	Sn	**00 31 44.3**	**-1.9**
PVAQ				A	A	00 31 50.5	
	7.6nm,0.5s						
PVAQ	**Vaqueiros**	**5.99**	**323**	P	Pn	**00 30 36.5**	**-1.1**
PVAQ				S	Sn	**00 31 44.3**	**-1.9**
	7.6nm,0.5s						
PVAQ	**Vaqueiros**	**5.99**	**323**	P	Pn	**00 30 36.5**	**-1.1**
PVAQ				*e*S	Sn	**00 31 44.3**	**-1.9**
	7.6nm,0.5s						
ETOB	**Tobarra**	**6.08**	**12**	P	Pn	**00 30 41.7**	**+2.8**
	0.1nm,0.2s,SNR=7.9						
ETOB				S	Sn	**00 31 46.5**	**-2.1**
	0.1nm,0.2s,SNR=5.7						
MESJ	**Messejana**	**6.58**	**323**	*e*P	Pn	**00 30 45.0**	**-0.7**
MESJ				*e*S	Sn	**00 31 56.2**	**-4.6**
MESJ				AML	AML	00 32 04.7	
	comp=E,4.9nm,0.4s						
MESJ	**Messejana**	**6.58**	**323**	*e*P	Pn	**00 30 45.0**	**-0.7**
MESJ				*e*S	Sn	**00 31 56.2**	**-4.6**
MESJ	**Messejana**	**6.58**	**323**	P	Pn	**00 30 45.0**	**-0.7**
MESJ				S	Sn	**00 31 56.2**	**-4.6**
MESJ	**Messejana**	**6.58**	**323**	P	Pn	**00 30 45.0**	**-0.7**
PTEO	**Sao Teotonio**	**6.63**	**318**	*e*P	Pn	**00 30 46.4**	**0.0**
PTEO	**Sao Teotonio**	**6.63**	**318**	P	Pn	**00 30 46.4**	**0.0**
PTEO	**Sao Teotonio**	**6.63**	**318**	P	Pn	**00 30 46.4**	**0.0**
EBAD	**Badajoz**	**6.80**	**334**	P	Pn	**00 30 48.7**	**0.0**
	comp=E,1.1nm,0.2s,SNR=12						
EBAD				S	Sn	**00 32 05.0**	**-1.2**
	comp=E,0.6nm,0.2s,SNR=4.7						
EBAD	**Badajoz**	**6.80**	**334**	P	Pn	**00 30 48.7**	**0.0**
	comp=E,1.1nm,0.2s,SNR=12						
EBAD				S	Sn	**00 32 05.0**	**-1.2**
	comp=E,0.6nm,0.2s,SNR=4.7						
PNCL	**Nicolau / Gran**	**6.95**	**323**	*e*P	Pn	**00 30 50.5**	**-0.2**
PNCL				*e*S	Sn	**00 32 07.4**	**-2.3**
PNCL				A	A	00 32 12.9	
	comp=E,3.6nm,0.4s						
PNCL	**Nicolau / Gran**	**6.95**	**323**	*e*P	Pn	**00 30 50.5**	**-0.2**
PNCL				*e*S	Sn	**00 32 07.4**	**-2.3**
	comp=E,3.6nm,0.4s						
ESDC	**Sonseca Array**	**6.99**	**355**	Pn	Pn	**00 30 52.4**	**+1.1**
	comp=E,0.3nm,0.3s,baz=178,slow=12,SNR=8.5						
ESDC				Sn	Sb	00 32 26.5	-7.5
	comp=E,0.3nm,0.3s,baz=168,slow=26,SNR=3.3						
EVO	**Evora**	**7.03**	**327**	*e*P	Pn	**00 30 51.3**	**-0.5**
EVO				*e*S	Sn	**00 32 08.9**	**-2.8**
EVO				A	A	00 32 21.2	
	comp=E,3.1nm,0.2s						
EVO	**Evora**	**7.03**	**327**	P	Pn	**00 30 51.3**	**-0.5**
EVO				S	Sn	**00 32 08.9**	**-2.8**
	comp=E,3.1nm,0.2s						
EVO	**Evora**	**7.03**	**327**	P	Pn	**00 30 51.3**	**-0.5**
EVO				*e*S	Sn	**00 32 08.9**	**-2.8**
	comp=E,3.1nm,0.2s						
PESTR	**Estremoz**	**7.12**	**331**	*e*P	Pn	**00 30 53.1**	**0.0**
PESTR				*e*S	Sn	**00 32 12.3**	**-1.8**
PESTR				A	A	00 32 17.1	
	comp=E,3.0nm,0.5s						
PESTR	**Estremoz**	**7.12**	**331**	*e*P	Pn	**00 30 53.1**	**0.0**
PESTR				*e*S	Sn	**00 32 12.3**	**-1.8**
	comp=E,3.0nm,0.5s						
PMRV	**Marv??o**	**7.53**	**334**	*e*P	Pn	**00 30 59.0**	**+0.2**
PMRV	**Marv??o**	**7.53**	**334**	P	Pn	**00 30 59.0**	**+0.2**
PMRV	**Marv??o**	**7.53**	**334**	P	Pn	**00 30 59.0**	**+0.2**
PMTG	**Montargil**	**7.56**	**329**	*e*P	Pn	**00 30 58.7**	**-0.4**
PMTG	**Montargil**	**7.56**	**329**	*e*P	Pn	**00 30 58.7**	**-0.4**
KEST	**Kesra**	**10.80**	**70**	Pn	Pn	**00 31 42.5**	**-1.1**
	comp=E,0.1nm,0.3s,baz=311,slow=11,SNR=7.5						
KEST				Sn	Sn	**00 33 41.6**	**-3.1**
	comp=E,0.1nm,0.3s,baz=342,slow=20,SNR=3.2						
TORD	**Torodi Ar. Bea**	**19.96**	**166**	P	P	00 33 37.5	-3.8
	comp=E,0.1nm,0.3s,baz=351,slow=12,SNR=11						
TORD				S	S	00 37 19.6	-6.4
	comp=E,0.0nm,0.3s,baz=352,slow=22,SNR=3.4						
TORD				Lg	Lg	00 39 32.9	
	comp=E,0.0nm,0.3s,baz=357,slow=23,SNR=3.4						
MKAR	**Makanchi Array**	**64.13**	**50**	P	**P**	**00 39 42.7**	**-0.6**
	comp=E,0.2nm,0.7s,baz=304,slow=8.3,SNR=2.2						

*ISCJB **23** 00:45:12.5±1.8,12°.36N±0°.05×90°.52W±0°.05,h29km±15km, mb3.8/5,MS3.4/4,Error ellipse: s-maj=8.5km s-min=7.4km az=32.2*
*IDC **23** 00:45:12.6±1.4,12°.80N×90°.19W,h0km,mb3.7/6, mb1 4.0/8,mb1mx

SNET	**Serv Nac Est T**	**1.66**	**44**	AML	AML	00 45 42.6	
	comp=Z,685nm,0.4s						
BOQS	**Boqueron**	**1.66**	**41**	*eP*	**Pn**	**00 45 42.5**	**-1.1**
BOQS				*eS*	**Sn**	**00 46 05.0**	**+1.1**
IXG	**Ixpaco**	**1.69**	**358**	*eP*	**Pn**	**00 45 41.5**	**-2.4**
IXG				*eS*	**Sn**	**00 46 03.6**	**-0.8**
LFRS	**El Faro**	**1.74**	**49**	*eP*	**Pn**	**00 45 43.5**	**-1.0**
LFRS				*eS*	**Sn**	**00 46 06.8**	**+1.3**
RBDL	**Robledal**	**1.77**	**23**	*eP*	**Pn**	**00 45 44.1**	**-1.0**
LFU	**La Fuente**	**1.79**	**45**	*eP*	**Pn**	**00 45 44.1**	**-1.0**
LFU				*eS*	**Sn**	**00 46 07.2**	**+0.5**
LBS	**Las Brisas**	**1.83**	**47**	*eP*	**Pn**	**00 45 44.4**	**-1.3**
SNVI	**San Vicente**	**1.90**	**53**	*eP*	**Pn**	**00 45 45.8**	**-1.0**
NBG	**Las Nubes**	**2.10**	**2**	*eP*	**Pn**	**00 45 49.7**	**0.0**
NBG				*eS*	**Sn**	**00 46 17.6**	**+2.9**
VSM	**San Miguel**	**2.29**	**65**	*eP*	**Pn**	**00 45 51.0**	**-1.2**
APG	**El Apazote**	**2.51**	**359**	Pn	Pn	00 45 51.3	-4.0
	comp=Z,19nm,0.3s,baz=171,slow=9.2,SNR=109						
APG				Lg	Lg	00 46 23.1	
	comp=Z,14nm,0.3s,baz=85,slow=23,SNR=14						
CNCH	**Conchagua**	**2.63**	**72**	*eP*	**Pn**	**00 45 55.9**	**-0.9**
CNCH				*eS*	**Sn**	**00 46 29.2**	**+1.6**
MRL	**Marmol**	**2.66**	**15**	*eP*	**Pn**	**00 45 58.4**	**+1.0**
JTS	**JuntasAbangare**	**5.78**	**112**	Pn	**Pn**	**00 46 39.9**	**0.0**
	comp=Z,1.2nm,0.3s,baz=308,slow=18,SNR=8.3						
JTS				Sn	**Sn**	**00 47 46.6**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=291,slow=22,SNR=5.9						
TEIG	**Tepich**	**7.97**	**15**	Pn	**Pn**	**00 47 10.7**	**+0.7**
	comp=Z,3.1nm,0.3s,baz=188,slow=7.6,SNR=20						
TXAR	**Lajitas Array**	**20.82**	**326**	P	**P**	**00 49 55.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=151,slow=11,SNR=4.3						
LPIG	**La Paz**	**22.12**	**304**	LR	LR	00 57 24.6	
	comp=Z,73nm,18.5s,baz=228,slow=33						
TKL	**Tuckaleechee C**	**23.84**	**13**	P	**P**	**00 50 24.3**	**-1.6**
	comp=Z,4.2nm,0.7s,baz=184,slow=12,SNR=6.7						
TKL				LR	LR	00 59 13.6	
	comp=Z,52nm,20.0s,baz=168,slow=36						
NVAR	**Mina Array Bea**	**35.82**	**321**	P	**P**	**00 52 14.2**	**+1.9**
	comp=Z,1.4nm,1.0s,baz=125,slow=7.9,SNR=5.4						
ULM	**Lac du Bonnet**	**37.93**	**354**	P	**P**	**00 52 27.4**	**-2.4**
	comp=Z,1.6nm,0.5s,baz=170,slow=6.4,SNR=3.9						
CPUP	**Villa Florida**	**50.23**	**140**	LR	LR	01 15 29.4	
	comp=Z,62nm,18.2s,baz=256,slow=36						
YKA	**Yellowknife Ar**	**52.86**	**346**	P	**P**	**00 54 27.1**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=151,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**64.84**	**337**	P	**P**	**00 55 51.9**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=130,slow=4.3,SNR=10.0						
JMIC	**Jan Mayen**	**75.64**	**20**	LR	LR	01 28 28.8	
	comp=Z,42nm,21.4s,baz=48,slow=34						
CMAR	**Chiang Mai Arr**	**147.91**	**343**	PKPbc	**PKPbc**	**01 04 58.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=336,slow=4.0,SNR=4.7						

*IDC **23** 00:51:25.9±2.0, 6°.49S×129°.54E, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.5/26, mbtmp3.6/3, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=120.3km s-min=30.6km az=68.0*

ISC 23 00:51:43.1±4.1, 7°.1S±0°.2×129°.9E±0°.2, h104km, n7, σ2§30/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.87**	**168**	P	**Pn**	**00 53 09.8**	**+2.2**
	baz=3.7,SNR=14						
MTN				S	**Sn**	**00 54 15.5**	**+1.9**
	baz=3.7,SNR=6.3						
KDU	**Kakadu**	**6.14**	**155**	P	Pn	00 53 13.2	+1.9
	baz=4.0,SNR=94						
KDU				S	**Sn**	**00 54 21.3**	**+1.1**
	baz=4.0,SNR=7.7						
KNRA	**Kununurra**	**8.61**	**187**	P	**Pn**	**00 53 44.7**	**-0.2**
	baz=6.8,SNR=5.9						
KNRA				S	**Sn**	**00 55 19.9**	**-0.5**
	baz=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**13.51**	**162**	Pn	**Pn**	**00 54 47.8**	**-2.8**
	0.3nm,0.3s,baz=340,slow=13,SNR=11						
WRA				Sn	Sn	00 57 13.2	-6.2
	0.4nm,0.3s,baz=338,slow=22,SNR=3.1						
ASAR	**Alice Springs**	**16.95**	**167**	P	**Pn**	**00 55 32.8**	**-1.2**
	0.2nm,0.3s,baz=352,slow=13,SNR=12						
ASAR				S	**Sn**	**00 58 39.7**	**-2.7**
	0.1nm,0.3s,baz=311,slow=38,SNR=3.8						
PSI	**Prapat**	**32.39**	**287**	LR	LR	01 11 52.4	
	comp=Z,78nm,18.8s,baz=86,slow=38						
MKAR	**Makanchi Array**	**68.21**	**327**	P	P	01 02 24.2	-8.3
	0.3nm,0.4s,baz=113,slow=7.7,SNR=11						

*IDC **23** 01:06:18.8±2.6, 27°.71N×56°.28E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.3/43, mbtmp3.5/6, Error ellipse: s-maj=69.2km s-min=28.3km az=152.0*
*ISCJB **23** 01:06:20.6±0.7, 27°.92N±0°.05×56°.2E±0°.2, h16km, mb3.4/6, Error ellipse: s-maj=23.2km s-min=7.7km az=177.1*
*OMAN **23** 01:06:25.8±99.0, 27°.62N×56°.01E, h132km±211km, Error ellipse: s-maj=62.3km s-min=30.3km az=20.0*

ISC 23 01:06:21.9±0.9, 27°.77N±0°.07×56°.1E±0°.2, h16km, n11, σ1§22/12, mb3.4/6, 1C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.85**	**174**	⇓P	**Pn**	**01 06 53.6**	**+0.6**
BANOM				⇓S	**Sg**	**01 07 20.2**	**-1.3**
ASHO	**Ashiyiah**	**3.08**	**180**	⇓P	**Pn**	**01 07 11.6**	**+1.8**
ARQ	**Araqi**	**4.43**	**175**	⇓P	**Pn**	**01 07 29.9**	**+1.4**
SMDO	**Samad**	**5.02**	**159**	⇓P	**Pn**	**01 07 37.9**	**+1.2**
ABTO	**Aybut**	**10.68**	**194**	⇑P	**Pn**	**01 08 53.2**	**-1.2**
MKAR	**Makanchi Array**	**28.00**	**40**	P	**P**	**01 12 10.9**	**-1.1**
	0.1nm,0.4s,baz=218,slow=9.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**33.58**	**31**	P	**P**	**01 12 60.0**	**-1.1**
	0.6nm,0.6s,baz=249,slow=7.6,SNR=3.9						
FINES	**FINESS Array B**	**39.18**	**338**	P	**P**	**01 13 49.0**	**+0.2**
	0.6nm,0.5s,baz=132,slow=11,SNR=4.0						
HFS	**Hagfors**	**43.21**	**330**	P	**P**	**01 14 22.6**	**+0.6**
	2.7nm,1.0s,baz=114,slow=9.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**52.60**	**265**	P	**P**	**01 15 35.9**	**+0.7**
	0.2nm,0.6s,baz=59,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**89.74**	**356**	P	**P**	**01 19 19.0**	**-0.2**
	0.1nm,0.6s,baz=10,slow=4.3,SNR=3.0						

IDC 23 01:47:06.5±2.5, 3°.84N×123°.96E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=326.2km s-min=27.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.74**	**157**	P	P	01 52 39.2	+0.1
	0.5nm,0.3s,baz=336,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**29.00**	**161**	P	P	01 53 08.2	-0.2
	0.3nm,0.4s,baz=339,slow=6.8,SNR=7.1						
MKAR	**Makanchi Array**	**55.92**	**327**	P	P	01 56 46.4	-0.1
	0.2nm,0.6s,baz=101,slow=6.0,SNR=4.6						

MEX 23 01:54:57.5±0.5, 16°.31N×98°.28W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**62**	*eP*	Pg	01 55 00.2	-0.7
PNIG				*i* S	Sg	01 55 02.9	-0.3
VHO	**Vista Hermosa**	**1.67**	**63**	*eP*	Pn	01 55 24.3	-3.3
VHO				*eS*	Sn	01 55 44.8	-4.8
HUIG	**Huatulco**	**2.16**	**104**	*i* P	Pn	01 55 30.9	-3.2
HUIG				*i* S	Sn	01 55 57.4	-4.0

IDC 23 01:55:37.9±10.0, 19°.63N×145°.18E, h233km±104km, mb3.3/9, mb1 3.5/9, mb1mx3.3/35, mbtmp3.9/9, Error ellipse: s-maj=31.4km s-min=17.1km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.74**	**196**	P	P	02 02 56.4	0.0
	0.7nm,0.4s,baz=19,slow=8.9,SNR=9.5						
SONM	**Songino Array**	**42.12**	**321**	P	P	02 03 07.7	+0.3
	0.4nm,0.5s,baz=128,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**44.41**	**195**	P	P	02 03 25.4	-0.5
	0.3nm,0.3s,baz=12,slow=7.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**60.31**	**318**	P	P	02 05 21.7	-0.3
	1.7nm,0.6s,baz=92,slow=7.7,SNR=4.3						
ILAR	**Eielson Array**	**63.03**	**26**	P	P	02 05 39.4	-0.6
	0.8nm,0.9s,baz=250,slow=5.7,SNR=5.8						
BVAR	**Borovoye Array**	**65.45**	**320**	P	P	02 05 56.3	+0.4
	0.7nm,0.3s,baz=102,slow=8.2,SNR=8.0						
YKA	**Yellowknife Ar**	**77.40**	**28**	P	P	02 07 07.0	+0.1
	0.9nm,0.7s,baz=290,slow=5.5,SNR=18						
NVAR	**Mina Array Bea**	**82.95**	**52**	P	P	02 07 38.2	+0.8
	0.6nm,0.8s,baz=258,slow=5.3,SNR=4.0						
FINES	**FINESS Array B**	**85.84**	**335**	P	P	02 07 50.3	-0.7
	2.1nm,1.1s,baz=67,slow=6.6,SNR=10						
LPAZ	**La Paz**	**148.17**	**89**	PKPbc	PKPbc	02 14 57.3	-0.5
	1.0nm,0.6s,baz=12,slow=2.6,SNR=4.7						

NNC 23 02:01:04.9±5.8, 42°.93N×86°.88E, h0km, mb3.5, mpv3.1, 8C-5D, Error ellipse: s-maj=43.5km s-min=30.0km az=113.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK08	**Makanchi Array**	**5.03**	**321**	⇓Sn	Sn	02 03 20.6	+0.1
	4.5nm,0.4s						
MK08				⇑Lg	Lg	02 03 42.9	
	23nm,0.7s,baz=131,slow=27						
MK09	**Makanchi Array**	**5.05**	**321**	⇑Pn	Pn	02 02 23.3	+1.5
	0.7nm,0.5s,baz=139,slow=11						
MK09				⇑Pg	Pb	02 02 37.8	+3.6
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**8.28**	**274**	⇑Pn	Pn	02 03 03.8	-2.6
	1.5nm,0.8s						
TKM2				⇑Sn	Sn	02 04 40.1	-0.7
	3.3nm,0.8s						
TKM2				⇓Lg	Lg	02 05 25.4	
	5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**9.59**	**326**	⇑Pn	Pn	02 03 24.5	+0.4
	2.4nm,1.0s						
KURBB				⇓Sn	Sn	02 05 15.8	+3.3
	2.5nm,0.6s						
KURBB				⇓Lg	Lg	02 06 09.3	
	9.9nm,0.7s						
KURK	**Kurchatov**	**9.62**	**327**	⇑Pn	Pn	02 03 26.6	+2.0
	0.7nm,1.2s						
KURK				⇑Sn	Sn	02 05 16.1	+2.8
	1.3nm,1.0s						
KURK				⇓Lg	Lg	02 06 09.7	
	6.8nm,0.9s						

WEL 23 02:22:39.4±0.4, 37°.15S×176°.14E, h204km±6km, ML3.5/2, Error ellipse: s-maj=8.3km s-min=5.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.44**	**115**	PN	Pn	02 23 13.1	+0.1
HAZ				SN	S	02 23 38.8	+0.2
MWZ	**Matawai**	**1.62**	**138**	PN	Pn	02 23 14.7	+0.1
MWZ				SN	S	02 23 42.4	+0.8
RIGZ	**Rimuhau**	**2.02**	**141**	PN	Pn	02 23 18.3	-0.1
BKZ	**Black Stump Fm**	**2.04**	**172**	PN	Pn	02 23 18.9	+0.3
BKZ				SN	S	02 23 48.6	-0.2
BHHZ	**Black Hill Sta**	**2.34**	**181**	PN	Pn	02 23 22.1	+0.2

NEIC 23 02:29:19.6±0.4, 18°.50N×71°.98W, h10km, mb4.2/13, Error ellipse: s-maj=8.4km s-min=6.4km az=191.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**0.81**	**54**	*e*Pg	Pg	02 29 33.6	-1.7
SDDR				*e*Sg	Sb	02 29 47.6	+0.7
GRTK	**Grand Turk**	**3.10**	**15**	*e*Pn	Pn	02 30 08.4	-0.1
GRTK				*e*Sn	Sn	02 30 45.3	-0.3
GTBY	**Guantanamo Bay**	**3.28**	**296**	Pn	Pn	02 30 10.5	-0.6
GTBY				*e*Sn	Sn	02 30 50.4	+0.2
AGPR	**Aguadilla, PR**	**4.62**	**90**	*e*Pn	Pn	02 30 32.0	+2.5
CRPR	**Cabo Rojo, PR**	**4.65**	**95**	*e*Pn	Pn	02 30 29.0	-0.9
CRPR				*e*Sn	Sn	02 31 26.3	+2.4
LSP	**Las Mesas**	**4.66**	**93**	*e*Pn	Pn	02 30 30.9	+0.9
LSP				*e*Sn	Sn	02 31 28.6	+4.3
LRS	**Lares**	**4.88**	**92**	Pn	Pn	02 30 34.9	+1.8
OBIP	**Obispado Ponce**	**5.12**	**94**	*e*Pn	Pn	02 30 34.4	-2.0
OBIP				*e*Sn	Sn	02 31 38.5	+2.8
CELP	**Cerrillos**	**5.14**	**94**	*e*Pn	Pn	02 30 36.5	-0.2
MTDJ	**Mount Denham**	**5.29**	**268**	Pn	Pn	02 30 37.7	-1.1
CBYP	**Canovanas**	**5.81**	**91**	*e*Pn	Pn	02 30 48.4	+2.4
SDV	**Santo Domingo**	**9.65**	**172**	*e*Pn	Pn	02 31 38.8	-0.1
SDV				*e*Sn	Sn	02 33 21.7	-5.9
BCIP	**Isla Barro Col**	**12.01**	**220**	Pn	Pn	02 32 09.2	-1.8
TEIG	**Tepich**	**15.48**	**279**	*e*Pn	Pn	02 32 59.7	+1.6
KMSC	**Kings Mountain**	**18.54**	**335**	*e*Pn	Pn	02 33 38.2	+1.6
OTAV	**Otavalo**	**19.23**	**200**	P	Pn	02 33 46.9	+1.2
	11nm,1.1s						
BLA	**Blacksburg**	**20.06**	**340**	P	Pn	02 33 55.5	+0.6
	40nm,1.4s						
PTGA	**Pitinga**	**22.47**	**147**	*e*P	P	02 34 20.9	+1.7
	6.5nm,1.1s						
TUL1	**Tulsa**	**27.26**	**314**	*e*P	P	02 35 01.8	-2.3
	2.8nm,0.5s						
SAML	**Samuel**	**28.62**	**162**	*e*P	P	02 35 15.4	-1.0
	5.5nm,0.9s						
ECSD	**EROS Data Cent**	**32.59**	**326**	*e*P	P	02 35 51.1	-0.1
	1.4nm,0.8s						
BNM	**Barren Site**	**34.55**	**304**	P	P	02 36 08.8	0.0
ANMO	**Albuquerque**	**34.67**	**305**	*e*P	P	02 36 10.1	+0.4
	1.3nm,0.9s						
LPAZ	**La Paz**	**34.78**	**174**	*e*P	P	02 36 11.9	+0.7
	3.3nm,1.0s						
SDCO	**Great Sand Dun**	**34.98**	**310**	*e*P	P	02 36 13.4	+0.9
	1.6nm,1.0s						
SUMG	**Summit**	**57.38**	**11**	*e*P	P	02 39 07.6	-0.6
	8.2nm,1.0s						
PLCA	**Paso Flores**	**58.95**	**179**	*e*P	P	02 39 19.6	+0.4
	5.0nm,1.1s						
KHC	**Kasperske Hory**	**73.37**	**43**	*e*P	P	02 40 53.0	+1.2
	4.4nm,1.1s						
PSZ	**Piszkesteto**	**77.72**	**43**	*e*P	P	02 41 18.0	+1.1
	4.1nm,0.9s						
BUR08	**Bucovina Ar. S**	**81.24**	**43**	*e*P	P	02 41 35.9	-0.2

*IDC **23** 02:40:19.8±1.5, 41°.29N×81°.11E, h0km, mb3.6/5, mb1 3.5/11, mb1mx3.4/34, mbtmp3.4/11, ML2.9/6, MS3.0/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=22.9km s-min=17.3km az=130.0*
*ISCJB **23** 02:40:20.2±1.0, 41°.38N±0°.07×81°.1E±0°.1, h10km, mb3.5/5, MS2.9/1, Error ellipse: s-maj=15.8km s-min=8.2km az=27.0*
*NNC **23** 02:40:30.2±2.6, 41°.95N×80°.55E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=24.9km s-min=9.1km az=139.0*

ISC 23 02:40:22.7±1.3, 41°.4N±0°.1×81°.06E±0°.09, h10km, n19, σ1§84/25, mb3.6/5, 9C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.33**	**292**	⇑Pn	**Pn**	**02 41 29.8**	**+1.0**
	3.0nm,0.5s						
TKM2				⇑Pg	**Pb**	**02 41 39.7**	**+0.6**
	6.7nm,0.4s						
TKM2				⇑Lg	Lg	02 42 31.2	
	86nm,0.8s						
AAK	**Ala-Archa**	**5.04**	**286**	⇑Pn	**Pn**	**02 41 40.4**	**+1.9**
	1.2nm,0.6s						
AAK				⇑Pg	**Pb**	**02 41 52.7**	**+1.6**
	8.1nm,0.6s						
AAK				⇓Lg	Lg	02 42 55.1	
	42nm,1.0s						
AAK	**Ala-Archa**	**5.04**	**286**	Pn	**Pn**	**02 41 40.4**	**+1.9**
	0.3nm,0.3s,baz=98,slow=12,SNR=3.7						
AAK				Pg	**Pb**	**02 41 53.1**	**+2.0**
	1.1nm,0.3s,baz=120,slow=12,SNR=11						
AAK				Lg	Lg	02 42 54.6	
	0.9nm,0.3s,baz=240,slow=20,SNR=3.7						
MK08	**Makanchi Array**	**5.42**	**9**	⇑Sn	**Sn**	**02 42 46.6**	**+0.7**
	6.3nm,0.5s						
MK08				⇓Lg	Lg	02 43 07.9	
	18nm,0.8s						
MK09	**Makanchi Array**	**5.43**	**9**	⇑Pn	**Pn**	**02 41 45.1**	**+1.4**
	7.9nm,0.9s						
MKAR	**Makanchi Array**	**5.45**	**9**	Pn	**Pn**	**02 41 45.6**	**+1.6**
	2.3nm,0.3s,baz=195,slow=13,SNR=167						
MKAR				Sn	**Sn**	**02 42 48.9**	**+2.2**
	1.9nm,0.3s,baz=193,slow=18,SNR=6.0						
KK31	**Karatay Array**	**8.01**	**286**	⇓Pg	Pb	02 42 48.7	+7.3
	1.7nm,0.6s,baz=88,slow=16,SNR=12						
KK31				⇓Lg	Lg	02 44 29.9	
	18nm,1.2s,baz=93,slow=26,SNR=9.4						
KURBB	**Kurchatov Arra**	**9.38**	**350**	⇑Pn	**Pn**	**02 42 37.5**	**-0.3**
	2.5nm,1.2s,baz=174,slow=13						
KURBB				⇑Sn	**Sn**	**02 44 20.8**	**-2.5**
	11nm,0.7s,baz=183,slow=26						
KURBB				⇓Lg	Lg	02 45 10.6	
	19nm,0.8s						
KURBB	**Kurchatov Arra**	**9.38**	**350**	Pn	**Pn**	**02 42 38.8**	**+1.0**
	0.1nm,0.3s,baz=176,slow=12,SNR=3.8						
KURBB				Sn	**Sn**	**02 44 24.5**	**+1.3**
	0.2nm,0.3s,baz=320,slow=26,SNR=5.2						
KURK	**Kurchatov**	**9.46**	**351**	⇓Pn	**Pn**	**02 42 38.9**	**0.0**
	1.6nm,1.3s						
KURK				⇓Sn	**Sn**	**02 44 20.1**	**-5.1**
	1.5nm,0.5s						
KURK				⇓Lg	Lg	02 45 10.0	
	12nm,1.0s						
ZALV	**Zalesovo Beam**	**12.79**	**10**	Pn	**Pn**	**02 43 24.8**	**+0.3**
	0.1nm,0.3s,baz=194,slow=11,SNR=3.6						
ZALV				Sn	**Sn**	**02 45 49.6**	**+2.8**
	0.1nm,0.3s,baz=176,slow=23,SNR=3.4						
BVAR	**Borovoye Array**	**13.68**	**332**	Pn	**Pn**	**02 43 35.4**	**-1.1**
	0.1nm,0.3s,baz=151,slow=15,SNR=2.5						
BVAR				Lg	Lg	02 47 37.7	
	0.1nm,0.3s,baz=137,slow=26,SNR=5.9						
SONM	**Songino Array**	**19.09**	**62**	P	**P**	**02 44 44.9**	**-0.6**
	0.1nm,0.3s,baz=263,slow=11,SNR=10						
CMAR	**Chiang Mai Arr**	**27.52**	**141**	LR	LR	02 59 48.8	
	comp=Z,26nm,18.8s,baz=167,slow=43						
BRTR	**Keskin Array B**	**35.71**	**283**	P	**P**	**02 47 22.1**	**+0.6**
	0.3nm,0.7s,baz=74,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**38.25**	**321**	P	**P**	**02 47 41.8**	**-0.8**
	1.0nm,0.8s,baz=95,slow=16,SNR=2.6						
NOA	**NORSAR Array B**	**45.43**	**320**	P	**P**	**02 48 40.0**	**-1.4**
	1.0nm,0.7s,baz=84,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**73.49**	**273**	P	**P**	**02 51 54.4**	**-1.3**
	0.5nm,0.9s,baz=33,slow=5.0,SNR=3.3						
YKA	**Yellowknife Ar**	**75.68**	**7**	P	**P**	**02 52 07.1**	**-0.6**
	0.3nm,0.6s,baz=339,slow=5.6,SNR=7.4						

*IDC **23** 03:18:08.1±1.1, 38°.28N×70°.40E, h0km, mb3.4/6, mb1 3.7/12, mb1mx3.5/36, mbtmp3.6/12, ML3.4/5, MS2.7/2, Ms1 2.9/2, ms1mx2.3/27, Error ellipse: s-maj=17.4km s-min=13.6km az=142.0*
*ISCJB **23** 03:18:11.5±0.6, 38°.50N±0°.05×70°.13E±0°.08, h27km, mb3.3/6, MS2.8/1, Error ellipse: s-maj=9.3km s-min=6.7km az=152.4*
*NNC **23** 03:18:12.3±1.8, 38°.59N×70°.15E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=16.0km s-min=8.5km az=178.0*

ISC 23 03:18:13.1±0.7, 38°.42N±0°.06×70°.12E±0°.08, h27km, n20, σ1§51/25, mb3.3/6, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.69**	**4**	Pn	**Pn**	**03 19 23.1**	**+1.1**
	14nm,0.7s,baz=186,slow=12,SNR=113						
KK31				⇑Pg	**Pb**	**03 19 35.6**	**+1.0**
	5.5nm,0.5s,baz=186,slow=13,SNR=4.9						
KK31				⇓Lg	Lg	03 20 37.2	
	61nm,1.0s,baz=187,slow=31,SNR=6.5						
CEP	**Cherat**	**4.81**	**162**	P	**Pn**	**03 19 25.3**	**+1.4**
CEP				S	**Sb**	**03 20 33.0**	**-1.2**
AAK	**Ala-Archa**	**5.37**	**37**	⇓Pn	**Pn**	**03 19 31.8**	**+0.2**
	7.0nm,0.5s						
AAK				⇑Pg	**Pb**	**03 19 46.9**	**+0.6**
	13nm,0.7s						
AAK				⇑Lg	Lg	03 20 59.1	
	18nm,0.7s						
AAK	**Ala-Archa**	**5.37**	**37**	Pn	**Pn**	**03 19 32.1**	**+0.5**
	1.3nm,0.3s,baz=211,slow=9.7,SNR=15						
AAK				Lg	Lg	03 20 57.2	
	baz=311,slow=20,SNR=2.1						
CHCP	**Chirah Chowk**	**5.39**	**151**	P	**Pn**	**03 19 34.3**	**+2.5**
TKM2	**Tokmak 2**	**6.13**	**41**	⇓Pn	**Pn**	**03 19 42.3**	**+0.3**
	4.7nm,0.5s						
TKM2				⇑Pg	**Pb**	**03 20 01.2**	**+2.0**
	6.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**03 20 52.1**	**+0.8**
	8.1nm,0.8s						
TKM2				⇑Lg	Lg	03 21 21.8	
	11nm,0.8s						
MKAR	**Makanchi Array**	**12.25**	**43**	Pn	**Pn**	**03 21 03.9**	**-1.9**
	0.2nm,0.3s,baz=229,slow=13,SNR=34						
MKAR				Lg	Lg	03 24 40.2	
	0.0nm,0.3s,baz=262,slow=28,SNR=2.7						
AB31	**Akbulak array**	**13.07**	**329**	Pn	**Pn**	**03 21 15.8**	**-1.1**
	1.2nm,0.5s,baz=143,slow=13,SNR=51						
AB31				⇑Sn	**Sn**	**03 23 41.6**	**+0.2**
	1.5nm,0.6s,baz=141,slow=27,SNR=4.1						
KURBB	**Kurchatov Arra**	**13.58**	**23**	Pn	Pn	03 21 19.9	-4.0
	baz=215,slow=13,SNR=2.5						
KURBB				Lg	Lg	03 25 20.9	
	0.1nm,0.3s,baz=227,slow=32,SNR=3.7						
BVAR	**Borovoye Array**	**14.61**	**1**	Pn	Pn	03 21 31.7	-6.2
	0.2nm,0.3s,baz=181,slow=8.5,SNR=3.1						
BVAR				Lg	Lg	03 25 58.7	
	0.1nm,0.3s,baz=158,slow=40,SNR=2.4						
BVAR				LR	LR	03 26 33.7	

SKC				S	Sg	04 15 42.5	-0.3	
KACW	**Kace˜ov**	**0.09**	**143**	P	Pg	04 15 41.2	-0.2	
KACW				S	Sg	04 15 43.0	-0.3	
POCW	**Po¯¡tky**	**0.11**	**357**	⇓P	Pg	04 15 41.5	-0.2	
POCW				S	Sg	04 15 43.5	-0.4	
KOCW	**Kopaniny**	**0.14**	**292**	⇓P	Pg	04 15 42.0	-0.2	
KOCW				S	Sg	04 15 44.2	-0.3	
ZHC	**Zelena Hora**	**0.16**	**210**	⇑P	Pg	04 15 42.4	-0.2	
ZHC				S	Sg	04 15 44.9	-0.3	
ZHC	**Zelena Hora**	**0.16**	**210**	⇑P	Pg	04 15 42.8	+0.2	
TRCW	**Trojmez˜›**	**0.21**	**296**	⇓P	Pg	04 15 43.1	-0.2	
TRCW				S	Sg	04 15 46.1	-0.3	
CLL	**Collm**	**1.15**	**18**	*i* Sg	Sb	04 16 15.3	-0.6	

ISCJB ***23*** *04:42:11.4±1.7,5˚.89S±0˚.04×152˚.56E±0˚.04,h0km±10km, mb5.0/77,MS4.4/7,Error ellipse: s-maj=8.5km s-min=5.3km az=138.2*

BJI ***23*** *04:42:12.3,6˚.08S×152˚.88E,h18km,mB5.0/21,mb4.7/28, Ms5.0/20,Ms7 4.6/17*

IDC ***23*** *04:42:12.2±0.6,5˚.93S×152˚.61E,h0km,mb4.7/21, mb1 4.9/22,mb1mx4.7/37,mbtmp4.7/22,ML4.4/1,MS3.8/2, Ms1 3.8/2,ms1mx3.1/30,Error ellipse: s-maj=22.2km s-min=12.6km az=110.0*

MOS ***23*** *04:42:17.0±0.9,5˚.82S×152˚.44E,h36km,mb5.0/23,Error ellipse: s-maj=11.2km s-min=7.7km az=82.3*

NEIC ***23*** *04:42:18.9±1.0,5˚.92S×152˚.52E,h44km±9km,mb5.1/42, Error ellipse: s-maj=6.2km s-min=5.0km az=110.0*

ISC 23 04:42:15.4±0.5,5˚98S±0˚.05×152˚69E±0˚.06,h18km±1km, h18km:pP-P,n248,σ1s28/282,mb5.0/75,MS4.2/9,6C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.86**	**343**	P	**Pn**	**04 42 46.7**	**+0.4**
	baz=2.0,SNR=45						
PMG	**Port Moresby**	**6.45**	**238**	*e*Pn	**Pn**	**04 43 50.2**	**+0.7**
PMG				*e*Sn	**Sn**	**04 45 01.7**	**-1.1**
PMG	**Port Moresby**	**6.45**	**238**	Pn	**Pn**	**04 43 50.0**	**+0.5**
	47nm,0.3s,baz=65,slow=6.4,SNR=55						
PMG				Sn	**Sn**	**04 45 05.0**	**+2.2**
	138nm,0.3s,baz=337,slow=23,SNR=9.6						
PMG				LR	LR	04 45 34.5	
	comp=Z,510nm,20.0s,baz=54,slow=32						
PMG	**Port Moresby**	**6.45**	**238**	P	**Pn**	**04 43 50.8**	**+1.2**
	baz=6.3,SNR=22						
MANU	**Manus Island**	**6.60**	**306**	P	Pn	04 43 56.9	+5.4
	baz=6.7,SNR=5.0						
COEN	**Coen**	**12.27**	**229**	*e*Pn	**Pn**	**04 45 08.9**	**-0.4**
COEN	**Coen**	**12.27**	**229**	P	**Pn**	**04 45 09.1**	**-0.2**
	baz=12,SNR=7.0						
JAY	**Jayapura**	**12.44**	**286**	LR	LR	04 50 10.7	
	comp=Z,771nm,18.4s,baz=144,slow=39						
CTA	**Charters Tower**	**15.35**	**203**	Pn	**P**	**04 45 54.0**	**-1.9**
CTA	**Charters Tower**	**15.35**	**203**	Pn	**P**	**04 45 54.0**	**-1.9**
	0.2nm,0.3s,baz=20,slow=15,SNR=2.2						
QIS	**Mount Isa**	**19.27**	**220**	P	**Pn**	**04 46 40.3**	**0.0**
	baz=19,SNR=19						
EIDS	**Eidsvold**	**19.34**	**184**	*e*P	**Pn**	**04 46 41.0**	**0.0**
	19nm,1.2s						
EIDS	**Eidsvold**	**19.34**	**184**	P	**Pn**	**04 46 44.0**	**+3.0**
	baz=19,SNR=3.4						
FAKI	**Fak Fak**	**20.61**	**278**	*e*P	**P**	**04 46 54.3**	**+0.5**
FAKI	**Fak Fak**	**20.61**	**278**	P	**P**	**04 46 54.9**	**+1.1**
	baz=21,SNR=4.7						
RMQ	**Roma**	**20.73**	**190**	P	Pn	04 46 56.4	-1.1
	baz=21,SNR=10						
KDU	**Kakadu**	**21.02**	**250**	P	**P**	**04 46 58.0**	**-0.3**
	baz=21,SNR=47						
QLP	**Quilpie**	**22.02**	**201**	P	**P**	**04 47 10.2**	**+1.3**
	baz=22,SNR=16						
MTN	**Manton Dam**	**22.32**	**251**	P	**P**	**04 47 12.7**	**+0.4**
	baz=22,SNR=29						
WRAB	**Tennant Creek**	**22.59**	**230**	P	**P**	**04 47 14.0**	**-1.1**
	155nm,0.7s,SNR=24						
WRAB	**Tennant Creek**	**22.59**	**230**	⇑*e*P	**P**	**04 47 14.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,48nm,1.2s						
WRAB	**Tennant Creek**	**22.59**	**230**	*e*P	**P**	**04 47 14.2**	**-0.8**
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**22.60**	**230**	P	**P**	**04 47 14.3**	**-0.9**
WRA				PcP	**PcP**	**04 51 08.1**	**-0.3**
WRA	**Warramunga Arr**	**22.60**	**230**	P	**P**	**04 47 14.3**	**-0.9**
	comp=Z,7.5nm,0.5s,baz=56,slow=10,SNR=117						
WRA				PcP	**PcP**	**04 51 08.1**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=49,slow=1.9,SNR=2.8						
AS31	**Alice Springs**	**25.22**	**224**	*e*P	**P**	**04 47 39.8**	**-0.6**
ASAR	**Alice Springs**	**25.22**	**224**	P	**P**	**04 47 39.8**	**-0.6**
ASAR				PcP	**PcP**	**04 51 13.9**	**-0.1**
ASAR	**Alice Springs**	**25.22**	**224**	P	**P**	**04 47 39.8**	**-0.6**
	comp=Z,18nm,0.9s,baz=59,slow=9.0,SNR=71						
ASAR				PcP	**PcP**	**04 51 13.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=66,slow=3.2,SNR=2.3						
KNRA	**Kununurra**	**25.37**	**246**	P	**P**	**04 47 42.0**	**+0.3**
	baz=25,SNR=13						
CMSA	**Cobar Meteorol**	**26.25**	**194**	P	**P**	**04 47 53.7**	**+4.1**
	baz=26,SNR=5.5						
STKA	**Stephens Creek**	**27.77**	**201**	*e*P	**P**	**04 48 02.6**	**-0.7**
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**27.77**	**201**	P	**P**	**04 48 02.5**	**-0.8**
	comp=Z,8.2nm,0.7s,baz=23,slow=11,SNR=14						
STKA	**Stephens Creek**	**27.77**	**201**	P	**P**	**04 48 02.6**	**-0.7**
	baz=28,SNR=18						
H11S3	**WAKE ISLAND Hy**	**27.97**	**29**	T	T	05 16 31.7	
	baz=208,slow=76,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**27.97**	**29**	T	T	05 16 34.9	
	baz=208,slow=76,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**27.98**	**29**	T	T	05 16 32.9	
	baz=208,slow=76,SNR=4.5						
SOEI	**Soe**	**28.40**	**261**	*e*P	**P**	**04 48 08.9**	**-0.3**
SOEI	**Soe**	**28.40**	**261**	P	P	04 48 16.8	+7.6
	baz=28,SNR=5.0						
WRKA	**Warakurna**	**30.09**	**228**	P	**P**	**04 48 22.8**	**-1.2**
	baz=30,SNR=21						
HTT	**Hallett**	**30.16**	**203**	P	**P**	**04 48 26.4**	**+1.8**
	baz=30,SNR=5.2						
FORT	**Forrest**	**33.81**	**220**	*e*P	**P**	**04 48 56.6**	**0.0**
	comp=Z,199nm,2.4s						
FORT	**Forrest**	**33.81**	**220**	P	**P**	**04 48 56.9**	**+0.2**
	baz=34,SNR=13						
MEEK	**Meekatharra**	**38.41**	**234**	P	**P**	**04 49 35.5**	**-0.6**
	baz=38,SNR=11						
MORW	**Morawa**	**41.53**	**232**	P	**P**	**04 50 04.3**	**+2.4**
	baz=41,SNR=3.9						
NWAO	**Narrogin (SRO)**	**42.49**	**226**	P	**P**	**04 50 09.0**	**-0.8**
NWAO	**Narrogin (SRO)**	**42.49**	**226**	P	**P**	**04 50 09.0**	**-0.8**
	comp=Z,8.5nm,0.9s,baz=53,slow=15,SNR=2.8						
MJAR	**Matsushiro Arr**	**44.43**	**343**	P	**P**	**04 50 22.9**	**-2.3**
MJAR				PcP	**PcP**	**04 52 08.5**	**-0.3**
MJAR	**Matsushiro Arr**	**44.43**	**343**	P	**P**	**04 50 22.9**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=110,slow=11,SNR=4.2						
MJAR				PcP	**PcP**	**04 52 08.5**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=173,slow=4.8,SNR=4.1						
MAJO	**Matsushiro**	**44.43**	**343**	*e*P	**P**	**04 50 24.3**	**-0.9**
MAJO	**Matsushiro**	**44.43**	**343**	*e*P	**P**	**04 50 24.3**	**-0.9**
DLV	**T Lat**	**47.43**	**292**	*e*P	**P**	**04 50 47.7**	**-1.9**
QIZ	**Qiongzhong**	**48.98**	**301**	P	**P**	**04 51 00.8**	**-0.4**
QIZ				S	**S**	**04 58 06.0**	**+1.0**
QIZ				LR	LR		
	comp=Z,300nm,32.1s						
KSRS	**Korea Array**	**49.00**	**334**	P	**P**	**04 51 00.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=144,slow=9.0,SNR=5.0						
KSAR	**Wonju Array Be**	**49.01**	**334**	P	**P**	**04 51 00.1**	**-1.1**
NJ2	**Nanjing**	**49.70**	**322**	*e*P	**P**	**04 51 07.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**50.17**	**354**	*e*P	**P**	**04 51 10.2**	**+0.4**
YUK				*i* S	**S**	**04 58 24.8**	**+4.0**
YUK				*i* SS	**SS**	**05 01 49.1**	**-5.4**
YUK				*i* SSS	SSS	05 03 17.2	
IPM	**Ipoh**	**52.63**	**280**	*e*P	**P**	**04 51 27.6**	**-1.3**
	comp=Z,7.3nm,0.8s						
KULM	**Kulim**	**53.15**	**281**	*e*P	**P**	**04 51 31.3**	**-1.4**
	comp=Z,4.7nm,0.5s						
YSS	**Yuzh-Sakhalins**	**53.44**	**352**	*e*P	**P**	**04 51 34.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**53.44**	**352**	*e*P	**P**	**04 51 34.3**	**+0.1**
MDJ	**Mudanjiang**	**54.49**	**340**	P	**P**	**04 51 42.6**	**+0.7**
MDJ				PcS	**PcS**	**04 56 44.9**	**+0.2**
MDJ				S	**S**	**04 59 22.1**	**+2.1**
MDJ				sS	**sS**	**04 59 27.8**	**-1.8**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,83nm,5.2s						
MDJ				LR	LR		
	comp=Z,100nm,32.0s						
MDJ				LR	LR		
	comp=Z,120nm,31.5s						
GYA	**Guiyang**	**55.03**	**308**	*e*P	**P**	**04 51 47.3**	**+0.9**
GYA				PP	**PP**	**04 53 52.4**	**+2.7**
GYA				ScP	**ScP**	**04 56 45.3**	**-0.6**
GYA				S	**S**	**04 59 27.5**	**-0.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,580nm,20.4s						
GYA				LR	LR		
	comp=Z,510nm,21.2s						
GYA				LR	LR		
	comp=Z,550nm,20.8s						
BJI	**Beijing**	**56.82**	**327**	P	**P**	**04 51 59.6**	**+0.9**
BJI				S	**S**	**04 59 54.1**	**+2.9**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XAN	**Xi'an**	**57.40**	**317**	P	P	04 52 07.0	+3.9
XAN				pP	pP	04 52 13.6	+4.6
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
XAN				LR	LR		
	comp=Z,140nm,17.3s						
XAN				LR	LR		
	comp=Z,85nm,22.4s						
CMAR	**Chiang Mai Arr**	**58.29**	**296**	P	**P**	**04 52 08.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**58.29**	**296**	P	**P**	**04 52 08.6**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=126,slow=5.7,SNR=6.0						
PET	**Petropavlovsk**	**59.00**	**4**	⇑*e*P	**P**	**04 52 14.0**	**+0.2**
PET				pmax	pmax		
	comp=Z,13nm,0.7s						
PEA0B	**Petropavlovsk-**	**59.02**	**4**	*e*P	**P**	**04 52 13.7**	**-0.2**
PETK	**Petropavlovsk-**	**59.02**	**4**	P	**P**	**04 52 13.7**	**-0.2**
PETK	**Petropavlovsk-**	**59.02**	**4**	P	**P**	**04 52 13.7**	**-0.2**
PETK	**Petropavlovsk-**	**59.02**	**4**	P	**P**	**04 52 13.7**	**-0.2**
	comp=Z,16nm,0.7s,baz=167,slow=6.6,SNR=15						
CD2	**Chengdu**	**59.43**	**311**	*e*P	**P**	**04 52 18.4**	**+1.1**
CD2				pP	**pP**	**04 52 23.8**	**+0.6**
CD2				PP	**PP**	**04 54 29.0**	**+0.3**
CD2				S	**S**	**05 00 23.8**	**-2.1**
CD2				sS	**sS**	**05 00 34.4**	**-1.1**
CD2				ScS	**ScS**	**05 02 06.1**	**-1.0**
CD2				SS	**SS**	**05 04 20.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,150nm,4.8s						
CD2				LR	LR		
	comp=Z,340nm,13.1s						
CD2				LR	LR		
	comp=Z,260nm,13.2s						
HHC	**Hu-ho-hao-te**	**59.94**	**325**	*e*P	**P**	**04 52 21.0**	**+0.3**
HHC				sP	**sP**	**04 52 27.3**	**-1.5**
HHC				PP	**PP**	**04 54 35.8**	**+2.6**
HHC				PcS	**PcS**	**04 57 08.0**	**-1.2**
HHC				S	**S**	**05 00 29.1**	**-3.2**
HHC				pmax	pmax		
	comp=Z,21nm,1.2s						
HHC				pmax	pmax		
	comp=Z,280nm,10.1s						
HHC				LR	LR		
	comp=Z,400nm,18.3s						
HHC				LR	LR		
	comp=Z,570nm,17.2s						
HHC				LR	LR		
	comp=Z,710nm,19.0s						
FX1	**Attu Island--F**	**61.16**	**14**	*e*P	**P**	**04 52 28.4**	**-0.2**
FX1	**Attu Island--F**	**61.16**	**14**	P	**P**	**04 52 28.7**	**+0.1**
	comp=Z,20nm,0.6s,baz=186,slow=12,SNR=7.4						
LZH	**Lanzhou**	**62.00**	**316**	*e*P	**P**	**04 52 36.8**	**+1.9**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**66.45**	**318**	*e*P	**P**	**04 53 04.8**	**+0.8**
GTA				pP	**pP**	**04 53 09.0**	**-0.9**
GTA				sP	**sP**	**04 53 11.8**	**-0.3**
GTA				S	**S**	**05 01 55.4**	**+1.6**
GTA				sS	**sS**	**05 02 02.9**	**-0.7**
GTA				ScS	**ScS**	**05 03 00.3**	**+0.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,110nm,5.6s						
GTA				LR	LR		
	comp=Z,130nm,15.7s						
GTA				LR	LR		
	comp=Z,160nm,16.6s						
GTA				LR	LR		
	comp=Z,100nm,14.2s						
ULN	**Ulaanbaatar**	**66.94**	**328**	*e*P	**P**	**04 53 07.8**	**+0.8**
	comp=Z,8.9nm,1.1s						
SONM	**Songino Array**	**67.26**	**328**	P	**P**	**04 53 08.8**	**-0.2**
SONM	**Songino Array**	**67.26**	**328**	P	**P**	**04 53 08.8**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=140,slow=5.5,SNR=31						
SEY	**Seymchan**	**68.72**	**360**	⇓*e*P	**P**	**04 53 17.7**	**+0.1**
SEY	**Seymchan**	**68.72**	**360**	P	**P**	**04 53 17.4**	**-0.2**
SEY	**Seymchan**	**68.72**	**360**	P	**P**	**04 53 17.4**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=175,slow=10,SNR=16						
YAK	**Yakutsk**	**70.11**	**349**	⇑*e*P	**P**	**04 53 26.5**	**+0.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.3s						
ZAK	**Zakamensk**	**70.44**	**329**	⇑*e*P	**P**	**04 53 28.5**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,12nm,1.0s						
TAPN	**Taplejung**	**70.92**	**301**	*e*P	**P**	**04 53 33.3**	**+0.9**
	comp=Z,12nm,0.8s						
TLY	**Talaya**	**71.04**	**330**	*e*P	**P**	**04 53 32.6**	**+0.4**
TLY				eS	S	05 02 38.5	-9.1
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,156nm,21.0s						
VNDA	**Vanda**	**71.66**	**178**	P	**P**	**04 53 35.6**	**+0.1**
VNDA	**Vanda**	**71.66**	**178**	P	**P**	**04 53 35.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=337,slow=6.9,SNR=4.7						
JIRN	**Jiri**	**72.31**	**301**	*e*P	**P**	**04 53 40.8**	**0.0**
	comp=Z,8.9nm,0.6s						
MOY	**Mondy**	**72.37**	**329**	*e*P	**P**	**04 53 41.0**	**+0.7**
GUN	**Gumba**	**72.64**	**302**	*e*P	**P**	**04 53 42.9**	**+0.2**
	comp=Z,28nm,0.7s						
PKI	**Pulchoki**	**72.94**	**301**	*e*P	**P**	**04 53 45.0**	**+0.5**
PKIN	**Phulchoki**	**72.96**	**301**	*e*P	**P**	**04 53 44.8**	**+0.3**
	comp=Z,7.1nm,0.6s						
PALK	**Pallekele**	**73.02**	**279**	*e*P	**P**	**04 53 41.8**	**-3.1**
DMN	**Daman**	**73.21**	**301**	*e*P	**P**	**04 53 45.9**	**-0.1**
	comp=Z,21nm,0.8s						
GKN	**Gorkha**	**73.72**	**301**	*e*P	**P**	**04 53 48.3**	**-0.6**
BILL	**Bilibino**	**74.47**	**5**	⇓*i*P	**P**	**04 53 52.8**	**+0.6**
BILL				*e*		04 54 03.9	
BILL				*e*		04 56 42.8	
BILL				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL	**Bilibino**	**74.47**	**5**	P	**P**	**04 53 52.0**	**-0.2**
	comp=Z,18nm,0.9s						
KOLN	**Koldanda**	**74.54**	**301**	*e*P	**P**	**04 53 53.3**	**-0.5**
	comp=Z,16nm,0.7s						
DANN	**Dangsing**	**74.56**	**301**	*e*P	**P**	**04 53 53.0**	**-1.0**
	comp=Z,16nm,0.7s						
PYUN	**Piuthan**	**75.15**	**301**	*e*P	**P**	**04 53 56.6**	**-0.7**
	comp=Z,11nm,0.8s						
WMQ	**Urumqi**	**76.54**	**318**	P	**P**	**04 54 05.6**	**+0.9**
WMQ				pP	**pP**	**04 54 10.3**	**-0.4**
WMQ				sP	**sP**	**04 54 12.6**	**-0.3**
WMQ				PcP	**PcP**	**04 54 17.8**	**+1.6**
WMQ				S	**S**	**05 03 50.8**	**+0.8**
WMQ				SKS	**SKSac**	**05 04 11.3**	**-4.4**
WMQ				ScS	**SKKSac**	**05 04 17.3**	**+1.1**
WMQ				SS	**SS**	**05 08 46.4**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,17nm,7.9s						
WMQ				LR	LR		
	comp=Z,67nm,18.2s						
WMQ				LR	LR		
	comp=Z,160nm,34.2s						
WMQ				LR	LR		
	comp=Z,170nm,28.0s						
OHAK	**Old Harbor**	**76.65**	**27**	*e*P	**P**	**04 54 04.2**	**-0.7**
HYB	**Hyderabad**	**76.78**	**289**	*i* P	**P**	**04 54 05.0**	**-1.5**
TIXI	**Tiksi**	**79.05**	**353**	⇑*i*P	**P**	**04 54 17.6**	**-0.4**
TIXI	**Tiksi**	**79.05**	**353**	*e*P	**P**	**04 54 17.1**	**-0.9**
	comp=Z,17nm,1.4s						
SEW	**Seward**	**79.89**	**26**	*e*P	**P**	**04 54 23.1**	**+0.3**
	comp=Z,27nm,0.9s						
RC01	**Rabbit Creek A**	**80.29**	**25**	*e*P	**P**	**04 54 24.5**	**-0.5**
	comp=Z,30nm,0.9s						
PPLA	**Purkeypile**	**80.30**	**22**	*e*P	**P**	**04 54 24.5**	**-0.7**
	comp=Z,42nm,1.6s						
CAST	**Castle Rocks**	**80.64**	**22**	*e*P	**P**	**04 54 26.9**	**+0.1**
PMR	**Palmer**	**80.80**	**24**	*e*P	**P**	**04 54 27.4**	**-0.2**
PMR	**Palmer**	**80.80**	**24**	*e*P	**P**	**04 54 27.4**	**-0.2**
	comp=Z,154nm,2.2s						
KTH	**Kantishna Hill**	**81.14**	**22**	*e*P	**P**	**04 54 28.6**	**-1.0**
	comp=Z,72nm,0.8s						
MKAR	**Makanchi Array**	**81.14**	**319**	*i* P	**P**	**04 54 30.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**81.14**	**319**	P	**P**	**04 54 29.4**	**-0.5**
MKAR	**Makanchi Array**	**81.14**	**319**	P	**P**	**04 54 29.4**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=107,slow=6.9,SNR=47						
TRF	**Thorofare Moun**	**81.33**	**22**	*e*P	**P**	**04 54 29.6**	**-1.0**
	comp=Z,138nm,2.2s						
IM04	**Indian Mountai**	**81.51**	**19**	*e*P	**P**	**04 54 31.1**	**-0.3**
DIV	**Divide**	**81.98**	**26**	*e*P	**P**	**04 54 34.4**	**+0.4**
MCK	**McKinley**	**81.99**	**22**	*e*P	**P**	**04 54 33.5**	**-0.5**
MCK				pmax	pmax		
	comp=Z,50nm,0.9s						
MCK	**McKinley**	**81.99**	**22**	*e*P	**P**	**04 54 33.5**	**-0.5**
	comp=Z,50nm,0.9s						
ZAA0	**Zalesovo Array**	**82.07**	**326**	*e*P	**P**	**04 54 32.8**	**-1.8**
ZALV	**Zalesovo Beam**	**82.07**	**326**	P	**P**	**04 54 33.5**	**-1.1**
ZALV	**Zalesovo Beam**	**82.07**	**326**	P	**P**	**04 54 33.5**	**-1.1**
ZALV	**Zalesovo Beam**	**82.07**	**326**	P	**P**	**04 54 33.5**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=108,slow=6.6,SNR=13						
COLA	**College**	**82.98**	**22**	⇑*i*P	**P**	**04 54 38.9**	**-0.2**
COLA	**College**	**82.98**	**22**	*e*P	**P**	**04 54 38.2**	**-0.8**
	comp=Z,7.7nm,0.7s						
NVS	**Novosibirsk**	**83.26**	**327**	*e*P	**P**	**04 54 38.5**	**-2.2**
NVS				eS	S	05 04 52.8	-7.5
NVS				pmax	pmax		
	comp=N,3.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,14nm,1.7s						
NVS				smax	smax		
	comp=N,16nm,3.0s						
NVS				smax	smax		
	comp=E,26nm,3.0s						
ILAR	**Eielson Array**	**83.29**	**22**	P	**P**	**04 54 39.6**	**-1.1**
ILAR	**Eielson Array**	**83.29**	**22**	P	**P**	**04 54 39.6**	**-1.1**
	comp=E,3.3nm,0.7s,baz=245,slow=5.4,SNR=4.6						
COLD	**Coldfoot**	**83.40**	**19**	*e*P	**P**	**04 54 42.0**	**+0.8**
	comp=E,9.0nm,0.7s						
KSH	**Kashi**	**83.62**	**311**	P	**P**	**04 54 45.1**	**+2.0**
KSH				*e*PP	**PP**	**04 57 58.8**	**+2.8**
KSH				eS	**S**	**05 05 05.3**	**+0.4**
KSH				*e*SS	**SS**	**05 10 35.3**	**+3.5**
KSH				pmax	pmax		
	comp=E,5.0nm,1.1s						
KSH				pmax	pmax		
	comp=E,140nm,5.0s						
KSH				LR	LR		
	comp=E,96nm,5.9s						
KSH				LR	LR		
	comp=E,150nm,6.3s						
KSH				LR	LR		
	comp=E,180nm,5.9s						
KURK	**Kurchatov**	**84.63**	**322**	P	**P**	**04 54 47.2**	**-0.6**
	comp=E,30nm,0.5s,SNR=5.9						
KURK	**Kurchatov**	**84.63**	**322**	⇓*i*P	**P**	**04 54 47.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KURK	**Kurchatov**	**84.63**	**322**	*e*P	**P**	**04 54 47.1**	**-0.6**
	comp=Z,5.4nm,1.0s						
KURBB	**Kurchatov Arra**	**84.66**	**322**	P	**P**	**04 54 46.5**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=108,slow=4.1,SNR=4.2						
TKM2	**Tokmak 2**	**84.67**	**314**	*e*P	**P**	**04 54 48.0**	**-0.5**
TKM2				*e**PP	**pP**	**04 54 59.2**	**+4.6**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKM2	**Tokmak 2**	**84.67**	**314**	*e*P	**P**	**04 54 48.0**	**-0.5**
	comp=Z,9.9nm,0.6s						
TKM2				*e*pP	**pP**	**04 54 59.2**	**+4.6**
AAK	**Ala-Archa**	**85.40**	**314**	⇓*e*P	**P**	**04 54 51.8**	**-0.3**
AAK				pmax	pmax		
	comp=Z,15nm,1.4s						
AAK	**Ala-Archa**	**85.40**	**314**	*e*P	**P**	**04 54 52.4**	**+0.3**
	comp=Z,9.7nm,0.7s						
AAK				*e*pP	**pP**	**04 55 02.9**	**+4.7**
AAK	**Ala-Archa**	**85.40**	**314**	P	**P**	**04 54 52.0**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=129,slow=6.9,SNR=9.0						
EGAK	**Eagle**	**85.48**	**23**	*e*P	**P**	**04 54 52.2**	**+0.4**
	comp=Z,16nm,0.8s						
DAWY	**Dawson**	**85.90**	**24**	*e*P	**P**	**04 54 54.3**	**+0.3**
EKS2	**Erkin-Say**	**85.92**	**313**	*e*P	**P**	**04 54 55.1**	**+0.4**
EKS2				*e**PP	**pP**	**04 55 05.6**	**+4.8**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EKS2	**Erkin-Say**	**85.92**	**313**	*e*P	**P**	**04 54 55.1**	**+0.4**
	comp=Z,9.3nm,0.8s						
EKS2				*e*pP	**pP**	**04 55 05.6**	**+4.8**
KKAR	**Karatay Array**	**88.36**	**313**	*e*P	**P**	**04 55 05.6**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**88.36**	**313**	*e*P	**P**	**04 55 05.6**	**-0.7**
	comp=Z,1.9nm,0.6s						
INK	**Inuvik**	**89.59**	**21**	*e*P	**P**	**04 55 11.2**	**-0.3**
	comp=Z,4.7nm,0.8s					

NEW	**Newport**	**94.54**	**42**	P		**P**	**04 55 34.4**	**-0.6**
	baz=95							
R11A	**Troy Canyon, C**	**95.02**	**52**	P		**P**	**04 55 38.7**	**+1.2**
	baz=95							
Y12C	**Blythe**	**95.59**	**57**	P		**P**	**04 55 40.6**	**+0.5**
	baz=96							
BSMT	**Bassoo Peak**	**96.08**	**43**	*e*P		**P**	**04 55 42.0**	**-0.2**
HLID	**Hailey**	**96.18**	**47**	*e*P		**P**	**04 55 43.4**	**+0.6**
	comp=Z,17nm,2.0s							
HLID	**Hailey**	**96.18**	**47**	P		**P**	**04 55 43.6**	**+0.9**
	baz=96							
ABKAR	**Akbulak array**	**96.29**	**319**	*e*P		**P**	**04 55 42.0**	**-0.8**
	comp=Z,1.2nm,0.7s							
YKA	**Yellowknife Ar**	**96.52**	**28**	P		**P**	**04 55 43.4**	**-0.1**
YKA	**Yellowknife Ar**	**96.52**	**28**	P		**P**	**04 55 43.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=272,slow=4.5,SNR=52							
ARUT	**Antelope Range**	**96.68**	**53**	*e*P		**P**	**04 55 45.3**	**+0.2**
ARUT	**Antelope Range**	**96.68**	**53**	*e*P		**P**	**04 55 45.3**	**+0.2**
ARU	**Arti**	**97.23**	**326**	*e*P		**P**	**04 55 46.0**	**-1.0**
ARU	**Arti**	**97.23**	**326**	*e*P		**P**	**04 55 46.0**	**-1.0**
HVU	**Hansel Valley**	**97.33**	**49**	*e*P		Pdif	04 55 48.4	+0.4
HVU					pmax	pmax		
	comp=Z,4.0nm,0.8s							
HVU	**Hansel Valley**	**97.33**	**49**	*e*P		Pdif	04 55 48.4	+0.4
	comp=Z,4.2nm,0.8s							
BOZ	**Bozeman (W)**	**98.21**	**45**	*e*P		Pdif	04 55 52.2	+0.3
BOZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
BOZ	**Bozeman (W)**	**98.21**	**45**	*e*P		Pdif	04 55 52.2	+0.3
	comp=Z,2.2nm,0.7s							
HWUT	**Hardware Ranch**	**98.23**	**49**	*e*P		Pdif	04 55 52.1	0.0
	comp=Z,2.0nm,0.7s							
BW06	**Boulder Array**	**99.72**	**48**	*e*P		**Pdif**	**04 55 58.3**	**-0.5**
	comp=Z,3.3nm,0.9s							
PDAR	**Pinedale Array**	**99.72**	**48**	P		**Pdif**	**04 55 58.6**	**-0.1**
PDAR	**Pinedale Array**	**99.72**	**48**	P		**Pdif**	**04 55 58.6**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=239,slow=2.2,SNR=17							
F19A	**Roth Farm, Mol**	**100.09**	**45**	P		**Pdif**	**04 56 01.0**	**+0.8**
	baz=100							
E20A	**Meyer Farm, Mu**	**100.63**	**44**	P		**Pdif**	**04 56 03.3**	**+0.8**
	baz=101							
A20A	**Cobblestone Ra**	**100.65**	**42**	P		**Pdif**	**04 56 03.2**	**+0.7**
	baz=101							
N20A	**Spence Gulch,**	**100.72**	**50**	P		**Pdif**	**04 56 03.4**	**+0.1**
	baz=101							
J21A	**Lysite**	**101.25**	**47**	P		**Pdif**	**04 56 05.8**	**+0.3**
	baz=101							
B21A	**Ellsworth Farm**	**101.28**	**42**	P		**Pdif**	**04 56 06.4**	**+1.1**
	baz=101							
P22A	**Eagle**	**101.91**	**51**	P		**Pdif**	**04 56 09.6**	**+1.0**
	baz=102							
J22A	**Midwest**	**101.95**	**47**	P		**Pdif**	**04 56 08.6**	**0.0**
	baz=102							
F23A	**Volborg**	**102.57**	**45**	P		**Pdif**	**04 56 11.4**	**+0.3**
	baz=103							
D23A	**Lindsay**	**102.59**	**43**	P		**Pdif**	**04 56 11.7**	**+0.5**
	baz=103							
G23A	**Biddle**	**102.62**	**45**	P		**Pdif**	**04 56 12.2**	**+0.8**
	baz=103							
H25A	**Fruitdale**	**103.94**	**46**	P		**Pdif**	**04 56 17.8**	**+0.6**
	baz=104							
G26A	**Maurine**	**104.57**	**45**	P		**Pdif**	**04 56 20.9**	**+0.8**
	baz=105							
528A	**Cox Ranch, San**	**105.53**	**60**	P		**PKiKP**	**05 00 36.4**	**-1.9**
	baz=106							
AKASG	**Malin Array Be**	**115.39**	**324**	PKiKP		**PKPdf**	**05 00 54.7**	**-1.4**
AKASG	**Malin Array Be**	**115.39**	**324**	PKiKP		**PKPdf**	**05 00 54.7**	**-1.4**
AKASG	**Malin Array Be**	**115.39**	**324**	PKiKP		**PKPdf**	**05 00 54.7**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=56,slow=3.5,SNR=3.7							
NOA	**NORSAR Array B**	**117.98**	**340**	PKP		**PKPdf**	**05 01 00.1**	**-0.7**
NOA	**NORSAR Array B**	**117.98**	**340**	PKP		**PKPdf**	**05 01 00.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=48,slow=1.9,SNR=3.1							
PSZ	**Piszkesteto**	**122.08**	**324**	*e*PKiKP		**PKPdf**	**05 01 09.2**	**0.0**
PSZ	**Piszkesteto**	**122.08**	**324**	*e*PKPdf		**PKPdf**	**05 01 09.2**	**0.0**
MORC	**Moravsky Berou**	**122.41**	**327**	*e*PKiKP		**PKPdf**	**05 01 09.9**	**+0.2**
MORC	**Moravsky Berou**	**122.41**	**327**	*e*PKPdf		**PKPdf**	**05 01 09.9**	**+0.2**
GERES	**GERESS Array B**	**125.00**	**328**	PKP		**PKPdf**	**05 01 14.4**	**-0.4**
GERES	**GERESS Array B**	**125.00**	**328**	PKP		**PKPdf**	**05 01 14.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=90,slow=1.0,SNR=6.9							
LCO	**Las Campanas**	**125.67**	**132**	*e*PKPdf		**PKPdf**	**05 01 17.1**	**+0.2**
NNA	**Nana**	**127.61**	**110**	*e*PKPdf		**PKPdf**	**05 01 21.1**	**+0.5**
BCIP	**Isla Barro Col**	**127.87**	**83**	*e*PKPdf		**PKPdf**	**05 01 21.4**	**+0.3**
OTAV	**Otavalo**	**128.64**	**94**	*e*PKPdf		**PKPdf**	**05 01 23.3**	**+0.1**
LVC	**Limon Verde**	**130.37**	**126**	*e*PKPdf		**PKPdf**	**05 01 26.9**	**+0.9**
BNI	**Bardonecchia**	**131.12**	**328**	*e*PKiKP		**PKPdf**	**05 01 28.0**	**+1.4**
BNI	**Bardonecchia**	**131.12**	**328**	*e*PKPdf		**PKPdf**	**05 01 28.0**	**+1.4**
LPAZ	**La Paz**	**133.94**	**119**	*e*PKPdf		**PKPdf**	**05 01 33.9**	**+0.5**
LPAZ	**La Paz**	**133.94**	**119**	PKP		**PKPdf**	**05 01 33.9**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=227,slow=1.5,SNR=7.5							
KEST	**Kesra**	**135.19**	**316**	*e*PKPdf		**PKPdf**	**05 01 34.6**	**+0.1**
CPUP	**Villa Florida**	**136.65**	**139**	*e*PKPdf		**PKPdf**	**05 01 38.1**	**+0.7**
CPUP				PKP		**PKPdf**	**05 01 38.2**	**+0.9**
CPUP	**Villa Florida**	**136.65**	**139**	PKP		**PKPdf**	**05 01 38.2**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=325,slow=4.1,SNR=3.8							
SDV	**Santo Domingo**	**136.96**	**83**	*e*PKPdf		**PKPdf**	**05 01 38.7**	**+0.2**
SAML	**Samuel**	**141.28**	**112**	*e*PKPdf		**PKPdf**	**05 01 45.0**	**-1.1**
TAM	**Tamanrasset**	**144.21**	**301**	*e*PKiKP		PKPbc	05 01 49.5	+0.1
TAM	**Tamanrasset**	**144.21**	**301**	*e*PKPdf		PKPbc	05 01 49.5	+0.1
FDF	**Fort de France**	**145.63**	**73**	*e*PKP2		**PKPbc**	**05 01 54.2**	**+0.2**
FDF	**Fort de France**	**145.63**	**73**	*e*PKPbc		**PKPbc**	**05 01 54.2**	**+0.2**
PTGA	**Pitinga**	**146.72**	**100**	*e*PKPbc		**PKPbc**	**05 01 57.5**	**+0.1**
BDFB	**Brasilia**	**150.30**	**137**	PKPbc		**PKPbc**	**05 02 06.3**	**-0.4**
BDFB	**Brasilia**	**150.30**	**137**	PKPbc		**PKPbc**	**05 02 06.3**	**-0.4**
	comp=Z,8.9nm,0.8s,baz=224,slow=2.7,SNR=3.9							
TOA0	**Torodi Ar. Sit**	**150.55**	**286**	*e*PKPbc		**PKPbc**	**05 02 06.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**150.55**	**286**	PKPbc		**PKPbc**	**05 02 06.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.55**	**286**	PKPbc		**PKPbc**	**05 02 06.5**	**-0.7**
	comp=Z,16nm,0.7s,baz=92,slow=2.8,SNR=121							
DBIC	**Dimbokro**	**157.68**	**273**	*e*PKPdf		**PKPdf**	**05 02 12.1**	**+0.2**

BJI ***23*** *04:43:38.4, 11.˚26S×166.˚88E, h48km, mB5.3/30, mb5.0/48, Ms5.0/25, Ms7 4.6/28*

ISCJB ***23*** *04:43:39.6±1.8, 11.˚56S±0.˚05×166.˚36E±0.˚06, h48km±15km, mb4.9/73, MS4.4/28, Error ellipse: s-maj=10.5km s-min=8.0km az=16.0*

IDC ***23*** *04:43:41.0±2.1, 11.˚53S×166.˚35E, h52km±17km, mb4.4/19, mb1 4.5/20, mb1mx4.3/37, mbtmp4.6/20, ML4.0/1, MS4.3/17, Ms1 4.3/17, ms1mx4.2/22, Error ellipse: s-maj=21.1km s-min=14.4km az=114.0*

MOS ***23*** *04:43:40.3±1.0, 11.˚45S×166.˚20E, h52km, mb5.1/20, Error ellipse: s-maj=11.0km s-min=9.8km az=81.7*

NEIC ***23*** *04:43:40.9±0.3, 11.˚54S×166.˚36E, mb5.0/30, Error ellipse: s-maj=9.8km s-min=6.7km az=132.0*

GCMT ***23*** *04:43:40.9±0.2, 11.˚65S×166.˚10E, h54km, MW5.2/86, Moment Tensor Solution. s86,c107; s78,c110; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.79±.02; Mθθ0.02±.02; Mϕϕ-0.81±.02; Mrθ-0.26±.01; Mθϕ0.08±.02; Mrϕ0.18±.01; Best double couple: M=0.82600×10^17 NP1:ϕs352.00000°, δ51.00000°, λ86.00000°. NP2:ϕs178.00000°, δ39.00000°, λ94.00000°. Principal axes: T 0.8120, Plg83.0000°, Azm241.0000°; N 0.0300, Plg3.0000°, Azm354.0000°; P -0.8410, Plg6.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 04:43:40.6±0.4, 11˚.63S±0˚.04×166˚.46E±0˚.07, h49km±2km, h49km:pP-P, n210, σ1§59/257, mb4.9/73, MS4.4/29, 4C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**288**	*e*P	**Pn**	**04 45 18.0**	**+0.6**
DZM	**Mont Dzumac**	**10.39**	**180**	*e*Pn	Pn	04 46 10.4	+3.3
	19nm,0.3s						
DZM				*e*Sn	**Sn**	**04 47 56.7**	**-5.4**
	13nm,0.3s						
DZM				*e*LR	LR	04 48 33.3	
	4μm,25.7s						
DZM	**Mont Dzumac**	**10.39**	**180**	P	**Pn**	**04 46 09.3**	**+2.3**
DZM				S	**Sn**	**04 48 00.8**	**-1.4**
DZM	**Mont Dzumac**	**10.39**	**180**	P	**Pn**	**04 46 09.3**	**+2.3**
	1.2nm,0.3s,baz=22,slow=19,SNR=16						
DZM				S	**Sn**	**04 48 00.8**	**-1.4**
	baz=330,slow=20,SNR=1.9						
DZM	**Mont Dzumac**	**10.39**	**180**	*e*P	**Pn**	**04 46 10.0**	**+2.9**
DZM				*e*S	Sn	04 48 22.2	+20
PMG	**Port Moresby**	**19.10**	**275**	LR	LR	04 54 51.0	
	comp=Z,1μm,20.6s,baz=117,slow=35						
EIDS	**Eidsvold**	**19.96**	**225**	*e*Pn	**Pn**	**04 48 11.4**	**+0.6**
	103nm,1.6s						
EIDS	**Eidsvold**	**19.96**	**225**	P	**Pn**	**04 48 11.3**	**+0.6**
	baz=19,SNR=4.2						

KWAJ	**Kwajalein Atol**	**20.33**	**3**	*i* P		**P**	**04 48 11.8**	**-1.0**
LHI	**Lord Howe Isla**	**20.94**	**198**	P		Pn	04 48 21.8	-0.6
	baz=20,SNR=5.7							
CTA	**Charters Tower**	**21.16**	**244**	P		**P**	**04 48 21.5**	**-0.3**
CTA	**Charters Tower**	**21.16**	**244**	P		**P**	**04 48 21.5**	**-0.3**
	14nm,0.9s,baz=76,slow=8.3,SNR=3.5							
CTA					LR	LR	04 55 22.9	
	comp=Z,2μm,20.7s,baz=70,slow=33							
CTAO	**Charters Tower**	**21.16**	**244**	*e*P		**P**	**04 48 22.8**	**+1.0**
CTAO					pmax	pmax		
	comp=Z,48nm,1.2s							
CTAO	**Charters Tower**	**21.16**	**244**	*e*Pn		**P**	**04 48 22.8**	**+1.0**
	comp=Z,48nm,1.2s							
AFI	**Afiamalu**	**21.35**	**98**	LR	LR	LR	04 55 06.4	
	comp=Z,626nm,20.5s,baz=260,slow=32							
RMQ	**Roma**	**22.28**	**226**	P		P	**04 48 35.9**	**+2.1**
	baz=21,SNR=6.7							
RAO	**Raoul Island**	**22.80**	**143**	LR		LR	04 56 26.7	
	comp=Z,498nm,20.1s,baz=338,slow=33							
COEN	**Coen**	**22.82**	**262**	*e*P		**P**	**04 48 39.1**	**-0.5**
	comp=Z,3μm,2.4s							
COEN					*e*pP	**pP**	**04 48 48.6**	**-2.6**
ARMA	**Armidale**	**23.22**	**214**	*e*P		**P**	**04 48 44.9**	**+1.4**
	comp=Z,104nm,1.0s							
ARMA	**Armidale**	**23.22**	**214**	P		**P**	**04 48 45.0**	**+1.4**
	baz=22,SNR=25							
QLP	**Quilpie**	**25.67**	**231**	P		**P**	**04 49 06.7**	**+0.6**
	baz=25,SNR=6.5							
CMSA	**Cobar Meteorol**	**27.57**	**221**	P		**P**	**04 49 23.8**	**+0.7**
	baz=27,SNR=5.7							
URZ	**Urewera**	**28.18**	**162**	LR		LR	04 59 03.3	
	comp=Z,675nm,21.6s,baz=324,slow=33							
CNB	**Canberra Magne**	**28.23**	**211**	P		**P**	**04 49 30.6**	**+1.6**
	baz=27,SNR=5.7							
STKA	**Stephens Creek**	**30.51**	**225**	*e*P		**P**	**04 49 50.2**	**+1.0**
	comp=Z,4.8nm,0.9s							
STKA					ScP	**ScP**	**04 56 26.2**	**+0.2**
STKA	**Stephens Creek**	**30.51**	**225**	P		**P**	**04 49 50.0**	**+0.7**
	comp=Z,18nm,0.8s,baz=47,slow=9.5,SNR=10.0							
STKA					ScP	**ScP**	**04 56 26.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=45,slow=2.6,SNR=1.7							
STKA					LR	LR	05 01 01.4	
	comp=Z,1μm,20.7s,baz=45,slow=34							
STKA	**Stephens Creek**	**30.51**	**225**	P		**P**	**04 49 50.5**	**+1.2**
	baz=30,SNR=8.9							
WRAB	**Tennant Creek**	**31.94**	**251**	⇑*i* P		**P**	**04 50 01.4**	**-0.6**
WRAB					pmax	pmax		
	comp=Z,63nm,0.9s							
WRAB	**Tennant Creek**	**31.94**	**251**	*e*P		**P**	**04 50 00.1**	**-1.9**
	comp=Z,36nm,1.1s							
WRA	**Warramunga Arr**	**31.95**	**251**	P		**P**	**04 50 01.4**	**-0.6**
WRA					PcP	**PcP**	**04 52 50.8**	**-0.7**
WRA					ScP	**ScP**	**04 56 30.9**	**-0.2**
WRA	**Warramunga Arr**	**31.95**	**251**	P		**P**	**04 50 01.4**	**-0.6**
	comp=Z,20nm,0.9s,baz=81,slow=9.1,SNR=17							
WRA					PcP	**PcP**	**04 52 50.8**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=74,slow=3.3,SNR=5.0							
WRA					ScP	**ScP**	**04 56 30.9**	**-0.2**
	comp=Z,1.6nm,1.2s,baz=84,slow=3.2,SNR=2.9							
WRA					LR	LR	05 01 57.3	
	comp=Z,465nm,18.6s,baz=70,slow=34							
TOO	**Toolangi**	**31.95**	**212**	P		**P**	**04 50 03.3**	**+1.4**
	baz=31,SNR=6.6							
RPZ	**Rata Peaks**	**32.22**	**174**	*e*P		**P**	**04 50 05.0**	**+0.8**
	comp=Z,22nm,0.7s							
AS31	**Alice Springs**	**33.16**	**244**	*e*P		**P**	**04 50 11.3**	**-1.4**
ASAR	**Alice Springs**	**33.17**	**244**	P		**P**	**04 50 12.0**	**-0.7**
ASAR					PcP	**PcP**	**04 52 54.5**	**-0.4**
ASAR					ScP	**ScP**	**04 56 33.5**	**-1.8**
ASAR	**Alice Springs**	**33.17**	**244**	P		**P**	**04 50 12.0**	**-0.7**
	comp=Z,8.5nm,0.8s,baz=75,slow=8.9,SNR=9.1							
ASAR					PcP	**PcP**	**04 52 54.5**	**-0.4**
	comp=Z,4.9nm,1.0s,baz=86,slow=3.2,SNR=10							
ASAR					ScP	**ScP**	**04 56 33.5**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=81,slow=3.6,SNR=2.4							
ASAR					LR	LR	05 02 50.6	
	comp=Z,698nm,19.5s,baz=59,slow=35							
HTT	**Hallett**	**33.25**	**225**	P		**P**	**04 50 14.4**	**+1.1**
	baz=32,SNR=13							
BBOO	**Buckleboo**	**34.95**	**228**	*e*P		**P**	**04 50 28.0**	**-0.1**
	comp=Z,773nm,1.4s							
FORT	**Forrest**	**40.29**	**236**	*e*P		**P**	**04 51 12.8**	**-0.3**
	comp=Z,15nm,0.8s							
FORT					*e*pP	**pP**	**04 51 24.0**	**-2.3**
PPT	**Papeete**	**42.88**	**103**	LR		LR	05 06 22.6	
	comp=Z,262nm,18.8s,baz=272,slow=32							
PPT2	**Papeete2**	**42.88**	**103**	*e*LQ		LQ	05 01 46.6	
	comp=Z,713nm,26.2s							
PPT2					*e*LR	LR	05 03 39.8	
	comp=Z,2μm,29.2s							
TBI	**Tubuai**	**43.47**	**112**	*e*LQ		LQ	05 02 06.3	
	comp=Z,709nm,32.8s							
TBI					*e*LR	LR	05 03 57.0	
	comp=Z,2μm,29.2s							
LUWI	**Luwuk**	**44.60**	**280**	*e*P		**P**	**04 51 49.1**	**+0.6**
	comp=Z,119nm,1.2s							
KAPI	**Kappang**	**46.63**	**274**	*e*P		**P**	**04 52 05.0**	**+0.5**
	comp=Z,329nm,1.6s							
KAPI					*e*pP	**pP**	**04 52 18.6**	**+0.8**
MEEK	**Meekatharra**	**47.33**	**244**	P		**P**	**04 52 10.3**	**+0.5**
	baz=46,SNR=14							
BLDU	**Ballidu**	**49.67**	**240**	P		**P**	**04 52 28.2**	**+0.4**
	baz=49,SNR=4.2							
NWAO	**Narrogin (SRO)**	**49.72**	**237**	P		**P**	**04 52 28.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**49.72**	**237**	P		**P**	**04 52 28.2**	**+0.1**
	comp=Z,33nm,1.0s,baz=80,slow=7.2,SNR=8.1							
MORW	**Morawa**	**49.96**	**242**	P		**P**	**04 52 30.1**	**+0.1**
	baz=49,SNR=4.9							
KKM	**Kota Kinabalu**	**52.97**	**287**	P		x	04 52 54.1	
	comp=Z,64nm,1.4s,comp=Z,868nm							
KKM	**Kota Kinabalu**	**52.97**	**287**	*e*P		**P**	**04 52 53.5**	**+0.7**
	comp=Z,58nm,1.0s							
KKM					*e*pP	**pP**	**04 53 07.5**	**+1.1**
KKM	**Kota Kinabalu**	**52.97**	**287**	P		**P**	**04 52 53.9**	**+1.1**
	baz=53,SNR=8.3							
MJAR	**Matsushiro Arr**	**54.81**	**332**	P		**P**	**04 53 04.4**	**-1.3**
MJAR	**Matsushiro Arr**	**54.81**	**332**	P		**P**	**04 53 04.4**	**-1.3**
	comp=Z,9.2nm,1.0s,baz=163,slow=6.5,SNR=4.8							
MJAR					LR	LR	05 14 14.2	
	comp=Z,96nm,21.7s,baz=180,slow=34							
MAJO	**Matsushiro**	**54.81**	**332**	*e*P		**P**	**04 53 04.1**	**-1.6**
SBUM	**Sibu**	**55.70**	**281**	P		x	04 53 14.0	
	comp=Z,16nm,1.9s							
SBUM	**Sibu**	**55.70**	**281**	*e*P		**P**	**04 53 12.5**	**0.0**
	comp=Z,15nm,1.1s							
SBUM					*e*pP	**pP**	**04 53 26.8**	**+0.6**
RKT	**Rikitea**	**56.73**	**110**	*e*LQ		LQ	05 07 31.3	
	comp=Z,587nm,38.0s							
RKT					*e*LR	LR	05 10 06.7	
	comp=Z,1μm,29.0s							
KSM	**Kuching**	**57.29**	**279**	P		x	04 53 40.1	
KSM	**Kuching**	**57.29**	**279**	*e*pP		pP	04 53 38.1	+0.5
ASAJ	**Asahikawa**	**59.57**	**340**	LR		LR	05 15 55.6	
	comp=Z,245nm,20.9s,baz=42,slow=32							
KSRS	**Korea Array**	**60.75**	**325**	P		**P**	**04 53 46.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=132,slow=7.3,SNR=4.3							
KSAR	**Wonju Array Be**	**60.76**	**325**	P		**P**	**04 53 46.6**	**-0.8**
MDSI	**Maura Dua**	**61.97**	**271**	P		P	04 54 09.9	+14
YSS	**Yuzh-Sakhalins**	**62.05**	**342**	*e*P		**P**	**04 53 56.7**	**+0.8**
YSS					pmax	pmax		
	comp=Z,18nm,1.2s							
NJ2	**Nanjing**	**62.92**	**315**	*e*P		**P**	**04 54 03.6**	**+1.5**
NJ2					pmax	pmax		
	comp=Z,20nm,0.9s							
NJ2					LR	LR		
	comp=Z,420nm,30.2s							
QIZ	**Qiongzhong**	**63.57**	**298**	P		**P**	**04 54 08.3**	**+1.7**
QIZ					S	**S**	**05 02 39.6**	**+2.5**
QIZ					LR	LR		
	comp=Z,550nm,15.2s							
USRK	**Ussuriysk Arra**	**63.78**	**333**	P		**P**	**04 54 06.5**	**-1.0**
	comp=Z,15nm,1.2s,baz=144,slow=7.1,SNR=7.1							
PET	**Petropavlovsk**	**64.74**	**355**	⇑*e*P		**P**	**04 54 14.9**	**+1.4**
PET					pmax	pmax		
	comp=Z,57nm,2.0s							
PETK	**Petropavlovsk-**	**64.91**	**354**	LR		LR	05 15 50.2	
	comp=Z,145nm,21.6s,baz=166,slow=30							
MDJ	**Mudanjiang**	**65.19**	**332**	P		**P**	**04 54 18.9**	**+2.2**
MDJ					pP	**pP**	**04 54 30.6**	**0.0**
MDJ					sP	**sP**	**04 54 35.8**	**-0.5**
MDJ					S	**S**	**05 02 59.4**	**+3.2**
MDJ					sS	**sS**	**05 03 19.6**	**+0.1**
MDJ					pmax	pmax		
	comp=Z,8.0nm,1.4s							
MDJ					pmax	pmax		
	comp=Z,98nm,5.9s							

MDJ					LR	LR		
	comp=Z,100nm,26.7s							
MDJ					LR	LR		
	comp=Z,110nm,25.4s							
MDJ					LR	LR		
	comp=Z,190nm,30.9s							
VNDA	**Vanda**	**65.93**	**181**	*e*P		**P**	**04 54 21.9**	**+0.8**
	comp=Z,15nm,1.3s							
VNDA					*e*pP	**pP**	**04 54 35.9**	**+0.9**
VNDA	**Vanda**	**65.93**	**181**	P		**P**	**04 54 21.4**	**+0.3**
	comp=Z,7.5nm,1.0s,baz=343,slow=6.3,SNR=11							
CASY	**Casey**	**66.10**	**202**	*e*P		**P**	**04 54 21.5**	**-0.7**
	comp=Z,28nm,1.3s							
CN2	**Changchun**	**66.60**	**329**	⇑P		**P**	**04 54 25.6**	**-0.2**
CN2					*e*sP	**sP**	**04 54 44.6**	**-0.8**
CN2					*e*S	**S**	**05 03 11.9**	**-1.5**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CN2					pmax	pmax		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=Z,2μm,22.0s							
CN2					LR	LR		
	comp=Z,1μm,22.0s							
CN2					LR	LR		
	comp=Z,2μm,20.0s							
IPM	**Ipoh**	**67.01**	**280**	P		x	04 54 29.6	
	comp=Z,36nm,1.4s,comp=Z,555nm							
IPM	**Ipoh**	**67.01**	**280**	*e*P		**P**	**04 54 29.4**	**+0.3**
	comp=Z,41nm,1.1s							
IPM					*e*pP	**pP**	**04 54 42.9**	**-0.2**
MNSI	**Mandailing Nat**	**67.55**	**276**	P		P	04 54 33.8	+1.3
KULM	**Kulim**	**67.58**	**281**	*e*P		**P**	**04 54 32.8**	**+0.2**
	comp=Z,26nm,1.4s							
KLR	**Kul'dur**	**67.87**	**336**	*e*P		P	04 54 29.4	-4.3
KLR				*e*			04 54 43.3	
CHBT	**CHBT**	**68.09**	**289**	P		x	04 54 36.9	
	comp=Z,17nm,1.2s,comp=Z,2μm							
CHBT	**CHBT**	**68.09**	**289**	P		**P**	**04 54 36.8**	**+1.0**
	comp=Z,17nm,1.2s							
PSI	**Prapat**	**68.64**	**278**	P		x	04 54 39.0	
	comp=Z,25nm,0.8s							
PSI	**Prapat**	**68.64**	**278**	P		**P**	**04 54 38.7**	**-0.8**
PSI	**Prapat**	**68.64**	**278**	P		**P**	**04 54 38.7**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=115,slow=8.1,SNR=13							
PSI	**Prapat**	**68.64**	**278**	P		**P**	**04 54 39.2**	**-0.3**
	baz=68,SNR=9.5							
GYA	**Guiyang**	**69.32**	**304**	P		**P**	**04 54 46.3**	**+2.9**
GYA				pP		**pP**	**04 55 01.0**	**+3.5**
GYA				PP		**PP**	**04 57 21.4**	**+4.1**
GYA				ScP			04 59 07.6	
GYA				S		**S**	**05 03 47.0**	**+0.1**
GYA				SKS		**SKSac**	**05 04 37.0**	**-3.0**
GYA				SS		**SS**	**05 08 16.9**	**+2.1**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,130nm,5.4s							
GYA				LR		LR		
	comp=Z,550nm,20.5s							
GYA				LR		LR		
	comp=Z,490nm,21.4s							
GYA				LR		LR		
	comp=Z,520nm,20.7s							
BJI	**Beijing**	**69.37**	**321**	P		**P**	**04 54 42.6**	**-0.7**
BJI				pP		**pP**	**04 54 56.9**	**-0.4**
BJI				S		**S**	**05 03 49.1**	**+2.5**
BJI				pmax		pmax		
	comp=Z,17nm,1.1s							
BJI				LR		LR		
	comp=Z,250nm,32.3s							
SLVN	**Son La**	**69.60**	**298**	*e*P		**P**	**04 54 46.2**	**+1.1**
	comp=Z,33nm,1.4s							
PBKT	**Sadao Pong**	**70.55**	**292**	P		x	04 54 52.1	
PBKT	**Sadao Pong**	**70.

BILL	**Bilibino**	**79.46**	**360**	‖*iP*		**P**		**04 55 41.3**	**0.0**
BILL				*e*				04 55 49.0	
BILL					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BILL	**Bilibino**	**79.46**	**360**	*eP*		**P**		**04 55 40.1**	**-1.2**
	comp=Z,8.0nm,1.1s								
SONM	**Songino Array**	**79.55**	**324**		P	**P**		**04 55 42.2**	**-0.3**
SONM	**Songino Array**	**79.55**	**324**		P	**P**		**04 55 42.2**	**-0.3**
	comp=Z,6.0nm,1.1s,baz=130,slow=5.2,SNR=17								
GTA	**Gaotai**	**79.96**	**314**	‖P		**P**		**04 55 45.6**	**+0.7**
GTA					pP	**pP**		**04 55 59.8**	**+0.6**
GTA					sP	**sP**		**04 56 04.4**	**-0.3**
GTA					PP	**PP**		**04 58 48.9**	**+1.6**
GTA					S	**S**		**05 05 48.0**	**+2.7**
GTA					SKS	**SKSac**		**05 05 54.3**	**-4.0**
GTA					sS	**ScS**		**05 06 07.4**	**+1.5**
GTA					SS	**SS**		**05 10 58.4**	**+2.2**
GTA					pmax	pmax			
	comp=Z,22nm,1.2s								
GTA					pmax	pmax			
	comp=Z,280nm,6.5s								
GTA					LR	LR			
	comp=Z,170nm,20.4s								
GTA					LR	LR			
	comp=Z,150nm,20.4s								
GTA					LR	LR			
	comp=Z,310nm,21.9s								
SHL	**Shillong**	**81.41**	**298**	*eP*		**P**		**04 55 52.5**	**-0.5**
MCK	**McKinley**	**82.47**	**18**	*eP*		**P**		**04 55 58.6**	**+1.1**
MCK	**McKinley**	**82.47**	**18**	*eP*		**P**		**04 55 58.6**	**+1.1**
ZAK	**Zakamensk**	**82.58**	**325**	*eP*		**P**		**04 55 56.6**	**-1.8**
ZAK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
TLY	**Talaya**	**82.99**	**326**	*eP*		**P**		**04 56 00.1**	**-0.4**
TLY					pmax	pmax			
	comp=Z,16nm,1.6s								
COLA	**College**	**83.62**	**18**	*eP*		**P**		**04 56 01.8**	**-1.5**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
COLA	**College**	**83.62**	**18**	*eP*		**P**		**04 56 01.8**	**-1.5**
	comp=Z,4.0nm,0.8s								
ILAR	**Eielson Array**	**83.84**	**18**		P	**P**		**04 56 03.9**	**-0.7**
ILAR	**Eielson Array**	**83.84**	**18**		P	**P**		**04 56 03.8**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=231,slow=5.7,SNR=3.1								
WRAK	**Wrangell Islan**	**84.50**	**29**	*eP*		**P**		**04 56 09.2**	**+1.2**
	comp=Z,14nm,1.1s								
TAPN	**Taplejung**	**85.50**	**299**	*eP*		**P**		**04 56 14.0**	**-0.1**
	comp=Z,65nm,1.2s								
ODAN	**Odare**	**85.64**	**298**	*eP*		**P**		**04 56 14.8**	**+0.1**
	comp=Z,212nm,1.6s								
NVAR	**Mina Array Bea**	**85.86**	**50**		P	**P**		**04 56 16.1**	**+0.5**
NVAR	**Mina Array Bea**	**85.86**	**50**		P	**P**		**04 56 16.1**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=252,slow=5.5,SNR=3.9								
NVAR					LR	LR		05 26 48.2	
	comp=Z,438nm,21.8s,baz=96,slow=30								
RAMN	**Ramite**	**86.35**	**298**	*eP*		**P**		**04 56 18.2**	**0.0**
TIXI	**Tiksi**	**86.79**	**349**	*eP*		**P**		**04 56 17.1**	**-2.0**
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.2s								
JIRN	**Jiri**	**86.88**	**299**	*eP*		**P**		**04 56 20.8**	**-0.2**
	comp=Z,66nm,1.3s								
WVOR	**Wild Horse Val**	**86.89**	**46**	*eP*		**P**		**04 56 19.9**	**-0.5**
WVOR					pmax	pmax			
	comp=Z,25nm,1.6s								
WVOR	**Wild Horse Val**	**86.89**	**46**	*eP*		**P**		**04 56 19.9**	**-0.5**
	comp=Z,25nm,1.6s								
GUN	**Gumba**	**87.21**	**299**	*eP*		**P**		**04 56 22.4**	**-0.2**
PALK	**Pallekele**	**87.32**	**278**	*eP*		**P**		**04 56 23.4**	**+0.4**
	comp=Z,52nm,1.1s								
PKI	**Pulchoki**	**87.53**	**299**	*eP*		**P**		**04 56 23.5**	**-0.6**
	comp=Z,77nm,1.3s								
PKIN	**Phulchoki**	**87.54**	**299**	*eP*		**P**		**04 56 23.6**	**-0.5**
SHPR	**Sheep Range**	**87.69**	**52**	*eP*		**P**		**04 56 26.4**	**+2.0**
KKN	**Kakani**	**87.69**	**299**	*eP*		**P**		**04 56 24.4**	**-0.3**
DMN	**Daman**	**87.80**	**299**	*eP*		**P**		**04 56 25.1**	**-0.2**
	comp=Z,81nm,1.1s								
R11A	**Troy Canyon, C**	**87.88**	**50**	*eP*		P		04 56 28.9	+3.6
	comp=Z,12nm,1.5s								
GKN	**Gorkha**	**88.30**	**299**	*eP*		**P**		**04 56 26.9**	**-0.6**
DANN	**Dangsing**	**89.13**	**299**	*eP*		**P**		**04 56 30.4**	**-1.2**
	comp=Z,55nm,1.2s								
KOLN	**Koldanda**	**89.13**	**298**	*eP*		**P**		**04 56 30.3**	**-1.2**
	comp=Z,44nm,1.3s								
NEW	**Newport**	**89.73**	**41**	*eP*		**P**		**04 56 35.3**	**+1.7**
	comp=Z,2.3nm,0.7s								
PYUN	**Piuthan**	**89.73**	**299**	*eP*		**P**		**04 56 33.0**	**-1.3**
	comp=Z,12nm,1.0s								
WMQ	**Urumqi**	**90.00**	**315**		P	**P**		**04 56 35.0**	**0.0**
WMQ					pP	**pP**		**04 56 48.5**	**-1.1**
WMQ					sP	**sP**		**04 56 53.6**	**-1.4**
WMQ					PP	PP		05 00 14.1	+5.3
WMQ					SKS	**SKSac**		**05 06 59.8**	**-2.2**
WMQ					S	**ScS**		**05 07 26.3**	**-2.0**
WMQ					sS	**sS**		**05 07 44.0**	**-4.8**
WMQ					SS	**SS**		**05 13 22.8**	**-0.9**
WMQ					pmax	pmax			
	comp=Z,13nm,1.1s								
WMQ					pmax	pmax			
	comp=Z,19nm,8.7s								
WMQ					LR	LR			
	comp=Z,57nm,24.2s								
WMQ					LR	LR			
	comp=Z,110nm,29.0s								
WMQ					LR	LR			
	comp=Z,190nm,26.9s								
HLID	**Hailey**	**90.18**	**46**	*eP*		**P**		**04 56 38.2**	**+2.2**
	comp=Z,6.8nm,1.4s								
INK	**Inuvik**	**90.22**	**19**	*eP*		**P**		**04 56 37.7**	**+2.3**
	comp=Z,9.5nm,1.5s								
DUG	**Dugway**	**90.45**	**49**	*eP*		**P**		**04 56 38.8**	**+1.5**
DUG				*e**PP		**pP**		**04 56 53.1**	**+1.2**
DUG					pmax	pmax			
	comp=Z,14nm,1.8s								
DUG	**Dugway**	**90.45**	**49**	*eP*		**P**		**04 56 38.8**	**+1.5**
	comp=Z,14nm,1.8s								
DUG				*e*pP		**pP**		**04 56 53.1**	**+1.2**
MVU	**Marysvale**	**90.47**	**51**	*eP*		P		04 56 41.3	+3.7
	comp=Z,10nm,1.4s								
HYB	**Hyderabad**	**91.45**	**287**	*i* P		**P**		**04 56 41.0**	**-1.3**
HYB				*e*pP		**pP**		**04 56 56.0**	**-0.9**
PDAR	**Pinedale Array**	**93.43**	**47**		P	**P**		**04 56 51.9**	**+0.7**
PDAR	**Pinedale Array**	**93.43**	**47**		P	**P**		**04 56 51.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=206,slow=5.9,SNR=2.7								
PDAR					LR	LR		05 33 55.9	
	comp=Z,79nm,18.4s,baz=268,slow=32								
MKAR	**Makanchi Array**	**94.42**	**317**	*i* P		**P**		**04 56 54.9**	**-0.5**
MKAR					pmax	pmax			
	comp=Z,8.0nm,0.9s								
MKAR	**Makanchi Array**	**94.42**	**317**		P	**P**		**04 56 54.9**	**-0.5**
MKAR	**Makanchi Array**	**94.42**	**317**		P	**P**		**04 56 54.9**	**-0.5**
	comp=Z,8.1nm,0.9s,baz=86,slow=5.0,SNR=18								
ZAA0	**Zalesovo Array**	**94.43**	**324**	*eP*		**P**		**04 56 53.6**	**-1.6**
ZAA0				*e*pP		**pP**		**04 57 08.0**	**-1.7**
ZALV	**Zalesovo Beam**	**94.43**	**324**		P	**P**		**04 56 53.9**	**-1.3**
ZALV	**Zalesovo Beam**	**94.43**	**324**		P	**P**		**04 56 53.9**	**-1.3**
ZALV	**Zalesovo Beam**	**94.43**	**324**		P	**P**		**04 56 53.9**	**-1.3**
	comp=Z,5.2nm,1.1s,baz=108,slow=4.7,SNR=6.6								
ZALV					LR	LR		05 38 19.6	
	comp=Z,57nm,20.7s,baz=68,slow=35								
MNTX	**Cornudas Mount**	**94.47**	**59**	*eP*		**P**		**04 56 53.2**	**-2.7**
YKA	**Yellowknife Ar**	**95.17**	**27**		P	**P**		**04 56 58.5**	**+0.2**
YKA	**Yellowknife Ar**	**95.17**	**27**		P	**P**		**04 56 58.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=259,slow=4.9,SNR=6.8								
TXAR	**Lajitas Array**	**95.49**	**61**		LR	LR		05 32 25.1	
	comp=Z,176nm,20.8s,baz=0.0,slow=31								
KURK	**Kurchatov**	**97.53**	**320**	*eP*		**P**		**04 57 09.3**	**0.0**
KURK					pmax	pmax			
	comp=Z,1.0nm,1.2s								
KURK	**Kurchatov**	**97.53**	**320**	*eP*		**P**		**04 57 08.5**	**-0.8**
	comp=Z,5.5nm,1.4s								
KURBB	**Kurchatov Arra**	**97.57**	**320**		P	**P**		**04 57 09.4**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=105,slow=3.3,SNR=4.7								
KSH	**Kashi**	**97.66**	**309**	*eP*		Pdif		04 57 13.3	+2.8
KSH				*e*PP		**PP**		**05 01 10.5**	**+1.7**
KSH				*e*SKS		**SKSac**		**05 07 48.1**	**+4.0**
KSH				*e*S		**S**		**05 08 29.8**	**-2.5**
KSH					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KSH					pmax	pmax			
	comp=Z,49nm,5.2s								
KSH					LR	LR			
	comp=Z,64nm,5.4s								
KSH					LR	LR			
	comp=Z,100nm,5.4s								
KSH					LR	LR			
	comp=Z,110nm,10.5s								
AAK	**Ala-Archa**	**99.20**	**312**	*eP*		**Pdif**		**04 57 16.9**	**-0.4**
AAK					pmax	pmax			
	comp=Z,6.0nm,1.2s								
AAK	**Ala-Archa**	**99.20**	**312**	*eP*		**Pdif**		**04 57 18.4**	**+1.1**
	comp=Z,3.2nm,0.8s								
EKS2	**Erkin-Say**	**99.73**	**312**	*eP*		**Pdif**		**04 57 20.3**	**+0.7**
EKS2	**Erkin-Say**	**99.73**	**312**	*eP*dif		**Pdif**		**04 57 20.3**	**+0.7**
OTAV	**Otavalo**	**114.60**	**95**	*eP*KP		PKPdf		05 02 18.7	+1.7
ARCES	**ARCESS Array B**	**117.07**	**346**	PKP		**PKPdf**		**05 02 19.3**	**-0.3**
ARCES	**ARCESS Array B**	**117.07**	**346**	PKP		**PKPdf**		**05 02 19.3**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=45,slow=2.7,SNR=5.6								
FINES	**FINESS Array B**	**122.56**	**339**	PKP		**PKPdf**		**05 02 28.5**	**-1.8**
FINES	**FINESS Array B**	**122.56**	**339**	PKP		**PKPdf**		**05 02 28.5**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=50,slow=4.3,SNR=3.0								
CPUP	**Villa Florida**	**123.12**	**132**	*e*PKPdf		**PKPdf**		**05 02 33.8**	**+1.3**
BOSA	**Boshof**	**125.17**	**222**	*e*PKPdf		**PKPdf**		**05 02 35.8**	**-0.8**
BOSA	**Boshof**	**125.17**	**222**	PKP		**PKPdf**		**05 02 36.1**	**-0.4**
	comp=Z,5.0nm,1.0s,baz=164,slow=2.9,SNR=5.3								
SAML	**Samuel**	**126.58**	**110**	*e*PKPdf		**PKPdf**		**05 02 39.7**	**+0.3**
NAO01	**NORSAR Array S**	**127.69**	**345**	*e*PKPdf		**PKPdf**		**05 02 36.8**	**-3.4**
AKASG	**Malin Array Be**	**127.73**	**327**	PKIKP		**PKPdf**		**05 02 39.5**	**-1.1**
AKASG	**Malin Array Be**	**127.73**	**327**	PKP		**PKPdf**		**05 02 39.5**	**-1.1**
AKASG	**Malin Array Be**	**127.73**	**327**	PKP		**PKPdf**		**05 02 39.5**	**-1.1**
	comp=Z,0.1nm,0.2s,baz=42,slow=1.5,SNR=2.7								
KMBO	**Kilima Mbogo**	**127.97**	**259**	*e*PKPdf		**PKPdf**		**05 02 43.3**	**+0.8**
LSZ	**Lusaka**	**130.79**	**238**	*e*PKPdf		**PKPdf**		**05 02 48.3**	**+0.7**
STHS	**Stebnicka Huta**	**132.62**	**330**	*e*PKIKP		**PKPdf**		**05 02 53.8**	**+3.9**
STHS	**Stebnicka Huta**	**132.62**	**330**	*e*PKP		**PKPdf**		**05 02 53.8**	**+3.9**
PSZ	**Piszkesteto**	**134.28**	**329**	*e*PKIKP		**PKPdf**		**05 02 51.1**	**-2.1**
PSZ	**Piszkesteto**	**134.28**	**329**	*e*PKPdf		**PKPdf**		**05 02 51.1**	**-2.1**
CLL	**Collm**	**134.91**	**337**	*e*PKIKP		**PKPdf**		**05 02 54.0**	**-0.1**
CLL	**Collm**	**134.91**	**337**	*e*PKPdf		**PKPdf**		**05 02 54.0**	**-0.1**
GERES	**GERESS Array B**	**136.53**	**334**	PKP		**PKPdf**		**05 02 57.7**	**+0.3**
GERES	**GERESS Array B**	**136.53**	**334**	PKP		**PKPdf**		**05 02 57.7**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=108,slow=3.2,SNR=5.2								
TSUM	**Tsumeb**	**136.65**	**225**	*e*PKPdf		**PKPdf**		**05 02 59.4**	**+0.9**
KEST	**Kesra**	**148.30**	**323**	*e*PKPbc		**PKPdf**		**05 03 19.1**	**+0.6**
KEST	**Kesra**	**148.30**	**323**	PKPbc		**PKPbc**		**05 03 21.6**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=348,slow=1.9,SNR=3.8								
ESDC	**Sonseca Array**	**150.80**	**345**	PKPbc		**PKPbc**		**05 03 26.5**	**-1.5**
ESDC	**Sonseca Array**	**150.80**	**345**	PKPbc		**PKPbc**		**05 03 26.5**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=43,slow=1.9,SNR=5.5								
RCBR	**Riachuelo**	**151.79**	**127**	*e*PKPdf		**PKPdf**		**05 03 26.4**	**+1.8**
TOA0	**Torodi Ar. Sit**	**165.04**	**277**	*e*PKPdf		**PKPdf**		**05 03 40.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**165.04**	**277**	PKPab		**PKPab**		**05 04 36.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**165.04**	**277**	PKPab		**PKPab**		**05 04 36.6**	**-0.7**
	comp=Z,4.1nm,1.1s,baz=87,slow=4.7,SNR=6.2								
KIC	**Kosan Boka**	**169.86**	**240**	*e*PKP2		**PKPab**		**05 04 58.0**	**-0.5**
	comp=Z,42nm,1.2s								
LIC	**Lamto**	**170.03**	**238**	*e*PKP2		**PKPab**		**05 04 58.6**	**-0.6**
	comp=Z,44nm,1.5s								
DBIC	**Dimbokro**	**170.11**	**241**	*e*PKPdf		**PKPdf**		**05 03 42.1**	**-1.9**
DBIC				*e*PKPab		**PKPab**		**05 04 57.7**	**-1.9**
DBIC	**Dimbokro**	**170.11**	**241**	PKPab		**PKPab**		**05 04 57.2**	**-2.4**
	comp=Z,3.3nm,0.8s,baz=115,slow=4.1,SNR=4.1								
TIC	**Toumodi**	**170.24**	**240**	*e*PKP2		**PKPab**		**05 04 59.5**	**-0.7**

BJI ***23*** *05:11:16.7, 45.˚60N×148.˚50E, h45km, mB4.9/8, mb4.5/15*
ISCJB ***23*** *05:11:23.2±0.5, 45.˚52N±0.˚04×148.˚70E±0.˚06, h135km±4km, mb3.9/34, Error ellipse: s-maj=7.5km s-min=5.4km az=33.8*
MOS ***23*** *05:11:23.5±1.3, 45.˚77N×148.˚60E, h124km, mb4.3/10, Error ellipse: s-maj=10.5km s-min=8.2km az=94.4*
IDC ***23*** *05:11:24.1±0.6, 45.˚66N×148.˚63E, h126km±5km, mb3.6/25, mb1 3.8/31, mb1mx3.7/46, mbtmp4.0/31, MS3.8/3, Ms1 3.9/3, ms1mx3.1/29, Error ellipse: s-maj=13.4km s-min=9.3km az=154.0*
SKHL ***23*** *05:11:24.0±0.0, 45.˚41N×148.˚73E, h139km±4km, mb4.9/6, msh5.7/2*
JMA ***23*** *05:11:26.8±0.7, 44.˚97N×148.˚78E, h148km, M3.9*

ISC 23 05:11:23.6±0.5, 45.˚46N±0.˚05×148.˚72E±0.˚06, h127km±4km, h127km:pP-P, n132, σ1s48/139, mb4.0/34, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.64**	**250**	*e*PN		**Pn**	**05 11 44.0**	**+0.7**
KUR				*i* S		**Sn**	**05 11 59.0**	**+0.9**
KUR					pmax	pmax		
	comp=Z,5μm,1.0s							
KUR					pmax	pmax		
	comp=E,850nm,0.9s							
KUR					pmax	pmax		
	comp=Z,3μm,0.9s							
KUR					pmax	pmax		
	comp=N,330nm,0.5s							
KUR					smax	smax		
	comp=N,20μm,3.0s							
KUR					smax	smax		
	comp=E,15μm,3.0s							
KUR					smax	smax		
	comp=E,9840μm,1.0s							
KUR					smax	smax		
	comp=E,2μm,0.8s							
KUR	**Kuril'sk**	**0.64**	**250**	*e*P		**Pn**	**05 11 44.0**	**+0.7**
KUR					AMB	AMB	05 11 44.4	
	comp=E,5μm,1.0s							
KUR					AMB	AMB	05 11 44.5	
	comp=E,330nm,0.8s							
KUR					AMB	AMB	05 11 44.5	
	comp=E,850nm,0.8s							
KUR					AMB	AMB	05 11 44.5	
	comp=E,3μm,0.8s							
KUR					*e*S	**Sn**	**05 11 59.0**	**+0.9**
KUR					A	A	05 12 02.0	
	comp=E,20μm,3.0s							
KUR					A	A	05 12 02.0	
	comp=E,15μm,3.0s							
KUR					A	A	05 12 03.0	
	comp=E,5μm,1.0s							
KUR					A	A	05 12 03.0	
	comp=E,2μm,1.0s							
KUR					A	A	05 12 03.0	
	comp=E,3μm,1.0s							
SHO	**Shikotan**	**2.08**	**221**	*e*P		**Pn**	**05 11 59.0**	**+0.5**
SHO					AMB	AMB	05 12 00.5	
	comp=E,233nm,0.4s							
SHO					*e*S	**Sn**	**05 12 25.3**	**+0.2**
SHO					A	A	05 12 28.4	
	comp=E,850nm,0.3s							
JRA	**Rausu**	**2.98**	**241**	P		**Pn**	**05 12 12.2**	**+2.3**
NEM2	**Nemuro 2**	**2.99**	**227**	P		**Pn**	**05 12 10.5**	**+0.5**
NEM2					*e*S	**Sn**	**05 12 44.8**	**-0.9**
JNK	**Nakash**	**3.42**	**238**	P		**Pn**	**05 12 17.9**	**+2.3**
JTKR	**Abashiri--Toko**	**3.74**	**248**	P		**Pn**	**05 12 22.3**	**+2.5**
JAK	**Akkeshi**	**3.80**	**231**	P		**Pn**	**05 12 21.3**	**+0.7**
JAK					*e*S	**Sn**	**05 13 03.7**	**-1.0**
JMP	**Maruseppu**	**4.09**	**251**	P		**Pn**	**05 12 27.2**	**+2.7**
JAR	**Ashorobuto**	**4.16**	**240**	P		**Pn**	**05 12 28.2**	**+2.8**
JOB	**Onbets**	**4.34**	**236**	P		**Pn**	**05 12 29.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.40**	**292**	‖*i*PN		**Pn**	**05 12 31.0**	**+2.4**
YSS					pmax	pmax		
	comp=Z,30nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.40**	**292**	*e*P		**Pn**	**05 12 30.0**	**+1.4**
YSS					AMB	AMB	05 12 33.9	
	comp=Z,30nm,0.6s							
YSS					*e*rx	rx	05 12 58.0	
YSS					*e*rx	rx	05 13 02.1	
YSS					*e*S	**Sn**	**05 13 20.0**	**+0.9**
YSS					A	A	05 13 26.0	
	comp=Z,60nm,1.0s							
YSS					A	A	05 13 26.0	
	comp=Z,120nm,1.0s							
HRK	**Horoka**	**4.47**	**246**	*e*P		**Pn**	**05 12 32.7**	**+3.1**
JKK2	**Kamakawa 2**	**4.54**	**252**	P		**Pn**	**05 12 33.7**	**+3.1**
JKA	**Kamikawa-asahi**	**4.56**	**255**	*e*P		**Pn**	**05 12 32.9**	**+2.2**
ASAJ	**Asahikawa**	**4.56**	**255**	P		Pn	05 12 34.2	+3.4
ASAJ	**Asahikawa**	**4.56**	**255**	P		**Pn**	**05 12 32.9**	**+2.1**
	comp=Z,10nm,0.3s,baz=82,slow=13,SNR=39							
JCH	**Churui**	**4.80**	**236**	P		**Pn**	**05 12 34.8**	**+0.9**
JWK2	**Keihoku**	**4.81**	**271**	P		Pn	05 12 38.4	+4.4
JFR	**Furan**	**4.96**	**245**	P		**Pn**	**05 12 39.0**	**+2.9**
JAB	**Ashibetsu**	**5.04**	**249**	P		Pn	05 12 40.9	+3.7
MYR	**Moyori**	**5.05**	**233**	*e*P		**Pn**	**05 12 37.8**	**+0.6**
JEM	**Erimo**	**5.30**	**231**	P		**Pn**	**05 12 42.2**	**+1.6**
ERM	**Erimo**	**5.30**	**231**	*d*iPN		**Pn**	**05 12 42.6**	**+1.9**
ERM	**Erimo**	**5.30**	**231**	*e*P		**Pn**	**05 12 42.7**	**+2.0**
JBT2	**Biratori 2**	**5.30**	**242**	P		**Pn**	**05 12 42.2**	**+1.5**
JNBK	**Urakawa-nobuka**	**5.36**	**236**	P		**Pn**	**05 12 41.4**	**0.0**
JNB	**Noboribetsu**	**6.30**	**244**	P		**Pn**	**05 12 55.2**	**+1.1**
JNB					*e*S	**Sn**	**05 14 04.7**	**0.0**
JKB	**Kayabe**	**6.62**	**240**		P	**Pn**	**05 12 58.5**	**+0.1**
JKB					*e*S	**Sn**	**05 14 08.3**	**-4.1**
TYV	**Tymovskoe**	**6.76**	**325**	*e*P		**Pn**	**05 13 01.5**	**+1.3**
TYV					AMB	AMB	05 13 03.0	
	comp=Z,11nm,0.8s							
TYV					AMB	AMB	05 13 03.0	
	comp=Z,22nm,0.8s							
JSH	**Shimam**	**6.85**	**249**		P	**Pn**	**05 13 03.8**	**+2.2**
JYM2	**Yakumo 2**	**6.90**	**244**		P	**Pn**	**05 13 03.1**	**+0.9**
JYM2					*e*S	**Sn**	**05 14 18.1**	**-1.2**
JSR	**Shiriuchi**	**7.20**	**240**		P	**Pn**	**05 13 06.2**	**0.0**
JTM	**Tenmabayashi**	**7.29**	**233**		P	**Pn**	**05 13 06.3**	**-1.1**
JTM					*e*S	Sn	05 14 21.5	-7.1
JANG	**Nango**	**7.33**	**229**		P	**Pn**	**05 13 06.4**	**-1.6**
JTH	**Tanohata**	**7.48**	**225**		*e*S	Sn	05 14 27.3	-5.9
JOSM	**Okushiri--Mats**	**7.49**	**246**		P	**Pn**	**05 13 11.1**	**+0.9**
JRG	**Rokugo**	**8.51**	**227**		P	**Pn**	**05 13 22.8**	**-1.1**
JRG					*e*S	Sn	05 14 52.1	-6.1
NKL	**Nikolayevsk**	**9.31**	**329**	*e*P		**Pn**	**05 13 35.7**	**+1.2**
NKL					AMB	AMB	05 13 37.0	
	comp=Z,10.0nm,1.0s							
NKL					AMB	AMB	05 13 37.0	
	comp=Z,30nm,1.0s							
PETK	**Petropavlovsk-**	**9.64**	**34**	*e*PN		Pn	05 13 45.7	+6.7
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**9.64**	**34**	P		**Pn**	**05 13 38.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=171,slow=11,SNR=6.3							
GRNR	**Gornyy**	**9.79**	**307**	*e*P		**Pn**	**05 13 43.6**	**+2.6**
GRNR					AMB	AMB	05 13 44.2	
	comp=Z,59nm,1.0s							
HABR	**Khabarovsk**	**9.82**	**293**	PN		**Pn**	**05 13 41.4**	**0.0**
HABR					*e*S	**Sn**	**05 15 27.8**	**-1.9**
HABR					pmax	pmax		
	comp=E,37nm,1.4s							
HABR					pmax	pmax		
	comp=N,31nm,1.4s							
HABR					pmax	pmax		
	comp=Z,75nm,1.4s							
HABR					MLR	MLR		
	comp=Z,232nm,17.0s							
HABR	**Khabarovsk**	**9.82**	**293**	*eP*		**Pn**	**05 13 41.4**	**0.0**
PET	**Petropavlovsk**	**9.97**	**37**	*e*PN		**Pn**	**05 13 45.5**	**+2.1**
MJA0	**Matsu Arr-Jizo**	**11.90**	**225**	*e*PN		**P**	**05 14 14.5**	**-2.4**
MJAR	**Matsushiro Arr**	**11.92**	**225**	P		**Pn**	**05 14 12.1**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=5.7							
USRK	**Ussuriysk Arra**	**11.95**	**270**	P		**Pn**	**05 14 09.9**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=86,slow=13,SNR=17							
KLR	**Kul'dur**	**12.11**	**294**	*e*PN		**Pn**	**05 14 10.2**	**-1.7**
KLR					pmax	pmax		
	comp=E,48nm,1.4s							
KLR					pmax	pmax		
	comp=Z,33nm,1.4s							
KLR	**Kul'dur**	**12.11**	**294**	*e*rx		rx	05 14 10.2	
EKMR	**Ekimchan**	**12.79**	**312**	*eP*		**Pn**	**05 14 18.5**	**-2.2**
EKMR					AMB	AMB	05 14 19.3	
	comp=Z,3.0nm,0.6s							
BMKR	**Bomnak**	**15.71**	**313**	*eP*		**Pn**	**05 14 55.2**	**-2.5**
BMKR					AMB	AMB	05 14 56.5	
	comp=Z,3.0nm,0.9s							
ZEA	**Zeya**	**16.15**	**309**	*eP*		**Pn**	**05 15 02.5**	**-0.6**
ZEA					AMB	AMB	05 15 05.3	
	comp=Z,23nm,1.0s							
KROS	**Kirovskiy**	**16.57**	**311**	*eP*		**Pn**	**05 15 05.9**	**-2.4**
KROS					AMB	AMB	05 15 07.1	
	comp=Z,8.0nm,0.6s							
KSRS	**Korea Array**	**17.49**	**250**	P		**Pn**	**05 15 20.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=57,slow=11

KSH	**Kashi**	**52.29**	**291**	*e*P	P	05 20 27.0	+5.0
KSH				*e*PP	PP	05 22 28.6	+7.1
KSH				*e*PcS	**PcS**	**05 25 33.3**	**+3.1**
KSH				*e*S	**S**	**05 27 40.4**	**+3.0**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,63nm,5.1s						
KKN	**Kakani**	**52.53**	**273**	*e*P	**P**	**05 20 25.3**	**+1.2**
	comp=Z,22nm,0.7s						
PKI	**Pulchoki**	**52.58**	**273**	*e*P	**P**	**05 20 25.6**	**+1.1**
	comp=Z,13nm,0.5s						
PKIN	**Phulchoki**	**52.58**	**273**	*e*P	**P**	**05 20 25.6**	**+1.1**
	comp=Z,8.7nm,0.4s						
DMN	**Daman**	**52.77**	**273**	*e*P	**P**	**05 20 27.2**	**+1.4**
	comp=Z,14nm,0.5s						
GKN	**Gorkha**	**52.86**	**274**	*e*P	**P**	**05 20 27.6**	**+1.2**
	comp=Z,24nm,0.5s						
RES	**Resolute Bay**	**53.01**	**17**	P	**P**	**05 20 25.9**	**-0.7**
	comp=Z,2.6nm,0.4s,baz=329,slow=8.0,SNR=22						
DANN	**Dangsing**	**53.26**	**275**	*e*P	**P**	**05 20 31.1**	**+1.6**
	comp=Z,31nm,0.4s						
KOLN	**Koldanda**	**53.73**	**274**	*e*P	**P**	**05 20 34.2**	**+1.4**
	comp=Z,10nm,0.3s						
YKA	**Yellowknife Ar**	**53.76**	**35**	P	**P**	**05 20 32.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=300,slow=6.8,SNR=13						
YKA				pP	**pP**	**05 21 02.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=298,slow=7.0,SNR=5.2						
PYUN	**Piuthan**	**53.95**	**275**	*e*P	**P**	**05 20 35.9**	**+1.4**
	comp=Z,11nm,0.4s						
AKTO	**Aktyubinsk**	**57.27**	**311**	P	**P**	**05 20 57.3**	**-0.3**
AKTO	**Aktyubinsk**	**57.27**	**311**	P	**P**	**05 20 57.3**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=34,slow=7.3,SNR=2.5						
ARCES	**ARCESS Array B**	**58.03**	**340**	P	**P**	**05 21 01.5**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=32,slow=7.1,SNR=5.0						
JOF	**Joensuu**	**61.10**	**332**	*e*P	**P**	**05 21 22.7**	**-1.0**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOF	**Joensuu**	**61.10**	**332**	*e*p	**P**	**05 21 22.7**	**-1.0**
	comp=Z,1.9nm,0.3s						
KAF	**Kangasniemi**	**63.28**	**334**	*e*P	**P**	**05 21 36.5**	**-1.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	**63.28**	**334**	*e*p	**P**	**05 21 36.5**	**-1.7**
	comp=Z,0.5nm,0.3s						
FINES	**FINESS Array B**	**63.86**	**333**	P	**P**	**05 21 40.4**	**-1.6**
	comp=Z,7.nm,0.5s,baz=34,slow=8.3,SNR=51						
NVAR	**Mina Array Bea**	**65.73**	**59**	P	**P**	**05 21 54.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=290,slow=7.5,SNR=9.9						
NVAR				pP	**PcP**	**05 22 25.1**	**0.0**
	comp=Z,1.4nm,0.8s,baz=295,slow=6.9,SNR=5.3						
WRA	**Warramunga Arr**	**66.39**	**195**	P	**P**	**05 21 59.9**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=10,slow=6.8,SNR=10						
PDAR	**Pinedale Array**	**67.96**	**51**	P	**P**	**05 22 09.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=319,slow=2.0,SNR=7.3						
PDAR				pP	**pP**	**05 22 40.7**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=264,slow=0.9,SNR=2.8						
NB2	**NORSAR Subarra**	**68.41**	**339**	P	**P**	**05 22 09.7**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.41**	**339**	P	**P**	**05 22 09.5**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.5,SNR=13						
NOA				LR	LR	05 55 33.2	
	comp=Z,47nm,21.6s,baz=25,slow=39						
KIV	**Kislovodsk**	**69.45**	**312**	*e*P	**P**	**05 22 16.6**	**-1.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ASAR	**Alice Springs**	**70.11**	**194**	P	**P**	**05 22 23.7**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=7.8,slow=5.9,SNR=10						
AKASG	**Malin Array Be**	**70.86**	**324**	*e*P	**P**	**05 22 25.3**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.86**	**324**	P	**P**	**05 22 24.7**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=32,slow=5.8,SNR=5.5						
SCHQ	**Schefferville**	**75.63**	**20**	P	**P**	**05 22 54.2**	**0.0**
	comp=Z,1.7nm,0.5s,baz=279,slow=6.9,SNR=6.0						
CLL	**Collm**	**76.31**	**333**	*i* P	**P**	**05 22 57.9**	**-0.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**76.31**	**333**	*i* P	**P**	**05 22 57.9**	**-0.2**
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**77.17**	**314**	P	**P**	**05 23 03.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=116,slow=3.5,SNR=8.9						
GERES	**GERESS Array B**	**78.20**	**332**	P	**P**	**05 23 08.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=36,slow=6.4,SNR=8.3						
TXAR	**Lajitas Array**	**80.78**	**57**	P	**P**	**05 23 23.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=296,slow=4.2,SNR=6.0						
TXAR				pP	**pP**	**05 23 54.0**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=305,slow=4.3,SNR=5.3						
MMAI	**Mount Meron Ar**	**81.30**	**309**	P	**P**	**05 23 25.2**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=52,slow=5.4,SNR=6.1						
EIL	**Elat**	**84.09**	**307**	P	**P**	**05 23 40.2**	**0.0**
	comp=Z,4.9nm,0.6s,baz=345,slow=4.6,SNR=8.4						
ESDC	**Sonseca Array**	**91.77**	**339**	LR	LR	06 10 50.6	
	comp=Z,92nm,18.7s,baz=330,slow=39						
TORD	**Torodi Ar. Bea**	**114.49**	**324**	PKIKP	**PKiKP**	**05 29 48.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=12,slow=2.1,SNR=5.3						
H03N2	**Juan Fernandez**	**141.82**	**89**	T	T	08 08 53.0	
	baz=302,slow=75,SNR=6.1						
H03N3	**Juan Fernandez**	**141.83**	**89**	T	T	08 09 00.3	
	baz=302,slow=75,SNR=4.3						
H03N1	**Juan Fernandez**	**141.84**	**89**	T	T	08 09 00.3	
	baz=302,slow=75,SNR=6.7						
CFAA	**Coronel Fontan**	**148.25**	**77**	PKPbc	**PKPbc**	**05 30 54.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=256,slow=2.5,SNR=7.3						
PLCA	**Paso Flores**	**151.14**	**95**	PKPbc	**PKPbc**	**05 31 02.2**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=207,slow=2.3,SNR=5.2						

IDC 23 05:12:13.7±2.8, 54.14N×86.58E, h0km, mb1 2.9/2, mb1mx2.8/29, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=22.6km s-min=12.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**260**	*i*			05 17 40.0	
	baz=80,slow=343,SNR=6.8							
ZALV	**Zalesovo Beam**	**1.05**	**260**	Pg	Pg	Pg	05 12 33.6	-0.3
	0.7nm,0.3s,baz=79,slow=17,SNR=7.6							
ZALV				Lg	Lg	Lg	05 12 48.5	
	1.6nm,0.3s,baz=77,slow=28,SNR=15							
KURBB	**Kurchatov Arra**	**6.05**	**238**	Pn	Pn	Pn	05 13 44.7	+0.3
	0.2nm,0.3s,baz=55,slow=14,SNR=3.2							
MKAR	**Makanchi Array**	**7.84**	**202**	Pn	Pn	Pn	05 14 10.2	+1.2
	0.2nm,0.3s,baz=22,slow=15,SNR=12							
MKAR				Sn	Sn	Sn	05 15 38.0	-0.5
	0.0nm,0.3s,baz=18,slow=31,SNR=3.3							
MKAR				Lg	Lg	Lg	05 16 24.0	
	0.0nm,0.3s,baz=25,slow=35,SNR=3.2							

IDC 23 05:15:06.1±2.6, 28.31N×52.97E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.3/41, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=56.4km s-min=32.6km az=150.0
ISCJB 23 05:15:07.2±2.2, 28.4N±0.3×52.9E±0.2, h16km, mb3.7/5, Error ellipse: s-maj=44.4km s-min=27.0km az=160.7
ISC 23 05:15:08.6±2.3, 28.3N±0.3×53.0E±0.2, h16km, n6, σ0§20/6, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**19.59**	**310**	P	P	P	**05 19 36.2**	**0.0**
	0.1nm,0.3s,baz=134,slow=13,SNR=3.3							
AKASG	**Malin Array Be**	**28.66**	**328**	P	P	P	**05 21 04.5**	**+0.1**
	0.3nm,0.4s,baz=130,slow=10.0,SNR=3.6							
ZALV	**Zalesovo Beam**	**34.58**	**33**	P	P	P	**05 21 56.4**	**-0.1**
	0.7nm,0.4s,baz=242,slow=7.6,SNR=4.9							
FINES	**FINESS Array B**	**37.65**	**339**	P	P	P	**05 22 22.5**	**-0.1**
	0.9nm,0.5s,baz=142,slow=7.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**49.90**	**263**	P	P	P	**05 24 01.7**	**-0.1**
	0.7nm,0.9s,baz=60,slow=8.1,SNR=7.2							
YKA	**Yellowknife Ar**	**88.95**	**354**	P	P	P	**05 28 02.4**	**+0.3**
	0.2nm,0.7s,baz=4.8,slow=5.4,SNR=5.5							

IDC 23 05:27:34.4±4.1, 21.19S×178.41W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=181.0km s-min=51.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.15**	**245**	P	P	P	05 34 46.2	-0.9
	1.1nm,0.5s,baz=91,slow=9.3,SNR=3.0							
ASAR	**Alice Springs**	**43.99**	**257**	P	P	P	05 35 43.6	-0.3
	0.7nm,0.4s,baz=95,slow=7.8,SNR=13							
WRA	**Warramunga Arr**	**44.13**	**263**	P	P	P	05 35 45.5	+0.5
	1.1nm,0.4s,baz=96,slow=8.2,SNR=61							
AKASG	**Malin Array Be**	**143.43**	**330**	PKP	PKPdf	PKPdf	05 47 09.8	-1.0
	0.4nm,0.4s,baz=40,slow=3.6,SNR=7.5							
BRTR	**Keskin Array B**	**147.01**	**311**	PKPbc	PKPbc	PKPbc	05 47 18.8	-0.7
	1.2nm,1.0s,baz=111,slow=3.2,SNR=2.5							

ISCJB 23 05:34:46.6±0.4, 12.04N±0.07×86.73W±0.07, h111km±6km, mb3.2/3, Error ellipse: s-maj=16.0km s-min=3.8km az=44.7
IDC 23 05:34:46.2±2.0, 12.18N×86.69W, h104km±30km, mb2.9/3, mb1 3.4/5, mb1mx3.1/29, mbtmp3.4/5, Error ellipse: s-maj=112.9km s-min=24.1km az=43.0
CASC 23 05:34:47.8±2.3, 11.95N×86.81W, h87km±18km, MD4.1, ML3.6
ISC 23 05:34:46.4±0.9, 12.00N±0.08×86.78W±0.08, h108km±8km, n33, σ1§48/40, mb3.2/3, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.26**	**45**	*e*P		**Pn**	**05 35 01.1**	**-0.7**
HUEN		**0.68**	**60**	*e*P		**Pn**	**05 35 07.1**	**+2.7**
HUEN				*e*S		**Sn**	**05 35 18.7**	**+0.7**
CNCH	**Conchagua**	**1.64**	**321**	*e*P		**Pn**	**05 35 15.5**	**+0.6**
CNCH				*e*S		**Sn**	**05 35 35.2**	**-1.3**
GBS2	**Las Lilas**	**1.74**	**131**	*i* P		**Pn**	**05 35 16.3**	**+0.3**
GBS3	**Finca Las Im˜¡**	**1.77**	**133**	*i* P		**Pn**	**05 35 17.3**	**+0.8**
BUEV	**Buena Vista**	**1.79**	**131**	*i* P		**Pn**	**05 35 17.2**	**+0.4**
LAPC	**Finca la Perla**	**1.80**	**133**	*i* P		**Pn**	**05 35 16.9**	**+0.1**
LAPC				*i* S		**Sn**	**05 35 38.7**	**-1.2**
NY14	**Universidad de**	**1.81**	**138**	*i* P		**Pn**	**05 35 18.1**	**+1.2**
NY14				*i* S		**Sn**	**05 35 39.7**	**-0.5**
LIM1	**Limonal**	**1.98**	**131**	*i* P		**Pn**	**05 35 19.7**	**+0.6**
BLLM	**Bellamira**	**2.02**	**315**	*e*P		**Pn**	**05 35 20.9**	**+1.2**
VSM	**San Miguel**	**2.04**	**314**	*e*P		**Pn**	**05 35 21.4**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.11**	**347**	*e*P		**Pn**	**05 35 21.6**	**+1.0**
TGUH				*e*S		**Sn**	**05 35 46.5**	**-0.3**
JTS	**JuntasAbangare**	**2.46**	**133**	P		**Pn**	**05 35 26.1**	**+0.7**
	20nm,0.3s,baz=323,slow=15,SNR=54							
JTS				S		Sn	05 35 49.3	-6.0
	20nm,0.3s,baz=294,slow=20,SNR=17							
JCR	**Jicaral**	**2.69**	**142**	*e*P		**Pn**	**05 35 29.8**	**+1.5**
LFRS	**El Faro**	**2.75**	**306**	*e*P		**Pn**	**05 35 30.8**	**+1.5**
LFU	**La Fuente**	**2.87**	**308**	*e*P		**Pn**	**05 35 32.4**	**+1.7**
SNET	**Serv Nac Est T**	**2.92**	**305**	AML		AML	05 36 09.3	
	comp=Z,350nm,0.3s							
BOQS	**Boqueron**	**2.99**	**306**	*e*P		**Pn**	**05 35 34.6**	**+2.1**
BOQS				*e*S		**Sn**	**05 36 08.8**	**+0.8**
SBLS	**San Blas**	**3.33**	**304**	*e*P		**Pn**	**05 35 38.9**	**+2.0**
SNJE	**San Jose**	**3.33**	**304**	*e*P		**Pn**	**05 35 39.0**	**+2.1**
RTR	**El Retiro**	**3.38**	**304**	*e*P		**Pn**	**05 35 39.8**	**+2.3**
RBDL	**Robledal**	**3.53**	**307**	*e*P		**Pn**	**05 35 41.4**	**+1.8**
QCR	**Quepos**	**3.62**	**135**	*e*P		**Pn**	**05 35 42.5**	**+1.9**
URSC	**Urasca**	**3.65**	**126**	*e*P		**Pn**	**05 35 42.5**	**+1.3**
BUS	**Buena Vista**	**3.83**	**129**	*e*P		**Pn**	**05 35 46.0**	**+2.1**
MRL	**Marmol**	**4.17**	**317**	*e*P		**Pn**	**05 35 50.6**	**+2.5**
APG	**El Apazote**	**4.67**	**310**	P		**Pn**	**05 35 54.1**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=141,slow=14,SNR=20							
CTCR	**Cotoan**	**5.01**	**128**	*e*P		**Pn**	**05 36 01.7**	**+2.1**
BRU2	**Volcan**	**5.13**	**128**	*e*P		**Pn**	**05 36 03.4**	**+2.5**
BRU2				*e*S		**Sn**	**05 37 00.1**	**+0.9**
TXAR	**Lajitas Array**	**23.34**	**320**	P		**P**	**05 39 44.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=136,slow=9.7,SNR=13							
PDAR	**Pinedale Array**	**36.48**	**331**	P		**P**	**05 41 40.5**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=132,slow=9.1,SNR=3.1							
YKA	**Yellowknife Ar**	**54.22**	**345**	P		**P**	**05 43 59.6**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=147,slow=6.8,SNR=4.5							
YKA				PcP		**PcP**	**05 45 03.2**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=139,slow=3.9,SNR=3.8							
WRA	**Warramunga Arr**	**139.77**	**253**	PKP		**PKPdf**	**05 54 03.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=91,slow=2.6,SNR=10							

DJA 23 05:59:57.5±0.6, 4.5S±8.1×14.3E±.1, h10km, M5.1/13, mb5.0/13, mB5.3/7, MLv5.4/4, Mw(mB)4.7/7
ISCJB 23 06:00:01.1±0.8, 4.46S±0.04×143.19E±0.05, h73km±8km, mb4.2/16, Error ellipse: s-maj=8.1km s-min=5.5km az=156.5
IDC 23 06:00:02.6±0.7, 4.56S×143.08E, h75km±5km, mb3.8/11, mb1 4.0/14, mb1mx3.9/31, mbtmp4.2/14, MS3.4/7, Ms1 3.4/7, ms1mx3.1/24, Error ellipse: s-maj=13.4km s-min=8.3km az=73.0
NEIC 23 06:00:04.1±1.2, 4.53S×143.05E, h87km±11km, mb4.5/4, Error ellipse: s-maj=14.9km s-min=8.6km az=63.0
ISC 23 06:00:02.8±0.5, 4.51S±0.05×143.15E±0.05, h75km±5km, h75km:pP-P, n67, σ1§45/77, mb4.2/16, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.14**	**309**	P		**Pn**	**06 00 49.2**	**-0.8**
JAY				S		**Sn**	**06 01 26.9**	**+0.5**
JAY	**Jayapura**	**3.14**	**309**	P		**Pn**	**06 00 49.2**	**-0.8**
	32nm,0.3s,baz=155,slow=9.1,SNR=37							
JAY				S		**Sn**	**06 01 26.9**	**+0.5**
	76nm,0.3s,baz=337,slow=19,SNR=5.7							
JAY				LR	LR		06 01 46.7	
	comp=Z,632nm,19.3s,baz=162,slow=33							
JAY	**Jayapura**	**3.14**	**309**	P		**Pn**	**06 00 49.5**	**-0.5**
	baz=3.2,SNR=24							
GENI	**Genyem**	**3.53**	**303**	P		**Pn**	**06 00 54.5**	**-0.8**
SMPI	**Sarmi**	**5.09**	**299**	P		**Pn**	**06 01 14.9**	**-1.6**
	650nm,0.9s,6µm2.3nm							
PMG	**Port Moresby**	**6.29**	**141**	P		x	06 01 31.9	
	151nm,1.1s,3µm0.7nm							
PMG	**Port Moresby**	**6.29**	**141**	*e*Pn		**Pn**	**06 01 33.4**	**+0.5**
	92nm,0.7s							
PMG				S		**Sn**	**06 02 44.4**	**+1.0**
PMG	**Port Moresby**	**6.29**	**141**	P		**Pn**	**06 01 33.6**	**+0.7**
	13nm,0.3s,baz=310,slow=7.9,SNR=29							
PMG				S		**Sn**	**06 02 44.4**	**+1.0**
	4.5nm,0.3s,baz=307,slow=20,SNR=5.0							
SRPI	**Serui, Papua**	**7.38**	**291**	P		Pn	06 01 53.0	+5.2
COEN	**Coen**	**9.39**	**180**	*e*Pn		**Pn**	**06 02 18.0**	**+2.7**
	874nm,0.9s							
COEN	**Coen**	**9.39**	**180**	P		Pn	06 02 19.0	+3.7
	baz=8.5,SNR=36							
FAKI	**Fak Fak**	**10.99**	**278**	P		**Pn**	**06 02 37.6**	**+0.4**
	54nm,0.9s							
FAKI	**Fak Fak**	**10.99**	**278**	*e*Pn		**Pn**	**06 02 38.6**	**+1.4**
FAKI				*e*Sn		Sn	06 04 51.3	+13
FAKI	**Fak Fak**	**10.99**	**278**	P		**Pn**	**06 02 38.8**	**+1.6**
	baz=9.8,SNR=7.6							
SWI	**Sorong**	**12.41**	**287**	P		**Pn**	**06 02 56.8**	**+0.2**
	37nm,1.4s							
MTN	**Manton Dam**	**14.47**	**234**	P		**Pn**	**06 03 21.6**	**-2.3**
	baz=13,SNR=11							
CTAO	**Charters Tower**	**15.78**	**169**	*e*P		**P**	**06 03 42.4**	**-0.7**
	46nm,1.5s							
LBMI	**Labuha**	**16.09**	**283**	P		**P**	**06 03 46.6**	**0.0**
	59nm,0.8s,1µm							
QIS	**Mount Isa**	**16.32**	**192**	P		**P**	**06 03 48.9**	**-0.2**
	baz=15,SNR=11							
SANI	**Sanana**	**17.30**	**278**	P		**P**	**06 04 00.9**	**+0.9**
	39nm,1.4s							
WRAB	**Tennant Creek**	**17.56**	**208**	*e*P		**Pn**	**06 04 01.2**	**-1.5**
	30nm,0.8s							
WRAB				*e*Sn		**Sn**	**06 07 14.0**	**-3.9**
WRA	**Warramunga Arr**	**17.57**	**208**	P		**Pn**	**06 04 01.2**	**-1.7**
WRA				S		**Sn**	**06 07 16.3**	**-2.0**
WRA	**Warramunga Arr**	**17.57**	**208**	P		**Pn**	**06 04 01.2**	**-1.7**
	1.2nm,0.3s,baz=32,slow=13,SNR=61							
WRA				S		**Sn**	**06 07 16.3**	**-2.0**
	0.5nm,0.3s,baz=32,slow=21,SNR=3.6							
WRA				LR	LR		06 11 00.2	
	comp=Z,77nm,19.7s,baz=20,slow=38							
KNRA	**Kununurra**	**17.97**	**231**	P		**P**	**06 04 07.1**	**-0.2**
	baz=16,SNR=23							
KNRA				S		**Sn**	**06 07 23.9**	**-3.9**
	baz=16,SNR=3.4							
SOEI	**Soe**	**19.44**	**253**	P		**Pn**	**06 04 25.0**	**-0.4**
	130nm,0.9s,2µm							
SOEI	**Soe**	**19.44**	**253**	*e*P		**P**	**06 04 24.2**	**+0.6**
SOEI				*e*S		**S**	**06 08 01.4**	**+1.7**
SOEI	**Soe**	**19.44**	**253**	P		**P**	**06 04 24.5**	**+0.9**
	baz=18,SNR=7.8							
SOEI				S		**Sn**	**06 08 07.2**	**+3.8**
AS31	**Alice Springs**	**21.03**	**204**	*e*P		**P**	**06 04 41.3**	**+0.7**
ASAR	**Alice Springs**	**21.03**	**204**	P		**P**	**06 04 39.4**	**-1.2**
ASAR				S		**S**	**06 08 31.0**	**+0.2**
ASAR	**Alice Springs**	**21.03**	**204**	P		**P**	**06 04 39.4**	**-1.2**
	9.6nm,0.8s,baz=33,slow=9.2,SNR=53							
ASAR				S		**S**	**06 08 31.0**	**+0.2**
	0.7nm,0.5s,baz=20,slow=26,SNR=2.6							
MRSI	**Marisa**	**21.76**	**283**	P		P	06 04 54.3	+5.9
	54nm,0.9s,1µm							
APSI	**Ampana**	**21.77**	**279**	P		**P**	**06 04 51.3**	**+2.8**
	104nm,0.9s,1µm							
QLP	**Quilpie**	**21.97**	**177**	P		P	06 04 58.9	+8.4
	baz=21,SNR=3.2							
EIDS	**Eidsvold**	**22.09**	**161**	*e*P		**P**	**06 04 54.7**	**+2.8**
	21nm,1.1s							
WSI	**Waingapu**	**23.24**	**256**	S		**S**	**06 09 12.1**	**+1.8**
	baz=22,SNR=3.4							
SPSI	**Sidrap Palu**	**23.32**	**270**	P		**P**	**06 05 06.0**	**+1.4**
WRKA	**Warakurna**	**24.90**	**214**	P		**P**	**06 05 21.1**	**+2.2**
	baz=23,SNR=5.6							
STKA	**Stephens Creek**	**27.26**	**183**	P		**P**	**06 05 38.9**	**-1.2**
STKA	**Stephens Creek**	**27.26**	**183**	P		**P**	**06 05 38.9**	**-1.2**
	3.0nm,0.8s,baz=356,slow=4.5,SNR=4.9							
STKA				LR	LR		06 18 43.9	
	comp=Z,114nm,18.2s,baz=7.7,slow=41							
DZM	**Mont Dzumac**	**28.53**	**130**	P		**P**	**06 05 51.7**	**+0.1**
DZM	**Mont Dzumac**	**28.53**	**130**	P		**P**	**06 05 51.7**	**+0.1**
	2.8nm,0.7s,baz=310,slow=18,SNR=4.7							
DZM				LR	LR		06 16 01.5	
	comp=Z,126nm,20.4s,baz=2.5,slow=34							
MJAR	**Matsushiro Arr**	**41.10**	**354**	LR	LR		06 24 12.2	
	comp=Z,20nm,20.9s,baz=255,slow=35							
KSAR	**Wonju Array Be**	**44.09**	**342**	P		**P**	**06 08 03.5**	**-0.1**
KSAR				pP		**pP**	**06 08 22.2**	**+0.2**
KSRS	**Korea Array**	**44.09**	**343**	P		**P**	**06 08 03.5**	**0.0**
	1.4nm,0.7s,baz=153,slow=9.2,SNR=3.4							
KSRS				pP		**pP**	**06 08 22.2**	**+0.2**
	1.9nm,0.8s,baz=165,slow=8.6,SNR=3.5							
CMAR	**Chiang Mai Arr**	**49.17**	**299**	P		**P**	**06 08 42.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**49.17**	**299**	P		**P**	**06 08 42.9**	**-0.8**
	1.2nm,0.4s,baz=114,slow=6.1,SNR=6.7							
CMAR				LR	LR		06 30 21.4	
	comp=Z,32nm,18.2s,baz=232,slow=37							
USRK	**Ussuriysk Arra**	**49.52**	**349**	P		**P**	**06 08 44.5**	**-1.2**
	1.9nm,0.7s,baz=177,slow=6.1,SNR=3.6							
USRK				sP		**sP**	**06 09 11.9**	**-1.1**
	2.8nm,0.6s,baz=165,slow=6.0,SNR=4.3							
PETK	**Petropavlovsk-**	**58.71**	**10**	P		**P**	**06 09 54.3**	**+1.8**
PETK				pP		**pP**	**06 10 11.9**	**+0.2**
PETK	**Petropavlovsk-**	**58.71**	**10**	P		**P**	**06 09 54.3**	**+1.8**
	7.9nm,1.0s,baz=218,slow=9.1,SNR=2.5							
PETK				pP		**pP**	**06 10 11.9**	**+0.2**
	6.2nm,0.9s,baz=160,slow=6.9,SNR=2.4							
SONM	**Songino Array**	**61.28**	**333**	P		**P**	**06 10 12.0**	**+1.6**
SONM				pP		**pP**	**06 10 30.5**	**+0.7**
SONM	**Songino Array**	**61.28**	**333**	P		**P**	**06 10 12.0**	**+1.6**
	0.2nm,0.6s,baz=149,slow=7.8,SNR=2.2							
SONM				pP		**pP**	**06 10 30.5**	**+0.7**
	1.1nm,0.8s,baz=158,slow=6.5,SNR=6.5							
VNDA	**Vanda**	**73.64**	**176**	LR	LR		06 42 37.9	
	comp=Z,42nm,18.1s,baz=273,slow=35							
MKAR	**Makanchi Array**	**73.93**	**321**	P		**P**	**06 11 28.7**	**-1.3**
MKAR	**Makanchi Array**	**73.93**	**321**	P		**P**	**06 11 28.7**	**-1.3**
	0.5nm,0.4s,baz=97,slow=6.2,SNR=11							
ZALV	**Zalesovo Beam**	**75.73**	**329**	P		**P**	**06 11 41.0**	**+0.8**
ZALV	**Zalesovo Beam**	**75.73**	**329**	P		**P**	**06 11 41.0**	**+0.8**
	0.7nm,0.5s,baz=93,slow=7.4,SNR=3.8							
BVAR	**Borovoye Array**	**83.33**	**324**	P		**P**	**06 12 20.0**	**-1.4**
BVAR	**Borovoye Array**	**83.33**	**324**	P		**P**	**06 12 20.0**	**-1.4**
	1.9nm,0.5s,baz=116,slow=7.0,SNR=12							
QSPA	**South Pole Qui**	**85.45**	**180**	*e*P		**P**	**06 12 30.9**	**-1.1**
	9.8nm,0.9s							
ILAR	**Eielson Array

	QRZ				SN	Sn	07 01 09.4	-1.2
NNZ	**Nelson**	**0.48**	**92**	⇑PN	Pn	07 00 52.9	-0.1
	NNZ				SN	Sn	07 01 10.3	-0.6
THZ	**Tophouse**	**0.57**	**168**	⇑PN	Pn	07 00 53.7	+0.2
	THZ				SN	Sn	07 01 11.5	-0.5
DSZ	**Denniston Nort**	**0.89**	**232**	⇑PN	Pn	07 00 55.0	-0.4
	DSZ				SN	Sn	07 01 13.3	-2.2
TUWZ	**Tuamarina**	**0.93**	**105**	⇑PN	Pn	07 00 55.8	+0.2
	TUWZ				AML	AML	07 01 16.4	
	TUWZ				AML	AML	07 01 16.7	
DUWZ	**D'Urville Isla**	**0.97**	**66**	PN	Pn	07 00 56.1	+0.1
BSWZ	**Blackbirch Sta**	**0.99**	**121**	PN	Pn	07 00 56.2	+0.1
TCW	**Tory Channel**	**1.15**	**91**	PN	Pn	07 00 57.5	+0.1
	TCW				AML	AML	07 01 19.3	
	TCW				AML	AML	07 01 19.5	
KHZ	**Kahutara**	**1.35**	**154**	⇑PN	Pn	07 00 59.1	+0.1
SNZO	**South Karori**	**1.48**	**95**	PN	Pn	07 00 60.0	-0.4
	SNZO				AML	AML	07 01 23.7	
	SNZO				AML	AML	07 01 23.8	
WEL	**Wellington**	**1.53**	**94**	PN	Pn	07 01 00.4	-0.3
LTZ	**Lake Taylor**	**1.62**	**193**	PN	Pn	07 01 01.7	-0.1
KIW	**Kapiti Island**	**1.67**	**79**	PN	Pn	07 01 02.0	-0.3
	KIW				AML	AML	07 01 27.6	
	KIW				AML	AML	07 01 27.7	
CAW	**Cannon Point**	**1.75**	**88**	PN	Pn	07 01 02.6	-0.5
	CAW				AML	AML	07 01 28.6	
	CAW				AML	AML	07 01 29.1	
OGWZ	**Otaki Gorge**	**1.87**	**79**	SN	Sn	07 01 29.8	-1.6
MSWZ	**Moikau Station**	**1.90**	**97**	PN	Pn	07 01 04.1	-0.6
	MSWZ				AML	AML	07 01 15.3	
PLWZ	**Palliser**	**1.92**	**102**	PN	Pn	07 01 04.4	-0.6
PAWZ	**Paruwai Farm**	**2.03**	**96**	SN	Sn	07 01 32.1	-2.4
MTW	**Mount Morrison**	**2.08**	**90**	PN	Pn	07 01 06.0	-0.7
	MTW				AML	AML	07 01 33.7	
	MTW				AML	AML	07 01 34.1	
HOWZ	**Holdsworth Sta**	**2.12**	**83**	PN	Pn	07 01 06.5	-0.7
OXZ	**Oxford**	**2.19**	**194**	⇓PN	Pn	07 01 07.0	-0.9
MRZ	**Mangatainoka R**	**2.21**	**77**	PN	Pn	07 01 07.3	-0.9
	MRZ				AML	AML	07 01 37.0	
	MRZ				AML	AML	07 01 39.2	
PKE	**Pukeiti**	**2.22**	**26**	PN	Pn	07 01 07.7	-0.7
WVZ	**Waitaha Valley**	**2.40**	**218**	⇓PN	Pn	07 01 09.1	-1.2
MQZ	**McQueen's Vall**	**2.50**	**182**	PN	Pn	07 01 10.1	-1.5
BFZ	**Birch Farm**	**2.70**	**80**	PN	Pn	07 01 13.3	-0.7
WNVZ	**Wahianoa**	**2.87**	**50**	PN	Pn	07 01 15.3	-1.0
FOZ	**Fox Glacier**	**3.27**	**223**	⇓PN	Pn	07 01 17.9	-3.0
BKZ	**Black Stump Fm**	**3.52**	**56**	⇑PN	Pn	07 01 21.9	-2.2
LBZ	**Lake Benmore**	**3.70**	**210**	PN	Pn	07 01 24.4	-1.9
JCZ	**Jackson Bay**	**4.11**	**224**	PN	Pn	07 01 29.3	-2.4
ODZ	**Otahua Downs**	**4.14**	**201**	PN	Pn	07 01 30.5	-1.5
WKZ	**Wanaka**	**4.54**	**216**	⇑PN	Pn	07 01 34.5	-2.7

*DDA **23** 07:15:03.1,39.°91N×28.°80E,h17km,MD3.3*
*CSEM **23** 07:15:04.5±0.1,39.°95N×28.°77E,h2km,MD3.3,Error ellipse: s-maj=3.0km s-min=2.7km az=141.0*
*ISK **23** 07:15:04.0,39.°96N×28.°78E,h4km,MD3.2*
*ATH **23** 07:15:22.9,38.°98N×25.°11E,h29km±9km,MD3.4/5*
ISC 23 07:15:03.9±0.9,39°93N±0.°02×28°81E±0.°02,h18km±7km, n81,σ0°85/99,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.33**	**50**	*i* P	**Pg**	**07 15 10.9**	**-0.2**
ULDT				*i* S	**Sg**	**07 15 15.3**	**-0.6**
ULDT	**Uludag**	**0.33**	**50**	*i* P	**Pg**	**07 15 10.9**	**-0.2**
ULDT				*i* S	**Sg**	**07 15 15.3**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.44**	**8**	*e*PG	**Pg**	**07 15 13.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.44**	**8**	*e*Pg	**Pg**	**07 15 13.1**	**+0.2**
GEMT	**Gemlik**	**0.58**	**30**	*e*PG	**Pb**	**07 15 16.1**	**+0.4**
GEMT				*e*SG	**Sg**	**07 15 23.9**	**+0.5**
GEMT	**Gemlik**	**0.58**	**30**	*e*Pg	**Pb**	**07 15 16.1**	**+0.4**
GEMT				*e*Sg	**Sg**	**07 15 23.9**	**+0.5**
ARMT	**Armutlu**	**0.64**	**4**	*e*PG	**Pg**	**07 15 16.4**	**-0.1**
ARMT				*e*SG	**Sg**	**07 15 25.0**	**0.0**
ARMT	**Armutlu**	**0.64**	**4**	*e*Pg	**Pg**	**07 15 16.4**	**-0.1**
ARMT				*e*Sg	**Sg**	**07 15 25.0**	**0.0**
TVSB	**Tavsanli**	**0.70**	**133**	*e*PG	**Pg**	**07 15 18.9**	**+1.2**
TVSB	**Tavsanli**	**0.70**	**133**	*e*Pg	**Pg**	**07 15 18.9**	**+1.2**
BALB	**Balikesir**	**0.77**	**248**	*e*PG	**Pb**	**07 15 19.0**	**+0.2**
BALB	**Balikesir**	**0.77**	**248**	*e*Pg	**Pb**	**07 15 19.0**	**+0.2**
EDC	**Edincik**	**0.83**	**300**	*e*PG	**Pg**	**07 15 20.3**	**+0.1**
EDC	**Edincik**	**0.83**	**300**	*e*Pg	**Pg**	**07 15 20.3**	**+0.1**
CAVI	**Cavuskoy**	**0.84**	**71**	*e*PG	**Pb**	**07 15 20.4**	**+0.3**
CAVI	**Cavuskoy**	**0.84**	**71**	*e*Pg	**Pb**	**07 15 20.4**	**+0.3**
GONE	**Gonen-Balikesi**	**0.87**	**278**	*e*PG	**Pb**	**07 15 20.4**	**-0.1**
GONE	**Gonen-Balikesi**	**0.87**	**278**	*e*Pg	**Pb**	**07 15 20.4**	**-0.1**
GDZ	**Gediz**	**0.99**	**148**	*i* P	**Pb**	**07 15 22.9**	**+0.2**
GDZ				*i* S	**Sb**	**07 15 35.3**	**-0.1**
GDZ	**Gediz**	**0.99**	**148**	*i* P	**Pb**	**07 15 22.9**	**+0.2**
HRT	**Hereke**	**1.11**	**36**	*e*PN	**Pg**	**07 15 26.2**	**+0.8**
HRT	**Hereke**	**1.11**	**36**	*e*Pn	**Pg**	**07 15 26.2**	**+0.8**
ISK	**Istanbul-Kandi**	**1.15**	**10**	*e*PN	**Pg**	**07 15 26.2**	**0.0**
ISK	**Istanbul-Kandi**	**1.15**	**10**	*e*Pn	**Pg**	**07 15 26.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.24**	**292**	*e*PN	**Pg**	**07 15 28.2**	**+0.2**
KRBG	**Karabiga-Canak**	**1.24**	**292**	*e*Pn	**Pg**	**07 15 28.2**	**+0.2**
ELBA	**Catalca**	**1.25**	**347**	*i* P	**Pb**	**07 15 27.2**	**+0.2**
ELBA				*i* S	**Sn**	**07 15 43.0**	**0.0**
ELBA	**Catalca**	**1.25**	**347**	*i* P	**Pb**	**07 15 27.2**	**+0.2**
ELBA				*i* S	**Sn**	**07 15 43.0**	**0.0**
AKHS	**Akhisar**	**1.30**	**216**	*i* P	**Pn**	**07 15 27.7**	**+0.4**
AKHS				*i* S	**Sb**	**07 15 45.5**	**+1.2**
AKHS	**Akhisar**	**1.30**	**216**	*i* P	**Pn**	**07 15 27.7**	**+0.4**
AKHS				*i* S	**Sb**	**07 15 45.5**	**+1.2**
AKS	**Akhisar**	**1.30**	**217**	*e*PN	**Pg**	**07 15 29.2**	**+0.1**
AKS	**Akhisar**	**1.30**	**217**	*e*Pn	**Pg**	**07 15 29.2**	**+0.1**
ALT	**Altintas**	**1.34**	**131**	*e*PN	**Pb**	**07 15 30.2**	**+1.7**
ALT	**Altintas**	**1.34**	**131**	*i* P	**Pn**	**07 15 25.8**	**-2.1**
ALT				*i* S	**Sn**	**07 15 40.7**	**-4.6**
ALT	**Altintas**	**1.34**	**131**	*e*Pn	**Pb**	**07 15 30.2**	**+1.7**
SLVT	**Silivri**	**1.37**	**341**	*e*PN	**Pb**	**07 15 29.8**	**+0.7**
SLVT	**Silivri**	**1.37**	**341**	*e*Pn	**Pb**	**07 15 29.8**	**+0.7**
SPNC	**Sapanca-Adapaz**	**1.37**	**56**	*e*PN	**Pg**	**07 15 31.2**	**+0.8**
SPNC	**Sapanca-Adapaz**	**1.37**	**56**	*e*Pn	**Pg**	**07 15 31.2**	**+0.8**
KULA	**Kula-Manisa**	**1.42**	**185**	*e*PN	**Pb**	**07 15 30.9**	**+0.9**
KULA	**Kula-Manisa**	**1.42**	**185**	*e*Pn	**Pb**	**07 15 30.9**	**+0.9**
CRLT	**Corlu**	**1.45**	**326**	*e*PN	**Pb**	**07 15 31.1**	**+0.7**
CRLT	**Corlu**	**1.45**	**326**	*e*Pn	**Pb**	**07 15 31.1**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.46**	**302**	*e*PN	**Pg**	**07 15 31.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.46**	**302**	*e*Pn	**Pg**	**07 15 31.7**	**-0.3**
LPK	**Lapseki**	**1.63**	**286**	*e*PN	**Pb**	**07 15 33.8**	**+0.3**
LPK				*e*SN	**Sg**	**07 15 56.5**	**0.0**
LPK	**Lapseki**	**1.63**	**286**	*e*Pn	**Pb**	**07 15 33.8**	**+0.3**
LPK				*e*Sn	**Sg**	**07 15 56.5**	**0.0**
KHL	**Karahalli**	**1.70**	**161**	*e*PN	**Pb**	**07 15 36.7**	**+1.9**
KHL	**Karahalli**	**1.70**	**161**	*e*Pn	**Pb**	**07 15 36.7**	**+1.9**
AYVA	**Ayvalik**	**1.75**	**250**	*i* P	**Pb**	**07 15 36.1**	**+0.6**
AYVA				*i* S	**Sb**	**07 15 58.5**	**+1.3**
AYVA	**Ayvalik**	**1.75**	**250**	*i* P	**Pb**	**07 15 36.1**	**+0.6**
AYVA				*i* S	**Sb**	**07 15 58.5**	**+1.3**
BTAS	**Taskesti**	**1.80**	**68**	*i* P	**Pb**	**07 15 37.1**	**+0.7**
BTAS				*i* S	**Sg**	**07 16 02.1**	**+0.3**
BTAS	**Taskesti**	**1.80**	**68**	*i* P	**Pb**	**07 15 37.1**	**+0.7**
BTAS				*i* S	**Sg**	**07 16 02.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.85**	**285**	*e*PN	**Pb**	**07 15 37.0**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.85**	**285**	*e*Pn	**Pb**	**07 15 37.0**	**-0.2**
ERIK	**Erikli-Kesan**	**1.90**	**294**	*e*PN	**Pb**	**07 15 37.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.90**	**294**	*e*Pn	**Pb**	**07 15 37.9**	**-0.2**
MDUB	**Mudurnu**	**1.91**	**73**	*e*PN	**Pb**	**07 15 38.5**	**+0.2**
MDUB	**Mudurnu**	**1.91**	**73**	*e*Pn	**Pb**	**07 15 38.5**	**+0.2**
EZN	**Ezine**	**1.91**	**268**	*e*PN	**Pb**	**07 15 38.2**	**-0.1**
EZN	**Ezine**	**1.91**	**268**	*e*Pn	**Pb**	**07 15 38.2**	**-0.1**
SHUT	**Suhut-Afyon**	**1.93**	**135**	*e*PN	**Pb**	**07 15 39.4**	**+0.7**
SHUT	**Suhut-Afyon**	**1.93**	**135**	*e*Pn	**Pb**	**07 15 39.4**	**+0.7**
IZM	**Izmir**	**1.94**	**219**	*e*PN	**Pb**	**07 15 39.1**	**+0.2**
IZM	**Izmir**	**1.94**	**219**	*e*Pn	**Pb**	**07 15 39.1**	**+0.2**
PHSR	**Pinarhisar**	**1.96**	**331**	*e*PN	**Pb**	**07 15 39.1**	**0.0**
PHSR	**Pinarhisar**	**1.96**	**331**	*e*Pn	**Pb**	**07 15 39.1**	**0.0**
BLCB	**Balcova**	**2.06**	**222**	*e*PN	**Pb**	**07 15 40.5**	**-0.3**
BLCB	**Balcova**	**2.06**	**222**	*e*Pn	**Pb**	**07 15 40.6**	**-0.3**
PRK	**Paraskevi**	**2.07**	**252**	*e*PN	**Pb**	**07 15 41.2**	**+0.1**
PRK	**Paraskevi**	**2.07**	**252**	*e*Pn	**Pb**	**07 15 41.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.11**	**200**	*e*PN	**Pb**	**07 15 41.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.11**	**200**	*e*Pn	**Pb**	**07 15 41.6**	**-0.1**
SVRH	**Sivrihisar-ESK**	**2.15**	**102**	*e*PN	**Pb**	**07 15 42.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.15**	**102**	*e*Pn	**Pb**	**07 15 42.9**	**+0.4**
SMTH	**Samothraki Isl**	**2.57**	**283**	*e*PN	**Pb**	**07 15 50.2**	**+0.7**
SMTH	**Samothraki Isl**	**2.57**	**283**	*e*Pn	**Pb**	**07 15 50.2**	**+0.7**
SMG	**Samos**	**2.70**	**215**	*e*PN	**Pg**	**07 15 54.8**	**-0.9**
RDO	**Rodhopi**	**2.77**	**297**	*e*PN	**Pg**	**07 15 59.4**	**+2.3**
NVR	**Nevrokopi**	**4.02**	**292**	*e*PN	**Pn**	**07 16 04.6**	**-0.1**
NVR	**Nevrokopi**	**4.02**	**292**	*e*Pn	**Pn**	**07 16 04.6**	**-0.1**

*KRNET **23** 07:18:51.4±0.1,39.°65N×73.°87E,h3km,mb3.6*
*NNC **23** 07:18:59.7±1.9,39.°87N×73.°46E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=16.8km s-min=10.4km az=4.0*
ISC 23 07:18:52.3±2.7,39°7N±0.°1×73°85E±0.°09,h2km±13km,n9, σ1°75/16,3C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.44**	**323**	*i* P	**Pg**	**07 18 59.9**	**-0.9**
	baz=323						
SFK				*e*S	**Sg**	**07 19 07.1**	**+0.6**
	baz=323						
OHH	**Osh**	**1.19**	**317**	*e*P	**Pg**	**07 19 15.0**	**0.0**
	baz=317						
OHH				*e*S	**Sn**	**07 19 32.3**	**-0.4**
	baz=317						
ARSB	**Arslanbob**	**1.79**	**339**	*e*P	**Pb**	**07 19 27.0**	**+1.2**
	baz=338						
ARSB				*e*S	**Sg**	**07 19 52.1**	**+2.4**
	baz=338						
ARLS	**Aral**	**2.23**	**9**	*i* P	**Pb**	**07 19 35.0**	**+1.7**
	baz=9.0						
BTK	**Batken**	**2.37**	**281**	*e*P	**Pn**	**07 19 33.0**	**+0.8**
	baz=281						
BTK				*e*S	**Sb**	**07 20 04.2**	**-1.1**
	baz=281						
ARK	**Arkit**	**2.57**	**327**	*e*P	**Pn**	**07 19 33.0**	**-2.0**
	baz=327						
ARK				*e*S	**Sb**	**07 20 09.5**	**-1.7**
	baz=327						
AAK	**Ala-Archa**	**3.01**	**9**	⇑Pn	**Pb**	**07 19 46.5**	**-0.1**
	7.4nm,0.7s						
AAK				⇑Lg	Lg	07 20 31.1	
	22nm,0.8s						
TKM2	**Tokmak 2**	**3.51**	**21**	⇓Pn	**Pb**	**07 19 55.0**	**-0.3**
	5.0nm,0.7s						
TKM2				⇑Lg	Lg	07 20 49.7	
	7.2nm,0.6s						
KK31	**Karatay Array**	**4.26**	**325**	Pn	**Pn**	**07 20 01.2**	**+3.1**
	1.1nm,0.4s,baz=129,slow=12,SNR=23						
KK31				⇓Pg	**Pg**	**07 20 11.2**	**-2.6**
	1.9nm,0.5s,baz=143,slow=16,SNR=7.8						
KK31				Sn	**Sn**	**07 20 48.5**	**+0.1**
KK31				⇓Lg	Lg	07 21 04.7	
	5.2nm,0.5s,baz=121,slow=24,SNR=4.5						

IDC 23 07:26:05.2±6.1,5°70S×147°74E,h182km±68km,mb3.0/2, mb1 3.2/4,mb1mx2.9/21,mbtmp3.5/4,Error ellipse: s-maj=129.6km s-min=28.2km az=131.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**189**	P	Pn	07 27 03.3	+0.4
	8.3nm,0.3s,baz=0.0,slow=12,SNR=17						
PMG				S	Sn	07 27 48.3	+0.2
	3.3nm,0.3s,baz=18,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**19.24**	**221**	P	P	07 30 15.8	-0.1
	0.2nm,0.3s,baz=42,slow=10,SNR=12						
ASAR	**Alice Springs**	**22.28**	**215**	P	P	07 30 48.0	+0.2
	0.4nm,0.4s,baz=49,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**84.92**	**23**	P	P	07 38 19.4	0.0
	0.5nm,1.1s,baz=263,slow=5.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**145.73**	**285**	PKPbc	PKPdf	07 45 22.9	-0.2
	0.3nm,0.6s,baz=81,slow=3.5,SNR=2.5						

*IDC **23** 07:51:39.6±0.7,5.°00N×125.°72E,h0km,mb4.0/10, mb1 4.1/10,mb1mx3.9/35,mbtmp4.0/10,MS3.2/2, Ms1 3.3/2,ms1mx2.7/32,Error ellipse: s-maj=67.6km s-min=16.2km az=68.0*
*ISCJB **23** 07:51:58.0±0.7,4.°59N±0.°07×125.°3E±0.°1,h176km, mb3.8/10,Error ellipse: s-maj=20.8km s-min=10.2km az=3.3*
*DJA **23** 07:52:09.6±1.1,4.°N±28.°×12.°5E±2.°6,h35km±38km,M4.3/5, mb4.8/2,mB4.9/2,MLv4.1/5,Mw(mB)4.2/2*
ISC 23 07:51:59.6±0.8,4.°5N±0.°1×125.°4E±0.°2,h176km,n18, σ1°38/13,mb3.9/10,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.86**	**169**	P	Pn	07 52 16.9	-9.1
KMSI	**Cibinong**	**4.17**	**199**	P	Pn	07 52 59.0	-3.9
MRSI	**Marisa**	**5.29**	**220**	P	**Pn**	**07 53 17.6**	**+0.3**
LUWI	**Luwuk**	**6.12**	**205**	P	**Pn**	**07 53 26.5**	**-1.7**
	136nm,0.9s,2µm0.4nm						
APSI	**Ampana**	**6.56**	**215**	P	**Pn**	**07 53 33.8**	**-0.3**
WRA	**Warramunga Arr**	**25.87**	**160**	P	**P**	**07 57 15.4**	**+0.1**
	2.7nm,0.5s,baz=343,slow=10,SNR=31						
ASAR	**Alice Springs**	**29.24**	**164**	P	P	07 57 48.1	+2.9
	0.9nm,0.8s,baz=346,slow=6.9,SNR=12						
KSRS	**Korea Array**	**32.85**	**4**	LR	LR	08 14 07.6	
	comp=Z,14nm,18.1s,baz=225,slow=42						
STKA	**Stephens Creek**	**39.37**	**158**	P	**P**	**07 59 12.5**	**+0.4**
	3.7nm,0.9s,baz=347,slow=8.2,SNR=5.4						
MKAR	**Makanchi Array**	**56.13**	**326**	P	**P**	**08 01 19.6**	**-1.2**
	1.1nm,0.6s,baz=120,slow=8.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**59.26**	**333**	P	**P**	**08 01 41.3**	**-1.2**
	0.7nm,0.5s,baz=128,slow=9.3,SNR=2.7						
BVAR	**Borovoye Array**	**65.91**	**327**	P	**P**	**08 02 26.4**	**-0.1**
	2.7nm,1.0s,baz=110,slow=8.1,SNR=4.7						
AKTO	**Aktyubinsk**	**72.19**	**322**	P	**P**	**08 03 05.6**	**+0.3**
	1.7nm,0.8s,baz=346,slow=1.4,SNR=4.0						
VNDA	**Vanda**	**84.39**	**173**	LR	LR	08 42 01.6	
	comp=Z,31nm,19.1s,baz=122,slow=36						
ILAR	**Eielson Array**	**84.96**	**25**	P	**P**	**08 04 14.2**	**-0.6**
	0.2nm,0.8s,baz=254,slow=9.1,SNR=3.0						
ARCES	**ARCESS Array B**	**89.23**	**340**	P	**P**	**08 04 35.0**	**-0.3**
	2.4nm,0.8s,baz=90,slow=7.3,SNR=4.5						
FINES	**FINESS Array B**	**90.48**	**332**	P	**P**	**08 04 41.5**	**+0.3**
	0.5nm,0.5s,baz=80,slow=5.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**121.38**	**288**	PKP	**PKPdf**	**08 10 36.5**	**+3.5**
	0.6nm,0.9s,baz=23,slow=1.4,SNR=2.5						

*ISCJB **23** 07:54:37.7±1.0,48.°84N±0.°08×90.°69E±0.°09,h10km, mb3.4/2,Error ellipse: s-maj=11.4km s-min=8.7km az=4.2*
*IDC **23** 07:54:37.8±1.9,48.°79N×90.°76E,h0km,mb3.5/2, mb1 3.3/7,mb1mx3.2/41,mbtmp3.3/7,ML3.0/4,Error ellipse: s-maj=28.1km s-min=17.8km az=152.0*
*NNC **23** 07:54:43.7±6.9,49.°03N×90.°25E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=63.0km s-min=37.4km az=56.0*
ISC 23 07:54:40.2±1.1,48°81N±0.°09×90°75E±0.°08,h10km,n11, σ1°41/14,6C-3D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**6.04**	**254**	Pn	**Pn**	**07 56 09.1**	**-0.5**
	0.7nm,0.3s,baz=70,slow=14,SNR=30						
MKAR				Sn	**Sn**	**07 57 20.4**	**+1.6**
	1.6nm,0.3s,baz=60,slow=23,SNR=3.5						
MKAR				Lg	Lg	07 57 50.2	
	2.3nm,0.3s,baz=64,slow=33,SNR=8.2						
MK09	**Makanchi Array**	**6.06**	**254**	⇑Pn	**Pn**	**07 56 09.1**	**-0.7**
	0.4nm,0.3s,baz=55,slow=13						
MK09				⇑Pg	**Pb**	**07 56 28.1**	**+2.3**
	7.0nm,0.8s,baz=96,slow=14						
MK08	**Makanchi Array**	**6.06**	**253**	⇓Lg	Lg	07 57 47.3	
	15nm,0.5s,baz=61,slow=30						
ZALV	**Zalesovo Beam**	**6.35**	**326**	Pn	**Pn**	**07 56 14.8**	**+1.1**
	0.3nm,0.3s,baz=142,slow=13,SNR=7.2						
ZALV				Sn	**Sn**	**07 57 26.8**	**+0.7**
	3.1nm,0.3s,baz=77,slow=12,SNR=17						
KURK	**Kurchatov**	**8.08**	**288**	⇑Pn	**Pn**	**07 56 38.1**	**+0.6**
	1.5nm,1.1s						
KURK				⇓Sn	**Sn**	**07 58 07.1**	**-1.8**
	1.8nm,0.6s						
KURK				⇑Lg	Lg	07 58 51.4	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**8.13**	**288**	⇑Pn	**Pn**	**07 56 38.6**	**+0.5**
	2.2nm,0.7s						
KURBB				⇑Sn	**Sn**	**07 58 07.7**	**-2.2**
	7.5nm,0.6s						
KURBB				⇓Lg	Lg	07 58 52.7	
	45nm,0.6s						
KURBB	**Kurchatov Arra**	**8.13**	**288**	Pn	**Pn**	**07 56 37.5**	**-0.6**
	0.2nm,0.3s,baz=97,slow=14,SNR=6.4						
SONM	**Songino Array**	**10.47**	**89**	Pn	**Pn**	**07 57 10.3**	**-0.1**
	baz=279,slow=15						
BVAR	**Borovoye Array**	**13.51**	**296**	Pn	Pn	07 57 48.3	-3.5
	0.2nm,0.3s,baz=103,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**38.79**	**297**	P	**P**	**08 02 03.1**	**-1.5**
	0.3nm,0.4s,baz=62,slow=8.8,SNR=2.9						
BRTR	**Keskin Array B**	**41.02**	**279**	P	**P**	**08 02 23.1**	**-0.5**
	1.0nm,0.9s,baz=41,slow=7.7,SNR=2.9						

*ISK **23** 08:36:59.9,35.°79N×26.°17E,h5km,ML3.9*
*DDA **23** 08:36:59.1,35.°62N×26.°12E,h27km,MD3.7*
*HLW **23** 08:36:59.2,35.°72N×26.°57E,h18km±18km,Md3.5,MI3.4*
*IDC **23** 08:37:00.6±1.8,35.°61N×26.°25E,h29km±14km,mb3.8/10, mb1 3.8/15,mb1mx3.7/30,mbtmp3.9/15,ML3.8/5,MS2.3/1, Ms1 2.3/1,ms1mx2.0/36,Error ellipse: s-maj=19.8km s-min=12.4km az=164.0*
*ATH **23** 08:37:01.5,35.°66N×26.°32E,h37km±4km,ML3.9*
*ISCJB **23** 08:37:01.1±0.2,35.°50N±0.°02×26.°38E±0.°02,h63km±3km, mb4.0/19,Error ellipse: s-maj=3.4km s-min=2.7km az=10.8*
*CSEM **23** 08:37:02.1±0.1,35.°52N×26.°33E,h30km,ML4.2,Error ellipse: s-maj=4.6km s-min=3.5km az=23.0*
*THE **23** 08:37:03.2,35.°62N×26.°29E,h31km±11km,ML4.2/6,Error ellipse: s-maj=11.9km s-min=1.1km az=158.0*
ISC 23 08:37:03.2±0.6,35°60N±0.°03×26°33E±0.°02,h51km±7km, n247,σ1°57/280,mb4.1/19,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.67**	**241**	P	**Pn**	**08 37 16.0**	**-0.6**
NPS				S	**Sn**	**08 37 23.9**	**-2.5**
NPS	**Neapolis**	**0.67**	**241**	*e*PN	**Pn**	**08 37 16.1**	**-0.6**
NPS				*e*SN	**Sn**	**08 37 25.1**	**-1.3**
NPS	**Neapolis**	**0.67**	**241**	P	**Pn**	**08 37 16.0**	**-0.6**
NPS				S	**Sn**	**08 37 23.9**	**-2.5**
NPS				*e*Sn	Sn	08 37 25.1	-1.3
KARP	**Karpathos**	**0.68**	**94**	P	**Pn**	**08 37 16.1**	**-0.7**
KARP				S	**Sn**	**08 37 25.5**	**-1.1**
KARP	**Karpathos**	**0.68**	**94**	*e*PN	**Pn**	**08 37 16.1**	**-0.7**
KARP				*e*SN	**Sn**	**08 37 25.5**	**-1.1**
KARP	**Karpathos**	**0.68**	**94**	P	**Pn**	**08 37 16.1**	**-0.7**
KARP				S	**Sn**	**08 37 25.5**	**-1.1**
SANT	**Santorini**	**1.05**	**318**	P	**Pn**	**08 37 20.6**	**-1.0**
SANT				S	**Sn**	**08 37 33.2**	**-2.0**
SANT	**Santorini**	**1.05**	**318**	*e*PN	**Pn**	**08 37 20.8**	**-0.8**
SANT				*e*SN	**Sn**	**08 37 34.0**	**-1.2**
SANT	**Santorini**	**1.05**	**318**	*e*Pn	**Pn**	**08 37 20.8**	**-0.8**
SANT				*e*Sn	**Sn**	**08 37 34.0**	**-1.2**
IDI	**Anoyia**	**1.21**	**256**	Pg	**Pn**	**08 37 23.1**	**-0.8**
	147nm,0.3s,baz=74,slow=15,SNR=824						
IDI				Lg	Lg	08 37 37.5	
	372nm,0.3s,baz=296,slow=17,SNR=28						
NIS1	**Nisyros Isl.**	**1.22**	**34**	P	**Pn**	**08 37 23.3**	**-0.6**
NIS1				S	**Sn**	**08 37 38.0**	**-1.3**
NIS1	**Nisyros Isl.**	**1.22**	**34**	P	**Pn**	**08 37 23.3**	**-0.6**
NIS1				S	**Sn**	**08 37 38.0**	**-1.3**
ARG	**Arkhangelos**	**1.59**	**67**	P	**Pn**	**08 37 28.9**	**0.0**
ARG				S	**Sn**	**08 37 47.7**	**-0.6**
ARG	**Arkhangelos**	**1.59**	**67**	P	**Pn**	**08 37 28.9**	**0.0**
AR

DEMI				*i* S		Sn	08 38 42.5	-3.5
GUR	**Goura**		3.96	307	P	Pn	08 38 02.4	+0.9
GUR					S	Sn	08 38 46.2	-0.6
GUR	**Goura**		3.96	307	*e*PN	Pn	08 38 03.1	+1.6
GUR	**Goura**		3.96	307	P	Pn	08 38 02.4	+0.9
GUR	**Goura**		3.96	307	*e*Pn	Pn	08 38 03.1	+1.6
GUR					S	Sn	08 38 46.2	-0.6
SMIA	**Simia**		4.11	324	*e*PN	Pn	08 38 04.7	+1.1
SMIA	**Simia**		4.11	324	*e*Pn	Pn	08 38 04.7	+1.1
DSF	**Desfina**		4.14	314	*e*PN	Pn	08 38 05.0	+1.0
DSF	**Desfina**		4.14	314	*e*Pn	Pn	08 38 05.0	+1.0
KLV	**Kalavryta, Ach**		4.15	307	*e*PN	Pn	08 38 05.4	+1.3
KLV	**Kalavryta, Ach**		4.15	307	*e*Pn	Pn	08 38 05.4	+1.3
AMT	**Artemida-Makis**		4.19	299	*e*PN	Pn	08 38 06.9	+2.3
AMT	**Artemida-Makis**		4.19	299	*e*Pn	Pn	08 38 06.9	+2.3
SLUM	baz=196		4.20	193	P	Pn	08 38 04.5	-0.1
SLUM			4.20	193	P	Pn	08 38 04.6	-0.1
SUTC	**Sutluce-Ispart**		4.20	62	*e*PN	Pn	08 38 07.5	+2.6
SUTC	**Sutluce-Ispart**		4.20	62	*e*SN	Sn	08 38 55.7	+2.9
SUTC	**Sutluce-Ispart**		4.20	62	*e*Pn	Pn	08 38 07.5	+2.6
SUTC					*e*Sn	Sn	08 38 55.7	+2.9
EZN	**Ezine**		4.22	360	*e*PN	Pn	08 38 04.2	-0.8
EZN	**Ezine**		4.22	360	*e*Pn	Pn	08 38 04.2	-0.8
SKIA	**Skiathos**		4.23	328	*e*PN	Pn	08 38 06.1	+1.0
SKIA	**Skiathos**		4.23	328	*e*Pn	Pn	08 38 06.1	+1.0
BALY	**Balya**		4.26	14	*i* P	Pn	08 38 05.5	-0.1
BALY					*i* S	Sn	08 38 49.6	-4.5
BALY	**Balya**		4.26	14	*i* P	Pn	08 38 05.5	-0.1
BALY					*i* S	Sn	08 38 49.6	-4.5
KALE	**Kalithea**		4.36	311	*e*PN	Pn	08 38 08.4	+1.4
KALE	**Kalithea**		4.36	311	*e*Pn	Pn	08 38 08.4	+1.4
LAKA	**Lakka**		4.37	308	*e*PN	Pn	08 38 08.8	+1.7
LAKA	**Lakka**		4.37	308	*e*Pn	Pn	08 38 08.8	+1.7
DRO	**Drossia**		4.39	304	*e*PN	Pn	08 38 09.5	+2.2
DRO	**Drossia**		4.39	304	*e*Pn	Pn	08 38 09.5	+2.2
SHUT	**Suhut-Afyon**		4.49	48	*e*PN	Pn	08 38 10.2	+1.4
SHUT	**Suhut-Afyon**		4.49	48	*e*Pn	Pn	08 38 10.2	+1.4
HMAT	**Matruh**		4.54	172	P	Pn	08 38 08.4	-1.0
	baz=174							
HMAT	**Matruh**		4.54	172	P	Pn	08 38 08.4	-1.0
GONE	**Gonen-Balikesi**		4.57	13	*e*PN	Pn	08 38 09.9	+0.1
GONE	**Gonen-Balikesi**		4.57	13	*e*Pn	Pn	08 38 09.9	+0.1
TVSB	**Tavsanli**		4.58	32	*e*PN	Pn	08 38 10.8	+0.7
TVSB	**Tavsanli**		4.58	32	*e*Pn	Pn	08 38 10.8	+0.7
ALT	**Altintas**		4.58	40	*e*PN	Pn	08 38 11.3	+1.2
ALT	**Altintas**		4.58	40	*e*Pn	Pn	08 38 11.3	+1.2
RLS	**Riolos of Patr**		4.61	304	*e*PN	Pn	08 38 12.1	+1.8
RLS	**Riolos of Patr**		4.61	304	*e*Pn	Pn	08 38 12.1	+1.8
AGG	**Agios Georgios**		4.67	318	*e*PN	Pn	08 38 13.1	+1.8
AGG	**Agios Georgios**		4.67	318	*e*Pn	Pn	08 38 13.1	+1.8
MAKR	**Makrakomi, Fth**		4.78	317	*e*PN	Pn	08 38 14.8	+2.1
MAKR	**Makrakomi, Fth**		4.78	317	*e*Pn	Pn	08 38 14.8	+2.1
LPK	**Lapseki**		4.78	4	*e*PN	Pn	08 38 12.2	-0.5
LPK	**Lapseki**		4.78	4	*e*Pn	Pn	08 38 12.2	-0.5
GELI	**Tayfur-Gelibol**		4.80	1	*e*PN	Pn	08 38 12.4	-0.5
GELI	**Tayfur-Gelibol**		4.80	1	*e*Pn	Pn	08 38 12.4	-0.5
GAZI	**Gazipasa**		4.90	81	*i* P	Pn	08 38 13.6	-0.8
GAZI					*i* S	Sn	08 39 02.2	-7.6
GAZI	**Gazipasa**		4.90	81	*i* P	Pn	08 38 13.6	-0.8
ERIK	**Erikli-Kesan**		5.07	2	*e*PN	Pn	08 38 16.3	-0.3
ERIK	**Erikli-Kesan**		5.07	2	*e*Pn	Pn	08 38 16.3	-0.3
PDO	**Prodromos**		5.09	308	*e*PN	Pn	08 38 19.0	+2.1
PDO	**Prodromos**		5.09	308	*e*Pn	Pn	08 38 19.0	+2.1
ENEZ	**Enez**		5.13	359	*e*PN	Pn	08 38 17.1	-0.4
ENEZ	**Enez**		5.13	359	*e*Pn	Pn	08 38 17.1	-0.4
VLS	**Valsamata**		5.27	301	*e*PN	Pn	08 38 21.1	+1.7
VLS	**Valsamata**		5.27	301	*e*Pn	Pn	08 38 21.1	+1.7
KONT	**Konya--Tatoy**		5.38	62	*e*PN	Pn	08 38 23.9	+2.9
KONT	**Konya--Tatoy**		5.38	62	*e*Pn	Pn	08 38 23.9	+2.9
SWA2	baz=189		6.38	187	P	Pn	08 38 34.2	-0.4
SWA2			6.38	187	P	Pn	08 38 34.2	-0.4
BRTR	**Keskin Array B**		7.11	52	Pn	Pn	08 38 45.8	+0.9
	1.2nm,0.3s,baz=237,slow=15,SNR=24							
BRTR					Sn	Sn	08 40 04.5	+0.2
	0.1nm,0.3s,baz=225,slow=26,SNR=2.7							
KOT	**Kottamia**		7.31	139	P	Pn	08 38 44.9	-2.5
	baz=141							
KOT	**Kottamia**		7.31	139	P	Pn	08 38 44.9	-2.5
HSAF	**As Saff**		7.41	142	P	Pn	08 38 46.8	-2.0
	baz=144							
HSAF	**As Saff**		7.41	142	P	Pn	08 38 46.8	-2.0
HHAG	**Hagoal**		7.43	138	S	Sn	08 40 05.6	-6.5
	baz=139							
GLL	**Jalalah**		7.52	141	P	Pn	08 38 48.1	-2.3
	baz=143							
GLL	**Jalalah**		7.52	141	P	Pn	08 38 48.1	-2.3
AMAG	**Maghara**		7.59	129	P	Pn	08 38 48.9	-2.5
	baz=130							
AMAG	**Maghara**		7.59	129	P	Pn	08 38 48.9	-2.5
SUZ	baz=136		7.93	135	P	Pn	08 38 54.3	-1.7
SUZ			7.93	135	P	Pn	08 38 54.3	-1.7
MMAI	**Mount Meron Ar**		7.94	106	Pn	Pn	08 38 53.6	-2.4
	3.3nm,0.3s,baz=298,slow=13,SNR=12							
MMAI					Sn	Sn	08 40 17.9	-6.7
	6.4nm,0.3s,baz=277,slow=24,SNR=7.0							
ZAF			8.20	138	P	Pn	08 38 57.6	-2.0
	baz=140							
ZAF			8.20	138	P	Pn	08 38 57.6	-2.0
HNKL	**Nakhl**		8.57	129	P	Pn	08 39 01.7	-3.0
	baz=130							
HNKL					S	Sn	08 40 31.4	-8.6
	baz=130							
HNKL	**Nakhl**		8.57	129	P	Pn	08 39 01.7	-3.0
HFRF	**Wahat Farafira**		8.59	168	P	Pn	08 39 04.0	-0.9
	baz=169							
HFRF	**Wahat Farafira**		8.59	168	P	Pn	08 39 04.0	-0.9
EIL	**Elat**		9.37	127	Pn	Pn	08 39 12.5	-3.0
	1.0nm,0.3s,baz=305,slow=1.7,SNR=17							
EIL					Sn	Sn	08 40 50.9	-8.6
	4.1nm,0.3s,baz=56,slow=13,SNR=8.9							
ASF	**Jabal al Asfar**		9.43	108	Pn	Pn	08 39 13.9	-2.5
	0.3nm,0.3s,baz=254,slow=18,SNR=1.8							
ASF					Sn	Sn	08 40 56.7	-4.4
	0.4nm,0.3s,baz=3.6,slow=16,SNR=2.2							
HBST	**Basata**		9.53	130	P	Pn	08 39 16.4	-1.4
	baz=131							
HBST	**Basata**		9.53	130	P	Pn	08 39 16.4	-1.4
TR2			9.54	137	P	Pn	08 39 15.4	-2.6
	baz=138							
TR2			9.54	137	P	Pn	08 39 15.4	-2.6
HKAT	**Jabal Katrina**		9.59	135	P	Pn	08 39 16.4	-2.4
	baz=136							
HKAT	**Jabal Katrina**		9.59	135	P	Pn	08 39 16.4	-2.4
MLR	**Muntele Rosu**		9.89	358	Pn	Pn	08 39 24.9	+2.1
	0.1nm,0.3s,baz=218,slow=7.3,SNR=4.1							
MLR					LR	LR	08 43 53.6	
	comp=Z,17nm,19.2s,baz=290,slow=42							
SHRM			10.15	137	P	Pn	08 39 23.6	-2.7
	baz=138							
SHRM			10.15	137	P	Pn	08 39 23.6	-2.7
HHRG	**Al Ghardaqah**		10.39	141	P	Pn	08 39 28.6	-0.9
	baz=143							
HHRG	**Al Ghardaqah**		10.39	141	P	Pn	08 39 28.6	-0.9
HSFG			11.11	142	P	Pn	08 39 37.9	-1.5
	baz=143							
HSFG			11.11	142	P	Pn	08 39 37.9	-1.5
CRVS	**Cervenica-Dubn**		13.77	346	*e*PN	Pn	08 40 14.1	-1.6
CRVS	**Cervenica-Dubn**		13.77	346	*e*Pn	Pn	08 40 14.1	-1.6
KEST	**Kesra**		13.81	276	Pn	Pn	08 40 18.4	+2.1
	0.1nm,0.3s,baz=240,slow=8.1,SNR=2.2							
AKASG	**Malin Array Be**		15.24	7	Pn	Pn	08 40 34.2	-0.8
	0.5nm,0.3s,baz=200,slow=11,SNR=5.8							
GERES	**GERESS Array B**		16.18	329	Pn	P	08 40 50.6	+1.0
	0.2nm,0.3s,baz=146,slow=13,SNR=5.6							
MBDF	**Montbardon**		17.48	307	*e*P	P	08 41 04.4	+0.4
	6.8nm,0.7s							
MBDF	**Montbardon**		17.48	307	*e*P	P	08 41 04.4	+0.4
	3.4nm,0.7s							
LPG	**La Plagne**		17.82	310	*e*P	P	08 41 10.2	+2.2
ORIF	**Oris-en-Rattie**		18.13	307	*e*P	Pn	08 41 12.6	+1.2
ORIF	**Oris-en-Rattie**		18.13	307	*e*P	Pn	08 41 12.6	+1.2
CABF	**La Chapelle**		18.75	312	*e*P	P	08 41 18.0	0.0
	9.6nm,0.8s							
CABF	**La Chapelle**		18.75	312	*e*P	P	08 41 18.0	0.0
	4.8nm,0.8s							
VIVF	**Saint-Julien-l**		18.90	306	*e*P	P	08 41 19.9	+0.4
	3.7nm,0.6s							
VIVF	**Saint-Julien-l**		18.90	306	*e*P	P	08 41 19.9	+0.4
	1.9nm,0.6s							
CDF	**Champ du Feu**		19.02	318	*e*P	P	08 41 20.3	-0.6
CDF	**Champ du Feu**		19.02	318	*e*P	P	08 41 20.3	-0.6
MTLF	**Montolieu**		20.11	300	*e*P	Pn	08 41 34.2	-0.7
SMF	**Signal de Mont**		20.15	310	*e*P	P	08 41 32.4	-0.7
	2.4nm,0.3s							
SMF	**Signal de Mont**		20.15	310	*e*P	P	08 41 32.4	-0.7
	1.2nm,0.3s							
LOR	**Lormes**		20.41	312	*e*P	P	08 41 34.6	-1.3
	5.5nm,0.6s							
LOR	**Lormes**		20.41	312	*e*P	P	08 41 34.6	-1.3
	2.8nm,0.6s							
AVF	**Avril sur Loir**		20.51	310	*e*P	P	08 41 34.9	-2.1
	2.7nm,0.6s							
AVF	**Avril sur Loir**		20.51	310	*e*P	P	08 41 34.9	-2.1
	1.4nm,0.6s							
SSF	**Saint Saulge**		20.53	311	*e*P	P	08 41 36.3	-1.0
	9.5nm,0.6s							
SSF	**Saint Saulge**		20.53	311	*e*P	P	08 41 36.3	-1.0
	4.8nm,0.6s							
CAF	**Calviac**		20.66	304	*e*P	P	08 41 38.7	0.0
CAF	**Calviac**		20.66	304	*e*P	P	08 41 38.7	0.0
BGF	**Bois d'Agland**		20.74	309	*e*P	Pn	08 41 41.5	-0.8
	14nm,0.8s							
TCF	**Toulx Ste Croi**		21.04	308	*e*P	P	08 41 42.8	+0.1
TCF	**Toulx Ste Croi**		21.04	308	*e*P	P	08 41 42.8	+0.1
RJF	**Les Rejaudoux**		21.15	305	*e*P	P	08 41 43.2	-0.8
	13nm,0.9s							
RJF	**Les Rejaudoux**		21.15	305	*e*P	P	08 41 43.2	-0.8
	6.3nm,0.9s							
BAIF	**Baives**		21.61	319	*e*P	P	08 41 46.9	-1.9
	19nm,1.1s							
BAIF	**Baives**		21.61	319	*e*P	P	08 41 46.9	-1.9
	9.3nm,1.1s							
ETSF	**Etsaut**		22.00	297	*e*P	P	08 41 51.8	-1.3
ETSF	**Etsaut**		22.00	297	*e*P	P	08 41 51.8	-1.3
MFF	**Saint Martin d**		22.67	307	*e*P	P	08 41 59.1	-1.1
	7.3nm,0.7s							
MFF	**Saint Martin d**		22.67	307	*e*P	P	08 41 59.1	-1.1
	3.7nm,0.7s							
LDF	**La Druitiere**		23.40	312	*e*P	P	08 42 05.1	-2.3
	7.8nm,0.5s							
FLN	**La Foliniere**		23.68	312	*e*P	P	08 42 08.4	-1.7
	8.5nm,0.4s							
FLN	**La Foliniere**		23.68	312	*e*P	P	08 42 08.4	-1.7
	4.2nm,0.4s							
GRR	**Gorron**		23.77	311	*e*P	P	08 42 08.7	-2.2
	6.0nm,0.4s							
ESDC	**Sonseca Array**		24.27	289	P	P	08 42 14.8	-0.9
	0.8nm,0.4s,baz=84,slow=9.9,SNR=9.3							
SGMF	**Saint Gilles**		24.77	310	*e*P	P	08 42 19.0	-1.1
SGMF	**Saint Gilles**		24.77	310	*e*P	P	08 42 19.0	-1.1
QUIF	**Quistinic**		25.05	309	*e*P	P	08 42 21.6	-0.9
	8.8nm,0.5s							
QUIF	**Quistinic**		25.05	309	*e*P	P	08 42 21.6	-0.9
	4.4nm,0.5s							
ROSF	**Rostrenen**		25.25	309	*e*P	P	08 42 22.1	-2.3
	7.3nm,0.4s							
ROSF	**Rostrenen**		25.25	309	*e*P	P	08 42 22.1	-2.3
	3.7nm,0.4s							
FINES	**FINESS Array B**		25.87	360	P	P	08 42 30.3	+0.5
	0.7nm,0.5s,baz=170,slow=12,SNR=3.4							
EKA	**Eskdalemuir Ar**		28.25	324	P	P	08 42 49.1	-2.1
	0.6nm,0.3s,baz=125,slow=10,SNR=6.9							
TORD	**Torodi Ar. Bea**		31.50	231	P	P	08 43 20.5	+0.1
	2.2nm,0.3s,baz=33,slow=8.9,SNR=47							
DBIC	**Dimbokro**		40.59	232	P	P	08 44 37.9	-0.1
	2.5nm,0.4s,baz=21,slow=9.3,SNR=7.4							
LIC	**Lamto**		41.03	232	*e*P	P	08 44 38.7	-3.0
	4.4nm,0.4s							
MKAR	**Makanchi Array**		42.74	57	P	P	08 44 56.0	+0.6
	1.1nm,0.3s,baz=267,slow=8.4,SNR=39							
ZALV	**Zalesovo Beam**		44.01	46	P	P	08 45 04.8	-0.7
	0.8nm,0.3s,baz=267,slow=7.6,SNR=4.5							
SONM	**Songino Array**		58.47	51	P	P	08 46 55.3	+1.2
	0.2nm,0.5s,baz=251,slow=6.0,SNR=2.3							
SCHQ	**Schefferville**		63.47	320	P	P	08 47 26.7	-1.0
	5.1nm,1.0s,baz=73,slow=6.9,SNR=5.3							
YKA	**Yellowknife Ar**		77.32	343	P	P	08 48 50.7	-1.3
	0.1nm,0.4s,baz=30,slow=5.2,SNR=7.4							

IDC ***23*** *09:08:50.2±0.4, 8.4°N×82.2°W, h0km, mb5.0/30, mb1 5.2/32, mb1mx5.1/36, mbtmp5.0/32, ML5.4/2, MS4.5/27, Ms1 4.5/27, ms1mx4.4/40, Error ellipse: s-maj=17.1km s-min=10.0km az=53.0*

CASC ***23*** *09:08:51.2±2.7, 8.39°N×83.05°W, h0km±5km, mb6.5, MD5.0, ML4.6*

ISCJB ***23*** *09:08:53.5±0.5, 8.43°N±0.03°×83.05°W±0.02°, h32km±3km, mb5.1/243, MS4.8/41, Error ellipse: s-maj=5.0km s-min=2.3km az=26.5*

BJI ***23*** *09:08:54.8, 8.30°N×83.10°W, h35km, mB5.4/18, Ms5.4/19, Ms7 5.1/23*

MOS ***23*** *09:08:54.0±1.0, 8.45°N×82.93°W, h33km, mb5.4/84, MS4.7/7, Error ellipse: s-maj=7.0km s-min=4.4km az=102.4*

NEIC ***23*** *09:08:55.5±0.2, 8.34°N×83.01°W, h35km, mb5.2/145, ML5.0(UCR), Error ellipse: s-maj=4.7km s-min=2.8km az=32.0*

NEIC Felt [III] at Escazu and Golfito. Also felt at Alajuela, Alajuelita, Grecia, Heredia, Jimenez, Pocosol, Sabanilla, San Isidro, San Jose, San Pedro and Santo Domingo.

GCMT ***23*** *09:08:55.5±0.1, 8.36°N×83.02°W, h12km, MW5.3/114, Moment Tensor Solution. s87,c142; s114,c218; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr 1.08±.01; Mθθ-0.99±.01; Mφφ-0.08±.02; Mrθ 0.27±.04; Mθφ 0.48±.01; Mφr-0.02±.05; Best double couple: M0 1.17300×10^17 NP1:φs109.00000°, δ52.00000°, λ84.00000°. NP2:φs299.00000°, δ39.00000°, λ98.00000°. Principal axes: T 1.1170, Plg82.0000°, Azm345.0000°; N 0.1160, Plg5.0000°, Azm112.0000°; P -1.2290, Plg6.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***23*** *09:08:57.9, 9.98°N×83.81°W, h33km, mb5.3, Costa Rica*

ISC 23 09:08:51.4±1.0, 8.35°N±0.04°×83.08°W±0.03, h8km±5km, n1088, σ1s19/1115, mb5.2/245, MS4.8/41, 230C-209D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.32**	**344**	↓*i* P	**Pg**	**09 08 57.2**	**-0.5**
ACR				*e*S	**Sb**	**09 09 03.9**	**-0.8**
BRU2	**Volcan**	**0.59**	**41**	*e*P	**Pb**	**09 09 02.6**	**-1.4**
BRU2				*e*S	**Sb**	**09 09 12.8**	**+0.3**
CTCR	**Cotoan**	**0.63**	**30**	↓*i* P	**Pg**	**09 09 03.4**	**-0.3**
BRU	**Baru**	**0.69**	**48**	*e*P	**Pg**	**09 09 04.6**	**-0.2**
CNI	**Changuinola**	**1.20**	**28**	*e*P	**Pg**	**09 09 12.8**	**-1.7**
CNI				*e*S	**Sn**	**09 09 31.6**	**+0.6**
BUS	**Buena Vista**	**1.38**	**331**	↓*i* P	**Pg**	**09 09 15.7**	**-2.2**
QCR	**Quepos**	**1.52**	**315**	*e*P	**Pn**	**09 09 17.3**	**-1.5**
QCR				*e*S	**Sg**	**09 09 35.4**	**-4.7**
URSC	**Urasca**	**1.63**	**335**	↓*i* P	**Pn**	**09 09 19.5**	**-1.1**
SJS	**Escuela Geolog**	**1.85**	**329**	↑*i* P	**Pn**	**09 09 23.9**	**+0.3**
SJS				*e*S	**Sb**	**09 09 49.2**	**+0.3**
CGA2	**Cerro Gallo 2**	**2.15**	**321**	*e*P	**Pn**	**09 09 26.6**	**-1.1**
CGA2				*e*S	**Sb**	**09 09 57.7**	**+0.1**
CAO	**Cobano**	**2.41**	**304**	*e*P	**Pn**	**09 09 30.1**	**-1.1**
JCR	**Jicaral**	**2.50**	**307**	*e*P	**Pn**	**09 09 31.8**	**-0.6**
CASO	**Castillo**	**2.64**	**322**	*i* P	**Pb**	**09 09 37.1**	**-1.8**
JTS	**JuntasAbangare** 57µm,0.5s	**2.67**	**316**	Pn	**Pn**	**09 09 35.4**	**+0.6**
JTS	**JuntasAbangare**	**2.67**	**316**	Pn	**Pn**	**09 09 36.0**	**+1.2**
JTS				Sn	**Sn**	**09 10 08.8**	**+1.4**
JTS	**JuntasAbangare** 2µm,0.3s,baz=106,slow=12,SNR=618	**2.67**	**316**	Pn	**Pn**	**09 09 36.0**	**+1.2**
JTS				LR	LR	09 10 03.1	
	comp=Z,3µm,18.3s,baz=236,slow=27						
JTS				Sn	**Sn**	**09 10 08.8**	**+1.4**
	1µm,0.3s,baz=318,slow=21,SNR=21						
CUI	**Cuipilapa**	**3.08**	**318**	*i* P	Pn	09 09 43.3	+2.9
COLC	**Colonia**	**3.11**	**318**	*i* P	**Pn**	**09 09 43.4**	**+2.5**
COLC				*i* S	**Sn**	**09 10 20.4**	**+2.1**
GUAB	**Guayabo de Bag**	**3.16**	**318**	*i* P	**Pn**	**09 09 43.4**	**+1.8**
MESS	**Mesas**	**3.16**	**319**	*i* P	**Pn**	**09 09 44.0**	**+2.4**
ZANG	**Zanguenga, Cho**	**3.23**	**79**	*e*P	**Pn**	**09 09 43.8**	**+1.3**
ZANG				*e*S	**Sn**	**09 10 23.2**	**+2.0**
GPS1	**Guardaparques**	**3.29**	**317**	*i* P	**Pn**	**09 09 45.8**	**+2.4**
BCIP	**Isla Barro Col**	**3.31**	**76**	*e*P	**Pn**	**09 09 44.0**	**+0.5**
NY14	**Universidad de**	**3.33**	**314**	*i* P	Pn	09 09 46.4	+2.6
NY14				*i* S	**Sn**	**09 10 25.2**	**+1.6**
LAPC	**Finca la Perla**	**3.34**	**316**	*i* P	**Pn**	**09 09 46.2**	**+2.2**
GB1A	**Borinquen Arri**	**3.35**	**317**	*i* P	**Pn**	**09 09 46.1**	**+1.8**
UPA	**Univ. de Panam**	**3.56**	**80**	*e*P	**Pn**	**09 09 48.4**	**+1.4**
COPN	**Copaltepe**	**5.14**	**318**	*e*P	**Pn**	**09 10 11.0**	**+2.3**
COPN				*e*S	**Sn**	**09 11 10.0**	**+1.7**
CNCH	**Conchagua**	**6.77**	**317**	*e*P	Pn	09 10 34.1	+2.9
CNCH				*e*S	**Sn**	**09 11 47.5**	**-1.1**
TGUH	**Tegucigalpa,Un**	**7.01**	**324**	*e*Pn	**Pn**	**09 10 36.9**	**+2.5**
BLLM	**Bellamira**	**7.16**	**315**	*e*P	Pn	09 10 39.6	+3.0
VSM	**San Miguel**	**7.18**	**315**	*e*P	**Pn**	**09 10 39.4**	**+2.4**
VSM				*e*S	**Sn**	**09 11 58.4**	**-0.4**
CAHU	**Cacacuatique**	**7.38**	**317**	*e*P	Pn	09 10 42.4	+2.8
SNVI	**San Vicente**	**7.70**	**313**	*e*P	**Pn**	**09 10 46.7**	**+2.6**
LBRS	**Las Brisas**	**7.93**	**313**	*e*P	Pn	09 10 50.2	+3.0
LFU	**La Fuente**	**7.99**	**313**	*e*P	**Pn**	**09 10 50.3**	**+2.4**
SNET	**Serv Nac Est T** comp=Z,509nm,0.5s	**8.04**	**312**	*e*P	**Pn**	**09 10 50.3**	**+1.7**
SNET				AML	AML	09 10 53.6	
	comp=Z,476nm,0.5s						
SNET				*e*S	**Sn**	**09 12 15.2**	**-4.6**
BOQS	**Boqueron**	**8.10**	**312**	*e*P	**Pn**	**09 10 52.0**	**+2.4**
BOQS				*e*S	**Sn**	**09 12 19.3**	**-2.4**
OTAV	**Otavalo**	**9.28**	**150**	*e*Pn	**Pn**	**09 11 06.9**	**+0.9**
MRL	**Marmol**	**9.30**	**316**	*e*P	**Pn**	**09 11 08.4**	**+2.4**
ROSC	**El Rosal**	**9.36**	**111**	Pn	Pn	09 11 10.4	+3.3
ROSC				Sn	Sn	09 13 01.7	+9.0
ROSC	**El Rosal** comp=Z,2.1nm,0.3s,baz=288,slow=3.7,SNR=11	**9.36**	**111**	Pn	Pn	09 11 10.4	+3.3
ROSC				Sn	Sn	09 13 01.7	+9.0
	comp=Z,0.5nm,0.3s,baz=105,slow=20,SNR=3.1						
APG	**El Apazote**	**9.80**	**313**	Pn	**Pn**	**09 11 12.3**	**-0.6**
APG				Sn	**Sn**	**09 13 07.9**	**+4.6**
APG	**El Apazote** comp=Z,15nm,0.3s,baz=112,slow=8.0,SNR=129	**9.80**	**313**	Pn	**Pn**	**09 11 12.3**	**-0.6**
APG				Sn	**Sn**	**09 13 07.9**	**+4.6**
	comp=Z,1.2nm,0.3s,baz=41,slow=19,SNR=3.0						
APG				LR	LR	09 15 14.0	
	comp=Z,3µm,20.1s,baz=128,slow=39						
SDV	**Santo Domingo**	**12.32**	**87**	*e*Pn	**Pn**	**09 11 48.5**	**+1.1**
TEIG	**Tepich**	**12.84**	**337**	Pn	**Pn**	**09 11 56.2**	**+1.9**
TEIG	**Tepich**	**12.84**	**337**	Pn	**Pn**	**09 11 56.2**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=158,slow=7.6,SNR=9.4						
TEIG				LR	LR	09 16 42.3	
	comp=Z,4µm,19.8s,baz=148,slow=37						
GTBY	**Guantanamo Bay**	**13.86**	**33**	*e*Pn	**Pn**	**09 12 10.9**	**+2.7**
SDDR	**Presa de Saban** comp=Z,125nm,0.9s	**15.58**	**46**	*e*Pn	**Pn**	**09 12 32.5**	**+0.9**
ATAH	**Atahualpa**	**16.07**	**163**	Pn	**P**	**09 12 43.5**	**+1.7**
ATAH	**Atahualpa** comp=Z,2.2nm,0.3s,baz=311,slow=19,SNR=33	**16.07**	**163**	Pn	**P**	**09 12 43.5**	**+1.7**
ATAH				LR	LR	09 18 17.8	
	comp=Z,2µm,21.0s,baz=334,slow=35						
GRTK	**Grand Turk** comp=Z,180nm,1.2s	**17.43**	**40**	*e*P	**P**	**09 12 56.5**	**+0.1**

533A Kerrville 26.28 327 ⇑P P 09 14 27.7 +0.2
baz=26,SNR=22
335A Moody 26.45 332 ⇓P P 09 14 28.2 -0.7
baz=27,SNR=9.3
434A Burnet 26.48 330 ⇓P P 09 14 28.8 -0.4
baz=27,SNR=5.4
631A Perdido Creek 26.63 324 ⇓P P 09 14 30.6 -0.1
baz=27
OXF Oxford 26.68 348 eP P 09 14 31.0 0.0
OXF pmax pmax
comp=Z,129nm,1.2s
OXF Oxford 26.68 348 eP P 09 14 31.0 0.0
comp=Z,129nm,1.2s
KMSC Kings Mountain 26.72 3 eP P 09 14 32.3 +1.0
KMSC Kings Mountain 26.72 3 ⇑P P 09 14 32.4 +1.0
baz=27,SNR=22
532A Rocksprings 26.79 326 ⇑P P 09 14 31.5 -0.6
baz=27,SNR=8.5
433A Art 26.85 328 ⇓P P 09 14 32.6 0.0
baz=27,SNR=21
SWET Sewanee 26.87 355 eP P 09 14 33.4 +0.7
comp=Z,326nm,1.9s
334A Lometa 26.88 330 ⇑P P 09 14 31.7 -1.1
baz=27,SNR=11
CPCT Cooper Cave 27.01 357 eP P 09 14 36.0 +2.0
JCT Junction City 27.01 327 eP P 09 14 33.7 -0.4
JCT pmax pmax
comp=Z,29nm,1.0s
JCT Junction City 27.01 327 eP P 09 14 33.7 -0.4
comp=Z,29nm,1.0s
JCT Junction City 27.01 327 ⇑P P 09 14 33.4 -0.7
baz=27,SNR=12
WHTX Lake Whitney 27.06 332 eP P 09 14 36.2 +1.8
WHTX Lake Whitney 27.06 332 ⇑P P 09 14 34.4 0.0
baz=27
531A Rocksprings 27.18 325 ⇑P P 09 14 35.7 +0.1
baz=27
TKL Tuckaleechee C 27.19 359 P P 09 14 35.6 0.0
TKL Tuckaleechee C 27.19 359 P P 09 14 35.6 0.0
comp=Z,57nm,1.1s,baz=162,slow=9.7,SNR=14
TKL LR LR 09 25 54.5
comp=Z,2µm,18.6s,baz=180,slow=38
333A Richland Sprin 27.25 329 ⇓P P 09 14 35.8 -0.4
baz=27,SNR=34
432A Menard 27.31 327 ⇓P P 09 14 35.6 -1.2
baz=27,SNR=17
234A Clairette 27.39 331 ⇑P P 09 14 36.8 -0.6
baz=28,SNR=15
135A Vickery Place, 27.51 333 ⇑P P 09 14 38.3 -0.2
baz=28
431A Sonora 27.61 326 ⇑P P 09 14 38.6 -0.8
baz=28,SNR=9.3
530A J-C Ranch, Com 27.62 324 ⇑P P 09 14 39.1 -0.5
baz=28,SNR=12
UALR University of 27.64 343 eP P 09 14 39.3 -0.4
comp=Z,69nm,0.9s
332A Millersview 27.68 328 ⇑P P 09 14 39.0 -1.1
baz=28,SNR=6.8
233A Rising Star 27.77 330 ⇑P P 09 14 39.8 -1.0
baz=28
134A White-Moore Ra 27.83 332 ⇓P P 09 14 40.3 -1.1
baz=28,SNR=17
HBAR Harrisburg 27.95 347 eP P 09 14 42.3 -0.1
331A San Angelo 27.99 327 ⇑P P 09 14 42.6 -0.2
baz=28,SNR=22
WVT Waverly 27.99 352 eP P 09 14 42.2 -0.5
WVT pmax pmax
comp=Z,20nm,0.7s
WVT Waverly 27.99 352 eP P 09 14 42.2 -0.5
comp=Z,20nm,0.7s
232A Coleman 28.04 329 ⇑P P 09 14 42.2 -1.1
baz=28,SNR=6.3
430A Baggett Ranch, 28.04 325 ⇑P P 09 14 43.1 -0.2
baz=28,SNR=6.2
TZTN Tazewell 28.07 359 eP P 09 14 44.7 +1.2
comp=Z,62nm,1.2s
628A Black Gap, Mar 28.07 321 ⇓P P 09 14 44.0 +0.3
baz=28
Z35A Perchaven, San 28.10 334 ⇑P P 09 14 42.9 -0.9
baz=28,SNR=6.9
529A Stev Forest Ra 28.12 323 ⇑P P 09 14 44.2 +0.2
baz=28,SNR=12
GNAR Gosnell 28.21 348 eP P 09 14 45.2 +0.5
comp=Z,880nm,1.0s
133A Hamilton Ranch 28.26 331 ⇑P P 09 14 44.0 -1.2
baz=28
429A Davenport Ranc 28.29 324 ⇑P P 09 14 45.0 -0.6
baz=28,SNR=23
UTMT University of 28.36 350 eP P 09 14 46.3 +0.3
comp=Z,171nm,1.4s
627A Terlingua Ranc 28.36 320 ⇓P P 09 14 46.6 +0.3
baz=28,SNR=21
231A Bronte 28.42 328 ⇑P P 09 14 48.3 +1.6
baz=29,SNR=6.1
Z34A Collier Ranch, 28.43 333 ⇑P P 09 14 46.2 -0.4
baz=29
TXAR Lajitas Array 28.46 320 P P 09 14 47.2 +0.1
TXAR PcP PcP 09 18 00.5 +1.2
TXAR ScP ScP 09 21 44.3 +3.4
TXAR Lajitas Array 28.46 320 P P 09 14 47.2 +0.1
comp=Z,2.5nm,1.0s,baz=134,slow=8.9,SNR=10
TXAR PcP PcP 09 18 00.5 +1.2
comp=Z,2.1nm,0.8s,baz=159,slow=5.3,SNR=6.0
TXAR ScP ScP 09 21 44.3 +3.4
comp=Z,1.2nm,0.9s,baz=146,slow=7.6,SNR=5.2
TXAR LR LR 09 26 53.1
comp=Z,552nm,20.5s,baz=0.0,slow=38
330A Mertzon 28.47 326 ⇑P P 09 14 46.6 -0.5
baz=29
528A Cox Ranch, San 28.49 322 ⇓P P 09 14 47.5 +0.1
baz=29,SNR=12
LPAZ La Paz 28.60 149 P P 09 14 49.4 +0.3
comp=Z,9.2nm,1.2s
LPAZ PcP PcP 09 18 01.3 +0.9
LPAZ La Paz 28.60 149 P P 09 14 49.4 +0.3
comp=Z,13nm,1.1s,baz=333,slow=8.5,SNR=31
LPAZ PcP PcP 09 18 01.3 +0.9
comp=Z,3.6nm,0.9s,baz=342,slow=6.4,SNR=2.8
LPAZ LR LR 09 26 56.8
comp=Z,2µm,21.5s,baz=298,slow=38
ABTX Abilene, Hawle 28.62 330 eP P 09 14 49.9 +1.4
ABTX Abilene, Hawle 28.62 330 ⇑P P 09 14 47.3 -1.2
baz=29
Z33A Whitaker Ranch 28.74 332 ⇑P P 09 14 48.5 -1.0
baz=29,SNR=17
428A Kincaid Ranch, 28.83 323 ⇓P P 09 14 50.4 0.0
baz=29,SNR=6.9
PARMO Parma 28.83 349 eP P 09 14 50.8 +0.6
BLA Blacksburg 28.84 4 eP P 09 14 50.7 +0.4
BLA pmax pmax
comp=Z,69nm,1.0s
BLA Blacksburg 28.84 4 eP P 09 14 50.7 +0.4
comp=Z,68nm,1.0s
Y34A Reagan Ranch, 28.86 334 ⇓P P 09 14 49.4 -1.1
baz=29,SNR=16
626A Big Bend Ranch 28.91 320 ⇓P P 09 14 51.4 +0.3
baz=29,SNR=7.8
H06E1 SOCORRO T-PHAS 28.94 294 T T 09 45 01.4
SNR=26
527A Woodward Ranch 28.98 321 ⇓P P 09 14 51.7 -0.2
baz=29,SNR=11
329A Wagon Wheel Ra 28.98 325 ⇑P P 09 14 51.5 -0.3
baz=29,SNR=6.9
131A Roby 29.04 329 ⇑P P 09 14 51.8 -0.4
baz=29
PBMO Poplar Bluff 29.08 348 eP P 09 14 52.1 -0.3
comp=Z,76nm,1.5s
Z32A Haskell 29.10 331 ⇑P P 09 14 51.9 -0.7
baz=29,SNR=21
526A Mary Lane Ranc 29.22 320 ⇑P P 09 14 53.8 -0.2
baz=29,SNR=13
229A Bryant Ranch, 29.25 326 ⇓P P 09 14 53.4 -0.6
baz=29
130A Snyder 29.28 328 ⇓P P 09 14 53.8 -0.5
baz=29
Y33A Hilltop Ranch, 29.28 333 ⇑P P 09 14 54.0 -0.3
baz=29,SNR=9.7
427A Hayter Ranch, 29.35 322 ⇑P P 09 14 55.1 +0.1
baz=30
328A Wristen Ranch, 29.38 324 ⇓P P 09 14 55.2 -0.1
baz=30
Z31A Sharp Cattle R 29.43 330 ⇓P P 09 14 54.9 -0.8
baz=30
X34A Smith Ranch, M 29.44 335 ⇓P P 09 14 55.2 -0.5
baz=30,SNR=7.7
JSRW J. Sargeant Re 29.59 8 eP P 09 14 58.0 +1.1
426A McDonald Obser 29.60 321 ⇓P P 09 14 56.7 -0.7
baz=30

Y32A R-V Farms, Ver 29.65 332 ⇓P P 09 14 56.9 -0.7
baz=30
X33A Lawton 29.67 334 ⇑P P 09 14 56.4 -1.3
baz=30,SNR=39
SIUC Southern Illin 29.76 350 eP P 09 14 58.5 +0.1
comp=Z,49nm,1.0s
129A Stewart Farms, 29.79 327 ⇑P P 09 14 58.3 -0.6
baz=30
TUL1 Tulsa 29.79 339 eP P 09 14 57.8 -0.9
TUL1 Tulsa 29.79 339 ⇑P P 09 14 57.5 -1.2
baz=30,SNR=8.0
228A UT Block 9, Go 29.80 325 ⇓P P 09 14 57.7 -1.3
baz=30
WCI Wyandotte Cave 29.89 355 eP P 09 14 59.9 +0.3
WCI pmax pmax
comp=Z,123nm,1.1s
WCI Wyandotte Cave 29.89 355 eP P 09 14 59.9 +0.3
comp=Z,123nm,1.1s
Z30A Sanderson Ranc 29.90 329 ⇑P P 09 14 58.9 -0.9
baz=30
X32A Elmer 29.93 332 ⇑P P 09 14 59.5 -0.5
baz=30
W34A Bridge Creek, 29.96 335 ⇓P P 09 14 59.1 -1.2
baz=30,SNR=9.0
WMOK Wichita Mounta 29.96 333 eP P 09 14 59.0 -1.3
WMOK pmax pmax
comp=Z,19nm,1.1s
WMOK Wichita Mounta 29.96 333 eP P 09 14 59.0 -1.3
comp=Z,20nm,1.1s
Y31A Rekieta Farm, 30.01 331 ⇓P P 09 15 00.3 -0.5
baz=30
326A Caldwell Ranch 30.03 322 ⇑P P 09 15 01.4 +0.3
baz=30
W33A Caddo, Fort Co 30.18 334 ⇑P P 09 15 02.1 -0.1
baz=30,SNR=7.6
Y30A Stafford Catt 30.25 330 ⇑P P 09 15 02.3 -0.6
baz=30,SNR=8.7
425A Indio Mountain 30.28 320 ⇑P P 09 15 03.7 +0.4
baz=30,SNR=31
MNMC Minimini 30.37 154⇑/P P 09 15 05.7 +1.4
V34A Guthrie 30.37 336 ⇓P P 09 15 02.6 -1.3
baz=30,SNR=12
X31A McDonald Ranch 30.42 332 ⇓P P 09 15 03.7 -0.7
baz=31
W32A Sentinel 30.49 333 ⇑P P 09 15 05.0 0.0
baz=31,SNR=17
PSGC Pisagua 30.56 155 eP P 09 15 06.7 +0.9
Z28A Tucker Farm, M 30.57 327 ⇓P P 09 15 05.4 -0.4
baz=31
OLIL Olney 30.59 352 eP P 09 15 05.8 0.0
comp=Z,103nm,0.8s
Y29A Porterfield Fa 30.63 329 ⇓P P 09 15 05.6 -0.8
baz=31
127A Arkansas Junct 30.65 325 ⇑P P 09 15 05.9 -0.6
baz=31
226B Tecate Peak, 30.68 323 ⇓P P 09 15 06.9 +0.1
baz=31,SNR=16
X30A Coker Ranch, T 30.70 330 ⇓P P 09 15 06.0 -0.9
baz=31
SLM Saint Louis 30.84 349 eP P 09 15 08.1 +0.2
SLM pmax pmax
comp=Z,124nm,1.4s
SLM Saint Louis 30.84 349 eP P 09 15 08.1 +0.2
comp=Z,124nm,1.4s
BLO Bloomington 30.85 355 eP P 09 15 08.1 +0.1
BLO pmax pmax
comp=Z,81nm,0.8s
BLO Bloomington 30.85 355 eP P 09 15 08.1 +0.1
comp=Z,81nm,0.8s
W31A Holland Ranch, 30.86 332 ⇑P P 09 15 07.5 -0.8
baz=31
GDL2 Guadalupe Moun 30.89 323 eP P 09 15 08.4 -0.3
comp=Z,2.9nm,0.6s
U34A Anderson Ranch 30.91 337 ⇓P P 09 15 07.4 -1.2
baz=31,SNR=6.3
V32A Arapaho 30.91 334 ⇓P P 09 15 07.9 -0.7
baz=31,SNR=8.0
Y28A McKinney Farm, 30.97 328 ⇑P P 09 15 08.6 -0.8
baz=31
Z27A Tatum 31.04 326 ⇑P P 09 15 09.8 -0.2
baz=31
225A Deer Hill, Car 31.10 323 ⇑P P 09 15 10.4 -0.2
baz=31
X29A Tulia 31.11 329 ⇓P P 09 15 10.3 -0.2
baz=31
U33A Lingo Farm, Me 31.13 336 ⇑P P 09 15 10.0 -0.7
baz=31
MNTX Cornudas Mount 31.15 321 eP P 09 15 10.9 +0.1
MNTX comp=Z,19nm,1.2s ePcP PcP 09 18 05.8 -0.3
W30A Crocket Farms 31.15 332 ⇓P P 09 15 11.5 +0.6
baz=31
HMBC Humberstone 31.27 156 eP P 09 15 14.9 +2.8
MSTX Muleshoe 31.30 327 eP P 09 15 12.6 +0.3
comp=Z,14nm,1.0s
MSTX Muleshoe 31.30 327 ⇓P P 09 15 12.2 0.0
baz=31
V31A Spring Creek L 31.30 333 ⇑P P 09 15 12.6 +0.4
baz=31
MCWV Mont Chateau 31.31 5 eP P 09 15 13.5 +1.4
comp=Z,74nm,1.0s
125A Gardner Draw, 31.39 323 ⇑P P 09 15 12.7 -0.4
baz=32,SNR=23
X28A Dimmitt 31.42 329 ⇑P P 09 15 12.0 -1.3
baz=32
SDMD Soldier's Deli 31.43 9 eP P 09 15 14.5 +1.3
comp=Z,42nm,1.2s
Z26A Caprock 31.44 325 ⇓P P 09 15 13.9 +0.4
baz=32
Y27A Causey 31.44 327 ⇑P P 09 15 12.5 -1.1
baz=32
AMTX Amarillo 31.45 330 ⇓P P 09 15 13.2 -0.3
baz=32
U32A Winter Ranch, 31.45 335 ⇓P P 09 15 12.1 -1.3
baz=32,SNR=8.6
PATCX Punta Patache 31.65 156⇑/P P 09 15 16.7 +1.4
ACSO Alum Creek Sta 31.75 0 eP P 09 15 16.3 +0.3
comp=Z,131nm,0.9s
Y26A Elida 31.83 326 ⇑P P 09 15 16.0 -0.9
baz=32
Z25A Roswell 31.87 324 ⇑P P 09 15 17.5 +0.3
baz=32,SNR=11
MVL Millersville 32.09 10 eP P 09 15 20.7 +1.8
comp=Z,32nm,1.1s
SFIN Scholer Farm 32.10 354 eP P 09 15 18.5 -0.6
SFIN Scholer Farm 32.10 354 ⇑P P 09 15 17.8 -1.2
baz=32,SNR=22
T32A Huddler Ranch, 32.10 336 ⇑P P 09 15 19.1 -0.1
baz=32
PB01 Plate Boundary 32.12 156⇑/P P 09 15 20.8 +1.3
Z24A Sheeppen Canyo 32.28 324 ⇓P P 09 15 21.4 +0.4
baz=32,SNR=7.2
W27A Bowe Ranch, En 32.29 328 ⇓P P 09 15 21.3 +0.3
baz=32
U30A WK&E Inc. Balk 32.29 333 ⇓P P 09 15 20.1 -0.8
baz=32
X26A CR and CF Fran 32.30 327 ⇓P P 09 15 21.3 +0.3
baz=32
Y25A Mesa, Roswell 32.32 325 ⇑P P 09 15 20.8 -0.5
baz=32
T31A Randall Ranch, 32.34 335 ⇓P P 09 15 20.1 -1.2
baz=32
SIV San Ignacio 32.55 138 PcP PcP 09 18 10.4 +0.3
SIV San Ignacio 32.55 138 PcP PcP 09 18 10.4 +0.3
baz=289,slow=2.9
PB07 Plate Boundary 32.57 157⇓/P P 09 15 24.6 +1.0
T30A Plains 32.67 334 ⇑P P 09 15 25.7 +1.5
baz=33
S31A Mullinville 32.71 335 ⇓P P 09 15 24.0 -0.5
baz=33,SNR=8.0
V27A Dan Oppiter Fa 32.71 329 ⇓P P 09 15 24.7 0.0
baz=33
R33A Olander Ranch, 32.72 338 ⇓P P 09 15 23.7 -0.9
baz=33,SNR=25
Y24A Capitan 32.75 324 ⇑P P 09 15 25.1 0.0
baz=33
U28A Mallet 32.91 331 ⇑P P 09 15 26.3 0.0
baz=33
KSU1 Kansas State U 32.95 340 eP P 09 15 25.8 -0.7
comp=Z,55nm,0.8s
KSU1 Kansas State U 32.95 340 ⇑P P 09 15 25.5 -1.0
baz=33,SNR=17
R32A Long Quarter, 33.09 337 ⇑P P 09 15 26.7 -1.1
baz=33,SNR=28
Y23A Lovelace Mesa, 33.11 324 ⇓P P 09 15 28.4 +0.2
baz=33
S30A Montezuma 33.14 334 ⇑P P 09 15 28.0 -0.3
baz=33

W25A X Bar L Ranch, 33.15 327 ⇑P P 09 15 27.9 -0.6
baz=33
Z22A Elephant Butte 33.19 322 ⇑P P 09 15 31.1 +2.2
baz=33,SNR=11
121A Cookes Peak, D 33.22 320 eP P 09 15 31.0 +1.8
comp=Z,33nm,0.9s
121A Cookes Peak, D 33.22 320 ⇓P P 09 15 31.9 +2.6
baz=33,SNR=15
V26A Tequesquite Ra 33.23 328 ⇓P P 09 15 29.3 +0.1
baz=33
U27A Thompson Grove 33.23 330 ⇑P P 09 15 29.2 0.0
baz=33
ALLY Alegheny Colle 33.27 4 eP P 09 15 29.6 +0.3
comp=Z,38nm,1.0s
Q33A Connelly Farm, 33.27 339 ⇓P P 09 15 28.4 -1.0
baz=33,SNR=12
R31A Burdett 33.30 336 ⇓P P 09 15 29.8 +0.2
baz=33,SNR=15
S29A Ulysses 33.41 333 ⇑P P 09 15 31.3 +0.7
baz=34
T28A Walsh 33.45 332 ⇓P P 09 15 30.3 -0.8
baz=34
319A Douglas 33.47 317 ⇓P P 09 15 34.0 +2.6
baz=34,SNR=27
Q32A Meitler Ranch, 33.53 338 ⇑P P 09 15 30.7 -1.0
baz=34,SNR=22
PB06 Plate Boundary 33.58 157⇓/P P 09 15 33.0 +0.6
R30A Dighton 33.60 335 ⇓P P 09 15 31.9 -0.4
baz=34,SNR=15
BNM Barren Site 33.60 323 eP P 09 15 32.9 +0.3
comp=Z,7.4nm,1.2s
P33A Williams Farm, 33.62 339 ⇓P P 09 15 32.4 0.0
baz=34
W24A Lazy 6 Ranch, 33.66 326 ⇓P P 09 15 32.7 -0.3
baz=34
U26A Atchley Ranch, 33.67 329 ⇓P P 09 15 33.2 +0.1
baz=34
V25A Rancho No Teng 33.70 327 ⇑P P 09 15 33.5 +0.2
baz=34
KSPA Keystone Colle 33.70 10 eP P 09 15 34.6 +1.6
S28A Manter 33.73 333 ⇑P P 09 15 32.9 -0.6
baz=34
LVC Limon Verde 33.76 156 eP P 09 15 35.6 +1.6
comp=Z,50nm,1.3s
LENM Lemitar 33.82 323 eP P 09 15 37.3 +2.9
Q31A Ellis 33.86 337 ⇓P P 09 15 33.8 -0.8
baz=34,SNR=20
V24A Rampart Ranch, 33.97 327 ⇑P P 09 15 36.4 +0.7
baz=34
U25A Circle Dot Ran 34.02 328 ⇑P P 09 15 37.0 +0.9
baz=34
W23A Werner Place, 34.04 325 ⇑P P 09 15 36.9 +0.5
baz=34,SNR=5.5
ANMO Albuquerque 34.06 324 eP P 09 15 37.1 +0.6
comp=Z,10nm,1.1s
LAZ Ladron 34.08 323 eP P 09 15 37.5 +0.8
comp=Z,11nm,1.3s
R29A Marienthal 34.08 334 ⇑P P 09 15 37.1 +0.6
baz=34
P32A Huiting Farm, 34.10 338 ⇓P P 09 15 35.9 -0.7
baz=34,SNR=32
Q30A Quinter 34.17 336 ⇑P P 09 15 38.6 +1.4
baz=34
T26A Comanche Natio 34.20 330 ⇑P P 09 15 37.8 +0.1
baz=34
P31A Stockton 34.30 337 ⇑P P 09 15 37.6 -0.8
baz=34,SNR=28
R28A Tribune 34.31 333 ⇓P P 09 15 37.7 -0.8
baz=34,SNR=24
Q29A Oakley 34.41 335 ⇑P P 09 15 39.6 +0.3
baz=34,SNR=12
U24A Moreno Valley 34.48 327 ⇑P P 09 15 40.8 +0.6
baz=35
V23A Ortiz Mt. (NFS 34.48 326 ⇑P P 09 15 41.0 +0.8
baz=35
S26A Kim 34.50 331 ⇑P P 09 15 39.8 -0.4
baz=35,SNR=8.5
MMNY Mt. Morris Dam 34.55 7 eP P 09 15 41.1 +0.7
comp=Z,104nm,1.0s
O32A Brockman Farm, 34.55 339 ⇑P P 09 15 39.6 -1.0
baz=35,SNR=8.3
T25A Trinidad 34.58 329 ⇓P P 09 15 41.3 +0.2
baz=35
P30A Selden 34.66 336 ⇓P P 09 15 41.3 -0.3
baz=35,SNR=53
R27A Eads 34.71 332 ⇑P P 09 15 42.6 +0.5
baz=35
O31A Woolen Ranch, 34.84 338 ⇑P P 09 15 41.9 -1.1
baz=35,SNR=14
Q28A Sharon Springs 34.91 334 ⇑P P 09 15 43.4 -0.3
baz=35,SNR=34
U23A El Rito 34.91 326 ⇓P P 09 15 44.3 +0.3
baz=35
P29A Atwood 34.99 336 ⇑P P 09 15 44.3 0.0
baz=35,SNR=19
S25A Robets Cordova 35.00 330 ⇑P P 09 15 44.7 +0.1
baz=35
JFWS Jewell Farm 35.00 351 eP P 09 15 43.0 -1.3
JFWS pmax pmax
comp=Z,55nm,0.8s
JFWS Jewell Farm 35.00 351 eP P 09 15 43.0 -1.3
comp=Z,55nm,0.8s
V22A San Miguel Ran 35.01 325 ⇑P P 09 15 44.6 -0.3
baz=35
R26A Arlington 35.02 332 ⇓P P 09 15 45.0 +0.2
baz=35
T24B San Luis 35.02 328 ⇑P P 09 15 45.1 +0.1
baz=35
TUC Tucson 35.06 317 eP P 09 15 47.4 +2.3
TUC pmax pmax
comp=Z,38nm,1.1s
TUC Tucson 35.06 317 eP P 09 15 47.4 +2.3
comp=Z,38nm,1.1s
O30A MW Ranch, Wils 35.13 337 ⇑P P 09 15 45.8 +0.2
baz=35
KSCO Kaye Shedlock' 35.22 333 eP P 09 15 48.3 +1.9
comp=Z,31nm,1.0s
KSCO Kaye Shedlock' 35.22 333 ⇑P P 09 15 47.0 +0.6
baz=35
R25A Fountain Ranch 35.30 330 ⇑P P 09 15 46.9 -0.3
baz=35
P28A Saint Francis 35.31 335 ⇑P P 09 15 46.7 -0.4
baz=35,SNR=12
U22A Llaves 35.31 326 ⇓P P 09 15 48.1 +0.7
baz=35
T23A Casias Ranch, 35.35 327 ⇑P P 09 15 48.0 +0.3
baz=36
S24A Houchin Ranch, 35.38 329 ⇑P P 09 15 47.9 -0.1
baz=36
O29A 4D Ranch, Culb 35.38 336 ⇑P P 09 15 47.3 -0.4
baz=36,SNR=11
BGNE Belgrade 35.53 340 eP P 09 15 48.3 -0.7
BGNE Belgrade 35.53 340 ⇓P P 09 15 48.2 -0.7
baz=36
Q26A Hugo 35.56 332 ⇑P P 09 15 49.5 +0.2
baz=36
P27A Ficken Ranch, 35.65 334 ⇓P P 09 15 49.9 -0.2
baz=36,SNR=11
N30A Hueftle Ranch, 35.69 338 ⇓P P 09 15 50.8 +0.4
baz=36
M31A Lambtecht Ranc 35.76 339 ⇑P P 09 15 50.1 -0.8
baz=36,SNR=14
O28A Krutsinger Ran 35.78 335 ⇑P P 09 15 51.2 +0.1
baz=36,SNR=6.1
R24A Sanders Place, 35.78 330 ⇓P P 09 15 51.6 +0.2
baz=36
S23A Nye Farm, Mont 35.83 328 ⇑P P 09 15 52.5 +0.6
baz=36
X18A Snowflake 35.89 320 ⇑P P 09 15 53.7 +1.4
baz=36,SNR=21
Q25A Bedland, Calha 35.89 331 ⇑P P 09 15 52.2 -0.1
baz=36,SNR=9.7
N29A Votaw Ranch, W 35.91 337 ⇑P P 09 15 51.5 -0.7
baz=36,SNR=12
P26A Davis Ranch, A 35.99 333 ⇑P P 09 15 52.9 -0.1
baz=36
R23A Moffat 36.11 329 ⇓P P 09 15 54.9 +0.6
baz=36,SNR=14
W18A Petrified Fore 36.14 321 eP P 09 15 57.0 +2.5
W18A Petrified Fore 36.14 321 ⇓P P 09 15 56.0 +1.6
baz=36,SNR=13
N28A Pribbeno Ranch 36.16 336 ⇑P P 09 15 54.3 -0.1
baz=36,SNR=19
214A Organ Pipe Nat 36.26 315 eP P 09 15 58.0 +2.6
comp=Z,129nm,1.4s
214A Organ Pipe Nat 36.26 315 ⇑P P 09 15 57.5 +2.2
baz=36,SNR=15
S22A 4UR Ranch, Cre 36.30 327 ⇑P P 09 15 56.2 +0.3

baz=36,SNR=9.9
NCB Newcomb 36.32 11 eP P 09 15 54.2 -1.4
comp=Z,25nm,0.7s
P25A Willow Gulch B 36.33 332 ⇑P P 09 15 56.5 +0.5
baz=36,SNR=22
Q24A Divide 36.37 330 ⇑P P 09 15 56.8 +0.3
baz=36,SNR=6.6
L31A Butterfield Fa 36.45 340 ⇑P P 09 15 55.8 -1.0
baz=37,SNR=37
M29A Burnside Ranch 36.47 338 ⇑P P 09 15 56.3 -0.7
baz=37,SNR=23
L30A Spencer Herefo 36.55 339 ⇑P P 09 15 57.1 -0.7
baz=37,SNR=12
N27A Anderson Farm, 36.66 335 ⇓P P 09 15 58.6 -0.1
baz=37,SNR=13
P24A Kohler Place, 36.68 331 ⇓P P 09 15 59.1 +0.1
baz=37
M28A Bar X Bar Ranc 36.69 337 ⇓P P 09 15 58.7 -0.2
baz=37
PTN Potsdam (NY) 36.77 10 eP P 09 16 00.1 +0.7
PTN pmax pmax
comp=Z,449nm,1.9s
PTN Potsdam (NY) 36.77 10 eP P 09 16 00.1 +0.7
comp=Z,449nm,1.9s
X16A Lo Mia Camp, P 36.77 319 ⇑P P 09 16 01.7 +1.8
baz=37,SNR=31
MVCO Mesa Verde 36.83 325 eP P 09 16 00.4 0.0
comp=Z,33nm,1.4s
MVCO Mesa Verde 36.83 325 ⇓P P 09 15 59.6 -0.8
baz=37,SNR=8.7
LONY Lake Ozonia 36.88 10 eP P 09 16 01.0 +0.5
comp=Z,98nm,1.5s
L29A Maesberg Ranch 36.93 338 ⇑P P 09 16 00.3 -0.6
baz=37,SNR=16
P23A Jefferson 37.02 330 ⇓P P 09 16 02.4 +0.3
baz=37,SNR=10
Z14A Wintersburg 37.15 316 ⇓P P 09 16 05.0 +2.1
baz=37,SNR=15
K30A Basset 37.16 340 ⇓P P 09 16 02.2 -0.7
baz=37,SNR=18
ECSD EROS Data Cent 37.18 344 eP P 09 16 01.2 -1.8
comp=Z,56nm,1.2s
ECSD EROS Data Cent 37.18 344 ⇑P P 09 16 01.5 -1.5
baz=37,SNR=26
M27A Reverse DX Ran 37.21 336 ⇓P P 09 16 02.6 -0.7
baz=37
O24A Longmont 37.24 332 ⇓P P 09 16 03.8 +0.1
baz=37
ISCO Idaho Springs 37.24 331 eP P 09 16 04.3 +0.3
ISCO pmax pmax
comp=Z,77nm,2.2s
ISCO Idaho Springs 37.24 331 eP P 09 16 04.3 +0.3
comp=Z,77nm,2.2s
ISCO Idaho Springs 37.24 331 ⇓P P 09 16 04.2 +0.3
baz=37,SNR=6.9
L28A Connealy Angus 37.27 337 ⇓P P 09 16 03.6 -0.2
baz=37,SNR=6.8
113A Mohawk Valley, 37.38 315 ⇑P P 09 16 06.5 +1.7
baz=38,SNR=21
WUAZ Wupatki 37.42 320 eP P 09 16 07.3 +1.9
comp=Z,41nm,1.1s
WUAZ Wupatki 37.42 320 ⇑P P 09 16 07.4 +2.1
baz=38,SNR=21
SMCO Snowmass 37.44 329 eP P 09 16 06.3 +0.5
comp=Z,14nm,1.1s
K29A Lazy Trails An 37.48 339 ⇓P P 09 16 04.8 -0.8
baz=38,SNR=15
Y14A Wickenburg 37.52 317 ⇓P P 09 16 07.9 +1.8
baz=38,SNR=27
PV01 Paradox Valley 37.53 326 eP P 09 16 06.7 +0.4
comp=Z,849nm,1.2s
L27A T5 Ranch, Ells 37.65 336 ⇑P P 09 16 07.0 -0.1
baz=38
P22A Eagle 37.65 329 ⇑P P 09 16 07.4 +0.1
baz=38,SNR=17
J30A Dallas 37.69 340 ⇑P P 09 16 06.1 -1.3
baz=38,SNR=46
SPMN St. Paul 37.69 349 eP P 09 16 05.4 -1.9
SPMN St. Paul 37.69 349 ⇑P P 09 16 05.1 -2.1
baz=38,SNR=16
O23A Lake Granby, G 37.71 331 ⇑P P 09 16 08.0 +0.2
baz=38,SNR=8.7
K28A Ten Mile Ranch 37.82 338 ⇓P P 09 16 07.9 -0.6
baz=38,SNR=18
M25A Palm-Egli Farm 37.83 334 ⇓P P 09 16 08.7 -0.1
baz=38
PV04 Paradox Valley 37.90 326 eP P 09 16 10.3 +0.9
L26A Underwood Farm 37.91 336 ⇓P P 09 16 09.4 +0.1
baz=38
O22A Kremmling 37.98 330 ⇓P P 09 16 09.6 -0.5
baz=38
J29A Okreek 38.05 339 ⇓P P 09 16 09.5 -0.9
baz=38,SNR=42
K27A Flueckinger Fa 38.14 337 ⇓P P 09 16 10.7 -0.5
baz=38,SNR=22
M24A Cheyenne 38.20 333 ⇓P P 09 16 12.0 +0.2
baz=38
N23A Red Feather La 38.25 332 ⇑P P 09 16 12.5 0.0
baz=38,SNR=5.4
GLA Glamis 38.28 314 eP P 09 16 14.7 +2.2
GLA pmax pmax
comp=Z,33nm,1.1s
GLA Glamis 38.28 314 eP P 09 16 14.7 +2.2
comp=Z,33nm,1.1s
GLA Glamis 38.28 314 ⇓P P 09 16 14.8 +2.3
baz=38,SNR=21
PHWY Pilot Hill 38.35 332 eP P 09 16 13.4 +0.1
comp=Z,52nm,1.9s
J28A Allard Ranch, 38.38 339 ⇓P P 09 16 12.7 -0.5
baz=38
N22A Wattenberg Ran 38.42 331 ⇓P P 09 16 14.2 +0.4
baz=39
Y12C Blythe 38.45 316 ⇑P P 09 16 16.1 +2.3
baz=39,SNR=28
PDMCI Parker Dam,Lak 38.50 317 ⇓P P 09 16 16.2 +2.0
baz=39,SNR=30
K26A Motz Farm, Whi 38.51 336 ⇓P P 09 16 16.4 +2.0
baz=39
BRSD Miller 38.52 342 eP P 09 16 13.1 -1.2
BRSD Miller 38.52 342 ⇓P P 09 16 12.6 -1.7
baz=39,SNR=13
J27A Elkhorn Farm, 38.52 338 ⇓P P 09 16 14.5 +0.1
baz=39,SNR=33
I29A Vivian Onida 38.58 340 ⇑P P 09 16 13.6 -1.3
baz=39,SNR=28
M23A Laramie 38.60 332 ⇑P P 09 16 15.9 +0.6
baz=39
L24A Wheatland 38.71 334 ⇑P P 09 16 16.2 +0.1
baz=39
K25A Mack Ranch, Ha 38.72 335 ⇑P P 09 16 16.2 +0.1
baz=39
W13A Hualapai Mount 38.79 318 ⇑P P 09 16 19.1 +2.2
baz=39,SNR=27
O20A White River Ci 38.81 329 eP P 09 16 17.7 +0.7
comp=Z,69nm,1.8s
O20A White River Ci 38.81 329 ⇑P P 09 16 17.5 +0.4
baz=39,SNR=6.7
I28A Midland 38.86 339 ⇑P P 09 16 16.2 -1.0
baz=39,SNR=33
SWSC Sam W. Stewart 38.91 314 ⇑P P 09 16 19.6 +1.9
baz=39,SNR=9.0
M22A Cedar Creek Ra 38.96 331 ⇑P P 09 16 18.7 +0.4
baz=39
J26A Sides Ranch, S 38.98 337 ⇑P P 09 16 18.2 -0.1
baz=39,SNR=21
LCO Las Campanas 39.01 163 eP P 09 16 19.8 +0.9
LCO Las Campanas 39.01 163 eP P 09 16 19.4 +0.5
comp=Z,28nm,0.8s
H29A Onida 39.09 341 ⇓P P 09 16 17.0 -2.1
baz=39,SNR=15
NEE2 Needles Airpor 39.09 317 ⇓P P 09 16 20.9 +1.7
baz=39
L23A Garrett 39.11 333 ⇓P P 09 16 19.4 -0.1
baz=39,SNR=8.1
IRM Iron Mountain 39.11 316 ⇓P P 09 16 21.4 +1.9
baz=39,SNR=17
G30A Faulkton 39.20 342 ⇓P P 09 16 18.0 -1.9
baz=39,SNR=21
K24A Anderson Ranch 39.21 334 ⇑P P 09 16 20.2 -0.1
baz=39
I27A Quinn 39.24 338 ⇑P P 09 16 19.8 -0.6
baz=39,SNR=21
SRU San Rafael 39.30 326 eP P 09 16 21.8 +0.6
SRU e 09 18 30.9
SRU pmax pmax
comp=Z,17nm,1.0s
SRU San Rafael 39.30 326 eP P 09 16 21.8 +0.6
comp=Z,17nm,1.0s
SRU ePcP PcP 09 18 30.9 +1.0
MONP Monument Peak 39.33 313 ⇓P P 09 16 21.4 -0.1
baz=39
J25A Sunshine Ranch 39.34 336 ⇓P P 09 16 21.2 -0.1
baz=40,SNR=5.7
N20A Spence Gulch, 39.34 329 ⇓P P 09 16 22.2 +0.7
baz=40,SNR=10
L22A Ellis Ranch, M 39.37 332 ⇓P P 09 16 22.4 +0.7
baz=40
H28A Mission Ridge 39.40 340 ⇓P P 09 16 20.1 -1.6
baz=40,SNR=9.1
G29A Hoven 39.49 341 ⇓P P 09 16 20.6 -1.9
baz=40
I26A New Underwood 39.51 337 ⇓P P 09 16 23.3 +0.6
baz=40,SNR=18
K23A Bowen Ranch, D 39.58 334 ⇑P P 09 16 23.2 -0.2
baz=40
LDFC Landfair 39.59 317 eP P 09 16 26.9 +3.3
comp=Z,91nm,1.1s
J24A Dixon Ranch, L 39.64 335 ⇓P P 09 16 23.7 -0.1
baz=40
G28A Parade 39.72 340 ⇑P P 09 16 24.5 +0.1
baz=40
PFO Pinyon Flat Ob 39.73 314 P P 09 16 26.2 +1.5
comp=Z,247nm,1.0s,SNR=6.3
PFO Pinyon Flat Ob 39.73 314 eP P 09 16 27.0 +2.2
H27A Howes 39.73 339 ⇑P P 09 16 23.9 -0.7
baz=40,SNR=58
F30A Leola 39.80 343 ⇓P P 09 16 23.2 -1.8
baz=40,SNR=20
TMUT Trail Mountain 39.81 325 eP P 09 16 27.1 +1.5
comp=Z,81nm,2.2s
TMUT ePcP PcP 09 18 33.1 +1.4
109C Camp Elliot, M 39.83 313 ⇓P P 09 16 24.9 -0.5
baz=40
I25A Rochford 39.84 337 ⇑P P 09 16 25.7 +0.2
baz=40
MVU Marysvale 39.86 323 eP P 09 16 27.3 +1.4
comp=Z,50nm,2.1s
MVU ePcP PcP 09 18 33.7 +1.9
K22A Casper 39.90 333 eP P 09 16 26.4 +0.3
K22A Casper 39.90 333 ⇓P P 09 16 26.1 0.0
baz=40,SNR=9.1
CCUT Cedar City 39.94 321 eP P 09 16 28.5 +1.9
comp=Z,12nm,1.1s
F29A Eureka 40.04 342 ⇓P P 09 16 25.1 -1.9
baz=40,SNR=18
RSSD Black Hills 40.04 336 eP P 09 16 27.7 +0.4
RSSD Black Hills 40.04 336 eP P 09 16 27.7 +0.4
comp=Z,5.0nm,1.1s
I24A Kuemmerle Ranc 40.06 336 ⇓P P 09 16 27.5 +0.2
baz=40
J23A Dilts Ranch, B 40.08 334 ⇑P P 09 16 28.5 +1.0
baz=40
ARUT Antelope Range 40.14 322 eP P 09 16 29.6 +1.4
ARUT Antelope Range 40.14 322 eP P 09 16 29.6 +1.4
comp=Z,170nm,0.8s
K21A Alcova 40.22 332 ⇓P P 09 16 28.2 -0.5
baz=40
MURC Murrieta 40.26 314 ⇑P P 09 16 31.3 +2.3
baz=40,SNR=9.2
H25A Fruitdale 40.29 337 ⇓P P 09 16 28.9 -0.3
baz=40,SNR=21
HEC Hector,Ludlow 40.29 316 ⇓P P 09 16 31.7 +2.4
baz=40,SNR=19
G27A Dupree 40.33 339 ⇑P P 09 16 28.3 -1.2
baz=40,SNR=12
TUQ Turquoise Moun 40.35 317 ⇓P P 09 16 31.6 +1.7
baz=40,SNR=7.7
F28A McLaughlin 40.36 341 ⇓P P 09 16 28.3 -1.4
baz=40,SNR=13
E30A Jud 40.37 343 ⇑P P 09 16 28.3 -1.4
baz=40,SNR=22
BBRC Big Bear Solar 40.40 315 ⇓P P 09 16 32.9 +2.5
baz=40
SHPR Sheep Range 40.45 319 eP P 09 16 32.5 +1.8
J22A Midwest 40.48 334 ⇓P P 09 16 30.8 -0.1
baz=41,SNR=14
I23A Meade Ranch, G 40.49 335 ⇑P P 09 16 31.1 +0.2
baz=41
G26A Maurine 40.49 339 ⇓P P 09 16 29.4 -1.4
baz=41
MPU Maple Canyon 40.55 326 eP P 09 16 32.3 +0.8
comp=Z,12nm,1.0s
MPU ePcP PcP 09 18 35.4 +1.5
DAU Daniels Canyon 40.61 326 eP P 09 16 33.2 +1.0
DAU e 09 18 36.0
DAU Daniels Canyon 40.61 326 eP P 09 16 33.2 +1.0
DAU ePcP PcP 09 18 36.0 +1.8
E29A Napoleon 40.64 342 ⇑P P 09 16 30.5 -1.5
baz=41,SNR=19
G25A Newell 40.71 338 ⇑P P 09 16 32.2 -0.4
baz=41
NLU North Lily Min 40.75 325 eP P 09 16 34.9 +1.7
comp=Z,65nm,2.4s
NLU ePcP PcP 09 18 36.2 +1.6
H24A Dirks Ranch, A 40.77 336 ⇓P P 09 16 32.9 -0.3
baz=41,SNR=19
RRX Edison Barstow 40.78 315 ⇓P P 09 16 33.2 -0.1
baz=41,SNR=6.3
F27A Lemmon 40.79 340 ⇑P P 09 16 32.0 -1.2
baz=41,SNR=10
SHOC Shoshone 40.85 317 ⇑P P 09 16 35.8 +1.9
baz=41,SNR=14
JLU Jordanelle 40.85 326 eP P 09 16 34.9 +0.8
comp=Z,48nm,1.7s
J21A Lysite 40.87 333 ⇓P P 09 16 34.5 +0.4
baz=41,SNR=11
I22A 9 Mile Ranch, 40.87 334 ⇓P P 09 16 34.1 0.0
baz=41,SNR=7.3
GSC Goldstone 40.87 316 eP P 09 16 36.8 +2.6
GSC pmax pmax
comp=Z,17nm,1.0s
GSC Goldstone 40.87 316 eP P 09 16 36.8 +2.6
comp=Z,17nm,1.0s
GSC Goldstone 40.87 316 ⇑P P 09 16 36.1 +1.9
baz=41,SNR=27
D30A Buchanan 40.88 344 ⇓P P 09 16 32.6 -1.3
baz=41,SNR=47
BFSC Mount Baldy Ra 40.91 314 ⇓P P 09 16 34.5 -0.1
baz=41
SCI San Clemente I 40.93 312 ⇑P P 09 16 34.0 -0.6
baz=41
H23A Clabaugh Cattl 40.95 336 ⇑P P 09 16 34.2 -0.5
baz=41
E28A Huff 40.97 341 ⇓P P 09 16 33.6 -1.1
baz=41,SNR=14
F26A Lodgepole 41.00 339 ⇑P P 09 16 33.8 -1.1
baz=41,SNR=7.8
CIS Catalina Islan 41.03 313 ⇓P P 09 16 35.1 -0.3
baz=41
D29A Pettibone, Tap 41.07 343 ⇓P P 09 16 34.2 -1.4
baz=41,SNR=19
CTU Camp Tracy 41.08 326 eP P 09 16 36.8 +0.9
comp=Z,11nm,0.9s
CTU ePcP PcP 09 18 37.0 +1.4
E27A Carson 41.12 341 ⇓P P 09 16 35.3 -0.7
baz=41,SNR=17
I21A Big Trails, Te 41.16 333 ⇑P P 09 16 36.1 -0.4
baz=41
J20A Shoshoni 41.16 332 ⇑P P 09 16 36.6 +0.1
baz=41,SNR=12
TCUT Toone Canyon 41.19 327 eP P 09 16 37.8 +0.9
comp=Z,84nm,1.6s
MWC Mount Wilson 41.19 314 eP P 09 16 39.4 +2.5
MWC pmax pmax
comp=Z,72nm,1.4s
MWC Mount Wilson 41.19 314 eP P 09 16 39.4 +2.5
comp=Z,72nm,1.4s
G24A Alzada 41.20 337 ⇓P P 09 16 36.6 -0.1
baz=41
PASC Pasadena Art C 41.25 314 eP P 09 16 39.3 +2.1
comp=Z,140nm,1.6s
AGMN Agassiz Nation 41.26 347 eP P 09 16 35.8 -1.2
comp=Z,111nm,1.4s
AGMN Agassiz Nation 41.26 347 ⇓P P 09 16 35.2 -1.8
baz=41,SNR=18
DUG Dugway 41.33 325 eP P 09 16 39.0 +1.0
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway 41.33 325 eP P 09 16 39.0 +1.0
comp=Z,16nm,1.3s
DUG Dugway 41.33 325 ⇓P P 09 16 36.6 -1.3
baz=42,SNR=11
F25A Bowman 41.34 338 ⇓P P 09 16 37.1 -0.7
baz=42
C30A Mose, Pekin 41.34 344 ⇓P P 09 16 36.2 -1.6
baz=42,SNR=17
H22A Clearmont 41.38 335 ⇑P P 09 16 37.8 -0.4
baz=42
DECC Green Verdugo 41.39 314 ⇓P P 09 16 36.6 -1.7
baz=42
BW06 Boulder Array 41.42 330 eP P 09 16 37.9 -0.9
comp=Z,11nm,1.1s
PDAR Pinedale Array 41.42 330 P P 09 16 38.4 -0.4
PDAR PcP PcP 09 18 37.2 +0.4
PDAR Pinedale Array 41.42 330 P P 09 16 38.4 -0.4
comp=Z,2.7nm,0.7s,baz=129,slow=9.7,SNR=19
PDAR PcP PcP 09 18 37.2 +0.4
comp=Z,4.9nm,0.9s,baz=128,slow=5.1,SNR=6.6
E26A Carlson Angus 41.46 340 ⇑P P 09 16 37.8 -1.0
baz=42,SNR=8.7
EDW2 Edwards Air Fo 41.47 315 ⇑P P 09 16 40.9 +1.8
baz=42,SNR=20
G23A Biddle 41.48 336 ⇑P P 09 16 39.0 0.0
baz=42
D28A Regan 41.48 342 ⇑P P 09 16 38.2 -0.7
baz=42,SNR=11
FURC Furnace Creek, 41.55 317 ⇑P P 09 16 41.8 +2.2
baz=42,SNR=48
J19A Crowheart 41.55 331 ⇓P P 09 16 39.3 -0.4
baz=42,SNR=7.6
LRMC Laurel Mountai 41.58 316 ⇓P P 09 16 42.2 +2.2
baz=42,SNR=20
HWUT Hardware Ranch 41.61 327 ePcP PcP 09 18 38.5 +1.1
F24A Ekalaka 41.64 337 ⇑P P 09 16 39.8 -0.5
baz=42,SNR=6.1
I20A Worland 41.65 333 ⇓P P 09 16 40.4 0.0
baz=42,SNR=12
H21A Big Horn, Sher 41.70 334 ⇓P P 09 16 40.0 -0.8
baz=42
D27A Center 41.71 341 ⇑P P 09 16 40.1 -0.7
baz=42,SNR=10
H03N2 Juan Fernandez 41.74 175 T T 10 01 01.0
baz=354,slow=75,SNR=204
H03N1 Juan Fernandez 41.75 175 T T 10 01 03.1
baz=354,slow=75,SNR=473
H03N3 Juan Fernandez 41.76 175 T T 10 01 04.1
baz=354,slow=75,SNR=315
E25A Miller Ranch, 41.82 339 ⇑P P 09 16 40.8 -0.9
baz=42,SNR=11
R11A Troy Canyon, C 41.82 321 eP P 09 16 43.5 +1.6
R11A Troy Canyon, C 41.82 321 P P 09 16 43.3 +1.4
baz=42
G22A Birney 41.86 335 ⇓P P 09 16 41.3 -0.8
baz=42
OSI Osito Adit 41.86 314 eP P 09 16 44.3 +2.1
comp=Z,89nm,1.3s
OSI Osito Adit 41.86 314 ⇑P P 09 16 43.8 +1.6
baz=42
C28A Hausauer Farms 41.90 342 ⇑P P 09 16 41.7 -0.6
baz=42,SNR=6.4
F23A Volborg 41.91 337 ⇓P P 09 16 42.0 -0.5
baz=42,SNR=20
D26A Manning 41.94 340 ⇓P P 09 16 41.8 -0.9
baz=42,SNR=14
DAC Darwin (Calif) 41.94 317 eP P 09 16 45.2 +2.2
DAC pmax pmax
comp=Z,33nm,1.0s
DAC Darwin (Calif) 41.94 317 eP P 09 16 45.2 +2.2
comp=Z,33nm,1.0s
BGU Big Grassy Mou 41.94 326 eP P 09 16 43.8 +0.8
comp=Z,8.7nm,1.1s
BGU ePcP PcP 09 18 40.2 +1.8
B30A Myrvik Farm, E 41.99 345 ⇓P P 09 16 41.7 -1.3
baz=42,SNR=18
H20A Greybull 42.01 333 ⇑P P 09 16 42.6 -0.7
baz=42,SNR=6.5
I19A Meeteetse 42.11 332 ⇓P P 09 16 44.6 +0.2
baz=42
BDFB Brasilia 42.13 124 P P 09 16 44.0 -0.7
BDFB Brasilia 42.13 124 P P 09 16 44.0 -0.7
comp=Z,16nm,0.7s,baz=283,slow=10.0,SNR=24
BDFB LR LR 09 34 16.1
comp=Z,1μm,21.4s,baz=273,slow=36
GRAC Grapevine Rang 42.19 318 ⇑P P 09 16 46.9 +2.1
baz=42,SNR=23
ARVC Arvin 42.19 315 ⇑P P 09 16 46.9 +2.1
baz=42,SNR=15
E24A Baker 42.20 338 ⇑P P 09 16 43.9 -0.9
baz=42,SNR=9.2
C27A Sayler Ranch, 42.24 341 ⇓P P 09 16 44.5 -0.6
baz=42,SNR=16
G21A Lodge Grass 42.25 335 ⇓P P 09 16 44.5 -0.8
baz=42
B29A Wagenman Farm, 42.28 344 ⇓P P 09 16 44.4 -0.9
baz=42,SNR=29
F22A Rosebud 42.30 336 ⇓P P 09 16 44.8 -0.8
baz=42,SNR=20
D25A Fairfield 42.35 339 ⇓P P 09 16 45.8 -0.3
baz=42,SNR=8.4
HVU Hansel Valley 42.38 327 eP P 09 16 46.8 +0.3
HVU pmax pmax
comp=Z,8.0nm,0.7s
HVU Hansel Valley 42.38 327 eP P 09 16 46.8 +0.3
comp=Z,8.2nm,0.7s
A30A Hoffart Farm, 42.44 345 ⇑P P 09 16 45.3 -1.4
baz=43,SNR=14
SBC Santa Barbara 42.48 313 ⇑P P 09 16 46.2 -1.1
baz=43
REDW Red Top Meadow 42.50 330 eP P 09 16 47.9 +0.3
comp=Z,103nm,1.6s
C26A Wahner Farm, P 42.52 341 ⇓P P 09 16 46.6 -0.8
baz=43,SNR=24
B28A Dugan Ranch, T 42.55 343 ⇓P P 09 16 46.5 -1.1
baz=43,SNR=16
LOHW Long Hollow 42.56 330 eP P 09 16 47.9 -0.2
comp=Z,62nm,1.8s
CPUP Villa Florida 42.59 145 eP P 09 16 47.1 -1.0
CPUP ePcP PcP 09 18 40.3 -0.2
CPUP PcP PcP 09 18 40.5 -0.1
CPUP Villa Florida 42.59 145 P P 09 16 46.3 -1.8
comp=Z,6.3nm,0.6s,baz=307,slow=8.9,SNR=9.2
CPUP PcP PcP 09 18 40.5 -0.1
comp=Z,3.9nm,0.6s,baz=249,slow=8.6,SNR=4.1
H19A Powell 42.59 333 ⇑P P 09 16 47.6 -0.6
baz=43
A29A Manning Farm, 42.66 344 ⇑P P 09 16 47.0 -1.5
baz=43,SNR=23
ROCH El Roble 42.67 165 ⇑/P P 09 16 49.4 +0.5
D24A Glendive 42.67 339 ⇓P P 09 16 48.4 -0.3
baz=43,SNR=17
G20A Bridger 42.68 334 ⇓P P 09 16 48.4 -0.4
baz=43,SNR=20
F21A Absaloka Mine, 42.69 335 ⇓P P 09 16 48.0 -0.9
baz=43
TPH Tonopah 42.70 319 eP P 09 16 50.8 +1.6
TPH pmax pmax
comp=Z,59nm,1.1s
TPH Tonopah 42.70 319 eP P 09 16 50.8 +1.6
comp=Z,59nm,1.1s
E22A Miles City 42.72 337 ⇓P P 09 16 48.2 -0.8
baz=43,SNR=20
MOOW Moose Ponds 42.73 330 eP P 09 16 49.5 +0.1
comp=Z,33nm,1.8s
VES Vestal, Richgr 42.73 315 ⇓P P 09 16 51.6 +2.3
baz=43,SNR=23
B27A Peters Farms, 42.78 342 ⇓P P 09 16 49.0 -0.5
baz=43,SNR=5.7
I17A Pilgrim Ck, 42.78 331 ⇓P P 09 16 50.1 +0.3
baz=43,SNR=15
TIN Tinemaha 42.79 317 ⇓P P 09 16 51.9 +2.1
baz=43,SNR=7.8
C25A Freed Ranch, W 42.81 340 ⇓P P 09 16 49.4 -0.4
baz=43,SNR=12
H18A Shoshone NF, C 42.91 332 ⇑P P 09 16 50.2 -0.6
baz=43,SNR=12
A28A Rude Farm, Bot 42.94 343 ⇑P P 09 16 49.1 -1.6
baz=43,SNR=5.5
FLWY Flagg Ranch 42.96 331 eP P 09 16 51.4 +0.2
comp=Z,33nm,1.1s
LAO LASA Array 43.03 337 eP P 09 16 51.4 -0.2
comp=Z,79nm,1.4s
D23A Lindsay 43.04 338 ⇑P P 09 16 51.8 +0.1
baz=43,SNR=36
B26A Jensen Ranch, 43.05 341 ⇑P P 09 16 51.0 -0.7
baz=43,SNR=9.2
C24A Savage 43.06 339 ⇑P P 09 16 51.6 -0.1
baz=43,SNR=21
RLMT Red Lodge 43.07 333 eP P 09 16 51.8 -0.3
comp=Z,22nm,0.8s
RLMT ePcP PcP 09 18 42.3 +0.2
RCTC Rector, Farmer 43.09 316 ⇑P P 09 16 54.1 +2.0
baz=43,SNR=24
ELK Elko 43.09 324 eP P 09 16 53.5 +1.1

Code	Station	Dist	Az	Phase	Phase	Time	Res
	comp=Z,12nm,1.1s						
ELK				ePcP	PcP	09 18 43.9	+1.5
F20A	**Billings**	**43.11**	**334**	⇑P	**P**	**09 16 51.9**	**-0.4**
	baz=43,SNR=17						
ULM	**Lac du Bonnet**	**43.11**	**348**	P	**P**	**09 16 49.5**	**-2.5**
ULM	**Lac du Bonnet**	**43.11**	**348**	P	**P**	**09 16 49.5**	**-2.5**
	comp=Z,56nm,1.0s,baz=163,slow=8.1,SNR=51						
ULM				LR	LR	09 36 06.3	
	comp=Z,669nm,18.7s,baz=160,slow=38						
SMMC	**Simmler**	**43.11**	**314**	⇑P	**P**	**09 16 52.5**	**+0.1**
	baz=43						
H17A	**Grant Village**	**43.13**	**331**	⇑P	**P**	**09 16 52.5**	**-0.1**
	baz=43						
MTUM	**Tungsten Hills**	**43.18**	**317**	eP	**P**	**09 16 55.2**	**+2.1**
E21A	**Keefer Ranch,**	**43.25**	**336**	⇓P	**P**	**09 16 52.8**	**-0.6**
	baz=43						
A27A	**Ledoux Ranch,**	**43.26**	**343**	⇑P	**P**	**09 16 52.4**	**-1.0**
	baz=43						
B25A	**Knox Farm, Ray**	**43.26**	**340**	⇓P	**P**	**09 16 53.0**	**-0.4**
	baz=43						
D22A	**Cohagen**	**43.39**	**337**	⇑P	**P**	**09 16 54.5**	**0.0**
	baz=44,SNR=28						
A26A	**Wade Farm, Ken**	**43.45**	**342**	⇓P	**P**	**09 16 53.9**	**-1.0**
	baz=44,SNR=12						
F19A	**Roth Farm, Mol**	**43.49**	**334**	⇓P	**P**	**09 16 54.7**	**-0.7**
	baz=44,SNR=16						
NV11	**Mina Array Sit**	**43.51**	**319**	eP	**P**	**09 16 57.6**	**+1.9**
MLAC	**Mammoth Lakes**	**43.51**	**318**	⇓P	**P**	**09 16 55.0**	**-0.8**
	baz=44						
YMR	**Madison River**	**43.52**	**331**	eP	**P**	**09 16 56.5**	**+0.8**
	comp=Z,20nm,0.9s						
C23A	**Lambert**	**43.56**	**338**	⇓P	**P**	**09 16 55.9**	**0.0**
	baz=44,SNR=31						
NVAR	**Mina Array Bea**	**43.60**	**319**	P	**P**	**09 16 58.3**	**+1.8**
NVAR				PcP	**PcP**	**09 18 45.5**	**+1.5**
NVAR	**Mina Array Bea**	**43.60**	**319**	P	**P**	**09 16 58.3**	**+1.8**
	comp=Z,29nm,1.0s,baz=134,slow=6.8,SNR=102						
NVAR				PcP	**PcP**	**09 18 45.5**	**+1.5**
	comp=Z,3.7nm,0.9s,baz=132,slow=4.0,SNR=3.9						
NVAR				LR	LR	09 38 53.3	
	comp=Z,830nm,18.7s,baz=232,slow=41						
D21A	**La Casta Ranch**	**43.64**	**336**	⇑P	**P**	**09 16 56.5**	**0.0**
	baz=44						
E20A	**Meyer Farm, Mu**	**43.66**	**335**	⇓P	**P**	**09 16 56.8**	**+0.1**
	baz=44						
C22A	**Vida**	**43.77**	**338**	⇑P	**P**	**09 16 57.4**	**-0.1**
	baz=44,SNR=25						
DGMT	**Dagmar**	**43.78**	**340**	eP	**P**	**09 16 57.5**	**-0.1**
	comp=Z,73nm,0.9s						
DGMT	**Dagmar**	**43.78**	**340**	⇑P	**P**	**09 16 57.1**	**-0.5**
	baz=44,SNR=16						
A25A	**Svangstu Ranch**	**43.83**	**341**	⇓P	**P**	**09 16 57.3**	**-0.6**
	baz=44						
E19A	**Rath Farm, Rou**	**43.90**	**334**	⇓P	**P**	**09 16 58.5**	**-0.2**
	baz=44,SNR=20						
B23A	**Brockton**	**44.05**	**339**	⇑P	**P**	**09 16 59.8**	**0.0**
	baz=44,SNR=31						
BMN	**Battle Mountai**	**44.08**	**322**	eP	**P**	**09 17 01.0**	**+0.7**
BMN				pmax	pmax		
	comp=Z,34nm,0.9s						
BMN	**Battle Mountai**	**44.08**	**322**	eP	**P**	**09 17 01.0**	**+0.7**
	comp=Z,34nm,0.9s						
A24A	**Westby**	**44.11**	**340**	⇓P	**P**	**09 17 00.2**	**0.0**
	baz=44,SNR=19						
D20A	**Manuel Ranch,**	**44.12**	**335**	⇓P	**P**	**09 17 00.4**	**0.0**
	baz=44,SNR=16						
B22A	**Reddig Ranch S**	**44.28**	**338**	⇓P	**P**	**09 17 01.6**	**0.0**
	baz=44						
WAKR	**Walker**	**44.38**	**318**	eP	**P**	**09 17 04.8**	**+2.0**
A23A	**Redstone**	**44.44**	**340**	⇑P	**P**	**09 17 02.8**	**0.0**
	baz=45						
HLID	**Hailey**	**44.48**	**327**	eP	**P**	**09 17 03.8**	**+0.3**
	comp=Z,9.8nm,0.9s						
HLID	**Hailey**	**44.48**	**327**	⇑P	**P**	**09 17 03.5**	**0.0**
	baz=45,SNR=16						
D19A	**Cripps Ranch,**	**44.49**	**335**	⇑P	**P**	**09 17 03.2**	**-0.2**
	baz=45,SNR=14						
MCMT	**McKenzie Canyo**	**44.56**	**330**	eP	**P**	**09 17 04.5**	**+0.4**
	comp=Z,22nm,1.5s						
BOZ	**Bozeman (W)**	**44.56**	**331**	eP	**P**	**09 17 03.8**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,55nm,1.4s						
BOZ	**Bozeman (W)**	**44.56**	**331**	eP	**P**	**09 17 03.8**	**-0.2**
	comp=Z,55nm,1.4s						
C20A	**Veseth Ranch,**	**44.57**	**336**	⇑P	**P**	**09 17 03.8**	**-0.1**
	baz=45						
BB16B	**Bebedouro**	**44.73**	**131**	eP	P	09 17 01.5	-4.0
BB16B				i		09 17 03.7	
BB16B				i		09 17 07.8	
CMB	**Columbia Colle**	**44.76**	**317**	eP	**P**	**09 17 07.2**	**+1.5**
CMB				pmax	pmax		
	comp=Z,44nm,1.4s						
CMB	**Columbia Colle**	**44.76**	**317**	eP	**P**	**09 17 07.2**	**+1.5**
	comp=Z,44nm,1.4s						
B21A	**Ellsworth Farm**	**44.77**	**337**	⇓P	**P**	**09 17 05.7**	**+0.2**
	baz=45,SNR=6.3						
DLMT	**Dillon**	**44.82**	**330**	eP	**P**	**09 17 06.7**	**+0.6**
	comp=Z,45nm,1.5s						
C19A	**Slack Wire Ran**	**45.01**	**335**	⇑P	**P**	**09 17 07.7**	**+0.2**
	baz=45						
LRM	**Limekiln Ridge**	**45.08**	**331**	eP	**P**	**09 17 08.3**	**0.0**
MFID	**Camas Ranch**	**45.15**	**326**	eP	**P**	**09 17 09.5**	**+0.8**
	comp=Z,12nm,0.9s						
MFID				ePcP	**PcP**	**09 18 51.0**	**+1.9**
B20A	**Solberg Farm,**	**45.16**	**337**	⇓P	**P**	**09 17 08.7**	**+0.1**
	baz=45						
HRY	**Holter Researc**	**45.44**	**332**	eP	**P**	**09 17 11.3**	**+0.3**
A20A	**Cobblestone Ra**	**45.48**	**337**	⇓P	**P**	**09 17 11.2**	**0.0**
	baz=46,SNR=27						
EGMT	**Eagleton**	**45.53**	**335**	eP	**P**	**09 17 11.8**	**+0.1**
	comp=Z,77nm,1.6s						
EGMT	**Eagleton**	**45.53**	**335**	⇓P	**P**	**09 17 11.5**	**-0.2**
	baz=46,SNR=14						
B19A	**Brinkman Farms**	**45.54**	**336**	⇑P	**P**	**09 17 11.5**	**-0.1**
	baz=46,SNR=17						
A19A	**Klindworth Far**	**45.84**	**337**	⇑P	**P**	**09 17 14.2**	**+0.2**
	baz=46,SNR=17						
WVOR	**Wild Horse Val**	**46.14**	**323**	eP	**P**	**09 17 17.0**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,49nm,0.9s						
WVOR	**Wild Horse Val**	**46.14**	**323**	eP	**P**	**09 17 17.0**	**+0.5**
	comp=Z,50nm,0.9s						
OHCM	**Honcut**	**46.18**	**318**	eP	**P**	**09 17 18.1**	**+1.3**
CHMT	**Chamberlain Mo**	**46.25**	**332**	eP	**P**	**09 17 16.5**	**-1.0**
MSO	**Missoula**	**46.52**	**331**	eP	**P**	**09 17 19.1**	**-0.4**
	comp=Z,26nm,1.2s						
MSO	**Missoula**	**46.52**	**331**	⇓P	**P**	**09 17 19.1**	**-0.4**
	baz=47,SNR=17						
BMO	**Blue Mountains**	**46.90**	**327**	eP	**P**	**09 17 21.6**	**-0.9**
	comp=Z,11nm,0.9s						
BMO				ePcP	**PcP**	**09 18 55.4**	**+0.2**
SWMT	**Swartz Lake**	**47.04**	**332**	eP	**P**	**09 17 23.2**	**-0.3**
SWMT				ePcP	**PcP**	**09 18 56.8**	**+1.2**
YBMT	**Yellow Bay**	**47.30**	**332**	eP	**P**	**09 17 25.5**	**-0.1**
	comp=Z,14nm,1.4s						
YBMT				ePP	**PP**	**09 19 15.9**	**-0.8**
JTMT	**Jette**	**47.34**	**332**	eP	**P**	**09 17 26.0**	**+0.1**
JTMT				ePcP	**PcP**	**09 18 58.0**	**+1.2**
WDC	**Whiskeytown Da**	**47.52**	**319**	eP	**P**	**09 17 26.9**	**-0.3**
WDC				pmax	pmax		
	comp=Z,16nm,1.1s						
WDC	**Whiskeytown Da**	**47.52**	**319**	eP	**P**	**09 17 26.9**	**-0.3**
	comp=Z,16nm,1.1s						
BLMT	**Blacktail Moun**	**47.57**	**332**	eP	**P**	**09 17 28.2**	**+0.4**
F10A	**Beach Ranch, E**	**47.59**	**328**	eP	**P**	**09 17 27.2**	**-0.6**
	comp=Z,13nm,0.9s						
BSMT	**Bassoo Peak**	**47.65**	**331**	eP	**P**	**09 17 28.3**	**-0.1**
M04C	**Macdoel**	**47.71**	**321**	⇓P	**P**	**09 17 29.1**	**+0.2**
	baz=48						
KMRM	**Mail Ridge**	**48.10**	**318**	eP	**P**	**09 17 34.4**	**+2.5**
	comp=Z,149nm,1.2s						
WALA	**Waterton Lakes**	**48.12**	**333**	eP	**P**	**09 17 32.2**	**+0.2**
	comp=Z,0.6nm,1.0s						
SCHQ	**Schefferville**	**48.14**	**13**	P	**P**	**09 17 30.2**	**-1.6**
SCHQ				PcP	**PcP**	**09 18 58.9**	**-0.4**
SCHQ	**Schefferville**	**48.14**	**13**	P	**P**	**09 17 30.2**	**-1.6**
	comp=Z,21nm,1.0s,baz=192,slow=7.1,SNR=10						
SCHQ				PcP	**PcP**	**09 18 58.9**	**-0.4**
	comp=Z,9.2nm,0.9s,baz=217,slow=5.1,SNR=3.2						
SCHQ				LR	LR	09 38 51.4	
	comp=Z,830nm,18.2s,baz=214,slow=38						
M02C	**Callahan**	**48.15**	**320**	⇑P	**P**	**09 17 32.5**	**+0.3**
	baz=48						
J05D	**Fort Rock, OR**	**48.18**	**323**	⇑P	**P**	**09 17 32.7**	**+0.2**
	baz=48						
YBH	**Yreka Blue Hor**	**48.23**	**320**	eP	**P**	**09 17 32.5**	**-0.4**
PINOR	**Pine Mountain**	**48.27**	**324**	eP	**P**	**09 17 33.3**	**+0.3**
	comp=Z,14nm,0.9s						
E09A	**Wood Farm, Sta**	**48.42**	**328**	eP	**P**	**09 17 34.0**	**-0.1**
	comp=Z,21nm,0.9s						
KHMM	**Horse Mountain**	**48.45**	**319**	eP	**P**	**09 17 36.1**	**+1.5**
	comp=Z,80nm,1.0s						
FFC	**Flin Flon**	**48.66**	**346**	P	**P**	**09 17 35.2**	**-0.6**
	comp=Z,247nm,1.0s,SNR=15						
FFC	**Flin Flon**	**48.66**	**346**	i P	**P**	**09 17 35.4**	**-0.4**
FFC	**Flin Flon**	**48.66**	**346**	eP	**P**	**09 17 35.1**	**-0.6**
	comp=Z,20nm,1.0s						
J04D	**Umpqua Nationa**	**48.69**	**322**	⇑P	**P**	**09 17 36.6**	**+0.2**
	baz=49						
I05D	**Terrebonne, OR**	**48.85**	**324**	⇓P	**P**	**09 17 38.0**	**+0.4**
	baz=49						
G06A	**Carlson Farm,**	**48.98**	**325**	eP	**P**	**09 17 39.8**	**+1.3**
	comp=Z,154nm,2.1s						
NEW	**Newport**	**49.07**	**330**	eP	**P**	**09 17 38.7**	**-0.4**
	comp=Z,17nm,1.1s						
NEW	**Newport**	**49.07**	**330**	⇓P	**P**	**09 17 38.5**	**-0.6**
	baz=49,SNR=11						
HAWA	**Hanford**	**49.08**	**327**	eP	**P**	**09 17 38.8**	**-0.5**
	comp=Z,14nm,0.9s						
BLTW	**Bickleton**	**49.13**	**326**	P	**P**	**09 17 40.4**	**+0.7**
I04A	**Tendick Farm,**	**49.18**	**323**	⇑P	**P**	**09 17 40.3**	**+0.2**
	baz=49						
D08A	**Wollman Farm,**	**49.18**	**328**	eP	**P**	**09 17 40.0**	**+0.1**
OD2	**Odessa Site #2**	**49.28**	**329**	P	**P**	**09 17 40.7**	**-0.1**
C09A	**Chrisman Ranch**	**49.33**	**329**	eP	**P**	**09 17 41.0**	**-0.1**
	comp=Z,9.8nm,0.8s						
E07A	**Sunnyside**	**49.36**	**327**	eP	**P**	**09 17 41.8**	**+0.4**
G05D	**Wamic, OR**	**49.37**	**325**	⇑P	**P**	**09 17 41.9**	**+0.4**
	baz=50						
H04A	**Detroit Lake**	**49.55**	**324**	eP	**P**	**09 17 43.3**	**+0.4**
TRW	**Toppenish Ridg**	**49.57**	**326**	P	**P**	**09 17 43.9**	**+0.9**
I03D	**Drain, OR**	**49.69**	**322**	⇓P	**P**	**09 17 44.4**	**+0.5**
	baz=50						
VLL	**Laurance Lake**	**49.70**	**325**	P	**P**	**09 17 45.7**	**+1.6**
SAW	**Saint Andrews**	**49.84**	**328**	P	**P**	**09 17 45.2**	**+0.1**
KEBM	**Edson Butte**	**49.86**	**321**	eP	**P**	**09 17 47.1**	**+1.8**
	comp=Z,187nm,1.3s						
WTV	**Waterville**	**50.13**	**328**	P	**P**	**09 17 47.1**	**-0.1**
PLCA	**Paso Flores**	**50.18**	**168**	eP	**P**	**09 17 47.7**	**-0.1**
	comp=Z,35nm,0.8s						
PLCA				PcP	**PcP**	**09 19 07.4**	**+0.4**
PLCA	**Paso Flores**	**50.18**	**168**	P	**P**	**09 17 47.8**	**0.0**
	comp=Z,32nm,0.7s,baz=341,slow=8.0,SNR=138						
PLCA				PcP	**PcP**	**09 19 07.4**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=323,slow=5.1,SNR=2.1						
TRQA	**Tornquist**	**50.19**	**158**	eP	**P**	**09 17 47.0**	**-0.7**
	comp=Z,27nm,1.1s						
LTY	**Liberty**	**50.23**	**327**	eP	**P**	**09 17 48.4**	**+0.3**
	comp=Z,34nm,1.6s						
B08A	**Colville Reser**	**50.23**	**329**	eP	**P**	**09 17 47.5**	**-0.5**
	comp=Z,43nm,1.7s						
F04A	**Amboy**	**50.40**	**325**	eP	**P**	**09 17 50.8**	**+1.5**
	comp=Z,18nm,0.9s						
G03D	**McMinnville, O**	**50.48**	**324**	⇑P	**P**	**09 17 50.3**	**+0.4**
	baz=51						
LON	**Longmire**	**50.54**	**326**	eP	**P**	**09 17 50.7**	**+0.3**
LON				pmax	pmax		
	comp=Z,14nm,0.9s						
LON	**Longmire**	**50.54**	**326**	eP	**P**	**09 17 50.7**	**+0.3**
	comp=Z,14nm,0.9s						
NLW	**Nelson Butte**	**50.57**	**328**	P	**P**	**09 17 50.8**	**+0.1**
D05A	**Enumclaw**	**50.90**	**326**	eP	**P**	**09 17 53.4**	**+0.4**
	comp=Z,26nm,0.9s						
FCC	**Fort Churchill**	**51.00**	**353**	eP	**P**	**09 17 52.3**	**-1.2**
FCC	**Fort Churchill**	**51.00**	**353**	eP	**P**	**09 17 52.3**	**-1.2**
	comp=Z,1.2nm,0.8s						
EDM	**Edmonton**	**51.01**	**337**	eP	**P**	**09 17 53.0**	**-0.8**
EDM	**Edmonton**	**51.01**	**337**	eP	**P**	**09 17 53.0**	**-0.8**
RPW	**Rockport**	**51.41**	**328**	P	**P**	**09 17 56.7**	**-0.2**
B06A	**Marblemount**	**51.44**	**328**	eP	**P**	**09 17 57.0**	**0.0**
	comp=Z,14nm,0.8s						
HDW	**Hoodsport**	**51.76**	**326**	P	**P**	**09 17 59.5**	**-0.1**
YKA	**Yellowknife Ar**	**58.71**	**343**	P	**P**	**09 18 48.7**	**-0.7**
YKA				PcP	**PcP**	**09 19 39.8**	**+0.6**
YKA	**Yellowknife Ar**	**58.71**	**343**	P	**P**	**09 18 48.7**	**-0.7**
	comp=Z,21nm,0.8s,baz=139,slow=7.0,SNR=321						
YKA				PcP	**PcP**	**09 19 39.7**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=134,slow=3.8,SNR=5.4						
YKW3	**Yellowknife Ar**	**58.77**	**344**	eP	**P**	**09 18 48.6**	**-1.2**
	comp=Z,0.8nm,1.0s						
RKT	**Rikitea**	**59.61**	**237**	eS	**S**	**09 27 06.2**	**-0.8**
	comp=Z,785nm,30.5s						
RKT				eLQ	LQ	09 34 04.9	
	comp=Z,396nm,28.2s						
RKT				eLR	LR	09 36 35.9	
	comp=Z,2µm,27.8s,baz=53						
DLBC	**Dease Lake**	**61.45**	**334**	eP	**P**	**09 19 08.9**	**+0.6**
DLBC				ePcP	**PcP**	**09 19 48.1**	**-2.2**
SFJD	**Kangerlussuaq**	**62.56**	**14**	i P	**P**	**09 19 13.3**	**-2.2**
	comp=Z,16nm,1.0s						
BBTS	**Babate**	**65.33**	**78**	P	**P**	**09 19 35.8**	**+1.1**
BBTS	**Babate**	**65.33**	**78**	P	**P**	**09 19 35.8**	**+1.1**
	comp=Z,13nm,0.3s,baz=359,slow=2.4,SNR=2.1						
RES	**Resolute Bay**	**66.64**	**357**	eP	**P**	**09 19 40.6**	**-1.5**
	comp=Z,21nm,0.9s						
KULLO	**Kullorsuaq**	**67.84**	**7**	i P	P	09 19 45.8	-3.9
KULLO				pmax	pmax		
	comp=Z,24nm,1.0s						
KULLO	**Kullorsuaq**	**67.84**	**7**	i P	P	09 19 45.8	-3.9
	comp=Z,24nm,1.0s						
INK	**Inuvik**	**68.40**	**342**	eP	**P**	**09 19 53.4**	**+0.2**
INK	**Inuvik**	**68.40**	**342**	P	**P**	**09 19 53.4**	**+0.2**
	comp=Z,51nm,1.1s,baz=132,slow=5.9,SNR=6.4						
RAGM	**Ragged Mountai**	**68.96**	**332**	eP	**P**	**09 19 58.7**	**+1.7**
BMRM	**Bremner River**	**69.14**	**333**	eP	**P**	**09 19 58.5**	**+0.4**
EGAK	**Eagle**	**69.24**	**337**	eP	**P**	**09 19 58.7**	**+0.1**
	comp=Z,39nm,1.0s						
SUMG	**Summit**	**69.53**	**13**	⇑iP	**P**	**09 19 59.5**	**-1.3**
SUMG				pmax	pmax		
	comp=Z,96nm,1.0s						
SUMG	**Summit**	**69.53**	**13**	⇑iP	**P**	**09 19 59.5**	**-1.3**
	comp=Z,96nm,1.0s						
SUMG	**Summit**	**69.53**	**13**	eP	**P**	**09 19 59.4**	**-1.4**
	comp=Z,156nm,1.1s						
DIV	**Divide**	**69.73**	**333**	eP	**P**	**09 20 03.0**	**+1.2**
PAX	**Paxson**	**70.26**	**335**	eP	**P**	**09 20 05.3**	**+0.3**
PAX	**Paxson**	**70.26**	**335**	eP	**P**	**09 20 05.3**	**+0.3**
PPT	**Papeete**	**70.54**	**248**	P	**P**	**09 20 07.9**	**+0.5**
PPT	**Papeete**	**70.54**	**248**	P	**P**	**09 20 07.9**	**+0.5**
	comp=Z,12nm,0.5s,baz=54,slow=19,SNR=5.1						
PPT				LR	LR	09 42 54.4	
	comp=Z,244nm,18.1s,baz=74,slow=29						
PPT2	**Papeete2**	**70.54**	**248**	eS	**S**	**09 29 20.1**	**-1.7**
	comp=Z,210nm,24.0s						
PPT2				eSS	**SS**	**09 33 50.7**	**-2.7**
	comp=Z,134nm,26.2s						
PPT2				eLR	LR	09 41 31.8	
	comp=Z,446nm,24.5s,baz=66						
BORG	**Borgarnes**	**70.66**	**24**	LR	LR	09 50 04.2	
	comp=Z,469nm,18.3s,baz=211,slow=35						
SEW	**Seward**	**71.12**	**331**	eP	**P**	**09 20 10.9**	**+0.7**
PMR	**Palmer**	**71.41**	**333**	eP	**P**	**09 20 12.5**	**+0.6**
PMR	**Palmer**	**71.41**	**333**	eP	**P**	**09 20 12.5**	**+0.6**
ILAR	**Eielson Array**	**71.49**	**336**	P	**P**	**09 20 12.5**	**+0.1**
ILAR	**Eielson Array**	**71.49**	**336**	P	**P**	**09 20 12.5**	**+0.1**
	comp=Z,31nm,1.0s,baz=113,slow=4.4,SNR=203						
ILAR				LR	LR	09 54 16.6	
	comp=Z,404nm,20.1s,baz=118,slow=38						
RC01	**Rabbit Creek A**	**71.54**	**332**	eP	**P**	**09 20 13.7**	**+0.9**
COLA	**College**	**71.91**	**336c**	iP	**P**	**09 20 14.9**	**0.0**
COLA				pmax	pmax		
	comp=Z,91nm,1.0s						
COLA	**College**	**71.91**	**336**	eP	**P**	**09 20 14.9**	**0.0**
MCK	**McKinley**	**71.98**	**335**	eP	**P**	**09 20 15.9**	**+0.5**
MCK	**McKinley**	**71.98**	**335**	eP	**P**	**09 20 15.9**	**+0.5**
TBI	**Tubuai**	**72.09**	**242**	eS	**S**	**09 29 38.4**	**-0.9**
	comp=Z,236nm,29.8s						
TBI				eLQ	LQ	09 39 20.9	
	comp=Z,406nm,25.2s						
TBI				eLR	LR	09 42 20.6	
	comp=Z,306nm,27.8s						
OHAK	**Old Harbor**	**72.34**	**328**	eP	**P**	**09 20 18.6**	**+1.0**
	comp=Z,62nm,1.1s						
TRF	**Thorofare Moun**	**72.48**	**334**	eP	**P**	**09 20 19.3**	**+0.7**
MORF	**Marmelete**	**72.61**	**54**	eP	**P**	**09 20 20.8**	**+1.1**
SPU	**Mount Spurr**	**72.65**	**332**	eP	**P**	**09 20 19.8**	**+0.3**
SCO	**Scoresbysund**	**72.76**	**18**	i P	**P**	**09 20 18.7**	**-1.1**
SCO				pmax	pmax		
	comp=Z,15nm,0.9s						
SCO	**Scoresbysund**	**72.76**	**18**	i P	**P**	**09 20 18.7**	**-1.1**
	comp=Z,15nm,0.9s						
RSO	**Redoubt South**	**72.81**	**331**	eP	**P**	**09 20 20.9**	**+0.3**
PCAS	**Casmilo, Conde**	**72.88**	**51**	eP	**P**	**09 20 22.0**	**+0.8**
	comp=Z,72nm,2.2s						
PTOM	**Tomar**	**72.92**	**51**	eP	**P**	**09 20 21.9**	**+0.4**
	comp=Z,46nm,1.8s						
PMTG	**Montargil**	**73.03**	**52**	eP	**P**	**09 20 22.5**	**+0.4**
	comp=Z,46nm,1.4s						
EVOP	**Sao Brissos**	**73.09**	**52**	eP	**P**	**09 20 22.0**	**-0.4**
EVOP				pmax	pmax		
	comp=Z,35nm,0.8s						
EVOP	**Sao Brissos**	**73.09**	**52**	eP	**P**	**09 20 22.0**	**-0.4**
	comp=Z,35nm,0.8s						
PPLA	**Purkeypile**	**73.15**	**333**	eP	**P**	**09 20 23.0**	**+0.5**
EVO	**Evora**	**73.17**	**52**	eP	**P**	**09 20 22.0**	**-1.0**
	comp=Z,35nm,0.8s						
EVO				eR			
	comp=Z,634nm,20.8s						
EVO	**Evora**	**73.17**	**52**	eP	**P**	**09 20 23.6**	**+0.6**
CAST	**Castle Rocks**	**73.24**	**334**	eP	**P**	**09 20 23.2**	**+0.3**
PVAQ	**Vaqueiros**	**73.36**	**54**	eLR	LR	09 43 24.1	
	comp=Z,588nm,20.0s						
PVIS	**Viseu**	**73.38**	**50**	eP	**P**	**09 20 24.6**	**+0.4**
	comp=Z,59nm,1.3s						
POLO	**Lamas de Olo**	**73.49**	**49**	eP	**P**	**09 20 25.2**	**+0.3**
	comp=Z,28nm,1.4s						
PESTR	**Estremoz**	**73.52**	**52**	eP	**P**	**09 20 25.6**	**+0.6**
	comp=Z,82nm,1.3s						
PVRL	**Vila Real**	**73.55**	**50**	eP	**P**	**09 20 25.6**	**+0.4**
	comp=Z,42nm,1.6s						
COLD	**Coldfoot**	**73.58**	**338**	eP	**P**	**09 20 26.2**	**+1.4**
MTE	**Manteigas**	**73.63**	**50**	eP	**P**	**09 20 25.7**	**0.0**
	comp=Z,40nm,1.5s						
MTE	**Manteigas**	**73.63**	**50**	eLR	LR	09 43 56.7	
	comp=Z,421nm,22.0s						
PCBR	**Castelo Branco**	**73.65**	**51**	eP	**P**	**09 20 26.1**	**+0.3**
	comp=Z,41nm,1.4s						
PMRV	**Marv??o**	**73.70**	**51**	eP	**P**	**09 20 26.3**	**+0.2**
	comp=Z,40nm,1.8s						
PMRV	**Marv??o**	**73.70**	**51**	eLR	LR	09 43 23.6	
	comp=Z,461nm,22.0s						
MVO	**Moncorvo**	**74.06**	**50**	eP	**P**	**09 20 28.4**	**+0.2**
	comp=Z,37nm,1.7s						
PBRG	**Braganca**	**74.31**	**49**	eP	**P**	**09 20 30.1**	**+0.5**
	comp=Z,41nm,1.4s						
IM04	**Indian Mountai**	**74.61**	**336**	eP	**P**	**09 20 30.9**	**0.0**
CHGN	**Chignik**	**74.97**	**326**	eP	**P**	**09 20 33.9**	**+0.8**
PAB	**San Pablo**	**76.06**	**51**	eP	**P**	**09 20 39.8**	**0.0**
PAB	**San Pablo**	**76.06**	**51**	eP	**P**	**09 20 39.8**	**0.0**
DAG	**Danmarks Havn**	**76.19**	**12**	⇑iP	**P**	**09 20 37.8**	**-1.9**
DAG				pmax	pmax		
	comp=Z,30nm,1.1s						
DAG	**Danmarks Havn**	**76.19**	**12**	⇑iP	**P**	**09 20 37.8**	**-1.9**
	comp=Z,23nm,1.1s						
ESDC	**Sonseca Array**	**76.36**	**51**	P	**P**	**09 20 41.5**	**0.0**
ESDC	**Sonseca Array**	**76.36**	**51**	P	**P**	**09 20 41.5**	**0.0**
	comp=Z,31nm,1.0s,baz=278,slow=5.5,SNR=63						
ESDC				LR	LR	09 49 54.2	
	comp=Z,328nm,20.9s,baz=270,slow=32						
ESLA	**Sonseca Array**	**76.36**	**51**	eP	**P**	**09 20 41.7**	**+0.2**
	comp=Z,11nm,1.1s						
ROSF	**Rostrenen**	**77.04**	**42**	eP	**P**	**09 20 44.1**	**-1.0**
	comp=Z,53nm,1.3s						
ROSF	**Rostrenen**	**77.04**	**42**	eP	**P**	**09 20 44.1**	**-1.0**
ROSF				pmax	pmax		
	comp=Z,53nm,1.3s						
ROSF	**Rostrenen**	**77.04**	**42**	eP	**P**	**09 20 44.1**	**-1.0**
	comp=Z,53nm,1.3s						
QUIF	**Quistinic**	**77.10**	**43**	eP	**P**	**09 20 44.4**	**-1.0**
	comp=Z,69nm,1.1s						
QUIF	**Quistinic**	**77.10**	**43**	eP	**P**	**09 20 44.4**	**-1.0**
QUIF				pmax	pmax		
	comp=Z,69nm,1.1s						
QUIF	**Quistinic**	**77.10**	**43**	eP	**P**	**09 20 44.4**	**-1.0**
	comp=Z,69nm,1.1s						
JMIC	**Jan Mayen**	**77.14**	**19**	LR	LR	09 55 42.9	
	comp=Z,224nm,18.7s,baz=272,slow=36						
TIC	**Toumodi**	**77.29**	**85**	eP	**P**	**09 20 47.3**	**+0.1**
LIC	**Lamto**	**77.34**	**85**	⇑iP	**P**	**09 20 47.7**	**+0.3**
	comp=Z,149nm,1.1s,baz=268						
LIC				eR			
	comp=Z,147nm,19.7s						
LIC	**Lamto**	**77.34**	**85**	eP	**P**	**09 20 47.6**	**+0.2**
	comp=Z,173nm,1.1s						
LIC	**Lamto**	**77.34**	**85**	⇑iP	**P**	**09 20 47.7**	**+0.3**
	comp=Z,149nm,1.1s						
EKA	**Eskdalemuir Ar**	**77.45**	**35**	P	**P**	**09 20 46.0**	**-1.2**
EKA	**Eskdalemuir Ar**	**77.45**	**35**	P	**P**	**09 20 46.0**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=260,slow=5.2,SNR=8.6						
EKA				LR	LR	09 50 34.5	
	comp=Z,234nm,20.8s,baz=260,slow=32						
DBIC	**Dimbokro**	**77.45**	**85**	P	**P**	**09 20 48.1**	**+0.1**
DBIC	**Dimbokro**	**77.45**	**85**	P	**P**	**09 20 48.1**	**+0.1**
	comp=Z,45nm,1.0s,baz=268,slow=5.5,SNR=32						
SGMF	**Saint Gilles**	**77.52**	**42**	eP	**P**	**09 20 46.4**	**-1.3**
SGMF	**Saint Gilles**	**77.52**	**42**	eP	**P**	**09 20 46.4**	**-1.3**
SGMF	**Saint Gilles**	**77.52**	**42**	eP	**P**	**09 20 46.4**	**-1.3**
KIC	**Kosan Boka**	**77.60**	**85**	eP	**P**	**09 20 49.0**	**+0.1**
	comp=Z,162nm,1.2s						
SJPF	**Ste Jean**	**78.41**	**48**	eP	**P**	**09 20 52.7**	**-0.2**
	comp=Z,76nm,1.1s						
SJPF	**Ste Jean**	**78.41**	**48**	eP	**P**	**09 20 52.7**	**-0.2**
SJPF				pmax	pmax		
	comp=Z,76nm,1.1s						
SJPF	**Ste Jean**	**78.41**	**48**	eP	**P**	**09 20 52.7**	**-0.2**
	comp=Z,76nm,1.1s						
GRR	**Gorron**	**78.65**	**42**	eP	**P**	**09 20 53.0**	**-1.0**
	comp=Z,42nm,0.9s						
GRR	**Gorron**	**78.65**	**42**	eP	**P**	**09 20 53.0**	**-1.0**
GRR				pmax	pmax		
	comp=Z,42nm,0.9s						
GRR	**Gorron**	**78.65**	**42**	eP	**P**	**09 20 53.0**	**-1.0**
	comp=Z,42nm,0.9s						
FLN	**La Foliniere**	**78.90**	**42**	eP	**P**	**09 20 54.5**	**-0.9**
	comp=Z,38nm,1.1s						
FLN				eR			
	comp=Z,575nm,20.2s						
FLN	**La Foliniere**	**78.90**	**42**	eP	**P**	**09 20 54.5**	**-0.9**
FLN				pmax	pmax		
	comp=Z,38nm,1.1s						
FLN	**La Foliniere**	**78.90**	**42**	eP	**P**	**09 20 54.5**	**-0.9**
	comp=Z,38nm,1.1s						
ETSF	**Etsaut**	**78.90**	**48**	eP	**P**	**09 20 55.4**	**-0.3**
	comp=Z,61nm,1.6s						
ETSF	**Etsaut**	**78.90**	**48**	eP	**P**	**09 20 55.4**	**-0.3**
ETSF				pmax	pmax		
	comp=Z,61nm,1.6s						
ETSF	**Etsaut**	**78.90**	**48**	eP	**P**	**09 20 55.4**	**-0.3**
	comp=Z,61nm,1.6s						
LDF	**La Druitiere**	**79.14**	**42**	eP	**P**	**09 20 55.7**	**-1.0**
	comp=Z,43nm,1.1s						
LDF	**La Druitiere**	**79.14**	**42**	eP	**P**	**09 20 55.7**	**-1.0**
LDF				pmax	pmax		
	comp=Z,43nm,1.1s						
LDF	**La Druitiere**	**79.14**	**42**	eP	**P**	**09 20 55.7**	**-1.0**
	comp=Z,43nm,1.1s						
MFF	**Saint Martin d**	**79.14**	**44**	eP	**P**	**09 20 55.9**	**-0.9**
	comp=Z,28nm,1.0s						
MFF	**Saint Martin d**	**79.14**	**44**	eP	**P**	**09 20 55.9**	**-0.9**
MFF				pmax	pmax		
	comp=Z,28nm,1.0s						
MFF	**Saint Martin d**	**79.14**	**44**	eP	**P**	**09 20 55.9**	**-0.9**
	comp=Z,28nm,1.0s						
EPF	**Esparros**	**79.56**	**48**	eP	**P**	**09 20 58.8**	**-0.4**
	comp=Z,48nm,1.1s						
EPF	**Esparros**	**79.56**	**48**	eP	**P**	**09 20 58.8**	**-0.4**
EPF				pmax	pmax		
	comp=Z,48nm,1.1s						
EPF	**Esparros**	**79.56**	**48**	eP	**P**	**09 20 58.8**	**-0.4**
	comp=Z,48nm,1.1s						
TNA	**Tin City**	**80.32**	**335**	eP	**P**	**09 21 04.1**	**+1.4**
	comp=Z,35nm,1.3s						
RJF	**Les Rejaudoux**	**80.33**	**45**	eP	**P**	**09 21 02.3**	**-1.0**
	comp=Z,18nm,0.9s						
RJF				eR			
	comp=Z,539nm,21.0s						
RJF	**Les Rejaudoux**	**80.33**	**45**	eP	**P**	**09 21 02.3**	**-1.0**
RJF				pmax	pmax		
	comp=Z,18nm,0.9s						
RJF	**Les Rejaudoux**	**80.33**	**45**	eP	**P**	**09 21 02.3**	**-1.0**
	comp=Z,18nm,0.9s						
CAF	**Calviac**	**80.73**	**46**	eP	**P**	**09 21 04.5**	**-1.0**
	comp=Z,23nm,1.1s						
CAF	**Calviac**	**80.73**	**46**	eP	**P**	**09 21 04.5**	**-1.0**
CAF				pmax	pmax		
	comp=Z,23nm,1.1s						
CAF	**Calviac**	**80.73**	**46**	eP	**P**	**09 21 04.5**	**-1.0**
	comp=Z,23nm,1.1s						
TCF	**Toulx Ste Croi**	**80.78**	**44**	eP	**P**	**09 21 04.3**	**-1.4**
	comp=Z,23nm,1.1s						

TCF Toulx Ste Croi 80.78 44 *e*P **P 09 21 04.3 -1.4**
TCF pmax pmax
comp=Z,23nm,1.1s
TCF Toulx Ste Croi 80.78 44 *e*P **P 09 21 04.3 -1.4**
comp=Z,23nm,1.1s
MTLF Montolieu 80.92 47 *e*P **P 09 21 05.7 -0.8**
comp=Z,62nm,1.3s
MTLF Montolieu 80.92 47 *e*P **P 09 21 05.7 -0.8**
MTLF pmax pmax
comp=Z,63nm,1.3s
MTLF Montolieu 80.92 47 *e*P **P 09 21 05.7 -0.8**
comp=Z,62nm,1.3s
HYF Humbligny 81.03 43 *e*P **P 09 21 05.9 -1.1**
HYF Humbligny 81.03 43 *e*P **P 09 21 05.9 -1.1**
BGF Bois d'Agland 81.20 44 *e*P **P 09 21 06.7 -1.3**
comp=Z,22nm,1.1s
BGF Bois d'Agland 81.20 44 *e*P **P 09 21 06.7 -1.3**
BGF pmax pmax
comp=Z,22nm,1.1s
BGF Bois d'Agland 81.20 44 *e*P **P 09 21 06.7 -1.3**
comp=Z,22nm,1.1s
SSF Saint Saulge 81.63 44 *e*P **P 09 21 08.5 -1.7**
comp=Z,10nm,1.0s
SSF Saint Saulge 81.63 44 *e*P **P 09 21 08.5 -1.7**
SSF pmax pmax
comp=Z,11nm,1.0s
SSF Saint Saulge 81.63 44 *e*P **P 09 21 08.5 -1.7**
comp=Z,10nm,1.0s
LOR Lormes 81.86 43 *e*P **P 09 21 09.8 -1.6**
comp=Z,9.2nm,0.9s
LOR *e*R
comp=Z,778nm,20.2s
LOR Lormes 81.86 43 *e*P **P 09 21 09.8 -1.6**
comp=Z,9.2nm,0.9s
SMF Signal de Mont 81.89 44 *e*P **P 09 21 09.9 -1.7**
comp=Z,13nm,0.9s
SMF Signal de Mont 81.89 44 *e*P **P 09 21 09.9 -1.7**
SMF pmax pmax
comp=Z,13nm,0.9s
SMF Signal de Mont 81.89 44 *e*P **P 09 21 09.9 -1.7**
comp=Z,13nm,0.9s
BAIF Baives 81.93 41 *e*P **P 09 21 10.2 -1.5**
BAIF Baives 81.93 41 *e*P **P 09 21 10.2 -1.5**
BAIF Baives 81.93 41 *e*P **P 09 21 10.2 -1.5**
LASF Ste Croix 82.06 47 *e*P **P 09 21 12.1 -0.5**
comp=Z,58nm,1.4s
LASF Ste Croix 82.06 47 *e*P **P 09 21 12.1 -0.5**
comp=Z,58nm,1.4s
MEZF Maizieres J'vi 82.58 42 *e*P **P 09 21 14.0 -1.1**
MEZF Maizieres J'vi 82.58 42 *e*P **P 09 21 14.0 -1.1**
VIVF Saint-Julien-l 82.59 46 *e*P **P 09 21 14.9 -0.4**
comp=Z,44nm,1.1s
VIVF Saint-Julien-l 82.59 46 *e*P **P 09 21 14.9 -0.4**
VIVF pmax pmax
comp=Z,44nm,1.1s
VIVF Saint-Julien-l 82.59 46 *e*P **P 09 21 14.9 -0.4**
comp=Z,44nm,1.1s
SFTF Sexfontaines 82.59 42 *e*P **P 09 21 13.8 -1.4**
SFTF Sexfontaines 82.59 42 *e*P **P 09 21 13.8 -1.4**
KBS Kingsbay 82.83 11 *e*P **P 09 21 16.0 +0.1**
KBS pmax pmax
comp=Z,54nm,1.2s
KBS Kingsbay 82.83 11 *e*P **P 09 21 16.4 +0.6**
comp=Z,26nm,1.0s
PAGF Fort de Pagny 83.02 42 *e*P **P 09 21 16.3 -1.1**
PAGF Fort de Pagny 83.02 42 *e*P **P 09 21 16.3 -1.1**
MEM Membach 83.04 40 P **P 09 21 17.6 +0.1**
TORD Torodi Ar. Bea 83.09 78 P **P 09 21 18.1 -0.3**
TORD Torodi Ar. Bea 83.09 78 P **P 09 21 18.1 -0.3**
comp=Z,15nm,0.9s,baz=267,slow=4.2,SNR=56
TORD LR LR 10 00 03.9
comp=Z,128nm,19.4s,baz=270,slow=37
WLF Walferdange 83.21 41 P **P 09 21 18.2 -0.1**
comp=Z,13nm,1.4s
SMRF Simiane la Rot 83.31 47 *e*P **P 09 21 18.7 -0.4**
SMRF Simiane la Rot 83.31 47 *e*P **P 09 21 18.7 -0.4**
CABF La Chapelle 83.43 44 *e*P **P 09 21 18.4 -1.3**
comp=Z,45nm,1.4s
CABF La Chapelle 83.43 44 *e*P **P 09 21 18.4 -1.3**
CABF pmax pmax
comp=Z,45nm,1.4s
CABF La Chapelle 83.43 44 *e*P **P 09 21 18.4 -1.3**
comp=Z,45nm,1.4s
ORIF Oris-en-Rattie 83.44 46 *e*P **P 09 21 18.5 -1.3**
comp=Z,52nm,1.4s
ORIF *e*R
comp=Z,620nm,21.5s
ORIF Oris-en-Rattie 83.44 46 *e*P **P 09 21 18.5 -1.3**
ORIF pmax pmax
comp=Z,52nm,1.4s
ORIF Oris-en-Rattie 83.44 46 *e*P **P 09 21 18.5 -1.3**
comp=Z,52nm,1.4s
HAU Haudompre 83.48 43 *e*P **P 09 21 18.5 -1.4**
comp=Z,29nm,1.3s
HAU *e*R
comp=Z,466nm,20.8s
HAU Haudompre 83.48 43 *e*P **P 09 21 18.5 -1.4**
HAU pmax pmax
comp=Z,29nm,1.3s
HAU Haudompre 83.48 43 *e*P **P 09 21 18.5 -1.4**
comp=Z,29nm,1.3s
BUG Bochum-Univer 83.76 39 *e*P **P 09 21 20.2 -0.9**
comp=Z,43nm,1.5s
SPITS Spitsbergen Ar 83.82 12 LR LR 10 00 28.7
comp=Z,580nm,19.7s,baz=275,slow=37
HINF Hinteralfeld 83.84 43 *e*P P 09 21 19.0 -2.7
HINF Hinteralfeld 83.84 43 *e*P P 09 21 19.0 -2.7
HINF Hinteralfeld 83.84 43 *e*P P 09 21 19.0 -2.7
LPL La Plagne 83.98 45 *e*P **P 09 21 22.3 -0.4**
LPL La Plagne 83.98 45 *e*P **P 09 21 22.3 -0.4**
LPL La Plagne 83.98 45 *e*P **P 09 21 22.3 -0.4**
LPG La Plagne 84.00 45 *e*P **P 09 21 22.5 -0.4**
LPG La Plagne 84.00 45 *e*P **P 09 21 22.5 -0.4**
LPG La Plagne 84.00 45 *e*P **P 09 21 22.5 -0.4**
LMR La Mourre 84.04 47 *e*P **P 09 21 21.8 -1.0**
comp=Z,34nm,1.2s
LMR La Mourre 84.04 47 *e*P **P 09 21 21.8 -1.0**
LMR pmax pmax
comp=Z,34nm,1.2s
LMR La Mourre 84.04 47 *e*P **P 09 21 21.8 -1.0**
comp=Z,34nm,1.2s
CDF Champ du Feu 84.06 42 *e*P **P 09 21 21.5 -1.4**
comp=Z,13nm,1.1s
CDF Champ du Feu 84.06 42 *e*P **P 09 21 21.5 -1.4**
CDF pmax pmax
comp=Z,13nm,1.1s
CDF Champ du Feu 84.06 42 *e*P **P 09 21 21.5 -1.4**
comp=Z,13nm,1.1s
MBDF Montbardon 84.09 46 *e*P **P 09 21 22.7 -0.5**
comp=Z,35nm,1.4s
MBDF Montbardon 84.09 46 *e*P **P 09 21 22.7 -0.5**
MBDF pmax pmax
comp=Z,35nm,1.4s
MBDF Montbardon 84.09 46 *e*P **P 09 21 22.7 -0.5**
comp=Z,35nm,1.4s
KONO Kongsberg 84.22 31 *e*P **P 09 21 24.9 +1.6**
KONO pmax pmax
comp=Z,124nm,1.7s
TNS Taunus Mts 84.63 40 *e*P **P 09 21 24.9 -0.8**
comp=Z,24nm,1.3s
SBF Sospel 84.66 47 *e*P **P 09 21 25.0 -1.0**
SBF Sospel 84.66 47 *e*P **P 09 21 25.0 -1.0**
SBF Sospel 84.66 47 *e*P **P 09 21 25.0 -1.0**
NB2 NORSAR Subarra 84.84 29 P **P 09 21 26.0 -0.5**
comp=Z,44nm,1.2s,baz=279,slow=5.1
NB2 NORSAR Subarra 84.84 29 P **P 09 21 26.0 -0.5**
baz=279,slow=5.1
NOA NORSAR Array B 84.84 29 P **P 09 21 25.5 -1.0**
NOA NORSAR Array B 84.84 29 P **P 09 21 25.5 -1.0**
comp=Z,13nm,1.0s,baz=276,slow=5.0,SNR=14
NOA LR LR 09 55 56.3
comp=Z,213nm,21.2s,baz=275,slow=33
STU Stuttgart 85.29 42 *e*P **P 09 21 28.2 -0.8**
comp=Z,25nm,1.2s
NRDL Niedersach Rie 85.38 38 *e*P **P 09 21 28.6 -0.6**
comp=Z,30nm,1.5s
TAM Tamanrasset 85.54 68 *e*P **P 09 21 31.4 +0.5**
TAM pmax pmax
comp=Z,17nm,1.0s
TAM Tamanrasset 85.54 68 *e*P **P 09 21 31.4 +0.5**
comp=Z,17nm,1.0s
UBBA Unterbreizbach 85.54 39 *e*P **P 09 21 29.0 -1.0**
comp=Z,26nm,1.5s
CLZ Clausthal 85.63 38 *e*P **P 09 21 29.9 -0.8**
comp=Z,46nm,1.4s
TUE Stuetta 85.68 44 *e*P **P 09 21 31.1 -0.2**
comp=Z,13nm,1.0s
DAVA Damuels 85.94 43⇑ *i*P **P 09 21 32.4 -0.1**
comp=Z,18nm,0.9s
PGF Pioggiola 85.95 48 *e*P **P 09 21 31.4 -1.1**
comp=Z,123nm,1.2s
PGF Pioggiola 85.95 48 *e*P **P 09 21 31.4 -1.1**
PGF pmax pmax
comp=Z,123nm,1.2s
PGF Pioggiola 85.95 48 *e*P **P 09 21 31.4 -1.1**
comp=Z,123nm,1.2s
DAVOX Davos/Dischmat 86.01 43 P **P 09 21 32.0 -0.9**
DAVOX Davos/Dischmat 86.01 43 P **P 09 21 32.0 -0.9**
comp=Z,9.8nm,1.0s,baz=264,slow=7.2,SNR=6.2
DAVOX LR LR 09 56 16.9
comp=Z,339nm,19.4s,baz=267,slow=33
GRF Grafenberg Arr 86.48 40 *e*P **P 09 21 34.3 -0.6**
comp=Z,24nm,1.1s
MOX Moxa 86.58 39 *e*P **P 09 21 34.5 -0.8**
comp=Z,19nm,1.5s
ROTZ Rotzenmuhle 87.09 40 *e*P **P 09 21 37.4 -0.5**
comp=Z,18nm,1.4s
KEST Kesra 87.15 54 LR LR 09 55 02.7
comp=Z,57nm,21.1s,baz=252,slow=32
TANN Tannenbergstha 87.15 40 *e*P **P 09 21 37.6 -0.6**
comp=Z,28nm,1.3s
CLL Collm 87.34 39⇑ *i*P **P 09 21 38.1 -0.9**
CLL *e* 09 21 53.0
CLL *e*S **SKKSac 09 32 19.0 +2.9**
CLL pmax pmax
comp=Z,28nm,1.3s
CLL MLR MLR
comp=Z,300nm,18.4s
CLL Collm 87.34 39 *e*P **P 09 21 37.9 -1.1**
comp=Z,28nm,1.3s
CLL Collm 87.34 39⇑ *i*P **P 09 21 38.1 -0.9**
comp=Z,28nm,1.3s
CLL *e*sP sP 09 21 53.0 +10
CLL *i* 09 21 57.8
CLL *e*(PP) 09 25 30.0
CLL *e*S **SKKSac 09 32 19.0 +2.9**
CLL *e*PS **PnS 09 33 16.0 -3.6**
CLL *e*PPS PPS 09 33 55.0
CLL *e*SS **SS 09 38 01.0 -2.7**
CLL *e* 09 41 00.0
CLL *e*SSS SSS 09 41 54.0
CLL *e*SSSS 09 44 54.0
CLL Lm MLR 10 02 00.0
comp=Z,300nm,18.4s
WET Wettzell 87.63 41 *e*P **P 09 21 40.3 -0.2**
comp=Z,41nm,1.3s
ABTA Abfaltersbach 87.80 43⇓ *i*P **P 09 21 41.1 -0.3**
comp=Z,22nm,1.1s,SNR=6.2
RJOB Jochberg 87.82 42 *e*P **P 09 21 41.1 -0.4**
comp=Z,23nm,1.3s
BRG Berggiesshubel 88.00 39 *i*P **P 09 21 41.8 -0.4**
comp=Z,27nm,1.3s
BRG *e* 09 21 56.1
comp=Z,16nm,1.5s
BRG *e* 09 22 13.3
comp=Z,13nm,1.3s
BRG Berggiesshubel 88.00 39 *i*P **P 09 21 41.8 -0.4**
BRG *e* 09 21 56.1
BRG pmax pmax
comp=Z,27nm,1.3s
BRG Berggiesshubel 88.00 39 *e*P **P 09 21 41.4 -0.8**
comp=Z,26nm,1.3s
KHC Kasperske Hory 88.09 41 *i*P **P 09 21 42.0 -0.7**
KHC *e* 09 22 00.0
KHC MLR MLR
comp=Z,600nm,17.8s
KHC Kasperske Hory 88.09 41 *i*P **P 09 21 42.0 -0.7**
KHC *e*sP sP 09 22 00.0 +14
KHC AMS AMS 09 53 10.0
comp=Z,600nm,17.8s
GEC2 GERESS Array S 88.22 41 *e*P **P 09 21 42.4 -1.0**
comp=Z,22nm,1.2s
GERES GERESS Array B 88.22 41 P **P 09 21 42.6 -0.8**
GERES GERESS Array B 88.22 41 P **P 09 21 42.6 -0.8**
comp=Z,7.4nm,1.0s,baz=266,slow=2.9,SNR=28
GERES LR LR 09 55 18.0
comp=Z,398nm,21.7s,baz=268,slow=32
KBA Koelnbreinsper 88.30 43⇑ *i*PcP **P 09 21 43.6 -0.4**
comp=Z,23nm,1.3s,SNR=5.5
PRU Pruhonice 88.54 40 *i*P **P 09 21 44.4 -0.4**
PRU MLR MLR
comp=Z,700nm,18.4s
PRU Pruhonice 88.54 40 *i*P **P 09 21 44.4 -0.4**
PRU AMS AMS 09 57 20.0
comp=Z,700nm,18.4s
ARCES ARCESS Array B 88.62 19 P **P 09 21 44.1 -0.6**
ARCES ARCESS Array B 88.62 19 P **P 09 21 44.1 -0.6**
comp=Z,12nm,0.9s,baz=289,slow=3.5,SNR=19
ARCES LR LR 10 01 10.0
comp=Z,171nm,19.1s,baz=304,slow=36
JAVS Javornik 89.01 44 *i*P **P 09 21 47.2 0.0**
TREC Trest 89.28 40 *i*P **P 09 21 48.3 0.0**
TREC MLR MLR
comp=Z,600nm,18.0s
TREC Trest 89.28 40 *i*P **P 09 21 48.3 0.0**
TREC AMS AMS 09 56 20.0
comp=Z,600nm,18.0s
PERS Pernice 89.58 43 *i*P **P 09 21 49.3 -0.5**
DPC Dobruska-Polom 89.59 39 *i*P **P 09 21 49.7 -0.1**
DPC Dobruska-Polom 89.59 39 *i*P **P 09 21 49.7 -0.1**
DPC *ex* x 09 21 53.5
DPC AMS AMS 09 58 10.0
CONA Conrad Observa 89.81 42⇑ *i*PcP **P 09 21 50.6 -0.3**
comp=Z,19nm,1.1s,SNR=5.6
BILL Bilibino 89.86 339 *c*P **P 09 21 51.0 +0.5**
BILL *e*S S 09 32 35.1 -7.8
BILL *e*PS **PS 09 33 58.4 +9.0**
BILL pmax pmax
comp=Z,74nm,1.6s
BILL Bilibino 89.86 339 *e*P **P 09 21 51.1 +0.5**
comp=Z,59nm,1.4s
VRAC Vranov 89.99 40 P **P 09 21 51.3 -0.3**
VRAC Vranov 89.99 40 P **P 09 21 51.3 -0.3**
comp=Z,4.3nm,0.8s,baz=290,slow=5.5,SNR=8.7
VRAC LR LR 09 58 36.7
comp=Z,591nm,19.3s,baz=264,slow=33
OKC Ostrava-Krasne 90.85 39 *i*P **P 09 21 56.0 +0.4**
OKC MLR MLR
comp=Z,400nm,19.3s
OKC Ostrava-Krasne 90.85 39 *i*P **P 09 21 56.0 +0.4**
OKC AMS AMS 09 57 10.0
comp=Z,400nm,19.3s
KAF Kangasniemi 91.56 26 *e*P **P 09 21 57.3 -1.3**
KAF pmax pmax
comp=Z,11nm,0.9s
KAF Kangasniemi 91.56 26 *e*p **P 09 21 57.3 -1.3**
comp=Z,10nm,0.9s
FINES FINESS Array B 91.69 27 P **P 09 21 56.8 -2.4**
FINES FINESS Array B 91.69 27 P **P 09 21 56.8 -2.4**
comp=Z,13nm,1.1s,baz=318,slow=2.6,SNR=14
FINES LR LR 09 59 20.7
comp=Z,267nm,21.5s,baz=289,slow=33
FIA1 FINESS Array S 91.69 27 *e*P **P 09 21 58.1 -1.1**
PSZ Piszkesteto 92.45 41 *e*P **P 09 22 03.1 0.0**
PSZ pmax pmax
comp=Z,6.0nm,1.0s
PSZ Piszkesteto 92.45 41 *e*P **P 09 22 03.1 0.0**
comp=Z,6.4nm,1.0s
KECS Kecovo 92.68 40 *e*P **P 09 22 02.4 -1.7**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 92.68 40 *e*P **P 09 22 02.4 -1.7**
STHS Stebnicka Huta 92.90 39 *e*P **P 09 22 06.1 +1.0**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 92.90 39 *e*P **P 09 22 06.1 +1.0**
VSU Vasula 93.07 30 *e*P **P 09 22 04.1 -1.5**
CRVS Cervenica-Dubn 93.19 40 *e*P **P 09 22 06.5 +0.1**
CRVS pmax pmax
comp=Z,10.0nm,1.4s
CRVS Cervenica-Dubn 93.19 40 *e*P **P 09 22 06.5 +0.1**
JOF Joensuu 93.37 25 *e*P **P 09 22 06.1 -0.8**
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 93.37 25 *e*p **P 09 22 06.1 -0.8**
comp=Z,0.5nm,0.5s
KOLS Kolonicke sedl 93.69 40 *e*P **P 09 22 08.8 0.0**
KOLS Kolonicke sedl 93.69 40 *e*P **P 09 22 08.8 0.0**
UZH Uzhgorod 93.79 40 *de*P **P 09 22 08.6 -0.6**
UZH *e* 09 22 17.0
SNAA Sanae 94.80 162 P **P 09 22 12.5 -0.8**
comp=Z,4.1nm,1.2s,baz=312,slow=3.8,SNR=6.0
MLR Muntele Rosu 97.14 42 P **P 09 22 24.5 -0.2**
MLR Muntele Rosu 97.14 42 P **P 09 22 24.5 -0.2**
comp=Z,1.6nm,0.9s,baz=280,slow=12,SNR=3.8
AKASG Malin Array Be 97.33 36 P **P 09 22 23.5 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 97.33 36 P **P 09 22 23.5 -1.7**
AKASG Malin Array Be 97.33 36 P **P 09 22 23.5 -1.7**
comp=Z,1.1nm,0.8s,baz=283,slow=4.4,SNR=5.1
SEY Seymchan 97.38 338 *e*P **P 09 22 25.6 +0.4**
SEY Seymchan 97.38 338 P **P 09 22 25.8 +0.6**
SEY Seymchan 97.38 338 P **P 09 22 25.8 +0.6**
comp=Z,3.5nm,0.9s,baz=126,slow=3.7,SNR=9.6
TIXI Tiksi 97.42 350⇓ *i*P **P 09 22 24.6 -0.6**
TIXI pmax pmax
comp=Z,18nm,1.1s
TIXI Tiksi 97.42 350 *e*P **P 09 22 24.5 -0.8**
comp=Z,19nm,1.0s
KLMR Klimovskoe 97.77 25 *e*P **P 09 22 24.7 -2.3**
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR MLR MLR
comp=Z,557nm,18.0s
QSPA South Pole Qui 98.34 180 P **P 09 22 29.4 -0.2**
QSPA South Pole Qui 98.34 180 P **P 09 22 29.3 -0.2**
comp=Z,5.9nm,1.0s,baz=141,slow=2.1,SNR=10
OBN Obninsk 99.39 30 *e*P **Pdif 09 22 32.1 -2.3**
OBN *e* 09 26 40.0
OBN *e*SS SS 09 41 06.9 +11
OBN pmax pmax
comp=Z,8.0nm,1.2s
IDI Anoyia 99.60 52 LR LR 10 04 19.6
comp=Z,97nm,20.6s,baz=280,slow=34
PRGR Permogore 99.72 22 *e*P **Pdif 09 22 33.9 -1.8**
PRGR pmax pmax
comp=Z,19nm,0.9s
H11N3 WAKE ISLAND Hyl 05.70 293 T T 11 21 27.5
baz=76
H11N2 WAKE ISLAND Hyl 05.71 293 T T 11 21 35.5
baz=76
H11N1 WAKE ISLAND Hyl 05.72 293 T T 11 21 21.4
baz=76
H11S1 WAKE ISLAND Hyl 06.20 292 T T 11 21 49.0
baz=81
H11S2 WAKE ISLAND Hyl 06.20 292 T T 11 21 43.7
baz=81
H11S3 WAKE ISLAND Hyl 06.22 292 T T 11 21 44.9
baz=81
MAK Makhachkala 112.00 37 *e*PKIKP **PKiKP 09 27 26.9 -0.7**
ABKAR Akbulak array 114.14 26 *e*PKPdf PKPdf 09 27 30.6 -0.9
ABKAR *e*PP **PP 09 28 22.7 -2.7**
USRK Ussuriysk Arra 118.84 332 PKP **PKPdf 09 27 40.0 -0.7**
comp=Z,2.1nm,0.7s,baz=9.2,slow=4.3,SNR=4.6
MDJ Mudanjiang 119.60 334 PKP **PKPdf 09 27 41.9 -0.3**
MDJ AMB AMB
comp=Z,74nm,5.3s
MDJ LR LR
comp=Z,130nm,20.4s
MDJ LR LR
comp=Z,170nm,19.6s
MDJ LR LR
comp=Z,200nm,20.0s
MJAR Matsushiro Arr 120.88 322 PKP **PKPdf 09 27 44.0 -1.0**
MJAR Matsushiro Arr 120.88 322 PKP **PKPdf 09 27 44.0 -1.0**
comp=Z,2.0nm,0.9s,baz=138,slow=1.2,SNR=5.1
CN2 Changchun 122.01 336 *e*PKP **PKPdf 09 27 49.5 +2.7**
CN2 *e*PP PP 09 29 27.5 +7.6
CN2 *e*SS SS 09 45 59.0 +1.3
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,600nm,21.0s
SONM Songino Array 123.44 352 PKP **PKPdf 09 27 49.1 -0.5**
SONM PP **PP 09 29 28.9 -0.5**
SONM Songino Array 123.44 352 PKP **PKPdf 09 27 49.1 -0.5**
comp=Z,1.9nm,0.8s,baz=325,slow=1.4,SNR=12
SONM PP **PP 09 29 28.9 -0.5**
comp=Z,5.5nm,1.1s,baz=3.5,slow=6.8,SNR=10
MKAR Makanchi Array 123.58 12 PKIKP **PKPdf 09 27 48.4 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 123.58 12 PKP **PKPdf 09 27 48.4 -1.4**
MKAR Makanchi Array 123.58 12 PKP **PKPdf 09 27 48.4 -1.4**
comp=Z,0.8nm,0.7s,baz=108,slow=2.7,SNR=4.9
AAK Ala-Archa 125.29 20 PKIKP **PKPdf 09 27 53.0 -0.4**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 125.29 20 PKP **PKPdf 09 27 53.0 -0.4**
AAK Ala-Archa 125.29 20 PKP **PKPdf 09 27 53.0 -0.4**
comp=Z,2.7nm,1.0s,baz=150,slow=0.8,SNR=5.7
TKM2 Tokmak 2 125.40 19 *e*PKIKP **PKPdf 09 27 53.1 -0.6**
TKM2 Tokmak 2 125.40 19 *e*PKPdf **PKPdf 09 27 53.1 -0.6**
KSRS Korea Array 125.99 330 PKP **PKPdf 09 27 54.4 -0.2**
comp=Z,12nm,0.8s,baz=6.9,slow=1.4,SNR=31
KSAR Wonju Array Be 126.02 330 PKP **PKPdf 09 27 54.4 -0.3**
WMQ Urumqi 127.41 8 PKP **PKPdf 09 27 57.4 +0.1**
WMQ sPKP 09 28 09.5
WMQ PP PP 09 30 01.5 +5.7
WMQ PKS **PKSdf 09 31 32.6 -1.3**
WMQ SKS SKSdf 09 35 04.0 -5.6
WMQ SKKS SKKSac 09 36 49.5 -5.9
WMQ SS **SS 09 47 06.5 +1.2**
WMQ LR LR
comp=Z,310nm,21.7s
WMQ LR LR
comp=Z,190nm,20.6s
WMQ LR LR
comp=Z,460nm,21.7s
KSH Kashi 128.57 21 *e*PKP **PKPdf 09 28 00.1 +0.4**
KSH *es*PKP 09 28 14.3
KSH *e*SKS SKSdf 09 35 04.3 -7.8
KSH AMB AMB
comp=Z,58nm,3.9s
KSH LR LR
comp=Z,83nm,4.7s
KSH LR LR
comp=Z,130nm,5.1s
KSH LR LR
comp=Z,110nm,4.7s
BJI Beijing 128.67 341 PKP **PKPdf 09 27 59.0 -0.7**
BJI PP **PP 09 30 05.8 +1.6**
BJI AMB AMB
comp=Z,30nm,15.4s
BJI LR LR
comp=Z,110nm,42.6s
HHC Hu-ho-hao-te 129.22 346 *e*PKP **PKPdf 09 27 59.1 -1.8**
HHC sPKP 09 28 11.9
HHC PP **PP 09 30 10.6 +2.7**
HHC PKS **PKSdf 09 31 38.8 +1.3**
HHC SKS SKSdf 09 35 02.3 -11
HHC SS **SS 09 47 23.6 -4.4**
HHC AMB AMB
comp=Z,230nm,9.2s
HHC LR LR
comp=Z,380nm,21.1s
HHC LR LR
comp=Z,380nm,20.8s
HHC LR LR
comp=Z,530nm,21.2s
GTA Gaotai 132.41 357⇑ PKP **PKPdf 09 28 06.5 -0.5**
GTA sPKP 09 28 20.8
GTA PP PP 09 30 33.9 +5.4
GTA SKS SKSdf 09 35 12.5 -6.6
GTA SKKS SKKSac 09 37 20.8 -5.9
GTA SS **SS 09 48 07.9 +1.0**
GTA AMB AMB
comp=Z,190nm,6.2s
GTA LR LR
comp=Z,310nm,19.0s
GTA LR LR
comp=Z,310nm,18.5s
GTA LR LR
comp=Z,350nm,17.6s
STKA Stephens Creek 132.41 234 PKP **PKPdf 09 28 07.1 +0.1**
STKA Stephens Creek 132.41 234 PKP **PKPdf 09 28 07.1 +0.1**
comp=Z,2.4nm,1.0s,baz=38,slow=3.4,SNR=3.3
LZH Lanzhou 135.32 352 *e*PKP **PKPdf 09 28 11.4 -1.2**
LZH LR LR
comp=Z,370nm,20.2s

LZH					LR	LR			
	comp=Z,640nm,21.9s								
LZH					LR	LR			
	comp=Z,420nm,20.7s								
XAN	**Xi'an**	**136.34**	**346**		PKP	**PKPdf**	**09 28 15.3**	**+0.9**	
XAN					LR	LR			
	comp=Z,310nm,19.4s								
XAN					LR	LR			
	comp=Z,130nm,21.4s								
CD2	**Chengdu**	**140.42**	**351**	*e*PKP		**PKPdf**	**09 28 21.4**	**-0.6**	
CD2					sPKP		09 28 36.3		
CD2					PP	**PP**	**09 31 23.4**	**+4.7**	
CD2					SKS	SKSdf	09 35 25.3	-7.7	
CD2					SS	**SS**	**09 49 38.9**	**-3.5**	
CD2					AMB	AMB			
	comp=Z,250nm,7.1s								
CD2					LR	LR			
	comp=Z,260nm,20.2s								
CD2					LR	LR			
	comp=Z,350nm,15.5s								
CD2					LR	LR			
	comp=Z,490nm,23.8s								
PYUN	**Piuthan**	**141.34**	**20**	*e*P		PKPpre	09 28 17.4		
DANN	**Dangsing**	**141.37**	**19**	*e*P		PKPpre	09 28 18.4		
	comp=Z,23nm,0.9s								
AS31	**Alice Springs**	**141.47**	**242**	*e*PKPdf		PKPpre	09 28 17.2		
ASAR	**Alice Springs**	**141.47**	**242**	PKPpre		PKPpre	09 28 17.4		
ASAR	**Alice Springs**	**141.47**	**242**	PKhKP		PKPpre	09 28 17.4		
	comp=Z,3.1nm,0.9s,baz=117,slow=3.4,SNR=46								
KOLN	**Koldanda**	**141.85**	**19**	*e*P		PKPpre	09 28 19.0		
	comp=Z,46nm,1.4s								
GKN	**Gorkha**	**141.96**	**18**	*e*P		PKPpre	09 28 19.8		
WRA	**Warramunga Arr**	**142.02**	**248**	PKPpre		PKPpre	09 28 18.9		
WRA	**Warramunga Arr**	**142.02**	**248**	PKhKP		PKPpre	09 28 18.9		
	comp=Z,3.7nm,0.8s,baz=96,slow=3.2,SNR=21								
KKN	**Kakani**	**142.35**	**17**	*e*P		PKPpre	09 28 20.6		
GUN	**Gumba**	**142.41**	**16**	*e*P		PKPpre	09 28 21.2		
	comp=Z,50nm,1.0s								
DMN	**Daman**	**142.47**	**17**	*e*P		PKPpre	09 28 21.3		
PKIN	**Phulchoki**	**142.59**	**17**	*e*P		PKPpre	09 28 21.3		
PKI	**Pulchoki**	**142.59**	**17**	*e*P		PKPpre	09 28 21.4		
TAPN	**Taplejung**	**143.41**	**14**	*e*P		PKPab	09 28 23.3	-0.5	
	comp=Z,38nm,1.2s								
RAMN	**Ramite**	**143.51**	**16**	*e*P		PKPab	09 28 23.4	-0.7	
ODAN	**Odare**	**143.80**	**15**	*e*P		PKPab	09 28 24.6	-0.6	
	comp=Z,64nm,1.4s								
GYA	**Guiyang**	**144.13**	**345**	*i*PKP		**PKPab**	**09 28 25.4**	**-0.9**	
GYA					sPKP		09 28 40.0		
GYA					PP	**PP**	**09 31 44.3**	**+2.9**	
GYA					PKS	**PKSdf**	**09 32 01.8**	**-2.9**	
GYA					SKKS		09 38 30.0		
GYA					SS	**SS**	**09 50 23.3**	**-2.5**	
GYA					AMB	AMB			
	comp=Z,140nm,7.8s								
GYA					LR	LR			
	comp=Z,140nm,23.0s								
GYA					LR	LR			
	comp=Z,120nm,24.2s								
GYA					LR	LR			
	comp=Z,150nm,23.4s								
SHL	**Shillong**	**145.94**	**8**	*e*P		**PKPdf**	**09 28 30.5**	**-1.5**	
KMI	**Kunming**	**146.25**	**350**	PKPbc		**PKPdf**	**09 28 32.1**	**-0.5**	
KMI					PP	**PP**	**09 31 57.5**	**+3.5**	
KMI					LR	LR			
	comp=Z,250nm,27.7s								
HYB	**Hyderabad**	**148.62**	**35**	*i* PKP		**PKPdf**	**09 28 37.0**	**+0.5**	
H01W1	**Cape Leeuwin H**	**149.21**	**208**	T		T	12 16 33.9		
	baz=151,slow=76,SNR=13								
H01W2	**Cape Leeuwin H**	**149.21**	**208**	T		T	12 16 33.6		
	baz=151,slow=76,SNR=8.7								
H01W3	**Cape Leeuwin H**	**149.22**	**208**	T		T	12 16 35.1		
	baz=151,slow=76,SNR=14								
SLVN	**Son La**	**149.72**	**347**	*e*PKPbc		**PKPbc**	**09 28 42.1**	**-0.8**	
SLVN				*e*PKPab		**PKPab**	**09 28 49.0**	**+1.2**	
QIZ	**Qiongzhong**	**149.96**	**335**	PKPbc		**PKPdf**	**09 28 38.0**	**-0.6**	
QIZ					PP	**PP**	**09 32 16.8**	**+1.0**	
QIZ					SS	SS	09 51 33.5	+1.4	
QIZ					AMB	AMB			
	comp=Z,300nm,4.0s								
QIZ					LR	LR			
	comp=Z,420nm,20.0s								
CHTO	**Chiang Mai**	**152.94**	**356**	*e*PKIKP		**PKPbc**	**09 28 49.3**	**-1.0**	
CHTO	**Chiang Mai**	**152.94**	**356**	*e*PKPbc		**PKPbc**	**09 28 49.3**	**-1.0**	
CMAR	**Chiang Mai Arr**	**153.29**	**356**	PKP		**PKPdf**	**09 28 44.0**	**+0.3**	
CMAR				PKPbc		**PKPbc**	**09 28 50.7**	**-0.4**	
CMAR				PKPab		**PKPab**	**09 29 02.2**	**-0.4**	
CMAR	**Chiang Mai Arr**	**153.29**	**356**	PKP		**PKPdf**	**09 28 44.0**	**+0.3**	
	comp=Z,1.6nm,0.3s,baz=314,slow=2.7,SNR=23								
CMAR				PKPbc		**PKPbc**	**09 28 50.7**	**-0.4**	
	comp=Z,5.4nm,0.9s,baz=322,slow=2.9,SNR=18								
CMAR				PKPab		**PKPab**	**09 29 02.2**	**-0.4**	
	comp=Z,7.6nm,0.6s,baz=344,slow=5.1,SNR=11								

*CSEM **23** 09:15:48.9±2.4,32.°90N×8.°70E,h10km,MD4.0,Error ellipse: s-maj=57.2km s-min=15.7km az=3.0*
*TUN **23** 09:15:55.5,32.°87N×10.°43E,h10km,MD4.0*
*ISCJB **23** 09:16:01.8±0.7,34.°01N±0.°06×8.°36E±0.°06,h10km, mb3.5/7,MS3.5/1,Error ellipse: s-maj=9.3km s-min=6.6km az=18.6*
*IDC **23** 09:16:01.0±1.1,34.°18N×8.°13E,h0km,mb3.5/8,mb1 3.7/8, mb1mx3.6/30,mbtmp3.6/8,MS3.3/2,Ms1 3.3/2, ms1mx2.6/35,Error ellipse: s-maj=36.0km s-min=13.6km az=118.0*
*MDD **23** 09:16:05.5±7.2,34.°30N×8.°52E,h0km,mb4.4/4,Error ellipse: s-maj=75.9km s-min=33.9km az=142.0*
*CRAAG **23** 09:16:20.9,35.°18N×7.°48E,Ml3.8*
ISC 23 09:16:03.1±0.9,34.°20N±0.°07×8.°52E±0.°05,h10km,n53, σ1°35/48,mb3.5/7,Tunisia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OAR	**Oum El Arais**	**0.34**	**343**	*i* P			Pn	09 16 19.0	+4.8
BERT	**Berda**	**0.41**	**84**	*i* P			**Pn**	**09 16 14.7**	**-0.4**
MEDT	**Meda**	**1.17**	**94**	*i* P			Pb	09 16 14.0	-11
SGNT	**Sidi Gnaou**	**1.25**	**115**	*i* P			Pn	09 16 12.0	-15
THTN	**Thala**	**1.37**	**6**	*i* P			**Pg**	**09 16 30.3**	**+0.9**
MART	**Mareth**	**1.57**	**113**	*i* P			Pn	09 16 14.5	-17
TROT	**Trozza**	**1.62**	**33**	*i* P			**Pg**	**09 16 35.8**	**+1.5**
KEST	**Kesra**	**1.67**	**24**	Pg			**Pg**	**09 16 34.3**	**-1.0**
	2.5nm,0.3s,baz=148,slow=9.2,SNR=50								
KEST				Lg			Lg	09 17 01.1	
	10nm,0.3s,baz=276,slow=20,SNR=12								
KEST				LR			LR	09 17 23.0	
	comp=Z,38nm,20.6s,baz=320,slow=44								
BTHT	**Jabal bu Thady**	**1.73**	**57**	*i* P			**Pg**	**09 16 36.0**	**-0.3**
KRIT	**Krib**	**2.18**	**12**	*i* P			**Pb**	**09 16 42.7**	**0.0**
ABSA	**Djebel Ababsia**	**2.24**	**338**	P			**Pb**	**09 16 42.4**	**-1.3**
ABSA	**Djebel Ababsia**	**2.24**	**338**	P			**Pb**	**09 16 42.4**	**-1.3**
CABS	**Djebel Ababsia**	**2.24**	**338**	P			**Pb**	**09 16 42.4**	**-1.3**
CABS	**Djebel Ababsia**	**2.24**	**338**	P			**Pb**	**09 16 42.4**	**-1.3**
GHAT	**Ghardimaou**	**2.30**	**356**	*i* P			**Pb**	**09 16 43.5**	**-1.2**
ZGN	**Zaghouan**	**2.52**	**30**	*i* P			**Pb**	**09 16 47.8**	**-0.7**
CTEI	**Djebel Teioual**	**2.54**	**318**	P			**Pn**	**09 16 45.6**	**+1.1**
CTEI	**Djebel Teioual**	**2.54**	**318**	P			**Pn**	**09 16 45.6**	**+1.1**
CTEI	**Djebel Teioual**	**2.54**	**318**	P			**Pn**	**09 16 45.6**	**+1.1**
CMAH	**Djebel Manchou**	**2.58**	**340**	P			**Pn**	**09 16 45.4**	**+0.4**
CMAH	**Djebel Manchou**	**2.58**	**340**	P			**Pn**	**09 16 45.4**	**+0.4**
CMAH	**Djebel Manchou**	**2.58**	**340**	P			**Pn**	**09 16 45.4**	**+0.4**
CASM	**Ain Smara**	**2.64**	**322**	P			**Pn**	**09 16 46.6**	**+0.8**
CASM	**Ain Smara**	**2.64**	**322**	P			**Pn**	**09 16 46.6**	**+0.8**
CASM	**Ain Smara**	**2.64**	**322**	P			**Pn**	**09 16 46.6**	**+0.8**
CKFL	**Kef-Lekhel**	**2.64**	**327**	P			**Pn**	**09 16 46.9**	**+1.0**
CKFL	**Kef-Lekhel**	**2.64**	**327**	P			**Pn**	**09 16 46.9**	**+1.0**
CKFL	**Kef-Lekhel**	**2.64**	**327**	P			**Pn**	**09 16 46.9**	**+1.0**
TAMR	**Tamra**	**2.88**	**9**	*i* P			**Pn**	**09 16 48.4**	**-0.7**
KCHT	**Kechabta**	**3.13**	**21**	*i* P			**Pg**	**09 17 04.5**	**+1.5**
DFRA	**Djebel Bou Aff**	**3.18**	**318**	P			**Pn**	**09 16 54.6**	**+1.3**
DFRA	**Djebel Bou Aff**	**3.18**	**318**	P			**Pn**	**09 16 54.6**	**+1.3**
DFRA	**Djebel Bou Aff**	**3.18**	**318**	P			**Pn**	**09 16 54.6**	**+1.3**
SET	**Setif**	**3.24**	**309**	P			**Pn**	**09 16 55.0**	**+0.9**
SET	**Setif**	**3.24**	**309**	P			**Pn**	**09 16 55.0**	**+0.9**
SET	**Setif**	**3.24**	**309**	P			**Pn**	**09 16 55.0**	**+0.9**
OKGL	**Djebel Kef Gue**	**6.71**	**288**	P			Pn	09 17 44.4	+2.7
	35nm,0.4s,SNR=7.9								
OKGL	**Djebel Kef Gue**	**6.71**	**288**	P			Pn	09 17 44.4	+2.7
	35nm,0.4s,SNR=7.9								
ETOS	**Mallorca**	**7.19**	**322**	P			**Pn**	**09 17 49.8**	**+1.5**
	1.0nm,0.3s,SNR=7.9								
ETOS				S			**Sn**	**09 19 11.8**	**+1.8**
	1.1nm,0.3s,SNR=7.9								
ETOS	**Mallorca**	**7.19**	**322**	P			**Pn**	**09 17 49.8**	**+1.5**
	1.0nm,0.3s,SNR=7.9								
ETOS				S			**Sn**	**09 19 11.8**	**+1.8**
	1.1nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**7.51**	**312**	P			**Pn**	**09 17 55.3**	**+2.6**
	2.4nm,0.3s,SNR=7.9								
EIBI				S			**Sn**	**09 19 14.8**	**-3.1**
	2.6nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**7.51**	**312**	P			**Pn**	**09 17 55.3**	**+2.6**
	2.4nm,0.3s,SNR=7.9								
EIBI				S			**Sn**	**09 19 14.8**	**-3.1**
	2.6nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**9.24**	**302**	P			**Pn**	**09 18 15.4**	**-1.1**
	2.2nm,0.4s,SNR=7.9								
DAVOX	**Davos/Dischmat**	**12.61**	**4**	LR			LR	09 24 20.4	
	comp=Z,70nm,18.9s,baz=246,slow=40								
BRTR	**Keskin Array B**	**20.79**	**67**	P			Pn	09 20 47.2	+0.2
	1.6nm,0.9s,baz=285,slow=9.8,SNR=3.8								
TORD	**Torodi Ar. Bea**	**21.86**	**198**	P			**P**	**09 20 55.0**	**-1.0**
	1.9nm,0.8s,baz=21,slow=7.9,SNR=10								
AKASG	**Malin Array Be**	**22.36**	**36**	P			**P**	**09 21 01.1**	**0.0**
	0.2nm,0.3s,baz=237,slow=10,SNR=4.2								
BBTS	**Babate**	**29.84**	**235**	LR			LR	09 35 11.2	
	comp=Z,116nm,21.4s,baz=120,slow=39								
ARCES	**ARCESS Array B**	**36.63**	**10**	P			**P**	**09 23 08.5**	**-0.8**
	3.3nm,1.0s,baz=193,slow=7.4,SNR=4.4								
KURBB	**Kurchatov Arra**	**52.28**	**49**	P			**P**	**09 25 15.4**	**+0.9**
	0.5nm,0.8s,baz=282,slow=8.6,SNR=5.4								
MKAR	**Makanchi Array**	**55.55**	**53**	P			**P**	**09 25 40.3**	**+1.7**
	0.2nm,0.5s,baz=266,slow=7.1,SNR=3.8								
BOSA	**Boshof**	**64.45**	**164**	P			**P**	**09 26 39.8**	**0.0**
	1.4nm,0.9s,baz=2.4,slow=6.9,SNR=2.5								
YKA	**Yellowknife Ar**	**73.42**	**336**	P			**P**	**09 27 34.5**	**-0.7**
	0.2nm,0.6s,baz=47,slow=6.2,SNR=7.9								

*LDG **23** 09:23:02.0±0.3,17.°72S×63.°92W,h10km,Mb5.2/15, Ms4.3/9,Error ellipse: s-maj=29.4km s-min=11.6km az=131.0*
*IDC **23** 09:23:02.2±0.4,17.°57S×63.°90W,h0km,mb5.0/21, mb1 5.0/25,mb1mx4.9/33,mbtmp4.9/25,ML4.5/3,MS4.3/8, Ms1 4.3/8,ms1mx4.0/26,Error ellipse: s-maj=13.3km s-min=12.7km az=15.0*
*NEIC **23** 09:23:04.0±0.1,17.°54S×63.°89W,h10km,mb5.3/144, Error ellipse: s-maj=4.8km s-min=3.7km az=220.0*
NEIC Felt [III] at Santa Cruz. Also felt at Montero and Yapacani.
*BJI **23** 09:23:03.0,17.°19S×63.°24W,h10km,mB5.3/17,Ms5.5/18, Ms7 5.2/18*
*ISCJB **23** 09:23:06.3±0.2,17.°42S±0.°04×63.°95W±0.°03,h33km, mb5.2/181,MS4.7/13,Error ellipse: s-maj=5.8km s-min=4.1km az=17.1*
*MOS **23** 09:23:08.3±1.0,16.°97S×63.°87W,h33km,mb5.4/53,Error ellipse: s-maj=9.3km s-min=6.6km az=125.9*
ISC 23 09:23:04.8±0.9,17.°54S±0.°05×63.°80W±0.°05,h16km±5km, n881,σ0°89/899,mb5.3/181,MS4.5/14,206C-237D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**3.03**	**60**	Pn			**Pn**	**09 23 53.7**	**+1.4**
SIV				Lg			Lg	09 24 41.3	
SIV	**San Ignacio**	**3.03**	**60**	Pn			**Pn**	**09 23 53.7**	**+1.4**
	63nm,0.3s,baz=271,slow=10.0,SNR=513								
SIV				Lg			Lg	09 24 41.3	
	362nm,0.3s,baz=163,slow=23,SNR=6.8								
SIV				LR			LR	09 25 14.8	
	comp=Z,6μm,18.4s,baz=238,slow=42								
LPAZ	**La Paz**	**4.33**	**286**	*e*Pn			**Pn**	**09 24 11.5**	**+0.8**
LPAZ				Sn			**Sn**	**09 25 02.2**	**+1.0**
LPAZ				*e*Sn			**Sn**	**09 25 03.4**	**+2.3**
LPAZ				Lg			Lg	09 25 18.8	
LPAZ	**La Paz**	**4.33**	**286**	Pn			**Pn**	**09 24 11.6**	**+1.0**
	30nm,0.3s,baz=88,slow=10.0,SNR=348								
LPAZ				Sn			**Sn**	**09 25 02.2**	**+1.0**
	93nm,0.3s,baz=211,slow=22,SNR=3.8								
LPAZ				Lg			Lg	09 25 18.8	
	150nm,0.3s,baz=244,slow=21,SNR=7.9								
LVC	**Limon Verde**	**6.97**	**223**	*e*Pn			**Pn**	**09 24 46.3**	**-0.3**
LVC				*e*Sn			**Sn**	**09 26 09.2**	**+3.5**
ARE	**Arequipa**	**7.44**	**277**	*e*P			Pn	09 24 57.0	+3.9
ARE	**Arequipa**	**7.44**	**277**	*e*P			Pn	09 24 57.0	+3.9
SAML	**Samuel**	**8.56**	**4**	*e*Pn			**Pn**	**09 25 08.2**	**0.0**
CPUP	**Villa Florida**	**10.61**	**147**	Pn			**Pn**	**09 25 36.8**	**+0.4**
CPUP				Lg			Lg	09 28 44.3	
CPUP	**Villa Florida**	**10.61**	**147**	Pn			**Pn**	**09 25 36.8**	**+0.4**
	1.8nm,0.3s,baz=303,slow=10,SNR=8.5								
CPUP				Lg			Lg	09 28 44.3	
	8.9nm,0.3s,baz=217,slow=15,SNR=4.4								
LCO	**Las Campanas**	**13.06**	**208**	*e*Pn			Pn	09 26 06.2	-3.8
NNA	**Nana**	**13.76**	**292**	*e*Pn			**Pn**	**09 26 19.7**	**+0.1**
CFAA	**Coronel Fontan**	**14.57**	**195**	Pn			Pn	09 26 25.5	-5.1
CFAA				Lg			Lg	09 30 36.6	
CFAA	**Coronel Fontan**	**14.57**	**195**	Pn			Pn	09 26 25.5	-5.1
	0.0nm,0.3s,baz=9.0,slow=11,SNR=17								
CFAA				Lg			Lg	09 30 36.6	
	0.0nm,0.3s,baz=36,slow=14,SNR=2.5								
BB16B	**Bebedouro**	**14.78**	**106**	*i*P			**Pn**	**09 26 30.5**	**-2.9**
BB16B				*i*				09 26 32.4	
BB16B				*i*				09 26 36.2	
BB16B				*i*				09 26 41.1	
BB16B				*i*				09 26 45.1	
BB16B				*i*				09 27 03.2	
BDFB	**Brasilia**	**15.25**	**85**	Pn			**Pn**	**09 26 40.8**	**+0.9**
BDFB				Lg			Lg	09 31 06.9	
BDFB	**Brasilia**	**15.25**	**85**	Pn			**Pn**	**09 26 40.8**	**+0.9**
	0.7nm,0.3s,baz=272,slow=16,SNR=10								
BDFB				Lg			Lg	09 31 06.9	
	3.9nm,0.3s,baz=209,slow=6.5,SNR=6.0								
PTGA	**Pitinga**	**17.12**	**13**	Pn			**Pn**	**09 27 01.5**	**-2.2**
	6.4nm,1.3s								
PTGA				Lg			Lg	09 32 04.8	
PTGA	**Pitinga**	**17.12**	**13**	Pn			**Pn**	**09 27 01.5**	**-2.2**
	1.9nm,0.3s,baz=190,slow=15,SNR=18								
PTGA				Lg			Lg	09 32 04.8	
	3.4nm,0.3s,baz=108,slow=18,SNR=8.8								
ATAH	**Atahualpa**	**17.59**	**304**	Pn			**Pn**	**09 27 09.8**	**-0.2**
ATAH				Lg			Lg	09 32 23.3	
ATAH	**Atahualpa**	**17.59**	**304**	Pn			**Pn**	**09 27 09.8**	**-0.2**
	0.1nm,0.3s,baz=133,slow=10.0,SNR=20								
ATAH				Lg			Lg	09 32 23.3	
	0.1nm,0.3s,baz=72,slow=20,SNR=2.5								
TRQA	**Tornquist**	**20.51**	**176**	*e*Pn			**P**	**09 27 42.7**	**+0.3**
	39nm,1.0s								
OTAV	**Otavalo**	**22.80**	**319**	*e*P			**P**	**09 28 09.2**	**+1.5**
	59nm,1.2s								
PLCA	**Paso Flores**	**23.84**	**193**	*e*P			**P**	**09 28 16.2**	**-1.2**
	73nm,1.4s								
PLCA				*e*PcP			**PcP**	**09 31 59.7**	**-0.8**
PLCA				PcP			PcP	09 32 01.2	+0.7
PLCA	**Paso Flores**	**23.84**	**193**	P			**P**	**09 28 15.0**	**-2.5**
	17nm,0.9s,baz=21,slow=12,SNR=29								
PLCA				PcP			**PcP**	**09 32 01.2**	**+0.7**
	11nm,1.2s,baz=3.5,slow=5.1,SNR=4.0								
ROSC	**El Rosal**	**24.56**	**334**	P			**P**	**09 28 26.6**	**+1.9**
	13nm,1.3s								
ROSC	**El Rosal**	**24.56**	**334**	P			**P**	**09 28 26.6**	**+1.9**
	35nm,0.9s,baz=181,slow=2.5,SNR=17								
SDV	**Santo Domingo**	**27.11**	**345**	*e*P			**P**	**09 28 47.8**	**+0.3**
	34nm,0.9s								
RCBR	**Riachuelo**	**29.64**	**70**	P			**P**	**09 29 10.9**	**+0.9**
RCBR	**Riachuelo**	**29.64**	**70**	P			**P**	**09 29 10.9**	**+0.9**
	20nm,1.1s,baz=243,slow=11,SNR=4.3								
RCBR				LR			LR	09 41 25.0	
	comp=Z,939nm,18.5s,baz=290,slow=37								
JTS	**JuntasAbangare**	**34.66**	**321**	P			**P**	**09 29 55.9**	**+2.0**
	195nm,1.2s,SNR=10								
JTS	**JuntasAbangare**	**34.66**	**321**	*e*P			**P**	**09 29 55.2**	**+1.3**
	7.8nm,1.2s								
CELP	**Cerrillos**	**35.49**	**355**	*e*P			**P**	**09 30 01.1**	**+0.1**
LRS	**Lares**	**35.73**	**355**	*e*P			**P**	**09 30 02.2**	**-0.9**
TGUH	**Tegucigalpa,Un**	**39.01**	**322**	*e*P			**P**	**09 30 30.6**	**-0.4**
	17nm,1.0s								
GRTK	**Grand Turk**	**39.47**	**349**	*e*P			**P**	**09 30 34.7**	**0.0**
	40nm,0.7s								
APG	**El Apazote**	**41.68**	**319**	LR			LR	09 48 53.6	
	comp=Z,508nm,18.6s,baz=136,slow=37								
TEIG	**Tepich**	**44.56**	**326**	*e*P			**P**	**09 31 14.7**	**-1.6**
	38nm,1.2s								
TEIG	**Tepich**	**44.56**	**326**	LR			LR	09 50 52.1	
	comp=Z,234nm,18.4s,baz=152,slow=38								
PMSA	**Palmer Station**	**47.20**	**180**	LR			LR	09 52 01.2	
	comp=Z,431nm,19.8s,baz=324,slow=37								
NHSC	**New Hope**	**52.73**	**343**	*e*P			P	09 32 23.1	+4.1
	1μm,2.8s								
GOGA	**Godfrey**	**54.03**	**340**	*e*P			**P**	**09 32 27.8**	**-0.8**
GOGA					pmax		pmax		
	comp=Z,33nm,1.1s								
GOGA	**Godfrey**	**54.03**	**340**	*e*P			**P**	**09 32 27.8**	**-0.8**
	comp=Z,33nm,1.1s								
JSC	**Jenkinsville**	**54.15**	**342**	*e*P			**P**	**09 32 29.2**	**-0.1**
JSC	**Jenkinsville**	**54.15**	**342**	*e*P			**P**	**09 32 29.2**	**-0.1**
LRAL	**Lakeview Retre**	**54.96**	**336**	*e*P			**P**	**09 32 33.2**	**-2.1**
	comp=Z,27nm,1.2s								
KMSC	**Kings Mountain**	**54.97**	**342**	*e*P			**P**	**09 32 35.0**	**-0.4**
KMSC	**Kings Mountain**	**54.97**	**342**	⇓P			**P**	**09 32 35.0**	**-0.4**
	baz=55,SNR=7.8								
035A	**Encino**	**55.34**	**322**	⇑P			**P**	**09 32 38.7**	**+0.5**
	baz=56								
034A	**Hebbronville**	**55.78**	**322**	⇓P			**P**	**09 32 41.5**	**+0.2**
	baz=56								
934A	**Benavides**	**56.09**	**322**	⇓P			**P**	**09 32 44.3**	**+0.8**
	baz=56								
TKL	**Tuckaleechee C**	**56.19**	**340**	*e*P			**P**	**09 32 42.9**	**-1.2**
CPCT	**Cooper Cave**	**56.24**	**340**	*e*P			**P**	**09 32 44.9**	**+0.4**
HKT	**Hockley**	**56.41**	**326**	*e*P			**P**	**09 32 43.7**	**-2.0**
HKT					pmax		pmax		
	comp=Z,12nm,1.2s								
HKT	**Hockley**	**56.41**	**326**	*e*P			**P**	**09 32 45.5**	**-0.2**
	comp=Z,34nm,1.3s								
834A	**Tilden**	**56.50**	**323**	⇓P			**P**	**09 32 46.5**	**0.0**
	baz=57								
SWET	**Sewanee**	**56.51**	**338**	*e*P			**P**	**09 32 45.0**	**-1.4**
	comp=Z,30nm,1.1s								
933A	**Laredo**	**56.54**	**322**	⇓P			**P**	**09 32 46.5**	**-0.3**
	baz=57,SNR=10								
BBTS	**Babate**	**56.54**	**58**	P			**P**	**09 32 47.7**	**+0.7**
BBTS	**Babate**	**56.54**	**58**	P			**P**	**09 32 47.7**	**+0.7**
	comp=Z,23nm,0.7s,baz=136,slow=2.8,SNR=4.2								
735A	**Kenedy**	**56.63**	**324**	⇓P			**P**	**09 32 47.5**	**+0.1**
	baz=57								
BLA	**Blacksburg**	**56.66**	**344**	*e*P			**P**	**09 32 47.5**	**0.0**
BLA					pmax		pmax		
	comp=Z,49nm,1.1s								
BLA	**Blacksburg**	**56.66**	**344**	*e*P			**P**	**09 32 47.5**	**0.0**
	comp=Z,49nm,1.1s								
TZTN	**Tazewell**	**56.93**	**341**	*e*P			**P**	**09 32 48.6**	**-0.8**
	comp=Z,32nm,1.1s								
734A	**La Parita Cree**	**57.05**	**323**	⇓P			**P**	**09 32 49.6**	**-0.7**
	baz=57,SNR=5.9								
833A	**Chaparral WMA,**	**57.14**	**322**	⇑P			**P**	**09 32 50.5**	**-0.5**
	baz=57,SNR=20								
536A	**Bastrop**	**57.17**	**326**	⇓P			**P**	**09 32 51.3**	**+0.1**
	baz=57								
NATX	**Nacogdoches**	**57.26**	**329**	*e*P			**P**	**09 32 52.3**	**+0.5**
	comp=Z,108nm,1.4s								
733A	**Divot King Ran**	**57.38**	**323**	⇓P			**P**	**09 32 51.9**	**-0.8**
	baz=58,SNR=13								
535A	**Dale**	**57.41**	**325**	⇑P			**P**	**09 32 52.2**	**-0.7**
	baz=58,SNR=6.4								
832A	**Faith Ranch, C**	**57.45**	**322**	⇑P			**P**	**09 32 52.7**	**-0.5**
	baz=58,SNR=14								
732A	**Laxson Ranch,**	**57.77**	**322**	⇓P			**P**	**09 32 54.0**	**-1.5**
	baz=58,SNR=7.0								
633A	**Saathoff Ranch**	**57.86**	**323**	⇓P			**P**	**09 32 55.1**	**-1.0**
	baz=58,SNR=10.0								
534A	**Blanco**	**57.90**	**324**	⇑P			**P**	**09 32 54.9**	**-1.5**
	baz=58,SNR=5.4								
WVT	**Waverly**	**58.02**	**337**	*e*P			**P**	**09 32 54.3**	**-2.7**
WVT					*e*			09 33 47.1	
WVT					pmax		pmax		
	comp=Z,43nm,1.1s								
WVT	**Waver

231A **Bronte** 60.38 324 ⇑P P 09 33 12.6 -1.0
baz=61,SNR=11
TXAR **Lajitas Array** 60.43 320 P P 09 33 12.5 -1.5
TXAR **Lajitas Array** 60.43 320 P P 09 33 12.5 -1.5
comp=Z,1.3nm,0.6s,baz=151,slow=7.9,SNR=18
TXAR LR LR 10 00 21.7
comp=Z,126nm,18.3s,baz=0.0,slow=37
330A **Mertzon** 60.46 323 ⇑P P 09 33 12.9 -1.3
baz=61,SNR=8.7
528A **Cox Ranch, San** 60.49 321 ⇑P P 09 33 13.5 -0.9
baz=61,SNR=9.3
BINY **Binghamton** 60.49 350 eP P 09 33 14.3 +0.2
comp=Z,97nm,1.1s
ABTX **Abilene, Hawle** 60.53 325 eP P 09 33 13.6 -1.0
ABTX **Abilene, Hawle** 60.53 325 ⇓P P 09 33 13.9 -0.6
baz=61,SNR=9.1
Z33A **Whitaker Ranch** 60.57 327 ⇓P P 09 33 15.0 +0.2
baz=61,SNR=57
Y34A **Reagan Ranch,** 60.58 328 ⇑P P 09 33 14.3 -0.5
baz=61,SNR=22
230A **Sterling City** 60.78 324 ⇓P P 09 33 15.6 -0.8
baz=61,SNR=6.8
428A **Kincaid Ranch,** 60.84 322 ⇓P P 09 33 16.7 -0.1
baz=61,SNR=20
626A **Big Bend Ranch** 60.87 320 ⇑P P 09 33 16.6 -0.4
baz=61,SNR=24
Z32A **Haskell** 60.96 326 ⇓P P 09 33 17.4 -0.1
baz=61,SNR=18
131A **Roby** 60.97 325 ⇓P P 09 33 17.2 -0.4
baz=61,SNR=35
527A **Woodward Ranch** 60.97 321 ⇓P P 09 33 17.1 -0.7
baz=61,SNR=13
329A **Wagon Wheel Ra** 60.98 323 ⇑P P 09 33 16.7 -1.1
baz=61,SNR=18
Y33A **Hilltop Ranch,** 61.06 327 ⇓P P 09 33 18.1 0.0
baz=61,SNR=22
X34A **Smith Ranch, M** 61.12 328 ⇓P P 09 33 18.3 -0.3
baz=61,SNR=18
TUL1 **Tulsa** 61.18 331 eP P 09 33 17.8 -1.0
TUL1 **Tulsa** 61.18 331 ⇑P P 09 33 18.2 -0.7
baz=61,SNR=9.8
526A **Mary Lane Ranc** 61.20 320 ⇑P P 09 33 18.4 -1.0
baz=61,SNR=24
130A **Snyder** 61.23 324 ⇓P P 09 33 18.9 -0.5
baz=61,SNR=14
229A **Bryant Ranch,** 61.24 323 ⇓P P 09 33 19.2 -0.3
baz=61
Z31A **Sharp Cattle R** 61.33 326 ⇓P P 09 33 19.6 -0.4
baz=62,SNR=35
427A **Hayter Ranch,** 61.35 321 ⇑P P 09 33 19.6 -0.6
baz=62,SNR=9.9
MMNY **Mt. Morris Dam** 61.36 348 eP P 09 33 20.0 +0.1
comp=Z,76nm,0.7s
328A **Wristen Ranch,** 61.39 322 ⇑P P 09 33 19.6 -0.8
baz=62,SNR=21
X33A **Lawton** 61.41 328 ⇓P P 09 33 19.7 -0.8
baz=62,SNR=30
Y32A **R-V Farms, Ver** 61.48 327 ⇑P P 09 33 20.9 -0.1
baz=62,SNR=14
SFIN **Scholer Farm** 61.56 340 eP P 09 33 19.4 -1.9
W34A **Bridge Creek,** 61.59 329 ⇑P P 09 33 21.6 -0.1
baz=62
426A **McDonald Obser** 61.60 321 ⇓P P 09 33 20.5 -1.6
baz=62,SNR=12
WMOK **Wichita Mounta** 61.71 328 eP P 09 33 21.4 -1.1
WMOK pmax pmax
comp=Z,17nm,0.9s
WMOK **Wichita Mounta** 61.71 328 eP P 09 33 21.4 -1.1
comp=Z,17nm,0.9s
X32A **Elmer** 61.72 327 ⇓P P 09 33 22.5 -0.1
baz=62,SNR=7.4
129A **Stewart Farms,** 61.76 324 ⇑P P 09 33 22.2 -0.8
baz=62,SNR=42
228A **UT Block 9, Go** 61.80 323 ⇑P P 09 33 22.5 -0.8
baz=62,SNR=9.7
Z30A **Sanderson Ranc** 61.84 325 ⇑P P 09 33 22.7 -0.8
baz=62,SNR=32
W33A **Caddo, Fort Co** 61.88 328 ⇓P P 09 33 23.6 0.0
baz=62,SNR=28
Y31A **Rekieta Farm,** 61.88 326 ⇓P P 09 33 23.4 -0.3
baz=62,SNR=32
V34A **Guthrie** 61.95 329 ⇓P P 09 33 23.6 -0.5
baz=62,SNR=34
326A **Caldwell Ranch** 62.03 321 ⇑P P 09 33 24.0 -0.8
baz=62,SNR=6.1
128A **Castleberry Fa** 62.11 323 ⇓P P 09 33 24.2 -1.1
baz=62,SNR=11
227A **Bennet, Jal** 62.13 322 ⇑P P 09 33 25.1 -0.4
baz=62
Z29A **Hungry Hill Ra** 62.14 324 ⇑P P 09 33 24.4 -1.1
baz=62,SNR=16
Y30A **Stafford Cattl** 62.16 325 ⇑P P 09 33 25.0 -0.6
baz=62,SNR=6.0
X31A **McDonald Ranch** 62.25 327 ⇓P P 09 33 25.6 -0.5
baz=62,SNR=31
W32A **Sentinel** 62.25 328 ⇓P P 09 33 25.7 -0.4
baz=62,SNR=81
425A **Indio Mountain** 62.26 320 ⇓P P 09 33 25.4 -1.1
baz=62,SNR=18
V33A **Lossen Ranch,** 62.31 329 ⇓P P 09 33 26.1 -0.5
baz=62,SNR=19
U34A **Anderson Ranch** 62.44 330 ⇓P P 09 33 26.9 -0.4
baz=63,SNR=12
VNA1 **Neumayer--Stat** 62.46 162 P P 09 33 27.7 +0.7
Z28A **Tucker Farm, M** 62.54 324 ⇓P P 09 33 27.3 -0.9
baz=63,SNR=20
Y29A **Porterfield Fa** 62.57 325 ⇓P P 09 33 27.2 -1.2
baz=63,SNR=15
X30A **Coker Ranch, T** 62.58 326 ⇑P P 09 33 27.7 -0.7
baz=63,SNR=54
V32A **Arapaho** 62.61 328 ⇓P P 09 33 28.5 -0.1
baz=63,SNR=33
LONY **Lake Ozonia** 62.63 351 eP P 09 33 28.7 +0.2
comp=Z,31nm,1.0s
PTN **Potsdam (NY)** 62.64 351 eP P 09 33 29.3 +0.8
PTN pmax pmax
comp=Z,127nm,1.4s
PTN **Potsdam (NY)** 62.64 351 eP P 09 33 29.3 +0.8
comp=Z,127nm,1.4s
LIC **Lamto** 62.64 73 eP P 09 33 29.9 +0.7
comp=Z,54nm,1.3s,baz=251
LIC eR
comp=Z,399nm,20.2s
LIC **Lamto** 62.64 73 eP P 09 33 29.4 +0.2
comp=Z,56nm,1.3s
LIC **Lamto** 62.64 73 eP P 09 33 29.9 +0.7
comp=Z,54nm,1.3s
127A **Arkansas Junct** 62.65 323 ⇓P P 09 33 27.8 -1.1
baz=63,SNR=11
W31A **Holland Ranch,** 62.66 327 ⇓P P 09 33 28.0 -0.9
baz=63,SNR=8.9
226B **Tecolote Peak,** 62.69 322 ⇑P P 09 33 28.6 -0.6
baz=63,SNR=18
U33A **Lingo Farm, Me** 62.71 329 ⇓P P 09 33 28.4 -0.8
baz=63,SNR=12
TIC **Toumodi** 62.82 73 eP P 09 33 30.8 +0.4
VNA2 **Neumayer--Watz** 62.85 162 P P 09 33 29.8 +0.2
GDL2 **Guadalupe Moun** 62.89 322 eP P 09 33 30.3 -0.3
Y28A **McKinney Farm,** 62.93 324 ⇑P P 09 33 29.7 -1.1
baz=63,SNR=10
KIC **Kosan Boka** 62.96 73 eP P 09 33 31.7 +0.4
comp=Z,58nm,1.2s
DBIC **Dimbokro** 62.98 73 eP P 09 33 32.5 +1.1
comp=Z,32nm,1.0s
DBIC **Dimbokro** 62.98 73 P P 09 33 32.4 +1.1
comp=Z,23nm,1.0s,baz=216,slow=6.3,SNR=16
W30A **Crocket Farms** 62.98 327 ⇓P P 09 33 31.0 -0.1
baz=63
126A **Clayton Basin,** 63.01 322 ⇓P P 09 33 30.9 -0.5
baz=63,SNR=18
X29A **Tulia** 63.03 325 ⇓P P 09 33 30.4 -1.0
baz=63,SNR=22
Z27A **Tatum** 63.03 323 ⇓P P 09 33 30.3 -1.2
baz=63,SNR=21
V31A **Spring Creek L** 63.06 328 ⇓P P 09 33 31.8 +0.2
baz=63,SNR=22
225A **Deer Hill, Car** 63.10 321 ⇑P P 09 33 31.7 -0.4
baz=63
U32A **Winter Ranch,** 63.11 329 ⇓P P 09 33 31.3 -0.5
baz=63,SNR=22
MNTX **Cornudas Mount** 63.15 321 eP P 09 33 30.2 -2.0
comp=Z,15nm,1.2s
MNTX ePcP PcP 09 34 09.2 -0.5
MSTX **Muleshoe** 63.26 324 eP P 09 33 31.7 -1.3
MSTX **Muleshoe** 63.26 324 ⇑P P 09 33 32.0 -1.0
baz=63,SNR=24
T33A **Patterson Ranc** 63.29 330 ⇓P P 09 33 33.1 +0.1
baz=64

AMTX **Amarillo** 63.35 326 eP P 09 33 32.4 -1.2
comp=Z,59nm,1.0s
AMTX **Amarillo** 63.35 326 ⇑P P 09 33 33.0 -0.6
baz=64
X28A **Dimmitt** 63.35 325 ⇑P P 09 33 32.6 -1.0
baz=64
125A **Gardner Draw,** 63.39 322 ⇓P P 09 33 32.7 -1.3
baz=64,SNR=11
Y27A **Causey** 63.42 324 ⇓P P 09 33 33.2 -0.9
baz=64,SNR=35
Z26A **Caprock** 63.44 323 ⇓P P 09 33 33.8 -0.5
baz=64
V30A **Spur Ranch, Mi** 63.49 327 ⇓P P 09 33 35.4 +0.9
baz=64,SNR=5.9
W29A **Amraillo** 63.51 326 ⇓P P 09 33 34.2 -0.4
baz=64,SNR=18
U31A **Nine Bar Ranch** 63.53 328 ⇑P P 09 33 34.5 -0.2
baz=64,SNR=6.8
S33A **Kaszmaul Farm,** 63.58 330 ⇑P P 09 33 34.7 -0.2
baz=64
T32A **Huddler Ranch,** 63.70 329 ⇓P P 09 33 35.9 +0.1
baz=64,SNR=13
Y26A **Elida** 63.82 323 ⇓P P 09 33 36.3 -0.5
baz=64,SNR=9.7
Z25A **Roswell** 63.87 322 ⇓P P 09 33 36.2 -0.9
baz=64,SNR=39
W28A **Vega** 63.91 326 ⇓P P 09 33 36.9 -0.3
baz=64
X27A **F and S Farms,** 63.94 324 ⇓P P 09 33 37.1 -0.5
baz=64,SNR=8.2
T31A **Randall Ranch,** 64.01 329 ⇑P P 09 33 37.8 0.0
baz=64,SNR=18
U30A **WK&E Inc. Balk** 64.06 328 ⇓P P 09 33 38.1 0.0
baz=64,SNR=12
S32A **Newby Ranch, P** 64.12 330 ⇓P P 09 33 38.6 +0.1
baz=64,SNR=13
R33A **Olander Ranch,** 64.15 331 ⇓P P 09 33 38.1 -0.5
baz=64,SNR=14
KSU1 **Kansas State U** 64.16 332 eP P 09 33 36.8 -1.9
comp=Z,84nm,1.3s
KSU1 **Kansas State U** 64.16 332 ⇓P P 09 33 37.5 -1.2
baz=64,SNR=10
W27A **Bowe Ranch, En** 64.23 325 ⇑P P 09 33 38.9 -0.5
baz=64,SNR=17
X26A **CR and CF Fran** 64.27 324 ⇓P P 09 33 38.8 -0.9
baz=64,SNR=24
Z24A **Sheeppen Canyo** 64.29 322 ⇓P P 09 33 38.7 -1.2
baz=64,SNR=38
V28A **Channing** 64.29 326 ⇓P P 09 33 39.8 0.0
baz=64,SNR=9.4
U29A **Oasis Ranch, S** 64.32 327 ⇑P P 09 33 39.6 -0.3
baz=64
Y25A **Mesa, Roswell** 64.32 323 ⇓P P 09 33 39.1 -0.9
baz=64,SNR=13
S31A **Mullinville** 64.32 329 ⇑P P 09 33 39.6 -0.3
baz=64,SNR=9.8
T30A **Plains** 64.40 328 ⇓P P 09 33 40.5 +0.1
baz=65
SNAA **Sanae** 64.49 162 P P 09 33 40.5 -0.1
SNAA **Sanae** 64.49 162 eP P 09 33 40.0 -0.5
comp=Z,50nm,1.1s
SNAA **Sanae** 64.49 162 P P 09 33 39.9 -0.7
comp=Z,11nm,0.9s,baz=300,slow=5.7,SNR=27
R32A **Long Quarter,** 64.58 330 ⇑P P 09 33 41.1 -0.4
baz=65,SNR=27
V27A **Dan Oppiter Fa** 64.62 325 ⇓P P 09 33 41.5 -0.4
baz=65,SNR=12
Q33A **Connelly Farm,** 64.63 331 ⇓P P 09 33 41.6 -0.2
baz=65,SNR=9.0
W26A **Owens Ranch, T** 64.64 324 ⇓P P 09 33 41.8 -0.3
baz=65,SNR=7.0
X25A **Clemmons Ranch** 64.74 323 ⇑P P 09 33 42.4 -0.4
baz=65,SNR=7.2
Y24A **Capitan** 64.75 322 ⇓P P 09 33 42.6 -0.3
baz=65,SNR=13
U28A **Mallet** 64.76 326 ⇑P P 09 33 42.6 -0.2
baz=65,SNR=6.3
S30A **Montezuma** 64.82 328 ⇓P P 09 33 43.2 0.0
baz=65,SNR=20
R31A **Burdett** 64.87 329 ⇑P P 09 33 43.0 -0.4
baz=65,SNR=13
T29A **Hugoton** 64.87 328 ⇓P P 09 33 43.4 -0.1
baz=65,SNR=9.2
JFWS **Jewell Farm** 64.89 339 eP P 09 33 42.0 -1.4
JFWS pmax pmax
comp=Z,28nm,0.9s
JFWS **Jewell Farm** 64.89 339 eP P 09 33 42.0 -1.4
comp=Z,28nm,0.9s
Q32A **Meitler Ranch,** 64.96 331 ⇑P P 09 33 43.5 -0.5
baz=65,SNR=34
U27A **Thompson Grove** 65.11 326 ⇓P P 09 33 45.3 +0.2
baz=65,SNR=13
Y23A **Lovelace Mesa,** 65.12 322 ⇓P P 09 33 44.4 -0.9
baz=65,SNR=9.5
W25A **X Bar L Ranch,** 65.12 324 ⇑P P 09 33 44.7 -0.5
baz=65,SNR=31
S29A **Ulysses** 65.14 328 ⇑P P 09 33 45.3 +0.1
baz=65,SNR=16
V26A **Tequesquite Ra** 65.17 325 ⇑P P 09 33 45.2 -0.4
baz=65,SNR=36
Z22A **Elephant Butte** 65.19 321 ⇑P P 09 33 45.7 -0.1
baz=65,SNR=22
121A **Cookes Peak, D** 65.19 320 eP P 09 33 45.4 -0.4
comp=Z,22nm,1.1s
121A **Cookes Peak, D** 65.19 320 ⇓P P 09 33 45.7 -0.1
baz=65,SNR=11
X24A **Lazy VL Ranch,** 65.21 323 ⇓P P 09 33 45.6 -0.3
baz=65,SNR=6.0
R30A **Dighton** 65.23 329 ⇓P P 09 33 45.5 -0.3
baz=65,SNR=30
T28A **Walsh** 65.27 327 ⇑P P 09 33 45.7 -0.4
baz=66,SNR=8.8
319A **Douglas** 65.35 318 ⇓P P 09 33 46.1 -0.7
baz=66,SNR=7.6
Q31A **Ellis** 65.37 330 ⇓P P 09 33 46.3 -0.3
baz=66,SNR=8.2
P32A **Huiting Farm,** 65.49 331 ⇑P P 09 33 46.9 -0.5
baz=66,SNR=20
S28A **Manter** 65.51 327 ⇑P P 09 33 47.5 -0.2
baz=66,SNR=17
T27A **Campo** 65.54 326 ⇓P P 09 33 47.5 -0.4
baz=66,SNR=35
U26A **Atchley Ranch,** 65.59 325 ⇑P P 09 33 48.1 -0.2
baz=66,SNR=28
BNM **Barren Site** 65.61 322 eP P 09 33 47.7 -0.9
comp=Z,29nm,1.4s
BNM ePcP PcP 09 34 20.8 +0.7
W24A **Lazy 6 Ranch,** 65.65 323 ⇓P P 09 33 48.2 -0.6
baz=66,SNR=23
X23A **Hourglass Bar** 65.65 322 ⇑P P 09 33 48.5 -0.3
baz=66,SNR=12
V25A **Rancho No Teng** 65.66 324 ⇓P P 09 33 48.3 -0.5
baz=66,SNR=35
LPM **Los Pinos Moun** 65.72 322 eP P 09 33 48.6 -0.6
Y22D **IRIS PASSCAL I** 65.73 322 ⇑P P 09 33 49.3 0.0
baz=66
Q30A **Quinter** 65.74 329 ⇑P P 09 33 49.5 +0.4
baz=66,SNR=11
R29A **Marienthal** 65.77 329 ⇓P P 09 33 49.3 0.0
baz=66,SNR=32
P31A **Stockton** 65.77 330 ⇓P P 09 33 48.8 -0.4
baz=66,SNR=31
LENM **Lemitar** 65.82 322 eP P 09 33 49.8 -0.1
O32A **Brockman Farm,** 65.85 332 ⇓P P 09 33 49.0 -0.7
baz=66,SNR=23
V24A **Rampart Ranch,** 65.95 324 ⇑P P 09 33 50.6 -0.1
baz=66,SNR=18
U25A **Circle Dot Ran** 65.95 325 ⇑P P 09 33 50.2 -0.5
baz=66,SNR=25
R28A **Tribune** 66.04 328 ⇓P P 09 33 50.5 -0.6
baz=66,SNR=18
W23A **Werner Place,** 66.04 323 ⇓P P 09 33 51.3 0.0
baz=66,SNR=12
Q29A **Oakley** 66.05 329 ⇑P P 09 33 50.9 -0.1
baz=66,SNR=58
ANMO **Albuquerque** 66.07 322 eP P 09 33 48.0 -3.5
comp=Z,58nm,1.8s
T26A **Comanche Natio** 66.09 326 ⇑P P 09 33 51.4 -0.1
baz=66,SNR=49
LAZ **Ladron** 66.09 322 eP P 09 33 51.3 -0.3
comp=Z,22nm,1.1s
LAZ ePP PP 09 36 11.5 -5.9
P30A **Selden** 66.20 330 ⇑P P 09 33 52.1 +0.1
baz=66,SNR=9.5
O31A **Woolen Ranch,** 66.25 331 ⇑P P 09 33 51.7 -0.6
baz=66,SNR=14
N32A **Stulken Farm,** 66.27 332 ⇓P P 09 33 52.6 +0.3
baz=66

S26A **Kim** 66.35 326 ⇓P P 09 33 53.1 -0.1
baz=66,SNR=34
U24A **Moreno Valley** 66.44 324 ⇓P P 09 33 54.2 +0.2
baz=67,SNR=5.2
V23A **Ortiz Mt. (NFS** 66.48 323 ⇓P P 09 33 54.1 0.0
baz=67,SNR=23
T25A **Trinidad** 66.50 325 ⇑P P 09 33 54.3 +0.1
baz=67,SNR=14
R27A **Eads** 66.50 327 ⇑P P 09 33 54.3 +0.2
baz=67,SNR=13
P29A **Atwood** 66.58 329 ⇓P P 09 33 54.7 +0.2
baz=67,SNR=38
Q28A **Sharon Springs** 66.60 328 ⇓P P 09 33 54.9 +0.2
baz=67,SNR=19
O30A **MW Ranch, Wils** 66.61 330 ⇓P P 09 33 54.4 -0.2
baz=67,SNR=18
N31A **Bailey Ranch,** 66.61 332 ⇑P P 09 33 53.8 -0.8
baz=67
BGNE **Belgrade** 66.72 332 eP P 09 33 53.8 -1.5
BGNE **Belgrade** 66.72 332 ⇑P P 09 33 54.5 -0.8
baz=67,SNR=23
R26A **Arlington** 66.85 327 ⇑P P 09 33 56.2 -0.1
baz=67,SNR=21
S25A **Robets Cordova** 66.89 326 ⇑P P 09 33 56.8 +0.2
baz=67,SNR=22
U23A **El Rito** 66.90 324 ⇑P P 09 33 56.9 +0.1
baz=67,SNR=14
O29A **4D Ranch, Culb** 66.92 330 ⇓P P 09 33 56.8 +0.2
baz=67,SNR=12
TUC **Tucson** 66.93 318 eP P 09 33 56.3 -0.6
TUC pmax pmax
comp=Z,20nm,1.0s
TUC **Tucson** 66.93 318 eP P 09 33 56.2 -0.6
comp=Z,20nm,1.0s
P28A **Saint Francis** 66.96 329 ⇑P P 09 33 57.4 +0.5
baz=67,SNR=10
KSCO **Kaye Stadlick'** 66.96 328 ⇓P P 09 33 57.2 +0.2
baz=67,SNR=24
T24B **San Luis** 66.97 325 ⇑P P 09 33 57.3 0.0
baz=67,SNR=26
V22A **San Miguel Ran** 67.01 323 ⇑P P 09 33 57.6 +0.1
baz=67,SNR=41
M31A **Lambtecht Ranc** 67.04 332 ⇓P P 09 33 57.3 0.0
baz=67
N30A **Hueftle Ranch,** 67.11 331 ⇓P P 09 33 57.8 -0.1
baz=67,SNR=5.2
R25A **Fountain Ranch** 67.17 326 ⇑P P 09 33 58.0 -0.3
baz=67,SNR=8.4
S24A **Houchin Ranch,** 67.30 325 ⇑P P 09 33 59.7 +0.3
baz=68,SNR=15
U22A **Llaves** 67.31 323 ⇓P P 09 33 59.6 +0.2
baz=68,SNR=9.3
T23A **Casias Ranch,** 67.32 324 ⇓P P 09 33 59.6 +0.1
baz=68,SNR=12
P27A **Ficken Ranch,** 67.35 328 ⇑P P 09 33 59.6 +0.1
baz=68,SNR=20
Q26A **Hugo** 67.35 327 ⇓P P 09 33 59.9 +0.4
baz=68,SNR=28
N29A **Votaw Ranch, W** 67.38 330 ⇑P P 09 33 59.3 -0.3
baz=68,SNR=11
O28A **Krutsinger Ran** 67.39 329 ⇓P P 09 33 59.6 -0.1
baz=68
SDCO **Great Sand Dun** 67.53 325 eP P 09 34 00.6 -0.2
comp=Z,42nm,1.0s
M30A **Dale-Ortello V** 67.60 331 ⇑P P 09 34 00.6 -0.3
baz=68,SNR=10
L31A **Butterfield Fa** 67.64 333 ⇓P P 09 34 00.5 -0.6
baz=68,SNR=31
R24A **Sanders Place,** 67.67 326 ⇑P P 09 34 01.5 -0.2
baz=68,SNR=26
N28A **Pribbeno Ranch** 67.71 330 ⇓P P 09 34 01.7 0.0
baz=68,SNR=9.6
Q25A **Bedland, Calha** 67.72 327 ⇑P P 09 34 01.9 -0.1
baz=68,SNR=11
P26A **Davis Ranch, A** 67.74 328 ⇓P P 09 34 01.8 -0.1
baz=68,SNR=11
S23A **Nye Farm, Mont** 67.78 325 ⇓P P 09 34 01.5 -0.9
baz=68
O27A **Beecher Island** 67.79 329 ⇑P P 09 34 02.3 +0.1
baz=68,SNR=28
SPMN **St. Paul** 67.80 338 eP P 09 34 00.4 -1.6
SPMN **St. Paul** 67.80 338 ⇑P P 09 34 00.8 -1.1
baz=68
L30A **Spencer Herefo** 67.86 332 ⇑P P 09 34 02.1 -0.4
baz=68,SNR=6.9
X18A **Snowflake** 67.87 320 ⇑P P 09 34 02.7 -0.2
baz=68,SNR=13
M29A **Burnside Ranch** 67.90 331 ⇓P P 09 34 02.4 -0.4
baz=68,SNR=9.5
ECSD **EROS Data Cent** 67.98 335 eP P 09 34 01.7 -1.5
comp=Z,31nm,1.3s
ECSD **EROS Data Cent** 67.98 335 ⇑P P 09 34 02.7 -0.4
baz=68,SNR=6.9
214A **Organ Pipe Nat** 68.02 316 eP P 09 34 04.0 +0.2
comp=Z,55nm,1.2s
214A **Organ Pipe Nat** 68.02 316 ⇑P P 09 34 03.9 +0.2
baz=68,SNR=8.1
R23A **Moffat** 68.03 325 ⇓P P 09 34 04.3 +0.3
baz=68,SNR=12
P25A **Willow Gulch B** 68.13 327 ⇑P P 09 34 04.9 +0.5
baz=68,SNR=18
W18A **Petrified Fore** 68.13 321 eP P 09 34 04.5 -0.1
W18A **Petrified Fore** 68.13 321 ⇑P P 09 34 04.3 -0.3
baz=68,SNR=8.4
M28A **Bar X Bar Ranc** 68.18 330 ⇓P P 09 34 04.8 +0.2
baz=68,SNR=5.2
Q24A **Divide** 68.23 326 ⇑P P 09 34 04.9 -0.4
baz=68,SNR=16
O26A **Horse Wrangler** 68.24 328 ⇓P P 09 34 05.2 +0.2
baz=68
S22A **4UR Ranch, Cre** 68.26 324 ⇓P P 09 34 05.5 +0.1
baz=68,SNR=15
N27A **Anderson Farm,** 68.28 329 ⇑P P 09 34 05.5 +0.2
baz=68
L29A **Maesberg Ranch** 68.29 331 ⇓P P 09 34 05.2 -0.1
baz=68
K30A **Basset** 68.39 332 ⇓P P 09 34 05.6 -0.2
baz=69,SNR=11
P24A **Kohler Place,** 68.51 327 ⇑P P 09 34 07.3 +0.5
baz=69,SNR=24
O25A **Wiggins** 68.55 328 ⇑P P 09 34 07.5 +0.5
baz=69
Q23A **Hartsel** 68.55 326 ⇓P P 09 34 07.6 +0.3
baz=69
N26A **Koester Ranch,** 68.64 329 ⇑P P 09 34 07.9 +0.4
baz=69,SNR=6.7
X16A **Lo Mia Camp, P** 68.72 319 ⇑P P 09 34 08.5 +0.2
baz=69,SNR=8.8
L28A **Connealy Angus** 68.73 331 ⇑P P 09 34 08.7 +0.7
baz=69
M27A **Reverse DX Ran** 68.77 330 ⇑P P 09 34 08.6 +0.3
baz=69
K29A **Lazy Trails An** 68.77 332 ⇓P P 09 34 07.9 -0.3
baz=69,SNR=15
MVCO **Mesa Verde** 68.83 323 eP P 09 34 08.8 -0.2
comp=Z,86nm,1.0s
MVCO **Mesa Verde** 68.83 323 ⇓P P 09 34 09.0 0.0
baz=69,SNR=54
J30A **Dallas** 68.85 333 ⇑P P 09 34 07.7 -1.0
baz=69,SNR=16
P23A **Jefferson** 68.90 326 ⇓P P 09 34 09.5 +0.1
baz=69,SNR=6.8
Z14A **Wintersburg** 69.00 317 ⇓P P 09 34 10.0 +0.2
baz=69
O24A **Longmont** 69.05 327 ⇓P P 09 34 10.6 +0.4
baz=69,SNR=12
ISCO **Idaho Springs** 69.09 327 eP P 09 34 10.3 -0.3
ISCO pmax pmax
comp=Z,31nm,1.2s
ISCO **Idaho Springs** 69.09 327 eP P 09 34 10.3 -0.3
comp=Z,31nm,1.2s
ISCO **Idaho Springs** 69.09 327 ⇑P P 09 34 10.7 +0.1
baz=69,SNR=20
113A **Mohawk Valley,** 69.16 316 ⇑P P 09 34 10.9 +0.1
baz=69
L27A **T5 Ranch, Ells** 69.16 330 ⇑P P 09 34 11.0 +0.3
baz=69
K28A **Ten Mile Ranch** 69.21 331 ⇓P P 09 34 11.0 0.0
baz=69,SNR=11
J29A **Okreek** 69.28 332 ⇑P P 09 34 10.7 -0.6
baz=70,SNR=9.1
SMCO **Snowmass** 69.36 325 eP P 09 34 12.5 +0.1
comp=Z,20nm,1.0s
WUAZ **Wupatki** 69.40 320 ⇓P P 09 34 12.7 +0.3
baz=70,SNR=28
Y14A **Wickenburg** 69.40 318 ⇓P P 09 34 12.4 0.0
baz=70,SNR=9.9
L26A **Underwood Farm** 69.49 330 ⇓P P 09 34 13.4 +0.6

baz=70
M25A Palm-Egli Farm 69.51 329 ⇓P P 09 34 13.0 0.0
baz=70,SNR=6.1
PV01 Paradox Valley 69.51 324 eP P 09 34 12.9 -0.2
comp=Z,4µm,1.0s
BRSD Miller 69.53 334 eP P 09 34 11.7 -1.1
BRSD Miller 69.53 334 ⇑P P 09 34 12.5 -0.3
baz=70,SNR=8.0
P22A Eagle 69.55 326 ⇑P P 09 34 13.4 0.0
baz=70,SNR=18
O23A Lake Granby, G 69.55 327 ⇓P P 09 34 13.3 -0.1
baz=70,SNR=11
K27A Flueckinger Fa 69.60 331 ⇓P P 09 34 13.5 +0.1
baz=70,SNR=11
J28A Allard Ranch, 69.70 332 ⇓P P 09 34 13.4 -0.6
baz=70,SNR=6.5
I29A Vivian Onida 69.76 333 ⇑P P 09 34 13.4 -0.9
baz=70,SNR=13
O22A Kremmling 69.84 326 ⇑P P 09 34 15.1 -0.1
baz=70,SNR=35
PV04 Paradox Valley 69.88 324 eP P 09 34 15.2 -0.1
M24A Cheyenne 69.92 328 ⇑P P 09 34 16.2 +0.7
baz=70,SNR=20
J27A Elkhorn Farm, 69.92 331 ⇓P P 09 34 15.4 0.0
baz=70,SNR=16
L25A Engebretsen Ra 70.01 329 ⇑P P 09 34 16.1 +0.1
baz=70
GLA Glamis 70.04 316 eP P 09 34 17.1 +0.9
GLA pmax pmax
comp=Z,56nm,1.5s
GLA Glamis 70.04 316 eP P 09 34 17.1 +0.9
comp=Z,56nm,1.5s
GLA Glamis 70.04 316 ⇑P P 09 34 16.4 +0.1
baz=70
K26A Motz Farm, Whi 70.04 330 ⇓P P 09 34 16.7 +0.5
baz=70,SNR=6.9
N23A Red Feather La 70.06 327 ⇑P P 09 34 17.1 +0.5
baz=70,SNR=18
PHWY Pilot Hill 70.11 328 eP P 09 34 16.7 -0.2
comp=Z,89nm,1.5s
I28A Midland 70.13 332 ⇑P P 09 34 16.2 -0.3
baz=70
G30A Faulkton 70.16 334 ⇑P P 09 34 16.6 -0.1
baz=70,SNR=11
H29A Onida 70.21 333 ⇓P P 09 34 16.2 -0.8
baz=70,SNR=19
N22A Wattenberg Ran 70.26 327 ⇑P P 09 34 17.8 0.0
baz=70,SNR=9.8
Y12C Blythe 70.27 317 ⇓P P 09 34 17.7 +0.2
baz=70,SNR=12
K25A Mack Ranch, Ha 70.31 330 ⇑P P 09 34 18.5 +0.6
baz=70
PDMCI Parker Dam,Lak 70.36 317 ⇑P P 09 34 18.5 +0.4
baz=70
M23A Laramie 70.37 328 ⇑P P 09 34 18.5 +0.2
baz=71,SNR=10
L24A Wheatland 70.40 329 ⇓P P 09 34 19.0 +0.6
baz=71
J26A Sides Ranch, S 70.46 331 ⇓P P 09 34 18.9 +0.2
baz=71,SNR=17
G29A Hoven 70.54 334 ⇑P P 09 34 19.1 +0.1
baz=71
I27A Quinn 70.58 332 ⇓P P 09 34 19.2 -0.1
baz=71,SNR=16
H28A Mission Ridge 70.60 333 ⇑P P 09 34 18.7 -0.7
baz=71,SNR=24
F30A Leola 70.68 335 ⇓P P 09 34 19.4 -0.6
baz=71,SNR=9.4
W13A Hualapai Mount 70.70 318 ⇓P P 09 34 20.7 +0.3
baz=71,SNR=14
O20A White River Ci 70.73 325 eP P 09 34 20.4 -0.2
O20A White River Ci 70.73 325 ⇓P P 09 34 21.0 +0.4
baz=71,SNR=18
M22A Cedar Creek Ra 70.77 327 ⇑P P 09 34 21.4 +0.6
baz=71,SNR=16
L23A Garrett 70.83 328 ⇓P P 09 34 21.4 +0.2
baz=71,SNR=9.1
K24A Anderson Ranch 70.85 329 ⇓P P 09 34 21.7 +0.5
baz=71
J25A Sunshine Ranch 70.86 330 ⇓P P 09 34 21.7 +0.5
baz=71,SNR=7.0
G28A Parade 70.87 333 ⇓P P 09 34 20.8 -0.3
baz=71
I26A New Underwood 70.92 331 ⇓P P 09 34 21.4 0.0
baz=71,SNR=8.3
IRM Iron Mountain 70.93 317 ⇓P P 09 34 22.1 +0.4
baz=71,SNR=12
NEE2 Needles Airpor 70.96 318 ⇑P P 09 34 22.1 +0.3
baz=71
MONP Monument Peak 71.00 315 ⇓P P 09 34 21.7 -0.7
baz=71
F29A Eureka 71.01 334 ⇓P P 09 34 21.2 -0.6
baz=71,SNR=7.8
H27A Howes 71.03 332 ⇓P P 09 34 21.4 -0.7
baz=71,SNR=11
L22A Ellis Ranch, M 71.14 328 ⇑P P 09 34 23.5 +0.5
baz=71
E30A Jud 71.18 335 ⇑P P 09 34 22.6 -0.3
baz=71,SNR=7.1
J24A Dixon Ranch, L 71.23 330 ⇑P P 09 34 24.2 +0.8
baz=71,SNR=12
N20A Spence Gulch, 71.24 326 ⇑P P 09 34 23.9 +0.2
baz=71,SNR=30
K23A Bowen Ranch, D 71.27 329 ⇑P P 09 34 24.4 +0.7
baz=72,SNR=9.0
SRU San Rafael 71.30 323 eP P 09 34 23.7 -0.3
SRU pmax pmax
comp=Z,30nm,1.0s
SRU San Rafael 71.30 323 eP P 09 34 23.7 -0.3
comp=Z,30nm,1.0s
I25A Rochford 71.31 331 ⇓P P 09 34 24.2 +0.3
baz=72
F28A McLaughlin 71.43 334 ⇑P P 09 34 24.2 -0.3
baz=72,SNR=12
LDFC Landfair 71.47 318 eP P 09 34 25.7 +0.7
comp=Z,46nm,1.1s
TORD Torodi Ar. Bea 71.47 69 P P 09 34 25.1 -0.2
TORD Torodi Ar. Bea 71.47 69 P P 09 34 25.1 -0.2
comp=Z,27nm,1.1s,baz=255,slow=5.1,SNR=74
AGMN Agassiz Nation 71.52 338 ⇓P P 09 34 23.9 -0.9
baz=72,SNR=9.6
E29A Napoleon 71.53 335 ⇑P P 09 34 24.3 -0.7
baz=72
RSSD Black Hills 71.53 331 eP P 09 34 25.0 -0.3
RSSD Black Hills 71.53 331 eP P 09 34 24.9 -0.3
comp=Z,4.9nm,1.1s
G27A Dupree 71.55 333 ⇑P P 09 34 24.5 -0.7
baz=72,SNR=6.7
I24A Kuemmerle Ranc 71.61 330 ⇓P P 09 34 25.5 -0.2
baz=72
D30A Buchanan 71.61 336 ⇓P P 09 34 25.0 -0.5
baz=72,SNR=22
K22A Casper 71.64 328 eP P 09 34 26.0 +0.1
K22A Casper 71.64 328 ⇓P P 09 34 26.3 +0.4
baz=72,SNR=23
H25A Fruitdale 71.71 331 ⇑P P 09 34 25.8 -0.4
baz=72,SNR=9.4
J23A Dilts Ranch, B 71.72 329 ⇑P P 09 34 26.6 +0.2
baz=72
G26A Maurine 71.78 332 ⇑P P 09 34 25.6 -1.0
baz=72
TMUT Trail Mountain 71.81 323 eP P 09 34 27.4 +0.1
comp=Z,36nm,1.5s
MVU Marysvale 71.87 322 eP P 09 34 27.9 +0.4
comp=Z,46nm,1.0s
D29A Pettibone, Tap 71.91 335 ⇓P P 09 34 27.0 -0.3
baz=72
CCUT Cedar City 71.93 320 eP P 09 34 28.9 +1.0
comp=Z,44nm,1.4s
E28A Huff 71.97 334 ⇑P P 09 34 27.5 -0.2
baz=72,SNR=10
F27A Lemmon 71.97 333 ⇑P P 09 34 27.4 -0.3
baz=72,SNR=17
C30A Mose, Pekin 71.99 336 ⇓P P 09 34 27.2 -0.6
baz=72,SNR=8.8
K21A Alcova 72.00 328 ⇑P P 09 34 28.5 +0.4
baz=72,SNR=84
G25A Newell 72.07 332 ⇑P P 09 34 28.0 -0.3
baz=72
HEC Hector,Ludlow 72.11 317 ⇓P P 09 34 28.7 -0.1
baz=72,SNR=9.3
SCHQ Schefferville 72.12 358 P P 09 34 28.2 -0.1
comp=Z,28nm,1.0s,baz=165,slow=4.7,SNR=11
ARUT Antelope Range 72.13 321 eP P 09 34 29.0 0.0
ARUT Antelope Range 72.13 321 eP P 09 34 29.0 0.0
comp=Z,818nm,1.3s
J22A Midwest 72.18 329 ⇑P P 09 34 29.1 0.0
baz=72,SNR=66

E27A Carson 72.22 334 ⇓P P 09 34 29.1 -0.1
baz=72
F26A Lodgepole 72.24 333 ⇑P P 09 34 29.1 -0.3
baz=72,SNR=16
H24A Dirks Ranch, A 72.25 331 ⇓P P 09 34 28.8 -0.6
baz=72,SNR=26
SHPR Sheep Range 72.39 319 eP P 09 34 30.8 +0.2
D28A Regan 72.41 335 ⇑P P 09 34 30.6 +0.4
baz=73
SCI San Clemente I 72.50 314 ⇓P P 09 34 31.0 -0.1
baz=73
H23A Clabaugh Cattl 72.51 330 ⇓P P 09 34 31.5 +0.4
baz=73
I22A 9 Mile Ranch, 72.53 329 ⇑P P 09 34 31.1 -0.1
baz=73,SNR=13
MPU Maple Canyon 72.54 323 eP P 09 34 31.3 -0.1
comp=Z,32nm,1.1s
B30A Myrvik Farm, E 72.55 337 ⇑P P 09 34 30.4 -0.6
baz=73,SNR=10.0
RRX Edison Barstow 72.58 316 ⇓P P 09 34 32.1 +0.5
baz=73
DAU Daniels Canyon 72.59 324 eP P 09 34 32.0 +0.1
DAU Daniels Canyon 72.59 324 eP P 09 34 32.0 +0.1
J21A Lysite 72.61 328 ⇓P P 09 34 31.8 0.0
baz=73,SNR=35
G24A Alzada 72.62 331 ⇓P P 09 34 31.4 -0.3
baz=73
E26A Carlson Angus 72.63 333 ⇓P P 09 34 31.2 -0.5
baz=73,SNR=8.3
BFSC Mount Baldy Ra 72.64 315 ⇑P P 09 34 32.2 +0.2
baz=73
QSPA South Pole Qui 72.64 180 P P 09 34 31.8 +0.2
QSPA South Pole Qui 72.64 180 P P 09 34 31.8 +0.2
comp=Z,17nm,1.0s,baz=159,slow=2.9,SNR=27
F25A Bowman 72.65 332 ⇑P P 09 34 31.6 -0.2
baz=73,SNR=8.8
GSC Goldstone 72.70 317 eP P 09 34 32.7 +0.3
GSC pmax pmax
comp=Z,26nm,1.2s
GSC Goldstone 72.70 317 eP P 09 34 32.7 +0.3
comp=Z,26nm,1.2s
GSC Goldstone 72.70 317 ⇓P P 09 34 32.7 +0.3
baz=73,SNR=6.9
SHOC Shoshone 72.72 318 ⇑P P 09 34 32.0 -0.5
baz=73
D27A Center 72.74 334 ⇑P P 09 34 32.3 +0.1
baz=73
NLU North Lily Min 72.75 323 eP P 09 34 33.1 +0.4
comp=Z,19nm,1.1s
C28A Hausauer Farms 72.75 335 ⇓P P 09 34 33.0 +0.7
baz=73
JLU Jordanelle 72.83 324 eP P 09 34 33.3 +0.1
comp=Z,45nm,1.0s
I21A Big Trails, Te 72.87 329 ⇑P P 09 34 32.9 -0.4
baz=73,SNR=54
J20A Shoshoni 72.94 328 ⇑P P 09 34 33.7 +0.1
baz=73,SNR=11
A30A Hoffart Farm, 72.94 337 ⇓P P 09 34 32.9 -0.5
baz=73,SNR=7.4
B29A Wagenman Farm, 72.95 336 ⇓P P 09 34 33.1 -0.4
baz=73,SNR=6.3
G23A Biddle 72.98 331 ⇓P P 09 34 33.8 0.0
baz=73,SNR=29
H22A Clearmont 72.98 330 ⇑P P 09 34 34.2 +0.3
baz=73
F24A Ekaka 73.03 332 ⇓P P 09 34 33.8 -0.3
baz=73,SNR=7.1
CTU Camp Tracy 73.06 324 eP P 09 34 35.2 +0.7
comp=Z,21nm,1.1s
D26A Manning 73.06 333 ⇓P P 09 34 34.2 +0.1
baz=73,SNR=7.7
E25A Miller Ranch, 73.07 333 ⇓P P 09 34 34.6 +0.3
baz=73
DECC Green Verdugo 73.09 315 ⇓P P 09 34 35.1 +0.5
baz=73
ULM Lac du Bonnet 73.18 339 P P 09 34 33.1 -1.6
ULM Lac du Bonnet 73.18 339 P P 09 34 33.1 -1.6
comp=Z,16nm,0.9s,baz=146,slow=5.7,SNR=21
C27A Sayler Ranch, 73.21 334 ⇓P P 09 34 35.4 +0.4
baz=73
EDW2 Edwards Air Fo 73.23 316 ⇓P P 09 34 35.5 0.0
baz=73
A29A Manning Farm, 73.28 336 ⇑P P 09 34 34.7 -0.7
baz=74,SNR=11
BW06 Boulder Array 73.29 327 eP P 09 34 35.1 -0.8
comp=Z,37nm,1.3s
PDAR Pinedale Array 73.29 327 P P 09 34 35.0 -0.9
PDAR Pinedale Array 73.29 327 P P 09 34 35.0 -0.9
comp=Z,10nm,0.5s,baz=125,slow=8.8,SNR=124
DUG Dugway 73.33 323 eP P 09 34 36.1 0.0
DUG pmax pmax
comp=Z,29nm,1.0s
DUG Dugway 73.33 323 eP P 09 34 36.1 0.0
comp=Z,29nm,1.0s
DUG Dugway 73.33 323 ⇓P P 09 34 36.5 +0.5
baz=74,SNR=33
B28A Dugan Ranch, T 73.33 336 ⇓P P 09 34 35.6 -0.1
baz=74,SNR=12
H21A Big Horn, Sher 73.34 329 ⇓P P 09 34 35.6 -0.5
baz=74,SNR=9.2
J19A Crowheart 73.37 327 ⇓P P 09 34 35.9 -0.4
baz=74,SNR=51
F23A Volborg 73.38 331 ⇑P P 09 34 35.6 -0.5
baz=74,SNR=41
LRMC Laurel Mountai 73.39 317 ⇑P P 09 34 36.7 +0.2
baz=74
I20A Worland 73.39 328 ⇑P P 09 34 36.0 -0.3
baz=74,SNR=27
G22A Birney 73.42 330 ⇑P P 09 34 36.0 -0.4
baz=74,SNR=7.6
FURC Furnace Creek, 73.44 318 ⇑P P 09 34 36.7 +0.2
baz=74,SNR=20
E24A Baker 73.51 332 ⇑P P 09 34 37.0 +0.1
baz=74,SNR=8.8
D25A Fairfield 73.53 333 ⇓P P 09 34 37.3 +0.3
baz=74,SNR=18
C26A Wahner Farm, P 73.54 334 ⇑P P 09 34 36.9 -0.1
baz=74,SNR=16
OSI Osito Adit 73.57 315 ⇓P P 09 34 37.2 -0.3
baz=74
HWUT Hardware Ranch 73.57 325 eP P 09 34 36.9 -0.6
comp=Z,30nm,1.2s
B27A Peters Farms, 73.66 335 ⇓P P 09 34 37.8 +0.2
baz=74
A28A Rude Farm, Bot 73.67 336 ⇓P P 09 34 37.8 +0.1
baz=74
H20A Greybull 73.71 329 ⇑P P 09 34 37.9 -0.3
baz=74,SNR=46
R11A Troy Canyon, C 73.80 320 eP P 09 34 39.3 +0.4
R11A Troy Canyon, C 73.80 320 ⇓P P 09 34 39.1 +0.2
baz=74,SNR=15
DAC Darwin (Calif) 73.80 317 eP P 09 34 39.4 +0.4
DAC pmax pmax
comp=Z,20nm,1.1s
DAC Darwin (Calif) 73.80 317 eP P 09 34 39.4 +0.4
comp=Z,20nm,1.1s
F22A Rosebud 73.82 331 ⇑P P 09 34 38.5 -0.2
baz=74,SNR=16
BSC Santa Cruz Isl 73.83 314 ⇑P P 09 34 38.6 -0.4
baz=74
G21A Lodge Grass 73.86 330 ⇓P P 09 34 38.8 -0.2
baz=74
SPUT South Promonto 73.86 324 eP P 09 34 39.1 -0.1
comp=Z,43nm,1.1s
I19A Meeteetse 73.89 328 ⇑P P 09 34 39.2 -0.1
baz=74,SNR=19
ARVC Arvin 73.94 316 ⇓P P 09 34 39.7 +0.1
baz=74
BGU Big Grassy Mou 73.94 323 eP P 09 34 39.3 -0.3
comp=Z,17nm,1.0s
C25A Freed Ranch, W 73.94 333 ⇓P P 09 34 39.5 +0.1
baz=74,SNR=11
D24A Glendive 73.94 332 ⇓P P 09 34 39.5 +0.1
baz=74,SNR=13
B26A Jensen Ranch, 74.03 334 ⇓P P 09 34 40.2 +0.3
baz=74,SNR=7.4
A27A Ledoux Ranch, 74.09 335 ⇑P P 09 34 40.7 +0.6
baz=74
GRAC Grapevine Rang 74.09 318 ⇓P P 09 34 40.7 +0.2
baz=74
AHID Auburn Hatcher 74.11 326 eP P 09 34 40.2 -0.4
comp=Z,43nm,1.0s
E22A Miles City 74.16 331 ⇑P P 09 34 40.8 +0.1
baz=74
F21A Absaloka Mine, 74.26 330 ⇓P P 09 34 41.3 0.0
baz=74
C24A Savage 74.31 333 ⇑P P 09 34 41.6 +0.1
baz=74,SNR=12

B25A Knox Farm, Ray 74.34 334 ⇓P P 09 34 42.4 +0.7
baz=75,SNR=6.8
H19A Powell 74.34 328 ⇑P P 09 34 41.8 0.0
baz=74,SNR=20
G20A Bridger 74.35 329 ⇑P P 09 34 41.6 -0.3
baz=74,SNR=18
HVU Hansel Valley 74.36 324 eP P 09 34 41.6 -0.5
HVU pmax pmax
comp=Z,28nm,1.0s
HVU Hansel Valley 74.36 324 eP P 09 34 41.6 -0.5
comp=Z,28nm,1.0s
A26A Wade Farm, Ken 74.36 335 ⇓P P 09 34 42.3 +0.5
baz=75
D23A Lindsay 74.38 332 ⇓P P 09 34 42.4 +0.5
baz=75,SNR=32
REDW Red Top Meadow 74.38 326 eP P 09 34 42.4 +0.1
comp=Z,39nm,1.1s
LOHW Long Hollow 74.42 327 eP P 09 34 42.4 -0.1
comp=Z,50nm,1.1s
LAO LASA Array 74.48 331 eP P 09 34 42.3 -0.2
comp=Z,64nm,1.6s
VES Vestal, Richgr 74.52 316 ⇓P P 09 34 43.5 +0.6
baz=75,SNR=7.3
MOOW Moose Ponds 74.59 327 eP P 09 34 43.2 -0.3
comp=Z,41nm,1.0s
I17A Pilgrim Ck. 74.62 327 ⇑P P 09 34 44.2 +0.6
baz=75,SNR=43
TPH Tonopah 74.64 319 eP P 09 34 43.9 0.0
TPH pmax pmax
comp=Z,19nm,1.1s
TPH Tonopah 74.64 319 eP P 09 34 43.9 0.0
comp=Z,19nm,1.1s
H18A Shoshone NF, C 74.68 328 ⇓P P 09 34 43.7 -0.3
baz=75,SNR=48
F20A Billings 74.73 330 ⇓P P 09 34 43.8 -0.3
baz=75,SNR=8.6
RLMT Red Lodge 74.80 328 eP P 09 34 44.0 -0.7
comp=Z,52nm,1.1s
FLWY Flagg Ranch 74.80 327 eP P 09 34 44.9 +0.2
comp=Z,88nm,1.2s
D22A Cohagen 74.80 332 ⇓P P 09 34 44.3 0.0
baz=75,SNR=17
A25A Svangstu Ranch 74.83 334 ⇓P P 09 34 45.3 +0.8
baz=75
C23A Lambert 74.85 332 ⇓P P 09 34 45.0 +0.3
baz=75
RCTC Rector, Farmer 74.89 316 ⇓P P 09 34 45.0 -0.1
baz=75
DGMT Dagmar 74.93 333 eP P 09 34 45.3 +0.2
comp=Z,68nm,1.3s
DGMT Dagmar 74.93 333 ⇑P P 09 34 45.5 +0.5
baz=75,SNR=11
H17A Grant Village 74.95 327 eP P 09 34 46.0 +0.5
H17A Grant Village 74.95 327 ⇑P P 09 34 45.7 +0.1
baz=75,SNR=8.8
ELK Elko 75.10 322 eP P 09 34 46.6 +0.1
comp=Z,13nm,1.1s
D21A La Casta Ranch 75.11 331 ⇑P P 09 34 46.5 +0.3
baz=75
C22A Vida 75.11 332 ⇓P P 09 34 46.2 +0.1
baz=75,SNR=18
F19A Roth Farm, Mol 75.16 329 ⇓P P 09 34 46.5 0.0
baz=75,SNR=26
A24A Westby 75.19 334 ⇓P P 09 34 47.2 +0.6
baz=75,SNR=12
E20A Meyer Farm, Mu 75.23 330 ⇓P P 09 34 47.1 +0.2
baz=75
B23A Brockton 75.26 333 ⇑P P 09 34 47.4 +0.4
baz=76,SNR=16
YMR Madison River 75.34 327 eP P 09 34 48.5 +0.7
comp=Z,68nm,1.1s
PTEO Sao Teotonio 75.38 42 eP P 09 34 49.9 +2.1
comp=Z,170nm,1.5s
MLAC Mammoth Lakes 75.40 318 ⇓P P 09 34 48.2 -0.1
baz=76
E19A Rath Farm, Rou 75.52 330 ⇓P P 09 34 48.4 -0.2
baz=76,SNR=29
NVAR Mina Array Bea 75.54 319 P P 09 34 49.0 0.0
NVAR Mina Array Bea 75.54 319 P P 09 34 49.0 0.0
comp=Z,10nm,1.0s,baz=140,slow=5.7,SNR=35
B22A Reddig Ranch S 75.58 332 ⇓P P 09 34 49.3 +0.5
baz=76
D20A Manuel Ranch, 75.66 330 ⇑P P 09 34 49.2 -0.2
baz=76,SNR=15
PNCL Nicolau / Gran 75.84 42 eP P 09 34 51.9 +1.4
comp=Z,87nm,1.5s
C20A Veseth Ranch, 76.05 331 ⇓P P 09 34 51.2 -0.4
baz=76,SNR=8.6
D19A Cripps Ranch, 76.07 330 ⇑P P 09 34 51.5 -0.2
baz=76,SNR=20
BMN Battle Mountai 76.08 321 eP P 09 34 52.0 0.0
BMN pmax pmax
comp=Z,16nm,1.3s
BMN Battle Mountai 76.08 321 eP P 09 34 52.0 0.0
comp=Z,16nm,1.3s
B21A Ellsworth Farm 76.13 332 ⇑P P 09 34 52.0 +0.1
baz=76,SNR=18
WAKR Walker 76.30 318 eP P 09 34 54.5 +1.1
EVOP Sao Brissos 76.34 42 eP P 09 34 54.8 +1.5
EVOP pmax pmax
comp=Z,59nm,1.1s
EVOP Sao Brissos 76.34 42 eP P 09 34 54.8 +1.5
comp=Z,59nm,1.1s
BOZ Bozeman (W) 76.36 328 eP P 09 34 52.9 -0.6
BOZ pmax pmax
comp=Z,21nm,1.1s
BOZ Bozeman (W) 76.36 328 eP P 09 34 52.9 -0.6
comp=Z,22nm,1.1s
EVO Evora 76.41 42 eP P 09 34 54.8 +1.1
comp=Z,59nm,1.1s
EVO eR
comp=Z,562nm,21.5s
MCMT McKenzie Canyo 76.43 326 eP P 09 34 54.2 +0.1
comp=Z,19nm,1.0s
HLID Hailey 76.44 325 eP P 09 34 54.4 +0.4
comp=Z,34nm,0.9s
HLID Hailey 76.44 325 ⇑P P 09 34 54.5 +0.4
baz=77,SNR=58
TSUM Tsumeb 76.53 106 eP P 09 34 55.7 +0.7
comp=Z,45nm,1.0s
C19A Slack Wire Ran 76.56 330 ⇓P P 09 34 54.2 -0.3
baz=75,SNR=17
B20A Solberg Farm, 76.59 331 ⇑P P 09 34 54.0 -0.6
baz=77,SNR=12
PMTG Montargil 76.59 41 eP P 09 34 56.4 +1.7
comp=Z,44nm,1.8s
DLMT Dillon 76.66 327 eP P 09 34 54.9 -0.3
comp=Z,18nm,1.1s
PTOM Tomar 76.80 41 eP P 09 34 58.5 +2.6
comp=Z,89nm,1.2s
A20A Cobblestone Ra 76.87 332 ⇓P P 09 34 56.0 -0.1
baz=77,SNR=18
PESTR Estremoz 76.88 42 eP P 09 34 57.4 +1.0
comp=Z,70nm,1.9s
LRM Limekiln Ridge 76.90 327 eP P 09 34 56.7 +0.1
PCAS Casmilo, Conde 77.00 40 eP P 09 34 59.0 +2.0
B19A Brinkman Farms 77.03 331 ⇓P P 09 34 56.6 -0.5
baz=77,SNR=24
EGMT Eagleton 77.10 330 eP P 09 34 57.0 -0.5
comp=Z,47nm,1.1s
EGMT Eagleton 77.10 330 ⇑P P 09 34 57.0 -0.5
baz=77,SNR=16
MFID Camas Ranch 77.13 324 eP P 09 34 58.3 +0.4
comp=Z,78nm,1.2s
HRY Holter Researc 77.19 328 eP P 09 34 58.4 +0.2
A19A Klindworth Far 77.28 331 ⇑P P 09 34 58.2 -0.3
baz=78,SNR=18
PMRV Marv??o 77.33 41 eP P 09 34 59.2 +0.3
comp=Z,42nm,1.6s
PCBR Castelo Branco 77.51 41 eP P 09 35 01.7 +1.8
comp=Z,53nm,1.5s
MTE Manteigas 77.80 41 eP P 09 35 03.9 +2.3
comp=Z,62nm,1.4s
MTE Manteigas 77.80 41 eP P 09 35 01.8 +0.3
comp=Z,43nm,1.1s
CHMT Chamberlain Mo 78.04 328 eP P 09 35 03.1 +0.1
OHCM Honcut 78.08 318 eP P 09 35 03.7 +0.7
WVOR Wild Horse Val 78.14 322 eP P 09 35 03.6 0.0
WVOR pmax pmax
comp=Z,33nm,1.6s
WVOR Wild Horse Val 78.14 322 eP P 09 35 03.6 0.0
comp=Z,33nm,1.6s
PVRL Vila Real 78.20 40 eP P 09 35 05.7 +1.9
comp=Z,54nm,1.4s
POLO Lamas de Olo 78.21 40 eP P 09 35 05.9 +2.0
comp=Z,23nm,1.8s
PCAB Cabril 78.27 39 eP P 09 35 05.4 +1.3
comp=Z,76nm,1.3s

MSO	Missoula	78.34	327	*e*P		P	09 35 04.7	+0.2
	comp=Z,16nm,1.1s								
MSO	Missoula	78.34	327	⇓P		P	09 35 04.7	+0.2
	baz=78,SNR=7.7								
SLMT	Seeley Lake	78.39	328	*e*P		P	09 35 04.7	-0.1
SYO	Syowa Base	78.48	159	⇓*i*P		P	09 35 03.4	-1.4
MVO	Moncorvo	78.56	40	*e*P		P	09 35 06.9	+1.1
	comp=Z,40nm,1.2s								
J08A	Circle Bar Ran	78.61	323	*e*P		P	09 35 06.2	+0.2
	comp=Z,32nm,1.0s								
TAM	Tamanrasset	78.72	62	*e*P		P	09 35 08.3	+1.1
TAM				pmax	pmax				
	comp=Z,21nm,1.4s								
TAM	Tamanrasset	78.72	62	*e*P		P	09 35 08.3	+1.1
	comp=Z,21nm,1.4s								
SWMT	Swartz Lake	78.82	328	*e*P		P	09 35 07.0	-0.1
MOD	Modoc	78.82	321	*e*P		P	09 35 07.6	+0.2
	comp=Z,7.7nm,1.1s								
BMO	Blue Mountains	78.86	324	*e*P		P	09 35 07.2	-0.2
	comp=Z,48nm,1.0s								
FFC	Flin Flon	78.98	339	*e*P		P	09 35 07.1	-0.6
FFC	Flin Flon	78.98	339	*e*P		P	09 35 07.1	-0.6
YBMT	Yellow Bay	79.06	328	*e*P		P	09 35 09.2	+0.7
PBRG	Braganca	79.11	40	*e*P		P	09 35 10.0	+1.3
	comp=Z,24nm,1.4s								
JTMT	Jette	79.12	328	*e*P		P	09 35 08.8	0.0
PAB	San Pablo	79.34	43	*e*P		P	09 35 11.6	+1.5
PAB				pmax	pmax				
	comp=Z,6.0nm,1.2s								
PAB	San Pablo	79.34	43	*e*P		P	09 35 11.6	+1.5
	comp=Z,6.1nm,1.2s								
BLMT	Blacktail Moun	79.34	328	*e*P		P	09 35 10.1	0.0
BSMT	Bassoo Peak	79.45	328	*e*P		P	09 35 10.3	-0.3
WDC	Whiskeytown Da	79.45	319	*e*P		P	09 35 09.1	-1.5
WDC				pmax	pmax				
	comp=Z,8.0nm,0.8s								
WDC	Whiskeytown Da	79.45	319	*e*P		P	09 35 09.1	-1.5
	comp=Z,8.1nm,0.8s								
F10A	Beach Ranch, E	79.52	325	*e*P		P	09 35 11.2	+0.2
	comp=Z,37nm,1.4s								
I07A	Izee	79.64	323	*e*P		P	09 35 12.2	+0.5
	comp=Z,32nm,1.1s								
ESDC	Sonseca Array	79.66	43	P		P	09 35 12.7	+0.9
ESDC	Sonseca Array	79.66	43	P		P	09 35 12.7	+0.9
	comp=Z,18nm,1.0s,baz=241,slow=5.6,SNR=33								
ESDC				LR		LR	10 09 53.3		
	comp=Z,76nm,18.2s,baz=275,slow=35								
ESLA	Sonseca Array	79.66	43	*e*P		P	09 35 12.8	+1.0
	comp=Z,11nm,1.1s								
M04C	Macdoel	79.69	320	⇑P		P	09 35 12.5	+0.5
	baz=80								
N02D	Trinity Center	79.78	319	⇑P		P	09 35 12.2	-0.3
	baz=80								
WALA	Waterton Lakes	79.81	329	*e*P		P	09 35 11.8	-0.7
	comp=Z,0.5nm,1.1s								
FCC	Fort Churchill	79.99	345	*e*P		P	09 35 12.4	-0.6
FCC	Fort Churchill	79.99	345	*e*P		P	09 35 12.4	-0.6
	comp=Z,0.6nm,1.0s								
G08A	Pilot Rock	80.06	324	*e*P		P	09 35 14.2	+0.2
	comp=Z,17nm,1.0s								
M02C	Callahan	80.10	319	⇓P		P	09 35 14.5	+0.3
	baz=80								
J05D	Fort Rock, OR	80.19	321	⇑P		P	09 35 15.2	+0.5
	baz=80								
YBH	Yreka Blue Hor	80.20	319	*e*P		P	09 35 14.8	0.0
	comp=Z,256nm,3.0s								
PINOR	Pine Mountain	80.28	322	*e*P		P	09 35 16.1	+1.1
	comp=Z,32nm,1.0s								
E09A	Wood Farm, Sta	80.36	325	*e*P		P	09 35 15.3	0.0
	comp=Z,41nm,1.1s								
J04D	Umpqua Nationa	80.69	321	⇓P		P	09 35 17.9	+0.4
	baz=81								
HUMO	Hull Mountain	80.84	320	*e*P		P	09 35 18.4	+0.3
	comp=Z,15nm,1.0s								
I05D	Terrebonne, OR	80.86	322	⇓P		P	09 35 18.7	+0.5
	baz=81								
NEW	Newport	80.91	327	*e*P		P	09 35 18.9	+0.6
	comp=Z,17nm,1.4s								
NEW	Newport	80.91	327	⇓P		P	09 35 19.3	+0.9
	baz=81								
G06A	Carlson Farm,	80.97	323	*e*P		P	09 35 19.8	+1.0
	comp=Z,25nm,1.1s								
L02D	Cave Junction,	80.99	319	⇓P		P	09 35 19.4	+0.5
	baz=81								
BOSA	Boshof	81.00	117	*e*P		P	09 35 19.2	-0.3
	comp=Z,26nm,1.2s								
BOSA	Boshof	81.00	117	P		P	09 35 17.9	-1.6
	comp=Z,17nm,1.1s,baz=253,slow=4.2,SNR=14								
BOSA				LR		LR	10 07 29.4		
	comp=Z,276nm,19.7s,baz=264,slow=33								
HAWA	Hanford	81.04	325	*e*P		P	09 35 19.1	0.0
	comp=Z,26nm,1.1s								
D08A	Wollman Farm,	81.11	325	*e*P		P	09 35 19.3	-0.1
	comp=Z,30nm,0.9s								
I04A	Tendick Farm,	81.18	321	⇓P		P	09 35 20.2	+0.3
	baz=81								
C09A	Chrisman Ranch	81.22	326	*e*P		P	09 35 19.9	-0.1
	comp=Z,42nm,1.0s								
E07A	Sunnyside	81.32	325	*e*P		P	09 35 20.7	+0.1
	comp=Z,23nm,1.0s								
G05D	Wamic, OR	81.37	323	⇑P		P	09 35 22.0	+1.1
	baz=82								
TRW	Toppenish Ridg	81.55	324	P		P	09 35 22.5	+0.7
H04A	Detroit Lake	81.55	322	*e*P		P	09 35 21.6	-0.2
	comp=Z,18nm,0.9s								
I03D	Drain, OR	81.69	321	⇑P		P	09 35 23.2	+0.7
	baz=82								
KEBM	Edson Butte	81.84	320	*e*P		P	09 35 25.6	+2.2
NAC	Naches	81.96	324	P		P	09 35 24.5	+0.5
WTV	Waterville	82.06	325	P		P	09 35 24.2	-0.3
TBM	Table Mountain	82.09	325	P		P	09 35 24.9	+0.2
B08A	Colville Reser	82.13	326	*e*P		P	09 35 23.8	-1.0
	comp=Z,19nm,1.4s								
LTY	Liberty	82.19	325	*e*P		P	09 35 24.8	-0.4
	comp=Z,42nm,1.2s								
ETW	Entiat	82.21	325	P		P	09 35 25.2	-0.2
LBTB	Lobatse	82.24	114	*e*P		P	09 35 26.3	+0.2
	comp=Z,19nm,1.0s								
EDM	Edmonton	82.36	333	*e*P		P	09 35 24.6	-1.3
EDM	Edmonton	82.36	333	*e*P		P	09 35 24.6	-1.3
F04A	Amboy	82.40	323	*e*P		P	09 35 26.3	+0.1
	comp=Z,40nm,1.0s								
LVP	Lakeview Peak	82.47	323	P		P	09 35 27.0	+0.3
G03D	McMinnville, O	82.48	322	⇑P		P	09 35 27.5	+0.9
	baz=83								
LON	Longmire	82.52	324	*e*P		P	09 35 26.4	-0.5
LON				pmax	pmax				
	comp=Z,11nm,0.9s								
LON	Longmire	82.52	324	*e*P		P	09 35 26.4	-0.5
	comp=Z,11nm,0.9s								
D05A	Enumclaw	82.88	324	*e*P		P	09 35 28.6	-0.1
	comp=Z,58nm,1.2s								
SJPF	Ste Jean	83.23	41	⇑*i*P		P	09 35 32.3	+1.7
	comp=Z,100nm,1.2s								
SJPF	Ste Jean	83.23	41	⇑*i*P		P	09 35 32.3	+1.7
SJPF				pmax	pmax				
	comp=Z,100nm,1.2s								
SJPF	Ste Jean	83.23	41	⇑*i*P		P	09 35 32.3	+1.7
	comp=Z,100nm,1.2s								
RPW	Rockport	83.35	325	P		P	09 35 29.9	-1.3
B06A	Marblemount	83.37	326	*e*P		P	09 35 30.1	-1.1
	comp=Z,44nm,1.1s								
E03A	Lebam	83.40	323	*e*P		P	09 35 32.6	+1.3
	comp=Z,77nm,1.1s								
ETSF	Etsaut	83.54	41	⇑*i*P		P	09 35 33.9	+1.6
	comp=Z,69nm,1.2s								
ETSF	Etsaut	83.54	41	⇑*i*P		P	09 35 33.9	+1.6
ETSF				pmax	pmax				
	comp=Z,69nm,1.2s								
ETSF	Etsaut	83.54	41	⇑*i*P		P	09 35 33.9	+1.6
	comp=Z,69nm,1.2s								
CMW	Cultus Mountai	83.66	325	P		P	09 35 31.8	-1.1
REYF	Montagne du Re	83.73	41	*e*P		P	09 35 33.9	+0.6
VIEF	Viey	83.90	42	*e*P		P	09 35 35.7	+1.5
A05A	Maple Falls	83.97	326	*e*P		P	09 35 33.7	-0.6
	comp=Z,30nm,1.1s								
NLWA	Neilton Lookou	84.05	324	*e*P		P	09 35 35.8	+1.1
	comp=Z,28nm,1.0s								
EPF	Esparros	84.17	42	⇑*i*P		P	09 35 36.8	+1.3
	comp=Z,30nm,1.0s								
EPF	Esparros	84.17	42	⇑*i*P		P	09 35 36.8	+1.3
EPF				pmax	pmax				
	comp=Z,30nm,1.0s								
EPF	Esparros	84.17	42	⇑*i*P		P	09 35 36.8	+1.3
	comp=Z,30nm,1.0s								
MELF	Melles	84.36	42	*e*P		P	09 35 38.3	+1.8
PGC	Sidney	84.52	325	*e*P		P	09 35 37.1	+0.1
	comp=Z,2.6nm,1.1s								
MLS	Moulis	84.61	42	*e*P		P	09 35 39.0	+1.3
ROSF	Rostrenen	84.83	36	*e*P		P	09 35 38.9	+0.3
	comp=Z,64nm,1.2s								
ROSF	Rostrenen	84.83	36	*e*P		P	09 35 38.9	+0.3
ROSF				pmax	pmax				
	comp=Z,65nm,1.2s								
ROSF	Rostrenen	84.83	36	*e*P		P	09 35 38.9	+0.3
	comp=Z,64nm,1.2s								
LFF	La Frestale	85.38	40	*e*P		P	09 35 42.3	+0.8
	comp=Z,104nm,1.2s								
LFF	La Frestale	85.38	40	*e*P		P	09 35 42.3	+0.8
LFF				pmax	pmax				
	comp=Z,104nm,1.2s								
LFF	La Frestale	85.38	40	*e*P		P	09 35 42.3	+0.8
	comp=Z,104nm,1.2s								
MTLF	Montolieu	85.52	42	⇑*i*P		P	09 35 42.6	+0.4
	comp=Z,55nm,1.3s								
MTLF	Montolieu	85.52	42	⇑*i*P		P	09 35 42.6	+0.4
MTLF				pmax	pmax				
	comp=Z,55nm,1.3s								
MTLF	Montolieu	85.52	42	⇑*i*P		P	09 35 42.6	+0.4
	comp=Z,55nm,1.3s								
MFF	Saint Martin d	85.70	38	*e*P		P	09 35 43.5	+0.5
	comp=Z,80nm,1.4s								
MFF	Saint Martin d	85.70	38	*e*P		P	09 35 43.5	+0.5
MFF				pmax	pmax				
	comp=Z,80nm,1.4s								
MFF	Saint Martin d	85.70	38	*e*P		P	09 35 43.5	+0.5
	comp=Z,80nm,1.4s								
RJF	Les Rejaudoux	86.04	40	*e*P		P	09 35 45.3	+0.5
	comp=Z,61nm,1.5s								
RJF				*e*R					
	comp=Z,391nm,21.2s								
RJF	Les Rejaudoux	86.04	40	*e*P		P	09 35 45.3	+0.5
RJF				pmax	pmax				
	comp=Z,61nm,1.5s								
RJF	Les Rejaudoux	86.04	40	*e*P		P	09 35 45.3	+0.5
	comp=Z,61nm,1.5s								
CAF	Calvac	86.19	41	*e*P		P	09 35 46.2	+0.6
	comp=Z,30nm,1.4s								
CAF	Calvac	86.19	41	*e*P		P	09 35 46.2	+0.6
CAF				pmax	pmax				
	comp=Z,30nm,1.4s								
CAF	Calvac	86.19	41	*e*P		P	09 35 46.2	+0.6
	comp=Z,30nm,1.4s								
MAW	Mawson	86.66	162	P		P	09 35 48.0	+0.6
MAW	Mawson	86.66	162	P		P	09 35 48.0	+0.6
	comp=Z,44nm,1.0s,baz=268,slow=5.2,SNR=4.9								
LSZ	Lusaka	87.34	105	*e*P		P	09 35 53.7	+1.7
	comp=Z,8.2nm,1.1s								
AGO	Saint Agoulin	87.39	40	*e*P		P	09 35 53.5	+2.1
PLDF	La Plantade	87.66	40	*e*P		P	09 35 55.9	+3.2
SMF	Signal de Mont	88.11	40	*e*P		P	09 35 54.5	-0.3
	comp=Z,27nm,1.3s								
SMF	Signal de Mont	88.11	40	*e*P		P	09 35 54.5	-0.3
SMF				pmax	pmax				
	comp=Z,27nm,1.3s								
SMF	Signal de Mont	88.11	40	*e*P		P	09 35 54.5	-0.3
	comp=Z,27nm,1.3s								
LOR	Lormes	88.41	39	*e*P		P	09 35 55.4	-0.8
	comp=Z,11nm,0.9s								
LOR				*e*R					
	comp=Z,332nm,19.5s								
LOR	Lormes	88.41	39	*e*P		P	09 35 55.4	-0.8
	comp=Z,11nm,0.9s								
ORIF	Oris-en-Rattie	88.59	42	*e*P		P	09 35 57.9	+0.7
	comp=Z,30nm,1.3s								
ORIF				*e*R					
	comp=Z,317nm,22.8s								
ORIF	Oris-en-Rattie	88.59	42	*e*P		P	09 35 57.9	+0.7
ORIF				pmax	pmax				
	comp=Z,30nm,1.3s								
ORIF	Oris-en-Rattie	88.59	42	*e*P		P	09 35 57.9	+0.7
	comp=Z,30nm,1.3s								
YKA	Yellowknife Ar	89.16	339	P		P	09 35 59.0	-0.4
YKA	Yellowknife Ar	89.16	339	P		P	09 35 58.9	-0.4
	comp=Z,14nm,0.8s,baz=122,slow=4.6,SNR=187								
THEF	They Montfort	90.13	39	*e*P		P	09 36 08.0	+3.8
GIVF	Givet	90.30	37	*e*P		P	09 36 04.5	-0.4
GIVF	Givet	90.30	37	*e*P		P	09 36 04.5	-0.4
GIVF	Givet	90.30	37	*e*P		P	09 36 04.5	-0.4
MOF	Molkenrain	90.66	40	*e*P		P	09 36 10.5	+3.7
SUMG	Summit	91.48	7	*e*P		P	09 36 11.5	+1.0
SUMG				pmax	pmax				
	comp=Z,42nm,1.1s								
SUMG	Summit	91.48	7	*i*P		P	09 36 10.7	+0.2
	comp=Z,26nm,1.0s								
SUMG	Summit	91.48	7	*e*P		P	09 36 11.5	+1.0
	comp=Z,42nm,1.1s								
DAVOX	Davos/Dischmat	91.91	41	P		P	09 36 13.9	+1.1
DAVOX	Davos/Dischmat	91.91	41	P		P	09 36 13.9	+1.1
	comp=Z,2.4nm,0.6s,baz=252,slow=9.6,SNR=3.6								
FUORN	Ofenpass-Fuorn	92.09	42	*e*P		P	09 36 14.1	+0.4
	comp=Z,24nm,1.5s								
SCO	Scoresbysund	92.48	13	*i*P		P	09 36 15.3	+0.7
SCO				pmax	pmax				
	comp=Z,4.0nm,1.2s								
SCO	Scoresbysund	92.48	13	*i*P		P	09 36 15.3	+0.7
	comp=Z,3.6nm,1.2s								
DLBC	Dease Lake	93.00	331	*e*P		P	09 36 17.7	+0.3
GERES	GERESS Array B	95.07	40	P		P	09 36 26.3	-0.9
GERES	GERESS Array B	95.07	40	P		P	09 36 26.3	-0.9
	comp=Z,0.9nm,0.8s,baz=256,slow=5.4,SNR=6.8								
KHC	Kasperske Hory	95.10	40	*e*P		P	09 36 28.1	+0.9
KHC				pmax	pmax				
	comp=Z,9.0nm,1.0s								
CLL	Collm	95.53	38	*e*P		P	09 36 29.0	-0.1
CLL				*e*			09 36 37.0		
CLL				pmax	pmax				
	comp=Z,11nm,1.5s								
CLL	Collm	95.53	38	*e*P		P	09 36 29.0	-0.1
	comp=Z,11nm,1.5s								
CLL				*es*P		sP	09 36 34.0	-2.1
CLL				Lm	MLR		10 13 00.0		
	comp=N,100nm,18.7s								
CLL				Lm	MLR		10 13 00.0		
	comp=E,200nm,20.4s								
KONO	Kongsberg	96.87	29	*e*P		P	09 36 38.5	+3.6
VRAC	Vranov	97.02	41	P		Pdif	09 36 36.1	+0.1
VRAC	Vranov	97.02	41	P		Pdif	09 36 36.1	+0.1
	comp=E,1.2nm,0.4s,baz=243,slow=4.5,SNR=2.1								
DAG	Danmarks Havn	97.84	9	*e*P		P	09 36 38.5	-0.5
DAG				pmax	pmax				
	comp=Z,2.0nm,1.0s								
DAG	Danmarks Havn	97.84	9	*i*P		P	09 36 38.5	-0.5
	comp=Z,2.1nm,1.0s								
NOA	NORSAR Array B	98.14	28	P		P	09 36 40.6	-0.1
NOA	NORSAR Array B	98.14	28	P		P	09 36 40.6	-0.1
	comp=Z,3.1nm,1.0s,baz=244,slow=4.4,SNR=2.9								
INK	Inuvik	98.92	339	P		P	09 36 42.8	-1.1
INK	Inuvik	98.92	339	P		P	09 36 42.8	-1.1
	comp=Z,1.6nm,1.1s,baz=26,slow=5.2,SNR=4.1								
ILAR	Eielson Array	102.79	334	PP		PP	09 41 15.6	+0.2
ILAR	Eielson Array	102.79	334	PP		PP	09 41 15.6	+0.2
	comp=Z,2.1nm,1.2s,baz=113,slow=6.0,SNR=6.6								
KIV	Kislovodsk	113.75	49	*i* PKIKP		PKiKP	09 41 43.8	+0.8
KIV				*e*			09 42 41.1		
KIV				pmax	pmax				
	comp=Z,9.0nm,1.4s								
BILL	Bilibino	120.52	340	⇑*i* PKIKP		PKPdf	09 41 56.0	+0.8
BILL				*e*			09 43 22.0		
BILL				pmax	pmax				
	comp=Z,21nm,1.2s								
ARU	Arti	122.19	34	*e*PKIKP		PKPdf	09 41 59.3	+0.6
AKTO	Aktyubinsk	123.50	41	PKIKP		PKPdf	09 42 01.5	+0.1
AKTO	Aktyubinsk	123.50	41	PKP		PKPdf	09 42 01.5	+0.1
AKTO	Aktyubinsk	123.50	41	PKP		PKPdf	09 42 01.5	+0.1
	comp=Z,1.6nm,1.0s,baz=309,slow=3.2,SNR=4.3								
ABKAR	Akbulak array	124.99	42	*e*PKPdf		PKPdf	09 42 04.5	+0.2
STKA	Stephens Creek	125.16	207	PKP		PKPdf	09 42 04.8	-0.5
STKA	Stephens Creek	125.16	207	PKP		PKPdf	09 42 04.8	-0.5
	comp=Z,6.1nm,0.9s,baz=231,slow=0.7,SNR=7.9								
TIXI	Tiksi	125.37	355	*e*PKIKP		PKPdf	09 42 02.8	-1.6
SEY	Seymchan	128.21	340	*e*PKIKP		PKPdf	09 42 11.0	+0.9
BRVK	Borovoye	129.75	34	*e*PKIKP		PKPdf	09 42 14.2	+0.9
BVAR	Borovoye Array	129.82	34	PKIKP		PKPdf	09 42 14.3	+0.9
BVAR	Borovoye Array	129.82	34	PKP		PKPdf	09 42 14.3	+0.9
BVAR	Borovoye Array	129.82	34	PKP		PKPdf	09 42 14.3	+0.9
	comp=Z,2.9nm,1.0s,baz=264,slow=3.0,SNR=11								
PETK	Petropavlovsk-	132.05	327	PKIKP		PKPdf	09 42 18.6	+0.9
PETK	Petropavlovsk-	132.05	327	PKP		PKPdf	09 42 18.6	+0.9
PETK	Petropavlovsk-	132.05	327	PKP		PKPdf	09 42 18.6	+0.9
	comp=Z,11nm,1.0s,baz=137,slow=7.1,SNR=5.0								
CTA	Charters Tower	132.37	220	PKP		PKPdf	09 42 19.7	+0.4
CTA	Charters Tower	132.37	220	PKP		PKPdf	09 42 19.7	+0.4
	comp=Z,2.0nm,0.5s,baz=75,slow=21,SNR=3.1								
YAK	Yakutsk	134.55	351	*e*PKIKP		PKPdf	09 42 22.3	+0.3
NVS	Novosibirsk	135.02	26	*e*PKIKP		PKPdf	09 42 22.3	-0.8
NVS				pmax	pmax				
	comp=Z,15nm,1.8s								
NVS				pmax	pmax				
	comp=E,5.0nm,1.3s								
KURK	Kurchatov	135.39	34	*e*PKIKP		PKPdf	09 42 24.6	+0.6
KURK	Kurchatov	135.39	34	*e*PKPdf		PKPdf	09 42 23.4	-0.5
KURK				PKP		PKiKP	09 42 24.9	-0.6
KURK				PP		PP	09 45 01.4	+1.1
KURBB	Kurchatov Arra	135.39	34	PKhKP		PKPpre	09 42 18.0	
	comp=E,0.3nm,0.3s,baz=238,slow=3.6,SNR=6.2								
KURBB				PKP		PKiKP	09 42 24.9	-0.6
	comp=E,1.8nm,0.8s,baz=304,slow=2.4,SNR=12								
KURBB				PP		PP	09 45 01.4	+1.1
	comp=E,0.3nm,0.3s,baz=313,slow=5.8,SNR=4.0								
ASAR	Alice Springs	135.55	203	PKPpre	PKPpre		09 42 13.2		
ASAR				PKP		PKPdf	09 42 24.6	-0.6
ASAR	Alice Springs	135.55	203	PKhKP	PKPpre		09 42 13.2		
	comp=E,0.9nm,1.0s,baz=125,slow=1.5,SNR=5.2								
ASAR				PKP		PKPdf	09 42 24.6	-0.6
	comp=E,3.7nm,0.8s,baz=150,slow=2.1,SNR=27								
EKS2	Erkin-Say	136.20	46	*e*PKIKP		PKPdf	09 42 27.2	+1.2
EKS2	Erkin-Say	136.20	46	*e*PKPdf		PKPdf	09 42 27.2	+1.2
ZAA0	Zalesovo Array	136.31	26	PKPdf	PKPpre		09 42 21.2		
ZALV	Zalesovo Beam	136.31	26	PKIKP	PKPpre		09 42 20.1		
ZALV							09 42 25.2		
ZALV	Zalesovo Beam	136.31	26	PKPpre	PKPpre		09 42 20.1		
ZALV				PKP		PKPdf	09 42 25.2	-0.4
ZALV	Zalesovo Beam	136.31	26	PKhKP	PKPpre		09 42 20.1		
	comp=E,6.4nm,0.9s,baz=0.0,slow=3.0,SNR=7.7								
ZALV				PKP		PKPdf	09 42 25.2	-0.4
	comp=E,10nm,0.9s,baz=299,slow=3.0,SNR=24								
AAK	Ala-Archa	136.70	46	PKIKP		PKPdf	09 42 28.1	+1.1
AAK	Ala-Archa	136.70	46	PKP		PKPdf	09 42 28.1	+1.1
AAK	Ala-Archa	136.70	46	PKP		PKPdf	09 42 28.1	+1.1
	comp=E,6.9nm,1.1s,baz=185,slow=2.9,SNR=8.6								
TKM2	Tokmak 2	137.33	45	*e*PKIKP		PKPdf	09 42 25.0	-3.2
TKM2	Tokmak 2	137.33	45	*e*PKPdf		PKPdf	09 42 25.0	-3.2
WRA	Warramunga Arr	138.72	206	PKPpre	PKPpre		09 42 19.9		
WRA				PKP		PKPdf	09 42 30.2	-0.9
WRA	Warramunga Arr	138.72	206	PKhKP	PKPpre		09 42 19.9		
	comp=E,1.3nm,0.9s,baz=161,slow=2.3,SNR=8.9								
WRA				PKP		PKPdf	09 42 30.2	-0.9
	comp=E,13nm,1.0s,baz=158,slow=1.4,SNR=24								
WRAB	Tennant Creek	138.72	206	*i* PKIKP		PKPdf	09 42 30.7	-0.5
WRAB	Tennant Creek	138.72	206	*e*PKPdf		PKPdf	09 42 30.6	-0.6
KSH	Kashi	138.88	49	*e*PKP		PKPdf	09 42 29.8	-1.2
KSH				*e*SKS		SKSdf	09 49 35.0	-6.2
KSH				AMB	AMB				
	comp=E,71nm,7.4s								
KSH				LR	LR				
	comp=E,110nm,7.8s								
KSH				LR	LR				
	comp=E,83nm,5.6s								
KSH				LR	LR				
	comp=E,130nm,7.7s								
MKAR	Makanchi Array	139.61	36	PKHKP	PKPpre		09 42 24.0		
MKAR							09 42 32.0		
MKAR	Makanchi Array	139.61	36	PKPpre	PKPpre		09 42 24.0		
MKAR				PKP	PKPdf		09 42 32.0	0.0	
MKAR	Makanchi Array	139.61	36	PKhKP	PKPpre		09 42 24.0		
	comp=E,0.5nm,0.6s,baz=307,slow=5.0,SNR=3.2								
MKAR				PKP	PKPdf		09 42 32.0	0.0	
	comp=E,1.8nm,0.9s,baz=329,slow=1.7,SNR=5.2								
CLNS	Chul'man	140.22	353	*e*PKIKP	PKPdf		09 42 29.7	-3.1	
CLNS				pmax	pmax				
	comp=E,6.0nm,1.0s								
CLNS				pmax	pmax				
	comp=N,3.0nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,16nm,1.0s								
MOY	Mondy	143.87	16	*e*PKIKP	PKPbc		09 42 38.1	+0.9	
HYB	Hyderabad	144.13	84	*i* PKP	PKPab		09 42 38.5	0.0	
HYB				*es*PKP			09 42 48.0		
WMQ	Urumqi	144.44	36	PKP	PKPdf		09 42 40.5	-0.2	
WMQ				PP	PP		09 45 59.9	+3.8	
WMQ				PKS	PKSdf		09 46 14.8	-1.5	
WMQ

LSA	**Lhasa**	**154.11**	**58**	*e*PKIKP	**PKPdf**	**09 42 57.8**	**+0.7**
LSA				*e*		09 43 05.9	
LSA				*e*		09 43 18.8	
LSA	**Lhasa**	**154.11**	**58**	*e*PKPdf	**PKPdf**	**09 42 57.8**	**+0.7**
LSA				*e*PKPbc	**PKiKP**	**09 43 05.9**	**+0.6**
LSA				*e*PKPab	**PKPab**	**09 43 18.8**	**0.0**
HHC	**Hu-ho-hao-te**	**156.43**	**9**	*e*PKP	**PKPdf**	**09 42 58.3**	**-1.1**
HHC				PKS	**PKSdf**	**09 46 34.6**	**+1.2**
HHC				PP	**PP**	**09 47 02.8**	**-1.6**
HHC				SKS	**SKSdf**	**09 50 00.1**	**-5.2**
HHC				SS	**SS**	**10 06 54.0**	**+0.1**
HHC				AMB	AMB		
	comp=Z,210nm,10.0s						
HHC				LR	LR		
	comp=Z,710nm,22.0s						
HHC				LR	LR		
	comp=Z,400nm,21.3s						
HHC				LR	LR		
	comp=Z,680nm,20.9s						
BJI	**Beijing**	**157.57**	**0**	PKP	**PKPdf**	**09 43 01.5**	**+0.8**
BJI				PP	**PP**	**09 47 07.3**	**-3.2**
BJI				AMB	AMB		
	comp=Z,22nm,15.4s						
BJI				LR	LR		
	comp=Z,520nm,19.9s						
BJI				LR	LR		
	comp=Z,210nm,14.8s						
BJI				LR	LR		
	comp=Z,330nm,20.4s						
KSRS	**Korea Array**	**157.64**	**335**	PKP	**PKPdf**	**09 43 02.0**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=94,slow=1.9,SNR=6.6						
KSRS				PKPab	**PKPab**	**09 43 33.1**	**+0.3**
	comp=Z,11nm,1.0s,baz=26,slow=4.3,SNR=7.9						
KSAR	**Wonju Array Be**	**157.66**	**335**	PKP	**PKPdf**	**09 43 02.0**	**+1.1**
KSAR				PKPab	**PKPab**	**09 43 33.1**	**+0.1**
LZH	**Lanzhou**	**158.52**	**28**	*e*PKP	PKPdf	09 42 54.3	-8.0
LZH				pPKP	pPKPdf	09 43 05.6	-2.1
LZH				PKPab	**PKPab**	**09 43 36.8**	**-0.2**
LZH				LR	LR		
	comp=Z,290nm,13.6s						
LZH				LR	LR		
	comp=Z,340nm,15.8s						
LZH				LR	LR		
	comp=Z,390nm,19.2s						
TIA	**Tai'an**	**161.38**	**358**	⇓PKP	**PKPdf**	**09 43 06.1**	**+0.8**
XAN	**Xi'an**	**162.32**	**20**	PKP	**PKPdf**	**09 43 06.8**	**+0.4**
CD2	**Chengdu**	**162.53**	**38**	*e*PKP	**PKPdf**	**09 43 05.8**	**-0.9**
CD2				PP	**PP**	**09 47 40.5**	**+2.2**
CD2				SKKS		09 54 23.5	
CD2				AMB	AMB		
	comp=Z,150nm,6.0s						
CD2				LR	LR		
	comp=Z,210nm,15.5s						
CD2				LR	LR		
	comp=Z,150nm,17.8s						
CMAR	**Chiang Mai Arr**	**163.56**	**84**	PKP	**PKPdf**	**09 43 07.8**	**-0.1**
CMAR				PKPab	**PKPab**	**09 43 59.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**163.56**	**84**	PKP	**PKPdf**	**09 43 07.8**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=281,slow=2.1,SNR=10						
CMAR				PKPab	**PKPab**	**09 43 59.8**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=272,slow=5.6,SNR=13						
GYA	**Guiyang**	**167.47**	**43**	PKP	**PKPdf**	**09 43 09.8**	**-1.3**
GYA				PKPab	**PKPab**	**09 44 17.4**	**+0.9**
GYA				PKS	**PKSdf**	**09 46 40.6**	**-3.4**
GYA				PP	**PP**	**09 48 05.3**	**+0.9**
GYA				SKKS		09 54 51.0	
GYA				AMB	AMB		
	comp=Z,140nm,8.8s						
GYA				LR	LR		
	comp=Z,150nm,23.8s						
GYA				LR	LR		
	comp=Z,130nm,24.4s						
GYA				LR	LR		
	comp=Z,160nm,23.6s						

IDC 23 09:26:10.1±2.7, 5.°58S×147.°04E, h187km±28km, mb2.8/1, mb1 3.2/3, mb1mx2.8/35, mbtmp3.6/3, Error ellipse: s-maj=61.2km s-min=20.0km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**178**	P	Pn	09 27 10.2	+1.1
	8.8nm,0.3s,baz=333,slow=4.5,SNR=24						
PMG				S	Sn	09 27 55.0	-0.3
	4.7nm,0.3s,baz=241,slow=19,SNR=6.9						
WRA	**Warramunga Arr**	**18.88**	**220**	P	P	09 30 17.6	+1.1
	0.4nm,0.3s,baz=45,slow=12,SNR=11						
WRA				S	S	09 33 40.7	-0.5
	0.1nm,0.3s,baz=40,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**21.99**	**214**	P	P	09 30 50.0	+0.6
	1.2nm,0.9s,baz=50,slow=7.9,SNR=6.6						
ASAR				S	S	09 34 41.0	+2.2
	0.5nm,0.9s,baz=47,slow=20,SNR=4.2						
TORD	**Torodi Ar. Bea**	**145.02**	**285**	PKPbc	PKPbc	09 45 23.8	-2.1
	0.5nm,0.6s,baz=75,slow=3.5,SNR=6.4						

*IDC **23** 09:28:15.7±2.8, 54.°38N×86.°83E, h0km, mb1 3.4/2, mb1mx3.1/30, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=22.7km s-min=14.8km az=59.0*
*NNC **23** 09:28:19.8±6.0, 53.°95N×86.°82E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=47.9km s-min=35.6km az=9.0*
ISC 23 09:28:17.2±4.4, 54.°5N±0.°2×86.°8E±0.°2, h35km, n9, σ1s86/12, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**244**	*i*		09 35 25.0	
	baz=70,slow=341,SNR=6.7						
ZALV	**Zalesovo Beam**	**1.32**	**244**	Pg	**Pn**	**09 28 38.5**	**-0.6**
	2.6nm,0.3s,baz=68,slow=19,SNR=13						
ZALV				Lg	Lg	09 28 56.3	
	4.4nm,0.3s,baz=67,slow=27,SNR=16						
KURK	**Kurchatov**	**6.29**	**236**	⇓Pn	**Pn**	**09 29 49.2**	**+1.8**
	4.2nm,0.8s						
KURK				⇑Sn	**Sn**	**09 30 58.5**	**+0.5**
	2.4nm,0.8s						
KURK				⇑Lg	Lg	09 31 29.5	
	14nm,1.2s						
KURBB	**Kurchatov Arra**	**6.40**	**236**	⇓Pn	**Pn**	**09 29 50.7**	**+1.8**
	11nm,0.8s						
KURBB				⇑Sn	**Sn**	**09 31 01.6**	**+1.0**
	11nm,0.8s						
KURBB				⇓Lg	Lg	09 31 32.7	
	29nm,0.8s						
KURBB	**Kurchatov Arra**	**6.40**	**236**	Pn	**Pn**	**09 29 50.9**	**+2.1**
	0.5nm,0.3s,baz=54,slow=14,SNR=28						
KURBB				Sn	**Sn**	**09 31 01.8**	**+1.2**
	0.2nm,0.3s,baz=43,slow=20,SNR=4.3						
KURBB				Lg	Lg	09 31 39.3	
	0.2nm,0.3s,baz=55,slow=35,SNR=11						
MKAR	**Makanchi Array**	**8.27**	**202**	Pn	**Pn**	**09 30 16.0**	**+1.4**
	0.3nm,0.3s,baz=20,slow=16,SNR=8.1						
MKAR				Sn	**Sn**	**09 31 46.1**	**-0.8**
	0.3nm,0.3s,baz=20,slow=27,SNR=6.1						
MKAR				Lg	Lg	09 32 34.1	
	0.1nm,0.3s,baz=21,slow=28,SNR=8.6						
MK09	**Makanchi Array**	**8.29**	**202**	⇑Pn	**Pn**	**09 30 15.5**	**+0.6**
	2.8nm,1.0s,baz=22,slow=15						
MK08	**Makanchi Array**	**8.31**	**202**	⇓Sn	**Sn**	**09 31 44.9**	**-2.9**
	4.1nm,0.9s						
MK08				⇓Lg	Lg	09 32 28.7	
	13nm,0.9s,baz=25,slow=30						
BVAR	**Borovoye Array**	**9.85**	**268**	Pn	Pn	09 30 40.5	+4.3
	0.3nm,0.3s,baz=70,slow=15,SNR=4.1						
BVAR				Sn	**Sn**	**09 32 22.8**	**-2.5**
	0.2nm,0.3s,baz=85,slow=20,SNR=9.0						

MOS 23 09:30:35.9±2.0, 51.°23N×108.°49E, h10km, mb4.2/1, Error ellipse: s-maj=35.2km s-min=25.9km az=99.3, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRG	**Tyrgan**	**2.02**	**320**	*e*PN	Pn	09 31 09.6	-0.6
TRG				eS	Sn	09 31 36.8	+1.2
TRG				*e*		09 31 39.3	
TRG				pmax	pmax		
	comp=Z,96nm,0.2s						
TRG				smax	smax		
	comp=E,281nm,0.5s						
LSTR	**Listvyanka**	**2.37**	**287**	*e*PN	Pn	09 31 15.0	+0.1
LSTR				*e*		09 31 17.7	
LSTR				*e*		09 31 50.0	
LSTR				pmax	pmax		
	comp=Z,73nm,0.4s						
LSTR				smax	smax		
	comp=N,150nm,1.1s						
OGRR	**Ongureny**	**2.48**	**348**	*e*PN	Pn	09 31 15.9	-0.5
OGRR				*e*		09 31 18.7	
OGRR				pmax	pmax		
	comp=Z,29nm,0.5s						
ARS	**Arshan**	**3.85**	**283**	*e*PN	Pn	09 31 36.7	+1.5
ARS				*e*		09 31 45.6	
ARS				*e*		09 32 36.0	
ARS				pmax	pmax		
	comp=Z,20nm,0.4s						
ARS				smax	smax		
	comp=E,78nm,0.9s						
TUP	**Tupik**	**7.64**	**61**	*e*PN	Pn	09 32 26.6	-0.7
TUP				*e*		09 32 52.8	
TUP				*e*		09 34 34.2	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.2s						
TUP				smax	smax		
	comp=N,52nm,1.0s						
CRS	**Chara**	**8.08**	**42**	*e*PG	Pb	09 33 01.4	+5.5
CRS				pmax	pmax		
	comp=Z,19nm,1.3s						

IDC 23 09:35:28.9±22.0, 21.°22S×178.°94W, h629km±228km, mb3.3/4, mb1 3.4/4, mb1mx3.0/19, mbtmp4.4/4, Error ellipse: s-maj=165.5km s-min=92.9km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.55**	**266**	P	P	09 41 11.2	+0.2
	3.9nm,0.4s,baz=91,slow=11,SNR=9.8						
STKA	**Stephens Creek**	**36.68**	**245**	P	P	09 41 45.2	+0.2
	1.6nm,0.5s,baz=80,slow=9.7,SNR=10						
ASAR	**Alice Springs**	**43.50**	**258**	P	P	09 42 39.3	+0.1
	5.5nm,0.8s,baz=92,slow=7.8,SNR=68						
WRA	**Warramunga Arr**	**43.63**	**263**	P	P	09 42 39.9	-0.4
	3.1nm,0.6s,baz=97,slow=7.7,SNR=81						
AKASG	**Malin Array Be**	**143.20**	**330**	PKP	PKPab	09 53 50.7	-0.3
	1.0nm,0.5s,baz=36,slow=3.7,SNR=9.5						
BRTR	**Keskin Array B**	**146.66**	**311**	PKPbc	PKPbc	09 54 02.4	+0.4
	0.9nm,0.6s,baz=85,slow=3.3,SNR=3.5						
GERES	**GERESS Array B**	**150.64**	**343**	PKPbc	PKPbc	09 54 11.4	0.0
	0.5nm,0.6s,baz=31,slow=2.6,SNR=3.6						

*ISCJB **23** 09:36:34.6±0.7, 43.°62N±0.°05×45.°44E±0.°03, h17km±6km, Error ellipse: s-maj=8.0km s-min=3.4km az=11.1*
*MOS **23** 09:36:34.1±1.9, 43.°45N×45.°45E, h12km, mb4.1/1, Error ellipse: s-maj=10.7km s-min=6.8km az=5.4*
*CSEM **23** 09:36:34.4±0.2, 43.°61N×45.°45E, h20km, mb4.1, Error ellipse: s-maj=7.4km s-min=3.5km az=6.0*
ISC 23 09:36:33.8±0.9, 43.°62N±0.°04×45.°47E±0.°02, h30km±9km, n41, σ1s40/72, 6C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.36**	**145**	⇑*i*PG	**Pb**	**09 36 41.2**	**-0.9**
GRO				*i* S	**Sn**	**09 36 48.8**	**-0.2**
GRO	**Groznyy**	**0.36**	**145**	*i* Pg	**Pb**	**09 36 41.2**	**-0.9**
GRO				*i* Sg	**Sn**	**09 36 48.8**	**-0.2**
TRKR	**Terskaya**	**0.55**	**282**	⇑*i*PG	**Pb**	**09 36 44.8**	**-0.2**
TRKR				eS	**Sb**	**09 36 52.2**	**-0.4**
TRKR	**Terskaya**	**0.55**	**282**	*i* Pg	**Pb**	**09 36 44.8**	**-0.2**
TRKR				eSg	**Sb**	**09 36 52.2**	**-0.4**
BTKR	**Batakoyurt**	**0.72**	**251**	*e*PG	**Pb**	**09 36 47.3**	**-0.6**
BTKR				eS	**Sb**	**09 36 57.2**	**-0.2**
BTKR	**Batakoyurt**	**0.72**	**251**	*e*Pg	**Pb**	**09 36 47.3**	**-0.6**
BTKR				eSg	**Sb**	**09 36 57.2**	**-0.2**
SNJR	**Sundja**	**0.73**	**222**	*e*PG	**Pb**	**09 36 46.2**	**-1.8**
SNJR				eS	**Sb**	**09 36 56.5**	**-1.2**
SNJR	**Sundja**	**0.73**	**222**	eSg	**Sb**	**09 36 56.5**	**-1.2**
VLKR	**Vladikavkaz**	**0.81**	**226**	*e*PG	**Pb**	**09 36 48.4**	**-1.0**
VLKR				eS	**Sb**	**09 37 00.0**	**-0.1**
VLKR	**Vladikavkaz**	**0.81**	**226**	*e*Pg	**Pb**	**09 36 48.4**	**-1.0**
VLKR				eSg	**Sb**	**09 37 00.0**	**-0.1**
PRTR	**Priterechnaya**	**0.87**	**279**	*e*PG	**Pn**	**09 36 50.5**	**+0.5**
PRTR				eS	**Sn**	**09 37 02.3**	**+0.6**
PRTR	**Priterechnaya**	**0.87**	**279**	*e*Pg	**Pn**	**09 36 50.5**	**+0.5**
PRTR				eSg	**Sn**	**09 37 02.3**	**+0.6**
ARNR	**Ardon**	**0.97**	**244**	*e*PG	**Pn**	**09 36 51.5**	**+0.1**
ARNR				eS	**Sb**	**09 37 04.9**	**+0.4**
ARNR	**Ardon**	**0.97**	**244**	*e*Pg	**Pn**	**09 36 51.5**	**+0.1**
ARNR				eSg	**Sb**	**09 37 04.9**	**+0.4**
STDR	**Stavd-Durt**	**1.05**	**257**	⇓*i*PG	**Pb**	**09 36 54.0**	**+0.5**
STDR				eS	**Sb**	**09 37 08.3**	**+1.4**
STDR	**Stavd-Durt**	**1.05**	**257**	*i* Pg	**Pb**	**09 36 54.0**	**+0.5**
STDR				eSg	**Sb**	**09 37 08.3**	**+1.4**
KORR	**Kora**	**1.15**	**243**	*e*PG	**Pn**	**09 36 54.8**	**+0.9**
KORR				eS	**Sb**	**09 37 10.5**	**+0.7**
KORR	**Kora**	**1.15**	**243**	*e*Pg	**Pn**	**09 36 54.8**	**+0.9**
KORR				eSg	**Sb**	**09 37 10.5**	**+0.7**
DBC	**Dubki**	**1.16**	**121**	⇑*i*PG	**Pn**	**09 36 54.1**	**+0.1**
DBC				*i* S	**Sb**	**09 37 12.6**	**+2.7**
DBC	**Dubki**	**1.16**	**121**	*i* Pg	**Pn**	**09 36 54.1**	**+0.1**
DBC				*i* Sg	**Sb**	**09 37 12.6**	**+2.7**
LSNR	**Lesken**	**1.25**	**255**	*e*PG	**Pb**	**09 36 57.0**	**+0.3**
LSNR				eS	**Sb**	**09 37 13.9**	**+1.5**
NCK	**Nalchik**	**1.37**	**266**	*e*PG	**Pb**	**09 36 59.0**	**+0.2**
NCK				eS	**Sb**	**09 37 18.7**	**+2.8**
NCK	**Nalchik**	**1.37**	**266**	*e*Pg	**Pb**	**09 36 59.0**	**+0.2**
ZEI	**Tsey**	**1.42**	**235**	⇓*i*PG	**Pn**	**09 36 57.8**	**+0.1**
ZEI				eS	**Sn**	**09 37 16.7**	**+1.3**
BUJR	**Buynaksk**	**1.43**	**123**	*e*PG	**Pb**	**09 37 00.0**	**+0.1**
BUJR				*i* S	**Sb**	**09 37 21.8**	**+4.0**
BUJR				pmax	pmax		
	comp=Z,95nm,0.3s						
BUJR	**Buynaksk**	**1.43**	**123**	*e*Pg	**Pb**	**09 37 00.0**	**+0.1**
	comp=Z,95nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.56**	**243**	⇑*i*PG	**Pn**	**09 37 00.2**	**+0.6**
DIGR				*i* S	**Sn**	**09 37 20.6**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.56**	**243**	*i* Pg	**Pn**	**09 37 00.2**	**+0.6**
DIGR				*i* Sg	**Sn**	**09 37 20.6**	**+1.7**
MAK	**Makhachkala**	**1.62**	**113**	*e*PG	**Pb**	**09 37 02.0**	**-1.0**
MAK				*i*		09 37 25.2	
MAK				smax	smax		
	comp=N,414nm,0.5s						
MAK				smax	smax		
	comp=E,359nm,0.4s						
MAK	**Makhachkala**	**1.62**	**113**	*e*Pg	**Pb**	**09 37 02.0**	**-1.0**
	comp=E,414nm,0.5s						
MAK				*i* Sg	**Sb**	**09 37 25.2**	**+2.1**
PYA	**Pyatigorsk**	**1.80**	**284**	⇑*e*PN	**Pb**	**09 37 05.2**	**-0.8**
PYA	**Pyatigorsk**	**1.80**	**284**	*e*Pn	**Pb**	**09 37 05.2**	**-0.8**
ONI	**Oni**	**1.80**	**236**	P	**Pn**	**09 37 04.7**	**+1.9**
ONI				S	**Sb**	**09 37 28.4**	**+0.1**
ONI	**Oni**	**1.80**	**236**	P	**Pn**	**09 37 04.7**	**+1.9**
ONI				S	**Sb**	**09 37 28.4**	**+0.1**
KMKR	**Kumukh**	**1.91**	**141**	*e*PN	**Pb**	**09 37 07.0**	**-1.0**
KMKR				eS	**Sb**	**09 37 31.8**	**+0.3**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	**Kumukh**	**1.91**	**141**	*e*Pn	**Pb**	**09 37 07.0**	**-1.0**
	comp=Z,35nm,0.2s						
KMKR				eSg	**Sb**	**09 37 31.8**	**+0.3**
NEY	**Neytrino**	**2.04**	**261**	⇓*e*PN	**Pb**	**09 37 08.7**	**-1.5**
NEY	**Neytrino**	**2.04**	**261**	*e*Pn	**Pb**	**09 37 08.7**	**-1.5**
GOF	**Gofitskoye**	**2.26**	**310**	*e*PN	Pb	09 37 20.4	+6.5
GOF				eS	Sb	09 37 47.2	+5.7
GOF				pmax	pmax		
	comp=Z,15nm,0.8s						
GOF				smax	smax		
	comp=N,30nm,0.8s						
GOF				smax	smax		
	comp=E,70nm,0.8s						
AB31	**Akbulak array**	**11.46**	**55**	⇓Pn	**Pn**	**09 39 16.3**	**+1.0**
	comp=E,2.2nm,1.1s,baz=249,slow=13,SNR=5.9						
AB31				⇑Sn	**Sn**	**09 41 17.7**	**-4.5**
	comp=E,0.2nm,0.3s,baz=247,slow=22						
AB31	**Akbulak array**	**11.46**	**55**	Pn	**Pn**	**09 39 16.3**	**+1.0**
	comp=E,2.2nm,1.1s,baz=249,SNR=5.9						
AB31				Sn	**Sn**	**09 41 17.7**	**-4.5**
	comp=E,0.2nm,0.3s						

*IDC **23** 09:40:29.0±0.4, 17.°63S×63.°98W, h0km, mb4.7/18, mb1 4.8/22, mb1mx4.7/28, mbtmp4.7/22, ML4.5/4, MS3.9/8, Ms1 3.9/8, ms1mx3.7/24, Error ellipse: s-maj=15.8km s-min=12.6km az=59.0*
*ISCJB **23** 09:40:29.5±0.2, 17.°46S±0.°03×63.°93W±0.°03, h10km, mb4.9/42, MS4.4/6, Error ellipse: s-maj=4.8km s-min=4.3km az=160.7*
*LDG **23** 09:40:29.5±0.3, 17.°84S×63.°77W, h10km, Mb5.0/13, Ms4.0/7, Error ellipse: s-maj=35.6km s-min=10.5km az=130.0*
*NEIC **23** 09:40:30.8±0.2, 17.°56S×63.°90W, h10km, mb5.1/8, Error ellipse: s-maj=7.5km s-min=7.3km az=85.0*
NEIC Felt at Santa Cruz.
*BJI **23** 09:40:31.4, 17.°45S×64.°58W, h10km, mB5.3/13, Ms5.3/10, Ms7 5.2/12*
*MOS **23** 09:40:33.6±1.1, 17.°66S×63.°79W, h33km, mb5.4/18, Error ellipse: s-maj=11.6km s-min=10.7km az=7.7*
ISC 23 09:40:30.9±0.3, 17.°53S±0.°05×63.°92W±0.°04, h10km, n640, σ0s84/648, mb5.0/42, MS4.3/8, 243C-225D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**3.12**	**61**	Pn	**Pn**	**09 41 21.0**	**+0.8**
SIV				Sn	**Sb**	**09 42 06.7**	**+1.9**
SIV	**San Ignacio**	**3.12**	**61**	Pn	**Pn**	**09 41 21.0**	**+0.8**
	75nm,0.3s,baz=261,slow=14,SNR=979						
SIV				Sn	**Sb**	**09 42 06.7**	**+1.9**
	462nm,0.3s,baz=177,slow=23,SNR=8.2						
LPAZ	**La Paz**	**4.22**	**286**	Pn	Pn	09 41 38.8	+2.9
LPAZ				Sn	**Sn**	**09 42 28.1**	**+2.5**
LPAZ				Lg	Lg	09 42 45.4	
LPAZ	**La Paz**	**4.22**	**286**	Pn	Pn	09 41 38.8	+2.9
	10nm,0.3s,baz=104,slow=7.9,SNR=328						
LPAZ				Sn	**Sn**	**09 42 28.1**	**+2.5**
	83nm,0.3s,baz=105,slow=9.7,SNR=3.8						
LPAZ				Lg	Lg	09 42 45.4	
	115nm,0.3s,baz=237,slow=21,SNR=6.9						
LPAZ				LR	LR	09 42 52.7	
	comp=Z,445nm,18.4s,baz=98,slow=34						
MNMC	**Minimini**	**5.62**	**253**	⇓*i*P	Pn	09 41 57.7	+2.8
PSGC	**Pisagua**	**6.24**	**250**	*e*P	**Pn**	**09 42 05.0**	**+1.9**
HMBC	**Humberstone**	**6.28**	**243**	*e*P	**Pn**	**09 42 05.2**	**+1.5**
PB01	**Plate Boundary**	**6.32**	**236**	⇑*i*P	Pn	09 42 06.6	+2.4
PATCX	**Punta Patache**	**6.74**	**240**	⇑*i*P	**Pn**	**09 42 11.5**	**+1.4**
LVC	**Limon Verde**	**6.90**	**222**	*e*Pn	**Pn**	**09 42 14.2**	**+1.9**
	49nm,0.6s						
LVC				*e*Sn	**Sn**	**09 43 35.7**	**+4.7**
PB07	**Plate Boundary**	**7.00**	**232**	*e*P	**Pn**	**09 42 15.4**	**+1.7**
PB04	**Plate Boundary**	**7.04**	**227**	⇑*i*P	Pb	09 42 25.6	-7.7
ARE	**Arequipa**	**7.33**	**277**	*e*P	Pn	09 42 23.0	+4.7
ARE	**Arequipa**	**7.33**	**277**	*e*P	Pn	09 42 23.0	+4.7
PB06	**Plate Boundary**	**7.40**	**225**	⇑*i*P	**Pn**	**09 42 20.6**	**+1.5**
CPUP	**Villa Florida**	**10.67**	**146**	*e*Pn	**Pn**	**09 43 03.3**	**-0.6**
	0.8nm,0.6s						
CPUP				Lg	Lg	09 46 13.7	
CPUP	**Villa Florida**	**10.67**	**146**	Pn	**Pn**	**09 43 03.8**	**-0.1**
	2.8nm,0.3s,baz=316,slow=11,SNR=10						
CPUP				Lg	Lg	09 46 13.7	
	7.7nm,0.3s,baz=210,slow=20,SNR=3.9						
CPUP				LR	LR	09 47 46.7	
	comp=Z,433nm,19.5s,baz=318,slow=41						
CFAA	**Coronel Fontan**	**14.55**	**195**	Pn	Pn	09 43 53.0	-3.9
CFAA				Lg	Lg	09 48 13.3	
CFAA	**Coronel Fontan**	**14.55**	**195**	Pn	Pn	09 43 53.0	-3.9
	0.1nm,0.3s,baz=4.7,slow=12,SNR=7.1						
CFAA				Lg	Lg	09 48 13.3	
	0.0nm,0.3s,baz=23,slow=15,SNR=2.4						
CFAA				LR	LR	09 49 30.0	
	comp=Z,29nm,18.9s,baz=19,slow=38						
BB16B	**Bebedouro**	**14.88**	**106**	⇑*i*P	Pn	09 43 57.4	-4.2
BB16B				*i*		09 43 59.4	
BB16B				*i*		09 44 08.7	
BB16B				*i*		09 44 10.3	
BB16B				*i*		09 44 19.2	
BDFB	**Brasilia**	**15.36**	**85**	Pn	**Pn**	**09 44 07.6**	**-0.4**
BDFB				Sn	**Sn**	**09 47 01.9**	**+3.6**
BDFB				Lg	Lg	09 48 33.6	
BDFB	**Brasilia**	**15.36**	**85**	Pn	**Pn**	**09 44 07.6**	**-0.4**
	0.6nm,0.3s,baz=267,slow=16,SNR=3.6						
BDFB				Sn	**Sn**	**09 47 01.9**	**+3.6**
	1.6nm,0.3s,baz=161,slow=18,SNR=3.5						
BDFB				Lg	Lg	09 48 33.6	
	2.0nm,0.3s,baz=318,slow=26,SNR=3.7						
BDFB				LR	LR	09 50 52.0	
	comp=Z,345nm,20.2s,baz=263,slow=40						
PTGA	**Pitinga**	**17.14**	**14**	Pn	**Pn**	**09 44 28.9**	**-1.8**
PTGA				Sn	**S**	**09 47 49.3**	**-1.7**
PTGA				Lg	Lg	09 49 31.1	
PTGA	**Pitinga**	**17.14**	**14**	Pn	**Pn**	**09 44 28.9**	**-1.8**
	2.6nm,0.3s,baz=327,slow=21,SNR=16						
PTGA				Sn	**S**	**09 47 49.3**	**-1.7**
	1.9nm,0.3s,baz=236,slow=12,SNR=4.3						
PTGA				Lg	Lg	09 49 31.1	
	3.0nm,0.3s,baz=113,slow=20,SNR=6.0						
PTGA				LR	LR	09 51 26.5	
	comp=Z,1μm,21.9s,baz=196,slow=38						
ATAH	**Atahualpa**	**17.50**	**304**	Pn	**Pn**	**09 44 35.2**	**-0.4**
ATAH				Lg	Lg	09 49 43.4	
ATAH	**Atahualpa**	**17.50**	**304**	Pn	**Pn**	**09 44 35.2**	**-0.4**
	0.4nm,0.3s,baz=146,slow=8.6,SNR=8.7						
ATAH				Lg	Lg	09 49 43.4	
	0.1nm,0.3s,baz=300,slow=17,SNR=2.4						
TRQA	**Tornquist**	**20.52**	**176**	*e*P	**P**	**09 45 09.1**	**-0.2**
	13nm,0.9s						
PLCA	**Paso Flores**	**23.82**	**193**	P	**P**	**09 45 42.7**	**-1.4**
PLCA	**Paso Flores**	**23.82**	**193**	P	**P**	**09 45 42.7**	**-1.4**
	6.5nm,0.6s,baz=16,slow=11,SNR=41						
ROSC	**El Rosal**	**24.51**	**334**	P	**P**	**09 45 52.5**	**+1.5**
ROSC				Lg	Lg	09 53 22.7	
ROSC	**El Rosal**	**24.51**	**334**	P	**P**	**09 45 52.5**	**+1.5**
	9.6nm,0.5s,baz=85,slow=11,SNR=3.1						
ROSC				Lg	Lg	09 53 22.7	
	16nm,1.0s,baz=90,slow=20,SNR=3.6						
RCBR	**Riachuelo**	**29.75**	**70**	P	**P**	**09 46 38.3**	**+0.5**
RCBR				Lg	Lg	09 56 14.4	
RCBR	**Riachuelo**	**29.75**	**70**

833A Chaparral WMA, 57.07 322 ⇓P P 09 50 17.4 0.0
baz=57,SNR=9.8
536A Bastrop 57.10 326 ⇑P P 09 50 17.9 +0.3
baz=57
634A China Grove, S 57.27 324 ⇑P P 09 50 18.9 +0.1
baz=57
733A Divot King Ran 57.31 323 ⇓P P 09 50 18.9 -0.2
baz=57
535A Dale 57.34 325 ⇑P P 09 50 19.1 -0.3
baz=58
832A Faith Ranch, C 57.38 322 ⇑P P 09 50 19.9 +0.3
baz=58,SNR=6.2
732A Laxson Ranch, 57.71 322 ⇑P P 09 50 21.6 -0.3
baz=58
633A Saathoff Ranch 57.80 323 ⇓P P 09 50 22.9 +0.3
baz=58
534A Blanco 57.84 324 ⇓P P 09 50 22.9 0.0
baz=58
435B Jarrell 57.93 326 ⇑P P 09 50 24.1 +0.6
baz=58
632A Uvalde 58.18 323 ⇑P P 09 50 25.8 +0.5
baz=58
533A Kerrville 58.18 324 ⇓P P 09 50 25.3 0.0
baz=58
335A Moody 58.24 326 ⇑P P 09 50 26.0 +0.4
baz=58,SNR=9.3
434A Burnet 58.33 325 ⇓P P 09 50 26.8 +0.5
baz=58
631A Perdido Creek 58.57 322 ⇑P P 09 50 27.9 -0.1
baz=59
334A Lometa 58.71 326 ⇑P P 09 50 29.0 0.0
baz=59,SNR=6.1
532A Rocksprings 58.72 323 ⇓P P 09 50 29.5 +0.4
baz=59,SNR=5.1
433A Art 58.73 325 ⇑P P 09 50 29.3 +0.2
baz=59
WHTX Lake Whitney 58.81 327 ⇓P P 09 50 29.8 +0.3
baz=59
JCT Junction City 58.92 324 ⇓P P 09 50 30.7 +0.2
baz=59
531A Rocksprings 59.11 323 ⇑P P 09 50 31.6 -0.2
baz=59,SNR=8.5
333A Richland Sprin 59.11 325 ⇑P P 09 50 31.5 -0.2
baz=59,SNR=6.6
234A Clairette 59.18 326 ⇑P P 09 50 32.3 +0.1
baz=59,SNR=10
432A Menard 59.22 324 ⇓P P 09 50 32.4 -0.2
baz=59,SNR=11
135A Vickery Place, 59.23 327 ⇓P P 09 50 33.0 +0.5
baz=59
431A Sonora 59.53 323 ⇓P P 09 50 34.5 -0.2
baz=60
530A J-C Ranch, Com 59.55 322 ⇓P P 09 50 34.9 +0.1
baz=60
332A Millersview 59.57 325 ⇓P P 09 50 34.8 -0.1
baz=60,SNR=11
134A White-Moore Ra 59.59 327 ⇑P P 09 50 35.2 +0.2
baz=60,SNR=9.9
233A Rising Star 59.60 326 ⇓P P 09 50 35.1 0.0
baz=60,SNR=11
Z35A Perchaven, San 59.76 328 ⇑P P 09 50 36.5 +0.3
baz=60
331A San Angelo 59.90 324 ⇑P P 09 50 37.8 +0.6
baz=60,SNR=5.9
232A Coleman 59.90 325 ⇑P P 09 50 37.3 +0.1
baz=60,SNR=14
430A Baggett Ranch, 59.97 323 ⇑P P 09 50 37.7 0.0
baz=60,SNR=7.3
628A Black Gap, Mar 59.99 321 ⇑P P 09 50 38.1 +0.2
baz=60,SNR=10.0
529A Stev Forest Ra 60.06 322 ⇑P P 09 50 38.5 +0.1
baz=60,SNR=11
133A Hamilton Ranch 60.06 326 ⇓P P 09 50 38.3 0.0
baz=60,SNR=9.6
Z34A Collier Ranch, 60.13 327 ⇑P P 09 50 38.9 +0.2
baz=60,SNR=15
429A Davenport Ranc 60.23 322 ⇓P P 09 50 39.3 -0.2
baz=60,SNR=9.0
627A Terlingua Ranc 60.27 320 ⇑P P 09 50 40.2 +0.3
baz=60
231A Bronte 60.31 324 ⇑P P 09 50 40.2 +0.2
baz=60
TXAR Lajitas Array 60.36 320 P P 09 50 39.4 -1.1
TXAR Lajitas Array 60.36 320 P P 09 50 39.4 -1.1
comp=Z,1.9nm,0.8s,baz=144,slow=7.7,SNR=12
TXAR LR LR 10 21 07.0
comp=Z,61nm,18.1s,baz=0.0,slow=40
330A Mertzon 60.39 323 ⇓P P 09 50 40.9 +0.3
baz=60
528A Cox Ranch, San 60.42 321 ⇑P P 09 50 40.5 -0.4
baz=61,SNR=6.1
ABTX Abilene, Hawle 60.47 326 ⇓P P 09 50 40.9 -0.2
baz=61
Z33A Whitaker Ranch 60.51 327 ⇑P P 09 50 41.6 +0.3
baz=61,SNR=29
Y34A Reagan Ranch, 60.51 328 ⇓P P 09 50 41.4 +0.1
baz=61,SNR=12
230A Sterling City 60.72 324 ⇓P P 09 50 42.9 +0.1
baz=61
428A Kincaid Ranch, 60.77 322 ⇑P P 09 50 43.4 +0.2
baz=61,SNR=11
626A Big Bend Ranch 60.80 320 ⇓P P 09 50 43.4 0.0
baz=61,SNR=11
Z32A Haskell 60.90 326 ⇑P P 09 50 44.0 +0.1
baz=61,SNR=8.3
527A Woodward Ranch 60.90 321 ⇑P P 09 50 44.0 -0.2
baz=61,SNR=6.2
131A Roby 60.91 325 ⇑P P 09 50 44.0 -0.1
baz=61,SNR=8.1
329A Wagon Wheel Ra 60.91 323 ⇓P P 09 50 43.9 -0.3
baz=61,SNR=9.7
Y33A Hilltop Ranch, 61.00 327 ⇑P P 09 50 44.6 0.0
baz=61,SNR=13
X34A Smith Ranch, M 61.06 328 ⇑P P 09 50 45.0 0.0
baz=61,SNR=9.3
TUL1 Tulsa 61.13 331 ⇑P P 09 50 45.5 0.0
baz=61
526A Mary Lane Ranc 61.13 320 ⇑P P 09 50 45.7 -0.1
baz=61,SNR=12
130A Snyder 61.17 325 ⇑P P 09 50 45.7 -0.1
baz=61,SNR=5.3
229A Bryant Ranch, 61.17 323 ⇓P P 09 50 46.3 +0.4
baz=61
Z31A Sharp Cattle R 61.27 326 ⇑P P 09 50 46.6 +0.1
baz=61,SNR=14
427A Hayter Ranch, 61.28 321 ⇑P P 09 50 47.0 +0.3
baz=61
328A Wristen Ranch, 61.32 322 ⇓P P 09 50 46.7 -0.2
baz=62,SNR=14
X33A Lawton 61.35 328 ⇓P P 09 50 46.8 -0.2
baz=62,SNR=14
Y32A R-V Farms, Ver 61.42 327 ⇓P P 09 50 47.9 +0.4
baz=62
SFIN Scholer Farm 61.52 340 ⇓P P 09 50 48.8 +0.8
baz=62
426A McDonald Obser 61.53 321 ⇓P P 09 50 48.6 0.0
baz=62,SNR=7.6
W34A Bridge Creek, 61.53 329 ⇑P P 09 50 48.8 +0.6
baz=62
X32A Elmer 61.66 327 ⇑P P 09 50 49.3 +0.2
baz=62
129A Stewart Farms, 61.70 324 ⇑P P 09 50 49.2 -0.2
baz=62,SNR=17
327A Balmorhea Ranc 61.71 322 ⇑P P 09 50 49.8 +0.2
baz=62
228A UT Block 9, Go 61.73 323 ⇑P P 09 50 49.5 -0.2
baz=62
Z30A Sanderson Ranc 61.78 325 ⇓P P 09 50 49.6 -0.4
baz=62,SNR=17
W33A Caddo, Fort Co 61.82 328 ⇓P P 09 50 50.5 +0.4
baz=62,SNR=11
Y31A Rekieta Farm, 61.82 326 ⇑P P 09 50 50.5 +0.2
baz=62,SNR=15
V34A Guthrie 61.89 329 ⇓P P 09 50 50.3 -0.3
baz=62,SNR=16
326A Caldwell Ranch 61.96 321 ⇑P P 09 50 51.0 -0.3
baz=62
128A Castleberry Fa 62.04 323 ⇑P P 09 50 51.5 -0.3
baz=62
227A Bennet, Jal 62.06 322 ⇑P P 09 50 51.7 -0.2
baz=62
Z29A Hungry Hill Ra 62.08 324 ⇓P P 09 50 51.9 -0.1
baz=62,SNR=5.5
Y30A Stafford Cattl 62.10 326 ⇓P P 09 50 51.9 -0.3
baz=62
X31A McDonald Ranch 62.19 327 ⇑P P 09 50 52.7 +0.1
baz=62,SNR=17
W32A Sentinel 62.19 328 ⇓P P 09 50 52.9 +0.2
baz=62,SNR=40
425A Indio Mountain 62.19 320 ⇓P P 09 50 52.3 -0.6
baz=62,SNR=9.3
V33A Lossen Ranch, 62.25 329 ⇓P P 09 50 52.9 -0.1
baz=62,SNR=8.8
U34A Anderson Ranch 62.38 330 ⇑P P 09 50 53.8 -0.1
baz=62,SNR=8.5
Z28A Tucker Farm, M 62.48 324 ⇓P P 09 50 54.2 -0.5
baz=63,SNR=9.8
Y29A Porterfield Fa 62.51 325 ⇑P P 09 50 54.5 -0.4
baz=63,SNR=7.1
X30A Coker Ranch, T 62.52 326 ⇓P P 09 50 54.9 0.0
baz=63,SNR=22
V32A Arapaho 62.55 328 ⇑P P 09 50 55.5 +0.4
baz=63,SNR=16
127A Arkansas Junct 62.58 323 ⇑P P 09 50 54.6 -0.9
baz=63
W31A Holland Ranch, 62.60 327 ⇑P P 09 50 55.4 0.0
baz=63
226B Tecolote Peak, 62.62 322 ⇑P P 09 50 55.6 0.0
baz=63,SNR=6.9
U33A Lingo Farm, Me 62.65 329 ⇑P P 09 50 56.0 +0.3
baz=63
LIC Lamto 62.75 73 eP P 09 50 56.1 -0.7
comp=Z,34nm,1.2s,baz=236
LIC Lamto 62.75 73 eP P 09 50 56.4 -0.4
comp=Z,36nm,1.2s
LIC Lamto 62.75 73 eP P 09 50 56.1 -0.7
comp=Z,34nm,1.2s
Y28A McKinney Farm, 62.86 325 ⇑P P 09 50 57.3 0.0
baz=63
VNA2 Neumayer--Watz 62.88 162 P P 09 50 56.9 +0.1
TIC Toumodi 62.92 73 eP P 09 50 57.8 -0.2
W30A Crocket Farms 62.92 327 ⇑P P 09 50 57.7 +0.1
baz=63
126A Clayton Basin, 62.94 322 ⇓P P 09 50 58.5 +0.7
baz=63,SNR=8.5
X29A Tulia 62.96 325 ⇓P P 09 50 57.7 -0.2
baz=63,SNR=9.0
Z27A Tatum 62.96 323 ⇓P P 09 50 58.1 +0.2
baz=63,SNR=9.0
V31A Spring Creek L 63.00 328 ⇑P P 09 50 58.8 +0.7
baz=63,SNR=11
225A Deer Hill, Car 63.03 321 ⇑P P 09 50 58.5 -0.1
baz=63
U32A Winter Ranch, 63.05 329 ⇑P P 09 50 58.4 +0.1
baz=63,SNR=8.9
KIC Kosan Boka 63.06 73 eP P 09 50 58.7 -0.2
comp=Z,54nm,1.3s
DBIC Dimbokro 63.08 73 P P 09 50 59.1 +0.1
DBIC Dimbokro 63.08 73 P P 09 50 59.1 +0.1
comp=Z,14nm,1.0s,baz=229,slow=7.3,SNR=12
DBIC LR LR 10 15 53.4
comp=Z,197nm,20.8s,baz=224,slow=34
MSTX Muleshoe 63.20 324 ⇑P P 09 50 59.3 -0.2
baz=63,SNR=10
T33A Patterson Ranc 63.23 330 ⇑P P 09 50 59.7 +0.1
baz=63,SNR=8.1
AMTX Amarillo 63.28 326 ⇓P P 09 51 00.2 +0.2
baz=63
X28A Dimmitt 63.29 325 ⇑P P 09 50 60.0 -0.1
baz=63
125A Gardner Draw, 63.32 322 ⇓P P 09 50 59.8 -0.6
baz=64,SNR=6.9
Y27A Causey 63.35 324 ⇑P P 09 51 00.4 -0.2
baz=64,SNR=13
Z26A Caprock 63.37 323 ⇓P P 09 51 00.6 -0.1
baz=64
V30A Spur Ranch, Mi 63.43 327 ⇓P P 09 51 01.2 +0.2
baz=64,SNR=9.6
W29A Amraillo 63.44 326 ⇑P P 09 51 01.3 +0.2
baz=64
U31A Nine Bar Ranch 63.47 328 ⇑P P 09 51 01.6 +0.4
baz=64
S33A Kaszmaul Farm, 63.53 330 ⇓P P 09 51 01.8 +0.3
baz=64
T32A Huddler Ranch, 63.64 329 ⇓P P 09 51 02.8 +0.5
baz=64,SNR=7.6
Y26A Elida 63.75 324 ⇑P P 09 51 02.8 -0.5
baz=64
Z25A Roswell 63.80 322 ⇑P P 09 51 03.2 -0.3
baz=64,SNR=18
W28A Vega 63.85 326 ⇓P P 09 51 03.8 +0.1
baz=64
X27A F and S Farms, 63.88 325 ⇓P P 09 51 03.8 -0.3
baz=64
V29A Stinnett 63.95 327 ⇓P P 09 51 04.5 +0.1
baz=64
T31A Randall Ranch, 63.95 329 ⇑P P 09 51 04.5 +0.1
baz=64,SNR=9.4
U30A WK&E Inc. Balk 64.00 328 ⇓P P 09 51 05.0 +0.2
baz=64
S32A Newby Ranch, P 64.06 330 ⇑P P 09 51 05.2 +0.2
baz=64
R33A Olander Ranch, 64.09 331 ⇓P P 09 51 05.1 -0.1
baz=64
KSU1 Kansas State U 64.11 332 ⇑P P 09 51 04.7 -0.6
baz=64
W27A Bowe Ranch, En 64.17 325 ⇓P P 09 51 05.6 -0.3
baz=64,SNR=8.4
X26A CRI CF Fran 64.20 324 ⇓P P 09 51 06.0 -0.2
baz=64,SNR=9.0
Z24A Sheeppen Canyo 64.22 322 ⇑P P 09 51 06.0 -0.3
baz=64,SNR=15
V28A Channing 64.23 326 ⇑P P 09 51 06.5 +0.3
baz=64
Y25A Mesa, Roswell 64.25 323 ⇑P P 09 51 05.7 -0.8
baz=64
U29A Oasis Ranch, S 64.26 327 ⇑P P 09 51 06.9 +0.5
baz=64
S31A Mullinville 64.26 329 ⇑P P 09 51 06.8 +0.4
baz=64
T30A Plains 64.34 328 ⇓P P 09 51 07.3 +0.4
baz=64
R32A Long Quarter, 64.53 330 ⇓P P 09 51 08.2 +0.1
baz=65,SNR=12
SNAA Sanae 64.53 162 P P 09 51 07.6 -0.1
V27A Dan Oppiter Fa 64.56 326 ⇓P P 09 51 08.2 -0.3
baz=65,SNR=8.0
W26A Owens Ranch, T 64.57 324 ⇓P P 09 51 08.4 -0.2
baz=65
Q33A Connelly Farm, 64.58 331 ⇑P P 09 51 08.2 -0.2
baz=65
X25A Clemmons Ranch 64.67 323 ⇑P P 09 51 08.7 -0.5
baz=65
Y24A Capitan 64.68 322 ⇓P P 09 51 09.1 -0.3
baz=65
U28A Mallet 64.70 326 ⇑P P 09 51 09.1 -0.3
baz=65
S30A Montezuma 64.76 328 ⇓P P 09 51 09.7 0.0
baz=65,SNR=9.7
T29A Hugoton 64.81 328 ⇓P P 09 51 10.4 +0.3
baz=65,SNR=5.8
R31A Burdett 64.81 330 ⇓P P 09 51 10.0 +0.1
baz=65
P33A Williams Farm, 64.87 332 ⇓P P 09 51 10.6 +0.3
baz=65
Q32A Meitler Ranch, 64.91 331 ⇓P P 09 51 10.4 -0.1
baz=65,SNR=13
Y23A Lovelace Mesa, 65.05 322 ⇓P P 09 51 11.8 0.0
baz=65
U27A Thompson Grove 65.05 326 ⇓P P 09 51 11.7 0.0
baz=65,SNR=9.9
W25A X Bar L Ranch, 65.06 324 ⇓P P 09 51 11.4 -0.4
baz=65,SNR=16
S29A Ulysses 65.08 328 ⇑P P 09 51 12.3 +0.5
baz=65,SNR=9.0
V26A Tequesquite Ra 65.11 325 ⇑P P 09 51 11.9 -0.2
baz=65,SNR=15
Z22A Elephant Butte 65.11 321 ⇓P P 09 51 12.3 +0.1
baz=65,SNR=8.7
121A Cookes Peak, D 65.12 320 ⇓P P 09 51 12.7 +0.4
baz=65
X24A Lazy VL Ranch, 65.14 323 ⇓P P 09 51 12.9 +0.5
baz=65
R30A Dighton 65.17 329 ⇓P P 09 51 12.4 0.0
baz=65,SNR=17
T28A Walsh 65.20 327 ⇑P P 09 51 13.1 +0.5
baz=65
319A Douglas 65.28 318 ⇑P P 09 51 13.3 +0.1
baz=65
Q31A Ellis 65.31 330 ⇓P P 09 51 13.3 +0.1
baz=66
P32A Huiting Farm, 65.43 331 ⇓P P 09 51 13.8 -0.1
baz=66,SNR=11
S28A Manter 65.45 327 ⇓P P 09 51 14.2 +0.1
baz=66,SNR=12
T27A Campo 65.48 327 ⇓P P 09 51 14.3 -0.1
baz=66
U26A Atchley Ranch, 65.52 325 ⇓P P 09 51 14.8 0.0
baz=66,SNR=16
W24A Lazy 6 Ranch, 65.58 323 ⇑P P 09 51 15.7 +0.4
baz=66,SNR=8.9
X23A Hourglass Bar 65.58 322 ⇓P P 09 51 15.4 +0.1
baz=66
V25A Rancho No Teng 65.59 324 ⇑P P 09 51 15.7 +0.4
baz=66,SNR=12
Y22D IRIS PASSCAL I 65.66 322 ⇑P P 09 51 16.1 +0.4
baz=66
Q30A Quinter 65.69 330 ⇑P P 09 51 16.3 +0.6
baz=66,SNR=13
R29A Marienthal 65.70 329 ⇑P P 09 51 16.2 +0.4
baz=66,SNR=12
P31A Stockton 65.71 331 ⇓P P 09 51 15.8 0.0
baz=66,SNR=15
O32A Brockman Farm, 65.80 332 ⇓P P 09 51 15.7 -0.6
baz=66,SNR=10
V24A Rampart Ranch, 65.88 324 ⇓P P 09 51 17.4 +0.2
baz=66,SNR=11
U25A Circle Dot Ran 65.89 325 ⇓P P 09 51 17.3 +0.1
baz=66,SNR=15
W23A Werner Place, 65.97 323 ⇑P P 09 51 17.6 -0.2
baz=66,SNR=6.3
R28A Tribune 65.98 328 ⇑P P 09 51 17.6 0.0
baz=66,SNR=8.5
Q29A Oakley 65.99 329 ⇑P P 09 51 18.0 +0.4
baz=66,SNR=26
T26A Comanche Natio 66.02 326 ⇓P P 09 51 18.4 +0.3
baz=66,SNR=32
P30A Selden 66.14 330 ⇑P P 09 51 18.4 -0.2
baz=66
O31A Woolen Ranch, 66.19 331 ⇓P P 09 51 18.5 -0.3
baz=66,SNR=7.9
N32A Stulken Farm, 66.21 332 ⇑P P 09 51 19.1 +0.2
baz=66
S26A Kim 66.29 326 ⇓P P 09 51 20.1 +0.4
baz=66,SNR=15
U24A Moreno Valley 66.38 324 ⇑P P 09 51 20.2 -0.3
baz=66
V23A Ortiz Mt. (NFS 66.41 323 ⇑P P 09 51 21.2 +0.6
baz=67,SNR=13
T25A Trinidad 66.43 326 ⇓P P 09 51 21.4 +0.7
baz=67,SNR=8.1
R27A Eads 66.44 327 ⇑P P 09 51 21.4 +0.8
baz=67,SNR=7.8
P29A Atwood 66.52 330 ⇓P P 09 51 21.6 +0.6
baz=67,SNR=18
Q28A Sharon Springs 66.54 329 ⇓P P 09 51 21.7 +0.5
baz=67,SNR=10
O30A MW Ranch, Wils 66.55 330 ⇓P P 09 51 21.3 +0.1
baz=67,SNR=15
N31A Bailey Ranch, 66.56 332 ⇑P P 09 51 21.3 +0.1
baz=67
BGNE Belgrade 66.67 333 ⇑P P 09 51 21.3 -0.5
baz=67,SNR=15
R26A Arlington 66.79 327 ⇓P P 09 51 22.9 +0.1
baz=67,SNR=16
U23A El Rito 66.83 324 ⇓P P 09 51 23.1 -0.1
baz=67
S25A Robets Cordova 66.83 326 ⇑P P 09 51 24.0 +0.8
baz=67,SNR=12
O29A 4D Ranch, Culb 66.86 330 ⇑P P 09 51 24.2 +1.0
baz=67
P28A Saint Francis 66.90 329 ⇓P P 09 51 24.0 +0.5
baz=67,SNR=10
KSCO Kaye Shedlock' 66.90 328 ⇓P P 09 51 24.4 +0.8
baz=67
T24B San Luis 66.91 325 ⇓P P 09 51 24.5 +0.6
baz=67,SNR=9.4
V22A San Miguel Ran 66.94 323 ⇑P P 09 51 24.6 +0.6
baz=67,SNR=17
M31A Lambtecht Ranc 66.98 332 ⇓P P 09 51 24.8 +0.9
baz=67
N30A Hueftle Ranch, 67.06 331 ⇓P P 09 51 25.8 +1.4
baz=67
R25A Fountain Ranch 67.11 326 ⇑P P 09 51 25.6 +0.7
baz=67
S24A Houchin Ranch, 67.23 325 ⇑P P 09 51 26.6 +0.6
baz=67,SNR=7.0
U22A Llaves 67.24 323 ⇑P P 09 51 26.3 +0.4
baz=67
T23A Casias Ranch, 67.25 324 ⇓P P 09 51 26.6 +0.7
baz=67,SNR=8.4
Q26A Hugo 67.29 327 ⇓P P 09 51 26.6 +0.5
baz=67,SNR=15
P27A Ficken Ranch, 67.29 328 ⇑P P 09 51 26.7 +0.7
baz=68,SNR=11
N29A Votaw Ranch, W 67.32 331 ⇓P P 09 51 27.4 +1.3
baz=68
O28A Krutsinger Ran 67.33 329 ⇓P P 09 51 26.6 +0.4
baz=68
M30A Dale-Ortello V 67.54 332 ⇓P P 09 51 28.1 +0.7
baz=68
L31A Butterfield Fa 67.59 333 ⇑P P 09 51 28.3 +0.5
baz=68,SNR=14
R24A Sanders Place, 67.61 326 ⇑P P 09 51 28.6 +0.4
baz=68,SNR=16
N28A Pribbeno Ranch 67.65 330 ⇑P P 09 51 28.7 +0.5
baz=68
Q25A Bedland, Calha 67.66 327 ⇑P P 09 51 28.5 0.0
baz=68
P26A Davis Ranch, A 67.68 328 ⇓P P 09 51 28.8 +0.3
baz=68,SNR=7.2
S23A Nye Farm, Mont 67.71 325 ⇓P P 09 51 29.3 +0.4
baz=68
O27A Beecher Island 67.73 329 ⇓P P 09 51 29.4 +0.6
baz=68,SNR=15
X18A Snowflake 67.80 320 ⇑P P 09 51 30.1 +0.7
baz=68
L30A Spencer Herefo 67.80 332 ⇑P P 09 51 29.0 -0.1
baz=68
M29A Burnside Ranch 67.84 331 ⇑P P 09 51 29.4 0.0
baz=68
ECSD EROS Data Cent 67.93 335 ⇓P P 09 51 29.2 -0.6
baz=68
214A Organ Pipe Nat 67.95 316 ⇓P P 09 51 29.4 -0.8
baz=68
R23A Moffat 67.97 325 ⇓P P 09 51 31.1 +0.6
baz=68,SNR=7.8
W18A Petrified Fore 68.06 321 ⇓P P 09 51 30.7 -0.3
baz=68
P25A Willow Gulch B 68.06 327 ⇓P P 09 51 31.6 +0.7
baz=68,SNR=9.7
M28A Bar X Bar Ranc 68.12 330 ⇓P P 09 51 31.7 +0.5
baz=68
Q24A Divide 68.17 326 ⇓P P 09 51 32.6 +0.8
baz=68,SNR=7.5
O26A Horse Wrangler 68.18 328 ⇓P P 09 51 32.4 +0.8
baz=68
S22A 4UR Ranch, Cre 68.20 324 ⇓P P 09 51 32.4 +0.4
baz=68,SNR=10
N27A Anderson Farm, 68.23 329 ⇑P P 09 51 32.4 +0.5
baz=68
L29A Maesberg Ranch 68.24 331 ⇓P P 09 51 33.0 +1.2
baz=68
K30A Basset 68.33 332 ⇑P P 09 51 33.5 +1.1
baz=68
P24A Kohler Place, 68.45 327 ⇓P P 09 51 34.5 +1.1
baz=69,SNR=18
O25A Wiggins 68.49 328 ⇓P P 09 51 34.6 +1.0
baz=69
Q23A Hartsel 68.49 326 ⇑P P 09 51 34.5 +0.7
baz=69
N26A Koester Ranch, 68.58 329 ⇓P P 09 51 35.0 +0.9
baz=69
X16A Lo Mia Camp, P 68.64 319 ⇑P P 09 51 35.6 +0.9
baz=69,SNR=5.2
L28A Connealy Angus 68.67 331 ⇓P P 09 51 35.7 +1.1
baz=69
M27A Reverse DX Ran 68.71 330 ⇓P P 09 51 35.4 +0.6
baz=69
K29A Lazy Trails An 68.72 332 ⇑P P 09 51 34.8 0.0
baz=69,SNR=7.8
MVCO Mesa Verde 68.76 323 ⇑P P 09 51 35.8 +0.4
baz=69,SNR=23
J30A Dallas 68.80 333 ⇓P P 09 51 35.0 -0.3
baz=69,SNR=6.2
P23A Jefferson 68.83 326 ⇑P P 09 51 36.8 +0.8
baz=69
Z14A Wintersburg 68.92 317 ⇑P P 09 51 37.0 +0.8
baz=69
O24A Longmont 68.98 327 ⇑P P 09 51 37.5 +0.8
baz=69
N25A Grover 69.00 328 ⇑P P 09 51 38.1 +1.4
baz=69
M26A McRoberts Ranc 69.03 329 ⇓P P 09 51 37.8 +1.0
baz=69

ISCO	Idaho Springs baz=69,SNR=12	69.03	327	⇑P		P	09 51 37.7	+0.6
113A	Mohawk Valley, baz=69	69.08	316	⇑P		P	09 51 38.1	+0.9
K28A	Ten Mile Ranch baz=69	69.15	331	⇑P		P	09 51 38.7	+1.1
J29A	Okreek baz=69	69.23	332	⇓P		P	09 51 39.3	+1.4
WUAZ	Wupatki baz=70,SNR=10	69.32	320	⇓P		P	09 51 40.0	+1.1
Y14A	Wickenburg baz=70	69.33	318	⇑P		P	09 51 39.5	+0.7
L26A	Underwood Farm baz=70	69.43	330	⇓P		P	09 51 40.4	+1.1
M25A	Palm-Egli Farm baz=70	69.45	329	⇑P		P	09 51 40.5	+1.0
P22A	Eagle baz=70,SNR=10.0	69.48	326	⇓P		P	09 51 40.3	+0.4
O23A	Lake Granby, G baz=70,SNR=8.2	69.49	327	⇑P		P	09 51 40.8	+0.8
K27A	Flueckinger Fa baz=70	69.55	331	⇑P		P	09 51 40.9	+0.9
J28A	Allard Ranch, baz=70	69.65	332	⇓P		P	09 51 40.9	+0.3
I29A	Vivian Onida baz=70,SNR=6.0	69.71	333	⇓P		P	09 51 40.3	-0.6
O22A	Kremmling baz=70,SNR=21	69.78	326	⇑P		P	09 51 42.2	+0.4
M24A	Cheyenne baz=70,SNR=12	69.86	328	⇓P		P	09 51 43.0	+1.0
J27A	Elkhorn Farm, baz=70,SNR=8.7	69.87	331	⇑P		P	09 51 42.6	+0.6
L25A	Engebretsen Ra baz=70	69.95	329	⇓P		P	09 51 43.0	+0.4
GLA	Glamis baz=70	69.96	316	⇑P		P	09 51 43.9	+1.1
K26A	Motz Farm, Whi baz=70	69.99	330	⇑P		P	09 51 43.2	+0.5
N23A	Red Feather La baz=70,SNR=8.8	70.00	327	⇑P		P	09 51 43.8	+0.7
I28A	Midland baz=70	70.08	332	⇓P		P	09 51 44.3	+1.2
G30A	Faulkton baz=70	70.11	334	⇑P		P	09 51 44.6	+1.2
H29A	Onida baz=70	70.16	333	⇑P		P	09 51 44.6	+0.9
Y12C	Blythe baz=70	70.19	317	⇑P		P	09 51 44.7	+0.6
N22A	Wattenberg Ran baz=70	70.20	327	⇓P		P	09 51 45.1	+0.8
K25A	Mack Ranch, Ha baz=70	70.25	330	⇓P		P	09 51 45.5	+1.1
PDMCI	Parker Dam,Lak baz=70	70.28	317	⇓P		P	09 51 45.2	+0.6
M23A	Laramie baz=70	70.31	328	⇑P		P	09 51 45.7	+0.8
L24A	Wheatland baz=70	70.34	329	⇓P		P	09 51 45.8	+0.9
J26A	Sides Ranch, S baz=71,SNR=11	70.41	331	⇓P		P	09 51 46.0	+0.7
G29A	Hoven baz=71	70.49	334	⇑P		P	09 51 46.5	+0.9
I27A	Quinn baz=71,SNR=8.3	70.52	332	⇓P		P	09 51 46.0	0.0
SWSC	Sam W. Stewart baz=71	70.54	315	⇑P		P	09 51 46.8	+0.7
H28A	Mission Ridge baz=71,SNR=9.2	70.54	333	⇓P		P	09 51 45.8	-0.3
W13A	Hualapai Mount baz=71	70.62	318	⇓P		P	09 51 47.2	+0.3
F30A	Leola baz=71	70.64	335	⇓P		P	09 51 46.8	+0.2
O20A	White River Ci baz=71,SNR=11	70.67	325	⇓P		P	09 51 47.6	+0.5
M22A	Cedar Creek Ra baz=71,SNR=12	70.71	327	⇑P		P	09 51 48.5	+1.1
L23A	Garrett baz=71	70.78	328	⇓P		P	09 51 48.4	+0.6
K24A	Anderson Ranch baz=71	70.79	329	⇓P		P	09 51 48.5	+0.8
J25A	Sunshine Ranch baz=71	70.81	330	⇓P		P	09 51 48.8	+1.0
G28A	Parade baz=71	70.81	333	⇓P		P	09 51 48.1	+0.5
IRM	Iron Mountain baz=71,SNR=7.1	70.85	317	⇓P		P	09 51 48.7	+0.5
I26A	New Underwood baz=71	70.86	331	⇑P		P	09 51 48.7	+0.6
NEE2	Needles Airpor baz=71	70.88	318	⇑P		P	09 51 49.0	+0.7
MONP	Monument Peak baz=71	70.92	315	⇑P		P	09 51 49.3	+0.5
F29A	Eureka baz=71	70.96	334	⇑P		P	09 51 48.5	0.0
H27A	Howes baz=71,SNR=6.3	70.98	332	⇑P		P	09 51 48.5	-0.2
L22A	Ellis Ranch, M baz=71	71.08	328	⇓P		P	09 51 50.7	+1.1
E30A	Jud baz=71	71.13	335	⇓P		P	09 51 50.0	+0.4
J24A	Dixon Ranch, L baz=71	71.17	330	⇓P		P	09 51 50.6	+0.6
N20A	Spence Gulch, baz=71,SNR=15	71.17	326	⇓P		P	09 51 50.8	+0.6
K23A	Bowen Ranch, D baz=71	71.21	329	⇑P		P	09 51 50.9	+0.7
I25A	Rochford baz=71	71.25	331	⇑P		P	09 51 51.4	+0.8
F28A	McLaughlin baz=72	71.38	334	⇑P		P	09 51 50.8	-0.2
AGMN	Agassiz Nation baz=72	71.47	338	⇓P		P	09 51 50.6	-0.9
E29A	Napoleon baz=72	71.48	335	⇓P		P	09 51 51.3	-0.4
G27A	Dupree baz=72	71.50	333	⇑P		P	09 51 51.6	-0.2
I24A	Kuemmerle Ranc baz=72	71.55	330	⇓P		P	09 51 52.2	-0.1
D30A	Buchanan baz=72,SNR=7.8	71.57	336	⇓P		P	09 51 51.9	-0.3
TOA0	Torodi Ar. Sit	71.57	69	*e*P		P	09 51 52.1	-0.7
TORD	Torodi Ar. Bea	71.57	69	P		P	09 51 52.2	-0.7
TORD	Torodi Ar. Bea comp=Z,8.6nm,0.6s,baz=252,slow=6.0,SNR=56	71.57	69	P		P	09 51 52.2	-0.7
TORD	comp=Z,143nm,18.3s,baz=250,slow=35			LR		LR	10 21 57.8	
K22A	Casper baz=72,SNR=10	71.58	328	⇑P		P	09 51 53.2	+0.6
H25A	Fruitdale baz=72	71.65	331	⇑P		P	09 51 53.9	+1.1
G26A	Maurine baz=72	71.72	332	⇑P		P	09 51 53.2	0.0
D29A	Pettibone, Tap baz=72	71.86	335	⇓P		P	09 51 54.1	+0.2
E28A	Huff baz=72	71.92	334	⇑P		P	09 51 54.9	+0.6
F27A	Lemmon baz=72	71.92	333	⇑P		P	09 51 54.6	+0.3
K21A	Alcova baz=72,SNR=45	71.94	328	⇑P		P	09 51 55.6	+0.8
C30A	Mose, Pekin baz=72	71.95	336	⇑P		P	09 51 54.4	0.0
G25A	Newell baz=72	72.01	332	⇓P		P	09 51 54.9	-0.1
SCHQ	Schefferville	72.12	358	P		P	09 51 55.3	0.0
SCHQ	Schefferville comp=Z,10nm,0.8s,baz=186,slow=4.3,SNR=11	72.12	358	P		P	09 51 55.3	0.0
J22A	Midwest baz=72,SNR=22	72.12	329	⇑P		P	09 51 55.8	+0.1
TUQ	Turquoise Moun baz=72	72.14	317	⇑P		P	09 51 55.8	-0.2
E27A	Carson baz=72	72.17	334	⇓P		P	09 51 55.8	0.0
F26A	Lodgepole baz=72,SNR=9.2	72.19	333	⇓P		P	09 51 55.8	-0.1
H24A	Dirks Ranch, A baz=72,SNR=10	72.19	331	⇓P		P	09 51 55.8	-0.3
D28A	Regan baz=72	72.36	335	⇑P		P	09 51 56.8	-0.1
H23A	Clabaugh Cattl baz=73	72.45	330	⇓P		P	09 51 57.8	+0.2
I22A	9 Mile Ranch, baz=73	72.47	329	⇑P		P	09 51 57.8	0.0
RRX	Edison Barstow baz=73	72.50	316	⇑P		P	09 51 57.6	-0.5
B30A	Myrvik Farm, E baz=73	72.50	337	⇓P		P	09 51 58.1	+0.4
J21A	Lysite baz=73,SNR=8.4	72.55	328	⇑P		P	09 51 58.9	+0.5
BFSC	Mount Baldy Ra baz=73	72.56	316	⇑P		P	09 51 58.2	-0.3
G24A	Alzada baz=73	72.57	331	⇑P		P	09 51 58.5	+0.2
CIS	Catalina Islan baz=73	72.57	314	⇓P		P	09 51 59.1	+0.6
E26A	Carlson Angus baz=73	72.58	333	⇓P		P	09 51 58.1	-0.2
F25A	Bowman baz=73	72.59	332	⇑P		P	09 51 58.4	0.0
GSC	Goldstone baz=73	72.63	317	⇑P		P	09 51 58.2	-0.7
QSPA	South Pole Qui	72.64	180	P		P	09 51 58.5	-0.1
QSPA	South Pole Qui comp=Z,7.7nm,0.9s,baz=144,slow=0.9,SNR=41	72.64	180	P		P	09 51 58.5	-0.1
SHOC	Shoshone baz=73	72.65	318	⇓P		P	09 51 58.9	0.0
FMP	Fort Macarthur baz=73	72.67	315	⇓P		P	09 51 58.9	-0.2
D27A	Center baz=73	72.69	334	⇓P		P	09 51 59.2	+0.3
C28A	Hausauer Farms baz=73	72.71	335	⇓P		P	09 51 59.1	+0.2
I21A	Big Trails, Te baz=73,SNR=27	72.81	329	⇓P		P	09 51 59.4	-0.4
J20A	Shoshoni baz=73,SNR=6.8	72.88	328	⇑P		P	09 51 59.6	-0.6
A30A	Hoffart Farm, baz=73	72.90	337	⇓P		P	09 51 59.7	-0.4
B29A	Wagenman Farm, baz=73	72.91	336	⇓P		P	09 51 59.8	-0.3
G23A	Biddle baz=73,SNR=13	72.92	331	⇑P		P	09 52 00.1	-0.3
H22A	Clearmont baz=73	72.93	330	⇓P		P	09 52 00.0	-0.5
F24A	Ekalaka baz=73	72.97	332	⇓P		P	09 52 00.5	-0.2
D26A	Manning baz=73	73.01	334	⇑P		P	09 52 01.2	+0.4
DECC	Green Verdugo baz=73	73.01	315	⇑P		P	09 52 00.8	-0.3
E25A	Miller Ranch, baz=73	73.01	333	⇓P		P	09 52 01.2	+0.3
ULM	Lac du Bonnet	73.14	339	P		P	09 51 59.3	-2.1
ULM	Lac du Bonnet comp=Z,9.5nm,0.8s,baz=145,slow=6.7,SNR=8.6	73.14	339	P		P	09 51 59.3	-2.1
EDW2	Edwards Air Fo baz=73	73.16	316	⇓P		P	09 52 02.2	+0.2
C27A	Sayler Ranch, baz=73	73.16	335	⇓P		P	09 52 01.6	0.0
PDAR	Pinedale Array	73.22	327	P		P	09 52 02.2	-0.2
PDAR	Pinedale Array comp=Z,6.1nm,0.5s,baz=124,slow=8.7,SNR=88	73.22	327	P		P	09 52 02.2	-0.2
A29A	Manning Farm, baz=73	73.23	337	⇓P		P	09 52 02.0	-0.1
DUG	Dugway baz=73,SNR=14	73.26	323	⇓P		P	09 52 03.4	+0.8
B28A	Dugan Ranch, T baz=74,SNR=8.6	73.29	336	⇓P		P	09 52 02.6	+0.2
LRMC	Laurel Mountai baz=73	73.31	317	⇑P		P	09 52 03.6	+0.6
J19A	Crowheart baz=74,SNR=15	73.31	327	⇓P		P	09 52 03.0	+0.1
F23A	Volborg baz=74,SNR=17	73.32	331	⇓P		P	09 52 02.6	-0.1
I20A	Worland baz=74,SNR=15	73.33	328	⇓P		P	09 52 03.1	+0.2
FURC	Furnace Creek, baz=74,SNR=11	73.37	318	⇓P		P	09 52 03.6	+0.5
E24A	Baker baz=74	73.46	332	⇑P		P	09 52 04.0	+0.5
D25A	Fairfield baz=74,SNR=10	73.48	333	⇓P		P	09 52 04.1	+0.5
OSI	Osito Adit baz=74	73.49	315	⇑P		P	09 52 04.6	+0.7
C26A	Wahner Farm, P baz=74	73.49	334	⇓P		P	09 52 04.7	+1.0
B27A	Peters Farms, baz=74	73.61	335	⇑P		P	09 52 05.4	+1.1
A28A	Rude Farm, Bot baz=74	73.62	336	⇑P		P	09 52 05.5	+1.2
H20A	Greybull baz=74,SNR=16	73.65	329	⇓P		P	09 52 04.5	-0.3
R11A	Troy Canyon, C baz=74,SNR=9.5	73.72	320	⇑P		P	09 52 06.4	+1.0
BSC	Santa Cruz Isl baz=74	73.75	314	⇓P		P	09 52 05.3	-0.1
F22A	Rosebud baz=74,SNR=10.0	73.76	331	⇓P		P	09 52 05.2	-0.1
G21A	Lodge Grass baz=74	73.80	330	⇓P		P	09 52 05.6	0.0
I19A	Meeteetse baz=74	73.83	328	⇑P		P	09 52 05.1	-0.8
ARVC	Arvin baz=74	73.86	316	⇓P		P	09 52 04.9	-1.2
C25A	Freed Ranch, W baz=74,SNR=6.4	73.89	334	⇑P		P	09 52 06.3	+0.3
D24A	Glendive baz=74,SNR=8.8	73.89	333	⇓P		P	09 52 06.3	+0.2
B26A	Jensen Ranch, baz=74	73.98	335	⇑P		P	09 52 06.7	+0.2
GRAC	Grapevine Rang baz=74	74.01	318	⇓P		P	09 52 06.6	-0.4
A27A	Ledoux Ranch, baz=74	74.04	335	⇑P		P	09 52 07.0	+0.2
SBC	Santa Barbara baz=74	74.06	315	⇑P		P	09 52 06.8	-0.4
E22A	Miles City baz=74	74.11	331	⇓P		P	09 52 07.4	+0.1
F21A	Absaloka Mine, baz=74	74.20	330	⇓P		P	09 52 07.6	-0.3
C24A	Savage baz=74	74.25	333	⇑P		P	09 52 07.8	-0.3
H19A	Powell baz=74,SNR=10	74.28	328	⇑P		P	09 52 08.5	0.0
B25A	Knox Farm, Ray baz=74	74.28	334	⇓P		P	09 52 08.4	+0.1
G20A	Bridger baz=74,SNR=9.5	74.29	329	⇓P		P	09 52 07.8	-0.7
A26A	Wade Farm, Ken baz=74	74.31	335	⇑P		P	09 52 08.6	+0.2
D23A	Lindsay baz=74,SNR=8.6	74.33	332	⇑P		P	09 52 09.1	+0.5
VES	Vestal, Richgr baz=75	74.44	316	⇑P		P	09 52 08.8	-0.6
I17A	Pilgrim Ck. baz=75,SNR=26	74.56	327	⇑P		P	09 52 10.6	+0.3
TIN	Timemaha baz=75	74.60	318	⇑P		P	09 52 09.7	-0.7
H18A	Shoshone NF, C baz=75,SNR=20	74.62	328	⇑P		P	09 52 10.3	-0.3
F20A	Billings baz=75	74.68	330	⇓P		P	09 52 10.8	+0.1
E21A	Keefer Ranch, baz=75	74.71	331	⇑P		P	09 52 11.2	+0.4
D22A	Cohagen baz=75,SNR=9.6	74.75	332	⇑P		P	09 52 11.4	+0.4
SMMC	Simmler baz=75	74.75	315	⇑P		P	09 52 10.9	-0.3
A25A	Svangstu Ranch baz=75	74.78	334	⇓P		P	09 52 12.0	+0.9
C23A	Lambert baz=75	74.79	333	⇓P		P	09 52 11.5	+0.3
RCTC	Rector, Farmer baz=75	74.82	317	⇑P		P	09 52 12.2	+0.6
DGMT	Dagmar baz=75	74.88	334	⇓P		P	09 52 12.0	+0.3
H17A	Grant Village baz=75,SNR=6.0	74.89	327	⇓P		P	09 52 12.4	+0.2
D21A	La Casta Ranch baz=75,SNR=12	75.06	331	⇓P		P	09 52 13.3	+0.5
C22A	Vida baz=75	75.06	332	⇑P		P	09 52 13.0	+0.2
F19A	Roth Farm, Mol baz=75,SNR=11	75.10	329	⇑P		P	09 52 13.3	+0.2
A24A	Westby baz=75	75.14	334	⇑P		P	09 52 13.7	+0.5
E20A	Meyer Farm, Mu baz=75	75.18	330	⇓P		P	09 52 13.7	+0.2
B23A	Brockton baz=75,SNR=8.9	75.21	333	⇑P		P	09 52 14.3	+0.6
MLAC	Mammoth Lakes baz=76	75.33	318	⇑P		P	09 52 14.4	-0.4
E19A	Rath Farm, Rou baz=76,SNR=12	75.46	330	⇓P		P	09 52 15.2	0.0
NVAR	Mina Array Bea	75.46	319	P		P	09 52 16.4	+0.9
NVAR	Mina Array Bea comp=Z,4.4nm,0.8s,baz=133,slow=6.0,SNR=9.9	75.46	319	P		P	09 52 16.4	+0.9
B22A	Reddig Ranch S baz=76	75.53	332	⇑P		P	09 52 15.3	-0.1
A23A	Redstone baz=76	75.54	333	⇑P		P	09 52 16.0	+0.5
D20A	Manuel Ranch, baz=76	75.61	331	⇑P		P	09 52 16.0	0.0
C20A	Veseth Ranch, baz=76	76.00	331	⇓P		P	09 52 18.3	+0.1
D19A	Cripps Ranch, baz=76,SNR=12	76.01	330	⇑P		P	09 52 18.2	-0.1
B21A	Ellsworth Farm baz=76,SNR=11	76.07	332	⇑P		P	09 52 19.0	+0.4
HLID	Hailey baz=76,SNR=29	76.38	325	⇑P		P	09 52 21.3	+0.7
EVOP	Sao Brissos	76.41	42	*e*P		P	09 52 21.8	+1.2
EVOP	comp=Z,22nm,1.0s			pmax		pmax		
EVOP	Sao Brissos comp=Z,22nm,1.0s	76.41	42	*e*P		P	09 52 21.8	+1.2
EVO	Evora comp=Z,22nm,1.0s	76.48	42	*e*P		P	09 52 21.8	+0.7
EVO	comp=Z,123nm,22.8s			*e*R				
C19A	Slack Wire Ran baz=77	76.50	331	⇑P		P	09 52 21.7	+0.6
B20A	Solberg Farm, baz=77	76.54	332	⇑P		P	09 52 21.2	-0.1
A20A	Cobblestone Ra baz=77	76.81	332	⇓P		P	09 52 22.8	0.0
PTOM	Tomar comp=Z,64nm,2.0s	76.87	41	*e*P		P	09 52 23.6	+0.4
B19A	Brinkman Farms baz=77,SNR=11	76.97	331	⇓P		P	09 52 23.6	-0.1
EGMT	Eagleton baz=77,SNR=9.0	77.04	330	⇑P		P	09 52 24.0	-0.1
A19A	Klindworth Far baz=77,SNR=11	77.22	332	⇓P		P	09 52 24.9	-0.2
PVRL	Vila Real comp=Z,32nm,1.6s	78.27	40	*e*P		P	09 52 32.5	+1.4
MSO	Missoula baz=78	78.28	327	⇓P		P	09 52 31.2	+0.1
SYO	Syowa Base	78.52	159	⇓*e*P		P	09 52 30.6	-1.4
SYO	Syowa Base	78.52	159	⇓*e*sP		sP	09 52 36.0	-0.5
MVO	Moncorvo comp=Z,36nm,2.0s	78.63	40	*e*P		P	09 52 34.3	+1.2
FFC	Flin Flon	78.94	339	*e*P		P	09 52 33.9	-0.5
PBRG	Braganca comp=Z,45nm,2.1s	79.17	40	*e*P		P	09 52 37.1	+1.0
M04C	Macdoel baz=80	79.62	320	⇑P		P	09 52 38.9	+0.3
N02D	Trinity Center baz=80	79.70	319	⇑P		P	09 52 39.0	0.0
ESDC	Sonseca Array	79.73	43	P		P	09 52 40.2	+1.1
ESDC	Sonseca Array comp=Z,5.4nm,0.8s,baz=243,slow=5.5,SNR=22	79.73	43	P		P	09 52 40.2	+1.1
M02C	Callahan baz=80	80.03	319	⇑P		P	09 52 40.9	+0.1
J05D	Fort Rock, OR baz=80	80.12	321	⇑P		P	09 52 42.3	+1.0
J04D	Umpqua Nationa baz=81	80.61	321	⇓P		P	09 52 44.4	+0.3
I05D	Terrebonne, OR baz=81	80.79	322	⇑P		P	09 52 45.8	+1.1
NEW	Newport baz=81	80.85	327	⇓P		P	09 52 46.1	+1.1
L02D	Cave Junction, baz=81	80.92	319	⇓P		P	09 52 46.1	+0.7
BOSA	Boshof	81.09	117	P		P	09 52 46.1	-0.8
BOSA	Boshof comp=Z,8.2nm,1.0s,baz=266,slow=2.9,SNR=11	81.09	117	P		P	09 52 46.1	-0.8
I04A	Tendick Farm, baz=81	81.11	321	⇓P		P	09 52 47.1	+0.6
G05D	Wamic, OR baz=81	81.30	323	⇓P		P	09 52 48.5	+1.0
I03D	Drain, OR baz=82	81.62	321	⇑P		P	09 52 49.9	+0.9
G03D	McMinnville, O baz=82	82.41	322	⇑P		P	09 52 54.0	+0.8
F04D	Rainier, OR baz=83	82.76	323	⇓P		P	09 52 55.9	+0.9
SJPF	Ste Jean comp=Z,68nm,1.4s	83.30	41	⇑*i*P		P	09 52 59.2	+1.3
SJPF	Ste Jean	83.30	41	⇑*i*P		P	09 52 59.2	+1.3
SJPF	comp=Z,68nm,1.4s			pmax		pmax		
SJPF	Ste Jean comp=Z,68nm,1.4s	83.30	41	⇑*i*P		P	09 52 59.2	+1.3
ETSF	Etsaut comp=Z,32nm,1.1s	83.61	41	⇑*i*P		P	09 53 00.9	+1.3
ETSF	Etsaut	83.61	41	⇑*i*P		P	09 53 00.9	+1.3
ETSF	comp=Z,32nm,1.1s			pmax		pmax		
ETSF	Etsaut comp=Z,32nm,1.1s	83.61	41	⇑*i*P		P	09 53 00.9	+1.3
EPF	Esparros comp=Z,23nm,0.8s	84.24	42	⇑*i*P		P	09 53 03.8	+1.0
EPF	Esparros	84.24	42	⇑*i*P		P	09 53 03.8	+1.0
EPF	comp=Z,23nm,0.8s			pmax		pmax		
EPF	Esparros comp=Z,23nm,0.8s	84.24	42	⇑*i*P		P	09 53 03.8	+1.0
LFF	La Frestale comp=Z,23nm,0.7s	85.45	40	⇑*i*P		P	09 53 09.4	+0.6
LFF	La Frestale	85.45	40	⇑*i*P		P	09 53 09.4	+0.6
LFF	comp=Z,23nm,0.7s			pmax		pmax		
LFF	La Frestale comp=Z,23nm,0.7s	85.45	40	⇑*i*P		P	09 53 09.4	+0.6
MTLF	Montolieu comp=Z,19nm,1.1s	85.59	42	⇑*i*P		P	09 53 09.7	+0.2
MTLF	Montolieu	85.59	42	⇑*i*P		P	09 53 09.7	+0.2
MTLF	comp=Z,19nm,1.1s			pmax		pmax		
MTLF	Montolieu comp=Z,19nm,1.1s	85.59	42	⇑*i*P		P	09 53 09.7	+0.2
MFF	Saint Martin d comp=Z,7.8nm,0.8s	85.76	38	*e*P		P	09 53 10.6	+0.3
MFF	Saint Martin d	85.76	38	*e*P		P	09 53 10.6	+0.3
MFF	comp=Z,8.0nm,0.8s			pmax		pmax		
MFF	Saint Martin d comp=Z,7.8nm,0.8s	85.76	38	*e*P		P	09 53 10.6	+0.3
RJF	Les Rejaudoux	86.11	40	*e*P		P	09 53 12.3	+0.2
RJF	comp=Z,199nm,18.8s			*e*R				
RJF	Les Rejaudoux	86.11	40	*e*P		P	09 53 12.3	+0.2
RJF	Les Rejaudoux	86.11	40	*e*P		P	09 53 12.3	+0.2
CAF	Calviac comp=Z,4.8nm,0.6s	86.26	41	⇑*i*P		P	09 53 13.3	+0.4
CAF	Calviac	86.26	41	⇑*i*P		P	09 53 13.3	+0.4
CAF	comp=Z,5.0nm,0.6s			pmax		pmax		
CAF	Calviac comp=Z,4.8nm,0.6s	86.26	41	⇑*i*P		P	09 53 13.3	+0.4
BGF	Bois d'Agland comp=Z,10nm,0.7s	87.53	39	*e*P		P	09 53 19.3	+0.3
BGF	Bois d'Agland	87.53	39	*e*P		P	09 53 19.3	+0.3
BGF	comp=Z,10.0nm,0.7s			pmax		pmax		
BGF	Bois d'Agland comp=Z,10nm,0.7s	87.53	39	*e*P		P	09 53 19.3	+0.3
ORIF	Oris-en-Rattie comp=Z,26nm,1.3s	88.66	42	*e*P		P	09 53 25.2	+0.7
ORIF	comp=Z,182nm,19.5s			*e*R				
ORIF	Oris-en-Rattie comp=Z,26nm,1.3s	88.66	42	*e*P		P	09 53 25.2	+0.7
ORIF	comp=Z,26nm,1.3s			pmax		pmax		
ORIF	Oris-en-Rattie comp=Z,26nm,1.3s	88.66	42	*e*P		P	09 53 25.2	+0.7
EKA	Eskdalemuir Ar comp=Z,1.2nm,0.6s,baz=224,slow=3.5,SNR=4.0	88.82	30	P		P	09 53 24.1	-0.7
EKA	Eskdalemuir Ar	88.82	30	P		P	09 53 24.1	-0.7
YKA	Yellowknife Ar	89.11	339	P		P	09 53 26.1	0.0
YKA	Yellowknife Ar comp=Z,7.6nm,0.6s,baz=120,slow=4.6,SNR=27	89.11	339	P		P	09 53 26.0	0.0
MBDF	Montbardon comp=Z,53nm,1.6s	89.14	42	*e*P		P	09 53 27.0	+0.1
MBDF	Montbardon	89.14	42	*e*P		P	09 53 27.0	+0.1
MBDF	comp=Z,53nm,1.6s			pmax		pmax		
MBDF	Montbardon comp=Z,53nm,1.6s	89.14	42	*e*P		P	09 53 27.0	+0.1
SUMG	Summit	91.49	7	*i*P		P	09 53 38.5	+1.0
SUMG	comp=Z,9.0nm,1.0s			pmax		pmax		

SUMG	**Summit**	**91.49**	**7**	*i* P		**P**	**09 53 38.5**	**+1.0**	
	comp=Z,9.0nm,1.0s								
SUMG				*i*			09 54 13.4		
DAVOX	**Davos/Dischmat**	**91.98**	**41**	P		**P**	**09 53 41.8**	**+1.8**	
DAVOX	**Davos/Dischmat**	**91.98**	**41**	P		**P**	**09 53 41.8**	**+1.8**	
	comp=Z,3.8nm,0.9s,baz=333,slow=11,SNR=3.5								
CLL	**Collm**	**95.60**	**38**	*e*P		P	09 53 53.0	-3.3	
CLL				*e*			09 54 12.0		
CLL				pmax	pmax				
	comp=Z,16nm,1.6s								
CLL	**Collm**	**95.60**	**38**	*e*P		P	09 53 53.0	-3.3	
	comp=Z,16nm,1.6s								
CLL				Lm	MLR		10 30 00.0		
	comp=Z,100nm,20.3s								
KECS	**Kecovo**	**99.30**	**42**	*e*P		**Pdif**	**09 54 12.8**	**-0.3**	
KECS	**Kecovo**	**99.30**	**42**	PDIF		**Pdif**	**09 54 12.8**	**-0.3**	
CRVS	**Cervenica-Dubn**	**100.03**	**42**	*e*P		**Pdif**	**09 54 17.1**	**+0.7**	
CRVS	**Cervenica-Dubn**	**100.03**	**42**	PDIF		**Pdif**	**09 54 17.1**	**+0.7**	
SOC	**Sochi**	**111.66**	**49**	*e*PKIKP		PKiKP	09 58 52.5	-13	
BILL	**Bilibino**	**120.48**	**340**	*i* PKIKP		**PKPdf**	**09 59 21.0**	**-1.1**	
BILL				pmax	pmax				
	comp=Z,9.0nm,1.3s								
ARU	**Arti**	**122.25**	**34**	*i* PKIKP		**PKPdf**	**09 59 26.1**	**+0.3**	
ARU							10 01 00.1		
ARU							10 06 25.1		
AKTO	**Aktyubinsk**	**123.57**	**41**	PKIKP		**PKPdf**	**09 59 28.3**	**-0.3**	
AKTO	**Aktyubinsk**	**123.57**	**41**	PKP		**PKPdf**	**09 59 28.2**	**-0.3**	
AKTO	**Aktyubinsk**	**123.57**	**41**	PKP		**PKPdf**	**09 59 28.2**	**-0.3**	
	comp=Z,1.3nm,0.8s,baz=216,slow=1.8,SNR=5.4								
ABKAR	**Akbulak array**	**125.06**	**42**	*e*PKPdf		**PKPdf**	**09 59 31.6**	**+0.1**	
STKA	**Stephens Creek**	**125.12**	**207**	PKP		**PKPdf**	**09 59 31.6**	**-0.6**	
STKA	**Stephens Creek**	**125.12**	**207**	PKP		**PKPdf**	**09 59 31.6**	**-0.6**	
	comp=Z,2.6nm,0.8s,baz=115,slow=5.4,SNR=6.7								
TIXI	**Tiksi**	**125.36**	**355**	*e*PKIKP		**PKPdf**	**09 59 29.8**	**-1.5**	
SEY	**Seymchan**	**128.17**	**340**	*i* PKIKP		**PKPdf**	**09 59 38.2**	**+1.2**	
BRVK	**Borovoye**	**129.81**	**34**	*e*PKIKP		**PKPdf**	**09 59 43.1**	**+2.7**	
BVAR	**Borovoye Array**	**129.88**	**34**	PKIKP		**PKPdf**	**09 59 41.3**	**+0.8**	
BVAR	**Borovoye Array**	**129.88**	**34**	PKP		**PKPdf**	**09 59 41.3**	**+0.8**	
BVAR	**Borovoye Array**	**129.88**	**34**	PKP		**PKPdf**	**09 59 41.3**	**+0.8**	
	comp=Z,0.9nm,0.6s,baz=236,slow=1.6,SNR=7.6								
KURK	**Kurchatov**	**135.44**	**33**	*e*PKIKP		**PKPdf**	**09 59 52.2**	**+1.1**	
ASAR	**Alice Springs**	**135.51**	**204**	PKP		**PKPdf**	**09 59 51.8**	**-0.4**	
ASAR	**Alice Springs**	**135.51**	**204**	PKhKP		PKPpre	09 59 38.4		
	comp=Z,0.2nm,0.6s,baz=135,slow=3.0,SNR=4.6								
ASAR				PKP		**PKPdf**	**09 59 51.8**	**-0.4**	
	comp=Z,2.0nm,0.7s,baz=137,slow=1.9,SNR=20								
ZAA0	**Zalesovo Array**	**136.35**	**26**	*e*PKPdf		**PKPdf**	**09 59 52.8**	**+0.1**	
ZALV	**Zalesovo Beam**	**136.35**	**26**	PKPpre		PKPpre	09 59 47.0		
ZALV				PKP		**PKiKP**	**09 59 52.9**	**-1.5**	
ZALV	**Zalesovo Beam**	**136.35**	**26**	PKhKP		PKPpre	09 59 47.0		
	comp=Z,0.8nm,0.4s,baz=315,slow=1.9,SNR=3.9								
ZALV				PKP		**PKiKP**	**09 59 52.9**	**-1.5**	
	comp=Z,5.9nm,0.7s,baz=300,slow=2.9,SNR=20								
WRA	**Warramunga Arr**	**138.67**	**206**	PKP		**PKPdf**	**09 59 58.0**	**0.0**	
WRA	**Warramunga Arr**	**138.67**	**206**	PKhKP		PKPpre	09 59 47.6		
	comp=Z,0.5nm,0.5s,baz=160,slow=2.6,SNR=8.2								
WRA				PKP		**PKPdf**	**09 59 58.1**	**0.0**	
	comp=Z,9.2nm,1.1s,baz=162,slow=1.5,SNR=34								
WRAB	**Tennant Creek**	**138.67**	**207**	*e*PKIKP		**PKPdf**	**09 59 57.7**	**-0.3**	
WRAB	**Tennant Creek**	**138.67**	**207**	*e*PKPdf		**PKPdf**	**09 59 57.7**	**-0.3**	
KSH	**Kashi**	**138.96**	**49**	*e*PKP		**PKPdf**	**10 00 00.6**	**+2.5**	
KSH				*e*SKS		**SKSdf**	**10 07 05.3**	**-3.7**	
KSH				AMB	AMB				
	comp=Z,85nm,5.0s								
KSH				LR	LR				
	comp=Z,81nm,5.4s								
KSH				LR	LR				
	comp=Z,68nm,5.4s								
KSH				LR	LR				
	comp=Z,99nm,4.5s								
MKAR	**Makanchi Array**	**139.67**	**36**	PKHKP		PKPpre	09 59 52.2		
MKAR							09 59 59.0		
MKAR	**Makanchi Array**	**139.67**	**36**	PKPpre		PKPpre	09 59 52.2		
MKAR				PKP		**PKPdf**	**09 59 59.0**	**-0.1**	
MKAR	**Makanchi Array**	**139.67**	**36**	PKhKP		PKPpre	09 59 52.2		
	comp=Z,0.4nm,0.7s,baz=325,slow=2.3,SNR=2.4								
MKAR				PKP		**PKPdf**	**09 59 59.0**	**-0.1**	
	comp=Z,1.3nm,0.8s,baz=338,slow=2.6,SNR=4.7								
MOY	**Mondy**	**143.90**	**16**	*e*PKIKP		**PKPdf**	**10 00 04.7**	**-1.9**	
HYB	**Hyderabad**	**144.24**	**84**	*i* PKP		**PKPab**	**10 00 05.0**	**-0.9**	
WMQ	**Urumqi**	**144.50**	**36**	PKP		**PKPdf**	**10 00 10.3**	**+2.5**	
WMQ				PP		PP	10 03 28.6	+5.2	
WMQ				AMB	AMB				
	comp=Z,16nm,15.5s								
WMQ				LR	LR				
	comp=Z,55nm,17.0s								
WMQ				LR	LR				
	comp=Z,41nm,23.5s								
WMQ				LR	LR				
	comp=Z,75nm,22.5s								
TLY	**Talaya**	**144.53**	**13**	*c* *i*PKIKP		**PKPdf**	**10 00 06.3**	**-1.3**	
TLY				*e*			10 00 10.6		
TLY				pmax	pmax				
	comp=Z,29nm,0.9s								
TLY	**Talaya**	**144.53**	**13**	*e*PKPdf		PKPbc	10 00 05.9	-0.2	
ASAJ	**Asahikawa**	**145.35**	**326**	PKPbc		**PKPab**	**10 00 09.4**	**+0.3**	
ASAJ	**Asahikawa**	**145.35**	**326**	PKPbc		**PKPab**	**10 00 09.4**	**+0.3**	
	comp=Z,17nm,1.1s,baz=0.0,slow=2.0,SNR=4.7								
ZAK	**Zakamensk**	**145.66**	**15**	*e*PKP2		**PKPab**	**10 00 09.8**	**-0.4**	
ZAK				pmax	pmax				
	comp=Z,15nm,1.3s								
KLR	**Kul'dur**	**145.93**	**342**	*e*PKHKP		PKPpre	10 00 06.7		
KLR				pmax	pmax				
	comp=Z,57nm,1.6s								
PYUN	**Piuthan**	**147.83**	**65**	*e*P		**PKPdf**	**10 00 13.4**	**-0.7**	
	comp=Z,11nm,0.5s								
HIA	**Hailar**	**148.21**	**355**	*e*PKPbc		**PKPbc**	**10 00 16.8**	**-0.3**	
HIA				*e*PKPab		**PKPab**	**10 00 21.0**	**+1.0**	
KOLN	**Koldanda**	**148.42**	**65**	*e*P		**PKPdf**	**10 00 14.7**	**-0.4**	
	comp=Z,16nm,0.8s								
DANN	**Dangsing**	**148.44**	**64**	*e*P		**PKPdf**	**10 00 15.3**	**+0.1**	
	comp=Z,87nm,0.9s								
SONM	**Songino Array**	**148.75**	**13**	PKP		**PKPdf**	**10 00 15.9**	**+1.0**	
SONM				PKPbc		**PKiKP**	**10 00 19.2**	**-1.0**	
SONM	**Songino Array**	**148.75**	**13**	PKP		**PKPdf**	**10 00 15.9**	**+1.0**	
	comp=Z,15nm,0.9s,baz=307,slow=3.0,SNR=43								
SONM				PKPbc		**PKiKP**	**10 00 19.2**	**-1.0**	
	comp=Z,15nm,0.9s,baz=326,slow=1.3,SNR=60								
ULN	**Ulaanbaatar**	**148.85**	**12**	*e*PKPbc		**PKPbc**	**10 00 16.9**	**-2.1**	
GKN	**Gorkha**	**149.27**	**65**	*e*P		**PKPdf**	**10 00 16.2**	**-0.2**	
	comp=Z,71nm,1.1s								
DMN	**Daman**	**149.76**	**65**	*e*P		**PKPdf**	**10 00 17.1**	**-0.2**	
KKN	**Kakani**	**149.87**	**65**	*e*P		**PKPdf**	**10 00 17.1**	**-0.4**	
PKIN	**Phulchoki**	**150.02**	**65**	*e*P		**PKPdf**	**10 00 17.0**	**-0.8**	
PKI	**Pulchoki**	**150.03**	**65**	*e*P		**PKPdf**	**10 00 17.1**	**-0.8**	
USRK	**Ussuriysk Arra**	**150.23**	**337**	PKPbc		**PKPbc**	**10 00 22.8**	**+0.4**	
	comp=Z,33nm,0.9s,baz=356,slow=1.3,SNR=53								
GUN	**Gumba**	**150.36**	**64**	*e*P		**PKPdf**	**10 00 18.3**	**-0.1**	
	comp=Z,99nm,1.1s								
JIRN	**Jiri**	**150.69**	**65**	*e*P		**PKPdf**	**10 00 18.6**	**-0.3**	
MDJ	**Mudanjiang**	**150.71**	**340**	PKPbc		**PKPdf**	**10 00 18.3**	**+0.3**	
RAMN	**Ramite**	**151.20**	**66**	*e*P		**PKPdf**	**10 00 19.5**	**-0.1**	
	comp=Z,29nm,0.8s								
SOEI	**Soe**	**151.71**	**197**	*e*PKPbc		**PKPbc**	**10 00 28.0**	**+1.2**	
ODAN	**Odare**	**151.91**	**66**	*e*P		**PKPdf**	**10 00 20.3**	**-0.4**	
TAPN	**Taplejung**	**152.07**	**64**	*e*P		**PKPdf**	**10 00 20.6**	**-0.4**	
CN2	**Changchun**	**152.64**	**345**	*e*PKPbc		**PKPdf**	**10 00 22.3**	**+1.4**	
MJAR	**Matsushiro Arr**	**152.79**	**318**	PKPbc		**PKPbc**	**10 00 28.0**	**-0.5**	
MJAR	**Matsushiro Arr**	**152.79**	**318**	PKPbc		**PKPbc**	**10 00 28.0**	**-0.5**	
	comp=Z,2.6nm,0.6s,baz=93,slow=1.0,SNR=13								
GTA	**Gaotai**	**154.01**	**30**	PKPbc		**PKPbc**	**10 00 27.6**	**-3.6**	
GTA				PP		PP	10 04 25.5	+7.1	
GTA				SKKS			10 11 10.8		
GTA				SS		**SS**	**10 23 56.1**	**-0.2**	
GTA				AMB	AMB				
	comp=Z,130nm,6.6s								
GTA				LR	LR				
	comp=Z,100nm,18.5s								
GTA				LR	LR				
	comp=Z,120nm,18.5s								
GTA				LR	LR				
	comp=Z,130nm,19.0s								
HHC	**Hu-ho-hao-te**	**156.44**	**9**	*e*PKP		**PKPdf**	**10 00 27.3**	**+0.9**	
HHC				PKS		**PKSdf**	**10 03 58.6**	**-1.8**	
HHC				PP		**PP**	**10 04 35.3**	**+3.9**	
HHC				SKS		**SKSdf**	**10 07 34.4**	**+1.4**	
HHC				SS		**SS**	**10 24 19.4**	**-2.2**	
HHC				AMB	AMB				
	comp=Z,250nm,10.0s								
HHC				LR	LR				
	comp=Z,340nm,21.5s								
HHC				LR	LR				
	comp=Z,300nm,21.3s								
HHC				LR	LR				
	comp=Z,320nm,22.1s								
KSRS	**Korea Array**	**157.59**	**335**	PKP		**PKPdf**	**10 00 28.6**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=167,slow=2.1,SNR=4.1								
KSRS				PKPab		**PKPab**	**10 00 59.0**	**-0.6**	
	comp=Z,4.5nm,1.0s,baz=28,slow=4.0,SNR=6.9								
KSAR	**Wonju Array Be**	**157.61**	**335**	PKP		**PKPdf**	**10 00 28.6**	**+0.8**	
KSAR				PKPab		**PKPab**	**10 00 59.0**	**-0.8**	
PSI	**Prapat**	**157.68**	**129**	PKPab		**PKPab**	**10 01 00.5**	**-0.4**	
PSI	**Prapat**	**157.68**	**129**	PKPab		**PKPab**	**10 01 00.5**	**-0.4**	
	comp=Z,1.4nm,0.4s,baz=162,slow=3.2,SNR=9.4								
XAN	**Xi'an**	**162.35**	**20**	PKP		**PKPdf**	**10 00 33.5**	**+0.1**	
XAN				pPKP		**pPKPdf**	**10 00 38.0**	**+1.2**	
CD2	**Chengdu**	**162.59**	**38**	*e*PKP		**PKPdf**	**10 00 35.9**	**+2.2**	
CMAR	**Chiang Mai Arr**	**163.67**	**84**	PKP		**PKPdf**	**10 00 34.1**	**-0.9**	
CMAR				PKPab		**PKPab**	**10 01 26.0**	**-0.9**	
CMAR	**Chiang Mai Arr**	**163.67**	**84**	PKP		**PKPdf**	**10 00 34.1**	**-0.9**	
	comp=Z,0.8nm,0.3s,baz=268,slow=2.1,SNR=5.1								
CMAR				PKPab		**PKPab**	**10 01 26.0**	**-0.9**	
	comp=Z,1.1nm,0.4s,baz=272,slow=5.7,SNR=8.9								
GYA	**Guiyang**	**167.55**	**43**	PKP		**PKPdf**	**10 00 40.3**	**+2.1**	
GYA				PKPab		**PKPab**	**10 01 47.3**	**+3.5**	
GYA				PKS		**PKSdf**	**10 04 12.5**	**+1.5**	
GYA				PP	PP		10 05 36.6	+4.9	
GYA				SKKS			10 12 23.3		
GYA				SS		**SS**	**10 26 20.0**	**+0.8**	
GYA				AMB	AMB				
	comp=Z,140nm,8.0s								
GYA				LR	LR				
	comp=Z,150nm,23.4s								
GYA				LR	LR				
	comp=Z,120nm,24.0s								
GYA				LR	LR				
	comp=Z,140nm,23.3s								

ISCJB ***23*** *09:43:02.6±1.1, 8.19N±0.05×83.10W±0.03, h8km±6km, mb4.4/28, MS4.2/6, Error ellipse: s-maj=8.7km s-min=4.3km az=22.3*

IDC ***23*** *09:43:02.5±1.0, 8.14N×83.11W, h0km, mb4.1/12, mb1 4.4/15, mb1mx4.3/25, mbtmp4.2/15, ML4.2/3, MS3.8/5, Ms1 3.8/5, ms1mx3.4/27, Error ellipse: s-maj=36.5km s-min=16.6km az=47.0*

CASC ***23*** *09:43:04.0±3.2, 8.37N×83.05W, h0km±9km, MD4.8, ML3.8, mb4.7(NEIC)*

BJI ***23*** *09:43:08.3, 8.30N×83.10W, h35km, mB5.3/4, Ms5.0/2, Ms7 4.6/2*

NEIC ***23*** *09:43:08.5±1.1, 8.25N×83.14W, h36km±10km, mb4.7/20, Error ellipse: s-maj=12.7km s-min=8.0km az=209.0*

NEIC Felt at Quepos and San Vito. Also felt at Volcan, Panama.

ISC 23 09:43:05.8±1.7, 8.36N±0.07×83.10W±0.05, h12km±9km, n109,σ1$70/107, mb4.5/28, MS4.1/6, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.29**	**347**	*e*P		**Pg**	**09 43 10.3**	**-1.5**	
ACR				*e*S		**Sb**	**09 43 19.1**	**+1.2**	
CTCR	**Cotoan**	**0.63**	**33**	*e*P		**Pg**	**09 43 16.6**	**-1.5**	
BRU	**Baru**	**0.69**	**50**	*e*P		**Pb**	**09 43 18.5**	**-1.6**	
BUS	**Buena Vista**	**1.35**	**331**	*e*P		**Pg**	**09 43 28.9**	**-2.9**	
BUS				*e*S		**Sb**	**09 43 49.5**	**+0.9**	
QCR	**Quepos**	**1.49**	**315**	*e*P		**Pn**	**09 43 30.8**	**-1.5**	
URSC	**Urasca**	**1.61**	**335**	*i* P		**Pn**	**09 43 32.6**	**-1.6**	
SJS	**Escuela Geolog**	**1.83**	**329**	*e*P		**Pn**	**09 43 36.7**	**-0.4**	
SJS				*e*S		**Sb**	**09 44 02.2**	**+0.1**	
CAO	**Cobano**	**2.38**	**304**	*e*P		**Pn**	**09 43 42.6**	**-2.0**	
JCR	**Jicaral**	**2.48**	**307**	*e*P		Pn	09 43 42.5	-3.4	
JCR				*e*S		**Sn**	**09 44 16.6**	**+0.4**	
CASO	**Castillo**	**2.61**	**322**	*i* P		**Pn**	**09 43 49.2**	**+1.3**	
CEDE	**Laguna Cedˆ–o**	**2.64**	**323**	*i* P		**Pn**	**09 43 48.9**	**+0.7**	
CEDE				*i* S		**Sb**	**09 44 26.2**	**+0.8**	
JTS	**JuntasAbangare**	**2.65**	**316**	*e*Pn		**Pn**	**09 43 50.0**	**+1.7**	
JTS				Sn		**Sn**	**09 44 23.9**	**+3.5**	
JTS	**JuntasAbangare**	**2.65**	**316**	Pn		**Pn**	**09 43 48.2**	**-0.1**	
	90nm,0.3s,baz=88,slow=21,SNR=254								
JTS				Sn		**Sn**	**09 44 23.9**	**+3.5**	
	79nm,0.3s,baz=321,slow=20,SNR=7.7								
JTS				LR		LR	09 44 23.9		
	comp=Z,360nm,20.6s,baz=160,slow=29								
PTEN	**Parque Tenorio**	**2.99**	**322**	*i* P		**Pn**	**09 43 54.0**	**+1.0**	
CUI	**Cuipilapa**	**3.06**	**318**	*i* P		**Pn**	**09 43 55.3**	**+1.3**	
COLC	**Colonia**	**3.09**	**318**	*i* P		**Pn**	**09 43 55.7**	**+1.3**	
LAPC	**Finca la Perla**	**3.32**	**316**	*i* P		**Pn**	**09 43 58.9**	**+1.4**	
BCIP	**Isla Barro Col**	**3.32**	**76**	*e*P		**Pn**	**09 43 56.4**	**-1.2**	
BCIP	**Isla Barro Col**	**3.32**	**76**	*e*Pn		**Pn**	**09 43 56.5**	**-1.0**	
BCIP				*e*Sn		**Sn**	**09 44 38.8**	**+1.7**	
GBS2	**Las Lilas**	**3.38**	**317**	*i* P		**Pn**	**09 43 60.0**	**+1.6**	
UPA	**Univ. de Panam**	**3.58**	**80**	*e*P		**Pn**	**09 43 59.9**	**-1.2**	
HUEN		**4.97**	**323**	*e*P		**Pn**	**09 44 21.9**	**+1.6**	
COPN	**Copaltepe**	**5.12**	**318**	*e*P		**Pn**	**09 44 23.3**	**+1.1**	
TGUH	**Tegucigalpa,Un**	**6.98**	**324**	*e*P		**Pn**	**09 44 50.2**	**+2.3**	
TGUH	**Tegucigalpa,Un**	**6.98**	**324**	*e*Pn		**Pn**	**09 44 50.8**	**+2.9**	
VSM	**San Miguel**	**7.15**	**315**	*e*P		**Pn**	**09 44 53.2**	**+2.7**	
LFRS	**El Faro**	**7.84**	**312**	*e*P		**Pn**	**09 45 02.3**	**+2.4**	
LFRS				*e*S		**Sn**	**09 46 26.4**	**-2.4**	
LFU	**La Fuente**	**7.97**	**313**	*e*P		**Pn**	**09 45 03.5**	**+2.0**	
SNET	**Serv Nac Est T**	**8.01**	**312**	AML		AML	09 45 07.6		
	comp=Z,54nm,0.6s								
BOQS	**Boqueron**	**8.08**	**312**	*e*P		**Pn**	**09 45 05.0**	**+1.9**	
SBLS	**San Blas**	**8.40**	**311**	*e*P		**Pn**	**09 45 09.8**	**+2.2**	
RTR	**El Retiro**	**8.45**	**311**	*e*P		**Pn**	**09 45 10.3**	**+2.1**	
RBDL	**Robledal**	**8.62**	**312**	*e*P		**Pn**	**09 45 12.6**	**+2.0**	
MRL	**Marmol**	**9.27**	**317**	*e*P		**Pn**	**09 45 22.1**	**+2.6**	
OTAV	**Otavalo**	**9.31**	**150**	*e*Pn		**Pn**	**09 45 21.8**	**+1.5**	
APG	**El Apazote**	**9.77**	**313**	Pn		**Pn**	**09 45 25.8**	**-0.7**	
APG	**El Apazote**	**9.77**	**313**	Pn		**Pn**	**09 45 25.8**	**-0.7**	
	comp=Z,0.9nm,0.3s,baz=135,slow=10.0,SNR=39								
MTDJ	**Mount Denham**	**11.20**	**28**	*e*Pn		**Pn**	**09 45 47.3**	**+1.5**	
SDV	**Santo Domingo**	**12.34**	**87**	Pn		**Pn**	**09 46 02.9**	**+1.3**	
	comp=Z,56nm,1.3s								
TEIG	**Tepich**	**12.81**	**338**	*e*Pn		**Pn**	**09 46 07.8**	**0.0**	
TEIG	**Tepich**	**12.81**	**338**	Pn		**Pn**	**09 46 06.9**	**-0.9**	
	comp=Z,1.6nm,0.3s,baz=86,slow=19,SNR=2.3								
SDDR	**Presa de Saban**	**15.58**	**46**	*e*Pn		**Pn**	**09 46 44.9**	**-0.5**	
	comp=Z,24nm,0.9s								
GRTK	**Grand Turk**	**17.43**	**40**	*e*P		**P**	**09 47 11.5**	**+1.3**	
	comp=Z,61nm,0.9s								
CRPR	**Cabo Rojo, PR**	**18.27**	**57**	*e*Pn		**P**	**09 47 23.1**	**+3.7**	
	comp=Z,90nm,1.5s								
OBIP	**Obispado Ponce**	**18.70**	**57**	*e*P		**Pn**	**09 47 26.8**	**+2.2**	
	comp=Z,32nm,0.9s								
AOPR	**Arecibo Observ**	**18.73**	**56**	*e*P		**Pn**	**09 47 26.0**	**+1.1**	
	comp=Z,21nm,0.7s								
CELP	**Cerrillos**	**18.74**	**57**	*e*P		**Pn**	**09 47 25.8**	**+0.7**	
CPD	**Cerro la Pandu**	**19.28**	**58**	*e*P		**Pn**	**09 47 33.3**	**+1.7**	
	comp=Z,20nm,0.9s								
CBYP	**Canovanas**	**19.44**	**58**	*e*P		**Pn**	**09 47 32.8**	**-0.8**	
	comp=Z,81nm,1.6s								
GRGR	**Grenville**	**21.43**	**78**	*e*P		P	09 47 59.5	+5.6	
	comp=Z,207nm,1.0s								
LRAL	**Lakeview Retre**	**24.81**	**352**	*e*P		**P**	**09 48 29.2**	**+1.4**	
	comp=Z,116nm,2.3s								
GOGA	**Godfrey**	**24.93**	**359**	*e*P		**P**	**09 48 29.4**	**+0.5**	
	comp=Z,17nm,0.8s								
JSC	**Jenkinsville**	**25.85**	**3**	*e*P		**P**	**09 48 37.5**	**+0.3**	
TKL	**Tuckaleechee C**	**27.17**	**359**	P		**P**	**09 48 51.2**	**+2.0**	
TKL	**Tuckaleechee C**	**27.17**	**359**	P		**P**	**09 48 51.2**	**+2.0**	
	comp=Z,6.7nm,1.0s,baz=181,slow=13,SNR=3.4								
TKL				LR		LR	09 58 43.0		
	comp=Z,401nm,19.7s,baz=162,slow=34								
UALR	**University of**	**27.62**	**343**	*e*P		**P**	**09 48 52.3**	**-0.9**	
	comp=Z,136nm,2.5s								
TXAR	**Lajitas Array**	**28.43**	**320**	P		**P**	**09 49 02.5**	**+1.9**	
TXAR	**Lajitas Array**	**28.43**	**320**	P		**P**	**09 49 02.5**	**+1.9**	
	comp=Z,0.5nm,0.8s,baz=138,slow=8.2,SNR=2.3								
WCI	**Wyandotte Cave**	**29.87**	**355**	*e*P		**P**	**09 49 12.5**	**-0.7**	
	comp=Z,12nm,1.0s								
BLO	**Bloomington**	**30.83**	**355**	*e*P		**P**	**09 49 21.7**	**+0.1**	
	comp=Z,98nm,2.2s								
ACSO	**Alum Creek Sta**	**31.73**	**0**	*e*P		**P**	**09 49 29.6**	**0.0**	
	comp=Z,22nm,0.9s								
W18A	**Petrified Fore**	**36.11**	**321**	*e*P		**P**	**09 50 10.3**	**+2.4**	
	comp=Z,10.0nm,1.2s								
BRSD	**Miller**	**38.50**	**342**	*e*P		**P**	**09 50 28.0**	**+0.2**	
	comp=Z,14nm,0.8s								
PDAR	**Pinedale Array**	**41.40**	**330**	P		**P**	**09 50 51.4**	**-0.9**	
PDAR	**Pinedale Array**	**41.40**	**330**	P		**P**	**09 50 51.4**	**-0.9**	
	comp=Z,7.7nm,1.0s,baz=147,slow=5.1,SNR=3.8								
H03N2	**Juan Fernandez**	**41.76**	**175**	T		T	10 35 13.0		
	baz=354,slow=75,SNR=44								
H03N1	**Juan Fernandez**	**41.76**	**175**	T		T	10 35 14.4		
	baz=354,slow=75,SNR=80								
H03N3	**Juan Fernandez**	**41.78**	**175**	T		T	10 35 14.4		
	baz=354,slow=75,SNR=46								

TPH	**Tonopah**	**42.67**	**319**	*e*P		**P**	**09 51 04.8**	**+2.1**	
	comp=Z,6.2nm,1.0s								
ULM	**Lac du Bonnet**	**43.09**	**348**	P		**P**	**09 51 03.1**	**-2.5**	
ULM	**Lac du Bonnet**	**43.09**	**348**	P		**P**	**09 51 03.1**	**-2.5**	
	comp=Z,3.0nm,0.7s,baz=144,slow=7.1,SNR=5.0								
NVAR	**Mina Array Bea**	**43.58**	**319**	P		**P**	**09 51 11.2**	**+1.1**	
NVAR	**Mina Array Bea**	**43.58**	**319**	P		**P**	**09 51 11.2**	**+1.1**	
	comp=Z,2.8nm,0.9s,baz=123,slow=4.9,SNR=12								
DGMT	**Dagmar**	**43.76**	**340**	*e*P		**P**	**09 51 10.9**	**-0.2**	
	comp=Z,12nm,1.0s								
BMN	**Battle Mountai**	**44.06**	**322**	*e*P		**P**	**09 51 15.1**	**+1.3**	
	comp=Z,48nm,2.5s								
SCHQ	**Schefferville**	**48.13**	**13**	LR		LR	10 13 49.1		
	comp=Z,104nm,18.1s,baz=214,slow=38								
PLCA	**Paso Flores**	**50.20**	**168**	P		P	09 51 58.1	-3.5	
PLCA	**Paso Flores**	**50.20**	**168**	P		P	09 51 58.1	-3.5	
	comp=Z,2.7nm,0.8s,baz=343,slow=7.1,SNR=7.8								
TRQA	**Tornquist**	**50.21**	**158**	*e*P		P	09 51 58.5	-3.2	
	comp=Z,48nm,1.4s								
FCC	**Fort Churchill**	**50.98**	**353**	*e*P		**P**	**09 52 05.5**	**-1.7**	
	comp=Z,0.2nm,0.8s								
EDM	**Edmonton**	**50.99**	**337**	*e*P		**P**	**09 52 05.8**	**-1.6**	
YKA	**Yellowknife Ar**	**58.69**	**344**	P		**P**	**09 53 01.5**	**-1.4**	
YKA	**Yellowknife Ar**	**58.69**	**344**	P		**P**	**09 53 01.5**	**-1.4**	
	comp=Z,2.0nm,0.8s,baz=140,slow=6.8,SNR=48								
INK	**Inuvik**	**68.37**	**342**	P		**P**	**09 54 06.7**	**-0.1**	
INK	**Inuvik**	**68.37**	**342**	P		**P**	**09 54 06.7**	**-0.1**	
	comp=Z,5.9nm,1.1s,baz=136,slow=3.9,SNR=10								
ILAR	**Eielson Array**	**71.47**	**336**	P		**P**	**09 54 25.8**	**-0.1**	
ILAR	**Eielson Array**	**71.47**	**336**	P		**P**	**09 54 25.8**	**-0.1**	
	comp=Z,3.0nm,0.8s,baz=114,slow=4.4,SNR=11								
RSO	**Redoubt South**	**72.78**	**331**	*e*Pdif		**P**	**09 54 37.0**	**+2.8**	
COLD	**Co

MTVR	**Mutnovka**	**2.96**	**206**	P	Pb	10 01 24.8 -1.2

NIED ***23*** *10:05:00, 28.70N×129.60E, h20km, Mw3.7 Best double couple: M₀4.33000×10¹⁴ NP1:φ₀71.00000°, δ65.00000°, λ168.00000°. NP2:φ₀167.00000°, δ79.00000°, λ26.00000°.*

JMA 23 10:05:46.2±0.2, 28.71N×129.59E, h10km±4km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.30**	**177**	P	Pg	10 05 52.1	-0.1
JAM				S	Sg	10 05 55.9	-0.3
JZK	**Kikaishima**	**0.52**	**139**	P	Pg	10 05 56.2	-0.1
JZK				S	Sg	10 06 03.6	+0.5
JAMN	**Amaminishikomi**	**0.59**	**218**	P	Pg	10 05 57.8	+0.1
JAMN				S	Sg	10 06 05.9	+0.4
JTK	**Tokunoshima**	**1.08**	**212**	P	Pg	10 06 05.1	-1.9
JTK				S	Sg	10 06 19.0	-2.1
JNN	**Nakanoshima**	**1.15**	**12**	P	Pb	10 06 06.9	-1.4
JKC	**Kuchinoerabu**	**1.82**	**17**	P	Pn	10 06 16.5	-1.1
JKC				S	Sn	10 06 38.4	-2.4
JIH	**Iheya**	**2.20**	**221**	P	Pn	10 06 23.4	+0.6
JOW	**Kunigami**	**2.20**	**212**	P	Pn	10 06 23.2	+0.3
JOW				S	Sn	10 06 50.0	-0.2
JTN	**Tanegashima 3**	**2.28**	**32**	P	Pn	10 06 25.0	+1.0

IDC ***23*** *10:15:22.6±2.1, 17.48S×178.90W, h507km±24km, mb3.3/14, mb1 3.5/16, mb1mx3.4/24, mbtmp4.1/16, Error ellipse: s-maj=38.1km s-min=12.8km az=150.0*

ISCJB ***23*** *10:15:24.6±1.0, 17.4S±0.2×179.0W±0.2, h539km, mb3.6/14, Error ellipse: s-maj=38.7km s-min=12.5km az=146.6*

ISC 23 10:15:25.2±1.1, 17.5S±0.3×178.9W±0.2, h539km, n18, σ0°77/18, mb3.6/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.79**	**63**	P	P	10 17 16.0	-4.7
	3.1nm,0.3s,baz=251,slow=2.9,SNR=5.4						
DZM	**Mont Dzumac**	**14.47**	**249**	P	**P**	**10 18 29.2**	**-0.2**
	0.3nm,0.3s,baz=96,slow=19,SNR=3.0						
CTA	**Charters Tower**	**33.01**	**269**	P	**P**	**10 21 16.4**	**+0.3**
	5.5nm,1.0s,baz=102,slow=13,SNR=3.0						
STKA	**Stephens Creek**	**38.36**	**241**	P	**P**	**10 22 00.7**	**+0.4**
	1.3nm,0.5s,baz=79,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**44.20**	**259**	P	**P**	**10 22 45.5**	**-1.3**
	0.5nm,0.6s,baz=97,slow=7.2,SNR=9.3						
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**10 22 48.5**	**+0.1**
	4.0nm,0.5s,baz=88,slow=8.1,SNR=97						
ASAR				PcP	**PcP**	**10 24 20.6**	**+0.1**
	0.5nm,0.5s,baz=106,slow=4.0,SNR=8.1						
MJAR	**Matsushiro Arr**	**67.31**	**324**	P	**P**	**10 25 27.3**	**+0.7**
	5.9nm,0.9s,baz=150,slow=5.5,SNR=4.1						
PETK	**Petropavlovsk-**	**73.20**	**346**	P	**P**	**10 26 01.9**	**+0.8**
	3.2nm,1.0s,baz=136,slow=8.2,SNR=3.7						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**10 26 37.0**	**+0.6**
	0.6nm,0.6s,baz=226,slow=9.1,SNR=6.1						
SEY	**Seymchan**	**83.31**	**347**	P	**P**	**10 26 54.8**	**-0.2**
	2.3nm,0.5s,baz=137,slow=6.8,SNR=15						
ILAR	**Eielson Array**	**85.65**	**13**	P	**P**	**10 27 05.8**	**-0.7**
	0.5nm,0.4s,baz=225,slow=5.3,SNR=20						
TXAR	**Lajitas Array**	**86.23**	**58**	P	**P**	**10 27 11.2**	**+1.0**
	0.7nm,0.7s,baz=225,slow=6.7,SNR=7.4						
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**10 27 15.8**	**+0.1**
	0.6nm,0.5s,baz=208,slow=3.3,SNR=9.0						
INK	**Inuvik**	**91.67**	**15**	P	**P**	**10 27 33.9**	**-0.5**
	0.7nm,1.0s,baz=221,slow=6.2,SNR=4.0						
SONM	**Songino Array**	**92.94**	**319**	P	**P**	**10 27 40.9**	**0.0**
	0.1nm,0.5s,baz=129,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**94.22**	**25**	P	**P**	**10 27 44.3**	**-1.9**
	0.2nm,0.7s,baz=244,slow=4.4,SNR=6.2						
BRTR	**Keskin Array B**	**144.17**	**315**	PKP	**PKPdf**	**10 34 00.2**	**+0.1**
	0.7nm,0.6s,baz=124,slow=4.8,SNR=4.4						
GERES	**GERESS Array B**	**147.13**	**345**	PKPbc	**PKPbc**	**10 34 08.1**	**+0.2**
	0.9nm,0.6s,baz=20,slow=4.3,SNR=8.4						

SKO 23 10:38:50.9, 41.31N×22.74E, h1km, Northwestern Balkan Peninsula

IDC 23 10:42:06.8±2.7, 53.60N×86.83E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=26.2km s-min=13.0km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**287**	*i*		10 49 10.0	
	baz=104,slow=341,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.25**	**287**	Pg	Pg	10 42 29.7	-1.1
	0.9nm,0.3s,baz=104,slow=17,SNR=9.5						
ZALV				Lg	Lg	10 42 47.6	
	1.2nm,0.3s,baz=114,slow=27,SNR=8.7						
ZALV				Rg	Rg	10 43 01.1	
	1.3nm,0.3s,baz=92,slow=33,SNR=6.3						
KURBB	**Kurchatov Arra**	**5.92**	**243**	Pn	Pn	10 43 36.9	+1.2
	0.2nm,0.3s,baz=60,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**7.41**	**205**	Pn	Pn	10 43 57.9	+1.6
	0.2nm,0.3s,baz=20,slow=13,SNR=13						
MKAR				Sn	Sn	10 45 18.6	-2.4
	0.1nm,0.3s,baz=16,slow=27,SNR=2.4						
MKAR				Lg	Lg	10 46 02.2	
	0.0nm,0.3s,baz=30,slow=32,SNR=3.2						

IDC ***23*** *10:52:14.0±1.4, 17.08S×63.77W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/25, mbtmp3.6/6, ML3.2/2, MS2.4/3, Ms1 2.5/3, ms1mx2.4/23, Error ellipse: s-maj=46.2km s-min=19.7km az=6.0*

ISC 23 10:52:17.8±0.9, 17.6S±0.1×63.80W±0.07, h35km, n12, σ1°02/10, mb3.7/4, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.05**	**60**	Pn	**Pn**	**10 53 04.3**	**+0.7**
	15nm,0.3s,baz=254,slow=9.0,SNR=134						
SIV				LR	LR	10 53 32.0	
	comp=Z,65nm,20.5s,baz=282,slow=28						
SIV				Sn	Sn	10 53 50.4	+12
	70nm,0.3s,baz=196,slow=17,SNR=4.1						
LPAZ	**La Paz**	**4.33**	**286**	Pn	**Pn**	**10 53 22.5**	**+0.7**
	1.8nm,0.3s,baz=97,slow=8.0,SNR=47						
LPAZ				Sn	**Sn**	**10 54 12.3**	**+1.0**
	19nm,0.3s,baz=309,slow=13,SNR=6.6						
LPAZ				Lg	Lg	10 54 29.1	
	20nm,0.3s,baz=40,slow=25,SNR=6.1						
LPAZ				LR	LR	10 55 30.7	
	comp=Z,107nm,20.9s,baz=38,slow=46						
CPUP	**Villa Florida**	**10.59**	**147**	Lg	Lg	10 57 59.3	
	0.5nm,0.3s,baz=41,slow=20,SNR=2.8						
CFAA	**Coronel Fontan**	**14.55**	**195**	Pn	**P**	**10 55 47.0**	**-0.2**
	0.1nm,0.3s,baz=15,slow=9.6,SNR=6.8						
CFAA				LR	LR	11 02 38.0	
	comp=Z,7.3nm,18.6s,baz=302,slow=42						
BDFB	**Brasilia**	**15.25**	**85**	Lg	Lg	11 00 16.0	
	0.4nm,0.3s,baz=189,slow=22,SNR=3.8						
PTGA	**Pitinga**	**17.15**	**13**	Lg	Lg	11 01 13.2	
	0.8nm,0.3s,baz=284,slow=18,SNR=6.4						
TXAR	**Lajitas Array**	**60.45**	**320**	P	**P**	**11 02 23.5**	**-0.8**
	0.4nm,0.7s,baz=134,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**71.48**	**69**	P	**P**	**11 03 36.1**	**+0.6**
	0.4nm,0.6s,baz=253,slow=6.1,SNR=3.5						
PDAR	**Pinedale Array**	**73.31**	**327**	P	**P**	**11 03 44.3**	**-1.7**
	0.5nm,0.6s,baz=119,slow=9.3,SNR=4.5						
YKA	**Yellowknife Ar**	**89.18**	**339**	P	**P**	**11 05 09.1**	**-0.3**
	0.9nm,0.6s,baz=122,slow=4.6,SNR=16						
WRA	**Warramunga Arr**	**138.69**	**206**	PKP	**PKPdf**	**11 11 41.5**	**+0.4**
	0.6nm,1.1s,baz=168,slow=1.2,SNR=5.8						
SONM	**Songino Array**	**148.76**	**13**	PKPbc	**PKPbc**	**11 12 02.7**	**+1.0**
	0.5nm,0.7s,baz=312,slow=0.8,SNR=4.2						

ISCJB ***23*** *10:55:22.6±0.7, 37.22N±0.05×71.7E±0.1, h113km, mb3.4/5, Error ellipse: s-maj=13.4km s-min=4.9km az=152.4*

IDC ***23*** *10:55:28.1±3.2, 37.32N×72.05E, h185km±27km, mb3.1/5, mb1 3.3/11, mb1mx3.0/47, mbtmp3.8/11, Error ellipse: s-maj=25.9km s-min=19.7km az=177.0*

NNC ***23*** *10:55:38.9±4.0, 38.20N×72.37E, h260km±39km, mb2.8, mpv3.9, Error ellipse: s-maj=39.9km s-min=24.9km az=12.0*

ISC 23 10:55:23.0±1.0, 37.28N±0.08×71.75E±0.09, h113km, n25, σ28/25, mb3.4/5, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.74**	**21**	⇓P	Pn	10 56 51.6	+5.5
	10.0nm,0.5s						
AAK				⇓S	**Sn**	**10 57 52.0**	**+1.2**
	47nm,0.9s						
AAK	**Ala-Archa**	**5.74**	**21**	P	Pn	10 56 52.0	+6.0
	3.5nm,0.3s,baz=185,slow=5.2,SNR=59						
AAK				S	**Sn**	**10 57 53.3**	**+2.6**
	4.2nm,0.3s,baz=320,slow=19,SNR=20						
KK31	**Karatay Array**	**5.89**	**351**	⇑P	Pn	10 56 54.9	+7.0
	6.9nm,0.4s,baz=160,slow=12,SNR=207						
KK31				⇓S	**Sn**	**10 57 58.0**	**+4.0**
	13nm,0.4s,baz=161,slow=20,SNR=15						
TKM2	**Tokmak 2**	**6.35**	**26**	⇓P	Pn	10 56 59.2	+4.9
	5.5nm,0.5s						
TKM2				⇓S	**Sn**	**10 58 02.0**	**-3.6**
	6.2nm,1.0s						
MKAR	**Makanchi Array**	**12.30**	**36**	P	**Pn**	**10 58 15.2**	**+0.9**
	0.1nm,0.3s,baz=215,slow=8.8,SNR=3.4						
DANN	**Dangning**	**13.46**	**128**	*e*P	**Pn**	**10 58 30.3**	**+0.6**
	11nm,0.3s						
KOLN	**Koldanda**	**13.77**	**130**	*e*P	**Pn**	**10 58 34.0**	**+0.3**
	6.0nm,0.3s						
KURBB	**Kurchatov Arra**	**14.19**	**18**	P	**Pn**	**10 58 40.0**	**+1.3**
	0.3nm,0.3s,baz=202,slow=11,SNR=9.0						
GKN	**Gorkha**	**14.25**	**127**	*e*P	**Pn**	**10 58 39.9**	**+0.1**
	15nm,0.4s						
AB31	**Akbulak array**	**14.71**	**328**	⇓P	**P**	**10 58 49.4**	**+0.9**
	3.4nm,0.6s,baz=133,slow=13,SNR=65						
AB31				⇑S	**Sn**	**11 01 24.3**	**-3.4**
	2.4nm,0.8s,baz=268,slow=48,SNR=5.6						
KKN	**Kakani**	**14.81**	**126**	*e*P	**Pn**	**10 58 48.4**	**+1.4**
	15nm,0.4s						
PKIN	**Phulchoki**	**15.03**	**126**	*e*P	**Pn**	**10 58 50.9**	**+1.1**
	11nm,0.4s						
PKI	**Pulchoki**	**15.04**	**126**	*e*P	**Pn**	**10 58 50.5**	**+0.5**
	19nm,0.7s						
JIRN	**Jiri**	**15.49**	**124**	*e*P	**Pn**	**10 58 57.3**	**+1.6**
	21nm,0.4s						
BVAR	**Borovoye Array**	**15.77**	**357**	P	**Pn**	**10 58 59.9**	**+1.3**
	0.6nm,0.3s,baz=160,slow=9.9,SNR=13						
RAMN	**Ramite**	**16.24**	**125**	*e*P	**Pn**	**10 59 03.8**	**-1.0**
	7.4nm,0.4s						
AKTO	**Aktyubinsk**	**16.42**	**328**	⇑P	**P**	**10 59 10.8**	**+3.4**
	7.5nm,0.6s						
AKTO				⇑S	**Sn**	**11 02 04.2**	**-4.7**
	3.3nm,1.1s						
AKTO	**Aktyubinsk**	**16.42**	**328**	P	**P**	**10 59 10.4**	**+3.0**
	1.2nm,0.3s,baz=125,slow=12,SNR=37						
AKTO				S	**Sn**	**11 02 08.5**	**-0.4**
	0.1nm,0.3s,baz=156,slow=20,SNR=3.6						
TAPN	**Taplejung**	**16.71**	**122**	*e*P	**Pn**	**10 59 11.4**	**+0.7**
	6.8nm,0.4s						
ZALV	**Zalesovo Beam**	**18.95**	**24**	P	**P**	**10 59 33.2**	**-1.9**
	0.7nm,0.3s,baz=221,slow=9.9,SNR=18						
SONM	**Songino Array**	**27.40**	**56**	P	**P**	**11 00 55.7**	**-2.2**
	0.2nm,0.5s,baz=260,slow=8.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**66.34**	**269**	P	**P**	**11 05 58.6**	**-1.2**
	1.0nm,0.4s,baz=49,slow=5.8,SNR=20						
INK	**Inuvik**	**73.03**	**10**	P	P	11 06 36.8	-3.3
	0.4nm,0.4s,baz=317,slow=3.8,SNR=6.3						
YKA	**Yellowknife Ar**	**80.43**	**3**	P	P	11 07 18.4	-3.3
	0.3nm,0.5s,baz=350,slow=5.4,SNR=14						
WRA	**Warramunga Arr**	**81.90**	**122**	P	P	11 07 24.9	-5.2
	0.5nm,1.1s,baz=326,slow=4.4,SNR=3.3						

GUC 23 10:55:32.3±0.6, 23.40S×70.34W, h33km±2km, ML3.8, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**0.13**	**85**	*e*P	Pb	10 55 38.5	+0.1
CEN1				*e*S	Sb	10 55 42.8	+0.2
PB10	**Plate Boundary**	**0.23**	**240**	⇑*i*P	Pn	10 55 38.9	-0.2
PB10				*i* S	Sb	10 55 43.6	-0.3
PB10				AML	AML	10 55 45.1	
	comp=E,13μm,0.1s						
ANCH	**Antofagasta**	**0.29**	**193**	⇑*i*P	Pb	10 55 38.6	-1.3
ANCH				*i* S	Sn	10 55 44.0	-1.0
PB06	**Plate Boundary**	**0.99**	**46**	*e*P	Pn	10 55 50.4	+0.2
PB06				*i* S	Sb	10 56 03.8	-0.4
PB06				AML	AML	10 56 05.5	
	comp=N,3μm,0.1s						
PB04	**Plate Boundary**	**1.38**	**35**	⇑*i*P	Pn	10 55 51.4	-3.8
PB04				*i* S	Sn	10 56 06.0	-6.4
PB04				AML	AML	10 56 07.3	
	comp=N,4μm,0.4s						
PB07	**Plate Boundary**	**1.72**	**14**	⇑*i*P	Pn	10 56 00.7	+0.5
PB07				⇓*i*S	Sb	10 56 23.4	-1.6
PB07				AML	AML	10 56 31.1	
	comp=N,1μm,0.2s						
PB09	**Plate Boundary**	**1.89**	**33**	*e*P	Pn	10 56 04.3	+1.7
PB09				*i* S	Sb	10 56 29.2	-0.8
PB09				AML	AML	10 56 39.0	
	comp=E,3μm,0.5s						
PB01	**Plate Boundary**	**2.48**	**19**	AML	AML	10 56 48.4	
	comp=E,642nm,0.4s						

NIED ***23*** *11:14:00, 36.60N×141.30E, h26km, Mw3.6 Best double couple: M₀2.55000×10¹⁴ NP1:φ₀52.00000°, δ20.00000°, λ-33.00000°. NP2:φ₀173.00000°, δ79.00000°, λ-107.00000°.*

IDC ***23*** *11:14:00.9±7.7, 35.84N×141.45E, h47km±45km, mb3.4/2, mb1 3.5/4, mb1mx3.2/41, mbtmp3.6/4, ML2.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=96.2km s-min=48.2km az=173.0*

JMA ***23*** *11:14:02.3±0.1, 36.65N×141.26E, h46km±2km, M3.5*

ISC 23 11:14:00.4±2.5, 36.73N±0.07×141.3E±0.1, h10km±12km, n20, σ0°92/20, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**311**	⇓P	**Pn**	**11 14 14.1**	**-0.5**
ONAJ				S	**Sn**	**11 14 22.6**	**-1.5**
JHO	**Hitachi**	**0.63**	**259**	⇓P	**Pb**	**11 14 13.9**	**+0.4**
JHO				S	**Sb**	**11 14 22.4**	**+0.1**
JFK	**Kawauchi**	**0.73**	**330**	⇓P	**Pn**	**11 14 16.7**	**-0.2**
JFK				S	**Sn**	**11 14 27.0**	**-1.2**
JYT	**Yasato**	**1.05**	**242**	⇓P	**Pb**	**11 14 19.5**	**-1.1**
JFT	**Otama**	**1.12**	**315**	⇑P	**Pn**	**11 14 23.1**	**+0.9**
JFT				S	**Sn**	**11 14 37.6**	**-0.1**
JMM	**Marumori**	**1.21**	**339**	P	**Pg**	**11 14 23.7**	**0.0**
JMM				S	**Sg**	**11 14 39.2**	**-0.2**
JFY	**Yanaizu**	**1.47**	**298**	P	**Pb**	**11 14 27.9**	**+0.1**
JAG	**Ashikaga**	**1.54**	**259**	P	**Pn**	**11 14 27.3**	**-0.7**
JKT	**Katashina**	**1.68**	**272**	P	**Pn**	**11 14 30.3**	**+0.4**
MJAR	**Matsushiro Arr**	**2.52**	**267**	P	**Pn**	**11 14 42.1**	**+0.7**
	4.9nm,0.3s,baz=116,slow=9.7,SNR=80						
MJAR				S	**Sn**	**11 15 13.4**	**+1.1**
	6.2nm,0.3s,baz=27,slow=18,SNR=4.2						
MJAR				LR	LR	11 16 01.5	
	comp=Z,136nm,19.7s,baz=135,slow=45						
MAT	**Matsushiro**	**2.52**	**267**	P	**Pn**	**11 14 42.5**	**+1.0**
MAT				S	**Sn**	**11 15 10.6**	**-1.7**
USRK	**Ussuriysk Arra**	**10.30**	**319**	P	Pn	11 16 35.4	+7.1
	0.2nm,0.3s,baz=125,slow=12,SNR=4.2						
SONM	**Songino Array**	**27.90**	**304**	P	**P**	**11 19 51.6**	**+0.9**
	1.4nm,0.7s,baz=102,slow=8.6,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	11 49 06.8	
	baz=315,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	11 49 10.2	
	baz=315,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	11 49 10.3	
	baz=315,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	11 50 18.8	
	SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	11 50 03.7	
	baz=316,slow=74,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	11 50 08.9	
	baz=255,slow=74,SNR=5.9						
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**11 22 09.9**	**+0.2**
	0.3nm,0.8s,baz=78,slow=7.7,SNR=2.7						

ISCJB ***23*** *11:18:12.0±0.8, 5.68S±0.06×145.42E±0.09, h86km, mb3.6/5, Error ellipse: s-maj=13.8km s-min=8.3km az=163.6*

IDC ***23*** *11:18:16.4±4.5, 5.77S×145.70E, h125km±52km, mb3.3/5, mb1 3.5/7, mb1mx3.3/28, mbtmp3.7/7, Error ellipse: s-maj=41.7km s-min=30.1km az=137.0*

ISC 23 11:18:13.4±0.9, 5.65S±0.08×145.4E±0.1, h86km, n13, σ1°06/15, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.11**	**155**	P	**Pn**	**11 19 15.0**	**+1.1**
	10.0nm,0.3s,baz=16,slow=7.0,SNR=6.7						
PMG				S	**Sn**	**11 20 00.2**	**-0.6**
	24nm,0.3s,baz=185,slow=23,SNR=7.7						
PMG	**Port Moresby**	**4.11**	**155**	P	**Pn**	**11 19 14.9**	**+1.0**
	baz=4.4,SNR=10						
PMG				S	**Sn**	**11 19 59.9**	**-0.9**
	baz=4.4,SNR=5.8						
COEN	**Coen**	**8.54**	**195**	P	**Pn**	**11 20 15.8**	**+1.3**
	baz=9.0,SNR=4.7						
COEN				S	**Sn**	**11 21 47.8**	**-1.4**
	baz=9.0,SNR=5.3						
KDU	**Kakadu**	**14.57**	**240**	P	**Pn**	**11 21 34.5**	**-0.9**
	baz=15,SNR=7.2						
MTN	**Manton Dam**	**15.81**	**242**	P	**P**	**11 21 52.9**	**-0.4**
	baz=16,SNR=3.8						
WRA	**Warramunga Arr**	**17.83**	**216**	P	**P**	**11 22 15.0**	**-0.6**
	0.2nm,0.3s,baz=40,slow=11,SNR=10						
KNRA	**Kununurra**	**19.15**	**237**	P	**P**	**11 22 29.9**	**-0.2**
	baz=20,SNR=5.2						
ASAR	**Alice Springs**	**21.07**	**211**	P	**P**	**11 22 52.4**	**+1.5**
	0.9nm,0.8s,baz=40,slow=7.8,SNR=11						
CMAR	**Chiang Mai Arr**	**51.71**	**299**	P	**P**	**11 27 13.1**	**+0.7**
	1.7nm,0.6s,baz=120,slow=6.2,SNR=9.7						
SONM	**Songino Array**	**63.35**	**332**	P	**P**	**11 28 33.9**	**+0.2**
	0.3nm,0.6s,baz=165,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**76.24**	**321**	P	**P**	**11 29 52.8**	**+0.1**
	0.5nm,0.5s,baz=79,slow=6.4,SNR=8.4						
ILAR	**Eielson Array**	**85.78**	**23**	P	**P**	**11 30 41.6**	**-1.4**
	0.5nm,0.7s,baz=256,slow=5.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**143.49**	**284**	PKP	PKPab	11 37 35.6	-0.1
	0.3nm,0.5s,baz=43,slow=2.7,SNR=4.7						

IDC ***23*** *11:26:37.6±1.6, 1.43S×99.42E, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.8/35, mbtmp3.9/8, ML3.5/2, MS3.0/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=70.0km s-min=18.2km az=59.0*

DJA ***23*** *11:26:39.0±0.8, 2°S±4'×9°9E±', h10km, M4.5/8, mb4.4/2, mB4.5/1, MLv4.5/8, Mw(mB)3.7/1*

ISC 23 11:26:43.4±1.0, 1°22S±0.10×99°4E±0°2, h35km, n18, σ1°18/14, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.27**	**53**	P	**Pn**	**11 27 05.0**	**+0.4**
MNSI	**Mandailing Nat**	**2.01**	**6**	P	Pn	11 27 18.2	+3.4
BKNI	**Bangkinang**	**2.26**	**47**	P	Pn	11 27 24.6	+6.3
BKNI				S	Sn	11 28 00.4	+15
RGRI	**Rengat**	**3.08**	**74**	P	Pn	11 27 35.5	+6.0
PSI	**Prapat**	**4.02**	**354**	P	x	11 27 43.4	
PSI	**Prapat**	**4.02**	**354**	Pn	**Pn**	**11 27 42.6**	**0.0**
	0.7nm,0.3s,baz=151,slow=12,SNR=3.9						
PSI				LR	LR	11 29 19.4	
	comp=Z,114nm,21.4s,baz=139,slow=39						
MNAI	**Manna**	**4.75**	**131**	P	**Pn**	**11 27 53.2**	**+0.7**
LHSI	**Lahat**	**4.89**	**122**	P	**Pn**	**11 27 55.7**	**+1.3**
	65nm,0.9s,0.4nm						
MDSI	**Maura Dua**	**5.79**	**124**	P	**Pn**	**11 28 07.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.56**	**359**	P	**Pn**	**11 31 09.2**	**-0.6**
	0.2nm,0.3s,baz=185,slow=9.6,SNR=8.6						
CMAR				LR	LR	11 39 47.6	
	comp=Z,69nm,18.2s,baz=182,slow=40						
WRA	**Warramunga Arr**	**38.92**	**121**	P	**P**	**11 34 03.9**	**-2.3**
	2.2nm,0.9s,baz=303,slow=9.1,SNR=9.8						
ASAR	**Alice Springs**	**40.21**	**126**	P	**P**	**11 34 15.2**	**-1.6**
	1.3nm,0.8s,baz=302,slow=8.0,SNR=17						
SONM	**Songino Array**	**49.24**	**6**	P	**P**	**11 35 29.3**	**+0.7**
	1.2nm,0.9s,baz=189,slow=9.6,SNR=8.3						
MKAR	**Makanchi Array**	**50.12**	**345**	P	**P**	**11 35 36.5**	**+1.4**
	1.6nm,0.6s,baz=145,slow=7.4,SNR=20						
ZALV	**Zalesovo Beam**	**56.29**	**350**	P	**P**	**11 36 21.4**	**+1.0**
	2.0nm,0.7s,baz=177,slow=5.7,SNR=10						
FINES	**FINESS Array B**	**83.14**	**332**	P	**P**	**11 39 05.7**	**+0.3**
	1.8nm,0.9s,baz=129,slow=11,SNR=2.9						
TXAR	**Lajitas Array**	**144.45**	**36**	PKP	**PKPdf**	**11 46 16.5**	**-0.4**
	0.3nm,0.6s,baz=351,slow=2.9,SNR=3.8						
CPUP	**Villa Florida**	**144.56**	**218**	PKP	**PKPdf**	**11 46 16.4**	**-0.6**
	1.8nm,0.6s,baz=86,slow=5.4,SNR=3.6						

KRSC 23 11:28:07.7±0.9, 54.85N×163.12E, h18km±14km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.86**	**250**	*e*P	Pn	11 28 24.9	+0.1
MKZ				*e*S	Sn	11 28 36.6	-0.2
KBTR	**Krutoberegovo**	**1.37**	**353**	*e*P	Pn	11 28 31.9	0.0
KBTR				*e*S	Sb	11 28 49.7	-0.2
KBG	**Krutoberegovo**	**1.42**	**351**	*e*P	Pn	11 28 32.8	+0.2
KBG				*e*S	Sb	11 28 51.6	+0.2

KHC	**Kasperske Hory**	**3.62**	**252**	Sg	Sg	11 33 22.5 -3.4

*CSEM **23** 11:32:34.8±0.2,43°.14N×13°.43E,h19km,ML3.4/11,Error ellipse: s-maj=3.8km s-min=2.5km az=73.0*
*ISCJB **23** 11:32:35.3±0.4,43°.16N±0°.02×13°.44E±0°.04,h22km±5km, Error ellipse: s-maj=4.6km s-min=3.3km az=2.2*
*ROM **23** 11:32:35.0±0.2,43°.15N×13°.43E,h21km±3km,Ml2.8/16, Error ellipse: s-maj=1.8km s-min=1.4km az=93.0*

ISC 23 11:32:35.3±0.9,43°.14N±0°.02×13°.42E±0°.02,h18km±3km, n45,σ0965/73,7C-3D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T0401	**Montottone (Fe**	**0.15**	**121**	⇑*e*Pg	**Pg**	**11 32 39.6**	**+0.1**
T0401				Sg	**Sg**	**11 32 43.5**	**+1.1**
	6µm,0.3s						
FDMO	**Fiordimonte**	**0.27**	**247**	⇑*i*Pg	**Pb**	**11 32 41.0**	**-0.5**
FDMO				Sg	**Sg**	**11 32 46.1**	**+0.8**
	824nm,0.2s						
FDMO	**Fiordimonte**	**0.27**	**247**	⇑*i*Pg	**Pb**	**11 32 41.0**	**-0.5**
FDMO				Sg	**Sg**	**11 32 46.1**	**+0.8**
	824nm,0.2s						
OFFI	**Offida**	**0.28**	**136**	Pg	**Pb**	**11 32 42.2**	**+0.4**
	2µm,0.6s						
OFFI	**Offida**	**0.28**	**136**	Pg	**Pb**	**11 32 42.2**	**+0.4**
	2µm,0.6s						
CING	**Cingoli**	**0.28**	**325**	⇓*i*Pg	**Pb**	**11 32 41.3**	**-0.6**
CING				Sg	**Sg**	**11 32 46.6**	**+0.7**
	420nm,0.3s						
CING	**Cingoli**	**0.28**	**325**	⇓*i*Pg	**Pb**	**11 32 41.3**	**-0.6**
CING				Sg	**Sg**	**11 32 46.6**	**+0.7**
	420nm,0.3s						
NRCA	**Norcia**	**0.38**	**216**	Pg	**Pg**	**11 32 42.8**	**-0.4**
NRCA				Sg	**Sb**	**11 32 49.3**	**+0.1**
	4µm,0.2s						
NRCA	**Norcia**	**0.38**	**216**	Pg	**Pg**	**11 32 42.8**	**-0.4**
NRCA				Sg	**Sb**	**11 32 49.3**	**+0.1**
	4µm,0.2s						
CESI	**CESI - Serrava**	**0.40**	**250**	⇑*i*Pg	**Pg**	**11 32 43.4**	**-0.2**
CESI				Sg	**Sb**	**11 32 50.4**	**+0.7**
CESI	**CESI - Serrava**	**0.40**	**250**	⇑*i*Pg	**Pg**	**11 32 43.4**	**-0.2**
CESI				Sg	**Sb**	**11 32 50.4**	**+0.7**
AOI	**Ancona**	**0.43**	**18**	Pg	**Pg**	**11 32 43.5**	**-0.6**
AOI				Sg	**Sb**	**11 32 51.1**	**+0.5**
	589nm,0.5s						
AOI	**Ancona**	**0.43**	**18**	Pg	**Pg**	**11 32 43.5**	**-0.6**
AOI				Sg	**Sb**	**11 32 51.1**	**+0.5**
	589nm,0.5s						
ARVD	**Arcevia**	**0.50**	**316**	Pg	**Pb**	**11 32 45.1**	**-0.4**
ARVD				Sg	**Sb**	**11 32 53.0**	**+0.5**
	79nm,0.4s						
ARVD	**Arcevia**	**0.50**	**316**	Pg	**Pb**	**11 32 45.1**	**-0.4**
ARVD				Sg	**Sb**	**11 32 53.0**	**+0.5**
	79nm,0.4s						
TERO	**Teramo**	**0.54**	**165**	Pg	**Pb**	**11 32 45.0**	**-1.1**
TERO				Sg	**Sg**	**11 32 54.1**	**+0.9**
	458nm,0.3s						
TERO	**Teramo**	**0.54**	**165**	Pg	**Pb**	**11 32 45.0**	**-1.1**
TERO				Sg	**Sg**	**11 32 54.1**	**+0.9**
	458nm,0.3s						
RM29	**Verrico (Monte**	**0.60**	**195**	⇓*e*Pg	**Pb**	**11 32 46.4**	**-0.9**
RM29				Sg	**Sg**	**11 32 56.3**	**+1.0**
	988nm,0.7s						
CAMP	**Campotosto**	**0.60**	**181**	⇑*e*Pg	**Pb**	**11 32 46.3**	**-1.1**
CAMP				Sg	**Sg**	**11 32 56.3**	**+0.9**
	714nm,0.8s						
CAMP	**Campotosto**	**0.60**	**181**	⇑*e*Pg	**Pb**	**11 32 46.3**	**-1.1**
CAMP				Sg	**Sg**	**11 32 56.3**	**+0.9**
	714nm,0.8s						
MURB	**Monte Urbino**	**0.67**	**281**	Pg	**Pb**	**11 32 48.1**	**-0.3**
MURB	**Monte Urbino**	**0.67**	**281**	Pg	**Pb**	**11 32 48.1**	**-0.3**
FSSB	**Fossombrone**	**0.72**	**320**	Pg	**Pb**	**11 32 49.4**	**+0.1**
	73nm,0.2s						
FSSB	**Fossombrone**	**0.72**	**320**	Pg	**Pb**	**11 32 49.4**	**+0.1**
	73nm,0.2s						
PIEI	**Pieia**	**0.76**	**302**	Pg	**Pb**	**11 32 49.5**	**-0.4**
	95nm,0.6s						
PIEI	**Pieia**	**0.76**	**302**	Pg	**Pb**	**11 32 49.5**	**-0.4**
	95nm,0.6s						
T0104	**Madonna delle**	**0.78**	**184**	Pg	**Pb**	**11 32 49.5**	**-0.9**
CESX	**Cesi**	**0.81**	**230**	Pg	**Pb**	**11 32 50.2**	**-0.7**
CESX				Sg	**Sn**	**11 33 03.1**	**-0.4**
	446nm,0.5s						
CESX	**Cesi**	**0.81**	**230**	Pg	**Pb**	**11 32 50.2**	**-0.7**
CESX				Sg	**Sn**	**11 33 03.1**	**-0.4**
	446nm,0.5s						
FAGN	**Fagnano**	**0.88**	**172**	Pg	**Pb**	**11 32 51.6**	**-0.5**
FAGN				Sg	**Sn**	**11 33 05.3**	**+0.1**
	368nm,0.4s						
FAGN	**Fagnano**	**0.88**	**172**	Pg	**Pb**	**11 32 51.6**	**-0.5**
FAGN				Sg	**Sn**	**11 33 05.3**	**+0.1**
	368nm,0.4s						
FIAM	**Fiamignano**	**0.90**	**194**	Pg	**Pb**	**11 32 51.4**	**-1.0**
FIAM				Sg	**Sn**	**11 33 05.4**	**-0.3**
	203nm,0.7s						
FIAM	**Fiamignano**	**0.90**	**194**	Pg	**Pb**	**11 32 51.4**	**-1.0**
FIAM				Sg	**Sn**	**11 33 05.4**	**-0.3**
	203nm,0.7s						
MNS	**Montasola**	**0.93**	**216**	Pg	**Pb**	**11 32 52.2**	**-0.7**
MNS				Sg	**Sn**	**11 33 06.7**	**+0.3**
	310nm,0.8s						
MNS	**Montasola**	**0.93**	**216**	Pg	**Pb**	**11 32 52.2**	**-0.7**
MNS				Sg	**Sn**	**11 33 06.7**	**+0.3**
	310nm,0.8s						
BADI	**Badiali**	**0.93**	**294**	Pg	**Pb**	**11 32 52.9**	**0.0**
BADI	**Badiali**	**0.93**	**294**	Pg	**Pb**	**11 32 52.9**	**0.0**
MGAB	**Montegabbione**	**0.98**	**257**	Pg	**Pb**	**11 32 53.8**	**0.0**
MGAB	**Montegabbione**	**0.98**	**257**	Pg	**Pb**	**11 32 53.8**	**0.0**
VVLD	**Villa Vallelon**	**1.28**	**173**	Pg	**Pg**	**11 32 59.7**	**-0.3**
	40nm,0.5s						
VVLD	**Villa Vallelon**	**1.28**	**173**	Pg	**Pg**	**11 32 59.7**	**-0.3**
	40nm,0.5s						
NVLJ	**Novalja**	**1.77**	**36**	*e*Pn	**Pn**	**11 33 04.4**	**-0.5**
NVLJ				Sn	**Sn**	**11 33 25.6**	**-1.3**
NVLJ	**Novalja**	**1.77**	**36**	Sn	**Sn**	**11 33 25.6**	**-1.3**
NVLJ	**Novalja**	**1.77**	**36**	*e*Pn	**Pn**	**11 33 04.4**	**-0.5**
UDBI	**Udbina**	**2.19**	**50**	*e*Pn	**Pn**	**11 33 11.5**	**+0.7**
UDBI				Sn	**Sn**	**11 33 38.2**	**+0.6**

*MAN **23** 11:48:15,5°.24N×127°.02E,h71km,mb4.7,ML3.6,MS3.6*
*ISCJB **23** 11:48:16.6±0.6,5°.26N±0°.07×126°.9E±0°.1,h84km, mb4.0/12,Error ellipse: s-maj=17.9km s-min=7.2km az=153.5*
*IDC **23** 11:48:21.8±7.4,5°.44N×126°.88E,h114km±68km,mb3.7/10, mb1 3.9/10,mb1mx3.6/30,mbtmp4.1/10,MS3.0/4, Ms1 3.0/4,ms1mx2.6/29,Error ellipse: s-maj=49.3km s-min=13.4km az=64.0*

ISC 23 11:48:18.3±0.7,5°.45N±0°.09×127°.0E±0°.1,h84km,n36, σ1905/33,mb4.3/12,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.67**	**333**	*e*P	**Pn**	**11 48 46.4**	**+0.3**
MATI				*e*S	**Sn**	**11 49 09.6**	**+2.5**
DMPH	**Davao City--Mi**	**2.22**	**317**	⇑*e*P	**Pn**	**11 48 53.3**	**0.0**
DMPH				*e*S	**Sn**	**11 49 21.3**	**+1.5**
BIPH	**Bislig**	**2.80**	**346**	⇓*i*P	**Pn**	**11 49 02.0**	**+1.0**
BIPH				*i* S	**Sn**	**11 49 31.6**	**-2.3**
BUKP	**Musuan**	**3.10**	**321**	*e*P	**Pn**	**11 49 05.6**	**+0.4**
CTBH	**Cotabato--PC H**	**3.27**	**303**	⇑*i*P	**Pn**	**11 49 07.0**	**-0.5**
BUTP	**Butuan**	**3.77**	**338**	*e*P	Pn	11 49 17.6	+3.5
CGP	**Cagayan de Oro**	**3.78**	**322**	⇓*e*P	Pn	11 49 18.0	+3.7
CGP				*e*S	Sn	11 50 06.1	+8.5
PAGZ	**Pagadian**	**4.33**	**304**	*e*P	**Pn**	**11 49 23.3**	**+1.5**
MSLP	**Maasin**	**5.13**	**335**	*e*P	**Pn**	**11 49 34.3**	**+1.7**
WRA	**Warramunga Arr**	**26.24**	**164**	P	**P**	**11 53 47.0**	**+1.4**
	2.7nm,0.5s,baz=343,slow=10,SNR=35						
ASAR	**Alice Springs**	**29.71**	**167**	P	**P**	**11 54 16.4**	**-0.2**
	0.6nm,0.9s,baz=342,slow=6.7,SNR=13						
ASAR				PcP	**PcP**	**11 57 19.4**	**+0.4**
	0.3nm,0.4s,baz=354,slow=2.3,SNR=9.4						
CMAR	**Chiang Mai Arr**	**30.30**	**298**	P	**P**	**11 54 20.9**	**-1.0**
	1.1nm,0.6s,baz=103,slow=6.9,SNR=8.8						
MJAR	**Matsushiro Arr**	**32.60**	**17**	LR	LR	12 06 45.3	
	comp=Z,12nm,20.8s,baz=240,slow=34						
STKA	**Stephens Creek**	**39.63**	**160**	P	**P**	**11 55 43.0**	**+1.1**
	1.7nm,0.5s,baz=354,slow=5.4,SNR=8.4						
TAPN	**Taplejung**	**43.26**	**305**	*e*P	**P**	**11 56 11.5**	**-0.6**
	12nm,0.8s						
ODAN	**Odare**	**43.34**	**304**	*e*P	**P**	**11 56 12.0**	**-0.7**
RAMN	**Ramite**	**44.03**	**304**	*e*P	**P**	**11 56 17.8**	**-0.4**
	20nm,0.9s						
JIRN	**Jiri**	**44.63**	**304**	*e*P	**P**	**11 56 22.5**	**-0.7**
	13nm,0.6s						
GUN	**Gumba**	**44.98**	**305**	*e*P	**P**	**11 56 25.1**	**-0.8**
	28nm,0.7s						
PKI	**Pulchoki**	**45.24**	**304**	*e*P	**P**	**11 56 26.9**	**-1.1**
	8.2nm,0.7s						
KKN	**Kakani**	**45.43**	**304**	*e*P	**P**	**11 56 29.1**	**-0.2**
SONM	**Songino Array**	**45.78**	**341**	P	**P**	**11 56 32.1**	**+0.4**
	0.7nm,0.4s,baz=155,slow=8.0,SNR=10						
KOLN	**Koldanda**	**46.81**	**303**	*e*P	**P**	**11 56 39.5**	**-0.7**
DANN	**Dangsing**	**46.88**	**304**	*e*P	**P**	**11 56 39.8**	**-1.0**
	32nm,0.6s						
PYUN	**Piuthan**	**47.43**	**304**	*e*P	**P**	**11 56 44.2**	**-0.8**
	7.7nm,0.5s						
MKAR	**Makanchi Array**	**56.33**	**324**	P	**P**	**11 57 50.6**	**0.0**
	2.1nm,0.6s,baz=116,slow=7.4,SNR=39						
ZALV	**Zalesovo Beam**	**59.20**	**332**	P	**P**	**11 58 10.6**	**0.0**
	2.1nm,0.4s,baz=120,slow=5.8,SNR=13						
ILAR	**Eielson Array**	**83.44**	**25**	P	**P**	**12 00 35.7**	**-0.6**
	0.4nm,0.9s,baz=241,slow=5.7,SNR=4.1						
JOF	**Joensuu**	**87.79**	**333**	*ep*	**P**	**12 00 58.5**	**+0.6**
	2.4nm,0.4s						
SPITS	**Spitsbergen Ar**	**88.86**	**349**	LR	LR	12 45 49.8	
	comp=Z,8.9nm,19.3s,baz=265,slow=39						
ARCES	**ARCESS Array B**	**88.95**	**340**	P	**P**	**12 01 02.6**	**-0.6**
	2.4nm,1.0s,baz=76,slow=6.4,SNR=6.7						
KAF	**Kangasniemi**	**90.22**	**332**	*ep*	P	12 01 04.8	-4.5
	0.8nm,0.4s						
FINES	**FINESS Array B**	**90.47**	**332**	P	**P**	**12 01 09.8**	**-0.7**
	1.1nm,0.5s,baz=56,slow=5.5,SNR=16						
MLR	**Muntele Rosu**	**93.87**	**316**	LR	LR	12 47 16.8	
	comp=Z,5.8nm,18.2s,baz=219,slow=38						
VRAC	**Vranov**	**98.98**	**322**	LR	LR	12 53 13.7	
	comp=Z,19nm,18.5s,baz=318,slow=39						
TORD	**Torodi Ar. Bea**	**122.65**	**289**	PKP	**PKPdf**	**12 07 04.0**	**-1.4**
	0.5nm,0.6s,baz=48,slow=1.4,SNR=4.3						

WEL 23 12:03:37.2±0.6,41°.75S×178°.16E,h33km,ML3.5/26, 2C-1D,Error ellipse: s-maj=5.1km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFZ	**Birch Farm**	**1.80**	**306**	*e*PN	Pn	12 04 05.4	-0.4
BFZ				SN	Sn	12 04 27.2	-0.4
BFZ				SN	Sb	12 04 27.3	-4.4
PXZ	**Pawanui**	**1.98**	**330**	PN	Pn	12 04 07.2	-1.1
PXZ				SN	Sn	12 04 28.9	-3.1
MTW	**Mount Morrison**	**2.08**	**286**	PN	Pn	12 04 06.6	-3.2
MTW				SN	Sn	12 04 28.9	-5.7
WPHZ	**Waipukurau**	**2.13**	**322**	PN	Pn	12 04 08.6	-1.8
PLWZ	**Palliser**	**2.19**	**274**	SN	Sn	12 04 31.5	-5.8
MRZ	**Mangatainoka R**	**2.23**	**298**	PN	Pn	12 04 10.4	-1.4
MRZ				SN	Sn	12 04 36.2	-2.1
POWZ	**Post Office Ro**	**2.26**	**306**	PN	Pn	12 04 11.5	-0.8
PNHZ	**Pukenui**	**2.36**	**320**	PN	Pn	12 04 12.9	-0.8
PNHZ				SN	Sn	12 04 39.0	-2.6
TSZ	**Takapari Road**	**2.37**	**315**	PN	Pn	12 04 13.0	-0.8
TSZ				SN	Sn	12 04 38.9	-3.0
CAW	**Cannon Point**	**2.41**	**284**	PN	Pn	12 04 11.2	-3.1
OGWZ	**Otaki Gorge**	**2.44**	**291**	PN	Pn	12 04 13.8	-0.8
MCHZ	**McNeill Hill**	**2.56**	**334**	PN	Pn	12 04 15.8	-0.6
KIW	**Kapiti Island**	**2.61**	**289**	PN	Pn	12 04 16.0	-1.0
WHHZ	**Waihua**	**2.76**	**345**	PN	Pn	12 04 18.2	-0.9
BHHZ	**Black Hill Sta**	**2.77**	**324**	PN	Pn	12 04 18.5	-0.8
NMHZ	**Naumai**	**2.84**	**338**	PN	Pn	12 04 19.7	-0.6
BKZ	**Black Stump Fm**	**2.88**	**333**	⇑PN	Pn	12 04 20.0	-0.8
BKZ				SN	Sn	12 04 50.3	-4.0
RAHZ	**Arahi**	**2.95**	**343**	PN	Pn	12 04 20.9	-0.8
TCW	**Tory Channel**	**2.97**	**279**	PN	Pn	12 04 19.3	-2.6
MOVZ	**Moawhango**	**2.97**	**321**	PN	Pn	12 04 22.2	0.0
SNGZ	**Shannon Statio**	**3.03**	**348**	PN	Pn	12 04 21.7	-1.2
RIGZ	**Rimuhau**	**3.06**	**354**	PN	Pn	12 04 21.6	-1.6
WNVZ	**Wahianoa**	**3.11**	**320**	PN	Pn	12 04 24.6	+0.4
WAZ	**Wanganui**	**3.13**	**309**	⇑PN	Pn	12 04 25.2	+1.0
WAZ				SN	Sn	12 04 59.9	-0.5
TUVZ	**Tukino**	**3.13**	**322**	PN	Pn	12 04 24.9	+0.5
TRVZ	**Turoa**	**3.16**	**320**	PN	Pn	12 04 25.2	+0.4
FWVZ	**Far West T-bar**	**3.19**	**321**	PN	Pn	12 04 25.5	+0.2
OTVZ	**Oturere**	**3.21**	**323**	PN	Pn	12 04 25.8	+0.3
NGZ	**Ngauruhoe**	**3.23**	**322**	PN	Pn	12 04 25.9	+0.1
WPVZ	**Whakapapa**	**3.23**	**321**	PN	Pn	12 04 26.1	+0.4
COVZ	**Chateau Observ**	**3.24**	**321**	PN	Pn	12 04 26.1	+0.3
PKVZ	**Pokaka**	**3.26**	**318**	PN	Pn	12 04 26.5	+0.5
KRVZ	**Karewarewa**	**3.28**	**323**	PN	Pn	12 04 26.6	+0.3
RITZ	**Rihia Road**	**3.28**	**327**	⇓PN	Pn	12 04 26.7	+0.4
WTVZ	**West Tongariro**	**3.28**	**322**	PN	Pn	12 04 26.7	+0.3
KATZ	**Kakaramea**	**3.35**	**325**	PN	Pn	12 04 27.4	0.0
MWZ	**Matawai**	**3.45**	**352**	PN	Pn	12 04 26.6	-2.0
URZ	**Urewera**	**3.58**	**347**	PN	Pn	12 04 29.0	-1.3
NNZ	**Nelson**	**3.63**	**277**	AML	AML	12 04 40.9	
PUZ	**Puketiti**	**3.67**	**1**	PN	Pn	12 04 29.5	-2.2
THZ	**Tophouse**	**3.93**	**268**	PN	Pn	12 04 31.4	-3.9
HAZ	**Te Kaha**	**4.00**	**356**	PN	Pn	12 04 34.7	-1.4
HIZ	**Hauiti**	**4.11**	**321**	PN	Pn	12 04 37.3	-0.3
CTZ	**Chatham Island**	**4.33**	**119**	*e*PN	Pn	12 04 37.0	-3.5
QRZ	**Quartz Range**	**4.34**	**280**	PN	Pn	12 04 38.5	-2.3
LTZ	**Lake Taylor**	**4.49**	**255**	PN	Pn	12 04 38.7	-4.3
MQZ	**McQueen's Vall**	**4.50**	**242**	PN	Pn	12 04 38.4	-4.6
OXZ	**Oxford**	**4.79**	**249**	PN	Pn	12 04 42.6	-4.4
OXZ				SN	Sn	12 05 32.7	-8.7
WVZ	**Waitaha Valley**	**5.65**	**254**	SN	Sn	12 05 55.0	-7.6

*ISCJB **23** 12:27:06.9±0.4,19°.58S±0°.04×69°.02W±0°.07,h132km±5km, mb4.2/11,Error ellipse: s-maj=11.3km s-min=7.3km az=176.1*
*GUC **23** 12:27:08.6±0.5,19°.62S×69°.23W,h130km±4km,ML4.8*
*IDC **23** 12:27:09.5±0.7,19°.43S×68°.89W,h132km±5km,mb3.9/11, mb1 4.1/13,mb1mx3.8/37,mbtmp4.4/13,MS3.3/4, Ms1 3.3/4,ms1mx3.0/25,Error ellipse: s-maj=17.7km s-min=13.2km az=7.0*

ISC 23 12:27:08.3±0.5,19°.60S±0°.04×69°.02W±0°.06,h128km±5km, n31,σ1929/43,mb4.3/11,6C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.72**	**311**	⇑*i*P	**Pn**	**12 27 29.1**	**+0.1**
MNMC				*i* S	**Sn**	**12 27 44.5**	**-0.1**
MNMC				AML	AML	12 27 46.0	
	comp=N,83µm,0.3s						
PSGC	**Pisagua**	**1.04**	**270**	⇑*i*P	**Pn**	**12 27 30.8**	**-0.7**
PSGC				*i* S	**Sn**	**12 27 47.3**	**-1.8**
HMBC	**Humberstone**	**1.05**	**230**	⇑*i*P	**Pn**	**12 27 31.5**	**-0.2**
HMBC				*i* S	**Sn**	**12 27 48.1**	**-1.4**
PB01	**Plate Boundary**	**1.50**	**197**	⇑*i*P	**Pn**	**12 27 36.9**	**+0.6**
PB01				*i* S	**Sn**	**12 27 57.8**	**0.0**
PB01				AML	AML	12 27 59.2	
	comp=N,18µm,0.2s						
PATCX	**Punta Patache**	**1.61**	**221**	⇑*i*P	**Pn**	**12 27 37.2**	**-0.4**
PATCX				*i* S	**Sn**	**12 27 58.7**	**-1.3**
PATCX				AML	AML	12 27 59.6	
	comp=E,6µm,0.3s						
ARCH	**Arica**	**1.64**	**312**	⇑*i*P	**Pn**	**12 27 37.2**	**-0.6**
ARCH				*i* S	**Sn**	**12 27 58.9**	**-1.5**
PB07	**Plate Boundary**	**2.26**	**201**	*e*P	**Pn**	**12 27 45.9**	**+0.2**
PB07				*i* S	**Sn**	**12 28 14.2**	**-0.1**
PB07				AML	AML	12 28 16.1	
	comp=E,3µm,0.1s						
LPAZ	**La Paz**	**3.41**	**15**	P	**Pn**	**12 28 03.1**	**+2.3**
	comp=E,25nm,0.3s,baz=196,slow=6.9,SNR=627						
LPAZ				S	**Sn**	**12 28 43.0**	**+1.8**
	comp=E,8.4nm,0.3s,baz=327,slow=14,SNR=6.9						
SIV	**San Ignacio**	**8.38**	**66**	P	**Pn**	**12 29 05.5**	**-1.5**
	comp=E,8.0nm,0.3s,baz=264,slow=12,SNR=69						
SIV				S	**Sn**	**12 30 35.9**	**-4.2**
	comp=E,0.6nm,0.3s,baz=17,slow=15,SNR=5.9						
CPUP	**Villa Florida**	**12.68**	**124**	P	**Pn**	**12 30 04.7**	**+0.5**
	comp=E,5.5nm,0.3s,baz=290,slow=10,SNR=26						
CPUP				LR	LR	12 35 53.5	
	comp=E,66nm,18.9s,baz=287,slow=41						
BDFB	**Brasilia**	**20.40**	**82**	P	**P**	**12 31 34.6**	**-0.9**
	comp=E,9.5nm,0.4s,baz=240,slow=7.9,SNR=16						
BDFB				LR	LR	12 39 58.0	
	comp=E,95nm,18.7s,baz=234,slow=38						
PTGA	**Pitinga**	**20.75**	**26**	P	**P**	**12 31 37.7**	**-1.4**
	comp=E,12nm,0.4s,baz=211,slow=15,SNR=41						
PLCA	**Paso Flores**	**21.10**	**183**	P	**P**	**12 31 45.8**	**+3.1**
	comp=E,5.5nm,0.9s,baz=360,slow=11,SNR=15						
RCBR	**Riachuelo**	**35.00**	**71**	P	**P**	**12 33 49.2**	**+0.4**
	comp=E,18nm,0.5s,baz=233,slow=8.6,SNR=26						

APG	**El Apazote**	**40.35**	**327**	LR	LR	12 51 31.0
	comp=E,44nm,20.1s,slow=36					
TXAR	**Lajitas Array**	**59.02**	**325**	P	**P**	**12 36 54.4**	**-0.6**
	comp=E,0.2nm,0.5s,baz=147,slow=7.4,SNR=3.9					
TXAR				pP	**pP**	**12 37 26.7**	**+1.1**
	comp=E,0.2nm,0.5s,baz=158,slow=10,SNR=2.9					
LIC	**Lamto**	**67.97**	**75**	*e*P	**P**	**12 37 53.8**	**-0.3**
	comp=E,40nm,1.2s					
TIC	**Toumodi**	**68.15**	**74**	*e*P	**P**	**12 37 53.8**	**-1.4**
KIC	**Kosan Boka**	**68.29**	**75**	*e*P	**P**	**12 37 55.4**	**-0.7**
	comp=E,29nm,0.7s					
DBIC	**Dimbokro**	**68.31**	**74**	P	**P**	**12 37 55.5**	**-0.7**
	comp=E,7.1nm,0.5s,baz=230,slow=2.9,SNR=20					
PDAR	**Pinedale Array**	**72.42**	**330**	P	**P**	**12 38 20.7**	**-0.2**
	comp=E,0.3nm,0.5s,baz=113,slow=6.7,SNR=6.3					
NVAR	**Mina Array Bea**	**73.94**	**322**	P	**P**	**12 38 30.9**	**+0.9**
	comp=E,0.2nm,0.6s,baz=150,slow=5.8,SNR=2.8					
TORD	**Torodi Ar. Bea**	**76.83**	**71**	P	**P**	**12 38 45.8**	**-0.9**
	comp=E,7.3nm,0.4s,baz=253,slow=5.4,SNR=66					
TORD				pP	**pP**	**12 39 19.7**	**+1.1**
	comp=E,1.9nm,0.6s,baz=256,slow=5.6,SNR=1.6					
TORD				LR	LR	13 12 18.3	
	comp=E,29nm,18.7s,baz=295,slow=35					
BOSA	**Boshof**	**84.43**	**118**	P	**P**	**12 39 27.4**	**+0.3**
	comp=E,0.9nm,0.4s,baz=258,slow=5.2,SNR=4.9					
YKA	**Yellowknife Ar**	**89.37**	**341**	P	**P**	**12 39 50.2**	**+0.3**
	comp=E,1.4nm,0.5s,baz=134,slow=4.8,SNR=90					
YKA				pP	**pP**	**12 40 23.7**	**+0.9**
	comp=E,2.0nm,0.6s,baz=133,slow=5.0,SNR=11					
ASAR	**Alice Springs**	**131.53**	**208**	PKP	**PKPdf**	**12 46 06.7**	**0.0**
	comp=E,0.3nm,0.4s,baz=130,slow=1.7,SNR=6.5					
WRA	**Warramunga Arr**	**134.52**	**212**	PKP	**PKPdf**	**12 46 12.7**	**+0.4**
	comp=E,0.5nm,0.5s,baz=144,slow=1.7,SNR=16					
MKAR	**Makanchi Array**	**144.15**	**34**	PKP	**PKPdf**	**12 46 28.1**	**-1.0**
	comp=E,0.3nm,0.6s,baz=336,slow=3.4,SNR=5.5					
USRK	**Ussuriysk Arra**	**149.85**	**329**	pPKPbc	pPKPbc	12 47 19.5	+1.8
	comp=E,0.8nm,0.6s,baz=72,slow=8.2,SNR=2.2					
MJAR	**Matsushiro Arr**	**150.78**	**311**	PKPbc	**PKPbc**	**12 46 46.4**	**+0.4**
	comp=E,0.7nm,0.5s,baz=135,slow=1.4,SNR=4.8					
MJAR				pPKPbc	**pPKPbc**	**12 47 20.8**	**+0.6**
	comp=E,1.7nm,0.6s,baz=115,slow=1.8,SNR=4.4					
SONM	**Songino Array**	**151.59**	**6**	PKPbc	**PKPbc**	**12 46 48.4**	**+0.8**
	comp=E,0.4nm,0.4s,baz=353,slow=1.5,SNR=3.6					
SONM				pPKPbc	**pPKPbc**	**12 47 23.4**	**+1.5**
	comp=E,1.1nm,0.5s,baz=302,slow=1.0,SNR=5.5					

*TIR **23** 12:30:28.3±0.5,41°.98N×19°.05E,h14km±44km,ML3.0*
*BEO **23** 12:30:29.8±0.6,41°.95N×19°.23E,h0km,ML2.8/1*
*ISCJB **23** 12:30:29.9±0.5,42°.01N±0°.03×19°.11E±0°.03,h9km±2km, Error ellipse: s-maj=4.6km s-min=2.9km az=29.9*
*PDG **23** 12:30:30.7±0.2,42°.03N×19°.12E,h11km,MD3.0/4, ML2.9/11,Error ellipse: s-maj=0.5km s-min=0.4km az=90.0*
*CSEM **23** 12:30:30.2±0.3,42°.00N×19°.09E,h2km,ML2.9,Error ellipse: s-maj=5.1km s-min=3.0km az=29.0*
*SKO **23** 12:30:30.6,41°.99N×18°.98E,h0km*

ISC 23 12:30:30.5±1.2,42°.00N±0°.03×19°.09E±0°.02,h3km±9km, n79,σ0988/133,18C-21D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.12**	**109**	⇑*i*Pg	**Pg**	**12 30 32.6**	**-0.3**
ULC				*e*Sg	**Sg**	**12 30 34.4**	**-0.1**
ULC	**Ulcinj**	**0.12**	**109**	⇑*i*Pg	**Pg**	**12 30 32.6**	**-0.3**
ULC				*e*Sg	**Sg**	**12 30 34.4**	**-0.1**
DRME	**Dracevica, Mon**	**0.20**	**21**

ZAPS	**Zavoj**	**2.91**	**63**	*e*Pn	**Pn**	**12 31 17.0**	**-0.7**
ZAPS				*e*Sg	**Sb**	**12 31 57.5**	**-1.4**
ZAPS	**Zavoj**	**2.91**	**63**	*e*Pn	**Pn**	**12 31 17.0**	**-0.7**
VTS	**Vitosha**	**3.11**	**78**⇑	*i*P	**Pn**	**12 31 22.4**	**+1.8**
VTS	**Vitosha**	**3.11**	**78**⇑	*i*P	**Pn**	**12 31 22.4**	**+1.8**
FGSL	**Fruska Gora**	**3.20**	**9**	*e*Pn	**Pn**	**12 31 21.4**	**-0.2**
FRGS	**Fruska Gora**	**3.20**	**9**	*e*Pn	**Pn**	**12 31 21.4**	**-0.3**
MMB	**Musomiste**	**3.49**	**95**⇑	*i*P	**Pn**	**12 31 27.2**	**+1.5**
MMB	**Musomiste**	**3.49**	**95**⇑	*i*P	**Pn**	**12 31 27.2**	**+1.5**
UDBI	**Udbina**	**3.50**	**317**	*e*Pn	**Pn**	**12 31 26.5**	**+0.6**
UDBI				Sn	**Sn**	**12 32 08.2**	**+0.3**
UDBI	**Udbina**	**3.50**	**317**	*e*Pn	**Pn**	**12 31 26.5**	**+0.6**
UDBI				Sn	**Sn**	**12 32 08.2**	**+0.3**
NVLJ	**Novalja**	**4.01**	**311**	*e*Pn	**Pn**	**12 31 32.0**	**-0.8**
NVLJ				Sn	**Sn**	**12 32 18.6**	**-1.6**
NVLJ	**Novalja**	**4.01**	**311**	*e*Pn	**Pn**	**12 31 31.9**	**-0.8**
NVLJ				Sn	**Sn**	**12 32 18.5**	**-1.6**
BZS	**Buzias**	**4.05**	**26**⇑	*i*P	**Pn**	**12 31 34.0**	**+0.7**
BZS	**Buzias**	**4.05**	**26**	S	**Sn**	**12 32 21.1**	**-0.1**
BZS	**Buzias**	**4.05**	**26**⇑	*i*P	**Pn**	**12 31 34.0**	**+0.7**
BZS				S	**Sn**	**12 32 21.1**	**-0.1**
PKSM	**Moragy**	**4.22**	**356**⇓	*i*P	**Pn**	**12 31 36.5**	**+0.8**
PKSM	**Moragy**	**4.22**	**356**	S	**Sn**	**12 32 25.9**	**+0.5**
PKSM	**Moragy**	**4.22**	**356**⇓	*i*P	**Pn**	**12 31 36.5**	**+0.8**
GZR	**Gura Zlata**	**4.32**	**37**⇑	*i*P	**Pn**	**12 31 37.0**	**-0.1**
GZR	**Gura Zlata**	**4.32**	**37**	S	**Sn**	**12 32 28.0**	**+0.1**
GZR	**Gura Zlata**	**4.32**	**37**⇑	*i*P	**Pn**	**12 31 37.0**	**-0.1**
GZR				S	**Sn**	**12 32 28.0**	**+0.1**
SIRR	**Siria**	**4.65**	**23**⇓	*i*P	**Pn**	**12 31 42.3**	**+0.7**
SIRR	**Siria**	**4.65**	**23**⇓	*i*P	**Sn**	**12 32 36.8**	**+0.8**
SIRR	**Siria**	**4.65**	**23**⇓	*i*P	**Pn**	**12 31 42.3**	**+0.7**
VOIR		**5.52**	**49**⇓	*i*P	**Pn**	**12 31 54.6**	**+1.0**
VOIR		**5.52**	**49**⇓	*i*P	**Pn**	**12 31 54.6**	**+1.0**
KECS	**Kecovo**	**6.55**	**8**	*e*PN	**Pn**	**12 32 06.7**	**-1.0**
KECS				*e*SN	**Sn**	**12 33 21.8**	**-1.2**
KECS	**Kecovo**	**6.55**	**8**	*e*Pn	**Pn**	**12 32 06.7**	**-1.0**
CRVS	**Cervenica-Dubn**	**7.10**	**13**	*e*PN	**Pn**	**12 32 16.0**	**+0.8**
CRVS	**Cervenica-Dubn**	**7.10**	**13**	*e*Pn	**Pn**	**12 32 16.0**	**+0.8**
STHS	**Stebnicka Huta**	**7.57**	**11**	*e*PN	**Pn**	**12 32 21.1**	**-0.5**
STHS	**Stebnicka Huta**	**7.57**	**11**	*e*Pn	**Pn**	**12 32 21.2**	**-0.4**

IDC 23 13:18:48.3±2.2, 4°.03N×126°.47E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, Error ellipse: s-maj=182.7km s-min=26.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.05**	**162**	P	P	13 24 14.2	-0.2
	0.6nm,0.6s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.47**	**166**	P	P	13 24 45.4	+0.1
	0.2nm,0.6s,baz=358,slow=8.3,SNR=5.2						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	13 28 37.1	+0.1
	0.2nm,0.5s,baz=118,slow=7.5,SNR=5.4						

*IDC **23** 13:26:54.1±2.0, 17°.52S×63°.81W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/23, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=56.4km s-min=15.4km az=175.0*

ISC 23 13:26:55.3±2.2, 17°.5S±0°.4×63°.76W±0°.06, h10km, n6, σ1s78/8, mb3.9/3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**2.96**	**61**	Pn	**Pb**	**13 27 45.2**	**-3.0**
	6.8nm,0.3s,baz=260,slow=9.5,SNR=70						
SIV				Pg	**Pg**	**13 27 54.1**	**+2.0**
	32nm,0.3s,baz=258,slow=15,SNR=31						
SIV				Lg	Lg	13 28 30.1	
	22nm,0.3s,baz=332,slow=22,SNR=5.8						
LPAZ	**La Paz**	**4.35**	**285**	Pn	Pn	13 28 03.5	+1.5
	1.2nm,0.3s,baz=114,slow=5.0,SNR=33						
LPAZ				Pg	**Pg**	**13 28 18.9**	**+0.1**
	6.4nm,0.3s,baz=102,slow=8.7,SNR=13						
LPAZ				Sn	**Sn**	**13 28 54.5**	**+1.3**
	10nm,0.3s,baz=125,slow=23,SNR=5.7						
LPAZ				Lg	Lg	13 29 10.8	
	12nm,0.3s,baz=43,slow=22,SNR=7.1						
TORD	**Torodi Ar. Bea**	**71.40**	**69**	P	**P**	**13 38 16.5**	**+0.2**
	0.7nm,0.7s,baz=257,slow=5.9,SNR=3.5						
PDAR	**Pinedale Array**	**73.24**	**327**	P	**P**	**13 38 26.9**	**-0.2**
	0.4nm,0.5s,baz=122,slow=7.7,SNR=6.4						
YKA	**Yellowknife Ar**	**89.10**	**339**	P	**P**	**13 39 50.9**	**+0.4**
	0.6nm,0.6s,baz=123,slow=4.6,SNR=14						
SONM	**Songino Array**	**148.65**	**13**	PKPbc	**PKPbc**	**13 46 43.6**	**+0.6**
	0.5nm,0.7s,baz=350,slow=0.5,SNR=4.7						

IDC 23 13:31:05.8±9.3, 24°.05S×179°.12E, h550km±137km, mb3.4/4, mb1 3.6/5, mb1mx3.1/28, mbtmp4.5/5, Error ellipse: s-maj=194.5km s-min=56.9km az=73.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.27**	**186**	P	P	13 34 07.8	+0.2
	1.1nm,0.3s,baz=114,slow=3.2,SNR=10						
URZ				S	S	13 36 33.7	-3.7
	0.5nm,0.3s,baz=183,slow=23,SNR=8.5						
CTA	**Charters Tower**	**30.67**	**271**	P	P	13 36 36.0	-0.2
	5.5nm,0.6s,baz=98,slow=9.9,SNR=16						
STKA	**Stephens Creek**	**33.92**	**248**	P	P	13 37 04.5	+0.8
	3.3nm,0.5s,baz=94,slow=10,SNR=14						
ASAR	**Alice Springs**	**41.22**	**261**	P	P	13 38 03.1	-0.2
	3.9nm,0.8s,baz=93,slow=8.3,SNR=32						
WRA	**Warramunga Arr**	**41.59**	**267**	P	P	13 38 05.4	-0.9
	4.5nm,0.7s,baz=105,slow=8.6,SNR=42						

IDC 23 13:31:14.9±4.0, 6°.47S×153°.96E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/25, mbtmp3.1/2, MS2.5/1, Ms1 2.5/1, ms1mx2.3/9, Error ellipse: s-maj=188.3km s-min=55.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**246**	LR	LR	13 35 47.0	
	comp=Z,35nm,18.5s,baz=35,slow=37						
WRA	**Warramunga Arr**	**23.29**	**233**	P	P	13 36 24.0	-0.5
	0.4nm,0.9s,baz=58,slow=9.2,SNR=2.0						
ASAR	**Alice Springs**	**25.77**	**226**	P	P	13 36 47.3	-0.4
	0.4nm,0.8s,baz=53,slow=10.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**151.89**	**286**	PKPbc	PKPbc	13 51 13.4	+0.5
	0.5nm,0.7s,baz=62,slow=2.8,SNR=2.8						

IDC 23 13:32:45.7±2.1, 17°.55S×63°.87W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=54.6km s-min=15.2km az=174.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**3.10**	**60**	Pn	Pn	13 33 36.5	+0.5
	3.5nm,0.3s,baz=251,slow=9.8,SNR=13						
SIV				Pg	Pg	13 33 45.7	+0.5
	12nm,0.3s,baz=271,slow=14,SNR=12						
SIV				Sn	Sn	13 34 13.3	-0.4
	16nm,0.3s,baz=244,slow=14,SNR=3.1						
SIV				Lg	Lg	13 34 24.7	
	12nm,0.3s,baz=324,slow=23,SNR=6.5						
LPAZ	**La Paz**	**4.27**	**287**	Pn	Pn	13 33 54.5	+1.7
	0.6nm,0.3s,baz=139,slow=7.1,SNR=8.8						
LPAZ				Pg	Pg	13 34 10.3	+1.9
	2.6nm,0.3s,baz=216,slow=14,SNR=7.2						
LPAZ				Sn	Sn	13 34 44.4	+0.4
	2.0nm,0.3s,baz=35,slow=23,SNR=2.5						
LPAZ				Lg	Lg	13 35 01.5	
	1.9nm,0.3s,baz=225,slow=22,SNR=2.4						
TORD	**Torodi Ar. Bea**	**71.54**	**69**	P	P	13 44 09.3	+0.2
	0.3nm,0.6s,baz=248,slow=3.9,SNR=2.0						
YKA	**Yellowknife Ar**	**89.15**	**339**	P	P	13 45 41.8	-0.9
	0.3nm,0.6s,baz=122,slow=4.7,SNR=7.9						

MEX 23 13:53:23.2±1.1, 17°.44N×97°.18W, h60km±16km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.56**	**130**	*i* P	Pn	13 53 34.7	-1.5
VHO				*e*S	Sn	13 53 44.2	-1.3
OXX	**Oaxaca**	**0.56**	**129**	*i* P	Pn	13 53 34.4	-1.7
OXX				*e*S	Sn	13 53 43.6	-2.0
TPIG	**Tehuac#an**	**0.99**	**350**	*e*P	Pn	13 53 39.2	-2.1
TPIG				*e*S	Sn	13 53 52.5	-2.2
PNIG	**Pinotepa**	**1.38**	**221**	*i* P	Pn	13 53 44.0	-2.4
PNIG				*e*S	Sn	13 54 00.1	-3.6
HUIG	**Huatulco**	**1.96**	**148**	*i* P	Pn	13 53 52.9	-1.2
HUIG				*i* S	Sn	13 54 15.3	-2.3
PPM	**Popocatepetl**	**2.12**	**320**	*e*P	Pn	13 53 55.7	-1.3
PPM				*e*S	Sn	13 54 21.0	-1.7
YAIG	**Yautepec**	**2.28**	**309**	*i* P	Pn	13 53 58.0	-0.7
YAIG				*i* S	Sn	13 54 23.9	-2.0
LVIG	**Laguna Verde**	**2.38**	**18**	*e*P	Pn	13 53 55.3	-4.6
LVIG				*e*S	Sn	13 54 21.6	-6.4
IIO	**Organos**	**2.59**	**326**	*e*P	Pn	13 54 02.7	-0.6
ACX	**Acapulco**	**2.62**	**258**	*i* P	Pn	13 53 59.9	-3.3
ACX				*e*S	Sn	13 54 30.8	-3.1
ARIG	**Puente Sto Nin**	**3.13**	**286**	*i* P	Pn	13 54 09.5	-0.6
ARIG				*i* S	Sn	13 54 42.8	-3.6
PCIG		**4.17**	**114**	*i* P	Pn	13 54 23.5	-0.9
PCIG				*e*S	Sn	13 55 10.8	-1.1

MEX 23 14:09:52.3±0.7, 18°.69N×102°.84W, h4km±7km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.62**	**231**	*e*P	Pg	14 10 03.9	-0.4
MMIG				*i* S	Sg	14 10 12.9	+0.5
EZ5V		**1.07**	**318**	*e*P	Pg	14 10 10.3	-2.9
EZ5V				*i* S	Sg	14 10 25.1	-2.3
R15V		**1.19**	**294**	*e*P	Pg	14 10 11.7	-3.5
R15V				*i* S	Sg	14 10 26.9	-3.7
ZIIG	**Zihuatanejo**	**1.69**	**129**	*e*P	Pn	14 10 19.7	-3.0
ZIIG				*e*S	Sn	14 10 40.0	-4.9
SFJM	**Santa Fe**	**1.80**	**354**	*e*P	Pn	14 10 20.3	-4.1
SFJM				*i* S	Sn	14 10 43.8	-4.2
MOIG	**Morelia**	**1.84**	**57**	*e*P	Pn	14 10 22.3	-2.8
MOIG				*e*S	Sn	14 10 45.1	-4.1
CJM	**Chamela**	**2.24**	**292**	*i* P	Pn	14 10 30.1	-0.1
CJM				*i* S	Sn	14 10 53.8	-4.5
ARIG	**Puente Sto Nin**	**2.40**	**99**	*e*P	Pn	14 10 30.4	-2.1
ARIG				*i* S	Sn	14 10 58.0	-4.5
PLIG	**Platanillo**	**3.18**	**95**	*e*P	Pn	14 10 41.3	-2.0
PLIG				*e*S	Sn	14 11 18.3	-3.5
YAIG	**Yautepec**	**3.58**	**87**	*i* P	Pn	14 10 47.2	-1.6
YAIG				*i* S	Sn	14 11 29.3	-2.5
PNIG	**Pinotepa**	**5.04**	**116**	*e*P	Pn	14 11 04.2	-4.7

DJA 23 14:30:34.2±0.7, 8°.S±5°×107°.7E±°, h27km±5km, M4.0/8, MLv4.0/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.61**	**345**	P	Pn	14 30 46.9	-0.2
CNJI				S	Sn	14 30 55.6	-0.4
CISI	**Cisompet, Garu**	**0.62**	**57**	P	Pn	14 30 47.3	-0.1
CISI				S	Sb	14 30 55.6	+0.5
LEM	**Lembang**	**1.11**	**17**	P	Pn	14 30 54.0	-0.3
LEM				S	Sn	14 31 08.7	-0.2
SKJI	**Sukabumi**	**1.15**	**321**	P	Pn	14 30 54.5	0.0
SKJI				S	Sn	14 31 09.3	-0.1
CMJI	**Cimerak**	**1.15**	**84**	P	Pb	14 30 55.1	-0.4
CMJI				S	Sn	14 31 08.1	-1.4
CGJI	**Cibinong**	**2.04**	**309**	P	Pn	14 31 06.0	-0.7
CGJI				S	Sn	14 31 28.0	-3.3

*IDC **23** 14:36:20.0±0.9, 8°.49N×82°.98W, h0km, mb4.1/13, mb1 4.4/15, mb1mx4.1/30, mbtmp4.2/15, ML4.5/2, Error ellipse: s-maj=34.0km s-min=11.7km az=40.0*

*ISCJB **23** 14:36:20.5±0.5, 8°.57N±0°.07×83°.08W±0°.05, h13km, mb4.4/30, MS4.6/2, Error ellipse: s-maj=11.0km s-min=5.1km az=32.3*

*NEIC **23** 14:36:25.3±2.1, 8°.59N×83°.03W, h35km±15km, mb4.8/14, Error ellipse: s-maj=12.9km s-min=6.0km az=220.0*

*GCMT **23** 14:36:25.3±0.3, 8°.42N×83°.03W, h15km±1km, MW4.8/71, Moment Tensor Solution. s24,c27; s71,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.09±.15; Mθθ-1.84±.10; Mϕϕ-0.25±.10; Mrθ-0.15±.28; Mθϕ0.74±.07; Mϕr0.35±.43; Best double couple: Mo2.14800×10^16 NP1:ϕs299.00000°, δ49.00000°, λ100.00000°. NP2: ϕs104.00000°, δ42.00000°, λ79.00000°. Principal axes: T 2.1430, Plg82.0000°, Azm265.0000°; N 0.0060, Plg7.0000°, Azm113.0000°; P -2.1520, Plg4.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 14:36:21.5±0.6, 8°.44N±0°.09×83°.05W±0°.06, h13km, n71, σ1s25/74, mb4.5/30, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.63**	**314**	Pn	**Pn**	**14 37 04.0**	**+0.4**
JTS				Sn	**Sn**	**14 37 37.5**	**+2.0**
JTS				Lg	Lg	14 37 45.9	
JTS	**JuntasAbangare**	**2.63**	**314**	Pn	**Pn**	**14 37 04.0**	**+0.4**
	217nm,0.3s,baz=134,slow=4.8,SNR=377						
JTS				Pg	**Pb**	**14 37 06.5**	**-2.0**
	217nm,0.3s,baz=191,slow=1.7,SNR=314						
JTS				Sn	**Sn**	**14 37 37.5**	**+2.0**
	189nm,0.3s,baz=325,slow=22,SNR=13						
JTS				Lg	Lg	14 37 45.9	
	138nm,0.3s,baz=296,slow=22,SNR=7.4						
BCIP	**Isla Barro Col**	**3.25**	**77**	*e*Pn	**Pn**	**14 37 13.0**	**+0.8**
BCIP				*e*Sn	**Sn**	**14 37 52.0**	**+1.2**
TGUH	**Tegucigalpa,Un**	**6.95**	**324**	*e*Pn	**Pn**	**14 38 02.6**	**-0.5**
TGUH				*e*Sn	**Sn**	**14 39 21.6**	**-0.5**
ROSC	**El Rosal**	**9.36**	**112**	Pn	Pn	14 38 40.3	+3.7
ROSC	**El Rosal**	**9.36**	**112**	Pn	Pn	14 38 40.3	+3.7
	3.3nm,0.3s,baz=94,slow=19,SNR=2.9						
APG	**El Apazote**	**9.76**	**313**	Pn	**Pn**	**14 38 41.7**	**-0.2**
APG	**El Apazote**	**9.76**	**313**	Pn	**Pn**	**14 38 41.7**	**-0.2**
	2.1nm,0.3s,baz=130,slow=9.1,SNR=21						
SDV	**Santo Domingo**	**12.28**	**87**	*e*Pn	**Pn**	**14 39 16.9**	**+0.5**
SDV				*e*Sn	**Sn**	**14 41 31.0**	**-2.3**
ATAH	**Atahualpa**	**16.15**	**163**	Pn	**P**	**14 40 12.2**	**+0.1**
ATAH	**Atahualpa**	**16.15**	**163**	Pn	**P**	**14 40 12.2**	**+0.1**
	0.2nm,0.3s,baz=330,slow=8.1,SNR=3.4						
CBYP	**Canovanas**	**19.35**	**58**	*e*P	**Pn**	**14 40 47.8**	**-0.3**
	16nm,0.7s						
PTGA	**Pitinga**	**24.74**	**111**	P	**P**	**14 41 43.8**	**+0.8**
	11nm,1.3s						
PTGA	**Pitinga**	**24.74**	**111**	P	**P**	**14 41 43.8**	**+0.8**
	3.3nm,0.8s,baz=270,slow=10.0,SNR=5.9						
LRAL	**Lakeview Retre**	**24.75**	**352**	*e*P	**P**	**14 41 43.4**	**+0.6**
	70nm,1.8s						
GOGA	**Godfrey**	**24.85**	**359**	*e*P	**P**	**14 41 43.0**	**-0.8**
	36nm,1.1s						
SAML	**Samuel**	**26.27**	**131**	*e*P	**P**	**14 41 55.6**	**-1.2**
	2.3nm,1.3s						
MIAR	**Mount Ida**	**27.72**	**341**	*e*P	**P**	**14 42 08.8**	**-0.9**
	33nm,1.8s						
TXAR	**Lajitas Array**	**28.41**	**320**	P	**P**	**14 42 17.4**	**+1.4**
TXAR	**Lajitas Array**	**28.41**	**320**	P	**P**	**14 42 17.4**	**+1.4**
	0.2nm,0.5s,baz=138,slow=9.6,SNR=3.2						
WCI	**Wyandotte Cave**	**29.80**	**355**	*e*P	**P**	**14 42 27.9**	**-0.3**
	78nm,2.0s						
KSU1	**Kansas State U**	**32.87**	**340**	*e*P	**P**	**14 42 54.5**	**-0.7**
	11nm,0.9s						
ECSD	**EROS Data Cent**	**37.10**	**344**	*e*P	**P**	**14 43 30.6**	**-1.1**
	28nm,1.7s						
AGMN	**Agassiz Nation**	**41.17**	**347**	*e*P	**P**	**14 44 04.9**	**-0.7**
	30nm,1.7s						
PDAR	**Pinedale Array**	**41.36**	**330**	P	**P**	**14 44 07.9**	**+0.4**
PDAR	**Pinedale Array**	**41.36**	**330**	P	**P**	**14 44 07.9**	**+0.4**
	0.4nm,0.6s,baz=129,slow=8.5,SNR=4.4						
H03N2	**Juan Fernandez**	**41.83**	**175**	T	T	15 28 32.1	
	baz=354,slow=75,SNR=190						
H03N1	**Juan Fernandez**	**41.84**	**175**	T	T	15 28 31.5	
	baz=354,slow=75,SNR=296						
H03N3	**Juan Fernandez**	**41.85**	**175**	T	T	15 28 32.6	
	baz=354,slow=75,SNR=256						
ULM	**Lac du Bonnet**	**43.02**	**348**	*e*P	**P**	**14 44 19.7**	**-1.0**
ULM	**Lac du Bonnet**	**43.02**	**348**	P	**P**	**14 44 19.4**	**-1.2**
	6.7nm,0.6s,baz=165,slow=8.0,SNR=13						
NVAR	**Mina Array Bea**	**43.55**	**319**	P	**P**	**14 44 27.6**	**+2.2**
NVAR	**Mina Array Bea**	**43.55**	**319**	P	**P**	**14 44 27.6**	**+2.2**
	1.7nm,0.7s,baz=127,slow=6.4,SNR=10.0						
HLID	**Hailey**	**44.42**	**327**	*e*P	**P**	**14 44 32.0**	**-0.3**
	26nm,2.3s						
LRM	**Limekiln Ridge**	**45.01**	**331**	*e*P	**P**	**14 44 36.7**	**-0.3**
WVOR	**Wild Horse Val**	**46.08**	**323**	*e*P	**P**	**14 44 43.7**	**-1.7**
	19nm,1.5s						
FFC	**Flin Flon**	**48.58**	**345**	*e*P	**P**	**14 45 05.1**	**+0.6**
	62nm,2.5s						
PLCA	**Paso Flores**	**50.27**	**168**	P	**P**	**14 45 17.9**	**+0.3**
PLCA	**Paso Flores**	**50.27**	**168**	P	**P**	**14 45 17.9**	**+0.3**
	1.6nm,0.5s,baz=341,slow=6.8,SNR=10						
FCC	**Fort Churchill**	**50.91**	**353**	*e*P	**P**	**14 45 21.3**	**-0.9**
	3.3nm,2.3s						
EDM	**Edmonton**	**50.94**	**337**	*e*P	**P**	**14 45 22.9**	**+0.3**
YKA	**Yellowknife Ar**	**58.63**	**343**	P	**P**	**14 46 18.1**	**+0.1**
YKA	**Yellowknife Ar**	**58.63**	**343**	P	**P**	**14 46 18.1**	**+0.1**
	1.2nm,0.6s,baz=138,slow=6.9,SNR=44						
INK	**Inuvik**	**68.32**	**342**	*e*P	**P**	**14 47 23.3**	**+1.3**
	19nm,1.5s						
SUMG	**Summit**	**69.43**	**13**	*i* P	**P**	**14 47 27.9**	**-1.5**
	6.6nm,0.8s						
ILAR	**Eielson Array**	**71.42**	**336**	P	**P**	**14 47 41.5**	**+0.3**
ILAR	**Eielson Array**	**71.42**	**336**	P	**P**	**14 47 41.5**	**+0.3**
	1.4nm,0.7s,baz=107,slow=4.5,SNR=25						
COLD	**Coldfoot**	**73.51**	**338**	*e*P	**P**	**14 47 52.2**	**-1.4**
DAG	**Danmarks Havn**	**76.09**	**12**	*i* P	**P**	**14 48 07.5**	**-0.9**
	1.9nm,0.9s						
ESDC	**Sonseca Array**	**76.27**	**51**	P	**P**	**14 48 11.4**	**+1.1**
ESDC	**Sonseca Array**	**76.27**	**51**	P	**P**	**14 48 11.4**	**+1.1**
	1.4nm,0.6s,baz=278,slow=5.3,SNR=8.5						
TIC	**Toumodi**	**77.25**	**85**	*e*P	**P**	**14 48 17.1**	**+0.9**
LIC	**Lamto**	**77.30**	**86**	*e*P	**P**	**14 48 17.6**	**+1.1**
	32nm,0.9s						
DBIC	**Dimbokro**	**77.41**	**85**	P	**P**	**14 48 17.8**	**+0.7**
DBIC	**Dimbokro**	**77.41**	**85**	P	**P**	**14 48 17.8**	**+0.7**
	4.7nm,1.0s,baz=237,slow=7.8,SNR=3.7						
KIC	**Kosan Boka**	**77.56**	**85**	*e*P	**P**	**14 48 19.3**	**+1.3**
	28nm,1.3s						
TORD	**Torodi Ar. Bea**	**83.03**	**78**	P	**P**	**14 48 48.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**83.03**	**78**	P	**P**	**14 48 48.3**	**+0.9**
	1.2nm,0.9s,baz=288,slow=5.9,SNR=9.2						
ARCES	**ARCESS Array B**	**88.52**	**19**	P	**P**	**14 49 13.5**	**0.0**
ARCES	**ARCESS Array B**	**88.52**	**19**	P	**P**	**14 49 13.5**	**0.0**
	1.5nm,0.6s,baz=303,slow=8.2,SNR=9.5						
FINES	**FINESS Array B**	**91.59**	**27**	P	**P**	**14 49 26.9**	**-1.1**
FINES	**FINESS Array B**	**91.59**	**27**	P	**P**	**14 49 26.9**	**-1.1**
	2.3nm,1.1s,baz=289,slow=5.8,SNR=3.6						
MDJ	**Mudanjiang**	**119.53**	**334**	PKP	**PKPdf**	**14 55 08.8**	**-2.5**
WMQ	**Urumqi**	**127.31**	**8**	PKP	**PKPdf**	**14 55 25.6**	**-0.7**
WMQ				PP	**PP**	**14 57 28.8**	**+4.3**
WMQ				AMB	AMB		
	comp=Z,13nm,7.4s						
WMQ				LR	LR		
	comp=N,92nm,34.9s						
WMQ				LR	LR		
	comp=E,120nm,27.1s						
WMQ				LR	LR		
	comp=Z,93nm,32.2s						
KSH	**Kashi**	**128.47**	**21**	*e*PKP	**PKPdf**	**14 55 27.0**	**-1.8**
KSH				*es*PKP		14 55 41.4	
KSH				*e*SKS	SKSdf	15 02 33.3	-7.3
KSH				AMB	AMB		
	comp=Z,81nm,4.2s						
KSH				LR	LR		
	comp=N,48nm,4.4s						
KSH				LR	LR		
	comp=E,48nm,3.5s						
KSH				LR	LR		
	comp=Z,47nm,4.5s						
HHC	**Hu-ho-hao-te**	**129.14**	**346**	*e*PKP	**PKPdf**	**14 55 26.6**	**-3.4**
HHC				sPKP		14 55 43.3	
HHC				PKS	PKSdf	14 58 59.5	-7.1
HHC				AMB	AMB		
	comp=Z,230nm,8.8s						
HHC				LR	LR		
	comp=N,210nm,20.6s						
HHC				LR	LR		
	comp=E,310nm,20.1s						
HHC				LR	LR		
	comp=Z,240nm,20.3s						
ASAR	**Alice Springs**	**141.55**	**242**	PKhKP	PKPpre	14 55 46.9	
	0.4nm,0.6s,baz=121,slow=3.3,SNR=8.5						
WRA	**Warramunga Arr**	**142.09**	**248**	PKhKP	PKPpre	14 55 49.0	
	0.4nm,0.5s,baz=104,slow=3.1,SNR=9.1						
GYA	**Guiyang**	**144.05**	**345**	*e*PKP	**PKPab**	**14 55 55.0**	**-0.2**
GYA				sPKP		14 56 10.6	
GYA				PP	**PP**	**14 59 12.3**	**+2.1**
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
CMAR	**Chiang Mai Arr**	**153.20**	**356**	PKP	**PKPdf**	**14 56 12.9**	**+0.2**
CMAR				PKPbc	**PKPbc**	**14 56 19.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**153.20**	**356**	PKP	**PKPdf**	**14 56 12.9**	**+0.2**
	0.4nm,0.9s,baz=305,slow=3.2,SNR=3.1						
CMAR				PKPbc	**PKPbc**	**14 56 19.9**	**-0.2**
	0.7nm,0.8s,baz=356,slow=2.7,SNR=4.0						

*IDC **23** 14:39:58.6±3.3, 8°.48N

QCR **Quepos** 1.49 311⇑ *i*P Pn 14 43 58.0 -0.6
URSC **Urasca** 1.57 332⇓ *e*P Pn 14 43 59.2 -0.7
SJS **Escuela Geolog** 1.80 326⇓ *e*P Pn 14 44 03.8 +0.7
SJS *e*S Sg 14 44 31.3 +0.8
CGA2 **Cerro Gallo 2** 2.11 318 *e*P Pn 14 44 08.1 +0.8
JCR **Jicaral** 2.49 304⇑ *e*P Pn 14 44 10.6 -1.8
JTS **JuntasAbangare** 2.64 314 *e*Pn Pn 14 44 14.7 +0.2
JTS *e*Pg Pg 14 44 24.3 +1.1
JTS *e*Sn Sn 14 44 46.5 +0.1
JTS Lg Lg 14 44 53.9
JTS **JuntasAbangare** 2.64 314 Pn Pn 14 44 14.4 -0.1
295nm,0.3s,baz=140,slow=4.6,SNR=123
JTS Pg Pb 14 44 17.5 -2.0
294nm,0.3s,baz=124,slow=11,SNR=510
JTS LR LR 14 44 35.6
comp=Z,516nm,20.8s,baz=232,slow=25
JTS Sn Sn 14 44 47.8 +1.5
226nm,0.3s,baz=318,slow=23,SNR=10
JTS Lg Lg 14 44 53.9
317nm,0.3s,baz=325,slow=18,SNR=8.9
COLC **Colonia** 3.08 316 *i* P Pn 14 44 23.4 +2.8
MESS **Mesas** 3.13 317 *i* P Pn 14 44 24.0 +2.8
BCIP **Isla Barro Col** 3.24 77 *e*Pn Pn 14 44 23.5 +0.9
BCIP *e*Pg Pg 14 44 35.9 +1.4
BCIP *e*Sn Sn 14 45 01.4 +0.5
GPS2 **Hotel Rinc^‡n** 3.25 315 *i* P Pn 14 44 24.2 +1.3
GPS2 *i* S Sn 14 45 03.4 +2.1
LAPC **Finca la Perla** 3.31 314 *i* P Pn 14 44 25.2 +1.5
BUEV **Buena Vista** 3.32 315 *i* P Pn 14 44 25.8 +2.0
GB1A **Borinquen Arri** 3.33 316 *i* P Pn 14 44 26.1 +2.1
GB1A *i* S Sn 14 45 06.0 +2.7
COPN **Copaltepe** 5.11 317⇑ *i*P Pn 14 44 50.6 +2.1
COPN *e*S Sn 14 45 43.2 -4.0
CNCH **Conchagua** 6.74 316 *e*P Pn 14 45 12.8 +1.9
TGUH **Tegucigalpa,Un** 6.96 324 *e*Pn Pn 14 45 13.8 -0.2
58nm,1.1s
VSM **San Miguel** 7.15 314⇑ *i*P Pn 14 45 19.2 +2.5
LFRS **El Faro** 7.85 312 *e*P Pn 14 45 27.2 +1.0
LBRS **Las Brisas** 7.91 312 *e*P Pn 14 45 28.5 +1.5
BOQS **Boqueron** 8.08 311 *e*P Pn 14 45 31.4 +1.9
BOQS *e*S Sn 14 46 57.2 -3.6
SBLS **San Blas** 8.41 310 *e*P Pn 14 45 34.8 +0.9
RTR **El Retiro** 8.46 310 *e*P Pn 14 45 35.3 +0.7
OTAV **Otavalo** 9.34 151 *e*Pn Pn 14 45 45.4 -1.5
32nm,1.1s
ROSC **El Rosal** 9.34 112 *e*Pn Pn 14 45 46.8 -0.2
ROSC **El Rosal** 9.34 112 Pn Pn 14 45 52.4 +5.5
1.8nm,0.3s,baz=266,slow=9.3,SNR=7.5
APG **El Apazote** 9.78 313 Pn Pn 14 45 52.9 +0.2
APG **El Apazote** 9.78 313 Pn Pn 14 45 52.9 +0.2
3.3nm,0.3s,baz=136,slow=9.1,SNR=35
APG LR LR 14 49 32.2
comp=Z,658nm,20.7s,baz=131,slow=37
MTDJ **Mount Denham** 11.10 28 *e*Pn Pn 14 46 10.4 -0.3
80nm,1.0s
SDV **Santo Domingo** 12.26 87 *e*Pn Pn 14 46 26.1 -0.7
SDV *e*Sn Sn 14 48 42.4 -1.0
TEIG **Tepich** 12.77 337 LR LR 14 51 12.8
comp=Z,661nm,21.3s,baz=144,slow=36
GTBY **Guantanamo Bay** 13.75 33 *e*Pn Pn 14 46 47.2 +0.3
SDDR **Presa de Saban** 15.48 46 *e*Pn Pn 14 47 11.0 +0.7
86nm,1.0s
ATAH **Atahualpa** 16.15 163 Pn P 14 47 23.8 +1.2
ATAH **Atahualpa** 16.15 163 Pn P 14 47 23.8 +1.2
1.0nm,0.3s,baz=347,slow=12,SNR=9.4
ATAH LR LR 14 52 57.3
comp=Z,489nm,21.1s,baz=335,slow=35
CRPR **Cabo Rojo, PR** 18.17 57 *e*Pn Pn 14 47 43.6 -0.7
54nm,1.0s
AGPR **Aguadilla, PR** 18.40 56 *e*P Pn 14 47 46.1 -1.0
184nm,1.1s
OBIP **Obispado Ponce** 18.60 57 *e*P P 14 47 49.1 -0.2
63nm,1.0s
CELP **Cerrillos** 18.64 57 *e*P P 14 47 50.5 +0.8
CBYP **Canovanas** 19.34 58 *e*P P 14 47 56.3 -1.1
80nm,1.1s
CDVI **St. Croix** 20.03 61 *e*P P 14 48 04.6 -0.4
114nm,0.8s
NNA **Nana** 21.20 163 *e*P P 14 48 16.2 -1.5
58nm,0.9s
GRGR **Grenville** 21.34 78 *e*P P 14 48 18.4 -0.8
362nm,1.0s
FDF **Fort de France** 22.32 72 *e*P P 14 48 28.8 -0.9
FDF pmax pmax
comp=Z,91nm,1.1s
FDF **Fort de France** 22.32 72 *e*P P 14 48 28.8 -0.9
comp=Z,91nm,1.1s
TIGA **Tifton** 22.89 359 *e*P P 14 48 35.9 +0.3
TIGA **Tifton** 22.89 359 ⇓P P 14 48 36.5 +0.9
baz=23
035Z **Hargill** 22.92 323 ⇓P P 14 48 36.1 +0.2
baz=23
936A **North Padre Is** 23.22 326 ⇑P P 14 48 39.6 +0.7
baz=23
035A **Encino** 23.29 324 ⇑P P 14 48 40.7 +0.9
baz=23
034A **Hebbronville** 23.73 323 ⇓P P 14 48 44.0 -0.1
baz=24
934A **Benavides** 24.04 324 ⇑P P 14 48 47.1 +0.1
baz=24
835A **Beeville** 24.18 327 ⇑P P 14 48 48.2 -0.1
baz=24
834A **Tilden** 24.45 325 ⇑P P 14 48 50.9 +0.1
baz=25
933A **Laredo** 24.49 323 ⇓P P 14 48 51.6 +0.5
baz=25
HKT **Hockley** 24.54 332 *e*P P 14 48 51.4 0.0
HKT pmax pmax
comp=Z,147nm,2.2s
HKT **Hockley** 24.54 332 *e*P P 14 48 51.4 0.0
comp=Z,147nm,2.2s
735A **Kenedy** 24.62 328 ⇓P P 14 48 52.6 +0.3
baz=25
PTGA **Pitinga** 24.72 111 *e*P P 14 48 52.3 -1.1
comp=Z,14nm,1.1s
PTGA **Pitinga** 24.72 111 P P 14 48 53.9 +0.5
comp=Z,6.4nm,0.8s,baz=290,slow=12,SNR=11
PTGA LR LR 14 59 52.1
comp=Z,320nm,21.9s,baz=348,slow=40
LRAL **Lakeview Retre** 24.75 352 *e*P P 14 48 53.3 -0.1
comp=Z,38nm,1.0s
GOGA **Godfrey** 24.86 359 *e*P P 14 48 54.3 0.0
GOGA pmax pmax
comp=Z,55nm,0.8s
GOGA **Godfrey** 24.86 359 *e*P P 14 48 54.3 0.0
comp=Z,55nm,0.8s
734A **La Parita Cree** 25.02 326 ⇓P P 14 48 56.3 +0.4
baz=25
635A **Leesville** 25.02 328 ⇑P P 14 48 56.4 +0.5
baz=25
833A **Chaparral WMA,** 25.09 324 ⇓P P 14 48 56.3 -0.2
baz=25
536A **Bastrop** 25.23 330 ⇓P P 14 48 58.1 +0.4
baz=25
733A **Divot King Ran** 25.33 325 ⇓P P 14 48 58.4 -0.3
baz=25
832A **Faith Ranch, C** 25.40 323 ⇓P P 14 48 59.5 +0.2
baz=26
732A **Laxson Ranch,** 25.73 324 ⇓P P 14 49 02.3 -0.1
baz=26
JSC **Jenkinsville** 25.77 3 *e*P P 14 49 03.5 +0.8
JSC **Jenkinsville** 25.77 3 *e*P P 14 49 03.5 +0.8
633A **Saathoff Ranch** 25.83 326 ⇓P P 14 49 03.6 +0.3
baz=26
534A **Blanco** 25.90 328 ⇓P P 14 49 05.1 +1.2
baz=26,SNR=5.1
435B **Jarrell** 26.06 331 ⇓P P 14 49 05.9 +0.6
baz=26
632A **Uvalde** 26.21 325 ⇑P P 14 49 07.2 +0.4
baz=26
533A **Kerrville** 26.23 327 ⇓P P 14 49 08.1 +1.1
baz=26
SAML **Samuel** 26.25 131 *e*P P 14 49 05.1 -2.1
comp=Z,2.8nm,1.0s
335A **Moody** 26.40 331 ⇑P P 14 49 09.8 +1.5
baz=26
434A **Burnet** 26.42 329 ⇓P P 14 49 08.9 +0.3
baz=26
631A **Perdido Creek** 26.59 324 ⇓P P 14 49 10.4 +0.2
baz=27
KMSC **Kings Mountain** 26.62 3 *e*P P 14 49 09.6 -0.8
KMSC **Kings Mountain** 26.62 3 ⇓P P 14 49 12.2 +1.8
baz=27,SNR=7.8
532A **Rocksprings** 26.75 326 ⇑P P 14 49 12.5 +0.8
baz=27
SWET **Sewanee** 26.79 355 *e*P P 14 49 13.4 +1.6
comp=Z,188nm,2.1s
433A **Art** 26.80 328 ⇓P P 14 49 13.1 +1.1
baz=27,SNR=6.1
334A **Lometa** 26.83 330 ⇓P P 14 49 13.0 +0.7
baz=27
CPCT **Cooper Cave** 26.92 357 *e*P P 14 49 13.8 +0.8
JCT **Junction City** 26.96 327 ⇑P P 14 49 14.2 +0.6
baz=27
WHTX **Lake Whitney** 27.00 332 ⇑P P 14 49 14.4 +0.5
baz=27
TKL **Tuckaleechee C** 27.10 359 P P 14 49 16.4 +1.7
TKL **Tuckaleechee C** 27.10 359 P P 14 49 16.4 +1.7
comp=Z,7.4nm,1.1s,baz=148,slow=15,SNR=9.4
TKL LR LR 15 00 24.9
comp=Z,423nm,18.8s,baz=180,slow=38
531A **Rocksprings** 27.13 325 ⇑P P 14 49 15.2 +0.1
baz=27
333A **Richland Sprin** 27.20 329 ⇓P P 14 49 16.2 +0.5
baz=27,SNR=9.4
432A **Menard** 27.27 327 ⇑P P 14 49 16.9 +0.6
baz=27
234A **Clairette** 27.33 331 ⇑P P 14 49 17.6 +0.8
baz=28
135A **Vickery Place,** 27.46 333 ⇑P P 14 49 18.3 +0.4
baz=28
431A **Sonora** 27.56 326 ⇑P P 14 49 19.1 +0.1
baz=28
UALR **University of** 27.57 343 *e*P P 14 49 17.9 -1.0
comp=Z,25nm,0.9s
530A **J-C Ranch, Com** 27.58 324 ⇑P P 14 49 20.1 +1.0
baz=28
332A **Millersview** 27.64 328 ⇓P P 14 49 20.8 +1.2
baz=28,SNR=7.0
233A **Rising Star** 27.71 330 ⇑P P 14 49 20.8 +0.5
baz=28
MIAR **Mount Ida** 27.73 341 *e*P P 14 49 19.4 -1.0
MIAR pmax pmax
comp=Z,33nm,1.3s
MIAR **Mount Ida** 27.73 341 *e*P P 14 49 19.4 -1.0
comp=Z,32nm,1.3s
134A **White-Moore Ra** 27.78 332 ⇑P P 14 49 21.1 +0.4
baz=28
WVT **Waverly** 27.91 352 *e*P P 14 49 21.7 -0.2
WVT pmax pmax
comp=Z,10.0nm,0.8s
WVT **Waverly** 27.91 352 *e*P P 14 49 21.7 -0.2
comp=Z,10nm,0.8s
331A **San Angelo** 27.94 327 ⇑P P 14 49 23.5 +1.2
baz=28,SNR=9.7
232A **Coleman** 27.98 329 ⇓P P 14 49 23.0 +0.3
baz=28
430A **Baggett Ranch,** 27.99 325 ⇑P P 14 49 23.0 +0.2
baz=28
628A **Black Gap, Mar** 28.04 321 ⇓P P 14 49 23.4 +0.2
baz=28
Z35A **Perchaven, San** 28.04 334 ⇓P P 14 49 24.4 +1.3
baz=28
529A **Stev Forest Ra** 28.08 323 ⇑P P 14 49 24.8 +1.2
baz=28,SNR=5.4
133A **Hamilton Ranch** 28.20 331 ⇑P P 14 49 26.0 +1.4
baz=28
429A **Davenport Ranc** 28.25 324 ⇓P P 14 49 25.9 +0.7
baz=28
627A **Terlingua Ranc** 28.33 320 ⇓P P 14 49 26.6 +0.8
baz=28
Z34A **Collier Ranch,** 28.37 333 ⇓P P 14 49 26.5 +0.4
baz=28
231A **Bronte** 28.37 328 ⇓P P 14 49 27.1 +1.0
baz=28
TXAR **Lajitas Array** 28.42 320 P P 14 49 26.8 0.0
TXAR PcP PcP 14 52 39.6 +0.7
TXAR **Lajitas Array** 28.42 320 P P 14 49 26.7 0.0
comp=Z,0.6nm,0.7s,baz=134,slow=8.9,SNR=6.8
TXAR PcP PcP 14 52 39.6 +0.7
comp=Z,0.9nm,0.8s,baz=148,slow=5.9,SNR=4.8
330A **Mertzon** 28.43 326 ⇑P P 14 49 27.2 +0.5
baz=28
ABTX **Abilene, Hawle** 28.57 330 ⇓P P 14 49 28.4 +0.4
baz=29
LPAZ **La Paz** 28.65 149 *e*P P 14 49 28.3 -1.1
comp=Z,6.1nm,1.3s
LPAZ **La Paz** 28.65 149 P P 14 49 28.9 -0.5
comp=Z,1.8nm,0.7s,baz=335,slow=10,SNR=6.8
LPAZ LR LR 15 01 37.5
comp=Z,429nm,21.1s,baz=322,slow=38
Z33A **Whitaker Ranch** 28.69 332 ⇓P P 14 49 29.3 +0.3
baz=29
BLA **Blacksburg** 28.74 4 *e*P P 14 49 29.3 -0.1
BLA pmax pmax
comp=Z,29nm,1.1s
BLA **Blacksburg** 28.74 4 *e*P P 14 49 29.3 -0.1
comp=Z,28nm,1.1s
428A **Kincaid Ranch,** 28.79 323 ⇑P P 14 49 29.8 -0.1
baz=29
Y34A **Reagan Ranch,** 28.80 334 ⇓P P 14 49 30.1 +0.2
baz=29
626A **Big Bend Ranch** 28.87 319 ⇓P P 14 49 30.7 0.0
baz=29
329A **Wagon Wheel Ra** 28.94 325 ⇓P P 14 49 31.7 +0.4
baz=29
527A **Woodward Ranch** 28.94 321 ⇓P P 14 49 31.6 +0.2
baz=29
H06S1 **SOCORRO T** 28.97 294 T T 15 18 52.3
SNR=42
131A **Roby** 28.99 329 ⇑P P 14 49 32.1 +0.5
baz=29
PBMO **Poplar Bluff** 29.00 348 *e*P P 14 49 32.1 +0.5
comp=Z,31nm,1.6s
Z32A **Haskell** 29.04 331 ⇓P P 14 49 32.0 -0.1
baz=29
526A **Mary Lane Ranc** 29.18 320 ⇑P P 14 49 33.2 -0.4
baz=29
Y33A **Hilltop Ranch,** 29.22 333 ⇓P P 14 49 34.1 +0.5
baz=29
328A **Wristen Ranch,** 29.34 324 ⇓P P 14 49 35.2 +0.4
baz=29,SNR=5.1
X34A **Smith Ranch, M** 29.38 335 ⇑P P 14 49 34.9 -0.1
baz=30
Z31A **Sharp Cattle R** 29.38 330 ⇑P P 14 49 35.4 +0.3
baz=30
426A **McDonald Obser** 29.57 321 ⇑P P 14 49 37.0 0.0
baz=30
Y32A **R-V Farms, Ver** 29.60 332 ⇑P P 14 49 37.5 +0.5
baz=30
X33A **Lawton** 29.61 334 ⇑P P 14 49 37.5 +0.4
baz=30
USIN **University of** 29.69 353 *e*P P 14 49 37.2 -0.5
comp=Z,29nm,0.8s
TUL1 **Tulsa** 29.73 339 *e*P P 14 49 36.8 -1.2
TUL1 **Tulsa** 29.73 339 ⇓P P 14 49 37.9 -0.2
baz=30
228A **UT Block 9, Go** 29.75 325 ⇓P P 14 49 38.6 +0.1
baz=30
WCI **Wyandotte Cave** 29.80 355 *e*P P 14 49 38.6 -0.2
WCI pmax pmax
comp=Z,30nm,0.9s
WCI **Wyandotte Cave** 29.80 355 *e*P P 14 49 38.6 -0.2
comp=Z,30nm,0.9s
Z30A **Sanderson Ranc** 29.85 328 ⇓P P 14 49 39.4 0.0
baz=30
X32A **Elmer** 29.87 332 ⇓P P 14 49 40.0 +0.6
baz=30
W34A **Bridge Creek,** 29.90 335 ⇑P P 14 49 40.1 +0.5
baz=30
Y31A **Rekieta Farm,** 29.95 330 ⇓P P 14 49 40.4 +0.3
baz=30
326A **Caldwell Ranch** 29.99 322 ⇓P P 14 49 40.5 0.0
baz=30
128A **Castleberry Fa** 30.07 326 ⇓P P 14 49 41.2 -0.1
baz=30
227A **Bennet, Jal** 30.08 324 ⇑P P 14 49 41.8 +0.4
baz=30
W33A **Caddo, Fort Co** 30.12 334 ⇑P P 14 49 41.6 0.0
baz=30
Z29A **Hungry Hill Ra** 30.13 328 ⇓P P 14 49 41.7 -0.2
baz=30
Y30A **Stafford Cattl** 30.20 330 ⇓P P 14 49 42.7 +0.3
baz=30
425A **Indio Mountain** 30.24 320 ⇓P P 14 49 42.9 0.0
baz=30,SNR=5.2
V34A **Guthrie** 30.31 336 ⇑P P 14 49 43.5 +0.2
baz=30
X31A **McDonald Ranch** 30.36 332 ⇑P P 14 49 44.3 +0.5
baz=30
W32A **Sentinel** 30.44 333 ⇑P P 14 49 44.4 0.0
baz=31
OLIL **Olney** 30.51 352 *e*P P 14 49 45.2 +0.2
comp=Z,40nm,0.8s
V33A **Lossen Ranch,** 30.61 335 ⇓P P 14 49 46.6 +0.7
baz=31
226B **Tecolote Peak,** 30.64 323 ⇓P P 14 49 46.3 0.0
baz=31,SNR=5.7
BLO **Bloomington** 30.76 355 *e*P P 14 49 47.0 -0.2
BLO pmax pmax
comp=Z,30nm,0.8s
BLO **Bloomington** 30.76 355 *e*P P 14 49 47.0 -0.2
comp=Z,30nm,0.8s
U34A **Anderson Ranch** 30.84 337 ⇑P P 14 49 48.8 +0.8
baz=31
Y28A **McKinney Farm,** 30.92 328 ⇑P P 14 49 49.0 +0.1
baz=31
126A **Clayton Basin,** 30.96 324 ⇓P P 14 49 49.6 +0.4
baz=31
225A **Deer Hill, Car** 31.05 322 ⇑P P 14 49 50.2 +0.1
baz=31
X29A **Tulia** 31.06 329 ⇑P P 14 49 50.4 +0.4
baz=31
U33A **Lingo Farm, Me** 31.07 336 ⇓P P 14 49 50.0 0.0
baz=31
V31A **Spring Creek L** 31.25 333 ⇓P P 14 49 51.9 +0.3
baz=31
125A **Gardner Draw,** 31.34 323 ⇓P P 14 49 53.4 +0.8
baz=32,SNR=6.5
U32A **Winter Ranch,** 31.39 335 ⇓P P 14 49 53.7 +0.8
baz=32
Z26A **Caprock** 31.39 325 ⇑P P 14 49 53.0 0.0
baz=32
Y27A **Causey** 31.39 327 ⇓P P 14 49 53.2 +0.2
baz=32
AMTX **Amarillo** 31.39 330 ⇓P P 14 49 53.2 +0.3
baz=32
ACSO **Alum Creek Sta** 31.66 0 *e*P P 14 49 54.6 -0.4
comp=Z,35nm,0.8s
Z25A **Roswell** 31.82 324 ⇓P P 14 49 57.2 +0.5
baz=32
SFIN **Scholer Farm** 32.01 354 ⇑P P 14 49 58.9 +0.7
baz=32
S33A **Kaszmaul Farm,** 32.03 337 ⇑P P 14 49 58.9 +0.4
baz=32
T32A **Huddler Ranch,** 32.04 336 ⇑P P 14 49 59.4 +0.8
baz=32
U30A **WK&E Inc. Balk** 32.24 333 ⇑P P 14 50 00.3 -0.1
baz=32
Z24A **Sheeppen Canyo** 32.24 323 ⇓P P 14 50 00.8 +0.2
baz=32
W27A **Bowe Ranch, En** 32.24 328 ⇓P P 14 50 00.5 +0.1
baz=32
X26A **CR and CF Fran** 32.25 327 ⇓P P 14 49 59.8 -0.7
baz=32
Y25A **Mesa, Roswell** 32.27 325 ⇓P P 14 50 00.8 +0.1
baz=32
T31A **Randall Ranch,** 32.28 335 ⇑P P 14 50 01.0 +0.3
baz=32
V28A **Channing** 32.35 330 ⇑P P 14 50 01.7 +0.3
baz=32
S32A **Newby Ranch, P** 32.49 336 ⇓P P 14 50 03.3 +0.8
baz=33
R33A **Olander Ranch,** 32.66 338 ⇓P P 14 50 04.1 +0.2
baz=33
Y24A **Capitan** 32.70 324 ⇓P P 14 50 04.7 +0.1
baz=33
KSU1 **Kansas State U** 32.88 340 *e*P P 14 50 05.3 -0.6
comp=Z,22nm,0.8s
KSU1 **Kansas State U** 32.88 340 ⇑P P 14 50 06.4 +0.6
baz=33
R32A **Long Quarter,** 33.03 337 ⇓P P 14 50 07.8 +0.6
baz=33
Y23A **Lovelace Mesa,** 33.07 323 ⇑P P 14 50 07.8 0.0
baz=33
S30A **Montezuma** 33.08 334 ⇓P P 14 50 08.1 +0.5
baz=33
W25A **X Bar L Ranch,** 33.10 327 ⇑P P 14 50 08.2 +0.2
baz=33
U27A **Thompson Grove** 33.18 330 ⇓P P 14 50 08.8 +0.2
baz=33
V26A **Tequesquite Ra** 33.18 328 ⇓P P 14 50 09.6 +0.9
baz=33
121A **Cookes Peak, D** 33.18 320 *e*P P 14 50 08.7 -0.1
comp=Z,12nm,0.8s
121A **Cookes Peak, D** 33.18 320 ⇑P P 14 50 09.5 +0.7
baz=33,SNR=9.6
Q33A **Connelly Farm,** 33.21 339 ⇑P P 14 50 09.2 +0.5
baz=33
R31A **Burdett** 33.24 336 ⇑P P 14 50 09.4 +0.4
baz=33
319A **Douglas** 33.44 317 ⇑P P 14 50 10.9 -0.1
baz=34,SNR=11
Q32A **Meitler Ranch,** 33.47 338 ⇓P P 14 50 11.5 +0.5
baz=34
R30A **Dighton** 33.54 335 ⇑P P 14 50 12.0 +0.3
baz=34
KSPA **Keystone Colle** 33.60 10 *e*P P 14 50 13.2 +1.0
W24A **Lazy 6 Ranch,** 33.62 326 ⇓P P 14 50 12.8 +0.2
baz=34
U26A **Atchley Ranch,** 33.62 329 ⇓P P 14 50 13.3 +0.7
baz=34
V25A **Rancho No Teng** 33.65 327 ⇑P P 14 50 13.6 +0.7
baz=34
Y22D **IRIS PASSCAL I** 33.68 323 ⇓P P 14 50 13.7 +0.6
baz=34
Q31A **Ellis** 33.80 337 ⇑P P 14 50 14.4 +0.5
baz=34
LVC **Limon Verde** 33.82 156 *e*P P 14 50 11.6 -2.9
U25A **Circle Dot Ran** 33.96 328 ⇑P P 14 50 16.0 +0.4
baz=34
W23A **Werner Place,** 34.00 325 ⇑P P 14 50 16.0 +0.1
baz=34
ANMO **Albuquerque** 34.02 324 *e*P P 14 50 16.1 0.0
comp=Z,8.8nm,1.4s
P32A **Huiting Farm,** 34.04 338 ⇑P P 14 50 16.0 +0.1
baz=34
Q30A **Quinter** 34.11 336 ⇓P P 14 50 17.1 +0.5
baz=34
T26A **Comanche Natio** 34.15 330 ⇑P P 14 50 17.4 +0.3
baz=34
P31A **Stockton** 34.24 337 ⇑P P 14 50 18.1 +0.3
baz=34
R28A **Tribune** 34.25 333 ⇓P P 14 50 18.1 +0.2
baz=34
V23A **Ortiz Mt. (NFS** 34.44 326 ⇑P P 14 50 19.4 -0.3
baz=35
S26A **Kim** 34.44 331 ⇓P P 14 50 19.7 +0.1
baz=35
MMNY **Mt. Morris Dam** 34.45 7 *e*P P 14 50 19.3 -0.1
comp=Z,126nm,1.4s
O32A **Brockman Farm,** 34.49 339 ⇑P P 14 50 20.3 +0.5
baz=35
T25A **Trinidad** 34.53 329 ⇑P P 14 50 21.5 +1.0
baz=35
P30A **Selden** 34.60 336 ⇓P P 14 50 21.5 +0.6
baz=35
R27A **Eads** 34.65 332 ⇑P P 14 50 21.7 +0.3
baz=35
O31A **Woolen Ranch,** 34.77 338 ⇓P P 14 50 22.8 +0.5
baz=35
Q28A **Sharon Springs** 34.85 334 ⇑P P 14 50 23.9 +0.8
baz=35
U23A **El Rito** 34.87 326 ⇓P P 14 50 23.0 -0.5
baz=35
JFWS **Jewell Farm** 34.92 351 *e*P P 14 50 22.2 -1.3
JFWS pmax pmax
comp=Z,22nm,0.7s
JFWS **Jewell Farm** 34.92 351 *e*P P 14 50 22.2 -1.3
comp=Z,22nm,0.7s
P29A **Atwood** 34.93 335 ⇑P P 14 50 24.8 +1.1
baz=35
N32A **Stulken Farm,** 34.94 340 ⇑P P 14 50 24.5 +0.8
baz=35
V22A **San Miguel Ran** 34.97 325 ⇓P P 14 50 24.2 -0.1
baz=35
R26A **Arlington** 34.97 331 ⇓P P 14 50 24.8 +0.7
baz=35
T24B **San Luis** 34.98 328 ⇓P P 14 50 24.6 +0.2
baz=35
TUC **Tucson** 35.03 317 *e*P P 14 50 23.9 -0.8
TUC pmax pmax
comp=Z,10.0nm,1.0s
TUC **Tucson** 35.03 317 *e*P P 14 50 23.9 -0.8
comp=Z,9.6nm,1.0s
O30A **MW Ranch, Wils** 35.07 337 ⇓P P 14 50 25.4 +0.5
baz=35
KSCO **Kaye Shedlock'** 35.16 333 ⇓P P 14 50 26.1 +0.3
baz=35
R25A **Fountain Ranch** 35.25 330 ⇑P P 14 50 26.8 +0.2
baz=35
U22A **Llaves** 35.27 326 ⇓P P 14 50 27.3 +0.4

baz=35
T23A **Casias Ranch,** 35.30 327 ⇑P P 14 50 27.9 +0.7
baz=35
O29A **4D Ranch, Culb** 35.32 336 ⇓P P 14 50 27.3 +0.3
baz=36
S24A **Houchin Ranch,** 35.33 329 ⇓P P 14 50 27.8 +0.3
baz=36
BGNE **Belgrade** 35.47 340 ⇓P P 14 50 29.1 +0.9
baz=36
Q26A **Hugo** 35.50 332 ⇓P P 14 50 29.2 +0.4
baz=36
P27A **Ficken Ranch,** 35.59 334 ⇑P P 14 50 29.9 +0.4
baz=36
M31A **Lambtecht Ranc** 35.69 339 ⇑P P 14 50 30.6 +0.3
baz=36
R24A **Sanders Place,** 35.73 330 ⇓P P 14 50 30.8 0.0
baz=36
Q25A **Bedland, Calha** 35.84 331 ⇑P P 14 50 32.1 +0.3
baz=36
X18A **Snowflake** 35.85 320 ⇓P P 14 50 32.7 +0.8
baz=36,SNR=9.8
R23A **Moffat** 36.06 329 ⇑P P 14 50 35.0 +1.3
baz=36
W18A **Petrified Fore** 36.10 321 eP P 14 50 33.3 -0.8
W18A **Petrified Fore** 36.10 321 ⇓P P 14 50 35.6 +1.6
baz=36,SNR=11
214A **Organ Pipe Nat** 36.23 314 eP P 14 50 35.4 +0.4
comp=Z,36nm,1.4s
214A **Organ Pipe Nat** 36.23 314 ⇓P P 14 50 36.1 +1.1
baz=36,SNR=5.8
S22A **4UR Ranch, Cre** 36.25 327 ⇓P P 14 50 35.7 +0.3
baz=36
P25A **Willow Gulch B** 36.27 332 ⇓P P 14 50 35.3 -0.1
baz=36
L31A **Butterfield Fa** 36.38 340 ⇓P P 14 50 37.0 +0.8
baz=36
M29A **Burnside Ranch** 36.41 337 ⇑P P 14 50 36.7 +0.3
baz=37
L30A **Spencer Herefo** 36.49 339 ⇓P P 14 50 37.6 +0.6
baz=37
PTN **Potsdam (NY)** 36.67 10 eP P 14 50 37.3 -1.2
PTN pmax pmax
comp=Z,32nm,0.9s
PTN **Potsdam (NY)** 36.67 10 eP P 14 50 37.2 -1.2
comp=Z,32nm,0.9s
X16A **Lo Mia Camp, P** 36.74 319 ⇑P P 14 50 39.4 0.0
baz=37,SNR=18
P23A **Jefferson** 36.97 330 ⇑P P 14 50 43.2 +1.7
baz=37
K30A **Basset** 37.09 340 ⇑P P 14 50 42.9 +0.7
baz=37
ECSD **EROS Data Cent** 37.11 344 eP P 14 50 39.8 -2.4
comp=Z,34nm,1.5s
ECSD **EROS Data Cent** 37.11 344 ⇓P P 14 50 42.7 +0.4
baz=37,SNR=7.0
Z14A **Wintersburg** 37.12 316 ⇓P P 14 50 43.2 +0.8
baz=37
ISCO **Idaho Springs** 37.19 331 ⇓P P 14 50 44.0 +0.7
baz=37
113A **Mohawk Valley,** 37.35 315 ⇓P P 14 50 44.4 0.0
baz=37,SNR=7.9
WUAZ **Wupatki** 37.38 320 eP P 14 50 44.7 -0.2
comp=Z,8.8nm,0.8s
WUAZ **Wupatki** 37.38 320 ⇑P P 14 50 44.7 -0.2
baz=38
Y14A **Wickenburg** 37.49 317 ⇓P P 14 50 46.3 +0.6
baz=38,SNR=9.7
P22A **Eagle** 37.60 329 ⇓P P 14 50 47.3 +0.5
baz=38,SNR=8.2
SPMN **St. Paul** 37.61 349 ⇑P P 14 50 47.5 +1.0
baz=38
O23A **Lake Granby, G** 37.65 331 ⇓P P 14 50 47.0 -0.3
baz=38
O22A **Kremmling** 37.92 330 ⇓P P 14 50 49.5 0.0
baz=38
J29A **Okreek** 37.98 339 ⇑P P 14 50 49.6 -0.1
baz=38
K27A **Flueckinger Fa** 38.08 337 ⇓P P 14 50 50.5 -0.1
baz=38
M24A **Cheyenne** 38.14 333 ⇑P P 14 50 51.4 +0.2
baz=38
GLA **Glamis** 38.25 314 eP P 14 50 51.9 -0.3
GLA pmax pmax
comp=Z,9.0nm,1.0s
GLA **Glamis** 38.25 314 eP P 14 50 51.9 -0.3
comp=Z,9.3nm,1.0s
GLA **Glamis** 38.25 314 ⇓P P 14 50 51.2 -0.9
baz=38,SNR=9.9
N22A **Wattenberg Ran** 38.37 331 ⇓P P 14 50 53.1 -0.2
baz=38
Y12C **Blythe** 38.42 316 ⇓P P 14 50 53.4 -0.1
baz=38,SNR=9.9
J27A **Elkhorn Farm,** 38.46 338 ⇑P P 14 50 53.7 -0.1
baz=39,SNR=5.9
I29A **Vivian Onida** 38.51 340 ⇑P P 14 50 53.8 -0.4
baz=39
K25A **Mack Ranch, Ha** 38.66 335 ⇓P P 14 50 55.9 +0.4
baz=39
W13A **Hualapai Mount** 38.76 318 ⇑P P 14 50 56.0 -0.5
baz=39
O20A **White River Ci** 38.76 329 ⇓P P 14 50 56.5 0.0
baz=39
I28A **Midland** 38.80 339 ⇓P P 14 50 56.6 +0.1
baz=39
J26A **Sides Ranch, S** 38.92 337 ⇓P P 14 50 58.1 +0.4
baz=39
H29A **Onida** 39.02 340 ⇓P P 14 50 57.8 -0.6
baz=39
L23A **Garrett** 39.05 333 ⇓P P 14 50 58.3 -0.6
baz=39
IRM **Iron Mountain** 39.08 316 ⇑P P 14 50 58.4 -0.7
baz=39,SNR=7.6
LCO **Las Campanas** 39.08 163 eP P 14 50 59.6 +0.2
comp=Z,60nm,1.8s
G30A **Faulkton** 39.12 342 ⇓P P 14 50 58.8 -0.4
baz=39,SNR=7.9
I27A **Quinn** 39.17 338 ⇓P P 14 50 59.9 +0.1
baz=39
J25A **Sunshine Ranch** 39.28 336 ⇓P P 14 51 00.2 -0.5
baz=39
N20A **Spence Gulch,** 39.29 329 ⇑P P 14 51 00.4 -0.6
baz=39
MONP **Monument Peak** 39.31 313 ⇑P P 14 51 00.6 -0.6
baz=39
LDFC **Landfair** 39.56 317 eP P 14 51 02.2 -1.1
comp=Z,21nm,0.9s
G28A **Parade** 39.65 340 ⇓P P 14 51 03.4 -0.3
baz=40
H27A **Howes** 39.67 339 ⇓P P 14 51 04.1 +0.2
baz=40,SNR=6.2
PFO **Pinyon Flat Ob** 39.70 314 P P 14 51 06.5 +2.1
PFO **Pinyon Flat Ob** 39.70 314 P P 14 51 06.5 +2.1
comp=Z,10nm,0.9s,baz=120,slow=8.6,SNR=6.0
F30A **Leola** 39.73 342 ⇓P P 14 51 04.4 +0.2
baz=40,SNR=8.5
GMRC **Granite Mounta** 39.77 316 ⇓P P 14 51 04.4 -0.6
baz=40
I25A **Rochford** 39.77 337 ⇑P P 14 51 04.5 -0.4
baz=40
109C **Camp Elliot, M** 39.80 313 ⇑P P 14 51 04.9 -0.2
baz=40
MVU **Marysvale** 39.82 323 eP P 14 51 07.2 +1.7
comp=Z,65nm,2.6s
K22A **Casper** 39.84 333 eP P 14 51 05.8 +0.3
comp=Z,5.7nm,0.8s
K22A **Casper** 39.84 333 ⇓P P 14 51 05.5 0.0
baz=40
F29A **Eureka** 39.97 342 ⇓P P 14 51 06.0 -0.3
baz=40,SNR=6.0
RSSD **Black Hills** 39.98 336 eP P 14 51 05.9 -0.8
RSSD **Black Hills** 39.98 336 eP P 14 51 05.9 -0.8
comp=Z,1.7nm,1.0s
I24A **Kuemmerle Ranc** 40.00 336 ⇑P P 14 51 06.5 -0.2
baz=40
J23A **Dilts Ranch, B** 40.02 334 ⇓P P 14 51 07.0 +0.1
baz=40
K21A **Alcova** 40.16 332 ⇑P P 14 51 08.7 +0.5
baz=40
H25A **Fruitdale** 40.23 337 ⇓P P 14 51 09.6 +1.0
baz=40
MURC **Murrieta** 40.23 313 ⇑P P 14 51 08.7 0.0
baz=40
HEC **Hector,Ludlow** 40.26 316 ⇑P P 14 51 09.4 +0.4
baz=40
G27A **Dupree** 40.26 339 ⇑P P 14 51 09.2 +0.4
baz=40
F28A **McLaughlin** 40.29 341 ⇑P P 14 51 09.0 0.0
baz=40
E30A **Jud** 40.30 343 ⇑P P 14 51 09.0 0.0
baz=40,SNR=8.9
TUQ **Turquoise Moun** 40.32 317 ⇓P P 14 51 10.2 +0.7
baz=40,SNR=11
G26A **Maurine** 40.43 339 ⇑P P 14 51 10.1 -0.1
baz=41
J22A **Midwest** 40.43 333 ⇓P P 14 51 09.6 -0.7
baz=41
E29A **Napoleon** 40.57 342 ⇑P P 14 51 11.2 -0.1
baz=41,SNR=7.5
G25A **Newell** 40.64 338 ⇑P P 14 51 12.4 +0.5
baz=41
H24A **Dirks Ranch, A** 40.70 336 ⇓P P 14 51 12.9 +0.4
baz=41
D30A **Buchanan** 40.80 344 ⇓P P 14 51 13.1 -0.1
baz=41,SNR=13
I22A **9 Mile Ranch,** 40.81 334 ⇓P P 14 51 13.3 -0.2
baz=41
GSC **Goldstone** 40.84 316 eP P 14 51 13.7 -0.1
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC **Goldstone** 40.84 316 eP P 14 51 13.7 -0.1
comp=Z,4.3nm,0.9s
GSC **Goldstone** 40.84 316 ⇑P P 14 51 13.5 -0.3
baz=41,SNR=7.5
E28A **Huff** 40.90 341 ⇑P P 14 51 14.1 +0.1
baz=41
SCI **San Clemente I** 40.91 312 ⇓P P 14 51 14.3 +0.1
baz=41
F26A **Lodgepole** 40.93 339 ⇓P P 14 51 14.3 0.0
baz=41
D29A **Pettibone, Tap** 41.00 343 ⇑P P 14 51 14.7 -0.1
baz=41,SNR=6.4
CIS **Catalina Islan** 41.01 312 ⇑P P 14 51 14.6 -0.4
baz=41
E27A **Carson** 41.05 340 ⇑P P 14 51 15.9 +0.5
baz=41
I21A **Big Trails, Te** 41.10 333 ⇑P P 14 51 16.0 0.0
baz=41
J20A **Shoshoni** 41.11 332 ⇓P P 14 51 15.6 -0.4
baz=41
G24A **Alzada** 41.13 337 ⇓P P 14 51 15.8 -0.3
baz=41
AGMN **Agassiz Nation** 41.18 347 ⇑P P 14 51 16.0 -0.3
baz=41,SNR=7.3
C30A **Mose, Pekin** 41.27 344 ⇓P P 14 51 16.7 -0.3
baz=41
F25A **Bowman** 41.28 338 ⇑P P 14 51 16.9 -0.3
baz=41
DUG **Dugway** 41.29 325 eP P 14 51 16.6 -0.8
DUG pmax pmax
comp=Z,84nm,3.0s
DUG **Dugway** 41.29 325 eP P 14 51 16.6 -0.8
comp=Z,84nm,3.0s
DUG **Dugway** 41.29 325 ⇓P P 14 51 17.0 -0.5
baz=41
BW06 **Boulder Array** 41.37 330 eP P 14 51 18.4 +0.1
comp=Z,32nm,2.0s
PDAR **Pinedale Array** 41.37 330 P P 14 51 18.2 0.0
PDAR PcP PcP 14 53 16.8 +0.4
PDAR **Pinedale Array** 41.37 330 P P 14 51 18.2 0.0
comp=Z,1.1nm,0.7s,baz=131,slow=9.8,SNR=8.8
PDAR PcP PcP 14 53 16.8 +0.4
comp=Z,2.2nm,0.9s,baz=142,slow=4.9,SNR=6.3
PDAR LR LR 15 11 16.8
comp=Z,133nm,20.4s,baz=141,slow=40
D28A **Regan** 41.41 342 ⇓P P 14 51 18.4 +0.2
baz=42,SNR=5.8
G23A **Biddle** 41.41 336 ⇓P P 14 51 18.2 -0.2
baz=42
EDW2 **Edwards Air Fo** 41.45 315 ⇓P P 14 51 18.1 -0.7
baz=42
J19A **Crowheart** 41.50 331 ⇓P P 14 51 19.0 -0.1
baz=42
LRMC **Laurel Mountai** 41.55 316 ⇑P P 14 51 20.6 +1.0
baz=42,SNR=11
I20A **Worland** 41.59 333 ⇓P P 14 51 19.7 -0.1
baz=42
D27A **Center** 41.64 341 ⇓P P 14 51 20.5 +0.4
baz=42
E25A **Miller Ranch,** 41.75 339 ⇓P P 14 51 21.2 +0.2
baz=42
R11A **Troy Canyon, C** 41.78 321 ⇓P P 14 51 22.4 +0.8
baz=42
G22A **Birney** 41.80 335 ⇓P P 14 51 21.9 +0.4
baz=42
C28A **Hausauer Farms** 41.83 342 ⇑P P 14 51 21.6 0.0
baz=42
H03N2 **Juan Fernandez** 41.83 175 T T 15 35 41.4
baz=354,slow=75,SNR=67
H03N1 **Juan Fernandez** 41.83 175 T T 15 35 41.7
baz=354,slow=75,SNR=72
OSI **Osito Adit** 41.83 314 ⇓P P 14 51 22.2 +0.3
baz=42
H03N3 **Juan Fernandez** 41.84 175 T T 15 35 42.9
baz=354,slow=75,SNR=79
F23A **Volborg** 41.85 336 ⇓P P 14 51 22.2 +0.3
baz=42
D26A **Manning** 41.87 340 ⇑P P 14 51 21.9 -0.1
baz=42
BGU **Big Grassy Mou** 41.90 325 eP P 14 51 22.6 +0.2
comp=Z,3.1nm,1.1s
DAC **Darwin (Calif)** 41.91 317 eP P 14 51 20.9 -1.8
DAC pmax pmax
comp=Z,8.0nm,1.0s
DAC **Darwin (Calif)** 41.91 317 eP P 14 51 20.9 -1.8
comp=Z,8.5nm,1.0s
B30A **Myrvik Farm, E** 41.92 345 ⇓P P 14 51 21.8 -0.5
baz=42,SNR=8.4
H20A **Greybull** 41.95 333 ⇑P P 14 51 22.6 -0.2
baz=42
I19A **Meeteetse** 42.06 332 ⇓P P 14 51 23.6 -0.2
baz=42
E24A **Baker** 42.13 338 ⇓P P 14 51 24.4 +0.3
baz=42
BDFB **Brasilia** 42.13 125 P P 14 51 24.3 -0.3
BDFB **Brasilia** 42.13 125 P P 14 51 24.3 -0.3
comp=Z,5.5nm,0.8s,baz=283,slow=8.9,SNR=7.0
BDFB LR LR 15 09 08.3
comp=Z,339nm,19.8s,baz=303,slow=36
ARVC **Arvin** 42.16 314 ⇑P P 14 51 24.2 -0.3
baz=42
C27A **Sayler Ranch,** 42.17 341 ⇑P P 14 51 24.6 +0.2
baz=42
B29A **Wagenman Farm,** 42.21 344 ⇑P P 14 51 24.7 0.0
baz=42,SNR=15
F22A **Rosebud** 42.24 336 ⇑P P 14 51 25.4 +0.4
baz=42,SNR=6.9
CFAA **Coronel Fontan** 42.26 161 P P 14 51 25.6 +0.2
CFAA **Coronel Fontan** 42.26 161 P P 14 51 25.6 +0.2
comp=Z,0.9nm,0.9s,baz=338,slow=8.2,SNR=12
D25A **Fairfield** 42.28 339 ⇓P P 14 51 25.5 +0.2
baz=42
A30A **Hoffart Farm,** 42.36 345 ⇑P P 14 51 25.8 -0.1
baz=42,SNR=5.7
REDW **Red Top Meadow** 42.45 330 eP P 14 51 25.9 -1.2
comp=Z,20nm,1.4s
C26A **Wahner Farm, P** 42.46 341 ⇓P P 14 51 26.8 +0.1
baz=43,SNR=11
B28A **Dugan Ranch, T** 42.48 343 ⇓P P 14 51 26.9 0.0
baz=43
H19A **Powell** 42.54 332 ⇑P P 14 51 27.6 0.0
baz=43
A29A **Manning Farm,** 42.59 344 ⇑P P 14 51 27.9 +0.1
baz=43,SNR=8.2
D24A **Glendive** 42.61 339 ⇓P P 14 51 28.3 +0.3
baz=43,SNR=9.4
G20A **Bridger** 42.62 334 ⇓P P 14 51 28.3 +0.1
baz=43
F21A **Absaloka Mine,** 42.63 335 ⇑P P 14 51 28.2 0.0
baz=43
CPUP **Villa Florida** 42.63 145 P P 14 51 31.4 +3.0
CPUP **Villa Florida** 42.63 145 P P 14 51 31.4 +3.0
comp=Z,0.7nm,0.4s,baz=309,slow=8.6,SNR=5.1
CPUP LR LR 15 08 34.0
comp=Z,125nm,19.2s,baz=309,slow=35
E22A **Miles City** 42.65 337 ⇓P P 14 51 28.4 0.0
baz=43
TPH **Tonopah** 42.66 319 eP P 14 51 26.3 -2.5
TPH pmax pmax
comp=Z,17nm,1.1s
TPH **Tonopah** 42.66 319 eP P 14 51 26.3 -2.5
comp=Z,17nm,1.1s
MOOW **Moose Ponds** 42.68 330 eP P 14 51 27.6 -1.3
comp=Z,29nm,2.3s
B27A **Peters Farms,** 42.70 342 ⇓P P 14 51 29.1 +0.4
baz=43
VES **Vestal, Richgr** 42.71 315 ⇑P P 14 51 28.5 -0.4
baz=43,SNR=7.4
I17A **Pilgrim Ck.** 42.72 330 ⇓P P 14 51 30.0 +0.7
baz=43
C25A **Freed Ranch, W** 42.74 340 ⇓P P 14 51 29.2 +0.1
baz=43
H18A **Shoshone NF, C** 42.86 332 ⇓P P 14 51 30.4 +0.1
baz=43
FLWY **Flagg Ranch** 42.90 331 eP P 14 51 29.2 -1.5
comp=Z,79nm,2.3s
D23A **Lindsay** 42.98 338 ⇑P P 14 51 31.7 +0.6
baz=43,SNR=10
C24A **Savage** 42.99 339 ⇑P P 14 51 31.7 +0.6
baz=43,SNR=6.8
ULM **Lac du Bonnet** 43.03 348 eP P 14 51 29.1 -2.2
comp=Z,19nm,0.8s
ULM **Lac du Bonnet** 43.03 348 P P 14 51 29.9 -1.4
comp=Z,22nm,0.7s,baz=159,slow=8.3,SNR=22
ULM LR LR 15 10 47.1
comp=Z,165nm,19.3s,baz=149,slow=38
F20A **Billings** 43.05 334 ⇓P P 14 51 32.1 +0.4
baz=43,SNR=7.0
ELK **Elko** 43.05 324 eP P 14 51 31.1 -0.8
comp=Z,22nm,1.9s
RCTC **Rector, Farmer** 43.06 316 ⇑P P 14 51 31.6 -0.1
baz=43
D22A **Cohagen** 43.33 337 ⇑P P 14 51 34.2 +0.3
baz=44
A26A **Wade Farm, Ken** 43.38 342 ⇑P P 14 51 34.3 +0.1
baz=44
F19A **Roth Farm, Mol** 43.43 344 ⇓P P 14 51 35.1 +0.3
baz=44
YMR **Madison River** 43.47 331 eP P 14 51 35.4 +0.2
comp=Z,8.0nm,0.7s
NV11 **Mina Array Sit** 43.47 319 eP P 14 51 34.9 -0.4
C23A **Lambert** 43.50 338 ⇓P P 14 51 35.3 +0.1
baz=44,SNR=9.7
NVAR **Mina Array Bea** 43.57 319 P P 14 51 37.7 +1.6
NVAR PcP PcP 14 53 25.2 +1.4
NVAR **Mina Array Bea** 43.57 319 P P 14 51 37.7 +1.6
comp=Z,7.8nm,0.8s,baz=134,slow=7.4,SNR=37
NVAR PcP PcP 14 53 25.2 +1.4
comp=Z,1.0nm,0.7s,baz=138,slow=5.6,SNR=3.9
NVAR LR LR 15 13 03.7
comp=Z,192nm,18.4s,baz=234,slow=41
E20A **Meyer Farm, Mu** 43.59 335 ⇓P P 14 51 36.2 +0.1
baz=44
C22A **Vida** 43.71 338 ⇑P P 14 51 37.5 +0.5
baz=44,SNR=5.1
DGMT **Dagmar** 43.72 340 eP P 14 51 35.7 -1.3
comp=Z,24nm,0.8s
DGMT **Dagmar** 43.72 340 ⇑P P 14 51 37.5 +0.6
baz=44,SNR=9.1
A25A **Svangstu Ranch** 43.76 341 ⇓P P 14 51 37.4 +0.1
baz=44
E19A **Rath Farm, Rou** 43.84 334 ⇑P P 14 51 38.8 +0.8
baz=44
B23A **Brockton** 43.99 339 ⇑P P 14 51 39.4 +0.3
baz=44,SNR=13
A24A **Westby** 44.04 340 ⇑P P 14 51 39.9 +0.4
baz=44,SNR=8.1
BMN **Battle Mountai** 44.04 322 eP P 14 51 39.4 -0.5
BMN pmax pmax
comp=Z,12nm,0.7s
BMN **Battle Mountai** 44.04 322 eP P 14 51 39.4 -0.5
comp=Z,12nm,0.7s
D20A **Manuel Ranch,** 44.06 335 ⇓P P 14 51 40.5 +0.7
baz=44
B22A **Reddig Ranch S** 44.21 338 ⇓P P 14 51 41.7 +0.7
baz=44
WAKR **Walker** 44.35 318 eP P 14 51 42.3 -0.1
A23A **Redstone** 44.37 339 ⇓P P 14 51 42.7 +0.6
baz=44
D19A **Cripps Ranch,** 44.43 335 ⇓P P 14 51 42.8 0.0
baz=45
HLID **Hailey** 44.43 327 eP P 14 51 41.9 -1.1
comp=Z,4.6nm,0.9s
HLID **Hailey** 44.43 327 ⇑P P 14 51 42.9 -0.1
baz=44,SNR=6.4
C20A **Veseth Ranch,** 44.51 336 ⇑P P 14 51 44.0 +0.7
baz=45
CMB **Columbia Colle** 44.73 317 eP P 14 51 44.7 -0.6
CMB pmax pmax
comp=Z,116nm,2.8s
CMB **Columbia Colle** 44.73 317 eP P 14 51 44.7 -0.6
comp=Z,116nm,2.8s
C19A **Slack Wire Ran** 44.95 335 ⇑P P 14 51 47.2 +0.3
baz=45,SNR=6.5
LRM **Limekiln Ridge** 45.02 331 eP P 14 51 47.3 -0.5
B20A **Solberg Farm,** 45.10 337 ⇑P P 14 51 48.6 +0.6
baz=45,SNR=6.2
MFID **Camas Ranch** 45.10 326 eP P 14 51 48.6 +0.4
comp=Z,54nm,2.3s
A20A **Cobblestone Ra** 45.42 337 ⇓P P 14 51 51.3 +0.8
baz=46
EGMT **Eagleton** 45.47 335 ⇑P P 14 51 51.1 +0.1
baz=46
B19A **Brinkman Farms** 45.48 336 ⇓P P 14 51 51.6 +0.6
baz=46
A19A **Klindworth Far** 45.78 336 ⇓P P 14 51 53.7 +0.2
baz=46
WVOR **Wild Horse Val** 46.09 323 eP P 14 51 55.8 -0.3
WVOR pmax pmax
comp=Z,28nm,1.3s
WVOR **Wild Horse Val** 46.09 323 eP P 14 51 55.8 -0.3
comp=Z,28nm,1.3s
CHMT **Chamberlain Mo** 46.20 331 eP P 14 51 55.8 -1.2
MSO **Missoula** 46.47 331 eP P 14 51 57.7 -1.2
comp=Z,4.1nm,0.8s
MSO **Missoula** 46.47 331 ⇑P P 14 51 58.8 -0.2
baz=47
F10A **Beach Ranch, E** 47.54 328 eP P 14 52 06.1 -1.2
comp=Z,54nm,2.3s
I07A **Izee** 47.59 325 eP P 14 52 06.5 -1.3
comp=Z,7.1nm,0.9s
BSMT **Bassoo Peak** 47.60 331 eP P 14 52 08.3 +0.5
M04C **Macdoel** 47.68 321 ⇓P P 14 52 08.2 -0.3
baz=48
G08A **Pilot Rock** 48.03 326 eP P 14 52 10.6 -0.6
comp=Z,33nm,2.1s
SCHQ **Schefferville** 48.04 13 P P 14 52 10.6 -0.4
SCHQ PcP PcP 14 53 39.2 +0.5
SCHQ **Schefferville** 48.04 13 P P 14 52 10.6 -0.4
comp=Z,9.6nm,1.0s,baz=206,slow=2.9,SNR=4.7
SCHQ PcP PcP 14 53 39.2 +0.5
comp=Z,2.6nm,0.6s,baz=154,slow=1.5,SNR=5.4
SCHQ LR LR 15 13 40.4
comp=Z,200nm,18.1s,baz=243,slow=38
WALA **Waterton Lakes** 48.06 333 eP P 14 52 11.9 +0.5
comp=Z,3.3nm,2.8s
J05D **Fort Rock, OR** 48.14 323 ⇑P P 14 52 11.8 -0.3
baz=48
E09A **Wood Farm, Sta** 48.37 328 eP P 14 52 12.7 -0.9
comp=Z,9.9nm,0.9s
FFC **Flin Flon** 48.58 345 eP P 14 52 15.3 +0.2
FFC **Flin Flon** 48.58 345 eP P 14 52 14.6 -0.5
comp=Z,4.9nm,0.8s
J04D **Umpqua Nationa** 48.65 322 ⇓P P 14 52 15.9 -0.2
baz=49
NEW **Newport** 49.01 330 eP P 14 52 18.1 -0.5
comp=Z,59nm,2.5s
NEW **Newport** 49.01 330 LR LR 15 15 35.8
comp=Z,124nm,18.8s,baz=132,slow=39
NEW **Newport** 49.01 330 ⇓P P 14 52 18.5 -0.1
baz=49
HAWA **Hanford** 49.03 327 eP P 14 52 19.1 +0.4
comp=Z,62nm,2.3s
D08A **Wollman Farm,** 49.13 328 eP P 14 52 20.0 +0.6
comp=Z,6.4nm,1.0s
C09A **Chrisman Ranch** 49.28 329 eP P 14 52 21.1 +0.5
comp=Z,6.1nm,0.6s
E07A **Sunnyside** 49.31 327 eP P 14 52 21.0 +0.1
comp=Z,9.0nm,0.9s
H04A **Detroit Lake** 49.50 324 eP P 14 52 22.6 +0.2
comp=Z,13nm,0.8s
B08A **Colville Reser** 50.18 329 eP P 14 52 25.9 -1.6
comp=Z,73nm,3.0s
TRQA **Tornquist** 50.26 158 eP P 14 52 26.7 -1.4
comp=Z,18nm,1.3s
PLCA **Paso Flores** 50.26 168 P P 14 52 27.6 -0.5
PLCA **Paso Flores** 50.26 168 P P 14 52 27.6 -0.5
comp=Z,7.2nm,0.8s,baz=344,slow=9.0,SNR=20
PLCA LR LR 15 09 33.8
comp=Z,48nm,18.9s,baz=92,slow=31
G03D **McMinnville, O** 50.43 324 ⇓P P 14 52 29.3 -0.1
baz=50
LON **Longmire** 50.49 326 eP P 14 52 29.2 -0.7
LON pmax pmax
comp=Z,5.0nm,0.8s

LON	Longmire	50.49	326	*e*P		P	14 52 29.2	-0.7
	comp=Z,5.3nm,0.8s							
FCC	Fort Churchill	50.92	353	*e*P		P	14 52 29.8	-3.0
FCC	Fort Churchill	50.92	353	*e*P		P	14 52 29.8	-3.0
	comp=Z,0.5nm,1.0s							
EDM	Edmonton	50.95	337	*e*P		P	14 52 32.5	-0.7
EDM	Edmonton	50.95	337	*e*P		P	14 52 32.5	-0.7
BBB	Bella Bella	56.98	329	LR		LR	15 19 59.2	
	comp=Z,88nm,19.4s,baz=133,slow=38							
YKA	Yellowknife Ar	58.64	343	P		P	14 53 28.2	-0.4
YKA	Yellowknife Ar	58.64	343	P		P	14 53 28.2	-0.4
	comp=Z,8.5nm,0.8s,baz=140,slow=6.8,SNR=149							
RKT	Rikitea	59.70	237	*e*LR		LR	15 11 10.5	
	comp=Z,395nm,27.5s							
DLBC	Dease Lake	61.39	334	*e*P		P	14 53 47.0	-0.8
INK	Inuvik	68.33	342	*e*P		P	14 54 30.8	-1.9
	comp=Z,33nm,1.3s							
BMRM	Bremner River	69.08	333	*e*P		P	14 54 37.4	-0.3
EGAK	Eagle	69.17	337	*e*P		P	14 54 35.9	-2.1
	comp=Z,12nm,1.0s							
SUMG	Summit	69.43	13	*i* P		P	14 54 39.5	-0.5
SUMG					pmax	pmax		
	comp=Z,28nm,1.0s							
SUMG	Summit	69.43	13	*i* P		P	14 54 39.5	-0.5
	comp=Z,28nm,1.0s							
SUMG	Summit	69.43	13	*e*P		P	14 54 39.2	-0.8
	comp=Z,45nm,1.0s							
PAX	Paxson	70.20	335	*e*P		P	14 54 43.6	-0.9
PAX					pmax	pmax		
	comp=Z,8.0nm,0.8s							
PAX	Paxson	70.20	335	*e*P		P	14 54 43.5	-0.9
	comp=Z,7.6nm,0.8s							
PPT	Papeete	70.62	248	LR		LR	15 17 34.4	
	comp=Z,71nm,21.2s,baz=114,slow=29							
PPT2	Papeete2	70.62	248	*e*LR		LR	15 16 14.2	
	comp=Z,100nm,23.8s							
ILAR	Eielson Array	71.43	336	P		P	14 54 52.3	+0.5
ILAR				PP		PP	14 57 33.0	+2.7
ILAR	Eielson Array	71.43	336	P		P	14 54 52.3	+0.5
	comp=Z,7.6nm,0.8s,baz=114,slow=4.6,SNR=93							
ILAR				PP		PP	14 57 33.0	+2.7
	comp=Z,1.1nm,0.9s,baz=103,slow=6.8,SNR=4.5							
ILAR				LR		LR	15 28 57.2	
	comp=Z,106nm,19.9s,baz=114,slow=38							
RC01	Rabbit Creek A	71.49	332	*e*P		P	14 54 53.5	+1.2
	comp=Z,20nm,1.1s							
COLA	College	71.85	336	⇓ *i* P		P	14 54 55.1	+0.8
COLA					pmax	pmax		
	comp=Z,25nm,0.8s							
COLA	College	71.85	336	*e*P		P	14 54 53.4	-1.0
MCK	McKinley	71.92	335	*e*P		P	14 54 56.2	+1.3
MCK					pmax	pmax		
	comp=Z,48nm,1.6s							
MCK	McKinley	71.92	335	*e*P		P	14 54 56.2	+1.3
	comp=Z,48nm,1.6s							
TBI	Tubuai	72.18	242	*e*LR		LR	15 16 57.4	
	comp=Z,90nm,28.0s							
SCO	Scoresbysund	72.66	18	*i* P		P	14 54 57.6	-1.5
SCO					pmax	pmax		
	comp=Z,6.0nm,0.8s							
SCO	Scoresbysund	72.66	18	*i* P		P	14 54 57.6	-1.5
	comp=Z,6.4nm,0.8s							
KTH	Kantishna Hill	72.72	334	*e*P		P	14 54 58.8	-0.9
	comp=Z,56nm,1.0s							
RSO	Redoubt South	72.75	331	*e*P		P	14 55 00.1	0.0
EVOP	Sao Brissos	72.99	52	*e*P		P	14 55 02.0	+0.3
EVOP					pmax	pmax		
	comp=Z,84nm,1.3s							
EVOP	Sao Brissos	72.99	52	*e*P		P	14 55 02.0	+0.3
	comp=Z,84nm,1.3s							
EVO	Evora	73.08	52	*e*P		P	14 55 02.0	-0.2
	comp=Z,84nm,1.3s							
EVO				*e*R				
	comp=Z,242nm,21.5s							
PPLA	Purkeypile	73.09	333	*e*P		P	14 55 01.3	-0.7
PESTR	Estremoz	73.42	52	*e*P		P	14 55 05.4	+1.1
	comp=Z,37nm,1.8s							
COLD	Coldfoot	73.52	338	*e*P		P	14 55 03.8	-0.5
	comp=Z,11nm,1.0s							
PCBR	Castelo Branco	73.56	51	*e*P		P	14 55 06.0	+1.0
	comp=Z,31nm,1.9s							
PBRG	Braganca	74.21	49	*e*P		P	14 55 09.9	+1.0
	comp=Z,48nm,1.8s							
IM04	Indian Mountai	74.54	336	*e*P		P	14 55 08.9	-1.4
DAG	Danmarks Havn	76.09	12 ⇑ *i* P			P	14 55 17.7	-1.3
DAG					pmax	pmax		
	comp=Z,5.0nm,0.8s							
DAG	Danmarks Havn	76.09	12 ⇑ *i* P			P	14 55 17.7	-1.3
	comp=Z,7.3nm,0.8s							
ESDC	Sonseca Array	76.26	51	P		P	14 55 21.5	+0.7
ESDC	Sonseca Array	76.26	51	P		P	14 55 21.5	+0.7
	comp=Z,5.4nm,0.7s,baz=276,slow=5.3,SNR=33							
ESDC				LR		LR	15 25 41.8	
	comp=Z,68nm,18.9s,baz=165,slow=33							
ESLA	Sonseca Array	76.26	51	*e*P		P	14 55 20.3	-0.5
	comp=Z,1.9nm,0.9s							
QUIF	Quistinic	77.00	43	*e*P		P	14 55 24.7	+0.1
QUIF	Quistinic	77.00	43	*e*P		P	14 55 24.7	+0.1
QUIF	Quistinic	77.00	43	*e*P		P	14 55 24.7	+0.1
TIC	Toumodi	77.23	85	*e*P		P	14 55 26.0	-0.7
LIC	Lamto	77.28	86	*e*P		P	14 55 27.5	+0.6
	baz=269							
LIC	Lamto	77.28	86	*e*P		P	14 55 27.0	+0.1
	comp=Z,53nm,1.0s							
LIC	Lamto	77.28	86	*e*P		P	14 55 27.5	+0.6
DBIC	Dimbokro	77.39	85	*e*P		P	14 55 27.2	-0.3
	comp=Z,15nm,1.0s							
DBIC	Dimbokro	77.39	85	P		P	14 55 28.1	+0.6
	comp=Z,12nm,0.9s,baz=270,slow=6.0,SNR=12							
DBIC				LR		LR	15 29 55.0	
	comp=Z,21nm,18.4s,baz=260,slow=36							
KIC	Kosan Boka	77.55	85	*e*P		P	14 55 29.0	+0.6
	comp=Z,45nm,1.1s							
SJPF	Ste Jean	78.31	48	*e*P		P	14 55 32.8	+0.7
	comp=Z,17nm,0.9s							
SJPF	Ste Jean	78.31	48	*e*P		P	14 55 32.8	+0.7
SJPF					pmax	pmax		
	comp=Z,17nm,0.9s							
SJPF	Ste Jean	78.31	48	*e*P		P	14 55 32.8	+0.7
	comp=Z,17nm,0.9s							
GRR	Gorron	78.55	42	*e*P		P	14 55 33.2	-0.1
	comp=Z,23nm,0.9s							
GRR	Gorron	78.55	42	*e*P		P	14 55 33.2	-0.1
GRR					pmax	pmax		
	comp=Z,23nm,0.9s							
GRR	Gorron	78.55	42	*e*P		P	14 55 33.2	-0.1
	comp=Z,23nm,0.9s							
FLN	La Foliniere	78.80	42	*e*P		P	14 55 34.6	-0.1
FLN				*e*R				
	comp=Z,287nm,23.0s							
FLN	La Foliniere	78.80	42	*e*P		P	14 55 34.6	-0.1
FLN	La Foliniere	78.80	42	*e*P		P	14 55 34.6	-0.1
ETSF	Etsaut	78.80	48	*e*P		P	14 55 35.6	+0.7
ETSF	Etsaut	78.80	48	*e*P		P	14 55 35.6	+0.7
ETSF	Etsaut	78.80	48	*e*P		P	14 55 35.6	+0.7
LDF	La Druitiere	79.04	42	*e*P		P	14 55 35.8	-0.2
	comp=Z,21nm,0.9s							
LDF	La Druitiere	79.04	42	*e*P		P	14 55 35.8	-0.2
LDF					pmax	pmax		
	comp=Z,21nm,0.9s							
LDF	La Druitiere	79.04	42	*e*P		P	14 55 35.8	-0.2
	comp=Z,21nm,0.9s							
MFF	Saint Martin d	79.04	44	*e*P		P	14 55 36.0	-0.1
MFF	Saint Martin d	79.04	44	*e*P		P	14 55 36.0	-0.1
MFF	Saint Martin d	79.04	44	*e*P		P	14 55 36.0	-0.1
EPF	Esparros	79.46	48	*e*P		P	14 55 39.0	+0.5
	comp=Z,15nm,1.0s							
EPF	Esparros	79.46	48	*e*P		P	14 55 39.0	+0.5
EPF					pmax	pmax		
	comp=Z,15nm,1.0s							
EPF	Esparros	79.46	48	*e*P		P	14 55 39.0	+0.5
	comp=Z,15nm,1.0s							
RJF	Les Rejaudoux	80.23	45	*e*P		P	14 55 42.4	-0.2
RJF				*e*R				
	comp=Z,186nm,19.8s							
RJF	Les Rejaudoux	80.23	45	*e*P		P	14 55 42.4	-0.2
RJF	Les Rejaudoux	80.23	45	*e*P		P	14 55 42.4	-0.2
TNA	Tin City	80.26	335	*e*P		P	14 55 47.2	+5.0
	comp=Z,20nm,1.5s							
TCF	Toulx Ste Croi	80.68	44	*e*P		P	14 55 44.4	-0.6
TCF	Toulx Ste Croi	80.68	44	*e*P		P	14 55 44.4	-0.6
TCF	Toulx Ste Croi	80.68	44	*e*P		P	14 55 44.4	-0.6
MTLF	Montolieu	80.82	47	*e*P		P	14 55 45.8	0.0
	comp=Z,21nm,1.2s							
MTLF	Montolieu	80.82	47	*e*P		P	14 55 45.8	0.0
MTLF					pmax	pmax		
	comp=Z,21nm,1.2s							
MTLF	Montolieu	80.82	47	*e*P		P	14 55 45.8	0.0
	comp=Z,21nm,1.2s							
LASF	Ste Croix	81.96	47	*e*P		P	14 55 52.3	+0.4
LASF	Ste Croix	81.96	47	*e*P		P	14 55 52.3	+0.4
VIVF	Saint-Julien-l	82.49	46	*e*P		P	14 55 55.1	+0.5
	comp=Z,18nm,1.0s							
VIVF	Saint-Julien-l	82.49	46	*e*P		P	14 55 55.1	+0.5
VIVF					pmax	pmax		
	comp=Z,18nm,1.0s							
VIVF	Saint-Julien-l	82.49	46	*e*P		P	14 55 55.1	+0.5
	comp=Z,18nm,1.0s							
TOA0	Torodi Ar. Sit	83.02	78	*e*P		P	14 55 56.0	-1.8
TORD	Torodi Ar. Bea	83.02	78	P		P	14 55 58.2	+0.4
TORD	Torodi Ar. Bea	83.02	78	P		P	14 55 58.2	+0.4
	comp=Z,5.1nm,0.9s,baz=260,slow=4.1,SNR=25							
TORD				LR		LR	15 35 11.8	
	comp=Z,30nm,18.4s,baz=285,slow=37							
CABF	La Chapelle	83.33	44	*e*P		P	14 55 58.6	-0.4
CABF	La Chapelle	83.33	44	*e*P		P	14 55 58.6	-0.4
CABF	La Chapelle	83.33	44	*e*P		P	14 55 58.6	-0.4
MBDF	Montbardon	83.99	46	*e*P		P	14 56 02.9	+0.4
	comp=Z,3.9nm,0.7s							
MBDF	Montbardon	83.99	46	*e*P		P	14 56 02.9	+0.4
MBDF					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MBDF	Montbardon	83.99	46	*e*P		P	14 56 02.9	+0.4
	comp=Z,3.9nm,0.7s							
NB2	NORSAR Subarra	84.74	29	P		P	14 56 05.8	0.0
	comp=Z,1.3nm,0.8s,baz=281,slow=5.1							
NOA	NORSAR Array B	84.74	29	P		P	14 56 05.5	-0.3
NOA	NORSAR Array B	84.74	29	P		P	14 56 05.5	-0.3
	comp=Z,3.3nm,0.9s,baz=277,slow=5.0,SNR=5.9							
NOA				LR		LR	15 30 46.6	
	comp=Z,48nm,20.9s,baz=275,slow=34							
TUE	Stuetta	85.58	44	*e*P		P	14 56 09.0	-1.6
KEST	Kesra	87.05	54	LR		LR	15 29 33.7	
	comp=Z,20nm,21.9s,baz=243,slow=32							
CLL	Collm	87.23	39 ⇑ *i* P			P	14 56 18.0	-0.3
CLL					pmax	pmax		
	comp=Z,9.0nm,1.3s							
CLL	Collm	87.23	39 ⇑ *i* P			P	14 56 18.0	-0.3
	comp=Z,9.0nm,1.3s							
BRG	Berggiesshubel	87.90	39	*e*(P)		P	14 56 21.8	+0.3
	comp=Z,8.9nm,1.5s							
KHC	Kasperske Hory	87.98	41	*e*P		P	14 56 22.5	+0.5
KHC					pmax	pmax		
	comp=Z,14nm,1.0s							
GERES	GERESS Array B	88.12	41	P		P	14 56 22.4	-0.4
GERES	GERESS Array B	88.12	41	P		P	14 56 22.4	-0.4
	comp=Z,1.5nm,0.9s,baz=259,slow=2.7,SNR=9.0							
ARCES	ARCESS Array B	88.52	19	P		P	14 56 23.4	-0.7
ARCES	ARCESS Array B	88.52	19	P		P	14 56 23.4	-0.7
	comp=Z,4.3nm,0.9s,baz=304,slow=7.2,SNR=9.3							
ARCES				LR		LR	15 31 24.4	
	comp=Z,48nm,21.7s,baz=312,slow=32							
DPC	Dobruska-Polom	89.49	39	*e*P		P	14 56 29.6	+0.5
DPC	Dobruska-Polom	89.49	39	*e*P		P	14 56 29.6	+0.5
BILL	Bilibino	89.80	339 ⇑ *i* P			P	14 56 29.7	-0.4
BILL					pmax	pmax		
	comp=Z,7.0nm,1.2s							
BILL	Bilibino	89.80	339	*e*P		P	14 56 31.0	+0.9
FINES	FINESS Array B	91.59	27	P		P	14 56 38.0	-0.5
FINES	FINESS Array B	91.59	27	P		P	14 56 38.0	-0.5
	comp=Z,3.7nm,1.0s,baz=279,slow=3.7,SNR=5.5							
FINES				LR		LR	15 31 52.0	
	comp=Z,105nm,21.4s,baz=280,slow=32							
VSU	Vasula	92.97	30	*e*P		P	14 56 42.5	-2.5
VSU					pmax	pmax		
	comp=Z,35nm,1.7s							
TIXI	Tiksi	97.34	350 ⇓ *i* P			P	14 57 03.5	-1.2
TIXI					pmax	pmax		
	comp=Z,3.0nm,1.0s							
TIXI	Tiksi	97.34	350	*e*P		P	14 57 05.0	+0.3
	comp=Z,3.4nm,0.8s							
OBN	Obninsk	99.29	30	*e*P		Pdif	14 57 14.2	+0.5
OBN					pmax	pmax		
	comp=Z,6.0nm,1.6s							
PRGR	Permogore	99.61	22	P		Pdif	14 57 14.1	-0.9
PRGR					pmax	pmax		
	comp=Z,3.0nm,0.5s							
KURK	Kurchatov	118.97	13	*e*PKIKP		PKPdf	15 02 19.8	-0.7
MDJ	Mudanjiang	119.54	334	PKP		PKPdf	15 02 20.4	-1.4
CN2	Changchun	121.94	336	*e*PKP		PKPdf	15 02 26.3	-0.2
MKAR	Makanchi Array	123.48	12	PKIKP		PKPdf	15 02 28.8	-0.6
MKAR	Makanchi Array	123.48	12	PKP		PKPdf	15 02 28.8	-0.6
MKAR	Makanchi Array	123.48	12	PKP		PKPdf	15 02 28.8	-0.6
	comp=Z,0.3nm,0.7s,baz=319,slow=5.7,SNR=3.5							
AAK	Ala-Archa	125.19	20	*e*PKIKP		PKPdf	15 02 32.2	-0.8
KSRS	Korea Array	125.94	330	PKP		PKPdf	15 02 34.3	0.0
	comp=Z,4.0nm,0.8s,baz=22,slow=1.2,SNR=12							
KSAR	Wonju Array Be	125.97	330	PKP		PKPdf	15 02 34.3	-0.1
WMQ	Urumqi	127.31	8	PKP		PKPdf	15 02 35.8	-1.1
WMQ				PP		PP	15 04 39.8	+4.8
WMQ				AMB		AMB		
	comp=Z,13nm,7.4s							
WMQ				LR		LR		
	comp=Z,92nm,34.9s							
WMQ				LR		LR		
	comp=Z,120nm,27.1s							
WMQ				LR		LR		
	comp=Z,93nm,32.2s							
KSH	Kashi	128.47	21	*e*PKP		PKPdf	15 02 38.8	-0.5
KSH				*es*PKP			15 02 52.5	
KSH				*e*SKS		SKSdf	15 09 45.1	-5.8
KSH				AMB		AMB		
	comp=Z,120nm,3.5s							
KSH				LR		LR		
	comp=Z,38nm,5.0s							
KSH				LR		LR		
	comp=Z,53nm,4.9s							
KSH				LR		LR		
	comp=Z,52nm,4.1s							
HHC	Hu-ho-hao-te	129.15	346	*e*PKP		PKPdf	15 02 37.3	-3.2
HHC				sPKP			15 02 52.4	
HHC				PP		PP	15 04 49.1	+1.9
HHC				PKS		PKSdf	15 06 12.5	-4.7
HHC				SKS		SKSdf	15 09 43.8	-8.2
HHC				AMB		AMB		
	comp=Z,16nm,9.5s							
HHC				LR		LR		
	comp=Z,210nm,20.2s							
HHC				LR		LR		
	comp=Z,250nm,20.3s							
HHC				LR		LR		
	comp=Z,270nm,21.0s							
GTA	Gaotai	132.32	357	*e*PKP		PKPdf	15 02 47.4	+0.8
GTA				sPKP			15 03 02.3	
ASAR	Alice Springs	141.56	242	PKPpre		PKPpre	15 02 55.5	
ASAR	Alice Springs	141.56	242	PKhKP		PKPpre	15 02 55.5	
	comp=Z,1.2nm,0.9s,baz=122,slow=3.6,SNR=12							
WRA	Warramunga Arr	142.10	248	PKPpre		PKPpre	15 02 58.8	
WRA	Warramunga Arr	142.10	248	PKhKP		PKPpre	15 02 58.8	
	comp=Z,1.7nm,0.8s,baz=95,slow=3.0,SNR=10							
HYB	Hyderabad	148.51	35	*i* PKP		PKPdf	15 03 18.0	+1.9
H01W1	Cape Leeuwin H	149.31	208	T		T	17 51 13.7	
	baz=150,slow=76,SNR=14							
H01W2	Cape Leeuwin H	149.32	208	T		T	17 51 14.1	
	baz=150,slow=76,SNR=10							
H01W3	Cape Leeuwin H	149.33	208	T		T	17 51 12.4	
	baz=150,slow=76,SNR=12							
CMAR	Chiang Mai Arr	153.20	356	PKP		PKPdf	15 03 23.6	+0.3
CMAR				PKPbc		PKPbc	15 03 29.6	-1.1
CMAR	Chiang Mai Arr	153.20	356	PKP		PKPdf	15 03 23.6	+0.3
	comp=Z,1.2nm,0.8s,baz=307,slow=2.8,SNR=11							
CMAR				PKPbc		PKPbc	15 03 29.6	-1.1
	comp=Z,1.6nm,0.7s,baz=320,slow=2.9,SNR=10							

*IDC **23** 14:47:13.2±2.4, 8°.98N×82°.64W, h0km, mb4.0/7, mb1 4.3/9, mb1mx3.9/31, mbtmp4.1/9, ML4.1/2, Error ellipse: s-maj=84.3km s-min=21.1km az=25.0*

ISC 23 14:47:14.9±2.1, 9°.0N±0°.4×82°.7W±0°.2, h11km, n13, σ0°88/12, mb3.9/7, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare	2.62	301	Pn	Pn	14 47 56.8	-0.3
	63nm,0.3s,baz=284,slow=20,SNR=3.2						
JTS				Sn	Sn	14 48 29.0	0.0
	31nm,0.3s,baz=328,slow=22,SNR=1.5						
APG	El Apazote	9.71	309	Pn	Pn	14 49 35.0	+0.2
	1.0nm,0.3s,baz=149,slow=8.7,SNR=4.3						
H03N2	Juan Fernandez	42.31	175	T	T	15 39 21.2	
	baz=354,slow=75,SNR=28						
H03N1	Juan Fernandez	42.31	175	T	T	15 39 22.3	
	baz=354,slow=75,SNR=34						
H03N3	Juan Fernandez	42.33	175	T	T	15 39 23.4	
	baz=354,slow=75,SNR=19						
ULM	Lac du Bonnet	42.60	347	P	P	14 55 10.5	-0.5
	4.1nm,0.7s,baz=167,slow=8.8,SNR=4.9						
NVAR	Mina Array Bea	43.42	318	P	P	14 55 19.4	+1.3
	0.9nm,0.6s,baz=129,slow=6.6,SNR=4.4						
YKA	Yellowknife Ar	58.25	343	P	P	14 57 08.8	-0.3
	0.8nm,0.7s,baz=138,slow=6.8,SNR=6.3						
ILAR	Eielson Array	71.10	336	P	P	14 58 33.0	0.0
	0.8nm,0.7s,baz=116,slow=4.5,SNR=8.7						
ESDC	Sonseca Array	75.66	51	P	P	14 59 01.6	+1.1
	0.6nm,0.6s,baz=283,slow=4.9,SNR=2.9						
DBIC	Dimbokro	76.99	85	P	P	14 59 08.8	+0.3
	4.6nm,1.0s,baz=288,slow=6.4,SNR=2.8						
TORD	Torodi Ar. Bea	82.56	78	P	P	14 59 38.1	-0.5
	1.1nm,0.9s,baz=302,slow=7.1,SNR=4.1						
CMAR	Chiang Mai Arr	152.71	357	PKPbc	PKPbc	15 07 12.8	0.0
	0.2nm,0.5s,baz=330,slow=3.4,SNR=2.1						
CMAR				PKPab	PKPab	15 07 21.4	-1.8
	0.5nm,0.8s,baz=347,slow=5.7,SNR=4.2						

MEX 23 15:20:42.4±0.8, 16°.31N×95°.00W, h120km±16km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.19	244	*i* P	Pn	15 21 04.7	-1.7
HUIG				*e*S	Sn	15 21 23.4	-1.2
PCIG		1.81	109	*e*P	Pn	15 21 12.5	-1.0
PCIG				*i* S	Sn	15 21 35.5	-1.8
VHO	Vista Hermosa	1.83	295	*e*P	Pn	15 21 13.2	-0.8
VHO				*e*S	Sn	15 21 36.1	-2.0
PNIG	Pinotepa	3.00	272	*e*P	Pn	15 21 27.8	-1.0
PNIG				*i* S	Sn	15 22 02.3	-2.3

*NEIC **23** 15:48:45.0, 39°.95N×111°.89W, h1km, ML3.0(SLC), After SLC.*

NEIC Felt [II] at Santaquin. Also felt at Lehi, Magna and Payson.

*IDC **23** 15:48:47.6±1.4, 40°.07N×111°.89W, h0km, mb2.3/1, mb1 3.0/4, mb1mx2.9/43, mbtmp2.6/4, ML3.1/3, Error ellipse: s-maj=18.0km s-min=7.3km az=157.0*

ISC 23 15:48:45.2±1.1, 39°.96N±0°.02×111°.90W±0°.02, h2km±9km, n45, σ1°02/98, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLU	North Lily Min	0.14	266	*e*Pg	Pg	15 48 49.0	+1.0
NLU				*e*Sg	Sg	15 48 51.6	+1.7
MPU	Maple Canyon	0.21	76	*e*Pg	Pg	15 48 49.6	+0.3
MPU				*e*Sg	Sg	15 48 52.3	+0.3
DAU	Daniels Canyon	0.66	47	*e*Pg	Pg	15 48 59.0	+1.0
DAU				*e*Sg	Sb	15 49 09.1	-0.5
JLU	Jordanelle	0.72	28	*e*Pg	Pg	15 48 59.8	+0.7
JLU				*e*Sg	Sg	15 49 08.0	-0.6
CTU	Camp Tracy	0.74	9	*e*Pg	Pg	15 48 59.9	+0.5
CTU				*e*Sg	Sg	15 49 08.5	-0.4
DUG	Dugway	0.74	288	*e*Pg	Pg	15 48 59.9	+0.5
DUG				*e*Sg	Sb	15 49 11.8	+0.3
DUG	Dugway	0.74	288	P	Pg	15 48 60.0	+0.5
	baz=0.8						
TMUT	Trail Mountain	0.85	141	*e*Pg	Pg	15 49 01.6	0.0
TMUT				*e*		15 49 14.6	
TCUT	Toone Canyon	1.21	18	*e*Pg	Pb	15 49 08.8	-0.2
TCUT				*e*Sg	Sb	15 49 23.9	-1.3
BGU	Big Grassy Mou	1.29	318	*e*Pn	Pn	15 49 09.4	-1.1
BGU				*e*Pg	Pg	15 49 10.7	+0.6
BGU				*e*Sg	Sg	15 49 28.2	+1.4
SRU	San Rafael	1.36	128	*e*Pn	Pn	15 49 10.6	-0.8
SRU				*e*		15 49 27.5	
SPUT	South Promonto	1.41	343	*e*Pn	Pn	15 49 11.4	-0.6
SPUT				*e*Sn	Sg	15 49 30.8	+0.3
MVU	Marysvale	1.48	190	*e*Pn	Pn	15 49 12.9	-0.2
MVU				*e*Sn	Sn	15 49 32.3	-0.8
HWUT	Hardware Ranch	1.66	9	*e*Pn	Pb	15 49 15.6	-1.0
HWUT				*e*Pg	Pg	15 49 17.0	0.0
HWUT				*e*Sn	Sb	15 49 37.0	-1.1
ARUT	Antelope Range	2.48	210	*e*Pn	Pn	15 49 26.8	-0.1
ARUT				*e*Pg	Pg	15 49 32.4	-0.5
ARUT				*e*Sn	Sn	15 49 56.7	-1.1
ARUT				*e*Sg	Sg	15 50 04.9	-0.2
CCUT	Cedar City	2.67	206	*e*Pn	Pn	15 49 29.2	-0.2
CCUT				*e*Pg	Pg	15 49 35.7	-0.6
CCUT				*e*Sn	Sn	15 50 01.6	-0.8
CCUT				*e*Sg	Sg	15 50 10.5	-0.4
ELK	Elko	2.67	288	Pn	Pb	15 49 33.3	-0.6
ELK				Pg	Pg	15 49 35.5	-0.9
ELK				Lg		15 50 10.4	
ELK	Elko	2.67	288	Pn	Pb	15 49 33.3	-0.6
	4.7nm,0.3s,baz=172,slow=1.7,SNR=64						
ELK				Pg	Pg	15 49 35.5	-0.9
	6.6nm,0.3s,baz=175,slow=0.8,SNR=46						
ELK				Lg	Lg	15 50 10.4	
	6.1nm,0.3s,baz=180,slow=21,SNR=8.5						
PV04	Paradox Valley	2.80	123	*e*Pn	Pn	15 49 32.2	+1.0
PV04				*e*Pg	Pg	15 49 38.3	-0.7
PV04

NVAR	**Mina Array Bea**	**5.21 255**		Pn	Pn	15 50 07.8	+3.5	
NVAR				Pg	**Pg**	**15 50 22.5**	**-2.6**	
NVAR				Lg	Lg	15 51 29.3		
NVAR	**Mina Array Bea**	**5.21 255**		Pn	Pn	15 50 07.8	+3.5	
	0.3nm,0.3s,baz=68,slow=13,SNR=4.2							
NVAR				Pg	**Pg**	**15 50 22.5**	**-2.6**	
	1.3nm,0.3s,baz=70,slow=17,SNR=12							
NVAR				Lg	Lg	15 51 29.3		
	2.8nm,0.3s,baz=102,slow=24,SNR=8.0							
SDCO	**Great Sand Dun**	**5.46 112**	*e*Pn		**Pn**	**15 50 07.1**	**-0.8**	
	4.0nm,0.9s							
SDCO			*e*Pg		**Pg**	**15 50 27.5**	**-2.4**	
SDCO			*e*Sg		**Sg**	**15 51 40.2**	**-0.5**	
ANMO	**Albuquerque**	**6.62 137**	Pn		**Pn**	**15 50 23.9**	**+0.3**	
ANMO			Pg		Pg	15 50 48.1	-3.9	
ANMO			Lg		Lg	15 52 07.8		
ANMO	**Albuquerque**	**6.62 137**	Pn		**Pn**	**15 50 23.9**	**+0.3**	
	0.4nm,0.3s,baz=331,slow=11,SNR=7.2							
ANMO			Pg		Pg	15 50 48.1	-3.9	
	0.5nm,0.3s,baz=319,slow=17,SNR=8.1							
ANMO			Lg		Lg	15 52 07.8		
	0.6nm,0.3s,baz=42,slow=22,SNR=5.7							
YKA	**Yellowknife Ar**	**22.62 357**	P		**P**	**15 53 48.9**	**+1.9**	
YKA	**Yellowknife Ar**	**22.62 357**	P		**P**	**15 53 48.9**	**+1.9**	
	0.1nm,0.7s,baz=172,slow=11,SNR=4.4							

MEX 23 15:57:05.9±0.4, 15°.92N×97°.59W, h16km±6km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.70**	**313**	*e*P	Pg	15 57 17.0	-2.6
PNIG				*e*S	Sg	15 57 25.7	-3.2
VHO	**Vista Hermosa**	**1.41**	**36**	*e*P	Pn	15 57 27.6	-3.7
VHO				*e*S	Sn	15 57 44.2	-5.5
HUIG	**Huatulco**	**1.44**	**96**	*i* P	Pn	15 57 27.8	-3.5
HUIG				*i* S	Sn	15 57 44.6	-5.3

SZGRF ***23*** *16:07:29.1,35°.56N×72°.19E,h33km,mb5.0, Pakistan*
ISCJB ***23*** *16:07:41.0±0.3,36°.52N±0°.02×71°.51E±0°.02,h86km±3km, mb4.9/175, Error ellipse: s-maj=2.8km s-min=2.4km az=24.6*
MOS ***23*** *16:07:41.2±1.0,36°.49N×71°.43E,h88km,mb5.1/72, Error ellipse: s-maj=4.8km s-min=3.7km az=118.2*
NEIC ***23*** *16:07:42.9±0.2,36°.53N×71°.48E,mb5.1/74, Error ellipse: s-maj=4.8km s-min=3.8km az=192.0*
NEIC Felt at Kabul. Also felt [III] at Tashkent, Uzbekistan.
BJI ***23*** *16:07:43.0,36°.74N×71°.36E,h103km,mB4.9/30,mb4.9/40*
IDC ***23*** *16:07:43.4±0.7,36°.42N×71°.42E,h95km±6km,mb4.3/26, mb1 4.5/28,mb1mx4.4/31,mbtmp4.7/28,MS3.6/11, Ms1 3.6/11,ms1mx3.3/33,Error ellipse: s-maj=12.9km s-min=9.2km az=9.0*
NNC ***23*** *16:07:50.0±3.5,37°.08N×71°.16E,h196km±35km,mb4.2, mpv5.3,Error ellipse: s-maj=30.1km s-min=20.1km az=21.0*

ISC 23 16:07:43.3±0.2, 36°.52N±0°.03×71°.46E±0°.03, h97km±2km, h96km:pP-P,n600,σ1§43/683,mb5.0/175,36C-48D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.72**	**172**	⇑P	**Pn**	**16 08 27.2**	**+1.8**
CEP				S	**Sn**	**16 09 00.0**	**+2.4**
KBL	**Kabul**	**2.79**	**226**	*e*PN	**Pn**	**16 08 27.3**	**+1.0**
KBL				*e*		16 08 59.1	
KBL	**Kabul**	**2.79**	**226**	*e*Pn	**Pn**	**16 09 03.0**	**+0.8**
KBL				*e*Sn	**Sn**	**16 10 02.0**	**-1.6**
CHCP	**Chirah Chowk**	**3.22**	**152**	⇑P	**Pn**	**16 08 34.5**	**+2.5**
THW	**Thamme Wali**	**3.73**	**176**	P	**Pn**	**16 08 40.0**	**+1.2**
KSH	**Kashi**	**4.65**	**49**	P	**Pn**	**16 08 48.8**	**-2.6**
KSH				S	Sn	16 09 33.4	-11
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.5s						
SARP	**Sargodha**	**4.70**	**167**	P	**Pn**	**16 08 51.9**	**0.0**
JMU	**Jammu**	**4.74**	**142**	*e*P	**Pn**	**16 08 54.5**	**+2.1**
JMU				*ex*	x	16 09 33.0	
DLH	**Dalhousie**	**5.44**	**136**	*e*P	**Pn**	**16 09 03.0**	**+0.8**
DLH				*e*S	**Sn**	**16 10 02.0**	**-1.6**
DHRM	**DHARAMSHALA**	**5.85**	**135**	*e*P	**Pn**	**16 09 08.3**	**+0.6**
DHRM				*e*S	**Sn**	**16 10 11.6**	**-1.9**
DHRM				AML	AML	16 10 15.4	
	comp=N,5μm,0.9s						
DHRM				AML	AML	16 10 16.4	
	comp=E,5μm,0.4s						
EKS2	**Erkin-Say**	**6.39**	**16**	*e*PN	**Pn**	**16 09 15.8**	**+0.9**
EKS2	**Erkin-Say**	**6.39**	**16**	*e*Pn	**Pn**	**16 09 15.8**	**+0.9**
EKS2				*e*Sn	**Sn**	**16 10 26.1**	**-0.3**
AAK	**Ala-Archa**	**6.54**	**20**	⇑P	**Pn**	**16 09 18.0**	**+1.0**
	comp=E,162nm,0.4s						
AAK				⇑S	**Sn**	**16 10 29.4**	**-0.8**
	comp=E,129nm,0.5s						
AAK	**Ala-Archa**	**6.54**	**20**	*d* iPN	**Pn**	**16 09 18.0**	**+1.0**
AAK	**Ala-Archa**	**6.54**	**20**	*e*Pn	**Pn**	**16 09 18.1**	**+1.0**
AAK				S	**Sn**	**16 10 29.5**	**-0.7**
AAK				*e*Sn	Sn	16 10 29.6	-0.8
AAK	**Ala-Archa**	**6.54**	**20**	P	**Pn**	**16 09 18.4**	**+1.4**
	comp=E,90nm,0.3s,baz=192,slow=10,SNR=1662						
AAK				S	**Sn**	**16 10 29.5**	**-0.7**
	comp=E,20nm,0.3s,baz=337,slow=21,SNR=11						
BHK	**Bhakra**	**6.55**	**140**	*e*P	**Pn**	**16 09 17.8**	**+0.7**
BHK				*e*S	**Sn**	**16 10 27.8**	**-2.5**
KK31	**Karatay Array**	**6.61**	**354**	⇓P	**Pn**	**16 09 17.6**	**-0.3**
	comp=E,92nm,0.4s,baz=184,slow=14,SNR=1665						
KK31				⇓S	**Sn**	**16 10 28.3**	**-3.5**
	comp=E,137nm,0.5s,baz=175,slow=14,SNR=7.6						
KKAR	**Karatay Array**	**6.61**	**354**	*e*PN	**Pn**	**16 09 17.6**	**-0.3**
KKAR	**Karatay Array**	**6.61**	**354**	*e*Pn	**Pn**	**16 09 17.6**	**-0.3**
KKAR				*e*Sn	**Sn**	**16 10 30.4**	**-1.3**
FRU	**Bishkek**	**6.76**	**20**	⇓*i* PN	**Pn**	**16 09 22.8**	**+2.9**
FRU				*e*		16 10 39.0	
FRU				pmax	pmax		
	comp=Z,200nm,0.6s						
FRU				pmax	pmax		
	comp=E,200nm,0.7s						
SDNR	**Sundarnagar**	**6.79**	**136**	*e*P	**Pn**	**16 09 18.0**	**-2.3**
SDNR				*ex*	x	16 10 20.0	
TKM2	**Tokmak 2**	**7.14**	**25**	⇓P	**Pn**	**16 09 26.3**	**+1.1**
	comp=E,150nm,0.6s						
TKM2				⇑S	**Sn**	**16 10 45.1**	**+0.2**
	comp=E,63nm,0.7s						
TKM2	**Tokmak 2**	**7.14**	**25**	*e*PN	**Pn**	**16 09 26.1**	**+0.8**
TKM2	**Tokmak 2**	**7.14**	**25**	*e*Pn	**Pn**	**16 09 26.1**	**+0.8**
SMLA	**Simla**	**7.18**	**137**	*e*P	**Pn**	**16 09 25.1**	**-0.5**
SMLA				*e*S	**Sn**	**16 10 41.2**	**-4.3**
SMLA				AML	AML	16 10 44.6	
	comp=N,2μm,0.6s						
SMLA				AML	AML	16 10 46.3	
	comp=E,2μm,0.8s						
KNDC	**Almaty**	**7.92**	**31**	P	**Pn**	**16 09 38.0**	**+2.4**
KNDC				S	**Sn**	**16 11 04.4**	**+0.9**
AAA	**Alma-Ata**	**7.95**	**30**	*i* PN	**Pn**	**16 09 37.6**	**+1.5**
AAA				*i* S	**Sn**	**16 11 06.9**	**+2.5**
AAA				pmax	pmax		
	comp=Z,400nm,0.5s						
AAA				smax	smax		
	comp=E,300nm,1.2s						
AAA				MLR	MLR		
	comp=Z,700nm,3.0s						
DDI	**Dehra Dun**	**8.28**	**136**	*e*P	**Pn**	**16 09 40.0**	**-0.7**
DDI				*e*P	**Pn**	**16 09 40.3**	**-0.4**
DDI				*ex*	x	16 11 06.6	
DDI				AML	AML	16 11 11.9	
	comp=N,2μm,0.4s						
DDI				AML	AML	16 11 13.3	
	comp=E,2μm,0.6s						
IMYA	**Miami**	**9.15**	**272**	*e*P	Pn	16 09 49.0	-3.6
NDI	**New Delhi**	**9.20**	**147**	*ex*	**Pn**	**16 09 50.0**	**-3.2**
NDI				*e*S	Sn	16 11 28.0	-6.9
ISRO	**Mashad**	**9.66**	**272**	*e*P	Pn	16 09 54.7	-4.9
IMOG	**Moghan**	**9.79**	**271**	*e*P	Pn	16 09 57.1	-4.3
IPAY	**Payeh**	**10.04**	**273**	*e*P	Pn	16 10 01.3	-3.4
LGTI	**Lohaghat**	**10.20**	**131**	*ex*	Pn	16 10 10.0	+3.2
LGTI				*ex*	**Sn**	**16 11 59.0**	**-0.3**
IAKL	**Akhelmad**	**10.22**	**274**	*e*P	Pn	16 10 03.0	-4.2
IDAH	**Dahanechah**	**10.26**	**252**	*e*P	**Pn**	**16 10 06.4**	**-1.5**
IEMG	**Emamgholi**	**10.29**	**279**	*e*P	Pn	16 10 02.8	-5.4
ABKT	**Ailbek**	**10.73**	**282**	Pn	Pn	16 10 08.5	-5.4
	comp=E,572nm,0.4s,SNR=19						
ISFR	**Sfrayin**	**10.81**	**277**	*e*P	Pn	16 10 10.4	-4.8
ISHV	**Shirvan**	**11.04**	**279**	*e*P	Pn	16 10 13.2	-5.1
IKOO	**Kooshah**	**11.06**	**252**	*e*P	**Pn**	**16 10 17.6**	**-1.1**
PYUN	**Piuthan**	**12.86**	**127**	*e*P	Pn	16 10 39.0	-3.7
	comp=E,81nm,0.4s						
MK01	**Makanchi Array**	**13.05**	**35**	*e*Pn	**Pn**	**16 10 43.3**	**-1.6**
MK02	**Makanchi Array**	**13.05**	**35**	⇑P	**Pn**	**16 10 43.6**	**-1.3**
	comp=E,14nm,0.6s						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**Pn**	**16 10 43.9**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**Pn**	**16 10 43.9**	**-1.1**
MKAR	**Makanchi Array**	**13.06**	**35**	P	**Pn**	**16 10 43.9**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=221,slow=13,SNR=103						
DANN	**Dangsing**	**13.20**	**125**	*e*P	**Pn**	**16 10 44.0**	**-3.2**
	comp=Z,82nm,0.3s						
KOLN	**Koldanda**	**13.48**	**127**	*e*P	Pn	16 10 47.0	-3.8
	comp=Z,95nm,0.5s						
KOLN				*e*S	Sn	16 13 08.0	-11
GKN	**Gorkha**	**14.01**	**124**	*e*P	**Pn**	**16 10 54.6**	**-3.0**
	comp=Z,475nm,0.6s						
GKN				*e*S	Sn	16 13 19.0	-13
IBAF	**Bafgh**	**14.06**	**254**	*e*P	**Pn**	**16 10 59.6**	**+1.4**
IGLO	**Ghaloghah**	**14.18**	**275**	*e*P	**Pn**	**16 10 57.8**	**-2.1**
BHPL	**Bhopal**	**14.21**	**157**	*e*P	**Pn**	**16 10 59.0**	**-1.1**
BHPL				*ex*	x	16 13 25.4	
BHPL				AML	AML	16 14 43.5	
	comp=N,50nm,0.7s						
BHPL				AML	AML	16 14 46.2	
	comp=E,88nm,0.5s						
IANJ	**Anjilo**	**14.24**	**271**	*e*P	**Pn**	**16 10 59.4**	**-1.3**
WMQ	**Urumqi**	**14.38**	**55**	P	**Pn**	**16 11 01.9**	**-0.4**
WMQ				sP		16 11 32.9	
WMQ				S	**Sn**	**16 13 38.3**	**-2.4**
WMQ				PcP	**PcP**	**16 16 11.3**	**-0.1**
WMQ				pmax	pmax		
	comp=E,26nm,0.7s						
WMQ				pmax	pmax		
	comp=E,28nm,10.8s						
DMN	**Daman**	**14.58**	**124**	*e*P	Pn	16 11 01.8	-3.3
	comp=E,174nm,0.6s						
KKN	**Kakani**	**14.58**	**123**	*e*P	Pn	16 11 01.6	-3.4
	comp=E,152nm,0.6s						
PKIN	**Phulchoki**	**14.79**	**123**	*e*P	Pn	16 11 04.2	-3.6
	comp=E,136nm,0.5s						
PKI	**Pulchoki**	**14.81**	**123**	*e*P	Pn	16 11 04.6	-3.5
	comp=E,178nm,0.6s						
GUN	**Gumba**	**14.91**	**121**	*e*P	**Pn**	**16 11 06.5**	**-2.9**
	comp=E,251nm,0.8s						
KURBB	**Kurchatov Arra**	**14.99**	**18**	P	Pn	16 11 06.0	-3.9
	comp=E,0.7nm,0.3s,baz=214,slow=12,SNR=54						
ILAS	**Lasjerd**	**15.03**	**271**	*e*P	**Pn**	**16 11 07.8**	**-2.9**
KURK	**Kurchatov**	**15.10**	**18**	⇓P	**Pn**	**16 11 06.4**	**-4.8**
	comp=E,14nm,0.8s						
KURK	**Kurchatov**	**15.10**	**18**	*e*P	**Pn**	**16 11 08.3**	**-2.9**
KURK	**Kurchatov**	**15.10**	**18**	*e*Pn	**Pn**	**16 11 07.3**	**-3.9**
KURK				*e*PcP	**PcP**	**16 16 12.0**	**-0.1**
IFIR	**Firoozkooh**	**15.15**	**272**	*e*P	**Pn**	**16 11 09.9**	**-2.4**
AB31	**Akbulak array**	**15.24**	**330**	⇑P	**Pn**	**16 11 09.0**	**-4.1**
	comp=E,12nm,0.4s,baz=143,slow=12,SNR=996						
AB31				⇓S	Sn	16 13 45.9	-15
	comp=E,14nm,0.5s,baz=150,slow=23,SNR=16						
ABKAR	**Akbulak array**	**15.24**	**330**	*e*Pn	**Pn**	**16 11 09.3**	**-3.8**
ABKAR				*e*Sn	Sn	16 13 45.2	-16
JIRN	**Jiri**	**15.28**	**121**	*e*P	**Pn**	**16 11 10.5**	**-3.6**
	comp=E,138nm,0.4s						
ISAD	**Sadrabad**	**15.40**	**258**	*e*P	**P**	**16 11 17.8**	**-0.2**
IPRN	**Peran**	**15.40**	**275**	*e*P	**Pn**	**16 11 14.1**	**-1.2**
IDMV	**Damavand**	**15.74**	**272**	*e*P	**P**	**16 11 22.0**	**+0.3**
RAMN	**Ramite**	**16.02**	**122**	*e*P	**Pn**	**16 11 20.2**	**-3.0**
	comp=E,138nm,0.5s						
IVRN	**Varamin**	**16.09**	**270**	*e*P	**Pn**	**16 11 23.2**	**-0.7**
BVAR	**Borovoye Array**	**16.52**	**358**	P	**Pn**	**16 11 26.6**	**-2.4**
BVAR				S	Sn	16 14 23.9	-8.1
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BVAR				smax	smax		
	comp=N,2.0nm,0.3s						
BVAR	**Borovoye Array**	**16.52**	**358**	P	**Pn**	**16 11 26.6**	**-2.4**
BVAR				S	Sn	16 14 23.9	-8.1
BVAR	**Borovoye Array**	**16.52**	**358**	P	**Pn**	**16 11 26.6**	**-2.4**
	comp=N,5.4nm,0.3s,baz=170,slow=12,SNR=136						
BVAR				S	Sn	16 14 23.9	-8.1
	comp=N,1.8nm,0.3s,baz=163,slow=25,SNR=5.4						
TAPN	**Taplejung**	**16.53**	**119**	*e*P	**Pn**	**16 11 26.3**	**-3.4**
	comp=N,109nm,0.5s						
BRVK	**Borovoye**	**16.56**	**358**	⇑P	**Pn**	**16 11 26.8**	**-2.6**
	comp=N,84nm,0.7s						
BRVK	**Borovoye**	**16.56**	**358**	*d* iP	**Pn**	**16 11 27.0**	**-2.4**
BRVK	**Borovoye**	**16.56**	**358**	*e*Pn	**Pn**	**16 11 26.5**	**-3.0**
	comp=N,128nm,1.4s						
IR3	**Iran Long-Peri**	**16.57**	**272**	*e*P	**Pn**	**16 11 29.8**	**-0.1**
ODAN	**Odare**	**16.61**	**121**	*e*P	**Pn**	**16 11 27.3**	**-3.3**
	comp=N,104nm,0.5s						
BANOM	**Banah**	**16.70**	**235**	⇑P	**Pn**	**16 11 30.8**	**-0.7**
IPAR	**Pars**	**16.78**	**252**	*e*P	**Pn**	**16 11 30.4**	**-2.2**
AKTO	**Aktyubinsk**	**16.95**	**329**	⇓P	**Pn**	**16 11 31.6**	**-2.7**
	comp=N,108nm,0.7s						
AKTO				⇓S	Sn	16 14 28.2	-14
	comp=N,25nm,0.5s						
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**Pn**	**16 11 32.8**	**-1.5**
AKTO				S	Sn	16 14 28.3	-14
AKTO				pmax	pmax		
	comp=Z,17nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**Pn**	**16 11 32.8**	**-1.5**
AKTO				S	Sn	16 14 28.3	-14
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**Pn**	**16 11 32.8**	**-1.5**
	comp=N,17nm,0.3s,baz=141,slow=10,SNR=302						
AKTO				S	Sn	16 14 28.3	-14
	comp=N,1.4nm,0.3s,baz=51,slow=23,SNR=5.5						
ISRV	**Sarvestan**	**16.95**	**250**	*e*P	**Pn**	**16 11 33.3**	**-1.5**
IGZV	**Ghazvin**	**17.09**	**276**	*e*P	**Pn**	**16 11 34.4**	**-2.0**
IRAZ	**Razeghan**	**17.46**	**273**	*e*P	**Pn**	**16 11 42.7**	**+1.8**
HATD	**Hatta, Dubai**	**17.57**	**233**	⇓P	**Pn**	**16 11 44.8**	**+2.7**
ASHO	**Ashiyiah**	**17.72**	**233**	⇑P	**Pn**	**16 11 44.9**	**+1.0**
SMDO	**Samad**	**17.73**	**225**	⇓P	**Pn**	**16 11 44.7**	**+0.6**
IKAZ	**Kazeroun**	**17.73**	**253**	*e*P	**P**	**16 11 44.1**	**+0.2**
LSA	**Lhasa**	**17.83**	**107**	*e*P	**P**	**16 11 45.2**	**+0.1**
LSA				*e*		16 15 02.8	
LSA				pmax	pmax		
	comp=Z,23nm,0.7s						
LSA	**Lhasa**	**17.83**	**107**	*e*P	**P**	**16 11 45.2**	**+0.1**
	comp=Z,23nm,0.7s						
LSA				*e*Sn	**Sn**	**16 15 02.8**	**-1.8**
FAQ	**Al Faqa, Dubai**	**17.97**	**234**	⇑P	**Pn**	**16 11 47.4**	**+0.5**
POO	**Poona**	**18.05**	**173**	*e*P	**Pn**	**16 11 49.0**	**+1.1**
POO				*ex*	x	16 15 14.0	
ASUD	**Al Ashush, Dub**	**18.23**	**234**	⇓*i* P	**Pn**	**16 11 50.7**	**+0.7**
	SNR=10						
JMDO	**Jabal Madar**	**18.25**	**223**	⇑P	**Pn**	**16 11 51.7**	**+1.5**
ARQ	**Araqi**	**18.41**	**229**	⇑P	**Pn**	**16 11 53.0**	**+0.8**
ISRB	**Sarab**	**19.00**	**281**	*e*P	**Pn**	**16 11 58.9**	**-0.4**
IHRS	**Heris**	**19.46**	**283**	*e*P	**P**	**16 12 02.7**	**+0.1**
IBST	**Bostanabad**	**19.62**	**281**	*e*P	**P**	**16 12 04.4**	**+0.1**
ZAA0	**Zalesovo Array**	**19.75**	**24**	*e*P	**P**	**16 12 05.2**	**-0.1**
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**16 12 05.3**	**0.0**
ZALV				S	**Sn**	**16 15 49.0**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,13nm,0.3s						
ZALV				smax	smax		
	comp=N,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**16 12 05.2**	**0.0**
ZALV				S	**Sn**	**16 15 49.0**	**-0.4**
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**16 12 05.2**	**0.0**
	comp=N,13nm,0.3s,baz=225,slow=10,SNR=262						
ZALV				S	**Sn**	**16 15 49.0**	**-0.4**
	comp=N,1.3nm,0.3s,baz=205,slow=16,SNR=4.9						
ZALV				LR	LR	16 20 23.4	
	comp=N,60nm,19.3s,baz=232,slow=38						
NVS	**Novosibirsk**	**20.03**	**20**	⇓*i* P	**P**	**16 12 07.2**	**-1.1**
NVS				*e*S	**S**	**16 15 45.8**	**-2.2**
NVS				pmax	pmax		
	comp=N,53nm,1.0s						
NVS				smax	smax		
	comp=E,27nm,1.4s						
HYB	**Hyderabad**	**20.04**	**160**	*i* P	**P**	**16 12 09.0**	**+0.2**
HYB				*e*S	**S**	**16 15 44.0**	**-4.8**
IVIS	**Veis**	**20.11**	**272**	*e*P	**P**	**16 12 10.2**	**+0.6**
ITBZ	**Tabriz**	**20.17**	**282**	*e*P	Pn	16 12 11.6	-1.4
IGHG	**Ghaleghazi**	**20.39**	**271**	*e*P	Pn	16 12 14.4	-1.2
IDHR	**Dehrash**	**20.45**	**272**	*e*P	**P**	**16 12 14.6**	**+1.3**
IMRD	**Marand**	**20.50**	**284**	*e*P	**P**	**16 12 15.0**	**+1.3**
SHL	**Shillong**	**20.59**	**116**	*e*P	Pn	16 12 16.5	-1.4
SHL				*ex*	x	16 15 48.5	
GNI	**Garni**	**21.24**	**288**	*e*P	**P**	**16 12 22.1**	**+0.5**
	comp=E,81nm,0.6s						
GNI	**Garni**	**21.24**	**288**	P	**P**	**16 12 24.3**	**+2.7**
	comp=E,73nm,0.6s,baz=30,slow=1.7,SNR=55						
GNI	**Garni**	**21.24**	**288**	⇓*i* P	**P**	**16 12 23.8**	**+2.1**
	SNR=20						
VIS	**Vishakhapatnam**	**21.47**	**148**	*i* P	**P**	**16 12 25.5**	**+1.5**
VIS				*i* x	x	16 16 06.9	
SVE	**Sverdlovsk**	**21.57**	**344**	*c i*P	**P**	**16 12 24.9**	**+0.1**
SVE				pmax	pmax		
	comp=E,112nm,0.7s						
ARU	**Arti**	**21.73**	**340**	*d* iP	**P**	**16 12 26.2**	**-0.3**
ARU						16 12 49.5	
ARU				S	**S**	**16 16 20.6**	**-0.6**
ARU				SS	**SnSn**	**16 16 57.1**	**+2.6**
ARU	**Arti**	**21.73**	**340**	*e*P	**P**	**16 12 26.2**	**-0.3**
	comp=E,77nm,0.9s						
ZEI	**Tsey**	**22.06**	**295**	*e*P	**P**	**16 12 29.8**	**-0.6**
ZEI				pmax	pmax		
	comp=E,42nm,1.2s						
GTA	**Gaotai**	**22.51**	**74**	⇑P	**P**	**16 12 38.8**	**+3.8**
GTA				pP	pP	16 13 02.1	+8.1
GTA				S	**S**	**16 16 38.3**	**+3.1**
GTA				pmax	pmax		
	comp=Z,69nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA				LR	LR		
	comp=Z,150nm,13.3s						
GTA				LR	LR		
	comp=Z,97nm,13.5s						
GTA				LR	LR		
	comp=Z,61nm,13.5s						
KBZ	**Khabaz**	**22.92**	**297**	P	**P**	**16 12 38.6**	**-0.3**
KBZ				S	**S**	**16 16 45.9**	**+4.6**
KBZ				pmax	pmax		
	comp=Z,25nm,0.9s						
KBZ				smax	smax		
	comp=N,5.0nm,1.0s						
KBZ				MLR	MLR		
	comp=Z,76nm,18.5s						
KBZ	**Khabaz**	**22.92**	**297**	P	**P**	**16 12 38.6**	**-0.3**
KBZ				S	**S**	**16 16 45.9**	**+4.6**
KBZ	**Khabaz**	**22.92**	**297**	P	**P**	**16 12 38.6**	**-0.3**
	comp=Z,25nm,0.8s,baz=144,slow=7.0,SNR=28						
KBZ				S	**S**	**16 16 45.9**	**+4.6**
	comp=Z,4.9nm,1.0s,baz=277,slow=17,SNR=2.5						
KBZ				LR	LR	16 24 18.8	
	comp=Z,76nm,18.4s,baz=69,slow=43						
GOF	**Gofitskoye**	**23.05**	**301**	*e*P	**P**	**16 12 41.3**	**+1.1**
GOF				*e*S	**S**	**16 16 45.4**	**+2.0**
GOF				pmax	pmax		
	comp=Z,70nm,0.8s						
GOF				smax	smax		
	comp=E,50nm,1.3s						
KIV	**Kislovodsk**	**23.10**	**298**	⇑*i* P	**P**	**16 12 41.0**	**+0.1**
KIV				*e*		16 13 10.3	
KIV				*i*		16 16 27.1	
KIV				pmax	pmax		
	comp=Z,31nm,1.0s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
KIV	**Kislovodsk**	**23.10**	**298**	*e*P	**P**	**16 12 40.5**	**-0.4**
	comp=Z,34nm,0.6s						
KIV				*e*pP	**pP**	**16 12 59.8**	**-0.5**
KIV				*e*		16 16 53.4	
KIV	**Kislovodsk**	**23.10**	**298**	⇓*i* P	**P**	**16 12 40.7**	**-0.2**
	SNR=12						
RBK	**Rabkut**	**24.32**	**223**	⇓P	**P**	**16 12 52.1**	**0.0**
ABTO	**Aybut**	**24.95**	**225**	⇓P	**P**	**16 12 57.9**	**+0.1**
SOC	**Sochi**	**25.19**	**296**	*e*P	**P**	**16 13 00.0**	**+0.3**
SOC				*e**PP	**pP**	**16 13 20.7**	**-0.5**
SOC				*e*		16 13 43.8	
SOC				*e*S	**S**	**16 17 17.0**	**-0.8**
SOC				pmax	pmax		
	comp=Z,62nm,0.8s						
VRHR	**Novokhopersk**	**25.77**	**314**	*e*P	**P**	**16 13 04.7**	**-0.2**
VRHR				*e**PP	**pP**	**16 13 26.8**	**+0.5**
VRHR				*e*S	**S**	**16 17 31.2**	**+4.4**
VRHR				*e**SS	**sS**	**16 18 03.2**	**-1.1**
VRHR				pmax	pmax		
	comp=N,3.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.9s						
VRHR				smax	smax		
	comp=N,100nm,2.5s						
VRHR				smax	smax		
	comp=E,60nm,2.5s						
VRHR				smax	smax		
	comp=Z,50nm,2.4s						
MOY	**Mondy**	**25.83**	**45**	*e*P	**P**	**16 13 07.8**	**+2.2**
RAYN	**Ar Rayn**	**25.84**	**247**	*e*P	**P**	**16 13 05.5**	**-0.4**
	comp=Z,17nm,0.6s						
ZAK	**Zakamensk**	**26.70**	**49**	*e*P	**P**	**16 13 15.0**	**+

CHTO ep P **pP** **16 14 02.8 -1.0**
CHTO es P **sP** **16 14 13.8 -1.1**
CMAR Chiang Mai Arr 30.14 119 P **P** **16 13 45.4 +1.2**
CMAR ScP **ScP** **16 20 15.6 -1.2**
CMAR Chiang Mai Arr 30.14 119 P **P** **16 13 45.4 +1.2**
comp=Z,5.5nm,1.0s,baz=304,slow=8.6,SNR=37
CMAR ScP **ScP** **16 20 15.6 -1.2**
comp=Z,0.5nm,0.7s,baz=303,slow=4.5,SNR=4.5
CMAR LR LR 16 28 54.5
comp=Z,69nm,18.0s,baz=341,slow=42
OBN Obninsk 30.16 319 P **P** **16 13 44.1 +0.2**
comp=Z,844nm,0.5s,SNR=6.7
OBN Obninsk 30.16 319 ⇑iP **P** **16 13 44.5 +0.6**
OBN *i* 16 14 49.1
OBN *e* 16 16 42.5
OBN pmax pmax
comp=Z,38nm,0.9s
OBN Obninsk 30.16 319 *e*P **P** **16 13 43.4 -0.5**
comp=Z,50nm,0.5s
OBN epP **pP** **16 14 05.0 -0.7**
CM01 Chiang Mai Arr 30.18 119 *e*P **P** **16 13 45.1 +0.6**
BR231 Keskin MP Arra 30.43 288 *e*P P 16 13 43.2 -3.4
XAN Xi'an 30.56 83 P **P** **16 13 50.8 +3.0**
LAMP Lampang 30.59 118 P **P** **16 13 51.1 +3.0**
comp=Z,4.0nm,1.0s
HHC Hu-ho-hao-te 31.41 70 *e*P **P** **16 13 52.4 -2.9**
HHC pP **pP** **16 14 15.8 -1.3**
HHC sP **sP** **16 14 28.4 +0.1**
HHC PP **PnPn** **16 15 01.9 +0.1**
HHC S S 16 18 48.0 -7.9
HHC sS **sS** **16 19 32.1 -1.6**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,190nm,5.2s
GYA Guiyang 31.50 98 P **P** **16 13 57.9 +1.6**
GYA pP **pP** **16 14 21.8 +3.8**
GYA sP **sP** **16 14 33.5 +4.3**
GYA PP **PnPn** **16 15 05.0 +1.8**
GYA S **S** **16 18 56.4 -1.2**
GYA sS **sS** **16 19 39.3 +3.9**
GYA ScP **ScP** **16 20 19.8 -1.6**
GYA PcS **PcS** **16 20 30.4 -1.4**
GYA ScS **ScS** **16 24 16.8 -2.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
KLMR Klimovskoe 31.64 330 *d*iP **P** **16 13 57.2 +0.3**
KLMR pmax pmax
comp=Z,73nm,1.1s
ENH Enshi 32.21 90 *e*P **P** **16 14 02.4 +0.1**
comp=Z,7.6nm,0.8s
ENH ep P **pP** **16 14 23.1 -1.0**
ENH es P **sP** **16 14 34.1 -1.2**
KHLT Khaolaem Dam 32.46 125 P **P** **16 14 06.9 +2.4**
comp=Z,7.3nm,1.2s
PBKT Sadao Pong 32.84 119 P x 16 14 10.3
comp=Z,17nm,1.4s
PBKT Sadao Pong 32.84 119 P **P** **16 14 10.2 +2.4**
comp=Z,17nm,1.4s
SRDT SRDT 33.13 125 P **P** **16 14 12.7 +2.3**
comp=Z,71nm,1.0s,comp=Z,3μm
KIEV Kiev 33.23 309 *d*iP **P** **16 14 11.0 +0.1**
KIEV Kiev 33.23 309 *e*P **P** **16 14 10.6 -0.3**
comp=Z,19nm,0.6s
CFR Carcaliu 33.55 299 ⇑iP **P** **16 14 15.2 +1.4**
GRER 34.37 299 ⇑iP P 16 14 16.3 -4.6
VRI Vrincioaia 34.53 300 ⇓iP **P** **16 14 24.4 +2.1**
PLOR Plostina 34.59 300 ⇑eP **P** **16 14 24.8 +2.0**
TESR Tescani 34.59 301 ⇓iP **P** **16 14 24.2 +1.4**
MICGM Minsk 34.74 315 ⇑eP **P** **16 14 25.0 +1.0**
MNK Minsk 34.77 315 ⇑eP **P** **16 14 25.0 +0.8**
MNK pmax pmax
comp=Z,130nm,1.0s
JMB Yambol 34.81 294 ⇓*i*P P 16 14 28.9 +4.2
BJI Beijing 35.00 70 P **P** **16 14 26.8 +0.4**
BJI pmax pmax
comp=Z,6.0nm,0.6s
MLR Muntele Rosu 35.09 299 ⇓iP **P** **16 14 30.1 +2.9**
NACGM Naroch 35.46 316 *e* **P** **16 14 30.0 -0.1**
IDID Didziasalis 35.57 316 *e*P **P** **16 14 31.5 +0.5**
IDID AMB AMB 16 14 33.2
comp=Z,19nm,0.7s
BURAR Bucovina Array 35.58 303 ⇓iP **P** **16 14 33.0 +1.6**
BUR04 Bucovina Ar. S 35.59 303 *e*P **P** **16 14 31.4 0.0**
BUR08 Bucovina Ar. S 35.59 303 *e*P **P** **16 14 31.4 -0.1**
BUR08 epP **pP** **16 14 53.1 -0.4**
VOIR 35.72 299 ⇓iP **P** **16 14 34.2 +1.6**
IIGN Ignalina 35.87 316 *e*P **P** **16 14 34.1 +0.6**
IIGN AMB AMB 16 14 35.4
comp=Z,23nm,0.6s
ISAL Salakas 35.97 317 *e*P **P** **16 14 34.9 +0.5**
ISAL AMB AMB 16 14 36.7
comp=Z,13nm,0.7s
ARR Arges 36.02 299 ⇓iP **P** **16 14 37.0 +1.9**
JOF Joensuu 36.03 330 *e*P **P** **16 14 36.1 +1.2**
JOF Joensuu 36.03 330 *e*p **P** **16 14 36.1 +1.2**
comp=Z,82nm,0.3s
VSU Vasula 36.40 321 *d*iP **P** **16 14 38.6 +0.6**
LVV L'vov 36.44 307 *e*P **P** **16 14 38.4 -0.2**
LVV *e* 16 15 05.0
LVV *e* 16 16 02.6
LOT Lotru 36.62 299 ⇓iP **P** **16 14 42.2 +1.9**
SURT Suratani 37.00 131 P **P** **16 14 45.8 +2.2**
comp=Z,24nm,0.7s,comp=Z,240nm
MMB Musomiste 37.03 293 ⇑iP **P** **16 14 45.4 +1.7**
DEV Deva 37.20 300 ⇓iP **P** **16 14 45.7 +0.6**
VTS Vitosha 37.28 295 ⇓iP **P** **16 14 47.6 +1.6**
KWP Kalwaria Pacla 37.29 306 *e*P **P** **16 14 47.7 +1.9**
KWP Kalwaria Pacla 37.29 306 ⇑iP **P** **16 14 47.7 +1.7**
KWP Kalwaria Pacla 37.29 306 ⇑iP **P** **16 14 47.5 +1.7**
DRGR 37.30 302 ⇓iP **P** **16 14 48.1 +2.1**
GZR Gura Zlata 37.32 299 ⇓iP **P** **16 14 47.4 +1.2**
SUW Suwalki 37.37 313 *e*P **P** **16 14 46.6 +0.3**
SUW Suwalki 37.37 313 *e*P **P** **16 14 46.6 +0.3**
SUW Suwalki 37.37 313 *e*P **P** **16 14 46.3 0.0**
comp=Z,28nm,0.8s
TRPA Tarpa 37.39 304 ⇓iP **P** **16 14 48.5 +1.9**
UZH Uzhgorod 37.55 305 *e*P **P** **16 14 49.7 +1.8**
UZH *e* 16 15 11.5
UZH *e* 16 15 21.9
UZH *i* 16 16 12.8
KOLS Kolonicke sedl 37.56 305 *e*P **P** **16 14 49.8 +1.7**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 37.56 305 *e*P **P** **16 14 49.8 +1.7**
KOLS *e*PP **PP** **16 16 16.0 +0.5**
LVZ Lovozero 37.58 338 P **P** **16 14 48.8 +0.8**
comp=Z,301nm,0.7s,SNR=5.3
LVZ Lovozero 37.58 338 *e*P **P** **16 14 47.4 -0.6**
LVZ pmax pmax
comp=Z,35nm,0.8s
LVZ Lovozero 37.58 338 *e*P **P** **16 14 47.4 -0.6**
comp=Z,35nm,0.8s
FIA1 FINESS Array S 37.67 326 *e*P **P** **16 14 49.1 +0.3**
FINES FINESS Array B 37.67 326 P **P** **16 14 49.7 +1.0**
FINES FINESS Array B 37.67 326 P **P** **16 14 49.7 +1.0**
comp=Z,34nm,0.4s,baz=121,slow=9.5,SNR=681
FINES LR LR 16 31 32.2
comp=Z,115nm,18.1s,baz=222,slow=38
APA Apatity 37.76 337 ⇑iP **P** **16 14 50.4 +1.0**
APA *i* SS SS 16 23 20.0 -1.5
APA MLR MLR
comp=Z,500nm,10.0s
KAF Kangasniemi 37.81 327 *e*P **P** **16 14 50.9 +1.0**
KAF pmax pmax
comp=Z,13nm,0.3s
KAF Kangasniemi 37.81 327 *e*p **P** **16 14 50.9 +1.0**
comp=Z,13nm,0.3s
CRVS Cervenica-Dubn 38.10 305 *e*P **P** **16 14 53.8 +1.2**
CRVS *e* 16 16 21.2
CRVS Cervenica-Dubn 38.10 305 *e*P **P** **16 14 53.8 +1.2**
CRVS *e*PP **PP** **16 16 21.2 -0.2**
BZS Buzias 38.12 300 ⇓iP **P** **16 14 54.8 +2.0**
STHS Stebnicka Huta 38.24 306 *e*P **P** **16 14 55.0 +1.2**
STHS pmax pmax
comp=Z,6.0nm,0.6s
STHS Stebnicka Huta 38.24 306 *e*P **P** **16 14 55.0 +1.2**
KECS Kecovo 38.75 304 *e*P **P** **16 14 59.2 +1.1**
KECS pmax pmax
comp=Z,5.0nm,0.6s
KECS Kecovo 38.75 304 *e*P **P** **16 14 59.2 +1.1**
KECS *e*PP **PnPn** **16 16 32.6 +1.0**
NIE Niedzica 38.85 306 *e*P **P** **16 15 01.1 +2.2**
NIE Niedzica 38.85 306 *e*P **P** **16 15 01.1 +2.2**
NJ2 Nanjing 39.11 82 *e*P **P** **16 15 00.4 -0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PSZ Piszkesteto 39.17 303 *e*P **P** **16 15 00.8 -0.8**
PSZ Piszkesteto 39.17 303 ⇓iP **P** **16 15 03.5 +1.9**
PSZ Piszkesteto 39.17 303 *e*P **P** **16 15 00.8 -0.8**
PKSM Moragy 40.14 301 ⇓iP **P** **16 15 11.0 +1.4**
MORC Moravsky Berou 40.65 306 *e*P **P** **16 15 14.0 +0.2**
MORC pmax pmax
comp=Z,12nm,0.7s
MORC Moravsky Berou 40.65 306 ⇓iP **P** **16 15 15.0 +1.2**
MORC Moravsky Berou 40.65 306 *e*P **P** **16 15 14.0 +0.2**
comp=Z,12nm,0.7s
KCSI Kotacane, Aceh 40.81 137 P P 16 15 26.3 +11
GKP Gorka Klasztor 40.83 312 *e*P **P** **16 15 16.1 +0.9**
GKP Gorka Klasztor 40.83 312 *e*P **P** **16 15 16.1 +0.9**
KEV Kevo 40.92 338 *e*P **P** **16 15 13.2 -2.5**
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 40.92 338 *e*p **P** **16 15 13.2 -2.5**
comp=Z,2.4nm,0.3s
KRLC Kraliky 41.13 307 *e*P **P** **16 15 19.1 +1.4**
KRLC Kraliky 41.13 307 *e*P **P** **16 15 19.1 +1.4**
ARA0 ARCESS Array S 41.27 337 *e*P **P** **16 15 18.2 -0.3**
ARCES ARCESS Array B 41.27 337 P **P** **16 15 19.7 +1.1**
ARCES ARCESS Array B 41.27 337 P **P** **16 15 19.7 +1.1**
comp=Z,26nm,0.7s,baz=111,slow=8.5,SNR=85
ARCES LR LR 16 33 21.0
comp=Z,238nm,18.4s,baz=148,slow=37
ARE0 ARCESS Array S 41.27 337 *e*P **P** **16 15 17.8 -0.7**
CN2 Changchun 41.27 63 *e*P **P** **16 15 18.4 -0.5**
CN2 epP **pP** **16 15 38.5 -2.9**
CN2 eS S **16 21 23.4 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
VRAC Vranov 41.28 306 ⇓iP **P** **16 15 21.2 +2.2**
DPC Dobruska-Polom 41.41 307 *e*P **P** **16 15 21.8 +1.7**
DPC *e* 16 15 38.8
DPC Dobruska-Polom 41.41 307 *e*P **P** **16 15 21.8 +1.7**
DPC epP **pP** **16 15 38.8 -3.8**
DPC Dobruska-Polom 41.41 307 *e*P **P** **16 15 19.2 -0.8**
comp=Z,85nm,0.8s
KSP Ksiaz 41.41 308 *e*P **P** **16 15 20.7 +0.7**
KSP Ksiaz 41.41 308 *e*P **P** **16 15 20.7 +0.7**
UPC Upice 41.60 308 *e*P **P** **16 15 23.2 +1.6**
UPC Upice 41.60 308 *e*P **P** **16 15 23.2 +1.6**
KTK1 Kautokeino 41.74 336 *e*P **P** **16 15 23.4 +1.0**
CONA Conrad Observa 41.87 304 ⇑iP **P** **16 15 25.3 +1.4**
comp=Z,24nm,0.9s,SNR=12
IPM Ipoh 41.88 133 P x 16 15 26.0
comp=Z,28nm,1.1s,comp=Z,477nm
IPM Ipoh 41.88 133 *e*P **P** **16 15 22.4 -1.9**
comp=Z,34nm,1.2s
IPM epP **pP** **16 15 45.0 -1.9**
IPM es P **sP** **16 15 55.7 -2.1**
TREC Trest 42.01 306 *e*P **P** **16 15 26.6 +1.7**
TREC Trest 42.01 306 *e*P **P** **16 15 26.6 +1.7**
PSI Prapat 42.04 137 P x 16 15 26.3
comp=Z,14nm,0.9s
ARSA Arzberg 42.17 303 ⇑iP **P** **16 15 27.3 +1.1**
comp=Z,8.7nm,1.1s
BSD Bornholm Skovb 42.26 315 *i* P **P** **16 15 26.9 +0.1**
BSD pmax pmax
comp=Z,32nm,0.8s
BSD Bornholm Skovb 42.26 315 *i* P **P** **16 15 26.9 +0.1**
comp=Z,32nm,0.8s
PERS Pernice 42.52 302 *i* P **P** **16 15 30.6 +1.5**
SOKA Soboth 42.57 302 ⇑iP **P** **16 15 31.1 +1.6**
comp=Z,17nm,0.6s,SNR=7.2
PRU Pruhonice 42.57 307 *e*P **P** **16 15 31.1 +1.7**
PRU Pruhonice 42.57 307 *e*P **P** **16 15 31.1 +1.7**
BOJS Bojanci 42.58 300 *e*P **P** **16 15 30.6 +1.0**
VISS Visnje 42.82 301 *e*P **P** **16 15 33.2 +1.7**
BRG Berggiesshubel 42.90 308 ⇓iP **P** **16 15 33.7 +1.6**
comp=Z,18nm,0.8s
BRG Berggiesshubel 42.90 308 *e*P **P** **16 15 33.4 +1.3**
comp=Z,18nm,0.8s
OBKA Obir 42.92 302 ⇑*i*P **P** **16 15 34.3 +1.9**
comp=Z,16nm,1.1s
MOA Molln 42.95 304 ⇑iP **P** **16 15 33.7 +1.1**
comp=Z,18nm,0.9s,SNR=7.2
GEC2 GERESS Array S 43.22 305 *e*P **P** **16 15 32.8 -2.0**
GEC2 GERESS Array S 43.22 305 *e*P **P** **16 15 35.2 +0.4**
comp=Z,23nm,2.0s
GEC2 GERESS Array S 43.22 305 *e*P **P** **16 15 32.8 -2.0**
GERES GERESS Array B 43.22 305 P **P** **16 15 35.9 +1.1**
GERES PP PP 16 17 10.7 -6.1
GERES GERESS Array B 43.22 305 P **P** **16 15 35.9 +1.1**
comp=Z,1.3nm,0.5s,baz=81,slow=7.2,SNR=23
GERES PP PP 16 17 10.7 -6.1
comp=Z,0.7nm,0.8s,baz=78,slow=9.1,SNR=2.7
GERES LR LR 16 35 33.1
comp=Z,58nm,18.3s,baz=98,slow=39
CUC Castrocucco 43.23 292 *e*P **P** **16 15 34.8 -0.2**
comp=Z,11nm,0.8s
KHC Kasperske Hory 43.27 306 *e*P **P** **16 15 36.7 +1.6**
KHC *e* 16 15 54.2
KHC Kasperske Hory 43.27 306 *e*P **P** **16 15 36.7 +1.6**
KHC epP **pP** **16 15 54.2 -3.6**
KHC Kasperske Hory 43.27 306 *e*P **P** **16 15 34.4 -0.8**
comp=Z,13nm,1.3s
KHC epP **pP** **16 15 57.0 -0.8**
JAVS Javornik 43.34 301 *i* P **P** **16 15 37.0 +1.1**
CLL Collm 43.46 309 ⇓iP **P** **16 15 37.7 +1.1**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 43.46 309 *e*P **P** **16 15 37.6 +1.0**
comp=Z,15nm,0.9s
CLL Collm 43.46 309 ⇓*i*P **P** **16 15 37.7 +1.1**
comp=Z,15nm,0.9s
CLL es P **sP** **16 16 10.0 -0.3**
CLL eP P **P** **16 17 19.0 -0.2**
CLL ePcP **PcP** **16 17 23.0 0.0**
COP Copenhagen 43.68 315 *e*P **P** **16 15 38.9 +0.6**
COP pmax pmax
comp=Z,35nm,0.8s
COP Copenhagen 43.68 315 *i* P **P** **16 15 38.9 +0.6**
comp=Z,35nm,0.8s
WET Wettzell 43.73 306 *e*P **P** **16 15 39.9 +1.1**
comp=Z,7.0nm,1.2s
YAK Yakutsk 43.74 35 *e*P **P** **16 15 37.7 -0.9**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK Yakutsk 43.74 35 *e*P **P** **16 15 37.3 -1.3**
comp=N,29nm,0.6s
TANN Tannenbergstha 43.87 308 *e*P **P** **16 15 41.4 +1.4**
comp=Z,55nm,2.2s
RJOB Jochberg 43.95 304 *e*P **P** **16 15 41.4 +0.8**
comp=Z,12nm,0.9s
MOR8 Moi Rana 43.98 331 ⇓iP **P** **16 15 40.8 +0.3**
MOR8 IAmb IAmb 16 15 41.7
comp=Z,127nm,0.6s
MNSI Mandailing Nat 44.07 137 P **P** **16 15 43.2 +1.4**
comp=Z,46nm,0.6s
MDJ Mudanjiang 44.07 61 P **P** **16 15 42.8 +1.2**
MDJ pP **pP** **16 16 05.8 +1.5**
MDJ sP **sP** **16 16 17.9 +2.6**
MDJ ScP **ScP** **16 21 07.8 -0.4**
MDJ S **S** **16 22 06.3 -0.5**
MDJ sS **sS** **16 22 49.9 +4.0**
MDJ pmax pmax
comp=Z,7.0nm,1.9s
MDJ pmax pmax
comp=Z,79nm,3.1s
MDJ LR LR
comp=Z,24nm,23.7s
MDJ LR LR
comp=Z,24nm,20.6s
MDJ LR LR
comp=Z,29nm,22.4s
ROTZ Rotzenmuhle 44.10 307 *e*P **P** **16 15 43.2 +1.5**
comp=Z,38nm,1.7s
STEI Steigen 44.12 333 *e*P **P** **16 15 43.0 +1.4**
KS01 Wonju Array Si 44.50 71 *e*P **P** **16 15 43.2 -1.9**
KSAR Wonju Array Be 44.50 71 P **P** **16 15 46.3 +1.2**
KSRS Korea Array 44.53 71 P **P** **16 15 46.3 +1.0**
comp=Z,2.9nm,0.7s,baz=274,slow=7.8,SNR=9.7
KONS Konsvik 44.57 331 *e*P **P** **16 15 46.2 +1.1**
STOK Stokkvaagen 44.58 331 *e*P **P** **16 15 46.5 +1.2**
NB2 NORSAR Subarra 44.58 323 P **P** **16 15 45.9 +0.4**
comp=Z,48nm,0.6s,baz=94,slow=7.9
NB2 NORSAR Subarra 44.58 323 P **P** **16 15 45.9 +0.4**
baz=94,slow=7.9
NOA NORSAR Array B 44.58 323 P **P** **16 15 45.4 -0.1**
NOA NORSAR Array B 44.58 323 P **P** **16 15 45.4 -0.1**
comp=Z,42nm,0.6s,baz=96,slow=7.8,SNR=210
NOA LR LR 16 35 29.4
comp=Z,41nm,20.2s,baz=110,slow=37
NSS Namsos 44.67 328 *e*P **P** **16 15 46.8 +0.7**
NAO01 NORSAR Array S 44.73 323 *e*P **P** **16 15 45.8 -0.7**
comp=Z,36nm,0.8s
GRF Grafenberg Arr 44.74 307 *e*P **P** **16 15 48.9 +2.0**
comp=Z,65nm,1.7s
GRFO Grafenberg 44.74 307 *e*P **P** **16 15 44.1 -2.8**
GRFO pmax pmax
comp=Z,69nm,1.7s
GRFO Grafenberg 44.74 307 *e*P **P** **16 15 44.1 -2.8**
comp=Z,69nm,1.7s
NBO02 NORSAR Array S 44.76 323 *e*P **P** **16 15 45.9 -0.9**
WTTA Wattenberg 44.79 303 ⇑iP **P** **16 15 47.9 +0.4**
comp=Z,15nm,0.7s,SNR=6.8
WTTA ⇑*i*P **P** **16 15 48.3 +0.8**
KLR Kul'dur 44.84 54 *e*P **P** **16 15 45.3 -2.3**
FUR Furstenfeldbru 44.90 305 *e*P **P** **16 15 49.7 +1.5**
comp=Z,26nm,1.1s
BSEG Bad Segeberg 44.95 313 *e*P **P** **16 15 49.7 +1.4**
comp=Z,24nm,0.8s
CLZ Clausthal 45.06 310 *e*P **P** **16 15 50.5 +1.1**
comp=Z,33nm,1.5s
MOTA Moosalm 45.14 304 ⇓iP **P** **16 15 50.3 +0.1**
comp=Z,14nm,0.9s,SNR=10
NRDL Niedersach Rie 45.17 311 *e*P **P** **16 15 51.5 +1.4**
comp=Z,22nm,1.0s
BKNI Bangkinang 45.26 136 epP pP 16 16 14.1 -0.1
KONO Kongsberg 45.30 321 *e*P **P** **16 15 50.7 -0.4**
KONO pmax pmax
comp=Z,7.0nm,0.7s
KONO Kongsberg 45.30 321 *e*P **P** **16 15 51.8 +0.7**
KONO Kongsberg 45.30 321 *e*P **P** **16 15 50.7 -0.4**
comp=Z,6.6nm,0.7s
UBBA Unterbreizbach 45.39 308 *e*P **P** **16 15 52.8 +1.0**
comp=Z,10.0nm,1.1s
FETA Feichten 45.44 303 *i* P **P** **16 15 52.9 +0.3**
comp=Z,9.6nm,0.5s,SNR=6.4
MUD Monsted U'grnd 45.51 316 *e*P **P** **16 15 55.8 +3.1**
MUD Monsted U'grnd 45.51 316 *i* P **P** **16 15 55.8 +3.1**
MUD *i* 16 16 09.7
PPI Padang Panjang 45.55 137 P **P** **16 15 55.2 +1.6**
comp=Z,29nm,0.9s
TIXI Tiksi 45.62 22 *e*P **P** **16 15 53.5 +0.1**
TIXI pmax pmax
comp=Z,22nm,0.8s
TIXI Tiksi 45.62 22 *e*P **P** **16 15 53.4 0.0**
comp=Z,27nm,0.8s
USRK Ussuriysk Arra 45.84 61 P **P** **16 15 56.0 +0.5**
comp=Z,1.5nm,0.6s,baz=270,slow=6.4,SNR=5.3
DAVA Damuels 45.97 304 *i* P **P** **16 15 57.5 +0.8**
comp=Z,34nm,0.5s,SNR=16
TNS Taunus Mts 46.45 308 *e*P **P** **16 16 00.8 +0.4**
comp=Z,9.0nm,0.9s
SNART Snartemo 46.53 319 *e*P **P** **16 16 01.8 +1.1**
IBBN Ibbenburen 46.62 311 *e*P **P** **16 16 03.1 +1.6**
comp=Z,25nm,0.9s
ODD1 Odda 46.81 321 *e*P **P** **16 16 04.5 +1.5**
BFO Black Forest 46.82 305 *e*P **P** **16 16 02.4 -0.8**
BFO e*PP **pP** **16 16 25.6 -0.6**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 46.82 305 *e*P **P** **16 16 03.5 +0.3**
comp=Z,13nm,1.2s
BFO Black Forest 46.82 305 *e*P **P** **16 16 02.4 -0.8**
comp=Z,7.3nm,0.9s
BFO ep P **pP** **16 16 25.6 -0.6**
BUG Bochum--Univer 47.03 310 *e*P **P** **16 16 06.1 +1.4**
comp=Z,146nm,2.2s
RUND Rundenannen 47.43 322 *e*P **P** **16 16 08.0 +0.2**
BER Bergen 47.45 322 *e*P **P** **16 16 09.0 +1.2**
CDF Champ du Feu 47.50 306 *e*P **P** **16 16 08.7 +0.1**
comp=Z,10.0nm,0.8s
CDF Champ du Feu 47.50 306 *e*P **P** **16 16 08.7 +0.1**
CDF pmax pmax
comp=Z,10.0nm,0.8s
CDF Champ du Feu 47.50 306 *e*P **P** **16 16 08.7 +0.1**
comp=Z,10.0nm,0.8s
PGF Pioggiola 47.59 297 *e*P **P** **16 16 09.5 +0.1**
comp=Z,19nm,0.7s
PGF Pioggiola 47.59 297 *e*P **P** **16 16 09.5 +0.1**
PGF pmax pmax
comp=Z,19nm,0.7s
PGF Pioggiola 47.59 297 *e*P **P** **16 16 09.5 +0.1**
comp=Z,19nm,0.7s
HINF Hinteralfeld 47.89 305 *e*P **P** **16 16 11.9 +0.4**
comp=Z,28nm,0.8s
HINF Hinteralfeld 47.89 305 *e*P **P** **16 16 11.9 +0.4**
HINF pmax pmax
comp=Z,28nm,0.8s
HINF Hinteralfeld 47.89 305 *e*P **P** **16 16 11.9 +0.4**
comp=Z,28nm,0.8s
MEM Membach 47.94 309 P **P** **16 16 12.3 +0.5**
comp=Z,6.5nm,1.0s
MEM Membach 47.94 309 *e*P **P** **16 16 10.4 -1.4**
MEM pmax pmax
comp=Z,13nm,0.9s
MEM Membach 47.94 309 *e*P **P** **16 16 10.4 -1.4**
comp=Z,13nm,0.9s
WLF Walferdange 48.00 307 P **P** **16 16 12.5 +0.2**
comp=Z,8.8nm,0.8s
HAU Haudompre 48.18 305 *e*P **P** **16 16 14.2 +0.4**
comp=Z,25nm,0.7s
HAU Haudompre 48.18 305 *e*P **P** **16 16 14.2 +0.4**
HAU pmax pmax
comp=Z,25nm,0.7s
HAU Haudompre 48.18 305 *e*P **P** **16 16 14.2 +0.4**
comp=Z,25nm,0.7s
SBF Sospel 48.36 300 *e*P **P** **16 16 16.0 +0.7**
comp=Z,20nm,0.7s
SBF Sospel 48.36 300 *e*P **P** **16 16 16.0 +0.7**
SBF pmax pmax
comp=Z,20nm,0.6s
SBF Sospel 48.36 300 *e*P **P** **16 16 16.0 +0.7**
comp=Z,20nm,0.6s
BCLA Clavier 48.41 309 P **P** **16 16 16.9 +1.4**
LPG La Plagne 48.45 302 *e*P **P** **16 16 16.8 +0.6**
comp=Z,18nm,0.6s
LPG La Plagne 48.45 302 *e*P **P** **16 16 16.8 +0.6**
LPG pmax pmax
comp=Z,18nm,0.6s
LPG La Plagne 48.45 302 *e*P **P** **16 16 16.8 +0.6**
comp=Z,18nm,0.6s
LPL La Plagne 48.46 302 *e*P **P** **16 16 16.9 +0.7**
comp=Z,14nm,0.4s
LPL La Plagne 48.46 302 *e*P **P** **16 16 16.9 +0.7**
LPL pmax pmax
comp=Z,14nm,0.4s
LPL La Plagne 48.46 302 *e*P **P** **16 16 16.9 +0.7**
comp=Z,14nm,0.4s
PAGF Fort de Pagny 48.48 306 *e*P **P** **16 16 17.3 +1.2**
comp=Z,14nm,0.8s
PAGF Fort de Pagny 48.48 306 *e*P **P** **16 16 17.3 +1.2**
comp=Z,14nm,0.8s
BNI Bardonecchia 48.60 301 *e*P **P** **16 16 16.3 -0.9**
BNI e*PP **pP** **16 16 38.9 -1.4**
BNI pmax pmax
comp=Z,18nm,1.3s
BNI Bardonecchia 48.60 301 *e*P **P** **16 16 16.3 -0.9**
comp=Z,18nm,1.3s
BNI ep P **pP** **16 16 38.9 -1.4**
MBDF Montbardon 48.62 301 *e*P **P** **16 16 17.4 +0.1**
comp=Z,21nm,0.5s
MBDF Montbardon 48.62 301 *e*P **P** **16 16 17.4 +0.1**
MBDF pmax pmax
comp=Z,21nm,0.5s
MBDF Montbardon 48.62 301 *e*P **P** **16 16 17.4 +0.1**
comp=Z,21nm,0.5s
CABF La Chapelle 48.65 303 *e*P **P** **16 16 18.0 +0.5**
comp=Z,25nm,0.5s
CABF La Chapelle 48.65 303 *e*P **P** **16 16 18.0 +0.5**
CABF pmax pmax
comp=Z,25nm,0.5s
CABF La Chapelle 48.65 303 *e*P **P** **16 16 18.0 +0.5**
comp=Z,25nm,0.5s
KBS Kingsbay 48.67 347 *e*P **P** **16 16 18.9 +1.8**

GIVF	Givet	48.77	308	*e*P		P	16 16 19.3	+1.1	
GIVF	Givet	48.77	308	*e*P		P	16 16 19.3	+1.1	
GIVF	Givet	48.77	308	*e*P		P	16 16 19.3	+1.1	
DOU	Dourbes	48.92	308	P		P	16 16 21.0	+1.6	
MEZF	Maizieres J'vi	48.93	306	*e*P		P	16 16 20.5	+1.0	
	comp=Z,38nm,0.7s								
MEZF	Maizieres J'vi	48.93	306	*e*P		P	16 16 20.5	+1.0	
	comp=Z,38nm,0.7s								
FRF	La Foret Royal	48.99	299	*e*P		P	16 16 20.3	+0.3	
	comp=Z,26nm,0.9s								
FRF	La Foret Royal	48.99	299	*e*P		P	16 16 20.3	+0.3	
FRF				pmax		pmax			
	comp=Z,26nm,0.9s								
FRF	La Foret Royal	48.99	299	*e*P		P	16 16 20.3	+0.3	
	comp=Z,26nm,0.9s								
SFTF	Sexfontaines	49.00	306	*e*P		P	16 16 20.7	+0.7	
	comp=Z,22nm,0.8s								
SFTF	Sexfontaines	49.00	306	*e*P		P	16 16 20.7	+0.7	
	comp=Z,22nm,0.8s								
SNF	Seneffe	49.04	309	P		P	16 16 21.9	+1.6	
KMBO	Kilima Mbogo	49.12	228	*e*P		P	16 16 21.7	+0.1	
	comp=Z,3.0nm,0.6s								
KMBO	Kilima Mbogo	49.12	228	P		P	16 16 23.8	+2.3	
	comp=Z,3.1nm,0.5s,baz=31,slow=11,SNR=10								
LMR	La Mourre	49.15	299	*e*P		P	16 16 21.3	+0.1	
LMR	La Mourre	49.15	299	*e*P		P	16 16 21.3	+0.1	
LMR	La Mourre	49.15	299	*e*P		P	16 16 21.3	+0.1	
BAIF	Baives	49.17	308	*e*P		P	16 16 22.4	+1.1	
	comp=Z,54nm,1.1s								
BAIF	Baives	49.17	308	*e*P		P	16 16 22.4	+1.1	
BAIF				pmax		pmax			
	comp=Z,54nm,1.1s								
BAIF	Baives	49.17	308	*e*P		P	16 16 22.4	+1.1	
	comp=Z,54nm,1.1s								
ORIF	Oris-en-Rattie	49.18	301	*e*P		P	16 16 21.3	-0.3	
	comp=Z,5.6nm,0.5s								
ORIF	Oris-en-Rattie	49.18	301	*e*P		P	16 16 21.3	-0.3	
ORIF				pmax		pmax			
	comp=Z,6.0nm,0.5s								
ORIF	Oris-en-Rattie	49.18	301	*e*P		P	16 16 21.3	-0.3	
	comp=Z,5.6nm,0.5s								
KEST	Kesra	49.38	289	P		P	16 16 25.1	+1.9	
KEST	Kesra	49.38	289	P		P	16 16 25.1	+1.9	
	comp=Z,1.1nm,0.5s,baz=251,slow=1.5,SNR=5.6								
SMRF	Simiane la Rot	49.63	300	*e*P		P	16 16 25.4	+0.4	
	comp=Z,4.8nm,0.6s								
SMRF	Simiane la Rot	49.63	300	*e*P		P	16 16 25.4	+0.4	
	comp=Z,4.8nm,0.6s								
LOR	Lormes	49.99	305	*e*P		P	16 16 27.6	+0.1	
	comp=Z,29nm,1.1s								
LOR	Lormes	49.99	305	*e*P		P	16 16 27.6	+0.1	
	comp=Z,29nm,1.1s								
SSB	Saint Sauveur	50.01	302	*e*P		P	16 16 27.7	-0.1	
SSB				*e**PP		pP	16 16 50.8	-0.2	
SSB				pmax		pmax			
	comp=Z,7.0nm,0.8s								
SSB	Saint Sauveur	50.01	302	*e*P		P	16 16 27.7	-0.1	
	comp=Z,7.3nm,0.8s								
SSB				*e*pP		pP	16 16 50.8	-0.2	
VIVF	Saint-Julien-l	50.03	301	*e*P		P	16 16 28.6	+0.7	
	comp=Z,27nm,0.7s								
VIVF	Saint-Julien-l	50.03	301	*e*P		P	16 16 28.6	+0.7	
VIVF				pmax		pmax			
	comp=Z,27nm,0.7s								
VIVF	Saint-Julien-l	50.03	301	*e*P		P	16 16 28.6	+0.7	
	comp=Z,27nm,0.7s								
SMF	Signal de Mont	50.15	304	*e*P		P	16 16 29.1	+0.3	
	comp=Z,36nm,0.6s								
SMF	Signal de Mont	50.15	304	*e*P		P	16 16 29.1	+0.3	
SMF				pmax		pmax			
	comp=Z,36nm,0.6s								
SMF	Signal de Mont	50.15	304	*e*P		P	16 16 29.1	+0.3	
	comp=Z,36nm,0.6s								
SSF	Saint Saulge	50.27	305	*e*P		P	16 16 29.8	+0.1	
	comp=Z,8.4nm,0.6s								
SSF	Saint Saulge	50.27	305	*e*P		P	16 16 29.8	+0.1	
SSF				pmax		pmax			
	comp=Z,8.0nm,0.6s								
SSF	Saint Saulge	50.27	305	*e*P		P	16 16 29.8	+0.1	
	comp=Z,8.4nm,0.6s								
AVF	Avril sur Loir	50.44	304	*e*P		P	16 16 31.3	+0.4	
	comp=Z,47nm,0.7s								
AVF	Avril sur Loir	50.44	304	*e*P		P	16 16 31.3	+0.4	
AVF				pmax		pmax			
	comp=Z,47nm,0.7s								
AVF	Avril sur Loir	50.44	304	*e*P		P	16 16 31.3	+0.4	
	comp=Z,47nm,0.7s								
SBUM	Sibu	50.60	122	*e*P		P	16 16 32.9	+0.4	
HYF	Humbligny	50.79	305	*e*P		P	16 16 34.4	+0.8	
HYF	Humbligny	50.79	305	*e*P		P	16 16 34.4	+0.8	
LASF	Ste Croix	50.80	301	*e*P		P	16 16 34.6	+0.9	
	comp=Z,64nm,1.2s								
LASF	Ste Croix	50.80	301	*e*P		P	16 16 34.6	+0.9	
	comp=Z,64nm,1.2s								
BGF	Bois d'Agland	50.83	304	*e*P		P	16 16 34.2	+0.3	
	comp=Z,10nm,0.6s								
BGF	Bois d'Agland	50.83	304	*e*P		P	16 16 34.2	+0.3	
BGF				pmax		pmax			
	comp=Z,10.0nm,0.6s								
BGF	Bois d'Agland	50.83	304	*e*P		P	16 16 34.2	+0.3	
	comp=Z,10nm,0.6s								
MDSI	Maura Dua	50.98	136	P		P	16 16 34.1	-1.2	
	comp=Z,4.9nm,1.0s,comp=Z,273nm								
TCF	Toulx Ste Croi	51.33	304	*e*P		P	16 16 38.4	+0.7	
	comp=Z,50nm,0.9s								
TCF	Toulx Ste Croi	51.33	304	*e*P		P	16 16 38.4	+0.7	
TCF				pmax		pmax			
	comp=Z,50nm,0.9s								
TCF	Toulx Ste Croi	51.33	304	*e*P		P	16 16 38.4	+0.7	
	comp=Z,50nm,0.9s								
CAF	Calviac	51.80	302	*e*P		P	16 16 42.1	+0.9	
	comp=Z,30nm,0.9s								
CAF	Calviac	51.80	302	*e*P		P	16 16 42.1	+0.9	
CAF				pmax		pmax			
	comp=Z,30nm,0.9s								
CAF	Calviac	51.80	302	*e*P		P	16 16 42.1	+0.9	
	comp=Z,30nm,0.9s								
HPK	Haverah Park	51.94	314	*e*P		P	16 16 42.2	+0.2	
RJF	Les Rejaudoux	52.06	303	*e*P		P	16 16 44.1	+1.0	
	comp=Z,24nm,1.0s								
RJF	Les Rejaudoux	52.06	303	*e*P		P	16 16 44.1	+1.0	
RJF				pmax		pmax			
	comp=Z,24nm,1.0s								
RJF	Les Rejaudoux	52.06	303	*e*P		P	16 16 44.1	+1.0	
	comp=Z,24nm,1.0s								
MCD	Coleburn Disti	52.15	319	*e*P		P	16 16 44.1	+0.6	
MTLF	Montolieu	52.15	300	*e*P		P	16 16 44.5	+0.7	
	comp=Z,13nm,0.7s								
MTLF	Montolieu	52.15	300	*e*P		P	16 16 44.5	+0.7	
MTLF				pmax		pmax			
	comp=Z,13nm,0.7s								
MTLF	Montolieu	52.15	300	*e*P		P	16 16 44.5	+0.7	
	comp=Z,13nm,0.7s								
LDF	La Druitiere	52.26	307	*e*P		P	16 16 44.5	0.0	
	comp=Z,20nm,0.5s								
LDF	La Druitiere	52.26	307	*e*P		P	16 16 44.5	0.0	
LDF				pmax		pmax			
	comp=Z,20nm,0.5s								
LDF	La Druitiere	52.26	307	*e*P		P	16 16 44.5	0.0	
	comp=Z,20nm,0.5s								
WOL	Wolverton	52.28	311	*e*P		P	16 16 45.0	+0.5	
WOL				AMB		AMB	16 16 47.2		
	comp=Z,88nm,1.4s								
BIGH	Upper Bighouse	52.33	320	*e*P		P	16 16 45.6	+0.8	
BIGH				AMB		AMB	16 16 48.0		
	comp=Z,384nm,5.4s								
FLN	La Foliniere	52.44	307	*e*P		P	16 16 46.0	+0.2	
	comp=Z,28nm,0.7s								
FLN	La Foliniere	52.44	307	*e*P		P	16 16 46.0	+0.2	
FLN				pmax		pmax			
	comp=Z,28nm,0.7s								
FLN	La Foliniere	52.44	307	*e*P		P	16 16 46.0	+0.2	
	comp=Z,28nm,0.7s								
ESK	Eskdalemuir	52.55	316⇑	*e*P		P	16 16 47.0	+0.4	
ESK				AMB		AMB	16 16 56.3		
	comp=Z,134nm,4.2s								
MJAR	Matsushiro Arr	52.60	69	P		P	16 16 48.1	+0.8	
MJAR	Matsushiro Arr	52.60	69	P		P	16 16 48.1	+0.8	
	comp=Z,4.0nm,0.9s,baz=279,slow=10,SNR=7.7								
KESW	Keswick, Cumbr	52.65	315	*e*P		P	16 16 48.2	+0.9	
LFF	La Frestale	52.69	303	*e*P		P	16 16 48.6	+0.9	
	comp=Z,22nm,0.5s								
LFF	La Frestale	52.69	303	*e*P		P	16 16 48.6	+0.9	
LFF				pmax		pmax			
	comp=Z,22nm,0.5s								
LFF	La Frestale	52.69	303	*e*P		P	16 16 48.6	+0.9	
	comp=Z,22nm,0.5s								
JMIC	Jan Mayen	52.71	336	LR		LR	16 39 42.6		
	comp=Z,60nm,18.4s,baz=74,slow=36								
GRR	Gorron	52.78	307	*e*P		P	16 16 48.4	0.0	
	comp=Z,27nm,0.6s								
GRR	Gorron	52.78	307	*e*P		P	16 16 48.4	0.0	
GRR				pmax		pmax			
	comp=Z,27nm,0.6s								
GRR	Gorron	52.78	307	*e*P		P	16 16 48.4	0.0	
	comp=Z,27nm,0.6s								
MFF	Saint Martin d	52.81	305	*e*P		P	16 16 48.6	0.0	
	comp=Z,22nm,0.8s								
MFF	Saint Martin d	52.81	305	*e*P		P	16 16 48.6	0.0	
MFF				pmax		pmax			
	comp=Z,22nm,0.8s								
MFF	Saint Martin d	52.81	305	*e*P		P	16 16 48.6	0.0	
	comp=Z,22nm,0.8s								
EAB	Aberfoyle	53.00	317	*e*P		P	16 16 50.3	+0.5	
MONM	Monmouth	53.11	312	*e*P		P	16 16 50.6	-0.1	
MCH1	Michaelchurch	53.19	312⇑	*e*P		P	16 16 51.7	+0.5	
MCH1				AMB		AMB	16 16 52.6		
	comp=Z,74nm,2.3s								
KAC	Achnashellach	53.24	319	*e*P		P	16 16 51.8	+0.2	
WPM1	Penmaenmawr	53.42	314	*e*P		P	16 16 53.6	+0.7	
KPL	Plockton	53.47	319⇑	*e*P		P	16 16 54.1	+0.9	
KPL				AMB		AMB	16 16 58.4		
	comp=Z,216nm,3.7s								
EPF	Esparros	53.55	300	*e*P		P	16 16 54.4	+0.2	
	comp=Z,7.2nm,0.6s								
EPF	Esparros	53.55	300	*e*P		P	16 16 54.4	+0.2	
EPF				pmax		pmax			
	comp=Z,7.0nm,0.6s								
EPF	Esparros	53.55	300	*e*P		P	16 16 54.4	+0.2	
	comp=Z,7.2nm,0.6s								
WLF1	Llynfaes	53.70	314	*e*P		P	16 16 55.5	+0.6	
LPW	Lampeter	53.80	312	*e*P		P	16 16 56.2	+0.5	
LPW				AMB		AMB	16 17 03.8		
	comp=Z,46nm,1.9s								
YRC	Rhoscolyn	53.81	314	*e*P		P	16 16 56.5	+0.8	
SGMF	Saint Gilles	53.91	307	*e*P		P	16 16 57.0	+0.4	
	comp=Z,20nm,0.6s								
SGMF	Saint Gilles	53.91	307	*e*P		P	16 16 57.0	+0.4	
SGMF				pmax		pmax			
	comp=Z,20nm,0.6s								
SGMF	Saint Gilles	53.91	307	*e*P		P	16 16 57.0	+0.4	
	comp=Z,20nm,0.6s								
DYA	Yadsworthy	54.16	310⇑	*e*P		P	16 16 58.6	+0.2	
DYA				AMB		AMB	16 17 05.4		
	comp=Z,48nm,2.1s								
SEY	Seymchan	54.20	34	*e*P		P	16 16 58.5	+0.1	
ETSF	Etsaut	54.22	301	*e*P		P	16 16 59.9	+0.8	
	comp=Z,24nm,0.6s								
ETSF	Etsaut	54.22	301	*e*P		P	16 16 59.9	+0.8	
ETSF				pmax		pmax			
	comp=Z,24nm,0.6s								
ETSF	Etsaut	54.22	301	*e*P		P	16 16 59.9	+0.8	
	comp=Z,24nm,0.6s								
ROSF	Rostrenen	54.34	308	*e*P		P	16 17 00.0	+0.2	
	comp=Z,30nm,0.6s								
ROSF	Rostrenen	54.34	308	*e*P		P	16 17 00.0	+0.2	
ROSF				pmax		pmax			
	comp=Z,30nm,0.6s								
ROSF	Rostrenen	54.34	308	*e*P		P	16 17 00.0	+0.2	
	comp=Z,30nm,0.6s								
QUIF	Quistinic	54.40	307	*e*P		P	16 17 00.2	+0.1	
	comp=Z,50nm,1.1s								
QUIF	Quistinic	54.40	307	*e*P		P	16 17 00.2	+0.1	
QUIF				pmax		pmax			
	comp=Z,51nm,1.1s								
QUIF	Quistinic	54.40	307	*e*P		P	16 17 00.2	+0.1	
	comp=Z,50nm,1.1s								
SJPF	Ste Jean	54.61	301	*e*P		P	16 17 03.1	+1.3	
	comp=Z,12nm,0.9s								
SJPF	Ste Jean	54.61	301	*e*P		P	16 17 03.1	+1.3	
SJPF				pmax		pmax			
	comp=Z,12nm,0.9s								
SJPF	Ste Jean	54.61	301	*e*P		P	16 17 03.1	+1.3	
	comp=Z,12nm,0.9s								
DAG	Danmarks Havn	54.81	344	*i* P		P	16 17 03.7	+1.0	
DAG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
DAG	Danmarks Havn	54.81	344	*i* P		P	16 17 03.7	+1.0	
	comp=Z,6.5nm,0.8s								
BKB	Balikpapan	56.49	121	P		P	16 17 18.9	+3.4	
	comp=Z,71nm,0.6s								
SCO	Scoresbysund	57.18	336	*i* P		P	16 17 21.3	+1.7	
SCO				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SCO	Scoresbysund	57.18	336	*i* P		P	16 17 21.3	+1.7	
	comp=Z,2.7nm,1.0s								
ES19	SONSECA Array	57.72	298	*e*P		P	16 17 21.7	-2.3	
ESDC	Sonseca Array	57.77	298	P		P	16 17 24.6	+0.2	
ESDC				pP		pP	16 17 47.3	-0.9	
ESDC	Sonseca Array	57.77	298	P		P	16 17 24.6	+0.2	
	comp=Z,3.0nm,0.6s,baz=58,slow=7.2,SNR=19								
ESDC				pP		pP	16 17 47.3	-0.9	
	comp=Z,1.8nm,0.7s,baz=64,slow=7.4,SNR=3.3								
BILL	Bilibino	58.43	26⇓	*i* P		P	16 17 29.1	+0.7	
BILL				*i*			16 18 16.8		
BILL				pmax		pmax			
	comp=Z,32nm,0.9s								
BORG	Borgarnes	58.77	330	P		P	16 17 32.9	+2.0	
BORG	Borgarnes	58.77	330	P		P	16 17 32.9	+2.0	
	comp=Z,27nm,1.0s,baz=45,slow=1.4,SNR=3.6								
MRSI	Marisa	58.84	116	P		P	16 17 34.2	+2.2	
PETK	Petropavlovsk-	59.70	44	P		P	16 17 37.6	+0.1	
PETK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
PETK	Petropavlovsk-	59.70	44	P		P	16 17 37.5	+0.1	
PETK	Petropavlovsk-	59.70	44	P		P	16 17 37.6	+0.1	
	comp=Z,6.9nm,1.1s,baz=209,slow=12,SNR=3.8								
ABPO	Ambohimpanom	59.80	207	*e*P		P	16 17 39.1	+0.5	
ABPO				pmax		pmax			
	comp=Z,22nm,1.3s								
ABPO	Ambohimpanom	59.80	207	*e*P		P	16 17 39.1	+0.5	
	comp=Z,22nm,1.3s								
PET	Petropavlovsk	60.26	44	*e*P		P	16 17 38.3	-3.0	
PET				pmax		pmax			
	comp=Z,17nm,1.2s								
SUMG	Summit	61.16	341	*i* P		P	16 17 49.0	+1.4	
SUMG				pmax		pmax			
	comp=Z,17nm,0.8s								
SUMG	Summit	61.16	341	*i* P		P	16 17 49.0	+1.4	
	comp=Z,17nm,0.8s								
SUMG	Summit	61.16	341	*e*P		P	16 17 46.7	-0.8	
	comp=Z,51nm,1.4s								
LSZ	Lusaka	65.73	227	*e*P		P	16 18 17.6	-0.5	
LSZ				*e*pP		pP	16 18 40.7	-1.6	
TOA0	Torodi Ar. Sit	66.08	269	*e*P		P	16 18 18.4	-1.9	
TORD	Torodi Ar. Bea	66.08	269	P		P	16 18 18.7	-1.6	
TORD	Torodi Ar. Bea	66.08	269	P		P	16 18 18.7	-1.6	
	comp=Z,7.5nm,0.7s,baz=42,slow=5.9,SNR=53								
TORD				LR		LR	16 49 05.4		
	comp=Z,46nm,19.3s,baz=320,slow=38								
SOEI	Soe	67.65	122	*e*P		P	16 18 30.1	-0.2	
	comp=Z,25nm,0.6s								
COLD	Coldfoot	71.85	16	*e*P		P	16 18 53.0	-2.2	
	comp=Z,19nm,1.7s								
COLD				*e*PcP		PcP	16 19 13.0	-0.5	
INK	Inuvik	73.82	9	*e*P		P	16 19 07.0	+0.2	
INK				*e*PcP		PcP	16 19 22.2	+0.3	
INK				*e*pP		pP	16 19 30.4	-1.2	
COLA	College	74.35	16	*e*P		P	16 19 10.4	+0.5	
COLA				pmax		pmax			
	comp=Z,25nm,1.0s								
COLA	College	74.35	16	*e*P		P	16 19 09.3	-0.6	
	comp=Z,8.4nm,1.7s								
COLA				*e*PcP		PcP	16 19 24.2	0.0	
IL1	Eielson Array	74.66	16	*e*P		P	16 19 11.5	-0.2	
ILAR	Eielson Array	74.66	16	P		P	16 19 12.1	+0.3	
ILAR	Eielson Array	74.66	16	P		P	16 19 12.1	+0.3	
	comp=Z,1.5nm,0.9s,baz=324,slow=4.9,SNR=16								
ILAR				LR		LR	16 57 44.7		
	comp=Z,44nm,18.2s,baz=320,slow=40								
LBTB	Lobatse	74.94	222	*e*P		P	16 19 13.6	-0.4	
DBIC	Dimbokro	75.06	267	P		P	16 19 14.1	-0.8	
DBIC	Dimbokro	75.06	267	P		P	16 19 14.1	-0.8	
	comp=Z,2.6nm,0.5s,baz=17,slow=7.1,SNR=7.4								
KIC	Kosan Boka	75.15	267	*e*P		P	16 19 13.7	-1.7	
	comp=Z,6.6nm,0.5s								
TIC	Toumodi	75.21	267	*e*P		P	16 19 12.0	-3.8	
TSUM	Tsumeb	75.22	232	*e*P		P	16 19 15.8	0.0	
	comp=Z,3.7nm,0.8s								
LIC	Lamto	75.46	267	*e*P		P	16 19 16.6	-0.6	
	comp=Z,6.3nm,0.5s								
LIC	Lamto	75.46	267	*e*P		P	16 19 14.2	-3.0	
	comp=Z,11nm,0.5s								
LIC	Lamto	75.46	267	*e*P		P	16 19 16.6	-0.6	
	comp=Z,6.3nm,0.5s								
BOSA	Boshof	78.00	220	*e*P		P	16 19 31.1	-0.1	
BOSA				*e*pP		pP	16 19 55.9	-0.3	
BOSA	Boshof	78.00	220	P		P	16 19 31.4	+0.2	
	comp=Z,7.2nm,0.5s,baz=22,slow=3.7,SNR=36								
YKA	Yellowknife Ar	81.21	3	P		P	16 19 48.5	+0.5	
YKA				pP		pP	16 20 13.7	+0.6	
YKA	Yellowknife Ar	81.21	3	P		P	16 19 48.5	+0.5	
	comp=Z,5.3nm,0.6s,baz=350,slow=5.4,SNR=164								
YKA				pP		pP	16 20 13.7	+0.6	
	comp=Z,4.2nm,0.8s,baz=348,slow=5.4,SNR=6.4								
WRA	Warramunga Arr	81.69	122	P		P	16 19 51.0	-0.2	
WRA				pP		pP	16 20 16.4	0.0	
WRA	Warramunga Arr	81.69	122	P		P	16 19 51.0	-0.2	
	comp=Z,2.4nm,0.4s,baz=324,slow=4.8,SNR=126								
WRA				pP		pP	16 20 16.4	0.0	
	comp=Z,1.7nm,0.7s,baz=323,slow=5.0,SNR=3.3								
WRAB	Tennant Creek	81.69	122	*e*P		P	16 19 51.4	+0.2	
WRAB				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WRAB	Tennant Creek	81.69	122	*e*P		P	16 19 50.8	-0.4	
WRAB				*e*pP		pP	16 20 16.7	+0.4	
SCHQ	Schefferville	82.22	337	P		P	16 19 54.4	+0.8	
SCHQ	Schefferville	82.22	337	P		P	16 19 54.4	+0.8	
	comp=Z,5.2nm,0.6s,baz=15,slow=3.6,SNR=12								
AS31	Alice Springs	83.97	125	*e*P		P	16 20 02.3	-0.6	
AS31				*e*pP		pP	16 20 26.2	-1.9	
ASAR	Alice Springs	83.97	125	P		P	16 20 02.9	-0.1	
ASAR	Alice Springs	83.97	125	P		P	16 20 02.9	-0.1	
	comp=Z,2.1nm,0.5s,baz=308,slow=4.9,SNR=74								
AS01	Alice Springs	84.00	125	*e*P		P	16 20 00.9	-2.2	
FCC	Fort Churchill	84.31	352	*e*P		P	16 20 05.5	+1.4	
FCC	Fort Churchill	84.31	352	*e*P		P	16 20 05.5	+1.4	
FFC	Flin Flon	88.94	356	*e*P		P	16 20 26.3	-0.5	
FFC				*e**PP		pP	16 20 51.6	-0.7	
FFC	Flin Flon	88.94	356	*e*P		P	16 20 26.3	-0.5	
FFC				*e*pP		pP	16 20 51.5	-0.7	
EDM	Edmonton	90.53	3	*e*P		P	16 20 33.9	-0.4	
EDM				*e**PP		pP	16 20 59.7	-0.1	
EDM	Edmonton	90.53	3	*e*P		P	16 20 33.9	-0.4	
EDM				*e*pP		pP	16 20 59.7	-0.1	
ULM	Lac du Bonnet	92.88	352	P		P	16 20 45.3	+0.1	
ULM	Lac du Bonnet	92.88	352	P		P	16 20 45.3	+0.1	
	comp=Z,3.9nm,0.8s,baz=18,slow=5.0,SNR=6.4								
A30A	Hoffart Farm,	94.43	353	P		P	16 20 53.1	+0.8	
	baz=94								
STKA	Stephens Creek	94.51	127	P		P	16 20 51.8	-1.0	
STKA	Stephens Creek	94.51	127	P		P	16 20 51.8	-1.0	
	comp=Z,0.7nm,0.4s,baz=342,slow=9.1,SNR=3.6								
A29A	Manning Farm,	94.53	354	P		P	16 20 53.4	+0.6	
	baz=94								
A26A	Wade Farm, Ken	94.76	356	P		P	16 20 54.9	+1.0	
	baz=94								
AGMN	Agassiz Nation	94.80	352	P		P	16 20 55.1	+1.1	
	baz=94								
A24A	Westby	94.83	357	P		P	16 20 55.8	+1.6	
	baz=94								
A19A	Klindworth Far	94.92	0	P		P	16 20 56.0	+1.3	
	baz=94								
A20A	Cobblestone Ra	94.97	360	P		P	16 20 55.8	+0.9	
	baz=95								
B28A	Dugan Ranch, T	95.09	355	P		P	16 20 56.6	+1.2	
	baz=95								
NEW	Newport	95.24	6	P		P	16 20 57.3	+1.2	
	baz=95								
B19A	Brinkman Farms	95.40	0	P		P	16 20 57.5	+0.7	
	baz=95								
B20A	Solberg Farm,	95.41	360	P		P	16 20 56.1	-0.8	
	baz=95								
C26A	Wahner Farm, P	95.83	356	P		P	16 20 59.5	+0.7	
	baz=96								
C22A	Vida	96.08	358	P		P	16 21 01.0	+1.1	
	baz=96								
D22A	Pohagen	96.68	358	P		P	16 21 02.8	+0.1	
	baz=96								
D21A	La Casta Ranch	96.78	359	P		P	16 21 03.1	-0.1	
	baz=96								
QLMT	Earthquake Lak	98.98	2	*e*pP		pP	16 21 40.1	+1.2	
RCWM	Renegade Canyo	107.40	8	*e*Pdif		Pdif	16 21 50.0	-0.7	
BFSC	Mount Baldy Ra	109.09	8	*e*Pdif		Pdif	16 21 57.2	-1.1	
QSPA	South Pole Qui	126.32	180	PKP		PKPdf	16 26 32.6	-1.1	
QSPA	South Pole Qui	126.32	180	PKP		PKPdf	16 26 32.6	-1.1	
	comp=Z,1.1nm,0.7s,baz=15,slow=0.6,SNR=13								
USHA	Ushuaia	147.11	223	PKPbc		PKPbc	16 27 14.6	+0.2	
USHA	Ushuaia	147.11	223	PKPbc		PKPb

KBTR	**Krutoberegovo**	**0.93**	**9**	PN	**Pg**	**16 22 40.4**	**+0.6**
KBTR				S	**Sn**	**16 22 56.4**	**+1.7**
KBG	**Krutoberegovo**	**0.97**	**5**	PN	**Pg**	**16 22 41.0**	**+0.5**
KBG				S	**Sn**	**16 22 57.7**	**+2.1**
KLY	**Klyuchi**	**1.48**	**314**	PN	**Pn**	**16 22 48.6**	**-0.2**
KLY				S	**Sg**	**16 23 08.7**	**-0.8**
KOZR	**Kozyr**	**1.69**	**298**	PN	**Pg**	**16 22 53.9**	**-0.4**
KOZR				S	**Sg**	**16 23 16.1**	**-0.2**
BKI	**Bering**	**1.96**	**91**	PN	**Pn**	**16 22 54.5**	**-0.8**
BKI				S	**Sn**	**16 23 17.4**	**-2.6**
ESO	**Esso**	**2.28**	**288**	PN	**Pb**	**16 23 01.0**	**-2.1**
ESO				S	**Sb**	**16 23 31.8**	**+0.4**
SPN	**Mys Shipunski**	**2.65**	**215**	PN	**Pn**	**16 23 05.4**	**+0.6**
SPN				S	**Sn**	**16 23 39.0**	**+1.9**
NLC	**Nalytchevo**	**2.84**	**223**	PN	**Pn**	**16 23 07.7**	**+0.4**
NLC				S	**Sn**	**16 23 42.0**	**+0.4**
PET	**Petropavlovsk**	**3.23**	**227**	PN	**Pn**	**16 23 13.8**	**+1.1**
PET				S	**Sn**	**16 23 52.3**	**+1.1**
PETK	**Petropavlovsk-**	**3.59**	**235**	*e*PN	**Pn**	**16 23 20.8**	**+3.1**
PETK				pmax	pmax		
	comp=Z,11nm,0.3s						
PETK	**Petropavlovsk-**	**3.59**	**235**	P	**Pn**	**16 23 20.9**	**+3.1**
	comp=Z,11nm,0.3s,baz=68,slow=16,SNR=40						
PETK				S	**Sn**	**16 24 01.3**	**+1.1**
	comp=Z,3.5nm,0.3s,baz=56,slow=16,SNR=4.2						
PETK				LR	LR	16 24 48.9	
	comp=Z,123nm,19.8s,baz=44,slow=40						
RUS	**Russkaya**	**3.73**	**222**	PN	**Pn**	**16 23 20.1**	**+0.5**
RUS				S	**Sn**	**16 24 05.9**	**+2.3**
PAU	**Pauzhetka**	**5.14**	**224**	PN	Pn	16 23 42.3	+3.3
SKR	**Severo-Kuril's**	**6.03**	**223**	*e*PN	**Pn**	**16 23 50.0**	**-1.2**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
FX1	**Attu Island--F**	**6.69**	**107**	P	**Pn**	**16 23 59.1**	**-1.2**
	comp=Z,11nm,0.3s,baz=314,slow=6.2,SNR=27						
FX1				S	Sn	16 25 09.6	-7.0
	comp=Z,8.3nm,0.3s,baz=91,slow=23,SNR=7.9						
SEY	**Seymchan**	**9.27**	**330**	*e*PN	Pn	16 24 39.4	+3.9
BILL	**Bilibino**	**12.91**	**6**	*e*PN	Pn	16 25 29.7	+4.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**14.93**	**244**	P	P	16 26 04.8	+6.2
ASAJ	**Asahikawa**	**17.01**	**237**	P	**P**	**16 26 23.2**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=81,slow=5.7,SNR=11						
HABR	**Khabarovsk**	**18.21**	**259**	*e*P	P	16 26 46.5	+12
HABR				S	**Sn**	**16 29 55.1**	**-2.8**
HABR				pmax	pmax		
	comp=N,6.0nm,1.2s						
HABR				MLR	MLR		
	comp=Z,75nm,17.0s						
YAK	**Yakutsk**	**18.22**	**305**	*e*P	**P**	**16 26 35.7**	**+0.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ERM	**Erimo**	**18.37**	**232**	*e*P	**Pn**	**16 26 35.6**	**-1.1**
TIXI	**Tiksi**	**21.76**	**332**	*e*P	**P**	**16 27 14.1**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,19nm,1.0s						
USRK	**Ussuriysk Arra**	**22.46**	**253**	LR	LR	16 36 43.2	
	comp=Z,67nm,18.4s,baz=62,slow=38						
MJA0	**Matsu Arr-Jizo**	**25.03**	**232**	*e*P	**P**	**16 27 47.3**	**+1.1**
MJA0				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MAJO	**Matsushiro**	**25.05**	**232**	*e*P	**P**	**16 27 47.4**	**+1.1**
MAT	**Matsushiro**	**25.05**	**232**	P	**P**	**16 27 47.2**	**+0.9**
MJAR	**Matsushiro Arr**	**25.05**	**232**	P	**P**	**16 27 47.1**	**+0.8**
	comp=Z,8.7nm,0.5s,baz=26,slow=6.8,SNR=65						
MJAR				LR	LR	16 38 48.9	
	comp=Z,25nm,18.4s,baz=75,slow=39						
ILAR	**Eielson Array**	**26.25**	**48**	P	**P**	**16 27 57.1**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=264,slow=7.9,SNR=32						
INK	**Inuvik**	**31.25**	**40**	P	**P**	**16 28 42.4**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=296,slow=14,SNR=6.4						
SONM	**Songino Array**	**34.84**	**282**	P	**P**	**16 29 12.4**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=35,slow=11,SNR=3.8						
SONM				PcP	**PcP**	**16 31 45.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=33,slow=2.5,SNR=4.6						
DLBC	**Dease Lake**	**35.60**	**57**	P	**P**	**16 29 22.0**	**+2.6**
	comp=Z,2.2nm,0.7s,baz=291,slow=9.7,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**35.67**	**173**	T	T	17 07 05.2	
	baz=357						
H11N3	**WAKE ISLAND Hy**	**35.67**	**173**	T	T	17 07 05.0	
	baz=357						
H11N1	**WAKE ISLAND Hy**	**35.67**	**173**	T	T	17 07 12.1	
	baz=357						
BBB	**Bella Bella**	**39.59**	**65**	LR	LR	16 44 14.1	
	comp=Z,30nm,19.1s,baz=233,slow=33						
YKA	**Yellowknife Ar**	**40.57**	**45**	P	**P**	**16 30 02.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=299,slow=7.9,SNR=11						
RES	**Resolute Bay**	**40.74**	**23**	P	**P**	**16 30 03.1**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=320,slow=12,SNR=3.9						
GTA	**Gaotai**	**43.81**	**276**	*e*P	P	16 30 32.5	+4.5
GTA				pP	pP	16 30 37.1	+6.4
GTA				sP	sP	16 30 40.5	+8.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK	**Kurchatov**	**47.81**	**301**	*e*P	**P**	**16 30 58.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**47.91**	**301**	P	**P**	**16 30 58.4**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=56,slow=8.0,SNR=13						
KURBB				PcP	**PcP**	**16 32 27.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=46,slow=2.7,SNR=7.1						
MKAR	**Makanchi Array**	**48.51**	**295**	*e*P	**P**	**16 31 04.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.51**	**295**	P	**P**	**16 31 03.4**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=49,slow=8.2,SNR=13						
BRVK	**Borovoye**	**50.19**	**308**	*e*P	**P**	**16 31 17.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**52.76**	**317**	*d*iP	**P**	**16 31 35.5**	**-1.2**
ARU				S	**S**	**16 39 01.3**	**-3.2**
ARU				pmax	pmax		
	comp=Z,14nm,2.5s						
NVAR	**Mina Array Bea**	**53.68**	**73**	P	**P**	**16 31 45.9**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=311,slow=8.2,SNR=4.1						
FRB	**Frobisher Bay**	**54.91**	**25**	P	**P**	**16 31 51.7**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=318,slow=8.8,SNR=3.5						
PDAR	**Pinedale Array**	**55.22**	**64**	P	**P**	**16 31 55.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=318,slow=5.2,SNR=5.2						
AAK	**Ala-Archa**	**55.40**	**296**	*e*P	**P**	**16 31 57.9**	**+1.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**58.66**	**337**	P	**P**	**16 32 19.0**	**0.0**
	comp=Z,3.0nm,0.5s,baz=34,slow=8.6,SNR=37						
CMAR	**Chiang Mai Arr**	**60.04**	**259**	P	**P**	**16 32 28.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=29,slow=7.3,SNR=5.3						
NB2	**NORSAR Subarra**	**61.82**	**345**	P	**P**	**16 32 39.8**	**-0.8**
	comp=Z,5.3nm,1.2s,baz=19,slow=6.9						
NOA	**NORSAR Array B**	**61.82**	**345**	P	**P**	**16 32 39.5**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=19,slow=6.7,SNR=3.9						
SCHQ	**Schefferville**	**63.03**	**30**	P	**P**	**16 32 48.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=355,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**68.48**	**69**	P	**P**	**16 33 25.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=318,slow=5.0,SNR=5.7						
DPC	**Dobruska-Polom**	**71.02**	**338**	*e*P	P	16 33 45.2	+5.5
DPC				*e*	x	16 33 50.4	
DPC	**Dobruska-Polom**	**71.02**	**338**	*e*P	P	16 33 45.2	+5.5
DPC				*ex*	x	16 33 50.4	
GERES	**GERESS Array B**	**73.00**	**339**	P	**P**	**16 33 50.6**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=15,slow=5.5,SNR=3.5						
BRTR	**Keskin Array B**	**75.82**	**322**	P	**P**	**16 34 07.9**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=330,slow=8.5,SNR=3.2						
WRA	**Warramunga Arr**	**78.69**	**207**	P	**P**	**16 34 24.4**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=12,slow=5.9,SNR=19						
ASAR	**Alice Springs**	**82.36**	**206**	P	**P**	**16 34 44.9**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=16,slow=5.0,SNR=30						
ESDC	**Sonseca Array**	**84.70**	**350**	P	**P**	**16 34 55.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=359,slow=3.8,SNR=3.0						

IDC ***23*** *16:33:49.4±0.8, 12°.34N×120°.45E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/37, mbtmp3.9/12, MS3.7/3, Ms1 3.7/3, ms1mx2.9/44, Error ellipse: s-maj=30.5km s-min=15.5km az=72.0*

ISCJB ***23*** *16:33:52.7±0.6, 12°.33N±0°.04×120°.30E±0°.04, h29km±6km, mb3.9/12, MS3.6/3, Error ellipse: s-maj=7.3km s-min=4.7km az=139.0*

MAN ***23*** *16:33:52, 12°.32N×120°.31E, h21km, mb4.7, ML3.6, MS3.5*

ISC 23 16:33:51.7±1.5, 12°.39N±0°.04×120°.30E±0°.05, h14km±10km, n48, σ1°32/50, mb3.9/12, MS3.5/3, 2C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.39**	**194**	*e*P		**Pg**	**16 33 59.6**	**-0.1**
BUSP				*e*S		**Sb**	**16 34 05.8**	**-0.6**
SJMP	**San Jose**	**0.81**	**85**	*e*P		**Pn**	**16 34 08.0**	**-0.7**
SJMP				*e*S		**Sn**	**16 34 18.9**	**-1.7**
PGP	**Puerto Galera**	**1.28**	**30**	*e*P		**Pn**	**16 34 15.3**	**0.0**
PGP				*e*S		**Sn**	**16 34 32.2**	**-0.1**
LUBP	**Lubang**	**1.34**	**358**	*e*P		Pg	16 34 27.5	+10
ENPP	**El Nido**	**1.45**	**216**	*e*P		**Pn**	**16 34 16.7**	**-0.9**
CUYO	**Cuyo Island**	**1.68**	**155**	*e*P		**Pn**	**16 34 19.5**	**-1.3**
OTRP	**Odiongan**	**1.69**	**91**	*e*P		**Pn**	**16 34 20.3**	**-0.5**
TGY	**Tagaytay City**	**1.82**	**20**	Pn		**Pb**	**16 34 23.8**	**-1.1**
	295nm,0.3s,baz=176,slow=4.5,SNR=20							
TGY					Sn	**Sb**	**16 34 47.9**	**+0.3**
	438nm,0.3s,baz=308,slow=6.9,SNR=16							
BOAC	**Boac**	**1.85**	**55**	*e*P		**Pn**	**16 34 23.6**	**+0.5**
LQP	**Lukban**	**2.10**	**35**	*e*P		**Pb**	**16 34 29.0**	**-0.8**
ARP	**Angono**	**2.30**	**21**	*e*P		**Sn**	**16 34 53.1**	**-4.2**
AUQP	**San Andres**	**2.50**	**61**	*e*P		**Pn**	**16 34 33.6**	**+1.6**
RCP	**Roxas**	**2.53**	**109**	*e*P		**Pn**	**16 34 32.7**	**+0.2**
GQP	**Guinayangan**	**2.58**	**54**	*e*P		**Pn**	**16 34 34.3**	**+1.1**
GQP				*e*S		**Sn**	**16 35 04.5**	**+0.1**
NZB	**Bigte**	**2.58**	**18**	*e*P		**Pn**	**16 34 31.3**	**-1.9**
PPR	**Puerto Princes**	**3.02**	**211**	*i*P		**Pn**	**16 34 39.7**	**+0.6**
PCPH	**Palayan**	**3.25**	**14**	*i*P		**Pn**	**16 34 42.8**	**+0.4**
PCPH				*i* S		**Sn**	**16 35 20.7**	**-0.2**
LLP	**Lapu-Lapu**	**4.14**	**119**	*e*P		**Pn**	**16 34 56.1**	**+1.4**
OCLP	**Ormoc**	**4.43**	**107**	*e*P		**Pn**	**16 35 00.1**	**+1.5**
MSLP	**Maasin**	**5.00**	**116**	*e*P		**Pn**	**16 35 08.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**21.44**	**289**	P		**P**	**16 38 42.4**	**+2.6**
	0.8nm,0.6s,baz=98,slow=8.2,SNR=11							
PSI	**Prapat**	**23.20**	**247**	LR		LR	16 48 20.6	
	comp=Z,142nm,18.1s,baz=58,slow=37							
KSRS	**Korea Array**	**25.88**	**14**	LR		LR	16 49 15.2	
	comp=Z,33nm,19.8s,baz=176,slow=36							
TAPN	**Taplejung**	**33.94**	**301**	*e*P		**P**	**16 40 36.9**	**+1.7**
ODAN	**Odare**	**34.05**	**300**	*e*P		**P**	**16 40 37.5**	**+1.4**
RAMN	**Ramite**	**34.75**	**300**	*e*P		**P**	**16 40 43.9**	**+1.8**
WRA	**Warramunga Arr**	**34.97**	**157**	P		**P**	**16 40 42.2**	**-1.6**
	2.1nm,0.8s,baz=334,slow=9.9,SNR=12							
JIRN	**Jiri**	**35.32**	**301**	*e*P		**P**	**16 40 47.9**	**+0.7**
GUN	**Gumba**	**35.66**	**301**	*e*P		**P**	**16 40 51.6**	**+1.5**
PKIN	**Phulchoki**	**35.96**	**300**	*e*P		**P**	**16 40 53.7**	**+1.1**
KKN	**Kakani**	**36.12**	**300**	*e*P		**P**	**16 40 54.9**	**+1.0**
DMN	**Daman**	**36.21**	**300**	*e*P		**P**	**16 40 56.0**	**+1.2**
GKN	**Gorkha**	**36.73**	**300**	*e*P		**P**	**16 41 00.7**	**+1.7**
SONM	**Songino Array**	**37.20**	**343**	P		**P**	**16 41 03.4**	**+0.6**
	1.7nm,0.7s,baz=172,slow=4.5,SNR=4.0							
KOLN	**Koldanda**	**37.54**	**300**	*e*P		**P**	**16 41 04.3**	**-1.7**
DANN	**Dangsing**	**37.57**	**301**	*e*P		**P**	**16 41 07.5**	**+1.1**
ASAR	**Alice Springs**	**38.22**	**160**	P		**P**	**16 41 11.6**	**0.0**
	0.5nm,0.6s,baz=339,slow=7.4,SNR=16							
MKAR	**Makanchi Array**	**46.86**	**325**	P		**P**	**16 42 22.6**	**+1.1**
	0.5nm,0.5s,baz=123,slow=8.8,SNR=7.7							
AAK	**Ala-Archa**	**49.72**	**316**	P		**P**	**16 42 45.3**	**+1.4**
	0.7nm,0.6s,baz=129,slow=7.3,SNR=4.1							
ZALV	**Zalesovo Beam**	**50.04**	**333**	P		**P**	**16 42 46.0**	**+0.1**
	0.7nm,0.5s,baz=120,slow=8.8,SNR=4.9							
KURBB	**Kurchatov Arra**	**51.06**	**327**	P		**P**	**16 42 54.1**	**+0.5**
	0.6nm,0.7s,baz=121,slow=10.0,SNR=12							
URZ	**Urewera**	**73.17**	**137**	LR		LR	17 16 56.0	
	comp=Z,223nm,22.0s,baz=8.0,slow=35							
ARCES	**ARCESS Array B**	**80.16**	**339**	P		**P**	**16 46 01.3**	**0.0**
	4.1nm,0.9s,baz=74,slow=6.7,SNR=5.8							
FINES	**FINESS Array B**	**81.23**	**331**	P		**P**	**16 46 06.2**	**-0.9**
	1.9nm,0.9s,baz=57,slow=7.0,SNR=5.8							
NB2	**NORSAR Subarra**	**88.24**	**333**	P		**P**	**16 46 41.6**	**-1.0**
	comp=Z,3.8nm,1.1s,baz=72,slow=4.6							
NB2	**NORSAR Subarra**	**88.24**	**333**	P		**P**	**16 46 41.6**	**-1.0**
	baz=72,slow=4.6							
NOA	**NORSAR Array B**	**88.24**	**333**	P		**P**	**16 46 42.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=69,slow=4.6,SNR=3.4							
YKA	**Yellowknife Ar**	**94.13**	**22**	P		**P**	**16 47 08.6**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=303,slow=4.6,SNR=5.6							

IDC ***23*** *16:35:15.9±1.0, 2°.14N×96°.68E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.2/39, mbtmp4.3/15, ML3.9/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/41, Error ellipse: s-maj=29.6km s-min=15.7km az=51.0*

ISCJB ***23*** *16:35:18.8±0.6, 2°.11N±0°.05×96°.72E±0°.04, h28km, mb4.2/13, MS3.6/4, Error ellipse: s-maj=7.7km s-min=6.2km az=18.4*

KLM ***23*** *16:35:20.4, 2°.08N×96°.84E, h10km, mb4.1, ML4.0*

DJA ***23*** *16:35:22.0±0.4, 2°.N±3°×9°.7E±°, h17km±10km, M4.3/12, mb4.2/1, MLv4.4/12*

ISC 23 16:35:20.5±0.7, 2°.21N±0°.06×96°.74E±0°.05, h28km, n47, σ0°94/37, mb4.1/13, MS3.5/4, 4C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.45**	**296**	P		**Pn**	**16 35 31.2**	**+0.1**
SNSI				S		**Sn**	**16 35 39.2**	**+0.9**
TPTI		**1.13**	**23**	P		**Pb**	**16 35 40.9**	**-0.6**
TPTI				S		**Sb**	**16 35 55.2**	**-0.6**
KCSI	**Kotacane, Aceh**	**1.66**	**38**	P		**Pb**	**16 35 49.6**	**-0.9**
KCSI				S		**Sb**	**16 36 10.3**	**-0.8**
TSI	**Tuntungan**	**2.23**	**55**	P		**Pb**	**16 35 58.4**	**-1.7**
PSI	**Prapat**	**2.26**	**75**	P		x	16 35 57.6	
PSI	**Prapat**	**2.26**	**75**	Pn		**Pn**	**16 35 57.4**	**+1.3**
	8.4nm,0.3s,baz=298,slow=7.9,SNR=32							
PSI					Sn	**Sn**	**16 36 22.5**	**-0.7**
	10nm,0.3s,baz=231,slow=21,SNR=7.2							
LASI	**Langsa, Aceh**	**2.55**	**29**	P		x	16 36 02.3	
LHMI	**Lhok Sumawe**	**3.01**	**4**	P		**Pn**	**16 36 07.6**	**+1.3**
MNSI	**Mandailing Nat**	**3.17**	**116**	P		**Pn**	**16 36 10.3**	**+1.8**
BKNI	**Bangkinang**	**4.69**	**113**	P		Pb	16 36 51.3	+9.2
IPM	**Ipoh**	**4.84**	**62**	P		x	16 36 33.4	
IPM	**Ipoh**	**4.84**	**62**	P		**Pn**	**16 36 33.6**	**+2.0**
PDSI	**Padang**	**4.85**	**130**	P		Pn	16 36 36.0	+4.4
KULM	**Kulim**	**4.96**	**52**	P		x	16 36 34.6	
KULM	**Kulim**	**4.96**	**52**	P		**Pn**	**16 36 34.9**	**+1.7**
KGM	**Kluang**	**6.58**	**92**	P		**Pn**	**16 36 55.7**	**+0.2**
SURT	**Suratani**	**7.01**	**17**	P		**Pn**	**16 37 02.8**	**+1.5**
	11nm,0.8s,0.0nm							
KTGM	**Kuala Trenggan**	**7.10**	**64**	P		**Pn**	**16 37 03.8**	**+1.2**
MYKOM	**Kota Tinggi**	**7.12**	**93**	P		x	16 37 03.9	
PBKT	**Sadao Pong**	**14.87**	**16**	P		**P**	**16 38 54.6**	**+0.3**
MHMT	**Maesarieng**	**15.91**	**4**	P		**Pn**	**16 39 02.5**	**-0.1**
	4.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.29**	**7**	Pn		**Pn**	**16 39 07.1**	**-0.3**
	0.4nm,0.3s,baz=197,slow=12,SNR=4.4							
LAMP	**Lampang**	**16.46**	**10**	P		**P**	**16 39 12.6**	**+0.5**
	3.9nm,0.9s							
CHTO	**Chiang Mai**	**16.64**	**7**	P		**P**	**16 39 13.6**	**-0.5**
	27nm,1.1s							
SDKM	**Sandakan**	**20.69**	**80**	P		**P**	**16 39 59.8**	**+1.2**
H08S2	**Diego Garcia H**	**26.09**	**248**	T		T	17 07 45.7	
	baz=69,slow=76,SNR=1166							
H08S3	**Diego Garcia H**	**26.09**	**248**	T		T	17 07 44.4	
	baz=69,slow=76,SNR=1826							
H08S1	**Diego Carcia H**	**26.11**	**248**	T		T	17 07 45.6	
	baz=69,slow=76,SNR=1268							
H01W3	**Cape Leeuwin H**	**40.35**	**158**	T		T	17 25 49.4	
	baz=333,slow=75,SNR=16							
H01W2	**Cape Leeuwin H**	**40.36**	**158**	T		T	17 25 50.9	
	baz=333,slow=75,SNR=21							
H01W1	**Cape Leeuwin H**	**40.37**	**158**	T		T	17 25 51.1	
	baz=333,slow=75,SNR=23							
WRA	**Warramunga Arr**	**42.96**	**123**	P		**P**	**16 43 17.0**	**-0.5**
	2.6nm,0.9s,baz=301,slow=9.2,SNR=16							
WRA				PcP		**PcP**	**16 45 07.2**	**-0.6**
	0.4nm,0.7s,baz=324,slow=2.8,SNR=3.0							
ASAR	**Alice Springs**	**44.37**	**128**	P		**P**	**16 43 28.7**	**-0.1**
	2.4nm,1.0s,baz=300,slow=7.9,SNR=19							
ASAR				PcP		**PcP**	**16 45 12.3**	**-0.3**
	0.5nm,0.7s,baz=317,slow=3.8,SNR=4.2							
AAK	**Ala-Archa**	**44.90**	**337**	P		**P**	**16 43 34.2**	**+1.3**
	1.5nm,0.7s,baz=157,slow=13,SNR=7.1							
KSRS	**Korea Array**	**45.29**	**35**	P		**P**	**16 43 35.3**	**-0.6**
	3.9nm,0.8s,baz=229,slow=8.4,SNR=8.7							
KSRS				LR		LR	17 03 12.3	
	comp=Z,42nm,18.9s,baz=218,slow=37							
MKAR	**Makanchi Array**	**46.16**	**346**	P		**P**	**16 43 42.7**	**+0.1**
	8.3nm,0.7s,baz=158,slow=7.6,SNR=52							
SONM	**Songino Array**	**46.21**	**9**	P		**P**	**16 43 43.1**	**0.0**
	2.1nm,0.4s,baz=190,slow=10,SNR=10							
KURBB	**Kurchatov Arra**	**50.64**	**345**	P		**P**	**16 44 17.3**	**+0.2**
	4.7nm,0.6s,baz=166,slow=7.0,SNR=46							
MJAR	**Matsushiro Arr**	**51.27**	**43**	P		**P**	**16 44 22.2**	**+0.1**
	2.2nm,1.0s,baz=203,slow=7.4,SNR=4.5							
USRK	**Ussuriysk Arra**	**52.16**	**32**	P		**P**	**16 44 27.8**	**-0.7**
	1.9nm,0.8s,baz=255,slow=9.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**52.49**	**351**	P		**P**	**16 44 31.0**	**+0.2**
	11nm,0.6s,baz=178,slow=6.6,SNR=56							
BVAR	**Borovoye Array**	**55.15**	**341**	LR		LR	17 12 18.9	
	comp=Z,41nm,18.9s,baz=73,slow=40							
MAW	**Mawson**	**73.59**	**193**	LR		LR	17 15 36.0	
	comp=Z,65nm,19.2s,baz=83,slow=33							
FINES	**FINESS Array B**	**78.89**	**332**	P		**P**	**16 47 20.5**	**-0.5**
	1.0nm,0.6s,baz=114,slow=4.6,SNR=5.4							
ARCES	**ARCESS Array B**	**81.43**	**340**	P		**P**	**16 47 35.3**	**+0.7**
	2.6nm,0.8s,baz=103,slow=5.5,SNR=6.0							
GERES	**GERESS Array B**	**83.75**	**319**	P		**P**	**16 47 47.0**	**-0.3**
	0.7nm,0.8s,baz=101,slow=6.9,SNR=5.7							
NOA	**NORSAR Array B**	**85.90**	**331**	LR		LR	17 27 37.5	
	comp=Z,17nm,19.8s,baz=330,slow=37							

IDC ***23*** *16:48:27.2±1.2, 12°.21S×165°.41E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/32, mbtmp4.0/9, ML4.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/26, Error ellipse: s-maj=31.7km s-min=25.2km az=140.0*

ISCJB ***23*** *16:48:30.7±0.8, 12°.3S±0°.1×165°.3E±0°.1, h33km, mb3.9/7, MS3.0/1, Error ellipse: s-maj=18.7km s-min=10.7km az=40.7*

ISC 23 16:48:32.5±0.9, 12°.2S±0°.1×165°.4E±0°.1, h35km, n11, σ0°92/11, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.02**	**297**	Pn		**Pn**	**16 49 59.6**	**+0.5**
	8.8nm,0.3s,baz=127,slow=3.1,SNR=5.6							
HNR					Sn	**Sn**	**16 51 06.1**	**-0.8**
	5.9nm,0.3s,baz=233,slow=20,SNR=4.2							
HNR				LR		LR	16 52 00.8	
	comp=Z,132nm,19.4s,baz=130,slow=35							
DZM	**Mont Dzumac**	**9.84**	**174**	Pn		**Pn**	**16 50 51.7**	**+0.1**
	0.5nm,0.3s,baz=307,slow=20,SNR=8.7							
PMG	**Port Moresby**	**18.12**	**277**	LR		LR	16 58 35.7	
	comp=Z,83nm,20.4s,baz=358,slow=34							
WRA	**Warramunga Arr**	**30.76**	**252**	P		**P**	**16 54 44.2**	**-0.7**
	2.5nm,0.9s,baz=79,slow=8.9,SNR=12							
WRA				LR		LR	17 05 56.9	
	comp=Z,33nm,20.7s,baz=95,slow=34							
ASAR	**Alice Springs**	**31.96**	**245**	P		**P**	**16 54 54.8**	**-0.6**
	1.4nm,0.8s,baz=68,slow=10,SNR=24							
CMAR	**Chiang Mai Arr**	**72.26**	**294**	P		**P**	**16 59 56.4**	**+1.5**
	0.7nm,0.8s,baz=122,slow=4.2,SNR=6.1							
ILAR	**Eielson Array**	**84.74**	**19**	P		**P**	**17 01 03.0**	**+0.4**
	1.0nm,0.9s,baz=227,slow=3.5,SNR=9.5							
MKAR	**Makanchi Array**	**94.14**	**317**	P		**P**	**17 01 48.2**	**+0.5**
	0.9nm,0.7s,baz=77,slow=5.4,SNR=8.6							
ZALV	**Zalesovo Beam**	**94.30**	**324**	P		**P**	**17 01 47.1**	**-1.0**
	0.3nm,0.3s,baz=101,slow=4.7,SNR=3.6							
YKA	**Yellowknife Ar**	**96.18**	**27**	P		**P**	**17

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.17**	**282**	Pn	Pn	17 17 17.3	+1.7
	9.8nm,0.3s,baz=114,slow=19,SNR=232						
DZM				Sn	Sn	17 18 04.0	-1.1
	2.5nm,0.3s,baz=140,slow=21,SNR=7.3						
ASAR	**Alice Springs**	**33.86**	**261**	P	P	17 22 54.9	-0.2
	0.2nm,0.7s,baz=94,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**34.05**	**268**	P	P	17 22 56.1	-0.6
	0.2nm,0.8s,baz=100,slow=8.3,SNR=2.8						
EKA	**Eskdalemuir Ar**	**147.41**	**354**	PKPbc	PKPdf	17 35 53.8	+0.2
	3.9nm,1.1s,baz=10,slow=4.1,SNR=5.1						
GERES	**GERESS Array B**	**148.50**	**331**	PKPbc	PKPbc	17 36 00.6	+1.3
	0.2nm,0.4s,baz=28,slow=2.3,SNR=4.0						

IDC 23 17:34:08.8±1.9, 2°.66N×124°.54E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/39, mbtmp3.1/3, Error ellipse: s-maj=201.9km s-min=25.9km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.44**	**157**	P	P	17 39 28.9	-0.6
	0.3nm,0.6s,baz=336,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**27.71**	**161**	P	P	17 39 60.0	+0.9
	0.1nm,0.8s,baz=344,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**57.21**	**327**	P	P	17 43 57.6	-0.3
	0.1nm,0.4s,baz=139,slow=7.7,SNR=4.1						

*CASC **23** 17:34:42.5±2.9, 8°.40N×83°.06W, h1km±9km, MD4.3*
*IDC **23** 17:34:47.9±2.9, 9°.60N×82°.79W, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.6/33, mbtmp4.0/5, ML3.8/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/33, Error ellipse: s-maj=74.0km s-min=18.1km az=7.0*
ISC 23 17:34:39.5±2.5, 8°.2N±0°.1×83°.15W±0°.05, h2km±13km, n31, σ1$35/28, mb3.9/3, MS3.4/5, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.46**	**358**	⇑*eP*	**Pg**	**17 34 48.8**	**+0.3**
BRU2	**Volcan**	**0.75**	**37**	⇓*iP*	**Pg**	**17 34 54.3**	**+0.3**
BRU2				*eS*	**Sg**	**17 35 03.4**	**-0.4**
CTCR	**Cotoan**	**0.80**	**29**	⇓*iP*	**Pg**	**17 34 54.9**	**0.0**
BRU	**Baru**	**0.85**	**44**	*eP*	**Pg**	**17 34 55.6**	**-0.2**
CNI	**Changuinola**	**1.37**	**27**	*eP*	**Pn**	**17 35 04.6**	**-1.1**
CNI				*eS*	**Sg**	**17 35 25.9**	**+2.3**
BUS	**Buena Vista**	**1.48**	**336**	*eP*	**Pn**	**17 35 07.3**	**-0.4**
BUS				*eS*	**Sg**	**17 35 28.8**	**+1.5**
QCR	**Quepos**	**1.58**	**321**	⇑*eP*	**Pb**	**17 35 09.2**	**-0.4**
QCR				*eS*	**Sb**	**17 35 28.8**	**-1.3**
URSC	**Urasca**	**1.75**	**339**	⇑*eP*	**Pn**	**17 35 11.2**	**+0.1**
SJS	**Escuela Geolog**	**1.95**	**333**	*eP*	**Pb**	**17 35 15.8**	**-0.1**
SJS				*eS*	**Sn**	**17 35 38.2**	**-0.8**
CAO	**Cobano**	**2.44**	**308**	*eP*	**Pn**	**17 35 21.1**	**+0.6**
JCR	**Jicaral**	**2.54**	**311**	*eP*	**Pb**	**17 35 24.3**	**-1.6**
JTS	**JuntasAbangare**	**2.74**	**320**	Pn	**Pn**	**17 35 26.5**	**+2.0**
	61nm,0.3s,baz=99,slow=19,SNR=134						
JTS				Pg	**Pb**	**17 35 28.5**	**-0.8**
	92nm,0.3s,baz=117,slow=4.5,SNR=142						
JTS				Lg	Lg	17 35 58.9	
	86nm,0.3s,baz=319,slow=22,SNR=18						
JTS				LR	LR	17 36 15.3	
	comp=Z,99nm,19.2s,baz=118,slow=39						
PTEN	**Parque Tenorio**	**3.09**	**324**	*iP*	**Pb**	**17 35 33.8**	**-1.5**
ZANG	**Zanguenga, Cho**	**3.34**	**77**	*eP*	**Pb**	**17 35 38.6**	**-0.9**
ZANG				*eS*	**Sb**	**17 36 22.4**	**+1.9**
LAPC	**Finca la Perla**	**3.41**	**319**	*iP*	Pb	17 35 37.2	-3.5
LAPC				*iS*	**Sn**	**17 36 15.5**	**+0.7**
BCIP	**Isla Barro Col**	**3.42**	**73**	*eP*	**Pn**	**17 35 35.4**	**+1.6**
BCIP				*eS*	**Sg**	**17 36 27.0**	**-2.5**
GB1A	**Borinquen Arri**	**3.42**	**320**	*iP*	Pb	17 35 37.6	-3.4
APG	**El Apazote**	**9.86**	**314**	Pn	**Pn**	**17 37 03.6**	**+1.1**
	0.4nm,0.3s,baz=144,slow=11,SNR=3.7						
PTP	**Ponta Puerca**	**19.76**	**58**	⇓*iP*	x	17 34 48.1	
PTGA	**Pitinga**	**24.75**	**110**	LR	LR	17 49 58.1	
	comp=Z,52nm,19.3s,baz=51,slow=36						
H03N2	**Juan Fernandez**	**41.59**	**175**	T	T	18 26 52.7	
	baz=354,slow=75,SNR=99						
H03N1	**Juan Fernandez**	**41.60**	**175**	T	T	18 26 52.7	
	baz=354,slow=75,SNR=186						
H03N3	**Juan Fernandez**	**41.61**	**175**	T	T	18 26 53.2	
	baz=354,slow=75,SNR=199						
BDFB	**Brasilia**	**42.10**	**124**	LR	LR	18 04 16.3	
	comp=Z,44nm,19.2s,baz=339,slow=42						
ULM	**Lac du Bonnet**	**43.25**	**348**	P	**P**	**17 42 39.9**	**-2.3**
	2.5nm,0.9s,baz=186,slow=15,SNR=3.4						
RCBR	**Riachuelo**	**49.14**	**105**	LR	LR	18 05 26.9	
	comp=Z,58nm,18.4s,baz=300,slow=37						
YKA	**Yellowknife Ar**	**58.84**	**344**	P	**P**	**17 44 39.6**	**+0.3**
	0.9nm,1.0s,baz=140,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**71.60**	**336**	P	**P**	**17 46 03.8**	**+1.6**
	0.7nm,0.9s,baz=114,slow=4.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**83.19**	**78**	LR	LR	18 24 35.0	
	comp=Z,12nm,18.9s,baz=330,slow=36						
DAVOX	**Davos/Dischmat**	**86.17**	**43**	LR	LR	18 18 15.9	
	comp=Z,31nm,21.7s,baz=266,slow=31						
CMAR	**Chiang Mai Arr**	**153.44**	**356**	PKPbc	PKPbc	17 54 46.2	+5.6
	0.5nm,1.0s,baz=345,slow=2.8,SNR=2.7						

*DDA **23** 17:43:55.3, 36°.57N×26°.96E, h6km, MD3.0*
*ATH **23** 17:43:55.7, 36°.56N×26°.95E, h4km±2km, MD3.3/11*
*CSEM **23** 17:43:55.7±0.2, 36°.57N×26°.97E, h2km, ML3.5, Error ellipse: s-maj=4.8km s-min=3.6km az=133.0*
*THE **23** 17:43:56.4, 36°.56N×27°.02E, h7km±2km, ML3.5/3, Error ellipse: s-maj=2.9km s-min=0.7km az=68.0*
*ISK **23** 17:44:08.2, 37°.18N×27°.67E, h26km, MD3.1*
ISC 23 17:43:55.8±1.0, 36°.56N±0°.02×26°.96E±0°.02, h6km±9km, n65, σ0$64/88, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.18**	**78**	P	**Pg**	**17 43 59.2**	**-0.2**
NIS1				S	**Sg**	**17 44 01.9**	**+0.1**
NIS1	**Nisyros Isl.**	**0.18**	**78**	*ePG*	**Pg**	**17 43 59.2**	**-0.2**
NIS1				*eSG*	**Sg**	**17 44 02.4**	**+0.6**
NIS1	**Nisyros Isl.**	**0.18**	**78**	P	**Pg**	**17 43 59.2**	**-0.2**
NIS1				S	**Sg**	**17 44 01.9**	**+0.1**
NIS1				*eSg*	Sg	17 44 02.4	+0.5
BDRM	**Kayabasi**	**0.63**	**38**	*iP*	**Pg**	**17 44 07.4**	**-0.5**
BDRM				*iS*	**Sg**	**17 44 16.7**	**+0.5**
BDRM	**Kayabasi**	**0.63**	**38**	*iP*	**Pg**	**17 44 07.4**	**-0.5**
BDRM				*iS*	**Sg**	**17 44 16.7**	**+0.5**
ARG	**Arkhangelos**	**1.00**	**110**	P	**Pg**	**17 44 14.7**	**-0.3**
ARG				S	**Sb**	**17 44 28.6**	**-0.4**
ARG	**Arkhangelos**	**1.00**	**110**	*ePG*	**Pg**	**17 44 14.6**	**-0.4**
ARG				*eSG*	**Sb**	**17 44 28.5**	**-0.4**
ARG	**Arkhangelos**	**1.00**	**110**	P	**Pg**	**17 44 14.7**	**-0.3**
ARG				*eSg*	**Sb**	**17 44 28.5**	**-0.4**
KARP	**Karpathos**	**1.03**	**171**	P	**Pg**	**17 44 15.3**	**-0.2**
KARP				S	**Sb**	**17 44 29.6**	**-0.1**
KARP	**Karpathos**	**1.03**	**171**	*ePG*	**Pg**	**17 44 15.4**	**-0.1**
KARP				*eSG*	**Sb**	**17 44 29.7**	**0.0**
KARP	**Karpathos**	**1.03**	**171**	*ePg*	**Pg**	**17 44 15.4**	**-0.1**
KARP				S	**Sb**	**17 44 29.6**	**-0.1**
SMG	**Samos**	**1.15**	**355**	P	**Pb**	**17 44 17.4**	**-0.6**
SMG				S	**Sb**	**17 44 33.2**	**0.0**
SMG	**Samos**	**1.15**	**355**	*ePB*	**Pb**	**17 44 17.5**	**-0.6**
SMG				*eSB*	**Sb**	**17 44 33.5**	**+0.3**
SMG	**Samos**	**1.15**	**355**	*ePb*	**Pb**	**17 44 17.5**	**-0.6**
SMG				S	**Sb**	**17 44 33.2**	**0.0**
YER	**Yerkesik**	**1.20**	**61**	*ePG*	**Pg**	**17 44 19.1**	**+0.2**
YER				*eSG*	Sb	17 44 26.8	-8.0
YER	**Yerkesik**	**1.20**	**61**	*ePg*	**Pg**	**17 44 19.1**	**+0.2**
SANT	**Santorini**	**1.23**	**261**	P	**Pn**	**17 44 19.5**	**0.0**
SANT				S	**Sn**	**17 44 37.0**	**+0.6**
SANT	**Santorini**	**1.23**	**261**	P	**Pn**	**17 44 19.5**	**0.0**
SANT				S	**Sn**	**17 44 37.0**	**+0.6**
APE	**Apeiranthos**	**1.25**	**294**	P	**Pn**	**17 44 19.5**	**-0.4**
APE	**Apeiranthos**	**1.25**	**294**	*ePG*	**Pn**	**17 44 19.1**	**-0.8**
APE				*eSB*	**Sb**	**17 44 36.7**	**+0.4**
APE	**Apeiranthos**	**1.25**	**294**	*ePg*	**Pn**	**17 44 19.1**	**-0.8**
APE	**Apeiranthos**	**1.25**	**294**	P	**Pn**	**17 44 19.5**	**-0.4**
APE				*eSb*	**Sb**	**17 44 36.7**	**+0.4**
TURN	**Turunc**	**1.35**	**76**	*iP*	Pn	17 44 15.6	-5.6
TURN				*iS*	Sb	17 44 30.8	-8.3
AYDB	**Zeytinkoy-Aydi**	**1.57**	**28**	*ePG*	**Pn**	**17 44 24.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.57**	**28**	*ePg*	**Pn**	**17 44 24.5**	**+0.2**
ZKR	**Zakros**	**1.57**	**203**	P	**Pn**	**17 44 24.3**	**+0.1**
ZKR	**Zakros**	**1.57**	**203**	*ePN*	**Pn**	**17 44 24.4**	**+0.2**
ZKR	**Zakros**	**1.57**	**203**	*ePn*	**Pn**	**17 44 24.4**	**+0.2**
NPS	**Neapolis**	**1.70**	**221**	P	**Pn**	**17 44 25.4**	**-0.6**
NPS				S	**Sn**	**17 44 47.3**	**-0.7**
NPS	**Neapolis**	**1.70**	**221**	*ePN*	**Pn**	**17 44 26.6**	**+0.6**
NPS				*eSB*	**Sb**	**17 44 49.6**	**+0.6**
NPS	**Neapolis**	**1.70**	**221**	P	**Pn**	**17 44 25.4**	**-0.6**
NPS	**Neapolis**	**1.70**	**221**	*ePn*	**Pn**	**17 44 26.6**	**+0.6**
NPS				S	**Sn**	**17 44 47.3**	**-0.7**
NPS				*eSb*	**Sb**	**17 44 49.6**	**+0.6**
BLCB	**Balcova**	**1.82**	**2**	*ePN*	**Pg**	**17 44 30.5**	**-0.1**
BLCB	**Balcova**	**1.82**	**2**	*ePn*	**Pg**	**17 44 30.5**	**-0.1**
IZM	**Izmir**	**1.85**	**7**	*ePN*	**Pg**	**17 44 31.5**	**+0.4**
IZM	**Izmir**	**1.85**	**7**	*ePn*	**Pg**	**17 44 31.5**	**+0.4**
LAST	**Lasithi**	**1.85**	**221**	*ePB*	**Pb**	**17 44 30.2**	**+0.2**
LAST	**Lasithi**	**1.85**	**221**	*ePb*	**Pb**	**17 44 30.2**	**+0.2**
CHOS	**Chios island**	**1.96**	**339**	*ePN*	**Pb**	**17 44 31.3**	**-0.6**
CHOS				*eSN*	**Sg**	**17 44 58.4**	**-0.3**
CHOS	**Chios island**	**1.96**	**339**	*ePn*	**Pb**	**17 44 31.3**	**-0.6**
CHOS				*eSn*	**Sg**	**17 44 58.4**	**-0.3**
DNZL	**Cakiroluk**	**2.01**	**55**	*i* P	**Pg**	**17 44 33.8**	**-0.5**
DNZL	**Cakiroluk**	**2.01**	**55**	*i* P	**Pg**	**17 44 33.8**	**-0.5**
GOLH	**Golhisar**	**2.19**	**71**	*i* P	**Pn**	**17 44 34.0**	**+1.2**
GOLH	**Golhisar**	**2.19**	**71**	*i* P	**Pn**	**17 44 34.0**	**+1.2**
MANT	**Manisa**	**2.30**	**33**	*i* P	**Pg**	**17 44 39.3**	**-0.7**
MANT	**Manisa**	**2.30**	**33**	*i* P	**Pg**	**17 44 39.3**	**-0.7**
SIVA	**Sivas**	**2.33**	**229**	*ePN*	**Pb**	**17 44 37.2**	**-1.0**
SIVA	**Sivas**	**2.33**	**229**	*ePn*	**Pb**	**17 44 37.2**	**-1.0**
KULA	**Kula-Manisa**	**2.37**	**34**	*ePN*	**Pn**	**17 44 35.0**	**-0.2**
KULA	**Kula-Manisa**	**2.37**	**34**	*ePn*	**Pn**	**17 44 35.0**	**-0.2**
ELL	**Elmali**	**2.38**	**85**	*ePN*	**Pb**	**17 44 38.9**	**-0.1**
ELL	**Elmali**	**2.38**	**85**	*ePn*	**Pb**	**17 44 38.9**	**-0.1**
AKS	**Akhisar**	**2.41**	**16**	*ePN*	**Pn**	**17 44 36.6**	**+0.9**
AKS	**Akhisar**	**2.41**	**16**	*ePn*	**Pn**	**17 44 36.6**	**+0.9**
VAM	**Vamos**	**2.52**	**244**	*ePB*	**Pn**	**17 44 38.9**	**+1.7**
VAM	**Vamos**	**2.52**	**244**	*ePb*	**Pn**	**17 44 38.9**	**+1.7**
KHL	**Karahalli**	**2.69**	**48**	*ePN*	**Pn**	**17 44 38.9**	**-0.8**
KHL	**Karahalli**	**2.69**	**48**	*ePn*	**Pn**	**17 44 38.9**	**-0.8**
KHAL	**Karahalli**	**2.70**	**47**	*i* P	**Pb**	**17 44 45.6**	**+1.0**
BALB	**Balikesir**	**3.15**	**13**	*ePN*	**Pn**	**17 44 47.9**	**+1.9**
BALB	**Balikesir**	**3.15**	**13**	*ePn*	**Pn**	**17 44 47.9**	**+1.9**
TVSB	**Tavsanli**	**3.49**	**34**	*ePN*	**Pn**	**17 44 50.2**	**-0.5**
TVSB	**Tavsanli**	**3.49**	**34**	*ePn*	**Pn**	**17 44 50.2**	**-0.5**
ALT	**Altintas**	**3.52**	**44**	*ePN*	**Pn**	**17 44 50.6**	**-0.5**
ALT	**Altintas**	**3.52**	**44**	*ePn*	**Pn**	**17 44 50.6**	**-0.5**

*IDC **23** 17:53:10.0±5.7, 9°.70S×111°.07E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.4/37, mbtmp3.6/3, Error ellipse: s-maj=347.8km s-min=28.3km az=50.0*
*DJA **23** 17:53:15.9±1.1, 10°.5S±5°×11°.2E±°, h14km±11km, M3.6/14, MLv3.6/14*
*ISCJB **23** 17:53:17.4±1.0, 9°.46S±0°.08×111°.90E±0°.05, h33km, mb3.5/3, Error ellipse: s-maj=12.1km s-min=6.9km az=12.7*
ISC 23 17:53:17.8±1.5, 9°.5S±0°.1×111°.93E±0°.06, h35km, n16, σ1$56/13, mb3.7/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**1.39**	**22**	P	x	17 53 39.9	
KRKI				S	x	17 53 59.2	
PCJI	**Pacitan**	**1.45**	**329**	P	**Pn**	**17 53 41.1**	**-0.5**
GMJI	**Gumukmas**	**1.91**	**52**	P	**Pn**	**17 53 47.1**	**-0.7**
UGM	**Wanagama**	**2.06**	**318**	P	**Pn**	**17 53 49.6**	**-0.4**
UGM				S	**Sn**	**17 54 13.9**	**-0.7**
NGJI	**Ngawi**	**2.12**	**347**	P	**Pn**	**17 53 53.7**	**+2.9**
BLJI	**Banyuglugur**	**2.37**	**44**	P	**Pn**	**17 53 55.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.41**	**66**	P	**Pn**	**17 53 55.4**	**+0.7**
GRJI	**Gresik**	**2.58**	**12**	P	**Pn**	**17 53 58.0**	**+0.9**
BYJI	**Banyuwangi**	**2.70**	**63**	P	x	17 54 00.9	
SMRI	**Semarang**	**2.80**	**328**	P	**Pn**	**17 54 01.6**	**+1.4**
ABJI	**Asem Bagus**	**2.81**	**54**	P	**Pn**	**17 54 00.1**	**-0.2**
BJII	**Banjamegara**	**3.04**	**314**	P	x	17 54 04.6	
CISI	**Cisompet, Garu**	**4.48**	**295**	P	**Pn**	**17 54 24.3**	**+1.0**
ASAR	**Alice Springs**	**25.31**	**127**	P	**P**	**17 58 43.6**	**+2.1**
	0.3nm,0.6s,baz=300,slow=9.2,SNR=7.5						
MKAR	**Makanchi Array**	**61.92**	**337**	P	**P**	**18 03 31.8**	**-2.2**
	0.3nm,0.5s,baz=153,slow=7.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**67.20**	**343**	P	P	18 04 05.1	-3.1
	0.4nm,0.5s,baz=161,slow=4.6,SNR=3.1						

*NIED **23** 18:03:00, 37°.90N×142°.20E, h32km, Mw4.0 Best double couple: M0 9.83000×10^14 NP1:φ=283.00000°, δ35.00000°, λ9.00000°. NP2:φ186.00000°, δ85.00000°, λ124.00000°.*
*ISCJB **23** 18:03:17.7±0.5, 37°.91N±0°.04×142°.28E±0°.05, h30km, mb3.6/13, MS3.4/1, Error ellipse: s-maj=5.5km s-min=4.8km az=136.0*
*JMA **23** 18:03:19.2±0.1, 37°.91N×142°.15E, h38km±2km, M4.1*
JMA Felt I J1.
*IDC **23** 18:03:21.3±2.4, 37°.87N×142°.23E, h49km±22km, mb3.4/13, mb1 3.7/17, mb1mx3.6/49, mbtmp3.8/17, ML3.5/4, MS3.2/5, Ms1 3.2/5, ms1mx2.9/25, Error ellipse: s-maj=21.5km s-min=14.6km az=110.0*
ISC 23 18:03:19.5±0.7, 37°.94N±0°.05×142°.21E±0°.06, h30km, n47, σ1$05/51, mb3.6/13, 5C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.85**	**308**	⇑P	**Pn**	**18 03 34.7**	**-0.8**
JIO				S	**Sb**	**18 03 45.5**	**-1.4**
JMM	**Marumori**	**1.12**	**267**	⇑P	**Pn**	**18 03 38.1**	**-1.1**
JFK	**Kawauchi**	**1.20**	**242**	P	**Pn**	**18 03 38.7**	**-1.6**
JFK				*eS*	**Sn**	**18 03 52.9**	**-2.7**
JMK	**Ichinoseki**	**1.28**	**323**	⇑P	**Pn**	**18 03 41.1**	**-0.2**
JMK				*eS*	**Sn**	**18 03 57.0**	**-0.4**
JOU	**Okura**	**1.29**	**290**	⇑P	**Pn**	**18 03 41.4**	**-0.1**
JOU				*eS*	**Sn**	**18 03 57.5**	**-0.3**
JFT	**Otama**	**1.54**	**255**	P	**Pn**	**18 03 44.8**	**-0.2**
JFT				S	**Sn**	**18 04 03.4**	**-0.6**
JOM	**Ohasama**	**1.69**	**335**	⇑P	**Pn**	**18 03 47.1**	**0.0**
JOM				*eS*	**Sn**	**18 04 07.6**	**-0.1**
JYS	**Shirataka**	**1.71**	**280**	P	**Pn**	**18 03 47.3**	**-0.1**
JYS				*eS*	**Sn**	**18 04 08.2**	**0.0**
JYK	**Kaneyama**	**1.75**	**305**	P	**Pn**	**18 03 47.9**	**0.0**
JYK				*eS*	**Sn**	**18 04 09.7**	**+0.5**
JRG	**Rokugo**	**1.91**	**320**	P	**Pn**	**18 03 50.1**	**+0.1**
JFY	**Yanaizu**	**2.05**	**256**	P	**Pn**	**18 03 52.0**	**-0.1**
JYA	**Atsumi**	**2.07**	**289**	P	**Pn**	**18 03 51.9**	**-0.3**
MJAR	**Matsushiro Arr**	**3.48**	**248**	P	**Pn**	**18 04 13.5**	**+1.8**
	9.1nm,0.3s,baz=55,slow=10.0,SNR=121						
MJAR				S	**Sn**	**18 04 55.4**	**+3.5**
	7.2nm,0.3s,baz=81,slow=17,SNR=5.0						
MJAR				LR	LR	18 05 49.0	
	comp=Z,399nm,18.0s,baz=80,slow=43						
MAT	**Matsushiro**	**3.48**	**248**	P	**Pn**	**18 04 13.6**	**+1.9**
MAT				S	**Sn**	**18 04 52.4**	**+0.5**
ASAJ	**Asahikawa**	**6.18**	**3**	P	**Pn**	**18 04 50.0**	**+1.2**
	1.2nm,0.3s,baz=186,slow=18,SNR=17						
ASAJ				S	**Sn**	**18 05 56.7**	**-1.7**
	1.8nm,0.3s,baz=93,slow=17,SNR=1.9						
ASAJ				LR	LR	18 07 35.8	
	comp=Z,84nm,19.7s,baz=26,slow=41						
USRK	**Ussuriysk Arra**	**9.93**	**312**	P	**Pn**	**18 05 40.5**	**+0.4**
	0.6nm,0.3s,baz=116,slow=14,SNR=7.3						
JNU	**Nakatsue**	**10.40**	**246**	P	**Pn**	**18 05 48.5**	**+1.8**
	0.4nm,0.3s,baz=51,slow=6.5,SNR=6.7						
JNU				LR	LR	18 10 20.6	
	comp=Z,146nm,18.5s,baz=60,slow=40						
KSRS	**Korea Array**	**11.33**	**272**	P	Pn	18 06 04.2	+4.9
	0.2nm,0.3s,baz=86,slow=14,SNR=11						
KSRS				LR	LR	18 10 03.7	
	comp=Z,91nm,20.9s,baz=84,slow=35						
SEY	**Seymchan**	**25.79**	**11**	P	**P**	**18 08 48.9**	**+1.4**
	1.3nm,0.7s,baz=209,slow=19,SNR=6.3						
SONM	**Songino Array**	**27.82**	**302**	P	**P**	**18 09 06.7**	**+0.5**
	2.4nm,0.7s,baz=109,slow=9.2,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**28.09**	**123**	T	T	18 38 49.3	
	baz=320,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.10**	**123**	T	T	18 38 50.9	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.11**	**123**	T	T	18 38 56.7	
	baz=320,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	18 40 30.7	
	baz=321,slow=76,SNR=133						
H11S3	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	18 40 30.4	
	baz=321,slow=76,SNR=115						
H11S2	**WAKE ISLAND Hy**	**28.86**	**125**	T	T	18 40 31.9	
	baz=321,slow=76,SNR=60						
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	**P**	**18 11 06.3**	**+0.4**
	2.5nm,0.6s,baz=82,slow=7.6,SNR=11						
CMAR	**Chiang Mai Arr**	**42.34**	**255**	P	**P**	**18 11 11.1**	**+0.1**
	0.3nm,0.5s,baz=50,slow=7.9,SNR=4.7						
CMAR				LR	LR	18 32 12.3	
	comp=Z,48nm,18.1s,baz=223,slow=41						
MKAR	**Makanchi Array**	**44.18**	**301**	P	**P**	**18 11 25.6**	**0.0**
	1.1nm,0.7s,baz=67,slow=9.3,SNR=15						
TAPN	**Taplejung**	**46.51**	**274**	*eP*	**P**	**18 11 46.0**	**+1.4**
	4.0nm,0.6s						
ODAN	**Odare**	**46.99**	**273**	*eP*	**P**	**18 11 48.4**	**+0.1**
JIRN	**Jiri**	**47.57**	**275**	*eP*	**P**	**18 11 53.3**	**+0.4**
	3.8nm,0.3s						
RAMN	**Ramite**	**47.57**	**274**	*eP*	**P**	**18 11 52.2**	**-0.6**
	8.2nm,0.7s						
GUN	**Gumba**	**47.70**	**275**	*eP*	**P**	**18 11 55.2**	**+1.3**
	12nm,0.4s						
KKN	**Kakani**	**48.22**	**275**	*eP*	**P**	**18 11 58.0**	**+0.2**
	10.0nm,0.6s						
PKIN	**Phulchoki**	**48.23**	**275**	*eP*	**P**	**18 11 57.6**	**-0.4**
	3.2nm,0.5s						
ILAR	**Eielson Array**	**48.40**	**33**	P	**P**	**18 11 58.0**	**-0.3**
	0.3nm,0.8s,baz=268,slow=6.9,SNR=4.4						
GKN	**Gorkha**	**48.63**	**276**	*eP*	**P**	**18 12 01.0**	**+0.1**
	5.4nm,0.4s						
DANN	**Dangsing**	**49.16**	**277**	*eP*	**P**	**18 12 05.4**	**+0.2**
KOLN	**Koldanda**	**49.55**	**276**	*eP*	**P**	**18 12 07.2**	**-0.8**
WRA	**Warramunga Arr**	**58.04**	**189**	P	**P**	**18 13 08.5**	**-1.2**
	0.9nm,0.5s,baz=5.8,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**61.77**	**189**	P	**P**	**18 13 34.3**	**-1.1**
	0.4nm,0.8s,baz=8.9,slow=6.6,SNR=4.1						
YKA	**Yellowknife Ar**	**62.71**	**31**	P	**P**	**18 13 41.7**	**+0.5**
	0.1nm,0.5s,baz=307,slow=6.8,SNR=3.8						
FINES	**FINESS Array B**	**68.31**	**332**	P	**P**	**18 14 16.9**	**-0.5**
	2.1nm,0.8s,baz=21,slow=11,SNR=5.7						
NOA	**NORSAR Array B**	**73.60**	**337**	P	**P**	**18 14 49.1**	**-0.4**
	0.5nm,0.7s,baz=37,slow=6.1,SNR=3.2						
PDAR	**Pinedale Array**	**76.59**	**46**	P	**P**	**18 15 07.1**	**-0.3**
	0.2nm,0.7s,baz=279,slow=1.7,SNR=2.3						
GERES	**GERESS Array B**	**82.28**	**329**	P	**P**	**18 15 37.8**	**-0.3**
	0.3nm,0.5s,baz=39,slow=6.3,SNR=5.2						

*IDC **23** 18:04:22.5±2.9, 2°.07S×100°.30E, h41km±9km, mb3.4/5, mb1 3.6/6, mb1mx3.4/40, mbtmp3.6/6, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/18, Error ellipse: s-maj=132.9km s-min=15.7km az=57.0*
*DJA **23** 18:04:28.0±2.4, 2°.5S±15°×10°.0E±1°.3, h10km, M3.9/4, MLv3.9/4*
ISC 23 18:04:23.0±1.5, 2°.0S±0°.2×100°.3E±0°.3, h56km, n13, σ1$70/13, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.09**	**7**	P	**Pn**	**18 04 42.3**	**+0.2**
PPI	**Padang Panjang**	**1.54**	**2**	P	**Pn**	**18 04 49.1**	**+1.0**
BKNI	**Bangkinang**	**2.42**	**17**	P	Pn	18 05 04.1	+4.0
MNSI	**Mandailing Nat**	**2.88**	**345**	P	**Pn**	**18 05 06.7**	**+0.3**
MNSI				S	**Sn**	**18 05 37.0**	**-2.9**
PSI	**Prapat**	**4.98**	**344**	P	**Pn**	**18 05 35.9**	**+0.6**
	1.1nm,0.3s,baz=106,slow=18,SNR=3.5						
PSI				S	**Sn**	**18 06 33.4**	**+1.8**
	1.9

WIZ	White Island	0.49 162	PN	Pn	18 44 19.6	-2.1
WIZ			SN	S	18 44 46.7	-1.9
WIZ	White Island	0.49 162	Pn	Pn	18 44 19.6	-2.1
MYRZ	Mayor Island	0.65 250	PN	Pn	18 44 20.5	-1.8
OPRZ	Ohinepanea	0.86 204	PN	Pn	18 44 21.3	-1.8
OPRZ	Ohinepanea	0.86 204	Pn	Pn	18 44 21.4	-1.8
TGRZ	Tauranga	0.89 221	PN	Pn	18 44 21.6	-1.7
TGRZ			SN	S	18 44 49.8	-1.5
TGRZ	Tauranga	0.89 221	Pn	Pn	18 44 21.6	-1.7
HAZ	Te Kaha	0.93 138	PN	Pn	18 44 21.5	-2.0
EDRZ	Edgecumbe	1.06 191	ePN	Pn	18 44 22.9	-1.4
EDRZ	Edgecumbe	1.06 191	ePn	Pn	18 44 22.9	-1.4
KUZ	Kuaotunu	1.07 287	PN	Pn	18 44 21.6	-2.8
KUZ	Kuaotunu	1.07 287	Pn	Pn	18 44 21.6	-2.8
KARZ	Kaharoa	1.13 212	PN	Pn	18 44 23.8	-0.9
KARZ	Kaharoa	1.13 212	Pn	Pn	18 44 23.8	-0.9
MXZ	Matakaoa Point	1.16 116	PN	Pn	18 44 22.9	-1.8
MXZ			SN	S	18 44 49.4	-4.5
MXZ			AML	AML	18 44 50.3	
MXZ			AML	AML	18 44 50.4	
MXZ			AML	AML	18 44 50.6	
MXZ	Matakaoa Point	1.16 116	Pn	Pn	18 44 22.9	-1.8
MXZ			Sn	S	18 44 49.5	-4.5
MKRZ	Makatiti	1.16 201	PN	Pn	18 44 24.4	-0.4
MKRZ	Makatiti	1.16 201	Pn	Pn	18 44 24.4	-0.4
OMRZ	Omania	1.16 205	PN	Pn	18 44 23.9	-0.9
OMRZ	Omania	1.16 205	Pn	Pn	18 44 23.9	-0.9
URZ	Urewera	1.20 176	PN	Pn	18 44 23.2	-1.7
URZ			AML	AML	18 44 54.2	
URZ			AML	AML	18 44 55.7	
URZ	Urewera	1.20 176	ePn	Pn	18 44 23.3	-1.7
URZ			eSn	S	18 44 47.4	-7.1
URZ			S	S	18 44 50.5	-3.9
URZ	Urewera	1.20 176	P	Pn	18 44 23.4	-1.6
	486nm,0.3s,baz=260,slow=4.1,SNR=16					
URZ			S	S	18 44 50.5	-3.9
	886nm,0.3s,baz=179,slow=23,SNR=31					
TARZ	Mount Tarawera	1.23 198	PN	Pn	18 44 24.7	-0.7
TARZ	Mount Tarawera	1.23 198	Pn	Pn	18 44 24.7	-0.7
UTU	Utuhina	1.28 210	⇑PN	Pn	18 44 25.2	-0.4
UTU	Utuhina	1.28 210	Pn	Pn	18 44 25.2	-0.4
HLRZ	Highlands Stat	1.29 203	⇑PN	Pn	18 44 25.0	-0.6
RRRZ	Republican Roa	1.33 197	⇑PN	Pn	18 44 24.9	-1.0
RRRZ	Republican Roa	1.33 197	Pn	Pn	18 44 24.9	-1.0
MWZ	Matawai	1.34 162	⇓PN	Pn	18 44 24.7	-1.3
MWZ			SN	S	18 44 53.3	-2.9
MWZ			AML	AML	18 45 05.0	
MWZ			AML	AML	18 45 05.0	
MWZ			AML	AML	18 45 05.0	
MWZ	Matawai	1.34 162	Pn	Pn	18 44 24.7	-1.3
MWZ			Sn	S	18 44 53.3	-2.9
TOZ	Tahuroa Road	1.37 240	⇓PN	Pn	18 44 25.0	-1.1
TOZ	Tahuroa Road	1.37 240	Pn	Pn	18 44 25.0	-1.1
PUZ	Puketiti	1.42 136	⇑PN	Pn	18 44 25.5	-1.0
PUZ			AML	AML	18 44 53.8	
PUZ			AML	AML	18 44 57.1	
PUZ	Puketiti	1.42 136	Pn	Pn	18 44 25.5	-1.0
HRRZ	Handcock Road	1.44 203	⇑PN	Pn	18 44 26.0	-0.7
HRRZ	Handcock Road	1.44 203	Pn	Pn	18 44 26.0	-0.7
GRRZ	Galatos Road	1.47 209	⇑PN	Pn	18 44 26.4	-0.5
MKAZ	Moumakai	1.47 268	⇓PN	Pn	18 44 25.0	-1.8
MKAZ	Moumakai	1.47 268	Pn	Pn	18 44 25.0	-1.8
PRRZ	Plateau Road	1.51 198	⇑PN	Pn	18 44 26.2	-1.0
PRRZ	Plateau Road	1.51 198	Pn	Pn	18 44 26.2	-1.0
ALRZ	Allen Road	1.59 199	PN	Pn	18 44 26.9	-0.8
ALRZ	Allen Road	1.59 199	Pn	Pn	18 44 26.9	-0.8
KBAZ	Karaka Road Bo	1.69 268	⇓PN	Pn	18 44 27.0	-1.4
MTAZ	Motutapu	1.70 279	⇑PN	Pn	18 44 26.7	-1.8
MTAZ	Motutapu	1.70 279	Pn	Pn	18 44 26.7	-1.8
CNGZ	Carnagh Statio	1.71 146	⇓PN	Pn	18 44 28.5	-0.2
CNGZ	Carnagh Statio	1.71 146	Pn	Pn	18 44 28.5	-0.2
TLZ	Tolley Road	1.71 222	PN	Pn	18 44 28.1	-0.6
SNGZ	Shannon Statio	1.74 171	⇑PN	Pn	18 44 28.1	-0.8
RIGZ	Rimuhau	1.75 160	⇑PN	Pn	18 44 28.5	-0.4
ABAZ	Army Bay	1.80 284	PN	Pn	18 44 27.4	-2.0
WHTZ	Whakaora	1.80 207	PN	Pn	18 44 29.1	-0.3
WHTZ	Whakaora	1.80 207	Pn	Pn	18 44 29.1	-0.3
HBAZ	Herne Bay Bore	1.83 276	⇑PN	Pn	18 44 27.7	-1.9
RAHZ	Arahi	1.85 178	⇑PN	Pn	18 44 29.2	-0.6
RAHZ			SN	S	18 45 01.0	-2.1
RAHZ	Arahi	1.85 178	Pn	Pn	18 44 29.2	-0.6
WATZ	Wairara	1.93 211	PN	Pn	18 44 30.0	-0.5
WATZ	Wairara	1.93 211	Pn	Pn	18 44 30.0	-0.5
WTAZ	Waiatarua	1.95 273	⇓PN	Pn	18 44 28.9	-1.8
WTAZ	Waiatarua	1.95 273	Pn	Pn	18 44 28.9	-1.8
HATZ	Hinemaiaia	1.96 201	PN	Pn	18 44 29.8	-1.0
HATZ	Hinemaiaia	1.96 201	Pn	Pn	18 44 29.8	-1.0
RVAZ	Riverhead Bore	1.96 278	⇑PN	Pn	18 44 28.6	-2.2
PRGZ	Paritu Road	1.98 160	⇓PN	Pn	18 44 30.9	-0.1
PRGZ	Paritu Road	1.98 160	Pn	Pn	18 44 30.9	-0.1
WHHZ	Waihua	2.02 175	PN	Pn	18 44 30.7	-0.5
KNZ	Kokohu	2.03 165	PN	Pn	18 44 30.3	-0.9
NMHZ	Naumai	2.04 184	PN	Pn	18 44 31.1	-0.3
NMHZ	Naumai	2.04 184	Pn	Pn	18 44 31.1	-0.3
RATZ	Rangitukua	2.05 208	PN	Pn	18 44 30.7	-0.8
RATZ	Rangitukua	2.05 208	Pn	Pn	18 44 30.7	-0.8
RITZ	Rihia Road	2.11 205	⇑PN	Pn	18 44 31.7	-0.5
RITZ	Rihia Road	2.11 205	Pn	Pn	18 44 31.7	-0.5
BKZ	Black Stump Fm	2.14 191	⇓PN	Pn	18 44 31.1	-1.3
BKZ			AML	AML	18 45 05.5	
BKZ			AML	AML	18 45 09.2	
BKZ	Black Stump Fm	2.14 191	Pn	Pn	18 44 31.1	-1.3
KATZ	Kakaramea	2.17 208	PN	Pn	18 44 31.9	-0.8
KATZ	Kakaramea	2.17 208	Pn	Pn	18 44 31.9	-0.8
MHGZ	Mahia Peninsul	2.21 161	PN	Pn	18 44 32.5	-0.4
MHGZ	Mahia Peninsul	2.21 161	Pn	Pn	18 44 32.5	-0.4
HIZ	Hauiti	2.23 229	⇓PN	Pn	18 44 33.0	-0.2
HIZ	Hauiti	2.23 229	Pn	Pn	18 44 33.0	-0.2
KRVZ	Karewarewa	2.29 207	PN	Pn	18 44 33.1	-0.8
KRVZ	Karewarewa	2.29 207	Pn	Pn	18 44 33.1	-0.8
WTVZ	West Tongariro	2.33 208	⇑PN	Pn	18 44 33.4	-0.8
WTVZ	West Tongariro	2.33 208	Pn	Pn	18 44 33.4	-0.8
OTVZ	Oturere	2.35 206	⇑PN	Pn	18 44 33.8	-0.7
OTVZ	Oturere	2.35 206	Pn	Pn	18 44 33.8	-0.7
TWVZ	Taurewa	2.35 211	PN	Pn	18 44 33.7	-0.7
TWVZ	Taurewa	2.35 211	Pn	Pn	18 44 33.8	-0.7
NGZ	Ngauruhoe	2.38 207	PN	Pn	18 44 33.9	-0.9
NGZ	Ngauruhoe	2.38 207	Pn	Pn	18 44 33.9	-0.9
MCHZ	McNeill Hill	2.39 186	⇑PN	Pn	18 44 34.2	-0.4
MCHZ	McNeill Hill	2.39 186	Pn	Pn	18 44 34.2	-0.4
WCZ	Waipu Caves	2.42 297	PN	Pn	18 44 32.3	-2.7
WCZ	Waipu Caves	2.42 297	Pn	Pn	18 44 32.3	-2.7
COVZ	Chateau Observ	2.42 208	⇓PN	Pn	18 44 34.2	-0.9
WPVZ	Whakapapa	2.43 208	PN	Pn	18 44 34.3	-0.8
WPVZ	Whakapapa	2.43 208	Pn	Pn	18 44 34.4	-0.8
TUVZ	Tukino	2.44 205	⇑PN	Pn	18 44 34.6	-0.7
TUVZ	Tukino	2.44 205	Pn	Pn	18 44 34.6	-0.7
FWVZ	Far West T-bar	2.47 207	PN	Pn	18 44 34.8	-0.9
FWVZ	Far West T-bar	2.47 207	Pn	Pn	18 44 34.8	-0.9
WHVZ	Whangaehu Hut	2.48 206	PN	Pn	18 44 34.8	-1.0
DRZ	Dome Shelter	2.48 207	⇑PN	Pn	18 44 35.6	-0.3
DRZ			SN	S	18 45 14.1	+0.1
DRZ	Dome Shelter	2.48 207	Pn	Pn	18 44 35.6	-0.3
TRVZ	Turoa	2.51 207	PN	Pn	18 44 35.2	-0.9
TRVZ	Turoa	2.51 207	Pn	Pn	18 44 35.2	-0.9
WNVZ	Wahianoa	2.52 206	⇑PN	Pn	18 44 35.2	-0.9
WNVZ	Wahianoa	2.52 206	Pn	Pn	18 44 35.2	-0.9
BHHZ	Black Hill Sta	2.53 197	⇑PN	Pn	18 44 34.9	-1.2
BHHZ	Black Hill Sta	2.53 197	Pn	Pn	18 44 34.9	-1.2
MOVZ	Moawhango	2.54 202	⇑PN	Pn	18 44 34.8	-1.3
MOVZ	Moawhango	2.54 202	Pn	Pn	18 44 34.9	-1.3
PKVZ	Pokaka	2.58 210	⇑PN	Pn	18 44 35.8	-0.8
PKVZ	Pokaka	2.58 210	Pn	Pn	18 44 35.8	-0.8
CKHZ	Cape Kidnapper	2.59 179	⇑PN	Pn	18 44 36.0	-0.7
CKHZ	Cape Kidnapper	2.59 179	Pn	Pn	18 44 36.0	-0.7
MTVZ	Mangateitei	2.61 207	PN	Pn	18 44 36.2	-0.7
VRZ	Vera Road	2.71 220	PN	Pn	18 44 37.9	0.0
VRZ	Vera Road	2.71 220	Pn	Pn	18 44 37.9	0.0
KAHZ	Kahuranaki	2.73 182	⇑PN	Pn	18 44 37.5	-0.6
KAHZ	Kahuranaki	2.73 182	Pn	Pn	18 44 37.5	-0.6
PNHZ	Pukenui	2.92 192	⇑PN	Pn	18 44 38.6	-1.4
PNHZ	Pukenui	2.92 192	Pn	Pn	18 44 38.6	-1.4
PXZ	Pawanui	2.97 182	PN	Pn	18 44 39.4	-1.1
PXZ			AML	AML	18 45 23.0	
PXZ			AML	AML	18 45 27.2	
PXZ	Pawanui	2.97 182	Pn	Pn	18 44 39.4	-1.1
WPHZ	Waipukurau	3.03 188	⇑PN	Pn	18 44 39.9	-1.2
WPHZ	Waipukurau	3.03 188	Pn	Pn	18 44 40.0	-1.2
DREZ	Durham Road	3.06 225	⇑PN	Pn	18 44 42.1	+0.6
DREZ	Durham Road	3.06 225	Pn	Pn	18 44 42.4	+0.9
TSZ	Takapari Road	3.10 195	⇓PN	Pn	18 44 40.5	-1.4
TSZ			AML	AML	18 45 25.2	
TSZ			AML	AML	18 45 27.0	
TSZ	Takapari Road	3.10 195	Pn	Pn	18 44 40.5	-1.4
WAZ	Wanganui	3.12 210	PN	Pn	18 44 41.2	-0.9
WAZ	Wanganui	3.12 210	Pn	Pn	18 44 41.2	-0.9
NEZ	North Egmont	3.18 225	PN	Pn	18 44 44.0	+1.2
NEZ	North Egmont	3.18 225	Pn	Pn	18 44 44.0	+1.2
PKE	Pukeiti	3.19 227	PN	Pn	18 44 43.8	+0.9
PKE	Pukeiti	3.19 227	Pn	Pn	18 44 43.8	+0.9
DFE	Dawson Falls	3.21 224	PN	Pn	18 44 44.6	+1.4
DFE	Dawson Falls	3.21 224	Pn	Pn	18 44 44.6	+1.4
PRHZ	Porangahau	3.21 185	PN	Pn	18 44 41.9	-1.2
PRHZ	Porangahau	3.21 185	Pn	Pn	18 44 41.9	-1.2
KHEZ	Kahui Hut	3.24 226	PN	Pn	18 44 44.2	+0.6
DVHZ	Dannevirke	3.30 191	PN	Pn	18 44 42.4	-1.7
DVHZ	Dannevirke	3.30 191	Pn	Pn	18 44 42.4	-1.7
OUZ	Omahuta	3.31 303	⇓PN	Pn	18 44 41.8	-2.5
OUZ	Omahuta	3.31 303	ePn	Pn	18 44 41.8	-2.5
NWEZ	Newall Road	3.31 227	PN	Pn	18 44 45.3	+1.0
NWEZ	Newall Road	3.31 227	Pn	Pn	18 44 45.3	+1.0
NMEZ	Namu Road	3.40 225	PN	Pn	18 44 45.8	+0.6
ANWZ	Angora Road	3.42 187	PN	Pn	18 44 44.1	-1.2
POWZ	Post Office Ro	3.46 196	⇑PN	Pn	18 44 44.3	-1.5
POWZ	Post Office Ro	3.46 196	Pn	Pn	18 44 44.3	-1.5
PRWZ	Pori Road	3.58 193	PN	Pn	18 44 45.8	-1.4
BFZ	Birch Farm	3.66 189	PN	Pn	18 44 46.5	-1.6
BFZ	Birch Farm	3.66 189	ePn	Pn	18 44 46.5	-1.6
MRZ	Mangatainoka R	3.76 197	PN	Pn	18 44 47.2	-2.1
MRZ			AML	AML	18 45 37.4	
MRZ			AML	AML	18 45 38.6	
MRZ	Mangatainoka R	3.76 197	Pn	Pn	18 44 47.2	-2.1
TIWZ	Tintock	3.81 193	PN	Pn	18 44 48.1	-1.8
TIWZ			AML	AML	18 45 39.9	
TIWZ			AML	AML	18 45 41.4	
TIWZ	Tintock	3.81 193	Pn	Pn	18 44 48.1	-1.8
CPWZ	Castlepoint	3.89 189	PN	Pn	18 44 49.8	-0.9
HOWZ	Holdsworth Sta	4.00 196	⇑PN	Pn	18 44 49.7	-2.3
HOWZ	Holdsworth Sta	4.00 196	Pn	Pn	18 44 49.7	-2.3
OGWZ	Otaki Gorge	4.01 200	PN	Pn	18 44 50.2	-1.9
OGWZ	Otaki Gorge	4.01 200	Pn	Pn	18 44 50.2	-1.9
KIW	Kapiti Island	4.13 203	⇑PN	Pn	18 44 51.3	-2.2
KIW			AML	AML	18 45 46.1	
KIW			AML	AML	18 45 46.3	
KIW	Kapiti Island	4.13 203	Pn	Pn	18 44 51.3	-2.2
TMWZ	Te Maipa	4.13 192	PN	Pn	18 44 51.5	-2.0
TMWZ	Te Maipa	4.13 192	Pn	Pn	18 44 51.5	-2.0
MTW	Mount Morrison	4.25 195	PN	Pn	18 44 52.4	-2.5
MTW			AML	AML	18 45 48.7	
MTW			AML	AML	18 45 56.2	
MTW	Mount Morrison	4.25 195	Pn	Pn	18 44 52.4	-2.5
CAW	Cannon Point	4.31 200	⇑PN	Pn	18 44 53.3	-2.3
CAW			AML	AML	18 45 50.4	
CAW			AML	AML	18 45 53.6	
CAW	Cannon Point	4.31 200	Pn	Pn	18 44 53.3	-2.3
DUWZ	D'Urville Isla	4.44 212	⇓PN	Pn	18 44 54.9	-2.3
DUWZ	D'Urville Isla	4.44 212	Pn	Pn	18 44 54.9	-2.3
TRWZ	Traveller	4.45 193	PN	Pn	18 44 55.5	-1.7
TRWZ			AML	AML	18 45 52.8	
TRWZ			AML	AML	18 45 57.3	
TRWZ	Traveller	4.45 193	Pn	Pn	18 44 55.5	-1.7
PAWZ	Paruwai Farm	4.48 195	PN	Pn	18 44 55.2	-2.4
PAWZ			AML	AML	18 45 51.5	
PAWZ			AML	AML	18 45 53.3	
PAWZ	Paruwai Farm	4.48 195	Pn	Pn	18 44 55.2	-2.4
MSWZ	Moikau Station	4.55 197	⇑PN	Pn	18 44 55.9	-2.6
MSWZ			AML	AML	18 45 56.4	
MSWZ			AML	AML	18 45 56.8	
MSWZ	Moikau Station	4.55 197	Pn	Pn	18 44 55.9	-2.6
WEL	Wellington	4.56 202	PN	Pn	18 44 56.1	-2.4
WEL	Wellington	4.56 202	Pn	Pn	18 44 56.1	-2.4
SNZO	South Karori	4.60 202	PN	Pn	18 44 56.3	-2.7
SNZO			AML	AML	18 45 56.4	
SNZO			AML	AML	18 45 56.4	
SNZO			AML	AML	18 45 57.5	
SNZO			AML	AML	18 45 57.5	
SNZO	South Karori	4.60 202	ePn	Pn	18 44 56.2	-2.7
SNZO			eSn	S	18 45 48.2	-7.6
BHW	Baring Head	4.64 200	PN	Pn	18 44 56.9	-2.6
BHW			AML	AML	18 45 56.9	
BHW			AML	AML	18 45 57.3	
BHW	Baring Head	4.64 200	Pn	Pn	18 44 56.9	-2.6
TCW	Tory Channel	4.65 206	PN	Pn	18 44 57.1	-2.5
TCW			AML	AML	18 45 56.8	
TCW			AML	AML	18 45 57.8	
TCW	Tory Channel	4.65 206	Pn	Pn	18 44 57.1	-2.5
PLWZ	Palliser	4.70 196	PN	Pn	18 44 57.7	-2.6
PLWZ	Palliser	4.70 196	Pn	Pn	18 44 57.7	-2.6
TUWZ	Tuamarina	4.96 208	PN	Pn	18 45 00.8	-2.6
TUWZ			AML	AML	18 46 02.4	
TUWZ			AML	AML	18 46 04.3	
TUWZ	Tuamarina	4.96 208	Pn	Pn	18 45 00.8	-2.6
NNZ	Nelson	5.01 213	PN	Pn	18 45 01.1	-2.9
NNZ	Nelson	5.01 213	Pn	Pn	18 45 01.1	-2.9
QRZ	Quartz Range	5.12 221	PN	Pn	18 45 02.4	-2.9
CMWZ	Cape Campbell	5.15 204	PN	Pn	18 45 03.8	-1.8
CMWZ			AML	AML	18 46 10.5	
CMWZ			AML	AML	18 46 13.3	
CMWZ	Cape Campbell	5.15 204	Pn	Pn	18 45 03.8	-1.8
BSWZ	Blackbirch Sta	5.24 207	PN	Pn	18 45 04.4	-2.3
BSWZ			AML	AML	18 46 10.5	
BSWZ			AML	AML	18 46 11.4	
BSWZ	Blackbirch Sta	5.24 207	Pn	Pn	18 45 04.4	-2.3
THZ	Tophouse	5.66 213	⇓PN	Pn	18 45 09.0	-3.0
THZ	Tophouse	5.66 213	Pn	Pn	18 45 09.0	-3.0
KHZ	Kahutara	5.97 205	PN	Pn	18 45 13.2	-2.4
KHZ			AML	AML	18 46 25.9	
KHZ			AML	AML	18 46 27.4	
KHZ	Kahutara	5.97 205	ePn	Pn	18 45 13.3	-2.4
KHZ			eSn	S	18 46 11.8	-14
DSZ	Denniston Nort	6.17 219	PN	Pn	18 45 14.5	-3.7
DSZ	Denniston Nort	6.17 219	Pn	Pn	18 45 14.5	-3.7
LTZ	Lake Taylor	6.77 211	⇑PN	Pn	18 45 22.2	-3.4
LTZ	Lake Taylor	6.77 211	Pn	Pn	18 45 22.2	-3.4
CRLZ	Canterbury Las	7.32 206	PN	Pn	18 45 29.4	-3.0
CRLZ	Canterbury Las	7.32 206	Pn	Pn	18 45 29.4	-3.0
OXZ	Oxford	7.32 210	PN	Pn	18 45 28.5	-4.0
MQZ	McQueen's Vall	7.42 205	PN	Pn	18 45 30.2	-3.5
MQZ	McQueen's Vall	7.42 205	Pn	Pn	18 45 30.2	-3.5
WVZ	Waitaha Valley	7.69 217	PN	Pn	18 45 33.0	-4.1
WVZ	Waitaha Valley	7.69 217	Pn	Pn	18 45 33.9	-3.2
RPZ	Rata Peaks	8.04 212	PN	Pn	18 45 38.6	-3.0
RPZ	Rata Peaks	8.04 212	ePn	Pn	18 45 38.3	-3.3
RPZ			eSn	S	18 46 53.5	-20
FOZ	Fox Glacier	8.56 218	PN	Pn	18 45 43.2	-4.8
FOZ	Fox Glacier	8.56 218	Pn	Pn	18 45 43.2	-4.8
LBZ	Lake Benmore	8.96 213	PN	Pn	18 45 50.0	-3.1
LBZ	Lake Benmore	8.96 213	Pn	Pn	18 45 50.0	-3.1
ODZ	Otahua Downs	9.30 209	PN	Pn	18 45 55.1	-2.3
ODZ	Otahua Downs	9.30 209	ePn	Pn	18 45 54.9	-2.5
ODZ			eSn	S	18 47 26.6	-16
JCZ	Jackson Bay	9.40 219	PN	Pn	18 45 54.2	-4.4
JCZ	Jackson Bay	9.40 219	Pn	Pn	18 45 54.2	-4.4
WKZ	Wanaka	9.83 215	PN	Pn	18 45 59.7	-4.3
WKZ	Wanaka	9.83 215	Pn	Pn	18 45 59.7	-4.3
EAZ	Earnscleugh	10.01 213	PN	Pn	18 46 03.1	-3.1
EAZ	Earnscleugh	10.01 213	Pn	Pn	18 46 03.1	-3.1
HHSZ	Highcliff Hill	10.04 207	PN	Pn	18 46 05.6	-1.0
TUZ	Tuapeka	10.46 210	⇑PN	Pn	18 46 10.8	-1.0
TUZ	Tuapeka	10.46 210	Pn	Pn	18 46 10.8	-1.0
MLZ	Mavora Lakes	10.61 216	PN	Pn	18 46 11.9	-1.9
MLZ	Mavora Lakes	10.61 216	Pn	Pn	18 46 11.9	-1.9
WHZ	Wether Hill Ro	11.13 215	ePn	Pn	18 46 16.0	-4.2
WHZ			eSn	S	18 48 12.4	-12
SYZ	Scrubby Hill	11.13 209	PN	Pn	18 46 19.5	-0.7
SYZ	Scrubby Hill	11.13 209	Pn	Pn	18 46 19.5	-0.7
DCZ	Deep Cove	11.20 218	ePn	Pn	18 46 18.9	-2.1
APZ	The Paps	11.84 212	PN	Pn	18 46 27.1	-1.9
APZ	The Paps	11.84 212	Pn	Pn	18 46 27.1	-1.9
DZM	Mont Dzumac	17.52 326	P	P	18 47 34.7	0.0
DZM	Mont Dzumac	17.52 326	P	P	18 47 34.7	0.0
	0.6nm,0.3s,baz=149,slow=13,SNR=7.9					
NIUE	Niue	21.27 36	S	S	18 51 39.2	-14
	baz=21,SNR=3.0					
ARMA	Armidale	22.08 280	P	P	18 48 25.3	+3.5
	baz=22,SNR=6.8					
CNB	Canberra Magne	22.35 266	P	P	18 48 27.5	+3.3
	baz=22,SNR=6.5					
EIDS	Eidsvold	24.96 290	eP	P	18 48 48.8	+0.9
TOO	Toolangi	25.01 259	P	P	18 48 51.0	+2.8
	baz=25,SNR=8.4					
RAR	Rarotonga	25.61 58	P	P	18 48 53.8	+0.1
RMQ	Roma	26.13 286	P	P	18 49 00.6	+2.2
	baz=26,SNR=12					
CMSA	Cobar Meteorol	26.37 273	P	P	18 49 02.4	+2.0
	baz=26,SNR=6.1					
STKA	Stephens Creek	29.53 270	eP	P	18 49 30.1	+1.7
	6.6nm,1.4s					
STKA			ScP	ScP	18 55 42.1	-1.2
STKA	Stephens Creek	29.53 270	P	P	18 49 30.3	+1.9
	7.1nm,0.7s,baz=98,slow=12,SNR=15					
STKA			ScP	ScP	18 55 42.1	-1.2
	1.4nm,0.7s,baz=90,slow=7.1,SNR=4.9					
STKA	Stephens Creek	29.53 270	P	P	18 49 30.4	+1.9
	baz=30,SNR=11					
QLP	Quilpie	29.61 281	P	P	18 49 30.4	+1.3
	baz=30,SNR=16					
HTT	Hallett	31.17 265	P	P	18 49 44.6	+1.8
	baz=31,SNR=12					
CTA	Charters Tower	31.67 294	P	P	18 49 48.0	+0.6
CTA	Charters Tower	31.67 294	P	P	18 49 48.0	+0.6
	15nm,0.9s,baz=120,slow=12,SNR=9.8					
CTAO	Charters Tower	31.67 294	eP	P	18 49 47.9	+0.6
	32nm,1.1s					
BBOO	Buckleboo	33.65 265	P	P	18 50 05.8	+1.6
	baz=34,SNR=13					
QIS	Mount Isa	36.39 286	P	P	18 50 28.7	+1.0
	baz=36,SNR=10					
COEN	Coen	37.91 298	P	P	18 50 41.0	+0.5
	baz=38,SNR=26					
PMG	Port Moresby	38.55 308	P	P	18 50 45.9	+0.1
PMG	Port Moresby	38.55 308	P	P	18 50 45.9	+0.1
	16nm,0.8s,baz=118,slow=13,SNR=3.9					
AS31	Alice Springs	39.19 278	eP	P	18 50 51.3	+0.2
AS31			eScP	ScP	18 56 15.4	-2.5
AS31			eS	S	18 56 30.9	-0.6
ASAR	Alice Springs	39.19 278	P	P	18 50 51.6	+0.5
ASAR			ScP	ScP	18 56 15.5	-2.5
ASAR			S	S	18 56 33.4	+1.9
ASAR	Alice Springs	39.19 278	P	P	18 50 51.6	+0.5
	30nm,0.6s,baz=121,slow=8.2,SNR=562					
ASAR			ScP	ScP	18 56 15.5	-2.5
	1.0nm,0.6s,baz=118,slow=3.6,SNR=9.3					
ASAR			S	S	18 56 33.4	+1.9
	1.2nm,0.9s,baz=117,slow=16,SNR=5.7					
FORT	Forrest	40.73 264	eP	P	18 51 04.3	+0.7
	99nm,0.8s					
FORT	Forrest	40.73 264	P	P	18 51 04.5	+1.0
	baz=41,SNR=13					
WRAB	Tennant Creek	40.81 283	eP	P	18 51 03.6	-0.7
	30nm,0.8s					
WRA	Warramunga Arr	40.81 283	P	P	18 51 04.4	0.0
WRA			ScP	ScP	18 56 22.1	-2.3
WRA			S	S	18 56 58.2	+2.6
WRA	Warramunga Arr	40.81 283	P	P	18 51 04.4	0.0
	22nm,0.6s,baz=121,slow=8.1,SNR=641					
WRA			ScP	ScP	18 56 22.1	-2.3
	2.0nm,0.9s,baz=112,slow=3.6,SNR=7.3					
WRA			S	S	18 56 58.2	+2.6
	1.8nm,1.3s,baz=137,slow=14,SNR=2.9					
VNDA	Vanda	41.09 185	eP	P	18 51 10.3	+4.5
SBA	Scott Base	41.13 183	eP	P	18 51 11.7	+5.6
	9.1nm,0.7s					
WRKA	Warakurna	42.99 272	P	P	18 51 21.3	-0.6
	baz=43,SNR=11					
KDU	Kakadu	46.57 290	P	P	18 51 49.5	-0.5
	baz=47,SNR=6.3					
KDU			S	S	18 58 23.2	+4.5
	baz=47,SNR=3.5					
MTN	Manton Dam	47.48 288	P	P	18 51 57.1	0.0
	baz=48,SNR=7.7					
KNRA

TORD	**Torodi Ar. Bea**	**155.82**	**191**	PKPbc	PKPdf	19 03 20.6	+9.4
TORD				PKPab	**PKPab**	**19 03 39.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**155.82**	**191**	PKPbc	PKPdf	19 03 20.6	+9.4
	0.4nm,0.3s,baz=152,slow=3.2,SNR=21						
TORD				PKPab	**PKPab**	**19 03 39.2**	**+0.2**
	1.3nm,0.3s,baz=162,slow=3.6,SNR=19						

ZUR 23 18:45:23.3, 46°42N×8°55E, h9$^{km\pm1km}$, ML0.6/3, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSIO	**Fusio**	**0.09**	**65**	⇑*i*Pg	Pg	18 45 26.1	+0.2
	103nm,0.1s						
FUSIO				*i* Sg	Sg	18 45 27.8	+0.1
	103nm,0.1s						
HASLI	**Hasliberg/Brie**	**0.44**	**321**	⇓*i*Pg	Pg	18 45 32.0	0.0
	8.9nm,0.2s						
HASLI				*i* Sg	Sg	18 45 37.8	-0.1
	8.9nm,0.2s						
MUGIO	**Muggio**	**0.60**	**145**	*e*Pg	Pg	18 45 34.8	-0.3
	8.9nm,0.5s						

*IDC **23** 18:49:01.7±1.5, 17°.69S×63°.83W, h0^{km}, mb3.8/3, mb1 4.1/5, mb1mx3.7/35, mbtmp3.8/5, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=45.2km s-min=17.0km az=166.0*

*ISCJB **23** 18:49:02.1±0.8, 17°.6S±0°.1×63°.81W±0°.05, h10^{km}, mb3.9/5, MS3.2/1, Error ellipse: s-maj=15.6km s-min=6.5km az=165.8*

*NEIC **23** 18:49:06.8±2.4, 17°.62S×63°.83W, h33$^{km\pm17km}$, mb4.2/2, Error ellipse: s-maj=15.2km s-min=10.0km az=143.0*

ISC 23 18:49:03.8±0.8, 17°.7S±0°.1×63°.79W±0°.05, h10^{km}, n23, σ1§25/26, mb4.1/5, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**3.10**	**58**	Pn	**Pn**	**18 49 54.1**	**+1.3**
SIV				Pg	Pb	18 50 02.8	+3.8
SIV				Sn	**Sn**	**18 50 30.0**	**+0.1**
SIV				Lg	Lg	18 50 41.0	
SIV	**San Ignacio**	**3.10**	**58**	Pn	**Pn**	**18 49 54.1**	**+1.3**
	11nm,0.3s,baz=261,slow=13,SNR=135						
SIV				Pg	Pb	18 50 02.8	+3.8
	46nm,0.3s,baz=266,slow=14,SNR=50						
SIV				Sn	**Sn**	**18 50 30.0**	**+0.1**
	43nm,0.3s,baz=212,slow=15,SNR=7.3						
SIV				Lg	Lg	18 50 41.0	
	57nm,0.3s,baz=317,slow=22,SNR=9.8						
LPAZ	**La Paz**	**4.38**	**288**	*e*Pn	**Pn**	**18 50 11.7**	**+0.8**
LPAZ				Pg	**Pb**	**18 50 24.0**	**+2.8**
LPAZ				Sn	**Sn**	**18 51 01.7**	**-0.6**
LPAZ				Lg	Lg	18 51 17.6	
LPAZ	**La Paz**	**4.38**	**288**	Pn	**Pn**	**18 50 11.8**	**+0.8**
	1.9nm,0.3s,baz=110,slow=9.5,SNR=59						
LPAZ				Pg	**Pb**	**18 50 24.0**	**+2.8**
	4.0nm,0.3s,baz=112,slow=9.8,SNR=16						
LPAZ				Sn	**Sn**	**18 51 01.7**	**-0.6**
	3.6nm,0.3s,baz=349,slow=5.3,SNR=6.0						
LPAZ				Lg	Lg	18 51 17.6	
	23nm,0.3s,baz=238,slow=24,SNR=9.9						
LVC	**Limon Verde**	**6.87**	**224**	*e*Pn	**Pn**	**18 50 45.4**	**+0.5**
SAML	**Samuel**	**8.70**	**4**	*e*Pn	**Pn**	**18 51 08.2**	**-1.5**
	0.6nm,0.5s						
SAML				*e*Sn	Sn	18 52 38.2	-10
CPUP	**Villa Florida**	**10.49**	**146**	Lg	Lg	18 54 31.9	
	0.2nm,0.3s,baz=225,slow=20,SNR=1.5						
BDFB	**Brasilia**	**15.25**	**85**	Lg	Lg	18 57 03.9	
	0.3nm,0.3s,baz=304,slow=4.2,SNR=3.5						
ROSC	**El Rosal**	**24.69**	**334**	LR	LR	19 05 38.7	
	comp=Z,75nm,19.9s,baz=211,slow=40						
SDCO	**Great Sand Dun**	**67.66**	**325**	*e*P	**P**	**19 00 00.2**	**-1.3**
	1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**71.51**	**69**	P	**P**	**19 00 25.4**	**0.0**
TORD	**Torodi Ar. Bea**	**71.51**	**69**	P	**P**	**19 00 25.4**	**0.0**
	0.4nm,0.7s,baz=263,slow=5.3,SNR=3.2						
PDAR	**Pinedale Array**	**73.41**	**327**	P	**P**	**19 00 35.6**	**-0.8**
PDAR	**Pinedale Array**	**73.41**	**327**	P	**P**	**19 00 35.6**	**-0.8**
	0.4nm,0.6s,baz=130,slow=6.3,SNR=3.4						
HLID	**Hailey**	**76.56**	**325**	*e*P	**P**	**19 00 54.7**	**+0.2**
	1.8nm,0.8s						
YKA	**Yellowknife Ar**	**89.29**	**339**	P	**P**	**19 01 58.9**	**-0.9**
YKA	**Yellowknife Ar**	**89.29**	**339**	P	**P**	**19 01 58.9**	**-0.9**
	0.8nm,0.7s,baz=120,slow=4.4,SNR=21						
ASAR	**Alice Springs**	**135.42**	**203**	PKP	**PKPdf**	**19 08 24.0**	**-0.9**
ASAR	**Alice Springs**	**135.42**	**203**	PKP	**PKPdf**	**19 08 24.0**	**-0.9**
	0.3nm,0.8s,baz=186,slow=0.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**136.43**	**27**	PKP	**PKPdf**	**19 08 24.5**	**-1.1**
ZALV	**Zalesovo Beam**	**136.43**	**27**	PKP	**PKPdf**	**19 08 24.5**	**-1.1**
	0.3nm,0.4s,baz=320,slow=4.3,SNR=2.8						
WRA	**Warramunga Arr**	**138.59**	**206**	PKP	**PKPdf**	**19 08 29.6**	**-1.3**
WRA	**Warramunga Arr**	**138.59**	**206**	PKP	**PKPdf**	**19 08 29.5**	**-1.3**
	0.8nm,1.1s,baz=141,slow=1.1,SNR=3.2						

*ISCJB **23** 19:03:00.5±0.2, 43°.76N±0°.01×105°.28W±0°.02, h0^{km}, mb4.2/2, Error ellipse: s-maj=2.0km s-min=1.9km az=156.1*

*NEIC **23** 19:03:00.8±0.3, 43°.82N×105°.19W, h0^{km}, ML3.3, Error ellipse: s-maj=5.1km s-min=4.4km az=154.0, Suspected Mining explosion.*

NEIC 60 km [35 miles] SSE of Gillette.

*IDC **23** 19:03:00.7±1.9, 43°.95N×105°.57W, h0^{km}, mb4.0/2, mb1 3.8/6, mb1mx3.4/44, mbtmp3.6/6, ML3.4/4, Error ellipse: s-maj=67.7km s-min=8.6km az=144.0*

ISC 23 19:03:00.5±0.6, 43.77N±0°.02×105°.26W±0°.02, h0^{km}, n146, σ1§13/156, 37C-45D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.24**	**323**	P	**Pg**	**19 03 06.7**	**+1.5**
	baz=0.2,SNR=498						
J23A	**Dilts Ranch, B**	**0.42**	**210**	P	**Pg**	**19 03 09.6**	**+1.0**
	baz=0.4,SNR=149						
J23A				⇑S	**Sg**	**19 03 14.0**	**-0.1**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.47**	**79**	⇓P	**Pg**	**19 03 10.4**	**+0.9**
	baz=0.5,SNR=294						
J24A	**Dixon Ranch, L**	**0.62**	**135**	P	**Pg**	**19 03 13.2**	**+0.9**
	baz=0.6,SNR=122						
J24A				⇓S	**Sg**	**19 03 20.7**	**+0.4**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.80**	**353**	P	**Pg**	**19 03 16.4**	**+0.5**
	baz=0.8,SNR=79						
I22A	**9 Mile Ranch,**	**0.90**	**278**	P	**Pg**	**19 03 18.2**	**+0.6**
	baz=0.9,SNR=1000						
I22A				⇑S	**Sg**	**19 03 30.1**	**+0.8**
	baz=0.9						
RSSD	**Black Hills**	**0.95**	**68**	*e*Pg	**Pg**	**19 03 18.6**	**-0.1**
J22A	**Midwest**	**0.95**	**249**	P	**Pg**	**19 03 18.7**	**-0.1**
	baz=0.9,SNR=183						
K23A	**Bowen Ranch, D**	**1.05**	**195**	⇑P	**Pg**	**19 03 20.7**	**+0.1**
	baz=1.0,SNR=10						
K23A				⇓S	**Sb**	**19 03 35.7**	**-0.3**
	baz=1.0						
K24A	**Anderson Ranch**	**1.09**	**163**	⇑P	**Pg**	**19 03 21.6**	**+0.1**
	baz=1.1,SNR=132						
K24A				⇓S	**Sg**	**19 03 37.1**	**+1.4**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.10**	**27**	⇓P	**Pg**	**19 03 21.5**	**-0.1**
	baz=1.1						
H24A				⇑S	**Sb**	**19 03 38.2**	**+0.7**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.12**	**109**	⇓P	**Pg**	**19 03 22.1**	**+0.1**
	baz=1.1,SNR=186						
I25A	**Rochford**	**1.13**	**77**	⇓P	**Pg**	**19 03 22.4**	**+0.1**
	baz=1.2,SNR=150						
H22A	**Clearmont**	**1.14**	**317**	⇑P	**Pg**	**19 03 22.6**	**+0.3**
	baz=1.1,SNR=44						
G23A	**Biddle**	**1.44**	**356**	⇑P	**Pn**	**19 03 27.6**	**-0.3**
	baz=1.5						
K22A	**Casper**	**1.45**	**220**	*e*Pn	**Pn**	**19 03 27.3**	**-0.9**
K22A	**Casper**	**1.45**	**220**	P	**Pn**	**19 03 27.7**	**-0.5**
	baz=1.4,SNR=107						
K22A				⇑S	**Sb**	**19 03 47.8**	**+0.2**
	baz=1.4						
H25A	**Fruitdale**	**1.47**	**54**	⇓P	**Pn**	**19 03 28.3**	**0.0**
	baz=1.5,SNR=25						
H25A				⇓S	**Sn**	**19 03 49.7**	**+1.4**
	baz=1.5						
I21A	**Big Trails, Te**	**1.47**	**272**	⇑P	**Pn**	**19 03 27.5**	**-0.9**
	baz=1.4,SNR=374						
I21A				⇑S	**Sn**	**19 03 48.8**	**+0.2**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.54**	**138**	⇑P	**Pn**	**19 03 30.0**	**+0.6**
	baz=1.5,SNR=15						
K25A				⇓S	**Sn**	**19 03 50.5**	**+0.4**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.54**	**304**	⇓P	**Pb**	**19 03 29.9**	**-0.2**
	baz=1.5,SNR=56						
H21A				⇑Sb	**Sg**	**19 03 51.8**	**+1.7**
	baz=1.5						
G22A	**Birney**	**1.63**	**333**	⇑P	**Pb**	**19 03 31.4**	**-0.1**
	baz=1.6,SNR=28						
J21A	**Lysite**	**1.64**	**256**	P	**Pn**	**19 03 30.6**	**-0.3**
	baz=1.6,SNR=304						
J26A	**Sides Ranch, S**	**1.65**	**105**	⇓P	**Pn**	**19 03 31.2**	**+0.4**
	baz=1.7,SNR=140						
J26A				⇑Sb	**Sg**	**19 03 54.9**	**+1.3**
	baz=1.7						
G24A	**Alzada**	**1.67**	**21**	⇓P	**Pb**	**19 03 31.8**	**-0.5**
	baz=1.7,SNR=27						
L23A	**Garrett**	**1.68**	**191**	⇓P	**Pn**	**19 03 31.4**	**0.0**
	baz=1.7,SNR=267						
L24A	**Wheatland**	**1.74**	**172**	⇑P	**Pn**	**19 03 32.5**	**+0.4**
	baz=1.7,SNR=25						
I26A	**New Underwood**	**1.75**	**81**	⇑Pb	**Pb**	**19 03 33.5**	**-0.2**
	baz=1.8,SNR=31						
K21A	**Alcova**	**1.85**	**233**	⇓Pb	**Pb**	**19 03 34.7**	**-0.5**
	baz=1.8,SNR=21						
K26A	**Motz Farm, Whi**	**1.86**	**124**	⇑P	**Pn**	**19 03 34.0**	**+0.3**
	baz=1.9,SNR=71						
L25A	**Engebretsen Ra**	**1.87**	**149**	⇑Pb	**Pb**	**19 03 35.5**	**-0.2**
	baz=1.9,SNR=160						
L22A	**Ellis Ranch, M**	**1.94**	**207**	⇓P	**Pn**	**19 03 36.0**	**+1.0**
	baz=1.9,SNR=33						
G25A	**Newell**	**1.94**	**42**	⇑P	**Pb**	**19 03 36.3**	**-0.5**
	baz=2.0,SNR=53						
F23A	**Volborg**	**1.96**	**357**	⇑P	**Pn**	**19 03 35.7**	**+0.7**
	baz=2.0,SNR=95						
G21A	**Lodge Grass**	**2.02**	**317**	⇓P	**Pn**	**19 03 36.6**	**+0.7**
	baz=2.0,SNR=154						
I20A	**Worland**	**2.08**	**276**	⇑P	**Pn**	**19 03 37.9**	**+1.1**
	baz=2.1,SNR=332						
J20A	**Shoshoni**	**2.10**	**260**	⇓Pb	**Pb**	**19 03 39.3**	**-0.2**
	baz=2.1,SNR=239						
H20A	**Greybull**	**2.10**	**291**	⇑P	**Pn**	**19 03 37.5**	**+0.5**
	baz=2.1,SNR=180						
F22A	**Rosebud**	**2.13**	**341**	⇑P	**Pn**	**19 03 37.9**	**+0.4**
	baz=2.1,SNR=120						
M24A	**Cheyenne**	**2.32**	**172**	⇓Pb	**Pb**	**19 03 43.4**	**0.0**
	baz=2.3,SNR=54						
M23A	**Laramie**	**2.32**	**189**	⇓P	**Pn**	**19 03 40.8**	**+0.6**
	baz=2.3,SNR=96						
I27A	**Quinn**	**2.34**	**81**	⇓Pb	**Pb**	**19 03 42.9**	**-0.6**
	baz=2.4,SNR=13						
L26A	**Underwood Farm**	**2.36**	**136**	⇓Pb	**Pb**	**19 03 43.3**	**-0.7**
	baz=2.4,SNR=8.1						
J27A	**Elkhorn Farm,**	**2.42**	**101**	⇓P	**Pb**	**19 03 43.5**	**-1.5**
	baz=2.4,SNR=34						
G26A	**Maurine**	**2.44**	**50**	⇓P	**Pn**	**19 03 43.4**	**+1.8**
	baz=2.5						
F21A	**Absaloka Mine,**	**2.45**	**328**	⇓P	**Pn**	**19 03 41.7**	**-0.1**
	baz=2.5,SNR=13						
H27A	**Howes**	**2.45**	**68**	⇓P	**Pn**	**19 03 43.4**	**+1.6**
	baz=2.5,SNR=6.2						
K27A	**Flueckinger Fa**	**2.45**	**115**	⇑P	**Pn**	**19 03 43.3**	**+1.4**
	baz=2.5,SNR=41						
M25A	**Palm-Egli Farm**	**2.50**	**159**	⇑P	**Pn**	**19 03 44.1**	**+1.5**
	baz=2.5,SNR=11						
F25A	**Bowman**	**2.51**	**30**	⇓P	**Pn**	**19 03 44.5**	**+1.8**
	baz=2.5,SNR=14						
M22A	**Cedar Creek Ra**	**2.56**	**203**	⇓Pb	**Pb**	**19 03 47.5**	**0.0**
	baz=2.5,SNR=126						
G20A	**Bridger**	**2.56**	**306**	P	**Pn**	**19 03 43.6**	**+0.1**
	baz=2.6,SNR=410						
I19A	**Meeteetse**	**2.71**	**277**	P	**Pn**	**19 03 46.8**	**+1.3**
	baz=2.7,SNR=40						
E22A	**Miles City**	**2.71**	**350**	⇓P	**Pn**	**19 03 45.5**	**0.0**
	baz=2.7,SNR=14						
J19A	**Crowheart**	**2.81**	**261**	⇑P	**Pn**	**19 03 48.7**	**+1.9**
	baz=2.8,SNR=43						
H19A	**Powell**	**2.83**	**290**	⇑P	**Pn**	**19 03 48.0**	**+1.0**
	baz=2.8,SNR=76						
E24A	**Baker**	**2.87**	**13**	⇓P	**Pn**	**19 03 48.6**	**+1.0**
	baz=2.9,SNR=16						
G27A	**Dupree**	**2.87**	**55**	⇓P	**Pn**	**19 03 48.9**	**+1.3**
	baz=2.9,SNR=8.4						
F20A	**Billings**	**2.89**	**316**	⇓P	**Pn**	**19 03 48.0**	**+0.1**
	baz=2.9,SNR=43						
N23A	**Red Feather La**	**2.92**	**190**	⇑P	**Pn**	**19 03 50.0**	**+1.6**
	baz=2.9,SNR=56						
J28A	**Allard Ranch,**	**2.94**	**95**	⇓P	**Pn**	**19 03 50.7**	**+2.1**
	baz=3.0,SNR=9.4						
LAO	**LASA Array**	**3.00**	**347**	*e*Pn	**Pn**	**19 03 48.9**	**-0.5**
RLMT	**Red Lodge**	**3.17**	**297**	*e*Pn	**Pn**	**19 03 52.8**	**+0.9**
L28A	**Connealy Angus**	**3.26**	**121**	⇑P	**Pn**	**19 03 54.6**	**+1.6**
	baz=3.3						
H18A	**Shoshone NF, C**	**3.29**	**288**	⇓P	**Pn**	**19 03 54.4**	**+0.8**
	baz=3.3,SNR=50						
BW06	**Boulder Array**	**3.29**	**254**	*e*Pn	**Pn**	**19 03 54.8**	**+1.2**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**19 03 55.1**	**+1.5**
PDAR				Pg	**Pb**	**19 04 00.1**	**+0.2**
PDAR				Lg	Lg	19 04 40.5	
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**19 03 55.1**	**+1.5**
	4.7nm,0.3s,baz=69,slow=16,SNR=99						
PDAR				Pg	**Pb**	**19 04 00.1**	**+0.2**
	16nm,0.3s,baz=69,slow=19,SNR=80						
PDAR				Lg	Lg	19 04 40.5	
	15nm,0.3s,baz=71,slow=32,SNR=16						
F19A	**Roth Farm, Mol**	**3.35**	**310**	⇑P	**Pn**	**19 03 55.3**	**+1.0**
	baz=3.3,SNR=50						
E26A	**Carlson Angus**	**3.35**	**35**	⇓P	**Pn**	**19 03 55.5**	**+1.3**
	baz=3.4						
D23A	**Lindsay**	**3.41**	**1**	P	**Pn**	**19 03 56.8**	**+1.9**
	baz=3.4,SNR=27						
D24A	**Glendive**	**3.41**	**11**	P	**Pn**	**19 03 56.9**	**+1.8**
	baz=3.4,SNR=16						
D22A	**Cohagen**	**3.44**	**349**	⇑P	**Pn**	**19 03 56.3**	**+0.8**
	baz=3.5						
D25A	**Fairfield**	**3.65**	**21**	⇓P	**Pn**	**19 04 00.7**	**+2.4**
	baz=3.7,SNR=12						
E19A	**Rath Farm, Rou**	**3.67**	**318**	⇑P	**Pn**	**19 03 58.8**	**+0.2**
	baz=3.7						
N20A	**Spence Gulch,**	**3.68**	**218**	P	**Pn**	**19 04 00.6**	**+1.6**
	baz=3.7,SNR=13						
OGNE	**Ogallala**	**3.70**	**139**	*e*Pn	**Pn**	**19 04 00.7**	**+1.7**
O22A	**Kremmling**	**3.73**	**195**	P	**Pn**	**19 04 01.6**	**+1.9**
	baz=3.7,SNR=16						
GCMT	**Greycliff**	**3.73**	**304**	*e*Pn	**Pn**	**19 03 59.6**	**+0.1**
F28A	**McLaughlin**	**3.79**	**55**	⇑P	**Pn**	**19 04 01.7**	**+1.4**
	baz=3.8						
C24A	**Savage**	**3.81**	**9**	⇓P	**Pn**	**19 04 02.3**	**+1.9**
	baz=3.8,SNR=36						
O26A	**Horse Wrangler**	**3.81**	**157**	⇓P	**Pn**	**19 04 01.9**	**+1.3**
	baz=3.8,SNR=10						
H17A	**Grant Village**	**3.88**	**281**	*e*Pn	**Pn**	**19 04 03.8**	**+2.2**
D20A	**Manuel Ranch,**	**3.89**	**330**	⇓P	**Pn**	**19 04 03.3**	**+1.7**
	baz=3.9,SNR=18						
L29A	**Maesberg Ranch**	**3.90**	**114**	⇑P	**Pn**	**19 04 03.7**	**+1.9**
	baz=3.9,SNR=6.2						
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn	**Pn**	**19 04 04.6**	**+1.6**
ISCO	**Idaho Springs**	**3.97**	**184**	P	**Pn**	**19 04 04.8**	**+1.8**
	baz=4.0,SNR=14						
C23A	**Lambert**	**4.04**	**1**	⇑P	**Pn**	**19 04 05.5**	**+1.9**
	baz=4.1,SNR=115						
C25A	**Freed Ranch, W**	**4.19**	**19**	⇓P	**Pn**	**19 04 07.6**	**+1.9**
	baz=4.2,SNR=16						
O20A	**White River Ci**	**4.26**	**212**	*e*Pn	**Pn**	**19 04 07.3**	**+0.5**
P26A	**Davis Ranch, A**	**4.44**	**161**	P	**Pn**	**19 04 10.5**	**+1.2**
	baz=4.4,SNR=66						
QLMT	**Earthquake Lak**	**4.55**	**286**	Pn	**Pn**	**19 04 12.1**	**+1.2**
P27A	**Ficken Ranch,**	**4.66**	**154**	P	**Pn**	**19 04 13.2**	**+0.9**
	baz=4.7,SNR=39						
B23A	**Brockton**	**4.70**	**2**	⇑P	**Pn**	**19 04 14.1**	**+1.4**
	baz=4.7,SNR=23						
B25A	**Knox Farm, Ray**	**4.74**	**17**	⇓P	**Pn**	**19 04 14.9**	**+1.7**
	baz=4.8,SNR=8.6						
DGMT	**Dagmar**	**4.76**	**9**	*e*Pn	**Pn**	**19 04 15.1**	**+1.5**
DGMT	**Dagmar**	**4.76**	**9**	P	**Pn**	**19 04 15.7**	**+2.1**
	baz=4.8,SNR=22						
B21A	**Ellsworth Farm**	**4.82**	**346**	⇑P	**Pn**	**19 04 15.4**	**+1.1**
	baz=4.8						
Q25A	**Bedland, Calha**	**4.91**	**171**	P	**Pn**	**19 04 16.8**	**+1.0**
	baz=4.9,SNR=16						
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pn**	**19 04 15.7**	**0.0**
P28A	**Saint Francis**	**4.95**	**147**	⇓P	**Pn**	**19 04 17.1**	**+0.9**
	baz=4.9,SNR=15						
Q26A	**Hugo**	**5.01**	**164**	⇓P	**Pn**	**19 04 18.1**	**+1.0**
	baz=5.0,SNR=7.1						
HWUT	**Hardware Ranch**	**5.12**	**247**	*e*Pn	**Pn**	**19 04 18.9**	**+0.2**
	9.2nm,0.4s						
KSCO	**Kaye Shedlock'**	**5.15**	**156**	*e*Pn	**Pn**	**19 04 18.4**	**-0.6**
	31nm,0.3s						
KSCO	**Kaye Shedlock'**	**5.15**	**156**	⇓P	**Pn**	**19 04 19.6**	**+0.6**
	baz=5.1,SNR=9.7						
A24A	**Westby**	**5.23**	**9**	⇓P	**Pn**	**19 04 21.6**	**+1.6**
	baz=5.3,SNR=14						
TCUT	**Toone Canyon**	**5.26**	**242**	*e*Pn	**Pn**	**19 04 19.2**	**-1.5**
	1.9nm,0.4s						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**19 04 19.6**	**-1.2**
	12nm,0.4s						
LRM	**Limekiln Ridge**	**5.51**	**294**	*e*Pn	**Pn**	**19 04 24.9**	**+0.8**
	28nm,0.3s						
MCMT	**McKenzie Canyo**	**5.55**	**284**	*e*Pn	Pn	19 04 30.3	+5.8
	3.0nm,0.3s						
DAU	**Daniels Canyon**	**5.58**	**235**	*e*Pn	**Pn**	**19 04 27.1**	**+2.1**
	5.8nm,0.4s						
R26A	**Arlington**	**5.63**	**165**	P	**Pn**	**19 04 26.6**	**+1.0**
	baz=5.6,SNR=6.1						
BGNE	**Belgrade**	**5.75**	**112**	*e*Pn	**Pn**	**19 04 26.0**	**-1.2**
	47nm,0.4s						
HVU	**Hansel Valley**	**5.88**	**253**	*e*Pn	**Pn**	**19 04 30.2**	**+1.2**
	4.8nm,0.4s						
R28A	**Tribune**	**6.01**	**153**	P	**Pn**	**19 04 31.1**	**+0.3**
	baz=6.0,SNR=13						
PV04	**Paradox Valley**	**6.03**	**208**	*e*Pn	**Pn**	**19 04 32.2**	**+1.1**
MPU	**Maple Canyon**	**6.05**	**234**	*e*Pn	**Pn**	**19 04 33.3**	**+1.8**
	4.3nm,0.3s						
SRU	**San Rafael**	**6.11**	**222**	*e*Pn	**Pn**	**19 04 32.2**	**0.0**
	9.1nm,0.6s						
PV01	**Paradox Valley**	**6.16**	**205**	*e*Pn	**Pn**	**19 04 35.2**	**+2.2**
	240nm,0.3s						
ECSD	**EROS Data Cent**	**6.26**	**87**	*e*Pn	**Pn**	**19 04 34.7**	**+0.5**
	9.5nm,0.3s						
ECSD	**EROS Data Cent**	**6.26**	**87**	P	**Pn**	**19 04 35.3**	**+1.2**
	baz=6.3,SNR=7.7						
S26A	**Kim**	**6.29**	**167**	P	**Pn**	**19 04 36.0**	**+1.4**
	baz=6.3,SNR=12						
TMUT	**Trail Mountain**	**6.31**	**227**	*e*Pn	**Pn**	**19 04 35.5**	**+0.4**
	6.9nm,0.4s						
BGU	**Big Grassy Mou**	**6.42**	**246**	*e*Pn	**Pn**	**19 04 38.1**	**+1.6**
	0.9nm,0.3s						
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**19 04 37.4**	**+0.5**
	2.9nm,0.3s						
DUG	**Dugway**	**6.66**	**240**	*e*Pn	**Pn**	**19 04 40.2**	**+0.4**
	2.3nm,0.4s						
DUG	**Dugway**	**6.66**	**240**	P	**Pn**	**19 04 40.9**	**+1.1**
	baz=6.6,SNR=17						
SLMT	**Seeley Lake**	**6.75**	**304**	*e*Pn	**Pn**	**19 04 41.1**	**+0.2**
	2.5nm,0.4s						
T28A	**Walsh**	**7.06**	**159**	P	**Pn**	**19 04 45.5**	**+0.4**
	baz=7.1,SNR=9.8						
SWMT	**Swartz Lake**	**7.18**	**304**	*e*Pn	**Pn**	**19 04 46.7**	**-0.1**
	2.2nm,0.3s						
U28A	**Mallet**	**7.74**	**161**	P	**Pn**	**19 04 54.6**	**+0.1**
	baz=7.7,SNR=14						
WALA	**Waterton Lakes**	**7.98**	**315**	*e*Pn	**Pn**	**19 04 57.7**	**-0.1**
	0.1nm,0.3s						
ELK	**Elko**	**7.99**	**251**	Pn	Pn	19 05 02.0	+3.9
ELK	**Elko**	**7.99**	**251**	Pn	Pn	19 05 02.0	+3.9
	0.7nm,0.3s,baz=355,slow=3.9,SNR=9.8						
SPMN	**St. Paul**	**9.02**	**76**	*e*Pn	**Pn**	**19 05 10.4**	**-1.6**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**19 05 11.7**	**-1.6**
ULM				Lg	Lg	19 07 41.8	
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**19 05 11.7**	**-1.6**
	2.1nm,0.3s,baz=232,slow=11,SNR=15						
ULM				Lg	Lg	19 07 41.8	
	0.6nm,0.3s,baz=142,slow=18,SNR=2.7						
NEW	**Newport**	**9.40**	**303**	Lg	Lg	19 07 51.1	
	0.1nm,0.3s,baz=22,slow=18,SNR=1.9						
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn	**Pn**	**19 05 43.8**	**+1.9**
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn	**Pn**	**19 05 43.8**	**+1.9**
	0.1nm,0.3s,baz=59,slow=12,SNR=2.5						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**19 07 28.4**	**-0.9**
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**19 07 28.4**	**-0.9**
	0.1nm,0.3s,baz=158,slow=11,SNR=7.6						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**19 13 16.7**	**-1.1**
ARCES	**ARCESS Array B

	22nm,0.9s								
KURK	**Kurchatov**	**11.46**	**32**	⇑Pn		**Pn**	**19 22 41.0**	**-2.2**	
	0.9nm,1.1s								
KURK				⇑Lg		Lg	19 26 02.0		
	20nm,1.0s								
BVAR	**Borovoye Array**	**11.72**	**4**	Pn		**Pn**	**19 22 46.6**	**0.0**	
	0.6nm,0.3s,baz=163,slow=14,SNR=8.3								
BVAR				Sn		**Sn**	**19 25 02.6**	**+5.2**	
	0.3nm,0.3s,baz=172,slow=23,SNR=3.8								
BVAR				Lg		Lg	19 26 12.5		
	baz=151,slow=21,SNR=2.3								
BRVK	**Borovoye**	**11.74**	**4**	⇓Pn		**Pn**	**19 22 48.0**	**+0.9**	
	6.1nm,0.6s								
BRVK				⇓Sn		**Sn**	**19 24 53.3**	**-4.8**	
	5.2nm,0.6s								
AKTO	**Aktyubinsk**	**11.91**	**323**	⇓Pn		**Pn**	**19 22 49.6**	**+0.3**	
	2.9nm,0.9s								
AKTO				⇑Sn		Sn	19 24 55.5	-6.7	
	6.4nm,0.8s								
AKTO	**Aktyubinsk**	**11.91**	**323**	Pn		**Pn**	**19 22 51.0**	**+1.7**	
	0.3nm,0.3s,baz=119,slow=13,SNR=7.6								
AKTO				Sn		Sn	19 24 54.6	-7.6	
	0.5nm,0.3s,baz=353,slow=17,SNR=7.8								
ZALV	**Zalesovo Beam**	**16.42**	**35**	Pn		**Pn**	**19 23 49.8**	**-0.1**	
	0.2nm,0.3s,baz=224,slow=12,SNR=8.2								
ZALV				Sn		**S**	**19 26 59.1**	**-5.2**	
	0.1nm,0.3s,baz=234,slow=19,SNR=2.9								
PYUN	**Piuthan**	**17.44**	**135**	*eP*		**Pn**	**19 24 00.8**	**-2.3**	
	15nm,0.5s								
DANN	**Dangsing**	**17.66**	**133**	*eP*		**Pn**	**19 24 04.9**	**-1.0**	
KOLN	**Koldanda**	**18.02**	**134**	*eP*		**Pn**	**19 24 09.4**	**-1.0**	
	5.0nm,0.4s								
GKN	**Gorkha**	**18.42**	**131**	*eP*		**P**	**19 24 13.4**	**-1.7**	
KKN	**Kakani**	**18.95**	**130**	*eP*		**P**	**19 24 19.6**	**-1.4**	
PKIN	**Phulchoki**	**19.17**	**131**	*eP*		**P**	**19 24 23.1**	**-0.4**	
	7.1nm,0.6s								
PKI	**Pulchoki**	**19.18**	**131**	*eP*		**P**	**19 24 23.2**	**-0.5**	
GUN	**Gumba**	**19.20**	**129**	*eP*		**P**	**19 24 23.0**	**-0.9**	
KBZ	**Khabaz**	**19.43**	**286**	P		**P**	**19 24 26.8**	**+0.9**	
	0.1nm,0.3s,baz=61,slow=16,SNR=2.7								
JIRN	**Jiri**	**19.57**	**129**	*eP*		**P**	**19 24 26.9**	**-1.1**	
	11nm,0.4s								
RAMN	**Ramite**	**20.34**	**129**	*eP*		**P**	**19 24 35.4**	**-0.9**	
	15nm,0.6s								
TAPN	**Taplejung**	**20.70**	**127**	*eP*		**P**	**19 24 40.2**	**-0.1**	
BRTR	**Keskin Array B**	**26.88**	**278**	P		**P**	**19 25 41.6**	**+0.9**	
	0.5nm,0.6s,baz=96,slow=8,SNR=3.4								
FINES	**FINESS Array B**	**32.68**	**323**	P		**P**	**19 26 32.4**	**+0.7**	
	0.7nm,0.4s,baz=108,slow=12,SNR=6.7								
ARCES	**ARCESS Array B**	**36.11**	**336**	P		**P**	**19 27 02.3**	**+1.1**	
	0.9nm,0.5s,baz=109,slow=9.8,SNR=7.1								
GERES	**GERESS Array B**	**39.05**	**300**	P		**P**	**19 27 28.1**	**+1.6**	
	0.1nm,0.3s,baz=69,slow=11,SNR=2.4								
NOA	**NORSAR Array B**	**39.67**	**320**	P		**P**	**19 27 31.3**	**-0.1**	
	1.0nm,0.8s,baz=94,slow=8.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**64.49**	**265**	P		**P**	**19 30 35.7**	**-1.0**	
	0.5nm,0.6s,baz=59,slow=6.0,SNR=7.6								
INK	**Inuvik**	**69.36**	**9**	P		**P**	**19 31 07.3**	**+0.5**	
	1.4nm,0.9s,baz=10,slow=6.9,SNR=5.7								
ILAR	**Eielson Array**	**70.52**	**15**	P		**P**	**19 31 13.4**	**-0.7**	
	0.5nm,0.8s,baz=340,slow=4.8,SNR=6.4								
YKA	**Yellowknife Ar**	**76.47**	**2**	P		**P**	**19 31 49.2**	**+0.2**	
	0.2nm,0.7s,baz=352,slow=5.7,SNR=8.5								
WRA	**Warramunga Arr**	**85.79**	**121**	P		**P**	**19 32 37.7**	**-1.5**	
	0.6nm,0.6s,baz=322,slow=4.8,SNR=11								
ASAR	**Alice Springs**	**88.22**	**124**	P		**P**	**19 32 50.0**	**-1.0**	
	0.5nm,0.8s,baz=319,slow=5.3,SNR=5.2								

*ISCJB **23** 19:21:59.4±0.8, 7.05N±0.07×72.97W±0.08, h159km±9km, mb3.5/1, Error ellipse: s-maj=15.3km s-min=7.4km az=37.6*
*IDC **23** 19:21:59.6±3.8, 6.72N×76.16W, h99km±42km, mb3.2/1, mb1 3.7/3, mb1mx3.1/36, mbtmp4.0/3, Error ellipse: s-maj=80.5km s-min=25.9km az=67.0*
*FUNV **23** 19:22:02.2, 6.95N×72.99W, h153km, MW3.5*

ISC 23 19:22:00.5±1.1, 7.01N±0.07×72.94W±0.08, h152km±10km, n16, σ1§92/25, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.05**	**36**	*eS*	**Sn**	**19 22 46.9**	**+1.2**
SOCV	**Socops**	**2.42**	**58**	*eP*	**Pn**	**19 22 42.6**	**+1.8**
SOCV				*eS*	**Sn**	**19 23 11.9**	**+0.1**
ROSC	**El Rosal**	**2.55**	**213**	P	**Pn**	**19 22 41.4**	**-1.3**
	6.2nm,0.3s,baz=296,slow=16,SNR=15						
ROSC				S	**Sn**	**19 23 12.3**	**-3.0**
	10nm,0.3s,baz=122,slow=12,SNR=6.8						
VIRV	**Villa del Rosa**	**3.51**	**9**	*eP*	**Pn**	**19 22 55.1**	**+0.7**
VIRV				*eS*	**Sn**	**19 23 35.5**	**-0.9**
SANV	**Sanarito**	**4.18**	**53**	*eP*	**Pn**	**19 23 04.8**	**+1.5**
SANV				*eS*	**Sn**	**19 23 50.4**	**-1.7**
CURV	**Curarigua**	**4.19**	**44**	*eP*	**Pn**	**19 23 05.3**	**+1.9**
CURV				*eS*	**Sn**	**19 23 50.9**	**-1.5**
DABV	**Dabajuro**	**4.50**	**30**	*eP*	**Pn**	**19 23 07.8**	**+0.3**
DABV				*eS*	**Sn**	**19 23 57.1**	**-2.5**
SIQV	**Siquisique**	**4.76**	**40**	*eP*	**Pn**	**19 23 11.8**	**+1.0**
SIQV				*eS*	**Sn**	**19 24 02.4**	**-2.2**
BAUV	**El Baul**	**5.22**	**68**	*eP*	**Pn**	**19 23 17.3**	**+0.4**
BAUV				*eS*	**Sn**	**19 24 13.1**	**-3.4**
MAPV	**Macapo**	**5.25**	**57**	*eP*	**Pn**	**19 23 17.9**	**+0.6**
MONV	**Montecano**	**5.72**	**31**	*eP*	**Pn**	**19 23 24.4**	**+0.9**
MONV				*eS*	**Sn**	**19 24 24.9**	**-3.5**
TURV	**Turiamo**	**6.09**	**56**	*eP*	**Pn**	**19 23 29.2**	**+0.7**
CUPV	**Cœpira**	**7.69**	**66**	*eP*	**Pn**	**19 23 49.4**	**-0.6**
YKA	**Yellowknife Ar**	**63.15**	**340**	P	**P**	**19 32 11.3**	**-0.6**
	0.4nm,0.6s,baz=131,slow=6.7,SNR=13						
ASAR	**Alice Springs**	**149.37**	**234**	PKPbc	**PKPdf**	**19 41 29.6**	**+1.6**
	0.1nm,0.4s,baz=115,slow=3.4,SNR=7.0						
WRA	**Warramunga Arr**	**150.59**	**241**	PKPbc	**PKPdf**	**19 41 32.8**	**+2.9**
	0.2nm,0.4s,baz=106,slow=2.9,SNR=14						

*DDA **23** 19:24:11.8, 38.30N×27.22E, h26km, ML3.5*
*ISK **23** 19:24:11.6, 38.23N×27.14E, h8km, MD3.3*
*ISCJB **23** 19:24:12.6±0.5, 38.28N±0.02×27.23E±0.02, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=13.4*
*CSEM **23** 19:24:12.7±0.2, 38.28N×27.21E, h2km, MD3.3, Error ellipse: s-maj=4.1km s-min=3.6km az=28.0*
*ATH **23** 19:24:12.4, 38.28N×27.20E, h5km±3km, MD3.1/5*

ISC 23 19:24:12.7±0.9, 38°27N±0.02×27°20E±0.02, h9km±7km, n81, σ0§90/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.13**	**21**	PG	**Pg**	**19 24 16.2**	**+0.4**
IZM	**Izmir**	**0.13**	**21**	*i* Pg	**Pg**	**19 24 16.2**	**+0.4**
BLCB	**Balcova**	**0.17**	**312**	PG	**Pg**	**19 24 15.7**	**-0.6**
BLCB				*e*SG	**Sg**	**19 24 19.0**	**+0.2**
BLCB	**Balcova**	**0.17**	**312**	*i* Pg	**Pg**	**19 24 15.7**	**-0.6**
BLCB				*e*Sg	**Sg**	**19 24 19.0**	**+0.2**
URLA	**Izmir**	**0.48**	**281**	*i* P	**Pg**	**19 24 22.1**	**0.0**
URLA				*i* S	**Sb**	**19 24 29.5**	**-1.1**
URLA	**Izmir**	**0.48**	**281**	*i* P	**Pg**	**19 24 22.1**	**0.0**
URLA				*i* S	**Sb**	**19 24 29.5**	**-1.1**
SMG	**Samos**	**0.63**	**207**	*e*PG	**Pg**	**19 24 24.5**	**-0.4**
SMG				*e*SB	**Sb**	**19 24 34.4**	**-0.4**
SMG	**Samos**	**0.63**	**207**	*e*Pg	**Pg**	**19 24 24.5**	**-0.4**
SMG				*e*Sb	**Sb**	**19 24 34.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.63**	**121**	*e*PG	**Pg**	**19 24 25.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.63**	**121**	*e*Pg	**Pg**	**19 24 25.2**	**+0.3**
AKHS	**Akhisar**	**0.77**	**38**	*i* P	**Pg**	**19 24 27.4**	**-0.2**
AKHS				*i* S	**Sb**	**19 24 38.2**	**-0.6**
AKHS	**Akhisar**	**0.77**	**38**	*i* P	**Pg**	**19 24 27.4**	**-0.2**
AKHS				*i* S	**Sb**	**19 24 38.2**	**-0.6**
AKS	**Akhisar**	**0.77**	**38**	*e*PG	**Pg**	**19 24 27.8**	**+0.2**
AKS	**Akhisar**	**0.77**	**38**	*e*Pg	**Pg**	**19 24 27.8**	**+0.2**
CHOS	**Chios island**	**0.91**	**278**	*e*PB	**Pg**	**19 24 29.9**	**-0.3**
CHOS				*e*SB	**Sb**	**19 24 42.8**	**0.0**
CHOS	**Chios island**	**0.91**	**278**	*e*Pb	**Pg**	**19 24 29.9**	**-0.3**
CHOS				*e*Sb	**Sb**	**19 24 42.8**	**0.0**
MANT	**Manisa**	**1.09**	**78**	*i* P	**Pg**	**19 24 33.2**	**-0.4**
MANT				*i* S	**Sg**	**19 24 46.7**	**-1.0**
MANT	**Manisa**	**1.09**	**78**	*i* P	**Pg**	**19 24 33.2**	**-0.4**
MANT				*i* S	**Sg**	**19 24 46.7**	**-1.0**
AYVA	**Ayvalik**	**1.11**	**339**	*i* P	**Pb**	**19 24 34.1**	**+0.1**
AYVA				*i* S	**Sb**	**19 24 48.9**	**+0.4**
AYVA	**Ayvalik**	**1.11**	**339**	*i* P	**Pb**	**19 24 34.1**	**+0.1**
KULA	**Kula-Manisa**	**1.17**	**78**	*e*PN	**Pg**	**19 24 35.0**	**-0.2**
KULA	**Kula-Manisa**	**1.17**	**78**	*e*Pn	**Pg**	**19 24 35.0**	**-0.2**
PRK	**Paraskevi**	**1.22**	**324**	*e*PB	**Pn**	**19 24 36.0**	**+0.2**
PRK				*e*SB	**Sb**	**19 24 51.7**	**+0.2**
PRK	**Paraskevi**	**1.22**	**324**	*e*Pb	**Pn**	**19 24 36.0**	**+0.2**
PRK				*e*Sb	**Sb**	**19 24 51.7**	**+0.2**
BDRM	**Kayabasi**	**1.22**	**171**	*i* P	**Pb**	**19 24 34.4**	**-1.5**
BDRM				*i* S	**Sn**	**19 24 53.2**	**+0.8**
BDRM	**Kayabasi**	**1.22**	**171**	*i* P	**Pb**	**19 24 34.4**	**-1.5**
BDRM				*i* S	**Sn**	**19 24 53.2**	**+0.8**
SIGR	**SIGRI**	**1.41**	**312**	*e*PB	**Pb**	**19 24 39.0**	**-0.1**
SIGR				*e*SB	**Sg**	**19 24 58.5**	**+0.5**
SIGR	**SIGRI**	**1.41**	**312**	*e*Pb	**Pb**	**19 24 39.0**	**-0.1**
SIGR				*e*Sb	**Sg**	**19 24 58.5**	**+0.5**
DEMI	**Demirci**	**1.41**	**57**	*i* P	**Pn**	**19 24 37.7**	**-0.9**
DEMI				*i* S	**Sb**	**19 24 55.9**	**-1.4**
DEMI	**Demirci**	**1.41**	**57**	*i* P	**Pn**	**19 24 37.7**	**-0.9**
DEMI				*i* S	**Sb**	**19 24 55.9**	**-1.4**
YER	**Yerkesik**	**1.42**	**143**	*e*PN	**Pn**	**19 24 38.0**	**-0.7**
YER	**Yerkesik**	**1.42**	**143**	*e*Pn	**Pn**	**19 24 38.0**	**-0.7**
BALB	**Balikesir**	**1.47**	**21**	*e*PN	**Pn**	**19 24 39.3**	**+0.1**
BALB	**Balikesir**	**1.47**	**21**	*e*Pn	**Pn**	**19 24 39.3**	**+0.1**
BALY	**Balya**	**1.50**	**12**	*i* P	**Pn**	**19 24 38.6**	**-1.2**
BALY				*i* S	**Sn**	**19 24 58.7**	**-0.8**
BALY	**Balya**	**1.50**	**12**	*i* P	**Pn**	**19 24 38.6**	**-1.2**
BALY				*i* S	**Sn**	**19 24 58.7**	**-0.8**
EZN	**Ezine**	**1.69**	**337**	*e*PN	**Pn**	**19 24 42.4**	**+0.1**
EZN	**Ezine**	**1.69**	**337**	*e*Pn	**Pn**	**19 24 42.4**	**+0.1**
APE	**Apeiranthos**	**1.79**	**228**	*e*PN	**Pb**	**19 24 46.2**	**+0.6**
APE	**Apeiranthos**	**1.79**	**228**	*e*Pn	**Pb**	**19 24 46.2**	**+0.6**
KHL	**Karahalli**	**1.83**	**88**	*e*PN	**Pb**	**19 24 45.5**	**-0.8**
KHL	**Karahalli**	**1.83**	**88**	*e*Pn	**Pb**	**19 24 45.5**	**-0.8**
KRBG	**Karabiga-Canak**	**2.12**	**2**	*e*PN	**Pn**	**19 24 49.0**	**+0.8**
KRBG	**Karabiga-Canak**	**2.12**	**2**	*e*Pn	**Pn**	**19 24 49.0**	**+0.8**
TVSB	**Tavsanli**	**2.12**	**56**	*e*PN	**Pn**	**19 24 49.4**	**+1.1**
TVSB	**Tavsanli**	**2.12**	**56**	*e*Pn	**Pn**	**19 24 49.4**	**+1.1**
LPK	**Lapseki**	**2.13**	**351**	*e*PN	**Pn**	**19 24 49.0**	**+0.7**
LPK	**Lapseki**	**2.13**	**351**	*e*Pn	**Pn**	**19 24 49.0**	**+0.7**
EDC	**Edincik**	**2.13**	**14**	*e*PN	**Pn**	**19 24 49.9**	**+1.5**
EDC	**Edincik**	**2.13**	**14**	*e*Pn	**Pn**	**19 24 49.9**	**+1.5**
ARG	**Arkhangelos**	**2.18**	**160**	*e*PN	**Pb**	**19 24 52.7**	**+0.5**
ARG	**Arkhangelos**	**2.18**	**160**	*e*Pn	**Pb**	**19 24 52.7**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.20**	**345**	*e*PN	**Pn**	**19 24 49.4**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.20**	**345**	*e*Pn	**Pn**	**19 24 49.4**	**+0.1**
LIA	**Limnos Island**	**2.26**	**317**	*e*PN	**Pb**	**19 24 53.3**	**-0.3**
LIA	**Limnos Island**	**2.26**	**317**	*e*Pn	**Pb**	**19 24 53.3**	**-0.3**
ALT	**Altintas**	**2.41**	**70**	*e*PN	**Pn**	**19 24 53.3**	**+1.0**
ALT	**Altintas**	**2.41**	**70**	*e*Pn	**Pn**	**19 24 53.3**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.41**	**360**	*e*PN	**Pn**	**19 24 53.3**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.41**	**360**	*e*Pn	**Pn**	**19 24 53.3**	**+1.0**
ERIK	**Erikli-Kesan**	**2.45**	**348**	*e*PN	**Pn**	**19 24 52.9**	**+0.1**
ERIK	**Erikli-Kesan**	**2.45**	**348**	*e*Pn	**Pn**	**19 24 52.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.47**	**31**	*e*PN	**Pn**	**19 24 54.1**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.47**	**31**	*e*Pn	**Pn**	**19 24 54.1**	**+1.1**
SMTH	**Samothraki Isl**	**2.55**	**330**	*e*PN	**Pb**	**19 24 57.1**	**-1.4**
SMTH	**Samothraki Isl**	**2.55**	**330**	*e*Pn	**Pb**	**19 24 57.1**	**-1.4**
ARMT	**Armutlu**	**2.63**	**29**	*e*PN	**Pn**	**19 24 56.4**	**+1.2**
ARMT	**Armutlu**	**2.63**	**29**	*e*Pn	**Pn**	**19 24 56.4**	**+1.2**
ELL	**Elmali**	**2.63**	**124**	*e*PN	**Pn**	**19 24 56.0**	**+0.6**
ELL	**Elmali**	**2.63**	**124**	*e*Pn	**Pn**	**19 24 56.0**	**+0.6**
CAVI	**Cavuskoy**	**2.81**	**46**	*e*PN	**Pn**	**19 24 59.1**	**+1.3**
CAVI	**Cavuskoy**	**2.81**	**46**	*e*Pn	**Pn**	**19 24 59.1**	**+1.3**
BOLV	**Bolvadin**	**2.98**	**80**	*i* P	**Pg**	**19 25 11.0**	**+1.4**
BOLV				*i* S	Sn	19 25 18.2	-18
SUTC	**Sutluce-Ispart**	**3.11**	**104**	*e*PN	**Pn**	**19 25 03.0**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.11**	**104**	*e*Pn	**Pn**	**19 25 03.0**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.57**	**69**	*e*PN	**Pn**	**19 25 10.4**	**+2.1**
SVRH	**Sivrihisar-ESK**	**3.57**	**69**	*e*Pn	**Pn**	**19 25 10.4**	**+2.1**
MDUB	**Mudurnu**	**3.80**	**53**	*e*PN	**Pn**	**19 25 13.5**	**+2.1**
MDUB	**Mudurnu**	**3.80**	**53**	*e*Pn	**Pn**	**19 25 13.5**	**+2.1**
KONT	**Konya--Tatoy**	**4.08**	**93**	*e*PN	**Pn**	**19 25 16.6**	**+1.4**
KONT	**Konya--Tatoy**	**4.08**	**93**	*e*Pn	**Pn**	**19 25 16.6**	**+1.4**

*IDC **23** 19:28:02.4±1.5, 50.52N×171.62W, h0km, mb3.6/7, mb1 4.0/10, mb1mx3.7/40, mbtmp3.7/10, ML4.2/2, Error ellipse: s-maj=44.0km s-min=13.3km az=4.0*
*ISCJB **23** 19:28:07.5±0.8, 50.85N±0.08×171.81W±0.04, h45km±8km, mb3.6/8, Error ellipse: s-maj=13.5km s-min=3.2km az=168.3*
*NEIC **23** 19:28:07.8±0.9, 50.65N×171.75W, h36km±7km, mb4.1/3, ML3.9(AEIC), Error ellipse: s-maj=16.0km s-min=2.7km az=168.0*

ISC 23 19:28:08.0±1.1, 50.7N±0.2×171.81W±0.05, h35km±9km, n58, σ1§03/72, mb3.9/8, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**2.92**	**38**	P	**Pn**	**19 28 50.7**	**-1.2**
NIKH				S	**Sn**	**19 29 24.0**	**-1.7**
GSMY	**Great Sitkin M**	**2.98**	**298**	P	**Pn**	**19 28 52.9**	**+0.2**
GSMY				S	**Sn**	**19 29 27.6**	**+0.4**
GSTR	**Great Sitkin T**	**3.00**	**299**	*e*Pn	**Pn**	**19 28 53.2**	**+0.2**
GSCK	**Great Sitkin C**	**3.02**	**297**	P	**Pn**	**19 28 53.3**	**0.0**
GSCK				S	**Sn**	**19 29 27.6**	**-0.7**
GSTD	**Great Sitkin T**	**3.03**	**298**	P	**Pn**	**19 28 53.7**	**+0.2**
GSTD				S	**Sn**	**19 29 28.3**	**-0.3**
ETKA	**Kagalaska Isla**	**3.11**	**294**	P	**Pn**	**19 28 54.4**	**0.0**
ETKA				S	**Sn**	**19 29 28.8**	**-1.5**
ADAG	**Mount Adagdak**	**3.26**	**295**	P	**Pn**	**19 28 57.5**	**+1.0**
KIRH	**Kanaga Island**	**3.52**	**292**	P	**Pn**	**19 29 00.6**	**+0.5**
KINC	**Kanaga Island**	**3.55**	**292**	P	**Pn**	**19 29 01.0**	**+0.5**
KINC				S	**Sn**	**19 29 40.7**	**-0.6**
KIKV	**Kanaga Island**	**3.56**	**291**	P	**Pn**	**19 29 01.0**	**+0.3**
OKFG	**Magazine Ridge**	**3.63**	**40**	P	**Pn**	**19 29 01.1**	**-0.4**
OKFG				S	**Sn**	**19 29 41.9**	**-1.1**
TAFL	**Tanaga Flats**	**3.97**	**288**	P	**Pn**	**19 29 06.8**	**+0.6**
TAFP	**Tanaga Falls P**	**4.05**	**290**	P	**Pn**	**19 29 08.2**	**+0.7**
TAFP				S	**Sn**	**19 29 54.0**	**+0.4**
TASE	**Tanaga Southea**	**4.07**	**289**	P	**Pn**	**19 29 08.5**	**+0.9**
TANO	**Tanaga North**	**4.14**	**290**	P	**Pn**	**19 29 09.7**	**+1.1**
MCIR	**Makushin Cirqu**	**4.44**	**41**	P	**Pn**	**19 29 13.0**	**+0.2**
MSW	**Makushin Switc**	**4.46**	**42**	P	**Pn**	**19 29 12.9**	**0.0**
MSW				S	**Sn**	**19 30 03.4**	**-0.2**
GAEA	**Gareloi East**	**4.49**	**287**	P	**Pn**	**19 29 14.3**	**+0.9**
GALA	**Gareloi Lava P**	**4.50**	**286**	P	**Pn**	**19 29 14.4**	**+0.9**
GANE	**Gareloi Northe**	**4.51**	**287**	P	**Pn**	**19 29 14.6**	**+0.8**
GANE				S	**Sn**	**19 30 05.2**	**+0.3**
UNV	**Unalaska Valle**	**4.53**	**44**	P	**Pn**	**19 29 13.6**	**-0.4**
UNV				S	**Sn**	**19 30 03.8**	**-1.6**
MTBL	**Makushin Table**	**4.54**	**42**	P	**Pn**	**19 29 14.3**	**+0.1**
AKRB	**Akutan Reef Bi**	**4.91**	**43**	P	**Pn**	**19 29 19.8**	**+0.5**
AKRB				S	**Sn**	**19 30 13.8**	**-0.9**
ZRO	**Akutan Zero**	**4.93**	**44**	P	**Pn**	**19 29 20.1**	**+0.7**
LVA	**Lava Point**	**4.95**	**43**	P	**Pn**	**19 29 20.9**	**+1.1**
AHB	**Akutan Harbor**	**5.01**	**45**	P	**Pn**	**19 29 20.8**	**+0.1**
AKUT	**Akutan**	**5.05**	**45**	P	**Pn**	**19 29 21.3**	**+0.2**
AKSA	**Akutan Strait**	**5.08**	**45**	P	**Pn**	**19 29 22.2**	**+0.7**
WESE	**West Dahl East**	**5.80**	**47**	P	**Pn**	**19 29 31.6**	**+0.1**
WESN	**West Dahl Nort**	**5.86**	**46**	P	**Pn**	**19 29 33.2**	**+0.9**
SSBA	**Shishaldin**	**6.20**	**46**	P	**Pn**	**19 29 36.8**	**0.0**
SSLW	**Shishaldin Wes**	**6.20**	**46**	P	**Pn**	**19 29 37.3**	**+0.4**
SSLN	**Shishaldin Nor**	**6.28**	**46**	P	**Pn**	**19 29 38.7**	**+0.7**
SPIA	**Saint Paul Isl**	**6.55**	**8**	P	**Pn**	**19 29 40.9**	**-0.8**
FALS	**False Pass**	**6.58**	**48**	P	**Pn**	**19 29 42.4**	**+0.4**
FX1	**Attu Island--F**	**9.56**	**289**	Pn	**Pn**	**19 30 25.4**	**+2.4**
FX1				Sn	**Sn**	**19 32 07.0**	**-2.1**
FX1	**Attu Island--F**	**9.56**	**289**	Pn	**Pn**	**19 30 25.4**	**+2.4**
	5.6nm,0.3s,baz=76,slow=3.7,SNR=16						
FX1				Sn	**Sn**	**19 32 07.0**	**-2.1**
	baz=288,slow=20,SNR=3.2						
CHGN	**Chignik**	**9.75**	**50**	*e*Pn	**Pn**	**19 30 24.7**	**-0.8**
KTH	**Kantishna Hill**	**17.04**	**33**	*e*Pn	**Pn**	**19 32 02.7**	**-0.5**
	28nm,1.5s						
PETK	**Petropavlovsk-**	**18.90**	**289**	P	**Pn**	**19 32 26.3**	**+0.3**
PETK	**Petropavlovsk-**	**18.90**	**289**	P	**Pn**	**19 32 26.3**	**+0.3**
	0.2nm,0.3s,baz=92,slow=13,SNR=4.8						
ILAR	**Eielson Array**	**19.19**	**33**	P	**P**	**19 32 27.1**	**-1.2**
ILAR	**Eielson Array**	**19.19**	**33**	P	**P**	**19 32 27.1**	**-1.2**
	0.5nm,0.3s,baz=229,slow=9.6,SNR=40						
EGAK	**Eagle**	**21.29**	**37**	*e*Pn	**P**	**19 32 51.3**	**+0.2**
	4.4nm,0.5s						
INK	**Inuvik**	**25.58**	**32**	*e*Pn	**P**	**19 33 34.1**	**+0.9**
	3.6nm,0.9s						
INK	**Inuvik**	**25.58**	**32**	P	**P**	**19 33 34.0**	**+0.9**
	1.7nm,0.5s,baz=260,slow=9.8,SNR=18						
YKA	**Yellowknife Ar**	**32.49**	**47**	P	**P**	**19 34 33.9**	**-0.8**
YKA	**Yellowknife Ar**	**32.49**	**47**	P	**P**	**19 34 33.9**	**-0.8**
	0.2nm,0.5s,baz=275,slow=7.7,SNR=5.7						
NVAR	**Mina Array Bea**	**39.22**	**87**	P	**P**	**19 35 31.6**	**-1.3**
NVAR	**Mina Array Bea**	**39.22**	**87**	P	**P**	**19 35 31.6**	**-1.3**
	0.2nm,0.5s,baz=294,slow=6.8,SNR=2.1						
PDAR	**Pinedale Array**	**42.26**	**76**	P	**P**	**19 35 57.2**	**-0.7**
PDAR	**Pinedale Array**	**42.26**	**76**	P	**P**	**19 35 57.2**	**-0.7**
	3.2nm,0.7s,baz=306,slow=4.4,SNR=25						
TXAR	**Lajitas Array**	**54.35**	**86**	P	**P**	**19 37 29.2**	**-1.9**
TXAR	**Lajitas Array**	**54.35**	**86**	P	**P**	**19 37 29.2**	**-1.9**
	0.8nm,0.6s,baz=296,slow=4.0,SNR=3.6						
MKAR	**Makanchi Array**	**63.83**	**313**	P	**P**	**19 38 37.6**	**+1.2**
MKAR	**Makanchi Array**	**63.83**	**313**	P	**P**	**19 38 37.6**	**+1.2**
	0.1nm,0.6s,baz=54,slow=7.3,SNR=2.7						
NOA	**NORSAR Array B**	**68.58**	**358**	P	**P**	**19 39 08.4**	**+1.8**
NOA	**NORSAR Array B**	**68.58**	**358**	P	**P**	**19 39 08.4**	**+1.8**
	0.9nm,0.8s,baz=357,slow=7.4,SNR=3.7						

*DDA **23** 19:37:23.8, 37.34N×36.68E, h7km, MD2.8*

ISC 23 19:37:22.1±3.1, 37°38N±0.09×36°6E±0.2, h8km, n4, σ0§64/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.29**	**63**	*e*PG	**Pg**	**19 37 26.8**	**-1.0**
KUZU	**Kuzuini**	**0.72**	**146**	*i* P	**Pn**	**19 37 38.7**	**0.0**
KUZU				*i* S	**Sn**	**19 37 50.0**	**0.0**
GZT	**Gaziantep**	**0.79**	**91**	*i* P	**Pb**	**19 37 38.3**	**+0.1**
GZT				*i* S	**Sb**	**19 37 49.5**	**+0.5**
AKCD	**Akcadag**	**1.41**	**49**	*i* P	**Pg**	**19 37 49.6**	**+0.5**
AKCD				*i* S	**Sb**	**19 38 06.7**	**-0.1**

*ISCJB **23** 20:19:03.3±1.3, 8.22N±0.05×83.06W±0.04, h8km±8km, mb3.8/9, Error ellipse: s-maj=9.8km s-min=5.7km az=37.2*
*IDC **23** 20:19:04.3±1.2, 8.42N±83.02W, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.8/34, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=43.2km s-min=17.9km az=42.0*
*CASC **23** 20:19:05.3±2.7, 8.39N×83.05W, h

BRU2 eS Sb 20 22 41.0 +1.1
BRU Baru 0.67 52 eP Pb 20 22 32.8 -0.8
CNI Changuinola 1.17 29 eP Pg 20 22 39.9 -1.9
BUS Buena Vista 1.33 330⇓ eP Pg 20 22 44.1 -0.8
QCR Quepos 1.47 314⇓ eP Pn 20 22 46.1 -0.3
URSC Urasca 1.58 335⇓ eP Pn 20 22 47.8 -0.2
SJS Escuela Geolog 1.81 328 eP Pb 20 22 52.4 -0.4
SJS eS Sb 20 23 16.4 +0.6
JCR Jicaral 2.46 306 eP Pn 20 23 00.8 +0.8
JCR eS Sg 20 23 45.5 +6.9
CEDE Laguna Cedeˆ–o 2.62 323 i P Pn 20 23 03.7 +1.5
CEDE i S Sg 20 23 42.9 -0.7
JTS JuntasAbangare 2.63 316 Pn Pn 20 23 05.0 +2.7
12µm,1.0s,SNR=76
JTS JuntasAbangare 2.63 316 ePn Pn 20 23 01.9 -0.4
JTS Pg Pb 20 23 05.1 -1.8
JTS Sn Sn 20 23 36.6 +2.1
JTS eSn Sb 20 23 37.5 -2.0
JTS JuntasAbangare 2.63 316 Pn Pn 20 23 02.2 0.0
195nm,0.3s,baz=150,slow=3.9,SNR=94
JTS Pg Pb 20 23 05.1 -1.8
195nm,0.3s,baz=128,slow=13,SNR=195
JTS LR LR 20 23 30.3
comp=Z,1µm,18.1s,baz=162,slow=27
JTS Sn Sn 20 23 36.6 +2.1
87nm,0.3s,baz=300,slow=23,SNR=9.8
COLC Colonia 3.07 317 i P Pn 20 23 11.7 +3.3
LIM1 Limonal 3.13 317 i P Pn 20 23 12.1 +3.0
LAPC Finca la Perla 3.30 316 i P Pn 20 23 13.8 +2.3
BUEV Buena Vista 3.31 317 i P Pn 20 23 14.6 +3.0
BCIP Isla Barro Col 3.31 76 eP Pn 20 23 12.3 +0.8
BCIP eS Sb 20 23 58.4 -0.5
BCIP Isla Barro Col 3.31 76 ePn Pn 20 23 11.5 -0.1
BCIP eSn Sb 20 23 55.9 -3.0
GB1A Borinquen Arri 3.31 317 i P Pn 20 23 14.4 +2.7
GBS2 Las Lilas 3.36 316 i P Pn 20 23 15.4 +3.1
UPA Univ. de Panam 3.57 80 eP Pn 20 23 17.9 +2.8
COPN Copaltepe 5.10 318 eP Pn 20 23 39.4 +3.1
TGUH Tegucigalpa,Un 6.96 324 eP Pn 20 24 02.5 +0.7
TGUH Tegucigalpa,Un 6.96 324 ePn Pn 20 24 04.9 +3.1
VSM San Miguel 7.14 315 eP Pn 20 24 07.4 +3.0
LFRS El Faro 7.83 312 eP Pn 20 24 15.9 +2.0
LFRS eS Sn 20 25 40.4 -2.5
SBLS San Blas 8.39 311 eP Pn 20 24 24.4 +2.7
SBLS eS Sn 20 25 54.0 -2.7
RBDL Robledal 8.61 312 eP Pn 20 24 27.7 +3.1
RBDL eS Sn 20 25 57.9 -4.2
OTAV Otavalo 9.33 150 ePn Pn 20 24 34.5 -0.3
ROSC El Rosal 9.39 111 ePn Pn 20 24 35.4 0.0
ROSC El Rosal 9.39 111 Pn Pn 20 24 39.9 +4.4
0.5nm,0.3s,baz=63,slow=1.9,SNR=6.7
ROSC LR LR 20 27 39.9
comp=Z,622nm,20.4s,baz=354,slow=34
APG El Apazote 9.76 313 Pn Pn 20 24 40.3 -0.1
APG Sn Sn 20 26 42.1 +11
APG El Apazote 9.76 313 Pn Pn 20 24 40.3 -0.1
2.2nm,0.3s,baz=141,slow=9.9,SNR=66
APG Sn Sn 20 26 42.1 +11
0.4nm,0.3s,baz=70,slow=15,SNR=2.2
APG LR LR 20 28 44.2
comp=Z,1µm,19.6s,baz=112,slow=39
MTDJ Mount Denham 11.17 28 ePn Pn 20 25 00.9 +1.3
SDV Santo Domingo 12.33 87 ePn Pn 20 25 16.4 +0.8
TEIG Tepich 12.79 337 Pn Pn 20 25 23.4 +1.7
30nm,1.1s
TEIG Tepich 12.79 337 LR LR 20 30 12.0
comp=Z,1µm,20.4s,baz=134,slow=37
ATAH Atahualpa 16.12 163 Pn P 20 26 10.9 +0.6
ATAH Atahualpa 16.12 163 Pn P 20 26 10.9 +0.6
0.7nm,0.3s,baz=5.5,slow=6.5,SNR=7.9
ATAH LR LR 20 31 33.2
comp=Z,2µm,21.1s,baz=337,slow=34
CRPR Cabo Rojo, PR 18.25 57 eP P 20 26 35.3 +1.9
40nm,0.8s
LSP Las Mesas 18.35 56 P P 20 26 35.2 +0.6
AGPR Aguadilla, PR 18.47 56 P Pn 20 26 31.7 -4.4
LRS Lares 18.61 56 P P 20 26 35.0 -2.5
OBIP Obispado Ponce 18.68 57 eP Pn 20 26 40.7 +2.1
34nm,0.7s
AOPR Arecibo Observ 18.71 56 ePn Pn 20 26 40.6 +1.7
70nm,0.8s
CELP Cerrillos 18.72 57 eP Pn 20 26 39.9 +0.9
CBYP Canovanas 19.42 58 eP Pn 20 26 48.1 +0.6
44nm,0.8s
PTP Ponta Puerca 19.60 58 eP x 20 22 24.5
CDVI St. Croix 20.11 61 eP Pn 20 26 56.2 +0.5
169nm,0.8s
NNA Nana 21.18 163 P P 20 27 06.2 +0.7
431nm,0.9s,SNR=8.6
NNA Nana 21.18 163 eP P 20 27 06.0 +0.4
57nm,0.8s
GRGR Grenville 21.42 78 eP P 20 27 09.4 +1.3
429nm,1.0s
FDF Fort de France 22.39 72 P P 20 27 13.2 -5.4
FDF Fort de France 22.39 72 P P 20 27 13.2 -5.4
ANWB Willy Bob 22.69 64 P P 20 27 16.8 -4.9
TIGA Tifton 22.93 359 eP P 20 27 25.4 +1.3
72nm,0.9s
TIGA Tifton 22.93 359⇑ P P 20 27 25.6 +1.4
baz=23,SNR=5.6
936A North Padre Is 23.22 326⇓ P P 20 27 28.2 +1.1
baz=23
034A Hebbronville 23.73 323⇑ P P 20 27 32.9 +0.7
baz=24
934A Benavides 24.04 325⇓ P P 20 27 35.9 +0.8
baz=24
834A Tilden 24.46 325⇓ P P 20 27 39.3 +0.3
baz=25
933A Laredo 24.49 323⇑ P P 20 27 39.9 +0.6
baz=25
HKT Hockley 24.55 333 eP P 20 27 40.2 +0.5
HKT pmax pmax
comp=Z,44nm,1.2s
HKT Hockley 24.55 333 eP P 20 27 40.2 +0.5
comp=Z,44nm,1.2s
VBMS Vicksburg 24.69 345 eP P 20 27 41.4 +0.4
comp=Z,117nm,1.4s
NHSC New Hope 24.74 6 eP P 20 27 42.3 +0.8
comp=Z,114nm,1.1s
PTGA Pitinga 24.77 110 eP P 20 27 41.4 -0.6
comp=Z,4.6nm,1.0s
PTGA Pitinga 24.77 110 P P 20 27 41.9 -0.1
comp=Z,11nm,0.8s,baz=300,slow=11,SNR=13
PTGA LR LR 20 38 49.0
comp=Z,404nm,19.5s,baz=290,slow=40
LRAL Lakeview Retre 24.79 352 eP P 20 27 43.3 +1.3
comp=Z,98nm,1.1s
GOGA Godfrey 24.90 359 eP P 20 27 43.7 +0.8
GOGA pmax pmax
comp=Z,148nm,1.0s
GOGA Godfrey 24.90 359 eP P 20 27 43.7 +0.8
comp=Z,148nm,1.0s
635A Leesville 25.03 328⇑ P P 20 27 45.2 +1.0
baz=25
833A Chaparral WMA, 25.09 324⇑ P P 20 27 45.9 +1.2
baz=25,SNR=8.8
733A Divot King Ran 25.33 325⇑ P P 20 27 48.3 +1.4
baz=26
832A Faith Ranch, C 25.40 323⇓ P P 20 27 48.0 +0.5
baz=26
NATX Nacogdoches 25.62 337 P P 20 27 49.0 -0.5
comp=Z,80nm,1.2s
732A Laxson Ranch, 25.73 324⇓ P P 20 27 51.4 +0.9
baz=26
JSC Jenkinsville 25.82 3 eP P 20 27 52.4 +1.1
JSC Jenkinsville 25.82 3 eP P 20 27 52.4 +1.1
633A Saathoff Ranch 25.83 326⇑ P P 20 27 52.4 +0.9
baz=26,SNR=5.5
534A Blanco 25.91 328⇑ P P 20 27 52.7 +0.5
baz=26,SNR=9.1
435B Jarrell 26.07 331⇓ P P 20 27 54.4 +0.8
baz=26
632A Uvalde 26.21 325⇑ P P 20 27 55.5 +0.6
baz=26
533A Kerrville 26.23 327⇑ P P 20 27 55.9 +0.8
baz=26
SAML Samuel 26.27 131 eP P 20 27 52.5 -3.1
comp=Z,5.6nm,1.4s
335A Moody 26.41 332⇓ P P 20 27 57.7 +1.1
baz=27
434A Burnet 26.43 330⇑ P P 20 27 58.3 +1.4
baz=27
631A Perdido Creek 26.59 324⇑ P P 20 27 59.1 +0.8
baz=27
KMSC Kings Mountain 26.67 3 eP P 20 27 59.5 +0.5
baz=27
KMSC Kings Mountain 26.67 3⇑ P P 20 27 59.8 +0.8
baz=27,SNR=7.5
532A Rocksprings 26.75 326⇓ P P 20 28 00.6 +0.7
baz=27
433A Art 26.80 328⇓ P P 20 28 00.8 +0.5
baz=27,SNR=7.9
SWET Sewanee 26.82 355 eP P 20 28 01.9 +1.4
comp=Z,48nm,1.1s
334A Lometa 26.84 330⇓ P P 20 28 00.9 +0.3
baz=27,SNR=5.9
CPCT Cooper Cave 26.96 357 eP P 20 28 03.8 +2.2
JCT Junction City 26.96 327 eP P 20 28 02.2 +0.5
JCT pmax pmax
comp=Z,12nm,0.9s
JCT Junction City 26.96 327 eP P 20 28 02.2 +0.5
comp=Z,12nm,0.9s
JCT Junction City 26.96 327⇑ P P 20 28 02.7 +0.9
baz=27
531A Rocksprings 27.14 325⇑ P P 20 28 03.9 +0.6
baz=27
TKL Tuckaleechee C 27.15 359 eP P 20 28 02.5 -0.8
TKL Tuckaleechee C 27.15 359 P P 20 28 04.1 +0.8
comp=Z,27nm,1.1s,baz=162,slow=8.9,SNR=6.9
TKL LR LR 20 39 04.5
comp=Z,776nm,18.3s,baz=178,slow=37
333A Richland Sprin 27.20 329⇓ P P 20 28 04.7 +0.8
baz=27
432A Menard 27.27 327⇑ P P 20 28 06.2 +1.8
baz=27,SNR=5.3
234A Clairette 27.34 331⇑ P P 20 28 06.7 +1.6
baz=28,SNR=7.0
431A Sonora 27.56 326⇑ P P 20 28 08.0 +0.9
baz=28,SNR=5.6
530A J-C Ranch, Com 27.57 324⇓ P P 20 28 07.7 +0.4
baz=28
UALR University of 27.60 343 eP P 20 28 07.4 +0.1
comp=Z,58nm,1.0s
332A Millersview 27.64 328⇓ P P 20 28 08.1 +0.3
baz=28
233A Rising Star 27.72 330⇑ P P 20 28 09.5 +1.0
baz=28
MIAR Mount Ida 27.75 341 eP P 20 28 09.0 +0.2
MIAR pmax pmax
comp=Z,43nm,1.1s
MIAR Mount Ida 27.75 341 eP P 20 28 09.0 +0.2
comp=Z,43nm,1.1s
134A White-Moore Ra 27.79 332⇑ P P 20 28 09.8 +0.8
baz=28,SNR=5.7
331A San Angelo 27.95 327⇑ P P 20 28 11.2 +0.6
baz=28
WVT Waverly 27.95 352 eP P 20 28 10.9 +0.5
WVT pmax pmax
comp=Z,20nm,1.0s
WVT Waverly 27.95 352 eP P 20 28 10.9 +0.5
comp=Z,20nm,1.0s
232A Coleman 27.99 329⇓ P P 20 28 11.9 +0.9
baz=28
430A Baggett Ranch, 27.99 325⇓ P P 20 28 11.6 +0.6
baz=28
TZTN Tazewell 28.03 359 eP P 20 28 11.8 +0.6
comp=Z,37nm,1.2s
TZTN ePcP PcP 20 31 31.2 +5.2
628A Black Gap, Mar 28.03 321⇓ P P 20 28 12.0 +0.6
baz=28
Z35A Perchaven, San 28.06 334⇑ P P 20 28 12.8 +1.4
baz=28
529A Stev Forest Ra 28.08 323⇑ P P 20 28 12.3 +0.5
baz=28,SNR=6.2
133A Hamilton Ranch 28.21 331⇓ P P 20 28 13.7 +0.8
baz=28
429A Davenport Ranc 28.25 324⇑ P P 20 28 13.8 +0.5
baz=28
627A Terlingua Ranc 28.32 320⇓ P P 20 28 14.5 +0.5
baz=28
231A Bronte 28.38 328⇓ P P 20 28 15.2 +0.8
baz=28
Z34A Collier Ranch, 28.38 333⇑ P P 20 28 15.0 +0.6
baz=29
TXAR Lajitas Array 28.42 320 P P 20 28 15.9 +1.1
TXAR Lajitas Array 28.42 320 P P 20 28 15.9 +1.1
comp=Z,0.2nm,0.4s,baz=169,slow=15,SNR=2.5
TXAR LR LR 20 40 43.3
comp=Z,208nm,19.0s,baz=0.0,slow=39
330A Mertzon 28.43 326⇓ P P 20 28 15.3 +0.4
baz=29
528A Cox Ranch, San 28.45 322⇓ P P 20 28 15.2 +0.1
baz=29
ABTX Abilene, Hawle 28.58 330 eP P 20 28 17.7 +1.6
comp=Z,12nm,0.9s
LPAZ La Paz 28.65 149 eP P 20 28 16.5 -1.1
comp=Z,4.2nm,0.8s
LPAZ La Paz 28.65 149 P P 20 28 17.2 -0.3
comp=Z,3.0nm,0.7s,baz=327,slow=9.3,SNR=13
LPAZ LR LR 20 41 30.8
comp=Z,282nm,20.8s,baz=319,slow=40
Z33A Whitaker Ranch 28.70 332⇓ P P 20 28 18.7 +1.5
baz=29
428A Kincaid Ranch, 28.79 323⇑ P P 20 28 19.9 +1.8
baz=29
Y34A Reagan Ranch, 28.81 334⇓ P P 20 28 20.0 +1.8
baz=29,SNR=7.6
626A Big Bend Ranch 28.86 320⇓ P P 20 28 19.9 +1.1
baz=29
329A Wagon Wheel Ra 28.94 325⇓ P P 20 28 20.0 +0.5
baz=29
527A Woodward Ranch 28.94 321⇑ P P 20 28 20.5 +1.0
baz=29
131A Roby 29.00 329⇓ P P 20 28 20.3 +0.4
baz=29
PBMO Poplar Bluff 29.03 348 eP P 20 28 20.6 +0.5
comp=Z,29nm,1.1s
Z32A Haskell 29.05 331⇑ P P 20 28 21.2 +0.8
baz=29,SNR=17
Y33A Hilltop Ranch, 29.23 333⇑ P P 20 28 23.2 +1.3
baz=29
328A Wristen Ranch, 29.34 324⇓ P P 20 28 24.6 +1.6
baz=30
Z31A Sharp Cattle R 29.39 330⇓ P P 20 28 23.9 +0.6
baz=30
X34A Smith Ranch, M 29.39 335⇓ P P 20 28 25.2 +1.9
baz=30,SNR=5.3
Y32A R-V Farms, Ver 29.61 332⇑ P P 20 28 27.2 +2.0
baz=30
X33A Lawton 29.63 334⇑ P P 20 28 27.0 +1.5
baz=30
SIUC Southern Illin 29.71 350 eP P 20 28 26.9 +0.8
comp=Z,48nm,1.3s
USIN University of 29.73 353 eP P 20 28 26.5 +0.2
comp=Z,82nm,1.0s
129A Stewart Farms, 29.74 327⇑ P P 20 28 27.6 +1.1
baz=30
TUL1 Tulsa 29.75 339 eP P 20 28 26.7 +0.3
TUL1 Tulsa 29.75 339⇓ P P 20 28 28.6 +2.1
baz=30,SNR=6.7
WCI Wyandotte Cave 29.84 355 eP P 20 28 27.5 +0.2
WCI pmax pmax
comp=Z,70nm,1.0s
WCI Wyandotte Cave 29.84 355 eP P 20 28 27.5 +0.2
comp=Z,70nm,1.0s
Z30A Sanderson Ranc 29.86 329⇓ P P 20 28 29.0 +1.5
baz=30
X32A Elner 29.88 332⇓ P P 20 28 29.6 +1.9
baz=30
W34A Bridge Creek, 29.91 335⇓ P P 20 28 29.5 +1.6
baz=30
Y31A Rekieta Farm, 29.96 331⇓ P P 20 28 30.3 +1.8
baz=30,SNR=6.7
W33A Caddo, Fort Co 30.13 334⇑ P P 20 28 31.3 +1.4
baz=30
Z29A Hungry Hill Ra 30.14 328⇓ P P 20 28 31.0 +1.0
baz=30
Y30A Stafford Cattl 30.21 330⇓ P P 20 28 32.3 +1.6
baz=30
V34A Guthrie 30.33 336⇑ P P 20 28 33.6 +1.9
baz=30,SNR=5.7
X31A McDonald Ranch 30.37 332⇓ P P 20 28 33.7 +1.6
baz=30
W32A Sentinel 30.45 333⇑ P P 20 28 34.5 +1.8
baz=31,SNR=8.1
Z28A Tucker Farm, M 30.52 327⇑ P P 20 28 34.6 +1.1
baz=31
OLIL Olney 30.54 352 eP P 20 28 33.4 -0.1
comp=Z,104nm,1.1s
Y29A Porterfield Fa 30.59 329⇓ P P 20 28 36.0 +1.9
baz=31
V33A Lossen Ranch, 30.63 335⇓ P P 20 28 36.7 +2.4
baz=31
226B Tecolote Peak, 30.64 323⇓ P P 20 28 36.1 +1.6
baz=31
X30A Coker Ranch, T 30.65 330⇓ P P 20 28 36.4 +1.8
baz=31,SNR=7.5
SLM Saint Louis 30.79 349 eP P 20 28 35.4 -0.2
SLM pmax pmax
comp=Z,65nm,1.2s
SLM Saint Louis 30.79 349 eP P 20 28 35.4 -0.2
comp=Z,65nm,1.2s
BLO Bloomington 30.80 355 eP P 20 28 35.4 -0.3
BLO pmax pmax
comp=Z,47nm,0.9s
BLO Bloomington 30.80 355 eP P 20 28 35.4 -0.3
comp=Z,47nm,0.9s
W31A Holland Ranch, 30.82 332⇑ P P 20 28 37.7 +1.7
baz=31
U34A Anderson Ranch 30.86 337⇑ P P 20 28 38.5 +2.2
baz=31
V32A Arapaho 30.86 334⇓ P P 20 28 38.5 +2.1
baz=31,SNR=5.9
Z27A Tatum 31.00 326⇓ P P 20 28 39.6 +2.0
baz=31
MSTX Muleshoe 31.25 327⇓ P P 20 28 41.2 +1.3
baz=31
V31A Spring Creek L 31.26 333⇑ P P 20 28 41.6 +1.7
baz=31
125A Gardner Draw, 31.34 323⇑ P P 20 28 42.5 +1.7
baz=32
Z26A Caprock 31.39 325⇑ P P 20 28 43.1 +1.9
baz=32
U32A Winter Ranch, 31.40 335⇓ P P 20 28 41.8 +0.7
baz=32
W29A Amraillo 31.57 330⇑ P P 20 28 43.6 +0.8
baz=32
T33A Patterson Ranc 31.70 337⇓ P P 20 28 45.9 +2.2
baz=32
ACSO Alum Creek Sta 31.70 0 eP P 20 28 44.0 +0.3
comp=Z,55nm,1.0s
S33A Kaszmaul Farm, 32.05 337⇓ P P 20 28 47.9 +1.1
baz=32
SFIN Scholer Farm 32.05 354 eP P 20 28 46.1 -0.6
SFIN Scholer Farm 32.05 354⇓ P P 20 28 47.6 +0.9
baz=32,SNR=6.3
T32A Huddler Ranch, 32.06 336⇑ P P 20 28 47.9 +1.0
baz=32
Z24A Sheeppen Canyo 32.24 323⇑ P P 20 28 49.9 +1.2
baz=32
U30A WK&E Inc. Balk 32.25 333⇑ P P 20 28 50.6 +2.0
baz=32,SNR=6.3
T31A Randall Ranch, 32.30 335⇑ P P 20 28 50.5 +1.5
baz=32
SIV San Ignacio 32.59 138 P P 20 28 50.8 -1.0
SIV San Ignacio 32.59 138 P P 20 28 50.8 -1.0
comp=Z,5.1nm,0.6s,baz=324,slow=8.5,SNR=13
S31A Mullinville 32.66 335⇓ P P 20 28 54.3 +2.1
baz=33
R33A Olander Ranch, 32.67 338⇓ P P 20 28 54.2 +1.9
baz=33,SNR=12
Y24A Capitan 32.70 324⇑ P P 20 28 54.4 +1.6
baz=33
KSU1 Kansas State U 32.90 340 eP P 20 28 54.8 +0.6
comp=Z,69nm,0.9s
KSU1 Kansas State U 32.90 340⇓ P P 20 28 55.6 +1.4
baz=33,SNR=9.1
R32A Long Quarter, 33.05 337⇓ P P 20 28 56.9 +1.4
baz=33,SNR=8.2
T29A Hugoton 33.05 333⇑ P P 20 28 57.3 +1.7
baz=33
Y23A Lovelace Mesa, 33.07 324⇑ P P 20 28 57.2 +1.3
baz=33
S30A Montezuma 33.09 334⇑ P P 20 28 57.4 +1.4
baz=33
W25A X Bar L Ranch, 33.10 327⇑ P P 20 28 57.7 +1.5
baz=33
121A Cookes Peak, D 33.18 320⇑ P P 20 28 58.1 +1.1
baz=33
U27A Thompson Grove 33.19 330⇓ P P 20 28 57.2 +0.3
baz=33
V26A Tequesquite Ra 33.19 328⇑ P P 20 28 58.2 +1.3
baz=33
Q33A Connelly Farm, 33.23 339⇓ P P 20 28 58.8 +1.7
baz=33,SNR=10
R31A Burdett 33.25 336⇑ P P 20 28 59.6 +2.2
baz=33,SNR=7.1
S29A Ulysses 33.36 333⇓ P P 20 29 00.4 +2.1
baz=34
T28A Walsh 33.40 332⇓ P P 20 29 00.9 +2.1
baz=34
319A Douglas 33.43 317⇓ P P 20 29 00.5 +1.4
baz=34
Q32A Meitler Ranch, 33.49 338⇓ P P 20 29 01.1 +1.8
baz=34,SNR=11
R30A Dighton 33.55 335⇑ P P 20 29 01.9 +1.9
baz=34,SNR=17
BNM Barren Site 33.56 323 eP P 20 29 01.4 +1.1
P33A Williams Farm, 33.57 339⇓ P P 20 29 02.2 +2.2
baz=34,SNR=5.8
U26A Atchley Ranch, 33.62 329⇑ P P 20 29 01.6 +0.8
baz=34
T27A Campo 33.64 331⇑ P P 20 29 01.5 +0.6
baz=34
KSPA Keystone Colle 33.66 10 eP P 20 29 01.1 +0.3
S28A Manter 33.69 333⇓ P P 20 29 01.9 +0.7
baz=34
LVC Limon Verde 33.80 156 P P 20 29 02.8 +0.3
comp=Z,18nm,1.1s
Q31A Ellis 33.82 337⇓ P P 20 29 04.1 +1.8
baz=34,SNR=11
ANMO Albuquerque 34.02 324 eP P 20 29 05.8 +1.5
comp=Z,5.9nm,1.2s
R29A Marienthal 34.04 334⇑ P P 20 29 06.5 +2.2
baz=34
P32A Huiting Farm, 34.06 338⇑ P P 20 29 06.3 +2.0
baz=34,SNR=15
Q30A Quinter 34.12 336⇓ P P 20 29 07.1 +2.1
baz=34,SNR=7.2
T26A Comanche Natio 34.16 330⇑ P P 20 29 07.1 +1.6
baz=34
P31A Stockton 34.26 337⇓ P P 20 29 08.4 +2.3
baz=34,SNR=15
R28A Tribune 34.26 333⇓ P P 20 29 08.0 +1.8
baz=34,SNR=12
Q29A Oakley 34.36 335⇑ P P 20 29 09.1 +2.1
baz=34,SNR=8.9
S26A Kim 34.45 331⇑ P P 20 29 10.0 +2.1
baz=35,SNR=5.5
O32A Brockman Farm, 34.51 339⇑ P P 20 29 10.1 +1.9
baz=35,SNR=10
T25A Trinidad 34.54 329⇓ P P 20 29 11.0 +2.2
baz=35
SCIA State Center 34.56 347 eP P 20 29 08.0 -0.5
comp=Z,106nm,1.6s
P30A Selden 34.62 336⇑ P P 20 29 11.3 +2.0
baz=35,SNR=24
R27A Eads 34.66 332⇓ P P 20 29 11.6 +1.9
baz=35
O31A Woolen Ranch, 34.79 338⇑ P P 20 29 12.6 +2.0
baz=35,SNR=8.1
Q28A Sharon Springs 34.87 334⇓ P P 20 29 13.5 +2.1
baz=35,SNR=13
U23A El Rito 34.87 326⇓ P P 20 29 12.7 +1.0
baz=35
P29A Atwood 34.94 336⇑ P P 20 29 14.5 +2.5
baz=35,SNR=7.8
JFWS Jewell Farm 34.95 351 eP P 20 29 12.0 0.0
JFWS pmax pmax
comp=Z,44nm,0.8s
JFWS Jewell Farm 34.95 351 eP P 20 29 12.0 0.0
comp=Z,44nm,0.8s
N32A Stulken Farm, 34.96 340⇓ P P 20 29 14.7 +2.6
baz=35
V22A San Miguel Ran 34.97 325⇓ P P 20 29 13.7 +1.2
baz=35
R26A Arlington 34.98 331⇑ P P 20 29 14.0 +1.5
baz=35,SNR=6.9
T24B San Luis 34.98 328⇓ P P 20 29 13.9 +1.2
baz=35
TUC Tucson 35.02 317 eP P 20 29 14.3 +1.5
TUC pmax pmax
comp=Z,30nm,1.7s
TUC Tucson 35.02 317 eP P 20 29 14.3 +1.5
comp=Z,30nm,1.7s
O30A MW Ranch, Wils 35.09 337⇓ P P 20 29 15.4 +2.1
baz=35,SNR=5.8
P28A Saint Francis 35.26 335⇓ P P 20 29 16.4 +1.6
baz=35,SNR=5.8
T23A Casias Ranch, 35.31 327⇓ P P 20 29 17.3 +1.8
baz=36
S24A Houchin Ranch, 35.33 329⇓ P P 20 29 17.5 +1.8

O29A 4D Ranch, Culb 35.33 336 ⇓P P 20 29 18.0 +2.6
baz=36,SNR=5.5
BGNE Belgrade 35.49 340 eP P 20 29 17.6 +1.0
BGNE Belgrade 35.49 340 ⇓P P 20 29 19.3 +2.6
baz=36
Q26A Hugo 35.51 332 ⇓P P 20 29 19.5 +2.4
baz=36,SNR=7.1
P27A Ficken Ranch, 35.60 334 ⇑P P 20 29 19.8 +2.0
baz=36
M31A Lambtecht Ranc 35.71 339 ⇑P P 20 29 20.6 +2.0
baz=36,SNR=6.2
O28A Krutsinger Ran 35.73 335 ⇑P P 20 29 21.4 +2.6
baz=36
R24A Sanders Place, 35.73 330 ⇑P P 20 29 21.0 +1.9
baz=36
Q25A Bedland, Calha 35.85 331 ⇑P P 20 29 21.7 +1.7
baz=36
X18A Snowflake 35.85 320 ⇓P P 20 29 21.6 +1.5
baz=36,SNR=7.7
N29A Votaw Ranch, W 35.86 337 ⇑P P 20 29 22.3 +2.4
baz=36
P26A Davis Ranch, A 35.95 333 ⇓P P 20 29 23.0 +2.2
baz=36
R23A Moffat 36.06 329 ⇑P P 20 29 24.2 +2.2
baz=36
O27A Beecher Island 36.08 334 ⇑P P 20 29 23.3 +1.4
baz=36
W18A Petrified Fore 36.10 321 eP P 20 29 25.0 +2.8
W18A Petrified Fore 36.10 321 ⇓P P 20 29 23.1 +0.9
baz=36
N28A Pribbeno Ranch 36.11 336 ⇑P P 20 29 24.1 +2.0
baz=36
214A Organ Pipe Nat 36.22 314 eP P 20 29 25.3 +2.3
comp=Z,60nm,1.7s
214A Organ Pipe Nat 36.22 314 ⇑P P 20 29 24.6 +1.6
baz=36
S22A 4UR Ranch, Cre 36.26 327 ⇑P P 20 29 25.2 +1.5
baz=36
P25A Willow Gulch B 36.28 332 ⇓P P 20 29 25.0 +1.3
baz=36,SNR=6.7
Q24A Divide 36.32 330 ⇑P P 20 29 26.0 +1.8
baz=36
L31A Butterfield Fa 36.40 340 ⇓P P 20 29 26.6 +2.1
baz=37,SNR=7.8
M29A Burnside Ranch 36.42 337 ⇓P P 20 29 26.7 +2.0
baz=37,SNR=10
O26A Horse Wrangler 36.49 334 ⇓P P 20 29 27.1 +1.7
baz=37
L30A Spencer Herefo 36.51 339 ⇓P P 20 29 27.0 +1.6
baz=37,SNR=5.9
OGNE Ogallala 36.53 336 eP P 20 29 26.4 +0.8
comp=Z,91nm,1.0s
OGNE Ogallala 36.53 336 ⇓P P 20 29 28.0 +2.3
baz=37
N27A Anderson Farm, 36.62 335 ⇓P P 20 29 28.1 +1.7
baz=37
M28A Bar X Bar Ranc 36.64 337 ⇓P P 20 29 28.7 +2.1
baz=37
X16A Lo Mia Camp, P 36.73 319 ⇑P P 20 29 28.9 +1.3
baz=37,SNR=7.3
O25A Wiggins 36.74 333 ⇑P P 20 29 29.1 +1.5
baz=37
L29A Maesberg Ranch 36.88 338 ⇓P P 20 29 30.6 +2.0
baz=37
P23A Jefferson 36.98 330 ⇓P P 20 29 31.6 +1.8
baz=37
K30A Basset 37.11 340 ⇑P P 20 29 32.7 +2.2
baz=37,SNR=12
ECSD EROS Data Cent 37.13 344 eP P 20 29 28.8 -1.9
comp=Z,28nm,1.1s
ECSD EROS Data Cent 37.13 344 ⇓P P 20 29 31.7 +1.0
baz=37,SNR=17
ISCO Idaho Springs 37.20 331 eP P 20 29 31.0 -0.6
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 37.20 331 eP P 20 29 31.0 -0.6
comp=Z,5.9nm,1.0s
ISCO Idaho Springs 37.20 331 ⇓P P 20 29 33.1 +1.4
baz=37
113A Mohawk Valley, 37.34 315 ⇑P P 20 29 34.5 +2.0
baz=38
WUAZ Wupatki 37.38 320 eP P 20 29 34.2 +1.1
comp=Z,13nm,1.1s
WUAZ Wupatki 37.38 320 ⇓P P 20 29 34.1 +1.1
baz=38
SMCO Snowmass 37.40 329 eP P 20 29 33.2 -0.2
comp=Z,5.8nm,1.0s
SMCO ePcP PcP 20 31 58.5 +6.1
M26A McRoberts Ranc 37.42 335 ⇑P P 20 29 35.4 +2.1
baz=38
K29A Lazy Trails An 37.43 339 ⇑P P 20 29 35.3 +2.0
baz=38,SNR=6.8
Y14A Wickenburg 37.48 317 ⇑P P 20 29 35.4 +1.6
baz=38,SNR=7.5
P22A Eagle 37.60 329 ⇓P P 20 29 36.5 +1.5
baz=38,SNR=17
J30A Dallas 37.64 340 ⇑P P 20 29 35.9 +0.9
baz=38,SNR=20
SPMN St. Paul 37.65 349 eP P 20 29 34.2 -0.8
SPMN St. Paul 37.65 349 ⇑P P 20 29 36.1 +1.1
baz=38,SNR=7.7
O23A Lake Granby, G 37.66 331 ⇑P P 20 29 36.8 +1.2
baz=38
K28A Ten Mile Ranch 37.77 338 ⇓P P 20 29 37.3 +1.1
baz=38,SNR=6.5
PV04 Paradox Valley 37.85 326 eP P 20 29 37.0 0.0
O22A Kremmling 37.93 330 ⇓P P 20 29 39.0 +1.2
baz=38
J29A Okreek 38.00 339 ⇑P P 20 29 38.9 +0.8
baz=38,SNR=14
K27A Fluecklinger Fa 38.09 337 ⇓P P 20 29 40.3 +1.3
baz=38,SNR=6.7
N23A Red Feather La 38.21 332 ⇓P P 20 29 41.7 +1.6
baz=38
GLA Glamis 38.24 314 eP P 20 29 42.3 +2.1
GLA pmax pmax
comp=Z,5.0nm,0.9s
GLA Glamis 38.24 314 eP P 20 29 42.3 +2.1
comp=Z,4.7nm,0.9s
GLA Glamis 38.24 314 ⇑P P 20 29 41.5 +1.3
baz=38,SNR=5.3
PHWY Pilot Hill 38.30 332 epP pP 20 29 58.2 +15
J28A Allard Ranch, 38.34 339 ⇓P P 20 29 41.9 +1.0
baz=38
Y12C Blythe 38.41 316 ⇓P P 20 29 42.9 +1.3
baz=38,SNR=6.1
PDMCI Parker Dam,Lak 38.45 317 ⇓P P 20 29 43.1 +1.2
baz=39,SNR=7.0
BRSD Miller 38.47 342 P P 20 29 41.3 -0.7
comp=Z,66nm,0.9s
J27A Elkhorn Farm, 38.48 338 ⇑P P 20 29 43.9 +1.7
baz=39,SNR=11
I29A Vivian Onida 38.53 340 ⇓P P 20 29 43.0 +0.5
baz=39
W13A Hualapai Mount 38.75 318 ⇓P P 20 29 46.1 +1.4
baz=39
O20A White River Ci 38.76 329 eP P 20 29 50.1 +5.4
comp=Z,121nm,2.6s
O20A epP pP 20 30 02.1 +15
O20A White River Ci 38.76 329 ⇓P P 20 29 46.6 +1.8
baz=39
I28A Midland 38.81 339 ⇑P P 20 29 46.3 +1.4
baz=39,SNR=7.0
SWSC Sam W. Stewart 38.87 314 ⇑P P 20 29 47.3 +1.8
baz=39
J26A Sides Ranch, S 38.94 337 ⇑P P 20 29 46.9 +0.9
baz=39,SNR=10
H29A Onida 39.04 341 ⇑P P 20 29 47.0 +0.2
baz=39
LCO Las Campanas 39.06 163 eP P 20 29 47.1 -0.3
comp=Z,13nm,0.9s
L23A Garrett 39.06 333 ⇓P P 20 29 47.6 +0.3
baz=39
IRM Iron Mountain 39.07 316 ⇑P P 20 29 47.5 +0.3
baz=39
I27A Quinn 39.19 338 ⇑P P 20 29 48.9 +0.7
baz=39
SRU San Rafael 39.26 326 eP P 20 29 50.0 +1.1
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael 39.26 326 eP P 20 29 50.0 +1.1
comp=Z,7.5nm,0.9s
J25A Sunshine Ranch 39.29 336 ⇑P P 20 29 50.6 +1.6
baz=40
N20A Spence Gulch, 39.29 329 ⇓P P 20 29 49.6 +0.3
baz=40
H28A Mission Ridge 39.35 340 ⇑P P 20 29 50.9 +1.5
baz=40
I26A New Underwood 39.46 337 ⇓P P 20 29 52.1 +1.8
baz=40,SNR=5.9
H27A Howes 39.69 339 ⇑P P 20 29 53.3 +1.1
baz=40,SNR=11
F30A Leola 39.75 343 ⇓P P 20 29 52.9 +0.2
baz=40
I25A Rochford 39.79 337 ⇑P P 20 29 54.6 +1.4
baz=40
MVU Marysvale 39.82 323 eP P 20 29 54.5 +0.9
comp=Z,60nm,2.6s
MVU ePcP PcP 20 32 04.5 +4.7
F29A Eureka 39.99 342 ⇑P P 20 29 55.7 +1.0
baz=40
RSSD Black Hills 39.99 336 eP P 20 29 56.2 +1.2
RSSD pmax pmax
comp=Z,3.0nm,1.2s
RSSD Black Hills 39.99 336 eP P 20 29 56.2 +1.2
comp=Z,2.7nm,1.2s
ARUT Antelope Range 40.10 322 eP P 20 29 58.0 +2.1
ARUT pmax pmax
comp=Z,67nm,0.8s
ARUT Antelope Range 40.10 322 eP P 20 29 58.0 +2.1
comp=Z,67nm,0.8s
MURC Murrieta 40.22 314 ⇓P P 20 29 57.1 +0.3
baz=40
H25A Fruitdale 40.24 337 ⇓P P 20 29 58.9 +2.0
baz=40
HEC Hector,Ludlow 40.25 316 ⇑P P 20 29 58.1 +1.1
baz=40,SNR=7.2
G27A Dupree 40.28 339 ⇑P P 20 29 57.7 +0.5
baz=40
TUQ Turquoise Moun 40.30 317 ⇑P P 20 29 59.2 +1.5
baz=40,SNR=6.1
E30A Jud 40.32 343 ⇑P P 20 29 58.1 +0.7
baz=40,SNR=12
SHPR Sheep Range 40.41 319 eP P 20 30 00.7 +2.2
J22A Midwest 40.44 334 ⇑P P 20 29 59.9 +1.2
baz=41
G26A Maurine 40.45 339 ⇓P P 20 29 59.1 +0.6
baz=41
MPU Maple Canyon 40.50 326 eP P 20 30 00.5 +1.3
comp=Z,149nm,3.0s
G25A Newell 40.66 338 ⇓P P 20 30 01.8 +1.5
baz=41
H24A Dirks Ranch, A 40.72 336 ⇓P P 20 30 02.6 +1.7
baz=41
F27A Lemmon 40.74 340 ⇓P P 20 30 01.1 +0.1
baz=41
SHOC Shoshone 40.80 317 ⇑P P 20 30 02.5 +0.9
baz=41
J21A Lysite 40.82 333 ⇑P P 20 30 03.1 +1.3
baz=41
I22A 9 Mile Ranch, 40.83 334 ⇓P P 20 30 03.3 +1.5
baz=41
D30A Buchanan 40.83 344 ⇓P P 20 30 02.3 +0.7
baz=41
GSC Goldstone 40.83 316 ⇓P P 20 30 03.4 +1.5
baz=41,SNR=5.6
E28A Huff 40.92 341 ⇑P P 20 30 03.1 +0.7
baz=41
D29A Pettibone, Tap 41.03 343 ⇓P P 20 30 03.7 +0.5
baz=41,SNR=9.2
I21A Big Trails, Te 41.12 333 ⇓P P 20 30 04.9 +0.7
baz=41
J20A Shoshoni 41.12 332 ⇓P P 20 30 05.2 +1.0
baz=41
C30A Mose, Pekin 41.30 344 ⇓P P 20 30 06.2 +0.7
baz=42
DECC Green Verdugo 41.35 314 ⇑P P 20 30 06.8 +0.6
baz=42
BW06 Boulder Array 41.38 330 eP P 20 30 06.7 +0.2
PDAR Pinedale Array 41.38 330 P P 20 30 06.7 +0.2
PDAR PcP PcP 20 32 03.2 -1.5
PDAR Pinedale Array 41.38 330 P P 20 30 06.7 +0.2
comp=Z,2.4nm,0.8s,baz=124,slow=9.8,SNR=8.6
PDAR PcP PcP 20 32 03.2 -1.5
comp=Z,1.5nm,1.0s,baz=156,slow=4.7,SNR=4.0
PDAR LR LR 20 50 05.2
comp=Z,183nm,20.5s,baz=136,slow=40
E26A Carlson Angus 41.42 340 ⇑P P 20 30 07.0 +0.5
baz=42
G23A Biddle 41.43 336 ⇑P P 20 30 08.2 +1.5
baz=42
EDW2 Edwards Air Fo 41.43 315 ⇓P P 20 30 07.6 +0.7
baz=42
D28A Regan 41.44 342 ⇑P P 20 30 06.8 +0.2
baz=42,SNR=9.0
J19A Crowheart 41.51 331 ⇓P P 20 30 08.2 +0.8
baz=42
FURC Furnace Creek, 41.51 317 ⇑P P 20 30 08.9 +1.5
baz=42
LRMC Laurel Mountai 41.54 316 ⇓P P 20 30 08.8 +1.0
baz=42,SNR=9.1
HWUT Hardware Ranch 41.57 327 eP P 20 30 06.7 -1.3
comp=Z,11nm,1.0s
F24A Ekalaka 41.60 337 ⇓P P 20 30 08.9 +0.9
baz=42
I20A Worland 41.60 333 ⇓P P 20 30 08.8 +0.6
baz=42
H21A Big Horn, Sher 41.65 334 ⇑P P 20 30 10.2 +1.6
baz=42
D27A Center 41.66 341 ⇓P P 20 30 09.5 +1.0
baz=42
E25A Miller Ranch, 41.77 339 ⇑P P 20 30 10.3 +0.9
baz=42
R11A Troy Canyon, C 41.77 321 eP P 20 30 10.2 +0.5
comp=Z,20nm,1.5s
R11A Troy Canyon, C 41.77 321 ⇑P P 20 30 10.2 +0.5
baz=42,SNR=5.6
H03N2 Juan Fernandez 41.79 175 T T 21 14 29.8
baz=354,slow=75,SNR=34
H03N1 Juan Fernandez 41.79 175 T T 21 14 28.7
baz=354,slow=75,SNR=47
H03N3 Juan Fernandez 41.80 175 T T 21 14 29.7
baz=354,slow=75,SNR=50
F23A Volborg 41.87 337 ⇓P P 20 30 11.1 +0.9
baz=42
D26A Manning 41.89 340 ⇑P P 20 30 10.9 +0.5
baz=42
BGU Big Grassy Mou 41.90 326 eP P 20 30 10.9 +0.2
comp=Z,34nm,2.6s
DAC Darwin (Calif) 41.90 317 eP P 20 30 13.3 +2.5
DAC pmax pmax
comp=Z,11nm,1.1s
DAC Darwin (Calif) 41.90 317 eP P 20 30 13.3 +2.5
comp=Z,11nm,1.1s
B30A Myrvik Farm, E 41.95 345 ⇓P P 20 30 11.0 +0.2
baz=42,SNR=8.4
H20A Greybull 41.96 333 ⇓P P 20 30 12.1 +1.0
baz=42
I19A Meeteetse 42.07 332 ⇑P P 20 30 12.2 +0.1
baz=42
GRAC Grapevine Rang 42.15 318 ⇓P P 20 30 14.0 +1.3
baz=42
E24A Baker 42.15 338 ⇑P P 20 30 13.9 +1.4
baz=42
ARVC Arvin 42.15 314 ⇓P P 20 30 14.2 +1.5
baz=42
BDFB Brasilia 42.16 124 P P 20 30 11.5 -1.6
BDFB Brasilia 42.16 124 P P 20 30 11.5 -1.6
comp=Z,3.7nm,0.7s,baz=283,slow=13,SNR=6.5
BDFB LR LR 20 48 03.3
comp=Z,534nm,19.6s,baz=205,slow=37
C27A Sayler Ranch, 42.19 341 ⇑P P 20 30 13.3 +0.5
baz=42
B29A Wagenman Farm, 42.23 344 ⇑P P 20 30 13.9 +0.8
baz=42
CFAA Coronel Fontan 42.23 161 P P 20 30 13.2 -0.1
CFAA Coronel Fontan 42.23 161 P P 20 30 13.2 -0.1
comp=Z,1.0nm,0.7s,baz=325,slow=6.3,SNR=18
F22A Rosebud 42.25 336 ⇓P P 20 30 14.0 +0.6
baz=42
A30A Hoffart Farm, 42.39 345 ⇓P P 20 30 14.2 -0.1
baz=43,SNR=11
REDW Red Top Meadow 42.46 330 eP P 20 30 16.1 +0.8
comp=Z,18nm,1.1s
C26A Wahner Farm, P 42.48 341 ⇓P P 20 30 15.8 +0.6
baz=43,SNR=8.1
B28A Dugan Ranch, T 42.50 343 ⇑P P 20 30 15.9 +0.6
baz=43
LOHW Long Hollow 42.52 330 eP P 20 30 15.9 +0.1
comp=Z,48nm,2.1s
H19A Powell 42.55 333 ⇑P P 20 30 16.0 +0.1
baz=43
A29A Manning Farm, 42.62 344 ⇑P P 20 30 16.4 +0.2
baz=43,SNR=8.7
D24A Glendive 42.63 339 ⇑P P 20 30 17.7 +1.3
baz=43
G20A Bridger 42.63 334 ⇑P P 20 30 17.3 +0.7
baz=43,SNR=5.8
CPUP Villa Florida 42.63 145 P P 20 30 14.2 -2.3
CPUP PcP PcP 20 32 08.2 -0.6
CPUP Villa Florida 42.63 145 P P 20 30 14.3 -2.3
comp=Z,1.0nm,0.5s,baz=311,slow=12,SNR=3.8
CPUP PcP PcP 20 32 08.2 -0.6
comp=Z,1.4nm,0.5s,baz=354,slow=4.3,SNR=3.2
CPUP LR LR 20 49 39.1
comp=Z,231nm,18.8s,baz=304,slow=38
F21A Absaloka Mine, 42.64 335 ⇑P P 20 30 17.0 +0.5
baz=43
TPH Tonopah 42.66 319 eP P 20 30 18.3 +1.4
TPH pmax pmax
comp=Z,11nm,0.9s
TPH Tonopah 42.66 319 eP P 20 30 18.3 +1.4
comp=Z,11nm,0.9s
E22A Miles City 42.67 337 ⇑P P 20 30 18.7 +2.0
baz=43
MOOW Moose Ponds 42.69 330 eP P 20 30 17.6 +0.4
comp=Z,63nm,2.6s
VES Vestal, Richgr 42.69 315 ⇓P P 20 30 18.2 +1.2
baz=43,SNR=7.1
I17A Pilgrim Ck. 42.73 331 ⇓P P 20 30 18.5 +1.0
baz=43,SNR=5.7
C25A Freed Ranch, W 42.76 340 ⇑P P 20 30 18.9 +1.4
baz=43
H18A Shoshone NF, C 42.87 332 ⇑P P 20 30 19.4 +0.8
baz=43
FLWY Flagg Ranch 42.91 331 eP P 20 30 18.9 0.0
comp=Z,14nm,1.1s
D23A Lindsay 43.00 338 ⇑P P 20 30 20.5 +1.1
baz=43,SNR=12
C24A Savage 43.01 339 ⇑P P 20 30 20.5 +1.1
baz=43,SNR=9.3
ELK Elko 43.05 324 eP P 20 30 20.5 +0.4
comp=Z,6.5nm,1.2s
F20A Billings 43.06 334 ⇑P P 20 30 20.9 +0.9
baz=43
ULM Lac du Bonnet 43.06 348 P P 20 30 18.1 -1.7
ULM Lac du Bonnet 43.06 348 P P 20 30 18.1 -1.7
comp=Z,47nm,1.0s,baz=159,slow=7.6,SNR=26
ULM LR LR 20 49 35.6
comp=Z,260nm,19.0s,baz=147,slow=38
D22A Cohagen 43.35 337 ⇑P P 20 30 22.8 +0.6
baz=44
A26A Wade Farm, Ken 43.41 342 ⇓P P 20 30 23.1 +0.5
baz=44,SNR=6.4
F19A Roth Farm, Mol 43.45 334 ⇑P P 20 30 23.4 +0.2
baz=44
C23A Lambert 43.52 338 ⇑P P 20 30 24.2 +0.7
baz=44,SNR=11
NVAR Mina Array Bea 43.56 319 P P 20 30 26.3 +2.0
NVAR PcP PcP 20 32 12.9 +0.9
NVAR Mina Array Bea 43.56 319 P P 20 30 26.3 +2.0
comp=Z,3.2nm,0.7s,baz=134,slow=7.0,SNR=26
NVAR PcP PcP 20 32 12.9 +0.9
comp=Z,0.8nm,0.7s,baz=126,slow=4.6,SNR=2.7
NVAR LR LR 20 52 23.3
comp=Z,320nm,18.1s,baz=237,slow=42
D21A La Casta Ranch 43.60 336 ⇑P P 20 30 25.9 +1.7
baz=44
E20A Meyer Farm, Mu 43.61 335 ⇓P P 20 30 25.5 +1.2
baz=44
C22A Vida 43.73 338 ⇑P P 20 30 26.5 +1.3
baz=44
DGMT Dagmar 43.74 340 eP P 20 30 24.9 -0.4
comp=Z,18nm,0.8s
DGMT Dagmar 43.74 340 ⇓P P 20 30 26.0 +0.7
baz=44,SNR=5.9
A25A Svangstu Ranch 43.78 341 ⇓P P 20 30 26.5 +0.8
baz=44
QLMT Earthquake Lak 43.82 331 eP P 20 30 26.4 +0.1
comp=Z,0.7nm,0.9s
E19A Rath Farm, Rou 43.85 334 ⇑P P 20 30 27.6 +1.3
baz=44
B23A Brockton 44.01 339 ⇓P P 20 30 28.7 +1.2
baz=44,SNR=11
BMN Battle Mountai 44.04 322 eP P 20 30 27.6 -0.5
BMN pmax pmax
comp=Z,15nm,0.9s
BMN Battle Mountai 44.04 322 eP P 20 30 27.6 -0.5
comp=Z,15nm,0.9s
A24A Westby 44.06 340 ⇓P P 20 30 29.1 +1.2
baz=44,SNR=6.4
D20A Manuel Ranch, 44.08 335 ⇑P P 20 30 28.6 +0.4
baz=44
WAKR Walker 44.34 318 eP P 20 30 32.0 +1.5
A23A Redstone 44.39 340 ⇓P P 20 30 31.6 +1.0
baz=45
HLID Hailey 44.44 327 eP P 20 30 31.2 0.0
comp=Z,4.0nm,0.9s
HLID Hailey 44.44 327 ⇓P P 20 30 32.3 +1.1
baz=45
D19A Cripps Ranch, 44.45 335 ⇑P P 20 30 32.0 +0.9
baz=45
C20A Veseth Ranch, 44.52 336 ⇓P P 20 30 32.7 +1.1
baz=45
CMB Columbia Colle 44.72 317 eP P 20 30 34.4 +1.0
CMB pmax pmax
comp=Z,24nm,1.7s
CMB Columbia Colle 44.72 317 eP P 20 30 34.4 +1.0
comp=Z,24nm,1.7s
DLMT Dillon 44.77 330 eP P 20 30 34.5 +0.7
comp=Z,16nm,1.4s
C19A Slack Wire Ran 44.97 335 ⇑P P 20 30 36.2 +1.0
baz=45
LRM Limekiln Ridge 45.03 331 eP P 20 30 35.8 -0.2
MFID Camas Ranch 45.11 326 eP P 20 30 37.0 +0.5
comp=Z,62nm,2.3s
HRY Holter Researc 45.40 332 eP P 20 30 38.6 -0.1
EGMT Eagleton 45.49 335 ⇓P P 20 30 40.7 +1.3
baz=46
B19A Brinkman Farms 45.50 336 ⇓P P 20 30 40.4 +1.0
baz=46
A19A Klindworth Far 45.80 337 ⇓P P 20 30 43.3 +1.5
baz=46
WVOR Wild Horse Val 46.09 323 eP P 20 30 44.6 +0.3
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR Wild Horse Val 46.09 323 eP P 20 30 44.6 +0.3
comp=Z,18nm,1.0s
MSO Missoula 46.48 331 eP P 20 30 47.2 0.0
comp=Z,47nm,2.1s
MSO Missoula 46.48 331 ⇓P P 20 30 48.1 +0.8
baz=47
SLMT Seeley Lake 46.56 332 eP P 20 30 47.9 0.0
comp=Z,3.6nm,0.9s
F10A Beach Ranch, E 47.54 328 eP P 20 30 55.6 +0.1
comp=Z,72nm,2.3s
I07A Izee 47.59 325 eP P 20 30 56.5 +0.5
comp=Z,76nm,2.6s
BSMT Bassoo Peak 47.61 331 eP P 20 30 56.4 +0.3
M04C Macdoel 47.67 321 ⇓P P 20 30 57.8 +1.1
baz=48
G08A Pilot Rock 48.03 326 eP P 20 31 00.4 +1.0
comp=Z,38nm,2.1s
WALA Waterton Lakes 48.08 333 eP P 20 31 00.2 +0.5
comp=Z,4.7nm,2.9s
K04D Chiloquin, OR 48.08 322 ⇓P P 20 31 01.0 +1.1
baz=48
SCHQ Schefferville 48.10 13 P P 20 30 58.3 -1.3
SCHQ PcP PcP 20 32 28.4 +1.2
SCHQ Schefferville 48.10 13 P P 20 30 58.3 -1.3
comp=Z,12nm,1.0s,baz=177,slow=7.3,SNR=5.3
SCHQ PcP PcP 20 32 28.4 +1.2
comp=Z,5.1nm,0.9s,baz=169,slow=5.2,SNR=5.0
SCHQ LR LR 20 52 20.1
comp=Z,357nm,18.6s,baz=207,slow=38
E09A Wood Farm, Sta 48.38 328 eP P 20 31 02.3 +0.4
comp=Z,8.2nm,0.9s
FFC Flin Flon 48.61 346 P P 20 31 03.9 +0.4
comp=Z,84nm,0.8s,SNR=6.9
FFC Flin Flon 48.61 346 eP P 20 31 03.7 +0.2
FFC Flin Flon 48.61 346 eP P 20 31 03.7 +0.2
comp=Z,65nm,2.5s
G06A Carlson Farm, 48.93 325 eP P 20 31 06.8 +0.6
comp=Z,223nm,2.9s
NEW Newport 49.02 330 eP P 20 31 07.6 +0.7
comp=Z,99nm,2.8s
NEW Newport 49.02 330 ⇓P P 20 31 07.6 +0.7
baz=49
HAWA Hanford 49.04 327 eP P 20 31 07.7 +0.7
comp=Z,53nm,2.3s
E07A Sunnyside 49.31 327 eP P 20 31 09.5 +0.4
comp=Z,6.4nm,0.8s
G05D Wamic, OR 49.33 325 ⇑P P 20 31 10.7 +1.4

baz=50
H04A Detroit Lake 49.50 324 *e*P **P 20 31 11.6 +1.0**
comp=Z,84nm,2.0s
B08A Colville Reser 50.19 329 *e*P **P 20 31 16.4 +0.7**
comp=Z,82nm,2.7s
LTY Liberty 50.19 327 *e*P **P 20 31 16.2 +0.4**
comp=Z,20nm,1.5s
PLCA Paso Flores 50.23 168 *e*P **P 20 31 15.7 -0.5**
comp=Z,14nm,0.7s
PLCA Paso Flores 50.23 168 P **P 20 31 15.9 -0.3**
comp=Z,13nm,0.7s,baz=344,slow=8.8,SNR=34
PLCA LR LR 20 48 08.7
comp=Z,87nm,21.5s,baz=8.0,slow=31
TRQA Tornquist 50.24 158 *e*P **P 20 31 15.3 -0.9**
comp=Z,10nm,1.0s
LON Longmire 50.50 326 *e*P **P 20 31 18.2 +0.1**
LON pmax pmax
comp=Z,6.0nm,1.0s
LON Longmire 50.50 326 *e*P **P 20 31 18.2 +0.1**
comp=Z,6.0nm,1.0s
FCC Fort Churchill 50.95 353 *e*P **P 20 31 20.2 -1.1**
FCC Fort Churchill 50.95 353 *e*P **P 20 31 20.2 -1.1**
comp=Z,0.9nm,1.0s
EDM Edmonton 50.97 337 *e*P **P 20 31 20.7 -0.9**
EDM Edmonton 50.97 337 *e*P **P 20 31 20.7 -0.9**
YKA Yellowknife Ar 58.66 343 P **P 20 32 16.7 -0.4**
YKA Yellowknife Ar 58.66 343 P **P 20 32 16.7 -0.4**
comp=Z,6.0nm,0.8s,baz=139,slow=6.6,SNR=85
RKT Rikitea 59.62 237 *e*LR LR 20 49 59.8
comp=Z,532nm,29.0s
WRAK Wrangell Islan 61.35 331 P **P 20 32 34.3 -1.3**
DLBC Dease Lake 61.40 334 *e*P **P 20 32 36.5 +0.3**
RES Resolute Bay 66.60 357 *e*P **P 20 33 08.7 -1.2**
comp=Z,19nm,0.8s
INK Inuvik 68.35 342 *e*P **P 20 33 21.4 +0.4**
comp=Z,40nm,1.3s
EGAK Eagle 69.19 337 *e*P **P 20 33 26.5 +0.1**
comp=Z,14nm,1.0s
SUMG Summit 69.49 13 *e*P **P 20 33 27.8 -0.8**
SUMG Summit 69.49 13 *i* P **P 20 33 26.9 -1.7**
comp=Z,32nm,1.0s
SUMG Summit 69.49 13 *e*P **P 20 33 27.8 -0.8**
PAX Paxson 70.21 335 *e*P **P 20 33 31.1 -1.7**
PAX Paxson 70.21 335 *e*P **P 20 33 31.1 -1.7**
PPT2 Papeete2 70.55 248 *e*S **S 20 42 47.6 -2.4**
comp=Z,63nm,24.2s
PPT2 Papeete2 70.55 248 *e*LR LR 20 55 03.0
comp=Z,112nm,24.5s
BORG Borgarnes 70.62 24 P **P 20 33 35.5 +0.3**
comp=Z,306nm,1.6s
ILAR Eielson Array 71.44 336 P **P 20 33 40.5 +0.2**
ILAR Eielson Array 71.44 336 P **P 20 33 40.5 +0.2**
comp=Z,8.0nm,0.8s,baz=98,slow=2.7,SNR=53
RC01 Rabbit Creek A 71.50 332 *e*P **P 20 33 41.1 +0.5**
comp=Z,25nm,1.2s
COLA College 71.86 336 *e*P **P 20 33 43.5 +0.8**
COLA College 71.86 336 *e*P **P 20 33 43.1 +0.5**
comp=Z,2.7nm,0.9s
MCK McKinley 71.94 335 *e*P **P 20 33 43.8 +0.5**
MCK pmax pmax
comp=Z,29nm,1.3s
MCK McKinley 71.94 335 *e*P **P 20 33 43.8 +0.5**
comp=Z,29nm,1.3s
TBI Tubuai 72.10 242 *e*LR LR 20 55 46.6
comp=Z,90nm,27.8s
TRF Thorofare Moun 72.43 334 *e*P **P 20 33 46.4 0.0**
comp=Z,10.0nm,0.8s
SCO Scoresbysund 72.72 18 *i* P **P 20 33 46.7 -1.0**
SCO pmax pmax
comp=Z,6.0nm,0.8s
SCO Scoresbysund 72.72 18 *i* P **P 20 33 46.7 -1.0**
comp=Z,5.5nm,0.8s
KTH Kantishna Hill 72.73 334 *e*P **P 20 33 46.8 -1.3**
comp=Z,38nm,1.5s
RSO Redoubt South 72.76 331 *e*P **P 20 33 48.4 0.0**
EVOP Sao Brissos 73.07 52 *e*P **P 20 33 50.4 0.0**
EVOP Sao Brissos 73.07 52 *e*P **P 20 33 50.4 0.0**
PPLA Purkeypile 73.11 333 *e*P **P 20 33 49.9 -0.4**
comp=Z,13nm,1.1s
EVO Evora 73.16 52 *e*P **P 20 33 50.4 -0.6**
comp=Z,28nm,0.9s
EVO *e*R
comp=Z,172nm,21.0s
COLD Coldfoot 73.54 338 *e*P **P 20 33 53.1 +0.5**
comp=Z,24nm,1.4s
IM04 Indian Mountai 74.56 336 *e*P **P 20 33 58.2 -0.4**
DAG Danmarks Havn 76.15 12 *i* P **P 20 34 06.5 -1.1**
DAG pmax pmax
comp=Z,9.0nm,1.0s
DAG Danmarks Havn 76.15 12 *i* P **P 20 34 06.5 -1.1**
comp=Z,9.1nm,1.0s
ESDC Sonseca Array 76.34 51 P **P 20 34 09.3 -0.1**
ESDC Sonseca Array 76.34 51 P **P 20 34 09.3 -0.1**
comp=Z,4.8nm,0.7s,baz=278,slow=5.6,SNR=24
ESDC LR LR 21 03 42.1
comp=Z,101nm,19.9s,baz=295,slow=33
ESLA Sonseca Array 76.34 51 *e*P **P 20 34 09.1 -0.4**
comp=Z,4.7nm,1.0s
QUIF Quistinic 77.07 43 *e*P **P 20 34 12.9 -0.5**
QUIF Quistinic 77.07 43 *e*P **P 20 34 12.9 -0.5**
QUIF Quistinic 77.07 43 *e*P **P 20 34 12.9 -0.5**
TIC Toumodi 77.30 85 *e*P **P 20 34 14.9 -0.4**
LIC Lamto 77.35 85 *e*P **P 20 34 15.5 -0.1**
comp=Z,51nm,1.0s,baz=272
LIC Lamto 77.35 85 *e*P **P 20 34 15.4 -0.1**
comp=Z,66nm,1.0s
LIC Lamto 77.35 85 *e*P **P 20 34 15.5 -0.1**
comp=Z,51nm,1.0s
DBIC Dimbokro 77.46 85 P **P 20 34 15.8 -0.4**
DBIC Dimbokro 77.46 85 P **P 20 34 15.8 -0.4**
comp=Z,16nm,1.0s,baz=265,slow=6.0,SNR=12
DBIC LR LR 21 05 59.5
comp=Z,71nm,21.6s,baz=258,slow=34
SGMF Saint Gilles 77.49 42 *e*P **P 20 34 15.0 -0.7**
SGMF Saint Gilles 77.49 42 *e*P **P 20 34 15.0 -0.7**
SGMF Saint Gilles 77.49 42 *e*P **P 20 34 15.0 -0.7**
KIC Kosan Boka 77.61 85 *e*P **P 20 34 17.0 -0.1**
comp=Z,73nm,1.3s
SJPF Ste Jean 78.39 48 *e*P **P 20 34 21.1 +0.2**
comp=Z,38nm,1.2s
SJPF Ste Jean 78.39 48 *e*P **P 20 34 21.1 +0.2**
SJPF pmax pmax
comp=Z,38nm,1.2s
SJPF Ste Jean 78.39 48 *e*P **P 20 34 21.1 +0.2**
comp=Z,38nm,1.2s
GRR Gorron 78.63 42 *e*P **P 20 34 21.5 -0.5**
comp=Z,44nm,1.2s
GRR Gorron 78.63 42 *e*P **P 20 34 21.5 -0.5**
GRR pmax pmax
comp=Z,44nm,1.2s
GRR Gorron 78.63 42 *e*P **P 20 34 21.5 -0.5**
comp=Z,44nm,1.2s
FLN La Foliniere 78.88 42 *e*P **P 20 34 22.9 -0.5**
FLN *e*R
comp=Z,271nm,20.5s
FLN La Foliniere 78.88 42 *e*P **P 20 34 22.9 -0.5**
FLN La Foliniere 78.88 42 *e*P **P 20 34 22.9 -0.5**
ETSF Etsaut 78.88 48 *e*P **P 20 34 23.8 +0.1**
ETSF Etsaut 78.88 48 *e*P **P 20 34 23.8 +0.1**
ETSF Etsaut 78.88 48 *e*P **P 20 34 23.8 +0.1**
LDF La Druitiere 79.12 42 *e*P **P 20 34 24.4 -0.3**
comp=Z,16nm,0.9s
LDF La Druitiere 79.12 42 *e*P **P 20 34 24.4 -0.3**
LDF pmax pmax
comp=Z,16nm,0.9s
LDF La Druitiere 79.12 42 *e*P **P 20 34 24.4 -0.3**
comp=Z,16nm,0.9s
MFF Saint Martin d 79.12 44 *e*P **P 20 34 24.2 -0.6**
comp=Z,9.4nm,0.9s
MFF Saint Martin d 79.12 44 *e*P **P 20 34 24.2 -0.6**
MFF pmax pmax
comp=Z,9.0nm,0.9s
MFF Saint Martin d 79.12 44 *e*P **P 20 34 24.2 -0.6**
comp=Z,9.4nm,0.9s
EPF Esparros 79.54 48 *e*P **P 20 34 27.3 +0.1**
comp=Z,18nm,1.0s
EPF Esparros 79.54 48 *e*P **P 20 34 27.3 +0.1**
EPF pmax pmax
comp=Z,18nm,1.0s
EPF Esparros 79.54 48 *e*P **P 20 34 27.3 +0.1**
comp=Z,18nm,1.0s
TCF Toulx Ste Croi 80.75 44 *e*P **P 20 34 32.7 -1.0**
comp=Z,5.6nm,0.9s
TCF Toulx Ste Croi 80.75 44 *e*P **P 20 34 32.7 -1.0**
TCF pmax pmax
comp=Z,6.0nm,0.9s
RAR Rarotonga 80.76 247 LR LR 21 03 23.8
comp=Z,83nm,21.0s,baz=128,slow=30
MTLF Montolieu 80.90 47 *e*P **P 20 34 34.1 -0.4**
MTLF Montolieu 80.90 47 *e*P **P 20 34 34.1 -0.4**
MTLF Montolieu 80.90 47 *e*P **P 20 34 34.1 -0.4**
AVF Avril sur Loir 81.52 44 *e*P **P 20 34 37.1 -0.6**
AVF Avril sur Loir 81.52 44 *e*P **P 20 34 37.1 -0.6**
AVF Avril sur Loir 81.52 44 *e*P **P 20 34 37.1 -0.6**
SMF Signal de Mont 81.86 44 *e*P **P 20 34 38.3 -1.2**
comp=Z,15nm,1.2s
SMF Signal de Mont 81.86 44 *e*P **P 20 34 38.3 -1.2**
SMF pmax pmax
comp=Z,15nm,1.2s
SMF Signal de Mont 81.86 44 *e*P **P 20 34 38.3 -1.2**
comp=Z,15nm,1.2s
LASF Ste Croix 82.04 47 *e*P **P 20 34 40.5 0.0**
comp=Z,35nm,1.4s
LASF Ste Croix 82.04 47 *e*P **P 20 34 40.5 0.0**
comp=Z,35nm,1.4s
MEZF Maizieres J'vi 82.56 42 *e*P **P 20 34 42.4 -0.7**
MEZF Maizieres J'vi 82.56 42 *e*P **P 20 34 42.4 -0.7**
SFTF Sexfontaines 82.57 42 *e*P **P 20 34 42.3 -0.9**
SFTF Sexfontaines 82.57 42 *e*P **P 20 34 42.3 -0.9**
VIVF Saint-Julien-l 82.57 46 *e*P **P 20 34 43.4 +0.1**
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 82.57 46 *e*P **P 20 34 43.4 +0.1**
VIVF pmax pmax
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 82.57 46 *e*P **P 20 34 43.4 +0.1**
comp=Z,17nm,1.1s
PAGF Fort de Pagny 83.00 42 *e*P **P 20 34 44.9 -0.5**
PAGF Fort de Pagny 83.00 42 *e*P **P 20 34 44.9 -0.5**
TOA0 Torodi Ar. Sit 83.09 78 *e*P **P 20 34 45.8 -0.7**
TORD Torodi Ar. Bea 83.09 78 P **P 20 34 45.7 -0.8**
TORD Torodi Ar. Bea 83.09 78 P **P 20 34 45.7 -0.8**
comp=Z,5.0nm,0.9s,baz=245,slow=3.8,SNR=21
CABF La Chapelle 83.41 44 *e*P **P 20 34 47.0 -0.7**
comp=Z,17nm,1.2s
CABF La Chapelle 83.41 44 *e*P **P 20 34 47.0 -0.7**
CABF pmax pmax
comp=Z,17nm,1.2s
CABF La Chapelle 83.41 44 *e*P **P 20 34 47.0 -0.7**
comp=Z,17nm,1.2s
LPL La Plagne 83.96 45 *e*P **P 20 34 50.6 -0.1**
LPL La Plagne 83.96 45 *e*P **P 20 34 50.6 -0.1**
LPL La Plagne 83.96 45 *e*P **P 20 34 50.6 -0.1**
LPG La Plagne 83.97 45 *e*P **P 20 34 50.9 0.0**
LPG La Plagne 83.97 45 *e*P **P 20 34 50.9 0.0**
LPG La Plagne 83.97 45 *e*P **P 20 34 50.9 0.0**
CDF Champ du Feu 84.04 42 *e*P **P 20 34 50.0 -0.9**
CDF Champ du Feu 84.04 42 *e*P **P 20 34 50.0 -0.9**
CDF Champ du Feu 84.04 42 *e*P **P 20 34 50.0 -0.9**
NB2 NORSAR Subarra 84.81 29 P **P 20 34 54.0 -0.4**
comp=Z,2.5nm,0.8s,baz=281,slow=5.1
NOA NORSAR Array B 84.81 29 P **P 20 34 53.9 -0.6**
NOA NORSAR Array B 84.81 29 P **P 20 34 53.9 -0.6**
comp=Z,3.9nm,0.8s,baz=277,slow=5.0,SNR=12
NOA LR LR 21 09 13.6
comp=Z,67nm,21.2s,baz=280,slow=33
TAM Tamanrasset 85.53 68 *e*P **P 20 34 59.1 +0.1**
TAM pmax pmax
comp=Z,18nm,1.4s
TAM Tamanrasset 85.53 68 *e*P **P 20 34 59.1 +0.1**
comp=Z,18nm,1.4s
TUE Stuetta 85.66 44 *e*P **P 20 34 57.6 -1.6**
comp=Z,3.6nm,0.8s
PGF Pioggiola 85.93 48 *e*P **P 20 34 59.8 -0.7**
PGF Pioggiola 85.93 48 *e*P **P 20 34 59.8 -0.7**
PGF Pioggiola 85.93 48 *e*P **P 20 34 59.8 -0.7**
FETA Feichten 86.52 43 *i*P **P 20 35 02.9 -0.5**
comp=Z,6.0nm,1.1s
GRA2 Grafenberg Arr 86.54 40 *e*P **P 20 35 02.5 -0.8**
comp=Z,37nm,1.8s
GRA2 *e*L L 21 07 37.3
comp=Z,219nm,19.7s
KEST Kesra 87.13 54 LR LR 21 14 09.8
comp=Z,19nm,18.4s,baz=278,slow=36
CLL Collm 87.31 39 *i*P **P 20 35 06.4 -0.6**
CLL *i* 20 35 11.7
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 87.31 39 *i*P **P 20 35 06.4 -0.6**
comp=Z,11nm,1.2s
CLL *i* 20 35 11.7
CLL *e*SS SS 20 51 48.0 +17
BRG Berggiesshubel 87.97 39 *e*P **P 20 35 10.2 0.0**
comp=Z,7.8nm,1.2s
BRG *e* 20 35 15.4
comp=Z,6.6nm,1.1s
KHC Kasperske Hory 88.06 41 *e*P **P 20 35 08.4 -2.3**
KHC pmax pmax
comp=Z,15nm,1.1s
KHC Kasperske Hory 88.06 41 *e*P **P 20 35 10.0 -0.7**
KHC Kasperske Hory 88.06 41 *e*P **P 20 35 09.5 -1.2**
comp=Z,8.3nm,1.4s
GERES GERESS Array B 88.19 41 P **P 20 35 10.2 -1.2**
GERES GERESS Array B 88.19 41 P **P 20 35 10.2 -1.2**
comp=Z,2.3nm,1.0s,baz=270,slow=4.0,SNR=14
PVCC Panska Ves 88.43 39 *e*P **P 20 35 12.2 -0.1**
PVCC Panska Ves 88.43 39 *e*P **P 20 35 12.2 -0.1**
PRU Pruhonice 88.52 40 *e*P **P 20 35 12.7 0.0**
PRU MLR MLR
comp=Z,200nm,16.7s
PRU Pruhonice 88.52 40 *e*P **P 20 35 12.7 0.0**
PRU AMS AMS 21 11 00.0
comp=Z,200nm,16.7s
ARCES ARCESS Array B 88.58 19 P **P 20 35 12.5 -0.2**
ARCES ARCESS Array B 88.58 19 P **P 20 35 12.5 -0.2**
comp=Z,4.4nm,0.7s,baz=297,slow=4.0,SNR=15
ARCES LR LR 21 14 19.9
comp=Z,80nm,18.1s,baz=323,slow=35
UPC Upice 89.33 39 *e*P **P 20 35 16.5 -0.1**
UPC Upice 89.33 39 *e*P **P 20 35 16.5 -0.1**
DPC Dobruska-Polom 89.56 39 *e*P **P 20 35 18.1 +0.4**
DPC Dobruska-Polom 89.56 39 *e*P **P 20 35 18.1 +0.4**
CONA Conrad Observa 89.79 42 *i*PcP **P 20 35 18.2 -0.7**
comp=Z,7.2nm,1.5s
BILL Bilibino 89.82 339 *i*P **P 20 35 18.8 +0.3**
BILL *e* 20 35 27.8
BILL Bilibino 89.82 339 *e*P **P 20 35 19.0 +0.5**
comp=Z,22nm,1.3s
KRLC Kraliky 89.91 39 *e*P **P 20 35 19.9 +0.5**
KRLC Kraliky 89.91 39 *e*P **P 20 35 19.9 +0.5**
FINES FINESS Array B 91.66 27 P **P 20 35 26.2 -0.9**
FINES FINESS Array B 91.66 27 P **P 20 35 26.2 -0.9**
comp=Z,3.6nm,0.9s,baz=222,slow=2.6,SNR=8.1
VSU Vasula 93.04 30 *e*P **P 20 35 31.7 -1.9**
TIXI Tiksi 97.38 350 *e*P **P 20 35 51.5 -1.6**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 97.38 350 *e*P **P 20 35 51.8 -1.4**
comp=Z,4.5nm,0.9s
KLMR Klimovskoe 97.74 25 *e*P **P 20 35 53.3 -1.7**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 99.36 30 *e*P **Pdif 20 35 59.9 -2.5**
OBN pmax pmax
comp=Z,4.0nm,1.2s
PRGR Permogore 99.68 22 *e*P **Pdif 20 36 01.5 -2.1**
PRGR pmax pmax
comp=Z,4.0nm,0.4s
KURK Kurchatov 119.03 13 PKIKP **PKPdf 20 41 09.4 +0.4**
KURK Kurchatov 119.03 13 PKP **PKPdf 20 41 09.4 +0.4**
KURBB Kurchatov Arra 119.10 13 PKP **PKPdf 20 41 09.4 +0.3**
comp=Z,0.3nm,0.6s,baz=336,slow=2.2,SNR=5.3
MDJ Mudanjiang 119.55 334 PKP **PKPdf 20 41 10.0 -0.2**
CN2 Changchun 121.96 336 *e*PKP **PKPdf 20 41 14.8 0.0**
SONM Songino Array 123.39 352 PKP **PKPdf 20 41 18.1 +0.5**
SONM Songino Array 123.39 352 PKP **PKPdf 20 41 18.1 +0.5**
comp=Z,1.1nm,0.8s,baz=38,slow=2.6,SNR=5.6
MKAR Makanchi Array 123.53 12 PKIKP **PKPdf 20 41 16.5 -1.4**
MKAR Makanchi Array 123.53 12 PKP **PKPdf 20 41 16.5 -1.4**
MKAR Makanchi Array 123.53 12 PKP **PKPdf 20 41 16.5 -1.4**
comp=Z,0.2nm,0.5s,baz=340,slow=3.4,SNR=3.5
KSRS Korea Array 125.94 330 PKP **PKPdf 20 41 21.4 -1.2**
comp=Z,5nm,0.8s,baz=28,slow=2.4,SNR=7.4
KSAR Wonju Array Be 125.97 330 PKP **PKPdf 20 41 21.4 -1.3**
WMQ Urumqi 127.36 8 PKP **PKPdf 20 41 24.8 -0.5**
WMQ sPKP 20 41 39.0
WMQ PP PP 20 43 28.8 +5.1
WMQ PKS **PKSdf 20 44 59.9 -2.0**
WMQ SKS SKSdf 20 48 31.3 -6.5
WMQ SKKS SKKSac 20 50 16.8 -6.5
WMQ SS **SS 21 00 33.8 +0.9**
WMQ LR LR
comp=Z,150nm,23.2s
WMQ LR LR
comp=Z,110nm,21.6s
WMQ LR LR
comp=Z,180nm,22.4s
KSH Kashi 128.53 21 *e*PKP **PKPdf 20 41 26.5 -1.2**
KSH *es*PKP 20 41 41.1
KSH *e*SKS SKSdf 20 48 33.3 -6.9
KSH AMB AMB
comp=Z,77nm,3.0s
KSH LR LR
comp=Z,49nm,4.5s
KSH LR LR
comp=Z,75nm,3.4s
KSH LR LR
comp=Z,77nm,5.6s
HHC Hu-ho-hao-te 129.17 346 *e*PKP **PKPdf 20 41 29.0 +0.1**
HHC sPKP 20 41 42.8
HHC PP PP 20 43 41.3 +5.6
HHC PKS **PKSdf 20 45 07.3 +1.8**
HHC SKS SKSac 20 48 30.1 -7.9
HHC SS **SS 21 00 55.6 0.0**
HHC AMB AMB
comp=Z,150nm,10.3s
HHC LR LR
comp=Z,330nm,20.0s
HHC LR LR
comp=Z,260nm,20.0s
HHC LR LR
comp=Z,390nm,20.5s
GTA Gaotai 132.36 357 *e*PKP **PKPdf 20 41 35.3 +0.3**
GTA sPKP 20 41 49.3
GTA PP PP 20 44 03.8 +7.5
GTA SKS SKSdf 20 48 41.3 -5.9
GTA SKKS **SKKSac 20 50 50.9 -3.7**
GTA SS **SS 21 01 40.8 +6.3**
GTA AMB AMB
comp=Z,67nm,5.2s
GTA LR LR
comp=Z,150nm,21.4s
GTA LR LR
comp=Z,140nm,18.1s
GTA LR LR
comp=Z,140nm,20.9s
LZH Lanzhou 135.28 352 *e*PKP **PKPdf 20 41 39.4 -1.2**
LZH sPKP 20 41 50.1
CD2 Chengdu 140.37 351 *e*PKP **PKPdf 20 41 48.5 -1.5**
DANN Dangsing 141.33 19 *e*P PKPdf 20 41 45.4 -6.7
comp=Z,11nm,0.9s
ASAR Alice Springs 141.48 242 PKPpre PKPpre 20 41 45.5
ASAR PKP **PKPdf 20 41 51.7 -0.5**
ASAR Alice Springs 141.48 242 PKPpre PKPpre 20 41 45.5
comp=Z,0.7nm,0.8s,baz=116,slow=3.2,SNR=6.1
ASAR PKP **PKPdf 20 41 51.7 -0.5**
comp=Z,1.6nm,0.9s,baz=110,slow=2.8,SNR=11
KOLN Koldanda 141.81 19 *e*P PKPdf 20 41 47.9 -5.0
GKN Gorkha 141.92 18 *e*P PKPdf 20 41 47.6 -5.4
WRAB Tennant Creek 142.02 248 *e*PKIKP **PKPdf 20 41 52.9 -0.3**
WRAB Tennant Creek 142.02 248 *e*P **PKPdf 20 41 52.9 -0.3**
WRA Warramunga Arr 142.03 248 PKPpre PKPpre 20 41 47.8
WRA PKP **PKPdf 20 41 53.0 -0.2**
WRA Warramunga Arr 142.03 248 PKhKP PKPpre 20 41 47.8
comp=Z,1.5nm,0.9s,baz=99,slow=3.3,SNR=6.7
WRA PKP **PKPdf 20 41 53.0 -0.2**
comp=Z,1.2nm,0.8s,baz=103,slow=2.6,SNR=8.0
KKN Kakani 142.31 17 *e*P PKPdf 20 41 47.7 -6.1
comp=Z,9.3nm,0.9s
GUN Gumba 142.37 16 *e*P PKPdf 20 41 48.1 -6.0
comp=Z,22nm,1.0s
DMN Daman 142.43 17 *e*P PKPdf 20 41 48.5 -5.6
PKIN Phulchoki 142.55 17 *e*P PKPdf 20 41 49.1 -5.2
comp=Z,11nm,1.2s
PKI Pulchoki 142.56 17 *e*P PKPdf 20 41 49.2 -5.2
JIRN Jiri 142.69 16 *e*P PKPdf 20 41 49.4 -5.3
comp=Z,6.3nm,0.6s
TAPN Taplejung 143.37 14 *e*P PKPab 20 41 50.3 -1.4
RAMN Ramite 143.47 16 *e*P PKPab 20 41 51.2 -0.9
comp=Z,21nm,1.1s
ODAN Odare 143.76 14 *e*P PKPab 20 41 51.7 -1.5
comp=Z,23nm,1.2s
GYA Guiyang 144.09 345 *e*PKP **PKPab 20 41 54.3 +0.1**
GYA sPKP 20 42 10.0
GYA PP **PP 20 45 11.9 +2.7**
GYA PKS **PKSdf 20 45 28.4 -4.3**
GYA SKKS 20 51 56.8
GYA SS **SS 21 03 50.3 -3.2**
GYA AMB AMB
comp=Z,120nm,7.7s
GYA LR LR
comp=Z,130nm,22.2s
GYA LR LR
comp=Z,110nm,23.0s
GYA LR LR
comp=Z,120nm,21.8s
SHL Shillong 145.89 8 *e*P **PKPdf 20 42 00.0 -0.1**
KMI Kunming 146.21 350 PKPbc **PKPdf 20 42 01.5 +0.8**
HYB Hyderabad 148.59 35 *i* PKP **PKPdf 20 42 05.5 +1.0**
NWAO Narrogin (SRO) 149.18 215 PKPbc **PKPdf 20 42 06.5 +1.5**
NWAO Narrogin (SRO) 149.18 215 PKPbc **PKPdf 20 42 06.5 +1.5**
comp=Z,7.1nm,0.8s,baz=190,slow=6.1,SNR=3.2
SLVN Son La 149.67 347 *e*PKPbc **PKPbc 20 42 10.2 -0.6**
QIZ Qiongzhong 149.91 335 PKPbc **PKPdf 20 42 04.5 -2.1**
QIZ PP **PP 20 45 43.1 -0.6**
QIZ SS SS 21 04 56.9 -2.9
QIZ LR LR
comp=Z,81nm,23.0s
CHTO Chiang Mai 152.89 356 *e*PKIKP **PKPdf 20 42 09.1 -2.0**
CHTO *e* 20 42 17.5
CHTO Chiang Mai 152.89 356 *e*PKPdf **PKPdf 20 42 09.1 -2.0**
CHTO *e*PKPbc **PKPbc 20 42 17.5 -0.8**
CMAR Chiang Mai Arr 153.25 356 PKP **PKPdf 20 42 11.4 -0.2**
CMAR PKPab **PKPab 20 42 30.9 +0.3**
CMAR Chiang Mai Arr 153.25 356 PKP **PKPdf 20 42 11.4 -0.2**
comp=Z,0.9nm,0.8s,baz=303,slow=1.8,SNR=8.6
CMAR PKPab **PKPab 20 42 30.9 +0.3**
comp=Z,1.3nm,0.6s,baz=327,slow=1.9,SNR=6.5

DDA ***23*** *20:22:23.4, 37.˚34N×43.˚63E, h5km, MD2.8*
ISC 23 20:22:22.2±2.7, 37.˚3N±0.˚1×43.˚7E±0.˚1, h7km±12km, n6, σ0.˚37/11, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.09**	**251**	PG	**Pg**	**20 22 24.4**	**0.0**
HAKT	**HAKKARI**	**0.28**	**359**	*i* P	**Pg**	**20 22 27.9**	**+0.1**
HAKT				*i* S	**Sg**	**20 22 31.8**	**+0.1**
SIRN	**S¨–rnak**	**1.06**	**282**	*i* P	**Pg**	**20 22 42.4**	**-0.1**
SIRN				*i* S	**Sg**	**20 22 56.1**	**-0.2**
GEVA	**Gevas**	**1.16**	**334**	*i* P	**Pg**	**20 22 44.2**	**-0.2**
GEVA				*i* S	**Sn**	**20 23 01.0**	**-0.1**
BEST	**Besiri**	**2.04**	**288**	*i* P	**Pg**	**20 23 01.2**	**-0.1**
BEST				*i* S	**Sg**	**20 23 27.6**	**0.0**
MARD	**Mardin**	**2.34**	**272**	*i* P	**Pb**	**20 23 04.5**	**-0.3**
MARD				*i* S	**Sb**	**20 23 34.8**	**+0.9**

IDC ***23*** *20:34:11.1±12.0, 7.˚73S×126.˚84E, h291km±118km, mb3.3/1, mb1 3.1/3, mb1mx2.7/30, mbtmp3.7/3, Error ellipse: s-maj=145.1km s-min=87.9km az=54.0*
ISC 23 20:34:10.2±3.1, 7.˚6S±0.˚3×126.˚7E±0.˚1, h300km, n11, σ0.˚86/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.22**	**229**	P	**Pn**	**20 35 08.1**	**-0.2**
	baz=3.5,SNR=40						
SOEI				S	**S**	**20 35 54.1**	**-0.6**
	baz=3.5,SNR=5.2						
WSI	**Waingapu**	**6.67**	**252**	P	Pn	20 35 57.4	+10
	baz=6.7,SNR=3.4						
MTN	**Manton Dam**	**6.74**	**140**	P	**Pn**	**20 35 48.3**	**-0.2**
	baz=7.3,SNR=4.8						
FAKI	**Fak Fak**	**7.22**	**50**	P	Pn	20 35 47.1	-7.3
	baz=7.1,SNR=6.5						
KDU	**Kakadu**	**7.55**	**132**	P	Pn	20 36 02.6	+4.3
	baz=8.1,SNR=3.4						
KNRA	**Kununurra**	**8.23**	**166**	P	**Pn**	**20 36 07.4**	**+0.8**
	baz=8.9,SNR=5.3						
WRA	**Warramunga Arr**	**14.28**	**150**	P	**P**	**20 37 19.1**	**-0.4**
	0.2nm,0.3s,baz=326,slow=13,SNR=12						

WRA S **S** **20 39 55.4 -1.2**
0.1nm,0.3s,baz=327,slow=21,SNR=4.3
ASAR Alice Springs 17.36 157 P **P** **20 37 53.9 +0.9**
0.6nm,0.3s,baz=333,slow=11,SNR=24
WRKA Warakurna 17.36 175 P **P** **20 37 54.4 +1.3**
baz=18,SNR=4.9
QIS Mount Isa 17.89 137 P **P** **20 37 59.0 +0.2**
baz=18,SNR=4.5
STKA Stephens Creek 27.81 152 P **P** **20 39 32.4 0.0**
1.1nm,0.6s,baz=336,slow=10.0,SNR=4.1

MOS ***23*** *20:35:49.3±1.1, 55˚.21N×162˚.70E, h12km, mb4.3/20, Error ellipse: s-maj=10.4km s-min=6.1km az=73.7*
ISCJB ***23*** *20:35:49.9±0.8, 55˚.20N±0˚.02×162˚.82E±0˚.03, h13km±5km, mb4.2/39, Error ellipse: s-maj=3.1km s-min=2.8km az=39.5*
IDC ***23*** *20:35:49.6±0.6, 55˚.37N×162˚.38E, h0km, mb4.0/24, mb1 4.2/26, mb1mx4.1/43, mbtmp4.0/26, ML3.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/33, Error ellipse: s-maj=18.5km s-min=11.2km az=150.0*
KRSC ***23*** *20:35:50.1±0.9, 55˚.17N×162˚.81E, h26km±29km, ML4.7*
BJI ***23*** *20:35:51.2, 55˚.20N×162˚.80E, h20km, mb4.2/3, Ms3.9/1, Ms7 3.6/1*
NEIC ***23*** *20:35:52.7±2.7, 55˚.27N×162˚.64E, h23km±20km, mb4.5/11, Error ellipse: s-maj=11.6km s-min=5.7km az=157.0*
ISC 23 20:35:50.2±1.2, 55˚23N±0˚.02×162˚67E±0˚.03, h7km±7km, n157, σ1$23/199, mb4.2/39, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.87**	**219**	PN		**Pb**		**20 36 07.0**	**-0.6**
MKZ				S		**Sb**		**20 36 19.5**	**+0.1**
MKZ	**Mys Kozlova**	**0.87**	**219**	*i* P		**Pb**		**20 36 07.0**	**-0.6**
MKZ				*i* S		**Sb**		**20 36 19.5**	**+0.1**
KBTR	**Krutoberegovo**	**0.98**	**5**	PN		**Pb**		**20 36 09.7**	**+0.2**
KBTR				S		**Sn**		**20 36 25.8**	**+1.3**
KBTR	**Krutoberegovo**	**0.98**	**5**	*i* P		**Pb**		**20 36 09.7**	**+0.2**
KBTR				*i* S		**Sn**		**20 36 25.8**	**+1.3**
KBG	**Krutoberegovo**	**1.02**	**1**	PN		**Pg**		**20 36 09.4**	**-0.4**
KBG				S		**Sn**		**20 36 26.4**	**+0.9**
KBG	**Krutoberegovo**	**1.02**	**1**	*i* P		**Pg**		**20 36 09.4**	**-0.4**
KBG				*e*S		**Sn**		**20 36 26.4**	**+0.9**
ZLN	**Zelenaya**	**1.32**	**307**	*e*P		**Pn**		**20 36 14.3**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.33**	**303**	*e*P		**Pg**		**20 36 15.5**	**-0.1**
BZGR				*e*S		**Sn**		**20 36 33.1**	**-0.1**
KZV	**Kizimen**	**1.37**	**266**	*e*P		**Pn**		**20 36 15.3**	**-0.6**
CIRR	**Tsirk**	**1.40**	**310**	*i* P		**Pg**		**20 36 18.2**	**+1.1**
CIRR				*i* S		**Sg**		**20 36 37.4**	**+2.1**
LGNR	**Loginova**	**1.41**	**308**	*e*P		**Pg**		**20 36 17.2**	**0.0**
LGNR				*e*S		**Sg**		**20 36 35.6**	**+0.1**
BZMR	**Bezymyannaya**	**1.42**	**300**	*e*P		**Pn**		**20 36 16.5**	**-0.1**
BZMR				*e*S		**Sg**		**20 36 36.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.44**	**302**	*i* P		**Pn**		**20 36 16.7**	**-0.1**
BZWR				*i* S		**Sg**		**20 36 37.2**	**+0.9**
TUMR	**Tumrok**	**1.45**	**273**	*i* P		**Pb**		**20 36 17.2**	**-0.3**
TUMR				*e*S		**Sg**		**20 36 37.2**	**+0.5**
KMNR	**Kamenistaya**	**1.48**	**292**	*i* P		**Pg**		**20 36 18.1**	**-0.5**
KMNR				*i* S		**Sg**		**20 36 38.5**	**+0.7**
KIRR	**Kirishev**	**1.51**	**300**	*e*P		**Pb**		**20 36 18.2**	**-0.3**
KIRR				*e*S		**Sg**		**20 36 39.0**	**+0.4**
SMKR	**Semkarok**	**1.51**	**334**	*e*P		**Pn**		**20 36 17.3**	**-0.5**
SMKR				*e*S		**Sg**		**20 36 39.6**	**+0.9**
KRSR	**Krestovskiy**	**1.55**	**310**	*e*P		**Pn**		**20 36 17.2**	**-1.1**
KRSR				*e*S		**Sg**		**20 36 39.7**	**-0.2**
BDR	**Baidarnaya**	**1.57**	**329**	*e*P		**Pn**		**20 36 18.9**	**+0.3**
BDR				*e*S		**Sg**		**20 36 41.6**	**+1.0**
KLY	**Klyuchi**	**1.57**	**314**	PN		**Pn**		**20 36 17.0**	**-1.5**
KLY				S		**Sn**		**20 36 37.6**	**-1.5**
KLY	**Klyuchi**	**1.57**	**314**	*i* P		**Pn**		**20 36 17.0**	**-1.5**
KLY				*e*S		**Sn**		**20 36 37.6**	**-1.5**
KPT	**Kopyto**	**1.57**	**299**	*e*P		**Pn**		**20 36 18.9**	**+0.3**
KPT				*e*S		**Sg**		**20 36 40.1**	**-0.6**
SRKR	**Sorokina**	**1.66**	**330**	*i* P		**Pn**		**20 36 19.3**	**-0.4**
SRKR				*e*S		**Sg**		**20 36 43.5**	**+0.1**
KOZR	**Kozyr**	**1.78**	**299**	PN		**Pb**		**20 36 22.7**	**-0.4**
KOZR				S		**Sg**		**20 36 47.4**	**0.0**
KOZ	**Kozyrevsk**	**1.79**	**299**	*e*P		**Pb**		**20 36 22.7**	**-0.6**
KOZ				*e*S		**Sg**		**20 36 47.4**	**-0.2**
BKI	**Bering**	**1.89**	**90**	PN		**Pn**		**20 36 22.4**	**-0.5**
BKI				S		**Sn**		**20 36 46.6**	**-0.3**
BKI	**Bering**	**1.89**	**90**	*e*P		**Pn**		**20 36 22.4**	**-0.5**
BKI				*e*S		**Sn**		**20 36 46.6**	**-0.3**
SRDR	**Sredinnyy**	**1.99**	**304**	*i* P		**Pn**		**20 36 24.9**	**+0.6**
SRDR				*e*S		**Sb**		**20 36 51.3**	**-0.5**
KII	**Karymskiy**	**2.23**	**239**	*e*P		**Pb**		**20 36 28.7**	**-2.1**
ESO	**Esso**	**2.36**	**289**	PN		**Pn**		**20 36 30.3**	**+1.0**
ESO				S		**Sb**		**20 37 00.3**	**-2.0**
ESO	**Esso**	**2.36**	**289**	*i* P		**Pn**		**20 36 30.3**	**+1.0**
ESO				*i* S		**Sb**		**20 37 00.3**	**-2.0**
SPN	**Mys Shipunski**	**2.65**	**217**	PN		**Pn**		**20 36 34.2**	**+0.9**
SPN				S		**Sn**		**20 37 06.2**	**+0.6**
SPN	**Mys Shipunski**	**2.65**	**217**	*e*P		**Pn**		**20 36 34.2**	**+0.9**
SPN				*e*S		**Sn**		**20 37 06.2**	**+0.6**
SDLR	**Sedlovina**	**2.96**	**230**	*e*P		**Pn**		**20 36 38.4**	**+0.7**
SDLR				*e*S		**Sn**		**20 37 13.8**	**+0.2**
KRER	**Koryakskii**	**3.00**	**232**	*e*P		**Pn**		**20 36 39.2**	**+0.8**
KRER				*e*S		**Sn**		**20 37 15.5**	**+0.8**
SMAR	**Somma**	**3.01**	**231**	*e*P		**Pn**		**20 36 39.1**	**+0.6**
SMAR				*e*S		**Sn**		**20 37 15.3**	**+0.5**
KRX	**Arik**	**3.02**	**233**	*e*P		**Pn**		**20 36 40.4**	**+1.9**
KRX				*e*S		**Sn**		**20 37 16.3**	**+1.4**
AVH	**Avacha**	**3.04**	**231**	*e*P		**Pn**		**20 36 39.5**	**+0.8**
AVH				*e*S		**Sn**		**20 37 16.5**	**+1.2**
UGLR	**Uglovaya**	**3.04**	**230**	*e*P		**Pn**		**20 36 39.6**	**+0.9**
KOK	**Koryaka**	**3.06**	**232**	*e*P		**Pn**		**20 36 39.7**	**+0.6**
GNL	**Ganaly**	**3.16**	**243**	*e*P		**Pn**		**20 36 41.9**	**+1.4**
PET	**Petropavlovsk**	**3.24**	**229**	*e*PN		**Pn**		**20 36 42.4**	**+1.0**
PET				*e*				20 37 19.9	
PET	**Petropavlovsk**	**3.24**	**229**	*e*P		**Pn**		**20 36 41.9**	**+0.5**
PET				*e*S		**Sn**		**20 37 22.3**	**+2.1**
PET	**Petropavlovsk**	**3.24**	**229**	*e*Pn		**Pn**		**20 36 42.4**	**+1.0**
PET				*e*Sn		**Sn**		**20 37 19.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**3.62**	**236**	*e*Pn		**Pn**		**20 36 49.3**	**+2.7**
PETK	**Petropavlovsk-**	**3.62**	**236**	PN		**Pn**		**20 36 47.6**	**+1.0**
PETK								20 37 35.1	
PETK					pmax	pmax			
	comp=Z,8.0nm,0.3s								
PETK					smax	smax			
	comp=N,3.0nm,0.3s								
PETK	**Petropavlovsk-**	**3.62**	**236**	Pn		**Pn**		**20 36 47.6**	**+1.0**
PETK				Sn		**Sb**		**20 37 35.0**	**-3.4**
PETK	**Petropavlovsk-**	**3.62**	**236**	Pn		**Pn**		**20 36 47.6**	**+1.0**
	comp=N,8.2nm,0.3s,baz=78,slow=14,SNR=52								
PETK				Sn		**Sb**		**20 37 35.0**	**-3.4**
	comp=N,2.8nm,0.3s,baz=10,slow=32,SNR=2.6								
PETK				LR		LR		20 38 17.4	
	comp=N,91nm,20.4s,baz=17,slow=42								
RUS	**Russkaya**	**3.73**	**223**	PN		**Pn**		**20 36 48.2**	**0.0**
RUS				S		**Sn**		**20 37 33.7**	**+1.3**
RUS	**Russkaya**	**3.73**	**223**	*e*P		**Pn**		**20 36 48.2**	**0.0**
RUS				*e*S		**Sn**		**20 37 33.7**	**+1.3**
GRL	**Gorelyy**	**3.82**	**227**	*e*P		**Pn**		**20 36 52.0**	**+2.4**
APC	**Apacha**	**3.99**	**237**	*e*P		**Pn**		**20 36 54.3**	**+2.6**
ASAK	**Asacha**	**4.02**	**227**	*e*P		**Pn**		**20 36 53.9**	**+1.7**
OSSR	**Ossora**	**4.03**	**3**	*e*P		**Pn**		**20 36 53.4**	**+1.1**
OSSR				*e*S		**Sn**		**20 37 41.3**	**+1.6**
PAU	**Pauzhetka**	**5.15**	**225**	PN		**Pn**		**20 37 09.4**	**+1.7**
PAU	**Pauzhetka**	**5.15**	**225**	*e*P		**Pn**		**20 37 09.4**	**+1.7**
SKR	**Severo-Kuril's**	**6.04**	**224**	*e*PN		**Pn**		**20 37 18.5**	**-1.3**
SKR				*e*S		**Sn**		**20 38 32.6**	**+3.5**
SKR					pmax	pmax			
	comp=Z,60nm,0.5s								
SKR					smax	smax			
	comp=N,120nm,0.8s								
SKR					smax	smax			
	comp=E,70nm,0.8s								
SKR	**Severo-Kuril's**	**6.04**	**224**	*e*P		Pn		20 37 23.0	+3.2
SKR				*e*S		**Sn**		**20 38 31.1**	**+2.0**
FX1	**Attu Island--F**	**6.61**	**107**	*e*Pn		**Pn**		**20 37 26.6**	**-1.1**
FX1				*e*Sn		Sn		20 38 35.5	-7.7
FX1	**Attu Island--F**	**6.61**	**107**	Pn		**Pn**		**20 37 27.1**	**-0.6**
	comp=E,10nm,0.3s,baz=257,slow=4.4,SNR=16								
FX1				Sn		**Sn**		**20 38 38.5**	**-4.7**
	comp=E,4.1nm,0.3s,baz=150,slow=20,SNR=5.5								
FX1				LR		LR		20 40 14.1	
	comp=E,162nm,18.3s,baz=306,slow=39								
BILL	**Bilibino**	**12.96**	**6**	*e*PN		Pn		20 38 59.4	+4.9
BILL					pmax	pmax			
	comp=Z,18nm,1.2s								
ASAJ	**Asahikawa**	**17.04**	**238**	Pn		**Pn**		**20 39 47.9**	**-0.8**
ASAJ	**Asahikawa**	**17.04**	**238**	Pn		**Pn**		**20 39 47.9**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=63,slow=4.5,SNR=3.0								
ERM	**Erimo**	**18.39**	**232**	*e*P		**Pn**		**20 40 04.8**	**-0.6**
TIXI	**Tiksi**	**21.84**	**332**	*i*P		**P**		**20 40 42.7**	**0.0**
TIXI					pmax	pmax			
	comp=Z,16nm,1.0s								
TIXI	**Tiksi**	**21.84**	**332**	*e*P		**P**		**20 40 43.8**	**+1.0**
	comp=Z,20nm,0.9s								
IM04	**Indian Mountai**	**23.39**	**45**	*e*P		**P**		**20 40 59.2**	**0.0**
PPLA	**Purkeypile**	**23.98**	**53**	*e*P		**P**		**20 41 06.4**	**+1.3**
	comp=Z,67nm,1.8s								
TRF	**Thorofare Moun**	**24.81**	**52**	*e*P		**P**		**20 41 12.2**	**-0.5**
	comp=Z,12nm,0.9s								
COLD	**Coldfoot**	**24.94**	**43**	*e*P		**P**		**20 41 13.5**	**-0.2**
	comp=Z,12nm,0.9s								
MAJO	**Matsushiro**	**25.07**	**232**	*e*P		**P**		**20 41 15.6**	**+0.6**
	comp=Z,3.9nm,0.8s								
MAT	**Matsushiro**	**25.07**	**232**	P		**P**		**20 41 15.6**	**+0.6**
MJAR	**Matsushiro Arr**	**25.07**	**232**	P		**P**		**20 41 16.0**	**+1.0**
MJAR	**Matsushiro Arr**	**25.07**	**232**	P		**P**		**20 41 16.0**	**+1.0**
	comp=Z,16nm,0.9s,baz=22,slow=6.5,SNR=40								
MCK	**McKinley**	**25.40**	**51**	*e*P		**P**		**20 41 18.7**	**+0.8**
MCK	**McKinley**	**25.40**	**51**	*e*P		**P**		**20 41 18.7**	**+0.8**
COLA	**College**	**25.82**	**48**	*e*P		**P**		**20 41 21.5**	**-0.1**
COLA	**College**	**25.82**	**48**	*e*P		**P**		**20 41 21.5**	**-0.1**
ILAR	**Eielson Array**	**26.24**	**48**	P		**P**		**20 41 25.4**	**0.0**
ILAR	**Eielson Array**	**26.24**	**48**	P		**P**		**20 41 25.4**	**0.0**
	comp=Z,3.8nm,0.9s,baz=266,slow=8.1,SNR=36								
EGAK	**Eagle**	**28.68**	**48**	*e*P		**P**		**20 41 46.9**	**-0.4**
	comp=Z,5.1nm,0.7s								
INK	**Inuvik**	**31.25**	**40**	*e*P		**P**		**20 42 10.0**	**+0.1**
INK	**Inuvik**	**31.25**	**40**	P		**P**		**20 42 10.7**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=297,slow=7.2,SNR=8.1								
SONM	**Songino Array**	**34.92**	**282**	P		**P**		**20 42 41.1**	**-1.3**
SONM				PcP		**PcP**		**20 45 14.7**	**-0.1**
SONM	**Songino Array**	**34.92**	**282**	P		**P**		**20 42 41.1**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=69,slow=9.4,SNR=3.3								
SONM				PcP		**PcP**		**20 45 14.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=32,slow=1.1,SNR=5.3								
ZAK	**Zakamensk**	**35.27**	**287**	*e*P		P		20 42 40.8	-4.6
ZAK					pmax	pmax			
	comp=Z,2.0nm,2.0s								
DLBC	**Dease Lake**	**35.57**	**57**	P		**P**		**20 42 49.8**	**+2.0**
DLBC	**Dease Lake**	**35.57**	**57**	P		**P**		**20 42 49.8**	**+2.0**
	comp=Z,2.1nm,0.6s,baz=297,slow=8.2,SNR=5.2								
H11N2	**WAKE ISLAND Hy**	**35.59**	**173**	T		T		21 20 26.4	
	baz=356								
H11N3	**WAKE ISLAND Hy**	**35.60**	**173**	T		T		21 20 33.4	
	baz=356								
H11N1	**WAKE ISLAND Hy**	**35.61**	**173**	T		T		21 20 33.9	
	baz=356								
YKA	**Yellowknife Ar**	**40.56**	**45**	P		**P**		**20 43 30.7**	**+1.0**
YKA				PcP		**PcP**		**20 45 31.6**	**-0.1**
YKA	**Yellowknife Ar**	**40.56**	**45**	P		**P**		**20 43 30.7**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=299,slow=8.1,SNR=14								
YKA				PcP		**PcP**		**20 45 31.5**	**-0.1**
	comp=Z,0.1nm,0.9s,baz=300,slow=3.8,SNR=3.9								
RES	**Resolute Bay**	**40.76**	**23**	P		**P**		**20 43 31.9**	**+0.7**
RES	**Resolute Bay**	**40.76**	**23**	P		**P**		**20 43 31.9**	**+0.7**
	comp=Z,3.1nm,1.1s,baz=326,slow=7.7,SNR=4.6								
ZALV	**Zalesovo Beam**	**42.91**	**302**	PcP		**PcP**		**20 45 38.6**	**-1.0**
ZALV	**Zalesovo Beam**	**42.91**	**302**	PcP		**PcP**		**20 45 38.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=27,slow=4.8,SNR=4.1								
GTA	**Gaotai**	**43.88**	**276**	P		**P**		**20 43 57.1**	**-0.1**
GTA				pP		pP		20 44 05.1	+5.7
GTA				sP		sP		20 44 09.6	+9.4
GTA					pmax	pmax			
	comp=Z,2.0nm,1.7s								
EDM	**Edmonton**	**46.28**	**56**	*e*P		**P**		**20 44 15.9**	**-0.1**
EDM	**Edmonton**	**46.28**	**56**	*e*P		**P**		**20 44 15.9**	**-0.1**
KURK	**Kurchatov**	**47.90**	**302**	*e*P		**P**		**20 44 27.6**	**-1.0**
KURK					pmax	pmax			
	comp=Z,1.0nm,1.2s								
KURK	**Kurchatov**	**47.90**	**302**	*e*P		**P**		**20 44 26.4**	**-2.1**
	comp=Z,2.6nm,1.0s								
KURK				PcP		**PcP**		**20 45 56.0**	**-0.9**
KURBB	**Kurchatov Arra**	**48.00**	**301**	P		**P**		**20 44 27.2**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=57,slow=8.2,SNR=13								
KURBB				PcP		**PcP**		**20 45 56.0**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=52,slow=3.1,SNR=4.5								
MKAR	**Makanchi Array**	**48.60**	**295**	*e*P		**P**		**20 44 33.6**	**-0.5**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**48.60**	**295**	P		**P**		**20 44 32.4**	**-1.7**
MKAR	**Makanchi Array**	**48.60**	**295**	P		**P**		**20 44 32.4**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=54,slow=7.5,SNR=13								
BVAR	**Borovoye Array**	**50.25**	**308**	P		**P**		**20 44 43.8**	**-2.8**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**50.25**	**308**	P		**P**		**20 44 43.8**	**-2.8**
BVAR	**Borovoye Array**	**50.25**	**308**	P		**P**		**20 44 43.8**	**-2.8**
	comp=Z,1.2nm,0.8s,baz=69,slow=7.9,SNR=4.5								
BRVK	**Borovoye**	**50.27**	**308**	*e*P		**P**		**20 44 46.0**	**-0.7**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**51.71**	**342**	P		**P**		**20 44 57.2**	**-0.1**
ARCES	**ARCESS Array B**	**51.71**	**342**	P		**P**		**20 44 57.2**	**-0.1**
	comp=Z,3.4nm,1.0s,baz=56,slow=14,SNR=2.4								
ARE0	**ARCESS Array S**	**51.71**	**342**	P		**P**		**20 44 58.4**	**+1.0**
NVAR	**Mina Array Bea**	**53.63**	**73**	P		**P**		**20 45 13.0**	**+0.8**
NVAR	**Mina Array Bea**	**53.63**	**73**	P		**P**		**20 45 13.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=305,slow=7.4,SNR=5.5								
PDAR	**Pinedale Array**	**55.18**	**64**	P		**P**		**20 45 24.9**	**+1.4**
PDAR	**Pinedale Array**	**55.18**	**64**	P		**P**		**20 45 24.9**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=339,slow=3.7,SNR=7.4								
DUG	**Dugway**	**55.33**	**68**	*e*P		**P**		**20 45 23.8**	**-0.7**
DUG	**Dugway**	**55.33**	**68**	*e*P		**P**		**20 45 23.8**	**-0.7**
AAK	**Ala-Archa**	**55.49**	**296**	*e*P		**P**		**20 45 27.9**	**+2.3**
AAK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
AAK	**Ala-Archa**	**55.49**	**296**	*e*P		**P**		**20 45 27.9**	**+2.3**
	comp=Z,7.4nm,1.2s								
LSA	**Lhasa**	**55.80**	**274**	P		**P**		**20 45 29.3**	**+0.9**
LSA	**Lhasa**	**55.80**	**274**	P		**P**		**20 45 29.3**	**+0.9**
DAU	**Daniels Canyon**	**55.99**	**67**	P		**P**		**20 45 32.2**	**+2.7**
DAU					pmax	pmax			
	comp=Z,4.0nm,0.8s								
DAU	**Daniels Canyon**	**55.99**	**67**	P		**P**		**20 45 32.2**	**+2.7**
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**56.26**	**49**	P		**P**		**20 45 32.4**	**+1.6**
ULM	**Lac du Bonnet**	**56.26**	**49**	P		**P**		**20 45 32.4**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=311,slow=5.5,SNR=3.5								
ARUT	**Antelope Range**	**56.74**	**70**	*e*P		**P**		**20 45 33.2**	**-1.4**
ARUT	**Antelope Range**	**56.74**	**70**	*e*P		**P**		**20 45 33.1**	**-1.4**
	comp=Z,191nm,0.8s								
CCUT	**Cedar City**	**56.95**	**71**	*e*P		P		20 45 30.7	-5.5
	comp=Z,3.9nm,0.6s								
KKAR	**Karatay Array**	**57.16**	**299**	*e*P		**P**		**20 45 37.8**	**+0.4**
KKAR	**Karatay Array**	**57.16**	**299**	*e*P		**P**		**20 45 37.8**	**+0.4**
ABKAR	**Akbulak array**	**57.55**	**311**	*e*P		**P**		**20 45 38.6**	**-1.4**
O20A	**White River Ci**	**57.77**	**65**	*e*P		P		20 45 35.9	-6.0
FINES	**FINESS Array B**	**58.74**	**337**	P		**P**		**20 45 47.5**	**-0.6**
FINES	**FINESS Array B**	**58.74**	**337**	P		**P**		**20 45 47.5**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=36,slow=8.3,SNR=18								
CMAR	**Chiang Mai Arr**	**60.09**	**259**	P		**P**		**20 45 57.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**60.09**	**259**	P		**P**		**20 45 57.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=20,slow=7.2,SNR=4.8								
NB2	**NORSAR Subarra**	**61.89**	**345**	P		P		20 46 17.8	+8.1
	comp=Z,0.8nm,0.6s,baz=17,slow=6.9								
NOA	**NORSAR Array B**	**61.89**	**345**	P		**P**		**20 46 08.9**	**-0.8**
NOA	**NORSAR Array B**	**61.89**	**345**	P		**P**		**20 46 08.9**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.9,SNR=2.5								
SCHQ	**Schefferville**	**63.04**	**30**	P		**P**		**20 46 17.2**	**-0.2**
SCHQ	**Schefferville**	**63.04**	**30**	P		**P**		**20 46 17.2**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=351,slow=13,SNR=4.2								
TXAR	**Lajitas Array**	**68.43**	**70**	P		**P**		**20 46 52.6**	**-0.1**
TXAR	**Lajitas Array**	**68.43**	**70**	P		**P**		**20 46 52.6**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=316,slow=8.8,SNR=5.2								
GERES	**GERESS Array B**	**73.08**	**339**	P		**P**		**20 47 21.5**	**+0.8**
GERES	**GERESS Array B**	**73.08**	**339**	P		**P**		**20 47 21.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=316,slow=4.1,SNR=2.8								
BRTR	**Keskin Array B**	**75.90**	**322**	P		**P**		**20 47 36.9**	**-0.5**
BRTR	**Keskin Array B**	**75.90**	**322**	P		**P**		**20 47 36.9**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=40,slow=9.6,SNR=3.3								
WRA	**Warramunga Arr**	**78.67**	**207**	P		**P**		**20 47 53.2**	**+0.5**
WRA	**Warramunga Arr**	**78.67**	**207**	P		**P**		**20 47 53.2**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=20,slow=5.8,SNR=12								
ASAR	**Alice Springs**	**82.35**	**206**	P		**P**		**20 48 13.4**	**+1.0**
ASAR	**Alice Springs**	**82.35**	**206**	P		**P**		**20 48 13.4**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=16,slow=5.3,SNR=25								
ESDC	**Sonseca Array**	**84.77**	**350**	P		**P**		**20 48 24.6**	**-0.4**
ESDC	**Sonseca Array**	**84.77**	**350**	P		**P**		**20 48 24.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=360,slow=3.0,SNR=4.9								
RAYN	**Ar Rayn**	**85.11**	**305**	*e*P		**P**		**20 48 25.9**	**-1.0**
	comp=Z,1.1nm,0.8s								
TRQA	**Tornquist**	**145.57**	**79**	*e*PKPdf		**PKPdf**		**20 55 27.9**	**-0.6**

IDC 23 20:41:26.9±1.5, 2˚.41S×138˚.68E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/25, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=32.9km s-min=27.8km az=84.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.03**	**93**	Pn		Pn		20 42 02.9	+0.4
	1.0nm,0.3s,baz=280,slow=12,SNR=3.2								
JAY				Sn		Sn		20 42 22.6	-6.0
	3.9nm,0.3s,baz=197,slow=20,SNR=5.5								
WRA	**Warramunga Arr**	**17.93**	**193**	P		Pn		20 45 37.8	-0.2
	0.4nm,0.3s,baz=18,slow=12,SNR=26								
ASAR	**Alice Springs**	**21.63**	**192**	P		P		20 46 18.6	-0.4
	0.5nm,0.4s,baz=18,slow=9.2,SNR=12								
MKAR	**Makanchi Array**	**69.53**	**322**	P		P		20 52 37.8	+0.1
	0.1nm,0.5s,baz=123,slow=5.3,SNR=3.4								

MAN 23 20:48:31, 11˚.19N×122˚.38E, h24km, mb4.5, ML3.4, MS3.3, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.59**	**160**	*e*P		Pn		20 48 43.5	-0.5
GUIM				*e*S		Sn		20 48 52.0	-0.9
OTRP	**Odiongan**	**1.22**	**343**	*e*P		Pn		20 48 51.6	-1.0
CUYO	**Cuyo Island**	**1.38**	**256**	*e*P		Pb		20 48 55.9	-0.2
CUYO				*e*S		Sn		20 49 12.3	+0.1
MSLP	**Maasin**	**2.66**	**113**	*e*P		Pn		20 49 14.5	+2.1
ENPP	**El Nido**	**2.90**	**271**	*e*P		Pn		20 49 17.9	+2.2
PAGZ	**Pagadian**	**3.46**	**163**	*e*P		Pn		20 49 16.4	-7.1

IDC ***23*** *20:56:39.4±3.1, 23˚.06S×68˚.69W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/24, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=86.5km s-min=50.6km az=52.0*
ISCJB ***23*** *20:57

I17A	**Pilgrim Ck.**	**0.48**	**327**	P		**Pg**	**22 01 36.8**	**-0.5**
	baz=0.5							
I17A				S		**Sg**	**22 01 43.8**	**+0.2**
	baz=0.5							
REDW	**Red Top Meadow**	**0.49**	**251**	*e*Pg		**Pg**	**22 01 36.4**	**-1.0**
REDW				*e*Sg		**Sg**	**22 01 41.6**	**-2.3**
FLWY	**Flagg Ranch**	**0.66**	**328**	*e*Pg		**Pg**	**22 01 39.7**	**-1.1**
FLWY				*e*Sg		**Sg**	**22 01 49.3**	**-0.2**
YMS	**Mount Sheridan**	**0.78**	**343**	*e*Pg		**Pg**	**22 01 42.3**	**-0.7**
YPP	**Pitchstone Pla**	**0.86**	**331**	*e*Pg		**Pg**	**22 01 44.0**	**-0.6**
YTP	**The Promontory**	**0.87**	**357**	*e*Pg		**Pg**	**22 01 44.0**	**-0.8**
J19A	**Crowheart**	**0.89**	**106**	P		**Pg**	**22 01 43.3**	**-1.7**
	baz=0.9							
J19A				S		**Sg**	**22 01 54.9**	**-1.7**
	baz=0.9							
BW06	**Boulder Array**	**0.89**	**147**	*e*Pg		**Pg**	**22 01 43.2**	**-2.0**
BW06				*e*Sg		**Sg**	**22 01 56.2**	**-0.6**
PDAR	**Pinedale Array**	**0.89**	**147**	Pg		**Pg**	**22 01 43.0**	**-2.1**
PDAR				Lg		Lg	22 01 54.1	
PDAR	**Pinedale Array**	**0.89**	**147**	Pg		**Pg**	**22 01 43.0**	**-2.1**
	32nm,0.3s,baz=333,slow=15,SNR=439							
PDAR				Lg		Lg	22 01 54.1	
	102nm,0.3s,baz=348,slow=29,SNR=40							
H17A	**Grant Village**	**0.91**	**344**	*e*Pg		**Pg**	**22 01 44.3**	**-1.2**
H17A				*e*Sg		**Sg**	**22 01 56.3**	**-1.2**
H17A	**Grant Village**	**0.91**	**344**	P		**Pg**	**22 01 44.4**	**-1.2**
	baz=0.9							
H17A				S		**Sg**	**22 01 56.1**	**-1.4**
	baz=0.9							
YLT	**Little Thumb C**	**0.96**	**344**	*e*Pg		**Pg**	**22 01 45.6**	**-0.7**
MCID	**Moose Creek**	**0.97**	**314**	*e*Pg		**Pg**	**22 01 46.0**	**-0.5**
AHID	**Auburn Hatcher**	**0.99**	**221**	*e*Pg		**Pg**	**22 01 45.7**	**-1.3**
AHID				*e*Sg		**Sg**	**22 01 58.5**	**-1.5**
I19A	**Meeteetse**	**1.03**	**59**	P		**Pg**	**22 01 45.8**	**-1.9**
	baz=1.0							
I19A				S		**Sg**	**22 01 59.1**	**-2.0**
	baz=1.0							
YML	**Mary Lake**	**1.13**	**344**	*e*Pg		**Pb**	**22 01 48.8**	**-0.9**
YMP	**Mirror Lake Pl**	**1.22**	**2**	*e*Pg		**Pn**	**22 01 50.0**	**-1.3**
H18A	**Shoshone NF, C**	**1.22**	**19**	P		**Pn**	**22 01 49.6**	**-1.8**
	baz=1.2							
H18A				S		**Sb**	**22 02 05.0**	**-2.3**
	baz=1.2							
YPM	**Purple Mountai**	**1.23**	**338**	*e*Pg		**Pn**	**22 01 50.4**	**-1.1**
YJC	**Joseph's Coat**	**1.24**	**356**	*e*Pg		**Pn**	**22 01 50.4**	**-1.2**
YMR	**Madison River**	**1.27**	**335**	*e*Pg		**Pn**	**22 01 50.8**	**-1.2**
YMR				*e*Sn		**Sb**	**22 02 08.1**	**-0.4**
YHH	**Holmes Hill**	**1.35**	**340**	*e*Pn		**Pn**	**22 01 52.1**	**-1.0**
YMC	**Maple Creek**	**1.36**	**336**	*e*Pn		**Pn**	**22 01 52.4**	**-0.9**
YHB	**Horse Butte**	**1.42**	**331**	*e*Pn		**Pn**	**22 01 53.2**	**-0.8**
H19A	**Powell**	**1.45**	**37**	Pg		**Pn**	**22 01 53.8**	**-0.6**
	baz=1.4							
H19A				S		**Sn**	**22 02 13.0**	**-0.6**
	baz=1.4							
J20A	**Shoshoni**	**1.56**	**95**	Pg		**Pn**	**22 01 56.0**	**+0.1**
	baz=1.5							
J20A				Sg		**Sn**	**22 02 16.5**	**+0.2**
	baz=1.5							
I20A	**Worland**	**1.57**	**73**	Pg		**Pn**	**22 01 55.7**	**-0.4**
	baz=1.5							
I20A				Sb		**Sn**	**22 02 15.8**	**-0.8**
	baz=1.5							
QLMT	**Earthquake Lak**	**1.57**	**327**	*e*Pn		**Pn**	**22 01 55.4**	**-0.7**
QLMT				*e*Sn		**Sn**	**22 02 16.0**	**-0.7**
BMUT	**Black Mountain**	**1.73**	**206**	*e*Pn		**Pn**	**22 01 57.1**	**-1.2**
RLMT	**Red Lodge**	**1.74**	**23**	*e*Pn		**Pn**	**22 01 58.0**	**-0.4**
RLMT				*e*Sn		**Sn**	**22 02 21.1**	**+0.3**
H20A	**Greybull**	**1.87**	**58**	Pg		**Pn**	**22 02 00.9**	**+0.8**
	baz=1.8							
H20A				Sb		**Sn**	**22 02 24.9**	**+1.1**
	baz=1.8							
MOMT	**Monida**	**1.90**	**305**	*e*Pn		**Pn**	**22 02 00.4**	**-0.2**
CRMT	**Chrome Mountai**	**1.94**	**2**	*e*Pn		**Pn**	**22 02 00.7**	**-0.6**
J21A	**Lysite**	**2.03**	**94**	Pb		**Pn**	**22 02 03.4**	**+1.1**
	baz=2.0							
J21A				Sb		**Sn**	**22 02 29.3**	**+1.5**
	baz=2.0							
MLI	**Malad Range**	**2.05**	**224**	*e*Pn		**Pn**	**22 02 02.0**	**-0.6**
HDU	**Hyde Park**	**2.06**	**214**	*e*Pn		**Pn**	**22 02 02.0**	**-0.7**
RSUT	**Red Spur Mount**	**2.08**	**206**	*e*Pn		**Pn**	**22 02 02.3**	**-0.8**
I21A	**Big Trails, Te**	**2.14**	**81**	Pb		**Pn**	**22 02 05.0**	**+1.1**
	baz=2.1							
I21A				Sb		**Sn**	**22 02 32.2**	**+1.5**
	baz=2.1							
BGMT	**Barton Gulch**	**2.15**	**323**	*e*Pn		**Pn**	**22 02 04.2**	**0.0**
HWUT	**Hardware Ranch**	**2.15**	**208**	*e*Pn		**Pn**	**22 02 04.4**	**+0.3**
HWUT				*e*Sn		**Sb**	**22 02 33.1**	**-0.9**
NPI	**North Pocatell**	**2.18**	**232**	*e*Pn		**Pn**	**22 02 04.0**	**-0.4**
G20A	**Bridger**	**2.23**	**40**	Pb		**Pn**	**22 02 05.7**	**+0.7**
	baz=2.2							
G20A				Sb		**Sn**	**22 02 34.6**	**+2.0**
	baz=2.2							
MCU	**Monte Cristo P**	**2.27**	**205**	*e*Pn		**Pn**	**22 02 05.0**	**-0.7**
HONU	**Honeyville**	**2.28**	**214**	*e*Pn		**Pn**	**22 02 06.2**	**+0.3**
MCMT	**McKenzie Canyo**	**2.30**	**306**	*e*Pn		**Pb**	**22 02 08.2**	**-1.5**
MCMT				*e*Sn		**Sb**	**22 02 38.3**	**+0.1**
WVUT	**Wellsville**	**2.30**	**215**	*e*Pn		**Pn**	**22 02 05.6**	**-0.4**
GCMT	**Greycliff**	**2.31**	**10**	*e*Pn		**Pb**	**22 02 08.9**	**-0.8**
GCMT				*e*Sn		**Sb**	**22 02 40.4**	**+2.1**
K21A	**Alcova**	**2.35**	**111**	Pb		**Pn**	**22 02 07.6**	**+0.8**
	baz=2.3							
K21A				Sb		**Sn**	**22 02 38.2**	**+2.5**
	baz=2.3							
BOZ	**Bozeman (W)**	**2.35**	**335**	*e*Pn		**Pn**	**22 02 08.1**	**+1.3**
BOZ				*e*Sn		**Sb**	**22 02 38.3**	**-1.4**
LTU	**Little Mountai**	**2.44**	**219**	*e*Pn		**Pn**	**22 02 07.7**	**-0.2**
MTUT	**Morton Thiokol**	**2.45**	**223**	*e*Pn		**Pn**	**22 02 07.9**	**-0.1**
GZU	**Grizzly Peak**	**2.46**	**212**	*e*Pn		**Pn**	**22 02 08.0**	**-0.4**
F19A	**Roth Farm, Mol**	**2.50**	**21**	Pb		**Pb**	**22 02 11.4**	**-1.6**
	baz=2.5							
F19A				Sb		**Sb**	**22 02 42.7**	**-1.3**
	baz=2.5							
DLMT	**Dillon**	**2.51**	**318**	*e*Pn		**Pb**	**22 02 11.4**	**-1.8**
DLMT				*e*Sn		**Sb**	**22 02 44.6**	**+0.4**
H21A	**Big Horn, Sher**	**2.54**	**63**	Pb		**Pn**	**22 02 11.6**	**+2.3**
	baz=2.5							
H21A				Sb		**Sb**	**22 02 44.4**	**-0.7**
	baz=2.5							
TCUT	**Toone Canyon**	**2.56**	**201**	*e*Pn		**Pn**	**22 02 09.3**	**-0.4**
TCUT				*e*Sn		**Sb**	**22 02 47.2**	**+1.5**
HVU	**Hansel Valley**	**2.56**	**228**	*e*Pn		**Pn**	**22 02 09.4**	**-0.3**
HVU				*e*Sn		**Sb**	**22 02 46.3**	**+0.5**
EPU	**East Promontor**	**2.67**	**218**	*e*Pn		**Pn**	**22 02 11.0**	**-0.1**
F20A	**Billings**	**2.72**	**32**	Pb		**Pn**	**22 02 14.4**	**+2.7**
	baz=2.7							
F20A				Sb		**Sb**	**22 02 48.6**	**-1.5**
	baz=2.7							
J22A	**Midwest**	**2.73**	**91**	Pb		**Pn**	**22 02 13.5**	**+1.6**
	baz=2.7							
J22A				Sb		**Sb**	**22 02 48.8**	**-1.5**
	baz=2.7							
I22A	**9 Mile Ranch,**	**2.73**	**81**	Pb		**Pn**	**22 02 14.6**	**+2.6**
	baz=2.7							
G21A	**Lodge Grass**	**2.75**	**51**	Pb		**Pn**	**22 02 14.3**	**+2.1**
	baz=2.7							
SPUT	**South Promonto**	**2.76**	**218**	*e*Pn		**Pn**	**22 02 09.3**	**-3.0**
SPUT				*e*Sn		**Sn**	**22 02 45.7**	**-0.1**
LRM	**Limekiln Ridge**	**2.80**	**326**	*e*Pn		**Pn**	**22 02 14.9**	**+1.9**
LRM				*e*Sn		**Sb**	**22 02 53.7**	**+1.1**
K22A	**Casper**	**2.84**	**107**	*e*Pn		**Pn**	**22 02 14.6**	**+1.2**
K22A				*e*Sn		**Sn**	**22 02 51.4**	**+3.5**
K22A	**Casper**	**2.84**	**107**	Pb		**Pn**	**22 02 14.7**	**+1.2**
	baz=2.8							
K22A				Sb		**Sb**	**22 02 51.9**	**-1.9**
	baz=2.8							
HTU	**Hoyt Peak**	**2.94**	**195**	*e*Pn		**Pn**	**22 02 14.5**	**-0.5**
H22A	**Clearmont**	**2.99**	**68**	Pb		**Pn**	**22 02 18.3**	**+2.9**
	baz=2.9							
H22A				Sb		**Sb**	**22 02 57.6**	**-0.2**
	baz=2.9							
KLJ	**Keetly**	**3.02**	**197**	*e*Pn		**Pn**	**22 02 15.6**	**-0.3**
SAIU	**Southern Antel**	**3.04**	**209**	*e*Pn		**Pn**	**22 02 16.0**	**-0.1**
CTU	**Camp Tracy**	**3.05**	**202**	*e*Pn		**Pn**	**22 02 16.5**	**+0.2**
CTU				*e*Sn		**Sb**	**22 03 01.7**	**+2.1**
HLID	**Hailey**	**3.05**	**272**	*e*Pn		**Pn**	**22 02 17.0**	**+0.6**
HLID				*e*Sn		**Sb**	**22 03 01.1**	**+1.3**
HLID	**Hailey**	**3.05**	**272**	Sb		**Sb**	**22 02 59.9**	**+0.1**
	baz=3.1							
JLU	**Jordanelle**	**3.06**	**198**	*e*Pn		**Pn**	**22 02 16.2**	**-0.3**
JLU				*e*Sn		**Sb**	**22 02 59.9**	**-0.1**
SNUT	**Stansbury Nort**	**3.13**	**214**	*e*Pn		**Pn**	**22 02 17.4**	**-0.1**
DAU	**Daniels Canyon**	**3.20**	**194**	*e*Pn		**Pn**	**22 02 18.3**	**-0.2**
DAU				*e*Sg		**Sb**	**22 03 07.4**	**+3.3**
BGU	**Big Grassy Mou**	**3.33**	**220**	*e*Pn		**Pn**	**22 02 20.2**	**0.0**
BGU				*e*Sg		**Sg**	**22 03 12.2**	**-2.6**
E20A	**Meyer Farm, Mu**	**3.33**	**26**	Sb		**Sb**	**22 03 06.7**	**-1.0**
	baz=3.3							
HRY	**Holter Researc**	**3.39**	**341**	*e*Pn		**Pn**	**22 02 22.5**	**+1.5**
HRY				*e*Sg		**Sb**	**22 03 11.9**	**+2.5**
J23A	**Dilts Ranch, B**	**3.40**	**90**	Sb		**Sb**	**22 03 09.5**	**-0.3**
	baz=3.3							
MPU	**Maple Canyon**	**3.66**	**197**	*e*Pn		**Pn**	**22 02 23.9**	**-0.8**
O20A	**White River Ci**	**3.69**	**156**	*e*Pn		**Pn**	**22 02 26.1**	**+0.9**
NLU	**North Lily Min**	**3.82**	**202**	*e*Pn		**Pn**	**22 02 26.4**	**-0.7**
DUG	**Dugway**	**3.84**	**211**	*e*Pn		**Pn**	**22 02 27.7**	**+0.4**
CHMT	**Chamberlain Mo**	**4.01**	**329**	*e*Pn		**Pn**	**22 02 32.1**	**+2.4**
CHMT				*e*Sb		**Sb**	**22 03 29.4**	**+1.9**
MFID	**Camas Ranch**	**4.08**	**270**	*e*Pn		**Pn**	**22 02 33.4**	**+2.9**
MFID				*e*Sg		**Sb**	**22 03 33.2**	**+3.7**
PHWY	**Pilot Hill**	**4.16**	**121**	*e*Pn		**Pn**	**22 02 32.8**	**+1.0**
PHWY				*e*Sn		**Sn**	**22 03 22.5**	**+1.9**
MSO	**Missoula**	**4.23**	**323**	*e*Pn		**Pn**	**22 02 35.3**	**+2.8**
MSO				*e*Sg		**Sg**	**22 03 39.4**	**-4.3**
LAO	**LASA Array**	**4.25**	**40**	*e*Pn		**Pn**	**22 02 33.9**	**+1.2**
TMUT	**Trail Mountain**	**4.28**	**190**	*e*Pn		**Pn**	**22 02 33.7**	**+0.2**
SLMT	**Seeley Lake**	**4.38**	**329**	*e*Pn		**Pn**	**22 02 35.9**	**+1.3**
SRU	**San Rafael**	**4.41**	**183**	*e*Pn		**Pn**	**22 02 35.5**	**+0.4**
RSSD	**Black Hills**	**4.51**	**80**	*e*Pn		**Pn**	**22 02 36.7**	**+0.2**
EGMT	**Eagleton**	**4.52**	**4**	*e*Pn		**Pn**	**22 02 37.5**	**+1.0**
ELK	**Elko**	**4.65**	**235**	*e*Pn		**Pn**	**22 02 38.7**	**+0.3**
ELK				Lg		Lg	22 03 53.5	
ELK	**Elko**	**4.65**	**235**	Pn		**Pn**	**22 02 40.0**	**+1.6**
	0.6nm,0.3s,baz=358,slow=8.7,SNR=13							
ELK				Lg		Lg	22 03 53.5	
	1.9nm,0.3s,baz=180,slow=20,SNR=6.3							
ELK				LR		LR	22 04 38.7	
	comp=Z,110nm,21.7s,baz=177,slow=41							
WCU	**Willow Creek**	**4.76**	**198**	*e*Pn		**Pn**	**22 02 40.2**	**+0.2**
SWMT	**Swartz Lake**	**4.79**	**328**	*e*Pn		**Pn**	**22 02 42.6**	**+2.3**
SMCO	**Snowmass**	**4.98**	**150**	*e*Pn		**Pn**	**22 02 45.5**	**+2.4**
ISCO	**Idaho Springs**	**5.07**	**136**	*e*Pn		**Pn**	**22 02 44.2**	**-0.1**
PV09	**Paradox Valley**	**5.08**	**170**	*e*Pn		**Pn**	**22 02 45.8**	**+1.4**
JTMT	**Jette**	**5.10**	**327**	*e*Pn		Pn	22 02 47.9	+3.4
PV10	**Paradox Valley**	**5.21**	**170**	*e*Pn		**Pn**	**22 02 49.3**	**+3.1**
PV04	**Paradox Valley**	**5.22**	**169**	*e*Pn		**Pn**	**22 02 46.0**	**-0.2**
BMO	**Blue Mountains**	**5.27**	**287**	*e*Pn		Pn	22 02 50.6	+3.9
BSMT	**Bassoo Peak**	**5.39**	**325**	*e*Pn		**Pn**	**22 02 47.3**	**-1.2**
PV05	**Paradox Valley**	**5.50**	**171**	*e*Pn		**Pn**	**22 02 49.1**	**-1.0**
PV01	**Paradox Valley**	**5.52**	**166**	*e*Pn		**Pn**	**22 02 50.7**	**+0.2**
F10A	**Beach Ranch, E**	**5.56**	**299**	*e*Pn		Pn	22 02 54.5	+3.6
BMN	**Battle Mountai**	**6.06**	**242**	*e*Pn		**Pn**	**22 02 55.3**	**-2.4**
WALA	**Waterton Lakes**	**6.10**	**337**	*e*Pb		Pb	22 03 18.5	+4.2
WALA				*e*Sg		**Sg**	**22 04 38.9**	**-4.8**
ARUT	**Antelope Range**	**6.23**	**204**	*e*Pn		**Pn**	**22 03 02.0**	**+2.0**
WVOR	**Wild Horse Val**	**6.27**	**263**	*e*Pn		Pn	22 03 04.9	+4.3
E09A	**Wood Farm, Sta**	**6.37**	**301**	*e*Pn		Pn	22 03 07.6	+5.9
E09A				*e*Sg		Sb	22 04 42.2	+7.3
DGMT	**Dagmar**	**6.49**	**38**	*e*Pn		**Pn**	**22 03 05.7**	**+2.2**
DGMT				*e*Sb		**Sb**	**22 04 42.7**	**+4.2**
G08A	**Pilot Rock**	**6.51**	**289**	*e*Pn		Pn	22 03 07.7	+3.9
G08A				*e*Sg		Sb	22 04 45.9	+6.8
R11A	**Troy Canyon, C**	**6.57**	**220**	*e*Pn		**Pn**	**22 03 05.2**	**+0.4**
I07A	**Izee**	**6.74**	**278**	*e*Pn		**Pn**	**22 03 06.8**	**-0.2**
NEW	**Newport**	**6.76**	**317**	*e*Pn		**Pn**	**22 03 10.3**	**+3.1**
NEW				*e*Sg		Sb	22 04 55.6	+9.3
NEW	**Newport**	**6.76**	**317**	Pn		**Pn**	**22 03 10.1**	**+2.9**
	0.4nm,0.3s,baz=130,slow=14,SNR=6.0							
NEW				Lg		Lg	22 04 57.0	
	1.5nm,0.3s,baz=50,slow=18,SNR=8.8							
SDCO	**Great Sand Dun**	**6.79**	**147**	*e*Pn		**Pn**	**22 03 10.9**	**+3.0**
C09A	**Chrisman Ranch**	**7.08**	**310**	*e*Pn		**Pn**	**22 03 11.1**	**-0.5**
C09A				*e*Sg		Sg	22 05 06.3	-8.9
D08A	**Wollman Farm,**	**7.08**	**303**	*e*Pn		**Pn**	**22 03 12.1**	**+0.5**
D08A				*e*Sg		Sb	22 05 05.2	+10
KSCO	**Kaye Shedlock'**	**7.28**	**126**	*e*Pb		Pb	22 03 08.0	+3.6
KSCO				*e*Sb		Sg	22 05 09.2	-9.2
MOD	**Modoc**	**7.60**	**261**	*e*Pb		**Pb**	**22 03 40.1**	**+0.2**
NV01	**Mina Array Sit**	**7.95**	**233**	*e*Pn		**Pn**	**22 03 26.5**	**+2.7**
NVAR	**Mina Array Bea**	**7.95**	**233**	Pn		Pn	22 03 27.4	+3.7
NVAR	**Mina Array Bea**	**7.95**	**233**	Pn		Pn	22 03 27.4	+3.7
	0.1nm,0.3s,baz=54,slow=11,SNR=17							
B08A	**Colville Reser**	**7.98**	**310**	*e*Pn		Pn	22 03 27.8	+3.8
B08A				*e*Sg		Sg	22 05 35.2	-8.8
BRSD	**Miller**	**8.18**	**80**	*e*Pb		Pb	22 03 55.1	+5.5
ANMO	**Albuquerque**	**9.04**	**160**	Pg		Pn	22 04 14.4	+36
ANMO				Lg		Lg	22 06 11.2	
ANMO	**Albuquerque**	**9.04**	**160**	Pg		Pn	22 04 14.4	+36
	0.1nm,0.3s,baz=350,slow=18,SNR=2.9							
ANMO				Lg		Lg	22 06 11.2	
	0.1nm,0.3s,baz=106,slow=19,SNR=2.5							
ULM	**Lac du Bonnet**	**11.89**	**51**	Pn		**Pn**	**22 04 17.1**	**-0.3**
ULM				Pg			22 05 00.2	
ULM				Lg		Lg	22 07 29.1	
ULM	**Lac du Bonnet**	**11.89**	**51**	Pn		**Pn**	**22 04 17.1**	**-0.3**
	0.9nm,0.3s,baz=237,slow=14,SNR=10							
ULM				Pg			22 05 00.2	
	0.4nm,0.3s,baz=235,slow=12,SNR=3.3							
ULM				Lg		Lg	22 07 29.1	
	0.2nm,0.3s,baz=143,slow=20,SNR=2.2							
YKA	**Yellowknife Ar**	**19.18**	**354**	P		**P**	**22 05 51.5**	**+0.1**
YKA	**Yellowknife Ar**	**19.18**	**354**	P		**P**	**22 05 51.5**	**+0.1**
	0.0nm,0.3s,baz=172,slow=11,SNR=9.0							
SADO	**Sadowa**	**22.27**	**76**	LR		LR	22 15 16.9	
	comp=Z,105nm,18.7s,baz=220,slow=37							
ILAR	**Eielson Array**	**29.54**	**329**	P		**P**	**22 07 33.4**	**+1.2**
ILAR	**Eielson Array**	**29.54**	**329**	P		**P**	**22 07 33.4**	**+1.2**
	0.2nm,0.6s,baz=124,slow=8.1,SNR=3.6							

IDC ***23*** *22:09:08.2±1.2, 10.°91S×163.°47E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/31, mbtmp3.9/6, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=44.2km s-min=23.7km az=137.0*

ISCJB ***23*** *22:09:11.3±0.9, 11.°2S±0.°1×163.°6E±0.°1, h31km, mb3.8/5, Error ellipse: s-maj=19.3km s-min=15.6km az=143.3*

ISC 23 22:09:13.1±1.1, 11.°0S±0.°1×163.°6E±0.°1, h31km, n14, σ0s82/8, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.92**	**294**		LR	LR	22 11 45.3	
	comp=Z,239nm,19.0s,baz=115,slow=42							
HNR	**Honiara**	**3.92**	**294**	*e*P		**Pn**	**22 10 12.0**	**+0.9**
HNR				*e*S		**Sb**	**22 11 08.0**	**-0.4**
DZM	**Mont Dzumac**	**11.31**	**166**	Pn		**Pn**	**22 11 52.7**	**0.0**
	0.6nm,0.3s,baz=336,slow=14,SNR=21							
STKA	**Stephens Creek**	**29.02**	**221**	P		**P**	**22 15 11.1**	**+0.8**
	1.0nm,0.6s,baz=64,slow=13,SNR=3.5							
WRA	**Warramunga Arr**	**29.50**	**249**	P		**P**	**22 15 14.0**	**-0.8**
	1.5nm,0.5s,baz=80,slow=9.2,SNR=36							
H11S2	**WAKE ISLAND Hy**	**29.50**	**6**	T		T	22 46 17.7	
	baz=190,slow=78,SNR=7.6							
H11S3	**WAKE ISLAND Hy**	**29.51**	**6**	T		T	22 46 17.9	
	baz=190,slow=78,SNR=6.8							
H11S1	**WAKE ISLAND Hy**	**29.52**	**6**	T		T	22 46 19.7	
	baz=190,slow=78,SNR=5.6							
H11N1	**WAKE ISLAND Hy**	**30.73**	**6**	T		T	22 47 48.4	
	baz=193,slow=76							
H11N3	**WAKE ISLAND Hy**	**30.74**	**6**	T		T	22 47 56.4	
	baz=193							
H11N2	**WAKE ISLAND Hy**	**30.75**	**6**	T		T	22 47 53.5	
	baz=193,slow=76							
ASAR	**Alice Springs**	**30.91**	**242**	P		**P**	**22 15 26.2**	**-1.0**
	1.2nm,0.6s,baz=61,slow=10,SNR=30							
ILAR	**Eielson Array**	**84.19**	**19**	P		**P**	**22 21 40.6**	**-0.4**
	0.2nm,0.5s,baz=241,slow=4.8,SNR=4.9							
NVAR	**Mina Array Bea**	**87.65**	**50**	P		**P**	**22 21 59.2**	**+0.1**
	0.6nm,0.8s,baz=239,slow=6.0,SNR=2.1							

IDC ***23*** *22:11:01.1±1.1, 23.°93S×176.°52W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/27, mbtmp3.9/6, MS3.2/7, Ms1 3.2/7, ms1mx3.1/25, Error ellipse: s-maj=53.4km s-min=22.6km az=155.0*

NEIC ***23*** *22:11:05.7±0.7, 23.°78S×176.°40W, h35km, mb4.1/4, Error ellipse: s-maj=24.5km s-min=14.4km az=144.0*

ISC 23 22:11:06.1±0.6, 24.°00S±0.°10×176.°4W±0.°1, h35km, n40, σ1s54/32, mb3.9/7, MS3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.41**	**194**		LR	LR	22 13 24.3	
	comp=Z,114nm,22.0s,baz=3.5,slow=26							
AFI	**Afiamalu**	**10.93**	**24**	Pn		Pn	22 13 34.0	-6.2
AFI				Sn		Sn	22 15 22.1	-19
AFI	**Afiamalu**	**10.93**	**24**	Pn		Pn	22 13 34.0	-6.2
	4.3nm,0.3s,baz=21,slow=7.3,SNR=3.6							
AFI				Sn		Sn	22 15 22.1	-19
	4.2nm,0.3s,baz=36,slow=17,SNR=2.6							
AFI				LR		LR	22 17 20.5	
	comp=Z,76nm,20.4s,baz=214,slow=35							
URZ	**Urewera**	**15.27**	**200**	*e*Pn		**Pn**	**22 14 39.8**	**+0.8**
	3.9nm,0.4s							
URZ				*e*Sn		**Sn**	**22 17 27.4**	**+0.5**
URZ	**Urewera**	**15.27**	**200**	Pn		**P**	**22 14 45.4**	**+2.0**
	1.3nm,0.3s,baz=277,slow=4.0,SNR=9.2							
URZ				Sn		**Sn**	**22 17 24.7**	**-2.2**
	0.6nm,0.3s,baz=301,slow=19,SNR=3.0							
RAR	**Rarotonga**	**15.58**	**83**	*e*Pn		**Pn**	**22 14 41.5**	**-1.6**
	19nm,0.5s							
RAR				Sn		Sn	22 17 13.6	-21
RAR	**Rarotonga**	**15.58**	**83**	Pn		**Pn**	**22 14 40.3**	**-2.8**
	3.6nm,0.3s,baz=254,slow=12,SNR=7.3							
RAR				Sn		Sn	22 17 13.6	-21
	1.4nm,0.3s,baz=76,slow=18,SNR=5.0							
DZM	**Mont Dzumac**	**15.94**	**273**	LR		LR	22 19 00.2	
	comp=Z,29nm,19.1s,baz=218,slow=30							
CTA	**Charters Tower**	**34.80**	**269**	P		**P**	**22 17 53.3**	**-0.4**
CTA	**Charters Tower**	**34.80**	**269**	P		**P**	**22 17 53.3**	**-0.4**
	4.1nm,0.4s,baz=94,slow=12,SNR=1.8							
STKA	**Stephens Creek**	**37.77**	**248**	*e*P		**P**	**22 18 18.6**	**-0.3**
	0.2nm,0.5s							
STKA	**Stephens Creek**	**37.77**	**248**	P		**P**	**22 18 18.2**	**-0.7**
	0.7nm,0.4s,baz=85,slow=9.6,SNR=3.3							
ASAR	**Alice Springs**	**45.29**	**260**	P		**P**	**22 19 19.2**	**-1.5**
ASAR	**Alice Springs**	**45.29**	**260**	P		**P**	**22 19 19.2**	**-1.5**
	1.5nm,0.9s,baz=96,slow=9.0,SNR=9.6							
WRAB	**Tennant Creek**	**45.70**	**265**	*e*P		**P**	**22 19 22.3**	**-1.7**
	1.6nm,0.4s							
WRA	**Warramunga Arr**	**45.71**	**265**	P		**P**	**22 19 22.9**	**-1.2**
WRA	**Warramunga Arr**	**45.71**	**265**	P		**P**	**22 19 22.9**	**-1.2**
	0.8nm,0.5s,baz=95,slow=8.4,SNR=27							
FX1	**Attu Island--F**	**77.09**	**354**	LR		LR	22 51 42.3	
	comp=Z,49nm,19.6s,baz=136,slow=32							
MAW	**Mawson**	**78.80**	**200**	LR		LR	22 55 22.1	
	comp=Z,42nm,21.1s,baz=122,slow=34							
PETK	**Petropavlovsk-**	**80.03**	**344**	LR		LR	22 56 23.4	
	comp=Z,22nm,18.7s,baz=114,slow=34							
KSRS	**Korea Array**	**80.49**	**318**	LR		LR	22 53 59.7	
	comp=Z

comp=Z,97nm,1.6s
COEN Coen 25.85 278 *e*P P 22 46 16.1 +1.0
comp=Z,2µm,2.5s
DCZ Deep Cove 26.09 184 *e*P P 22 46 16.9 +0.2
comp=Z,16nm,0.8s
WHZ Wether Hill Ro 26.46 183 *e*P P 22 46 19.9 -0.3
comp=Z,338nm,2.5s
TOO Toolamgi 27.73 224 P P 22 46 32.4 +0.8
baz=28,SNR=12
STKA Stephens Creek 28.04 238 *e*P P 22 46 35.2 +0.9
comp=Z,2.4nm,0.6s
STKA PcP **PcP** 22 49 41.7 -0.2
STKA Stephens Creek 28.04 238 P P 22 46 35.1 +0.9
comp=Z,12nm,0.6s,baz=61,slow=8.1,SNR=40
STKA PcP **PcP** 22 49 41.7 -0.2
comp=Z,3.6nm,0.6s,baz=80,slow=3.2,SNR=6.7
STKA Stephens Creek 28.04 238 P P 22 46 35.2 +0.9
baz=29,SNR=25
MOO Moorlands 29.77 215 P P 22 46 50.5 +1.0
baz=30,SNR=6.4
ARPS Mount Arapiles 29.82 229 P P 22 46 50.9 +0.9
baz=30,SNR=11
HTT Hallett 30.68 237 P P 22 46 58.4 +0.7
baz=31,SNR=7.2
BBOO Buckleboo 32.78 239 *e*P P 22 47 16.0 0.0
comp=Z,190nm,1.4s
BBOO Buckleboo 32.78 239 P P 22 47 16.3 +0.3
baz=33,SNR=19
WRA Warramunga Arr 33.16 263 P P 22 47 18.6 -0.7
WRA pP **pP** 22 48 07.7 -3.8
WRA PcP **PcP** 22 49 55.4 -0.4
WRA Warramunga Arr 33.16 263 P P 22 47 18.6 -0.7
comp=Z,0.8nm,0.3s,baz=94,slow=8.5,SNR=69
WRA pP **pP** 22 48 07.7 -3.8
comp=Z,0.4nm,0.4s,baz=62,slow=7.0,SNR=2.5
WRA PcP **PcP** 22 49 55.4 -0.4
comp=Z,2.5nm,0.7s,baz=92,slow=3.3,SNR=11
AS01 Alice Springs 33.36 256 *e*P P 22 47 20.9 -0.2
ASAR Alice Springs 33.41 256 P P 22 47 21.5 0.0
ASAR pP **pP** 22 48 11.6 -2.1
ASAR PcP **PcP** 22 49 55.5 -0.9
ASAR ScP **ScP** 22 53 15.8 +0.1
ASAR Alice Springs 33.41 256 P P 22 47 21.5 0.0
comp=Z,6.1nm,0.5s,baz=85,slow=9.2,SNR=102
ASAR pP **pP** 22 48 11.6 -2.1
comp=Z,3.1nm,0.7s,baz=84,slow=8.9,SNR=2.2
ASAR PcP **PcP** 22 49 55.5 -0.9
comp=Z,1.9nm,0.7s,baz=99,slow=2.9,SNR=10.0
ASAR ScP **ScP** 22 53 15.8 +0.1
comp=Z,0.8nm,0.9s,baz=112,slow=3.2,SNR=4.8
KDU Kakadu 36.23 275 P P 22 47 45.8 +0.3
baz=37,SNR=3.8
MTN Manton Dam 37.45 274 P P 22 47 55.2 -0.6
baz=38,SNR=5.7
WRKA Warakurna 38.52 254 P P 22 48 04.8 +0.1
baz=39,SNR=16
PPT Papeete 38.72 94 *e*P P 22 48 06.8 +0.4
KNRA Kununurra 39.04 269 P P 22 48 09.0 0.0
baz=39,SNR=4.9
FORT Forrest 39.08 245 *e*P P 22 48 08.3 -0.8
comp=Z,325nm,2.7s
MEEK Meekatharra 47.21 251 P P 22 49 14.1 -0.1
baz=48,SNR=20
WSI Waingapu 48.53 274 P P 22 49 21.6 -2.8
baz=49,SNR=3.5
BLDU Ballidu 48.82 246 P P 22 49 26.0 -0.3
baz=49,SNR=5.9
MORW Morawa 49.41 248 P P 22 49 30.7 -0.1
baz=50,SNR=4.2
VNDA Vanda 58.29 182 *e*P P 22 50 33.8 -0.2
comp=Z,181nm,3.0s
VNDA Vanda 58.29 182 P P 22 50 33.8 -0.2
comp=Z,4.4nm,0.6s,baz=1.3,slow=8.5,SNR=22
SBA Scott Base 58.51 181 *e*P P 22 50 36.4 +0.8
comp=Z,149nm,1.6s
CASY Casey 60.11 204 *e*P P 22 50 46.1 -0.5
comp=Z,11nm,0.7s
MJAR Matsushiro Arr 63.04 332 P P 22 51 06.7 +0.2
MJAR Matsushiro Arr 63.04 332 P P 22 51 06.7 +0.2
comp=Z,3.5nm,0.9s,baz=166,slow=7.8,SNR=5.0
NJ2 Nanjing 70.55 316 *e*P P 22 51 54.3 +0.5
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
QSPA South Pole Qui 70.66 180 *e*P P 22 51 53.5 -0.6
comp=Z,16nm,1.0s
FX1 Attu Island--F 72.04 2 *e*P P 22 52 02.6 +0.3
FX1 Attu Island--F 72.04 2 P P 22 52 02.3 +0.1
comp=Z,15nm,0.6s,baz=220,slow=5.1,SNR=7.2
PETK Petropavlovsk- 72.93 353 P P 22 52 08.2 +0.7
PETK Petropavlovsk- 72.93 353 P P 22 52 08.2 +0.7
comp=Z,3.6nm,0.9s,baz=161,slow=7.8,SNR=5.0
MDJ Mudanjiang 73.42 331 P P 22 52 11.8 +1.3
MDJ pP pP 22 53 26.9 +15
MDJ sP sP 22 54 01.5 +22
MDJ S **S** **23 01 16.3 -1.3**
MDJ sS sS 23 03 27.6 +23
MDJ pmax pmax
comp=Z,6.0nm,1.6s
MDJ pmax pmax
comp=Z,81nm,4.5s
UNV Unalaska Valle 75.80 14 *e*P P 22 52 23.4 -0.5
comp=Z,172nm,1.8s
GYA Guiyang 76.17 305 P P 22 52 27.9 +1.0
GYA pP pP 22 53 44.3 +16
GYA sP sP 22 54 19.4 +23
GYA PP **PP** **22 55 26.0 +3.9**
GYA S **S** **23 01 44.8 -4.3**
GYA SKS SKSac 23 02 03.0 -10
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
BJI Beijing 77.26 321 P P 22 52 33.6 +1.2
BJI pmax pmax
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 78.86 294 P P 22 52 43.6 +1.9
CMAR pP **pP** **22 53 43.8 +0.2**
CMAR Chiang Mai Arr 78.86 294 P P 22 52 43.6 +1.9
comp=Z,0.6nm,0.4s,baz=130,slow=3.5,SNR=7.6
CMAR pP **pP** **22 53 43.8 +0.2**
comp=Z,0.4nm,0.4s,baz=139,slow=4.3,SNR=1.4
HHC Hu-ho-hao-te 80.55 319 *e*P P 22 52 49.9 -0.5
HHC pP pP 22 54 07.4 +15
HHC sP sP 22 54 43.3 +23
HHC PP **PP** **22 56 00.1 +1.9**
HHC S S 23 02 28.1 -6.8
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,290nm,7.5s
CD2 Chengdu 80.59 307 *e*P P 22 52 50.8 +0.1
WDC Whiskeytown Da 86.74 45 *e*P P 22 53 22.8 +1.2
comp=Z,129nm,2.6s
N02D Trinity Center 86.82 45 P P 22 53 23.5 +1.4
baz=87
M02C Callahan 86.93 44 P P 22 53 23.9 +1.3
baz=87
VES Vestal, Richgr 86.96 50 P P 22 53 23.1 +0.4
baz=87
CMB Columbia Colle 87.02 48 *e*P P 22 53 23.1 +0.1
comp=Z,7.6nm,0.9s
YBH Yreka Blue Hor 87.19 44 P P 22 53 24.4 +0.6
YBH Yreka Blue Hor 87.19 44 P P 22 53 24.4 +0.6
comp=Z,3.4nm,0.7s,baz=207,slow=2.3,SNR=11
BFSC Mount Baldy Ra 87.31 52 P P 22 53 25.1 +0.5
baz=88
EDW2 Edwards Air Fo 87.34 52 P P 22 53 25.5 +0.8
baz=88
GTA Gaotai 87.47 313 *e*P P 22 53 26.5 +1.3
SONM Songino Array 87.54 323 P P 22 53 26.2 +0.9
SONM pP **pP** **22 54 28.3 -0.3**
SONM Songino Array 87.54 323 P P 22 53 26.2 +0.9
comp=Z,1.4nm,0.8s,baz=118,slow=5.2,SNR=5.5
SONM pP **pP** **22 54 28.3 -0.3**
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=4.2
MONP Monument Peak 87.68 54 P P 22 53 26.9 +0.4
baz=88
I03D Drain, OR 87.74 42 P P 22 53 27.1 +0.9
baz=88
M04C Macdoel 87.78 44 P P 22 53 27.6 +1.0
baz=88
LRMC Laurel Mountai 87.82 51 P P 22 53 27.7 +0.7
baz=88
WAKR Walker 87.90 48 *e*P P 22 53 28.4 +1.0
CWC Cottonwood Cre 87.95 50 P P 22 53 28.5 +0.9
baz=88
J04D Umpqua Nationa 88.30 43 P P 22 53 30.2 +1.0
baz=88
I04A Tendick Farm, 88.38 42 P P 22 53 29.9 +0.6
baz=89
BELC Belle Mtn. Jos 88.46 53 P P 22 53 30.7 +0.7
baz=89
HEC Hector,Ludlow 88.56 52 P P 22 53 31.0 +0.6
baz=89
NV01 Mina Array Sit 88.66 48 *e*P P 22 53 30.4 -0.6
NVAR Mina Array Bea 88.66 48 P P 22 53 31.6 +0.6
NVAR Mina Array Bea 88.66 48 P P 22 53 31.6 +0.6
comp=Z,3.1nm,0.7s,baz=233,slow=7.5,SNR=21
K05A Summer Lake 88.84 44 *e*P P 22 53 32.3 +0.6
comp=Z,335nm,2.9s
MOD Modoc 88.85 45 *e*P P 22 53 30.9 -0.8
FURC Furnace Creek, 88.85 51 P P 22 53 32.4 +0.8
baz=89
J05D Fort Rock, OR 88.89 43 P P 22 53 32.7 +0.9
baz=89
H04A Detroit Lake 88.95 41 *e*P P 22 53 31.1 -0.8
GLA Glamis 88.96 54 P P 22 53 33.5 +1.2
baz=89
SNAA Sanae 89.02 182 *e*P P 22 53 30.6 -1.4
comp=Z,12nm,0.6s
SHOC Shoshone 89.04 51 P P 22 53 33.2 +0.6
baz=89
TUQ Turquoise Moun 89.11 52 P P 22 53 33.7 +0.6
baz=89
IRM Iron Mountain 89.17 53 P P 22 53 33.9 +0.7
baz=89
TPH Tonopah 89.28 49 *e*P P 22 53 32.9 -1.0
comp=Z,19nm,1.5s
I05D Terrebonne, OR 89.31 42 P P 22 53 34.6 +0.9
baz=90
PINOR Pine Mountain 89.36 43 *e*P P 22 53 35.2 +1.4
comp=Z,12nm,0.7s
G05D Wamic, OR 89.75 41 P P 22 53 36.8 +1.1
baz=90
PDMCI Parker Dam,Lak 89.99 54 P P 22 53 37.9 +0.9
baz=90
214A Organ Pipe Nat 90.09 56 P P 22 53 38.5 +0.9
baz=90
BMN Battle Mountai 90.28 47 *e*P P 22 53 39.0 +0.6
comp=Z,5.8nm,1.0s
ILAR Eielson Array 90.28 17 P P 22 53 35.9 -1.7
ILAR Eielson Array 90.28 17 P P 22 53 35.9 -1.7
comp=Z,1.5nm,0.7s,baz=237,slow=5.2,SNR=22
IL1 Eielson Array 90.28 17 *e*P P 22 53 35.8 -1.9
I07A Izee 90.37 43 *e*P P 22 53 39.1 +0.4
comp=Z,109nm,2.8s
W13A Hualapai Mount 90.50 53 P P 22 53 40.3 +0.6
baz=91
Z14A Wintersburg 90.53 55 P P 22 53 40.3 +0.8
baz=91
R11A Troy Canyon, C 90.56 49 *e*P P 22 53 40.1 +0.3
comp=Z,3.3nm,0.8s
R11A Troy Canyon, C 90.56 49 P P 22 53 40.2 +0.4
baz=91
Y14A Wickenburg 90.71 54 P P 22 53 41.3 +0.8
baz=91
G08A Pilot Rock 91.26 42 *e*P P 22 53 42.6 -0.1
comp=Z,6.2nm,0.8s
COLD Coldfoot 91.34 15 *e*P P 22 53 42.4 -0.1
comp=Z,64nm,3.0s
TUC Tucson 91.82 56 *e*P P 22 53 45.1 -0.5
comp=Z,6.3nm,1.0s
CCUT Cedar City 91.85 51 *e*P P 22 53 46.0 +0.2
comp=Z,3.3nm,0.9s
EGAK Eagle 91.97 19 *e*P P 22 53 44.8 -0.6
comp=Z,21nm,1.8s
DLBC Dease Lake 92.03 27 P P 22 53 46.5 +0.6
DLBC Dease Lake 92.03 27 P P 22 53 46.5 +0.6
comp=Z,4.0nm,0.9s,baz=288,slow=8.6,SNR=4.9
X16A Lo Mia Camp, P 92.09 54 P P 22 53 47.9 +0.9
baz=92
319A Douglas 92.67 58 P P 22 53 50.3 +0.7
baz=93
HLID Hailey 93.48 45 P P 22 53 53.9 +0.8
baz=94
HVU Hansel Valley 93.90 47 *e*P P 22 53 54.6 -0.5
comp=Z,48nm,2.5s
Z22A Elephant Butte 95.16 57 P P 22 54 01.6 +0.5
baz=95
PDAR Pinedale Array 96.48 47 P P 22 54 06.3 -0.7
PDAR Pinedale Array 96.48 47 P P 22 54 06.3 -0.7
comp=Z,0.5nm,0.7s,baz=245,slow=1.9,SNR=4.1
TXAR Lajitas Array 96.56 61 P P 22 54 07.5 +0.1
TXAR Lajitas Array 96.56 61 P P 22 54 07.5 +0.1
comp=Z,0.7nm,0.7s,baz=259,slow=4.3,SNR=5.5
WMQ Urumqi 97.55 314 P P 22 54 11.3 -0.2
WMQ pmax pmax
comp=Z,9.0nm,0.6s
WMQ pmax pmax
comp=Z,86nm,8.4s
WMQ LR LR
comp=Z,12nm,17.5s
WMQ LR LR
comp=Z,13nm,16.2s
WMQ LR LR
comp=Z,18nm,18.0s
YKA Yellowknife Ar 100.66 27 P **Pdif** 22 54 24.0 -0.7
YKA Yellowknife Ar 100.66 27 P **Pdif** 22 54 24.0 -0.7
comp=Z,0.3nm,0.4s,baz=256,slow=4.7,SNR=12
MKAR Makanchi Array 102.08 315 P **Pdif** 22 54 33.2 +1.7
MKAR PKiKP **PKiKP** 22 58 51.4 -1.1
MKAR Makanchi Array 102.08 315 P **Pdif** 22 54 33.2 +1.7
comp=Z,0.5nm,0.7s,baz=90,slow=5.8,SNR=6.4
MKAR PKiKP **PKiKP** 22 58 51.4 -1.1
comp=Z,0.2nm,0.4s,baz=37,slow=1.9,SNR=4.7
BOSA Boshof 121.13 217 PKP **PKPdf** 22 59 28.4 -0.9
BOSA Boshof 121.13 217 PKP **PKPdf** 22 59 28.4 -0.9
comp=Z,1.1nm,0.5s,baz=154,slow=2.4,SNR=8.3
ARCES ARCESS Array B 125.30 345 PKP **PKPdf** 22 59 34.9 -1.0
ARCES ARCESS Array B 125.30 345 PKP **PKPdf** 22 59 34.8 -1.0
comp=Z,1.3nm,0.4s,baz=66,slow=2.3,SNR=24
FINES FINESS Array B 130.85 338 PKPpre PKPpre 22 59 39.8
FINES FINESS Array B 130.85 338 PKiKP PKPpre 22 59 39.8
comp=Z,1.2nm,0.8s,baz=72,slow=4.5,SNR=4.8
NB2 NORSAR Subarra 135.68 345 PKPdf **PKPdf** 22 59 56.1 +0.3
comp=Z,2.0nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 135.68 345 PKP **PKPdf** 22 59 55.5 -0.3
NOA NORSAR Array B 135.68 345 PKP **PKPdf** 22 59 55.5 -0.3
comp=Z,0.9nm,0.7s,baz=38,slow=2.2,SNR=4.4
AKASG Malin Array Be 135.81 324 PKP **PKPdf** 22 59 55.2 -1.0
AKASG Malin Array Be 135.81 324 PKP **PKPdf** 22 59 55.2 -1.0
comp=Z,1.1nm,0.4s,baz=48,slow=2.5,SNR=7.9
BRTR Keskin Array B 137.16 308 PKP **PKPdf** 23 00 00.3 +1.0
BRTR Keskin Array B 137.16 308 PKP **PKPdf** 23 00 00.3 +1.0
comp=Z,1.0nm,0.7s,baz=119,slow=2.4,SNR=7.0
DPC Dobruska-Polom 142.52 332 *e*PKP **PKPdf** 23 00 05.7 -2.9
BRG Berggiesshubel 143.15 334 *e*PKPbc PKPab 23 00 06.6 +0.8
PRU Pruhonice 143.56 333 *e*PKP PKPab 23 00 07.8 +0.3
CLZ Clausthal 143.75 338 *e*PKPbc PKPab 23 00 08.6 +0.4
NEUB Neuenburg 143.75 336 *e*PKPbc PKPbc 23 00 08.8 -0.2
TANN Tannenbergstha 144.11 335 *e*PKPbc **PKPab** **23 00 09.8 +0.1**
WERD Werda 144.14 335 *e*PKPbc **PKPab** **23 00 10.1 +0.3**
PLN Plauen 144.17 335 *e*PKPbc **PKPab** **23 00 10.2 +0.3**
GUNZ Gunzen 144.20 335 *e*PKPbc **PKPab** **23 00 10.2 +0.2**
IBBN Ibbenburen 144.22 341 *e*PKPbc **PKPab** **23 00 09.9 0.0**
WERN Wernitzgruen 144.24 335 *e*PKPbc **PKPab** **23 00 10.5 +0.3**
ROHR Rohrbach 144.31 335 *e*PKPbc **PKPab** **23 00 10.7 +0.3**
CONA Conrad Observa 144.44 329 *i*PKPdf PKPbc 23 00 11.6 +0.3
comp=Z,7.7nm,0.7s,SNR=5.1
RCBR Riachuelo 144.53 132 *e*PKPbc **PKPab** **23 00 10.8 -1.6**
KHC Kasperske Hory 144.62 333 *e*PKP **PKPab** **23 00 11.6 -0.1**
ROTZ Rotzenmuhle 144.71 334 *e*PKPbc PKPbc 23 00 12.1 +0.2
GEC2 GERESS Array S 144.78 332 *e*PKPbc PKPbc 23 00 11.8 -0.5
GEC2 GERESS Array S 144.78 332 *e*PKPbc PKPbc 23 00 12.0 -0.3
GERES GERESS Array B 144.78 332 PKP PKPbc 23 00 12.1 -0.2
GERES GERESS Array B 144.78 332 PKP PKPbc 23 00 12.1 -0.2
comp=Z,2.8nm,0.6s,baz=35,slow=3.2,SNR=40
ARSA Arzberg 145.08 329 *i*PKPdf **PKPdf** **23 00 13.1 0.0**
comp=Z,6.6nm,1.1s
MOA Moln 145.25 330 *i*PKPab **PKPdf** **23 00 13.3 -0.1**
comp=Z,6.2nm,0.6s
RJOB Jochberg 146.01 332 *e*PKPbc **PKPbc** **23 00 15.7 -0.3**
MOTA Moosalm 147.06 333 *i*PKPbc **PKPbc** **23 00 18.4 -0.7**
comp=Z,9.8nm,0.9s,SNR=7.9
BFO Black Forest 147.39 337 *e*PKPbc **PKPbc** **23 00 19.1 -0.7**
FETA Feichten 147.47 333 *i* PKPbc **PKPbc** **23 00 20.1 -0.1**
comp=Z,10nm,0.9s,SNR=5.4
FUORN Ofenpass-Fuorn 147.98 333 *e*PKPbc **PKPbc** **23 00 21.6 -0.2**
TIP Timpagrande 149.36 316 *e*PKPbc **PKPbc** **23 00 25.0 -0.2**
BNI Bardonecchia 150.74 335 *e*PKPbc **PKPbc** **23 00 27.7 -0.7**
TOA0 Torodi Ar. Sit 166.82 244 *e*PKPdf **PKPdf** **23 00 40.1 -1.9**
TOA0 *e*PKPab **PKPab** **23 01 45.7 -1.0**
TORD Torodi Ar. Bea 166.82 244 PKP **PKPdf** **23 00 40.6 -1.4**
TORD PKPab **PKPab** **23 01 46.4 -0.3**
TORD Torodi Ar. Bea 166.82 244 PKP **PKPdf** **23 00 40.6 -1.4**
comp=Z,0.9nm,0.8s,baz=109,slow=1.3,SNR=8.1
TORD PKPab **PKPab** **23 01 46.4 -0.3**
comp=Z,1.1nm,0.5s,baz=105,slow=5.0,SNR=14

TRN 23 22:58:21.9, 15.08N×60.51W, h42km, MD3.5, M2.4(FDF), 2C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BVM	**Bellevue**	**0.64**	**237**	*e*P		Pn		22 58 36.2	+1.6
MVM	**Montagne Vaucl**	**0.64**	**215**	↓*e*P		Pn		22 58 35.7	+1.0
LPMF	**Morne Lapointe**	**0.67**	**221**	↑*e*P		Pn		22 58 35.8	+0.8
FDF	**Fort de France**	**0.71**	**241**	*e*P		Pn		22 58 37.0	+1.5
FDF				*e*S		Sn		22 58 47.9	+2.5
ZAM	**Aeronautique**	**0.71**	**225**	↑*e*P		Pn		22 58 36.6	+1.0
TRMF	**Trois Ilets**	**0.75**	**224**	*e*P		Pn		22 58 37.2	+1.1
BIM	**Bigot**	**0.78**	**224**	*e*P		Pn		22 58 37.7	+1.1
BIM				*e*S		Sn		22 58 49.0	+1.9
DEG	**La Desirade**	**1.33**	**337**	*e*P		Pn		22 58 43.8	-0.3
SLB	**Belfond**	**1.35**	**202**	↓*i*P		Pn		22 58 46.0	+1.7
SLB				*e*S		Sn		22 59 02.5	+1.4
MCLT	**Moule a Chique**	**1.43**	**197**	*e*P		Pn		22 58 46.3	+0.9
MCLT				*e*S		Sn		22 59 04.9	+2.0
HMG	**Houelmont**	**1.45**	**308**	*e*P		Pn		22 58 46.7	+1.0
ECG	**Echelle**	**1.46**	**311**	*e*P		Pn		22 58 47.1	+1.2
LKG	**Breislack**	**1.46**	**311**	*e*P		Pn		22 58 47.3	+1.3
LKG				*e*S		Sn		22 59 05.7	+1.6
TAG	**Tarade**	**1.46**	**311**	*e*P		Pn		22 58 47.2	+1.2
FNG	**Fond-Bernard**	**1.49**	**311**	*e*P		Pn		22 58 47.1	+0.8
SSG	**Sans Toucher**	**1.50**	**312**	*e*P		Pn		22 58 47.6	+1.0
MLG	**Mont-d'or**	**1.51**	**310**	*e*P		Pn		22 58 47.5	+0.9
SSV	**Crater Summit**	**1.87**	**201**	*e*P		Pn		22 58 53.2	+1.7
SSV				*e*S		Sn		22 59 16.1	+2.1
SVV	**Soufriere Volc**	**1.88**	**201**	*e*P		Pn		22 58 53.8	+2.2
SVV				*e*S		Sn		22 59 17.5	+3.3
SVB	**Belmont**	**1.94**	**202**	*e*P		Pn		22 58 53.7	+1.3
SVB				*e*S		Sn		22 59 17.8	+2.2
FCV	**Fort Charlotte**	**2.04**	**200**	*e*P		Pn		22 58 55.4	+1.5
FCV				*e*S		Sn		22 59 18.7	+0.6

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*IDC **23** 23:13:24.7±1.7, 23.54S×178.26W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/22, mbtmp4.2/4, Error ellipse: s-maj=63.4km s-min=40.2km az=166.0*

ISC 23 23:13:30.1±1.7, 23.6S±0.4×178.2W±0.3, h35km, n16, σ1s26/15, mb4.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**34.07**	**257**	P		P		**23 20 12.4**	**+1.0**
	baz=29,SNR=4.5								
STKA	**Stephens Creek**	**36.36**	**248**	P		P		**23 20 31.2**	**+0.1**
	1.3nm,0.5s,baz=96,slow=9.6,SNR=7.6								
STKA	**Stephens Creek**	**36.36**	**248**	P		P		**23 20 31.4**	**+0.3**
	baz=32,SNR=5.7								
ARPS	**Mount Arapiles**	**36.70**	**240**	P		P		23 20 39.0	+5.2
	baz=32,SNR=6.2								
HTT	**Hallett**	**38.70**	**245**	P		P		**23 20 52.8**	**+2.0**
	baz=34,SNR=3.5								
ASAR	**Alice Springs**	**43.71**	**260**	P		P		**23 21 31.1**	**-1.0**
	2.3nm,0.8s,baz=95,slow=7.6,SNR=22								
WRA	**Warramunga Arr**	**44.07**	**265**	P		P		**23 21 34.0**	**-1.1**
	3.7nm,0.3s,baz=104,slow=8.2,SNR=125								
KDU	**Kakadu**	**47.90**	**274**	P		P		**23 22 04.5**	**-0.8**
	baz=43,SNR=4.8								
WRKA	**Warakurna**	**48.51**	**257**	P		P		**23 22 07.9**	**-2.1**
	baz=43,SNR=7.4								
MTN	**Manton Dam**	**49.07**	**273**	P		P		**23 22 13.3**	**-1.0**
	baz=44,SNR=3.3								
KNRA	**Kununurra**	**50.33**	**269**	P		P		**23 22 23.0**	**-0.9**
	baz=45,SNR=5.6								
WSI	**Waingapu**	**60.13**	**272**	P		P		**23 23 36.1**	**+1.6**
	baz=55,SNR=4.6								
CMAR	**Chiang Mai Arr**	**90.96**	**290**	P		P		**23 26 30.9**	**-0.1**
	0.6nm,0.4s,baz=156,slow=3.4,SNR=5.0								
ARCES	**ARCESS Array B**	**131.90**	**349**	PKP		**PKPdf**		**23 32 40.2**	**+1.2**
	1.3nm,0.7s,baz=35,slow=3.3,SNR=3.5								
BRTR	**Keskin Array B**	**148.68**	**308**	PKPbc		**PKPbc**		**23 33 12.9**	**-1.1**
	0.6nm,0.8s,baz=62,slow=2.2,SNR=3.7								
TORD	**Torodi Ar. Bea**	**169.62**	**179**	PKPab		**PKPab**		**23 34 47.6**	**-0.5**
	0.4nm,0.6s,baz=170,slow=4.1,SNR=4.6								

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*DDA **23** 23:19:03.9, 37.08N×28.56E, h7km, MD2.7*
*ISCJB **23** 23:19:04.5±0.8, 37.24N±0.04×28.46E±0.07, h14km, Error ellipse: s-maj=7.8km s-min=6.2km az=18.3*
*CSEM **23** 23:19:04.6±0.5, 37.24N×28.52E, h10km, MD2.7, Error ellipse: s-maj=11.2km s-min=9.7km az=136.0*

ISC 23 23:19:02.9±1.0, 37.16N±0.06×28.53E±0.05, h14km, n10, σ0s91/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**264**	*e*PG		**Pb**		**23 19 09.9**	**+1.5**
YER	**Yerkesik**	**0.20**	**264**	*e*Pg		**Pb**		**23 19 09.9**	**+1.5**
TURN	**Turunc**	**0.29**	**168**	*i* P		**Pn**		**23 19 11.7**	**-1.1**
TURN				*i* S		**Sn**		**23 19 18.3**	**-0.6**
TURN	**Turunc**	**0.29**	**168**	*i* P		**Pn**		**23 19 11.7**	**-1.1**
TURN				*i* S		**Sn**		**23 19 18.3**	**-0.6**
DNZL	**Cakiroluk**	**0.68**	**38**	*i* P		**Pb**		**23 19 17.6**	**+1.0**
DNZL				*i* S		**Sb**		**23 19 26.5**	**+0.6**
DNZL	**Cakiroluk**	**0.68**	**38**	*i* P		**Pb**		**23 19 17.6**	**+1.0**
DNZL				*i* S		**Sb**		**23 19 26.5**	**+0.6**
GOLH	**Golhisar**	**0.83**	**84**	*i* P		**Pg**		**23 19 19.2**	**+0.1**
GOLH				*i* S		**Sn**		**23 19 32.5**	**0.0**
GOLH	**Golhisar**	**0.83**	**84**	*i* P		**Pg**		**23 19 19.2**	**+0.1**
GOLH				*i* S		**Sn**		**23 19 32.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**328**	*e*PG		**Pb**		**23 19 20.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**328**	*e*Pg		**Pb**		**23 19 20.6**	**-0.5**

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*NSSC **23** 23:52:41.9±1.9, 36.36N×35.51E, h2km±11km, ML2.6*
*CSEM **23** 23:52:43.9±0.2, 36.33N×35.60E, h2km, MD3.3, Error ellipse: s-maj=5.0km s-min=3.8km az=42.0*
*ISK **23** 23:52:44.0, 36.41N×35.57E, h3km, MD3.3*
*DDA **23** 23:52:45.6, 36.38N×35.54E, h16km, MD3.7*

ISC 23 23:52:43.9±1.1, 36.33N±0.02×35.60E±0.02, h6km±10km, n50, σ1s02/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARNB	**Al Arnab**	**0.56**	**147**	*e*P		**Pg**		**23 52 54.2**	**-0.4**
ARNB				*e*S		**Sg**		**23 53 02.9**	**+1.1**
ARNB				AML		AML		23 53 06.3	
	comp=N,351nm,0.6s								
ARNB				AML		AML		23 53 07.3	
	comp=E,384nm,0.4s								
ARNB				AML		AML		23 53 10.0	
	comp=Z,193nm,0.6s								
ARNB	**Al Arnab**	**0.56**	**147**	*e*P		**Pg**		**23 52 54.2**	**-0.4**
	SNR=75								
ARNB				*e*S		**Sg**		**23 53 02.9**	**+1.1**
	comp=Z,193nm,0.6s,SNR=59								
CEYT	**Ceyhan**	**0.69**	**10**	*e*PG		**Pg**		**23 52 57.1**	**-0.1**
CEYT				*e*SG		**Sg**		**23 53 06.1**	**0.0**
CEYT	**Ceyhan**	**0.69**	**10**	*e*Pg		**Pg**		**23 52 57.1**	**-0.1**
CEYT				*e*Sg		**Sg**		**23 53 06.1**	**0.0**
BTCH	**Batrach**	**0.75**	**112**	*e*P		**Pg**		**23 52 58.4**	**0.0**
BTCH				*e*S		**Sg**		**23 53 08.9**	**+0.8**
BTCH				AML		AML		23 53 12.1	
	comp=N,685nm,0.5s								
BTCH				AML		AML		23 53 12.7	
	comp=Z,404nm,0.5s								
BTCH				AML		AML		23 53 15.1	
	comp=E,614nm,0.3s								
BTCH	**Batrach**	**0.75**	**112**	*e*P		**Pg**		**23 52 58.4**	**0.0**
	SNR=75								
BTCH				*e*S		**Sg**		**23 53 08.9**	**+0.8**
	comp=E,614nm,0.3s,SNR=59								
MERS	**Mersin**	**1.02**	**302**	*e*PG		**Pg**		**23 53 02.8**	**-0.7**
MERS				*e*SG		**Sg**		**23 53 17.2**	**+0.4**
MERS	**Mersin**	**1.02**	**302**	*e*Pg		**Pg**		**23 53 02.8**	**-0.7**
MERS				*e*Sg		**Sg**		**23 53 17.2**	**+0.4**
KARA	**Karaisali**	**1.03**	**335**	*e*PG		**Pg**		**23 53 02.9**	**-0.7**
KARA	**Karaisali**	**1.03**	**335**	*e*Pg		**Pg**		**23 53 02.9**	**-0.7**
GULE	**Gulek**	**1.16**	**325**	*i* P		**Pg**		**23 53 05.6**	**-0.6**
GULE				*i* S		**Sn**		**23 53 23.5**	**+0.3**
GULE	**Gulek**	**1.16**	**325**	*i* P		**Pg**		**23 53 05.6**	**-0.6**
GULE				*i* S		**Sn**		**23 53 23.5**	**+0.3**

KOZT	**Kozan**	**1.16**	**9**	*e*PN	**Pg**	**23 53 05.5**	**-0.7**
KOZT	**Kozan**	**1.16**	**9**	*e*Pn	**Pg**	**23 53 05.5**	**-0.7**
KIZK	**Mersin**	**1.19**	**278**	*i* P	**Pg**	**23 53 05.1**	**-1.5**
KIZK				*i* S	**Sg**	**23 53 21.9**	**-0.1**
KIZK	**Mersin**	**1.19**	**278**	*i* P	**Pg**	**23 53 05.1**	**-1.5**
KIZK				*i* S	**Sg**	**23 53 21.9**	**-0.1**
KUZU	**Kuzuini**	**1.27**	**69**	*i* P	**Pn**	**23 53 07.6**	**-0.6**
KUZU				*i* S	**Sg**	**23 53 24.3**	**-0.4**
KUZU	**Kuzuini**	**1.27**	**69**	*i* P	**Pn**	**23 53 07.6**	**-0.6**
KUZU				*i* S	**Sg**	**23 53 24.3**	**-0.4**
EREN	**Erenkoy**	**1.41**	**236**	*e*PN	**Pg**	**23 53 12.1**	**+1.2**
EREN	**Erenkoy**	**1.41**	**236**	*e*Pn	**Pg**	**23 53 12.1**	**+1.2**
BIDA	**Albida**	**1.44**	**156**	*e*P	**Pn**	**23 53 09.5**	**-1.1**
BIDA				*e*S	**Sb**	**23 53 28.9**	**-0.9**
BIDA				AML	AML	23 53 31.6	
	comp=Z,716nm,0.4s						
BIDA				AML	AML	23 53 32.3	
	comp=E,182nm,0.3s						
BIDA				AML	AML	23 53 32.5	
	comp=N,559nm,0.4s						
BIDA	**Albida**	**1.44**	**156**	*e*P	**Pn**	**23 53 09.5**	**-1.1**
	SNR=57						
BIDA				*e*S	**Sb**	**23 53 28.9**	**-0.9**
	comp=N,559nm,0.4s,SNR=49						
KMRS	**Kahramanmaras**	**1.57**	**41**	*e*PN	**Pn**	**23 53 12.9**	**+0.5**
KMRS	**Kahramanmaras**	**1.57**	**41**	*e*Pn	**Pn**	**23 53 12.9**	**+0.5**
HAWK	**Haweek**	**1.92**	**160**	*e*P	**Pn**	**23 53 16.6**	**-0.7**
HAWK				*e*S	**Sn**	**23 53 41.0**	**-0.8**
HAWK				AML	AML	23 53 44.4	
	comp=Z,77nm,0.7s						
HAWK				AML	AML	23 53 45.3	
	comp=N,45nm,0.4s						
HAWK				AML	AML	23 53 47.0	
	comp=E,50nm,0.3s						
HAWK	**Haweek**	**1.92**	**160**	*e*P	**Pn**	**23 53 16.6**	**-0.7**
	SNR=45						
HAWK				*e*S	**Sn**	**23 53 41.0**	**-0.8**
	comp=E,50nm,0.3s,SNR=40						
NIG	**Nigde**	**1.95**	**336**	*e*PN	**Pn**	**23 53 17.6**	**-0.2**
NIG	**Nigde**	**1.95**	**336**	*e*Pn	**Pn**	**23 53 17.6**	**-0.2**
LFK	**Lefkose**	**1.98**	**239**	*e*PN	**Pb**	**23 53 19.9**	**-0.5**
LFK	**Lefkose**	**1.98**	**239**	*e*Pn	**Pb**	**23 53 19.9**	**-0.5**
RABH	**Abou Rabah**	**2.30**	**145**	*e*P	**Pn**	**23 53 23.2**	**+0.7**
RABH				*e*S	**Sn**	**23 53 52.6**	**+1.5**
RABH				AML	AML	23 54 03.2	
	comp=N,83nm,0.5s						
RABH				AML	AML	23 54 05.1	
	comp=E,55nm,0.5s						
RABH				AML	AML	23 54 05.4	
	comp=Z,41nm,0.5s						
MARH	**Ras Al Marh**	**2.41**	**162**	*e*P	**Pn**	**23 53 22.7**	**-1.5**
MARH				*e*S	**Sn**	**23 53 52.9**	**-1.2**
MARH				AML	AML	23 54 02.0	
	comp=N,46nm,0.4s						
MARH				AML	AML	23 54 06.2	
	comp=E,59nm,0.4s						
MARH				AML	AML	23 54 06.8	
	comp=Z,24nm,0.6s						
SULT	**Sultanhani-AKS**	**2.50**	**319**	*e*PN	**Pn**	**23 53 26.1**	**+0.9**
SULT	**Sultanhani-AKS**	**2.50**	**319**	*e*Pn	**Pn**	**23 53 26.1**	**+0.9**
LEF	**Lefka**	**2.51**	**242**	*e*PN	**Pn**	**23 53 27.3**	**+2.0**
LEF	**Lefka**	**2.51**	**242**	*e*Pn	**Pn**	**23 53 27.3**	**+2.0**
BNN	**Bunyan**	**2.53**	**4**	*e*PN	**Pn**	**23 53 25.7**	**+0.1**
BNN	**Bunyan**	**2.53**	**4**	*e*Pn	**Pn**	**23 53 25.7**	**+0.1**
AKCD	**Akcadag**	**2.70**	**43**	*i* P	**Pn**	**23 53 28.5**	**+0.5**
AKCD				*i* S	**Sg**	**23 54 11.3**	**+0.7**
AKCD	**Akcadag**	**2.70**	**43**	*i* P	**Pn**	**23 53 28.5**	**+0.5**
URFA	**Urfa**	**2.81**	**66**	*e*PN	**Pn**	**23 53 31.1**	**+1.6**
URFA	**Urfa**	**2.81**	**66**	*e*Pn	**Pn**	**23 53 31.1**	**+1.6**
KONT	**Konya--Tatoy**	**3.05**	**303**	*e*PN	**Pn**	**23 53 33.9**	**+1.1**
KONT	**Konya--Tatoy**	**3.05**	**303**	*e*Pn	**Pn**	**23 53 33.9**	**+1.1**
LADK	**Ladik-KONYA**	**3.19**	**307**	*e*PN	**Pn**	**23 53 36.2**	**+1.5**
LADK	**Ladik-KONYA**	**3.19**	**307**	*e*Pn	**Pn**	**23 53 36.2**	**+1.5**
PTK	**Pertek**	**3.95**	**49**	*e*PN	**Pn**	**23 53 47.0**	**+1.7**
PTK	**Pertek**	**3.95**	**49**	*e*Pn	**Pn**	**23 53 47.0**	**+1.7**
MAZI	**Mazidag**	**4.04**	**72**	*e*PN	**Pn**	**23 53 48.8**	**+2.3**
MAZI	**Mazidag**	**4.04**	**72**	*e*Pn	**Pn**	**23 53 48.8**	**+2.3**

*IDC **23** 23:57:37.6±1.1,8.°93S×157.°75E,h0km,mb3.9/9, mb1 4.2/9,mb1mx4.0/23,mbtmp3.9/9,MS3.3/1,Ms1 3.3/1, ms1mx2.6/18,Error ellipse: s-maj=39.0km s-min=21.2km az=131.0*

*ISCJB **23** 23:57:39.3±0.7,8.°9S±0.°1×157.°6E±0.°1,h17km,mb3.8/9, MS3.4/1,Error ellipse: s-maj=20.3km s-min=14.1km az=166.4*

ISC 23 23:57:40.7±0.7,8.°9S±0.°2×157.°65E±0.°08,h17km,n12, σ0s98/12,mb3.8/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.34**	**104**	*e*P	**Pn**	**23 58 19.0**	**+0.6**
HNR				*i* S	**Sg**	**23 58 56.0**	**-0.1**
WRA	**Warramunga Arr**	**25.09**	**241**	P	**P**	**00 03 04.4**	**-0.3**
	3.1nm,0.6s,baz=68,slow=9.6,SNR=35						
ASAR	**Alice Springs**	**27.07**	**234**	P	**P**	**00 03 21.4**	**-1.3**
	0.6nm,0.8s,baz=62,slow=9.4,SNR=6.1						
STKA	**Stephens Creek**	**27.33**	**211**	P	**P**	**00 03 25.4**	**+0.5**
	1.6nm,0.7s,baz=51,slow=9.9,SNR=4.6						
PPT	**Papeete**	**51.96**	**105**	LR	LR	00 26 41.1	
	comp=Z,29nm,18.3s,baz=332,slow=34						
CMAR	**Chiang Mai Arr**	**63.95**	**295**	P	**P**	**00 08 14.7**	**+1.1**
	0.5nm,0.3s,baz=111,slow=4.9,SNR=11						
SONM	**Songino Array**	**72.32**	**327**	P	**P**	**00 09 06.7**	**+1.1**
	0.6nm,0.6s,baz=134,slow=4.2,SNR=3.2						
ILAR	**Eielson Array**	**84.15**	**21**	P	**P**	**00 10 09.1**	**-1.5**
	1.1nm,1.0s,baz=246,slow=3.8,SNR=7.4						
MKAR	**Makanchi Array**	**86.53**	**318**	P	**P**	**00 10 22.3**	**-0.7**
	0.3nm,0.7s,baz=102,slow=5.0,SNR=4.4						
NVAR	**Mina Array Bea**	**90.81**	**51**	P	**P**	**00 10 44.5**	**+0.7**
	1.6nm,0.9s,baz=254,slow=6.5,SNR=9.0						
YKA	**Yellowknife Ar**	**96.74**	**28**	P	**P**	**00 11 09.6**	**-0.4**
	0.3nm,0.9s,baz=270,slow=4.7,SNR=4.1						
BDFB	**Brasilia**	**144.81**	**134**	PKP	**PKPab**	**00 17 16.3**	**-0.6**
	4.3nm,0.7s,baz=189,slow=1.0,SNR=7.0						

*IDC **24** 00:03:51.2±0.9,9.°02S×157.°69E,h0km,mb3.9/9, mb1 4.1/10,mb1mx3.9/31,mbtmp3.9/10,ML3.9/1,MS2.9/2, Ms1 2.9/2,ms1mx2.6/22,Error ellipse: s-maj=36.9km s-min=20.5km az=129.0*

*ISCJB **24** 00:03:52.6±0.6,9.°0S±0.°1×157.°65E±0.°10,h17km,mb3.8/9, Error ellipse: s-maj=19.7km s-min=12.2km az=152.2*

ISC 24 00:03:54.0±0.7,9.°1S±0.°1×157.°74E±0.°07,h17km,n20, σ0s57/13,mb3.8/9,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.22**	**100**	LR	LR	00 05 25.0	
	comp=Z,225nm,18.8s,baz=351,slow=41						
HNR	**Honiara**	**2.22**	**100**	*e*P	**Pn**	**00 04 30.0**	**0.0**
HNR				*i* S	**Sg**	**00 05 05.0**	**-0.3**
DZM	**Mont Dzumac**	**15.42**	**148**	LR	LR	00 11 23.5	
	comp=Z,61nm,20.6s,baz=44,slow=29						
CTA	**Charters Tower**	**15.61**	**224**	Pn	**Pn**	**00 07 33.8**	**+0.5**
	0.3nm,0.3s,baz=48,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**25.07**	**242**	P	**P**	**00 09 17.5**	**-0.3**
	3.3nm,0.6s,baz=67,slow=9.5,SNR=37						
ASAR	**Alice Springs**	**27.03**	**235**	P	**P**	**00 09 34.8**	**-0.7**
	0.7nm,0.8s,baz=66,slow=9.7,SNR=6.3						
STKA	**Stephens Creek**	**27.21**	**211**	P	**P**	**00 09 36.9**	**-0.1**
	2.4nm,0.7s,baz=55,slow=14,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**28.76**	**18**	T	T	00 38 27.8	
	baz=200,slow=74,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**28.76**	**18**	T	T	00 38 26.4	
	baz=200,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**28.78**	**18**	T	T	00 38 24.8	
	baz=200						
H11N1	**WAKE ISLAND Hy**	**29.97**	**17**	T	T	00 40 16.4	
	baz=192						
H11N3	**WAKE ISLAND Hy**	**29.98**	**17**	T	T	00 40 18.4	
	baz=192						
H11N2	**WAKE ISLAND Hy**	**29.99**	**17**	T	T	00 40 17.0	
	baz=192						
CMAR	**Chiang Mai Arr**	**64.11**	**296**	P	**P**	**00 14 27.3**	**-0.5**
	0.9nm,0.3s,baz=111,slow=4.4,SNR=5.8						
QSPA	**South Pole Qui**	**80.94**	**180**	P	**P**	**00 16 08.1**	**+0.8**
	0.6nm,0.6s,baz=71,slow=8.7,SNR=5.0						
ILAR	**Eielson Array**	**84.30**	**21**	P	**P**	**00 16 24.6**	**0.0**
	0.4nm,0.8s,baz=286,slow=4.6,SNR=5.1						
MKAR	**Makanchi Array**	**86.73**	**318**	P	**P**	**00 16 37.1**	**-0.1**
	0.3nm,0.7s,baz=63,slow=5.7,SNR=4.2						
NVAR	**Mina Array Bea**	**90.87**	**51**	P	**P**	**00 16 57.1**	**-0.1**
	0.3nm,0.6s,baz=264,slow=4.3,SNR=2.7						
YKA	**Yellowknife Ar**	**96.87**	**28**	P	**P**	**00 17 24.8**	**+0.9**
	0.2nm,0.8s,baz=271,slow=5.5,SNR=4.3						
BDFB	**Brasilia**	**144.61**	**134**	PKP	**PKPab**	**00 23 28.6**	**-0.8**
	2.4nm,0.6s,baz=205,slow=6.5,SNR=5.5						

MEX 24 00:07:45.5±1.0,16.°91N×100.°12W,h24km±12km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.26**	**98**	*i* P	Pb	00 07 49.7	-2.2
ACX				*e*S	Sb	00 07 53.8	-2.4
ARIG	**Puente Sto Nin**	**1.39**	**351**	*e*P	Pn	00 08 07.3	-2.1
ARIG				*e*S	Sn	00 08 23.4	-3.6
PLIG	**Platanillo**	**1.59**	**22**	*e*P	Pn	00 08 08.8	-3.6
PLIG				*e*S	Sn	00 08 28.6	-3.7
TLIG	**Tlapa**	**1.62**	**66**	*i* P	Pn	00 08 08.9	-3.9
TLIG				*e*S	Sn	00 08 27.7	-5.4
PNIG	**Pinotepa**	**1.98**	**105**	*i* P	Pn	00 08 15.6	-2.0
PNIG				*i* S	Sn	00 08 38.5	-3.2
YAIG	**Yautepec**	**2.19**	**27**	*e*P	Pn	00 08 17.1	-3.6
YAIG				*i* S	Sn	00 08 44.6	-2.6

*ISCJB **24** 00:12:54.6±0.5,44.°61N±0.°08×143.°43E±0.°10, h268km±4km,mb3.1/7,Error ellipse: s-maj=12.4km s-min=10.9km az=10.3*

*JMA **24** 00:12:55.4±0.2,44.°76N×143.°42E,h261km±2km,M3.2*

*IDC **24** 00:12:55.2±0.7,44.°75N×143.°44E,h256km±7km,mb3.0/7, mb1 3.2/8,mb1mx3.0/25,mbtmp3.6/8,Error ellipse: s-maj=24.5km s-min=17.5km az=164.0*

ISC 24 00:12:55.3±0.7,44.°65N±0.°09×143.°42E±0.°08,h262km±7km, n25,σ1s04/31,mb3.3/7,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.65**	**184**	P	**Pn**	**00 13 30.6**	**+0.4**
JMP				*e*S	**S**	**00 13 58.1**	**+0.5**
JSE	**Soyaes**	**0.67**	**298**	P	**Pn**	**00 13 29.8**	**-0.2**
JTKR	**Abashiri--Toko**	**0.77**	**152**	P	**Pn**	**00 13 31.3**	**+0.7**
JTKR				*e*S	**S**	**00 13 59.0**	**+0.7**
ASAJ	**Asahikawa**	**0.80**	**228**	P	**Pn**	**00 13 31.4**	**+0.7**
ASAJ	**Asahikawa**	**0.80**	**228**	P	**Pn**	**00 13 31.4**	**+0.7**
	17nm,0.3s,baz=16,slow=3.0,SNR=107						
ASAJ				S	**S**	**00 13 57.7**	**-0.8**
	baz=342,slow=20,SNR=4.3						
JKK2	**Kamakawa 2**	**0.92**	**212**	P	**Pn**	**00 13 32.1**	**+0.8**
JWK2	**Keihoku**	**1.27**	**302**	P	**Pn**	**00 13 33.0**	**-0.1**
JAR	**Ashorobuto**	**1.38**	**169**	P	**Pn**	**00 13 35.1**	**+1.1**
JAR				*e*S	**S**	**00 14 05.2**	**+0.7**
JRA	**Rausu**	**1.42**	**120**	P	**Pn**	**00 13 34.8**	**+0.6**
JYG	**Yagishiri**	**1.44**	**262**	P	**Pn**	**00 13 34.5**	**+0.2**
JHR	**Hokuryu**	**1.52**	**234**	P	**Pn**	**00 13 35.7**	**+0.8**
JFR	**Furan**	**1.60**	**202**	P	**Pn**	**00 13 36.9**	**+1.3**
JAK	**Akkeshi**	**1.90**	**150**	P	**Pn**	**00 13 38.2**	**+0.3**
JAK				*e*S	**S**	**00 14 10.5**	**-1.1**
JCH	**Churui**	**2.04**	**181**	P	**Pn**	**00 13 39.1**	**-0.1**
JCH				*e*S	**S**	**00 14 11.8**	**-2.1**
NEM2	**Nemuro 2**	**2.12**	**127**	*e*S	**S**	**00 14 12.3**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.42**	**192**	*e*S	**S**	**00 14 19.8**	**-0.5**
JKB	**Kayabe**	**3.27**	**213**	*e*S	**S**	**00 14 33.6**	**-2.4**
USRK	**Ussuriysk Arra**	**8.19**	**271**	P	**Pn**	**00 14 51.1**	**+0.1**
	0.4nm,0.3s,baz=93,slow=13,SNR=6.3						
SONM	**Songino Array**	**25.64**	**290**	P	**P**	**00 18 01.9**	**+0.7**
	1.9nm,0.6s,baz=83,slow=8.1,SNR=9.1						
MKAR	**Makanchi Array**	**41.78**	**295**	P	**P**	**00 20 19.4**	**+0.2**
	0.4nm,0.5s,baz=53,slow=10,SNR=6.3						
ILAR	**Eielson Array**	**42.36**	**37**	P	**P**	**00 20 23.8**	**+0.2**
	0.2nm,0.6s,baz=253,slow=6.6,SNR=3.1						
YKA	**Yellowknife Ar**	**56.52**	**33**	P	**P**	**00 22 09.6**	**-0.4**
	0.3nm,0.7s,baz=306,slow=6.9,SNR=9.4						
FINES	**FINESS Array B**	**62.82**	**331**	P	**P**	**00 22 52.0**	**-0.9**
	0.6nm,0.7s,baz=41,slow=9.2,SNR=2.3						
WRA	**Warramunga Arr**	**64.81**	**189**	P	**P**	**00 23 07.2**	**+1.0**
	0.5nm,0.7s,baz=7.3,slow=6.8,SNR=5.2						
PDAR	**Pinedale Array**	**71.34**	**48**	P	**P**	**00 23 46.9**	**0.0**
	0.3nm,0.5s,baz=293,slow=1.9,SNR=4.2						

*PGC **24** 00:37:09.9±85.0,60.°55N×138.°27W,h1km,ML3.7/3,46km Wsw of Haines Jct., Yt Southern Yukon Territory, Canada*

*NEIC **24** 00:37:09.9,60.°55N×138.°27W,h1km,ML3.6(AEIC), ML3.7(OTT),After OTT.*

NEIC Felt at Haines Junction. Also felt at Haines, Alaska.

ISC 24 00:37:09.4±1.7,60.°52N±0.°05×138.°25W±0.°03,h1km±15km, n51,σ1s24/64,2D,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKU2	**Yakutat**	**1.24**	**216**	P	**Pg**	**00 37 32.6**	**-0.4**
DHAK	**Deception Hill**	**1.43**	**179**	P	**Pn**	**00 37 34.8**	**-1.8**
DHAK				S	**Sg**	**00 37 54.0**	**-1.3**
CHX	**Chaix Hills**	**1.50**	**254**	P	**Pn**	**00 37 36.5**	**-1.1**
CTGM	**Chitina Glacie**	**1.58**	**288**	P	**Pn**	**00 37 35.9**	**-2.9**
WHY	**Whitehorse**	**1.67**	**84**	⇑Pn	**Pn**	**00 37 39.6**	**-0.2**
WHY				⇑Sg	**Sn**	**00 38 01.9**	**-0.1**
WHY	**Whitehorse**	**1.67**	**84**	Pn	**Pn**	**00 37 39.6**	**-0.2**
WHY				Sg	**Sn**	**00 38 01.9**	**-0.1**
SKAG	**Skagway**	**1.81**	**125**	P	**Pn**	**00 37 41.6**	**-0.1**
SKAG				S	**Sg**	**00 38 07.5**	**+0.1**
BALM	**Baldy**	**2.08**	**286**	P	**Pn**	**00 37 43.7**	**-1.8**
GLB	**Gilahina Butte**	**2.87**	**291**	P	**Pn**	**00 37 56.3**	**0.0**
GLB				S	**Sn**	**00 38 33.0**	**+1.6**
BCA3	**Beaver Creek A**	**3.06**	**328**	P	**Pn**	**00 37 57.0**	**-2.0**
BMRM	**Bremner River**	**3.15**	**281**	P	**Pn**	**00 37 59.4**	**-0.9**
BMRM				S	**Sn**	**00 38 40.2**	**+1.7**
RAGM	**Ragged Mountai**	**3.19**	**270**	P	**Pn**	**00 38 00.7**	**0.0**
GOAT	**Goat Mountain**	**3.20**	**274**	P	**Pn**	**00 38 00.9**	**0.0**
SGAM	**Sherman Glacie**	**3.44**	**273**	P	**Pn**	**00 38 04.3**	**+0.2**
MENT	**Mentasta**	**3.56**	**315**	*e*Pn	**Pn**	**00 38 04.9**	**-0.9**
DAWY	**Dawson**	**3.60**	**352**	⇑Pn	**Pn**	**00 38 05.5**	**-0.9**
DAWY				⇑Sn	**Sn**	**00 38 47.9**	**-1.7**
DAWY				⇑Sg	**Sb**	**00 39 00.3**	**+2.2**
DAWY	**Dawson**	**3.60**	**352**	Pn	**Pn**	**00 38 05.5**	**-0.9**
DAWY				Sn	**Sn**	**00 38 47.9**	**-1.7**
DAWY				Sg	**Sb**	**00 39 00.3**	**+2.2**
DIV	**Divide**	**3.74**	**283**	*e*Pn	**Pn**	**00 38 07.0**	**-1.3**
DIV				*e*Sn	**Sn**	**00 38 52.0**	**-0.9**
SIT	**Sitka**	**3.79**	**155**	P	**Pn**	**00 38 10.6**	**+1.8**
HARP	**HAARP**	**3.82**	**303**	P	**Pn**	**00 38 10.0**	**+0.6**
PS11	**TAPS Pump St11**	**3.82**	**297**	P	**Pn**	**00 38 09.7**	**+0.5**
JPK	**Jack Peak**	**4.13**	**281**	P	**Pn**	**00 38 12.3**	**-1.4**
PAX	**Paxson**	**4.22**	**309**	*e*Pn	**Pn**	**00 38 14.8**	**-0.2**
GLI	**Glacier Island**	**4.36**	**279**	P	**Pn**	**00 38 15.8**	**-1.0**
EGAK	**Eagle**	**4.48**	**344**	P	**Pn**	**00 38 17.6**	**-0.8**
DLBC	**Dease Lake**	**4.68**	**113**	⇓Pn	**Pn**	**00 38 21.8**	**+0.6**
DLBC				⇓Pg	**Pb**	**00 38 34.3**	**+2.1**
DLBC	**Dease Lake**	**4.68**	**113**	Pn	**Pn**	**00 38 21.8**	**+0.6**
DLBC				Pg	**Pb**	**00 38 34.3**	**+2.1**
DDM	**Donnelly Dome**	**4.85**	**316**	P	**Pn**	**00 38 24.6**	**+1.1**
WRAK	**Wrangell Islan**	**5.14**	**140**	P	**Pn**	**00 38 27.2**	**-0.3**
PMR	**Palmer**	**5.40**	**286**	*e*Pn	**Pn**	**00 38 32.7**	**+1.8**
PMR				*e*Sn	Sn	00 39 39.2	+5.5
SEW	**Seward**	**5.58**	**271**	*e*Pn	**Pn**	**00 38 34.4**	**+0.9**
RC01	**Rabbit Creek A**	**5.66**	**281**	P	**Pn**	**00 38 34.2**	**-0.4**
CRAG	**Craig**	**5.75**	**149**	*e*Pn	**Pn**	**00 38 34.6**	**-1.1**
RND	**Reindeer**	**5.78**	**305**	P	**Pn**	**00 38 36.8**	**+0.5**
IL1	**Eielson Array**	**5.84**	**321**	*e*Pn	**Pn**	**00 38 34.6**	**-2.4**
ILB	**Eielson Array**	**5.84**	**321**	P	**Pn**	**00 38 36.3**	**-0.7**
MCK	**McKinley**	**5.96**	**307**	P	**Pn**	**00 38 39.0**	**+0.3**
SUA	**Susitna One**	**6.16**	**284**	P	**Pn**	**00 38 41.6**	**+0.2**
BRLK	**Bradley Lake**	**6.36**	**269**	P	**Pn**	**00 38 43.3**	**-0.9**
TRF	**Thorofare Moun**	**6.39**	**303**	P	**Pn**	**00 38 44.6**	**-0.1**
SKT	**Skwentna**	**6.58**	**289**	P	**Pn**	**00 38 46.8**	**-0.3**
KTH	**Kantishna Hill**	**6.69**	**303**	P	**Pn**	**00 38 48.9**	**+0.1**
PPLA	**Purkeypile**	**7.04**	**296**	*e*Pn	**Pn**	**00 38 54.6**	**+1.0**
PPLA				*e*Sg	Sb	00 40 44.6	+7.6
RSO	**Redoubt South**	**7.17**	**276**	*e*Pn	**Pn**	**00 38 54.9**	**-0.6**
BM3	**Burnt Mountain**	**7.47**	**341**	P	**Pn**	**00 38 58.5**	**-0.9**
KDAK	**Kodiak Island**	**7.86**	**256**	P	**Pn**	**00 39 04.1**	**-0.6**
INK	**Inuvik**	**8.08**	**13**	P	**Pn**	**00 39 06.7**	**-1.1**
OHAK	**Old Harbor**	**8.46**	**254**	P	**Pn**	**00 39 11.2**	**-1.8**
COLD	**Coldfoot**	**8.54**	**327**	P	**Pn**	**00 39 12.0**	**-2.0**
IM3	**Indian Mountai**	**8.87**	**315**	P	**Pn**	**00 39 17.2**	**-1.3**
YKB5	**Yellowknife Ar**	**11.44**	**70**	*e*Pn	**Pn**	**00 39 52.3**	**-1.5**

*IDC **24** 00:38:30.0±2.3,4.°89S×151.°33E,h94km±18km,mb3.8/5, mb1 4.0/7,mb1mx3.6/21,mbtmp4.2/7,Error ellipse: s-maj=31.6km s-min=14.3km az=134.0*

*ISCJB **24** 00:38:33.0±0.7,5.°1S±0.°1×151.°3E±0.°1,h129km,mb3.9/5, Error ellipse: s-maj=19.1km s-min=9.3km az=44.3*

ISC 24 00:38:34.2±0.8,5.°1S±0.°1×151.°4E±0.°1,h129km,n20, σ1s89/22,mb4.1/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.17**	**39**	P	**Pn**	**00 38 57.8**	**-0.8**
	baz=1.5,SNR=5.4						
PMG	**Port Moresby**	**6.01**	**224**	P	**Pn**	**00 39 59.6**	**-1.3**
	6.7nm,0.3s,baz=63,slow=6.8,SNR=14						
PMG				S	**Sn**	**00 41 05.9**	**-2.7**
	5.4nm,0.3s,baz=15,slow=20,SNR=4.2						
PMG	**Port Moresby**	**6.01**	**224**	P	**Pn**	**00 40 00.0**	**-0.8**
	baz=5.9,SNR=9.2						
PMG				S	**Sn**	**00 41 07.4**	**-1.1**
	baz=5.9,SNR=4.2						
CTA	**Charters Tower**	**15.72**	**198**	P	**P**	**00 42 09.2**	**-0.7**
	0.3nm,0.3s,baz=29,slow=13,SNR=2.9						
QIS	**Mount Isa**	**19.18**	**216**	P	**Pn**	**00 42 49.2**	**-1.0**
	baz=19,SNR=4.7						
FAKI	**Fak Fak**	**19.25**	**276**	P	Pn	00 43 00.3	+9.3
	baz=20,SNR=4.0						
KDU	**Kakadu**	**20.17**	**247**	P	**P**	**00 42 58.2**	**-0.4**
	baz=20,SNR=5.5						
WRA	**Warramunga Arr**	**22.22**	**227**	P	**P**	**00 43 19.7**	**-0.7**
	3.1nm,0.3s,baz=50,slow=10,SNR=78						
WRA				S	**S**	**00 47 17.1**	**+0.8**
	1.0nm,1.0s,baz=59,slow=16,SNR=3.4						
DZM	**Mont Dzumac**	**22.27**	**141**	P	**P**	**00 43 21.4**	**+0.5**
	2.5nm,0.6s,baz=318,slow=12,SNR=6.5						
QLP	**Quilpie**	**22.43**	**197**	P	**P**	**00 43 23.8**	**+1.3**
	baz=22,SNR=8.6						
ASAR	**Alice Springs**	**25.01**	**221**	P	**P**	**00 43 46.5**	**+0.2**
	6.5nm,0.7s,baz=55,slow=9.0,SNR=68						
ASAR				S	**S**	**00 48 07.7**	**+6.7**
	1.0nm,1.1s,baz=52,slow=17,SNR=2.8						
STKA	**Stephens Creek**	**28.18**	**198**	P	**P**	**00 44 14.9**	**+0.4**
	1.9nm,0.4s,baz=33,slow=9.2,SNR=5.2						
WRKA	**Warakurna**	**29.75**	**226**	P	**P**	**00 44 28.2**	**-0.5**
	baz=30,SNR=7.8						
HTT	**Hallett**	**30.49**	**201**	P	**P**	**00 44 35.7**	**+0.7**
	baz=30,SNR=6.1						
ARPS	**Mount Arapiles**	**32.72**	**194**	P	**P**	**00 44 55.4**	**+0.9**
	baz=32,SNR=7.5						
MEEK	**Meekatharra**	**37.93**	**232**	P	**P**	**00 45 39.0**	**-0.3**
	baz=38,SNR=8.8						
PMBI	**Palembang**	**46.58**	**271**	P	**P**	**00 46 51.7**	**+2.1**
	baz=47,SNR=3.9						
PPI	**Padang Panjang**	**51.15**	**274**	P	P	00 47 34.6	+10
	baz=52,SNR=5.9						
ILAR	**Eielson Array**	**82.96**	**22**	P	**P**	**00 50 43.4**	**-1.1**
	0.3nm,0.7s,baz=245,slow=5.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.09**	**287**	PKPbc	**PKPbc**	**00 58 07.8**	**-0.5**
	0.2nm,0.4s,baz=80,slow=2.6,SNR=7.1						

*CSEM **24** 00:46:07.2,45.°77N×14.°21E,h0km,ML1.0,After LJU*

LJU 24 00:46:07.2,45.°78N×14.°21E,h16km,ML1.0,1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.15**	**320**	*i* Pg	Pg	00 46 11.5	+0.1
JAVS				*i* Sg	Sg	00 46 14.4	+0.1
JAVS							
	comp=Z,44nm,0.1s						
JAVS	**Javornik**	**0.15**	**320**	*i* Pg	Pg	00 46 11.5	+0.1
J

	4.4nm,0.6s								
WTTA	**Wattenberg**	**1.41**	**259**	*e*Pg		**Pb**	**00 47 01.0**	**+0.6**	
WTTA	**Wattenberg**	**1.41**	**259**	⇑*e*Pg		**Pn**	**00 46 59.2**	**-1.0**	
	3.2nm,0.2s,SNR=7.8								
WTTA				⇓*e*Sg		**Sg**	**00 47 18.4**	**0.0**	
	8.9nm,0.3s,SNR=5.1								
WTTA	**Wattenberg**	**1.41**	**259**	Pg		**Pn**	**00 46 59.2**	**-1.0**	
	3.2nm,0.2s,SNR=7.8								
WTTA				Sg		**Sg**	**00 47 18.4**	**0.0**	
	8.9nm,0.3s,SNR=5.1								
WATA	**Walderalm**	**1.44**	**262**	⇑*i*Pg		**Pn**	**00 46 59.7**	**-0.9**	
	1.0nm,0.2s								
WATA	**Walderalm**	**1.44**	**262**	Pg		**Pn**	**00 46 59.7**	**-0.9**	
	1.0nm,0.2s								
CSNA	**Conrad Observa**	**1.53**	**75**	⇑*i*Pn		**Pn**	**00 47 00.8**	**-0.9**	
CSNA				⇓*i*Sg		**Sn**	**00 47 22.8**	**+0.5**	
	5.6nm,0.3s								
CSNA	**Conrad Observa**	**1.53**	**75**	Pn		**Pn**	**00 47 00.8**	**-0.9**	
CSNA				Sg		**Sn**	**00 47 22.8**	**+0.5**	
	5.6nm,0.3s								
KHC	**Kasperske Hory**	**1.58**	**358**	*e*PG		**Pn**	**00 47 02.1**	**-0.3**	
KHC				*e*SG		**Sn**	**00 47 23.4**	**-0.2**	
	comp=Z,8.5nm,0.3s								
KHC	**Kasperske Hory**	**1.58**	**358**	Pg		**Pn**	**00 47 02.1**	**-0.3**	
KHC				Sg		**Sn**	**00 47 23.4**	**-0.2**	
	8.5nm,0.3s								
WET	**Wettzell**	**1.68**	**342**	*e*Pg		**Pn**	**00 47 04.2**	**+0.4**	
WET				*e*Sg		**Sg**	**00 47 27.2**	**+0.2**	
WET	**Wettzell**	**1.68**	**342**	Pg		**Pn**	**00 47 04.2**	**+0.4**	
WET				Sg		**Sg**	**00 47 27.2**	**+0.2**	
FUR	**Furstenfeldbru**	**1.72**	**292**	*e*Pg		**Pb**	**00 47 05.2**	**-0.4**	
FUR				*e*Sg		**Sg**	**00 47 29.3**	**+0.9**	
MOTA	**Moosalm**	**1.75**	**264**	⇑*e*Pg		**Pb**	**00 47 05.9**	**-0.3**	
	3.3nm,0.4s,SNR=9.9								
MOTA				⇑*i*Sg		**Sg**	**00 47 30.6**	**+1.2**	
	8.8nm,0.4s								
MOTA	**Moosalm**	**1.75**	**264**	Pg		**Pb**	**00 47 05.9**	**-0.3**	
	3.3nm,0.4s,SNR=9.9								
MOTA				Sg		**Sg**	**00 47 30.6**	**+1.2**	
	8.8nm,0.4s								
RETA	**Reutte**	**1.97**	**269**	⇓*i*Pg		**Pb**	**00 47 09.6**	**-0.3**	
	2.2nm,0.4s								
RETA				⇓*e*Sg		**Sg**	**00 47 37.0**	**+0.6**	
	9.7nm,0.4s,SNR=16								
RETA	**Reutte**	**1.97**	**269**	Pg		**Pb**	**00 47 09.6**	**-0.3**	
	2.2nm,0.4s								
RETA				Sg		**Sg**	**00 47 37.0**	**+0.6**	
	9.7nm,0.4s,SNR=16								
OBER	**Oberstdorf**	**2.29**	**268**	*e*Sg		**Sg**	**00 47 46.2**	**-0.6**	
OBER	**Oberstdorf**	**2.29**	**268**	Sg		**Sg**	**00 47 46.2**	**-0.6**	
KRUC	**Moravsky**	**2.37**	**49**	*e*Pn		**Pb**	**00 47 13.6**	**+0.4**	
PRU	**Pruhonice**	**2.50**	**13**	*e*PG		**Pb**	**00 47 18.6**	**-0.4**	
PRU				*e*SG		**Sb**	**00 47 51.5**	**+1.2**	
	comp=Z,3.7nm,0.6s								
PRU	**Pruhonice**	**2.50**	**13**	Pg		**Pb**	**00 47 18.6**	**-0.4**	
PRU				Sg		**Sb**	**00 47 51.5**	**+1.2**	
	3.7nm,0.6s								
DAVA	**Damuels**	**2.58**	**265**	*e*Sg		**Sg**	**00 47 56.1**	**-0.1**	
PVCC	**Panska Ves**	**3.04**	**11**	*e*SG		**Sg**	**00 48 09.1**	**-1.5**	
	comp=Z,6.9nm,0.5s								
PVCC	**Panska Ves**	**3.04**	**11**	Sg		**Sg**	**00 48 09.1**	**-1.5**	
	6.9nm,0.5s								
KRLC	**Kraliky**	**3.26**	**38**	*e*SG		**Sg**	**00 48 17.4**	**-0.3**	
KRLC	**Kraliky**	**3.26**	**38**	Sg		**Sg**	**00 48 17.4**	**-0.3**	
DPC	**Dobruska-Polom**	**3.30**	**31**	*e*PG		**Pb**	**00 47 33.3**	**+0.7**	
DPC				*e*SG		**Sg**	**00 48 18.0**	**-1.1**	
DPC	**Dobruska-Polom**	**3.30**	**31**	Pg		**Pb**	**00 47 33.3**	**+0.7**	
DPC				Sg		**Sg**	**00 48 18.0**	**-1.1**	
BRG	**Berggiesshubel**	**3.33**	**3**	SG		**Sg**	**00 48 22.9**	**+2.9**	
	2.6nm,0.6s								
UPC	**Upice**	**3.33**	**27**	*e*SG		**Sg**	**00 48 19.1**	**-1.1**	
UPC	**Upice**	**3.33**	**27**	Sg		**Sg**	**00 48 19.1**	**-1.1**	

IDC 24 00:48:15.6±5.5, 61°75S×154°31E, h0km, mb3.9/2, mb1 4.2/3, mb1mx4.0/16, mbtmp4.0/3, ML3.8/1, MS3.8/4, Ms1 3.8/4, ms1mx3.5/16, Error ellipse: s-maj=369.2km s-min=39.8km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.03**	**174**	Pn	Pn	00 52 02.2	+0.2
	0.3nm,0.3s,baz=350,slow=13,SNR=11						
VNDA				LR	LR	00 57 37.9	
	comp=Z,538nm,20.2s,baz=358,slow=35						
STKA	**Stephens Creek**	**31.01**	**339**	LR	LR	01 04 00.8	
	comp=Z,172nm,21.2s,baz=174,slow=30						
H01W1	**Cape Leeuwin H**	**36.89**	**298**	T	T	01 34 35.7	
	baz=147,slow=75,SNR=98						
H01W2	**Cape Leeuwin H**	**36.90**	**298**	T	T	01 34 36.0	
	baz=147,slow=75,SNR=94						
H01W3	**Cape Leeuwin H**	**36.91**	**298**	T	T	01 34 36.9	
	baz=147,slow=75,SNR=91						
NWAO	**Narrogin (SRO)**	**37.34**	**303**	LR	LR	01 06 46.7	
	comp=Z,161nm,21.4s,slow=30						
ASAR	**Alice Springs**	**40.54**	**331**	P	P	00 55 56.8	+0.4
	2.0nm,0.9s,baz=165,slow=8.3,SNR=13						
WRA	**Warramunga Arr**	**44.04**	**332**	P	P	00 56 24.1	-0.8
	1.9nm,0.9s,baz=164,slow=7.1,SNR=7.4						
WRA				LR	LR	01 12 32.4	
	comp=Z,83nm,20.2s,baz=130,slow=33						
TBI	**Tubuai**	**53.86**	**71**	*e*LR	LR	01 12 56.3	
	105nm,28.8s						
TBI	**Tubuai**	**53.86**	**71**	*e*T	T	01 55 24.2	
	47nm,0.3s						
PAE	**Paea**	**58.79**	**68**	*e*T	T	02 01 31.3	
	1.1nm,0.3s						
TVO	**Taravao**	**58.83**	**68**	*e*T	T	02 01 34.4	
	1.3nm,0.4s						
PPT2	**Papeete2**	**58.85**	**68**	*e*LR	LR	01 15 11.9	
	72nm,22.2s						
RKT	**Rikitea**	**60.79**	**85**	*e*T	T	02 04 07.0	
	7.5nm,0.3s						
VAH	**Vaihoa**	**61.79**	**68**	*e*T	T	02 05 16.2	
	20nm,0.2s						
H08S2	**Diego Garcia H**	**79.44**	**274**	T	T	02 28 06.8	
	baz=151,slow=76,SNR=43						
H08S1	**Diego Garcia H**	**79.44**	**274**	T	T	02 28 08.8	
	baz=151,slow=76,SNR=3.4						
H08S3	**Diego Garcia H**	**79.45**	**274**	T	T	02 28 08.7	
	baz=151,slow=76,SNR=56						
H08N1	**Diego Garcia H**	**81.28**	**273**	T	T	02 30 29.2	
	baz=149						
H08N3	**Diego Garcia H**	**81.28**	**273**	T	T	02 30 32.4	
	baz=149						
H08N2	**Diego Garcia H**	**81.30**	**273**	T	T	02 30 33.0	
	baz=149						

MEX 24 00:52:43.1±0.9, 16°65N×100°12W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.33**	**49**	*e*P	Pg	00 52 48.3	-1.3
ACX				*e*S	Sg	00 52 52.1	-1.9
ZIIG	**Zihuatanejo**	**1.60**	**307**	*e*P	Pn	00 53 09.5	-2.6
ZIIG				*i* S	Sn	00 53 28.7	-4.4
ARIG	**Puente Sto Nin**	**1.64**	**352**	*e*P	Pn	00 53 08.6	-4.0
ARIG				*e*S	Sn	00 53 28.5	-5.7
TLIG	**Tlapa**	**1.74**	**58**	*i* P	Pn	00 53 11.4	-2.8
TLIG				*e*S	Sn	00 53 33.4	-3.5
PLIG	**Platanillo**	**1.83**	**19**	*e*P	Pn	00 53 11.6	-3.8
PLIG				*e*S	Sn	00 53 35.1	-4.0
PNIG	**Pinotepa**	**1.93**	**97**	*e*P	Pn	00 53 14.3	-2.3
PNIG				*i* S	Sn	00 53 35.6	-5.7
YAIG	**Yautepec**	**2.42**	**24**	*e*P	Pn	00 53 19.8	-3.8
YAIG				*i* S	Sn	00 53 50.2	-3.5

IDC 24 00:53:06.6±2.2, 28°08N×57°19E, h0km, mb3.6/12, mb1 3.7/12, mb1mx3.6/31, mbtmp3.6/12, Error ellipse: s-maj=48.1km s-min=20.2km az=155.0
CSEM 24 00:53:07.3±0.7, 28°54N×57°59E, h10km, mb4.2/9, Error ellipse: s-maj=38.7km s-min=4.6km az=80.0
OMAN 24 00:53:39.8±9.9, 26°38N×56°80E, h19km±14km, Error ellipse: s-maj=270.1km s-min=24.1km az=11.0
ISC 24 00:53:08.6±0.9, 27°81N±0°08×57°5E±0°2, h30km, n42, σ1§48/40, mb3.9/21, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.17**	**210**	P	Pb	00 53 52.2	+5.0
	SNR=15						
BANOM	**Banah**	**2.17**	**210**	P	Pb	00 53 52.2	+5.0
	SNR=15						
ASHO	**Ashiyiah**	**3.38**	**203**	P	**Pb**	**00 54 10.0**	**+2.3**
	SNR=16						
ASHO	**Ashiyiah**	**3.38**	**203**	P	**Pb**	**00 54 10.0**	**+2.3**
	SNR=16						
HOQ	**Hoqain**	**4.21**	**183**	⇓P	**Pb**	**00 54 20.9**	**-1.1**
HOQ	**Hoqain**	**4.21**	**183**	⇑P	**Pb**	**00 54 20.9**	**-1.1**
ARQ	**Araqi**	**4.54**	**192**	⇑P	**Pb**	**00 54 26.9**	**-0.7**
	SNR=22						
ARQ	**Araqi**	**4.54**	**192**	P	**Pb**	**00 54 26.9**	**-0.7**
	SNR=22						
AKTO	**Aktyubinsk**	**22.60**	**1**	P	**P**	**00 58 06.5**	**0.0**
	1.3nm,0.4s,baz=173,slow=10,SNR=6.1						
BRTR	**Keskin Array B**	**23.06**	**307**	P	**P**	**00 58 10.6**	**-1.1**
	1.6nm,0.9s,baz=131,slow=13,SNR=6.7						
BVAR	**Borovoye Array**	**26.94**	**17**	P	**P**	**00 58 48.3**	**+1.1**
	0.5nm,0.6s,baz=195,slow=9.8,SNR=4.5						
MKAR	**Makanchi Array**	**27.16**	**39**	P	**P**	**00 58 51.3**	**+2.1**
	0.3nm,0.5s,baz=225,slow=8.6,SNR=7.2						
KURBB	**Kurchatov Arra**	**27.82**	**29**	P	**P**	**00 58 57.0**	**+2.0**
	0.2nm,0.7s,baz=230,slow=8.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**32.91**	**30**	P	**P**	**00 59 41.6**	**+1.7**
	0.9nm,0.3s,baz=234,slow=9.1,SNR=6.4						
GERES	**GERESS Array B**	**39.59**	**314**	P	**P**	**01 00 35.8**	**-1.4**
	0.5nm,0.7s,baz=116,slow=9.1,SNR=4.8						
FINES	**FINESS Array B**	**39.63**	**337**	P	**P**	**01 00 36.2**	**-1.1**
	0.4nm,0.4s,baz=132,slow=11,SNR=12						
PGF	**Pioggiola**	**41.73**	**304**	*e*P	**P**	**01 00 53.9**	**-1.1**
PGF	**Pioggiola**	**41.73**	**304**	*e*P	**P**	**01 00 53.9**	**-1.1**
SBF	**Sospel**	**42.98**	**306**	*e*P	**P**	**01 01 03.2**	**-1.9**
	12nm,0.7s						
SBF	**Sospel**	**42.98**	**306**	*e*P	**P**	**01 01 03.2**	**-1.9**
	6.2nm,0.7s						
MBDF	**Montbardon**	**43.53**	**307**	*e*P	**P**	**01 01 07.8**	**-1.8**
	3.2nm,0.6s						
MBDF	**Montbardon**	**43.53**	**307**	*e*P	**P**	**01 01 07.8**	**-1.8**
	1.6nm,0.6s						
LPG	**La Plagne**	**43.62**	**308**	*e*P	**P**	**01 01 09.1**	**-1.4**
	7.0nm,0.9s						
LPG	**La Plagne**	**43.62**	**308**	*e*P	**P**	**01 01 09.1**	**-1.4**
	3.5nm,0.9s						
LPL	**La Plagne**	**43.63**	**308**	*e*P	**P**	**01 01 09.1**	**-1.5**
	2.9nm,0.6s						
LPL	**La Plagne**	**43.63**	**308**	*e*P	**P**	**01 01 09.1**	**-1.5**
	1.5nm,0.6s						
ARCES	**ARCESS Array B**	**45.69**	**345**	P	**P**	**01 01 25.2**	**-1.1**
	2.6nm,1.0s,baz=131,slow=8.3,SNR=5.4						
SMF	**Signal de Mont**	**45.74**	**309**	*e*P	**P**	**01 01 25.8**	**-1.3**
	3.9nm,0.7s						
SMF	**Signal de Mont**	**45.74**	**309**	*e*P	**P**	**01 01 25.8**	**-1.3**
	2.0nm,0.7s						
LOR	**Lormes**	**45.79**	**310**	*e*P	**P**	**01 01 25.8**	**-1.7**
	1.5nm,0.5s						
LOR	**Lormes**	**45.79**	**310**	*e*P	**P**	**01 01 25.8**	**-1.7**
	0.8nm,0.5s						
SSF	**Saint Saulge**	**46.01**	**310**	*e*P	**P**	**01 01 28.0**	**-1.2**
	1.9nm,0.5s						
SSF	**Saint Saulge**	**46.01**	**310**	*e*P	**P**	**01 01 28.0**	**-1.2**
	0.9nm,0.5s						
MTLF	**Montolieu**	**46.74**	**305**	*e*P	**P**	**01 01 33.4**	**-1.6**
	19nm,1.1s						
MTLF	**Montolieu**	**46.74**	**305**	*e*P	**P**	**01 01 33.4**	**-1.6**
	9.4nm,1.1s						
TCF	**Toulx Ste Croi**	**46.84**	**309**	*e*P	**P**	**01 01 34.8**	**-1.0**
	15nm,1.2s						
TCF	**Toulx Ste Croi**	**46.84**	**309**	*e*P	**P**	**01 01 34.8**	**-1.0**
	7.3nm,1.2s						
RJF	**Les Rejaudoux**	**47.28**	**307**	*e*P	**P**	**01 01 37.9**	**-1.3**
RJF	**Les Rejaudoux**	**47.28**	**307**	*e*P	**P**	**01 01 37.9**	**-1.3**
ESDC	**Sonseca Array**	**51.57**	**300**	P	**P**	**01 02 12.1**	**0.0**
	0.1nm,0.4s,baz=78,slow=8.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**53.87**	**266**	P	**P**	**01 02 29.9**	**+0.6**
	0.7nm,0.5s,baz=65,slow=7.6,SNR=14						
YKA	**Yellowknife Ar**	**89.79**	**356**	P	**P**	**01 06 05.2**	**+1.3**
	0.2nm,0.7s,baz=2.6,slow=4.9,SNR=8.7						

ISCJB 24 00:55:21.0±1.4, 34°93N±0°05×25°62E±0°04, h14km±9km, mb3.2/4, Error ellipse: s-maj=8.8km s-min=6.1km az=7.8
CSEM 24 00:55:21.4, 34°96N×25°60E, h22km, MD3.0, After ATH
IDC 24 00:55:21.0±1.3, 34°85N×25°56E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/27, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=26.2km s-min=10.0km az=27.0
ATH 24 00:55:21.4, 34°96N×25°60E, h22km±2km, MD3.0/6
ISC 24 00:55:22.0±1.2, 34°95N±0°06×25°61E±0°03, h11km±8km, n22, σ0§90/32, mb3.2/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.23**	**333**	*e*PB	**Pg**	**00 55 26.8**	**-0.2**
LAST				*e*SB	**Sg**	**00 55 30.9**	**+0.6**
LAST	**Lasithi**	**0.23**	**333**	*e*Pb	**Pg**	**00 55 26.8**	**-0.2**
LAST				*e*Sb	**Sg**	**00 55 30.9**	**+0.6**
NPS	**Neapolis**	**0.31**	**1**	*e*PB	**Pg**	**00 55 28.0**	**-0.3**
NPS				*e*SB	**Sg**	**00 55 33.2**	**-1.5**
NPS	**Neapolis**	**0.31**	**1**	*e*Pb	**Pg**	**00 55 28.0**	**-0.3**
NPS				*e*Sb	**Sg**	**00 55 33.2**	**-1.5**
ZKR	**Zakros**	**0.53**	**72**	*e*PN	**Pg**	**00 55 31.6**	**-0.7**
ZKR				*e*SN	**Sg**	**00 55 40.1**	**-0.8**
ZKR	**Zakros**	**0.53**	**72**	*e*Pn	**Pg**	**00 55 31.6**	**-0.7**
ZKR				*e*Sn	**Sg**	**00 55 40.1**	**-0.8**
SIVA	**Sivas**	**0.66**	**276**	*e*PB	**Pg**	**00 55 33.9**	**-0.9**
SIVA				*e*SN	**Sg**	**00 55 44.5**	**-0.1**
SIVA	**Sivas**	**0.66**	**276**	*e*Pb	**Pg**	**00 55 33.9**	**-0.9**
SIVA				*e*Sn	**Sg**	**00 55 44.5**	**-0.1**
IDI	**Anoyia**	**0.68**	**300**	Pg	**Pg**	**00 55 34.0**	**-1.1**
	8.6nm,0.3s,baz=144,slow=11,SNR=125						
IDI				Lg	Lg	00 55 44.7	
	57nm,0.3s,baz=9.0,slow=19,SNR=41						
VAM	**Vamos**	**1.24**	**292**	*e*PN	**Pn**	**00 55 44.3**	**-0.9**
VAM	**Vamos**	**1.24**	**292**	*e*Pn	**Pn**	**00 55 44.3**	**-0.9**
GVD	**Gavdhos**	**1.25**	**265**	*e*PN	**Pb**	**00 55 45.8**	**+0.2**
GVD	**Gavdhos**	**1.25**	**265**	*e*Pn	**Pb**	**00 55 45.8**	**+0.2**
KARP	**Karpathos**	**1.40**	**65**	*e*PN	**Pb**	**00 55 48.2**	**-0.1**
KARP	**Karpathos**	**1.40**	**65**	*e*Pn	**Pb**	**00 55 48.2**	**-0.1**
VLI	**Veliai**	**2.79**	**310**	*e*PN	**Pn**	**00 56 07.4**	**+0.8**
VLI				*e*SN	**Sn**	**00 56 39.6**	**-0.7**
VLI	**Veliai**	**2.79**	**310**	*e*Pn	**Pn**	**00 56 07.4**	**+0.8**
VLI				*e*Sn	**Sn**	**00 56 39.6**	**-0.7**
MMAI	**Mount Meron Ar**	**8.36**	**101**	Pn	**Pn**	**00 57 22.8**	**-0.4**
	0.4nm,0.3s,baz=282,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**30.64**	**231**	P	**P**	**01 01 36.5**	**+0.1**
	0.2nm,0.6s,baz=42,slow=8.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**40.97**	**51**	P	**P**	**01 03 05.4**	**+0.8**
	0.2nm,0.4s,baz=273,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**43.58**	**56**	P	**P**	**01 03 27.9**	**+1.9**
	0.2nm,0.5s,baz=289,slow=8.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**44.88**	**46**	P	**P**	**01 03 38.2**	**+2.0**
	0.2nm,0.3s,baz=287,slow=9.8,SNR=2.2						

WBNET 24 00:58:42.5, 50°26N×12°30E, h11km, MI0.1, 1C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCW	**Kopaniny**	**0.04**	**275**	⇓P	Pg	00 58 44.5	-0.2
KOCW				S	Sg	00 58 45.9	-0.3
VAC	**Vackov**	**0.06**	**117**	S	Sg	00 58 46.1	-0.4
LBCW	**Luby**	**0.07**	**87**	S	Sg	00 58 46.5	-0.3
NKC	**Novy Kostel**	**0.10**	**107**	P	Pg	00 58 45.1	-0.2
NKC				S	Sg	00 58 46.9	-0.4
POCW	**Po¯¡tky**	**0.10**	**55**	⇑P	Pg	00 58 45.2	-0.2
POCW				S	Sg	00 58 47.0	-0.4
TRCW	**Trojmez¯**	**0.11**	**293**	⇓P	Pg	00 58 45.2	-0.2
TRCW				S	Sg	00 58 47.1	-0.4
KVC	**Kvetna**	**0.15**	**112**	⇓P	Pg	00 58 45.7	-0.3
KVC				S	Sg	00 58 48.0	-0.5
KACW	**Kace¯ov**	**0.18**	**130**	⇓P	Pg	00 58 46.4	-0.2
KACW				S	Sg	00 58 49.2	-0.2
ZHC	**Zelena Hora**	**0.19**	**178**	S	Sg	00 58 49.3	-0.3

IDC 24 00:59:38.7±6.3, 4°73S×134°37E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=337.5km s-min=34.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.12**	**180**	Pn	Pn	01 03 12.2	-1.6
	0.1nm,0.3s,baz=359,slow=13,SNR=5.5						
WRA				Sn	Sn	01 05 54.6	-7.5
	0.1nm,0.3s,baz=356,slow=24,SNR=3.8						
ASAR	**Alice Springs**	**18.83**	**181**	P	Pn	01 04 00.9	+0.2
	0.1nm,0.3s,baz=6.3,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**68.82**	**324**	P	P	01 10 45.0	0.0
	0.2nm,0.7s,baz=121,slow=5.6,SNR=2.4						

ISCJB 24 01:02:07.8±0.2, 31°82S±0°05×57°98E±0°04, h10km, mb5.2/141, MS4.5/81, Error ellipse: s-maj=7.2km s-min=5.1km az=15.0
IDC 24 01:02:07.3±0.4, 31°89S×57°93E, h0km, mb4.7/34, mb1 4.7/35, mb1mx4.7/45, mbtmp4.7/35, ML4.2/1, MS4.2/25, Ms1 4.2/25, ms1mx4.2/26, Error ellipse: s-maj=14.8km s-min=12.0km az=45.0
MOS 24 01:02:08.5±0.9, 31°70S×58°12E, h10km, mb5.6/53, MS4.5/13, Error ellipse: s-maj=14.6km s-min=5.6km az=106.2
NEIC 24 01:02:09.2±0.2, 31°91S×57°92E, h10km, mb5.3/49, MS4.6/49, Error ellipse: s-maj=6.3km s-min=4.4km az=201.0
GCMT 24 01:02:09.2±0.3, 31°89S×57°88E, h12km, MW5.0/76, Moment Tensor Solution. s21,c27; s76,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mr 4.15±.10; Mθθ -3.49±.09; Mϕϕ -0.66±.11; Mrθ -0.14±.35; Mϕθ -0.15±.10; Mϕr 0.06±.51; Best double couple: Mo 3.82700×10^16 NP1: ϕs 268.00000°, δ46.00000°, λ91.00000°. NP2: ϕs 86.00000°, δ44.00000°, λ89.00000°. Principal axes: T 4.1530, Plg89.0000°, Azm213.0000°; N -0.6550, Plg1.0000°, Azm87.0000°; P -3.5010, Plg1.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 24 01:02:10.3, 31°24S×58°21E, h8km, mB5.3/26, mb5.0/40, Ms5.0/27, Ms7 4.9/10
ISC 24 01:02:10.2±0.4, 31°83S±0°06×57°76E±0°06, h15km±2km, h14km:pP-P, n650, σ1§04/657, mb5.3/141, MS4.6/83, 29C-19D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**15.90**	**321**	*e*P	**Pn**	**01 05 55.2**	**+1.5**
ABPO				*e*		01 08 49.2	
ABPO				pmax	pmax		
	comp=Z,61nm,1.5s						
ABPO	**Ambohimpanom**	**15.90**	**321**	*e*Pn	**Pn**	**01 05 55.1**	**+1.5**
	comp=Z,61nm,1.5s						
ABPO				*e*Sn	**Sn**	**01 08 49.2**	**-0.6**
OPO	**Ambohidratompo**	**16.29**	**322**	Pn	**Pn**	**01 06 00.0**	**+1.4**
OPO				Sn	**Sn**	**01 08 55.0**	**-4.3**
OPO	**Ambohidratompo**	**16.29**	**322**	Pn	**Pn**	**01 06 00.0**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=143,slow=8.9,SNR=6.6						
OPO				Sn	**Sn**	**01 08 55.0**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=154,slow=18,SNR=3.7						
OPO				LR	LR	01 11 01.0	
	comp=Z,2μm,19.7s,baz=148,slow=32						
MSEY	**Mahe Island**	**27.10**	**355**	PFAKE		01 08 10.0	+17
MSEY				LR	LR		
	comp=Z,1μm,20.0s						
H08S1	**Diego Garcia H**	**27.69**	**33**	T	T	01 36 41.5	
	baz=206,slow=75,SNR=106						
H08S2	**Diego Garcia H**	**27.70**	**33**	T	T	01 36 42.0	
	baz=206,slow=75,SNR=320						
H08S3	**Diego Garcia H**	**27.71**	**33**	T	T	01 36 42.5	
	baz=206,slow=75,SNR=383						
H08N3	**Diego Garcia H**	**28.21**	**29**	T	T	01 37 21.7	
	baz=204,slow=76,SNR=97						
BOSA	**Boshof**	**28.21**	**268**	*e*P	**P**	**01 08 02.4**	**-0.2**
	comp=Z,68nm,2.1s						
BOSA	**Boshof**	**28.21**	**268**	P	**P**	**01 08 02.5**	**-0.2**
	comp=Z,3.3nm,1.0s,baz=94,slow=11,SNR=3.6						
BOSA				LR	LR	01 17 36.7	
	comp=Z,252nm,19.5s,baz=130,slow=33						
H08N1	**Diego Carcia H**	**28.22**	**29**	T	T	01 37 21.0	
	baz=204,slow=76,SNR=49						
H08N2	**Diego Carcia H**	**28.23**	**29**	T	T	01 37 22.5	
	baz=204,slow=76,SNR=55						
LBTB	**Lobatse**	**29.02**	**275**	*e*P	**P**	**01 08 09.7**	**-0.1**
	comp=Z,41nm,1.5s						
LBTB	**Lobatse**	**29.02**	**275**	P	**P**	**01 08 09.2**	**-0.7**
	comp=Z,4.6nm,1.0s,baz=133,slow=11,SNR=4.0						
LBTB				LR	LR	01 17 53.5	
	comp=Z,271nm,20.2s,baz=124,slow=32						
SUR	**Sutherland**	**31.21**	**259**	*e*P	**P**	**01 08 30.8**	**+1.5**
	comp=Z,30nm,1.2s						
SUR				LR	LR		
	comp=Z,671nm,19.0s						
LSZ	**Lusaka**	**31.58**	**295**	*e*P	**P**	**01 08 32.5**	**-0.1**
	comp=Z,23nm,1.6s						
LSZ				LR	LR		
	comp=Z,606nm,21.0s						
LSZ	**Lusaka**	**31.58**	**295**	P	**P**	**01 08 33.0**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=122,slow=13,SNR=10.0						
MAW	**Mawson**	**35.94**	**177**	LR	LR	01 20 00.9	
	comp=Z,789nm,20.7s,baz=338,slow=30						
KMBO	**Kilima Mbogo**	**36.16**	**324**	*e*P	**P**	**01 09 14

IPAR Pars 61.49 355 *e*P **P 01 12 25.5 -1.2**
IKAZ Kazeroun 61.53 354 *e*P **P 01 12 25.8 -1.1**
SBUM Sibu 61.83 67 *e*P **P 01 12 29.6 +0.6**
comp=Z,65nm,1.9s
SBUM Sibu 61.83 67 ⇑P **P 01 12 29.6 +0.6**
VNDA Vanda 62.15 166 *e*P **P 01 12 30.0 -0.3**
comp=Z,15nm,1.1s
VNDA Vanda 62.15 166 P **P 01 12 29.7 -0.5**
comp=Z,10nm,1.0s,baz=252,slow=5.0,SNR=8.6
VNDA LR LR 01 37 27.9
comp=Z,653nm,19.0s,baz=252,slow=34
SBA Scott Base 62.98 167 PFAKE 01 12 50.0 +14
SBA LR LR
comp=Z,1μm,20.0s
ISAD Sadrabad 63.51 356 *e*P **P 01 12 42.1 +2.0**
KAPI Kappang 63.65 79 *e*P **P 01 12 40.0 -1.2**
comp=Z,249nm,1.4s
CM01 Chiang Mai Arr 63.69 44 *e*P **P 01 12 40.5 -0.7**
CMAR Chiang Mai Arr 63.71 44 P **P 01 12 40.6 -0.7**
CMAR Chiang Mai Arr 63.71 44 P **P 01 12 40.6 -0.7**
comp=Z,9.4nm,0.8s,baz=232,slow=6.7,SNR=47
CMAR LR LR 01 36 04.0
comp=Z,240nm,21.0s,baz=208,slow=32
ICHK Chekchek 63.80 357 *e*P **P 01 12 41.8 -0.2**
CHTO Chiang Mai 63.98 44 *e*P **P 01 12 42.8 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,1.4s
CHTO MLR MLR
comp=Z,292nm,21.0s
CHTO Chiang Mai 63.98 44 *e*P **P 01 12 42.8 -0.4**
comp=Z,7.9nm,1.4s
CHTO LR LR
comp=Z,292nm,21.0s
KOLN Koldanda 64.17 25 *e*P **P 01 12 43.5 -1.0**
comp=Z,182nm,1.5s
IDAH Dahanechah 64.25 2 *e*P **P 01 12 43.7 -1.3**
PYUN Piuthan 64.25 25 *e*P **P 01 12 44.0 -1.0**
comp=Z,41nm,1.1s
IPIR Pirpir 64.49 354 *e*P **P 01 12 46.3 -0.3**
IZEF Zefreh 64.58 355 *e*P **P 01 12 46.6 -0.5**
DMN Daman 64.59 27 *e*P **P 01 12 46.6 -0.7**
RAMN Ramite 64.59 28 *e*P **P 01 12 46.8 -0.5**
comp=Z,184nm,1.4s
PKI Pulchoki 64.68 27 *e*P **P 01 12 46.8 -1.1**
comp=Z,129nm,1.7s
PKIN Phulchoki 64.68 27 *e*P **P 01 12 46.6 -1.3**
comp=Z,7.9nm,0.7s
DANN Dangsing 64.76 25 *e*P **P 01 12 47.1 -1.3**
comp=Z,58nm,1.0s
GKN Gorkha 64.77 26 *e*P **P 01 12 47.0 -1.3**
comp=Z,106nm,1.2s
KKN Kakani 64.82 27 *e*P **P 01 12 47.8 -0.9**
comp=Z,114nm,1.2s
ODAN Odare 64.84 29 *e*P **P 01 12 47.9 -1.0**
comp=Z,42nm,1.0s
EIL Elat 64.89 338 P **P 01 12 50.0 +1.1**
EIL Elat 64.89 338 P **P 01 12 50.0 +1.1**
comp=Z,9.2nm,1.0s,baz=184,slow=13,SNR=11
IKLH Kolahrood 65.06 354 *e*P **P 01 12 50.4 +0.2**
JIRN Jiri 65.06 28 *e*P **P 01 12 49.4 -1.1**
comp=Z,82nm,1.5s
GUN Gumba 65.16 27 *e*P **P 01 12 49.8 -1.3**
comp=Z,115nm,1.2s
TAPN Taplejung 65.40 29 *e*P **P 01 12 51.6 -1.0**
comp=Z,99nm,1.4s
SHL Shillong 65.72 34 *e*P **P 01 12 55.0 +0.4**
ASF Jabal al Asfar 66.64 341 P **P 01 13 01.4 +1.1**
ASF Jabal al Asfar 66.64 341 P **P 01 13 01.4 +1.1**
comp=Z,11nm,1.1s,baz=172,slow=3.7,SNR=9.3
ASAR Alice Springs 66.64 104 P **P 01 12 58.9 -1.7**
ASAR Alice Springs 66.64 104 P **P 01 12 58.9 -1.7**
comp=Z,15nm,0.9s,baz=238,slow=6.2,SNR=98
ASAR LR LR 01 38 07.9
comp=Z,77nm,21.7s,baz=250,slow=32
AS31 Alice Springs 66.65 104 *e*P **P 01 12 59.0 -1.6**
AS01 Alice Springs 66.68 104 *e*P **P 01 12 58.9 -1.9**
IVRN Varamin 66.71 355 *e*P **P 01 13 01.1 +0.5**
KBL Kabul 66.86 10 *e*P **P 01 13 02.5 +0.7**
KBL pmax pmax
comp=Z,20nm,1.1s
KBL Kabul 66.86 10 *e*P **P 01 13 02.5 +0.7**
comp=Z,20nm,1.1s
ILAS Lasjerd 67.01 356 *e*P **P 01 13 02.9 +0.2**
IDHR Dehrash 67.04 350 *e*P **P 01 13 01.7 -1.2**
IANJ Anjilo 67.04 357 *e*P **P 01 13 02.5 -0.3**
KKM Kota Kinabalu 67.17 67 *e*P **P 01 13 03.4 -0.6**
comp=Z,12nm,0.9s
IDMV Damavand 67.27 355 *e*P **P 01 13 03.2 -1.2**
IRAZ Razeghan 67.28 353 *e*P **P 01 13 03.9 -0.5**
ISHM Shahmirzad 67.41 356 *e*P **P 01 13 04.1 -1.2**
TSM Tawau 67.42 69 ⇓P **P 01 13 05.1 -0.5**
IMHD Mahdasht 67.49 354 *e*P **P 01 13 05.8 +0.2**
SDKM Sandakan 67.69 68 ⇓P **P 01 13 05.9 -1.4**
IALA Alasht 67.72 356 *e*P **P 01 13 08.1 +0.9**
ISRO Mashad 67.80 1 *e*P **P 01 13 06.2 -1.3**
IMYA Miami 67.85 2 *e*P **P 01 13 07.0 -0.9**
MMAI Mount Meron Ar 67.86 340 P **P 01 13 08.4 +0.4**
MMAI Mount Meron Ar 67.86 340 P **P 01 13 08.4 +0.4**
comp=Z,8.7nm,0.9s,baz=170,slow=10.0,SNR=6.9
IGLO Ghaloghah 68.07 357 *e*P **P 01 13 10.2 +0.8**
IGZV Ghazvin 68.22 353 *e*P **P 01 13 10.3 0.0**
WRA Warramunga Arr 68.66 101 P **P 01 13 11.5 -1.9**
WRA Warramunga Arr 68.66 101 P **P 01 13 11.5 -1.9**
comp=Z,29nm,1.0s,baz=241,slow=5.5,SNR=69
WRA LR LR 01 39 07.1
comp=Z,156nm,20.6s,baz=240,slow=32
WRAB Tennant Creek 68.68 101 P **P 01 13 12.0 -1.4**
comp=Z,263nm,1.1s,SNR=10
WRAB Tennant Creek 68.68 101 *d* iP **P 01 13 12.4 -1.0**
WRAB Tennant Creek 68.68 101 *e*P **P 01 13 12.1 -1.4**
comp=Z,92nm,1.4s
SLVN Son La 68.90 46 *e*P **P 01 13 14.2 -0.4**
comp=Z,32nm,1.4s
LSA Lhasa 68.92 31 *e*P **P 01 13 14.8 -0.3**
LSA pmax pmax
comp=Z,58nm,1.5s
LSA MLR MLR
comp=Z,432nm,19.0s
LSA Lhasa 68.92 31 *e*P **P 01 13 14.8 -0.3**
comp=Z,58nm,1.5s
LSA LR LR
comp=Z,432nm,19.0s
STKA Stephens Creek 69.29 115 *e*P **P 01 13 16.4 -0.7**
comp=Z,6.2nm,1.2s
STKA Stephens Creek 69.29 115 P **P 01 13 15.6 -1.5**
comp=Z,19nm,1.1s,baz=238,slow=4.7,SNR=15
STKA LR LR 01 37 24.0
comp=Z,135nm,19.1s,baz=207,slow=31
TOA0 Torodi Ar. Sit 69.86 301 *e*P **P 01 13 20.7 0.0**
TORD Torodi Ar. Bea 69.86 301 P **P 01 13 21.2 +0.5**
TORD PP PP 01 15 49.0 -6.5
TORD Torodi Ar. Bea 69.86 301 P **P 01 13 21.2 +0.5**
comp=Z,3.6nm,0.9s,baz=127,slow=5.2,SNR=20
TORD PP PP 01 15 49.0 -6.5
comp=Z,1.3nm,1.0s,baz=132,slow=4.3,SNR=4.1
TORD LR LR 01 44 53.3
comp=Z,422nm,18.3s,baz=115,slow=37
IBST Bostanabad 69.91 351 *e*P **P 01 13 20.2 -0.5**
CSS Prodhromos 70.30 339 *e*P **P 01 13 24.2 +1.3**
comp=Z,44nm,1.3s
CSS LR LR
comp=Z,92nm,20.0s
ITBZ Tabriz 70.54 350 *e*P **P 01 13 24.0 -0.5**
KIC Kosan Boka 70.56 291 *e*P P 01 13 20.1 -4.9
comp=Z,123nm,1.9s
LIC Lamto 70.71 290 *e*P **P 01 13 26.9 +1.0**
comp=Z,27nm,1.1s,baz=124
LIC *e*R
comp=Z,326nm,22.5s
LIC Lamto 70.71 290 *e*P P 01 13 18.2 -7.7
comp=Z,32nm,1.1s
LIC Lamto 70.71 290 *e*P **P 01 13 26.9 +1.0**
comp=Z,27nm,1.1s
DBIC Dimbokro 70.83 291 *e*P **P 01 13 27.8 +1.1**
comp=Z,22nm,1.1s
DBIC Dimbokro 70.83 291 P **P 01 13 26.7 0.0**
comp=Z,7.1nm,0.9s,baz=102,slow=6.1,SNR=6.9
DBIC LR LR 01 41 43.7
comp=Z,165nm,21.0s,baz=108,slow=34
TIC Toumodi 70.95 291 *e*P P 01 13 18.6 -8.8
QIZ Qiongzhong 71.05 52 P **P 01 13 28.0 +0.2**
QIZ S **S 01 22 46.3 +2.5**
QIZ LR LR
comp=Z,380nm,18.8s
QIZ Qiongzhong 71.05 52 PFAKE 01 13 40.0 +12
QIZ LR LR
comp=Z,287nm,21.0s
IMRD Marand 71.07 350 *e*P **P 01 13 27.2 -0.6**
KMI Kunming 71.08 43 P **P 01 13 27.3 -0.9**
KMI pmax pmax
comp=Z,12nm,1.5s
KMI LR LR
comp=Z,170nm,19.5s
KMI LR LR
comp=Z,200nm,19.1s
GNI Garni 72.63 350 *e*P **P 01 13 37.8 +0.7**
comp=Z,145nm,1.8s
GNI LR LR
comp=Z,379nm,20.0s
GNI Garni 72.63 350 P **P 01 13 35.8 -1.2**
comp=Z,5.8nm,0.8s,baz=147,slow=6.5,SNR=5.8
KSH Kashi 72.97 15 *i* P **P 01 13 36.3 -2.8**
KSH *e*PcP **PcP 01 13 54.3 -1.7**
KSH *e*PP **PP 01 16 18.1 -3.9**
KSH *e*S S 01 22 56.0 -9.4
KSH *e*SS SKiKP 01 23 04.1 -7.6
KSH *e*SS SS 01 27 34.4 -12
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,160nm,5.0s
KSH LR LR
comp=Z,130nm,5.5s
KSH LR LR
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,240nm,5.8s
TAM Tamanrasset 73.81 311 *e*P **P 01 13 45.6 +1.2**
TAM pmax pmax
comp=Z,10.0nm,1.4s
TAM MLR MLR
comp=Z,361nm,19.0s
TAM Tamanrasset 73.81 311 *e*P **P 01 13 45.6 +1.2**
comp=Z,10nm,1.4s
TAM LR LR
comp=Z,361nm,19.0s
SANT Santorini 74.29 333 PFAKE 01 14 00.0 +13
SANT LR LR
comp=Z,241nm,22.0s
GYA Guiyang 74.39 45 P **P 01 13 48.8 +1.1**
GYA PP **PP 01 16 38.0 +3.6**
GYA S **S 01 23 24.9 +2.9**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,150nm,5.4s
GYA LR LR
comp=Z,660nm,20.4s
GYA LR LR
comp=Z,580nm,21.0s
GYA LR LR
comp=Z,640nm,20.6s
BR131 Keskin Array S 74.63 341 *e*P **P 01 13 50.1 +1.3**
comp=Z,7.1nm,0.9s
BRTR Keskin Array B 74.63 341 P **P 01 13 49.0 +0.2**
BRTR Keskin Array B 74.63 341 P **P 01 13 49.0 +0.2**
comp=Z,4.3nm,0.9s,baz=171,slow=6.6,SNR=14
BRTR LR LR 01 42 55.3
comp=Z,114nm,22.0s,baz=138,slow=33
BR231 Keskin MP Arra 74.98 340 *e*P **P 01 13 49.8 -1.1**
ANTO Ankara 75.00 340 PFAKE 01 14 00.0 +9.1
ANTO LR LR
comp=Z,329nm,21.0s
MAK Makhachkala 75.02 352 P **P 01 13 50.7 -0.1**
MAK *e*PPP PPP 01 18 33.5
MAK *e*S **S 01 23 28.7 +0.8**
MAK *e* 01 24 02.0
MAK pmax pmax
comp=Z,125nm,1.2s
MAK MLR MLR
comp=Z,652nm,16.0s
ZEI Tsey 75.33 349 *e*P **P 01 13 53.1 +0.2**
ZEI pmax pmax
comp=Z,29nm,1.7s
KK31 Karatay Array 75.48 10 *i* P **P 01 13 54.1 +0.6**
KKAR Karatay Array 75.48 10 *e*P **P 01 13 54.4 +0.9**
KKAR pmax pmax
comp=Z,63nm,1.3s
KKAR Karatay Array 75.48 10 *e*P **P 01 13 54.4 +0.9**
comp=Z,63nm,1.3s
EKS2 Erkin-Say 75.57 12 *e*P **P 01 13 54.5 +0.3**
EKS2 pmax pmax
comp=Z,59nm,1.6s
EKS2 MLR MLR
comp=Z,326nm,21.0s
EKS2 Erkin-Say 75.57 12 *e*P **P 01 13 54.5 +0.3**
comp=Z,59nm,1.6s
EKS2 LR LR
comp=Z,326nm,21.0s
AAK Ala-Archa 75.68 13 P **P 01 13 55.4 +0.6**
comp=Z,106nm,1.5s,SNR=9.8
AAK Ala-Archa 75.68 13 *c* iP **P 01 13 55.3 +0.5**
AAK pmax pmax
comp=Z,115nm,1.7s
AAK Ala-Archa 75.68 13 *e*P **P 01 13 55.7 +0.8**
comp=Z,126nm,1.9s
AAK LR LR
comp=Z,369nm,22.0s
FRU Bishkek 75.89 13 *i* P **P 01 13 57.0 +1.1**
FRU pmax pmax
comp=Z,114nm,1.8s
CD2 Chengdu 76.11 40 *e*P **P 01 13 56.4 -1.1**
CD2 sP **sP 01 14 05.3 +1.2**
CD2 PcP **PcP 01 14 11.4 +1.8**
CD2 PP **PP 01 16 51.5 +2.7**
CD2 S **S 01 23 42.1 +1.3**
CD2 ScS **SKSac 01 24 07.4 -0.5**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,110nm,8.3s
CD2 LR LR
comp=Z,200nm,14.3s
CD2 LR LR
comp=Z,140nm,15.5s
TKM2 Tokmak 2 76.16 13 *e*P **P 01 13 58.1 +0.4**
TKM2 pmax pmax
comp=Z,41nm,1.5s
TKM2 MLR MLR
comp=Z,296nm,21.0s
TKM2 Tokmak 2 76.16 13 *e*P **P 01 13 58.1 +0.4**
comp=Z,41nm,1.5s
TKM2 LR LR
comp=Z,296nm,21.0s
KBZ Khabaz 76.41 349 P **P 01 13 59.6 +0.8**
KBZ Khabaz 76.41 349 P **P 01 13 59.6 +0.8**
KBZ Khabaz 76.41 349 P **P 01 13 59.6 +0.8**
comp=Z,6.9nm,1.1s,baz=79,slow=12,SNR=4.7
KBZ LR LR 01 47 42.5
comp=Z,242nm,18.3s,baz=178,slow=36
KIV Kislovodsk 76.67 349 *e*P **P 01 14 00.0 -0.3**
KIV *e*S **S 01 23 44.2 -2.2**
KIV *e*SS **SS 01 28 40.0 -2.8**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,216nm,18.0s
KIV Kislovodsk 76.67 349 *e*P **P 01 14 00.8 +0.5**
comp=Z,84nm,1.6s
KIV LR LR
comp=Z,253nm,20.0s
ARMA Armidale 77.60 118 *e*P **P 01 14 06.9 +0.8**
CTAO Charters Tower 78.45 106 *e*P **P 01 14 11.0 +0.1**
CTAO pmax pmax
comp=Z,70nm,1.5s
CTAO Charters Tower 78.45 106 *e*P **P 01 14 11.0 +0.1**
comp=Z,70nm,1.5s
WDD Wield Dalam 78.61 325 PFAKE 01 14 20.0 +8.8
WDD LR LR
comp=Z,526nm,19.0s
ENH Enshi 78.88 44 *e*P **P 01 14 12.6 -0.3**
comp=Z,21nm,1.0s
ENH LR LR
comp=Z,18nm,19.0s
SIM Simferopol' 79.39 343 *e*P **P 01 14 14.5 -0.8**
SIM pmax pmax
comp=Z,32nm,1.3s
SIM MLR MLR
comp=N,120nm,19.1s
MMB Musomiste 79.51 335 ⇓P **P 01 14 15.1 -1.0**
MMB Musomiste 79.51 335 ⇓*i*P **P 01 14 15.1 -1.0**
CEL Celeste 79.90 328 PFAKE 01 14 30.0 +12
CEL LR LR
comp=Z,284nm,20.0s
WMQ Urumqi 80.11 22 P **P 01 14 19.9 +0.6**
WMQ pP **pP 01 14 24.4 +0.1**
WMQ sP **sP 01 14 26.9 +0.9**
WMQ PP **PP 01 17 23.3 +1.3**
WMQ SKS **SKSac 01 24 31.8 -4.3**
WMQ ScS **ScS 01 24 40.9 -2.9**
WMQ pmax pmax
comp=Z,13nm,2.2s
WMQ pmax pmax
comp=Z,150nm,4.2s
WMQ LR LR
comp=Z,250nm,20.1s
WMQ LR LR
comp=Z,220nm,21.0s
LZH Lanzhou 80.18 36 *e*P **P 01 14 20.8 +0.7**
LZH pP **pP 01 14 24.8 -0.2**
LZH sP **sP 01 14 27.3 +0.5**
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,140nm,5.0s
AB31 Akbulak array 80.74 1 *i* P **P 01 14 22.3 -0.2**
AB31 pmax pmax
comp=Z,96nm,1.6s
ABKAR Akbulak array 80.74 1 *e*P **P 01 14 22.7 +0.1**
GTA Gaotai 80.92 32 *e*P **P 01 14 23.8 -0.1**
GTA pP **pP 01 14 28.6 -0.2**
GTA sP **sP 01 14 31.3 +0.7**
GTA PP **PP 01 17 32.3 +3.4**
GTA S **S 01 24 34.3 +2.2**
GTA sS **SKSac 01 24 41.9 -0.2**
GTA pmax pmax
comp=Z,23nm,1.4s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=Z,190nm,19.7s
GTA LR LR
comp=Z,200nm,18.8s
KEST Kesra 81.11 322 LR LR 01 53 11.3
comp=Z,79nm,18.0s,baz=181,slow=38
CFR Carcaliu 81.24 339 ⇑P **P 01 14 25.9 +0.7**
CFR Carcaliu 81.24 339 ⇑*i*P **P 01 14 25.9 +0.7**
XAN Xi'an 81.32 41 P **P 01 14 25.1 -1.0**
XAN pP **pP 01 14 29.8 -1.2**
XAN pmax pmax
comp=Z,5.0nm,1.4s
XAN LR LR
comp=Z,110nm,18.3s
MKAR Makanchi Array 81.33 17 P **P 01 14 25.4 -0.4**
MKAR Makanchi Array 81.33 17 P **P 01 14 25.4 -0.4**
MKAR Makanchi Array 81.33 17 P **P 01 14 25.4 -0.4**
comp=Z,3.0nm,0.7s,baz=188,slow=3.7,SNR=30
AKTO Aktyubinsk 81.90 0 P **P 01 14 28.7 0.0**
AKTO Aktyubinsk 81.90 0 P **P 01 14 28.7 0.0**
AKTO Aktyubinsk 81.90 0 P **P 01 14 28.7 0.0**
comp=Z,4.3nm,0.9s,baz=172,slow=6.8,SNR=15
WHN Wuhan 82.01 47 P **P 01 14 27.3 -2.4**
MLR Muntele Rosu 82.20 338 ⇑*i*P **P 01 14 31.2 +0.7**
MLR Muntele Rosu 82.20 338 P **P 01 14 30.5 0.0**
MLR Muntele Rosu 82.20 338 P **P 01 14 30.5 0.0**
comp=Z,6.3nm,1.2s,baz=157,slow=12,SNR=8.9
PLOR Plostina 82.30 339 ⇑P **P 01 14 30.8 -0.1**
PLOR Plostina 82.30 339 ⇑*i*P **P 01 14 30.8 -0.1**
VOIR 82.44 337 ⇑P **P 01 14 31.7 0.0**
VOIR 82.44 337 ⇑*i*P **P 01 14 31.6 -0.1**
ARR Arges 82.51 337 ⇓*i*P **P 01 14 31.8 -0.3**
KIS Kishinev 82.69 340 *e*P **P 01 14 33.0 +0.2**
KIS *e* 01 14 39.0
KIS Kishinev 82.69 340 *e*P **P 01 14 33.0 +0.2**
DOPR Dopca 82.80 338 ⇑*i*P **P 01 14 31.6 -1.9**
GZR Gura Zlata 83.17 336 ⇓P **P 01 14 36.3 +0.8**
GZR Gura Zlata 83.17 336 ⇓*i*P **P 01 14 36.3 +0.8**
BZS Buzias 83.77 335 ⇓P **P 01 14 39.0 +0.6**
BZS Buzias 83.77 335 ⇓*i*P **P 01 14 39.0 +0.6**
VRHR Novokhopersk 83.78 350 *e*P **P 01 14 38.2 -0.2**
VRHR pmax pmax
comp=Z,30nm,1.1s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,30nm,1.3s
VSL Villasalto 83.97 324 PFAKE 01 14 50.0 +10
VSL LR LR
comp=Z,167nm,22.0s
VORD Divnogorie 84.03 348 *e*P **P 01 14 38.4 -1.2**
VORD pmax pmax
comp=Z,20nm,1.4s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.8s
CJR Cluj-Napoca 84.04 337 ⇑P **P 01 14 40.4 +0.5**
CJR Cluj-Napoca 84.04 337 ⇑*i*P **P 01 14 40.4 +0.5**
KURBB Kurchatov Arra 84.12 13 P **P 01 14 39.9 -0.2**
comp=E,24nm,1.2s,baz=208,slow=5.5,SNR=87
KURK Kurchatov 84.23 13 P **P 01 14 40.7 0.0**
comp=E,105nm,1.2s,SNR=25
KURK Kurchatov 84.23 13 *e*P **P 01 14 39.9 -0.8**
KURK pmax pmax
comp=Z,50nm,1.5s
KURK MLR MLR
comp=Z,126nm,21.0s
KURK Kurchatov 84.23 13 *e*P **P 01 14 39.9 -0.8**
comp=Z,50nm,1.5s
KURK LR LR
comp=Z,126nm,21.0s
VSR Storozhevoye 84.30 348 *e*P **P 01 14 39.6 -1.4**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.6s
BURAR Bucovina Array 84.32 339 ⇑P **P 01 14 43.4 +2.0**
BURAR Bucovina Array 84.32 339 ⇑*i*P **P 01 14 43.4 +2.0**
BUR08 Bucovina Ar. S 84.35 339 *e*P **P 01 14 43.1 +1.5**
DRGR 84.41 337 ⇑P **P 01 14 41.9 +0.1**
DRGR 84.41 337 ⇑*i*P **P 01 14 41.9 +0.1**
VOSK Vostochnaya 84.98 8 P **P 01 14 43.3 -1.2**
VOSK pmax pmax
comp=Z,50nm,1.7s
BVAR Borovoye Array 85.21 8 P **P 01 14 45.5 -0.1**
BVAR Borovoye Array 85.21 8 P **P 01 14 45.5 -0.1**
BVAR Borovoye Array 85.21 8 P **P 01 14 45.5 -0.1**
comp=Z,14nm,0.8s,baz=176,slow=5.9,SNR=71
BRVK Borovoye 85.23 8 P **P 01 14 46.4 +0.7**
comp=Z,210nm,1.2s,SNR=22
BRVK Borovoye 85.23 8 *c* iP **P 01 14 45.6 -0.1**
BRVK pmax pmax
comp=Z,41nm,1.3s
BRVK Borovoye 85.23 8 *e*P **P 01 14 45.3 -0.3**
comp=Z,103nm,1.4s
BRVK LR LR
comp=Z,262nm,21.0s
NJ2 Nanjing 85.86 48 *e*P **P 01 14 49.0 -0.3**
NJ2 pmax pmax
comp=Z,20nm,0.8s
KIEV Kiev 85.95 342 *e*P **P 01 14 48.6 -0.7**
KIEV pmax pmax
comp=Z,42nm,1.8s
KIEV Kiev 85.95 342 *e*P **P 01 14 48.6 -0.7**
comp=Z,42nm,1.8s
AKASG Malin Array Be 85.96 342 P **P 01 14 48.4 -0.9**
AKASG Malin Array Be 85.96 342 P **P 01 14 48.4 -0.9**
AKASG Malin Array Be 85.96 342 P **P 01 14 48.4 -0.9**
comp=Z,0.4nm,0.2s,baz=147,slow=5.1,SNR=10
UZH Uzhgorod 86.15 337 *d* iP **P 01 14 49.6 -0.7**
PSZ Piszkesteto 86.35 336 *e*P **P 01 14 51.5 0.0**
PSZ pmax pmax
comp=Z,13nm,1.3s
PSZ Piszkesteto 86.35 336 *e*P **P 01 14 51.5 0.0**
comp=Z,13nm,1.3s
KOLS Kolonicke sedl 86.42 337 *e*P **P 01 14 52.0 +0.3**
KOLS pmax pmax
comp=Z,39nm,2.0s
KOLS Kolonicke sedl 86.42 337 *e*P **P 01 14 52.0 +0.3**
PGF Pioggiola 86.50 326 *e*P **P 01 14 53.4 +1.0**
comp=Z,53nm,1.6s
PGF Pioggiola 86.50 326 *e*P **P 01 14 53.4 +1.0**
PGF pmax pmax
comp=Z,53nm,1.6s
PGF Pioggiola 86.50 326 *e*P **P 01 14 53.4 +1.0**

KECS **Kecovo** 86.63 336 *e*P P 01 14 52.4 -0.3
KECS pmax pmax
comp=Z,7.0nm,1.6s
KECS **Kecovo** 86.63 336 *e*P P 01 14 52.4 -0.3
LVV **L'vov** 86.64 339 *e*P P 01 14 53.8 +1.1
CRVS **Cervenica-Dubn** 86.66 337 *e*P P 01 14 53.0 +0.1
CRVS pmax pmax
comp=Z,32nm,1.8s
CRVS **Cervenica-Dubn** 86.66 337 *e*P P 01 14 53.0 +0.1
SNZO **South Karori** 86.87 138 PFAKE 01 15 00.0 +5.6
SNZO LR LR
comp=Z,400nm,20.0s
SOKA **Soboth** 87.14 332⇑ *i*P P 01 14 55.7 +0.3
comp=Z,23nm,1.5s,SNR=6.7
STHS **Stebnicka Huta** 87.17 337 *e*P P 01 14 56.4 +1.0
STHS pmax pmax
comp=Z,5.0nm,1.5s
STHS **Stebnicka Huta** 87.17 337 *e*P P 01 14 56.4 +1.0
ARSA **Arzberg** 87.41 333 *i* P P 01 14 57.4 +0.8
comp=Z,16nm,1.5s,SNR=6.5
TIA **Tai'an** 87.58 44 ⇓P P 01 14 56.9 -0.8
TIA pmax pmax
comp=Z,20nm,1.5s
HHC **Hu-ho-hao-te** 87.74 38 *e*P P 01 14 58.1 -0.4
HHC pP **pP** 01 15 02.6 -0.8
HHC SKS **SKSac** 01 25 26.4 +0.4
HHC S **S** 01 25 42.0 +1.8
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,260nm,5.3s
HHC LR LR
comp=Z,240nm,14.7s
HHC LR LR
comp=Z,340nm,15.7s
CONA **Conrad Observa** 87.84 333⇓ *i*P P 01 14 59.0 +0.3
comp=Z,46nm,1.4s,SNR=24
ARU **Arti** 87.91 0 P P 01 14 58.7 0.0
comp=Z,150nm,1.6s,SNR=11
ARU **Arti** 87.91 0*c i*P P 01 14 59.0 +0.3
ARU 01 18 25.4
ARU S **SKSac** 01 25 24.5 -1.5
ARU SS **SS** 01 31 26.8 -2.5
ARU pmax pmax
comp=Z,62nm,1.7s
ARU **Arti** 87.91 0 *e*P P 01 14 58.5 -0.2
comp=Z,77nm,1.5s
ARU LR LR
comp=Z,239nm,19.0s
KBA **Koelnbreinsper** 88.14 331⇑ *i*P P 01 14 59.4 -0.9
comp=Z,20nm,1.4s,SNR=6.2
ABTA **Abfaltersbach** 88.22 331⇓ *i*P P 01 15 01.1 +0.6
comp=Z,26nm,1.4s,SNR=6.5
SBF **Sospel** 88.24 326 *e*P P 01 15 01.7 +1.0
comp=Z,33nm,1.3s
SBF **Sospel** 88.24 326 *e*P P 01 15 01.7 +1.0
SBF pmax pmax
comp=Z,33nm,1.3s
SBF **Sospel** 88.24 326 *e*P P 01 15 01.7 +1.0
comp=Z,33nm,1.3s
LMR **La Mourre** 88.29 325 *e*P P 01 15 02.3 +1.5
LMR **La Mourre** 88.29 325 *e*P P 01 15 02.3 +1.5
LMR **La Mourre** 88.29 325 *e*P P 01 15 02.3 +1.5
SVE **Sverdlovsk** 88.34 2⇑ *i*P P 01 15 01.5 +0.8
SVE pmax pmax
comp=Z,42nm,1.8s
MOA **Molln** 88.40 332⇑ *i*P P 01 15 01.7 +0.4
comp=Z,26nm,1.3s,SNR=6.7
OBN **Obninsk** 88.49 348 P P 01 15 02.5 +1.1
comp=Z,220nm,1.2s,SNR=5.5
OBN **Obninsk** 88.49 348⇑ *i*P P 01 15 02.0 +0.6
OBN pmax pmax
comp=Z,52nm,1.6s
OBN MLR MLR
comp=Z,200nm,20.0s
OBN **Obninsk** 88.49 348 *e*P P 01 15 02.0 +0.6
comp=Z,131nm,1.6s
OBN LR LR
comp=Z,214nm,20.0s
OBN **Obninsk** 88.49 348 P P 01 15 02.1 +0.7
comp=Z,17nm,0.9s,baz=60,slow=1.6,SNR=18
ZAA0 **Zalesovo Array** 88.58 16 P P 01 15 00.7 -1.2
ZALV **Zalesovo Beam** 88.58 16 P P 01 15 00.3 -1.7
ZALV **Zalesovo Beam** 88.58 16 P P 01 15 00.3 -1.7
ZALV **Zalesovo Beam** 88.58 16 P P 01 15 00.3 -1.7
comp=Z,3.0nm,0.8s,baz=212,slow=4.7,SNR=18
ZALV LR LR 01 51 45.7
comp=Z,160nm,20.6s,baz=248,slow=34
OKC **Ostrava-Krasne** 88.59 336 *e*P P 01 15 02.4 +0.3
OKC *e* 01 15 06.8
OKC **Ostrava-Krasne** 88.59 336 *e*P P 01 15 02.4 +0.3
OKC *e*pP **pP** 01 15 06.8 -0.3
VRAC **Vranov** 88.70 334 P P 01 15 03.0 +0.3
VRAC **Vranov** 88.70 334 P P 01 15 03.0 +0.3
comp=Z,5.8nm,1.1s,baz=154,slow=4.4,SNR=10
MORC **Moravsky Berou** 88.75 335 *e*P P 01 15 02.2 -0.7
MORC pmax pmax
comp=Z,34nm,1.6s
MORC **Moravsky Berou** 88.75 335 *e*P P 01 15 02.2 -0.7
comp=Z,34nm,1.6s
RJOB **Jochberg** 88.89 332 *e*P P 01 15 03.7 0.0
comp=Z,37nm,1.8s
MOS **Moscow** 88.90 349 *e*P P 01 15 03.7 +0.3
MOS *e* 01 18 36.8
MOS *e*PPP PPP 01 20 28.4
MOS pmax pmax
comp=Z,200nm,1.9s
MOS pmax pmax
comp=Z,88nm,1.7s
WTTA **Wattenberg** 89.00 331 *i* P P 01 15 04.7 +0.4
comp=Z,23nm,1.0s,SNR=8.0
FUORN **Ofenpass-Fuorn** 89.08 329 *e*P P 01 15 06.0 +1.1
TREC **Trest** 89.10 334 *e*P P 01 15 04.8 +0.2
TREC *e* 01 15 09.4
TREC **Trest** 89.10 334 *e*P P 01 15 04.8 +0.2
TREC *e*pP **pP** 01 15 09.4 -0.2
FETA **Feichten** 89.19 330⇓ *i*P P 01 15 05.8 +0.6
comp=Z,19nm,1.3s,SNR=6.5
MBDF **Montbardon** 89.21 326 *e*P P 01 15 06.7 +1.4
comp=Z,71nm,1.6s
MBDF **Montbardon** 89.21 326 *e*P P 01 15 06.7 +1.4
MBDF pmax pmax
comp=Z,71nm,1.6s
MBDF **Montbardon** 89.21 326 *e*P P 01 15 06.7 +1.4
comp=Z,71nm,1.6s
SMRF **Simiane la Rot** 89.22 325 *e*P P 01 15 07.4 +2.1
SMRF **Simiane la Rot** 89.22 325 *e*P P 01 15 07.4 +2.1
KRLC **Kraliky** 89.27 335 *e*P P 01 15 05.7 +0.3
KRLC *e* 01 15 09.9
KRLC **Kraliky** 89.27 335 *e*P P 01 15 05.7 +0.3
KRLC *e*pP **pP** 01 15 09.9 -0.5
MOTA **Moosalm** 89.28 330⇓ *i*P P 01 15 05.4 -0.3
comp=Z,14nm,1.1s,SNR=8.5
TUE **Stuetta** 89.36 329 *e*P P 01 15 05.7 -0.4
comp=Z,14nm,1.4s
TUE LR LR
comp=Z,529nm,21.0s
DAVOX **Davos/Dischmat** 89.37 329 P P 01 15 06.9 +0.8
DAVOX **Davos/Dischmat** 89.37 329 P P 01 15 06.9 +0.8
comp=Z,6.4nm,1.0s,baz=186,slow=4.8,SNR=9.1
GEC2 **GERESS Array S** 89.42 333 *e*P P 01 15 05.8 -0.4
comp=Z,29nm,1.8s
GERES **GERESS Array B** 89.42 333 P P 01 15 05.7 -0.5
GERES **GERESS Array B** 89.42 333 P P 01 15 05.7 -0.5
comp=Z,2.1nm,1.1s,baz=144,slow=4.8,SNR=13
GERES LR LR 01 54 56.8
comp=Z,51nm,21.9s,baz=145,slow=35
RETA **Reutte** 89.54 330⇑ *i*P P 01 15 07.3 +0.5
comp=Z,25nm,1.6s,SNR=7.4
BJT **Baijiatuan** 89.64 41 PFAKE 01 15 20.0 +13
BJT LR LR
comp=Z,290nm,22.0s
BJI **Beijing** 89.66 41 P P 01 15 09.3 +2.0
BJI pmax pmax
comp=Z,7.0nm,0.8s
DPC **Dobruska-Polom** 89.67 335 *e*P P 01 15 08.3 +1.1
DPC **Dobruska-Polom** 89.67 335 *e*P P 01 15 07.8 +0.6
DPC *e*pP **pP** 01 15 12.5 +0.3
DPC **Dobruska-Polom** 89.67 335 *e*P P 01 15 08.3 +1.1
KHC **Kasperske Hory** 89.70 333 *e*P P 01 15 07.3 -0.1
KHC pmax pmax
comp=Z,31nm,1.7s
KHC **Kasperske Hory** 89.70 333 *e*P P 01 15 07.0 -0.4
KHC *e*pP **pP** 01 15 11.8 -0.6
KHC **Kasperske Hory** 89.70 333 *e*P P 01 15 07.3 -0.1
comp=Z,31nm,1.7s
MICGM **Minsk** 89.76 343⇑ *e*P P 01 15 07.0 -0.5
MNK **Minsk** 89.77 343⇑ *e*P P 01 15 07.0 -0.5
ORIF **Oris-en-Rattie** 89.77 326 *e*P P 01 15 09.0 +1.1
comp=Z,17nm,1.4s
ORIF *e*R
comp=Z,158nm,18.8s
ORIF **Oris-en-Rattie** 89.77 326 *e*P P 01 15 09.0 +1.1
ORIF pmax pmax
comp=Z,17nm,1.4s
ORIF **Oris-en-Rattie** 89.77 326 *e*P P 01 15 09.0 +1.1
comp=Z,17nm,1.4s
LPG **La Plagne** 89.79 327 *e*P P 01 15 08.5 +0.2
LPG **La Plagne** 89.79 327 *e*P P 01 15 08.5 +0.2
LPG **La Plagne** 89.79 327 *e*P P 01 15 08.5 +0.2
LPL **La Plagne** 89.82 327 *e*P P 01 15 10.2 +1.9
LPL **La Plagne** 89.82 327 *e*P P 01 15 10.2 +1.9
LPL **La Plagne** 89.82 327 *e*P P 01 15 10.2 +1.9
FUR **Furstenfeldbru** 89.86 331 *e*P P 01 15 09.2 +1.1
comp=Z,238nm,2.0s
UPC **Upice** 89.91 335 *e*P P 01 15 08.5 +0.2
UPC **Upice** 89.91 335 *e*P P 01 15 08.5 +0.2
WET **Wettzell** 89.99 332 *e*P P 01 15 08.1 -0.6
comp=Z,44nm,1.9s
PRU **Pruhonice** 90.03 334 *e*P P 01 15 08.8 0.0
PRU *e* 01 15 13.9
PRU **Pruhonice** 90.03 334 *e*P P 01 15 08.8 0.0
PRU *e*pP **pP** 01 15 13.9 +0.1
RCBR **Riachuelo** 90.07 263 PFAKE 01 15 20.0 +10
RCBR LR LR
comp=Z,192nm,19.0s
KSP **Ksiaz** 90.08 335 *e*P P 01 15 09.4 +0.3
PRA **Prague** 90.13 334 P P 01 15 09.0 -0.3
VIVF **Saint-Julien-l** 90.31 325 *e*P P 01 15 11.3 +1.0
VIVF **Saint-Julien-l** 90.31 325 *e*P P 01 15 11.3 +1.0
VIVF **Saint-Julien-l** 90.31 325 *e*P P 01 15 11.3 +1.0
MTLF **Montolieu** 90.43 323 *e*P P 01 15 12.5 +1.6
comp=Z,50nm,1.4s
MTLF **Montolieu** 90.43 323 *e*P P 01 15 12.5 +1.6
MTLF pmax pmax
comp=Z,50nm,1.4s
MTLF **Montolieu** 90.43 323 *e*P P 01 15 12.5 +1.6
comp=Z,50nm,1.4s
PVCC **Panska Ves** 90.45 334 *e*P P 01 15 11.8 +1.0
PVCC **Panska Ves** 90.45 334 *e*P P 01 15 11.8 +1.0
SONM **Songino Array** 90.50 30 P P 01 15 10.5 -0.8
SONM **Songino Array** 90.50 30 P P 01 15 10.5 -0.8
comp=Z,2.8nm,0.9s,baz=215,slow=4.9,SNR=13
SONM LR LR 01 52 45.9
comp=Z,300nm,21.3s,baz=206,slow=34
SONA1 **Songino Array** 90.52 30 *e*P P 01 15 10.3 -1.1
SUW **Suwalki** 90.58 340 *e*P P 01 15 12.3 +1.0
SUW **Suwalki** 90.58 340 *e*P P 01 15 12.3 +1.0
ROTZ **Rotzenmuhle** 90.75 332 *e*P P 01 15 12.5 +0.3
comp=Z,29nm,1.8s
ULN **Ulaanbaatar** 90.81 31 *e*P P 01 15 11.6 -1.1
comp=Z,12nm,1.3s
ULN LR LR
comp=Z,282nm,19.0s
CABF **La Chapelle** 90.93 327 *e*P P 01 15 14.2 +0.9
CABF **La Chapelle** 90.93 327 *e*P P 01 15 14.2 +0.9
CABF **La Chapelle** 90.93 327 *e*P P 01 15 14.2 +0.9
BRG **Berggiesshubel** 90.97 334 *i* P P 01 15 14.4 +1.2
comp=Z,40nm,1.7s
BRG **Berggiesshubel** 90.97 334 *i* P P 01 15 14.4 +1.2
BRG pmax pmax
comp=Z,40nm,1.7s
BRG **Berggiesshubel** 90.97 334 *e*P P 01 15 13.7 +0.5
comp=Z,40nm,1.7s
GRF **Grafenberg Arr** 91.08 332 *e*P P 01 15 14.4 +0.6
comp=Z,60nm,1.8s
GRFO **Grafenberg** 91.08 332 *e*P P 01 15 14.9 +1.1
GRFO **Grafenberg** 91.08 332 *e*P P 01 15 14.9 +1.1
TANN **Tannenbergstha** 91.16 333 *e*P P 01 15 14.5 +0.3
comp=Z,60nm,2.2s
EPF **Esparros** 91.19 322 *e*P P 01 15 16.2 +1.7
comp=Z,69nm,1.7s
EPF **Esparros** 91.19 322 *e*P P 01 15 16.2 +1.7
EPF pmax pmax
comp=Z,69nm,1.7s
EPF **Esparros** 91.19 322 *e*P P 01 15 16.2 +1.7
comp=Z,69nm,1.7s
STU **Stuttgart** 91.20 330 *e*P P 01 15 15.3 +0.9
STU **Stuttgart** 91.20 330 *e*P P 01 15 14.6 +0.3
comp=Z,25nm,1.3s
STU **Stuttgart** 91.20 330 *e*P P 01 15 15.3 +0.9
ZAK **Zakamensk** 91.22 27 *e*P P 01 15 12.3 -2.2
ZAK pmax pmax
comp=Z,3.0nm,1.7s
BFO **Black Forest** 91.23 330 *e*P P 01 15 16.0 +1.5
BFO **Black Forest** 91.23 330 *e*P P 01 15 15.5 +1.0
comp=Z,31nm,1.6s
BFO **Black Forest** 91.23 330 *e*P P 01 15 16.0 +1.5
ES19 **SONSECA Array** 91.27 317 *e*P P 01 15 16.8 +1.8
ESDC **Sonseca Array** 91.29 317 P P 01 15 16.3 +1.2
ESDC **Sonseca Array** 91.29 317 P P 01 15 16.3 +1.2
comp=Z,3.1nm,1.0s,baz=122,slow=4.0,SNR=11
ESDC LR LR 01 57 43.9
comp=Z,101nm,19.3s,baz=110,slow=36
PAB **San Pablo** 91.43 317 PFAKE 01 15 30.0 +14
PAB LR LR
comp=Z,246nm,21.0s
HINF **Hinteralfeld** 91.49 328 *e*P P 01 15 16.0 +0.2
HINF **Hinteralfeld** 91.49 328 *e*P P 01 15 16.0 +0.2
HINF **Hinteralfeld** 91.49 328 *e*P P 01 15 16.0 +0.2
ETSF **Etsaut** 91.57 321 *e*P P 01 15 18.3 +2.0
comp=Z,76nm,1.7s
ETSF **Etsaut** 91.57 321 *e*P P 01 15 18.3 +2.0
ETSF pmax pmax
comp=Z,76nm,1.7s
ETSF **Etsaut** 91.57 321 *e*P P 01 15 18.3 +2.0
comp=Z,76nm,1.7s
CAF **Calviac** 91.64 324 *e*P P 01 15 17.9 +1.4
comp=Z,80nm,1.8s
CAF **Calviac** 91.64 324 *e*P P 01 15 17.9 +1.4
CAF pmax pmax
comp=Z,80nm,1.8s
CAF **Calviac** 91.64 324 *e*P P 01 15 17.9 +1.4
comp=Z,80nm,1.8s
CLL **Collm** 91.67 334 *e*P P 01 15 18.0 +1.6
CLL *e* 01 15 21.0
CLL pmax pmax
comp=Z,23nm,1.8s
CLL **Collm** 91.67 334 *e*P P 01 15 17.3 +0.9
comp=Z,23nm,1.8s
CLL **Collm** 91.67 334 *e*P P 01 15 18.0 +1.6
comp=Z,23nm,1.8s
CLL *es*P **sP** 01 15 21.0 -2.2
CDF **Champ du Feu** 91.75 329 *e*P P 01 15 17.1 +0.1
comp=Z,35nm,1.6s
CDF **Champ du Feu** 91.75 329 *e*P P 01 15 17.1 +0.1
CDF pmax pmax
comp=Z,35nm,1.5s
CDF **Champ du Feu** 91.75 329 *e*P P 01 15 17.1 +0.1
comp=Z,35nm,1.5s
HAU **Haudompre** 91.86 328 *e*P P 01 15 17.7 +0.3
HAU *e*R
comp=Z,99nm,19.8s
HAU **Haudompre** 91.86 328 *e*P P 01 15 17.7 +0.3
HAU **Haudompre** 91.86 328 *e*P P 01 15 17.7 +0.3
SJPF **Ste Jean** 92.08 321 *e*P P 01 15 20.4 +1.8
comp=Z,149nm,1.9s
SJPF **Ste Jean** 92.08 321 *e*P P 01 15 20.4 +1.8
SJPF pmax pmax
comp=Z,149nm,1.9s
SJPF **Ste Jean** 92.08 321 *e*P P 01 15 20.4 +1.8
comp=Z,149nm,1.9s
LFF **La Frestale** 92.31 323 *e*P P 01 15 19.8 +0.2
LFF **La Frestale** 92.31 323 *e*P P 01 15 19.8 +0.2
LFF **La Frestale** 92.31 323 *e*P P 01 15 19.8 +0.2
AVF **Avril sur Loir** 92.34 326 *e*P P 01 15 20.5 +0.8
comp=Z,13nm,1.2s
AVF **Avril sur Loir** 92.34 326 *e*P P 01 15 20.5 +0.8
AVF pmax pmax
comp=Z,13nm,1.2s
AVF **Avril sur Loir** 92.34 326 *e*P P 01 15 20.5 +0.8
comp=Z,13nm,1.2s
TLY **Talaya** 92.39 27 PFAKE 01 15 30.0 +10
TLY LR LR
comp=Z,194nm,20.0s
BGF **Bois d'Agland** 92.42 326 *e*P P 01 15 21.1 +1.0
comp=Z,16nm,1.2s
BGF **Bois d'Agland** 92.42 326 *e*P P 01 15 21.1 +1.0
BGF pmax pmax
comp=Z,16nm,1.2s
BGF **Bois d'Agland** 92.42 326 *e*P P 01 15 21.1 +1.0
comp=Z,16nm,1.2s
UBBA **Unterbreizbach** 92.45 332 *e*P P 01 15 20.7 +0.8
comp=Z,26nm,2.0s
LOR **Lormes** 92.45 327 *e*P P 01 15 20.9 +0.7
comp=Z,46nm,1.6s
LOR *e*R
comp=Z,139nm,21.2s
LOR **Lormes** 92.45 327 *e*P P 01 15 20.9 +0.7
comp=Z,46nm,1.6s
SSF **Saint Saulge** 92.47 326 *e*P P 01 15 21.0 +0.7
SSF **Saint Saulge** 92.47 326 *e*P P 01 15 21.0 +0.7
SSF **Saint Saulge** 92.47 326 *e*P P 01 15 21.0 +0.7
TCF **Toulx Ste Croi** 92.54 325 *e*P P 01 15 21.9 +1.3
comp=Z,15nm,1.2s
TCF **Toulx Ste Croi** 92.54 325 *e*P P 01 15 21.9 +1.3
TCF pmax pmax
comp=Z,15nm,1.2s
TCF **Toulx Ste Croi** 92.54 325 *e*P P 01 15 21.9 +1.3
comp=Z,15nm,1.2s
PAGF **Fort de Pagny** 92.54 328 *e*P P 01 15 21.2 +0.6
comp=Z,7.1nm,1.3s
PAGF **Fort de Pagny** 92.54 328 *e*P P 01 15 21.2 +0.6
comp=Z,7.1nm,1.3s
SFTF **Sexfontaines** 92.59 328 *e*P P 01 15 21.5 +0.7
comp=Z,32nm,1.3s
SFTF **Sexfontaines** 92.59 328 *e*P P 01 15 21.5 +0.7
comp=Z,32nm,1.3s
TNS **Taunus Mts** 92.62 331 *e*P P 01 15 21.8 +0.8
comp=Z,28nm,1.8s
MEZF **Maizieres J'vi** 92.80 328 *e*P P 01 15 22.7 +0.9
MEZF **Maizieres J'vi** 92.80 328 *e*P P 01 15 22.7 +0.9
DZM **Mont Dzumac** 93.26 118 *e*LR LR 01 45 15.8
comp=Z,141nm,24.7s
PLCA **Paso Flores** 93.43 217 LR LR 01 49 41.1
comp=Z,172nm,21.5s,baz=94,slow=30
KLMR **Klimovskoe** 93.55 351 *e*P P 01 15 23.3 -1.6
KLMR pmax pmax
comp=Z,36nm,1.8s
PRGR **Permogore** 93.65 354 P P 01 15 24.3 -1.0
PRGR pmax pmax
comp=Z,11nm,1.0s
MTE **Manteigas** 93.86 316 PFAKE 01 15 40.0 +13
MTE LR LR
comp=Z,534nm,21.0s
BUG **Bochum--Univer** 94.04 331 *e*P P 01 15 28.2 +0.9
comp=Z,37nm,1.6s
GIVF **Givet** 94.08 329 *e*P P 01 15 28.3 +0.7
GIVF **Givet** 94.08 329 *e*P P 01 15 28.3 +0.7
GIVF **Givet** 94.08 329 *e*P P 01 15 28.3 +0.7
INCN **Inchon** 94.24 48 PFAKE 01 15 40.0 +11
INCN LR LR
comp=Z,213nm,20.0s
BAIF **Baives** 94.32 329 *e*P P 01 15 29.5 +0.8
BAIF **Baives** 94.32 329 *e*P P 01 15 29.5 +0.8
BAIF **Baives** 94.32 329 *e*P P 01 15 29.5 +0.8
BDFB **Brasilia** 94.72 248 LR LR 01 50 53.6
comp=Z,145nm,20.2s,baz=210,slow=31
KSAR **Wonju Array Be** 95.01 49 P P 01 15 31.4 -0.7
KSRS **Korea Array** 95.04 49 P P 01 15 31.4 -0.9
comp=Z,1.6nm,0.9s,baz=251,slow=3.8,SNR=4.7
KSRS LR LR 01 56 36.1
comp=Z,74nm,20.7s,baz=234,slow=34
HNR **Honiara** 95.27 104 PFAKE 01 15 40.0 +6.0
HNR LR LR
comp=Z,309nm,20.0s
CPUP **Villa Florida** 95.30 235 LR LR 01 51 41.1
comp=Z,110nm,19.6s,baz=146,slow=31
FLN **La Foliniere** 95.57 326 *e*P P 01 15 36.4 +1.9
FLN *e*R
comp=Z,198nm,20.5s
FLN **La Foliniere** 95.57 326 *e*P P 01 15 36.4 +1.9
FLN **La Foliniere** 95.57 326 *e*P P 01 15 36.4 +1.9
FINES **FINESS Array B** 96.44 345 LR LR 01 59 54.2
comp=Z,99nm,19.0s,baz=174,slow=36
HIA **Hailar** 97.73 36 PFAKE 01 16 00.0 +16
HIA LR LR
comp=Z,177nm,20.0s
YAK **Yakutsk** 109.77 28 PFAKE 01 20 50.0
YAK LR LR
comp=Z,188nm,20.0s
SAML **Samuel** 110.57 245 *e*PKP 01 20 42.6
SAML LR LR
comp=Z,191nm,19.0s
PTGA **Pitinga** 112.92 254 PFAKE 01 21 00.0
PTGA LR LR
comp=Z,168nm,19.0s
TIXI **Tiksi** 114.23 19 PFAKE 01 21 00.0 +12
TIXI LR LR
comp=Z,246nm,20.0s
TBI **Tubuai** 119.27 151 *e*LR LR 01 57 17.1
comp=Z,138nm,32.8s
RKT **Rikitea** 124.02 166 *e*LR LR 01 59 31.3
comp=Z,252nm,27.0s
PPT2 **Papeete2** 124.31 148 *e*LR LR 01 59 38.5
comp=Z,157nm,24.8s
BILL **Bilibino** 126.01 26 *e*PKIKP **PKPdf** 01 21 10.7 -0.1
BILL *i* 01 23 03.2
BILL pmax pmax
comp=Z,22nm,1.3s
BILL **Bilibino** 126.01 26 *e*PKPdf **PKPdf** 01 21 11.2 +0.4
SDV **Santo Domingo** 127.08 256 PFAKE 01 21 30.0 +15
SDV LR LR
comp=Z,251nm,21.0s
OTAV **Otavalo** 128.07 242 *e*PKPdf **PKPdf** 01 21 17.8 +0.7
GRTK **Grand Turk** 133.55 270 PFAKE 01 21 40.0 +13
GRTK LR LR
comp=Z,296nm,19.0s
BCIP **Isla Barro Col** 134.73 250 PFAKE 01 21 40.0 +11
BCIP LR LR
comp=Z,172nm,20.0s
RES **Resolute Bay** 134.98 350 *e*PKPdf **PKPdf** 01 21 28.1 +0.4
JTS **JuntasAbangare** 139.43 246 PFAKE 01 21 50.0 +12
JTS LR LR
comp=Z,269nm,19.0s
NCB **Newcomb** 140.74 302 PFAKE 01 21 50.0 +11
NCB LR LR
comp=Z,670nm,22.0s
IM04 **Indian Mountai** 140.88 20 *e*PKPdf **PKPdf** 01 21 38.2 -0.6
INK **Inuvik** 142.90 7 *e*PKPpre PKPpre 01 21 37.8
INK *e*PKPdf **PKPdf** 01 21 42.2 -0.1
PPLA **Purkeypile** 143.55 23 *e*PKPdf PKPbc 01 21 41.2 +0.1
PPLA *e*PP **PP** 01 24 54.3 -1.6
ILAR **Eielson Array** 143.68 18 PKPpre PKPpre 01 21 39.3
ILAR **Eielson Array** 143.68 18 PKhKP PKPpre 01 21 39.3
comp=Z,1.0nm,0.8s,baz=327,slow=3.3,SNR=8.8
TRF **Thorofare Moun** 143.75 21 *e*PKPdf PKPab 01 21 41.2 +0.2
MCK **McKiley** 143.94 20 *e*PKIKP PKPab 01 21 41.3 -0.2
MCK **McKinley** 143.94 20 *e*PKPdf PKPab 01 21 41.3 -0.2
MCWV **Mont Chateau** 144.98 295 *e*PKPbc PKPbc 01 21 46.4 +0.3
EGAK **Eagle** 145.01 14 *e*PKPdf **PKPbc** 01 21 44.7 -0.7
ALLY **Alegheny Colle** 145.17 298 *e*PKPbc **PKPdf** 01 21 47.3 +0.2
BLA **Blacksburg** 145.34 291 *e*PKIKP **PKPbc** 01 21 47.2 -0.2
BLA **Blacksburg** 145.34 291 *e*PKPbc **PKPbc** 01 21 47.2 -0.2
PMR **Palmer** 145.48 22 *e*PKIKP **PKPdf** 01 21 46.1 -0.8
PMR **Palmer** 145.48 22 *e*PKPbc **PKPdf** 01 21 46.1 -0.8
PAX **Paxson** 145.51 19 *e*PKIKP **PKPab** 01 21 47.4 -0.1
PAX **Paxson** 145.51 19 *e*PKPbc **PKPab** 01 21 47.4 -0.1
RC01 **Rabbit Creek A** 145.65 23 *e*PKPbc **PKPdf** 01 21 47.3 +0.1
DAWY **Dawson** 146.00 13 *e*PKPbc **PKPdf** 01 21 47.5 -0.4
DIV **Divide** 146.89 21 *e*PKPbc **PKPbc** 01 21 51.4 0.0
FCC **Fort Churchill** 147.04 333 *e*PKP2 **PKPbc** 01 21 51.1 -0.6
FCC **Fort Churchill** 147.04 333 *e*PKPbc **PKPbc** 01 21 51.1 -0.6
BMRM **Bremner River** 147.37 20 *e*PKPbc **PKPdf** 01 21 52.1 +1.0
TEIG **Tepich** 147.50 258 PFAKE 01 22 00.0 +3.7
TEIG LR LR
comp=Z,155nm,19.0s
YKA **Yellowknife Ar** 148.93 353 PKP **PKPdf** 01 21 51.8 -0.9
YKA PKPbc **PKPbc** 01 21 56.2 -0.4
YKA **Yellowknife Ar** 148.93 353 PKP **PKPdf** 01 21 51.8 -0.9
comp=Z,6.8nm,0.8s,baz=0.7,slow=2.7,SNR=41
YKA PKPbc **PKPbc** 01 21 56.2 -0.4
comp=Z,6.8nm,0.8s,baz=1.4,slow=2.6,SNR=54
SWET **Sewanee** 149.65 286 *e*PKPbc **PKPbc** 01 21 59.0 -0.4
WCI **Wyandotte Cave** 150.01 292 *e*PKIKP **PKPdf** 01 21 55.4 +0.2
WCI *e* 01 21 59.9
WCI **Wyandotte Cave** 150.01 292 *e*PKPdf **PKPdf** 01 21 55.4 +0.2
WCI *e*PKPbc **PKPbc** 01 21 59.9 -0.3
LRAL **Lakeview Retre** 150.31 282 *e*PKPdf **PKPdf** 01 21 55.6 -0.2
LRAL *e*PKPbc **PKPbc** 01 22 00.5 -0.5
WVT **Waverly** 151.24 288 *e*PKIKP **PKPbc** 01 22 02.4 -0.7
WVT **Waverly** 151.24 288 *e*PKPbc **PKPbc** 01 22 02.4 -0.7
FFC **Flin Flon** 152.96 334 *e*PKIKP **PKPdf** 01 21 58.9 -0.3

FFC				*e*			01 22 05.8	
FFC				*e*			01 22 17.5	
FFC	**Flin Flon**	**152.96**	**334**	*e*PKPdf	**PKPdf**	**01 21 58.9**	**-0.3**	
FFC				*e*PKPbc	**PKPbc**	**01 22 05.8**	**-0.6**	
FFC				*e*PKPab	**PKPab**	**01 22 17.5**	**-0.2**	
ULM	**Lac du Bonnet**	**153.13**	**321**	*e*PKPdf	**PKPdf**	**01 21 58.8**	**-0.7**	
ULM				*e*PKPbc	**PKPbc**	**01 22 06.6**	**-0.3**	
ULM	**Lac du Bonnet**	**153.13**	**321**	PKP	**PKPdf**	**01 21 59.0**	**-0.6**	
	comp=Z,2.7nm,0.9s,baz=26,slow=3.5,SNR=4.6							
ULM				PKPbc	**PKPbc**	**01 22 05.4**	**-1.5**	
	comp=Z,11nm,1.1s,baz=45,slow=4.8,SNR=6.8							
B29A	**Wagenman Farm,** baz=156	**156.01**	**320**	P	**PKPdf**	**01 22 03.7**	**+0.1**	
A28A	**Rude Farm, Bot** baz=156	**156.23**	**322**	P	**PKPdf**	**01 22 04.1**	**+0.2**	
B28A	**Dugan Ranch, T** baz=157	**156.56**	**321**	P	**PKPdf**	**01 22 04.8**	**+0.4**	
A26A	**Wade Farm, Ken** baz=157	**157.15**	**324**	P	**PKPdf**	**01 22 04.4**	**-0.7**	
C26A	**Wahner Farm, P** baz=158	**157.86**	**322**	P	**PKPdf**	**01 22 06.6**	**+0.6**	
DGMT	**Dagmar** baz=159	**158.49**	**326**	P	**PKPdf**	**01 22 06.7**	**-0.1**	
V34A	**Guthrie** baz=159	**159.10**	**288**	P	**PKPdf**	**01 22 08.4**	**+0.5**	
234A	**Clairette** baz=160	**159.55**	**277**	P	**PKPdf**	**01 22 08.6**	**+0.1**	
134A	**White-Moore Ra** baz=160	**159.55**	**279**	P	**PKPdf**	**01 22 08.7**	**+0.2**	
334A	**Lometa** baz=160	**159.55**	**275**	P	**PKPdf**	**01 22 08.7**	**+0.2**	
W33A	**Caddo, Fort Co** baz=160	**159.91**	**286**	P	**PKPdf**	**01 22 08.8**	**-0.1**	
Z33A	**Whitaker Ranch** baz=160	**160.17**	**280**	P	**PKPdf**	**01 22 09.6**	**+0.4**	
WMOK	**Wichita Mounta**	**160.18**	**285**	*e*PKIKP	**PKPdf**	**01 22 09.6**	**+0.4**	
WMOK				*e*		01 22 49.5		
WMOK	**Wichita Mounta**	**160.18**	**285**	*e*PKPdf	**PKPdf**	**01 22 09.6**	**+0.4**	
WMOK				*e*PKPab	**PKPab**	**01 22 49.5**	**0.0**	
333A	**Richland Sprin** baz=160	**160.19**	**275**	P	**PKPdf**	**01 22 09.4**	**+0.2**	
233A	**Rising Star** baz=160	**160.19**	**277**	P	**PKPdf**	**01 22 09.8**	**+0.6**	
433A	**Art** baz=160	**160.19**	**273**	P	**PKPdf**	**01 22 08.2**	**-1.1**	
K28A	**Ten Mile Ranch** baz=160	**160.21**	**309**	P	**PKPdf**	**01 22 09.0**	**0.0**	
133A	**Hamilton Ranch** baz=160	**160.26**	**278**	P	**PKPdf**	**01 22 09.5**	**+0.2**	
R31A	**Burdett** baz=160	**160.35**	**295**	P	**PKPdf**	**01 22 09.7**	**+0.5**	
D22A	**Cohagen** baz=160	**160.37**	**326**	P	**PKPdf**	**01 22 09.7**	**+0.7**	
832A	**Faith Ranch, C** baz=161	**160.41**	**265**	P	**PKPdf**	**01 22 09.9**	**+0.3**	
632A	**Uvalde** baz=161	**160.55**	**269**	P	**PKPdf**	**01 22 09.8**	**+0.1**	
P30A	**Selden** baz=161	**160.58**	**299**	P	**PKPdf**	**01 22 09.5**	**0.0**	
JCT	**Junction City** baz=161	**160.75**	**272**	P	**PKPdf**	**01 22 11.0**	**+1.1**	
Z32A	**Haskell** baz=161	**160.76**	**280**	P	**PKPdf**	**01 22 10.8**	**+0.9**	
ABTX	**Abilene, Hawle** baz=161	**160.87**	**278**	P	**PKPdf**	**01 22 10.5**	**+0.5**	
H24A	**Dirks Ranch, A** baz=161	**161.10**	**318**	P	**PKPdf**	**01 22 10.5**	**+0.6**	
RSSD	**Black Hills**	**161.17**	**316**	*e*PKIKP	**PKPdf**	**01 22 10.1**	**-0.1**	
RSSD	**Black Hills**	**161.17**	**316**	*e*PKPdf	**PKPdf**	**01 22 10.1**	**-0.1**	
RSSD				*e*PKPab	**PKPab**	**01 22 54.9**	**+1.2**	
X31A	**McDonald Ranch** baz=161	**161.18**	**285**	P	**PKPdf**	**01 22 10.9**	**+0.7**	
C19A	**Slack Wire Ran** baz=161	**161.20**	**331**	P	**PKPdf**	**01 22 09.9**	**0.0**	
431A	**Sonora** baz=162	**161.47**	**272**	P	**PKPdf**	**01 22 10.9**	**+0.2**	
D19A	**Cripps Ranch,** baz=162	**161.58**	**330**	P	**PKPdf**	**01 22 10.5**	**+0.2**	
E20A	**Meyer Farm, Mu** baz=162	**161.76**	**327**	P	**PKPdf**	**01 22 10.8**	**+0.3**	
530A	**J-C Ranch, Com** baz=162	**162.00**	**270**	P	**PKPdf**	**01 22 10.9**	**-0.4**	
430A	**Baggett Ranch,** baz=162	**162.02**	**272**	P	**PKPdf**	**01 22 10.8**	**-0.5**	
E19A	**Rath Farm, Rou** baz=162	**162.08**	**328**	P	**PKPdf**	**01 22 11.4**	**+0.5**	
S28A	**Manter** baz=162	**162.33**	**295**	P	**PKPdf**	**01 22 11.3**	**-0.2**	
Y29A	**Porterfield Fa** baz=163	**162.60**	**282**	P	**PKPdf**	**01 22 11.8**	**0.0**	
F19A	**Roth Farm, Mol** baz=163	**162.62**	**327**	P	**PKPdf**	**01 22 12.2**	**+0.7**	
Z29A	**Hungry Hill Ra** baz=163	**162.63**	**280**	P	**PKPdf**	**01 22 12.9**	**+1.0**	
229A	**Bryant Ranch,** baz=163	**162.65**	**276**	P	**PKPdf**	**01 22 12.3**	**+0.4**	
G20A	**Bridger** baz=163	**162.74**	**325**	P	**PKPdf**	**01 22 11.7**	**+0.1**	
P26A	**Davis Ranch, A** baz=163	**162.84**	**302**	P	**PKPdf**	**01 22 12.4**	**+0.5**	
K23A	**Bowen Ranch, D** baz=163	**162.90**	**314**	P	**PKPdf**	**01 22 11.7**	**-0.2**	
J22A	**Midwest** baz=163	**163.02**	**317**	P	**PKPdf**	**01 22 10.8**	**-1.3**	
T27A	**Campo** baz=163	**163.08**	**293**	P	**PKPdf**	**01 22 12.8**	**+0.5**	
SWMT	**Swartz Lake**	**163.12**	**340**	*e*PKPdf	**PKPdf**	**01 22 12.4**	**+0.4**	
SWMT				*e*PKPab	**PKPab**	**01 23 01.9**	**0.0**	
NEW	**Newport** baz=163	**163.13**	**348**	P	**PKPdf**	**01 22 11.7**	**-0.1**	
H20A	**Greybull** baz=163	**163.15**	**323**	P	**PKPdf**	**01 22 12.0**	**0.0**	
Q26A	**Hugo** baz=163	**163.19**	**300**	P	**PKPdf**	**01 22 12.4**	**+0.1**	
Z28A	**Tucker Farm, M** baz=163	**163.20**	**280**	P	**PKPdf**	**01 22 12.6**	**+0.1**	
428A	**Kincaid Ranch,** baz=163	**163.25**	**271**	P	**PKPdf**	**01 22 12.8**	**+0.3**	
128A	**Castleberry Fa** baz=163	**163.26**	**278**	P	**PKPdf**	**01 22 11.8**	**-0.7**	
P25A	**Willow Gulch B** baz=164	**163.45**	**303**	P	**PKPdf**	**01 22 13.0**	**+0.4**	
H19A	**Powell** baz=164	**163.51**	**325**	P	**PKPdf**	**01 22 13.1**	**+0.7**	
S26A	**Kim** baz=164	**163.53**	**296**	P	**PKPdf**	**01 22 12.8**	**+0.1**	
I20A	**Worland** baz=164	**163.58**	**321**	P	**PKPdf**	**01 22 12.6**	**+0.1**	
627A	**Terlingua Ranc** baz=164	**163.60**	**267**	P	**PKPdf**	**01 22 12.9**	**0.0**	
MSO	**Missoula** baz=164	**163.72**	**339**	P	**PKPdf**	**01 22 13.0**	**+0.5**	
Q25A	**Bedland, Calha** baz=164	**163.72**	**301**	P	**PKPdf**	**01 22 13.2**	**+0.3**	
TXAR	**Lajitas Array**	**163.81**	**266**	PKP	**PKPdf**	**01 22 12.2**	**-1.0**	
TXAR				PKPab	**PKPab**	**01 23 06.5**	**+0.8**	
TXAR	**Lajitas Array**	**163.81**	**266**	PKP	**PKPdf**	**01 22 12.2**	**-1.0**	
	comp=Z,1.3nm,1.0s,baz=219,slow=3.2,SNR=5.5							
TXAR				PKPab	**PKPab**	**01 23 06.5**	**+0.8**	
	comp=Z,1.9nm,1.0s,baz=119,slow=4.4,SNR=7.4							
Y27A	**Causey** baz=164	**163.84**	**282**	P	**PKPdf**	**01 22 13.3**	**+0.2**	
O24A	**Longmont** baz=164	**163.84**	**306**	P	**PKPdf**	**01 22 14.0**	**+1.1**	
BOZ	**Bozeman (W)**	**163.93**	**332**	*e*PKIKP	**PKPdf**	**01 22 12.5**	**-0.3**	
BOZ				*e*		01 23 06.2		
BOZ	**Bozeman (W)**	**163.93**	**332**	*e*PKPdf	**PKPdf**	**01 22 12.5**	**-0.3**	
BOZ				*e*PKPab	**PKPab**	**01 23 06.2**	**+0.6**	
527A	**Woodward Ranch** baz=164	**163.94**	**269**	P	**PKPdf**	**01 22 13.9**	**+0.6**	
K21A	**Alcova** baz=164	**163.94**	**316**	P	**PKPdf**	**01 22 12.0**	**-1.0**	
J20A	**Shoshoni** baz=164	**163.96**	**320**	P	**PKPdf**	**01 22 13.0**	**+0.1**	
R25A	**Fountain Ranch** baz=164	**164.00**	**298**	P	**PKPdf**	**01 22 13.1**	**0.0**	
N23A	**Red Feather La** baz=164	**164.08**	**309**	P	**PKPdf**	**01 22 14.0**	**+0.7**	
LRM	**Limekiln Ridge**	**164.10**	**334**	*e*PKPdf	**PKPdf**	**01 22 13.9**	**+0.8**	
LRM				*e*PKPab	**PKPab**	**01 23 06.4**	**0.0**	
M22A	**Cedar Creek Ra** baz=164	**164.24**	**312**	P	**PKPdf**	**01 22 12.9**	**-0.5**	
ISCO	**Idaho Springs** baz=164	**164.36**	**305**	P	**PKPdf**	**01 22 13.9**	**+0.4**	
Q24A	**Divide** baz=164	**164.36**	**302**	P	**PKPdf**	**01 22 14.1**	**+0.4**	
O23A	**Lake Granby, G** baz=165	**164.39**	**307**	P	**PKPdf**	**01 22 13.5**	**-0.1**	
326A	**Caldwell Ranch** baz=165	**164.43**	**273**	P	**PKPdf**	**01 22 13.2**	**-0.4**	
YMR	**Madison River**	**164.44**	**329**	*e*PKPdf	**PKPdf**	**01 22 14.7**	**+1.3**	
N22A	**Wattenberg Ran** baz=165	**164.46**	**310**	P	**PKPdf**	**01 22 13.8**	**+0.3**	
H17A	**Grant Village** baz=165	**164.48**	**327**	P	**PKPdf**	**01 22 15.3**	**+1.8**	
U25A	**Circle Dot Ran** baz=165	**164.55**	**292**	P	**PKPdf**	**01 22 13.7**	**0.0**	
R24A	**Sanders Place,** baz=165	**164.59**	**299**	P	**PKPdf**	**01 22 13.8**	**+0.1**	
W25A	**X Bar L Ranch,** baz=165	**164.79**	**288**	P	**PKPdf**	**01 22 14.1**	**+0.2**	
V25A	**Rancho No Teng** baz=165	**164.82**	**290**	P	**PKPdf**	**01 22 13.8**	**-0.2**	
I17A	**Pilgrim Ck.** baz=165	**164.84**	**326**	P	**PKPdf**	**01 22 14.5**	**+0.8**	
SDCO	**Great Sand Dun**	**165.04**	**298**	*e*PKPdf	**PKPdf**	**01 22 15.3**	**+1.1**	
SDCO				*e*PKPab	**PKPab**	**01 23 10.4**	**-0.6**	
125A	**Gardner Draw,** baz=165	**165.10**	**278**	P	**PKPdf**	**01 22 13.7**	**-0.5**	
R23A	**Moffat** baz=165	**165.14**	**300**	P	**PKPdf**	**01 22 15.2**	**+0.9**	
T24B	**San Luis** baz=165	**165.15**	**295**	P	**PKPdf**	**01 22 15.6**	**+1.3**	
BW06	**Boulder Array**	**165.15**	**321**	*e*PKPdf	**PKPdf**	**01 22 13.8**	**-0.3**	
BW06				*e*PKPab	**PKPab**	**01 23 11.4**	**+0.2**	
PDAR	**Pinedale Array**	**165.15**	**321**	PKP	**PKPdf**	**01 22 13.3**	**-0.8**	
PDAR				PP	**PP**	**01 26 56.6**	**-1.1**	
PDAR	**Pinedale Array**	**165.15**	**321**	PKP	**PKPdf**	**01 22 13.3**	**-0.8**	
	comp=Z,3.6nm,1.1s,baz=96,slow=1.8,SNR=15							
PDAR				PP	**PP**	**01 26 56.6**	**-1.1**	
	comp=Z,1.1nm,1.1s,baz=69,slow=3.3,SNR=3.8							
U24A	**Moreno Valley** baz=165	**165.23**	**293**	P	**PKPdf**	**01 22 16.2**	**+1.7**	
P22A	**Eagle** baz=165	**165.24**	**306**	P	**PKPdf**	**01 22 14.9**	**+0.7**	
N20A	**Spruce Gulch,** baz=166	**165.60**	**313**	P	**PKPdf**	**01 22 14.8**	**+0.3**	
MNTX	**Cornudas Mount**	**165.66**	**274**	*e*PKPdf	**PKPdf**	**01 22 14.7**	**+0.2**	
Z24A	**Sheeppen Canyo** baz=166	**165.69**	**281**	P	**PKPdf**	**01 22 15.3**	**+0.5**	
Y24A	**Capitan** baz=166	**165.72**	**283**	P	**PKPdf**	**01 22 14.8**	**+0.1**	
AHID	**Auburn Hatcher**	**165.95**	**324**	PFAKE		01 22 30.0	+15	
AHID				LR	LR			
	comp=Z,735nm,19.0s							
U23A	**El Rito** baz=166	**165.97**	**293**	P	**PKPdf**	**01 22 15.4**	**+0.5**	
O20A	**White River Ci** baz=166	**165.97**	**310**	P	**PKPdf**	**01 22 15.0**	**+0.2**	
S22A	**4UR Ranch, Cre** baz=166	**166.03**	**299**	P	**PKPdf**	**01 22 15.4**	**+0.3**	
Y23A	**Lovelace Mesa,** baz=166	**166.24**	**283**	P	**PKPdf**	**01 22 15.9**	**+0.7**	
X23A	**Hourglass Bar** baz=166	**166.28**	**286**	P	**PKPdf**	**01 22 16.0**	**+0.7**	
BMO	**Blue Mountains**	**166.44**	**345**	PFAKE		01 22 30.0	+15	
BMO				LR	LR			
	comp=Z,315nm,19.0s							
ANMO	**Albuquerque**	**166.45**	**288**	*e*PKPdf	**PKPdf**	**01 22 15.4**	**+0.1**	
U22A	**Llaves** baz=167	**166.47**	**294**	P	**PKPdf**	**01 22 16.7**	**+1.3**	
V22A	**San Miguel Ran** baz=167	**166.63**	**292**	P	**PKPdf**	**01 22 16.6**	**+1.1**	
HLID	**Hailey**	**166.76**	**334**	*e*PKPdf	**PKPdf**	**01 22 14.7**	**-0.6**	
HLID	**Hailey** baz=167	**166.76**	**334**	P	**PKPdf**	**01 22 15.3**	**+0.1**	
HWUT	**Hardware Ranch**	**167.03**	**322**	*e*PKPdf	**PKPdf**	**01 22 15.6**	**+0.1**	
HWUT				*e*PKPab	**PKPab**	**01 23 19.5**	**+0.1**	
Z22A	**Elephant Butte** baz=167	**167.03**	**280**	P	**PKPdf**	**01 22 16.8**	**+1.0**	
LAZ	**Ladron**	**167.09**	**286**	*e*PKPdf	**PKPdf**	**01 22 16.0**	**+0.2**	
121A	**Cookes Peak, D** baz=168	**167.73**	**277**	P	**PKPdf**	**01 22 17.3**	**+1.0**	
SRU	**San Rafael**	**168.01**	**311**	*e*PKIKP	**PKPdf**	**01 22 17.4**	**+1.1**	
SRU				*e*		01 23 24.4		
SRU	**San Rafael**	**168.01**	**311**	*e*PKPdf	**PKPdf**	**01 22 17.4**	**+1.1**	
SRU				*e*PKPab	**PKPab**	**01 23 24.4**	**+0.5**	
J05D	**Fort Rock, OR** baz=169	**168.53**	**356**	P	**PKPdf**	**01 22 16.6**	**+0.1**	
DUG	**Dugway**	**168.70**	**320**	*e*PKIKP	**PKPdf**	**01 22 16.3**	**-0.4**	
DUG				*e*		01 23 26.5		
DUG	**Dugway**	**168.70**	**320**	*e*PKPdf	**PKPdf**	**01 22 16.3**	**-0.4**	
DUG				*e*PKPab	**PKPab**	**01 23 26.5**	**-0.3**	
DUG	**Dugway** baz=169	**168.70**	**320**	P	**PKPdf**	**01 22 17.1**	**+0.4**	
319A	**Douglas** baz=169	**168.94**	**271**	P	**PKPdf**	**01 22 17.4**	**+0.3**	
X18A	**Snowflake** baz=170	**169.36**	**288**	P	**PKPdf**	**01 22 18.1**	**+0.8**	
TUC	**Tucson**	**170.27**	**276**	*e*PKIKP	**PKPdf**	**01 22 18.2**	**+0.4**	
TUC	**Tucson**	**170.27**	**276**	*e*PKPdf	**PKPdf**	**01 22 18.2**	**+0.4**	
M02C	**Callahan** baz=170	**170.44**	**3**	P	**PKPdf**	**01 22 18.9**	**+1.3**	
X16A	**Lo Mia Camp, P** baz=171	**170.59**	**289**	P	**PKPdf**	**01 22 19.4**	**+1.4**	
Y14A	**Wickenburg** baz=172	**171.96**	**288**	P	**PKPdf**	**01 22 19.5**	**+0.9**	
214A	**Organ Pipe Nat** baz=172	**171.98**	**273**	P	**PKPdf**	**01 22 19.6**	**+1.0**	
W13A	**Hualapai Mount** baz=172	**172.30**	**297**	P	**PKPdf**	**01 22 20.8**	**+1.9**	
SHPR	**Sheep Range**	**172.51**	**310**	*e*PKPdf	**PKPdf**	**01 22 19.0**	**+0.1**	
SHPR				*e*PKPab	**PKPab**	**01 23 44.3**	**+0.4**	
NVAR	**Mina Array Bea**	**172.67**	**335**	PKP	**PKPdf**	**01 22 17.3**	**-1.7**	
NVAR				PKPab	**PKPab**	**01 23 42.6**	**-1.9**	
NVAR	**Mina Array Bea**	**172.67**	**335**	PKP	**PKPdf**	**01 22 17.3**	**-1.7**	
	comp=Z,2.5nm,1.1s,baz=245,slow=0.4,SNR=12							
NVAR				PKPab	**PKPab**	**01 23 42.6**	**-1.9**	
	comp=Z,0.6nm,0.7s,baz=33,slow=4.7,SNR=5.0							
PDMCI	**Parker Dam,Lak** baz=173	**172.77**	**292**	P	**PKPdf**	**01 22 20.6**	**+1.7**	
Y12C	**Blythe** baz=173	**173.23**	**288**	P	**PKPdf**	**01 22 20.8**	**+1.7**	
FURC	**Furnace Creek,** baz=174	**173.57**	**318**	P	**PKPdf**	**01 22 21.5**	**+2.4**	
SHOC	**Shoshone** baz=174	**173.59**	**311**	P	**PKPdf**	**01 22 21.4**	**+2.2**	
IRM	**Iron Mountain** baz=174	**173.61**	**293**	P	**PKPdf**	**01 22 20.7**	**+1.5**	
TUQ	**Turquoise Moun** baz=174	**173.62**	**306**	P	**PKPdf**	**01 22 21.2**	**+1.8**	
GMRC	**Granite Mounta** baz=174	**173.76**	**300**	P	**PKPdf**	**01 22 21.8**	**+2.4**	
HEC	**Hector,Ludlow** baz=174	**174.22**	**303**	P	**PKPdf**	**01 22 21.3**	**+1.8**	
CWC	**Cottonwood Cre** baz=174	**174.25**	**324**	P	**PKPdf**	**01 22 21.6**	**+2.0**	
GSC	**Goldstone** baz=174	**174.29**	**309**	P	**PKPdf**	**01 22 21.3**	**+1.8**	
BELC	**Belle Mtn. Jos** baz=174	**174.32**	**294**	P	**PKPdf**	**01 22 22.0**	**+2.4**	
LRMC	**Laurel Mountai** baz=175	**174.74**	**315**	P	**PKPdf**	**01 22 21.6**	**+1.9**	
VES	**Vestal, Richgr** baz=175	**175.22**	**328**	P	**PKPdf**	**01 22 21.4**	**+1.8**	
EDW2	**Edwards Air Fo** baz=176	**175.32**	**312**	P	**PKPdf**	**01 22 22.2**	**+2.4**	

IDC 24 01:07:56.3±5.3, 56°29S×141°01W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/16, mbtmp3.4/2, Error ellipse: s-maj=1123.0km s-min=98.2km az=167.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RKT	**Rikitea** 232nm,38.2s	**33.43**	**10**	*e*LR		LR	01 23 52.9	
RKT	**Rikitea** 1.7nm,0.2s	**33.43**	**10**	*e*T		T	01 50 16.2	
TBI	**Tubuai** 130nm,25.8s	**33.48**	**346**	*e*LR		LR	01 23 45.3	
TBI	**Tubuai** 30nm,0.3s	**33.48**	**346**	*e*T		T	01 49 50.7	
TVO	**Taravao** 0.9nm,0.3s	**38.94**	**347**	*e*T		T	01 56 41.4	
PAE	**Paea** 0.9nm,0.3s	**39.10**	**347**	*e*T		T	01 56 52.6	
PPT2	**Papeete2** 137nm,26.0s	**39.17**	**347**	*e*LR		LR	01 26 10.5	
PPT2	**Papeete2** 2.8nm,0.4s	**39.17**	**347**	*e*T		T	01 56 58.0	
VAH	**Vaihoa** 15nm,0.3s	**41.28**	**350**	*e*T		T	01 59 39.8	

H03N3	**Juan Fernandez** baz=221,slow=75,SNR=90	**47.65**	**89**	T		T	02 08 00.7	
H03N2	**Juan Fernandez** baz=221,slow=75,SNR=104	**47.65**	**89**	T		T	02 08 00.7	
H03N1	**Juan Fernandez** baz=221,slow=75,SNR=105	**47.66**	**89**	T		T	02 08 03.7	
ASAR	**Alice Springs** 0.2nm,0.6s,baz=139,slow=6.2,SNR=3.6	**67.97**	**260**	P		P	01 18 57.0	-0.1
H01W1	**Cape Leeuwin H** baz=144,slow=76,SNR=37	**69.18**	**238**	T		T	02 34 35.9	
H01W2	**Cape Leeuwin H** baz=144,slow=76,SNR=41	**69.19**	**238**	T		T	02 34 36.1	
H01W3	**Cape Leeuwin H** baz=144,slow=76,SNR=34	**69.20**	**238**	T		T	02 34 37.2	
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=142,slow=6.2,SNR=3.6	**70.71**	**263**	P		P	01 19 14.2	+0.1
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=119,slow=1.8,SNR=3.4	**151.88**	**269**	PKPbc		PKPbc	01 27 52.0	-0.2

SFS ***24*** *01:09:32.0,36°.84N×7°.50W,h0km,ML2.5*
IGIL ***24*** *01:09:33.9,36°.77N×7°.67W,h13km,ML2.2*
INMG ***24*** *01:09:34.9±1.6,36°.74N×7°.68W,h31km±4km,ML2.6,Error ellipse: s-maj=3.5km s-min=2.9km az=54.0*
MDD ***24*** *01:09:34.2±0.7,36°.76N×7°.63W,h28km±6km,mbLg2.5/31, Error ellipse: s-maj=7.9km s-min=3.5km az=35.0,PRXIMO*
CSEM ***24*** *01:09:35.2±0.2,36°.89N×7°.52W,h40km,ML3.4/6,Error ellipse: s-maj=4.9km s-min=2.3km az=34.0*

ISC 24 01:09:31.9±1.3, 36°.82N±0°.04×7°.56W±0°.03, h14km±11km, n118, σ1§41/219, 9D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.52**	**325**	*i* Pg		**Pb**	**01 09 45.1**	**+2.3**
PBDV				*e*Sg		**Sb**	**01 09 52.8**	**+2.7**
PBDV				A		A	01 09 53.9	
	211nm,0.2s							
PBDV	**Barranco-do-Ve**	**0.52**	**325**	⇓P		**Pb**	**01 09 45.1**	**+2.3**
PBDV				S		**Sb**	**01 09 52.8**	**+2.7**
	211nm,0.2s							
PBDV	**Barranco-do-Ve**	**0.52**	**325**	P		**Pb**	**01 09 45.1**	**+2.3**
PBDV				S		**Sb**	**01 09 52.8**	**+2.7**
	211nm,0.2s							
PVAQ	**Vaqueiros**	**0.60**	**348**	*i* Pg		**Pb**	**01 09 46.5**	**+2.4**
PVAQ				*e*Sg		**Sb**	**01 09 55.4**	**+3.0**
PVAQ				A		A	01 09 56.0	
	341nm,0.2s							
PVAQ	**Vaqueiros**	**0.60**	**348**	⇓P		**Pb**	**01 09 46.5**	**+2.4**
PVAQ				S		**Sb**	**01 09 55.4**	**+3.0**
	341nm,0.2s							
PVAQ	**Vaqueiros**	**0.60**	**348**	P		**Pb**	**01 09 46.5**	**+2.4**
PVAQ				S		**Sb**	**01 09 55.4**	**+3.0**
	341nm,0.2s							
MORF	**Marmelete**	**1.00**	**300**	*e*P		**Pg**	**01 09 50.6**	**-0.6**
MORF				*e*S		**Sg**	**01 10 03.1**	**-1.2**
MORF				A		A	01 10 12.9	
	92nm,0.2s							
MORF	**Marmelete**	**1.00**	**300**	⇓P		**Pg**	**01 09 50.6**	**-0.6**
MORF				S		**Sg**	**01 10 03.1**	**-1.2**
	92nm,0.2s							
MESJ	**Messejana**	**1.15**	**333**	*e*P		**Pb**	**01 09 53.9**	**+0.4**
MESJ				*e*S		**Sb**	**01 10 08.8**	**+0.6**
MESJ				AML		AML	01 10 09.9	
	comp=E,43nm,0.1s							
MESJ	**Messejana**	**1.15**	**333**	*e*P		**Pb**	**01 09 53.9**	**+0.4**
MESJ				*e*S		**Sb**	**01 10 08.8**	**+0.6**
MESJ	**Messejana**	**1.15**	**333**	P		**Pb**	**01 09 53.9**	**+0.4**
MESJ				S		**Sb**	**01 10 08.8**	**+0.6**
	comp=E,43nm,0.1s							
MESJ	**Messejana**	**1.15**	**333**	P		**Pb**	**01 09 53.9**	**+0.4**
MESJ				S		**Sb**	**01 10 08.8**	**+0.6**
	comp=E,43nm,0.1s							
PTEO	**Sao Teotonio**	**1.18**	**308**	*i* P		**Pb**	**01 09 53.7**	**-0.3**
PTEO				*e*S		**Sb**	**01 10 07.9**	**-1.2**
PTEO				A		A	01 10 21.0	
	comp=E,36nm,0.7s							
PTEO	**Sao Teotonio**	**1.18**	**308**	⇓P		**Pb**	**01 09 53.7**	**-0.3**
PTEO				S		**Sb**	**01 10 07.9**	**-1.2**
	comp=E,18nm,0.7s							
PTEO	**Sao Teotonio**	**1.18**	**308**	P		**Pb**	**01 09 53.7**	**-0.3**
PTEO				*e*S		**Sb**	**01 10 07.9**	**-1.2**
	comp=E,36nm,0.7s							
PBEJ	**Beja**	**1.23**	**349**	*e*P		**Pn**	**01 09 55.3**	**+0.6**
PBEJ				*e*S		**Sb**	**01 10 10.8**	**+0.1**
PBEJ				A		A	01 10 21.6	
	comp=E,48nm,0.5s							
PBEJ	**Beja**	**1.23**	**349**	P		**Pn**	**01 09 55.3**	**+0.6**
PBEJ				S		**Sb**	**01 10 10.8**	**+0.1**
	comp=E,24nm,0.5s							
PBEJ	**Beja**	**1.23**	**349**	P		**Pn**	**01 09 55.3**	**+0.6**
PBEJ				S		**Sb**	**01 10 10.8**	**+0.1**
	comp=E,24nm,0.5s							
ESPR	**Espera**	**1.37**	**87**	P		**Pn**	**01 09 56.8**	**+0.3**
	comp=E,17nm,0.2s,SNR=64							
ESPR				S		**Sb**	**01 10 13.5**	**-1.1**
	comp=E,32nm,0.2s,SNR=12							
ESPR	**Espera**	**1.37**	**87**	P		**Pn**	**01 09 56.8**	**+0.3**
	comp=E,17nm,0.2s,SNR=64							
ESPR				S		**Sb**	**01 10 13.5**	**-1.1**
	comp=E,32nm,0.2s,SNR=12							
PNCL	**Nicolau / Gran**	**1.50**	**330**	*i* P		**Pn**	**01 09 58.6**	**+0.2**
PNCL				*e*S		**Sn**	**01 10 16.8**	**-1.0**
PNCL				A		A	01 10 25.3	
	comp=E,38nm,0.1s							
LIJA	**Lijar**	**1.73**	**86**	P		**Pn**	**01 10 03.9**	**+2.3**
LIJA				S		**Sn**	**01 10 23.4**	**-0.2**
LIJA	**Lijar**	**1.73**	**86**	P		**Pn**	**01 10 03.9**	**+2.3**
LIJA				S		**Sn**	**01 10 23.4**	**-0.2**
EVO	**Evora**	**1.75**	**348**	*e*Pn		**Pn**	**01 10 02.5**	**+0.7**
EVO				*e*Sn		**Sn**	**01 10 23.1**	**-0.7**
EVO				A		A	01 10 37.0	
	comp=E,33nm,0.1s							
EVO	**Evora**	**1.75**	**348**	⇓P		**Pn**	**01 10 02.5**	**+0.7**
EVO				S		**Sn**	**01 10 23.1**	**-0.7**
	comp=E,33nm,0.1s							
EVO	**Evora**	**1.75**	**348**	P		**Pn**	**01 10 02.5**	**+0.7**
EVO				S		**Sn**	**01 10 23.1**	**-0.7**
	comp=E,33nm,0.1s							
EBAD	**Badajoz**	**1.98**	**13**	⇓P		**Pn**	**01 10 05.6**	**+0.6**
	comp=E,5.3nm,0.3s,SNR=18							
EBAD				S		**Sn**	**01 10 30.4**	**+0.8**
	comp=E,9.3nm,0.3s,SNR=4.6							
**EBA

PMAFR					A	A	01 10 45.1		
	comp=E,24nm,0.2s								
PMAFR	**Mafra**	**2.53**	**328**		P	**Pn**	**01 10 13.2**	**+0.7**	
	comp=E,15nm,0.3s,SNR=15								
PMAFR					S	**Sn**	**01 10 43.3**	**+0.2**	
	comp=E,24nm,0.3s								
PMAFR	**Mafra**	**2.53**	**328**		P	**Pn**	**01 10 13.2**	**+0.7**	
	comp=E,15nm,0.3s,SNR=15								
PMAFR					*e*Sn	**Sn**	**01 10 43.2**	**0.0**	
	comp=E,24nm,0.2s								
PMRV	**Marv??o**	**2.61**		3	*i* Pn	**Pn**	**01 10 14.4**	**+0.8**	
PMRV					*e*Sn	**Sn**	**01 10 43.2**	**-1.9**	
PMRV					A	A	01 11 05.0		
	comp=E,19nm,1.0s								
PMRV	**Marv??o**	**2.61**		3	⇓P	**Pn**	**01 10 14.4**	**+0.8**	
PMRV					S	**Sn**	**01 10 43.2**	**-1.9**	
	comp=E,19nm,1.0s								
PMRV	**Marv??o**	**2.61**		3	P	**Pn**	**01 10 14.4**	**+0.8**	
PMRV					S	**Sn**	**01 10 43.2**	**-1.9**	
	comp=E,19nm,1.0s								
ELUQ	**Luque**	**2.73**	**73**		P	**Pn**	**01 10 15.6**	**+0.2**	
	comp=E,1.0nm,0.1s,SNR=7.9								
ELUQ					S	**Sn**	**01 10 47.5**	**-0.7**	
	comp=E,7.4nm,0.2s,SNR=7.9								
ELUQ	**Luque**	**2.73**	**73**		P	**Pn**	**01 10 15.6**	**+0.2**	
	comp=E,1.0nm,0.1s,SNR=7.9								
ELUQ					S	**Sn**	**01 10 47.5**	**-0.7**	
	comp=E,7.4nm,0.2s,SNR=7.9								
PTOM	**Tomar**	**2.88**	**347**		*e*Pn	**Pn**	**01 10 18.1**	**+0.9**	
PTOM					*e*Sn	**Sn**	**01 10 51.4**	**-0.2**	
PTOM					A	A	01 11 15.6		
	comp=E,21nm,0.5s								
PTOM	**Tomar**	**2.88**	**347**		P	**Pn**	**01 10 18.1**	**+0.9**	
PTOM					S	**Sn**	**01 10 51.4**	**-0.2**	
	comp=E,10nm,0.5s								
PTOM	**Tomar**	**2.88**	**347**		P	**Pn**	**01 10 18.1**	**+0.9**	
PTOM					S	**Sn**	**01 10 51.4**	**-0.2**	
	comp=E,10nm,0.5s								
PCBR	**Castelo Branco**	**3.02**		1	*e*Pn	**Pn**	**01 10 19.8**	**+0.6**	
PCBR					*e*Sn	**Sn**	**01 10 53.1**	**-2.1**	
PCBR					A	A	01 11 18.8		
	comp=E,9.0nm,0.7s								
PCBR	**Castelo Branco**	**3.02**		1	P	**Pn**	**01 10 19.8**	**+0.6**	
PCBR					S	**Sn**	**01 10 53.1**	**-2.1**	
	comp=E,4.5nm,0.7s								
PCBR	**Castelo Branco**	**3.02**		1	P	**Pn**	**01 10 19.8**	**+0.6**	
PCBR					S	**Sn**	**01 10 53.1**	**-2.1**	
	comp=E,4.5nm,0.7s								
SELV	**Sierra Elvira**	**3.10**		81	P	**Pn**	**01 10 23.3**	**+2.9**	
	comp=E,0.0nm,0.2s,SNR=7.9								
SELV					S	**Sn**	**01 10 57.0**	**-0.2**	
	comp=E,1.7nm,0.1s,SNR=7.9								
SELV	**Sierra Elvira**	**3.10**		81	P	**Pn**	**01 10 23.3**	**+2.9**	
	SNR=7.9								
SELV					S	**Sn**	**01 10 57.0**	**-0.2**	
	comp=E,1.7nm,0.1s,SNR=7.9								
EGUA	**Guajares**	**3.21**		89	P	**Pn**	**01 10 22.1**	**+0.3**	
	comp=E,0.5nm,0.2s,SNR=7.9								
EGUA					S	**Sn**	**01 10 58.5**	**-1.3**	
	comp=E,3.0nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**3.21**		89	P	**Pn**	**01 10 22.1**	**+0.3**	
	comp=E,0.5nm,0.2s,SNR=7.9								
EGUA					S	**Sn**	**01 10 58.5**	**-1.3**	
	comp=E,3.0nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**3.23**		81	P	**Pn**	**01 10 23.1**	**+0.9**	
	comp=E,0.3nm,0.1s,SNR=7.9								
ECOG					S	**Sn**	**01 10 59.5**	**-1.1**	
	comp=E,2.4nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**3.23**		81	P	**Pn**	**01 10 23.1**	**+0.9**	
	comp=E,0.3nm,0.1s,SNR=7.9								
ECOG					S	**Sn**	**01 10 59.5**	**-1.1**	
	comp=E,2.4nm,0.2s,SNR=7.9								
PCAS	**Casmilo, Conde**	**3.31**	**347**		*e*Pn	**Pn**	**01 10 24.1**	**+0.8**	
PCAS					*e*Sn	**Sn**	**01 11 00.3**	**-2.1**	
PCAS					A	A	01 11 30.4		
	comp=E,13nm,0.1s								
EPLA	**Plasencia**	**3.44**		19	P	**Pn**	**01 10 25.7**	**+0.6**	
	comp=E,3.8nm,0.1s,SNR=41								
EPLA					S	**Sn**	**01 11 04.5**	**-1.2**	
	comp=E,5.2nm,0.2s,SNR=14								
EPLA	**Plasencia**	**3.44**		19	P	**Pn**	**01 10 25.7**	**+0.6**	
	comp=E,3.8nm,0.1s,SNR=41								
EPLA					S	**Sn**	**01 11 04.5**	**-1.2**	
	comp=E,5.2nm,0.2s,SNR=14								
MTE	**Manteigas**	**3.58**		0	*i* Pn	**Pn**	**01 10 27.6**	**+0.6**	
MTE					*e*Sn	**Sn**	**01 11 07.3**	**-1.7**	
MTE					A	A	01 11 36.5		
	comp=E,15nm,0.8s								
MTE	**Manteigas**	**3.58**		0	⇓P	**Pn**	**01 10 27.6**	**+0.6**	
MTE					S	**Sn**	**01 11 07.3**	**-1.7**	
	comp=E,7.7nm,0.8s								
MTE	**Manteigas**	**3.58**		0	P	**Pn**	**01 10 27.6**	**+0.6**	
MTE					S	**Sn**	**01 11 07.3**	**-1.7**	
	comp=E,7.7nm,0.8s								
GORA	**Gorafe**	**3.67**		78	P	**Pn**	**01 10 28.3**	**0.0**	
	comp=E,1.1nm,0.2s,SNR=7.9								
GORA					S	**Sn**	**01 11 10.3**	**-1.1**	
	comp=E,3.3nm,0.1s,SNR=7.9								
GORA	**Gorafe**	**3.67**		78	P	**Pn**	**01 10 28.3**	**0.0**	
	comp=E,1.1nm,0.2s,SNR=7.9								
GORA					S	**Sn**	**01 11 10.3**	**-1.1**	
	comp=E,3.3nm,0.1s,SNR=7.9								
EQES	**Quesada**	**3.71**		73	P	**Pn**	**01 10 29.5**	**+0.6**	
	comp=E,0.0nm,0.1s,SNR=21								
EQES					S	**Sn**	**01 11 10.1**	**-2.4**	
	comp=E,3.9nm,0.5s,SNR=5.0								
EQES	**Quesada**	**3.71**		73	P	**Pn**	**01 10 29.5**	**+0.6**	
	SNR=21								
EQES					S	**Sn**	**01 11 10.1**	**-2.4**	
	comp=E,3.9nm,0.5s,SNR=5.0								
EBER	**Berja**	**3.75**		87	P	**Pn**	**01 10 31.9**	**+2.5**	
	SNR=7.9								
EBER					S	**Sn**	**01 11 12.7**	**-0.8**	
	comp=E,0.2nm,0.0s,SNR=7.9								
EBER	**Berja**	**3.75**		87	P	**Pn**	**01 10 31.9**	**+2.5**	
	SNR=7.9								
EBER					S	**Sn**	**01 11 12.7**	**-0.8**	
	comp=E,0.2nm,0.0s,SNR=7.9								
PVIS	**Viseu**	**3.90**	**356**		*e*Pn	**Pn**	**01 10 32.0**	**+0.6**	
PVIS					*e*Sn	**Sn**	**01 11 14.8**	**-2.2**	
PVIS	**Viseu**	**3.90**	**356**		P	**Pn**	**01 10 32.0**	**+0.6**	
PVIS					S	**Sn**	**01 11 14.8**	**-2.2**	
PVIS	**Viseu**	**3.90**	**356**		P	**Pn**	**01 10 32.0**	**+0.6**	
PVIS					S	**Sn**	**01 11 14.8**	**-2.2**	
EHUE	**Huescar**	**4.08**		74	P	**Pn**	**01 10 34.1**	**+0.1**	
	comp=E,0.2nm,0.1s,SNR=7.9								
EHUE					S	**Sn**	**01 11 19.7**	**-1.9**	
	comp=E,1.7nm,0.1s,SNR=7.9								
EHUE	**Huescar**	**4.08**		74	P	**Pn**	**01 10 34.1**	**+0.1**	
	comp=E,0.2nm,0.1s,SNR=7.9								
EHUE					S	**Sn**	**01 11 19.7**	**-1.9**	
	comp=E,1.7nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**4.36**		5	*e*Pn	**Pn**	**01 10 38.2**	**+0.5**	
MVO					*e*Sn	**Sn**	**01 11 25.4**	**-3.0**	
MVO					A	A	01 12 04.5		
	comp=E,8.7nm,0.5s								
MVO	**Moncorvo**	**4.36**		5	P	**Pn**	**01 10 38.2**	**+0.5**	
	comp=E,3.9nm,0.1s,SNR=36								
MVO					S	**Sn**	**01 11 25.8**	**-2.6**	
	comp=E,8.4nm,0.1s,SNR=8.6								
MVO	**Moncorvo**	**4.36**		5	P	**Pn**	**01 10 38.2**	**+0.5**	
	comp=E,3.9nm,0.1s,SNR=36								
MVO					*e*Sn	**Sn**	**01 11 25.4**	**-3.0**	
	comp=E,8.7nm,0.5s								
MVO					S	**Sn**	**01 11 25.8**	**-2.6**	
	comp=E,8.4nm,0.1s,SNR=8.6								
EVIA	**Vianos**	**4.40**		64	P	**Pn**	**01 10 38.2**	**-0.2**	
	comp=E,0.2nm,0.1s,SNR=7.9								
EVIA					S	**Sn**	**01 11 27.2**	**-2.3**	
	comp=E,5.3nm,0.1s,SNR=9.9								
EVIA	**Vianos**	**4.40**		64	P	**Pn**	**01 10 38.2**	**-0.2**	
	comp=E,0.2nm,0.1s,SNR=7.9								
EVIA					S	**Sn**	**01 11 27.2**	**-2.3**	
	comp=E,5.3nm,0.1s,SNR=9.9								
PVRL	**Vila Real**	**4.45**	**359**		*e*Pn	**Pn**	**01 10 39.5**	**+0.5**	
PVRL					*e*Sn	**Sn**	**01 11 28.4**	**-2.2**	
PVRL	**Vila Real**	**4.45**	**359**		P	**Pn**	**01 10 39.5**	**+0.5**	
PVRL					S	**Sn**	**01 11 28.4**	**-2.2**	
PVRL	**Vila Real**	**4.45**	**359**		P	**Pn**	**01 10 39.5**	**+0.5**	
PVRL					S	**Sn**	**01 11 28.4**	**-2.2**	
POLO	**Lamas de Olo**	**4.55**	**358**		*e*Pn	**Pn**	**01 10 40.9**	**+0.5**	
POLO					*e*Sn	**Sn**	**01 11 30.2**	**-3.0**	
POLO					A	A	01 12 12.1		
	comp=E,2.7nm,0.6s								
POLO	**Lamas de Olo**	**4.55**	**358**		*e*Pn	**Pn**	**01 10 40.9**	**+0.5**	
POLO					*e*Sn	**Sn**	**01 11 30.2**	**-3.0**	
	comp=E,2.7nm,0.6s								
GUD	**Guadarrama**	**4.66**		34	P	**Pn**	**01 10 42.9**	**+1.0**	
	comp=E,0.7nm,0.2s,SNR=13								
GUD					S	**Sn**	**01 11 33.9**	**-1.9**	
	comp=E,2.3nm,0.2s								
GUD	**Guadarrama**	**4.66**		34	P	**Pn**	**01 10 42.9**	**+1.0**	
	comp=E,0.7nm,0.2s,SNR=13								
GUD					S	**Sn**	**01 11 33.9**	**-1.9**	
	comp=E,2.3nm,0.2s								
TZC	**Tazercounte**	**4.74**	**169**		P	Pn	01 10 36.0	-7.1	
TZC					S	Sn	01 11 22.0	-16	
PCAB	**Cabril**	**4.90**	**356**		*e*Pn	**Pn**	**01 10 45.7**	**+0.6**	
PCAB					*e*Sn	Sn	01 11 37.8	-3.8	
PCAB	**Cabril**	**4.90**	**356**		⇓P	**Pn**	**01 10 45.7**	**+0.6**	
PCAB					S	Sn	01 11 37.8	-3.8	
PCAB	**Cabril**	**4.90**	**356**		P	**Pn**	**01 10 45.7**	**+0.6**	
PCAB					S	Sn	01 11 37.8	-3.8	
PBRG	**Braganca**	**5.02**		7	*e*Pn	**Pn**	**01 10 47.3**	**+0.5**	
PBRG					*e*Sn	**Sn**	**01 11 41.9**	**-2.7**	
PBRG					A	A	01 12 23.0		
	comp=E,3.5nm,0.6s								
PBRG	**Braganca**	**5.02**		7	P	**Pn**	**01 10 47.3**	**+0.5**	
PBRG					S	**Sn**	**01 11 41.9**	**-2.7**	
	comp=E,1.8nm,0.6s								
PBRG	**Braganca**	**5.02**		7	P	**Pn**	**01 10 47.3**	**+0.5**	
PBRG					S	**Sn**	**01 11 41.9**	**-2.7**	
	comp=E,1.8nm,0.6s								
ELOB	**Lobios**	**5.06**	**356**		P	**Pn**	**01 10 47.9**	**+0.6**	
	comp=E,2.5nm,0.1s,SNR=14								
ELOB					S	**Sn**	**01 11 44.7**	**-0.9**	
	comp=E,4.0nm,0.1s,SNR=11								
ELOB	**Lobios**	**5.06**	**356**		P	**Pn**	**01 10 47.9**	**+0.6**	
	comp=E,2.5nm,0.1s,SNR=14								
ELOB					S	**Sn**	**01 11 44.7**	**-0.9**	
	comp=E,4.0nm,0.1s,SNR=11								
ETOB	**Tobarra**	**5.11**		67	P	**Pn**	**01 10 47.8**	**-0.1**	
	comp=E,0.3nm,0.1s,SNR=12								
ETOB					S	**Sn**	**01 11 44.5**	**-2.2**	
	comp=E,1.7nm,0.1s,SNR=6.1								
ETOB	**Tobarra**	**5.11**		67	P	**Pn**	**01 10 47.8**	**-0.1**	
	comp=E,0.3nm,0.1s,SNR=12								
ETOB					S	**Sn**	**01 11 44.5**	**-2.2**	
	comp=E,1.7nm,0.1s,SNR=6.1								
ECAL	**Calabor**	**5.16**		7	P	**Pn**	**01 10 49.5**	**+0.8**	
	comp=E,1.1nm,0.1s,SNR=16								
ECAL					S	**Sn**	**01 11 46.3**	**-1.7**	
	comp=E,3.6nm,0.2s,SNR=5.1								
ECAL	**Calabor**	**5.16**		7	P	**Pn**	**01 10 49.5**	**+0.8**	
	comp=E,1.1nm,0.1s,SNR=16								
ECAL					S	**Sn**	**01 11 46.3**	**-1.7**	
	comp=E,3.6nm,0.2s,SNR=5.1								
EZAM	**Zamans**	**5.40**	**351**		P	**Pn**	**01 10 52.5**	**+0.6**	
	comp=E,2.0nm,0.1s,SNR=7.9								
EZAM					S	**Sn**	**01 11 52.1**	**-1.7**	
	comp=E,1.8nm,0.2s,SNR=7.9								
EZAM	**Zamans**	**5.40**	**351**		P	**Pn**	**01 10 52.5**	**+0.6**	
	comp=E,2.0nm,0.1s,SNR=7.9								
EZAM					S	**Sn**	**01 11 52.1**	**-1.7**	
	comp=E,1.8nm,0.2s,SNR=7.9								
ETOR	**Torete**	**5.87**		45	P	**Pn**	**01 10 59.6**	**+1.1**	
	comp=E,0.2nm,0.1s,SNR=7.9								
ETOR					S	**Sn**	**01 12 03.1**	**-2.5**	
	comp=E,0.7nm,0.1s,SNR=7.9								
ETOR	**Torete**	**5.87**		45	P	**Pn**	**01 10 59.6**	**+1.1**	
	comp=E,0.2nm,0.1s,SNR=7.9								
ETOR					S	**Sn**	**01 12 03.1**	**-2.5**	
	comp=E,0.7nm,0.1s,SNR=7.9								
EBEN	**Beniarda**	**6.11**		70	P	**Pn**	**01 11 01.9**	**+0.1**	
	comp=E,0.0nm,0.1s,SNR=7.9								
EBEN					S	Sn	01 12 07.4	-4.1	
	comp=E,0.1nm,0.0s,SNR=7.9								
EBEN	**Beniarda**	**6.11**		70	P	**Pn**	**01 11 01.9**	**+0.1**	
	SNR=7.9								
EBEN					S	Sn	01 12 07.4	-4.1	
	comp=E,0.1nm,0.0s,SNR=7.9								
EMOS	**Mosqueruela**	**6.59**		55	P	**Pn**	**01 11 08.9**	**+0.5**	
	comp=E,0.2nm,0.1s,SNR=7.9								
EMOS					S	**Sn**	**01 12 20.9**	**-2.4**	
	comp=E,0.3nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**6.59**		55	P	**Pn**	**01 11 08.9**	**+0.5**	
	comp=E,0.2nm,0.1s,SNR=7.9								
EMOS					S	**Sn**	**01 12 20.9**	**-2.4**	
	comp=E,0.3nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**6.72**		15	P	**Pn**	**01 11 11.0**	**+0.8**	
	comp=E,0.0nm,0.1s,SNR=5.7								
EARI					S	Sn	01 12 23.1	-3.5	
	comp=E,0.1nm,0.2s								
EARI	**Arriondas**	**6.72**		15	P	**Pn**	**01 11 11.0**	**+0.8**	
	SNR=5.7								
EARI					S	Sn	01 12 23.0	-3.5	
	comp=E,0.1nm,0.2s								
ELAN	**Lanestosa**	**7.15**		25	P	**Pn**	**01 11 17.4**	**+1.5**	
	comp=E,0.2nm,0.1s,SNR=7.9								
ELAN					S	Sn	01 12 33.5	-3.3	
	comp=E,0.7nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**7.15**		25	P	**Pn**	**01 11 17.4**	**+1.5**	
	comp=E,0.2nm,0.1s,SNR=7.9								
ELAN					S	Sn	01 12 33.5	-3.3	
	comp=E,0.7nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**7.68**		37	P	**Pn**	**01 11 24.4**	**+1.1**	
	comp=E,0.0nm,0.3s,SNR=7.9								
IEPA					S	Sn	01 12 45.4	-4.6	
	SNR=7.9								
IEPA	**Eparoz**	**7.68**		37	P	**Pn**	**01 11 24.4**	**+1.1**	
	SNR=7.9								
IELO	**Elcoad**	**7.74**		37	P	**Pn**	**01 11 25.5**	**+1.4**	
	comp=E,0.3nm,0.2s,SNR=7.9								
IELO					S	Sn	01 12 47.4	-4.1	
	comp=E,0.8nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**7.74**		37	P	**Pn**	**01 11 25.5**	**+1.4**	
	comp=E,0.3nm,0.2s,SNR=7.9								
IELO					S	Sn	01 12 47.4	-4.1	
	comp=E,0.8nm,0.2s,SNR=7.9								
ATE	**Arette**	**8.18**		38	P	**Pn**	**01 11 31.3**	**+1.1**	
	comp=E,0.2nm,0.2s,SNR=7.9								
ATE					S	Sn	01 12 57.6	-4.8	
	comp=E,0.5nm,0.2s,SNR=7.9								
ATE	**Arette**	**8.18**		38	P	**Pn**	**01 11 31.3**	**+1.1**	
	comp=E,0.2nm,0.2s,SNR=7.9								

KRSC 24 02:16:23.3±1.0, 55°.24N×162°.83E, h26km±21km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.94**	**223**	*i* P	Pn	02 16 39.9	-0.8
MKZ				*e*S	Sb	02 16 52.6	-0.2
KBTR	**Krutoberegovo**	**0.97**	**360**	*e*P	Pb	02 16 42.5	+1.1
KBTR				*e*S	Sn	02 16 56.8	+2.7
KBG	**Krutoberegovo**	**1.02**	**356**	*e*P	Pn	02 16 40.8	-1.0
KBG				*e*S	Sn	02 16 55.6	+0.3
TUMR	**Tumrok**	**1.54**	**273**	*e*P	Pn	02 16 50.1	+0.9
TUMR				*e*S	Sb	02 17 09.7	-0.7
SMKR	**Semkarok**	**1.55**	**331**	*e*P	Pb	02 16 51.4	+0.1
KMNR	**Kamenistaya**	**1.56**	**290**	*e*P	Pb	02 16 50.7	-0.9
KMNR				*e*S	Sb	02 17 10.4	-0.7
KIRR	**Kirishev**	**1.58**	**298**	*e*P	Pb	02 16 51.6	-0.4
KIRR				*e*S	Sb	02 17 12.7	+1.0
BDR	**Baidarnaya**	**1.61**	**326**	*e*P	Pb	02 16 51.5	-1.0
KLY	**Klyuchi**	**1.63**	**312**	*e*P	Pn	02 16 50.3	0.0
KLY				*e*S	Sn	02 17 09.4	-1.0
KPT	**Kopyto**	**1.65**	**297**	*e*P	Pn	02 16 51.6	+0.9
KPT				*e*S	Sb	02 17 12.6	-0.9
SRKR	**Sorokina**	**1.70**	**327**	*e*P	Pn	02 16 51.4	+0.1
KOZ	**Kozyrevsk**	**1.86**	**297**	*e*P	Pb	02 16 55.2	-1.5
KOZ				*e*S	Sb	02 17 20.2	+0.6
SRDR	**Sredinnyy**	**2.06**	**303**	*e*P	Pn	02 16 57.5	+1.2
KII	**Karymskiy**	**2.31**	**240**	*e*P	Pb	02 17 02.5	-1.8
KII				*e*S	Sn	02 17 29.7	+2.4
ESO	**Esso**	**2.44**	**288**	*e*P	Pn	02 17 03.8	+2.3
NLC	**Nalytchevo**	**2.91**	**226**	*e*P	Pn	02 17 10.8	+2.9
NLC				*e*S	Sb	02 17 47.2	-2.4
SDLR	**Sedlovina**	**3.04**	**231**	*e*P	Pb	02 17 13.7	-3.1
KRER	**Koryakskii**	**3.08**	**233**	*e*P	Pb	02 17 14.2	-3.4
SMAR	**Somma**	**3.08**	**232**	*e*P	Pn	02 17 13.7	+3.1
KRX	**Arik**	**3.09**	**234**	*e*P	Pn	02 17 13.7	+3.1
KRX				*e*S	Sn	02 17 49.0	+2.2
UGLR	**Uglovaya**	**3.11**	**231**	*e*P	Pn	02 17 13.8	+3.0
AVH	**Avacha**	**3.11**	**232**	*e*P	Pb	02 17 14.9	-3.1
AVH				*e*S	Sn	02 17 50.6	+3.5
KOK	**Koryaka**	**3.14**	**233**	*e*P	Pn	02 17 14.4	+3.2
GNL	**Ganaly**	**3.25**	**243**	*e*P	Pn	02 17 14.9	+2.2
PET	**Petropavlovsk**	**3.31**	**230**	*e*P	Pb	02 17 17.4	-3.9
PET				*e*S	Sn	02 17 55.7	+3.8
RUS	**Russkaya**	**3.80**	**224**	*e*P	Pn	02 17 23.1	+3.0
RUS				*e*S	Sn	02 18 08.5	+4.6
OSSR	**Ossora**	**4.02**	**2**	*e*P	Pn	02 17 26.5	+3.4
ASAK	**Asacha**	**4.09**	**228**	*e*P	Pn	02 17 27.9	+3.7

*IDC **24** 02:36:10.9±0.4, 35°.57N×110°.76E, h0km, mb4.6/40, mb1 4.6/42, mb1mx4.6/45, mbtmp4.6/42, ML3.7/2, MS4.2/22, Ms1 4.2/22, ms1mx4.0/35, Error ellipse: s-maj=12.6km s-min=9.1km az=49.0*

*BJI **24** 02:36:11.6, 35°.57N×110°.76E, h8km, mB4.8/22, mb4.8/30, ML5.1/33, Ms4.8/37, Ms7 4.6/40*

*ISCJB **24** 02:36:11.7±1.0, 35°.56N±0°.02×110°.73E±0°.03, h15km±7km, mb4.8/181, MS4.3/27, Error ellipse: s-maj=3.5km s-min=3.2km az=171.6*

*MOS **24** 02:36:14.4±0.9, 35°.57N×110°.76E, h33km, mb5.1/84, MS4.2/10, Error ellipse: s-maj=6.8km s-min=4.0km az=119.9*

*NEIC **24** 02:36:15.6±0.9, 35°.52N×110°.74E, h29km±6km, mb5.0/65, Error ellipse: s-maj=2.9km s-min=2.6km az=89.0*

NEIC Felt [II] at Linfen and Xi'an. Also felt at Hancheng, Houma, Luoyang, Sanmenxia, Weinan, Xianyang, Yan'an and Zhengzhou.

*SZGRF **24** 02:36:17.5, 35°.73N×110°.11E, h25km, mb5.1, MS4.2, Southeastern China*

ISC 24 02:36:15.0±0.4, 35°.51N±0°.03×110°.69E±0°.03, h23km±3km, h22km:pP-P, n563, σ1°05/612, mb4.9/181, MS4.3/27, 112C-18D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**2.07**	**225**	Pn	**Pn**	**02 36 48.1**	**-0.3**
XAN				Pg	**Pb**	**02 36 52.3**	**+0.4**
XAN				Sn	**Sn**	**02 37 14.4**	**+0.9**
XAN				Sg	**Sb**	**02 37 20.6**	**+3.4**
XAN				smax	smax		
	comp=N,5μm,0.9s						
XAN				smax	smax		
	comp=E,2μm,0.9s						
TIY	**Taiyuan**	**2.60**	**32**	Pn	**Pn**	**02 36 56.8**	**+1.0**
TIY				Pg	**Pb**	**02 37 00.6**	**-0.4**
TIY				Sg	**Sb**	**02 37 34.4**	**+1.8**
TIY				smax	smax		
	comp=N,10μm,0.8s						
TIY				smax	smax		
	comp=E,11μm,0.9s						
BTO	**Baotou**	**5.11**	**354**	*e*Pn	**Pn**	**02 37 31.0**	**+0.7**
BTO				Sn	**Sn**	**02 38 26.8**	**-1.9**
BTO				smax	smax		
	comp=N,510nm,0.9s						
BTO				smax	smax		
	comp=E,680nm,0.9s						
TIA	**Tai'an**	**5.27**	**81**	Pn	**Pn**	**02 37 30.8**	**-1.5**
TIA				Pg	**Pb**	**02 37 48.6**	**+2.2**
TIA				Sg	**Sb**	**02 38 53.0**	**+3.8**
TIA				smax	smax		
	comp=N,2μm,0.8s						
TIA				smax	smax		
	comp=E,2μm,0.8s						
ENH	**Enshi**	**5.32**	**191**	*e*Pn	**Pn**	**02 37 33.1**	**0.0**
	249nm,0.6s						
ENH				*e*Pg	Pb	02 37 52.0	+4.7
ENH				*e*Sn	**Sn**	**02 38 34.0**	**+0.2**
ENH				*e*Sg	Sb	02 39 00.7	+10
HHC	**Hu-ho-hao-te**	**5.37**	**7**	*e*Pn	**Pn**	**02 37 33.8**	**-0.1**
HHC				Pg	**Pb**	**02 37 49.8**	**+1.6**
HHC				Sg	**Sb**	**02 38 58.0**	**+5.7**
HHC				smax	smax		
	comp=N,4μm,1.4s						
HHC				smax	smax		
	comp=E,3μm,1.5s						
LZH	**Lanzhou**	**5.60**	**278**	*e*Pn	**Pn**	**02 37 36.8**	**-0.2**
LZH				Pg	**Pb**	**02 37 54.0**	**+1.9**
LZH				Sn	**Sn**	**02 38 42.8**	**+2.1**
LZH				Sg	Sb	02 39 05.5	+6.7
LZH				smax	smax		
	comp=N,4μm,0.7s						
LZH				smax	smax		
	comp=E,6μm,0.6s						
LZH				LR	LR		
	comp=Z,11μm,4.7s						
WHN	**Wuhan**	**5.83**	**147**	⇑*i* Pn	**Pn**	**02 37 39.3**	**-0.7**
WHN				Pg	Pb	02 38 00.3	+4.4
WHN				Sn	Sn	02 38 39.8	-6.3
WHN				smax	smax		
	comp=N,8μm,1.0s						
WHN				smax	smax		
	comp=E,5μm,0.7s						
BJT	**Baijiatuao**	**6.25**	**42**	*e*Pn	**

comp=Z,4µm,11.5s
ULN Ulaanbaatar 12.64 349 *e*Pn **Pn** **02 39 13.1 -0.3**
ULN *e*Sn **Sn** **02 41 33.2 -0.3**
SONM Songino Array 12.72 347 Pn **Pn** **02 39 13.9 -0.6**
SONM Sn Sn 02 41 27.8 -7.7
SONM Lg Lg 02 42 48.7
SONM Songino Array 12.72 347 Pn **Pn** **02 39 13.9 -0.6**
comp=Z,0.6nm,0.3s,baz=174,slow=13,SNR=42
SONM Sn Sn 02 41 27.8 -7.7
comp=Z,1.2nm,0.3s,baz=148,slow=27,SNR=3.7
SONM Lg Lg 02 42 48.7
comp=Z,2.0nm,0.3s,baz=169,slow=30,SNR=4.9
SONM LR LR 02 44 40.9
comp=Z,2µm,18.9s,baz=174,slow=40
KSAR Wonju Array Be 13.97 77 Pn **Pn** **02 39 30.4 -1.1**
KSAR Lg Lg 02 43 27.2
KSRS Korea Array 14.00 77 Pn **Pn** **02 39 30.4 -1.5**
comp=Z,0.3nm,0.3s,baz=262,slow=12,SNR=19
KSRS Lg Lg 02 43 27.2
comp=Z,0.6nm,0.3s,baz=256,slow=26,SNR=4.7
KSRS LR LR 02 44 52.1
comp=Z,275nm,21.7s,baz=268,slow=38
CN2 Changchun 14.05 49 *e*P P 02 39 36.4 -3.8
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,2µm,16.0s
YULB Yu-li 15.19 140 *e*Pn **Pn** **02 39 48.4 +0.3**
comp=Z,56nm,1.1s
HIA Hailar 15.27 23 *e*Pn **Pn** **02 39 49.5 +0.4**
SLVN Son La 15.33 205 *e*Pn **Pn** **02 39 48.1 -1.9**
SLVN *e*Sn **Sn** **02 42 37.3 -1.9**
ZAK Zakamensk 15.81 342⇓ *i*P **Pn** **02 39 55.3 -0.8**
ZAK pmax pmax
comp=Z,14nm,1.1s
QIZ Qiongzhong 16.44 183 P **Pn** **02 40 05.1 +0.9**
QIZ sP **sP** **02 40 12.3 -3.7**
QIZ S **Sn** **02 43 09.8 +3.8**
QIZ LR LR
comp=Z,3µm,10.6s
QIZ LR LR
comp=Z,4µm,11.2s
JNU Nakatsue 16.84 92 Pn **P** **02 40 12.8 +1.5**
JNU Lg Lg 02 45 06.5
JNU Nakatsue 16.84 92 Pn **P** **02 40 12.8 +1.5**
comp=Z,0.2nm,0.3s,baz=260,slow=11,SNR=2.5
JNU Lg Lg 02 45 06.5
comp=Z,0.1nm,0.3s,baz=338,slow=16,SNR=1.8
JNU LR LR 02 47 15.2
comp=Z,457nm,21.5s,baz=283,slow=40
TLY Talaya 16.94 345 Pn **Pn** **02 40 11.1 +0.7**
comp=Z,86nm,0.7s,SNR=5.1
TLY Talaya 16.94 345 *e*P **P** **02 40 13.2 +1.0**
TLY pmax pmax
comp=Z,24nm,1.5s
TLY MLR MLR
comp=Z,2µm,17.0s
TLY Talaya 16.94 345 *e*Pn **Pn** **02 40 10.1 -0.3**
comp=Z,14nm,0.8s
TLY *e*Lg Lg 02 45 02.9
IRK Irkutsk 17.34 347 *e*P **P** **02 40 18.6 +1.9**
IRK pmax pmax
comp=Z,90nm,1.7s
LSA Lhasa 17.45 256 P **P** **02 40 19.6 +1.1**
LSA S **S** **02 43 37.3 -1.9**
LSA Lhasa 17.45 256 *e*P **P** **02 40 19.3 +0.8**
LSA pmax pmax
comp=Z,108nm,1.4s
LSA Lhasa 17.45 256 *e*Pn **P** **02 40 19.3 +0.8**
comp=Z,108nm,1.4s
MOY Mondy 17.59 340 *e*P **P** **02 40 19.5 0.0**
MOY pmax pmax
comp=Z,26nm,2.2s
USRK Ussuriysk Arra 18.47 56 P **Pn** **02 40 30.9 +1.5**
comp=Z,0.1nm,0.3s,baz=256,slow=12,SNR=7.6
USRK Lg Lg 02 45 58.0
comp=Z,0.1nm,0.3s,baz=258,slow=24,SNR=3.0
CMAI Chiengmai2 18.61 217 P **Pn** **02 40 32.3 +1.0**
comp=Z,62nm,0.6s,comp=Z,9µm
SHL Shillong 18.97 244 *e*P **P** **02 40 33.0 -1.9**
SHL *e*S S 02 44 24.0 +15
WMQ Urumqi 19.51 302 P **Pn** **02 40 42.0 0.0**
WMQ pP **pP** **02 40 45.8 -1.1**
WMQ sP **sP** **02 40 49.0 -0.9**
WMQ PP **PnPn** **02 40 59.6 +4.2**
WMQ S **S** **02 44 16.1 -3.6**
WMQ SS **SnSn** **02 44 41.1 +6.7**
WMQ PcP **PcP** **02 45 03.3 +2.6**
WMQ pmax pmax
comp=Z,36nm,0.5s
WMQ pmax pmax
comp=Z,150nm,4.2s
WMQ LR LR
comp=Z,1µm,8.0s
WMQ LR LR
comp=Z,1µm,9.2s
WMQ LR LR
comp=Z,950nm,15.9s
LAMP Lampang 19.56 213 P **Pn** **02 40 43.6 +1.0**
comp=Z,27nm,0.8s,comp=Z,193nm
CHTO Chiang Mai 19.62 215 *e*P **P** **02 40 42.7 +0.8**
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 19.62 215 P **Pn** **02 40 43.2 -0.1**
comp=Z,177nm,1.2s,comp=Z,3µm
CHTO Chiang Mai 19.62 215 *e*P **P** **02 40 42.6 +0.8**
comp=Z,10nm,1.1s
CM31 Chiang Mai Arr 19.93 215 *e*P **Pn** **02 40 46.6 -0.4**
comp=Z,41nm,0.7s
CMAR Chiang Mai Arr 19.93 215 P **Pn** **02 40 46.6 -0.4**
CMAR Lg Lg 02 46 59.0
CMAR Chiang Mai Arr 19.93 215 P **Pn** **02 40 46.6 -0.4**
comp=Z,43nm,0.8s,baz=22,slow=9.7,SNR=188
CMAR Lg Lg 02 46 59.0
comp=Z,0.6nm,0.3s,baz=20,slow=26,SNR=2.6
CMAR LR LR 02 49 34.6
comp=Z,1µm,18.9s,baz=35,slow=40
KLR Kul'dur 20.64 42 *e*P **P** **02 40 51.8 -1.0**
KLR *e* 02 44 45.0
KLR MLR MLR
comp=E,2µm,11.0s
KLR MLR MLR
comp=Z,6µm,11.0s
MHMT Maesarieng 20.65 217 P **P** **02 40 54.1 +1.0**
comp=Z,40nm,0.8s,comp=Z,2µm
UBPT Khong Chiam 20.68 194 P Pn 02 40 54.9 -1.0
comp=Z,42nm,1.3s
PBKT Sadao Pong 20.77 207 P x 02 40 54.9
comp=Z,42nm,1.0s,comp=Z,1µm
PBKT Sadao Pong 20.77 207 P **P** **02 40 54.7 +0.4**
comp=Z,42nm,1.0s,comp=Z,1µm
TAPN Taplejung 21.20 254 *e*P **P** **02 40 59.0 -0.4**
comp=Z,115nm,0.9s
ODAN Odare 21.68 253 *e*P **P** **02 41 03.9 -0.6**
comp=Z,436nm,1.1s
HABR Khabarovsk 22.14 47 *e*P P 02 41 15.9 +6.9
HABR *e**SP sP 02 41 20.3 +2.1
HABR *e* 02 41 30.1
HABR *e*PPP PPP 02 41 38.5
HABR *e* 02 45 02.7
HABR *e*S **S** **02 45 10.3 -1.4**
HABR *e**SS Sn 02 45 25.3 +1.9
HABR *e*SS **SnSn** **02 45 39.8 +1.0**
HABR pmax pmax
comp=Z,20nm,1.4s
HABR MLR MLR
comp=Z,1µm,19.0s
MAJO Matsushiro 22.25 79 *e*P **P** **02 41 10.1 -0.2**
MAJO pmax pmax
comp=Z,13nm,1.1s
MAJO Matsushiro 22.25 79 *e*P **P** **02 41 10.1 -0.2**
comp=Z,13nm,1.1s
MJAR Matsushiro Arr 22.25 79 P **P** **02 41 10.8 +0.5**
MJAR PcP **PcP** **02 45 05.0 -1.0**
MJAR Matsushiro Arr 22.25 79 P **P** **02 41 10.8 +0.5**
comp=Z,1.8nm,0.9s,baz=273,slow=9.5,SNR=5.1
MJAR PcP **PcP** **02 45 05.0 -1.0**
comp=Z,1.8nm,0.8s,baz=253,slow=1.3,SNR=5.4
MJAR LR LR 02 50 02.2
comp=Z,118nm,18.1s,baz=255,slow=37

JIRN Jiri 22.25 256 *e*P **P** **02 41 10.5 -0.3**
comp=Z,196nm,1.0s
RAMN Ramite 22.26 254 *e*P **P** **02 41 10.0 -0.7**
comp=Z,136nm,0.9s
GUN Gumba 22.39 257 *e*P **P** **02 41 11.8 -0.4**
comp=Z,255nm,0.6s
PKI Pulchoki 22.91 257 *e*P **P** **02 41 17.0 -0.7**
comp=Z,232nm,0.9s
KKN Kakani 22.92 257 *e*P **P** **02 41 17.2 -0.5**
comp=Z,249nm,1.0s
PKIN Phulchoki 22.92 257 *e*P **P** **02 41 17.0 -0.7**
comp=Z,88nm,0.7s
DMN Daman 23.14 257 *e*P **P** **02 41 19.7 -0.3**
comp=Z,294nm,1.1s
KHLT Khaolaem Dam 23.32 211 P **P** **02 41 22.2 +0.7**
comp=Z,30nm,1.3s,comp=Z,432nm
GKN Gorkha 23.34 259 *e*P **P** **02 41 20.9 -1.0**
comp=Z,336nm,1.0s
CLNS Chul'man 23.39 20 *e*P **P** **02 41 25.4 +3.4**
CLNS *e**PP pP 02 41 34.5 +6.0
CLNS *e* 02 41 49.3
CLNS *e*PPP PPP 02 42 00.5
CLNS *e* 02 45 12.2
CLNS *e*S **S** **02 45 36.2 +2.5**
CLNS *e*SS **SnSn** **02 46 08.4 -1.0**
CLNS *e*SSS SSS 02 46 24.3
CLNS pmax pmax
comp=Z,23nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,14nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS smax smax
comp=N,7.0nm,0.9s
CLNS smax smax
comp=E,3.0nm,0.9s
CLNS MLR MLR
comp=E,859nm,11.0s
CLNS MLR MLR
comp=N,618nm,13.0s
CLNS MLR MLR
comp=Z,784nm,9.0s
SRDT SRDT 23.50 209 P **P** **02 41 23.4 +0.1**
comp=Z,196nm,1.1s,comp=Z,3µm
DLV T Lat 23.55 185 *e*P **P** **02 41 23.3 -0.7**
CHBT CHBT 23.89 201 P x 02 41 27.3
comp=Z,54nm,1.4s,comp=Z,2µm
CHBT CHBT 23.89 201 P **P** **02 41 27.3 +0.3**
comp=Z,54nm,1.4s,comp=Z,2µm
DANN Dangsing 23.90 260 *e*P **P** **02 41 26.9 -0.6**
comp=Z,244nm,0.7s
MK31 Makanchi Array 24.04 307 P **P** **02 41 27.7 -0.6**
MK31 pmax pmax
comp=Z,23nm,1.0s
MKAR Makanchi Array 24.04 307 P **P** **02 41 28.3 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 24.04 307 P **P** **02 41 28.2 -0.1**
MKAR Lg Lg 02 48 58.9
MKAR Makanchi Array 24.04 307 P **P** **02 41 28.2 -0.1**
comp=Z,3.5nm,0.4s,baz=96,slow=10,SNR=80
MKAR Lg Lg 02 48 58.9
comp=Z,1.5nm,1.1s,baz=93,slow=26,SNR=2.9
PATY Pattaya 24.18 204 P **P** **02 41 31.6 +1.9**
comp=Z,9.8nm,1.3s
KOLN Koldanda 24.27 259 *e*P **P** **02 41 30.5 -0.3**
comp=Z,148nm,0.8s
PYUN Piuthan 24.62 260 *e*P **P** **02 41 34.4 +0.4**
comp=Z,156nm,0.5s
ZAA0 Zalesovo Array 25.80 324 *e*P **P** **02 41 43.5 -0.7**
ZALV Zalesovo Beam 25.80 324 P **P** **02 41 43.6 -0.6**
ZALV S **S** **02 46 11.1 -1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV smax smax
comp=N,1.0nm,0.6s
ZALV MLR MLR
comp=Z,624nm,18.2s
ZALV Zalesovo Beam 25.80 324 P **P** **02 41 43.5 -0.6**
ZALV S **S** **02 46 11.1 -1.0**
ZALV Zalesovo Beam 25.80 324 P **P** **02 41 43.5 -0.6**
comp=Z,5.8nm,0.3s,baz=124,slow=9.2,SNR=51
ZALV S **S** **02 46 11.1 -1.0**
comp=Z,0.7nm,0.6s,baz=133,slow=16,SNR=1.7
ZALV LR LR 02 52 38.2
comp=Z,624nm,18.2s,baz=96,slow=38
ASAJ Asahikawa 25.84 61 P **P** **02 41 43.6 -1.0**
ASAJ Asahikawa 25.84 61 P **P** **02 41 43.6 -1.0**
comp=Z,12nm,0.9s,baz=213,slow=4.8,SNR=4.7
ASAJ LR LR 02 52 15.1
comp=Z,344nm,18.1s,baz=330,slow=37
NVS Novosibirsk 27.07 324 *e*P **P** **02 41 54.5 -1.1**
NVS *e* 02 46 31.4
KURK Kurchatov 27.64 313 *e*P **P** **02 42 00.9 +0.1**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 27.64 313 *e*P **P** **02 42 00.9 +0.1**
comp=Z,7.3nm,0.9s
KURBB Kurchatov Arra 27.66 313 P **P** **02 42 00.8 -0.2**
comp=Z,2.4nm,0.4s,baz=115,slow=9.4,SNR=25
KSH Kashi 27.73 289 *i* P **P** **02 42 06.4 +4.6**
KSH *e**PP PP 02 42 56.6 -7.9
KSH *e*S **S** **02 46 49.1 +6.1**
KSH sS **sS** **02 46 56.4 +2.1**
KSH *e*SS SnSn 02 48 10.3 +14
KSH *e*PcS **PcS** **02 49 01.3 +1.1**
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,92nm,5.4s
KSH LR LR
comp=Z,620nm,12.5s
KSH LR LR
comp=Z,1µm,12.5s
KSH LR LR
comp=Z,780nm,11.3s
TKM2 Tokmak 2 28.03 296 *e*P **P** **02 42 05.2 +0.6**
TKM2 pmax pmax
comp=Z,8.0nm,1.0s
TKM2 Tokmak 2 28.03 296 *e*P **P** **02 42 05.2 +0.6**
comp=Z,8.1nm,1.0s
FRU Bishkek 28.74 296 *e*P **P** **02 42 11.8 +1.0**
FRU pmax pmax
comp=Z,34nm,1.8s
AAK Ala-Archa 28.83 295 P **P** **02 42 12.0 +0.3**
comp=Z,29nm,1.1s,SNR=5.2
AAK Ala-Archa 28.83 295 *e*P **P** **02 42 12.6 +0.9**
AAK Ala-Archa 28.83 295 *e*P **P** **02 42 12.6 +0.9**
comp=Z,8.5nm,0.9s
AAK Ala-Archa 28.83 295 P **P** **02 42 12.0 +0.3**
comp=Z,2.0nm,0.5s,baz=135,slow=5.7,SNR=11
AAK LR LR 02 53 07.6
comp=Z,344nm,18.6s,baz=66,slow=35
EKS2 Erkin-Say 29.36 295 *e*P **P** **02 42 16.5 +0.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 29.36 295 *e*P **P** **02 42 16.5 +0.2**
comp=Z,4.2nm,0.8s
KULM Kulim 31.47 199 P x 02 42 35.9
comp=Z,33nm,1.6s
KULM Kulim 31.47 199 *e*P **P** **02 42 35.3 +0.3**
comp=Z,41nm,1.2s
KK31 Karatay Array 31.76 296 P **P** **02 42 37.2 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 31.76 296 *e*P **P** **02 42 38.0 +0.5**
KKAR Karatay Array 31.76 296 *e*P **P** **02 42 38.0 +0.5**
IPM Ipoh 32.15 198 P x 02 42 41.1
comp=Z,42nm,1.1s
IPM Ipoh 32.15 198 *e*P **P** **02 42 40.9 -0.1**
comp=Z,28nm,0.8s
VOSK Vostochnaya 32.78 314 P **P** **02 42 45.4 -0.8**
VOSK pmax pmax
comp=Z,7.0nm,0.9s
SBUM Sibu 32.93 177 P x 02 43 01.2
SBUM Sibu 32.93 177 *e*P **P** **02 42 48.8 +1.0**
comp=Z,53nm,1.9s
BVAR Borovoye Array 33.21 314 P **P** **02 42 50.0 0.0**
BVAR S **S** **02 48 08.9 +0.5**
BVAR pmax pmax
comp=Z,12nm,0.3s
BVAR smax smax
comp=N,3.0nm,1.0s
BVAR Borovoye Array 33.21 314 P **P** **02 42 50.0 0.0**
BVAR S **S** **02 48 08.9 +0.5**
BVAR Borovoye Array 33.21 314 P **P** **02 42 50.0 0.0**
comp=N,12nm,0.3s,baz=115,slow=10,SNR=149
BVAR S **S** **02 48 08.9 +0.5**
comp=N,3.4nm,1.0s,baz=105,slow=18,SNR=5.1
BRVK Borovoye 33.28 315 P **P** **02 42 50.1 -0.5**
comp=N,195nm,0.4s,SNR=14
BRVK Borovoye 33.28 315 *d* *i*P **P** **02 42 50.6 0.0**
BRVK Borovoye 33.28 315 *e*P **P** **02 42 50.8 +0.2**
comp=N,14nm,0.6s
HYB Hyderabad 33.74 246 *i* P **P** **02 42 56.0 +1.0**
TSI Tuntungan 33.77 202 P **P** **02 42 56.4 +1.2**
comp=N,190nm,0.8s
KBL Kabul 33.94 281 *e*P **P** **02 42 56.9 +0.1**
KBL pmax pmax
comp=Z,59nm,1.5s
KBL Kabul 33.94 281 *e*P **P** **02 42 56.9 +0.1**
comp=Z,59nm,1.5s
PSI Prapat 34.33 201 P x 02 43 00.8
comp=Z,34nm,1.2s
PSI Prapat 34.33 201 P **P** **02 43 00.1 -0.1**
PSI Prapat 34.33 201 P **P** **02 43 00.1 -0.1**
comp=Z,18nm,0.8s,baz=356,slow=6.3,SNR=20
MNSI Mandailing Nat 36.06 199 P **P** **02 43 15.0 +0.1**
GSI Gunungsitoli 36.16 203 *e*P **P** **02 43 14.9 -0.8**
comp=Z,19nm,0.6s
PETK Petropavlovsk- 37.18 47 LR LR 03 00 29.2
comp=Z,384nm,18.2s,baz=251,slow=39
TIXI Tiksi 37.44 9 *e*P **P** **02 43 25.2 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI MLR MLR
comp=Z,802nm,24.0s
TIXI Tiksi 37.44 9 *e*P **P** **02 43 26.4 +0.3**
comp=Z,36nm,1.5s
SEY Seymchan 37.54 30 P **P** **02 43 26.2 -0.8**
SEY pmax pmax
comp=Z,2.0nm,0.3s
SEY Seymchan 37.54 30 P **P** **02 43 26.2 -0.8**
SEY Seymchan 37.54 30 P **P** **02 43 26.2 -0.8**
comp=Z,2.2nm,0.3s,baz=54,slow=1.5,SNR=15
AB31 Akbulak array 39.19 307 *i* P **P** **02 43 41.2 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 39.19 307 *e*P **P** **02 43 41.0 -0.1**
LBMI Labuha 39.24 153 P P 02 43 53.4 +12
PALK Pallekele 39.31 232 *e*P **P** **02 43 42.7 +0.2**
SVE Sverdlovsk 39.56 319⇑ *e*P **P** **02 43 44.5 +0.5**
SVE pmax pmax
comp=Z,32nm,1.2s
SVE MLR MLR
comp=Z,710nm,18.0s
LHSI Lahat 39.70 191 P **P** **02 43 46.7 +1.0**
comp=Z,92nm,1.1s
MDSI Maura Dua 40.25 190 P **P** **02 43 50.5 +0.3**
comp=Z,32nm,1.2s,comp=Z,1µm
AKTO Aktyubinsk 40.46 308 P **P** **02 43 51.3 -0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 40.46 308 P **P** **02 43 51.3 -0.3**
AKTO Aktyubinsk 40.46 308 P **P** **02 43 51.3 -0.3**
comp=Z,2.4nm,0.7s,baz=98,slow=11,SNR=15
IMYA Miami 40.59 287 *e*P **P** **02 43 53.9 +0.7**
ARU Arti 40.62 318 P **P** **02 43 52.7 -0.2**
comp=Z,139nm,1.5s,SNR=7.7
ARU Arti 40.62 318 *d* *i*P **P** **02 43 52.6 -0.2**
ARU 02 45 25.1
ARU 02 45 51.7
ARU S **S** **02 50 01.1 0.0**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU MLR MLR
comp=Z,433nm,18.0s
ARU Arti 40.62 318 *e*P **P** **02 43 52.6 -0.2**
comp=Z,71nm,1.6s
KAPI Kappang 41.20 166 *e*P **P** **02 43 58.0 0.0**
comp=Z,87nm,1.2s
IPAY Payeh 41.43 287 *e*P **P** **02 44 01.4 +1.3**
IKRD Kardeh 41.72 288 *e*P P 02 43 57.1 -5.4
ABKT Ailbek 41.75 289 P **P** **02 44 04.3 +1.8**
comp=Z,168nm,0.7s,SNR=8.8
IDAH Dahanechah 41.79 281 *e*P **P** **02 44 03.2 0.0**
MSAI Masohi 42.27 152 P **P** **02 44 07.7 +0.9**
comp=Z,13nm,0.8s,comp=Z,366nm
IKOO Kooshah 42.58 281 *e*P **P** **02 44 08.4 -1.1**
KPJI Karang Pucung 42.65 183 P **P** **02 44 12.0 +2.2**
BILL Bilibino 44.82 26⇓ *i*P P 02 44 32.6 +5.8
BILL *e* 02 46 06.3
BILL pmax pmax
comp=Z,26nm,1.1s
IBAF Bafgh 45.61 282 *e*P **P** **02 44 33.2 -0.6**
IANJ Anjilo 45.66 287 *e*P **P** **02 44 34.8 +0.6**
ISHM Shahmirzad 46.05 288 *e*P **P** **02 44 37.8 +0.5**
ICHK Chekchek 46.31 283 *e*P **P** **02 44 39.4 0.0**
ILAS Lasjerd 46.43 288 *e*P **P** **02 44 41.1 +0.8**
IFIR Firoozkooh 46.51 288 *e*P **P** **02 44 40.7 -0.3**
IDMV Damavand 47.09 288 *e*P **P** **02 44 46.1 +0.5**
IVRN Varamin 47.51 287 *e*P **P** **02 44 48.7 +0.1**
IZEF Zefreh 47.73 285 *e*P **P** **02 44 50.0 -0.5**
PRGR Permogore 47.75 324 *e*P **P** **02 44 48.8 -1.1**
PRGR *e**PP **pP** **02 44 56.1 -0.8**
PRGR *e* 02 46 16.4
PRGR pmax pmax
comp=Z,19nm,1.2s
IMHD Mahdasht 48.11 289 *e*P **P** **02 44 53.9 +0.6**
IKLH Kolahrood 48.18 285 *e*P **P** **02 44 54.6 +0.6**
IGZV Ghazvin 48.24 290 *e*P **P** **02 44 54.5 +0.1**
IPAR Pars 48.27 280 *e*P **P** **02 44 54.5 -0.2**
ISRV Sarvestan 48.39 280 *e*P **P** **02 44 54.3 -1.4**
IPIR Pirpir 48.94 285 *e*P **P** **02 44 59.6 -0.3**
IKAZ Kazeroun 49.26 281 *e*P **P** **02 45 02.0 -0.4**
IHRS Heris 50.07 293 *e*P **P** **02 45 08.4 +0.1**
IBST Bostanabad 50.37 292 *e*P **P** **02 45 10.0 -0.6**
KLMR Klimovskoe 50.72 323 *e*P **P** **02 45 11.1 -1.5**
KLMR pmax pmax
comp=Z,23nm,0.9s
VRHR Novokhopersk 50.76 310 *e*P **P** **02 45 11.3 -1.7**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,1.0s
IMRD Marand 50.95 294 *e*P **P** **02 45 15.4 +0.5**
ZEI Tsey 51.09 300 *e*P **P** **02 45 13.0 -3.0**
ZEI pmax pmax
comp=Z,27nm,1.0s
GOF Gofitskoye 51.11 303⇑ *i*P **P** **02 45 16.8 +1.0**
GOF pmax pmax
comp=Z,80nm,1.3s
GNI Garni 51.23 296 *e*P **P** **02 45 17.9 +0.9**
comp=Z,16nm,0.9s
GNI Garni 51.23 296 P **P** **02 45 15.7 -1.3**
comp=Z,11nm,0.7s,baz=5.3,slow=5.8,SNR=7.3
IVIS Veis 51.45 289 *e*P **P** **02 45 18.9 +0.2**
KBZ Khabaz 51.55 301 P **P** **02 45 19.1 0.0**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 51.55 301 P **P** **02 45 19.1 0.0**
KBZ Khabaz 51.55 301 P **P** **02 45 19.1 0.0**
comp=Z,13nm,0.9s,baz=110,slow=5.2,SNR=14
KBZ LR LR 03 10 22.2
comp=Z,417nm,19.2s,baz=72,slow=40
KIV Kislovodsk 51.64 301 *e*P **P** **02 45 20.7 +0.8**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV MLR MLR
comp=Z,340nm,17.0s
KIV Kislovodsk 51.64 301 *e*P **P** **02 45 20.8 +0.8**
comp=Z,36nm,0.9s
IGHG Ghaleghazi 51.74 288 *e*P **P** **02 45 20.3 -0.6**
IDHR Dehrash 51.75 289 *e*P **P** **02 45 20.9 0.0**
VORD Divnogorie 52.23 311 *e*P **P** **02 45 22.3 -1.7**
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 52.25 311 *e*P **P** **02 45 22.8 -1.4**
VSR pmax pmax

comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,40nm,1.0s
MOS Moscow 52.32 317 *eP* **P 02 45 23.1 -1.5**
MOS pmax pmax
comp=Z,100nm,1.6s
MOS pmax pmax
comp=Z,58nm,1.5s
OBN Obninsk 53.02 316 ⇓*iP* **P 02 45 28.8 -1.0**
OBN *i* 02 45 36.2
OBN *i* 02 46 44.6
OBN *e* 02 47 35.8
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 53.02 316 *eP* **P 02 45 28.8 -1.0**
comp=Z,25nm,1.1s
OBN Obninsk 53.02 316 P **P 02 45 28.6 -1.2**
comp=Z,4.5nm,0.3s,baz=73,slow=21,SNR=5.7
JOF Joensuu 54.34 326 *eP* **P 02 45 38.3 -1.1**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 54.34 326 *ep* **P 02 45 38.3 -1.1**
comp=Z,2.7nm,0.5s
TNA Tin City 54.78 30 *eP* **P 02 45 43.1 +0.6**
comp=Z,13nm,1.0s
ARCES ARCESS Array B 55.57 335 P **P 02 45 47.8 -0.4**
ARCES ARCESS Array B 55.57 335 P **P 02 45 47.8 -0.4**
comp=Z,1.6nm,0.6s,baz=77,slow=8.1,SNR=13
ARCES LR LR 03 12 07.4
comp=Z,574nm,18.4s,baz=100,slow=39
KAF Kangasniemi 56.78 326 *eP* **P 02 45 56.1 -0.8**
KAF pmax pmax
comp=Z,2.0nm,0.9s
KAF Kangasniemi 56.78 326 *ep* **P 02 45 56.1 -0.8**
comp=Z,2.1nm,0.9s
FINES FINESS Array B 57.05 325 P **P 02 45 58.8 -0.1**
FINES FINESS Array B 57.05 325 P **P 02 45 58.8 -0.1**
comp=Z,2.8nm,0.9s,baz=59,slow=7.2,SNR=13
FINES LR LR 03 13 07.1
comp=Z,581nm,18.3s,baz=52,slow=39
RAYN Ar Rayn 57.06 277 *eP* **P 02 45 59.2 -0.4**
comp=Z,8.3nm,1.0s
SIM Simferopol' 57.20 305 *eP* **P 02 46 03.0 +2.8**
SIM pmax pmax
comp=Z,18nm,0.7s
COEN Coen 58.02 142 *eP* **P 02 46 05.7 -0.6**
AKASG Malin Array Be 58.45 312 P **P 02 46 08.2 -0.7**
AKASG Malin Array Be 58.45 312 P **P 02 46 08.2 -0.7**
AKASG Malin Array Be 58.45 312 P **P 02 46 08.1 -0.7**
comp=Z,13nm,0.8s,baz=67,slow=6.3,SNR=38
KIEV Kiev 58.46 312 *eP* **P 02 46 06.6 -2.3**
KIEV Kiev 58.46 312 *eP* **P 02 46 07.8 -1.1**
comp=Z,13nm,0.9s
BR131 Keskin Array S 59.40 299 *eP* **P 02 46 16.2 +0.3**
comp=Z,14nm,0.9s
BRTR Keskin Array B 59.40 299 P **P 02 46 16.1 +0.3**
BRTR Keskin Array B 59.40 299 P **P 02 46 16.1 +0.3**
comp=Z,14nm,0.9s,baz=89,slow=6.2,SNR=45
BRTR LR LR 03 14 03.1
comp=Z,75nm,20.4s,baz=58,slow=38
WRAB Tennant Creek 59.53 154 P **P 02 46 15.2 -1.4**
comp=Z,237nm,0.8s,SNR=9.6
WRAB Tennant Creek 59.53 154*c iP* **P 02 46 15.7 -0.9**
WRAB pmax pmax
comp=Z,104nm,1.3s
WRAB Tennant Creek 59.53 154 *eP* **P 02 46 15.9 -0.7**
comp=Z,35nm,0.9s
WRA Warramunga Arr 59.53 154 P **P 02 46 15.8 -0.9**
WRA Warramunga Arr 59.53 154 P **P 02 46 15.8 -0.9**
comp=Z,21nm,0.9s,baz=344,slow=7.5,SNR=92
ASF Jabal al Asfar 60.03 290 P **P 02 46 21.1 +0.8**
ASF Jabal al Asfar 60.03 290 P **P 02 46 21.1 +0.8**
comp=Z,9.5nm,1.0s,baz=84,slow=5.1,SNR=8.9
IM04 Indian Mountai 60.30 28 *eP* **P 02 46 20.9 -0.5**
CFR Carcaliu 61.08 307⇑*iP* **P 02 46 26.9 -0.2**
COLD Coldfoot 61.16 26 *eP* **P 02 46 26.9 -0.4**
comp=Z,17nm,0.9s
TESR Tescani 61.53 309⇑*iP* **P 02 46 29.9 -0.2**
CSS Prodhromos 61.55 294 *eP* **P 02 46 30.2 -0.2**
comp=Z,3.9nm,0.9s
VRI Vrincioaia 61.73 308⇓*iP* **P 02 46 32.6 +1.1**
PLOR Plostina 61.79 308⇑*iP* **P 02 46 32.8 +0.9**
LVV L'vov 61.88 313 *eP* **P 02 46 32.4 0.0**
BUR08 Bucovina Ar. S 62.01 310 *eP* **P 02 46 33.2 -0.2**
PPLA Purkeypile 62.11 31 *eP* **P 02 46 34.5 +0.6**
comp=Z,58nm,1.6s
ISR Istrita 62.15 307⇓*iP* **P 02 46 35.8 +1.5**
KTH Kantishna Hill 62.37 30 *eP* **P 02 46 36.0 +0.5**
comp=Z,121nm,1.2s
MLR Muntele Rosu 62.38 308⇑*iP* **P 02 46 36.6 +0.6**
MLR Muntele Rosu 62.38 308 P **P 02 46 36.5 +0.5**
MLR Muntele Rosu 62.38 308 P **P 02 46 36.5 +0.5**
comp=Z,2.1nm,0.6s,baz=13,slow=3.2,SNR=32
DAMY Dhamar 62.48 269 *eP* **P 02 46 38.2 +0.9**
comp=Z,23nm,1.1s
KWP Kalwaria Pacla 62.74 313 *eP* **P 02 46 38.3 +0.1**
KWP Kalwaria Pacla 62.74 313 *eP* **P 02 46 38.2 +0.1**
KWP Kalwaria Pacla 62.74 313⇑*iP* **P 02 46 38.5 +0.3**
KWP Kalwaria Pacla 62.74 313 *eP* **P 02 46 38.3 +0.1**
comp=Z,49nm,0.8s
AS31 Alice Springs 62.83 156 *eP* **P 02 46 38.0 -1.0**
ASAR Alice Springs 62.83 156 P **P 02 46 38.2 -0.8**
ASAR Alice Springs 62.83 156 P **P 02 46 38.2 -0.8**
comp=Z,8.9nm,0.7s,baz=342,slow=7.2,SNR=94
RSO Redoubt South 62.86 34 *eP* **P 02 46 39.5 +0.5**
VOIR 62.98 308⇓*iP* **P 02 46 40.1 +0.1**
COLA College 63.02 28⇑*iP* **P 02 46 39.7 0.0**
COLA College 63.02 28 *eP* **P 02 46 39.7 0.0**
comp=Z,5.6nm,0.9s
MTUR Matau 63.06 308⇑*iP* **P 02 46 41.9 +1.4**
MCK McKinley 63.09 29 *eP* **P 02 46 39.0 -1.3**
MCK pmax pmax
comp=Z,5.0nm,0.9s
MCK McKinley 63.09 29 *eP* **P 02 46 39.0 -1.3**
comp=Z,4.5nm,0.9s
JMB Yambol 63.20 304⇑*iP* **P 02 46 43.3 +2.0**
HFS Hagfors 63.20 326 P **P 02 46 40.2 -0.8**
HFS Hagfors 63.20 326 P **P 02 46 40.2 -0.8**
comp=Z,4.1nm,0.6s,baz=98,slow=7.6,SNR=18
HFS LR LR 03 16 57.3
comp=Z,524nm,18.5s,baz=62,slow=39
ARR Arges 63.28 308⇑*iP* **P 02 46 42.4 +0.5**
KOLS Kolonicke sedl 63.28 312 *eP* **P 02 46 41.5 -0.3**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 63.28 312 *eP* **P 02 46 41.5 -0.3**
CJR Cluj-Napoca 63.38 310⇑*iP* **P 02 46 43.4 +0.9**
UZH Uzhgorod 63.40 312 *eP* **P 02 46 41.6 -0.9**
UZH *e* 02 46 49.4
UZH *e* 02 46 58.8
HUMR Humele 63.40 307⇓*iP* **P 02 46 42.9 +0.3**
ILAR Eielson Array 63.43 28 P **P 02 46 41.1 -1.3**
ILAR Eielson Array 63.43 28 P **P 02 46 41.1 -1.3**
comp=Z,1.2nm,0.7s,baz=290,slow=4.9,SNR=19
ILAR LR LR 03 17 07.2
comp=Z,194nm,18.5s,baz=297,slow=39
TRPA Tarpa 63.45 312⇓*iP* **P 02 46 43.5 +0.6**
STHS Stebnicka Huta 63.70 313 *eP* **P 02 46 44.5 -0.1**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 63.70 313 *eP* **P 02 46 44.5 -0.1**
CRVS Cervenica-Dubn 63.79 313 *eP* **P 02 46 44.7 -0.4**
CRVS pmax pmax
comp=Z,5.0nm,1.1s
CRVS Cervenica-Dubn 63.79 313 *eP* **P 02 46 44.7 -0.4**
DRGR 63.90 310⇓*iP* **P 02 46 46.1 +0.1**
NB2 NORSAR Subarra 63.91 328 P **P 02 46 44.5 -1.3**
comp=Z,8.2nm,0.8s,baz=65,slow=6.9
NOA NORSAR Array B 63.91 328 P **P 02 46 45.5 -0.3**
NOA NORSAR Array B 63.91 328 P **P 02 46 45.5 -0.3**
comp=Z,1.0nm,0.4s,baz=75,slow=5.3,SNR=34
NOA LR LR 03 17 00.6
comp=Z,344nm,18.7s,baz=60,slow=38
PMR Palmer 63.96 32 *eP* **P 02 46 45.6 -0.4**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 63.96 32 *eP* **P 02 46 45.6 -0.4**
comp=Z,14nm,1.0s
NAO01 NORSAR Array S 64.14 328 *eP* **P 02 46 46.3 -1.0**
DEV Deva 64.17 309⇑*iP* **P 02 46 48.8 +1.2**
NIE Niedzica 64.25 314 *eP* **P 02 46 48.2 0.0**
NIE Niedzica 64.25 314 *eP* **P 02 46 48.2 0.0**
KDZ Kurdzhali 64.33 304⇑*iP* **P 02 46 49.7 +0.9**
GZR Gura Zlata 64.45 309⇑*iP* **P 02 46 50.4 +0.8**
KECS Kecovo 64.55 313 *eP* **P 02 46 50.1 0.0**
KECS Kecovo 64.55 313 *eP* **P 02 46 50.1 0.0**
SIRR Siria 64.78 310⇑*iP* **P 02 46 52.1 +0.4**
PAX Paxson 64.83 29 *eP* **P 02 46 52.1 +0.2**
PAX pmax pmax
comp=Z,37nm,2.2s
PAX Paxson 64.83 29 *eP* **P 02 46 52.1 +0.2**
comp=Z,37nm,2.2s
BZS Buzias 65.09 309⇑*iP* **P 02 46 53.4 -0.3**
PSZ Piszkesteto 65.15 312 *eP* **P 02 46 54.1 0.0**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 65.15 312⇑*iP* **P 02 46 54.2 +0.1**
PSZ Piszkesteto 65.15 312 *eP* **P 02 46 54.1 0.0**
comp=Z,8.3nm,1.0s
OKC Ostrava-Krasne 65.34 315 *eP* **P 02 46 54.4 -0.8**
OKC *e* 02 47 02.2
OKC Ostrava-Krasne 65.34 315 *eP* **P 02 46 54.4 -0.8**
OKC *epP* **pP** 02 47 02.2 -0.3
VTS Vitosha 65.39 306⇑*iP* **P 02 46 56.6 +0.7**
MMB Musomiste 65.49 305⇓*iP* **P 02 46 57.0 +0.6**
EGAK Eagle 65.57 27 *eP* **P 02 46 55.5 -0.9**
comp=Z,16nm,1.4s
MORC Moravsky Berou 65.72 315 *eP* **P 02 46 57.4 -0.4**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 65.72 315 *eP* **P 02 46 57.4 -0.4**
comp=Z,9.2nm,0.9s
KSP Ksiaz 65.95 316 *eP* **P 02 46 58.5 -0.7**
KSP *e**PP **pP** 02 47 04.9 -1.5
KSP Ksiaz 65.95 316 *eP* **P 02 46 58.9 -0.3**
KRLC Kraliky 66.02 315 *eP* **P 02 46 59.8 +0.1**
KRLC *e* 02 47 07.1
KRLC Kraliky 66.02 315 *eP* **P 02 46 59.8 +0.1**
KRLC *epP* **pP** 02 47 07.1 +0.1
INK Inuvik 66.12 21 *eP* **P 02 46 59.1 -0.8**
comp=Z,32nm,1.3s
INK Inuvik 66.12 21 P **P 02 46 59.1 -0.8**
comp=Z,6.1nm,1.0s,baz=320,slow=8.3,SNR=17
DPC Dobruska-Polom 66.16 316 *eP* **P 02 47 01.0 +0.4**
DPC Dobruska-Polom 66.16 316 *eP* **P 02 47 00.6 0.0**
DPC *epP* **pP** 02 47 08.3 +0.5
DPC *ex* x 02 47 20.1
DPC AMS AMS 03 18 20.0
DPC Dobruska-Polom 66.16 316 *eP* **P 02 47 01.0 +0.4**
BMRM Bremner River 66.18 31 *eP* **P 02 47 00.4 -0.2**
UPC Upice 66.26 316 *eP* **P 02 47 00.9 -0.3**
UPC *e* 02 47 08.3
UPC Upice 66.26 316 *eP* **P 02 47 00.9 -0.3**
UPC *epP* **pP** 02 47 08.3 -0.1
SMOL Smolenice 66.36 314 *eP* **P 02 47 02.4 +0.6**
SMOL Smolenice 66.36 314 *eP* **P 02 47 02.4 +0.6**
VRAC Vranov 66.48 315⇑*iP* **P 02 47 02.8 +0.2**
VRAC Vranov 66.48 315 P **P 02 47 02.6 0.0**
VRAC Vranov 66.48 315 P **P 02 47 02.6 0.0**
comp=Z,8.4nm,0.9s,baz=66,slow=7.9,SNR=14
DAWY Dawson 66.60 27 *eP* **P 02 47 01.9 -1.2**
PKSM Moragy 66.68 311⇑*iP* **P 02 47 03.6 -0.3**
TREC Trest 67.13 315 *eP* **P 02 47 06.7 -0.1**
TREC *e* 02 47 14.3
TREC Trest 67.13 315 *eP* **P 02 47 06.7 -0.1**
TREC *epP* **pP** 02 47 14.3 +0.3
BRG Berggiesshubel 67.25 317 *iP* **P 02 47 06.8 -0.6**
comp=Z,9.5nm,1.1s
BRG *e* 02 47 14.6
comp=Z,12nm,1.4s
BRG Berggiesshubel 67.25 317 *iP* **P 02 47 06.8 -0.6**
BRG *e* 02 47 14.6
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.5s
BRG Berggiesshubel 67.25 317 *eP* **P 02 47 06.9 -0.6**
comp=Z,10.0nm,1.1s
PRU Pruhonice 67.34 316 *eP* **P 02 47 07.6 -0.4**
PRU *e* 02 47 15.2
PRU Pruhonice 67.34 316 *eP* **P 02 47 07.6 -0.4**
PRU *epP* **pP** 02 47 15.2 -0.1
CONA Conrad Observa 67.56 314 *iP* **P 02 47 10.0 +0.4**
comp=Z,12nm,1.1s,SNR=6.1
CLL Collm 67.56 318⇓*iP* **P 02 47 08.4 -1.0**
CLL *i* 02 47 16.3
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 67.56 318 *eP* **P 02 47 08.4 -1.0**
comp=Z,10.0nm,0.9s
CLL *epP* **pP** 02 47 16.5 -0.2
CLL Collm 67.56 318⇓*iP* **P 02 47 08.4 -1.0**
comp=Z,10.0nm,0.9s
CLL *i* pP **pP** 02 47 16.3 -0.4
CLL *e*SS SS 03 00 48.0 +23
BSEG Bad Segeberg 67.70 321 *eP* **P 02 47 10.2 0.0**
comp=Z,38nm,1.8s
FORT Forrest 67.93 164 *eP* **P 02 47 10.8 -1.0**
comp=Z,30nm,0.9s
ARSA Arzberg 68.08 313⇑*iP* **P 02 47 12.5 -0.3**
comp=Z,4.3nm,0.8s
TANN Tannenbergstha 68.30 317 *eP* **P 02 47 13.8 -0.4**
comp=Z,10.0nm,1.2s
KHC Kasperske Hory 68.31 315 *eP* **P 02 47 13.1 -1.1**
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 68.31 315 *eP* **P 02 47 13.0 -1.1**
KHC *epP* **pP** 02 47 22.0 +0.5
KHC AMS AMS 03 18 10.0
KHC Kasperske Hory 68.31 315 *eP* **P 02 47 13.1 -1.1**
comp=Z,4.5nm,1.0s
NWAO Narrogin (SRO) 68.36 174 P **P 02 47 14.5 +0.1**
NWAO Narrogin (SRO) 68.36 174 P **P 02 47 14.5 +0.1**
comp=Z,22nm,1.0s,baz=3.6,slow=6.7,SNR=4.7
GEC2 GERESS Array S 68.38 315 *eP* **P 02 47 14.6 -0.1**
GEC2 GERESS Array S 68.38 315 *eP* **P 02 47 14.2 -0.5**
comp=Z,22nm,1.7s
GEC2 *epP* **pP** 02 47 22.0 0.0
GEC2 GERESS Array S 68.38 315 *eP* **P 02 47 14.6 -0.1**
GERES GERESS Array B 68.38 315 P **P 02 47 14.4 -0.3**
GERES GERESS Array B 68.38 315 P **P 02 47 14.4 -0.3**
comp=Z,4.1nm,0.9s,baz=61,slow=6.3,SNR=29
GERES LR LR 03 18 31.0
comp=Z,135nm,18.8s,baz=62,slow=37
NRDL Niedersach Rie 68.53 320 *eP* **P 02 47 15.6 +0.2**
comp=Z,14nm,1.1s
MOA Molln 68.54 314⇑*iP* **P 02 47 15.8 +0.2**
comp=Z,7.7nm,0.8s
PERS Pernice 68.63 313 *eP* **P 02 47 15.8 -0.5**
SOKA Soboth 68.66 313⇑*iP* **P 02 47 16.2 -0.3**
comp=Z,12nm,1.1s
WET Wettzell 68.70 316 *eP* **P 02 47 16.5 -0.1**
comp=Z,5.0nm,1.1s
WET *epP* **pP** 02 47 23.4 -0.5
CLZ Clausthal 68.72 319 *eP* **P 02 47 16.9 +0.1**
comp=Z,15nm,1.1s
CLZ *epP* **pP** 02 47 23.6 -0.4
ROTZ Rotzenmuhle 68.77 317 *eP* **P 02 47 16.9 -0.1**
comp=Z,10.0nm,1.1s
RES Resolute Bay 68.78 7 P **P 02 47 15.9 -0.7**
RES Resolute Bay 68.78 7 P **P 02 47 15.9 -0.7**
comp=Z,3.9nm,1.0s,baz=352,slow=8.3,SNR=5.9
BOJS Bojanci 69.10 311 *eP* **P 02 47 19.4 +0.2**
VISS Visnje 69.20 312 *iP* **P 02 47 19.3 -0.5**
GRF Grafenberg Arr 69.36 317 *eP* **P 02 47 20.6 -0.1**
comp=Z,27nm,1.1s
GRF *epP* **pP** 02 47 26.5 -1.5
GRF *eL* L 03 22 29.9
comp=Z,149nm,18.8s
GRFO Grafenberg 69.36 317 *eP* **P 02 47 21.0 +0.3**
GRFO pmax pmax
comp=Z,19nm,1.0s
GRFO Grafenberg 69.36 317 *eP* **P 02 47 20.9 +0.3**
comp=Z,19nm,1.0s
RJOB Jochberg 69.45 314 *eP* **P 02 47 21.1 -0.3**
comp=Z,11nm,1.5s
KBA Koelnbreinsper 69.46 314⇓*iP* **P 02 47 21.1 -0.5**
comp=Z,11nm,0.7s,SNR=6.5
JAVS Javornik 69.63 312 *iP* **P 02 47 21.7 -0.8**
FUR Furstenfeldbru 70.11 315 *eP* **P 02 47 25.2 -0.2**
comp=Z,28nm,1.0s
ABTA Abfaltersbach 70.12 314⇓*iP* **P 02 47 24.5 -1.0**
comp=Z,6.6nm,0.8s
WTTA Wattenberg 70.37 314⇑*iP* **P 02 47 27.0 -0.2**
comp=Z,16nm,1.0s
BUG Bochum--Univer 70.58 320 *eP* **P 02 47 28.0 -0.1**
comp=Z,62nm,2.0s
TNS Taunus Mts 70.61 318 *eP* **P 02 47 28.1 -0.3**
comp=Z,188nm,3.6s
MOTA Moosalm 70.64 315⇓*iP* **P 02 47 28.2 -0.6**
comp=Z,10nm,1.1s,SNR=6.9
FETA Feichten 71.03 315⇑*iP* **P 02 47 30.5 -0.7**
comp=Z,6.1nm,1.0s
TIP Timpagrande 71.32 305 *eP* **P 02 47 32.9 -0.1**
comp=Z,9.9nm,1.1s
FUORN Ofenpass-Fuorn 71.51 314 *eP* **P 02 47 33.9 -0.3**
comp=Z,16nm,0.7s
DAVOX Davos/Dischmat 71.65 315 P **P 02 47 34.6 -0.3**
DAVOX Davos/Dischmat 71.65 315 P **P 02 47 34.6 -0.3**
comp=Z,4.5nm,0.6s,baz=81,slow=2.7,SNR=15
BFO Black Forest 71.69 317 *eP* **P 02 47 34.2 -0.8**
comp=Z,14nm,1.5s
MEM Membach 71.70 320 P **P 02 47 35.0 0.0**
BEBN Eben Emael 71.78 320 P **P 02 47 35.4 0.0**
TUE Stuetta 72.12 315 *eP* **P 02 47 37.3 -0.5**
comp=Z,5.2nm,0.7s
WLF Walferdange 72.15 319 P **P 02 47 38.1 +0.4**
comp=Z,8.7nm,1.2s
WLF AP **pP** 02 47 45.7 +0.7
BCLA Clavier 72.18 320 P **P 02 47 37.9 +0.1**
comp=Z,11nm,1.8s
CDF Champ du Feu 72.24 317⇑*iP* **P 02 47 38.0 -0.3**
comp=Z,34nm,1.1s
CDF Champ du Feu 72.24 317⇑*iP* **P 02 47 38.0 -0.3**
CDF pmax pmax
comp=Z,34nm,1.1s
CDF Champ du Feu 72.24 317⇑*iP* **P 02 47 38.0 -0.3**
comp=Z,34nm,1.1s
CEL Celeste 72.37 305 *eP* **P 02 47 39.4 +0.1**
ECH Echery 72.41 317 *eP* **P 02 47 38.4 -0.9**
ECH pmax pmax
comp=Z,12nm,1.3s
ECH Echery 72.41 317 *eP* **P 02 47 38.4 -0.9**
comp=Z,12nm,1.3s
GIVF Givet 72.62 320 *eP* **P 02 47 40.4 0.0**
GIVF Givet 72.62 320 *eP* **P 02 47 40.4 0.0**
GIVF Givet 72.62 320 *eP* **P 02 47 40.4 0.0**
SNF Seneffe 72.67 320 P **P 02 47 40.4 -0.3**
DOU Dourbes 72.74 320 P **P 02 47 41.2 0.0**
HINF Hinteralfeld 72.80 317⇑*iP* **P 02 47 41.1 -0.6**
comp=Z,6.4nm,0.9s
HINF Hinteralfeld 72.80 317⇑*iP* **P 02 47 41.1 -0.6**
HINF pmax pmax
comp=Z,6.0nm,0.9s
HINF Hinteralfeld 72.80 317*iP* **P 02 47 41.1 -0.6**
comp=Z,6.4nm,0.9s
BAIF Baives 72.97 320⇑*iP* **P 02 47 42.5 0.0**
comp=Z,17nm,1.0s
BAIF Baives 72.97 320⇑*iP* **P 02 47 42.5 0.0**
BAIF pmax pmax
comp=Z,17nm,1.0s
BAIF Baives 72.97 320*iP* **P 02 47 42.5 0.0**
comp=Z,17nm,1.0s
HAU Haudompre 72.98 317 *eP* **P 02 47 42.2 -0.5**
HAU *eR* 02 47 42.2
comp=Z,253nm,17.3s
HAU Haudompre 72.98 317 *eP* **P 02 47 42.2 -0.5**
HAU Haudompre 72.98 317 *eP* **P 02 47 42.2 -0.5**
PAGF Fort de Pagny 73.01 318⇑*iP* **P 02 47 43.0 +0.2**
comp=Z,9.4nm,1.0s
PAGF Fort de Pagny 73.01 318⇑*iP* **P 02 47 43.0 +0.2**
comp=Z,9.4nm,1.0s
STKA Stephens Creek 73.04 153 *eP* **P 02 47 42.5 -0.6**
comp=Z,2.7nm,0.8s
STKA Stephens Creek 73.04 153 P **P 02 47 42.4 -0.6**
comp=Z,10nm,0.8s,baz=340,slow=6.9,SNR=24
SENIN Lac Senin/Sane 73.36 315 *eP* **P 02 47 44.7 -0.5**
SFTF Sexfontaines 73.59 318⇑*iP* **P 02 47 45.9 -0.3**
comp=Z,24nm,1.0s
SFTF Sexfontaines 73.59 318⇑*iP* **P 02 47 45.9 -0.3**
comp=Z,24nm,1.0s
DLBC Dease Lake 73.62 29 *eP* **P 02 47 47.4 +1.1**
DLBC Dease Lake 73.62 29 P **P 02 47 45.1 -1.2**
comp=Z,2.8nm,0.9s,baz=310,slow=2.5,SNR=4.1
CABF La Chapelle 73.91 316⇑*iP* **P 02 47 47.8 -0.5**
comp=Z,22nm,1.1s
CABF La Chapelle 73.91 316⇑*iP* **P 02 47 47.8 -0.5**
CABF pmax pmax
comp=Z,23nm,1.1s
CABF La Chapelle 73.91 316⇑*iP* **P 02 47 47.8 -0.5**
comp=Z,22nm,1.1s
LPG La Plagne 74.17 315⇑*iP* **P 02 47 50.2 +0.2**
comp=Z,37nm,0.9s
LPG La Plagne 74.17 315⇑*iP* **P 02 47 50.2 +0.2**
LPG pmax pmax
comp=Z,37nm,0.9s
LPG La Plagne 74.17 315⇑*iP* **P 02 47 50.2 +0.2**
comp=Z,37nm,0.9s
LPL La Plagne 74.17 315⇑*iP* **P 02 47 50.1 +0.1**
comp=Z,40nm,1.0s
LPL La Plagne 74.17 315⇑*iP* **P 02 47 50.1 +0.1**
LPL pmax pmax
comp=Z,41nm,1.0s
LPL La Plagne 74.17 315⇑*iP* **P 02 47 50.1 +0.1**
comp=Z,40nm,1.0s
BNI Bardonecchia 74.46 314 *eP* **P 02 47 51.3 -0.3**
BNI pmax pmax
comp=Z,15nm,1.3s
BNI Bardonecchia 74.46 314 *eP* **P 02 47 51.2 -0.3**
comp=Z,15nm,1.3s
PGF Pioggiola 74.49 311⇑*iP* **P 02 47 51.9 +0.2**
comp=Z,48nm,0.8s
PGF Pioggiola 74.49 311⇑*iP* **P 02 47 51.9 +0.2**
PGF pmax pmax
comp=Z,48nm,0.8s
PGF Pioggiola 74.49 311⇑*iP* **P 02 47 51.9 +0.2**
comp=Z,48nm,0.8s
MBDF Montbardon 74.59 314⇑*iP* **P 02 47 51.6 -0.8**
MBDF Montbardon 74.59 314⇑*iP* **P 02 47 51.6 -0.8**
MBDF Montbardon 74.59 314⇑*iP* **P 02 47 51.6 -0.8**
SBF Sospel 74.69 313⇑*iP* **P 02 47 52.4 -0.5**
comp=Z,43nm,1.0s
SBF Sospel 74.69 313⇑*iP* **P 02 47 52.4 -0.5**
SBF pmax pmax
comp=Z,43nm,1.0s
SBF Sospel 74.69 313*iP* **P 02 47 52.4 -0.5**
comp=Z,43nm,1.0s
LOR Lormes 74.78 318⇑*iP* **P 02 47 52.5 -0.7**
comp=Z,15nm,0.8s
LOR *eR* 02 47 52.5
comp=Z,323nm,17.8s
LOR Lormes 74.78 318⇑*iP* **P 02 47 52.5 -0.7**
comp=Z,15nm,0.8s
ORIF Oris-en-Rattie 75.00 315⇑*iP* **P 02 47 54.5 -0.2**
comp=Z,17nm,0.8s
ORIF *eR* 02 47 54.5
comp=Z,214nm,19.8s
ORIF Oris-en-Rattie 75.00 315⇑*iP* **P 02 47 54.5 -0.2**
ORIF pmax pmax
comp=Z,17nm,0.8s
ORIF Oris-en-Rattie 75.00 315⇑*iP* **P 02 47 54.5 -0.2**
comp=Z,17nm,0.8s
SSF Saint Saulge 75.10 317⇑*iP* **P 02 47 54.5 -0.5**
comp=Z,9.4nm,0.8s
SSF Saint Saulge 75.10 317⇑*iP* **P 02 47 54.5 -0.5**
SSF pmax pmax
comp=Z,9.0nm,0.8s
SSF Saint Saulge 75.10 317⇑*iP* **P 02 47 54.5 -0.5**
comp=Z,9.4nm,0.8s
SMF Signal de Mont 75.16 317⇑*iP* **P 02 47 54.9 -0.5**
comp=Z,38nm,0.9s
SMF Signal de Mont 75.16 317⇑*iP* **P 02 47 54.9 -0.5**
SMF pmax pmax
comp=Z,38nm,0.9s
SMF Signal de Mont 75.16 317*iP* **P 02 47 54.9 -0.5**
comp=Z,38nm,0.9s
AVF Avril sur Loir 75.34 317*iP* **P 02 47 56.1 -0.3**
comp=Z,29nm,1.0s
AVF Avril sur Loir 75.34 317⇑*iP* **P 02 47 56.1 -0.3**
AVF pmax pmax
comp=Z,29nm,1.0s
AVF Avril sur Loir 75.34 317⇑*iP* **P 02 47 56.1 -0.3**
comp=Z,29nm,1.0s
HYF Humbligny 75.45 318 *eP* **P 02 47 57.3 +0.2**
HYF Humbligny 75.45 318 *eP* **P 02 47 57.3 +0.2**
LMR La Mourre 75.55 313⇑*iP* **P 02 47 57.4 -0.3**
comp=Z,22nm,0.9s
LMR La Mourre 75.55 313⇑*iP* **P 02 47 57.4 -0.3**
LMR pmax pmax
comp=Z,22nm,0.9s
LMR La Mourre 75.55 313⇑*iP* **P 02 47 57.4 -0.3**

	comp=Z,22nm,0.9s								
SMRF	**Simiane la Rot**	**75.73**	**314**	*e*P		**P**	**02 47 58.9**	**+0.1**
SMRF	**Simiane la Rot**	**75.73**	**314**	*e*P		**P**	**02 47 58.9**	**+0.1**
VIVF	**Saint-Julien-l**	**75.74**	**315**⇑	*i*P		**P**	**02 47 58.5**	**-0.3**
	comp=Z,24nm,0.9s								
VIVF	**Saint-Julien-l**	**75.74**	**315**⇑	*i*P		**P**	**02 47 58.5**	**-0.3**
VIVF				pmax	pmax				
	comp=Z,24nm,0.9s								
VIVF	**Saint-Julien-l**	**75.74**	**315**⇑	*i*P		**P**	**02 47 58.5**	**-0.3**
	comp=Z,24nm,0.9s								
BGF	**Bois d'Agland**	**75.76**	**317**	*e*P		**P**	**02 47 57.6**	**-1.3**
	comp=Z,24nm,1.2s								
BGF	**Bois d'Agland**	**75.76**	**317**	*e*P		**P**	**02 47 57.6**	**-1.3**
BGF				pmax	pmax				
	comp=Z,24nm,1.2s								
BGF	**Bois d'Agland**	**75.76**	**317**	*e*P		**P**	**02 47 57.6**	**-1.3**
	comp=Z,24nm,1.2s								
YKA	**Yellowknife Ar**	**75.78**	**20**	P		**P**	**02 47 57.1**	**-1.5**
YKA	**Yellowknife Ar**	**75.78**	**20**	P		**P**	**02 47 57.1**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=326,slow=5.2,SNR=11								
LDF	**La Druitiere**	**76.11**	**320**⇑	*i*P		**P**	**02 48 00.4**	**-0.4**
	comp=Z,18nm,0.9s								
LDF	**La Druitiere**	**76.11**	**320**⇑	*i*P		**P**	**02 48 00.4**	**-0.4**
LDF				pmax	pmax				
	comp=Z,18nm,0.9s								
LDF	**La Druitiere**	**76.11**	**320**⇑	*i*P		**P**	**02 48 00.4**	**-0.4**
	comp=Z,18nm,0.9s								
FLN	**La Foliniere**	**76.20**	**321**⇑	*i*P		**P**	**02 48 00.8**	**-0.5**
	comp=Z,64nm,1.3s								
FLN				*e*R					
	comp=Z,472nm,18.8s								
FLN	**La Foliniere**	**76.20**	**321**⇑	*i*P		**P**	**02 48 00.8**	**-0.5**
FLN				pmax	pmax				
	comp=Z,65nm,1.3s								
FLN	**La Foliniere**	**76.20**	**321**⇑	*i*P		**P**	**02 48 00.8**	**-0.5**
	comp=Z,64nm,1.3s								
TCF	**Toulx Ste Croi**	**76.27**	**317**⇑	*i*P		**P**	**02 48 01.7**	**-0.1**
	comp=Z,22nm,1.0s								
TCF	**Toulx Ste Croi**	**76.27**	**317**⇑	*i*P		**P**	**02 48 01.7**	**-0.1**
TCF				pmax	pmax				
	comp=Z,22nm,1.0s								
TCF	**Toulx Ste Croi**	**76.27**	**317**⇑	*i*P		**P**	**02 48 01.7**	**-0.1**
	comp=Z,22nm,1.0s								
GRR	**Gorron**	**76.63**	**320**⇑	*i*P		**P**	**02 48 03.4**	**-0.3**
	comp=Z,44nm,1.1s								
GRR	**Gorron**	**76.63**	**320**⇑	*i*P		**P**	**02 48 03.4**	**-0.3**
GRR				pmax	pmax				
	comp=Z,44nm,1.1s								
GRR	**Gorron**	**76.63**	**320**⇑	*i*P		**P**	**02 48 03.4**	**-0.3**
	comp=Z,44nm,1.1s								
LASF	**Ste Croix**	**76.67**	**315**⇑	*i*P		**P**	**02 48 04.2**	**+0.1**
	comp=Z,27nm,1.0s								
LASF	**Ste Croix**	**76.67**	**315**⇑	*i*P		**P**	**02 48 04.2**	**+0.1**
	comp=Z,27nm,1.0s								
CAF	**Calviac**	**77.18**	**316**⇑	*i*P		**P**	**02 48 07.3**	**+0.3**
	comp=Z,28nm,1.2s								
CAF	**Calviac**	**77.18**	**316**⇑	*i*P		**P**	**02 48 07.3**	**+0.3**
CAF				pmax	pmax				
	comp=Z,28nm,1.2s								
CAF	**Calviac**	**77.18**	**316**⇑	*i*P		**P**	**02 48 07.3**	**+0.3**
	comp=Z,28nm,1.2s								
KMBO	**Kilima Mbogo**	**77.22**	**259**	*e*P		**P**	**02 48 08.4**	**+0.5**
	comp=Z,12nm,1.4s								
KMBO	**Kilima Mbogo**	**77.22**	**259**	P		**P**	**02 48 08.0**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=39,slow=11,SNR=9.9								
RJF	**Les Rejaudoux**	**77.26**	**317**⇑	*i*P		**P**	**02 48 07.7**	**+0.3**
	comp=Z,29nm,1.0s								
RJF				*e*R					
	comp=Z,165nm,17.0s								
RJF	**Les Rejaudoux**	**77.26**	**317**⇑	*i*P		**P**	**02 48 07.7**	**+0.3**
RJF				pmax	pmax				
	comp=Z,29nm,1.0s								
RJF	**Les Rejaudoux**	**77.26**	**317**⇑	*i*P		**P**	**02 48 07.7**	**+0.3**
	comp=Z,29nm,1.0s								
MFF	**Saint Martin d**	**77.37**	**319**⇑	*i*P		**P**	**02 48 08.2**	**+0.3**
	comp=Z,40nm,1.0s								
MFF	**Saint Martin d**	**77.37**	**319**⇑	*i*P		**P**	**02 48 08.2**	**+0.3**
MFF				pmax	pmax				
	comp=Z,40nm,1.0s								
MFF	**Saint Martin d**	**77.37**	**319**⇑	*i*P		**P**	**02 48 08.2**	**+0.3**
	comp=Z,40nm,1.0s								
SGMF	**Saint Gilles**	**77.59**	**321**	*e*P		**P**	**02 48 09.0**	**-0.1**
	comp=Z,10nm,0.6s								
SGMF	**Saint Gilles**	**77.59**	**321**	*e*P		**P**	**02 48 09.0**	**-0.1**
SGMF				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SGMF	**Saint Gilles**	**77.59**	**321**	*e*P		**P**	**02 48 09.0**	**-0.1**
	comp=Z,10nm,0.6s								
DZM	**Mont Dzumac**	**77.89**	**128**	*e*SS		SS	03 03 01.3	-3.4
	comp=Z,79nm,28.0s								
DZM				*e*LR		LR	03 12 22.9		
	comp=Z,204nm,25.7s								
ROSF	**Rostrenen**	**77.90**	**321**	*e*P		**P**	**02 48 10.9**	**0.0**
ROSF	**Rostrenen**	**77.90**	**321**	*e*P		**P**	**02 48 10.9**	**0.0**
ROSF	**Rostrenen**	**77.90**	**321**	*e*P		**P**	**02 48 10.9**	**0.0**
LFF	**La Frestale**	**77.92**	**317**⇑	*i*P		**P**	**02 48 11.5**	**+0.5**
	comp=Z,24nm,0.8s								
LFF	**La Frestale**	**77.92**	**317**⇑	*i*P		**P**	**02 48 11.5**	**+0.5**
LFF				pmax	pmax				
	comp=Z,24nm,0.8s								
LFF	**La Frestale**	**77.92**	**317**⇑	*i*P		**P**	**02 48 11.5**	**+0.5**
	comp=Z,24nm,0.8s								
MTLF	**Montolieu**	**78.06**	**315**	*e*P		**P**	**02 48 12.0**	**+0.1**
	comp=Z,6.2nm,0.7s								
MTLF	**Montolieu**	**78.06**	**315**	*e*P		**P**	**02 48 12.0**	**+0.1**
MTLF				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MTLF	**Montolieu**	**78.06**	**315**	*e*P		**P**	**02 48 12.0**	**+0.1**
	comp=Z,6.2nm,0.7s								
QUIF	**Quistinic**	**78.12**	**321**	*e*P		**P**	**02 48 11.1**	**-1.0**
	comp=Z,27nm,1.1s								
QUIF	**Quistinic**	**78.12**	**321**	*e*P		**P**	**02 48 11.1**	**-1.0**
QUIF				pmax	pmax				
	comp=Z,27nm,1.1s								
QUIF	**Quistinic**	**78.12**	**321**	*e*P		**P**	**02 48 11.1**	**-1.0**
	comp=Z,27nm,1.1s								
KEST	**Kesra**	**78.14**	**305**	*e*P		**P**	**02 48 12.5**	**0.0**
KEST	**Kesra**	**78.14**	**305**	P		**P**	**02 48 13.0**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=330,slow=1.6,SNR=5.1								
KEST				LR		LR	03 27 39.4		
	comp=Z,34nm,19.6s,baz=252,slow=40								
EPF	**Esparros**	**79.33**	**316**	*e*P		**P**	**02 48 18.8**	**-0.1**
EPF	**Esparros**	**79.33**	**316**	*e*P		**P**	**02 48 18.8**	**-0.1**
EPF	**Esparros**	**79.33**	**316**	*e*P		**P**	**02 48 18.8**	**-0.1**
ETSF	**Etsaut**	**79.93**	**316**⇑	*i*P		**P**	**02 48 22.8**	**+0.6**
	comp=Z,10nm,0.8s								
ETSF	**Etsaut**	**79.93**	**316**⇑	*i*P		**P**	**02 48 22.8**	**+0.6**
ETSF				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ETSF	**Etsaut**	**79.93**	**316**⇑	*i*P		**P**	**02 48 22.8**	**+0.6**
	comp=Z,10nm,0.8s								
SJPF	**Ste Jean**	**80.17**	**316**⇑	*i*P		**P**	**02 48 24.4**	**+1.0**
	comp=Z,20nm,0.9s								
SJPF	**Ste Jean**	**80.17**	**316**⇑	*i*P		**P**	**02 48 24.4**	**+1.0**
SJPF				pmax	pmax				
	comp=Z,20nm,0.9s								
SJPF	**Ste Jean**	**80.17**	**316**⇑	*i*P		**P**	**02 48 24.4**	**+1.0**
	comp=Z,20nm,0.9s								
FRB	**Frobisher Bay**	**81.08**	**360**	P		**P**	**02 48 27.0**	**-0.8**
FRB	**Frobisher Bay**	**81.08**	**360**	P		**P**	**02 48 27.0**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=346,slow=6.4,SNR=6.4								
FCC	**Fort Churchill**	**83.83**	**13**	*e*P		**P**	**02 48 41.6**	**-0.7**
FCC	**Fort Churchill**	**83.83**	**13**	*e*P		**P**	**02 48 41.6**	**-0.7**
	comp=Z,0.6nm,1.2s								
ESDC	**Sonseca Array**	**83.97**	**315**	P		**P**	**02 48 43.4**	**-0.1**
ESDC	**Sonseca Array**	**83.97**	**315**	P		**P**	**02 48 43.4**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=38,slow=4.9,SNR=18								
ESDC				LR		LR	03 30 18.1		
	comp=Z,94nm,18.2s,baz=40,slow=39								
B08A	**Colville Reser**	**85.34**	**31**	*e*P		P	02 48 57.8	+7.6	
	comp=Z,62nm,2.6s								
FFC	**Flin Flon**	**85.83**	**18**	*e*P		**P**	**02 48 51.1**	**-1.4**
FFC				pmax	pmax				
	comp=Z,43nm,2.2s								
FFC	**Flin Flon**	**85.83**	**18**	*e*P		**P**	**02 48 51.1**	**-1.4**
	comp=Z,43nm,2.2s								
NEW	**Newport**	**86.32**	**30**	*e*P		**P**	**02 48 55.1**	**0.0**
	comp=Z,8.3nm,1.4s								
TAM	**Tamanrasset**	**88.53**	**297**	*e*P		**P**	**02 49 06.6**	**+0.3**
TAM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TAM	**Tamanrasset**	**88.53**	**297**	*e*P		**P**	**02 49 06.6**	**+0.3**
	comp=Z,3.3nm,0.9s								
SLMT	**Seeley Lake**	**88.59**	**28**	*e*P		**P**	**02 49 06.5**	**+0.2**
I07A	**Izee**	**88.59**	**34**	*e*P		**P**	**02 49 07.8**	**+1.5**
	comp=Z,30nm,1.6s								
CHMT	**Chamberlain Mo**	**88.95**	**28**	*e*P		**P**	**02 49 07.4**	**-0.6**
	comp=Z,3.7nm,1.3s								
K05A	**Summer Lake**	**89.00**	**35**	*e*P		**P**	**02 49 09.6**	**+1.3**
	comp=Z,162nm,2.4s								
A20A	**Cobblestone Ra**	**89.22**	**24**	P		**P**	**02 49 08.5**	**-0.6**
	baz=89								
M04C	**Macdoel**	**89.27**	**36**	P		**P**	**02 49 09.2**	**-0.3**
	baz=89								
MOD	**Modoc**	**89.92**	**35**	*e*P		**P**	**02 49 13.5**	**+1.0**
	comp=Z,27nm,1.6s								
WVOR	**Wild Horse Val**	**90.28**	**34**	*e*P		**P**	**02 49 14.8**	**+0.6**
WVOR				pmax	pmax				
	comp=Z,9.0nm,1.3s								
WVOR	**Wild Horse Val**	**90.28**	**34**	*e*P		**P**	**02 49 14.8**	**+0.6**
	comp=Z,8.9nm,1.3s								
BOZ	**Bozeman (W)**	**90.63**	**28**	*e*P		**P**	**02 49 15.5**	**-0.3**
BOZ	**Bozeman (W)**	**90.63**	**28**	*e*P		**P**	**02 49 15.5**	**-0.3**
E19A	**Rath Farm, Rou**	**91.00**	**26**	P		**P**	**02 49 17.1**	**-0.3**
	baz=91								
E20A	**Meyer Farm, Mu**	**91.20**	**26**	P		**P**	**02 49 17.7**	**-0.6**
	baz=91								
HLID	**Hailey**	**91.23**	**31**	*e*P		**P**	**02 49 19.6**	**+1.0**
	comp=Z,7.9nm,1.3s								
HLID	**Hailey**	**91.23**	**31**	P		**P**	**02 49 18.5**	**-0.1**
	baz=91								
ULM	**Lac du Bonnet**	**91.44**	**17**	*e*P		**P**	**02 49 18.5**	**-0.7**
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**91.44**	**17**	P		**P**	**02 49 17.1**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=309,slow=6.5,SNR=2.3								
ULM				LR		LR	03 34 15.2		
	comp=Z,184nm,19.2s,baz=7.5,slow=38								
A29A	**Manning Farm,**	**91.82**	**19**	P		**P**	**02 49 19.5**	**-1.5**
	baz=92								
B29A	**Wagenman Farm,**	**92.20**	**19**	P		**P**	**02 49 22.2**	**-0.6**
	baz=92								
B30A	**Myrvik Farm, E**	**92.49**	**19**	P		**P**	**02 49 23.6**	**-0.6**
	baz=92								
LSZ	**Lusaka**	**92.79**	**253**	*e*P		**P**	**02 49 25.8**	**-0.4**
	comp=Z,9.5nm,1.2s								
I20A	**Worland**	**93.39**	**27**	P		**P**	**02 49 27.8**	**-0.7**
	baz=93								
NVAR	**Mina Array Bea**	**93.58**	**36**	P		**P**	**02 49 29.2**	**-0.4**
NVAR	**Mina Array Bea**	**93.58**	**36**	P		**P**	**02 49 29.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=265,slow=7.0,SNR=2.1								
PDAR	**Pinedale Array**	**93.86**	**28**	LR		LR	03 35 46.5		
	comp=Z,187nm,19.1s,baz=344,slow=38								
RSSD	**Black Hills**	**94.69**	**24**	*e*P		**P**	**02 49 34.3**	**-0.3**
RSSD				pmax	pmax				
	comp=Z,4.0nm,0.9s								
RSSD	**Black Hills**	**94.69**	**24**	*e*P		**P**	**02 49 34.3**	**-0.3**
	comp=Z,3.8nm,0.9s								
H27A	**Howes**	**94.87**	**23**	P		**P**	**02 49 33.0**	**-2.2**
	baz=94								
TORD	**Torodi Ar. Bea**	**97.36**	**292**	P		**P**	**02 49 45.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**97.36**	**292**	P		**P**	**02 49 45.8**	**-1.1**
	comp=Z,0.5nm,1.0s,baz=44,slow=3.6,SNR=2.9								
TORD				LR		LR	03 40 08.7		
	comp=Z,41nm,18.3s,baz=285,slow=39								
PPT2	**Papeete2**	**107.77**	**99**	*e*LR		LR	03 26 14.5		
	comp=Z,71nm,26.0s								
TBI	**Tubuai**	**110.86**	**104**	*e*LR		LR	03 27 41.3		
	comp=Z,75nm,26.5s								
SYO	**Syowa Base**	**116.37**	**202**⇑	*e*X		**Pdif**	**02 51 07.0**	**-3.2**
VNDA	**Vanda**	**116.94**	**169**	*e*PKPdf		**PKPdf**	**02 54 55.6**	**-1.0**
VNDA	**Vanda**	**116.94**	**169**	PKP		**PKPdf**	**02 54 54.8**	**-1.8**
	comp=Z,2.2nm,0.9s,baz=225,slow=1.4,SNR=4.5								
QSPA	**South Pole Qui**	**125.27**	**180**	*e*PKPdf		**PKPdf**	**02 55 11.1**	**-1.8**
SDV	**Santo Domingo**	**135.82**	**2**	*e*PKPdf		**PKPdf**	**02 55 33.6**	**-1.1**
ROSC	**El Rosal**	**139.57**	**8**	*e*PKPdf		**PKPdf**	**02 55 42.2**	**+0.3**
OTAV	**Otavalo**	**143.43**	**15**	*e*PKPdf		**PKPdf**	**02 55 48.6**	**-0.3**
BDFB	**Brasilia**	**152.54**	**311**	PKP		**PKPdf**	**02 56 03.2**	**0.0**
BDFB				PKPbc		**PKPbc**	**02 56 09.5**	**-0.7**
BDFB				PKPab		**PKPab**	**02 56 19.9**	**-0.6**
BDFB	**Brasilia**	**152.54**	**311**	PKP		**PKPdf**	**02 56 03.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=305,slow=16,SNR=2.6								
BDFB				PKPbc		**PKPbc**	**02 56 09.5**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=39,slow=6.5,SNR=3.2								
BDFB				PKPab		**PKPab**	**02 56 19.9**	**-0.6**
	comp=Z,7.9nm,0.9s,baz=6.5,slow=5.4,SNR=11								
SAML	**Samuel**	**152.97**	**347**	*e*PKPdf		**PKPdf**	**02 56 03.2**	**-0.6**
SAML				*e*PKPbc		**PKPbc**	**02 56 10.0**	**-1.0**
CPUP	**Villa Florida**	**166.25**	**308**	*e*PKPdf		**PKPdf**	**02 56 17.6**	**-0.9**
CPUP				*e*PKPab		**PKPab**	**02 57 18.0**	**-1.6**
LVC	**Limon Verde**	**167.14**	**358**	*e*PKPdf		**PKPdf**	**02 56 19.4**	**-0.3**
PLCA	**Paso Flores**	**174.69**	**170**	*e*PKPab		**PKPab**	**02 57 55.7**	**-0.9**
PLCA	**Paso Flores**	**174.69**	**170**	PKPab		**PKPab**	**02 57 56.2**	**-0.4**
	comp=Z,5.0nm,1.1s,baz=206,slow=0.8,SNR=4.4								

*IDC **24** 02:38:11.2±1.8, 9.°90S×150.°91E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=33.8km s-min=25.5km az=11.0*

*ISCJB **24** 02:38:13.9±1.7, 10.°0S±0.°2×151.°0E±0.°1, h33km, mb3.7/3, Error ellipse: s-maj=27.0km s-min=15.0km az=25.7*

ISC 24 02:38:16.0±1.7, 9.°9S±0.°2×151.°0E±0.°1, h35km, n7, σ1§37/7, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**278**	Pn		**Pn**	**02 39 10.6**	**-1.3**
	2.6nm,0.3s,baz=98,slow=14,SNR=6.1							
PMG				Sn		**Sn**	**02 39 56.8**	**+1.6**
	4.2nm,0.3s,baz=180,slow=9.1,SNR=2.4							
PMG				Lg		Lg	02 40 09.6	
	3.4nm,0.3s,baz=98,slow=15,SNR=3.7							
PMG				LR		LR	02 40 54.2	
	comp=Z,220nm,18.2s,baz=45,slow=44							
WRA	**Warramunga Arr**	**18.87**	**236**	P		**P**	**02 42 32.3**	**-1.1**
	0.1nm,0.3s,baz=61,slow=12,SNR=6.0							
DZM	**Mont Dzumac**	**19.14**	**131**	LR		LR	02 47 43.4	
	comp=Z,99nm,21.3s,baz=34,slow=30							
ASAR	**Alice Springs**	**21.25**	**228**	P		**P**	**02 42 58.9**	**-0.5**
	1.9nm,0.8s,baz=60,slow=11,SNR=20							
STKA	**Stephens Creek**	**23.50**	**200**	P		**P**	**02 43 23.6**	**+0.9**
	3.2nm,1.0s,baz=13,slow=14,SNR=2.9							
ZALV	**Zalesovo Beam**	**84.42**	**327**	P		**P**	**02 50 44.7**	**0.0**
	0.7nm,0.5s,baz=39,slow=5.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**149.73**	**279**	PKPbc		**PKPbc**	**02 58 04.2**	**+1.0**
	0.6nm,0.9s,baz=95,slow=3.0,SNR=4.4							

IDC 24 02:41:15.1±5.5, 13.°17N×143.°99E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, Error ellipse: s-maj=166.9km s-min=40.3km az=3.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**22.90**	**70**	T		T	03 10 20.5	
	baz=258,slow=75,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**22.91**	**70**	T		T	03 10 20.5	
	baz=258,slow=75,SNR=5.4							
H11N3	**WAKE ISLAND Hy**	**22.91**	**70**	T		T	03 10 23.9	
	baz=258,slow=75,SNR=2.9							
MKAR	**Makanchi Array**	**61.20**	**316**	P		P	02 51 32.6	+0.8
	0.3nm,0.7s,baz=90,slow=4.9,SNR=2.7							
KURBB	**Kurchatov Arra**	**64.39**	**320**	P		P	02 51 53.0	+0.1
	0.7nm,0.5s,baz=104,slow=6.6,SNR=5.2							
ILAR	**Eielson Array**	**69.31**	**25**	P		P	02 52 23.4	-0.6
	0.4nm,0.6s,baz=245,slow=6.2,SNR=4.6							
INK	**Inuvik**	**75.08**	**22**	P		P	02 52 59.0	+0.5
	2.0nm,1.1s,baz=251,slow=8.3,SNR=3.4							
YKA	**Yellowknife Ar**	**83.62**	**27**	P		P	02 53 45.8	+0.6
	0.2nm,0.4s,baz=289,slow=5.3,SNR=4.7							
NVAR	**Mina Array Bea**	**87.85**	**51**	P		P	02 54 07.3	+0.2
	0.6nm,0.8s,baz=268,slow=6.0,SNR=4.4							
FINES	**FINESS Array B**	**91.17**	**335**	P		P	02 54 20.2	-1.6
	2.3nm,1.0s,baz=62,slow=4.5,SNR=6.3							

MAN 24 02:46:03, 18.°17N×120.°15E, h26km, mb4.6, ML3.5, MS3.4, 2C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.38**	**129**⇓	*i*P		Pb	02 46 11.6	+0.2
SIPP				*e*S		Sn	02 46 19.4	0.0
PIP	**Pasuquin**	**0.48**	**71**⇓	*i*P		Pn	02 46 14.8	+0.6
PIP				*e*S		Sn	02 46 22.6	+0.9
ABRA	**Dolores**	**0.75**	**134**	*e*P		Pn	02 46 18.4	+0.6
ABRA				*e*S		Sn	02 46 28.9	+0.6
APYP	**Conner**	**1.09**	**106**	*e*P		Pb	02 46 23.5	+0.4
APYP				*e*S		Sb	02 46 38.3	+1.4
CVP	**Callao Caves**	**1.66**	**106**⇑	*i*P		Pb	02 46 33.1	+0.2
CVP				*i* S		Sb	02 46 54.2	+0.8
BOLP	**Bolinao**	**1.79**	**187**	*e*P		Pb	02 46 34.0	-1.2
BCPH	**Baguio City Da**	**1.82**	**167**⇑	*i*P		Pn	02 46 32.7	-0.3
BCPH				*i* S		Sn	02 46 35.6	-20
SCZP	**Santa Cruz**	**2.39**	**185**	*e*P		Pn	02 46 39.7	-0.8
PALP	**Palanan**	**2.44**	**116**	*e*P		Pb	02 46 49.0	+2.9
PCPH	**Palayan**	**2.75**	**161**⇓	*e*P		Pb	02 46 49.7	-1.7

*IDC **24** 02:46:40.1±0.6, 7.°78S×107.°89E, h0km, mb4.2/12, mb1 4.2/12, mb1mx4.0/35, mbtmp4.1/12, MS3.2/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=31.8km s-min=15.6km az=56.0*

*ISCJB **24** 02:46:47.7±0.4, 8.°05S±0.°05×107.°87E±0.°03, h69km±4km, mb4.2/26, Error ellipse: s-maj=7.7km s-min=4.7km az=14.7*

*DJA **24** 02:46:48.8±0.5, 8.°3S×4.°×10.°8E±.°, h18km±5km, M4.7/28, mb4.8/5, mB5.0/3, MLv4.7/28, Mw(mB)4.4/3*

*NEIC **24** 02:46:48.1±0.6, 7.°88S×107.°82E, h58km±5km, mb4.4/16, Error ellipse: s-maj=8.3km s-min=6.4km az=206.0*

ISC 24 02:46:47.4±0.8, 8.°11S±0.°04×107.°87E±0.°03, h54km±7km, n127, σ1§63/114, mb4.4/26, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.56**	**355**	P		**Pn**	**02 46 59.8**	**+0.2**
CISI				S		**Sn**	**02 47 07.7**	**-0.7**
CISI	**Cisompet, Garu**	**0.56**	**355**	*e*Pn		**Pn**	**02 47 00.1**	**+0.5**
CISI				*e*Sn		**Sn**	**02 47 07.8**	**-0.7**
CISI	**Cisompet, Garu**	**0.56**	**355**	P		**Pn**	**02 46 59.9**	**+0.3**
	baz=0.8,SNR=150							
CISI				S		**Sn**	**02 47 08.9**	**+0.5**
	baz=0.8,SNR=5.9							
CMJI	**Cimerak**	**0.66**	**60**	P		**Pn**	**02 47 01.1**	**+0.3**
CMJI				S		**Sn**	**02 47 10.1**	**-0.5**
CNJI	**Cibinong**	**1.08**	**318**	P		**Pn**	**02 47 07.3**	**+1.0**
CLJI	**Cilicap**	**1.20**	**71**	P		x	02 47 11.5	
LEM	**Lembang**	**1.30**	**349**	P		**Pn**	**02 47 11.4**	**+2.0**
LEM	**Lembang**	**1.30**	**349**	P		**Pn**	**02 47 11.4**	**+2.0**
	baz=1.6,SNR=161							
KPJI	**Karang Pucung**	**1.31**	**54**	P		**Pn**	**02 47 10.4**	**+1.1**
SKJI	**Sukabumi**	**1.70**	**310**	P		**Pn**	**02 47 17.7**	**+3.0**
TGJI	**Tegal**	**1.75**	**45**	P		x	02 47 16.3	
DBJI	**Dramaga**	**1.91**	**324**	P		**Pn**	**02 47 20.2**	**+2.7**
BJII	**Banjamegara**	**1.98**	**67**	P		x	02 47 19.2	
CGJI	**Cibinong**	**2.62**	**305**	P		**Pn**	**02 47 29.0**	**+1.7**
SBJI	**Serang**	**2.63**	**319**	P		**Pn**	**02 47 30.4**	**+3.1**
UGM	**Wanagama**	**2.64**	**86**	P		**Pn**	**02 47 28.1**	**+0.6**
UGM	**Wanagama**	**2.64**	**86**	P		**Pn**	**02 47 28.2**	**+0.7**
	baz=2.7,SNR=58							
UGM				S		**Sn**	**02 47 57.6**	**-0.8**
	baz=2.7,SNR=9.1							
SMRI	**Semarang**	**2.76**	**68**	P		**Pn**	**02 47 30.5**	**+1.3**
SMRI	**Semarang**	**2.76**	**68**	*e*Pn		**Pn**	**02 47 31.2**	**+2.0**
SMRI				*e*Sn		Sn	02 47 54.4	-7.0
SMRI	**Semarang**	**2.76**	**68**	P		**Pn**	**02 47 31.4**	**+2.2**
	baz=2.9,SNR=16							
SMRI				S		**Sn**	**02 48 04.8**	**+3.4**
	baz=2.9,SNR=5.1							
XMI	**Christmas Isla**	**3.16**	**223**	P		**Pn**	**02 47 35.8**	**+1.1**
	baz=3.0,SNR=95							
XMI				S		**Sn**	**02 48 09.9**	**-1.3**
	baz=3.0,SNR=11							
XMIS	**Christmas Isla**	**3.21**	**223**	*e*Pn		**Pn**

MKAR	Makanchi Array	59.22 340	P	P	02 56 40.7	-2.4
MKAR	Makanchi Array	59.22 340	P	P	02 56 40.7	-2.4
	3.0nm,0.5s,baz=152,slow=6.5,SNR=44					
KURK	Kurchatov	63.83 340	*e*P	P	02 57 12.5	-1.5
	1.3nm,0.5s					
ZALV	Zalesovo Beam	64.82 345	P	P	02 57 18.5	-1.9
ZALV	Zalesovo Beam	64.82 345	P	P	02 57 18.5	-1.9
	0.6nm,0.3s,baz=136,slow=6.2,SNR=6.0					
BRVK	Borovoye	68.79 337	*e*P	P	02 57 44.5	-1.3
KMBO	Kilima Mbogo	70.65 272	*e*P	P	02 57 58.3	0.0
	20nm,1.9s					
KMBO	Kilima Mbogo	70.65 272	LR	LR	03 26 10.3	
	comp=Z,23nm,18.0s,baz=93,slow=34					
ABKAR	Akbulak array	70.80 329	*e*P	P	02 57 57.0	-1.3
	5.6nm,0.4s					
VNDA	Vanda	74.72 169	P	P	02 58 22.9	+1.9
VNDA	Vanda	74.72 169	P	P	02 58 22.9	+1.9
	2.0nm,0.9s,baz=302,slow=8.4,SNR=4.8					
LSZ	Lusaka	78.00 256	*e*P	P	02 58 42.9	+2.0
	1.7nm,0.6s					
KBZ	Khabaz	78.05 318	P	P	02 58 39.6	-0.8
KBZ	Khabaz	78.05 318	P	P	02 58 39.6	-0.8
	0.7nm,0.5s,baz=102,slow=2.6,SNR=4.2					
LBTB	Lobatse	79.64 246	*e*P	P	02 58 52.6	+2.8
	7.3nm,1.2s					
BOSA	Boshof	79.70 242	*e*P	P	02 58 52.6	+2.5
	4.4nm,1.1s					
BOSA	Boshof	79.70 242	P	P	02 58 52.2	+2.2
	2.5nm,0.9s,baz=107,slow=4.0,SNR=6.1					
CSS	Prodhromos	82.14 307	*e*P	P	02 59 02.9	+0.2
	5.4nm,1.2s					
BR131	Keskin Array S	83.21 312	*e*P	P	02 59 07.4	-0.9
	1.7nm,0.8s					
BRTR	Keskin Array B	83.21 312	P	P	02 59 07.8	-0.5
BRTR	Keskin Array B	83.21 312	P	P	02 59 07.8	-0.5
	1.3nm,0.9s,baz=139,slow=6.8,SNR=4.7					
TSUM	Tsumeb	87.64 251	*e*P	P	02 59 31.1	+0.2
	2.9nm,0.9s					
BUR08	Bucovina Ar. S	91.02 318	*e*P	P	02 59 46.6	+0.5
JOF	Joensuu	91.11 334	*e*p	P	02 59 44.4	-1.5
	2.0nm,0.6s					
FINES	FINESS Array B	93.15 332	P	P	02 59 54.6	-0.8
FINES	FINESS Array B	93.15 332	P	P	02 59 54.6	-0.8
	1.3nm,0.6s,baz=140,slow=5.2,SNR=11					
KAF	Kangasniemi	93.18 332	*e*p	P	02 59 54.3	-1.2
	0.9nm,0.4s					
PSZ	Piszkesteto	94.60 318	*e*P	P	03 00 03.0	+0.5
	3.7nm,0.9s					
ARCES	ARCESS Array B	94.87 340	P	P	03 00 01.8	-1.4
ARCES	ARCESS Array B	94.87 340	P	P	03 00 01.8	-1.4
	2.1nm,1.0s,baz=77,slow=5.5,SNR=5.8					
TORD	Torodi Ar. Bea	107.48 281	PKiKP	PKiKP	03 05 08.8	-0.4
TORD	Torodi Ar. Bea	107.48 281	PKiKP	PKiKP	03 05 08.8	-0.4
	0.4nm,0.9s,baz=73,slow=1.7,SNR=6.2					
YKA	Yellowknife Ar	117.60 21	PKP	PKPdf	03 05 26.6	-0.4
YKA	Yellowknife Ar	117.60 21	PKP	PKPdf	03 05 26.6	-0.4
	0.3nm,0.6s,baz=339,slow=1.6,SNR=16					
FCC	Fort Churchill	126.74 14	*e*PKPdf	PKPdf	03 05 44.4	-0.3
PDAR	Pinedale Array	132.37 37	PKP	PKPdf	03 05 56.7	+0.4
PDAR	Pinedale Array	132.37 37	PKP	PKPdf	03 05 56.7	+0.4
	0.4nm,0.9s,baz=256,slow=1.5,SNR=2.6					
SCHQ	Schefferville	133.22 356	PKP	PKPdf	03 05 56.6	-0.6
SCHQ	Schefferville	133.22 356	PKP	PKPdf	03 05 56.6	-0.6
	2.8nm,0.9s,baz=27,slow=2.3,SNR=4.5					
TXAR	Lajitas Array	143.63 50	PKPpre	PKPpre	03 06 13.6	
TXAR	Lajitas Array	143.63 50	PKhKP	PKPpre	03 06 13.6	
	0.3nm,0.5s,baz=36,slow=1.7,SNR=3.5					
JCT	Junction City	145.87 46	*e*PKPbc	PKPab	03 06 21.9	-0.1
BDFB	Brasilia	146.42 225	PKPbc	PKPab	03 06 24.1	-0.4
BDFB	Brasilia	146.42 225	PKPbc	PKPab	03 06 24.1	-0.4
	2.3nm,0.6s,baz=142,slow=2.3,SNR=6.0					
MIAR	Mount Ida	147.13 34	*e*PKPbc	PKPbc	03 06 24.6	-0.4
WCI	Wyandotte Cave	147.40 21	*e*PKPbc	PKPbc	03 06 25.1	-0.6
WVT	Waverly	148.65 25	*e*PKPbc	PKPbc	03 06 28.6	-0.4
TKL	Tuckaleechee C	150.59 20	*e*PKPbc	PKPbc	03 06 33.9	0.0
JTS	JuntasAbangare	167.16 79	*e*PKPdf	PKPdf	03 06 47.8	-0.6
JTS			*e*PKPab	PKPab	03 07 52.5	-0.5

*CSEM **24** 02:47:28.3, 14°.54N×44°.43E, h6km, ML3.5, After DHMR*
DHMR 24 02:47:28.3±1.7, 14°.54N×44°.43E, h6km±7km, ML3.5, 4C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHBB	Dhamar BB	0.05	307	↓*i*P	Pg	02 47 29.9	-0.3
DHBB				*i* S	Sg	02 47 31.0	-0.5
DHBB	Dhamar BB	0.05	307	↓*i*P	Pg	02 47 29.9	-0.3
DHBB				*i* S	Sg	02 47 31.0	-0.5
UDYN	Al 'Udayn	0.73	219	↑*i*P	Pg	02 47 41.9	-0.6
UDYN				*i* S	Sg	02 47 51.3	-0.8
SANA	San'a	0.87	345	*i* P	Pg	02 47 44.4	-1.0
SANA				*i* S	Sg	02 47 56.9	-0.2
SANA				AML	AML	02 48 04.1	
	comp=E,2μm,0.3s						
LBOS		1.03	130	↑*i*P	Pg	02 47 48.6	0.0
LBOS				*i* S	Sb	02 48 02.9	-0.2
BDHA	Al Bayda'	1.23	117	↑*i*P	Pg	02 47 51.8	-0.5
BDHA				*i* S	Sg	02 48 08.4	-0.2
BDHA				AML	AML	02 48 12.6	
	comp=N,1μm,0.4s						
BDHA	Al Bayda'	1.23	117	↑*i*P	Pg	02 47 51.8	-0.5
BDHA				*i* S	Sg	02 48 08.4	-0.2
	comp=N,506nm,0.4s						
HAJJ	Hajjah	1.41	325	↓*i*P	Pb	02 47 55.4	+0.1
HAJJ				*i* S	Sg	02 48 14.7	+0.6
HAJJ				AML	AML	02 48 16.4	
	comp=Z,725nm,0.3s						
HAJJ	Hajjah	1.41	325	↓*i*P	Pb	02 47 55.4	+0.1
HAJJ				*i* S	Sg	02 48 14.7	+0.6
	comp=Z,362nm,0.3s						

IDC 24 02:51:51.3±2.3, 6°.98S×129°.50E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=159.4km s-min=32.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.72	160	Pn	Pn	02 55 06.8	-0.5
	0.3nm,0.3s,baz=339,slow=13,SNR=5.0						
WRA				Sn	Sn	02 57 27.9	-13
	0.9nm,0.3s,baz=330,slow=23,SNR=8.7						
ASAR	Alice Springs	17.13	166	P	Pn	02 55 52.6	+0.3
	0.2nm,0.3s,baz=344,slow=9.6,SNR=6.6						
ASAR				S	Sn	02 58 49.8	-14
	0.1nm,0.3s,baz=344,slow=26,SNR=4.9						
MKAR	Makanchi Array	67.93	327	P	P	03 02 52.0	0.0
	0.2nm,0.3s,baz=112,slow=8.2,SNR=5.2						

JMA 24 03:03:13.4±0.2, 28°.71N×127°.76E, h177km, M3.6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	1.33	110	P	Pn	03 03 43.6	+0.1
JAMN				*e*S	Sn	03 04 07.2	+0.5
JTK	Tokunoshima	1.40	131	P	Pn	03 03 44.2	0.0
JTK				*e*S	Sn	03 04 07.9	0.0
JAM	Amami Oshima	1.65	100	P	Pn	03 03 46.6	0.0
JAM				*e*S	Sn	03 04 11.2	-1.0
JIH	Iheya	1.68	174	P	Pn	03 03 47.5	+0.6
JIH				*e*S	Sn	03 04 13.0	+0.2
JOW	Kunigami	1.93	166	P	Pn	03 03 49.5	0.0
JOW				*e*S	Sn	03 04 16.9	-0.6
JZK	Kikaishima	1.99	101	P	Pn	03 03 51.1	+1.0
JZK				*e*S	Sn	03 04 19.1	+0.6
JAGN	Aguni-jima	2.16	192	P	Pn	03 03 52.3	+0.2
JAGN				*e*S	Sn	03 04 22.6	+0.5
JKE	Kume jima 2	2.53	200	P	Pn	03 03 56.2	-0.1
JKE				*e*S	Sn	03 04 29.3	-0.3
JJT2	Tamagusuku 2	2.56	180	P	Pn	03 03 57.0	+0.3
JTN	Tanegashima 3	3.41	55	P	Pn	03 04 06.7	-0.2
JTN				*e*S	Sn	03 04 46.6	-2.1

*IDC **24** 03:11:29.3±5.1, 5°.09S×132°.66E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=319.6km s-min=30.7km az=75.0*
ISC 24 03:11:33.0±1.6, 5°.0S±0°.1×133°.2E±0°.5, h35km, n9, σ3°.48/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.23	336	P	Pn	03 12 06.7	-0.8
	baz=2.3,SNR=44						
FAKI				S	Sn	03 12 32.7	-1.1
	baz=2.3,SNR=5.1						
KDU	Kakadu	7.70	185	P	Pn	03 13 25.9	+3.2
	baz=8.1,SNR=17						
MTN	Manton Dam	8.08	194	P	Pn	03 13 32.7	+4.8
	baz=8.5,SNR=7.4						
MTN				S	Sn	03 15 07.1	+9.0
	baz=8.5,SNR=3.5						
KNRA	Kununurra	11.48	202	P	Pn	03 14 17.9	+3.3
	baz=12,SNR=13						
COEN	Coen	13.31	133	P	Pn	03 14 34.0	-5.6
	baz=13,SNR=5.7						
WRA	Warramunga Arr	14.93	176	Pn	Pn	03 14 59.4	-2.3
	0.3nm,0.3s,baz=354,slow=13,SNR=8.8						
WRA				Sn	Sn	03 17 36.8	-9.2
	0.3nm,0.3s,baz=360,slow=23,SNR=6.5						
QIS	Mount Isa	16.72	159	P	P	03 15 28.8	+2.1
	baz=17,SNR=3.2						
ASAR	Alice Springs	18.61	178	P	Pn	03 15 48.0	0.0
	0.4nm,0.3s,baz=357,slow=13,SNR=17						
ASAR				S	Sn	03 19 08.9	-6.2
	0.1nm,0.3s,baz=355,slow=30,SNR=5.7						
MKAR	Makanchi Array	68.31	325	P	P	03 22 31.3	+0.5
	0.1nm,0.4s,baz=112,slow=4.9,SNR=3.9						

*ISCJB **24** 03:27:44.4±0.8, 11°.85S±0°.07×166°.7E±0°.2, h83km, mb3.9/11, Error ellipse: s-maj=24.6km s-min=9.9km az=0.5*
*IDC **24** 03:27:52.9±4.6, 11°.91S×166°.62E, h141km±40km, mb3.7/11, mb1 3.9/12, mb1mx3.7/20, mbtmp4.1/12, Error ellipse: s-maj=27.0km s-min=21.2km az=103.0*
ISC 24 03:27:45.8±0.8, 11°.82S±0°.10×166°.8E±0°.2, h83km, n18, σ0°.79/20, mb3.9/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.20	182	P	Pn	03 30 15.9	+6.4
	4.0nm,0.3s,baz=318,slow=12,SNR=30						
DZM				S	Sn	03 32 02.9	+0.7
	1.0nm,0.3s,baz=65,slow=18,SNR=6.8						
STKA	Stephens Creek	30.59	225	P	P	03 33 52.5	+0.6
	2.1nm,0.8s,baz=52,slow=9.4,SNR=6.2						
WRA	Warramunga Arr	32.17	251	P	P	03 34 04.9	-1.1
	0.8nm,0.9s,baz=84,slow=8.9,SNR=3.0						
WRA				PcP	PcP	03 36 52.7	-0.6
	0.6nm,0.5s,baz=76,slow=3.4,SNR=7.8						
ASAR	Alice Springs	33.36	245	P	P	03 34 15.3	-1.0
	1.6nm,0.7s,baz=71,slow=9.5,SNR=24						
ASAR				PcP	PcP	03 36 55.7	-0.8
	1.3nm,0.8s,baz=66,slow=2.4,SNR=12						
MJAR	Matsushiro Arr	55.12	332	P	P	03 37 09.7	+0.2
	0.9nm,0.7s,baz=167,slow=8.6,SNR=4.4						
VNDA	Vanda	65.74	181	P	P	03 38 21.1	-0.3
	0.7nm,0.5s,baz=338,slow=7.6,SNR=5.0						
CMAR	Chiang Mai Arr	73.34	293	P	P	03 39 10.2	+1.1
	1.4nm,0.3s,baz=124,slow=4.0,SNR=5.0						
SONM	Songino Array	79.88	323	P	P	03 39 46.6	+1.1
	1.3nm,0.7s,baz=140,slow=5.9,SNR=14						
ILAR	Eielson Array	83.93	18	P	P	03 40 07.0	+0.8
	0.8nm,0.8s,baz=235,slow=4.7,SNR=8.1						
ZALV	Zalesovo Beam	94.77	324	P	P	03 40 56.8	-1.1
	0.6nm,0.6s,baz=134,slow=6.4,SNR=4.0						
MKAR	Makanchi Array	94.77	317	P	P	03 40 58.5	+0.3
	2.4nm,0.6s,baz=79,slow=6.3,SNR=34						
YKA	Yellowknife Ar	95.20	27	P	P	03 40 58.9	-0.8
	0.1nm,0.5s,baz=262,slow=4.9,SNR=5.1						
ARCES	ARCESS Array B	117.33	346	PKP	PKPdf	03 46 20.7	-0.4
	1.2nm,0.5s,baz=77,slow=1.9,SNR=13						
FINES	FINESS Array B	122.85	339	PKP	PKPdf	03 46 31.3	-0.6
	0.3nm,0.5s,baz=73,slow=2.6,SNR=7.2						
GERES	GERESS Array B	136.84	334	PKP	PKPdf	03 46 59.3	+0.4
	0.3nm,0.7s,baz=64,slow=2.3,SNR=4.0						
KEST	Kesra	148.63	323	PKPbc	PKPbc	03 47 24.2	+0.3
	1.8nm,0.9s,baz=90,slow=6.3,SNR=5.4						
ESDC	Sonseca Array	151.06	345	PKPbc	PKPbc	03 47 29.8	+0.1
	0.3nm,0.5s,baz=31,slow=2.0,SNR=4.5						
TORD	Torodi Ar. Bea	165.36	277	PKP	PKPdf	03 47 40.9	-0.7
	1.5nm,1.1s,baz=23,slow=0.2,SNR=5.0						

*IDC **24** 03:42:30.6±0.7, 39°.03N×106°.13E, h0km, mb3.8/16, mb1 3.9/18, mb1mx3.8/31, mbtmp3.8/18, ML3.5/2, Error ellipse: s-maj=24.5km s-min=13.6km az=58.0*
*ISCJB **24** 03:42:33.4±0.6, 39°.03N±0°.07×106°.0E±0°.1, h33km, mb3.8/15, Error ellipse: s-maj=12.2km s-min=9.0km az=18.4*
ISC 24 03:42:35.8±0.7, 39°.03N±0°.09×106°.0E±0°.1, h35km, n26, σ0°.93/26, mb3.9/15, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	8.81	2	Pn	Pn	03 44 39.9	-0.8
	0.5nm,0.3s,baz=179,slow=14,SNR=18						
SONM				Lg	Lg	03 47 05.7	
	0.3nm,0.3s,baz=182,slow=34,SNR=2.8						
MKAR	Makanchi Array	19.00	302	P	P	03 46 54.1	-0.3
	0.2nm,0.3s,baz=101,slow=12,SNR=7.1						
TAPN	Taplejung	19.22	238	*e*P	Pn	03 46 57.8	-0.5
JIRN	Jiri	20.04	242	*e*P	P	03 47 06.8	+0.6
	3.3nm,0.3s						
GUN	Gumba	20.10	243	*e*P	P	03 47 07.2	+0.4
	7.9nm,0.4s						
KKN	Kakani	20.59	243	*e*P	P	03 47 11.9	-0.1
	6.7nm,0.3s						
ZALV	Zalesovo Beam	20.77	323	P	P	03 47 11.3	-2.1
	1.2nm,0.4s,baz=123,slow=11,SNR=9.4						
DANN	Dangsing	21.32	247	*e*P	P	03 47 19.1	-0.9
	21nm,0.7s						
CMAR	Chiang Mai Arr	21.40	199	P	P	03 47 20.1	-0.4
	0.6nm,0.3s,baz=1.8,slow=11,SNR=1.9						
KOLN	Koldanda	21.78	246	*e*P	P	03 47 22.6	-2.2
	9.4nm,0.7s						
PYUN	Piuthan	22.02	247	*e*P	P	03 47 25.5	-1.9
	5.9nm,0.3s						
KURBB	Kurchatov Arra	22.56	310	P	P	03 47 32.3	-0.4
	0.7nm,0.4s,baz=107,slow=13,SNR=6.4						
AAK	Ala-Archa	24.07	289	P	P	03 47 49.0	+1.1
	0.6nm,0.4s,baz=90,slow=2.0,SNR=3.6						
BVAR	Borovoye Array	28.10	312	P	P	03 48 24.7	+0.6
	1.5nm,0.4s,baz=108,slow=8.4,SNR=13						
ARCES	ARCESS Array B	50.80	333	P	P	03 51 33.0	+0.9
	1.9nm,0.9s,baz=78,slow=8.4,SNR=4.4						
FINES	FINESS Array B	52.03	323	P	P	03 51 42.0	+0.5
	0.7nm,0.7s,baz=83,slow=4.6,SNR=4.5						
BRTR	Keskin Array B	54.49	295	P	P	03 52 01.1	+1.0
	1.1nm,1.0s,baz=108,slow=2.9,SNR=4.9						
HFS	Hagfors	58.20	324	P	P	03 52 26.2	+0.2
	1.1nm,0.4s,baz=69,slow=8.1,SNR=19						
NB2	NORSAR Subarra	59.94	326	P	P	03 52 31.1	-0.1
	comp=Z,0.5nm,0.4s,baz=60,slow=7.4						
NOA	NORSAR Array B	58.94	326	P	P	03 52 31.1	-0.1
	comp=Z,0.8nm,0.4s,baz=65,slow=6.4,SNR=9.6						
ILAR	Eielson Array	62.06	28	P	P	03 52 51.8	-0.6
	comp=Z,0.2nm,0.7s,baz=294,slow=4.6,SNR=4.0						
INK	Inuvik	64.19	21	P	P	03 53 06.8	+0.4
	comp=Z,0.5nm,0.8s,baz=327,slow=7.3,SNR=4.1						
WRA	Warramunga Arr	64.37	150	P	P	03 53 07.8	-0.4
	comp=Z,1.2nm,0.8s,baz=343,slow=6.9,SNR=5.2						
ASAR	Alice Springs	67.60	152	P	P	03 53 29.1	+0.2
	comp=Z,1.8nm,0.6s,baz=337,slow=6.6,SNR=30						
YKA	Yellowknife Ar	73.68	18	P	P	03 54 05.7	+0.3
	comp=Z,0.3nm,0.8s,baz=328,slow=5.0,SNR=6.3						
STKA	Stephens Creek	77.90	150	P	P	03 54 30.1	+0.2
	comp=Z,1.9nm,0.5s,baz=337,slow=5.8,SNR=8.8						

*DJA **24** 04:12:33.1±1.0, 1°.S±6°×12°.1E±°, h390km±11km, M3.8/11, MLv3.8/11*
*ISCJB **24** 04:12:47.9±0.7, 0°.62S±0°.06×119°.96E±0°.07, h10km, mb3.6/6, MS3.4/2, Error ellipse: s-maj=10.1km s-min=8.6km az=14.8*
*IDC **24** 04:12:48.0±1.3, 0°.68S×119°.91E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.6/23, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx2.7/27, Error ellipse: s-maj=181.0km s-min=18.5km az=62.0*
ISC 24 04:12:49.8±1.0, 0°.63S±0°.09×120°.02E±0°.09, h10km, n17, σ0°.66/10, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.65	100	P	Pg	04 13 21.2	-0.3
TOLI	Toli-Toli	1.90	24	P	x	04 13 30.8	
MRSI	Marisa	2.21	60	P	Pn	04 13 27.6	+1.1
MMSI	Mamuju	2.33	209	P	x	04 13 28.7	
LUWI	Luwuk	2.78	99	P	Pn	04 13 25.2	-9.2
LUWI				S	Sn	04 14 07.5	-0.5
MJSI	Majene	3.08	200	P	x	04 13 34.8	
GTOI	Gorontalo	3.24	67	P	Pn	04 13 33.9	-6.8
SPSI	Sidrap Palu	3.32	184	P	Pn	04 13 35.7	-6.2
BNSI	Bone	3.75	179	P	Pn	04 13 40.5	-7.2
BNSI				S	Sn	04 14 32.3	+0.4
WRA	Warramunga Arr	23.77	145	P	P	04 18 02.9	+0.2
	0.7nm,0.8s,baz=325,slow=10,SNR=5.4						
ASAR	Alice Springs	26.57	151	P	P	04 18 28.0	-0.3
	0.6nm,0.8s,baz=342,slow=11,SNR=4.6						
CMAR	Chiang Mai Arr	28.09	314	LR	LR	04 32 12.0	
	comp=Z,43nm,18.3s,baz=171,slow=42						
STKA	Stephens Creek	37.17	149	P	P	04 20 01.0	-0.1
	1.0nm,0.6s,baz=305,slow=13,SNR=3.1						
SONM	Songino Array	49.71	348	P	P	04 21 42.3	+0.1
	0.6nm,0.5s,baz=166,slow=8.7,SNR=7.2						
MKAR	Makanchi Array	57.63	330	P	P	04 22 40.3	+0.1
	0.8nm,0.5s,baz=123,slow=9.0,SNR=13						
ZALV	Zalesovo Beam	61.70	337	P	P	04 23 06.9	-1.1
	0.3nm,0.3s,baz=135,slow=6.3,SNR=3.6						
BOSA	Boshof	93.89	241	LR	LR	05 07 06.5	
	comp=Z,25nm,18.6s,baz=180,slow=35						

TAP 24 04:13:52.0, 22°.67N×121°.20E, h60km, ML3.6, 10C-1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	Taitung	0.09	331	*e*P	Pn	04 14 01.3	+0.3
	baz=323						
TTN				*e*S	Sn	04 14 07.2	-0.2
	baz=323						
TWG	Pinlang	0.19	322	↑*i*P	Pn	04 14 01.4	+0.1
	baz=322						
TWG				*i* S	Sn	04 14 07.9	-0.2
	baz=322						
ECL	Taimali	0.24	252	↑*i*P	Pn	04 14 01.5	-0.1
	baz=251						
ECL				S	Sn	04 14 08.5	-0.1
	baz=251						
TAW	Tawu	0.42	222	*i* P	Pn	04 14 03.1	0.0
	baz=215						
TAW				S	Sn	04 14 11.1	0.0
	baz=215						
EAST	Anshuo	0.43	228	↑P	Pn	04 14 03.5	+0.2
	baz=224						
EAST				*e*S	Sn	04 14 12.2	+0.7
	baz=224						
CHKT	Chengkung	0.45	20	P	Pn	04 14 03.7	+0.3
	baz=15						
CHKT				*e*S	Sn	04 14 12.3	+0.5
	baz=15						
SSD	Sandimen	0.53	278	*e*P	Pn	04 14 05.2	+1.0
	baz=278						
SSD				*e*S	Sn	04 14 14.2	+1.1
	baz=278						
ELDTW	Lidau	0.54	342	*e*P	Pn	04 14 05.2	+0.6
	baz=350						
ELDTW				*e*S	Sn	04 14 14.6	+0.9
	baz=350						
SCZT	Fangliau	0.61	241	↓*i*P	Pn	04 14 05.8	+0.7
	baz=234						
SCZT				S	Sn	04 14 15.2	+0.4
	baz=234						
STYT	Tauyuan	0.64	320	↑P	Pn	04 14 06.8	+1.2
	baz=327						
STYT				*e*S	Sn	04 14 17.5	+2.1
	baz=327						
SGLT	Jiouru	0.65	275	*e*P	Pn	04 14 05.4	-0.3
	baz=274						
SGLT				*e*S	Sn	04 14 18.3	+2.7
	baz=274						
TWF1	Yuli	0.68	8	*e*P	Pn	04 14 06.0	-0.1
	baz=8.0						
TWF1				*e*S	Sn	04 14 15.6	-0.8
	baz=8.0						
SGST	Jiashian	0.70	306	P	Pn	04 14 07.2	+1.0
	baz=306						
SGST				*e*S	Sn	04 14 18.5	+1.9
	baz=306						
LAY	Lan-yu	0.71	152	*e*P	Pn	04 14 05.6	-0.8
	baz=159						
LAY				*e*S	Sn	04 14 15.1	-1.9
	baz=159						
TWM1	Shoushan	0.73	282	*e*P	Pn	04 14 08.2	+1.6
	baz=282						
TWM1				*e*S	Sn	04 14 20.1	+2.8
	baz=282						
WTP	Ta-pu	0.78	317	↑*i*P	Pn	04 14 08.3	+1.0
	baz=317						
WTP				*e*S	Sn	04 14 20.7	+2.1
	baz=317						
HEN	Hengchun	0.79	213	*e*P	Pn	04 14 08.0	+0.7
	baz=209						
HEN				*e*S	Sn	04 14 20.1	+1.6
	baz=209						
CHN1	Nanshi	0.80	310	↑P	Pn	04 14 08.4	+0.9
	baz=309						
CHN1				S	Sn	04 14 20.6	+1.7
	baz=309						
TWK1	Hengchun	0.81	207	*e*P	Pn	04 14 07.9	+0.3
	baz=204						
TWK1				*e*S	Sn	04 14 20.0	+0.9
	baz=204						
TSEB	Hengchuen, Pin	0.82	200	*e*P	Pn	04 14 07.4	-0.3
	baz=200						
TWP	Hsiaoliuchiu	0.84	247	*e*P	Pn	04 14 09.6	+1.7
	baz=260						
TWP				*e*S	Sn	04 14 21.8	+2.2
	baz=260						
EHY	Hungye	0.84	8	P	Pn	04 14 07.8	-0.2
	baz=16						
EHY				*e*S	Sn	04 14 18.8	-1.0
	baz=16						
YUS	Yu-Shan	0.84	345	*e*P	Pn	04 14 10.1	+1.5
	baz=344						
YUS				*e*S	Sn	04 14 22.3	+1.4
	baz=344						
CHN3	Shinhua	0.87	298	*e*P	Pn	04 14 08.3	+0.1
	baz=297						
CHN3				*e*S	Sn	04 14 23.2	+2.

WNT	**Mingjian**	**1.29**	**339**	*e*P		Pn	04 14 15.1	+1.3
	baz=327							
WNT				*e*S		Sn	04 14 32.4	+2.1
	baz=327							
WSF	**Szhu**	**1.31**	**317**	*e*P		Pn	04 14 15.9	+1.7
	baz=316							
WSF				*e*S		Sn	04 14 31.2	+0.4
	baz=316							
HWA	**Hwalien**	**1.35**	**16**	*e*P		Pn	04 14 15.5	+0.8
	baz=17							
TWD	**Chiawan**	**1.45**	**15**	*e*P		Pn	04 14 16.2	+0.2
	baz=14							
TWD				*e*S		Sn	04 14 36.0	+1.9
	baz=14							
WHF	**Hehuan Shan**	**1.47**	**2**	*e*P		Pn	04 14 17.7	+0.9
	baz=1.0							
WHF				*e*S		Sn	04 14 36.2	+0.8
	baz=1.0							
TCU	**Taichung**	**1.54**	**342**	*e*P		Pn	04 14 19.1	+1.9
	baz=340							
TCU				*e*S		Sn	04 14 38.3	+2.0
	baz=340							
TWT	**Tachien**	**1.57**	**359**	*e*P		Pn	04 14 19.5	+1.6
	baz=350							
TWT				*e*S		Sn	04 14 39.5	+2.1
	baz=350							
TWQ1	**Liyutan**	**1.71**	**347**	*e*P		Pn	04 14 20.8	+1.2
	baz=334							
TWQ1				*e*S		Sn	04 14 43.3	+2.8
	baz=334							
PNG	**Penghu**	**1.75**	**301**	*e*P		Pn	04 14 19.8	-0.3
	baz=300							
PNG				*e*S		Sn	04 14 41.3	-0.1
	baz=300							
NNS	**Nan Shan**	**1.77**	**5**	*e*P		Pn	04 14 21.9	+1.4
	baz=15							
NNS				*e*S		Sn	04 14 42.6	+0.5
	baz=15							
NSY	**Sanyi**	**1.78**	**347**	*e*P		Pn	04 14 22.4	+1.9
	baz=333							
NSY				*e*S		Sn	04 14 46.0	+3.9
	baz=333							
NSTT	**Nanjuang**	**1.96**	**355**	*e*P		Pn	04 14 25.1	+2.2
	baz=341							
NSTT				*e*S		Sn	04 14 50.0	+3.6
	baz=341							
NSK	**Sanguang**	**2.00**	**4**	P		Pn	04 14 25.1	+1.6
	baz=346							
NSK				*e*S		Sn	04 14 48.3	+0.7
	baz=346							
TWC	**Suao**	**2.02**	**17**	*e*P		Pn	04 14 24.2	+0.5
	baz=7.0							
TWC				*e*S		Sn	04 14 50.3	+2.5
	baz=7.0							
NWF	**Wu-fen Shan**	**2.45**	**13**	*e*P		Pn	04 14 30.3	+0.7
	baz=11							
NWF				*e*S		Sn	04 14 58.9	+0.4
	baz=11							
KNM	**Kinmen**	**3.07**	**305**	*e*P		Pn	04 14 38.3	+0.2
	baz=302							

IDC 24 04:46:40.5±8.8,1°.93S×80°.66W,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/22,mbtmp3.7/5,MS2.5/1,Ms1 2.5/1, ms1mx2.4/21,Error ellipse: s-maj=213.4km s-min=111.8km az=9.0,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**9.24**	**43**		LR	LR	04 52 47.9	
	comp=Z,32nm,21.2s,baz=222,slow=40							
ANMO	**Albuquerque**	**43.94**	**329**	P		P	04 54 49.5	-0.1
	2.1nm,1.0s,baz=141,slow=13,SNR=7.1							
NVAR	**Mina Ary Bea**	**53.07**	**323**	P		P	04 55 59.9	-0.2
	0.5nm,0.7s,baz=126,slow=9.0,SNR=3.3							
ULM	**Lac du Bonnet**	**53.60**	**348**	P		P	04 56 03.6	+0.3
	2.6nm,0.7s,baz=161,slow=8.0,SNR=4.0							
YKA	**Yellowknife Ar**	**69.19**	**344**	P		P	04 57 48.4	-0.3
	0.3nm,0.9s,baz=137,slow=7.0,SNR=5.7							
INK	**Inuvik**	**78.86**	**342**	P		P	04 58 45.4	+0.2
	0.3nm,0.5s,baz=104,slow=4.2,SNR=2.4							

IDC 24 05:20:21.5±2.3,8°.67S×71°.96W,h0km,mb3.5/3, mb1 4.0/5,mb1mx3.5/30,mbtmp3.7/5,ML3.8/2,Error ellipse: s-maj=81.4km s-min=35.8km az=29.0,Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**6.55**	**283**	Pn		Pn	05 21 60.0	+0.3
	3.1nm,0.3s,baz=174,slow=5.2,SNR=18							
ATAH				Sn		Sn	05 23 23.2	+7.6
	2.6nm,0.3s,baz=163,slow=23,SNR=4.2							
SIV	**San Ignacio**	**12.88**	**125**	Pn		Pn	05 23 25.7	-0.4
	0.4nm,0.3s,baz=291,slow=11,SNR=3.1							
TXAR	**Lajitas Array**	**48.59**	**322**	P		P	05 29 06.4	-0.8
	0.4nm,0.6s,baz=142,slow=7.5,SNR=4.5							
PDAR	**Pinedale Array**	**61.60**	**329**	P		P	05 30 40.8	-0.5
	0.3nm,0.4s,baz=122,slow=10.0,SNR=4.7							
YKA	**Yellowknife Ar**	**78.17**	**341**	P		P	05 32 23.1	+0.7
	0.3nm,0.7s,baz=138,slow=5.5,SNR=7.6							

BJI ***24*** *05:38:19.8,8°.94S×129°.02E,h19km,mB5.3/52,mb5.0/57, Ms5.2/57,Ms7 5.0/56*

IDC ***24*** *05:38:24.0±0.3,8°.20S×128°.97E,h0km,mb5.0/28, mb1 5.0/29,mb1mx5.0/35,mbtmp5.0/29,ML4.1/1,MS5.0/27, Ms1 5.0/27,ms1mx4.9/33,Error ellipse: s-maj=14.5km s-min=10.1km az=75.0*

NEIC ***24*** *05:38:26.8±0.1,8°.21S×129°.03E,h19km,mb5.4/66, MS5.2/138,MW5.4,Error ellipse: s-maj=4.7km s-min=4.0km az=25.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}1.38; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$-0.14; $M_{r\theta}$-0.05; $M_{\theta\phi}$-1.25; $M_{\phi r}$0.20; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s43.00000°,δ48.00000°, λ70.00000°. NP2:ϕ_s251.00000°,δ46.00000°,λ111.00000°. Principal axes: T 1.4300, Plg75.0000°, Azm240.0000°; N 0.6200, Plg14.0000°, Azm56.0000°; P -2.0600, Plg1.0000°, Azm146.0000°;*

NEIC Felt [II] at Manokwari.

GCMT ***24*** *05:38:26.8±0.1,8°.32S×129°.14E,h22km,MW5.5/108, Moment Tensor Solution. s108,c188; s108,c222; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.40±.04; $M_{\theta\theta}$-2.06±.03; $M_{\phi\phi}$-0.34±.03; $M_{r\theta}$0.35±.06; $M_{\theta\phi}$-1.24±.03; $M_{\phi r}$0.04±.07; Best double couple: $M_0$2.58000×10^{17} NP1:ϕ_s66.00000°,δ49.00000°, λ95.00000°. NP2:ϕ_s239.00000°,δ41.00000°,λ85.00000°. Principal axes: T 2.4290, Plg85.0000°, Azm16.0000°; N 0.3000, Plg3.0000°, Azm243.0000°; P -2.7310, Plg4.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

KLM ***24*** *05:38:27.7,8°.34S×129°.12E,h15km,mb5.5,MS6.2*

ISCJB ***24*** *05:38:28.9±0.5,8°.27S±0°.02×129°.03E±0°.02,h51km±4km, mb5.2/119,MS5.2/183,Error ellipse: s-maj=4.1km s-min=3.8km az=5.4*

MOS ***24*** *05:38:29.3±1.0,7°.73S×129°.01E,h33km,mb5.4/33, MS5.1/24,Error ellipse: s-maj=11.4km s-min=7.5km az=114.3*

DJA ***24*** *05:38:32.9±0.3,8°.S±.3°×12°.9E±°,h74km±5km,M5.4/50, mb5.4/50,mB5.8/44,MLv5.8/12,Mw(mB)5.3/44,Mwp5.8/9*

ISC 24 05:38:28.9±0.3,8°.32S±0°.03×128°.99E±0°.03,h32km±1km, h32km:pP-P,n826,σ1§45/765,mb5.2/115,MS5.2/184, 32C-28D,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.31**	**82**	P		**Pn**	**05 39 06.1**	**+1.2**
SAUI				S		**Sn**	**05 39 33.1**	**+0.8**
SAUI	**Saumlaki**	**2.31**	**82**	*e*Pn		**Pn**	**05 39 05.6**	**+0.7**
SAUI				*e*Sn		**Sn**	**05 39 33.5**	**+1.2**
BNDI	**Bandanaira**	**3.88**	**14**	P		**Pn**	**05 39 28.2**	**+1.8**
SOEI	**Soe**	**4.87**	**253**	P		**Pn**	**05 39 42.3**	**+2.1**
	1μm,1.1s,21μm64μm12nm							
SOEI	**Soe**	**4.87**	**253**	*e*Pn		**Pn**	**05 39 41.6**	**+1.4**
SOEI	**Soe**	**4.87**	**253**	⇓P		**Pn**	**05 39 42.0**	**+1.8**
	baz=4.9,SNR=35							
MSAI	**Masohi**	**4.94**	**359**	P		**Pn**	**05 39 43.9**	**+2.9**
	288nm,0.8s,3μm1.0nm							
MTN	**Manton Dam**	**4.96**	**155**	P		**Pn**	**05 39 40.4**	**-0.9**
	baz=5.0,SNR=584							
NLAI	**Namlea**	**5.39**	**340**	P		Pn	05 39 52.0	+4.9
	761nm,1.0s,9μm2.8nm							
KDU	**Kakadu**	**5.53**	**142**	⇓P		**Pn**	**05 39 47.3**	**-1.8**
	baz=5.5,SNR=472							
FAKI	**Fak Fak**	**6.27**	**31**	P		**Pn**	**05 39 58.2**	**-1.1**
	1μm,0.8s,10μm46μm3.4nm							
FAKI	**Fak Fak**	**6.27**	**31**	*e*Pn		**Pn**	**05 39 57.7**	**-1.6**
FAKI				*e*Sn		**Sn**	**05 41 07.5**	**-2.4**
FAKI	**Fak Fak**	**6.27**	**31**	⇓P		**Pn**	**05 39 58.0**	**-1.3**
	baz=6.2,SNR=90							
KMPI	**Kaimana, Papua**	**6.59**	**46**	P		**Pn**	**05 40 02.5**	**-1.2**
	1μm,1.0s,20μm8.6nm							
MMRI	**Maumere**	**6.68**	**267**	P		Pn	05 40 10.7	+5.7
	704nm,1.0s,12μm34μm2.4nm							
MMRI	**Maumere**	**6.68**	**267**	Pn		**Pn**	**05 40 05.0**	**+0.1**
	661nm,0.9s							
SANI	**Sanana**	**6.91**	**334**	P		Pn	05 40 13.7	+5.6
	370nm,0.8s,6μm45μm1.2nm							
KNRA	**Kununurra**	**7.31**	**182**	⇓P		**Pn**	**05 40 12.7**	**-0.9**
	baz=7.4,SNR=718							
SWI	**Sorong**	**7.75**	**17**	P		**Pn**	**05 40 20.9**	**+1.3**
	283nm,0.7s,8μm32μm1.9nm							
SWI	**Sorong**	**7.75**	**17**	⇓P		**Pn**	**05 40 20.0**	**+0.4**
	baz=7.8							
LBMI	**Labuha**	**7.78**	**349**	P		Pn	05 40 25.8	+5.8
	2μm,1.7s,22μm6.9nm							
KKSI	**Kolaka, Sulawe**	**8.38**	**299**	P		x	05 40 39.4	
MWPI	**Manokwari, Pap**	**8.90**	**35**	P		x	05 40 35.6	
	785nm,0.9s,11μm							
LBFI	**Labuhan Bajo,**	**9.00**	**268**	P		x	05 40 39.0	
	422nm,1.1s,5μm							
TNTI	**Ternate**	**9.18**	**350**	P		Pn	05 40 45.5	+6.3
	591nm,1.2s,8μm36μm							
TNTI	**Ternate**	**9.18**	**350**	*e*Pn		**Pn**	**05 40 39.4**	**+0.2**
BKSI	**Bulukumba**	**9.29**	**288**	P		Pn	05 40 46.5	+5.7
	218nm,1.2s,3μm							
LUWI	**Luwuk**	**9.52**	**319**	P		Pn	05 40 50.5	+6.6
	495nm,1.2s,10μm							
LUWI	**Luwuk**	**9.52**	**319**	*e*Pn		Pn	05 40 48.6	+4.7
BNSI	**Bone**	**9.64**	**293**	P		Pn	05 40 52.5	+6.9
	383nm,1.3s,8μm							
KAPI	**Kappang**	**9.74**	**289**	Pn		Pn	05 40 55.7	+8.7
	477nm,1.2s,SNR=7.3							
KAPI	**Kappang**	**9.74**	**289**	*e*Pn		**Pn**	**05 40 49.2**	**+2.3**
BAKI	**Biak**	**10.02**	**45**	P		**Pn**	**05 40 52.4**	**+1.6**
	387nm,1.7s,5μm							
SPSI	**Sidrap Palu**	**10.13**	**295**	P		Pn	05 40 59.6	+7.3
	218nm,1.7s,6μm22μm							
KMSI	**Cibinong**	**10.15**	**330**	P		Pn	05 41 00.2	+7.7
	1μm,1.2s,14μm27μm							
APSI	**Ampana**	**10.37**	**315**	P		Pn	05 41 02.5	+6.9
	490nm,1.0s,8μm							
MRSI	**Marisa**	**11.21**	**321**	P		Pn	05 41 14.3	+7.2
	198nm,1.4s,4μm							
MMSI	**Mamuju**	**11.48**	**299**	P		x	05 41 25.8	
SMPI	**Sarmi**	**11.54**	**58**	P		Pn	05 41 20.6	+9.0
SGSI	**Sangihe**	**12.42**	**344**	P		**P**	**05 41 32.6**	**-2.5**
TOLI	**Toli-Toli**	**12.44**	**319**	P		x	05 41 39.7	
TOLI	**Toli-Toli**	**12.44**	**319**	*e*Pn		P	05 41 30.0	-5.3
GENI	**Genyem**	**12.50**	**64**	P		P	05 41 32.5	-3.5
WRAB	**Tennant Creek**	**12.66**	**156**	Pn		Pn	05 41 22.0	-4.9
	645nm,0.5s							
WRAB	**Tennant Creek**	**12.66**	**156**	*e*P		Pn	05 41 22.2	-4.7
WRAB	**Tennant Creek**	**12.66**	**156**	*e*Pn		Pn	05 41 19.5	-7.4
WRAB				*e*Sn		Sn	05 43 34.1	-13
WRA	**Warramunga Arr**	**12.66**	**156**	Pn		Pn	05 41 20.1	-6.8
WRA				Sn		Sn	05 43 36.1	-11
WRA	**Warramunga Arr**	**12.66**	**156**	Pn		Pn	05 41 20.1	-6.8
	7.0nm,0.3s,baz=346,slow=12,SNR=79							
WRA				Sn		Sn	05 43 36.1	-11
	28nm,0.3s,baz=331,slow=22,SNR=7.7							
WRA				LR		LR	05 46 51.5	
	comp=Z,21μm,18.8s,baz=335,slow=40							
MTNI	**Mataram**	**12.68**	**268**	P		x	05 41 43.1	
JAY	**Jayapura**	**13.01**	**64**	Pn		Pn	05 41 28.3	-3.5
JAY				Sn		**Sn**	**05 43 57.6**	**+2.1**
JAY	**Jayapura**	**13.01**	**64**	Pn		Pn	05 41 28.3	-3.5
	1.0nm,0.3s,baz=274,slow=6.9,SNR=5.5							
JAY				Sn		**Sn**	**05 43 57.6**	**+2.1**
	2.0nm,0.3s,baz=24,slow=20,SNR=3.2							
JAY	**Jayapura**	**13.01**	**64**	⇓P		**Pn**	**05 41 30.7**	**-1.1**
	baz=13							
SRBI	**Singaraja**	**13.63**	**270**	P		P	05 41 57.4	+8.7
BKB	**Balikpapan**	**13.93**	**300**	P		P	05 41 59.8	+7.8
JAGI	**Jajag, Banyuwa**	**14.68**	**268**	P		**Pn**	**05 41 52.9**	**-1.6**
	138nm,0.8s,1μm							
JAGI	**Jajag, Banyuwa**	**14.68**	**268**	*e*Pn		**Pn**	**05 41 56.4**	**+1.9**
JAGI				*e*Sn		**Sn**	**05 44 36.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**14.68**	**268**	⇑P		**Pn**	**05 41 53.6**	**-0.9**
	baz=15,SNR=7.3							
KMMI	**Kalianget**	**14.94**	**274**	P		**P**	**05 42 05.9**	**+2.7**
	118nm,1.1s,3μm							
COEN	**Coen**	**15.00**	**113**	*e*Pn		Pn	05 41 52.0	-6.9
COEN				*e*Sn		Sn	05 44 28.2	-16
BLJI	**Banyuglugur**	**15.25**	**271**	P		**P**	**05 42 08.9**	**+2.2**
	146nm,0.8s,4μm							
GMJI	**Gumukmas**	**15.38**	**269**	P		**P**	**05 42 09.5**	**+1.4**
	81nm,0.8s,2μm							
AS31	**Alice Springs**	**15.97**	**163**	*e*Pn		Pn	05 42 06.1	-5.3
AS31				*e*Sn		Sn	05 44 57.1	-11
ASAR	**Alice Springs**	**15.97**	**163**	Pn		Pn	05 42 05.2	-6.3
ASAR				Sn		Sn	05 44 57.5	-10
ASAR	**Alice Springs**	**15.97**	**163**	Pn		Pn	05 42 05.2	-6.3
	2.3nm,0.3s,baz=335,slow=9.9,SNR=89							
ASAR				Sn		Sn	05 44 57.5	-10
	7.5nm,0.3s,baz=324,slow=12,SNR=4.4							
ASAR				LR		LR	05 48 52.5	
	comp=Z,12μm,19.8s,baz=328,slow=39							
CTBH	**Cotabato--PC H**	**16.15**	**343**	⇑*i*P		**P**	**05 42 15.7**	**-0.9**
KRKI	**Karangkates**	**16.36**	**269**	P		x	05 42 20.6	
	355nm,0.8s,23μm							
BUKP	**Musuan**	**16.56**	**346**	*e*P		**P**	**05 42 24.4**	**+3.1**
TSM	**Tawau**	**16.73**	**318**	⇓P		**P**	**05 42 24.8**	**+1.7**
PWJI	**Pagerwojo**	**17.01**	**270**	P		**Pn**	**05 42 24.6**	**0.0**
	179nm,0.9s,2μm							
CGP	**Cagayan de Oro**	**17.20**	**346**	⇓*e*P		**P**	**05 42 31.0**	**+2.6**
NGJI	**Ngawi**	**17.39**	**272**	P		**P**	**05 42 34.8**	**+4.4**
	131nm,1.1s							
PCJI	**Pacitan**	**17.63**	**269**	P		**P**	**05 42 36.5**	**+3.5**
	140nm,0.8s							
PMG	**Port Moresby**	**17.99**	**95**	P		x	05 42 39.7	
PMG	**Port Moresby**	**17.99**	**95**	*e*P		**Pn**	**05 42 36.4**	**-0.4**
	273nm,1.1s							
PMG				*e*S		**Sn**	**05 45 58.1**	**+1.5**
PMG	**Port Moresby**	**17.99**	**95**	LR		LR	05 50 45.4	
	comp=Z,10μm,19.1s,baz=263,slow=41							
PMG	**Port Moresby**	**17.99**	**95**	⇓P		**Pn**	**05 42 36.5**	**-0.2**
	baz=18,SNR=17							
SDKM	**Sandakan**	**18.18**	**319**	⇓P		**P**	**05 42 41.6**	**+2.4**
UGM	**Wanagama**	**18.28**	**270**	*e*Pn		**Pn**	**05 42 45.1**	**+4.7**
	189nm,0.9s							
UGM	**Wanagama**	**18.28**	**270**	⇑P		**Pn**	**05 42 41.6**	**+1.2**
	baz=18,SNR=9.7							
SMRI	**Semarang**	**18.42**	**273**	*e*P		**Pn**	**05 42 45.9**	**+3.8**
	82nm,0.8s							
BJII	**Banjamegara**	**19.12**	**272**	P		x	05 42 53.6	
	73nm,1.5s,2μm							
KKM	**Kota Kinabalu**	**19.13**	**318**	P		x	05 42 52.4	
	69nm,0.8s,5μm20μm							
KKM	**Kota Kinabalu**	**19.13**	**318**	*e*P		**P**	**05 42 50.0**	**+0.3**
	780nm,2.0s							
KKM				*e*S		S	05 46 34.7	+10
KKM	**Kota Kinabalu**	**19.13**	**318**	⇓P		**Pn**	**05 42 51.7**	**+1.1**
	baz=19,SNR=12							
KKM	**Kota Kinabalu**	**19.13**	**318**	⇑P		**Pn**	**05 42 51.5**	**+0.9**
KDM	**Kudat**	**19.39**	**321**	⇑P		**Pn**	**05 42 57.0**	**+3.4**
BTM	**Bintulu**	**19.56**	**305**	⇓P		**Pn**	**05 42 56.9**	**+1.1**
TGJI	**Tegal**	**19.74**	**273**	P		x	05 42 57.3	
	90nm,0.8s,4μm							
PLP	**Palo**	**19.77**	**348**	⇑*e*P		**P**	**05 42 56.5**	**0.0**
SBUM	**Sibu**	**19.85**	**302**	P		x	05 42 59.4	
	72nm,1.7s,2μm							
SBUM	**Sibu**	**19.85**	**302**	*e*Pn		**Pn**	**05 42 59.1**	**-0.1**
SBUM	**Sibu**	**19.85**	**302**	⇑P		**Pn**	**05 42 59.9**	**+0.7**
KPJI	**Karang Pucung**	**19.89**	**271**	P		**Pn**	**05 43 00.0**	**+0.3**
	100nm,0.8s,3μm							
GIRL	**Giralia**	**20.09**	**223**	⇑P		Pn	05 43 02.2	+0.2
	baz=20,SNR=4.9							
CMJI	**Cimerak**	**20.34**	**270**	P		**P**	**05 43 04.1**	**+1.3**
	205nm,1.1s,2μm							
CTA	**Charters Tower**	**20.40**	**127**	P		**P**	**05 43 03.4**	**0.0**
CTA	**Charters Tower**	**20.40**	**127**	P		**P**	**05 43 03.4**	**0.0**
	67nm,1.0s,baz=306,slow=12,SNR=17							
CTA				LR		LR	05 51 32.2	
	comp=Z,11μm,19.5s,baz=306,slow=38							
CTA	**Charters Tower**	**20.40**	**127**	⇓P		Pn	05 43 04.5	-1.1
	baz=20							
CTAO	**Charters Tower**	**20.40**	**127**	*e*P		**P**	**05 43 02.9**	**-0.5**
CTAO				*e*S		**S**	**05 46 50.6**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,82nm,0.9s							
CTAO				MLR		MLR		
	comp=Z,12μm,19.0s							
CTAO	**Charters Tower**	**20.40**	**127**	*e*P		**P**	**05 43 02.9**	**-0.5**
	comp=Z,82nm,0.9s							
CTAO				*e*S		**S**	**05 46 50.6**	**+0.2**
CTAO				LR		LR		
	comp=Z,12μm,19.0s							
MEEK	**Meekatharra**	**20.71**	**207**	⇓P		**P**	**05 43 07.1**	**+0.3**
	baz=21,SNR=17							
CISI	**Cisompet, Garu**	**20.98**	**271**	P		P	05 43 15.4	+5.6
	comp=Z,193nm,0.6s,comp=Z,32μm							
CISI	**Cisompet, Garu**	**20.98**	**271**	*e*P		**P**	**05 43 08.6**	**-1.3**
	comp=Z,176nm,1.1s							
KSM	**Kuching**	**21.01**	**297**	P		x	05 43 12.4	
	comp=Z,101nm,1.2s,comp=Z,2μm							
KSM	**Kuching**	**21.01**	**297**	*e*P		**P**	**05 43 10.3**	**+0.3**
	comp=Z,60nm,0.7s							
KSM				LR		LR		
	comp=Z,7μm,20.0s							
KSM	**Kuching**	**21.01**	**297**	⇑P		**P**	**05 43 11.6**	**+1.5**
	baz=21,SNR=10							
KSM	**Kuching**	**21.01**	**297**	⇑P		**P**	**05 43 13.0**	**+2.9**
LEM	**Lembang**	**21.23**	**273**	P		**P**	**05 43 14.2**	**+1.6**
	comp=Z,118nm,1.0s,comp=Z,3μm							
LEM	**Lembang**	**21.23**	**273**	⇓P		**P**	**05 43 13.5**	**+0.9**
	baz=21							
CNJI	**Cibinong**	**21.68**	**271**	P		**P**	**05 43 17.5**	**+0.3**
	comp=Z,268nm,0.9s,comp=Z,3μm							
TPI	**Tanjungpandan**	**21.93**	**283**	P		**P**	**05 43 20.4**	**+0.4**
	comp=Z,51nm,1.2s,comp=Z,1μm							
CBJI	**Citeko**	**22.03**	**273**	P		**P**	**05 43 21.4**	**+0.3**
	comp=Z,444nm,0.8s							
DBJI	**Dramaga**	**22.12**	**273**	P		**P**	**05 43 23.4**	**+1.4**
	comp=Z,127nm,1.1s,comp=Z,4μm							
FORT	**Forrest**	**22.36**	**182**	*e*P		**P**	**05 43 24.2**	**-0.2**
	comp=Z,257nm,0.9s							
FORT				*e*S		**S**	**05 47 24.0**	**-4.4**
FORT	**Forrest**	**22.36**	**182**	P		**P**	**05 43 24.6**	**+0.2**
	baz=22,SNR=25							
XMI	**Christmas Isla**	**23.08**	**263**	⇑P		**P**	**05 43 33.7**	**+1.5**
	baz=23,SNR=4.7							
XMIS	**Christmas Isla**	**23.12**	**263**	*e*P		**P**	**05 43 31.5**	**-1.0**
	comp=Z,784nm,1.2s							
CGJI	**Cibinong**	**23.16**	**273**	P		**P**	**05 43 30.9**	**-2.0**
	comp=Z,98nm,0.8s,comp=Z,1μm							
QLP	**Quilpie**	**23.22**	**143**	⇓P		**P**	**05 43 34.2**	**+0.8**
	baz=23,SNR=87							
MORW	**Morawa**	**23.96**	**209**	⇑P		**P**	**05 43 40.1**	**-0.5**
	baz=24,SNR=14							
MDSI	**Maura Dua**	**24.94**	**277**	P		**P**	**05 43 47.7**	**-1.9**
BLDU	**Balilidu**	**24.98**	**206**	⇑P		**P**	**05 43 50.0**	**+0.3**
	baz=25,SNR=12							
BBOO	**Buckleboo**	**25.23**	**166**	*e*P		**P**	**05 43 51.5**	**-0.6**
	comp=Z,2μm,1.0s							
BBOO				*e*S		**S**	**05 48 22.0**	**+6.3**
BBOO	**Buckleboo**	**25.23**	**166**	P		**P**	**05 43 52.1**	**0.0**
	baz=25,SNR=32							
RMQ	**Roma**	**26.05**	**136**	⇓P		**P**	**05 43 58.5**	**-1.1**
	baz=26,SNR=10							
STKA	**Stephens Creek**	**26.21**	**155**	*e*P		**P**	**05 44 00.6**	**-0.4**
	comp=Z,22nm,0.9s							
STKA				*e*S		**S**	**05 48 29.8**	**-1.4**
STKA	**Stephens Creek**	**26.21**	**155**	P		**P**	**05 44 00.5**	**-0.4**
	comp=Z,23nm,0.7s,baz=326,slow=8.8,SNR=59							
STKA				LR		LR	05 55 28.2	
	comp=Z,11μm,18.9s,baz=298,slow=39							
STKA	**Stephens Creek**	**26.21**	**155**	P		**P**	**05 44 00.6**	**-0.4**
	baz=26,SNR=35							
HTT	**Hallett**	**26.62**	**161**	⇑P		**P**	**05 44 05.1**	**+0.4**
	baz=27,SNR=22							
NWAO	**Narrogin (SRO)**	**26.80**	**202**	P		**P**	**05 44 04.9**	**-1.3**
NWAO	**Narrogin (SRO)**	**26.80**	**202**	P		**P**	**05 44 04.9**	**-1.3**
	comp=Z,20nm,0.6s,baz=31,slow=8.5,SNR=19							
NWAO				LR		LR	05 56 30.6	
	comp=Z,9μm,18.4s,baz=10,slow=40							
GUMO	**Guam**	**26.88**	**36**	PFAKE			05 44 20.0	+13
GUMO				LR		LR		
	comp=Z,3μm,19.0s							
MYKOM	**Kota Tinggi**	**27.00**	**291**	*e*P		**P**	**05 44 08.0**	**-0.3**
	comp=Z,56nm,1.0s							
MYKOM	**Kota Tinggi**	**27.00**	**291**	⇓P		**P**	**05 44 08.5**	**+0.2**
KGM	**Kluang**	**27.58**	**291**	⇓P		**P**	**05 44 13.1**	**-0.3**
CMSA	**Cobar Meteorol**	**27.85**	**148**	⇑P		**P**	**05 44 15.8**	**+0.1**
	baz=28,SNR=36							
KTGM	**Kuala Trenggan**	**29.13**	**297**	⇓P		**P**	**05 44 27.1**	**-0.2**
BKNI	**Bangkinang**	**29.15**	**286**	*e*P		**P**	**05 44 28.2**	**+0.8**
	comp=Z,86nm,

comp=Z,3μm,30.1s
DZM eLQ LQ 05 54 41.8
comp=Z,3μm,26.3s
DZM eLR LR 05 56 23.0
comp=Z,4μm,22.9s
DZM Mont Dzumac 38.52 115 P P 05 45 49.0 +0.1
DZM Mont Dzumac 38.52 115 P P 05 45 49.0 +0.1
comp=Z,14nm,0.9s,baz=297,slow=8.8,SNR=7.4
LAMP Lampang 39.37 313 P P 05 46 01.6 +5.7
comp=Z,7.7nm,1.0s,comp=Z,76nm
CM31 Chiang Mai Arr 39.84 312 eP **P 05 45 58.8 -0.9**
comp=Z,6.9nm,0.3s
CMAR Chiang Mai Arr 39.84 312 P **P 05 45 58.8 -0.9**
CMAR PcP **PcP 05 48 05.8 +0.3**
CMAR ScP **ScP 05 51 57.3 +5.0**
CMAR Chiang Mai Arr 39.84 312 P **P 05 45 58.8 -0.9**
comp=Z,2.7nm,0.6s,baz=146,slow=7.7,SNR=18
CMAR PcP **PcP 05 48 05.8 +0.3**
comp=Z,6.6nm,0.7s,baz=161,slow=2.9,SNR=8.9
CMAR ScP **ScP 05 51 57.3 +5.0**
comp=Z,4.3nm,0.8s,baz=156,slow=3.6,SNR=8.5
SSE Sheshan 39.90 350 P **P 05 46 02.9 +2.9**
SSE PP **PP 05 47 31.9 -0.3**
SSE S **S 05 52 01.3 -1.6**
SSE sS **sS 05 52 19.6 +1.2**
SSE pmax pmax
comp=Z,21nm,0.8s
SSE pmax pmax
comp=Z,370nm,6.6s
SSE LR LR
comp=Z,230nm,21.3s
SSE LR LR
comp=Z,800nm,21.0s
SSE LR LR
comp=Z,1μm,18.3s
CHTO Chiang Mai 40.06 313 eP **P 05 46 00.6 -1.0**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO MLR MLR
comp=Z,4μm,20.0s
CHTO Chiang Mai 40.06 313 P **P 05 46 00.7 -0.9**
comp=Z,86nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 40.06 313 eP **P 05 46 00.6 -1.0**
comp=Z,17nm,0.9s
CHTO LR LR
comp=Z,4μm,20.0s
CMAI Chiengmai2 40.71 314 P **P 05 46 08.6 +1.5**
comp=Z,26nm,1.1s,comp=Z,1μm
GYA Guiyang 40.80 329⇑ *i* P **P 05 46 06.5 -1.3**
GYA PP **PnPn 05 47 47.9 +1.4**
GYA ScP **ScP 05 51 55.4 -0.6**
GYA S **S 05 52 19.0 +2.1**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,2μm,18.2s
GYA LR LR
comp=Z,1μm,19.0s
GYA LR LR
comp=Z,2μm,18.4s
WHN Wuhan 41.12 341 P **P 05 46 11.8 +1.7**
WHN PP **PnPn 05 47 51.8 +1.8**
WHN LR LR
comp=Z,3μm,17.8s
WHN LR LR
comp=Z,1μm,13.3s
WHN LR LR
comp=Z,3μm,19.8s
JNU Nakatsue 41.25 2 P **P 05 46 09.9 -1.3**
JNU Nakatsue 41.25 2 P **P 05 46 09.9 -1.3**
comp=Z,12nm,0.7s,baz=198,slow=5.7,SNR=9.1
JNU LR LR 06 02 10.3
comp=Z,2μm,21.4s,baz=160,slow=35
NJ2 Nanjing 41.30 347 eP **P 05 46 12.6 +1.1**
NJ2 pP **pP 05 46 23.1 +2.1**
NJ2 sP **sP 05 46 26.3 +1.5**
NJ2 S **S 05 52 26.5 +2.7**
NJ2 sS **sS 05 52 41.5 +2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,400nm,10.5s
NJ2 LR LR
comp=Z,1μm,19.8s
NJ2 LR LR
comp=Z,690nm,18.0s
NJ2 LR LR
comp=Z,2μm,12.5s
KMI Kunming 41.94 323 P **P 05 46 17.3 +0.1**
KMI pP **pP 05 46 27.5 +0.9**
KMI pmax pmax
comp=Z,27nm,1.4s
KMI LR LR
comp=Z,880nm,15.6s
KMI LR LR
comp=Z,1μm,19.3s
KMI LR LR
comp=Z,1μm,18.2s
ENH Enshi 42.70 335 eP **P 05 46 21.0 -2.1**
comp=Z,15nm,0.7s
TARA Tarawa 44.84 80 PFAKE 05 46 50.0 +9.4
TARA LR LR
comp=Z,2μm,21.0s
MAJO Matsushiro 45.46 10 eP **P 05 46 43.3 -1.8**
MAJO MLR MLR
comp=Z,2μm,21.0s
MAJO Matsushiro 45.46 10 eP **P 05 46 43.3 -1.8**
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 45.46 10 P **P 05 46 42.9 -2.2**
MAT eS **S 05 53 25.6 +0.9**
MJAR Matsushiro Arr 45.46 10 P **P 05 46 42.5 -2.6**
MJAR PcP **PcP 05 48 24.9 +1.1**
MJAR ScP **ScP 05 52 18.8 +4.3**
MJAR Matsushiro Arr 45.46 10 P **P 05 46 42.5 -2.6**
comp=Z,26nm,1.0s,baz=188,slow=9.2,SNR=27
MJAR PcP **PcP 05 48 24.9 +1.1**
comp=Z,15nm,1.0s,baz=205,slow=3.9,SNR=7.0
MJAR ScP **ScP 05 52 18.8 +4.3**
comp=Z,0.9nm,0.8s,baz=190,slow=4.6,SNR=3.5
MJAR LR LR 06 05 04.1
comp=Z,1μm,20.8s,baz=165,slow=35
KSAR Wonju Array Be 45.53 359 P **P 05 46 44.1 -1.5**
KSAR PcP **PcP 05 48 24.4 +0.4**
KSRS Korea Array 45.55 359 P **P 05 46 44.1 -1.6**
comp=Z,3.8nm,0.5s,baz=186,slow=8.8,SNR=15
KSRS PcP **PcP 05 48 24.4 +0.4**
comp=Z,10nm,0.9s,baz=190,slow=3.2,SNR=8.3
KSRS LR LR 06 05 46.8
comp=Z,2μm,20.4s,baz=163,slow=36
INCN Inchon 45.62 357 PFAKE 05 47 00.0 +14
INCN LR LR
comp=Z,2μm,20.0s
TIA Tai'an 45.68 347 eP **P 05 46 46.6 -0.2**
TIA SS SS 05 56 49.0 -3.6
TIA pmax pmax
comp=Z,530nm,9.8s
TIA LR LR
comp=Z,1μm,17.0s
TIA LR LR
comp=Z,530nm,21.4s
TIA LR LR
comp=Z,1μm,18.7s
CD2 Chengdu 45.90 329 P **P 05 46 46.9 -1.8**
CD2 pP **pP 05 46 57.8 -0.4**
CD2 PP **PP 05 48 35.8 -1.0**
CD2 S **S 05 53 27.8 -3.5**
CD2 sS **sS 05 53 46.6 -0.3**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,310nm,7.1s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,1μm,16.6s
CD2 LR LR
comp=Z,1μm,19.0s
XAN Xi'an 46.23 337 P **P 05 46 48.3 -3.0**
XAN pP **pP 05 46 58.9 -1.9**
XAN PP **PP 05 48 38.4 -1.9**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,33nm,5.1s
XAN LR LR
comp=Z,950nm,20.3s
XAN LR LR
comp=Z,170nm,19.3s
XAN LR LR
comp=Z,490nm,18.3s
BJT Baijiatuan 49.54 347 PFAKE 05 47 30.0 +13
BJT LR LR
comp=Z,1μm,19.0s
BJI Beijing 49.56 347 P **P 05 47 17.4 +0.6**
BJI S **S 05 54 26.8 +4.1**
BJI SS **SS 05 58 00.8 +5.4**
BJI pmax pmax
comp=Z,20nm,1.0s
BJI pmax pmax
comp=Z,130nm,6.2s
BJI LR LR
comp=Z,810nm,19.7s
BJI LR LR
comp=Z,490nm,22.9s
BJI LR LR
comp=Z,790nm,26.0s
LZH Lanzhou 50.11 333 eP **P 05 47 20.4 -1.0**
LZH pP **pP 05 47 31.3 +0.3**
LZH sP **sP 05 47 35.6 +0.8**
LZH PP PP 05 49 22.3 +5.5
LZH eS **S 05 54 33.5 +2.5**
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.4s
LZH LR LR
comp=Z,710nm,16.3s
LZH LR LR
comp=Z,970nm,16.1s
LZH LR LR
comp=Z,2μm,17.2s
SNY Shenyang 50.15 355⇑ P **P 05 47 22.5 +1.2**
SNY S **S 05 54 36.5 +5.5**
SNY pmax pmax
comp=Z,11nm,0.5s
SNY pmax pmax
comp=Z,270nm,6.1s
SNY LR LR
comp=Z,2μm,20.2s
SNY LR LR
comp=Z,460nm,13.1s
SNY LR LR
comp=Z,1μm,26.5s
RPZ Rata Peaks 50.83 141 eP **P 05 47 27.0 +0.4**
comp=Z,92nm,1.0s
HHC Hu-ho-hao-te 51.49 343 eP **P 05 47 32.8 +1.2**
HHC PP **PP 05 49 32.6 +3.3**
HHC S **S 05 54 55.3 +5.4**
HHC ScS **ScS 05 57 19.5 -0.3**
HHC SS **SS 05 58 27.8 +1.3**
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,660nm,9.0s
HHC LR LR
comp=Z,2μm,20.8s
HHC LR LR
comp=Z,3μm,20.2s
HHC LR LR
comp=Z,2μm,19.6s
ERM Erimo 51.75 13 PFAKE 05 47 40.0 +6.7
ERM LR LR
comp=Z,2μm,19.0s
CN2 Changchun 51.98 357 eP **P 05 47 35.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,21.0s
SNZO South Karori 52.04 137 PFAKE 05 47 50.0 +14
SNZO LR LR
comp=Z,4μm,20.0s
USRK Ussuriysk Arra 52.34 3 P **P 05 47 35.5 -2.3**
comp=Z,14nm,0.6s,baz=183,slow=6.6,SNR=29
USRK LR LR 06 11 31.2
comp=Z,782nm,18.7s,baz=152,slow=38
LSA Lhasa 52.47 318 eP **P 05 47 38.3 -1.3**
LSA pmax pmax
comp=Z,34nm,0.9s
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 52.47 318 eP **P 05 47 38.3 -1.3**
comp=Z,34nm,0.9s
LSA LR LR
comp=Z,1μm,20.0s
URZ Urewera 52.51 132 P **P 05 47 38.5 -0.7**
URZ Urewera 52.51 132 P **P 05 47 38.5 -0.7**
comp=Z,8.9nm,0.4s,baz=266,slow=1.3,SNR=8.6
MDJ Mudanjiang 52.69 1 P **P 05 47 41.4 +1.1**
MDJ pP **pP 05 47 50.4 +0.4**
MDJ sP **sP 05 47 54.1 +0.3**
MDJ PcP **PcP 05 48 50.5 +0.6**
MDJ PP **PP 05 49 40.9 +1.0**
MDJ S **S 05 55 03.3 -2.7**
MDJ ScS **ScS 05 57 25.8 -2.0**
MDJ pmax pmax
comp=Z,21nm,1.1s
MDJ pmax pmax
comp=Z,350nm,7.2s
MDJ LR LR
comp=Z,750nm,23.7s
MDJ LR LR
comp=Z,530nm,21.2s
MDJ LR LR
comp=Z,1μm,20.4s
MDJ Mudanjiang 52.69 1 eP **P 05 47 37.7 -2.6**
comp=Z,15nm,0.8s
MDJ LR LR
comp=Z,1μm,20.0s
ODAN Odare 53.38 312 eP **P 05 47 44.8 -1.3**
comp=Z,58nm,0.9s
TAPN Taplejung 53.43 313 eP **P 05 47 44.8 -1.7**
comp=Z,116nm,1.0s
ASAJ Asahikawa 53.63 12 eP **P 05 47 45.5 -1.8**
comp=Z,14nm,0.9s
ASAJ Asahikawa 53.63 12 P **P 05 47 45.5 -1.8**
comp=Z,22nm,0.7s,baz=227,slow=9.8,SNR=14
ASAJ LR LR 06 12 36.6
comp=Z,1μm,18.3s,baz=190,slow=38
RAO Raoul Island 53.90 120 PFAKE 05 48 00.0 +10
RAO LR LR
comp=Z,2μm,19.0s
RAMN Ramite 54.01 312 eP **P 05 47 49.1 -1.6**
comp=Z,156nm,1.0s
YUK Yuzh-Kuril'sk 54.31 15 *i* P P 05 47 42.1 -10
YUK *i* S S 05 55 21.7 -6.2
YUK MLR MLR
comp=N,877nm,20.0s
YUK MLR MLR
comp=Z,766nm,20.0s
TRD Trivandrum 54.47 287⇓ eP P 05 48 01.0 +7.1
GTA Gaotai 54.66 332 P **P 05 47 53.4 -1.6**
GTA pP **pP 05 48 03.5 -1.2**
GTA sP **sP 05 48 07.6 -0.9**
GTA PP **PP 05 49 57.6 -0.3**
GTA S **S 05 55 30.9 -2.2**
GTA sS **sS 05 55 46.8 -2.2**
GTA pmax pmax
comp=Z,20nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.2s
GTA LR LR
comp=Z,540nm,21.6s
GTA LR LR
comp=Z,790nm,19.7s
GTA LR LR
comp=Z,2μm,19.5s
JIRN Jiri 54.71 312 eP **P 05 47 54.2 -1.7**
comp=Z,50nm,0.8s
GUN Gumba 55.08 312 eP **P 05 47 56.8 -1.8**
comp=Z,210nm,1.1s
PKI Pulchoki 55.23 312 eP **P 05 47 58.2 -1.5**
PKIN Phulchoki 55.25 312 eP **P 05 47 58.0 -1.7**
KKN Kakani 55.45 312 eP **P 05 47 59.0 -2.1**
DMN Daman 55.48 312 eP **P 05 47 59.5 -1.8**
DGAR Diego Garcia 55.97 267 PFAKE 05 48 20.0 +15
DGAR LR LR
comp=Z,2μm,19.0s
HYB Hyderabad 56.01 297 *i* P **P 05 48 02.0 -3.0**
HYB eSP **sP 05 48 15.0 -3.5**
HYB eS **S 05 55 50.0 -1.7**
YSS Yuzh-Sakhalins 56.38 11 eP **P 05 48 06.6 -0.5**
YSS e*PP **pP 05 48 17.0 +0.2**
YSS e 05 50 14.0
YSS ePPP PPP 05 51 24.0
YSS eS **S 05 55 52.0 -3.5**
YSS ePS **PnS 05 56 07.0 -1.9**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=N,1μm,16.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 56.38 11 eP **P 05 48 06.5 -0.6**
comp=Z,20nm,0.6s
YSS LR LR
comp=Z,428nm,21.0s
KOLN Koldanda 56.69 311 eP **P 05 48 08.1 -1.8**
comp=Z,67nm,0.8s
DANN Dangsing 56.88 312 eP **P 05 48 09.6 -1.8**
comp=Z,40nm,0.8s
PYUN Piuthan 57.32 311 eP **P 05 48 13.0 -1.4**
comp=Z,60nm,1.0s
KLR Kul'dur 57.36 2 eP P 05 48 08.2 -5.8
KLR MLR MLR
comp=N,500nm,17.0s
KLR MLR MLR
comp=E,1μm,17.0s
HIA Hailar 57.91 353 PFAKE 05 48 30.0 +12
HIA LR LR
comp=Z,1μm,20.0s
AFI Afiamalu 58.27 101 LR LR 06 11 40.4
comp=Z,1μm,21.0s,baz=291,slow=34
ULN Ulaanbaatar 59.21 343 eP **P 05 48 26.7 -0.5**
comp=Z,17nm,1.0s
ULN LR LR
comp=Z,1μm,20.0s
CASY Casey 59.25 189 PFAKE 05 48 40.0 +13
CASY LR LR
comp=Z,4μm,20.0s
SONM Songino Array 59.38 342 P **P 05 48 28.0 -0.3**
SONM ⇑ *e* 06 18 08.9
SONM Songino Array 59.38 342 P **P 05 48 28.0 -0.3**
comp=Z,2.5nm,0.6s,baz=162,slow=6.0,SNR=16
SONM LR LR 06 17 20.8
comp=Z,589nm,19.1s,baz=150,slow=39
SONM PKP2bc 06 18 08.9
comp=Z,0.7nm,0.8s,baz=298,slow=1.9,SNR=5.7
TLY Talaya 63.62 343 eP **P 05 48 55.0 -1.7**
TLY *e* 05 51 10.4
TLY eS S 05 57 22.1 -6.4
TLY pmax pmax
comp=Z,15nm,1.4s
TLY MLR MLR
comp=Z,499nm,19.0s
TLY Talaya 63.62 343 eP **P 05 48 54.9 -1.9**
comp=Z,22nm,1.3s
TLY LR LR
comp=Z,585nm,21.0s
PAF Port-aux-Franc 63.62 219 PFAKE 05 49 10.0 +13
PAF LR LR
comp=Z,2μm,19.0s
IRK Irkutsk 63.94 343 eP **P 05 48 57.4 -1.4**
IRK pmax pmax
comp=Z,48nm,2.2s
WMQ Urumqi 63.96 328 P **P 05 49 01.4 +2.2**
WMQ PP **PP 05 51 24.0 +3.7**
WMQ ScP 05 53 35.1
WMQ S **S 05 57 33.8 +0.6**
WMQ sS **sS 05 57 50.8 +1.4**
WMQ ScS **SKSac 05 58 48.8 -2.0**
WMQ SS **SS 06 01 44.0 +1.6**
WMQ pmax pmax
comp=Z,27nm,0.6s
WMQ pmax pmax
comp=Z,160nm,7.6s
WMQ LR LR
comp=Z,880nm,25.0s
WMQ LR LR
comp=Z,860nm,23.0s
WMQ LR LR
comp=Z,910nm,27.2s
MOY Mondy 64.42 341 eP **P 05 49 01.8 -0.3**
PETK Petropavlovsk- 65.89 19 P **P 05 49 11.5 0.0**
PETK Petropavlovsk- 65.89 19 P **P 05 49 11.4 0.0**
PETK Petropavlovsk- 65.89 19 P **P 05 49 11.4 0.0**
comp=Z,48nm,0.8s,baz=182,slow=5.4,SNR=26
PETK LR LR 06 14 05.0
comp=Z,554nm,21.8s,baz=198,slow=33
PET Petropavlovsk 66.12 19 eP **P 05 49 12.6 -0.3**
PET *e* 05 51 42.1
PET eS **S 05 58 01.2 +2.1**
PET pmax pmax
comp=Z,57nm,1.1s
PET pmax pmax
comp=Z,200nm,15.5s
PET Petropavlovsk 66.12 19 eP **P 05 49 13.1 +0.2**
comp=Z,58nm,1.0s
PET LR LR
comp=Z,772nm,21.0s
KSH Kashi 68.32 318 eP **P 05 49 26.8 -0.6**
KSH ePcS 05 53 58.3
KSH eS **S 05 58 21.4 -5.1**
KSH esS **sS 05 58 39.3 -3.5**
KSH eSS **SS 06 02 55.0 +4.5**
KSH pmax pmax
comp=Z,3.0nm,1.0s
KSH pmax pmax
comp=Z,160nm,5.3s
KSH LR LR
comp=Z,350nm,15.4s
KSH LR LR
comp=Z,1μm,20.0s
KSH LR LR
comp=Z,1μm,22.6s
MK31 Makanchi Array 68.78 328 P **P 05 49 28.1 -1.9**
MK31 pmax pmax
comp=Z,18nm,0.5s
MKAR Makanchi Array 68.78 328 P **P 05 49 28.5 -1.5**
MKAR Makanchi Array 68.78 328 P **P 05 49 28.4 -1.5**
MKAR P'P' 06 17 44.6
MKAR Makanchi Array 68.78 328 P **P 05 49 28.4 -1.5**
comp=Z,11nm,0.5s,baz=122,slow=5.9,SNR=10
MKAR PKPPKP **P'P'df** **06 17 44.6 +2.4**
comp=Z,0.5nm,0.9s,baz=352,slow=1.7,SNR=3.9
RAR Rarotonga 69.59 109 LR LR 06 17 08.9
comp=Z,542nm,21.9s,baz=263,slow=33
YAK Yakutsk 70.14 0 eP **P 05 49 35.8 -2.1**
YAK e*PP **pP 05 49 49.5 +1.6**
YAK *e* 05 49 56.2
YAK *e* 05 52 11.0
YAK eS **S 05 58 44.3 -2.5**
YAK eSS **SS 06 03 11.7 -5.6**
YAK pmax pmax
comp=Z,47nm,1.0s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK smax smax
comp=E,13nm,0.9s
YAK smax smax
comp=N,96nm,2.2s
YAK MLR MLR
comp=N,904nm,21.0s
YAK MLR MLR
comp=E,468nm,20.0s
YAK Yakutsk 70.14 0 eP **P 05 49 35.5 -2.4**
comp=E,46nm,0.7s
YAK LR LR
comp=Z,992nm,20.0s
TKM2 Tokmak 2 70.37 321 eP **P 05 49 39.1 -1.0**
TKM2 pmax pmax
comp=Z,15nm,0.9s
TKM2 MLR MLR
comp=Z,834nm,21.0s
TKM2 Tokmak 2 70.37 321 eP **P 05 49 39.1 -1.0**
comp=Z,14nm,0.9s

TKM2 LR LR
comp=Z,834nm,21.0s
KBL Kabul 70.85 311 *e*P **P** **05 49 43.0 -0.2**
KBL pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 70.85 311 *e*P **P** **05 49 43.0 -0.2**
comp=Z,22nm,1.1s
AAK Ala-Archa 70.90 321 P **P** **05 49 43.9 +0.6**
comp=Z,130nm,1.1s,SNR=9.4
AAK Ala-Archa 70.90 321 *e*P **P** **05 49 42.0 -1.3**
AAK pmax pmax
comp=Z,60nm,1.7s
AAK Ala-Archa 70.90 321 *e*P **P** **05 49 42.8 -0.6**
comp=Z,48nm,1.4s
AAK LR LR
comp=Z,1µm,20.0s
AAK Ala-Archa 70.90 321 P **P** **05 49 43.1 -0.2**
comp=Z,5.9nm,0.6s,baz=117,slow=5.4,SNR=16
FRU Bishkek 70.93 321 *e*P P 05 49 39.0 -4.3
FRU *i* 05 49 47.0
VNDA Vanda 71.27 173 *e*P **P** **05 49 45.2 +0.5**
comp=Z,25nm,1.3s
VNDA Vanda 71.27 173 P **P** **05 49 45.1 +0.4**
comp=Z,2.9nm,0.7s,baz=350,slow=7.7,SNR=12
VNDA LR LR 06 19 32.1
comp=Z,3µm,20.2s,baz=350,slow=35
EKS2 Erkin-Say 71.37 320 *e*P **P** **05 49 45.2 -0.9**
EKS2 pmax pmax
comp=Z,32nm,1.1s
EKS2 MLR MLR
comp=Z,914nm,22.0s
EKS2 Erkin-Say 71.37 320 *e*P **P** **05 49 45.2 -0.9**
comp=Z,32nm,1.1s
EKS2 LR LR
comp=Z,914nm,22.0s
RER Riviere de l'E 71.46 251 *e*P **P** **05 49 48.3 +1.3**
comp=Z,46nm,0.8s
RER LR LR
comp=Z,946nm,21.0s
FX1 Attu Island--F 71.59 26 P **P** **05 49 46.2 -0.8**
comp=Z,131nm,1.0s
FX1 Attu Island--F 71.59 26 P **P** **05 49 46.2 -0.8**
comp=Z,19nm,0.5s,baz=1.3,slow=0.6,SNR=9.4
SBA Scott Base 72.17 172 PFAKE 05 50 00.0 +10
SBA LR LR
comp=Z,2µm,19.0s
ZALV Zalesovo Beam 72.32 334 P **P** **05 49 49.3 -2.1**
ZALV Zalesovo Beam 72.32 334 P **P** **05 49 49.3 -2.1**
ZALV Zalesovo Beam 72.32 334 P **P** **05 49 49.3 -2.1**
comp=Z,14nm,0.6s,baz=134,slow=5.6,SNR=28
ZALV LR LR 06 23 32.0
comp=Z,684nm,20.1s,baz=149,slow=38
MSEY Mahe Island 73.04 268 PFAKE 05 50 10.0 +13
MSEY LR LR
comp=Z,1µm,20.0s
KURBB Kurchatov Arra 73.11 329 P **P** **05 49 54.9 -1.2**
comp=Z,17nm,0.8s,baz=132,slow=5.0,SNR=95
KURK Kurchatov 73.12 329 P **P** **05 49 54.6 -1.6**
comp=Z,183nm,1.2s,SNR=34
KURK Kurchatov 73.12 329 P **P** **05 49 54.9 -1.3**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK MLR MLR
comp=Z,428nm,20.0s
KURK Kurchatov 73.12 329 P **P** **05 49 54.9 -1.3**
comp=Z,3.7nm,1.0s
KURK LR LR
comp=Z,428nm,20.0s
SEY Seymchan 73.28 11 P **P** **05 49 55.6 -1.3**
SEY Seymchan 73.28 11 P **P** **05 49 55.6 -1.3**
SEY Seymchan 73.28 11 P **P** **05 49 55.6 -1.3**
comp=Z,37nm,0.7s,baz=194,slow=3.6,SNR=35
MAW Mawson 73.36 201 LR LR 06 20 34.5
comp=Z,2µm,19.0s,baz=60,slow=34
NVS Novosibirsk 73.61 334 *e*P P 05 49 55.2 -3.8
NVS *e*S **SKiKP** **05 59 22.9 -4.0**
NVS pmax pmax
comp=E,20nm,1.6s
NVS pmax pmax
comp=Z,39nm,1.6s
NVS pmax pmax
comp=N,17nm,1.7s
NVS smax smax
comp=E,48nm,2.3s
NVS smax smax
comp=N,25nm,2.4s
KK31 Karatay Array 73.67 319 *i*P **P** **05 49 57.9 -1.8**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 73.67 319 *e*P **P** **05 49 58.5 -1.2**
KKAR pmax pmax
comp=Z,21nm,1.1s
KKAR Karatay Array 73.67 319 *e*P **P** **05 49 58.5 -1.2**
comp=Z,21nm,1.1s
IDAH Dahanechah 77.30 306 *e*P **P** **05 50 19.4 -1.6**
IKOO Kooshah 77.89 306 *e*P **P** **05 50 23.6 -0.7**
VOSK Vostochnaya 78.18 328 P **P** **05 50 22.8 -2.3**
VOSK pmax pmax
comp=Z,9.0nm,0.7s
IMYA Miami 78.29 310 *e*P **P** **05 50 25.0 -1.3**
BRVK Borovoye 78.72 328 P **P** **05 50 26.9 -1.2**
comp=Z,119nm,1.1s,SNR=13
BRVK Borovoye 78.72 328 *e*P **P** **05 50 26.9 -1.2**
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 78.72 328 *e*P **P** **05 50 26.8 -1.3**
comp=Z,17nm,0.9s
BRVK LR LR
comp=Z,745nm,20.0s
ISRO Mashad 78.76 310 *e*P **P** **05 50 27.2 -1.7**
IMOG Moghan 78.79 309 *e*P **P** **05 50 28.1 -1.2**
TBI Tubuai 79.03 112 *e*S **S** **06 00 29.8 +2.0**
comp=Z,504nm,30.0s
TBI *e*SS **SS** **06 05 35.1 +1.2**
comp=Z,420nm,30.2s
TBI *e*LQ LQ 06 11 44.2
comp=Z,1µm,35.2s
TBI *e*LR LR 06 15 08.9
comp=Z,2µm,24.0s
IPAY Payeh 79.17 310 *e*P P 05 50 26.9 -4.3
PPT2 Papeete2 79.41 106 *e*S **S** **06 00 29.0 -3.2**
comp=Z,588nm,26.2s
PPT2 *e*SS **SS** **06 05 38.1 -1.9**
comp=Z,765nm,26.2s
PPT2 *e*LQ LQ 06 11 58.5
comp=Z,2µm,34.8s
PPT2 *e*LR LR 06 15 18.9
comp=Z,2µm,23.5s
PPT Papeete 79.42 106 LR LR 06 21 58.5
comp=Z,567nm,21.9s,baz=264,slow=33
ABPO Ambohimpanom 79.58 252 PFAKE 05 50 50.0 +16
ABPO LR LR
comp=Z,620nm,22.0s
IKRD Kardeh 79.64 310 *e*P P 05 50 28.5 -5.3
OPO Ambohidratompo 79.66 253 P **P** **05 50 34.0 -0.2**
OPO Ambohidratompo 79.66 253 P **P** **05 50 34.0 -0.2**
comp=Z,6.4nm,0.9s,baz=86,slow=18
TIXI Tiksi 79.80 360⇑ *i*P **P** **05 50 32.7 -0.9**
TIXI pmax pmax
comp=Z,31nm,1.3s
TIXI Tiksi 79.80 360 *e*P **P** **05 50 32.5 -1.1**
comp=Z,29nm,1.0s
TIXI LR LR
comp=Z,2µm,21.0s
BILL Bilibino 80.62 13⇑ *i*P **P** **05 50 36.8 -1.3**
BILL *e* 05 53 37.1
BILL pmax pmax
comp=Z,13nm,1.1s
BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 80.62 13 *e*P **P** **05 50 37.8 -0.3**
comp=Z,11nm,1.0s
BILL LR LR
comp=Z,644nm,20.0s
QSPA South Pole Qui 81.66 180 P **P** **05 50 44.2 +0.3**
comp=Z,20nm,1.1s
QSPA South Pole Qui 81.66 180 P **P** **05 50 44.2 +0.3**
comp=Z,17nm,1.1s,baz=103,slow=0.5,SNR=17
QSPA LR LR 06 27 37.5
comp=Z,1µm,18.5s,baz=348,slow=36
ISRV Sarvestan 81.92 301 *e*P **P** **05 50 44.7 -1.5**
SYO Syowa Base 82.07 201⇑ *e*P **P** **05 50 45.9 +0.1**
SYO Syowa Base 82.07 201⇑ *es*P sP 05 50 57.0 -2.6
IPAR Pars 82.08 302 *e*P P 05 50 43.3 -3.8
UNV Unalaska Valle 82.15 33 *e*P **P** **05 50 47.0 +0.5**
comp=Z,74nm,1.1s
comp=Z,656nm,19.0s
CSS Prodhromos 99.33 304 PFAKE 05 52 20.0 +12
CSS LR LR
comp=Z,194nm,20.0s
BRTR Keskin Array B 99.36 309 P **Pdif** **05 52 08.5 -0.1**
BRTR Keskin Array B 99.36 309 P **Pdif** **05 52 08.5 -0.1**
comp=Z,1.1nm,0.9s,baz=46,slow=4.2,SNR=3.4
BRTR LR LR 06 44 23.5
comp=Z,259nm,21.2s,baz=106,slow=40
ANTO Ankara 100.02 309 PFAKE 05 52 20.0 +8.6
ANTO LR LR
comp=Z,383nm,22.0s
INK Inuvik 100.45 22 *e*Pdif **Pdif** **05 52 10.9 -1.7**
comp=Z,15nm,1.2s
SUR Sutherland 100.64 235 PFAKE 05 52 30.0 +15
SUR LR LR
comp=Z,1µm,19.0s
WRAK Wrangell Islan 101.68 34 PFAKE 05 52 30.0 +12
WRAK LR LR
comp=Z,797nm,21.0s
KEV Kevo 101.91 340 PFAKE 05 52 30.0 +11
KEV LR LR
comp=Z,1µm,20.0s
ARCES ARCESS Array B 102.46 339 P **Pdif** **05 52 20.4 -1.0**
ARCES PKiKP **PKiKP** **05 56 43.9 +1.1**
ARCES ARCESS Array B 102.46 339 P **Pdif** **05 52 20.4 -1.0**
comp=Z,3.1nm,0.9s,baz=80,slow=6.5,SNR=3.9
ARCES PKiKP **PKiKP** **05 56 43.9 +1.1**
comp=Z,1.6nm,0.8s,baz=96,slow=2.4,SNR=8.1
KIEV Kiev 102.58 320 PFAKE 05 52 30.0 +7.6
KIEV LR LR
comp=Z,588nm,21.0s
KBS Kingsbay 103.18 350 PFAKE 05 52 40.0 +15
KBS LR LR
comp=Z,1µm,22.0s
FINES FINESS Array B 103.43 331 Pdif **Pdif** **05 52 26.1 +0.2**
FINES PKiKP **PKiKP** **05 56 46.5 +1.8**
FINES FINESS Array B 103.43 331 Pdiff **Pdif** **05 52 26.1 +0.2**
comp=Z,1.6nm,0.9s,baz=45,slow=3.0,SNR=4.1
FINES PKiKP **PKiKP** **05 56 46.5 +1.8**
comp=Z,1.5nm,0.6s,baz=88,slow=2.2,SNR=6.5
PMSA Palmer Station 106.45 174 PFAKE 05 57 00.0
PMSA LR LR
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 106.83 319 PFAKE 05 57 00.0
KWP LR LR
comp=Z,840nm,20.0s
TSUM Tsumeb 107.11 247 PFAKE 05 57 00.0
TSUM LR LR
comp=Z,797nm,20.0s
KOLS Kolonicke sedl 107.20 319 *e*P **Pdif** **05 52 43.7 +0.6**
KOLS Kolonicke sedl 107.20 319 PDIF **Pdif** **05 52 43.7 +0.6**
CRVS Cervenica-Dubn 107.74 319 *e*P **Pdif** **05 52 44.4 -1.0**
CRVS Cervenica-Dubn 107.74 319 PDIF **Pdif** **05 52 44.4 -1.0**
PSZ Piszkesteto 108.91 318 PFAKE 05 57 10.0
PSZ LR LR
comp=Z,538nm,21.0s
YKA Yellowknife Ar 109.37 26 Pdif **Pdif** **05 52 52.1 -0.2**
YKA PKiKP **PKiKP** **05 56 55.6 -0.1**
YKA Yellowknife Ar 109.37 26 Pdiff **Pdif** **05 52 52.1 -0.2**
comp=Z,0.9nm,0.7s,baz=290,slow=4.6,SNR=16
YKA PKiKP **PKiKP** **05 56 55.6 -0.1**
comp=Z,0.7nm,0.7s,baz=289,slow=1.9,SNR=17
OKC Ostrava-Krasne 109.72 320 *e*PS PS 06 07 05.2 +7.9
OKC AMS AMS 06 50 10.0
comp=Z,400nm,19.6s
NB2 NORSAR Subarra110.49 333 PKPdf **PKiKP** **05 56 58.8 +0.9**
comp=Z,5.5nm,1.4s,baz=68,slow=1.9
NB2 NORSAR Subarra110.49 333 PKPdf **PKiKP** **05 56 58.8 +0.9**
baz=68,slow=1.9
NOA NORSAR Array B110.49 333 PKiKP **PKiKP** **05 56 59.2 +1.3**
NOA NORSAR Array B110.49 333 PKiKP **PKiKP** **05 56 59.2 +1.3**
comp=Z,1.0nm,0.7s,baz=230,slow=2.5,SNR=4.0
KRLC Kraliky 110.54 320 *e*PKP **PKiKP** **05 56 59.8 +1.5**
HAWA Hanford 110.77 44 PFAKE 05 57 10.0
HAWA LR LR
comp=Z,430nm,20.0s
DPC Dobruska-Polom 110.77 321 *e*PKP **PKiKP** **05 56 58.9 +0.1**
DPC *ex* x 05 57 09.1
DPC *ex* x 06 07 16.3
DPC *e*PKKP **PKKPdf** **06 08 15.4 -1.1**
DPC *ex* x 06 13 37.2
DPC AMS AMS 06 54 00.0
KONO Kongsberg 111.74 332 PFAKE 05 57 10.0
KONO LR LR
comp=Z,965nm,22.0s
PRU Pruhonice 111.97 321 *e*PKIKP **PKiKP** **05 56 57.6 -3.4**
PRU *e*PS **PS** **06 07 17.5 -0.7**
PRU *e* 06 08 16.4
PRU MLR MLR
comp=Z,500nm,18.1s
PRU Pruhonice 111.97 321 *e*PKP **PKiKP** **05 56 57.6 -3.4**
PRU *e*PS **PS** **06 07 17.5 -0.7**
PRU *e*PKKP **PKKPdf** **06 08 16.4 +2.2**
PRU *ex* x 06 13 55.6
PRU AMS AMS 06 51 50.0
comp=Z,500nm,18.1s
NEW Newport 112.01 41 PFAKE 05 57 10.0
NEW LR LR
comp=Z,697nm,19.0s
PRA Prague 112.02 321 PKP **PKiKP** **05 56 58.0 -3.1**
PRA PS **PS** **06 07 18.0 -0.6**
WVOR Wild Horse Val 112.06 48 PFAKE 05 57 10.0
WVOR LR LR
comp=Z,680nm,21.0s
TIP Timpagrande 112.42 309 PFAKE 05 57 10.0
TIP LR LR
comp=Z,341nm,21.0s
CLL Collm 112.59 322 *e*PKIKP **PKiKP** **05 57 03.0 +0.9**
CLL *e* 06 03 38.0
CLL MLR MLR
comp=Z,500nm,20.3s
CLL Collm 112.59 322 *e*PKiKP **PKiKP** **05 57 03.0 +0.9**
CLL *e*(PP) 05 58 02.0
CLL *e*SKSac **SKSac** **06 03 38.0 -5.2**
CLL *e* 06 06 12.0
CLL *e*PS **PS** **06 07 25.0 +1.3**
CLL *e*PPS PPS 06 08 20.0
CLL *e* 06 09 35.0
CLL *e*SS SS 06 13 37.0 +9.0
CLL *e*(SSS) 06 18 18.0
CLL *e* 06 22 24.0
CLL Lm MLR 06 54 00.0
comp=N,400nm,19.4s
CLL Lm MLR 06 54 00.0
comp=E,400nm,20.8s
CLL Lm MLR 06 54 00.0
comp=Z,500nm,20.3s
BMO Blue Mountains 112.59 45 PFAKE 05 57 10.0
BMO LR LR
comp=Z,713nm,21.0s
GERES GERESS Array B 112.78 320 PKiKP **PKiKP** **05 57 03.3 +0.6**
GERES GERESS Array B 112.78 320 PKiKP **PKiKP** **05 57 03.3 +0.6**
comp=Z,1.6nm,0.6s,baz=66,slow=1.4,SNR=26
KHC Kasperske Hory 112.79 320 *e*PKIKP **PKiKP** **05 57 02.9 +0.3**
KHC *e* 05 57 12.7
KHC MLR MLR
comp=Z,700nm,19.5s
KHC Kasperske Hory 112.79 320 *e*PKP **PKiKP** **05 57 02.9 +0.3**
KHC *ex* x 05 57 12.7
KHC AMS AMS 06 52 10.0
comp=Z,700nm,19.5s
NVAR Mina Array Bea 112.90 52 PKiKP **PKiKP** **05 57 04.5 +1.1**
NVAR PKKPbc **PKKPbc** **06 07 53.7 +2.1**
NVAR Mina Array Bea 112.90 52 PKiKP **PKiKP** **05 57 04.5 +1.1**
comp=Z,0.8nm,0.7s,baz=271,slow=1.5,SNR=5.6
NVAR PKKPbc **PKKPbc** **06 07 53.7 +2.1**
comp=Z,0.7nm,0.8s,baz=108,slow=4.8,SNR=5.1
CUC Castrocucco 113.03 310 PFAKE 05 57 10.0
CUC LR LR
comp=Z,325nm,22.0s
CEL Celeste 113.22 308 PFAKE 05 57 20.0
CEL LR LR
comp=Z,284nm,20.0s
EDW2 Edwards Air Fo 113.58 56 P **PKiKP** **05 57 05.1 +0.4**
baz=114
SWMT Swartz Lake 114.23 41 *e*PKPdf PKPdf 05 57 05.7 +0.2
WTTA Wattenberg 114.52 318⇓ *i*PKiKP **PKiKP** **05 57 06.7 +0.5**
comp=Z,7.4nm,0.5s
WDD Wield Dalam 114.63 306 PFAKE 05 57 20.0 +14
WDD LR LR
comp=Z,454nm,21.0s
SLMT Seeley Lake 114.63 42 *e*PKPdf PKPdf 05 57 06.4 0.0
MOTA Moosalm 114.84 319⇑ *i*PKiKP **PKiKP** **05 57 06.5 -0.2**
IANJ Anjilo 82.82 307 *e*P **P** **05 50 51.3 +0.6**
AB31 Akbulak array 82.92 322 *i*P **P** **05 50 49.0 -1.6**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 82.92 322 *e*P **P** **05 50 48.8 -1.8**
comp=Z,4.1nm,0.5s
ABKAR Akbulak array 82.92 322⇓ P **P** **05 50 49.2 -1.4**
baz=83
IKLH Kolahrood 84.14 305 *e*P **P** **05 50 56.6 -1.0**
AKTO Aktyubinsk 84.50 323 P **P** **05 50 55.9 -2.8**
AKTO pmax pmax
comp=Z,18nm,1.3s
GAMB Gambell 84.52 23 *e*P **P** **05 50 58.2 -0.2**
comp=Z,95nm,1.1s
IPIR Pirpir 84.56 304 *e*P **P** **05 51 00.4 +0.6**
SVE Sverdlovsk 85.38 329 *e*P **P** **05 51 02.3 -0.6**
SDPT Sand Point 85.97 33 *e*P **P** **05 51 05.3 -0.6**
comp=Z,113nm,0.7s
ARU Arti 86.29 328 *d i*P **P** **05 51 06.2 -1.3**
ARU 05 54 28.4
ARU S **SKSac** **06 01 29.5 -1.8**
ARU SS **SS** **06 07 21.5 +1.0**
ARU pmax pmax
comp=Z,22nm,1.7s
ARU Arti 86.29 328 *e*P **P** **05 51 05.5 -2.0**
comp=Z,27nm,1.1s
ARU *e*PP **PP** **05 54 29.5 +0.7**
ARU LR LR
comp=Z,502nm,20.0s
TNA Tin City 86.81 22 *e*P **P** **05 51 08.6 -1.2**
comp=Z,13nm,0.8s
RAYN Ar Rayn 87.36 294 *e*P **P** **05 51 12.7 -0.8**
comp=Z,33nm,1.0s
MAK Makhachkala 89.43 313 P **P** **05 51 20.0 -2.8**
MAK *e* 05 55 00.1
MAK *e*S **SKSac** **06 01 48.0 -2.8**
OHAK Old Harbor 90.36 32 *e*P **P** **05 51 23.7 -3.1**
comp=Z,72nm,1.3s
KDAK Kodiak Island 90.86 32 PFAKE 05 51 40.0 +11
KDAK LR LR
comp=Z,995nm,19.0s
GNI Garni 90.93 310 PFAKE 05 51 40.0 +10
GNI LR LR
comp=Z,380nm,20.0s
RSO Redoubt South 91.44 29 *e*P **P** **05 51 34.6 +2.5**
comp=Z,21nm,0.7s
KMBO Kilima Mbogo 91.55 269 *e*P **P** **05 51 33.9 +0.2**
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 91.55 269 P **P** **05 51 33.2 -0.5**
comp=Z,12nm,1.0s,baz=59,slow=7.8,SNR=9.4
KMBO LR LR 06 30 11.0
comp=Z,580nm,20.5s,baz=100,slow=34
ZEI Tsey 92.00 313 *e*P **P** **05 51 34.0 -1.1**
ZEI pmax pmax
comp=Z,15nm,1.3s
RKT Rikitea 92.28 114 *e*S **S** **06 02 36.3 -1.7**
comp=Z,262nm,27.5s
RKT Rikitea 92.28 114 *e*LQ LQ 06 17 22.6
comp=Z,542nm,33.2s
RKT *e*LR LR 06 21 17.0
comp=Z,1µm,23.2s
PPLA Purkeypile 92.29 27 *e*P **P** **05 51 34.7 -1.1**
comp=Z,46nm,1.1s
IM04 Indian Mountai 92.39 24 *e*P **P** **05 51 34.4 -1.7**
IM04 *e*PP PP 05 55 06.7 -10
KBZ Khabaz 92.87 314 P **P** **05 51 37.9 -0.9**
KBZ Khabaz 92.87 314 P **P** **05 51 37.9 -0.9**
KBZ Khabaz 92.87 314 P **P** **05 51 37.9 -0.9**
comp=Z,4.2nm,0.9s,baz=163,slow=0.9,SNR=4.1
KBZ LR LR 06 42 25.7
comp=Z,368nm,19.4s,baz=101,slow=41
SEW Seward 92.96 30 *e*P **P** **05 51 37.9 -0.9**
comp=Z,33nm,1.2s
KTH Kantishna Hill 93.00 26 *e*P **P** **05 51 37.5 -1.5**
comp=Z,61nm,1.1s
RC01 Rabbit Creek A 93.02 29 *e*P **P** **05 51 37.2 -1.9**
comp=Z,42nm,1.2s
KIV Kislovodsk 93.06 314 *e*P P 05 51 34.9 -4.9
KIV *e* 06 02 05.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 93.06 314 PFAKE 05 51 50.0 +10
KIV LR LR
comp=Z,575nm,22.0s
TRF Thorofare Moun 93.25 26 *e*P **P** **05 51 38.7 -1.7**
comp=Z,28nm,1.1s
PMR Palmer 93.41 28 *e*P **P** **05 51 39.2 -1.6**
PMR pmax pmax
comp=Z,40nm,1.3s
PMR Palmer 93.41 28 *e*P **P** **05 51 39.2 -1.6**
comp=Z,40nm,1.3s
MCK McKinley 93.90 26 *e*P **P** **05 51 41.3 -1.8**
MCK pmax pmax
comp=Z,81nm,1.2s
MCK McKinley 93.90 26 *e*P **P** **05 51 41.3 -1.8**
comp=Z,81nm,1.2s
COLD Coldfoot 94.07 23 *e*P **P** **05 51 42.7 -1.0**
comp=Z,34nm,1.1s
SNAA Sanae 94.15 194 P **P** **05 51 45.9 +1.6**
SNAA Sanae 94.15 194 *e*P **P** **05 51 44.4 +0.1**
comp=Z,12nm,0.9s
COLA College 94.57 25 *e*P **P** **05 51 44.6 -1.5**
COLA pmax pmax
comp=Z,93nm,1.3s
COLA College 94.57 25 *e*P **P** **05 51 44.7 -1.5**
comp=Z,27nm,1.1s
COLA LR LR
comp=Z,503nm,20.0s
VRHR Novokhopersk 94.75 321 *e*P **P** **05 51 49.8 +2.6**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,1.0s
DIV Divide 94.93 29 *e*P **P** **05 51 47.7 -0.3**
comp=E,83nm,1.1s
ILAR Eielson Array 94.96 25 P **P** **05 51 45.6 -2.3**
ILAR PKKPbc **PKKPbc** **06 08 47.4 +1.2**
ILAR Eielson Array 94.96 25 P **P** **05 51 45.6 -2.3**
comp=E,26nm,1.1s,baz=271,slow=3.5,SNR=60
ILAR PKKPbc **PKKPbc** **06 08 47.4 +1.2**
comp=E,0.3nm,0.7s,baz=16,slow=2.8,SNR=4.7
ILAR LR LR 06 30 34.1
comp=E,196nm,20.5s,baz=268,slow=33
BMRM Bremner River 95.47 29 *e*P **P** **05 51 50.0 -0.4**
comp=E,26nm,0.9s
VNA2 Neumayer--Watz 95.72 193 P **P** **05 51 53.1 +1.7**
MENT Mentasta 96.11 27 *e*P **P** **05 51 52.4 -0.8**
VORD Divnogorie 96.20 321 *e*P **P** **05 51 54.1 +0.3**
VORD pmax pmax
comp=Z,9.0nm,1.5s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 96.31 321 *e*P **P** **05 51 54.6 +0.3**
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR pmax pmax
comp=E,8.0nm,0.9s
EGAK Eagle 97.40 26 *e*P **P** **05 51 57.9 -1.1**
comp=E,30nm,1.1s
EGAK LR LR
comp=Z,495nm,19.0s
BOSA Boshof 97.93 240 P Pdif 05 52 02.7 +0.2
BOSA Boshof 97.93 240 P Pdif 05 52 02.7 +0.2
comp=Z,2.7nm,0.9s,baz=107,slow=4.1,SNR=4.1
BOSA LR LR 06 34 06.6
comp=Z,370nm,18.6s,baz=118,slow=34
LSZ Lusaka 98.12 253 *e*P Pdif 05 52 05.2 +1.7
comp=Z,4.6nm,0.8s
LSZ LR LR
comp=Z,850nm,22.0s
DAWY Dawson 98.13 26 *e*P **P** **05 52 01.4 -1.0**
OBN Obninsk 98.14 325 *e*P **P** **05 52 02.5 0.0**
OBN *i* PS PS 06 04 45.5 -10
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN Obninsk 98.14 325 PFAKE 05 52 10.0 +7.5
OBN LR LR
comp=Z,604nm,22.0s
LVZ Lovozero 99.29 338 PFAKE 05 52 20.0 +13
LVZ LR LR

comp=Z,4.4nm,0.6s
HLID Hailey 114.89 46 PFAKE 05 57 20.0 +13
HLID LR LR
comp=Z,562nm,20.0s
HLID Hailey 114.89 46 P PKPdf 05 57 07.4 +0.4
baz=115
PFO Pinyon Flat Ob 114.99 57 PFAKE 05 57 20.0 +13
PFO LR LR
comp=Z,1μm,21.0s
DAVA Damuels 115.66 319 ⇓iPKiKP **PKPdf 05 57 08.7 +0.3**
comp=Z,8.1nm,0.7s
DAVOX Davos/Dischmat 115.80 318 PKP **PKPdf 05 57 09.5 +0.8**
DAVOX Davos/Dischmat 115.80 318 PKP **PKPdf 05 57 09.5 +0.8**
comp=Z,3.6nm,0.6s,baz=252,slow=7.8,SNR=10
VLC Villacollemand 116.15 315 PFAKE 05 57 20.0 +11
VLC LR LR
comp=Z,713nm,22.0s
TUE Stuetta 116.24 318 *e*PKPdf **PKPdf 05 57 09.9 +0.4**
TUE LR LR
comp=Z,688nm,20.0s
BOZ Bozeman (W) 116.30 43 *e*PKIKP **PKPdf 05 57 10.9 +1.3**
BOZ MLR MLR
comp=Z,682nm,19.0s
BOZ Bozeman (W) 116.30 43 *e*PKPdf **PKPdf 05 57 10.9 +1.3**
BOZ LR LR
comp=Z,682nm,19.0s
BFO Black Forest 116.35 320 PFAKE 05 57 20.0 +11
BFO LR LR
comp=Z,456nm,20.0s
DUG Dugway 116.78 49 PFAKE 05 57 20.0 +9.3
DUG LR LR
comp=Z,668nm,19.0s
DUG Dugway 116.78 49 P **PKPdf 05 57 10.2 -0.5**
baz=117
EGMT Eagleton 116.83 40 *e*Pdif **Pdif 05 53 22.8 -3.2**
EGMT LR LR
comp=Z,769nm,20.0s
W13A Hualapai Mount 116.89 55 P **PKPdf 05 57 11.7 +0.5**
baz=117
HWUT Hardware Ranch 117.39 47 PFAKE 05 57 20.0 +8.1
HWUT LR LR
comp=Z,1μm,21.0s
AHID Auburn Hatcher 117.43 46 PFAKE 05 57 20.0 +8.0
AHID LR LR
comp=Z,806nm,20.0s
HINF Hinteralfeld 117.45 320 *e*PKIKP **PKPdf 05 57 10.4 -1.2**
comp=Z,9.8nm,0.7s
HINF Hinteralfeld 117.45 320 *e*PKIKP **PKPdf 05 57 10.4 -1.2**
HINF Hinteralfeld 117.45 320 *e*PKPdf **PKPdf 05 57 10.4 -1.2**
B20A Solberg Farm, 117.78 39 P **PKPdf 05 57 12.1 -0.2**
baz=118
E19A Rath Farm, Rou 117.95 41 P **PKPdf 05 57 13.3 +0.6**
baz=118
VSL Villasalto 118.00 310 PFAKE 05 57 20.0 +7.1
VSL LR LR
comp=Z,313nm,20.0s
DOU Dourbes 118.03 323 PKP **PKPdf 05 57 14.4 +1.8**
SNF Seneffe 118.06 323 PKP **PKPdf 05 57 13.5 +0.8**
LPG La Plagne 118.26 318 *e*PKIKP **PKPdf 05 57 12.9 -0.7**
comp=Z,8.9nm,0.8s
LPG La Plagne 118.26 318 *e*PKIKP **PKPdf 05 57 12.9 -0.7**
LPG La Plagne 118.26 318 *e*PKPdf **PKPdf 05 57 12.9 -0.7**
LPL La Plagne 118.27 318 *e*PKIKP **PKPdf 05 57 12.8 -0.7**
comp=Z,6.9nm,0.7s
LPL La Plagne 118.27 318 *e*PKIKP **PKPdf 05 57 12.8 -0.7**
LPL La Plagne 118.27 318 *e*PKPdf **PKPdf 05 57 12.8 -0.7**
CABF La Chapelle 118.34 319 *e*PKIKP **PKPdf 05 57 13.8 +0.4**
comp=Z,19nm,0.7s
CABF La Chapelle 118.34 319 *e*PKIKP **PKPdf 05 57 13.8 +0.4**
CABF La Chapelle 118.34 319 *e*PKPdf **PKPdf 05 57 13.8 +0.4**
H19A Powell 118.37 43 P **PKPdf 05 57 13.6 0.0**
baz=118
BNI Bardonecchia 118.45 317 PFAKE 05 57 30.0 +16
BNI LR LR
comp=Z,924nm,19.0s
MBDF Montbardon 118.48 317 *e*PKIKP **PKPdf 05 57 14.2 +0.3**
comp=Z,9.7nm,0.8s
MBDF Montbardon 118.48 317 *e*PKIKP **PKPdf 05 57 14.2 +0.3**
MBDF Montbardon 118.48 317 *e*PKPdf **PKPdf 05 57 14.2 +0.3**
BW06 Boulder Array 118.53 46 PFAKE 05 57 30.0 +16
BW06 LR LR
comp=Z,539nm,19.0s
PDAR Pinedale Array 118.53 46 PKP **PKPdf 05 57 14.1 -0.1**
PDAR Pinedale Array 118.53 46 PKP **PKPdf 05 57 14.1 -0.1**
comp=Z,1.8nm,0.7s,baz=209,slow=1.9,SNR=10
FFC Flin Flon 118.60 31 PFAKE 05 57 20.0 +6.4
FFC LR LR
comp=Z,802nm,21.0s
G20A Bridger 118.72 43 P **PKPdf 05 57 14.3 +0.1**
baz=119
J19A Crowheart 118.74 45 P **PKPdf 05 57 14.6 +0.2**
baz=119
SRU San Rafael 118.75 50 *e*PKIKP **PKPdf 05 57 14.6 0.0**
SRU San Rafael 118.75 50 *e*PKPdf **PKPdf 05 57 14.6 0.0**
KEST Kesra 118.80 306 PKP **PKPdf 05 57 15.8 +1.1**
KEST Kesra 118.80 306 PKP **PKPdf 05 57 15.8 +1.1**
comp=Z,2.0nm,0.9s,baz=81,slow=3.3,SNR=5.2
WUAZ Wupatki 118.84 54 PKPdf **PKPdf 05 57 17.9 +3.0**
WUAZ LR LR
comp=Z,877nm,21.0s
WUAZ Wupatki 118.84 54 P **PKPdf 05 57 15.5 +0.6**
baz=119
X16A Lo Mia Camp, P 118.99 55 P **PKPdf 05 57 15.9 +0.7**
baz=119
ORIF Oris-en-Rattie 119.03 317 *e*PKIKP **PKPdf 05 57 14.9 +0.1**
comp=Z,9.0nm,0.6s
ORIF Oris-en-Rattie 119.03 317 *e*PKIKP **PKPdf 05 57 14.9 +0.1**
ORIF Oris-en-Rattie 119.03 317 *e*PKPdf **PKPdf 05 57 14.9 +0.1**
I20A Worland 119.18 44 P **PKPdf 05 57 15.7 +0.5**
baz=119
J20A Shoshoni 119.39 45 P **PKPdf 05 57 16.1 +0.5**
baz=119
SMRF Simiane la Rot 119.53 316 *e*PKIKP **PKPdf 05 57 14.6 -1.1**
comp=Z,10nm,0.8s
SMRF Simiane la Rot 119.53 316 *e*PKPdf **PKPdf 05 57 14.6 -1.1**
LAO LASA Array 119.54 41 *e*PKPdf **PKPdf 05 57 11.8 -3.9**
LAO LR LR
comp=Z,680nm,21.0s
LOR Lormes 119.54 320 *e*PKIKP **PKPdf 05 57 14.4 -1.2**
LOR Lormes 119.54 320 *e*PKPdf **PKPdf 05 57 14.4 -1.2**
C23A Lambert 119.78 39 P **PKPdf 05 57 16.3 +0.2**
baz=120
I21A Big Trails, Te 119.80 44 P **PKPdf 05 57 16.2 -0.3**
baz=120
SSB Saint Sauveur 119.80 318 PFAKE 05 57 30.0 +14
SSB LR LR
comp=Z,328nm,20.0s
EKA Eskdalemuir Ar 119.83 331 PKP **PKPdf 05 57 15.9 0.0**
EKA Eskdalemuir Ar 119.83 331 PKP **PKPdf 05 57 15.9 0.0**
comp=Z,0.7nm,0.4s,baz=33,slow=3.6,SNR=14
SSF Saint Saulge 119.84 320 *e*PKIKP **PKPdf 05 57 15.2 -1.0**
comp=Z,7.2nm,0.6s
SSF Saint Saulge 119.84 320 *e*PKIKP **PKPdf 05 57 15.2 -1.0**
SSF Saint Saulge 119.84 320 *e*PKPdf **PKPdf 05 57 15.2 -1.0**
VIVF Saint-Julien-l 119.86 317 *e*PKIKP **PKPdf 05 57 16.5 +0.2**
comp=Z,6.7nm,0.7s
VIVF Saint-Julien-l 119.86 317 *e*PKIKP **PKPdf 05 57 16.5 +0.2**
VIVF Saint-Julien-l 119.86 317 *e*PKPdf **PKPdf 05 57 16.5 +0.2**
TUC Tucson 119.89 58 *e*PKIKP **PKPdf 05 57 15.7 -1.1**
TUC MLR MLR
comp=Z,857nm,20.0s
TUC Tucson 119.89 58 *e*PKPdf **PKPdf 05 57 15.7 -1.1**
TUC LR LR
comp=Z,857nm,20.0s
N20A Spence Gulch, 119.99 47 P **PKPdf 05 57 17.3 +0.3**
baz=120
D23A Lindsay 120.01 40 P **PKPdf 05 57 16.5 -0.1**
baz=120
AVF Avril sur Loir 120.04 320 *e*PKIKP **PKPdf 05 57 16.4 -0.2**
comp=Z,4.3nm,0.5s
AVF Avril sur Loir 120.04 320 *e*PKIKP **PKPdf 05 57 16.4 -0.2**
AVF Avril sur Loir 120.04 320 *e*PKPdf **PKPdf 05 57 16.4 -0.2**
A24A Westby 120.07 37 P **PKPdf 05 57 17.0 +0.3**
baz=120
DGMT Dagmar 120.13 38 PFAKE 05 57 30.0 +13
DGMT LR LR
comp=Z,860nm,19.0s
DGMT Dagmar 120.13 38 P **PKPdf 05 57 16.9 +0.2**
baz=120
H22A Clearmont 120.18 43 P **PKPdf 05 57 17.7 +0.6**
baz=120
K21A Alcova 120.19 45 P **PKPdf 05 57 17.4 +0.1**
baz=120
O20A White River Ci 120.20 48 *e*PKPdf **PKPdf 05 57 15.6 -1.7**
O20A White River Ci 120.20 48 P **PKPdf 05 57 17.5 +0.1**
baz=120
C24A Savage 120.36 39 P **PKPdf 05 57 17.6 +0.4**
baz=120
F23A Volborg 120.42 41 P **PKPdf 05 57 17.5 0.0**
baz=120
BGF Bois d'Agland 120.45 320 *e*PKIKP **PKPdf 05 57 17.8 +0.4**
comp=Z,20nm,0.7s
BGF Bois d'Agland 120.45 320 *e*PKIKP **PKPdf 05 57 17.8 +0.4**
BGF Bois d'Agland 120.45 320 *e*PKPdf **PKPdf 05 57 17.8 +0.4**
PV01 Paradox Valley 120.47 51 *e*PKPdf **PKPdf 05 57 17.7 -0.3**
J22A Midwest 120.48 44 P **PKPdf 05 57 17.5 -0.2**
baz=120
K22A Casper 120.70 45 P **PKPdf 05 57 18.4 +0.1**
baz=121
MVCO Mesa Verde 120.75 52 PFAKE 05 57 30.0 +11
MVCO LR LR
comp=Z,870nm,19.0s
TCF Toulx Ste Croi 120.96 320 *e*PKIKP **PKPdf 05 57 17.3 -1.1**
comp=Z,8.8nm,0.8s
TCF Toulx Ste Croi 120.96 320 *e*PKIKP **PKPdf 05 57 17.3 -1.1**
TCF Toulx Ste Croi 120.96 320 *e*PKPdf **PKPdf 05 57 17.3 -1.1**
A26A Wade Farm, Ken 121.25 37 P **PKPdf 05 57 19.3 +0.4**
baz=121
319A Douglas 121.31 58 P **PKPdf 05 57 19.6 -0.1**
baz=121
H24A Dirks Ranch, A 121.33 42 P **PKPdf 05 57 18.8 -0.5**
baz=121
CAF Calviac 121.57 318 *e*PKIKP **PKPdf 05 57 20.3 +0.7**
comp=Z,7.6nm,0.7s
CAF Calviac 121.57 318 *e*PKIKP **PKPdf 05 57 20.3 +0.7**
CAF Calviac 121.57 318 *e*PKPdf **PKPdf 05 57 20.3 +0.7**
I24A Kuemmerle Ranc 121.60 43 P **PKPdf 05 57 19.8 0.0**
baz=122
F25A Bowman 121.60 41 P **PKPdf 05 57 20.1 +0.4**
baz=122
N23A Red Feather La 121.66 47 P **PKPdf 05 57 20.3 0.0**
baz=122
C26A Wahner Farm, P 121.68 38 P **PKPdf 05 57 20.4 +0.7**
baz=122
S22A 4UR Ranch, Cre 121.90 51 P **PKPdf 05 57 21.3 +0.5**
baz=122
RSSD Black Hills 121.90 43 *e*PKIKP **PKPdf 05 57 19.5 -1.1**
RSSD Black Hills 121.90 43 *e*PKPdf **PKPdf 05 57 19.4 -1.1**
E26A Carlson Angus 122.02 40 P **PKPdf 05 57 20.6 +0.1**
baz=122
MTLF Montolieu 122.04 316 *e*PKIKP **PKPdf 05 57 20.1 -0.4**
comp=Z,8.3nm,0.8s
MTLF Montolieu 122.04 316 *e*PKIKP **PKPdf 05 57 20.1 -0.4**
MTLF Montolieu 122.04 316 *e*PKPdf **PKPdf 05 57 20.1 -0.4**
C27A Sayler Ranch, 122.09 38 P **PKPdf 05 57 20.7 +0.1**
baz=122
I25A Rochford 122.14 43 P **PKPdf 05 57 20.8 -0.2**
baz=122
ISCO Idaho Springs 122.23 48 PFAKE 05 57 30.0 +8.6
ISCO LR LR
comp=Z,754nm,20.0s
ISCO Idaho Springs 122.23 48 P **PKPdf 05 57 22.0 +0.6**
baz=122
A28A Rude Farm, Bot 122.29 36 P **PKPdf 05 57 20.6 -0.4**
baz=122
V22A San Miguel Ran 122.30 53 P **PKPdf 05 57 21.6 0.0**
baz=122
J25A Sunshine Ranch 122.32 43 P **PKPdf 05 57 21.0 -0.2**
baz=122
MFF Saint Martin d 122.33 321 *e*PKIKP **PKPdf 05 57 21.1 +0.1**
comp=Z,18nm,0.8s
MFF Saint Martin d 122.33 321 *e*PKIKP **PKPdf 05 57 21.1 +0.1**
MFF Saint Martin d 122.33 321 *e*PKPdf **PKPdf 05 57 21.1 +0.1**
121A Cookes Peak, D 122.35 57 *e*PKPdf **PKPdf 05 57 22.3 +0.6**
121A Cookes Peak, D 122.35 57 P **PKPdf 05 57 22.3 +0.6**
baz=122
LFF La Frestale 122.43 319 *e*PKIKP **PKPdf 05 57 21.3 +0.1**
comp=Z,8.2nm,0.7s
LFF La Frestale 122.43 319 *e*PKIKP **PKPdf 05 57 21.3 +0.1**
LFF La Frestale 122.43 319 *e*PKPdf **PKPdf 05 57 21.3 +0.1**
B28A Dugan Ranch, T 122.45 37 P **PKPdf 05 57 21.3 +0.1**
baz=122
LAZ Ladron 122.48 54 *e*PKPdf **PKPdf 05 57 19.5 -2.4**
R23A Moffat 122.54 50 P **PKPdf 05 57 23.0 +1.0**
baz=122
F27A Lemmon 122.54 40 P **PKPdf 05 57 21.3 -0.2**
baz=122
E27A Carson 122.60 39 P **PKPdf 05 57 21.9 +0.3**
baz=122
U23A El Rito 122.76 52 P **PKPdf 05 57 22.7 +0.3**
baz=123
G27A Dupree 122.80 41 P **PKPdf 05 57 21.8 -0.2**
baz=123
Q24A Divide 122.82 49 P **PKPdf 05 57 21.9 -0.7**
baz=123
J26A Sides Ranch, S 122.85 43 P **PKPdf 05 57 22.4 +0.2**
baz=123
Z22A Elephant Butte 122.87 56 P **PKPdf 05 57 22.9 +0.2**
baz=123
D28A Regan 122.89 38 P **PKPdf 05 57 22.2 +0.1**
baz=123
A29A Manning Farm, 122.89 36 P **PKPdf 05 57 22.2 +0.1**
baz=123
ANMO Albuquerque 122.90 54 PFAKE 05 57 30.0 +7.3
ANMO LR LR
comp=Z,907nm,19.0s
SDCO Great Sand Dun 122.91 50 PFAKE 05 57 30.0 +7.2
SDCO LR LR
comp=Z,848nm,19.0s
V23A Ortiz Mt. (NFS 122.92 53 P **PKPdf 05 57 23.7 +0.9**
baz=123
BNM Barren Site 122.95 55 *e*PKPdf **PKPdf 05 57 23.4 +0.5**
K26A Motz Farm, Whi 123.00 44 P **PKPdf 05 57 23.0 +0.4**
baz=123
H27A Howes 123.00 41 P **PKPdf 05 57 22.7 +0.2**
baz=123
B29A Wagenman Farm, 123.03 36 P **PKPdf 05 57 22.4 +0.1**
baz=123
T24B San Luis 123.19 51 P **PKPdf 05 57 23.3 0.0**
baz=123
X23A Hourglass Bar 123.20 54 P **PKPdf 05 57 23.5 +0.2**
baz=123
I27A Quinn 123.24 42 P **PKPdf 05 57 23.0 0.0**
baz=123
FRB Frobisher Bay 123.26 9 PKP **PKPdf 05 57 21.8 -0.4**
FRB Frobisher Bay 123.26 9 PKP **PKPdf 05 57 21.8 -0.4**
comp=Z,9.5nm,0.8s,baz=357,slow=2.4,SNR=11
F28A McLaughlin 123.33 40 P **PKPdf 05 57 22.8 -0.2**
baz=123
P25A Willow Gulch B 123.38 48 P **PKPdf 05 57 23.8 +0.3**
baz=123
A30A Hoffart Farm, 123.42 35 P **PKPdf 05 57 22.6 -0.4**
baz=123
EPF Esparros 123.43 317 *e*PKIKP **PKPdf 05 57 23.5 +0.2**
comp=Z,4.5nm,0.5s
EPF Esparros 123.43 317 *e*PKIKP **PKPdf 05 57 23.5 +0.2**
EPF Esparros 123.43 317 *e*PKPdf **PKPdf 05 57 23.5 +0.2**
Y23A Lovelace Mesa, 123.46 55 P **PKPdf 05 57 24.0 +0.2**
baz=123
G28A Parade 123.58 41 P **PKPdf 05 57 23.4 -0.1**
baz=123
J27A Elkhorn Farm, 123.59 43 P **PKPdf 05 57 24.3 +0.6**
baz=123
B30A Myrvik Farm, E 123.64 36 P **PKPdf 05 57 23.3 -0.2**
baz=124
W24A Lazy 6 Ranch, 123.66 53 P **PKPdf 05 57 23.3 -0.9**
baz=124
H28A Mission Ridge 123.68 41 P **PKPdf 05 57 23.5 -0.2**
baz=124
R25A Fountain Ranch 123.72 49 P **PKPdf 05 57 24.0 -0.1**
baz=124
S25A Robets Cordova 123.75 50 P **PKPdf 05 57 24.3 +0.1**
baz=124
I28A Midland 123.86 42 P **PKPdf 05 57 24.1 +0.1**
baz=124
C30A Mose, Pekin 123.91 37 P **PKPdf 05 57 23.7 -0.3**
baz=124
T25A Trinidad 123.92 51 P **PKPdf 05 57 24.7 0.0**
baz=124
F29A Eureka 123.95 39 P **PKPdf 05 57 24.0 -0.1**
baz=124
Y24A Capitan 123.96 55 P **PKPdf 05 57 25.2 +0.4**
baz=124
P26A Davis Ranch, A 123.97 48 P **PKPdf 05 57 24.4 -0.1**
baz=124
TAM Tamanrasset 123.98 292 *e*PKIKP **PKPdf 05 57 26.3 +1.3**
TAM MLR MLR
comp=Z,592nm,20.0s
TAM Tamanrasset 123.98 292 *e*PKPdf **PKPdf 05 57 26.3 +1.3**
TAM LR LR
comp=Z,592nm,20.0s
D30A Buchanan 124.03 38 P **PKPdf 05 57 24.1 -0.2**
baz=124
J28A Allard Ranch, 124.04 43 P **PKPdf 05 57 24.2 -0.2**
baz=124
Q26A Hugo 124.04 48 P **PKPdf 05 57 25.4 +0.6**
baz=124
ULM Lac du Bonnet 124.09 33 PKP **PKPdf 05 57 23.8 -0.5**
ULM Lac du Bonnet 124.09 33 PKP **PKPdf 05 57 23.8 -0.5**
comp=Z,7.2nm,1.0s,baz=313,slow=3.1,SNR=6.4
V25A Rancho No Teng 124.12 52 P **PKPdf 05 57 25.2 +0.1**
baz=124
N27A Anderson Farm, 124.12 46 P **PKPdf 05 57 26.2 +1.5**
baz=124
U25A Circle Dot Ran 124.13 51 P **PKPdf 05 57 25.3 +0.3**
baz=124
Z24A Sheeppen Canyo 124.16 55 P **PKPdf 05 57 25.9 +0.7**
baz=124
G29A Hoven 124.17 40 P **PKPdf 05 57 25.4 +0.8**
baz=124
E30A Jud 124.21 38 P **PKPdf 05 57 25.1 +0.4**
baz=124
R26A Arlington 124.30 49 P **PKPdf 05 57 25.6 +0.4**
baz=124
O27A Beecher Island 124.38 47 P **PKPdf 05 57 25.5 +0.2**
baz=124
W25A X Bar L Ranch, 124.41 53 P **PKPdf 05 57 25.2 -0.3**
baz=124
I29A Vivian Onida 124.42 42 P **PKPdf 05 57 25.3 +0.2**
baz=124
OGNE Ogallala 124.43 46 PFAKE 05 57 40.0 +15
OGNE LR LR
comp=Z,788nm,19.0s
F30A Leola 124.45 39 P **PKPdf 05 57 25.5 +0.4**
baz=124
S26A Kim 124.49 50 P **PKPdf 05 57 26.1 +0.5**
baz=124
MNTX Cornudas Mount 124.51 57 *e*PKPdf **PKPdf 05 57 26.1 +0.5**
MNTX LR LR
comp=Z,775nm,19.0s
T26A Comanche Natio 124.53 50 P **PKPdf 05 57 26.2 +0.5**
baz=124
Y25A Mesa, Roswell 124.56 54 P **PKPdf 05 57 26.4 +0.5**
baz=124
U26A Atchley Ranch, 124.64 51 P **PKPdf 05 57 25.8 -0.2**
baz=124
J29A Okreek 124.66 42 P **PKPdf 05 57 25.4 -0.2**
baz=124
G30A Faulkton 124.69 40 P **PKPdf 05 57 25.7 +0.1**
baz=124
R27A Eads 124.78 49 P **PKPdf 05 57 26.4 +0.3**
baz=125
N28A Pribbeno Ranch 124.87 46 P **PKPdf 05 57 26.3 +0.1**
baz=125
225A Deer Hill, Car 124.89 57 P **PKPdf 05 57 27.5 +0.9**
baz=125
125A Gardner Draw, 124.90 56 P **PKPdf 05 57 26.5 0.0**
baz=125
K29A Lazy Trails An 124.92 43 P **PKPdf 05 57 26.1 0.0**
baz=125
425A Indio Mountain 125.04 58 P **PKPdf 05 57 26.5 -0.3**
baz=125
L29A Maesberg Ranch 125.09 44 P **PKPdf 05 57 27.1 +0.6**
baz=125
P28A Saint Francis 125.12 47 P **PKPdf 05 57 26.9 +0.2**
baz=125
AGMN Agassiz Nation 125.14 35 PFAKE 05 57 40.0 +14
AGMN LR LR
comp=Z,794nm,20.0s
T27A Campo 125.23 50 P **PKPdf 05 57 27.3 +0.3**
baz=125
Q28A Sharon Springs 125.24 48 P **PKPdf 05 57 27.6 +0.6**
baz=125
J30A Dallas 125.24 42 P **PKPdf 05 57 27.2 +0.5**
baz=125
U27A Thompson Grove 125.34 51 P **PKPdf 05 57 27.7 +0.4**
baz=125
K30A Basset 125.43 43 P **PKPdf 05 57 27.3 +0.1**
baz=125
226B Tecolote Peak, 125.44 56 P **PKPdf 05 57 27.7 +0.2**
baz=125
R28A Tribune 125.50 48 P **PKPdf 05 57 28.1 +0.6**
baz=125
W27A Bowe Ranch, En 125.55 53 P **PKPdf 05 57 28.2 +0.5**
baz=125
L30A Spencer Herefo 125.66 44 P **PKPdf 05 57 28.1 +0.5**
baz=126
T28A Walsh 125.67 50 P **PKPdf 05 57 28.0 +0.2**
baz=126
S28A Manter 125.68 49 P **PKPdf 05 57 28.1 +0.3**
baz=126
Y27A Causey 125.80 54 P **PKPdf 05 57 28.3 +0.1**
baz=126
526A Mary Lane Ranc 125.95 59 P **PKPdf 05 57 28.3 -0.3**
baz=126
V28A Channing 126.01 52 P **PKPdf 05 57 29.3 +0.8**
baz=126
626A Big Bend Ranch 126.02 60 P **PKPdf 05 57 28.6 -0.1**
baz=126
MSTX Muleshoe 126.09 54 *e*PKPdf **PKPdf 05 57 28.6 -0.1**
MSTX Muleshoe 126.09 54 P **PKPdf 05 57 28.4 -0.3**
baz=126
O30A MW Ranch, Wils 126.11 46 P **PKPdf 05 57 28.5 0.0**
baz=126
L31A Butterfield Fa 126.16 43 P **PKPdf 05 57 28.0 -0.5**
baz=126
427A Hayter Ranch, 126.36 58 P **PKPdf 05 57 28.9 -0.5**
baz=126
Q30A Quinter 126.44 47 P **PKPdf 05 57 29.7 +0.5**
baz=126
TXAR Lajitas Array 126.46 60 PKP **PKPdf 05 57 29.1 -0.5**
TXAR Lajitas Array 126.46 60 PKP **PKPdf 05 57 29.1 -0.5**
comp=Z,1.5nm,0.8s,baz=259,slow=1.3,SNR=10
R30A Dighton 126.65 48 P **PKPdf 05 57 29.9 +0.3**
baz=126
627A Terlingua Ranc 126.67 59 P **PKPdf 05 57 29.9 -0.1**
baz=127
P31A Stockton 126.85 46 P **PKPdf 05 57 30.8 +0.8**
baz=127
ECSD EROS Data Cent 126.94 40 PFAKE 05 57 40.0 +10
ECSD LR LR
comp=Z,544nm,21.0s
ECSD EROS Data Cent 126.94 40 P **PKPdf 05 57 29.8 -0.2**
baz=127
BGNE Belgrade 126.95 44 *e*PKPdf **PKPdf 05 57 29.7 -0.3**
U30A WK&E Inc. Balk 126.97 50 P **PKPdf 05 57 30.6 +0.3**
baz=127
428A Kincaid Ranch, 126.98 58 P **PKPdf 05 57 31.1 +0.6**
baz=127
Y29A Porterfield Fa 127.00 54 P **PKPdf 05 57 30.9 +0.5**
baz=127
528A Cox Ranch, San 127.03 58 P **PKPdf 05 57 30.9 +0.3**
baz=127
Z29A Hungry Hill Ra 127.14 54 P **PKPdf 05 57 30.6 -0.2**
baz=127
R31A Burdett 127.20 48 P **PKPdf 05 57 31.0 +0.4**
baz=127
P32A Huiting Farm, 127.36 46 P **PKPdf 05 57 31.3 +0.4**
baz=127
329A Wagon Wheel Ra 127.39 57 P **PKPdf 05 57 31.8 +0.6**
baz=127
X30A Coker Ranch, T 127.46 53 P **PKPdf 05 57 31.9 +0.6**
baz=127
Y30A Stafford Cattl 127.61 53 P **PKPdf 05 57 32.4 +0.8**
baz=128
Q32A Meitler Ranch, 127.64 47 P **PKPdf 05 57 31.6 +0.2**
baz=128
429A Davenport Ranc 127.67 58 P **PKPdf 05 57 32.2 +0.4**
baz=128
ESDC Sonseca Array 127.72 314 PKP **PKPdf 05 57 32.5 +0.8**
ESDC Sonseca Array 127.72 314 PKP **PKPdf 05 57 32.5 +0.8**
comp=Z,1.2nm,0.8s,baz=20,slow=2.5,SNR=5.2
R32A Long Quarter, 127.75 47 P **PKPdf 05 57 32.2 +0.6**
baz=128
EYMN Ely 127.77 34 PFAKE 05 57 40.0 +8.6
EYMN LR LR
comp=Z,638nm,21.0s
V31A Spring Creek L 127.84 51 P **PKPdf 05 57 32.6 +0.6**
baz=128
W31A Holland Ranch, 127.95 52 P **PKPdf 05 57 32.3 +0.1**
baz=128

PLCA	**Paso Flores**	**127.97**	**161**	PKP	**PKPdf**	**05 57 33.4**	**+1.2**
PLCA	**Paso Flores**	**127.97**	**161**	PKP	**PKPdf**	**05 57 33.4**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=199,slow=2.6,SNR=8.3						
PAB	**San Pablo**	**128.04**	**314**	PFAKE		05 57 40.0	+7.7
PAB				LR	LR		
	comp=Z,606nm,19.0s						
TOA0	**Torodi Ar. Sit**	**128.06**	**280**	*e*PKPdf	**PKPdf**	**05 57 32.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**128.06**	**280**	PKP	**PKPdf**	**05 57 33.3**	**+0.5**
TORD				SKPbc	SKiKP	06 00 53.9	-13
TORD	**Torodi Ar. Bea**	**128.06**	**280**	PKP	**PKPdf**	**05 57 33.3**	**+0.5**
	comp=Z,9.4nm,1.0s,baz=44,slow=2.2,SNR=21						
TORD				SKPbc	SKiKP	06 00 53.9	-13
	comp=Z,1.8nm,1.0s,baz=64,slow=3.4,SNR=3.6						
X31A	**McDonald Ranch**	**128.10**	**52**	P	**PKPdf**	**05 57 32.9**	**+0.5**
	baz=128						
430A	**Baggett Ranch,**	**128.18**	**57**	P	**PKPdf**	**05 57 33.0**	**+0.2**
	baz=128						
530A	**J-C Ranch, Com**	**128.25**	**58**	P	**PKPdf**	**05 57 33.3**	**+0.4**
	baz=128						
SPMN	**St. Paul**	**128.55**	**37**	P	**PKPdf**	**05 57 32.8**	**-0.1**
	baz=128						
231A	**Bronte**	**128.63**	**56**	P	**PKPdf**	**05 57 33.8**	**+0.2**
	baz=128						
331A	**San Angelo**	**128.71**	**56**	P	**PKPdf**	**05 57 33.8**	**+0.1**
	baz=129						
Y32A	**R-V Farms, Ver**	**128.72**	**53**	P	**PKPdf**	**05 57 33.7**	**+0.1**
	baz=129						
431A	**Sonora**	**128.73**	**57**	P	**PKPdf**	**05 57 34.0**	**+0.2**
	baz=129						
Z32A	**Haskell**	**128.91**	**54**	P	**PKPdf**	**05 57 34.5**	**+0.4**
	baz=129						
531A	**Rocksprings**	**128.91**	**58**	P	**PKPdf**	**05 57 34.6**	**+0.4**
	baz=129						
KSU1	**Kansas State U**	**128.99**	**46**	PFAKE		05 57 50.0	+16
KSU1				LR	LR		
	comp=Z,959nm,20.0s						
WMOK	**Wichita Mounta**	**129.00**	**52**	PFAKE		05 57 50.0	+16
WMOK				LR	LR		
	comp=Z,1μm,19.0s						
V33A	**Lossen Ranch,**	**129.01**	**50**	P	**PKPdf**	**05 57 34.1**	**-0.1**
	baz=129						
631A	**Perdido Creek**	**129.07**	**59**	P	**PKPdf**	**05 57 34.6**	**+0.1**
	baz=129						
232A	**Coleman**	**129.19**	**55**	P	**PKPdf**	**05 57 34.9**	**+0.3**
	baz=129						
X33A	**Lawton**	**129.29**	**52**	P	**PKPdf**	**05 57 34.6**	**-0.1**
	baz=129						
U34A	**Anderson Ranch**	**129.36**	**49**	P	**PKPdf**	**05 57 35.6**	**+0.8**
	baz=129						
JCT	**Junction City**	**129.45**	**57**	*e*PKIKP	**PKPdf**	**05 57 35.5**	**+0.3**
JCT				MLR	MLR		
	comp=Z,804nm,20.0s						
JCT	**Junction City**	**129.45**	**57**	*e*PKPdf	**PKPdf**	**05 57 35.5**	**+0.3**
JCT				LR	LR		
	comp=Z,804nm,20.0s						
JCT	**Junction City**	**129.45**	**57**	P	**PKPdf**	**05 57 35.4**	**+0.2**
	baz=129						
532A	**Rocksprings**	**129.46**	**58**	P	**PKPdf**	**05 57 35.6**	**+0.4**
	baz=129						
133A	**Hamilton Ranch**	**129.57**	**54**	P	**PKPdf**	**05 57 36.0**	**+0.7**
	baz=129						
632A	**Uvalde**	**129.72**	**58**	P	**PKPdf**	**05 57 36.5**	**+0.8**
	baz=130						
732A	**Laxson Ranch,**	**129.75**	**59**	P	**PKPdf**	**05 57 36.2**	**+0.5**
	baz=130						
233A	**Rising Star**	**129.76**	**55**	P	**PKPdf**	**05 57 36.4**	**+0.7**
	baz=130						
X34A	**Smith Ranch, M**	**129.78**	**52**	P	**PKPdf**	**05 57 35.9**	**+0.2**
	baz=130						
832A	**Faith Ranch, C**	**129.85**	**60**	P	**PKPdf**	**05 57 36.3**	**+0.4**
	baz=130						
MTE	**Manteigas**	**129.89**	**317**	PFAKE		05 57 50.0	+14
MTE				LR	LR		
	comp=Z,350nm,19.0s						
333A	**Richland Sprin**	**129.90**	**56**	P	**PKPdf**	**05 57 36.3**	**+0.4**
	baz=130						
433A	**Art**	**129.97**	**57**	P	**PKPdf**	**05 57 36.1**	**0.0**
	baz=130						
633A	**Saathoff Ranch**	**130.24**	**58**	P	**PKPdf**	**05 57 37.5**	**+0.8**
	baz=130						
134A	**White-Moore Ra**	**130.25**	**54**	P	**PKPdf**	**05 57 37.2**	**+0.7**
	baz=130						
733A	**Divot King Ran**	**130.33**	**59**	P	**PKPdf**	**05 57 37.7**	**+0.8**
	baz=130						
833A	**Chaparral WMA,**	**130.34**	**60**	P	**PKPdf**	**05 57 36.9**	**0.0**
	baz=130						
234A	**Clairette**	**130.38**	**55**	P	**PKPdf**	**05 57 37.5**	**+0.6**
	baz=130						
434A	**Burnet**	**130.63**	**56**	P	**PKPdf**	**05 57 37.8**	**+0.4**
	baz=130						
TUL1	**Tulsa**	**130.86**	**49**	P	**PKPdf**	**05 57 38.4**	**+0.8**
	baz=131						
335A	**Moody**	**131.18**	**55**	P	**PKPdf**	**05 57 39.5**	**+1.1**
	baz=131						
034A	**Hebbronville**	**131.25**	**61**	P	**PKPdf**	**05 57 39.4**	**+0.8**
	baz=131						
JFWS	**Jewell Farm**	**131.35**	**38**	PFAKE		05 57 50.0	+12
JFWS				LR	LR		
	comp=Z,1μm,20.0s						
SCHQ	**Schefferville**	**131.92**	**12**	PKP	**PKPdf**	**05 57 40.0**	**+0.9**
SCHQ				SKPbc	**SKPab**	**06 01 08.0**	**+4.3**
SCHQ	**Schefferville**	**131.92**	**12**	PKP	**PKPdf**	**05 57 40.0**	**+0.9**
	comp=Z,4.8nm,0.8s,baz=272,slow=2.4,SNR=5.3						
SCHQ				SKPbc	**SKPab**	**06 01 08.0**	**+4.3**
	comp=Z,8.9nm,0.9s,baz=6.4,slow=4.2,SNR=4.8						
RTC	**Rabat Centre**	**132.06**	**309**	PFAKE		05 57 50.0	+10
RTC				LR	LR		
	comp=Z,488nm,19.0s						
TRQA	**Tornquist**	**132.74**	**168**	PFAKE		05 57 50.0	+8.8
TRQA				LR	LR		
	comp=Z,684nm,19.0s						
MIAR	**Mount Ida**	**133.07**	**50**	PFAKE		05 57 50.0	+8.2
MIAR				LR	LR		
	comp=Z,1μm,20.0s						
KIC	**Kosan Boka**	**134.08**	**271**	*e*P	**PKPdf**	**05 57 41.0**	**-3.3**
	comp=Z,21nm,1.0s						
DBIC	**Dimbokro**	**134.23**	**271**	*e*PKPdf	**PKPdf**	**05 57 44.8**	**+0.2**
DBIC				PKP	**PKPdf**	**05 57 45.4**	**+0.9**
DBIC				SKPbc	**SKiKP**	**06 01 17.7**	**-2.2**
DBIC	**Dimbokro**	**134.23**	**271**	PKP	**PKPdf**	**05 57 45.4**	**+0.9**
	comp=Z,4.2nm,0.4s,baz=49,slow=8.0,SNR=4.3						
DBIC				SKPbc	**SKiKP**	**06 01 17.7**	**-2.2**
	comp=Z,6.3nm,0.9s,baz=311,slow=15,SNR=3.6						
LIC	**Lamto**	**134.35**	**271**	*e*PKIKP	**PKPdf**	**05 57 44.0**	**-0.8**
	comp=Z,8.6nm,0.5s						
LIC	**Lamto**	**134.35**	**271**	*e*P	**PKPdf**	**05 57 39.9**	**-4.9**
	comp=Z,15nm,0.5s						
LIC	**Lamto**	**134.35**	**271**	*e*PKPdf	**PKPdf**	**05 57 44.0**	**-0.8**
TIC	**Toumodi**	**134.39**	**271**	*e*P	PKPdf	05 57 39.5	-5.4
OLIL	**Olney**	**134.99**	**42**	*e*PKPdf	**PKPdf**	**05 57 45.7**	**+0.4**
AAM	**Ann Arbor**	**135.61**	**35**	PFAKE		05 58 00.0	+14
AAM				LR	LR		
	comp=Z,712nm,21.0s						
BLO	**Bloomington**	**135.78**	**40**	*e*PKIKP	**PKPdf**	**05 57 48.6**	**+1.8**
BLO	**Bloomington**	**135.78**	**40**	*e*PKPdf	**PKPdf**	**05 57 48.5**	**+1.8**
WCI	**Wyandotte Cave**	**136.46**	**41**	*e*PKIKP	**PKPdf**	**05 57 46.1**	**-2.0**
WCI	**Wyandotte Cave**	**136.46**	**41**	*e*PKPdf	**PKPdf**	**05 57 46.1**	**-2.0**
CFAA	**Coronel Fontan**	**137.02**	**158**	PKP	**PKPdf**	**05 57 49.6**	**+0.2**
CFAA	**Coronel Fontan**	**137.02**	**158**	PKP	**PKPdf**	**05 57 49.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=151,slow=3.2,SNR=6.7						
ACSO	**Alum Creek Sta**	**137.33**	**37**	PFAKE		05 58 00.0	+10
ACSO				LR	LR		
	comp=Z,830nm,20.0s						
ERPA	**Erie**	**137.75**	**32**	PFAKE		05 58 00.0	+10
ERPA				LR	LR		
	comp=Z,782nm,21.0s						
LCO	**Las Campanas**	**138.31**	**154**	PFAKE		05 58 00.0	+7.8
LCO				LR	LR		
	comp=Z,1μm,20.0s						
NCB	**Newcomb**	**139.13**	**26**	PFAKE		05 58 00.0	+7.2
NCB				LR	LR		
	comp=Z,1μm,20.0s						
MCWV	**Mont Chateau**	**139.52**	**35**	PFAKE		05 58 10.0	+16
MCWV				LR	LR		
	comp=Z,942nm,19.0s						
BRAL	**Brewton**	**139.53**	**51**	PFAKE		05 58 10.0	+16
BRAL				LR	LR		
	comp=Z,1μm,19.0s						
BINY	**Binghamton**	**139.71**	**29**	PFAKE		05 58 10.0	+16
BINY				LR	LR		
	comp=Z,661nm,19.0s						
PAYG	**Puerto Ayora**	**139.85**	**101**	PFAKE		05 58 10.0	+15
PAYG				LR	LR		
	comp=Z,502nm,19.0s						
LBNH	**Lisbon**	**139.85**	**23**	PFAKE		05 58 10.0	+16
LBNH				LR	LR		
	comp=Z,804nm,22.0s						
ASCN	**Ascension**	**140.06**	**247**	PFAKE		05 58 10.0	+15
ASCN				LR	LR		
	comp=Z,701nm,21.0s						
BLA	**Blacksburg**	**140.79**	**38**	PFAKE		05 58 10.0	+14
BLA				LR	LR		
	comp=Z,794nm,20.0s						
APG	**El Apazote**	**140.84**	**77**	SKPbc	**SKiKP**	**06 01 37.4**	**+3.7**
APG	**El Apazote**	**140.84**	**77**	SKPbc	**SKiKP**	**06 01 37.4**	**+3.7**
	comp=Z,5.5nm,0.9s,baz=307,slow=6.2,SNR=4.0						
GOGA	**Godfrey**	**141.01**	**46**	PFAKE		05 58 10.0	+13
GOGA				LR	LR		
	comp=Z,961nm,21.0s						
CBN	**Corbin**	**141.92**	**35**	PFAKE		05 58 10.0	+12
CBN				LR	LR		
	comp=Z,799nm,19.0s						
JSRW	**J. Sargeant Re**	**141.99**	**36**	*e*PKPdf	PKPdf	05 57 52.7	-5.4
TEIG	**Tepich**	**142.10**	**68**	PFAKE		05 58 10.0	+11
TEIG				LR	LR		
	comp=Z,597nm,20.0s						
NHSC	**New Hope**	**143.46**	**43**	PFAKE		05 58 10.0	+9.1
NHSC				LR	LR		
	comp=Z,785nm,20.0s						
CNNC	**Cliffs of the**	**143.62**	**39**	PFAKE		05 58 10.0	+8.9
CNNC				LR	LR		
	comp=Z,1μm,21.0s						
TGUH	**Tegucigalpa,Un**	**144.01**	**78**	*e*PKPdf	PKPbc	05 58 00.6	+0.4
TGUH				LR	LR		
	comp=Z,594nm,21.0s						
PB06	**Plate Boundary**	**144.21**	**150**	*e*P	**PKPdf**	**05 58 01.8**	**-0.9**
LVC	**Limon Verde**	**144.61**	**151**	*e*PKPdf	**PKPdf**	**05 58 03.6**	**0.0**
LVC				LR	LR		
	comp=Z,1μm,20.0s						
PB07	**Plate Boundary**	**144.86**	**148**	↑*i*P	**PKPdf**	**05 58 03.9**	**0.0**
CPUP	**Villa Florida**	**145.01**	**170**	*e*PKPbc	**PKPbc**	**05 58 03.3**	**+0.2**
CPUP	**Villa Florida**	**145.01**	**170**	PKPbc	**PKPdf**	**05 58 03.6**	**-0.2**
	comp=Z,16nm,0.5s,baz=163,slow=2.0,SNR=53						
PB09	**Plate Boundary**	**145.13**	**149**	↑*i*P	**PKPdf**	**05 58 04.3**	**-0.1**
PATCX	**Punta Patache**	**145.47**	**147**	↑*i*P	**PKPab**	**05 58 05.6**	**+0.6**
PB01	**Plate Boundary**	**145.63**	**148**	↑*i*P	**PKPab**	**05 58 05.7**	**0.0**
HMBC	**Humberstone**	**146.05**	**147**	↑*i*P	**PKPbc**	**05 58 06.7**	**0.0**
JTS	**JuntasAbangare**	**146.46**	**84**	*e*PKPbc	**PKPbc**	**05 58 07.7**	**-0.4**
JTS				LR	LR		
	comp=Z,973nm,20.0s						
PSGC	**Pisagua**	**146.47**	**146**	↑*i*P	**PKPab**	**05 58 08.6**	**-0.3**
PB11	**Plate Boundary**	**146.60**	**147**	↑*i*P	**PKPbc**	**05 58 08.1**	**-0.3**
MNMC	**Minimini**	**147.14**	**146**	↑*i*P	**PKPbc**	**05 58 10.3**	**+0.1**
NNA	**Nana**	**147.34**	**128**	*e*PKPbc	**PKPbc**	**05 58 10.7**	**+0.2**
NNA				LR	LR		
	comp=Z,770nm,20.0s						
ATAH	**Atahualpa**	**148.68**	**119**	PKPbc	**PKPbc**	**05 58 16.2**	**+1.6**
ATAH	**Atahualpa**	**148.68**	**119**	PKPbc	**PKPbc**	**05 58 16.2**	**+1.6**
	comp=Z,12nm,0.8s,baz=238,slow=2.9,SNR=15						
BCIP	**Isla Barro Col**	**151.50**	**86**	*e*PKPdf	**PKPdf**	**05 58 14.4**	**-0.3**
BCIP				*e*PKPbc	**PKPbc**	**05 58 19.9**	**-1.0**
BCIP				LR	LR		
	comp=Z,737nm,21.0s						
OTAV	**Otavalo**	**151.51**	**105**	*e*PKPbc	**PKPbc**	**05 58 22.7**	**+1.2**
OTAV				LR	LR		
	comp=Z,389nm,19.0s						
SACV	**Santiago Islan**	**152.38**	**286**	PFAKE		05 58 30.0	-3.0
SACV				LR	LR		
	comp=Z,437nm,20.0s						
MTDJ	**Mount Denham**	**152.41**	**66**	PFAKE		05 58 30.0	-3.1
MTDJ				LR	LR		
	comp=Z,478nm,19.0s						
SIV	**San Ignacio**	**153.87**	**158**	PKPbc	**PKPbc**	**05 58 26.3**	**+0.1**
SIV				PKPab	**PKPab**	**05 58 38.9**	**-0.1**
SIV	**San Ignacio**	**153.87**	**158**	PKPbc	**PKPbc**	**05 58 26.3**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=192,slow=4.8,SNR=5.0						
SIV				PKPab	**PKPab**	**05 58 38.9**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=244,slow=5.2,SNR=8.3						
GTBY	**Guantanamo Bay**	**153.98**	**61**	PFAKE		05 58 30.0	+3.8
GTBY				LR	LR		
	comp=Z,398nm,20.0s						
BDFB	**Brasilia**	**156.01**	**187**	PKP	**PKPdf**	**05 58 22.8**	**+1.6**
BDFB	**Brasilia**	**156.01**	**187**	PKP	**PKPdf**	**05 58 22.8**	**+1.6**
	comp=Z,4.3nm,1.1s,baz=209,slow=9.1,SNR=3.7						
ROSC	**El Rosal**	**156.59**	**97**	PKPab	**PKPab**	**05 58 52.0**	**+0.6**
ROSC	**El Rosal**	**156.59**	**97**	PKPab	**PKPab**	**05 58 52.0**	**+0.6**
	comp=Z,7.2nm,0.6s,baz=108,slow=16,SNR=8.5						
GRTK	**Grand Turk**	**156.59**	**54**	PFAKE		05 58 30.0	+8.3
GRTK				LR	LR		
	comp=Z,567nm,20.0s						
SDDR	**Presa de Saban**	**157.66**	**60**	PFAKE		05 58 30.0	+6.8
SDDR				LR	LR		
	comp=Z,727nm,21.0s						
SAML	**Samuel**	**158.99**	**144**	*e*PKPdf	**PKPdf**	**05 58 24.7**	**-0.2**
SAML				*e*PKPab	**PKPab**	**05 59 02.4**	**+1.3**
SAML				LR	LR		
	comp=Z,600nm,19.0s						
RCBR	**Riachuelo**	**159.39**	**227**	PKPab	**PKPab**	**05 59 04.0**	**+1.0**
RCBR				LR	LR		
	comp=Z,638nm,20.0s						
RCBR	**Riachuelo**	**159.39**	**227**	PKPab	**PKPab**	**05 59 04.0**	**+1.0**
	comp=Z,22nm,1.0s,baz=98,slow=4.4,SNR=10						
SDV	**Santo Domingo**	**160.59**	**87**	*e*PKPdf	**PKPdf**	**05 58 26.2**	**-0.8**
SDV				LR	LR		
	comp=Z,763nm,19.0s						
CBYP	**Canovanas**	**162.51**	**54**	*e*PKPab	**PKPab**	**05 59 16.8**	**+0.3**
ANWB	**Willy Bob**	**165.99**	**47**	PFAKE		05 58 40.0	+8.3
ANWB				LR	LR		
	comp=Z,515nm,21.0s						
PTGA	**Pitinga**	**167.33**	**135**	PFAKE		05 58 40.0	+7.1
PTGA				LR	LR		
	comp=Z,690nm,19.0s						
FDF	**Fort de France**	**168.20**	**56**	PFAKE		05 58 40.0	+6.6
FDF				LR	LR		
	comp=Z,775nm,22.0s						
GRGR	**Grenville**	**168.87**	**69**	PFAKE		05 58 40.0	+6.1
GRGR				LR	LR		
	comp=Z,678nm,20.0s						

MAN 24 05:41:46.6±12.2N×125.3±0.3E,h110±9km,mb4.4,ML3.2,MS3.1, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.16**	**45**	*e*P	Pn	05 42 10.1	+1.1
MATI				*e*S	Sn	05 42 27.4	+1.2
PAGZ	**Pagadian**	**2.66**	**310**	*e*P	Pn	05 42 28.6	+1.0
BUTP	**Butuan**	**2.83**	**4**	*e*P	Pn	05 42 31.8	+2.0
LLP	**Lapu-Lapu**	**4.41**	**341**	*e*P	Pn	05 42 52.8	+1.9
GUIM	**Jordan**	**5.28**	**328**	*e*P	Pn	05 43 03.5	+0.9
RCP	**Roxas**	**6.02**	**334**	↑*e*P	Pn	05 43 11.7	-1.0

*ISCJB **24** 05:57:49.4±0.3,30.51N±0.03×90.49E±0.04,h10km, mb4.0/24,Error ellipse: s-maj=5.6km s-min=4.0km az=28.4*
*IDC **24** 05:57:49.1±0.7,30.49N×90.60E,h0km, mb4.0/21, mb1 4.2/24,mb1mx4.0/53,mbtmp4.1/24,ML4.0/3,Error ellipse: s-maj=19.4km s-min=16.0km az=74.0*
*BJI **24** 05:57:50.7,30.46N×90.56E,h6km,mb4.2/12,ML4.1/2*
*DMN **24** 05:57:53.9±0.6,30.71N×90.42E,h10km,Ml4.5/4,Error ellipse: s-maj=12.7km s-min=11.1km az=165.0*

ISC 24 05:57:50.9±0.5,30.51N±0.05×90.47E±0.05,h10km,n53, σ1s50/57,mb4.1/24,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**1.00**	**144**	Pg	Pg	05 58 07.6	-2.5
LSA				Sg	**Sg**	**05 58 19.5**	**-3.7**
LSA				smax	smax		
	comp=N,1μm,0.8s						
LSA				smax	smax		
	comp=E,2μm,0.8s						
TAPN	**Taplejung**	**3.97**	**218**	*e*Pn	Pn	05 58 55.7	+3.6
TAPN				*e*Sn	**Sn**	**05 59 40.3**	**+1.5**
ODAN	**Odare**	**4.53**	**217**	*e*Pn	**Pn**	**05 59 02.1**	**+2.3**
JIRN	**Jiri**	**4.70**	**234**	*e*Pn	**Pn**	**05 59 05.2**	**+3.0**
GUN	**Gumba**	**4.77**	**238**	*e*Pn	**Pn**	**05 59 06.0**	**+2.8**
GUN				*e*Sn	**Sn**	**05 59 57.7**	**-1.1**
	301nm,0.7s						
RAMN	**Ramite**	**4.91**	**225**	*e*Pn	**Pn**	**05 59 06.5**	**+1.5**
RAMN				*e*Sn	**Sn**	**06 00 02.4**	**+0.4**
SHL	**Shillong**	**5.08**	**165**	*e*P	**Pn**	**05 59 09.0**	**+1.8**
SHL				*e*S	**Sn**	**06 00 07.9**	**+1.8**
SHL				AML	AML	06 00 36.3	
	comp=E,63nm,0.4s						
SHL				AML	AML	06 00 36.8	
	comp=N,49nm,0.8s						
KKN	**Kakani**	**5.29**	**240**	*e*Pn	**Pn**	**05 59 12.2**	**+2.1**
PKI	**Pulchoki**	**5.31**	**238**	*e*Pn	**Pn**	**05 59 12.8**	**+2.3**
PKI				*e*Sn	**Sn**	**06 00 10.8**	**-1.2**
	comp=N,204nm,0.6s						
PKIN	**Phulchoki**	**5.32**	**238**	*e*Pn	**Pn**	**05 59 12.8**	**+2.2**
DMN	**Daman**	**5.51**	**240**	*e*Pn	**Pn**	**05 59 14.5**	**+1.2**
GKN	**Gorkha**	**5.67**	**245**	*e*Pn	**Pn**	**05 59 16.6**	**+1.2**
GKN				*e*Sn	**Sn**	**06 00 18.8**	**-1.9**
DANN	**Dangsing**	**6.23**	**251**	*e*Pn	**Pn**	**05 59 24.6**	**+1.4**
DANN				*e*Sn	**Sn**	**06 00 31.5**	**-3.2**
	comp=N,129nm,0.6s						
KOLN	**Koldanda**	**6.60**	**247**	*e*Pn	**Pn**	**05 59 29.4**	**+1.3**
PYUN	**Piuthan**	**6.96**	**252**	*e*Pn	**Pn**	**05 59 33.9**	**+0.8**
PYUN				*e*Sn	**Sn**	**06 00 49.5**	**-2.9**
	comp=N,135nm,0.6s						
BOK	**Bokaro**	**7.83**	**212**	*e*P	**Pn**	**05 59 45.4**	**+0.5**
BOK				*e*S	**Sn**	**06 01 14.3**	**+0.6**
DDI	**Dehra Dun**	**10.72**	**272**	*e*P	Pn	06 00 21.7	-2.8
DDI				*ex*	x	06 02 19.1	
SMLA	**Simla**	**11.45**	**276**	*e*P	Pn	06 00 31.5	-3.0
SMLA				*e*S	Sn	06 02 29.8	-13
SMLA				AML	AML	06 02 43.7	
	comp=N,21nm,0.3s						
SMLA				AML	AML	06 02 44.3	
	comp=E,49nm,0.6s						
DHRM	**DHARAMSHALA**	**12.23**	**282**	*e*P	Pn	06 00 41.8	-3.6
BHPL	**Bhopal**	**13.70**	**241**	*e*P	**Pn**	**06 01 03.3**	**-2.0**
BHPL				*ex*	x	06 03 29.3	
NGP	**Nagpur**	**13.87**	**230**	*ex*	Sn	06 03 29.4	-12
CMAR	**Chiang Mai Arr**	**14.26**	**145**	Pn	**Pn**	**06 01 10.9**	**-1.9**
	comp=E,0.5nm,0.3s,baz=327,slow=14,SNR=13						
GYA	**Guiyang**	**14.80**	**102**	↑*i*P	**Pn**	**06 01 20.3**	**-0.1**
GYA				pmax	pmax		
	comp=E,20nm,0.8s						
XAN	**Xi'an**	**16.00**	**72**	P	**P**	**06 01 40.8**	**+1.2**
XAN				pmax	pmax		
	comp=E,3.0nm,1.2s						
MKAR	**Makanchi Array**	**17.45**	**341**	Pn	**Pn**	**06 01 53.3**	**-1.0**
	comp=E,0.3nm,0.3s,baz=145,slow=13,SNR=18						
AAK	**Ala-Archa**	**17.60**	**318**	P	**Pn**	**06 01 58.2**	**+1.9**
	comp=E,0.2nm,0.3s,baz=142,slow=10,SNR=8.6						
SONM	**Songino Array**	**21.18**	**31**	P	**P**	**06 02 37.0**	**+0.5**
	comp=E,9.5nm,0.9s,baz=217,slow=11,SNR=70						
KURBB	**Kurchatov Arra**	**21.99**	**339**	P	**P**	**06 02 44.5**	**-0.4**
	comp=E,1.8nm,0.6s,baz=151,slow=11,SNR=15						
ZALV	**Zalesovo Beam**	**23.78**	**352**	P	**P**	**06 03 03.5**	**+0.1**
	comp=E,2.1nm,0.6s,baz=171,slow=11,SNR=14						
BVAR	**Borovoye Array**	**26.85**	**333**	P	**P**	**06 03 31.4**	**0.0**
	comp=E,0.9nm,0.7s,baz=136,slow=10,SNR=4.4						
PSI	**Prapat**	**28.70**	**162**	P	**P**	**06 03 50.0**	**+1.6**
	comp=E,0.6nm,0.3s,baz=249,slow=6.2,SNR=3.7						
BRTR	**Keskin Array B**	**46.71**	**298**	P	**P**	**06 06 20.9**	**+0.7**
	comp=E,0.5nm,0.6s,baz=91,slow=8.6,SNR=5.0						
AKASG	**Malin Array Be**	**49.17**	**313**	P	**P**	**06 06 38.5**	**-0.3**
JOF	**Joensuu**	**49.33**	**329**	*ep*	**P**	**06 06 40.9**	**+1.0**
	comp=E,2.0nm,0.5s						
SEY	**Seymchan**	**50.58**	**31**	P	**P**	**06 06 48.0**	**-1.4**
	comp=E,1.7nm,0.7s,baz=247,slow=7.8,SNR=7.4						
FINES	**FINESS Array B**	**51.52**	**326**	P	**P**	**06 06 57.1**	**+0.6**
	comp=E,1.2nm,0.5s,baz=105,slow=7.8,SNR=14						
MLR	**Muntele Rosu**	**51.67**	**306**	P	**P**	**06 06 59.8**	**+1.8**
	comp=E,0.9nm,0.8s,baz=341,slow=10,SNR=6.2						
KEV	**Kevo**	**52.57**	**337**	*ep*	**P**	**06 07 03.8**	**-0.4**
	comp=E,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**53.03**	**336**	P	**P**	**06 07 08.8**	**+1.2**
	comp=E,1.4nm,0.7s,baz=99,slow=7.3,SNR=10						
NB2	**NORSAR Subarra**	**58.70**	**326**	P	**P**	**06 07 48.1**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=82,slow=6.9						
NOA	**NORSAR Array B**	**58.70**	**326**	P	**P**	**06 07 48.8**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=84,slow=7.1,SNR=9.4						
GERES	**GERESS Array B**	**59.35**	**312**	P	**P**	**06 07 54.0**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=72,slow=6.1,SNR=26						
KMBO	**Kilima Mbogo**	**59.55**	**248**	P	**P**	**06 07 54.9**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=64,slow=14,SNR=4.4						
LPG	**La Plagne**	**64.82**	**309**	*e*P	**P**	**06 08 30.0**	**-0.2**
	comp=Z,6.1nm,0.9s						
LPL	**La Plagne**	**64.82**	**309**	*e*P	**P**	**06 08 30.1**	**-0.1**
ILAR	**Eielson Array**	**75.11**	**22**	P	**P**	**06 09 31.8**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=296,slow=5.1,SNR=21						
INK	**Inuvik**	**76.23**	**15**	P	**P**	**06 09 38.9**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=7.4,slow=6.2,SNR=4.0						
STKA	**Stephens Creek**	**78.73**	**138**	P	**P**	**06 09 53.5**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=313,slow=15,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.41**	**281**	P	**P**	**06 10 14.3**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=66,slow=6.8,SNR=2.4						
FRB	**Frobisher Bay**	**84.60**	**351**	P	**P**	**06 10 24.1**	**0.0**
	comp=Z,2.3nm,0.8s,baz=13,slow=3.8,SNR=5.1						
YKA	**Yellowknife Ar**	**85.16**	**11**	P	**P**	**06 10 27.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=333,slow=5.0,SNR=10						
BOSA	**Boshof**	**85.56**	**233**	P	**P**	**06 10 29.5**	**-0.1**
	comp=Z,4.1nm,1.1s,baz=18,slow=7.5,SNR=3.4						
DBIC	**Dimbokro**	**91.22**

VLI	Veliai	2.80	310	ePn	Pn	05 59 13.0	-0.8	
SMG	Samos	2.94	19	ePN	Pn	05 59 14.9	-0.7	
SMG	Samos	2.94	19	ePN	Pn	05 59 14.9	-0.7	
DID	Didima	3.20	324	ePN	Pn	05 59 19.3	0.0	
DID	Didima	3.20	324	ePn	Pn	05 59 19.3	0.0	
PTL	Penteli	3.41	336	ePN	Pn	05 59 23.0	+0.9	
PTL	Penteli	3.41	336	ePn	Pn	05 59 23.0	+0.9	
VLX	Vlachokerasia	3.56	314	ePN	Pn	05 59 25.5	+1.1	
VLX	Vlachokerasia	3.56	314	ePn	Pn	05 59 25.5	+1.1	
PYL	PYLOS	3.69	303	ePN	Pn	05 59 26.6	+0.5	
PYL	PYLOS	3.69	303	ePn	Pn	05 59 26.6	+0.5	
ITM	Ithomi	3.73	308	ePN	Pn	05 59 26.5	0.0	
ITM	Ithomi	3.73	308	ePn	Pn	05 59 26.5	0.0	
LTK	Loutraki	3.74	326	ePN	Pn	05 59 27.7	+1.0	
LTK	Loutraki	3.74	326	ePn	Pn	05 59 27.7	+1.0	
GUR	Goura	3.98	320	ePN	Pn	05 59 30.5	+0.4	
GUR	Goura	3.98	320	ePn	Pn	05 59 30.5	+0.4	
AMT	Artemida-Makis	4.08	310	ePN	Pn	05 59 31.5	+0.1	
AMT	Artemida-Makis	4.08	310	ePn	Pn	05 59 31.5	+0.1	
KLV	Kalavryta, Ach	4.17	319	ePN	Pn	05 59 33.2	+0.6	
KLV	Kalavryta, Ach	4.17	319	ePn	Pn	05 59 33.2	+0.6	
LKR	Lokris	4.25	331	ePN	Pn	05 59 34.1	+0.4	
LKR	Lokris	4.25	331	ePn	Pn	05 59 34.1	+0.4	
DRO	Drossia	4.35	315	ePN	Pn	05 59 35.7	+0.6	
DRO	Drossia	4.35	315	ePn	Pn	05 59 35.7	+0.6	
AGG	Agios Georgios	4.84	328	ePN	Pn	05 59 43.8	+1.9	
AGG	Agios Georgios	4.84	328	ePn	Pn	05 59 43.8	+1.9	
BRTR	Keskin Array B	7.98	51	Pn	Pn	06 00 26.8	+1.7	
	0.1nm,0.3s,baz=234,slow=14,SNR=2.8							
ESDC	Sonseca Array	23.93	290	LR	LR	06 13 18.0		
	comp=Z,118nm,20.1s,baz=40,slow=36							
TORD	Torodi Ar. Bea	30.63	231	P	P	06 04 42.8	-0.8	
	0.5nm,0.5s,baz=34,slow=8.9,SNR=11							
KURBB	Kurchatov Arra	40.97	51	P	P	06 06 10.3	-1.5	
	0.6nm,0.2s,baz=277,slow=8.1,SNR=7.3							
MKAR	Makanchi Array	43.59	56	P	P	06 06 32.5	-0.8	
	0.7nm,0.8s,baz=286,slow=8.1,SNR=5.8							
ZALV	Zalesovo Beam	44.89	46	P	P	06 06 45.0	+1.5	
	0.5nm,0.4s,baz=286,slow=7.3,SNR=3.5							
ULM	Lac du Bonnet	80.69	326	LR	LR	06 50 28.6		
	comp=Z,300nm,18.0s,baz=314,slow=38							

*IGIL **24** 06:03:42.9,37°.77N×12°.18W,h0km,ML2.4*
*MDD **24** 06:03:43.0±1.7,37°.74N×12°.12W,h0km,mb3.9/8,Error ellipse: s-maj=14.9km s-min=11.0km az=66.0,PRXIMO*
*INMG **24** 06:03:44.1±1.1,37.61N×12°.56W,h10km,ML2.4,Error ellipse: s-maj=5.5km s-min=4.0km az=82.0*
*CSEM **24** 06:03:45.4±0.4,37.85N×11°.92W,h10km,ML3.2/4,Error ellipse: s-maj=7.3km s-min=5.4km az=67.0*

ISC 24 06:03:42.3±2.8,37.80N±0.06×12.1W±0.1,h10km,n80,
σ1§37/152,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**2.48**	**61**	ePn	**Pn**	**Pn**	**06 04 24.4**	**+1.7**
PMAFR				eSn	**Sb**	**Sb**	**06 04 55.6**	**-1.9**
PMAFR				A	A	A	06 05 01.3	
	27nm,1.1s							
PMAFR	**Mafra**	**2.48**	**61**	P	**Pn**	**Pn**	**06 04 24.5**	**+1.7**
	0.2nm,0.1s,SNR=11							
PMAFR				S	**Sb**	**Sb**	**06 04 55.7**	**-1.8**
	21nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**2.48**	**61**	P	**Pn**	**Pn**	**06 04 24.5**	**+1.7**
	0.2nm,0.1s,SNR=11							
PMAFR				S	**Sb**	**Sb**	**06 04 55.7**	**-1.8**
	21nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**2.67**	**94**	ePn	**Pn**	**Pn**	**06 04 25.9**	**+0.6**
PTEO				A	A	A	06 04 57.4	
	15nm,0.9s							
PTEO				eSn	**Sn**	**Sn**	**06 04 57.5**	**-0.2**
PTEO	**Sao Teotonio**	**2.67**	**94**	P	**Pn**	**Pn**	**06 04 25.9**	**+0.6**
PTEO				S	**Sn**	**Sn**	**06 04 57.5**	**-0.2**
PTEO	**Sao Teotonio**	**2.67**	**94**	P	**Pn**	**Pn**	**06 04 25.9**	**+0.6**
PTEO				S	**Sn**	**Sn**	**06 04 57.5**	**-0.2**
MORF	**Marmelete**	**2.76**	**99**	ePn	**Pn**	**Pn**	**06 04 26.9**	**+0.2**
MORF				eSn	**Sn**	**Sn**	**06 05 00.2**	**0.0**
MORF				A	A	A	06 05 08.0	
	20nm,0.1s							
MORF	**Marmelete**	**2.76**	**99**	P	**Pn**	**Pn**	**06 04 26.9**	**+0.2**
MORF				S	**Sn**	**Sn**	**06 05 00.2**	**0.0**
	20nm,0.1s							
MORF	**Marmelete**	**2.76**	**99**	P	**Pn**	**Pn**	**06 04 26.9**	**+0.2**
MORF				S	**Sn**	**Sn**	**06 05 00.2**	**0.0**
	20nm,0.1s							
PNCL	**Nicolau / Gran**	**2.82**	**83**	ePn	**Pn**	**Pn**	**06 04 29.4**	**+2.0**
PNCL				eSn	**Sn**	**Sn**	**06 05 02.2**	**+0.8**
PNCL				A	A	A	06 05 08.6	
	7.2nm,0.2s							
PNCL	**Nicolau / Gran**	**2.82**	**83**	ePn	**Pn**	**Pn**	**06 04 29.4**	**+2.0**
PNCL				eSn	**Sn**	**Sn**	**06 05 02.2**	**+0.8**
	7.2nm,0.2s							
MESJ	**Messejana**	**3.05**	**88**	eP	**Pn**	**Pn**	**06 04 32.2**	**+1.7**
MESJ				eS	**Sn**	**Sn**	**06 05 07.4**	**+0.2**
MESJ				AML	AML	AML	06 05 09.2	
	comp=N,7.2nm,0.2s							
MESJ	**Messejana**	**3.05**	**88**	eP	**Pn**	**Pn**	**06 04 32.3**	**+1.7**
MESJ				eS	**Sn**	**Sn**	**06 05 07.4**	**+0.2**
MESJ	**Messejana**	**3.05**	**88**	P	**Pn**	**Pn**	**06 04 32.2**	**+1.7**
MESJ				S	**Sn**	**Sn**	**06 05 07.4**	**+0.2**
MESJ	**Messejana**	**3.05**	**88**	P	**Pn**	**Pn**	**06 04 32.2**	**+1.7**
MESJ				S	**Sn**	**Sn**	**06 05 07.4**	**+0.2**
PMTG	**Montargil**	**3.27**	**66**	ePn	**Pn**	**Pn**	**06 04 34.9**	**+1.2**
PMTG				eSn	**Sn**	**Sn**	**06 05 13.7**	**+1.0**
PMTG				A	A	A	06 05 19.4	
	comp=N,5.6nm,0.1s							
PMTG	**Montargil**	**3.27**	**66**	ePn	**Pn**	**Pn**	**06 04 34.9**	**+1.2**
PMTG				eSn	**Sn**	**Sn**	**06 05 13.7**	**+1.0**
	comp=N,5.6nm,0.1s							
EVO	**Evora**	**3.28**	**76**	ePn	**Pn**	**Pn**	**06 04 36.1**	**+2.3**
EVO				eSn	**Sn**	**Sn**	**06 05 14.2**	**+1.3**
EVO				A	A	A	06 05 17.2	
	comp=N,11nm,0.1s							
EVO	**Evora**	**3.28**	**76**	P	**Pn**	**Pn**	**06 04 36.1**	**+2.3**
EVO				S	**Sn**	**Sn**	**06 05 14.2**	**+1.3**
	comp=N,11nm,0.1s							
EVO	**Evora**	**3.28**	**76**	P	**Pn**	**Pn**	**06 04 36.1**	**+2.3**
EVO				S	**Sn**	**Sn**	**06 05 14.2**	**+1.3**
	comp=N,11nm,0.1s							
PBEJ	**Beja**	**3.33**	**85**	ePn	**Pn**	**Pn**	**06 04 35.8**	**+1.3**
PBEJ				eSn	**Sn**	**Sn**	**06 05 15.3**	**+1.1**
PBEJ				A	A	A	06 05 20.5	
	comp=N,7.0nm,0.3s							
PBEJ	**Beja**	**3.33**	**85**	P	**Pn**	**Pn**	**06 04 35.8**	**+1.3**
PBEJ				S	**Sn**	**Sn**	**06 05 15.3**	**+1.1**
	comp=N,3.5nm,0.3s							
PBEJ	**Beja**	**3.33**	**85**	P	**Pn**	**Pn**	**06 04 35.8**	**+1.3**
PBEJ				S	**Sn**	**Sn**	**06 05 15.3**	**+1.1**
	comp=N,3.5nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.34**	**98**	ePn	**Pn**	**Pn**	**06 04 36.3**	**+1.7**
PBDV				eSn	**Sn**	**Sn**	**06 05 13.8**	**-0.5**
PBDV				A	A	A	06 05 17.7	
	comp=N,4.9nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.34**	**98**	P	**Pn**	**Pn**	**06 04 36.3**	**+1.7**
PBDV				S	**Sn**	**Sn**	**06 05 13.8**	**-0.5**
	comp=N,4.9nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.34**	**98**	P	**Pn**	**Pn**	**06 04 36.3**	**+1.7**
PBDV				S	**Sn**	**Sn**	**06 05 13.8**	**-0.5**
	comp=N,4.9nm,0.4s							
PTOM	**Tomar**	**3.39**	**57**	ePn	**Pn**	**Pn**	**06 04 37.1**	**+1.8**
PTOM				eSn	**Sn**	**Sn**	**06 05 16.7**	**+1.2**
PTOM				A	A	A	06 05 23.2	
	comp=N,8.1nm,0.2s							
PTOM	**Tomar**	**3.39**	**57**	P	**Pn**	**Pn**	**06 04 37.1**	**+1.8**
PTOM				S	**Sn**	**Sn**	**06 05 16.7**	**+1.2**
	comp=N,4.1nm,0.2s							
PTOM	**Tomar**	**3.39**	**57**	P	**Pn**	**Pn**	**06 04 37.1**	**+1.8**
PTOM				S	**Sn**	**Sn**	**06 05 16.7**	**+1.2**
	comp=N,4.1nm,0.2s							
PVAQ	**Vaqueiros**	**3.48**	**95**	ePn	**Pn**	**Pn**	**06 04 37.7**	**+1.2**
PVAQ				eSn	**Sn**	**Sn**	**06 05 17.6**	**-0.2**
PVAQ				A	A	A	06 05 20.0	
	comp=N,7.4nm,0.7s							
PVAQ	**Vaqueiros**	**3.48**	**95**	P	**Pn**	**Pn**	**06 04 37.7**	**+1.2**
PVAQ				S	**Sn**	**Sn**	**06 05 17.6**	**-0.2**
	comp=N,7.4nm,0.7s							
PVAQ	**Vaqueiros**	**3.48**	**95**	P	**Pn**	**Pn**	**06 04 37.7**	**+1.2**
PVAQ				S	**Sn**	**Sn**	**06 05 17.6**	**-0.2**
	comp=N,7.4nm,0.7s							
PCAS	**Casmilo, Conde**	**3.58**	**50**	ePn	**Pn**	**Pn**	**06 04 39.5**	**+1.6**
PCAS				eSn	**Sn**	**Sn**	**06 05 21.4**	**+1.1**
PCAS				A	A	A	06 05 24.6	
	comp=N,2.8nm,0.2s							
PCAS	**Casmilo, Conde**	**3.58**	**50**	ePn	**Pn**	**Pn**	**06 04 39.5**	**+1.6**
PCAS				eSn	**Sn**	**Sn**	**06 05 21.4**	**+1.1**
	comp=N,2.8nm,0.2s							
PESTR	**Estremoz**	**3.68**	**72**	ePn	**Pn**	**Pn**	**06 04 41.6**	**+2.3**
PESTR				eSn	**Sn**	**Sn**	**06 05 23.6**	**+0.8**
PESTR				A	A	A	06 05 28.0	
	comp=N,3.9nm,0.2s							
PESTR	**Estremoz**	**3.68**	**72**	ePn	**Pn**	**Pn**	**06 04 41.6**	**+2.3**
PESTR				eSn	**Sn**	**Sn**	**06 05 23.6**	**+0.8**
	comp=N,3.9nm,0.2s							
PMRV	**Marv??o**	**4.01**	**65**	ePn	**Pn**	**Pn**	**06 04 46.1**	**+2.3**
PMRV				eSn	**Sn**	**Sn**	**06 05 31.3**	**+0.4**
PMRV				A	A	A	06 05 32.8	
	comp=N,8.3nm,0.3s							
PMRV	**Marv??o**	**4.01**	**65**	P	**Pn**	**Pn**	**06 04 46.1**	**+2.3**
PMRV				S	**Sn**	**Sn**	**06 05 31.3**	**+0.4**
	comp=N,8.3nm,0.3s							
PMRV	**Marv??o**	**4.01**	**65**	P	**Pn**	**Pn**	**06 04 46.1**	**+2.3**
PMRV				S	**Sn**	**Sn**	**06 05 31.3**	**+0.4**
	comp=N,8.3nm,0.3s							
EBAD	**Badajoz**	**4.09**	**75**	P	**Pn**	**Pn**	**06 04 46.6**	**+1.7**
	comp=N,1.1nm,0.1s,SNR=15							
EBAD				S	**Sn**	**Sn**	**06 05 33.1**	**+0.2**
	comp=N,9.2nm,0.2s,SNR=15							
EBAD	**Badajoz**	**4.09**	**75**	P	**Pn**	**Pn**	**06 04 46.6**	**+1.7**
	comp=N,1.1nm,0.1s,SNR=15							
EBAD				S	**Sn**	**Sn**	**06 05 33.1**	**+0.2**
	comp=N,9.2nm,0.2s,SNR=15							
PCBR	**Castelo Branco**	**4.12**	**59**	ePn	**Pn**	**Pn**	**06 04 47.4**	**+2.0**
PCBR				eSn	**Sn**	**Sn**	**06 05 34.3**	**+0.6**
PCBR				A	A	A	06 05 36.8	
	comp=N,2.3nm,0.6s							
PCBR	**Castelo Branco**	**4.12**	**59**	P	**Pn**	**Pn**	**06 04 47.4**	**+2.0**
PCBR				S	**Sn**	**Sn**	**06 05 34.3**	**+0.6**
	comp=N,1.2nm,0.6s							
PCBR	**Castelo Branco**	**4.12**	**59**	P	**Pn**	**Pn**	**06 04 47.4**	**+2.0**
PCBR				S	**Sn**	**Sn**	**06 05 34.3**	**+0.6**
	comp=N,1.2nm,0.6s							
PVIS	**Viseu**	**4.36**	**47**	eSn	**Sn**	**Sn**	**06 05 39.2**	**-0.3**
PVIS				A	A	A	06 05 42.6	
	comp=N,4.4nm,0.1s							
PVIS	**Viseu**	**4.36**	**47**	S	**Sn**	**Sn**	**06 05 39.2**	**-0.3**
	comp=N,2.2nm,0.1s							
PVIS	**Viseu**	**4.36**	**47**	S	**Sn**	**Sn**	**06 05 39.2**	**-0.3**
	comp=N,2.2nm,0.1s							
MTE	**Manteigas**	**4.37**	**52**	ePn	**Pn**	**Pn**	**06 04 50.5**	**+1.6**
MTE				eSn	**Sn**	**Sn**	**06 05 40.5**	**+0.6**
MTE				A	A	A	06 05 42.0	
	comp=N,5.4nm,0.5s							
MTE	**Manteigas**	**4.37**	**52**	P	**Pn**	**Pn**	**06 04 50.5**	**+1.6**
MTE				S	**Sn**	**Sn**	**06 05 40.5**	**+0.6**
	comp=N,2.7nm,0.5s							
MTE	**Manteigas**	**4.37**	**52**	P	**Pn**	**Pn**	**06 04 50.5**	**+1.6**
MTE				S	**Sn**	**Sn**	**06 05 40.5**	**+0.6**
	comp=N,2.7nm,0.5s							
PVRL	**Vila Real**	**4.83**	**43**	ePn	**Pn**	**Pn**	**06 04 55.9**	**+0.7**
PVRL				eSn	**Sn**	**Sn**	**06 05 50.1**	**-1.1**
PVRL				A	A	A	06 05 55.1	
	comp=N,3.8nm,0.7s							
PVRL	**Vila Real**	**4.83**	**43**	P	**Pn**	**Pn**	**06 04 55.9**	**+0.7**
PVRL				S	**Sn**	**Sn**	**06 05 50.1**	**-1.1**
	comp=N,1.9nm,0.7s							
PVRL	**Vila Real**	**4.83**	**43**	P	**Pn**	**Pn**	**06 04 55.9**	**+0.7**
PVRL				S	**Sn**	**Sn**	**06 05 50.1**	**-1.1**
	comp=N,1.9nm,0.7s							
POLO	**Lamas de Olo**	**4.86**	**41**	ePn	**Pn**	**Pn**	**06 04 56.6**	**+1.0**
POLO				eSn	**Sn**	**Sn**	**06 05 51.0**	**-1.0**
POLO	**Lamas de Olo**	**4.86**	**41**	ePn	**Pn**	**Pn**	**06 04 56.6**	**+1.0**
POLO				eSn	**Sn**	**Sn**	**06 05 51.0**	**-1.0**
ESPR	**Espera**	**5.04**	**99**	P	**Pn**	**Pn**	**06 05 00.1**	**+2.2**
	comp=N,1.4nm,0.1s,SNR=4.7							
ESPR				S	**Sn**	**Sn**	**06 05 55.5**	**-0.7**
	comp=N,2.8nm,0.2s,SNR=4.0							
ESPR	**Espera**	**5.04**	**99**	P	**Pn**	**Pn**	**06 05 00.1**	**+2.2**
	comp=N,1.4nm,0.1s,SNR=4.7							
ESPR				S	**Sn**	**Sn**	**06 05 55.5**	**-0.7**
	comp=N,2.8nm,0.2s,SNR=4.0							
EZAM	**Zamans**	**5.06**	**30**	P	**Pn**	**Pn**	**06 04 58.5**	**+0.3**
	comp=N,0.6nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**5.06**	**30**	P	**Pn**	**Pn**	**06 04 58.5**	**+0.3**
	comp=N,0.6nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.10**	**36**	P	**Pn**	**Pn**	**06 05 00.8**	**+1.9**
	comp=N,0.2nm,0.1s,SNR=4.0							
ELOB				S	**Sn**	**Sn**	**06 05 56.1**	**-1.7**
	comp=N,0.1nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.10**	**36**	P	**Pn**	**Pn**	**06 05 00.8**	**+1.9**
	comp=N,0.2nm,0.1s,SNR=4.0							
ELOB				S	**Sn**	**Sn**	**06 05 56.1**	**-1.7**
	comp=N,0.1nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.15**	**48**	ePn	**Pn**	**Pn**	**06 05 00.9**	**+1.4**
MVO				eSn	**Sn**	**Sn**	**06 05 57.3**	**-1.7**
MVO				A	A	A	06 06 00.2	
	comp=N,3.3nm,0.5s							
MVO	**Moncorvo**	**5.15**	**48**	P	**Pn**	**Pn**	**06 05 00.3**	**+0.8**
	comp=N,0.5nm,0.1s,SNR=5.6							
MVO				S	**Sn**	**Sn**	**06 05 57.5**	**-1.5**
	comp=N,1.0nm,0.1s,SNR=5.7							
MVO	**Moncorvo**	**5.15**	**48**	P	**Pn**	**Pn**	**06 05 00.3**	**+0.8**
	comp=N,0.5nm,0.1s,SNR=5.6							
MVO	**Moncorvo**	**5.15**	**48**	ePn	**Pn**	**Pn**	**06 05 00.9**	**+1.4**
MVO				S	**Sn**	**Sn**	**06 05 57.5**	**-1.5**
	comp=N,1.0nm,0.1s,SNR=5.7							
EPLA	**Plasencia**	**5.19**	**62**	P	**Pn**	**Pn**	**06 05 02.2**	**+2.1**
	comp=N,0.2nm,0.1s,SNR=6.3							
EPLA				S	**Sn**	**Sn**	**06 05 60.0**	**0.0**
	comp=N,1.1nm,0.2s,SNR=12							
EPLA	**Plasencia**	**5.19**	**62**	P	**Pn**	**Pn**	**06 05 02.2**	**+2.1**
	comp=N,0.2nm,0.1s,SNR=6.3							
EPLA				S	**Sn**	**Sn**	**06 06 00.0**	**0.0**
	comp=N,1.1nm,0.2s,SNR=12							
ECAB	**El Cabril**	**5.27**	**85**	P	**Pn**	**Pn**	**06 05 02.0**	**+0.9**
	comp=N,0.2nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**Sn**	**06 05 59.6**	**-2.3**
	comp=N,1.6nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.27**	**85**	P	**Pn**	**Pn**	**06 05 02.0**	**+0.9**
	comp=N,0.2nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**Sn**	**06 05 59.6**	**-2.3**
	comp=N,1.6nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**5.73**	**44**	ePn	**Pn**	**Pn**	**06 05 09.0**	**+1.5**
PBRG				eSn	**Sn**	**Sn**	**06 06 12.3**	**-1.0**
PBRG				A	A	A	06 06 13.6	
	comp=N,1.7nm,1.1s							
PBRG	**Braganca**	**5.73**	**44**	P	**Pn**	**Pn**	**06 05 09.0**	**+1.5**
PBRG				S	**Sn**	**Sn**	**06 06 12.3**	**-1.0**
	comp=N,0.9nm,1.1s							
PBRG	**Braganca**	**5.73**	**44**	P	**Pn**	**Pn**	**06 05 09.0**	**+1.5**
PBRG				S	**Sn**	**Sn**	**06 06 12.3**	**-1.0**
	comp=N,0.9nm,1.1s							
ECAL	**Calabor**	**5.83**	**43**	P	**Pn**	**Pn**	**06 05 10.7**	**+1.9**
	comp=N,2.4nm,0.2s,SNR=7.9							
ECAL				S	**Sn**	**Sn**	**06 06 15.3**	**-0.4**
	comp=N,1.2nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.83**	**43**	P	**Pn**	**Pn**	**06 05 10.7**	**+1.9**
	comp=N,2.4nm,0.2s,SNR=7.9							
ECAL				S	**Sn**	**Sn**	**06 06 15.3**	**-0.4**
	comp=N,1.2nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.77**	**63**	S	**Sn**	**Sn**	**06 06 37.8**	**-1.3**
	comp=N,1.0nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**6.77**	**63**	S	**Sn**	**Sn**	**06 06 37.8**	**-1.3**
	comp=N,1.0nm,0.3s,SNR=7.9							
EQES	**Quesada**	**7.13**	**87**	P	**Pn**	**Pn**	**06 05 27.3**	**+0.6**
	SNR=7.9							
EQES				S	**Sn**	**Sn**	**06 06 46.0**	**-1.8**
	comp=N,0.4nm,0.2s,SNR=7.9							
EQES	**Quesada**	**7.13**	**87**	P	**Pn**	**Pn**	**06 05 27.3**	**+0.6**
	SNR=7.9							
EQES				S	**Sn**	**Sn**	**06 06 46.0**	**-1.8**
	comp=N,0.4nm,0.2s,SNR=7.9							
ETOR	**Torete**	**8.33**	**66**	P	**Pn**	**Pn**	**06 05 44.8**	**+1.6**
	SNR=7.9							
ETOR				S	**Sn**	**Sn**	**06 07 15.2**	**-2.1**
	comp=N,1.2nm,0.2s,SNR=7.9							
ETOR	**Torete**	**8.33**	**66**	P	**Pn**	**Pn**	**06 05 44.8**	**+1.6**
	SNR=7.9							
ETOR				S	**Sn**	**Sn**	**06 07 15.2**	**-2.1**
	comp=N,1.2nm,0.2s,SNR=7.9							

IDC 24 06:04:29.0±2.1,8.36S×129.22E,h0km,mb3.4/1,
mb1 3.4/3,mb1mx3.2/34,mbtmp3.2/3,ML3.4/2,Error ellipse: s-maj=99.0km s-min=33.6km az=66.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.54**	**157**		Pn	Pn	06 07 28.1	-0.8
	0.3nm,0.3s,baz=336,slow=14,SNR=5.0							
WRA					Sn	Sn	06 09 44.3	-5.0
	0.5nm,0.3s,baz=331,slow=23,SNR=9.4							
ASAR	**Alice Springs**	**15.87**	**164**		Pn	Pn	06 08 14.8	+0.9
	0.1nm,0.3s,baz=336,slow=8.5,SNR=4.8							
ASAR					Sn	Sn	06 11 07.2	-3.5
	0.1nm,0.3s,baz=350,slow=25,SNR=4.3							
MKAR	**Makanchi Array**	**68.94**	**327**		P		06 15 36.0	0.0
	0.2nm,0.5s,baz=110,slow=7.9,SNR=3.6							

*IDC **24** 06:13:57.4±1.5,58°.47S×149°.72E,h0km,mb4.1/6,mb1 4.1/7,mb1mx4.1/26,mbtmp4.0/7,ML3.1/1,MS4.1/2,Ms1 4.1/2,ms1mx3.5/26,Error ellipse: s-maj=86.0km s-min=17.4km az=82.0*

ISC 24 06:13:58.1±1.2,58.5S±0.1×150.3E±0.5,h10km,n22,
σ1§02/15,mb4.0/6,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.56**	**172**	P	**Pn**	**Pn**	**06 18 26.8**	**0.0**
	0.1nm,0.3s,baz=347,slow=11,SNR=3.2							
URZ	**Urewera**	**26.64**	**52**	LR	LR		06 29 31.8	
	comp=Z,510nm,18.1s,baz=303,slow=35							
STKA	**Stephens Creek**	**27.22**	**344**	P	**P**		**06 19 42.9**	**+1.0**
	2.4nm,0.8s,baz=182,slow=8.3,SNR=3.3							
QSPA	**South Pole Qui**	**31.64**	**180**	P	**P**		**06 20 21.4**	**+0.3**
	2.7nm,0.9s,baz=20,slow=3.4,SNR=5.2							
H01W1	**Cape Leeuwin H**	**33.53**	**299**	T	T		06 55 28.4	
	baz=145,slow=75,SNR=245							
H01W2	**Cape Leeuwin H**	**33.54**	**299**	T	T		06 55 28.7	
	baz=145,slow=75,SNR=276							
H01W3	**Cape Leeuwin H**	**33.55**	**299**	T	T		06 55 33.8	
	baz=145,slow=75,SNR=217							
NWAO	**Narrogin (SRO)**	**33.81**	**305**	LR	LR		06 31 32.8	
	comp=Z,240nm,18.1s,baz=20,slow=31							
ASAR	**Alice Springs**	**36.67**	**334**	P	**P**		**06 21 04.8**	**0.0**
	1.2nm,0.9s,baz=166,slow=10.0,SNR=8.7							
ASAR				PcP	**PcP**		**06 23 28.2**	**+0.7**
	0.9nm,0.8s,baz=152,slow=1.8,SNR=4.8							
WRA	**Warramunga Arr**	**40.18**	**336**	P	**P**		**06 21 34.0**	**-0.4**
	2.6nm,1.0s,baz=168,slow=7.0,SNR=5.8							
SNAA	**Sanae**	**48.80**	**191**	P	**P**		**06 22 43.0**	**+0.2**
	2.2nm,0.9s,baz=192,slow=8.4,SNR=14							
H08S2	**Diego Garcia H**	**77.12**	**276**	T	T		07 49 48.4	
	baz=148,slow=76,SNR=128							
H08S1	**Diego Garcia H**	**77.13**	**276**	T	T		07 49 51.7	
	baz=148,slow=76,SNR=128							
H08S3	**Diego Garcia H**	**77.14**	**276**	T	T		07 49 52.4	
	baz=148,slow=76,SNR=115							
BOSA	**Boshof**	**81.94**	**227**	P	**P**		**06 26 16.8**	**-1.1**
	2.5nm,0.9s,baz=152,slow=2.9,SNR=5.1							
TORD	**Torodi Ar. Bea**	**128.99**	**221**	PKP	**PKPdf**		**06 33 08.0**	**+2.0**
	0.9nm,0.9s,baz=231,slow=0.3,SNR=4.3							
YKA	**Yellowknife Ar**	**140.83**	**47**	PKP	**PKPdf**		**06 33 25.0**	**-1.5**
	0.1nm,0.6s,baz=228,slow=3.0,SNR=7.0							
KEST	**Kesra**	**145.75**	**246**	PKPbc	**PKPab**		**06 33 37.9**	**+0.8**
	2.8nm,1.1s,baz=45,slow=4.3,SNR=3.3							
AKASG	**Malin Array Be**	**145.98**	**283**	PKPbc	**PKPdf**		**06 33 36.0**	**0.0**
	0.8nm,0.6s,baz=116,slow=2.3,SNR=6.0							
FINES	**FINESS Array B**	**152.62**	**300**	PKPbc	**PKPbc**		**06 33 51.8**	**-1.4**
	1.5nm,0.8s,baz=60,slow=11,SNR=6.1							
GERES	**GERESS Array B**	**152.97**	**268**	PKPbc	**PKPbc**		**06 33 54.2**	**-0.4**
	0.8nm,0.9s,baz=142,slow=4.6,SNR=6.1							
ESDC	**Sonseca Array**	**155.00**	**233**	PKPab	**PKPab**		**06 34 14.9**	**+0.1**
	0.7nm,0.8s,baz=177,slow

0.9nm,0.3s,baz=90,slow=8.3,SNR=18
ASAR Alice Springs 34.14 256 P P 06 53 43.8 0.0
5.3nm,0.6s,baz=85,slow=9.1,SNR=102

SZGRF ***24*** *06:48:44.9, 19°.53S×177°.28W, h10km, Fiji Islands region*
BJI ***24*** *06:49:46.4, 18°.01S×177°.57W, h533km, mB4.9/16, mb4.6/29*
ISCJB ***24*** *06:49:48.2±0.8, 18°.02S±0°.06×178°.34W±0°.03, h521km±9km, mb4.6/102, Error ellipse: s-maj=10.3km s-min=4.3km az=164.5*
NEIC ***24*** *06:49:49.9±0.6, 18°.15S×178°.29W, h540km±7km, mb4.7/64, Error ellipse: s-maj=9.0km s-min=4.1km az=158.0*
IDC ***24*** *06:49:49.9±1.1, 18°.23S×178°.26W, h546km±12km, mb4.1/27, mb1 4.3/30, mb1mx4.1/43, mbtmp5.0/30, Error ellipse: s-maj=14.3km s-min=7.6km az=152.0*
MOS ***24*** *06:49:49.5±1.0, 17°.80S×178°.37W, h531km, mb4.6/13, Error ellipse: s-maj=11.4km s-min=8.8km az=147.5*

ISC 24 06:49:49.1±0.4, 18°.12S±0°.07×178°.19W±0°.05, h535km±4km, h535km: pP-P, n706, σ1§21/749, mb4.7/102, **188C-173D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**57**	*eP*		**P**		**06 51 42.1**	**+0.9**
AFI				*eS*		**S**		**06 53 07.8**	**-5.1**
AFI	**Afiamalu**	**7.46**	**57**	P		**P**		**06 51 42.1**	**+0.9**
	20nm,0.3s,baz=139,slow=3.1,SNR=17								
RAO	**Raoul Island**	**11.08**	**179**	P		**P**		**06 52 16.1**	**-1.8**
RAO	**Raoul Island**	**11.08**	**179**	P		**P**		**06 52 16.1**	**-1.8**
	329nm,0.3s,baz=258,slow=23,SNR=7.1								
DZM	**Mont Dzumac**	**14.96**	**252**	*eP*		**P**		**06 52 55.8**	**-2.7**
	125nm,0.9s								
DZM	**Mont Dzumac**	**14.96**	**252**	P		**P**		**06 52 58.4**	**-0.1**
DZM	**Mont Dzumac**	**14.96**	**252**	P		**P**		**06 52 58.4**	**-0.1**
	7.1nm,0.3s,baz=70,slow=18,SNR=26								
NOUC	**Port Laguerre**	**15.09**	**252**	*eP*		**P**		**06 53 02.8**	**+3.0**
NOUC	**Port Laguerre**	**15.09**	**252**	*eP*		**P**		**06 53 02.8**	**+3.0**
NOUC	**Port Laguerre**	**15.09**	**252**	*eP*		**P**		**06 53 02.8**	**+3.0**
KNTN	**Kanton**	**16.52**	**23**	*eP*		**P**		**06 53 14.2**	**0.0**
	166nm,0.8s								
RAR	**Rarotonga**	**17.61**	**103**	*eP*		**P**		**06 53 25.5**	**+1.2**
	74nm,1.0s								
RAR	**Rarotonga**	**17.61**	**103**	P		**P**		**06 53 25.4**	**+1.2**
	1.7nm,0.3s,baz=270,slow=5.7,SNR=10.0								
URZ	**Urewera**	**20.48**	**191**	*eP*		**P**		**06 53 48.9**	**-1.2**
URZ	**Urewera**	**20.48**	**191**	P		**P**		**06 53 47.7**	**-2.4**
	6.7nm,0.3s,baz=280,slow=3.8,SNR=22								
PAE	**Paea**	**27.22**	**94**	*eP*		**P**		**06 54 51.6**	**+1.2**
	13nm,1.2s								
PPT2	**Papeete2**	**27.23**	**93**	*eP*		**P**		**06 54 52.1**	**+1.5**
	56nm,1.3s								
TBI	**Tubuai**	**27.34**	**106**	*eP*		**P**		**06 54 53.1**	**+1.7**
	83nm,0.9s								
PMOR	**Pomariorio Ree**	**29.19**	**88**	*eP*		**P**		**06 55 09.0**	**+1.4**
	107nm,1.1s								
EIDS	**Eidsvold**	**29.39**	**250**	*eP*		**P**		**06 55 09.6**	**+0.4**
	29nm,0.8s								
EIDS	**Eidsvold**	**29.39**	**250**	P		**P**		**06 55 09.8**	**+0.6**
	baz=29,SNR=12								
VAH	**Vaihoa**	**29.40**	**89**	*eP*		**P**		**06 55 10.6**	**+1.2**
	110nm,1.2s								
ARMA	**Armidale**	**30.01**	**240**	*eP*		**P**		**06 55 15.7**	**+1.0**
	29nm,0.8s								
ARMA	**Armidale**	**30.01**	**240**	P		**P**		**06 55 16.0**	**+1.3**
	baz=29,SNR=31								
MGCD	**Mangrove Creek**	**31.34**	**235**	⇓P		**P**		**06 55 28.0**	**+2.0**
	baz=31,SNR=9.9								
RMQ	**Roma**	**31.62**	**249**	⇑P		**P**		**06 55 29.8**	**+1.4**
	baz=31,SNR=13								
CNB	**Canberra Magne**	**33.46**	**233**	⇓P		**P**		**06 55 45.6**	**+1.6**
	baz=33,SNR=29								
CTA	**Charters Tower**	**33.62**	**261**	P		**P**		**06 55 45.5**	**0.0**
CTA	**Charters Tower**	**33.62**	**261**	P		**P**		**06 55 45.5**	**0.0**
	26nm,0.6s,baz=90,slow=11,SNR=47								
CTA	**Charters Tower**	**33.62**	**261**	⇓P		**P**		**06 55 46.0**	**+0.6**
	baz=33								
CTAO	**Charters Tower**	**33.62**	**261**	*eP*		**P**		**06 55 45.9**	**+0.4**
CTAO					pmax		pmax		
	comp=Z,42nm,0.8s								
CTAO	**Charters Tower**	**33.62**	**261**	*eP*		**P**		**06 55 45.9**	**+0.4**
	comp=Z,42nm,0.8s								
CAN	**Canberra**	**33.74**	**233**	⇑P		**P**		**06 55 47.7**	**+1.4**
	baz=33								
PMG	**Port Moresby**	**34.70**	**280**	*eP*		**P**		**06 55 55.5**	**+0.9**
	comp=Z,65nm,0.9s								
PMG	**Port Moresby**	**34.70**	**280**	P		**P**		**06 55 56.3**	**+1.7**
	baz=34,SNR=6.4								
CMSA	**Cobar Meteorol**	**35.23**	**241**	⇓P		**P**		**06 55 59.5**	**+0.7**
	baz=35,SNR=37								
MTSU	**Mount Surprise**	**35.59**	**264**	⇓P		**P**		**06 56 02.4**	**+0.4**
	baz=35								
QLP	**Quilpie**	**35.65**	**250**	P		**P**		**06 56 02.6**	**+0.3**
	baz=35,SNR=37								
TOO	**Toolangi**	**37.20**	**231**	P		**P**		**06 56 16.1**	**+1.1**
	baz=37,SNR=27								
COEN	**Coen**	**37.31**	**271**	*eP*		**P**		**06 56 17.0**	**+0.8**
	comp=Z,285nm,0.8s								
COEN	**Coen**	**37.31**	**271**	P		**P**		**06 56 17.5**	**+1.3**
	baz=37,SNR=31								
STKA	**Stephens Creek**	**38.71**	**241**	P		**P**		**06 56 28.1**	**+0.7**
STKA	**Stephens Creek**	**38.71**	**241**	P		**P**		**06 56 28.1**	**+0.7**
	comp=Z,49nm,0.9s,baz=90,slow=9.5,SNR=85								
STKA	**Stephens Creek**	**38.71**	**241**	P		**P**		**06 56 28.4**	**+1.0**
	baz=38,SNR=80								
ARPS	**Mount Arapiles**	**39.69**	**234**	⇓P		**P**		**06 56 35.9**	**+0.8**
	baz=39,SNR=8.3								
QIS	**Mount Isa**	**39.82**	**259**	⇓P		**P**		**06 56 36.2**	**-0.3**
	baz=39,SNR=7.6								
JAY	**Jayapura**	**43.17**	**286**	P		**P**		**06 57 04.1**	**+1.0**
JAY	**Jayapura**	**43.17**	**286**	P		**P**		**06 57 04.1**	**+1.0**
	comp=Z,11nm,0.4s,baz=189,slow=10,SNR=4.7								
JAY	**Jayapura**	**43.17**	**286**	⇓P		**P**		**06 57 05.0**	**+2.0**
	baz=43								
BBOO	**Buckleboo**	**43.48**	**241**	*eP*		**P**		**06 57 05.5**	**+0.3**
	comp=Z,436nm,0.7s								
BBOO	**Buckleboo**	**43.48**	**241**	⇓P		**P**		**06 57 05.6**	**+0.3**
	baz=43,SNR=36								
WRAB	**Tennant Creek**	**44.79**	**260**	⇓*i*P		**P**		**06 57 15.1**	**-0.4**
WRAB	**Tennant Creek**	**44.79**	**260**	*eP*		**P**		**06 57 15.0**	**-0.6**
	comp=Z,25nm,0.6s								
WRA	**Warramunga Arr**	**44.80**	**260**	P		**P**		**06 57 15.3**	**-0.3**
WRA				PcP		**PcP**		**06 58 45.9**	**-0.3**
WRA				PP		**PP**		**06 59 14.1**	**+4.2**
WRA				S		**S**		**07 03 09.5**	**-4.7**
WRA	**Warramunga Arr**	**44.80**	**260**	P		**P**		**06 57 15.3**	**-0.3**
	comp=Z,16nm,0.5s,baz=96,slow=6.9,SNR=180								
WRA				PcP		**PcP**		**06 58 45.9**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=86,slow=3.5,SNR=5.7								
WRA				PP		**PP**		**06 59 14.1**	**+4.2**
	comp=Z,3.7nm,0.9s,baz=93,slow=9.0,SNR=5.1								
WRA				S		**S**		**07 03 09.5**	**-4.7**
	comp=Z,3.7nm,0.8s,baz=101,slow=12,SNR=7.8								
AS31	**Alice Springs**	**44.93**	**254**	*eP*		**P**		**06 57 16.7**	**+0.1**
ASAR	**Alice Springs**	**44.93**	**254**	P		**P**		**06 57 16.6**	**0.0**
ASAR				PcP		**PcP**		**06 58 46.4**	**-0.3**
ASAR				ScP		**ScP**		**07 01 48.5**	**+0.2**
ASAR				S		**S**		**07 03 12.7**	**-3.3**
ASAR	**Alice Springs**	**44.93**	**254**	P		**P**		**06 57 16.6**	**0.0**
	comp=Z,130nm,0.5s,baz=88,slow=8.7,SNR=1664								
ASAR				PcP		**PcP**		**06 58 46.4**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=92,slow=4.6,SNR=4.4								
ASAR				ScP		**ScP**		**07 01 48.5**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=105,slow=4.3,SNR=4.5								
ASAR				S		**S**		**07 03 12.7**	**-3.3**
	comp=Z,11nm,1.0s,baz=88,slow=15,SNR=35								
KDU	**Kakadu**	**47.76**	**269**	P		**P**		**06 57 38.3**	**+0.2**
	baz=47,SNR=4.8								
MTN	**Manton Dam**	**49.00**	**269**	P		**P**		**06 57 47.2**	**-0.2**
	baz=48,SNR=3.2								
WRKA	**Warakurna**	**49.98**	**252**	⇑P		**P**		**06 57 54.5**	**0.0**
	baz=49,SNR=167								
FORT	**Forrest**	**50.10**	**245**	*eP*		**P**		**06 57 54.8**	**-0.4**
	comp=Z,32nm,0.5s								
FORT	**Forrest**	**50.10**	**245**	P		**P**		**06 57 55.1**	**-0.1**
	baz=49,SNR=23								
KNRA	**Kununurra**	**50.67**	**264**	P		**P**		**06 57 59.6**	**0.0**
	baz=50,SNR=10								
MEEK	**Meekatharra**	**58.55**	**249**	P		**P**		**06 58 54.2**	**-0.6**
	baz=58,SNR=11								
MORW	**Morawa**	**60.59**	**246**	⇓P		**P**		**06 59 08.2**	**-0.1**
	baz=60,SNR=5.2								
MJAR	**Matsushiro Arr**	**68.20**	**323**	P		**P**		**06 59 55.6**	**-0.7**
MJAR	**Matsushiro Arr**	**68.20**	**323**	P		**P**		**06 59 55.6**	**-0.7**
	comp=Z,8.0nm,0.7s,baz=161,slow=6.2,SNR=34								
MAJO	**Matsushiro**	**68.20**	**323**	*eP*		**P**		**06 59 56.9**	**+0.6**
MAJO	**Matsushiro**	**68.20**	**323**	*eP*		**P**		**06 59 55.9**	**-0.4**
	comp=Z,1.6nm,0.6s								
MAT	**Matsushiro**	**68.20**	**323**	P		**P**		**06 59 55.7**	**-0.6**
UGM	**Wanagama**	**69.85**	**268**	⇑P		**P**		**07 00 06.6**	**-0.1**
	baz=69,SNR=5.5								
JNU	**Nakatsue**	**70.44**	**316**	*eP*		**P**		**07 00 09.4**	**-0.4**
	comp=Z,26nm,1.4s								
JNU	**Nakatsue**	**70.44**	**316**	P		**P**		**07 00 09.4**	**-0.4**
	comp=Z,14nm,1.0s,baz=106,slow=7.8,SNR=4.1								
ASAJ	**Asahikawa**	**71.56**	**331**	P		**P**		**07 00 16.6**	**+0.5**
ASAJ	**Asahikawa**	**71.56**	**331**	P		**P**		**07 00 16.6**	**+0.5**
	comp=Z,11nm,0.7s,baz=203,slow=4.7,SNR=7.8								
LEM	**Lembang**	**72.92**	**268**	⇑P		**P**		**07 00 25.8**	**+0.9**
	baz=72								
KSM	**Kuching**	**72.92**	**277**	*eP*		**P**		**07 00 25.4**	**+0.8**
KSM	**Kuching**	**72.92**	**277**	⇓P		**P**		**07 00 26.0**	**+1.3**
	baz=72								
YSS	**Yuzh-Sakhalins**	**73.70**	**333**	*eP*		**P**		**07 00 28.3**	**0.0**
PETK	**Petropavlovsk-**	**73.94**	**345**	P		**P**		**07 00 28.5**	**-1.1**
PETK	**Petropavlovsk-**	**73.94**	**345**	P		**P**		**07 00 28.5**	**-1.1**
PETK	**Petropavlovsk-**	**73.94**	**345**	P		**P**		**07 00 28.5**	**-1.1**
	comp=Z,19nm,0.8s,baz=139,slow=9.6,SNR=16								
KSRS	**Korea Array**	**75.00**	**318**	P		**P**		**07 00 37.0**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=136,slow=6.3,SNR=5.9								
KSAR	**Wonju Array Be**	**75.02**	**318**	P		**P**		**07 00 37.0**	**+1.0**
SCI	**San Clemente I**	**76.32**	**48**	⇓P		**P**		**07 00 44.9**	**+1.5**
	baz=77								
USRK	**Ussuriysk Arra**	**76.91**	**326**	P		**P**		**07 00 47.0**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=108,slow=6.2,SNR=7.5								
KMRM	**Mail Ridge**	**77.05**	**40**	*eP*		**P**		**07 00 49.3**	**+2.1**
	comp=Z,60nm,1.0s								
ARVC	**Arvin**	**77.28**	**46**	⇑P		**P**		**07 00 50.0**	**+1.5**
	baz=78								
109C	**Camp Elliot, M**	**77.30**	**49**	⇑P		**P**		**07 00 50.0**	**+1.3**
	baz=78								
VES	**Vestal, Richgr**	**77.50**	**46**	⇑P		**P**		**07 00 50.9**	**+1.2**
	baz=78,SNR=7.1								
MURC	**Murrieta**	**77.61**	**48**	⇓P		**P**		**07 00 51.5**	**+1.1**
	baz=78								
BFSC	**Mount Baldy Ra**	**77.62**	**48**	⇑P		**P**		**07 00 51.9**	**+1.4**
	baz=78								
EDW2	**Edwards Air Fo**	**77.73**	**47**	⇓P		**P**		**07 00 52.3**	**+1.2**
	baz=78,SNR=8.9								
MONP	**Monument Peak**	**77.80**	**49**	⇓P		**P**		**07 00 53.4**	**+1.7**
	baz=78								
CMB	**Columbia Colle**	**77.85**	**43**	*eP*		**P**		**07 00 52.5**	**+0.8**
CMB	**Columbia Colle**	**77.85**	**43**	*eP*		**P**		**07 00 52.5**	**+0.8**
OHCM	**Honcut**	**77.90**	**42**	*eP*		**P**		**07 00 52.9**	**+1.2**
WDC	**Whiskeytown Da**	**77.97**	**40**	*eP*		**P**		**07 00 53.6**	**+1.5**
WDC	**Whiskeytown Da**	**77.97**	**40**	*eP*		**P**		**07 00 53.6**	**+1.5**
N02D	**Trinity Center**	**78.11**	**40**	⇑P		**P**		**07 00 55.1**	**+2.1**
	baz=78								
PFO	**Pinyon Flat Ob**	**78.14**	**49**	P		**P**		**07 00 54.0**	**+0.6**
PFO	**Pinyon Flat Ob**	**78.14**	**49**	P		**P**		**07 00 54.0**	**+0.6**
	comp=Z,5.3nm,1.0s,baz=292,slow=4.0,SNR=4.7								
NJ2	**Nanjing**	**78.24**	**309**	*eP*		**P**		**07 00 53.8**	**+0.1**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
LRMC	**Laurel Mountai**	**78.26**	**47**	⇓P		**P**		**07 00 55.1**	**+1.2**
	baz=78								
M02C	**Callahan**	**78.27**	**39**	⇓P		**P**		**07 00 55.9**	**+2.0**
	baz=79								
SWSC	**Sam W. Stewart**	**78.28**	**50**	⇓P		**P**		**07 00 55.5**	**+1.6**
	baz=78								
L02D	**Cave Junction,**	**78.29**	**38**	⇓P		**P**		**07 00 55.8**	**+2.0**
	baz=79								
HABR	**Khabarovsk**	**78.30**	**330**	*eP*		**P**		**07 00 52.2**	**-1.5**
HABR				*e*				07 00 59.1	
HABR				*e**PP		**pP**		**07 02 45.1**	**-2.6**
HABR				*e**SP		**sP**		**07 03 39.7**	**-2.9**
HABR				*eS*		**S**		**07 10 03.3**	**-1.8**
HABR				*e*				07 10 22.6	
HABR				*e*SSS		SSS		07 18 51.5	
HABR					pmax		pmax		
	comp=Z,27nm,1.6s								
HABR					MLR		MLR		
	comp=Z,47nm,19.0s								
MDJ	**Mudanjiang**	**78.48**	**325**	*eP*		**P**		**07 00 55.0**	**+0.3**
	comp=Z,27nm,0.9s								
CWC	**Cottonwood Cre**	**78.50**	**46**	⇓P		**P**		**07 00 56.3**	**+1.0**
	baz=79,SNR=6.4								
KDAK	**Kodiak Island**	**78.56**	**14**	*eP*		**P**		**07 00 55.4**	**+0.5**
YBH	**Yreka Blue Hor**	**78.56**	**39**	P		**P**		**07 00 56.1**	**+0.7**
YBH	**Yreka Blue Hor**	**78.56**	**39**	P		**P**		**07 00 56.1**	**+0.7**
	comp=Z,20nm,1.1s,baz=230,slow=2.9,SNR=19								
MLAC	**Mammoth Lakes**	**78.65**	**44**	⇑P		**P**		**07 00 57.7**	**+1.6**
	baz=79								
BELC	**Belle Mtn. Jos**	**78.67**	**49**	⇑P		**P**		**07 00 57.9**	**+1.7**
	baz=79								
MTUM	**Tungsten Hills**	**78.67**	**45**	*eP*		**P**		**07 00 57.9**	**+1.7**
WAKR	**Walker**	**78.73**	**43**	*eP*		**P**		**07 00 57.8**	**+1.2**
TIN	**Tinemaha**	**78.74**	**45**	⇑P		**P**		**07 00 58.4**	**+1.9**
	baz=79								
DAC	**Darwin (Calif)**	**78.75**	**46**	*eP*		**P**		**07 00 55.8**	**-0.9**
DAC					pmax		pmax		
	comp=Z,18nm,1.1s								
DAC	**Darwin (Calif)**	**78.75**	**46**	*eP*		**P**		**07 00 55.8**	**-0.9**
	comp=Z,18nm,1.1s								
GSC	**Goldstone**	**78.78**	**47**	*eP*		**P**		**07 00 57.9**	**+1.2**
GSC					pmax		pmax		
	comp=Z,7.0nm,1.7s								
GSC	**Goldstone**	**78.78**	**47**	*eP*		**P**		**07 00 57.9**	**+1.2**
	comp=Z,6.8nm,1.7s								
GSC	**Goldstone**	**78.78**	**47**	⇓P		**P**		**07 00 58.4**	**+1.7**
	baz=79								
HEC	**Hector,Ludlow**	**78.86**	**48**	⇑P		**P**		**07 00 58.2**	**+1.0**
	baz=79,SNR=5.9								
HUMO	**Hull Mountain**	**78.94**	**38**	*eP*		**P**		**07 00 58.2**	**+0.9**
	comp=Z,26nm,1.1s								
GLA	**Glamis**	**79.03**	**50**	*eP*		**P**		**07 01 00.1**	**+2.0**
GLA					pmax		pmax		
	comp=Z,15nm,1.0s								
GLA	**Glamis**	**79.03**	**50**	*eP*		**P**		**07 01 00.1**	**+2.0**
	comp=Z,15nm,1.0s								
GLA	**Glamis**	**79.03**	**50**	⇓P		**P**		**07 01 00.1**	**+2.0**
	baz=79								
M04C	**Macdoel**	**79.11**	**39**	⇓P		**P**		**07 00 59.8**	**+1.4**
	baz=79								
GRAC	**Grapevine Rang**	**79.29**	**45**	⇑P		**P**		**07 01 00.9**	**+1.6**
	baz=80,SNR=11								
GMRC	**Granite Mounta**	**79.31**	**48**	⇑P		**P**		**07 01 00.8**	**+1.2**
	baz=80								
FURC	**Furnace Creek,**	**79.35**	**46**	⇓P		**P**		**07 01 01.1**	**+1.6**
	baz=80								
IRM	**Iron Mountain**	**79.36**	**49**	⇑P		**P**		**07 01 01.4**	**+1.7**
	baz=80								
I03D	**Drain, OR**	**79.38**	**37**	⇑P		**P**		**07 01 01.0**	**+1.4**
	baz=80								
NVAR	**Mina Array Bea**	**79.44**	**44**	P		**P**		**07 01 01.3**	**+1.0**
NVAR	**Mina Array Bea**	**79.44**	**44**	P		**P**		**07 01 01.3**	**+1.0**
	comp=Z,9.7nm,0.8s,baz=225,slow=9.2,SNR=67								
SHOC	**Shoshone**	**79.45**	**47**	⇑P		**P**		**07 01 01.4**	**+1.3**
	baz=80								
TUQ	**Turquoise Moun**	**79.46**	**47**	⇓P		**P**		**07 01 01.7**	**+1.3**
	baz=80,SNR=7.1								
Y12C	**Blythe**	**79.60**	**49**	⇓P		**P**		**07 01 02.8**	**+1.8**
	baz=80,SNR=6.8								
K04D	**Chiloquin, OR**	**79.66**	**39**	⇓P		**P**		**07 01 02.6**	**+1.3**
	baz=80								
113A	**Mohawk Valley,**	**79.67**	**51**	⇓P		**P**		**07 01 03.0**	**+1.7**
	baz=80								
J04D	**Umpqua Nationa**	**79.82**	**38**	⇓P		**P**		**07 01 03.8**	**+1.6**
	baz=80								
LDFC	**Landfair**	**79.85**	**48**	*eP*		**P**		**07 01 04.2**	**+1.8**
	comp=Z,24nm,0.9s								
TPH	**Tonopah**	**79.96**	**44**	*eP*		**P**		**07 01 04.3**	**+1.3**
TPH					pmax		pmax		
	comp=Z,20nm,1.1s								
TPH	**Tonopah**	**79.96**	**44**	*eP*		**P**		**07 01 04.3**	**+1.3**
	comp=Z,20nm,1.1s								
I04A	**Tendick Farm,**	**79.98**	**37**	⇑P		**P**		**07 01 03.7**	**+0.9**
	baz=80								
214A	**Organ Pipe Nat**	**79.98**	**52**	⇓P		**P**		**07 01 04.9**	**+1.8**
	baz=80								
MOD	**Modoc**	**80.12**	**40**	*eP*		**P**		**07 01 04.6**	**+0.9**
PDMCI	**Parker Dam,Lak**	**80.15**	**49**	⇑P		**P**		**07 01 05.4**	**+1.6**
	baz=80								
K05A	**Summer Lake**	**80.24**	**39**	*eP*		**P**		**07 01 05.7**	**+1.3**
	comp=Z,41nm,1.0s								
CN2	**Changchun**	**80.32**	**322**	*eP*		**P**		**07 01 04.8**	**+0.3**
CN2					pmax		pmax		
	comp=Z,20nm,1.0s								
G03D	**McMinnville, O**	**80.35**	**36**	⇓P		**P**		**07 01 06.2**	**+1.6**
	baz=81								
J05D	**Fort Rock, OR**	**80.36**	**38**	⇓P		**P**		**07 01 06.7**	**+1.8**
	baz=81								
SHPR	**Sheep Range**	**80.54**	**47**	*eP*		**P**		**07 01 07.2**	**+1.1**
Z14A	**Wintersburg**	**80.56**	**50**	⇑P		**P**		**07 01 07.9**	**+1.9**
	baz=81								
H04A	**Detroit Lake**	**80.64**	**37**	*eP*		**P**		**07 01 06.8**	**+0.6**
	comp=Z,17nm,0.8s								
W13A	**Hualapai Mount**	**80.73**	**48**	⇑P		**P**		**07 01 08.4**	**+1.3**
	baz=81,SNR=5.3								
Y14A	**Wickenburg**	**80.79**	**50**	⇑P		**P**		**07 01 08.9**	**+1.6**
	baz=81,SNR=7.6								
PINOR	**Pine Mountain**	**80.88**	**38**	*eP*		**P**		**07 01 08.5**	**+1.1**
	comp=Z,39nm,1.0s								
I05D	**Terrebonne, OR**	**80.92**	**37**	⇓P		**P**		**07 01 09.0**	**+1.3**
	baz=81								
RSO	**Redoubt South**	**80.97**	**12**	*eP*		**P**		**07 01 07.4**	**-0.3**
F04D	**Rainier, OR**	**81.03**	**35**	⇓P		**P**		**07 01 09.7**	**+1.6**
	baz=81								
R11A	**Troy Canyon, C**	**81.20**	**45**	*eP*		**P**		**07 01 10.5**	**+1.1**
	comp=Z,6.3nm,1.0s								
R11A	**Troy Canyon, C**	**81.20**	**45**	⇑P		**P**		**07 01 10.6**	**+1.1**
	baz=82								
BMN	**Battle Mountai**	**81.23**	**42**	*eP*		**P**		**07 01 10.5**	**+1.0**
BMN					pmax		pmax		
	comp=Z,25nm,1.0s								
BMN	**Battle Mountai**	**81.23**	**42**	*eP*		**P**		**07 01 10.5**	**+1.0**
	comp=Z,25nm,1.0s								
F04A	**Amboy**	**81.26**	**36**	*eP*		**P**		**07 01 10.9**	**+1.6**
	comp=Z,36nm,1.1s								
VLL	**Laurance Lake**	**81.39**	**36**	P		**P**		**07 01 11.4**	**+1.2**
WVOR	**Wild Horse Val**	**81.44**	**40**	*eP*		**P**		**07 01 11.5**	**+1.0**
WVOR	**Wild Horse Val**	**81.44**	**40**	*eP*		**P**		**07 01 11.5**	**+1.0**
VIPM	**Ingram Point**	**81.44**	**38**	P		**P**		**07 01 11.7**	**+1.2**
VIPM	**Ingram Point**	**81.44**	**38**	P		**P**		**07 01 11.7**	**+1.2**
G05D	**Wamic, OR**	**81.47**	**37**	⇑P		**P**		**07 01 12.4**	**+1.9**
	baz=82								
TDL	**Tradedollar La**	**81.63**	**35**	P		**P**		**07 01 12.4**	**+1.1**
TUC	**Tucson**	**81.67**	**52**	*eP*		**P**		**07 01 13.6**	**+1.7**
TUC	**Tucson**	**81.67**	**52**	*eP*		**P**		**07 01 13.6**	**+1.7**
GAMB	**Gambell**	**81.79**	**3**	*eP*		**P**		**07 01 12.4**	**+0.9**
	comp=Z,67nm,1.8s								
I07A	**Izee**	**81.85**	**38**	*eP*		**P**		**07 01 13.6**	**+1.0**
	comp=Z,29nm,0.9s								
G06A	**Carlson Farm,**	**81.85**	**37**	*eP*		**P**		**07 01 13.4**	**+1.0**
	comp=Z,24nm,1.1s								
X16A	**Lo Mia Camp, P**	**82.16**	**50**	⇑P		**P**		**07 01 16.3**	**+1.9**
	baz=82,SNR=17								
RC01	**Rabbit Creek A**	**82.18**	**14**	*eP*		**P**		**07 01 14.1**	**+0.5**
D05A	**Enumclaw**	**82.26**	**35**	*eP*		**P**		**07 01 16.0**	**+1.6**
	comp=Z,49nm,1.1s								
CCUT	**Cedar City**	**82.31**	**47**	*eP*		**P**		**07 01 16.9**	**+1.7**
	comp=Z,13nm,0.9s								
ARUT	**Antelope Range**	**82.37**	**46**	*eP*		**P**		**07 01 16.7**	**+1.3**
ARUT	**Antelope Range**	**82.37**	**46**	*eP*		**P**		**07 01 16.7**	**+1.3**
	comp=Z,253nm,1.2s								
319A	**Douglas**	**82.39**	**54**	⇓P		**P**		**07 01 17.8**	**+2.2**
	baz=83								
ELK	**Elko**	**82.67**	**43**	*eP*		**P**		**07 01 18.1**	**+1.2**
ELK	**Elko**	**82.67**	**43**	P		**P**		**07 01 18.2**	**+1.2**
	comp=Z,10nm,0.9s,baz=174,slow=2.0,SNR=34

ILAR **Eielson Array** 86.05 13 P P 07 01 31.6 -1.0
comp=Z,6.7nm,0.8s,baz=231,slow=5.3,SNR=48
ILAR PP PP 07 05 03.0 0.0
comp=Z,2.5nm,1.0s,baz=226,slow=7.3,SNR=5.5
ANMO Albuquerque 86.07 51 *eP* P 07 01 34.8 +1.1
comp=Z,10nm,1.1s
225A Deer Hill, Car 86.13 55 ⇑P P 07 01 35.3 +1.2
baz=86
V22A San Miguel Ran 86.15 50 ⇓P P 07 01 35.1 +1.0
baz=86
627A Terlingua Ranc 86.20 58 ⇓P P 07 01 36.1 +1.7
baz=86,SNR=13
MCMT McKenzie Canyo 86.27 40 *eP* P 07 01 35.2 +0.8
comp=Z,9.2nm,1.1s
Y24A Capitan 86.41 53 ⇓P P 07 01 36.8 +1.5
baz=87,SNR=15
125A Gardner Draw, 86.48 54 ⇓P P 07 01 37.2 +1.6
baz=87
XAN Xi'an 86.56 307 P P 07 01 36.8 +1.0
XAN pmax pmax
comp=Z,7.0nm,1.0s
V23A Ortiz Mt. (NFS 86.61 51 ⇓P P 07 01 37.8 +1.5
baz=87
628A Black Gap, Mar 86.62 58 ⇓P P 07 01 37.9 +1.7
baz=87,SNR=8.8
MSO Missoula 86.62 38 *eP* P 07 01 36.0 +0.1
comp=Z,79nm,2.8s
MSO Missoula 86.62 38 ⇑P P 07 01 36.7 +0.8
baz=87
226B Tecolote Peak, 86.63 55 ⇓P P 07 01 37.4 +1.1
baz=87,SNR=5.5
BSMT Bassoo Peak 86.66 37 *eP* P 07 01 36.5 +0.3
BILL Bilibino 86.67 354 ⇑*i*P P 07 01 35.4 -0.1
BILL *e* 07 05 09.2
BILL pmax pmax
comp=Z,56nm,0.9s
BILL Bilibino 86.67 354 *eP* P 07 01 35.2 -0.2
comp=Z,11nm,1.1s
DLMT Dillon 86.69 40 *eP* P 07 01 37.6 +1.3
comp=Z,12nm,0.8s
Z25A Roswell 86.69 54 ⇓P P 07 01 37.2 +0.6
baz=87
427A Hayter Ranch, 86.74 56 ⇓P P 07 01 38.5 +1.7
baz=87,SNR=9.4
REDW Red Top Meadow 86.81 42 *eP* P 07 01 38.2 +1.2
U23A El Rito 86.85 50 ⇓P P 07 01 38.7 +1.3
baz=87
W24A Lazy 6 Ranch, 86.96 52 ⇓P P 07 01 38.9 +1.0
baz=87
528A Cox Ranch, San 86.96 57 ⇓P P 07 01 39.4 +1.5
baz=87
Y25A Mesa, Roswell 86.97 53 ⇓P P 07 01 39.1 +1.2
baz=87
S22A 4UR Ranch, Cre 86.99 49 ⇑P P 07 01 39.4 +1.2
baz=87
LRM Linekiln Ridge 87.01 40 *eP* P 07 01 38.8 +0.9
O20A White River Ci 87.05 46 *eP* P 07 01 39.3 +1.1
comp=Z,81nm,2.5s
O20A White River Ci 87.05 46 ⇓P P 07 01 39.5 +1.3
baz=87
MOOW Moose Ponds 87.06 42 *eP* P 07 01 39.3 +1.1
comp=Z,10.0nm,1.2s
CHMT Chamberlain Mo 87.07 38 *eP* P 07 01 38.5 +0.3
LOHW Long Hollow 87.08 42 *eP* P 07 01 39.4 +1.0
comp=Z,9.9nm,1.0s
FLWY Flagg Ranch 87.25 42 *eP* P 07 01 40.8 +1.7
I17A Pilgrim Ck. 87.25 42 ⇑P P 07 01 40.8 +1.8
baz=88,SNR=8.8
Z26A Caprock 87.25 54 ⇑P P 07 01 39.8 +0.6
baz=88,SNR=5.4
428A Kincaid Ranch, 87.26 57 ⇓P P 07 01 40.8 +1.5
baz=88
N20A Spence Gulch, 87.35 46 ⇓P P 07 01 40.8 +1.2
baz=88
YMR Madison River 87.36 41 *eP* P 07 01 41.5 +2.0
BW06 Boulder Array 87.36 43 *eP* P 07 01 40.2 +0.5
comp=Z,9.0nm,0.9s
PDAR Pinedale Array 87.36 43 P P 07 01 40.1 +0.5
PDAR PP PP 07 05 12.6 -1.7
PDAR Pinedale Array 87.36 43 P P 07 01 40.1 +0.5
comp=Z,6.8nm,0.8s,baz=211,slow=3.1,SNR=46
PDAR PP PP 07 05 12.6 -1.7
comp=Z,1.0nm,1.1s,baz=235,slow=5.2,SNR=4.2
EGAK Eagle 87.37 15 *eP* P 07 01 39.0 +0.2
comp=Z,20nm,1.1s
529A Stev Forest Ra 87.40 57 ⇑P P 07 01 41.0 +1.1
baz=88,SNR=7.2
328A Wristen Ranch, 87.42 56 ⇓P P 07 01 41.4 +1.5
baz=88
H17A Grant Village 87.47 42 *eP* P 07 01 42.6 +2.4
H17A Grant Village 87.47 42 ⇑P P 07 01 42.4 +2.2
baz=88,SNR=11
127A Arkansas Junct 87.50 55 ⇓P P 07 01 41.4 +1.1
baz=88
SMCO Snowmass 87.51 47 *eP* P 07 01 41.7 +1.1
comp=Z,42nm,2.1s
HHC Hu-ho-hao-te 87.57 314 *eP* P 07 01 39.5 -1.0
HHC PP PP 07 05 18.3 +2.5
HHC S S 07 11 35.8 -1.5
HHC sS sS 07 15 05.8 -0.6
HHC SS SS 07 17 40.0 +0.3
HHC pmax pmax
comp=Z,39nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.4s
COLD Coldfoot 87.59 11 *eP* P 07 01 40.4 +0.6
Y26A Elida 87.63 53 ⇑P P 07 01 42.1 +1.1
baz=88
W25A X Bar L Ranch, 87.67 52 ⇑P P 07 01 42.3 +1.1
baz=88
T24B San Luis 87.75 50 ⇑P P 07 01 43.1 +1.4
baz=88
WALA Waterton Lakes 87.79 36 *eP* P 07 01 42.0 +0.7
V25A Rancho No Teng 87.81 51 ⇓P P 07 01 43.1 +1.3
baz=88
P22A Eagle 87.84 47 ⇑P P 07 01 43.1 +1.1
baz=88
429A Davenport Ranc 87.85 57 ⇓P P 07 01 43.4 +1.4
baz=88,SNR=17
Z27A Tatum 87.86 54 ⇑P P 07 01 42.7 +0.7
baz=88
228A UT Block 9, Go 87.87 55 ⇓P P 07 01 43.2 +1.1
baz=88
R23A Moffat 87.90 49 ⇑P P 07 01 43.6 +1.2
baz=88
J19A Crowheart 87.92 43 ⇓P P 07 01 43.0 +0.8
baz=88,SNR=11
329A Wagon Wheel Ra 88.11 56 ⇓P P 07 01 44.3 +1.1
baz=88,SNR=5.1
S24A Houchin Ranch, 88.11 49 ⇓P P 07 01 44.6 +1.2
baz=88
530A J-C Ranch, Com 88.12 58 ⇓P P 07 01 44.7 +1.4
baz=88,SNR=6.5
Y27A Causey 88.12 54 ⇓P P 07 01 44.2 +0.9
baz=88
W26A Owens Ranch, T 88.14 52 ⇑P P 07 01 44.2 +0.8
baz=88
128A Castleberry Fa 88.15 55 ⇓P P 07 01 44.6 +1.2
baz=88,SNR=5.2
H18A Shoshone NF, C 88.18 42 ⇑P P 07 01 44.8 +1.4
baz=88
U25A Circle Dot Ran 88.19 51 ⇑P P 07 01 44.6 +0.9
baz=88
O22A Kremmling 88.23 47 ⇓P P 07 01 44.6 +0.8
baz=88
I19A Meeteetse 88.31 42 ⇑P P 07 01 45.2 +1.1
baz=89,SNR=7.6
V26A Tequesquite Ra 88.41 52 ⇑P P 07 01 45.9 +1.4
baz=89
229A Bryant Ranch, 88.43 56 ⇑P P 07 01 45.8 +1.1
baz=89
430A Baggett Ranch, 88.44 57 ⇓P P 07 01 45.7 +0.9
baz=89
MSTX Muleshoe 88.45 54 *eP* P 07 01 45.8 +1.0
MSTX Muleshoe 88.45 54 ⇑P P 07 01 45.8 +1.0
baz=89
631A Perdido Creek 88.46 58 ⇓P P 07 01 46.3 +1.4
baz=89,SNR=14
X27A F and S Farms, 88.47 53 ⇑P P 07 01 45.7 +0.8
baz=89
Z28A Tucker Farm, M 88.48 54 ⇓P P 07 01 45.9 +1.0
baz=89
T25A Trinidad 88.49 50 ⇓P P 07 01 46.4 +1.4
baz=89
832A Faith Ranch, C 88.54 60 ⇓P P 07 01 46.7 +1.6
baz=89
N22A Wattenberg Ran 88.57 46 ⇓P P 07 01 46.7 +1.3
baz=89,SNR=6.4
J20A Shoshoni 88.59 43 ⇓P P 07 01 46.6 +1.3
baz=89,SNR=15
H19A Powell 88.61 42 ⇑P P 07 01 46.7 +1.3
baz=89,SNR=9.7
129A Stewart Farms, 88.64 55 ⇓P P 07 01 47.1 +1.5
baz=89
W27A Bowe Ranch, En 88.66 52 ⇓P P 07 01 46.5 +0.7
baz=89
U26A Atchley Ranch, 88.68 51 ⇓P P 07 01 46.6 +0.7
baz=89
S25A Robets Cordova 88.68 50 ⇓P P 07 01 46.8 +1.0
baz=89
O23A Lake Granby, G 88.69 47 ⇑P P 07 01 47.4 +1.4
baz=89
732A Laxson Ranch, 88.70 59 ⇓P P 07 01 47.5 +1.6
baz=89
Q24A Divide 88.70 48 ⇑P P 07 01 47.7 +1.6
baz=89
330A Mertzon 88.72 56 ⇑P P 07 01 46.8 +0.8
baz=89
M22A Cedar Creek Ra 88.73 46 ⇑P P 07 01 47.5 +1.4
baz=89
531A Rocksprings 88.76 58 ⇓P P 07 01 47.7 +1.4
baz=89,SNR=7.5
K21A Alcova 88.82 44 ⇑P P 07 01 47.3 +0.8
baz=89,SNR=7.4
Y28A McKinney Farm, 88.83 54 ⇓P P 07 01 47.8 +1.2
baz=89
I20A Worland 88.83 43 ⇓P P 07 01 47.4 +1.1
baz=89,SNR=9.2
933A Laredo 88.87 61 ⇑P P 07 01 48.2 +1.4
baz=89
431A Sonora 88.90 57 ⇓P P 07 01 47.8 +0.9
baz=89
N23A Red Feather La 88.96 46 ⇓P P 07 01 48.5 +1.3
baz=89,SNR=5.5
Z29A Hungry Hill Ra 89.00 55 ⇑P P 07 01 48.3 +1.0
baz=89
J21A Lysite 89.01 44 ⇓P P 07 01 48.6 +1.3
baz=89,SNR=6.5
833A Chaparral WMA, 89.03 60 ⇑P P 07 01 49.1 +1.7
baz=89
T26A Comanche Natio 89.10 50 ⇑P P 07 01 49.4 +1.5
baz=89
V27A Dan Oppiter Fa 89.10 52 ⇓P P 07 01 49.4 +1.6
baz=89
X28A Dimmitt 89.10 53 ⇓P P 07 01 48.8 +1.0
baz=89
L22A Ellis Ranch, M 89.11 45 ⇑P P 07 01 49.5 +1.7
baz=89
632A Uvalde 89.13 59 ⇑P P 07 01 49.8 +1.8
baz=89,SNR=7.6
CMAR Chiang Mai Arr 89.15 290 P P 07 01 48.9 +0.6
CMAR Chiang Mai Arr 89.15 290 P P 07 01 48.9 +0.6
comp=Z,1.0nm,0.4s,baz=114,slow=2.3,SNR=6.6
H20A Greybull 89.16 42 ⇑P P 07 01 48.7 +0.9
baz=89,SNR=10
034A Hebbronville 89.17 61 ⇑P P 07 01 50.4 +2.3
baz=89
F19A Roth Farm, Mol 89.18 41 ⇓P P 07 01 49.2 +1.3
baz=89
O24A Longmont 89.24 47 ⇑P P 07 01 49.7 +1.3
baz=90
733A Divot King Ran 89.25 60 ⇑P P 07 01 49.9 +1.4
baz=90
Y29A Porterfield Fa 89.25 54 ⇓P P 07 01 49.6 +1.1
baz=90,SNR=8.8
532A Rocksprings 89.26 58 ⇓P P 07 01 50.0 +1.4
baz=90
331A San Angelo 89.28 57 ⇓P P 07 01 49.8 +1.2
baz=90
I21A Big Trails, Te 89.31 43 ⇑P P 07 01 49.4 +0.8
baz=90,SNR=14
K22A Casper 89.31 44 *eP* P 07 01 49.5 +0.8
comp=Z,17nm,1.3s
K22A Casper 89.31 44 ⇓P P 07 01 49.8 +1.1
baz=90
130A Snyder 89.33 55 ⇓P P 07 01 49.8 +1.0
baz=90
G20A Bridger 89.35 42 ⇓P P 07 01 49.4 +0.7
baz=90
CD2 Chengdu 89.36 303 *eP* P 07 01 49.3 +0.3
CD2 pmax pmax
comp=Z,10.0nm,1.0s
S26A Kim 89.37 50 ⇓P P 07 01 50.4 +1.4
baz=90
U27A Thompson Grove 89.37 51 ⇑P P 07 01 50.4 +1.4
baz=90
X29A Tulia 89.45 53 ⇓P P 07 01 50.3 +0.8
baz=90
Z30A Sanderson Ranc 89.46 55 ⇑P P 07 01 50.2 +0.7
baz=90
JCT Junction City 89.47 58 ⇓P P 07 01 50.5 +0.9
baz=90
E19A Rath Farm, Rou 89.55 40 ⇑P P 07 01 50.9 +1.3
baz=90
231A Bronte 89.59 56 ⇑P P 07 01 50.9 +0.8
baz=90,SNR=5.3
633A Saathoff Ranch 89.61 59 ⇑P P 07 01 51.6 +1.4
baz=90,SNR=6.2
432A Menard 89.62 57 ⇑P P 07 01 51.0 +0.8
baz=90,SNR=13
P25A Willow Gulch B 89.62 48 ⇑P P 07 01 51.3 +1.1
baz=90
AMTX Amarillo 89.64 53 ⇑P P 07 01 51.4 +1.1
baz=90
L23A Garrett 89.64 45 ⇓P P 07 01 51.1 +0.9
baz=90,SNR=10
F20A Billings 89.65 41 ⇑P P 07 01 51.3 +1.3
baz=90
R26A Arlington 89.65 49 ⇓P P 07 01 51.0 +0.7
baz=90
J22A Midwest 89.67 44 ⇓P P 07 01 51.2 +0.9
baz=90,SNR=8.9
T27A Campo 89.69 51 ⇑P P 07 01 51.5 +1.0
baz=90
W29A Amraillo 89.75 53 ⇓P P 07 01 51.9 +1.1
baz=90
131A Roby 89.81 56 ⇑P P 07 01 52.3 +1.2
baz=90
D19A Cripps Ranch, 89.81 40 ⇑P P 07 01 52.2 +1.5
baz=90
H21A Big Horn, Sher 89.83 43 ⇑P P 07 01 52.0 +1.1
baz=90
332A Millersview 89.85 57 ⇓P P 07 01 52.2 +1.0
baz=90,SNR=7.8
Y30A Stafford Catti 89.86 54 ⇑P P 07 01 52.2 +1.0
baz=90
I22A 9 Mile Ranch, 89.88 43 ⇑P P 07 01 52.4 +1.2
baz=90,SNR=8.5
533A Kerrville 89.95 58 ⇓P P 07 01 52.9 +1.1
baz=90,SNR=7.3
K23A Bowen Ranch, D 89.96 45 ⇑P P 07 01 52.6 +1.0
baz=90,SNR=5.4
M24A Cheyenne 89.97 46 ⇑P P 07 01 52.5 +0.8
baz=90
C19A Slack Wire Ran 89.97 39 ⇓P P 07 01 53.2 +1.7
baz=90
E20A Meyer Farm, Mu 89.97 40 ⇓P P 07 01 53.2 +1.7
baz=90
232A Coleman 90.11 56 ⇑P P 07 01 53.9 +1.4
baz=90
R27A Eads 90.12 50 ⇑P P 07 01 54.0 +1.5
baz=90
L24A Wheatland 90.13 46 ⇓P P 07 01 54.0 +1.6
baz=90
V29A Stinnett 90.13 52 ⇓P P 07 01 54.3 +1.8
baz=90
433A Art 90.14 58 ⇓P P 07 01 53.5 +0.9
baz=90,SNR=8.3
EDM Edmonton 90.23 33 *eP* P 07 01 51.7 -0.8
EDM Edmonton 90.23 33 *eP* P 07 01 51.7 -0.8
D20A Manuel Ranch, 90.23 40 ⇓P P 07 01 54.4 +1.7
baz=90
Z31A Sharp Cattle R 90.24 55 ⇓P P 07 01 54.1 +1.1
baz=90
H22A Clearmont 90.26 43 ⇑P P 07 01 54.4 +1.5
baz=90
F21A Absaloka Mine, 90.30 41 ⇓P P 07 01 54.6 +1.5
baz=91
B19A Brinkman Farms 90.37 38 ⇓P P 07 01 55.0 +1.8
baz=91
ABTX Abilene, Hawle 90.38 56 *eP* P 07 01 54.7 +1.1
ABTX Abilene, Hawle 90.38 56 ⇑P P 07 01 54.7 +1.1
baz=91
Y31A Rekieta Farm, 90.38 54 ⇑P P 07 01 54.8 +1.1
baz=91
534A Blanco 90.38 59 ⇓P P 07 01 54.9 +1.2
baz=91,SNR=7.6
333A Richland Sprin 90.43 57 ⇑P P 07 01 54.8 +0.8
baz=91
M25A Palm-Egli Farm 90.48 46 ⇓P P 07 01 55.9 +1.8
baz=91
S28A Manter 90.50 51 ⇑P P 07 01 55.5 +1.3
baz=91
735A Kenedy 90.52 60 ⇑P P 07 01 56.1 +1.8
baz=91
C20A Veseth Ranch, 90.59 39 ⇑P P 07 01 55.8 +1.5
baz=91
A19A Klindworth Far 90.70 38 ⇑P P 07 01 55.8 +1.0
baz=91
233A Rising Star 90.75 57 ⇓P P 07 01 56.3 +0.9
baz=91,SNR=5.3
Z32A Haskell 90.75 55 ⇑P P 07 01 56.4 +1.0
baz=91,SNR=9.0
434A Burnet 90.83 58 ⇓P P 07 01 56.9 +1.2
baz=91,SNR=5.7
F22A Rosebud 90.83 42 ⇓P P 07 01 56.8 +1.3
baz=91
L25A Engebretsen Ra 90.83 46 ⇓P P 07 01 57.0 +1.3
baz=91
R28A Tribune 90.86 50 ⇑P P 07 01 57.5 +1.7
baz=91,SNR=6.7
D21A La Casta Ranch 90.92 40 ⇓P P 07 01 57.3 +1.4
baz=91
133A Hamilton Ranch 90.94 56 ⇑P P 07 01 57.5 +1.2
baz=91
Y32A R-V Farms, Ver 91.03 55 ⇑P P 07 01 57.8 +1.1
baz=91
334A Lometa 91.03 57 ⇓P P 07 01 57.6 +0.9
baz=91,SNR=5.3
W31A Holland Ranch, 91.07 53 ⇑P P 07 01 58.0 +1.1
baz=91
K25A Mack Ranch, Ha 91.08 45 ⇓P P 07 01 58.5 +1.7
baz=91
S29A Ulysses 91.09 51 ⇑P P 07 01 58.4 +1.5
baz=91
M26A McRoberts Ranc 91.12 47 ⇓P P 07 01 58.3 +1.3
baz=91
G23A Biddle 91.14 42 ⇑P P 07 01 58.5 +1.6
baz=91
A20A Cobblestone Ra 91.16 38 ⇓P P 07 01 58.1 +1.2
baz=91
LZH Lanzhou 91.19 308 *eP* P 07 01 59.3 +1.8
LZH sP sP 07 04 51.3 +1.9
LZH pmax pmax
comp=Z,34nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.8s
X32A Elmer 91.30 54 ⇓P P 07 01 58.6 +0.8
baz=92
Z33A Whitaker Ranch 91.30 55 ⇓P P 07 01 58.9 +1.0
baz=92
E22A Miles City 91.30 41 ⇓P P 07 01 58.9 +1.3
baz=92
F23A Volborg 91.34 42 ⇓P P 07 01 59.2 +1.4
baz=92
234A Clairette 91.35 57 ⇑P P 07 01 59.3 +1.2
baz=92
V31A Spring Creek L 91.36 53 ⇑P P 07 02 00.0 +1.9
baz=92
R29A Marienthal 91.38 50 ⇓P P 07 01 59.6 +1.4
baz=92
D22A Cohagen 91.46 40 ⇑P P 07 01 59.6 +1.3
baz=92
H24A Dirks Ranch, A 91.49 43 ⇑P P 07 01 59.4 +0.8
baz=92
RSSD Black Hills 91.58 44 *eP* P 07 01 59.7 +0.5
RSSD pmax pmax
comp=Z,2.0nm,0.8s
RSSD Black Hills 91.58 44 *eP* P 07 01 59.7 +0.5
comp=Z,1.6nm,0.8s
S30A Montezuma 91.58 51 ⇑P P 07 02 00.3 +1.1
baz=92
W32A Sentinel 91.58 54 ⇓P P 07 02 00.3 +1.1
baz=92,SNR=5.9
K26A Motz Farm, Whi 91.58 45 ⇓P P 07 02 00.6 +1.5
baz=92,SNR=6.2
Q29A Oakley 91.67 50 ⇓P P 07 02 00.6 +1.1
baz=92
Y33A Hilltop Ranch, 91.67 55 ⇑P P 07 02 00.3 +0.8
baz=92
335A Moody 91.67 58 ⇓P P 07 02 00.7 +1.1
baz=92
I25A Rochford 91.73 44 ⇓P P 07 02 00.9 +1.0
baz=92
N28A Pribbeno Ranch 91.94 48 ⇑P P 07 02 01.8 +1.1
baz=92
V32A Arapaho 91.95 53 ⇓P P 07 02 02.1 +1.3
baz=92
X33A Lawton 91.95 54 ⇑P P 07 02 01.7 +0.9
baz=92
R30A Dighton 91.95 50 ⇑P P 07 02 02.1 +1.3
baz=92
T31A Randall Ranch, 91.97 52 ⇓P P 07 02 02.2 +1.3
baz=92
F24A Ekalaka 92.01 42 ⇑P P 07 02 02.6 +1.7
baz=92
INK Inuvik 92.04 15 *eP* P 07 01 59.8 -0.6
INK Inuvik 92.04 15 P P 07 01 59.7 -0.7
comp=Z,14nm,1.0s,baz=219,slow=5.5,SNR=33
B22A Reddig Ranch S 92.06 40 ⇓P P 07 02 02.6 +1.6
baz=92
H25A Fruitdale 92.06 44 ⇑P P 07 02 02.4 +1.2
baz=92
D23A Lindsay 92.07 41 ⇓P P 07 02 03.1 +1.9
baz=92
W33A Caddo, Fort Co 92.19 54 ⇑P P 07 02 03.3 +1.4
baz=92
U32A Winter Ranch, 92.22 52 ⇑P P 07 02 03.1 +1.0
baz=92
K27A Flueckinger Fa 92.22 46 ⇑P P 07 02 03.2 +1.2
baz=92
S31A Mullinville 92.30 51 ⇑P P 07 02 03.7 +1.3
baz=92
Y34A Reagan Ranch, 92.32 55 ⇑P P 07 02 03.5 +1.0
baz=92
C23A Lambert 92.35 40 ⇓P P 07 02 04.1 +1.7
baz=93
P30A Selden 92.43 49 ⇑P P 07 02 04.2 +1.2
baz=93
R31A Burdett 92.50 51 ⇓P P 07 02 04.6 +1.3
baz=93
T32A Huddler Ranch, 92.56 52 ⇓P P 07 02 04.9 +1.3
baz=93
V33A Lossen Ranch, 92.56 53 ⇓P P 07 02 05.0 +1.4
baz=93
J27A Elkhorn Farm, 92.59 45 ⇑P P 07 02 05.0 +1.4
baz=93
D24A Glendive 92.60 41 ⇑P P 07 02 05.2 +1.6
baz=93
C24A Savage 92.70 41 ⇓P P 07 02 05.8 +1.8
baz=93
S32A Newby Ranch, P 92.73 51 ⇑P P 07 02 05.8 +1.4
baz=93
M29A Burnside Ranch 92.82 47 ⇑P P 07 02 06.1 +1.3
baz=93
R32A Long Quarter, 93.15 51 ⇑P P 07 02 07.6 +1.3
baz=93,SNR=10
J28A Allard Ranch, 93.17 45 ⇑P P 07 02 07.6 +1.2
baz=93
DGMT Dagmar 93.23 40 *eP* P 07 02 07.4 +1.0
comp=Z,21nm,0.8s
DGMT Dagmar 93.23 40 ⇓P P 07 02 07.9 +1.5
baz=94
D25A Fairfield 93.24 41 ⇑P P 07 02 08.0 +1.5
baz=94
O31A Woolen Ranch, 93.31 49 ⇑P P 07 02 07.8 +0.8
baz=94
I28A Midland 93.43 45 ⇑P P 07 02 09.0 +1.5
baz=94
ULN Ulaanbaatar 93.45 319 *eP* P 07 02 07.8 +0.2
Q32A Meitler Ranch, 93.46 50 ⇑P P 07 02 09.0 +1.3
baz=94,SNR=6.1
K29A Lazy Trails An 93.56 46 ⇑P P 07 02 09.2 +1.1
baz=94
F27A Lemmon 93.58 43 ⇑P P 07 02 09.4 +1.3
baz=94
R33A Olander Ranch, 93.65 51 ⇓P P 07 02 10.1 +1.5
baz=94
P32A Huiting Farm, 93.65 50 ⇑P P 07 02 09.7 +1.2
baz=94
L30A Spencer Herefo 93.68 47 ⇑P P 07 02 10.0 +1.3
baz=94
D26A Manning 93.75 42 ⇓P P 07 02 10.4 +1.6

baz=94
SONM Songino Array 93.85 319 P P 07 02 09.8 +0.4
SONM Songino Array 93.85 319 P P 07 02 09.8 +0.4
comp=Z,0.9nm,0.7s,baz=122,slow=4.4,SNR=6.5
M31A Lambtecht Ranc 93.98 48 ⇓P P 07 02 11.5 +1.4
baz=94
Q33A Connelly Farm, 94.00 50 ⇑P P 07 02 11.3 +1.2
baz=94
K30A Basset 94.01 46 ⇑P P 07 02 11.0 +0.8
baz=94
I29A Vivian Onida 94.02 45 ⇑P P 07 02 11.3 +1.1
baz=94
A25A Svangstu Ranch 94.07 40 ⇓P P 07 02 11.7 +1.5
baz=94
E27A Carson 94.08 42 ⇑P P 07 02 11.5 +1.2
baz=94
C26A Wahner Farm, P 94.27 41 ⇑P P 07 02 12.6 +1.5
baz=94
J30A Dallas 94.32 46 ⇓P P 07 02 12.6 +1.1
baz=95
L31A Butterfield Fa 94.37 47 ⇓P P 07 02 12.8 +1.1
baz=95
B26A Jensen Ranch, 94.39 40 ⇑P P 07 02 12.8 +1.1
baz=95
YKA Yellowknife Ar 94.44 25 P P 07 02 11.2 -0.3
YKA PP PP 07 06 06.5 -2.0
YKA Yellowknife Ar 94.44 25 P 07 02 11.2 -0.3
comp=Z,3.7nm,0.9s,baz=244,slow=4.4,SNR=52
YKA PP PP 07 06 06.5 -2.0
comp=Z,0.8nm,1.0s,baz=241,slow=7.2,SNR=5.8
BGNE Belgrade 94.59 48 ⇓P P 07 02 13.8 +1.0
baz=95
A26A Wade Farm, Ken 94.71 40 ⇓P P 07 02 14.3 +1.2
baz=95
A28A Rude Farm, Bot 95.80 40 ⇑P P 07 02 19.0 +0.9
baz=96
D30A Buchanan 96.12 42 ⇓P P 07 02 19.7 +0.1
baz=96
TIXI Tiksi 96.42 345 *i* P P 07 02 19.3 -0.9
TIXI pmax pmax
comp=Z,2.0nm,0.8s
ECSD EROS Data Cent 96.43 46 ⇑Pdiff P 07 02 21.4 +0.4
baz=97
A29A Manning Farm, 96.45 41 ⇑Pdiff P 07 02 21.4 +0.5
baz=97
C30A Mose, Pekin 96.50 42 ⇑Pdiff P 07 02 21.5 +0.2
baz=97
ZALV Zalesovo Beam 108.53 322 PKiKP PKiKP 07 07 15.4 -1.4
ZALV Zalesovo Beam 108.53 322 PKiKP PKiKP 07 07 15.4 -1.4
comp=Z,0.8nm,0.5s,baz=220,slow=1.7,SNR=5.1
MKAR Makanchi Array 109.43 314 PKiKP PKiKP 07 07 17.8 -0.9
MKAR Makanchi Array 109.43 314 PKiKP PKiKP 07 07 17.8 -0.9
comp=Z,0.9nm,0.5s,baz=163,slow=1.3,SNR=20
KURK Kurchatov 112.12 318 PKiKP PKiKP 07 07 22.5 -1.2
KURK PP PP 07 08 24.1 +5.5
KURBB Kurchatov Arra 112.18 318 PKiKP PKiKP 07 07 22.5 -1.3
comp=Z,1.3nm,0.7s,baz=87,slow=1.9,SNR=11
KURBB PP PP 07 08 24.1 +5.1
comp=Z,0.5nm,0.8s,baz=81,slow=5.6,SNR=4.1
AAK Ala-Archa 114.68 309 *e*PKIKP PKPdf 07 07 28.2 -0.9
BVAR Borovoye Array 117.14 321 PKiKP PKPdf 07 07 32.1 -1.2
BVAR 07 08 57.7
BVAR Borovoye Array 117.14 321 PKP PKPdf 07 07 32.1 -1.2
BVAR PP PP 07 08 57.7 +4.4
BVAR Borovoye Array 117.14 321 PKP PKPdf 07 07 32.1 -1.2
comp=Z,2.3nm,0.5s,baz=161,slow=1.4,SNR=17
BVAR PP PP 07 08 57.7 +4.4
comp=Z,0.5nm,0.7s,baz=78,slow=6.8,SNR=3.9
BRVK Borovoye 117.20 321 *e*PKIKP PKPdf 07 07 31.8 -1.6
KKAR Karatay Array 117.61 310 *e*PKIKP PKPdf 07 07 33.7 -0.8
KKAR Karatay Array 117.61 310 *e*PKPdf PKPdf 07 07 33.7 -0.8
ARU Arti 123.14 326 *i* PKIKP PKPdf 07 07 43.8 -0.9
ARU Arti 123.14 326 *e*PKPdf PKPdf 07 07 44.0 -0.6
ABKAR Akbulak array 124.23 318 *e*PKPdf PKPdf 07 07 45.5 -1.5
AKTO Aktyubinsk 125.17 319 PKIKP PKPdf 07 07 47.6 -1.1
AKTO Aktyubinsk 125.17 319 PKP PKPdf 07 07 47.6 -1.1
AKTO Aktyubinsk 125.17 319 PKP PKPdf 07 07 47.6 -1.1
comp=Z,2.3nm,0.8s,baz=42,slow=2.8,SNR=8.7
ARCES ARCESS Array B 126.56 350 PKP PKPdf 07 07 50.3 -0.6
ARCES ARCESS Array B 126.56 350 PKP PKPdf 07 07 50.3 -0.6
comp=Z,4.5nm,0.7s,baz=53,slow=1.0,SNR=20
FINES FINESS Array B 133.45 344 PKPpre PKPpre 07 07 55.4
FINES PKP PKPdf 07 08 02.9 -1.2
FINES SKPbc SKPbc 07 10 42.1 -0.5
FINES FINESS Array B 133.45 344 PKhKP PKPpre 07 07 55.4
comp=Z,1.2nm,0.6s,baz=50,slow=3.2,SNR=5.6
FINES PKP PKPdf 07 08 02.9 -1.2
comp=Z,2.1nm,0.6s,baz=75,slow=2.0,SNR=10
FINES SKPbc SKPbc 07 10 42.1 -0.5
comp=Z,2.2nm,0.9s,baz=329,slow=1.1,SNR=5.6
OBN Obninsk 134.58 333 *e*PKIKP PKPdf 07 08 05.9 -0.5
NB2 NORSAR Subarra136.61 353 PKP PKPpre 07 08 01.7
comp=Z,0.6nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B136.61 353 PKPpre PKPpre 07 07 59.9
NOA PKP PKPdf 07 08 09.8 -0.3
NOA NORSAR Array B136.61 353 PKhKP PKPpre 07 07 59.9
comp=Z,1.3nm,0.8s,baz=16,slow=5.0,SNR=4.4
NOA PKP PKPdf 07 08 09.8 -0.3
comp=Z,0.4nm,0.5s,baz=32,slow=2.0,SNR=3.3
BEL Belsk 143.17 340 *e*PKIKP PKPab 07 08 20.0 +0.1
BEL Belsk 143.17 340 *e*PKP PKPab 07 08 20.0 +0.1
KIS Kishinev 143.65 328 *e*PKIKP PKPab 07 08 21.0 -0.9
KIS pmax pmax
comp=Z,110nm,1.0s
KIS Kishinev 143.65 328 *e*P PKPab 07 08 21.0 -0.9
KIS XM 07 08 22.5
comp=Z,100nm,1.0s
BSEG Bad Segeberg 143.66 352 *e*PKPbc PKPbc 07 08 21.7 0.0
LVV L'vov 143.69 336 *e*PKIKP PKPab 07 08 21.4 -0.6
LEOM Leova 144.29 328 ⇑PKIKP PKPdf 07 08 24.2 0.0
LEOM Leova 144.29 328 ⇑*i*P PKPdf 07 08 24.2 0.0
KWP Kalwaria Pacla 144.35 337 ⇑PKIKP PKPdf 07 08 24.3 0.0
KWP Kalwaria Pacla 144.35 337 *e*PKP PKPbc 07 08 23.4 -0.7
KWP Kalwaria Pacla 144.35 337 ⇑*i*P PKPdf 07 08 24.3 0.0
KWP Kalwaria Pacla 144.35 337 *e*PKPbc PKPbc 07 08 24.0 -0.2
RUE Ruedersdorf 144.45 347 *e*PKPbc PKPdf 07 08 24.4 +0.1
RABH Abou Rabah 144.57 304 *e*P PKPbc 07 08 25.3 -0.1
PRAR RASCA 144.63 331 ⇑*i*P PKPdf 07 08 24.5 -0.4
TLCR 144.87 326 ⇑PKIKP PKPab 07 08 26.2 -0.4
TLCR 144.87 326 ⇑P PKPab 07 08 26.2 -0.4
BUR08 Bucovina Ar. S 144.89 332 *e*PKPbc PKPab 07 08 26.6 -0.2
BURAR Bucovina Array 144.90 332 ⇑PKIKP PKPab 07 08 26.6 -0.2
BURAR Bucovina Array 144.90 332 ⇑*i*P PKPab 07 08 26.6 -0.2
TESR Tescani 145.05 330 ⇑*i*P PKPdf 07 08 25.3 -0.3
BIDA Albida 145.07 306 *e*P PKPdf 07 08 23.3 -2.8
STHS Stebnicka Huta 145.07 338 *e*PKIKP PKPbc 07 08 26.7 +0.4
STHS Stebnicka Huta 145.07 338 *e*PKP PKPbc 07 08 26.7 +0.4
BRTR Keskin Array B 145.08 315 PKPbc PKPbc 07 08 26.5 -0.4
BRTR Keskin Array B 145.08 315 PKPbc PKPbc 07 08 26.5 -0.4
comp=Z,8.1nm,0.7s,baz=132,slow=4.1,SNR=32
KOLS Kolonicke sedl 145.08 336 *e*PKIKP PKPdf 07 08 25.9 +0.3
KOLS Kolonicke sedl 145.08 336 *e*PKP PKPdf 07 08 25.9 +0.3
NRDL Niedersach Rie 145.09 351 *e*PKPbc PKPbc 07 08 25.9 -0.3
CFR Carcaliu 145.23 327 ⇑PKIKP PKPbc 07 08 26.5 -0.4
CFR Carcaliu 145.23 327 ⇑*i*P PKPbc 07 08 26.5 -0.4
MARH Ras Al Marh 145.26 304 *e*P PKPdf 07 08 27.2 +0.4
UZH Uzhgorod 145.32 336 *e*PKIKP PKPdf 07 08 26.0 0.0
KSP Ksiaz 145.37 344 *e*PKIKP PKPbc 07 08 27.3 +0.1
KSP Ksiaz 145.37 344 *e*PKP PKPbc 07 08 27.3 +0.1
NIE Niedzica 145.40 339 *e*PKP PKPbc 07 08 27.6 +0.3
CRVS Cervenica-Dubn 145.42 337 *e*PKP2 PKPbc 07 08 27.8 +0.4
CRVS Cervenica-Dubn 145.42 337 *e*PKP PKPbc 07 08 27.8 +0.4
SALA Sala 145.45 302 *e*P PKPbc 07 08 28.5 +0.3
VRI Vrincioaia 145.47 329 ⇓PKP2 PKPbc 07 08 27.9 +0.3
VRI Vrincioaia 145.47 329 ⇓*i*P PKPbc 07 08 27.9 +0.3
PLOR Plostina 145.52 329 ⇑PKIKP PKPbc 07 08 27.9 +0.1
PLOR Plostina 145.52 329 ⇑*i*P PKPbc 07 08 27.9 +0.1
IBBN Ibbenburen 145.57 354 *e*PKPbc PKPbc 07 08 27.6 -0.1
ANTO Ankara 145.58 316 ⇑PKHKP PKPbc 07 08 21.9
ANTO Ankara 145.58 316 ⇑*i*P PKPpre 07 08 21.9
BMR Baia Mare 145.60 334 ⇓PKP2 PKPbc 07 08 28.3 +0.4
BMR Baia Mare 145.60 334 ⇓*i*P PKPbc 07 08 28.3 +0.4
TRPA Tarpa 145.63 335 ⇑*i*P PKPbc 07 08 28.2 +0.2
TRPA Tarpa 145.63 335 ⇑*e* PKPbc 07 08 28.0 0.0
CLZ Clausthal 145.68 351 *e*PKPbc PKPbc 07 08 28.0 -0.1
CLL Collm 145.72 348 ⇓*e*PKIKP PKPdf 07 08 26.0 -0.6
CLL pmax pmax
comp=Z,53nm,0.9s
CLL Collm 145.72 348 *e*PKPbc PKPbc 07 08 28.0 -0.1
CLL Collm 145.72 348 *e*PKPdf PKPdf 07 08 26.0 -0.6
CLL ⇓*i*PKPbc PKPbc 07 08 27.8 -0.3
comp=Z,53nm,0.9s
OKC Ostrava-Krasne 145.74 341 *e*PKP2 PKPbc 07 08 28.5 +0.2
OKC Ostrava-Krasne 145.74 341 *e*PKP PKPbc 07 08 28.5 +0.2
OKC *ex* x 07 08 30.3
UPC Upice 145.75 344 *e*PKP2 PKPbc 07 08 28.7 +0.4
UPC Upice 145.75 344 *e*PKP PKPbc 07 08 28.7 +0.4
UPC *ex* x 07 08 30.8
DPC Dobruska-Polom 145.81 343 *e*PKIKP PKPdf 07 08 26.9 +0.1
DPC *e* 07 08 30.6
DPC Dobruska-Polom 145.81 343 *e*PKP PKPdf 07 08 26.9 +0.1
DPC *ex* x 07 08 28.8
DPC *ex* x 07 08 30.6
BRG Berggiesshubel 145.92 346 *e*PKP PKPdf 07 08 27.1 +0.2
comp=Z,19nm,1.7s
BRG *i* 07 08 29.1
comp=Z,27nm,1.0s
BRG *e* 07 08 36.1
comp=Z,8.4nm,0.9s
BRG Berggiesshubel 145.92 346 *e*PKIKP PKPdf 07 08 27.1 +0.2
BRG *i* 07 08 29.0
BRG pmax pmax
comp=Z,19nm,1.7s
BRG pmax pmax
comp=Z,27nm,1.0s
BRG Berggiesshubel 145.92 346 *e*PKPbc PKPbc 07 08 28.6 -0.1
KRLC Kraliky 145.94 343 *e*PKIKP PKPdf 07 08 27.2 +0.2
KRLC *e* 07 08 31.2
KRLC Kraliky 145.94 343 *e*PKP PKPdf 07 08 27.2 +0.2
KRLC *ex* x 07 08 28.7
KRLC *ex* x 07 08 31.2
MORC Moravsky Berou 145.98 342 ⇑PKP2 PKPbc 07 08 29.3 +0.3
MORC Moravsky Berou 145.98 342 ⇑*i*P PKPbc 07 08 29.3 +0.3
WTSB Winterswijk 146.00 354 *e*PKP PKPbc 07 08 28.8 -0.1
comp=Z,34nm,0.8s
DOPR Dopca 146.05 330 ⇑*i*P PKPbc 07 08 29.9 +0.6
ISR Istrita 146.09 328 ⇑PKIKP PKPdf 07 08 28.1 +0.6
ISR Istrita 146.09 328 ⇑*i*P PKPdf 07 08 28.1 +0.6
PVCC Panska Ves 146.10 345 *e*PKP2 PKPbc 07 08 29.9 +0.7
PVCC Panska Ves 146.10 345 *e*PKP PKPbc 07 08 29.9 +0.7
PVCC *ex* x 07 08 32.0
MLR Muntele Rosu 146.12 329 ⇑*i*P PKPbc 07 08 29.7 0.0
KECS Kecovo 146.12 338 *e*PKP2 PKPbc 07 08 29.4 0.0
KECS Kecovo 146.12 338 *e*PKP PKPbc 07 08 29.4 0.0
CJR Cluj-Napoca 146.30 333 ⇓PKP2 PKPbc 07 08 30.3 +0.3
CJR Cluj-Napoca 146.30 333 ⇓*i*P PKPbc 07 08 30.3 +0.3
SECR 146.39 328 ⇑*i*P PKPbc 07 08 29.8 -0.4
BUG Bochum--Univer 146.48 354 *e*PKPbc PKPbc 07 08 29.8 -0.4
BUG *e*PKPab PKPab 07 08 32.6 -0.1
PRU Pruhonice 146.61 345 *e*PKIKP PKPdf 07 08 28.4 +0.3
PRU *e* 07 08 33.4
PRU Pruhonice 146.61 345 *e*PKP PKPdf 07 08 28.4 +0.3
PRU *ex* x 07 08 30.5
PRU *ex* x 07 08 33.4
TANN Tannenbergstha 146.68 348 *e*PKPbc PKPbc 07 08 30.9 0.0
VRAC Vranov 146.68 342 ⇑*i*P PKPbc 07 08 31.3 +0.4
PSZ Piszkesteto 146.81 338 ⇑PKP2 PKPbc 07 08 31.7 +0.3
PSZ Piszkesteto 146.81 338 ⇑*i*P PKPbc 07 08 31.7 +0.3
PSZ Piszkesteto 146.81 338 ⇑*e* PKPbc 07 08 31.3 -0.1
ARR Arges 146.85 330 ⇓*i*P PKPdf 07 08 29.3 +0.6
PRD Provadia 146.94 325 ⇓PKP2 PKPab 07 08 36.1 +1.3
TREC Trest 147.00 343 *e*PKP2 PKPbc 07 08 32.0 +0.2
TREC Trest 147.00 343 *e*PKP PKPbc 07 08 32.0 +0.2
SMOL Smolenice 147.13 341 *e*PKP2 PKPbc 07 08 32.8 +0.7
SMOL Smolenice 147.13 341 *e*PKP PKPbc 07 08 32.8 +0.7
HGN Heimansgroeve 147.27 355 *e*PKP PKPbc 07 08 31.8 -0.5
comp=Z,20nm,1.1s
ROTZ Rotzenmuhle 147.34 347 *e*PKPbc PKPbc 07 08 32.8 +0.2
CSS Prodhromos 147.38 307 *e*PKPbc PKPbc 07 08 32.9 -0.3
CSS *e*PKPab PKPab 07 08 36.3 -0.6
MEM Membach 147.42 355 PKPbc PKPbc 07 08 32.9 +0.1
SIRR Siria 147.48 334 ⇑*i*P PKPbc 07 08 33.4 +0.3
TNS Taunus Mts 147.54 352 *e*PKPbc PKPbc 07 08 33.0 -0.2
TNS *e*PKPab PKPab 07 08 36.9 -0.2
GRF Grafenberg Arr 147.61 349 *e*PKPbc PKPbc 07 08 33.2 -0.1
GRF *e*PKPab PKPab 07 08 37.5 +0.1
SNF Seneffe 147.63 357 PKPbc PKPbc 07 08 33.1 -0.2
SNF PKPab PKPab 07 08 37.1 -0.2
KHC Kasperske Hory 147.64 346 *e*PKIKP PKPdf 07 08 30.3 +0.4
KHC *e* 07 08 37.1
KHC Kasperske Hory 147.64 346 *e*PKP PKPdf 07 08 30.3 +0.4
KHC *ex* x 07 08 32.9
KHC *ex* x 07 08 37.1
BCLA Clavier 147.66 356 PKPbc PKPbc 07 08 33.4 0.0
BCLA PKPab PKPab 07 08 37.3 -0.2
GZR Gura Zlata 147.69 332 ⇑*i*P PKPbc 07 08 33.7 0.0
WET Wettzell 147.79 346 *e*PKPbc PKPbc 07 08 33.5 -0.3
WET *e*PKPab PKPab 07 08 38.6 +0.5
PKSG 147.79 339 ⇓*e* PKPbc 07 08 34.0 +0.2
GEC2 GERESS Array S 147.87 345 *e*PKPbc PKPbc 07 08 33.8 -0.3
GERES GERESS Array B 147.87 345 PKPbc PKPbc 07 08 33.2 -0.9
GERES GERESS Array B 147.87 345 PKPbc PKPbc 07 08 33.2 -0.9
comp=Z,11nm,0.8s,baz=77,slow=2.9,SNR=72
JMB Yambol 147.88 324 ⇑PKP2 PKPbc 07 08 34.6 +0.4
JMB Yambol 147.88 324 ⇑*i*P PKPbc 07 08 34.6 +0.4
BZS Buzias 148.02 333 ⇑PKIKP PKPbc 07 08 34.2 -0.3
BZS Buzias 148.02 333 ⇑*i*P PKPbc 07 08 34.2 -0.3
DOU Dourbes 148.03 357 PKPbc PKPbc 07 08 34.6 +0.3
CONA Conrad Observa 148.13 342 *i* PKPbc PKPbc 07 08 35.0 +0.2
comp=Z,40nm,1.3s,SNR=14
SOP Sopron 148.14 341 ⇑*e* PKPbc 07 08 34.6 -0.1
WLF Walferdange 148.34 355 PKPbc PKPbc 07 08 35.4 +0.3
MOA Molln 148.65 344 *i* PKPbc PKPbc 07 08 35.8 -0.2
comp=Z,16nm,1.1s,SNR=6.0
PKSM Moragy 148.71 337 ⇑*i*P PKPbc 07 08 36.2 0.0
PKSM Moragy 148.71 337 ⇑*e* PKPbc 07 08 35.9 -0.3
LANF Langenberg 148.84 352 PKP PKPbc 07 08 36.7 +0.3
ARSA Arzberg 148.84 342 *i* PKPbc PKPbc 07 08 36.5 0.0
comp=Z,11nm,1.1s,SNR=5.7
STU Stuttgart 148.85 351 *e*PKIKP PKPdf 07 08 31.6 -0.2
STU *e* 07 08 42.3
STU Stuttgart 148.85 351 *e*PKPbc PKPbc 07 08 36.3 -0.1
STU *e*PKPab PKPab 07 08 42.2 -0.2
STU Stuttgart 148.85 351 *e*PKPdf PKPdf 07 08 31.6 -0.2
STU *e*PKPab PKPab 07 08 42.3 -0.2
FUR Furstenfeldbru 149.06 348 *e*PKPbc PKPbc 07 08 36.9 -0.1
FUR *e*PKPab PKPab 07 08 43.3 -0.1
KDZ Kurdzhali 149.07 324 ⇑PKHKP PKPbc 07 08 37.1 -0.2
KDZ Kurdzhali 149.07 324 ⇑*i*P PKPbc 07 08 37.0 -0.2
RJOB Jochberg 149.12 345 *e*PKPbc PKPbc 07 08 36.7 -0.5
RJOB *e*PKPab PKPab 07 08 44.1 +0.4
BFO Black Forest 149.41 351 *e*PKPbc PKPbc 07 08 37.4 -0.4
BFO *e*PKPab PKPab 07 08 44.3 -0.5
SOKA Soboth 149.50 342 *i* PKPbc PKPbc 07 08 37.8 -0.4
comp=Z,20nm,1.1s,SNR=11
PERS Pernice 149.52 342 *i* PKPbc PKPbc 07 08 37.5 -0.7
PERS *i* PKPab PKPab 07 08 45.5 +0.1
VTS Vitosha 149.58 328 ⇑*i*P PKPbc 07 08 38.7 +0.1
KBA Koelnbreinsper 149.60 344 ⇑*i*PKPdf PKPdf 07 08 33.3 0.0
comp=Z,2.0nm,0.8s
KBA *i* PKPbc PKPbc 07 08 37.9 -0.7
comp=Z,14nm,0.7s,SNR=7.8
ECH Echery 149.67 353 *e*PKP2 PKPab 07 08 45.4 -0.5
ECH Echery 149.67 353 *e*PKPab PKPab 07 08 45.4 -0.5
THEF They Montfort 149.78 354 PKP PKPbc 07 08 39.0 +0.3
WATA Walderalm 149.78 347 ⇓*i*PKPbc PKPbc 07 08 38.2 -0.7
comp=Z,9.8nm,0.6s,SNR=12
RETA Reutte 149.81 348 ⇓*i*PKPbc PKPbc 07 08 38.5 -0.4
comp=Z,17nm,1.2s,SNR=7.1
WTTA Wattenberg 149.84 347 *i* PKPbc PKPbc 07 08 38.7 -0.4
comp=Z,37nm,0.9s,SNR=13
MOTA Moosalm 149.87 347 ⇓*i*PKPbc PKPbc 07 08 38.4 -0.7
comp=Z,18nm,0.9s,SNR=13
MYKA Terra Mystica 149.94 344 *i* PKPbc PKPbc 07 08 38.4 -0.8
comp=Z,16nm,1.0s,SNR=5.2
MMB Musomiste 150.03 326 ⇑*i*P PKPbc 07 08 39.5 -0.1
MOF Molkenrain 150.03 353 PKP PKPbc 07 08 39.3 -0.1
ABTA Abfaltersbach 150.12 345 ⇓*i*PKPdf PKPdf 07 08 33.5 -0.5
comp=Z,9.2nm,1.1s
ABTA *i* PKPbc PKPbc 07 08 39.1 -0.6
comp=Z,29nm,0.7s,SNR=8.4
DAVA Damuels 150.17 349 ⇑*i*PKiKP PKPbc 07 08 39.9 0.0
comp=Z,24nm,0.9s,SNR=8.0
FETA Feichten 150.26 348 ⇑*i*PKPdf PKPdf 07 08 33.9 -0.5
comp=Z,4.6nm,0.9s
FETA *i* PKPbc PKPbc 07 08 39.7 -0.3
comp=Z,28nm,1.0s,SNR=9.3
VISS Visnje 150.35 341 *i* PKPbc PKPbc 07 08 40.0 -0.1
VISS *i* PKPab PKPab 07 08 48.6 -0.2
BOJS Bojanci 150.49 341 *e*PKPdf PKPdf 07 08 31.6 -2.9
BOJS *i* PKPbc PKPbc 07 08 40.5 +0.1
JAVS Javornik 150.50 342 *e*PKPbc PKPbc 07 08 40.2 -0.4
JAVS *i* PKPab PKPab 07 08 48.9 -0.6
LOMF Lomont 150.56 353 PKP PKPbc 07 08 40.9 +0.2
AGO Saint Agoulin 152.13 358 PKP PKPbc 07 08 44.4 +0.3
PLDF La Plantade 152.19 357 PKP PKPbc 07 08 43.8 -0.6
PYM Petit Puy Mans 152.44 358 PKP PKPbc 07 08 45.3 +0.4
LBL Lubilhac 152.94 358 PKP PKPbc 07 08 46.2 +0.2
ESDC Sonseca Array 157.95 12 PKPab PKPab 07 09 20.9 -0.6
ESDC Sonseca Array 157.95 12 PKPab PKPab 07 09 20.9 -0.6
comp=Z,2.1nm,0.8s,baz=336,slow=4.5,SNR=12
TORD Torodi Ar. Bea 175.05 179 PKP PKPdf 07 08 57.3 -1.2
TORD Torodi Ar. Bea 175.05 179 PKP PKPdf 07 08 57.3 -1.2
comp=Z,1.5nm,0.9s,baz=7.0,slow=1.4,SNR=6.8

*ISCJB **24** 06:57:44.2±0.5, 67°.20N±0°.03×20°.75E±0°.10, h0km, Error ellipse: s-maj=5.8km s-min=4.2km az=20.6*
*UPP **24** 06:57:44.9, 67°.20N×20°.64E, h0km, ML2.1, Suspected Mining explosion.*
*CSEM **24** 06:57:44.8±0.2, 67°.19N×20°.64E, h2km, ML1.4, Error ellipse: s-maj=5.7km s-min=4.0km az=95.0, Mining explosion.*
*HEL **24** 06:57:45.4±0.0, 67°.19N×20°.67E, h0km, ML1.4, ML2.1(UPP), Explosion*

ISC 24 06:57:44.7±0.8, 67°.19N±0°.02×20°.64E±0°.03, h0km, n42, σ0s94/50, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.07	202	*i* P	Pg	06 57 46.7	+0.6
DUNU	Dundret	0.07	202	P	Pg	06 57 46.6	+0.6
DUNU	Dundret	0.07	202	P	Pg	06 57 46.7	+0.6
MASU	Masugnsbyn	0.59	62	*i* P	Pg	06 57 56.1	0.0
MASU	Masugnsbyn	0.59	62	P	Pg	06 57 56.0	0.0
MASU	Masugnsbyn	0.59	62	P	Pg	06 57 56.1	0.0
KUA	Kurravaara	0.78	352	*i* P	Pg	06 57 59.3	-0.3
KUA	Kurravaara	0.78	352	P	Pg	06 57 59.3	-0.3
KUA	Kurravaara	0.78	352	P	Pg	06 57 59.3	-0.3
SALU	Saltoluokta	0.85	284	*i* P	Pg	06 58 01.0	0.0
SALU	Saltoluokta	0.85	284	P	Pg	06 58 01.0	0.0
SALU	Saltoluokta	0.85	284	P	Pg	06 58 01.0	0.0
NIKU	Nikkaluokta	0.92	319	*e*P	Pg	06 58 02.1	-0.2
NIKU	Nikkaluokta	0.92	319	P	Pg	06 58 02.1	-0.2
NIKU	Nikkaluokta	0.92	319	P	Pg	06 58 02.1	-0.2
LANU	Lannavaara	1.01	30	*e*P	Pg	06 58 03.4	-0.6
LANU	Lannavaara	1.01	30	P	Pg	06 58 03.4	-0.6
LANU	Lannavaara	1.01	30	P	Pg	06 58 03.4	-0.6
HARU	Harads	1.04	172	*e*P	Pg	06 58 03.9	-0.6
HARU	Harads	1.04	172	P	Pg	06 58 03.9	-0.6
HARU	Harads	1.04	172	P	Pg	06 58 03.9	-0.6
HEF	Hetta	1.68	42	*e*P	Pn	06 58 15.1	-0.2
HEF				MSG	Sn	06 58 36.8	-0.7
comp=Z,2.2nm,0.3s							
HEF				*e*SG	Sn	06 58 36.8	-0.7
HEF	Hetta	1.68	42	P	Pn	06 58 15.1	-0.2
HEF				Sg	Sn	06 58 36.8	-0.7
KALU	Kalix	1.72	140	*e*P	Pn	06 58 15.9	+0.1
KALU	Kalix	1.72	140	P	Pn	06 58 15.9	+0.1
KALU	Kalix	1.72	140	P	Pn	06 58 15.9	+0.1
SJUU	Sjulsmark	1.73	167	*e*P	Pn	06 58 16.1	+0.2
SJUU	Sjulsmark	1.73	167	P	Pn	06 58 16.1	+0.2
SJUU	Sjulsmark	1.73	167	P	Pn	06 58 16.1	+0.2
KIF	Kilpisjarvi	1.83	2	*e*PN	Pb	06 58 18.4	-0.5
baz=177							
KIF				*e*SG	Sg	06 58 43.3	0.0
KIF				MSG		06 58 43.3	
comp=Z,3.8nm,0.2s							
KIF	Kilpisjarvi	1.83	2	Pn	Pb	06 58 18.4	-0.5
KIF				Sg	Sg	06 58 43.2	0.0
comp=Z,3.8nm,0.2s							
LILU	Lilltraesk	1.94	190	*e*P	Pn	06 58 19.2	+0.4
LILU	Lilltraesk	1.94	190	P	Pn	06 58 19.2	+0.4
LILU	Lilltraesk	1.94	190	P	Pn	06 58 19.2	+0.4
RNF	Rovaniemi	2.20	103	*e*PB	Pn	06 58 24.0	+1.6
RNF				*e*SG	Sb	06 58 52.2	-0.8
ARA0	ARCESS Array S	2.97	35	*e*P	Pn	06 58 33.5	+0.5
ARA0				*e*S	Sn	06 59 11.1	+1.8
ARA0				MSG		06 59 11.1	
comp=Z,0.7nm,0.2s							
ARA0	ARCESS Array S	2.97	35	P	Pn	06 58 33.5	+0.5
ARA0				S	Sn	06 59 11.1	+1.8
comp=Z,0.7nm,0.2s							
KEV	Kevo	3.49	39	*e*SB	Sb	06 59 29.1	-0.9
KEV				MSG		06 59 29.1	
comp=Z,0.5nm,0.3s							
VRF	Varrio	3.50	77	*e*SG	Sb	06 59 33.3	+2.9
MSF	Maaselka	3.59	107	*e*SG	Sb	06 59 35.3	+2.1
MSF				MSG		06 59 35.3	
comp=Z,1.2nm,0.3s							
KU6	Riekki	3.87	103	*e*SG	Sb	06 59 42.1	+1.0
VAF	Ylistaro	4.25	167	*e*SG	Sg	06 59 57.9	-3.2
VAF				MSG		06 59 57.9	
comp=Z,0.3nm,0.3s							

JMA 24 07:06:40.5±0.2, 40°.09N×144°.64E, h43km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	2.14	267	P	Pn	07 07 14.5	+0.8
JEM	Erimo	2.23	330	*e*S	Sn	07 07 43.6	+2.5
MIYJ	Miyakonagasawa	2.23	258	P	Pn	07 07 14.4	+1.4
MIYJ				S	Sn	07 07 42.2	+0.9
JANG	Nango	2.41	278	P	Pn	07 07 18.8	+1.4
JANG				*e*S	Sn	07 07 46.6	+0.9
JNBK	Urakawa-nobuka	2.61	328	P	Pn	07 07 22.3	+2.1
JNBK				*e*S	Sn	07 07 54.0	+3.4
JOM	Ohasama	2.65	258	P	Pn	07 07 22.6	+1.9
JOM				S	Sn	07 07 53.1	+1.4
JCH	Churui	2.70	340	P	Pn	07 07 22.3	+0.9
JCH				S	Sn	07 07 54.3	+1.5
JTM	Tenmabayashi	2.81	285	P	Pn	07 07 25.3	+2.4
JTM				*e*S	Sn	07 07 57.2	+1.6
JMK	Ichinoseki	2.88	248	P	Pn	07 07 25.1	+1.3
JMK				S	Sn	07 07 57.7	+0.5
JAK	Akkeshi	2.90	1	P	Pn	07 07 24.3	+0.1
JAK				S	Sn	07 07 58.0	+0.2
JOT	Ohata	3.02	296	P	Pn	07 07 28.2	+2.4
JOT				S	Sn	07 08 02.7	+2.0
JAH	Hinai	3.07	273	P	Pn	07 07 28.9	+2.4
JAH				S	Sn	07 08 04.9	+2.9
JRG	Rokugo	3.17	259	P	Pn	07 07 30.3	+2.5
JRG				S	Sn	07 08 06.6	+2.3
JKB	Kayabe	3.27	304	P	Pn	07 07 31.2	+2.0
JKB				S	Sn	07 08 09.0	+2.2
JAR	Ashorobuto	3.27	349	P	Pn	07 07 29.9	+0.7
JAR				S	Sn	07 08 07.4	+0.5
NEM2	Nemuro 2	3.38	14	P	Pn	07 07 29.8	-0.8
NEM2				S	Sn	07 08 06.4	-3.0
JFR	Furan	3.43	334	P	Pn	07 07 33.5	+2.0
JFR				*e*S	Sn	07 08 12.9	+2.0
JYK	Kaneyama	3.51	252	P	Pn	07 07 34.5	+1.9
JYK				*e*S	Sn	07 08 14.0	+1.1
JOU	Okura	3.54	242	P	Pn	07 07 33.8	+0.9
JOU				S	Sn	07 08 13.9	+0.4
JEW	Eniwo	3.65	320	P	Pn	07 07 37.4	+3.0
JEW				*e*S	Sn	07 08 19.4	+3.3
JTKR	Abashiri--Toko	3.92	352	P	Pn	07 07 39.5

TURN				*i* S	**Sn**	07 14 51.6	+0.5		
DNZL	**Cakiroluk**	**0.66**	**32**	*i* P	**Pg**	07 14 48.9	-0.2		
DNZL				*i* S	**Sn**	07 15 00.4	-0.8		
DNZL	**Cakiroluk**	**0.66**	**32**	*i* P	**Pg**	07 14 48.9	-0.2		
DNZL				*i* S	**Sn**	07 15 00.4	-0.8		
GOLH	**Golhisar**	**0.77**	**82**	*i* P	**Pg**	07 14 50.7	-0.6		
GOLH				*i* S	**Sn**	07 15 05.0	+1.1		
AYDB	**Zeytinkoy-Aydi**	**0.99**	**325**	*e*PG	**Pn**	07 14 55.6	+0.1		
AYDB				*e*SG	**Sn**	07 15 09.8	+0.5		
AYDB	**Zeytinkoy-Aydi**	**0.99**	**325**	*e*Pg	**Pn**	07 14 55.6	+0.1		
AYDB				*e*Sg	**Sn**	07 15 09.8	+0.5		
ELL	**Elmali**	**1.12**	**110**	*e*PN	**Pg**	07 14 58.9	+1.1		
KULA	**Kula-Manisa**	**1.38**	**2**	*e*PN	**Pb**	07 15 01.5	-0.1		
KULA	**Kula-Manisa**	**1.38**	**2**	*e*Pn	**Pb**	07 15 01.5	-0.1		
KHL	**Karahalli**	**1.39**	**31**	*e*PN	**Pn**	07 15 01.5	+0.4		
KHL	**Karahalli**	**1.39**	**31**	*e*Pn	**Pn**	07 15 01.5	+0.4		
KHAL	**Karahalli**	**1.42**	**30**	*i* P	**Pb**	07 15 02.5	+0.1		
KHAL				*i* S	**Sg**	07 15 21.8	-0.2		
KHAL	**Karahalli**	**1.42**	**30**	*i* P	**Pb**	07 15 02.5	+0.1		
KHAL				*i* S	**Sg**	07 15 21.8	-0.2		

IDC ***24*** *07:14:52.4±0.9, 35°.61N×97°.35W, h0km, mb3.5/3, mb1 3.8/9, mb1mx3.5/48, mbtmp3.5/9, ML3.4/6, Error ellipse: s-maj=15.2km s-min=10.7km az=156.0*

NEIC ***24*** *07:14:52.2±0.4, 35°.50N×97°.25W, h6km, MN3.8, MW3.6, Error ellipse: s-maj=5.6km s-min=5.1km az=81.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{14}Nm; M_{rr}0.24; $M_{\theta\theta}$2.07; $M_{\phi\phi}$-2.31; $M_{r\theta}$1.34; $M_{\theta\phi}$1.99; $M_{\phi r}$-0.34; Best double couple: M_o3.30000×10^{14} NP1:ϕ_s23.00000°, δ65.00000°, λ174.00000°. NP2:ϕ_s115.00000°, δ85.00000°, λ25.00000°. Principal axes: T 3.2700, Plg21.0000°, Azm341.0000°; N 0.0000, Plg64.0000°, Azm125.0000°; P -3.2700, Plg13.0000°, Azm246.0000°;*

NEIC Felt [IV] at Choctaw; [III] at Harrah, Jones, McLoud and Oklahoma City; [II] at Edmond, Newalla, Noble, Norman, Shawnee and Spencer. Also felt at Arcadia, Broken Arrow, Lawton, Luther, Meeker, Perkins, Wellston and Yukon.

ISC 24 07:14:52.1±0.8, 35°.51N±0'.02×97°.24W±0'.02, h9km±6km, n100, σ1§43/131, mb3.6/4, 21C-30D, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK002	**Wilshire Harra**	**0.05**	**42**	P		**Pg**		**07 14 55.1**	**+1.1**
OK001	**Jones High Sch**	**0.06**	**317**	P		**Pg**		**07 14 54.4**	**+0.2**
V34A	**Guthrie**	**0.39**	**324**	Pg		**Pg**		**07 15 00.6**	**+0.7**
V34A	**Guthrie** baz=0.4,SNR=1000	**0.39**	**324**	⇑P		**Pg**		**07 15 00.6**	**+0.7**
V34A	baz=0.4			⇓S		**Sb**		**07 15 06.6**	**-0.9**
W34A	**Bridge Creek,**	**0.52**	**238**	Pg		**Pg**		**07 15 02.5**	**+0.3**
W34A	**Bridge Creek,** baz=0.5,SNR=299	**0.52**	**238**	P		**Pg**		**07 15 02.5**	**+0.3**
W34A	baz=0.5			⇑S		**Sb**		**07 15 10.0**	**-1.1**
V33A	**Lossen Ranch,** baz=0.9,SNR=115	**0.91**	**290**	⇑P		**Pg**		**07 15 09.7**	**+0.1**
V33A	baz=0.9			⇓S		**Sb**		**07 15 22.4**	**+0.1**
U34A	**Anderson Ranch**	**0.95**	**345**	Pg		**Pg**		**07 15 10.7**	**+0.2**
U34A	**Anderson Ranch** baz=1.0,SNR=480	**0.95**	**345**	⇑P		**Pg**		**07 15 10.6**	**+0.2**
U34A	baz=1.0			⇓S		**Sb**		**07 15 23.8**	**+0.2**
X34A	**Smith Ranch, M** baz=1.0,SNR=470	**1.03**	**208**	⇑P		**Pb**		**07 15 12.2**	**0.0**
X34A	baz=1.0			⇑S		**Sb**		**07 15 26.5**	**+0.7**
W33A	**Caddo, Fort Co** baz=1.1,SNR=468	**1.07**	**251**	⇓P		**Pb**		**07 15 12.8**	**-0.1**
W33A	baz=1.1			⇓S		**Sn**		**07 15 27.8**	**-0.5**
U33A	**Lingo Farm, Me** baz=1.2,SNR=214	**1.16**	**322**	⇑P		**Pg**		**07 15 14.1**	**-0.4**
U33A	baz=1.2			⇓S		**Sb**		**07 15 30.3**	**+0.7**
TUL1	**Tulsa**	**1.24**	**71**	*e*Pn		**Pg**		**07 15 14.8**	**-1.1**
TUL1				*e*S		**Sg**		**07 15 32.1**	**0.0**
TUL1	**Tulsa** baz=1.2,SNR=291	**1.24**	**71**	P		**Pg**		**07 15 14.8**	**-1.1**
TUL1	baz=1.2			⇑S		**Sg**		**07 15 31.7**	**-0.3**
X33A	**Lawton** baz=1.4	**1.42**	**227**	⇓P		**Pn**		**07 15 17.9**	**-0.2**
X33A	baz=1.4			⇑S		**Sg**		**07 15 37.5**	**-0.3**
WMOK	**Wichita Mounta**	**1.48**	**239**	*e*Pn		**Pn**		**07 15 18.9**	**-0.1**
WMOK				*e*S		**Sn**		**07 15 38.8**	**+0.2**
V32A	**Arapaho** baz=1.5,SNR=26	**1.49**	**278**	⇓P		**Pb**		**07 15 19.8**	**-0.2**
V32A	baz=1.5			⇓S		**Sg**		**07 15 40.2**	**+0.2**
Y34A	**Reagan Ranch,** baz=1.6,SNR=152	**1.61**	**196**	⇓P		**Pn**		**07 15 21.0**	**+0.3**
Y34A	baz=1.6			⇓S		**Sg**		**07 15 42.9**	**-1.0**
U32A	**Winter Ranch,** baz=1.7,SNR=78	**1.67**	**302**	⇓P		**Pb**		**07 15 22.7**	**-0.4**
U32A	baz=1.7			⇓Sb		**Sg**		**07 15 45.9**	**0.0**
W32A	**Sentinel** baz=1.7,SNR=225	**1.69**	**257**	P		**Pb**		**07 15 22.9**	**-0.5**
W32A	baz=1.7			⇓Sb		**Sg**		**07 15 46.4**	**0.0**
T33A	**Patterson Ranc** baz=1.8,SNR=34	**1.76**	**333**	⇓P		**Pn**		**07 15 24.0**	**+1.1**
T33A	baz=1.8			⇓Sb		**Sg**		**07 15 48.7**	**-0.1**
Y33A	**Hilltop Ranch,** baz=1.9,SNR=283	**1.89**	**218**	P		**Pb**		**07 15 25.8**	**-1.0**
X32A	**Elmer** baz=2.0,SNR=298	**2.00**	**238**	P		**Pb**		**07 15 28.0**	**-0.8**
V31A	**Spring Creek L** baz=2.1,SNR=109	**2.14**	**278**	⇓P		**Pb**		**07 15 29.8**	**-1.3**
T32A	**Huddler Ranch,** baz=2.2,SNR=12	**2.15**	**321**	⇑P		**Pb**		**07 15 30.1**	**-1.2**
T32A	baz=2.2			⇓Sb		**Sb**		**07 15 59.7**	**+1.6**
S33A	**Kaszmaul Farm,** baz=2.2,SNR=32	**2.17**	**344**	⇓P		**Pn**		**07 15 29.1**	**+0.7**
Z35A	**Perchaven, San** baz=2.2,SNR=101	**2.18**	**180**	⇑P		**Pn**		**07 15 29.7**	**+1.1**
Z34A	**Collier Ranch,** baz=2.2,SNR=78	**2.21**	**195**	⇑P		**Pb**		**07 15 30.7**	**-1.5**
W31A	**Holland Ranch,** baz=2.2,SNR=66	**2.24**	**262**	⇓P		**Pn**		**07 15 30.9**	**+1.5**
U31A	**Nine Bar Ranch** baz=2.3,SNR=39	**2.29**	**293**	⇑P		**Pn**		**07 15 31.6**	**+1.5**
Y32A	**R-V Farms, Ver** baz=2.4,SNR=178	**2.36**	**231**	⇓P		**Pn**		**07 15 32.9**	**+1.8**
X31A	**McDonald Ranch** baz=2.4,SNR=376	**2.42**	**249**	⇓P		**Pn**		**07 15 33.7**	**+1.8**
T31A	**Randall Ranch,** baz=2.5	**2.53**	**309**	⇑P		**Pn**		**07 15 35.1**	**+1.7**
Z33A	**Whitaker Ranch** baz=2.6,SNR=112	**2.56**	**210**	P		**Pn**		**07 15 35.5**	**+1.8**
S32A	**Newby Ranch, P** baz=2.6,SNR=19	**2.58**	**328**	⇓P		**Pn**		**07 15 35.3**	**+1.3**
W30A	**Crocket Farms** baz=2.8,SNR=13	**2.75**	**264**	⇑P		**Pn**		**07 15 37.9**	**+1.4**
V30A	**Spur Ranch, Mi** baz=2.8,SNR=16	**2.82**	**276**	⇓P		**Pn**		**07 15 39.1**	**+1.6**
R33A	**Olander Ranch,** baz=2.9,SNR=6.9	**2.85**	**348**	P		**Pn**		**07 15 39.0**	**+1.2**
Z32A	**Haskell** baz=2.9	**2.88**	**221**	⇑P		**Pn**		**07 15 39.2**	**+1.0**
Y31A	**Rekieta Farm,** baz=2.9,SNR=65	**2.93**	**239**	⇓P		**Pn**		**07 15 40.6**	**+1.7**
U30A	**WK&E Inc. Balk** baz=3.0,SNR=14	**2.95**	**291**	⇓P		**Pn**		**07 15 40.6**	**+1.4**
135A	**Vickery Place,** baz=3.0	**2.95**	**183**	⇑P		**Pn**		**07 15 40.3**	**+1.1**
134A	**White-Moore Ra** baz=3.0,SNR=35	**3.02**	**194**	⇑P		**Pn**		**07 15 41.6**	**+1.5**
T30A	**Plains** baz=3.1	**3.07**	**301**	⇑P		**Pn**		**07 15 42.3**	**+1.4**
R32A	**Long Quarter,** baz=3.1	**3.13**	**338**	⇑P		**Pn**		**07 15 43.1**	**+1.4**
MIAR	**Mount Ida**	**3.16**	**107**	*e*Pn		**Pn**		**07 15 43.6**	**+1.6**
MIAR				*e*Sn		**Sb**		**07 16 25.1**	**-1.9**
X30A	**Coker Ranch, T** baz=3.2,SNR=34	**3.17**	**251**	⇓P		**Pn**		**07 15 43.6**	**+1.3**
133A	**Hamilton Ranch** baz=3.2	**3.22**	**206**	⇓P		**Pn**		**07 15 43.9**	**+1.0**
Z31A	**Sharp Cattle R** baz=3.3,SNR=23	**3.25**	**228**	⇓P		**Pn**		**07 15 44.9**	**+1.6**
R31A	**Burdett** baz=3.3,SNR=17	**3.32**	**327**	⇓P		**Pn**		**07 15 46.0**	**+1.7**
S30A	**Montezuma** baz=3.4,SNR=15	**3.35**	**310**	⇑P		**Pn**		**07 15 46.5**	**+1.7**
ABTX	**Abilene, Hawle**	**3.51**	**215**	*e*Pn		**Pn**		**07 15 47.3**	**+0.4**
WHTX	**Lake Whitney**	**3.52**	**183**	*e*Pn		**Pn**		**07 15 47.8**	**+0.8**
WHTX				*e*Sg		**Sg**		**07 15 46.5**	**+1.4**
KSU1	**Kansas State U**	**3.62**	**8**	*e*Pn		**Pn**		**07 15 48.4**	**+0.1**
KSU1				*e*Sg		**Sg**		**07 16 48.0**	**-0.2**
UALR	**University of**	**4.08**	**99**	*e*Pn		**Pn**		**07 15 56.5**	**+1.8**
UALR				*e*Sg		**Sg**		**07 17 01.9**	**-1.1**
NATX	**Nacogdoches**	**4.32**	**149**	*e*Pn		**Pn**		**07 15 56.1**	**-1.9**
NATX				*e*Sn		**Sn**		**07 16 49.4**	**+0.9**
MSTX	**Muleshoe**	**4.81**	**253**	*e*Pn		**Pn**		**07 16 05.4**	**+0.6**
MSTX				*e*Sg		**Sg**		**07 17 22.8**	**-3.8**
HBAR	**Harrisburg**	**5.37**	**88**	*e*Pn		**Pn**		**07 16 12.6**	**+0.3**
HBAR				*e*Sg		**Sg**		**07 17 43.8**	**-0.6**
JCT	**Junction City**	**5.46**	**204**	*e*Pn		**Pn**		**07 16 14.1**	**+0.3**
JCT				*e*Pg		Pg		07 16 32.6	-4.2
JCT				*e*Sg		**Sg**		**07 17 48.7**	**+1.1**
KSCO	**Kaye Shedlock'**	**5.54**	**311**	*e*Pn		**Pn**		**07 16 14.7**	**-0.2**
KSCO				*e*Pg		Pg		07 16 34.2	-4.0
KSCO				*e*Sg		**Sg**		**07 17 47.1**	**-2.9**
HKT	**Hockley** 22nm,1.2s	**5.67**	**168**	*e*Pn		**Pn**		**07 16 17.3**	**+0.7**
BGNE	**Belgrade**	**5.93**	**353**	*e*Pn		**Pn**		**07 16 18.6**	**-1.5**
BGNE				*e*Sg		**Sg**		**07 18 00.4**	**-2.1**
OXF	**Oxford**	**6.50**	**97**	*e*Pn		**Pn**		**07 16 28.7**	**+0.8**
OXF				*e*Sn		**Sn**		**07 17 42.1**	**-0.1**
OGNE	**Ogallala**	**6.61**	**327**	*e*Pn		**Pn**		**07 16 29.3**	**-0.2**
OGNE				*e*Pg		**Pg**		**07 16 56.1**	**-2.5**
OGNE				*e*Sg		**Sg**		**07 18 20.7**	**-3.5**
GDL2	**Guadalupe Moun**	**6.79**	**243**	*e*Pg		**Pb**		**07 16 52.1**	**+1.7**
GDL2				*e*Sg		**Sg**		**07 18 25.2**	**-4.9**
SIUC	**Southern Illin**	**6.81**	**69**	*e*Pn		**Pn**		**07 16 32.6**	**+0.3**
SIUC				*e*Sg		Sg		07 18 23.7	-7.1
SDCO	**Great Sand Dun**	**7.01**	**291**	*e*Pn		**Pn**		**07 16 36.6**	**+1.4**
SDCO				*e*Sg		**Sg**		**07 18 32.3**	**-4.8**
SCIA	**State Center**	**7.11**	**25**	*e*Pn		**Pn**		**07 16 36.1**	**-0.3**
SCIA				*e*Pg		Pg		07 17 03.4	-4.9
SCIA				*e*Sg		**Sg**		**07 18 41.7**	**+1.3**
ANMO	**Albuquerque**	**7.57**	**268**	*e*Pn		**Pn**		**07 16 41.4**	**-1.4**
ANMO				*e*Sg		Sg		07 18 48.1	-6.9
ANMO				Lg		Lg		07 18 49.4	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=82,slow=20,SNR=6.3	**7.57**	**268**	Pn		**Pn**		**07 16 42.7**	**-0.1**
ANMO	0.7nm,0.3s,baz=86,slow=19,SNR=12			Pg		Pb		07 17 10.2	+6.5
ANMO	1.8nm,0.3s,baz=3.2,slow=14,SNR=4.3			Lg		Lg		07 18 49.4	
WVT	**Waverly**	**7.67**	**83**	*e*Pn		**Pn**		**07 16 43.5**	**-0.4**
WVT				*e*Sn		**Sn**		**07 18 11.8**	**+1.0**
MNTX	**Cornudas Mount**	**7.79**	**243**	*e*Pn		**Pn**		**07 16 44.4**	**-1.2**
MNTX				*e*Sg		Sg		07 18 52.7	-9.3
LPM	**Los Pinos Moun**	**7.81**	**264**	*e*Pn		**Pn**		**07 16 44.9**	**-1.3**
LPM				*e*Sg		Sg		07 18 56.7	-6.2
BNM	**Barren Site**	**7.84**	**263**	Pn		**Pn**		**07 16 45.5**	**-1.1**
BNM				*e*Pg		Pb		07 17 15.4	+7.0
BNM				*e*Sg		Sg		07 18 53.6	-11
ISCO	**Idaho Springs**	**7.90**	**305**	*e*Pn		**Pn**		**07 16 46.4**	**-1.1**
OLIL	**Olney**	**7.97**	**64**	*e*Pn		**Pn**		**07 16 49.9**	**+1.7**
OLIL				*e*Sn		**Sn**		**07 18 18.3**	**-0.1**
LENM	**Lemitar**	**8.12**	**263**	*e*Pg		Pb		07 17 17.8	+4.8
LENM				*e*Sg		Sg		07 19 05.7	-7.0
LAZ	**Ladron**	**8.21**	**265**	Pg		Pg		07 17 24.5	-4.8
LAZ				*e*Sg		Sg		07 19 04.5	-11
TXAR	**Lajitas Array**	**8.21**	**223**	Pn		**Pn**		**07 16 51.8**	**+0.1**
TXAR				Pg		Pb		07 17 21.7	+7.1
TXAR				Lg		Lg		07 19 06.6	
TXAR	**Lajitas Array** 0.5nm,0.3s,baz=60,slow=12,SNR=10	**8.21**	**223**	Pn		**Pn**		**07 16 51.8**	**+0.1**
TXAR	2.4nm,0.3s,baz=50,slow=15,SNR=24			Pg		Pb		07 17 21.7	+7.1
TXAR	3.8nm,0.3s,baz=49,slow=35,SNR=5.0			Lg		Lg		07 19 06.6	
ECSD	**EROS Data Cent**	**8.22**	**3**	*e*Pn		**Pn**		**07 16 50.3**	**-1.3**
ECSD				*e*Sn		Sn		07 18 19.2	-5.4
JFWS	**Jewell Farm**	**9.16**	**34**	*e*Pn		**Pn**		**07 17 03.5**	**-0.9**
JFWS				*e*Lg		Lg		07 19 38.7	
WCI	**Wyandotte Cave**	**9.18**	**70**	*e*Pn		**Pn**		**07 17 04.6**	**-0.1**
WCI				*e*Sn		**Sn**		**07 18 43.2**	**-4.9**
BLO	**Bloomington**	**9.28**	**64**	*e*Pn		**Pn**		**07 17 07.7**	**+1.7**
PV01	**Paradox Valley**	**9.46**	**289**	*e*Pn		**Pn**		**07 17 09.3**	**+0.5**
RSSD	**Black Hills**	**10.06**	**331**	*e*Pn		**Pn**		**07 17 16.6**	**-0.3**
SPMN	**St. Paul**	**10.27**	**18**	*e*Pn		**Pn**		**07 17 17.6**	**-2.0**
SPMN				*e*Sn		Sn		07 19 06.1	-8.8
TKL	**Tuckaleechee C**	**10.96**	**85**	Pn		**Pn**		**07 17 30.0**	**+0.8**
TKL				Lg		Lg		07 20 33.1	
TKL	**Tuckaleechee C** 0.5nm,0.3s,baz=226,slow=12,SNR=6.2	**10.96**	**85**	Pn		**Pn**		**07 17 30.0**	**+0.8**
TKL	1.2nm,0.3s,baz=306,slow=8.7,SNR=3.6			Lg		Lg		07 20 33.1	
PDAR	**Pinedale Array**	**11.99**	**311**	Pn		**Pn**		**07 17 42.4**	**-1.0**
PDAR				Lg		Lg		07 21 10.3	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=125,slow=13,SNR=3.6	**11.99**	**311**	Pn		**Pn**		**07 17 42.4**	**-1.0**
PDAR	0.5nm,0.3s,baz=111,slow=29,SNR=9.2			Lg		Lg		07 21 10.3	
ULM	**Lac du Bonnet**	**14.76**	**3**	Pn		Pn		07 18 16.6	-4.4
ULM				Lg		Lg		07 22 32.9	
ULM	**Lac du Bonnet** 0.4nm,0.3s,baz=180,slow=11,SNR=5.5	**14.76**	**3**	Pn		Pn		07 18 16.6	-4.4
ULM	0.6nm,0.3s,baz=269,slow=13,SNR=6.0			Lg		Lg		07 22 32.9	
SADO	**Sadowa** 0.4nm,0.3s,baz=66,slow=3.0,SNR=5.4	**16.61**	**51**	Lg		Lg		07 23 30.4	
NVAR	**Mina Array Bea**	**17.08**	**286**	Pn		**P**		**07 18 52.8**	**-0.4**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=79,slow=10,SNR=2.1	**17.08**	**286**	Pn		**P**		**07 18 52.8**	**-0.4**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=145,slow=8.4,SNR=7.4	**29.11**	**343**	P		**P**		**07 20 53.3**	**+0.4**
RES	**Resolute Bay** 3.1nm,0.6s	**39.27**	**1**	*e*P		**P**		**07 22 23.5**	**+2.9**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=98,slow=6.1,SNR=5.2	**41.51**	**330**	P		**P**		**07 22 41.2**	**+2.0**
FINES	**FINESS Array B** 1.0nm,0.7s,baz=302,slow=8.3,SNR=4.6	**73.03**	**25**	P		**P**		**07 26 23.8**	**+1.8**

NIED ***24*** *07:19:00, 41°.20N×141°.70E, h5km, Mw4.3 Best double couple: M_o2.82000×10^{15} NP1:ϕ_s257.00000°, δ33.00000°, λ63.00000°. NP2:ϕ_s109.00000°, δ62.00000°, λ106.00000°.*

BJI ***24*** *07:19:00.3, 41°.05N×142°.37E, h30km, mB4.8/13, mb4.6/31, Ms4.2/16, Ms7 4.2/3*

SZGRF ***24*** *07:19:04.0, 40°.91N×143°.91E, h33km, mb4.7, Off east coast of Honshu, Japan*

JMA ***24*** *07:19:05.6, 41°.21N×141°.65E, h14km±1km, M4.5*

JMA Felt IV J1.

ISCJB ***24*** *07:19:06.2±0.5, 41°.21N±0'.02×141°.58E±0'.03, h25km±3km, mb4.7/143, MS4.1/38, Error ellipse: s-maj=4.2km s-min=3.3km az=136.0*

MOS ***24*** *07:19:08.4±0.9, 41°.31N×141°.47E, h39km, mb5.0/67, Error ellipse: s-maj=7.4km s-min=4.6km az=101.6*

NEIC ***24*** *07:19:10.6±0.5, 41°.24N×141°.46E, h48km±4km, mb4.7/57, MW4.2(NIED), Error ellipse: s-maj=4.2km s-min=2.8km az=153.0*

NEIC Felt [III] at Misawa, Honshu. Recorded [4 JMA] in Aomori and [2 JMA] in Iwate, Honshu. Also recorded [2 JMA] in southwestern Hokkaido.

IDC ***24*** *07:19:10.1±1.5, 41°.22N×141°.53E, h47km±13km, mb4.2/27, mb1 4.4/31, mb1mx4.4/43, mbtmp4.5/31, ML4.6/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/43, Error ellipse: s-maj=13.5km s-min=9.1km az=132.0*

ISC 24 07:19:05.5±1.0, 41°.20N±0'.03×141°.66E±0'.03, h13km±6km, n438, σ0§98/419, mb4.8/144, MS4.1/39, 31C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.50**	**292**	⇑P		**Pg**		**07 19 15.1**	**-0.1**
JOT				S		**Sg**		**07 19 21.4**	**-0.5**
JTM	**Tenmabayashi**	**0.60**	**228**	⇓P		**Pb**		**07 19 17.4**	**-0.5**
JTM				*e*S		**Sg**		**07 19 25.0**	**-0.3**
JANG	**Nango**	**0.83**	**188**	⇓P		**Pg**		**07 19 20.8**	**-0.7**
JANG				*e*S		**Sg**		**07 19 31.9**	**-0.4**
JKB	**Kayabe**	**0.84**	**326**	⇑P		**Pg**		**07 19 21.2**	**-0.5**
JKB				S		**Sg**		**07 19 31.9**	**-0.7**
JSR	**Shiriuchi**	**0.99**	**290**	⇑P		**Pg**		**07 19 24.0**	**-0.6**
JSR				*e*S		**Sg**		**07 19 36.8**	**-0.7**
JKZ	**Kuzumaki**	**1.23**	**192**	⇓P		**Pn**		**07 19 27.8**	**-0.7**
JTH	**Tanohata**	**1.26**	**173**	⇓P		**Pn**		**07 19 27.2**	**-1.7**
JAH	**Hinai**	**1.27**	**218**	⇓P		**Pn**		**07 19 28.3**	**-0.7**
JAH				*e*S		**Sn**		**07 19 45.3**	**-0.6**
ERM	**Erimo**	**1.39**	**53**	*d* iP		**Pn**		**07 19 30.8**	**+0.2**
ERM	**Erimo**	**1.39**	**53**	*e*Pn		**Pn**		**07 19 31.1**	**+0.4**
ERM				*e*Sn		**Sg**		**07 19 51.9**	**+1.5**
ASAJ	**Asahikawa**	**3.00**	**13**	*e*Pn		**Pn**		**07 19 54.2**	**+1.5**
ASAJ				S		**Sn**		**07 20 30.3**	**+1.6**
ASAJ	**Asahikawa** 83nm,0.3s,baz=235,slow=12,SNR=125	**3.00**	**13**	P		**Pn**		**07 19 54.3**	**+1.5**
ASAJ	43nm,0.3s,baz=348,slow=20,SNR=7.3			S		**Sn**		**07 20 30.3**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**4.21**	**46**	*d* iP		**Pn**		**07 20 10.9**	**+1.6**
YUK				*i* S		**Sn**		**07 20 59.0**	**+0.7**
YUK	comp=E,420nm,0.5s			pmax	pmax				
YUK	comp=Z,778nm,0.5s			pmax	pmax				
YUK	comp=N,258nm,0.2s			smax	smax				
YUK	comp=N,2μm,0.6s			smax	smax				
YUK	comp=E,1μm,0.6s			LR	LR				
MAJO	**Matsushiro**	**5.37**	**211**	*e*P		**Pn**		**07 20 28.1**	**+2.8**
MAJO	**Matsushiro**	**5.37**	**211**	*e*Pn		**Pn**		**07 20 28.1**	**+2.8**
MAT	**Matsushiro**	**5.37**	**211**	P		**Pn**		**07 20 27.7**	**+2.3**
MJAR	**Matsushiro Arr**	**5.37**	**211**	P		**Pn**		**07 20 27.5**	**+2.2**
MJAR	**Matsushiro Arr** comp=E,8.1nm,0.3s,baz=19,slow=16,SNR=63	**5.37**	**211**	P		**Pn**		**07 20 27.5**	**+2.2**
MJAR	comp=E,356nm,20.0s,baz=30,slow=42			LR	LR			07 22 51.8	
YSS	**Yuzh-Sakhalins**	**5.81**	**7**	*e*P		**Pn**		**07 20 32.8**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.81**	**7**	*e*Pn		**Pn**		**07 20 32.8**	**+1.4**
VLA	**Vladivostok**	**7.51**	**288**	*d* iP		**Pn**		07 20 58.0	+3.3
USRK	**Ussuriysk Arra** comp=E,3.6nm,0.3s,baz=101,slow=15,SNR=31	**7.73**	**296**	P		**Pn**		**07 20 57.5**	**-0.2**
HABR	**Khabarovsk**	**8.66**	**329**	P		**Pn**		**07 21 09.1**	**-1.3**
HABR				*e*				07 22 44.5	
HABR	comp=Z,32nm,2.2s			pmax	pmax				
HABR	comp=Z,297nm,17.0s			MLR	MLR				
MDJ	**Mudanjiang**	**9.49**	**295**	P		Pn		07 21 26.1	+4.2
MDJ	comp=Z,130nm,1.1s			pmax	pmax				
MDJ	comp=Z,100nm,4.5s			pmax	pmax				
MDJ	**Mudanjiang**	**9.49**	**295**	*e*Pn		Pn		07 21 26.7	+4.8
KSJMJ	**Jumunjin** SNR=13	**10.50**	**256**	P		Pn		07 21 39.8	+4.1
KSULJ	**Uljin** SNR=17	**10.54**	**249**	P		Pn		07 21 40.6	+4.4
KLR	**Kul'dur**	**10.64**	**322**	*e*P		**Pn**		**07 21 37.4**	**-0.2**
KLR	comp=Z,57nm,1.6s			pmax	pmax				
KLR	comp=E,800nm,12.0s			MLR	MLR				
KLR	comp=N,700nm,10.0s			MLR	MLR				
KLR	comp=Z,1μm,10.0s			MLR	MLR				
SEHB	**SEOHWA** SNR=14	**10.73**	**259**	P		Pn		07 21 43.4	+4.5
KSCHC	**Chuncheon** SNR=11	**11.23**	**257**	P		Pn		07 21 50.7	+5.0
KSRS	**Korea Array** comp=Z,5.7nm,0.3s,baz=63,slow=14,SNR=75	**11.27**	**255**	P		Pn		07 21 49.4	+3.1
KSRS	comp=Z,2.6nm,0.3s,baz=68,slow=24,SNR=9.4			S		**Sn**		**07 23 56.0**	**+3.8**
KSRS	comp=Z,61nm,18.4s,baz=345,slow=34			LR	LR			07 25 35.5	
KSAR	**Wonju Array Be**	**11.31**	**255**	P		**Pn**		**07 21 49.4**	**+2.7**
KSAR				S		**Sn**		**07 23 56.0**	**+3.0**
KSBON	**Boeun** SNR=5.7	**11.78**	**251**	P		Pn		07 21 59.6	+6.4
JNU	**Nakatsue**	**11.78**	**230**	P		Pn		07 21 58.2	+4.9
JNU	**Nakatsue** comp=Z,0.3nm,0.3s,baz=35,slow=5.9,SNR=4.8	**11.78**	**230**	P		Pn		07 21 58.2	+4.9
JNU	comp=Z,68nm,19.6s,baz=36,slow=38			LR	LR			07 26 41.5	
KSCPR	**CHUPUNGNYEONG** SNR=5.6	**11.79**	**250**	P		Pn		07 21 59.9	+6.5
CN2	**Changchun**	**12.25**	**288**	*e*P		Pn		07 22 04.3	+4.7
CN2	comp=Z,10.0nm,1.0s			pmax	pmax				
PETK	**Petropavlovsk-**	**16.11**	**37**	P		**Pn**		**07 22 48.9**	**-2.7**
PETK	comp=Z,1.0nm,0.3s			pmax	pmax				
PETK	**Petropavlovsk-**	**16.11**	**37**	P		**Pn**		**07 22 48.9**	**-2.7**
PETK	**Petropavlovsk-** comp=Z,0.6nm,0.3s,baz=226,slow=

TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI MLR MLR
comp=Z,100nm,18.0s
TIXI Tiksi 31.19 352 *eP* **P 07 25 24.6 +0.7**
comp=Z,4.4nm,0.8s
TIXI LR LR
comp=Z,100nm,18.0s
GTA Gaotai 31.74 281 *eP* **P 07 25 28.4 -1.0**
GTA pP pP 07 25 40.6 +7.4
GTA sP sP 07 25 45.5 +11
CD2 Chengdu 32.09 264 *eP* **P 07 25 32.5 +0.1**
CD2 sP sP 07 25 47.8 +10
CD2 PP **PnPn 07 26 39.8 +1.9**
CD2 S **S 07 30 45.0 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,120nm,7.1s
CD2 LR LR
comp=Z,170nm,14.3s
GYA Guiyang 32.33 254 *eP* **P 07 25 35.6 +1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GAMB Gambell 35.12 34 PFAKE 07 26 10.0 +12
GAMB LR LR
comp=Z,400nm,20.6s
KMI Kunming 35.97 256 P P 07 26 10.5 +4.2
KMI pmax pmax
comp=Z,13nm,0.6s
DAV Davao City (W) 36.88 207 PFAKE 07 26 30.0 +16
DAV LR LR
comp=Z,400nm,21.0s
TNA Tin City 37.19 32 *eP* **P 07 26 16.7 +0.7**
comp=Z,4.8nm,0.8s
TNA LR LR
comp=Z,202nm,20.9s
SLVN Son La 37.48 250 *eP* **P 07 26 18.9 -0.1**
WMQ Urumqi 39.28 292 P **P 07 26 34.5 +0.5**
WMQ pmax pmax
comp=Z,2.0nm,0.7s
WMQ pmax pmax
comp=Z,15nm,5.4s
ZALV Zalesovo Beam 39.35 309 P **P 07 26 33.8 -0.5**
ZALV 07 28 41.6
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 39.35 309 P **P 07 26 33.8 -0.5**
ZALV PcP **PcP 07 28 41.5 -1.0**
ZALV Zalesovo Beam 39.35 309 P **P 07 26 33.8 -0.5**
comp=Z,8.0nm,0.6s,baz=92,slow=8.1,SNR=35
ZALV PcP **PcP 07 28 41.5 -1.0**
comp=Z,7.5nm,0.6s,baz=90,slow=3.2,SNR=13
NVS Novosibirsk 40.20 310 *eP* **P 07 26 39.3 -2.1**
NVS *e* 07 28 43.7
NVS pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 42.19 298 P **P 07 26 56.7 -1.2**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 42.19 298 P **P 07 26 57.2 -0.7**
MKAR 07 28 50.9
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 42.19 298 P **P 07 26 57.1 -0.7**
MKAR PcP **PcP 07 28 50.9 -1.0**
MKAR Makanchi Array 42.19 298 P **P 07 26 57.1 -0.7**
comp=Z,4.3nm,0.5s,baz=68,slow=9.5,SNR=75
MKAR PcP **PcP 07 28 50.9 -1.0**
comp=Z,1.6nm,0.8s,baz=29,slow=5.5,SNR=3.7
CHTO Chiang Mai 42.65 252 *eP* **P 07 27 01.9 0.0**
CHTO pmax pmax
comp=Z,1.0nm,0.8s
CHTO Chiang Mai 42.65 252 *eP* **P 07 27 01.9 0.0**
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 42.88 251 P **P 07 27 04.2 +0.4**
CMAR Chiang Mai Arr 42.88 251 P **P 07 27 04.2 +0.4**
comp=Z,2.4nm,0.3s,baz=44,slow=8.0,SNR=4.8
IM04 Indian Mountai 43.00 33 *eP* **P 07 27 04.7 +0.4**
KURK Kurchatov 43.62 305 *eP* **P 07 27 08.7 -0.6**
KURK 07 28 56.4
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 43.62 305 *eP* **P 07 27 08.7 -0.6**
comp=Z,10nm,1.0s
KURK PcP **PcP 07 28 56.4 -0.2**
KURBB Kurchatov Arra 43.69 305 P **P 07 27 09.2 -0.8**
comp=Z,9.8nm,0.6s,baz=78,slow=8.7,SNR=92
KURBB PcP **PcP 07 28 56.4 -0.4**
comp=Z,2.5nm,0.7s,baz=80,slow=3.7,SNR=7.8
PPLA Purkeypile 43.70 37 *eP* **P 07 27 11.6 +1.5**
comp=Z,71nm,1.8s
CAST Castle Rocks 43.73 37 *eP* **P 07 27 11.8 +1.7**
comp=Z,12nm,0.8s
TOLI Toli-Toli 44.13 211 PFAKE 07 27 30.0 +16
TOLI LR LR
comp=Z,100nm,18.2s
KTH Kantishna Hill 44.24 36 *eP* **P 07 27 15.8 +1.5**
comp=Z,36nm,1.1s
KTH LR LR
comp=Z,200nm,19.5s
COLD Coldfoot 44.46 31 *eP* **P 07 27 18.0 +2.1**
comp=Z,71nm,3.0s
TRF Thorofare Moun 44.53 36 *eP* **P 07 27 17.8 +1.1**
comp=Z,9.0nm,0.8s
TRF LR LR
comp=Z,300nm,21.6s
RC01 Rabbit Creek A 44.99 40 *eP* **P 07 27 21.2 +1.0**
comp=Z,8.4nm,0.7s
RC01 LR LR
comp=Z,300nm,18.3s
MCK McKinley 45.12 36 *eP* **P 07 27 22.5 +1.3**
MCK pmax pmax
comp=Z,11nm,0.9s
MCK McKinley 45.12 36 *eP* **P 07 27 22.5 +1.3**
comp=Z,11nm,0.9s
PMR Palmer 45.23 39 *eP* **P 07 27 22.6 +0.5**
PMR pmax pmax
comp=Z,10.0nm,0.7s
PMR Palmer 45.23 39 *eP* **P 07 27 22.6 +0.5**
comp=Z,10nm,0.7s
LUWI Luwuk 45.41 207 PFAKE 07 27 40.0 +16
LUWI LR LR
comp=Z,200nm,21.6s
COLA College 45.50 34 *⇑iP* **P 07 27 24.4 +0.2**
COLA College 45.50 34 *eP* **P 07 27 25.6 +1.4**
comp=Z,5.5nm,0.8s
ILAR Eielson Array 45.92 34 P **P 07 27 28.0 +0.5**
ILAR Eielson Array 45.92 34 P **P 07 27 28.0 +0.5**
comp=Z,12nm,0.9s,baz=268,slow=5.6,SNR=71
TAPN Taplejung 45.98 270 *eP* **P 07 27 28.0 -0.9**
comp=Z,50nm,0.9s
ODAN Odare 46.48 270 *eP* **P 07 27 31.8 -0.9**
comp=Z,29nm,0.7s
SBUM Sibu 46.80 222 PFAKE 07 27 50.0 +15
SBUM LR LR
comp=Z,100nm,20.4s
DIV Divide 46.89 39 *eP* **P 07 27 36.5 +1.2**
comp=Z,13nm,0.8s
DIV LR LR
comp=Z,300nm,19.8s
JIRN Jiri 46.97 271 *eP* **P 07 27 35.6 -1.1**
comp=Z,41nm,0.7s
RAMN Ramite 47.03 270 *eP* **P 07 27 36.3 -0.7**
comp=Z,75nm,0.8s
GUN Gumba 47.07 272 *eP* **P 07 27 36.8 -0.7**
comp=Z,98nm,0.7s
MENT Mentasta 47.55 37 *eP* **P 07 27 41.2 +0.8**
KKN Kakani 47.58 272 *eP* **P 07 27 40.7 -0.6**
comp=Z,66nm,0.8s
PKI Pulchoki 47.60 272 *eP* **P 07 27 40.6 -1.0**
comp=Z,31nm,0.9s
PKIN Phulchoki 47.61 272 *eP* **P 07 27 40.5 -1.1**
comp=Z,21nm,0.6s
DMN Daman 47.81 272 *eP* **P 07 27 42.4 -0.7**
comp=Z,39nm,0.8s
GKN Gorkha 47.96 273 *eP* **P 07 27 43.8 -0.3**
comp=Z,37nm,0.8s
BRVK Borovoye 48.04 310 *⇓iP* **P 07 27 43.5 -0.8**
BRVK pmax pmax
comp=Z,12nm,2.0s
BRVK Borovoye 48.04 310 *eP* **P 07 27 43.9 -0.4**
comp=Z,7.4nm,1.1s
EGAK Eagle 48.35 34 *eP* **P 07 27 47.1 +0.6**
comp=Z,10nm,0.9s
DANN Dangsing 48.44 274 *eP* **P 07 27 47.7 -0.3**
comp=Z,114nm,0.7s
KSM Kuching 48.62 224 PFAKE 07 28 00.0 +11
KSM LR LR
comp=Z,100nm,21.8s
AAK Ala-Archa 48.78 295 *⇓eP* **P 07 27 49.4 -0.9**
AAK pmax pmax
comp=Z,22nm,1.3s
AAK Ala-Archa 48.78 295 *eP* **P 07 27 49.5 -0.8**
comp=Z,5.4nm,0.6s
KOLN Koldanda 48.86 273 *eP* **P 07 27 51.2 0.0**
comp=Z,51nm,0.9s
KSH Kashi 48.99 291 *i* P P 07 27 55.1 +3.2
KSH *e*PP **PP 07 29 49.3 +4.1**
KSH *e*PcS **PcS 07 33 13.1 +0.9**
KSH *e*S **S 07 34 55.0 -1.0**
KSH *e*sS sS 07 35 15.9 +13
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,59nm,3.3s
KSH LR LR
comp=Z,75nm,6.2s
KSH LR LR
comp=Z,120nm,5.1s
KSH LR LR
comp=Z,110nm,7.8s
PYUN Piuthan 49.15 274 *eP* **P 07 27 53.4 0.0**
comp=Z,11nm,0.5s
INK Inuvik 50.62 29 *eP* **P 07 28 04.7 +1.0**
comp=Z,16nm,0.4s
INK Inuvik 50.62 29 P **P 07 28 04.7 +1.0**
comp=Z,12nm,0.4s,baz=286,slow=6.0,SNR=161
KULM Kulim 51.16 237 PFAKE 07 28 20.0 +12
KULM LR LR
comp=Z,100nm,19.9s
KK31 Karatay Array 51.29 297 *i* P **P 07 28 07.7 -1.5**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
IPM Ipoh 51.55 236 PFAKE 07 28 20.0 +8.6
IPM LR LR
comp=Z,100nm,20.3s
MYKOM Kota Tinggi 51.95 231 PFAKE 07 28 30.0 +16
MYKOM LR LR
comp=Z,100nm,19.0s
SVE Sverdlovsk 52.21 317 *eP* **P 07 28 16.1 +0.3**
SVE pmax pmax
comp=Z,14nm,1.0s
SKAG Skagway 52.34 40 PFAKE 07 28 30.0 +13
SKAG LR LR
comp=Z,300nm,19.5s
MMRI Maumere 52.71 204 PFAKE 07 28 30.0 +10
MMRI LR LR
comp=Z,100nm,19.0s
ARU Arti 53.42 317 *c iP* **P 07 28 24.0 -0.7**
ARU 07 30 20.6
ARU S **S 07 35 54.4 -2.1**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 53.42 317 *eP* **P 07 28 24.4 -0.3**
comp=Z,14nm,1.3s
BKNI Bangkinang 54.79 233 PFAKE 07 28 50.0 +15
BKNI LR LR
comp=Z,100nm,18.9s
DLBC Dease Lake 55.27 40 P **P 07 28 39.8 +1.5**
DLBC Dease Lake 55.27 40 P **P 07 28 39.8 +1.5**
comp=Z,1.7nm,0.6s,baz=324,slow=21,SNR=7.0
PMBI Palembang 55.28 227 PFAKE 07 28 50.0 +11
PMBI LR LR
comp=Z,300nm,19.2s
AB31 Akbulak array 55.46 308 *i* P **P 07 28 39.1 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 55.46 308 *eP* **P 07 28 39.0 -0.7**
AKTO Aktyubinsk 56.09 310 P **P 07 28 43.5 -0.7**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
KBL Kabul 56.19 289 *eP* **P 07 28 44.0 -1.4**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 56.19 289 *eP* **P 07 28 44.0 -1.4**
comp=Z,6.3nm,0.8s
PRGR Permogore 57.41 326 *eP* **P 07 28 52.0 -1.4**
PRGR pmax pmax
comp=Z,10.0nm,1.2s
RES Resolute Bay 58.53 15 PFAKE 07 29 10.0 +8.9
RES LR LR
comp=Z,200nm,21.8s
KEV Kevo 59.63 338 *eP* **P 07 29 08.3 -0.4**
KEV pmax pmax
comp=Z,127nm,2.2s
KEV Kevo 59.63 338 *ep* **P 07 29 07.9 -0.8**
comp=Z,4.6nm,0.7s
KEV Kevo 59.63 338 *eP* **P 07 29 08.3 -0.4**
comp=Z,127nm,2.2s
YKA Yellowknife Ar 60.14 31 P **P 07 29 12.6 +0.2**
YKA Yellowknife Ar 60.14 31 P **P 07 29 12.6 +0.2**
comp=Z,3.4nm,0.6s,baz=302,slow=6.4,SNR=66
ARCES ARCESS Array B 60.18 339 P **P 07 29 12.1 -0.4**
ARCES ARCESS Array B 60.18 339 P **P 07 29 12.1 -0.4**
comp=Z,2.5nm,0.6s,baz=50,slow=8.0,SNR=19
ARCES LR LR 07 57 01.2
comp=Z,69nm,21.0s,baz=295,slow=38
ARE0 ARCESS Array S 60.18 339 *eP* **P 07 29 12.4 -0.1**
KLMR Klimovskoe 60.37 327 *eP* **P 07 29 12.3 -1.6**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 61.20 188 P **P 07 29 19.1 -0.9**
WRA Warramunga Arr 61.20 188 P **P 07 29 19.1 -0.9**
comp=Z,1.9nm,0.5s,baz=5.8,slow=6.9,SNR=21
DAG Danmarks Havn 61.65 355 *i* P **P 07 29 22.0 -0.4**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 61.65 355 *i* P **P 07 29 22.0 -0.4**
comp=Z,2.9nm,0.8s
JOF Joensuu 62.40 331 *eP* **P 07 29 26.6 -1.0**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 62.40 331 *ep* **P 07 29 26.6 -1.0**
comp=Z,3.2nm,0.5s
KAF Kangasniemi 64.71 332 *eP* **P 07 29 41.0 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 64.71 332 *ep* **P 07 29 41.0 -1.9**
comp=Z,3.9nm,0.7s
AS31 Alice Springs 64.93 188 *eP* **P 07 29 44.7 0.0**
ASAR Alice Springs 64.93 188 P **P 07 29 44.5 -0.3**
ASAR Alice Springs 64.93 188 P **P 07 29 44.5 -0.3**
comp=Z,1.3nm,0.5s,baz=1.4,slow=7.4,SNR=27
D05A Enumclaw 64.98 48 PFAKE 07 30 00.0 +15
D05A LR LR
comp=Z,2µm,20.4s
FIA1 FINESS Array S 65.24 331 *eP* **P 07 29 45.5 -0.8**
FINES FINESS Array B 65.24 331 P **P 07 29 45.6 -0.7**
FINES FINESS Array B 65.24 331 P **P 07 29 45.6 -0.7**
comp=Z,7.9nm,0.6s,baz=34,slow=9.0,SNR=41
FINES LR LR 08 02 07.1
comp=Z,118nm,18.3s,baz=264,slow=40
LTY Liberty 65.69 48 PFAKE 07 30 00.0 +10
LTY LR LR
comp=Z,300nm,19.4s
B08A Colville Reser 65.79 46 *eP* **P 07 29 51.1 +0.9**
comp=Z,18nm,1.6s
B08A LR LR
comp=Z,300nm,18.8s
SUMG Summit 66.53 0 *eP* **P 07 29 55.6 +0.6**
SUMG pmax pmax
comp=Z,50nm,1.9s
SUMG Summit 66.53 0 *i* P **P 07 29 55.1 +0.1**
comp=Z,3.5nm,0.6s
SUMG Summit 66.53 0 *eP* **P 07 29 55.6 +0.6**
comp=Z,50nm,1.9s
D08A Wollman Farm, 66.78 47 *eP* **P 07 29 57.5 +1.0**
NEW Newport 67.04 45 *eP* **P 07 29 59.0 +0.7**
NEW LR LR
comp=Z,400nm,20.0s
NEW Newport 67.04 45 P **P 07 29 58.3 +0.1**
comp=Z,2.5nm,0.7s,baz=302,slow=4.3,SNR=9.8
E09A Wood Farm, Sta 67.53 47 *eP* **P 07 30 02.0 +0.7**
comp=Z,7.5nm,1.0s
E09A *eP'P'* 07 58 23.5
PINOR Pine Mountain 67.57 51 PFAKE 07 30 10.0 +8.5
PINOR LR LR
comp=Z,500nm,19.1s
WALA Waterton Lakes 68.25 43 *eP* **P 07 30 06.4 +0.4**
comp=Z,3.2nm,2.9s
WALA *eP'P'* 07 58 16.3
KIV Kislovodsk 68.36 310 *eP* **P 07 30 07.0 +0.3**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,64nm,18.0s
F10A Beach Ranch, E 68.36 47 PFAKE 07 30 20.0 +13
F10A LR LR
comp=Z,300nm,21.3s
KBZ Khabaz 68.37 310 P **P 07 30 07.0 +0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.5s
KBZ Khabaz 68.37 310 P **P 07 30 07.0 +0.4**
KBZ Khabaz 68.37 310 P **P 07 30 07.0 +0.4**
comp=Z,1.7nm,0.5s,baz=67,slow=2.5,SNR=5.8
JTMT Jette 68.87 45 *eP* **P 07 30 10.8 +1.0**
SWMT Swartz Lake 69.17 45 *eP* **P 07 30 12.4 +0.7**
GNI Garni 69.41 306 PFAKE 07 30 20.0 +6.6
GNI LR LR
comp=Z,100nm,19.8s
SLMT Seeley Lake 69.61 45 *eP* **P 07 30 15.2 +0.7**
MSO Missoula 69.63 45 *eP* **P 07 30 15.2 +0.6**
comp=Z,35nm,2.1s
MSO LR LR
comp=Z,300nm,20.9s
WVOR Wild Horse Val 69.70 51 PFAKE 07 30 30.0 +15
WVOR LR LR
comp=Z,200nm,18.6s
FFC Flin Flon 70.12 34 *eP* **P 07 30 17.8 +0.5**
FFC pmax pmax
comp=Z,8.0nm,0.7s
FFC Flin Flon 70.12 34 *eP* **P 07 30 17.8 +0.5**
comp=Z,8.3nm,0.7s
FCC Fort Churchill 70.21 27 *eP* **P 07 30 17.9 +0.2**
FCC Fort Churchill 70.21 27 *eP* **P 07 30 17.9 +0.2**
comp=Z,0.8nm,1.5s
NB2 NORSAR Subarra 70.43 337 P **P 07 30 18.5 -0.7**
comp=Z,4.2nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 70.43 337 P **P 07 30 18.5 -0.7**
NOA NORSAR Array B 70.43 337 P **P 07 30 18.5 -0.7**
comp=Z,4.3nm,0.6s,baz=39,slow=6.2,SNR=25
MFID Camas Ranch 70.72 49 *eP* **P 07 30 22.7 +1.3**
comp=Z,3.4nm,0.7s
HRY Holter Researc 70.82 44 *eP* **P 07 30 22.9 +1.1**
AKASG Malin Array Be 71.14 322 P **P 07 30 22.7 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 71.14 322 P **P 07 30 22.7 -0.9**
AKASG Malin Array Be 71.14 322 P **P 07 30 22.7 -0.9**
comp=Z,5.8nm,0.6s,baz=44,slow=6.4,SNR=9.8
KIEV Kiev 71.15 322 *eP* **P 07 30 22.4 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 71.15 322 *eP* **P 07 30 22.4 -1.2**
comp=Z,9.3nm,0.8s
DLMT Dillon 71.28 46 *eP* **P 07 30 25.5 +0.8**
comp=Z,9.9nm,0.6s
CMB Columbia Colle 71.33 56 *eP* **P 07 30 26.5 +1.5**
CMB pmax pmax
comp=Z,95nm,2.9s
CMB Columbia Colle 71.33 56 *eP* **P 07 30 26.5 +1.5**
comp=Z,95nm,2.9s
HLID Hailey 71.43 48 *eP* **P 07 30 26.7 +1.0**
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 71.62 45 *eP* **P 07 30 27.7 +0.9**
BOZ pmax pmax
comp=Z,9.0nm,0.6s
BOZ Bozeman (W) 71.62 45 *eP* **P 07 30 27.6 +0.9**
comp=Z,9.0nm,0.6s
NVAR Mina Array Bea 72.37 54 P **P 07 30 32.2 +0.7**
NVAR Mina Array Bea 72.37 54 P **P 07 30 32.2 +0.7**
comp=Z,3.3nm,0.7s,baz=296,slow=6.4,SNR=28
FRB Frobisher Bay 72.69 14 P **P 07 30 32.5 -0.1**
FRB Frobisher Bay 72.69 14 P **P 07 30 32.5 -0.1**
comp=Z,7.4nm,0.7s,baz=340,slow=6.7,SNR=19
STKA Stephens Creek 72.71 180 P **P 07 30 33.5 +0.6**
STKA Stephens Creek 72.71 180 P **P 07 30 33.5 +0.6**
comp=Z,1.7nm,0.7s,baz=87,slow=5.6,SNR=3.4
ELK Elko 72.75 51 P **P 07 30 34.4 +0.7**
ELK Elko 72.75 51 P **P 07 30 34.4 +0.7**
comp=Z,1.1nm,0.6s,baz=358,slow=5.4,SNR=6.8
H17A Grant Village 73.00 46 *eP* **P 07 30 38.2 +3.1**
RLMT Red Lodge 73.22 44 *eP* **P 07 30 37.5 +1.1**
comp=Z,3.8nm,0.5s
TPH Tonopah 73.26 54 *eP* **P 07 30 37.8 +1.1**
TPH pmax pmax
comp=Z,5.0nm,0.8s
TPH Tonopah 73.26 54 *eP* **P 07 30 37.8 +1.1**
comp=Z,4.7nm,0.8s
MOOW Moose Ponds 73.34 46 *eP* **P 07 30 38.3 +1.2**
comp=Z,4.9nm,1.0s
HVU Hansel Valley 73.50 49 *eP* **P 07 30 39.0 +0.9**
HVU pmax pmax
comp=Z,6.0nm,1.0s
HVU Hansel Valley 73.50 49 *eP* **P 07 30 39.0 +0.9**
comp=Z,6.3nm,1.0s
LOHW Long Hollow 73.50 46 *eP* **P 07 30 39.3 +1.2**
comp=Z,72nm,2.9s
REDW Red Top Meadow 73.53 46 *eP* **P 07 30 39.6 +1.3**
comp=Z,5.1nm,0.9s
HWUT Hardware Ranch 74.30 48 *eP* **P 07 30 43.8 +1.0**
comp=Z,7.4nm,1.2s
DUG Dugway 74.51 50 *eP* **P 07 30 45.2 +1.2**
DUG pmax pmax
comp=Z,21nm,1.9s
DUG Dugway 74.51 50 *eP* **P 07 30 45.2 +1.2**
comp=Z,21nm,1.9s
BW06 Boulder Array 74.64 46 *eP* **P 07 30 45.4 +0.7**
comp=Z,4.8nm,0.7s
PDAR Pinedale Array 74.64 46 P **P 07 30 45.3 +0.5**
PDAR Pinedale Array 74.64 46 P **P 07 30 45.3 +0.5**
comp=Z,4.2nm,0.6s,baz=263,slow=2.1,SNR=38
KWP Kalwaria Pacla 74.87 324 *eP* **P 07 30 46.4 +0.7**
KWP Kalwaria Pacla 74.87 324 *eP* **P 07 30 46.3 +0.6**
BUR08 Bucovina Ar. S 75.17 321 *eP* **P 07 30 47.4 -0.2**
BURAR Bucovina Array 75.18 321 *⇑iP* **P 07 30 47.4 -0.2**
BURAR Bucovina Array 75.18 321 *⇑iP* **P 07 30 47.4 -0.2**
SHPR Sheep Range 75.53 54 *eP* **P 07 30 51.6 +1.7**
STHS Stebnicka Huta 75.68 324 *eP* **P 07 30 51.3 +0.9**
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 75.68 324 *eP* **P 07 30 51.3 +0.9**
ULM Lac du Bonnet 75.94 34 P **P 07 30 51.5 -0.3**
ULM Lac du Bonnet 75.94 34 P **P 07 30 51.5 -0.3**
comp=Z,3.7nm,0.7s,baz=296,slow=5.1,SNR=5.6
CRVS Cervenica-Dubn 75.96 324 *eP* **P 07 30 52.0 0.0**
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS Cervenica-Dubn 75.96 324 *eP* **P 07 30 52.0 0.0**
TRPA Tarpa 76.05 323 *⇓iP* **P 07 30 52.9 +0.5**
BRTR Keskin Array B 76.25 311 P **P 07 30 53.8 -0.2**
BRTR Keskin Array B 76.25 311 P **P 07 30 53.8 -0.2**
comp=Z,1.0nm,0.6s,baz=75,slow=4.1,SNR=6.7
DOPR Dopca 76.28 320 *⇓iP* **P 07 30 54.6 +0.8**
ISR Istrita 76.32 319 *⇑iP* **P 07 30 55.2 +1.1**
ISR Istrita 76.32 319 *⇑iP* **P 07 30 55.2 +1.1**
SRU San Rafael 76.55 50 *eP* **P 07 30 57.0 +1.2**
SRU pmax pmax
comp=Z,6.0nm,1.1s
SRU San Rafael 76.55 50 *eP* **P 07 30 57.0 +1.2**
comp=Z,5.9nm,1.1s
RSSD Black Hills 76.62 42 *eP* **P 07 30 56.3 +0.2**
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD Black Hills 76.62 42 *eP* **P 07 30 56.3 +0.2**
comp=Z,3.1nm,0.7s
KSP Ksiaz 76.67 328 *eP* **P 07 30 56.1 +0.1**
KSP Ksiaz 76.67 328 *eP* **P 07 30 56.3 +0.3**
KECS Kecovo 76.71 324 *eP* **P 07 30 55.5 -0.7**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 76.71 324 *eP* **P 07 30 55.5 -0.7**
VOIR 76.82 320 *⇑iP* **P 07 30 57.2 +0.2**
VOIR 76.82 320 *⇑iP* **P 07 30 57.2 +0.2**
MORC Moravsky Berou 76.99 327 *⇑iP* **P 07 30 58.1 +0.3**
MORC Moravsky Berou 76.99 327 *⇑iP* **P 07 30 58.1 +0.3**
MORC Moravsky Berou 76.99 327 *eP* **P 07 30 57.5 -0.4**
comp=Z,11nm,1.2s
DPC Dobruska-Polom 77.05 328 *eP* **P 07 30 58.7 +0.5**
DPC Dobruska-Polom 77.05 328 *eP* **P 07 30 58.6 +0.5**
DPC Dobruska-Polom 77.05 328 *eP* **P 07 30 58.7 +0.5**
UPC Upice 77.05 328 *eP* **P 07 30 58.5 +0.4**
UPC Upice 77.05 328 *eP* **P 07 30 58.5 +0.4**
KRLC Kraliky 77.07 327 *eP* **P 07 30 58.1 -0.2**
KRLC Kraliky 77.07 327 *eP* **P 07 30 58.1 -0.2**
KRLC *ex* x 07 31 00.5

ARR	Arges	77.08 320	⇓	*i*	P	P	07 30 58.5	+0.1
PSZ	Piszkesteto	77.39 324	⇑	P		P	07 31 00.6	+0.4
PSZ	Piszkesteto	77.39 324	⇑	*i*	P	P	07 31 00.6	+0.4
PSZ	Piszkesteto	77.39 324		*e*	P	P	07 31 00.3	+0.2
	comp=Z,38nm,2.2s							
CLL	Collm	77.59 330		*i*	P	P	07 31 00.7	-0.4
CLL					pmax	pmax		
	comp=Z,7.0nm,0.9s							
CLL					MLR	MLR		
	comp=Z,200nm,18.6s							
CLL	Collm	77.59 330		*i*	P	P	07 31 00.7	-0.4
	comp=Z,7.0nm,0.9s							
CLL					Lm	MLR	07 58 00.0	
	comp=Z,200nm,18.6s							
PVCC	Panska Ves	77.61 329		*e*	P	P	07 31 01.8	+0.6
PVCC	Panska Ves	77.61 329		*e*	P	P	07 31 01.8	+0.6
PVCC				*ex*		x	07 31 04.4	
VRAC	Vranov	77.74 327	⇑	*i*	P	P	07 31 02.5	+0.5
GZR	Gura Zlata	77.95 321	⇑	P		P	07 31 03.1	-0.2
GZR	Gura Zlata	77.95 321	⇑	*i*	P	P	07 31 03.1	-0.2
SMOL	Smolenice	78.01 326		*e*	P	P	07 31 04.2	+0.7
SMOL	Smolenice	78.01 326		*e*	P	P	07 31 04.2	+0.7
PRU	Pruhonice	78.04 328		*e*	P	P	07 31 04.1	+0.5
PRU				*e*			07 31 06.7	
PRU	Pruhonice	78.04 328		*e*	P	P	07 31 04.1	+0.5
PRU				*ex*		x	07 31 06.7	
TREC	Trest	78.21 327		*e*	P	P	07 31 04.7	+0.1
TREC	Trest	78.21 327		*e*	P	P	07 31 04.7	+0.1
BZS	Buzias	78.33 322	⇑	P		P	07 31 04.9	-0.4
BZS	Buzias	78.33 322	⇑	*i*	P	P	07 31 04.9	-0.4
PV01	Paradox Valley	78.34 49		*e*	P	P	07 31 06.8	+1.0
	comp=Z,326nm,1.0s							
KHC	Kasperske Hory	79.11 328		*e*	P	P	07 31 09.7	+0.1
KHC				*e*			07 31 12.0	
KHC	Kasperske Hory	79.11 328		*e*	P	P	07 31 09.7	+0.1
KHC				*ex*		x	07 31 12.0	
KHC	Kasperske Hory	79.11 328		*e*	P	P	07 31 09.7	+0.1
	comp=Z,4.6nm,0.8s							
CONA	Conrad Observa	79.12 326	⇑	*i*	P	P	07 31 10.1	+0.3
	comp=Z,4.1nm,0.7s							
RAYN	Ar Rayn	79.27 292		*e*	P	P	07 31 10.4	-0.6
	comp=Z,34nm,1.8s							
GEC2	GERESS Array S	79.28 328		*e*	P	P	07 31 10.2	-0.5
GEC2	GERESS Array S	79.28 328		*e*	P	P	07 31 10.2	-0.5
GERES	GERESS Array B	79.28 328		P		P	07 31 10.6	-0.1
GERES	GERESS Array B	79.28 328		P		P	07 31 10.6	-0.1
	comp=Z,1.6nm,0.6s,baz=37,slow=5.9,SNR=23							
EYMN	Ely	79.55 33		*e*	P	P	07 31 11.8	-0.2
	comp=Z,5.4nm,0.6s							
GRF	Grafenberg Arr	79.57 330		*e*	P	P	07 31 12.2	+0.1
	comp=Z,9.0nm,1.1s							
VTS	Vitosha	79.81 319	⇑	P		P	07 31 13.8	+0.1
VTS	Vitosha	79.81 319	⇑	*i*	P	P	07 31 13.8	+0.1
MMB	Musomiste	80.29 318	⇑	P		P	07 31 16.2	+0.1
MMB	Musomiste	80.29 318	⇑	*i*	P	P	07 31 16.2	+0.1
SOKA	Soboth	80.45 326	⇑	*i*	P	P	07 31 17.0	0.0
	comp=Z,9.1nm,1.0s,SNR=7.4							
ECSD	EROS Data Cent	80.54 39		*e*	P	P	07 31 17.3	-0.2
	comp=Z,53nm,2.3s							
MEM	Membach	80.69 333		P		P	07 31 18.3	+0.2
OBKA	Obir	80.79 326	⇑	*i*	P	P	07 31 18.5	-0.4
	comp=Z,6.6nm,0.7s							
KBA	Koelnbreinsper	80.84 327	⇑	*i*	P	P	07 31 20.0	+0.8
	comp=Z,7.8nm,0.8s							
BCLA	Clavier	81.08 333		P		P	07 31 20.0	-0.2
	comp=Z,16nm,1.8s							
BCLA					AP	PcP	07 31 25.3	-1.3
SNF	Seneffe	81.35 334		P		P	07 31 21.1	-0.4
WTTA	Wattenberg	81.38 328	⇑	*i*	P	P	07 31 22.1	+0.1
	comp=Z,5.6nm,0.7s							
MOTA	Moosalm	81.53 329	⇑	*i*	P	P	07 31 22.7	-0.1
	comp=Z,13nm,1.0s,SNR=9.7							
BAIF	Baives	81.76 334		*e*	P	P	07 31 23.1	-0.7
BAIF	Baives	81.76 334		*e*	P	P	07 31 23.1	-0.7
BAIF	Baives	81.76 334		*e*	P	P	07 31 23.1	-0.7
BFO	Black Forest	81.77 331		*e*	P	P	07 31 23.5	-0.4
BFO					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BFO	Black Forest	81.77 331		*e*	P	P	07 31 23.5	-0.4
	comp=Z,5.0nm,0.9s							
FETA	Feichten	81.94 329		*i*	P	P	07 31 24.9	-0.1
	comp=Z,4.9nm,0.8s,SNR=5.1							
DAVA	Damuels	82.05 329	⇑	*i*	P	P	07 31 25.4	-0.2
	comp=Z,13nm,0.9s							
CDF	Champ du Feu	82.09 331		*e*	P	P	07 31 25.2	-0.5
	comp=Z,5.8nm,0.6s							
CDF	Champ du Feu	82.09 331		*e*	P	P	07 31 25.2	-0.5
CDF					pmax	pmax		
	comp=Z,6.0nm,0.6s							
CDF	Champ du Feu	82.09 331		*e*	P	P	07 31 25.2	-0.5
	comp=Z,5.8nm,0.6s							
FUORN	Ofenpass-Forn	82.45 329		*e*	P	P	07 31 27.9	+0.1
	comp=Z,14nm,0.7s							
PAGF	Fort de Pagny	82.52 332		*e*	P	P	07 31 27.7	-0.1
	comp=Z,3.9nm,0.7s							
PAGF	Fort de Pagny	82.52 332		*e*	P	P	07 31 27.7	-0.1
	comp=Z,3.9nm,0.7s							
HINF	Hinteralfeld	82.75 331		*e*	P	P	07 31 28.2	-0.8
	comp=Z,7.5nm,0.8s							
HINF	Hinteralfeld	82.75 331		*e*	P	P	07 31 28.2	-0.8
HINF					pmax	pmax		
	comp=Z,8.0nm,0.8s							
HINF	Hinteralfeld	82.75 331		*e*	P	P	07 31 28.2	-0.8
	comp=Z,7.5nm,0.8s							
HAU	Haudompre	82.77 332		*e*	P	P	07 31 28.5	-0.6
	comp=Z,6.3nm,0.7s							
HAU	Haudompre	82.77 332		*e*	P	P	07 31 28.5	-0.6
HAU					pmax	pmax		
	comp=Z,6.0nm,0.7s							
HAU	Haudompre	82.77 332		*e*	P	P	07 31 28.5	-0.6
	comp=Z,6.3nm,0.7s							
MEZF	Maizieres J'vi	82.81 333		*e*	P	P	07 31 29.1	-0.2
MEZF	Maizieres J'vi	82.81 333		*e*	P	P	07 31 29.1	-0.2
TUE	Stuetta	82.93 329		*e*	P	P	07 31 29.3	-0.9
	comp=Z,216nm,0.5s							
SFTF	Sexfontaines	83.06 332		*e*	P	P	07 31 30.2	-0.4
SFTF	Sexfontaines	83.06 332		*e*	P	P	07 31 30.2	-0.4
CABF	La Chapelle	84.04 331		*e*	P	P	07 31 35.2	-0.6
	comp=Z,4.3nm,0.7s							
CABF	La Chapelle	84.04 331		*e*	P	P	07 31 35.2	-0.6
CABF					pmax	pmax		
	comp=Z,4.0nm,0.7s							
CABF	La Chapelle	84.04 331		*e*	P	P	07 31 35.2	-0.6
	comp=Z,4.3nm,0.7s							
LOR	Lormes	84.28 333		*e*	P	P	07 31 36.4	-0.5
	comp=Z,8.4nm,0.7s							
LOR	Lormes	84.28 333		*e*	P	P	07 31 36.4	-0.5
	comp=Z,8.4nm,0.7s							
FLN	La Foliniere	84.39 336		*e*	P	P	07 31 36.8	-0.6
	comp=Z,6.8nm,0.6s							
FLN	La Foliniere	84.39 336		*e*	P	P	07 31 36.8	-0.6
FLN					pmax	pmax		
	comp=Z,7.0nm,0.6s							
FLN	La Foliniere	84.39 336		*e*	P	P	07 31 36.8	-0.6
	comp=Z,6.8nm,0.6s							
LDF	La Druitiere	84.43 336		*e*	P	P	07 31 37.0	-0.6
	comp=Z,7.8nm,0.7s							
LDF	La Druitiere	84.43 336		*e*	P	P	07 31 37.0	-0.6
LDF					pmax	pmax		
	comp=Z,8.0nm,0.6s							
LDF	La Druitiere	84.43 336		*e*	P	P	07 31 37.0	-0.6
	comp=Z,7.8nm,0.6s							
SSF	Saint Saulge	84.58 333		*e*	P	P	07 31 37.9	-0.5
	comp=Z,5.0nm,0.6s							
SSF	Saint Saulge	84.58 333		*e*	P	P	07 31 37.9	-0.5
SSF					pmax	pmax		
	comp=Z,5.0nm,0.6s							
SSF	Saint Saulge	84.58 333		*e*	P	P	07 31 37.9	-0.5
	comp=Z,5.0nm,0.6s							
HYF	Humbligny	84.69 333		*e*	P	P	07 31 38.9	-0.1
HYF	Humbligny	84.69 333		*e*	P	P	07 31 38.9	-0.1
LPL	La Plagne	84.73 330		*e*	P	P	07 31 39.4	-0.1
	comp=Z,19nm,0.8s							
LPL	La Plagne	84.73 330		*e*	P	P	07 31 39.4	-0.1
LPL					pmax	pmax		
	comp=Z,19nm,0.8s							
LPL	La Plagne	84.73 330		*e*	P	P	07 31 39.4	-0.1
	comp=Z,19nm,0.8s							
LPG	La Plagne	84.74 330		*e*	P	P	07 31 39.6	0.0
	comp=Z,26nm,0.8s							
LPG	La Plagne	84.74 330		*e*	P	P	07 31 39.6	0.0
LPG					pmax	pmax		
	comp=Z,26nm,0.8s							
LPG	La Plagne	84.74 330		*e*	P	P	07 31 39.6	0.0
	comp=Z,26nm,0.8s							
SMF	Signal de Mont	84.82 332		*e*	P	P	07 31 39.4	-0.2
	comp=Z,17nm,1.0s							
SMF	Signal de Mont	84.82 332		*e*	P	P	07 31 39.4	-0.2
SMF					pmax	pmax		
	comp=Z,17nm,1.0s							
SMF	Signal de Mont	84.82 332		*e*	P	P	07 31 39.4	-0.2
	comp=Z,17nm,1.0s							
GRR	Gorron	84.84 336		*e*	P	P	07 31 39.3	-0.4
	comp=Z,6.6nm,0.6s							
GRR	Gorron	84.84 336		*e*	P	P	07 31 39.3	-0.4
GRR					pmax	pmax		
	comp=Z,7.0nm,0.6s							
GRR	Gorron	84.84 336		*e*	P	P	07 31 39.3	-0.4
	comp=Z,6.6nm,0.6s							
AVF	Avril sur Loir	84.86 333		*e*	P	P	07 31 39.6	-0.2
	comp=Z,13nm,0.6s							
AVF	Avril sur Loir	84.86 333		*e*	P	P	07 31 39.6	-0.2
AVF					pmax	pmax		
	comp=Z,13nm,0.6s							
AVF	Avril sur Loir	84.86 333		*e*	P	P	07 31 39.6	-0.2
	comp=Z,13nm,0.6s							
BNI	Bardonecchia	85.14 330		*e*	P	P	07 31 41.6	+0.1
BNI					pmax	pmax		
	comp=Z,15nm,1.5s							
BNI	Bardonecchia	85.14 330		*e*	P	P	07 31 41.6	+0.1
	comp=Z,15nm,1.5s							
MBDF	Montbardon	85.38 330		*e*	P	P	07 31 42.0	-0.7
	comp=Z,14nm,0.6s							
MBDF	Montbardon	85.38 330		*e*	P	P	07 31 42.0	-0.7
MBDF					pmax	pmax		
	comp=Z,14nm,0.6s							
MBDF	Montbardon	85.38 330		*e*	P	P	07 31 42.0	-0.7
	comp=Z,14nm,0.6s							
SGMF	Saint Gilles	85.47 337		*e*	P	P	07 31 42.7	-0.1
SGMF	Saint Gilles	85.47 337		*e*	P	P	07 31 42.7	-0.1
SGMF	Saint Gilles	85.47 337		*e*	P	P	07 31 42.7	-0.1
ORIF	Oris-en-Rattie	85.56 330		*e*	P	P	07 31 43.4	-0.1
	comp=Z,17nm,0.7s							
ORIF	Oris-en-Rattie	85.56 330		*e*	P	P	07 31 43.4	-0.1
ORIF					pmax	pmax		
	comp=Z,17nm,0.7s							
ORIF	Oris-en-Rattie	85.56 330		*e*	P	P	07 31 43.4	-0.1
	comp=Z,17nm,0.7s							
ROSF	Rostrenen	85.61 337		*e*	P	P	07 31 43.7	+0.2
	comp=Z,20nm,0.9s							
ROSF	Rostrenen	85.61 337		*e*	P	P	07 31 43.7	+0.2
ROSF					pmax	pmax		
	comp=Z,20nm,0.9s							
ROSF	Rostrenen	85.61 337		*e*	P	P	07 31 43.7	+0.2
	comp=Z,20nm,0.9s							
TCF	Toulx Ste Croi	85.69 333		*e*	P	P	07 31 44.0	0.0
TCF	Toulx Ste Croi	85.69 333		*e*	P	P	07 31 44.0	0.0
TCF	Toulx Ste Croi	85.69 333		*e*	P	P	07 31 44.0	0.0
SBF	Sospel	85.85 329		*e*	P	P	07 31 43.9	-1.0
	comp=Z,19nm,0.8s							
SBF	Sospel	85.85 329		*e*	P	P	07 31 43.9	-1.0
SBF					pmax	pmax		
	comp=Z,19nm,0.8s							
SBF	Sospel	85.85 329		*e*	P	P	07 31 43.9	-1.0
	comp=Z,19nm,0.8s							
QUIF	Quistinic	85.95 337		*e*	P	P	07 31 45.1	-0.1
	comp=Z,6.9nm,0.7s							
QUIF	Quistinic	85.95 337		*e*	P	P	07 31 45.1	-0.1
QUIF					pmax	pmax		
	comp=Z,7.0nm,0.7s							
QUIF	Quistinic	85.95 337		*e*	P	P	07 31 45.1	-0.1
	comp=Z,6.9nm,0.7s							
VIVF	Saint-Julien-l	86.06 331		*e*	P	P	07 31 45.8	-0.1
	comp=Z,16nm,0.7s							
VIVF	Saint-Julien-l	86.06 331		*e*	P	P	07 31 45.8	-0.1
VIVF					pmax	pmax		
	comp=Z,16nm,0.7s							
VIVF	Saint-Julien-l	86.06 331		*e*	P	P	07 31 45.8	-0.1
	comp=Z,16nm,0.7s							
MFF	Saint Martin d	86.20 335		*e*	P	P	07 31 46.7	+0.2
	comp=Z,10nm,0.7s							
MFF	Saint Martin d	86.20 335		*e*	P	P	07 31 46.7	+0.2
MFF					pmax	pmax		
	comp=Z,10.0nm,0.7s							
MFF	Saint Martin d	86.20 335		*e*	P	P	07 31 46.7	+0.2
	comp=Z,10nm,0.7s							
SMRF	Simiane la Rot	86.47 330		*e*	P	P	07 31 47.5	-0.5
SMRF	Simiane la Rot	86.47 330		*e*	P	P	07 31 47.5	-0.5
RJF	Les Rejaudoux	86.79 333		*e*	P	P	07 31 49.6	+0.2
	comp=Z,8.5nm,0.7s							
RJF	Les Rejaudoux	86.79 333		*e*	P	P	07 31 49.6	+0.2
RJF					pmax	pmax		
	comp=Z,9.0nm,0.7s							
RJF	Les Rejaudoux	86.79 333		*e*	P	P	07 31 49.6	+0.2
	comp=Z,8.5nm,0.7s							
CAF	Calviac	86.93 333		*e*	P	P	07 31 50.8	+0.6
	comp=Z,30nm,0.9s							
CAF	Calviac	86.93 333		*e*	P	P	07 31 50.8	+0.6
CAF					pmax	pmax		
	comp=Z,30nm,0.9s							
CAF	Calviac	86.93 333		*e*	P	P	07 31 50.8	+0.6
	comp=Z,30nm,0.9s							
LFF	La Frestale	87.37 333		*e*	P	P	07 31 52.8	+0.6
	comp=Z,15nm,0.8s							
LFF	La Frestale	87.37 333		*e*	P	P	07 31 52.8	+0.6
LFF					pmax	pmax		
	comp=Z,15nm,0.8s							
LFF	La Frestale	87.37 333		*e*	P	P	07 31 52.8	+0.6
	comp=Z,15nm,0.8s							
TXAR	Lajitas Array	87.44 53		P		P	07 31 53.3	+0.3
TXAR	Lajitas Array	87.44 53		P		P	07 31 53.3	+0.3
	comp=Z,0.5nm,0.5s,baz=253,slow=2.8,SNR=4.5							
EPF	Esparros	89.19 333		*e*	P	P	07 32 01.3	+0.3
	comp=Z,11nm,1.0s							
EPF	Esparros	89.19 333		*e*	P	P	07 32 01.3	+0.3
EPF					pmax	pmax		
	comp=Z,11nm,1.0s							
EPF	Esparros	89.19 333		*e*	P	P	07 32 01.3	+0.3
	comp=Z,11nm,1.0s							
ETSF	Etsaut	89.61 333		*e*	P	P	07 32 03.6	+0.6
	comp=Z,7.3nm,0.8s							
ETSF	Etsaut	89.61 333		*e*	P	P	07 32 03.6	+0.6
ETSF					pmax	pmax		
	comp=Z,7.0nm,0.8s							
ETSF	Etsaut	89.61 333		*e*	P	P	07 32 03.6	+0.6
	comp=Z,7.3nm,0.8s							
SJPF	Ste Jean	89.65 334		*e*	P	P	07 32 03.0	-0.1
SJPF	Ste Jean	89.65 334		*e*	P	P	07 32 03.0	-0.1
SJPF	Ste Jean	89.65 334		*e*	P	P	07 32 03.0	-0.1
ESDC	Sonseca Array	93.64 334		P		P	07 32 20.8	-0.9
ESDC	Sonseca Array	93.64 334		P		P	07 32 20.8	-0.9
	comp=Z,0.8nm,0.6s,baz=19,slow=4.5,SNR=5.7							
TORD	Torodi Ar. Bea	114.49 316		PKP		PKPdf	07 37 44.3	-1.4
TORD	Torodi Ar. Bea	114.49 316		PKP		PKPdf	07 37 44.3	-1.4
	comp=Z,0.2nm,0.4s,baz=22,slow=1.6,SNR=3.1							
DBIC	Dimbokro	123.33 319		PKP		PKPdf	07 38 01.8	-1.0
DBIC	Dimbokro	123.33 319		PKP		PKPdf	07 38 01.8	-1.0
	comp=Z,1.0nm,0.5s,baz=50,slow=4.5,SNR=3.2							
SNAA	Sanae	144.76 199		*e*PKPdf		PKPab	07 38 39.3	-0.5
H03N2	Juan Fernandez	147.04 90		T		T	10 23 26.0	
	baz=296,slow=75,SNR=274							
H03N3	Juan Fernandez	147.05 90		T		T	10 23 17.8	
	baz=296,slow=75,SNR=317							
H03N1	Juan Fernandez	147.06 90		T		T	10 23 17.2	
	baz=296,slow=75,SNR=309							
LCO	Las Campanas	151.04 75		*e*PKPbc		PKPbc	07 38 59.2	+0.6
BDFB	Brasilia	153.19 21		PKPbc		PKPbc	07 39 02.2	-1.4
BDFB				PKPab		PKPab	07 39 14.8	-0.3
BDFB	Brasilia	153.19 21		PKPbc		PKPbc	07 39 02.2	-1.4
	comp=Z,1.3nm,0.5s,baz=264,slow=1.9,SNR=3.8							
BDFB				PKPab		PKPab	07 39 14.8	-0.3
	comp=Z,3.7nm,0.8s,baz=1.6,slow=1.9,SNR=7.1							

*ISCJB **24** 07:43:29.9±0.9,49°.99N±0°.04×78°.5E±0°.1,h8km±8km, Error ellipse: s-maj=11.2km s-min=5.8km az=168.2*
*NNC **24** 07:43:31.1±0.6,50°.10N×78°.87E,h9km±12km,mb3.5, mpv3.1,Error ellipse: s-maj=11.6km s-min=7.5km az=71.0*
*IDC **24** 07:43:31.6±1.0,50°.07N×78°.78E,h0km,mb1 3.3/3, mb1mx3.0/30,mbtmp3.3/3,ML3.1/3,Error ellipse: s-maj=14.5km s-min=7.2km az=60.0*

ISC 24 07:43:32.1±1.5,50.07N±0.05×78.60E±0.07,h9km±13km, n28,σ0s69/48,34C-11D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR10	Kurchatov Arra	0.46	352	⇑	P	Pg		07 43 40.9	-0.1
KUR10				⇓	S	Sb		07 43 49.0	-0.3
KUR09	Kurchatov Arra	0.47	352	⇑	P	Pg		07 43 41.3	-0.1
KUR09				⇓	S	Sb		07 43 49.8	0.0
KUR08	Kurchatov Arra	0.49	353	⇑	P	Pg		07 43 41.6	-0.1
KUR08				⇓	S	Sb		07 43 49.7	-0.6
KUR07	Kurchatov Arra	0.51	354	⇑	P	Pg		07 43 42.0	-0.1
KUR07				⇑	S	Sb		07 43 50.7	-0.2
KUR11	Kurchatov Arra	0.53	6	⇑	P	Pg		07 43 41.9	-0.6
KUR11				⇑	S	Sb		07 43 50.4	-1.0
KUR13	Kurchatov Arra	0.54	1	⇑	P	Pg		07 43 42.2	-0.3
KUR13				⇑	S	Sb		07 43 50.6	-1.0
KUR14	Kurchatov Arra	0.54	359	⇑	P	Pg		07 43 42.4	-0.2
KUR14				⇓	S	Sb		07 43 51.0	-0.7
KUR15	Kurchatov Arra	0.55	357	⇑	P	Pg		07 43 42.5	-0.2
KUR15				⇓	S	Sb		07 43 50.8	-1.0
KURBB	Kurchatov Arra	0.55	355	⇑	P	Pg		07 43 42.6	-0.2
KURBB				⇓	S	Sb		07 43 51.0	-1.0
KURBB	Kurchatov Arra	0.55	355		Pg	Pg		07 43 42.6	-0.2
	28nm,0.3s,baz=166,slow=19,SNR=394								
KURBB					Lg	Lg		07 43 51.1	
	25nm,0.3s,baz=152,slow=44,SNR=53								
KUR16	Kurchatov Arra	0.56	353	⇑	P	Pg		07 43 42.7	-0.2
KUR16				⇑	S	Sb		07 43 51.6	-0.5
KUR17	Kurchatov Arra	0.57	351	⇑	P	Pg		07 43 42.9	-0.2
KUR17				⇑	S	Sb		07 43 52.5	+0.1
KUR05	Kurchatov Arra	0.57	356	⇑	P	Pg		07 43 43.0	-0.2
KUR05				⇑	S	Sb		07 43 51.7	-0.9
KUR18	Kurchatov Arra	0.57	349	⇑	P	Pg		07 43 43.0	-0.2
KUR18				⇓	S	Sb		07 43 52.6	0.0
KUR19	Kurchatov Arra	0.58	348	⇑	P	Pg		07 43 43.1	-0.3
KUR19				⇑	S	Sb		07 43 52.6	-0.2
	92nm,0.5s								
KUR20	Kurchatov Arra	0.59	346	⇑	P	Pg		07 43 43.2	-0.4
KUR20				⇓	S	Sb		07 43 52.4	-0.7
KUR04	Kurchatov Arra	0.59	356	⇑	P	Pg		07 43 43.3	-0.2
KUR04				⇑	S	Sb		07 43 52.4	-0.7
KUR03	Kurchatov Arra	0.61	357	⇑	P	Pg		07 43 43.7	-0.2
KUR03				⇑	S	Sb		07 43 53.1	-0.6
KUR02	Kurchatov Arra	0.63	357	⇑	P	Pg		07 43 44.2	-0.1
KUR02				⇑	S	Sb		07 43 53.9	-0.4
KURK	Kurchatov	0.64	1	⇑	P	Pg		07 43 44.0	-0.5
KURK				⇑	S	Sb		07 43 53.8	-0.8
KUR01	Kurchatov Arra	0.65	358	⇑	P	Pg		07 43 44.5	-0.1
KUR01				⇑	S	Sb		07 43 54.1	-0.7
MKAR	Makanchi Array	4.10	142		Pn	Pn		07 44 34.9	-0.1
	1.4nm,0.3s,baz=321,slow=10,SNR=80								
MKAR					Lg	Lg		07 45 36.5	
	4.4nm,0.3s,baz=328,slow=32,SNR=12								
MK09	Makanchi Array	4.11	142	⇑	Pn	Pn		07 44 34.9	-0.2
	1.3nm,0.3s,baz=337,slow=14								
MK09				⇓	Pg	Pb		07 44 45.6	+1.0
	2.2nm,0.3s,baz=336,slow=17								
MK09				⇓	Lg	Lg		07 45 40.6	
	8.4nm,0.5s,baz=329,slow=30								
I46RU	ZALESOVO INFRA	5.46	42		*i*			08 14 34.3	
	baz=224,slow=340,SNR=11								
ZALV	Zalesovo Beam	5.46	42		Pn	Pn		07 44 54.9	+1.3
	3.0nm,0.3s,baz=232,slow=14,SNR=24								
ZALV					Lg	Lg		07 46 16.3	
	0.3nm,0.3s,baz=221,slow=22,SNR=2.6								
BVAR	Borovoye Array	5.92	303		Pn	Pn		07 45 02.0	+2.1
	0.4nm,0.3s,baz=110,slow=14,SNR=8.1								
BVAR					Sn	Sn		07 46 07.6	-0.1
	1.8nm,0.3s,baz=113,slow=23,SNR=12								
BVAR					Lg	Lg		07 46 36.1	
	0.6nm,0.3s,baz=119,slow=27,SNR=3.7								
AAK	Ala-Archa	7.96	202		Lg	Lg		07 47 44.0	
	0.3nm,0.3s,baz=28,slow=23,SNR=5.9								
KK31	Karatay Array	8.92	222	⇑	Pn	Pn		07 45 39.4	-1.7
	0.1nm,0.2s,baz=36,slow=12,SNR=17								
KK31				⇓	Lg	Lg		07 48 03.7	
	1.8nm,0.6s,baz=41,slow=29,SNR=5.0								

IDC 24 07:53:45.4±2.1,6°.56S×129°.00E,h0km,mb3.5/1, mb1 4.0/3,mb1mx3.5/34,mbtmp3.7/3,ML4.0/2,Error ellipse: s-maj=120.2km s-min=31.4km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.28	159		P	Pn		07 57 08.6	-0.4
	0.8nm,0.3s,baz=338,slow=12,SNR=7.9								
WRA					S	Sn		07 59 35.2	-13
	0.9nm,0.3s,baz=332,slow=23,SNR=7.7								
ASAR	Alice Springs	17.65	165		P	Pn		07 57 53.0	+0.1
	0.3nm,0.3s,baz=337,slow=10,SNR=44								
ASAR					S	Sn		08 00 58.8	-11
	0.2nm,0.3s,baz=320,slow=16,SNR=6.0								
MKAR	Makanchi Array	67.32	327		P	P		08 04 42.2	0.0
	0.3nm,0.5s,baz=127,slow=9.9,SNR=5.7								

*JMA **24** 07:56:50.6±0.4,30°.84N×138°.16E,h504km,M3.7*
*ISCJB **

mb3.3/4, Error ellipse: s-maj=3.5km s-min=2.7km az=166.8
*CSEM **24** 08:00:30.6±0.1, 37.70N×21.82E, h2km, mL3.1, Error ellipse: s-maj=3.2km s-min=2.5km az=69.0*
*ATH **24** 08:00:30.6, 37.71N×21.82E, h12km±1km, ML2.9*
*THE **24** 08:00:31.0, 37.69N×21.82E, h3km±1km, mL3.1/11, Error ellipse: s-maj=1.8km s-min=0.6km az=256.0*

ISC 24 08:00:31.0±0.8, 37.70N±0.02×21.82E±0.02, h11km±6km, n105, σ0°76/139, mb3.3/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.19**	**208**	P		**Pg**	**08 00 34.9**	**-0.2**
AMT				S		**Sg**	**08 00 37.9**	**0.0**
AMT	**Artemida-Makis**	**0.19**	**208**	*e*PG		**Pg**	**08 00 34.9**	**-0.2**
AMT				*e*SG		**Sg**	**08 00 38.0**	**0.0**
AMT	**Artemida-Makis**	**0.19**	**208**	P		**Pg**	**08 00 34.9**	**-0.2**
AMT				S		**Sg**	**08 00 37.9**	**0.0**
DRO	**Drossia**	**0.27**	**341**	P		**Pg**	**08 00 36.1**	**-0.4**
DRO				S		**Sg**	**08 00 40.4**	**+0.2**
DRO	**Drossia**	**0.27**	**341**	*e*PG		**Pg**	**08 00 36.3**	**-0.2**
DRO				*e*SG		**Sg**	**08 00 40.2**	**0.0**
DRO	**Drossia**	**0.27**	**341**	P		**Pg**	**08 00 36.1**	**-0.4**
DRO				*e*Sg		**Sg**	**08 00 40.2**	**0.0**
KLV	**Kalavryta, Ach**	**0.43**	**37**	P		**Pg**	**08 00 39.1**	**-0.4**
KLV				S		**Sg**	**08 00 45.7**	**+0.5**
KLV	**Kalavryta, Ach**	**0.43**	**37**	*e*PB		**Pg**	**08 00 39.2**	**-0.3**
KLV				*e*SB		**Sg**	**08 00 45.7**	**+0.5**
KLV	**Kalavryta, Ach**	**0.43**	**37**	P		**Pg**	**08 00 39.1**	**-0.4**
KLV				S		**Sg**	**08 00 45.7**	**+0.5**
RLS	**Riolos of Patr**	**0.46**	**322**	P		**Pg**	**08 00 39.0**	**-0.9**
RLS	**Riolos of Patr**	**0.46**	**322**	*e*PB		**Pg**	**08 00 39.1**	**-0.9**
RLS				*e*SB		**Sg**	**08 00 45.9**	**-0.1**
RLS	**Riolos of Patr**	**0.46**	**322**	*e*Pb		**Pg**	**08 00 39.1**	**-0.9**
RLS				*e*Sb		**Sg**	**08 00 45.9**	**-0.1**
GUR	**Goura**	**0.47**	**60**	P		**Pg**	**08 00 39.8**	**-0.5**
GUR				S		**Sg**	**08 00 47.2**	**+0.6**
GUR	**Goura**	**0.47**	**60**	*e*PB		**Pg**	**08 00 40.0**	**-0.3**
GUR				*e*SB		**Sg**	**08 00 46.1**	**-0.5**
GUR	**Goura**	**0.47**	**60**	P		**Pg**	**08 00 39.8**	**-0.5**
GUR				*e*Sb		**Sg**	**08 00 46.1**	**-0.5**
GUR				S		**Sg**	**08 00 47.2**	**+0.6**
ITM	**Ithomi**	**0.53**	**171**	P		**Pg**	**08 00 40.7**	**-0.6**
ITM	**Ithomi**	**0.53**	**171**	*e*PB		**Pg**	**08 00 41.0**	**-0.3**
ITM				*e*SB		**Sg**	**08 00 48.4**	**+0.2**
ITM	**Ithomi**	**0.53**	**171**	P		**Pg**	**08 00 40.7**	**-0.6**
ITM	**Ithomi**	**0.53**	**171**	*e*Pb		**Pg**	**08 00 41.0**	**-0.3**
ITM				*e*Sb		**Sg**	**08 00 48.4**	**+0.2**
VLX	**Vlachokerasia**	**0.55**	**127**	P		**Pg**	**08 00 41.4**	**-0.3**
VLX				S		**Sg**	**08 00 49.8**	**+0.7**
VLX	**Vlachokerasia**	**0.55**	**127**	*e*PB		**Pg**	**08 00 41.5**	**-0.3**
VLX				*e*SB		**Sg**	**08 00 50.2**	**+1.1**
VLX	**Vlachokerasia**	**0.55**	**127**	P		**Pg**	**08 00 41.4**	**-0.3**
VLX				S		**Sg**	**08 00 49.8**	**+0.7**
VLX				*e*Sb		**Sg**	**08 00 50.2**	**+1.1**
LAKA	**Lakka**	**0.55**	**13**	P		**Pg**	**08 00 41.0**	**-0.8**
LAKA	**Lakka**	**0.55**	**13**	*e*PB		**Pg**	**08 00 41.2**	**-0.6**
LAKA	**Lakka**	**0.55**	**13**	*e*Pb		**Pg**	**08 00 41.2**	**-0.6**
UPR	**University Cam**	**0.58**	**357**	P		**Pg**	**08 00 42.1**	**-0.2**
UPR				S		**Sb**	**08 00 51.7**	**+0.2**
UPR	**University Cam**	**0.58**	**357**	P		**Pg**	**08 00 42.1**	**-0.2**
UPR				S		**Sb**	**08 00 51.7**	**+0.2**
EFP	**Efpalio**	**0.73**	**5**	P		**Pg**	**08 00 44.4**	**-0.7**
EFP				S		**Sb**	**08 00 55.8**	**+0.1**
EFP	**Efpalio**	**0.73**	**5**	*e*PB		**Pg**	**08 00 44.6**	**-0.5**
EFP	**Efpalio**	**0.73**	**5**	*e*Pb		**Pg**	**08 00 44.6**	**-0.5**
EFP				S		**Sb**	**08 00 55.8**	**+0.1**
KALE	**Kalithea**	**0.73**	**20**	P		**Pg**	**08 00 44.3**	**-0.9**
KALE				S		**Sb**	**08 00 56.3**	**+0.3**
KALE	**Kalithea**	**0.73**	**20**	*e*PG		**Pg**	**08 00 44.3**	**-0.9**
KALE	**Kalithea**	**0.73**	**20**	P		**Pg**	**08 00 44.3**	**-0.9**
KALE				S		**Sb**	**08 00 56.3**	**+0.3**
SFD	**Strofades**	**0.78**	**235**	*e*PB		**Pb**	**08 00 46.8**	**+0.2**
SFD	**Strofades**	**0.78**	**235**	*e*Pb		**Pb**	**08 00 46.8**	**+0.2**
PYL	**PYLOS**	**0.81**	**185**	P		**Pg**	**08 00 45.6**	**-0.9**
PYL	**PYLOS**	**0.81**	**185**	*e*PG		**Pg**	**08 00 45.6**	**-0.9**
PYL	**PYLOS**	**0.81**	**185**	P		**Pg**	**08 00 45.6**	**-0.9**
DSF	**Desfina**	**0.90**	**38**	P		**Pg**	**08 00 47.1**	**-1.3**
DSF				S		**Sn**	**08 01 02.4**	**-0.4**
DSF	**Desfina**	**0.90**	**38**	*e*PG		**Pg**	**08 00 47.2**	**-1.2**
DSF	**Desfina**	**0.90**	**38**	*e*Pg		**Pg**	**08 00 47.2**	**-1.2**
KFL	**Anninata**	**0.92**	**297**	P		**Pg**	**08 00 48.3**	**-0.3**
KFL	**Anninata**	**0.92**	**297**	P		**Pg**	**08 00 48.3**	**-0.3**
PVO	**Paravola**	**0.94**	**346**	P		**Pg**	**08 00 48.8**	**-0.4**
PVO				S		**Sb**	**08 01 02.9**	**+1.0**
PVO	**Paravola**	**0.94**	**346**	P		**Pg**	**08 00 48.8**	**-0.4**
PVO				S		**Sb**	**08 01 02.9**	**+1.0**
LTK	**Loutraki**	**0.96**	**70**	P		**Pg**	**08 00 49.1**	**-0.4**
LTK	**Loutraki**	**0.96**	**70**	*e*PG		**Pg**	**08 00 48.7**	**-0.8**
LTK	**Loutraki**	**0.96**	**70**	*e*Pg		**Pg**	**08 00 48.7**	**-0.8**
LTK	**Loutraki**	**0.96**	**70**	P		**Pg**	**08 00 49.1**	**-0.4**
PDO	**Prodromos**	**1.03**	**331**	P		**Pg**	**08 00 50.4**	**-0.4**
PDO				S		**Sn**	**08 01 06.7**	**+0.9**
PDO	**Prodromos**	**1.03**	**331**	*e*PN		**Pg**	**08 00 50.4**	**-0.4**
PDO	**Prodromos**	**1.03**	**331**	P		**Pg**	**08 00 50.4**	**-0.4**
VLS	**Valsamata**	**1.08**	**296**	P		**Pg**	**08 00 50.5**	**-1.4**
VLS	**Valsamata**	**1.08**	**296**	*e*PG		**Pg**	**08 00 50.5**	**-1.4**
VLS	**Valsamata**	**1.08**	**296**	P		**Pg**	**08 00 50.5**	**-1.4**
DID	**Didima**	**1.14**	**99**	P		**Pb**	**08 00 52.2**	**-0.5**
DID	**Didima**	**1.14**	**99**	*e*PG		**Pb**	**08 00 52.0**	**-0.7**
DID	**Didima**	**1.14**	**99**	P		**Pb**	**08 00 52.2**	**-0.5**
EVR	**Evrytania**	**1.21**	**359**	P		**Pb**	**08 00 53.5**	**-0.6**
EVR	**Evrytania**	**1.21**	**359**	*e*PB		**Pb**	**08 00 53.2**	**-0.8**
EVR	**Evrytania**	**1.21**	**359**	P		**Pb**	**08 00 53.5**	**-0.6**
AXAR	**Agios Charalam**	**1.25**	**31**	P		**Pn**	**08 00 53.9**	**-0.6**
AXAR	**Agios Charalam**	**1.25**	**31**	*e*PB		**Pn**	**08 00 54.1**	**-0.4**
AXAR	**Agios Charalam**	**1.25**	**31**	*e*Pb		**Pn**	**08 00 54.1**	**-0.4**
NAIG	**Nisos Aigina**	**1.32**	**87**	*e*PG		**Pn**	**08 00 55.2**	**-0.2**
NAIG	**Nisos Aigina**	**1.32**	**87**	*e*Pg		**Pn**	**08 00 55.2**	**-0.2**
VLI	**Veliai**	**1.32**	**137**	P		**Pn**	**08 00 55.5**	**+0.1**
VLI	**Veliai**	**1.32**	**137**	*e*PG		**Pn**	**08 00 55.5**	**+0.1**
VLI	**Veliai**	**1.32**	**137**	P		**Pn**	**08 00 55.5**	**+0.1**
LKR	**Lokris**	**1.33**	**44**	P		**Pn**	**08 00 55.3**	**-0.2**
LKR				S		**Sg**	**08 01 13.9**	**+0.2**
LKR	**Lokris**	**1.33**	**44**	*e*PG		**Pn**	**08 00 55.4**	**-0.1**
LKR	**Lokris**	**1.33**	**44**	P		**Pn**	**08 00 55.3**	**-0.2**
LKR				S		**Sg**	**08 01 13.9**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.33**	**10**	P		**Pn**	**08 00 55.7**	**+0.1**
MAKR				S		**Sg**	**08 01 16.2**	**+2.3**
MAKR	**Makrakomi, Fth**	**1.33**	**10**	P		**Pn**	**08 00 55.7**	**+0.1**
AGG	**Agios Georgios**	**1.38**	**17**	*e*PG		**Pn**	**08 00 55.9**	**-0.4**
AGG	**Agios Georgios**	**1.38**	**17**	*e*Pg		**Pn**	**08 00 55.9**	**-0.4**
LKD2	**Lefkada island**	**1.42**	**320**	*e*PG		**Pn**	**08 00 56.5**	**-0.3**
LKD2	**Lefkada island**	**1.42**	**320**	*e*Pg		**Pn**	**08 00 56.5**	**-0.3**
ATH	**Athens Observa**	**1.52**	**79**	*e*PB		**Pb**	**08 00 59.7**	**+0.4**
ATH				*e*SB		**Sg**	**08 01 20.5**	**+0.5**
ATH	**Athens Observa**	**1.52**	**79**	*e*Pb		**Pb**	**08 00 59.7**	**+0.4**
ATH				*e*Sb		**Sg**	**08 01 20.5**	**+0.5**
PTL	**Penteli**	**1.65**	**77**	*e*PN		**Pn**	**08 01 00.1**	**+0.1**
PTL	**Penteli**	**1.65**	**77**	*e*Pn		**Pn**	**08 01 00.1**	**+0.1**
MRKA	**Markates**	**1.71**	**54**	*e*PN		**Pb**	**08 01 02.4**	**-0.2**
MRKA	**Markates**	**1.71**	**54**	*e*Pn		**Pb**	**08 01 02.4**	**-0.2**
KYTH	**Kithira**	**1.72**	**145**	*e*PG		**Pg**	**08 01 03.7**	**-0.2**
KYTH	**Kithira**	**1.72**	**145**	*e*Pg		**Pg**	**08 01 03.7**	**-0.2**
THL	**Klokotos Trika**	**1.87**	**5**	*e*PN		**Pb**	**08 01 04.7**	**-0.4**
THL	**Klokotos Trika**	**1.87**	**5**	*e*Pn		**Pb**	**08 01 04.7**	**-0.4**
NEO	**Neokhori**	**1.94**	**34**	*e*PN		**Pn**	**08 01 04.8**	**+0.8**
NEO	**Neokhori**	**1.94**	**34**	*e*Pn		**Pn**	**08 01 04.8**	**+0.8**
SKIA	**Skiathos**	**1.95**	**41**	*e*PB		**Pn**	**08 01 04.4**	**+0.3**
SKIA	**Skiathos**	**1.95**	**41**	*e*Pb		**Pn**	**08 01 04.4**	**+0.3**
LIT	**Litokhoron**	**2.45**	**12**	*e*PN		**Pn**	**08 01 12.9**	**+1.9**
LIT	**Litokhoron**	**2.45**	**12**	*e*Pn		**Pn**	**08 01 12.9**	**+1.9**
KEK	**Kerkira**	**2.56**	**322**	*e*PN		**Pn**	**08 01 14.0**	**+1.6**
KEK	**Kerkira**	**2.56**	**322**	*e*Pn		**Pn**	**08 01 14.0**	**+1.6**
HORT	**Hortiatis**	**3.06**	**19**	*e*PN		**Pn**	**08 01 20.5**	**+1.1**
HORT	**Hortiatis**	**3.06**	**19**	*e*Pn		**Pn**	**08 01 20.5**	**+1.1**
KNT	**Kendrikon**	**3.56**	**13**	*e*PN		**Pn**	**08 01 29.0**	**+2.8**
KNT	**Kendrikon**	**3.56**	**13**	*e*Pn		**Pn**	**08 01 29.0**	**+2.8**
BRTR	**Keskin Array B**	**9.46**	**74**	Pn		Pn	08 02 40.8	-6.4
	0.1nm,0.3s,baz=320,slow=13,SNR=2.4							
FINES	**FINESS Array B**	**23.92**	**5**	Pn		**P**	**08 05 44.5**	**-0.1**
	0.1nm,0.3s,baz=172,slow=21,SNR=2.6							
KURBB	**Kurchatov Arra**	**41.69**	**53**	P		P	08 08 16.3	-3.2
	0.3nm,0.5s,baz=282,slow=8.8,SNR=4.3							
MKAR	**Makanchi Array**	**44.68**	**58**	P		**P**	**08 08 42.8**	**-1.0**
	0.2nm,0.5s,baz=280,slow=8.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**45.24**	**48**	P		**P**	**08 08 47.6**	**-0.6**
	1.0nm,0.4s,baz=278,slow=8.5,SNR=5.8							

IDC 24 08:05:19.6±30.0, 22.37S×174.07W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/29, mbtmp3.9/4, Error ellipse: s-maj=547.3km s-min=161.9km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.98**	**266**	P		P	08 12 31.8	+0.8
	9.0nm,1.1s,baz=90,slow=11,SNR=6.5							
STKA	**Stephens Creek**	**40.34**	**247**	P		P	08 12 57.4	-1.8
	1.7nm,0.9s,baz=108,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**47.68**	**258**	P		P	08 13 58.1	-0.1
	0.3nm,0.5s,baz=87,slow=7.0,SNR=7.6							
WRA	**Warramunga Arr**	**47.98**	**263**	P		P	08 14 00.8	+0.2
	0.8nm,0.5s,baz=98,slow=7.8,SNR=6.2							

CASC 24 08:21:24.4±1.4, 11.91N×88.03W, h12km±10km, MD4.0, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.37**	**8**	*e*P		Pn	08 21 49.2	-0.4
COPN	**Copaltepe**	**1.43**	**79**	*e*P		Pn	08 21 48.8	-1.5
LFRS	**El Faro**	**1.98**	**329**	*e*P		Pn	08 21 57.0	-1.0
LBRS	**Las Brisas**	**2.07**	**331**	*e*P		Pn	08 21 59.2	0.0
LBRS				*e*S		Sn	08 22 25.7	+0.6
SBLS	**San Blas**	**2.47**	**321**	*e*P		Pn	08 22 04.2	-0.7
RTR	**El Retiro**	**2.53**	**322**	*e*P		Pn	08 22 05.6	0.0
RBDL	**Robledal**	**2.72**	**324**	*e*P		Pn	08 22 08.5	+0.2
QCR	**Quepos**	**4.53**	**123**	*e*P		Pn	08 22 32.5	-0.3
URSC	**Urasca**	**4.65**	**116**	*e*P		Pn	08 22 36.3	+1.4
BUS	**Buena Vista**	**4.80**	**119**	*e*P		Pn	08 22 36.7	-0.5
BUS				*e*S		Sn	08 23 28.2	-5.1

IDC 24 08:26:31.9±2.2, 7.50S×130.26E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.1/34, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=139.9km s-min=31.9km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.98**	**163**	Pn		Pn	08 29 39.4	+1.6
	0.1nm,0.3s,baz=346,slow=13,SNR=7.5							
WRA				Sn		Sn	08 31 54.6	-8.5
	0.3nm,0.3s,baz=333,slow=23,SNR=4.8							
ASAR	**Alice Springs**	**16.45**	**168**	Pn		Pn	08 30 22.5	-1.8
	0.0nm,0.3s,baz=344,slow=9.6,SNR=3.9							
MKAR	**Makanchi Array**	**68.79**	**327**	P		P	08 37 38.0	0.0
	0.3nm,0.6s,baz=117,slow=5.0,SNR=2.8							

*NIED **24** 08:36:00, 41.30N×141.50E, h107km, Mw3.9 Best double couple: M0 7.34000×10^14 NP1:φ=327.00000°, δ=41.00000°, λ=-86.00000°. NP2:φ=143.00000°, δ=49.00000°, λ=-93.00000°.*
*ISCJB **24** 08:36:18.7±0.3, 41.33N±0.03×141.49E±0.05, h106km±2km, mb3.6/14, Error ellipse: s-maj=6.0km s-min=4.0km az=27.6*
*MOS **24** 08:36:18.9±1.3, 41.39N×141.50E, h110km, mb4.0/4, Error ellipse: s-maj=17.6km s-min=9.6km az=69.2*
*IDC **24** 08:36:19.0±1.9, 41.35N×141.31E, h93km±14km, mb3.4/14, mb1 3.6/17, mb1mx3.5/32, mbtmp3.7/17, MS2.8/1, Ms1 2.8/1, ms1mx2.2/27, Error ellipse: s-maj=22.5km s-min=12.5km az=141.0*
*JMA **24** 08:36:20.0, 41.33N×141.50E, h96km±1km, M3.5*
JMA Felt I J1.

ISC 24 08:36:19.5±0.7, 41.33N±0.03×141.51E±0.04, h101km±6km, n52, σ0°85/58, mb3.6/14, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.35**	**279**	P		**Pn**	**08 36 34.4**	**-0.1**
JOT				S		**Sn**	**08 36 45.7**	**0.0**
JTM	**Tenmabayashi**	**0.63**	**212**	P		**Pn**	**08 36 36.5**	**0.0**
JTM				S		**Sn**	**08 36 49.0**	**-0.2**
JKB	**Kayabe**	**0.66**	**328**	P		**Pn**	**08 36 36.8**	**+0.1**
JKB				S		**Sn**	**08 36 49.7**	**+0.1**
JSR	**Shiriuchi**	**0.84**	**284**	P		**Pn**	**08 36 38.7**	**+0.3**
JSR				S		**Sn**	**08 36 52.2**	**-0.4**
JANG	**Nango**	**0.95**	**180**	P		**Pn**	**08 36 39.2**	**-0.4**
JANG				S		**Sn**	**08 36 53.2**	**-1.4**
JYM2	**Yakumo 2**	**1.16**	**313**	P		**Pn**	**08 36 42.5**	**+0.7**
JYM2				*e*S		**Sn**	**08 36 59.3**	**+0.7**
JNB	**Noboribetsu**	**1.19**	**343**	P		**Pn**	**08 36 42.3**	**+0.1**
JNB				S		**Sn**	**08 36 59.3**	**0.0**
JAH	**Hinai**	**1.32**	**211**	P		**Pn**	**08 36 44.2**	**+0.6**
JAH				*e*S		**Sn**	**08 37 02.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.33**	**44**	P		**Pn**	**08 36 44.1**	**+0.3**
JNBK				S		**Sn**	**08 37 02.9**	**+0.7**
JIW	**Iwasaki**	**1.35**	**238**	P		**Pn**	**08 36 44.4**	**+0.3**
JIW				S		**Sn**	**08 37 02.2**	**-0.4**
ERM	**Erimo**	**1.41**	**60**	*d* P		**Pn**	**08 36 45.4**	**+0.6**
JEM	**Erimo**	**1.42**	**60**	P		**Pn**	**08 36 45.5**	**+0.7**
JEM				S		**Sn**	**08 37 03.9**	**0.0**
JEW	**Eniwo**	**1.51**	**358**	P		**Pn**	**08 36 46.6**	**+0.6**
JEW				S		**Sn**	**08 37 06.1**	**0.0**
JOSM	**Okushiri--Mats**	**1.70**	**297**	S		**Sn**	**08 37 10.0**	**-0.2**
JOM	**Ohasama**	**1.86**	**185**	P		**Pn**	**08 36 50.7**	**+0.3**
JOM				S		**Sn**	**08 37 14.0**	**+0.2**
JCH	**Churui**	**1.89**	**46**	P		**Pn**	**08 36 51.4**	**+0.7**
JCH				*e*S		**Sn**	**08 37 14.5**	**0.0**
ASAJ	**Asahikawa**	**2.90**	**16**	P		**Pn**	**08 37 03.6**	**-0.3**
	9.2nm,0.3s,baz=225,slow=9.4,SNR=98							
ASAJ				S		**Sn**	**08 37 38.5**	**+0.3**
	4.5nm,0.3s,baz=38,slow=27,SNR=5.5							
YUK	**Yuzh-Kuril'sk**	**4.20**	**48**	*c* P		**Pn**	**08 37 21.1**	**-0.2**
YUK				*i* S		**Sn**	**08 38 07.0**	**-2.3**
YUK				pmax	pmax			
	comp=Z,566nm,0.4s							
YUK				pmax	pmax			
	comp=N,67nm,0.2s							
YUK				pmax	pmax			
	comp=E,58nm,0.2s							
YUK				smax	smax			
	comp=E,19nm,0.3s							
YUK				smax	smax			
	comp=N,224nm,0.5s							
MJA0	**Matsu Arr-Jizo**	**5.41**	**209**	*e*P		**Pn**	**08 37 40.5**	**+2.6**
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**5.43**	**209**	*i* P		**Pn**	**08 37 39.2**	**+1.1**
MAT	**Matsushiro**	**5.43**	**209**	P		**Pn**	**08 37 38.7**	**+0.6**
MJAR	**Matsushiro Arr**	**5.43**	**209**	P		**Pn**	**08 37 37.4**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=26,slow=11,SNR=24							
USRK	**Ussuriysk Arra**	**7.57**	**295**	LR		LR	08 40 50.4	
	comp=Z,72nm,20.1s,baz=2.9,slow=36							
KSRS	**Korea Array**	**11.20**	**254**	P		Pn	08 38 52.8	-3.6
	comp=Z,0.2nm,0.3s,baz=68,slow=15,SNR=4.3							
SEY	**Seymchan**	**22.58**	**13**	P		**P**	**08 41 10.5**	**-0.7**
SEY	**Seymchan**	**22.58**	**13**	P		**P**	**08 41 10.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=213,slow=21,SNR=4.5							
SONM	**Songino Array**	**25.68**	**297**	P		**P**	**08 41 40.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=84,slow=7.9,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**30.49**	**127**	T		T	09 14 56.6	
	baz=324,slow=76,SNR=42							
H11N1	**WAKE ISLAND Hy**	**30.50**	**127**	T		T	09 14 59.9	
	baz=324,slow=76,SNR=45							
H11N3	**WAKE ISLAND Hy**	**30.51**	**127**	T		T	09 14 55.2	
	baz=324,slow=76,SNR=47							
H11S1	**WAKE ISLAND Hy**	**31.32**	**129**	T		T	09 15 20.1	
	baz=359,slow=74,SNR=26							
H11S3	**WAKE ISLAND Hy**	**31.32**	**129**	T		T	09 15 56.0	
	SNR=19							
H11S2	**WAKE ISLAND Hy**	**31.34**	**129**	T		T	09 15 50.2	
	baz=332,slow=74,SNR=20							
ZALV	**Zalesovo Beam**	**39.19**	**309**	P		**P**	**08 43 35.1**	**-2.2**
ZALV							08 45 44.2	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**39.19**	**309**	P		**P**	**08 43 35.1**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=94,slow=13,SNR=3.7							
ZALV				PcP		**PcP**	**08 45 44.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=86,slow=3.4,SNR=5.6							
MKAR	**Makanchi Array**	**42.03**	**298**	*i* P		**P**	**08 44 00.8**	**-0.1**
MKAR	**Makanchi Array**	**42.03**	**298**	P		**P**	**08 44 00.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=74,slow=9.1,SNR=4.4							
KURK	**Kurchatov**	**43.45**	**305**	P		**P**	**08 44 12.4**	**+0.2**
KURBB	**Kurchatov Arra**	**43.52**	**305**	P		**P**	**08 44 12.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=77,slow=8.9,SNR=5.4							
ILAR	**Eielson Array**	**45.88**	**35**	P		**P**	**08 44 32.5**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=270,slow=6.8,SNR=12							
INK	**Inuvik**	**50.56**	**29**	P		**P**	**08 45 08.4**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=303,slow=6.2,SNR=11							
YKA	**Yellowknife Ar**	**60.09**	**31**	P		**P**	**08 46 16.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=302,slow=6.4,SNR=5.9							
FINES	**FINESS Array B**	**65.07**	**331**	P		**P**	**08 46 48.7**	**0.0**
	comp=Z,1.7nm,0.8s,baz=29,slow=4.4,SNR=7.8							
NOA	**NORSAR Array B**	**70.27**	**337**	P		**P**	**08 47 20.2**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=66,slow=10.0,SNR=3.2							
AKASG	**Malin Array Be**	**70.97**	**322**	*e*P		**P**	**08 47 25.5**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**70.97**	**322**	P		**P**	**08 47 25.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=44,slow=6.5,SNR=12							
NVAR	**Mina Array Bea**	**72.39**	**54**	P		**P**	**08 47 36.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=297,slow=6.9,SNR=4.4							
PDAR	**Pinedale Array**	**74.63**	**46**	P		**P**	**08 47 48.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=245,slow=2.3,SNR=5.3							
GERES	**GERESS Array B**	**79.11**	**328**	P		**P**	**08 48 12.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=54,slow=5.0,SNR=3.6							
H03N2	**Juan Fernandez**	**147.15**	**89**	T		T	11 40 52.6	
	baz=297,slow=75,SNR=5.8							
H03N3	**Juan Fernandez**	**147.16**	**89**	T		T	11 40 53.6	
	baz=297,slow=75,SNR=7.3							
H03N1	**Juan Fernandez**	**147.17**	**89**	T		T	11 40 54.1	
	baz=297,slow=75,SNR=5.4							

IDC 24 08:52:39.8±2.2, 0.96N×126.95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=185.9km s-min=26.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**161**	P		P	08 57 33.9	-2.0
	0.7nm,0.6s,baz=340,slow=11,SNR=6.2							
ASAR	**Alice Springs**	**25.39**	**165**	P		P	08 58 10.4	+1.2
	0.3nm,0.3s,baz=342,slow=9.3,SNR=18							
MKAR	**Makanchi Array**	**59.95**	**326**	P		P	09 02 47.9	-0.2
	0.2nm,0.4s,baz=116,slow=8.2,SNR=4.4							

*MOS **24** 09:22:27.3±1.1, 54.91N×163.05E, h8km, mb4.2/19, Error ellipse: s-maj=10.8km s-min=6.4km az=79.5*
*IDC **24** 09:22:27.6±0.6, 55.01N×162.69E, h0km, mb4.0/23, mb1 4.2/26, mb1mx4.0/50, mbtmp4.0/26, ML3.8/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=14.9km s-min=11.2km az=5.0*
*KRSC **24** 09:22:29.6±1.1, 54.85N×163.10E, h50km±19km, ML4.6*
*NEIC **24** 09:22:33.8±0.4, 55.13N×162.45E, h35km, mb4.3/7, Error ellipse: s-maj=11.0km s-min=5.7km az=134.0*

ISC 24 09:22:30.3±1.1, 54.91N±0.03×163.06E±0.03, h19km±3km, n142, σ1°16/174, mb4.2/33, MS3.3/5, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.85**	**246**	P

MTVR	**Mutnovka**	**3.78**	**232**	*e*P		**Pn**	**09 23 28.7**	**+1.1**
MTVR				*e*S		**Sn**	**09 24 12.0**	**+0.4**
GRL	**Gorelyy**	**3.79**	**234**	*e*P		**Pn**	**09 23 28.7**	**+1.0**
GRL				*e*S		**Sn**	**09 24 11.4**	**-0.3**
ASAK	**Asacha**	**3.98**	**233**	*e*P		**Pn**	**09 23 31.5**	**+1.2**
ASAK				*e*S		**Sn**	**09 24 17.7**	**+1.3**
APC	**Apacha**	**4.01**	**243**	*e*P		**Pn**	**09 23 32.1**	**+1.4**
APC				*e*S		**Sn**	**09 24 18.6**	**+1.5**
OSSR	**Ossora**	**4.36**	**360**	*e*P		**Pn**	**09 23 36.0**	**+0.7**
OSSR				*e*S		**Sn**	**09 24 26.2**	**+0.7**
PAU	**Pauzhetka**	**5.10**	**230**	PN		**Pn**	**09 23 47.7**	**+2.1**
PAU	**Pauzhetka**	**5.10**	**230**	*e*P		**Pn**	**09 23 47.7**	**+2.1**
PAU				*e*S		**Sn**	**09 24 44.7**	**+0.9**
SKR	**Severo-Kuril's**	**5.97**	**228**	*e*PN		**Pn**	**09 23 56.2**	**-1.3**
SKR				pmax	pmax			
	comp=Z,30nm,0.5s							
SKR	**Severo-Kuril's**	**5.97**	**228**	*e*P		**Pn**	**09 23 58.4**	**+0.9**
SKR				*e*S		**Sn**	**09 25 05.9**	**+0.7**
FX1	**Attu Island--F**	**6.31**	**105**	*e*Pn		**Pn**	**09 24 02.8**	**+0.6**
FX1				*e*Sn		**Sn**	**09 25 10.5**	**-3.2**
FX1	**Attu Island--F**	**6.31**	**105**	Pn		**Pn**	**09 24 02.8**	**+0.6**
	comp=Z,26nm,0.3s,baz=324,slow=7.8,SNR=63							
FX1				Sn		**Sn**	**09 25 09.6**	**-4.0**
	comp=Z,22nm,0.3s,baz=169,slow=15,SNR=12							
BILL	**Bilibino**	**13.27**	**5**	i*i*PN		Pn	09 25 42.1	+4.8
BILL				pmax	pmax			
	comp=Z,52nm,1.2s							
ASAJ	**Asahikawa**	**17.05**	**239**	Pn		**Pn**	**09 26 27.3**	**-0.2**
ASAJ	**Asahikawa**	**17.05**	**239**	Pn		**Pn**	**09 26 27.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=68,slow=19,SNR=4.6							
ERM	**Erimo**	**18.37**	**234**	*i* P		**Pn**	**09 26 43.9**	**+0.2**
ERM				pmax	pmax			
	comp=Z,24nm,1.2s							
TIXI	**Tiksi**	**22.23**	**332**	*c i*P		**P**	**09 27 24.8**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,11nm,1.1s							
TIXI	**Tiksi**	**22.23**	**332**	*e*P		**P**	**09 27 24.7**	**-0.6**
	comp=Z,8.1nm,0.6s							
USRK	**Ussuriysk Arra**	**22.64**	**255**	LR		LR	09 38 05.0	
	comp=Z,93nm,18.2s,baz=138,slow=42							
TRF	**Thorofare Moun**	**24.84**	**51**	*e*P		**P**	**09 27 54.3**	**+3.0**
	comp=Z,5.8nm,0.7s							
MJA0	**Matsu Arr-Jizo**	**25.02**	**233**	*e*P		**P**	**09 27 54.4**	**+1.4**
MJA0				pmax	pmax			
	comp=Z,3.0nm,0.8s							
COLD	**Coldfoot**	**25.03**	**42**	*e*P		**P**	**09 27 54.9**	**+2.2**
	comp=Z,3.5nm,0.7s							
MAJO	**Matsushiro**	**25.04**	**233**	*i* P		**P**	**09 27 53.0**	**-0.1**
MAJO	**Matsushiro**	**25.04**	**233**	*e*P		**P**	**09 27 53.5**	**+0.4**
	comp=Z,16nm,1.0s							
MJAR	**Matsushiro Arr**	**25.04**	**233**	P		**P**	**09 27 53.0**	**-0.1**
MJAR	**Matsushiro Arr**	**25.04**	**233**	P		**P**	**09 27 53.0**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=28,slow=7.2,SNR=10							
MJAR				LR		LR	09 37 38.5	
	comp=Z,36nm,21.2s,baz=350,slow=36							
ILAR	**Eielson Array**	**26.29**	**48**	P		**P**	**09 28 06.0**	**+1.8**
ILAR	**Eielson Array**	**26.29**	**48**	P		**P**	**09 28 06.0**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=269,slow=9.3,SNR=24							
INK	**Inuvik**	**31.36**	**40**	P		**P**	**09 28 50.6**	**+1.5**
INK	**Inuvik**	**31.36**	**40**	P		**P**	**09 28 50.6**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=316,slow=8.8,SNR=6.3							
SONM	**Songino Array**	**35.20**	**282**	P		P	09 29 19.2	-3.9
SONM	**Songino Array**	**35.20**	**282**	P		P	09 29 19.2	-3.9
	comp=Z,0.2nm,0.4s,baz=71,slow=6.8,SNR=3.2							
SONM				LR		LR	09 44 33.5	
	comp=Z,63nm,18.2s,baz=98,slow=38							
H11N2	**WAKE ISLAND Hy**	**35.24**	**174**	T		T	10 06 51.0	
	baz=359							
H11N3	**WAKE ISLAND Hy**	**35.25**	**174**	T		T	10 06 48.9	
	baz=359,slow=74,SNR=22							
H11N1	**WAKE ISLAND Hy**	**35.25**	**174**	T		T	10 06 51.7	
	baz=359,slow=74,SNR=28							
JOW	**Kunigami**	**37.78**	**236**	*e*P		**P**	**09 29 45.8**	**+0.7**
	comp=Z,5.9nm,0.8s							
SPITS	**Spitsbergen Ar**	**45.63**	**351**	P		**P**	**09 30 48.9**	**+0.2**
SPITS	**Spitsbergen Ar**	**45.63**	**351**	P		**P**	**09 30 48.9**	**+0.2**
	comp=Z,11nm,1.0s,baz=70,slow=17,SNR=6.0							
KURK	**Kurchatov**	**48.26**	**302**	P		**P**	**09 31 07.9**	**-1.6**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**48.26**	**302**	*e*P		**P**	**09 31 07.1**	**-2.4**
	comp=Z,1.2nm,0.5s,baz=58,slow=7.9,SNR=3.6							
KURBB	**Kurchatov Arra**	**48.36**	**302**	P		**P**	**09 31 07.9**	**-2.5**
MKAR	**Makanchi Array**	**48.94**	**296**	*e*P		**P**	**09 31 12.7**	**-2.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**48.94**	**296**	P		P	09 31 11.8	-3.1
MKAR	**Makanchi Array**	**48.94**	**296**	P		P	09 31 11.8	-3.1
	comp=Z,1.0nm,0.8s,baz=53,slow=8.2,SNR=9.8							
BVAR	**Borovoye Array**	**50.63**	**309**	P		P	09 31 24.1	-3.5
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**50.63**	**309**	P		P	09 31 24.1	-3.5
BVAR	**Borovoye Array**	**50.63**	**309**	P		P	09 31 24.1	-3.5
	comp=Z,0.6nm,0.4s,baz=58,slow=12,SNR=6.3							
ARCES	**ARCESS Array B**	**52.09**	**342**	P		**P**	**09 31 35.9**	**-2.5**
ARCES	**ARCESS Array B**	**52.09**	**342**	P		**P**	**09 31 35.9**	**-2.5**
	comp=Z,2.3nm,1.0s,baz=41,slow=8.4,SNR=3.5							
NVAR	**Mina Array Bea**	**53.51**	**73**	P		P	09 31 52.8	+3.3
NVAR	**Mina Array Bea**	**53.51**	**73**	P		P	09 31 52.8	+3.3
	comp=Z,0.4nm,0.7s,baz=309,slow=5.7,SNR=2.7							
FRB	**Frobisher Bay**	**55.13**	**25**	P		**P**	**09 32 01.2**	**+0.6**
FRB	**Frobisher Bay**	**55.13**	**25**	P		**P**	**09 32 01.2**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=327,slow=8.6,SNR=14							
JOF	**Joensuu**	**56.64**	**336**	*e*P		**P**	**09 32 10.9**	**-0.6**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**56.64**	**336**	*ep*		**P**	**09 32 10.9**	**-0.6**
	comp=Z,1.6nm,0.5s							
AKTO	**Aktyubinsk**	**57.88**	**313**	P		**P**	**09 32 19.4**	**-1.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**57.88**	**313**	P		**P**	**09 32 19.4**	**-1.0**
AKTO	**Aktyubinsk**	**57.88**	**313**	P		**P**	**09 32 19.4**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=72,slow=8.5,SNR=6.2							
ABKAR	**Akbulak array**	**57.94**	**311**	*e*P		**P**	**09 32 19.4**	**-1.4**
	comp=Z,0.7nm,0.4s							
KAF	**Kangasniemi**	**58.48**	**338**	*e*P		**P**	**09 32 23.1**	**-1.4**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KAF	**Kangasniemi**	**58.48**	**338**	*ep*		**P**	**09 32 23.1**	**-1.4**
	comp=Z,1.8nm,0.7s							
FINES	**FINESS Array B**	**59.13**	**338**	P		**P**	**09 32 28.2**	**-0.7**
FINES	**FINESS Array B**	**59.13**	**338**	P		**P**	**09 32 28.2**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=42,slow=7.7,SNR=18							
CMAR	**Chiang Mai Arr**	**60.25**	**260**	LR		LR	10 01 58.5	
	comp=Z,19nm,18.2s,baz=55,slow=40							
OBN	**Obninsk**	**61.91**	**328**	*e*P		**P**	**09 32 49.1**	**+1.1**
OBN				*e*			09 33 33.7	
OBN				pmax	pmax			
	comp=Z,6.0nm,1.2s							
NB2	**NORSAR Subarra**	**62.27**	**345**	P		**P**	**09 32 49.9**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=23,slow=6.9							
NOA	**NORSAR Array B**	**62.27**	**345**	P		**P**	**09 32 49.9**	**-0.5**
NOA	**NORSAR Array B**	**62.27**	**345**	P		**P**	**09 32 49.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=13,slow=6.5,SNR=7.1							
SCHQ	**Schefferville**	**63.22**	**30**	P		**P**	**09 32 58.0**	**+1.2**
SCHQ	**Schefferville**	**63.22**	**30**	P		**P**	**09 32 58.0**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=331,slow=6.4,SNR=5.6							
AKASG	**Malin Array Be**	**67.93**	**330**	*e*P		**P**	**09 33 26.4**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**67.93**	**330**	P		**P**	**09 33 26.5**	**-0.8**
AKASG	**Malin Array Be**	**67.93**	**330**	P		**P**	**09 33 26.5**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=28,slow=6.8,SNR=12							
KBZ	**Khabaz**	**69.39**	**318**	P		**P**	**09 33 35.4**	**-1.0**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**69.39**	**318**	P		**P**	**09 33 35.4**	**-1.0**
KBZ	**Khabaz**	**69.39**	**318**	P		**P**	**09 33 35.4**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=169,slow=3.8,SNR=3.9							
EKA	**Eskdalemuir Ar**	**69.54**	**352**	P		**P**	**09 33 36.6**	**-0.6**
EKA	**Eskdalemuir Ar**	**69.54**	**352**	P		**P**	**09 33 36.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=16,slow=5.5,SNR=3.8							
DPC	**Dobruska-Polom**	**71.49**	**338**	*e*P		**P**	**09 33 49.6**	**+0.4**
DPC	**Dobruska-Polom**	**71.49**	**338**	*e*P		**P**	**09 33 49.6**	**+0.4**
GNI	**Garni**	**71.68**	**315**	LR		LR	10 09 21.5	
	comp=Z,20nm,18.3s,baz=28,slow=39							
KHC	**Kasperske Hory**	**73.21**	**340**	*e*P		**P**	**09 34 01.0**	**+1.4**
KHC	**Kasperske Hory**	**73.21**	**340**	*e*P		**P**	**09 34 01.0**	**+1.4**
GERES	**GERESS Array B**	**73.46**	**339**	P		**P**	**09 34 01.3**	**+0.2**
GERES	**GERESS Array B**	**73.46**	**339**	P		**P**	**09 34 01.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=28,slow=7.3,SNR=5.9							
BRTR	**Keskin Array B**	**76.30**	**322**	P		**P**	**09 34 17.4**	**-0.3**
BRTR	**Keskin Array B**	**76.30**	**322**	P		**P**	**09 34 17.4**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=39,slow=2.6,SNR=6.6							
WRA	**Warramunga Arr**	**78.48**	**207**	P		**P**	**09 34 30.7**	**+0.9**
WRA	**Warramunga Arr**	**78.48**	**207**	P		**P**	**09 34 30.7**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=23,slow=6.2,SNR=3.2							
ASAR	**Alice Springs**	**82.15**	**207**	P		**P**	**09 34 50.8**	**+1.3**
ASAR	**Alice Springs**	**82.15**	**207**	P		**P**	**09 34 50.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=12,slow=4.7,SNR=4.2							
ESDC	**Sonseca Array**	**85.14**	**350**	P		**P**	**09 35 04.5**	**-0.4**
ESDC	**Sonseca Array**	**85.14**	**350**	P		**P**	**09 35 04.5**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=0.8,slow=5.2,SNR=8.3							

IDC 24 09:31:33.1±3.2, 4°41.S×135°51.E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=141.3km s-min=31.5km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.48**	**184**	Pn	Pn	09 35 11.2	-1.7
	0.8nm,0.3s,baz=4.5,slow=13,SNR=25						
WRA				Sn	Sn	09 37 52.0	-13
	0.4nm,0.3s,baz=358,slow=23,SNR=6.8						
ASAR	**Alice Springs**	**19.20**	**184**	P	Pn	09 35 59.2	-0.4
	0.6nm,0.3s,baz=1.0,slow=9.7,SNR=22						
ASAR				S	Sn	09 39 22.4	-13
	0.1nm,0.3s,baz=358,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**69.23**	**324**	P	P	09 42 42.0	+0.1
	0.2nm,0.4s,baz=126,slow=7.3,SNR=5.2						

*IDC **24** 10:27:37.7±0.9, 10°.73S×165°.45E, h0km, mb3.9/11, mb1 4.2/12, mb1mx4.0/32, mbtmp3.9/12, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/28, Error ellipse: s-maj=35.2km s-min=19.0km az=143.0*

*ISCJB **24** 10:27:40.3±0.6, 10°.99S±0°.08×165°.5E±0°.1, h30km, mb3.9/10, MS3.5/4, Error ellipse: s-maj=15.3km s-min=11.3km az=9.1*

ISC 24 10:27:42.1±0.7, 10°.86S±0°.09×165°.5E±0°.1, h30km, n26, σ1§17/15, mb3.9/10, MS3.6/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.63**	**284**	LR	LR	10 31 25.3	
	comp=Z,606nm,18.6s,baz=123,slow=41						
HNR	**Honiara**	**5.63**	**284**	P	Pn	10 29 08.0	+4.2
DZM	**Mont Dzumac**	**11.19**	**175**	*e*Pn	**Pn**	**10 30 22.3**	**+2.2**
	7.0nm,0.3s						
DZM				*e*Sn	Sn	10 32 17.1	-7.1
	4.2nm,0.2s						
DZM				*e*LR	LR	10 32 54.9	
	227nm,27.9s						
DZM	**Mont Dzumac**	**11.19**	**175**	Pn	**Pn**	**10 30 20.9**	**+0.8**
	1.1nm,0.3s,baz=258,slow=20,SNR=32						
DZM				Sn	**Sn**	**10 32 21.9**	**-2.3**
	0.2nm,0.3s,baz=150,slow=17,SNR=3.3						
PMG	**Port Moresby**	**18.09**	**273**	LR	LR	10 38 44.2	
	comp=Z,239nm,18.4s,baz=100,slow=37						
CTA	**Charters Tower**	**20.66**	**241**	P	**P**	**10 32 19.0**	**-0.5**
	5.8nm,0.9s,baz=66,slow=8.6,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**29.19**	**2**	T	T	11 04 04.2	
	baz=183,slow=78,SNR=39						
H11S3	**WAKE ISLAND Hy**	**29.19**	**2**	T	T	11 04 04.5	
	baz=183,slow=78,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.21**	**2**	T	T	11 04 05.6	
	baz=183,slow=78,SNR=37						
STKA	**Stephens Creek**	**30.40**	**223**	LR	LR	10 45 34.0	
	comp=Z,115nm,18.1s,baz=26,slow=35						
H11N1	**WAKE ISLAND Hy**	**30.41**	**3**	T	T	11 05 35.8	
	baz=184,slow=77,SNR=33						
H11N3	**WAKE ISLAND Hy**	**30.42**	**3**	T	T	11 05 36.2	
	baz=184,slow=77,SNR=23						
H11N2	**WAKE ISLAND Hy**	**30.43**	**3**	T	T	11 05 37.2	
	baz=184,slow=77,SNR=23						
WRA	**Warramunga Arr**	**31.30**	**249**	P	**P**	**10 33 59.8**	**-0.1**
	3.1nm,0.8s,baz=82,slow=9.1,SNR=16						
WRA				LR	LR	10 46 46.2	
	comp=Z,129nm,18.1s,baz=70,slow=37						
ASAR	**Alice Springs**	**32.64**	**243**	P	**P**	**10 34 12.2**	**+0.5**
	2.0nm,0.9s,baz=72,slow=9.5,SNR=16						
ASAR				PcP	**PcP**	**10 36 58.0**	**+0.6**
	0.3nm,0.7s,baz=73,slow=3.0,SNR=4.7						
PPT	**Papeete**	**43.99**	**104**	LR	LR	10 51 47.0	
	comp=Z,37nm,20.2s,baz=297,slow=33						
PPT2	**Papeete2**	**43.99**	**104**	*e*LR	LR	10 48 33.8	
	47nm,22.2s						
TBI	**Tubuai**	**44.64**	**112**	*e*LR	LR	10 48 50.3	
	91nm,25.8s						
CMAR	**Chiang Mai Arr**	**71.80**	**294**	P	**P**	**10 39 02.3**	**-0.1**
	0.4nm,0.4s,baz=126,slow=4.7,SNR=3.3						
SONM	**Songino Array**	**78.36**	**324**	P	**P**	**10 39 40.3**	**+0.5**
	0.6nm,0.9s,baz=142,slow=5.1,SNR=4.8						
ILAR	**Eielson Array**	**83.42**	**19**	P	**P**	**10 40 06.0**	**-0.3**
	0.9nm,0.7s,baz=233,slow=5.3,SNR=18						
NVAR	**Mina Array Bea**	**86.11**	**50**	P	**P**	**10 40 20.5**	**-0.2**
	0.2nm,0.5s,baz=236,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**93.21**	**317**	P	**P**	**10 40 53.4**	**-0.3**
	0.5nm,0.7s,baz=79,slow=6.4,SNR=6.2						
PDAR	**Pinedale Array**	**93.62**	**47**	P	**P**	**10 40 56.3**	**+0.3**
	0.2nm,0.7s,baz=253,slow=5.6,SNR=2.4						
YKA	**Yellowknife Ar**	**94.93**	**27**	P	**P**	**10 40 59.4**	**-1.7**
	0.2nm,0.9s,baz=250,slow=4.5,SNR=4.0						
TXAR	**Lajitas Array**	**95.97**	**61**	P	**P**	**10 41 07.8**	**+0.9**
	0.8nm,0.8s,baz=245,slow=3.6,SNR=4.3						
TXAR				LR	LR	11 17 00.5	
	comp=Z,24nm,20.3s,baz=0.0,slow=31						

IDC 24 10:34:23.8±1.7, 3°.80N×124°.42E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/39, mbtmp3.7/4, Error ellipse: s-maj=189.9km s-min=22.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.53**	**158**	P	P	10 39 54.3	-0.1
	0.6nm,0.3s,baz=336,slow=10,SNR=17						
ASAR	**Alice Springs**	**28.82**	**162**	P	P	10 40 24.1	0.0
	0.2nm,0.4s,baz=337,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**39.06**	**157**	P	P	10 41 52.5	-0.1
	0.7nm,0.4s,baz=333,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**56.20**	**326**	P	P	10 44 05.7	-0.1
	0.5nm,0.3s,baz=116,slow=7.3,SNR=14						

FUNV 24 10:42:44.1, 10°.38N×72°.02W, h3km, MW3.5, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QARV	**Quebrada Arrib**	**1.48**	**96**	*e*P	Pn	10 43 10.9	-0.8
QARV				*e*S	Sb	10 43 31.6	0.0
CURV	**Curarigua**	**2.05**	**100**	*e*P	Pn	10 43 19.2	-0.5
CURV				*e*S	Sn	10 43 44.8	-1.1
SIQV	**Siquisique**	**2.19**	**83**	*e*P	Pn	10 43 20.6	-0.8
SIQV				*e*S	Sn	10 43 47.6	-1.5
SOCV	**Socops**	**2.37**	**151**	*e*P	Pn	10 43 22.6	-1.4
SOCV				*e*S	Sn	10 43 51.9	-1.8
CAPV	**Capacho**	**2.51**	**187**	*e*P	Pn	10 43 25.1	-1.1
CAPV				*e*S	Sn	10 43 56.2	-1.3
SANV	**Sanarito**	**2.59**	**109**	*e*P	Pn	10 43 26.9	-0.3
SANV				*e*S	Sn	10 43 58.0	-1.3
TEPV	**Terepaima**	**2.81**	**98**	*e*P	Pn	10 43 28.9	-1.1
TEPV				*e*S	Sn	10 44 01.9	-2.5
TURV	**Turiamo**	**4.11**	**89**	*e*P	Pn	10 43 46.0	-1.8
BAUV	**El Baul**	**4.17**	**110**	*e*P	Pn	10 43 47.5	-1.2
ELOV	**Elorza**	**4.18**	**143**	*e*P	Pn	10 43 47.4	-1.5
ELOV				*e*S	Sn	10 44 34.5	-3.8
CUPV	**Cœpira**	**6.14**	**92**	*e*P	Pn	10 44 14.4	-1.4
PCRV	**Puerto La Cruz**	**7.26**	**91**	*e*P	Pn	10 44 30.2	-1.1

*MOS **24** 10:47:56.3±0.8, 47°.82N×149°.33E, h101km, mb3.9/2, Error ellipse: s-maj=52.5km s-min=21.0km az=73.7*

*ISCJB **24** 10:48:00.4±0.7, 46°.5N±0°.1×149°.9E±0°.2, h200km, mb3.1/6, Error ellipse: s-maj=23.9km s-min=5.0km az=43.4*

*SKHL **24** 10:48:01.2±2.6, 46°.25N×150°.10E, h196km±8km, mb4.6/2, msh4.8/2*

*JMA **24** 10:48:03.3±0.5, 45°.71N×150°.39E, h227km, M3.7*

*IDC **24** 10:48:04.1±2.0, 46°.99N×149°.81E, h204km±22km, mb2.9/6, mb1 3.2/9, mb1mx3.0/40, mbtmp3.5/9, Error ellipse: s-maj=36.9km s-min=16.3km az=157.0*

ISC 24 10:48:00.5±0.8, 46°.4N±0°.1×150°.0E±0°.1, h200km, n34, σ1§80/33, mb3.2/6, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.86**	**233**	i*i*PN	Pn	10 48 41.0	+3.5
KUR				*e*S	Sn	10 49 14.8	+8.5
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				pmax	pmax		
	comp=N,80nm,0.3s						
KUR				smax	smax		
	comp=N,140nm,0.5s						
KUR				smax	smax		
	comp=E,100nm,0.5s						
KUR	**Kuril'sk**	**1.86**	**233**	*e*P	Pn	10 48 40.8	+3.3
KUR				AMB	AMB	10 48 41.4	
	comp=E,150nm,0.6s						
KUR				*e*S	Sn	10 49 13.7	+7.4
KUR				A	A	10 49 17.8	
	comp=E,140nm,0.5s						
KUR				A	A	10 49 17.8	
	comp=E,100nm,0.5s						
SHO	**Shikotan**	**3.34**	**223**	*e*P	**Pn**	**10 48 56.5**	**+2.3**
SHO				AMB	AMB	10 48 59.7	
	comp=E,152nm,0.8s						
SHO				*e*S	**Sn**	**10 49 36.6**	**+0.5**
SHO				A	A	10 49 42.2	
	comp=E,102nm,0.7s						
JRA	**Rausu**	**4.20**	**237**	P	Pn	10 49 08.6	+3.8
NEM2	**Nemuro 2**	**4.25**	**227**	P	**Pn**	**10 49 07.1**	**+1.8**
NEM2				*e*S	**Sn**	**10 49 56.3**	**+0.1**
JNK	**Nakash**	**4.65**	**235**	P	**Pn**	**10 49 13.6**	**+3.2**
JTKR	**Abashiri--Toko**	**4.91**	**243**	P	Pn	10 49 17.6	+3.9
JAK	**Akkeshi**	**5.05**	**230**	P	**Pn**	**10 49 17.4**	**+1.9**
JAK				*e*S	**Sn**	**10 50 15.9**	**+1.4**
JAR	**Ashorobuto**	**5.37**	**238**	P	Pn	10 49 23.9	+4.2
JOB	**Onbets**	**5.58**	**234**	P	**Pn**	**10 49 25.0**	**+2.7**
JOB				*e*S	**Sn**	**10 50 28.6**	**+1.7**
ASAJ	**Asahikawa**	**5.67**	**249**	P	Pn	10 49 28.4	+4.9
ASAJ	**Asahikawa**	**5.67**	**249**	P	Pn	10 49 28.6	+5.1
	comp=E,7.1nm,0.3s,baz=65,slow=13,SNR=91						
JKK2	**Kamakawa 2**	**5.69**	**247**	P	Pn	10 49 28.1	+4.4
JCH	**Churui**	**6.03**	**234**	P	**Pn**	**10 49 30.4**	**+2.2**
JCH				*e*S	**Sn**	**10 50 37.9**	**+0.4**
MYR	**Moyori**	**6.29**	**232**	*e*P	**Pn**	**10 49 33.1**	**+1.6**
MYR				*e*S	**Sn**	**10 50 42.7**	**-0.8**
JNBK	**Urakawa-nobuka**	**6.59**	**234**	P	**Pn**	**10 49 37.1**	**+1.7**
JNBK				*e*S	**Sn**	**10 50 50.2**	**-0.4**
JNB	**Noboribetsu**	**7.49**	**242**	P	**Pn**	**10 49 49.2**	**+2.2**
JKB	**Kayabe**	**7.83**	**238**	P	**Pn**	**10 49 53.0**	**+1.5**
JKB				*e*S	**Sn**	**10 51 16.9**	**-3.0**
JYM2	**Yakumo 2**	**8.10**	**242**	P	**Pn**	**10 49 56.9**	**+2.0**
PETK	**Petropavlovsk-**	**8.40**	**34**	PN	**Pn**	**10 49 56.6**	**-2.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.40**	**34**	P	**Pn**	**10 49 56.6**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=187,slow=12,SNR=15						
JSR	**Shiriuchi**	**8.42**	**238**	P	**Pn**	**10 50 00.5**	**+1.4**
JTM	**Tenmabayashi**	**8.53**	**232**	P	**Pn**	**10 50 01.2**	**+0.6**
JANG	**Nango**	**8.59**	**229**	P	**Pn**	**10 50 01.7**	**+0.3**
JTH	**Tanohata**	**8.73**	**226**	*e*S	**Sn**	**10 51 37.4**	**-3.9**
MJAR	**Matsushiro Arr**	**13.18**	**226**	P	P	10 51 09.3	+6.1
	comp=Z,0.5nm,0.3s,baz=11,slow=14,SNR=8.1						
ILAR	**Eielson Array**	**38.20**	**38**	P	**P**	**10 54 59.9**	**-0.5**
	comp=Z,0.7nm,1.1s,baz=262,slow=9.3,SNR=4.2						
MKAR	**Makanchi Array**	**45.19**	**296**	P	**P**	**10 55 57.7**	**+0.4**
MKAR	**Makanchi Array**	**45.19**	**296**	P	**P**	**10 55 57.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=56,slow=7.7,SNR=3.9						
YKA	**Yellowknife

ATH	**Athens Observa**	**0.67**	**159**	P	**Pg**	**11**	**10**	**25.6**	**+0.3**
ATH				S	**Sb**	**11**	**10**	**35.0**	**-0.1**
LTK	**Loutraki**	**0.68**	**212**	P	**Pg**	**11**	**10**	**25.4**	**-0.1**
LTK	**Loutraki**	**0.68**	**212**	*e*PN	**Pg**	**11**	**10**	**25.2**	**-0.3**
LTK	**Loutraki**	**0.68**	**212**	P	**Pg**	**11**	**10**	**25.4**	**-0.1**
ATHU	**Athens Univers**	**0.69**	**155**	P	**Pg**	**11**	**10**	**26.1**	**+0.3**
ATHU				S	**Sg**	**11**	**10**	**35.2**	**+0.3**
ATHU	**Athens Univers**	**0.69**	**155**	P	**Pg**	**11**	**10**	**26.1**	**+0.3**
ATHU				S	**Sg**	**11**	**10**	**35.2**	**+0.3**
DSF	**Desfina**	**0.72**	**255**	P	**Pg**	**11**	**10**	**25.7**	**-0.7**
DSF				S	**Sg**	**11**	**10**	**36.0**	**+0.1**
DSF	**Desfina**	**0.72**	**255**	P	**Pg**	**11**	**10**	**25.7**	**-0.7**
DSF				S	**Sg**	**11**	**10**	**36.0**	**+0.1**
NAIG	**Nisos Aigina**	**0.84**	**176**	*e*PN	**Pg**	**11**	**10**	**28.6**	**0.0**
NAIG	**Nisos Aigina**	**0.84**	**176**	*e*Pn	**Pg**	**11**	**10**	**28.6**	**0.0**
AGG	**Agios Georgios**	**0.95**	**297**	*e*PN	**Pb**	**11**	**10**	**30.9**	**+0.1**
AGG	**Agios Georgios**	**0.95**	**297**	*e*Pn	**Pb**	**11**	**10**	**30.9**	**+0.1**
KALE	**Kalithea**	**1.02**	**259**	P	**Pb**	**11**	**10**	**30.8**	**-1.3**
KALE				S	**Sn**	**11**	**10**	**46.9**	**-0.1**
KALE	**Kalithea**	**1.02**	**259**	P	**Pb**	**11**	**10**	**30.8**	**-1.3**
KALE				S	**Sn**	**11**	**10**	**46.9**	**-0.1**
GUR	**Goura**	**1.07**	**232**	P	**Pn**	**11**	**10**	**33.5**	**+0.2**
GUR				S	**Sn**	**11**	**10**	**48.1**	**-0.2**
GUR	**Goura**	**1.07**	**232**	P	**Pn**	**11**	**10**	**33.5**	**+0.2**
GUR				S	**Sn**	**11**	**10**	**48.1**	**-0.2**
DID	**Didima**	**1.10**	**188**	P	**Pb**	**11**	**10**	**33.2**	**-0.1**
DID				S	**Sn**	**11**	**10**	**49.1**	**+0.3**
DID	**Didima**	**1.10**	**188**	*e*PN	**Pb**	**11**	**10**	**33.3**	**-0.1**
DID	**Didima**	**1.10**	**188**	P	**Pb**	**11**	**10**	**33.2**	**-0.1**
DID				S	**Sn**	**11**	**10**	**49.1**	**+0.3**
KLV	**Kalavryta, Ach**	**1.14**	**241**	*e*PN	**Pg**	**11**	**10**	**35.0**	**+0.7**
KLV	**Kalavryta, Ach**	**1.14**	**241**	*e*Pn	**Pg**	**11**	**10**	**35.0**	**+0.7**
PAIG	**Paliouri**	**1.34**	**9**	*e*PN	**Pn**	**11**	**10**	**36.6**	**-0.3**
PAIG	**Paliouri**	**1.34**	**9**	*e*Pn	**Pn**	**11**	**10**	**36.6**	**-0.3**
LIT	**Litokhoron**	**1.66**	**335**	*e*PN	**Pn**	**11**	**10**	**41.5**	**+0.1**
LIT	**Litokhoron**	**1.66**	**335**	*e*Pn	**Pn**	**11**	**10**	**41.5**	**+0.1**
PLG	**Polygyros**	**1.77**	**1**	*e*PB	**Pn**	**11**	**10**	**42.9**	**0.0**
PLG	**Polygyros**	**1.77**	**1**	*e*Pb	**Pn**	**11**	**10**	**42.9**	**0.0**

*NNC **24** 12:09:35.4±3.0,37.°40N×70.°88E,h82^{km}±80^{km},mb3.6, mpv4.2,Error ellipse: s-maj=60.6km s-min=22.6km az=80.0*

ISC 24 12:09:18.9±2.7,**36.°2N**±0.°3×**70.°5E**±0.°4,**h110**^{km},**n12**, σ2§**14**/**12**,**2C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.88**	**360**	⇓P	**Pn**	**12 10 57.6**	**+0.5**
	10nm,0.3s,baz=176,slow=12,SNR=396						
KK31				⇑S	Sn	12 12 02.4	-11
	6.0nm,0.3s,baz=174,slow=22,SNR=18						
DANN	**Dangsing**	**13.65**	**121**	*e*P	**P**	**12 12 31.1**	**-2.1**
	6.9nm,0.2s						
KOLN	**Koldanda**	**13.91**	**124**	*e*P	**P**	**12 12 34.8**	**-1.2**
	13nm,0.4s						
GKN	**Gorkha**	**14.47**	**120**	*e*P	**P**	**12 12 40.6**	**-1.6**
	19nm,0.4s						
AB31	**Akbulak array**	**15.16**	**333**	⇓P	**P**	**12 12 52.6**	**+3.2**
	0.3nm,0.3s,baz=162,slow=11,SNR=24						
AB31				⇑S	**Sn**	**12 15 30.1**	**-4.2**
	0.8nm,0.5s,baz=152,slow=23,SNR=8.5						
PKIN	**Phulchoki**	**15.27**	**120**	*e*P	**P**	**12 12 51.4**	**+0.3**
	7.7nm,0.3s						
PKI	**Pulchoki**	**15.28**	**120**	*e*P	**P**	**12 12 51.4**	**+0.1**
	14nm,0.6s						
GUN	**Gumba**	**15.41**	**118**	*e*P	**P**	**12 12 51.8**	**-1.0**
	5.9nm,0.4s						
JIRN	**Jiri**	**15.78**	**118**	*e*P	**P**	**12 12 57.0**	**+0.1**
	18nm,0.3s						
RAMN	**Ramite**	**16.49**	**120**	*e*P	**P**	**12 13 05.8**	**+1.1**
	8.5nm,0.4s						
AKTO	**Aktyubinsk**	**16.84**	**331**	⇓P	P	12 13 15.6	+7.5
	1.4nm,0.6s						
TAPN	**Taplejung**	**17.05**	**116**	*e*P	**P**	**12 13 12.3**	**+1.4**
	6.6nm,0.3s						

*ISCJB **24** 12:16:28.6±0.4,46.°25N×0.°02×7.°57E±0.°04,h12^{km}±5^{km}, Error ellipse: s-maj=4.7km s-min=3.2km az=173.0*
*GEN **24** 12:16:29.5,46.°26N×7.°65E,h13^{km},ML1.1*
*LDG **24** 12:16:29.3±0.1,46.°25N×7.°66E,h2^{km},Md1.9/1,Ml1.9/8, Error ellipse: s-maj=1.2km s-min=0.9km az=101.0*
*ZUR **24** 12:16:29.7,46.°26N×7.°65E,h2^{km}±1^{km},ML1.3/6*
*CSEM **24** 12:16:29.0±0.1,46.°24N×7.°64E,h10^{km},ML2.0/10,Error ellipse: s-maj=3.5km s-min=2.0km az=81.0*

ISC 24 12:16:29.6±0.9,**46.°25N**±0.°02×**7.°63E**±0.°03,**h6**^{km}±9^{km},**n36**, σ1§**12**/**54**,**8C-1D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBD2	**Leukerbad 2**	**0.12**	**6**	⇑*i*P	**Pg**	**12 16 32.3**	**0.0**
LKBD2	**Leukerbad 2**	**0.12**	**6**	⇑*i*P	**Pg**	**12 16 32.3**	**0.0**
LKBD	**Leukerbad**	**0.14**	**1**	⇑*i*P	**Pg**	**12 16 32.5**	**0.0**
	80nm,0.3s						
LKBD				*i* Sg	**Sg**	**12 16 34.4**	**0.0**
	80nm,0.3s						
LKBD	**Leukerbad**	**0.14**	**1**	⇑*i*Pg	**Pg**	**12 16 32.5**	**0.0**
	80nm,0.3s						
LKBD				*i* Sg	**Sg**	**12 16 34.4**	**0.0**
	80nm,0.3s						
SENIN	**Lac Senin/Sane**	**0.25**	**296**	*e*Pg	**Pg**	**12 16 34.8**	**+0.2**
	40nm,0.7s						
SENIN	**Lac Senin/Sane**	**0.25**	**296**	*e*Pg	**Pg**	**12 16 34.8**	**+0.2**
	40nm,0.7s						
MMK	**Mattmark**	**0.31**	**130**	⇑*i*Pg	**Pg**	**12 16 35.9**	**+0.2**
	76nm,0.3s						
MMK				*i* Sg	**Sg**	**12 16 39.8**	**0.0**
	76nm,0.3s						
MMK	**Mattmark**	**0.31**	**130**	⇑*i*Pg	**Pg**	**12 16 35.9**	**+0.2**
	76nm,0.3s						
MMK				*i* Sg	**Sg**	**12 16 39.8**	**0.0**
	76nm,0.3s						
GRYON	**Gryon**	**0.36**	**270**	*e*Pg	**Pg**	**12 16 37.0**	**+0.4**
	8.9nm,0.4s						
GRYON	**Gryon**	**0.36**	**270**	*e*Pg	**Pg**	**12 16 37.0**	**+0.4**
	8.9nm,0.4s						
SATI	**Passo dei Sala**	**0.41**	**156**	P	**Pg**	**12 16 37.6**	**-0.1**
SATI				S	**Sg**	**12 16 43.3**	**+0.2**
WIMIS	**Wimmis**	**0.41**	**360**	⇑*i*Pg	**Pg**	**12 16 37.8**	**+0.2**
	45nm,0.3s						
WIMIS				*i* Sg	**Sg**	**12 16 43.6**	**+0.6**
	45nm,0.3s						
WIMIS	**Wimmis**	**0.41**	**360**	⇑*i*Pg	**Pg**	**12 16 37.8**	**+0.2**
	45nm,0.3s						
WIMIS				*i* Sg	**Sg**	**12 16 43.6**	**+0.6**
	45nm,0.3s						
HASLI	**Hasliberg/Brie**	**0.62**	**36**	*i* Sg	**Sg**	**12 16 43.8**	**-5.9**
	31nm,0.3s						
CIRO	**Champorcher**	**0.65**	**184**	P	**Pg**	**12 16 42.3**	**+0.1**
CIRO				S	**Sg**	**12 16 50.7**	**+0.1**
TRAV	**Traversella**	**0.74**	**173**	P	**Pg**	**12 16 43.0**	**-0.9**
TRAV				S	**Sg**	**12 16 52.4**	**-1.1**
FUSIO	**Fusio**	**0.75**	**74**	⇓*i*Pg	**Pn**	**12 16 49.5**	**+2.6**
	13nm,0.2s						
LPL	**La Plagne**	**0.96**	**221**	*e*Pg	**Pg**	**12 16 47.9**	**-0.2**
LPL				*e*Sg	**Sg**	**12 17 00.7**	**+0.1**
	4.9nm,0.3s						
LPL	**La Plagne**	**0.96**	**221**	*e*Pg	**Pg**	**12 16 47.9**	**-0.2**
LPL				*e*Sg	**Sg**	**12 17 00.7**	**+0.1**
	2.5nm,0.3s						
LPG	**La Plagne**	**0.97**	**219**	*e*Sg	**Sg**	**12 17 00.9**	**+0.1**
	8.8nm,0.4s						
LPG	**La Plagne**	**0.97**	**219**	*e*Sg	**Sg**	**12 17 00.9**	**+0.1**
	4.4nm,0.4s						
CABF	**La Chapelle**	**1.12**	**289**	*e*Pg	**Pg**	**12 16 50.9**	**-0.2**
CABF	**La Chapelle**	**1.12**	**289**	*e*P	**Pn**	**12 16 52.6**	**+0.6**
CABF				*e*Sg	**Sg**	**12 17 05.8**	**+0.1**
	2.5nm,0.3s						
CABF	**La Chapelle**	**1.12**	**289**	*e*Pg	**Pg**	**12 16 50.9**	**-0.2**
CABF	**La Chapelle**	**1.12**	**289**	*e*P	**Pn**	**12 16 52.6**	**+0.6**
RSP	**Reno Superiore**	**1.13**	**193**	P	**Pg**	**12 16 49.7**	**-1.6**
MBDF	**Montbardon**	**1.64**	**202**	*e*Pg	**Pb**	**12 17 00.3**	**0.0**
MBDF				*e*Sg	**Sb**	**12 17 21.5**	**+0.2**
	0.7nm,0.2s						
MBDF	**Montbardon**	**1.64**	**202**	*e*Pg	**Pb**	**12 17 00.3**	**0.0**
MBDF				*e*Sg	**Sb**	**12 17 21.5**	**+0.2**
	0.3nm,0.2s						
HINF	**Hinteralfeld**	**1.65**	**342**	*e*Pg	**Pb**	**12 17 00.4**	**-0.1**
HINF				*e*Sg	**Sb**	**12 17 22.2**	**+0.6**
	1.5nm,0.2s						
HINF	**Hinteralfeld**	**1.65**	**342**	*e*Pg	**Pb**	**12 17 00.4**	**-0.1**
HINF				*e*Sg	**Sb**	**12 17 22.2**	**+0.6**
	0.8nm,0.2s						

ORIF	**Oris-en-Rattie**	**1.81**	**223**	*e*Sg	**Sb**	**12**	**17**	**26.8**	**+0.6**
	1.2nm,0.3s								
ORIF	**Oris-en-Rattie**	**1.81**	**223**	*e*Sg	**Sb**	**12**	**17**	**26.8**	**+0.6**
	0.6nm,0.3s								
HAU	**Haudompre**	**1.96**	**334**	*e*Pn	**Pn**	**12**	**17**	**01.9**	**-1.5**
HAU				*e*Sg	**Sb**	**12**	**17**	**31.6**	**+1.2**
	2.1nm,0.3s								
HAU	**Haudompre**	**1.96**	**334**	*e*Pn	**Pn**	**12**	**17**	**01.9**	**-1.5**
HAU				*e*Sg	**Sb**	**12**	**17**	**31.6**	**+1.2**
	1.0nm,0.3s								
VIVF	**Saint-Julien-l**	**2.50**	**237**	*e*Sg	**Sg**	**12**	**17**	**48.3**	**-1.6**
	1.3nm,0.2s								
VIVF	**Saint-Julien-l**	**2.50**	**237**	*e*Sg	**Sg**	**12**	**17**	**48.3**	**-1.6**
	0.6nm,0.2s								

*ISCJB **24** 12:16:31.8±0.5,21.°84S±0.°07×176.°43W±0.°09,h137^{km}, mb4.2/11, Error ellipse: s-maj=13.1km s-min=6.9km az=34.9*
*IDC **24** 12:16:31.4±3.4,21.°75S×176.°43W,h118^{km}±28^{km},mb3.9/7, mb1 4.1/9,mb1mx3.8/28,mbtmp4.3/9,Error ellipse: s-maj=41.2km s-min=16.4km az=135.0*
*NEIC **24** 12:16:33.7±1.2,21.°82S×176.°39W,h142^{km}±11^{km},mb4.3/6, Error ellipse: s-maj=17.4km s-min=7.6km az=135.0*

ISC 24 12:16:33.0±0.6,**21.°90S**±0.°08×**176.°3W**±0.°1,**h137**^{km},**n75**, σ1§**16**/**75**,**mb4.2**/**10**,**5C-5D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.60**	**66**	P	**Pn**	**12 18 10.1**	**+2.4**
	baz=5.0,SNR=10						
AFI	**Afiamalu**	**9.04**	**29**	*e*Pn	**Pn**	**12 18 40.7**	**+0.2**
AFI				*e*Sn	**Sn**	**12 20 20.0**	**-0.7**
AFI	**Afiamalu**	**9.04**	**29**	P	**Pn**	**12 18 38.0**	**-2.5**
	3.4nm,0.3s,baz=270,slow=19,SNR=3.6						
AFI				S	Sn	12 20 09.0	-12
	2.2nm,0.3s,baz=73,slow=19,SNR=2.5						
DZM	**Mont Dzumac**	**16.01**	**266**	*e*P	**P**	**12 20 15.3**	**+3.9**
	6.9nm,0.8s						
DZM	**Mont Dzumac**	**16.01**	**266**	P	**P**	**12 20 15.8**	**+4.4**
	0.6nm,0.3s,baz=66,slow=20,SNR=8.9						
HAZ	**Te Kaha**	**16.61**	**197**	PN	**P**	**12 20 17.9**	**+0.1**
HAZ				SN	Sn	12 23 09.5	-13
MWZ	**Matawai**	**17.22**	**197**	PN	**Pn**	**12 20 25.6**	**+0.3**
MWZ				*e*SN	S	12 23 22.5	-15
URZ	**Urewera**	**17.27**	**198**	*e*P	**Pn**	**12 20 26.0**	**+0.3**
	9.5nm,0.7s						
URZ				*e*S	**S**	**12 23 33.6**	**-4.3**
URZ	**Urewera**	**17.27**	**198**	P	**Pn**	**12 20 25.6**	**-0.1**
	2.1nm,0.3s,baz=315,slow=3.8,SNR=16						
URZ				S	S	12 23 23.5	-14
	1.1nm,0.3s,baz=342,slow=20,SNR=6.1						
URZ	**Urewera**	**17.27**	**198**	PN	**P**	**12 20 24.0**	**-1.0**
URZ				SN	S	12 23 20.0	-18
BKZ	**Black Stump Fm**	**18.29**	**198**	PN	**P**	**12 20 36.2**	**-0.1**
MGCD	**Mangrove Creek**	**30.89**	**242**	P	**P**	**12 22 38.4**	**+1.7**
	baz=33,SNR=5.7						
CTAO	**Charters Tower**	**34.95**	**266**	*e*P	**P**	**12 23 12.8**	**+0.7**
	14nm,0.9s						
CMSA	**Cobar Meteorol**	**35.13**	**246**	P	**P**	**12 23 14.2**	**+0.7**
	baz=37,SNR=7.8						
QLP	**Quilpie**	**36.19**	**255**	P	**P**	**12 23 23.3**	**+0.8**
	baz=38,SNR=11						
STKA	**Stephens Creek**	**38.64**	**246**	*e*P	**P**	**12 23 43.1**	**-0.1**
	0.7nm,0.7s						
STKA	**Stephens Creek**	**38.64**	**246**	P	**P**	**12 23 43.5**	**+0.3**
	1.6nm,0.3s,baz=96,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.64**	**246**	P	**P**	**12 23 43.3**	**+0.1**
	baz=40,SNR=15						
COEN	**Coen**	**39.26**	**275**	*e*P	**P**	**12 23 48.7**	**+0.1**
	74nm,0.9s						
HTT	**Hallett**	**41.01**	**244**	P	**P**	**12 24 02.9**	**+0.1**
	baz=43,SNR=5.5						
BBOO	**Buckleboo**	**43.37**	**245**	P	**P**	**12 24 21.0**	**-0.9**
	baz=45,SNR=5.0						
AS31	**Alice Springs**	**45.76**	**258**	*e*P	**P**	**12 24 40.5**	**-0.5**
ASAR	**Alice Springs**	**45.76**	**258**	P	**P**	**12 24 40.9**	**-0.2**
ASAR				PcP	**PcP**	**12 26 16.6**	**0.0**
ASAR	**Alice Springs**	**45.76**	**258**	P	**P**	**12 24 40.9**	**-0.2**
	9.3nm,0.8s,baz=93,slow=9.6,SNR=93						
ASAR				PcP	**PcP**	**12 26 16.6**	**0.0**
	1.1nm,0.6s,baz=112,slow=3.7,SNR=7.1						
WRAB	**Tennant Creek**	**45.98**	**263**	*e*P	**P**	**12 24 42.2**	**-0.6**
	6.0nm,0.9s						
WRA	**Warramunga Arr**	**45.99**	**263**	P	**P**	**12 24 41.6**	**-1.3**
WRA				PcP	**PcP**	**12 26 17.5**	**+0.1**
WRA	**Warramunga Arr**	**45.99**	**263**	P	**P**	**12 24 41.6**	**-1.3**
	3.5nm,0.7s,baz=96,slow=8.3,SNR=94						
WRA				PcP	**PcP**	**12 26 17.5**	**+0.1**
	0.5nm,0.7s,baz=101,slow=3.3,SNR=4.1						
KDU	**Kakadu**	**49.57**	**272**	P	**P**	**12 25 09.6**	**-0.9**
	baz=52,SNR=4.2						
FORT	**Forrest**	**50.21**	**248**	*e*P	**P**	**12 25 14.1**	**-1.1**
	15nm,0.6s						
WRKA	**Warakurna**	**50.62**	**255**	P	**P**	**12 25 17.3**	**-1.1**
	baz=53,SNR=38						
KNRA	**Kununurra**	**52.16**	**267**	P	**P**	**12 25 29.2**	**-0.6**
	baz=54,SNR=4.0						
MJAR	**Matsushiro Arr**	**72.27**	**323**	P	**P**	**12 27 42.4**	**-1.1**
MJAR	**Matsushiro Arr**	**72.27**	**323**	P	**P**	**12 27 42.4**	**-1.1**
	1.6nm,0.3s,baz=159,slow=6.6,SNR=5.5						
PETK	**Petropavlovsk-**	**78.03**	**344**	P	**P**	**12 28 15.8**	**-0.3**
PETK	**Petropavlovsk-**	**78.03**	**344**	P	**P**	**12 28 15.8**	**-0.3**
	3.9nm,0.8s,baz=123,slow=9.2,SNR=3.8						
H03N2	**Juan Fernandez**	**84.04**	**124**	T	T	14 01 17.9	
	baz=246,slow=74,SNR=7.5						
H03N3	**Juan Fernandez**	**84.04**	**124**	T	T	14 01 14.5	
	baz=246,slow=74,SNR=10						
H03N1	**Juan Fernandez**	**84.06**	**124**	T	T	14 01 16.3	
	baz=246,slow=74,SNR=15						
ILAR	**Eielson Array**	**89.33**	**12**	P	**P**	**12 29 13.3**	**+0.1**
ILAR	**Eielson Array**	**89.33**	**12**	P	**P**	**12 29 13.3**	**+0.1**
	0.5nm,0.6s,baz=218,slow=6.0,SNR=14						
YKA	**Yellowknife Ar**	**97.12**	**24**	P	Pdif	12 29 49.8	+0.6
YKA	**Yellowknife Ar**	**97.12**	**24**	P	Pdif	12 29 49.8	+0.6
	0.5nm,0.8s,baz=255,slow=4.5,SNR=11						
MKAR	**Makanchi Array**	**113.31**	**313**	PKiKP	**PKiKP**	**12 34 53.4**	**-1.0**
MKAR	**Makanchi Array**	**113.31**	**313**	PKiKP	**PKiKP**	**12 34 53.4**	**-1.0**
	0.4nm,0.7s,baz=50,slow=2.3,SNR=6.2						
KURK	**Kurchatov**	**116.09**	**317**	*e*PKPdf	**PKPdf**	**12 34 59.3**	**-0.3**
KURBB	**Kurchatov Arra**	**116.14**	**317**	PKP	**PKPdf**	**12 34 59.5**	**-0.2**
	0.3nm,0.3s,baz=90,slow=2.0,SNR=5.2						
BVAR	**Borovoye Array**	**121.16**	**320**	PKP	**PKPdf**	**12 35 08.9**	**-0.4**
BVAR	**Borovoye Array**	**121.16**	**320**	PKP	**PKPdf**	**12 35 08.9**	**-0.4**
	1.0nm,0.5s,baz=96,slow=3.0,SNR=6.3						
AKTO	**Aktyubinsk**	**129.16**	**318**	PKP	**PKPdf**	**12 35 25.5**	**+0.8**
AKTO	**Aktyubinsk**	**129.16**	**318**	PKP	**PKPdf**	**12 35 25.5**	**+0.8**
	1.0nm,0.7s,baz=89,slow=2.5,SNR=3.5						
ARCES	**ARCESS Array B**	**130.57**	**350**	PKP	**PKPdf**	**12 35 26.3**	**-0.6**
ARCES	**ARCESS Array B**	**130.57**	**350**	PKP	**PKPdf**	**12 35 26.3**	**-0.6**
	2.1nm,0.8s,baz=48,slow=1.8,SNR=12						
AKASG	**Malin Array Be**	**145.00**	**331**	PKP	PKPbc	12 35 52.4	-1.0
AKASG	**Malin Array Be**	**145.00**	**331**	PKP	PKPbc	12 35 52.4	-1.0
	1.9nm,0.5s,baz=43,slow=4.1,SNR=16						
EKA	**Eskdalemuir Ar**	**146.22**	**7**	PKPbc	**PKPbc**	**12 35 56.5**	**-0.5**
EKA	**Eskdalemuir Ar**	**146.22**	**7**	PKPbc	**PKPbc**	**12 35 56.5**	**-0.5**
	0.9nm,0.6s,baz=325,slow=2.7,SNR=4.4						
BRTR	**Keskin Array B**	**148.95**	**312**	PKPbc	**PKPbc**	**12 36 04.7**	**-0.4**
BRTR	**Keskin Array B**	**148.95**	**312**	PKPbc	**PKPbc**	**12 36 04.7**	**-0.4**
	1.6nm,0.6s,baz=135,slow=5.0,SNR=7.3						
BURAR	**Bucovina Array**	**149.05**	**331**	⇑*i*P	**PKPbc**	**12 36 05.9**	**+0.9**
CLL	**Collm**	**149.76**	**348**	⇑*i*PKPbc	**PKPbc**	**12 36 07.3**	**+0.8**
	comp=Z,8.0nm,0.9s						
CLL				*e*PKPab	**PKPab**	**12 36 13.0**	**+0.8**
MMAI	**Mount Meron Ar**	**149.88**	**298**	PKPbc	**PKPbc**	**12 36 08.3**	**+0.8**
MMAI	**Mount Meron Ar**	**149.88**	**298**	PKPbc	**PKPbc**	**12 36 08.3**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=65,slow=8.5,SNR=4.9						
BRG	**Berggiesshubel**	**149.99**	**347**	*e*P	**PKPbc**	**12 36 07.7**	**+0.6**
	comp=Z,8.1nm,1.3s						
MORC	**Moravsky Berou**	**150.10**	**342**	⇓*i*P	**PKPbc**	**12 36 08.0**	**+0.5**
DOPR	**Dopca**	**150.18**	**329**	⇑*i*P	**PKPbc**	**12 36 08.9**	**+1.1**
MLR	**Muntele Rosu**	**150.25**	**328**	⇓*i*P	**PKPbc**	**12 36 08.1**	**0.0**
MLR	**Muntele Rosu**	**150.25**	**328**	PKPbc	**PKPbc**	**12 36 07.8**	**-0.3**
MLR	**Muntele Rosu**	**150.25**	**328**	PKPbc	**PKPbc**	**12 36 07.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=355,slow=9.2,SNR=6.3						
VOIR		**150.73**	**328**	⇓*i*P	**PKPbc**	**12 36 10.0**	**+0.8**
DRGR		**150.78**	**333**	⇑*i*P	**PKPbc**	**12 36 09.5**	**+0.3**
ARR	**Arges**	**150.98**	**329**	⇓*i*P	**PKPbc**	**12 36 11.2**	**+1.5**
GZR	**Gura Zlata**	**151.83**	**331**	⇓*i*P	**PKPbc**	**12 36 11.9**	**+0.2**
GERES	**GERESS Array B**	**151.95**	**346**	PKPbc	**PKPbc**	**12 36 12.3**	**+0.5**
GERES	**GERESS Array B**	**151.95**	**346**	PKPbc	**PKPbc**	**12 36 12.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=355,slow=1.5,SNR=5.7						
BZS	**Buzias**	**152.17**	**332**	⇑*i*P	**PKPbc**	**12 36 12.7**	**+0.4**

*ISCJB **24** 12:48:52.1±0.8,31.°58S±0.°04×69.°49W±0.°04,h119^{km}±8^{km}, Error ellipse: s-maj=7.5km s-min=3.7km az=135.3*
*GUC **24** 12:48:52.2±0.3,31.°60S×70.°00W,h159^{km}±5^{km},MD3.5, ML3.8*
*SJA **24** 12:48:52.5±1.1,31.°60S×69.°45W,h111^{km}±6^{km},ML3.3, MW3.6*

ISC 24 12:48:52.7±1.5,**31.°58S**±0.°04×**69.°50W**±0.°04, **h115**^{km}±11^{km},**n24**,σ0§**69**/**39**,**4C,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.28**	**141**	*e*P	**Pn**	**12 49 09.3**	**0.0**
AUSP	**Uspallata**	**0.65**	**172**	*e*P	**Pn**	**12 49 11.6**	**+0.1**
AUSP				*i* S	**Sn**	**12 49 25.4**	**-0.3**
AMOG	**MOGNA**	**1.07**	**54**	*i* P	**Pn**	**12 49 15.2**	**+0.1**
AMOG				*i* S4		12 49 30.6	
CFAA	**Coronel Fontan**	**1.08**	**92**	*i* P	**Pn**	**12 49 15.0**	**-0.1**
CFAA				*i* S	**Sn**	**12 49 31.8**	**-0.3**
ASAL	**Salagasta**	**1.15**	**151**	*e*P	**Pn**	**12 49 16.4**	**+0.5**
ARCO	**CERRO ARCO**	**1.35**	**159**	*e*P	**Pn**	**12 49 18.6**	**+0.4**
ARCO				*e*S	**Sn**	**12 49 37.4**	**-0.1**
ARCO				IAML		12 49 40.1	
	comp=Z,541nm,0.7s						
CMCH	**Combarbala**	**1.35**	**287**	*e*P	**Pn**	**12 49 17.7**	**-0.4**
CMCH				*e*S	**Sn**	**12 49 37.3**	**-0.1**
AAGR	**Agrelo**	**1.60**	**159**	*e*P	**Pn**	**12 49 21.5**	**+0.4**
AVFE	**Valle Fertil**	**1.98**	**63**	*e*P	**Pn**	**12 49 25.6**	**-0.1**
AVFE				*i* S	**Sn**	**12 49 51.0**	**0.0**
AVFE				IAML		12 49 53.8	
	comp=Z,94nm,0.2s						
CLCH	**Cerro Calan**	**2.01**	**206**	⇑*i*P	**Pn**	**12 49 26.6**	**+0.5**
CLCH				*i* S	**Sn**	**12 49 52.8**	**+1.2**
CLCH				AML	AML	12 49 54.4	
	comp=E,591nm,0.5s						
ACAN	**Cantantal**	**2.08**	**110**	*e*P	**Pn**	**12 49 27.1**	**+0.2**
ACAN				*i* S	**Sn**	**12 49 53.0**	**-0.2**
SAN	**Santiago**	**2.11**	**207**	⇑*i*P	**Pn**	**12 49 27.6**	**+0.4**
SAN				*i* S	**Sn**	**12 49 54.3**	**+0.5**
ANTU	**Antumapu**	**2.20**	**205**	⇑*i*P	**Pn**	**12 49 28.8**	**+0.3**
ANTU				*i* S	**Sn**	**12 49 56.6**	**+0.7**
ANTU				AML	AML	12 49 58.2	
	comp=E,485nm,0.3s						
PCH	**Pirque**	**2.21**	**203**	*i* P	**Pn**	**12 49 29.2**	**+0.6**
PCH				*i* S	**Sn**	**12 49 57.4**	**+1.3**
AGUA	**GUANDACOL**	**2.26**	**23**	*e*P	**Pn**	**12 49 30.3**	**+1.0**
AGUA				*e*S	**Sn**	**12 49 58.4**	**+1.0**
TACH	**Talagante**	**2.40**	**210**	⇑*i*P	**Pn**	**12 49 30.5**	**-0.4**
TACH				*i* S	**Sn**	**12 49 59.8**	**-0.5**
ACHE	**Chepes**	**2.46**	**81**	*e*P	**Pn**	**12 49 31.7**	**-0.2**
ACHE				*i* S	**Sn**	**12 50 01.3**	**-0.7**
**

ASAR	**Alice Springs**	**129.11**	**206**	PKP	**PKPdf**	**13**	**25**	**43.5 -1.1**
	comp=E,0.5nm,1.0s,baz=132,slow=1.2,SNR=2.9							
WRA	**Warramunga Arr**	**132.24**	**208**	PKP	**PKPdf**	**13**	**25**	**50.1 -0.4**
	comp=E,0.7nm,1.1s,baz=146,slow=1.6,SNR=4.7							
MKAR	**Makanchi Array**	**146.11**	**38**	PKPbc	**PKPbc**	**13**	**26**	**16.1 +0.1**
	comp=E,0.5nm,0.8s,baz=328,slow=4.3,SNR=6.3							

NIED ***24*** *13:10:00,35˚.50N×140˚.40E,h44km,Mw3.8 Best double couple: M₀6.15000×10¹⁴ NP1:φs112.00000°,δ49.00000°, λ124.00000°. NP2:φs246.00000°,δ51.00000°,λ57.00000°.*

ISCJB ***24*** *13:10:03.1±0.4,35˚.51N±0˚.04×140˚.39E±0˚.06,h44km±4km, mb3.6/8,Error ellipse: s-maj=8.4km s-min=5.9km az=159.9*

JMA ***24*** *13:10:03.6±0.1,35˚.54N×140˚.37E,h36km±1km,M3.4 Broadband fault plane solution: P waves. NP1: φs237.00000°,δ56.00000°,λ47.00000°. NP2: φs117.00000°,δ53.00000°,λ136.00000°. Principal axes: T Plg55.0000°, Azm89.0000°; N Plg35.0000°, Azm265.0000°; P Plg2.0000°, Azm356.0000°;*

JMA Felt II J1.

IDC ***24*** *13:10:05.0±4.0,35˚.34N×140˚.29E,h44km±38km,mb3.4/8, mb1 3.6/9,mb1mx3.4/27,mbtmp3.6/9,ML3.3/1,MS2.7/1, Ms1 2.7/1,ms1mx2.3/22 Error ellipse: s-maj=32.4km s-min=20.7km az=96.0*

ISC 24 13:10:04.0±0.9,35˚.53N±0˚.03×140˚.40E±0˚.05,h33km±3km, n25,σ1s06/27,mb3.6/8,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.20**	**235**	⇑P	**Pn**	**13 10 10.7**	**+0.8**
JCN				eS	**Sb**	**13 10 14.9**	**-0.1**
I30JP	**ISUMI INFRASON**	**0.23**	**197**	P	**Pn**	**13 10 10.9**	**+0.2**
	baz=0.3,slow=202						
I30JP				S	**Sb**	**13 10 17.2**	**+1.5**
KTR	**Katsuura**	**0.39**	**190**	⇓P	**Pb**	**13 10 12.4**	**-0.5**
KTR				S	**Sb**	**13 10 19.6**	**+0.6**
CHOJ	**Chosi**	**0.41**	**65**	P	**Pb**	**13 10 13.2**	**-0.1**
CHOJ				eS	**Sn**	**13 10 20.4**	**+0.3**
BSO4	**Boso 4**	**0.54**	**185**	⇓P	**Pn**	**13 10 14.8**	**-0.5**
JYT	**Yasato**	**0.71**	**347**	⇓P	**Pn**	**13 10 16.8**	**-0.9**
JYT				eS	**Sn**	**13 10 26.9**	**-0.7**
BSO3	**Boso 3**	**0.73**	**173**	⇓P	**Pn**	**13 10 16.8**	**-1.0**
BSO1	**Boso 1**	**1.00**	**151**	⇓P	**Pn**	**13 10 19.7**	**-1.4**
BSO1				eS	**Sn**	**13 10 33.1**	**-0.7**
MJAR	**Matsushiro Arr**	**2.04**	**300**	P	**Pn**	**13 10 36.8**	**+0.7**
	12nm,0.3s,baz=135,slow=14,SNR=63						
MJAR				S	**Sb**	**13 11 04.9**	**-0.6**
	10nm,0.3s,baz=152,slow=12,SNR=7.7						
MJAR				LR	LR	13 11 37.3	
	comp=Z,164nm,18.2s,baz=160,slow=45						
MAT	**Matsushiro**	**2.04**	**300**	P	**Pn**	**13 10 36.9**	**+0.8**
MAT				S	**Sn**	**13 10 59.1**	**-1.3**
ASAJ	**Asahikawa**	**8.74**	**10**	P	**Pn**	**13 12 07.8**	**-0.2**
	0.8nm,0.3s,baz=170,slow=20,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**28.14**	**117**	T	T	13 45 17.8	
	baz=312,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.15**	**117**	T	T	13 45 07.5	
	baz=312,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**28.16**	**117**	T	T	13 45 23.1	
	baz=312,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.79**	**119**	T	T	13 45 51.3	
	baz=315,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.79**	**119**	T	T	13 45 53.2	
	baz=315,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.80**	**119**	T	T	13 45 52.1	
	baz=315,slow=75,SNR=26						
ZALV	**Zalesovo Beam**	**42.34**	**314**	P	**P**	**13 17 54.6**	**+0.1**
	0.9nm,0.6s,baz=98,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**44.24**	**303**	P	**P**	**13 18 09.7**	**-0.4**
	0.3nm,0.6s,baz=68,slow=9.8,SNR=8.2						
ILAR	**Eielson Array**	**51.20**	**32**	P	**P**	**13 19 03.9**	**+0.2**
	0.5nm,0.8s,baz=278,slow=6.2,SNR=5.2						
WRA	**Warramunga Arr**	**55.47**	**187**	P	**P**	**13 19 33.2**	**-2.3**
	0.6nm,0.4s,baz=3.9,slow=7.4,SNR=7.1						
INK	**Inuvik**	**56.09**	**27**	P	**P**	**13 19 41.9**	**+2.5**
	0.4nm,0.5s,baz=311,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**59.20**	**187**	P	**P**	**13 20 00.9**	**-0.9**
	0.2nm,0.5s,baz=4.3,slow=7.0,SNR=4.9						
ARCES	**ARCESS Array B**	**65.11**	**339**	P	**P**	**13 20 42.1**	**+1.1**
	2.1nm,0.9s,baz=69,slow=7.8,SNR=3.1						
PDAR	**Pinedale Array**	**79.31**	**45**	P	**P**	**13 22 06.9**	**+0.3**
	0.2nm,0.6s,baz=257,slow=2.4,SNR=2.2						

BJI ***24*** *13:18:09.9,39˚.26N×20˚.70E,h27km,mb4.2/6*

IDC ***24*** *13:18:12.8±0.5,39˚.28N×21˚.48E,h0km,mb4.2/21, mb1 4.3/28,mb1mx4.2/49,mbtmp4.2/28,ML4.0/7,MS3.2/10, Ms1 3.2/10,ms1mx3.0/46,Error ellipse: s-maj=11.9km s-min=10.3km az=106.0*

MOS ***24*** *13:18:13.6±0.9,39˚.35N×21˚.47E,h14km,mb4.4/36,Error ellipse: s-maj=4.7km s-min=3.0km az=99.6*

SOF ***24*** *13:18:13.6,39˚.33N×21˚.57E,h5km,MD3.5*

BEO ***24*** *13:18:13.0±3.7,39˚.25N×21˚.57E,h0km,ML3.9/5*

ATH ***24*** *13:18:13.9,39˚.35N×21˚.45E,h22km,MD3.9/47,ML3.9*

THE ***24*** *13:18:14.6,39˚.38N×21˚.46E,h0km±2km,ML4.2/12,Error ellipse: s-maj=2.7km s-min=0.8km az=226.0*

CSEM ***24*** *13:18:14.9±0.1,39˚.33N×21˚.48E,h10km,mb4.3/36,Ms2.9, Error ellipse: s-maj=2.3km s-min=1.7km az=49.0*

PDG ***24*** *13:18:14.6±0.6,39˚.38N×21˚.47E,h12km,ML4.0/12,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

TIR ***24*** *13:18:15.5,39˚.34N×21˚.42E,h12km,ML4.2*

ISCJB ***24*** *13:18:15.1±0.2,39˚.35N±0˚.01×21˚.45E±0˚.01,h25km±2km, mb4.2/47,MS3.4/5,Error ellipse: s-maj=2.2km s-min=1.6km az=43.8*

NEIC ***24*** *13:18:15.0±0.2,39˚.36N×21˚.50E,h10km,mb4.3/17, ML4.2(THE),Error ellipse: s-maj=3.1km s-min=2.4km az=218.0*

ISC 24 13:18:15.3±0.8,39˚.36N±0˚.01×21˚.45E±0˚.01,h15km±5km, n784,σ1s25/895,mb4.3/47,MS3.5/5,47C-25D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.46**	**338**	P	**Pg**	**13 18 23.5**	**-1.1**
MEV	**Metsovon**	**0.46**	**338**	P	**Pg**	**13 18 23.5**	**-1.1**
MEV	**Metsovon**	**0.46**	**338**	P	**Pg**	**13 18 23.5**	**-1.1**
THL	**Klokotos Trika**	**0.48**	**64**	P	**Pg**	**13 18 24.3**	**-0.6**
THL	**Klokotos Trika**	**0.48**	**64**	ePB	**Pg**	**13 18 24.4**	**-0.5**
THL				eSB	**Sg**	**13 18 30.8**	**-0.6**
THL	**Klokotos Trika**	**0.48**	**64**	P	**Pg**	**13 18 24.3**	**-0.6**
THL				eSb	**Sg**	**13 18 30.8**	**-0.6**
THL				S	**Sb**	**13 18 32.2**	**-0.1**
EVR	**Evrytania**	**0.52**	**148**	P	**Pg**	**13 18 23.9**	**-1.7**
EVR				S	**Sg**	**13 18 32.0**	**-0.6**
EVR	**Evrytania**	**0.52**	**148**	ePN	**Pg**	**13 18 24.0**	**-1.7**
EVR				eSN	**Sg**	**13 18 31.0**	**-1.6**
EVR	**Evrytania**	**0.52**	**148**	P	**Pg**	**13 18 23.9**	**-1.7**
EVR				S	**Sg**	**13 18 32.0**	**-0.6**
EVR	**Evrytania**	**0.52**	**148**	P	**Pg**	**13 18 23.9**	**-1.7**
EVR				eSn	**Sg**	**13 18 31.0**	**-1.6**
EVR				S	**Sg**	**13 18 32.0**	**-0.6**
JAN	**Janina**	**0.55**	**303**	P	**Pg**	**13 18 24.4**	**-1.9**
JAN	**Janina**	**0.55**	**303**	P	**Pg**	**13 18 24.4**	**-1.9**
JAN	**Janina**	**0.55**	**303**	ePN	**Pg**	**13 18 24.9**	**-1.4**
JAN	**Janina**	**0.55**	**303**	P	**Pg**	**13 18 24.4**	**-1.9**
JAN	**Janina**	**0.55**	**303**	P	**Pg**	**13 18 24.4**	**-1.9**
JAN	**Janina**	**0.55**	**303**	ePn	**Pg**	**13 18 24.9**	**-1.4**
MAKR	**Makrakomi, Fth**	**0.63**	**123**	P	**Pg**	**13 18 26.6**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.63**	**123**	ePN	**Pg**	**13 18 27.2**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.63**	**123**	P	**Pg**	**13 18 26.6**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.63**	**123**	P	**Pg**	**13 18 26.6**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.63**	**123**	ePn	**Pg**	**13 18 27.2**	**-0.5**
MAKR				S	**Sb**	**13 18 36.5**	**-0.1**
PVO	**Paravola**	**0.74**	**176**	P	**Pg**	**13 18 27.9**	**-1.9**
PVO	**Paravola**	**0.74**	**176**	P	**Pg**	**13 18 27.9**	**-1.9**
PVO				S	**Sb**	**13 18 39.9**	**+0.1**
AGG	**Agios Georgios**	**0.76**	**116**	P	**Pg**	**13 18 28.8**	**-1.3**
AGG				S	**Sb**	**13 18 41.4**	**+1.0**
AGG	**Agios Georgios**	**0.76**	**116**	P	**Pg**	**13 18 28.8**	**-1.3**
AGG				S	**Sb**	**13 18 41.4**	**+1.0**
AGG	**Agios Georgios**	**0.76**	**116**	ePN	**Pg**	**13 18 29.1**	**-1.0**
AGG	**Agios Georgios**	**0.76**	**116**	P	**Pg**	**13 18 28.8**	**-1.3**
AGG				S	**Sb**	**13 18 41.4**	**+1.0**
AGG	**Agios Georgios**	**0.76**	**116**	P	**Pg**	**13 18 28.8**	**-1.3**
AGG	**Agios Georgios**	**0.76**	**116**	ePn	**Pg**	**13 18 29.1**	**-1.0**
PDO	**Prodromos**	**0.79**	**196**	P	**Pg**	**13 18 28.9**	**-1.7**
PDO	**Prodromos**	**0.79**	**196**	ePN	**Pg**	**13 18 29.2**	**-1.4**
PDO				S	**Sg**	**13 18 41.0**	**0.0**
LKD2	**Lefkada island**	**0.84**	**228**	P	**Pb**	**13 18 29.9**	**-1.7**
LKD2	**Lefkada island**	**0.84**	**228**	ePN	**Pb**	**13 18 29.9**	**-1.7**
LKD2	**Lefkada island**	**0.84**	**228**	P	**Pb**	**13 18 29.9**	**-1.7**
LKD2	**Lefkada island**	**0.84**	**228**	P	**Pb**	**13 18 29.9**	**-1.7**
LKD2				S	**Sb**	**13 18 42.5**	**-0.2**
IGT	**Igoumenitsa**	**0.89**	**282**	P	**Pb**	**13 18 30.7**	**-1.6**
IGT				S	**Sb**	**13 18 43.8**	**-0.2**
IGT	**Igoumenitsa**	**0.89**	**282**	P	**Pb**	**13 18 30.7**	**-1.6**
IGT				S	**Sb**	**13 18 43.8**	**-0.2**
IGT	**Igoumenitsa**	**0.89**	**282**	ePN	**Pb**	**13 18 30.6**	**-1.7**
IGT	**Igoumenitsa**	**0.89**	**282**	P	**Pb**	**13 18 30.7**	**-1.6**
IGT				S	**Sb**	**13 18 43.8**	**-0.2**
IGT	**Igoumenitsa**	**0.89**	**282**	P	**Pb**	**13 18 30.7**	**-1.6**
IGT				S	**Sb**	**13 18 43.3**	**-0.7**
KZN	**Kozani**	**0.98**	**14**	P	**Pb**	**13 18 32.0**	**-2.0**
KZN				S	**Sg**	**13 18 47.7**	**+0.5**
KZN	**Kozani**	**0.98**	**14**	P	**Pb**	**13 18 32.0**	**-2.0**
KZN				S	**Sg**	**13 18 47.7**	**+0.5**
KZN	**Kozani**	**0.98**	**14**	ePB	**Pb**	**13 18 32.2**	**-1.8**
KZN	**Kozani**	**0.98**	**14**	P	**Pb**	**13 18 32.0**	**-2.0**
KZN				S	**Sg**	**13 18 47.7**	**+0.5**
KZN	**Kozani**	**0.98**	**14**	ePb	**Pb**	**13 18 32.2**	**-1.8**
KZN				S	**Sg**	**13 18 47.5**	**+0.3**
EFP	**Efpalio**	**0.99**	**159**	P	**Pb**	**13 18 32.5**	**-1.7**
EFP	**Efpalio**	**0.99**	**159**	ePN	**Pb**	**13 18 32.6**	**-1.7**
EFP	**Efpalio**	**0.99**	**159**	P	**Pb**	**13 18 32.5**	**-1.7**
LIT	**Litokhoron**	**1.09**	**47**	P	**Pb**	**13 18 34.7**	**-1.2**
LIT				S	**Sn**	**13 18 52.1**	**+1.2**
LIT	**Litokhoron**	**1.09**	**47**	P	**Pb**	**13 18 34.7**	**-1.2**
LIT				S	**Sn**	**13 18 52.1**	**+1.2**
LIT	**Litokhoron**	**1.09**	**47**	ePN	**Pb**	**13 18 35.0**	**-0.9**
LIT	**Litokhoron**	**1.09**	**47**	P	**Pb**	**13 18 34.7**	**-1.2**
LIT				S	**Sn**	**13 18 52.1**	**+1.2**
LIT	**Litokhoron**	**1.09**	**47**	P	**Pb**	**13 18 34.7**	**-1.2**
LIT	**Litokhoron**	**1.09**	**47**	ePn	**Pb**	**13 18 35.0**	**-0.9**
LIT				S	**Sn**	**13 18 50.8**	**-0.1**
NEST	**Nestorio**	**1.10**	**344**	P	**Pb**	**13 18 34.9**	**-1.2**
NEST	**Nestorio**	**1.10**	**344**	ePN	**Pb**	**13 18 35.7**	**-0.4**
NEST	**Nestorio**	**1.10**	**344**	P	**Pb**	**13 18 34.9**	**-1.2**
NEST	**Nestorio**	**1.10**	**344**	ePn	**Pb**	**13 18 35.7**	**-0.4**
UPR	**University Cam**	**1.10**	**166**	P	**Pn**	**13 18 36.3**	**+0.1**
UPR	**University Cam**	**1.10**	**166**	P	**Pn**	**13 18 36.3**	**+0.1**
KALE	**Kalithea**	**1.10**	**151**	P	**Pb**	**13 18 34.3**	**-1.8**
KALE	**Kalithea**	**1.10**	**151**	ePN	**Pb**	**13 18 34.5**	**-1.7**
KALE	**Kalithea**	**1.10**	**151**	P	**Pb**	**13 18 34.3**	**-1.8**
KALE	**Kalithea**	**1.10**	**151**	P	**Pb**	**13 18 34.4**	**-1.7**
KALE				S	**Sb**	**13 18 50.2**	**-0.1**
AXAR	**Agios Charalam**	**1.11**	**122**	P	**Pb**	**13 18 35.1**	**-1.1**
AXAR				S	**Sn**	**13 18 52.1**	**+0.8**
AXAR	**Agios Charalam**	**1.11**	**122**	ePN	**Pb**	**13 18 35.6**	**-0.6**
AXAR	**Agios Charalam**	**1.11**	**122**	P	**Pb**	**13 18 35.1**	**-1.1**
AXAR				S	**Sn**	**13 18 52.1**	**+0.8**
AXAR	**Agios Charalam**	**1.11**	**122**	P	**Pb**	**13 18 35.1**	**-1.1**
AXAR	**Agios Charalam**	**1.11**	**122**	ePn	**Pb**	**13 18 35.6**	**-0.6**
AXAR				S	**Sn**	**13 18 51.4**	**+0.1**
LAKA	**Lakka**	**1.19**	**160**	P	**Pn**	**13 18 37.3**	**-0.1**
LAKA	**Lakka**	**1.19**	**160**	ePN	**Pn**	**13 18 36.5**	**-0.9**
LAKA	**Lakka**	**1.19**	**160**	P	**Pn**	**13 18 37.3**	**-0.1**
LAKA	**Lakka**	**1.19**	**160**	P	**Pn**	**13 18 36.3**	**-1.1**
SRN	**Sarande**	**1.24**	**295**	*i* PG	**Pn**	**13 18 38.0**	**+0.1**
SRN				*i* SG	**Sb**	**13 18 54.1**	**0.0**
SRN	**Sarande**	**1.24**	**295**	P	**Pn**	**13 18 38.1**	**+0.1**
SRN	**Sarande**	**1.24**	**295**	P	**Pn**	**13 18 38.1**	**+0.1**
SRN	**Sarande**	**1.24**	**295**	P	**Pn**	**13 18 38.1**	**+0.1**
SRN				*i* Sg	**Sb**	**13 18 54.1**	**0.0**
DSF	**Desfina**	**1.26**	**138**	P	**Pn**	**13 18 36.8**	**-1.6**
DSF				S	**Sg**	**13 18 56.1**	**0.0**
DSF	**Desfina**	**1.26**	**138**	ePN	**Pn**	**13 18 37.7**	**-0.7**
DSF	**Desfina**	**1.26**	**138**	P	**Pn**	**13 18 36.8**	**-1.6**
DSF				S	**Sg**	**13 18 56.1**	**0.0**
DSF	**Desfina**	**1.26**	**138**	ePn	**Pn**	**13 18 37.7**	**-0.7**
DSF				S	**Sg**	**13 18 56.1**	**0.0**
RLS	**Riolos of Patr**	**1.30**	**180**	P	**Pn**	**13 18 38.2**	**-0.6**
RLS	**Riolos of Patr**	**1.30**	**180**	ePN	**Pn**	**13 18 38.3**	**-0.6**
RLS	**Riolos of Patr**	**1.30**	**180**	P	**Pn**	**13 18 38.2**	**-0.6**
RLS	**Riolos of Patr**	**1.30**	**180**	ePn	**Pn**	**13 18 38.3**	**-0.6**
KEK	**Kerkira**	**1.33**	**286**	P	**Pn**	**13 18 38.6**	**-0.7**
KEK				S	**Sg**	**13 18 59.5**	**+1.3**
KEK	**Kerkira**	**1.33**	**286**	ePN	**Pn**	**13 18 39.2**	**-0.1**
KEK	**Kerkira**	**1.33**	**286**	P	**Pn**	**13 18 38.6**	**-0.7**
KEK				S	**Sg**	**13 18 59.5**	**+1.3**
KEK	**Kerkira**	**1.33**	**286**	P	**Pn**	**13 18 38.6**	**-0.7**
KEK	**Kerkira**	**1.33**	**286**	ePn	**Pn**	**13 18 39.2**	**-0.1**
KFL	**Anninata**	**1.35**	**203**	P	**Pn**	**13 18 38.7**	**-0.9**
KFL	**Anninata**	**1.35**	**203**	P	**Pn**	**13 18 38.7**	**-0.9**
VLS	**Valsamata**	**1.36**	**210**	P	**Pn**	**13 18 38.0**	**-1.7**
VLS	**Valsamata**	**1.36**	**210**	P	**Pn**	**13 18 38.0**	**-1.7**
VLS	**Valsamata**	**1.36**	**210**	P	**Pn**	**13 18 38.0**	**-1.7**
VLS	**Valsamata**	**1.36**	**210**	P	**Pn**	**13 18 38.0**	**-1.7**
KBN	**Korca**	**1.36**	**338**	*i* PG	**Pb**	**13 18 40.3**	**-0.2**
KBN				*i* SG	**Sb**	**13 18 58.2**	**+0.4**
KBN	**Korca**	**1.36**	**338**	P	**Pn**	**13 18 40.2**	**+0.3**
KBN	**Korca**	**1.36**	**338**	P	**Pn**	**13 18 40.2**	**+0.3**
KBN	**Korca**	**1.36**	**338**	P	**Pn**	**13 18 40.2**	**+0.3**
KBN	**Korca**	**1.36**	**338**	P	**Pn**	**13 18 40.2**	**+0.3**
KBN				*i* Sg	**Sb**	**13 18 58.2**	**+0.4**
NEO	**Neokhori**	**1.37**	**92**	P	**Pn**	**13 18 39.6**	**-0.3**
NEO	**Neokhori**	**1.37**	**92**	ePN	**Pn**	**13 18 39.7**	**-0.2**
NEO	**Neokhori**	**1.37**	**92**	P	**Pn**	**13 18 39.6**	**-0.3**
NEO	**Neokhori**	**1.37**	**92**	ePn	**Pn**	**13 18 39.7**	**-0.2**
LKR	**Lokris**	**1.40**	**120**	P	**Pb**	**13 18 40.6**	**-0.5**
LKR	**Lokris**	**1.40**	**120**	ePN	**Pn**	**13 18 40.4**	**+0.2**
LKR	**Lokris**	**1.40**	**120**	P	**Pb**	**13 18 40.6**	**-0.5**
LKR	**Lokris**	**1.40**	**120**	ePn	**Pn**	**13 18 40.4**	**+0.2**
DRO	**Drossia**	**1.42**	**172**	P	**Pn**	**13 18 40.1**	**-0.4**
DRO	**Drossia**	**1.42**	**172**	ePN	**Pn**	**13 18 40.2**	**-0.3**
DRO	**Drossia**	**1.42**	**172**	P	**Pn**	**13 18 40.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.42**	**157**	P	**Pn**	**13 18 40.9**	**+0.3**
KLV	**Kalavryta, Ach**	**1.42**	**157**	ePN	**Pn**	**13 18 40.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.42**	**157**	P	**Pn**	**13 18 40.9**	**+0.3**
KLV	**Kalavryta, Ach**	**1.42**	**157**	ePn	**Pn**	**13 18 40.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.42**	**157**	P	**Pn**	**13 18 40.9**	**+0.3**
FNA	**Florina**	**1.43**	**358**	P	**Pn**	**13 18 40.6**	**-0.1**
FNA				S	**Sg**	**13 19 01.4**	**0.0**
FNA	**Florina**	**1.43**	**358**	P	**Pn**	**13 18 40.6**	**-0.1**
FNA	**Florina**	**1.43**	**358**	ePN	**Pn**	**13 18 40.7**	**0.0**
FNA	**Florina**	**1.43**	**358**	P	**Pn**	**13 18 40.6**	**-0.1**
FNA	**Florina**	**1.43**	**358**	ePn	**Pn**	**13 18 40.7**	**0.0**
FNA				S	**Sg**	**13 19 01.4**	**0.0**
SMIA	**Simia**	**1.45**	**109**	P	**Pn**	**13 18 40.7**	**-0.2**
SMIA	**Simia**	**1.45**	**109**	P	**Pn**	**13 18 40.7**	**-0.2**
SKIA	**Skiathos**	**1.57**	**96**	P	**Pn**	**13 18 42.9**	**+0.2**
SKIA	**Skiathos**	**1.57**	**96**	P	**Pn**	**13 18 42.9**	**+0.2**
GUR	**Goura**	**1.58**	**154**	P	**Pn**	**13 18 43.1**	**+0.3**
GUR	**Goura**	**1.58**	**154**	ePN	**Pn**	**13 18 43.2**	**+0.4**
GUR	**Goura**	**1.58**	**154**	P	**Pn**	**13 18 43.1**	**+0.3**
GUR	**Goura**	**1.58**	**154**	P	**Pn**	**13 18 43.1**	**+0.3**
BIA	**Bitola**	**1.66**	**357**	P	**Pn**	**13 18 44.1**	**+0.2**
BIA				S	**Sg**	**13 19 08.4**	**-0.5**
BIA	**Bitola**	**1.66**	**357**	P	**Pn**	**13 18 44.1**	**+0.2**
BIA	**Bitola**	**1.66**	**357**	P	**Pn**	**13 18 44.1**	**+0.2**
BIA				S	**Sg**	**13 19 08.4**	**-0.5**
THE	**Thessaloniki**	**1.72**	**42**	P	**Pn**	**13 18 44.1**	**-0.6**
THE	**Thessaloniki**	**1.72**	**42**	P	**Pn**	**13 18 44.1**	**-0.6**
THE	**Thessaloniki**	**1.72**	**42**	ePN	**Pn**	**13 18 44.4**	**-0.3**
THE	**Thessaloniki**	**1.72**	**42**	P	**Pn**	**13 18 44.1**	**-0.6**
THE	**Thessaloniki**	**1.72**	**42**	P	**Pn**	**13 18 44.1**	**-0.6**
THE	**Thessaloniki**	**1.72**	**42**	ePn	**Pn**	**13 18 44.4**	**-0.3**
GRG	**Griva**	**1.75**	**24**	P	**Pn**	**13 18 45.1**	**-0.1**
GRG	**Griva**	**1.75**	**24**	P	**Pn**	**13 18 45.1**	**-0.1**
GRG	**Griva**	**1.75**	**24**	ePN	**Pn**	**13 18 45.2**	**0.0**
GRG	**Griva**	**1.75**	**24**	P	**Pn**	**13 18 45.1**	**-0.1**
GRG	**Griva**	**1.75**	**24**	ePn	**Pn**	**13 18 45.2**	**0.0**
HORT	**Hortiatis**	**1.77**	**45**	P	**Pn**	**13 18 45.3**	**-0.2**
HORT	**Hortiatis**	**1.77**	**45**	ePB	**Pn**	**13 18 44.8**	**-0.7**
HORT	**Hortiatis**	**1.77**	**45**	P	**Pn**	**13 18 45.3**	**-0.2**
HORT	**Hortiatis**	**1.77**	**45**	ePb	**Pn**	**13 18 44.8**	**-0.7**
HORT	**Hortiatis**	**1.77**	**45**	P	**Pn**	**13 18 45.3**	**-0.2**
LTK	**Loutraki**	**1.78**	**138**	P	**Pb**	**13 18 46.7**	**-1.0**
LTK	**Loutraki**	**1.78**	**138**	ePN	**Pn**	**13 18 46.2**	**+0.7**
LTK	**Loutraki**	**1.78**	**138**	P	**Pb**	**13 18 46.7**	**-1.0**
LTK	**Loutraki**	**1.78**	**138**	ePn	**Pn**	**13 18 46.2**	**+0.7**
LTK	**Loutraki**	**1.78**	**138**	P	**Pb**	**13 18 46.7**	**-1.0**
MRKA	**Markates**	**1.79**	**111**	P	**Pn**	**13 18 45.7**	**+0.1**
MRKA	**Markates**	**1.79**	**111**	ePN	**Pn**	**13 18 45.7**	**+0.1**
MRKA	**Markates**	**1.79**	**111**	P	**Pn**	**13 18 45.7**	**+0.1**
PAIG	**Paliouri**	**1.81**	**71**	P	**Pn**	**13 18 45.0**	**-0.9**
PAIG	**Paliouri**	**1.81**	**71**	P	**Pn**	**13 18 45.0**	**-0.9**
PAIG	**Paliouri**	**1.81**	**71**	ePN	**Pn**	**13 18 45.7**	**-0.2**
PAIG	**Paliouri**	**1.81**	**71**	P	**Pn**	**13 18 45.0**	**-0.9**
PAIG	**Paliouri**	**1.81**	**71**	P	**Pn**	**13 18 45.0**	**-0.9**
PAIG	**Paliouri**	**1.81**	**71**	ePn	**Pn**	**13 18 45.7**	**-0.2**
AMT	**Artemida-Makis**	**1.83**	**174**	P	**Pb**	**13 18 48.1**	**-0.4**
AMT				S	**Sg**	**13 19 18.1**	**+3.8**
AMT	**Artemida-Makis**	**1.83**	**174**	ePN	**Pb**	**13 18 46.3**	**+0.1**
AMT	**Artemida-Makis**	**1.83**	**174**	ePn	**Pn**	**13 18 46.3**	**+0.1**
AMT	**Artemida-Makis**	**1.83**	**174**	P	**Pb**	**13 18 48.1**	**-0.4**
PLG	**Polygyros**	**1.84**	**56**	P	**Pn**	**13 18 45.7**	**-0.6**
PLG	**Polygyros**	**1.84**	**56**	P	**Pn**	**13 18 45.7**	**-0.6**
PLG	**Polygyros**	**1.84**	**56**	ePB	**Pn**	**13 18 45.7**	**-0.6**
PLG	**Polygyros**	**1.84**	**56**	P	**Pn**	**13 18 45.7**	**-0.6**
PLG	**Polygyros**	**1.84**	**56**	ePb	**Pn**	**13 18 45.7**	**-0.6**
ERET	**Eretria**	**2.05**	**116**	P	**Pn**	**13 18 49.6**	**+0.3**
ERET	**Eretria**	**2.05**	**116**	P	**Pn**	**13 18 49.6**	**+0.3**
SOH	**Sokhos**	**2.06**	**44**	P	**Pn**	**13 18 49.9**	**+0.5**
SOH	**Sokhos**	**2.06**	**44**	P	**Pn**	**13 18 49.9**	**+0.5**
SOH	**Sokhos**	**2.06**	**44**	ePN	**Pn**	**13 18 50.0**	**+0.5**
SOH	**Sokhos**	**2.06**	**44**	P	**Pn**	**13 18 49.9**	**+0.5**
SOH	**Sokhos**	**2.06**	**44**	P	**Pn**	**13 18 49.9**	**+0.5**
VLX	**Vlachokerasia**	**2.11**	**160**	P	**Pb**	**13 18 53.4**	**0.0**
VLX	**Vlachokerasia**	**2.11**	**160**	P	**Pb**	**13 18 53.4**	**0.0**
KNT	**Kendrikon**	**2.12**	**31**	P	**Pn**	**13 18 50.2**	**+0.1**
KNT	**Kendrikon**	**2.12**	**31**	P	**Pn**	**13 18 50.2**	**+0.1**
KNT	**Kendrikon**	**2.12**	**31**	ePB	**Pn**	**13 18 50.2**	**+0.1**
KNT	**Kendrikon**	**2.12**	**31**	P	**Pn**	**13 18 50.2**	**+0.1**
KNT	**Kendrikon**	**2.12**	**31**	ePb	**Pn**	**13 18 50.2**	**+0.1**
VAY	**Valandovo**	**2.14**	**23**	P	**Pn**	**13 18 49.9**	**-0.5**
VAY	**Valandovo**	**2.14**	**23**	P	**Pn**	**13 18 49.9**	**-0.5**
VAY	**Valandovo**	**2.14**	**23**	ePN	**Pn**	**13 18 50.2**	**-0.2**
VAY	**Valandovo**	**2.14**	**23**	*i* P	**Pn**	**13 18 50.6**	**+0.2**
VAY	**Valandovo**	**2.14**	**23**	P	**Pn**	**13 18 49.9**	**-0.5**
VAY	**Valandovo**	**2.14**	**23**	ePn	**Pn

HCY Herceg Novi 3.81 325⇓iPn Pn 13 19 14.4 +0.9
HCY eSn Sn 13 19 59.7 +1.7
HCY Herceg Novi 3.81 325⇓iPn Pn 13 19 14.4 +0.9
HCY eSn Sn 13 19 59.7 +1.7
ALN Alexandroupoli 3.84 65 ePn Pn 13 19 14.1 +0.3
ALN Alexandroupoli 3.84 65 ePn Pn 13 19 14.1 +0.3
ENEZ Enez 3.86 68 ePN Pn 13 19 13.7 -0.4
SELS Selova 3.87 356 ePn Pn 13 19 14.5 +0.3
NKME Niksic 3.90 332⇑iPn Pn 13 19 15.6 +1.0
NKME eSn Sn 13 20 01.9 +1.8
NKME Niksic 3.90 332⇑iPn Pn 13 19 15.6 +1.0
NKME eSn Sn 13 20 01.9 +1.8
BAI Bari 3.91 298 ePn Pn 13 19 15.5 +0.7
NKY Niksic 3.92 332⇑iPn Pn 13 19 16.1 +1.1
NKY eSn Sn 13 20 02.5 +1.7
NKY Niksic 3.92 332⇑iPn Pn 13 19 16.1 +1.1
NKY eSn Sn 13 20 02.5 +1.7
APE Apeiranthos 3.94 124⇓iP Pn 13 19 16.2 +0.9
APE Apeiranthos 3.94 124 ePN Pn 13 19 16.5 +1.2
APE Apeiranthos 3.94 124⇑iP Pn 13 19 16.5 +1.2
APE Apeiranthos 3.94 124 iP Pn 13 19 16.2 +0.9
APE Apeiranthos 3.94 124 ePn Pn 13 19 16.5 +1.2
SG1 Sgolgore (BA) 3.95 294 ePn Pn 13 19 16.8 +1.5
GELI Tayfur-Gelibol 4.00 73 ePN Pn 13 19 15.4 -0.6
ZAPS Zavoj 4.01 12 ePn Pn 13 19 17.6 +1.4
SJES Sjenica 4.06 345 ePn Pn 13 19 18.1 +1.2
AYVA Ayvalik 4.06 89 iP Pn 13 19 17.6 +0.7
AYVA Ayvalik 4.06 89 iP Pn 13 19 17.6 +0.7
TREB Trebinje 4.09 326 ePn Pn 13 19 18.0 +0.7
TREB Trebinje 4.09 326 ePn Pn 13 19 18.0 +0.7
ERIK Erikli-Kesan 4.10 70 ePN Pn 13 19 16.3 -1.1
DIM Dimitrovgrad 4.11 48 iP Pn 13 19 20.4 +3.0
DIM Dimitrovgrad 4.11 48 iP Pn 13 19 20.4 +3.0
BRY Bratogost 4.17 329⇑iPn Pn 13 19 19.7 +1.2
BRY eSn Sn 13 20 08.6 +1.7
BRY Bratogost 4.17 329⇑iPn Pn 13 19 19.7 +1.2
BRY eSn Sn 13 20 08.6 +1.7
LPK Lapseki 4.21 74 ePN Pn 13 19 19.4 +0.5
PLE Pljevlja 4.26 339⇑iPn Pn 13 19 21.8 +2.1
PLE eSn Sn 13 20 10.3 +1.1
PLE Pljevlja 4.26 339⇑iPn Pn 13 19 21.8 +2.1
PLE eSn Sn 13 20 10.3 +1.1
UPM Unac-Piva 4.29 334⇑iPn Pn 13 19 21.9 +1.7
UPM eSn Sn 13 20 10.9 +0.8
UPM Unac-Piva 4.29 334⇑iPn Pn 13 19 21.9 +1.7
UPM eSn Sn 13 20 10.9 +0.8
CDT Castel del Mon 4.32 295 ePn Pn 13 19 21.4 +0.9
IVAS Ivanjica 4.33 347 ePn Pn 13 19 21.4 +0.8
IVAS Ivanjica 4.33 347 ePn Pn 13 19 21.4 +0.8
MPEP Malo Peshtene 4.35 23 iP Pn 13 19 21.5 +0.7
MPEP iS Sn 13 20 10.1 -1.1
MPEP Malo Peshtene 4.35 23 iP Pn 13 19 21.5 +0.7
MPEP iS Sn 13 20 10.1 -1.1
CUC Castrocucco 4.40 280 ePn Pn 13 19 22.8 +1.3
CUC Castrocucco 4.40 280 ePn Pn 13 19 22.8 +1.3
CEL Celeste 4.48 258 ePn Pn 13 19 22.3 -0.3
CEL Celeste 4.48 258 ePn Pn 13 19 22.3 -0.3
BOLS Boljevac 4.48 5 ePn Pn 13 19 21.9 -0.7
BOLS Boljevac 4.48 5 ePn Pn 13 19 21.9 -0.7
STON Ston 4.51 322 ePn Pn 13 19 23.6 +0.6
STON Sn Sn 13 20 14.7 -0.5
STON Ston 4.51 322 ePn Pn 13 19 23.2 +0.2
STON Ston 4.51 322 ePn Pn 13 19 23.2 +0.2
STON Sn Sn 13 20 14.6 -0.5
SMG Samos 4.53 110 ePN Pn 13 19 24.7 +1.4
SMG Samos 4.53 110 ePn Pn 13 19 24.7 +1.4
GRUS Gruza 4.56 353 ePn Pn 13 19 24.6 +0.9
GRUS Gruza 4.56 353 ePn Pn 13 19 24.6 +0.9
RKY Sarkoy-Tekirda 4.59 71 ePN Pn 13 19 23.7 -0.5
KRBG Karabiga-Canak 4.62 75 ePN Pn 13 19 25.9 +1.4
IZM Izmir 4.63 100 ePN Pn 13 19 25.9 +1.1
BBLS Lazići 4.76 342 ePn Pn 13 19 28.6 +2.1
BBLS Lazići 4.76 342 ePn Pn 13 19 28.6 +2.1
BALY Balya 4.78 83 iP Pn 13 19 27.9 +1.1
BALY Balya 4.78 83 iP Pn 13 19 27.9 +1.1
GCAM G?zelcaml? 4.83 108 iP Pn 13 19 28.9 +1.6
GCAM G?zelcaml? 4.83 108 iP Pn 13 19 28.9 +1.6
PVL Pavlikeni 4.84 36 iP Pn 13 19 26.4 -1.1
PVL Pavlikeni 4.84 36 iP Pn 13 19 26.4 -1.1
GONE Gonen-Balikesi 4.86 80 ePN Pn 13 19 29.3 +1.6
DIVS Divibare 4.86 347 ePn Pn 13 19 28.8 +0.9
DIVS Divibare 4.86 347 ePn Pn 13 19 28.8 +0.9
IDI Anoyia 4.90 145 Pn Pn 13 19 29.6 +1.2
IDI Sn Sn 13 20 24.3 -0.6
IDI Anoyia 4.90 145 Pn Pn 13 19 29.6 +1.2
3.1nm,0.3s,baz=308,slow=17,SNR=12
IDI Sn Sn 13 20 24.3 -0.6
3.5nm,0.3s,baz=299,slow=19,SNR=2.4
IDI Anoyia 4.90 145 Pn Pn 13 19 29.6 +1.2
IDI Sn Sn 13 20 24.3 -0.6
TRUS Trudelj 4.92 351 ePn Pn 13 19 28.4 -0.3
TRUS Trudelj 4.92 351 ePn Pn 13 19 28.4 -0.3
AKHS Akhisar 4.97 94 iP Pn 13 19 31.0 +1.6
AKHS Akhisar 4.97 94 iP Pn 13 19 31.0 +1.6
JMB Yambol 4.97 50⇓iP Pn 13 19 30.2 +0.8
JMB Yambol 4.97 50⇓iP Pn 13 19 30.2 +0.8
BALB Balikesir 4.98 85 ePN Pn 13 19 31.0 +1.6
CRLT Corlu 5.12 68 ePN Pn 13 19 31.7 +0.2
SZH Strazhica 5.16 39 iP Pn 13 19 32.5 +0.5
SZH Strazhica 5.16 39 iP Pn 13 19 32.5 +0.5
AYDB Zeytinkoy-Aydi 5.23 104 ePN Pn 13 19 35.7 +2.6
BDRM Kayabasi 5.24 114 iP Pn 13 19 35.5 +2.4
BDRM Kayabasi 5.24 114 iP Pn 13 19 35.5 +2.4
TEKS Tekeris 5.38 345 ePn Pn 13 19 36.6 +1.6
TEKS Tekeris 5.38 345 ePn Pn 13 19 36.6 +1.6
MANT Manisa 5.61 97 iP Pn 13 19 40.2 +1.9
DEMI Demirci 5.65 91 iP Pn 13 19 40.7 +1.9
KULA Kula-Manisa 5.68 96 ePN Pn 13 19 41.5 +2.3
YER Yerkesik 5.82 110 ePN Pn 13 19 42.7 +1.6
FGSL Fruska Gora 5.92 349 ePn Pn 13 19 43.2 +0.8
FRGS Fruska Gora 5.92 349 ePn Pn 13 19 43.2 +0.8
ULDT Uludag 5.97 80 iP Pn 13 19 44.6 +1.3
GZR Gura Zlata 6.11 9⇑iP Pn 13 19 45.6 +0.5
GZR Gura Zlata 6.11 9 S Sn 13 20 52.8 -1.9
DNZL Cakiroluk 6.18 103 iP Pn 13 19 48.9 +2.7
TVSB Tavsanli 6.20 87 ePN Pn 13 19 48.5 +2.1
GDZ Gediz 6.24 90 iP Pn 13 19 48.8 +1.8
BZS Buzias 6.26 1⇑iP Pn 13 19 47.4 +0.4
BZS Buzias 6.26 1 S Sn 13 20 55.7 -2.5
KHL Karahalli 6.38 97 ePN Pn 13 19 50.8 +1.9
MTUR Matau 6.45 23⇓iP Pn 13 19 50.6 +0.9
ARR Arges 6.45 20⇑iP Pn 13 19 50.9 +1.2
WDD Wield Dalam 6.51 240 ePn Pn 13 19 49.8 -0.7
99nm,0.5s
WDD Wield Dalam 6.51 240 ePn Pn 13 19 49.8 -0.7
99nm,0.5s
PSN Preselentsi 6.65 47⇑iP Pn 13 20 00.7 +8.4
UDBI Udbina 6.68 322 ePn Pn 13 19 54.6 +1.6
UDBI Sn Sn 13 21 08.7 0.0
UDBI Udbina 6.68 322 ePn Pn 13 19 54.5 +1.6
UDBI Sn Sn 13 21 08.7 0.0
GOLH Golhisar 6.72 106 iP Pn 13 19 57.3 +3.9
ISR Istrita 6.88 32⇑iP Pn 13 19 57.5 +1.8
SIRR Siria 6.91 1⇓iP Pn 13 19 57.8 +1.8
MLR Muntele Rosu 6.97 27⇑iP Pn 13 19 59.0 +2.1
MLR Muntele Rosu 6.97 27 Pn Pn 13 19 59.3 +2.4
MLR Sn Sn 13 21 19.3 +3.4
MLR Muntele Rosu 6.97 27 Pn Pn 13 19 59.3 +2.4
0.8nm,0.3s,baz=236,slow=2.2,SNR=20
MLR Sn Sn 13 21 19.3 +3.4
0.4nm,0.3s,baz=262,slow=19,SNR=2.6
MLR LR LR 13 23 17.6
comp=Z,90nm,21.0s,baz=180,slow=43
MLR Muntele Rosu 6.97 27 P Pn 13 19 59.3 +2.4
1.0nm,0.3s
MLR S Sn 13 21 19.3 +3.4
NVLJ Novalja 7.15 319 ePn Pn 13 19 59.8 +0.5
NVLJ Sn Sn 13 21 18.2 -1.9
NVLJ Novalja 7.15 319 ePn Pn 13 19 59.7 +0.5
PKSM Moragy 7.16 344⇓iP Pn 13 20 00.8 +1.5
PKSM Moragy 7.16 344⇑iP Pn 13 20 00.6 +1.3
PKSM Moragy 7.16 344⇑ePn Pn 13 20 00.6 +1.3
AKAS Kas 7.17 113 iP Pn 13 20 08.0 +8.3
DOPR Dopca 7.21 22⇑iP Pn 13 20 01.0 +0.9
SEYT Eskypehyr 7.28 86 iP Pn 13 20 00.6 -0.5
PLOR Plostina 7.54 29⇑iP Pn 13 20 06.6 +2.0
VRI Vrincioaia 7.58 29⇑iP Pn 13 20 07.2 +2.1
VRI Vrincioaia 7.58 29⇑iP Pn 13 20 07.2 +2.1
PKS9 Tamasi 7.59 343⇑iPn Pn 13 20 06.7 +1.4
PKS9 Tamasi 7.59 343⇑ePn Pn 13 20 06.7 +1.4

PKSN Nyarlorinc 7.62 352⇑ePn Pn 13 20 06.1 +0.4
PKSN Nyarlorinc 7.62 352⇑ePn Pn 13 20 06.1 +0.4
CFR Carcaliu 7.64 38⇑iP Pn 13 20 07.3 +1.4
CFR Carcaliu 7.64 38⇑iP Pn 13 20 07.3 +1.4
TESR Tescani 8.10 26⇑iP Pn 13 20 17.3 +5.0
PKST T"s 8.28 344 ePn Pn 13 20 17.8 +3.0
PKST T"s 8.28 344 ePn Pn 13 20 17.8 +3.0
CSKK Cs"‡kako 8.33 345⇓ePn Pn 13 20 18.3 +2.8
CSKK Cs"‡kako 8.33 345⇓eP Pn 13 20 18.3 +2.8
PKSG 8.33 345⇑ePn Pn 13 20 18.0 +2.5
PKSG 8.33 345⇑eP Pn 13 20 18.0 +2.5
PSZ Piszkesteto 8.63 353 eP Pn 13 20 20.4 +0.7
PSZ pmax pmax
comp=Z,25nm,0.6s
PSZ Piszkesteto 8.63 353⇑iP Pn 13 20 20.8 +1.1
PSZ Piszkesteto 8.63 353 eP Pn 13 20 20.4 +0.7
comp=Z,25nm,0.6s
PSZ Piszkesteto 8.63 353⇓ePn Pn 13 20 20.8 +1.1
PSZ Piszkesteto 8.63 353 eP Pn 13 20 20.4 +0.7
comp=Z,25nm,0.6s
BURAR Bucovina Array 8.69 17⇑iP Pn 13 20 22.2 +1.7
BURAR Bucovina Array 8.69 17⇑iP Pn 13 20 22.2 +1.7
SOKA Soboth 8.69 329 i Pn Pn 13 20 21.2 +0.7
SNR=10
SOKA Soboth 8.69 329 Pn Pn 13 20 21.2 +0.7
SNR=10
BUR08 Bucovina Ar. S 8.72 17 eP Pn 13 20 22.0 +1.1
BUR08 Bucovina Ar. S 8.72 17 eP Pn 13 20 22.0 +1.1
TRPA Tarpa 8.80 5⇑iP Pn 13 20 23.1 +1.2
TRPA Tarpa 8.80 5⇑iP Pn 13 20 23.1 +1.2
ARSA Arzberg 8.99 333⇑iPn Pn 13 20 23.4 -1.2
ARSA Arzberg 8.99 333 Pn Pn 13 20 23.4 -1.2
KECS Kecovo 9.15 356 eP Pn 13 20 29.7 +3.0
KECS Kecovo 9.15 356 ePN Pn 13 20 29.7 +3.0
KECS Kecovo 9.15 356 eP Pn 13 20 29.7 +3.0
BR131 Keskin Array S 9.42 84 eP Pn 13 20 32.6 +2.0
comp=Z,2.1nm,0.5s
BR131 Keskin Array S 9.42 84 eP Pn 13 20 32.6 +2.0
comp=Z,2.1nm,0.5s
BRTR Keskin Array B 9.42 84 Pn Pn 13 20 32.0 +1.4
BRTR Sn Sn 13 22 12.9 -3.4
BRTR Keskin Array B 9.42 84 Pn Pn 13 20 32.0 +1.4
comp=Z,0.6nm,0.3s,baz=257,slow=11,SNR=25
BRTR Sn Sn 13 22 12.9 -3.4
comp=Z,0.0nm,0.3s,baz=319,slow=21,SNR=2.1
BRTR Keskin Array B 9.42 84 Pn Pn 13 20 32.0 +1.4
BRTR Keskin Array B 9.42 84 iP Pn 13 20 32.5 +2.0
comp=Z,1.0nm,0.3s
BRTR Sn Sn 13 22 12.9 -3.4
CRVS Cervenica-Dubn 9.54 0 eP Pn 13 20 34.2 +2.1
CRVS Cervenica-Dubn 9.54 0 ePN Pn 13 20 34.2 +2.1
CRVS Cervenica-Dubn 9.54 0 eP Pn 13 20 34.2 +2.1
SMOL Smolenice 9.60 344 eP Pn 13 20 34.5 +1.6
SMOL Smolenice 9.60 344 ePN Pn 13 20 34.5 +1.6
SMOL Smolenice 9.60 344 eP Pn 13 20 34.5 +1.6
ABTA Abfaltersbach 9.86 321⇓iPn Pn 13 20 37.5 +1.0
ABTA Abfaltersbach 9.86 321 Pn Pn 13 20 37.5 +1.0
PGF Pioggiola 9.95 293 eP Pn 13 20 39.8 +2.1
comp=Z,15nm,0.8s
PGF Pioggiola 9.95 293 eP Pn 13 20 39.8 +2.1
PGF pmax pmax
comp=Z,15nm,0.8s
PGF Pioggiola 9.95 293 eP Pn 13 20 39.8 +2.1
comp=Z,15nm,0.8s
PGF Pioggiola 9.95 293 eP Pn 13 20 39.8 +2.1
comp=Z,7.3nm,0.8s
MOA Molln 9.96 331⇓iPn Pn 13 20 39.3 +1.6
SNR=9.8
MOA Molln 9.96 331 Pn Pn 13 20 39.3 +1.6
SNR=9.8
STHS Stebnicka Huta 10.06 359 eP Pn 13 20 43.1 +4.0
STHS Stebnicka Huta 10.06 359 ePN Pn 13 20 43.1 +4.0
KEST Kesra 10.27 253 eP Pn 13 20 43.8 +1.6
KEST Kesra 10.27 253 Pn Pn 13 20 44.2 +2.0
comp=Z,0.3nm,0.3s,baz=311,slow=1.2,SNR=17
KEST LR LR 13 26 01.1
comp=Z,49nm,19.8s,baz=26,slow=46
KEST Kesra 10.27 253 eP Pn 13 20 43.8 +1.6
VRAC Vranov 10.54 342⇑iP Pn 13 20 46.9 +1.2
VRAC Vranov 10.54 342 Pn Pn 13 20 47.1 +1.4
VRAC Vranov 10.54 342 Pn Pn 13 20 47.1 +1.4
comp=Z,0.3nm,0.3s,baz=166,slow=13,SNR=14
VRAC LR LR 13 25 05.8
comp=Z,107nm,19.9s,baz=193,slow=39
VRAC Vranov 10.54 342 ePn Pn 13 20 46.5 +0.8
VRAC Vranov 10.54 342 P Pn 13 20 47.1 +1.4
MORC Moravsky Berou 10.78 346⇓iP Pn 13 20 50.7 +1.6
MORC Moravsky Berou 10.78 346 ePn Pn 13 20 50.3 +1.2
MORC Moravsky Berou 10.78 346⇓iP Pn 13 20 50.7 +1.6
TREC Trest 10.81 339 eP Pn 13 20 49.9 +0.5
TREC MLR MLR
comp=Z,700nm,10.0s
TREC Trest 10.81 339 eP Pn 13 20 49.9 +0.5
TREC AMS AMS 13 25 30.0
comp=Z,700nm,10.0s
TREC Trest 10.81 339 Pn Pn 13 20 49.9 +0.5
MOTA Moosalm 10.97 320⇑iPn Pn 13 20 52.2 +0.5
SNR=7.4
MOTA Moosalm 10.97 320 Pn Pn 13 20 52.2 +0.5
SNR=7.4
GERES GERESS Array B 10.99 332 Pn Pn 13 20 54.0 +2.0
GERES Sn Sn 13 22 51.6 -3.1
GERES GERESS Array B 10.99 332 Pn Pn 13 20 54.0 +2.0
comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=14
GERES Sn Sn 13 22 51.6 -3.1
comp=Z,0.2nm,0.3s,baz=173,slow=17,SNR=3.5
GERES LR LR 13 26 08.0
comp=Z,183nm,18.8s,baz=100,slow=43
GERES GERESS Array B 10.99 332 P Pn 13 20 54.0 +2.0
comp=Z,183nm,18.8s
GERES Sn Sn 13 22 51.6 -3.1
KRLC Kraliky 11.22 344 eP Pn 13 20 55.7 +0.7
KRLC Kraliky 11.22 344 eP Pn 13 20 55.7 +0.7
KRLC ex x 13 20 57.5
KRLC ex x 13 21 11.6
KRLC Kraliky 11.22 344 Pn Pn 13 20 55.7 +0.7
DAVOX Davos/Dischmat 11.25 315 Pn Pn 13 20 58.3 +2.7
DAVOX Sn Sn 13 22 54.4 -6.7
DAVOX Davos/Dischmat 11.25 315 Pn Pn 13 20 58.3 +2.7
comp=Z,0.7nm,0.3s,baz=153,slow=18,SNR=5.4
DAVOX Sn Sn 13 22 54.4 -6.7
comp=Z,0.3nm,0.3s,baz=216,slow=5.9,SNR=2.3
DAVOX Davos/Dischmat 11.25 315 P Pn 13 20 58.3 +2.7
comp=Z,1.0nm,0.3s
DAVOX Sn Sn 13 22 54.4 -6.7
KHC Kasperske Hory 11.28 333 eP Pn 13 20 55.7 -0.1
KHC e 13 23 00.9
KHC MLR MLR
comp=Z,500nm,9.2s
KHC Kasperske Hory 11.28 333 eP Pn 13 20 55.7 -0.1
KHC ex x 13 20 59.2
KHC ex x 13 21 07.6
KHC ex x 13 21 13.8
KHC eS Sn 13 23 00.9 -0.6
KHC AMS AMS 13 25 50.0
comp=Z,500nm,9.2s
KHC Kasperske Hory 11.28 333 Pn Pn 13 20 55.7 -0.1
KHC eS Sn 13 23 00.9 -0.6
comp=Z,500nm,9.2s
TUE Stuetta 11.37 313 eP Pn 13 20 58.6 +1.4
comp=Z,6.5nm,0.7s
TUE Stuetta 11.37 313 eP Pn 13 20 58.6 +1.4
comp=Z,6.5nm,0.7s
SBF Sospel 11.42 298 eP Pn 13 21 00.1 +2.3
comp=Z,28nm,1.0s
SBF Sospel 11.42 298 eP Pn 13 21 00.1 +2.3
SBF pmax pmax
comp=Z,29nm,1.0s
SBF Sospel 11.42 298 eP Pn 13 21 00.1 +2.3
comp=Z,28nm,1.0s
SBF Sospel 11.42 298 eP Pn 13 21 00.1 +2.3
comp=Z,14nm,1.0s
DPC Dobruska-Polom 11.57 343 eP Pn 13 20 59.9 0.0
DPC Dobruska-Polom 11.57 343 eP Pn 13 20 59.9 0.0
DPC ex x 13 21 03.4
DPC ex x 13 21 08.7
DPC Dobruska-Polom 11.57 343 Pn Pn 13 20 59.9 0.0
PRU Pruhonice 11.71 337 eP Pn 13 21 01.9 +0.3
PRU MLR MLR
comp=Z,500nm,11.0s
PRU Pruhonice 11.71 337 eP Pn 13 21 01.9 +0.3
PRU ex x 13 21 07.1
PRU AMS AMS 13 26 00.0
comp=Z,500nm,11.0s

PRU Pruhonice 11.71 337 Pn Pn 13 21 01.9 +0.3
FRF La Foret Royal 11.87 295 eP Pn 13 21 06.2 +2.2
comp=Z,6.7nm,0.7s
FRF La Foret Royal 11.87 295 eP Pn 13 21 06.2 +2.2
FRF pmax pmax
comp=Z,7.0nm,0.7s
FRF La Foret Royal 11.87 295 eP Pn 13 21 06.2 +2.2
comp=Z,6.7nm,0.7s
FRF La Foret Royal 11.87 295 eP Pn 13 21 06.2 +2.2
comp=Z,3.3nm,0.7s
LMR La Mourre 11.91 294 eP Pn 13 21 06.3 +1.8
LMR La Mourre 11.91 294 eP Pn 13 21 06.3 +1.8
LMR La Mourre 11.91 294 eP Pn 13 21 06.3 +1.8
LMR La Mourre 11.91 294 eP Pn 13 21 06.3 +1.8
MBDF Montbardon 12.16 301 eP Pn 13 21 09.7 +1.7
comp=Z,12nm,1.0s
MBDF Montbardon 12.16 301 eP Pn 13 21 09.7 +1.7
MBDF pmax pmax
comp=Z,12nm,1.0s
MBDF Montbardon 12.16 301 eP Pn 13 21 09.7 +1.7
comp=Z,12nm,1.0s
MBDF Montbardon 12.16 301 eP Pn 13 21 09.7 +1.7
comp=Z,6.1nm,1.0s
PVCC Panska Ves 12.18 339 AMS AMS 13 26 20.0
comp=Z,700nm,8.4s
LPG La Plagne 12.47 304 eP Pn 13 21 14.9 +2.5
comp=Z,5.8nm,0.5s
LPG La Plagne 12.47 304 eP Pn 13 21 14.9 +2.5
LPG pmax pmax
comp=Z,6.0nm,0.5s
LPG La Plagne 12.47 304 eP Pn 13 21 14.9 +2.5
comp=Z,5.8nm,0.5s
LPG La Plagne 12.47 304 eP Pn 13 21 14.9 +2.5
comp=Z,2.9nm,0.5s
LPL La Plagne 12.49 304 eP Pn 13 21 14.6 +2.0
LPL La Plagne 12.49 304 eP Pn 13 21 14.6 +2.0
LPL La Plagne 12.49 304 eP Pn 13 21 14.6 +2.0
LPL La Plagne 12.49 304 eP Pn 13 21 14.6 +2.0
AKASG Malin Array Be 12.60 23 iP Pn 13 21 14.3 +0.5
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 12.60 23 Pn Pn 13 21 14.6 +0.8
AKASG Malin Array Be 12.60 23 Pn Pn 13 21 14.6 +0.8
comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=5.0
AKASG Malin Array Be 12.60 23 iP Pn 13 21 14.3 +0.5
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 12.60 23 Pn Pn 13 21 14.6 +0.8
BRG Berggiesshubel 12.67 338 eP Pn 13 21 15.1 +0.3
comp=Z,6.1nm,1.3s
BRG e 13 21 32.0
comp=Z,7.9nm,1.1s
BRG Berggiesshubel 12.67 338 eP Pn 13 21 15.1 +0.3
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 12.67 338 eP Pn 13 21 15.1 +0.3
comp=Z,8.0nm,1.1s
SMRF Simiane la Rot 12.73 296 eP Pn 13 21 17.3 +1.5
comp=Z,14nm,0.9s
SMRF Simiane la Rot 12.73 296 eP Pn 13 21 17.3 +1.5
comp=Z,14nm,0.9s
SMRF Simiane la Rot 12.73 296 eP Pn 13 21 17.3 +1.5
comp=Z,7.2nm,0.9s
ORIF Oris-en-Rattie 12.82 301 eP Pn 13 21 18.8 +1.8
comp=Z,13nm,1.0s
ORIF eR
comp=Z,102nm,17.2s
ORIF Oris-en-Rattie 12.82 301 eP Pn 13 21 18.8 +1.8
ORIF pmax pmax
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 12.82 301 eP Pn 13 21 18.8 +1.8
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 12.82 301 eP Pn 13 21 18.8 +1.8
comp=Z,6.6nm,1.0s
BFO Black Forest 13.03 318 iP Pn 13 21 22.7 +2.9
BFO Black Forest 13.03 318 eP Pn 13 21 17.9 -1.9
comp=Z,4.0nm,0.8s
BFO Black Forest 13.03 318 iP Pn 13 21 22.7 +2.9
CLL Collm 13.33 336⇓eP P 13 21 35.0 +1.5
CLL Collm 13.33 336 ePP P 13 21 35.0 +1.5
comp=Z,11nm,0.6s
CLL esPP 13 21 38.0
CABF La Chapelle 13.37 308 eP Pn 13 21 24.2 -0.3
comp=Z,20nm,1.0s
CABF La Chapelle 13.37 308 eP Pn 13 21 24.2 -0.3
CABF pmax pmax
comp=Z,20nm,1.0s
CABF La Chapelle 13.37 308 eP Pn 13 21 24.2 -0.3
comp=Z,20nm,1.0s
CABF La Chapelle 13.37 308 eP Pn 13 21 24.2 -0.3
comp=Z,10.0nm,1.0s
HINF Hinteralfeld 13.53 313 eP Pn 13 21 26.8 +0.2
comp=Z,5.0nm,0.5s
HINF Hinteralfeld 13.53 313 eP Pn 13 21 26.8 +0.2
HINF pmax pmax
comp=Z,5.0nm,0.5s
HINF Hinteralfeld 13.53 313 eP Pn 13 21 26.8 +0.2
comp=Z,5.0nm,0.5s
HINF Hinteralfeld 13.53 313 eP Pn 13 21 26.8 +0.2
comp=Z,2.5nm,0.5s
CDF Champ du Feu 13.64 316 eP Pn 13 21 29.6 +1.5
comp=Z,19nm,1.2s
CDF Champ du Feu 13.64 316 eP Pn 13 21 29.6 +1.5
CDF pmax pmax
comp=Z,19nm,1.2s
CDF Champ du Feu 13.64 316 eP Pn 13 21 29.6 +1.5
comp=Z,19nm,1.2s
CDF Champ du Feu 13.64 316 eP Pn 13 21 29.6 +1.5
comp=Z,9.3nm,1.2s
HAU Haudompre 13.92 313 eP Pn 13 21 32.5 +0.6
comp=Z,12nm,0.7s
HAU Haudompre 13.92 313 eP Pn 13 21 32.5 +0.6
HAU pmax pmax
comp=Z,12nm,0.7s
HAU Haudompre 13.92 313 eP Pn 13 21 32.5 +0.6
comp=Z,12nm,0.7s
HAU Haudompre 13.92 313 eP Pn 13 21 32.5 +0.6
comp=Z,6.2nm,0.7s
SUW Suwalki 14.71 4 eP Pn 13 21 44.8 +2.2
SUW Suwalki 14.71 4 eP Pn 13 21 44.8 +2.2
EIL Elat 14.72 127 Pn Pn 13 21 42.0 -1.0
EIL Elat 14.72 127 Pn Pn 13 21 42.0 -1.0
comp=Z,0.5nm,0.3s,baz=162,slow=20,SNR=3.2
EIL Elat 14.72 127 Pn Pn 13 21 42.0 -1.0
SFTF Sexfontaines 14.77 312 eP Pn 13 21 45.8 +2.3
comp=Z,24nm,1.1s
SFTF Sexfontaines 14.77 312 eP Pn 13 21 45.8 +2.3
comp=Z,24nm,1.1s
SMF Signal de Mont 14.78 305 eP Pn 13 21 43.0 -0.7
comp=Z,14nm,0.8s
SMF Signal de Mont 14.78 305 eP Pn 13 21 43.0 -0.7
SMF pmax pmax
comp=Z,14nm,0.8s
SMF Signal de Mont 14.78 305 eP Pn 13 21 43.0 -0.7
comp=Z,14nm,0.8s
MEZF Maizieres J'vi 14.91 313 eP Pn 13 21 45.9 +0.5
comp=Z,16nm,1.0s
MEZF Maizieres J'vi 14.91 313 eP Pn 13 21 45.9 +0.5
comp=Z,16nm,1.0s
LOR Lormes 15.03 307 eP Pn 13 21 47.6 +0.6
comp=Z,8.7nm,0.8s
LOR Lormes 15.03 307 eP Pn 13 21 47.6 +0.6
comp=Z,8.7nm,0.8s
AVF Avril sur Loir 15.15 305 eP Pn 13 21 49.2 +0.6
comp=Z,9.2nm,0.9s
AVF Avril sur Loir 15.15 305 eP Pn 13 21 49.2 +0.6
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 15.15 305 eP Pn 13 21 49.2 +0.6
comp=Z,9.2nm,0.9s
BGF Bois d'Agland 15.39 304 eP Pn 13 21 52.7 +1.0
comp=Z,10nm,0.8s
BGF Bois d'Agland 15.39 304 eP Pn 13 21 52.7 +1.0
BGF pmax pmax
comp=Z,10.0nm,0.8s
BGF Bois d'Agland 15.39 304 eP Pn 13 21 52.7 +1.0
comp=Z,10nm,0.8s
BAIF Baives 16.23 317 eP Pn 13 22 03.2 +0.6
comp=Z,15nm,0.9s
BAIF Baives 16.23 317 eP Pn 13 22 03.2 +0.6
BAIF pmax pmax
comp=Z,15nm,0.9s
BAIF Baives 16.23 317 eP Pn 13 22 03.2 +0.6
comp=Z,15nm,0.9s
IIGN Ignalina 16.32 10 eP P 13 22 06.6 0.0

IIGN	**Ignalina**	**16.32**	**10**	*eP*		**P**	**13 22 06.6**	**0.0**
ISAL	**Salakas**	**16.52**	**9**	*eP*		**P**	**13 22 08.8**	**0.0**
ISAL	**Salakas**	**16.52**	**9**	*eP*		**P**	**13 22 08.8**	**0.0**
VSR	**Storozhevoye**	**17.15**	**40**	*eP*		**P**	**13 22 16.8**	**+1.0**
VSR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
VSR				pmax	pmax			
	comp=N,9.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,8.0nm,0.8s							
VSR	**Storozhevoye**	**17.15**	**40**	*eP*		**P**	**13 22 16.8**	**+1.0**
	comp=E,9.0nm,0.9s							
ZEI	**Tsey**	**17.26**	**71**	*eP*		**P**	**13 22 20.5**	**+3.2**
ZEI				pmax	pmax			
	comp=Z,4.0nm,0.5s							
GNI	**Garni**	**17.92**	**80**	LR	LR		13 29 13.8	
	comp=Z,37nm,20.6s,baz=274,slow=37							
LDF	**La Druitiere**	**18.01**	**308**	*eP*		**P**	**13 22 26.5**	**+1.1**
	comp=Z,19nm,1.1s							
LDF	**La Druitiere**	**18.01**	**308**	*eP*		**P**	**13 22 26.5**	**+1.1**
LDF				pmax	pmax			
	comp=Z,19nm,1.0s							
LDF	**La Druitiere**	**18.01**	**308**	*eP*		**P**	**13 22 26.5**	**+1.1**
	comp=Z,19nm,1.0s							
LDF	**La Druitiere**	**18.01**	**308**	*eP*		**P**	**13 22 26.5**	**+1.1**
	comp=Z,9.6nm,1.1s							
FLN	**La Foliniere**	**18.30**	**308**	*eP*		**P**	**13 22 29.6**	**+1.1**
	comp=Z,29nm,1.1s							
FLN	**La Foliniere**	**18.30**	**308**	*eP*		**P**	**13 22 29.6**	**+1.1**
FLN				pmax	pmax			
	comp=Z,29nm,1.1s							
FLN	**La Foliniere**	**18.30**	**308**	*eP*		**P**	**13 22 29.6**	**+1.1**
	comp=Z,29nm,1.1s							
FLN	**La Foliniere**	**18.30**	**308**	*eP*		**P**	**13 22 29.6**	**+1.1**
	comp=Z,14nm,1.1s							
VRHR	**Novokhopersk**	**18.36**	**44**	*eP*		P	13 22 37.0	+7.9
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VRHR				pmax	pmax			
	comp=N,20nm,0.9s							
VRHR				pmax	pmax			
	comp=E,30nm,1.0s							
GRR	**Gorron**	**18.39**	**307**	*eP*		**Pn**	**13 22 31.6**	**+2.0**
GRR	**Gorron**	**18.39**	**307**	*eP*		**Pn**	**13 22 31.6**	**+2.0**
GRR	**Gorron**	**18.39**	**307**	*eP*		**Pn**	**13 22 31.6**	**+2.0**
GRR	**Gorron**	**18.39**	**307**	*eP*		**Pn**	**13 22 31.6**	**+2.0**
OBN	**Obninsk**	**18.74**	**28**	*eP*		**Pn**	**13 22 34.8**	**+1.1**
OBN				pmax	pmax			
	comp=Z,13nm,1.4s							
OBN				MLR	MLR			
	comp=Z,100nm,14.0s							
OBN	**Obninsk**	**18.74**	**28**	LR	LR		13 31 03.9	
	comp=Z,83nm,19.1s,baz=274,slow=41							
OBN	**Obninsk**	**18.74**	**28**	*eP*		**Pn**	**13 22 34.8**	**+1.1**
	comp=Z,100nm,14.0s							
SGMF	**Saint Gilles**	**19.41**	**305**	*eP*		**Pn**	**13 22 42.1**	**+0.2**
SGMF	**Saint Gilles**	**19.41**	**305**	*eP*		**Pn**	**13 22 42.1**	**+0.2**
SGMF	**Saint Gilles**	**19.41**	**305**	*eP*		**Pn**	**13 22 42.1**	**+0.2**
SGMF	**Saint Gilles**	**19.41**	**305**	*eP*		**Pn**	**13 22 42.1**	**+0.2**
ESDC	**Sonseca Array**	**19.60**	**279**	P		**Pn**	**13 22 44.2**	**0.0**
ESDC	**Sonseca Array**	**19.60**	**279**	P		**Pn**	**13 22 44.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=76,slow=11,SNR=12							
ESDC	**Sonseca Array**	**19.60**	**279**	P		**Pn**	**13 22 44.2**	**0.0**
QUIF	**Quistinic**	**19.70**	**304**	*eP*		**Pn**	**13 22 45.5**	**+0.2**
	comp=Z,24nm,1.1s							
QUIF	**Quistinic**	**19.70**	**304**	*eP*		**Pn**	**13 22 45.5**	**+0.2**
QUIF				pmax	pmax			
	comp=Z,24nm,1.1s							
QUIF	**Quistinic**	**19.70**	**304**	*eP*		**Pn**	**13 22 45.5**	**+0.2**
	comp=Z,24nm,1.1s							
QUIF	**Quistinic**	**19.70**	**304**	*eP*		**Pn**	**13 22 45.5**	**+0.2**
	comp=Z,12nm,1.1s							
ROSF	**Rostrenen**	**19.89**	**305**	*eP*		**Pn**	**13 22 47.5**	**-0.1**
	comp=Z,35nm,1.2s							
ROSF	**Rostrenen**	**19.89**	**305**	*eP*		**Pn**	**13 22 47.5**	**-0.1**
ROSF				pmax	pmax			
	comp=Z,35nm,1.2s							
ROSF	**Rostrenen**	**19.89**	**305**	*eP*		**Pn**	**13 22 47.5**	**-0.1**
	comp=Z,35nm,1.2s							
ROSF	**Rostrenen**	**19.89**	**305**	*eP*		**Pn**	**13 22 47.5**	**-0.1**
	comp=Z,17nm,1.2s							
TAM	**Tamanrasset**	**21.36**	**224**	*eP*		**P**	**13 23 02.8**	**+0.5**
TAM				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TAM	**Tamanrasset**	**21.36**	**224**	*eP*		**P**	**13 23 02.8**	**+0.5**
	comp=Z,6.3nm,0.9s							
TAM	**Tamanrasset**	**21.36**	**224**	*eP*		**P**	**13 23 02.8**	**+0.5**
	comp=Z,6.3nm,0.9s							
FINES	**FINESS Array B**	**22.30**	**6**	P		**P**	**13 23 10.6**	**-1.2**
FINES				PcP		**PcP**	**13 27 05.5**	**-1.4**
FINES	**FINESS Array B**	**22.30**	**6**	P		**P**	**13 23 10.6**	**-1.2**
	comp=Z,5.7nm,0.7s,baz=173,slow=11,SNR=25							
FINES				PcP		**PcP**	**13 27 05.5**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=250,slow=3.9,SNR=4.0							
FINES				LR		LR	13 33 23.5	
	comp=Z,54nm,18.4s,baz=107,slow=41							
FINES	**FINESS Array B**	**22.30**	**6**	P		**P**	**13 23 10.6**	**-1.2**
FINES	**FINESS Array B**	**22.30**	**6**	PcP		**PcP**	**13 27 05.5**	**-1.4**
NB2	**NORSAR Subarra**	**22.62**	**347**	P		**P**	**13 23 14.8**	**-0.5**
	comp=Z,10nm,0.8s,baz=162,slow=11							
NB2	**NORSAR Subarra**	**22.62**	**347**	P		**P**	**13 23 14.8**	**-0.5**
	comp=Z,10nm,0.8s,SNR=1.7							
NOA	**NORSAR Array B**	**22.62**	**347**	P		**P**	**13 23 14.4**	**-0.9**
NOA	**NORSAR Array B**	**22.62**	**347**	P		**P**	**13 23 14.4**	**-0.9**
	comp=Z,4.3nm,0.6s,baz=153,slow=8.9,SNR=28							
NOA				LR		LR	13 32 56.9	
	comp=Z,39nm,20.4s,baz=315,slow=39							
NOA	**NORSAR Array B**	**22.62**	**347**	P		**P**	**13 23 14.4**	**-0.9**
	comp=Z,4.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**22.91**	**322**	P		**P**	**13 23 17.9**	**-0.5**
EKA	**Eskdalemuir Ar**	**22.91**	**322**	P		**P**	**13 23 17.9**	**-0.5**
	comp=Z,7.2nm,0.7s,baz=118,slow=9.4,SNR=26							
EKA	**Eskdalemuir Ar**	**22.91**	**322**	P		**P**	**13 23 17.9**	**-0.5**
	comp=Z,7.0nm,0.7s							
KAF	**Kangasniemi**	**22.98**	**6**	*eP*		**P**	**13 23 16.8**	**-2.2**
KAF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KAF	**Kangasniemi**	**22.98**	**6**	*ep*		**P**	**13 23 16.8**	**-2.2**
	comp=Z,6.8nm,0.7s							
KLMR	**Klimovskoe**	**24.28**	**22**	*eP*		**P**	**13 23 29.6**	**-2.0**
KLMR				pmax	pmax			
	comp=Z,19nm,1.6s							
JOF	**Joensuu**	**24.33**	**11**	*eP*		**P**	**13 23 31.3**	**-0.8**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**24.33**	**11**	*ep*		**P**	**13 23 31.3**	**-0.8**
	comp=Z,1.5nm,0.5s							
JOF	**Joensuu**	**24.33**	**11**	*eP*		**P**	**13 23 31.3**	**-0.8**
	comp=Z,2.0nm,0.5s							
RAYN	**Ar Rayn**	**25.78**	**121**	P		**P**	**13 23 46.6**	**+1.0**
	comp=Z,8.9nm,0.8s							
RAYN	**Ar Rayn**	**25.78**	**121**	P		**P**	**13 23 46.6**	**+1.0**
	comp=Z,8.9nm,0.8s							
PRGR	**Permogore**	**26.79**	**26**	*eP*		**P**	**13 23 51.1**	**-3.2**
PRGR				S		**S**	**13 28 28.8**	**-0.7**
ARU	**Arti**	**29.70**	**43**	P		**P**	**13 24 18.3**	**-2.0**
ARCES	**ARCESS Array B**	**30.32**	**3**	P		**P**	**13 24 24.8**	**-0.9**
ARCES				PcP		**PcP**	**13 27 25.4**	**-0.1**
ARCES	**ARCESS Array B**	**30.32**	**3**	P		**P**	**13 24 24.8**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=187,slow=10,SNR=14							
ARCES				PcP		**PcP**	**13 27 25.4**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=158,slow=1.3,SNR=3.7							
ARCES	**ARCESS Array B**	**30.32**	**3**	P		**P**	**13 24 24.8**	**-0.9**
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**30.32**	**3**	PcP		**PcP**	**13 27 25.4**	**-0.1**
	comp=Z,1.0nm,0.8s							
KEV	**Kevo**	**30.60**	**4**	*eP*		**P**	**13 24 26.9**	**-1.3**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**30.60**	**4**	*ep*		**P**	**13 24 26.9**	**-1.3**
	comp=Z,0.7nm,0.3s							
KEV	**Kevo**	**30.60**	**4**	*eP*		**P**	**13 24 26.9**	**-1.3**
	comp=Z,1.0nm,0.3s							
SVE	**Sverdlovsk**	**30.91**	**43**	*eP*		**P**	**13 24 31.5**	**+0.4**
SVE				pmax	pmax			
	comp=Z,10.0nm,1.2s							
SVE	**Sverdlovsk**	**30.91**	**43**	*eP*		**P**	**13 24 31.5**	**+0.4**
	comp=Z,10.0nm,1.2s							
TOA0	**Torodi Ar. Sit**	**31.40**	**219**	*eP*		**P**	**13 24 35.7**	**-0.1**
TOA0	**Torodi Ar. Sit**	**31.40**	**219**	*eP*		**P**	**13 24 35.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**31.40**	**219**	P		**P**	**13 24 35.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**31.40**	**219**	P		**P**	**13 24 35.9**	**+0.1**
	comp=Z,12nm,0.6s,baz=30,slow=9.2,SNR=146							
TORD	**Torodi Ar. Bea**	**31.40**	**219**	P		**P**	**13 24 35.9**	**+0.1**
BRVK	**Borovoye**	**35.74**	**51**	*i* P		**P**	**13 25 13.4**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
BRVK	**Borovoye**	**35.74**	**51**	*i* P		**P**	**13 25 13.4**	**+0.2**
	comp=Z,6.0nm,1.7s							
BVAR	**Borovoye Array**	**35.81**	**51**	P		**P**	**13 25 14.5**	**+0.7**
BVAR							13 27 41.3	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**35.81**	**51**	P		**P**	**13 25 14.5**	**+0.7**
BVAR				PcP		**PcP**	**13 27 41.3**	**+0.2**
BVAR	**Borovoye Array**	**35.81**	**51**	P		**P**	**13 25 14.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=269,slow=6.5,SNR=5.3							
BVAR				PcP		**PcP**	**13 27 41.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=281,slow=2.4,SNR=5.6							
BVAR	**Borovoye Array**	**35.81**	**51**	P		**P**	**13 25 14.5**	**+0.7**
	comp=Z,1.0nm,0.5s							
VOSK	**Vostochnaya**	**36.16**	**52**	P		**P**	**13 25 16.4**	**-0.4**
VOSK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
VOSK	**Vostochnaya**	**36.16**	**52**	P		**P**	**13 25 16.4**	**-0.4**
	comp=Z,4.0nm,1.4s							
KK31	**Karatay Array**	**36.67**	**68**	*i* P		**P**	**13 25 21.4**	**+0.1**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KK31	**Karatay Array**	**36.67**	**68**	*i* P		**P**	**13 25 21.4**	**+0.1**
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**36.67**	**68**	*eP*		**P**	**13 25 21.4**	**+0.1**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KKAR	**Karatay Array**	**36.67**	**68**	*eP*		**P**	**13 25 21.4**	**+0.1**
	comp=Z,3.5nm,0.6s							
KKAR	**Karatay Array**	**36.67**	**68**	*eP*		**P**	**13 25 21.4**	**+0.1**
	comp=Z,3.5nm,0.6s							
SCO	**Scoresbysund**	**38.36**	**338**	*i* P		**P**	**13 25 37.0**	**+1.8**
SCO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
SCO	**Scoresbysund**	**38.36**	**338**	*i* P		**P**	**13 25 37.0**	**+1.8**
	comp=Z,4.7nm,0.8s							
SCO	**Scoresbysund**	**38.36**	**338**	*i* P		**P**	**13 25 37.0**	**+1.8**
	comp=Z,5.0nm,0.8s							
EKS2	**Erkin-Say**	**39.10**	**68**	*eP*		**P**	**13 25 42.8**	**+0.8**
EKS2				pmax	pmax			
	comp=Z,5.0nm,0.9s							
EKS2	**Erkin-Say**	**39.10**	**68**	*eP*		**P**	**13 25 42.8**	**+0.8**
	comp=Z,4.9nm,0.9s							
EKS2	**Erkin-Say**	**39.10**	**68**	*eP*		**P**	**13 25 42.8**	**+0.8**
	comp=Z,4.9nm,0.9s							
AAK	**Ala-Archa**	**39.63**	**68**	*i* P		**P**	**13 25 46.9**	**+0.5**
AAK				pmax	pmax			
	comp=Z,13nm,1.8s							
AAK	**Ala-Archa**	**39.63**	**68**	*eP*		**P**	**13 25 46.9**	**+0.5**
	comp=Z,1.6nm,0.5s							
AAK	**Ala-Archa**	**39.63**	**68**	P		**P**	**13 25 47.2**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=286,slow=2.4,SNR=12							
AAK	**Ala-Archa**	**39.63**	**68**	*eP*		**P**	**13 25 46.8**	**+0.4**
	comp=Z,1.6nm,0.5s							
DBIC	**Dimbokro**	**40.25**	**223**	P		**P**	**13 25 51.9**	**+0.3**
DBIC	**Dimbokro**	**40.25**	**223**	P		**P**	**13 25 51.9**	**+0.3**
	comp=Z,4.6nm,0.6s,baz=7.1,slow=10,SNR=8.7							
DBIC				LR		LR	13 44 47.6	
	comp=Z,57nm,18.5s,baz=58,slow=40							
DBIC	**Dimbokro**	**40.25**	**223**	P		**P**	**13 25 51.9**	**+0.3**
	comp=Z,5.0nm,0.6s							
TIC	**Toumodi**	**40.36**	**223**	*eP*		**P**	**13 25 55.4**	**+2.9**
	comp=Z,3.3nm,0.2s							
KIC	**Kosan Boka**	**40.45**	**223**	*eP*		**P**	**13 25 53.5**	**+0.2**
	comp=Z,14nm,0.8s							
LIC	**Lamto**	**40.72**	**223**	*eP*		**P**	**13 25 55.4**	**-0.1**
	comp=Z,11nm,0.7s							
LIC	**Lamto**	**40.72**	**223**	*eP*		**P**	**13 25 55.8**	**+0.3**
	comp=Z,24nm,0.8s							
LIC	**Lamto**	**40.72**	**223**	*eP*		**P**	**13 25 55.4**	**-0.1**
	comp=Z,11nm,0.6s							
LIC	**Lamto**	**40.72**	**223**	*eP*		**P**	**13 25 55.4**	**-0.1**
	comp=Z,5.7nm,0.7s							
KURBB	**Kurchatov Arra**	**40.95**	**55**	P		**P**	**13 25 56.9**	**-0.1**
	comp=Z,0.9nm,0.2s,baz=282,slow=9.0,SNR=7.7							
KURBB				PcP		**PcP**	**13 27 57.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=272,slow=3.9,SNR=7.8							
KURK	**Kurchatov**	**40.99**	**55**	P		**P**	**13 25 56.3**	**-1.1**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
KURK	**Kurchatov**	**40.99**	**55**	P		**P**	**13 25 56.9**	**-0.5**
KURK				PcP		**PcP**	**13 27 57.6**	**+0.4**
KURK	**Kurchatov**	**40.99**	**55**	P		**P**	**13 25 56.9**	**-0.5**
DAG	**Danmarks Havn**	**41.31**	**347**	*i* P		**P**	**13 25 59.8**	**+0.2**
DAG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
DAG	**Danmarks Havn**	**41.31**	**347**	*i* P		**P**	**13 25 59.8**	**+0.2**
	comp=Z,1.9nm,0.9s							
KSH	**Kashi**	**41.55**	**72**	*eP*		**P**	**13 26 00.3**	**-2.0**
KSH				*e*PP		**PP**	**13 27 39.5**	**+1.3**
KSH				*e*PcS		**PcS**	**13 31 49.0**	**-1.9**
KSH				*e*S		**S**	**13 32 14.3**	**-3.4**
KSH				*e*SS		SS	13 35 13.8	-8.5
KSH				LR		LR		
	comp=Z,31nm,2.7s							
KSH				LR		LR		
	comp=Z,29nm,3.9s							
KSH				LR		LR		
	comp=Z,30nm,3.6s							
SUMG	**Summit**	**44.00**	**338**	*i* P		**P**	**13 26 24.2**	**+2.2**
SUMG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SUMG	**Summit**	**44.00**	**338**	*i* P		**P**	**13 26 24.2**	**+2.2**
	comp=Z,3.8nm,0.8s							
SUMG	**Summit**	**44.00**	**338**	*i* P		**P**	**13 26 24.2**	**+2.2**
	comp=Z,4.0nm,0.8s							
MK31	**Makanchi Array**	**44.07**	**60**	P		**P**	**13 26 22.4**	**-0.1**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MK31	**Makanchi Array**	**44.07**	**60**	P		**P**	**13 26 22.4**	**-0.1**
	comp=Z,3.0nm,0.3s							
MKAR	**Makanchi Array**	**44.07**	**60**	P		**P**	**13 26 22.4**	**-0.1**
MKAR				PcP		**PcP**	**13 28 07.5**	**-0.2**
MKAR				ScP		**ScP**	**13 31 58.5**	**-0.4**
MKAR	**Makanchi Array**	**44.07**	**60**	P		**P**	**13 26 22.4**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=282,slow=8.0,SNR=95							
MKAR				PcP		**PcP**	**13 28 07.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=278,slow=4.1,SNR=3.5							
MKAR				ScP		**ScP**	**13 31 58.5**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=296,slow=4.9,SNR=4.0							
MKAR	**Makanchi Array**	**44.07**	**60**	P		**P**	**13 26 22.4**	**-0.1**
ZAA0	**Zalesovo Array**	**44.37**	**49**	*eP*		**P**	**13 26 23.9**	**-0.8**
ZAA0	**Zalesovo Array**	**44.37**	**49**	*eP*		**P**	**13 26 23.9**	**-0.8**
ZALV	**Zalesovo Beam**	**44.37**	**49**	P		**P**	**13 26 24.6**	**-0.1**
ZALV				pmax	pmax			
	comp=Z,8.0nm,0.4s							
ZALV	**Zalesovo Beam**	**44.37**	**49**	P		**P**	**13 26 24.6**	**-0.1**
ZALV	**Zalesovo Beam**	**44.37**	**49**	P		**P**	**13 26 24.6**	**-0.1**
	comp=Z,8.1nm,0.4s,baz=275,slow=8.7,SNR=43							
ZALV	**Zalesovo Beam**	**44.37**	**49**	P		**P**	**13 26 24.6**	**-0.1**
	comp=Z,8.0nm,0.4s							
PYUN	**Piuhan**	**51.51**	**83**	*eP*		**P**	**13 27 19.9**	**-0.8**
	comp=Z,5.5nm,0.6s							
DANN	**Dangsing**	**51.98**	**82**	*eP*		**P**	**13 27 23.5**	**-0.8**
	comp=Z,17nm,0.8s							
KOLN	**Koldanda**	**52.14**	**83**	*eP*		**P**	**13 27 24.8**	**-0.6**
GKN	**Gorkha**	**52.83**	**82**	*eP*		**P**	**13 27 29.3**	**-1.1**
DMN	**Daman**	**53.38**	**82**	*eP*		**P**	**13 27 34.2**	**-0.4**
KKN	**Kakani**	**53.42**	**82**	*eP*		**P**	**13 27 34.2**	**-0.7**
PKIN	**Phulchoki**	**53.62**	**82**	*eP*		**P**	**13 27 35.0**	**-1.4**
	comp=Z,7.0nm,0.8s							
PKI	**Pulchoki**	**53.63**	**82**	*eP*		**P**	**13 27 35.2**	**-1.3**
GUN	**Gumba**	**53.82**	**81**	*eP*		**P**	**13 27 37.5**	**-0.5**
JIRN	**Jiri**	**54.19**	**82**	*eP*		**P**	**13 27 39.7**	**-0.9**
	comp=Z,8.7nm,0.6s							
RAMN	**Ramite**	**54.86**	**82**	*eP*		**P**	**13 27 44.5**	**-0.9**
	comp=Z,10nm,0.7s							
TAPN	**Taplejung**	**55.51**	**81**	*eP*		**P**	**13 27 49.1**	**-1.0**
	comp=Z,5.7nm,0.6s							
TLY	**Talaya**	**55.95**	**48**	*eP*		**P**	**13 27 54.2**	**+1.5**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.7s							
TLY				MLR	MLR			
	comp=Z,53nm,12.0s							
TLY	**Talaya**	**55.95**	**48**	*eP*		**P**	**13 27 54.2**	**+1.5**
	comp=Z,53nm,12.0s							
ZAK	**Zakamensk**	**56.24**	**50**	*eP*		**P**	**13 27 54.3**	**-0.5**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ZAK	**Zakamensk**	**56.24**	**50**	*eP*		**P**	**13 27 54.3**	**-0.5**
	comp=Z,3.0nm,1.0s							
LSA	**Lhasa**	**56.95**	**77**	*eP*		**P**	**13 27 59.7**	**-0.9**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LSA	**Lhasa**	**56.95**	**77**	*eP*		**P**	**13 27 59.6**	**-0.9**
	comp=Z,3.4nm,0.7s							
LSA	**Lhasa**	**56.95**	**77**	*eP*		**P**	**13 27 59.7**	**-0.9**
	comp=Z,3.4nm,0.7s							
SCHQ	**Schefferville**	**58.09**	**317**	P		**P**	**13 28 07.9**	**+0.2**
SCHQ	**Schefferville**	**58.09**	**317**	P		**P**	**13 28 07.9**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=35,slow=3.5,SNR=6.6							
SCHQ	**Schefferville**	**58.09**	**317**	P		**P**	**13 28 07.9**	**+0.2**
TIXI	**Tiksi**	**58.29**	**21**	*eP*		**P**	**13 28 08.7**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TIXI	**Tiksi**	**58.29**	**21**	P		**P**	**13 28 08.2**	**-0.6**
	comp=Z,1.4nm,0.4s							
TIXI	**Tiksi**	**58.29**	**21**	P		**P**	**13 28 08.2**	**-0.6**
	comp=Z,1.4nm,0.4s							
SONM	**Songino Array**	**59.15**	**51**	P		**P**	**13 28 15.6**	**+0.2**
SONM	**Songino Array**	**59.15**	**51**	P		**P**	**13 28 15.6**	**+0.2**
	comp=Z,3.1nm,1.0s,baz=284,slow=9.0,SNR=24							
SONM	**Songino Array**	**59.15**	**51**	P		**P**	**13 28 15.6**	**+0.2**
	comp=Z,3.0nm,1.0s							
ULN	**Ulaanbaatar**	**59.53**	**51**	*eP*		**P**	**13 28 18.1**	**+0.1**
	comp=Z,3.0nm,1.0s							
BOSA	**Boshof**	**67.71**	**176**	P		**P**	**13 29 12.7**	**+0.6**
BOSA	**Boshof**	**67.71**	**176**	P		**P**	**13 29 12.7**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=1.0,slow=5.4,SNR=7.0							
BOSA				LR		LR	14 01 37.3	
	comp=Z,44nm,18.1s,baz=178,slow=38							
BOSA	**Boshof**	**67.71**	**176**	P		**P**	**13 29 12.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**69.01**	**83**	P		**P**	**13 29 19.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**69.01**	**83**	P		**P**	**13 29 19.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=307,slow=7.5,SNR=8.4							
CMAR	**Chiang Mai Arr**	**69.01**	**83**	P		**P**	**13 29 19.3**	**-1.1**
BILL	**Bilibino**	**69.70**	**13**	*iP*		**P**	**13 29 24.2**	**+0.3**
BILL	**Bilibino**	**69.70**	**13**	*eP*		**P**	**13 29 24.1**	**+0.3**
	comp=Z,4.5nm,1.0s							
BILL	**Bilibino**	**69.70**	**13**	*eP*		**P**	**13 29 24.1**	**+0.2**
	comp=Z,4.5nm,1.0s							
SEY	**Seymchan**	**70.77**	**21**	P		**P**	**13 29 31.2**	**+0.7**
SEY				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SEY	**Seymchan**	**70.77**	**21**	P		**P**	**13 29 31.2**	**+0.7**
SEY	**Seymchan**	**70.77**	**21**	P		**P**	**13 29 31.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=328,slow=3.7,SNR=5.8							
SEY	**Seymchan**	**70.77**	**21**	P		**P**	**13 29 31.2**	**+0.7**
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**71.03**	**350**	P		**P**	**13 29 32.3**	**+0.4**
INK	**Inuvik**	**71.03**	**350**	P		**P**	**13 29 32.3**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=18,slow=6.6,SNR=9.2							
INK	**Inuvik**	**71.03**	**350**	P		**P**	**13 29 32.3**	**+0.4**
	comp=Z,1.0nm,0.4s							
YKA	**Yellowknife Ar**	**72.53**	**340**	P		**P**	**13 29 42.0**	**+0.9**
YKA	**Yellowknife Ar**	**72.53**	**340**	P		**P**	**13 29 42.0**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=37,slow=5.3,SNR=29							
YKA	**Yellowknife Ar**	**72.53**	**340**	P		**P**	**13 29 42.0**	**+0.9**
	comp=Z,1.0nm,0.7s							
ULM	**Lac du Bonnet**	**75.18**	**324**	P		**P**	**13 29 57.4**	**+0.6**
ULM	**Lac du Bonnet**	**75.18**	**324**	P		**P**	**13 29 57.4**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=36,slow=2.0,SNR=4.3							
ULM	**Lac du Bonnet**	**75.18**	**324**	P		**P**	**13 29 57.4**	**+0.6**
	comp=Z,3.0nm,0.8s							
DAWY	**Dawson**	**75.80**	**351**	*eP*		**P**	**13 30 01.6**	**+1.3**
DAWY	**Dawson**	**75.80**	**351**	*eP*		**P**	**13 30 01.6**	**+1.3**
ILAR	**E

PAGZ	**Pagadian**	**3.32**	**236**	*e*P	Pn	13 34 09.8	+2.3

*ISCJB **24** 13:45:26.6±0.3, 38°.37N±0°.02×22°.24E±0°.02, h9km±3km, Error ellipse: s-maj=3.3km s-min=2.7km az=158.6*
*CSEM **24** 13:45:26.3±0.1, 38°.38N×22°.02E, h12km, ML2.8, Error ellipse: s-maj=2.4km s-min=2.1km az=161.0*
*ATH **24** 13:45:26.8, 38°.39N×22°.02E, h7km±1km, MD2.9/21, ML2.5*
*THE **24** 13:45:27.0, 38°.38N×22°.04E, h10km±1km, ML2.8/10, Error ellipse: s-maj=1.9km s-min=0.6km az=118.0*

ISC 24 13:45:26.7±0.8, **38°.39N**±0°.02×**22°.02E**±0°.01, **h9**km±4km, **n83**, σ9**47**/113, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.10**	**88**	P	**Pg**	**13 45 29.2**	**+0.1**
KALE				S	**Sg**	**13 45 30.9**	**-0.1**
KALE	**Kalithea**	**0.10**	**88**	*e*PG	**Pg**	**13 45 29.3**	**+0.1**
KALE				*e*SG	**Sg**	**13 45 30.9**	**-0.1**
KALE	**Kalithea**	**0.10**	**88**	*e*Pg	**Pg**	**13 45 29.3**	**+0.1**
KALE				S	**Sg**	**13 45 30.9**	**-0.1**
EFP	**Efpalio**	**0.10**	**294**	P	**Pg**	**13 45 29.0**	**-0.1**
EFP				S	**Sg**	**13 45 30.9**	**0.0**
EFP	**Efpalio**	**0.10**	**294**	*e*PG	**Pg**	**13 45 29.1**	**-0.1**
EFP				*e*SG	**Sg**	**13 45 30.8**	**-0.1**
EFP	**Efpalio**	**0.10**	**294**	*e*Pg	**Pg**	**13 45 29.1**	**-0.1**
EFP				*e*Sg	**Sg**	**13 45 30.8**	**-0.1**
LAKA	**Lakka**	**0.15**	**192**	P	**Pg**	**13 45 30.2**	**+0.2**
LAKA	**Lakka**	**0.15**	**192**	*e*PG	**Pg**	**13 45 30.2**	**+0.2**
LAKA	**Lakka**	**0.15**	**192**	P	**Pg**	**13 45 30.2**	**+0.2**
UPR	**University Cam**	**0.21**	**241**	P	**Pg**	**13 45 31.3**	**+0.3**
UPR				S	**Sg**	**13 45 35.0**	**+1.1**
UPR	**University Cam**	**0.21**	**241**	P	**Pg**	**13 45 31.3**	**+0.3**
UPR				S	**Sg**	**13 45 35.0**	**+1.1**
KLV	**Kalavryta, Ach**	**0.36**	**163**	P	**Pg**	**13 45 33.6**	**-0.2**
KLV	**Kalavryta, Ach**	**0.36**	**163**	*e*PG	**Pg**	**13 45 34.0**	**-0.2**
KLV	**Kalavryta, Ach**	**0.36**	**163**	P	**Pg**	**13 45 33.6**	**-0.2**
DSF	**Desfina**	**0.40**	**86**	P	**Pg**	**13 45 34.1**	**-0.5**
DSF				S	**Sg**	**13 45 40.6**	**+0.7**
DSF	**Desfina**	**0.40**	**86**	*e*PG	**Pg**	**13 45 34.2**	**-0.4**
DSF				*e*SB	**Sg**	**13 45 40.1**	**+0.2**
DSF	**Desfina**	**0.40**	**86**	*e*Pg	**Pg**	**13 45 34.2**	**-0.4**
DSF				*e*Sb	**Sg**	**13 45 40.1**	**+0.2**
PVO	**Paravola**	**0.45**	**301**	P	**Pg**	**13 45 35.5**	**0.0**
PVO				S	**Sb**	**13 45 43.2**	**-0.4**
PVO	**Paravola**	**0.45**	**301**	P	**Pg**	**13 45 35.5**	**0.0**
PVO				S	**Sb**	**13 45 43.2**	**-0.4**
DRO	**Drossia**	**0.50**	**209**	P	**Pg**	**13 45 36.4**	**0.0**
DRO				S	**Sb**	**13 45 44.0**	**-1.0**
DRO	**Drossia**	**0.50**	**209**	*e*PG	**Pg**	**13 45 36.3**	**-0.1**
DRO	**Drossia**	**0.50**	**209**	P	**Pg**	**13 45 36.4**	**0.0**
DRO				S	**Sb**	**13 45 44.0**	**-1.0**
GUR	**Goura**	**0.52**	**150**	P	**Pg**	**13 45 36.3**	**-0.5**
GUR	**Goura**	**0.52**	**150**	*e*PB	**Pg**	**13 45 36.5**	**-0.3**
GUR	**Goura**	**0.52**	**150**	*e*Pb	**Pg**	**13 45 36.5**	**-0.3**
RLS	**Riolos of Patr**	**0.55**	**233**	P	**Pg**	**13 45 37.4**	**+0.1**
RLS				S	**Sg**	**13 45 45.3**	**+0.8**
RLS	**Riolos of Patr**	**0.55**	**233**	*e*PB	**Pg**	**13 45 37.6**	**+0.3**
RLS	**Riolos of Patr**	**0.55**	**233**	P	**Pg**	**13 45 37.4**	**+0.1**
RLS				S	**Sg**	**13 45 45.3**	**+0.8**
EVR	**Evrytania**	**0.55**	**343**	P	**Pg**	**13 45 37.4**	**-0.1**
EVR				S	**Sb**	**13 45 46.5**	**-0.2**
EVR	**Evrytania**	**0.55**	**343**	*e*PB	**Pg**	**13 45 37.4**	**-0.1**
EVR				*e*SB	**Sg**	**13 45 45.4**	**+0.6**
EVR	**Evrytania**	**0.55**	**343**	P	**Pg**	**13 45 37.4**	**-0.1**
EVR				*e*Sb	**Sg**	**13 45 45.4**	**+0.6**
EVR				S	**Sb**	**13 45 46.5**	**-0.2**
AXAR	**Agios Charalam**	**0.63**	**53**	P	**Pg**	**13 45 38.5**	**-0.4**
AXAR				S	**Sb**	**13 45 48.5**	**-0.3**
AXAR	**Agios Charalam**	**0.63**	**53**	*e*PG	**Pg**	**13 45 38.5**	**-0.4**
AXAR	**Agios Charalam**	**0.63**	**53**	P	**Pg**	**13 45 38.5**	**-0.4**
AXAR				S	**Sb**	**13 45 48.5**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**8**	P	**Pg**	**13 45 39.3**	**+0.4**
MAKR				S	**Sb**	**13 45 49.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**8**	*e*PB	**Pg**	**13 45 39.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**8**	*e*Pb	**Pg**	**13 45 39.1**	**+0.2**
MAKR				S	**Sb**	**13 45 49.1**	**+0.2**
AGG	**Agios Georgios**	**0.68**	**21**	P	**Pg**	**13 45 39.0**	**-0.8**
AGG	**Agios Georgios**	**0.68**	**21**	*e*PB	**Pg**	**13 45 39.1**	**-0.8**
AGG	**Agios Georgios**	**0.68**	**21**	*e*Pb	**Pg**	**13 45 39.1**	**-0.8**
PDO	**Prodromos**	**0.69**	**288**	P	**Pg**	**13 45 40.5**	**+0.5**
PDO				S	**Sn**	**13 45 52.3**	**-1.2**
PDO	**Prodromos**	**0.69**	**288**	*e*PB	**Pg**	**13 45 40.5**	**+0.5**
PDO	**Prodromos**	**0.69**	**288**	P	**Pg**	**13 45 40.5**	**+0.5**
LKR	**Lokris**	**0.81**	**71**	P	**Pg**	**13 45 41.7**	**-0.7**
LKR				S	**Sb**	**13 45 54.0**	**-0.1**
LKR	**Lokris**	**0.81**	**71**	*e*PG	**Pg**	**13 45 41.9**	**-0.5**
LKR	**Lokris**	**0.81**	**71**	*e*Pg	**Pg**	**13 45 41.9**	**-0.5**
LKR				S	**Sb**	**13 45 54.0**	**-0.1**
LTK	**Loutraki**	**0.83**	**116**	*e*PB	**Pg**	**13 45 43.0**	**+0.3**
LTK	**Loutraki**	**0.83**	**116**	*e*Pb	**Pg**	**13 45 43.0**	**+0.3**
AMT	**Artemida-Makis**	**0.89**	**196**	P	**Pg**	**13 45 43.6**	**-0.2**
AMT				S	**Sn**	**13 45 58.6**	**+0.2**
AMT	**Artemida-Makis**	**0.89**	**196**	*e*PB	**Pb**	**13 45 44.1**	**-0.2**
AMT	**Artemida-Makis**	**0.89**	**196**	P	**Pg**	**13 45 43.6**	**-0.2**
AMT	**Artemida-Makis**	**0.89**	**196**	*e*Pb	**Pb**	**13 45 44.1**	**-0.2**
KFL	**Anninata**	**1.01**	**254**	P	**Pg**	**13 45 45.7**	**-0.4**
KFL				S	**Sn**	**13 46 02.5**	**+1.2**
KFL	**Anninata**	**1.01**	**254**	P	**Pg**	**13 45 45.7**	**-0.4**
SMIA	**Simia**	**1.05**	**62**	*e*PN	**Pg**	**13 45 46.9**	**0.0**
SMIA	**Simia**	**1.05**	**62**	*e*Pn	**Pg**	**13 45 46.9**	**0.0**
VLX	**Vlachokerasia**	**1.05**	**164**	P	**Pg**	**13 45 45.9**	**-1.1**
VLX	**Vlachokerasia**	**1.05**	**164**	*e*PN	**Pg**	**13 45 47.0**	**0.0**
VLX	**Vlachokerasia**	**1.05**	**164**	P	**Pg**	**13 45 45.9**	**-1.1**
VLX	**Vlachokerasia**	**1.05**	**164**	*e*Pn	**Pg**	**13 45 47.0**	**0.0**
LKD2	**Lefkada island**	**1.14**	**291**	*e*PB	**Pb**	**13 45 48.3**	**-0.3**
LKD2	**Lefkada island**	**1.14**	**291**	*e*Pb	**Pb**	**13 45 48.3**	**-0.3**
VLS	**Valsamata**	**1.15**	**260**	P	**Pb**	**13 45 47.5**	**-1.2**
VLS	**Valsamata**	**1.15**	**260**	*e*PN	**Pb**	**13 45 48.3**	**-0.4**
VLS	**Valsamata**	**1.15**	**260**	P	**Pb**	**13 45 47.5**	**-1.2**
VLS	**Valsamata**	**1.15**	**260**	*e*Pn	**Pb**	**13 45 48.3**	**-0.4**
THL	**Klokotos Trika**	**1.18**	**360**	P	**Pb**	**13 45 48.6**	**-0.6**
THL	**Klokotos Trika**	**1.18**	**360**	*e*PB	**Pb**	**13 45 48.8**	**-0.4**
THL	**Klokotos Trika**	**1.18**	**360**	*e*Pb	**Pb**	**13 45 48.8**	**-0.4**
MRKA	**Markates**	**1.27**	**75**	*e*PB	**Pb**	**13 45 51.0**	**+0.2**
MRKA	**Markates**	**1.27**	**75**	*e*Pb	**Pb**	**13 45 51.0**	**+0.2**
DID	**Didima**	**1.30**	**132**	*e*PB	**Pg**	**13 45 52.0**	**+0.3**
DID	**Didima**	**1.30**	**132**	*e*Pb	**Pg**	**13 45 52.0**	**+0.3**
NEO	**Neokhori**	**1.31**	**45**	*e*PB	**Pn**	**13 45 51.4**	**+0.1**
NEO	**Neokhori**	**1.31**	**45**	*e*Pb	**Pn**	**13 45 51.4**	**+0.1**
ATH	**Athens Observa**	**1.40**	**107**	*e*PG	**Pn**	**13 45 52.5**	**+0.1**
ATH	**Athens Observa**	**1.40**	**107**	*e*Pg	**Pn**	**13 45 52.5**	**+0.1**
PTL	**Penteli**	**1.49**	**103**	*e*PG	**Pb**	**13 45 55.0**	**+0.4**
PTL	**Penteli**	**1.49**	**103**	*e*Pg	**Pb**	**13 45 55.0**	**+0.4**
PYL	**PYLOS**	**1.51**	**188**	*e*PG	**Pb**	**13 45 54.6**	**-0.2**
PYL	**PYLOS**	**1.51**	**188**	*e*Pg	**Pb**	**13 45 54.6**	**-0.2**
LIT	**Litokhoron**	**1.75**	**12**	*e*PN	**Pb**	**13 45 59.5**	**+0.5**
LIT	**Litokhoron**	**1.75**	**12**	*e*Pn	**Pb**	**13 45 59.5**	**+0.5**

*ISCJB **24** 13:46:57.9±0.9, 8°.23N±0°.06×83°.02W±0°.04, h10km, mb3.7/5, MS3.1/2, Error ellipse: s-maj=8.6km s-min=5.8km az=172.8*
*IDC **24** 13:46:59.2±4.4, 8°.37N×83°.06W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.6/43, mbtmp3.9/6, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/35, Error ellipse: s-maj=147.8km s-min=26.4km az=33.0*
*CASC **24** 13:46:59.4±3.3, 8°.45N×83°.02W, h0km±7km, MD4.1*

ISC 24 13:47:00.1±1.1, **8°.37N**±0°.08×**83°.02W**±0°.04, **h10**km, **n29**, σ1**38**/28, **mb3.8**/5, **1D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.32**	**332**	⇓P	**Pg**	**13 47 05.5**	**-0.9**
BRU2	**Volcan**	**0.53**	**38**	*e*P	**Pg**	**13 47 09.9**	**-0.5**
BRU2				*e*S	**Sb**	**13 47 19.9**	**+0.6**
CTCR	**Cotoan**	**0.58**	**26**	*e*S	**Sg**	**13 47 17.9**	**-1.1**
BRU	**Baru**	**0.62**	**46**	*e*P	**Pg**	**13 47 11.7**	**-0.6**
CNI	**Changuinola**	**1.15**	**25**	*e*P	**Pb**	**13 47 20.8**	**-1.2**
CNI				*e*S	**Sn**	**13 47 40.2**	**+2.2**
BUS	**Buena Vista**	**1.38**	**328**	*e*P	**Pn**	**13 47 24.0**	**-1.9**
BUS				*e*S	**Sg**	**13 47 46.1**	**+1.3**
QCR	**Quepos**	**1.54**	**313**	*e*P	**Pn**	**13 47 26.2**	**-1.5**
QCR				*e*S	**Sg**	**13 47 50.0**	**+0.2**
URSC	**Urasca**	**1.64**	**333**	*e*P	**Pn**	**13 47 28.3**	**-0.8**
SJS	**Escuela Geolog**	**1.86**	**327**	*e*P	**Pn**	**13 47 32.0**	**-0.2**
CAO	**Cobano**	**2.45**	**303**	*e*P	**Pn**	**13 47 37.0**	**-3.1**
JCR	**Jicaral**	**2.54**	**305**	*e*P	**Pn**	**13 47 41.9**	**+0.5**
JTS	**JuntasAbangare**	**2.70**	**315**	Pn	**Pn**	**13 47 43.1**	**-0.5**
JTS				Sn	**Sn**	**13 48 17.8**	**+1.4**
PTEN	**Parque Tenorio**	**3.03**	**320**	*i* P	**Pn**	**13 47 49.6**	**+1.4**
PTEN				*i* S	**Sg**	**13 48 34.7**	**-2.9**
BCIP	**Isla Barro Col**	**3.24**	**76**	*e*P	**Pn**	**13 47 51.7**	**+0.7**
BCIP				*e*S	**Sb**	**13 48 35.7**	**-1.6**
LAPC	**Finca la Perla**	**3.37**	**315**	*i* P	**Pn**	**13 47 54.1**	**+1.2**
UPA	**Univ. de Panam**	**3.50**	**80**	*e*P	**Pb**	**13 48 01.2**	**-0.9**
APG	**El Apaste**	**9.83**	**313**	Pn	**Pn**	**13 49 21.7**	**-0.1**

0.4nm,0.3s,baz=135,slow=20,SNR=4.8

ATAH	**Atahualpa**	**16.08**	**163**	LR	LR	13 55 24.9	

comp=Z,101nm,20.6s,baz=351,slow=31

PTP	**Ponta Puerca**	**19.55**	**58**	*e*S	x	13 47 12.5	
PTGA	**Pitinga**	**24.69**	**110**	LR	LR	14 02 40.2	

comp=Z,67nm,20.6s,baz=352,slow=38

PFO	**Pinyon Flat Ob**	**39.76**	**314**	LR	LR	14 10 02.8	

comp=Z,24nm,19.9s,baz=84,slow=35

H03N2	**Juan Fernandez**	**41.76**	**175**	T	T	14 39 09.8	

baz=355

H03N1	**Juan Fernandez**	**41.77**	**175**	T	T	14 39 10.1	

baz=355,slow=74,SNR=3.3

H03N3	**Juan Fernandez**	**41.78**	**175**	T	T	14 39 11.6	

baz=355,slow=74,SNR=4.0

ULM	**Lac du Bonnet**	**43.09**	**348**	P	**P**	**13 55 01.0**	**+0.6**

3.2nm,0.6s,baz=148,slow=7.9,SNR=6.5

NVAR	**Mina Array Bea**	**43.62**	**319**	P	P	13 55 08.8	+3.7

0.4nm,0.7s,baz=124,slow=7.1,SNR=4.0

YKA	**Yellowknife Ar**	**58.70**	**343**	P	**P**	**13 56 58.4**	**+0.7**

0.7nm,0.7s,baz=137,slow=7.1,SNR=14

ILAR	**Eielson Array**	**71.49**	**336**	P	**P**	**13 58 21.1**	**+0.4**

0.5nm,0.7s,baz=118,slow=4.3,SNR=5.4

TORD	**Torodi Ar. Bea**	**83.02**	**78**	P	**P**	**13 59 27.5**	**+1.0**

0.6nm,0.8s,baz=285,slow=5.5,SNR=3.5

IDC 24 14:10:24.3±13.0, **4°.80S×129°.93E, h241**km±147km, **mb2.9**/1, **mb1 2.6**/3, **mb1mx2.5**/33, **mbtmp3.2**/3, **Error ellipse: s-maj=108.8km s-min=47.6km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.65**	**164**	P	P	14 13 52.3	+0.3

0.1nm,0.3s,baz=346,slow=11,SNR=4.4

WRA				S	S	14 16 50.8	+6.2

0.1nm,0.3s,baz=338,slow=22,SNR=4.4

ASAR	**Alice Springs**	**19.15**	**169**	P	P	14 14 29.4	-0.6

0.1nm,0.3s,baz=342,slow=12,SNR=4.9

MKAR	**Makanchi Aray**	**66.36**	**326**	P	P	14 20 47.6	+0.2

0.2nm,0.3s,baz=109,slow=7.3,SNR=4.8

IDC 24 14:15:36.3±1.8, **17°.30S×167°.17E, h0**km, **mb3.7**/4, **mb1 3.9**/5, **mb1mx3.6**/35, **mbtmp3.7**/5, **ML3.4**/1, **Error ellipse: s-maj=45.3km s-min=27.5km az=117.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.80**	**188**	Pn	Pn	14 16 49.8	-0.2

1.5nm,0.3s,baz=109,slow=13,SNR=20

DZM				Sn	Sn	14 17 45.6	-0.9

1.5nm,0.3s,baz=307,slow=20,SNR=3.4

STKA	**Stephens Creek**	**27.32**	**233**	P	P	14 21 24.0	+1.0

1.9nm,0.8s,baz=47,slow=12,SNR=4.1

WRA	**Warramunga Arr**	**31.20**	**260**	P	P	14 21 57.0	-0.6

0.3nm,0.7s,baz=81,slow=6.1,SNR=3.7

ASAR	**Alice Springs**	**31.75**	**253**	P	P	14 22 02.4	-0.1

0.7nm,0.7s,baz=79,slow=8.7,SNR=14

ILAR	**Eielson Array**	**88.98**	**18**	P	P	14 28 32.5	-0.1

0.4nm,0.7s,baz=230,slow=5.2,SNR=9.5

*IDC **24** 14:16:56.3±4.8, 30°.40N×137°.68E, h500km±23km, mb2.9/5, mb1 2.9/9, mb1mx2.7/44, mbtmp3.7/9, Error ellipse: s-maj=77.9km s-min=27.3km az=134.0*
*ISCJB **24** 14:16:57.4±1.2, 30°.7N±0°.1×137°.6E±0°.1, h496km, mb3.2/5, Error ellipse: s-maj=22.4km s-min=7.6km az=138.8*
*JMA **24** 14:16:57.2±0.5, 30°.76N×137°.71E, h525km, M3.3*

ISC 24 14:16:58.3±1.7, **30°.7N**±0°.2×**137°.5E**±0°.1, **h496**km, **n26**, σ1**49**/30, **mb3.3**/5, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.07**	**39**	P	**P**	**14 18 11.2**	**+1.9**
JWZ	**Kozaga**	**3.19**	**332**	P	**P**	**14 18 11.7**	**+1.5**
JKN2	**Miekihoku**	**3.65**	**343**	P	**P**	**14 18 15.8**	**+2.2**
JIE	**Ise**	**3.71**	**349**	P	**P**	**14 18 16.6**	**+2.5**
JAO	**Obara**	**4.53**	**357**	P	P	14 18 24.3	+3.5
JNY	**Yasuok**	**4.62**	**3**	P	**P**	**14 18 24.7**	**+3.0**
JOD2	**Odawara 2**	**4.70**	**16**	P	**P**	**14 18 23.2**	**+0.9**
BSO3	**Boso 3**	**4.77**	**31**	*e*S	**S**	**14 19 30.9**	**-0.7**
BSO4	**Boso 4**	**4.86**	**28**	S	**S**	**14 19 34.4**	**+1.1**
BSO1	**Boso 1**	**4.87**	**36**	P	**P**	**14 18 22.9**	**-0.3**
BSO1				*e*S	**S**	**14 19 32.5**	**-0.2**
JHU	**Hanno**	**5.31**	**16**	P	**P**	**14 18 28.2**	**+0.4**
JHU				*e*S	**S**	**14 19 41.5**	**+0.5**
JRY	**Ryogami san**	**5.39**	**12**	P	**P**	**14 18 30.0**	**+1.4**
MAT	**Matsushiro**	**5.82**	**5**	P	**P**	**14 18 33.9**	**+1.2**
MJAR	**Matsushiro Arr**	**5.82**	**5**	P	**P**	**14 18 33.6**	**+1.0**

1.4nm,0.3s,baz=176,slow=10,SNR=25

JAG	**Ashikaga**	**5.90**	**15**	P	**P**	**14 18 33.3**	**-0.1**
JAG				S	**S**	**14 19 49.2**	**-2.0**
JYT	**Yasato**	**5.92**	**21**	*e*S	**S**	**14 19 49.3**	**-2.1**
JNU	**Nakatsue**	**6.13**	**295**	P	**P**	**14 18 36.6**	**+0.9**

0.4nm,0.3s,baz=155,slow=7.1,SNR=9.9

JHO	**Hitachi**	**6.39**	**23**	P	**P**	**14 18 37.9**	**-0.2**
JHO				*e*S	**S**	**14 19 57.9**	**-2.0**
JFK	**Kawauchi**	**7.17**	**22**	P	**P**	**14 18 46.8**	**+0.7**
JFK				*e*S	**S**	**14 20 12.8**	**-1.6**
KSRS	**Korea Array**	**10.40**	**313**	P	**P**	**14 19 20.9**	**+1.1**

0.1nm,0.3s,baz=127,slow=10.0,SNR=3.6

USRK	**Ussuriysk Arra**	**14.14**	**343**	P	**P**	**14 20 01.5**	**+2.2**

0.2nm,0.3s,baz=154,slow=10.0,SNR=4.7

CMAR	**Chiang Mai Arr**	**36.98**	**260**	P	**P**	**14 23 23.4**	**-1.7**

0.7nm,0.6s,baz=53,slow=6.5,SNR=6.5

MKAR	**Makanchi Array**	**45.03**	**307**	P	**P**	**14 24 28.9**	**0.0**

0.3nm,0.5s,baz=69,slow=9.3,SNR=7.7

ARCES	**ARCESS Array B**	**68.75**	**340**	P	**P**	**14 27 11.8**	**+0.3**

1.1nm,0.8s,baz=59,slow=8.7,SNR=4.1

FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**14 27 35.9**	**0.0**

0.8nm,0.9s,baz=90,slow=4.6,SNR=2

AKASG	**Malin Array Be**	**77.26**	**322**	P	**P**	**14 27 59.7**	**-1.1**

0.1nm,0.3s,baz=51,slow=6.1,SNR=3.0

*IDC **24** 14:18:58.4±0.5, 9°.13S×157°.83E, h0km, mb4.9/22, mb1 5.0/25, mb1mx4.9/35, mbtmp4.8/25, ML4.5/3, MS4.8/18, Ms1 4.8/18, ms1mx4.6/23, Error ellipse: s-maj=17.0km s-min=11.9km az=127.0*
*GCMT **24** 14:18:59.7±0.1, 9°.26S×157°.79E, h14km, MW5.4/121, Moment Tensor Solution. s96,c166; s121,c266; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.34±.02; Mθθ-0.38±.02; Mφφ0.03±.02; Mrθ-0.05±.04; Mθφ1.76±.02; Mφr-0.04±.04; Best double couple: M☉1.77400×10^17 NP1:φs267.00000°, δ88.00000°, λ2.00000°. NP2:φs177.00000°, δ88.00000°, λ178.00000°. Principal axes: T 1.6050, Plg3.0000°, Azm132.0000°; N 0.3390, Plg87.0000°, Azm309.0000°; P -1.9430, Plg0.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **24** 14:18:59.7±0.2, 9°.18S×157°.76E, h10km, mb5.6/84, MS5.2/14, MW5.5 Error ellipse: s-maj=6.0km s-min=4.9km az=141.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^17 Nm; Mrr0.40; Mθθ-2.00; Mφφ1.60; Mrθ-0.55; Mθφ-0.35; Mφr0.52; Best double couple: M☉2.00000×10^17 NP1:φs41.00000°, δ66.00000°, λ8.00000°. NP2: φs307.00000°, δ83.00000°, λ156.00000°. Principal axes: T 1.8700, Plg22.0000°, Azm261.0000°; N 0.2700, Plg64.0000°, Azm111.0000°; P -2.1400, Plg11.0000°, Azm356.0000°;*
*ISCJB **24** 14:18:59.1±0.1, 9°.12S±0°.03×157°.69E±0°.02, h10km, mb5.4/185, MS4.9/55 Error ellipse: s-maj=3.8km s-min=3.3km az=175.1*
*BJI **24** 14:19:00.8, 8°.78S×157°.82E, h17km, mB5.5/50, mb5.2/63, Ms5.2/66, Ms7 4.9/61*
*MOS **24** 14:19:02.5±1.0, 9°.07S×157°.62E, h33km, mb5.6/35, MS5.0/11, Error ellipse: s-maj=9.1km s-min=7.9km az=69.7*

ISC 24 14:19:01.2±0.3, **9°.16S**±0°.04×**157°.84E**±0°.04, **h16**km±1km, **h15**km:**pP-P**, **n579**, σ1**57**/569, **mb5.5**/175, **MS5.0**/56, **22C-14D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.10**	**98**	*e*P	**Pn**	**14 19 33.4**	**-2.3**
HNR	**Honiara**	**2.10**	**98**	LR	LR	14 20 16.0	

comp=Z,12μm,21.6s,baz=292,slow=37

HNR	**Honiara**	**2.10**	**98**	*i* P	**Pn**	**14 19 33.0**	**-2.7**
HNR				*i* S	Sn	14 19 49.0	-13
PMG	**Port Moresby**	**10.54**	**268**	P	x	14 21 36.8	

103nm,1.4s,2μm

PMG	**Port Moresby**	**10.54**	**268**	P	x	14 21 36.9	

103nm,1.4s,2μm

PMG	**Port Moresby**	**10.54**	**268**	P	Pn	14 21 25.5	-6.3

234nm,1.5s

PMG				Sn	**Sn**	**14 23 27.3**	**-2.3**
PMG	**Port Moresby**	**10.54**	**268**	Pn	Pn	14 21 36.0	+4.3

0.2nm,0.3s,baz=82,slow=7.1,SNR=3.4

PMG				Sn	**Sn**	**14 23 27.3**	**-2.3**

baz=24,slow=20,SNR=1.3

PMG				LR	LR	14 25 19.0	

comp=Z,14μm,18.2s,baz=76,slow=36

COEN	**Coen**	**15.13**	**250**	*e*P	**Pn**	**14 22 35.8**	**+1.3**

1μm,1.3s

COEN	**Coen**	**15.13**	**250**	⇓P	**P**	**14 22 37.9**	**-1.7**

baz=15,SNR=5.4

NOUC	**Port Laguerre**	**15.22**	**149**	*e*P	**P**	**14 22 39.7**	**-0.8**
DZM	**Mont Dzumac**	**15.27**	**148**	*e*Pn	**Pn**	**14 22 36.5**	**+0.1**

478nm,1.6s

DZM				*e*LQ	LQ	14 25 31.6	

11μm,27.4s

DZM				*e*LR	LR	14 26 12.8	

13μm,26.4s

DZM	**Mont Dzumac**	**15.27**	**148**	Pn	**Pn**	**14 22 37.3**	**+1.0**
DZM				Sn	**Sn**	**14 25 27.9**	**+2.5**
DZM	**Mont Dzumac**	**15.27**	**148**	Pn	**Pn**	**14 22 37.3**	**+1.0**

0.6nm,0.3s,baz=352,slow=11,SNR=21

DZM				Sn	**Sn**	**14 25 27.9**	**+2.5**

0.2nm,0.3s,baz=85,slow=12,SNR=2.4

DZM				LR	LR	14 27 42.3	

comp=Z,7μm,18.4s,baz=334,slow=34

DZM	**Mont Dzumac**	**15.27**	**148**	*e*P	**Pn**	**14 22 36.8**	**+0.4**
CTA	**Charters Tower**	**15.60**	**225**	Pn	**Pn**	**14 22 39.2**	**-1.4**
CTA	**Charters Tower**	**15.60**	**225**	Pn	**Pn**	**14 22 39.2**	**-1.4**

2.3nm,0.3s,baz=49,slow=14,SNR=18

CTA				LR	LR	14 28 24.6	

comp=Z,4μm,18.9s,baz=48,slow=36

CTAO	**Charters Tower**	**15.60**	**225**	*e*P	**Pn**	**

KMSI **Cibinong** **35.08 284** P P 14 26 02.0 +8.1
FORT **Forrest** **35.10 228** *e*P **P** **14 25 53.1 -0.8**
comp=Z,165nm,1.2s
FORT **Forrest** **35.10 228** P **P** **14 25 53.9 0.0**
baz=35,SNR=12
MMRI **Maumere** **35.17 268** P **P** **14 25 52.8 -1.9**
comp=Z,251nm,1.0s,comp=Z,2µm
MMRI **Maumere** **35.17 268** P **P** **14 25 54.3 -0.4**
comp=Z,251nm,1.0s,comp=Z,2µm
MMRI **Maumere** **35.17 268** *e*P **P** **14 25 53.5 -1.2**
comp=Z,220nm,0.9s
LUWI **Luwuk** **35.81 281** P **P** **14 26 01.2 +0.9**
comp=Z,88nm,0.9s,comp=Z,2µm
LUWI **Luwuk** **35.81 281** *e*P **P** **14 25 59.5 -0.7**
comp=Z,56nm,0.8s
KKSI **Kolaka, Sulawe** **36.26 275** P x 14 26 05.2
comp=Z,109nm,1.1s,comp=Z,2µm
RPZ **Rata Peaks** **36.30 164** *e*P **P** **14 26 03.4 -0.7**
APSI **Ampana** **36.93 281** P **P** **14 26 10.4 +0.6**
comp=Z,104nm,1.0s,comp=Z,2µm
APSI **Ampana** **36.93 281** P **P** **14 26 10.4 +0.6**
comp=Z,116nm,0.8s,comp=Z,1µm
MRSI **Marisa** **37.01 283** P **P** **14 26 09.5 -1.0**
comp=Z,28nm,1.2s,comp=Z,721nm
MRSI **Marisa** **37.01 283** P P 14 26 15.7 +5.2
comp=Z,39nm,0.8s,comp=Z,710nm
LBFI **Labuhan Bajo,** **37.49 268** P x 14 26 13.4
comp=Z,155nm,0.9s,comp=Z,1µm
LBFI **Labuhan Bajo,** **37.49 268** P x 14 26 14.4
comp=Z,156nm,0.9s,comp=Z,1µm
BKSI **Bulukumba** **37.59 273** P **P** **14 26 15.8 +0.4**
comp=Z,49nm,1.0s,comp=Z,864nm
BKSI **Bulukumba** **37.59 273** P **P** **14 26 16.5 +1.1**
comp=Z,79nm,0.8s,comp=Z,871nm
BNSI **Bone** **37.75 275** P **P** **14 26 17.2 +0.5**
comp=Z,108nm,1.0s,comp=Z,1µm
BNSI **Bone** **37.75 275** P **P** **14 26 17.4 +0.7**
comp=Z,108nm,1.0s,comp=Z,1µm
KAPI **Kappang** **38.00 274** P **P** **14 26 19.0 +0.1**
comp=Z,419nm,1.0s,SNR=11
KAPI **Kappang** **38.00 274** *e*P **P** **14 26 18.9 +0.1**
comp=Z,286nm,0.9s
SPSI **Sidrap Palu** **38.15 275** P **P** **14 26 19.3 -0.8**
comp=Z,43nm,1.0s
SPSI **Sidrap Palu** **38.15 275** P **P** **14 26 19.7 -0.4**
comp=Z,43nm,1.0s
TOLI **Toli-Toli** **38.29 284** *e*P **P** **14 26 20.0 -1.3**
MJSI **Majene** **39.00 276** P x 14 26 25.8
comp=Z,84nm,0.9s
JCJ **Chichijima** **39.11 338** LR LR 14 40 37.9
comp=Z,827nm,18.4s,baz=122,slow=33
MMSI **Mamuju** **39.22 277** P x 14 26 30.5
comp=Z,53nm,0.9s,comp=Z,1µm
MEEK **Meekatharra** **40.96 240** ⇑P **P** **14 26 43.2 -0.2**
baz=41,SNR=8.9
MTNI **Mataram** **41.15 267** P x 14 26 44.6
comp=Z,78nm,0.8s,comp=Z,890nm
MTNI **Mataram** **41.15 267** P x 14 26 44.6
comp=Z,78nm,0.8s,comp=Z,890nm
BKB **Balikpapan** **41.48 278** P P 14 26 51.2 +3.3
comp=Z,231nm,1.0s
TSM **Tawau** **42.02 287** ⇑P **P** **14 26 53.3 +1.1**
SRBI **Singaraja** **42.14 268** P **P** **14 26 52.5 -0.8**
comp=Z,55nm,1.0s
SRBI **Singaraja** **42.14 268** P **P** **14 26 53.7 +0.4**
comp=Z,55nm,1.0s
IGBI **Denpasar** **42.15 267** P **P** **14 26 51.5 -1.9**
comp=Z,153nm,0.9s,comp=Z,2µm
IGBI **Denpasar** **42.15 267** P **P** **14 26 54.0 +0.6**
comp=Z,153nm,0.9s,comp=Z,2µm
BYJI **Banyuwangi** **42.97 268** P x 14 27 00.2
comp=Z,376nm,0.9s,comp=Z,7µm
BYJI **Banyuwangi** **42.97 268** P x 14 27 00.2
comp=Z,376nm,0.9s,comp=Z,7µm
BBKI **Banjar Baru** **43.08 275** P **P** **14 27 01.3 +0.3**
comp=Z,166nm,0.9s,comp=Z,2µm
BBKI **Banjar Baru** **43.08 275** P **P** **14 27 01.6 +0.6**
comp=Z,199nm,1.0s,comp=Z,2µm
SDKM **Sandakan** **43.09 288** ⇑P **P** **14 27 01.3 +0.2**
ABJI **Asem Bagus** **43.13 268** P **P** **14 27 00.2 -1.1**
comp=Z,72nm,1.4s,comp=Z,2µm
ABJI **Asem Bagus** **43.13 268** P **P** **14 27 03.4 +2.1**
comp=Z,72nm,1.4s,comp=Z,2µm
JAGI **Jajag, Banyuwa** **43.16 267** P **P** **14 26 59.5 -2.1**
comp=Z,272nm,0.8s,comp=Z,2µm
JAGI **Jajag, Banyuwa** **43.16 267** P **P** **14 26 59.5 -2.1**
comp=Z,272nm,0.8s,comp=Z,2µm
JAGI **Jajag, Banyuwa** **43.16 267** *e*P **P** **14 26 59.4 -2.2**
comp=Z,205nm,0.8s
JAGI **Jajag, Banyuwa** **43.16 267** P **P** **14 26 59.7 -1.9**
baz=43,SNR=12
KMMI **Kalianget** **43.46 269** P **P** **14 27 03.9 -0.1**
comp=Z,35nm,1.1s,comp=Z,2µm
KMMI **Kalianget** **43.46 269** P P 14 27 11.0 +7.0
comp=Z,44nm,0.8s,comp=Z,2µm
BLDU **Ballidu** **43.84 235** P **P** **14 27 06.4 -0.4**
baz=44,SNR=5.9
GMJI **Gumukmas** **43.87 268** P **P** **14 27 04.3 -3.0**
comp=Z,57nm,0.9s
GMJI **Gumukmas** **43.87 268** P P 14 27 14.0 +6.7
comp=Z,57nm,0.9s
MORW **Morawa** **43.87 237** P **P** **14 27 06.8 -0.3**
baz=44,SNR=5.3
KKM **Kota Kinabalu** **44.15 288** P x 14 27 09.5
comp=Z,61nm,0.9s,comp=Z,1µm
KKM **Kota Kinabalu** **44.15 288** P x 14 27 11.3
comp=Z,61nm,0.9s,comp=Z,1µm
KKM **Kota Kinabalu** **44.15 288** *e*P **P** **14 27 09.3 -0.3**
comp=Z,46nm,0.9s
KKM **Kota Kinabalu** **44.15 288** P **P** **14 27 09.8 +0.1**
baz=44,SNR=7.1
KKM **Kota Kinabalu** **44.15 288** ⇓P **P** **14 27 09.7 +0.1**
NWAO **Narrogin (SRO)** **44.27 232** LR LR 14 44 58.2
comp=Z,2µm,20.5s,slow=35
KRKI **Karangkates** **44.86 268** P x 14 27 15.0
comp=Z,199nm,0.8s,comp=Z,24µm
KRKI **Karangkates** **44.86 268** P x 14 27 15.0
comp=Z,199nm,0.8s,comp=Z,24µm
PWJI **Pagerwojo** **45.51 268** P **P** **14 27 18.9 -1.5**
comp=Z,106nm,0.9s,comp=Z,1µm
PWJI **Pagerwojo** **45.51 268** P **P** **14 27 19.4 -1.0**
comp=Z,106nm,0.9s,comp=Z,1µm
JOW **Kunigami** **45.86 322** *e*P **P** **14 27 24.1 +1.2**
comp=Z,21nm,1.1s
PCJI **Pacitan** **46.11 267** P **P** **14 27 24.2 -0.9**
comp=Z,274nm,1.3s,comp=Z,3µm
PCJI **Pacitan** **46.11 267** P **P** **14 27 24.6 -0.6**
comp=Z,274nm,1.3s,comp=Z,3µm
BTM **Bintulu** **46.26 283** ⇓P **P** **14 27 28.6 +2.2**
UGM **Wanagama** **46.78 268** P **P** **14 27 29.7 -0.8**
comp=Z,147nm,1.4s
UGM **Wanagama** **46.78 268** ⇑P **P** **14 27 29.9 -0.5**
baz=47,SNR=7.0
SBUM **Sibu** **46.90 282** P x 14 27 33.7
comp=Z,35nm,2.0s,comp=Z,1µm
SBUM **Sibu** **46.90 282** ⇓P **P** **14 27 32.2 +0.9**
SMRI **Semarang** **46.95 269** S S 14 34 34.5 +12
baz=47,SNR=3.1
BJII **Banjamegara** **47.64 268** P x 14 27 38.4
comp=Z,104nm,1.9s,comp=Z,2µm
BJII **Banjamegara** **47.64 268** P x 14 27 40.2
comp=Z,87nm,0.8s,comp=Z,2µm
YULB **Yu-li** **48.20 313** *e*P **P** **14 27 40.5 -0.8**
comp=Z,50nm,0.8s
TGJI **Tegal** **48.27 269** P x 14 27 41.7
comp=Z,60nm,1.3s
KPJI **Karang Pucung** **48.41 268** P **P** **14 27 43.2 +0.1**
comp=Z,50nm,1.1s,comp=Z,1µm
KPJI **Karang Pucung** **48.41 268** P P 14 27 48.0 +4.9
comp=Z,50nm,1.1s,comp=Z,1µm
NACB **Ninganchiao** **48.47 314** *e*P **P** **14 27 43.2 -0.2**
comp=Z,96nm,0.8s
KSM **Kuching** **48.51 280** P x 14 27 42.8
comp=Z,47nm,2.0s,comp=Z,766nm
KSM **Kuching** **48.51 280** P x 14 27 45.5
comp=Z,47nm,2.0s,comp=Z,755nm
KSM **Kuching** **48.51 280** *e*P **P** **14 27 43.5 -0.4**
comp=Z,63nm,1.3s
KSM **Kuching** **48.51 280** ⇓P **P** **14 27 44.1 +0.2**
baz=49,SNR=5.1
KSM **Kuching** **48.51 280** ⇑P **P** **14 27 44.6 +0.8**
TPUB **Ta-pu** **48.63 312** *e*P **P** **14 27 44.3 -0.4**
comp=Z,63nm,0.9s
SSLB **Suanglung** **48.70 313** *e*P **P** **14 27 44.4 -0.7**
comp=Z,56nm,1.1s
YHNB **Yeheng** **48.94 314** *e*P **P** **14 27 47.5 +0.5**
comp=Z,132nm,0.8s
MJAR **Matsushiro Arr** **49.06 339** P **P** **14 27 46.1 -1.6**
MJAR **Matsushiro Arr** **49.06 339** P **P** **14 27 46.1 -1.6**
comp=Z,5.9nm,0.8s,baz=166,slow=8.7,SNR=17
MJAR LR LR 14 49 14.7
comp=Z,251nm,18.7s,baz=140,slow=37
MAJO **Matsushiro** **49.06 339** ⇑*i*P **P** **14 27 46.4 -1.3**
MAJO pmax pmax
comp=Z,142nm,1.6s
MAJO **Matsushiro** **49.06 339** *e*P **P** **14 27 46.5 -1.3**
comp=Z,11nm,0.8s
MAT **Matsushiro** **49.06 339** P **P** **14 27 46.0 -1.7**
MAT S **S** **14 34 51.8 -0.2**
JCJI **Jatiwangi** **49.15 269** P **P** **14 27 49.0 +0.2**
comp=Z,255nm,0.9s
JCJI **Jatiwangi** **49.15 269** P **P** **14 27 49.0 +0.2**
comp=Z,255nm,0.9s
JNU **Nakatsue** **49.26 330** *e*P **P** **14 27 49.4 0.0**
comp=Z,18nm,1.0s
JNU **Nakatsue** **49.26 330** P **P** **14 27 49.8 +0.4**
comp=Z,23nm,0.9s,baz=128,slow=4.9,SNR=10.0
CISI **Cisompet, Garu** **49.49 268** P **P** **14 27 50.4 -1.0**
comp=Z,99nm,0.8s,comp=Z,2µm
CISI **Cisompet, Garu** **49.49 268** P **P** **14 27 50.4 -1.0**
comp=Z,99nm,0.8s,comp=Z,2µm
CISI **Cisompet, Garu** **49.49 268** *e*P **P** **14 27 49.7 -1.7**
comp=Z,102nm,1.0s
LEM **Lembang** **49.76 269** P **P** **14 27 53.3 -0.3**
comp=Z,175nm,0.9s,comp=Z,2µm
LEM **Lembang** **49.76 269** P **P** **14 27 53.3 -0.3**
comp=Z,175nm,0.9s,comp=Z,2µm
LEM **Lembang** **49.76 269** P **P** **14 27 53.5 -0.1**
baz=50,SNR=8.7
CBJI **Citeko** **50.56 269** P **P** **14 27 58.7 -0.8**
CBJI **Citeko** **50.56 269** P **P** **14 27 58.7 -0.8**
comp=Z,192nm,1.0s
QZH **Quanzhou** **51.11 312** ⇑*i*P **P** **14 28 04.3 +0.9**
QZH S **S** **14 35 21.8 +1.0**
QZH pmax pmax
comp=Z,140nm,0.8s
QZH LR LR
comp=Z,2µm,20.4s
QZH LR LR
comp=Z,790nm,12.1s
QZH LR LR
comp=Z,2µm,25.0s
CGJI **Cibinong** **51.68 269** P **P** **14 28 05.9 -2.0**
comp=Z,159nm,0.8s,comp=Z,2µm
PAE **Paea** **51.70 105** *e*P **P** **14 28 09.8 +1.8**
comp=Z,19nm,1.2s
PPT **Papeete** **51.70 105** LR LR 14 46 06.9
comp=Z,774nm,20.4s,baz=274,slow=32
PPT2 **Papeete2** **51.70 105** *e*P **P** **14 28 10.2 +2.0**
comp=Z,84nm,1.3s
PPT2 *e*S **S** **14 35 32.1 +2.5**
comp=Z,632nm,30.0s
PPT2 *e*LQ LQ 14 40 50.1
comp=Z,4µm,30.5s
PPT2 *e*LR LR 14 43 01.8
comp=Z,2µm,23.5s,baz=273
TIAR **Tiarei** **51.92 105** *e*P **P** **14 28 11.8 +2.1**
comp=Z,37nm,1.2s
TVO **Taravao** **52.02 105** *e*P **P** **14 28 12.6 +2.1**
comp=Z,46nm,1.2s
TBI **Tubuai** **52.25 112** *e*P **P** **14 28 13.9 +1.9**
comp=Z,172nm,1.3s
TBI *e*S **S** **14 35 40.2 +3.4**
comp=Z,725nm,29.0s
TBI *e*LQ LQ 14 41 07.0
comp=Z,4µm,33.5s
TBI *e*LR LR 14 43 19.8
comp=Z,3µm,32.0s
KASI **Kota Agung** **52.99 270** P **P** **14 28 16.3 -1.4**
comp=Z,44nm,1.0s
MEH **Mehetia** **53.15 105** *e*P **P** **14 28 20.7 +1.9**
comp=Z,32nm,1.1s
SSE **Sheshan** **53.25 320** P **P** **14 28 18.5 -0.7**
SSE PP **PP** **14 30 22.6 +3.0**
SSE S **S** **14 35 51.9 +1.8**
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,260nm,4.4s
SSE LR LR
comp=Z,450nm,18.1s
SSE LR LR
comp=Z,560nm,18.4s
SSE LR LR
comp=Z,740nm,19.0s
PMOR **Pomariorio Ree** **53.28 102** *e*P **P** **14 28 22.0 +2.2**
comp=Z,205nm,1.2s
DLV **T Lat** **53.35 292** *e*P **P** **14 28 20.6 +0.1**
comp=Z,71nm,1.3s
MDSI **Maura Dua** **53.44 271** P **P** **14 28 19.7 -1.3**
comp=Z,27nm,1.3s
LWLI **Liwa** **53.49 271** P **P** **14 28 22.1 +0.6**
comp=Z,37nm,0.8s
VAH **Vaihoa** **53.54 102** *e*P **P** **14 28 23.6 +2.0**
comp=Z,141nm,1.5s
YUK **Yuzh-Kuril'sk** **54.05 349** *i* P P 14 28 16.5 -8.3
YUK *i* S **S** **14 36 01.9 +1.5**
POHA **Pohakuloa** **54.16 58** *e*P **P** **14 28 27.0 +0.6**
comp=Z,199nm,1.4s
KSRS **Korea Array** **54.17 331** P **P** **14 28 26.1 +0.2**
comp=Z,7.0nm,0.8s,baz=147,slow=7.6,SNR=20
KSAR **Wonju Array Be** **54.18 331** P **P** **14 28 26.1 +0.2**
ASAJ **Asahikawa** **54.80 347** P **P** **14 28 31.4 +1.1**
ASAJ **Asahikawa** **54.80 347** P **P** **14 28 31.4 +1.1**
comp=Z,8.9nm,0.8s,baz=130,slow=7.9,SNR=4.4
ASAJ LR LR 14 51 54.7
comp=Z,2µm,18.9s,slow=36
MYKOM **Kota Tinggi** **54.87 279** ⇓P **P** **14 28 31.1 -0.4**
QIZ **Qiongzhong** **54.98 301** P **P** **14 28 31.1 -1.0**
QIZ S **S** **14 36 13.8 -0.1**
QIZ sS **sS** **14 36 19.3 -2.9**
QIZ SS **SS** **14 39 57.3 -0.5**
QIZ pmax pmax
comp=Z,53nm,1.1s
QIZ pmax pmax
comp=Z,410nm,6.7s
QIZ LR LR
comp=Z,510nm,25.8s
QIZ LR LR
comp=Z,310nm,29.4s
QIZ LR LR
comp=Z,1µm,27.7s
NJ2 **Nanjing** **55.37 320** *e*P **P** **14 28 35.1 +0.4**
NJ2 pP **pP** **14 28 39.3 -0.5**
NJ2 S **S** **14 36 19.5 +0.9**
NJ2 sS **sS** **14 36 25.0 -2.0**
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,560nm,5.9s
NJ2 LR LR
comp=Z,1µm,22.6s
NJ2 LR LR
comp=Z,780nm,18.4s
KGM **Kluang** **55.44 279** ⇑P **P** **14 28 35.3 -0.2**
KTGM **Kuala Trenggan** **56.39 283** ⇓P **P** **14 28 41.7 -0.7**
BKNI **Bangkinang** **57.33 276** *e*P **P** **14 28 46.4 -2.6**
FRIM **Kepong** **57.36 280** ⇑P **P** **14 28 48.9 -0.3**
WHN **Wuhan** **57.45 315** ⇑*i*P **P** **14 28 49.5 0.0**
WHN S **S** **14 36 48.9 +2.7**
WHN LR LR
comp=Z,3µm,23.1s
WHN LR LR
comp=Z,2µm,22.1s
WHN LR LR
comp=Z,3µm,24.6s
YSS **Yuzh-Sakhalins** **57.46 348** *e*P **P** **14 28 48.3 -0.9**
YSS *e* 14 28 56.0
YSS *e* 14 29 04.2
YSS *e*S **S** **14 36 44.0 -1.8**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=N,900nm,18.0s
YSS MLR MLR
comp=Z,1µm,18.0s
PDSI **Padang** **57.67 275** P **P** **14 28 51.6 +0.1**
comp=Z,18nm,1.6s,comp=Z,6µm
PPI **Padang Panjang** **57.81 275** P **P** **14 28 52.0 -0.5**
comp=Z,40nm,1.4s,comp=Z,919nm
USRK **Ussuriysk Arra** **58.04 338** P **P** **14 28 53.7 +0.2**
comp=Z,11nm,0.9s,baz=146,slow=5.8,SNR=20
IPM **Ipoh** **58.22 281** P x 14 28 58.3
comp=Z,26nm,1.6s
IPM **Ipoh** **58.22 281** *e*P **P** **14 28 53.2 -2.2**
comp=Z,18nm,0.9s
IPM **Ipoh** **58.22 281** ⇑P **P** **14 28 55.0 -0.3**
MNSI **Mandailing Nat** **58.85 276** P **P** **14 28 58.1 -1.6**
comp=Z,90nm,1.2s,comp=Z,1µm
CHBT **CHBT** **59.28 291** P x 14 29 03.8
comp=Z,40nm,1.4s,comp=Z,3µm
CHBT **CHBT** **59.28 291** P **P** **14 29 03.6 +1.0**
comp=Z,40nm,1.4s,comp=Z,3µm
MDJ **Mudanjiang** **59.30 337** P **P** **14 29 01.8 -0.4**
MDJ pP **pP** **14 29 05.0 -2.3**
MDJ PcP **PcP** **14 29 49.8 -0.4**
MDJ PP **PP** **14 31 11.4 -2.0**
MDJ S **S** **14 37 10.3 +0.3**
MDJ ScS **ScS** **14 38 52.3 +0.5**
MDJ pmax pmax
comp=Z,20nm,2.2s
MDJ pmax pmax
comp=Z,160nm,4.5s
MDJ LR LR
comp=Z,640nm,17.8s
MDJ LR LR
comp=Z,780nm,17.8s
MDJ LR LR
comp=Z,820nm,22.6s
MDJ **Mudanjiang** **59.30 337** *e*P **P** **14 29 02.3 +0.1**
comp=Z,34nm,1.3s
PSI **Prapat** **59.90 279** P **P** **14 29 04.9 -2.2**
PSI **Prapat** **59.90 279** P **P** **14 29 04.9 -2.2**
comp=Z,10nm,0.8s,baz=64,slow=5.4,SNR=8.3
PSI **Prapat** **59.90 279** P **P** **14 29 04.9 -2.2**
baz=60,SNR=5.0
COCO **West Island** **59.92 261** *i* P **P** **14 29 09.3 +2.2**
CN2 **Changchun** **60.35 333** *e*P **P** **14 29 07.6 -1.9**
CN2 *e*S **S** **14 37 25.8 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,500nm,17.0s
TSI **Tuntungan** **60.40 279** P **P** **14 29 09.3 -1.1**
comp=Z,91nm,1.0s
PATY **Pattaya** **60.69 290** P **P** **14 29 13.2 +0.9**
comp=Z,20nm,0.9s,comp=Z,2µm
ENH **Enshi** **60.77 312** *e*P **P** **14 29 11.7 -0.9**
comp=Z,36nm,0.9s
HABR **Khabarovsk** **60.80 343** *de*P **P** **14 29 10.0 -2.4**
HABR *e**PP **pP** **14 29 19.6 +2.0**
HABR *e**SP **sP** **14 29 24.3 +4.8**
HABR *e* 14 31 24.2
HABR *e*S **S** **14 37 25.8 -3.3**
HABR *e**SS sS 14 37 43.2 +5.6
HABR 14 38 57.7
HABR *e*SS **SS** **14 41 26.7 -1.8**
HABR pmax pmax
comp=Z,109nm,2.5s
HABR pmax pmax
comp=N,39nm,2.5s
HABR pmax pmax
comp=E,29nm,2.5s
HABR MLR MLR
comp=Z,449nm,18.0s
GSI **Gunungsitoli** **60.91 277** *e*P **P** **14 29 12.4 -1.5**
comp=Z,106nm,1.1s
SLVN **Son La** **61.00 301** *e*P **P** **14 29 13.7 -0.7**
comp=Z,24nm,1.0s
KCSI **Kotacane, Aceh** **61.17 279** P **P** **14 29 13.0 -2.7**
comp=Z,49nm,0.9s,comp=Z,653nm
SURT **Suratani** **61.49 285** P **P** **14 29 18.3 +0.6**
comp=Z,11nm,1.0s
PKDT **Phuket** **61.65 284** P **P** **14 29 19.2 +0.3**
comp=Z,34nm,1.1s
TPTI **61.70 279** P **P** **14 29 18.0 -1.2**
comp=Z,243nm,1.4s,comp=Z,12µm
PBKT **Sadao Pong** **61.79 294** P x 14 29 20.1
PBKT **Sadao Pong** **61.79 294** P **P** **14 29 20.0 +0.3**
comp=Z,48nm,0.8s,comp=Z,2µm
PET **Petropavlovsk** **61.94 1** *e*P P 14 29 26.5 +6.5
PET *e*S **S** **14 37 44.4 +1.0**
PET *e*SS **SS** **14 41 46.3 +0.2**
PET pmax pmax
comp=Z,90nm,1.2s
PET **Petropavlovsk** **61.94 1** *e*P **P** **14 29 19.3 -0.7**
comp=Z,134nm,1.4s
PEA0B **Petropavlovsk-** **62.02 360** *e*P **P** **14 29 20.2 -0.4**
PETK **Petropavlovsk-** **62.02 360** P **P** **14 29 20.3 -0.3**
PETK **Petropavlovsk-** **62.02 360** P **P** **14 29 20.3 -0.3**
PETK **Petropavlovsk-** **62.02 360** P **P** **14 29 20.3 -0.3**
comp=Z,17nm,0.9s,baz=158,slow=6.4,SNR=14
BJI **Beijing** **62.29 325** P **P** **14 29 23.0 +0.4**
BJI S **S** **14 37 50.5 +2.2**
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI pmax pmax
comp=Z,290nm,5.8s
BJI LR LR
comp=Z,440nm,25.3s
BJI LR LR
comp=Z,500nm,22.4s
BJI LR LR
comp=Z,830nm,29.3s
KLR **Kul'dur** **62.49 341** *e*P P 14 29 19.6 -4.2
KLR *e*S **S** **14 37 51.5 +1.0**
KLR pmax pmax
comp=Z,63nm,2.0s
SRDT **SRDT** **62.74 291** P **P** **14 29 27.3 +1.2**
comp=Z,162nm,0.8s
FX1 **Attu Island--F** **63.17 10** *e*P **P** **14 29 27.7 -0.5**
XAN **Xi'an** **63.21 315** P **P** **14 29 28.3 -0.7**
XAN pP **pP** **14 29 32.9 -1.2**
XAN PP **PP** **14 31 53.5 +5.2**
XAN S **S** **14 37 54.6 -5.6**
XAN ScS **SKSac** **14 39 19.0 -2.8**
XAN SS **SS** **14 42 06.8 -0.1**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,66nm,7.2s
XAN LR LR
comp=Z,510nm,23.4s
XAN LR LR
comp=Z,230nm,28.5s
XAN LR LR
comp=Z,330nm,23.4s
KHLT **Khaolaem Dam** **63.37 292** P **P** **14 29 30.8 +0.5**
comp=Z,18nm,1.2s,comp=Z,268nm
KMI **Kunming** **63.55 304** P **P** **14 29 32.4 +0.7**
KMI pP **pP** **14 29 37.4 +0.6**
KMI S **S** **14 38 07.9 +2.7**
KMI pmax pmax
comp=Z,34nm,1.6s
KMI pmax pmax
comp=Z,420nm,5.1s
KMI LR LR
comp=Z,220nm,16.1s
KMI LR LR
comp=Z,630nm,22.2s
KMI LR LR
comp=Z,960nm,23.0s
LAMP **Lampang** **63.66 296** P **P** **14 29 32.7 +0.5**
comp=Z,21nm,0.8s,comp=Z,168nm
CM31 **Chiang Mai Arr** **64.25 296** *e*P **P** **14 29 36.5 +0.4**
comp=Z,26nm,0.8s
CMAR **Chiang Mai Arr** **64.25 296** P **P** **14 29 36.6 +0.5**
CMAR ⇑*e* 14 58 29.4
CMAR **Chiang Mai Arr** **64.25 296** P **P** **14 29 36.6 +0.5**
comp=Z,25nm,0.9s,baz=125,slow=5.0,SNR=135
CMAR LR LR 14 57 17.5
comp=Z,244nm,20.0s,baz=126,slow=36
CMAR PKP2bc 14 58 29.4
comp=Z,0.5nm,0.7s,baz=297,slow=4.0,SNR=6.0
CHTO **Chiang Mai** **64.37 296** *e*P **P** **14 29 36.6 -0.3**
CHTO pmax pmax
comp=Z,67nm,1.2s
CHTO **Chiang Mai** **64.37 296** P **P** **14 29 36.9 0.0**
comp=Z,235nm,1.3s,comp=Z,2µm
CHTO **Chiang Mai** **64.37 296** *e*P **P** **14 29 36.6 -0.3**
comp=Z,67nm,1.2s
CMAI **Chiengmai2** **64.67 297** P **P** **14 29 39.3 +0.2**
comp=Z,35nm,1.2s,comp=Z,9µm
MHMT **Maesarieng** **65.06 295** P **P** **14 29 41.5 +0.1**
comp=Z,23nm,0.9s

CD2 Chengdu 65.35 310 *e*P **P** **14 29 43.8 +0.7**
CD2 sP **sP** **14 29 52.3 +2.1**
CD2 PcP **PcP** **14 30 15.5 +0.3**
CD2 PP **PP** **14 32 11.5 +4.4**
CD2 S **S** **14 38 28.0 +1.1**
CD2 sS **sS** **14 38 38.8 +3.4**
CD2 SS **SS** **14 42 39.3 -1.1**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,470nm,5.9s
CD2 LR LR
comp=Z,540nm,23.8s
CD2 LR LR
comp=Z,830nm,21.4s
CD2 LR LR
comp=Z,980nm,26.2s
CASY Casey 65.45 199 *e*P **P** **14 29 42.8 -0.2**
comp=Z,28nm,1.2s
HHC Hu-ho-hao-te 65.50 323 *e*P **P** **14 29 44.8 +0.9**
HHC PP **PP** **14 32 12.1 +3.8**
HHC PcS 14 34 19.9
HHC S **S** **14 38 29.1 +0.7**
HHC ScS **SKSac** **14 39 36.9 -2.1**
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,360nm,5.3s
HHC LR LR
comp=Z,740nm,15.9s
HHC LR LR
comp=Z,680nm,13.9s
HHC LR LR
comp=Z,810nm,17.6s
RKT Rikitea 65.53 111 *e*P **P** **14 29 45.3 +0.9**
comp=Z,38nm,1.1s
RKT *e*S **S** **14 38 31.9 +2.6**
comp=Z,509nm,38.2s
RKT *e*SS **SS** **14 42 39.5 -3.7**
comp=Z,329nm,30.8s
RKT *e*LQ LQ 14 46 39.7
RKT *e*LR LR 14 49 24.8
comp=Z,2µm,31.2s,baz=276
LZH Lanzhou 67.82 315 *e*P **P** **14 29 59.6 +0.6**
LZH pP **pP** **14 30 03.6 -0.5**
LZH sP **sP** **14 30 05.6 -0.5**
LZH *e*S **S** **14 38 57.3 +0.4**
LZH sS **sS** **14 39 03.5 -1.9**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.7s
LZH LR LR
comp=Z,1µm,13.5s
LZH LR LR
comp=Z,2µm,17.5s
LZH LR LR
comp=Z,1µm,16.3s
VNDA Vanda 68.37 179 P **P** **14 30 02.2 +0.7**
VNDA Vanda 68.37 179 P **P** **14 30 02.2 +0.7**
comp=Z,4.1nm,1.0s,baz=352,slow=5.6,SNR=4.3
VNDA LR LR 14 55 39.8
comp=Z,720nm,20.1s,baz=1.5,slow=32
CLNS Chul'man 71.14 342 *e*P P 14 30 13.6 -5.2
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,1.2s
CIT Chita 71.79 333 *e*P **P** **14 30 23.4 +0.5**
CIT *e* 14 30 38.4
GTA Gaotai 72.23 316 P **P** **14 30 26.6 +0.6**
GTA pP **pP** **14 30 30.8 -0.4**
GTA sP **sP** **14 30 34.0 +0.9**
GTA S **S** **14 39 51.1 +2.7**
GTA pmax pmax
comp=N,11nm,0.7s
GTA pmax pmax
comp=N,320nm,6.2s
GTA LR LR
comp=N,380nm,20.2s
GTA LR LR
comp=N,530nm,24.0s
GTA LR LR
comp=N,780nm,21.4s
ULN Ulaanbaatar 72.33 327 *e*P **P** **14 30 26.5 +0.1**
comp=N,46nm,1.5s
SONM Songino Array 72.67 327 P **P** **14 30 28.4 +0.1**
SONM Songino Array 72.67 327 P **P** **14 30 28.4 +0.1**
comp=N,3.7nm,0.9s,baz=141,slow=6.5,SNR=18
SHL Shillong 72.81 300 *e*P **P** **14 30 28.6 -1.1**
YAK Yakutsk 74.28 347 *e*P **P** **14 30 36.2 -1.1**
YAK *e* 14 30 51.3
YAK *e*S **SKiKP** **14 40 01.3 -2.9**
YAK *e**SS **ScS** **14 40 46.9 -0.2**
YAK pmax pmax
comp=Z,48nm,0.9s
YAK smax smax
comp=N,178nm,9.4s
YAK smax smax
comp=E,166nm,9.0s
YAK Yakutsk 74.28 347 *e*P **P** **14 30 36.5 -0.8**
comp=E,63nm,0.8s
LSA Lhasa 74.81 304 *e*P **P** **14 30 41.6 -0.1**
LSA pmax pmax
comp=Z,29nm,1.1s
LSA Lhasa 74.81 304 *e*P **P** **14 30 41.6 -0.1**
comp=Z,29nm,1.1s
ZAK Zakamensk 75.81 327⇑ *i*P **P** **14 30 46.1 -0.5**
ZAK pmax pmax
comp=Z,19nm,1.5s
GAMB Gambell 76.32 13 *e*P **P** **14 30 48.5 -0.5**
comp=Z,69nm,1.5s
TLY Talaya 76.35 329 *e*P **P** **14 30 50.7 +1.1**
TLY *e*PPP PPP 14 35 29.2
TLY pmax pmax
comp=Z,30nm,1.6s
TLY MLR MLR
comp=Z,331nm,18.0s
IRK Irkutsk 76.36 329 *e*P **P** **14 30 49.4 -0.1**
IRK pmax pmax
comp=Z,56nm,1.8s
TAPN Taplejung 76.92 301 *e*P **P** **14 30 53.6 -0.1**
comp=Z,113nm,1.0s
ODAN Odare 77.05 300 *e*P **P** **14 30 54.1 -0.2**
comp=Z,109nm,0.9s
BILL Bilibino 77.24 3 *i*P **P** **14 30 53.3 -0.9**
BILL *i* 14 31 01.8
BILL *i*S **S** **14 40 38.2 -4.7**
BILL *i*SS **SS** **14 45 41.8 +0.5**
BILL pmax pmax
comp=Z,42nm,1.6s
BILL MLR MLR
comp=Z,200nm,18.0s
BILL Bilibino 77.24 3 *e*P **P** **14 30 53.6 -0.5**
comp=Z,150nm,1.3s
BOK Bokaro 77.48 297 *e*P **P** **14 30 56.8 +0.3**
RAMN Ramite 77.75 300 *e*P **P** **14 30 57.8 -0.4**
comp=Z,26nm,0.8s
VIS Vishakhapatnam 78.26 290 *e*P **P** **14 31 00.7 -0.2**
JIRN Jiri 78.30 301 *e*P **P** **14 31 01.3 -0.2**
comp=Z,46nm,0.7s
PALK Pallekele 78.57 279 P **P** **14 31 03.9 +1.1**
comp=Z,207nm,0.8s,SNR=6.9
PALK Pallekele 78.57 279 *e*P **P** **14 31 03.3 +0.5**
comp=Z,52nm,0.8s
GUN Gumba 78.64 301 *e*P **P** **14 31 03.2 -0.1**
comp=Z,232nm,1.3s
TNA Tin City 78.71 14 *e*P **P** **14 31 02.0 -0.3**
comp=Z,63nm,1.3s
PKI Pulchoki 78.94 300 *e*P **P** **14 31 04.5 -0.4**
comp=Z,108nm,1.1s
PKIN Phulchoki 78.95 300 *e*P **P** **14 31 04.7 -0.2**
comp=Z,55nm,1.0s
KKN Kakani 79.11 301 *e*P **P** **14 31 05.5 -0.2**
comp=Z,48nm,0.8s
DMN Daman 79.21 300 *e*P **P** **14 31 06.4 +0.1**
comp=Z,122nm,0.9s
GKN Gorkha 79.72 301 *e*P **P** **14 31 08.6 -0.4**
comp=Z,219nm,1.2s
KOLN Koldanda 80.54 300 *e*P **P** **14 31 12.9 -0.5**
comp=Z,142nm,0.9s
DANN Dangsing 80.56 301 *e*P **P** **14 31 12.7 -0.9**
comp=Z,120nm,1.2s

SEW Seward 80.63 24 *e*P **P** **14 31 13.1 +0.2**
comp=Z,87nm,1.4s
QSPA South Pole Qui 80.83 180 *e*P **P** **14 31 13.1 -1.1**
comp=Z,54nm,1.4s
RC01 Rabbit Creek A 81.12 23 *e*P **P** **14 31 14.7 -0.9**
comp=Z,105nm,1.5s
PPLA Purkeypile 81.36 21 *e*P **P** **14 31 16.2 -0.7**
comp=Z,137nm,1.5s
PMR Palmer 81.66 23 *e*P **P** **14 31 17.9 -0.4**
PMR pmax pmax
comp=Z,97nm,1.4s
PMR Palmer 81.66 23 *e*P **P** **14 31 17.9 -0.4**
comp=Z,97nm,1.4s
KTH Kantishna Hill 82.22 21 *e*P **P** **14 31 20.4 -1.0**
comp=Z,110nm,1.3s
WMQ Urumqi 82.32 317 P **P** **14 31 22.9 +0.5**
WMQ pP **pP** **14 31 27.8 +0.2**
WMQ sP **sP** **14 31 29.9 +0.4**
WMQ PP **PP** **14 34 33.9 +2.6**
WMQ S **S** **14 41 36.9 -0.8**
WMQ sS **SKKSac** **14 41 45.3 -1.0**
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,350nm,4.7s
WMQ LR LR
comp=Z,560nm,22.2s
WMQ LR LR
comp=Z,480nm,21.4s
WMQ LR LR
comp=Z,750nm,26.1s
TRF Thorofare Moun 82.38 21 *e*P **P** **14 31 21.0 -1.3**
comp=Z,28nm,1.0s
TRD Trivandrum 82.44 280 *e*P **P** **14 31 20.9 -2.6**
HYB Hyderabad 82.63 289 *i*P **P** **14 31 22.5 -2.0**
HYB *e*PcP **pP** **14 31 30.0 +0.2**
HYB *e*S **S** **14 41 40.0 -1.9**
HYB Hyderabad 82.63 289 *e*P **P** **14 31 23.5 -1.0**
DIV Divide 82.70 24 P **P** **14 31 25.8 +1.9**
comp=Z,36nm,1.2s
IM04 Indian Mountai 82.86 18 *e*P **P** **14 31 24.1 -0.5**
TIXI Tiksi 82.90 351 *ce*P **P** **14 31 23.0 -1.6**
TIXI pmax pmax
comp=Z,34nm,1.9s
TIXI Tiksi 82.90 351 *e*P **P** **14 31 22.8 -1.9**
comp=Z,113nm,1.7s
MCK McKinley 83.03 21 *e*P **P** **14 31 24.4 -1.1**
MCK McKinley 83.03 21 *e*P **P** **14 31 24.4 -1.1**
comp=Z,212nm,1.2s
BMRM Bremner River 83.09 24 P **P** **14 31 25.6 -0.3**
comp=Z,43nm,1.7s
MAW Mawson 83.49 203 LR LR 15 03 36.9
comp=Z,440nm,21.9s,baz=90,slow=32
PAX Paxson 83.85 23 *e*P **P** **14 31 29.2 -0.7**
PAX pmax pmax
comp=Z,34nm,1.5s
PAX Paxson 83.85 23 *e*P **P** **14 31 29.2 -0.7**
comp=Z,34nm,1.5s
COLA College 84.09 20⇓ *i*P **P** **14 31 29.6 -1.3**
COLA pmax pmax
comp=Z,69nm,0.7s
COLA College 84.09 20 *e*P **P** **14 31 29.2 -1.7**
comp=Z,108nm,1.2s
ILAR Eielson Array 84.36 21 P **P** **14 31 31.1 -1.2**
ILAR Eielson Array 84.36 21 P **P** **14 31 31.1 -1.2**
comp=Z,4.5nm,0.8s,baz=272,slow=4.3,SNR=42
ILAR LR LR 15 05 52.6
comp=Z,574nm,19.6s,baz=244,slow=33
MENT Mentasta 84.51 23 *e*P **P** **14 31 32.4 -0.8**
COLD Coldfoot 84.77 18 *e*P **P** **14 31 34.4 +0.1**
comp=Z,78nm,1.6s
BHPL Bhopal 84.88 294 *e*P **P** **14 31 34.4 -1.6**
DDI Dehra Dun 85.87 301 *e*P **P** **14 31 39.3 -1.5**
DDI AMB AMB 14 31 48.3
comp=Z,71nm,0.0s
NDI New Delhi 86.22 300 *e*P P 14 31 39.0 -3.4
SKAG Skagway 86.42 28 *e*P **P** **14 31 44.9 +2.2**
comp=Z,42nm,1.2s
EGAK Eagle 86.43 22 *e*P **P** **14 31 42.9 +0.2**
comp=Z,117nm,1.4s
SMLA Simla 86.79 302 *e*P **P** **14 31 43.8 -1.4**
SMLA AMB AMB 14 31 53.3
comp=Z,67nm,1.6s
MKAR Makanchi Array 86.88 318 P **P** **14 31 44.8 -0.5**
MKAR Makanchi Array 86.88 318 P **P** **14 31 44.8 -0.5**
MKAR Makanchi Array 86.88 318 P **P** **14 31 44.8 -0.5**
comp=Z,20nm,0.7s,baz=90,slow=6.1,SNR=218
POO Poona 87.24 289 *e*P **P** **14 31 44.9 -2.8**
POO AMB AMB 14 31 47.9
comp=Z,25nm,0.7s
ZAA0 Zalesovo Array 87.54 326 *e*P **P** **14 31 46.2 -2.0**
ZALV Zalesovo Beam 87.54 326 P **P** **14 31 46.5 -1.7**
ZALV Zalesovo Beam 87.54 326 P **P** **14 31 46.5 -1.7**
ZALV Zalesovo Beam 87.54 326 P **P** **14 31 46.5 -1.7**
comp=Z,7.4nm,0.9s,baz=108,slow=4.8,SNR=26
DHRM DHARAMSHALA 87.75 303 *e*P **P** **14 31 48.2 -1.9**
DHRM AMB AMB 14 31 57.7
comp=Z,64nm,2.2s
YBH Yreka Blue Hor 88.26 47 *e*P P 14 31 55.6 +3.5
comp=Z,20nm,1.2s
CMB Columbia Colle 89.17 51 *e*P **P** **14 31 57.5 +1.0**
CMB pmax pmax
comp=Z,53nm,1.7s
CMB Columbia Colle 89.17 51 *e*P **P** **14 31 57.5 +1.0**
comp=Z,53nm,1.7s
KSH Kashi 89.55 310 *i*P **P** **14 32 00.0 +1.7**
KSH *e*SKS **SKSac** **14 42 31.0 +2.6**
KSH S **S** **14 42 49.1 +0.2**
KSH sS **sS** **14 42 57.3 -0.4**
KSH *e*SS **SS** **14 48 50.3 +5.2**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,200nm,3.3s
KSH LR LR
comp=Z,380nm,15.9s
KSH LR LR
comp=Z,710nm,20.6s
KSH LR LR
comp=Z,520nm,20.6s
J05D Fort Rock, OR 89.68 46 P **P** **14 31 59.8 +0.9**
baz=90
VES Vestal, Richgr 89.74 54 P **P** **14 32 00.3 +1.2**
baz=90
WAKR Walker 90.00 51 *e*P **P** **14 32 02.7 +2.1**
comp=Z,64nm,1.6s
PASC Pasadena Art C 90.14 56 *e*P **P** **14 32 04.0 +3.0**
comp=Z,58nm,1.3s
MWC Mount Wilson 90.26 56 *e*P **P** **14 32 02.7 +0.9**
MWC pmax pmax
comp=Z,88nm,1.3s
MWC Mount Wilson 90.26 56 *e*P **P** **14 32 02.7 +0.9**
comp=Z,88nm,1.3s
KURK Kurchatov 90.27 321 P **P** **14 32 00.0 -1.2**
comp=Z,64nm,1.3s,SNR=7.3
KURK Kurchatov 90.27 321 *e*P **P** **14 31 59.4 -1.8**
KURK pmax pmax
comp=Z,26nm,1.4s
KURK Kurchatov 90.27 321 *e*P **P** **14 31 59.4 -1.8**
comp=Z,26nm,1.4s
EDW2 Edwards Air Fo 90.44 55 P **P** **14 32 05.3 +2.8**
baz=91
BFSC Mount Baldy Ra 90.59 56 P **P** **14 32 04.9 +1.6**
baz=91
TIN Tinemaha 90.65 53 P **P** **14 32 05.4 +1.8**
baz=91
INK Inuvik 90.75 20 *e*P **P** **14 32 02.6 -0.4**
comp=Z,49nm,1.4s
INK Inuvik 90.75 20 P **P** **14 32 02.6 -0.4**
comp=Z,2.6nm,0.8s,baz=211,slow=7.0,SNR=9.9
LRMC Laurel Mountai 90.79 54 P **P** **14 32 06.1 +1.9**
baz=91
NVAR Mina Array Bea 90.86 51 P **P** **14 32 06.1 +1.5**
NVAR Mina Array Bea 90.86 51 P **P** **14 32 06.1 +1.5**
comp=Z,12nm,1.0s,baz=243,slow=6.4,SNR=25
NVAR LR LR 15 08 09.6
comp=Z,388nm,18.8s,baz=100,slow=32
NV11 Mina Array St 90.97 51 *e*P **P** **14 32 06.0 +0.9**
DAC Darwin (Calif) 91.01 54 *e*P **P** **14 32 06.7 +1.4**
DAC pmax pmax
comp=Z,53nm,1.3s
DAC Darwin (Calif) 91.01 54 *e*P **P** **14 32 06.7 +1.4**
comp=Z,53nm,1.3s
SYO Syowa Base 91.20 199⇑ *e*sP sP 14 32 11.2 -1.2
FRU Bishkek 91.22 313 *e*P **P** **14 32 07.0 +1.1**
FRU *i* 14 32 14.0
FRU pmax pmax
comp=Z,58nm,2.0s
AAK Ala-Archa 91.27 313 P **P** **14 32 06.0 -0.3**
comp=Z,86nm,1.1s,SNR=6.6
AAK Ala-Archa 91.27 313 *c i*P **P** **14 32 05.7 -0.6**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 91.27 313 *e*P **P** **14 32 05.3 -1.1**
comp=Z,25nm,1.3s
WVOR Wild Horse Val 91.37 47 *e*P **P** **14 32 07.7 +1.0**
WVOR pmax pmax
comp=Z,39nm,1.4s
WVOR Wild Horse Val 91.37 47 *e*P **P** **14 32 07.7 +1.0**
comp=Z,39nm,1.4s
PFO Pinyon Flat Ob 91.46 56 P **P** **14 32 07.6 +0.2**
comp=Z,12nm,1.4s
GSC Goldstone 91.47 55 P **P** **14 32 09.0 +1.7**
baz=92
TPH Tonopah 91.63 52 *e*P **P** **14 32 08.4 +0.3**
TPH pmax pmax
comp=Z,31nm,1.1s
TPH Tonopah 91.63 52 *e*P **P** **14 32 08.3 +0.3**
comp=Z,31nm,1.1s
FURC Furnace Creek, 91.63 53 P **P** **14 32 10.6 +2.8**
baz=92
BELC Belle Mtn. Jos 91.90 56 P **P** **14 32 11.2 +1.8**
baz=92
BHJ Bhuj 91.91 293 *e*P **P** **14 32 09.3 -0.1**
BHJ AMB AMB 14 32 11.3
comp=Z,29nm,0.9s
BMN Battle Mountai 92.05 50 *e*P **P** **14 32 11.4 +1.4**
BMN pmax pmax
comp=Z,43nm,1.4s
BMN Battle Mountai 92.05 50 *e*P **P** **14 32 11.4 +1.4**
comp=Z,43nm,1.4s
TUQ Turquoise Moun 92.20 55 P **P** **14 32 12.8 +2.1**
baz=92
GMRC Granite Mounta 92.31 55 P **P** **14 32 12.5 +1.2**
baz=92
IRM Iron Mountain 92.62 56 P **P** **14 32 13.6 +1.1**
baz=93
BMO Blue Mountains 92.76 45 *e*P **P** **14 32 10.8 -2.3**
BMO pmax pmax
comp=Z,23nm,1.2s
BMO Blue Mountains 92.76 45 *e*P **P** **14 32 10.8 -2.3**
comp=Z,23nm,1.2s
R11A Troy Canyon, C 92.94 52 *e*P **P** **14 32 12.5 -1.7**
comp=Z,28nm,1.3s
R11A Troy Canyon, C 92.94 52 P **P** **14 32 15.8 +1.7**
baz=93
SHPR Sheep Range 92.98 54 *e*P **P** **14 32 16.7 +2.3**
comp=Z,64nm,1.8s
NEW Newport 93.47 42 P **P** **14 32 14.9 -1.3**
NEW Newport 93.47 42 P **P** **14 32 14.9 -1.3**
comp=Z,0.5nm,0.4s,baz=207,slow=11,SNR=2.9
MFID Camas Ranch 93.57 47 *e*P **P** **14 32 18.1 +1.2**
comp=Z,32nm,1.4s
ELK Elko 93.59 49 P **P** **14 32 18.6 +1.4**
ELK Elko 93.59 49 P **P** **14 32 18.6 +1.4**
comp=Z,2.3nm,0.9s,baz=180,slow=2.6,SNR=7.9
KBL Kabul 94.13 304 *e*P **P** **14 32 18.0 -1.8**
KBL pmax pmax
comp=Z,12nm,1.2s
KBL Kabul 94.13 304 *e*P **P** **14 32 17.9 -1.8**
comp=Z,12nm,1.2s
214A Organ Pipe Nat 94.23 58 P **P** **14 32 21.9 +1.9**
baz=94
KKAR Karatay Array 94.24 313 *e*P **P** **14 32 18.6 -1.2**
KKAR pmax pmax
comp=Z,23nm,1.4s
KKAR Karatay Array 94.24 313 *e*P **P** **14 32 18.6 -1.2**
comp=Z,24nm,1.4s
ARUT Antelope Range 94.53 53 P **P** **14 32 23.5 +2.0**
ARUT Antelope Range 94.53 53 P **P** **14 32 23.5 +2.0**
comp=Z,281nm,1.3s
HLID Hailey 94.61 47 *e*P **P** **14 32 24.6 +2.8**
comp=Z,26nm,1.3s
HLID Hailey 94.61 47 P **P** **14 32 24.5 +2.8**
baz=95
JTMT Jette 95.28 43 *e*P **P** **14 32 24.6 -0.1**
DUG Dugway 95.34 50 P **P** **14 32 27.7 +2.6**
baz=96
HVU Hansel Valley 95.57 49 *e*P **P** **14 32 25.7 -0.5**
HVU pmax pmax
comp=Z,37nm,1.3s
HVU Hansel Valley 95.57 49 *e*P **P** **14 32 25.7 -0.5**
comp=Z,37nm,1.3s
BRVK Borovoye 95.78 323 *e*P **P** **14 32 23.7 -2.9**
BRVK pmax pmax
comp=Z,34nm,1.3s
BRVK Borovoye 95.78 323 *e*P **P** **14 32 23.7 -2.9**
comp=Z,34nm,1.3s
EDM Edmonton 96.55 37 *e*P **P** **14 32 32.2 +2.1**
EDM Edmonton 96.55 37 *e*P **P** **14 32 32.2 +2.1**
YKA Yellowknife Ar 96.92 28 P **P** **14 32 30.8 -0.7**
YKA PKKP **PKKPbc** **14 49 11.6 -3.9**
YKA Yellowknife Ar 96.92 28 P **P** **14 32 30.8 -0.7**
comp=Z,1.5nm,0.9s,baz=260,slow=4.3,SNR=22
YKA PKKP **PKKPbc** **14 49 11.6 -3.9**
comp=Z,0.2nm,0.9s,baz=81,slow=3.3,SNR=5.0
PDAR Pinedale Array 98.05 48 P Pdif 14 32 38.8 +1.3
PDAR Pinedale Array 98.05 48 P Pdif 14 32 38.8 +1.3
comp=Z,1.0nm,0.9s,baz=254,slow=2.1,SNR=8.5
PDAR LR LR 15 13 18.8
comp=Z,228nm,18.9s,baz=284,slow=33
J20A Shoshoni 99.17 47 P **Pdif** **14 32 44.9 +2.5**
baz=99
ABKAR Akbulak array 102.02 318 *e*Pdif **Pdif** **14 32 52.7 -2.0**
comp=Z,2.6nm,0.8s
ARU Arti 102.70 326 P **Pdif** **14 33 03.4 +5.9**
APA Apatity 111.12 340 *i* PKiKP PKiKP 14 37 27.0 -6.6
APA MLR MLR
comp=Z,500nm,19.0s
ARCES ARCESS Array B 112.45 344 PKiKP **PKiKP** **14 37 35.0 -1.1**
ARCES ARCESS Array B 112.45 344 PKiKP **PKiKP** **14 37 35.0 -1.1**
comp=Z,1.9nm,0.8s,baz=56,slow=2.3,SNR=4.2
KIV Kislovodsk 114.36 314 *i* PKiKP PKPdf 14 37 41.9 +1.3
KIV *e* 14 38 37.7
KIV *e*PS **PS** **14 48 16.7 +1.7**
KIV *e*SS SS 14 54 30.8 +2.5
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,284nm,21.0s
TGUH Tegucigalpa,Un 116.20 79 PFAKE 14 38 00.0 +15
TGUH LR LR
comp=Z,304nm,20.0s
FINES FINESS Array B 117.04 336 PKP **PKPdf** **14 37 43.8 -1.3**
FINES FINESS Array B 117.04 336 PKP **PKPdf** **14 37 43.8 -1.3**
comp=Z,1.4nm,0.8s,baz=114,slow=4.8,SNR=4.5
AAM Ann Arbor 117.11 47 PFAKE 14 38 00.0 +14
AAM LR LR
comp=Z,1µm,19.0s
GOGA Godfrey 118.90 57 PFAKE 14 38 00.0 +10
GOGA LR LR
comp=Z,1µm,20.0s
ERPA Erie 119.79 47 PFAKE 14 38 00.0 +9.0
ERPA LR LR
comp=Z,509nm,22.0s
BLA Blacksburg 120.66 52 PFAKE 14 38 00.0 +7.1
BLA LR LR
comp=Z,759nm,20.0s
AKASG Malin Array Be 120.92 325 PKiKP **PKPdf** **14 37 51.3 -1.6**
AKASG Malin Array Be 120.92 325 PKP **PKPdf** **14 37 51.3 -1.6**
AKASG Malin Array Be 120.92 325 PKP **PKPdf** **14 37 51.3 -1.6**
comp=Z,2.0nm,0.7s,baz=60,slow=2.2,SNR=14
BRTR Keskin Array B 121.92 311 PKP **PKPdf** **14 37 52.8 -2.6**
BRTR Keskin Array B 121.92 311 PKP **PKPdf** **14 37 52.8 -2.6**
comp=Z,1.1nm,0.8s,baz=154,slow=4.0,SNR=4.4
SUW Suwalki 122.50 330 *e*PKiKP PKPdf 14 38 03.2 +7.4
BINY Binghamton 122.61 45 PFAKE 14 38 10.0 +14
BINY LR LR
comp=Z,819nm,22.0s
NB2 NORSAR Subarra 122.65 341 PKPdf **PKPdf** **14 37 54.8 -1.2**
comp=Z,5.8nm,1.4s,baz=39,slow=1.9
NOA NORSAR Array B 122.65 341 PKP **PKPdf** **14 37 55.0 -0.9**
NOA NORSAR Array B 122.65 341 PKP **PKPdf** **14 37 55.0 -0.9**
comp=Z,1.4nm,0.7s,baz=38,slow=1.7,SNR=6.4
BCIP Isla Barro Col 123.12 85 PFAKE 14 38 10.0 +12
BCIP LR LR
comp=Z,383nm,21.0s
LSZ Lusaka 124.52 244 *e*PKPdf **PKPdf** **14 37 59.1 -1.9**
LBNH Lisbon 124.64 42 PFAKE 14 38 10.0 +10
LBNH LR LR
comp=Z,535nm,21.0s
MTDJ Mount Denham 125.62 74 PFAKE 14 38 10.0 +7.0

MTDJ				LR	LR			
	comp=Z,194nm,20.0s							
PKME	**Peaks-Kenny Pk**	**125.90**	**40**	PFAKE		14 38 10.0	+7.4	
PKME				LR	LR			
	comp=Z,663nm,19.0s							
STHS	**Stebnicka Huta**	**126.03**	**326**	*e*PKIKP	PKPdf	14 38 08.2	+5.4	
CRVS	**Cervenica-Dubn**	**126.19**	**326**	*e*PKIKP	PKPdf	14 38 09.0	+5.9	
OKC	**Ostrava-Krasne**	**127.45**	**328**	*e*PKIKP	PKPdf	14 38 13.5	+8.1	
OKC				MLR	MLR			
	comp=Z,300nm,20.4s							
OKC	**Ostrava-Krasne**	**127.45**	**328**	*ep*PKP	PKPdf	14 38 13.5	+8.1	
OKC				AMS	AMS	15 37 40.0		
	comp=Z,300nm,20.4s							
KSP	**Ksiaz**	**127.77**	**330**	*e*PKIKP	PKPdf	14 38 14.2	+8.2	
MORC	**Moravsky Berou**	**127.80**	**328**	*e*PKIKP	**PKPdf**	**14 38 06.5**	**+0.3**	
MORC				*e*		14 38 13.8		
MORC	**Moravsky Berou**	**127.80**	**328**	*e*PKPdf	**PKPdf**	**14 38 06.5**	**+0.3**	
MORC				*e*		14 38 13.8		
LPAZ	**La Paz**	**127.95**	**119**	PKP	**PKPdf**	**14 38 07.9**	**-0.3**	
LPAZ	**La Paz**	**127.95**	**119**	PKP	**PKPdf**	**14 38 07.9**	**-0.3**	
	comp=Z,1.9nm,0.8s,baz=17,slow=4.6,SNR=4.4							
KRLC	**Kraliky**	**128.01**	**329**	*e*PKIKP	**PKPdf**	**14 38 06.7**	**+0.1**	
KRLC				*e*		14 38 13.5		
KRLC	**Kraliky**	**128.01**	**329**	*e*PKPdf	**PKPdf**	**14 38 06.7**	**+0.1**	
KRLC				*ex*	x	14 38 13.5		
DPC	**Dobruska-Polom**	**128.07**	**330**	*e*PKIKP	**PKPdf**	**14 38 07.2**	**+0.5**	
DPC				*e*		14 38 14.8		
DPC	**Dobruska-Polom**	**128.07**	**330**	*e*PKPdf	**PKPdf**	**14 38 07.2**	**+0.5**	
DPC				*ex*	x	14 38 14.8		
DPC				AMS	AMS	15 35 40.0		
UPC	**Upice**	**128.12**	**330**	*e*PKIKP	**PKPdf**	**14 38 10.0**	**+3.3**	
UPC				*e*		14 38 14.6		
UPC	**Upice**	**128.12**	**330**	*e*PKPdf	**PKPdf**	**14 38 10.0**	**+3.3**	
UPC				*ex*	x	14 38 14.6		
PVCC	**Panska Ves**	**128.81**	**331**	*e*PKIKP	**PKPdf**	**14 38 08.6**	**+0.6**	
PVCC				*e*		14 38 15.7		
PVCC	**Panska Ves**	**128.81**	**331**	*e*PKPdf	**PKPdf**	**14 38 08.6**	**+0.6**	
PVCC				*ex*	x	14 38 15.7		
BRG	**Berggiesshubel**	**128.89**	**331**	*e*PKIKP	**PKPdf**	**14 38 10.8**	**+2.7**	
BRG				*i*		14 38 16.2		
BRG				pmax	pmax			
	comp=Z,17nm,1.9s							
CLL	**Collm**	**129.03**	**332**	*e*PKIKP	**PKPdf**	**14 38 08.0**	**-0.4**	
CLL				*i*		14 38 15.8		
CLL				MLR	MLR			
	comp=Z,400nm,19.4s							
CLL	**Collm**	**129.03**	**332**	*e*PKPdf	**PKPdf**	**14 38 08.0**	**-0.4**	
CLL				*i*		14 38 15.8		
	comp=Z,12nm,1.2s							
CLL				LmV		15 40 00.0		
	comp=Z,400nm,19.4s							
TREC	**Trest**	**129.15**	**329**	*e*PKIKP	PKPdf	14 38 16.4	+7.7	
TREC				MLR	MLR			
	comp=Z,600nm,18.3s							
TREC	**Trest**	**129.15**	**329**	*ep*PKP	PKPdf	14 38 16.4	+7.7	
TREC				AMS	AMS	15 35 30.0		
	comp=Z,600nm,18.3s							
PRA	**Prague**	**129.18**	**330**	PKPdf	**PKPdf**	**14 38 10.0**	**+1.3**	
PRU	**Pruhonice**	**129.18**	**330**	*e*PKIKP	PKPdf	14 38 16.4	+7.7	
PRU				MLR	MLR			
	comp=Z,600nm,17.7s							
PRU	**Pruhonice**	**129.18**	**330**	*ep*PKP	PKPdf	14 38 16.4	+7.7	
PRU				AMS	AMS	15 38 40.0		
	comp=Z,600nm,17.7s							
KHC	**Kasperske Hory**	**130.22**	**330**	*e*PKIKP	**PKPdf**	**14 38 11.1**	**+0.3**	
KHC	**Kasperske Hory**	**130.22**	**330**	*e*PKIKP	**PKPdf**	**14 38 12.8**	**+2.0**	
KHC				*e*		14 38 18.8		
KHC				MLR	MLR			
	comp=Z,700nm,19.6s							
KHC	**Kasperske Hory**	**130.22**	**330**	*e*PKPdf	**PKPdf**	**14 38 12.8**	**+2.0**	
KHC				*ex*	x	14 38 18.8		
KHC				AMS	AMS	15 39 00.0		
	comp=Z,700nm,19.6s							
KHC	**Kasperske Hory**	**130.22**	**330**	*e*PKPdf	**PKPdf**	**14 38 11.1**	**+0.3**	
GERES	**GERESS Array B**	**130.34**	**329**	PKP	**PKPdf**	**14 38 09.4**	**-1.7**	
GERES	**GERESS Array B**	**130.34**	**329**	PKP	**PKPdf**	**14 38 09.4**	**-1.7**	
	comp=Z,0.7nm,0.7s,baz=79,slow=2.0,SNR=6.9							
GRF	**Grafenberg Arr**	**130.97**	**332**	*e*PKP	PKPdf	14 38 19.8	+7.6	
GRF				*eL*	L	15 36 16.9		
	comp=Z,336nm,20.8s							
GRTK	**Grand Turk**	**131.39**	**69**	PFAKE		14 38 30.0	+16	
GRTK				LR	LR			
	comp=Z,588nm,19.0s							
SDDR	**Presa de Saban**	**131.50**	**73**	PFAKE		14 38 30.0	+16	
SDDR				LR	LR			
	comp=Z,381nm,20.0s							
SDV	**Santo Domingo**	**132.16**	**86**	*e*PKPdf	**PKPdf**	**14 38 18.3**	**+2.7**	
CDF	**Champ du Feu**	**133.70**	**333**	*e*PKIKP	**PKPdf**	**14 38 16.1**	**-1.4**	
	comp=Z,19nm,1.4s							
CDF	**Champ du Feu**	**133.70**	**333**	*e*PKIKP	**PKPdf**	**14 38 16.1**	**-1.4**	
CDF	**Champ du Feu**	**133.70**	**333**	*e*PKPdf	**PKPdf**	**14 38 16.1**	**-1.4**	
TUE	**Stuetta**	**134.11**	**330**	*e*PKPdf	**PKPdf**	**14 38 18.2**	**-0.3**	
HINF	**Hinteralfeld**	**134.33**	**333**	*e*PKIKP	**PKPdf**	**14 38 16.9**	**-1.7**	
HINF	**Hinteralfeld**	**134.33**	**333**	*e*PKIKP	**PKPdf**	**14 38 16.9**	**-1.7**	
HINF	**Hinteralfeld**	**134.33**	**333**	*e*PKPdf	**PKPdf**	**14 38 16.9**	**-1.7**	
HAU	**Haudompre**	**134.41**	**333**	*e*PKIKP	**PKPdf**	**14 38 18.1**	**-0.6**	
HAU				*eR*				
	comp=Z,396nm,20.5s							
HAU	**Haudompre**	**134.41**	**333**	*e*PKIKP	**PKPdf**	**14 38 18.1**	**-0.6**	
HAU	**Haudompre**	**134.41**	**333**	*e*PKPdf	**PKPdf**	**14 38 18.1**	**-0.6**	
MEZF	**Maizieres J'vi**	**134.60**	**335**	*e*PKIKP	**PKPdf**	**14 38 17.7**	**-1.3**	
	comp=Z,48nm,1.4s							
MEZF	**Maizieres J'vi**	**134.60**	**335**	*e*PKPdf	**PKPdf**	**14 38 17.7**	**-1.3**	
VLC	**Villacollemand**	**135.14**	**327**	PFAKE		14 38 30.0	+10	
VLC				LR	LR			
	comp=Z,469nm,19.0s							
SAML	**Samuel**	**135.37**	**113**	*e*PKPdf	**PKPdf**	**14 38 20.9**	**-0.5**	
CABF	**La Chapelle**	**135.57**	**332**	*e*PKIKP	**PKPdf**	**14 38 19.9**	**-1.1**	
	comp=Z,47nm,1.2s							
CABF	**La Chapelle**	**135.57**	**332**	*e*PKIKP	**PKPdf**	**14 38 19.9**	**-1.1**	
CABF	**La Chapelle**	**135.57**	**332**	*e*PKPdf	**PKPdf**	**14 38 19.9**	**-1.1**	
LOR	**Lormes**	**136.06**	**334**	*e*PKIKP	**PKPdf**	**14 38 20.3**	**-1.5**	
	comp=Z,28nm,1.3s							
LOR				*eR*				
	comp=Z,285nm,18.8s							
LOR	**Lormes**	**136.06**	**334**	*e*PKPdf	**PKPdf**	**14 38 20.3**	**-1.5**	
LPL	**La Plagne**	**136.08**	**331**	*e*PKIKP	**PKPdf**	**14 38 20.8**	**-1.4**	
LPL	**La Plagne**	**136.08**	**331**	*e*PKIKP	**PKPdf**	**14 38 20.8**	**-1.4**	
LPL	**La Plagne**	**136.08**	**331**	*e*PKPdf	**PKPdf**	**14 38 20.8**	**-1.4**	
LPG	**La Plagne**	**136.08**	**331**	*e*PKIKP	**PKPdf**	**14 38 20.9**	**-1.4**	
	comp=Z,16nm,1.0s							
LPG	**La Plagne**	**136.08**	**331**	*e*PKIKP	**PKPdf**	**14 38 20.9**	**-1.4**	
LPG	**La Plagne**	**136.08**	**331**	*e*PKPdf	**PKPdf**	**14 38 20.9**	**-1.4**	
SSF	**Saint Saulge**	**136.37**	**335**	*e*PKIKP	**PKPdf**	**14 38 21.0**	**-1.4**	
	comp=Z,34nm,1.3s							
SSF	**Saint Saulge**	**136.37**	**335**	*e*PKIKP	**PKPdf**	**14 38 21.0**	**-1.4**	
SSF	**Saint Saulge**	**136.37**	**335**	*e*PKPdf	**PKPdf**	**14 38 21.0**	**-1.4**	
FLN	**La Foliniere**	**136.53**	**339**	*e*PKIKP	**PKPdf**	**14 38 21.0**	**-1.6**	
	comp=Z,47nm,1.3s							
FLN				*eR*				
	comp=Z,572nm,19.8s							
FLN	**La Foliniere**	**136.53**	**339**	*e*PKIKP	**PKPdf**	**14 38 21.0**	**-1.6**	
FLN	**La Foliniere**	**136.53**	**339**	*e*PKPdf	**PKPdf**	**14 38 21.0**	**-1.6**	
LDF	**La Druitiere**	**136.54**	**339**	*e*PKIKP	**PKPdf**	**14 38 21.2**	**-1.4**	
	comp=Z,50nm,1.5s							
LDF	**La Druitiere**	**136.54**	**339**	*e*PKIKP	**PKPdf**	**14 38 21.2**	**-1.4**	
LDF	**La Druitiere**	**136.54**	**339**	*e*PKPdf	**PKPdf**	**14 38 21.2**	**-1.4**	
SMF	**Signal de Mont**	**136.55**	**334**	*e*PKIKP	**PKPdf**	**14 38 21.2**	**-1.6**	
	comp=Z,20nm,1.2s							
SMF	**Signal de Mont**	**136.55**	**334**	*e*PKIKP	**PKPdf**	**14 38 21.2**	**-1.6**	
SMF	**Signal de Mont**	**136.55**	**334**	*e*PKPdf	**PKPdf**	**14 38 21.2**	**-1.6**	
AVF	**Avril sur Loir**	**136.65**	**334**	*e*PKIKP	**PKPdf**	**14 38 21.2**	**-1.7**	
	comp=Z,16nm,1.3s							
AVF	**Avril sur Loir**	**136.65**	**334**	*e*PKIKP	**PKPdf**	**14 38 21.2**	**-1.7**	
AVF	**Avril sur Loir**	**136.65**	**334**	*e*PKPdf	**PKPdf**	**14 38 21.2**	**-1.7**	
SBF	**Sospel**	**136.90**	**328**	*e*PKIKP	**PKPdf**	**14 38 22.0**	**-1.6**	
	comp=Z,29nm,1.0s							
SBF	**Sospel**	**136.90**	**328**	*e*PKIKP	**PKPdf**	**14 38 22.0**	**-1.6**	
SBF	**Sospel**	**136.90**	**328**	*e*PKPdf	**PKPdf**	**14 38 22.0**	**-1.6**	
ORIF	**Oris-en-Rattie**	**136.92**	**331**	*e*PKIKP	**PKPdf**	**14 38 22.0**	**-1.6**	
	comp=Z,31nm,1.5s							
ORIF				*eR*				
	comp=Z,605nm,21.5s							
ORIF	**Oris-en-Rattie**	**136.92**	**331**	*e*PKIKP	**PKPdf**	**14 38 22.0**	**-1.6**	
ORIF	**Oris-en-Rattie**	**136.92**	**331**	*e*PKPdf	**PKPdf**	**14 38 22.0**	**-1.6**	
PGF	**Pioggiola**	**136.96**	**326**	*e*PKIKP	**PKPdf**	**14 38 22.2**	**-1.6**	
	comp=Z,59nm,1.3s							
PGF	**Pioggiola**	**136.96**	**326**	*e*PKIKP	**PKPdf**	**14 38 22.2**	**-1.6**	
PGF	**Pioggiola**	**136.96**	**326**	*e*PKPdf	**PKPdf**	**14 38 22.2**	**-1.6**	
GRR	**Gorron**	**136.98**	**339**	*e*PKIKP	**PKPdf**	**14 38 22.0**	**-1.4**	
	comp=Z,50nm,1.5s							
GRR	**Gorron**	**136.98**	**339**	*e*PKIKP	**PKPdf**	**14 38 22.0**	**-1.4**	
GRR	**Gorron**	**136.98**	**339**	*e*PKPdf	**PKPdf**	**14 38 22.0**	**-1.4**	
FRF	**La Foret Royal**	**137.52**	**329**	*e*PKIKP	**PKPdf**	**14 38 22.8**	**-1.8**	
	comp=Z,39nm,1.4s							
FRF	**La Foret Royal**	**137.52**	**329**	*e*PKIKP	**PKPdf**	**14 38 22.8**	**-1.8**	
FRF	**La Foret Royal**	**137.52**	**329**	*e*PKPdf	**PKPdf**	**14 38 22.8**	**-1.8**	
TCF	**Toulx Ste Croi**	**137.53**	**335**	*e*PKIKP	**PKPdf**	**14 38 23.2**	**-1.4**	
	comp=Z,29nm,1.2s							
TCF	**Toulx Ste Croi**	**137.53**	**335**	*e*PKIKP	**PKPdf**	**14 38 23.2**	**-1.4**	
TCF	**Toulx Ste Croi**	**137.53**	**335**	*e*PKPdf	**PKPdf**	**14 38 23.2**	**-1.4**	
VIVF	**Saint-Julien-l**	**137.55**	**332**	*e*PKIKP	**PKPdf**	**14 38 23.1**	**-1.6**	
	comp=Z,28nm,1.4s							
VIVF	**Saint-Julien-l**	**137.55**	**332**	*e*PKIKP	**PKPdf**	**14 38 23.1**	**-1.6**	
VIVF	**Saint-Julien-l**	**137.55**	**332**	*e*PKPdf	**PKPdf**	**14 38 23.1**	**-1.6**	
LMR	**La Mourre**	**137.75**	**329**	*e*PKIKP	**PKPdf**	**14 38 23.6**	**-1.4**	
	comp=Z,35nm,1.3s							
LMR	**La Mourre**	**137.75**	**329**	*e*PKIKP	**PKPdf**	**14 38 23.6**	**-1.4**	
LMR	**La Mourre**	**137.75**	**329**	*e*PKPdf	**PKPdf**	**14 38 23.6**	**-1.4**	
SMRF	**Simiane la Rot**	**137.76**	**330**	*e*PKIKP	**PKPdf**	**14 38 23.6**	**-1.5**	
	comp=Z,59nm,1.5s							
SMRF	**Simiane la Rot**	**137.76**	**330**	*e*PKPdf	**PKPdf**	**14 38 23.6**	**-1.5**	
QUIF	**Quistinic**	**138.16**	**341**	*e*PKIKP	**PKPdf**	**14 38 24.2**	**-1.4**	
	comp=Z,67nm,1.5s							
QUIF	**Quistinic**	**138.16**	**341**	*e*PKIKP	**PKPdf**	**14 38 24.2**	**-1.4**	
QUIF	**Quistinic**	**138.16**	**341**	*e*PKPdf	**PKPdf**	**14 38 24.2**	**-1.4**	
MFF	**Saint Martin d**	**138.22**	**337**	*e*PKIKP	**PKPdf**	**14 38 24.4**	**-1.4**	
	comp=Z,52nm,1.5s							
MFF	**Saint Martin d**	**138.22**	**337**	*e*PKIKP	**PKPdf**	**14 38 24.4**	**-1.4**	
MFF	**Saint Martin d**	**138.22**	**337**	*e*PKPdf	**PKPdf**	**14 38 24.4**	**-1.4**	
LASF	**Ste Croix**	**138.52**	**331**	*e*PKIKP	**PKPdf**	**14 38 25.0**	**-1.5**	
LASF	**Ste Croix**	**138.52**	**331**	*e*PKPdf	**PKPdf**	**14 38 25.0**	**-1.5**	
ANWB	**Willy Bob**	**140.61**	**73**	PFAKE		14 38 40.0	+9.1	
ANWB				LR	LR			
	comp=Z,328nm,21.0s							
MSKU	**Masuku**	**142.77**	**255**	PFAKE		14 38 50.0	+15	
MSKU				LR	LR			
	comp=Z,2.0nm,21.0s							
BDFB	**Brasilia**	**144.46**	**134**	PKP	PKPbc	14 38 36.4	-0.1	
BDFB	**Brasilia**	**144.46**	**134**	PKP	PKPbc	14 38 36.4	-0.1	
	comp=Z,8.9nm,0.8s,baz=198,slow=3.3,SNR=17							
PBRG	**Braganca**	**144.75**	**340**	*e*PKP	PKPdf	14 38 44.4	+6.7	
MVO	**Moncorvo**	**145.42**	**340**	*e*PKP	PKPab	14 38 46.4	+7.4	
MVO	**Moncorvo**	**145.42**	**340**	*e*LR	LR	15 39 15.6		
	comp=Z,298nm,18.0s							
POLO	**Lamas de Olo**	**145.49**	**341**	*e*PKP	PKPab	14 38 44.6	+5.3	
ESDC	**Sonseca Array**	**145.54**	**335**	PKPbc	**PKPbc**	**14 38 39.2**	**0.0**	
ESDC	**Sonseca Array**	**145.54**	**335**	PKPbc	**PKPbc**	**14 38 39.2**	**0.0**	
	comp=Z,2.7nm,1.0s,baz=31,slow=2.8,SNR=8.5							
ESLA	**Sonseca Array**	**145.54**	**335**	*e*PKP	**PKPab**	**14 38 40.5**	**+1.0**	
PVRL	**Vila Real**	**145.55**	**341**	*e*PKP	**PKPab**	**14 38 44.0**	**+4.5**	
PVIS	**Viseu**	**146.11**	**340**	*e*PKP	PKPab	14 38 48.7	+7.1	
MTE	**Manteigas**	**146.28**	**340**	*e*PKP	**PKPab**	**14 38 44.5**	**+2.3**	
MTE	**Manteigas**	**146.28**	**340**	*e*LR	LR	15 38 36.4		
	comp=Z,332nm,20.0s							
PCBR	**Castelo Branco**	**146.75**	**339**	*e*PKP	PKPab	14 38 51.1	+7.1	
PMRV	**Marv??o**	**147.09**	**339**	*e*PKP	**PKPbc**	**14 38 43.6**	**-0.2**	
PMRV	**Marv??o**	**147.09**	**339**	*e*LR	LR	15 36 40.5		
	comp=Z,283nm,22.0s							
PVAQ	**Vaqueiros**	**148.99**	**337**	*e*LR	LR	15 43 04.3		
	comp=Z,376nm,20.0s							
TAM	**Tamanrasset**	**150.21**	**300**	*e*PKP2	**PKPbc**	**14 38 52.8**	**+0.2**	
TAM	**Tamanrasset**	**150.21**	**300**	*e*PKPbc	**PKPbc**	**14 38 52.8**	**+0.2**	
TORD	**Torodi Ar. Bea**	**156.26**	**282**	PKP	**PKPdf**	**14 38 55.7**	**-0.5**	
TORD				PKPab	**PKPab**	**14 39 24.8**	**+0.6**	
TORD	**Torodi Ar. Bea**	**156.26**	**282**	PKP	**PKPdf**	**14 38 55.7**	**-0.5**	
	comp=Z,2.4nm,1.1s,baz=356,slow=2.2,SNR=5.4							
TORD				PKPab	**PKPab**	**14 39 24.8**	**+0.6**	
	comp=Z,4.1nm,1.0s,baz=79,slow=3.6,SNR=5.9							
DBIC	**Dimbokro**	**162.68**	**263**	PKPab	**PKPab**	**14 39 51.5**	**-0.7**	
DBIC	**Dimbokro**	**162.68**	**263**	PKPab	**PKPab**	**14 39 51.5**	**-0.7**	
	comp=Z,7.4nm,0.8s,baz=107,slow=4.8,SNR=9.6							
LIC	**Lamto**	**162.77**	**261**	⇑*i*PKP2	**PKPab**	**14 39 51.6**	**-1.0**	
	comp=Z,24nm,0.9s							
LIC				*eR*				
	comp=Z,663nm,23.0s							
LIC	**Lamto**	**162.77**	**261**	⇑*i*PKPab	**PKPab**	**14 39 51.6**	**-1.0**	

*IDC **24** 14:49:15.5±1.1,51°.73N×173°.69E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/32, mbtmp3.2/5, Error ellipse: s-maj=26.8km s-min=13.2km az=84.0*
*ISCJB **24** 14:49:18.3±0.9,51°.75N±0°.08×173°.8E±0°.2, h28km, mb3.0/5, Error ellipse: s-maj=16.8km s-min=11.7km az=168.4*
ISC 24 14:49:20.0±1.1, 51°.9N±0°.1×173°.8E±0°.1, h28km, n8, σ1s 21/9, mb3.3/5, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.10**	**338**	Pn		**Pn**		**14 49 38.3**	**-1.3**
	36nm,0.3s,baz=168,slow=4.4,SNR=297								
FX1				Sn		**Sb**		**14 49 54.6**	**+0.2**
	88nm,0.3s,baz=273,slow=18,SNR=26								
PETK	**Petropavlovsk-**	**9.93**	**284**	Pn		**Pn**		**14 51 42.4**	**+1.7**
	0.2nm,0.3s,baz=112,slow=18,SNR=4.7								
SEY	**Seymchan**	**15.93**	**322**	Pn		**P**		**14 53 04.8**	**-0.4**
	0.1nm,0.3s,baz=127,slow=14,SNR=6.0								
ILAR	**Eielson Array**	**23.86**	**42**	P		**P**		**14 54 32.1**	**+1.5**
	0.3nm,1.0s,baz=200,slow=4.7,SNR=2.6								
YKA	**Yellowknife Ar**	**38.20**	**45**	P		**P**		**14 56 37.0**	**+0.3**
	0.1nm,0.5s,baz=283,slow=7.0,SNR=3.8								
MKAR	**Makanchi Array**	**56.05**	**304**	P		**P**		**14 58 55.4**	**-0.7**
	0.1nm,0.3s,baz=51,slow=6.9,SNR=3.4								
WRA	**Warramunga Arr**	**79.39**	**218**	P		**P**		**15 01 22.3**	**-1.0**
	0.2nm,0.7s,baz=23,slow=6.3,SNR=2.8								
ASAR	**Alice Springs**	**82.94**	**216**	P		**P**		**15 01 41.6**	**-0.5**
	0.2nm,0.6s,baz=22,slow=4.8,SNR=5.9								

WEL 24 14:55:48.5±0.2, 46°.07S×166°.82E, h82km±1km, ML3.8/12, 1C-4D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.14**	**223**	PN		Pn		14 56 00.1	-0.2
PYZ				SN		Sn		14 56 08.7	-0.3
DCZ	**Deep Cove**	**0.64**	**22**	PN		Pn		14 56 03.6	0.0
DCZ				SN		Sn		14 56 15.3	+0.6
DCZ				AML		AML		14 56 15.9	
DCZ				AML		AML		14 56 16.0	
DCZ				AML		AML		14 56 17.9	
WHZ	**Wether Hill Ro**	**0.81**	**78**	PN		Pn		14 56 05.2	-0.3
WHZ				SN		Sn		14 56 17.5	-0.6
WHZ				AML		AML		14 56 17.7	
APZ	**The Paps**	**1.12**	**134**	⇓PN		Pn		14 56 09.2	+0.1
APZ				SN		Sn		14 56 24.0	-0.5
APZ				AML		AML		14 56 24.2	
MLZ	**Mavora Lakes**	**1.19**	**53**	PN		Pn		14 56 09.6	-0.5
MLZ				SN		Sn		14 56 25.1	-1.1
MLZ				AML		AML		14 56 26.8	
MSZ	**Milford Sound**	**1.60**	**30**	PN		Pn		14 56 14.7	-0.4
MSZ				AML		AML		14 56 36.0	
MSZ				AML		AML		14 56 38.5	
MSZ				AML		AML		14 56 38.9	
MSZ				AML		AML		14 56 42.2	
SYZ	**Scrubby Hill**	**1.68**	**107**	⇓PN		Pn		14 56 15.9	-0.2
SYZ				AML		AML		14 56 37.1	
SYZ				AML		AML		14 56 37.1	
SYZ				AML		AML		14 56 37.4	
SYZ				AML		AML		14 56 37.4	
EAZ	**Earnscleugh**	**1.94**	**65**	PN		Pn		14 56 19.4	-0.2
EAZ				AML		AML		14 56 43.2	
EAZ				AML		AML		14 56 43.2	
EAZ				AML		AML		14 56 43.7	
EAZ				AML		AML		14 56 43.7	
TUZ	**Tuapeka**	**1.97**	**88**	PN		Pn		14 56 20.0	+0.1
TUZ				AML		AML		14 56 43.9	
TUZ				AML		AML		14 56 44.6	
WKZ	**Wanaka**	**1.98**	**52**	PN		Pn		14 56 20.6	+0.4
WKZ				AML		AML		14 56 45.2	
WKZ				AML		AML		14 56 45.2	
WKZ				AML		AML		14 56 45.5	
WKZ				AML		AML		14 56 45.5	
JCZ	**Jackson Bay**	**2.42**	**35**	⇑PN		Pn		14 56 26.2	+0.1
JCZ				AML		AML		14 56 30.0	
JCZ				AML		AML		14 56 59.7	
HHSZ	**Highcliff Hill**	**2.64**	**87**	⇓PN		Pn		14 56 28.5	-0.6
ODZ	**Otahua Downs**	**2.88**	**71**	⇓PN		Pn		14 56 30.5	-1.7
LBZ	**Lake Benmore**	**2.91**	**56**	PN		Pn		14 56 30.9	-1.7
LBZ				AML		AML		14 57 04.5	
LBZ				AML		AML		14 57 04.7	
FOZ	**Fox Glacier**	**3.23**	**40**	PN		Pn		14 56 36.9	0.0
RPZ	**Rata Peaks**	**3.82**	**54**	PN		Pn		14 56 42.3	-2.7
RPZ				AML		AML		14 57 26.7	
RPZ				AML		AML		14 57 26.8	
WVZ	**Waitaha Valley**	**4.10**	**45**	PN		Pn		14 56 46.9	-1.7
OXZ	**Oxford**	**4.62**	**56**	PN		Pn		14 56 52.9	-3.0
MQZ	**McQueen's Vall**	**4.77**	**62**	*e*PN		Pn		14 56 55.7	-2.1
CRLZ	**Canterbury Las**	**4.82**	**61**	*e*PN		Pn		14 56 56.9	-1.6
LTZ	**Lake Taylor**	**5.10**	**52**	PN		Pn		14 56 59.8	-2.6
DSZ	**Denniston Nort**	**5.62**	**42**	PN		Pn		14 57 07.6	-2.0
THZ	**Tophouse**	**6.15**	**48**	PN		Pn		14 57 14.0	-2.8
QRZ	**Quartz Range**	**6.69**	**40**	PN		Pn		14 57 21.9	-2.1

*IDC **24** 15:05:18.8±5.0, 13°.20N×120°.48E, h33km±39km, mb3.7/7, mb1 3.8/7, mb1mx3.5/29, mbtmp3.8/7, Error ellipse: s-maj=63.9km s-min=15.5km az=69.0*
*ISCJB **24** 15:05:19.0±0.6, 13°.21N±0°.03×120°.40E±0°.06, h52km±7km, mb3.8/8, Error ellipse: s-maj=10.0km s-min=5.4km az=11.0*
*MAN **24** 15:05:19, 13°.13N×120°.47E, h44km, mb4.9, ML3.8, MS3.9*
ISC 24 15:05:19.5±1.3, 13°.21N±0°.04×120°.39E±0°.06, h41km±14km, n26, σ1s 19/27, mb4.0/8, 5C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.62**	**62**	⇓*e*P		**Pn**		**15 05 30.6**	**-1.3**
PGP				*i* S		**Sn**		**15 05 39.1**	**-1.6**
TGY	**Tagaytay City**	**1.03**	**31**	Pg		**Pn**		**15 05 37.9**	**+0.4**
	779nm,0.3s,baz=224,slow=3.1,SNR=112								
TGY				Lg		Lg		15 05 52.3	
	1μm,0.3s,baz=306,slow=19,SNR=18								
TGY	**Tagaytay City**	**1.03**	**31**	⇑*e*P		**Pn**		**15 05 38.1**	**+0.6**
SJMP	**San Jose**	**1.03**	**136**	*e*P		**Pn**		**15 05 36.9**	**-0.6**
SJMP				*e*S		**Sn**		**15 05 53.3**	**+2.6**
BUSP	**Coron**	**1.22**	**189**	*e*P		**Pn**		**15 05 40.3**	**+0.2**
BUSP				*e*S		**Sn**		**15 05 55.6**	**+0.3**
LQP	**Lukban**	**1.43**	**51**	⇑*e*P		**Pn**		**15 05 43.1**	**-0.1**
BOAC	**Boac**	**1.43**	**80**	*e*P		**Pn**		**15 05 42.8**	**-0.3**
ARP	**Angono**	**1.51**	**29**	⇑*e*P		Pn		15 05 39.1	-5.0
OTRP	**Odiongan**	**1.80**	**118**	*e*P		**Pn**		**15 05 47.8**	**-0.3**
GQP	**Guinayangan**	**2.11**	**71**	⇓*e*P		**Pn**		**15 05 52.6**	**+0.2**
GQP				*e*S		**Sn**		**15 06 18.5**	**

CEP				S	S	15 24 06.0	-0.6	
CHCP	Chirah Chowk	3.49	142	P	Pn	15 23 38.4	+0.5	
CHCP				S	S	15 24 21.0	+0.1	
KK31	Karatay Array	6.64	359	⇑P	Pn	15 24 17.9	+0.2	
	3.8nm,0.3s,baz=174,slow=12,SNR=364							
KK31				S	S	15 25 30.1	-3.2	
	4.3nm,0.4s,baz=183,slow=21,SNR=6.1							
AAK	Ala-Archa	6.83	24	P	Pn	15 24 20.8	+0.6	
	4.6nm,0.3s,baz=180,slow=7.3,SNR=84							
AAK				S	S	15 25 36.2	-1.7	
	1.1nm,0.3s,baz=174,slow=21,SNR=7.7							
MKAR	Makanchi Array	13.46	36	P	Pn	15 25 46.1	+1.0	
	0.2nm,0.3s,baz=221,slow=9.8,SNR=7.0							
AB31	Akbulak array	15.01	332	P	P	15 26 06.5	+1.8	
	2.0nm,0.6s,baz=139,slow=10,SNR=11							
KURBB	Kurchatov Arra	15.24	19	P	Pn	15 26 06.8	0.0	
	0.2nm,0.3s,baz=209,slow=9.8,SNR=7.2							
BVAR	Borovoye Array	16.57	359	P	Pn	15 26 23.2	+0.4	
	0.3nm,0.3s,baz=156,slow=9.0,SNR=7.8							
AKTO	Aktyubinsk	16.70	331	P	Pn	15 26 24.8	+0.3	
	0.7nm,0.3s,baz=138,slow=11,SNR=13							
ZALV	Zalesovo Beam	20.05	25	P	P	15 27 00.1	+0.6	
	1.7nm,0.4s,baz=218,slow=11,SNR=11							
FINES	FINESS Array B	37.39	326	P	P	15 29 35.8	+0.8	
	0.6nm,0.4s,baz=114,slow=8.8,SNR=8.5							
ARCES	ARCESS Array B	41.10	338	P	P	15 30 06.8	+1.2	
	1.1nm,0.7s,baz=122,slow=8.3,SNR=6.4							
NOA	NORSAR Array B	44.28	323	P	P	15 30 31.4	+0.2	
	0.8nm,0.7s,baz=97,slow=7.8,SNR=2.9							
TORD	Torodi Ar. Bea	65.48	268	P	P	15 33 02.5	-1.3	
	0.6nm,0.5s,baz=48,slow=6.3,SNR=8.9							
YKA	Yellowknife Ar	81.30	2	P	P	15 34 35.6	+0.4	
	0.3nm,0.6s,baz=349,slow=5.3,SNR=12							
ASAR	Alice Springs	84.42	125	P	P	15 34 50.1	-1.7	
	0.2nm,0.9s,baz=298,slow=4.0,SNR=3.3							

KRSC 24 15:33:26.0±1.2, 55.15N×163.45E, h50km±22km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.12	342	*i* P	Pn	15 33 45.9	+0.6
KBTR				*e*S	Sn	15 34 01.1	+1.4
MKZ	Mys Kozlova	1.16	240	*e*P	Pn	15 33 46.2	+0.4
MKZ				*e*S	Sn	15 34 02.2	+1.7
KBG	Krutoberegovo	1.19	339	*i* P	Pn	15 33 46.6	+0.4
KBG				*i* S	Sn	15 34 03.0	+1.8
BKI	Bering	1.45	87	*e*P	Pn	15 33 52.9	+3.2
BKI				*e*S	Sn	15 34 12.8	+5.3
BZGR	Bezymyannyi-Gr	1.76	298	*e*P	Pn	15 33 56.0	+1.9
BZGR				*e*S	Sn	15 34 18.8	+3.4
SMKR	Semkarok	1.82	323	*e*P	Pn	15 33 56.7	+1.7
SMKR				*e*S	Sn	15 34 20.9	+4.0
BZMR	Bezymyannaya	1.86	296	*e*P	Pn	15 33 57.2	+1.6
BZMR				*e*S	Sn	15 34 21.3	+3.3
BZWR	Bezymyannyi-We	1.87	297	*e*P	Pn	15 33 57.1	+1.4
BZWR				*e*S	Sn	15 34 21.0	+2.7
TUMR	Tumrok	1.90	275	*e*P	Pn	15 33 57.6	+1.5
TUMR				*e*S	Sn	15 34 20.7	+1.8
BDR	Baidarnaya	1.90	319	*i* P	Pn	15 33 57.9	+1.8
BDR				*e*S	Sn	15 34 22.3	+3.3
KMNR	Kamenistaya	1.93	290	*i* P	Pn	15 33 58.6	+2.1
KMNR				*e*S	Sn	15 34 22.9	+3.3
KIRR	Kirishev	1.94	296	*e*P	Pn	15 33 58.6	+1.9
KIRR				*e*S	Sn	15 34 22.7	+2.6
KRSR	Krestovskiy	1.95	304	*e*S	Sn	15 34 23.2	+3.0
KLY	Klyuchi	1.97	308	*i* P	Pn	15 33 57.3	+0.5
KLY				*e*S	Sn	15 34 20.7	+0.4
SRKR	Sorokina	1.98	321	*e*P	Pn	15 33 59.0	+1.8
SRKR				*e*S	Sn	15 34 24.6	+3.7
KPT	Kopyto	2.01	295	*e*P	Pn	15 33 59.7	+2.2
KPT				*e*S	Sn	15 34 25.2	+3.6
KOZ	Kozyrevsk	2.23	296	*e*P	Pn	15 34 03.4	+3.0
KOZ				*e*S	Sn	15 34 31.3	+4.6
SRDR	Sredinnyy	2.42	301	*e*P	Pn	15 34 05.2	+2.1
SRDR				*e*S	Sn	15 34 34.5	+3.0
KII	Karymskiy	2.58	246	*e*P	Pn	15 34 07.3	+1.9
ESO	Esso	2.81	288	*e*P	Pn	15 34 10.1	+1.7
SPN	Mys Shipunski	2.88	226	*e*S	Sn	15 34 47.4	+4.7
NLC	Nalytchevo	3.12	232	*e*P	Pn	15 34 16.6	+3.0
NLC				*e*S	Sn	15 34 52.7	+4.1
SDLR	Sedlovina	3.27	237	*e*P	Pn	15 34 17.0	+2.1
SDLR				*e*S	Sn	15 34 56.3	+3.7
SMAR	Somma	3.32	237	*e*P	Pn	15 34 17.6	+1.9
KRER	Koryakskii	3.32	238	*e*P	Pn	15 34 18.6	+2.9
KRER				*e*S	Sn	15 34 58.0	+4.0
KRX	Arik	3.34	239	*e*P	Pn	15 34 19.0	+3.2
UGLR	Uglovaya	3.34	236	*e*P	Pn	15 34 18.9	+3.1
UGLR				*e*S	Sn	15 34 57.6	+3.3
AVH	Avacha	3.35	238	*e*P	Pn	15 34 19.9	+4.0
AVH				*e*S	Sn	15 34 59.1	+4.6
KOK	Koryaka	3.38	239	*e*P	Pn	15 34 19.4	+3.0
GNL	Ganaly	3.53	248	*e*P	Pn	15 34 21.2	+2.8
PET	Petropavlovsk	3.54	235	*e*P	Pn	15 34 20.7	+2.4
PET				*e*S	Sn	15 35 03.3	+4.5
RUS	Russkaya	4.00	229	*e*P	Pn	15 34 27.8	+3.2
RUS				*e*S	Sn	15 35 15.1	+5.0
MTVR	Mutnovka	4.11	232	*e*P	Pn	15 34 30.6	+4.2
MTVR				*e*S	Sn	15 35 17.6	+4.4
OSSR	Ossora	4.12	357	*e*P	Pn	15 34 29.1	+2.8
OSSR				*e*S	Sn	15 35 15.0	+1.9
ASAK	Asacha	4.30	232	*e*P	Pn	15 34 33.4	+4.4
APC	Apacha	4.33	242	*e*P	Pn	15 34 33.1	+4.0

DDA 24 15:38:53.1, 37.22N×36.88E, h7km, MD2.1, Turkey

IDC 24 15:43:28.0±2.2, 8.12S×129.71E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.2/40, mbtmp3.3/3, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/18, Error ellipse: s-maj=121.1km s-min=32.7km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.58	160	Pn	Pn	15 46 29.1	+0.7
	0.4nm,0.3s,baz=343,slow=13,SNR=25						
WRA				Sn	Sn	15 48 42.1	-7.2
	0.4nm,0.3s,baz=336,slow=21,SNR=8.1						
ASAR	Alice Springs	15.97	166	Pn	Pn	15 47 13.2	-1.0
	0.1nm,0.3s,baz=350,slow=16,SNR=14						
ASAR				Sn	Sn	15 50 04.9	-7.3
	0.1nm,0.3s,baz=321,slow=17,SNR=5.0						
NWAO	Narrogin (SRO)	27.26	203	LR	LR	16 00 50.4	
	comp=Z,77nm,20.4s,baz=244,slow=38						
MKAR	Makanchi Array	69.00	327	P	P	15 54 35.4	0.0
	0.2nm,0.5s,baz=123,slow=6.9,SNR=4.0						

IDC 24 15:47:12.1±2.9, 32.10S×57.47E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/54, mbtmp3.5/3, Error ellipse: s-maj=89.1km s-min=48.6km az=51.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	28.05	33	T	T	16 21 49.2	
	baz=207,slow=75,SNR=11						
H08S2	Diego Garcia H	28.06	33	T	T	16 21 50.3	
	baz=207,slow=75,SNR=9.2						
H08S3	Diego Garcia H	28.07	33	T	T	16 21 49.9	
	baz=207,slow=75,SNR=16						
H08N3	Diego Garcia H	28.56	29	T	T	16 22 29.9	
	baz=204,slow=76,SNR=53						
H08N1	Diego Garcia H	28.58	29	T	T	16 22 32.6	
	baz=204,slow=76,SNR=23						
H08N2	Diego Garcia H	28.59	29	T	T	16 22 31.6	
	baz=204,slow=76,SNR=53						
H01W2	Cape Leeuwin H	46.80	110	T	T	16 45 27.9	
	baz=256,slow=75,SNR=15						
H01W3	Cape Leeuwin H	46.80	110	T	T	16 45 28.4	
	baz=256,slow=75,SNR=14						
H01W1	Cape Leeuwin H	46.82	110	T	T	16 45 28.8	
	baz=256,slow=75,SNR=16						
CMAR	Chiang Mai Arr	64.07	44	P	P	15 57 48.0	0.0
	0.2nm,0.3s,baz=227,slow=8.0,SNR=3.8						
ASAR	Alice Springs	66.82	104	P	P	15 58 06.2	+0.1
	0.3nm,0.7s,baz=240,slow=5.9,SNR=6.9						
WRA	Warramunga Arr	68.86	101	P	P	15 58 18.9	0.0
	0.6nm,0.9s,baz=226,slow=7.7,SNR=3.5						
YKA	Yellowknife Ar	149.17	353	PKPbc	PKPbc	16 07 01.1	-0.6
	0.2nm,0.8s,baz=20,slow=1.9,SNR=5.2						

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*NOU **24** 15:53:17.1±1.5, 15.60S×168.77E, h30km, MD4.1, ML3.8*
*IDC **24** 15:53:22.9±0.8, 15.94S×167.84E, h154km±6km, mb4.1/20, mb1 4.2/21, mb1mx4.1/32, mbtmp4.5/21, MS3.5/7, Ms1 3.5/7, ms1mx3.3/24, Error ellipse: s-maj=15.8km s-min=9.5km az=99.0*
*NEIC **24** 15:53:22.4±0.3, 15.88S×167.89E, mb4.9/11, Error ellipse: s-maj=8.6km s-min=5.9km az=104.0*
*ISCJB **24** 15:53:23.3±1.1, 15.96S±0.05×167.88E±0.07, h174km±10km, mb4.5/36, Error ellipse: s-maj=11.5km s-min=8.6km az=174.1*
*BJI **24** 15:53:25.8, 15.84S×168.61E, h218km, mB4.9/24, mb4.6/35*

ISC 24 15:53:23.1±0.6, 15.98S±0.05×167.99E±0.08, h162km±4km, n143, σ1°08/164, mb4.6/36, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	6.23	190	*e*P	Pn	15 54 53.7	+0.7
BAYA				*e*S	Sn	15 56 04.6	+1.0
DZM	Mont Dzumac	6.24	193	*e*Pn	Pn	15 54 53.0	-0.1
	104nm,0.3s						
DZM				*e*Sn	Sn	15 56 00.5	-3.3
	52nm,0.3s						
DZM	Mont Dzumac	6.24	193	P	Pn	15 54 53.1	-0.1
DZM				S	Sn	15 56 02.7	-1.1
DZM	Mont Dzumac	6.24	193	P	Pn	15 54 53.1	-0.1
	31nm,0.3s,baz=357,slow=11,SNR=159						
DZM				S	Sn	15 56 02.7	-1.1
	1.9nm,0.3s,baz=299,slow=20,SNR=8.0						
DZM	Mont Dzumac	6.24	193	*e*P	Pn	15 54 53.1	-0.1
DZM				*e*S	Sn	15 56 05.3	+1.5
DZM				AMP		15 56 09.6	
	comp=Z,796nm,3.2s						
NOUC	Port Laguerre	6.30	194	*e*P	Pn	15 54 55.9	+2.0
NOUC				AMP		15 56 15.4	
	comp=Z,34nm,1.8s						
PLUM	Mont Dore	6.39	191	*e*P	Pn	15 54 54.9	-0.2
HNR	Honiara	10.19	309	P	Pn	15 55 47.6	+2.0
HNR	Honiara	10.19	309	P	Pn	15 55 47.6	+2.0
	comp=Z,36nm,0.3s,baz=190,slow=14,SNR=12						
HNR				LR	LR	15 59 15.1	
	comp=Z,428nm,20.6s,baz=138,slow=35						
EIDS	Eidsvold	18.36	237	*e*P	Pn	15 57 26.7	-0.9
	comp=Z,12nm,0.6s						
EIDS	Eidsvold	18.36	237	P	Pn	15 57 27.1	-0.5
	baz=18,SNR=11						
RAO	Raoul Island	18.51	138	LR	LR	16 02 23.5	
	comp=Z,324nm,21.0s,baz=24,slow=29						
OUZ	Omahuta	19.81	166	*e*P	Pn	15 57 44.3	-0.2
RMQ	Roma	20.73	237	P	P	15 57 52.8	+1.7
	baz=21,SNR=10						
ARMA	Armidale	20.77	223	*e*P	P	15 57 52.0	+0.5
	comp=Z,94nm,1.7s						
ARMA	Armidale	20.77	223	P	P	15 57 53.4	+1.9
	baz=21,SNR=14						
CTA	Charters Tower	21.07	256	P	P	15 57 55.1	+0.3
CTA	Charters Tower	21.07	256	P	P	15 57 55.1	+0.3
	comp=Z,3.8nm,0.5s,baz=80,slow=12,SNR=9.1						
CTAO	Charters Tower	21.07	256	*e*P	P	15 57 55.0	+0.2
NIUE	Niue	21.28	102	S	Sn	16 02 00.7	-2.8
	baz=21,SNR=5.1						
PMG	Port Moresby	21.34	285	LR	LR	16 04 45.0	
	comp=Z,75nm,19.2s,baz=39,slow=32						
MGCD	Mangrove Creek	22.96	219	P	P	15 58 15.1	+1.5
	baz=23,SNR=17						
URZ	Urewera	23.61	162	*e*P	P	15 58 21.1	+1.8
	comp=Z,77nm,1.4s						
URZ	Urewera	23.61	162	P	P	15 58 21.1	+1.8
	comp=Z,9.0nm,0.5s,baz=282,slow=2.1,SNR=17						
URZ				LR	LR	16 06 09.6	
	comp=Z,83nm,20.9s,baz=350,slow=32						
COEN	Coen	24.06	271	*e*P	P	15 58 22.7	-1.0
	comp=Z,83nm,1.0s						
QLP	Quilpie	24.48	241	P	P	15 58 27.4	-0.1
	baz=25,SNR=11						
CNB	Canberra Magne	25.47	217	P	P	15 58 36.8	+0.5
	baz=26,SNR=19						
CMSA	Cobar Meteorol	25.55	229	P	P	15 58 36.7	-0.3
	baz=26,SNR=26						
QIS	Mount Isa	27.32	256	P	P	15 58 56.1	+3.0
	baz=27,SNR=8.8						
RPZ	Rata Peaks	27.77	175	*e*P	P	15 58 57.0	+0.2
	comp=Z,17nm,0.5s						
STKA	Stephens Creek	28.75	232	*e*P	P	15 59 05.4	-0.2
	comp=Z,1.3nm,0.6s						
STKA				PcP	PcP	16 02 12.3	+0.6
STKA				ScP	ScP	16 05 39.1	+1.1
STKA	Stephens Creek	28.75	232	P	P	15 59 05.4	-0.2
	comp=Z,5.0nm,0.4s,baz=58,slow=9.2,SNR=31						
STKA				PcP	PcP	16 02 12.3	+0.6
	comp=Z,1.7nm,0.5s,baz=70,slow=4.9,SNR=4.8						
STKA				ScP	ScP	16 05 39.1	+1.1
	comp=Z,1.6nm,0.6s,baz=97,slow=5.6,SNR=5.9						
STKA				LR	LR	16 09 35.3	
	comp=Z,172nm,19.9s,baz=49,slow=34						
STKA	Stephens Creek	28.75	232	P	P	15 59 05.8	+0.2
	baz=29,SNR=26						
TOO	Toolangi	29.29	218	P	P	15 59 10.8	+0.5
	baz=30,SNR=7.1						
HTT	Hallett	31.46	231	P	P	15 59 29.6	+0.1
	baz=32,SNR=5.1						
WRAB	Tennant Creek	32.21	258	*e*P	P	15 59 34.9	-1.3
	comp=Z,2.3nm,0.4s						
WRA	Warramunga Arr	32.22	258	P	P	15 59 34.4	-2.0
WRA				ScP	ScP	16 05 51.2	+1.4
WRA	Warramunga Arr	32.22	258	P	P	15 59 34.4	-2.0
	comp=Z,0.9nm,0.3s,baz=79,slow=6.1,SNR=34						
WRA				ScP	ScP	16 05 51.2	+1.4
	comp=Z,1.3nm,0.9s,baz=88,slow=3.9,SNR=6.6						
AS31	Alice Springs	32.91	251	*e*P	P	15 59 41.1	-1.2
ASAR	Alice Springs	32.91	251	P	P	15 59 41.0	-1.2
ASAR				PcP	PcP	16 02 22.8	-0.2
ASAR				ScP	ScP	16 05 52.8	+0.7
ASAR	Alice Springs	32.91	251	P	P	15 59 41.0	-1.2
	comp=Z,7.1nm,0.5s,baz=78,slow=8.5,SNR=310						
ASAR				PcP	PcP	16 02 22.8	-0.2
	comp=Z,0.9nm,0.6s,baz=82,slow=2.6,SNR=4.5						
ASAR				ScP	ScP	16 05 52.8	+0.7
	comp=Z,0.9nm,0.6s,baz=91,slow=3.6,SNR=10						
BBOO	Buckleboo	33.39	234	*e*P	P	15 59 45.8	-0.6
	comp=Z,167nm,0.6s						
BBOO	Buckleboo	33.39	234	P	P	15 59 46.1	-0.2
	baz=34,SNR=13						
KDU	Kakadu	34.55	271	P	P	15 59 57.5	+1.0
	baz=35,SNR=6.0						
KNRA	Kununurra	37.71	265	P	P	16 00 21.8	-1.5
	baz=38,SNR=18						
WRKA	Warakurna	38.14	250	P	P	16 00 25.9	-1.1
	baz=38,SNR=6.4						
FORT	Forrest	39.28	241	P	P	16 00 36.1	-0.2
	baz=39,SNR=48						
PPT2	Papeete2	40.59	99	*e*LR	LR	16 12 18.0	
	comp=Z,78nm,22.2s						
MEEK	Meekatharra	46.96	248	P	P	16 01 37.6	-0.5
	baz=47,SNR=8.4						
NWAO	Narrogin (SRO)	48.72	240	P	P	16 01 50.6	-0.9
NWAO	Narrogin (SRO)	48.72	240	P	P	16 01 50.6	-0.9
	comp=Z,11nm,0.8s,baz=97,slow=6.7,SNR=11						
MORW	Morawa	49.37	245	P	P	16 01 58.7	+2.3
	baz=50,SNR=3.3						
JAGI	Jajag, Banyuwa	53.03	271	P	P	16 02 24.2	+0.3
	baz=53,SNR=3.6						
UGM	Wanagama	56.65	271	P	P	16 02 49.3	-0.7
	baz=57,SNR=4.9						
MJAR	Matsushiro Arr	59.33	332	P	P	16 03 07.0	-1.2
MJAR	Matsushiro Arr	59.33	332	P	P	16 03 07.0	-1.2
	comp=Z,14nm,0.9s,baz=166,slow=7.3,SNR=27						
MAJO	Matsushiro	59.33	332	*e*P	P	16 03 07.1	-1.1
	comp=Z,37nm,1.1s						
JNU	Nakatsue	60.34	324	P	P	16 03 14.5	-0.7
JNU	Nakatsue	60.34	324	P	P	16 03 14.5	-0.7
	comp=Z,14nm,1.0s,baz=202,slow=0.9,SNR=8.0						
NACB	Ninganchiao	60.37	310	*e*P	P	16 03 15.1	-0.3
VNDA	Vanda	61.64	182	P	P	16 03 24.3	+1.1
VNDA	Vanda	61.64	182	P	P	16 03 24.3	+1.1
	comp=Z,3.9nm,0.5s,baz=358,slow=8.4,SNR=24						
ASAJ	Asahikawa	64.15	340	P	P	16 03 41.1	+0.9
ASAJ	Asahikawa	64.15	340	P	P	16 03 41.1	+0.9
	comp=Z,5.5nm,0.4s,baz=218,slow=5.3,SNR=23						
KSRS	Korea Array	65.16	326	P	P	16 03 47.0	+0.1
	comp=Z,3.6nm,1.0s,baz=137,slow=8.0,SNR=8.0						
KSRS				LR	LR	16 32 11.1	
	comp=Z,28nm,18.2s,baz=126,slow=36						
KSAR	Wonju Array Be	65.17	326	P	P	16 03 47.0	0.0
YSS	Yuzh-Sakhalins	66.63	341	*e*P	P	16 03 56.5	+0.5
	comp=Z,27nm,1.1s						
USRK	Ussuriysk Arra	68.31	333	P	P	16 04 07.4	+0.7
	comp=Z,16nm,0.8s,baz=157,slow=5.4,SNR=26						
PETK	Petropavlovsk-	69.37	353	P	P	16 04 13.9	+0.9
PETK	Petropavlovsk-	69.37	353	P	P	16 04 13.9	+0.9
	comp=Z,1.7nm,0.8s,baz=166,slow=7.2,SNR=6.6						
PETK				LR	LR	16 30 28.4	
	comp=Z,21nm,20.4s,baz=110,slow=32						
MDJ	Mudanjiang	69.71	332	P	P	16 04 15.8	+0.5
MDJ				pmax	pmax		
	comp=Z,32nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.2s						
GYA	Guiyang	73.00	305	P	P	16 04 35.6	0.0
GYA				pP	pP	16 05 27.6	+13
GYA				sP	sP	16 05 51.4	+19
GYA				PP	PP	16 07 22.0	+1.4
GYA				S	S	16 13 42.3	-7.4
GYA				SKS	SKSac	16 14 15.9	-10
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
QSPA	South Pole Qui	74.06	180	*e*P	P	16 04 41.7	+0.5
	comp=Z,20nm,0.9s						
XAN	Xi'an	75.04	312	P	P	16 04 47.8	+0.5
CMAR	Chiang Mai Arr	76.09	294	P	P	16 04 54.2	+0.7
CMAR				pP	pP	16 05 32.0	-1.0
CMAR	Chiang Mai Arr	76.09	294	P	P	16 04 54.2	+0.7
	comp=Z,2.5nm,1.0s,baz=129,slow=4.4,SNR=14						
CMAR				pP	pP	16 05 32.0	-1.0
	comp=Z,2.0nm,1.0s,baz=128,slow=4.1,SNR=3.3						
HHC	Hu-ho-hao-te	76.98	320	*e*P	P	16 04 57.9	-0.3
HHC				PP	PP	16 07 56.3	+2.3
HHC				S	S	16 14 26.9	-6.4
HHC				sS	sS	16 16 00.0	+18
HHC				SS	SS	16 19 32.3	-1.9
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,250nm,5.3s						
CD2	Chengdu	77.32	307	*e*P	P	16 05 00.3	+0.1
CD2				PcP	PcP	16 05 10.4	+0.3
CD2				pP	pP	16 05 52.0	+12
CD2				PP	PP	16 07 59.3	+2.4
CD2				S	S	16 14 32.9	-4.3
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,110nm,6.0s						
SEY	Seymchan	79.60	353	P	P	16 05 11.4	-0.5
SEY	Seymchan	79.60	353	P	P	16 05 11.4	-0.5
	comp=Z,1.0nm,0.5s,baz=26,slow=22,SNR=7.8						
LZH	Lanzhou	79.67	312	*e*P	P	16 05 15.3	+2.2
LZH				pP	pP	16 06 08.9	+16
LZH				sP	sP	16 06 31.4	+21
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK	Yakutsk	83.42	343	*e*P	P	16 05 31.8	-0.2
	comp=Z,7.0nm,0.6s						
ULN	Ulaanbaatar	83.55	324	*e*P	P	16 05 33.2	+0.1
	comp=Z,24nm,1.1s						
SONM	Songino Array	83.91	323	P	P	16 05 35.2	+0.3
SONM	Songino Array	83.91	323	P	P	16 05 35.2	+0.3
	comp=Z,5.2nm,0.6s,baz=121,slow=3.7,SNR=47						
GTA	Gaotai	84.03	314	*e*P	P	16 05 36.6	+0.8
GTA				pP	pP	16 06 26.8	+11
GTA				sP	sP	16 06 47.8	+15
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ILAR	Eielson Array	87.50	18	P	P	16 05 50.2	-1.8
ILAR				pP	pP	16 06 32.6	0.0
ILAR	Eielson Array	87.50	18	P	P	16 05 50.2	-1.8
	comp=Z,1.3nm,0.5s,baz=242,slow=5.0,SNR=36						
ILAR				pP	pP	16 06 32.6	0.0
	comp=Z,0.7nm,0.7s,baz=234,slow=5.6,SNR=3.0						
NVAR	Mina Array Bea	87.56	49	P	P	16 05 54.4	+1.1
NVAR				pP	pP	16 06 33.1	-0.7
NVAR	Mina Array Bea	87.56	49	P	P	16 05 54.4	+1.1
	comp=Z,0.5nm,0.8s,baz=244,slow=7.7,SNR=3.4						
NVAR				pP	pP	16 06 33.1	-0.7
	comp=Z,0.4nm,0.7s,baz=252,slow=3.0,SNR=2.4						
SYO	Syowa Base	87.71	196	⇑*i*P	P	16 05 52.5	-0.7
SNAA	Sanae	92.34	183	P	P	16 06 14.2	-0.7
VNA2	Neumayer--Watz	93.26	182	P	P	16 06 19.4	+0.4
VNA1	Neumayer--Stat	93.55	181	P	P	16 06 19.9	-0.4
WMQ	Urumqi	94.10	314	P	P	16 06 22.9	-0.5
WMQ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,22nm,6.8s						
WMQ				LR	LR		
	comp=Z,12nm,14.6s						
WMQ				LR	LR		
	comp=Z,13nm,13.2s						
WMQ				LR	LR		
	comp=Z,19nm,15.7s						
YKA	Yellowknife Ar	98.33	27	P	P	16 06 41.8	-0.2
YKA				pP	pP	16 07 20.6	-2.2
YKA	Yellowknife Ar	98.33	27	P	P	16 06 41.8	-0.2
	comp=Z,0.3nm,0.9s,baz=270,slow=4.2,SNR=4.4						
YKA				pP	pP	16 07 20.6	-2.2
	comp=Z,0.5nm,0.9s,baz=256,slow=4.5,SNR=5.3						
MKAR	Makanchi Array	98.58	316	P	Pdif	16 06 43.8	+0.2
MKAR				PKKPbc	PKKPbc	16 23 12.1	-1.8
MKAR	Makanchi Array	98.58	316	P	Pdif	16 06 43.8	+0.2
	comp=Z,0.5nm,0.6s,baz=72,slow=6.3,SNR=10						
MKAR				PKKP

TIP	**Timpagrande**	**145.84**	**318**	*e*PKPbc	**PKPab**	**16 12 44.2**	**-0.2**
OG01	**Vacheresse**	**145.96**	**337**	PKP	**PKPab**	**16 12 44.7**	**0.0**
CUC	**Castrocucco**	**145.96**	**320**	*e*PKPbc	**PKPdf**	**16 12 43.1**	**0.0**
RSL	**Roselend**	**146.51**	**336**	PKP	**PKPab**	**16 12 46.1**	**-0.8**
CEL	**Celeste**	**146.92**	**318**	*e*PKPbc	**PKPbc**	**16 12 46.2**	**-0.7**
BNI	**Bardonecchia**	**147.02**	**335**	*e*PKPbc	**PKPbc**	**16 12 47.2**	**+0.1**
PLDF	**La Plantade**	**147.36**	**340**	PKP	**PKPbc**	**16 12 47.9**	**0.0**
AGO	**Saint Agoulin**	**147.45**	**340**	PKP	**PKPbc**	**16 12 47.8**	**-0.3**
SSB	**Saint Sauveur**	**147.64**	**338**	*e*PKPbc	**PKPbc**	**16 12 48.1**	**-0.6**
PYM	**Petit Puy Mans**	**147.76**	**340**	PKP	**PKPbc**	**16 12 49.0**	**0.0**
LBL	**Lubilhac**	**148.13**	**339**	PKP	**PKPbc**	**16 12 49.3**	**-0.7**
KEST	**Kesra**	**152.61**	**320**	PKPbc	**PKPbc**	**16 13 01.4**	**+0.4**
KEST	**Kesra**	**152.61**	**320**	PKPbc	**PKPbc**	**16 13 01.4**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=271,slow=5.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**166.44**	**260**	PKP	**PKPdf**	**16 13 10.2**	**+0.2**
TORD				PKPab	**PKPab**	**16 14 11.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**166.44**	**260**	PKP	**PKPdf**	**16 13 10.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=87,slow=0.8,SNR=7.3						
TORD				PKPab	**PKPab**	**16 14 11.7**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=89,slow=3.9,SNR=3.6						
DBIC	**Dimbokro**	**168.40**	**218**	PKPab	**PKPab**	**16 14 21.2**	**+0.1**
DBIC	**Dimbokro**	**168.40**	**218**	PKPab	**PKPab**	**16 14 21.2**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=146,slow=5.7,SNR=4.2						

*ISCJB **24** 16:40:56.7±0.4, 6°.86N±0°.04×72°.92W±0°.03, h168km±4km, mb4.5/52, Error ellipse: s-maj=6.0km s-min=4.9km az=26.4*
*IDC **24** 16:40:57.6±0.7, 6°.79N×72°.97W, h165km±6km, mb3.8/14, mb1 4.0/19, mb1mx3.8/31, mbtmp4.4/19, MS3.1/1, Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=16.2km s-min=10.7km az=54.0*
*FUNV **24** 16:40:57.3, 6°.78N×73°.11W, h167km, MW4.4*
*NEIC **24** 16:40:57.5±0.2, 6°.80N×72°.97W, mb4.6/36, Error ellipse: s-maj=5.8km s-min=4.2km az=65.0*
NEIC Felt at Bogota.

ISC 24 16:40:56.7±0.5, 6°.75N±0°.04×72°.95W±0°.04, h163km±4km, h163km:pP-P,n406,σ1§10/437, mb4.5/52, 154C-135D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.28**	**30**	⇑*i*P	**Pn**	**16 41 26.2**	**+0.8**
CAPV				*e*S	**Sn**	**16 41 47.5**	**+0.1**
ROSC	**El Rosal**	**2.32**	**216**	*e*Pn	**Pn**	**16 41 37.8**	**+1.1**
ROSC				*e*Sn	**Sn**	**16 42 04.0**	**-3.7**
ROSC				S	**Sn**	**16 42 04.4**	**-3.3**
ROSC	**El Rosal**	**2.32**	**216**	P	**Pn**	**16 41 37.8**	**+1.1**
	205nm,0.3s,baz=74,slow=5.0,SNR=711						
ROSC				S	**Sn**	**16 42 04.4**	**-3.3**
	204nm,0.3s,baz=110,slow=12,SNR=9.7						
SOCV	**Socops**	**2.58**	**54**	*e*P	**Pn**	**16 41 40.4**	**+0.9**
SOCV				*e*S	**Sn**	**16 42 12.4**	**-0.2**
SDV	**Santo Domingo**	**3.13**	**47**	*e*Pn	**Pn**	**16 41 47.6**	**+1.2**
ELOV	**Elorza**	**3.46**	**86**	*e*P	**Pn**	**16 41 52.5**	**+2.2**
VIRV	**Villa del Rosa**	**3.77**	**8**	*e*P	**Pn**	**16 41 52.9**	**-1.4**
VIRV				*e*S	**Sn**	**16 42 35.1**	**-4.2**
SANV	**Sanarito**	**4.35**	**51**	*e*P	**Pn**	**16 42 02.5**	**+0.5**
CURV	**Curarigua**	**4.39**	**42**	*e*P	**Pn**	**16 42 03.0**	**+0.5**
CURV				*e*S	**Sn**	**16 42 51.3**	**-2.5**
DABV	**Dabajuro**	**4.74**	**29**	*e*P	**Pn**	**16 42 07.3**	**+0.3**
DABV				*e*S	**Sn**	**16 42 58.5**	**-3.3**
SIQV	**Siquisique**	**4.97**	**39**	*e*P	**Pn**	**16 42 10.0**	**0.0**
SIQV				*e*S	**Sn**	**16 43 03.4**	**-3.9**
BAUV	**El Baul**	**5.33**	**66**	⇑*i*P	**Pn**	**16 42 14.3**	**-0.4**
BAUV				*e*S	**Sn**	**16 43 12.7**	**-3.1**
JACV	**Jacura**	**5.93**	**43**	*e*P	**Pn**	**16 42 23.1**	**+0.4**
MONV	**Montecano**	**5.95**	**29**	*e*P	**Pn**	**16 42 21.9**	**-1.0**
MONV				*e*S	**Sn**	**16 43 25.3**	**-5.3**
TURV	**Turiamo**	**6.25**	**54**	*e*P	**Pn**	**16 42 27.0**	**+0.1**
BCIP	**Isla Barro Col**	**7.23**	**290**	*e*P	Pn	16 42 36.1	-3.7
	142nm,0.8s						
CUPV	**Cœpira**	**7.81**	**65**	*e*P	**Pn**	**16 42 47.4**	**-0.3**
PRGV	**PARIAGUAN**	**8.47**	**76**	*e*P	**Pn**	**16 42 56.2**	**-0.2**
OTAV	**Otavalo**	**8.48**	**221**	*e*Pn	**Pn**	**16 42 55.3**	**-1.5**
	41nm,0.9s						
MTDJ	**Mount Denham**	**12.25**	**339**	*e*P	**Pn**	**16 43 46.1**	**+0.1**
	104nm,0.6s						
SDDR	**Presa de Saban**	**12.27**	**7**	*e*P	**Pn**	**16 43 44.5**	**-1.7**
	31nm,0.8s						
JTS	**JuntasAbangare**	**12.38**	**287**	*e*P	**Pn**	**16 43 47.0**	**-0.6**
	24nm,0.8s						
JTS	**JuntasAbangare**	**12.38**	**287**	P	**Pn**	**16 43 49.0**	**+1.4**
	0.3nm,0.3s,baz=110,slow=8.9,SNR=4.0						
JTS				LR	LR	16 50 19.9	
	comp=Z,83nm,19.5s,baz=22,slow=46						
CELP	**Cerrillos**	**12.86**	**28**	*e*P	**Pn**	**16 43 51.1**	**-2.7**
LRS	**Lares**	**12.93**	**27**	*e*P	**Pn**	**16 43 53.0**	**-1.6**
ATAH	**Atahualpa**	**14.82**	**202**	P	**P**	**16 44 20.0**	**-0.5**
ATAH	**Atahualpa**	**14.82**	**202**	P	**P**	**16 44 20.0**	**-0.5**
	0.5nm,0.3s,baz=24,slow=20,SNR=3.4						
PTGA	**Pitinga**	**14.94**	**119**	P	**P**	**16 44 21.6**	**+0.2**
PTGA				S	**Sn**	**16 47 02.1**	**-4.2**
PTGA	**Pitinga**	**14.94**	**119**	P	**P**	**16 44 21.6**	**+0.2**
	0.3nm,0.3s,baz=315,slow=20,SNR=2.4						
PTGA				S	**Sn**	**16 47 02.1**	**-4.2**
	1.7nm,0.3s,baz=350,slow=6.2,SNR=6.5						
SAML	**Samuel**	**18.38**	**148**	*e*P	**Pn**	**16 45 00.7**	**-0.7**
APG	**El Apazote**	**19.04**	**297**	P	**P**	**16 45 02.6**	**-4.2**
APG	**El Apazote**	**19.04**	**297**	P	**P**	**16 45 02.6**	**-4.2**
	0.6nm,0.3s,baz=119,slow=9.3,SNR=10						
TEIG	**Tepich**	**20.01**	**314**	P	**P**	**16 45 17.4**	**+0.5**
TEIG	**Tepich**	**20.01**	**314**	P	**P**	**16 45 17.4**	**+0.5**
	4.3nm,0.3s,baz=346,slow=1.2,SNR=19						
LPAZ	**La Paz**	**23.38**	**168**	P	**P**	**16 45 53.2**	**+1.7**
LPAZ				pP	**pP**	**16 46 25.1**	**+2.7**
LPAZ	**La Paz**	**23.38**	**168**	P	**P**	**16 45 53.2**	**+1.7**
	1.0nm,0.4s,baz=75,slow=11,SNR=5.2						
LPAZ				pP	**pP**	**16 46 25.1**	**+2.7**
	7.7nm,0.7s,baz=339,slow=7.4,SNR=9.9						
SIV	**San Ignacio**	**25.47**	**153**	pP	pP	16 46 44.1	+0.6
SIV	**San Ignacio**	**25.47**	**153**	pP	pP	16 46 44.1	+0.6
	3.9nm,0.8s,baz=333,slow=9.9,SNR=7.3						
KMSC	**Kings Mountain**	**29.29**	**346**	⇓P	**P**	**16 46 45.5**	**+1.7**
	baz=29						
035A	**Encino**	**31.22**	**313**	⇑P	**P**	**16 47 01.4**	**+0.5**
	baz=31						
034A	**Hebbronville**	**31.72**	**313**	⇓P	**P**	**16 47 05.2**	**0.0**
	baz=32						
735A	**Kenedy**	**32.16**	**316**	⇓P	**P**	**16 47 09.9**	**+0.8**
	baz=32						
WVT	**Waverly**	**32.27**	**337**	*e*P	**P**	**16 47 10.6**	**+0.7**
	26nm,1.0s						
933A	**Laredo**	**32.46**	**313**	⇓P	**P**	**16 47 12.0**	**+0.2**
	baz=32						
733A	**Divot King Ran**	**33.12**	**314**	⇓P	**P**	**16 47 17.6**	**+0.1**
	baz=33						
435B	**Jarrell**	**33.24**	**319**	⇓P	**P**	**16 47 18.8**	**+0.4**
	baz=33						
BDFB	**Brasilia**	**33.24**	**132**	P	**P**	**16 47 20.8**	**+2.1**
BDFB	**Brasilia**	**33.24**	**132**	P	**P**	**16 47 20.8**	**+2.1**
	1.4nm,0.4s,baz=282,slow=10,SNR=3.4						
534A	**Blanco**	**33.35**	**317**	⇑P	**P**	**16 47 19.1**	**-0.3**
	baz=33						
832A	**Faith Ranch, C**	**33.35**	**313**	⇑P	**P**	**16 47 19.2**	**-0.3**
	baz=33						
335A	**Moody**	**33.47**	**320**	⇓P	**P**	**16 47 20.9**	**+0.5**
	baz=34						
WCI	**Wyandotte Cave**	**33.59**	**341**	*e*P	**P**	**16 47 22.5**	**+1.0**
	10.0nm,0.6s						
732A	**Laxson Ranch,**	**33.61**	**314**	⇑P	**P**	**16 47 20.1**	**-1.5**
	baz=34						
434A	**Burnet**	**33.71**	**318**	⇑P	**P**	**16 47 21.9**	**-0.7**
	baz=34						
533A	**Kerrville**	**33.75**	**317**	⇑P	**P**	**16 47 23.0**	**0.0**
	baz=34						
USIN	**University of**	**33.83**	**339**	*e*P	**P**	**16 47 24.4**	**+1.0**
632A	**Uvalde**	**33.93**	**315**	⇓P	**P**	**16 47 24.3**	**-0.1**
	baz=34						
WHTX	**Lake Whitney**	**33.96**	**321**	⇓P	**P**	**16 47 24.8**	**+0.2**
	baz=34						
334A	**Lometa**	**34.02**	**319**	⇑P	**P**	**16 47 25.3**	**+0.1**
	baz=34						
SIUC	**Southern Illin**	**34.19**	**337**	*e*P	**P**	**16 47 27.2**	**+0.7**
	43nm,0.9s						
433A	**Art**	**34.22**	**318**	⇓P	**P**	**16 47 27.0**	**0.0**
	baz=34,SNR=12						
135A	**Vickery Place,**	**34.31**	**322**	⇓P	**P**	**16 47 27.8**	**+0.1**
	baz=34						
532A	**Rocksprings**	**34.38**	**316**	⇑P	**P**	**16 47 28.4**	**0.0**
	baz=34,SNR=9.4						
234A	**Clairette**	**34.40**	**320**	⇑P	**P**	**16 47 28.6**	**+0.1**
	baz=34						
631A	**Perdido Creek**	**34.43**	**314**	⇑P	**P**	**16 47 28.8**	**0.0**
	baz=34						
333A	**Richland Sprin**	**34.50**	**318**	⇓P	**P**	**16 47 29.1**	**-0.3**
	baz=34,SNR=7.7						
BLO	**Bloomington**	**34.52**	**341**	*e*P	**P**	**16 47 30.6**	**+1.2**
	39nm,0.8s						
JCT	**Junction City**	**34.53**	**317**	⇑P	**P**	**16 47 29.6**	**0.0**
	baz=34						
OLIL	**Olney**	**34.66**	**339**	*e*P	**P**	**16 47 31.2**	**+0.6**
	30nm,1.0s						
Z35A	**Perchaven, San**	**34.75**	**323**	⇑P	**P**	**16 47 31.9**	**+0.5**
	baz=35						
531A	**Rocksprings**	**34.85**	**315**	⇑P	**P**	**16 47 32.0**	**-0.4**
	baz=35						
233A	**Rising Star**	**34.90**	**319**	⇑P	**P**	**16 47 32.9**	**+0.1**
	baz=35,SNR=5.9						
332A	**Millersview**	**35.04**	**318**	⇑P	**P**	**16 47 34.1**	**0.0**
	baz=35						
Z34A	**Collier Ranch,**	**35.18**	**322**	⇑P	**P**	**16 47 35.4**	**+0.2**
	baz=35						
431A	**Sonora**	**35.20**	**316**	⇑P	**P**	**16 47 35.4**	**0.0**
	baz=35						
133A	**Hamilton Ranch**	**35.29**	**320**	⇓P	**P**	**16 47 36.4**	**+0.3**
	baz=35,SNR=5.7						
232A	**Coleman**	**35.30**	**319**	⇓P	**P**	**16 47 36.4**	**+0.2**
	baz=35,SNR=8.9						
530A	**J-C Ranch, Com**	**35.40**	**315**	⇑P	**P**	**16 47 37.4**	**+0.3**
	baz=35,SNR=11						
331A	**San Angelo**	**35.46**	**317**	⇓P	**P**	**16 47 37.9**	**+0.3**
	baz=36						
Y34A	**Reagan Ranch,**	**35.49**	**323**	⇑P	**P**	**16 47 38.0**	**+0.2**
	baz=36,SNR=5.2						
Z33A	**Whitaker Ranch**	**35.65**	**321**	⇑P	**P**	**16 47 39.4**	**+0.3**
	baz=36,SNR=5.4						
ABTX	**Abilene, Hawle**	**35.77**	**320**	*e*P	**P**	**16 47 40.4**	**+0.1**
	21nm,1.0s						
ABTX	**Abilene, Hawle**	**35.77**	**320**	⇓P	**P**	**16 47 40.3**	**+0.1**
	baz=36,SNR=6.9						
231A	**Bronte**	**35.77**	**318**	⇓P	**P**	**16 47 40.0**	**-0.2**
	baz=36,SNR=5.4						
TUL1	**Tulsa**	**35.79**	**327**	*e*P	**P**	**16 47 39.9**	**-0.4**
	3.8nm,0.5s						
TUL1	**Tulsa**	**35.79**	**327**	⇓P	**P**	**16 47 40.3**	**0.0**
	baz=36						
X34A	**Smith Ranch, M**	**35.98**	**324**	⇓P	**P**	**16 47 42.6**	**+0.6**
	baz=36						
529A	**Stev Forest Ra**	**36.01**	**314**	⇑P	**P**	**16 47 42.5**	**+0.1**
	baz=36						
330A	**Mertzon**	**36.02**	**317**	⇓P	**P**	**16 47 42.7**	**+0.2**
	baz=36						
Y33A	**Hilltop Ranch,**	**36.05**	**322**	⇑P	**P**	**16 47 42.9**	**+0.3**
	baz=36						
429A	**Davenport Ranc**	**36.06**	**315**	⇑P	**P**	**16 47 42.6**	**-0.2**
	baz=36						
Z32A	**Haskell**	**36.10**	**321**	⇓P	**P**	**16 47 43.4**	**+0.4**
	baz=36,SNR=12						
230A	**Sterling City**	**36.27**	**317**	⇓P	**P**	**16 47 44.8**	**+0.2**
	baz=36						
131A	**Roby**	**36.28**	**319**	⇓P	**P**	**16 47 44.8**	**+0.2**
	baz=36						
X33A	**Lawton**	**36.34**	**323**	⇑P	**P**	**16 47 44.8**	**-0.1**
	baz=36						
W34A	**Bridge Creek,**	**36.40**	**325**	⇓P	**P**	**16 47 45.3**	**-0.2**
	baz=36,SNR=6.1						
528A	**Cox Ranch, San**	**36.44**	**313**	⇑P	**P**	**16 47 46.0**	**-0.1**
	baz=36						
627A	**Terlingua Ranc**	**36.49**	**312**	⇓P	**P**	**16 47 46.7**	**+0.1**
	baz=36,SNR=5.8						
Z31A	**Sharp Cattle R**	**36.53**	**320**	⇓P	**P**	**16 47 47.3**	**+0.6**
	baz=37						
Y32A	**R-V Farms, Ver**	**36.54**	**322**	⇑P	**P**	**16 47 47.1**	**+0.3**
	baz=37,SNR=7.5						
130A	**Snyder**	**36.61**	**318**	⇑P	**P**	**16 47 47.4**	**0.0**
	baz=37						
329A	**Wagon Wheel Ra**	**36.63**	**316**	⇓P	**P**	**16 47 47.4**	**-0.2**
	baz=37,SNR=5.4						
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**16 47 48.1**	**+0.4**
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**16 47 48.1**	**+0.4**
	3.5nm,0.6s,baz=131,slow=9.2,SNR=20						
V34A	**Guthrie**	**36.68**	**326**	⇓P	**P**	**16 47 47.8**	**-0.1**
	baz=37						
428A	**Kincaid Ranch,**	**36.68**	**314**	⇑P	**P**	**16 47 48.3**	**+0.2**
	baz=37						
X32A	**Elmer**	**36.73**	**322**	⇓P	**P**	**16 47 48.3**	**-0.1**
	baz=37						
229A	**Bryant Ranch,**	**36.79**	**317**	⇑P	**P**	**16 47 48.8**	**-0.2**
	baz=37,SNR=9.3						
Y31A	**Rekieta Farm,**	**37.03**	**321**	⇑P	**P**	**16 47 51.6**	**+0.8**
	baz=37,SNR=13						
626A	**Big Bend Ranch**	**37.10**	**312**	⇑P	**P**	**16 47 51.6**	**0.0**
	baz=37						
V33A	**Lossen Ranch,**	**37.10**	**325**	⇑P	**P**	**16 47 51.3**	**-0.2**
	baz=37,SNR=10						
U34A	**Anderson Ranch**	**37.12**	**326**	⇓P	**P**	**16 47 51.1**	**-0.5**
	baz=37,SNR=5.8						
328A	**Wristen Ranch,**	**37.14**	**315**	⇓P	**P**	**16 47 52.0**	**+0.1**
	baz=37,SNR=6.6						
Z30A	**Sanderson Ranc**	**37.15**	**319**	⇓P	**P**	**16 47 51.9**	**-0.1**
	baz=37,SNR=7.1						
W32A	**Sentinel**	**37.18**	**323**	⇓P	**P**	**16 47 52.2**	**+0.1**
	baz=37,SNR=8.1						
129A	**Stewart Farms,**	**37.23**	**318**	⇓P	**P**	**16 47 52.9**	**+0.2**
	baz=37,SNR=8.9						
427A	**Hayter Ranch,**	**37.26**	**314**	⇓P	**P**	**16 47 52.8**	**-0.2**
	baz=37,SNR=9.3						
X31A	**McDonald Ranch**	**37.29**	**322**	⇑P	**P**	**16 47 53.0**	**-0.1**
	baz=37,SNR=5.1						
526A	**Mary Lane Ranc**	**37.33**	**312**	⇑P	**P**	**16 47 53.5**	**-0.1**
	baz=37						
Y30A	**Stafford Cattl**	**37.38**	**320**	⇑P	**P**	**16 47 54.2**	**+0.3**
	baz=37,SNR=11						
228A	**UT Block 9, Go**	**37.42**	**316**	⇓P	**P**	**16 47 54.2**	**-0.1**
	baz=37						
U33A	**Lingo Farm, Me**	**37.44**	**326**	⇑P	**P**	**16 47 53.5**	**-0.8**
	baz=38						
V32A	**Arapaho**	**37.47**	**324**	⇑P	**P**	**16 47 54.8**	**+0.2**
	baz=38						
Z29A	**Hungry Hill Ra**	**37.51**	**319**	⇓P	**P**	**16 47 55.1**	**+0.1**
	baz=38,SNR=16						
426A	**McDonald Obser**	**37.61**	**313**	⇑P	**P**	**16 47 56.4**	**+0.3**
	baz=38,SNR=11						
128A	**Castleberry Fa**	**37.64**	**317**	⇑P	**P**	**16 47 56.7**	**+0.6**
	baz=38,SNR=11						
W31A	**Holland Ranch,**	**37.64**	**323**	⇓P	**P**	**16 47 55.9**	**-0.2**
	baz=38,SNR=6.5						
X30A	**Coker Ranch, T**	**37.73**	**321**	⇑P	**P**	**16 47 57.4**	**+0.6**
	baz=38						
Y29A	**Porterfield Fa**	**37.86**	**319**	⇓P	**P**	**16 47 58.4**	**+0.4**
	baz=38,SNR=11						
U32A	**Winter Ranch,**	**37.91**	**325**	⇓P	**P**	**16 47 58.1**	**-0.1**
	baz=38						
Z28A	**Tucker Farm, M**	**37.98**	**318**	⇑P	**P**	**16 47 59.1**	**+0.1**
	baz=38,SNR=6.3						
V31A	**Spring Creek L**	**37.98**	**323**	⇓P	**P**	**16 47 59.4**	**+0.6**
	baz=38						
T33A	**Patterson Ranc**	**37.98**	**326**	⇓P	**P**	**16 47 59.2**	**+0.3**
	baz=38						
S33A	**Kaszmaul Farm,**	**38.22**	**327**	⇓P	**P**	**16 48 01.1**	**+0.2**
	baz=38						
X29A	**Tulia**	**38.25**	**320**	⇓P	**P**	**16 48 01.4**	**+0.2**
	baz=38,SNR=7.6						
Y28A	**McKinney Farm,**	**38.27**	**319**	⇑P	**P**	**16 48 01.4**	**0.0**
	baz=38,SNR=9.6						
425A	**Indio Mountain**	**38.37**	**313**	⇓P	**P**	**16 48 02.4**	**0.0**
	baz=38,SNR=8.9						
226B	**Tecolote Peak,**	**38.49**	**315**	⇓P	**P**	**16 48 03.5**	**+0.3**
	baz=38,SNR=6.1						
AMTX	**Amarillo**	**38.52**	**321**	⇑P	**P**	**16 48 04.1**	**+0.7**
	baz=38						
Z27A	**Tatum**	**38.55**	**317**	⇓P	**P**	**16 48 03.9**	**+0.2**
	baz=39,SNR=33						
X28A	**Dimmitt**	**38.61**	**320**	⇑P	**P**	**16 48 04.3**	**0.0**
	baz=39						
KSU1	**Kansas State U**	**38.63**	**330**	⇑P	**P**	**16 48 03.8**	**-0.4**
	baz=39						
MSTX	**Muleshoe**	**38.65**	**319**	*e*P	**P**	**16 48 04.3**	**-0.3**
	24nm,1.1s						
MSTX	**Muleshoe**	**38.65**	**319**	⇑P	**P**	**16 48 04.8**	**+0.2**
	baz=39,SNR=6.0						
W29A	**Amraillo**	**38.65**	**321**	⇓P	**P**	**16 48 05.1**	**+0.6**
	baz=39						
R33A	**Olander Ranch,**	**38.74**	**328**	⇑P	**P**	**16 48 05.2**	**0.0**
	baz=39						
T31A	**Randall Ranch,**	**38.80**	**325**	⇓P	**P**	**16 48 05.9**	**+0.3**
	baz=39						
S32A	**Newby Ranch, P**	**38.81**	**326**	⇓P	**P**	**16 48 05.8**	**+0.1**
	baz=39						
Y27A	**Causey**	**38.85**	**318**	⇑P	**P**	**16 48 06.5**	**+0.2**
	baz=39						
225A	**Deer Hill, Car**	**38.97**	**315**	⇑P	**P**	**16 48 07.7**	**+0.4**
	baz=39,SNR=6.1						
U30A	**WK&E Inc. Balk**	**38.97**	**323**	⇑P	**P**	**16 48 07.6**	**+0.4**
	baz=39						
Z26A	**Caprock**	**39.04**	**317**	⇑P	**P**	**16 48 07.8**	**-0.1**
	baz=39,SNR=10						
V29A	**Stinnett**	**39.06**	**322**	⇓P	**P**	**16 48 08.8**	**+0.9**
	baz=39,SNR=9.0						
MNTX	**Cornudas Mount**	**39.14**	**314**	*e*P	**P**	**16 48 08.8**	**+0.1**
	11nm,0.8s						
125A	**Gardner Draw,**	**39.16**	**315**	⇓P	**P**	**16 48 09.2**	**+0.4**
	baz=39,SNR=7.1						
Q33A	**Connelly Farm,**	**39.17**	**329**	⇓P	**P**	**16 48 09.3**	**+0.5**
	baz=39						
X27A	**F and S Farms,**	**39.27**	**319**	⇓P	**P**	**16 48 10.0**	**+0.2**
	baz=39						
Y26A	**Elida**	**39.32**	**318**	⇓P	**P**	**16 48 10.6**	**+0.4**
	baz=39						
W27A	**Bowe Ranch, En**	**39.51**	**320**	⇑P	**P**	**16 48 11.8**	**+0.1**
	baz=40,SNR=8.4						
Z25A	**Roswell**	**39.55**	**316**	⇑P	**P**	**16 48 13.1**	**+1.0**
	baz=40,SNR=9.9						
R31A	**Burdett**	**39.56**	**326**	⇑P	**P**	**16 48 12.1**	**+0.2**
	baz=40						
X26A	**CR and CF Fran**	**39.68**	**318**	⇓P	**P**	**16 48 13.4**	**+0.2**
	baz=40,SNR=7.4						
T29A	**Hugoton**	**39.78**	**324**	⇓P	**P**	**16 48 14.8**	**+0.9**
	baz=40						
V27A	**Dan Oppiter Fa**	**39.80**	**321**	⇓P	**P**	**16 48 14.9**	**+0.8**
	baz=40						
Y25A	**Mesa, Roswell**	**39.90**	**317**	⇑P	**P**	**16 48 16.1**	**+1.1**
	baz=40						
R30A	**Dighton**	**39.97**	**326**	⇓P	**P**	**16 48 15.7**	**+0.3**
	baz=40						
W26A	**Owens Ranch, T**	**39.98**	**319**	⇑P	**P**	**16 48 16.2**	**+0.6**
	baz=40,SNR=5.5						
S29A	**Ulysses**	**39.99**	**324**	⇑P	**P**	**16 48 15.9**	**+0.3**
	baz=40						
Z24A	**Sheeppen Canyo**	**40.02**	**316**	⇓P	**P**	**16 48 17.1**	**+1.0**
	baz=40						
U27A	**Thompson Grove**	**40.22**	**322**	⇑P	**P**	**16 48 18.2**	**+0.7**
	baz=40						
X25A	**Clemmons Ranch**	**40.23**	**318**	⇓P	**P**	**16 48 18.6**	**+0.9**
	baz=40						
T28A	**Walsh**	**40.24**	**323**	⇑P	**P**	**16 48 18.3**	**+0.6**
	baz=40						
Y24A	**Capitan**	**40.41**	**316**	⇑P	**P**	**16 48 20.1**	**+0.8**
	baz=40,SNR=11						
S28A	**Manter**	**40.42**	**324**	⇑P	**P**	**16 48 19.7**	**+0.5**
	baz=40,SNR=8.2						
V26A	**Tequesquite Ra**	**40.43**	**320**	⇑P	**P**	**16 48 20.1**	**+0.9**
	baz=40,SNR=6.4						
Q30A	**Quinter**	**40.43**	**327**	⇑P	**P**	**16 48 19.6**	**+0.4**
	baz=40						
W25A	**X Bar L Ranch,**	**40.51**	**319**	⇓P	**P**	**16 48 20.7**	**+0.7**
	baz=40,SNR=9.7						
T27A	**Campo**	**40.57**	**322**	⇑P	**P**	**16 48 20.9**	**+0.4**
	baz=41						
U26A	**Atchley Ranch,**	**40.77**	**321**	⇓P	**P**	**16 48 23.0**	**+0.8**
	baz=41						
Q29A	**Oakley**	**40.79**	**326**	⇑P	**P**	**16 48 22.5**	**+0.4**
	baz=41						
Y23A	**Lovelace Mesa,**	**40.84**	**316**	⇓P	**P**	**16 48 23.7**	**+0.9**
	baz=41,SNR=6.8						
R28A	**Tribune**	**40.88**	**325**	⇑P	**P**	**16 48 23.0**	**+0.1**
	baz=41,SNR=9.9						
V25A	**Rancho No Teng**	**40.98**	**319**	⇓P	**P**	**16 48 24.8**	**+0.9**
	baz=41,SNR=5.7						
Z22A	**Elephant Butte**	**41.10**	**315**	⇓P	**P**	**16 48 25.7**	**+0.8**
	baz=41,SNR=7.8						
W24A	**Lazy 6 Ranch,**	**41.13**	**318**	⇑P	**P**	**16 48 26.5**	**+1.3**
	baz=41						
T26A	**Comanche Natio**	**41.17**	**322**	⇑P	**P**	**16 48 26.3**	**+0.8**
	baz=41,SNR=7.5						
U25A	**Circle Dot Ran**	**41.19**	**320**	⇓P	**P**	**16 48 26.3**	**+0.7**
	baz=41						
121A	**Cookes Peak, D**	**41.31**	**313**	⇓P	**P**	**16 48 27.4**	**+0.7**
	baz=41						
V24A	**Rampart Ranch,**	**41.34**	**319**	⇓P	**P**	**16 48 28.0**	**+1.1**
	baz=41,SNR=6.9	

ISCO	Idaho Springs 12nm,1.0s	44.06	323	*e*P	P	16 48 49.5	+0.6
ISCO	Idaho Springs baz=44,SNR=9.1	44.06	323	⇓P	P	16 48 50.1	+1.3
I29A	Vivian Onida baz=44	44.18	332	⇑P	P	16 48 49.6	+0.2
J28A	Allard Ranch, baz=44	44.18	330	⇑P	P	16 48 49.5	0.0
MVCO	Mesa Verde baz=44	44.32	318	⇑P	P	16 48 51.4	+0.6
G30A	Faulkton baz=45	44.50	334	⇓P	P	16 48 51.9	+0.1
H29A	Onida baz=45	44.59	332	⇓P	P	16 48 52.4	-0.2
P22A	Eagle baz=45	44.62	322	⇓P	P	16 48 53.9	+0.7
214A	Organ Pipe Nat baz=45	44.80	309	⇓P	P	16 48 55.2	+0.7
O22A	Kremmling baz=45,SNR=13	44.85	323	⇓P	P	16 48 55.6	+0.5
PV01	Paradox Valley 2μm,1.4s	44.89	319	*e*P	P	16 48 56.5	+1.1
K25A	Mack Ranch, Ha baz=45	44.95	328	⇓P	P	16 48 56.2	+0.6
N23A	Red Feather La baz=45,SNR=6.5	44.96	324	⇓P	P	16 48 57.0	+1.1
J26A	Sides Ranch, S baz=45	45.02	329	⇓P	P	16 48 57.2	+1.1
WUAZ	Wupatki 24nm,1.0s	45.39	315	*e*P	P	16 49 00.2	+1.0
WUAZ	Wupatki baz=45,SNR=21	45.39	315	⇑P	P	16 49 00.7	+1.4
Z14A	Wintersburg baz=46,SNR=7.0	45.52	311	⇓P	P	16 49 01.1	+1.0
L23A	Garrett baz=46	45.62	326	⇓P	P	16 49 01.7	+0.7
F28A	McLaughlin baz=46	45.79	333	⇑P	P	16 49 02.1	0.0
Y14A	Wickenburg baz=46,SNR=10	45.82	312	⇓P	P	16 49 03.3	+0.7
E29A	Napoleon baz=46	45.84	334	⇓P	P	16 49 02.6	+0.2
O20A	White River Ci baz=46	45.86	322	⇓P	P	16 49 03.9	+1.0
I25A	Rochford baz=46	45.86	329	⇑P	P	16 49 03.3	+0.5
D30A	Buchanan baz=46,SNR=6.0	45.90	336	⇑P	P	16 49 02.8	0.0
G27A	Dupree baz=46	45.96	332	⇑P	P	16 49 04.4	+1.0
K23A	Bowen Ranch, D baz=46	46.00	326	⇓P	P	16 49 04.4	+0.6
D29A	Pettibone, Tap baz=46	46.21	335	⇓P	P	16 49 05.4	+0.1
I24A	Kuemmerle Ranc baz=46	46.21	328	⇓P	P	16 49 06.3	+0.8
C30A	Mose, Pekin baz=46,SNR=9.3	46.26	336	⇑P	P	16 49 05.8	+0.2
N20A	Spence Gulch, baz=46	46.29	323	⇑P	P	16 49 07.8	+1.5
E28A	Huff baz=46	46.30	334	⇓P	P	16 49 06.5	+0.4
F27A	Lemmon baz=46	46.37	332	⇓P	P	16 49 07.4	+0.7
E27A	Carson baz=47	46.58	333	⇓P	P	16 49 09.1	+0.9
D28A	Regan baz=47	46.73	334	⇓P	P	16 49 09.8	+0.5
B30A	Myrvik Farm, E baz=47,SNR=7.8	46.80	337	⇑P	P	16 49 10.2	+0.3
GLA	Glamis baz=47	46.81	310	⇑P	P	16 49 11.1	+0.8
K21A	Alcova baz=47,SNR=10	46.83	325	⇑P	P	16 49 11.0	+0.6
Y12C	Blythe baz=47	46.87	311	⇑P	P	16 49 10.6	-0.1
J22A	Midwest baz=47,SNR=10	46.90	327	⇑P	P	16 49 11.2	+0.3
W13A	Hualapai Mount baz=47	47.00	313	⇑P	P	16 49 12.3	+0.4
E26A	Carlson Angus baz=47	47.02	332	⇑P	P	16 49 12.0	+0.4
D27A	Center baz=47	47.08	334	⇓P	P	16 49 12.6	+0.6
A30A	Hoffart Farm, baz=47,SNR=6.9	47.19	337	⇓P	P	16 49 13.2	+0.3
B29A	Wagenman Farm, baz=47,SNR=18	47.22	336	⇓P	P	16 49 13.8	+0.7
I22A	9 Mile Ranch, baz=47,SNR=6.1	47.22	327	⇑P	P	16 49 14.2	+0.9
ULM	Lac du Bonnet	47.41	340	P	P	16 49 14.1	-0.4
ULM	Lac du Bonnet 14nm,0.5s,baz=150,slow=7.9,SNR=24	47.41	340	P	P	16 49 14.1	-0.4
D26A	Manning baz=48,SNR=5.5	47.43	333	⇑P	P	16 49 15.1	+0.3
E25A	Miller Ranch, baz=48	47.48	332	⇑P	P	16 49 15.7	+0.5
MVU	Marysvale 17nm,1.0s	47.49	318	*e*P	P	16 49 16.5	+0.8
IRM	Iron Mountain baz=48	47.52	311	⇑P	P	16 49 16.3	+0.6
C27A	Sayler Ranch, baz=48	47.53	334	⇑P	P	16 49 16.1	+0.6
G23A	Biddle baz=48	47.53	329	⇓P	P	16 49 16.7	+1.0
A29A	Manning Farm, baz=48,SNR=9.1	47.54	337	⇑P	P	16 49 15.7	+0.2
I21A	Big Trails, Te baz=48,SNR=9.6	47.61	326	⇓P	P	16 49 16.7	+0.3
B28A	Dugan Ranch, T baz=48	47.62	335	⇑P	P	16 49 16.8	+0.6
H22A	Clearmont baz=48	47.62	328	⇑P	P	16 49 17.2	+0.8
J20A	Shoshoni baz=48,SNR=6.4	47.76	325	⇑P	P	16 49 18.5	+1.0
C26A	Wahner Farm, P baz=48	47.88	334	⇑P	P	16 49 19.5	+1.3
F23A	Volborg baz=48	47.90	330	⇓P	P	16 49 19.3	+0.8
MPU	Maple Canyon 15nm,1.0s	47.92	320	*e*P	P	16 49 19.5	+0.6
A28A	Rude Farm, Bot baz=48	47.94	336	⇑P	P	16 49 19.4	+0.7
B27A	Peters Farms, baz=48	47.96	335	⇑P	P	16 49 20.0	+1.2
ARUT	Antelope Range 38nm,0.4s	47.96	316	*e*P	P	16 49 20.1	+0.9
H21A	Big Horn, Sher baz=48	48.01	327	⇓P	P	16 49 20.2	+0.8
G22A	Birney baz=48,SNR=5.3	48.01	328	⇓P	P	16 49 19.7	+0.3
BELC	Belle Mtn. Jos baz=48	48.09	310	⇑P	P	16 49 20.7	+0.5
I20A	Worland baz=48,SNR=9.9	48.16	326	⇓P	P	16 49 21.0	+0.5
GMRC	Granite Mounta baz=48	48.16	311	⇓P	P	16 49 21.2	+0.4
SCHQ	Schefferville	48.20	5	P	P	16 49 21.4	+0.9
SCHQ	Schefferville 8.2nm,0.7s,baz=198,slow=6.8,SNR=19	48.20	5	P	P	16 49 21.4	+0.9
BW06	Boulder Array 10nm,1.2s	48.24	324	*e*P	P	16 49 20.8	-0.5
PDAR	Pinedale Array	48.24	324	P	P	16 49 21.4	0.0
PDAR				PcP	PcP	16 50 46.1	+0.2
PDAR	Pinedale Array 5.1nm,0.8s,baz=129,slow=8.8,SNR=30	48.24	324	P	P	16 49 21.4	0.0
PDAR				PcP	PcP	16 50 46.1	+0.2
J19A	0.7nm,0.7s,baz=134,slow=5.2,SNR=3.0 Crowheart baz=48	48.25	325	⇑P	P	16 49 21.8	+0.5
PFO	Pinyon Flat Ob baz=48	48.28	310	⇓P	P	16 49 22.7	+1.0
B26A	Jensen Ranch, baz=48	48.35	334	⇑P	P	16 49 22.6	+0.7
D24A	Glendive baz=48,SNR=5.4	48.37	332	⇑P	P	16 49 22.6	+0.6
F22A	Rosebud baz=48	48.38	329	⇓P	P	16 49 22.8	+0.6
A27A	Ledoux Ranch, baz=48	48.38	335	⇓P	P	16 49 23.0	+1.0
H20A	Greybull baz=48,SNR=11	48.44	327	⇓P	P	16 49 22.9	+0.3
G21A	Lodge Grass baz=48	48.49	328	⇓P	P	16 49 23.6	+0.5
SHPR	Sheep Range 9.6nm,1.4s	48.56	314	*e*P	P	16 49 24.4	+0.6
TUQ	Turquoise Moun baz=49,SNR=7.1	48.64	312	⇓P	P	16 49 25.2	+0.8
A26A	Wade Farm, Ken baz=49	48.67	335	⇑P	P	16 49 25.0	+0.7
B25A	Knox Farm, Ray baz=49,SNR=16	48.68	333	⇓P	P	16 49 25.8	+1.4
HEC	Hector,Ludlow baz=49	48.69	311	⇓P	P	16 49 25.5	+0.8
I19A	Meeteetse baz=49,SNR=5.5	48.70	326	⇓P	P	16 49 25.3	+0.5
C24A	Savage baz=49	48.71	332	⇑P	P	16 49 25.8	+1.1
DUG	Dugway baz=49,SNR=5.9	48.78	319	⇑P	P	16 49 26.4	+1.0
D23A	Lindsay baz=49	48.83	331	⇓P	P	16 49 26.7	+1.2
G20A	Bridger baz=49,SNR=12	49.03	327	⇓P	P	16 49 27.3	+0.1
H19A	Powell baz=49	49.09	326	⇓P	P	16 49 28.2	+0.5
A25A	Svangstu Ranch baz=49	49.16	334	⇓P	P	16 49 29.2	+1.2
GSC	Goldstone baz=49	49.24	312	⇑P	P	16 49 29.6	+0.7
C23A	Lambert baz=49	49.27	332	⇑P	P	16 49 29.8	+1.0
D22A	Cohagen baz=49,SNR=12	49.28	330	⇑P	P	16 49 29.9	+0.9
DGMT	Dagmar baz=49,SNR=8.0	49.29	333	⇑P	P	16 49 29.9	+0.9
BGU	Big Grassy Mou 7.5nm,1.0s	49.31	320	*e*P	P	16 49 29.9	+0.5
F20A	Billings baz=49,SNR=5.3	49.37	328	⇑P	P	16 49 30.1	+0.3
H18A	Shoshone NF, C baz=50	49.47	326	⇓P	P	16 49 30.7	0.0
C22A	Vida baz=50	49.56	331	⇑P	P	16 49 32.0	+1.0
D21A	La Casta Ranch baz=50,SNR=5.1	49.63	330	⇑P	P	16 49 32.8	+1.2
R11A	Troy Canyon, C baz=50,SNR=7.3	49.71	316	⇓P	P	16 49 33.0	+0.5
FURC	Furnace Creek, baz=50	49.77	313	⇑P	P	16 49 34.1	+1.3
E20A	Meyer Farm, Mu baz=50,SNR=19	49.83	329	⇑P	P	16 49 34.1	+1.0
EDW2	Edwards Air Fo baz=50	49.95	311	⇓P	P	16 49 35.0	+0.7
A23A	Redstone baz=50	49.96	333	⇑P	P	16 49 35.7	+1.7
LRMC	Laurel Mountai baz=50	49.97	311	⇑P	P	16 49 35.0	+0.5
B22A	Reddig Ranch S baz=50	50.00	332	⇓P	P	16 49 35.8	+1.4
E19A	Rath Farm, Rou baz=50	50.14	328	⇑P	P	16 49 36.5	+1.0
D20A	Manuel Ranch, baz=50,SNR=6.2	50.22	329	⇓P	P	16 49 37.1	+1.0
QLMT	Earthquake Lak 0.6nm,0.7s	50.56	325	*e*P	P	16 49 39.9	+1.0
C20A	Veseth Ranch, baz=51	50.57	330	⇓P	P	16 49 40.0	+1.3
B21A	Ellsworth Farm baz=51	50.58	331	⇓P	P	16 49 40.4	+1.7
D19A	Cripps Ranch, baz=51,SNR=5.7	50.65	329	⇑P	P	16 49 40.1	+0.7
CWC	Cottonwood Cre baz=51	50.65	312	⇑P	P	16 49 40.3	+0.6
B20A	Solberg Farm, baz=51,SNR=6.5	51.07	331	⇑P	P	16 49 43.6	+1.2
VES	Vestal, Richgr baz=51	51.15	311	⇓P	P	16 49 44.4	+1.2
A20A	Cobblestone Ra baz=51	51.33	331	⇑P	P	16 49 45.6	+1.3
MCMT	McKenzie Canyo 3.9nm,0.8s	51.38	324	*e*P	P	16 49 46.2	+1.2
B19A	Brinkman Farms baz=52	51.54	330	⇑P	P	16 49 46.6	+0.7
HLID	Hailey baz=52,SNR=8.9	51.60	322	⇓P	P	16 49 47.1	+0.5
NVAR	Mina Array Bea	51.65	315	P	P	16 49 48.0	+0.8
NVAR				PcP	PcP	16 50 59.0	+0.4
NVAR	Mina Array Bea 2.7nm,0.7s,baz=122,slow=6.8,SNR=20	51.65	315	P	P	16 49 48.0	+0.8
NVAR				PcP	PcP	16 50 59.0	+0.4
LRM	1.1nm,0.6s,baz=116,slow=4.1,SNR=4.9 Limekiln Ridge 61nm,1.0s	51.73	325	*e*P	P	16 49 48.1	+0.4
A19A	Klindworth Far baz=52	51.76	331	⇑P	P	16 49 48.6	+1.1
HRY	Holter Researc 4.2nm,0.5s	51.92	327	*e*P	P	16 49 49.5	+0.7
MFID	Camas Ranch 8.9nm,0.8s	52.39	321	*e*P	P	16 49 52.3	-0.1
MSO	Missoula baz=53	53.16	326	⇑P	P	16 49 58.6	+0.6
FFC	Flin Flon 5.0nm,0.9s	53.22	339	*e*P	P	16 49 57.6	-0.4
WVOR	Wild Horse Val 16nm,1.1s	53.69	319	*e*P	P	16 50 02.3	+0.3
BLMT	Blacktail Moun 12nm,1.0s	54.08	327	*e*P	P	16 50 05.8	+1.0
BSMT	Bassod Peak 11nm,1.2s	54.22	326	*e*P	P	16 50 06.0	+0.2
M04C	Macdoel baz=56	55.54	317	⇑P	P	16 50 15.1	-0.2
NEW	Newport 3.6nm,1.1s	55.75	326	*e*P	P	16 50 16.2	-0.3
NEW	Newport baz=56	55.75	326	⇑P	P	16 50 16.3	-0.2
J05D	Fort Rock, OR baz=56	55.78	319	⇑P	P	16 50 17.7	+0.7
EDM	Edmonton	56.77	332	*e*P	P	16 50 23.0	-0.6
YKA	Yellowknife Ar	63.39	340	P	P	16 51 08.6	+0.1
YKA				pP	pP	16 51 48.4	+1.4
YKA	Yellowknife Ar 7.2nm,0.6s,baz=133,slow=6.6,SNR=240	63.39	340	P	P	16 51 08.6	+0.1
YKA				pP	pP	16 51 48.3	+1.4
TIC	1.5nm,0.8s,baz=130,slow=7.1,SNR=2.3 Toumodi 3.0nm,0.2s	67.42	86	*e*P	P	16 51 35.3	0.0
LIC	Lamto 19nm,1.3s	67.44	86	*e*P	P	16 51 36.0	+0.6
DBIC	Dimbokro	67.58	86	P	P	16 51 36.5	+0.3
DBIC	Dimbokro 0.9nm,0.4s,baz=251,slow=6.7,SNR=4.6	67.58	86	P	P	16 51 36.5	+0.3
KIC	Kosan Boka 86nm,2.2s	67.71	86	*e*P	P	16 51 38.0	+0.8
SUMG	Summit 5.4nm,0.7s	69.03	11	*i* P	P	16 51 45.6	+0.9
TORD	Torodi Ar. Bea	73.59	78	P	P	16 52 12.7	0.0
TORD	Torodi Ar. Bea 0.0nm,0.3s,baz=285,slow=6.6,SNR=5.5	73.59	78	P	P	16 52 12.7	0.0
DAG	Danmarks Havn 1.7nm,0.8s	75.70	11	*i* P	P	16 52 24.0	+0.4
ILAR	Eielson Array	77.10	335	P	P	16 52 32.0	+0.2
ILAR	Eielson Array 1.5nm,0.8s,baz=107,slow=4.5,SNR=15	77.10	335	P	P	16 52 32.0	+0.2
NOA	NORSAR Array B	81.31	29	P	P	16 52 56.2	+1.4
NOA	NORSAR Array B 0.4nm,0.5s,baz=268,slow=5.3,SNR=2.7	81.31	29	P	P	16 52 56.2	+1.4
GERES	GERESS Array B	82.77	42	P	P	16 53 03.1	+0.5
GERES	GERESS Array B 0.2nm,0.5s,baz=277,slow=3.9,SNR=2.4	82.77	42	P	P	16 53 03.1	+0.5
ARCES	ARCESS Array B	86.68	20	P	P	16 53 22.1	+0.4
ARCES	ARCESS Array B 8.7nm,1.2s,baz=274,slow=4.2,SNR=9.1	86.68	20	P	P	16 53 22.1	+0.4
MKAR	Makanchi Array	122.34	20	PKP	PKPdf	16 59 33.0	+0.3
MKAR	Makanchi Array 0.3nm,0.4s,baz=283,slow=3.1,SNR=15	122.34	20	PKP	PKPdf	16 59 33.0	+0.3
SONM	Songino Array	125.65	1	PKP	PKPdf	16 59 39.5	+0.4
SONM	Songino Array 0.3nm,0.5s,baz=182,slow=1.3,SNR=6.5	125.65	1	PKP	PKPdf	16 59 39.5	+0.4
KSH	Kashi	125.74	29	*e*PKP	PKPdf	16 59 40.0	+0.5
KSH				*es*PKP		17 00 39.1	
KSH				*e*SKS	SKSdf	17 06 35.3	-1.1
KSH				AMB	AMB		
KSH	comp=Z,51nm,4.1s			LR	LR		
KSH	comp=N,30nm,3.9s			LR	LR		
KSH	comp=E,21nm,3.0s			LR	LR		
WMQ	comp=Z,14nm,2.5s Urumqi	126.71	17	PKP	PKPdf	16 59 41.6	+0.4
WMQ				LR	LR		
WMQ	comp=N,17nm,18.6s			LR	LR		
	comp=E,18nm,18.5s						
WMQ				LR	LR		
	comp=Z,24nm,17.5s						
HHC	Hu-ho-hao-te	132.46	355	*e*PKP	PKPdf	16 59 50.4	-1.9
HHC				PP	PP	17 02 19.3	+3.4
HHC				PKS	PKSdf	17 03 25.9	-2.9
HHC				SKS	SKSdf	17 06 44.5	-4.1
HHC				SKKS	SKKSac	17 08 52.5	-4.9
HHC				AMB	AMB		
HHC	comp=Z,200nm,6.5s			LR	LR		
HHC	comp=N,170nm,18.8s			LR	LR		
HHC	comp=E,190nm,19.0s			LR	LR		
HHC	comp=Z,230nm,18.4s			LR	LR		
NJ2	Nanjing	139.81	344	*e*PKP	PKPdf	17 00 05.0	-1.0
GYA	Guiyang	146.99	1	*e*PKPbc	PKPdf	17 00 17.6	-1.3
GYA				pPKP	pPKPdf	17 00 58.3	-3.6
GYA				sPKP		17 01 12.6	
GYA				PP	PP	17 03 48.4	+3.3
GYA				AMB	AMB		
GYA	comp=Z,90nm,7.8s						
ASAR	Alice Springs	149.20	234	PKP	PKPdf	17 00 23.1	+0.7
ASAR				PKPbc	PKPbc	17 00 26.4	-0.4
ASAR				pPKPbc	pPKPbc	17 01 09.7	+0.2
ASAR	Alice Springs 1.4nm,0.7s,baz=118,slow=3.4,SNR=11	149.20	234	PKP	PKPdf	17 00 23.1	+0.7
ASAR				PKPbc	PKPbc	17 00 26.4	-0.4
ASAR	1.1nm,0.6s,baz=120,slow=3.5,SNR=20			pPKPbc	pPKPbc	17 01 09.7	+0.2
WRA	0.5nm,0.4s,baz=107,slow=3.0,SNR=2.6 Warramunga Arr	150.45	241	PKPbc	PKPbc	17 00 29.9	-0.1
WRA				pPKPbc	pPKPbc	17 01 12.6	0.0
WRA	Warramunga Arr 1.3nm,0.5s,baz=107,slow=2.8,SNR=21	150.45	241	PKPbc	PKPbc	17 00 29.9	-0.1
WRA				pPKPbc	pPKPbc	17 01 12.6	0.0
CMAR	1.8nm,0.9s,baz=106,slow=2.6,SNR=2.3 Chiang Mai Arr	153.71	18	PKPbc	PKPbc	17 00 37.8	+0.5
CMAR	Chiang Mai Arr 0.8nm,0.5s,baz=328,slow=3.5,SNR=8.7	153.71	18	PKPbc	PKPbc	17 00 37.8	+0.5

IDC 24 16:53:39.0±2.7, 3.52S×135.90E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/23, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=109.1km s-min=29.8km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.39	185	Pn	Pn	16 57 29.8	-1.0
	0.2nm,0.3s,baz=6.8,slow=12,SNR=13						
ASAR	Alice Springs	20.12	185	P	P	16 58 15.2	+0.4
	3.6nm,0.8s,baz=14,slow=11,SNR=52						
MKAR	Makanchi Array	68.74	324	P	P	17 04 44.8	0.0
	0.1nm,0.5s,baz=119,slow=6.8,SNR=2.8						

IDC 24 17:22:35.6±3.2, 6.85S×152.12E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=112.8km s-min=48.0km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.53	242	Pn	Pn	17 23 59.7	+0.4
	0.4nm,0.3s,baz=33,slow=14,SNR=2.2						
PMG				Sn	Sn	17 24 56.0	-7.5
	0.6nm,0.3s,baz=63,slow=12,SNR=3.2						
WRA	Warramunga Arr	21.61	231	P	P	17 27 26.6	-0.8
	0.5nm,0.6s,baz=58,slow=11,SNR=6.0						
ASAR	Alice Springs	24.20	224	P	P	17 27 54.8	+0.6
	0.3nm,0.5s,baz=56,slow=9.1,SNR=22						
TORD	Torodi Ar. Bea	150.23	284	PKPbc	PKPbc	17 42 29.1	-0.6
	0.3nm,0.5s,baz=81,slow=1.5,SNR=2.9						

IDC 24 17:29:39.2±25.0, 17.37S×174.23W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/41, mbtmp3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=470.9km s-min=157.8km az=72.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	Papeete	23.52	94	LR	LR	17 41 53.2	
	comp=Z,29nm,20.2s,baz=3.5,slow=31						
CTA	Charters Tower	37.46	259	P	P	17 36 55.1	+0.4
	3.0nm,0.9s,baz=90,slow=5.1,SNR=2.7						
STKA	Stephens Creek	42.38	242	P	P	17 37 36.0	+0.4
	0.4nm,0.3s,baz=76,slow=8.7,SNR=4.1						
WRA	Warramunga Arr	48.65	258	P	P	17 38 24.6	-0.7
	0.3nm,0.3s,baz=96,slow=7.1,SNR=11						
ASAR	Alice Springs	48.77	254	P	P	17 38 25.9	-0.3
	1.3nm,0.5s,baz=90,slow=8.8,SNR=74						

KRSC 24 17:45:05.5±1.0, 49.65N×155.56E, h142km±8km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.10	19	*e*P	Pn	17 45 30.0	-0.3
SKR				*e*S	Sn	17 45 49.3	0.0
PAU	Pauzhetka	1.99	23	*e*P	Pn	17 45 41.6	+1.6
PAU				*e*S	Sn	17 46 09.4	+2.9
MTVR	Mutnovka	3.29	29	*e*P	Pn	17 45 58.4	+2.0
MTVR				*e*S	Sn	17 46 37.5	+1.7
RUS	Russkaya	3.36	33	*e*P	Pn	17 45 58.3	+1.3
RUS				*i* S	Sn	17 46 38.3	+1.3
KOK	Koryaka	4.13	27	*e*P	Pn	17 46 08.9	+1.6
AVH	Avacha	4.13	28	*e*P	Pn	17 46 09.1	+1.8
SMAR	Somma	4.15	28	*e*P	Pn	17 46 09.0	+1.3

ISCJB 24 17:49:59.8±1.4, 5.0N±0.2×123.6E±0.4, h545km, mb3.7/5, Error ellipse: s-maj=57.2km s-min=20.0km az=158.0
IDC 24 17:50:01.9±2.7, 4.95N×123.51E, h554km±32km, mb3.1/5, mb1 3.2/5, mb1mx2.7/26, mbtmp4.1/5, Error ellipse: s-maj=79.6km s-min=14.8km az=65.0
ISC 24 17:50:01.0±1.3, 5.0N±0.2×123.5E±0.4, h545km, n6, σ0s84/8, mb3.9/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	6.02	187	P	P	17 51 39.6	-0.1
	baz=16,SNR=6.0						
WRA	Warramunga Arr	26.96	157	P	P	17 54 58.8	-0.7
	2.2nm,0.6s,baz=334,slow=9.7,SNR=8.2						
ASAR	Alice Springs	30.23	161	P	P	17 55 27.9	+0.1
	1.1nm,0.3s,baz=338,slow=7.7,SNR=27						
ASAR				ScP	ScP	18 01 01.4	-1.3
	0.2nm,0.6s,baz=336,slow=3.4,SNR=4.8						
NWAO	Narrogin (SRO)	38.16	189	P	P	17 56 34.1	0.0
	8.6nm,1.1s,baz=16,slow=7.4,SNR=2.6						
STKA	Stephens Creek	40.50	156	P	P	17 56 53.8	+0.8
	0.6nm,0.5s,baz=320,slow=9.4,SNR=3.6						
MKAR	Makanchi Array	54.72	326	P	P	17 58 39.8	+0.5
	0.4nm,0.4s,baz=119,slow=7.7,SNR=22						
MKAR				PcP	PcP	17 59 32.8	-0.8
	0.2nm,0.5s,baz=114,slow=3.5,SNR=3.4						

IDC 24 17:54:35.5±1.5, 53.52N×164.82W, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.6/32, mbtmp3.6/11, ML3.4/2, Error ellipse: s-maj=37.3km s-min=16.8km az=167.0
ISCJB 24 17:54:37.6±1.1, 53.19N±0.09×164.39W±0.06, h42km±8km, mb3.5/9, Error ellipse: s-maj=15.5km s-min=6.1km az=173.5
NEIC 24 17:54:37.4, 53.23N×164.41W, h19km, mb3.8/1, ML3.3(AEIC), After AEIC.
ISC 24 17:54:40.8±1.7, 53.3N±0.1×164.51W±0.05, h43km±15km, n41, σ1s10/39, mb3.4/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	Akutan Strait	1.07	319	P	Pn	17 54 58.0	-1.3
AKSA				S	Sn	17 55 13.9	+1.0
AKUT	Akutan	1.10	317	P	Pn	17 54 58.8	-0.8
AKUT				S	Sn	17 55 16.1	+2.5
WESE	West Dahl East	1.14	358	P	Pn	17 54 59.0	-1.3
ZRO	Akutan Zero	1.15	311	P	Pn	17 54 59.6	-0.9
AKV	Akutan Volcano	1.17	313	P	Pn	17 54 59.9	-0.9
AKRB	Akutan Reef Bi	1.22	311	P	Pn	17 55 00.7	-0.7
AKRB				S	Sn	17 55 19.0	+2.3
WESN	West Dahl Nort	1.23	358	P	Pn	17 55 00.9	-0.7

AKGG	**Akutan Green G**	**1.23**	**315**	P		**Pn**	**17 55 00.9**	**-0.7**
UNV	**Unalaska Valle**	**1.29**	**294**	P		**Pn**	**17 55 00.7**	**-1.6**
UNV				S		**Sn**	**17 55 19.3**	**+0.8**
MREP	**Makushin Rep't**	**1.42**	**290**	P		**Pn**	**17 55 03.4**	**-0.8**
SSLW	**Shishaldin Wes**	**1.45**	**9**	P		**Pn**	**17 55 03.8**	**-0.9**
SSBA	**Shishaldin**	**1.45**	**9**	P		**Pn**	**17 55 03.7**	**-0.9**
MSW	**Makushin Switc**	**1.47**	**294**	P		**Pn**	**17 55 03.8**	**-1.1**
MSW				S		**Sn**	**17 55 23.7**	**+0.8**
SSLN	**Shishaldin Nor**	**1.50**	**11**	P		**Pn**	**17 55 04.8**	**-0.5**
MCIR	**Makushin Cirqu**	**1.55**	**294**	P		**Pn**	**17 55 05.1**	**-0.8**
FALS	**False Pass**	**1.65**	**22**	P		**Pn**	**17 55 06.2**	**-1.1**
OKFG	**Magazine Ridge**	**2.04**	**273**	P		**Pn**	**17 55 12.1**	**-0.6**
DRIA	**Deer Island**	**2.10**	**38**	P		**Pn**	**17 55 12.1**	**-1.3**
DTNA	**Dutton South F**	**2.24**	**35**	P		**Pn**	**17 55 14.4**	**-1.0**
DOL	**Dolgoi Island**	**2.38**	**39**	P		**Pn**	**17 55 16.3**	**-1.0**
PS4A	**Pavlof South-4**	**2.54**	**37**	P		**Pn**	**17 55 19.5**	**+0.1**
SDPT	**Sand Point**	**3.10**	**48**	P		**Pn**	**17 55 26.3**	**-0.9**
FX1	**Attu Island--F**	**13.41**	**277**	Pn		**Pn**	**17 57 48.1**	**-0.2**
	0.8nm,0.3s,baz=164,slow=19,SNR=4.3							
ILAR	**Eielson Array**	**14.54**	**31**	Pn		Pn	17 57 59.2	-4.2
	0.1nm,0.3s,baz=223,slow=14,SNR=3.6							
EGAK	**Eagle**	**16.47**	**37**	*e*Pn		**Pn**	**17 58 27.3**	**-1.1**
INK	**Inuvik**	**20.93**	**32**	*e*P		**P**	**17 59 18.8**	**-0.6**
	2.3nm,0.6s							
INK	**Inuvik**	**20.93**	**32**	P		**P**	**17 59 19.9**	**+0.5**
	2.2nm,0.5s,baz=236,slow=9.9,SNR=8.4							
YKA	**Yellowknife Ar**	**27.36**	**51**	P		**P**	**18 00 22.7**	**+1.3**
	0.3nm,0.7s,baz=269,slow=7.8,SNR=12							
NVAR	**Mina Array Bea**	**34.78**	**96**	P		**P**	**18 01 29.0**	**+1.7**
	0.4nm,0.7s,baz=294,slow=9.6,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**40.14**	**224**	T		T	18 45 41.5	
	baz=29							
H11N3	**WAKE ISLAND Hy**	**40.14**	**224**	T		T	18 45 43.8	
	baz=29							
H11N1	**WAKE ISLAND Hy**	**40.15**	**224**	T		T	18 45 42.2	
	baz=29							
H11S1	**WAKE ISLAND Hy**	**41.31**	**224**	T		T	18 46 57.1	
	baz=26							
H11S2	**WAKE ISLAND Hy**	**41.32**	**224**	T		T	18 46 58.7	
	baz=26,slow=74							
H11S3	**WAKE ISLAND Hy**	**41.33**	**224**	T		T	18 47 01.0	
	baz=26,slow=74							
ARCES	**ARCESS Array B**	**57.22**	**356**	P		**P**	**18 04 22.2**	**-0.8**
	1.3nm,0.8s,baz=11,slow=7.8,SNR=6.1							
BVAR	**Borovoye Array**	**64.57**	**327**	P		**P**	**18 05 12.7**	**-0.4**
	0.4nm,0.7s,baz=45,slow=5.0,SNR=4.8							
MKAR	**Makanchi Array**	**65.22**	**316**	P		**P**	**18 05 16.8**	**-0.7**
	0.2nm,0.5s,baz=32,slow=3.6,SNR=4.0							
FINES	**FINESS Array B**	**65.25**	**354**	P		**P**	**18 05 17.0**	**-0.3**
	1.9nm,0.9s,baz=12,slow=9.6,SNR=4.7							
AKASG	**Malin Array Be**	**75.69**	**351**	P		**P**	**18 06 20.8**	**-0.3**
	0.1nm,0.3s,baz=10,slow=6.2,SNR=2.6							
CMAR	**Chiang Mai Arr**	**79.23**	**286**	P		**P**	**18 06 41.8**	**+0.4**
	0.2nm,0.7s,baz=50,slow=2.4,SNR=4.6							

*ATH **24** 18:11:58.7, 37˚.31N×20˚.33E, h16km±1km, MD3.7/19*
*THE **24** 18:11:58.0, 37˚.22N×20˚.24E, h3km±3km, ML3.3/3, Error ellipse: s-maj=3.7km s-min=1.4km az=79.0*
*CSEM **24** 18:11:59.4±0.6, 37˚.32N×20˚.31E, h10km, MD3.7, Error ellipse: s-maj=13.3km s-min=6.3km az=50.0*

ISC 24 18:11:58.4±2.0, 37˚.31N±0˚.05×20˚.31E±0˚.08, h4km±11km, **n56, σ0°58/75, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.57**	**96**	P		**Pb**	**18 12 10.5**	**-0.4**
SFD				S		**Sb**	**18 12 19.1**	**-0.3**
SFD	**Strofades**	**0.57**	**96**	*e*PN		**Pg**	**18 12 09.2**	**-0.1**
SFD				*e*SN		**Sg**	**18 12 17.2**	**+0.6**
SFD	**Strofades**	**0.57**	**96**	*e*Pn		**Pg**	**18 12 09.2**	**-0.1**
SFD	**Strofades**	**0.57**	**96**	P		**Pb**	**18 12 10.5**	**-0.4**
SFD				*e*Sn		**Sg**	**18 12 17.2**	**+0.6**
SFD				S		**Sb**	**18 12 19.1**	**-0.3**
VLS	**Valsamata**	**0.89**	**14**	P		**Pg**	**18 12 15.9**	**+0.3**
VLS	**Valsamata**	**0.89**	**14**	*e*PN		**Pg**	**18 12 15.7**	**+0.1**
VLS				*e*SN		**Sb**	**18 12 28.5**	**-0.4**
VLS	**Valsamata**	**0.89**	**14**	*e*Pn		**Pg**	**18 12 15.7**	**+0.1**
VLS				*e*Sn		**Sb**	**18 12 28.5**	**-0.4**
AMT	**Artemida-Makis**	**1.13**	**78**	P		**Pn**	**18 12 21.0**	**-0.2**
AMT				S		**Sn**	**18 12 38.0**	**+0.7**
AMT	**Artemida-Makis**	**1.13**	**78**	*e*PN		**Pg**	**18 12 20.1**	**-0.1**
AMT				*e*SB		**Sg**	**18 12 34.8**	**-0.1**
AMT	**Artemida-Makis**	**1.13**	**78**	*e*Pn		**Pg**	**18 12 20.1**	**-0.1**
AMT	**Artemida-Makis**	**1.13**	**78**	P		**Pn**	**18 12 21.0**	**-0.2**
AMT				*e*Sb		**Sg**	**18 12 34.8**	**-0.1**
AMT				S		**Sn**	**18 12 38.0**	**+0.7**
RLS	**Riolos of Patr**	**1.18**	**51**	*e*PN		**Pg**	**18 12 21.4**	**+0.3**
RLS				*e*SN		**Sb**	**18 12 36.9**	**-0.2**
RLS	**Riolos of Patr**	**1.18**	**51**	*e*Pn		**Pg**	**18 12 21.4**	**+0.3**
RLS				*e*Sn		**Sb**	**18 12 36.9**	**-0.2**
PYL	**PYLOS**	**1.22**	**109**	P		**Pn**	**18 12 21.0**	**-1.3**
PYL				S		**Sb**	**18 12 38.0**	**-0.1**
PYL	**PYLOS**	**1.22**	**109**	*e*PN		**Pn**	**18 12 21.2**	**-1.1**
PYL				*e*SN		**Sb**	**18 12 38.1**	**-0.1**
PYL	**PYLOS**	**1.22**	**109**	*e*Pn		**Pn**	**18 12 21.2**	**-1.1**
PYL				*e*Sn		**Sb**	**18 12 38.1**	**-0.1**
DRO	**Drossia**	**1.28**	**60**	P		**Pn**	**18 12 22.7**	**-0.5**
DRO	**Drossia**	**1.28**	**60**	*e*PN		**Pn**	**18 12 22.9**	**-0.3**
DRO				*e*SN		**Sn**	**18 12 40.7**	**-0.2**
DRO	**Drossia**	**1.28**	**60**	*e*Pn		**Pn**	**18 12 22.9**	**-0.3**
DRO				*e*Sn		**Sn**	**18 12 40.7**	**-0.2**
ITM	**Ithomi**	**1.30**	**95**	P		**Pn**	**18 12 22.7**	**-0.6**
ITM	**Ithomi**	**1.30**	**95**	*e*PN		**Pn**	**18 12 22.8**	**-0.6**
ITM				*e*SN		**Sn**	**18 12 41.3**	**+0.1**
ITM	**Ithomi**	**1.30**	**95**	*e*Pn		**Pn**	**18 12 22.8**	**-0.6**
ITM				*e*Sn		**Sn**	**18 12 41.3**	**+0.1**
PDO	**Prodromos**	**1.46**	**28**	*e*PN		**Pn**	**18 12 25.5**	**-0.1**
PDO	**Prodromos**	**1.46**	**28**	*e*Pn		**Pn**	**18 12 25.5**	**-0.1**
LKD2	**Lefkada island**	**1.50**	**10**	*e*PN		**Pg**	**18 12 27.2**	**0.0**
LKD2	**Lefkada island**	**1.50**	**10**	*e*Pn		**Pg**	**18 12 27.2**	**0.0**
LAKA	**Lakka**	**1.61**	**54**	*e*PN		**Pb**	**18 12 28.5**	**-0.4**
LAKA	**Lakka**	**1.61**	**54**	*e*Pn		**Pb**	**18 12 28.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.63**	**63**	*e*PN		**Pn**	**18 12 28.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.63**	**63**	*e*Pn		**Pn**	**18 12 28.0**	**-0.1**
VLX	**Vlachokerasia**	**1.65**	**87**	*e*PN		**Pb**	**18 12 29.1**	**-0.4**
VLX	**Vlachokerasia**	**1.65**	**87**	*e*Pn		**Pb**	**18 12 29.1**	**-0.4**
EFP	**Efpalio**	**1.68**	**48**	*e*PN		**Pb**	**18 12 29.9**	**-0.1**
EFP	**Efpalio**	**1.68**	**48**	*e*Pn		**Pb**	**18 12 29.9**	**-0.1**
GUR	**Goura**	**1.73**	**68**	*e*PN		**Pn**	**18 12 29.9**	**+0.5**
GUR	**Goura**	**1.73**	**68**	*e*Pn		**Pn**	**18 12 29.9**	**+0.5**
KALE	**Kalithea**	**1.81**	**53**	*e*PN		**Pn**	**18 12 30.8**	**+0.4**
KALE	**Kalithea**	**1.81**	**53**	*e*Pn		**Pn**	**18 12 30.8**	**+0.4**
EVR	**Evrytania**	**1.99**	**36**	*e*PN		**Pb**	**18 12 34.2**	**-1.1**
EVR	**Evrytania**	**1.99**	**36**	*e*Pn		**Pb**	**18 12 34.2**	**-1.1**
DSF	**Desfina**	**2.07**	**57**	*e*PN		**Pn**	**18 12 34.7**	**+0.6**
DSF	**Desfina**	**2.07**	**57**	*e*Pn		**Pn**	**18 12 34.7**	**+0.6**
VLI	**Veliai**	**2.18**	**105**	*e*PN		**Pn**	**18 12 36.9**	**+1.3**
VLI	**Veliai**	**2.18**	**105**	*e*Pn		**Pn**	**18 12 36.9**	**+1.3**
LTK	**Loutraki**	**2.22**	**71**	*e*PB		**Pn**	**18 12 36.2**	**0.0**
LTK	**Loutraki**	**2.22**	**71**	*e*Pb		**Pn**	**18 12 36.2**	**0.0**
MAKR	**Makrakomi, Fth**	**2.22**	**40**	*e*PN		**Pn**	**18 12 37.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.22**	**40**	*e*Pn		**Pn**	**18 12 37.0**	**+0.8**
AGG	**Agios Georgios**	**2.33**	**42**	*e*PN		**Pn**	**18 12 38.7**	**+1.0**
AGG	**Agios Georgios**	**2.33**	**42**	*e*Pn		**Pn**	**18 12 38.7**	**+1.0**
DID	**Didima**	**2.34**	**84**	*e*PB		**Pn**	**18 12 38.0**	**+0.3**
DID	**Didima**	**2.34**	**84**	*e*Pb		**Pn**	**18 12 38.0**	**+0.3**
KYTH	**Kithira**	**2.42**	**114**	*e*PN		**Pn**	**18 12 40.1**	**+1.3**
KYTH	**Kithira**	**2.42**	**114**	*e*Pn		**Pn**	**18 12 40.1**	**+1.3**
THL	**Klokotos Trika**	**2.62**	**30**	*e*PN		**Pn**	**18 12 42.0**	**+0.5**
THL	**Klokotos Trika**	**2.62**	**30**	*e*Pn		**Pn**	**18 12 42.0**	**+0.5**

*NOU **24** 18:15:04.3±1.2, 17˚.96S×167˚.97E, h30km, MD3.7, ML4.9, MS2.8*
*ISCJB **24** 18:15:06.9±1.7, 18˚.48S±0˚.03×167˚.97E±0˚.03, h7km±10km, mb5.3/93, MS5.3/163, Error ellipse: s-maj=4.6km s-min=4.0km az=135.1*
*IDC **24** 18:15:07.2±0.4, 18˚.40S×168˚.01E, h0km, mb5.1/23, mb1 5.2/25, mb1mx5.2/27, mbtmp5.1/25, ML4.6/2, MS5.1/27, Ms1 5.2/27, ms1mx5.1/28, Error ellipse: s-maj=10.9km s-min=9.2km az=23.0*
*NEIC **24** 18:15:09.3±0.8, 18˚.51S×167˚.90E, h15km±5km, mb5.4/27, MS5.4/119, MW5.6, Error ellipse: s-maj=5.4km s-min=4.4km az=154.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.72; $M_{\theta\theta}$ 1.22; $M_{\phi\phi}$-0.51; $M_{r\theta}$ 0.95; $M_{\theta\phi}$ 2.54; $M_{\phi r}$-1.19; Best double couple: M_o3.10000×10^{17} NP1:ϕ_s275.00000°,δ70.00000°, λ-24.00000°. NP2:ϕ_s14.00000°,δ67.00000°, λ-158.00000°. Principal axes: T 3.0400, Plg1.0000°, Azm324.0000°; N 0.2000, Plg58.0000°, Azm57.0000°; P -3.2400, Plg31.0000°, Azm233.0000°;*
NEIC Felt [III] at Port-Vila.
*BJI **24** 18:15:09.2, 18˚.43S×168˚.07E, h21km, mB5.6/48, mb5.2/59, Ms5.4/61, Ms7 5.1/58*
*GCMT **24** 18:15:09.3±0.1, 18˚.34S×167˚.88E, h19km, MW5.6/117, Moment Tensor Solution. s108,c188; s117,c283; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.03; $M_{\theta\theta}$ 1.36±.03; $M_{\phi\phi}$ -1.20±.03; $M_{r\theta}$0.50±.07; $M_{\theta\phi}$2.11±.03; $M_{\phi r}$-2.03±.11; Best double couple: M_o3.14500×10^{17} NP1:ϕ_s17.00000°,δ80.00000°, λ-146.00000°. NP2:ϕ_s280.00000°,δ57.00000°, λ-12.00000°. Principal axes: T 2.7010, Plg15.0000°, Azm144.0000°; N 0.8830, Plg55.0000°, Azm32.0000°; P -3.5890, Plg31.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **24** 18:15:11.6±1.4, 18˚.31S×167˚.86E, h33km, mb5.5/32, MS5.4/29 Error ellipse: s-maj=8.9km s-min=8.4km az=134.8*

ISC 24 18:15:10.2±0.4, 18˚.52S±0˚.04×168˚.06E±0˚.04, h20km±1km, **h19**km:**pP-P, n568**, σ1°58/607, **mb5.4**/90, **MS5.3**/164, **37C-25D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.78**	**197**	*e*P		**Pn**	**18 16 07.0**	**-0.4**
BAYA				*e*S		**Sn**	**18 16 52.1**	**+0.7**
BAYA				AMP			18 16 55.7	
	comp=Z,161nm,7.2s							
DZM	**Mont Dzumac**	**3.85**	**203**	*e*Pn		**Pn**	**18 16 06.6**	**-1.8**
	comp=Z,335nm,0.3s							
DZM				*e*Sn		Sn	18 16 45.9	-7.2
	comp=Z,2μm,0.3s							
DZM				*e*LR		LR	18 16 55.3	
	comp=Z,42μm,23.2s							
DZM	**Mont Dzumac**	**3.85**	**203**	Pn		**Pn**	**18 16 06.8**	**-1.6**
DZM				Sn		**Sn**	**18 16 53.3**	**+0.2**
DZM	**Mont Dzumac**	**3.85**	**203**	Pn		**Pn**	**18 16 06.8**	**-1.6**
	comp=Z,38nm,0.3s,baz=53,slow=4.7,SNR=244							
DZM				Sn		**Sn**	**18 16 53.3**	**+0.2**
	comp=Z,560nm,0.3s,baz=150,slow=22,SNR=9.9							
DZM				LR		LR	18 17 37.3	
	comp=Z,42μm,18.8s,baz=35,slow=38							
DZM	**Mont Dzumac**	**3.85**	**203**	*e*P		**Pn**	**18 16 06.1**	**-2.3**
DZM				*e*S		**Sn**	**18 16 53.7**	**+0.7**
DZM				AMP			18 16 56.5	
	comp=Z,16μm,4.6s							
NOUC	**Port Laguerre**	**3.93**	**205**	*e*S		**Sn**	**18 16 55.5**	**+0.5**
NOUC				AMP			18 17 16.7	
	comp=Z,511nm,20.9s							
PLUM	**Mont Dore**	**3.96**	**199**	*e*P		**Pn**	**18 16 09.3**	**-0.6**
PLUM				AMP			18 17 01.9	
	comp=Z,2μm,1.9s							
NFK	**Norfolk Island**	**10.48**	**181**	⇑P		**Pn**	**18 17 42.0**	**+2.7**
	baz=11,SNR=5.3							
HNR	**Honiara**	**11.98**	**318**	*e*Pn		**Pn**	**18 17 57.9**	**-2.1**
HNR	**Honiara**	**11.98**	**318**	LR		LR	18 22 03.6	
	comp=Z,14μm,19.6s,baz=144,slow=35							
HNR	**Honiara**	**11.98**	**318**	*e*P		**Pn**	**18 17 57.0**	**-2.9**
RAO	**Raoul Island**	**16.68**	**132**	LR		LR	18 24 32.0	
	comp=Z,7μm,18.4s,baz=304,slow=34							
EIDS	**Eidsvold**	**17.15**	**244**	*e*Pn		**Pn**	**18 19 06.6**	**-2.3**
	comp=Z,111nm,1.0s							
EIDS	**Eidsvold**	**17.15**	**244**	⇑P		**P**	**18 19 11.1**	**+0.7**
	baz=17,SNR=12							
OUZ	**Omahuta**	**17.35**	**165**	*e*Pn		**Pn**	**18 19 10.3**	**-0.9**
	comp=Z,87nm,1.0s							
ARMA	**Armidale**	**19.05**	**228**	*e*P		**P**	**18 19 28.7**	**-2.7**
	comp=Z,97nm,1.0s							
ARMA	**Armidale**	**19.05**	**228**	⇑P		**Pn**	**18 19 33.6**	**+1.4**
	baz=19,SNR=35							
RMQ	**Roma**	**19.50**	**243**	⇓P		**Pn**	**18 19 38.2**	**+0.6**
	baz=20,SNR=332							
AFI	**Afiamalu**	**19.89**	**80**	*e*Pn		**Pn**	**18 19 44.3**	**+1.9**
	comp=Z,216nm,1.0s							
AFI	**Afiamalu**	**19.89**	**80**	P		**P**	**18 19 41.0**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=204,slow=5.2,SNR=7.7							
AFI				LR		LR	18 25 13.6	
	comp=Z,4μm,20.6s,baz=250,slow=30							
TARA	**Tarawa**	**20.32**	**14**	PFAKE			18 20 00.0	+13
TARA				LR		LR		
	comp=Z,2μm,20.1s							
CTA	**Charters Tower**	**20.64**	**262**	P		**P**	**18 19 49.7**	**+1.0**
CTA				S		**S**	**18 23 39.3**	**+0.6**
CTA	**Charters Tower**	**20.64**	**262**	P		**P**	**18 19 49.7**	**+1.0**
	comp=Z,108nm,0.8s,baz=91,slow=12,SNR=58							
CTA				S		**S**	**18 23 39.3**	**+0.6**
	comp=Z,9.8nm,1.0s,baz=49,slow=11,SNR=2.2							
CTA				LR		LR	18 27 28.4	
	comp=Z,13μm,18.1s,baz=80,slow=36							
CTAO	**Charters Tower**	**20.64**	**262**	*e*P		**P**	**18 19 46.8**	**-1.9**
CTAO				pmax		pmax		
	comp=Z,175nm,1.0s							
CTAO				MLR		MLR		
	comp=Z,13μm,19.3s							
CTAO	**Charters Tower**	**20.64**	**262**	*e*P		**P**	**18 19 46.8**	**-1.9**
	comp=Z,175nm,1.0s							
CTAO				LR		LR		
	comp=Z,13μm,19.3s							
MGCD	**Mangrove Creek**	**21.09**	**223**	⇑P		**P**	**18 19 55.5**	**+2.1**
	baz=21,SNR=7.0							
URZ	**Urewera**	**21.20**	**160**	*e*P		**P**	**18 19 55.1**	**+0.5**
	comp=Z,147nm,1.0s							
URZ				S		Sn	18 23 53.3	-3.3
URZ	**Urewera**	**21.20**	**160**	P		**P**	**18 19 56.3**	**+1.7**
	comp=Z,56nm,0.9s,baz=317,slow=7.4,SNR=22							
URZ				S		Sn	18 23 53.3	-3.3
	comp=Z,16nm,1.1s,baz=310,slow=15,SNR=1.8							
URZ				LR		LR	18 27 11.2	
	comp=Z,6μm,19.0s,baz=344,slow=34							
PUZ	**Puketiti**	**21.42**	**158**	PN		**P**	**18 19 58.0**	**+0.9**
RIGZ	**Rimuhau**	**21.82**	**159**	*e*PN		**P**	**18 20 02.4**	**+1.2**
BKZ	**Black Stump Fm**	**21.84**	**162**	*e*P		**P**	**18 20 02.1**	**+0.6**
	comp=Z,86nm,0.9s							
BKZ				LR		LR		
	comp=Z,8μm,18.1s							
BKZ	**Black Stump Fm**	**21.84**	**162**	PN		**P**	**18 20 02.9**	**+1.4**
KNZ	**Kokohu**	**22.07**	**160**	PN		**P**	**18 20 06.2**	**+2.3**
PMG	**Port Moresby**	**22.19**	**291**	P		x	18 20 06.3	
	comp=Z,176nm,1.0s,comp=Z,2μm							
PMG	**Port Moresby**	**22.19**	**291**	*e*P		**P**	**18 20 04.7**	**-0.8**
	comp=Z,141nm,0.9s							
PMG				S		**S**	**18 24 10.8**	**+1.7**
PMG	**Port Moresby**	**22.19**	**291**	P		**P**	**18 20 04.7**	**-0.8**
	comp=Z,117nm,0.9s,baz=120,slow=8.3,SNR=20							
PMG				S		**S**	**18 24 10.8**	**+1.7**
	comp=Z,6.2nm,0.8s,baz=288,slow=18,SNR=1.7							
PMG				LR		LR	18 27 40.5	
	comp=Z,14μm,18.2s,baz=117,slow=34							
PMG	**Port Moresby**	**22.19**	**291**	⇓P		**P**	**18 20 06.3**	**+0.8**
	baz=22,SNR=15							
PXZ	**Pawanui**	**22.75**	**162**	*e*PN		**P**	**18 20 12.1**	**+0.9**
NNZ	**Nelson**	**23.08**	**170**	PN		**P**	**18 20 16.7**	**+2.2**
BFZ	**Birch Farm**	**23.18**	**164**	*e*P		**P**	**18 20 14.7**	**-1.0**
	comp=Z,145nm,1.2s							
BFZ				LR		LR		
	comp=Z,10μm,19.0s							
BFZ	**Birch Farm**	**23.18**	**164**	*e*PN		**P**	**18 20 15.6**	**-0.1**
QLP	**Quilpie**	**23.39**	**246**	⇓P		**P**	**18 20 18.4**	**+0.4**
	baz=23,SNR=193							
SNZO	**South Karori**	**23.42**	**167**	*e*P		**P**	**18 20 17.9**	**-0.1**
SNZO				LR		LR		
	comp=Z,10μm,19.4s							
YNG	**Young**	**23.54**	**224**	⇓P		**P**	**18 20 20.7**	**+1.4**
	baz=24,SNR=46							
CNB	**Canberra Magne**	**23.55**	**221**	⇓P		**P**	**18 20 20.6**	**+1.1**
	baz=24,SNR=54							
CAN	**Canberra**	**23.78**	**221**	*e*P		**P**	**18 20 22.7**	**+1.0**
CAN				pmax		pmax		
	comp=Z,291nm,1.1s							
CAN	**Canberra**	**23.78**	**221**	*e*P		**P**	**18 20 22.7**	**+1.0**
	comp=Z,291nm,1.1s							
CMSA	**Cobar Meteorol**	**24.00**	**233**	⇑P		**P**	**18 20 24.3**	**+0.6**
	baz=24,SNR=345							
KHZ	**Kahutara**	**24.27**	**170**	*e*P		**P**	**18 20 25.1**	**-1.1**
	comp=Z,72nm,0.8s							
KHZ				LR		LR		
	comp=Z,6μm,18.9s							
KHZ	**Kahutara**	**24.27**	**170**	PN		**P**	**18 20 25.9**	**-0.2**
COEN	**Coen**	**24.31**	**277**	*e*P		**P**	**18 20 24.9**	**-1.8**
	comp=Z,561nm,1.0s							
COEN				LR		LR		
	comp=Z,50μm,21.0s							
COEN	**Coen**	**24.31**	**277**	⇓P		**P**	**18 20 26.1**	**-0.6**
	baz=24,SNR=5.7							
MILA	**Mila**	**24.83**	**218**	⇑P		**P**	**18 20 33.5**	**+2.2**
	baz=25,SNR=14							
RPZ	**Rata Peaks**	**25.25**	**175**	*e*P		**P**	**18 20 34.6**	**-0.3**
	comp=Z,76nm,0.9s							
RPZ				LR		LR		
	comp=Z,6μm,19.0s							
QIS	**Mount Isa**	**26.88**	**261**	⇓P		**P**	**18 20 49.7**	**-0.3**
	baz=27,SNR=12							
DCZ	**Deep Cove**	**26.89**	**181**	PFAKE			18 21 00.0	+10
DCZ				LR		LR		
	comp=Z,5μm,20.4s							
STKA	**Stephens Creek**	**27.30**	**236**	*e*P		**P**	**18 20 54.2**	**+0.5**
	comp=Z,34nm,1.0s							
STKA	**Stephens Creek**	**27.30**	**236**	P		**P**	**18 20 54.4**	**+0.7**
	comp=Z,146nm,0.9s,baz=63,slow=7.8,SNR=56							
STKA				LR		LR	18 32 10.7	
	comp=Z,4μm,18.0s,baz=62,slow=38							
STKA	**Stephens Creek**	**27.30**	**236**	⇑P		**P**	**18 20 54.4**	**+0.7**
	baz=27,SNR=111							
TOO	**Toolangi**	**27.39**	**222**	⇑P		**P**	**18 20 55.6**	**+1.1**
	baz=27,SNR=13							
ARPS	**Mount Arapiles**	**29.35**	**226**	⇑P		**P**	**18 21 12.1**	**+0.3**
	baz=29,SNR=23							
MOO	**Moorlands**	**29.71**	**212**	⇑P		**P**	**18 21 17.2**	**+2.2**
	baz=30,SNR=4.1							
HTT	**Hallett**	**29.98**	**235**	⇑P		**P**	**18 21 17.8**	**+0.2**
	baz=30,SNR=20							
RAR	**Rarotonga**	**30.34**	**100**	LR		LR	18 31 05.6	
	comp=Z,4μm,21.3s,baz=225,slow=32							
JAY	**Jayapura**	**31.16**	**297**	LR		LR	18 33 33.4	
	comp=Z,5μm,20.7s,baz=120,slow=36							
GENI	**Genyem**	**31.57**	**297**	P		**P**	**18 21 33.2**	**+1.5**
	comp=Z,305nm,1.0s,comp=Z,4μm							
WRAB	**Tennant Creek**	**31.83**	**262**	P		**P**	**18 21 32.9**	**-1.1**
	comp=Z,251nm,0.9s,SNR=8.5							
WRAB	**Tennant Creek**	**31.83**	**262**	*ce*P		**P**	**18 21 32.8**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,160nm,1.3s							
WRAB	**Tennant Creek**	**31.83**	**262**	*e*P		**P**	**18 21 32.1**	**-1.9**
	comp=Z,46nm,1.0s							
WRAB				LR		LR		
	comp=Z,5μm,18.3s							
WRA	**Warramunga Arr**	**31.84**	**262**	P		**P**	**18 21 32.3**	**-1.8**
WRA	**Warramunga Arr**	**31.84**	**262**	P		**P**	**18 21 32.3**	**-1.8**
	comp=Z,38nm,0.9s,baz=95,slow=8.5,SNR=74							
WRA				LR		LR	18 33 41.4	
	comp=Z,5μm,18.6s,baz=100,slow=35							
BBOO	**Buckleboo**	**32.02**	**237**	*e*P		**P**	**18 21 34.9**	**-0.6**
	comp=Z,621nm,0.8s							
BBOO				LR		LR		
	comp=Z,61μm,18.8s							
BBOO	**Buckleboo**	**32.02**	**237**	⇓P		**P**	**18 21 35.9**	**+0.4**
	baz=32,SNR=32							
AS01	**Alice Springs**	**32.18**	**255**	*e*P		**P**	**18 21 35.7**	**-1.4**
AS31	**Alice Springs**	**32.23**	**255**	*e*P		**P**	**18 21 36.2**	**-1.2**
ASAR	**Alice Springs**	**32.23**	**255**	P		**P**	**18 21 36.4**	**-1.0**
ASAR	**Alice Springs**	**32.23**	**255**	P		**P**	**18 21 36.4**	**-1.0**
	comp=Z,97nm,0.8s,baz=84,slow=8.6,SNR=237							
ASAR				LR		LR	18 34 41.1	
	comp=Z,10μm,18.2s,baz=86,slow=36							
KDU	**Kakadu**	**34.72**	**274**	⇑P		**P**	**18 21 59.2**	**0.0**

JCJ	**Chichijima**	**51.83 330**	LR	LR	18 44 35.8				
	comp=Z,2µm,21.0s,baz=138,slow=34								
RKT	**Rikitea**	**53.17 105**	*e*S	**S**	**18 31 53.6**	**-3.7**			
	comp=Z,770nm,29.8s								
RKT			*e*SS	**SS**	**18 35 33.8**	**-3.1**			
	comp=Z,651nm,27.0s								
RKT			*e*LQ	LQ	18 37 21.7				
	comp=Z,2µm,30.5s								
RKT			*e*LR	LR	18 39 35.1				
	comp=Z,4µm,28.0s,baz=267								
JAGI	**Jajag, Banyuwa**	**53.19 273**	*e*P	**P**	**18 24 25.8**	**-1.7**			
JAGI			LR	LR					
	comp=Z,2µm,22.0s								
JAGI	**Jajag, Banyuwa**	**53.19 273**	⇑P	**P**	**18 24 25.8**	**-1.7**			
	baz=53,SNR=9.9								
RCP	**Roxas**	**53.77 300**	⇑*e*P	**P**	**18 24 32.8**	**+1.1**			
TSM	**Tawau**	**54.38 290**	⇑P	**P**	**18 24 36.4**	**+0.2**			
SDKM	**Sandakan**	**55.58 291**	⇑P	**P**	**18 24 45.1**	**+0.2**			
KDM	**Kudat**	**56.48 292**	⇑P	**P**	**18 24 52.2**	**+0.8**			
KKM	**Kota Kinabalu**	**56.63 291**	*e*P	**P**	**18 24 50.1**	**-2.4**			
KKM			LR	LR					
	comp=Z,999nm,19.6s								
KKM	**Kota Kinabalu**	**56.63 291**	⇑P	**P**	**18 24 51.7**	**-0.8**			
	baz=57,SNR=11								
KKM	**Kota Kinabalu**	**56.63 291**	⇑P	**P**	**18 24 52.9**	**+0.3**			
UGM	**Wanagama**	**56.79 273**	*e*P	**P**	**18 24 53.6**	**0.0**			
	comp=Z,311nm,1.5s								
UGM			LR	LR					
	comp=Z,3µm,20.0s								
UGM	**Wanagama**	**56.79 273**	⇑P	**P**	**18 24 53.8**	**+0.2**			
	baz=57,SNR=6.0								
BTM	**Bintulu**	**58.25 286**	⇓P	**P**	**18 25 04.3**	**+0.4**			
SBUM	**Sibu**	**58.74 285**	*e*P	**P**	**18 25 04.5**	**-2.8**			
	comp=Z,20nm,1.0s								
SBUM			LR	LR					
	comp=Z,1µm,18.4s								
SZP	**Santa**	**58.95 305**	PFAKE		18 25 20.0	+11			
SZP			LR	LR					
	comp=Z,1µm,20.9s								
VNDA	**Vanda**	**59.11 182**	P	**P**	**18 25 10.7**	**+1.8**			
VNDA	**Vanda**	**59.11 182**	P	**P**	**18 25 10.7**	**+1.8**			
	comp=Z,3.3nm,0.8s,baz=9.3,slow=6.7,SNR=5.8								
VNDA			LR	LR	18 48 47.6				
	comp=Z,710nm,18.2s,baz=14,slow=34								
CISI	**Cisompet, Garu**	**59.46 272**	*e*P	**P**	**18 25 10.6**	**-1.7**			
CISI			LR	LR					
	comp=Z,2µm,21.6s								
LEM	**Lembang**	**59.86 273**	⇓P	**P**	**18 25 15.2**	**-0.1**			
	baz=60,SNR=11								
KSM	**Kuching**	**60.13 283**	*e*P	**P**	**18 25 16.6**	**-0.3**			
	comp=Z,67nm,0.8s								
KSM			LR	LR					
	comp=Z,800nm,20.0s								
KSM	**Kuching**	**60.13 283**	⇑P	**P**	**18 25 16.7**	**-0.2**			
CASY	**Casey**	**60.34 203**	*e*P	**P**	**18 25 15.5**	**-2.0**			
	comp=Z,15nm,0.9s								
CASY			LR	LR					
	comp=Z,2µm,21.2s								
XMI	**Christmas Isla**	**60.68 268**	⇓P	**P**	**18 25 20.4**	**-0.3**			
	baz=61,SNR=5.5								
XMIS	**Christmas Isla**	**60.70 268**	PFAKE		18 25 30.0	+9.2			
XMIS			LR	LR					
	comp=Z,9µm,21.6s								
XMIS	**Christmas Isla**	**60.70 268**	⇓P	**P**	**18 25 20.9**	**+0.1**			
	baz=61,SNR=6.8								
MJAR	**Matsushiro Arr**	**61.60 333**	P	**P**	**18 25 25.2**	**-1.2**			
MJAR	**Matsushiro Arr**	**61.60 333**	P	**P**	**18 25 25.2**	**-1.2**			
	comp=Z,7.6nm,0.9s,baz=165,slow=7.3,SNR=18								
MJAR			LR	LR	18 55 38.9				
	comp=Z,478nm,18.0s,baz=185,slow=40								
MAJO	**Matsushiro**	**61.60 333**	*i* P	**P**	**18 25 27.6**	**+1.2**			
MAJO			pmax	pmax					
	comp=Z,221nm,1.5s								
MAJO	**Matsushiro**	**61.60 333**	*e*P	**P**	**18 25 27.2**	**+0.8**			
	comp=Z,15nm,1.0s								
MAJO			LR	LR					
	comp=Z,800nm,20.0s								
MAT	**Matsushiro**	**61.60 333**	P	**P**	**18 25 27.3**	**+0.9**			
MAT			S	**S**	**18 33 48.0**	**+0.4**			
TPUB	**Ta-pu**	**62.23 310**	*e*P	**P**	**18 25 27.7**	**-3.1**			
	comp=Z,30nm,0.8s								
QZH	**Quanzhou**	**64.70 310**	P	**P**	**18 25 48.3**	**+1.1**			
QZH			S	**S**	**18 34 26.3**	**-0.4**			
QZH			LR	LR					
	comp=Z,1µm,16.2s								
QZH			LR	LR					
	comp=Z,910nm,15.0s								
QZH			LR	LR					
	comp=Z,2µm,24.8s								
YUK	**Yuzh-Kuril'sk**	**65.48 343**	*i* P	P	18 25 57.6	+5.8			
YUK			*i*		18 28 11.4				
YUK			*i* S	**S**	**18 34 41.2**	**+5.7**			
YUK			MLR	MLR					
	comp=N,1µm,21.0s								
YUK			MLR	MLR					
	comp=E,921nm,21.0s								
YUK			MLR	MLR					
	comp=Z,1µm,21.0s								
DLV	**T Lat**	**66.09 293**	PFAKE		18 26 10.0	+13			
DLV			LR	LR					
	comp=Z,700nm,19.9s								
MYKOM	**Kota Tinggi**	**66.24 280**	⇑P	**P**	**18 25 57.1**	**-0.4**			
ASAJ	**Asahikawa**	**66.54 340**	P	**P**	**18 25 58.4**	**-0.3**			
ASAJ			LR	LR					
	comp=Z,900nm,20.6s								
ASAJ	**Asahikawa**	**66.54 340**	P	**P**	**18 25 58.4**	**-0.3**			
	comp=Z,23nm,0.9s,baz=200,slow=5.8,SNR=6.2								
SSE	**Sheshan**	**66.78 317**	P	**P**	**18 25 59.1**	**-1.4**			
SSE			pP	**pP**	**18 26 05.3**	**-1.6**			
SSE			S	**S**	**18 34 49.8**	**-2.1**			
SSE			pmax	pmax					
	comp=Z,10.0nm,0.7s								
SSE			pmax	pmax					
	comp=Z,310nm,7.7s								
SSE			LR	LR					
	comp=Z,490nm,16.1s								
SSE			LR	LR					
	comp=Z,770nm,16.6s								
SSE			LR	LR					
	comp=Z,930nm,18.8s								
KGM	**Kluang**	**66.82 281**	⇑P	**P**	**18 25 59.2**	**-1.9**			
KSRS	**Korea Array**	**67.29 326**	P	**P**	**18 26 03.7**	**+0.2**			
	comp=Z,7.4nm,1.2s,baz=145,slow=6.8,SNR=6.6								
KSRS			LR	LR	18 54 29.1				
	comp=Z,710nm,19.6s,baz=128,slow=35								
KSAR	**Wonju Array Be**	**67.30 326**	P	**P**	**18 26 03.7**	**+0.1**			
KTGM	**Kuala Trenggan**	**68.20 284**	⇑P	**P**	**18 26 10.3**	**+0.4**			
QIZ	**Qiongzhong**	**68.25 300**	P	**P**	**18 26 09.8**	**-0.3**			
QIZ			PP	**PP**	**18 28 38.3**	**-2.7**			
QIZ			S	**S**	**18 35 10.8**	**+0.7**			
QIZ			SS	**SS**	**18 39 34.1**	**+0.4**			
QIZ			pmax	pmax					
	comp=Z,38nm,1.1s								
QIZ			pmax	pmax					
	comp=Z,520nm,8.9s								
QIZ			LR	LR					
	comp=Z,510nm,18.4s								
QIZ			LR	LR					
	comp=Z,630nm,17.4s								
QIZ	**Qiongzhong**	**68.25 300**	PFAKE		18 26 20.0	+10			
QIZ			LR	LR					
	comp=Z,800nm,19.8s								
BKNI	**Bangkinang**	**68.37 278**	*e*P	**P**	**18 26 08.3**	**-2.6**			
BKNI			LR	LR					
	comp=Z,2µm,21.1s								
COCO	**West Island**	**68.60 264**	*i* P	P	18 26 16.3	+3.9			
FRIM	**Kepong**	**68.83 281**	⇑P	**P**	**18 26 13.5**	**-0.3**			
NJ2	**Nanjing**	**68.92 316**	*e*P	**P**	**18 26 15.9**	**+2.0**			
NJ2			pP	**pP**	**18 26 19.3**	**-1.1**			
NJ2			S	**S**	**18 35 19.5**	**+2.0**			
NJ2			sS	**sS**	**18 35 26.5**	**-1.6**			
NJ2			ScS	**ScS**	**18 36 14.5**	**+1.0**			
NJ2			pmax	pmax					
	comp=Z,10.0nm,0.7s								
NJ2			pmax	pmax					
	comp=Z,420nm,9.0s								
NJ2			LR	LR					
	comp=Z,2µm,27.4s								
NJ2			LR	LR					
	comp=Z,3µm,24.8s								
NJ2			LR	LR					
	comp=Z,10µm,26.3s								
YSS	**Yuzh-Sakhalins**	**69.04 342**	*e*P	**P**	**18 26 13.0**	**-1.4**			
YSS			*e**SP	**sP**	**18 26 20.2**	**-3.0**			
YSS			*e*S	**S**	**18 35 21.0**	**+2.7**			
YSS			*e*PS	**PnS**	**18 35 35.0**	**-10**			
YSS			*e*PPS	PPS	18 35 54.0				
YSS			pmax	pmax					
	comp=Z,70nm,1.1s								
YSS			MLR	MLR					
	comp=Z,1µm,18.0s								
YSS			MLR	MLR					
	comp=N,800nm,17.0s								
YSS	**Yuzh-Sakhalins**	**69.04 342**	PFAKE		18 26 30.0	+16			
YSS			LR	LR					
	comp=Z,400nm,19.4s								
VLA	**Vladivostok**	**69.77 333**	⇓*i*P	**P**	**18 26 20.9**	**+2.0**			
VLA			*e*		18 28 54.4				
VLA			S	**S**	**18 35 28.1**	**+1.1**			
VLA			pmax	pmax					
	comp=Z,33nm,1.5s								
IPM	**Ipoh**	**69.84 282**	*e*P	**P**	**18 26 18.1**	**-2.0**			
IPM			LR	LR					
	comp=Z,1µm,21.0s								
IPM	**Ipoh**	**69.84 282**	⇑P	**P**	**18 26 20.9**	**+0.8**			
UBPT	**Khong Chiam**	**70.19 294**	P	**P**	**18 26 24.3**	**+2.2**			
	comp=Z,64nm,0.8s								
USRK	**Ussuriysk Arra**	**70.59 333**	P	**P**	**18 26 23.9**	**-0.1**			
	comp=Z,12nm,0.8s,baz=115,slow=6.0,SNR=24								
WHN	**Wuhan**	**71.04 313**	P	**P**	**18 26 28.0**	**+1.0**			
WHN			S	**S**	**18 35 43.3**	**+0.9**			
WHN			LR	LR					
	comp=Z,2µm,18.9s								
WHN			LR	LR					
	comp=Z,800nm,15.0s								
WHN			LR	LR					
	comp=Z,3µm,17.7s								
PSI	**Prapat**	**71.20 280**	⇑P	**P**	**18 26 26.8**	**-1.8**			
	baz=71,SNR=22								
FX1	**Attu Island--F**	**71.24 3**	*e*P	**P**	**18 26 26.6**	**-1.1**			
FX1	**Attu Island--F**	**71.24 3**	P	**P**	**18 26 26.6**	**-1.1**			
	comp=Z,16nm,0.8s,baz=153,slow=6.8,SNR=6.3								
QSPA	**South Pole Qui**	**71.53 180**	*e*P	**P**	**18 26 30.1**	**+0.5**			
QSPA			LR	LR					
	comp=Z,1µm,18.5s								
PET	**Petropavlovsk**	**71.71 354**	*e*P	**P**	**18 26 30.9**	**+0.4**			
PET			*e*S	**S**	**18 35 45.5**	**-3.7**			
PET			pmax	pmax					
	comp=Z,49nm,1.1s								
PET			pmax	pmax					
	comp=Z,800nm,5.3s								
PET			pmax	pmax					
	comp=Z,300nm,11.2s								
PET	**Petropavlovsk**	**71.71 354**	PFAKE		18 26 40.0	+9.5			
PET			LR	LR					
	comp=Z,2µm,20.4s								
PEA0	**Petropavlovsk-**	**71.89 353**	*e*P	**P**	**18 26 30.2**	**-1.4**			
PEA0B	**Petropavlovsk-**	**71.89 353**	*e*P	**P**	**18 26 31.4**	**-0.3**			
PETK	**Petropavlovsk-**	**71.89 353**	P	**P**	**18 26 30.5**	**-1.1**			
PETK	**Petropavlovsk-**	**71.89 353**	P	**P**	**18 26 30.5**	**-1.1**			
PETK	**Petropavlovsk-**	**71.89 353**	P	**P**	**18 26 30.5**	**-1.1**			
	comp=Z,51nm,0.8s,baz=141,slow=6.3,SNR=36								
PETK			LR	LR	18 52 43.0				
	comp=Z,1µm,21.1s,baz=160,slow=31								
GSI	**Gunungsitoli**	**71.95 278**	*e*P	**P**	**18 26 31.9**	**-1.1**			
MDJ	**Mudanjiang**	**71.96 332**	P	**P**	**18 26 33.3**	**+1.0**			
MDJ			pP	**pP**	**18 26 36.5**	**-2.3**			
MDJ			PcP	**PcP**	**18 26 51.5**	**+0.7**			
MDJ			PP	**PP**	**18 29 13.1**	**+0.6**			
MDJ			ScS	**ScS**	**18 36 36.6**	**-0.5**			
MDJ			SS	**SS**	**18 40 28.9**	**-1.1**			
MDJ			pmax	pmax					
	comp=Z,29nm,0.9s								
MDJ			pmax	pmax					
	comp=Z,180nm,7.6s								
MDJ			LR	LR					
	comp=Z,950nm,23.5s								
MDJ			LR	LR					
	comp=Z,760nm,26.0s								
MDJ			LR	LR					
	comp=Z,1µm,19.3s								
MDJ	**Mudanjiang**	**71.96 332**	PFAKE		18 26 40.0	+7.7			
MDJ			LR	LR					
	comp=Z,1µm,20.0s								
HABR	**Khabarovsk**	**72.91 338**	*e*P	**P**	**18 26 37.4**	**-0.4**			
HABR			*e**PP	**pP**	**18 26 47.3**	**+3.0**			
HABR			*e**SP	**sP**	**18 26 51.3**	**+4.6**			
HABR			*e*		18 26 53.1				
HABR			*e*		18 29 18.9				
HABR			*e*S	**S**	**18 36 03.0**	**-0.2**			
HABR			*e*		18 36 41.7				
HABR			*e*SS	**SS**	**18 40 43.9**	**-0.4**			
HABR			pmax	pmax					
	comp=E,59nm,2.1s								
HABR			pmax	pmax					
	comp=Z,74nm,1.4s								
HABR			pmax	pmax					
	comp=N,14nm,1.0s								
HABR			MLR	MLR					
	comp=Z,448nm,20.0s								
PATY	**Pattaya**	**73.23 290**	P	**P**	**18 26 43.4**	**+2.9**			
	comp=Z,8.2nm,0.9s,comp=Z,344nm								
CN2	**Changchun**	**73.27 329**	*e*P	**P**	**18 26 38.6**	**-1.5**			
CN2			*e*S	**S**	**18 36 08.4**	**+0.9**			
CN2			pmax	pmax					
	comp=Z,10.0nm,1.0s								
CN2			pmax	pmax					
	comp=Z,200nm,4.0s								
CN2			LR	LR					
	comp=Z,1µm,21.0s								
CN2			LR	LR					
	comp=Z,600nm,21.0s								
CN2			LR	LR					
	comp=Z,1µm,20.0s								
SLVN	**Son La**	**74.25 299**	PFAKE		18 27 00.0	+14			
SLVN			LR	LR					
	comp=Z,600nm,19.1s								
GYA	**Guiyang**	**74.49 305**	⇑*i*P	**P**	**18 26 48.0**	**+0.2**			
GYA			S	**S**	**18 36 22.0**	**-0.3**			
GYA			SKS	**SKSac**	**18 36 50.4**	**-4.9**			
GYA			SS	**SS**	**18 41 11.0**	**+1.5**			
GYA			pmax	pmax					
	comp=Z,20nm,1.1s								
GYA			pmax	pmax					
	comp=Z,140nm,5.2s								
GYA			LR	LR					
	comp=Z,720nm,19.6s								
GYA			LR	LR					
	comp=Z,610nm,20.2s								
GYA			LR	LR					
	comp=Z,780nm,18.9s								
PBKT	**Sadao Pong**	**74.65 294**	P	**P**	**18 26 49.4**	**+0.7**			
	comp=Z,32nm,0.9s,comp=Z,1µm								
KLR	**Kul'dur**	**74.76 336**	*e*P	**P**	**18 26 46.3**	**-2.4**			
KLR			*e*		18 26 57.0				
KLR			*e*S	**S**	**18 36 24.0**	**-0.1**			
KLR			pmax	pmax					
	comp=E,28nm,1.6s								
KLR			pmax	pmax					
	comp=Z,74nm,1.6s								
KLR			MLR	MLR					
	comp=E,800nm,19.5s								
UNV	**Unalaska Valle**	**75.32 15**	*e*P	**P**	**18 26 49.8**	**-2.0**			
UNV			LR	LR					
	comp=Z,3µm,19.9s								
SRDT	**SRDT**	**75.36 291**	P	**P**	**18 26 55.4**	**+2.5**			
	comp=Z,68nm,1.1s,comp=Z,6µm								
BJI	**Beijing**	**75.68 321**	P	**P**	**18 26 55.3**	**+1.1**			
BJI			S	**S**	**18 36 37.8**	**+3.2**			
BJI			SS	**SS**	**18 41 29.1**	**+2.3**			
BJI			pmax	pmax					
	comp=Z,14nm,1.7s								
BJI			pmax	pmax					
	comp=Z,620nm,7.7s								
BJI			LR	LR					
	comp=Z,1µm,19.9s								
BJI			LR	LR					
	comp=Z,820nm,21.7s								
BJI			LR	LR					
	comp=Z,940nm,28.1s								
KHLT	**Khaolaem Dam**	**76.01 291**	P	**P**	**18 26 59.0**	**+2.4**			
	comp=Z,11nm,1.2s,comp=Z,416nm								
TIY	**Taiyuan**	**76.55 318**	*e*P	P	18 27 03.6	+4.3			
TIY			S	**S**	**18 36 49.9**	**+5.4**			
TIY			pmax	pmax					
	comp=Z,570nm,4.3s								
LAMP	**Lampang**	**76.62 295**	P	**P**	**18 27 01.3**	**+1.3**			
	comp=Z,29nm,0.8s,comp=Z,218nm								
XAN	**Xi'an**	**76.80 313**	P	**P**	**18 27 01.5**	**+0.7**			
XAN			pP	**PcP**	**18 27 10.0**	**-2.0**			
XAN			S	**S**	**18 36 48.6**	**+1.2**			
XAN			ScS	**SKKSac**	**18 37 13.0**	**+0.4**			
XAN			SS	**SS**	**18 41 41.5**	**-2.7**			
XAN			pmax	pmax					
	comp=Z,4.0nm,0.9s								
XAN			pmax	pmax					
	comp=Z,87nm,8.4s								
XAN			LR	LR					
	comp=Z,630nm,23.4s								
XAN			LR	LR					
	comp=Z,350nm,21.4s								
KMI	**Kunming**	**76.95 302**	P	**P**	**18 27 03.1**	**+1.1**			
KMI			pP	**PcP**	**18 27 12.4**	**-0.6**			
KMI			S	**S**	**18 36 53.8**	**+4.1**			
KMI			SS	**SS**	**18 41 46.8**	**-0.2**			
KMI			pmax	pmax					
	comp=Z,83nm,1.0s								
KMI			pmax	pmax					
	comp=Z,720nm,5.0s								
KMI			LR	LR					
	comp=Z,440nm,20.6s								
KMI			LR	LR					
	comp=Z,610nm,22.4s								
KMI			LR	LR					
	comp=Z,880nm,24.7s								
CM01	**Chiang Mai Arr**	**77.16 295**	*e*P	**P**	**18 27 02.9**	**-0.2**			
CM31	**Chiang Mai Arr**	**77.19 295**	*e*P	**P**	**18 27 02.9**	**-0.3**			
	comp=Z,37nm,0.9s								
CMAR	**Chiang Mai Arr**	**77.19 295**	P	**P**	**18 27 02.8**	**-0.4**			
CMAR			P'P'		18 54 15.4				
CMAR	**Chiang Mai Arr**	**77.19 295**	P	**P**	**18 27 02.8**	**-0.4**			
	comp=Z,37nm,0.9s,baz=130,slow=4.1,SNR=111								
CMAR			PKPPKP	**P'P'df**	**18 54 15.4**	**+3.1**			
	comp=Z,0.7nm,0.9s,baz=284,slow=5.8,SNR=7.1								
CMAR			LR	LR	19 02 02.0				
	comp=Z,356nm,19.4s,baz=120,slow=36								
CHTO	**Chiang Mai**	**77.34 295**	*e*P	**P**	**18 27 02.1**	**-2.0**			
CHTO			MLR	MLR					
	comp=Z,600nm,21.0s								
CHTO	**Chiang Mai**	**77.34 295**	P	**P**	**18 27 04.3**	**+0.2**			
	comp=Z,200nm,0.8s,comp=Z,5µm								
CHTO	**Chiang Mai**	**77.34 295**	*e*P	**P**	**18 27 02.1**	**-2.0**			
CHTO			LR	LR					
	comp=Z,600nm,21.0s								
CMAI	**Chiengmai2**	**77.72 296**	P	**P**	**18 27 06.8**	**+0.4**			
	comp=Z,52nm,0.8s,comp=Z,9µm								
MHMT	**Maesarieng**	**77.95 294**	P	**P**	**18 27 08.5**	**+1.0**			
	comp=Z,20nm,1.1s,comp=Z,343nm								
MAW	**Mawson**	**78.68 202**	LR	LR	18 56 40.3				
	comp=Z,2µm,21.8s,baz=93,slow=32								
CD2	**Chengdu**	**78.91 308**	P	**P**	**18 27 13.8**	**+1.2**			
CD2			PP	**PP**	**18 30 13.9**	**+2.2**			
CD2			S	**S**	**18 37 10.6**	**+0.3**			
CD2			ScS	**ScS**	**18 37 32.4**	**-1.4**			
CD2			SS	**SS**	**18 42 15.6**	**-0.5**			
CD2			pmax	pmax					
	comp=Z,20nm,1.0s								
CD2			pmax	pmax					
	comp=Z,500nm,8.3s								
CD2			LR	LR					
	comp=Z,1µm,17.8s								
CD2			LR	LR					
	comp=Z,1µm,20.2s								
CD2			LR	LR					
	comp=Z,1µm,22.6s								
HHC	**Hu-ho-hao-te**	**78.95 320**	*e*P	P	18 27 15.9	+3.2			
HHC			sP	sP	18 27 22.0	+0.4			
HHC			PP	PP	18 30 17.4	+5.5			
HHC			S	**S**	**18 37 15.9**	**+5.5**			
HHC			sS	sS	18 37 20.1	-1.1			
HHC			SKS	**SKSac**	**18 37 25.6**	**-1.8**			
HHC			pmax	pmax					
	comp=Z,21nm,0.7s								
HHC			pmax	pmax					
	comp=Z,940nm,5.0s								
HHC			LR	LR					
	comp=Z,1µm,17.7s								
HHC			LR	LR					
	comp=Z,990nm,18.0s								
HHC			LR	LR					
	comp=Z,1µm,17.8s								
HIA	**Hailar**	**79.93 330**	PFAKE		18 27 30.0	+12			
HIA			LR	LR					
	comp=Z,1µm,21.2s								
LZH	**Lanzhou**	**81.42 312**	*e*P	**P**	**18 27 28.6**	**+2.4**			
LZH			pP	**pP**	**18 27 33.0**	**+0.3**			
LZH			sP	**sP**	**18 27 35.0**	**-0.1**			
LZH			*e*S	**S**	**18 37 38.4**	**+1.7**			
LZH			sS	**SKSac**	**18 37 45.3**	**+0.4**			
LZH			SS	**SS**	**18 42 57.3**	**+3.6**			
LZH			pmax	pmax					
	comp=Z,21nm,1.0s								
LZH			pmax	pmax					
	comp=Z,120nm,5.4s								
LZH			LR	LR					
	comp=Z,450nm,17.9s								
LZH			LR	LR					
	comp=Z,540nm,16.2s								
LZH			LR	LR					
	comp=Z,930nm,20.4s								
SEY	**Seymchan**	**82.11 353**	P	**P**	**18 27 28.1**	**-0.8**			
SEY	**Seymchan**	**82.11 353**	P	**P**	**18 27 28.1**	**-0.8**			
SEY	**Seymchan**	**82.11 353**	P	**P**	**18 27 28.1**	**-0.8**			
	comp=Z,36nm,1.0s,baz=165,slow=4.8,SNR=41								
GAMB	**Gambell**	**83.53 9**	*e*P	**P**	**18 27 36.8**	**+0.6**			
GAMB			LR	LR					
	comp=Z,1µm,19.9s								
CIT	**Chita**	**84.71 330**	*e*P	**P**	**18 27 43.4**	**+0.7**			
CIT			pmax	pmax					
	comp=Z,131nm,3.1s								
SYO	**Syowa Base**	**85.31 196**	⇓*e*P	P	18 27 55.4	+10			
ULN	**Ulaanbaatar**	**85.62 324**	*e*P	**P**	**18 27 47.5**	**+0.1**			
ULN			LR	LR					
	comp=Z,900nm,22.0s								
TNA	**Tin City**	**85.78 10**	*e*P	**P**	**18 27 47.0**	**-0.6**			
TNA			LR	LR					
	comp=Z,1µm,20.9s								
GTA	**Gaotai**	**85.82 314**	*e*P	**P**	**18 27 49.1**	**+0.4**			
GTA			pP	**pP**	**18 27 53.8**	**-1.4**			
GTA			sP	**sP**	**18 27 56.3**	**-1.3**			
GTA			PP	**PP**	**18 31 10.1**	**+1.6**			
GTA			SKS	**SKSac**	**18 38 11.4**	**-2.1**			
GTA			S	**SKKSac**	**18 38 20.5**	**-0.1**			
GTA			SS	**SS**	**18 44 00.4**	**+1.7**			
GTA			pmax	pmax					
	comp=Z,19nm,0.8s								
GTA			pmax	pmax					
	comp=Z,220nm,5.9s								
GTA			LR	LR					
	comp=Z,660nm,18.0s								
GTA			LR	LR					
	comp=Z,810nm,18.5s								
GTA			LR	LR					
	comp=Z,990nm,20.2s								
YAK	**Yakutsk**	**85.86 343**	*e*P	**P**	**18 27 47.2**	**-0.8**			
YAK			*e**PP	**pP**	**18 27 58.9**	**+4.3**			
YAK			*e*		18 31 10.7				
YAK			*e*S	**SKSac**	**18 38 09.1**	**-3.2**			
YAK			*e*SS	**SS**	**18 43 58.7**	**+0.8**			
YAK			pmax	pmax					
	comp=E,10.0nm,1.1s								
YAK			pmax	pmax					
	comp=N,16nm,1.3s								
YAK			pmax	pmax					
	comp=Z,72nm,1.0s								
YAK			pmax	pmax					
	comp=Z,5.0nm,0.8s								
YAK			smax	smax					
	comp=E,534nm,13.0s								
YAK			smax	smax				

SAO MLR MLR
comp=Z,4μm,18.1s
SAO San Andreas Ge 86.20 49 *e*P **P 18 27 51.9 +1.5**
SAO LR LR
comp=Z,4μm,18.1s
BILL Bilibino 86.32 359 ‖ *i*P **P 18 27 48.9 -1.3**
BILL *i* S S 18 38 16.4 -7.9
BILL *i* SS **SS 18 44 10.4 +5.9**
BILL pmax pmax
comp=Z,104nm,1.2s
BILL Bilibino 86.32 359 PFAKE 18 28 00.0 +10
BILL LR LR
comp=Z,700nm,22.0s
WDC Whiskeytown Da 87.15 46 *e*P **P 18 27 55.7 +0.7**
WDC MLR MLR
comp=Z,3μm,20.7s
WDC Whiskeytown Da 87.15 46 *e*P **P 18 27 55.7 +0.7**
WDC LR LR
comp=Z,3μm,20.7s
N02D Trinity Center 87.22 45 P **P 18 27 55.2 -0.2**
baz=88
M02C Callahan 87.31 45 P **P 18 27 55.9 +0.1**
baz=88
CAST Castle Rocks 87.38 17 *e*P **P 18 27 56.4 +0.9**
CAST LR LR
comp=Z,700nm,18.7s
ARVC Arvin 87.41 52 P **P 18 27 57.6 +1.3**
baz=88
CMB Columbia Colle 87.52 49 *e*P **P 18 27 55.9 -1.0**
CMB MLR MLR
comp=Z,2μm,18.6s
CMB Columbia Colle 87.52 49 *e*P **P 18 27 55.9 -1.0**
CMB LR LR
comp=Z,2μm,18.6s
VES Vestal, Richgr 87.52 51 P **P 18 27 56.7 -0.2**
baz=88
YBH Yreka Blue Hor 87.56 44 P **P 18 27 57.2 +0.1**
YBH LR LR
comp=Z,2μm,19.7s
YBH Yreka Blue Hor 87.56 44 P **P 18 27 57.2 +0.1**
comp=Z,13nm,1.1s,baz=198,slow=3.6,SNR=7.4
MWC Mount Wilson 87.62 53 *e*P **P 18 27 58.1 +0.4**
MWC MLR MLR
comp=Z,2μm,19.6s
MWC Mount Wilson 87.62 53 *e*P **P 18 27 58.0 +0.4**
MWC LR LR
comp=Z,2μm,19.6s
HUMO Hull Mountain 87.81 44 *e*P **P 18 27 59.8 +1.7**
HUMO LR LR
comp=Z,2μm,20.0s
KTH Kantishna Hill 87.81 17 *e*P **P 18 27 58.2 +0.5**
KTH LR LR
comp=Z,2μm,21.6s
TRF Thorofare Moun 87.91 17 *e*P **P 18 27 58.7 +0.4**
TRF LR LR
comp=Z,2μm,20.0s
BFSC Mount Baldy Ra 87.93 53 P **P 18 27 58.9 -0.2**
baz=88
EDW2 Edwards Air Fo 87.94 52 P **P 18 27 59.3 +0.3**
baz=88
M04C Macdoel 88.17 45 P **P 18 28 00.6 +0.6**
baz=88
LSA Lhasa 88.20 302 *e*PKKPbc PKKPbc 18 45 47.1 +1.5
LSA LR LR
comp=Z,500nm,21.7s
MONP Monument Peak 88.34 55 P **P 18 28 02.1 +0.9**
baz=89
WAKR Walker 88.39 48 *e*P **P 18 28 01.2 0.0**
LRMC Laurel Mountai 88.41 52 P **P 18 28 01.6 +0.3**
baz=89
MLAC Mammoth Lakes 88.45 49 P **P 18 28 02.6 +1.0**
baz=89
MCK McKinley 88.51 18 *e*P **P 18 28 01.7 +0.7**
MCK MLR MLR
comp=Z,2μm,21.3s
MCK McKinley 88.51 18 *e*P **P 18 28 01.7 +0.7**
MCK LR LR
comp=Z,2μm,21.3s
CWC Cottonwood Cre 88.51 51 P **P 18 28 02.0 +0.2**
baz=89
PFO Pinyon Flat Ob 88.59 54 *e*P **P 18 28 01.4 -0.8**
PFO LR LR
comp=Z,2μm,20.3s
PFO Pinyon Flat Ob 88.59 54 P P 18 28 06.4 +4.2
comp=Z,5.5nm,0.9s,baz=233,slow=10,SNR=5.0
TIN Tinemaha 88.66 50 P **P 18 28 03.9 +1.5**
baz=89
I04A Tendick Farm, 88.71 43 P **P 18 28 02.5 +0.1**
baz=89
DAC Darwin (Calif) 88.80 51 PFAKE 18 28 10.0 +6.8
DAC LR LR
comp=Z,2μm,21.0s
G03D McMinnville, O 88.82 41 P **P 18 28 03.4 +0.6**
baz=89
SWSC Sam W. Stewart 88.84 55 P **P 18 28 03.6 +0.4**
baz=89
GSC Goldstone 89.00 52 *e*P P 18 28 09.6 +5.6
GSC MLR MLR
comp=Z,2μm,19.3s
GSC Goldstone 89.00 52 *e*pP P 18 28 09.6 +5.6
GSC LR LR
comp=Z,2μm,19.3s
ZAK Zakamensk 89.06 325 ⇑ *i*P **P 18 28 03.1 -0.9**
ZAK pmax pmax
comp=Z,13nm,1.3s
BELC Belle Mtn. Jos 89.10 54 *e*P **P 18 28 03.0 -1.6**
BELC Belle Mtn. Jos 89.10 54 P **P 18 28 03.3 -1.3**
baz=89
NVAR Mina Array Bea 89.17 49 P **P 18 28 03.6 -1.3**
NVAR PKKPbc **PKKPbc 18 45 44.3 +1.0**
NVAR Mina Array Bea 89.17 49 P **P 18 28 03.6 -1.3**
comp=Z,6.1nm,0.8s,baz=226,slow=6.1,SNR=29
NVAR PKKPbc **PKKPbc 18 45 44.3 +1.0**
comp=Z,0.6nm,0.7s,baz=132,slow=2.6,SNR=4.5
NVAR LR LR 19 03 11.1
comp=Z,2μm,18.7s,baz=111,slow=32
J05D Fort Rock, OR 89.24 44 P **P 18 28 04.3 -0.8**
baz=90
MOD Modoc 89.25 45 *e*P **P 18 28 05.7 +0.5**
MOD LR LR
comp=Z,2μm,18.9s
NV11 Mina Array Sit 89.28 49 *e*P **P 18 28 04.0 -1.3**
IRK Irkutsk 89.50 327 *e*P **P 18 28 05.6 -0.2**
IRK pmax pmax
comp=Z,32nm,3.2s
TLY Talaya 89.54 326 *e*P **P 18 28 07.0 +1.0**
TLY *e* 18 40 03.4
TLY pmax pmax
comp=Z,23nm,1.7s
TLY MLR MLR
comp=Z,536nm,20.0s
TLY Talaya 89.54 326 PFAKE 18 28 20.0 +14
TLY LR LR
comp=Z,600nm,20.4s
I05D Terrebonne, OR 89.64 43 P **P 18 28 05.7 -1.0**
baz=90
GMRC Granite Mounta 89.66 53 P **P 18 28 06.1 -1.1**
baz=90
COLA College 89.69 17 *i*P **P 18 28 05.1 -1.2**
COLA pmax pmax
comp=Z,61nm,1.3s
COLA College 89.69 17 *e*P **P 18 28 06.2 -0.1**
COLA LR LR
comp=Z,2μm,21.0s
TPH Tonopah 89.80 50 *e*P **P 18 28 07.5 -0.4**
TPH MLR MLR
comp=Z,2μm,20.0s
TPH Tonopah 89.80 50 *e*P **P 18 28 07.5 -0.4**
TPH LR LR
comp=Z,2μm,20.0s
IRM Iron Mountain 89.81 54 P **P 18 28 07.0 -0.8**
baz=90
SNAA Sanae 89.83 183 P **P 18 28 06.7 -0.6**
SNAA Sanae 89.83 183 *e*P **P 18 28 06.4 -0.9**
SNAA LR LR
comp=Z,1μm,19.8s
ILAR Eielson Array 89.88 18 P **P 18 28 04.3 -3.0**
comp=Z,2.9nm,0.7s,baz=240,slow=5.1,SNR=28
ILAR LR LR 19 01 58.7
comp=Z,1μm,21.8s,baz=238,slow=31
G05D Wamic, OR 90.06 42 P **P 18 28 07.7 -1.0**
baz=90
Y12C Blythe 90.14 54 P **P 18 28 09.6 +0.3**
baz=90
TAPN Taplejung 90.16 299 *e*P **P 18 28 07.7 -2.2**
comp=Z,34nm,0.9s

LDFC Landfair 90.19 53 *e*P **P 18 28 10.7 +1.0**
LDFC LR LR
comp=Z,2μm,19.3s
ODAN Odare 90.25 298 *e*P **P 18 28 09.5 -0.8**
comp=Z,46nm,0.8s
D05A Enumclaw 90.52 40 *e*P **P 18 28 11.8 +1.1**
D05A LR LR
comp=Z,2μm,18.5s
WVOR Wild Horse Val 90.60 45 *e*P **P 18 28 10.5 -0.9**
WVOR MLR MLR
comp=Z,2μm,19.3s
WVOR Wild Horse Val 90.60 45 *e*P **P 18 28 10.5 -0.9**
WVOR LR LR
comp=Z,2μm,19.3s
PDMCI Parker Dam,Lak 90.64 54 P **P 18 28 11.8 +0.3**
baz=91
SHPR Sheep Range 90.70 52 *e*P **P 18 28 12.6 +0.5**
VNA2 Neumayer--Watz 90.73 181 P **P 18 28 11.0 -0.5**
BMN Battle Mountai 90.75 47 *e*P **P 18 28 11.5 -0.7**
BMN MLR MLR
comp=Z,2μm,22.0s
BMN Battle Mountai 90.75 47 *e*P **P 18 28 11.5 -0.7**
BMN LR LR
comp=Z,2μm,22.0s
214A Organ Pipe Nat 90.81 57 P **P 18 28 12.3 -0.2**
baz=91
COLD Coldfoot 90.87 15 *e*P **P 18 28 12.4 +0.6**
COLD LR LR
comp=Z,1μm,20.7s
RAMN Ramite 90.95 298 *e*P **P 18 28 14.1 +0.6**
comp=Z,55nm,1.2s
MOY Mondy 90.96 325 *e*P **P 18 28 13.9 +1.1**
VNA1 Neumayer--Stat 91.03 181 P **P 18 28 13.0 +0.2**
R11A Troy Canyon, C 91.09 50 *e*P **P 18 28 13.5 -0.3**
R11A *e*PKKPbc PKKPbc 18 45 50.0 +12
R11A LR LR
comp=Z,2μm,19.0s
R11A Troy Canyon, C 91.09 50 P **P 18 28 12.7 -1.1**
baz=91
W13A Hualapai Mount 91.13 53 P **P 18 28 13.5 -0.6**
baz=91
Z14A Wintersburg 91.22 55 P **P 18 28 15.1 +0.8**
baz=92
Y14A Wickenburg 91.38 55 P **P 18 28 15.7 +0.5**
baz=92
JIRN Jiri 91.53 299 *e*P **P 18 28 14.8 -1.6**
comp=Z,84nm,1.5s
E07A Sunnyside 91.55 41 *e*P **P 18 28 14.5 -1.1**
E07A LR LR
comp=Z,1μm,21.9s
G08A Pilot Rock 91.58 42 *e*P **P 18 28 15.1 -0.8**
G08A LR LR
comp=Z,2μm,20.6s
EGAK Eagle 91.61 19 *e*P **P 18 28 17.1 +1.7**
EGAK LR LR
comp=Z,1μm,18.5s
HAWA Hanford 91.68 41 *e*P **P 18 28 16.8 +0.7**
HAWA LR LR
comp=Z,1μm,18.1s
DAWY Dawson 91.71 20 *e*P **P 18 28 16.7 +0.8**
GUN Gumba 91.88 299 *e*P **P 18 28 15.2 -2.7**
comp=Z,28nm,0.8s
PKI Pulchoki 92.15 298 *e*P **P 18 28 18.2 -1.0**
comp=Z,45nm,1.0s
PKIN Phulchoki 92.17 298 *e*P **P 18 28 17.9 -1.3**
comp=Z,20nm,1.0s
ELK Elko 92.26 48 *e*P **P 18 28 20.3 +1.0**
ELK LR LR
comp=Z,1μm,18.4s
ELK Elko 92.26 48 P **P 18 28 17.6 -1.6**
comp=Z,6.1nm,1.1s,baz=209,slow=1.9,SNR=9.4
D08A Wollman Farm, 92.34 41 *e*P **P 18 28 19.9 +0.7**
D08A LR LR
comp=Z,1μm,18.1s
DMN Daman 92.42 298 *e*P **P 18 28 19.7 -0.6**
comp=Z,77nm,1.0s
CCUT Cedar City 92.42 51 *e*P **P 18 28 19.6 -0.5**
CCUT LR LR
comp=Z,2μm,20.5s
BMO Blue Mountains 92.47 43 *e*P **P 18 28 19.5 -0.4**
BMO Blue Mountains 92.47 43 *e*P **P 18 28 19.5 -0.4**
E09A Wood Farm, Sta 92.61 42 *e*P **P 18 28 21.6 +1.2**
E09A LR LR
comp=Z,1μm,18.0s
KNB Kanab 92.63 52 *e*P **P 18 28 22.0 +1.0**
KNB Kanab 92.63 52 *e*P **P 18 28 21.9 +1.0**
B08A Colville Reser 92.64 40 *e*P **P 18 28 21.1 +0.5**
B08A LR LR
comp=Z,700nm,20.3s
MFID Camas Ranch 92.88 45 *e*P **P 18 28 22.5 +0.6**
MFID LR LR
comp=Z,2μm,19.4s
GKN Gorkha 92.94 298 *e*P **P 18 28 20.7 -1.9**
comp=Z,29nm,0.9s
F10A Beach Ranch, E 92.97 42 PFAKE 18 28 30.0 +7.8
F10A LR LR
comp=Z,1μm,20.3s
WUAZ Wupatki 93.19 54 *e*P **P 18 28 24.7 +1.1**
WUAZ LR LR
comp=Z,2μm,20.0s
WUAZ Wupatki 93.19 54 P **P 18 28 23.1 -0.5**
baz=93
MVU Marysvale 93.61 51 *e*P P 18 28 28.9 +3.3
MVU LR LR
comp=Z,3μm,19.0s
TRD Trivandrum 93.69 278 ‖ *ex* x 18 28 37.0
KOLN Koldanda 93.73 298 *e*P **P 18 28 26.3 0.0**
comp=Z,24nm,0.9s
DUG Dugway 93.78 49 PFAKE 18 28 40.0 +14
DUG LR LR
comp=Z,2μm,18.4s
DUG Dugway 93.78 49 P **P 18 28 26.2 0.0**
baz=94
DANN Dangsing 93.79 298 *e*P **P 18 28 24.2 -2.5**
comp=Z,55nm,1.3s
TIXI Tiksi 93.81 348 *ce*P **P 18 28 26.1 +0.7**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 93.81 348 PFAKE 18 28 40.0 +15
TIXI LR LR
comp=Z,1μm,21.0s
BGU Big Grassy Mou 93.88 48 PFAKE 18 28 40.0 +13
BGU LR LR
comp=Z,800nm,19.0s
HLID Hailey 93.89 45 *e*P **P 18 28 27.8 +1.2**
HLID LR LR
comp=Z,3μm,18.0s
HLID Hailey 93.89 45 P **P 18 28 25.5 -1.1**
baz=94
NEW Newport 93.95 40 *e*P **P 18 28 27.5 +0.9**
NEW LR LR
comp=Z,800nm,18.8s
NEW Newport 93.95 40 P **P 18 28 26.2 -0.4**
baz=94
PYUN Piuthan 94.35 298 *e*P **P 18 28 27.6 -1.6**
comp=Z,18nm,0.9s
HVU Hansel Valley 94.37 47 *e*P **P 18 28 29.9 +1.0**
HVU MLR MLR
comp=Z,2μm,20.6s
HVU Hansel Valley 94.37 47 *e*P **P 18 28 29.9 +1.0**
HVU LR LR
comp=Z,2μm,20.6s
TMUT Trail Mountain 94.62 50 PFAKE 18 28 40.0 +10
TMUT LR LR
comp=Z,3μm,19.0s
HYB Hyderabad 94.94 287 *i*P **P 18 28 32.0 +0.1**
HYB *e*SKS **SKSac 18 39 04.0 -3.0**
HYB *eS* **S 18 39 44.0 -1.7**
WMQ Urumqi 95.90 314 P **P 18 28 35.9 +0.2**
WMQ pP **pP 18 28 40.8 -1.5**
WMQ sP **sP 18 28 42.9 -1.8**
WMQ PP **PP 18 32 30.1 +1.8**
WMQ SKS **SKSac 18 39 10.3 -0.8**
WMQ S **S 18 39 49.9 -3.2**
WMQ SS **SS 18 46 23.5 -0.5**
WMQ pmax pmax
comp=Z,13nm,1.4s
WMQ pmax pmax
comp=Z,240nm,6.0s
WMQ LR LR
comp=Z,820nm,16.5s
WMQ LR LR
comp=Z,460nm,19.0s
WMQ LR LR
comp=Z,860nm,23.4s

INK Inuvik 96.22 19 *e*P **P 18 28 36.5 +0.1**
INK LR LR
comp=Z,1μm,18.9s
REDW Red Top Meadow 96.25 46 *e*P **P 18 28 39.1 +1.6**
REDW LR LR
comp=Z,2μm,20.9s
MOOW Moose Ponds 96.45 46 *e*P **P 18 28 40.5 +2.1**
MOOW LR LR
comp=Z,2μm,19.8s
ANMO Albuquerque 96.81 56 P **P 18 28 39.7 -0.5**
ANMO LR LR
comp=Z,1μm,19.6s
ANMO Albuquerque 96.81 56 P **P 18 28 39.7 -0.5**
comp=Z,0.9nm,0.9s,baz=256,slow=4.2,SNR=3.2
PDAR Pinedale Array 96.95 47 P **P 18 28 40.4 -0.3**
PDAR Pinedale Array 96.95 47 P **P 18 28 40.4 -0.3**
comp=Z,0.5nm,0.4s,baz=250,slow=3.0,SNR=3.8
PDAR LR LR 19 07 37.2
comp=Z,729nm,19.2s,baz=268,slow=32
626A Big Bend Ranch 97.08 61 P **P 18 28 39.7 -1.7**
baz=97
TXAR Lajitas Array 97.41 62 P Pdif 18 28 44.3 +1.3
TXAR Lajitas Array 97.41 62 P Pdif 18 28 44.3 +1.3
comp=Z,1.1nm,0.8s,baz=134,slow=46,SNR=2.9
TXAR LR LR 19 06 29.1
comp=Z,1μm,18.7s,baz=0.0,slow=32
PLCA Paso Flores 99.81 139 LR LR 19 06 01.9
comp=Z,465nm,20.7s,baz=258,slow=31
LAO LASA Array 100.38 44 PFAKE 18 29 10.0 +14
LAO LR LR
comp=Z,2μm,21.4s
MKAR Makanchi Array 100.44 316 *i*P **Pdif 18 28 56.4 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 100.44 316 P **Pdif 18 28 55.8 -0.2**
MKAR Makanchi Array 100.44 316 P **Pdif 18 28 55.8 -0.2**
comp=Z,1.9nm,0.7s,baz=92,slow=3.9,SNR=14
YKA Yellowknife Ar 100.55 27 P **Pdif 18 28 54.6 -1.4**
YKA PKiKP **PKiKP 18 33 23.3 +1.0**
YKA Yellowknife Ar 100.55 27 P **Pdif 18 28 54.6 -1.4**
comp=Z,1.3nm,0.9s,baz=256,slow=4.7,SNR=11
YKA PKiKP **PKiKP 18 33 23.3 +1.0**
comp=Z,0.5nm,0.8s,baz=265,slow=1.6,SNR=4.4
ZALV Zalesovo Beam 100.87 323 *i*P **Pdif 18 28 57.5 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 100.87 323 P **Pdif 18 28 55.8 -1.8**
ZALV Zalesovo Beam 100.87 323 P **Pdif 18 28 55.8 -1.8**
comp=Z,1.4nm,0.7s,baz=129,slow=2.1,SNR=7.3
NVS Novosibirsk 102.01 324 *e*P **Pdif 18 29 01.1 -1.6**
NVS pmax pmax
comp=N,20nm,3.0s
NVS pmax pmax
comp=Z,25nm,3.0s
NVS pmax pmax
comp=E,27nm,3.3s
KURK Kurchatov 103.76 319 P **Pdif 18 29 10.6 0.0**
KURK 18 33 27.0
KURK MLR MLR
comp=Z,500nm,19.8s
KURK Kurchatov 103.76 319 Pdif **Pdif 18 29 10.6 0.0**
KURK PP **PP 18 33 27.0 -0.7**
KURK LR LR
comp=Z,500nm,19.8s
KURBB Kurchatov Arra 103.79 319 Pdiff **Pdif 18 29 10.6 -0.2**
comp=Z,0.6nm,0.7s,baz=84,slow=3.5,SNR=3.7
KURBB PP **PP 18 33 27.0 -0.9**
comp=Z,2.1nm,1.1s,baz=108,slow=6.4,SNR=6.0
BVAR Borovoye Array 109.15 321 P **Pdif 18 29 35.7 +1.1**
BVAR Borovoye Array 109.15 321 Pdif **Pdif 18 29 35.6 +1.1**
BVAR PKiKP **PKiKP 18 33 38.6 +0.1**
BVAR PKKPbc **PKKPbc 18 44 46.5 -0.3**
BVAR Borovoye Array 109.15 321 Pdiff **Pdif 18 29 35.7 +1.1**
comp=Z,0.7nm,0.8s,baz=102,slow=3.5,SNR=4.4
BVAR PKiKP **PKiKP 18 33 38.6 +0.1**
comp=Z,1.0nm,0.8s,baz=79,slow=3.1,SNR=4.1
BVAR PKKPbc **PKKPbc 18 44 46.5 -0.3**
comp=Z,0.4nm,0.5s,baz=289,slow=4.4,SNR=3.2
SIUC Southern Illin 110.98 56 PFAKE 18 33 50.0
SIUC LR LR
comp=Z,1μm,18.6s
WVT Waverly 111.88 58 PFAKE 18 34 00.0
WVT LR LR
comp=Z,1μm,18.6s
LPAZ La Paz 114.78 118 PKP PKPdf 18 33 51.0 -0.1
LPAZ PKKPab **PKKPab 18 44 32.6 -2.6**
LPAZ La Paz 114.78 118 PKP PKPdf 18 33 51.0 -0.1
comp=Z,1.4nm,0.6s,baz=297,slow=2.3,SNR=5.7
LPAZ PKKPab **PKKPab 18 44 32.6 -2.6**
comp=Z,1.4nm,0.8s,baz=46,slow=2.8,SNR=5.4
ARU Arti 116.00 324 PKIKP **PKPdf 18 33 52.3 +0.9**
CPUP Villa Florida 117.31 134 PKP **PKPdf 18 33 55.5 +0.5**
CPUP Villa Florida 117.31 134 PKP **PKPdf 18 33 55.5 +0.5**
comp=Z,1.0nm,0.4s,baz=336,slow=3.1,SNR=3.7
BOSA Boshof 120.94 218 PKP **PKPdf 18 34 04.0 +1.9**
BOSA LR LR
comp=Z,800nm,19.8s
BOSA Boshof 120.94 218 PKP **PKPdf 18 34 04.0 +1.9**
comp=Z,2.9nm,0.7s,baz=351,slow=3.0,SNR=5.4
PRGR Permogore 121.36 332 *e*PKIKP **PKPdf 18 34 02.2 +0.6**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
SAML Samuel 122.55 114 PFAKE 18 34 20.0 +15
SAML LR LR
comp=Z,400nm,19.0s
APA Apatity 123.19 341 *i* PKIKP **PKPdf 18 34 02.8 -2.1**
APA MLR MLR
comp=Z,1μm,17.0s
SUMG Summit 123.84 9 *i* PKIKP **PKPdf 18 34 07.4 +0.8**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 123.84 9 *i* P **PKPdf 18 34 07.4 +0.8**
comp=Z,8.1nm,1.0s
SUMG Summit 123.84 9 PFAKE 18 34 20.0 +13
SUMG LR LR
comp=Z,1μm,18.7s
ILULI Ilulissat 123.89 16 *e*PKIKP **PKPdf 18 34 08.4 +2.2**
ILULI pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 124.09 345 PKP **PKPdf 18 34 05.6 -1.1**
ARCES ARCESS Array B 124.09 345 PKP **PKPdf 18 34 05.6 -1.1**
comp=Z,1.5nm,0.3s,baz=56,slow=1.9,SNR=41
KLMR Klimovskoe 124.38 332 *e*PKIKP **PKPdf 18 34 05.0 -2.4**
KLMR pmax pmax
comp=Z,29nm,1.5s
SCHQ Schefferville 124.97 35 PKP **PKPdf 18 34 07.8 -1.0**
SCHQ LR LR
comp=Z,3μm,19.2s
SCHQ Schefferville 124.97 35 PKP **PKPdf 18 34 07.8 -1.0**
comp=Z,3.8nm,0.9s,baz=324,slow=4.9,SNR=3.9
SFJD Kangerlussuaq 125.55 18 *i* P **PKPdf 18 34 08.4 -1.1**
comp=Z,7.5nm,0.9s
RAYN Ar Rayn 126.44 286 PFAKE 18 34 20.0 +7.4
RAYN LR LR
comp=Z,1μm,19.9s
JOF Joensuu 126.66 337 *e*PKIKP **PKPdf 18 34 09.6 -2.1**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 126.66 337 *ep* **PKPdf 18 34 09.6 -2.1**
comp=Z,2.1nm,0.7s
VRHR Novokhopersk 126.90 321 *e*PKIKP **PKPdf 18 34 12.6 +0.1**
VRHR pmax pmax
comp=Z,9.0nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.7s
GNI Garni 127.03 307 PKP **PKPdf 18 34 14.8 +1.4**
GNI LR LR
comp=Z,400nm,21.5s
GNI Garni 127.03 307 PKP **PKPdf 18 34 14.8 +1.4**
comp=Z,1.8nm,0.4s,baz=79,slow=5.2,SNR=3.4
ZEI Tsey 127.29 310 *e*PKIKP **PKPdf 18 34 17.5 +3.7**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
MOS Moscow 127.47 327 *e*PKHKP PKPpre 18 33 58.7
SCO Scoresbysund 127.69 4 *i* PKIKP **PKPdf 18 34 14.6 +1.1**
SCO pmax pmax
comp=Z,7.0nm,1.0s
SCO Scoresbysund 127.69 4 *i* P **PKPdf 18 34 14.6 +1.1**
comp=Z,7.1nm,1.0s
KMBO Kilima Mbogo 127.86 253 PKP **PKPdf 18 34 17.4 +1.5**
KMBO *e*PKPdf **PKiKP 18 34 19.2 +2.8**
KMBO LR LR
comp=Z,2μm,18.7s
KMBO Kilima Mbogo 127.86 253 PKP **PKPdf 18 34 17.4 +1.5**

	comp=Z,2.2nm,0.8s,baz=9.2,slow=4.5,SNR=6.1						
KIV	**Kislovodsk**	**127.96 312**	*e*P	**Pdif**	**18 31 02.8**	**+4.3**	
KIV			*e*		18 36 02.5		
KIV			*e*		18 41 23.7		
KIV			*e*PS	**PS**	**18 46 28.5**	**+3.7**	
KIV			pmax	pmax			
	comp=Z,13nm,1.1s						
KIV			MLR	MLR			
	comp=Z,489nm,22.0s						
LSZ	**Lusaka**	**128.13 232**	PFAKE		18 34 30.0	+14	
LSZ			LR	LR			
	comp=Z,1μm,21.0s						
OBN	**Obninsk**	**128.28 327**	*i* PKIKP	**PKPdf**	**18 34 15.1**	**+0.1**	
OBN			*e*		18 36 17.5		
OBN			*i* SS	SS	18 53 36.0	+2.9	
OBN			pmax	pmax			
	comp=Z,9.0nm,1.3s						
VSR	**Storozhevoye**	**128.33 321**	*e*PKIKP	**PKPdf**	**18 34 14.4**	**-0.8**	
VSR			pmax	pmax			
	comp=Z,10.0nm,1.4s						
VSR			pmax	pmax			
	comp=N,5.0nm,0.9s						
VSR			pmax	pmax			
	comp=E,4.0nm,0.8s						
VORD	**Divnogorie**	**128.33 321**	*e*PKIKP	**PKPdf**	**18 34 12.5**	**-2.7**	
VORD			pmax	pmax			
	comp=Z,4.0nm,1.3s						
VORD			pmax	pmax			
	comp=N,3.0nm,0.6s						
VORD			pmax	pmax			
	comp=E,4.0nm,0.9s						
KAF	**Kangasniemi**	**128.98 338**	*e*PKIKP	**PKPdf**	**18 34 11.9**	**-4.3**	
KAF	**Kangasniemi**	**128.98 338**	*ep*	**PKPdf**	**18 34 11.9**	**-4.3**	
	comp=E,0.3nm,0.4s						
PTGA	**Pitinga**	**129.09 107**	PFAKE		18 34 30.0	+12	
PTGA			LR	LR			
	comp=Z,800nm,21.0s						
FINES	**FINESS Array B**	**129.50 337**	PKP	**PKPdf**	**18 34 16.4**	**-0.8**	
FINES			SKPbc	SKPbc	18 37 39.5	+1.4	
FINES	**FINESS Array B**	**129.50 337**	PKP	**PKPdf**	**18 34 16.4**	**-0.8**	
	comp=Z,2.7nm,0.9s,baz=86,slow=3.1,SNR=7.4						
FINES			SKPbc	SKPbc	18 37 39.5	+1.4	
	comp=Z,3.3nm,0.8s,baz=65,slow=4.2,SNR=7.7						
BDFB	**Brasilia**	**130.87 131**	PKP	**PKPdf**	**18 34 20.5**	**-0.8**	
BDFB	**Brasilia**	**130.87 131**	PKP	**PKPdf**	**18 34 20.5**	**-0.8**	
	comp=Z,7.9nm,0.9s,baz=128,slow=2.3,SNR=3.4						
AKASG	**Malin Array Be**	**134.26 324**	PKIKP	**PKPdf**	**18 34 26.8**	**+0.3**	
AKASG	**Malin Array Be**	**134.26 324**	PKP	**PKPdf**	**18 34 26.8**	**+0.3**	
AKASG			SKPbc	**SKPab**	**18 37 57.0**	**-1.0**	
AKASG	**Malin Array Be**	**134.26 324**	PKP	**PKPdf**	**18 34 26.8**	**+0.3**	
	comp=Z,2.4nm,0.8s,baz=65,slow=2.2,SNR=7.3						
AKASG			SKPbc	**SKPab**	**18 37 57.0**	**-1.0**	
	comp=Z,2.1nm,0.9s,baz=48,slow=3.9,SNR=4.8						
NB2	**NORSAR Subarra**	**134.46 344**	PKPdf	**PKPdf**	**18 34 27.9**	**+1.3**	
	comp=Z,2.3nm,1.0s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**134.46 344**	PKP	**PKPdf**	**18 34 28.6**	**+1.9**	
NOA	**NORSAR Array B**	**134.46 344**	PKP	**PKPdf**	**18 34 28.6**	**+1.9**	
	comp=Z,1.0nm,0.8s,baz=66,slow=2.3,SNR=3.5						
BRTR	**Keskin Array B**	**135.49 308**	PKP	**PKPdf**	**18 34 29.8**	**+0.5**	
BRTR	**Keskin Array B**	**135.49 308**	PKP	**PKPdf**	**18 34 29.8**	**+0.5**	
	comp=Z,1.5nm,0.9s,baz=101,slow=1.3,SNR=5.4						
KOLS	**Kolonicke sedl**	**139.00 326**	*e*PKIKP	**PKPdf**	**18 34 35.8**	**+0.4**	
KOLS	**Kolonicke sedl**	**139.00 326**	*e*PKP	**PKPdf**	**18 34 35.8**	**+0.4**	
UZH	**Uzhgorod**	**139.17 325**	*e*PKHKP	PKPpre	18 34 24.1		
UZH			*i*		18 34 36.1		
UZH			*e*		18 34 48.5		
UZH			*e*SS	SS	18 55 43.9	-0.8	
UZH			MLR	MLR			
	comp=N,480nm,20.0s						
UZH			MLR	MLR			
	comp=E,590nm,20.0s						
STHS	**Stebnicka Huta**	**139.26 327**	*e*PKIKP	PKPdf	18 34 42.0	+6.1	
STHS	**Stebnicka Huta**	**139.26 327**	*e*	PKPdf	18 34 42.0	+6.1	
CRVS	**Cervenica-Dubn**	**139.46 326**	*e*PKIKP	PKPdf	18 34 41.8	+5.6	
CRVS	**Cervenica-Dubn**	**139.46 326**	*e*	PKPdf	18 34 41.8	+5.6	
KECS	**Kecovo**	**140.22 326**	*e*PKIKP	**PKPdf**	**18 34 38.0**	**+0.4**	
KECS	**Kecovo**	**140.22 326**	*e*PKP	**PKPdf**	**18 34 38.0**	**+0.4**	
KSP	**Ksiaz**	**140.73 332**	*e*PKIKP	**PKPdf**	**18 34 40.4**	**+2.0**	
KSP			MLR	MLR			
	comp=Z,3μm,25.7s						
KRLC	**Kraliky**	**141.04 330**	*e*PKIKP	**PKPdf**	**18 34 41.5**	**+2.4**	
KRLC			*e*		18 34 47.9		
KRLC			*e*		18 37 40.4		
KRLC	**Kraliky**	**141.04 330**	*e*PKP	**PKPdf**	**18 34 41.5**	**+2.4**	
KRLC			*ex*	x	18 34 47.9		
KRLC			*e*PP	**PP**	**18 37 40.4**	**+0.4**	
DPC	**Dobruska-Polom**	**141.06 331**	*e*PKIKP	**PKPdf**	**18 34 36.9**	**-2.2**	
DPC			*e*		18 34 42.2		
DPC			*e*		18 37 41.5		
DPC			*e*SS	SS	18 56 08.7	+2.0	
DPC	**Dobruska-Polom**	**141.06 331**	*e*PKP	**PKPdf**	**18 34 36.9**	**-2.2**	
DPC			*ep*PKP	**PKiKP**	**18 34 42.2**	**+0.4**	
DPC			*e*PP	**PP**	**18 37 41.5**	**+1.4**	
DPC			*e*SS	SS	18 56 08.7	+2.0	
DPC			AMS	AMS	19 42 40.0		
UPC	**Upice**	**141.09 332**	*e*PKIKP	**PKPdf**	**18 34 35.6**	**-3.5**	
UPC			*e*		18 37 41.5		
UPC	**Upice**	**141.09 332**	*e*PKP	**PKPdf**	**18 34 35.6**	**-3.5**	
UPC			*e*PP	**PP**	**18 37 41.5**	**+1.3**	
PVCC	**Panska Ves**	**141.72 333**	*e*PKIKP	**PKPdf**	**18 34 41.3**	**+1.1**	
PVCC	**Panska Ves**	**141.72 333**	*e*PKP	**PKPdf**	**18 34 41.3**	**+1.1**	
BRG	**Berggiesshubel**	**141.73 333**	*e*PKP	**PKPdf**	**18 34 37.1**	**-3.1**	
	comp=Z,8.8nm,1.6s						
BRG			*i*		18 34 45.0		
	comp=Z,13nm,1.2s						
BRG	**Berggiesshubel**	**141.73 333**	*e*PKIKP	**PKPdf**	**18 34 37.1**	**-3.1**	
BRG			*i*		18 34 45.0		
BRG			pmax	pmax			
	comp=Z,9.0nm,1.6s						
CLL	**Collm**	**141.79 335**	*e*PKIKP	**PKPdf**	**18 34 40.0**	**-0.3**	
CLL			*i*		18 34 47.4		
CLL			pmax	pmax			
	comp=Z,8.0nm,1.3s						
CLL			MLR	MLR			
	comp=Z,900nm,21.0s						
CLL	**Collm**	**141.79 335**	*e*PKPdf	**PKPdf**	**18 34 40.0**	**-0.3**	
	comp=Z,8.0nm,1.3s						
CLL			*i* pPKPdf	**PKiKP**	**18 34 44.5**	**+1.3**	
	comp=Z,12nm,1.2s						
CLL			*i* sPKPdf	**sPKPdf**	**18 34 47.4**	**-2.0**	
CLL			*e*PSKS		18 48 03.0		
CLL			*e*SS	SS	18 56 24.0	+9.1	
CLL			*e*SSS	SSS	19 01 36.0		
CLL			*e*		19 06 18.0		
CLL			LmV		19 40 00.0		
	comp=Z,900nm,21.0s						
PRA	**Prague**	**142.11 332**	PKP	**PKPdf**	**18 34 38.0**	**-2.9**	
PRA			PP	**PP**	**18 37 48.0**	**+1.7**	
PRU	**Pruhonice**	**142.12 332**	*e*PKIKP	**PKPdf**	**18 34 38.3**	**-2.7**	
PRU			*e*		18 34 45.1		
PRU			*e*		18 37 47.8		
PRU			*e*SS	SS	18 56 18.7	-0.2	
PRU			MLR	MLR			
	comp=Z,900nm,22.8s						
PRU	**Pruhonice**	**142.12 332**	*e*PKP	**PKPdf**	**18 34 38.3**	**-2.7**	
PRU			*ep*PKP	**PKiKP**	**18 34 45.1**	**+1.2**	
PRU			*e*PP	**PP**	**18 37 47.8**	**+1.4**	
PRU			*e*SS	SS	18 56 18.7	-0.2	
PRU			AMS	AMS	19 33 50.0		
	comp=Z,900nm,22.8s						
KHC	**Kasperske Hory**	**143.18 332**	*e*PKIKP	PKPab	18 34 38.8	+0.3	
KHC			*e*		18 34 46.1		
KHC			*e*		18 37 49.6		
KHC			MLR	MLR			
	comp=Z,1μm,19.3s						
KHC	**Kasperske Hory**	**143.18 332**	*e*PKP	PKPab	18 34 36.0	-2.5	
KHC			*ex*	x	18 34 38.8		
KHC			*ep*PKP	**PKiKP**	**18 34 46.1**	**-0.1**	
KHC			*e*PP	**PP**	**18 37 49.6**	**-3.3**	
KHC			AMS	AMS	19 42 30.0		
	comp=Z,1μm,19.3s						
KHC	**Kasperske Hory**	**143.18 332**	PFAKE		18 34 50.0	+7.1	
KHC			LR	LR			
	comp=Z,1μm,19.9s						
GEC2	**GERESS Array S**	**143.33 331**	*e*PKIKP	**PKPdf**	**18 34 42.2**	**-1.1**	
GEC2	**GERESS Array S**	**143.33 331**	*e*PKPdf	**PKPdf**	**18 34 42.2**	**-1.1**	
GERES	**GERESS Array B**	**143.33 331**	PKP	**PKPdf**	**18 34 42.3**	**-1.0**	
GERES	**GERESS Array B**	**143.33 331**	PKP	**PKPdf**	**18 34 42.3**	**-1.0**	
	comp=Z,2.6nm,0.9s,baz=28,slow=3.6,SNR=15						
WTSB	**Winterswijk**	**143.51 340**	*e*PKP	**PKPdf**	**18 34 43.6**	**+0.3**	
	comp=Z,69nm,1.7s						
GRF	**Grafenberg Arr**	**143.76 334**	*e*PKP	PKPbc	18 34 41.6	+0.1	
MOA	**Molln**	**143.78 330**⇑	*i* PKPdf	**PKPdf**	**18 34 43.0**	**-1.0**	
	comp=Z,23nm,1.1s,SNR=10						
PERS	**Pernice**	**144.20 328**	*i* PKPdf	**PKPdf**	**18 34 44.5**	**-0.4**	
SOKA	**Soboth**	**144.21 328**⇑	*i* PKPdf	PKPbc	18 34 42.9	-0.1	
	comp=Z,26nm,1.2s,SNR=11						
HGN	**Heimansgroeve**	**144.82 340**	*e*PKP	**PKPab**	**18 34 43.8**	**-0.8**	
	comp=Z,88nm,2.0s						
BEBN	**Eben Emael**	**144.88 340**	PKP	**PKPab**	**18 34 44.7**	**-0.1**	
BOJS	**Bojanci**	**144.88 326**	*i* PKPdf	**PKPdf**	**18 34 47.7**	**+1.7**	
VISS	**Visnje**	**144.90 327**	*i* PKPdf	**PKPdf**	**18 34 45.9**	**-0.1**	
MEM	**Membach**	**144.93 340**	PKP	**PKPab**	**18 34 44.9**	**-0.2**	
MEM	**Membach**	**144.93 340**	PFAKE		18 35 00.0	+14	
MEM			LR	LR			
	comp=Z,700nm,20.1s						
SHEL	**Horse Pasture**	**145.20 190**	*i* PKIKP	**PKPdf**	**18 34 49.9**	**+2.4**	
SHEL	**Horse Pasture**	**145.20 190**	PFAKE		18 35 00.0	+13	
SHEL			LR	LR			
	comp=Z,600nm,20.2s						
JAVS	**Javornik**	**145.24 328**	*i* PKPdf	**PKPbc**	**18 34 45.8**	**-0.6**	
STU	**Stuttgart**	**145.31 335**	PFAKE		18 35 00.0	+13	
STU			LR	LR			
	comp=Z,700nm,20.0s						
BCLA	**Clavier**	**145.32 341**	PKP	**PKPbc**	**18 34 46.1**	**-0.2**	
ABTA	**Abfaltersbach**	**145.40 330**⇑	*i* PKPdf	**PKPbc**	**18 34 45.7**	**-1.1**	
	comp=Z,57nm,0.9s,SNR=22						
WATA	**Walderalm**	**145.41 331**⇑	*i* PKPdf	**PKPbc**	**18 34 46.6**	**-0.3**	
	comp=Z,19nm,0.8s,SNR=14						
WTTA	**Wattenberg**	**145.43 331**	*i* PKPdf	**PKPbc**	**18 34 47.0**	**0.0**	
	comp=Z,78nm,1.3s,SNR=25						
SNF	**Seneffe**	**145.56 342**	PKP	**PKPdf**	**18 34 46.1**	**-0.8**	
MOTA	**Moosalm**	**145.61 332**⇓	*i* PKPab	**PKPdf**	**18 34 46.5**	**-0.9**	
	comp=Z,80nm,1.1s,SNR=39						
RETA	**Reutte**	**145.66 332**⇓	*i* PKPab	**PKPdf**	**18 34 46.5**	**-0.9**	
	comp=Z,54nm,1.2s,SNR=17						
LANF	**Langenberg**	**145.68 337**	PKP	**PKPab**	**18 34 48.0**	**+0.1**	
WLF	**Walferdange**	**145.69 339**	PKP	**PKPdf**	**18 34 47.1**	**-0.1**	
DOU	**Dourbes**	**145.83 341**	PKP	**PKPdf**	**18 34 47.2**	**-0.2**	
BFO	**Black Forest**	**146.01 336**	*i* PKP2	**PKPbc**	**18 34 48.4**	**-0.2**	
BFO	**Black Forest**	**146.01 336**	PFAKE		18 35 00.0	+11	
BFO			LR	LR			
	comp=Z,800nm,19.5s						
FETA	**Feichten**	**146.02 332**	*i* PKPab	**PKPbc**	**18 34 49.0**	**+0.1**	
	comp=Z,72nm,1.2s,SNR=26						
RCBR	**Riachuelo**	**146.18 133**	PFAKE		18 35 00.0	+9.2	
RCBR			LR	LR			
	comp=Z,600nm,21.0s						
DAVA	**Damuels**	**146.19 333**	*i* PKPab	**PKPbc**	**18 34 49.5**	**+0.1**	
	comp=Z,69nm,1.3s,SNR=17						
FUORN	**Ofenpass-Fuorn**	**146.54 332**	PFAKE		18 35 00.0	+8.5	
FUORN			LR	LR			
	comp=Z,800nm,20.1s						
ECH	**Echery**	**146.55 337**	*e*PKP2	**PKPbc**	**18 34 50.2**	**-0.1**	
ECH	**Echery**	**146.55 337**	PKP	**PKPbc**	**18 34 49.9**	**-0.3**	
ECH	**Echery**	**146.55 337**	*e*PKPbc	**PKPbc**	**18 34 50.2**	**-0.1**	
DAVOX	**Davos/Dischmat**	**146.59 332**	PKPbc	**PKPbc**	**18 34 50.0**	**-0.6**	
DAVOX	**Davos/Dischmat**	**146.59 332**	PKPbc	**PKPbc**	**18 34 50.0**	**-0.6**	
	comp=Z,27nm,0.9s,baz=161,slow=2.3,SNR=15						
VAL	**Valentia**	**146.62 358**	*e*P	**PKPab**	**18 34 51.7**	**+0.4**	
MOF	**Molkenrain**	**146.86 336**	PKP	**PKPab**	**18 34 52.3**	**-0.2**	
THEF	**They Montfort**	**146.97 338**	PKP	**PKPbc**	**18 34 50.6**	**-0.8**	
TUE	**Stuetta**	**147.06 333**	PFAKE		18 35 00.0	+6.5	
TUE			LR	LR			
	comp=Z,1μm,20.5s						
LOMF	**Lomont**	**147.39 336**	PKP	**PKPbc**	**18 34 52.7**	**0.0**	
TIP	**Timpagrande**	**147.73 316**	PFAKE		18 35 00.0	+3.8	
TIP			LR	LR			
	comp=Z,500nm,21.0s						
CUC	**Castrocucco**	**147.91 318**	PFAKE		18 35 00.0	+3.1	
CUC			LR	LR			
	comp=Z,400nm,20.0s						
CEL	**Celeste**	**148.78 315**	*e*PKPab	**PKPbc**	**18 34 58.5**	**+1.8**	
CEL			LR	LR			
	comp=Z,400nm,19.5s						
RSL	**Roselend**	**148.83 334**	PKP	**PKPbc**	**18 34 56.6**	**-0.1**	
BNI	**Bardonecchia**	**149.32 334**	PFAKE		18 35 00.0	+2.1	
BNI			LR	LR			
	comp=Z,1μm,20.6s						
GRN	**Grenoble**	**149.55 335**	PKP	**PKPbc**	**18 34 59.1**	**+0.7**	
SURF	**Saint Ours**	**149.72 333**	PKP	**PKPbc**	**18 35 00.8**	**+1.8**	
PLDF	**La Plantade**	**149.74 338**	PKP	**PKPbc**	**18 34 59.2**	**+0.3**	
SAOF	**Saorge**	**149.78 331**	PKP	**PKPbc**	**18 35 00.1**	**+1.1**	
AUTN	**L'Aution**	**149.83 332**	PKP	**PKPbc**	**18 34 59.4**	**+0.1**	
AGO	**Saint Agoulin**	**149.84 339**	PKP	**PKPbc**	**18 35 00.2**	**+1.2**	
TOUF	**Mont Tournerai**	**149.90 332**	PKP	**PKPbc**	**18 34 59.6**	**+0.1**	
LUCF	**Luceram**	**149.95 332**	PKP	**PKPbc**	**18 34 58.3**	**-1.2**	
SSB	**Saint Sauveur**	**149.99 336**	*e*PKP2	**PKPbc**	**18 34 58.8**	**-0.6**	
SSB	**Saint Sauveur**	**149.99 336**	PKP	**PKPbc**	**18 34 59.8**	**+0.3**	
SSB	**Saint Sauveur**	**149.99 336**	*e*PKPbc	**PKPbc**	**18 34 58.8**	**-0.6**	
MVIF	**Mont Vial**	**150.04 332**	PKP	**PKPbc**	**18 34 58.1**	**-1.6**	
REVF	**Revere**	**150.06 331**	PKP	**PKPbc**	**18 34 58.1**	**-1.6**	
OG25	**Le Caire**	**150.13 334**	PKP	**PKPab**	**18 35 03.5**	**-2.3**	
PYM	**Petit Puy Mans**	**150.15 339**	PKP	**PKPbc**	**18 35 00.1**	**+0.3**	
CALN	**Calern**	**150.27 332**	PKP	**PKPbc**	**18 35 01.6**	**+1.3**	
OG26	**St.-Nazaire-De**	**150.28 335**	PKP	**PKPbc**	**18 35 00.7**	**+0.5**	
LCHF	**La Chataignera**	**150.45 344**	PKP	**PKPbc**	**18 35 01.3**	**+0.9**	
LBL	**Lubilhac**	**150.51 338**	PKP	**PKPbc**	**18 35 01.3**	**+0.6**	
KEST	**Kesra**	**154.54 317**	PKPab	**PKPab**	**18 35 23.4**	**-1.1**	
KEST	**Kesra**	**154.54 317**	PKPab	**PKPab**	**18 35 23.4**	**-1.1**	
	comp=Z,5.3nm,0.9s,baz=344,slow=4.9,SNR=6.9						
PBRG	**Bragnca**	**156.37 350**	*e*PKPab	**PKPab**	**18 35 30.1**	**-1.9**	
POLO	**Lamas de Olo**	**156.94 352**	*e*PKPab	**PKPab**	**18 35 35.9**	**+1.3**	
PVRL	**Vila Real**	**157.03 352**	*e*PKPab	**PKPab**	**18 35 36.7**	**+1.8**	
MVO	**Moncorvo**	**157.04 350**	*e*PKPab	PKPab	18 35 25.7	-9.3	
MVO	**Moncorvo**	**157.04 350**	*e*LR	LR	19 39 13.6		
	comp=Z,581nm,18.0s						
PVIS	**Viseu**	**157.60 352**	*e*PKPab	**PKPab**	**18 35 39.0**	**+1.6**	
ESDC	**Sonseca Array**	**157.82 344**	PKPab	**PKPab**	**18 35 38.7**	**+0.3**	
ESDC			PP	**PP**	**18 39 15.3**	**-1.5**	
ESDC	**Sonseca Array**	**157.82 344**	PKPab	**PKPab**	**18 35 38.7**	**+0.3**	
	comp=Z,2.7nm,0.9s,baz=10,slow=3.9,SNR=7.5						
ESDC			PP	**PP**	**18 39 15.3**	**-1.5**	
	comp=Z,0.2nm,0.4s,baz=349,slow=10,SNR=3.1						
MTE	**Manteigas**	**157.87 351**	*e*PKPab	**PKPab**	**18 35 40.8**	**+2.3**	
MTE	**Manteigas**	**157.87 351**	*e*LR	LR	19 41 39.4		
	comp=Z,838nm,18.0s						
PCAS	**Casmilo, Conde**	**158.34 353**	*e*PKPab	**PKPab**	**18 35 41.6**	**+1.1**	
PCBR	**Castelo Branco**	**158.40 351**	*e*PKPab	**PKPab**	**18 35 42.6**	**+1.8**	
PTOM	**Tomar**	**158.75 352**	*e*PKPab	**PKPab**	**18 35 44.4**	**+2.1**	
PMRV	**Marv??o**	**158.79 350**	*e*LR	LR	19 41 18.9		
	comp=Z,656nm,22.0s						
PBEJ	**Beja**	**160.24 350**	*e*PKPab	**PKPab**	**18 35 50.1**	**+1.3**	
PVAQ	**Vaqueiros**	**160.82 350**	*e*PKPab	**PKPab**	**18 35 54.3**	**+2.9**	
PVAQ	**Vaqueiros**	**160.82 350**	*e*LR	LR	19 39 51.8		
	comp=Z,780nm,20.0s						
TOA0	**Torodi Ar. Sit**	**165.84 250**	*e*PKPdf	**PKPdf**	**18 35 13.1**	**-1.6**	
TORD	**Torodi Ar. Bea**	**165.84 250**	PKP	**PKPdf**	**18 35 13.3**	**-1.3**	
TORD			PKPab	**PKPab**	**18 36 15.4**	**+1.2**	
TORD	**Torodi Ar. Bea**	**165.84 250**	PKP	**PKPdf**	**18 35 13.3**	**-1.3**	
	comp=Z,5.3nm,1.0s,baz=135,slow=0.8,SNR=18						
TORD			PKPab	**PKPab**	**18 36 15.4**	**+1.2**	
	comp=Z,7.1nm,1.0s,baz=104,slow=3.6,SNR=5.9						
KIC	**Kosan Boka**	**166.03 211**	*e*P	**PKPdf**	**18 35 14.5**	**-0.4**	
	comp=Z,24nm,1.1s						
LIC	**Lamto**	**166.04 210**	*e*P	**PKPdf**	**18 35 17.1**	**+2.2**	
	comp=Z,34nm,1.4s						
DBIC	**Dimbokro**	**166.35 211**	PKP	**PKPdf**	**18 35 14.6**	**-0.5**	
DBIC			PKPab	**PKPab**	**18 36 18.8**	**+2.6**	
DBIC	**Dimbokro**	**166.35 211**	PKP	**PKPdf**	**18 35 14.6**	**-0.5**	
	comp=Z,2.6nm,0.9s,baz=214,slow=1.8,SNR=4.4						
DBIC			PKPab	**PKPab**	**18 36 18.8**	**+2.6**	
	comp=Z,5.3nm,0.8s,baz=117,slow=3.7,SNR=5.1						
TIC	**Toumodi**	**166.41 211**	*e*P	**PKPdf**	**18 35 14.0**	**-1.2**	
	comp=Z,4.2nm,0.2s						

MAN 24 18:19:17,5.61N×124.33E,h93km,mb4.9,ML3.8,MS3.8, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.78**	**53**⇓	*e*P	Pn	18 19 32.7	-2.0
GSPH				*e*S	Sn	18 19 44.4	-3.5
CTBH	**Cotabato--PC H**	**1.60**	**357**⇑	*i*P	Pn	18 19 44.8	+0.6
CTBH				*i*S	Sn	18 20 05.4	+0.5
DMPH	**Davao City--Mi**	**1.88**	**39**⇑	*e*P	Pn	18 19 48.7	+1.0
DMPH				*e*S	Sn	18 20 12.4	+1.3
MATI	**Mati**	**2.33**	**55**	*e*P	Pn	18 19 54.3	+0.6
MATI				*e*S	Sn	18 20 22.0	+0.2
BUKP	**Musuan**	**2.37**	**18**	*e*P	Pn	18 19 56.0	+1.7
PAGZ	**Pagadian**	**2.41**	**337**	*e*P	Pn	18 19 55.9	+1.1

IDC 24 18:23:44.0±13.0,18.61S×167.55E,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.7/17,mbtmp3.8/4,ML3.2/1,Error ellipse: s-maj=230.2km s-min=40.4km az=76.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.60**	**197**	Pn	Pn	18 24 40.4	-0.8
	2.3nm,0.3s,baz=63,slow=12,SNR=26						
DZM				Sn	Sn	18 25 25.2	+0.7
	8.3nm,0.3s,baz=128,slow=22,SNR=11						
STKA	**Stephens Creek**	**26.86**	**236**	P	P	18 29 28.1	+1.7
	1.8nm,0.7s,baz=64,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**31.35**	**262**	P	P	18 30 05.5	-1.1
	0.8nm,0.8s,baz=96,slow=8.2,SNR=3.4						
ASAR	**Alice Springs**	**31.74**	**255**	P	P	18 30 09.7	-0.3
	1.7nm,0.9s,baz=82,slow=8.8,SNR=18						

IDC ***24*** *18:27:18.5±0.7,13.69S×167.20E,h189km±6km,mb4.6/27, mb1 4.6/28,mb1mx4.6/29,mbtmp5.0/28,Error ellipse: s-maj=10.1km s-min=8.3km az=88.0*
NEIC ***24*** *18:27:18.4±0.1,13.66S×167.15E,mb4.9/52,Error ellipse: s-maj=4.7km s-min=4.0km az=122.0*
MOS ***24*** *18:27:19.2±1.2,13.63S×167.06E,h203km,mb5.1/21, Error ellipse: s-maj=9.6km s-min=8.1km az=115.6*
ISCJB ***24*** *18:27:21.6±1.3,13.72S±0.04×167.15E±0.03, h234km±12km,mb4.8/122,Error ellipse: s-maj=7.1km s-min=5.0km az=166.3*
BJI ***24*** *18:27:25.2,13.38S×167.28E,h259km,mB5.0/33, mb5.1/53*

ISC 24 18:27:19.2±0.5,13.63S±0.04×167.13E±0.05,h200km±4km, h200km:pP-P,n416,σ1938/505,mb5.0/118,15C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.42**	**184**	*e*Pn	**Pn**	**18 29 18.2**	**+0.2**
	17nm,0.2s						
DZM				*e*Sn	**Sn**	**18 30 47.4**	**-5.3**
	174nm,1.1s						
DZM	**Mont Dzumac**	**8.42**	**184**	P	**Pn**	**18 29 17.5**	**-0.5**
DZM				S	**Sn**	**18 30 53.6**	**+0.8**
DZM	**Mont Dzumac**	**8.42**	**184**	P	**Pn**	**18 29 17.5**	**-0.5**
	1.6nm,0.3s,baz=18,slow=19,SNR=5.3						
DZM				S	**Sn**	**18 30 53.6**	**+0.8**
	1.4nm,0.3s,baz=98,slow=12,SNR=4.1						
EIDS	**Eidsvold**	**19.09**	**230**	*e*P	**P**	**18 31 27.0**	**+0.1**
	77nm,0.5s						
EIDS	**Eidsvold**	**19.09**	**230**	P	**Pn**	**18 31 28.9**	**-1.1**
	baz=19,SNR=50						
LHI	**Lord Howe Isla**	**19.28**	**201**	P	**Pn**	**18 31 33.1**	**+0.8**
	baz=19,SNR=4.0						
PMG	**Port Moresby**	**20.01**	**280**	P	x	18 31 41.8	
	541nm,0.9s						
PMG	**Port Moresby**	**20.01**	**280**	P	**P**	**18 31 39.0**	**+2.1**
PMG	**Port Moresby**	**20.01**	**280**	P	**P**	**18 31 39.0**	**+2.1**
	58nm,1.0s,baz=115,slow=7.9,SNR=5.8						
PMG	**Port Moresby**	**20.01**	**280**	P	Pn	18 31 41.2	-0.1
	baz=20,SNR=4.9						
AFI	**Afiamalu**	**20.49**	**93**	P	**P**	**18 31 43.3**	**+1.2**
AFI	**Afiamalu**	**20.49**	**93**	P	**P**	**18 31 43.3**	**+1.2**
	100nm,0.8s,baz=288,slow=9.6,SNR=5.8						
RAO	**Raoul Island**	**20.82**	**141**	P	**P**	**18 31 46.4**	**+1.0**
RAO	**Raoul Island**	**20.82**	**141**	P	**P**	**18 31 46.4**	**+1.0**
	264nm,0.3s,baz=315,slow=19,SNR=2.7						
CTA	**Charters Tower**	**20.98**	**249**	P	**P**	**18 31 48.4**	**+1.2**
CTA				PcP	**PcP**	**18 35 46.9**	**+0.7**
CTA	**Charters Tower**	**20.98**	**249**	P	**P**	**18 31 48.4**	**+1.2**
	36nm,0.7s,baz=79,slow=12,SNR=38						
CTA				PcP	**PcP**	**18 35 46.9**	**+0.7**
	5.6nm,0.6s,baz=93,sl

ASAR ScP **ScP** **18 39 40.1 +0.1**
comp=Z,10nm,0.9s,baz=81,slow=4.3,SNR=21
ASAR PKiKP **PKiKP** **18 43 39.7 -1.1**
comp=Z,1.0nm,0.5s,baz=107,slow=1.4,SNR=16
MOO Moorlands 33.49 207 P **P** **18 33 40.7 +1.1**
baz=34,SNR=4.2
KDU Kakadu 33.75 268 P **P** **18 33 43.1 +1.0**
baz=34,SNR=16
BBOO Buckleboo 34.15 231 *e*P **P** **18 33 45.3 -0.2**
comp=Z,824nm,1.0s
BBOO *e*PcP **PcP** **18 36 17.3 -0.6**
BBOO Buckleboo 34.15 231 P **P** **18 33 46.0 +0.6**
baz=34,SNR=47
MTN Manton Dam 35.03 267 P **P** **18 33 54.9 +1.7**
baz=35,SNR=18
KNRA Kununurra 37.14 262 P **P** **18 34 11.7 +0.6**
baz=37,SNR=27
WRKA Warakurna 38.23 247 P **P** **18 34 20.3 +0.1**
baz=38,SNR=268
WRKA S **S** **18 39 55.1 -4.0**
baz=38,SNR=14
FORT Forrest 39.75 238 *e*P **P** **18 34 31.5 -1.2**
comp=Z,77nm,0.6s
FORT Forrest 39.75 238 P **P** **18 34 33.0 +0.4**
baz=40,SNR=8.3
NLAI Namlea 40.85 281 P **P** **18 34 44.0 +2.1**
comp=Z,67nm,1.0s
LBMI Labuha 41.30 285 P P 18 34 49.0 +3.5
comp=Z,51nm,1.0s
LBMI Labuha 41.30 285 P **P** **18 34 47.5 +2.0**
comp=Z,51nm,1.0s
PAE Paea 41.81 101 *e*P **P** **18 34 49.9 +0.3**
comp=Z,11nm,1.2s
PPT2 Papeete2 41.81 101 *e*P **P** **18 34 50.5 +0.7**
comp=Z,27nm,1.0s
PPT Papeete 41.82 101 P **P** **18 34 49.8 +0.1**
PPT Papeete 41.82 101 P **P** **18 34 49.8 +0.1**
comp=Z,20nm,0.6s,baz=211,slow=14,SNR=6.4
TIAR Tiarei 42.04 101 *e*P **P** **18 34 52.2 +0.7**
comp=Z,5.8nm,0.8s
SOEI Soe 42.11 270 P **P** **18 34 54.0 +1.7**
comp=Z,31nm,1.7s
SOEI Soe 42.11 270 P **P** **18 34 54.3 +2.0**
baz=42,SNR=3.6
TVO Taravao 42.12 101 *e*P **P** **18 34 53.0 +0.8**
comp=Z,12nm,0.8s
SANI Sanana 42.27 282 P **P** **18 34 54.3 +0.9**
comp=Z,30nm,1.0s
PMOR Pomariorio Ree 43.54 98 *e*P **P** **18 35 04.6 +1.0**
comp=Z,121nm,1.3s
VAH Vaihoa 43.78 98 *e*P **P** **18 35 06.1 +0.6**
comp=Z,88nm,1.2s
MMRI Maumere 44.28 272 P **P** **18 35 10.2 +0.7**
comp=Z,72nm,1.0s
LUWI Luwuk 45.64 282 P **P** **18 35 21.1 +0.9**
comp=Z,30nm,1.1s
WSI Waingapu 45.98 270 P **P** **18 35 24.1 +1.2**
comp=Z,104nm,0.7s,comp=Z,7μm
LBFI Labuhan Bajo, 46.59 271 P x 18 35 28.8
comp=Z,81nm,0.8s
APSI Ampana 46.75 282 P **P** **18 35 29.8 +1.0**
comp=Z,40nm,1.2s
MEEK Meekatharra 47.09 246 P **P** **18 35 31.8 +0.4**
baz=47,SNR=18
BNSI Bone 47.26 277 P **P** **18 35 34.3 +1.5**
comp=Z,52nm,0.9s
KAPI Kappang 47.46 276 *e*P **P** **18 35 34.0 -0.3**
comp=Z,109nm,0.9s
SPSI Sidrap Palu 47.70 277 P **P** **18 35 36.1 -0.1**
comp=Z,20nm,0.8s
POHA Pohakuloa 49.51 49 *e*P **P** **18 35 50.1 +0.1**
comp=Z,54nm,0.8s
MORW Morawa 49.63 243 P **P** **18 35 51.1 +0.4**
baz=50,SNR=8.7
RKGY Rocky Gully 49.74 236 P **P** **18 35 52.0 +0.6**
baz=50,SNR=6.3
MTNI Mataram 50.18 270 P x 18 35 56.0
comp=Z,34nm,0.8s
GIRL Giralia 50.84 252 P **P** **18 36 01.8 +1.9**
baz=51,SNR=4.1
JAGI Jajag, Banyuwa 52.17 270 *e*P **P** **18 36 09.4 -0.5**
comp=Z,24nm,0.6s
JAGI Jajag, Banyuwa 52.17 270 P **P** **18 36 09.5 -0.3**
baz=52,SNR=6.0
ABJI Asem Bagus 52.22 271 P **P** **18 36 12.4 +2.2**
comp=Z,45nm,1.0s
BLJI Banyuglugur 52.85 271 P **P** **18 36 15.8 +1.0**
comp=Z,52nm,0.8s
KKM Kota Kinabalu 54.19 288 P **P** **18 36 26.9 +2.2**
baz=54,SNR=5.8
PWJI Pagerwojo 54.54 270 P **P** **18 36 27.8 +0.8**
comp=Z,44nm,1.1s
PCJI Pacitan 55.11 269 P **P** **18 36 32.4 +1.2**
comp=Z,130nm,0.8s
JOW Kunigami 55.16 317 *e*P **P** **18 36 31.7 +0.5**
comp=Z,15nm,0.7s
UGM Wanagama 55.80 270 P **P** **18 36 37.2 +1.1**
baz=56,SNR=5.6
BJII Banjamegara 56.70 270 P x 18 36 47.8
comp=Z,24nm,1.7s
SBUM Sibu 56.74 282 P x 18 36 44.9
comp=Z,16nm,1.4s
SBUM Sibu 56.74 282 *e*P **P** **18 36 42.1 -0.7**
comp=Z,12nm,1.0s
MJAR Matsushiro Arr 56.88 332 P **P** **18 36 43.1 -0.1**
MJAR PcP **PcP** **18 37 37.9 +1.5**
MJAR Matsushiro Arr 56.88 332 P **P** **18 36 43.1 -0.1**
comp=Z,14nm,0.8s,baz=172,slow=8.2,SNR=40
MJAR PcP **PcP** **18 37 37.9 +1.5**
comp=Z,3.1nm,0.8s,baz=153,slow=4.2,SNR=3.7
MAJO Matsushiro 56.88 332 *e*P **P** **18 36 42.2 -1.1**
MAJO *e* 18 37 36.5
MAJO pmax pmax
comp=Z,3.0nm,0.6s
MAJO Matsushiro 56.88 332 *e*P **P** **18 36 42.2 -1.1**
comp=Z,2.6nm,0.6s
MAJO *e*PcP **PcP** **18 37 36.5 0.0**
TGJI Tegal 57.37 271 P x 18 36 48.0
comp=Z,59nm,1.0s
KPJI Karang Pucung 57.46 270 P **P** **18 36 49.3 +1.5**
comp=Z,93nm,0.7s
JNU Nakatsue 57.96 324 *e*P **P** **18 36 51.3 +0.4**
comp=Z,16nm,0.9s
JNU Nakatsue 57.96 324 P **P** **18 36 51.8 +0.9**
comp=Z,39nm,0.9s,baz=92,slow=1.0,SNR=19
TPUB Ta-pu 58.46 309 *e*P **P** **18 36 54.4 -0.1**
comp=Z,47nm,1.3s
TPUB *e*PcP **pP** **18 37 40.4 +0.3**
SSLB Suanglung 58.49 309 *e*P **P** **18 36 53.2 -1.6**
comp=Z,16nm,0.7s
SSLB *e*PcP **PcP** **18 37 43.2 +0.1**
CISI Cisompet, Garu 58.50 269 P **P** **18 36 55.1 -0.1**
comp=Z,106nm,0.7s
CISI Cisompet, Garu 58.50 269 *e*P **P** **18 36 54.5 -0.6**
CISI *e*PcP **PcP** **18 37 42.7 -0.7**
CISI Cisompet, Garu 58.50 269 P **P** **18 36 55.0 -0.1**
baz=59,SNR=14
YHNB Yeheng 58.67 310 *e*P **P** **18 36 56.5 +0.4**
comp=Z,49nm,0.8s
LEM Lembang 58.84 270 P **P** **18 36 58.9 +1.3**
comp=Z,97nm,0.9s
LEM Lembang 58.84 270 P **P** **18 36 59.0 +1.5**
baz=59,SNR=6.0
CNJI Cibinong 59.22 270 P **P** **18 37 00.5 +0.6**
comp=Z,110nm,1.0s,comp=Z,1μm
CGJI Cibinong 60.76 270 P **P** **18 37 10.2 -0.2**
comp=Z,171nm,0.9s,comp=Z,1μm
ASAJ Asahikawa 61.67 340 *e*P **P** **18 37 16.2 +0.3**
comp=Z,259nm,2.8s
ASAJ *e*PcP **PcP** **18 37 55.3 0.0**
ASAJ Asahikawa 61.67 340 P **P** **18 37 17.8 +1.9**
comp=Z,14nm,0.6s,baz=207,slow=5.4,SNR=25
KASI Kota Agung 62.15 271 P **P** **18 37 19.7 0.0**
comp=Z,86nm,1.0s
LWLI Liwa 62.68 271 P **P** **18 37 24.0 +0.6**
comp=Z,47nm,0.6s,comp=Z,3μm
MDSI Maura Dua 62.68 272 P **P** **18 37 22.9 -0.4**
comp=Z,17nm,0.8s
KSRS Korea Array 62.76 326 P **P** **18 37 24.6 +1.3**
comp=Z,8.0nm,0.9s,baz=140,slow=7.0,SNR=16
KSAR Wonju Array Be 62.78 326 P **P** **18 37 24.6 +1.2**
VNDA Vanda 63.95 181 *e*P **P** **18 37 30.0 -0.5**
comp=Z,11nm,0.8s
VNDA *e*PcP **PcP** **18 38 04.0 -0.2**
VNDA Vanda 63.95 181 P **P** **18 37 30.8 +0.3**
comp=Z,7.5nm,0.7s,baz=355,slow=7.7,SNR=29
YSS Yuzh-Sakhalins 64.15 342 ⇑*i*P **P** **18 37 33.3 +1.1**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 64.15 342 *e*P **P** **18 37 32.6 +0.4**
SBA Scott Base 64.23 180 *e*P **P** **18 37 31.6 -0.7**
SBA *e* 18 38 02.9
SBA pmax pmax
comp=Z,64nm,1.0s
SBA Scott Base 64.23 180 *e*P **P** **18 37 31.6 -0.7**
comp=Z,64nm,1.0s
SBA *e*PcP **PcP** **18 38 02.9 -2.4**
CASY Casey 64.49 202 *e*P **P** **18 37 33.5 -0.6**
CASY *e*PcP **PcP** **18 38 05.9 -0.7**
NJ2 Nanjing 64.80 316 *e*P **P** **18 37 38.1 +1.4**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,130nm,7.3s
VLA Vladivostok 65.05 332 ⇓*i*P **P** **18 37 39.6 +1.5**
VLA 18 38 09.6
VLA S **S** **18 46 01.6 -2.5**
VLA pmax pmax
comp=Z,29nm,1.5s
QIZ Qiongzhong 65.09 299 P **P** **18 37 39.5 +0.6**
USRK Ussuriysk Arra 65.85 333 P **P** **18 37 45.3 +2.1**
comp=Z,11nm,0.7s,baz=134,slow=5.5,SNR=24
FX1 Attu Island--F 66.45 4 *e*P **P** **18 37 46.6 -0.2**
FX1 *e*PcP **PcP** **18 38 14.6 -0.2**
PET Petropavlovsk 66.78 354 *e*P **P** **18 37 49.7 +0.8**
PET pmax pmax
comp=Z,34nm,0.9s
PETK Petropavlovsk- 66.96 354 P **P** **18 37 51.5 +1.4**
PETK Petropavlovsk- 66.96 354 P **P** **18 37 51.5 +1.4**
PETK Petropavlovsk- 66.96 354 P **P** **18 37 51.5 +1.4**
comp=Z,25nm,0.8s,baz=167,slow=7.2,SNR=32
WHN Wuhan 67.11 312 P **P** **18 37 52.5 +1.0**
PDSI Padang 67.13 275 P **P** **18 37 51.4 -0.6**
comp=Z,22nm,0.6s
MDJ Mudanjiang 67.26 332 P **P** **18 37 54.0 +1.9**
MDJ pmax pmax
comp=Z,34nm,1.0s
MDJ pmax pmax
comp=Z,130nm,5.9s
MDJ Mudanjiang 67.26 332 *e*P **P** **18 37 52.1 0.0**
comp=Z,39nm,1.1s
MDJ *e*PcP **PcP** **18 38 19.0 +0.6**
PPI Padang Panjang 67.30 275 P **P** **18 37 54.7 +1.6**
IPM Ipoh 68.01 281 P x 18 37 58.7
comp=Z,57nm,1.0s
IPM Ipoh 68.01 281 *e*P **P** **18 37 57.2 -0.3**
HABR Khabarovsk 68.08 338 *de*P **P** **18 37 57.0 -0.1**
HABR *e* 18 38 20.7
HABR 18 40 30.5
HABR *e*S **S** **18 46 36.7 -3.6**
HABR *e* 18 47 31.3
HABR *e*SS **SS** **18 51 05.2 -2.1**
HABR pmax pmax
comp=Z,82nm,1.4s
HABR pmax pmax
comp=E,34nm,2.1s
HABR pmax pmax
comp=N,26nm,2.1s
HABR MLR MLR
comp=Z,304nm,18.0s
CN2 Changchun 68.64 329 *e*P **P** **18 38 02.3 +1.5**
CN2 *e*S **S** **18 46 42.8 -4.4**
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CHBT CHBT 69.36 289 P x 18 38 07.8
comp=Z,15nm,1.5s
PSI Prapat 69.57 278 P x 18 38 07.1
comp=Z,38nm,1.3s
PSI Prapat 69.57 278 P **P** **18 38 07.2 0.0**
PSI Prapat 69.57 278 P **P** **18 38 07.2 0.0**
comp=Z,25nm,0.8s,baz=108,slow=6.4
PSI Prapat 69.57 278 P **P** **18 38 07.3 0.0**
baz=70,SNR=13
KLR Kul'dur 69.96 336 *e*P **P** **18 38 06.4 -2.3**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
GSI Gunungsitoli 70.48 276 P **P** **18 38 13.9 +1.2**
comp=Z,73nm,0.9s
GSI Gunungsitoli 70.48 276 *e*P **P** **18 38 11.8 -0.8**
ENH Enshi 70.57 309 *e*P **P** **18 38 13.3 +0.4**
comp=Z,41nm,0.8s
GYA Guiyang 70.99 304 ⇑*i*P **P** **18 38 16.8 +1.2**
GYA pP pP 18 39 18.6 +16
GYA sP sP 18 39 47.4 +23
GYA PP **PP** **18 41 01.0 +5.1**
GYA S **S** **18 47 10.8 -4.7**
GYA SKS SKSac 18 47 48.3 -11
GYA pmax pmax
comp=Z,30nm,0.6s
GYA pmax pmax
comp=Z,120nm,5.0s
SLVN Son La 71.12 298 *e*P **P** **18 38 16.3 -0.1**
BJI Beijing 71.33 321 P **P** **18 38 18.8 +1.6**
BJI S **S** **18 47 16.4 -2.2**
BJI pmax pmax
comp=Z,45nm,0.9s
BJI pmax pmax
comp=Z,210nm,7.3s
BJI LR LR
comp=Z,1μm,21.0s
BJI LR LR
comp=Z,820nm,21.0s
BJI LR LR
comp=Z,940nm,25.5s
PBKT Sadao Pong 71.92 293 P x 18 38 22.7
comp=Z,28nm,0.9s
XAN Xi'an 72.86 312 P **P** **18 38 27.8 +1.3**
XAN pmax pmax
comp=Z,12nm,0.8s
KMI Kunming 73.62 302 P **P** **18 38 33.3 +1.9**
KMI pmax pmax
comp=Z,41nm,1.2s
CM31 Chiang Mai Arr 74.39 294 *e*P **P** **18 38 35.9 +0.2**
comp=Z,22nm,0.7s
CMAR Chiang Mai Arr 74.39 294 P **P** **18 38 37.4 +1.8**
CMAR PKiKP **PKiKP** **18 44 27.5 +0.3**
CMAR Chiang Mai Arr 74.39 294 P **P** **18 38 37.4 +1.8**
comp=Z,19nm,0.7s,baz=128,slow=4.7,SNR=208
CMAR PKiKP **PKiKP** **18 44 27.5 +0.3**
comp=Z,0.3nm,0.5s,baz=202,slow=2.0,SNR=4.3
CHTO Chiang Mai 74.51 294 *e*P **P** **18 38 36.9 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 74.51 294 *e*P **P** **18 38 36.9 +0.6**
comp=Z,6.7nm,1.0s
HHC Hu-ho-hao-te 74.67 320 *e*P **P** **18 38 38.8 +1.9**
HHC PP PP 18 41 32.8 +5.8
HHC S **S** **18 47 54.4 -2.1**
HHC SKS **SKSac** **18 48 20.1 -6.3**
HHC sS sS 18 49 38.3 +19
HHC SS **SS** **18 52 50.3 +1.6**
HHC pmax pmax
comp=Z,53nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.3s
HHC LR LR
comp=Z,470nm,14.5s
HHC LR LR
comp=Z,280nm,16.5s
HHC LR LR
comp=Z,770nm,17.1s
CD2 Chengdu 75.24 307 *e*P **P** **18 38 41.3 +0.9**
CD2 pP pP 18 39 40.5 +12
CD2 sP sP 18 40 09.0 +20
CD2 PP **PP** **18 41 35.6 +3.7**
CD2 S **S** **18 47 57.6 -5.5**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,260nm,11.9s
HIA Hailar 75.28 330 *e*P **P** **18 38 40.5 +0.3**
comp=Z,36nm,1.1s
QSPA South Pole Qui 76.39 180 *e*P **P** **18 38 46.4 +0.1**
comp=Z,52nm,0.9s
SEY Seymchan 77.19 353 P **P** **18 38 51.7 +1.2**
SEY Seymchan 77.19 353 P **P** **18 38 51.6 +1.2**
SEY Seymchan 77.19 353 P **P** **18 38 51.6 +1.2**
comp=Z,26nm,0.7s,baz=168,slow=5.3,SNR=108
LZH Lanzhou 77.49 312 *e*P **P** **18 38 55.3 +2.3**
LZH pP pP 18 39 55.9 +15
LZH sP sP 18 40 22.8 +21
LZH *e*S **S** **18 48 23.6 -4.0**
LZH sS sS 18 50 10.0 +19
LZH SS **SS** **18 53 28.3 -3.3**
LZH pmax pmax
comp=Z,89nm,1.3s
LZH pmax pmax
comp=Z,180nm,5.5s
LZH LR LR
comp=Z,450nm,14.0s
LZH LR LR
comp=Z,570nm,14.7s
LZH LR LR
comp=Z,680nm,17.2s
GAMB Gambell 78.88 9 *e*P **P** **18 38 59.6 -0.2**
comp=Z,15nm,1.5s
CIT Chita 80.07 330 *e*P **P** **18 39 07.7 +1.1**
CIT *e* 18 39 57.9
CIT pmax pmax
comp=Z,80nm,1.3s
YAK Yakutsk 80.95 343 *c i*P **P** **18 39 11.7 +0.8**
YAK pmax pmax
comp=Z,105nm,1.0s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=N,31nm,1.1s
YAK Yakutsk 80.95 343 *e*P **P** **18 39 10.6 -0.3**
comp=N,146nm,1.1s
TNA Tin City 81.16 10 *e*P **P** **18 39 10.9 -1.0**
ULN Ulaanbaatar 81.18 324 *e*P **P** **18 39 12.5 -0.2**
comp=N,26nm,0.9s
ULN *e*PcP **PcP** **18 39 18.5 +0.2**
BILL Bilibino 81.45 360 ⇑*i*P **P** **18 39 14.3 +0.8**
BILL *i* *PP **pP** **18 39 59.9 -2.1**
BILL pmax pmax
comp=Z,54nm,1.1s
BILL Bilibino 81.45 360 *e*P **P** **18 39 13.7 +0.2**
comp=Z,39nm,0.9s
BILL *e*PcP **PcP** **18 39 18.9 0.0**
SONM Songino Array 81.54 324 P **P** **18 39 15.6 +1.0**
SONM PKiKP **PKiKP** **18 44 36.5 -0.9**
SONM Songino Array 81.54 324 P **P** **18 39 15.6 +1.0**
comp=Z,3.7nm,0.4s,baz=145,slow=5.7,SNR=70
SONM PKiKP **PKiKP** **18 44 36.5 -0.9**
comp=Z,0.3nm,0.5s,baz=162,slow=1.0,SNR=3.6
GTA Gaotai 81.82 314 P **P** **18 39 17.8 +1.6**
GTA pP pP 18 40 18.3 +14
GTA sP sP 18 40 44.9 +19
GTA S **S** **18 49 10.4 -2.4**
GTA sS sS 18 50 55.9 +18
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.9s
GTA LR LR
comp=Z,180nm,18.8s
GTA LR LR
comp=Z,320nm,16.4s
GTA LR LR
comp=Z,320nm,17.6s
MAW Mawson 82.84 202 P **P** **18 39 21.4 +0.6**
MAW Mawson 82.84 202 P **P** **18 39 21.4 +0.6**
comp=Z,29nm,0.6s,baz=124,slow=3.8,SNR=8.8
KTH Kantishna Hill 83.43 18 *e*P **P** **18 39 22.2 -1.8**
comp=Z,292nm,2.2s
TRF Thorofare Moun 83.54 18 *e*P **P** **18 39 24.2 -0.4**
comp=Z,60nm,2.1s
MCK McKinley 84.16 18 *e*P **P** **18 39 27.5 -0.1**
MCK pmax pmax
comp=Z,22nm,1.3s
MCK McKinley 84.16 18 *e*P **P** **18 39 27.4 -0.1**
comp=Z,22nm,1.3s
ZAK Zakamensk 84.58 325 *e*P **P** **18 39 30.6 +0.5**
ZAK pmax pmax
comp=Z,20nm,1.2s
LSA Lhasa 84.87 302 *e*P **P** **18 39 32.9 +0.5**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 84.87 302 *e*P **P** **18 39 32.9 +0.5**
comp=Z,16nm,0.7s
CMB Columbia Colle 84.99 49 *e*P **P** **18 39 31.9 -0.4**
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 84.99 49 *e*P **P** **18 39 31.9 -0.4**
comp=Z,4.4nm,0.9s
TLY Talaya 85.01 326 *c i*P **P** **18 39 32.6 +0.5**
TLY pmax pmax
comp=Z,27nm,1.0s
TLY Talaya 85.01 326 *e*P **P** **18 39 31.7 -0.4**
comp=Z,22nm,0.9s
COLA College 85.32 18 *e*P **P** **18 39 33.0 -0.2**
COLA pmax pmax
comp=Z,6.0nm,1.2s
COLA College 85.32 18 *e*P **P** **18 39 33.0 -0.2**
comp=Z,5.9nm,1.2s
ILAR Eielson Array 85.53 18 P **P** **18 39 33.5 -0.8**
ILAR pP **pP** **18 40 21.1 -2.2**
ILAR PKiKP **PKiKP** **18 44 42.0 -1.1**
ILAR PKKP **PKKPdf** **18 57 36.1 +3.6**
ILAR Eielson Array 85.53 18 P **P** **18 39 33.5 -0.8**
comp=Z,5.5nm,0.7s,baz=239,slow=4.9,SNR=61
ILAR pP **pP** **18 40 21.1 -2.2**
comp=Z,5.1nm,0.8s,baz=235,slow=6.2,SNR=6.1
ILAR PKiKP **PKiKP** **18 44 42.0 -1.1**
comp=Z,0.2nm,0.5s,baz=295,slow=3.9,SNR=4.9
ILAR PKKP **PKKPdf** **18 57 36.1 +3.6**
comp=Z,0.2nm,0.5s,baz=343,slow=3.2,SNR=6.1
COLD Coldfoot 86.41 15 *e*P **P** **18 39 40.3 +1.7**
comp=Z,37nm,2.0s
MOY Mondy 86.46 325 *e*P **P** **18 39 40.9 +1.6**
NVAR Mina Array Bea 86.66 49 P **P** **18 39 41.1 +0.3**
NVAR pP **pP** **18 40 29.0 -0.9**
NVAR P'P' 19 05 43.3
NVAR Mina Array Bea 86.66 49 P **P** **18 39 41.1 +0.3**
comp=Z,2.4nm,0.8s,baz=230,slow=8.3,SNR=13
NVAR pP **pP** **18 40 29.0 -0.9**
comp=Z,2.5nm,0.9s,baz=229,slow=7.7,SNR=4.2
NVAR PKPPKP **P'P'df** **19 05 43.3 +1.3**
comp=Z,0.3nm,0.4s,baz=106,slow=0.5,SNR=5.0
EGAK Eagle 87.33 20 *e*P **P** **18 39 42.2 -0.8**
comp=Z,8.9nm,0.9s
LDFC Landfair 87.99 53 *e*P **P** **18 39 46.3 -0.8**
comp=Z,20nm,1.0s
SHPR Sheep Range 88.39 52 *e*P **P** **18 39 48.9 0.0**
comp=Z,9.2nm,1.3s
G08A Pilot Rock 88.61 43 *e*P **P** **18 39 49.2 -0.5**
comp=Z,5.4nm,0.9s
R11A Troy Canyon, C 88.65 50 *e*P **P** **18 39 49.4 -0.8**
comp=Z,6.3nm,1.5s
TIXI Tiksi 88.88 349 *e*P **P** **18 39 50.2 +0.1**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 88.88 349 *e*P **P** **18 39 50.2 +0.1**
comp=Z,9.3nm,0.9s
ELK Elko 89.66 48 *e*P **P** **18 39 55.3 +0.4**
comp=Z,4.1nm,1.0s
F10A Beach Ranch, E 89.98 43 *e*P **P** **18 39 56.1 0.0**
comp=Z,8.6nm,0.8s
CCUT Cedar City 90.08 51 *e*P **P** **18 39 57.9 +1.0**
comp=Z,5.7nm,1.0s
MFID Camas Ranch 90.09 45 *e*P **P** **18 39 54.7 -1.9**
comp=Z,6.3nm,0.9s
TUC Tucson 90.64 57 *e*P **P** **18 40 00.5 +1.1**
TUC pmax pmax
comp=Z,5.0nm,0.8s
TUC Tucson 90.64 57 *e*P **P** **18 40 00.5 +1.1**
comp=Z,4.7nm,0.8s
HLID Hailey 91.11 45 *e*P **P** **18 40 02.7 +1.2**
comp=Z,2.8nm,1.0s
MVU Marysvale 91.22 51 *e*P **P** **18 40 03.2 +1.0**
WMQ Urumqi 91.87 315 P **P** **18 40 05.5 +0.7**
WMQ pP pP 18 41 07.4 +13
WMQ sP sP 18 41 33.8 +19
WMQ PP PP 18 43 53.6 +6.5
WMQ SKS **SKSac** **18 50 11.9 -6.8**
WMQ S **SKKSac** **18 50 41.6 +5.6**
WMQ SS **SS** **18 56 59.0 -3.4**
WMQ pmax pmax

comp=Z,13nm,0.6s
WMQ pmax pmax
comp=Z,160nm,8.5s
WMQ LR LR
comp=Z,54nm,9.6s
WMQ LR LR
comp=Z,120nm,8.0s
WMQ LR LR
comp=Z,160nm,16.6s
HYB Hyderabad 92.67 287 *i* P **P 18 40 08.0 -1.1**
PDAR Pinedale Array 94.31 47 P **P 18 40 15.9 -0.4**
PDAR PKKPbc **PKKPdf 18 57 15.2 -1.4**
PDAR Pinedale Array 94.31 47 P **P 18 40 15.9 -0.4**
comp=Z,0.5nm,0.6s,baz=236,slow=1.0,SNR=2.8
PDAR PKKPbc **PKKPdf 18 57 15.2 -1.4**
comp=Z,0.9nm,0.7s,baz=91,slow=5.0,SNR=6.4
SNAA Sanae 94.63 183 *eP* **P 18 40 15.8 -1.3**
MKAR Makanchi Array 96.32 316 P **P 18 40 25.7 +0.6**
MKAR Makanchi Array 96.32 316 P **P 18 40 25.6 +0.6**
MKAR PKiKP **PKiKP 18 45 01.9 0.0**
MKAR PKKPbc **PKKPbc 18 57 09.1 -2.7**
MKAR Makanchi Array 96.32 316 P **P 18 40 25.6 +0.6**
comp=Z,12nm,0.6s,baz=79,slow=6.3,SNR=138
MKAR PKiKP **PKiKP 18 45 01.9 0.0**
comp=Z,0.9nm,0.6s,baz=272,slow=0.9,SNR=13
MKAR PKKPbc **PKKPbc 18 57 09.1 -2.7**
comp=Z,0.6nm,0.5s,baz=266,slow=4.4,SNR=19
ZALV Zalesovo Beam 96.43 324 P **P 18 40 25.2 -0.2**
ZALV Zalesovo Beam 96.43 324 P **P 18 40 25.2 -0.2**
ZALV Zalesovo Beam 96.43 324 P **P 18 40 25.2 -0.2**
comp=Z,7.3nm,0.7s,baz=121,slow=4.6,SNR=39
YKA Yellowknife Ar 96.64 27 P **P 18 40 25.2 -0.8**
YKA pP **pP 18 41 12.8 -2.8**
YKA PKiKP PKiKP **18 45 01.7 -0.3**
YKA PKKPbc **PKKPbc 18 57 08.1 -3.4**
YKA Yellowknife Ar 96.64 27 P **P 18 40 25.3 -0.8**
comp=Z,0.6nm,0.5s,baz=253,slow=4.6,SNR=18
YKA pP **pP 18 41 12.8 -2.8**
comp=Z,0.8nm,0.9s,baz=255,slow=4.7,SNR=3.3
YKA PKiKP **PKiKP 18 45 01.7 -0.3**
comp=Z,0.2nm,0.5s,baz=241,slow=1.4,SNR=7.7
YKA PKKPbc **PKKPbc 18 57 08.1 -3.4**
comp=Z,0.3nm,0.7s,baz=74,slow=2.8,SNR=7.1
KURK Kurchatov 99.48 320 P **Pdif 18 40 38.7 -0.4**
KURK Kurchatov 99.48 320 P **Pdif 18 40 38.7 -0.4**
KURBB Kurchatov Arra 99.52 320 P **Pdif 18 40 38.7 -0.6**
comp=Z,0.9nm,0.7s,baz=94,slow=4.6,SNR=17
BVAR Borovoye Array 104.81 322 P **Pdif 18 41 02.7 -0.1**
BVAR Borovoye Array 104.81 322 Pdif **Pdif 18 41 02.7 -0.1**
BVAR PKiKP **PKiKP 18 45 17.2 +0.2**
BVAR Borovoye Array 104.81 322 Pdiff **Pdif 18 41 02.7 -0.1**
comp=Z,0.7nm,0.6s,baz=100,slow=6.2,SNR=5.9
BVAR PKiKP **PKiKP 18 45 17.2 +0.2**
comp=Z,0.5nm,0.4s,baz=120,slow=2.7,SNR=4.3
ARU Arti 111.52 326 *i* PKiKP **PKiKP 18 45 29.6 +0.2**
ARU 18 46 14.6
ARU PS **SP 18 55 24.5 0.0**
OPO Ambohidratompo112.72 243 PKiKP **PKiKP 18 45 33.6 +0.5**
OPO Ambohidratompo112.72 243 PKiKP **PKiKP 18 45 33.6 +0.5**
comp=Z,4.1nm,0.7s,baz=18,slow=1.0,SNR=5.5
PRGR Permogore 116.64 333 *e*PKiKP **PKPdf 18 45 37.9 -1.2**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
LPAZ La Paz 117.82 117 PKP **PKPdf 18 45 43.2 -0.3**
LPAZ PKKPbc **PKKPbc 18 56 04.7 0.0**
LPAZ La Paz 117.82 117 PKP **PKPdf 18 45 43.2 -0.3**
comp=Z,1.2nm,0.5s,baz=84,slow=2.0,SNR=7.1
LPAZ PKKPbc **PKKPbc 18 56 04.7 0.0**
comp=Z,1.4nm,0.7s,baz=59,slow=3.8,SNR=5.9
KEV Kevo 118.64 345 *e*PKiKP **PKPdf 18 45 41.7 -1.0**
ARCES ARCESS Array B 119.16 346 PKP **PKPdf 18 45 43.9 +0.1**
ARCES PKKPbc **PKKPab 18 55 56.8 -3.0**
ARCES ARCESS Array B 119.16 346 PKP **PKPdf 18 45 43.9 +0.1**
comp=Z,14nm,0.6s,baz=69,slow=1.3,SNR=94
ARCES PKKPbc **PKKPab 18 55 56.8 -3.0**
comp=Z,5.9nm,0.7s,baz=226,slow=2.8,SNR=46
SUMG Summit 119.18 9 *i* PKiKP **PKPdf 18 45 44.6 +0.4**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 119.65 333 *e*PKiKP **PKPdf 18 45 42.8 -2.1**
KLMR pmax pmax
comp=Z,8.0nm,0.5s
CPUP Villa Florida 121.29 133 PKP **PKPdf 18 45 48.3 -0.9**
CPUP Villa Florida 121.29 133 PKP **PKPdf 18 45 48.3 -0.9**
comp=Z,1.1nm,0.4s,baz=341,slow=3.3,SNR=3.9
SCHQ Schefferville 121.46 33 PKP **PKPdf 18 45 48.2 -0.4**
SCHQ Schefferville 121.46 33 PKP **PKPdf 18 45 48.2 -0.4**
comp=Z,1.6nm,0.6s,baz=43,slow=5.0,SNR=3.3
JOF Joensuu 121.83 338 *e*PKiKP **PKPdf 18 45 48.1 -0.9**
VRHR Novokhopersk 122.54 322 *e*PKiKP **PKPdf 18 45 50.0 -0.7**
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.8s
SCO Scoresbysund 122.90 4 *i* PKiKP **PKPdf 18 45 51.1 +0.2**
SCO pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 123.34 309 *e*PKPdf **PKPdf 18 45 53.5 +0.6**
GNI PKP **PKPdf 18 45 53.7 +0.8**
GNI Garni 123.34 309 PKP **PKPdf 18 45 53.7 +0.8**
comp=Z,11nm,0.8s,baz=326,slow=3.7,SNR=10
ZEI Tsey 123.42 312 *i* PKiKP **PKPdf 18 45 52.8 -0.2**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 123.70 328 *i* PKiKP **PKPdf 18 45 53.0 +0.1**
OBN pmax pmax
comp=Z,22nm,1.2s
OBN Obninsk 123.70 328 *e*PKPdf **PKPdf 18 45 52.9 +0.1**
KBZ Khabaz 123.91 314 PKiKP **PKPdf 18 45 54.6 +1.0**
KBZ Khabaz 123.91 314 PKP **PKPdf 18 45 54.6 +1.0**
KBZ Khabaz 123.91 314 PKP **PKPdf 18 45 54.6 +1.0**
comp=Z,4.2nm,0.7s,baz=111,slow=5.9,SNR=9.0
VSR Storozhevoye 123.93 323 *e*PKiKP **PKPdf 18 45 53.1 -0.3**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VORD Divnogorie 123.96 323 *e*PKiKP **PKPdf 18 45 52.7 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,2.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
KIV Kislovodsk 124.00 314 *e*PKiKP **PKPdf 18 45 58.9 +5.0**
KIV pmax pmax
comp=Z,16nm,1.1s
SUR Sutherland 124.03 214 PKP **PKPdf 18 45 54.3 -0.2**
SUR Sutherland 124.03 214 PKP **PKPdf 18 45 54.3 -0.2**
comp=Z,4.3nm,0.8s,baz=313,slow=4.0,SNR=3.7
BOSA Boshof 124.11 221 PKP **PKPdf 18 45 55.0 +0.3**
BOSA Boshof 124.11 221 PKP **PKPdf 18 45 55.0 +0.3**
comp=Z,9.4nm,0.7s,baz=160,slow=1.8,SNR=18
RAYN Ar Rayn 124.12 289 *e*PKPdf **PKPdf 18 45 54.7 0.0**
KAF Kangasniemi 124.13 339 *e*PKiKP **PKPdf 18 45 52.2 -1.3**
KAF pmax pmax
comp=Z,12nm,0.7s
FINES FINESS Array B 124.66 338 PKP **PKPdf 18 45 54.7 +0.2**
FINES FINESS Array B 124.66 338 PKP **PKPdf 18 45 54.7 +0.2**
comp=Z,12nm,0.8s,baz=35,slow=2.6,SNR=34
SAML Samuel 125.25 111 *e*PKPdf **PKPdf 18 45 56.0 -1.0**
LBTB Lobatse 126.31 224 PKP **PKPdf 18 45 59.0 0.0**
LBTB Lobatse 126.31 224 PKP **PKPdf 18 45 59.0 0.0**
comp=Z,8.0nm,0.6s,baz=156,slow=3.1,SNR=18
KMBO Kilima Mbogo 128.22 258 *e*PKPdf **PKPdf 18 46 03.1 +0.1**
KMBO PKP **PKPdf 18 46 04.2 +1.1**
KMBO Kilima Mbogo 128.22 258 PKP **PKPdf 18 46 04.2 +1.1**
comp=Z,5.9nm,0.6s,baz=73,slow=3.4,SNR=14
NB2 NORSAR Subarra129.54 345 PKPdf **PKPdf 18 46 04.3 +0.4**
comp=Z,3.5nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 129.54 345 PKP **PKPdf 18 46 04.5 +0.6**
NOA SKPbc SKPbc 18 49 09.9 +3.1
NOA NORSAR Array B 129.54 345 PKP **PKPdf 18 46 04.5 +0.6**
comp=Z,5.0nm,0.6s,baz=34,slow=2.0,SNR=22
NOA SKPbc SKPbc 18 49 09.9 +3.1
comp=Z,1.4nm,0.8s,baz=36,slow=4.5,SNR=4.0
AKASG Malin Array Be 129.76 326 PKIKP **PKPdf 18 46 04.8 +0.3**
AKASG Malin Array Be 129.76 326 PKP **PKPdf 18 46 04.8 +0.3**
AKASG SKPbc SKPbc 18 49 08.4 +0.5
AKASG Malin Array Be 129.76 326 PKP **PKPdf 18 46 04.8 +0.3**
comp=Z,3.7nm,0.6s,baz=56,slow=2.2,SNR=23
AKASG SKPbc SKPbc 18 49 08.4 +0.5
comp=Z,0.9nm,0.7s,baz=52,slow=4.3,SNR=5.5
LSZ Lusaka 130.25 236 PKP **PKPdf 18 46 07.3 +0.5**
LSZ Lusaka 130.25 236 PKP **PKPdf 18 46 07.3 +0.5**
comp=Z,6.9nm,0.7s,baz=62,slow=3.1,SNR=25
ASF Jabal al Asfar 131.04 301 PKP **PKPdf 18 46 09.0 +1.3**
ASF Jabal al Asfar 131.04 301 PKP **PKPdf 18 46 09.0 +1.3**
comp=Z,3.9nm,0.7s,baz=94,slow=4.7,SNR=3.9
BR131 Keskin Array S 131.69 311 *e*PKPdf **PKPdf 18 46 08.3 -0.5**
BRTR Keskin Array B 131.69 311 PKP **PKPdf 18 46 08.9 +0.1**
BRTR SKPbc **SKPab 18 49 18.7 +2.1**
BRTR Keskin Array B 131.69 311 PKP **PKPdf 18 46 08.9 +0.1**
comp=Z,3.0nm,0.6s,baz=144,slow=4.6,SNR=16
BRTR SKPbc **SKPab 18 49 18.7 +2.1**
comp=Z,2.2nm,0.8s,baz=108,slow=4.2,SNR=6.6
ANTO Ankara 132.26 312 ⇓PKIKP **PKPdf 18 46 10.9 +1.1**
TLCR 132.77 320 ⇓PKIKP **PKPdf 18 46 12.3 +1.9**
BUR08 Bucovina Ar. S 133.64 325 *e*PKPdf **PKPdf 18 46 14.3 +2.1**
BURAR Bucovina Array 133.65 325 ⇓PKIKP **PKPdf 18 46 14.3 +2.1**
KWP Kalwaria Pacla 133.80 328 ⇑PKIKP **PKPdf 18 46 13.5 +1.2**
MLR Muntele Rosu 134.37 322 PKP **PKPdf 18 46 13.2 -0.5**
MLR Muntele Rosu 134.37 322 PKP **PKPdf 18 46 13.2 -0.5**
comp=Z,2.2nm,1.1s,baz=333,slow=12,SNR=6.3
KOLS Kolonicke sedl 134.45 328 *e*PKIKP **PKPdf 18 46 14.5 +1.0**
STHS Stebnicka Huta 134.67 329 *e*PKIKP **PKPdf 18 46 14.9 +1.0**
BDFB Brasilia 134.68 129 PKP **PKPdf 18 46 15.2 +0.2**
BDFB Brasilia 134.68 129 PKP **PKPdf 18 46 15.2 +0.2**
comp=Z,3.2nm,0.6s,baz=211,slow=6.4,SNR=7.2
CRVS Cervenica-Dubn 134.89 328 *e*PKIKP **PKPdf 18 46 16.0 +1.6**
VOIR 134.94 322 ⇑PKIKP **PKPdf 18 46 16.2 +1.6**
CJR Cluj-Napoca 135.07 325 ⇑PKIKP **PKPdf 18 46 16.8 +2.0**
DRGR 135.52 325 ⇑PKIKP **PKPdf 18 46 17.3 +1.6**
KECS Kecovo 135.66 328 *e*PKIKP **PKPdf 18 46 17.0 +1.2**
OKC Ostrava-Krasne 135.89 331 *e*PKIKP **PKPdf 18 46 16.6 +0.5**
OKC Ostrava-Krasne 135.89 331 *e*PKPdf **PKPdf 18 46 16.6 +0.5**
KSP Ksiaz 136.00 334 *e*PKIKP **PKPdf 18 46 17.1 +0.8**
MORC Moravsky Berou 136.21 332 ⇑PKIKP **PKPdf 18 46 16.9 +0.1**
GZR Gura Zlata 136.29 324 ⇑PKIKP **PKPdf 18 46 17.8 +0.7**
PSZ Piszkesteto 136.32 328 ⇓PKIKP **PKPdf 18 46 18.6 +1.5**
KRLC Kraliky 136.34 333 *e*PKIKP **PKPdf 18 46 17.3 +0.2**
KRLC Kraliky 136.34 333 *e*PKPdf **PKPdf 18 46 17.3 +0.2**
KRLC *ex* x 18 46 19.3
DPC Dobruska-Polom 136.35 333 *e*PKHKP PKPpre 18 46 07.0
DPC *e* 18 46 15.0
DPC Dobruska-Polom 136.35 333 *e*PKPpre PKPpre 18 46 07.0
DPC *e*PKPdf **PKPdf 18 46 15.0 -2.1**
DPC *ex* x 18 46 18.7
UPC Upice 136.37 333 *e*PKIKP **PKPdf 18 46 17.4 +0.4**
UPC Upice 136.37 333 *e*PKPdf **PKPdf 18 46 17.4 +0.4**
BZS Buzias 136.82 324 ⇑PKIKP **PKPdf 18 46 18.4 +0.4**
PVCC Panska Ves 136.97 334 *e*PKIKP **PKPdf 18 46 17.4 -0.7**
PVCC Panska Ves 136.97 334 *e*PKPdf **PKPdf 18 46 17.4 -0.7**
PVCC *ex* x 18 46 21.0
CLL Collm 137.00 336 ⇓*i*PKIKP **PKPdf 18 46 18.4 +0.2**
CLL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 137.15 330 *e*PKIKP **PKPdf 18 46 19.5 +1.0**
PRU Pruhonice 137.39 334 *e*PKIKP **PKPdf 18 46 18.0 -0.9**
PRU Pruhonice 137.39 334 *e*PKPdf **PKPdf 18 46 18.0 -0.9**
PRU *ex* x 18 46 19.8
VTS Vitosha 137.58 320 ⇓PKIKP **PKPdf 18 46 18.8 -0.9**
MMB Musomiste 137.76 318 ⇑PKHKP PKPpre 18 46 08.9
PKSM Moragy 138.08 327 ⇑PKIKP **PKPdf 18 46 21.0 +0.7**
CONA Conrad Observa 138.30 331 ⇑*i*PKPdf **PKPdf 18 46 21.2 +0.4**
comp=Z,7.8nm,0.6s,SNR=5.3
KHC Kasperske Hory 138.45 334 *e*PKHKP PKPpre 18 46 14.8
KHC *e* 18 46 21.8
KHC Kasperske Hory 138.45 334 *e*PKPpre PKPpre 18 46 14.8
KHC *e*PKPdf **PKPdf 18 46 21.8 +0.8**
GERES GERESS Array B 138.61 333 PKP **PKPdf 18 46 22.6 +1.3**
GERES SKPbc **SKiKP 18 49 40.2 -0.6**
GERES GERESS Array B 138.61 333 PKhKP PKPpre 18 46 13.6
comp=Z,1.2nm,0.7s,baz=54,slow=2.3,SNR=8.0
GERES PKP **PKPdf 18 46 22.7 +1.3**
comp=Z,4.9nm,0.7s,baz=56,slow=1.8,SNR=23
GERES SKPbc **SKiKP 18 49 40.2 -0.6**
comp=Z,1.1nm,0.7s,baz=42,slow=2.2,SNR=7.5
GRF Grafenberg Arr 138.98 336 *e*PKP **PKPdf 18 46 22.2 +0.3**
WATA Walderalm 140.68 334 ⇓*i*PKiKP **PKiKP 18 46 27.9 0.0**
comp=Z,7.1nm,0.5s,SNR=5.0
WTTA Wattenberg 140.71 334 *i* PKPdf **PKPdf 18 46 25.9 +0.5**
comp=Z,11nm,0.7s,SNR=5.4
BFO Black Forest 141.20 337 *i* PKIKP PKPdf 18 46 31.2 +5.2
TUE Stuetta 142.31 335 *e*PKPdf **PKPdf 18 46 28.2 0.0**
RSL Roselend 144.04 337 PKP PKPbc 18 46 30.4 +0.7
BNI Bardonecchia 144.55 336 *e*PKIKP **PKPdf 18 46 32.3 +0.1**
BNI Bardonecchia 144.55 336 *e*PKPab **PKPdf 18 46 32.3 +0.1**
CEL Celeste 144.62 319 *e*PKPdf PKPbc 18 46 31.7 +0.1
OG22 Abries 144.63 335 PKP **PKPdf 18 46 33.5 +1.1**
GDM Grand'Maison 144.64 337 PKP **PKPdf 18 46 32.8 +0.5**
GRN Grenoble 144.75 337 PKP **PKPdf 18 46 33.4 +1.0**
PLDF La Plantade 144.89 340 PKP **PKPdf 18 46 33.6 +1.0**
SURF Saint Ours 144.97 335 PKP **PKPdf 18 46 33.9 +1.0**
AGD Saint Agoulin 144.97 340 PKP **PKPdf 18 46 33.6 +0.9**
SSB Saint Sauveur 145.17 338 *e*PKP2 **PKPab 18 46 33.7 +0.4**
SSB Saint Sauveur 145.17 338 PKP **PKPab 18 46 34.3 +1.0**
SSB Saint Sauveur 145.17 338 *e*PKPab **PKPab 18 46 33.7 +0.4**
COLF Collangettes 145.26 339 PKP **PKPab 18 46 35.6 +1.9**
PYM Petit Puy Mans 145.28 340 PKP **PKPab 18 46 34.6 +0.8**
OG25 Le Caire 145.36 336 PKP **PKPab 18 46 34.5 +0.4**
OG26 St.-Nazaire-De 145.48 337 PKP **PKPab 18 46 35.5 +0.9**
LCHF La Chataignera 145.53 345 PKP **PKPab 18 46 35.0 +0.5**
LBL Lubilhac 145.66 340 PKP **PKPab 18 46 36.2 +1.0**
FRNF Fournols 145.75 341 PKP **PKPab 18 46 36.2 +0.7**
OSPF L'Ospedale 146.12 330 PKP **PKPab 18 46 36.7 -0.4**
LRDF Laroque-de-Fa 147.91 338 PKP **PKPbc 18 46 42.1 +1.1**
MLS Moulis 148.39 340 PKP **PKPbc 18 46 43.1 +0.9**
VALF Valcebollere 148.57 339 PKP **PKPbc 18 46 44.0 +1.1**
REYF Montagne du Re 148.76 342 PKP **PKPbc 18 46 42.0 -1.2**
VIEF Viey 148.80 342 PKP **PKPbc 18 46 45.0 +1.6**
ATE Arette 148.83 343 PKP **PKPbc 18 46 44.1 +0.8**
LARF Larrau 148.96 343 PKP **PKPbc 18 46 45.1 +1.4**
SHEL Hoya Pasture 149.77 194 *i* PKP2 **PKPbc 18 46 48.2 +1.8**
KEST Kesra 150.28 322 *e*PKPbc **PKPbc 18 46 47.9 +0.8**
KEST Kesra 150.28 322 PKPbc **PKPbc 18 46 48.3 +1.1**
comp=Z,24nm,0.7s,baz=275,slow=0.3,SNR=88
CMAH Djebel Manchou 150.77 325 P **PKPbc 18 46 49.0 +0.7**
CAEH 'Ain El Ouahch 150.97 326 P **PKPbc 18 46 49.0 +0.3**
ABSA Djebel Ababsia 150.99 325 P **PKPbc 18 46 49.8 +0.9**
CKFL Kef-Lekhel 151.32 326 P **PKPbc 18 46 50.5 +0.8**
PBRG Braganca 151.43 350 *e*PKPbc **PKPbc 18 46 49.2 -0.4**
PBRG Braganca 151.43 350 *e*PKPab **PKPab 18 46 59.5 +1.0**
CASM Ain Smara 151.55 326 P **PKPbc 18 46 50.7 +0.6**
DFRA Djebel Bou Aff 151.67 327 P **PKPbc 18 46 51.0 +0.6**
CTEI Djebel Teioual 151.74 326 P **PKPbc 18 46 51.4 +0.8**
POLO Lamas de Olo 152.01 352 *e*PKPbc **PKPbc 18 46 50.8 -0.2**
POLO Lamas de Olo 152.01 352 *e*PKPab **PKPab 18 47 01.9 +0.9**
PVRL Vila Real 152.10 352 *e*PKPbc **PKPbc 18 46 52.0 +0.8**
PVRL Vila Real 152.10 352 *e*PKPab **PKPab 18 47 02.2 +0.9**
MVO Moncorvo 152.10 351 *e*PKPbc **PKPbc 18 46 52.0 +0.8**
CKHR Kef el Ahmar 152.26 327 P **PKPbc 18 46 52.0 +0.2**
PTO Porto 152.34 353 *e*PKPbc **PKPbc 18 46 52.5 +0.9**
PTO Porto 152.34 353 *e*PKPab **PKPab 18 47 04.0 +1.7**
PVIS Viseu 152.67 352 *e*PKPdf **PKPdf 18 46 45.5 +0.2**
PVIS Viseu 152.67 352 *e*PKPbc **PKPbc 18 46 52.9 +0.4**
PVIS Viseu 152.67 352 *e*PKPab **PKPab 18 47 05.3 +1.5**
ESDC Sonseca Array 152.90 345 PKPbc **PKPbc 18 46 53.7 +0.7**
ESDC PKPab **PKPab 18 47 06.2 +1.4**
ESDC Sonseca Array 152.90 345 PKPbc **PKPbc 18 46 53.7 +0.7**
comp=Z,5.8nm,0.8s,baz=8.7,slow=2.9,SNR=20
ESDC PKPab **PKPab 18 47 06.2 +1.4**
comp=Z,3.6nm,0.6s,baz=13,slow=4.1,SNR=11
MTE Manteigas 152.93 351 *e*PKPbc **PKPbc 18 46 53.2 +0.1**
MTE Manteigas 152.93 351 *e*PKPab **PKPab 18 47 06.6 +1.7**
PAB San Pablo 153.12 345 *e*PKIKP **PKPbc 18 46 54.3 +0.8**
PAB San Pablo 153.12 345 *e*PKPbc **PKPbc 18 46 54.3 +0.8**
PCAS Casmilo, Conde 153.40 352 *e*PKPbc **PKPbc 18 46 53.6 -0.4**
PCAS Casmilo, Conde 153.40 352 *e*PKPab **PKPab 18 47 07.1 +0.3**
PCBR Castelo Branco 153.47 351 *e*PKPbc **PKPbc 18 46 54.7 +0.6**
PCBR Castelo Branco 153.47 351 *e*PKPab **PKPab 18 47 06.3 -0.8**
PTOM Tomar 153.82 352 *e*PKPbc **PKPbc 18 46 55.2 +0.3**
PTOM Tomar 153.82 352 *e*PKPab **PKPab 18 47 07.5 -1.1**
PMRV Marv??o 153.85 350 *e*PKPbc **PKPbc 18 46 55.7 +0.7**
PBEJ Beja 155.30 351 *e*PKPab **PKPab 18 47 16.5 +1.5**
MORF Marmelete 156.13 352 *e*PKPab **PKPab 18 47 20.6 +2.0**
TOA0 Torodi Ar. Sit 165.82 270 *e*PKPdf **PKPdf 18 47 00.9 -0.1**
TORD Torodi Ar. Bea 165.82 270 PKP **PKPdf 18 47 01.0 0.0**
TORD PKPab **PKPab 18 48 02.4 +0.6**
TORD Torodi Ar. Bea 165.82 270 PKP **PKPdf 18 47 01.0 0.0**
comp=Z,8.2nm,0.8s,baz=62,slow=1.0,SNR=39
TORD PKPab **PKPab 18 48 02.4 +0.6**
comp=Z,9.4nm,0.9s,baz=93,slow=5.1,SNR=16
DBIC Dimbokro 169.51 230 PKP **PKPdf 18 47 03.1 -0.5**
DBIC PKPab **PKPab 18 48 18.0 +0.1**
DBIC Dimbokro 169.51 230 PKP **PKPdf 18 47 03.1 -0.5**
comp=Z,8.0nm,0.9s,baz=78,slow=0.8,SNR=7.8
DBIC PKPab **PKPab 18 48 18.0 +0.1**
comp=Z,4.2nm,0.7s,baz=173,slow=4.6,SNR=5.1

IDC 24 18:34:35.5±53.0, 19°.41S×176°.73W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=983.8km s-min=160.7km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.34**	**243**	P	P	18 42 06.0	-0.7
	0.9nm,0.5s,baz=99,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**45.94**	**256**	P	P	18 43 00.5	-0.1
	1.2nm,0.5s,baz=89,slow=8.4,SNR=16						
WRA	**Warramunga Arr**	**45.95**	**261**	P	P	18 43 00.8	+0.3
	0.4nm,0.3s,baz=94,slow=8.1,SNR=36						

*NEIC **24** 18:48:46.4±0.9, 20°.70S×178°.97W, h560km±11km, mb4.7/15, Error ellipse: s-maj=15.6km s-min=8.0km az=132.0*
*ISCJB **24** 18:48:47.5±0.3, 20°.76S±0°.07×178°.77W±0°.07, h579km, mb4.2/30, Error ellipse: s-maj=11.4km s-min=5.7km az=142.2*
*IDC **24** 18:48:48.7±1.9, 20°.72S×178°.68W, h577km±23km, mb3.4/15, mb1 3.7/17, mb1mx3.7/20, mbtmp4.4/17, Error ellipse: s-maj=18.3km s-min=12.7km az=138.0*
*BJI **24** 18:48:52.1, 20°.79S×178°.82W, h644km, mB4.9/8, mb4.5/14*

ISC 24 18:48:48.2±0.5, 20°.79S±0°.09×178°.60W±0°.08, h579km, n113, σ1°.14/119, mb4.2/29, 19C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.34**	**80**	S	S	18 52 44.7	+15
	baz=8.3,SNR=4.5						
AFI	**Afiamalu**	**9.45**	**45**	*e*P	P	**18 51 00.9**	**-0.4**
AFI	**Afiamalu**	**9.45**	**45**	P	P	**18 51 01.5**	**+0.2**
	11nm,0.3s,baz=147,slow=4.6,SNR=8.5						
AFI				S	S	**18 52 48.2**	**-2.2**
	5.0nm,0.3s,baz=252,slow=20,SNR=3.8						
OUZ	**Omahuta**	**15.93**	**204**	*e*P	P	18 51 58.2	-7.5
URZ	**Urewera**	**17.80**	**191**	*e*P	P	**18 52 21.0**	**-1.8**
	16nm,0.7s						
URZ	**Urewera**	**17.80**	**191**	P	P	**18 52 22.3**	**-0.5**
	4.9nm,0.3s,baz=269,slow=2.9,SNR=17						
BKZ	**Black Stump Fm**	**18.80**	**192**	*e*P	P	**18 52 30.9**	**-1.0**
	186nm,2.6s						
BFZ	**Birch Farm**	**20.31**	**191**	*e*P	P	**18 52 45.7**	**+0.2**
	135nm,1.8s						
KHZ	**Kahutara**	**22.56**	**195**	*e*P	P	18 52 59.9	-5.7
WHZ	**Wether Hill Ro**	**27.37**	**201**	*e*P	P	**18 53 48.4**	**+0.3**
CTAO	**Charters Tower**	**32.90**	**265**	*e*P	P	18 54 32.8	-3.2
	322nm,2.6s						
CMSA	**Cobar Meteorol**	**33.65**	**244**	P	P	**18 54 42.8**	**+0.7**
	baz=34,SNR=8.8						
QLP	**Quilpie**	**34.43**	**253**	P	P	**18 54 49.2**	**+0.6**
	baz=34,SNR=4.5						
STKA	**Stephens Creek**	**37.16**	**244**	P	P	**18 55 11.6**	**+0.5**
	3.8nm,0.9s,baz=95,slow=11,SNR=7.4						
STKA	**Stephens Creek**	**37.16**	**244**	P	P	**18 55 12.2**	**+1.2**
	baz=37,SNR=4.2						
HTT	**Hallett**	**39.59**	**242**	P	P	**18 55 31.6**	**+0.8**
	baz=40,SNR=3.8						
BBOO	**Buckleboo**	**41.91**	**244**	P	P	**18 55 49.4**	**+0.2**
	baz=42,SNR=9.1						
AS31	**Alice Springs**	**43.90**	**257**	*e*P	P	18 56 01.8	-3.1
ASAR	**Alice Springs**	**43.90**	**257**	P	P	**18 56 04.8**	**0.0**
	6.0nm,0.5s,baz=94,slow=7.5,SNR=207						
ASAR				PcP	**PcP**	**18 57 37.8**	**-0.2**
	1.6nm,0.7s,baz=105,slow=4.0,SNR=8.6						
ASAR				S	S	**19 01 51.9**	**-3.3**
	3.0nm,0.9s,baz=97,slow=15,SNR=18						
WRAB	**Tennant Creek**	**43.99**	**262**	*e*P	P	18 56 02.4	-3.1
	42nm,1.7s						
WRA	**Warramunga Arr**	**44.00**	**262**	P	P	**18 56 05.1**	**-0.5**
	3.3nm,0.4s,baz=98,slow=7.8,SNR=131						
WRA				S	S	**19 01 53.5**	**-3.0**
	0.9nm,0.9s,baz=98,slow=12,SNR=4.1						
MTN	**Manton Dam**	**48.60**	**271**	P	P	**18 56 40.1**	**-0.3**
	baz=49,SNR=6.2						
MTN				S	S	19 03 18.3	+18
	baz=49,SNR=17						
WRKA	**Warakurna**	**48.84**	**254**	P	P	**18 56 42.0**	**-0.1**
	baz=49,SNR=45						
WRKA				S	S	**19 03 00.5**	**-3.2**
	baz=49,SNR=5.0						
KNRA	**Kununurra**	**50.08**	**267**	P	P	**18 56 51.1**	**0.0**
	baz=50,SNR=7.1						
FAKI	**Fak Fak**	**51.02**	**284**	S	S	**19 03 35.7**	**+2.5**
	baz=51,SNR=18						
SOEI	**Soe**	**55.95**	**272**	P	P	**18 57 34.4**	**+1.4**
	baz=56,SNR=3.0						
MEEK	**Meekatharra**	**57.29**	**251**	P	P	**18 57 41.4**	**-0.5**
	baz=57,SNR=3.3						
VNDA	**Vanda**	**57.57**	**185**	P	P	**18 57 45.2**	**+2.2**
	0.9nm,0.4s,baz=24,slow=6.7,SNR=7.6						
UGM	**Wanagama**	**69.39**	**269**	P	P	**18 58 59.2**	**-0.2**
	baz=69,SNR=3.4						
MJAR	**Matsushiro Arr**	**70.11**	**324**	P	P	**18 59 02.8**	**-0.3**
	1.8nm,0.6s,baz=158,slow=5.9,SNR=12						
PETK	**Petropavlovsk-**	**76.41**	**346**	P	P	**18 59 38.6**	**0.0**
	3.1nm,0.7s,baz=148,slow=6.5,SNR=3.6						
KSRS	**Korea Array**	**76.73**	**319**	P	P	**18 59 41.8**	**+1.1**
	0.9nm,0.8s,baz=119,slow=6.3,SNR=2.7						
USRK	**Ussuriysk Arra**	**78.89**	**326**	P	P	**18 59 53.3**	**+1.1**
	3.3nm,0.8s,baz=147,slow=4.5,SNR=5.8						
NJ2	**Nanjing**	**79.63**	**310**	*e*P	P	**18 59 55.6**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WAKR	**Walker**	**80.94**	**43**	*e*P	P	**19 00 03.8**	**+0.5**
NVAR	**Mina Array Bea**	**81.62**	**44**	P	P	**19 00 08.5**	**+1.6**
	1.6nm,0.6s,baz=228,slow=7.3,SNR=14						
TUC	**Tucson**	**

	2.1nm,0.9s,baz=122,slow=3.1,SNR=23							
CD2	**Chengdu**	**90.47**	**303**	*e*P	P	19 00 45.4	-3.8
SONM	**Songino Array**	**95.60**	**319**	P	**P**	**19 01 13.8**	**+1.5**
	0.2nm,0.6s,baz=108,slow=2.3,SNR=2.8							
YKA	**Yellowknife Ar**	**97.01**	**25**	P	Pdif	19 01 17.3	-0.8
	0.1nm,0.5s,baz=239,slow=4.7,SNR=5.4							
WMQ	**Urumqi**	**106.69**	**311**	Pdif	**Pdif**	**19 01 59.9**	**-1.8**
WMQ				PP	**PP**	**19 06 38.4**	**+2.2**
WMQ				AMB	AMB			
	comp=Z,12nm,9.5s							
ZALV	**Zalesovo Beam**	**110.36**	**321**	PKiKP	**PKiKP**	**19 06 13.6**	**-1.3**
	0.7nm,0.5s,baz=133,slow=1.8,SNR=4.3							
MKAR	**Makanchi Array**	**110.99**	**313**	PKiKP	**PKiKP**	**19 06 15.5**	**-0.8**
	1.6nm,0.6s,baz=42,slow=0.3,SNR=40							
KSH	**Kashi**	**114.59**	**305**	*e*PKP	PKPdf	19 06 22.3	-1.3
KSH				*e*SKS	SKSdf	19 12 33.4	-8.0
ARCES	**ARCESS Array B**	**129.10**	**349**	PKP	**PKPdf**	**19 06 49.8**	**-0.6**
	1.2nm,0.5s,baz=48,slow=1.8,SNR=17							
FINES	**FINESS Array B**	**135.89**	**343**	PKP	**PKPdf**	**19 07 03.1**	**-0.2**
	0.9nm,0.4s,baz=70,slow=2.8,SNR=7.0							
NB2	**NORSAR Subarra**	**139.20**	**353**	PKP	PKPpre	19 07 00.4		
	comp=Z,0.9nm,0.8s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**139.20**	**353**	PKhKP	PKPpre	19 07 03.2		
	comp=Z,0.3nm,0.5s,baz=31,slow=1.5,SNR=5.2							
NOA				PKP	**PKiKP**	**19 07 11.2**	**-0.7**	
	comp=Z,0.4nm,0.4s,baz=15,slow=3.8,SNR=3.2							
HFS	**Hagfors**	**139.73**	**351**	PKhKP	PKPpre	19 07 02.7		
	comp=Z,3.2nm,0.3s,baz=67,slow=3.9,SNR=49							
SUW	**Suwalki**	**142.91**	**339**	*e*PKP	**PKPdf**	**19 07 13.7**	**-2.5**
AKASG	**Malin Array Be**	**142.99**	**330**	PKhKP	PKPpre	19 07 13.4		
	comp=Z,6.7nm,0.4s,baz=43,slow=4.6,SNR=28							
EKA	**Eskdalemuir Ar**	**145.34**	**5**	PKPbc	**PKPdf**	**19 07 21.2**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=324,slow=2.4,SNR=8.7							
BEL	**Belsk**	**145.52**	**339**	*e*PKP	**PKPbc**	**19 07 22.4**	**+0.1**
KWP	**Kalwaria Pacla**	**146.60**	**335**	*e*PKP	**PKPbc**	**19 07 25.4**	**0.0**
BRTR	**Keskin Array B**	**146.61**	**312**	PKPbc	**PKPbc**	**19 07 25.2**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=130,slow=2.5,SNR=23							
TLCR		**146.81**	**323**	⇓*i*P	**PKPbc**	**19 07 25.8**	**-0.2**
BURAR	**Bucovina Array**	**147.03**	**330**	⇑*i*P	**PKPbc**	**19 07 26.8**	**+0.1**
TESR	**Tescani**	**147.10**	**327**	⇓*i*P	**PKPbc**	**19 07 26.3**	**-0.5**
KOS	**Kolonicke sedl**	**147.33**	**334**	*e*PKP	**PKPbc**	**19 07 27.8**	**+0.5**
STHS	**Stebnicka Huta**	**147.35**	**336**	*e*PKP	**PKPbc**	**19 07 27.9**	**+0.5**
STHS				*e*		19 07 32.7		
CRVS	**Cervenica-Dubn**	**147.68**	**335**	*e*PKP	**PKPbc**	**19 07 28.6**	**+0.3**
CRVS				*e*		19 07 33.0		
KSP	**Ksiaz**	**147.80**	**342**	*e*PKP	**PKPbc**	**19 07 28.7**	**+0.2**
TRPA	**Tarpa**	**147.84**	**333**	⇑*i*P	**PKPbc**	**19 07 28.3**	**-0.3**
OKC	**Ostrava-Krasne**	**148.11**	**339**	*e*PKP	**PKPbc**	**19 07 29.5**	**+0.2**
DOPR	**Dopca**	**148.11**	**328**	⇑*i*P	**PKPbc**	**19 07 29.7**	**+0.2**
MLR	**Muntele Rosu**	**148.16**	**326**	⇑*i*P	**PKPbc**	**19 07 29.2**	**-0.5**
UPC	**Upice**	**148.18**	**342**	⇑*e*PKP	**PKPbc**	**19 07 29.7**	**+0.3**
UPC				*e*PKPAB	**PKPab**	**19 07 35.7**	**+1.1**
CLL	**Collm**	**148.21**	**346**	⇓*i*PKPbc	**PKPbc**	**19 07 29.1**	**-0.4**
	comp=Z,12nm,1.2s							
CLL				⇑*i*PKPab	**PKPab**	**19 07 34.1**	**-0.6**	
	comp=Z,7.0nm,1.0s							
DPC	**Dobruska-Polom**	**148.23**	**342**	⇑*e*PKP	**PKPbc**	**19 07 29.7**	**+0.1**
DPC				*e*PKPAB	**PKPab**	**19 07 34.9**	**0.0**	
DPC				*ex*	x	19 09 45.3		
KRLC	**Kraliky**	**148.33**	**341**	⇑*e*PKP	**PKPbc**	**19 07 28.9**	**-1.0**
KRLC				*e*PKPAB	**PKPab**	**19 07 35.4**	**+0.1**
MORC	**Moravsky Berou**	**148.36**	**340**	⇑*i*P	**PKPbc**	**19 07 30.1**	**+0.1**
BRG	**Berggiesshubel**	**148.39**	**345**	*i* PKP	**PKPbc**	**19 07 29.8**	**-0.1**
	comp=Z,14nm,1.3s							
BRG								
	comp=Z,851nm,21.6s							
BRG								
	comp=N,588nm,21.4s							
BRG								
	comp=E,604nm,21.4s							
KECS	**Kecovo**	**148.40**	**335**	*e*PKP	**PKPbc**	**19 07 29.9**	**-0.2**
KECS				*e*		19 07 35.9		
PVCC	**Panska Ves**	**148.55**	**344**	⇑*e*PKP	**PKPbc**	**19 07 30.3**	**-0.1**
PVCC				*e*PKPAB	**PKPab**	**19 07 35.4**	**-0.7**
VOIR		**148.65**	**327**	⇑*i*P	**PKPbc**	**19 07 30.2**	**-0.7**
ARR	**Arges**	**148.91**	**327**	⇓*i*P	**PKPbc**	**19 07 32.3**	**+0.8**
PRA	**Prague**	**149.01**	**344**	⇑⇑PKP	**PKPbc**	**19 07 30.0**	**-1.5**
PRA				PKPAB	**PKPab**	**19 07 38.0**	**0.0**
PRU	**Pruhonice**	**149.05**	**343**	⇑*e*PKP	**PKPbc**	**19 07 30.2**	**-1.4**
PRU				*e*PKPAB	**PKPab**	**19 07 38.1**	**-0.1**
TREC	**Trest**	**149.41**	**342**	⇑*e*PKP	**PKPbc**	**19 07 32.4**	**-0.1**
SMOL	**Smolenice**	**149.49**	**339**	*e*PKP	**PKPbc**	**19 07 33.2**	**+0.5**
GZR	**Gura Zlata**	**149.80**	**329**	⇓*i*P	**PKPbc**	**19 07 33.1**	**-0.5**
MEM	**Membach**	**150.02**	**354**	PKPbc	**PKPbc**	**19 07 32.7**	**-1.1**
KHC	**Kasperske Hory**	**150.09**	**344**	⇑*e*PKP	**PKPbc**	**19 07 33.7**	**-0.4**
KHC				*e*PKPAB	**PKPab**	**19 07 42.4**	**-0.2**
GRF	**Grafenberg Arr**	**150.12**	**347**	*e*PKP	**PKPbc**	**19 07 33.9**	**-0.3**
BZS	**Buzias**	**150.18**	**331**	⇓*i*P	**PKPbc**	**19 07 33.9**	**-0.5**
SNF	**Seneffe**	**150.25**	**356**	PKPbc	**PKPbc**	**19 07 32.4**	**-2.0**
GERES	**GERESS Array B**	**150.32**	**343**	PKPbc	**PKPbc**	**19 07 34.6**	**-0.2**
	comp=E,1.3nm,0.5s,baz=24,slow=2.8,SNR=17							
DOU	**Dourbes**	**150.65**	**356**	PKPbc	**PKPbc**	**19 07 35.4**	**+0.1**
KDZ	**Kurdzhali**	**150.94**	**321**	⇑*i*P	**PKPbc**	**19 07 35.7**	**-0.6**
PKSM	**Moragy**	**150.98**	**335**	⇑*i*P	**PKPbc**	**19 07 35.5**	**-0.7**
PERS	**Pernice**	**151.89**	**340**	*i* PKPbc	**PKPbc**	**19 07 37.4**	**-1.0**
MMB	**Musomiste**	**151.96**	**323**	⇑*i*P	**PKPbc**	**19 07 37.4**	**-1.2**
VISS	**Visnje**	**152.72**	**339**	*i* PKPbc	**PKPbc**	**19 07 39.6**	**-0.4**
BOJS	**Bojanci**	**152.84**	**338**	*i* PKPbc	**PKPbc**	**19 07 40.3**	**-0.1**
JAVS	**Javornik**	**152.89**	**340**	*i* PKPbc	**PKPbc**	**19 07 39.8**	**-0.8**
ESDC	**Sonseca Array**	**160.62**	**13**	PKPab	**PKPab**	**19 08 28.1**	**-0.1**
	comp=E,0.8nm,0.7s,baz=352,slow=3.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**172.40**	**182**	PKP	**PKPdf**	**19 07 51.4**	**-0.7**
	comp=E,0.9nm,1.1s,baz=272,slow=0.9,SNR=3.5							

*DDA **24** 18:53:39.0,34°.45N×26°.50E,h3km,MD3.2*
*ISCJB **24** 18:53:48.1±0.7,34°.98N±0°.03×26°.90E±0°.02,h8km±4km,*
mb3.8/7,Error ellipse: s-maj=4.8km s-min=2.8km
az=170.6
*THE **24** 18:53:49.9,35°.10N×26°.79E,h9km±2km,ML3.3/3,Error*
ellipse: s-maj=4.9km s-min=1.1km az=156.0
*CSEM **24** 18:53:49.1±0.2,35°.01N×26°.91E,h2km,ML3.3,Error*
ellipse: s-maj=4.9km s-min=3.2km az=168.0
*ATH **24** 18:53:50.0,35°.14N×26°.82E,h15km,MD3.7/10,ML3.7*
*HLW **24** 18:53:53.5,34°.87N×27°.06E,h30km±11km,Md3.4,Ml3.3*
*IDC **24** 18:53:54.1±1.2,34°.94N×26°.87E,h49km±13km,mb3.7/7,*
mb1 3.6/12,mb1mx3.4/28,mbtmp3.7/12,ML3.4/5,MS3.4/1,
Ms1 3.4/1,ms1mx2.5/36,Error ellipse: s-maj=19.9km
s-min=8.3km az=2.0
*ISK **24** 18:54:06.9,36°.11N×27°.77E,h16km,MD3.4*
ISC 24 18:53:49.0±1.2,35°.04N±0°.04×26°.87E±0°.02,h5km±8km,
n127,σ1s28/156,mb4.0/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.54**	**278**	P	**Pg**	**18 53 59.0**	**-0.4**
ZKR				S	**Sg**	**18 54 06.3**	**0.0**
ZKR	**Zakros**	**0.54**	**278**	*e*PB	**Pg**	**18 53 59.2**	**-0.2**
ZKR				*e*SB	**Sg**	**18 54 06.4**	**+0.1**
ZKR	**Zakros**	**0.54**	**278**	*e*Pb	**Pg**	**18 53 59.6**	**-0.2**
ZKR				*e*Sb	**Sg**	**18 54 06.4**	**+0.1**
KARP	**Karpathos**	**0.56**	**25**	P	**Pg**	**18 53 59.8**	**0.0**
KARP				S	**Sb**	**18 54 09.6**	**-0.1**
KARP	**Karpathos**	**0.56**	**25**	*e*PB	**Pg**	**18 53 59.5**	**-0.3**
KARP				*e*SB	**Sg**	**18 54 06.7**	**-0.5**
KARP	**Karpathos**	**0.56**	**25**	*e*Pb	**Pg**	**18 53 59.5**	**-0.3**
KARP	**Karpathos**	**0.56**	**25**	P	**Pg**	**18 53 59.8**	**0.0**
KARP				*e*Sb	**Sg**	**18 54 06.7**	**-0.5**
NPS	**Neapolis**	**1.05**	**283**	P	**Pg**	**18 54 08.7**	**-0.5**
NPS				S	**Sg**	**18 54 21.8**	**-1.0**
NPS	**Neapolis**	**1.05**	**283**	*e*PN	**Pg**	**18 54 09.1**	**-0.1**
NPS				*e*SN	**Sg**	**18 54 22.2**	**-0.6**
NPS	**Neapolis**	**1.05**	**283**	P	**Pg**	**18 54 08.7**	**-0.5**
NPS	**Neapolis**	**1.05**	**283**	*e*Pn	**Pg**	**18 54 09.1**	**-0.1**
LAST	**Lasithi**	**1.14**	**276**	*e*PN	**Pg**	**18 54 11.0**	**0.0**
LAST				*e*SN	**Sb**	**18 54 26.3**	**-0.2**
LAST	**Lasithi**	**1.14**	**276**	*e*Pn	**Pg**	**18 54 11.0**	**0.0**
LAST				*e*Sn	**Sb**	**18 54 26.3**	**-0.2**
ARG	**Arkhangelos**	**1.56**	**41**	P	**Pn**	**18 54 16.3**	**-1.1**
ARG	**Arkhangelos**	**1.56**	**41**	*e*PN	**Pg**	**18 54 19.2**	**+0.3**
ARG				*e*SN	**Sb**	**18 54 39.2**	**+0.8**
ARG	**Arkhangelos**	**1.56**	**41**	P	**Pn**	**18 54 16.3**	**-1.1**
ARG	**Arkhangelos**	**1.56**	**41**	*e*Pn	**Pg**	**18 54 19.2**	**+0.3**
ARG				*e*Sn	**Sb**	**18 54 39.2**	**+0.8**
NIS1	**Nisyros Isl.**	**1.58**	**9**	P	**Pn**	**18 54 15.1**	**-2.6**
NIS1				S	**Sn**	**18 54 36.2**	**-2.3**
NIS1	**Nisyros Isl.**	**1.58**	**9**	*e*PN	**Pn**	**18 54 18.7**	**+1.0**
NIS1	**Nisyros Isl.**	**1.58**	**9**	*e*Pn	**Pn**	**18 54 18.7**	**+1.0**
IDI	**Anoyia**	**1.64**	**279**	P	**Pg**	**18 54 20.4**	**0.0**
	56nm,0.3s,baz=114,slow=22,SNR=250						
IDI				S	**Sg**	**18 54 41.3**	**-0.4**
	56nm,0.3s,baz=99,slow=21,SNR=11						
SIVA	**Sivas**	**1.69**	**270**	*e*PN	**Pb**	**18 54 20.6**	**+0.1**
SIVA				*e*SN	**Sg**	**18 54 42.6**	**-0.6**
SIVA	**Sivas**	**1.69**	**270**	*e*Pn	**Pb**	**18 54 20.6**	**+0.1**
SIVA				*e*Sn	**Sg**	**18 54 42.6**	**-0.6**
SANT	**Santorini**	**1.75**	**320**	P	**Pn**	**18 54 18.8**	**-1.3**
SANT				S	**Sn**	**18 54 39.2**	**-3.6**
SANT	**Santorini**	**1.75**	**320**	*e*PN	**Pn**	**18 54 20.7**	**+0.6**
SANT	**Santorini**	**1.75**	**320**	*e*Pn	**Pn**	**18 54 20.7**	**+0.6**
BDRM	**Kayabasi**	**2.08**	**13**	*i* P	**Pn**	**18 54 24.8**	**+0.3**
BDRM				*i* S	**Sg**	**18 54 57.0**	**+1.3**
BDRM	**Kayabasi**	**2.08**	**13**	*i* P	**Pn**	**18 54 24.8**	**+0.3**
VAM	**Vamos**	**2.21**	**280**	*e*PN	**Pb**	**18 54 28.3**	**-1.2**
VAM				*e*SN	**Sn**	**18 54 55.6**	**+1.5**
VAM	**Vamos**	**2.21**	**280**	*e*Pn	**Pb**	**18 54 28.3**	**-1.2**
VAM				*e*Sn	**Sn**	**18 54 55.6**	**+1.5**
APE	**Apeiranthos**	**2.30**	**332**	*e*PN	**Pn**	**18 54 28.1**	**+0.5**
APE	**Apeiranthos**	**2.30**	**332**	*e*Pn	**Pn**	**18 54 28.1**	**+0.5**
TURN	**Turunc**	**2.31**	**37**	*i* P	**Pn**	**18 54 26.3**	**-1.4**
TURN				*i* S	**Sn**	**18 54 56.8**	**+0.3**
TURN	**Turunc**	**2.31**	**37**	*i* P	**Pn**	**18 54 26.3**	**-1.4**
TURN				*i* S	**Sn**	**18 54 56.8**	**+0.3**
YER	**Yerkesik**	**2.38**	**28**	*e*PN	**Pn**	**18 54 28.8**	**0.0**
YER				*e*SN	Sn	18 54 43.7	-15
YER	**Yerkesik**	**2.38**	**28**	*e*Pn	**Pn**	**18 54 28.8**	**0.0**
AKAS	**Kas**	**2.53**	**61**	*i* P	**Pn**	**18 54 30.7**	**-0.1**
AKAS				*i* S	**Sn**	**18 55 00.7**	**-1.4**
AKAS	**Kas**	**2.53**	**61**	*i* P	**Pn**	**18 54 30.7**	**-0.1**
AKAS				*i* S	**Sn**	**18 55 00.7**	**-1.4**
SMG	**Samos**	**2.66**	**360**	*e*PB	**Pn**	**18 54 33.5**	**+0.9**
SMG	**Samos**	**2.66**	**360**	*e*Pb	**Pn**	**18 54 33.5**	**+0.9**
ELL	**Elmali**	**3.00**	**55**	*e*PN	**Pn**	**18 54 38.3**	**+1.0**
ELL	**Elmali**	**3.00**	**55**	*e*Pn	**Pn**	**18 54 38.3**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**3.02**	**16**	*e*PN	**Pn**	**18 54 38.3**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.02**	**16**	*e*Pn	**Pn**	**18 54 38.3**	**+0.7**
ANKY	**Antikythira Is**	**3.02**	**287**	*e*PN	**Pn**	**18 54 39.0**	**+1.5**
ANKY	**Antikythira Is**	**3.02**	**287**	*e*Pn	**Pn**	**18 54 39.0**	**+1.5**
KYTH	**Kithira**	**3.35**	**293**	*e*PN	**Pn**	**18 54 42.8**	**+0.7**
KYTH	**Kithira**	**3.35**	**293**	*e*Pn	**Pn**	**18 54 42.8**	**+0.7**
CHOS	**Chios island**	**3.40**	**349**	*e*PN	**Pn**	**18 54 43.7**	**+0.9**
CHOS	**Chios island**	**3.40**	**349**	*e*Pn	**Pn**	**18 54 43.7**	**+0.9**
KORT	**Korkueli**	**3.44**	**54**	*i* P	**Pn**	**18 54 45.2**	**+1.8**
KORT				*i* S	**Sb**	**18 55 30.8**	**-1.7**
KORT	**Korkueli**	**3.44**	**54**	*i* P	**Pn**	**18 54 45.2**	**+1.8**
VLI	**Veliai**	**3.60**	**299**	*e*PN	**Pn**	**18 54 46.9**	**+1.4**
VLI	**Veliai**	**3.60**	**299**	*e*Pn	**Pn**	**18 54 46.9**	**+1.4**
KULA	**Kula-Manisa**	**3.76**	**22**	*e*PN	**Pn**	**18 54 47.8**	**+0.1**
KULA	**Kula-Manisa**	**3.76**	**22**	*e*Pn	**Pn**	**18 54 47.8**	**+0.1**
SLUM		**3.80**	**202**	P	**Pn**	**18 54 48.5**	**+0.3**
	baz=206						
SLUM		**3.80**	**202**	P	**Pn**	**18 54 48.5**	**+0.3**
DID	**Didima**	**3.83**	**311**	*e*PN	**Pn**	**18 54 49.5**	**+0.9**
DID	**Didima**	**3.83**	**311**	*e*Pn	**Pn**	**18 54 49.5**	**+0.9**
PTL	**Penteli**	**3.85**	**322**	*e*PN	**Pn**	**18 54 50.1**	**+1.1**
PTL	**Penteli**	**3.85**	**322**	*e*Pn	**Pn**	**18 54 50.1**	**+1.1**
BCK	**Bucak**	**3.86**	**50**	*e*PN	**Pn**	**18 54 50.1**	**+1.0**
BCK	**Bucak**	**3.86**	**50**	*e*Pn	**Pn**	**18 54 50.1**	**+1.0**
ATH	**Athens Observa**	**3.87**	**320**	*e*PN	**Pn**	**18 54 49.6**	**+0.4**
ATH	**Athens Observa**	**3.87**	**320**	*e*Pn	**Pn**	**18 54 49.6**	**+0.4**
SUTC	**Sutluce-Ispart**	**4.13**	**53**	*e*PN	**Pn**	**18 54 54.7**	**+1.8**
SUTC	**Sutluce-Ispart**	**4.13**	**53**	*e*Pn	**Pn**	**18 54 54.7**	**+1.8**
SIGR	**SIGRI**	**4.24**	**349**	*e*PN	**Pn**	**18 54 56.0**	**+1.7**
SIGR	**SIGRI**	**4.24**	**349**	*e*Pn	**Pn**	**18 54 56.0**	**+1.7**
LTK	**Loutraki**	**4.33**	**315**	*e*PN	**Pn**	**18 54 57.7**	**+2.2**
LTK	**Loutraki**	**4.33**	**315**	*e*Pn	**Pn**	**18 54 57.7**	**+2.2**
ITM	**Ithomi**	**4.53**	**300**	*e*PN	**Pn**	**18 54 59.8**	**+1.5**
ITM	**Ithomi**	**4.53**	**300**	*e*Pn	**Pn**	**18 54 59.8**	**+1.5**
GAZI	**Gazipasa**	**4.60**	**73**	*i* P	**Pn**	**18 54 59.0**	**-0.2**
GAZI				*i* S	**Sn**	**18 55 53.9**	**+0.9**
GAZI	**Gazipasa**	**4.60**	**73**	*i* P	**Pn**	**18 54 59.0**	**-0.2**
GAZI				*i* S	**Sn**	**18 55 53.9**	**+0.9**
GUR	**Goura**	**4.65**	**310**	*e*PN	**Pn**	**18 55 01.5**	**+1.5**
GUR	**Goura**	**4.65**	**310**	*e*Pn	**Pn**	**18 55 01.5**	**+1.5**
LKR	**Lokris**	**4.75**	**320**	*e*PN	**Pn**	**18 55 02.7**	**+1.4**
LKR	**Lokris**	**4.75**	**320**	*e*Pn	**Pn**	**18 55 02.7**	**+1.4**
ALT	**Altintas**	**4.78**	**32**	*e*PN	**Pn**	**18 55 01.1**	**-0.6**
ALT	**Altintas**	**4.78**	**32**	*e*Pn	**Pn**	**18 55 01.1**	**-0.6**
SMIA	**Simia**	**4.82**	**324**	*e*PN	**Pn**	**18 55 03.4**	**+1.1**
SMIA	**Simia**	**4.82**	**324**	*e*Pn	**Pn**	**18 55 03.4**	**+1.1**
KLV	**Kalavryta, Ach**	**4.84**	**310**	*e*PN	**Pn**	**18 55 03.9**	**+1.4**
KLV	**Kalavryta, Ach**	**4.84**	**310**	*e*Pn	**Pn**	**18 55 03.9**	**+1.4**
DSF	**Desfina**	**4.84**	**315**	*e*PN	**Pn**	**18 55 03.9**	**+1.3**
DSF	**Desfina**	**4.84**	**315**	*e*Pn	**Pn**	**18 55 03.9**	**+1.3**
KALE	**Kalithea**	**5.06**	**313**	*e*PN	**Pn**	**18 55 07.0**	**+1.4**
KALE	**Kalithea**	**5.06**	**313**	*e*Pn	**Pn**	**18 55 07.0**	**+1.4**
LAKA	**Lakka**	**5.06**	**311**	*e*PN	**Pn**	**18 55 07.2**	**+1.6**
LAKA	**Lakka**	**5.06**	**311**	*e*Pn	**Pn**	**18 55 07.2**	**+1.6**
DRO	**Drossia**	**5.07**	**306**	*e*PN	**Pn**	**18 55 07.2**	**+1.5**
DRO	**Drossia**	**5.07**	**306**	*e*Pn	**Pn**	**18 55 07.2**	**+1.5**
EFP	**Efpalio**	**5.22**	**312**	*e*PN	**Pn**	**18 55 09.3**	**+1.5**
EFP	**Efpalio**	**5.22**	**312**	*e*Pn	**Pn**	**18 55 09.3**	**+1.5**
KONT	**Konya--Tatoy**	**5.29**	**55**	*e*PN	**Pn**	**18 55 10.7**	**+1.9**
KONT	**Konya--Tatoy**	**5.29**	**55**	*e*Pn	**Pn**	**18 55 10.7**	**+1.9**
AGG	**Agios Georgios**	**5.38**	**319**	*e*PN	**Pn**	**18 55 12.3**	**+2.3**
AGG	**Agios Georgios**	**5.38**	**319**	*e*Pn	**Pn**	**18 55 12.3**	**+2.3**
MAKR	**Makrakomi, Fth**	**5.48**	**318**	*e*PN	**Pn**	**18 55 12.9**	**+1.5**
MAKR	**Makrakomi, Fth**	**5.48**	**318**	*e*Pn	**Pn**	**18 55 12.9**	**+1.5**
EVR	**Evrytania**	**5.60**	**315**	*e*PN	**Pn**	**18 55 15.0**	**+2.0**
EVR	**Evrytania**	**5.60**	**315**	*e*Pn	**Pn**	**18 55 15.0**	**+2.0**
PDO	**Prodromos**	**5.78**	**310**	*e*PN	**Pn**	**18 55 17.5**	**+2.1**
PDO	**Prodromos**	**5.78**	**310**	*e*Pn	**Pn**	**18 55 17.5**	**+2.1**
SWA2		**5.90**	**192**	P	**Pn**	**18 55 17.7**	**+0.6**
	baz=195						
SWA2				AMP		18 56 00.0	
	comp=E,40μm,0.5s,logA/T=4.9,baz=195						
SWA2				S	**Sn**	**18 56 21.1**	**-4.0**
	baz=195						
SWA2		**5.90**	**192**	P	**Pn**	**18 55 17.7**	**+0.6**
THL	**Klokotos Trika**	**5.95**	**321**	*e*PN	**Pn**	**18 55 19.9**	**+2.2**
THL	**Klokotos Trika**	**5.95**	**321**	*e*Pn	**Pn**	**18 55 19.9**	**+2.2**
BRTR	**Keskin Array B**	**7.14**	**47**	P	**Pn**	**18 55 35.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=214,slow=12,SNR=4.4						
BRTR				S	**Sn**	**18 56 59.2**	**+3.5**
	comp=E,0.1nm,0.3s,baz=212,slow=24,SNR=3.0						
SUZ		**7.23**	**134**	P	**Pn**	**18 55 34.5**	**-0.9**
	baz=134						
SUZ		**7.23**	**134**	P	**Pn**	**18 55 34.5**	**-0.9**
MMAI	**Mount Meron Ar**	**7.37**	**103**	P	**Pn**	**18 55 38.0**	**+0.6**
	comp=E,1.8nm,0.3s,baz=297,slow=11,SNR=10						
MMAI				S	**Sn**	**18 57 02.7**	**+1.4**
	comp=E,2.1nm,0.3s,baz=62,slow=22,SNR=5.6						
HFRF	**Wahat Farafira**	**7.96**	**171**	P	**Pn**	**18 55 45.0**	**-0.4**
	baz=171						
HFRF	**Wahat Farafira**	**7.96**	**171**	P	**Pn**	**18 55 45.0**	**-0.4**
EIL	**Elat**	**8.68**	**126**	P	**Pn**	**18 55 55.0**	**-0.3**
	comp=E,0.5nm,0.3s,baz=318,slow=2.6,SNR=9.0						
EIL				S	Sn	18 57 25.8	-7.9
	comp=E,0.7nm,0.3s,baz=63,slow=18,SNR=2.9						
GNI	**Garni**	**15.06**	**65**	LR	LR	19 04 33.4	
	comp=E,136nm,20.9s,baz=125,slow=42						
AKASG	**Malin Array Be**	**15.75**	**6**	P	**Pn**	**18 57 32.8**	**+1.4**
	comp=E,0.4nm,0.3s,baz=194,slow=10,SNR=3.7						
GERES	**GERESS Array B**	**16.88**	**329**	P	**Pn**	**18 57 46.6**	**+0.5**
	comp=E,0.1nm,0.3s,baz=138,slow=13,SNR=2.7						
ESDC	**Sonseca Array**	**24.87**	**290**	P	**P**	**18 59 13.3**	**+0.7**
	comp=E,0.1nm,0.4s,baz=76,slow=9.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**31.50**	**232**	P	**P**	**19 00 11.2**	**-0.8**
	comp=E,0.5nm,0.4s,baz=36,slow=8.9,SNR=12						
ARCES	**ARCESS Array B**	**34.56**	**359**	P	**P**	**19 00 39.4**	**+1.2**
	comp=E,4.0nm,1.2s,baz=164,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**42.67**	**57**	P	**P**	**19 01 46.5**	**-0.1**
	comp=E,1.9nm,0.6s,baz=292,slow=7.6,SNR=29						
ZALV	**Zalesovo Beam**	**44.08**	**46**	P	**P**	**19 01 56.9**	**-0.9**
	comp=E,2.1nm,0.5s,baz=266,slow=8.7,SNR=15						
SONM	**Songino Array**	**58.48**	**51**	P	**P**	**19 03 46.1**	**0.0**
	comp=E,0.6nm,0.8s,baz=297,slow=8.8,SNR=5.7						
SCHQ	**Schefferville**	**64.18**	**320**	P	**P**	**19 04 21.9**	**-2.5**
	comp=E,3.2nm,0.9s,baz=69,slow=8.6,SNR=2.6						

*ISK **24** 18:57:49.8,37°.17N×28°.87E,h14km,MD2.9*
*DDA **24** 18:57:50.0,37°.11N×28°.82E,h7km,MD2.6*
*ISCJB **24** 18:57:51.2±0.6,37°.15N±0°.04×28°.84E±0°.04,h25km±8km,*
Error ellipse: s-maj=7.1km s-min=5.9km az=15.9
*CSEM **24** 18:57:51.0±0.2,37°.19N×28°.87E,h20km,MD2.6,Error*
ellipse: s-maj=7.6km s-min=5.4km az=163.0
ISC 24 18:57:50.5±1.1,37°.18N±0°.03×28°.86E±0°.02,h17km±10km,
n21,σ0s80/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.37**	**214**	*i* P	**Pn**	**18 58 00.5**	**-0.6**
TURN				*i* S	**Sn**	**18 58 10.0**	**+2.0**
TURN	**Turunc**	**0.37**	**214**	*i* P	**Pn**	**18 58 00.5**	**-0.6**
YER	**Yerkesik**	**0.46**	**264**	*e*PG	**Pg**	**18 57 59.4**	**-0.5**
YER				*e*SG	**Sb**	**18 58 06.8**	**-0.1**
YER	**Yerkesik**	**0.46**	**264**	*e*Pg	**Pg**	**18 57 59.4**	**-0.5**
YER				*e*Sg	**Sb**	**18 58 06.8**	**-0.1**
DNZL	**Cakiroluk**	**0.53**	**16**	*i* P	**Pb**	**18 58 01.6**	**+0.1**
DNZL				*i* S	**Sn**	**18 58 11.6**	**-0.7**
DNZL	**Cakiroluk**	**0.53**	**16**	*i* P	**Pb**	**18 58 01.6**	**+0.1**
DNZL				*i* S	**Sn**	**18 58 11.6**	**-0.7**
GOLH	**Golhisar**	**0.56**	**84**	*i* P	**Pg**	**18 58 00.7**	**-1.1**
GOLH				*i* S	**Sb**	**18 58 10.5**	**+0.7**
GOLH	**Golhisar**	**0.56**	**84**	*i* P	**Pg**	**18 58 00.7**	**-1.1**
GOLH				*i*

GERES	**GERESS Array B**	**16.83**	**329**	P		**P**	**19 02 18.6**	**-0.2**
	0.1nm,0.3s,baz=141,slow=11,SNR=3.3							
SBF	**Sospel**	**17.32**	**306**	*eP*		**Pn**	**19 02 19.3**	**-3.5**
	24nm,1.0s							
MBDF	**Montbardon**	**18.11**	**308**	*eP*		**Pn**	**19 02 29.2**	**-3.5**
LPG	**La Plagne**	**18.46**	**310**	*eP*		**P**	**19 02 35.8**	**-1.3**
LPL	**La Plagne**	**18.49**	**310**	*eP*		**P**	**19 02 36.0**	**-1.2**
CABF	**La Chapelle**	**19.40**	**313**	*eP*		**Pn**	**19 02 49.4**	**+1.2**
HINF	**Hinteralfeld**	**19.58**	**317**	*eP*		**P**	**19 02 48.1**	**-0.9**
CDF	**Champ du Feu**	**19.68**	**319**	*eP*		**P**	**19 02 49.2**	**-0.9**
SMF	**Signal de Mont**	**20.79**	**311**	*eP*		**P**	**19 03 01.3**	**-0.8**
	3.6nm,0.4s							
SFTF	**Sexfontaines**	**20.82**	**316**	*eP*		**P**	**19 03 01.8**	**-0.6**
LOR	**Lormes**	**21.06**	**312**	*eP*		**P**	**19 03 04.2**	**-0.8**
	3.6nm,0.6s							
AVF	**Avril sur Loir**	**21.16**	**311**	*eP*		**P**	**19 03 04.8**	**-1.2**
SSF	**Saint Saulge**	**21.18**	**312**	*eP*		**P**	**19 03 05.3**	**-1.0**
	6.3nm,0.7s							
BAIF	**Baives**	**22.27**	**319**	*eP*		**P**	**19 03 16.7**	**-1.3**
	3.4nm,0.7s							
LDF	**La Druitiere**	**24.04**	**312**	*eP*		**P**	**19 03 33.8**	**-2.2**
TORD	**Torodi Ar. Bea**	**31.49**	**232**	P		**P**	**19 04 43.4**	**+0.4**
	0.6nm,0.5s,baz=34,slow=8.7,SNR=18							
ARCES	**ARCESS Array B**	**34.52**	**359**	P		**P**	**19 05 08.6**	**-0.3**
	1.8nm,1.1s,baz=181,slow=9.9,SNR=3.3							
BVAR	**Borovoye Array**	**35.43**	**46**	LR		LR	19 22 14.0	
	comp=Z,744nm,18.9s,baz=58,slow=40							
AAK	**Ala-Archa**	**37.48**	**64**	LR		LR	19 22 42.8	
	comp=Z,529nm,19.1s,baz=112,slow=39							
MKAR	**Makanchi Array**	**42.69**	**57**	P		**P**	**19 06 19.0**	**+1.2**
	1.9nm,0.6s,baz=293,slow=7.8,SNR=28							
ZALV	**Zalesovo Beam**	**44.08**	**46**	P		**P**	**19 06 29.0**	**+0.1**
	2.4nm,0.5s,baz=272,slow=8.4,SNR=16							
SONM	**Songino Array**	**58.49**	**51**	P		**P**	**19 08 18.3**	**+1.1**
	0.3nm,0.5s,baz=278,slow=6.8,SNR=3.6							
SCHQ	**Schefferville**	**64.13**	**320**	P		**P**	**19 08 53.9**	**-1.2**
	5.0nm,1.0s,baz=49,slow=11,SNR=2.8							

IDC 24 19:01:59.5±1.4, **8.46S**×**128.67E**, **h0**km, **mb3.8**/3,
mb1 3.9/5, **mb1mx3.6**/22, **mbtmp3.7**/5, **ML3.9**/2, **Error ellipse: s-maj=95.6km s-min=25.7km az=68.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.67**	**155**	Pn	Pn	19 04 59.6	-1.6
	0.9nm,0.3s,baz=333,slow=13,SNR=35						
WRA				Sn	Sn	19 07 13.0	-10
	2.3nm,0.3s,baz=333,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**15.94**	**162**	Pn	Pn	19 05 44.0	-1.3
	0.3nm,0.3s,baz=334,slow=10.0,SNR=21						
ASAR				Sn	Sn	19 08 36.2	-6.6
	0.6nm,0.3s,baz=159,slow=24,SNR=7.3						
STKA	**Stephens Creek**	**26.22**	**154**	P	P	19 07 37.4	+1.1
	1.2nm,0.5s,baz=331,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**68.73**	**328**	P	P	19 13 05.7	+0.6
	0.4nm,0.8s,baz=131,slow=5.9,SNR=4.1						
ILAR	**Eielson Array**	**95.22**	**25**	P	P	19 15 23.4	-1.3
	0.3nm,0.7s,baz=241,slow=5.0,SNR=4.9						

IDC 24 19:15:57.5±3.9, **18.57S**×**167.58E**, **h0**km, **mb3.8**/4,
mb1 3.9/5, **mb1mx3.6**/29, **mbtmp3.8**/5, **ML3.2**/1, **Error ellipse: s-maj=65.4km s-min=31.7km az=52.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.64**	**197**	Pn	Pn	19 16 54.5	-0.8
	1.9nm,0.3s,baz=62,slow=8.2,SNR=25						
DZM				Sn	Sn	19 17 38.5	-0.6
	12nm,0.3s,baz=149,slow=22,SNR=15						
DZM	**Mont Dzumac**	**3.64**	**197**	*eP*	Pn	19 16 53.9	-1.4
DZM				*eS*	Sn	19 17 37.8	-1.3
URZ	**Urewera**	**21.31**	**159**	P	P	19 20 45.9	0.0
	6.7nm,0.7s,baz=158,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**26.90**	**235**	P	P	19 21 41.7	+1.4
	0.9nm,0.5s,baz=78,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**31.38**	**267**	P	P	19 22 19.8	-0.5
	0.3nm,0.8s,baz=81,slow=6.0,SNR=3.1						
ASAR	**Alice Springs**	**31.77**	**255**	P	P	19 22 23.6	-0.3
	0.9nm,0.5s,baz=81,slow=8.7,SNR=20						

*MAN **24** 19:26:30, 13.23N×120.36E, h22km, mb4.8, ML3.8, MS3.8*
*ISCJB **24** 19:26:31.8±0.4, 13.15N±0.03×120.49E±0.05, h55km±5km, mb4.1/15, MS3.9/2, Error ellipse: s-maj=8.3km s-min=5.0km az=5.5*
*IDC **24** 19:26:34.8±1.2, 13.30N×120.83E, h71km±11km, mb3.8/15, mb1 3.9/15, mb1mx3.6/35, mbtmp4.1/15, MS3.9/2, Ms1 3.9/2, ms1mx3.2/34, Error ellipse: s-maj=34.1km s-min=12.2km az=64.0*
ISC 24 19:26:32.4±1.1, **13.17N**±0.04×**120.47E**±0.06, **h44**km±11km, **n44**, σ1§**14**/47, **mb4.1**/15, **4C-3D**, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.58**	**55**	*eP*	**Pn**	**19 26 43.1**	**-1.3**
PGP				*eS*	**Sn**	**19 26 51.4**	**-1.5**
SJMP	**San Jose**	**0.94**	**138**	*eP*	**Pn**	**19 26 49.4**	**+0.1**
TGY	**Tagaytay City**	**1.04**	**26**	P	**Pn**	**19 26 50.5**	**0.0**
	2µm,0.3s,baz=197,slow=3.6,SNR=133						
TGY				S	**Sn**	**19 27 04.3**	**+0.3**
	2µm,0.3s,baz=323,slow=21,SNR=13						
TGY	**Tagaytay City**	**1.04**	**26**	*eP*	**Pn**	**19 26 50.7**	**+0.1**
TGY				*eS*	**Sn**	**19 27 06.0**	**+2.0**
BUSP	**Coron**	**1.19**	**193**	*eP*	**Pn**	**19 26 52.6**	**+0.1**
BOAC	**Boac**	**1.37**	**78**	*eP*	**Pn**	**19 26 56.4**	**+1.3**
LQP	**Lukban**	**1.40**	**48**	*eP*	**Pn**	**19 26 55.5**	**-0.2**
OTRP	**Odiongan**	**1.71**	**118**	*eP*	**Pn**	**19 26 59.9**	**+0.1**
GQP	**Guinayangan**	**2.06**	**69**	*eP*	**Pn**	**19 27 05.4**	**+0.8**
GQP				*eS*	**Sn**	**19 27 32.3**	**+3.3**
AUQP	**San Andres**	**2.15**	**86**	*eP*	Pn	19 27 09.2	+3.4
ENPP	**El Nido**	**2.20**	**208**	*eP*	**Pn**	**19 27 06.6**	**+0.1**
CUYO	**Cuyo Island**	**2.36**	**167**	*eP*	**Pn**	**19 27 08.3**	**-0.4**
PCPH	**Palayan**	**2.46**	**14**	*eP*	**Pn**	**19 27 09.3**	**-0.7**
PCPH				*eS*	**Sn**	**19 27 37.6**	**-1.2**
RCP	**Roxas**	**2.74**	**125**	*eP*	Pn	19 27 19.4	+5.6
BALP	**Baler**	**2.78**	**23**	*eP*	**Pn**	**19 27 16.1**	**+1.7**
BCPH	**Baguio City Da**	**3.20**	**2**	*iP*	**Pn**	**19 27 20.4**	**0.0**
BCPH				*iS*	Sn	19 27 47.0	-10
BOLP	**Bolinao**	**3.24**	**351**	*eP*	Pn	19 27 23.5	+2.7
PPR	**Puerto Princes**	**3.77**	**207**	*eP*	**Pn**	**19 27 29.4**	**+1.3**
PPR				*eS*	**Sn**	**19 28 10.6**	**-0.7**
LLP	**Lapu-Lapu**	**4.44**	**129**	*eP*	Pn	19 27 41.8	+4.4
LLP				*eS*	**Sn**	**19 28 28.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.36**	**287**	P	**P**	**19 31 19.6**	**+3.3**
	4.0nm,0.9s,baz=97,slow=8.6,SNR=38						
CMAR				PcP	**PcP**	**19 35 19.8**	**+0.5**
	0.3nm,0.6s,baz=22,slow=1.0,SNR=4.2						
KSRS	**Korea Array**	**25.09**	**14**	LR	LR	19 41 42.5	
	comp=Z,120nm,18.6s,baz=297,slow=36						
TAPN	**Taplejung**	**33.69**	**300**	*eP*	**P**	**19 33 09.8**	**-0.1**
	2.5nm,0.4s						
ODAN	**Odare**	**33.82**	**299**	*eP*	**P**	**19 33 10.0**	**-0.9**
	9.3nm,0.7s						
JIRN	**Jiri**	**35.07**	**300**	*eP*	**P**	**19 33 21.8**	**-0.2**
	10nm,0.5s						
GUN	**Gumba**	**35.41**	**300**	*eP*	**P**	**19 33 24.9**	**+0.1**
	21nm,0.7s						
WRA	**Warramunga Arr**	**35.62**	**157**	P	**P**	**19 33 25.2**	**-1.0**
	1.6nm,0.6s,baz=341,slow=9.2,SNR=30						
PKI	**Pulchoki**	**35.71**	**299**	*eP*	**P**	**19 33 28.1**	**+0.7**
	5.9nm,0.3s						
DMN	**Daman**	**35.98**	**299**	*eP*	**P**	**19 33 30.3**	**+0.7**
	12nm,0.7s						
GKN	**Gorkha**	**36.49**	**299**	*eP*	**P**	**19 33 34.7**	**+0.9**
	3.5nm,0.4s						
SONM	**Songino Array**	**36.51**	**344**	P	**P**	**19 33 32.6**	**-1.1**
	2.7nm,0.6s,baz=162,slow=10,SNR=31						
DANN	**Dangsing**	**37.33**	**300**	*eP*	**P**	**19 33 42.0**	**+0.9**
	9.3nm,0.7s						
PYUN	**Piuthan**	**37.91**	**299**	*eP*	**P**	**19 33 47.3**	**+1.3**
	6.3nm,0.8s						
ASAR	**Alice Springs**	**38.89**	**160**	P	**P**	**19 33 54.5**	**+0.5**
	2.7nm,0.7s,baz=337,slow=6.8,SNR=42						
MKAR	**Makanchi Array**	**46.33**	**324**	P	**P**	**19 34 54.7**	**+0.6**
	2.8nm,0.7s,baz=123,slow=8.8,SNR=37						
STKA	**Stephens Creek**	**49.15**	**156**	P	**P**	**19 35 14.9**	**-1.1**
	1.7nm,0.8s,baz=32,slow=6.7,SNR=4.3						
AAK	**Ala-Archa**	**49.29**	**316**	P	**P**	**19 35 18.6**	**+1.4**
	0.5nm,0.5s,baz=89,slow=7.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**49.43**	**333**	P	**P**	**19 35 17.2**	**-0.7**
	2.1nm,0.4s,baz=118,slow=7.4,SNR=16						

KURBB	**Kurchatov Arra**	**50.51**	**327**	P		**P**	**19 35 26.4**	**+0.2**
	6.9nm,0.7s,baz=131,slow=7.4,SNR=124							
BVAR	**Borovoye Array**	**56.09**	**326**	P		**P**	**19 36 07.1**	**0.0**
	0.9nm,0.3s,baz=120,slow=10,SNR=12							
AKTO	**Aktyubinsk**	**62.48**	**320**	P		**P**	**19 36 51.5**	**+0.1**
	2.4nm,0.7s,baz=95,slow=8.8,SNR=11							
BRTR	**Keskin Array B**	**79.30**	**308**	P		**P**	**19 38 34.2**	**+0.4**
	0.8nm,0.8s,baz=65,slow=3.5,SNR=2.7							
ARCES	**ARCESS Array B**	**79.50**	**339**	P		**P**	**19 38 32.9**	**-1.3**
	1.5nm,0.9s,baz=81,slow=7.5,SNR=5.3							
ARCES				LR		LR	20 15 48.1	
	comp=Z,149nm,21.8s,baz=220,slow=37							
FINES	**FINESS Array B**	**80.64**	**331**	P		**P**	**19 38 39.6**	**-0.8**
	0.9nm,0.7s,baz=42,slow=5.9,SNR=6.3							
YKA	**Yellowknife Ar**	**93.35**	**22**	P		**P**	**19 39 40.9**	**-1.7**
	0.4nm,0.8s,baz=308,slow=4.3,SNR=7.7							

*ISCJB **24** 19:29:00.0±1.0, 10.7N±0.1×86.94W±0.07, h23km, mb3.1/4, Error ellipse: s-maj=17.2km s-min=5.3km az=32.7*
*CASC **24** 19:29:01.9±3.2, 10.71N×86.91W, h53km±999km, MD3.7*
*IDC **24** 19:29:09.0±3.8, 12.85N×85.91W, h0km, mb3.1/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.1/4, Error ellipse: s-maj=125.0km s-min=71.6km az=55.0*
ISC 24 19:29:00.7±1.2, **10.7N**±0.1×**86.95W**±0.09, **h23**km, **n16**, σ1§**61**/17, **mb3.2**/4, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBS2	**Las Lilas**	**1.48**	**83**	*i* P	**Pn**	**19 29 25.9**	**-0.2**
GBS2				*i* S	**Sn**	**19 29 44.3**	**-0.5**
GB1A	**Borinquen Arri**	**1.53**	**84**	*i* P	**Pn**	**19 29 26.6**	**-0.2**
HUEN		**1.84**	**24**	*eP*	Pb	19 29 36.1	+2.3
JCR	**Jicaral**	**1.98**	**113**	*eP*	**Pn**	**19 29 32.3**	**-0.6**
CNCH	**Conchagua**	**2.75**	**342**	*eP*	**Pn**	**19 29 44.4**	**+0.8**
CNCH				*eS*	**Sn**	**19 30 14.6**	**-1.6**
VSM	**San Miguel**	**3.05**	**335**	*eP*	**Pn**	**19 29 48.8**	**+0.9**
BUS	**Buena Vista**	**3.33**	**109**	*eP*	**Pn**	**19 29 52.5**	**+0.8**
BUS				*eS*	**Sn**	**19 30 30.0**	**-0.8**
TGUH	**Tegucigalpa,Un**	**3.40**	**355**	*eP*	**Pn**	**19 29 54.2**	**+1.7**
LFRS	**El Faro**	**3.61**	**325**	*eP*	**Pn**	**19 29 55.6**	**+0.2**
LFRS				*eS*	**Sn**	**19 30 32.7**	**-4.7**
RBDL	**Robledal**	**4.36**	**322**	*eP*	**Pn**	**19 30 07.0**	**+1.2**
TXAR	**Lajitas Array**	**24.28**	**322**	P	**P**	**19 34 18.3**	**+1.7**
	0.3nm,0.5s,baz=143,slow=14,SNR=2.4							
PDAR	**Pinedale Array**	**37.59**	**332**	P	**P**	**19 36 13.9**	**+0.1**
	0.3nm,0.7s,baz=133,slow=8.8,SNR=2.5							
YKA	**Yellowknife Ar**	**55.47**	**345**	P	**P**	**19 38 32.8**	**-0.6**
	0.1nm,0.6s,baz=157,slow=6.0,SNR=4.1							
ILAR	**Eielson Array**	**67.86**	**336**	P	**P**	**19 39 57.5**	**+0.6**
	0.2nm,0.5s,baz=142,slow=3.6,SNR=5.5							
ASAR	**Alice Springs**	**139.03**	**246**	PKP	PKPdf	19 48 42.2	+16
	0.2nm,0.8s,baz=117,slow=2.4,SNR=4.8							
WRA	**Warramunga Arr**	**139.21**	**252**	PKP	PKPdf	19 48 42.1	+15
	0.6nm,1.1s,baz=92,slow=2.4,SNR=5.3							

*NSSC **24** 19:54:55.1±3.0, 39.11N×40.44E, h0km±110km, MD2.4, ML2.9*
*DDA **24** 19:54:56.4, 38.91N×39.50E, h15km, MD3.3*
*ISK **24** 19:54:56.1, 38.92N×39.55E, h2km, MD3.5*
*CSEM **24** 19:54:57.2±0.2, 38.91N×39.52E, h2km, MD3.5, Error ellipse: s-maj=4.2km s-min=4.0km az=49.0*
ISC 24 19:54:56.8±1.1, **38.90N**±0.02×**39.55E**±0.02, **h2**km±10km, **n70**, σ0§**95**/92, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.12**	**268**	PG	**Pg**	**19 54 59.3**	**0.0**
PTK				SG	**Sg**	**19 55 01.6**	**+0.6**
PTK	**Pertek**	**0.12**	**268**	*i* Pg	**Pg**	**19 54 59.3**	**0.0**
PTK				*i* Sg	**Sg**	**19 55 01.6**	**+0.6**
ELZG	**Elazig**	**0.60**	**228**	*i* P	**Pg**	**19 55 07.4**	**-0.9**
ELZG				*i* S	**Sg**	**19 55 16.3**	**+0.3**
ELZG	**Elazig**	**0.60**	**228**	*i* P	**Pg**	**19 55 07.4**	**-0.9**
ELZG				*i* S	**Sg**	**19 55 16.3**	**+0.3**
ERZN	**Erzincan**	**0.70**	**11**	*e*PG	**Pg**	**19 55 09.4**	**-0.9**
BINT	**Bingol**	**0.73**	**91**	*e*Pg	**Pn**	**19 55 13.7**	**-0.7**
EUZM	**Uzumlu**	**0.82**	**8**	*i* P	**Pg**	**19 55 12.0**	**-0.5**
EUZM				*i* S	**Sg**	**19 55 24.1**	**+0.9**
EUZM	**Uzumlu**	**0.82**	**8**	*i* P	**Pg**	**19 55 12.0**	**-0.5**
EUZM				*i* S	**Sg**	**19 55 24.1**	**+0.9**
BNGB	**Bing¶ll**	**0.88**	**83**	*e*PG	**Pg**	**19 55 13.7**	**-0.2**
ILIC	**ilic-Erzincan**	**0.94**	**306**	*e*PG	**Pg**	**19 55 14.9**	**-0.1**
ILIC	**ilic-Erzincan**	**0.94**	**306**	*e*Pg	**Pg**	**19 55 14.9**	**-0.1**
DYBB	**Diyarbakir**	**1.05**	**154**	*e*PG	**Pg**	**19 55 17.4**	**+0.5**
DIYA	**Diyarbakir**	**1.07**	**155**	*i* P	**Pg**	**19 55 17.5**	**+0.2**
DIYA				*i* S	**Sn**	**19 55 34.5**	**+0.1**
DIYA	**Diyarbakir**	**1.07**	**155**	*i* P	**Pg**	**19 55 17.5**	**+0.2**
DIYA				*i* S	**Sn**	**19 55 34.5**	**+0.1**
DIY	**Diyarbakir**	**1.13**	**152**	*e*Pg	**Pg**	**19 55 17.4**	**-1.1**
KELT	**Kelkit**	**1.27**	**350**	*i* P	**Pg**	**19 55 19.8**	**-1.4**
KELT				*i* S	**Sg**	**19 55 37.9**	**+0.2**
KELT	**Kelkit**	**1.27**	**350**	*i* P	**Pg**	**19 55 19.8**	**-1.4**
KELT				*i* S	**Sg**	**19 55 37.9**	**+0.2**
AKCD	**Akcadag**	**1.41**	**245**	*i* P	**Pn**	**19 55 21.1**	**-2.6**
AKCD				*i* S	**Sg**	**19 55 41.8**	**-0.4**
AKCD	**Akcadag**	**1.41**	**245**	*i* P	**Pn**	**19 55 21.1**	**-2.6**
AKCD				*i* S	**Sg**	**19 55 41.8**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.49**	**119**	*e*PN	**Pn**	**19 55 25.0**	**+0.3**
VRTB	**Varto-Mus**	**1.51**	**79**	*e*PN	**Pn**	**19 55 25.0**	**0.0**
VRTB	**Varto-Mus**	**1.51**	**79**	*e*Pn	**Pn**	**19 55 25.0**	**0.0**
BAYT	**Ayd¨¬ntepe-Bay**	**1.56**	**17**	*e*PN	**Pn**	**19 55 25.9**	**+0.1**
BAYT	**Ayd¨¬ntepe-Bay**	**1.56**	**17**	*e*Pn	**Pn**	**19 55 25.9**	**+0.1**
GUMT	**Gumushane**	**1.56**	**358**	*e*PN	**Pn**	**19 55 25.2**	**-0.6**
GUMT	**Gumushane**	**1.56**	**358**	*e*Pn	**Pn**	**19 55 25.2**	**-0.6**
URFA	**Urfa**	**1.56**	**202**	*e*PN	**Pn**	**19 55 26.0**	**+0.3**
URFA	**Urfa**	**1.56**	**202**	*e*Pn	**Pn**	**19 55 26.0**	**+0.3**
MAZI	**Mazidag**	**1.60**	**154**	*e*PN	**Pn**	**19 55 26.3**	**+0.1**
MAZI	**Mazidag**	**1.60**	**154**	*e*Pn	**Pn**	**19 55 26.3**	**+0.1**
DARE	**Darende-Malaty**	**1.65**	**259**	*e*PN	**Pn**	**19 55 27.2**	**+0.2**
DARE	**Darende-Malaty**	**1.65**	**259**	*e*Pn	**Pn**	**19 55 27.2**	**+0.2**
BTMT	**Batman**	**1.67**	**114**	*e*PN	**Pn**	**19 55 27.8**	**+0.5**
BTMT	**Batman**	**1.67**	**114**	*e*Pn	**Pn**	**19 55 27.8**	**+0.5**
SUSE	**Susehri**	**1.68**	**322**	*i* P	**Pn**	**19 55 26.6**	**-0.8**
SUSE				*i* S	**Sg**	**19 55 51.3**	**+0.6**
SUSE	**Susehri**	**1.68**	**322**	*i* P	**Pn**	**19 55 26.6**	**-0.8**
SUSE				*i* S	**Sg**	**19 55 51.3**	**+0.6**
BEST	**Besiri**	**1.68**	**126**	*i* P	**Pn**	**19 55 27.3**	**-0.1**
BEST				*i* S	**Sg**	**19 55 52.2**	**+1.3**
EZM	**Erzurum**	**1.73**	**54**	*e*PN	**Pn**	**19 55 27.8**	**-0.3**
ERZM	**Erzurum**	**1.73**	**54**	*i* P	**Pn**	**19 55 28.5**	**+0.3**
ERZM	**Erzurum**	**1.73**	**54**	*i* P	**Pn**	**19 55 28.5**	**+0.3**
MARD	**Mardin**	**1.85**	**148**	*i* P	**Pn**	**19 55 30.4**	**+0.7**
MARD				*i* S	**Sg**	**19 55 56.3**	**0.0**
KBSD	**Kabsdagh**	**2.05**	**157**	*e*P	**Pn**	**19 55 32.5**	**+0.2**
KBSD				*e*S	**Sn**	**19 55 57.6**	**-0.9**
KBSD				AML	AML	19 56 03.9	
	comp=E,121nm,0.5s						
KBSD				AML	AML	19 56 05.8	
	comp=Z,176nm,0.5s						
KBSD				AML	AML	19 56 08.1	
	comp=N,107nm,0.5s						
KBSD	**Kabsdagh**	**2.05**	**157**	*e*P	**Pn**	**19 55 32.5**	**+0.2**
	SNR=45						
KBSD				*e*S	**Sn**	**19 55 57.6**	**-0.9**
	comp=N,107nm,0.5s,SNR=40						
KTUT	**Trabzon**	**2.10**	**4**	*e*PN	**Pn**	**19 55 33.9**	**+0.9**
KTUT	**Trabzon**	**2.10**	**4**	*e*Pn	**Pn**	**19 55 33.9**	**+0.9**
RSDY	**Resadiye-TOKAT**	**2.28**	**312**	*e*PN	**Pn**	**19 55 35.8**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.28**	**312**	*e*Pn	**Pn**	**19 55 35.8**	**+0.3**
KMRS	**Kahramanmaras**	**2.51**	**237**	*e*PN	**Pn**	**19 55 39.3**	**+0.6**
KMRS	**Kahramanmaras**	**2.51**	**237**	*e*Pn	**Pn**	**19 55 39.3**	**+0.6**
SFNV	**Sufian**	**2.51**	**170**	*e*P	**Pb**	**19 55 41.2**	**-1.5**
SFNV				*e*S	**Sb**	**19 56 13.3**	**-0.8**
SFNV				AML	AML	19 56 23.5	
	comp=E,112nm,0.5s						
SFNV				AML	AML	19 56 27.3	
	comp=N,60nm,0.4s						
SFNV				AML	AML	19 56 28.4	
	comp=Z,107nm,0.4s						
SFNV	**Sufian**	**2.51**	**170**	*e*P	**Pb**	**19 55 41.2**	**-1.5**
	SNR=45						
SFNV				*e*S	**Sb**	**19 56 13.3**	**-0.8**
	comp=Z,107nm,0.4s,SNR=40						
SIRT	**Sirnak**	**2.67**	**121**	*e*PN	**Pn**	**19 55 41.6**	**+0.7**
SIRT	**Sirnak**	**2.67**	**121**	*e*Pn	**Pn**	**19 55 41.6**	**+0.7**
AGRB	**Hanur-Agry**	**2.76**	**75**	*e*PN	**Pn**	**19 55 42.9**	**+0.6**
AGRB	**Hanur-Agry**	**2.76**	**75**	*e*Pn	**Pn**	**19 55 42.9**	**+0.6**
BNN	**Bunyan**	**2.89**	**270**	*e*PN	**Pn**	**19 55 45.5**	**+1.4**
BNN	**Bunyan**	**2.89**	**270**	*e*Pn	**Pn**	**19 55 45.5**	**+1.4**
MNKR	**ALMNKUR**	**2.96**	**184**	*e*P	**Pn**	**19 55 45.5**	**+0.6**
MNKR				*e*S	**Sb**	**19 56 26.6**	**-0.2**
MNKR				AML	AML	19 56 37.7	
	comp=N,67nm,0.6s						
MNKR				AML	AML	19 56 39.5	
	comp=Z,151nm,0.3s						
MNKR				AML	AML	19 56 39.6	
	comp=E,173nm,0.5s						
MNKR	**ALMNKUR**	**2.96**	**184**	*e*P	**Pn**	**19 55 45.5**	**+0.6**
	SNR=45						
KOZT	**Kozan**	**3.26**	**245**	*e*PN	**Pn**	**19 55 49.4**	**+0.4**
KOZT	**Kozan**	**3.26**	**245**	*e*Pn	**Pn**	**19 55 49.4**	**+0.4**
YOZ	**Yozgat**	**3.37**	**284**	*e*PN	**Pn**	**19 55 51.7**	**+1.1**
YOZ	**Yozgat**	**3.37**	**284**	*e*Pn	**Pn**	**19 55 51.7**	**+1.1**
CLDR	**Caldiran**	**3.41**	**84**	*e*PN	**Pn**	**19 55 52.9**	**+1.6**
CLDR	**Caldiran**	**3.41**	**84**	*e*Pn	**Pn**	**19 55 52.9**	**+1.6**
CUKT	**Cukurca**	**3.60**	**116**	*e*PN	**Pn**	**19 55 55.4**	**+1.6**
CUKT	**Cukurca**	**3.60**	**116**	*e*Pn	**Pn**	**19 55 55.4**	**+1.6**
BTCH	**Batrach**	**3.77**	**222**	*e*P	**Pb**	**19 56 04.3**	**+0.2**
BTCH				*e*S	**Sb**	**19 56 53.5**	**+3.3**
BTCH				AML	AML	19 57 01.9	
	comp=Z,55nm,0.6s						
BTCH				AML	AML	19 57 03.2	
	comp=E,48nm,0.6s						
BTCH				AML	AML	19 57 09.5	
	comp=N,29nm,0.6s						
CORM	**Corum**	**4.01**	**290**	*e*PN	**Pn**	**19 56 01.4**	**+1.9**
CORM	**Corum**	**4.01**	**290**	*e*Pn	**Pn**	**19 56 01.4**	**+1.9**

*IDC **24** 19:59:52.1±1.0, 37.52N×35.70E, h0km, mb3.5/4, mb1 3.6/10, mb1mx3.4/33, mbtmp3.5/10, ML3.5/6, Error ellipse: s-maj=20.9km s-min=10.7km az=64.0*
*ISK **24** 19:59:53.7, 37.55N×35.60E, h2km, ML3.6*
*ISCJB **24** 19:59:54.4±0.5, 37.59N±0.02×35.61E±0.03, h8km±4km, mb3.8/12, Error ellipse: s-maj=4.2km s-min=3.3km az=159.0*
*DDA **24** 19:59:54.8, 37.48N×35.63E, h15km, MD3.7*
*CSEM **24** 19:59:54.8±0.2, 37.59N×35.62E, h2km, mb4.2/5, Error ellipse: s-maj=5.2km s-min=4.5km az=171.0*
ISC 24 19:59:55.1±0.8, **37.55N**±0.02×**35.64E**±0.02, **h12**km±6km, **n134**, σ1§**60**/150, **mb4.0**/12, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.17**	**115**	PG	**Pg**	**19 59 58.5**	**-0.4**
KOZT				*e*SG	**Sg**	**20 00 02.2**	**+0.6**
KOZT	**Kozan**	**0.17**	**115**	*i* Pg	**Pg**	**19 59 58.5**	**-0.4**
KOZT				*e*Sg	**Sg**	**20 00 02.2**	**+0.6**
KARA	**Karaisali**	**0.55**	**238**	*e*PG	**Pg**	**20 00 04.2**	**-1.5**
KARA				*e*SG	**Sg**	**20 00 12.9**	**-0.1**
KARA	**Karaisali**	**0.55**	**238**	*e*Pg	**Pg**	**20 00 04.2**	**-1.5**
KARA				*e*Sg	**Sg**	**20 00 12.9**	**-0.1**
CEYT	**Ceyhan**	**0.55**	**170**	*e*PG	**Pg**	**20 00 04.8**	**-1.0**
CEYT	**Ceyh

9.8nm,0.3s,baz=356,slow=21,SNR=5.4
ALT Altintas 4.60 291 *e*PN **Pn 20 01 06.2 +1.7**
ALT Altintas 4.60 291 *e*Pn **Pn 20 01 06.2 +1.7**
ELL Elmali 4.64 262 *e*PN **Pn 20 01 07.0 +1.8**
ELL Elmali 4.64 262 *e*Pn **Pn 20 01 07.0 +1.8**
TVSB Tavsanli 5.20 293 *e*PN **Pn 20 01 14.8 +2.0**
TVSB Tavsanli 5.20 293 *e*Pn **Pn 20 01 14.8 +2.0**
ASF Jabal al Asfar 5.47 169 Pn Pn 20 01 12.9 -3.6
0.2nm,0.3s,baz=301,slow=12,SNR=2.5
ASF Lg Lg 20 02 45.1
0.6nm,0.3s,baz=87,slow=22,SNR=1.5
IDI Anoyia 8.95 259 Pn **Pn 20 02 05.0 +0.7**
1.5nm,0.3s,baz=84,slow=13,SNR=7.5
AKASG Malin Array Be 13.92 343 Pn **Pn 20 03 10.9 -1.2**
0.1nm,0.3s,baz=161,slow=11,SNR=4.1
GERES GERESS Array B 19.50 312 P **P 20 04 22.5 +0.4**
0.1nm,0.3s,baz=113,slow=9.3,SNR=7.8
MBDF Montbardon 22.81 297 *e*P **P 20 04 58.0 +0.1**
21nm,1.3s
MBDF Montbardon 22.81 297 *e*P **P 20 04 58.0 +0.1**
10nm,1.3s
LPG La Plagne 22.95 299 *e*P **P 20 04 58.7 -0.7**
24nm,1.3s
LPG La Plagne 22.95 299 *e*P **P 20 04 58.7 -0.7**
12nm,1.3s
LPL La Plagne 22.96 299 *e*P **P 20 05 00.0 +0.5**
LPL La Plagne 22.96 299 *e*P **P 20 05 00.0 +0.5**
CDF Champ du Feu 23.28 307 *e*P **P 20 05 00.2 -2.4**
HINF Hinteralfeld 23.39 305 *e*P **P 20 05 01.4 -2.2**
2.7nm,0.6s
HINF Hinteralfeld 23.39 305 *e*P **P 20 05 01.4 -2.2**
1.4nm,0.6s
ORIF Oris-en-Rattie 23.46 298 *e*P **P 20 05 05.2 +0.7**
5.6nm,0.8s
ORIF Oris-en-Rattie 23.46 298 *e*P **P 20 05 05.2 +0.7**
2.8nm,0.8s
CABF La Chapelle 23.61 302 *e*P **P 20 05 04.8 -1.1**
CABF La Chapelle 23.61 302 *e*P **P 20 05 04.8 -1.1**
HAU Haudompre 23.77 305 *e*P **P 20 05 05.3 -2.0**
10nm,1.0s
HAU Haudompre 23.77 305 *e*P **P 20 05 05.3 -2.0**
5.2nm,1.0s
VIVF Saint-Julien-l 24.31 297 *e*P **P 20 05 11.3 -1.1**
VIVF Saint-Julien-l 24.31 297 *e*P **P 20 05 11.3 -1.1**
PAGF Fort de Pagny 24.31 306 *e*P **P 20 05 10.0 -2.4**
FINES FINESS Array B 24.66 349 P **P 20 05 14.5 -0.8**
1.6nm,0.9s,baz=131,slow=13,SNR=4.4
SFTF Sexfontaines 24.67 305 *e*P **P 20 05 13.9 -1.7**
SFTF Sexfontaines 24.67 305 *e*P **P 20 05 13.9 -1.7**
MEZF Maizieres J'vi 24.73 306 *e*P **P 20 05 15.0 -1.2**
8.1nm,0.7s
MEZF Maizieres J'vi 24.73 306 *e*P **P 20 05 15.0 -1.2**
4.1nm,0.7s
SMF Signal de Mont 25.14 301 *e*P **P 20 05 18.2 -1.7**
14nm,1.1s
SMF Signal de Mont 25.14 301 *e*P **P 20 05 18.2 -1.7**
7.1nm,1.1s
LOR Lormes 25.24 303 *e*P **P 20 05 17.0 -3.8**
LOR Lormes 25.24 303 *e*P **P 20 05 17.0 -3.8**
SSF Saint Saulge 25.44 302 *e*P **P 20 05 19.6 -3.0**
SSF Saint Saulge 25.44 302 *e*P **P 20 05 19.6 -3.0**
AVF Avril sur Loir 25.49 302 *e*P **P 20 05 20.7 -2.4**
11nm,1.0s
BGF Bois d'Agland 25.80 301 *e*P **P 20 05 26.8 +0.9**
BGF Bois d'Agland 25.80 301 *e*P **P 20 05 26.8 +0.9**
RJF Les Rejaudoux 26.58 298 *e*P **P 20 05 34.7 +1.7**
RJF Les Rejaudoux 26.58 298 *e*P **P 20 05 34.7 +1.7**
MKAR Makanchi Array 35.34 60 P **P 20 06 50.6 +0.4**
0.4nm,0.7s,baz=283,slow=7.1,SNR=3.3
TORD Torodi Ar. Bea 38.79 240 P **P 20 07 18.4 -1.4**
0.8nm,0.9s,baz=45,slow=7.7,SNR=6.6
CMAR Chiang Mai Arr 58.00 91 P **P 20 09 45.1 -2.8**
0.2nm,0.8s,baz=310,slow=6.7,SNR=4.6

KRSC 24 20:07:42.7±2.0, 51°30N×158°17E, h100km±8km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**1.10**	**351**	*i* P	Pn	20 08 03.8	-0.5
ASAK				*e*S	Sn	20 08 24.4	+3.8
RUS	**Russkaya**	**1.16**	**11**	*e*P	Pn	20 08 04.3	-0.5
RUS				*e*S	Sn	20 08 25.2	+3.7
MTVR	**Mutnovka**	**1.19**	**1**	*e*P	Pn	20 08 05.2	-0.2
MTVR				*e*S	Sn	20 08 26.5	+4.0
UGLR	**Uglovaya**	**1.96**	**12**	*e*P	Pn	20 08 16.3	+1.5
AVH	**Avacha**	**2.00**	**10**	*e*P	Pn	20 08 16.9	+1.5
SMAR	**Somma**	**2.00**	**11**	*e*P	Pn	20 08 16.6	+1.0
KOK	**Koryaka**	**2.02**	**8**	*e*P	Pn	20 08 17.5	+1.9
SDLR	**Sedlovina**	**2.03**	**12**	*e*P	Pn	20 08 16.6	+0.8
KRER	**Koryakskii**	**2.04**	**10**	*e*P	Pn	20 08 17.3	+1.2
KRX	**Arik**	**2.08**	**8**	*e*P	Pn	20 08 17.6	+1.0
GNL	**Ganaly**	**2.40**	**357**	*e*P	Pn	20 08 21.9	+1.2

*CSEM **24** 20:15:20.9±0.2, 45°78N×14°20E, h20km, ML1.7/5, Error ellipse: s-maj=6.0km s-min=3.6km az=34.0*
LJU 24 20:15:21.1, 45°78N×14°21E, h16km, ML1.1, 4C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.15**	**319**	*i* Pg	Pg	20 15 25.4	+0.1
JAVS				*i* Sg	Sg	20 15 28.3	+0.2
JAVS	comp=Z,62nm,0.1s						
JAVS	**Javornik**	**0.15**	**319**	*i* Pg	Pg	20 15 25.4	+0.1
JAVS	comp=Z,62nm,0.1s			*i* Sg	Sg	20 15 28.3	+0.2
CEY	**Cerknica**	**0.16**	**104**	⇑*i* Pg	Pg	20 15 25.3	+0.1
CEY				*i* Sg	Sg	20 15 28.4	+0.4
CEY	comp=Z,6.0nm,0.1s						
CEY	**Cerknica**	**0.16**	**104**	⇑*i* Pg	Pg	20 15 25.3	+0.1
CEY	comp=Z,6.0nm,0.1s			*i* Sg	Sg	20 15 28.4	+0.4
SKDS	**Skadanscina**	**0.27**	**211**	⇓*i* Pg	Pg	20 15 26.8	-0.1
SKDS				*i* Sg	Sg	20 15 31.4	+0.4
SKDS	comp=Z,24nm,0.1s						
SKDS	**Skadanscina**	**0.27**	**211**	⇓*i* Pg	Pg	20 15 26.8	-0.2
SKDS	comp=Z,24nm,0.1s			*i* Sg	Sg	20 15 31.4	+0.5
KNDS	**Knezji Dol**	**0.28**	**154**	*i* Pg	Pg	20 15 27.1	0.0
KNDS				*i* Sg	Sg	20 15 31.8	+0.5
KNDS	**Knezji Dol**	**0.28**	**154**	*i* Pg	Pg	20 15 27.1	-0.1
KNDS				*i* Sg	Sg	20 15 31.8	+0.5
CRNS	**Crni Vrh**	**0.31**	**7**	*i* Pg	Pg	20 15 27.8	+0.2
CRNS	comp=Z,6.0nm,0.1s						
TRI	**Trieste**	**0.32**	**258**	⇓*e*Pg	Pg	20 15 27.6	-0.2
TRI				*e*Sg	Sg	20 15 32.6	+0.3
TRI	**Trieste**	**0.32**	**258**	*e*P	Pg	20 15 27.6	-0.2
TRI				*e*S	Sg	20 15 32.7	+0.4
VOJS	**Vojsko**	**0.34**	**318**	⇑*i* Pg	Pg	20 15 28.3	0.0
VOJS				*i* Sg	Sg	20 15 33.8	+0.5
VOJS	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.34**	**318**	⇑*i* Pg	Pg	20 15 28.3	0.0
VOJS	comp=Z,4.0nm,0.1s			*i* Sg	Sg	20 15 33.8	+0.5
VISS	**Visnje**	**0.44**	**86**	*i* Pg	Pg	20 15 30.2	+0.2
VISS				*i* Sg	Sg	20 15 36.4	+0.3
VISS	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**0.44**	**86**	*i* Pg	Pg	20 15 30.2	+0.2
VISS	comp=Z,6.0nm,0.1s			*i* Sg	Sg	20 15 36.4	+0.3
SABO	**M.te Sabotino**	**0.47**	**296**	⇓*e*Pg	Pg	20 15 30.3	-0.3
SABO				*e*Sg	Sg	20 15 37.1	+0.1
SABO	**M.te Sabotino**	**0.47**	**296**	*e*P	Pg	20 15 30.3	-0.3
SABO				*e*Sg	Sg	20 15 37.1	+0.1
VNDS	**Vrh nad Dolski**	**0.47**	**46**	⇓*i* Pg	Pb	20 15 31.1	-0.1
VNDS				*i* Sg	Sg	20 15 37.3	+0.2
VNDS	comp=Z,2.0nm,0.1s						
VINO	**Villanova**	**0.81**	**307**	*e*Pg	Pb	20 15 36.5	-0.4
VINO				*e*Sg	Sb	20 15 48.0	+0.4
VINO	**Villanova**	**0.81**	**307**	*e*P	Pb	20 15 36.5	-0.3
VINO				*e*Sg	Sb	20 15 48.0	+0.4
NVLJ	**Novalja**	**1.30**	**159**	*e*Pg	Pg	20 15 46.2	+0.1
NVLJ				Sg	Sg	20 16 04.5	+1.5
NVLJ	**Novalja**	**1.30**	**159**	*e*Pg	Pg	20 15 46.2	+0.1
NVLJ				Sg	Sg	20 16 04.5	+1.4

*MAN **24** 20:19:50, 13°27N×120°73E, h33km, mb4.4, ML3.3, MS3.1*
*ISCJB **24** 20:19:51.7±0.6, 13°15N±0°04×120°71E±0°07, h25km, mb3.4/5, Error ellipse: s-maj=9.7km s-min=6.0km az=1.0*
*IDC **24** 20:19:56.0±2.0, 13°20N×121°02E, h57km±27km, mb3.1/5, mb1 3.3/5, mb1mx3.0/48, mbtmp3.4/5, Error ellipse: s-maj=53.4km s-min=18.7km az=58.0*
ISC 24 20:19:52.8±0.8, 13°14N±0°04×120°87E±0°08, h25km, n13, σ1§39/15, mb3.4/5, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.37**	**13**	⇓*e*P	**Pb**	**20 20 00.6**	**-0.3**
PGP				*i* S	**Sb**	**20 20 06.5**	**0.0**
SJMP	**San Jose**	**0.72**	**160**	*e*P	**Pn**	**20 20 06.9**	**-0.6**
SJMP				*e*S	**Sn**	**20 20 18.7**	**+1.0**
TGY	**Tagaytay City**	**0.96**	**4**	P	**Pb**	**20 20 12.2**	**+1.3**
TGY	177nm,0.3s,baz=207,slow=7.4,SNR=4.5			S	**Sn**	**20 20 26.0**	**+2.3**
BOAC	**Boac**	**1.00**	**72**	*e*P	**Pb**	**20 20 12.6**	**+1.1**
LBPH	**Los Banos**	**1.05**	**17**	⇓*e*P	**Pn**	**20 20 09.3**	**-2.7**
LQP	**Lukban**	**1.16**	**34**	⇓*e*P	Pn	20 20 09.0	-4.7
OTRP	**Odiongan**	**1.37**	**124**	*e*P	**Pb**	**20 20 17.8**	**0.0**
ENPP	**El Nido**	**2.39**	**216**	*e*P	**Pn**	**20 20 28.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**21.74**	**287**	P	**P**	**20 24 44.2**	**+1.6**
WRA	**Warramunga Arr**	**35.45**	**158**	P	**P**	**20 26 46.5**	**-0.8**
ASAR	**Alice Springs**	**38.74**	**161**	P	**P**	**20 27 15.3**	**0.0**
MKAR	**Makanchi Array**	**46.58**	**324**	P	**P**	**20 28 18.8**	**+0.1**
KURBB	**Kurchatov Arra**	**50.74**	**326**	P	**P**	**20 28 50.0**	**-0.6**

*IDC **24** 20:43:52.0±0.7, 3°37S×131°30E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.2/31, mbtmp4.3/12, MS3.4/4, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=34.1km s-min=14.2km az=70.0*
*ISCJB **24** 20:43:53.5±0.3, 3°52S±0°04×131°14E±0°04, h24km, mb4.3/22, MS3.5/3, Error ellipse: s-maj=5.8km s-min=4.5km az=139.9*
*BJI **24** 20:43:54.5, 3°23S×131°22E, h22km, mb4.3/10*
*DJA **24** 20:43:57.9±1.4, 3°S±3°×13°1E±°, h39km±16km, M4.6/10, mb5.0/7, mB5.2/2, MLv4.4/10, Mw(mB)4.6/2*
*NEIC **24** 20:43:57.1±0.3, 3°38S×131°25E, h35km, mb4.5/10, Error ellipse: s-maj=9.1km s-min=6.3km az=70.0*
ISC 24 20:43:55.0±0.4, 3°51S±0°04×131°27E±0°04, h24km, n90, σ1§75/89, mb4.4/22, MS3.4/3, 6C-8D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.14**	**59**	P	**Pb**	**20 44 16.4**	**+0.3**
FAKI	**Fak Fak**	**1.14**	**59**	*e*Pg	**Pb**	**20 44 16.7**	**+0.6**
FAKI				*e*Sg	**Sn**	**20 44 26.0**	**-4.5**
BNDI	**Bandanaira**	**1.69**	**233**	P	**Pb**	**20 44 25.5**	**+0.1**
MSAI	**Masohi**	**2.34**	**274**	P	**Pn**	**20 44 34.6**	**+2.6**
KMPI	**Kaimana, Papua**	**2.44**	**94**	P	**Pb**	**20 44 36.5**	**-1.7**
SWI	**Sorong**	**2.63**	**360**	P	**Pn**	**20 44 35.5**	**-0.5**
MWPI	**Manokwari, Pap**	**3.77**	**47**	P	x	20 44 54.0	
MWPI				S	x	20 45 41.1	
SAUI	**Saumlaki**	**4.44**	**180**	S	Sn	20 45 58.9	+7.0
LBMI	**Labuha**	**4.72**	**307**	P	**Pn**	**20 45 04.3**	**-0.5**
SRPI	**Serui, Papua**	**5.23**	**72**	S	**Sn**	**20 46 10.9**	**-0.4**
BAKI	**Biak**	**5.36**	**65**	P	**Pn**	**20 45 15.8**	**+2.3**
SANI	**Sanana**	**5.47**	**285**	P	**Pn**	**20 45 14.5**	**-0.5**
SANI	241nm,0.9s,0.8nm 32nm,0.7s,0.1nm			S	**Sn**	**20 46 13.5**	**-3.8**
SMPI	**Sarmi**	**7.59**	**79**	P	**Pn**	**20 45 47.1**	**+3.0**
KDU	**Kakadu**	**9.20**	**173**	⇑P	**Pn**	**20 46 05.9**	**-0.3**
GTOI	**Gorontalo**	**9.22**	**296**	P	**Pn**	**20 46 08.4**	**+1.8**
MTN	**Manton Dam**	**9.27**	**181**	⇓P	**Pn**	**20 46 07.1**	**-0.2**
MTN				⇓S	**Sn**	**20 47 48.4**	**-2.5**
SOEI	**Soe**	**9.32**	**228**	P	Pn	20 46 12.4	+4.4
SOEI	**Soe**	**9.32**	**228**	*e*Pn	**Pn**	**20 46 10.9**	**+2.9**
JAY	**Jayapura**	**9.48**	**84**	LR	LR	20 50 15.9	
APSI	**Ampana**	**9.95**	**285**	P	**Pn**	**20 46 17.1**	**+0.5**
KNRA	**Kununurra**	**12.34**	**191**	⇓P	**Pn**	**20 46 46.8**	**-2.5**
COEN	**Coen**	**15.68**	**132**	⇑P	**Pn**	**20 47 34.8**	**+0.2**
WRAB	**Tennant Creek**	**16.60**	**170**	*e*Pn	Pn	20 47 42.1	-4.2
WRA	**Warramunga Arr**	**16.61**	**170**	Pn	**Pn**	**20 47 42.5**	**-3.8**
WRA				Sn	Sn	20 50 40.1	-10
WRA	**Warramunga Arr**	**16.61**	**170**	Pn	**Pn**	**20 47 42.5**	**-3.8**
WRA				Sn	Sn	20 50 40.1	-10
JAGI	**Jajag, Banyuwa**	**17.72**	**253**	⇑P	**Pn**	**20 48 00.6**	**+0.3**
QIS	**Mount Isa**	**18.79**	**155**	⇓P	**Pn**	**20 48 14.8**	**+1.4**
AS31	**Alice Springs**	**20.20**	**173**	*e*P	Pn	20 48 30.0	-0.2
ASAR	**Alice Springs**	**20.20**	**173**	P	**P**	**20 48 29.9**	**+1.7**
ASAR				S	**S**	**20 52 07.9**	**-6.1**
ASAR	**Alice Springs**	**20.20**	**173**	P	**P**	**20 48 29.9**	**+1.7**
ASAR				S	**S**	**20 52 07.9**	**-6.1**
KSM	**Kuching**	**21.53**	**283**	*e*P	**P**	**20 48 44.1**	**+1.4**
KSM	**Kuching**	**21.53**	**283**	⇑P	**P**	**20 48 44.6**	**+2.0**
WRKA	**Warakurna**	**21.59**	**187**	⇓P	**P**	**20 48 43.8**	**+0.6**
CTA	**Charters Tower**	**22.02**	**140**	P	**P**	**20 48 50.2**	**+2.2**
CTA	**Charters Tower**	**22.02**	**140**	P	**P**	**20 48 50.2**	**+2.2**
MEEK	**Meekatharra**	**26.00**	**207**	⇑P	**P**	**20 49 25.1**	**-1.1**
QLP	**Quilpie**	**26.09**	**153**	⇓P	**P**	**20 49 28.7**	**+1.7**
FORT	**Forrest**	**27.29**	**186**	⇓P	**P**	**20 49 38.5**	**+0.7**
STKA	**Stephens Creek**	**29.84**	**162**	P	**P**	**20 50 02.3**	**+1.8**
STKA	**Stephens Creek**	**29.84**	**162**	P	**P**	**20 50 02.3**	**+1.8**
STKA	**Stephens Creek**	**29.84**	**162**	⇓P	**P**	**20 50 01.7**	**+1.1**
CMSA	**Cobar Meteorol**	**31.01**	**156**	⇑P	**P**	**20 50 12.7**	**+1.9**
NWAO	**Narrogin (SRO)**	**32.08**	**203**	P	**P**	**20 50 20.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**32.08**	**203**	P	**P**	**20 50 20.4**	**+0.2**
CAN	**Canberra**	**35.66**	**155**	*e*P	**P**	**20 50 53.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**38.60**	**306**	P	**P**	**20 51 17.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**38.60**	**306**	P	**P**	**20 51 17.4**	**+0.9**
CHTO	**Chiang Mai**	**38.79**	**306**	*e*P	**P**	**20 51 17.0**	**-1.1**
ENH	**Enshi**	**39.52**	**330**	*e*P	**P**	**20 51 23.6**	**-0.5**
MJAR	**Matsushiro Arr**	**40.37**	**9**	P	**P**	**20 51 29.4**	**-1.6**
MJAR	**Matsushiro Arr**	**40.37**	**9**	P	**P**	**20 51 29.4**	**-1.6**
KSRS	**Korea Array**	**40.88**	**356**	LR	LR	21 07 09.1	
XAN	**Xi'an**	**42.88**	**332**	P	**P**	**20 51 50.5**	**-1.2**
XAN				*e*P	**pP**	**20 51 58.1**	**-1.0**
XAN				pmax	pmax		
LSA	**Lhasa**	**50.64**	**314**	*e*P	**P**	**20 52 52.7**	**-0.4**
GTA	**Gaotai**	**51.60**	**329**	*e*P	**P**	**20 52 59.8**	**+0.1**
GTA				*e*P	**pP**	**20 53 06.9**	**-0.2**
GTA				sP	**sP**	**20 53 10.3**	**+0.2**
GTA				pmax	pmax		

NVLJ				Sg	Sg	20 16 04.5	+1.4
	comp=Z,4.0nm,1.0s						
TAPN	**Taplejung**	**52.01**	**309**	*e*P	**P**	**20 53 02.9**	**-0.2**
	2.3nm,0.2s						
ODAN	**Odare**	**52.02**	**308**	*e*P	**P**	**20 53 02.7**	**-0.5**
	13nm,0.9s						
RAMN	**Ramite**	**52.68**	**308**	*e*P	**P**	**20 53 08.0**	**-0.1**
	18nm,0.7s						
GUN	**Gumba**	**53.70**	**309**	*e*P	**P**	**20 53 15.5**	**-0.2**
	11nm,0.7s						
KKN	**Kakani**	**54.11**	**308**	*e*P	**P**	**20 53 18.2**	**-0.4**
	7.3nm,0.7s						
DMN	**Daman**	**54.16**	**308**	*e*P	**P**	**20 53 18.9**	**-0.1**
	8.3nm,0.8s						
GKN	**Gorkha**	**54.71**	**308**	*e*P	**P**	**20 53 22.6**	**-0.3**
	12nm,0.8s						
ULN	**Ulaanbaatar**	**55.39**	**340**	*e*P	**P**	**20 53 26.8**	**-0.6**
	4.1nm,1.1s						
KOLN	**Koldanda**	**55.43**	**307**	*e*P	**P**	**20 53 27.5**	**-0.6**
	21nm,0.8s						
DANN	**Dangsing**	**55.56**	**308**	*e*P	**P**	**20 53 29.0**	**-0.2**
	12nm,0.8s						
SONM	**Songino Array**	**55.59**	**340**	P	**P**	**20 53 28.6**	**-0.2**
SONM	**Songino Array**	**55.59**	**340**	P	**P**	**20 53 28.6**	**-0.2**
	1.1nm,0.7s,baz=156,slow=6.9,SNR=8.3						
PYUN	**Piuthan**	**56.06**	**307**	*e*P	**P**	**20 53 32.6**	**0.0**
	9.7nm,0.9s						
PETK	**Petropavlovsk-**	**60.64**	**18**	LR	LR	21 20 32.6	
	comp=Z,17nm,18.9s,baz=185,slow=36						
MKAR	**Makanchi Array**	**66.05**	**325**	P	**P**	**20 54 40.5**	**+0.6**
MKAR	**Makanchi Array**	**66.05**	**325**	P	**P**	**20 54 40.5**	**+0.6**
	4.4nm,0.7s,baz=116,slow=8.2,SNR=60						
TKM2	**Tokmak 2**	**68.15**	**319**	*e*P	**P**	**20 54 53.1**	**-0.4**
	3.4nm,0.7s						
ZAA0	**Zalesovo Array**	**69.06**	**333**	*e*P	**P**	**20 54 57.0**	**-1.7**
ZALV	**Zalesovo Beam**	**69.06**	**333**	P	**P**	**20 54 58.5**	**-0.2**
ZALV	**Zalesovo Beam**	**69.06**	**333**	P	**P**	**20 54 58.5**	**-0.2**
	3.9nm,0.8s,baz=104,slow=6.3,SNR=14						
EKS2	**Erkin-Say**	**69.23**	**318**	*e*P	**P**	**20 55 00.2**	**0.0**
	2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**70.24**	**327**	P	**P**	**20 55 06.5**	**+0.4**
	6.0nm,0.8s,baz=123,slow=6.2,SNR=56						
KURK	**Kurchatov**	**70.24**	**328**	P	**P**	**20 55 06.5**	**+0.4**
BVAR	**Borovoye Array**	**75.82**	**327**	P	**P**	**20 55 39.4**	**+0.3**
BVAR	**Borovoye Array**	**75.82**	**327**	P	**P**	**20 55 39.4**	**+0.3**
	4.8nm,0.8s,baz=116,slow=6.8,SNR=25						
PPT	**Papeete**	**78.62**	**107**	LR	LR	21 29 10.6	
	comp=Z,45nm,19.8s,baz=343,slow=35						
RAYN	**Ar Rayn**	**87.50**	**294**	*e*P	**P**	**20 56 40.0**	**-1.4**
	7.3nm,1.1s						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**20 56 50.2**	**-0.5**
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**20 56 50.2**	**-0.5**
	0.6nm,0.7s,baz=257,slow=4.6,SNR=9.7						
TORD	**Torodi Ar. Bea**	**129.28**	**284**	PKP	**PKPdf**	**21 03 03.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**129.28**	**284**	PKP	**PKPdf**	**21 03 03.4**	**+0.9**
	0.9nm,0.7s,baz=60,slow=1.8,SNR=6.4						
CPUP	**Villa Florida**	**149.19**	**165**	PKPbc	**PKPbc**	**21 03 43.9**	**+1.6**
CPUP	**Villa Florida**	**149.19**	**165**	PKPbc	**PKPbc**	**21 03 43.9**	**+1.6**
	1.5nm,0.6s,baz=68,slow=2.3,SNR=4.7						
LPAZ	**La Paz**	**152.53**	**136**	PKPbc	**PKPbc**	**21 03 53.0**	**+1.8**
LPAZ	**La Paz**	**152.53**	**136**	PKPbc	**PKPbc**	**21 03 53.0**	**+1.8**
	0.5nm,0.4s,baz=48,slow=7.5,SNR=3.6						

*CSEM **24** 20:56:11.7, 33°73N×8°05E, h18km, MD3.5, After SBS*
TUN 24 20:56:11.7, 33°73N×8°05E, h18km, MD3.5, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OAR	**Oum El Arais**	**0.85**	**20**	*i* P	Pn	20 56 32.0	+3.1
BERT	**Berda**	**0.95**	**57**	*i* P	Pg	20 56 35.0	+4.8
SGNT	**Sidi Gnaou**	**1.52**	**92**	*i* P	Pg	20 56 46.0	+5.0
MEDT	**Meda**	**1.60**	**76**	*i* P	Pg	20 56 47.0	+4.5
MART	**Mareth**	**1.84**	**94**	*i* P	Pg	20 56 52.0	+4.9
THTN	**Thala**	**1.90**	**16**	*i* P	Pg	20 56 54.0	+5.6
TROT	**Trozza**	**2.23**	**35**	*i* P	Pg	20 57 00.5	+5.8
BTHT	**Jabal bu Thady**	**2.32**	**52**	*i* P	Pg	20 57 03.5	+7.3
ABSA	**Djebel Ababsia**	**2.58**	**350**	P	Pg	20 57 08.0	+6.6
CTEI	**Djebel Teioual**	**2.69**	**330**	P	Pg	20 57 12.0	+8.5
KRIT	**Krib**	**2.73**	**18**	*i* P	Pg	20 57 08.7	+4.4
CASM	**Ain Smara**	**2.83**	**334**	P	Pg	20 57 09.5	+3.4
CKFL	**Kef-Lekhel**	**2.88**	**338**	P	Pg	20 57 09.0	+1.9
CMAH	**Djebel Manchou**	**2.93**	**350**	P	Pg	20 57 08.6	+0.5

*ISCJB **24** 21:00:59.3±0.2, 43°72N±0°02×105°36W±0°03, h0km, mb4.0/2, Error ellipse: s-maj=2.7km s-min=2.5km az=8.8*
*NEIC **24** 21:01:00.1±0.5, 43°80N×105°40W, h0km, ML3.5, Error ellipse: s-maj=7.3km s-min=5.9km az=132.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **24** 21:01:01.4±1.8, 43°90N×105°72W, h0km, mb3.9/2, mb1 3.7/7, mb1mx3.5/42, mbtmp3.5/7, ML3.3/5, MS3.3/2, Ms1 3.3/2, ms1mx2.7/40, Error ellipse: s-maj=61.1km s-min=7.8km az=147.0*
ISC 24 21:00:59.8±0.6, 43°79N±0°02×105°45W±0°02, h0km, n98, σ1§67/128, 24C-25D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.17**	**356**	P	Pg	21 01 06.8	+3.7
	baz=0.2,SNR=106						
J23A	**Dilts Ranch, B**	**0.39**	**191**	P	**Pg**	**21 01 07.6**	**+0.3**
	baz=0.4,SNR=364						
I24A	**Kuemmerle Ranc**	**0.60**	**83**	P	**Pg**	**21 01 10.9**	**-0.4**
	baz=0.6,SNR=167						
J24A	**Dixon Ranch, L**	**0.73**	**128**	P	**Pg**	**21 01 12.1**	**-1.7**
	baz=0.7,SNR=31						
I22A	**9 Mile Ranch,**	**0.76**	**278**	P	**Pn**	**21 01 17.1**	**-0.8**
	baz=0.8,SNR=223						
H23A	**Clabaugh Cattl**	**0.77**	**2**	⇑P	**Pb**	**21 01 16.8**	**+0.5**
	baz=0.8,SNR=52						
J22A	**Midwest**	**0.84**	**244**	P	**Pb**	**21 01 17.1**	**-0.2**
	baz=0.9,SNR=122						
H22A	**Clearmont**	**1.03**	**321**	⇓P	**Pn**	**21 01 22.5**	**+0.7**
	baz=1.0,SNR=42						
RSSD	**Black Hills**	**1.07**	**71**	*e*Pn	**Pg**	**21 01 19.3**	**-1.0**
RSSD				*e*S	**Sn**	**21 01 40.6**	**+2.6**
H24A	**Dirks Ranch, A**	**1.15**	**34**	P	**Pg**	**21 01 22.2**	**+0.3**
	baz=1.1,SNR=280						
K24A	**Anderson Ranch**	**1.16**	**156**	⇓P	**Pg**	**21 01 20.0**	**-2.1**
	baz=1.2						
J25A	**Sunshine Ranch**	**1.26**	**108**	P	**Pg**	**21 01 21.9**	**-2.0**
	baz=1.2,SNR=81						
I25A	**Rockford**	**1.26**	**79**	⇑P	**Pg**	**21 01 22.6**	**-1.3**
	baz=1.2						
I21A	**Big Trails, Te**	**1.34**	**272**	⇓P	**Pn**	**21 01 26.1**	**+0.3**
	baz=1.4,SNR=158						
I21A	baz=1.4			⇑S	**Sn**	**21 01 46.8**	**+2.3**
K22A	**Casper**	**1.38**	**215**	P	**Pn**	**21 01 25.6**	**-0.9**
	baz=1.4,SNR=78						
K22A	baz=1.4		

baz=1.8
I26A New Underwood 1.89 82 ⇑P Pn 21 01 33.3 -0.1
baz=1.8
L22A Ellis Ranch, M 1.90 203 ⇓P Pn 21 01 34.1 +0.4
baz=1.9,SNR=80
L22A ⇓S Sn 21 01 59.4 +0.9
baz=1.9
G21A Lodge Grass 1.91 319 ⇓P Pg 21 01 36.4 0.0
baz=1.9,SNR=25
F23A Volborg 1.93 1 ⇓P Pb 21 01 36.1 +0.1
baz=1.9,SNR=40
I20A Worland 1.94 276 ⇑P Pg 21 01 36.8 -0.3
baz=2.0,SNR=432
H20A Greybull 1.96 292 ⇑P Pb 21 01 36.7 +0.2
baz=2.0,SNR=67
J20A Shoshoni 1.96 258 ⇓Pb Pg 21 01 38.1 +0.7
baz=2.0
K26A Motz Farm, Whi 1.98 122 ⇓P Pn 21 01 34.0 -0.7
baz=2.0,SNR=17
G25A Newell 2.02 45 ⇓Pb Pb 21 01 37.8 +0.3
baz=2.0
F22A Rosebud 2.07 344 ⇑P Pb 21 01 38.1 -0.2
baz=2.1,SNR=25
G20A Bridger 2.44 307 P Pb 21 01 43.1 -1.6
baz=2.5,SNR=124
I19A Meeteetse 2.58 277 ⇑P Pb 21 01 45.8 -1.1
baz=2.6,SNR=96
H19A Powell 2.69 290 ⇑P Pb 21 01 47.3 -1.6
baz=2.7,SNR=48
F20A Billings 2.78 317 ⇑P Pn 21 01 47.6 +1.9
baz=2.8,SNR=10
N23A Red Feather La 2.92 187 ⇓P Pn 21 01 48.0 +0.3
baz=2.9,SNR=39
LAO LASA Array 2.95 350 *e*Pn Pn 21 01 47.6 -0.4
LAO *e*S Sb 21 02 27.4 -2.5
H18A Shoshone NF, C 3.16 288 ⇓P Pn 21 01 53.2 +2.2
baz=3.2,SNR=13
BW06 Boulder Array 3.17 253 *e*Pn Pn 21 01 52.3 +1.1
BW06 *e*Sg Sb 21 02 38.0 +1.5
PDAR Pinedale Array 3.17 253 Pn Pn 21 01 53.4 +2.2
PDAR Pg Pg 21 01 59.6 -1.0
PDAR Lg Lg 21 02 35.6
PDAR Pinedale Array 3.17 253 Pn Pn 21 01 53.4 +2.2
3.6nm,0.3s,baz=71,slow=16,SNR=104
PDAR Pg Pg 21 01 59.6 -1.0
11nm,0.3s,baz=73,slow=18,SNR=57
PDAR Lg Lg 21 02 35.6
6.5nm,0.3s,baz=74,slow=27,SNR=3.9
F19A Roth Farm, Mol 3.23 311 ⇑P Pn 21 01 54.6 +2.7
baz=3.2,SNR=18
N27A Anderson Farm, 3.68 143 ⇑P Pn 21 01 57.8 -0.3
baz=3.7,SNR=13
H17A Grant Village 3.74 281 *e*Pn Pn 21 02 02.3 +3.2
H17A *e*S Sb 21 02 53.0 +0.1
ISCO Idaho Springs 3.99 182 *e*Pn Pn 21 02 02.5 0.0
ISCO *e*Sn Sn 21 02 55.2 +5.2
YMR Madison River 4.06 284 *e*Pn Pn 21 02 02.4 -1.1
YMR *e*Pg Pg 21 02 15.7 -2.0
O20A White River Ci 4.20 211 *e*Pn Pn 21 02 06.2 +0.9
O20A *e*Sn Sn 21 02 55.9 +0.7
QLMT Earthquake Lak 4.42 286 *e*Pn Pn 21 02 05.8 -2.5
QLMT *e*Pg Pg 21 02 21.4 -3.0
DGMT Dagmar 4.76 10 *e*Pn Pn 21 02 16.2 +3.4
DGMT *e*Pg Pg 21 02 31.5 +0.5
DGMT *e*S Sg 21 03 30.0 -2.8
BOZ Bozeman (W) 4.78 295 *e*Pn Pn 21 02 11.2 -2.0
BOZ *e*Pg Pb 21 02 27.6 +3.1
HWUT Hardware Ranch 5.01 246 *e*Pn Pn 21 02 16.6 +0.2
15nm,0.5s
HWUT *e*Sg Sg 21 03 37.4 -3.2
TCUT Toone Canyon 5.15 241 *e*Pn Pn 21 02 18.5 0.0
28nm,0.6s
TCUT *e*Pg Pg 21 02 39.1 +0.6
TCUT *e*Sg Sg 21 03 43.9 -1.5
EGMT Eagleton 5.19 326 *e*Pn Pn 21 02 19.9 +1.1
20nm,0.5s
EGMT *e*Pg Pg 21 02 36.5 -2.8
EGMT *e*S Sg 21 03 42.8 -3.7
KSCO Kaye Shedlock' 5.22 155 *e*Pn Pn 21 02 17.7 -1.6
30nm,0.3s
HRY Holter Researc 5.37 305 *e*Pn Pn 21 02 20.7 -0.6
13nm,0.5s
HRY *e*Pg Pg 21 02 40.7 -2.0
HRY *e*Sg Sg 21 03 47.5 -4.8
MCMT McKenzie Canyo 5.41 284 *e*Pn Pn 21 02 20.4 -1.5
1.5nm,0.3s
JLU Jordanelle 5.48 237 *e*Pn Pn 21 02 24.7 +1.8
5.4nm,0.4s
JLU *e*Pg Pg 21 02 44.6 -0.1
JLU *e*Sg Sg 21 03 53.7 -2.1
DAU Daniels Canyon 5.48 234 *e*Pn Pn 21 02 25.3 +2.3
9.2nm,0.4s
DAU *e*Pg Pg 21 02 44.3 -0.6
CTU Camp Tracy 5.61 239 *e*Pn Pn 21 02 25.4 +0.7
6.4nm,0.3s
R26A Arlington 5.69 164 ⇓P Pn 21 02 25.0 -0.6
baz=5.7,SNR=22
HVU Hansel Valley 5.75 252 *e*Pn Pn 21 02 26.5 -0.1
5.6nm,0.4s
HVU *e*Pg Pg 21 02 48.5 -1.5
HVU *e*Sg Sg 21 03 58.5 -6.1
R27A Eads 5.85 159 ⇓P Pn 21 02 27.2 -0.7
baz=5.9,SNR=8.8
MPU Maple Canyon 5.96 233 *e*Pn Pn 21 02 29.9 +0.4
10nm,0.8s
SRU San Rafael 6.03 221 *e*Pn Pn 21 02 31.1 +0.7
15nm,0.4s
SRU *e*Sg Sg 21 04 06.7 -6.9
SDCO Great Sand Dun 6.04 180 *e*Pn Pn 21 02 30.8 +0.2
2.6nm,0.5s
SDCO *e*S Sb 21 04 02.8 +3.8
R28A Tribune 6.09 152 ⇑P Pn 21 02 30.4 -0.8
baz=6.1,SNR=8.5
PV01 Paradox Valley 6.12 204 *e*Pn Pn 21 02 33.5 +1.7
375nm,0.3s
PV01 *e*Sg Sb 21 04 07.1 +5.7
S25A Robets Cordova 6.17 173 ⇑P Pn 21 02 31.5 -0.8
baz=6.2,SNR=9.5
TMUT Trail Mountain 6.23 226 *e*Pn Pn 21 02 33.4 +0.2
6.7nm,0.4s
TMUT *e*Sg Sg 21 04 16.9 -3.0
CHMT Chamberlain Mo 6.33 302 *e*Pn Pn 21 02 34.4 -0.1
1.5nm,0.4s
S26A Kim 6.34 166 ⇓P Pn 21 02 33.7 -0.9
baz=6.3,SNR=5.9
ECSD EROS Data Cent 6.40 87 *e*Pn Pn 21 02 35.4 +0.1
7.6nm,0.4s
ECSD *e*S Sb 21 04 15.6 +6.6
ECSD EROS Data Cent 6.40 87 ⇑P Pn 21 02 34.5 -0.8
baz=6.3,SNR=19
DUG Dugway 6.56 239 *e*Pn Pn 21 02 38.1 +0.5
4.0nm,0.4s
DUG *e*Sg Sg 21 04 27.6 -2.8
DUG Dugway 6.56 239 ⇑P Pn 21 02 38.7 +1.1
baz=6.6,SNR=20
T27A Campo 7.03 162 ⇑P Pn 21 02 43.2 -1.0
baz=7.0,SNR=7.5
SWMT Swartz Lake 7.05 305 *e*Pn Pn 21 02 44.8 +0.4
1.9nm,0.3s
SWMT *e*Sg Sg 21 04 39.2 -7.0
MVU Marysvale 7.34 226 *e*Pn Pn 21 02 48.6 +0.1
7.1nm,0.9s
MVU *e*Sg Sg 21 04 53.2 -2.4
ELK Elko 7.87 251 Pn Pn 21 02 57.8 +2.1
ELK Elko 7.87 251 Pn Pn 21 02 57.8 +2.1
0.1nm,0.3s,baz=0.0,slow=6.1,SNR=2.1
SPMN St. Paul 9.15 77 Pn Pn 21 03 12.3 -0.7
6.3nm,0.3s
ULM Lac du Bonnet 9.19 42 Pn Pn 21 03 14.4 +0.9
ULM Lac du Bonnet 9.19 42 Pn Pn 21 03 14.4 +0.9
3.7nm,0.3s,baz=234,slow=11,SNR=19
NEW Newport 9.27 303 LR LR 21 07 17.9
comp=Z,154nm,19.5s,baz=94,slow=42
WUAZ Wupatki 9.44 211 *e*Pn Pn 21 03 18.4 +1.2
4.2nm,0.4s
NVAR Mina Array Bea 11.07 245 Pn Pn 21 03 44.0 +4.4
NVAR Mina Array Bea 11.07 245 Pn Pn 21 03 44.0 +4.4
0.1nm,0.3s,baz=214,slow=21,SNR=2.7
SADO Sadowa 18.84 78 LR LR 21 13 28.7
comp=Z,99nm,18.8s,baz=100,slow=39
YKA Yellowknife Ar 19.49 347 P Pn 21 05 30.0 +0.8
YKA Yellowknife Ar 19.49 347 P Pn 21 05 30.0 +0.8
0.1nm,0.3s,baz=161,slow=12,SNR=4.9
ARCES ARCESS Array B 61.41 18 P P 21 11 16.9 -0.3
ARCES ARCESS Array B 61.41 18 P P 21 11 16.9 -0.3
1.0nm,0.5s,baz=316,slow=6.4,SNR=7.9

ZALV Zalesovo Beam 82.24 354 P P 21 13 22.6 +0.1
ZALV Zalesovo Beam 82.24 354 P P 21 13 22.6 +0.1
0.3nm,0.3s,baz=4.3,slow=5.8,SNR=2.7

IDC 24 21:03:11.7±2.1, 8.11S×129.76E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=102.1km s-min=32.8km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.58**	**160**	Pn	Pn	21 06 12.4	+0.3
	0.5nm,0.3s,baz=339,slow=13,SNR=26						
WRA				Sn	Sn	21 08 28.0	-5.1
	0.4nm,0.3s,baz=328,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**15.98**	**166**	Pn	Pn	21 06 57.5	-0.5
	0.2nm,0.3s,baz=340,slow=9.9,SNR=6.2						
ASAR				Sn	Sn	21 09 47.7	-8.3
	0.1nm,0.3s,baz=343,slow=22,SNR=3.1						
MKAR	**Makanchi Array**	**69.02**	**327**	P	P	21 14 19.2	0.0
	0.3nm,0.6s,baz=111,slow=6.3,SNR=4.2						

BJI 24 21:17:01.4, 36.70N×80.16E, h5km, mb3.5/1, ML3.4/7
IDC 24 21:17:03.5±8.0, 37.09N×79.29E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.1/32, mbtmp3.5/3, ML3.0/2, MS3.3/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=217.0km s-min=31.9km az=121.0
ISC 24 21:17:04.7±2.3, 37.0N±0.2×79.7E±0.2, h16km, n6, σ0.76/7, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.87**	**312**	Pg	Pg	21 18 19.1	+0.2
KSH				smax	smax		
	comp=N,59nm,0.4s						
KSH				smax	smax		
	comp=E,59nm,0.8s						
MK09	**Makanchi Array**	**10.00**	**10**	⇑P	Pn	21 19 28.3	+0.7
	1.1nm,0.5s,baz=199,slow=12						
MK09				⇑S	Sn	21 21 19.0	-0.4
	1.1nm,0.6s,baz=198,slow=26						
MKAR	**Makanchi Array**	**10.02**	**10**	Pn	Pn	21 19 28.5	+0.6
	0.5nm,0.3s,baz=193,slow=12,SNR=37						
MKAR				Sn	Sn	21 21 18.9	-1.0
	0.6nm,0.3s,baz=194,slow=24,SNR=6.9						
ZALV	**Zalesovo Beam**	**17.36**	**10**	P	P	21 21 07.6	+0.2
	0.1nm,0.3s,baz=196,slow=15,SNR=2.2						
NOA	**NORSAR Array B**	**48.23**	**323**	LR	LR	21 47 52.8	
	comp=Z,31nm,18.6s,baz=45,slow=39						
TORD	**Torodi Ar. Bea**	**72.67**	**274**	P	P	21 28 31.5	-0.5
	0.1nm,0.4s,baz=42,slow=5.2,SNR=1.7						

IDC 24 21:30:09.0±13.0, 4.79S×152.12E, h162km±120km, mb3.1/5, mb1 3.3/5, mb1mx3.1/25, mbtmp3.5/5, Error ellipse: s-maj=64.1km s-min=36.6km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.95**	**227**	P	P	21 34 59.0	-0.4
	2.6nm,0.4s,baz=50,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**25.71**	**221**	P	P	21 35 24.9	+0.4
	0.2nm,0.3s,baz=53,slow=8.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**57.26**	**295**	P	P	21 39 40.4	+0.3
	0.2nm,0.5s,baz=108,slow=5.8,SNR=3.1						
SONM	**Songino Array**	**65.95**	**328**	P	P	21 40 37.8	-0.2
	0.3nm,0.6s,baz=143,slow=5.2,SNR=4.0						
ILAR	**Eielson Array**	**82.40**	**22**	P	P	21 42 12.9	+0.2
	0.1nm,0.5s,baz=258,slow=4.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**149.66**	**288**	PKPbc	PKPbc	21 49 40.1	-0.5
	0.5nm,0.4s,baz=90,slow=2.4,SNR=13						

MOS 24 21:39:56.6±0.9, 51.65N×173.73W, h46km, mb4.5/26, Error ellipse: s-maj=11.6km s-min=8.3km az=84.4
ISCJB 24 21:39:57.1±0.6, 51.67N±0.07×173.78W±0.04, h47km±4km, mb4.3/42, MS3.4/8, Error ellipse: s-maj=12.1km s-min=3.3km az=167.8
NEIC 24 21:39:58.5±0.5, 51.67N×173.86W, h47km±3km, mb4.4/20, Error ellipse: s-maj=8.9km s-min=2.8km az=168.0
IDC 24 21:40:00.6±3.2, 51.67N×173.79W, h65km±28km, mb3.8/23, mb1 4.0/26, mb1mx3.9/40, mbtmp4.2/26, ML3.8/3, MS3.4/10, Ms1 3.4/10, ms1mx3.2/43, Error ellipse: s-maj=21.3km s-min=10.5km az=170.0
ISC 24 21:39:59.0±1.3, 51.7N±0.1×173.82W±0.04, h52km±11km, n155, σ1.9/00/155, mb4.3/42, MS3.4/8, 3C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**1.43**	**286**	P	Pn	21 40 20.5	-2.1
GSTR	**Great Sitkin T**	**1.45**	**288**	*e*Pn	Pn	21 40 22.1	-0.8
GSCK	**Great Sitkin C**	**1.49**	**284**	P	Pn	21 40 21.2	-2.3
GSTD	**Great Sitkin T**	**1.49**	**286**	P	Pn	21 40 21.4	-2.1
GSTD				S	Sn	21 40 40.3	-1.5
ETKA	**Kagalaska Isla**	**1.62**	**278**	P	Pn	21 40 23.0	-2.2
ETKA				S	Sn	21 40 45.2	+0.3
ADAG	**Mount Adagdak**	**1.75**	**281**	P	Pn	21 40 25.7	-1.3
KIRH	**Kanaga Island**	**2.05**	**277**	P	Pn	21 40 30.7	-0.3
KIKV	**Kanaga Island**	**2.09**	**277**	P	Pn	21 40 31.2	-0.4
TAFP	**Tanaga Falls P**	**2.59**	**277**	P	Pn	21 40 38.6	0.0
TAFP				S	Sn	21 41 11.3	+2.4
TASE	**Tanaga Southea**	**2.63**	**275**	P	Pn	21 40 38.8	-0.1
GANE	**Gareloi Northe**	**3.08**	**275**	P	Pn	21 40 45.0	-0.2
OKSP	**Okmok Steeple**	**3.73**	**63**	P	Pn	21 40 55.3	+1.2
OKFG	**Magazine Ridge**	**4.00**	**62**	P	Pn	21 40 59.3	+1.5
OKFG				S	Sn	21 41 45.2	+1.9
MREP	**Makushin Rep't**	**4.80**	**61**	P	Pn	21 41 09.0	+0.2
MSW	**Makushin Switc**	**4.82**	**60**	P	Pn	21 41 08.9	-0.1
UNV	**Unalaska Valle**	**4.95**	**61**	*e*Pn	Pn	21 41 09.7	-1.0
UNV				*e*Sn	Sn	21 42 06.3	-0.2
ZRO	**Akutan Zero**	**5.33**	**60**	P	Pn	21 41 16.3	+0.3
AKUT	**Akutan**	**5.46**	**60**	*e*Pn	Pn	21 41 16.6	-1.1
SPIA	**Saint Paul Isl**	**5.89**	**19**	P	Pn	21 41 22.6	-1.0
FALS	**False Pass**	**7.00**	**59**	*e*Pn	Pn	21 41 38.9	+0.1
FALS				*e*Sn	Sn	21 42 56.5	-0.5
DTNA	**Dutton South F**	**7.74**	**59**	P	Pn	21 41 49.8	+0.9
FX1	**Attu Island--F**	**8.08**	**284**	*e*Pn	Pn	21 41 52.7	-0.8
FX1	**Attu Island--F**	**8.08**	**284**	P	Pn	21 41 56.0	+2.4
	2.0nm,0.3s,baz=181,slow=3.8,SNR=22						
FX1				S	Sn	21 43 34.0	+11
	0.4nm,0.3s,baz=73,slow=20,SNR=1.2						
GAMB	**Gambell**	**12.18**	**4**	*e*Pn	Pn	21 42 52.5	+2.9
TNA	**Tin City**	**14.25**	**10**	*e*Pn	Pn	21 43 17.8	+0.2
PPLA	**Purkeypile**	**16.12**	**37**	*e*Pn	Pn	21 43 42.3	+0.4
RC01	**Rabbit Creek A**	**16.23**	**45**	*e*Pn	Pn	21 43 42.5	-0.8
KTH	**Kantishna Hill**	**16.96**	**37**	*e*Pn	Pn	21 43 52.5	+0.1
	64nm,0.8s						
TRF	**Thorofare Moun**	**17.14**	**37**	*e*Pn	Pn	21 43 53.9	-0.9
	7.1nm,0.7s						
PETK	**Petropavlovsk-**	**17.40**	**286**	P	Pn	21 43 57.4	-0.4
PETK	**Petropavlovsk-**	**17.40**	**286**	P	Pn	21 43 57.4	-0.4
PETK	**Petropavlovsk-**	**17.40**	**286**	P	Pn	21 43 57.4	-0.4
	0.4nm,0.3s,baz=96,slow=13,SNR=5.2						
PETK				LR	LR	21 50 21.9	
	comp=Z,52nm,18.7s,baz=96,slow=36						
MCK	**McKinley**	**17.80**	**38**	*e*P	Pn	21 44 02.1	-0.7
MCK				pmax	pmax		
	comp=Z,13nm,1.0s						
MCK	**McKinley**	**17.80**	**38**	*e*Pn	Pn	21 44 02.1	-0.7
	comp=Z,13nm,1.0s						
COLA	**College**	**18.81**	**35**	⇑*i*P	Pn	21 44 15.8	+0.9
COLA				pmax	pmax		
	comp=Z,20nm,0.9s						
PAX	**Paxson**	**18.84**	**42**	*e*P	Pn	21 44 15.1	-0.3
PAX				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PAX	**Paxson**	**18.84**	**42**	*e*Pn	Pn	21 44 15.1	-0.3
	comp=Z,5.1nm,0.6s						
BILL	**Bilibino**	**19.05**	**337**	*i*P	P	21 44 16.6	+0.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**19.05**	**337**	*e*P	P	21 44 12.2	-4.3
	comp=Z,9.7nm,1.0s						
ILAR	**Eielson Array**	**19.11**	**36**	P	P	21 44 15.9	-1.3
ILAR	**Eielson Array**	**19.11**	**36**	P	P	21 44 15.9	-1.3
	comp=Z,0.9nm,0.3s,baz=237,slow=8.7,SNR=69						
ILAR				LR	LR	21 52 14.6	
	comp=Z,99nm,20.0s,baz=260,slow=38						
COLD	**Coldfoot**	**19.46**	**28**	*e*Pn	Pn	21 44 23.6	+0.9

comp=Z,26nm,1.9s
SEY Seymchan 21.17 315 P P 21 44 40.9 +1.4
SEY pmax pmax
comp=Z,2.0nm,0.6s
SEY Seymchan 21.17 315 P P 21 44 40.9 +1.4
SEY Seymchan 21.17 315 P P 21 44 40.9 +1.4
comp=Z,2.1nm,0.6s,baz=103,slow=9.6,SNR=8.0
EGAK Eagle 21.31 40 *e*P P 21 44 40.5 -0.5
INK Inuvik 25.45 34 P P 21 45 20.4 -1.1
INK Inuvik 25.45 34 P P 21 45 20.4 -1.1
comp=Z,4.1nm,1.0s,baz=243,slow=8.8,SNR=10
INK LR LR 21 56 00.4
comp=Z,107nm,18.3s,baz=266,slow=38
DLBC Dease Lake 25.59 57 P P 21 45 24.8 +1.8
DLBC Dease Lake 25.59 57 P P 21 45 24.8 +1.8
comp=Z,4.9nm,0.7s,baz=222,slow=2.9,SNR=7.1
BBB Bella Bella 27.83 71 LR LR 21 55 51.1
comp=Z,50nm,19.1s,baz=288,slow=34
ASAJ Asahikawa 29.81 273 P P 21 46 01.9 +1.1
ASAJ Asahikawa 29.81 273 P P 21 46 01.9 +1.1
comp=Z,7.3nm,0.9s,baz=59,slow=9.9,SNR=4.3
ASAJ LR LR 21 59 01.1
comp=Z,54nm,18.8s,baz=119,slow=38
YKA Yellowknife Ar 32.75 48 P P 21 46 26.2 -0.3
YKA Yellowknife Ar 32.75 48 P P 21 46 26.2 -0.3
comp=Z,0.5nm,0.5s,baz=274,slow=9.4,SNR=12
H11N2 WAKE ISLAND Hy 35.29 213 T T 22 24 48.6
baz=23,slow=76,SNR=7.8
H11N3 WAKE ISLAND Hy 35.30 213 T T 22 24 45.1
baz=23,slow=76,SNR=10
H11N1 WAKE ISLAND Hy 35.31 213 T T 22 24 49.2
baz=23,slow=76,SNR=13
NEW Newport 35.84 72 *e*P P 21 46 53.7 +0.3
comp=Z,4.4nm,0.6s
EDM Edmonton 35.93 63 *e*P P 21 46 53.9 -0.2
EDM Edmonton 35.93 63 *e*P P 21 46 53.9 -0.2
USRK Ussuriysk Arra 36.33 280 P P 21 46 57.4 -0.2
comp=Z,4.5nm,0.6s,baz=58,slow=8.0,SNR=18
H11S1 WAKE ISLAND Hy 36.49 212 T T 22 26 07.7
baz=15,slow=74,SNR=20
H11S2 WAKE ISLAND Hy 36.51 212 T T 22 26 03.1
baz=316,slow=74,SNR=13
H11S3 WAKE ISLAND Hy 36.51 212 T T 22 26 01.3
SNR=11
WALA Waterton Lakes 37.37 70 *e*P P 21 47 04.8 -1.7
BSMT Bassoo Peak 37.42 72 *e*P P 21 47 07.8 +0.7
comp=Z,4.7nm,0.7s
EGMT Eagleton 40.29 69 *e*P P 21 47 31.9 +1.0
comp=Z,9.7nm,0.6s
NVAR Mina Array Bea 40.43 87 P P 21 47 33.6 +1.3
NVAR Mina Array Bea 40.43 87 P P 21 47 33.6 +1.3
comp=Z,0.5nm,0.6s,baz=287,slow=6.5,SNR=4.7
FFC Flin Flon 41.41 56 *e*P P 21 47 40.0 0.0
FFC pmax pmax
comp=Z,5.0nm,0.6s
FFC Flin Flon 41.41 56 *e*P P 21 47 40.0 0.0
comp=Z,4.5nm,0.6s
KSRS Korea Array 42.73 274 P P 21 47 51.9 +1.0
comp=Z,6.7nm,0.9s,baz=58,slow=8.2,SNR=11
KSAR Wonju Array Be 42.76 274 P P 21 47 51.9 +0.7
PDAR Pinedale Array 43.24 76 P P 21 47 55.3 0.0
PDAR Pinedale Array 43.24 76 P P 21 47 55.3 0.0
comp=Z,2.2nm,0.6s,baz=302,slow=3.8,SNR=15
SRU San Rafael 44.82 80 *e*P P 21 48 07.6 -0.3
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael 44.82 80 *e*P P 21 48 07.6 -0.3
comp=Z,5.4nm,0.9s
PV01 Paradox Valley 46.63 80 *e*P P 21 48 21.8 -0.4
comp=Z,505nm,0.8s
ULM Lac du Bonnet 46.89 59 P P 21 48 24.0 +0.2
ULM Lac du Bonnet 46.89 59 P P 21 48 24.0 +0.2
comp=Z,2.3nm,0.4s,baz=307,slow=7.0,SNR=9.5
TLY Talaya 48.49 304 *e*P P 21 48 36.8 +0.6
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 48.49 304 *e*P P 21 48 36.0 -0.2
comp=Z,2.5nm,0.6s
ULN Ulaanbaatar 48.88 299 *e*P P 21 48 39.8 +0.4
comp=Z,2.4nm,0.9s
SONM Songino Array 49.26 299 P P 21 48 43.0 +0.7
SONM Songino Array 49.26 299 P P 21 48 43.0 +0.7
comp=Z,1.8nm,0.7s,baz=48,slow=7.6,SNR=21
SONM LR LR 22 10 41.8
comp=Z,67nm,19.3s,baz=64,slow=37
ZAK Zakamensk 49.43 303 *e*P P 21 48 43.0 -0.5
ZAK *e* 21 50 04.9
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TXAR Lajitas Array 55.53 85 P P 21 49 28.2 -0.7
TXAR Lajitas Array 55.53 85 P P 21 49 28.2 -0.7
comp=Z,1.7nm,0.6s,baz=289,slow=7.8,SNR=4.6
ARCES ARCESS Array B 58.27 352 P P 21 49 48.0 +0.4
ARCES PcP PcP 21 50 38.7 +0.4
ARCES ARCESS Array B 58.27 352 P P 21 49 48.0 +0.4
comp=Z,1.0nm,0.6s,baz=31,slow=7.2,SNR=7.3
ARCES PcP PcP 21 50 38.7 +0.4
comp=Z,4.8nm,0.8s,baz=18,slow=4.3,SNR=8.3
ARCES LR LR 22 18 07.7
comp=Z,31nm,18.5s,baz=346,slow=39
KURK Kurchatov 61.01 316 *e*P P 21 50 06.2 -0.5
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 61.01 316 *e*P P 21 50 06.2 -0.5
comp=Z,2.6nm,0.6s
MKAR Makanchi Array 62.23 311 P P 21 50 14.6 -0.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 62.23 311 P P 21 50 14.6 -0.5
MKAR Makanchi Array 62.23 311 P P 21 50 14.6 -0.5
comp=Z,1.3nm,0.6s,baz=29,slow=7.0,SNR=22
BINY Binghamton 62.57 56 *e*P P 21 50 18.0 +0.6
comp=Z,74nm,1.6s
FINES FINESS Array B 66.11 350 P P 21 50 39.2 -0.9
FINES FINESS Array B 66.11 350 P P 21 50 39.2 -0.9
comp=Z,3.5nm,0.9s,baz=355,slow=6.3,SNR=5.6
NOA NORSAR Array B 67.56 357 LR LR 22 23 52.6
comp=Z,18nm,18.0s,baz=295,slow=39
AAK Ala-Archa 69.00 313 ⇑*i*P P 21 50 59.5 +0.5
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 69.00 313 *e*P P 21 50 58.9 0.0
comp=Z,3.5nm,0.6s
EKS2 Erkin-Say 69.31 313 *e*P P 21 51 00.8 0.0
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 69.31 313 *e*P P 21 51 00.8 0.0
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 69.51 326 *e*P P 21 51 01.6 -0.2
comp=Z,1.1nm,0.5s
LSA Lhasa 70.23 293 *e*P P 21 51 07.4 +0.3
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 70.23 293 *e*P P 21 51 07.4 +0.3
comp=Z,11nm,0.7s
KKAR Karatay Array 70.41 316 *e*P P 21 51 06.9 -0.5
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 70.41 316 *e*P P 21 51 06.9 -0.5
comp=Z,1.7nm,0.6s
TAPN Taplejung 73.98 294 *e*P P 21 51 30.1 +0.8
comp=Z,3.3nm,0.7s
CMAR Chiang Mai Arr 74.05 280 P P 21 51 30.4 +0.9
CMAR Chiang Mai Arr 74.05 280 P P 21 51 30.4 +0.9
comp=Z,2.2nm,0.8s,baz=24,slow=6.7,SNR=19
ODAN Odare 74.53 294 *e*P P 21 51 32.7 +0.2
comp=Z,14nm,0.8s
GUN Gumba 74.58 295 *e*P P 21 51 33.7 +0.8
comp=Z,52nm,0.7s
JIRN Jiri 74.60 295 *e*P P 21 51 34.0 +1.0
comp=Z,66nm,0.7s
RAMN Ramite 74.92 294 *e*P P 21 51 35.3 +0.6
comp=Z,54nm,0.6s
KKN Kakani 75.01 296 *e*P P 21 51 35.8 +0.6
comp=Z,27nm,1.0s
PKI Pulchoki 75.11 296 *e*P P 21 51 36.3 +0.4
comp=Z,27nm,1.0s
GKN Gorkha 75.21 296 *e*P P 21 51 36.7 +0.5
comp=Z,24nm,0.5s
DMN Daman 75.25 296 *e*P P 21 51 37.3 +0.7
comp=Z,22nm,0.9s
DANN Dangsing 75.43 297 *e*P P 21 51 38.2 +0.5
comp=Z,50nm,0.7s
KOLN Koldanda 75.97 297 *e*P P 21 51 40.8 +0.2
comp=Z,22nm,0.9s
PYUN Piuthan 76.05 298 *e*P P 21 51 41.7 +0.6
comp=Z,12nm,0.5s

AKASG	Malin Array Be	76.14	345	ceP	P	21 51 40.4	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	76.14	345	P	P	21 51 40.4	-0.6
AKASG	Malin Array Be	76.14	345	P	P	21 51 40.4	-0.6
	comp=Z,1.3nm,0.4s,baz=17,slow=6.0,SNR=12						
CLL	Collm	77.23	356	iP	P	21 51 47.1	0.0
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	Collm	77.23	356	iP	P	21 51 47.1	0.0
	comp=Z,3.0nm,0.7s						
BRG	Berggiesshubel	77.61	355	eP	P	21 51 49.6	+0.3
	comp=Z,2.7nm,0.8s						
DPC	Dobruska-Polom	77.98	353	eP	P	21 51 51.9	+0.5
DPC	Dobruska-Polom	77.98	353	eP	P	21 51 51.9	+0.5
KBL	Kabul	78.04	311	eP	P	21 51 51.5	-0.7
KBL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBL	Kabul	78.04	311	eP	P	21 51 51.5	-0.7
	comp=Z,5.4nm,0.9s						
KRLC	Kraliky	78.22	353	eP	P	21 51 53.3	+0.6
KRLC	Kraliky	78.22	353	eP	P	21 51 53.3	+0.6
PRU	Pruhonice	78.46	355	eP	P	21 51 54.8	+0.8
PRU	Pruhonice	78.46	355	eP	P	21 51 54.8	+0.8
KHC	Kasperske Hory	79.37	355	eP	P	21 51 59.6	+0.6
KHC				e		21 52 04.7	
KHC	Kasperske Hory	79.37	355	eP	P	21 51 59.6	+0.6
KHC				ePCP	PcP	21 52 04.7	-2.3
GERES	GERESS Array B	79.65	355	P	P	21 52 00.8	+0.1
GERES	GERESS Array B	79.65	355	P	P	21 52 00.8	+0.1
	comp=Z,1.0nm,0.7s,baz=20,slow=4.3,SNR=9.4						
KBZ	Khabaz	79.79	334	P	P	21 52 02.4	+1.0
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ				MLR	MLR		
	comp=Z,29nm,21.6s						
KBZ	Khabaz	79.79	334	P	P	21 52 02.4	+1.0
KBZ	Khabaz	79.79	334	P	P	21 52 02.4	+1.0
	comp=Z,4.1nm,0.9s,baz=16,slow=3.0,SNR=5.8						
KBZ				LR	LR	22 31 10.7	
	comp=Z,28nm,21.6s,baz=330,slow=38						
WRA	Warramunga Arr	84.46	228	P	P	21 52 24.5	-1.5
WRA	Warramunga Arr	84.46	228	P	P	21 52 24.5	-1.5
	comp=Z,0.5nm,0.7s,baz=32,slow=5.9,SNR=2.6						
BRTR	Keskin Array B	85.87	339	P	P	21 52 34.2	+1.1
BRTR	Keskin Array B	85.87	339	P	P	21 52 34.2	+1.1
	comp=Z,1.7nm,0.9s,baz=153,slow=1.4,SNR=5.2						
PSI	Prapat	86.11	270	LR	LR	22 30 49.7	
	comp=Z,31nm,21.0s,baz=142,slow=35						
ASAR	Alice Springs	87.88	227	P	P	21 52 42.4	-0.4
ASAR	Alice Springs	87.88	227	P	P	21 52 42.4	-0.4
	comp=Z,0.4nm,0.7s,baz=26,slow=5.1,SNR=5.5						
STKA	Stephens Creek	91.95	217	P	P	21 52 59.8	-1.7
STKA	Stephens Creek	91.95	217	P	P	21 52 59.8	-1.7
	comp=Z,1.7nm,0.8s,baz=341,slow=11,SNR=3.5						
BOSA	Boshof	152.90	321	PKPbc	PKPbc	21 59 50.4	+0.2
BOSA	Boshof	152.90	321	PKPbc	PKPbc	21 59 50.4	+0.2
	comp=Z,2.2nm,0.8s,baz=51,slow=2.2,SNR=4.2						

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*ISCJB **24** 21:51:53.3±0.9, 18°.46N±0°.03×72°.59W±0°.02, h7km±5km, mb4.1/35, MS3.8/9, Error ellipse: s-maj=5.3km s-min=3.1km az=1.5*

*IDC **24** 21:51:53.6±0.5, 18°.45N×72°.64W, h0km, mb4.0/19, mb1 4.2/21, mb1mx4.1/34, mbtmp4.0/21, ML3.4/2, MS3.6/9, Ms1 3.6/9, ms1mx3.2/41, Error ellipse: s-maj=17.8km s-min=13.8km az=60.0*

*JSN **24** 21:51:53.8±0.3, 18°.92N×72°.32W, h50km±999km, MD5.1*

*NEIC **24** 21:51:54.9±1.1, 18°.51N×72°.64W, h7km±7km, mb4.5/19, Error ellipse: s-maj=4.8km s-min=3.5km az=182.0*

NEIC Felt at Delmas, Port-au-Prince and Vieux Bourg d'Aquin.

ISC 24 21:51:56.5±0.9**, 18°.51N**±0°.05×**72°.59W**±0°.04**, h17**km±5km**, n123, σ1s.33**/138**, mb4.2**/35**, MS3.7**/9**, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.32	69	ePg	Pn	21 52 19.9	-0.3
SDDR				eSg	Sn	21 52 36.4	-1.0
GTBY	Guantanamo Bay	2.77	301	ePn	Pn	21 52 38.1	-2.1
GTBY				eSn	Sn	21 53 15.0	+1.7
GRTK	Grand Turk	3.29	24	ePn	Pn	21 52 46.2	-1.1
GRTK				eSn	Sn	21 53 25.5	-0.5
YHJ	Yallahs	3.76	261	eP	Pn	21 52 53.0	-0.9
YHJ	Yallahs	3.76	261	eP	Pn	21 52 53.0	-0.9
GWJ	Greenwich	3.96	264	eP	Pn	21 52 55.3	-1.4
GWJ	Greenwich	3.96	264	eP	Pn	21 52 55.3	-1.4
HOJ	Hope	3.99	263	iP	Pn	21 52 56.0	-0.9
HOJ	Hope	3.99	263	iP	Pn	21 52 56.0	-0.9
STH	Stony Hill	4.04	265	iP	Pn	21 52 56.2	-1.4
STH				iS	Sn	21 53 43.0	-1.5
STH	Stony Hill	4.04	265	iP	Pn	21 52 56.2	-1.4
STH				iS	Sn	21 53 43.0	-1.5
MTDJ	Mount Denham	4.71	267	ePn	Pn	21 53 04.8	-2.0
MTDJ				eSn	Sn	21 54 03.3	+2.1
CVJ	Coleyville	4.71	267	eP	Pn	21 53 05.2	-1.8
CVJ	Coleyville	4.71	267	eP	Pn	21 53 05.2	-1.8
CRPR	Cabo Rojo, PR	5.23	95	ePn	Pn	21 53 15.2	+1.3
	94nm,0.6s						
CRPR				eSn	Sn	21 54 15.0	+1.2
LSP	Las Mesas	5.23	93	ePn	Pn	21 53 15.2	+1.2
LSP				eSn	Sn	21 54 20.6	+6.5
LRS	Lares	5.46	91	ePn	Pn	21 53 17.2	+0.1
LRS				eSg	Sg	21 54 45.1	-6.6
AOPR	Arecibo Observ	5.54	91	ePn	Pn	21 53 20.9	+2.7
AOPR				eSn	Sn	21 54 22.1	+0.5
OBIP	Obispado Ponce	5.70	94	ePn	Pn	21 53 21.1	+0.7
	57nm,0.5s						
OBIP				eSn	Sn	21 54 25.9	+0.4
CELP	Cerrillos	5.72	93	ePn	Pn	21 53 22.3	+1.6
CELP				eSn	Sn	21 54 26.9	+0.8
CBYP	Canovanas	6.39	91	ePn	Pn	21 53 30.7	+0.7
	82nm,1.0s						
CBYP				eSn	Sn	21 54 43.1	+0.4
SABA	Saba	8.93	94	ePn	Pn	21 54 05.2	+0.3
SABA				eSn	Sn	21 55 44.5	-0.7
SDV	Santo Domingo	9.75	169	ePn	Pn	21 54 16.6	+0.4
SDV				eSn	Sn	21 55 55.7	-10
MLG	Mont-d'or	10.67	102	eP	Pn	21 54 28.8	+0.1
HMG	Houelmont	10.70	102	eP	Pn	21 54 31.7	+2.6
SEG	Port Louis	10.78	99	eP	Pn	21 54 31.9	+1.7
BCIP	Isla Barro Col	11.65	218	ePn	Pn	21 54 40.8	-1.3
BCIP				eSn	Sn	21 56 38.9	-13
ROSC	El Rosal	13.67	187	ePn	Pn	21 55 12.6	+2.5
ROSC	El Rosal	13.67	187	Pn	Pn	21 55 10.6	+0.5
	1.2nm,0.3s,baz=238,slow=23,SNR=4.3						
ROSC				Sn	Sn	21 57 42.3	+0.4
	0.9nm,0.3s,baz=60,slow=20,SNR=2.6						
JTS	JuntasAbangare	14.49	237	ePn	Pn	21 55 19.8	-1.2
JTS	JuntasAbangare	14.49	237	Pn	Pn	21 55 22.6	+1.6
	1.1nm,0.3s,baz=354,slow=22,SNR=4.7						
JTS				LR	LR	22 01 22.4	
	comp=Z,96nm,18.3s,baz=52,slow=40						
TEIG	Tepich	14.91	279	ePn	Pn	21 55 26.1	-0.5
TEIG	Tepich	14.91	279	Pn	Pn	21 55 25.9	-0.7
	1.0nm,0.3s,baz=82,slow=18,SNR=5.1						
APG	El Apazote	17.47	261	P	P	21 56 04.2	+3.2
APG	El Apazote	17.47	261	P	P	21 56 04.2	+3.2
	0.1nm,0.3s,baz=73,slow=18,SNR=5.0						
JSC	Jenkinsville	17.51	335	ePn	Pn	21 55 60.0	+0.1
OTAV	Otavalo	19.05	198	ePn	Pn	21 56 19.9	+0.6
	7.7nm,0.8s						
TKL	Tuckaleechee C	19.75	332	P	Pn	21 56 33.8	+6.6
TKL	Tuckaleechee C	19.75	332	P	Pn	21 56 33.8	+6.6
	0.2nm,0.3s,baz=138,slow=8.0,SNR=4.9						
TKL				LR	LR	22 04 19.8	
	comp=Z,122nm,20.1s,baz=119,slow=38						
TZTN	Tazewell	20.40	334	ePn	Pn	21 56 35.8	+1.0
	38nm,1.4s						
WVT	Waverly	22.12	326	eP	P	21 56 50.1	-1.1
	3.7nm,0.5s						
PTGA	Pitinga	22.79	146	eP	P	21 56 58.7	+0.2
	5.0nm,1.0s						
PTGA	Pitinga	22.79	146	P	P	21 56 59.5	+1.0
	17nm,0.9s,baz=337,slow=10,SNR=21						
WES	Weston	23.83	2	eP	P	21 57 07.7	-0.9
	22nm,1.0s						
ACCN	Adirondack Com	24.82	358	eP	P	21 57 19.2	+1.4
	9.9nm,0.9s						
ATAH	Atahualpa	26.11	193	LR	LR	22 09 07.6	
	comp=Z,123nm,18.6s,baz=324,slow=40						
WMOK	Wichita Mounta	28.34	310	eP	P	21 57 49.4	-0.3
	1.2nm,0.8s						
SAML	Samuel	28.82	160	eP	P	21 57 52.3	-1.7
	2.4nm,0.7s						
TXAR	Lajitas Array	30.30	297	P	P	21 58 07.3	+0.1
TXAR				PcP	PcP	22 01 07.6	+0.1
TXAR	Lajitas Array	30.30	297	P	P	21 58 07.3	+0.1
	0.8nm,0.6s,baz=120,slow=7.6,SNR=4.7						
TXAR				PcP	PcP	22 01 07.6	+0.1
	0.8nm,0.7s,baz=123,slow=4.6,SNR=5.6						
LPAZ	La Paz	34.85	172	LR	LR	22 15 13.5	
	comp=Z,64nm,18.6s,baz=32,slow=40						
SCHQ	Schefferville	36.53	6	P	P	21 59 01.8	+0.8
SCHQ	Schefferville	36.53	6	P	P	21 59 01.8	+0.8
	2.6nm,0.6s,baz=47,slow=16,SNR=3.7						
ULM	Lac du Bonnet	36.73	335	eP	P	21 59 07.2	+4.5
	54nm,2.3s						
ULM	Lac du Bonnet	36.73	335	P	P	21 59 05.3	+2.5
	5.3nm,0.9s,baz=150,slow=9.5,SNR=7.6						
PDAR	Pinedale Array	39.49	316	P	P	21 59 26.6	+0.1
PDAR				PcP	PcP	22 01 33.4	-0.8
PDAR	Pinedale Array	39.49	316	P	P	21 59 26.6	+0.1
	0.4nm,0.5s,baz=121,slow=11,SNR=3.1						
PDAR				PcP	PcP	22 01 33.4	-0.8
	1.0nm,0.8s,baz=107,slow=5.0,SNR=5.6						
LOHW	Long Hollow	40.55	317	eP	P	21 59 34.4	-0.9
	66nm,2.8s						
REDW	Red Top Meadow	40.60	316	eP	P	21 59 36.1	+0.3
	19nm,1.6s						
MOOW	Moose Ponds	40.70	317	eP	P	21 59 35.0	-1.5
	3.8nm,0.9s						
FXWY	Fox Creek	40.84	316	eP	P	21 59 37.8	+0.2
	54nm,2.6s						
BDFB	Brasilia	41.68	143	P	P	21 59 44.2	-0.4
BDFB	Brasilia	41.68	143	P	P	21 59 44.2	-0.4
	3.9nm,0.6s,baz=312,slow=10,SNR=7.3						
PFO	Pinyon Flat Ob	41.86	300	LR	LR	22 19 34.1	
	comp=Z,52nm,18.0s,baz=280,slow=40						
MCMT	McKenzie Canyo	42.53	317	eP	P	21 59 51.6	+0.1
	1.6nm,1.0s						
ELK	Elko	42.66	311	LR	LR	22 19 55.2	
	comp=Z,98nm,18.2s,baz=356,slow=39						
DAC	Darwin (Calif)	43.28	304	eP	P	22 00 00.2	+2.6
	58nm,2.3s						
NVAR	Mina Array Bea	44.30	306	P	P	22 00 06.5	+0.6
NVAR				PcP	PcP	22 01 49.8	-0.2
NVAR	Mina Array Bea	44.30	306	P	P	22 00 06.5	+0.6
	0.8nm,0.7s,baz=104,slow=6.3,SNR=7.9						
NVAR				PcP	PcP	22 01 49.8	-0.2
	0.8nm,0.8s,baz=144,slow=3.3,SNR=4.7						
CPUP	Villa Florida	46.97	161	P	P	22 00 26.2	-0.5
CPUP	Villa Florida	46.97	161	P	P	22 00 26.2	-0.5
	1.1nm,0.5s,baz=342,slow=5.9,SNR=3.4						
B08A	Colville Reser	48.03	319	eP	P	22 00 34.8	-0.1
	5.1nm,0.8s						
YKA	Yellowknife Ar	52.65	337	P	P	22 01 09.2	-0.3
YKA	Yellowknife Ar	52.65	337	P	P	22 01 09.1	-0.3
	1.0nm,0.8s,baz=124,slow=7.3,SNR=19						
BBB	Bella Bella	54.60	321	LR	LR	22 25 47.0	
	comp=Z,50nm,19.7s,baz=122,slow=37						
SUMG	Summit	57.49	12	iP	P	22 01 45.6	+0.8
	15nm,1.0s						
SUMG	Summit	57.49	12	eP	P	22 01 45.6	+0.8
	22nm,0.9s						
RES	Resolute Bay	57.49	353	P	P	22 01 48.4	+4.1
RES	Resolute Bay	57.49	353	P	P	22 01 48.4	+4.1
	2.6nm,0.8s,baz=163,slow=14,SNR=6.3						
DLBC	Dease Lake	57.52	328	LR	LR	22 27 27.5	
	comp=Z,97nm,18.5s,baz=125,slow=37						
PLCA	Paso Flores	58.96	178	eP	P	22 01 54.1	-1.0
	4.8nm,0.9s						
PLCA	Paso Flores	58.96	178	P	P	22 01 53.8	-1.3
	4.4nm,1.0s,baz=8.0,slow=9.6,SNR=4.4						
ESDC	Sonseca Array	62.12	54	P	P	22 02 17.0	+0.1
ESDC	Sonseca Array	62.12	54	P	P	22 02 17.0	+0.1
	1.9nm,0.9s,baz=270,slow=7.0,SNR=6.3						
ILAR	Eielson Array	66.73	333	P	P	22 02 46.1	-0.3
ILAR	Eielson Array	66.73	333	P	P	22 02 46.1	-0.3
	0.8nm,0.9s,baz=92,slow=4.0,SNR=5.9						
NOA	NORSAR Array B	71.00	31	P	P	22 03 12.5	-0.7
NOA	NORSAR Array B	71.00	31	P	P	22 03 12.5	-0.7
	0.8nm,0.8s,baz=297,slow=12,SNR=3.3						
TORD	Torodi Ar. Bea	71.23	82	P	P	22 03 14.5	-0.8
TORD	Torodi Ar. Bea	71.23	82	P	P	22 03 14.5	-0.8
	1.0nm,0.8s,baz=287,slow=7.3,SNR=6.9						
TAM	Tamanrasset	72.42	71	eP	P	22 03 21.4	-1.2
KEST	Kesra	73.03	57	P	P	22 03 26.8	+0.9
KEST	Kesra	73.03	57	P	P	22 03 26.8	+0.9
	1.5nm,0.8s,baz=34,slow=1.6,SNR=5.6						
KHC	Kasperske Hory	73.76	43	eP	P	22 03 31.0	+1.1
KHC				epP	pP	22 03 33.3	-2.1
GERES	GERESS Array B	73.89	43	P	P	22 03 31.9	+1.2
GERES	GERESS Array B	73.89	43	P	P	22 03 31.9	+1.2
	2.1nm,0.9s,baz=276,slow=4.8,SNR=15						
GERES				LR	LR	22 32 09.4	
	comp=Z,41nm,20.4s,baz=284,slow=33						
PRU	Pruhonice	74.24	42	eP	P	22 03 33.9	+1.3
PRU				epP	pP	22 03 37.0	-1.1
DPC	Dobruska-Polom	75.30	41	eP	P	22 03 40.6	+1.8
DPC				epP	pP	22 03 43.2	-1.1
DPC	Dobruska-Polom	75.30	41	eP	P	22 03 42.8	+4.0
ARCES	ARCESS Array B	75.62	21	P	P	22 03 40.5	+0.3
ARCES	ARCESS Array B	75.62	21	P	P	22 03 40.5	+0.3
	1.4nm,0.8s,baz=282,slow=5.4,SNR=5.2						
KRLC	Kraliky	75.64	42	eP	P	22 03 41.8	+1.0
FINES	FINESS Array B	77.99	29	P	P	22 03 54.6	+0.9
FINES	FINESS Array B	77.99	29	P	P	22 03 54.6	+0.9
	1.9nm,0.9s,baz=298,slow=8.4,SNR=4.2						
KECS	Kecovo	78.36	43	eP	P	22 03 57.8	+1.7
STHS	Stebnicka Huta	78.61	42	eP	P	22 03 59.7	+2.3
CRVS	Cervenica-Dubn	78.88	42	eP	P	22 04 00.0	+1.1
AKASG	Malin Array Be	83.11	39	P	P	22 04 21.1	-0.3
AKASG	Malin Array Be	83.11	39	P	P	22 04 21.1	-0.3
	0.4nm,0.5s,baz=289,slow=4.1,SNR=4.2						
BILL	Bilibino	83.82	341	eP	P	22 04 25.2	+0.5
	2.0nm,0.6s						
BRTR	Keskin Array B	90.21	48	P	P	22 04 57.4	+0.8
BRTR	Keskin Array B	90.21	48	P	P	22 04 57.4	+0.8
	0.5nm,0.7s,baz=311,slow=8.4,SNR=3.4						
KSH	Kashi	115.23	26	ePKP	PKPdf	22 10 38.0	+0.4
KSH				esPKP		22 10 52.3	
KSH				ePP	PP	22 11 47.6	+11
KSH				eSKS	SKSdf	22 17 45.3	-4.1
KSH				eSKKS	SKKSac	22 18 35.3	-3.8
KSH	Kashi	115.23	26	eSS	SS	22 27 43.4	+10
KSH				AMB	AMB		
	comp=Z,48nm,3.5s						
KSH				LR	LR		
	comp=N,11nm,2.5s						
KSH				LR	LR		
	comp=E,20nm,3.9s						
KSH				LR	LR		
	comp=Z,22nm,3.6s						
WMQ	Urumqi	115.40	16	PKP	PKPdf	22 10 37.8	+0.1
WMQ				PP	PP	22 11 43.9	+6.2
WMQ				AMB	AMB		
	comp=Z,11nm,6.4s						
WMQ				LR	LR		
	comp=N,12nm,17.2s						
WMQ				LR	LR		
	comp=E,11nm,18.5s						
WMQ				LR	LR		
	comp=Z,19nm,18.1s						
HHC	Hu-ho-hao-te	120.82	356	ePKP	PKPdf	22 10 48.3	0.0
HHC				PP	PP	22 12 19.5	+4.3
HHC				PKS	PKSdf	22 14 24.1	-1.0
HHC				SKKS		22 19 13.6	
HHC	Hu-ho-hao-te	120.82	356	SS	SS	22 28 46.5	+1.7
HHC				AMB	AMB		
	comp=Z,110nm,5.4s						
HHC				LR	LR		
	comp=N,240nm,18.4s						
HHC				LR	LR		
	comp=E,180nm,19.0s						
HHC				LR	LR		
	comp=Z,160nm,18.4s						
CMAR	Chiang Mai Arr	142.34	13	PKP	PKPdf	22 11 28.6	-0.6
CMAR	Chiang Mai Arr	142.34	13	PKP	PKPdf	22 11 28.6	-0.6
	comp=Z,0.3nm,0.3s,baz=320,slow=3.1,SNR=4.3						
WRA	Warramunga Arr	154.54	262	PKP	PKPdf	22 11 47.9	-0.9
WRA				PKPbc	PKPbc	22 11 55.6	-1.7
WRA	Warramunga Arr	154.54	262	PKP	PKPdf	22 11 47.9	-0.9
	comp=Z,0.8nm,0.8s,baz=85,slow=1.3,SNR=5.7						
WRA				PKPbc	PKPbc	22 11 55.6	-1.7
	comp=Z,1.8nm,0.8s,baz=87,slow=2.1,SNR=9.6						
ASAR	Alice Springs	154.78	254	PKP	PKPdf	22 11 47.8	-1.3
ASAR				PKPbc	PKPbc	22 11 56.0	-1.7
ASAR	Alice Springs	154.78	254	PKP	PKPdf	22 11 47.8	-1.3
	comp=Z,0.5nm,0.8s,baz=111,slow=1.9,SNR=4.3						
ASAR				PKPbc	PKPbc	22 11 56.0	-1.7
	comp=Z,0.6nm,0.6s,baz=95,slow=2.6,SNR=7.0						

IDC 24 22:02:29.5±3.6**, 6°.47S**×**149°.93E, h0**km**, mb3.1**/2**, mb1 3.5**/2**, mb1mx3.2**/28**, mbtmp3.2**/2**, Error ellipse: s-maj=130.3km s-min=47.5km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.21	227	P	P	22 07 05.5	-0.7
	0.5nm,0.3s,baz=52,slow=11,SNR=13						
ASAR	Alice Springs	23.01	220	P	P	22 07 36.6	+0.3
	0.4nm,1.0s,baz=60,slow=9.7,SNR=4.7						
TORD	Torodi Ar. Bea	148.03	284	PKPbc	PKPbc	22 22 17.6	-0.6
	0.4nm,0.6s,baz=85,slow=3.6,SNR=8.4						

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*ISCJB **24** 22:04:46.1±0.8, 17°.8S±0°.3×178°.2W±0°.2, h590km, mb4.1/14, Error ellipse: s-maj=36.7km s-min=11.0km az=154.1*

*IDC **24** 22:04:47.2±2.5, 17°.95S×178°.10W, h594km±28km, mb3.6/14, mb1 3.8/15, mb1mx3.5/34, mbtmp4.5/15, Error ellipse: s-maj=32.1km s-min=12.0km az=153.0*

ISC 24 22:04:46.7±1.0**, 17°.9S**±0°.3×**178°.1W**±0°.2**, h590**km**, n26, σ0s.66**/27**, mb4.1**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.25	57	P	P	22 06 33.4	-5.4
	4.2nm,0.3s,baz=44,slow=4.7,SNR=4.8						
DZM	Mont Dzumac	15.13	252	P	P	22 07 57.6	+1.1
	1.1nm,0.3s,baz=56,slow=16,SNR=8.3						
CTA	Charters Tower	33.76	261	P	P	22 10 40.5	-0.5
	9.5nm,0.6s,baz=104,slow=9.6,SNR=6.6						
STKA	Stephens Creek	38.90	241	P	P	22 11 23.3	+0.2
	20nm,0.9s,baz=86,slow=8.8,SNR=32						
JAY	Jayapura	43.22	286	P	P	22 11 58.4	+0.9
	31nm,0.8s,baz=86,slow=3.9,SNR=5.7						
WRA	Warramunga Arr	44.95	260	P	P	22 12 09.7	-1.0
	9.8nm,0.6s,baz=96,slow=7.4,SNR=92						
WRA				PcP	PcP	22 13 39.1	0.0
	0.9nm,0.5s,baz=90,slow=3.9,SNR=4.6						
ASAR	Alice Springs	45.10	254	P	P	22 12 11.3	-0.4
	32nm,0.7s,baz=85,slow=8.6,SNR=241						
ASAR				PcP	PcP	22 13 39.4	-0.2
	1.5nm,0.5s,baz=101,slow=3.9,SNR=5.8						
ASAR				S	S	22 18 08.5	-0.6
	1.9nm,0.9s,baz=84,slow=15,SNR=5.2						
MJAR	Matsushiro Arr	68.12	323	P	P	22 14 48.7	-0.2
	1.6nm,0.5s,baz=163,slow=5.9,SNR=7.9						
PETK	Petropavlovsk-	73.78	345	P	P	22 15 21.4	-0.2
	6.3nm,0.9s,baz=149,slow=9.7,SNR=4.2						
NVAR	Mina Array Bea	79.22	44	P	P	22 15 52.1	+0.2
	2.4nm,0.7s,baz=222,slow=9.0,SNR=17						
ELK	Elko	82.45	43	P	P	22 16 08.7	+0.1
	0.4nm,0.5s,baz=115,slow=2.0,SNR=5.8						
TXAR	Lajitas Array	85.73	57	P	P	22 16 25.8	+1.1
	4.8nm,1.0s,baz=224,slow=5.2,SNR=15						
ANMO	Albuquerque	85.86	51	P	P	22 16 25.5	+0.2
	1.2nm,0.9s,baz=168,slow=5.7,SNR=3.6						
PDAR	Pinedale Array	87.14	43	P	P	22 16 30.9	-0.3
	1.0nm,0.7s,baz=215,slow=1.8,SNR=5.9						
CMAR	Chiang Mai Arr	89.20	290	P	P	22 16 42.4	+1.4
	2.3nm,0.9s,baz=112,slow=3.1,SNR=14						
YKA	Yellowknife Ar	94.22	25	P	P	22 17 02.3	-0.7
	0.3nm,0.8s,baz=249,slow=4.6,SNR=4.5						
MKAR	Makanchi Array	109.38	314	PKiKP	PKiKP	22 22 09.4	-1.4
	0.1nm,0.3s,baz=159,slow=2.2,SNR=5.4						
ARCES	ARCESS Array B	126.39	350	PKP	PKPdf	22 22 41.9	-0.7
	1.7nm,0.8s,baz=42,slow=2.0,SNR=5.4						
BRTR	Keskin Array B	145.03	315	PKPbc	PKPbc	22 23 18.9	0.0
	2.8nm,0.9s,baz=96,slow=2.4,SNR=13						
CLL	Collm	145.56	348	iP	PKPbc	22 23 19.7	-0.2
	comp=Z,5.0nm,1.0s						
CLL				e		22 23 44.0	
OKC	Ostrava-Krasne	145.60	341	eP	PKPdf	22 23 18.1	-0.4
UPC	Upice	145.60	344	eP	PKPbc	22 23 20.1	0.0
DPC	Dobruska-Polom	145.66	344	eP	PKPbc	22 23 20.4	+0.1
DPC				ex	x	22 23 28.2	
KRLC	Kraliky	145.78	343	eP	PKPbc	22 23 20.7	0.0
PRU	Pruhonice	146.45	345	eP	PKPdf	22 23 20.0	+0.1
GERES	GERESS Array B	147.72	345	PKPbc	PKPbc	22 23 26.0	+0.1
	comp=Z,0.7nm,0.5s,baz=29,slow=3.4,SNR=13						

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*IDC **24** 22:10:12.6±1.3, 18°.49S×168°.09E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.2/34, mbtmp4.4/10, ML3.7/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/26, Error ellipse: s-maj=40.1km s-min=20.2km az=132.0*

*NEIC **24** 22:10:13.8±0.5, 18°.49S×168°.10E, h10km, mb4.6/8, Error ellipse: s-maj=14.7km s-min=9.5km az=127.0*

*ISCJB **24** 22:10:15.7±0.7, 18°.55S±0°.06×167°.9E±0°.1, h29km, mb4.4/14, MS3.7/6, Error ellipse: s-maj=17.9km s-min=7.2km az=13.4*

ISC 24 22:10:16.9±0.7**, 18°.57S**±0°.08×**168°.0E**±0°.2**, h29**km**, n40, σ0s.91**/37**, mb4.5**/14**, MS3.7**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.73	196	eS	Sn	22 11 55.9	+0.5
DZM	Mont Dzumac	3.79	203	ePn	Pn	22 11 13.1	-0.3
DZM				eSn	Sn	22 11 58.2	+1.1
DZM	Mont Dzumac	3.79	203	Pn	Pn	22 11 13.8	+0.3
	5.7nm,0.3s,baz=73,slow=13,SNR=70						
DZM				Sn	Sn	22 11 55.2	-2.0
	12nm,0.3s,baz=320,slow=22,SNR=9.4						
DZM				LR	LR	22 12 42.1	
	comp=Z,887nm,18.3s,baz=44,slow=39						
DZM	Mont Dzumac	3.79	203	eP	Pn	22 11 12.7	-0.8
DZM				eS	Sn	22 11 55.1	-2.0
DZM				AMP		22 12 08.8	
	comp=Z,422nm,10.4s						
HNR	Honiara	11.98	318	LR	LR	22 16 49.5	
	comp=Z,163nm,21.9s,baz=158,slow=33						
ARMA	Armidale	18.99	228	eP	Pn	22 14 37.0	-0.2
	comp=Z,5.5nm,0.7s						
AFI	Afiamalu	19.94	80	LR	LR	22 20 39.5	
	comp=Z,271nm,20.4s,baz=353,slow=32						
CTA	Charters Tower	20.59	262	P	Pn	22 14 56.0	-0.2
CTA	Charters Tower	20.59	262	P	Pn	22 14 56.0	-0.2
	comp=Z,3.3nm,0.3s,baz=80,slow=12,SNR=5.0						
CTAO	Charters Tower	20.59	262	eP	P	22 14 54.1	+0.3
PMG	Port Moresby	22.17	291	LR	LR	22 22 16.4	
	comp=Z,201nm,18.4s,baz=108,slow=33						
CAN	Canberra	23.72	221	eP	P	22 15 27.6	+1.0
	comp=Z,13nm,0.8s						
STKA	Stephens Creek	27.24	236	eP	P	22 15 59.5	+0.9
	comp=Z,5.5nm,1.0s						
STKA	Stephens Creek	27.24	236	P	P	22 16 00.1	+1.5
	comp=Z,9.0nm,0.8s,baz=59,slow=7.6,SNR=14						
STKA				LR	LR	22 26 46.5	
	comp=Z,140nm,18.1s,baz=29,slow=36						
JAY	Jayapura	31.15	298	LR	LR	22 29 18.2	
	comp=Z,175nm,18.9s,baz=281,slow=37						
WRAB	Tennant Creek	31.78	262	eP	P	22 16 38.6	-0.4
	comp=Z,5.5nm,0.9s						
WRA	Warramunga Arr	31.79	262	P	P	22 16 38.2	-1.0
WRA	Warramunga Arr	31.79	262	P	P	22 16 38.2	-1.0
	comp=Z,1.6nm,0.8s,baz=90,slow=8.9,SNR=8.0						
WRA				LR	LR	22 29 22.5	
	comp=Z,155nm,18.8s,baz=95,slow=36						
AS31	Alice Springs	32.17	255	eP	P	22 16 42.4	-0.1
ASAR	Alice Springs	32.17	255	P	P	22 16 42.8	+0.3
ASAR	Alice Springs	32.17	255	P	P	22 16 42.8	+0.3
	comp=Z,9.0nm,0.8s,baz=82,slow=8.9,SNR=37						
ASAR				LR	LR	22 29 27.2	
	comp=Z,196nm,20.6s,baz=106,slow=36						
USRK	Ussuriysk Arra	70.61	333	P	P	22 21 30.1	+0.7
	comp=Z,2.6nm,0.8s,baz=137,slow=4.5,SNR=8.0						
QSPA	South Pole Qui	71.48	180	eP	P	22 21 36.2	+1.4
	comp=Z,8.7nm,1.2s						
PETK	Petropavlovsk-	71.93	353	P	P	22 21 36.9	-0.4
PETK	Petropavlovsk-	71.93	353	P	P	22 21 36.9	-0.4
	comp=Z,8.3nm,0.9s,baz=156,slow=8.8,SNR=6.7						
CMAR	Chiang Mai Arr	77.17	295	P	P	22 22 09.4	+1.0
CMAR	Chiang Mai Arr	77.17	295	P	P	22 22 09.4	+1.0
	comp=Z,0.7nm,0.4s,baz=134,slow=2.6,SNR=9.7						
ULN	Ulaanbaatar	85.64	324	eP	P	22 22 52.5	-0.4
	comp=Z,5.6nm,1.4s						
SONM	Songino Array	85.99	324	P	P	22 22 54.8	+0.1
SONM	Songino Array	85.99	324	P	P	22 22 54.8	+0.1
	comp=Z,2.4nm,1.0s,baz=138,slow=5.0,SNR=13						
BILL	Bilibino	86.36	359	eP	P	22 22 54.9	-0.9

comp=Z,14nm,1.1s
NVAR Mina Array Bea 89.23 49 P P 22 23 10.9 +0.4
NVAR Mina Array Bea 89.23 49 P P 22 23 10.9 +0.4
comp=Z,1.3nm,0.9s,baz=238,slow=8.1,SNR=6.8
SNAA Sanae 89.78 183 *eP* **P 22 23 12.3 -0.1**
comp=Z,5.1nm,1.1s
ARCES ARCESS Array B 124.12 345 PKP PKPdf 22 29 11.9 -0.1
ARCES ARCESS Array B 124.12 345 PKP PKPdf 22 29 11.9 -0.1
comp=Z,1.4nm,0.9s,baz=45,slow=2.9,SNR=1.2
GERES GERESS Array B 143.35 331 PKP PKPdf 22 29 47.1 -1.5
GERES GERESS Array B 143.35 331 PKP PKPdf 22 29 47.1 -1.5
comp=Z,0.3nm,0.6s,baz=101,slow=4.1,SNR=4.1
TORD Torodi Ar. Bea 165.78 250 PKP PKPdf 22 30 19.2 -0.7
TORD Torodi Ar. Bea 165.78 250 PKP PKPdf 22 30 19.2 -0.7
comp=Z,0.8nm,0.9s,baz=103,slow=1.5,SNR=4.0

IDC 24 22:11:08.5±71.0, 13°44.S×179°45.W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, Error ellipse: s-maj=1295.0km s-min=175.3km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.09**	**236**	P	P	22 18 46.0	0.0
	1.0nm,0.5s,baz=84,slow=9.5,SNR=4.1						
WRA	**Warramunga Arr**	**44.63**	**255**	P	P	22 19 23.1	-0.1
	0.2nm,0.7s,baz=82,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**45.21**	**250**	P	P	22 19 27.4	-0.3
	0.7nm,0.5s,baz=82,slow=8.5,SNR=6.7						

IDC 24 22:11:06.6±4.6, 3°.49N×114°.38E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/39, mbtmp3.6/6, MS3.2/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=110.4km s-min=77.8km az=24.0
KLM 24 22:11:07.2, 3°.65N×113°.82E, h10km, mb3.8, ML3.7
ISCJB 24 22:11:10.3±1.4, 3°.4N±0°.2×113°.9E±0°.1, h33km, mb3.5/5, MS3.0/1, Error ellipse: s-maj=31.7km s-min=8.3km az=150.0
ISC 24 22:11:12.7±1.8, 3°.3N±0°.2×113°.7E±0°.1, h35km, n11, σ1 90°/11, mb3.5/5, 1C-4D, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTM	**Bintulu**	**0.67**	**258**	⇓S	**Sn**	**22 11 36.5**	**+1.5**
BTM	**Bintulu**	**0.67**	**258**	⇑P	**Pn**	**22 11 23.8**	**-1.9**
SBUM	**Sibu**	**1.75**	**240**	⇓P	**Pn**	**22 11 40.5**	**-0.1**
KKM	**Kota Kinabalu**	**3.65**	**42**	⇓P	Pn	22 12 02.8	-4.1
SDKM	**Sandakan**	**4.14**	**56**	⇓P	**Pn**	**22 12 13.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**20.87**	**317**	P	**P**	**22 15 53.2**	**+1.2**
	2.8nm,0.8s,baz=140,slow=8.7,SNR=25						
CMAR				LR	LR	22 24 41.9	
	comp=Z,54nm,18.3s,baz=81,slow=38						
SONM	**Songino Array**	**44.78**	**353**	P	**P**	**22 19 22.6**	**-0.5**
	0.3nm,0.6s,baz=163,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**51.16**	**333**	P	**P**	**22 20 12.3**	**-0.1**
	0.4nm,0.7s,baz=125,slow=6.4,SNR=4.9						
MKAR				PcP	**PcP**	**22 21 27.6**	**0.0**
	0.4nm,0.7s,baz=141,slow=4.2,SNR=4.4						
KURBB	**Kurchatov Arra**	**55.66**	**334**	P	**P**	**22 20 45.2**	**0.0**
	0.2nm,0.5s,baz=133,slow=6.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**55.73**	**340**	P	**P**	**22 20 45.4**	**-0.3**
	0.7nm,0.6s,baz=133,slow=6.5,SNR=4.6						
BVAR	**Borovoye Array**	**61.02**	**332**	P	**P**	**22 21 22.9**	**+0.2**
	0.4nm,0.6s,baz=144,slow=5.4,SNR=3.3						

IDC 24 22:18:01.4±1.4, 0°.19N×125°.89E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.6/34, mbtmp4.0/5, Error ellipse: s-maj=171.9km s-min=18.4km az=64.0
ISCJB 24 22:18:07.8±0.7, 0°.39N±0°.06×126°.62E±0°.05, h44km, mb4.0/5, Error ellipse: s-maj=9.5km s-min=6.8km az=162.9
DJA 24 22:18:08.1±1.0, 0°N±5°×12°7E±°, h22km±20km, M3.7/4, MLv3.7/4
ISC 24 22:18:07.9±0.9, 0°.47N±0°.07×126°.62E±0°.05, h44km, n9, σ1 76°/12, mb4.2/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.81**	**68**	P	**Pn**	**22 18 23.8**	**+0.9**
TNTI				S	**Sn**	**22 18 34.8**	**+1.1**
LBMI	**Labuha**	**1.41**	**141**	P	**Pn**	**22 18 32.8**	**+1.7**
LBMI				S	**Sn**	**22 18 51.3**	**+2.8**
SANI	**Sanana**	**2.58**	**194**	P	Pn	22 18 50.7	+3.5
SANI				S	**Sn**	**22 19 16.0**	**-1.3**
KMSI	**Cibinong**	**2.64**	**272**	P	**Pn**	**22 18 49.7**	**+1.7**
KMSI				S	**Sn**	**22 19 21.0**	**+2.2**
WRA	**Warramunga Arr**	**21.65**	**160**	P	**P**	**22 22 53.9**	**-0.9**
	4.7nm,0.4s,baz=336,slow=10,SNR=63						
ASAR	**Alice Springs**	**25.01**	**164**	P	**P**	**22 23 27.6**	**-0.3**
	2.4nm,0.3s,baz=344,slow=11,SNR=43						
STKA	**Stephens Creek**	**35.16**	**158**	P	**P**	**22 24 56.2**	**-1.3**
	1.6nm,0.5s,baz=331,slow=9.3,SNR=5.5						
MKAR	**Makanchi Array**	**60.17**	**326**	P	**P**	**22 28 10.1**	**-1.2**
	0.3nm,0.5s,baz=115,slow=7.4,SNR=14						
KURBB	**Kurchatov Arra**	**64.42**	**328**	P	**P**	**22 28 38.4**	**-1.2**
	0.5nm,0.5s,baz=128,slow=6.1,SNR=10						

MEX 24 22:20:35.0±0.6, 17°.37N×101°.57W, h24km±47km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.47**	**52**	*eP*	Pn	22 20 57.5	-2.6
ARIG				*eS*	Sn	22 21 14.1	-4.5
ACX	**Acapulco**	**1.71**	**107**	*i* P	Pn	22 20 54.7	-8.7
ACX				*i* S	Sn	22 21 14.5	-10
PLIG	**Platanillo**	**2.21**	**62**	*eP*	Pn	22 21 08.3	-2.1
PLIG				*eS*	Sn	22 21 34.4	-2.7
TLIG	**Tlapa**	**2.87**	**86**	*i* P	Pn	22 21 16.4	-3.1
TLIG				*i* S	Sn	22 21 50.2	-3.2
PNIG	**Pinotepa**	**3.43**	**106**	*eP*	Pn	22 21 24.6	-2.5
PNIG				*i* S	Sn	22 22 04.1	-3.0

LDG 24 22:43:11.4±0.2, 16°.40N×61°.85W, h10km, Mb5.2/44, Ms4.1/11, Error ellipse: s-maj=8.6km s-min=5.1km az=98.0
MOS 24 22:43:20.0±0.8, 16°.21N×60°.94W, h44km, mb5.5/78, Error ellipse: s-maj=5.5km s-min=4.4km az=67.8
IDC 24 22:43:21.6±0.3, 16°.09N×61°.00W, h47km±2km, mb4.5/26, mb1 4.7/28, mb1mx4.6/32, mbtmp4.8/28, MS3.9/28, Ms1 3.9/28, ms1mx3.8/35, Error ellipse: s-maj=11.0km s-min=5.0km az=84.0
ISCJB 24 22:43:22.0±0.2, 16°.03N±0°.02×60°.95W±0°.01, h69km±2km, mb5.0/237, Error ellipse: s-maj=2.9km s-min=2.0km az=38.6
TRN 24 22:43:21.4, 16°.04N×60°.87W, h35km, MD4.4, M4.9(FDF), M4.8(FDF)
TRN Felt (III) on most parts of Dominica, (III) on Antigua.
NEIC 24 22:43:23.2±0.2, 16°.03N×60°.93W, h64km±2km, mb5.2/136, Error ellipse: s-maj=3.1km s-min=2.1km az=215.0
NEIC Felt [III] at Baie-Mahault, Les Abymes, Point-a-Pitre, Sainte-Anne and Saint-Francois; [II] at Basse-Terre, Le Gosier, Le Moule, Petit-Bourg and Saint-Claude. Also felt at Bouillante, Capesterre-Belle-Eau, Grand-Bourg, Lamentin, Morne-a-l'Eau and Sainte-Rose. Felt [II] at Saint John's, Antigua. Also felt at Bolands, Carlisle, Cedar Grove, Jolly Harbour and Old Road. Felt [III] at Roseau and [II] at Canefield and Portsmouth, Dominica. Also felt at Calibishie, Castle Bruce, La Plaine, Laudat, Saint Joseph and Wesley. Felt at Holetown, Barbados amd at Ducos, Fort-de-France, Gros-Morne, Le Francois, Le Lamentin, Le Robert, Sainte-Marie, Saint-Esprit and Schoelcher, Martinique.
GCMT 24 22:43:23.2±0.2, 16°.15N×60°.86W, h60km±2km, MW5.0/87, Moment Tensor Solution. s40,c44; s87,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.17; $M_{\theta\theta}$-2.34±.16; $M_{\phi\phi}$4.07±.14; $M_{r\theta}$-2.53±.09; $M_{\theta\phi}$-0.73±.13; $M_{\phi r}$0.98±.10; Best double couple: M_o4.51700×10^{16} NP1:ϕ_s136.00000°,δ52.00000°,λ-138.00000°. NP2: ϕ_s31.00000°,δ51.00000°,λ-23.00000°. Principal axes: T 4.4500, Plg13.0000°, Azm259.0000°; N 0.1350, Plg45.0000°, Azm155.0000°; P -4.5850, Plg42.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s.

nsta2 refers to surface waves, cutoff=50s.
SZGRF 24 22:43:26.3, 16°.09N×60°.08W, h48km, mb5.4, Leeward Islands
ISC 24 22:43:22.0±0.5, 16°.04N±0°.02×60°.90W±0°.04, h53km±4km, n1107, σ0°90/1174, mb5.2/237, MS3.9/31, 254C-252D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.31**	**330**	⇓*eP*	**Pn**	**22 43 31.4**	**-0.2**
H05N1	**Guadeloupe/Mar**	**0.31**	**330**	P	**Pn**	**22 43 31.7**	**+0.1**
H05N1				S	**Sn**	**22 43 38.3**	**0.0**
MGG	**Marie-Galante**	**0.42**	**253**	⇓*iP*	**Pn**	**22 43 33.2**	**+0.6**
SEG	**Port Louis**	**0.69**	**301**	⇑*iP*	**Pn**	**22 43 36.5**	**+0.9**
BCG	**Bois Riant Cap**	**0.70**	**273**	⇑*iP*	**Pn**	**22 43 36.8**	**+0.9**
PHG	**Guadaloupe-2**	**0.72**	**268**	⇑*iP*	**Pn**	**22 43 37.0**	**+0.8**
LKG	**Breislack**	**0.73**	**270**	⇑*iP*	**Pn**	**22 43 37.2**	**+0.7**
CRG	**Carmichael**	**0.73**	**271**	*eP*	**Pn**	**22 43 37.4**	**+1.0**
TAG	**Tarade**	**0.74**	**270**	⇑*iP*	**Pn**	**22 43 37.3**	**+0.8**
TBG	**Guadaloupe-3**	**0.75**	**255**	⇑*iP*	**Pn**	**22 43 36.9**	**+0.4**
SSG	**Sans Toucher**	**0.75**	**274**	⇑*iP*	**Pn**	**22 43 37.3**	**+0.6**
BBL	**Barber's Block**	**0.76**	**227**	⇓*iP*	**Pn**	**22 43 36.8**	**+0.2**
SCG	**Saint Claude**	**0.76**	**269**	⇑*iP*	**Pn**	**22 43 37.4**	**+0.7**
MLG	**Mont-d'or**	**0.78**	**271**	⇑*iP*	**Pn**	**22 43 37.9**	**+0.9**
DLPL	**La Plaine**	**0.78**	**206**	⇓*eP*	**Pn**	**22 43 37.0**	**+0.1**
DLPL				*eS*	**Sn**	**22 43 48.6**	**+0.6**
LZG	**Guadalouipe-1**	**0.85**	**277**	⇓*iP*	**Pn**	**22 43 38.6**	**+0.8**
MDN	**Morne-Daniel**	**0.86**	**214**	⇓*iP*	**Pn**	**22 43 39.4**	**+1.4**
MDN				*eS*	**Sn**	**22 43 51.9**	**+2.1**
MDN	**Morne-Daniel**	**0.86**	**214**	⇓*iP*	**Pn**	**22 43 39.4**	**+1.4**
MDN				*eS*	**Sn**	**22 43 51.9**	**+2.1**
DBCT	**Belle View Cho**	**0.88**	**209**	⇑*eP*	**Pn**	**22 43 39.5**	**+1.3**
DBCT				*eS*	**Sn**	**22 43 52.3**	**+2.1**
DBCT	**Belle View Cho**	**0.88**	**209**	⇑*eP*	**Pn**	**22 43 39.5**	**+1.3**
DBCT				*eS*	**Sn**	**22 43 52.3**	**+2.1**
DSTT	**Stowe**	**0.88**	**206**	*eP*	**Pn**	**22 43 39.5**	**+1.2**
DSTT	**Stowe**	**0.88**	**206**	*eP*	**Pn**	**22 43 39.5**	**+1.2**
DPMT	**Pointe Michel**	**0.91**	**211**	⇓*eP*	**Pn**	**22 43 40.1**	**+1.6**
DPMT				*eS*	**Sn**	**22 43 52.5**	**+1.8**
DPMT	**Pointe Michel**	**0.91**	**211**	⇓*eP*	**Pn**	**22 43 40.1**	**+1.6**
DPMT				*eS*	**Sn**	**22 43 52.5**	**+1.8**
DSHT	**Scott's Head**	**0.94**	**209**	*eP*	**Pn**	**22 43 40.5**	**+1.4**
DSHT				*eS*	**Sn**	**22 43 52.5**	**+0.8**
DSHT	**Scott's Head**	**0.94**	**209**	*eP*	**Pn**	**22 43 40.5**	**+1.4**
DSHT				*eS*	**Sn**	**22 43 52.5**	**+0.8**
SVN	**Savane Anatole**	**1.22**	**192**	*eP*	**Pn**	**22 43 42.1**	**-0.8**
BVM	**Bellevue**	**1.31**	**187**	*eP*	**Pn**	**22 43 44.4**	**+0.3**
FDF	**Fort de France**	**1.33**	**191**	⇓*iP*	**Pn**	**22 43 44.1**	**-0.2**
FDF				*e*		22 44 00.4	
FDF	**Fort de France**	**1.33**	**191**	⇓*eP*	**Pn**	**22 43 44.1**	**-0.2**
FDF				*eS*	**Sn**	**22 44 00.3**	**-0.5**
FDF	**Fort de France**	**1.33**	**191**	⇓*iPn*	**Pn**	**22 43 44.1**	**-0.2**
FDF				*eSn*	**Sn**	**22 44 00.3**	**-0.5**
BPA	**Boggy Peak**	**1.36**	**317**	*eP*	**Pn**	**22 43 46.1**	**+1.4**
BPA				*eS*	**Sn**	**22 44 03.0**	**+1.3**
BPA	**Boggy Peak**	**1.36**	**317**	*eP*	**Pn**	**22 43 46.1**	**+1.4**
BPA				*eS*	**Sn**	**22 44 03.0**	**+1.3**
LPMF	**Morne Lapointe**	**1.46**	**183**	⇓*eP*	**Pn**	**22 43 46.1**	**+0.1**
ZAM	**Aeronautique**	**1.47**	**185**	⇓*eP*	**Pn**	**22 43 46.3**	**+0.2**
MVM	**Montagne Vaucl**	**1.48**	**180**	⇑*iP*	**Pn**	**22 43 47.0**	**+0.7**
TRMF	**Trois Ilets**	**1.51**	**186**	*eP*	**Pn**	**22 43 47.1**	**+0.5**
TRMF				*eS*	**Sn**	**22 44 06.3**	**+1.1**
BIM	**Bigot**	**1.53**	**186**	*eP*	**Pn**	**22 43 47.5**	**+0.5**
BIM				*eS*	**Sn**	**22 44 06.7**	**+0.9**
H05S1	**Guadeloupe/Mar**	**1.61**	**178**	P	**Pn**	**22 43 48.6**	**+0.5**
H05S1				S	**Sn**	**22 44 08.7**	**+1.0**
H05S1				T	T	22 44 16.1	
ANWB	**Willy Bob**	**1.83**	**332**	⇓*eP*	**Pn**	**22 43 50.3**	**-0.7**
ANWB				*eS*	**Sn**	**22 44 14.6**	**+1.6**
ANWB	**Willy Bob**	**1.83**	**332**	⇓*iPn*	**Pn**	**22 43 50.3**	**-0.7**
ANWB				*eSn*	**Sn**	**22 44 14.2**	**+1.2**
SLB	**Belfond**	**2.21**	**184**	*eP*	**Pn**	**22 43 57.9**	**+1.6**
SLB	**Belfond**	**2.21**	**184**	*eP*	**Pn**	**22 43 57.9**	**+1.6**
MCLT	**Moule a Chique**	**2.32**	**181**	⇑*eP*	**Pn**	**22 43 58.5**	**+0.7**
MCLT				*eS*	**Sn**	**22 44 27.2**	**+2.0**
MCLT	**Moule a Chique**	**2.32**	**181**	*eP*	**Pn**	**22 43 59.0**	**+1.2**
SSV	**Crater Summit**	**2.72**	**186**	*eP*	**Pn**	**22 44 05.0**	**+1.7**
SSV	**Crater Summit**	**2.72**	**186**	*eP*	**Pn**	**22 44 05.0**	**+1.7**
SVV	**Soufriere Volc**	**2.73**	**187**	⇓*eP*	**Pn**	**22 44 04.4**	**+2.0**
SVV				*eS*	**Sn**	**22 44 36.4**	**+1.2**
BHS	**Barnard House**	**2.74**	**185**	⇑*iP*	**Pn**	**22 44 05.5**	**+2.0**
BHS				*eS*	**Sn**	**22 44 37.3**	**+1.9**
SABA	**Saba**	**2.74**	**305**	⇓*eP*	**Pn**	**22 44 04.5**	**+1.0**
SABA	**Saba**	**2.74**	**305**	*ePn*	**Pn**	**22 44 04.6**	**+1.0**
SABA				*eSn*	**Sn**	**22 44 36.9**	**+1.4**
SVB	**Belmont**	**2.78**	**187**	*eP*	**Pn**	**22 44 05.2**	**+1.1**
SVB				*eS*	**Sn**	**22 44 37.5**	**+1.1**
SVB	**Belmont**	**2.78**	**187**	*eP*	**Pn**	**22 44 05.2**	**+1.1**
BBGH	**Gun Hill**	**3.16**	**156**	*ePn*	**Pn**	**22 44 10.6**	**+1.2**
BBGH				*eSn*	**Sn**	**22 44 45.5**	**-0.3**
GRSS	**Sisters**	**3.79**	**191**	⇑*iP*	**Pn**	**22 44 20.5**	**+2.6**
GRSS				*eS*	**Sn**	**22 45 01.4**	**+0.2**
GRHS	**Sauteurs**	**3.87**	**191**	⇑*eP*	**Pn**	**22 44 21.7**	**+2.8**
GRHS				*eS*	**Sn**	**22 45 03.9**	**+0.8**
GRW	**Mount Saint Ca**	**3.93**	**191**	*eP*	**Pn**	**22 44 20.8**	**+0.9**
GRW				*eS*	**Sn**	**22 45 05.4**	**+0.5**
GRW	**Mount Saint Ca**	**3.93**	**191**	*eP*	**Pn**	**22 44 20.8**	**+0.9**
GRW				*eS*	**Sn**	**22 45 05.4**	**+0.5**
GRGR	**Grenville**	**3.96**	**191**	*eP*	**Pn**	**22 44 21.3**	**+1.1**
GRGR	**Grenville**	**3.96**	**191**	*ePn*	**Pn**	**22 44 20.7**	**+0.5**
GRGR				*eSn*	**Sn**	**22 45 03.9**	**-1.5**
CDVI	**St. Croix**	**4.08**	**295**	*ePn*	**Pn**	**22 44 22.7**	**+0.9**
CDVI				*eSn*	**Sn**	**22 45 12.2**	**+3.9**
TOSP	**Speyside**	**4.73**	**176**	*eP*	**Pn**	**22 44 33.5**	**+2.7**
TOSP				*eS*	**Sn**	**22 45 24.0**	**-0.4**
TPR	**Prospect**	**4.83**	**179**	*eP*	**Pn**	**22 44 33.2**	**+1.0**
BOT	**Bacolet**	**4.85**	**178**	*eP*	**Pn**	**22 44 33.8**	**+1.3**
CBYP	**Canovanas**	**5.23**	**296**	*ePn*	**Pn**	**22 44 39.0**	**+1.3**
	797nm,0.6s						
CBYP				*eSn*	**Sn**	**22 45 37.6**	**+0.7**
TCE	**Chacachacare**	**5.38**	**189**	*eP*	**Pn**	**22 44 41.2**	**+1.4**
TRN	**Trinidad (W)**	**5.39**	**185**	*eP*	**Pn**	**22 44 42.2**	**+2.4**
TRN	**Trinidad (W)**	**5.39**	**185**	*eP*	**Pn**	**22 44 42.2**	**+2.4**
TRN				*eS*	**Sn**	**22 45 40.3**	**-0.2**
TRN	**Trinidad (W)**	**5.39**	**185**	*eP*	**Pn**	**22 44 42.2**	**+2.4**
TBH	**Brigand Hill**	**5.53**	**182**	*eP*	**Pn**	**22 44 43.7**	**+1.9**
TBH	**Brigand Hill**	**5.53**	**182**	*eP*	**Pn**	**22 44 43.7**	**+1.9**
TBH	**Brigand Hill**	**5.53**	**182**	*eP*	**Pn**	**22 44 43.7**	**+1.9**
CELP	**Cerrillos**	**5.80**	**291**	*ePn*	**Pn**	**22 44 46.1**	**+0.6**
CELP				*eSn*	**Sn**	**22 45 51.8**	**+1.1**
OBIP	**Obispado Ponce**	**5.81**	**291**	*ePn*	**Pn**	**22 44 46.1**	**+0.5**
	225nm,0.6s						
OBIP				*eSn*	**Sn**	**22 45 51.0**	**0.0**
AOPR	**Arecibo Observ**	**6.05**	**293**	*ePn*	**Pn**	**22 44 50.3**	**+1.3**
AOPR				*eSn*	**Sn**	**22 45 55.0**	**-1.9**
LRS	**Lares**	**6.11**	**292**	*ePn*	**Pn**	**22 44 51.0**	**+1.3**
LRS				*eSn*	**Sn**	**22 45 56.6**	**-1.9**
CRPR	**Cabo Rojo, PR**	**6.26**	**289**	*ePn*	**Pn**	**22 44 52.4**	**+0.7**
	212nm,0.5s						
CRPR				*eSn*	**Sn**	**22 45 58.8**	**-3.2**
LSP	**Las Mesas**	**6.29**	**291**	*ePn*	**Pn**	**22 44 53.6**	**+1.4**
LSP				*eSn*	**Sn**	**22 45 58.4**	**-4.4**
AGPR	**Aguadilla, PR**	**6.41**	**293**	*ePn*	**Pn**	**22 44 54.2**	**+0.4**
	1μm,1.2s						
AGPR				*eSn*	**Sn**	**22 46 04.8**	**-0.9**
SDDR	**Presa de Saban**	**10.34**	**288**	*ePn*	**Pn**	**22 45 48.1**	**+0.4**
SDDR				*eSn*	**Sn**	**22 47 42.7**	**+0.5**
SDV	**Santo Domingo**	**11.87**	**234**	*ePn*	**Pn**	**22 46 08.6**	**-0.2**
GTBY	**Guantanamo Bay**	**14.06**	**288**	*ePn*	**Pn**	**22 46 37.6**	**-0.9**
MTDJ	**Mount Denham**	**16.05**	**280**	*eP*	**P**	**22 47 07.4**	**+0.4**
	127nm,1.1s						
PTGA	**Pitinga**	**16.69**	**177**	*ePn*	**Pn**	**22 47 10.2**	**-2.2**
	13nm,1.2s						
PTGA				S	**Sn**	**22 50 11.9**	**-5.1**
PTGA	**Pitinga**	**16.69**	**177**	P	**Pn**	**22 47 11.0**	**-1.4**
	0.9nm,0.3s,baz=354,slow=14,SNR=14						
PTGA				S	**Sn**	**22 50 11.9**	**-5.1**
	1.5nm,0.3s,baz=30,slow=20,SNR=4.2						
PTGA				LR	LR	22 54 24.9	
	comp=Z,444nm,20.7s,baz=352,slow=40						
ROSC	**El Rosal**	**17.25**	**231**	*eP*	**P**	**22 47 22.8**	**+2.1**
ROSC	**El Rosal**	**17.25**	**231**	P	**P**	**22 47 20.5**	**-0.2**
	baz=78,slow=5.7,SNR=12						
ROSC				LR	LR	22 55 16.5	
	comp=Z,393nm,18.3s,baz=18,slow=42						
BCIP	**Isla Barro Col**	**19.70**	**252**	*eP*	**P**	**22 47 46.7**	**-0.5**
	191nm,1.4s						
OTAV	**Otavalo**	**23.38**	**229**	*eP*	**P**	**22 48 26.1**	**-0.7**
	70nm,1.5s						
JTS	**JuntasAbangare**	**24.10**	**259**	P	**P**	**22 48 34.1**	**+1.2**
JTS	**JuntasAbangare**	**24.10**	**259**	P	**P**	**22 48 34.1**	**+1.2**
	4.9nm,0.6s,baz=234,slow=4.5,SNR=3.5						
JTS				LR	LR	22 57 14.0	
	comp=Z,157nm,21.8s,baz=60,slow=35						
SAML	**Samuel**	**24.93**	**185**	*eP*	**P**	**22 48 40.5**	**0.0**
	15nm,1.1s						
TGUH	**Tegucigalpa,Un**	**25.54**	**269**	*eP*	**P**	**22 48 48.4**	**+2.4**
	22nm,0.6s						
TIGA	**Tifton**	**25.74**	**311**	*eP*	**P**	**22 48 48.6**	**+0.9**
TIGA	**Tifton**	**25.74**	**311**	⇑*P*	**P**	**22 48 48.2**	**+0.5**
	baz=26						
JSC	**Jenkinsville**	**25.79**	**319**	*eP*	**P**	**22 48 48.0**	**-0.1**
JSC	**Jenkinsville**	**25.79**	**319**	*eP*	**P**	**22 48 48.0**	**-0.1**
JSRW	**J. Sargeant Re**	**26.27**	**328**	*eP*	**P**	**22 48 52.6**	**+0.2**
TEIG	**Tepich**	**26.34**	**283**	P	**P**	**22 48 52.9**	**-0.3**
TEIG	**Tepich**	**26.34**	**283**	P	**P**	**22 48 52.9**	**-0.3**
	17nm,0.5s,baz=49,slow=2.1,SNR=16						
KMSC	**Kings Mountain**	**26.39**	**320**	*eP*	**P**	**22 48 53.4**	**-0.1**
KMSC	**Kings Mountain**	**26.39**	**320**	⇑*P*	**P**	**22 48 53.6**	**+0.1**
	baz=26						
CBN	**Corbin**	**26.42**	**330**	*eP*	**P**	**22 48 53.4**	**-0.4**
	18nm,0.7s						
GOGA	**Godfrey**	**26.72**	**314**	*eP*	**P**	**22 48 56.7**	**+0.1**
GOGA				pmax	pmax		
	comp=Z,50nm,1.3s						
GOGA	**Godfrey**	**26.72**	**314**	*eP*	**P**	**22 48 56.6**	**+0.1**
	comp=Z,50nm,1.3s						
BLA	**Blacksburg**	**27.26**	**324**	*eP*	**P**	**22 48 59.8**	**-1.6**
BLA				pmax	pmax		
	comp=Z,16nm,1.0s						
BLA	**Blacksburg**	**27.26**	**324**	*eP*	**P**	**22 48 59.8**	**-1.6**
	comp=Z,16nm,1.0s						
MVL	**Millersville**	**27.41**	**334**	*eP*	**P**	**22 49 03.1**	**+0.5**
	comp=Z,24nm,1.0s						
ODNJ	**Ogdensburg**	**27.63**	**337**	*eP*	**P**	**22 49 05.7**	**+1.1**
	comp=Z,93nm,1.9s						
HRV	**Adam Dziewonsk**	**27.91**	**343**	*eP*	**P**	**22 49 06.9**	**-0.2**
HRV				pmax	pmax		
	comp=Z,34nm,1.1s						
HRV	**Adam Dziewonsk**	**27.91**	**343**	*eP*	**P**	**22 49 06.9**	**-0.2**
	comp=Z,34nm,1.1s						
TKL	**Tuckaleechee C**	**28.26**	**318**	P	**P**	**22 49 09.2**	**-1.1**
TKL	**Tuckaleechee C**	**28.26**	**318**	P	**P**	**22 49 09.2**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=136,slow=13,SNR=5.4						
TKL				LR	LR	23 00 02.7	
	comp=Z,185nm,21.4s,baz=132,slow=36						
APG	**El Apazote**	**28.50**	**272**	P	**P**	**22 49 10.9**	**-2.0**
APG	**El Apazote**	**28.50**	**272**	P	**P**	**22 49 10.9**	**-2.0**
	comp=Z,3.5nm,0.5s,baz=115,slow=12,SNR=6.3						
APG				LR	LR	22 59 33.5	
	comp=Z,320nm,20.7s,baz=92,slow=34						
CPCT	**Cooper Cave**	**28.62**	**317**	*eP*	**P**	**22 49 14.6**	**+1.2**
MCWV	**Mont Chateau**	**28.76**	**329**	*eP*	**P**	**22 49 15.9**	**+1.3**
ATAH	**Atahualpa**	**28.82**	**218**	P	**P**	**22 49 18.8**	**+2.9**
ATAH	**Atahualpa**	**28.82**	**218**	P	**P**	**22 49 18.8**	**+2.9**
	comp=Z,16nm,0.8s,baz=13,slow=5.6,SNR=10						
ATAH				LR	LR	23 03 05.1	
	comp=Z,450nm,20.6s,baz=21,slow=41						
ACCN	**Adirondack Com**	**29.35**	**341**	*eP*	**P**	**22 49 20.4**	**+0.5**
	comp=Z,27nm,1.0s						
WVL	**Waterville**	**29.38**	**347**	*eP*	**P**	**22 49 21.4**	**+1.3**
	comp=Z,45nm,1.1s						
LBNH	**Lisbon**	**29.62**	**344**	*eP*	**P**	**22 49 23.4**	**+1.1**
LBNH				pmax	pmax		
	comp=Z,28nm,1.0s						
LBNH	**Lisbon**	**29.62**	**344**	*eP*	**P**	**22 49 23.4**	**+1.1**
	comp=Z,28nm,1.0s						
MDV	**Middlebury**	**29.75**	**342**	*eP*	**P**	**22 49 24.4**	**+1.0**
PKME	**Peaks-Kenny Pk**	**29.98**	**348**	*eP*	**P**	**22 49 26.5**	**+1.1**
	comp=Z,36nm,1.0s						
NCB	**Newcomb**	**30.05**	**341**	*eP*	**P**	**22 49 27.3**	**+1.2**
	comp=Z,30nm,0.9s						
MMNY	**Mt. Morris Dam**	**30.33**	**335**	*eP*	**P**	**22 49 29.4**	**+0.9**
	comp=

WHTX **Lake Whitney** 36.77 302 ⇓P P 22 50 24.2 -0.5
baz=37
TUL1 **Tulsa** 36.81 309 *e*P P 22 50 24.2 -0.8
TUL1 **Tulsa** 36.81 309 ⇓P P 22 50 24.5 -0.5
baz=37,SNR=19
634A **China Grove, S** 36.85 298 ⇑P P 22 50 24.4 -1.0
baz=37
135A **Vickery Place,** 36.90 303 ⇓P P 22 50 25.4 -0.4
baz=37
734A **La Parita Cree** 36.91 297 ⇓P P 22 50 25.3 -0.6
baz=37
Z35A **Perchaven, San** 37.01 304 ⇓P P 22 50 26.0 -0.7
baz=37,SNR=6.8
534A **Blanco** 37.10 299 ⇓P P 22 50 26.9 -0.6
baz=37,SNR=6.7
434A **Burnet** 37.12 300 ⇓P P 22 50 26.1 -1.6
baz=37,SNR=5.8
334A **Lometa** 37.22 301 ⇓P P 22 50 26.8 -1.8
baz=37,SNR=11
933A **Laredo** 37.30 295 ⇓P P 22 50 28.3 -1.0
baz=37,SNR=6.3
234A **Clairette** 37.32 302 ⇓P P 22 50 28.5 -0.9
baz=37,SNR=5.2
134A **White-Moore Ra** 37.44 303 ⇑P P 22 50 29.4 -1.0
baz=37
733A **Divot King Ran** 37.52 296 ⇓P P 22 50 29.8 -1.3
baz=38
833A **Chaparral WMA,** 37.53 296 ⇑P P 22 50 29.8 -1.3
baz=38,SNR=8.7
Z34A **Collier Ranch,** 37.55 304 ⇑P P 22 50 30.8 -0.5
baz=38,SNR=14
633A **Saathoff Ranch** 37.56 298 ⇓P P 22 50 30.3 -1.2
baz=38,SNR=21
533A **Kerrville** 37.58 299 ⇑P P 22 50 30.3 -1.3
baz=38,SNR=6.2
Y34A **Reagan Ranch,** 37.61 305 ⇑P P 22 50 31.5 -0.3
baz=38,SNR=14
433A **Art** 37.79 300 ⇓P P 22 50 32.2 -1.1
baz=38,SNR=21
333A **Richland Sprin** 37.84 301 ⇓P P 22 50 32.3 -1.5
baz=38,SNR=17
X34A **Smith Ranch, M** 37.88 306 ⇓P P 22 50 33.4 -0.7
baz=38,SNR=7.5
233A **Rising Star** 37.95 302 ⇓P P 22 50 33.9 -0.8
baz=38,SNR=20
832A **Faith Ranch, C** 38.02 296 ⇓P P 22 50 34.0 -1.3
baz=38,SNR=7.2
W34A **Bridge Creek,** 38.06 307 ⇑P P 22 50 34.7 -0.9
baz=38,SNR=5.0
V34A **Guthrie** 38.08 308 ⇓P P 22 50 35.2 -0.5
baz=38,SNR=10
632A **Uvalde** 38.09 297 ⇓P P 22 50 35.2 -0.8
baz=38,SNR=8.4
732A **Laxson Ranch,** 38.10 296 ⇓P P 22 50 34.8 -1.2
baz=38,SNR=9.9
133A **Hamilton Ranch** 38.13 303 ⇓P P 22 50 35.0 -1.2
baz=38,SNR=5.2
Z33A **Whitaker Ranch** 38.20 304 ⇓P P 22 50 36.2 -0.6
baz=38,SNR=10
Y33A **Hilltop Ranch,** 38.31 305 ⇓P P 22 50 37.2 -0.5
baz=38,SNR=9.4
U34A **Anderson Ranch** 38.32 309 ⇓P P 22 50 37.5 -0.2
baz=38,SNR=13
JCT **Junction City** 38.32 299 *e*P P 22 50 36.1 -1.8
JCT *e* 22 52 51.5
JCT pmax pmax
comp=Z,64nm,1.1s
JCT **Junction City** 38.32 299 *e*P P 22 50 36.1 -1.8
comp=Z,64nm,1.1s
JCT *e*PcP PcP 22 52 51.5 +0.5
JCT **Junction City** 38.32 299 ⇑P P 22 50 36.8 -1.1
baz=38,SNR=19
532A **Rocksprings** 38.33 298 ⇓P P 22 50 37.2 -0.7
baz=38,SNR=23
X33A **Lawton** 38.38 306 ⇓P P 22 50 37.4 -0.9
baz=38,SNR=8.9
432A **Menard** 38.40 300 ⇑P P 22 50 37.5 -1.0
baz=38,SNR=24
332A **Millersview** 38.48 300 ⇓P P 22 50 38.1 -1.1
baz=38,SNR=11
232A **Coleman** 38.53 301 ⇑P P 22 50 38.2 -1.4
baz=38,SNR=10
W33A **Caddo, Fort Co** 38.56 307 ⇓P P 22 50 39.5 -0.3
baz=38
V33A **Lossen Ranch,** 38.66 308 ⇑P P 22 50 39.9 -0.7
baz=39,SNR=9.7
WMOK **Wichita Mounta** 38.67 306 *e*P P 22 50 39.5 -1.2
WMOK pmax pmax
comp=Z,71nm,1.8s
WMOK **Wichita Mounta** 38.67 306 *e*P P 22 50 39.5 -1.2
comp=Z,71nm,1.8s
ABTX **Abilene, Hawle** 38.72 302 *e*P P 22 50 40.2 -1.0
ABTX **Abilene, Hawle** 38.72 302 ⇑P P 22 50 40.2 -1.0
baz=39,SNR=20
KSU1 **Kansas State U** 38.74 313 ⇑P P 22 50 40.5 -0.7
baz=39
U33A **Lingo Farm, Me** 38.75 309 ⇓P P 22 50 41.2 -0.1
baz=39,SNR=7.0
631A **Perdido Creek** 38.75 297 ⇑P P 22 50 40.4 -1.1
baz=39,SNR=17
Z32A **Haskell** 38.78 304 ⇑P P 22 50 40.6 -1.0
baz=39,SNR=6.9
531A **Rocksprings** 38.88 298 ⇓P P 22 50 41.7 -0.8
baz=39,SNR=11
Y32A **R-V Farms, Ver** 38.96 305 ⇓P P 22 50 42.7 -0.4
baz=39
X32A **Elmer** 38.96 305 ⇑P P 22 50 42.6 -0.6
baz=39,SNR=7.4
SCHQ **Schefferville** 38.98 355 *e*P P 22 50 44.0 +1.0
comp=Z,52nm,1.1s
SCHQ **Schefferville** 38.98 355 P P 22 50 44.0 +1.0
comp=Z,32nm,0.9s,baz=177,slow=7.4,SNR=34
SCHQ LR LR 23 04 43.8
comp=Z,222nm,19.1s,baz=192,slow=33
331A **San Angelo** 39.03 300 ⇓P P 22 50 43.2 -0.7
baz=39,SNR=6.4
431A **Sonora** 39.04 299 ⇓P P 22 50 43.1 -0.8
baz=39,SNR=24
T33A **Patterson Ranc** 39.09 310 ⇑P P 22 50 44.2 0.0
baz=39
231A **Bronte** 39.09 301 ⇑P P 22 50 42.7 -1.6
baz=39
S33A **Kaszmaul Farm,** 39.11 311 ⇑P P 22 50 44.1 -0.2
baz=39,SNR=8.0
W32A **Sentinel** 39.15 306 ⇑P P 22 50 44.2 -0.6
baz=39,SNR=14
V32A **Arapaho** 39.20 307 ⇓P P 22 50 44.7 -0.4
baz=39
Z31A **Sharp Cattle R** 39.32 303 ⇑P P 22 50 45.1 -1.1
baz=39,SNR=9.3
131A **Roby** 39.34 302 ⇑P P 22 50 45.3 -1.1
baz=39
R33A **Olander Ranch,** 39.38 312 ⇓P P 22 50 46.4 -0.2
baz=39,SNR=10
U32A **Winter Ranch,** 39.40 308 ⇑P P 22 50 46.2 -0.5
baz=39,SNR=8.8
SPMN **St. Paul** 39.54 324 *e*P P 22 50 47.2 -0.7
SPMN **St. Paul** 39.54 324 ⇓P P 22 50 47.5 -0.4
baz=40,SNR=6.0
530A **J-C Ranch, Com** 39.55 298 ⇓P P 22 50 46.9 -1.2
baz=40,SNR=9.6
Q33A **Connelly Farm,** 39.55 313 ⇓P P 22 50 47.9 -0.1
baz=40,SNR=17
X31A **McDonald Ranch** 39.57 305 ⇑P P 22 50 47.0 -1.3
baz=40,SNR=9.7
430A **Baggett Ranch,** 39.59 299 ⇑P P 22 50 47.3 -1.2
baz=40,SNR=5.7
Y31A **Rekieta Farm,** 39.59 304 ⇓P P 22 50 47.7 -0.8
baz=40,SNR=7.6
T32A **Huddler Ranch,** 39.63 310 ⇓P P 22 50 48.4 -0.3
baz=40
P33A **Williams Farm,** 39.64 313 ⇓P P 22 50 48.3 -0.5
baz=40
330A **Mertzon** 39.68 300 ⇑P P 22 50 48.2 -1.1
baz=40,SNR=21
W31A **Holland Ranch,** 39.72 306 ⇓P P 22 50 49.1 -0.4
baz=40
130A **Snyder** 39.79 302 ⇓P P 22 50 49.5 -0.7
baz=40
V31A **Spring Creek L** 39.83 307 ⇓P P 22 50 49.9 -0.5
baz=40,SNR=5.8
S32A **Newby Ranch, P** 39.83 310 ⇑P P 22 50 50.0 -0.4
baz=40
R32A **Long Quarter,** 39.95 311 ⇑P P 22 50 50.9 -0.5
baz=40,SNR=18
U31A **Nine Bar Ranch** 40.03 308 ⇓P P 22 50 52.0 -0.1
baz=40
Q32A **Meitler Ranch,** 40.07 312 ⇑P P 22 50 51.8 -0.6
baz=40,SNR=16
Y30A **Stafford Cattl** 40.08 304 ⇓P P 22 50 51.4 -1.1
baz=40,SNR=5.2
Z30A **Sanderson Ranc** 40.10 303 ⇑P P 22 50 51.6 -1.1
baz=40,SNR=7.7
429A **Davenport Ranc** 40.11 299 ⇓P P 22 50 51.2 -1.6
baz=40,SNR=8.5
S31A **Mullinville** 40.20 310 ⇑P P 22 50 53.2 -0.3
baz=40,SNR=5.4
X30A **Coker Ranch, T** 40.22 305 ⇓P P 22 50 52.9 -0.8
baz=40,SNR=6.2
529A **Stev Forest Ra** 40.29 298 ⇑P P 22 50 52.8 -1.5
baz=40,SNR=14
229A **Bryant Ranch,** 40.33 301 ⇓P P 22 50 53.7 -1.0
baz=40,SNR=8.9
P32A **Huiting Farm,** 40.36 313 ⇑P P 22 50 53.9 -0.8
baz=40,SNR=12
329A **Wagon Wheel Ra** 40.37 300 ⇓P P 22 50 53.7 -1.2
baz=40,SNR=16
O32A **Brockman Farm,** 40.40 314 ⇑P P 22 50 54.6 -0.5
baz=40
V30A **Spur Ranch, Mi** 40.48 307 ⇑P P 22 50 55.5 -0.3
baz=40
R31A **Burdett** 40.49 311 ⇓P P 22 50 55.4 -0.4
baz=40,SNR=17
129A **Stewart Farms,** 40.53 302 ⇓P P 22 50 55.6 -0.7
baz=40
Z29A **Hungry Hill Ra** 40.56 303 ⇓P P 22 50 55.3 -1.3
baz=40,SNR=5.1
Q31A **Ellis** 40.67 312 ⇑P P 22 50 56.5 -0.9
baz=41,SNR=5.7
Y29A **Porterfield Fa** 40.69 304 ⇓P P 22 50 56.7 -0.9
baz=41,SNR=12
U30A **WK&E Inc. Balk** 40.70 308 ⇑P P 22 50 57.3 -0.3
baz=41,SNR=10
628A **Black Gap, Mar** 40.75 297 ⇑P P 22 50 57.4 -0.7
baz=41,SNR=15
T30A **Plains** 40.78 309 ⇓P P 22 50 58.0 -0.2
baz=41
528A **Cox Ranch, San** 40.78 298 ⇑P P 22 50 58.0 -0.5
baz=41,SNR=22
428A **Kincaid Ranch,** 40.80 299 ⇑P P 22 50 57.9 -0.7
baz=41,SNR=13
BGNE **Belgrade** 40.83 316 *e*P P 22 50 58.2 -0.4
BGNE **Belgrade** 40.83 316 ⇑P P 22 50 58.4 -0.2
baz=41,SNR=12
P31A **Stockton** 40.86 313 ⇓P P 22 50 58.3 -0.6
baz=41,SNR=10
X29A **Tulia** 40.88 304 ⇑P P 22 50 58.2 -0.9
baz=41,SNR=7.2
S30A **Montezuma** 40.94 309 ⇑P P 22 50 59.5 -0.1
baz=41
ECSD **EROS Data Cent** 40.97 320 *e*P P 22 50 59.0 -0.7
comp=Z,29nm,1.0s
ECSD **EROS Data Cent** 40.97 320 ⇓P P 22 50 59.2 -0.4
baz=41,SNR=18
AMTX **Amarillo** 40.98 305 *e*P P 22 50 59.2 -0.8
comp=Z,69nm,1.4s
AMTX **Amarillo** 40.98 305 ⇓P P 22 50 59.8 -0.3
baz=41
228A **UT Block 9, Go** 41.01 301 ⇑P P 22 50 58.9 -1.4
baz=41,SNR=7.6
W29A **Amraillo** 41.03 305 ⇑P P 22 50 59.7 -0.6
baz=41,SNR=12
R30A **Dighton** 41.03 310 ⇑P P 22 50 59.9 -0.4
baz=41,SNR=6.2
328A **Wristen Ranch,** 41.04 300 ⇓P P 22 50 58.9 -1.6
baz=41,SNR=8.7
128A **Castleberry Fa** 41.04 301 ⇓P P 22 50 59.5 -1.0
baz=41
O31A **Woolen Ranch,** 41.09 314 ⇓P P 22 51 00.0 -0.7
baz=41
N31A **Bailey Ranch,** 41.11 315 ⇑P P 22 51 00.4 -0.5
baz=41
Z28A **Tucker Farm, M** 41.12 302 ⇓P P 22 51 00.3 -0.8
baz=41
U29A **Oasis Ranch, S** 41.14 307 ⇑P P 22 51 01.0 -0.3
baz=41
V29A **Stinnett** 41.15 307 ⇑P P 22 51 01.1 -0.3
baz=41
Y28A **McKinney Farm,** 41.17 303 ⇓P P 22 51 00.9 -0.7
baz=41
627A **Terlingua Ranc** 41.17 297 ⇑P P 22 51 00.7 -1.0
baz=41,SNR=9.3
Q30A **Quinter** 41.25 311 ⇓P P 22 51 01.5 -0.7
baz=41,SNR=11
X28A **Dimmitt** 41.29 304 ⇑P P 22 51 02.0 -0.6
baz=41
M31A **Lambtecht Ranc** 41.35 315 ⇓P P 22 51 02.3 -0.6
baz=41,SNR=8.0
T29A **Huton** 41.39 308 ⇓P P 22 51 02.9 -0.4
baz=41,SNR=7.0
TXAR **Lajitas Array** 41.39 296 P P 22 51 02.3 -1.2
TXAR PcP PcP 22 53 01.7 +0.8
TXAR **Lajitas Array** 41.39 296 P P 22 51 02.3 -1.2
comp=Z,3.1nm,0.8s,baz=111,slow=8.5,SNR=14
TXAR PcP PcP 22 53 01.7 +0.8
comp=Z,2.4nm,0.8s,baz=134,slow=5.4,SNR=4.7
TXAR LR LR 23 11 53.7
comp=Z,54nm,21.6s,baz=0.0,slow=42
S29A **Ulysses** 41.42 309 ⇑P P 22 51 03.0 -0.5
baz=41,SNR=6.8
427A **Hayter Ranch,** 41.43 299 ⇓P P 22 51 02.9 -0.8
baz=41,SNR=12
527A **Woodward Ranch** 41.48 297 ⇑P P 22 51 03.4 -0.8
baz=41,SNR=10.0
P30A **Selden** 41.49 312 ⇓P P 22 51 03.6 -0.5
baz=42,SNR=6.2
W28A **Vega** 41.50 305 ⇑P P 22 51 03.7 -0.7
baz=42
MSTX **Muleshoe** 41.60 303 *e*P P 22 51 04.2 -0.9
MSTX **Muleshoe** 41.60 303 ⇑P P 22 51 04.4 -0.7
baz=42,SNR=19
O30A **MW Ranch, Wils** 41.61 313 ⇓P P 22 51 04.8 -0.2
baz=42,SNR=8.2
L31A **Butterfield Fa** 41.63 317 ⇓P P 22 51 05.0 -0.2
baz=42,SNR=11
V28A **Channing** 41.66 306 ⇑P P 22 51 05.2 -0.4
baz=42
R29A **Marienthal** 41.71 310 ⇓P P 22 51 05.8 -0.1
baz=42
Q29A **Oakley** 41.77 311 ⇑P P 22 51 05.8 -0.6
baz=42,SNR=8.2
127A **Arkansas Junct** 41.77 301 ⇓P P 22 51 05.2 -1.3
baz=42,SNR=5.8
Z27A **Tatum** 41.80 302 ⇑P P 22 51 05.5 -1.3
baz=42
626A **Big Bend Ranch** 41.83 296 ⇓P P 22 51 06.2 -0.9
baz=42,SNR=5.8
U28A **Mallet** 41.85 307 ⇑P P 22 51 06.9 -0.2
baz=42
526A **Mary Lane Ranc** 41.87 297 ⇑P P 22 51 06.8 -0.7
baz=42,SNR=13
N30A **Hueftle Ranch,** 41.89 314 ⇑P P 22 51 06.7 -0.6
baz=42
Y27A **Causey** 41.90 303 ⇓P P 22 51 06.6 -1.0
baz=42,SNR=10
426A **McDonald Obser** 41.93 298 ⇑P P 22 51 07.3 -0.6
baz=42,SNR=12
S28A **Manter** 41.99 309 ⇓P P 22 51 07.7 -0.5
baz=42,SNR=8.3
T28A **Walsh** 42.00 308 ⇓P P 22 51 07.6 -0.7
baz=42,SNR=7.5
P29A **Atwood** 42.00 312 ⇓P P 22 51 07.8 -0.4
baz=42
X27A **F and S Farms,** 42.04 304 ⇓P P 22 51 08.0 -0.7
baz=42,SNR=10
M30A **Dale-Ortello V** 42.05 315 ⇓P P 22 51 08.2 -0.4
baz=42
O29A **4D Ranch, Culb** 42.11 313 ⇑P P 22 51 08.7 -0.4
baz=42
L30A **Spencer Herefo** 42.12 316 ⇓P P 22 51 08.9 -0.3
baz=42,SNR=11
W27A **Bowe Ranch, En** 42.12 305 ⇑P P 22 51 08.9 -0.5
baz=42,SNR=12
V27A **Dan Oppiter Fa** 42.14 306 ⇑P P 22 51 08.8 -0.7
baz=42,SNR=7.1
R28A **Tribune** 42.18 310 ⇓P P 22 51 09.1 -0.7
baz=42,SNR=16
CPUP **Villa Florida** 42.26 175 *e*P P 22 51 09.2 -1.1
comp=Z,0.7nm,0.8s
CPUP **Villa Florida** 42.26 175 P P 22 51 10.2 -0.1
comp=Z,4.9nm,0.7s,baz=330,slow=7.6,SNR=6.6
CPUP LR LR 23 09 48.1
comp=Z,129nm,20.5s,baz=348,slow=38
N29A **Votaw Ranch, W** 42.26 314 ⇓P P 22 51 10.1 -0.2
baz=42
126A **Clayton Basin,** 42.31 301 ⇓P P 22 51 09.6 -1.3
baz=42,SNR=5.6
226B **Tecolote Peak,** 42.31 300 ⇑P P 22 51 10.1 -0.8
baz=42
U27A **Thompson Grove** 42.32 307 ⇑P P 22 51 10.0 -1.0
baz=42,SNR=6.5
K30A **Basset** 42.37 317 ⇑P P 22 51 10.9 -0.4
baz=42,SNR=9.8
Z26A **Caprock** 42.41 302 ⇓P P 22 51 11.2 -0.5
baz=42
Y26A **Elida** 42.44 303 ⇑P P 22 51 11.5 -0.5
baz=42
T27A **Campo** 42.44 308 ⇑P P 22 51 11.1 -0.9
baz=42,SNR=11
M29A **Burnside Ranch** 42.56 315 ⇑P P 22 51 12.6 -0.2
baz=43
P28A **Saint Francis** 42.58 312 ⇓P P 22 51 12.6 -0.4
baz=43,SNR=7.6
X26A **CR and CF Fran** 42.58 304 ⇓P P 22 51 12.4 -0.8
baz=43,SNR=9.2
J30A **Dallas** 42.59 318 ⇓P P 22 51 13.0 +0.1
baz=43
L29A **Maesberg Ranch** 42.68 316 ⇑P P 22 51 13.9 +0.2
baz=43
W26A **Owens Ranch, T** 42.69 305 ⇑P P 22 51 13.5 -0.5
baz=43,SNR=14
425A **Indio Mountain** 42.76 298 ⇓P P 22 51 14.1 -0.6
baz=43,SNR=18
S27A **Las Animas** 42.77 309 ⇓P P 22 51 14.1 -0.5
baz=43
BRSD **Miller** 42.78 319 *e*P P 22 51 14.0 -0.5
BRSD **Miller** 42.78 319 ⇓P P 22 51 14.5 0.0
baz=43
125A **Gardner Draw,** 42.84 301 ⇓P P 22 51 13.9 -1.3
baz=43,SNR=7.6
N28A **Pribbeno Ranch** 42.85 313 ⇑P P 22 51 15.0 -0.2
baz=43
225A **Deer Hill, Car** 42.86 300 ⇑P P 22 51 14.7 -0.8
baz=43,SNR=8.9
K29A **Lazy Trails An** 42.88 317 ⇓P P 22 51 15.5 +0.2
baz=43
R27A **Eads** 42.89 309 ⇓P P 22 51 14.8 -0.8
baz=43,SNR=14
V26A **Tequesquite Ra** 42.89 306 ⇓P P 22 51 15.2 -0.5
baz=43,SNR=28
KSCO **Kaye Shedlock'** 43.01 311 *e*P P 22 51 16.0 -0.6
KSCO **Kaye Shedlock'** 43.01 311 ⇓P P 22 51 16.0 -0.6
baz=43,SNR=7.7
M28A **Bar X Bar Ranc** 43.01 314 ⇓P P 22 51 16.3 -0.1
baz=43
Z25A **Roswell** 43.02 302 ⇓P P 22 51 16.0 -0.7
baz=43
U26A **Atchley Ranch,** 43.02 306 ⇓P P 22 51 15.8 -1.0
baz=43,SNR=15
AGMN **Agassiz Nation** 43.06 326 *e*P P 22 51 15.3 -1.4
comp=Z,38nm,1.0s
T26A **Comanche Natio** 43.14 308 ⇑P P 22 51 17.0 -0.7
baz=43,SNR=6.2
Y25A **Mesa, Roswell** 43.14 303 ⇓P P 22 51 17.3 -0.4
baz=43,SNR=8.0
P27A **Ficken Ranch,** 43.16 311 ⇓P P 22 51 17.5 -0.3
baz=43
J29A **Okreek** 43.17 317 ⇑P P 22 51 17.8 +0.1
baz=43,SNR=17
S26A **Kim** 43.18 308 ⇓P P 22 51 17.3 -0.6
baz=43,SNR=6.2
G30A **Faulkton** 43.24 320 ⇑P P 22 51 17.9 -0.2
baz=43
MNTX **Cornudas Mount** 43.25 299 *e*P P 22 51 17.9 -0.6
comp=Z,23nm,0.9s
X25A **Clemmons Ranch** 43.26 304 ⇑P P 22 51 18.0 -0.7
baz=43,SNR=6.4
W25A **X Bar L Ranch,** 43.27 305 ⇓P P 22 51 18.4 -0.3
baz=43,SNR=18
O27A **Beecher Island** 43.32 312 ⇑P P 22 51 18.9 -0.1
baz=43
R26A **Arlington** 43.38 309 ⇓P P 22 51 19.5 0.0
baz=43
U25A **Circle Dot Ran** 43.54 306 ⇓P P 22 51 20.3 -0.7
baz=44,SNR=5.3
K28A **Ten Mile Ranch** 43.55 316 ⇓P P 22 51 21.0 +0.2
baz=44
V25A **Rancho No Teng** 43.55 305 ⇑P P 22 51 20.9 -0.2
baz=44,SNR=34
Z24A **Sheeppen Canyo** 43.56 302 ⇓P P 22 51 21.1 -0.1
baz=44,SNR=9.3
N27A **Anderson Farm,** 43.59 313 ⇑P P 22 51 20.8 -0.4
baz=44,SNR=7.1
Q26A **Hugo** 43.63 310 ⇑P P 22 51 21.9 +0.2
baz=44
H29A **Onida** 43.66 319 ⇑P P 22 51 21.5 0.0
baz=44
P26A **Davis Ranch, A** 43.72 311 ⇑P P 22 51 22.2 -0.1
baz=44
Y24A **Capitan** 43.74 302 ⇑P P 22 51 22.6 0.0
baz=44,SNR=21
T25A **Trinidad** 43.75 307 ⇑P P 22 51 22.4 -0.3
baz=44,SNR=9.3
M27A **Reverse DX Ran** 43.76 314 ⇑P P 22 51 22.6 +0.1
baz=44,SNR=5.6
J28A **Allard Ranch,** 43.77 317 ⇑P P 22 51 22.5 0.0
baz=44,SNR=18
E30A **Jud** 43.79 322 ⇑P P 22 51 22.4 -0.2
baz=44
X24A **Lazy VL Ranch,** 43.89 303 ⇓P P 22 51 23.4 -0.4
baz=44,SNR=5.3
S25A **Robets Cordova** 43.92 308 ⇑P P 22 51 23.6 -0.4
baz=44,SNR=21
L27A **T5 Ranch, Ells** 43.93 315 ⇓P P 22 51 23.5 -0.4
baz=44
O26A **Horse Wrangler** 43.94 312 ⇑P P 22 51 24.1 +0.1
baz=44
R25A **Fountain Ranch** 43.95 309 ⇓P P 22 51 23.8 -0.4
baz=44
I28A **Midland** 43.98 318 ⇓P P 22 51 24.1 -0.1
baz=44,SNR=7.7
F29A **Eureka** 44.00 321 ⇓P P 22 51 23.7 -0.6
baz=44
D30A **Buchanan** 44.02 323 ⇑P P 22 51 23.5 -0.9
baz=44,SNR=7.3
W24A **Lazy 6 Ranch,** 44.02 304 ⇑P P 22 51 25.1 +0.3
baz=44,SNR=15
V24A **Rampart Ranch,** 44.04 305 ⇑P P 22 51 25.0 0.0
baz=44,SNR=12
N26A **Koester Ranch,** 44.08 313 ⇑P P 22 51 24.9 -0.3
baz=44
K27A **Flueckinger Fa** 44.13 316 ⇑P P 22 51 24.7 -0.8
baz=44,SNR=7.4
Q25A **Bedland, Calha** 44.17 310 ⇑P P 22 51 25.4 -0.6
baz=44
C30A **Mose, Pekin** 44.17 324 ⇑P P 22 51 25.2 -0.4
baz=44,SNR=6.1
H28A **Mission Ridge** 44.19 319 ⇑P P 22 51 25.9 0.0
baz=44
J27A **Elkhorn Farm,** 44.21 316 ⇓P P 22 51 25.6 -0.5
baz=44,SNR=5.4
ULM **Lac du Bonnet** 44.24 328 *e*P P 22 51 25.1 -1.1
comp=Z,2nm,0.7s
ULM **Lac du Bonnet** 44.24 328 P P 22 51 25.1 -1.1
comp=Z,22nm,0.7s,baz=133,slow=8.2,SNR=44
ULM LR LR 23 08 42.7
comp=Z,122nm,21.6s,baz=127,slow=34
Y23A **Lovelace Mesa,** 44.25 302 ⇑P P 22 51 26.6 0.0
baz=44,SNR=18
E29A **Napoleon** 44.26 322 ⇑P P 22 51 25.7 -0.6
baz=44,SNR=7.5
P25A **Willow Gulch B** 44.30 311 ⇑P P 22 51 26.6 -0.4
baz=44
G28A **Parade** 44.31 319 ⇑P P 22 51 26.6 -0.2
baz=44
T24B **San Luis** 44.48 307 ⇓P P 22 51 28.5 0.0
baz=44,SNR=14
D29A **Pettibone, Tap** 44.48 322 ⇑P P 22 51 27.9 -0.2
baz=44
B30A **Myrvik Farm, E** 44.50 325 ⇑P P 22 51 28.2 0.0
baz=44
S24A **Houchin Ranch,** 44.51 308 ⇑P P 22 51 28.8 0.0
baz=44,SNR=9.8
I27A **Quinn** 44.58 317 ⇓P P 22 51 28.6 -0.4
baz=45,SNR=5.5
W23A **Werner Place,** 44.60 304 ⇑P P 22 51 29.2 -0.3
baz=45,SNR=7.4
R24A **Sanders Place,** 44.60 309 ⇓P P 22 51 29.9 +0.5
baz=45,SNR=12
A30A **Hoffart Farm,** 44.76 325 ⇓P P 22 51 29.4 -0.8
baz=45,SNR=6.8
SDCO **Great Sand Dun** 44.76 308 *e*P P 22 51 29.8 -1.0
comp=Z,16nm,1.1s
SDCO *e*PcP PcP 22 53 11.2 -1.1

BNM **Barren Site** 44.76 302 *e*P P 22 51 30.5 -0.3
comp=Z,31nm,1.2s
V23A **Ortiz Mt. (NFS** 44.76 305 ⇓P P 22 51 30.9 +0.1
baz=45,SNR=8.4
K26A **Motz Farm, Whi** 44.77 315 ⇑P P 22 51 30.6 +0.1
baz=45
ANMO **Albuquerque** 44.79 304 *e*P P 22 51 30.8 -0.2
comp=Z,27nm,1.5s
LPM **Los Pinos Moun** 44.80 303 *e*P P 22 51 31.3 +0.3
H27A **Howes** 44.85 318 ⇑P P 22 51 31.0 -0.1
baz=45,SNR=5.2
Q24A **Divide** 44.85 310 ⇓P P 22 51 31.3 -0.2
baz=45
M25A **Palm-Egli Farm** 44.89 313 ⇑P P 22 51 31.7 +0.1
baz=45
U23A **El Rito** 44.91 306 ⇑P P 22 51 32.1 +0.1
baz=45,SNR=8.5
J26A **Sides Ranch, S** 44.94 316 ⇓P P 22 51 31.5 -0.4
baz=45,SNR=8.0
T23A **Casias Ranch,** 44.97 307 ⇑P P 22 51 32.6 +0.1
baz=45
LENM **Lemitar** 45.04 302 *e*P P 22 51 33.2 +0.2
B29A **Wagenman Farm,** 45.08 324 ⇓P P 22 51 32.9 +0.1
baz=45,SNR=5.4
G27A **Dupree** 45.09 319 ⇓P P 22 51 33.3 +0.3
baz=45
L25A **Engebretsen Ra** 45.09 314 ⇑P P 22 51 33.8 +0.6
baz=45
I26A **New Underwood** 45.09 317 ⇑P P 22 51 33.0 -0.1
baz=45,SNR=5.7
D28A **Regan** 45.12 322 ⇓P P 22 51 33.1 -0.1
baz=45
R23A **Moffat** 45.13 308 ⇓P P 22 51 33.2 -0.5
baz=45
O24A **Longmont** 45.16 311 ⇓P P 22 51 33.9 +0.1
baz=45,SNR=5.7
K25A **Mack Ranch, Ha** 45.20 315 ⇓P P 22 51 33.8 -0.2
baz=45,SNR=7.4
A29A **Manning Farm,** 45.26 325 ⇓P P 22 51 33.4 -0.9
baz=45,SNR=8.4
H26A **Fairpoint** 45.29 318 ⇓P P 22 51 34.8 +0.2
baz=45
F27A **Lemmon** 45.37 320 ⇑P P 22 51 35.6 +0.4
baz=45
V22A **San Miguel Ran** 45.37 305 ⇓P P 22 51 36.1 +0.4
baz=45,SNR=11
121A **Cookes Peak, D** 45.41 300 *e*P P 22 51 35.6 -0.2
comp=Z,25nm,0.9s
121A **Cookes Peak, D** 45.41 300 ⇓P P 22 51 36.4 +0.5
baz=45,SNR=15
U22A **Llaves** 45.44 305 ⇓P P 22 51 36.1 0.0
baz=45
M24A **Cheyenne** 45.44 313 ⇓P P 22 51 36.2 +0.1
baz=45,SNR=9.2
ISCO **Idaho Springs** 45.45 310 *e*P P 22 51 36.1 -0.2
ISCO pmax pmax
comp=Z,24nm,1.4s
ISCO **Idaho Springs** 45.45 310 *e*P P 22 51 36.1 -0.2
comp=Z,24nm,1.4s
ISCO **Idaho Springs** 45.45 310 ⇑P P 22 51 36.0 -0.3
baz=45,SNR=5.1
J25A **Sunshine Ranch** 45.46 316 ⇓P P 22 51 36.1 +0.1
baz=46,SNR=6.6
G26A **Maurine** 45.47 319 ⇑P P 22 51 36.0 0.0
baz=46,SNR=9.9
D27A **Center** 45.65 322 ⇓P P 22 51 37.5 +0.1
baz=46
I25A **Rochford** 45.66 317 ⇓P P 22 51 37.8 0.0
baz=46
L24A **Wheatland** 45.72 314 ⇑P P 22 51 38.4 +0.2
baz=46,SNR=6.0
F26A **Lodgepole** 45.76 319 ⇑P P 22 51 38.5 +0.1
baz=46
S22A **4UR Ranch, Cre** 45.77 307 ⇓P P 22 51 38.4 -0.4
baz=46,SNR=9.5
O23A **Lake Granby, G** 45.80 311 ⇓P P 22 51 39.2 +0.2
baz=46
H25A **Fruitdale** 45.82 318 ⇓P P 22 51 38.9 0.0
baz=46,SNR=10.0
A28A **Rude Farm, Bot** 45.83 324 ⇓P P 22 51 38.7 -0.1
baz=46
K24A **Anderson Ranch** 45.89 315 ⇓P P 22 51 39.7 +0.2
baz=46
RSSD **Black Hills** 45.90 317 *e*P P 22 51 39.3 -0.4
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD **Black Hills** 45.90 317 *e*P P 22 51 39.3 -0.4
comp=Z,3.5nm,0.8s
C27A **Sayler Ranch,** 45.93 322 ⇓P P 22 51 39.7 +0.1
baz=46
G25A **Newell** 45.95 318 ⇓P P 22 51 40.0 +0.2
baz=46,SNR=9.5
J24A **Dixon Ranch, L** 46.01 315 ⇓P P 22 51 40.6 +0.2
baz=46
N23A **Red Feather La** 46.04 312 ⇑P P 22 51 41.0 +0.1
baz=46
M23A **Laramie** 46.08 313 ⇑P P 22 51 41.3 +0.2
baz=46,SNR=5.6
B27A **Peters Farms,** 46.13 323 ⇓P P 22 51 41.5 +0.3
baz=46
D26A **Manning** 46.16 321 ⇑P P 22 51 41.2 -0.2
baz=46
I24A **Kuemmerle Ranc** 46.19 316 ⇑P P 22 51 41.4 -0.4
baz=46,SNR=6.2
P22A **Eagle** 46.23 310 ⇑P P 22 51 42.0 -0.4
baz=46,SNR=6.0
O22A **Kremmling** 46.25 311 ⇓P P 22 51 42.2 -0.4
baz=46,SNR=9.0
SMCO **Snowmass** 46.27 309 *e*P P 22 51 43.0 +0.1
comp=Z,21nm,1.3s
L23A **Garrett** 46.28 313 ⇑P P 22 51 42.8 +0.1
baz=46,SNR=7.9
F25A **Bowman** 46.29 319 ⇑P P 22 51 42.5 0.0
baz=46,SNR=5.7
C26A **Wahner Farm, P** 46.33 322 ⇑P P 22 51 42.6 -0.1
baz=46
N22A **Wattenberg Ran** 46.38 312 ⇓P P 22 51 44.0 +0.5
baz=46,SNR=8.0
A27A **Ledoux Ranch,** 46.40 324 ⇑P P 22 51 43.6 +0.3
baz=46
K23A **Bowen Ranch, D** 46.45 314 ⇓P P 22 51 44.2 +0.2
baz=46,SNR=9.1
319A **Douglas** 46.49 298 ⇓P P 22 51 44.9 +0.5
baz=46,SNR=16
H24A **Dirks Ranch, A** 46.49 317 ⇓P P 22 51 43.8 -0.4
baz=46,SNR=19
E25A **Miller Ranch,** 46.51 320 ⇓P P 22 51 44.3 +0.1
baz=46
G24A **Alzada** 46.64 318 ⇓P P 22 51 45.6 +0.3
baz=47
M22A **Cedar Creek Ra** 46.67 312 ⇑P P 22 51 46.1 +0.3
baz=47,SNR=10
B26A **Jensen Ranch,** 46.68 323 ⇑P P 22 51 45.7 +0.2
baz=47
D25A **Fairfield** 46.75 321 ⇓P P 22 51 46.1 0.0
baz=47
L22A **Ellis Ranch, M** 46.77 313 ⇓P P 22 51 47.3 +0.8
baz=47,SNR=8.9
A26A **Wade Farm, Ken** 46.83 323 ⇓P P 22 51 46.4 -0.2
baz=47,SNR=6.4
LPIG **La Paz** 46.90 288 LR LR 23 12 36.5
comp=Z,108nm,19.8s,baz=84,slow=38
C25A **Freed Ranch, W** 46.97 322 ⇓P P 22 51 47.9 +0.2
baz=47
H23A **Clabaugh Cattl** 46.98 317 ⇓P P 22 51 47.9 -0.1
baz=47
K22A **Casper** 47.04 314 *e*P P 22 51 48.1 -0.4
K22A **Casper** 47.04 314 ⇑P P 22 51 48.6 0.0
baz=47,SNR=16
E24A **Baker** 47.10 320 ⇑P P 22 51 49.4 +0.6
baz=47
PV01 **Paradox Valley** 47.20 307 *e*P P 22 51 50.1 +0.1
comp=Z,2μm,1.2s
PV01 *e*PcP PcP 22 53 21.5 +0.7
G23A **Biddle** 47.22 318 ⇑P P 22 51 49.8 0.0
baz=47,SNR=9.7
J22A **Midwest** 47.27 315 ⇓P P 22 51 49.8 -0.5
baz=47,SNR=10.0
D24A **Glendive** 47.35 320 ⇓P P 22 51 51.0 +0.3
baz=47,SNR=8.2
F23A **Volborg** 47.44 318 ⇑P P 22 51 51.4 -0.1
baz=47
I22A **9 Mile Ranch,** 47.45 315 ⇓P P 22 51 51.3 -0.4
baz=47,SNR=6.7
W18A **Petrified Fore** 47.46 303 *e*P P 22 51 52.0 0.0
W18A **Petrified Fore** 47.46 303 ⇑P P 22 51 51.9 -0.1
baz=47
A25A **Svangstu Ranch** 47.47 323 ⇓P P 22 51 51.6 0.0
baz=48,SNR=8.3
O20A **White River Ci** 47.48 310 *e*P P 22 51 52.3 +0.2
O20A **White River Ci** 47.48 310 ⇓P P 22 51 51.8 -0.3
baz=48
PV04 **Paradox Valley** 47.52 308 *e*P P 22 51 53.0 +0.6
X18A **Snowflake** 47.53 302 ⇑P P 22 51 52.9 +0.4
baz=48,SNR=24
K21A **Alcova** 47.54 314 ⇑P P 22 51 52.9 +0.5
baz=48,SNR=44
C24A **Savage** 47.59 321 ⇑P P 22 51 52.9 +0.3
baz=48,SNR=5.5
H22A **Clearmont** 47.62 316 ⇓P P 22 51 53.0 0.0
baz=48,SNR=5.7
N20A **Spence Gulch,** 47.70 311 ⇓P P 22 51 54.1 +0.3
baz=48
G22A **Birney** 47.82 317 ⇑P P 22 51 54.7 +0.2
baz=48,SNR=21
DGMT **Dagmar** 47.88 322 *e*P P 22 51 55.2 +0.4
comp=Z,107nm,1.5s
DGMT **Dagmar** 47.88 322 ⇑P P 22 51 55.0 +0.2
baz=48
TUC **Tucson** 47.88 299 *e*P P 22 51 54.8 -0.3
TUC **Tucson** 47.88 299 *e*P P 22 51 54.8 -0.3
CFAA **Coronel Fontan** 47.90 188 P P 22 51 54.8 -0.2
CFAA **Coronel Fontan** 47.90 188 P P 22 51 54.8 -0.2
comp=Z,0.5nm,0.8s,baz=353,slow=6.1,SNR=9.3
J21A **Lysite** 47.91 314 ⇓P P 22 51 55.3 0.0
baz=48,SNR=5.4
D23A **Lindsay** 47.92 320 ⇓P P 22 51 55.9 +0.7
baz=48,SNR=9.8
I21A **Big Trails, Te** 47.97 315 ⇓P P 22 51 54.9 -0.8
baz=48,SNR=8.4
F22A **Rosebud** 48.01 318 ⇑P P 22 51 56.2 +0.3
baz=48,SNR=16
E22A **Miles City** 48.08 319 ⇑P P 22 51 56.6 +0.2
baz=48,SNR=12
H21A **Big Horn, Sher** 48.09 316 ⇓P P 22 51 56.3 -0.4
baz=48,SNR=32
C23A **Lambert** 48.17 321 ⇓P P 22 51 57.5 +0.4
baz=48
B23A **Brockton** 48.35 322 ⇓P P 22 51 59.1 +0.7
baz=48
LAO **LASA Array** 48.35 319 *e*P P 22 51 59.2 +0.7
comp=Z,47nm,0.8s
J20A **Shoshoni** 48.35 314 ⇑P P 22 51 59.0 +0.3
baz=48,SNR=25
G21A **Lodge Grass** 48.42 317 ⇓P P 22 51 59.0 -0.1
baz=48,SNR=19
A23A **Redstone** 48.50 322 ⇓P P 22 52 00.1 +0.4
baz=48
D22A **Cohagen** 48.51 320 ⇓P P 22 52 00.5 +0.8
baz=48
C22A **Vida** 48.58 320 ⇓P P 22 52 01.3 +1.1
baz=49
I20A **Worland** 48.58 315 ⇑P P 22 52 00.0 -0.4
baz=49,SNR=15
F21A **Absaloka Mine,** 48.59 318 ⇓P P 22 52 00.7 +0.3
baz=49
H20A **Greybull** 48.68 316 ⇑P P 22 52 00.8 -0.4
baz=49,SNR=36
X16A **Lo Mia Camp, P** 48.73 302 ⇑P P 22 52 01.9 +0.1
baz=49,SNR=6.0
WUAZ **Wupatki** 48.85 303 *e*P P 22 52 03.1 +0.4
comp=Z,30nm,0.9s
WUAZ **Wupatki** 48.85 303 ⇓P P 22 52 03.1 +0.4
baz=49,SNR=22
B22A **Reddig Ranch S** 48.88 321 ⇓P P 22 52 03.0 +0.5
baz=49
SRU **San Rafael** 48.92 308 *e*P P 22 52 03.1 -0.1
SRU **San Rafael** 48.92 308 *e*P P 22 52 03.1 -0.1
D21A **La Casta Ranch** 48.98 319 ⇓P P 22 52 03.9 +0.5
baz=49,SNR=15
J19A **Crowheart** 48.99 314 ⇑P P 22 52 03.9 +0.2
baz=49,SNR=70
G20A **Bridger** 49.08 317 ⇑P P 22 52 03.8 -0.4
baz=49,SNR=45
FCC **Fort Churchill** 49.17 338 *e*P P 22 52 04.1 -0.4
FCC **Fort Churchill** 49.17 338 *e*P P 22 52 04.1 -0.4
BW06 **Boulder Array** 49.19 313 *e*P P 22 52 04.0 -1.2
comp=Z,58nm,1.2s
PDAR **Pinedale Array** 49.19 313 P P 22 52 04.8 -0.4
PDAR **Pinedale Array** 49.19 313 P P 22 52 04.8 -0.4
comp=Z,26nm,0.8s,baz=117,slow=9.3,SNR=168
PDAR LR LR 23 14 51.4
comp=Z,103nm,20.6s,baz=116,slow=38
I19A **Meeteetse** 49.20 315 ⇓P P 22 52 05.0 -0.3
baz=49,SNR=19
F20A **Billings** 49.24 317 ⇓P P 22 52 05.7 +0.3
baz=49,SNR=20
H19A **Powell** 49.41 316 ⇑P P 22 52 06.8 +0.1
baz=49,SNR=23
TMUT **Trail Mountain** 49.48 308 *e*P P 22 52 08.0 +0.4
comp=Z,36nm,1.2s
E20A **Meyer Farm, Mu** 49.49 318 ⇓P P 22 52 07.7 +0.5
baz=50,SNR=32
214A **Organ Pipe Nat** 49.55 298 ⇑P P 22 52 08.0 +0.1
baz=50,SNR=5.7
B21A **Ellsworth Farm** 49.55 321 ⇓P P 22 52 08.7 +1.1
baz=50,SNR=5.9
D20A **Manuel Ranch,** 49.71 319 ⇑P P 22 52 09.7 +0.8
baz=50,SNR=26
DAU **Daniels Canyon** 49.78 310 *e*P P 22 52 10.1 +0.2
DAU **Daniels Canyon** 49.78 310 *e*P P 22 52 10.1 +0.2
F19A **Roth Farm, Mol** 49.78 317 ⇓P P 22 52 09.7 +0.1
baz=50,SNR=21
Z14A **Wintersburg** 49.82 300 ⇑P P 22 52 09.9 0.0
baz=50
H18A **Shoshone NF, C** 49.86 315 ⇓P P 22 52 09.7 -0.7
baz=50,SNR=23
C20A **Veseth Ranch,** 49.87 320 ⇓P P 22 52 10.5 +0.4
baz=50,SNR=5.2
E19A **Rath Farm, Rou** 49.90 318 ⇑P P 22 52 10.8 +0.4
baz=50,SNR=26
FFC **Flin Flon** 49.90 330 P P 22 52 09.8 -0.3
comp=Z,82nm,0.8s,SNR=7.2
FFC **Flin Flon** 49.90 330 *e*P P 22 52 08.3 -1.8
FFC pmax pmax
comp=Z,11nm,1.3s
FFC **Flin Flon** 49.90 330 *e*P P 22 52 08.3 -1.8
comp=Z,11nm,1.3s
Y14A **Wickenburg** 49.94 301 ⇑P P 22 52 11.0 +0.1
baz=50,SNR=6.6
MPU **Maple Canyon** 49.97 309 *e*P P 22 52 11.0 -0.1
JLU **Jordanelle** 49.97 310 *e*P P 22 52 11.4 +0.2
comp=Z,53nm,1.3s
TCUT **Toone Canyon** 50.07 310 *e*P P 22 52 11.1 -0.9
comp=Z,53nm,1.2s
MVU **Marysvale** 50.07 307 *e*P P 22 52 12.5 +0.4
comp=Z,24nm,1.3s
B20A **Solberg Farm,** 50.17 321 ⇑P P 22 52 13.0 +0.7
baz=50
LOHW **Long Hollow** 50.18 314 *e*P P 22 52 12.5 -0.3
CTU **Camp Tracy** 50.21 310 *e*P P 22 52 13.3 +0.4
D19A **Cripps Ranch,** 50.21 319 ⇓P P 22 52 13.2 +0.5
baz=50
I17A **Pilgrim Ck.** 50.25 314 ⇓P P 22 52 13.4 +0.2
baz=50,SNR=7.8
REDW **Red Top Meadow** 50.28 313 *e*P P 22 52 13.3 -0.1
AHID **Auburn Hatcher** 50.28 313 *e*P P 22 52 12.9 -0.6
comp=Z,38nm,0.9s
NLU **North Lily Min** 50.28 309 *e*P P 22 52 13.5 0.0
comp=Z,138nm,2.6s
A20A **Cobblestone Ra** 50.28 321 ⇑P P 22 52 14.2 +0.9
baz=50
HWUT **Hardware Ranch** 50.30 311 *e*P P 22 52 13.5 -0.2
comp=Z,51nm,1.4s
MOOW **Moose Ponds** 50.31 314 *e*P P 22 52 13.5 -0.2
FLWY **Flagg Ranch** 50.38 314 *e*P P 22 52 14.6 +0.3
comp=Z,17nm,1.0s
H17A **Grant Village** 50.39 315 *e*P P 22 52 16.2 +1.9
H17A **Grant Village** 50.39 315 ⇑P P 22 52 15.1 +0.7
baz=50
113A **Mohawk Valley,** 50.44 299 ⇑P P 22 52 14.3 -0.2
baz=50
FXWY **Fox Creek** 50.48 314 *e*P P 22 52 14.6 -0.4
comp=Z,12nm,0.9s
C19A **Slack Wire Ran** 50.53 319 ⇓P P 22 52 15.5 +0.4
baz=50,SNR=5.9
MORF **Marmelete** 50.57 55 *e*P P 22 52 16.9 +1.4
comp=Z,93nm,1.5s
B19A **Brinkman Farms** 50.74 320 ⇓P P 22 52 17.1 +0.4
baz=51
YMR **Madison River** 50.74 315 *e*P P 22 52 18.0 +1.1
CCUT **Cedar City** 50.78 306 *e*P P 22 52 17.8 +0.4
A19A **Klindworth Far** 50.80 321 ⇑P P 22 52 17.8 +0.7
baz=51
PNCL **Nicolau / Gran** 50.81 54 *e*P P 22 52 18.5 +1.2
comp=Z,34nm,1.5s
W13A **Hualapai Mount** 50.81 302 ⇓P P 22 52 18.1 +0.4
baz=51,SNR=9.5
SPUT **South Promonto** 50.87 310 *e*P P 22 52 16.8 -1.1
comp=Z,11nm,1.3s
ARUT **Antelope Range** 50.88 306 *e*P P 22 52 18.1 0.0
ARUT **Antelope Range** 50.88 306 *e*P P 22 52 18.1 0.0
comp=Z,482nm,1.1s
DUG **Dugway** 50.89 309 *e*P P 22 52 18.1 +0.1
DUG pmax pmax
comp=Z,36nm,1.2s
DUG **Dugway** 50.89 309 *e*P P 22 52 18.1 +0.1
comp=Z,36nm,1.2s
DUG **Dugway** 50.89 309 ⇑P P 22 52 18.2 +0.2
baz=51,SNR=26
PDMCI **Parker Dam,Lak** 50.92 301 ⇑P P 22 52 18.1 0.0
baz=51
EGMT **Eagleton** 51.08 319 *e*P P 22 52 19.9 +0.7
comp=Z,45nm,0.9s
EGMT **Eagleton** 51.08 319 ⇓P P 22 52 20.0 +0.7
baz=51,SNR=18
QLMT **Earthquake Lak** 51.11 315 *e*P P 22 52 20.3 +0.6
PBDV **Barranco-do-Ve** 51.12 55 *e*P P 22 52 21.4 +1.7
comp=Z,52nm,1.6s
Y12C **Blythe** 51.17 301 ⇓P P 22 52 20.4 +0.3
baz=51
PTOM **Tomar** 51.19 52 *e*P P 22 52 20.9 +0.8
comp=Z,41nm,1.3s
EVOP **Sao Brissos** 51.20 53 *e*P P 22 52 21.8 +1.6
EVOP pmax pmax
comp=Z,17nm,1.0s
EVOP **Sao Brissos** 51.20 53 *e*P P 22 52 21.8 +1.6
comp=Z,17nm,1.0s
BGU **Big Grassy Mou** 51.21 310 *e*P P 22 52 20.4 -0.1
comp=Z,25nm,1.2s
PCAS **Casmilo, Conde** 51.22 51 *e*P P 22 52 20.8 +0.5
comp=Z,9nm,1.8s
PMTG **Montargil** 51.22 53 *e*P P 22 52 21.3 +0.9
comp=Z,31nm,1.1s
HVU **Hansel Valley** 51.23 311 *e*P P 22 52 19.7 -0.9
HVU *e* 22 54 17.0
HVU **Hansel Valley** 51.23 311 *e*P P 22 52 19.6 -0.9
HVU *e*PP PP 22 54 17.0 -0.7
EVO **Evora** 51.28 53 *e*P P 22 52 21.8 +1.0
comp=Z,17nm,1.0s
EVO *e*R
comp=Z,348nm,22.2s
EVO **Evora** 51.28 53 *e*P P 22 52 21.5 +0.7
comp=Z,38nm,1.6s
PBEJ **Beja** 51.30 54 *e*P P 22 52 21.6 +0.6
comp=Z,26nm,1.7s
GLA **Glamis** 51.35 300 *e*P P 22 52 21.9 +0.4
GLA **Glamis** 51.35 300 *e*P P 22 52 21.9 +0.4
GLA **Glamis** 51.35 300 ⇑P P 22 52 21.6 +0.1
baz=51
SFJD **Kangerlussuaq** 51.36 5 *i*P P 22 52 21.3 +0.4
comp=Z,11nm,0.9s
BOZ **Bozeman (W)** 51.49 316 *e*P P 22 52 22.2 -0.3
BOZ pmax pmax
comp=Z,30nm,1.1s
BOZ **Bozeman (W)** 51.49 316 *e*P P 22 52 22.2 -0.3
comp=Z,30nm,1.1s
PESTR **Estremoz** 51.67 53 *e*P P 22 52 23.9 +0.1
comp=Z,48nm,1.8s
H10N3 **ASCENSION HYDR** 51.70 114 T T 23 48 19.6
baz=298,slow=75,SNR=1842
H10N2 **ASCENSION HYDR** 51.70 114 T T 23 48 15.8
baz=298,slow=75,SNR=1736
H10N1 **ASCENSION HYDR** 51.72 114 T T 23 48 21.2
baz=298,slow=75,SNR=2210
IRM **Iron Mountain** 51.73 301 ⇑P P 22 52 24.8 +0.5
baz=52,SNR=12
PVIS **Viseu** 51.81 51 *e*P P 22 52 25.4 +0.6
comp=Z,29nm,1.4s
LDFC **Landfair** 51.81 302 *e*P P 22 52 26.1 +1.1
PMRV **Marv??o** 51.93 52 *e*P P 22 52 26.0 +0.3
comp=Z,23nm,1.5s
PCBR **Castelo Branco** 51.94 52 *e*P P 22 52 26.5 +0.8
comp=Z,32nm,1.8s
HRY **Holter Researc** 51.96 317 *e*P P 22 52 26.1 +0.2
MTE **Manteigas** 52.00 51 *e*P P 22 52 27.1 +0.8
comp=Z,52nm,1.3s
SHPR **Sheep Range** 52.04 304 *e*P P 22 52 27.2 +0.5
DLMT **Dillon** 52.05 315 *e*P P 22 52 27.2 +0.6
comp=Z,62nm,1.4s
PVRL **Vila Real** 52.06 50 *e*P P 22 52 27.4 +0.8
comp=Z,39nm,1.7s
H10S3 **ASCENSION HYDR** 52.07 115 T T 23 49 01.0
baz=298,slow=75,SNR=1662
MCMT **McKenzie Canyo** 52.07 315 *e*P P 22 52 27.1 +0.2
comp=Z,10nm,1.2s
H10S1 **ASCENSION HYDR** 52.08 115 T T 23 48 50.0
baz=298,slow=75,SNR=1311
H10S2 **ASCENSION HYDR** 52.09 115 T T 23 48 56.7
baz=298,slow=75,SNR=1352
LRM **Limekiln Ridge** 52.09 316 *e*P P 22 52 27.4 +0.3
SWSC **Sam W. Stewart** 52.15 299 ⇑P P 22 52 27.8 +0.4
baz=52
GMRC **Granite Mounta** 52.22 302 ⇓P P 22 52 28.0 -0.1
baz=52
BELC **Belle Mtn. Jos** 52.42 301 ⇑P P 22 52 29.8 +0.2
baz=52
TUQ **Turquoise Moun** 52.51 303 ⇑P P 22 52 30.5 +0.3
baz=52,SNR=9.8
R11A **Troy Canyon, C** 52.65 306 *e*P P 22 52 30.9 -0.3
R11A **Troy Canyon, C** 52.65 306 ⇑P P 22 52 31.5 +0.3
baz=53,SNR=12
MONP **Monument Peak** 52.67 299 ⇓P P 22 52 31.6 +0.1
baz=53,SNR=6.0
HEC **Hector,Ludlow** 52.78 302 ⇓P P 22 52 32.4 +0.3
baz=53
ELK **Elko** 52.81 309 *e*P P 22 52 32.3 -0.2
comp=Z,25nm,1.4s
HLID **Hailey** 52.83 313 *e*P P 22 52 32.5 +0.1
comp=Z,13nm,0.8s
HLID **Hailey** 52.83 313 ⇓P P 22 52 32.7 +0.2
baz=53,SNR=22
SHOC **Shoshone** 52.86 303 ⇓P P 22 52 32.5 -0.1
baz=53
CHMT **Chamberlain Mo** 52.95 317 *e*P P 22 52 33.3 0.0
SLMT **Seeley Lake** 53.20 317 *e*P P 22 52 35.2 0.0
GSC **Goldstone** 53.21 302 *e*P P 22 52 35.8 +0.4
GSC pmax pmax
comp=Z,28nm,1.6s
GSC **Goldstone** 53.21 302 *e*P P 22 52 35.8 +0.4
comp=Z,28nm,1.6s
GSC **Goldstone** 53.21 302 ⇑P P 22 52 35.3 -0.1
baz=53
MSO **Missoula** 53.37 317 *e*P P 22 52 36.2 -0.2
MSO **Missoula** 53.37 317 ⇓P P 22 52 35.8 -0.6
baz=53,SNR=5.7
MURC **Murrieta** 53.38 300 ⇓P P 22 52 36.4 -0.1
baz=53
FURC **Furnace Creek,** 53.39 304 ⇑P P 22 52 36.6 +0.1
baz=53
ILULI **Ilulissat** 53.50 4 *i*P P 22 52 36.8 +0.1
ILULI pmax pmax
comp=Z,22nm,1.1s
ILULI **Ilulissat** 53.50 4 *i*P P 22 52 36.8 +0.1
comp=Z,22nm,1.1s
SWMT **Swartz Lake** 53.61 318 *e*P P 22 52 38.0 -0.1
MFID **Camas Ranch** 53.80 312 *e*P P 22 52 39.7 +0.2
comp=Z,27nm,1.4s
BFSC **Mount Baldy Ra** 53.81 301 ⇑P P 22 52 39.8 0.0
baz=54
GRAC **Grapevine Rang** 53.86 304 ⇓P P 22 52 40.3 +0.2
baz=54
JTMT **Jette** 53.86 318 *e*P P 22 52 40.0 0.0
TPH **Tonopah** 53.88 306 *e*P P 22 52 38.7 -1.6
TPH **Tonopah** 53.88 306 *e*P P 22 52 38.7 -1.6
LRMC **Laurel Mountai** 53.95 302 ⇑P P 22 52 40.7 0.0
baz=54
DAC **Darwin (Calif)** 53.96 303 *e*P P 22 52 41.1 +0.2
DAC **Darwin (Calif)** 53.96 303 *e*P P 22 52 41.1 +0.2
BLMT **Blacktail Moun** 53.99 318 *e*P P 22 52 41.0 0.0
WALA **Waterton Lakes** 54.03 320 *e*P P 22 52 40.5 -0.6
comp=Z,0.4nm,1.1s
EDW2 **Edwards Air Fo** 54.14 302 ⇑P P 22 52 42.0 0.0
baz=54
BSMT **Bassoo Peak** 54.22 318 *e*P P 22 52 42.6 0.0
BMN **Battle Mountai** 54.24 308 *e*P P 22 52 42.8 0.0
BMN **Battle Mountai** 54.24 308 *e*P P 22 52 42.8 0.0
CWC **Cottonwood Cre** 54.36 304 ⇑P P 22 52 43.4 -0.4
baz=54,SNR=5.1
ESDC **Sonseca Array** 54.58 53 P P 22 52 46.1 +0.9
ESDC **Sonseca Array** 54.58 53 P P 22 52 46.1 +0.9
comp=Z,4.7nm,0.8s,baz=259,slow=7.6,SNR=23

ESDC LR LR 23 11 06.6
comp=Z,119nm,21.3s,baz=305,slow=30
ISA Isabella 54.60 303 ⇑P P 22 52 45.7 +0.2
baz=55
NV11 Mina Array Sit 54.66 306 *eP* **P 22 52 45.2 -0.7**
NVAR Mina Array Bea 54.77 306 P **P 22 52 46.7 -0.1**
NVAR Mina Array Bea 54.77 306 P **P 22 52 46.7 -0.1**
comp=Z,8.1nm,0.8s,baz=100,slow=6.2,SNR=50
NVAR LR LR 23 17 02.3
comp=Z,69nm,21.3s,baz=252,slow=37
ARVC Arvin 54.85 302 ⇓P P 22 52 47.9 +0.8
baz=55
VES Vestal, Richgr 55.12 303 ⇑P P 22 52 49.1 0.0
baz=55
EDM Edmonton 55.12 324 *eP* **P 22 52 46.9 -2.0**
EDM Edmonton 55.12 324 *eP* **P 22 52 46.9 -2.0**
BMO Blue Mountains 55.15 314 *eP* **P 22 52 48.0 -1.3**
BMO pmax pmax
comp=Z,13nm,1.1s
BMO Blue Mountains 55.15 314 *eP* **P 22 52 48.0 -1.3**
comp=Z,13nm,1.1s
RCTC Rector, Farmer 55.28 303 ⇑P P 22 52 50.4 +0.2
baz=55
F10A Beach Ranch, E 55.35 315 *eP* **P 22 52 49.9 -0.8**
TIC Toumodi 55.43 93 *eP* **P 22 52 51.7 0.0**
comp=Z,4.4nm,0.2s
LIC Lamto 55.53 93 *eP* **P 22 52 52.6 +0.2**
comp=Z,14nm,0.6s,baz=279
LIC *eR*
comp=Z,280nm,22.5s
LIC Lamto 55.53 93 *eP* **P 22 52 52.6 +0.2**
comp=Z,23nm,0.6s
LIC Lamto 55.53 93 *eP* **P 22 52 52.6 +0.2**
comp=Z,14nm,0.6s
DBIC Dimbokro 55.58 93 *eP* **P 22 52 53.3 +0.6**
DBIC Dimbokro 55.58 93 P **P 22 52 53.1 +0.4**
comp=Z,9.8nm,0.6s,baz=273,slow=6.7,SNR=26
DBIC LR LR 23 14 52.2
comp=Z,97nm,18.5s,baz=258,slow=34
WAKR Walker 55.67 306 *eP* **P 22 52 53.8 +0.5**
KIC Kosan Boka 55.77 93 *eP* **P 22 52 54.5 +0.4**
comp=Z,20nm,0.7s
SMMC Simmler 55.82 302 ⇑P P 22 52 54.5 +0.3
baz=56
NEW Newport 55.84 318 *eP* **P 22 52 53.7 -0.5**
NEW Newport 55.84 318 ⇑P P 22 52 54.0 -0.1
baz=56
E09A Wood Farm, Sta 56.09 316 *eP* **P 22 52 56.0 +0.2**
CMB Columbia Colle 56.36 305 *eP* **P 22 52 58.0 0.0**
CMB Columbia Colle 56.36 305 *eP* **P 22 52 58.0 0.0**
G08A Pilot Rock 56.39 314 *eP* **P 22 52 57.9 -0.3**
C09A Chrisman Ranch 56.47 317 *eP* **P 22 52 58.4 -0.2**
I07A Izee 56.54 312 *eP* **P 22 52 58.9 -0.4**
OD2 Odessa Site #2 56.67 317 P **P 22 52 59.8 -0.2**
D08A Wollman Farm, 56.73 316 *eP* **P 22 53 00.3 -0.1**
QUIF Quistinic 56.73 43 *eP* **P 22 53 00.6 +0.2**
comp=Z,90nm,1.4s
QUIF Quistinic 56.73 43 *eP* **P 22 53 00.6 +0.2**
QUIF pmax pmax
comp=Z,90nm,1.4s
QUIF Quistinic 56.73 43 *eP* **P 22 53 00.6 +0.2**
comp=Z,90nm,1.4s
ROSF Rostrenen 56.76 42 *eP* **P 22 53 00.8 +0.2**
comp=Z,20nm,0.9s
ROSF Rostrenen 56.76 42 *eP* **P 22 53 00.8 +0.2**
ROSF pmax pmax
comp=Z,20nm,0.9s
ROSF Rostrenen 56.76 42 *eP* **P 22 53 00.8 +0.2**
comp=Z,20nm,0.9s
HAWA Hanford 57.00 315 *eP* **P 22 53 02.3 -0.1**
SJPF Ste Jean 57.14 49 *eP* **P 22 53 04.0 +0.6**
comp=Z,73nm,1.1s
SJPF Ste Jean 57.14 49 *eP* **P 22 53 04.0 +0.6**
SJPF pmax pmax
comp=Z,73nm,1.1s
SJPF Ste Jean 57.14 49 *eP* **P 22 53 04.0 +0.6**
comp=Z,73nm,1.1s
PLCA Paso Flores 57.19 189 P **P 22 53 03.7 0.0**
PLCA Paso Flores 57.19 189 P **P 22 53 03.7 0.0**
comp=Z,6.2nm,0.8s,baz=16,slow=6.5,SNR=11
PLCA LR LR 23 19 04.2
comp=Z,197nm,19.5s,baz=293,slow=37
SGMF Saint Gilles 57.21 43 *eP* **P 22 53 03.9 +0.1**
comp=Z,77nm,1.2s
SGMF Saint Gilles 57.21 43 *eP* **P 22 53 03.9 +0.1**
SGMF pmax pmax
comp=Z,77nm,1.2s
SGMF Saint Gilles 57.21 43 *eP* **P 22 53 03.9 +0.1**
comp=Z,77nm,1.2s
E07A Sunnyside 57.25 315 *eP* **P 22 53 04.3 +0.2**
B08A Colville Reser 57.29 318 *eP* **P 22 53 03.5 -1.0**
OHCM Honcut 57.34 307 *eP* **P 22 53 05.2 +0.3**
WTV Waterville 57.55 317 P **P 22 53 05.6 -0.8**
ETSF Etsaut 57.59 49 *eP* **P 22 53 07.2 +0.5**
comp=Z,64nm,1.6s
ETSF Etsaut 57.59 49 *eP* **P 22 53 07.2 +0.5**
ETSF pmax pmax
comp=Z,65nm,1.6s
ETSF Etsaut 57.59 49 *eP* **P 22 53 07.2 +0.5**
comp=Z,64nm,1.6s
J05D Fort Rock, OR 57.65 311 ⇑P P 22 53 07.6 +0.4
baz=58
EBG Ellensburg 57.80 316 P **P 22 53 08.6 +0.5**
TBM Table Mountain 57.88 316 P **P 22 53 08.9 +0.3**
I05D Terrebonne, OR 57.88 313 ⇑P P 22 53 09.3 +0.7
baz=58
M04C Macdoel 57.89 309 ⇓P P 22 53 09.3 +0.5
baz=58
LTY Liberty 57.94 316 *eP* **P 22 53 08.1 -0.9**
SUMG Summit 58.02 8 *iP* **P 22 53 09.9 +0.4**
SUMG pmax pmax
comp=Z,33nm,0.9s
SUMG Summit 58.02 8 *iP* **P 22 53 09.9 +0.4**
comp=Z,33nm,0.9s
SUMG Summit 58.02 8 *eP* **P 22 53 09.2 -0.3**
comp=Z,54nm,1.0s
TWW Teanaway 58.05 316 P **P 22 53 10.2 +0.4**
EPF Esparros 58.26 49 *eP* **P 22 53 12.0 +0.6**
comp=Z,101nm,1.4s
EPF Esparros 58.26 49 *eP* **P 22 53 12.0 +0.6**
EPF pmax pmax
comp=Z,101nm,1.4s
EPF Esparros 58.26 49 *eP* **P 22 53 12.0 +0.6**
comp=Z,101nm,1.4s
J04D Umpqua Nationa 58.27 311 ⇓P P 22 53 11.7 +0.1
baz=58
GRR Gorron 58.34 43 *eP* **P 22 53 11.7 0.0**
comp=Z,73nm,1.1s
GRR Gorron 58.34 43 *eP* **P 22 53 11.7 0.0**
GRR pmax pmax
comp=Z,73nm,1.1s
GRR Gorron 58.34 43 *eP* **P 22 53 11.7 0.0**
comp=Z,73nm,1.1s
MFF Saint Martin d 58.48 45 *eP* **P 22 53 13.0 +0.3**
comp=Z,130nm,1.5s
MFF Saint Martin d 58.48 45 *eP* **P 22 53 13.0 +0.3**
MFF pmax pmax
comp=Z,130nm,1.5s
MFF Saint Martin d 58.48 45 *eP* **P 22 53 13.0 +0.3**
comp=Z,130nm,1.5s
H04A Detroit Lake 58.53 313 *eP* **P 22 53 13.2 0.0**
KULLO Kullorsuaq 58.58 1 *iP* **P 22 53 12.7 -0.2**
KULLO pmax pmax
comp=Z,20nm,0.8s
KULLO Kullorsuaq 58.58 1 *iP* **P 22 53 12.7 -0.2**
comp=Z,20nm,0.8s
M02C Callahan 58.60 309 ⇑P P 22 53 13.3 -0.5
baz=58
FLN La Foliniere 58.66 42 *eP* **P 22 53 14.1 +0.1**
comp=Z,83nm,1.1s
FLN *eR*
comp=Z,151nm,18.2s
FLN La Foliniere 58.66 42 *eP* **P 22 53 14.1 +0.1**
FLN pmax pmax
comp=Z,83nm,1.1s
FLN La Foliniere 58.66 42 *eP* **P 22 53 14.1 +0.1**
comp=Z,83nm,1.1s
LFF La Frestale 58.82 47 *eP* **P 22 53 15.3 +0.2**
comp=Z,112nm,1.3s
LFF La Frestale 58.82 47 *eP* **P 22 53 15.3 +0.2**
LFF pmax pmax
comp=Z,112nm,1.3s
LFF La Frestale 58.82 47 *eP* **P 22 53 15.3 +0.2**
comp=Z,112nm,1.3s
LDF La Druitiere 58.86 43 *eP* **P 22 53 15.3 -0.1**
comp=Z,67nm,1.2s
LDF La Druitiere 58.86 43 *eP* **P 22 53 15.3 -0.1**
LDF pmax pmax
comp=Z,67nm,1.2s
LDF La Druitiere 58.86 43 *eP* **P 22 53 15.3 -0.1**
comp=Z,67nm,1.2s
SCO Scoresbysund 59.34 14 *iP* **P 22 53 18.1 -0.1**
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 59.34 14 *iP* **P 22 53 18.1 -0.1**
comp=Z,4.1nm,0.9s
G03D McMinnville, O 59.37 313 ⇑P P 22 53 19.3 +0.4
baz=59
RJF Les Rejaudoux 59.41 47 *eP* **P 22 53 19.2 0.0**
comp=Z,56nm,1.0s
RJF *eR*
comp=Z,342nm,19.0s
RJF Les Rejaudoux 59.41 47 *eP* **P 22 53 19.2 0.0**
RJF pmax pmax
comp=Z,56nm,1.0s
RJF Les Rejaudoux 59.41 47 *eP* **P 22 53 19.2 0.0**
comp=Z,56nm,1.0s
YKA Yellowknife Ar 59.50 334 P **P 22 53 18.4 -1.1**
YKA Yellowknife Ar 59.50 334 P **P 22 53 18.4 -1.1**
comp=Z,17nm,0.7s,baz=107,slow=7.5,SNR=313
YKW3 Yellowknife Ar 59.54 334 *eP* **P 22 53 18.5 -1.2**
comp=Z,0.7nm,1.1s
MTLF Montolieu 59.66 49 *eP* **P 22 53 21.0 0.0**
comp=Z,47nm,1.0s
MTLF Montolieu 59.66 49 *eP* **P 22 53 21.0 0.0**
MTLF pmax pmax
comp=Z,47nm,1.0s
MTLF Montolieu 59.66 49 *eP* **P 22 53 21.0 0.0**
comp=Z,47nm,1.0s
CAF Calviac 59.75 47 *eP* **P 22 53 21.6 0.0**
comp=Z,51nm,1.0s
CAF Calviac 59.75 47 *eP* **P 22 53 21.6 0.0**
CAF pmax pmax
comp=Z,51nm,1.0s
CAF Calviac 59.75 47 *eP* **P 22 53 21.6 0.0**
comp=Z,51nm,1.0s
TCF Toulx Ste Croi 60.03 46 *eP* **P 22 53 23.6 +0.1**
comp=Z,45nm,1.2s
TCF Toulx Ste Croi 60.03 46 *eP* **P 22 53 23.6 +0.1**
TCF pmax pmax
comp=Z,45nm,1.2s
TCF Toulx Ste Croi 60.03 46 *eP* **P 22 53 23.6 +0.1**
comp=Z,45nm,1.2s
OSD Olympics--Snow 60.06 316 P **P 22 53 24.3 +0.4**
TOA0 Torodi Ar. Sit 60.45 84 *eP* **P 22 53 26.0 -0.8**
TORD Torodi Ar. Bea 60.45 84 P **P 22 53 26.7 -0.1**
TORD Torodi Ar. Bea 60.45 84 P **P 22 53 26.7 -0.1**
comp=Z,6.8nm,1.0s,baz=277,slow=5.6,SNR=22
TORD LR LR 23 16 11.9
comp=Z,305nm,21.2s,baz=260,slow=32
HYF Humbligny 60.47 44 *eP* **P 22 53 26.6 +0.2**
HYF Humbligny 60.47 44 *eP* **P 22 53 26.6 +0.2**
BGF Bois d'Agland 60.51 45 *eP* **P 22 53 26.7 0.0**
comp=Z,77nm,1.3s
BGF Bois d'Agland 60.51 45 *eP* **P 22 53 26.7 0.0**
BGF pmax pmax
comp=Z,77nm,1.3s
BGF Bois d'Agland 60.51 45 *eP* **P 22 53 26.7 0.0**
comp=Z,77nm,1.3s
AVF Avril sur Loir 60.88 45 *eP* **P 22 53 29.0 -0.2**
comp=Z,68nm,1.1s
AVF Avril sur Loir 60.88 45 *eP* **P 22 53 29.0 -0.2**
AVF pmax pmax
comp=Z,68nm,1.1s
AVF Avril sur Loir 60.88 45 *eP* **P 22 53 29.0 -0.2**
comp=Z,68nm,1.1s
LASF Ste Croix 60.92 48 *eP* **P 22 53 30.2 +0.6**
comp=Z,62nm,1.3s
LASF Ste Croix 60.92 48 *eP* **P 22 53 30.2 +0.6**
comp=Z,62nm,1.3s
SSF Saint Saulge 61.02 45 *eP* **P 22 53 29.9 -0.3**
comp=Z,82nm,1.3s
SSF Saint Saulge 61.02 45 *eP* **P 22 53 29.9 -0.3**
SSF pmax pmax
comp=Z,83nm,1.3s
SSF Saint Saulge 61.02 45 *eP* **P 22 53 29.9 -0.3**
comp=Z,82nm,1.3s
SMF Signal de Mont 61.20 45 *eP* **P 22 53 31.3 -0.1**
comp=Z,76nm,1.1s
SMF Signal de Mont 61.20 45 *eP* **P 22 53 31.3 -0.1**
SMF pmax pmax
comp=Z,76nm,1.1s
SMF Signal de Mont 61.20 45 *eP* **P 22 53 31.3 -0.1**
comp=Z,76nm,1.1s
LOR Lormes 61.29 45 *eP* **P 22 53 31.7 -0.3**
comp=Z,64nm,0.9s
LOR *eR*
comp=Z,143nm,18.2s
LOR Lormes 61.29 45 *eP* **P 22 53 31.7 -0.3**
comp=Z,64nm,0.9s
VIVF Saint-Julien-l 61.58 47 *eP* **P 22 53 34.8 +0.7**
comp=Z,46nm,1.0s
VIVF Saint-Julien-l 61.58 47 *eP* **P 22 53 34.8 +0.7**
VIVF pmax pmax
comp=Z,47nm,1.0s
VIVF Saint-Julien-l 61.58 47 *eP* **P 22 53 34.8 +0.7**
comp=Z,46nm,1.0s
BAIF Baives 61.91 42 *eP* **P 22 53 35.6 -0.5**
comp=Z,50nm,1.5s
BAIF Baives 61.91 42 *eP* **P 22 53 35.6 -0.5**
BAIF pmax pmax
comp=Z,50nm,1.5s
BAIF Baives 61.91 42 *eP* **P 22 53 35.6 -0.5**
comp=Z,50nm,1.5s
SNF Seneffe 62.02 41 P **P 22 53 37.3 +0.5**
SMRF Simiane la Rot 62.15 48 *eP* **P 22 53 38.9 +1.0**
comp=Z,41nm,1.3s
SMRF Simiane la Rot 62.15 48 *eP* **P 22 53 38.9 +1.0**
comp=Z,41nm,1.3s
DOU Dourbes 62.16 42 P **P 22 53 38.3 +0.5**
SFTF Sexfontaines 62.20 44 *eP* **P 22 53 37.8 -0.3**
comp=Z,129nm,1.3s
SFTF Sexfontaines 62.20 44 *eP* **P 22 53 37.8 -0.3**
comp=Z,129nm,1.3s
MEZF Maizieres J'vi 62.24 43 *eP* **P 22 53 38.3 -0.1**
comp=Z,273nm,1.5s
MEZF Maizieres J'vi 62.24 43 *eP* **P 22 53 38.3 -0.1**
comp=Z,273nm,1.5s
GIVF Givet 62.31 42 *eP* **P 22 53 38.4 -0.4**
comp=Z,42nm,1.0s
GIVF Givet 62.31 42 *eP* **P 22 53 38.4 -0.4**
GIVF pmax pmax
comp=Z,42nm,1.0s
GIVF Givet 62.31 42 *eP* **P 22 53 38.4 -0.4**
comp=Z,42nm,1.0s
ORIF Oris-en-Rattie 62.44 47 *eP* **P 22 53 40.7 +0.8**
comp=Z,32nm,1.2s
ORIF *eR*
comp=Z,338nm,19.8s
ORIF Oris-en-Rattie 62.44 47 *eP* **P 22 53 40.7 +0.8**
ORIF pmax pmax
comp=Z,32nm,1.2s
ORIF Oris-en-Rattie 62.44 47 *eP* **P 22 53 40.7 +0.8**
comp=Z,32nm,1.2s
TAM Tamanrasset 62.56 72 *eP* **P 22 53 42.3 +1.1**
TAM pmax pmax
comp=Z,12nm,1.0s
TAM Tamanrasset 62.56 72 *eP* **P 22 53 42.3 +1.1**
comp=Z,12nm,1.0s
BCLA Clavier 62.66 41 P **P 22 53 41.4 +0.3**
comp=Z,12nm,1.6s
PAGF Fort de Pagny 62.69 43 *eP* **P 22 53 41.2 -0.2**
comp=Z,30nm,1.3s
PAGF Fort de Pagny 62.69 43 *eP* **P 22 53 41.2 -0.2**
comp=Z,30nm,1.3s
CABF La Chapelle 62.73 46 *eP* **P 22 53 41.7 -0.1**
comp=Z,72nm,1.5s
CABF La Chapelle 62.73 46 *eP* **P 22 53 41.7 -0.1**
CABF pmax pmax
comp=Z,72nm,1.5s
CABF La Chapelle 62.73 46 *eP* **P 22 53 41.7 -0.1**
comp=Z,72nm,1.5s
LMR La Mourre 62.78 49 *eP* **P 22 53 41.9 -0.2**
comp=Z,32nm,1.2s
LMR La Mourre 62.78 49 *eP* **P 22 53 41.9 -0.2**
LMR pmax pmax
comp=Z,32nm,1.2s
LMR La Mourre 62.78 49 *eP* **P 22 53 41.9 -0.2**
comp=Z,32nm,1.2s
THEF They Montfort 62.83 44⇑ *eP* **P 22 53 43.1 +0.8**
BEBN Eben Emael 62.94 41 P **P 22 53 43.6 +0.6**
comp=Z,9.2nm,1.1s
HAU Haudompre 63.05 44 *eP* **P 22 53 43.2 -0.6**
comp=Z,52nm,1.3s
HAU *eR*
comp=Z,239nm,21.8s
HAU Haudompre 63.05 44 *eP* **P 22 53 43.2 -0.6**
HAU pmax pmax
comp=Z,52nm,1.3s
HAU Haudompre 63.05 44 *eP* **P 22 53 43.2 -0.6**
comp=Z,52nm,1.3s
MBDF Montbardon 63.06 48 *eP* **P 22 53 44.7 +0.6**
comp=Z,30nm,0.9s
MBDF Montbardon 63.06 48 *eP* **P 22 53 44.7 +0.6**
MBDF pmax pmax
comp=Z,30nm,0.9s
MBDF Montbardon 63.06 48 *eP* **P 22 53 44.7 +0.6**
comp=Z,30nm,0.9s
LPL La Plagne 63.09 47 *eP* **P 22 53 45.0 +0.6**
comp=Z,36nm,1.0s
LPL La Plagne 63.09 47 *eP* **P 22 53 45.0 +0.6**
LPL pmax pmax
comp=Z,36nm,1.0s
LPL La Plagne 63.09 47 *eP* **P 22 53 45.0 +0.6**
comp=Z,36nm,1.0s
HGN Heimansgroeve 63.10 41 *eP* **P 22 53 44.1 +0.1**
comp=Z,26nm,1.0s
LPG La Plagne 63.10 47 *eP* **P 22 53 45.2 +0.7**
comp=Z,56nm,1.2s
LPG La Plagne 63.10 47 *eP* **P 22 53 45.2 +0.7**
LPG pmax pmax
comp=Z,56nm,1.2s
LPG La Plagne 63.10 47 *eP* **P 22 53 45.2 +0.7**
comp=Z,56nm,1.2s
WLF Walferdange 63.10 42 P **P 22 53 44.6 +0.5**
comp=Z,23nm,1.6s
MEM Membach 63.13 41 P **P 22 53 44.4 +0.2**
comp=Z,15nm,1.2s
MVIF Mont Vial 63.28 49⇑ *eP* **P 22 53 46.4 +0.8**
LOMF Lomont 63.30 45⇑ *eP* **P 22 53 46.4 +0.8**
TOUF Mont Tournerai 63.36 49⇑ *eP* **P 22 53 47.1 +1.0**
HINF Hinteralfeld 63.37 44 *eP* **P 22 53 45.2 -0.7**
comp=Z,30nm,1.0s
HINF Hinteralfeld 63.37 44 *eP* **P 22 53 45.2 -0.7**
HINF pmax pmax
comp=Z,31nm,1.0s
HINF Hinteralfeld 63.37 44 *eP* **P 22 53 45.2 -0.7**
comp=Z,30nm,1.0s
AUTN L'Aution 63.48 49⇑ *eP* **P 22 53 48.0 +1.0**
MOF Molkenrain 63.56 44⇑ *eP* **P 22 53 47.5 +0.2**
SAOF Saorge 63.58 49⇑ *eP* **P 22 53 48.2 +0.8**
ECH Echery 63.61 44 *eP* **P 22 53 47.8 +0.3**
ECH pmax pmax
comp=Z,32nm,1.1s
ECH Echery 63.61 44⇑ *eP* **P 22 53 48.1 +0.6**
ECH Echery 63.61 44 *eP* **P 22 53 47.8 +0.3**
comp=Z,32nm,1.1s
CDF Champ du Feu 63.70 44 *eP* **P 22 53 47.7 -0.5**
comp=Z,39nm,1.0s
CDF Champ du Feu 63.70 44 *eP* **P 22 53 47.7 -0.5**
CDF pmax pmax
comp=Z,39nm,1.0s
CDF Champ du Feu 63.70 44 *eP* **P 22 53 47.7 -0.5**
comp=Z,39nm,1.0s
WTSB Winterswijk 63.80 40 *eP* **P 22 53 48.8 +0.3**
comp=Z,47nm,1.2s
BUG Bochum--Univer 64.02 40 *eP* **P 22 53 50.1 0.0**
comp=Z,40nm,1.4s
BUG *epP* **pP 22 54 03.7 -1.0**
LANF Langenberg 64.11 43⇑ *eP* **P 22 53 51.6 +0.9**
BFO Black Forest 64.40 44 *ceP* **P 22 53 52.9 +0.2**
BFO Black Forest 64.40 44 *eP* **P 22 53 52.2 -0.5**
comp=Z,6.0nm,1.0s
IBBN Ibbenburen 64.42 39 *eP* **P 22 53 53.1 +0.4**
comp=Z,48nm,1.2s
PGF Pioggiola 64.58 50 *eP* **P 22 53 53.7 -0.4**
comp=Z,56nm,1.2s
PGF Pioggiola 64.58 50 *eP* **P 22 53 53.7 -0.4**
PGF pmax pmax
comp=Z,56nm,1.2s
PGF Pioggiola 64.58 50 *eP* **P 22 53 53.7 -0.4**
comp=Z,56nm,1.2s
TNS Taunus Mts 64.64 42 *eP* **P 22 53 54.2 0.0**
comp=Z,42nm,1.1s
KEST Kesra 64.90 58 *eP* **P 22 53 56.8 +0.5**
KEST Kesra 64.90 58 P **P 22 53 57.4 +1.1**
comp=Z,11nm,0.9s,baz=178,slow=2.8,SNR=22
STU Stuttgart 65.00 43 *eP* **P 22 53 55.7 -0.9**
STU pmax pmax
comp=Z,18nm,0.9s
STU Stuttgart 65.00 43 *eP* **P 22 53 56.4 -0.2**
comp=Z,39nm,1.0s
STU Stuttgart 65.00 43 *eP* **P 22 53 55.6 -0.9**
comp=Z,18nm,0.9s
DAVA Damuels 65.37 45 *iP* **P 22 54 00.3 +1.1**
comp=Z,40nm,0.9s,SNR=16
UBBA Unterbreizbach 65.67 41 *eP* **P 22 54 01.0 +0.3**
comp=Z,26nm,1.5s
NRDL Niedersach Rie 65.88 39 *eP* **P 22 54 02.4 +0.4**
comp=Z,43nm,1.4s
FETA Feichten 65.94 45⇑ *iP* **P 22 54 03.8 +0.9**
comp=Z,48nm,0.9s,SNR=19
RETA Reute 65.98 45⇑ *iP* **P 22 54 03.7 +0.6**
comp=Z,26nm,1.0s,SNR=11
CLZ Clausthal 65.98 40 *eP* **P 22 54 03.2 +0.3**
comp=Z,39nm,1.4s
BSEG Bad Segeberg 66.13 38 *eP* **P 22 54 03.9 +0.2**
comp=Z,42nm,1.2s
MOTA Moosalm 66.21 45⇓ *iP* **P 22 54 04.7 +0.1**
comp=Z,22nm,1.0s,SNR=13
FUR Furstenfeldbru 66.35 44 *eP* **P 22 54 05.3 0.0**
comp=Z,18nm,1.0s
GRF Grafenberg Arr 66.38 42 *eP* **P 22 54 05.5 0.0**
comp=Z,20nm,1.1s
GRF *epP* **pP 22 54 18.4 -1.8**
ALE Alert 66.51 360 P **P 22 54 05.3 -0.5**
comp=Z,260nm,0.9s,SNR=19
WTTA Wattenberg 66.57 45⇑ *iP* **P 22 54 07.4 +0.5**
comp=Z,18nm,1.0s,SNR=5.1
ROTZ Rotzenmuhle 67.03 42 *eP* **P 22 54 09.7 +0.1**
comp=Z,23nm,1.4s
ABTA Abfalterbach 67.16 46⇓ *iP* **P 22 54 10.6 0.0**
comp=Z,32nm,1.1s,SNR=13
TANN Tannenbergstha 67.22 42 *eP* **P 22 54 11.0 +0.2**
comp=Z,18nm,1.1s
TANN *epP* **pP 22 54 24.2 -1.3**
RJOB Jochberg 67.36 45 *eP* **P 22 54 11.5 -0.3**
comp=Z,6.0nm,0.4s
NB2 NORSAR Subarra 67.44 30 P **P 22 54 12.8 +0.8**
comp=Z,26nm,0.9s,baz=261,slow=6.5
NB2 NORSAR Subarra 67.44 30 P **P 22 54 12.8 +0.8**
baz=261,slow=6.5
NOA NORSAR Array B 67.44 30 P **P 22 54 13.1 +1.0**
NOA NORSAR Array B 67.44 30 P **P 22 54 13.1 +1.0**
comp=Z,15nm,0.8s,baz=262,slow=6.3,SNR=40
NOA LR LR 23 18 36.6
comp=Z,140nm,21.6s,baz=265,slow=31
WET Wettzell 67.44 43 *eP* **P 22 54 12.2 -0.1**
comp=Z,23nm,1.2s
CLL Collm 67.59 41⇓ *iP* **P 22 54 13.0 -0.1**
CLL *e* 22 54 27.0
CLL pmax pmax
comp=Z,33nm,1.0s
CLL MLR MLR
comp=Z,200nm,18.9s
CLL Collm 67.59 41 *eP* **P 22 54 13.3 +0.2**
comp=Z,33nm,1.0s
CLL Collm 67.59 41⇓ *iP* **P 22 54 13.0 -0.1**
comp=Z,33nm,1.0s
CLL LmH 23 18 00.0
comp=Z,200nm,18.9s
KBA Koelnbreinsper 67.73 45⇑ *iP* **P 22 54 14.4 +0.1**
comp=Z,32nm,1.1s,SNR=10
KHC Kasperske Hory 67.90 43 *eP* **P 22 54 15.2 0.0**
KHC *e* 22 54 30.6
KHC *e* 22 54 35.7
KHC Kasperske Hory 67.90 43 *eP* **P 22 54 15.2 0.0**
KHC *epP* **pP 22 54 30.6 +0.7**
KHC *ex* x 22 54 35.7
KHC Kasperske Hory 67.90 43 *eP* **P 22 54 15.1 -0.1**
comp=Z,28nm,1.6s
MYKA Terra Mystica 67.93 46⇓ *iP* **P 22 54 15.2 -0.2**
comp=Z,25nm,1.2s,SNR=10
GEC2 GERESS Array S 67.98 43 *eP* **P 22 54 15.7 0.0**
comp=Z,26nm,1.3s
GERES GERESS Array B 67.98 43 P **P 22 54 15.9 +0.1**
GERES GERESS Array B 67.98 43 P **P 22 54 15.9 +0.1**
comp=Z,6.8nm,0.9s,baz=266,slow=5.4,SNR=50
GERES LR LR 23 19 05.0
comp=Z,80nm,21.6s,baz=264,slow=32

BRG	**Berggiesshubel**	**68.17**	**41**	*i* P		**P**	**22 54 17.1**	**+0.4**
	comp=Z,27nm,1.0s							
BRG				*e*			22 54 30.9	
	comp=Z,16nm,1.4s							
BRG	**Berggiesshubel**	**68.17**	**41**	*e*P		**P**	**22 54 17.0**	**+0.2**
	comp=Z,27nm,1.0s							
JAVS	**Javornik**	**68.23**	**47**	*i* P		**P**	**22 54 18.2**	**+0.8**
MOA	**Molln**	**68.35**	**44**	*i* P		**P**	**22 54 18.2**	**+0.1**
	comp=Z,21nm,1.6s,SNR=7.6							
PRA	**Prague**	**68.47**	**42**	P		**P**	**22 54 20.0**	**+1.4**
PRU	**Pruhonice**	**68.54**	**42**	*e*P		**P**	**22 54 19.4**	**+0.3**
PRU				*e*			22 54 33.3	
PRU				*e*			22 54 40.0	
PRU	**Pruhonice**	**68.54**	**42**	*e*P		**P**	**22 54 19.4**	**+0.3**
PRU				*ep*P		**pP**	**22 54 33.3**	**-0.5**
PRU				*ex*		x	22 54 40.0	
OBKA	**Obir**	**68.56**	**46**	⇑*i*P		**P**	**22 54 19.6**	**+0.2**
	comp=Z,30nm,0.8s,SNR=8.2							
PVCC	**Panska Ves**	**68.56**	**42**	*e*P		**P**	**22 54 19.7**	**+0.5**
PVCC				*e*			22 54 33.4	
PVCC	**Panska Ves**	**68.56**	**42**	*e*P		**P**	**22 54 19.7**	**+0.5**
PVCC				*ep*P		**pP**	**22 54 33.4**	**-0.6**
VISS	**Visnje**	**68.78**	**47**	*i* P		**P**	**22 54 21.0**	**+0.3**
INK	**Inuvik**	**68.79**	**338**	*e*P		**P**	**22 54 19.2**	**-1.1**
	comp=Z,60nm,1.1s							
SOKA	**Soboth**	**68.89**	**46**	⇑*i*P		**P**	**22 54 21.3**	**-0.1**
	comp=Z,14nm,1.0s,SNR=6.1							
PERS	**Pernice**	**68.95**	**46**	*i* P		**P**	**22 54 21.7**	**-0.1**
BOJS	**Bojanci**	**69.07**	**47**	*i* P		**P**	**22 54 23.0**	**+0.5**
TREC	**Trest**	**69.16**	**43**	*e*P		**P**	**22 54 23.1**	**+0.1**
TREC	**Trest**	**69.16**	**43**	*e*P		**P**	**22 54 23.1**	**+0.1**
ARSA	**Arzberg**	**69.21**	**45**	⇑*i*P		**P**	**22 54 23.2**	**-0.2**
	comp=Z,15nm,0.9s,SNR=7.6							
CONA	**Conrad Observa**	**69.43**	**44**	*i* P		**P**	**22 54 24.6**	**-0.1**
	comp=Z,16nm,1.2s,SNR=8.6							
UPC	**Upice**	**69.48**	**42**	*e*P		**P**	**22 54 24.8**	**-0.1**
UPC				*e*			22 54 39.3	
UPC	**Upice**	**69.48**	**42**	*e*P		**P**	**22 54 24.8**	**-0.1**
UPC				*ep*P		**pP**	**22 54 39.3**	**-0.4**
KSP	**Ksiaz**	**69.66**	**41**	*e*P		**P**	**22 54 26.1**	**+0.1**
KSP	**Ksiaz**	**69.66**	**41**	*e*P		**P**	**22 54 26.8**	**+0.8**
DPC	**Dobruska-Polom**	**69.69**	**42**	*e*P		**P**	**22 54 26.5**	**+0.3**
DPC				*e*			22 54 40.6	
DPC	**Dobruska-Polom**	**69.69**	**42**	*e*P		**P**	**22 54 26.5**	**+0.3**
DPC				*ep*P		**pP**	**22 54 40.6**	**-0.4**
VRAC	**Vranov**	**69.88**	**43**	⇑*i*P		**P**	**22 54 28.1**	**+0.7**
KRLC	**Kraliky**	**69.98**	**42**	*e*P		**P**	**22 54 28.8**	**+0.7**
KRLC				*e*			22 54 42.7	
KRLC	**Kraliky**	**69.98**	**42**	*e*P		**P**	**22 54 28.8**	**+0.7**
KRLC				*ep*P		**pP**	**22 54 42.7**	**-0.2**
BEHE	**Becsehely**	**70.10**	**46**	*e*		**P**	**22 54 29.3**	**+0.5**
SMOL	**Smolenice**	**70.46**	**44**	*e*P		**P**	**22 54 31.6**	**+0.7**
SMOL	**Smolenice**	**70.46**	**44**	*e*P		**P**	**22 54 31.6**	**+0.7**
MORC	**Moravsky Berou**	**70.48**	**42**	⇑P		**P**	**22 54 31.8**	**+0.7**
MORC	**Moravsky Berou**	**70.48**	**42**	⇑*i*P		**P**	**22 54 31.8**	**+0.7**
MORC	**Moravsky Berou**	**70.48**	**42**	*e*P		**P**	**22 54 31.1**	**-0.1**
	comp=Z,16nm,1.0s							
OKC	**Ostrava-Krasne**	**70.87**	**42**	*e*P		**P**	**22 54 33.6**	**+0.2**
OKC				*e*			22 54 48.0	
OKC	**Ostrava-Krasne**	**70.87**	**42**	*e*P		**P**	**22 54 33.6**	**+0.2**
OKC				*ep*P		**pP**	**22 54 48.0**	**-0.2**
CSKK	**Cs^ŧkako**	**71.07**	**45**	*e*P		**P**	**22 54 35.1**	**+0.4**
PKS9	**Tamasi**	**71.13**	**46**	*e*		**P**	**22 54 36.1**	**+1.1**
PKSG		**71.16**	**45**	*e*P		**P**	**22 54 35.5**	**+0.3**
PKSM	**Moragy**	**71.40**	**46**	⇑P		**P**	**22 54 37.4**	**+0.7**
PKSM	**Moragy**	**71.40**	**46**	⇑*i*P		**P**	**22 54 37.4**	**+0.7**
PKSM	**Moragy**	**71.40**	**46**	*e*		**P**	**22 54 37.3**	**+0.6**
EGAK	**Eagle**	**71.47**	**334**	*e*P		**P**	**22 54 36.6**	**-0.1**
	comp=Z,26nm,1.2s							
PKS7	**Kunszentmiklos**	**71.70**	**45**	*e*		**P**	**22 54 39.1**	**+0.6**
PSZ	**Piszkesteto**	**72.14**	**44**	P		**P**	**22 54 42.0**	**+0.8**
PSZ	**Piszkesteto**	**72.14**	**44**	*i*P		**P**	**22 54 42.0**	**+0.8**
PSZ	**Piszkesteto**	**72.14**	**44**	*e*P		**P**	**22 54 40.3**	**-0.9**
	comp=Z,14nm,1.1s							
PKSN	**Nyarlorinc**	**72.20**	**45**	*e*		**P**	**22 54 42.5**	**+1.1**
NIE	**Niedzica**	**72.30**	**43**	*e*P		**P**	**22 54 43.3**	**+1.2**
NIE	**Niedzica**	**72.30**	**43**	*e*P		**P**	**22 54 43.3**	**+1.2**
BEL	**Belsk**	**72.44**	**40**	*e*P		**P**	**22 54 43.9**	**+1.1**
BEL	**Belsk**	**72.44**	**40**	*e*P		**P**	**22 54 43.8**	**+1.0**
KECS	**Kecovo**	**72.49**	**44**	*e*P		**P**	**22 54 44.2**	**+1.0**
KECS				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KECS	**Kecovo**	**72.49**	**44**	*e*P		**P**	**22 54 44.2**	**+1.0**
STHS	**Stebnicka Huta**	**72.91**	**43**	*e*P		**P**	**22 54 47.2**	**+1.5**
STHS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
STHS	**Stebnicka Huta**	**72.91**	**43**	*e*P		**P**	**22 54 47.2**	**+1.5**
BMRM	**Bremner River**	**73.07**	**330**	*e*P		**P**	**22 54 46.4**	**-0.1**
	comp=Z,76nm,1.6s							
CRVS	**Cervenica-Dubn**	**73.10**	**43**	*e*P		**P**	**22 54 48.4**	**+1.6**
CRVS				pmax		pmax		
	comp=Z,19nm,1.2s							
CRVS	**Cervenica-Dubn**	**73.10**	**43**	*e*P		**P**	**22 54 48.4**	**+1.6**
SIRR	**Siria**	**73.49**	**46**	⇑*i*P		**P**	**22 54 50.1**	**+0.9**
BZS	**Buzias**	**73.53**	**47**	⇑P		**P**	**22 54 50.4**	**+1.0**
BZS	**Buzias**	**73.53**	**47**	⇑*i*P		**P**	**22 54 50.4**	**+1.0**
KOLS	**Kolonicke sedl**	**73.63**	**43**	*e*P		**P**	**22 54 51.2**	**+1.3**
KOLS				pmax		pmax		
	comp=Z,10.0nm,1.4s							
KOLS	**Kolonicke sedl**	**73.63**	**43**	*e*P		**P**	**22 54 51.2**	**+1.3**
UZH	**Uzhgorod**	**73.67**	**43**	*c i*P		**P**	**22 54 50.3**	**+0.2**
UZH				*e*			22 55 04.7	
SUW	**Suwalki**	**73.72**	**38**	*e*P		**P**	**22 54 51.3**	**+0.9**
SUW	**Suwalki**	**73.72**	**38**	*e*P		**P**	**22 54 51.2**	**+0.9**
ARCES	**ARCESS Array B**	**73.84**	**21**	P		**P**	**22 54 51.2**	**+0.5**
ARCES	**ARCESS Array B**	**73.84**	**21**	P		**P**	**22 54 51.2**	**+0.5**
	comp=Z,25nm,0.8s,baz=284,slow=4.9,SNR=47							
ARCES				LR		LR	23 23 30.1	
	comp=Z,29nm,20.2s,baz=299,slow=33							
KWP	**Kalwaria Pacla**	**73.84**	**42**	*e*P		**P**	**22 54 53.0**	**+1.8**
KWP	**Kalwaria Pacla**	**73.84**	**42**	*e*P		**P**	**22 54 52.9**	**+1.8**
KWP	**Kalwaria Pacla**	**73.84**	**42**	*i*P		**P**	**22 54 53.0**	**+1.8**
KWP	**Kalwaria Pacla**	**73.84**	**42**	*e*P		**P**	**22 54 51.4**	**+0.2**
	comp=Z,71nm,1.1s							
TRPA	**Tarpa**	**73.89**	**44**	*i*P		**P**	**22 54 52.3**	**+0.9**
TRPA	**Tarpa**	**73.89**	**44**	*e*		**P**	**22 54 52.2**	**+0.9**
ILAR	**Eielson Array**	**73.92**	**334**	P		**P**	**22 54 50.6**	**-0.7**
ILAR	**Eielson Array**	**73.92**	**334**	P		**P**	**22 54 50.6**	**-0.7**
	comp=Z,7.2nm,0.9s,baz=95,slow=4.6,SNR=70							
ILAR				LR		LR	23 27 45.7	
	comp=Z,61nm,20.6s,baz=102,slow=36							
DRGR		**74.15**	**45**	*i*P		**P**	**22 54 53.9**	**+0.8**
DRGR		**74.15**	**45**	*i*P		**P**	**22 54 53.9**	**+0.8**
COLA	**College**	**74.33**	**334**	⇑*i*P		**P**	**22 54 52.8**	**-0.8**
COLA				pmax		pmax		
	comp=Z,130nm,1.5s							
COLA	**College**	**74.33**	**334**	*e*P		**P**	**22 54 52.6**	**-1.0**
	comp=Z,45nm,1.5s							
KEV	**Kevo**	**74.35**	**21**	*e*P		**P**	**22 54 53.1**	**-0.6**
KEV				pmax		pmax		
	comp=Z,12nm,0.7s							
KEV	**Kevo**	**74.35**	**21**	*ep*		**P**	**22 54 53.1**	**-0.6**
	comp=Z,12nm,0.7s							
GZR	**Gura Zlata**	**74.36**	**47**	⇑P		**P**	**22 54 55.3**	**+0.9**
GZR	**Gura Zlata**	**74.36**	**47**	⇑*i*P		**P**	**22 54 55.3**	**+0.9**
FINES	**FINESS Array B**	**74.62**	**30**	P		**P**	**22 54 55.9**	**+0.5**
FINES	**FINESS Array B**	**74.62**	**30**	P		**P**	**22 54 55.9**	**+0.5**
	comp=Z,14nm,0.8s,baz=273,slow=3.6,SNR=33							
FINES				LR		LR	23 21 45.4	
	comp=Z,117nm,21.8s,baz=274,slow=31							
FIA1	**FINESS Array S**	**74.62**	**30**	*e*P		**P**	**22 54 55.5**	**+0.1**
FIA1				*e*PcP		**PcP**	**22 55 09.6**	**+0.1**
KAF	**Kangasniemi**	**74.66**	**29**	*e*P		**P**	**22 54 54.5**	**-1.2**
KAF				pmax		pmax		
	comp=Z,12nm,0.8s							
KAF	**Kangasniemi**	**74.66**	**29**	*ep*		**P**	**22 54 54.5**	**-1.2**
	comp=Z,12nm,0.8s							
LVV	**L'vov**	**74.67**	**42**	*e*P		**P**	**22 54 56.0**	**0.0**
VTS	**Vitosha**	**75.04**	**49**	⇑P		**P**	**22 54 59.6**	**+1.2**
VTS	**Vitosha**	**75.04**	**49**	⇑*i*P		**P**	**22 54 59.6**	**+1.2**
VSU	**Vasula**	**75.25**	**33**	*d i*P		**P**	**22 54 59.2**	**+0.1**
VSU				pmax		pmax		
	comp=Z,211nm,1.3s							
TRF	**Thorofare Moun**	**75.53**	**332**	*e*P		**P**	**22 55 00.5**	**-0.3**
	comp=Z,20nm,0.7s							
TRF				*e*PcP		**PcP**	**22 55 13.7**	**0.0**
MMB	**Musomiste**	**75.57**	**50**	⇑P		**P**	**22 55 02.7**	**+1.3**
MMB	**Musomiste**	**75.57**	**50**	⇑*i*P		**P**	**22 55 02.7**	**+1.3**
ARR	**Arges**	**75.66**	**47**	*i*P		**P**	**22 55 02.6**	**+0.7**
BUR08	**Bucovina Ar. S**	**75.72**	**44**	*e*P		**P**	**22 55 02.7**	**+0.5**
BURAR	**Bucovina Array**	**75.74**	**44**	P		**P**	**22 55 03.7**	**+1.4**
BURAR	**Bucovina Array**	**75.74**	**44**	*i*P		**P**	**22 55 03.7**	**+1.4**
KTH	**Kantishna Hill**	**75.80**	**332**	*e*P		**P**	**22 55 01.9**	**-0.3**
	comp=Z,38nm,1.3s							
VOIR		**75.94**	**46**	*i*P		**P**	**22 55 04.2**	**+0.7**
VOIR		**75.94**	**46**	*i*P		**P**	**22 55 04.2**	**+0.7**
HUMR	**Humele**	**76.03**	**47**	*i*P		**P**	**22 55 04.8**	**+0.9**
DOPR	**Dopca**	**76.10**	**46**	*i*P		**P**	**22 55 05.3**	**+1.0**
MNK	**Minsk**	**76.38**	**37**	*e*P		**P**	**22 55 07.0**	**+1.4**
MNK				pmax		pmax		
	comp=Z,120nm,1.2s							
MICGM	**Minsk**	**76.40**	**37**	*e*P		**P**	**22 55 07.0**	**+1.2**
PPLA	**Purkeypile**	**76.45**	**332**	*e*P		**P**	**22 55 05.5**	**-0.6**
	comp=Z,54nm,1.7s							
PRAR	**RASCA**	**76.45**	**44**	*i*P		**P**	**22 55 07.4**	**+1.2**
MLR	**Muntele Rosu**	**76.56**	**46**	⇑*i*P		**P**	**22 55 08.5**	**+1.5**
IM04	**Indian Mountai**	**76.66**	**335**	*e*P		**P**	**22 55 06.9**	**-0.1**
JOF	**Joensuu**	**76.86**	**28**	*e*P		**P**	**22 55 06.8**	**-1.4**
JOF				pmax		pmax		
	comp=Z,10.0nm,0.9s							
JOF	**Joensuu**	**76.86**	**28**	*ep*		**P**	**22 55 06.8**	**-1.4**
	comp=Z,9.9nm,0.9s							
TESR	**Tescani**	**76.88**	**45**	⇑*i*P		**P**	**22 55 09.3**	**+0.7**
SULR		**76.91**	**47**	⇑*i*P		**P**	**22 55 09.4**	**+0.6**
VRI	**Vrincioaia**	**77.04**	**46**	⇑P		P	22 55 13.1	+3.5
VRI	**Vrincioaia**	**77.04**	**46**	⇑*i*P		P	22 55 13.1	+3.5
KIEV	**Kiev**	**77.83**	**41**	⇑*i*P		**P**	**22 55 13.6**	**-0.2**
KIEV	**Kiev**	**77.83**	**41**	*e*P		**P**	**22 55 13.7**	**-0.1**
	comp=Z,10nm,0.9s							
AKASG	**Malin Array Be**	**77.84**	**41**	P		**P**	**22 55 13.8**	**-0.1**
AKASG	**Malin Array Be**	**77.84**	**41**	P		**P**	**22 55 13.8**	**-0.1**
AKASG	**Malin Array Be**	**77.84**	**41**	P		**P**	**22 55 13.8**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=270,slow=4.7,SNR=20							
AKASG				LR		LR	23 25 35.3	
	comp=Z,182nm,21.4s,baz=285,slow=32							
KLMR	**Klimovskoe**	**81.12**	**29**	*e*P		**P**	**22 55 29.1**	**-2.4**
KLMR				pmax		pmax		
	comp=Z,63nm,1.5s							
OBN	**Obninsk**	**81.20**	**35**	P		**P**	**22 55 32.0**	**0.0**
	comp=Z,316nm,0.8s,SNR=5.8							
OBN	**Obninsk**	**81.20**	**35**	*d i*P		**P**	**22 55 32.5**	**+0.5**
OBN				*i*			22 55 46.2	
OBN				pmax		pmax		
	comp=Z,88nm,1.3s							
OBN	**Obninsk**	**81.20**	**35**	*e*P		**P**	**22 55 31.2**	**-0.8**
	comp=Z,95nm,1.3s							
MOS	**Moscow**	**81.61**	**34**	*e*P		**P**	**22 55 34.4**	**+0.2**
SIM	**Simferopol'**	**82.31**	**46**	*e*P		**P**	**22 55 38.3**	**+0.1**
SIM				pmax		pmax		
	comp=Z,19nm,1.1s							
TNA	**Tin City**	**82.38**	**336**	*e*P		**P**	**22 55 38.1**	**0.0**
BRTR	**Keskin Array B**	**83.33**	**51**	P		**P**	**22 55 44.1**	**+0.4**
BRTR	**Keskin Array B**	**83.33**	**51**	P		**P**	**22 55 44.1**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=266,slow=4.5,SNR=16							
BRTR				LR		LR	23 28 03.2	
	comp=Z,34nm,21.3s,baz=291,slow=32							
PRGR	**Permogore**	**83.64**	**27**	*e*P		**P**	**22 55 44.9**	**+0.2**
PRGR							22 58 59.7	
PRGR				pmax		pmax		
	comp=Z,39nm,0.9s							
VSR	**Storozhevoye**	**83.81**	**39**	*e*P		**P**	**22 55 44.4**	**-1.3**
VSR				pmax		pmax		
	comp=Z,30nm,0.9s							
VSR				pmax		pmax		
	comp=N,7.0nm,0.8s							
VSR				pmax		pmax		
	comp=E,20nm,1.0s							
VORD	**Divnogorie**	**83.96**	**39**	*e*P		**P**	**22 55 45.3**	**-1.2**
VORD				pmax		pmax		
	comp=E,40nm,0.9s							
VORD				pmax		pmax		
	comp=Z,30nm,0.9s							
VORD				pmax		pmax		
	comp=N,6.0nm,0.6s							
VRHR	**Novokhopersk**	**85.31**	**38**	*e*P		**P**	**22 55 52.3**	**-1.0**
VRHR				pmax		pmax		
	comp=N,10.0nm,0.9s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.9s							
VRHR				pmax		pmax		
	comp=Z,20nm,0.9s							
KIV	**Kislovodsk**	**88.46**	**45**	*e*P		**P**	**22 56 09.9**	**+1.0**
KIV				*e*			23 06 33.9	
KIV				pmax		pmax		
	comp=Z,18nm,1.0s							
KBZ	**Khabaz**	**88.68**	**45**	P		**P**	**22 56 11.7**	**+1.8**
KBZ	**Khabaz**	**88.68**	**45**	P		**P**	**22 56 11.7**	**+1.8**
KBZ	**Khabaz**	**88.68**	**45**	P		**P**	**22 56 11.7**	**+1.8**
	comp=Z,6.0nm,0.8s,baz=310,slow=4.4,SNR=7.7							
KBZ				LR		LR	23 33 40.8	
	comp=Z,46nm,20.2s,baz=306,slow=34							
NCK	**Nalchik**	**89.24**	**45**	⇑*i*P		**P**	**22 56 14.4**	**+1.9**
BILL	**Bilibino**	**89.51**	**344**	⇑*i*P		**P**	**22 56 13.8**	**+0.6**
BILL				*i*			22 59 41.8	
BILL				pmax		pmax		
	comp=Z,22nm,1.3s							
BILL	**Bilibino**	**89.51**	**344**	*e*P		**P**	**22 56 13.3**	**0.0**
	comp=Z,48nm,1.6s							
ARU	**Arti**	**91.97**	**29**	*d i*P		**P**	**22 56 25.1**	**+0.2**
ARU							23 00 04.5	
ARU				S		**SKSac**	**23 06 52.1**	**-1.3**
ARU				pmax		pmax		
	comp=Z,18nm,1.7s							
TIXI	**Tiksi**	**92.27**	**357**	*i* P		**P**	**22 56 25.7**	**-0.2**
TIXI	**Tiksi**	**92.27**	**357**	*e*P		**P**	**22 56 25.8**	**-0.2**
	comp=Z,14nm,1.1s							
SVE	**Sverdlovsk**	**92.69**	**28**	*e*P		**P**	**22 56 28.7**	**+0.5**
SVE				pmax		pmax		
	comp=Z,12nm,1.5s							
PPT2	**Papeete2**	**93.52**	**253**	*e*LR		LR	23 26 40.0	
	comp=Z,101nm,30.5s							
BOSA	**Boshof**	**94.25**	**118**	LR		LR	23 32 32.5	
	comp=Z,74nm,18.9s,baz=160,slow=31							
TBI	**Tubuai**	**94.94**	**247**	*e*LR		LR	23 27 20.9	
	comp=Z,154nm,34.0s							
ABKAR	**Akbulak array**	**96.63**	**34**	*e*P		**P**	**22 56 46.6**	**+0.2**
	comp=Z,0.6nm,0.6s							
WMQ	**Urumqi**	**113.86**	**24**	PKP		**PKiKP**	**23 01 54.3**	**-1.0**
WMQ				sPKP			23 02 21.3	
WMQ				PP		PP	23 02 53.6	+5.5
WMQ				PKS		**PKSdf**	**23 05 29.8**	**-2.2**
WMQ				SKS		**SKSdf**	**23 09 01.5**	**-1.7**
WMQ				SKKS		**SKKSac**	**23 09 42.6**	**-4.0**
WMQ				SS		**SS**	**23 18 37.6**	**+5.0**
WMQ				AMB		AMB		
	comp=Z,65nm,4.2s							
WMQ				LR		LR		
	comp=Z,120nm,27.4s							
WMQ				LR		LR		
	comp=Z,110nm,27.4s							
HABR	**Khabarovsk**	**114.22**	**348**	*e*P		**Pdif**	**22 58 02.6**	**-2.2**
HABR				*e*			23 01 54.2	
HABR				*e*			23 02 49.5	
HABR				*e*PS		**PS**	**23 12 27.9**	**-1.0**
HABR				*e*SS		SS	23 18 36.9	+0.2
HABR				pmax		pmax		
	comp=Z,19nm,1.3s							
SONM	**Songino Array**	**115.40**	**9**	PKP		**PKPdf**	**23 01 57.6**	**-0.6**
SONM				PP		**PP**	**23 03 00.0**	**+1.3**
SONM	**Songino Array**	**115.40**	**9**	PKP		**PKPdf**	**23 01 57.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=313,slow=1.9,SNR=6.0							
SONM				PP		**PP**	**23 03 00.0**	**+1.3**
	comp=Z,1.0nm,1.1s,baz=3.4,slow=3.7,SNR=4.4							
HHC	**Hu-ho-hao-te**	**122.97**	**7**	*e*PKP		**PKPdf**	**23 02 16.3**	**+3.4**
HHC				PP		PP	23 03 59.6	+8.8
HHC				PKS		**PKSdf**	**23 05 52.3**	**+2.6**
HHC				SS		SS	23 20 37.4	+7.4
HHC				AMB		AMB		
	comp=Z,56nm,5.4s							
HHC				LR		LR		
	comp=Z,180nm,19.0s							
HHC				LR		LR		
	comp=Z,190nm,19.8s							
HHC				LR		LR		
	comp=Z,230nm,19.2s							
PYUN	**Piuthan**	**123.89**	**39**	*e*P		**PKPdf**	**23 02 14.8**	**-0.4**
	comp=Z,6.5nm,0.7s							
DANN	**Dangsing**	**124.16**	**38**	*e*P		**PKPdf**	**23 02 15.3**	**-0.5**
GKN	**Gorkha**	**124.94**	**38**	*e*P		**PKPdf**	**23 02 16.1**	**-1.0**
	comp=Z,20nm,0.9s							
KKN	**Kakani**	**125.47**	**37**	*e*P		**PKPdf**	**23 02 17.2**	**-1.0**
	comp=Z,12nm,0.8s							
DMN	**Daman**	**125.51**	**38**	*e*P		**PKPdf**	**23 02 17.2**	**-1.2**
	comp=Z,11nm,1.0s							
PKI	**Pulchoki**	**125.71**	**37**	*e*P		**PKPdf**	**23 02 17.8**	**-1.1**
	comp=Z,8.4nm,0.8s							
GUN	**Gumba**	**125.73**	**37**	*e*P		**PKPdf**	**23 02 17.7**	**-1.2**
	comp=Z,10nm,0.9s							
KSRS	**Korea Array**	**126.15**	**351**	PKP		**PKPdf**	**23 02 18.1**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=90,slow=2.5,SNR=5.0							
KSAR	**Wonju Array Be**	**126.16**	**351**	PKP		**PKPdf**	**23 02 18.1**	**-0.9**
LZH	**Lanzhou**	**126.18**	**15**	*e*PKP		**PKPdf**	**23 02 20.0**	**+0.7**
LZH				sPKP			23 02 39.9	
RAMN	**Ramite**	**126.87**	**37**	*e*P		**PKPdf**	**23 02 19.6**	**-1.4**
	comp=Z,21nm,0.8s							
LSA	**Lhasa**	**127.13**	**31**	*e*PKIKP		**PKPdf**	**23 02 21.5**	**-0.2**
LSA	**Lhasa**	**127.13**	**31**	*e*PKPdf		**PKPdf**	**23 02 21.5**	**-0.2**
TAPN	**Taplejung**	**127.20**	**36**	*e*P		**PKPdf**	**23 02 20.0**	**-1.7**
	comp=Z,10.0nm,1.0s							
ODAN	**Odare**	**127.39**	**36**	*e*P		**PKPdf**	**23 02 20.1**	**-1.9**
	comp=Z,21nm,1.1s							
XAN	**Xi'an**	**129.26**	**11**	PKP		**PKPdf**	**23 02 24.8**	**-0.3**
CASY	**Casey**	**129.48**	**176**	*e*PKPdf		**PKPdf**	**23 02 22.4**	**-1.9**
CD2	**Chengdu**	**131.04**	**18**	*e*PKP		**PKPdf**	**23 02 26.9**	**-1.7**
CD2				sPKP			23 02 53.6	
CD2				PP		**PP**	**23 04 48.9**	**+4.6**
CD2				SKKS			23 11 28.6	
CD2				SS		**SS**	**23 22 10.4**	**-0.4**
CD2				AMB		AMB		
	comp=Z,180nm,6.5s							
CD2				LR		LR		
	comp=Z,160nm,20.2s							
CD2				LR		LR		
	comp=Z,140nm,14.3s							
NJ2	**Nanjing**	**132.18**	**0**	*e*PKP		**PKPdf**	**23 02 29.8**	**-0.8**
ENH	**Enshi**	**133.03**	**11**	*e*PKPdf		**PKPdf**	**23 02 31.9**	**-0.4**
GYA	**Guiyang**	**136.06**	**16**	Pdif		**Pdif**	**22 59 41.0**	**-1.6**
GYA				PKP		**PKPdf**	**23 02 36.4**	**-1.8**
GYA				sPKP			23 03 03.3	
GYA				PP		**PP**	**23 05 20.8**	**+4.5**
GYA				PKS		**PKSdf**	**23 06 11.0**	**-3.7**
GYA				SKKS			23 12 02.6	
GYA				AMB		AMB		
	comp=Z,130nm,7.8s							
GYA				LR		LR		
	comp=Z,130nm,21.8s							
GYA				LR		LR		
	comp=Z,110nm,22.0s							
GYA				LR		LR		
	comp=Z,120nm,21.4s							
CMAR	**Chiang Mai Arr**	**140.38**	**31**	PKP		**PKPdf**	**23 02 46.5**	**+0.3**
CMAR				PP		**PP**	**23 05 43.5**	**0.0**
CMAR	**Chiang Mai Arr**	**140.38**	**31**	PKP		**PKPdf**	**23 02 46.5**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=307,slow=2.6,SNR=13							
CMAR				PP		**PP**	**23 05 43.5**	**0.0**
	comp=Z,0.9nm,0.9s,baz=311,slow=6.1,SNR=5.4							
STKA	**Stephens Creek**	**154.18**	**228**	PKPbc		**PKPbc**	**23 03 15.8**	**-0.9**
STKA	**Stephens Creek**	**154.18**	**228**	PKPbc		**PKPbc**	**23 03 15.8**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=100,slow=1.5,SNR=6.7							
ASAR	**Alice Springs**	**164.16**	**239**	PKP		**PKPdf**	**23 03 19.2**	**-1.1**
ASAR				PKPab		**PKPab**	**23 04 12.4**	**-1.7**
ASAR	**Alice Springs**	**164.16**	**239**	PKP		**PKPdf**	**23 03 19.2**	**-1.1**
	comp=Z,1.3nm,1.0s,baz=49,slow=1.4,SNR=6.5							
ASAR				PKPab		**PKPab**	**23 04 12.4**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=116,slow=3.8,SNR=5.2							
WRA	**Warramunga Arr**	**165.00**	**253**	PKP		**PKPdf**	**23 03 19.8**	**-1.4**
WRA	**Warramunga Arr**	**165.00**	**253**	PKP		**PKPdf**	**23 03 19.8**	**-1.4**
	comp=Z,2.5nm,1.1s,baz=48,slow=0.8,SNR=9.4							

**SKHL 24 23:29:29.0±0.7, 50.83N×132.

LUWI	**Luwuk**	**2.54**	121	*e*Pn		**Pn**	**23 37 44.0**	**+0.7**
LUWI				*e*Sn		**Sn**	**23 38 17.2**	**+3.8**
MMSI	**Mamuju**	**3.39**	**210**	P		x	23 37 55.2	
KMSI	**Cibinong**	**3.40**	**85**	P		**Pn**	**23 37 56.4**	**+1.5**
BKB	**Balikpapan**	**4.00**	**248**	P		**Pn**	**23 38 03.1**	**0.0**
MJSI	**Majene**	**4.12**	**203**	P		x	23 38 07.0	
SPSI	**Sidrap Palu**	**4.29**	**191**	P		**Pn**	**23 38 07.9**	**+0.9**
KKSI	**Kolaka, Sulawe**	**4.54**	**167**	P		x	23 38 11.7	
BNSI	**Bone**	**4.67**	**186**	P		Pn	23 38 14.5	+2.3
TSM	**Tawau**	**4.83**	**326**	⇓S		**Sn**	**23 39 08.3**	**-0.9**
TSM	**Tawau**	**4.83**	**326**	⇑P		**Pn**	**23 38 13.7**	**-0.8**
KAPI	**Kappang**	**5.32**	**189**	*e*Pn		**Pn**	**23 38 21.6**	**+0.5**
SANI	**Sanana**	**5.86**	**113**	P		Pn	**23 38 26.5**	**-2.0**
SDKM	**Sandakan**	**6.32**	**328**	⇓P		**Pn**	**23 38 34.7**	**-0.1**
SDKM	**Sandakan**	**6.32**	**328**	⇓S		Sn	23 39 31.8	-14
KKM	**Kota Kinabalu**	**7.21**	**323**	*e*Pn		**Pn**	**23 38 47.0**	**0.0**
KKM				*e*Sn		**Sn**	**23 40 04.2**	**-3.2**
KKM	**Kota Kinabalu**	**7.21**	**323**	⇑P		Pn	23 38 43.5	-3.4
KKM	**Kota Kinabalu**	**7.21**	**323**	⇑S		**Sn**	**23 40 02.8**	**-4.6**
SBUM	**Sibu**	**8.65**	**285**	*e*Pn		**Pn**	**23 39 07.7**	**+1.2**
SBUM	**Sibu**	**8.65**	**285**	⇓P		**Pn**	**23 39 08.1**	**+1.6**
KSM	**Kuching**	**10.36**	**277**	⇓P		**Pn**	**23 39 29.8**	**0.0**
FAKI	**Fak Fak**	**12.07**	**105**	⇑P		Pn	23 39 50.5	-2.6
	baz=12,SNR=5.4							
PALU	**Palau**	**15.52**	**63**	⇓P		**Pn**	**23 40 35.7**	**-2.5**
	baz=15							
MTN	**Manton Dam**	**16.70**	**142**	⇓P		**Pn**	**23 40 53.1**	**+0.1**
	baz=17,SNR=8.2							
KDU	**Kakadu**	**17.45**	**138**	⇓P		**P**	**23 41 01.7**	**-0.4**
	baz=18,SNR=4.0							
KNRA	**Kununurra**	**17.78**	**153**	⇓P		**Pn**	**23 41 07.2**	**+1.0**
	baz=18,SNR=4.8							
FRIM	**Kepong**	**19.19**	**279**	⇑P		**Pn**	**23 41 22.3**	**-0.7**
IPM	**Ipoh**	**19.99**	**282**	*e*P		**Pn**	**23 41 30.9**	**-1.6**
	28nm,0.9s							
IPM	**Ipoh**	**19.99**	**282**	⇓P		**Pn**	**23 41 31.5**	**-1.0**
PSI	**Prapat**	**21.81**	**277**	P		**P**	**23 41 50.1**	**+0.5**
PSI	**Prapat**	**21.81**	**277**	P		**P**	**23 41 50.1**	**+0.5**
	8.6nm,1.0s,baz=99,slow=12,SNR=5.8							
CHBT	**CHBT**	**21.95**	**305**	P		**P**	**23 41 53.3**	**+2.3**
	21nm,0.8s,3μm							
TWG	**Pinlang**	**22.42**	**1**	*e*P		**P**	**23 41 56.1**	**+0.2**
	363nm,1.8s							
GSI	**Gunungsitoli**	**23.04**	**273**	*e*P		**P**	**23 42 02.5**	**+0.1**
WRAB	**Tennant Creek**	**24.18**	**147**	*ce*P		**P**	**23 42 11.4**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,61nm,0.6s							
WRAB	**Tennant Creek**	**24.18**	**147**	*e*P		**P**	**23 42 12.1**	**-0.7**
	comp=Z,29nm,0.6s							
WRA	**Warramunga Arr**	**24.18**	**147**	P		**P**	**23 42 11.4**	**-1.3**
WRA	**Warramunga Arr**	**24.18**	**147**	P		**P**	**23 42 11.4**	**-1.3**
	comp=Z,27nm,0.7s,baz=337,slow=9.1,SNR=246							
PBKT	**Sadao Pong**	**25.23**	**311**	P		**P**	**23 42 23.1**	**+0.8**
	comp=Z,11nm,0.9s,comp=Z,811nm							
KHLT	**Khaolaem Dam**	**26.11**	**305**	P		**P**	**23 42 33.4**	**+3.2**
	comp=Z,4.1nm,1.5s							
WRKA	**Warakurna**	**26.24**	**164**	⇑P		**P**	**23 42 30.6**	**-0.8**
	baz=26,SNR=7.0							
ASAR	**Alice Springs**	**27.08**	**152**	P		**P**	**23 42 38.5**	**-0.5**
ASAR				ScP		**ScP**	**23 49 26.1**	**-5.0**
ASAR	**Alice Springs**	**27.08**	**152**	P		**P**	**23 42 38.5**	**-0.5**
	comp=Z,10nm,0.6s,baz=343,slow=14,SNR=76							
ASAR				ScP		**ScP**	**23 49 26.1**	**-5.0**
	comp=Z,1.0nm,1.1s,baz=2.4,slow=3.0,SNR=4.5							
AS01	**Alice Springs**	**27.10**	**152**	*e*P		**P**	**23 42 37.9**	**-1.2**
QIS	**Mount Isa**	**27.83**	**139**	⇓P		**P**	**23 42 44.4**	**-1.2**
	baz=28,SNR=4.1							
CM01	**Chiang Mai Arr**	**27.88**	**312**	*e*P		**P**	**23 42 46.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.91**	**312**	P		**P**	**23 42 47.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**27.91**	**312**	P		**P**	**23 42 47.1**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=138,slow=6.8,SNR=21							
CMAR				LR		LR	23 55 13.3	
	comp=Z,27nm,18.1s,baz=315,slow=39							
CHTO	**Chiang Mai**	**28.13**	**312**	*e*P		**P**	**23 42 48.5**	**+0.2**
CHTO	**Chiang Mai**	**28.13**	**312**	P		**P**	**23 42 49.5**	**+1.2**
	comp=Z,57nm,1.9s							
CHTO	**Chiang Mai**	**28.13**	**312**	*e*P		**P**	**23 42 48.5**	**+0.2**
	comp=Z,1.1nm,0.8s							
MHMT	**Maesariang**	**28.51**	**310**	P		**P**	**23 42 52.5**	**+0.8**
	comp=Z,13nm,0.7s,comp=Z,231nm							
CMAI	**Chiengmai2**	**28.76**	**314**	P		**P**	**23 42 54.9**	**+0.8**
	comp=Z,132nm,1.8s,comp=Z,5μm							
GYA	**Guiyang**	**29.29**	**334**	P		**P**	**23 43 01.3**	**+2.6**
GYA				pP		**pP**	**23 43 20.4**	**+2.1**
GYA				sP		**sP**	**23 43 30.8**	**+2.6**
GYA				PP		**PnPn**	**23 44 00.6**	**+4.5**
GYA				S		**S**	**23 47 49.3**	**+3.4**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GYA				pmax	pmax			
	comp=Z,90nm,4.8s							
KMI	**Kunming**	**30.14**	**326**	P		**P**	**23 43 07.6**	**+1.2**
KMI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CD2	**Chengdu**	**34.41**	**334**	P		**P**	**23 43 43.6**	**+0.2**
CD2				PP		**PnPn**	**23 45 02.3**	**+1.2**
CD2				S		**S**	**23 49 02.3**	**-3.1**
CD2				pmax	pmax			
	comp=Z,50nm,0.8s							
CD2				pmax	pmax			
	comp=Z,80nm,4.2s							
CD2				LR	LR			
	comp=Z,140nm,15.5s							
CD2				LR	LR			
	comp=Z,180nm,15.5s							
QLP	**Quilpie**	**35.09**	**141**	⇑P		**P**	**23 43 48.9**	**-0.5**
	baz=35,SNR=5.4							
BBOO	**Buckleboo**	**35.99**	**158**	⇓P		**P**	**23 43 56.2**	**-0.7**
	baz=36,SNR=5.2							
STKA	**Stephens Creek**	**37.65**	**150**	*e*P		**P**	**23 44 09.8**	**-1.3**
	comp=Z,3.7nm,0.6s							
STKA	**Stephens Creek**	**37.65**	**150**	P		**P**	**23 44 11.0**	**0.0**
	comp=Z,18nm,0.6s,baz=324,slow=8.7,SNR=66							
STKA	**Stephens Creek**	**37.65**	**150**	⇑P		**P**	**23 44 10.3**	**-0.7**
	baz=38,SNR=34							
HTT	**Hallett**	**37.70**	**155**	P		**P**	**23 44 11.4**	**0.0**
	baz=38,SNR=14							
LZH	**Lanzhou**	**38.89**	**338**	*e*P		**P**	**23 44 22.8**	**+1.2**
LZH				pP		pP	23 44 49.0	+7.3
LZH				pmax	pmax			
	comp=Z,28nm,1.2s							
LZH				pmax	pmax			
	comp=Z,130nm,4.3s							
CMSA	**Cobar Meteorol**	**39.58**	**145**	P		**P**	**23 44 27.3**	**+0.1**
	baz=40,SNR=13							
BJI	**Beijing**	**39.79**	**355**	P		**P**	**23 44 29.3**	**+0.6**
BJI				pmax	pmax			
	comp=Z,29nm,0.6s							
PALK	**Pallekele**	**40.38**	**281**	*e*P		**P**	**23 44 32.7**	**-1.5**
	comp=Z,45nm,1.4s							
LSA	**Lhasa**	**40.54**	**319**	*e*P		**P**	**23 44 37.3**	**+1.6**
LSA				pmax	pmax			
	comp=Z,19nm,0.6s							
LSA	**Lhasa**	**40.54**	**319**	*e*P		**P**	**23 44 37.3**	**+1.6**
	comp=Z,19nm,0.6s							
HHC	**Hu-ho-hao-te**	**41.21**	**350**	*e*P		**P**	**23 44 43.5**	**+2.8**
HHC				PP		**PnPn**	**23 46 23.9**	**+1.3**
HHC				S		**S**	**23 50 53.1**	**+4.9**
HHC				pmax	pmax			
	comp=Z,340nm,4.8s							
HHC				LR	LR			
	comp=Z,270nm,16.5s							
HHC				LR	LR			
	comp=Z,150nm,17.1s							
HHC				LR	LR			
	comp=Z,170nm,17.8s							
ODAN	**Odare**	**41.45**	**312**	*e*P		**P**	**23 44 43.4**	**+0.4**
	comp=Z,23nm,0.8s							
TAPN	**Taplejung**	**41.49**	**313**	*e*P		**P**	**23 44 44.0**	**+0.6**
	comp=Z,14nm,0.6s							
ARPS	**Mount Arapiles**	**41.79**	**154**	P		**P**	**23 44 45.2**	**-0.1**
	baz=42,SNR=5.6							
RAMN	**Ramite**	**42.08**	**312**	*e*P		**P**	**23 44 49.1**	**+0.9**
	comp=Z,41nm,0.8s							
JIRN	**Jiri**	**42.78**	**312**	*e*P		**P**	**23 44 54.4**	**+0.4**
	comp=Z,35nm,0.6s							
GUN	**Gumba**	**43.15**	**313**	*e*P		**P**	**23 44 57.4**	**+0.5**
	comp=Z,51nm,0.7s							
PKI	**Pulchoki**	**43.31**	**312**	*e*P		**P**	**23 44 58.3**	**+0.1**
	comp=Z,14nm,0.6s							
PKIN	**Phulchoki**	**43.32**	**312**	*e*P		**P**	**23 44 58.5**	**+0.3**
	comp=Z,8.0nm,0.6s							
GTA	**Gaotai**	**43.34**	**336**	*e*P		**P**	**23 44 58.9**	**+0.9**
GTA				pP		**pP**	**23 45 17.8**	**-0.6**
GTA				pmax	pmax			
	comp=Z,15nm,0.9s							
KKN	**Kakani**	**43.52**	**312**	*e*P		**P**	**23 44 59.9**	**+0.1**
	comp=Z,18nm,0.8s							
DMN	**Daman**	**43.56**	**312**	*e*P		**P**	**23 45 00.7**	**+0.6**
	comp=Z,17nm,0.6s							
GKN	**Gorkha**	**44.12**	**312**	*e*P		**P**	**23 45 04.9**	**+0.4**
	comp=Z,35nm,0.8s							
CAN	**Canberra**	**44.23**	**146**	⇓P		**P**	**23 45 04.9**	**-0.2**
	baz=44							
CNB	**Canberra Magne**	**44.42**	**146**	P		**P**	**23 45 07.6**	**+0.9**
	baz=44,SNR=5.4							
HYB	**Hyderabad**	**44.73**	**295**	*i* P		**P**	**23 45 10.0**	**+0.6**
KOLN	**Koldanda**	**44.77**	**311**	*e*P		**P**	**23 45 10.3**	**+0.5**
	comp=Z,39nm,0.9s							
MDJ	**Mudanjiang**	**44.87**	**9**	P		**P**	**23 45 10.5**	**+0.5**
MDJ				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,51nm,2.8s							
USRK	**Ussuriysk Arra**	**44.90**	**12**	P		**P**	**23 45 09.5**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=207,slow=7.1,SNR=6.4							
DANN	**Dangsing**	**44.96**	**312**	*e*P		**P**	**23 45 11.5**	**+0.2**
	comp=Z,38nm,0.6s							
ULN	**Ulaanbaatar**	**48.84**	**348**	*e*P		**P**	**23 45 41.6**	**+0.5**
	comp=Z,15nm,0.9s							
SONM	**Songino Array**	**48.96**	**347**	P		**P**	**23 45 42.4**	**+0.5**
SONM	**Songino Array**	**48.96**	**347**	P		**P**	**23 45 42.4**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=164,slow=8.6,SNR=90							
SONA1	**Songino Array**	**48.97**	**347**	*e*P		**P**	**23 45 42.4**	**+0.4**
ZAK	**Zakamensk**	**52.06**	**346**	*e*P		**P**	**23 46 04.2**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.4s							
WMQ	**Urumqi**	**52.34**	**330**	P		**P**	**23 46 09.8**	**+2.4**
WMQ				pP		**pP**	**23 46 28.8**	**+0.4**
WMQ				PP		**PP**	**23 48 10.6**	**+3.7**
WMQ				pmax	pmax			
	comp=Z,14nm,0.5s							
WMQ				pmax	pmax			
	comp=Z,43nm,10.8s							
WMQ				LR	LR			
	comp=Z,15nm,23.0s							
WMQ				LR	LR			
	comp=Z,18nm,22.1s							
WMQ				LR	LR			
	comp=Z,21nm,22.8s							
TLY	**Talaya**	**53.19**	**347**	*e*P		**P**	**23 46 13.7**	**+0.3**
TLY				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MOY	**Moody**	**53.82**	**345**	*e*P		**P**	**23 46 19.2**	**+1.0**
KSH	**Kashi**	**56.39**	**319**	P		**P**	**23 46 38.0**	**+1.1**
KSH				*e*PP		**PP**	**23 48 44.9**	**+1.5**
KSH				*e*S		**S**	**23 54 18.0**	**-3.4**
KSH				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KSH				pmax	pmax			
	comp=Z,76nm,5.8s							
KSH				LR	LR			
	comp=Z,82nm,4.9s							
KSH				LR	LR			
	comp=Z,110nm,5.0s							
KSH				LR	LR			
	comp=Z,100nm,4.5s							
MK01	**Makanchi Array**	**57.12**	**330**	*e*P		**P**	**23 46 42.1**	**+0.2**
MKAR	**Makanchi Array**	**57.14**	**330**	*ce*P		**P**	**23 46 42.4**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
MKAR	**Makanchi Array**	**57.14**	**330**	P		**P**	**23 46 42.4**	**+0.4**
MKAR	**Makanchi Array**	**57.14**	**330**	P		**P**	**23 46 42.4**	**+0.4**
	comp=Z,6.3nm,0.6s,baz=123,slow=8.8,SNR=96							
KBL	**Kabul**	**58.94**	**311**	*e*P		**P**	**23 46 54.7**	**-0.3**
KBL				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KBL	**Kabul**	**58.94**	**311**	*e*P		**P**	**23 46 54.7**	**-0.3**
	comp=Z,9.8nm,0.6s							
KBL	**Kabul**	**58.94**	**311**	P		**P**	**23 46 54.8**	**-0.3**
	baz=59,SNR=5.1							
AAK	**Ala-Archa**	**59.01**	**322**	*ce*P		**P**	**23 46 56.4**	**+1.1**
AAK				pmax	pmax			
	comp=Z,11nm,1.7s							
AAK	**Ala-Archa**	**59.01**	**322**	*e*P		**P**	**23 46 55.8**	**+0.5**
	comp=Z,4.9nm,1.0s							
ZAA0	**Zalesovo Array**	**61.10**	**337**	*e*P		**P**	**23 47 08.0**	**-1.1**
ZALV	**Zalesovo Beam**	**61.10**	**337**	P		**P**	**23 47 08.5**	**-0.6**
ZALV	**Zalesovo Beam**	**61.10**	**337**	P		**P**	**23 47 08.4**	**-0.6**
ZALV	**Zalesovo Beam**	**61.10**	**337**	P		**P**	**23 47 08.4**	**-0.6**
	comp=Z,7.0nm,0.8s,baz=121,slow=5.7,SNR=36							
KURK	**Kurchatov**	**61.56**	**331**	*e*P		**P**	**23 47 12.4**	**+0.1**
KURK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KURK	**Kurchatov**	**61.56**	**331**	*e*P		**P**	**23 47 12.3**	**+0.1**
	comp=Z,8.7nm,0.8s							
KKAR	**Karatay Array**	**61.76**	**320**	*e*P		**P**	**23 47 13.7**	**-0.2**
KKAR	**Karatay Array**	**61.76**	**320**	*e*P		**P**	**23 47 13.7**	**-0.2**
NVS	**Novosibirsk**	**62.38**	**337**	⇓*i*P		P	23 47 13.9	-3.8
NVS				pmax	pmax			
	comp=Z,11nm,1.0s							
NVS				pmax	pmax			
	comp=N,5.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,6.0nm,1.2s							
BKZ	**Black Stump Fm**	**64.35**	**134**	*e*P		**P**	**23 47 29.9**	**-1.2**
	comp=E,60nm,1.8s							
BRVK	**Borovoye**	**67.10**	**330**	*ce*P		**P**	**23 47 48.1**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,14nm,1.0s							
BRVK	**Borovoye**	**67.10**	**330**	*e*P		**P**	**23 47 47.1**	**-1.4**
	comp=Z,14nm,1.1s							
ABKAR	**Akbulak array**	**71.06**	**323**	*e*P		**P**	**23 48 12.3**	**-0.8**
ABKAR	**Akbulak array**	**71.06**	**323**	⇑P		**P**	**23 48 12.6**	**-0.5**
	baz=71							
TIXI	**Tiksi**	**71.46**	**3**	*ce*P		**P**	**23 48 13.2**	**-1.8**
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SVE	**Sverdlovsk**	**73.79**	**330**	⇓*i*P		**P**	**23 48 29.0**	**-0.1**
SVE				pmax	pmax			
	comp=Z,14nm,1.0s							
ARU	**Arti**	**74.67**	**329**	P		**P**	**23 48 33.0**	**-1.2**
	comp=Z,52nm,0.9s,SNR=5.1							
ARU	**Arti**	**74.67**	**329**	*d i*P		**P**	**23 48 33.1**	**-1.2**
ARU				S		**S**	**23 58 01.8**	**-1.6**
ARU				SS		**SS**	**00 02 46.7**	**-5.7**
ARU				pmax	pmax			
	comp=Z,11nm,1.0s							
ZEI	**Tsey**	**80.06**	**313**	*e*P		**P**	**23 49 04.5**	**-0.4**
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KBZ	**Khabaz**	**80.93**	**314**	P		**P**	**23 49 07.8**	**-1.4**
KBZ	**Khabaz**	**80.93**	**314**	P		**P**	**23 49 07.8**	**-1.4**
KBZ	**Khabaz**	**80.93**	**314**	P		**P**	**23 49 07.8**	**-1.4**
	comp=Z,4.2nm,0.8s,baz=128,slow=4.4,SNR=4.5							
KMBO	**Kilima Mbogo**	**83.35**	**269**	P		**P**	**23 49 22.8**	**-0.1**
KMBO	**Kilima Mbogo**	**83.35**	**269**	P		**P**	**23 49 22.8**	**-0.1**
	baz=51,slow=21,SNR=3.9							
SYO	**Syowa Base**	**87.02**	**201**	⇑*e*P		**P**	**23 49 40.5**	**+0.8**
BRTR	**Keskin Array B**	**87.48**	**310**	P		**P**	**23 49 41.4**	**-1.4**
BRTR	**Keskin Array B**	**87.48**	**310**	P		**P**	**23 49 41.4**	**-1.4**
	comp=Z,3.6nm,0.7s,baz=130,slow=6.7,SNR=16							
BR231	**Keskin MP Arra**	**88.15**	**310**	*e*P		P	23 49 42.1	-3.8
AKASG	**Malin Array Be**	**90.66**	**321**	*ce*P		**P**	**23 49 55.0**	**-2.2**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**90.66**	**321**	P		**P**	**23 49 55.1**	**-2.2**
AKASG	**Malin Array Be**	**90.66**	**321**	P		**P**	**23 49 55.1**	**-2.2**
	comp=Z,1.4nm,0.6s,baz=74,slow=4.5,SNR=17							
AK11	**Malin Array Si**	**90.70**	**321**	*e*P		**P**	**23 49 54.4**	**-3.1**
KOLS	**Kolonicke sedl**	**95.27**	**319**	*e*P		**P**	**23 50 18.9**	**+0.3**
KOLS	**Kolonicke sedl**	**95.27**	**319**	*e*P		**P**	**23 50 18.9**	**+0.3**
KECS	**Kecovo**	**96.50**	**319**	*e*P		**P**	**23 50 24.6**	**+0.4**
KECS	**Kecovo**	**96.50**	**319**	*e*P		**P**	**23 50 24.6**	**+0.4**

IDC 24 23:40:43.2±5.4, 6.73S, 127.98E, h170km±56km, mb3.0/1, mb1 3.8/3, mb1mx3.3/30, mbtmp4.2/3, Error ellipse: s-maj=163.9km s-min=17.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.52**	**155**	P	Pn	23 44 01.1	+0.1
	1.1nm,0.3s,baz=333,slow=13,SNR=21						
WRA				S	Sn	23 46 38.1	-4.5
	0.2nm,0.3s,baz=330,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**17.78**	**162**	P	Pn	23 44 40.0	-0.5
	2.3nm,0.3s,baz=342,slow=11,SNR=35						
ASAR				S	S	23 47 55.4	+0.7
	0.1nm,0.3s,baz=348,slow=22,SNR=3.4						
MKAR	**Makanchi Array**	**66.91**	**328**	P	P	23 51 17.1	-0.1
	0.2nm,0.4s,baz=112,slow=7.9,SNR=6.7						

IDC 24 23:52:01.3±2.1, 0.91N×97.12E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/39, mbtmp3.7/5, ML4.4/1, Error ellipse: s-maj=54.0km s-min=26.8km az=59.0
ISCJB 24 23:52:03.0±1.6, 0.9N±0.2×97.1E±0.2, h25km, mb3.6/4, Error ellipse: s-maj=30.7km s-min=21.5km az=153.9
ISC 24 23:52:05.3±1.9, 1.0N±0.2×97.2E±0.2, h25km, n9, σ0.52/6, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.49**	**43**	Pn	**Pn**	**23 52 44.5**	**+0.2**
	1.4nm,0.3s,baz=116,slow=15,SNR=4.8						
CMAR	**Chiang Mai Arr**	**17.45**	**5**	P	**P**	**23 56 07.8**	**-0.4**
	0.5nm,0.3s,baz=191,slow=11,SNR=4.8						
H08S2	**Diego Garcia H**	**26.10**	**250**	T	T	00 24 35.8	
	baz=72,slow=75,SNR=363						
H08S3	**Diego Garcia H**	**26.10**	**250**	T	T	00 24 34.4	
	baz=72,slow=75,SNR=431						
H08S1	**Diego Garcia H**	**26.12**	**250**	T	T	00 24 38.2	
	baz=72,slow=75,SNR=99						
WRA	**Warramunga Arr**	**41.91**	**122**	P	**P**	**23 59 54.2**	**0.0**
	0.4nm,0.7s,baz=304,slow=8.9,SNR=3.8						
SONM	**Songino Array**	**47.35**	**8**	P	**P**	**00 00 37.2**	**0.0**
	0.6nm,0.5s,baz=190,slow=7.4,SNR=7.0						
MKAR	**Makanchi Array**	**47.46**	**346**	P	**P**	**00 00 38.7**	**+0.7**
	0.5nm,0.6s,baz=147,slow=8.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**53.77**	**351**	P	**P**	**00 01 25.1**	**-0.4**
	0.7nm,0.4s,baz=170,slow=4.4,SNR=4.9						

ISCJB 24 23:52:35.7±0.5, 41.24N±0.03×142.12E±0.06, h64km±5km, mb3.5/8, Error ellipse: s-maj=7.5km s-min=4.8km az=29.8
JMA 24 23:52:36.1, 41.25N×142.14E, h53km±2km, M3.3
IDC 24 23:52:49.8±13.0, 41.32N×141.90E, h177km±127km, mb3.1/8, mb1 3.2/8, mb1mx3.1/34, mbtmp3.6/8, Error ellipse: s-maj=32.2km s-min=28.2km az=76.0
ISC 24 23:52:36.4±1.0, 41.24N±0.04×142.12E±0.05, h54km±10km, n22, σ0.64/31, mb3.6/8, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.82**	**280**	⇓P	**Pn**	**23 52 51.6**	**-0.2**
JOT				S	**Sn**	**23 53 03.3**	**+0.2**
JTM	**Tenmabayashi**	**0.92**	**241**	⇓P	**Pn**	**23 52 53.2**	**+0.1**
JTM				*e*S	**Sn**	**23 53 05.7**	**+0.3**
JANG	**Nango**	**0.98**	**208**	P	**Pn**	**23 52 53.5**	**-0.5**
JANG				*e*S	**Sn**	**23 53 06.2**	**-0.8**
JKB	**Kayabe**	**1.04**	**309**	⇓P	**Pn**	**23 52 54.4**	**-0.3**
JKB				*e*S	**Sn**	**23 53 08.3**	**0.0**
JEM	**Erimo**	**1.10**	**45**	P	**Pn**	**23 52 55.4**	**-0.1**
JEM				*e*S	**Sn**	**23 53 09.5**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.14**	**24**	P	**Pn**	**23 52 55.8**	**-0.3**
JSR	**Shiriuchi**	**1.31**	**283**	⇓P	**Pn**	**23 52 58.8**	**+0.4**
JNB	**Noboribetsu**	**1.47**	**327**	P	**Pn**	**23 53 00.0**	**-0.5**
JNB				*e*S	**Sn**	**23 53 18.3**	**-0.3**
JAH	**Hinai**	**1.54**	**227**	P	**Pn**	**23 53 02.1**	**+0.6**
JAH				*e*S	**Sn**	**23 53 21.2**	**+0.7**
JBT2	**Biratori 2**	**1.54**	**7**	P	**Pn**	**23 53 02.2**	**+0.6**
JYM2	**Yakumo 2**	**1.57**	**304**	P	**Pn**	**23 53 02.3**	**+0.3**
JYM2				*e*S	**Sn**	**23 53 21.9**	**+0.7**
JCH	**Churui**	**1.66**	**34**	P	**Pn**	**23 53 03.4**	**+0.4**
JCH				S	**Sn**	**23 53 23.5**	**+0.3**
JEW	**Eniwo**	**1.67**	**343**	*e*S	**Sn**	**23 53 25.0**	**+1.4**
JOM	**Ohasama**	**1.88**	**200**	*e*S	**Sn**	**23 53 29.7**	**+1.1**
SONM	**Songino Array**	**26.13**	**297**	P	**P**	**23 58 05.6**	**+0.3**
	0.2nm,0.4s,baz=92,slow=12,SNR=2.0						
ZALV	**Zalesovo Beam**	**39.60**	**309**	P	**P**	**00 00 01.9**	**-0.3**
	0.4nm,0.3s,baz=88,slow=8.2,SNR=4.0						
MKAR	**Makanchi Array**	**42.47**	**298**	P	**P**	**00 00 25.8**	**-0.1**
	0.3nm,0.5s,baz=77,slow=10.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**43.95**	**305**	P	**P**	**00 00 37.4**	**-0.4**
	0.7nm,0.4s,baz=78,slow=8.9,SNR=6.4						
ILAR	**Eielson Array**	**45.68**	**34**	P	**P**	**00 00 52.6**	**+1.2**
	0.2nm,0.7s,baz=262,slow=6.3,SNR=3.2						
WRA	**Warramunga Arr**	**61.30**	**188**	P	**P**	**00 02 46.7**	**+0.5**
	0.7nm,1.0s,baz=6.0,slow=6.6,SNR=

mb4.8/159,MS3.8/23,Error ellipse: s-maj=5.6km s-min=2.6km az=157.5
*MOS **25** 00:07:51.3±1.1, 46°.68N×152°.66E, h53km, mb5.0/65,Error ellipse: s-maj=6.5km s-min=4.7km az=97.0*
*SKHL **25** 00:07:51.9±0.5, 44°.63N×152°.56E, h65km±1km, mb5.2/14, Ms4.2/4*
*NEIC **25** 00:07:52.6±0.6, 46°.70N×152°.55E, h48km±5km, mb5.0/80, Error ellipse: s-maj=5.9km s-min=2.9km az=155.0*
*SZGRF **25** 00:08:11.1, 48°.35N×151°.94E, h126km, mb5.1, Kuril Islands, Russia*
ISC 25 00:07:52.1±0.4, 46°.60N±0°.05×152°.70E±0°.04, h46km±2km, n621, σ1°10/668, mb4.9/160, MS3.8/23, 75C-21D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KUR	**Kuril'sk**	**3.64**	**250**	*i*	PN	**Pn**	**00 08 47.4**	**+1.5**
KUR					*e*S	**Sn**	**00 09 27.2**	**-0.4**
KUR	comp=Z,790nm,0.5s				pmax	pmax		
KUR	comp=N,340nm,0.7s				pmax	pmax		
KUR	comp=E,260nm,0.7s				pmax	pmax		
KUR	comp=N,5μm,2.0s				smax	smax		
KUR	comp=E,8μm,1.0s				smax	smax		
KUR	comp=N,2μm,0.5s				smax	smax		
KUR	comp=E,2μm,0.6s				smax	smax		
KUR	**Kuril'sk**	**3.64**	**250**	*e*	P	**Pn**	**00 08 47.0**	**+1.1**
KUR	comp=E,340nm,0.6s				AMB	AMB	00 08 52.5	
KUR	comp=E,260nm,0.6s				AMB	AMB	00 08 52.5	
KUR	comp=E,790nm,0.6s				AMB	AMB	00 08 52.5	
KUR					*e*S	**Sn**	**00 09 28.0**	**+0.4**
KUR	comp=E,5μm,2.0s				A	A	00 09 46.0	
KUR	comp=E,8μm,2.0s				A	A	00 09 46.0	
KUR	comp=E,2μm,0.5s				A	A	00 09 46.8	
KUR	comp=E,2μm,0.5s				A	A	00 09 46.8	
SKR	**Severo-Kuril's**	**4.67**	**28**	*e*	PN	**Pn**	**00 08 57.0**	**-3.0**
SKR	comp=Z,150nm,0.4s				pmax	pmax		
SKR	comp=N,80nm,0.5s				pmax	pmax		
SKR	comp=E,80nm,0.5s				pmax	pmax		
SKR	**Severo-Kuril's**	**4.67**	**28**	*e*	P	**Pn**	**00 08 58.0**	**-2.0**
SKR	comp=E,80nm,0.5s				AMB	AMB	00 09 03.4	
SKR	comp=E,150nm,0.5s				AMB	AMB	00 09 03.4	
SKR					*e*S	**Sn**	**00 09 48.0**	**-4.8**
SKR	comp=E,540nm,0.5s				A	A	00 10 13.4	
SKR	comp=E,230nm,0.5s				A	A	00 10 13.4	
SKR	comp=E,180nm,0.5s				A	A	00 10 13.4	
SHO	**Shikotan**	**4.97**	**239**	*e*	P	**Pn**	**00 09 03.7**	**-0.4**
SHO	comp=E,287nm,0.5s				AMB	AMB	00 09 06.9	
SHO					*e*S	**Sn**	**00 09 57.4**	**-2.8**
SHO	comp=E,550nm,0.6s				A	A	00 10 04.0	
SHO	comp=E,831nm,0.6s				A	A	00 10 04.0	
YUK	**Yuzh-Kuril'sk**	**5.46**	**244**	*i*	PN	**Pn**	**00 09 12.4**	**+1.4**
YUK				*i*	S	**Sn**	**00 10 14.0**	**+1.6**
YUK	comp=N,400nm,0.4s				pmax	pmax		
YUK	comp=E,151nm,0.4s				pmax	pmax		
YUK	comp=Z,679nm,0.4s				pmax	pmax		
YUK	comp=N,1μm,0.6s				smax	smax		
YUK	comp=E,2μm,0.6s				smax	smax		
YUK	comp=N,990nm,4.0s				MLR	MLR		
YUK	comp=E,781nm,4.0s				MLR	MLR		
YUK	comp=Z,559nm,4.0s				MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**5.46**	**244**	*e*	P	**Pn**	**00 09 12.4**	**+1.4**
YUK	comp=Z,401nm,0.3s				AMB	AMB	00 09 21.5	
YUK	comp=Z,151nm,0.3s				AMB	AMB	00 09 21.5	
YUK	comp=Z,600nm,0.3s				AMB	AMB	00 09 21.5	
YUK					*e*S	**Sn**	**00 10 14.1**	**+1.6**
YUK	comp=Z,1μm,0.6s				A	A	00 10 37.7	
YUK	comp=Z,2μm,0.6s				A	A	00 10 37.7	
YUK	comp=Z,990nm,4.0s				AMS	AMS	00 12 08.0	
YUK	comp=Z,780nm,4.0s				AMS	AMS	00 12 08.0	
YUK	comp=Z,560nm,4.0s				AMS	AMS	00 12 08.0	
PAU	**Pauzhetka**	**5.57**	**28**	*e*	P	**Pn**	**00 09 13.4**	**+1.1**
PAU	comp=Z,545nm,0.7s				AMB	AMB	00 09 26.5	
PAU					*e*S	**Sn**	**00 10 14.6**	**-0.3**
PAU	comp=Z,1μm,0.5s				A	A	00 10 28.6	
NEM2	**Nemuro 2**	**5.90**	**239**		P	**Pn**	**00 09 16.1**	**-0.9**
NEM2					*e*S	**Sn**	**00 10 20.5**	**-2.7**
JRA	**Rausu**	**5.98**	**246**		P	**Pn**	**00 09 19.8**	**+1.8**
JRA					*e*S	**Sn**	**00 10 27.2**	**+2.1**
JNK	**Nakash**	**6.41**	**245**		P	**Pn**	**00 09 25.1**	**+1.2**
JNK					*e*S	**Sn**	**00 10 34.4**	**-1.2**
JTKR	**Abashiri--Toko**	**6.74**	**250**		P	**Pn**	**00 09 30.6**	**+2.2**
JAK	**Akkeshi**	**6.74**	**241**		P	**Pn**	**00 09 27.8**	**-0.6**
JAK					*e*S	**Sn**	**00 10 40.5**	**-3.3**
YSS	**Yuzh-Sakhalins**	**6.84**	**277**	*i*	PN	Pn	00 09 33.0	+3.2
YSS					*e*S	**Sn**	**00 10 47.8**	**+1.5**
YSS	comp=Z,110nm,0.9s				pmax	pmax		
YSS	comp=Z,600nm,15.0s				MLR	MLR		
YSS	comp=E,600nm,16.0s				MLR	MLR		
YSS	**Yuzh-Sakhalins**	**6.84**	**277**	*e*	P	Pn	00 09 33.0	+3.2
YSS	comp=E,110nm,0.9s				AMB	AMB	00 09 35.0	
YSS					*e*S	**Sn**	**00 10 47.8**	**+1.5**
YSS	comp=E,600nm,16.0s				AMS	AMS	00 12 03.0	
JMP	**Maruseppu**	**7.08**	**252**		P	**Pn**	**00 09 35.7**	**+2.5**
JAR	**Ashorobuto**	**7.15**	**246**		P	**Pn**	**00 09 35.0**	**+1.0**
JAR					*e*S	**Sn**	**00 10 53.2**	**-0.7**
JSE	**Soyaes**	**7.26**	**261**		P	Pn	00 09 39.4	+3.8
PEA0	**Petropavlovsk-**	**7.27**	**25**	*e*	Pn	**Pn**	**00 09 36.4**	**+0.7**
PETK	**Petropavlovsk-**	**7.27**	**25**		PN	**Pn**	**00 09 36.5**	**+0.9**
PETK							00 11 08.6	
PETK	comp=Z,2.0nm,0.3s				pmax	pmax		
PETK	**Petropavlovsk-**	**7.27**	**25**		Pn	**Pn**	**00 09 36.5**	**+0.9**
PETK					Sn	Sn	00 11 08.6	+12
PETK	**Petropavlovsk-**	**7.27**	**25**		Pn	**Pn**	**00 09 36.5**	**+0.9**
PETK	comp=Z,2.0nm,0.3s,baz=198,slow=12,SNR=7.0 baz=160,slow=17,SNR=2.1				Sn	Sn	00 11 08.6	+12
PETK	comp=Z,118nm,20.6s,baz=202,slow=39				LR	LR	00 12 28.7	
JOB	**Onbets**	**7.32**	**243**		P	**Pn**	**00 09 36.7**	**+0.4**
JOB					*e*S	**Sn**	**00 10 55.1**	**-2.9**
HRK	**Horoka**	**7.47**	**249**	*e*	P	**Pn**	**00 09 40.4**	**+1.9**
PET	**Petropavlovsk**	**7.49**	**29**	*e*	PN	**Pn**	**00 09 40.6**	**+2.0**
PET	comp=Z,32nm,0.5s				pmax	pmax		
PET	comp=Z,300nm,13.0s				MLR	MLR		
PET	**Petropavlovsk**	**7.49**	**29**	*e*	P	**Pn**	**00 09 39.4**	**+0.8**
PET	comp=Z,30nm,0.6s				AMB	AMB	00 09 54.9	
PET					*e*S	**Sn**	**00 11 00.0**	**-2.1**
PET	comp=Z,150nm,0.6s				A	A	00 11 14.3	
JKA	**Kamikawa-asahi**	**7.54**	**254**	*e*	P	Pn	00 09 42.5	+3.1
JKK2	**Kamakawa 2**	**7.54**	**252**		P	**Pn**	**00 09 42.1**	**+2.7**
ASAJ	**Asahikawa**	**7.54**	**254**		P	Pn	00 09 42.7	+3.3
ASAJ	**Asahikawa**	**7.54**	**254**	*e*	Pn	Pn	00 09 43.0	+3.6
ASAJ					Sn	Sn	00 11 19.1	+16
ASAJ	**Asahikawa**	**7.54**	**254**		Pn	Pn	00 09 42.5	+3.1
ASAJ	comp=Z,7.6nm,0.3s,baz=73,slow=15,SNR=42 comp=Z,1.7nm,0.3s,baz=230,slow=18,SNR=3.7				Sn	Sn	00 11 19.1	+16
ASAJ	comp=Z,475nm,19.9s,baz=103,slow=38				LR	LR	00 12 27.8	
UGL	**Uglegorsk**	**7.57**	**293**	*e*	PN	Pn	00 09 43.5	+3.7
UGL	comp=Z,130nm,0.8s				pmax	pmax		
UGL	comp=N,450nm,18.0s				MLR	MLR		
UGL	comp=E,1μm,18.0s				MLR	MLR		
UGL	comp=Z,1μm,18.0s				MLR	MLR		
UGL	**Uglegorsk**	**7.57**	**293**	*e*	P	Pn	00 09 43.5	+3.7
UGL	comp=Z,130nm,0.8s				AMB	AMB	00 09 44.5	
UGL	comp=Z,450nm,18.0s				AMS	AMS	00 12 37.0	
UGL	comp=Z,1μm,18.0s				AMS	AMS	00 12 37.0	
UGL	comp=Z,1μm,18.0s				AMS	AMS	00 12 37.0	
JWK2	**Keihoku**	**7.64**	**264**		P	Pn	00 09 46.3	+5.5
JCH	**Churui**	**7.77**	**242**		P	**Pn**	**00 09 42.5**	**0.0**
JCH					*e*S	**Sn**	**00 11 05.5**	**-3.5**
TYV	**Tymovskoe**	**7.89**	**306**	*e*	P	**Pn**	**00 09 46.5**	**+2.3**
TYV	comp=Z,24nm,0.8s				AMB	AMB	00 09 47.2	
TYV	comp=Z,44nm,0.8s				AMB	AMB	00 09 47.2	
JFR	**Furan**	**7.96**	**248**		P	**Pn**	**00 09 46.9**	**+1.7**
MYR	**Moyori**	**8.00**	**241**	*e*	P	**Pn**	**00 09 45.4**	**-0.3**
JAB	**Ashibetsu**	**8.04**	**251**		P	Pn	00 09 49.5	+3.2
JEM	**Erimo**	**8.24**	**240**		P	**Pn**	**00 09 49.1**	**+0.1**
JEM					*e*S	**Sn**	**00 11 16.4**	**-4.2**
ERM	**Erimo**	**8.24**	**240**		Pn	**Pn**	**00 09 50.5**	**+1.5**
ERM	comp=Z,702nm,0.6s,SNR=18 **Erimo**	**8.24**	**240**	*ce*	PN	**Pn**	**00 09 49.9**	**+0.9**
ERM	comp=Z,38nm,0.6s				pmax	pmax		
ERM	**Erimo**	**8.24**	**240**	*e*	Pn	**Pn**	**00 09 49.6**	**+0.7**
ERM				*e*	Sn	Sn	00 11 14.1	-6.5
ERM	**Erimo**	**8.24**	**240**	*e*	P	**Pn**	**00 09 49.9**	**+0.9**
JBT2	**Biratori 2**	**8.30**	**246**		P	**Pn**	**00 09 50.4**	**+0.6**
JNBK	**Urakawa-nobuka**	**8.33**	**242**		P	**Pn**	**00 09 49.3**	**-0.9**
JNBK					*e*S	**Sn**	**00 11 19.0**	**-3.8**
JNB	**Noboribetsu**	**9.30**	**248**		P	**Pn**	**00 10 03.2**	**-0.3**
JNB					*e*S	**Sn**	**00 11 44.1**	**-2.5**
OKH	**Okha**	**9.36**	**322**	*e*	P	**Pn**	**00 10 06.1**	**+1.8**
OKH				*e*	rx	rx	00 10 11.2	
JKB	**Kayabe**	**9.61**	**245**		P	**Pn**	**00 10 06.5**	**-1.2**
JKB					*e*S	Sn	00 11 47.8	-6.4
JSH	**Shimam**	**9.85**	**251**		P	**Pn**	**00 10 11.5**	**+0.4**
JYM2	**Yakumo 2**	**9.90**	**248**		P	**Pn**	**00 10 11.8**	**0.0**
NKL	**Nikolayevsk**	**10.15**	**315**	*e*	P	**Pn**	**00 10 17.2**	**+2.2**
NKL	comp=Z,50nm,1.1s				AMB	AMB	00 10 20.0	
NKL	comp=Z,60nm,1.1s				AMB	AMB	00 10 20.0	
NKL	comp=Z,80nm,1.1s				AMB	AMB	00 10 20.0	
JSR	**Shiriuchi**	**10.19**	**245**		P	**Pn**	**00 10 14.2**	**-1.5**
JTM	**Tenmabayashi**	**10.23**	**240**		P	**Pn**	**00 10 13.5**	**-2.8**
JTM					*e*S	Sn	00 12 01.3	-8.2
JANG	**Nango**	**10.23**	**237**		P	Pn	00 10 12.6	-3.7
JANG					*e*S	Sn	00 11 59.5	-10
JTH	**Tanohata**	**10.33**	**234**		P	Pn	00 10 13.6	-4.0
JTH					*e*S	Sn	00 12 00.7	-11
JOSM	**Okushiri--Mats**	**10.49**	**249**		P	**Pn**	**00 10 19.4**	**-0.5**
OFUJ	**Ofunato**	**11.04**	**231**		P	Pn	00 10 23.6	-3.8
OFUJ					*e*S	Sn	00 12 18.5	-11
TEY	**Ternei**	**11.35**	**268**	*e*	P	**Pn**	**00 10 34.0**	**+2.5**
TEY	comp=Z,34nm,1.0s				AMB	AMB	00 10 38.7	
TEY	comp=Z,43nm,1.0s				AMB	AMB	00 10 38.7	
JRG	**Rokugo**	**11.39**	**235**		P	**Pn**	**00 10 29.8**	**-2.3**
JRG					*e*S	Sn	00 12 28.8	-9.2
GRNR	**Gornyy**	**11.54**	**297**	*e*	P	Pn	00 10 37.0	+2.9
GRNR	comp=Z,84nm,1.0s				AMB	AMB	00 10 39.8	
JIO	**Ouri**	**11.67**	**230**		P	Pn	00 10 32.5	-3.5
JIO					*e*S	Sn	00 12 33.6	-11
HABR	**Khabarovsk**	**12.08**	**285**		PN	**Pn**	**00 10 44.3**	**+2.9**
HABR	comp=Z,395nm,15.0s				MLR	MLR		
HABR	**Khabarovsk**	**12.08**	**285**	*e*	P	**Pn**	**00 10 44.3**	**+2.9**
EKMR	**Ekimchan**	**14.27**	**304**	*e*	P	**Pn**	**00 11 10.5**	**-0.8**
EKMR	comp=Z,19nm,0.6s				AMB	AMB	00 11 18.5	
KLR	**Kul'dur**	**14.29**	**288**	*e*	P	**Pn**	**00 11 11.1**	**-0.4**
KLR	comp=Z,600nm,12.5s				MLR	MLR		
KLR	**Kul'dur**	**14.29**	**288**	*e*	P	**Pn**	**00 11 11.1**	**-0.4**
KLR	comp=Z,600nm,13.0s				AMS	AMS	00 18 38.0	
FX1	**Attu Island--F**	**14.62**	**57**	*e*	Pn	**Pn**	**00 11 14.6**	**-1.3**
FX1				*e*	Sn	Sn	00 13 44.1	-12
FX1	**Attu Island--F**	**14.62**	**57**		Pn	**Pn**	**00 11 14.4**	**-1.4**
FX1	comp=Z,12nm,0.3s,baz=298,slow=5.9,SNR=40 comp=Z,6.1nm,0.3s,baz=145,slow=19,SNR=8.1				Sn	Sn	00 13 47.0	-9.4
FX1	comp=Z,89nm,21.6s,baz=258,slow=35				LR	LR	00 16 16.6	
USRK	**Ussuriysk Arra**	**14.75**	**268**		Pn	**Pn**	**00 11 17.9**	**+0.3**
USRK	comp=Z,3.4nm,0.3s,baz=73,slow=14,SNR=30 comp=Z,280nm,20.0s,baz=51,slow=37				LR	LR	00 16 42.2	
MJAR	**Matsushiro Arr**	**14.77**	**232**		Pn	Pn	00 11 13.5	-4.4
MJAR	**Matsushiro Arr**	**14.77**	**232**		Pn	Pn	00 11 13.5	-4.4
MJAR	comp=Z,0.7nm,0.3s,baz=34,slow=11,SNR=8.7 comp=Z,128nm,21.3s,baz=40,slow=38				LR	LR	00 17 12.3	
MAJO	**Matsushiro**	**14.77**	**232**	*i*	P	**Pn**	**00 11 15.7**	**-2.3**
MAJO	comp=Z,69nm,0.7s				pmax	pmax		
MAJO	**Matsushiro**	**14.77**	**232**	*e*	Pn	**Pn**	**00 11 15.2**	**-2.8**
SMY	**Shemya**	**15.12**	**58**	*e*	P	**Pn**	**00 11 21.6**	**-0.8**
SMY	comp=Z,283nm,1.7s				pmax	pmax		
SMY	**Shemya**	**15.12**	**58**	*e*	Pn	**Pn**	**00 11 21.6**	**-0.8**
VLA	**Vladivostok**	**15.16**	**264**	*e*	P	**Pn**	**00 11 23.2**	**+0.1**
VLA					*e*S	**Sn**	**00 14 08.8**	**-0.9**
VLA	comp=Z,26nm,0.6s				pmax	pmax		
VLA	**Vladivostok**	**15.16**	**264**	*e*	P	**Pn**	**00 11 23.2**	**+0.1**
MDJ	**Mudanjiang**	**16.28**	**271**		P	**Pn**	**00 11 36.6**	**-0.9**
MDJ					*e*S	**Sn**	**00 14 33.8**	**-3.2**
MDJ					PcP	**PcP**	**00 16 29.3**	**+0.4**
MDJ					ScP	**ScP**	**00 20 00.6**	**+1.2**
MDJ					PcS	**PcS**	**00 20 04.9**	**+0.4**
MDJ	**Mudanjiang**	**16.28**	**271**		ScS	ScS	00 23 40.5	+2.2
MDJ	comp=Z,15nm,1.0s				pmax	pmax		
MDJ	comp=Z,95nm,4.2s				LR	LR		
MDJ	comp=N,53nm,24.0s				LR	LR		
MDJ	comp=E,120nm,26.1s				LR	LR		
MDJ	comp=Z,200nm,20.7s				LR	LR		
MDJ	**Mudanjiang**	**16.28**	**271**		P	**Pn**	**00 11 37.8**	**+0.3**
MDJ					S	**Sn**	**00 14 34.3**	**-2.7**
MDJ					PcP	**PcP**	**00 16 32.1**	**+3.2**
MDJ					ScP	**ScP**	**00 20 02.8**	**+3.4**
MDJ					PcS	**PcS**	**00 20 08.5**	**+4.0**
MDJ					ScS	**ScS**	**00 23 41.1**	**+2.8**
MDJ	comp=Z,12nm,1.4s				pmax	pmax		
MDJ	comp=Z,95nm,3.6s				pmax	pmax		
MDJ	comp=Z,46nm,27.1s				LR	LR		
MDJ	comp=Z,120nm,26.1s				LR	LR		
MDJ	comp=Z,200nm,24.1s				LR	LR		
MDJ	**Mudanjiang**	**16.28**	**271**	*e*	Pn	**Pn**	**00 11 38.2**	**+0.7**
SEY	**Seymchan**	**16.37**	**359**	*i*	P	**P**	**00 11 41.0**	**+0.4**
SEY	**Seymchan**	**16.37**	**359**		Pn	**Pn**	**00 11 37.9**	**-0.5**
SEY	**Seymchan**	**16.37**	**359**		Pn	**Pn**	**00 11 37.9**	**-0.5**
BMKR	**Bomnak**	**17.10**	**307**	*e*	P	**Pn**	**00 11 45.5**	**-2.1**
BMKR	comp=Z,21nm,0.5s				AMB	AMB	00 11 50.4	
ZEA	**Zeya**	**17.73**	**303**	*e*	P	**P**	**00 11 56.5**	**+0.7**
ZEA	comp=Z,17nm,0.7s				AMB	AMB	00 12 01.9	
ZEA	comp=Z,300nm,16.0s				AMS	AMS	00 19 06.0	
ZEA	comp=Z,400nm,16.0s				AMS	AMS	00 19 06.0	
KROS	**Kirovskiy**	**18.06**	**305**	*e*	P	**P**	**00 11 58.0**	**-1.5**
KROS	comp=Z,3.0nm,0.5s				AMB	AMB	00 11 59.0	
KROS	comp=Z,10.0nm,0.5s				AMB	AMB	00 11 59.0	
KROS	comp=Z,14nm,0.5s				AMB	AMB	00 11 59.0	
CN2	**Changchun**	**19.37**	**272**	*e*	P	**P**	**00 12 14.0**	**+0.1**
CN2				*e*	PP	**PnPn**	**00 12 32.0**	**+2.8**
CN2				*e*	S	S	00 15 42.9	-7.5
CN2				*e*	SS	**SnSn**	**00 16 09.4**	**+3.5**
CN2	comp=Z,10.0nm,0.6s				pmax	pmax		
CN2	comp=Z,200nm,4.0s				pmax	pmax		
CN2	comp=Z,200nm,18.0s				LR	LR		
CN2	comp=Z,300nm,18.0s				LR	LR		
CN2	comp=Z,300nm,18.0s				LR	LR		
CLNS	**Chul'man**	**19.90**	**311**	*e*	P	**Pn**	**00 12 22.3**	**+0.8**
CLNS	comp=Z,13nm,0.8s				pmax	pmax		
CLNS	comp=E,7.0nm,1.0s				pmax	pmax		
CLNS	comp=N,10.0nm,0.8s				pmax	pmax		
YAK	**Yakutsk**	**20.29**	**328**	*e*	P	Pn	00 12 24.7	-1.3
YAK				*e*	*PP	pP	00 12 46.5	+12
YAK				*e*	S	**S**	**00 16 06.3**	**-2.1**
YAK				*e*			00 16 34.1	
YAK				*e*	*SS	sS	00 16 39.4	+13
YAK				*e*			00 23 45.1	
YAK	comp=Z,56nm,0.9s				pmax	pmax		
YAK	comp=N,12nm,1.1s				pmax	pmax		
YAK	comp=E,17nm,1.0s				pmax	pmax		
YAK	comp=N,98nm,3.4s				smax	smax		
YAK	comp=E,84nm,3.7s				smax	smax		
KSRS	**Korea Array**	**20.48**	**252**		P	**P**	**00 12 26.2**	**+0.3**
KSRS	comp=E,10nm,0.7s,baz=56,slow=11,SNR=19 comp=E,114nm,21.2s,baz=54,slow=34				LR	LR	00 19 16.4	
KS01	**Wonju Array Si**	**20.49**	**252**	*e*	P	**P**	**00 12 26.6**	**+0.5**
KSAR	**Wonju Array Be**	**20.52**	**252**		P	**P**	**00 12 26.2**	**-0.1**
SNY	**Shenyang**	**21.35**	**268**		P	**P**	**00 12 37.1**	**+1.9**
SNY					pP	**pP**	**00 12 51.1**	**+4.9**
SNY					S	**S**	**00 16 30.8**	**+1.1**
SNY	comp=E,33nm,0.5s				pmax	pmax		
SNY	comp=E,230nm,3.5s				pmax	pmax		
SNY	comp=E,220nm,19.8s				LR	LR		
SNY	comp=E,300nm,22.3s				LR	LR		
SNY	comp=E,300nm,17.6s				LR	LR		
JNU	**Nakatsue**	**21.40**	**239**	*e*	P	**P**	**00 12 36.8**	**+0.8**
JNU	comp=E,58nm,1.4s **Nakatsue**	**21.40**	**239**		P	**P**	**00 12 35.5**	**-0.4**
JNU	comp=E,21nm,0.9s,baz=49,slow=9.3,SNR=6.0 comp=E,81nm,21.3s,baz=97,slow=38				LR	LR	00 21 06.2	
TJN	**Taejon**	**21.47**	**251**	*i*	P	**P**	**00 12 36.2**	**-0.4**
HIA	**Hailar**	**22.15**	**289**	*e*	P	**P**	**00 12 41.5**	**-2.3**
BILL	comp=E,11nm,0.5s **Bilibino**	**22.60**	**13**	*i*	P	**P**	**00 12 48.9**	**+0.5**
BILL				*e*			00 16 40.8	
BILL	comp=Z,7.0nm,0.8s				pmax	pmax		
BILL	comp=Z,125nm,22.0s				MLR	MLR		
GAMB	**Gambell**	**26.11**	**36**	*e*	P	**P**	**00 13 20.5**	**-0.8**
BJI	comp=Z,129nm,3.0s **Beijing**	**27.19**	**269**		P	**P**	**00 13 30.9**	**-0.3**
BJI					S	**S**	**00 18 06.4**	**-0.3**
BJI	comp=Z,8.0nm,0.8s				pmax	pmax		
BJI	comp=Z,140nm,5.7s				pmax	pmax		
BJI	comp=Z,140nm,20.2s				LR	LR		
BJT	**Baijiatuau**	**27.21**	**269**	*e*	P	**P**	**00 13 31.2**	**-0.2**
TIXI	comp=Z,14nm,0.5s **Tiksi**	**27.53**	**344**	*e*	P	**P**	**00 13 36.8**	**+2.9**
TIXI	comp=Z,1.0nm,0.7s				pmax	pmax		
TNA	**Tin City**	**28.31**	**34**	*e*	P	**P**	**00 13 39.6**	**-1.3**
H11N2	comp=Z,52nm,2.6s **WAKE ISLAND Hy**	**29.22**	**152**		T	T	00 45 08.5	
H11N1	baz=342,slow=76,SNR=8474 **WAKE ISLAND Hy**	**29.24**	**152**		T	T	00 45 20.8	
H11N3	baz=342,slow=76,SNR=7241 **WAKE ISLAND Hy**	**29.24**	**152**		T	T	00 45 21.0	
NJ2	baz=342,slow=76,SNR=5542 **Nanjing**	**29.68**	**253**	*e*	P	**P**	**00 13 53.8**	**+0.3**
NJ2	comp=Z,10.0nm,0.5s				pmax	pmax		
HHC	**Hu-ho-hao-te**	**30.02**	**274**	*e*	P	**P**	**00 13 56.3**	**-0.3**
HHC					S	**S**	**00 18 49.0**	**-2.5**
HHC					SS	**SnSn**	**00 20 24.6**	**-1.8**
HHC	comp=Z,42nm,0.7s				pmax	pmax		
HHC	comp=Z,150nm,4.3s				pmax	pmax		
HHC	comp=Z,340nm,12.2s				LR	LR		
HHC	comp=Z,270nm,10.7s				LR	LR		
HHC	comp=Z,300nm,17.1s				LR	LR		
H11S1	**WAKE ISLAND Hy**	**30.30**	**153**		T	T	00 46 40.4	
H11S3	baz=343,slow=77,SNR=9083 **WAKE ISLAND Hy**	**30.31**	**153**		T	T	00 46 41.1	
H11S2	baz=343,slow=77,SNR=8148 **WAKE ISLAND Hy**	**30.32**	**153**		T	T	00 46 41.5	
ULN	baz=343,slow=77,SNR=7568 **Ulaanbaatar**	**30.68**	**289**	*e*	P	**P**	**00 14 00.3**	**-2.1**
SONA1	comp=Z,11nm,0.9s **Songino Array**	**31.11**	**290**	*e*	P	**P**	**00 14 04.8**	**-1.3**
SONM	**Songino Array**	**31.11**	**289**		P	**P**	**00 14 04.5**	**-1.7**
SONM					PcP	**PcP**	**00 17 00.6**	**+0.1**
SONM	**Songino Array**	**31.11**	**289**		P	**P**	**00 14 04.5**	**-1.7**
SONM	comp=Z,1.4nm,0.7s,baz=74,slow=8.7,SNR=10 comp=Z,1.5nm,0.8s,baz=127,slow=2.1,SNR=5.5				PcP	**PcP**	**00 17 00.6**	**+0.1**
SONM	comp=Z,182nm,19.3s,baz=140,slow=38				LR	LR	00 27 39.4	
TLY	**Talaya**	**32.00**	**297**	*e*	P	**P**	**00 14 14.6**	**+0.9**
TLY	comp=Z,6.0nm,0.9s				pmax	pmax		
TLY	comp=Z,212nm,15.0s				MLR	MLR		
ZAK	**Zakamensk**	**32.48**	**295**	*e*	P	**P**	**00 14 16.5**	**-1.6**
ZAK				*e*			00 17 03.3	
ZAK					pmax	pmax		

comp=Z,3.0nm,1.0s
OHAK Old Harbor 34.09 52 eP P 00 14 31.7 -0.1
comp=Z,266nm,2.4s
YULB Yu-li 34.25 238 eP P 00 14 33.0 -0.6
comp=Z,100nm,1.9s
KDAK Kodiak Island 34.41 51 eP P 00 14 34.6 -0.1
comp=Z,75nm,1.5s
PPLA Purkeypile 34.46 42 eP P 00 14 36.9 +1.6
comp=Z,69nm,2.2s
KTH Kantishna Hill 35.05 40 eP P 00 14 41.3 +1.0
comp=Z,108nm,1.2s
XAN Xi'an 35.22 265 P P 00 14 41.8 -0.2
XAN pP **pP 00 14 53.8 -0.5**
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN LR LR
comp=Z,69nm,13.3s
XAN LR LR
comp=Z,47nm,18.3s
TRF Thorofare Moun 35.34 41 eP P 00 14 42.9 +0.1
comp=Z,42nm,2.0s
COLD Coldfoot 35.61 34 eP P 00 14 44.6 -0.3
comp=Z,92nm,2.6s
RC01 Rabbit Creek A 35.63 45 eP P 00 14 46.0 +0.9
comp=Z,12nm,1.2s
SEW Seward 35.84 46 eP P 00 14 46.4 -0.5
comp=Z,163nm,2.1s
MCK McKinley 35.95 40 eP P 00 14 48.1 +0.3
MCK pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 35.95 40 eP P 00 14 48.1 +0.3
comp=Z,11nm,1.1s
COLA College 36.43 38 *d i* P P 00 14 52.3 +0.4
COLA pmax pmax
comp=Z,57nm,1.0s
COLA College 36.43 38 eP P 00 14 52.3 +0.4
comp=Z,3.8nm,0.7s
IL1 Eielson Array 36.84 38 eP P 00 14 56.1 +0.7
ILAR Eielson Array 36.84 38 P P 00 14 55.5 0.0
ILAR Eielson Array 36.84 38 P P 00 14 55.5 0.0
comp=Z,2.4nm,0.8s,baz=260,slow=7.0,SNR=42
ILAR LR LR 00 30 17.0
comp=Z,64nm,19.1s,baz=351,slow=37
ENH Enshi 37.06 259 eP P 00 14 57.1 -0.6
comp=Z,6.6nm,0.4s
LZH Lanzhou 37.61 272 eP P 00 15 02.9 +0.4
LZH pP **pP 00 15 13.8 -1.0**
LZH sP **sP 00 15 18.4 -1.9**
LZH PcP **PcP 00 17 20.9 +1.5**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,140nm,5.0s
BMRM Bremner River 38.13 45 eP P 00 15 07.2 +0.8
comp=Z,14nm,1.0s
RAGM Ragged Mountai 38.17 46 eP P 00 15 07.2 +0.4
comp=Z,193nm,2.0s
GTA Gaotai 38.71 279 eP P 00 15 12.0 +0.3
GTA pP **pP 00 15 24.6 +0.5**
GTA sP **sP 00 15 28.9 -0.6**
GTA PcP **PcP 00 17 23.6 +0.9**
GTA pmax pmax
comp=Z,3.0nm,0.8s
EGAK Eagle 39.29 38 eP P 00 15 16.4 +0.4
comp=Z,13nm,0.9s
DAWY Dawson 40.13 39 eP P 00 15 23.8 +0.7
CD2 Chengdu 40.59 265 eP P 00 15 26.8 -0.4
CD2 pP **pP 00 15 39.6 -0.1**
CD2 PP **PnPn 00 17 03.9 -1.5**
CD2 sS **sS 00 21 53.0 -1.3**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,130nm,4.8s
CD2 LR LR
comp=Z,160nm,15.5s
CD2 LR LR
comp=Z,190nm,15.5s
CD2 LR LR
comp=Z,280nm,15.5s
GYA Guiyang 41.41 257 ⇑ *i* P **P 00 15 33.8 -0.3**
GYA pP **pP 00 15 48.4 +1.8**
GYA sP **sP 00 15 54.0 +2.0**
GYA PP **PnPn 00 17 13.9 -1.3**
GYA PcP **PcP 00 17 33.3 +1.8**
GYA ScP **ScP 00 21 18.0 +0.5**
GYA S **S 00 21 44.3 -1.6**
GYA sS **sS 00 22 08.4 +1.7**
GYA ScS **ScS 00 25 32.3 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,490nm,17.4s
GYA LR LR
comp=Z,440nm,18.0s
GYA LR LR
comp=Z,460nm,17.6s
INK Inuvik 41.93 32 eP P 00 15 38.8 +1.1
comp=Z,17nm,1.3s
ZAA0 Zalesovo Array 42.47 306 eP P 00 15 39.8 -2.5
ZAA0 *e*PcP **PcP 00 17 33.9 -0.4**
ZALV Zalesovo Beam 42.47 306 P P 00 15 40.0 -2.3
ZALV 00 17 34.0
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,307nm,19.0s
ZALV Zalesovo Beam 42.47 306 P P 00 15 40.0 -2.3
ZALV PcP **PcP 00 17 34.0 -0.3**
ZALV Zalesovo Beam 42.47 306 P P 00 15 40.0 -2.3
comp=Z,3.8nm,0.5s,baz=63,slow=6.4,SNR=22
ZALV PcP **PcP 00 17 34.0 -0.3**
comp=Z,4.6nm,0.7s,baz=64,slow=3.4,SNR=17
ZALV LR LR 00 34 29.2
comp=Z,307nm,18.9s,baz=70,slow=38
WMQ Urumqi 44.72 291 P P 00 16 01.8 +1.2
WMQ pP **pP 00 16 14.1 +0.9**
WMQ sP **sP 00 16 19.5 +0.9**
WMQ PcP **PP 00 17 45.5 +0.1**
WMQ PP **PcP 00 17 47.0 +4.7**
WMQ ScP **ScP 00 21 32.5 +1.9**
WMQ S **S 00 22 32.8 -1.2**
WMQ sS **sS 00 22 53.5 -1.5**
WMQ SS ScS 00 25 43.8 -10
WMQ ScS **SS 00 25 53.4 -1.9**
WMQ pmax pmax
comp=Z,9.0nm,0.3s
WMQ pmax pmax
comp=Z,12nm,4.2s
WMQ LR LR
comp=Z,52nm,17.2s
WMQ LR LR
comp=Z,41nm,19.3s
WMQ LR LR
comp=Z,86nm,17.2s
KMI Kunming 44.94 259 P P 00 16 03.3 +0.5
KMI pP **pP 00 16 14.0 -1.3**
KMI sP **sP 00 16 20.6 -0.1**
KMI pmax pmax
comp=Z,6.0nm,0.8s
DLBC Dease Lake 45.90 46 eP P 00 16 11.9 +2.2
MK31 Makanchi Array 46.76 297 P P 00 16 14.3 -2.3
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 46.76 297 *ce* P **P 00 16 15.3 -1.3**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 46.76 297 P P 00 16 15.2 -1.5
MKAR PcP **PcP 00 17 48.8 -0.5**
MKAR Makanchi Array 46.76 297 P P 00 16 15.2 -1.5
comp=Z,5.1nm,0.5s,baz=50,slow=7.2,SNR=57
MKAR PcP **PcP 00 17 48.8 -0.5**
comp=Z,3.1nm,0.6s,baz=42,slow=2.7,SNR=12
MK01 Makanchi Array 46.76 297 eP P 00 16 15.6 -1.1
KURK Kurchatov 47.21 304 P P 00 16 17.5 -2.5
comp=Z,44nm,0.5s,SNR=9.7
KURK Kurchatov 47.21 304 *d i* P **P 00 16 18.3 -1.8**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 47.21 304 eP P 00 16 18.3 -1.8
comp=Z,9.1nm,1.2s
LSA Lhasa 50.00 273 eP P 00 16 43.9 +1.6
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 50.00 273 eP P 00 16 43.9 +1.6
comp=Z,19nm,0.6s
BRVK Borovoye 50.77 309 P P 00 16 46.4 -0.8
comp=Z,75nm,0.6s,SNR=5.3
BRVK Borovoye 50.77 309 *d i* P **P 00 16 46.5 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 50.77 309 eP P 00 16 46.0 -1.3
comp=Z,6.8nm,0.6s
BRVK *e*PcP **PcP 00 18 03.3 -0.4**
RES Resolute Bay 51.06 18 eP P 00 16 49.2 +0.1
comp=Z,64nm,2.6s
YKA Yellowknife Ar 51.21 37 P P 00 16 50.8 +0.4
YKA PcP **PcP 00 18 05.0 0.0**
YKA Yellowknife Ar 51.21 37 P P 00 16 50.8 +0.4
comp=Z,1.5nm,0.5s,baz=296,slow=6.9,SNR=35
YKA PcP **PcP 00 18 05.0 0.0**
comp=Z,1.0nm,0.5s,baz=303,slow=3.7,SNR=9.0
YKB5 Yellowknife Ar 51.21 37 eP P 00 16 50.1 -0.3
YKB5 *e*PcP **PcP 00 18 05.6 +0.5**
CHTO Chiang Mai 51.81 256 eP P 00 16 56.2 +0.7
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 51.81 256 eP P 00 16 56.2 +0.7
comp=Z,3.5nm,0.8s
CMAR Chiang Mai Arr 52.06 256 P P 00 16 58.4 +1.0
CMAR PcP **PcP 00 18 09.8 +0.9**
CMAR Chiang Mai Arr 52.06 256 P P 00 16 58.4 +1.0
comp=Z,7.0nm,0.8s,baz=36,slow=7.5,SNR=52
CMAR PcP **PcP 00 18 09.8 +0.9**
comp=Z,1.7nm,0.7s,baz=20,slow=1.1,SNR=4.9
CMAR LR LR 00 40 57.2
comp=Z,64nm,18.3s,baz=103,slow=38
CM01 Chiang Mai Arr 52.08 256 eP P 00 16 58.6 +1.1
AAK Ala-Archa 53.65 296 P P 00 17 08.6 -0.4
comp=Z,42nm,0.8s,SNR=5.4
AAK Ala-Archa 53.65 296 ⇓ *i* P **P 00 17 08.3 -0.7**
AAK pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 53.65 296 eP P 00 17 08.2 -0.8
comp=Z,5.9nm,0.8s
SVE Sverdlovsk 53.74 317 eP P 00 17 07.5 -1.8
SVE pmax pmax
comp=Z,8.0nm,1.1s
TAPN Taplejung 53.83 273 eP P 00 17 11.3 +0.7
comp=Z,16nm,0.4s
ODAN Odare 54.35 273 eP P 00 17 14.7 +0.3
KSH Kashi 54.45 292 eP P 00 17 17.9 +3.1
KSH *e*PP PP 00 19 22.3 +5.3
KSH *e*PcS **PcS 00 22 19.3 +1.7**
KSH *e*S **S 00 24 50.3 +0.1**
KSH *e*sS sS 00 25 17.3 +5.6
KSH *e*SS **SS 00 28 34.0 +1.5**
KSH pmax pmax
comp=Z,1.0nm,0.5s
KSH pmax pmax
comp=Z,93nm,5.2s
KSH LR LR
comp=Z,75nm,5.0s
KSH LR LR
comp=Z,100nm,7.8s
KSH LR LR
comp=Z,90nm,5.6s
JIRN Jiri 54.68 274 eP P 00 17 17.6 +0.7
comp=Z,90nm,0.6s
GUN Gumba 54.73 275 eP P 00 17 17.7 +0.4
comp=Z,36nm,0.5s
RAMN Ramite 54.84 273 eP P 00 17 18.4 +0.4
ARU Arti 54.93 317 P P 00 17 16.1 -1.8
comp=Z,83nm,0.4s,SNR=9.3
ARU Arti 54.93 317 *d i* P **P 00 17 16.5 -1.4**
ARU 00 18 18.1
ARU S **S 00 24 54.0 -1.9**
ARU SS SS 00 28 31.3 -7.8
ARU pmax pmax
comp=Z,5.0nm,0.5s
KKN Kakani 55.22 275 eP P 00 17 21.3 +0.6
comp=Z,69nm,0.7s
PKI Pulchoki 55.27 275 eP P 00 17 21.4 +0.2
comp=Z,43nm,0.8s
PKIN Phulchoki 55.27 275 eP P 00 17 21.4 +0.3
comp=Z,32nm,0.8s
DMN Daman 55.45 275 eP P 00 17 23.2 +0.8
comp=Z,87nm,0.8s
GKN Gorkha 55.53 276 eP P 00 17 23.3 +0.5
comp=Z,80nm,0.6s
KK31 Karatay Array 55.82 299 P P 00 17 23.3 -1.3
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 55.82 299 eP P 00 17 23.1 -1.5
KKAR Karatay Array 55.82 299 eP P 00 17 23.1 -1.5
DANN Dangsing 55.91 277 eP P 00 17 26.7 +1.0
comp=Z,97nm,0.6s
KOLN Koldanda 56.38 276 eP P 00 17 29.8 +0.8
comp=Z,105nm,0.9s
PYUN Piuthan 56.59 277 eP P 00 17 31.1 +0.6
comp=Z,34nm,0.5s
EDM Edmonton 56.62 46 eP P 00 17 30.8 +0.7
EDM Edmonton 56.62 46 eP P 00 17 30.8 +0.7
PRGR Permogore 57.34 327 P P 00 17 34.2 -0.7
PRGR pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 57.39 340 eP P 00 17 33.4 -1.8
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 57.39 340 *ep* P **P 00 17 33.4 -1.8**
comp=Z,1.3nm,0.4s
ARA0 ARCESS Array S 57.90 341 eP P 00 17 38.1 -0.7
ARCES ARCESS Array B 57.90 341 P P 00 17 38.0 -0.8
ARCES ARCESS Array B 57.90 341 P P 00 17 38.0 -0.8
comp=Z,2.4nm,0.5s,baz=30,slow=6.8,SNR=15
ARCES LR LR 00 46 13.6
comp=Z,54nm,18.4s,baz=38,slow=40
AB31 Akbulak array 58.30 310 eP P 00 17 40.6 -1.3
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 58.30 310 eP P 00 17 40.8 -1.2
AKTO Aktyubinsk 58.61 312 P P 00 17 41.8 -2.3
AKTO pmax pmax
comp=Z,2.0nm,0.6s
WALA Waterton Lakes 58.75 50 eP P 00 17 45.8 +0.6
F10A Beach Ranch, E 58.77 55 eP P 00 17 49.0 +3.6
comp=Z,133nm,2.8s
SWMT Swartz Lake 59.63 52 eP P 00 17 52.7 +1.3
SLMT Seeley Lake 60.07 52 eP P 00 17 55.3 +0.9
NDI New Delhi 60.15 281 eP P 00 18 02.3 -2.0
CHMT Chamberlain Mo 60.40 52 eP P 00 17 57.0 +0.3
SUMG Summit 60.87 4 *i* P **P 00 17 59.4 -0.3**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 60.87 4 *i* P **P 00 17 59.4 -0.3**
comp=Z,13nm,0.9s
SUMG Summit 60.87 4 eP P 00 17 59.4 -0.3
comp=Z,16nm,0.7s
FFC Flin Flon 61.03 40 P P 00 18 01.3 +0.6
comp=Z,82nm,1.1s,SNR=6.0
FFC Flin Flon 61.03 40 *i* P **P 00 18 01.5 +0.9**
FFC Flin Flon 61.03 40 eP P 00 18 01.2 +0.6
comp=Z,5.4nm,0.9s
HRY Holter Researc 61.29 51 eP P 00 18 03.1 +0.4
JOF Joensuu 61.34 334 eP P 00 18 01.0 -1.6
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 61.34 334 *ep* P **P 00 18 01.0 -1.6**
comp=Z,5.3nm,0.7s
A19A Klindworth Far 61.52 48 P P 00 18 05.0 +0.9
baz=61
FCC Fort Churchill 61.54 33 eP P 00 18 03.8 -0.2
FCC Fort Churchill 61.54 33 eP P 00 18 03.8 -0.2
EGMT Eagleton 61.57 49 P P 00 18 04.8 +0.3
baz=61
B19A Brinkman Farms 61.72 48 P P 00 18 05.8 +0.3
baz=62
KBL Kabul 61.86 291 eP P 00 18 06.0 -0.8
KBL pmax pmax
comp=Z,11nm,0.6s
KBL Kabul 61.86 291 eP P 00 18 06.0 -0.8
comp=Z,11nm,0.6s
BOZ Bozeman (W) 62.07 52 eP P 00 18 08.8 +0.8
BOZ pmax pmax
comp=Z,19nm,1.4s
BOZ Bozeman (W) 62.07 52 eP P 00 18 08.8 +0.8
comp=Z,19nm,1.4s
C19A Slack Wire Ran 62.12 49 P P 00 18 08.4 +0.2
baz=62
BMN Battle Mountai 62.15 60 eP P 00 18 09.6 +1.0
BMN pmax pmax
comp=Z,6.0nm,0.6s
BMN Battle Mountai 62.15 60 eP P 00 18 09.6 +1.0
comp=Z,6.3nm,0.6s
B20A Solberg Farm, 62.20 48 P P 00 18 09.1 +0.4
baz=62
NV01 Mina Array Sit 62.75 62 eP P 00 18 14.0 +1.3
NVAR Mina Array Bea 62.75 62 P P 00 18 13.3 +0.6
NVAR Mina Array Bea 62.75 62 P P 00 18 13.3 +0.6
comp=Z,1.4nm,0.8s,baz=290,slow=7.5,SNR=8.8
D20A Manuel Ranch, 63.01 49 P P 00 18 14.1 0.0
baz=63
E19A Rath Farm, Rou 63.07 50 P P 00 18 15.3 +0.7
baz=63
KAF Kangasniemi 63.46 335 eP P 00 18 14.6 -2.1
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 63.46 335 *ep* P **P 00 18 14.6 -2.1**
comp=Z,7.0nm,0.6s
A24A Westby 63.91 46 P P 00 18 20.0 +0.1
baz=64
VES Vestal, Richgr 63.91 65 P P 00 18 20.6 +0.4
baz=64
FINES FINESS Array B 64.05 335 P P 00 18 19.4 -1.2
FINES FINESS Array B 64.05 335 P P 00 18 19.4 -1.2
comp=Z,15nm,0.5s,baz=31,slow=8.1,SNR=144
FINES LR LR 00 48 08.9
comp=Z,78nm,18.2s,baz=56,slow=38
C23A Lambert 64.06 47 P P 00 18 21.4 +0.4
baz=64
DGMT Dagmar 64.11 46 P P 00 18 21.5 +0.2
baz=64
GRAC Grapevine Rang 64.23 63 P P 00 18 23.5 +1.2
baz=64
A25A Svangstu Ranch 64.33 45 P P 00 18 23.2 +0.5
baz=64
R11A Troy Canyon, C 64.45 61 P P 00 18 24.4 +0.6
baz=64
F22A Rosebud 64.85 49 P P 00 18 26.2 0.0
baz=65
DUG Dugway 64.89 57 P P 00 18 27.0 +0.3
baz=65
BW06 Boulder Array 65.06 54 *eP* P **P 00 18 28.0 +0.2**
comp=Z,6.3nm,1.0s
PDAR Pinedale Array 65.06 54 P P 00 18 28.0 +0.1
PDAR Pinedale Array 65.06 54 P P 00 18 28.0 +0.1
comp=Z,2.0nm,0.9s,baz=284,slow=1.8,SNR=12
H21A Big Horn, Sher 65.20 51 P P 00 18 28.0 -0.6
baz=65
EDW2 Edwards Air Fo 65.22 65 P P 00 18 29.1 +0.3
baz=65
OBN Obninsk 65.27 325 *eP* P **P 00 18 27.4 -1.2**
OBN *e* 00 19 00.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,132nm,24.0s
F23A Volborg 65.33 49 P P 00 18 29.6 +0.2
baz=65
J20A Shoshoni 65.48 52 P P 00 18 30.7 +0.2
baz=65
C26A Wahner Farm, P 65.58 46 P P 00 18 31.3 +0.4
baz=65
H22A Clearmont 65.59 50 P P 00 18 30.9 -0.2
baz=65
I21A Big Trails, Te 65.61 52 P P 00 18 31.3 0.0
baz=65
E25A Miller Ranch, 65.84 47 P P 00 18 33.2 +0.6
baz=66
BFSC Mount Baldy Ra 65.84 65 P P 00 18 33.8 +0.9
baz=66
I22A 9 Mile Ranch, 65.99 51 P P 00 18 34.1 +0.4
baz=66
TUQ Turquoise Moun 66.14 63 P P 00 18 35.5 +0.7
baz=66
F25A Bowman 66.20 48 P P 00 18 35.0 +0.1
baz=66
A29A Manning Farm, 66.21 43 P P 00 18 35.3 +0.4
baz=66
E26A Carlson Angus 66.33 47 P P 00 18 35.6 -0.2
baz=66
K21A Alcova 66.42 52 P P 00 18 36.9 +0.3
baz=66
H24A Dirks Ranch, A 66.44 49 P P 00 18 36.5 0.0
baz=66
B29A Wagenman Farm, 66.47 44 P P 00 18 37.2 +0.6
baz=66
A30A Hoffart Farm, 66.64 43 P P 00 18 37.7 +0.1
baz=66
F26A Lodgepole 66.65 47 P P 00 18 37.7 -0.1
baz=66
HYB Hyderabad 66.72 271 *i* P **P 00 18 38.0 -0.6**
ULM Lac du Bonnet 66.82 41 P P 00 18 38.4 -0.3
ULM Lac du Bonnet 66.82 41 P P 00 18 38.4 -0.3
comp=Z,1.0nm,0.5s,baz=319,slow=8.8,SNR=9.6
B30A Myrvik Farm, E 66.97 43 P P 00 18 40.2 +0.4
baz=67
G26A Maurine 67.07 48 P P 00 18 40.6 +0.1
baz=67
G27A Dupree 67.35 47 P P 00 18 41.9 -0.4
baz=67
IRM Iron Mountain 67.45 64 P P 00 18 43.7 +0.6
baz=67
NB2 NORSAR Subarra 68.27 341 P P 00 18 47.1 -0.7
comp=Z,13nm,0.7s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.27 341 P P 00 18 47.1 -0.7
baz=28,slow=6.5
NOA NORSAR Array B 68.27 341 P P 00 18 47.0 -0.7
NOA NORSAR Array B 68.27 341 P P 00 18 47.0 -0.7
comp=Z,12nm,0.7s,baz=28,slow=6.5,SNR=75
NOA LR LR 00 52 19.7
comp=Z,38nm,19.1s,baz=30,slow=39
WRA Warramunga Arr 68.28 199 P P 00 18 47.6 -0.6
WRA Warramunga Arr 68.28 199 P P 00 18 47.6 -0.6
comp=Z,2.0nm,0.8s,baz=16,slow=6.7,SNR=13
PV10 Paradox Valley 68.29 57 eP P 00 18 49.6 +1.0
NBO02 NORSAR Array S 68.35 341 eP P 00 18 47.1 -1.0
PV05 Paradox Valley 68.45 57 eP P 00 18 49.9 +0.3
PV01 Paradox Valley 68.72 57 eP P 00 18 52.9 +1.7
NACGM Naroch 69.05 330 *e* P **P 00 18 50.0 -2.6**
KIV Kislovodsk 70.70 314 eP P 00 19 03.4 +0.3
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,87nm,18.0s
KBZ Khabaz 70.76 314 LR LR 00 53 45.5
comp=Z,50nm,18.1s,baz=32,slow=39
ECSD EROS Data Cent 71.19 46 P P 00 19 05.7 -0.3
baz=71
R26A Arlington 71.51 54 P P 00 19 07.8 -0.3
baz=71
AKASG Malin Array Be 71.51 326 *ce* P **P 00 19 06.6 -1.1**
AKASG pmax pmax
comp=Z,19nm,0.4s
AKASG Malin Array Be 71.51 326 P P 00 19 06.7 -1.0
AKASG Malin Array Be 71.51 326 P P 00 19 06.7 -1.0
comp=Z,18nm,0.4s,baz=36,slow=6.4,SNR=117
AKASG LR LR 00 53 00.1
comp=Z,96nm,18.1s,baz=35,slow=38
KIEV Kiev 71.52 326 *c i* P **P 00 19 06.6 -1.2**
KIEV Kiev 71.52 326 eP P 00 19 06.6 -1.2
comp=Z,18nm,0.7s
AK11 Malin Array Si 71.55 326 eP P 00 19 07.0 -1.0
T25A Trinidad 71.79 55 P P 00 19 10.4 +0.4
baz=72
SPMN St. Paul 71.91 43 P P 00 19 09.6 -0.7
baz=72
ASAR Alice Springs 71.98 198 P P 00 19 11.6 +0.8
ASAR Alice Springs 71.98 198 P P 00 19 11.6 +0.8
comp=Z,2.4nm,0.5s,baz=10,slow=5.6,SNR=41
T26A Comanche Natio 72.22 55 P P 00 19 12.1 -0.5
baz=72
U25A Circle Dot Ran 72.31 56 P P 00 19 13.0 -0.1
baz=72
Q30A Quinter 72.79 51 P P 00 19 15.6 0.0
baz=73
S28A Manter 72.87 53 P P 00 19 16.5 +0.2
baz=73
GKP Gorka Klasztor 73.51 334 eP P 00 19 18.9 -0.7
GKP Gorka Klasztor 73.51 334 eP P 00 19 18.9 -0.7
SCHQ Schefferville 73.55 23 P P 00 19 19.6 -0.3
SCHQ Schefferville 73.55 23 P P 00 19 19.6 -0.3
comp=Z,1.5nm,0.4s,baz=320,slow=7.4,SNR=5.9
BEL Belsk 73.60 331 eP P 00 19 20.5 +0.3
BEL Belsk 73.60 331 eP P 00 19 20.5 +0.3
Q33A Connelly Farm, 74.04 50 P P 00 19 22.3 -0.7

baz=74
KWP Kalwaria Pacla 74.80 329 eP P 00 19 27.6 +0.3
KWP Kalwaria Pacla 74.80 329 eP P 00 19 27.5 +0.3
KWP Kalwaria Pacla 74.80 329⇑iP P 00 19 27.5 +0.3
Z27A Tatum 75.20 57 P P 00 19 30.1 +0.2
baz=75
PRAR RASCA 75.37 326⇓iP P 00 19 30.0 -0.5
STHS Stebnicka Huta 75.50 330 eP P 00 19 32.1 +0.8
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 75.50 330 eP P 00 19 32.1 +0.8
KOLS Kolonicke sedl 75.54 329 eP P 00 19 31.0 -0.5
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 75.54 329 eP P 00 19 31.0 -0.5
BUR04 Bucovina Ar. S 75.55 326 eP P 00 19 31.6 -0.1
BURAR Bucovina Array 75.55 326⇑iP P 00 19 31.5 -0.2
NIE Niedzica 75.82 330 eP P 00 19 33.3 +0.2
NIE Niedzica 75.82 330 eP P 00 19 33.3 +0.2
CRVS Cervenica-Dubn 75.86 329 eP P 00 19 33.0 -0.3
CRVS pmax pmax
comp=Z,4.0nm,0.6s
CRVS Cervenica-Dubn 75.86 329 eP P 00 19 33.0 -0.3
TESR Tescani 75.90 325⇑iP P 00 19 33.3 -0.3
KSP Ksiaz 75.91 333⇑eP P 00 19 33.2 -0.3
KSP Ksiaz 75.91 333 eP P 00 19 33.1 -0.4
TLCR 76.10 323⇑iP P 00 19 34.9 +0.2
Z29A Hungry Hill Ra 76.11 56 P P 00 19 35.0 -0.1
baz=76
TRPA Tarpa 76.12 328⇑iP P 00 19 35.1 +0.3
TRPA Tarpa 76.12 328⇓eP P 00 19 35.2 +0.4
OKC Ostrava-Krasne 76.19 332 eP P 00 19 34.7 -0.4
OKC Ostrava-Krasne 76.19 332 eP P 00 19 34.7 -0.4
NRDL Niedersach Rie 76.21 338 eP P 00 19 35.0 -0.1
comp=Z,8.0nm,0.8s
UPC Upice 76.28 333 eP P 00 19 35.8 +0.1
UPC Upice 76.28 333 eP P 00 19 35.8 +0.1
PETR Petresti 76.31 324⇑iP P 00 19 36.9 +1.0
DPC Dobruska-Polom 76.33 333 eP P 00 19 36.1 +0.1
DPC e 00 19 42.3
DPC Dobruska-Polom 76.33 333 eP P 00 19 36.1 +0.1
DPC ex x 00 19 42.3
DPC Dobruska-Polom 76.33 333 eP P 00 19 35.9 -0.1
comp=Z,53nm,1.0s
CFR Carcaliu 76.39 323⇑iP P 00 19 36.1 -0.2
VRI Vrincioaia 76.40 324⇓iP P 00 19 36.4 0.0
KRLC Kraliky 76.42 333 eP P 00 19 36.2 -0.3
KRLC Kraliky 76.42 333 eP P 00 19 36.2 -0.3
MORC Moravsky Berou 76.44 332 eP P 00 19 35.5 -1.1
MORC pmax pmax
comp=Z,11nm,0.8s
MORC Moravsky Berou 76.44 332⇑iP P 00 19 36.7 +0.1
MORC Moravsky Berou 76.44 332 eP P 00 19 35.5 -1.1
comp=Z,11nm,0.8s
PLOR Plostina 76.44 324⇓iP P 00 19 36.9 +0.2
CLL Collm 76.48 335⇑iP P 00 19 35.9 -0.9
CLL pmax pmax
comp=Z,21nm,0.7s
CLL Collm 76.48 335 eP P 00 19 36.1 -0.7
comp=Z,21nm,0.7s
CLL Collm 76.48 335⇑iP P 00 19 35.9 -0.9
comp=Z,21nm,0.7s
UOSS Wadi Hilu 76.53 292 P P 00 19 37.2 -0.3
comp=Z,138nm,0.8s,SNR=9.3
KECS Kecovo 76.56 330 eP P 00 19 36.9 -0.4
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 76.56 330 eP P 00 19 36.9 -0.4
BRG Berggiesshubel 76.59 335 iP P 00 19 36.9 -0.5
comp=Z,8.7nm,1.1s
BRG Berggiesshubel 76.59 335 iP P 00 19 36.9 -0.5
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 76.59 335 eP P 00 19 36.9 -0.5
comp=Z,9.0nm,1.1s
HATD Hatta, Dubai 76.66 292⇑iP P 00 19 38.4 +0.1
SNR=15
PVCC Panska Ves 76.71 334 eP P 00 19 36.2 -1.9
PVCC Panska Ves 76.71 334 eP P 00 19 36.2 -1.9
CLZ Clausthal 76.73 337 eP P 00 19 38.4 +0.2
comp=Z,18nm,0.9s
328A Wristen Ranch, 76.83 58 P P 00 19 39.2 0.0
baz=77
NAZ Nazwa, Dubai 76.84 292⇓iP P 00 19 39.4 +0.1
SNR=6.0
CJR Cluj-Napoca 76.92 327⇑iP P 00 19 39.7 +0.3
Z31A Sharp Cattle R 76.95 55 P P 00 19 39.9 +0.1
baz=77
IBBN Ibbenburen 76.99 339 eP P 00 19 39.5 -0.1
comp=Z,14nm,0.7s
MLR Muntele Rosu 77.02 325⇑iP P 00 19 40.7 +0.6
FAQ Al Faqa, Dubai 77.06 292⇑iP P 00 19 40.3 -0.2
SNR=9.0
ISR Istrita 77.09 324⇑iP P 00 19 40.9 +0.5
VRAC Vranov 77.15 332⇑iP P 00 19 40.8 +0.2
DRGR 77.19 327⇑iP P 00 19 40.6 -0.3
PRU Pruhonice 77.19 334 eP P 00 19 40.3 -0.5
PRU Pruhonice 77.19 334 eP P 00 19 40.3 -0.5
PSZ Piszkesteto 77.25 330 eP P 00 19 40.4 -0.8
PSZ pmax pmax
comp=Z,8.0nm,0.9s
PSZ Piszkesteto 77.25 330 eP P 00 19 40.4 -0.8
comp=Z,8.3nm,0.9s
ASUD Al Ashush, Dub 77.31 292⇑iP P 00 19 42.2 +0.3
SNR=9.5
Z32A Haskell 77.34 55 P P 00 19 42.0 +0.1
baz=77
MSAB Monastry St. A 77.40 323⇑iP P 00 19 42.4 +0.4
TUL1 Tulsa 77.42 51 P P 00 19 42.1 -0.2
baz=77
TREC Trest 77.51 333 eP P 00 19 42.4 -0.2
TREC Trest 77.51 333 eP P 00 19 42.4 -0.2
WTSB Winterswijk 77.54 339 eP P 00 19 42.3 -0.4
comp=Z,25nm,0.7s
SMOL Smolenice 77.57 331 eP P 00 19 43.4 +0.5
SMOL Smolenice 77.57 331 eP P 00 19 43.4 +0.5
ARR Arges 77.64 325⇑iP P 00 19 44.5 +1.0
UBBA Unterbreizbach 77.76 337 eP P 00 19 43.4 -0.4
comp=Z,5.0nm,0.9s
TX31 Lajitas Ar. Si 77.81 60 eP P 00 19 45.0 +0.3
TXAR Lajitas Array 77.81 60 P P 00 19 45.1 +0.3
TXAR Lajitas Array 77.81 60 P P 00 19 45.1 +0.3
comp=Z,1.9nm,0.6s,baz=302,slow=4.0,SNR=19
BUG Bochum--Univer 77.90 339 eP P 00 19 44.3 -0.4
comp=Z,68nm,2.0s
BUD Budapest 77.92 330⇑eP P 00 19 45.2 +0.3
SIRR Siria 78.02 328⇑iP P 00 19 45.8 +0.3
ROTZ Rotzenmuhle 78.09 335 eP P 00 19 46.1 +0.3
comp=Z,12nm,1.1s
PKSN Nyarlorinc 78.13 329⇓eP P 00 19 46.2 +0.2
430A Baggett Ranch, 78.19 58 P P 00 19 46.9 +0.1
baz=78
PKSG 78.22 330⇓eP P 00 19 47.1 +0.6
KHC Kasperske Hory 78.25 334 eP P 00 19 46.8 +0.1
KHC e 00 19 53.8
KHC Kasperske Hory 78.25 334 eP P 00 19 46.8 +0.1
KHC ex x 00 19 50.9
KHC ePCP PcP 00 19 53.8 -2.3
KHC Kasperske Hory 78.25 334 eP P 00 19 46.2 -0.5
comp=Z,14nm,0.8s
PKS7 Kunszentmiklos 78.25 330⇓eP P 00 19 47.4 +0.7
CSKK Cs^tkako 78.29 330⇓eP P 00 19 47.4 +0.5
232A Coleman 78.29 56 P P 00 19 47.5 +0.2
baz=78
BRTR Keskin Array B 78.30 316 P P 00 19 47.3 -0.1
BRTR Keskin Array B 78.30 316 P P 00 19 47.3 -0.1
comp=Z,7.2nm,0.8s,baz=80,slow=3.8,SNR=28
GZR Gura Zlata 78.34 327⇑iP P 00 19 47.0 -0.3
GRF Grafenberg Arr 78.44 336 eP P 00 19 48.0 +0.2
comp=Z,27nm,0.8s
WET Wettzell 78.44 334 eP P 00 19 48.0 +0.2
comp=Z,15nm,1.0s
PKST T^s 78.45 330⇓eP P 00 19 47.9 0.0
GEC2 GERESS Array S 78.46 334 eP P 00 19 47.6 -0.4
comp=Z,6.0nm,0.7s
GERES GERESS Array B 78.46 334 P P 00 19 47.3 -0.7
GERES GERESS Array B 78.46 334 P P 00 19 47.3 -0.7
comp=Z,4.4nm,0.6s,baz=34,slow=5.3,SNR=60
GERES LR LR 00 58 56.7
comp=Z,68nm,18.2s,baz=66,slow=39
Z35A Perchaven, San 78.56 53 P P 00 19 48.7 0.0
baz=78
SOP Sopron 78.58 331⇓eP P 00 19 49.4 +0.9
BZS Buzias 78.58 327⇑iP P 00 19 48.7 +0.1
ANTO Ankara 78.59 317 eP P 00 19 48.0 -0.9
ANTO pmax pmax
comp=Z,15nm,0.7s
ANTO Ankara 78.59 317⇑iP P 00 19 49.5 +0.7
ANTO Ankara 78.59 317 eP P 00 19 48.0 -0.9
comp=Z,15nm,0.7s
CONA Conrad Observa 78.59 332⇑iP P 00 19 49.1 +0.3
comp=Z,12nm,0.6s,SNR=8.6
530A J-C Ranch, Com 78.59 58 P P 00 19 49.7 +0.7
baz=78
332A Millersview 78.61 56 P P 00 19 49.3 +0.2
baz=78
BR231 Keskin MP Arra 78.62 317 eP P 00 19 48.0 -1.0
TNS Taunus Mts 78.72 338 eP P 00 19 49.5 +0.2
comp=Z,15nm,0.7s
HGN Heimansgroeve 78.86 339 eP P 00 19 49.0 -1.0
comp=Z,15nm,0.8s
BEBN Eben Emael 78.89 339 P P 00 19 50.0 -0.1
PKS9 Tamasi 78.95 330⇓eP P 00 19 50.0 -0.6
432A Menard 78.96 57 P P 00 19 51.2 +0.2
baz=79
MEM Membach 78.98 339 P P 00 19 50.7 0.0
comp=Z,12nm,0.9s
MEM Membach 78.98 339 eP P 00 19 49.0 -1.7
MEM pmax pmax
comp=Z,22nm,0.9s
MEM Membach 78.98 339 eP P 00 19 49.0 -1.7
comp=Z,22nm,0.9s
135A Vickery Place, 79.06 54 P P 00 19 52.0 +0.6
baz=79
PKSM Moragy 79.15 329⇑iP P 00 19 51.8 +0.1
PKSM Moragy 79.15 329⇓eP P 00 19 51.1 -0.6
MOA Molln 79.17 333⇑iP P 00 19 51.9 +0.1
comp=Z,8.1nm,0.7s,SNR=6.7
JCT Junction City 79.24 57 eP P 00 19 51.5 -1.1
JCT pmax pmax
comp=Z,19nm,1.4s
JCT Junction City 79.24 57 eP P 00 19 51.5 -1.1
comp=Z,19nm,1.4s
JCT Junction City 79.24 57 P P 00 19 53.1 +0.6
baz=79
ARSA Arzberg 79.30 332⇑iP P 00 19 52.6 +0.1
comp=Z,4.9nm,0.5s
BCLA Clavier 79.33 339 P P 00 19 52.8 +0.2
comp=Z,10nm,1.6s
SIUC Southern Illin 79.41 45 eP P 00 19 52.5 -0.7
comp=Z,9.4nm,0.8s
532A Rocksprings 79.44 57 P P 00 19 53.9 +0.2
baz=79
631A Perdido Creek 79.58 58 P P 00 19 54.8 +0.4
baz=79
RJOB Jochberg 79.72 334 eP P 00 19 55.1 +0.2
comp=Z,10.0nm,0.9s
GIVF Givet 79.74 340 eP P 00 19 54.4 -0.4
comp=Z,10nm,0.7s
GIVF Givet 79.74 340 eP P 00 19 54.4 -0.4
GIVF pmax pmax
comp=Z,10.0nm,0.7s
GIVF Givet 79.74 340 eP P 00 19 54.4 -0.4
comp=Z,10nm,0.7s
FUR Furstenfeldbru 79.79 335 eP P 00 19 55.2 0.0
comp=Z,18nm,0.8s
DOU Dourbes 79.80 340 P P 00 19 54.6 -0.6
STU Stuttgart 79.84 336 eP P 00 19 55.4 0.0
comp=Z,17nm,0.9s
BAIF Baives 79.93 340 eP P 00 19 55.4 -0.4
comp=Z,6.2nm,0.6s
BAIF Baives 79.93 340 eP P 00 19 55.4 -0.4
BAIF pmax pmax
comp=Z,6.0nm,0.6s
BAIF Baives 79.93 340 eP P 00 19 55.4 -0.4
comp=Z,6.2nm,0.6s
SOKA Soboth 79.96 332⇑iP P 00 19 56.0 -0.3
comp=Z,16nm,0.9s,SNR=5.3
PERS Pernice 79.97 332 iP P 00 19 56.2 0.0
KBA Koelnbreinsper 80.14 333⇑iP P 00 19 57.5 +0.2
comp=Z,24nm,0.6s,SNR=13
FORT Forrest 80.18 201 eP P 00 19 57.8 +0.6
comp=Z,26nm,0.7s
WATA Walderalm 80.45 334⇑iP P 00 19 59.3 +0.3
comp=Z,15nm,0.5s,SNR=21
BFO Black Forest 80.48 337 P P 00 19 58.1 -0.8
comp=Z,86nm,1.0s,SNR=6.3
BFO Black Forest 80.48 337 iP P 00 19 59.0 +0.1
BFO Black Forest 80.48 337 eP P 00 19 58.5 -0.4
comp=Z,15nm,0.9s
BFO Black Forest 80.48 337 eP P 00 19 58.0 -0.8
comp=Z,12nm,0.9s
WTTA Wattenberg 80.50 334⇑iP P 00 19 59.5 +0.3
comp=Z,25nm,0.5s,SNR=11
VTS Vitosha 80.53 325⇑iP P 00 19 59.4 0.0
RETA Reutte 80.56 335⇑iP P 00 19 59.3 -0.1
comp=Z,8.9nm,0.7s
CRES Cresnjev 80.57 331 iP P 00 19 59.2 -0.2
MOTA Moosalm 80.58 335⇑iP P 00 19 59.8 +0.1
comp=Z,12nm,0.6s,SNR=15
CDF Champ du Feu 80.68 337 eP P 00 19 59.7 -0.4
comp=Z,32nm,0.9s
CDF Champ du Feu 80.68 337 eP P 00 19 59.7 -0.4
CDF pmax pmax
comp=Z,32nm,0.9s
CDF Champ du Feu 80.68 337 eP P 00 19 59.7 -0.4
comp=Z,32nm,0.9s
VISS Visnje 80.80 332 iP P 00 20 00.0 -0.6
BOJS Bojanci 80.92 331 eP P 00 20 01.1 -0.1
PAGF Fort de Pagny 80.95 338⇑iP P 00 20 01.5 +0.1
comp=Z,12nm,0.7s
PAGF Fort de Pagny 80.95 338⇑iP P 00 20 01.5 +0.1
comp=Z,12nm,0.6s
JAVS Javornik 80.97 332 iP P 00 20 00.7 -0.9
FETA Feichten 80.99 335⇑iP P 00 20 01.4 -0.4
comp=Z,7.2nm,0.8s
DAVA Damuels 80.99 335⇑iP P 00 20 01.6 -0.2
comp=Z,12nm,0.8s
MMB Musomiste 81.16 324⇓iP P 00 20 02.8 +0.1
MEZF Maizieres J'vi 81.17 339⇑iP P 00 20 02.5 0.0
comp=Z,29nm,0.8s
MEZF Maizieres J'vi 81.17 339⇑iP P 00 20 02.5 0.0
comp=Z,29nm,0.8s
PMOR Pomariorio Ree 81.21 123 eT T 01 49 43.5
comp=Z,31nm,0.2s
HAU Haudompre 81.30 338⇑iP P 00 20 02.8 -0.5
comp=Z,16nm,0.8s
HAU eR
comp=Z,136nm,19.5s
HAU Haudompre 81.30 338⇑iP P 00 20 02.8 -0.5
HAU pmax pmax
comp=Z,16nm,0.8s
HAU Haudompre 81.30 338⇑iP P 00 20 02.8 -0.5
comp=Z,16nm,0.8s
HINF Hinteralfeld 81.34 337 eP P 00 20 02.8 -0.7
comp=Z,12nm,0.9s
HINF Hinteralfeld 81.34 337 eP P 00 20 02.8 -0.7
HINF pmax pmax
comp=Z,12nm,0.9s
HINF Hinteralfeld 81.34 337 eP P 00 20 02.8 -0.7
comp=Z,12nm,0.9s
SFTF Sexfontaines 81.45 339⇑iP P 00 20 03.8 -0.2
comp=Z,30nm,0.5s
SFTF Sexfontaines 81.45 339⇑iP P 00 20 03.8 -0.2
comp=Z,30nm,0.5s
FUORN Ofenpass-Fuorn 81.49 335 eP P 00 20 04.5 -0.1
comp=Z,9.5nm,1.0s
FLN La Foliniere 82.19 342 eP P 00 20 07.5 -0.4
FLN eR
comp=Z,98nm,19.2s
FLN La Foliniere 82.19 342 eP P 00 20 07.5 -0.4
FLN La Foliniere 82.19 342 eP P 00 20 07.5 -0.4
CSS Prodhromos 82.22 314 eP P 00 20 08.4 +0.1
comp=Z,64nm,1.4s
LDF La Druitiere 82.27 342 eP P 00 20 07.9 -0.4
LDF La Druitiere 82.27 342 eP P 00 20 07.9 -0.4
LDF La Druitiere 82.27 342 eP P 00 20 07.9 -0.4
PPT2 Papeete2 82.32 126 eLR LR 00 46 10.2
comp=Z,118nm,23.8s
PPT2 Papeete2 82.32 126 eT T 01 51 06.6
comp=Z,2.5nm,0.2s
PAE Paea 82.38 126 eT T 01 51 10.1
comp=Z,0.8nm,0.3s
LOR Lormes 82.61 339⇑iP P 00 20 09.8 -0.4
comp=Z,13nm,0.7s
LOR eR
comp=Z,159nm,18.8s
LOR Lormes 82.61 339⇑iP P 00 20 09.8 -0.4
comp=Z,13nm,0.7s
GRR Gorron 82.62 343 eP P 00 20 09.9 -0.3
comp=Z,26nm,0.8s
GRR Gorron 82.62 343 eP P 00 20 09.9 -0.3
GRR pmax pmax
comp=Z,26nm,0.8s
GRR Gorron 82.62 343 eP P 00 20 09.9 -0.3
comp=Z,26nm,0.8s
CABF La Chapelle 82.66 338 eP P 00 20 10.3 -0.2
comp=Z,10nm,0.8s
CABF La Chapelle 82.66 338 eP P 00 20 10.3 -0.2
CABF pmax pmax
comp=Z,10.0nm,0.8s
CABF La Chapelle 82.66 338 eP P 00 20 10.3 -0.2
comp=Z,10nm,0.8s
SSF Saint Saulge 82.89 339 eP P 00 20 11.2 -0.4
comp=Z,9.8nm,0.9s
SSF Saint Saulge 82.89 339 eP P 00 20 11.2 -0.4
SSF pmax pmax
comp=Z,10.0nm,0.9s
SSF Saint Saulge 82.89 339 eP P 00 20 11.2 -0.4
comp=Z,9.8nm,0.9s
SGMF Saint Gilles 83.09 344 eP P 00 20 12.2 -0.4
SGMF Saint Gilles 83.09 344 eP P 00 20 12.2 -0.4
SGMF Saint Gilles 83.09 344 eP P 00 20 12.2 -0.4
ROSF Rostrenen 83.15 344⇑iP P 00 20 12.6 -0.3
comp=Z,20nm,0.9s
ROSF Rostrenen 83.15 344⇑iP P 00 20 12.6 -0.3
ROSF pmax pmax
comp=Z,20nm,0.9s
ROSF Rostrenen 83.15 344⇑iP P 00 20 12.6 -0.3
comp=Z,20nm,0.9s
AVF Avril sur Loir 83.18 339⇑iP P 00 20 12.9 -0.2
comp=Z,21nm,0.8s
AVF Avril sur Loir 83.18 339⇑iP P 00 20 12.9 -0.2
AVF pmax pmax
comp=Z,21nm,0.8s
AVF Avril sur Loir 83.18 339⇑iP P 00 20 12.9 -0.2
comp=Z,21nm,0.8s
SMF Signal de Mont 83.20 339 eP P 00 20 13.0 -0.2
comp=Z,46nm,1.1s
SMF Signal de Mont 83.20 339 eP P 00 20 13.0 -0.2
SMF pmax pmax
comp=Z,46nm,1.1s
SMF Signal de Mont 83.20 339 eP P 00 20 13.0 -0.2
comp=Z,46nm,1.1s
LPL La Plagne 83.49 337 eP P 00 20 15.3 +0.3
comp=Z,9.5nm,0.6s
LPL La Plagne 83.49 337 eP P 00 20 15.3 +0.3
LPL pmax pmax
comp=Z,10.0nm,0.6s
LPL La Plagne 83.49 337 eP P 00 20 15.3 +0.3
comp=Z,9.5nm,0.6s
LPG La Plagne 83.51 337⇑iP P 00 20 15.5 +0.3
comp=Z,8.7nm,0.6s
LPG La Plagne 83.51 337⇑iP P 00 20 15.5 +0.3
LPG pmax pmax
comp=Z,9.0nm,0.6s
LPG La Plagne 83.51 337⇑iP P 00 20 15.5 +0.3
comp=Z,8.7nm,0.6s
BGF Bois d'Agland 83.52 340 eP P 00 20 14.6 -0.3
comp=Z,7.1nm,0.6s
BGF Bois d'Agland 83.52 340 eP P 00 20 14.6 -0.3
BGF pmax pmax
comp=Z,7.0nm,0.6s
BGF Bois d'Agland 83.52 340 eP P 00 20 14.6 -0.3
comp=Z,7.1nm,0.6s
QUIF Quistinic 83.53 344 eP P 00 20 14.4 -0.4
QUIF Quistinic 83.53 344 eP P 00 20 14.4 -0.4
QUIF Quistinic 83.53 344 eP P 00 20 14.4 -0.4
TCF Toulx Ste Croi 83.93 340⇑iP P 00 20 16.8 -0.2
comp=Z,3.1nm,0.5s
TCF Toulx Ste Croi 83.93 340⇑iP P 00 20 16.8 -0.2
TCF pmax pmax
comp=Z,3.0nm,0.5s
TCF Toulx Ste Croi 83.93 340⇑iP P 00 20 16.8 -0.2
comp=Z,3.1nm,0.5s
MFF Saint Martin d 84.17 342 eP P 00 20 17.8 -0.4
comp=Z,10nm,0.8s
MFF Saint Martin d 84.17 342 eP P 00 20 17.8 -0.4
MFF pmax pmax
comp=Z,11nm,0.8s
MFF Saint Martin d 84.17 342 eP P 00 20 17.8 -0.4
comp=Z,10nm,0.8s
MBDF Montbardon 84.21 336 eP P 00 20 18.2 -0.4
comp=Z,7.3nm,0.5s
MBDF Montbardon 84.21 336 eP P 00 20 18.2 -0.4
MBDF pmax pmax
comp=Z,7.0nm,0.5s
MBDF Montbardon 84.21 336 eP P 00 20 18.2 -0.4
comp=Z,7.3nm,0.5s
ORIF Oris-en-Rattie 84.28 337⇑iP P 00 20 19.2 +0.3
comp=Z,15nm,0.7s
ORIF eR
comp=Z,98nm,18.5s
ORIF Oris-en-Rattie 84.28 337⇑iP P 00 20 19.2 +0.3
ORIF pmax pmax
comp=Z,15nm,0.7s
ORIF Oris-en-Rattie 84.28 337⇑iP P 00 20 19.2 +0.3
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 84.66 338 eP P 00 20 20.9 +0.2
comp=Z,13nm,1.0s
VIVF Saint-Julien-l 84.66 338 eP P 00 20 20.9 +0.2
VIVF pmax pmax
comp=Z,13nm,1.0s
VIVF Saint-Julien-l 84.66 338 eP P 00 20 20.9 +0.2
comp=Z,13nm,1.0s
SBF Sospel 84.82 336 eP P 00 20 20.9 -0.7
SBF Sospel 84.82 336 eP P 00 20 20.9 -0.7
SBF Sospel 84.82 336 eP P 00 20 20.9 -0.7
RJF Les Rejaudoux 85.02 340 eP P 00 20 22.4 -0.1
comp=Z,3.5nm,0.6s
RJF eR
comp=Z,117nm,22.0s
RJF Les Rejaudoux 85.02 340 eP P 00 20 22.4 -0.1
RJF pmax pmax
comp=Z,4.0nm,0.6s
RJF Les Rejaudoux 85.02 340 eP P 00 20 22.4 -0.1
comp=Z,3.5nm,0.6s
SMRF Simiane la Rot 85.23 337 eP P 00 20 23.2 -0.4
comp=Z,3.6nm,0.6s
SMRF Simiane la Rot 85.23 337 eP P 00 20 23.2 -0.4
comp=Z,3.6nm,0.6s
CAF Calviac 85.25 340 eP P 00 20 23.4 -0.3
comp=Z,3.8nm,0.5s
CAF Calviac 85.25 340 eP P 00 20 23.4 -0.3
CAF pmax pmax
comp=Z,4.0nm,0.5s
CAF Calviac 85.25 340 eP P 00 20 23.4 -0.3
comp=Z,3.8nm,0.5s
LFF La Frestale 85.54 340 eP P 00 20 24.4 -0.7
LFF La Frestale 85.54 340 eP P 00 20 24.4 -0.7
LFF La Frestale 85.54 340 eP P 00 20 24.4 -0.7
PGF Pioggiola 85.56 334 eP P 00 20 24.0 -1.4
comp=Z,18nm,0.9s
PGF Pioggiola 85.56 334 eP P 00 20 24.0 -1.4
PGF pmax pmax
comp=Z,18nm,0.9s
PGF Pioggiola 85.56 334 eP P 00 20 24.0 -1.4
comp=Z,18nm,0.9s
LMR La Mourre 85.57 336 eP P 00 20 25.1 -0.1
comp=Z,35nm,1.1s
LMR La Mourre 85.57 336 eP P 00 20 25.1 -0.1
LMR pmax pmax
comp=Z,35nm,1.0s
LMR La Mourre 85.57 336 eP P 00 20 25.1 -0.1
comp=Z,35nm,1.0s
LASF Ste Croix 85.59 338 eP P 00 20 25.0 -0.4
comp=Z,16nm,1.2s
LASF Ste Croix 85.59 338 eP P 00 20 25.0 -0.4
comp=Z,16nm,1.2s
TIP Timpagrande 85.95 327 eP P 00 20 27.0 -0.4
comp=Z,6.6nm,0.9s
MTLF Montolieu 86.70 339 eP P 00 20 31.1 +0.3
MTLF Montolieu 86.70 339 eP P 00 20 31.1 +0.3
MTLF Montolieu 86.70 339 eP P 00 20 31.1 +0.3
TBI Tubuai 87.03 129 eT T 01 56 57.9
comp=Z,25nm,0.2s
EPF Esparros 87.44 340 eP P 00 20 32.9 -1.6
EPF Esparros 87.44 340 eP P 00 20 32.9 -1.6
EPF Esparros 87.44 340 eP P 00 20 32.9 -1.6
ETSF Etsaut 87.78 341 eP P 00 20 35.5 -0.6
ETSF Etsaut 87.78 341 eP P 00 20 35.5 -0.6
ETSF Etsaut 87.78 341 eP P 00 20 35.5 -0.6
ESDC Sonseca Array 91.61 342 P P 00 20 52.5 -1.6
ESDC Sonseca Array 91.61 342 P P 00 20 52.5 -1.6
comp=Z,2.1nm,0.9s,baz=359,slow=4.0,SNR=8.2
KEST Kesra 91.66 331 P P 00 20 53.1 -1.4
KEST Kesra 91.66 331 P P 00 20 53.1 -1.4

comp=Z,1.0nm,0.6s,baz=27,slow=9.0,SNR=7.0
TORD Torodi Ar. Bea 115.07 329 PKP **PKPdf 00 26 27.5 -1.0**
TORD Torodi Ar. Bea 115.07 329 PKP **PKPdf 00 26 27.5 -1.0**
comp=Z,0.8nm,0.6s,baz=30,slow=1.9,SNR=21
LSZ Lusaka 124.52 285 PKP **PKPdf 00 26 46.6 0.0**
LSZ Lusaka 124.52 285 PKP **PKPdf 00 26 46.6 0.0**
comp=Z,1.0nm,0.4s,baz=49,slow=5.6,SNR=8.2
LPAZ La Paz 134.66 62 PKP **PKPdf 00 27 08.4 +2.0**
LPAZ La Paz 134.66 62 PKP **PKPdf 00 27 08.4 +2.0**
comp=Z,0.8nm,0.8s,baz=73,slow=0.8,SNR=5.2
QSPA South Pole Qui 136.34 180 PKP **PKPdf 00 27 08.2 +0.9**
QSPA South Pole Qui 136.34 180 PKP **PKPdf 00 27 08.2 +0.9**
comp=Z,1.2nm,0.6s,baz=300,slow=1.2,SNR=7.4
H03N2 Juan Fernandez 139.03 90 T T 03 02 33.4
baz=305,slow=75,SNR=244
H03N1 Juan Fernandez 139.05 90 T T 03 02 34.6
baz=305,slow=75,SNR=234
H03N3 Juan Fernandez 139.05 90 T T 03 02 24.2
baz=305,slow=75,SNR=259
BDFB Brasilia 144.62 36 PKP **PKPab 00 27 22.4 -0.1**
BDFB Brasilia 144.62 36 PKP **PKPab 00 27 22.4 -0.1**
comp=Z,3.6nm,0.6s,baz=267,slow=7.2,SNR=8.8
CFAA Coronel Fontan 145.30 79 PKPbc **PKPbc 00 27 24.2 -0.3**
CFAA Coronel Fontan 145.30 79 PKPbc **PKPbc 00 27 24.2 -0.3**
comp=Z,1.7nm,0.7s,baz=278,slow=3.1,SNR=34
PLCA Paso Flores 148.47 95 PKPbc **PKPbc 00 27 33.6 +0.3**
PLCA Paso Flores 148.47 95 PKPbc **PKPbc 00 27 33.6 +0.3**
comp=Z,4.8nm,0.9s,baz=265,slow=3.6,SNR=7.2
CPUP Villa Florida 148.78 60 PKPbc **PKPbc 00 27 34.5 +0.1**
CPUP Villa Florida 148.78 60 PKPbc **PKPbc 00 27 34.5 +0.1**
comp=Z,4.2nm,0.8s,baz=263,slow=3.2,SNR=6.7
SNAA Sanae 152.33 196 P **PKPbc 00 27 41.3 -0.3**
SNAA Sanae 152.33 196 PKPbc **PKPbc 00 27 41.0 -0.6**
SNAA Sanae 152.33 196 PKPbc **PKPbc 00 27 41.0 -0.6**
comp=Z,1.3nm,0.7s,baz=185,slow=5.1,SNR=13
VNA2 Neumayer--Watz 153.79 195 P **PKPbc 00 27 44.7 +0.1**
VNA1 Neumayer--Stat 154.18 194 P **PKPbc 00 27 45.6 +0.1**

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*ISCJB **25** 00:13:49.4±0.7,38.7°S±0.1×78.3°E±0.2,h10km,mb4.3/14, MS4.1/15,Error ellipse: s-maj=22.6km s-min=16.1km az=34.9*
*IDC **25** 00:13:49.3±0.9,38.56°S×78.25°E,h0km,mb4.1/9, mb1 4.3/9,mb1mx4.1/23,mbtmp4.1/9,MS4.0/15, Ms1 4.0/15,ms1mx3.8/24,Error ellipse: s-maj=30.6km s-min=24.5km az=30.0*
*NEIC **25** 00:13:50.8±0.5,38.71°S×78.22°E,h10km,mb4.4/8,Error ellipse: s-maj=17.9km s-min=13.0km az=214.0*
ISC 25 00:13:50.8±0.8,38.6°S±0.2×78.2°E±0.2,h10km,n43, σ0s79/28,mb4.3/14,MS4.1/15,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.89**	**94**	T	T	00 49 40.4	
	baz=252,slow=74,SNR=243						
H01W3	**Cape Leeuwin H**	**28.90**	**94**	T	T	00 49 56.6	
	baz=252,slow=74,SNR=264						
H01W1	**Cape Leeuwin H**	**28.91**	**94**	T	T	00 49 57.4	
	baz=252,slow=74,SNR=309						
MAW	**Mawson**	**30.26**	**192**	LR	LR	00 29 11.4	
	comp=Z,415nm,21.6s,baz=24,slow=30						
H08S2	**Diego Garcia H**	**31.28**	**349**	T	T	00 53 03.8	
	baz=171,slow=76,SNR=494						
H08S1	**Diego Garcia H**	**31.29**	**349**	T	T	00 53 01.3	
	baz=171,slow=76,SNR=88						
H08S3	**Diego Garcia H**	**31.30**	**349**	T	T	00 53 05.2	
	baz=171,slow=76,SNR=599						
NWAO	**Narrogin (SRO)**	**31.98**	**92**	LR	LR	00 30 05.7	
	comp=Z,482nm,20.5s,baz=232,slow=30						
OPO	**Ambohidratompo**	**33.55**	**298**	LR	LR	00 31 32.6	
	comp=Z,250nm,18.7s,baz=164,slow=32						
BOSA	**Boshof**	**44.69**	**266**	LR	LR	00 37 16.6	
	comp=Z,212nm,19.2s,baz=141,slow=32						
PSI	**Prapat**	**45.45**	**30**	LR	LR	00 37 05.3	
	comp=Z,112nm,18.8s,baz=208,slow=31						
SUR	**Sutherland**	**46.50**	**259**	LR	LR	00 37 20.7	
	comp=Z,214nm,21.4s,baz=143,slow=30						
ASAR	**Alice Springs**	**49.23**	**89**	P	**P**	**00 22 39.9 +0.3**	
ASAR	**Alice Springs**	**49.23**	**89**	P	**P**	**00 22 39.9 +0.3**	
	4.6nm,0.3s,baz=233,slow=6.9,SNR=13						
LSZ	**Lusaka**	**49.59**	**284**	*eP*	**P**	**00 22 41.6 -0.8**	
	4.2nm,1.0s						
LSZ	**Lusaka**	**49.59**	**284**	P	**P**	**00 22 42.1 -0.4**	
	0.9nm,0.8s,baz=131,slow=13,SNR=2.5						
VNDA	**Vanda**	**51.26**	**164**	LR	LR	00 42 28.0	
	comp=Z,265nm,19.2s,baz=252,slow=34						
STKA	**Stephens Creek**	**51.29**	**103**	*eP*	**P**	**00 22 55.0 -0.1**	
	0.5nm,0.7s						
STKA	**Stephens Creek**	**51.29**	**103**	P	**P**	**00 22 54.4 -0.7**	
	2.3nm,0.7s,baz=234,slow=8.4,SNR=5.0						
STKA				LR	LR	00 40 09.9	
	comp=Z,221nm,21.6s,baz=212,slow=31						
QSPA	**South Pole Qui**	**51.52**	**180**	*eP*	**P**	**00 22 57.0 +0.4**	
	8.1nm,0.9s						
QSPA	**South Pole Qui**	**51.52**	**180**	P	**P**	**00 22 57.7 +1.2**	
	5.6nm,1.1s,baz=300,slow=5.6,SNR=5.1						
WRA	**Warramunga Arr**	**51.57**	**86**	P	**P**	**00 22 56.5 -0.7**	
WRA	**Warramunga Arr**	**51.57**	**86**	P	**P**	**00 22 56.5 -0.7**	
	8.6nm,1.0s,baz=237,slow=7.5,SNR=20						
WRA				LR	LR	00 41 39.1	
	comp=Z,212nm,21.7s,baz=235,slow=32						
WRAB	**Tennant Creek**	**51.58**	**86**	*eP*	**P**	**00 22 57.3 -0.1**	
	11nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.02**	**23**	P	**P**	**00 23 58.5 +0.8**	
CMAR	**Chiang Mai Arr**	**60.02**	**23**	P	**P**	**00 23 58.6 +0.8**	
	0.8nm,0.4s,baz=209,slow=5.8,SNR=3.3						
KBL	**Kabul**	**73.30**	**352**	*eP*	**P**	**00 25 24.1 +1.6**	
	3.0nm,0.7s						
HNR	**Honiara**	**77.73**	**92**	LR	LR	00 56 35.9	
	comp=Z,152nm,18.0s,baz=250,slow=33						
AAK	**Ala-Archa**	**80.96**	**357**	*eP*	**P**	**00 26 06.1 +0.8**	
	3.2nm,1.0s						
EKS2	**Erkin-Say**	**81.02**	**357**	*eP*	**P**	**00 26 06.6 +1.0**	
	4.7nm,0.9s						
KKAR	**Karatay Array**	**81.66**	**354**	*eP*	**P**	**00 26 10.1 +1.2**	
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**85.13**	**3**	P	**P**	**00 26 26.2 -0.4**	
MKAR	**Makanchi Array**	**85.13**	**3**	P	**P**	**00 26 26.2 -0.4**	
	1.6nm,1.1s,baz=178,slow=5.3,SNR=11						
TORD	**Torodi Ar. Bea**	**87.87**	**289**	LR	LR	01 03 14.5	
	comp=Z,115nm,21.1s,baz=130,slow=34						
DBIC	**Dimbokro**	**88.74**	**279**	LR	LR	01 04 14.0	
	comp=Z,74nm,18.6s,baz=114,slow=34						
SONM	**Songino Array**	**89.67**	**19**	P	**P**	**00 26 48.6 0.0**	
SONM	**Songino Array**	**89.67**	**19**	P	**P**	**00 26 48.6 0.0**	
	0.1nm,0.4s,baz=211,slow=5.0,SNR=2.4						
SONM				LR	LR	01 06 29.8	
	comp=Z,320nm,18.1s,baz=312,slow=35						
ZALV	**Zalesovo Beam**	**92.39**	**4**	P	**P**	**00 27 00.6 -0.3**	
ZALV	**Zalesovo Beam**	**92.39**	**4**	P	**P**	**00 27 00.6 -0.3**	
	0.2nm,0.3s,baz=202,slow=5.9,SNR=2.2						
ZALV				LR	LR	01 05 46.9	
	comp=Z,69nm,21.4s,baz=250,slow=34						
KEST	**Kesra**	**97.58**	**310**	LR	LR	01 10 33.9	
	comp=Z,22nm,18.3s,baz=302,slow=35						
INK	**Inuvik**	**145.57**	**20**	*e*PKPdf	**PKPdf**	**00 33 27.1 -1.0**	
YKA	**Yellowknife Ar**	**154.86**	**14**	PKPbc	**PKPbc**	**00 33 51.0 -0.4**	
YKA				PKPab	**PKPab**	**00 34 05.6 -1.1**	
YKA	**Yellowknife Ar**	**154.86**	**14**	PKPbc	**PKPbc**	**00 33 51.0 -0.4**	
	0.4nm,0.9s,baz=330,slow=3.0,SNR=5.3						
YKA				PKPab	**PKPab**	**00 34 05.6 -1.1**	
	0.4nm,1.0s,baz=354,slow=2.7,SNR=3.2						

MAN 25 00:23:28.7±10.0N×125.97E,h44km,mb4.2,ML3.1,MS2.8, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.32**	**118**	*eP*	Pn	00 23 38.1	+1.3
MATI				*eS*	Sn	00 23 46.7	+3.7
DMPH	**Davao City--Mi**	**0.46**	**268**	*ieP*	Pn	00 23 40.3	+1.9
DMPH				*i* S	Sn	00 23 49.1	+3.3
BUKP	**Musuan**	**1.19**	**311**	*eP*	Pn	00 23 49.4	+1.1
BUKP				*eS*	Sn	00 24 04.3	+0.9

IDC 25 00:33:59.8±17.0,39.16S×78.71E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/21,mbtmp3.8/4,MS3.7/6,Ms1 3.7/6, ms1mx3.2/29,Error ellipse: s-maj=585.5km s-min=44.2km az=32.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**31.87**	**348**	T	T	01 13 12.3	
	baz=171,slow=76,SNR=92						
H08S1	**Diego Garcia H**	**31.88**	**348**	T	T	01 13 09.4	
	baz=171,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**31.89**	**348**	T	T	01 13 13.8	
	baz=171,slow=76,SNR=89						
BOSA	**Boshof**	**45.04**	**267**	LR	LR	00 56 40.7	
	comp=Z,63nm,20.1s,baz=170,slow=30						
ASAR	**Alice Springs**	**48.85**	**89**	P	P	00 42 46.7	-0.6
	0.7nm,0.9s,baz=233,slow=7.7,SNR=4.7						
VNDA	**Vanda**	**50.65**	**164**	LR	LR	01 03 30.5	
	comp=Z,127nm,18.4s,baz=209,slow=35						
STKA	**Stephens Creek**	**50.80**	**102**	LR	LR	01 00 40.9	
	comp=Z,66nm,19.8s,baz=204,slow=32						
WRA	**Warramunga Arr**	**51.23**	**85**	P	P	00 43 05.5	+0.1
	2.9nm,0.9s,baz=237,slow=7.1,SNR=9.4						
WRA				LR	LR	01 01 45.8	
	comp=Z,53nm,20.3s,baz=185,slow=32						
GNI	**Garni**	**84.82**	**335**	LR	LR	01 19 39.4	
	comp=Z,49nm,18.8s,baz=279,slow=32						
MKAR	**Makanchi Array**	**85.63**	**2**	P	P	00 46 39.0	-0.8
	0.5nm,0.8s,baz=176,slow=4.2,SNR=4.9						
KBZ	**Khabaz**	**88.64**	**335**	LR	LR	01 21 04.6	
	comp=Z,45nm,20.4s,baz=336,slow=32						
SONM	**Songino Array**	**90.05**	**18**	P	P	00 47 02.3	+1.2
	0.4nm,0.8s,baz=198,slow=4.6,SNR=3.0						

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*IDC **25** 00:40:05.4±3.2,52.26N×170.16E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.3/28,mbtmp3.4/4,ML2.9/1,Error ellipse: s-maj=95.4km s-min=25.2km az=177.0*
*ISCJB **25** 00:40:08.3±0.8,52.5°N±0.1×169.96E±0.07,h33km, mb3.2/3,Error ellipse: s-maj=18.4km s-min=6.4km az=3.4*
*KRSC **25** 00:40:38.0±9.3,53.22N×166.98E,h200km±91km,ML4.2*
ISC 25 00:40:08.6±1.3,52.4N±0.2×170.14E±0.05,h35km,n20, σ1s73/26,mb3.1/3,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.90**	**74**	Pn	**Pn**	**00 40 37.6**	**-0.9**
	24nm,0.3s,baz=296,slow=5.3,SNR=146						
FX1				Sn	**Sn**	**00 40 59.0**	**-2.2**
	57nm,0.3s,baz=178,slow=22,SNR=19						
MKZ	**Mys Kozlova**	**5.46**	**297**	*eP*	**Pn**	**00 41 27.3**	**-0.1**
MKZ				*eS*	**Sn**	**00 42 27.4**	**+1.6**
KBTR	**Krutoberegovo**	**5.73**	**315**	*eP*	**Pn**	**00 41 31.4**	**+0.3**
TUMR	**Tumrok**	**6.58**	**300**	*eP*	**Pn**	**00 41 44.5**	**+1.7**
TUMR				*eS*	**Sn**	**00 42 54.6**	**-2.0**
KMNR	**Kamenistaya**	**6.72**	**304**	*eP*	**Pn**	**00 41 46.9**	**+2.1**
SDLR	**Sedlovina**	**6.88**	**282**	*eP*	**Pn**	**00 41 48.1**	**+1.2**
UGLR	**Uglovaya**	**6.91**	**281**	*eP*	**Pn**	**00 41 48.7**	**+1.3**
SMAR	**Somma**	**6.93**	**282**	*eP*	**Pn**	**00 41 48.5**	**+0.8**
KRER	**Koryakskii**	**6.96**	**282**	*eP*	**Pn**	**00 41 49.0**	**+0.9**
AVH	**Avacha**	**6.96**	**282**	*eP*	**Pn**	**00 41 49.4**	**+1.3**
KRX	**Arik**	**7.02**	**282**	*eP*	**Pn**	**00 41 49.6**	**+0.7**
KOK	**Koryaka**	**7.03**	**282**	*eP*	**Pn**	**00 41 50.2**	**+1.2**
RUS	**Russkaya**	**7.11**	**275**	*eP*	**Pn**	**00 41 50.4**	**+0.4**
RUS				*eS*	**Sn**	**00 43 07.9**	**-1.7**
MTVR	**Mutnovka**	**7.31**	**275**	*eP*	**Pn**	**00 41 54.2**	**+1.3**
MTVR				*eS*	**Sn**	**00 43 12.2**	**-2.5**
GNL	**Ganaly**	**7.47**	**285**	*eP*	**Pn**	**00 41 57.1**	**+2.1**
GNL				*eS*	**Sn**	**00 43 16.9**	**-1.5**
ASAK	**Asacha**	**7.49**	**275**	*eP*	**Pn**	**00 41 56.4**	**+1.1**
PETK	**Petropavlovsk-**	**7.58**	**280**	Pn	**Pn**	**00 41 58.1**	**+1.6**
	0.9nm,0.3s,baz=102,slow=18,SNR=6.0						
PETK				Sn	**Sn**	**00 43 17.1**	**-4.1**
	0.7nm,0.3s,baz=76,slow=23,SNR=2.8						
ILAR	**Eielson Array**	**25.01**	**44**	P	**P**	**00 45 30.0**	**+1.2**
	0.4nm,0.7s,baz=256,slow=7.1,SNR=7.7						
YKA	**Yellowknife Ar**	**39.43**	**45**	P	P	00 47 39.3	+4.6
	0.2nm,0.6s,baz=293,slow=7.9,SNR=4.6						
TXAR	**Lajitas Array**	**65.12**	**74**	P	**P**	**00 50 47.3**	**+1.5**
	0.5nm,0.8s,baz=310,slow=7.0,SNR=3.1						

WEL 25 00:59:23.9±0.7,37.20S×176.04E,h33km,ML4.1/12,2C, Error ellipse: s-maj=5.5km s-min=5.1km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**1.64**	**134**	P*	Pn	00 59 50.2	-0.3
MWZ				S*	Sn	01 00 10.5	0.0
SNGZ	**Shannon Statio**	**1.89**	**147**	PN	Pn	00 59 53.2	-0.7
RAHZ	**Arahi**	**1.91**	**155**	PN	Pn	00 59 53.6	-0.6
RAHZ				SN	Sn	01 00 14.9	-2.2
PUZ	**Puketiti**	**1.97**	**117**	PN	Pn	00 59 54.1	-0.8
PUZ				SN	Sn	01 00 15.5	-3.1
NMHZ	**Naumai**	**1.99**	**162**	PN	Pn	00 59 55.5	+0.1
BKZ	**Black Stump Fm**	**2.00**	**170**	P*	Pn	00 59 54.6	-0.9
BKZ				S*	Sn	01 00 16.9	-2.5
RIGZ	**Rimuhau**	**2.03**	**138**	PN	Pn	00 59 54.4	-1.5
WNVZ	**Wahianoa**	**2.16**	**189**	P*	Pn	00 59 58.6	+0.9
KNZ	**Kokohu**	**2.23**	**145**	PN	Pn	00 59 56.1	-2.4
BHHZ	**Black Hill Sta**	**2.29**	**179**	⇑P*	Pn	00 59 58.4	-1.0
BHHZ				S*	Sn	01 00 24.3	-2.3
MCHZ	**McNeill Hill**	**2.30**	**167**	PN	Pn	00 59 58.3	-1.3
MHGZ	**Mahia Peninsul**	**2.45**	**144**	PN	Pn	00 59 58.7	-2.8
CKHZ	**Cape Kidnapper**	**2.59**	**162**	PN	Pn	01 00 00.2	-2.9
KAHZ	**Kahuranaki**	**2.68**	**166**	PN	Pn	01 00 01.8	-3.0
PNHZ	**Pukenui**	**2.72**	**177**	PN	Pn	01 00 02.7	-2.6
TSZ	**Takapari Road**	**2.86**	**181**	PN	Pn	01 00 04.4	-2.9
WPHZ	**Waipukurau**	**2.88**	**174**	PN	Pn	01 00 04.1	-3.4
PXZ	**Pawanui**	**2.90**	**167**	PN	Pn	01 00 03.9	-3.8
PXZ				SN	Sn	01 00 32.5	-9.0
DVHZ	**Dannevirke**	**3.10**	**178**	PN	Pn	01 00 06.5	-4.0
PRHZ	**Porangahau**	**3.10**	**171**	PN	Pn	01 00 06.3	-4.2
MRZ	**Mangatainoka R**	**3.48**	**186**	PN	Pn	01 00 11.3	-4.4
BFZ	**Birch Farm**	**3.48**	**177**	⇑PN	Pn	01 00 11.0	-4.8
OGWZ	**Otaki Gorge**	**3.68**	**190**	PN	Pn	01 00 14.4	-4.1
HOWZ	**Holdsworth Sta**	**3.72**	**186**	PN	Pn	01 00 14.1	-4.9
KIW	**Kapiti Island**	**3.76**	**193**	PN	Pn	01 00 15.3	-4.3
TMWZ	**Te Maipa**	**3.91**	**182**	PN	Pn	01 00 16.2	-5.4
CAW	**Cannon Point**	**3.98**	**191**	PN	Pn	01 00 17.6	-5.0
MTW	**Mount Morrison**	**3.98**	**186**	PN	Pn	01 00 16.9	-5.7
TCW	**Tory Channel**	**4.24**	**198**	PN	Pn	01 00 22.1	-4.0
MSWZ	**Moikau Station**	**4.26**	**188**	PN	Pn	01 00 20.7	-5.7
PLWZ	**Palliser**	**4.41**	**188**	PN	Pn	01 00 22.2	-6.4
TUWZ	**Tuamarina**	**4.53**	**200**	AML	AML	01 00 30.4	

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*IDC **25** 01:10:17.0±0.8,38.84N×27.05E,h0km,mb3.6/9, mb1 3.8/16,mb1mx3.7/33,mbtmp3.7/16,ML3.3/6,MS2.8/5, Ms1 2.8/5,ms1mx2.6/37,Error ellipse: s-maj=15.5km s-min=12.9km az=52.0*
*NEIC **25** 01:10:17.7,38.84N×26.93E,h27km,mb4.0/5, ML3.7(ATH),ML4.0(ISK),After ISK.*
*ISK **25** 01:10:17.8,38.85N×26.92E,h13km,ML3.9*
*ATH **25** 01:10:17.7,38.84N×26.93E,h27km,ML3.7*
*DDA **25** 01:10:18.3,38.81N×26.95E,h34km,MD3.7*
*CSEM **25** 01:10:19.0±0.1,38.83N×26.92E,h15km,ML3.9,Error ellipse: s-maj=1.7km s-min=1.6km az=53.0*
*THE **25** 01:10:19.1,38.84N×26.90E,h13km±2km,ML3.7/6,Error ellipse: s-maj=2.9km s-min=1.1km az=256.0*
*SOF **25** 01:10:19.2,38.83N×26.95E,h33km,MD4.0*
ISC 25 01:10:18.6±0.9,38.85N±0.02×26.91E±0.01,h13km±7km, n370,σ1s00/437,mb3.6/11,34C-11D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.47**	**167**	*e*PG	**Pg**	**01 10 27.8**	**-0.1**
BLCB				*e*SG	**Sg**	**01 10 34.3**	**+0.1**
BLCB	**Balcova**	**0.47**	**167**	*e*Pg	**Pg**	**01 10 27.8**	**-0.1**
BLCB				*e*Sg	**Sg**	**01 10 34.3**	**+0.1**
IZM	**Izmir**	**0.53**	**148**	*e*PG	**Pg**	**01 10 28.8**	**-0.2**
IZM	**Izmir**	**0.53**	**148**	*e*Pg	**Pg**	**01 10 28.8**	**-0.2**
URLA	**Izmir**	**0.54**	**207**	*i* P	Pg	01 10 25.6	-3.7
URLA				*i* S	**Sb**	**01 10 38.7**	**+1.0**
URLA	**Izmir**	**0.54**	**207**	*i* P	Pg	01 10 25.6	-3.7
URLA				*i* S	**Sb**	**01 10 38.7**	**+1.0**
PRK	**Paraskevi**	**0.64**	**309**	P	**Pg**	**01 10 30.5**	**-0.4**
PRK				S	**Sg**	**01 10 39.9**	**+0.5**
PRK	**Paraskevi**	**0.64**	**309**	*e*PN	**Pg**	**01 10 30.6**	**-0.4**
PRK				*e*SN	**Sb**	**01 10 40.4**	**+0.1**
PRK	**Paraskevi**	**0.64**	**309**	P	**Pg**	**01 10 30.5**	**-0.4**
PRK				S	**Sg**	**01 10 39.9**	**+0.5**
PRK				*e*Sn	**Sb**	**01 10 40.4**	**+0.1**
AKS	**Akhisar**	**0.71**	**87**	*e*PG	**Pg**	**01 10 32.3**	**-0.1**
AKS				*e*SG	**Sg**	**01 10 41.9**	**+0.2**
AKS	**Akhisar**	**0.71**	**87**	*e*Pg	**Pg**	**01 10 32.3**	**-0.1**
AKS				*e*Sg	**Sg**	**01 10 41.9**	**+0.2**
AKHS	**Akhisar**	**0.71**	**87**	*i* P	**Pg**	**01 10 32.5**	**+0.1**
AKHS				*i* S	**Sb**	**01 10 42.4**	**0.0**
AKHS	**Akhisar**	**0.71**	**87**	*i* P	**Pg**	**01 10 32.5**	**+0.1**
AKHS				*i* S	**Sb**	**01 10 42.4**	**0.0**
CHOS	**Chios island**	**0.81**	**236**	P	**Pg**	**01 10 33.9**	**-0.4**
CHOS				S	**Sn**	**01 10 47.1**	**-0.5**
CHOS	**Chios island**	**0.81**	**236**	*e*PN	**Pg**	**01 10 33.5**	**-0.8**
CHOS				*e*SN	**Sb**	**01 10 46.1**	**+0.7**
CHOS	**Chios island**	**0.81**	**236**	*e*Pn	**Pg**	**01 10 33.5**	**-0.8**
CHOS	**Chios island**	**0.81**	**236**	P	**Pg**	**01 10 33.9**	**-0.4**
CHOS				*e*Sn	**Sb**	**01 10 46.1**	**+0.7**
CHOS				S	**Sn**	**01 10 47.1**	**-0.5**
SIGR	**SIGRI**	**0.90**	**294**	P	**Pg**	**01 10 36.1**	**+0.2**
SIGR				S	**Sn**	**01 10 49.2**	**-0.4**
SIGR	**SIGRI**	**0.90**	**294**	*e*PN	**Pb**	**01 10 35.2**	**-0.7**
SIGR				*e*SN	**Sb**	**01 10 48.1**	**+0.3**
SIGR	**SIGRI**	**0.90**	**294**	*e*Pn	**Pb**	**01 10 35.2**	**-0.7**
SIGR	**SIGRI**	**0.90**	**294**	P	**Pg**	**01 10 36.1**	**+0.2**
SIGR				*e*Sn	**Sb**	**01 10 48.1**	**+0.3**
SIGR				S	**Sn**	**01 10 49.2**	**-0.4**
BALY	**Balya**	**1.05**	**32**	*i* P	**Pb**	**01 10 38.5**	**-0.1**
BALY				*i* S	**Sn**	**01 10 54.1**	**+0.6**
BALY	**Balya**	**1.05**	**32**	*i* P	**Pb**	**01 10 38.5**	**-0.1**
BALY				*i* S	**Sn**	**01 10 54.1**	**+0.6**
EZN	**Ezine**	**1.08**	**335**	*e*PN	**Pb**	**01 10 38.6**	**-0.4**
EZN	**Ezine**	**1.08**	**335**	*e*Pn	**Pb**	**01 10 38.6**	**-0.4**
BALB	**Balikesir**	**1.09**	**43**	*e*PN	**Pb**	**01 10 38.5**	**-0.8**
BALB	**Balikesir**	**1.09**	**43**	*e*Pn	**Pb**	**01 10 38.5**	**-0.8**
SMG	**Samos**	**1.14**	**183**	P	**Pb**	**01 10 39.1**	**-1.0**
SMG				S	**Sb**	**01 10 54.7**	**0.0**
SMG	**Samos**	**1.14**	**183**	*e*PN	**Pb**	**01 10 39.1**	**-1.0**
SMG				*e*SN	**Sb**	**01 10 55.0**	**+0.3**
SMG	**Samos**	**1.14**	**183**	P	**Pb**	**01 10 39.1**	**-1.0**
SMG				S	**Sb**	**01 10 54.7**	**0.0**
SMG				*e*Sn	**Sb**	**01 10 55.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**139**	*e*PN	**Pn**	**01 10 40.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**139**	*e*Pn	**Pn**	**01 10 40.6**	**-0.3**
KULA	**Kula-Manisa**	**1.41**	**103**	*e*PN	**Pn**	**01 10 43.2**	**-0.8**
KULA	**Kula-Manisa**	**1.41**	**103**	*e*Pn	**Pn**	**01 10 43.2**	**-0.8**
DEMI	**Demirci**	**1.42**	**82**	*i* P	**Pn**	**01 10 44.0**	**-0.2**
DEMI				*i* S	**Sn**	**01 11 03.0**	**+0.2**
DEMI	**Demirci**	**1.42**	**82**	*i* P	**Pn**	**01 10 44.0**	**-0.2**
DEMI				*i* S	**Sn**	**01 11 03.0**	**+0.2**
DURS	**Dursunbey**	**1.43**	**58**	*i* P	**Pn**	**01 10 44.3**	**0.0**
DURS				*i* S	**Sb**	**01 11 03.5**	**+0.2**
DURS	**Dursunbey**	**1.43**	**58**	*i* P	**Pn**	**01 10 44.3**	**0.0**
DURS				*i* S	**Sb**	**01 11 03.5**	**+0.2**
LPK	**Lapseki**	**1.53**	**356**	*e*PN	**Pn**	**01 10 45.5**	**0.0**
LPK	**Lapseki**	**1.53**	**356**	*e*Pn	**Pn**	**01 10 45.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.57**	**11**	*e*PN	**Pn**	**01 10 46.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.57**	**11**	*e*Pn	**Pn**	**01 10 46.1**	**0.0**
GELI	**Tayfur-Gelibol**	**1.58**	**348**	*e*PN	**Pn**	**01 10 46.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.58**	**348**	*e*Pn	**Pn**	**01 10 46.7**	**+0.4**
EDC	**Edincik**	**1.67**	**26**	*e*PN	**Pn**	**01 10 47.5**	**0.0**
EDC	**Edincik**	**1.67**	**26**	*e*Pn	**Pn**	**01 10 47.5**	**0.0**
LIA	**Limnos Island**	**1.70**	**309**	P	**Pn**	**01 10 47.9**	**0.0**
LIA				S	**Sn**	**01 11 08.9**	**-0.5**
LIA	**Limnos Island**	**1.70**	**309**	*e*PB	**Pn**	**01 10 47.5**	**-0.4**
LIA	**Limnos Island**	**1.70**	**309**	*e*Pb	**Pn**	**01 10 47.5**	**-0.4**
LIA	**Limnos Island**	**1.70**	**309**	P	**Pn**	**01 10 47.9**	**0.0**
LIA				S	**Sn**	**01 11 08.9**	**-0.5**
BDRM	**Kayabasi**	**1.83**	**166**	*i* P	**Pn**	**01 10 48.9**	**-0.8**
BDRM				*i* S	**Sg**	**01 11 18.9**	**+1.5**
BDRM	**Kayabasi**	**1.83**	**166**	*i* P	**Pn**	**01 10 48.9**	**-0.8**
ERIK	**Erikli-Kesan**	**1.85**	**351**	*e*PN	**Pn**	**01 10 50.3**	**+0.4**
ERIK	**Erikli-Kesan**	**1.85**	**351**	*e*Pn	**Pn**	**01 10 50.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.85

SHUT	Suhut-Afyon	2.87	95	ePN	Pn	01 11 04.6	+0.5
SHUT	Suhut-Afyon	2.87	95	ePn	Pn	01 11 04.6	+0.5
SMIA	Simia	2.89	272	ePN	Pn	01 11 04.6	+0.4
SMIA	Simia	2.89	272	ePn	Pn	01 11 04.6	+0.4
HRT	Hereke	2.90	46	ePN	Pn	01 11 05.8	+1.4
HRT	Hereke	2.90	46	ePn	Pn	01 11 05.8	+1.4
NAIG	Nisos Aigina	2.90	249	ePN	Pn	01 11 05.5	+1.1
NAIG	Nisos Aigina	2.90	249	ePn	Pn	01 11 05.5	+1.1
EDRB	Edirne	3.00	358	ePN	Pn	01 11 07.1	+1.3
EDRB	Edirne	3.00	358	ePn	Pn	01 11 07.1	+1.3
KDZ	Kurdzhali	3.02	338	*i* P	Pn	01 11 06.3	+0.2
KDZ				*i* S	Sn	01 11 41.1	-1.1
KDZ	Kurdzhali	3.02	338	⇑*i* P	Pn	01 11 06.4	+0.3
KDZ	Kurdzhali	3.02	338	*i* P	Pn	01 11 06.3	+0.2
KDZ				*i* S	Sn	01 11 41.1	-1.1
LKR	Lokris	3.06	268	ePN	Pn	01 11 06.3	-0.3
LKR	Lokris	3.06	268	ePn	Pn	01 11 06.3	-0.3
ELL	Elmali	3.17	130	ePN	Pn	01 11 08.9	+0.7
ELL	Elmali	3.17	130	ePn	Pn	01 11 08.9	+0.7
DID	Didima	3.19	246	P	Pn	01 11 08.8	+0.4
DID	Didima	3.19	246	ePN	Pn	01 11 09.6	+1.2
DID	Didima	3.19	246	P	Pn	01 11 08.8	+0.4
DID	Didima	3.19	246	ePn	Pn	01 11 09.6	+1.2
SPNC	Sapanca-Adapaz	3.20	54	ePN	Pn	01 11 08.9	+0.4
SPNC	Sapanca-Adapaz	3.20	54	ePn	Pn	01 11 08.9	+0.4
BCK	Bucak	3.21	114	ePN	Pn	01 11 09.5	+0.7
BCK	Bucak	3.21	114	ePn	Pn	01 11 09.5	+0.7
KORT	Korkueli	3.29	123	*i* P	Pn	01 11 11.3	+1.5
KORT	Korkueli	3.29	123	*i* P	Pn	01 11 11.3	+1.5
RZN	Rozhen	3.30	330	*i* P	Pn	01 11 10.4	+0.4
RZN				*i* S	Sn	01 11 48.4	-0.7
RZN	Rozhen	3.30	330	*i* P	Pn	01 11 10.4	+0.4
RZN				*i* S	Sn	01 11 48.4	-0.7
KARP	Karpathos	3.30	176	ePN	Pn	01 11 09.9	0.0
KARP	Karpathos	3.30	176	ePn	Pn	01 11 09.9	0.0
AXAR	Agios Charalam	3.32	270	ePN	Pn	01 11 10.1	-0.1
AXAR	Agios Charalam	3.32	270	ePn	Pn	01 11 10.1	-0.1
DIM	Dimitrovgrad	3.37	342	*i* P	Pn	01 11 11.1	+0.3
DIM	Dimitrovgrad	3.37	342	*i* P	Pn	01 11 11.1	+0.3
SOH	Sokhos	3.37	307	ePN	Pn	01 11 11.3	+0.4
SOH	Sokhos	3.37	307	ePn	Pn	01 11 11.3	+0.4
AKAS	Kas	3.38	140	*i* P	Pn	01 11 12.8	+1.7
AKAS				*i* S	Sg	01 12 11.2	+4.2
AKAS	Kas	3.38	140	*i* P	Pn	01 11 12.8	+1.7
SRS	Serrai	3.41	313	ePN	Pn	01 11 11.7	+0.3
SRS	Serrai	3.41	313	ePn	Pn	01 11 11.7	+0.3
NVR	Nevrokopi	3.42	318	P	Pn	01 11 11.9	+0.3
NVR	Nevrokopi	3.42	318	ePN	Pn	01 11 11.8	+0.2
NVR	Nevrokopi	3.42	318	P	Pn	01 11 11.9	+0.3
DSF	Desfina	3.46	264	ePN	Pn	01 11 12.4	+0.3
DSF	Desfina	3.46	264	ePn	Pn	01 11 12.4	+0.3
SUTC	Sutluce-Ispart	3.50	112	ePN	Pn	01 11 13.3	+0.5
SUTC	Sutluce-Ispart	3.50	112	ePn	Pn	01 11 13.3	+0.5
THE	Thessaloniki	3.52	302	ePN	Pn	01 11 14.6	+1.7
THE	Thessaloniki	3.52	302	ePn	Pn	01 11 14.6	+1.7
AGG	Agios Georgios	3.57	274	ePN	Pn	01 11 14.3	+0.6
AGG	Agios Georgios	3.57	274	ePn	Pn	01 11 14.3	+0.6
BTAS	Taskesti	3.59	60	*i* P	Pn	01 11 14.2	+0.2
BTAS				*i* S	Sg	01 12 14.9	+0.9
BTAS	Taskesti	3.59	60	*i* P	Pn	01 11 14.2	+0.2
JMB	Yambol	3.62	356	P	Pn	01 11 15.4	+1.1
JMB				S	Sn	01 11 57.4	+0.5
JMB	Yambol	3.62	356	*i* P	Pn	01 11 15.9	+1.6
JMB	Yambol	3.62	356	⇓*i* P	Pn	01 11 15.5	+1.1
JMB	Yambol	3.62	356	P	Pn	01 11 15.4	+1.1
JMB				S	Sn	01 11 57.4	+0.5
LIT	Litokhoron	3.64	292	ePN	Pn	01 11 15.7	+1.1
LIT	Litokhoron	3.64	292	ePn	Pn	01 11 15.7	+1.1
PLD	Plovdiv	3.66	333	P	Pn	01 11 15.5	+0.6
PLD	Plovdiv	3.66	333	*i* P	Pn	01 11 15.7	+0.8
PLD	Plovdiv	3.66	333	P	Pn	01 11 15.5	+0.6
MMB	Musomiste	3.66	319	*i* P	Pn	01 11 15.0	+0.1
MMB				*i* S	Sn	01 11 53.8	-4.2
MMB	Musomiste	3.66	319	⇑*i* P	Pn	01 11 15.5	+0.6
MMB	Musomiste	3.66	319	*i* P	Pn	01 11 15.0	+0.1
MMB				*i* S	Sn	01 11 53.8	-4.2
GUR	Goura	3.70	257	ePN	Pn	01 11 15.9	+0.4
GUR	Goura	3.70	257	ePn	Pn	01 11 15.9	+0.4
NPS	Neapolis	3.73	197	ePN	Pn	01 11 16.3	+0.6
NPS	Neapolis	3.73	197	ePn	Pn	01 11 16.3	+0.6
MAKR	Makrakomi, Fth	3.73	274	ePN	Pn	01 11 17.1	+1.3
MAKR	Makrakomi, Fth	3.73	274	ePn	Pn	01 11 17.1	+1.3
KALE	Kalithea	3.76	265	ePN	Pn	01 11 16.8	+0.5
KALE	Kalithea	3.76	265	ePn	Pn	01 11 16.8	+0.5
ZKR	Zakros	3.77	189	ePN	Pn	01 11 16.4	+0.1
ZKR	Zakros	3.77	189	ePn	Pn	01 11 16.4	+0.1
VLI	Veliai	3.80	237	ePN	Pn	01 11 16.3	-0.4
VLI	Veliai	3.80	237	ePn	Pn	01 11 16.3	-0.4
KLV	Kalavryta, Ach	3.82	259	ePN	Pn	01 11 17.1	0.0
KLV	Kalavryta, Ach	3.82	259	ePn	Pn	01 11 17.1	0.0
LAST	Lasithi	3.85	198	ePN	Pn	01 11 18.4	+0.8
LAST	Lasithi	3.85	198	ePn	Pn	01 11 18.4	+0.8
VLX	Vlachokerasia	3.86	249	ePN	Pn	01 11 18.1	+0.4
VLX	Vlachokerasia	3.86	249	ePn	Pn	01 11 18.1	+0.4
THL	Klokotos Trika	3.87	282	ePN	Pn	01 11 18.2	+0.5
THL	Klokotos Trika	3.87	282	ePn	Pn	01 11 18.2	+0.5
IDI	Anoyia	3.90	205	Pn	Pn	01 11 17.1	-1.1
	2.7nm,0.3s,baz=34,slow=14,SNR=14						
IDI				Sn	Sn	01 12 02.2	-1.7
	7.3nm,0.3s,baz=289,slow=19,SNR=7.9						
LAKA	Lakka	3.91	263	ePN	Pn	01 11 19.6	+1.3
LAKA	Lakka	3.91	263	ePn	Pn	01 11 19.6	+1.3
EFP	Efpalio	3.94	265	ePN	Pn	01 11 18.0	-0.7
EFP	Efpalio	3.94	265	ePn	Pn	01 11 18.0	-0.7
EVR	Evrytania	3.98	273	ePN	Pn	01 11 20.5	+1.2
EVR	Evrytania	3.98	273	ePn	Pn	01 11 20.5	+1.2
KYTH	Kithira	4.00	231	ePN	Pn	01 11 19.6	0.0
KYTH	Kithira	4.00	231	ePn	Pn	01 11 19.6	0.0
SIVA	Sivas	4.17	204	ePN	Pn	01 11 23.0	+1.1
SIVA	Sivas	4.17	204	ePn	Pn	01 11 23.0	+1.1
DRO	Drossia	4.18	259	ePN	Pn	01 11 23.0	+1.0
DRO	Drossia	4.18	259	ePn	Pn	01 11 23.0	+1.0
KKB	Krupnik	4.20	317	*i* P	Pn	01 11 23.5	+1.2
KKB	Krupnik	4.20	317	*i* P	Pn	01 11 23.5	+1.2
PGB	Panagyurishte	4.25	331	*i* P	Pn	01 11 22.9	0.0
PGB				*i* S	Sn	01 12 08.8	-3.5
PGB	Panagyurishte	4.25	331	*i* P	Pn	01 11 22.9	0.0
PGB				*i* S	Sn	01 12 08.8	-3.5
ITM	Ithomi	4.27	249	ePN	Pn	01 11 23.9	+0.6
ITM	Ithomi	4.27	249	ePn	Pn	01 11 23.9	+0.6
AMT	Artemida-Makis	4.30	254	ePN	Pn	01 11 25.2	+1.5
AMT	Artemida-Makis	4.30	254	ePn	Pn	01 11 25.2	+1.5
PRD	Provadia	4.37	5	*i* P	Pn	01 11 24.4	-0.1
PRD				*i* S	Sn	01 12 12.9	-2.3
PRD	Provadia	4.37	5	*i* P	Pn	01 11 24.4	-0.1
PRD				*i* S	Sn	01 12 12.9	-2.3
KONT	Konya--Tatoy	4.38	100	ePN	Pn	01 11 25.4	+0.6
KONT	Konya--Tatoy	4.38	100	ePn	Pn	01 11 25.4	+0.6
NEF	NEVSHA	4.42	3	*i* P	Pn	01 11 26.6	+1.3
NEF	NEVSHA	4.42	3	*i* P	Pn	01 11 26.6	+1.3
SZH	Strazhica	4.48	351	*i* P	Pn	01 11 26.9	+0.8
SZH				*i* S	Sn	01 12 17.1	-0.9
SZH	Strazhica	4.48	351	*i* P	Pn	01 11 26.9	+0.8
SZH				*i* S	Sn	01 12 17.1	-0.9
PDO	Prodromos	4.48	269	ePN	Pn	01 11 28.3	+2.1
PDO	Prodromos	4.48	269	ePn	Pn	01 11 28.3	+2.1
PVL	Pavlikeni	4.53	345	*i* P	Pn	01 11 26.6	-0.1
PVL	Pavlikeni	4.53	345	*i* P	Pn	01 11 26.6	-0.1
PYL	PYLOS	4.53	246	ePN	Pn	01 11 28.7	+1.9
PYL	PYLOS	4.53	246	ePn	Pn	01 11 28.7	+1.9
GVD	Gavdhos	4.59	210	Pn	Pn	01 11 28.4	+0.7
GVD	Gavdhos	4.59	210	Pn	Pn	01 11 28.4	+0.7
ANTO	Ankara	4.67	76	⇑*i* P	Pg	01 11 47.2	-0.9
ANTO	Ankara	4.67	76	ePn	Pb	01 11 38.0	-2.4
ANTO				eS	Sg	01 12 51.1	+2.5
VTS	Vitosha	4.68	324	P	Pn	01 11 30.3	+1.3
VTS	Vitosha	4.68	324	*i* P	Pn	01 11 30.0	+1.1
VTS				*i* S	Sn	01 12 22.0	-1.2
VTS	Vitosha	4.68	324	⇑*i* P	Pn	01 11 30.1	+1.1
VTS	Vitosha	4.68	324	*i* P	Pn	01 11 30.0	+1.1
VTS				*i* S	Sn	01 12 22.0	-1.2
NEST	Nestorio	4.79	291	ePN	Pn	01 11 31.7	+1.3
NEST	Nestorio	4.79	291	ePn	Pn	01 11 31.7	+1.3
PSN	Preselentsi	4.92	11	⇑*i* P	Pn	01 11 32.0	-0.2
PSN	Preselentsi	4.92	11	⇑*i* P	Pn	01 11 32.0	-0.2
MPEP	Malo Peshtene	5.10	333	*i* P	Pn	01 11 35.0	+0.4
MPEP	Malo Peshtene	5.10	333	*i* P	Pn	01 11 35.0	+0.4
IGT	Igoumenitsa	5.15	280	ePN	Pn	01 11 37.4	+2.0
IGT	Igoumenitsa	5.15	280	ePn	Pn	01 11 37.4	+2.0
MSAB	Monastry St. A	5.29	7	⇑*i* P	Pn	01 11 37.5	+0.4
MSAB	Monastry St. A	5.29	7	⇑*i* P	Pn	01 11 37.5	+0.4
BR131	Keskin Array S	5.30	78	*e*Pn	Pn	01 11 36.5	-1.0
	18nm,0.8s						
BR131	Keskin Array S	5.30	78	*e*Pn	Pn	01 11 36.5	-1.0
	18nm,0.8s						
BRTR	Keskin Array B	5.30	78	Pn	Pn	01 11 38.5	+1.0
	1.2nm,0.3s,baz=254,slow=14,SNR=35						
BRTR				Pg	Pg	01 11 58.2	-1.7
	0.9nm,0.3s,baz=262,slow=16,SNR=23						
BRTR				Sn	Sn	01 12 37.2	-1.2
	0.4nm,0.3s,baz=266,slow=20,SNR=2.7						
BRTR				Lg	Lg	01 13 10.6	
	0.4nm,0.3s,baz=260,slow=26,SNR=6.8						
TIRR	Tirgusor	5.72	11	⇑*i* P	Pn	01 11 43.3	+0.2
TIRR	Tirgusor	5.72	11	⇑*i* P	Pn	01 11 43.3	+0.2
TLB	Topalu	5.80	8	⇑*i* P	Pn	01 11 45.3	+1.1
TLB	Topalu	5.80	8	⇑*i* P	Pn	01 11 45.3	+1.1
HUMR	Humele	5.86	346	⇑*i* P	Pn	01 11 45.2	+0.2
HUMR	Humele	5.86	346	⇑*i* P	Pn	01 11 45.2	+0.2
BOLS	Boljevac	6.22	325	*e*Pn	Pn	01 11 49.3	-0.7
CFR	Carcaliu	6.39	8	⇑*i* P	Pn	01 11 52.5	+0.2
CFR	Carcaliu	6.39	8	⇑*i* P	Pn	01 11 52.5	+0.2
SRE	Strehaia	6.43	336	⇑*i* P	Pn	01 11 54.5	+1.5
SRE	Strehaia	6.43	336	⇑*i* P	Pn	01 11 54.5	+1.5
CSS	Prodhromos	6.44	125	*e*Pn	Pn	01 11 51.5	-1.6
CSS	Prodhromos	6.44	125	*e*Pn	Pn	01 11 51.5	-1.6
MTUR	Matau	6.52	348	⇓*i* P	Pn	01 11 55.8	+1.6
MTUR	Matau	6.52	348	⇓*i* P	Pn	01 11 55.8	+1.6
MLR	Muntele Rosu	6.68	354	Pn	Pn	01 11 58.3	+1.9
	0.2nm,0.3s,baz=160,slow=18,SNR=9.1						
MLR				Sn	Sn	01 13 11.8	-0.5
	0.3nm,0.3s,baz=162,slow=20,SNR=3.6						
MLR				LR	LR	01 14 57.9	
	comp=Z,15nm,18.1s,baz=144,slow=42						
VOIR				6.73 349	⇓*i* P	Pn	01 11 58.1	+1.1
VOIR				6.73 349	⇓*i* P	Pn	01 11 58.1	+1.1
ARR	Arges	6.73	346	⇑*i* P	Pn	01 11 57.8	+0.7
ARR	Arges	6.73	346	⇑*i* P	Pn	01 11 57.8	+0.7
GRUS	Gruza	6.86	319	*e*Pn	Pn	01 11 59.6	+0.8
IVAS	Ivanjica	6.95	315	⇓*i* PN	Pn	01 12 01.3	+1.3
PLOR	Plostina	7.00	359	⇑*i* P	Pn	01 12 02.6	+1.8
PLOR	Plostina	7.00	359	⇑*i* P	Pn	01 12 02.6	+1.8
VRI	Vrincioaia	7.02	359	⇑*i* P	Pn	01 12 02.1	+1.2
VRI	Vrincioaia	7.02	359	⇑*i* P	Pn	01 12 02.1	+1.2
DOPR	Dopca	7.20	352	⇓*i* P	Pn	01 12 04.3	+0.8
DOPR	Dopca	7.20	352	⇓*i* P	Pn	01 12 04.3	+0.8
GZR	Gura Zlata	7.22	336	⇓*i* P	Pn	01 12 04.5	+0.6
GZR	Gura Zlata	7.22	336	⇓*i* P	Pn	01 12 04.5	+0.6
DIVS	Divibare	7.38	316	*e*Pn	Pn	01 12 06.4	+0.4
TESR	Tescani	7.66	359	⇑*i* P	Pn	01 12 11.1	+1.3
TESR	Tescani	7.66	359	⇑*i* P	Pn	01 12 11.1	+1.3
BZS	Buzias	7.82	332	⇑*i* P	Pn	01 12 12.0	+0.1
BZS	Buzias	7.82	332	⇑*i* P	Pn	01 12 12.0	+0.1
KIS	Kishinev	8.27	9	*e*P	Pn	01 12 21.0	+3.0
DRGR				8.52 340	⇑*i* P	Pn	01 12 22.6	+1.0
DRGR				8.52 340	⇑*i* P	Pn	01 12 22.6	+1.0
BURAR	Bucovina Array	8.85	353	⇑*i* P	Pn	01 12 28.5	+2.3
BURAR	Bucovina Array	8.85	353	⇑*i* P	Pn	01 12 28.5	+2.3
BUR08	Bucovina Ar. S	8.88	353	*e*Pn	Pn	01 12 28.2	+1.6
BUR08				eS	Sn	01 14 08.5	+2.0
BUR08	Bucovina Ar. S	8.88	353	*e*Pn	Pn	01 12 28.2	+1.6
BUR08				eS	Sn	01 14 08.5	+2.0
MMAI	Mount Meron Ar	9.02	128	Pn	Pn	01 12 27.1	-1.4
	5.7nm,0.3s,baz=312,slow=12,SNR=37						
PKSM	Moragy	9.55	323	⇑*i* P	Pn	01 12 36.5	+0.8
PKSM	Moragy	9.55	323	⇑*i* P	Pn	01 12 36.5	+0.8
ASF	Jabal al Asfar	10.51	126	Pn	Pn	01 12 48.3	-0.7
	0.3nm,0.3s,baz=135,slow=4.3,SNR=2.9						
ASF				Sn	Sn	01 14 46.4	-0.3
	0.1nm,0.3s,baz=68,slow=16,SNR=2.4						
EIL	Elat	11.31	142	Pn	Pn	01 12 58.5	-1.3
	0.4nm,0.3s,baz=346,slow=15,SNR=3.7						
EIL				LR	LR	01 19 14.1	
	comp=Z,47nm,20.2s,baz=352,slow=48						
VRAC	Vranov	12.80	328	LR	LR	01 18 24.5	
	comp=Z,83nm,18.8s,baz=107,slow=38						
GERES	GERESS Array B	13.79	321	Pn	Pn	01 13 35.7	+2.0
	0.0nm,0.3s,baz=137,slow=15,SNR=2.7						
SBF	Sospel	15.45	295	*e*P	Pn	01 13 54.1	-2.0
SBF	Sospel	15.45	295	*e*P	Pn	01 13 54.1	-2.0
LPG	La Plagne	16.33	300	*e*P	Pn	01 14 05.2	-2.5
	15nm,1.2s						
LPG	La Plagne	16.33	300	*e*P	Pn	01 14 05.2	-2.5
	15nm,1.2s						
CABF	La Chapelle	17.12	304	*e*P	Pn	01 14 15.5	-2.0
CABF	La Chapelle	17.12	304	*e*P	Pn	01 14 15.5	-2.0
OBN	Obninsk	17.53	19	LR	LR	01 20 32.8	
	comp=Z,47nm,18.8s,baz=95,slow=35						
SMF	Signal de Mont	18.60	302	*e*P	P	01 14 35.6	+0.2
SMF	Signal de Mont	18.60	302	*e*P	P	01 14 35.6	+0.2
SMF	Signal de Mont	18.60	302	*e*P	P	01 14 35.6	+0.2
LOR	Lormes	18.78	304	*e*P	Pn	01 14 37.9	+0.1
	11nm,1.2s						
LOR	Lormes	18.78	304	*e*P	Pn	01 14 37.9	+0.1
	11nm,1.2s						
LOR	Lormes	18.78	304	*e*P	Pn	01 14 37.9	+0.1
	11nm,1.2s						
AVF	Avril sur Loir	18.97	302	*e*P	Pn	01 14 40.0	-0.1
	12nm,1.2s						
AVF	Avril sur Loir	18.97	302	*e*P	Pn	01 14 40.0	-0.1
	12nm,1.2s						
AVF	Avril sur Loir	18.97	302	*e*P	Pn	01 14 40.0	-0.1
	12nm,1.2s						
BGF	Bois d'Agland	19.24	301	*e*P	P	01 14 41.5	-0.9
BGF	Bois d'Agland	19.24	301	*e*P	P	01 14 41.5	-0.9
BGF	Bois d'Agland	19.24	301	*e*P	P	01 14 41.5	-0.9
BAIF	Baives	19.62	312	*e*P	Pn	01 14 47.3	-0.6
BAIF	Baives	19.62	312	*e*P	Pn	01 14 47.3	-0.6
BAIF	Baives	19.62	312	*e*P	Pn	01 14 47.3	-0.6
MFF	Saint Martin d	21.26	300	*e*P	P	01 15 04.9	+0.6
MFF	Saint Martin d	21.26	300	*e*P	P	01 15 04.9	+0.6
MFF	Saint Martin d	21.26	300	*e*P	P	01 15 04.9	+0.6
LDF	La Druitiere	21.73	305	*e*P	P	01 15 10.0	+0.6
	5.9nm,0.7s						
LDF	La Druitiere	21.73	305	*e*P	P	01 15 10.0	+0.6
	5.9nm,0.7s						
LDF	La Druitiere	21.73	305	*e*P	P	01 15 10.0	+0.6
	5.9nm,0.7s						
GRR	Gorron	22.14	305	*e*P	P	01 15 14.4	+0.6
GRR	Gorron	22.14	305	*e*P	P	01 15 14.4	+0.6
GRR	Gorron	22.14	305	*e*P	P	01 15 14.4	+0.6
FINES	FINESS Array B	22.63	359	P	P	01 15 19.7	+0.8
	2.9nm,0.9s,baz=160,slow=8.6,SNR=6.2						
HFS	Hagfors	22.88	343	LR	LR	01 26 32.9	
	comp=Z,47nm,18.2s,baz=135,slow=43						
ESDC	Sonseca Array	23.86	282	P	P	01 15 33.6	+1.9
	0.2nm,0.3s,baz=79,slow=10.0,SNR=5.1						
AKTO	Aktyubinsk	24.80	52	P	P	01 15 39.0	-1.1
	1.1nm,0.7s,baz=240,slow=8.1,SNR=4.8						
TORD	Torodi Ar. Bea	33.96	228	P	P	01 17 03.5	+1.8
	0.7nm,0.9s,baz=45,slow=8.9,SNR=5.5						
AAK	Ala-Archa	35.88	68	P	P	01 17 18.7	+0.4
	1.4nm,0.6s						
AAK	Ala-Archa	35.88	68	P	P	01 17 18.7	+0.4
	1.4nm,0.6s						
MKAR	Makanchi Array	40.65	60	P	P	01 17 58.3	+0.1
	1.0nm,0.7s,baz=286,slow=8.8,SNR=12						
ZALV	Zalesovo Beam	41.49	49	P	P	01 18 04.9	-0.1
	0.8nm,0.6s,baz=274,slow=10.0,SNR=6.2						
SONM	Songino Array	56.11	53	P	P	01 19 57.8	+0.2
	0.5nm,0.8s,baz=297,slow=7.6,SNR=4.3						
CMAR	Chiang Mai Arr	64.84	86	P	P	01 20 57.0	-0.5
	1.5nm,0.8s,baz=309,slow=8.3,SNR=7.1						
YKA	Yellowknife Ar	74.37	343	P	P	01 21 55.4	0.0
	0.4nm,0.8s,baz=42,slow=5.3,SNR=8.9						

WEL 25 01:28:00.0±0.8, 46°42S×166°26E, h5km, ML3.5/7, 1C-1D, Error ellipse: s-maj=8.7km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.13	34	P*	Pg	01 28 17.3	-4.4
DCZ				S*	Sg	01 28 32.2	-4.2
DCZ				AML	AML	01 28 33.2	
DCZ				AML	AML	01 28 33.2	
APZ	The Paps	1.26	110	⇑P*	Pg	01 28 23.5	-0.8
APZ				AML	AML	01 28 43.9	
WHZ	Wether Hill Ro	1.28	66	⇓P*	Pn	01 28 22.7	-2.0
WHZ				S*	Sg	01 28 40.7	-0.7
WHZ				AML	AML	01 28 41.6	
MLZ	Mavora Lakes	1.71	52	PN	Pn	01 28 28.6	-2.0
MLZ				AML	AML	01 28 55.4	
MLZ				AML	AML	01 28 55.4	
SYZ	Scrubby Hill	1.99	94	PN	Pn	01 28 34.0	-0.3
TUZ	Tuapeka	2.39	80	PN	Pn	01 28 39.2	-0.6
TUZ				SN	Sn	01 29 09.5	+0.2
TUZ				AML	AML	01 29 13.6	
EAZ	Earnscleugh	2.44	62	PN	Pn	01 28 39.7	-0.8
EAZ				AML	AML	01 29 15.4	
EAZ				AML	AML	01 29 15.5	
WKZ	Wanaka	2.51	51	PN	Pn	01 28 41.3	-0.2
JCZ	Jackson Bay	2.94	38	PN	Pn	01 28 46.4	-1.1
JCZ				AML	AML	01 29 37.9	
JCZ				AML	AML	01 29 39.9	
ODZ	Otahua Downs	3.36	67	PN	Pn	01 28 50.7	-2.5
LBZ	Lake Benmore	3.43	55	PN	Pn	01 28 52.2	-2.0

MEX 25 01:52:20.3±0.6, 16°86N×101°98W, h6km±87km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	2.04	89	*i* P	Pn	01 52 48.7	-6.5
ACX				eS	Sn	01 53 11.6	-9.3
ARIG	Puente Sto Nin	2.11	48	*e*P	Pn	01 52 52.6	-3.5
ARIG				*i* S	Sn	01 53 18.5	-4.3
PLIG	Platanillo	2.82	57	*e*P	Pn	01 53 02.7	-3.3
PLIG				*i* S	Sn	01 53 36.9	-3.5
TLIG	Tlapa	3.34	77	*e*P	Pn	01 53 11.0	-2.2
TLIG				*i* S	Sn	01 53 49.8	-3.6
PNIG	Pinotepa	3.73	97	*e*P	Pn	01 53 15.7	-2.8
PNIG				eS	Sn	01 53 59.1	-3.6

IDC ***25*** *02:23:25.6±1.0, 29°13S×71°48W, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.9/18, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=34.4km s-min=29.5km az=90.0*

ISC 25 02:23:30.5±1.1, 29°0S±0°2×71°4W±0°2, h31km, n16, σ0°71/10, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.74	134	Pn	Pb	02 24 30.4	-5.6
	2.7nm,0.3s,baz=313,slow=12,SNR=206						
H03N1	Juan Fernandez	7.79	234	T	T	02 33 06.5	
	baz=57,slow=74,SNR=3257						
H03N2	Juan Fernandez	7.81	234	T	T	02 33 07.6	
	baz=57,slow=74,SNR=2967						
H03N3	Juan Fernandez	7.81	234	T	T	02 33 08.1	
	baz=57,slow=74,SNR=6056						
PLCA	Paso Flores	11.70	177	Lg	Lg	02 29 48.2	
	0.2nm,0.3s,baz=139,slow=20,SNR=3.2						
CPUP	Villa Florida	12.75	81	Pn	P	02 26 33.4	-7.0
	0.3nm,0.3s,baz=249,slow=17,SNR=2.1						
CPUP				Lg	Lg	02 30 00.7	
	1.0nm,0.3s,baz=308,slow=19,SNR=2.1						
SIV	San Ignacio	16.09	38	Pn	P

ASAL eS Sn 02 25 57.5 +0.9
ARCO CERRO ARCO 2.45 237 IAML 02 26 03.7
comp=Z,1μm,0.2s
AAGR Agrelo 2.51 232 *i* P Pn 02 25 32.5 +1.3
AVIZ Vizcacheras 2.58 221 *i* P Pn 02 25 33.3 +1.3
CYA Choya 3.15 11 *i* P Pn 02 25 41.1 +1.8
CYA IAML 02 26 20.5
comp=Z,538nm,0.7s
LCO Las Campanas 4.44 304 *e*Pn Pn 02 25 57.5 +1.0
LCO eS Sn 02 26 36.4 -12
TRQA Tornquist 7.47 152 *e*Pn Pn 02 25 38.1 +1.1
CPUP Villa Florida 9.55 59 *e*Pn Pn 02 27 04.6 -0.4
CPUP Villa Florida 9.55 59 P Pn 02 27 04.5 -0.4
comp=Z,6.2nm,0.3s,baz=219,slow=12,SNR=26
PLCA Paso Flores 9.74 199 *e*Pn Pn 02 27 06.9 -0.6
comp=Z,14nm,1.0s
PLCA Paso Flores 9.74 199 P Pn 02 27 06.2 -1.3
comp=Z,0.7nm,0.3s,baz=10,slow=12,SNR=14
SIV San Ignacio 16.25 19 P Pn 02 28 31.0 -0.5
SIV San Ignacio 16.25 19 P Pn 02 28 31.0 -0.5
comp=Z,2.8nm,0.3s,baz=210,slow=12,SNR=34
SAML Samuel 22.69 8 *e*P P 02 29 41.2 0.0
comp=Z,12nm,0.7s
BDFB Brasilia 23.12 51 P P 02 29 43.8 -1.6
BDFB Brasilia 23.12 51 P P 02 29 43.8 -1.6
comp=Z,17nm,0.7s,baz=232,slow=7.3,SNR=28
PTGA Pitinga 31.26 13 *e*P P 02 30 58.2 +0.1
comp=Z,16nm,0.9s
PTGA Pitinga 31.26 13 P P 02 30 58.7 +0.7
comp=Z,13nm,0.5s,baz=197,slow=12,SNR=23
RCBR Riachuelo 38.39 55 P P 02 31 59.3 -0.1
RCBR Riachuelo 38.39 55 P P 02 31 59.3 -0.1
comp=Z,7.2nm,0.5s,baz=210,slow=8.2,SNR=11
APG El Apazote 51.69 330 P P 02 33 42.0 -2.6
APG El Apazote 51.69 330 P P 02 33 42.0 -2.6
comp=Z,3.9nm,0.7s,baz=126,slow=8.7,SNR=5.5
SNAA Sanae 52.13 159 P P 02 33 47.6 +0.5
SNAA Sanae 52.13 159 P P 02 33 47.6 +0.5
comp=Z,0.3nm,0.5s,baz=271,slow=12,SNR=11
QSPA South Pole Qui 58.69 180 P P 02 34 34.2 +0.1
QSPA South Pole Qui 58.69 180 P P 02 34 34.2 +0.1
comp=Z,1.2nm,0.5s,baz=51,slow=6.5,SNR=3.3
LIC Lamto 69.54 69 *e*P P 02 35 45.3 -0.2
comp=Z,29nm,0.9s
TIC Toumodi 69.80 68 *e*P P 02 35 46.4 -0.7
comp=Z,2.8nm,0.2s
KIC Kosan Boka 69.85 69 *e*P P 02 35 47.6 +0.2
comp=Z,22nm,0.8s
DBIC Dimbokro 69.94 68 *e*P P 02 35 47.8 -0.1
comp=Z,7.2nm,0.8s
DBIC Dimbokro 69.94 68 P P 02 35 47.8 -0.1
comp=Z,7.1nm,0.7s,baz=213,slow=5.9,SNR=9.5
TXAR Lajitas Array 70.11 326 P P 02 35 49.2 +0.4
TXAR Lajitas Array 70.11 326 P P 02 35 49.2 +0.4
comp=Z,0.4nm,0.4s,baz=158,slow=7.9,SNR=11
BOSA Boshof 76.98 116 P P 02 36 29.5 +0.3
BOSA Boshof 76.98 116 P P 02 36 29.5 +0.3
comp=Z,1.5nm,0.6s,baz=246,slow=6.6,SNR=3.9
TOA0 Torodi Ar. Sit 78.96 67 *e*P P 02 36 40.3 +0.2
TORD Torodi Ar. Bea 78.96 67 P P 02 36 40.5 +0.4
TORD Torodi Ar. Bea 78.96 67 P P 02 36 40.5 +0.4
comp=Z,6.1nm,0.6s,baz=256,slow=4.8,SNR=79
PDAR Pinedale Array 83.86 330 P P 02 37 05.2 -0.4
PDAR Pinedale Array 83.86 330 P P 02 37 05.2 -0.4
comp=Z,0.6nm,0.7s,baz=128,slow=5.8,SNR=5.7
WRA Warramunga Arr 125.05 204 PKP **PKPdf** 02 43 34.9 -1.1
WRA Warramunga Arr 125.05 204 PKP **PKPdf** 02 43 34.9 -1.1
comp=Z,0.5nm,0.8s,baz=167,slow=1.5,SNR=14
ZALV Zalesovo Beam 149.61 34 PKPbc **PKPbc** 02 44 24.9 +0.8
ZALV Zalesovo Beam 149.61 34 PKPbc **PKPbc** 02 44 24.9 +0.8
comp=Z,1.4nm,0.4s,baz=304,slow=3.1,SNR=5.7
MKAR Makanchi Array 151.63 49 PKPbc **PKPbc** 02 44 29.4 +0.2
MKAR Makanchi Array 151.63 49 PKPbc **PKPbc** 02 44 29.4 +0.2
comp=Z,0.9nm,0.6s,baz=310,slow=3.8,SNR=6.5

MEX 25 02:29:07.1±0.4, 17°07'N×99°95'W, h24km±32km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.22**	**157**	*i* P	Pb	02 29 05.7	-7.3
ACX				*i* S	Sb	02 29 09.4	-7.5
ARIG	**Puente Sto Nin**	**1.26**	**342**	*e*P	Pn	02 29 26.3	-3.0
ARIG				*i* S	Sn	02 29 42.4	-3.2
TLIG	**Tlapa**	**1.41**	**69**	*i* P	Pn	02 29 27.8	-3.6
TLIG				*i* S	Sn	02 29 45.2	-4.1
PNIG	**Pinotepa**	**1.87**	**111**	*e*P	Pn	02 29 35.3	-2.3
PNIG				*i* S	Sn	02 29 57.9	-2.6

*JMA **25** 02:52:54.7±0.2, 27°.39N×130°.10E, h71km, M3.2*
*IDC **25** 02:52:54.1±1.1, 27°.20N×129°.11E, h0km, mb3.2/5, mb1 3.5/5, mb1mx3.3/24, mbtmp3.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/11, Error ellipse: s-maj=56.8km s-min=24.3km az=73.0*
ISC 25 02:52:52.4±1.8, 27°.37N±0°.04×130°.13E±0°.05, h3km±12km, n16, σ1s2/23, mb3.2/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.95**	**352**	P	**Pn**	**02 53 12.7**	**+0.1**
JZK				*e*S	**Sn**	**02 53 26.7**	**0.0**
JTK	**Tokunoshima**	**1.12**	**292**	P	**Pb**	**02 53 14.7**	**+0.2**
JTK				*e*S	**Sg**	**02 53 28.8**	**+0.3**
JAM	**Amami Oshima**	**1.13**	**336**	P	**Pb**	**02 53 14.6**	**0.0**
JAM				*e*S	**Sg**	**02 53 28.5**	**-0.3**
JAMN	**Amaminishikomi**	**1.21**	**316**	P	**Pg**	**02 53 15.5**	**-0.1**
JAMN				*e*S	**Sg**	**02 53 30.3**	**-1.0**
JOW	**Kunigami**	**1.74**	**252**	P	**Pn**	**02 53 23.7**	**+0.2**
JOW				S	**Sn**	**02 53 44.9**	**-1.3**
JMZ	**Minamidaito 2**	**1.83**	**147**	P	**Pn**	**02 53 24.4**	**-0.4**
JMZ				S	**Sn**	**02 53 46.2**	**-2.3**
JIH	**Iheya**	**1.95**	**261**	P	**Pn**	**02 53 26.8**	**+0.3**
JIH				S	**Sn**	**02 53 50.1**	**-1.4**
JAGN	**Aguni-jima**	**2.69**	**254**	P	**Pn**	**02 53 36.7**	**+0.1**
JAGN				*e*S	**Sn**	**02 54 06.5**	**-3.2**
JKE	**Kume jima 2**	**3.16**	**251**	P	**Pn**	**02 53 42.6**	**-0.5**
JKE				*e*S	**Sn**	**02 54 19.2**	**-2.2**
JTN	**Tanegashima 3**	**3.35**	**13**	P	**Pn**	**02 53 45.2**	**-0.5**
JTN				*e*S	**Sn**	**02 54 23.0**	**-3.1**
SONM	**Songino Array**	**27.57**	**324**	LR	LR	03 09 17.4	
	comp=Z,52nm,20.6s,baz=26,slow=36						
MKAR	**Makanchi Array**	**42.06**	**311**	P	P	03 00 42.1	-3.4
	0.1nm,0.4s,baz=99,slow=9.3,SNR=2.7						
WRA	**Warramunga Arr**	**47.21**	**175**	P	**P**	**03 01 27.0**	**+0.3**
	0.4nm,0.7s,baz=353,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**50.87**	**176**	P	**P**	**03 01 57.1**	**+2.4**
	0.1nm,0.5s,baz=4.2,slow=14,SNR=5.7						
FINES	**FINESS Array B**	**72.70**	**331**	P	**P**	**03 04 23.0**	**+1.6**
	0.3nm,0.3s,baz=79,slow=7.2,SNR=5.3						
YKA	**Yellowknife Ar**	**76.77**	**26**	P	P	03 04 49.8	+4.8
	0.1nm,0.5s,baz=306,slow=5.3,SNR=4.1						

*IDC **25** 03:08:25.9±1.8, 6°.92S×128°.93E, h0km, mb3.9/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=146.7km s-min=29.6km az=68.0*
*ISCJB **25** 03:08:40.2±0.8, 7°.45S±0°.04×128°.92E±0°.10, h151km, mb3.6/2, Error ellipse: s-maj=14.0km s-min=5.8km az=1.7*
ISC 25 03:08:40.7±1.0, 7°.61S±0°.06×129°.1E±0°.1, h151km, n10, σ2s85/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.58**	**159**	P	Pn	03 10 06.1	+4.3
	baz=7.1,SNR=16						
MTN				S	Sn	03 11 10.5	+5.3
	baz=7.1,SNR=7.1						
FAKI	**Fak Fak**	**5.63**	**34**	P	**Pn**	**03 10 03.1**	**+0.6**
	baz=6.6,SNR=22						
FAKI				S	**Sn**	**03 11 05.8**	**-0.8**
	baz=6.6,SNR=4.9						
KDU	**Kakadu**	**6.05**	**147**	P	Pn	03 10 12.7	+4.6
	baz=7.8,SNR=28						
KDU				S	**Sn**	**03 11 20.9**	**+4.4**
	baz=7.8,SNR=5.8						
KNRA	**Kununurra**	**8.02**	**182**	P	**Pn**	**03 10 36.2**	**+1.9**
	baz=8.8,SNR=8.9						
KNRA				S	**Sn**	**03 12 03.4**	**-0.4**
	baz=8.8,SNR=8.3						
WRA	**Warramunga Arr**	**13.28**	**158**	Pn	**P**	**03 11 44.9**	**-2.8**
	0.2nm,0.3s,baz=340,slow=13,SNR=8.2						
WRA				Sn	**Sn**	**03 14 06.2**	**-4.2**
	1.0nm,0.3s,baz=337,slow=22,SNR=6.5						
QIS	**Mount Isa**	**16.41**	**143**	P	P	03 12 32.7	+10
	baz=18,SNR=3.5						
ASAR	**Alice Springs**	**16.62**	**164**	P	Pn	03 12 29.6	+4.6
	0.1nm,0.3s,baz=342,slow=11,SNR=8.6						
ASAR				S	**S**	**03 15 28.6**	**-1.2**
	0.3nm,0.3s,baz=327,slow=22,SNR=6.6						
WRKA	**Warakurna**	**17.34**	**182**	P	**Pn**	**03 12 37.7**	**+4.0**
	baz=18,SNR=7.9						
WRKA				S	**S**	**03 15 43.6**	**-2.2**
	baz=18,SNR=3.4						
MKAR	**Makanchi Array**	**68.24**	**327**	P	**P**	**03 19 24.6**	**-0.4**
	0.3nm,0.4s,baz=118,slow=7.2,SNR=11						
ZALV	**Zalesovo Beam**	**71.73**	**334**	P	**P**	**03 19 45.5**	**-0.6**
	0.9nm,0.5s,baz=122,slow=5.2,SNR=5.1						

WEL 25 03:08:59.2±0.6, 35°.42S×178°.63E, h224km±12km, ML3.6/5, Error ellipse: s-maj=14.4km s-min=10.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.15**	**187**	PN	Pn	03 09 41.1	+0.1
HAZ	**Te Kaha**	**2.43**	**196**	PN	Pn	03 09 43.9	+0.1
PUZ	**Puketiti**	**2.66**	**186**	PN	Pn	03 09 46.8	+0.4
PUZ				SN	S	03 10 22.4	-1.0
MWZ	**Matawai**	**3.04**	**197**	PN	Pn	03 09 51.3	+0.7
URZ	**Urewera**	**3.08**	**203**	PN	Pn	03 09 51.3	+0.3
URZ				SN	S	03 10 31.8	+0.1
KNZ	**Kokohu**	**3.67**	**192**	PN	Pn	03 09 57.9	0.0
BKZ	**Black Stump Fm**	**4.11**	**204**	PN	Pn	03 10 03.4	+0.2
BKZ				SN	S	03 10 51.8	-1.9
BFZ	**Birch Farm**	**5.58**	**199**	PN	Pn	03 10 20.1	-1.3

*ISCJB **25** 03:15:17.8±1.3, 17°.3S±0°.6×178°.8W±0°.4, h547km, mb3.5/8, Error ellipse: s-maj=85.6km s-min=16.5km az=148.8*
*IDC **25** 03:15:17.9±11.0, 17°.33S×178°.68W, h537km±139km, mb3.1/8, mb1 3.5/8, mb1mx3.2/22, mbtmp4.0/8, Error ellipse: s-maj=93.3km s-min=34.7km az=162.0*
ISC 25 03:15:18.6±1.5, 17°.3S±0°.5×178°.7W±0°.4, h547km, n9, σ0s29/9, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.65**	**240**	P	**P**	**03 21 55.4**	**-0.1**
	2.1nm,0.7s,baz=76,slow=8.3,SNR=4.7						
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**03 22 41.6**	**+0.1**
	1.8nm,0.5s,baz=96,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**03 22 43.4**	**+0.2**
	7.1nm,0.5s,baz=86,slow=9.1,SNR=98						
NVAR	**Mina Array Bea**	**79.22**	**44**	P	**P**	**03 26 27.3**	**-0.2**
	0.8nm,0.8s,baz=230,slow=5.6,SNR=6.0						
ILAR	**Eielson Array**	**85.39**	**13**	P	**P**	**03 26 58.0**	**+0.2**
	0.3nm,0.5s,baz=221,slow=5.1,SNR=9.3						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**03 27 01.7**	**+0.3**
	0.5nm,0.7s,baz=225,slow=6.4,SNR=7.6						
PDAR	**Pinedale Array**	**87.14**	**44**	P	**P**	**03 27 06.8**	**-0.1**
	0.4nm,0.6s,baz=222,slow=2.0,SNR=3.9						
YKA	**Yellowknife Ar**	**93.93**	**25**	P	**P**	**03 27 37.6**	**0.0**
	0.1nm,0.5s,baz=246,slow=4.4,SNR=4.4						
GERES	**GERESS Array B**	**146.97**	**345**	PKPbc	**PKPbc**	**03 33 59.6**	**-0.5**
	0.1nm,0.4s,baz=20,slow=3.1,SNR=6.8						

*ISCJB **25** 03:15:47.1±0.9, 17°.5S±0°.3×178°.7W±0°.2, h533km, mb3.6/7, Error ellipse: s-maj=53.2km s-min=12.8km az=146.9*
*IDC **25** 03:15:56.1±3.2, 17°.54S×178°.84W, h635km±42km, mb3.2/7, mb1 3.5/7, mb1mx3.2/19, mbtmp4.1/7, Error ellipse: s-maj=78.2km s-min=14.5km az=154.0*
ISC 25 03:15:48.0±1.1, 17°.4S±0°.4×178°.8W±0°.2, h533km, n15, σ1s62/18, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNB	**Canberra Magne**	**33.43**	**231**	P	**P**	**03 21 43.5**	**+0.7**
	baz=23,SNR=5.8						
QLP	**Quilpie**	**35.34**	**248**	P	**P**	**03 22 00.3**	**+1.5**
	baz=24,SNR=3.9						
STKA	**Stephens Creek**	**38.53**	**240**	P	**P**	**03 22 25.8**	**+0.9**
	4.5nm,0.7s,baz=99,slow=8.0,SNR=8.4						
STKA	**Stephens Creek**	**38.53**	**240**	P	**P**	**03 22 26.0**	**+1.1**
	baz=27,SNR=6.6						
HTT	**Hallett**	**41.06**	**239**	P	**P**	**03 22 45.9**	**+0.6**
	baz=30,SNR=4.7						
BBOO	**Buckleboo**	**43.31**	**240**	P	**P**	**03 23 03.1**	**+0.2**
	baz=32,SNR=13						
WRA	**Warramunga Arr**	**44.33**	**259**	P	**P**	**03 23 12.2**	**+1.2**
	2.8nm,0.4s,baz=96,slow=7.5,SNR=23						
WRA				PcP	**PcP**	**03 24 42.1**	**-1.6**
	0.3nm,0.3s,baz=90,slow=3.6,SNR=2.9						
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**03 23 13.9**	**+1.3**
	12nm,0.5s,baz=87,slow=8.5,SNR=53						
ASAR				PcP	**PcP**	**03 24 42.6**	**-1.8**
	0.8nm,0.4s,baz=105,slow=3.7,SNR=5.1						
ASAR				S	**S**	**03 29 05.4**	**-4.2**
	0.7nm,0.8s,baz=85,slow=15,SNR=6.1						
KDU	**Kakadu**	**47.16**	**269**	P	**P**	**03 23 35.1**	**+2.5**
	baz=36,SNR=5.0						
WRKA	**Warakurna**	**49.62**	**252**	P	**P**	**03 23 51.6**	**+0.7**
	baz=38,SNR=12						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**03 26 58.7**	**-0.1**
	0.6nm,0.7s,baz=225,slow=7.4,SNR=5.1						
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**03 27 28.7**	**-0.2**
	0.1nm,0.5s,baz=190,slow=4.6,SNR=4.2						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**03 27 32.4**	**-0.3**
	1.2nm,0.9s,baz=220,slow=7.0,SNR=9.7						
PDAR	**Pinedale Array**	**87.25**	**44**	P	**P**	**03 27 37.8**	**-0.5**
	0.5nm,0.6s,baz=225,slow=1.3,SNR=4.2						
GERES	**GERESS Array B**	**147.00**	**345**	PKPbc	**PKPdf**	**03 34 28.7**	**+0.7**
	0.3nm,0.4s,baz=8.7,slow=1.3,SNR=5.0						

FUNV 25 03:30:43.2, 7°.54N×73°.51W, h127km, MW3.7, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**75**	*i*P	Pn	03 31 08.0	-0.4
CAPV				*e*S	Sn	03 31 25.7	-1.8
VIRV	**Villa del Rosa**	**3.14**	**20**	*e*P	Pn	03 31 29.8	-1.8
VIRV				*e*S	Sn	03 32 05.7	-3.2
ELOV	**Elorza**	**4.03**	**97**	*e*P	Pn	03 31 42.5	-0.8
ELOV				*e*S	Sn	03 32 25.6	-4.3
CURV	**Curarigua**	**4.28**	**55**	*e*P	Pn	03 31 45.1	-1.7
CURV				*e*S	Sn	03 32 31.2	-4.9
SANV	**Sanarito**	**4.38**	**63**	*e*P	Pn	03 31 46.6	-1.6
SANV				*e*S	Sn	03 32 34.1	-4.6
DABV	**Dabajuro**	**4.40**	**40**	*e*P	Pn	03 31 46.8	-1.4
SIQV	**Siquisique**	**4.78**	**50**	*e*P	Pn	03 31 51.7	-1.8
SIQV				*e*S	Sn	03 32 42.4	-5.7
MAPV	**Macapo**	**5.49**	**65**	*e*P	Pn	03 32 01.3	-1.6
BAUV	**El Baul**	**5.59**	**75**	*e*P	Pn	03 32 01.4	-2.7
BAUV				*e*S	Sn	03 32 59.6	-7.7

IDC 25 03:33:41.0±61.0, 20°.60S×178°.89W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=1107.0km s-min=157.6km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.00**	**244**	P	P	03 40 51.9	-0.6
	1.3nm,0.5s,baz=99,slow=10.0,SNR=6.1						
ASAR	**Alice Springs**	**43.69**	**257**	P	P	03 41 48.1	+0.1
	2.4nm,0.8s,baz=97,slow=7.9,SNR=24						
WRA	**Warramunga Arr**	**43.77**	**262**	P	P	03 41 48.7	0.0
	0.7nm,0.3s,baz=95,slow=8.2,SNR=6.2						

CASC 25 04:12:36.6±1.7, 8°.27N×83°.02W, h5km, MD3.9, 4C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.41**	**340**	*i*P	Pg	04 12 44.8	+0.2
ACR				*i*P	Pb	04 12 44.8	-1.6
ACR				*e*S	Sb	04 12 51.9	-1.1
BRU2	**Volcan**	**0.62**	**32**	*i*P	Pg	04 12 49.1	+0.4
BRU2				*e*S	Sb	04 12 59.7	+0.4
BRU	**Baru**	**0.70**	**41**	*e*P	Pg	04 12 50.9	+0.1
CNI	**Changuinola**	**1.25**	**24**	*i*P	Pg	04 12 59.5	-1.1
BUS	**Buena Vista**	**1.47**	**330**	*e*P	Pn	04 13 03.3	-1.1
BUS				*e*P	Pb	04 13 03.4	-1.7
BUS				*e*S	Sn	04 13 23.3	-1.1
BUS				*e*S	Sg	04 13 25.6	+0.7
QCR	**Quepos**	**1.61**	**316**	*e*P	Pn	04 13 05.6	-0.1
QCR				*i*P	Pb	04 13 05.8	-1.1
QCR				*e*S	Sb	04 13 27.9	+0.4
URSC	**Urasca**	**1.73**	**334**	*e*P	Pn	04 13 07.7	+0.1
URSC				*e*S	Sg	04 13 33.0	+0.5
SJS	**Escuela Geolog**	**1.95**	**329**	*e*P	Pn	04 13 10.0	-0.5
PTP	**Ponta Puerca**	**19.61**	**58**	*i*P	x	04 12 41.3	
PTP				*e*S	x	04 12 42.4	

*IDC **25** 04:14:52.9±0.7, 8°.43N×82°.79W, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.1/27, mbtmp4.0/19, ML4.0/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/25, Error ellipse: s-maj=28.0km s-min=12.6km az=50.0*
*CASC **25** 04:14:53.9±2.9, 8°.34N×83°.01W, h0km±8km, MD4.3*
*ISCJB **25** 04:14:56.6±0.6, 8°.36N±0°.05×82°.95W±0°.04, h38km±5km, mb4.0/25, MS3.7/12, Error ellipse: s-maj=9.7km s-min=5.9km az=25.1*
*NEIC **25** 04:14:59.5±1.0, 8°.40N×83°.03W, h47km±9km, mb4.7/11, MD4.6(HDC), Error ellipse: s-maj=14.7km s-min=7.4km az=47.0*
ISC 25 04:14:55.9±0.5, 8°.35N±0°.06×82°.95W±0°.04, h21km±2km, n93, σ1s55/97, mb4.2/26, MS3.6/12, 7C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.38**	**324**	*i*P	**Pb**	**04 15 01.2**	**-2.6**
ACR				*e*S	**Sb**	**04 15 09.0**	**-0.1**
BRU2	**Volcan**	**0.51**	**30**	*i*P	**Pb**	**04 15 05.5**	**-0.8**
BRU2				*e*S	**Sn**	**04 15 16.2**	**-0.1**
CTCR	**Cotoan**	**0.58**	**19**	*i*P	**Pb**	**04 15 06.3**	**-1.2**
BRU	**Baru**	**0.59**	**40**	*i*P	**Pb**	**04 15 07.6**	**-0.4**
CNI	**Changuinola**	**1.14**	**22**	*i*P	**Pn**	**04 15 16.3**	**-0.4**
BUS	**Buena Vista**	**1.44**	**326**	*i*P	**Pn**	**04 15 19.9**	**-1.3**
BUS				*e*S	**Sb**	**04 15 42.4**	**+1.9**
QCR	**Quepos**	**1.61**	**312**	*e*P	**Pn**	**04 15 21.9**	**-1.2**
URSC	**Urasca**	**1.69**	**331**	*e*P	**Pn**	**04 15 23.9**	**-0.5**
SJS	**Escuela Geolog**	**1.92**	**325**	*e*P	**Pn**	**04 15 27.8**	**+0.2**
JCR	**Jicaral**	**2.61**	**305**	*e*P	**Pn**	**04 15 36.6**	**-0.3**
CEDE	**Laguna Cedeˆ–o**	**2.74**	**321**	*i*P	**Pn**	**04 15 39.8**	**+1.0**
CEDE				*i*S	**Sb**	**04 16 18.2**	**+0.7**
JTS	**JuntasAbangare**	**2.77**	**314**	*e*Pn	**Pn**	**04 15 38.2**	**-0.8**
JTS				*e*S	**Sb**	**04 16 20.3**	**+2.2**
JTS	**JuntasAbangare**	**2.77**	**314**	Pn	**Pn**	**04 15 40.4**	**+1.3**
	55nm,0.3s,baz=158,slow=3.1,SNR=27						
JTS				Sn	**Sb**	**04 16 18.2**	**0.0**
	61nm,0.3s,baz=300,slow=21,SNR=11						
PTEN	**Parque Tenorio**	**3.10**	**320**	*i*P	**Pn**	**04 15 46.2**	**+2.6**
PTEN				*i*S	**Sb**	**04 16 28.1**	**+0.4**
CUI	**Cuipilapa**	**3.17**	**317**	*i*P	**Pn**	**04 15 46.5**	**+1.8**
BCIP	**Isla Barro Col**	**3.18**	**75**	*e*P	**Pn**	**04 15 45.4**	**+0.7**
BCIP				*e*S	**Sb**	**04 16 32.7**	**+2.7**
BCIP	**Isla Barro Col**	**3.18**	**75**	*e*Pn	**Pn**	**04 15 46.1**	**+1.4**
BCIP				*e*S	Sb	04 16 38.7	+8.7
COLC	**Colonia**	**3.20**	**316**	*i*P	**Pn**	**04 15 46.2**	**+1.2**
NY14	**Universidad de**	**3.43**	**312**	*i*P	**Pn**	**04 15 49.2**	**+1.1**
UPA	**Univ. de Panam**	**3.43**	**79**	*e*P	**Pn**	**04 15 50.3**	**+2.1**
UPA				*e*S	**Sb**	**04 16 35.0**	**-2.3**
LAPC	**Finca la Perla**	**3.44**	**315**	*i*P	**Pn**	**04 15 49.2**	**+1.0**
GB1A	**Borinquen Arri**	**3.45**	**316**	*i*P	**Pn**	**04 15 49.8**	**+1.3**
TGUH	**Tegucigalpa,Un**	**7.09**	**324**	*e*Pn	**Pn**	**04 16 40.4**	**+2.0**
ROSC	**El Rosal**	**9.23**	**112**	*e*Pn	Pn	04 17 14.6	+6.3
ROSC	**El Rosal**	**9.23**	**112**	Pn	**Pn**	**04 17 08.1**	**-0.2**
	0.4nm,0.3s,baz=279,slow=5.6,SNR=1.9						
APG	**El Apazote**	**9.90**	**313**	Pn	**Pn**	**04 17 16.5**	**-0.7**
APG	**El Apazote**	**9.90**	**313**	Pn	**Pn**	**04 17 16.5**	**-0.7**
	0.9nm,0.3s,baz=144,slow=10,SNR=16						
APG				LR	LR	04 21 27.4	
	comp=Z,177nm,19.8s,baz=131,slow=40						
SDV	**Santo Domingo**	**12.19**	**87**	*e*Pn	Pn	04 17 52.0	+3.5
TEIG	**Tepich**	**12.89**	**337**	LR	LR	04 22 48.3	
	comp=Z,188nm,19.2s,baz=239,slow=37						
ATAH	**Atahualpa**	**16.04**	**163**	Pn	**Pn**	**04 18 42.5**	**+1.8**
ATAH	**Atahualpa**	**16.04**	**163**	Pn	**Pn**	**04 18 42.5**	**+1.8**
	0.4nm,0.3s,baz=306,slow=19,SNR=2.8						
ATAH				LR	LR	04 24 15.2	
	comp=Z,243nm,18.4s,baz=341,slow=35						
PTP	**Ponta Puerca**	**19.50**	**58**	*i*P	x	04 14 57.7	
NNA	**Nana**	**21.09**	**163**	P	**P**	**04 19 40.1**	**+0.9**
	11nm,0.9s						
PTGA	**Pitinga**	**24.62**	**110**	P	**P**	**04 20 15.5**	**+0.4**
PTGA	**Pitinga**	**24.62**	**110**	P	**P**	**04 20 15.5**	**+0.4**
	4.1nm,0.9s,baz=336,slow=7.8,SNR=5.0						
PTGA				LR	LR	04 29 29.8	
	comp=Z,41nm,20.1s,baz=293,slow=36						
LRAL	**Lakeview Retre**	**24.85**	**352**	*e*P	**P**	**04 20 18.0**	**+1.0**
	41nm,1.4s						
GOGA	**Godfrey**	**24.95**	**359**	*e*P	**P**	**04 20 18.4**	**+0.6**
	20nm,0.9s						
SAML	**Samuel**	**26.13**	**131**	P	**P**	**04 20 33.0**	**+4.2**
	1.8nm,1.1s						
TKL	**Tuckaleechee C**	**27.19**	**359**	LR	LR	04 31 01.3	
	comp=Z,139nm,18.5s,baz=200,slow=36						
LPAZ	**La Paz**	**28.53**	**149**	LR	LR	04 32 56.6	
	comp=Z,136nm,18.3s,baz=320,slow=38						
TXAR	**Lajitas Array**	**28.54**	**320**	P	**P**	**04 20 52.3**	**+1.8**
TXAR	**Lajitas Array**	**28.54**	**320**	P	**P**	**04 20 52.3**	**+1.8**
	0.3nm,1.0s,baz=125,slow=8.9,SNR=2.5						
TXAR				LR	LR	04 32 20.2	
	comp=Z,44nm,21.2s,baz=0.

ESDC	Sonseca Array	76.25	51	P	P	04 26 43.2	0.0	
ESDC	Sonseca Array	76.25	51	P	P	04 26 43.3	0.0	
	1.7nm,0.9s,baz=284,slow=5.9,SNR=7.0							
DBIC	Dimbokro	77.32	85	P	P	04 26 50.0	+0.3	
	7.5nm,1.1s							
DBIC	Dimbokro	77.32	85	P	P	04 26 50.1	+0.5	
	5.1nm,0.9s,baz=248,slow=2.2,SNR=4.6							
TORD	Torodi Ar. Bea	82.96	78	P	P	04 27 20.1	0.0	
TORD	Torodi Ar. Bea	82.96	78	P	P	04 27 20.1	0.0	
	1.6nm,0.8s,baz=261,slow=4.6,SNR=8.0							
NOA	NORSAR Array B	84.78	29	LR	LR	05 04 46.2		
	comp=Z,22nm,18.5s,baz=280,slow=35							
GERES	GERESS Array B	88.13	41	P	P	04 27 43.4	-2.0	
GERES	GERESS Array B	88.13	41	P	P	04 27 43.4	-2.0	
	0.2nm,0.3s,baz=243,slow=6.5,SNR=3.9							
GERES				LR	LR	05 00 22.9		
	comp=Z,62nm,21.9s,baz=274,slow=31							
MKAR	Makanchi Array	123.55	12	PKP	PKPdf	04 33 53.8	+1.7	
MKAR	Makanchi Array	123.55	12	PKP	PKPdf	04 33 53.7	+1.7	
	0.4nm,1.0s,baz=337,slow=3.3,SNR=2.8							
WMQ	Urumqi	127.39	9	PKP	PKPdf	04 34 00.5	+0.9	
WMQ				sPKP		04 34 17.3		
WMQ				PP	PP	04 36 04.6	+6.5	
WMQ				PKS	PKSdf	04 37 35.8	-0.4	
WMQ				SKS	SKSdf	04 41 07.1	-3.3	
WMQ				SKKS	SKKSac	04 42 51.6	-4.5	
WMQ				SS	SS	04 53 07.6	+1.5	
WMQ				AMB	AMB			
	comp=Z,11nm,8.2s							
WMQ				LR	LR			
	comp=N,27nm,17.1s							
WMQ				LR	LR			
	comp=E,19nm,18.2s							
WMQ				LR	LR			
	comp=Z,41nm,15.4s							
KSH	Kashi	128.52	21	*e*PKP	PKPdf	04 34 02.3	+0.4	
KSH				*es*PKP		04 34 16.3		
KSH				*e*SKS	SKSdf	04 41 08.8	-4.0	
KSH				AMB	AMB			
	comp=Z,48nm,4.5s							
KSH				LR	LR			
	comp=Z,30nm,3.5s							
BJI	Beijing	128.71	341	PKP	PKPdf	04 34 01.9	-0.1	
BJI				SS	SS	04 53 20.8	-1.9	
BJI				LR	LR			
	comp=Z,34nm,29.3s							
HHC	Hu-ho-hao-te	129.25	346	*e*PKP	PKPdf	04 34 03.3	0.0	
HHC				PP	PP	04 36 14.3	+3.8	
HHC				SS	SS	04 53 28.8	-0.7	
HHC				LR	LR			
	comp=Z,140nm,16.0s							
ASAR	Alice Springs	141.59	242	PKP	PKPdf	04 34 24.8	-1.8	
ASAR	Alice Springs	141.59	242	PKP	PKPdf	04 34 24.8	-1.8	
	0.3nm,0.8s,baz=46,slow=4.0,SNR=3.2							
WRA	Warramunga Arr	142.15	248	PKP	PKPdf	04 34 26.5	-1.1	
WRA	Warramunga Arr	142.15	248	PKP	PKPdf	04 34 26.5	-1.1	
	1.0nm,1.0s,baz=121,slow=1.4,SNR=3.1							

IDC 25 04:19:08.6±6.8, 20.08S×176.29W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/19, mbtmp3.8/2, Error ellipse: s-maj=382.8km s-min=95.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	46.17	256	P	P	04 27 35.6	+0.1
	0.7nm,0.5s,baz=98,slow=7.9,SNR=12						
WRA	Warramunga Arr	46.25	261	P	P	04 27 35.5	-0.5
	0.4nm,0.3s,baz=97,slow=7.0,SNR=2.9						
AKASG	Malin Array Be	143.40	333	PKP	PKPdf	04 38 44.5	-0.4
	0.3nm,0.5s,baz=44,slow=4.3,SNR=7.1						

*IDC **25** 04:24:51.3±0.9, 51.97N×170.80W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.5/40, mbtmp3.5/8, ML3.2/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/33, Error ellipse: s-maj=42.1km s-min=20.2km az=163.0*

*ISCJB **25** 04:24:58.2±0.8, 52.4N±0.1×170.71W±0.10, h62km±8km, mb3.6/7, Error ellipse: s-maj=24.2km s-min=4.7km az=159.0*

*NEIC **25** 04:24:58.9, 52.32N×170.53W, h44km, ML3.6(AEIC), After AEIC.*

ISC 25 04:24:59.3±1.5, 52.3N±0.1×170.69W±0.06, h56km±14km, n40, σ1ᵖ14/39, mb3.6/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKSP	Okmok Steeple	1.72	57	P	Pn	04 25 25.9	-1.0
OKSP				S	Sn	04 25 47.0	-0.9
OKFG	Magazine Ridge	2.00	56	P	Pn	04 25 29.9	-0.8
OKFG				S	Sn	04 25 53.1	-1.4
MSOM	Makushin Julie	2.70	55	P	Pn	04 25 40.0	-0.2
MSOM				S	Sn	04 26 10.8	-0.9
MREP	Makushin Rep't	2.80	57	P	Pn	04 25 41.8	+0.1
MCIR	Makushin Cirqu	2.80	53	P	Pn	04 25 42.2	+0.5
MSW	Makushin Switc	2.84	55	P	Pn	04 25 42.8	+0.7
MSW				S	Sn	04 26 15.4	+0.3
MTBL	Makushin Table	2.92	54	P	Pn	04 25 42.2	-1.1
UNV	Unalaska Vale	2.95	57	*e*Pn	Pn	04 25 42.8	-0.7
UNV				*e*S	Sn	04 26 20.3	+2.7
AKRB	Akutan Reef Bi	3.31	55	P	Pn	04 25 48.5	-0.1
AKRB				S	Sn	04 26 26.5	-0.2
GSTR	Great Sitkin T	3.31	268	*e*Pn	Pn	04 25 49.1	+0.5
GSMY	Great Sitkin M	3.31	267	P	Pn	04 25 49.5	+0.8
AKMO	Akutan Morgan	3.32	56	P	Pn	04 25 48.9	+0.1
AKMO				S	Sn	04 26 27.2	+0.3
ZRO	Akutan Zero	3.34	56	P	Pn	04 25 48.9	-0.1
GSTD	Great Sitkin T	3.37	267	P	Pn	04 25 47.6	-1.8
GSCK	Great Sitkin C	3.38	267	P	Pn	04 25 50.3	+0.7
AKGG	Akutan Green G	3.38	55	P	Pn	04 25 48.0	-1.6
AKUT	Akutan	3.46	57	*e*Pn	Pn	04 25 51.4	+0.8
AKUT				*e*S	Sn	04 26 29.7	-0.7
ADAG	Mount Adagdak	3.66	267	P	Pn	04 25 54.5	+1.1
WESN	West Dahl Nort	4.28	56	P	Pn	04 26 03.5	+1.5
SSBA	Shishaldin	4.62	55	P	Pn	04 26 07.5	+1.0
SSBA				S	Sn	04 26 58.9	+0.1
SSLW	Shishaldin Wes	4.62	56	P	Pn	04 26 06.7	+0.2
SPIA	Saint Paul Isl	4.86	3	P	Pn	04 26 08.9	-0.8
ILAR	Eielson Array	17.44	35	P	P	04 29 01.2	+2.2
	0.0nm,0.3s,baz=225,slow=10,SNR=4.1						
ILAR				LR	LR	04 35 36.4	
	comp=Z,56nm,20.1s,baz=258,slow=36						
INK	Inuvik	23.82	34	LR	LR	04 40 13.1	
	comp=Z,56nm,20.8s,baz=281,slow=38						
YKA	Yellowknife Ar	30.87	49	P	P	04 31 11.9	+2.0
	0.1nm,0.5s,baz=272,slow=7.7,SNR=7.0						
H11N2	WAKE ISLAND Hy	36.93	217	T	T	05 11 43.0	
	baz=25,slow=76,SNR=5.9						
H11N3	WAKE ISLAND Hy	36.94	217	T	T	05 11 36.3	
	baz=25,slow=76,SNR=6.6						
H11N1	WAKE ISLAND Hy	36.95	217	T	T	05 11 29.2	
	baz=25,slow=76,SNR=5.6						
H11S1	WAKE ISLAND Hy	38.12	216	T	T	05 13 22.2	
	baz=23,slow=77,SNR=83						
H11S2	WAKE ISLAND Hy	38.14	216	T	T	05 13 26.5	
	baz=23,slow=77,SNR=67						
H11S3	WAKE ISLAND Hy	38.14	216	T	T	05 13 19.3	
	baz=23,slow=77,SNR=49						
PDAR	Pinedale Array	41.21	78	P	P	04 32 38.9	+0.3
	0.5nm,0.5s,baz=286,slow=6.5,SNR=8.5						
SONM	Songino Array	50.62	300	P	P	04 33 51.1	-1.3
	0.8nm,1.1s,baz=53,slow=5.6,SNR=4.0						
TXAR	Lajitas Array	53.56	88	P	P	04 34 13.1	-1.4
	0.1nm,0.6s,baz=326,slow=4.7,SNR=3.6						
CMAR	Chiang Mai Arr	75.83	282	P	P	04 36 40.0	+0.5
	1.0nm,0.3s,baz=17,slow=6.8,SNR=4.1						
WRA	Warramunga Arr	86.35	231	P	P	04 37 33.5	-1.7
	0.4nm,0.6s,baz=40,slow=6.6,SNR=3.2						
ASAR	Alice Springs	89.76	229	P	P	04 37 51.1	-0.3
	0.7nm,0.8s,baz=23,slow=5.0,SNR=4.1						
H03N2	Juan Fernandez	116.67	111	T	T	06 51 04.6	
	baz=316,slow=75,SNR=6.0						
H03N1	Juan Fernandez	116.68	111	T	T	06 51 00.7	
	baz=316,slow=75,SNR=5.5						
H03N3	Juan Fernandez	116.69	111	T	T	06 51 04.9	
	baz=316,slow=75,SNR=5.9						

GUC 25 04:32:08.6±0.4, 33.02S×72.95W, h27km±2km, ML3.8, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	1.10	90	*e*P	Pn	04 32 27.9	-0.3
IHA				*e*S	Sn	04 32 42.6	+0.1
ROCH	El Roble	1.63	89	*e*P	Pn	04 32 36.4	+0.5
ROCH				*i* S	Sb	04 32 57.7	-1.0
ROCH				AML	AML	04 33 00.3	
	comp=N,1μm,0.3s						
TACH	Talagante	1.80	111↑	*e*P	Pn	04 32 38.0	+0.1
TACH				*i* S	Sn	04 33 01.3	+1.4
PEL	Peldehue	1.91	94↓	*i*P	Pn	04 32 41.0	+1.6
PEL				*i* S	Sb	04 33 05.2	-1.1
PEL				AML	AML	04 33 06.7	
	comp=E,2μm,0.6s						
ANTU	Antumapu	2.02	106	*e*P	Pn	04 32 42.3	+1.4
ANTU				*i* S	Sb	04 33 07.7	-1.7
ANTU				AML	AML	04 33 09.1	
	comp=N,992nm,0.3s						
CLCH	Cerro Calan	2.06	101	*i*P	Pn	04 32 43.0	+1.5
CLCH				*i* S	Sb	04 33 08.8	-1.9
CLCH				AML	AML	04 33 10.1	
	comp=E,1μm,0.5s						
LACH	Col Las Americ	2.07	103	*e*P	Pn	04 32 42.9	+1.2
LACH				*i* S	Sb	04 33 09.3	-1.8
FSR	Penalolen	2.08	103	*i* S	Sb	04 33 09.7	-1.7
CMCH	Combarbala	2.48	42↑	*e*P	Pn	04 32 48.5	+1.2
CMCH				*e*S	Sn	04 33 19.2	+2.4

IDC 25 04:54:30.6±3.4, 14.06N×93.04E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=74.4km s-min=41.1km az=147.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.16	52	Pn	Pn	04 56 17.7	+1.0
	0.8nm,0.3s,baz=234,slow=19,SNR=3.0						
MKAR	Makanchi Array	33.86	347	P	P	05 01 14.9	0.0
	0.8nm,0.9s,baz=161,slow=9.2,SNR=5.7						
SONM	Songino Array	35.46	16	P	P	05 01 28.4	-0.5
	0.4nm,0.8s,baz=194,slow=10,SNR=3.5						
ZALV	Zalesovo Beam	40.32	352	P	P	05 02 09.3	-0.4
	0.7nm,0.6s,baz=150,slow=6.0,SNR=4.4						
TORD	Torodi Ar. Bea	88.15	283	P	P	05 07 24.3	+0.2
	0.7nm,0.9s,baz=87,slow=5.5,SNR=3.6						

IDC 25 05:16:25.0±3.1, 28.33N×50.45E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/27, mbtmp3.6/4, Error ellipse: s-maj=89.7km s-min=33.1km az=143.0, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	35.82	35	P	P	05 23 25.9	-0.1
	0.7nm,0.6s,baz=230,slow=6.6,SNR=4.0						
FINES	FINESS Array B	36.89	341	P		05 23 34.9	-0.1
	1.0nm,0.7s,baz=134,slow=8.0,SNR=4.7						
TORD	Torodi Ar. Bea	47.71	262	P	P	05 25 03.7	-0.1
	0.3nm,0.2s,baz=67,slow=8.4,SNR=7.8						
YKA	Yellowknife Ar	88.71	353	P	P	05 29 20.0	0.0
	0.1nm,0.6s,baz=12,slow=5.8,SNR=3.4						

*LDG **25** 05:39:52.3±1.4, 15.24N×62.49W, h90km, Mb4.4/9, Error ellipse: s-maj=59.6km s-min=11.8km az=47.0*

*TRN **25** 05:40:04.0, 15.28N×61.26W, h149km, MD3.6, M3.5(FDF)*

*ISCJB **25** 05:40:04.3±0.2, 15.25N±0.02×61.34W±0.03, h153km±1km, mb3.8/28, Error ellipse: s-maj=5.2km s-min=2.9km az=163.9*

*IDC **25** 05:40:04.0±0.5, 15.26N×61.45W, h141km±3km, mb3.4/16, mb1 3.7/17, mb1mx3.6/26, mbtmp3.9/17, Error ellipse: s-maj=14.0km s-min=6.9km az=79.0*

*NEIC **25** 05:40:05.5±0.4, 15.20N×61.38W, h146km±5km, mb4.4/5, Error ellipse: s-maj=7.5km s-min=6.0km az=58.0*

ISC 25 05:40:05.1±0.6, 15.27N±0.03×61.33W±0.05, h151km±4km, n134, σ1ᵖ26/159, mb4.0/28, 11C-12D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBCT	Belle View Cho	0.02	273	*e*P	Pn	05 40 25.9	+0.6
DPMT	Pointe Michel	0.05	259	*e*P	Pn	05 40 25.7	+0.5
DPMT				*e*S	Sn	05 40 40.8	+0.4
DSHT	Scott's Head	0.07	218	*i*P	Pn	05 40 25.7	+0.5
DSHT				*e*S	Sn	05 40 40.1	-0.5
MDN	Morne-Daniel	0.08	308	*i*P	Pn	05 40 25.8	+0.6
MDN				*e*S	Sn	05 40 40.6	0.0
DLPL	La Plaine	0.10	52	*e*P	Pn	05 40 25.0	-0.3
DLPL				*e*S	Sn	05 40 39.9	-0.7
BBL	Barber's Block	0.29	332	*i*P	Pn	05 40 25.7	0.0
FDF	Fort de France	0.56	162	*i*P	Pn	05 40 26.6	-0.3
FDF				*e*S	Sn	05 40 42.8	-0.7
FDF	Fort de France	0.56	162	*e*Pn	Pn	05 40 26.6	-0.3
FDF				*e*Sn	Sn	05 40 43.3	-0.2
BVM	Bellevue	0.59	154	*e*P	Pn	05 40 27.0	-0.1
TBG	Guadaloupe-3	0.66	332	*i*P	Pn	05 40 27.2	-0.1
ZAM	Aeronautique	0.75	157	*e*P	Pn	05 40 27.6	-0.4
LPMF	Morne Lapointe	0.78	153	*i*P	Pn	05 40 27.5	-0.7
TRMF	Trois Ilets	0.78	160	*e*P	Pn	05 40 28.0	-0.1
BIM	Bigot	0.79	162	*e*P	Pn	05 40 28.1	-0.2
BIM				*e*S	Sn	05 40 45.4	-0.6
HMG	Houelmont	0.79	333	*i*P	Pn	05 40 28.5	+0.1
PHG	Guadaloupe-2	0.80	338	*i*P	Pn	05 40 28.6	+0.1
DOG	Dongo Capester	0.81	340	*i*P	Pn	05 40 28.4	-0.1
MVM	Montagne Vaucl	0.82	149	*e*P	Pn	05 40 28.2	-0.3
SCG	Saint Claude	0.83	336	*i*P	Pn	05 40 28.8	+0.2
SCG				*e*S	Sn	05 40 46.2	-0.4
ECG	Echelle	0.83	338	*e*P	Pn	05 40 28.7	-0.1
LKG	Breislack	0.83	338	*i*P	Pn	05 40 28.8	0.0
TAG	Tarade	0.83	337	*e*P	Pn	05 40 28.8	+0.1
CRG	Carmichael	0.84	338	*e*P	Pn	05 40 28.8	-0.1
SSG	Sans Toucher	0.88	338	*i*P	Pn	05 40 29.1	-0.1
H05S1	Guadeloupe/Mar	0.96	150	P	Pn	05 40 29.1	-0.5
H05S1				S	Sn	05 40 46.9	-1.5
LZG	Guadaloupe-1	0.97	334	*e*P	Pn	05 40 29.7	+0.1
H05N1	Guadeloupe/Mar	1.07	14	P	Pn	05 40 30.0	-0.5
H05N1				S	Sn	05 40 48.0	-2.1
SEG	Port Louis	1.14	351	*i*P	Pn	05 40 31.1	0.0
SLB	Belfond	1.46	169	*i*P	Pn	05 40 35.8	+1.4
SLB				*e*S	Sn	05 40 57.8	+1.0
MCLT	Moule a Chique	1.60	166	*e*P	Pn	05 40 35.2	-0.6
MCLT				*e*S	Sn	05 40 58.8	-0.5
BPA	Boggy Peak	1.84	344	*e*P	Pn	05 40 38.0	-0.4
BPA				*e*S	Sn	05 41 03.2	-0.9
SSV	Crater Summit	1.94	176	*e*P	Pn	05 40 39.6	0.0
SSV				*e*S	Sn	05 41 05.5	-0.7
SVV	Soufriere Volc	1.94	177	*i*P	Pn	05 40 41.4	+1.8
SVV				*e*S	Sn	05 41 06.4	+0.2
BHS	Barnard House	1.97	174	*e*P	Pn	05 40 41.2	+1.2
BHS				*e*S	Sn	05 41 06.9	+0.2
SVB	Belmont	1.99	178	*e*P	Pn	05 40 39.9	-0.3
SVB				*e*S	Sn	05 41 06.4	-0.7
ANWB	Willy Bob	2.42	350	*e*Pn	Pn	05 40 44.2	-1.1
ANWB				*e*Sn	Sn	05 41 13.0	-3.4
BBGH	Gun Hill	2.72	141	*e*Pn	Pn	05 40 49.5	+0.5
GRSS	Sisters	2.97	185	*e*P	Pn	05 40 52.4	+0.3
GRSS				*e*S	Sn	05 41 28.1	-0.3
GRHS	Sauteurs	3.04	186	*e*P	Pn	05 40 53.4	+0.4
GRHS				*e*S	Sn	05 41 29.0	-1.2
GRW	Mount Saint Ca	3.11	186	*e*P	Pn	05 40 54.4	+0.5
GRW				*e*S	Sn	05 41 29.8	-2.0
GRGR	Grenville	3.13	186	*e*Pn	Pn	05 40 53.9	-0.4
GRGR				*e*Sn	Sn	05 41 33.1	+0.8
TOSP	Speyside	4.02	169	*e*P	Pn	05 41 05.3	-0.4
TOSP				*e*S	Sn	05 41 50.5	-2.2
TPR	Prospect	4.09	172	*e*P	Pn	05 41 06.3	-0.4
BOT	Bacolet	4.12	172	*e*P	Pn	05 41 06.1	-0.9
TRN	Trinidad (W)	4.59	181	*e*P	Pn	05 41 12.8	-0.3
TRN				*e*S	Sn	05 42 04.4	-1.9
TBH	Brigand Hill	4.76	177	*e*P	Pn	05 41 16.2	+0.7
CBYP	Canovanas	5.26	305	*e*Pn	Pn	05 41 22.5	+0.5
	44nm,0.6s						
CBYP				*e*Sn	Sn	05 42 25.9	+3.7
CELP	Cerrillos	5.75	300	*e*Pn	Pn	05 41 28.3	-0.2
CELP				*e*Sn	Sn	05 42 33.7	-0.1
OBIP	Obispado Ponce	5.76	299	*e*Pn	Pn	05 41 24.7	-3.9
OBIP				*e*Sn	Sn	05 42 31.9	-2.0
LRS	Lares	6.08	300	*e*Pn	Pn	05 41 34.5	+1.7
LRS				*e*Sn	Sn	05 42 44.1	+2.6
CRPR	Cabo Rojo, PR	6.17	297	*e*Pn	Pn	05 41 34.0	-0.1
CRPR				*e*Sn	Sn	05 42 43.7	-0.1
SDDR	Presa de Saban	10.21	293	*e*Pn	Pn	05 42 30.2	+2.2
SDDR				*e*Sn	Sn	05 44 22.1	+1.1
PTGA	Pitinga	15.96	175	*e*Pn	Pn	05 43 40.8	-0.6
	8.2nm,0.6s						
PTGA				*e*Sn	Sn	05 46 35.5	-3.8
PTGA	Pitinga	15.96	175	P	Pn	05 43 41.1	-0.3
	3.1nm,0.3s,baz=1.1,slow=18,SNR=21						
ROSC	El Rosal	16.45	232	*e*Pn	Pn	05 43 46.2	-1.6
BBSR	BB Station	17.30	350	*e*P	Pn	05 43 59.9	+2.5
DWPF	Disney	22.59	308	P	P	05 44 51.5	-1.5
	0.2nm,0.5s						
SAML	Samuel	24.13	184	*e*P	P	05 45 07.3	+0.1
	4.1nm,0.9s						
APG	El Apazote	28.12	273	P	P	05 45 41.8	-1.6
	1.2nm,0.4s,baz=35,slow=19,SNR=4.0						
NNA	Nana	31.14	210	*e*P	P	05 46 10.5	+0.7
	3.5nm,0.5s						
TXAR	Lajitas Array	41.37	297	P	P	05 47 35.7	-0.9
	0.1nm,0.4s,baz=120,slow=7.8,SNR=6.6						
TXAR				PcP	PcP	05 49 32.9	+0.8
	0.2nm,0.5s,baz=118,slow=4.0,SNR=3.7						
CPUP	Villa Florida	41.53	175	P	P	05 47 36.6	-1.1
	0.9nm,0.5s,baz=359,slow=10,SNR=3.6						
ULM	Lac du Bonnet	44.68	329	P	P	05 48 01.6	-1.2
	1.2nm,0.7s,baz=138,slow=8.0,SNR=4.1						
PDAR	Pinedale Array	49.42	314	P	P	05 48 39.7	-0.3
	0.6nm,0.7s,baz=115,slow=9.8,SNR=5.0						
H10N3	ASCENSION HYDR	51.77	113	T	T	06 44 39.7	
	baz=296,slow=75						
H10N2	ASCENSION HYDR	51.78	113	T	T	06 44 40.2	
	baz=296,slow=75						
H10N1	ASCENSION HYDR	51.79	113	T	T	06 44 43.1	
	baz=296,slow=75						
H10S3	ASCENSION HYDR	52.13	114	T	T	06 45 09.3	
	baz=295,slow=74						
H10S1	ASCENSION HYDR	52.13	114	T	T	06 45 09.7	
	baz=295						
H10S2	ASCENSION HYDR	52.15	114	T	T	06 45 02.1	
	baz=295						
NVAR	Mina Array Bea	54.89	306	P	P	05 49 20.3	-0.2
	0.3nm,0.7s,baz=94,slow=7.3,SNR=2.6						
ESDC	Sonseca Array	55.38	52	P	P	05 49 25.0	+1.3
	0.8nm,0.6s,baz=260,slow=7.7,SNR=6.1						
LIC	Lamto	55.91	93	*e*P	P	05 49 28.8	+1.0
	6.2nm,0.7s						
LIC	Lamto	55.91	93	*e*P	P	05 49 28.8	+1.0
	6.2nm,0.7s						
DBIC	Dimbokro	55.96	92	P	P	05 49 28.4	+0.2
	1.5nm,0.5s,baz=289,slow=6.6,SNR=4.0						
SJPF	Ste Jean	57.96	48	*e*P	P	05 49 44.0	+2.2
SJPF	Ste Jean	57.96	48	*e*P	P	05 49 44.0	+2.2
EPF	Esparros	59.08	49	*e*P	P	05 49 51.6	+2.0
EPF	Esparros	59.08	49	*e*P	P	05 49 51.6	+2.0
GRR	Gorron	59.19	42	*e*P	P	05 49 52.0	+1.8
	2.9nm,0.5s						
GRR	Gorron	59.19	42	*e*P	P	05 49 52.0	+1.8
	2.9nm,0.5s						
MFF	Saint Martin d	59.31	45	*e*P	P	05 49 52.7	+1.6
MFF	Saint Martin d	59.31	45	*e*P	P	05 49 52.7	+1.6
FLN	La Foliniere	59.51	42	*e*P	P	05 49 54.3	+1.9
	6.5nm,0.6s						
FLN	La Foliniere	59.51	42	*e*P	P	05 49 54.3	+1.9
	6.5nm,0.6s						
LFF	La Frestale	59.65	47	*e*P	P	05 49 55.7	+2.3
LFF	La Frestale	59.65	47	*e*P	P	05 49 55.7	+2.3
LDF	La Druitiere	59.71	42	*e*P	P	05 49 55.7	+1.9
LDF	La Druitiere	59.71	42	*e*P	P	05 49 55.7	+1.9
YKA	Yellowknife Ar	60.02	335	P	P	05 49 55.0	-0.5
	0.6nm,0.4s,baz=105,slow=7.4,SNR=20						
CAF	Calviac	60.58	47	*e*P	P	05 50 01.1	+1.3
CAF	Calviac	60.58	47	*e*P	P	05 50 01.1	+1.3
TCF	Toulx Ste Croi	60.87	45	*e*P	P	05 50 03.5	+1.8
	16nm,1.2s						
TCF	Toulx Ste Croi	60.87	45	*e*P	P	05 50 03.5	+1.8
	16nm,1.2s						
TORD	Torodi Ar. Bea	60.95	83	P	P	05 50 03.3	+0.6
	1.7nm,0.5s,baz=288,slow=6.9,SNR=20						
AVF	Avril sur Loir	61.72	45	*e*P	P	05 50 08.3	+0.9
	2.8nm,0.5s						
AVF	Avril sur Loir	61.72	45	*e*P	P	05 50 08.3	+0.9
	2.8nm,0.5s						
LASF	Ste Croix	61.75	48	*e*P	P	05 50 09.4	+1.7
LASF	Ste Croix	61.75	48	*e*P	P	05 50 09.4	+1.7
SSF	Saint Saulge	61.86	45	*e*P	P	05 50 09.3	+0.9
SSF	Saint Saulge	61.86	45	*e*P	P	05 50 09.3	+0.9
SMF	Signal de Mont	62.03	45	*e*P	P	05 50 10.6	+1.1
	3.9nm,0.6s						
SMF	Signal de Mont	62.03	45	*e*P	P	05 50 10.6	+1.1
	3.9nm,0.6s						
LOR	Lormes	62.13	44	*e*P	P	05 50 11.1	+0.9
	10nm,0.8s						
LOR	Lormes	62.13	44	*e*P	P	05 50 11.1	+0.9
	10nm,0.8s						
VIVF	Saint-Julien-l	62.41	47	*e*P	P	05 50 14.0	+1.9
VIVF	Saint-Julien-l	62.41	47	*e*P	P	05 50 14.0	+1.9
SFTF	Sexfontaines	63.04	43	*e*P	P	05 50 17.7	+1.5
SFTF	Sexfontaines	63.04	43	*e*P	P	05 50 17.7	+1.5
GIVF	Givet	63.16	41	*e*P	P	05 50 17.8	+0.9
GIVF	Givet	63.16	41	*e*P	P	05 50 17.8	+0.9
MBDF	Mont

0.2nm,0.3s,baz=113,slow=7.8,SNR=7.1

*ISCJB **25** 05:59:06.9±0.6, 67°.50N±0°.03×33°.6E±0°.1, h0km, mb3.1/3, Error ellipse: s-maj=5.9km s-min=4.0km az=168.1*
*KOLA **25** 05:59:06.6, 67°.70N×34°.03E, h0km*
*HEL **25** 05:59:08.6±0.3, 67°.66N×33°.92E, h0km, ML3.1, Explosion*
*NAO **25** 05:59:08.8±1.1, 67°.59N×33°.84E, ML3.4*
*IDC **25** 05:59:08.5±0.8, 67°.71N×33°.99E, h0km, mb3.1/3, mb1 3.5/9, mb1mx3.2/51, mbtmp3.4/9, ML3.7/6, Error ellipse: s-maj=10.5km s-min=8.4km az=92.0*
*CSEM **25** 05:59:11.3±0.7, 67°.53N×33°.24E, h1km, ML3.4, Error ellipse: s-maj=14.7km s-min=6.1km az=81.0, Mining explosion.*

ISC 25 05:59:06.3±0.9, 67°.63N±0°.03×34°.06E±0°.05, h0km, n60, σ1§96/104, mb3.1/3, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.26**	**256**	P	**Pg**	**05 59 11.4**	**+0.1**
APA				S	**Sg**	**05 59 14.9**	**+0.3**
APA0	**Apatity Array**	**0.41**	**267**	Pg	**Pg**	**05 59 12.2**	**-2.0**
APA0				Pg	**Pg**	**05 59 15.0**	**+0.8**
	baz=93,slow=18						
APA0				Lg	Lg	05 59 15.1	
APA0				Lg	Lg	05 59 19.6	
APA0	**Apatity Array**	**0.41**	**267**	Pg	**Pg**	**05 59 15.0**	**+0.8**
	baz=93,slow=18						
APA0				Lg	Lg	05 59 19.6	
APA0	**Apatity Array**	**0.41**	**267**	P	**Pg**	**05 59 13.8**	**-0.4**
APA0				S	**Sg**	**05 59 19.1**	**-0.4**
APA0	**Apatity Array**	**0.41**	**267**	Pg	**Pg**	**05 59 15.0**	**+0.8**
	SNR=959						
APA0				Lg	Lg	05 59 19.6	
VRF	**Varrio**	**1.70**	**276**	*eP*	**Pn**	**05 59 37.6**	**+0.4**
VRF				*eS*	**Sn**	**05 59 59.0**	**-0.8**
VRF	**Varrio**	**1.70**	**276**	P	**Pn**	**05 59 37.6**	**+0.4**
VRF				S	**Sn**	**05 59 58.9**	**-0.8**
KU6	**Riekki**	**2.31**	**228**	*eP*	**Pb**	**05 59 47.6**	**-1.2**
KU6				*eS*	**Sb**	**06 00 17.1**	**-0.7**
KU6	**Riekki**	**2.31**	**228**	P	**Pb**	**05 59 47.5**	**-1.2**
MSF	**Maaselka**	**2.64**	**231**	*eP*	**Pb**	**05 59 53.4**	**-1.0**
MSF				*eS*	**Sn**	**06 00 24.4**	**+1.7**
MSF	**Maaselka**	**2.64**	**231**	P	**Pb**	**05 59 53.3**	**-1.0**
SGF	**Sodankyl**	**2.90**	**270**	*eP*	**Pn**	**05 59 54.6**	**+0.9**
SGF				*eS*	**Sn**	**06 00 30.1**	**+0.9**
SGF	**Sodankyl**	**2.90**	**270**	P	**Pn**	**05 59 54.6**	**+0.9**
RNF	**Rovaniemi**	**3.31**	**256**	*eP*	**Pn**	**06 00 00.7**	**+1.4**
RNF				*eS*	**Sn**	**06 00 39.9**	**+0.7**
RNF	**Rovaniemi**	**3.31**	**256**	P	**Pn**	**06 00 00.6**	**+1.4**
KEV	**Kevo**	**3.34**	**313**	*eP*	**Pn**	**06 00 01.7**	**+1.9**
KEV				*eS*	**Sn**	**06 00 41.4**	**+1.3**
KEV				*eSG*	**Sb**	**06 00 49.4**	**+1.9**
KEV				MSG		06 00 50.5	
	comp=Z,111nm,0.3s						
KEV	**Kevo**	**3.34**	**313**	P	**Pn**	**06 00 01.6**	**+1.9**
KEV				S	**Sn**	**06 00 41.3**	**+1.3**
KEV				Sg	**Sb**	**06 00 49.4**	**+1.9**
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**06 00 05.7**	**+1.4**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**06 00 47.2**	**-1.1**
	baz=122,slow=28						
ARA0				Lg	Lg	06 00 57.7	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**06 00 05.7**	**+1.4**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**06 00 47.2**	**-1.1**
	baz=122,slow=28						
ARA0				Lg	Lg	06 00 57.7	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**06 00 05.7**	**+1.4**
	SNR=698						
ARA0				Sn	**Sn**	**06 00 47.2**	**-1.1**
	SNR=3.3						
ARA0				Lg	Lg	06 00 57.7	
ARCES	**ARCESS Array B**	**3.67**	**305**	Pn	**Pn**	**06 00 04.3**	**+0.1**
	comp=Z,18nm,0.3s,baz=120,slow=16,SNR=942						
ARCES				Sn	**Sn**	**06 00 47.5**	**-0.7**
	comp=Z,10nm,0.3s,baz=118,slow=29,SNR=13						
ARCES				Lg	Lg	06 00 57.0	
	comp=Z,18nm,0.3s,baz=116,slow=30,SNR=12						
HEF	**Hetta**	**3.99**	**286**	*eP*	**Pn**	**06 00 09.5**	**+0.9**
HEF				*eS*	**Sn**	**06 00 55.6**	**-0.4**
HEF				*eSG*	**Sb**	**06 01 10.0**	**+3.9**
HEF				MSG		06 01 11.2	
	comp=Z,31nm,0.3s						
HEF	**Hetta**	**3.99**	**286**	P	**Pn**	**06 00 09.5**	**+0.9**
HEF				S	**Sn**	**06 00 55.5**	**-0.4**
HEF				Sg	**Sb**	**06 01 10.0**	**+3.9**
OUL	**Oulu**	**4.17**	**236**	*eP*	**Pn**	**06 00 13.4**	**+2.4**
OUL				*eSG*	**Sb**	**06 01 14.3**	**+3.1**
OUL	**Oulu**	**4.17**	**236**	P	**Pn**	**06 00 13.4**	**+2.4**
OUL				Sg	**Sb**	**06 01 14.2**	**+3.1**
KJN	**Kajaani**	**4.42**	**219**	*eP*	**Pn**	**06 00 16.4**	**+1.9**
KJN				*eS*	**Sn**	**06 01 05.9**	**-0.7**
KJN				*eSG*	**Sb**	**06 01 23.1**	**+4.7**
KJN				MSG		06 01 24.8	
	comp=Z,49nm,0.3s						
KJN	**Kajaani**	**4.42**	**219**	P	**Pn**	**06 00 16.3**	**+1.9**
KJN				S	**Sn**	**06 01 05.8**	**-0.7**
KJN				Sg	**Sb**	**06 01 23.0**	**+4.7**
KIF	**Kilpisjarvi**	**5.11**	**292**	*eP*	**Pn**	**06 00 25.2**	**+1.2**
KIF				*eS*	**Sn**	**06 01 22.7**	**-0.8**
KIF				*eSG*	**Sb**	**06 01 43.2**	**+5.1**
KIF				MSG		06 01 46.4	
	comp=Z,27nm,0.3s						
KIF	**Kilpisjarvi**	**5.11**	**292**	P	**Pn**	**06 00 25.1**	**+1.2**
KIF				S	**Sn**	**06 01 22.6**	**-0.8**
KIF				Sg	**Sb**	**06 01 43.2**	**+5.1**
SUF	**Sumiainen**	**5.95**	**218**	*eP*	**Pn**	**06 00 37.5**	**+1.9**
SUF				*eS*	**Sn**	**06 01 42.7**	**-1.7**
SUF				*eSG*	Sg	06 02 11.4	-5.9
SUF				MSG		06 02 15.9	
	comp=Z,27nm,0.4s						
SUF	**Sumiainen**	**5.95**	**218**	P	**Pn**	**06 00 37.4**	**+1.9**
SUF				S	**Sn**	**06 01 42.6**	**-1.7**
SUF				Sg	Sg	06 02 11.3	-5.9
KAF	**Kangasniemi**	**6.45**	**214**	*eP*	**Pn**	**06 00 44.8**	**+2.4**
KAF				*eS*	**Sn**	**06 01 55.9**	**-0.6**
VAF	**Ylistaro**	**6.62**	**231**	*eP*	**Pn**	**06 00 45.8**	**+1.0**
VAF				*eS*	**Sn**	**06 02 00.8**	**0.0**
VAF				*eSG*	Sb	06 02 30.6	+8.8
VAF	**Ylistaro**	**6.62**	**231**	P	**Pn**	**06 00 45.7**	**+1.0**
VAF				Sg	Sb	06 02 30.6	+8.8
KEF	**Keuruu**	**6.73**	**220**	*eP*	**Pn**	**06 00 48.2**	**+2.0**
KEF				*eS*	**Sn**	**06 02 00.8**	**-2.7**
KEF	**Keuruu**	**6.73**	**220**	P	**Pn**	**06 00 48.2**	**+2.0**
KEF				S	**Sn**	**06 02 00.8**	**-2.7**
FIA0	**FINESS Array S**	**7.10**	**213**	Pn	**Pn**	**06 00 51.4**	**+0.1**
	baz=29,slow=14						
FIA0				Sn	**Sn**	**06 02 09.0**	**-3.5**
	baz=22,slow=22						
FIA0				Lg	Lg	06 02 44.4	
	baz=17,slow=37						
FIA0	**FINESS Array S**	**7.10**	**213**	Pn	**Pn**	**06 00 51.4**	**+0.1**
	baz=29,slow=14						
FIA0				Sn	**Sn**	**06 02 09.0**	**-3.5**
	baz=22,slow=22						
FIA0				Lg	Lg	06 02 44.4	
	baz=17,slow=37						
FIA0	**FINESS Array S**	**7.10**	**213**	*eP*	**Pn**	**06 00 52.6**	**+1.4**
FIA0				*eS*	**Sn**	**06 02 10.1**	**-2.4**
FIA0				*eSG*	Sg	06 02 46.8	-7.2
FIA0	**FINESS Array S**	**7.10**	**213**	Pn	**Pn**	**06 00 51.4**	**+0.1**
	SNR=0.5						
FIA0	**FINESS Array S**	**7.10**	**213**	P	**Pn**	**06 00 52.6**	**+1.4**
FIA0				Sn	**Sn**	**06 02 09.0**	**-3.5**
	SNR=4.0						
FIA0				S	**Sn**	**06 02 10.1**	**-2.4**
FIA0				Lg	Lg	06 02 44.3	
	SNR=7.2						
FINES	**FINESS Array B**	**7.10**	**213**	Pn	**Pn**	**06 00 52.5**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=15						
FINES				Sn	**Sn**	**06 02 10.8**	**-1.8**
	comp=Z,1.8nm,0.3s,baz=30,slow=23,SNR=8.5						
FINES				Lg	Lg	06 02 44.7	
	comp=Z,3.4nm,0.3s,baz=22,slow=27,SNR=11						
RAF	**Rauma**	**8.50**	**225**	*eP*	**Pn**	**06 01 10.9**	**+0.5**
RAF				*eS*	**Sn**	**06 02 44.4**	**-2.5**
RAF				*eSG*	Sg	06 03 29.6	-9.3
RAF	**Rauma**	**8.50**	**225**	P	**Pn**	**06 01 10.9**	**+0.5**
RAF				S	**Sn**	**06 02 44.4**	**-2.5**
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**06 01 51.8**	**-1.8**
	baz=43,slow=12						
HFS				Sn	Sn	06 03 55.7	-8.5
	baz=49,slow=22						
HFS				Lg	Lg	06 05 03.0	
	baz=56,slow=28						
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**06 01 51.8**	**-1.8**
	baz=43,slow=12						
HFS				Sn	Sn	06 03 55.7	-8.5
	baz=49,slow=22						
HFS				Lg	Lg	06 05 03.0	
	baz=56,slow=28						
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**06 01 52.3**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=43,slow=11,SNR=14						
HFS				Sn	Sn	06 03 57.6	-6.6
	comp=Z,0.6nm,0.3s,baz=45,slow=21,SNR=6.7						
HFS				Lg	Lg	06 05 05.6	
	comp=Z,0.9nm,0.3s,baz=53,slow=31,SNR=4.7						
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**06 01 51.8**	**-1.8**
	SNR=7.3						
SPA0	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**06 01 52.6**	**-1.8**
	baz=141,slow=28						
SPA0	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**06 01 52.6**	**-1.8**
	baz=141,slow=28						
SPITS	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**06 01 52.5**	**-1.8**
	baz=120,slow=16,SNR=19						
SPITS				Sn	Sn	06 03 56.9	-8.5
	baz=132,slow=47,SNR=2.8						
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**06 01 55.0**	**-1.3**
	baz=47,slow=14						
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**06 01 55.0**	**-1.3**
	baz=47,slow=14						
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**06 01 55.0**	**-1.3**
	SNR=9.5						
NOA	**NORSAR Array B**	**11.84**	**247**	Pn	**Pn**	**06 01 54.5**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=46,slow=11,SNR=12						
NOA				Sn	Sn	06 04 00.8	-8.2
	comp=Z,0.4nm,0.3s,baz=46,slow=20,SNR=4.1						
NOA				Lg	Lg	06 05 13.5	
	comp=Z,0.7nm,0.3s,baz=52,slow=24,SNR=4.5						
AKASG	**Malin Array Be**	**17.16**	**190**	Pn	Pn	06 03 01.3	-5.8
	comp=Z,0.7nm,0.3s,baz=7.8,slow=12,SNR=8.4						
AKASG				Sn	Sn	06 06 02.9	-15
	comp=Z,0.4nm,0.3s,baz=1.9,slow=23,SNR=4.4						
AKASG				Lg	Lg	06 08 09.6	
	comp=Z,0.1nm,0.3s,baz=359,slow=29,SNR=3.5						
AKTO	**Aktyubinsk**	**20.94**	**133**	P	**P**	**06 03 49.0**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=281,slow=10,SNR=3.9						
BVAR	**Borovoye Array**	**22.70**	**112**	P	**P**	**06 04 12.0**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=310,slow=9.5,SNR=4.3						
KURBB	**Kurchatov Arra**	**27.60**	**106**	P	**P**	**06 04 57.0**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=320,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**32.17**	**106**	P	**P**	**06 05 38.5**	**+3.1**
	comp=Z,0.1nm,0.4s,baz=324,slow=7.2,SNR=4.0						

*IDC **25** 06:07:01.4±2.1, 2°.78S×129°.09E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/30, mbtmp3.6/3, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=181.1km s-min=23.8km az=69.0*
*DJA **25** 06:07:05.7±0.3, 3°.5×12°.9E±°, h10km, M3.7/7, MLv3.7/7*
*ISCJB **25** 06:07:07.2±0.6, 2°.73S±0°.05×129°.22E±0°.04, h55km±8km, mb3.6/2, MS3.0/1, Error ellipse: s-maj=8.2km s-min=7.3km az=170.8*

ISC 25 06:07:08.4±1.0, 2°.69S±0°.05×129°.24E±0°.04, h67km±13km, n13, σ2§10/17, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.72**	**205**	P	Pn	06 07 19.2	-4.2
MSAI				S	**Sn**	**06 07 31.4**	**-3.0**
BNDI	**Bandanaira**	**1.94**	**160**	P	**Pn**	**06 07 42.2**	**+3.0**
BNDI				S	**Sn**	**06 08 04.9**	**+2.3**
NLAI	**Namlea**	**2.20**	**256**	P	**Pn**	**06 07 42.5**	**-0.2**
NLAI				S	**Sn**	**06 08 12.3**	**+3.3**
LBMI	**Labuha**	**2.68**	**320**	P	**Pn**	**06 07 49.4**	**+0.2**
LBMI				S	**Sn**	**06 08 22.0**	**+1.5**
SWI	**Sorong**	**2.72**	**48**	P	**Pn**	**06 07 50.8**	**+1.1**
SWI				S	**Sn**	**06 08 21.9**	**+0.4**
FAKI	**Fak Fak**	**3.02**	**94**	P	**Pn**	**06 07 52.6**	**-1.3**
FAKI				S	**Sn**	**06 08 30.3**	**+1.4**
FAKI	**Fak Fak**	**3.02**	**94**	P	**Pn**	**06 07 52.8**	**-1.1**
	baz=1.3,SNR=5.0						
SANI	**Sanana**	**3.31**	**281**	P	**Pn**	**06 07 56.9**	**-0.9**
WRA	**Warramunga Arr**	**17.86**	**164**	P	**P**	**06 11 09.1**	**-3.2**
	0.2nm,0.3s,baz=347,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**21.34**	**168**	P	**P**	**06 11 50.6**	**+0.5**
	2.2nm,0.5s,baz=349,slow=11,SNR=38						
ASAR				S	**S**	**06 15 41.8**	**-1.8**
	0.7nm,1.0s,baz=350,slow=20,SNR=4.2						
PSI	**Prapat**	**30.79**	**280**	LR	LR	06 27 43.4	
	comp=Z,31nm,19.7s,slow=40						
MKAR	**Makanchi Array**	**64.23**	**326**	P	**P**	**06 17 36.9**	**+0.5**
	0.3nm,0.6s,baz=125,slow=7.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**68.47**	**328**	P	P	06 18 06.8	+3.4
	baz=120,slow=5.7,SNR=3.3						

*IDC **25** 06:09:44.8±1.0, 44°.53N×111°.02W, h0km, mb3.2/1, mb1 3.3/5, mb1mx3.2/43, mbtmp2.9/5, ML2.9/4, MS2.8/1, Ms1 2.7/1, ms1mx2.3/17, Error ellipse: s-maj=13.0km s-min=6.8km az=55.0*
*NEIC **25** 06:09:46.0, 44°.57N×110°.96W, h10km, ML3.2(SLC), After SLC.*

ISC 25 06:09:46.6±0.9, 44°.58N±0°.02×110°.96W±0°.02, h9km±6km, n56, σ1§25/91, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YMR	**Madison River**	**0.09**	**358**	*ePg*	**Pg**	**06 09 49.0**	**-0.1**
YMR				*eSg*	**Sg**	**06 09 51.5**	**+0.6**
H17A	**Grant Village**	**0.33**	**124**	*ePg*	**Pg**	**06 09 53.0**	**-0.3**
H17A				*eSg*	**Sg**	**06 09 57.1**	**-0.6**
H17A	**Grant Village**	**0.33**	**124**	P	**Pg**	**06 09 53.1**	**-0.1**
	baz=0.3						
QLMT	**Earthquake Lak**	**0.42**	**307**	*ePg*	**Pg**	**06 09 54.2**	**-0.6**
QLMT				*eSg*	**Sg**	**06 10 00.9**	**+0.6**
I17A	**Pilgrim Ck.**	**0.72**	**157**	P	**Pg**	**06 10 00.1**	**-0.3**
	baz=0.7						
H18A	**Shoshone NF, C**	**0.93**	**84**	P	**Pg**	**06 10 03.3**	**-1.2**
	baz=0.9						
BOZ	**Bozeman (W)**	**1.17**	**336**	*eP*	**Pg**	**06 10 07.4**	**-1.5**
BOZ				*eS*	**Sg**	**06 10 22.8**	**-1.3**
RLMT	**Red Lodge**	**1.32**	**65**	*ePn*	**Pg**	**06 10 10.8**	**-1.1**
RLMT				*eSn*	**Sb**	**06 10 29.9**	**+1.1**
MCMT	**McKenzie Canyo**	**1.37**	**281**	*ePn*	**Pb**	**06 10 12.2**	**-0.4**
MCMT				*eSn*	**Sn**	**06 10 31.0**	**+0.5**
I19A	**Meeteetse**	**1.51**	**110**	Pb	**Pn**	**06 10 13.9**	**-0.1**
	baz=1.5						
LRM	**Limekiln Ridge**	**1.63**	**320**	*ePg*	**Pg**	**06 10 17.3**	**-0.5**
LRM				*eSg*	**Sg**	**06 10 38.8**	**-0.1**
AHID	**Auburn Hatcher**	**1.82**	**183**	*ePn*	**Pn**	**06 10 18.3**	**+0.1**
AHID				*eSg*	**Sg**	**06 10 45.6**	**+0.5**
J19A	**Crowheart**	**1.91**	**133**	Pb	**Pn**	**06 10 20.7**	**+1.3**
	baz=1.9						
F19A	**Roth Farm, Mol**	**1.91**	**48**	Pb	**Pb**	**06 10 21.1**	**-0.5**
	baz=1.9						
F19A				Sb	**Sb**	**06 10 46.6**	**+1.0**
	baz=1.9						
G20A	**Bridger**	**2.05**	**71**	Pb	**Pn**	**06 10 22.5**	**+1.1**
	baz=2.1						
G20A				Sb	**Sb**	**06 10 50.1**	**+0.3**
	baz=2.1						
BW06	**Boulder Array**	**2.08**	**150**	*ePn*	**Pn**	**06 10 20.7**	**-1.2**
BW06				*ePg*	**Pg**	**06 10 25.5**	**-0.9**
BW06				*eSg*	**Sg**	**06 10 53.2**	**-0.2**
PDAR	**Pinedale Array**	**2.08**	**150**	Pn	**Pn**	**06 10 22.8**	**+0.9**
PDAR				Lg	Lg	06 10 49.8	
PDAR	**Pinedale Array**	**2.08**	**150**	Pn	**Pn**	**06 10 22.8**	**+0.9**
	2.0nm,0.3s,baz=336,slow=15,SNR=44						
PDAR				Lg	Lg	06 10 49.8	
	0.8nm,0.3s,baz=338,slow=22,SNR=6.8						
H20A	**Greybull**	**2.12**	**92**	Pb	**Pn**	**06 10 23.7**	**+1.4**
	baz=2.1						
I20A	**Worland**	**2.13**	**106**	Pb	**Pn**	**06 10 24.0**	**+1.5**
	baz=2.1						
I20A				Sb	**Sb**	**06 10 53.1**	**+1.1**
	baz=2.1						
HRY	**Holter Researc**	**2.21**	**344**	*ePn*	**Pn**	**06 10 23.8**	**+0.2**
HRY				*eSg*	**Sb**	**06 10 56.0**	**+1.6**
F20A	**Billings**	**2.33**	**58**	Pg	**Pb**	**06 10 29.0**	**+0.2**
	baz=2.3						
HLID	**Hailey**	**2.69**	**249**	*ePn*	**Pn**	**06 10 31.2**	**+1.1**
HLID				*eSg*	**Sg**	**06 11 10.9**	**-2.1**
HLID	**Hailey**	**2.69**	**249**	P	**Pn**	**06 10 31.3**	**+1.1**
	baz=2.7						
HLID				Sb	**Sb**	**06 11 08.6**	**+0.5**
	baz=2.7						
G21A	**Lodge Grass**	**2.74**	**75**	Pb	**Pb**	**06 10 34.4**	**-1.4**
	baz=2.7						
I21A	**Big Trails, Te**	**2.75**	**105**	P	**Pn**	**06 10 33.0**	**+2.1**
	baz=2.7						
E20A	**Meyer Farm, Mu**	**2.77**	**45**	Pb	**Pb**	**06 10 35.0**	**-1.2**
	baz=2.8						
CHMT	**Chamberlain Mo**	**2.83**	**326**	*ePn*	**Pn**	**06 10 32.8**	**+0.6**
CHMT				*eSn*	**Sn**	**06 11 05.5**	**-1.0**
CHMT				*eSg*	**Sg**	**06 11 17.1**	**-0.4**
D19A	**Cripps Ranch,**	**2.96**	**29**	Sb	**Sb**	**06 11 17.5**	**+1.6**
	baz=3.0						
MSO	**Missoula**	**3.07**	**318**	P	**Pn**	**06 10 35.9**	**+0.6**
	baz=3.1						
HVU	**Hansel Valley**	**3.10**	**206**	*ePn*	**Pn**	**06 10 36.5**	**+0.6**
HVU				*ePg*	**Pg**	**06 10 46.9**	**+1.0**
HVU				*eSg*	**Sg**	**06 11 25.3**	**-0.8**
SLMT	**Seeley Lake**	**3.19**	**327**	*ePn*	**Pn**	**06 10 37.6**	**+0.5**
SLMT				*eSg*	**Sg**	**06 11 28.2**	**-0.9**
C19A	**Slack Wire Ran**	**3.42**	**22**	Sb	**Sb**	**06 11 29.8**	**+0.8**
	baz=3.4						
SPUT	**South Promonto**	**3.45**	**199**	*ePg*	**Pb**	**06 10 49.9**	**+1.9**
SPUT				*eSg*	**Sg**	**06 11 36.4**	**-1.0**
EGMT	**Eagleton**	**3.54**	**13**	*ePg*	**Pg**	**06 10 55.3**	**+0.9**
EGMT				*eSg*	**Sg**	**06 11 39.6**	**-0.7**
SWMT	**Swartz Lake**	**3.61**	**325**	*ePn*	**Pn**	**06 10 43.4**	**+0.6**
SWMT				*eSn*	**Sn**	**06 11 24.8**	**-0.8**
MFID	**Camas Ranch**	**3.70**	**253**	*ePn*	**Pn**	**06 10 45.1**	**+1.1**
MFID				*eSg*	**Sg**	**06 11 44.8**	**-0.6**
K22A	**Casper**	**3.76**	**119**	*ePn*	**Pn**	**06 10 44.2**	**-0.7**
K22A				*ePg*	**Pg**	**06 10 58.0**	**-0.5**
K22A				*eSn*	**Sn**	**06 11 25.5**	**-3.7**
K22A				*eSg*	**Sg**	**06 11 45.3**	**-1.9**
JTMT	**Jette**	**3.92**	**325**	*ePn*	**Pn**	**06 10 47.8**	**+0.8**
JTMT				*eSg*	**Sg**	**06 11 51.5**	**-0.8**
BGU	**Big Grassy Mou**	**3.96**	**203**	*ePn*	**Pn**	**06 10 47.3**	**-0.4**
BGU				*eSg*	**Sg**	**06 11 51.6**	**-2.1**
BSMT	**Bassoo Peak**	**4.21**	**322**	*ePn*	**Pn**	**06 10 52.7**	**+1.6**
BMO	**Blue Mountains**	**4.53**	**276**	*ePg*	**Pg**	**06 11 12.5**	**-0.9**
BMO				*eSg*	**Sg**	**06 12 10.6**	**-1.4**
DUG	**Dugway**	**4.59**	**198**	*ePn*	**Pn**	**06 10 58.0**	**+1.7**
DUG				*ePg*	**Pg**	**06 11 14.9**	**+0.3**
DUG				*eSn*	**Sn**	**06 11 47.9**	**-2.0**
DUG				*eSg*	**Sg**	**06 12 12.9**	**-1.2**
WALA	**Waterton Lakes**	**4.91**	**337**	*ePn*	**Pn**	**06 11 01.9**	**+1.2**
WALA				*ePg*	**Pg**	**06 11 20.4**	**-0.3**
WALA				*eSg*	**Sg**	**06 12 19.6**	**-4.7**
ELK	**Elko**	**4.96**	**221**	Pn	**Pn**	**06 11 03.2**	**+1.6**
ELK				Lg	Lg	06 12 16.6	
ELK	**Elko**	**4.96**	**221**	Pn	**Pn**	**06 11 03.2**	**+1.6**
	0.1nm,0.3s,baz=75,slow=2.3,SNR=3.4						
ELK				Lg	Lg	06 12 16.6	
	0.2nm,0.3s,baz=180,slow=6.1,SNR=2.6						
NEW	**Newport**	**5.63**	**313**	Pn	**Pn**	**06 11 10.3**	**-0.2**
NEW				Lg	Lg	06 12 40.9	
NEW	**Newport**	**5.63**	**313**	Pn	**Pn**	**06 11 10.3**	**-0.2**
	0.4nm,0.3s,baz=129,slow=10,SNR=7.4						
NEW				Lg	Lg	06 12 40.9	
	1.0nm,0.3s,baz=52,slow=19,SNR=4.2						
DGMT	**Dagmar**	**6.07**	**48**	*ePg*	Pg	06 11 38.9	-4.0
	20nm,0.7s						
DGMT				*eSg*	**Sg**	**06 13 00.8**	**-0.6**
PV01	**Paradox Valley**	**6.69**	**164**	*ePg*	Pg	06 11 57.7	+3.1
PV01				*eSg*	**Sg**	**06 13 22.0**	**+0.8**
NVAR	**Mina Array Bea**	**8.25**	**224**	Pg	**Pb**	**06 12 07.0**	**-2.8**
	0.1nm,0.3s,baz=43,slow=15,SNR=3.3						
NVAR				Lg	Lg	06 14 01.3	
	0.1nm,0.3s,baz=33,slow=24,SNR=2.7						
ULM	**Lac du Bonnet**	**11.68**	**56**	LR	LR	06 16 26.0	
	comp=Z,46nm,18.2s,baz=251,slow=34						
YKA	**Yellowknife Ar**	**18.07**	**355**	P	**Pn**	**06 13 58.0**	**+0.4**
YKA				Lg	Lg	06 19 05.1	
YKA	**Yellowknife Ar**	**18.07**	**355**	P	**Pn**	**06 13 58.0**	**+0.4**
	0.0nm,0.3s,baz=166,slow=13,SNR=4.0						
YKA				Lg	Lg	06 19 05.1	
	0.0nm,0.3s,baz=160,slow=27,SNR=4.5						
ILAR	**Eielson Array**	**28.35**	**328**	P	**P**	**06 15 42.0**	**+1.4**
ILAR	**Eielson Array**	**28.35**	**328**	P	**P**	**06 15 42.0**	**+1.4**
	0.3nm,0.9s,baz=124,slow=8.2,SNR=3.6						

*IDC **25** 06:18:59.5±1.4, 15°.99S×171°.91W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=49.5km s-min=19.8km az=129.0*
*ISCJB **25** 06:19:03.6±1.1, 16°.0S±0°.1×172°.0W±0°.2, h41km, mb3.6/6, Error ellipse: s-maj=30.8km s-min=10.8km az=20.9*

**ISC 25 06:19:05.3±1.3, 16°.0S±0°.1×172°.0W±0°.3, h41km, n

mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=190.2km s-min=25.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.82**	**164**	P	P	06 45 16.7	-1.1
	0.9nm,0.7s,baz=342,slow=9.8,SNR=2.6						
ASAR	**Alice Springs**	**27.28**	**167**	P	P	06 45 49.7	+0.3
	0.2nm,0.4s,baz=340,slow=6.9,SNR=3.6						
STKA	**Stephens Creek**	**37.24**	**160**	P	P	06 47 16.0	-0.4
	1.5nm,0.7s,baz=332,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**58.52**	**325**	P	P	06 50 01.9	+0.6
	0.1nm,0.5s,baz=121,slow=7.3,SNR=4.3						

IDC 25 06:43:07.6±3.0, 53°.46N×87°.58E, h0km, mb1 2.6/2, mb1mx2.6/37, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=28.2km s-min=15.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**288**	*i*		06 55 14.9	
	baz=105,slow=350,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.71**	**288**	Pg	Pn	06 43 38.2	-0.5
	0.6nm,0.3s,baz=101,slow=15,SNR=6.2						
ZALV				Lg	Lg	06 44 01.4	
	0.6nm,0.3s,baz=109,slow=26,SNR=4.1						
ZALV				Rg	Rg	06 44 19.5	
	0.6nm,0.4s,baz=142,slow=22,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.26**	**247**	Pn	Pn	06 44 42.0	+0.8
KURBB	0.1nm,0.3s,baz=62,slow=14,SNR=3.2						
	0.1nm,0.3s,baz=62,slow=33,SNR=3.7			Lg	Lg	06 46 25.9	
MKAR	**Makanchi Array**	**7.49**	**209**	Pn	Pn	06 44 59.1	+1.1
MKAR	0.1nm,0.3s,baz=26,slow=14,SNR=6.2						
	0.1nm,0.3s,baz=29,slow=31,SNR=5.1			Lg	Lg	06 47 05.7	

*ISCJB **25** 07:10:29.4±0.5, 31°.56S±0°.04×180°.0E±0°.1, h355km, mb3.8/7, Error ellipse: s-maj=12.5km s-min=5.0km az=6.7*

*IDC **25** 07:10:31.8±1.4, 31°.31S×179°.97E, h360km±12km, mb3.6/7, mb1 3.9/10, mb1mx3.7/20, mbtmp4.5/10, Error ellipse: s-maj=18.6km s-min=15.3km az=149.0*

*NEIC **25** 07:11:36.8, 36°.55N×178°.61E, h175km, MG4.7(WEL), After WEL.*

ISC 25 07:10:30.0±0.6, 31°.63S±0°.07×179°.9W±0°.1, h355km, n122, σ0.97/128, mb3.8/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.91**	**36**	P	Pn	07 11 29.5	+0.5
	121nm,0.3s,baz=89,slow=14,SNR=6.4						
MXZ	**Matakaoa Point**	**6.11**	**194**	Pn	Pn	07 12 04.3	+2.2
MXZ	**Matakaoa Point**	**6.11**	**194**	Pn	Pn	07 12 04.3	+2.2
MXZ				SN	S	07 13 17.4	+0.5
HAZ	**Te Kaha**	**6.41**	**197**	PN	Pn	07 12 07.3	+1.7
HAZ				SN	S	07 13 24.1	+0.9
PUZ	**Puketiti**	**6.61**	**193**	Pn	P	07 12 08.7	-0.5
PUZ	**Puketiti**	**6.61**	**193**	PN	Pn	07 12 08.1	+0.2
MWZ	**Matawai**	**7.03**	**197**	Pn	Pn	07 12 13.2	+0.5
MWZ	**Matawai**	**7.03**	**197**	PN	Pn	07 12 13.0	+0.3
URZ	**Urewera**	**7.07**	**200**	*e*Pn	P	07 12 13.9	-0.6
URZ	**Urewera**	**7.07**	**200**	P	Pn	07 12 13.5	+0.4
	34nm,0.3s,baz=296,slow=2.8,SNR=49						
URZ				S	S	07 13 35.2	-1.9
	42nm,0.3s,baz=78,slow=20,SNR=13						
URZ	**Urewera**	**7.07**	**200**	PN	P	07 12 13.9	-0.6
URZ				SN	S	07 13 36.7	-0.4
RIGZ	**Rimuhau**	**7.32**	**195**	PN	Pn	07 12 15.9	-0.3
RIGZ				SN	S	07 13 43.0	+0.4
SNGZ	**Shannon Statio**	**7.49**	**197**	PN	Pn	07 12 18.2	0.0
PRRZ	**Plateau Road**	**7.51**	**203**	Pn	P	07 12 21.6	+2.0
PRGZ	**Paritu Road**	**7.51**	**194**	Pn	P	07 12 19.2	-0.4
ALRZ	**Allen Road**	**7.58**	**203**	Pn	P	07 12 22.0	+1.5
KNZ	**Kokohu**	**7.64**	**194**	Pn	Pn	07 12 20.1	+0.2
KNZ	**Kokohu**	**7.64**	**194**	PN	Pn	07 12 20.1	+0.2
RAHZ	**Arahi**	**7.69**	**198**	Pn	P	07 12 21.3	-0.4
RAHZ	**Arahi**	**7.69**	**198**	PN	P	07 12 21.3	-0.4
MHGZ	**Mahia Peninsul**	**7.73**	**193**	Pn	P	07 12 23.0	+0.9
WHHZ	**Waihua**	**7.80**	**197**	PN	P	07 12 22.5	-0.4
NMHZ	**Naumai**	**7.93**	**199**	Pn	P	07 12 24.8	+0.3
NMHZ	**Naumai**	**7.93**	**199**	PN	P	07 12 24.8	+0.3
BKZ	**Black Stump Fm**	**8.09**	**200**	Pn	Pn	07 12 25.5	+0.3
BKZ	**Black Stump Fm**	**8.09**	**200**	PN	Pn	07 12 25.0	-0.2
HIZ	**Hauiti**	**8.12**	**211**	Pn	P	07 12 29.7	+1.5
MCHZ	**McNeill Hill**	**8.29**	**199**	Pn	P	07 12 29.3	-0.8
WTVZ	**West Tongariro**	**8.34**	**205**	Pn	P	07 12 30.7	-0.1
WTVZ	**West Tongariro**	**8.34**	**205**	PN	P	07 12 30.7	-0.1
OTVZ	**Oturere**	**8.36**	**205**	Pn	Pn	07 12 29.4	+0.9
OTVZ	**Oturere**	**8.36**	**205**	PN	Pn	07 12 29.4	+0.9
NGZ	**Ngauruhoe**	**8.39**	**205**	Pn	P	07 12 31.6	+0.2
NGZ	**Ngauruhoe**	**8.39**	**205**	PN	P	07 12 31.5	+0.2
CKHZ	**Cape Kidnapper**	**8.39**	**199**	Pn	P	07 12 32.0	-1.0
COVZ	**Chateau Observ**	**8.43**	**205**	PN	P	07 12 31.9	+0.2
WPVZ	**Whakapapa**	**8.43**	**205**	Pn	P	07 12 32.4	+0.6
WPVZ	**Whakapapa**	**8.43**	**205**	PN	P	07 12 32.4	+0.6
TUVZ	**Tukino**	**8.45**	**204**	Pn	Pn	07 12 30.4	+0.8
FWVZ	**Far West T-bar**	**8.48**	**205**	Pn	Pn	07 12 30.5	+0.5
FWVZ				Sn	P	07 12 33.5	+1.1
BHHZ	**Black Hill Sta**	**8.51**	**202**	Pn	Pn	07 12 29.5	-0.7
TRVZ	**Turoa**	**8.52**	**205**	Pn	Pn	07 12 31.4	+1.0
WNVZ	**Wahianoa**	**8.52**	**204**	Pn	Pn	07 12 31.2	+0.7
MOVZ	**Moawhango**	**8.54**	**203**	Pn	Pn	07 12 30.5	-0.1
KAHZ	**Kahuranaki**	**8.57**	**197**	Pn	Pn	07 12 31.6	+0.7
KAHZ	**Kahuranaki**	**8.57**	**197**	PN	Pn	07 12 30.6	-0.3
PKVZ	**Pokaka**	**8.58**	**206**	PN	P	07 12 33.6	+0.2
PXZ	**Pawanui**	**8.80**	**197**	Pn	P	07 12 34.9	-0.8
PXZ	**Pawanui**	**8.80**	**197**	PN	Pn	07 12 32.4	-1.1
PNHZ	**Pukenui**	**8.86**	**200**	Pn	Pn	07 12 33.4	-0.9
WPHZ	**Waipukurau**	**8.94**	**199**	Pn	P	07 12 37.4	+0.1
WPHZ	**Waipukurau**	**8.94**	**199**	PN	P	07 12 37.1	-0.1
TSZ	**Takapari Road**	**9.07**	**201**	Pn	Pn	07 12 35.4	-1.3
PRHZ	**Porangahau**	**9.07**	**197**	Pn	P	07 12 38.4	-0.4
WAZ	**Wanganui**	**9.12**	**206**	Pn	P	07 12 39.0	-0.3
DVHZ	**Dannevirke**	**9.23**	**199**	Pn	Pn	07 12 38.6	-0.1
ANWZ	**Angora Road**	**9.30**	**197**	PN	P	07 12 42.0	+0.8
POWZ	**Post Office Ro**	**9.43**	**201**	Pn	P	07 12 42.3	-0.5
POWZ	**Post Office Ro**	**9.43**	**201**	PN	P	07 12 42.3	-0.5
BFZ	**Birch Farm**	**9.56**	**198**	Pn	Pn	07 12 42.5	-0.1
MRZ	**Mangatainoka R**	**9.74**	**201**	Pn	Pn	07 12 43.5	-1.1
TIWZ	**Tintock**	**9.75**	**199**	Pn	Pn	07 12 45.1	+0.2
HOWZ	**Holdsworth Sta**	**9.97**	**201**	Pn	Pn	07 12 46.6	-0.9
HOWZ	**Holdsworth Sta**	**9.97**	**201**	PN	Pn	07 12 46.6	-0.9
OGWZ	**Otaki Gorge**	**10.01**	**202**	Pn	Pn	07 12 47.1	-0.8
OGWZ	**Otaki Gorge**	**10.01**	**202**	PN	Pn	07 12 47.1	-0.8
TMWZ	**Te Maipa**	**10.06**	**199**	Pn	Pn	07 12 48.8	+0.3
TMWZ	**Te Maipa**	**10.06**	**199**	PN	Pn	07 12 48.8	+0.3
KIW	**Kapiti Island**	**10.13**	**203**	Pn	Pn	07 12 48.8	-0.5
MTW	**Mount Morrison**	**10.21**	**200**	Pn	Pn	07 12 50.6	+0.3
MTW	**Mount Morrison**	**10.21**	**200**	PN	Pn	07 12 50.6	+0.3
CAW	**Cannon Point**	**10.30**	**202**	Pn	Pn	07 12 49.7	-1.7
TRWZ	**Traveller**	**10.38**	**199**	Pn	P	07 12 53.5	+0.1
TRWZ	**Traveller**	**10.38**	**199**	PN	P	07 12 53.5	+0.1
DUWZ	**D'Urville Isla**	**10.44**	**207**	Pn	Pn	07 12 52.3	-0.7
DUWZ	**D'Urville Isla**	**10.44**	**207**	PN	Pn	07 12 52.3	-0.7
PAWZ	**Paruwai Farm**	**10.44**	**200**	Pn	P	07 12 53.7	-0.3
PAWZ	**Paruwai Farm**	**10.44**	**200**	PN	P	07 12 53.7	-0.3
MSWZ	**Moikau Station**	**10.53**	**200**	Pn	Pn	07 12 53.5	-0.6
SNZO	**South Karori**	**10.60**	**203**	*e*Pn	Pn	07 12 55.1	+0.2
SNZO	**South Karori**	**10.60**	**203**	PN	Pn	07 12 53.6	-1.4
BHW	**Baring Head**	**10.64**	**202**	Pn	Pn	07 12 53.9	-1.5
TCW	**Tory Channel**	**10.66**	**205**	Pn	Pn	07 12 54.5	-1.1
PLWZ	**Palliser**	**10.67**	**200**	*e*Pn	Pn	07 12 55.0	-0.8
TUWZ	**Tuamarina**	**10.97**	**205**	Pn	Pn	07 12 57.4	-1.9
NNZ	**Nelson**	**11.00**	**208**	Pn	Pn	07 12 57.5	-2.2
QRZ	**Quartz Range**	**11.04**	**212**	Pn	Pn	07 12 59.9	-0.2
BSWZ	**Blackbirch Sta**	**11.24**	**205**	Pn	Pn	07 13 02.6	0.0
BSWZ	**Blackbirch Sta**	**11.24**	**205**	PN	Pn	07 13 02.5	-0.1
DSZ	**Denniston Nort**	**12.10**	**211**	Pn	P	07 13 11.2	-1.2
LTZ	**Lake Taylor**	**12.77**	**207**	Pn	P	07 13 18.8	-1.0
LTZ	**Lake Taylor**	**12.77**	**207**	PN	P	07 13 18.8	-1.0
OXZ	**Oxford**	**13.32**	**206**	PN	P	07 13 24.1	-1.7
MQZ	**McQueen's Vall**	**13.43**	**204**	Pn	P	07 13 26.9	-0.1
ODZ	**Otahua Downs**	**15.31**	**206**	Pn	Pn	07 13 49.7	-0.3
DZM	**Mont Dzumac**	**15.47**	**305**	P	P	07 13 49.3	-0.4
	1.2nm,0.3s,baz=153,slow=11,SNR=12						
AFI	**Afiamalu**	**19.14**	**25**	P	P	07 14 27.9	-1.1
	9.2nm,0.3s,baz=166,slow=12,SNR=3.8						
CMSA	**Cobar Meteorol**	**29.26**	**261**	P	P	07 16 03.1	+2.4
	baz=30,SNR=8.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**31.67**	**270**	P	P	07 16 22.5	+0.8
	baz=33,SNR=5.1						
STKA	**Stephens Creek**	**32.65**	**259**	P	P	07 16 31.9	+1.7
	1.0nm,0.3s,baz=105,slow=11,SNR=14						
STKA	**Stephens Creek**	**32.65**	**259**	P	P	07 16 31.9	+1.7
	baz=34,SNR=12						
HTT	**Hallett**	**34.63**	**256**	P	P	07 16 48.6	+1.5
	baz=36,SNR=5.2						
ASAR	**Alice Springs**	**41.46**	**269**	P	P	07 17 43.3	-0.3
	2.0nm,0.7s,baz=106,slow=7.2,SNR=20						
ASAR				ScP	ScP	07 22 48.5	-0.9
	1.7nm,1.0s,baz=119,slow=4.3,SNR=6.1						
WRA	**Warramunga Arr**	**42.56**	**275**	P	P	07 17 51.9	-0.6
	2.6nm,0.3s,baz=111,slow=8.1,SNR=34						
WRA				ScP	ScP	07 22 54.6	+0.8
	0.3nm,0.5s,baz=115,slow=3.8,SNR=4.9						
WRKA	**Warakurna**	**45.74**	**265**	P	P	07 18 16.7	-0.8
	baz=47,SNR=7.9						
PALU	**Palau**	**58.32**	**304**	P	P	07 19 39.9	-9.2
	baz=60,SNR=3.6						
QSPA	**South Pole Qui**	**58.49**	**180**	P	P	07 19 53.7	+3.9
	4.6nm,0.7s,baz=26,slow=1.6,SNR=14						
LUWI	**Luwuk**	**61.99**	**288**	P	P	07 20 23.5	+10
	baz=63,SNR=3.2						
PETK	**Petropavlovsk-**	**86.61**	**347**	P	P	07 22 34.0	+0.4
	5.0nm,0.8s,baz=122,slow=5.2,SNR=2.5						
NVAR	**Mina Array Bea**	**90.23**	**44**	P	P	07 22 52.6	+1.4
	0.6nm,0.7s,baz=219,slow=7.0,SNR=4.5						
ILAR	**Eielson Array**	**99.49**	**14**	P	Pdif	07 23 31.7	-0.6
	0.3nm,0.7s,baz=213,slow=5.9,SNR=7.1						
ARCES	**ARCESS Array B**	**139.42**	**347**	PKhKP	PKPpre	07 29 08.0	
	3.5nm,0.8s,baz=27,slow=1.2,SNR=5.5						
ARCES				PKP	PKiKP	07 29 16.8	-0.2
	5.6nm,0.8s,baz=45,slow=1.4,SNR=6.1						
JOF	**Joensuu**	**142.94**	**337**	*e*pkp	PKPdf	07 29 16.8	-4.1
KAF	**Kangasniemi**	**145.13**	**339**	*e*pkp	PKPdf	07 29 23.3	-1.5
FINES	**NORESS Array B**	**145.71**	**338**	PKPbc	PKPbc	07 29 26.5	-0.4
	26nm,0.4s,baz=44,slow=4.4,SNR=30						
NB2	**NORSAR Subarra**	**149.69**	**349**	PKP	PKPbc	07 29 37.3	-0.2
	comp=Z,41nm,1.4s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**149.69**	**349**	PKP	PKPbc	07 29 37.3	-0.2
	baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.69**	**349**	PKPbc	PKPbc	07 29 37.3	-0.2
	comp=Z,9.1nm,0.7s,baz=17,slow=4.2,SNR=9.9						
AKASG	**Malin Array Be**	**151.25**	**320**	PKPbc	PKPbc	07 29 41.1	-0.3
	comp=Z,13nm,0.9s,baz=58,slow=2.6,SNR=11						
BRTR	**Keskin Array B**	**151.73**	**296**	PKPbc	PKPbc	07 29 42.8	-0.3
	comp=Z,3.6nm,0.9s,baz=112,slow=3.6,SNR=6.2						
TORD	**Torodi Ar. Bea**	**161.55**	**185**	PKP	PKPdf	07 29 49.9	+0.5
	comp=Z,1.5nm,0.9s,baz=310,slow=1.5,SNR=7.2						
TORD				PKPab	PKPab	07 30 36.7	+0.7
	comp=Z,0.5nm,0.5s,baz=189,slow=3.4,SNR=8.6						
ESDC	**Sonseca Array**	**171.31**	**21**	PKP	PKPdf	07 29 56.7	+0.4
	comp=Z,0.3nm,0.3s,baz=350,slow=2.8,SNR=3.0						

*KMA **25** 07:14:53.3, 29°.98N×131°.76E, h0km*

*NIED **25** 07:15:00, 30°.90N×131°.10E, h44km, Mw5.5 Best double couple: Mo1.82000×10^17 NP1:φs344.00000°, δ63.00000°, λ162.00000°. NP2:φs82.00000°, δ74.00000°, λ28.00000°.*

*BJI **25** 07:15:01.4, 30°.69N×131°.50E, h21km, mB5.6/54, mb5.2/73, Ms5.0/86, Ms7 4.8/78*

*SZGRF **25** 07:15:04.2, 31°.25N×132°.53E, h33km, mb5.8, MS5.2, Southeast of Shikoku, Japan*

*MOS **25** 07:15:05.9±1.1, 30°.87N×131°.11E, h33km, mb5.7/115, MS5.1/44, Error ellipse: s-maj=7.3km s-min=5.0km az=101.2*

*IDC **25** 07:15:08.0±2.0, 30°.95N×130°.92E, h33km±14km, mb5.0/24, mb1 5.2/27, mb1mx5.2/30, mbtmp5.2/27, ML5.3/3, MS4.6/31, Ms1 4.6/31, ms1mx4.6/34, Error ellipse: s-maj=14.2km s-min=11.7km az=105.0*

*NEIC **25** 07:15:09.0±0.1, 30°.96N×130°.89E, mb5.5/170, MS4.9/91, MW5.5, MW5.4(NIED), Error ellipse: s-maj=3.9km s-min=2.8km az=137.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17Nm; Mrr=0.45; Mθθ=-1.06; Mφφ=0.61; Mrθ=0.61; Mrφ=1.30; Mθφ=0.77; Best double couple: Mo1.90000×10^17 NP1:φs78.00000°, δ71.00000°, λ28.00000°. NP2:φs339.00000°, δ63.00000°, λ159.00000°. Principal axes: T 1.9500, Plg33.0000°, Azm300.0000°; N -0.1700, Plg56.0000°, Azm109.0000°; P -1.7900, Plg4.0000°, Azm207.0000°;*

NEIC Felt at Kagoshima-shi, Kanoya and Nishinoomote. Recorded [4 JMA] in Kagoshima and Miyazaki; [2 JMA] in Kumamoto and Nagasaki; [1 JMA] in Oita. Also recorded [4 JMA] on Tanega-shima; [3 JMA] on Kuchinoerabu-jima and Take-jima; [2 JMA] on Kuchino-shima and Yaku-shima; [1 JMA] on Amami-oshima and Nakano-shima and in the Koshikijima-retto.

*ISCJB **25** 07:15:09.8±0.2, 30°.93N±0°.01×130°.90E±0°.02, h55km±1km, mb5.5/294, MS4.9/153 Error ellipse: s-maj=2.7km s-min=2.0km az=136.2*

*GCMT **25** 07:15:09.0±0.1, 30°.91N×131°.08E, h39km, MW5.5/108, Moment Tensor Solution. s90,c167; s108,c225; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr0.20±.03; Mθθ-1.18±.02; Mφφ0.97±.02; Mrθ0.50±.03; Mθφ1.28±.02; Mrφ0.93±.03; Best double couple: Mo1.96100×10^17 NP1:φs73.00000°, δ72.00000°, λ23.00000°. NP2:φs336.00000°, δ69.00000°, λ161.00000°. Principal axes: T 2.1440, Plg28.0000°, Azm295.0000°; N -0.3690, Plg61.0000°, Azm110.0000°; P -1.7780, Plg2.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*JMA **25** 07:15:09.2±0.1, 30°.87N×131°.15E, h49km±1km, M5.4*

JMA Felt IV J1.

ISC 25 07:15:09.3±0.3, 30°.94N±0°.02×131°.14E±0°.03, h43km±2km, h43km:pP-P, n1387, σ1948/1417, mb5.5/304, MS4.9/153, 197C-210D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	**Tashiro 2**	**0.29**	**321**	↑↑P	Pn	07 15 18.3	+0.5
JTSR				S	Sn	07 15 25.7	+1.9
JTN	**Tanegashima 3**	**0.31**	**206**	↓↓P	Pn	07 15 17.7	-0.3
JTN				S	Sn	07 15 24.5	+0.5
JNAR	**Kushima--Naru**	**0.60**	**11**	↓↓P	Pn	07 15 22.6	+1.1
JNAR				S	Sn	07 15 33.2	+3.0
JSU	**Suzuyama**	**0.81**	**314**	↑↑P	Pn	07 15 24.7	+0.3
JSU				S	Sn	07 15 36.2	+0.8
JKC	**Kuchinoerabu**	**0.94**	**240**	↓↓P	Pn	07 15 25.9	-0.1
JKC				S	Sn	07 15 39.2	+0.9
JTZ	**Takazaki**	**0.96**	**358**	↑↑P	Pn	07 15 27.5	+1.1
JTZ				*e*S	Sn	07 15 42.6	+3.7
JZO	**Okuchi**	**1.28**	**339**	↑↑P	Pn	07 15 31.8	+1.0
JZO				S	Sn	07 15 49.7	+2.8
JTSN	**Tsuno**	**1.34**	**13**	↓↓P	Pn	07 15 32.1	+0.5
JKIT	**Kitakata**	**1.71**	**9**	↓↓P	Pn	07 15 37.7	+1.2
NGSJ	**Nagasakinomoza**	**2.04**	**326**	↑↑P	Pn	07 15 42.0	+0.9
JUS	**Usuki**	**2.19**	**14**	↓↓P	Pn	07 15 43.9	+0.8
JNU	**Nakatsue**	**2.19**	**354**	↓↓P	Pn	07 15 44.9	+1.6
JNU	**Nakatsue**	**2.19**	**354**	*e*Pn	Pn	07 15 45.0	+1.8
JNU				*e*Sn	Sn	07 16 07.2	-2.0
JNU				Lg	Lg	07 16 08.7	
JNU	**Nakatsue**	**2.19**	**354**	Pn	Pn	07 15 44.9	+1.6
	362nm,0.3s,baz=171,slow=1.6,SNR=381						
JNU				Lg	Lg	07 16 08.7	
	394nm,0.3s,baz=183,slow=17,SNR=7.0						
JTO	**Tosashimizu**	**2.38**	**36**	↓↓P	Pn	07 15 44.5	-1.4
UWA2	**Uwa jima 2**	**2.60**	**29**	↓↓P	Pn	07 15 48.1	-0.7
JNA	**Nagahama**	**2.85**	**23**	P	Pn	07 15 51.9	-0.4
KSSSP	**Seongsanpo**	**4.36**	**305**	P	Pn	07 16 14.4	+1.5
	SNR=19						
KSSSP	**Seongsanpo**	**4.36**	**305**	P	Pn	07 16 14.4	+1.5
	SNR=19						
KSSGP	**Seogwipo**	**4.57**	**302**	P	Pn	07 16 17.8	+1.9
	SNR=8.2						
KSSGP	**Seogwipo**	**4.57**	**302**	P	Pn	07 16 17.5	+1.7
	SNR=17						
KSJJU	**Jeju**	**4.62**	**304**	P	Pn	07 16 18.1	+1.5
	SNR=9.3						
KSJJU	**Jeju**	**4.62**	**304**	P	Pn	07 16 18.1	+1.5
	SNR=9.3						
KSBUS	**Busan**	**4.62**	**339**	P	Pn	07 16 19.0	+2.4
	SNR=10						
KSBUS	**Busan**	**4.62**	**339**	P	Pn	07 16 19.0	+2.4
	SNR=10						
JAJ2	**Tsuna**	**4.70**	**41**	P	Pn	07 16 18.5	+0.9
JOW	**Kunigami**	**4.80**	**212**	*e*Pn	Pn	07 16 17.8	-1.3
JOW				*e*Sn	Sn	07 17 14.3	+1.0
KSWAN	**Wando**	**5.08**	**314**	P	Pn	07 16 25.2	+2.3
	SNR=10						
JKS	**Kasai**	**5.10**	**37**	↓↓P	Pn	07 16 23.7	+0.6
KSDAG	**Daegu**	**5.17**	**339**	P	Pn	07 16 26.6	+2.5
	SNR=42						
KSDAG	**Daegu**	**5.17**	**339**	P	Pn	07 16 26.6	+2.5
	SNR=42						
KSHAN	**Haenam**	**5.29**	**315**	P	Pn	07 16 28.1	+2.4
	SNR=7.5						
KSJDO	**Jindo**	**5.38**	**312**	P	Pn	07 16 29.9	+2.9
	SNR=8.1						
KSPHA	**Pohang**	**5.45**	**345**	P	Pn	07 16 30.5	+2.6
	SNR=6.4						
JKSM	**Kasumi**	**5.50**	**32**	P	Pn	07 16 30.0	+1.4
JWT	**Wachi**	**5.62**	**38**	↓↓P	Pn	07 16 31.1	+0.8
JKY	**Yasaka**	**5.74**	**34**	P	Pn	07 16 33.2	+1.3
KSJEU	**Jeongeup**	**5.75**	**323**	P	Pn	07 16 34.8	+2.7
	SNR=7.1						
KSCPR	**CHUPUNGNYEONG**	**5.89**	**334**	P	Pn	07 16 36.9	+2.9
	SNR=14						
KSULJ	**Uljin**	**5.93**	**346**	P	Pn	07 16 36.7	+2.2
	SNR=31						
KSBON	**Boeun**	**6.21**	**334**	P	Pn	07 16 41.9	+3.6
	SNR=9.3						
KSGUS	**GUNSAN**	**6.25**	**326**	P	Pn	07 16 44.5	+5.5
	SNR=7.7						
TJN	**Taejon**	**6.27**	**331**	*d*↓P	Pn	07 16 41.4	+2.2
KSTBA	**Taebaek**	**6.43**	**344**	P	Pn	07 16 53.4	+12
	SNR=5.9						
KSCHJ	**Chungju**	**6.48**	**337**	P	Pn	07 16 45.3	+3.2
	SNR=34						
KSCEA	**Cheonan**	**6.70**	**332**	P	Pn	07 16 47.9	+2.9
	SNR=27						
KSSES	**Seosan**	**7.02**	**328**	P	Pn	07 16 57.6	+8.2
	SNR=5.9						
KSRS	**Korea Array**	**7.03**	**339**	Pn	Pn	07 16 51.9	+2.3
	23nm,0.3s,baz=155,slow=14,SNR=181						
KSRS				Sn	Sn	07 18 05.5	-2.6
	2.8nm,0.3s,baz=151,slow=17,SNR=4.0						
KSRS				Lg	Lg	07 18 46.5	
	4.0nm,0.3s,baz=152,slow=29,SNR=4.2						
KSAR	**Wonju Array Be**	**7.03**	**338**	Pn	Pn	07 16 51.9	+2.3
KSAR				Sn	Sn	07 18 05.5	-2.6
KSAR				Lg	Lg	07 18 46.5	
KSICN	**Icheon**	**7.05**	**335**	P	Pn	07 16 53.2	+3.4
	SNR=6.9						
JNY	**Yasuok**	**7.16**	**50**	P	Pn	07 16 52.2	+0.7
KSJMJ	**Jumunjin**	**7.20**	**345**	P	Pn	07 16 55.8	+3.8
	SNR=16						
KSCHC	**Chuncheon**	**7.36**	**339**	P	Pn	07 16 58.2	+4.1
	SNR=10						
JKO	**Kozu shima**	**7.49**	**62**	P	Pn	07 16 57.2	+1.3
INCN	**Inchon**	**7.52**	**331**	*e*Pn	Pn	07 16 58.2	+1.8
INCN				*e*Sn	Sn	07 18 11.7	-8.6
KSSKC	**Sokcho**	**7.65**	**344**	P	Pn	07 17 02.2	+4.1
	SNR=11						
JHJ2	**Mitsune**	**7.68**	**71**	*e*Pn	Pn	07 17 00.1	+1.6
SEHB	**SEOHWA**	**7.69**	**343**	P	Pn	07 17 03.1	+4.4
	SNR=15						
KSCWO	**Cheorwon**	**7.73**	**338**	P	Pn	07 17 02.8	+3.5
	SNR=9.8						
YNCB	**YEONCHEON**	**7.89**	**335**	P	Pn	07 17 04.6	+3.2
	SNR=41						
JOD2	**Odawara 2**	**7.94**	**55**	P	Pn	07 17 03.0	+0.8
MAJO	**Matsushiro**	**8.12**	**45**	*d*↓P	Pn	07 17 05.9	+1.3
MAJO	**Matsushiro**	**8.12**	**45**	*e*Pn	Pn	07 17 05.7	+1.1
MAJO				*e*Sn	Sn	07 18 29.2	-5.8
MAT	**Matsushiro**	**8.12**	**45**	P	Pn	07 17 05.5	+0.9
MAT	**Matsushiro**	**8.12**	**45**	P	Pn	07 17 05.5	+0.9
MAT				S	Sn	07 18 36.0	+1.0
MJAR	**Matsushiro Arr**	**8.12**	**45**	Pn	Pn	07 17 05.8	+1.3
MJAR				Lg	Lg

QZH LR LR
comp=Z,10μm,21.9s
TIA Tai'an 12.81 298 ⇑P **Pn 07 18 11.0 +2.2**
TIA pmax pmax
comp=Z,240nm,1.9s
TIA pmax pmax
comp=Z,4μm,5.0s
TIA LR LR
comp=N,3μm,10.1s
TIA LR LR
comp=E,3μm,15.5s
TIA LR LR
comp=Z,4μm,11.9s
USRK Ussuriysk Arra 13.26 3 Pn Pn 07 18 18.2 +3.4
0.6nm,0.3s,baz=184,slow=13,SNR=8.9
USRK LR LR 07 23 18.5
comp=Z,4μm,19.3s,baz=172,slow=37
CN2 Changchun 13.61 342 *e*P **P 07 18 26.3 -1.3**
CN2 *es*P 07 18 34.5
CN2 *e*PP PnPn 07 18 37.3 +10
CN2 *e*S Sn 07 20 57.8 +8.5
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,3μm,16.0s
CN2 LR LR
comp=E,10μm,16.0s
CN2 LR LR
comp=Z,5μm,18.0s
MDJ Mudanjiang 13.71 355 P **Pn 07 18 23.3 +2.3**
MDJ S **Sn 07 20 55.3 +3.5**
MDJ PcP **PcP 07 23 44.0 +0.9**
MDJ ScP **ScP 07 27 16.5 +3.5**
MDJ PcS **PcS 07 27 19.0 +1.4**
MDJ ScS **ScS 07 30 53.5 +3.6**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ pmax pmax
comp=Z,520nm,4.6s
MDJ LR LR
comp=Z,900nm,25.6s
MDJ LR LR
comp=Z,4μm,32.6s
MDJ LR LR
comp=Z,3μm,24.7s
MDJ Mudanjiang 13.71 355 *e*Pn **Pn 07 18 19.3 -1.7**
comp=Z,26nm,0.6s
MDJ *es*Sn **Sn 07 20 52.8 +1.0**
WHN Wuhan 14.45 273 P **Pn 07 18 31.5 +0.5**
WHN S **Sn 07 21 14.0 +4.2**
WHN LR LR
comp=Z,5μm,8.8s
WHN LR LR
comp=Z,3μm,9.1s
WHN LR LR
comp=Z,9μm,22.3s
ERM Erimo 14.67 38*c i*P **Pn 07 18 32.3 -1.6**
ERM pmax pmax
comp=Z,135nm,1.7s
ERM Erimo 14.67 38 *e*Pn **Pn 07 18 31.9 -2.0**
ERM *es*Sn **Sn 07 21 11.8 -3.4**
BJT Baijiatuau 15.18 311 *e*P **Pn 07 18 42.0 +1.4**
comp=Z,152nm,0.5s
BJI Beijing 15.18 311 P **Pn 07 18 37.8 -2.9**
BJI S **Sn 07 21 24.3 -3.3**
BJI pmax pmax
comp=Z,37nm,1.5s
BJI pmax pmax
comp=Z,1μm,5.1s
BJI LR LR
comp=Z,4μm,19.9s
BJI LR LR
comp=Z,4μm,24.0s
BJI LR LR
comp=Z,4μm,27.0s
PALP Palanan 15.93 212 *e*P **Pn 07 18 51.6 +1.2**
ASAJ Asahikawa 15.97 31 *e*Pn **Pn 07 18 50.1 -0.7**
comp=Z,249nm,2.0s
ASAJ Asahikawa 15.97 31 Pn **Pn 07 18 50.1 -0.7**
comp=Z,7.6nm,0.3s,baz=243,slow=9.3,SNR=36
ASAJ LR LR 07 25 17.4
comp=Z,4μm,18.8s,baz=242,slow=38
CAUP Cauayan 16.31 213 *e*P **Pn 07 18 56.2 +0.9**
SZP Santa 16.49 219 *e*Pn **Pn 07 18 56.5 -1.1**
TIY Taiyuan 16.85 299 P **P 07 19 03.5 -0.2**
TIY pmax pmax
comp=Z,250nm,1.5s
TIY pmax pmax
comp=Z,2μm,6.8s
TIY LR LR
comp=Z,2μm,10.7s
TIY LR LR
comp=Z,760nm,9.1s
BCPH Baguio City Da 17.40 216 ⇓*i*P **Pn 07 19 06.8 -2.3**
BALP Baler 17.47 212 *e*P **Pn 07 19 10.2 +0.4**
YUK Yuzh-Kuril'sk 17.50 38 *i* P **P 07 19 14.5 +3.8**
YUK *i* S **Sn 07 22 21.0 -2.7**
YUK pmax pmax
comp=Z,227nm,1.7s
YUK pmax pmax
comp=N,87nm,1.6s
YUK pmax pmax
comp=E,83nm,0.8s
YUK smax smax
comp=N,2μm,2.5s
YUK smax smax
comp=E,1μm,2.5s
YUK MLR MLR
comp=Z,2μm,17.0s
YUK MLR MLR
comp=N,2μm,17.0s
YUK MLR MLR
comp=E,2μm,17.0s
BOLP Bolinao 17.75 218 *e*P **Pn 07 19 12.0 -1.2**
HABR Khabarovsk 17.77 9 *e*P **Pn 07 19 13.0 -0.2**
HABR *e*S **Sn 07 22 29.7 -0.5**
HABR pmax pmax
comp=E,91nm,2.8s
HABR pmax pmax
comp=Z,139nm,2.8s
HABR pmax pmax
comp=N,108nm,2.8s
HABR MLR MLR
comp=Z,2μm,16.0s
KLR Kul'dur 18.28 1 *e*P **P 07 19 16.6 -2.6**
KLR *e*S **Sn 07 22 38.0 -4.5**
KLR pmax pmax
comp=N,74nm,1.6s
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,190nm,1.6s
KLR smax smax
comp=N,390nm,2.2s
KLR smax smax
comp=E,180nm,2.2s
KLR smax smax
comp=N,4μm,8.5s
KLR smax smax
comp=E,2μm,8.5s
KLR MLR MLR
comp=E,1μm,11.0s
KLR MLR MLR
comp=Z,7μm,11.0s
YSS Yuzh-Sakhalins 18.34 26*ke*P **P 07 19 19.0 -0.8**
YSS *e*S **Sn 07 22 38.0 -5.9**
YSS pmax pmax
comp=Z,340nm,1.3s
YSS pmax pmax
comp=N,80nm,1.0s
YSS pmax pmax
comp=E,80nm,1.5s
YSS Yuzh-Sakhalins 18.34 26 *e*P **P 07 19 19.1 -0.8**
comp=E,137nm,0.8s
PVCP Virac 18.42 202 *e*P **P 07 19 20.3 -0.7**
ENH Enshi 18.65 274 *e*P **P 07 19 23.3 -0.3**
comp=E,139nm,0.6s
HHC Hu-ho-hao-te 18.65 307 *e*P **Pn 07 19 25.0 +0.8**
HHC sP sP 07 19 34.0 -5.5
HHC PP **PnPn 07 19 40.0 +3.1**
HHC S **S 07 22 59.3 +5.4**
HHC SS **SnSn 07 23 13.5 +7.4**
HHC pmax pmax
comp=E,200nm,1.2s
HHC pmax pmax
comp=E,3μm,3.6s
HHC LR LR
comp=E,4μm,16.2s
HHC LR LR
comp=E,3μm,10.8s
HHC LR LR
comp=E,5μm,19.4s
XAN Xi'an 18.99 285 P **P 07 19 27.3 0.0**
XAN pP **pP 07 19 35.3 -2.4**
XAN S **S 07 23 02.3 +1.6**
XAN pmax pmax
comp=E,8.0nm,0.7s
XAN pmax pmax
comp=E,390nm,7.9s
XAN LR LR
comp=E,3μm,19.4s
XAN LR LR
comp=E,850nm,21.4s
TGY Tagaytay City 19.20 211 P **P 07 19 28.2 -1.4**
TGY Tagaytay City 19.20 211 P **P 07 19 28.2 -1.4**
comp=E,25nm,0.3s,baz=75,slow=4.0,SNR=6.3
KUR Kuril'sk 19.36 38 *e*P **Pn 07 19 32.0 -0.6**
KUR *e*S **S 07 23 08.0 +0.2**
KUR pmax pmax
comp=Z,4μm,3.0s
KUR pmax pmax
comp=Z,940nm,1.0s
KUR smax smax
comp=N,5μm,5.0s
BTO Baotou 19.62 305 *e*P **Pn 07 19 35.5 -0.3**
UGL Uglegorsk 19.92 21 P **P 07 19 37.0 -0.2**
UGL *e*S **S 07 23 12.0 -6.9**
UGL pmax pmax
comp=Z,70nm,0.7s
UGL smax smax
comp=N,3μm,8.0s
UGL smax smax
comp=E,2μm,5.0s
UGL MLR MLR
comp=N,1μm,18.0s
UGL MLR MLR
comp=E,2μm,18.0s
UGL MLR MLR
comp=Z,2μm,18.0s
HIA Hailar 20.24 338 *e*P **P 07 19 40.8 +0.1**
comp=Z,585nm,1.6s
OTRP Odiongan 20.31 206 *e*P **P 07 19 40.2 -1.5**
SJMP San Jose 20.59 209 *e*P **P 07 19 44.8 +0.2**
OCLP Ormoc 20.69 198 *e*P Pn 07 19 51.3 +2.8
GUMO Guam 21.40 141 *e*P **P 07 19 52.9 -0.5**
comp=Z,139nm,1.3s
GUMO LR LR
comp=Z,1μm,19.0s
MSLP Maasin 21.51 197 *e*P **P 07 19 55.8 +1.3**
GUIM Jordan 21.71 203 *e*P **P 07 19 58.3 +1.5**
GYA Guiyang 21.91 264 ⇑*i*P **P 07 19 57.8 -1.2**
GYA pP pP 07 20 04.0 -5.6
GYA PP **PnPn 07 20 23.5 +1.9**
GYA S **S 07 23 53.8 -5.0**
GYA PcP **PcP 07 23 59.8 +2.8**
GYA ScP **ScP 07 27 33.5 +2.7**
GYA pmax pmax
comp=Z,150nm,0.6s
GYA pmax pmax
comp=Z,530nm,6.2s
GYA LR LR
comp=Z,2μm,18.0s
GYA LR LR
comp=Z,4μm,22.4s
GYA LR LR
comp=Z,2μm,24.8s
ENPP El Nido 22.44 211 *e*P **P 07 20 06.7 +2.1**
QIZ Qiongzhong 22.61 243 P **P 07 20 04.8 -1.6**
QIZ sP sP 07 20 13.5 -8.9
QIZ S **S 07 24 10.0 -1.2**
QIZ sS Sn 07 24 20.8 -6.2
QIZ pmax pmax
comp=Z,29nm,1.5s
QIZ LR LR
comp=Z,3μm,22.1s
QIZ LR LR
comp=Z,3μm,21.3s
LZH Lanzhou 23.29 290 *e*P **P 07 20 13.5 +0.1**
LZH pP pP 07 20 18.5 -5.8
LZH sP sP 07 20 21.5 -8.2
LZH PP **PnPn 07 20 46.0 +5.5**
LZH *e*S **S 07 24 21.3 -1.6**
LZH sS sS 07 24 32.0 -10
LZH SS **SnSn 07 25 09.5 +10**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.6s
LZH LR LR
comp=Z,2μm,12.2s
LZH LR LR
comp=Z,670nm,9.4s
LZH LR LR
comp=Z,4μm,13.0s
CD2 Chengdu 23.47 277 P **P 07 20 13.3 -1.8**
CD2 sP sP 07 20 23.0 -8.5
CD2 PP **PnPn 07 20 44.3 +1.5**
CD2 S **S 07 24 19.3 -6.3**
CD2 pmax pmax
comp=Z,190nm,0.7s
CD2 pmax pmax
comp=Z,1μm,5.4s
CD2 LR LR
comp=Z,5μm,16.7s
CD2 LR LR
comp=Z,3μm,16.7s
CD2 LR LR
comp=Z,4μm,9.5s
BUKP Musuan 23.63 195 *e*P **P 07 20 14.7 -2.0**
PAGZ Pagadian 24.09 199 *e*P **P 07 20 17.3 -3.5**
MATI Mati 24.30 192 *e*P **P 07 20 21.8 -1.0**
DAV Davao City (W) 24.31 194 PFAKE 07 20 30.0 +7.1
DAV LR LR
comp=Z,1μm,20.0s
CIT Chita 24.72 333 *e*P **P 07 20 26.3 -0.1**
CIT *e* 07 20 36.3
CIT *e* 07 20 40.6
CIT *e* 07 21 03.0
CIT *e* 07 21 15.3
CIT pmax pmax
comp=Z,194nm,2.2s
ULN Ulaanbaatar 24.99 319 *e*P **P 07 20 28.8 -0.1**
comp=Z,89nm,0.9s
ULN LR LR
comp=Z,3μm,22.0s
BATP Bataraza 25.30 212 *e*P pP 07 20 44.4 +1.0
SONM Songino Array 25.34 319 P **P 07 20 31.1 -1.1**
SONM PcP **PcP 07 24 03.7 -0.2**
SONM ScP **ScP 07 27 37.7 -2.0**
SONM Songino Array 25.34 319 P **P 07 20 31.1 -1.1**
comp=Z,49nm,0.6s,baz=138,slow=9.4,SNR=178
SONM PcP **PcP 07 24 03.7 -0.2**
comp=Z,1.4nm,0.5s,baz=105,slow=3.1,SNR=4.6
SONM ScP **ScP 07 27 37.7 -2.0**
comp=Z,2.1nm,0.9s,baz=144,slow=2.5,SNR=5.7
SONM LR LR 07 31 42.8
comp=Z,3μm,18.7s,baz=122,slow=40
KMI Kunming 25.69 264 P **P 07 20 35.0 -0.6**
KMI PP **PnPn 07 21 16.5 +3.1**
KMI S **S 07 25 01.8 +0.2**
KMI SS SnSn 07 26 11.8 +13
KMI pmax pmax
comp=Z,42nm,0.6s
KMI pmax pmax
comp=Z,390nm,5.5s
KMI LR LR
comp=Z,3μm,21.0s
KMI LR LR
comp=Z,2μm,25.5s
KMI LR LR
comp=Z,2μm,22.1s
SLVN Son La 26.19 255 *e*P **P 07 20 39.9 -0.1**
CLNS Chul'man 26.26 352 *e*P **P 07 20 39.8 -0.5**
CLNS *e**PP **pP 07 20 54.7 +2.9**
CLNS *e* 07 24 05.6
CLNS *e*S S 07 25 01.9 -7.7
CLNS *e*SS SnSn 07 26 36.8 +25
CLNS pmax pmax
comp=Z,44nm,0.9s
CLNS pmax pmax
comp=N,37nm,1.0s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax smax
comp=N,368nm,12.8s
CLNS smax smax
comp=E,337nm,11.8s
CLNS MLR MLR
comp=E,850nm,13.0s
CLNS MLR MLR
comp=Z,946nm,13.0s
CLNS MLR MLR
comp=N,711nm,12.0s
GTA Gaotai 26.86 297 P **P 07 20 45.3 -0.7**
GTA pP pP 07 20 51.0 -6.6
GTA sP sP 07 20 53.5 -9.3
GTA PcP **PcP 07 24 09.0 +1.4**
GTA S **S 07 25 22.0 +2.3**
GTA SS SnSn 07 26 37.5 +10
GTA ScP **ScP 07 27 45.3 +1.0**
GTA PcS **PcS 07 27 48.5 -0.6**
GTA pmax pmax
comp=N,23nm,0.8s
GTA pmax pmax
comp=N,710nm,4.7s
GTA LR LR
comp=N,2μm,19.7s
GTA LR LR
comp=N,1μm,22.1s
GTA LR LR
comp=N,2μm,21.4s
SKR Severo-Kuril's 27.11 36 *e*P **P 07 20 46.0 -1.9**
SKR *e*PPP PPP 07 21 42.0
SKR *e* 07 24 10.0
SKR *e*S **S 07 25 26.0 +3.1**
SKR pmax pmax
comp=Z,80nm,0.5s
SKR smax smax
comp=N,2μm,6.0s
SKR smax smax
comp=E,2μm,6.0s
SKR MLR MLR
comp=N,3μm,20.0s
SKR MLR MLR
comp=E,3μm,20.0s
SKR MLR MLR
comp=Z,3μm,20.0s
KDM Kudat 27.40 212 ⇑P **P 07 20 52.5 +1.7**
DLV T Lat 28.21 233 *e*P **P 07 20 58.1 -0.2**
comp=Z,172nm,2.1s
SDKM Sandakan 28.37 210 ⇓P **P 07 21 00.6 +1.0**
ZAK Zakamensk 28.44 321 *e*P **P 07 20 58.5 -1.5**
ZAK pmax pmax
comp=Z,20nm,1.4s
KKM Kota Kinabalu 28.45 213 ⇓P **P 07 21 01.1 +0.8**
TLY Talaya 28.97 324*c i*P **P 07 21 04.3 -0.3**
TLY *e* 07 21 53.5
TLY *e*S **S 07 25 51.2 -1.2**
TLY pmax pmax
comp=Z,65nm,2.0s
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 28.97 324 *e*P **P 07 21 05.2 +0.6**
comp=Z,240nm,2.4s
TLY LR LR
comp=Z,2μm,22.0s
IRK Irkutsk 28.99 325 *e*P **P 07 21 04.2 -0.5**
IRK pmax pmax
comp=Z,101nm,2.0s
TSM Tawau 29.30 208 ⇑P **P 07 21 09.1 +1.3**
PEA0B Petropavlovsk- 29.37 33 *e*P **P 07 21 09.3 +1.3**
PETK Petropavlovsk- 29.37 33 P **P 07 21 09.2 +1.1**
PETK 07 24 13.1
PETK pmax pmax
comp=Z,18nm,0.7s
PETK MLR MLR
comp=Z,1μm,20.4s
PETK Petropavlovsk- 29.37 33 P **P 07 21 09.2 +1.1**
PETK PcP **PcP 07 24 13.1 -0.3**
PETK Petropavlovsk- 29.37 33 P **P 07 21 09.2 +1.1**
comp=Z,18nm,0.7s,baz=214,slow=7.2,SNR=26
PETK PcP **PcP 07 24 13.1 -0.3**
comp=Z,2.9nm,0.6s,baz=171,slow=2.7,SNR=4.9
PETK LR LR 07 33 11.2
comp=Z,1μm,20.4s,baz=192,slow=37
PET Petropavlovsk 29.77 34 ⇑*i*P **P 07 21 13.3 +1.7**
PET *e*S **S 07 26 06.5 +1.6**
PET pmax pmax
comp=Z,92nm,0.8s
PET pmax pmax
comp=Z,200nm,1.9s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,16.0s
PET Petropavlovsk 29.77 34 *e*P **P 07 21 10.5 -1.0**
comp=Z,62nm,0.8s
PET LR LR
comp=Z,2μm,19.0s
MOY Mondy 30.34 322 *e*P **P 07 21 16.2 -0.7**
MOY pmax pmax
comp=Z,48nm,2.6s
YAK Yakutsk 31.12 359 *e*P **P 07 21 22.3 -1.1**
YAK *e* 07 22 31.6
YAK *e* 07 24 15.8
YAK *e*S **S 07 26 20.9 -4.8**
YAK *e*SS **SnSn 07 28 14.7 +4.7**
YAK *e* 07 31 47.1
YAK pmax pmax
comp=Z,84nm,1.1s
YAK pmax pmax
comp=N,32nm,1.0s
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,50nm,1.8s
YAK pmax pmax
comp=E,24nm,1.4s
YAK smax smax
comp=N,165nm,2.3s
YAK smax smax
comp=E,290nm,2.2s
YAK Yakutsk 31.12 359 *e*P **P 07 21 22.1 -1.3**
comp=E,145nm,0.5s
YAK LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 31.49 255 *e*P **P 07 21 26.4 -0.7**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 31.49 255 *e*P **P 07 21 26.4 -0.7**
comp=Z,7.2nm,0.9s
CHTO LR LR
comp=Z,1μm,22.0s
CMAR Chiang Mai Arr 31.66 254 P **P 07 21 28.1 -0.6**
CMAR PcP **PcP 07 24 20.8 +0.8**
CMAR ScP **ScP 07 27 59.5 -0.2**
CMAR Chiang Mai Arr 31.66 254 P **P 07 21 28.1 -0.6**
comp=Z,9.8nm,0.5s,baz=47,slow=8.8,SNR=39
CMAR PcP **PcP 07 24 20.8 +0.8**
comp=Z,6.3nm,0.6s,baz=34,slow=1.1,SNR=14
CMAR ScP **ScP 07 27 59.5 -0.2**
comp=Z,1.2nm,0.3s,baz=35,slow=3.3,SNR=4.8
CMAR LR LR 07 35 03.2
comp=Z,1μm,21.0s,baz=64,slow=38
CHBT CHBT 32.14 242 P x 07 21 32.9
comp=Z,60nm,0.7s,comp=Z,2μm
BTM Bintulu 32.43 215 ⇑P **P 07 21 36.6 +1.2**
SANI Sanana 33.17 189 P **P 07 21 43.4 +1.6**
comp=Z,40nm,0.8s
SBUM Sibu 33.51 216 P x 07 21 44.7
comp=Z,23nm,0.9s,comp=Z,496nm
SBUM Sibu 33.51 216 *e*P **P 07 21 45.2 +0.4**
comp=Z,20nm,1.0s
SBUM Sibu 33.51 216 ⇓P **P 07 21 46.1 +1.4**
FAKI Fak Fak 33.68 178 P **P 07 21 46.7 +0.4**
comp=Z,151nm,0.7s,comp=Z,2μm
FAKI Fak Fak 33.68 178 *e*P **P 07 21 45.5 -0.7**
H11N2 WAKE ISLAND Hy 34.05 101 T T 07 57 59.9
baz=299,slow=76,SNR=886
H11N1 WAKE ISLAND Hy 34.06 101 T T 07 57 57.9
baz=299,slow=76,SNR=549
H11N3 WAKE ISLAND Hy 34.07 101 T T 07 57 59.0
baz=299,slow=76,SNR=719

LSA	**Lhasa**	**34.41**	**278**	P	**P**	**07 21 54.5**	**+1.4**
LSA	**Lhasa**	**34.41**	**278**	*e*P	**P**	**07 21 54.6**	**+1.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.6s						
LSA	**Lhasa**	**34.41**	**278**	*e*P	**P**	**07 21 54.6**	**+1.4**
	comp=Z,19nm,0.6s						
GENI	**Genyem**	**34.44**	**164**	P	**P**	**07 21 54.3**	**+1.5**
	comp=Z,120nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**34.44**	**103**	T	T	07 58 37.6	
	baz=306,slow=74,SNR=31						
H11S1	**WAKE ISLAND Hy**	**34.44**	**103**	T	T	07 58 27.5	
	baz=306,slow=74,SNR=28						
H11S2	**WAKE ISLAND Hy**	**34.46**	**103**	T	T	07 58 51.7	
	baz=306,slow=74,SNR=20						
SEY	**Seymchan**	**34.79**	**17**⇑	*i*P	**P**	**07 21 57.1**	**+1.7**
SHL	**Shillong**	**34.86**	**271**	*e*P	**P**	**07 21 59.0**	**+2.3**
SHL				*e*S	**S**	**07 27 26.0**	**+0.9**
MTKI	**Muara Teweh, K**	**35.26**	**209**	P	pP	07 22 14.9	+3.2
KSM	**Kuching**	**35.32**	**218**	P	x	07 22 03.3	
	comp=Z,307nm,0.7s,comp=Z,3µm						
KSM	**Kuching**	**35.32**	**218**	*e*P	**P**	**07 22 01.6**	**+1.1**
	comp=Z,216nm,0.5s						
KSM				LR	LR		
	comp=Z,579nm,21.0s						
WMQ	**Urumqi**	**36.43**	**303**	P	**P**	**07 22 10.5**	**+0.6**
WMQ				pP	pP	07 22 16.3	-5.4
WMQ				sP	sP	07 22 19.3	-7.5
WMQ				PP	**PP**	**07 23 36.0**	**+2.8**
WMQ				PcP	**PcP**	**07 24 36.0**	**+2.7**
WMQ				S	**S**	**07 27 49.0**	**+0.4**
WMQ				ScP	**ScP**	**07 28 20.0**	**+3.7**
WMQ				ScS	**ScS**	**07 32 24.5**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,48nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,480nm,4.1s						
WMQ				LR	LR		
	comp=Z,1µm,19.9s						
WMQ				LR	LR		
	comp=Z,1µm,17.1s						
WMQ				LR	LR		
	comp=Z,2µm,25.7s						
KTGM	**Kuala Trenggan**	**36.62**	**232**	⇓P	**P**	**07 22 12.5**	**+0.8**
KAPI	**Kappang**	**37.37**	**199**	PFAKE		07 22 30.0	+12
KAPI				LR	LR		
	comp=Z,1µm,22.0s						
FX1	**Attu Island--F**	**37.47**	**42**	*e*P	**P**	**07 22 20.8**	**+2.4**
TAPN	**Taplejung**	**37.92**	**276**	*e*P	**P**	**07 22 23.1**	**+0.1**
ODAN	**Odare**	**38.34**	**275**	*e*P	**P**	**07 22 26.0**	**-0.4**
	comp=Z,121nm,0.5s						
KULM	**Kulim**	**38.35**	**235**	P	x	07 22 26.2	
	comp=Z,71nm,0.7s,comp=Z,836nm						
KULM	**Kulim**	**38.35**	**235**	*e*P	**P**	**07 22 26.3**	**0.0**
	comp=Z,52nm,0.6s						
KULM	**Kulim**	**38.35**	**235**	⇓P	**P**	**07 22 27.1**	**+0.8**
IPM	**Ipoh**	**38.67**	**233**	P	x	07 22 28.3	
	comp=Z,81nm,0.9s,comp=Z,943nm						
IPM	**Ipoh**	**38.67**	**233**	*e*P	**P**	**07 22 28.4**	**-0.6**
	comp=Z,57nm,0.8s						
IPM	**Ipoh**	**38.67**	**233**	⇑P	**P**	**07 22 28.9**	**0.0**
KGM	**Kluang**	**38.98**	**228**	⇓P	**P**	**07 22 33.3**	**+1.7**
RAMN	**Ramite**	**38.98**	**276**	*e*P	**P**	**07 22 31.3**	**-0.5**
	comp=Z,109nm,0.8s						
JIRN	**Jiri**	**39.14**	**277**	*e*P	**P**	**07 22 33.3**	**+0.1**
	comp=Z,164nm,0.6s						
FRIM	**Kepong**	**39.17**	**231**	⇓P	**P**	**07 22 33.4**	**+0.2**
GUN	**Gumba**	**39.33**	**277**	*e*P	**P**	**07 22 34.7**	**-0.2**
	comp=Z,323nm,0.6s						
PKI	**Pulchoki**	**39.83**	**277**	*e*P	**P**	**07 22 38.5**	**-0.4**
	comp=Z,134nm,0.8s						
PKIN	**Phulchoki**	**39.84**	**277**	*e*P	**P**	**07 22 39.1**	**+0.2**
	comp=Z,73nm,0.6s						
KKN	**Kakani**	**39.88**	**277**	*e*P	**P**	**07 22 39.3**	**+0.1**
	comp=Z,102nm,0.6s						
DMN	**Daman**	**40.08**	**277**	*e*P	**P**	**07 22 41.0**	**+0.1**
ZAA0	**Zalesovo Array**	**40.23**	**319**	*e*P	**P**	**07 22 40.4**	**-1.2**
ZALV	**Zalesovo Beam**	**40.23**	**319**	*i*P	**P**	**07 22 40.0**	**-1.6**
ZALV				pmax	pmax		
	comp=Z,13nm,0.4s						
ZALV	**Zalesovo Beam**	**40.23**	**319**	P	**P**	**07 22 40.0**	**-1.6**
ZALV				PcP	**PcP**	**07 24 43.5**	**-1.3**
ZALV				ScP	**ScP**	**07 28 28.9**	**-1.6**
ZALV	**Zalesovo Beam**	**40.23**	**319**	P	**P**	**07 22 40.0**	**-1.6**
	comp=Z,13nm,0.5s,baz=110,slow=9.3,SNR=70						
ZALV				PcP	**PcP**	**07 24 43.5**	**-1.3**
	comp=Z,10nm,0.7s,baz=127,slow=2.2,SNR=4.5						
ZALV				ScP	**ScP**	**07 28 28.9**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=126,slow=3.8,SNR=5.1						
ZALV				LR	LR	07 40 35.5	
	comp=Z,2µm,20.7s,baz=112,slow=38						
GKN	**Gorkha**	**40.37**	**278**	*e*P	**P**	**07 22 43.3**	**+0.1**
	comp=Z,126nm,0.6s						
KWAJ	**Kwajalein Atol**	**40.48**	**115**	*i*P	P	07 22 51.5	+7.5
MK31	**Makanchi Array**	**40.52**	**307**	P	**P**	**07 22 42.4**	**-1.7**
MK31				pmax	pmax		
	comp=Z,17nm,0.5s						
MKAR	**Makanchi Array**	**40.52**	**307**	*i*P	**P**	**07 22 42.9**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,21nm,0.5s						
MKAR	**Makanchi Array**	**40.52**	**307**	P	**P**	**07 22 42.9**	**-1.2**
MKAR				PcP	**PcP**	**07 24 45.0**	**-0.9**
MKAR				ScP	**ScP**	**07 28 30.2**	**-1.6**
MKAR	**Makanchi Array**	**40.52**	**307**	P	**P**	**07 22 42.9**	**-1.2**
	comp=Z,20nm,0.5s,baz=81,slow=9.3,SNR=202						
MKAR				PcP	**PcP**	**07 24 45.0**	**-0.9**
	comp=Z,4.9nm,0.5s,baz=90,slow=2.5,SNR=5.0						
MKAR				ScP	**ScP**	**07 28 30.2**	**-1.6**
	comp=Z,4.3nm,0.7s,baz=54,slow=6.6,SNR=6.8						
LBFI	**Labuhan Bajo,**	**40.65**	**197**	P	x	07 22 44.4	
	comp=Z,91nm,0.8s,comp=Z,1µm						
TIXI	**Tiksi**	**40.79**	**359**	*c i*P	**P**	**07 22 45.1**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,142nm,1.7s						
TIXI	**Tiksi**	**40.79**	**359**	*e*P	**P**	**07 22 45.7**	**-0.2**
	comp=Z,51nm,0.8s						
TIXI				LR	LR		
	comp=Z,2µm,20.0s						
SOEI	**Soe**	**40.99**	**190**	P	**P**	**07 22 50.6**	**+2.3**
	comp=Z,97nm,1.1s						
SOEI	**Soe**	**40.99**	**190**	*e*P	**P**	**07 22 47.2**	**-1.1**
	comp=Z,75nm,0.9s						
DANN	**Dangsing**	**41.02**	**279**	*e*P	**P**	**07 22 49.0**	**+0.3**
	comp=Z,214nm,0.5s						
LHMI	**Lhok Sumawe**	**41.05**	**238**	P	**P**	**07 22 49.5**	**+0.8**
	comp=Z,239nm,0.6s,comp=Z,2µm						
LHMI	**Lhok Sumawe**	**41.05**	**238**	*e*P	**P**	**07 22 49.8**	**+1.0**
KOLN	**Koldanda**	**41.31**	**278**	*e*P	**P**	**07 22 51.1**	**0.0**
PSI	**Prapat**	**41.33**	**234**	P	x	07 22 50.5	
	comp=Z,43nm,0.7s,comp=Z,486nm						
NVS	**Novosibirsk**	**41.37**	**320**	⇓*i*P	**P**	**07 22 49.6**	**-1.3**
NVS				*i* *PP	**pP**	**07 23 05.4**	**+2.6**
NVS				*i*		07 24 27.3	
NVS				*i* S	**S**	**07 28 59.0**	**-3.4**
NVS				pmax	pmax		
	comp=N,38nm,2.0s						
NVS				pmax	pmax		
	comp=E,121nm,2.0s						
NVS				pmax	pmax		
	comp=Z,127nm,2.0s						
NVS				pmax	pmax		
	comp=Z,64nm,2.5s						
NVS				pmax	pmax		
	comp=N,25nm,2.2s						
NVS				pmax	pmax		
	comp=E,39nm,2.2s						
NVS				smax	smax		
	comp=N,19nm,2.1s						
NVS				smax	smax		
	comp=E,41nm,2.3s						
KCSI	**Kotacane, Aceh**	**41.62**	**236**	P	**P**	**07 22 52.1**	**-1.4**
	comp=E,36nm,0.8s,comp=E,867nm						
PYUN	**Piuthan**	**41.74**	**279**	*e*P	**P**	**07 22 54.8**	**+0.2**
	comp=E,94nm,0.5s						
MNSI	**Mandailing Nat**	**42.34**	**231**	P	**P**	**07 22 58.9**	**-0.4**
	comp=E,61nm,0.6s,comp=E,4µm						
BILL	**Bilibino**	**42.41**	**19***c*	*i*P	**P**	**07 23 00.6**	**+1.3**
BILL				*e*		07 24 37.0	
BILL				*e*		07 24 52.8	
BILL				pmax	pmax		
	comp=Z,109nm,1.5s						
BILL	**Bilibino**	**42.41**	**19**	*e*P	**P**	**07 22 60.0**	**+0.7**
	comp=Z,54nm,0.9s						
BILL				LR	LR		
	comp=Z,827nm,21.0s						
NGJI	**Ngawi**	**42.50**	**210**	P	**P**	**07 23 02.4**	**+1.9**
	comp=Z,64nm,1.7s						
PPI	**Padang Panjang**	**42.74**	**229**	P	**P**	**07 23 03.2**	**+0.7**
	comp=Z,41nm,1.2s						
PWJI	**Pagerwojo**	**42.94**	**209**	P	**P**	**07 23 05.2**	**+1.1**
	comp=Z,46nm,1.3s						
PMG	**Port Moresby**	**42.96**	**156**	PFAKE		07 23 20.0	+16
PMG				LR	LR		
	comp=Z,948nm,21.0s						
PDSI	**Padang**	**43.04**	**228**	P	**P**	**07 23 04.5**	**-0.5**
	comp=Z,20nm,0.7s,comp=Z,3µm						
BJII	**Banjamegara**	**43.23**	**212**	P	x	07 23 12.1	
KURK	**Kurchatov**	**43.34**	**313**	P	**P**	**07 23 06.6**	**-0.4**
	comp=Z,606nm,0.6s						
KURK	**Kurchatov**	**43.34**	**313***c*	*i*P	**P**	**07 23 06.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,61nm,0.6s						
KURK	**Kurchatov**	**43.34**	**313**	*e*P	**P**	**07 23 05.5**	**-1.5**
KURK				LR	LR		
	comp=Z,1µm,22.0s						
UGM	**Wanagama**	**43.39**	**211**	P	**P**	**07 23 09.0**	**+1.3**
	comp=Z,144nm,1.7s						
UGM	**Wanagama**	**43.39**	**211**	*e*P	**P**	**07 23 08.5**	**+0.7**
	comp=Z,1µm,2.5s						
SNSI	**Sinabang, Aceh**	**43.43**	**236**	P	**P**	**07 23 07.8**	**-0.3**
	comp=Z,112nm,0.7s						
LHSI	**Lahat**	**43.47**	**222**	P	**P**	**07 23 10.9**	**+2.5**
	comp=Z,68nm,0.7s						
KLI	**Kotabumi**	**43.56**	**220**	P	**P**	**07 23 11.7**	**+2.6**
	comp=Z,102nm,0.8s						
KPJI	**Kang Pucung**	**43.59**	**213**	P	**P**	**07 23 10.9**	**+1.5**
	comp=Z,136nm,1.2s						
MDSI	**Maura Dua**	**43.63**	**221**	P	**P**	**07 23 10.2**	**+0.5**
	comp=Z,81nm,1.6s,comp=Z,1µm						
LEM	**Lembang**	**43.78**	**215**	P	**P**	**07 23 13.1**	**+2.0**
DBJI	**Dramaga**	**43.98**	**216**	P	**P**	**07 23 14.1**	**+1.6**
	comp=Z,248nm,1.2s,comp=Z,4µm						
AAA	**Alma-Ata**	**44.23**	**302**	*e*P	**P**	**07 23 13.5**	**-0.8**
AAA				pmax	pmax		
	comp=Z,700nm,5.4s						
AAA				MLR	MLR		
	comp=Z,1µm,18.0s						
CISI	**Cisompet, Garu**	**44.32**	**214**	P	pP	07 23 30.9	+3.6
CISI	**Cisompet, Garu**	**44.32**	**214**	*e*P	**P**	**07 23 14.8**	**-0.5**
CNJI	**Cibinong**	**44.44**	**215**	P	pP	07 23 30.9	+2.7
CGJI	**Cibinong**	**44.58**	**217**	P	**P**	**07 23 14.9**	**-2.4**
	comp=Z,59nm,1.0s,comp=Z,9µm						
ULHL	**Ulahol**	**44.80**	**300**	*i*P	**P**	**07 23 19.7**	**+0.6**
ULHL	**Ulahol**	**44.80**	**300**	P	**P**	**07 23 19.8**	**+0.6**
	SNR=19						
TKM2	**Tokmak 2**	**45.23**	**301**	*i*P	**P**	**07 23 22.0**	**-0.5**
TKM2	**Tokmak 2**	**45.23**	**301**	P	**P**	**07 23 22.1**	**-0.5**
	SNR=162						
TKM2	**Tokmak 2**	**45.23**	**301**	*e*P	**P**	**07 23 21.9**	**-0.5**
	comp=Z,79nm,0.6s						
TKM2				*e*pP	**pP**	**07 23 31.8**	**-2.7**
TKM2				*e*sP	**sP**	**07 23 39.4**	**-0.2**
TKM2				LR	LR		
	comp=Z,916nm,19.0s						
KSH	**Kashi**	**45.26**	**297**⇑	*i*P	**P**	**07 23 25.8**	**+3.1**
KSH				*e*PcS	**PcS**	**07 28 58.0**	**+1.9**
KSH				*e*S	**S**	**07 30 05.0**	**+4.9**
KSH				*e*sS	**sS**	**07 30 17.5**	**-2.6**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH				LR	LR		
	comp=Z,530nm,13.9s						
KSH				LR	LR		
	comp=Z,2µm,20.2s						
KSH				LR	LR		
	comp=Z,880nm,14.2s						
KZA	**Kyzart**	**45.55**	**300**	*i*P	**P**	**07 23 25.9**	**+0.7**
KZA	**Kyzart**	**45.55**	**300**	P	**P**	**07 23 26.0**	**+0.7**
	SNR=45						
KBK	**Karagaybulak**	**45.73**	**301**	*i*P	**P**	**07 23 26.6**	**+0.2**
KBK	**Karagaybulak**	**45.73**	**301**	P	**P**	**07 23 26.6**	**+0.2**
	SNR=51						
CHMS	**Chumysh**	**45.85**	**302**	*i*P	**P**	**07 23 27.1**	**0.0**
CHMS	**Chumysh**	**45.85**	**302**	P	**P**	**07 23 27.1**	**0.0**
	SNR=31						
FRU	**Bishkek**	**45.96**	**301**⇓	*e*P	**P**	**07 23 28.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,200nm,1.6s						
USP	**Ospenovka**	**46.01**	**302**	*i*P	**P**	**07 23 27.0**	**-1.4**
USP	**Osenovka**	**46.01**	**302**	P	**P**	**07 23 27.1**	**-1.4**
	SNR=45						
AAK	**Ala-Archa**	**46.06**	**301**	P	**P**	**07 23 28.8**	**-0.2**
	comp=Z,291nm,0.5s,SNR=29						
AAK	**Ala-Archa**	**46.06**	**301**	*i*P	**P**	**07 23 28.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,239nm,2.2s						
AAK	**Ala-Archa**	**46.06**	**301**	P	**P**	**07 23 28.5**	**-0.5**
	SNR=46						
AAK	**Ala-Archa**	**46.06**	**301**	*e*P	**P**	**07 23 28.4**	**-0.7**
	comp=Z,29nm,0.9s						
AAK	**Ala-Archa**	**46.06**	**301**	LR	LR	07 45 40.6	
	comp=Z,978nm,20.2s,baz=78,slow=40						
UCH	**Uchtor**	**46.08**	**301**	*i*P	**P**	**07 23 29.3**	**-0.2**
UCH	**Uchtor**	**46.08**	**301**	P	**P**	**07 23 29.4**	**-0.2**
	SNR=116						
NDI	**New Delhi**	**46.46**	**282**	*e*P	**P**	**07 23 30.0**	**-2.1**
EKS2	**Erkin-Say**	**46.59**	**301**	*i*P	**P**	**07 23 32.8**	**-0.3**
EKS2	**Erkin-Say**	**46.59**	**301**	P	**P**	**07 23 32.8**	**-0.3**
	SNR=20						
EKS2	**Erkin-Say**	**46.59**	**301**	*e*P	**P**	**07 23 32.7**	**-0.4**
	comp=Z,17nm,0.6s						
EKS2				LR	LR		
	comp=Z,1µm,20.0s						
AML	**Almayashu**	**46.70**	**301**	*i*P	**P**	**07 23 34.1**	**-0.2**
AML	**Almayashu**	**46.70**	**301**	P	**P**	**07 23 34.1**	**-0.2**
	SNR=56						
GAMB	**Gambell**	**48.30**	**30**	*e*P	**P**	**07 23 47.7**	**+1.8**
	comp=Z,62nm,1.6s						
BVAR	**Borovoye Array**	**48.60**	**315**	LR	LR	07 46 17.3	
	comp=Z,987nm,18.2s,baz=96,slow=39						
BRVK	**Borovoye**	**48.67**	**315**	P	**P**	**07 23 48.9**	**0.0**
	comp=Z,2µm,0.5s						
BRVK	**Borovoye**	**48.67**	**315**⇑	*i*P	**P**	**07 23 48.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,106nm,0.6s						
BRVK	**Borovoye**	**48.67**	**315**	*e*P	**P**	**07 23 48.3**	**-0.6**
	comp=Z,140nm,0.5s						
BRVK				LR	LR		
	comp=Z,1µm,22.0s						
KK31	**Karatay Array**	**48.93**	**302**	*i*P	**P**	**07 23 50.9**	**-0.2**
KK31				pmax	pmax		
	comp=Z,79nm,0.6s						
TARA	**Tarawa**	**49.27**	**118**	*e*P	**P**	**07 23 55.2**	**+1.2**
	comp=Z,337nm,1.3s						
HYB	**Hyderabad**	**49.41**	**267**	*i*P	**P**	**07 23 53.0**	**-2.1**
HYB				*e*sP	**sP**	**07 24 11.0**	**-1.3**
TNA	**Tin City**	**50.30**	**28**	*e*P	**P**	**07 24 03.3**	**+2.2**
	comp=Z,66nm,1.0s						
WRAB	**Tennant Creek**	**50.67**	**176**	P	**P**	**07 24 03.0**	**-1.4**
	comp=Z,105nm,0.7s,SNR=11						
WRAB	**Tennant Creek**	**50.67**	**176***d*	*i*P	**P**	**07 24 04.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,32nm,0.7s						
WRAB	**Tennant Creek**	**50.67**	**176**	*e*P	**P**	**07 24 03.8**	**-0.7**
	comp=Z,41nm,0.9s						
WRAB				LR	LR		
	comp=Z,683nm,21.0s						
WRA	**Warramunga Arr**	**50.68**	**176**	P	**P**	**07 24 03.9**	**-0.6**
WRA	**Warramunga Arr**	**50.68**	**176**	P	**P**	**07 24 03.9**	**-0.6**
	comp=Z,12nm,0.9s,baz=351,slow=8.3,SNR=31						
WRA				LR	LR	07 44 29.4	
	comp=Z,487nm,21.7s,baz=30,slow=35						
KBL	**Kabul**	**51.63**	**291**	*e*P	**P**	**07 24 11.9**	**0.0**
KBL				pmax	pmax		
	comp=Z,487nm,1.9s						
KBL	**Kabul**	**51.63**	**291**	*e*P	**P**	**07 24 11.9**	**0.0**
	comp=Z,487nm,1.9s						
PALK	**Pallekele**	**52.61**	**254**	P	**P**	**07 24 19.2**	**0.0**
	comp=Z,313nm,0.5s,SNR=5.5						
PALK	**Pallekele**	**52.61**	**254**	*e*P	**P**	**07 24 18.6**	**-0.6**
	comp=Z,131nm,0.6s						
PALK	**Pallekele**	**52.61**	**254**⇑	*i*P	**P**	**07 24 19.1**	**0.0**
	SNR=8.8						
CTAO	**Charters Tower**	**52.77**	**162**	PFAKE		07 24 30.0	+10
CTAO				LR	LR		
	comp=Z,965nm,21.0s						
SDPT	**Sand Point**	**53.08**	**42**	*e*P	**P**	**07 24 22.0**	**-0.1**
	comp=Z,72nm,0.8s						
COCO	**West Island**	**54.08**	**223**	*i*P	**P**	**07 24 32.6**	**+2.8**
CHGN	**Chignik**	**54.20**	**40**	*e*P	**P**	**07 24 30.3**	**+0.1**
SVE	**Sverdlovsk**	**54.20**	**320**	*de*P	**P**	**07 24 29.7**	**-0.5**
SVE				*e*		07 26 30.5	
SVE				*e*SS	**SS**	**07 35 42.8**	**-3.0**
SVE				pmax	pmax		
	comp=Z,341nm,1.1s						
SVE				MLR	MLR		
	comp=Z,1µm,23.0s						
AS31	**Alice Springs**	**54.36**	**177**	*e*P	**P**	**07 24 31.7**	**0.0**
ASAR	**Alice Springs**	**54.36**	**177**	P	**P**	**07 24 31.8**	**+0.1**
ASAR	**Alice Springs**	**54.36**	**177**	P	**P**	**07 24 31.8**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=358,slow=5.8,SNR=44						
ASAR				LR	LR	07 46 15.7	
	comp=Z,466nm,20.9s,baz=350,slow=34						
ARU	**Arti**	**55.37**	**320**	P	**P**	**07 24 37.6**	**-1.1**
	comp=Z,1µm,0.8s,SNR=62						
ARU	**Arti**	**55.37**	**320***c*	*i*P	**P**	**07 24 37.4**	**-1.3**
ARU						07 25 38.4	
ARU						07 26 38.1	
ARU				PPP	PPP	07 27 51.9	
ARU				S	**S**	**07 32 19.0**	**-0.8**
ARU				SS	**SS**	**07 35 58.4**	**-5.9**
ARU				pmax	pmax		
	comp=Z,421nm,1.7s						
ARU				MLR	MLR		
	comp=Z,2µm,20.0s						
ARU	**Arti**	**55.37**	**320**	*e*P	**P**	**07 24 37.5**	**-1.3**
	comp=Z,462nm,1.4s						
ARU				LR	LR		
	comp=Z,2µm,19.0s						
AB31	**Akbulak array**	**55.39**	**311**	*i*P	**P**	**07 24 38.0**	**-1.0**
AB31				pmax	pmax		
	comp=Z,147nm,0.5s						
IM04	**Indian Mountai**	**56.13**	**28**	*e*P	**P**	**07 24 45.0**	**+0.9**
IM04				*e*PcP	**PcP**	**07 25 43.1**	**+1.5**
IM04				*e*S	**S**	**07 32 31.6**	**+1.8**
AKTO	**Aktyubinsk**	**56.44**	**313**	LR	LR	07 50 52.1	
	comp=Z,2µm,19.2s,baz=79,slow=38						
RSO	**Redoubt South**	**56.87**	**35**	*e*P	**P**	**07 24 50.9**	**+1.3**
OHAK	**Old Harbor**	**56.93**	**39**	*e*P	**P**	**07 24 51.0**	**+1.2**
	comp=Z,86nm,1.4s						
PPLA	**Purkeypile**	**56.95**	**32**	*e*P	**P**	**07 24 52.0**	**+2.0**
	comp=Z,50nm,0.8s						
CAST	**Castle Rocks**	**56.96**	**31**	*e*P	**P**	**07 24 52.1**	**+2.1**
	comp=Z,35nm,0.8s						
KDAK	**Kodiak Island**	**57.24**	**38**	P	**P**	**07 24 52.3**	**+0.3**
	comp=Z,403nm,0.7s,SNR=8.9						
KDAK	**Kodiak Island**	**57.24**	**38**	*e*P	**P**	**07 24 52.9**	**+1.0**
	comp=Z,56nm,0.8s						
KDAK				LR	LR		
	comp=Z,669nm,20.0s						
KTH	**Kantishna Hill**	**57.47**	**31**	*e*P	**P**	**07 24 55.4**	**+1.7**
	comp=Z,220nm,1.1s						
COLD	**Coldfoot**	**57.52**	**27**	*e*P	**P**	**07 24 55.7**	**+1.9**
	comp=Z,107nm,2.0s						
TRF	**Thorofare Moun**	**57.76**	**31**	*e*P	**P**	**07 24 57.3**	**+1.5**
	comp=Z,22nm,0.8s						
IMYA	**Miami**	**58.18**	**296**	*e*P	**P**	**07 24 58.8**	**-0.3**
RC01	**Rabbit Creek A**	**58.27**	**34**	*e*P	**P**	**07 24 59.9**	**+0.7**
	comp=Z,40nm,0.9s						
MCK	**McKinley**	**58.33**	**31**	*e*P	P	07 24 55.0	-4.6
MCK				pmax	pmax		
	comp=Z,32nm,0.8s						
MCK	**McKinley**	**58.33**	**31**	*e*P	P	07 24 55.0	-4.6
	comp=Z,32nm,0.8s						
PMR	**Palmer**	**58.50**	**33**	*e*P	**P**	**07 25 01.4**	**+0.7**
PMR				pmax	pmax		
	comp=Z,54nm,0.9s						
PMR	**Palmer**	**58.50**	**33**	*e*P	**P**	**07 25 01.4**	**+0.7**
	comp=Z,54nm,0.9s						
SEW	**Seward**	**58.55**	**35**	*e*P	**P**	**07 25 01.8**	**+0.7**
	comp=Z,69nm,0.8s						
COLA	**College**	**58.67**	**30***c*	*i*P	**P**	**07 25 03.5**	**+1.6**
COLA				pmax	pmax		
	comp=Z,105nm,0.7s						
COLA	**College**	**58.67**	**30**	*e*P	**P**	**07 25 03.1**	**+1.2**
	comp=Z,7.3nm,0.7s						
COLA				LR	LR		
	comp=Z,694nm,20.0s						
ISRO	**Mashad**	**58.67**	**296**	*e*P	**P**	**07 25 02.4**	**-0.1**
IEMG	**Emamgholi**	**58.98**	**298**	*e*P	**P**	**07 25 04.9**	**+0.1**
ILAR	**Eielson Array**	**59.10**	**30**	P	**P**	**07 25 05.0**	**+0.1**
ILAR	**Eielson Array**	**59.10**	**30**	P	**P**	**07 25 05.0**	**+0.1**
	comp=Z,16nm,0.8s,baz=264,slow=6.0,SNR=174						
ILAR				LR	LR	07 51 18.4	
	comp=Z,509nm,21.4s,baz=296,slow=37						
EIDS	**Eidsvold**	**59.15**	**159**	*e*P	**P**	**07 25 06.9**	**+1.3**
	comp=Z,154nm,2.5s						
ABKT	**Ailbek**	**59.23**	**298**	P	**P**	**07 25 06.1**	**-0.2**
	comp=Z,486nm,0.5s,SNR=15						
IKRD	**Kardeh**	**59.27**	**297**	*e*P	P	07 25 01.2	-5.7
IDAH	**Dahanechah**	**59.48**	**292**	*e*P	**P**	**07 25 08.6**	**+0.3**
ISFR	**Sfrayin**	**59.58**	**297**	*e*P	**P**	**07 25 08.1**	**-0.9**
PAX	**Paxson**	**59.99**	**32**	*e*P	**P**	**07 25 12.3**	**+1.1**
PAX				pmax	pmax		
	comp=Z,19nm,0.8s						
PAX	**Paxson**	**59.99**	**32**	*e*P	**P**	**07 25 12.3**	**+1.1**
	comp=Z,19nm,0.8s						
DIV	**Divide**	**60.17**	**34**	*e*P	**P**	**07 25 14.2**	**+1.8**
	comp=Z,43nm,0.8s						
BMRM	**Bremner River**	**60.76**	**34**	*e*P	**P**	**07 25 17.9**	**+1.5**
	comp=Z,83nm,1.2s						
MENT	**Mentasta**	**60.78**	**31**	*e*P	**P**	**07 25 18.2**	**+1.7**
RAGM	**Ragged Mountai**	**60.84**	**34**	*e*P	**P**	**07 25 19.1**	**+2.2**
	comp=Z,143nm,1.5s						
PRGR	**Permogore**	**61.21**	**327**⇑	*i*P	**P**	**07 25 18.0**	**-1.4**
PRGR				*e*S	**S**	**07 33 34.1**	**-1.6**
PRGR				pmax	pmax		
	comp=Z,49nm,0.7s						
FORT	**Forrest**	**61.45**	**183**	*e*P	**P**	**07 25 21.0**	**-0.2**
	comp=Z,38nm,0.7s						
EGAK	**Eagle**	**61.51**	**29**	*e*P	**P**	**07 25

SNR=23
IVRN Varamin 65.06 297 eP P 07 25 45.1 -0.3
KBS Kingsbay 65.11 349 eP P 07 25 44.7 -0.2
KBS IAmb IAmb 07 25 46.6
comp=Z,32nm,0.7s
KBS Kingsbay 65.11 349 PFAKE 07 26 00.0 +15
KBS LR LR
comp=Z,625nm,19.0s
MAK Makhachkala 65.33 307 eP P 07 25 44.1 -2.9
MAK MLR MLR
comp=Z,294nm,4.0s
IZEF Zefreh 65.37 295 eP P 07 25 47.8 0.0
IR3 Iran Long-Peri 65.42 298 eP P 07 25 47.5 -0.3
HATD Hatta, Dubai 65.44 285 *i* P **P 07 25 48.8 +0.8**
SNR=19
ASHO Ashiyiah 65.56 285 P **P 07 25 48.8 0.0**
SNR=32
ARQ Araqi 65.73 284 P **P 07 25 49.9 0.0**
SNR=15
NAZ Nazwa, Dubai 65.77 286⇑ *i* P **P 07 25 50.2 +0.1**
SNR=11
IKLH Kolahrood 65.79 295 eP P 07 25 50.3 -0.1
FAQ Al Faqa, Dubai 65.92 285⇓ *i* P **P 07 25 51.0 -0.1**
SNR=14
IPAR Pars 65.96 291 eP P 07 25 47.9 -3.7
KEV Kevo 66.01 338 eP P 07 25 50.1 -0.8
KEV pmax pmax
comp=Z,148nm,1.4s
KEV MLR MLR
comp=Z,2μm,20.0s
KEV Kevo 66.01 338 ep P 07 25 48.3 -2.6
comp=Z,19nm,0.5s
KEV Kevo 66.01 338 eP P 07 25 50.1 -0.8
comp=Z,148nm,1.4s
KEV LR LR
comp=Z,2μm,20.0s
BJO Bjornoya 66.02 344 eP P 07 25 49.9 -1.0
POHA Pohakuloa 66.17 81 eP P 07 25 54.4 +1.4
comp=Z,84nm,0.9s
ASUD Al Ashush, Dub 66.19 285⇓ *i* P **P 07 25 53.2 +0.4**
SNR=17
IRAZ Razeghan 66.28 298 eP P 07 25 53.3 -0.2
VRHR Novokhopersk 66.32 316 eP P 07 25 50.0 -3.2
VRHR eS **S 07 34 34.5 -5.0**
VRHR pmax pmax
comp=E,50nm,0.7s
VRHR pmax pmax
comp=Z,180nm,0.7s
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR smax smax
comp=N,120nm,1.2s
VRHR smax smax
comp=Z,9.0nm,0.7s
VRHR smax smax
comp=E,70nm,0.9s
VRHR MLR MLR
comp=Z,1μm,17.0s
VRHR MLR MLR
comp=N,1μm,23.0s
VRHR MLR MLR
comp=E,1μm,19.0s
SIT Sitka 66.45 37 eP P 07 25 55.6 +1.7
SIT pmax pmax
comp=Z,179nm,1.7s
SIT Sitka 66.45 37 eP P 07 25 55.6 +1.7
comp=Z,179nm,1.7s
IPIR Pirpir 66.57 295 eP P 07 25 55.3 -0.2
ARCES ARCESS Array B 66.58 338 P **P 07 25 53.4 -1.2**
ARCES ARCESS Array B 66.58 338 P **P 07 25 53.4 -1.2**
comp=Z,17nm,0.7s,baz=64,slow=7.7,SNR=70
ARCES LR LR 08 00 15.1
comp=Z,1μm,20.1s,baz=56,slow=41
ARE0 ARCESS Array S 66.58 338 eP P 07 25 53.3 -1.3
ARE0 ARCESS Array S 66.58 338 eP P 07 25 53.1 -1.5
ARE0 epP **pP 07 26 08.1 +0.9**
MOS Moscow 66.91 322 eP P 07 25 55.9 -1.0
MOS *e* 07 26 06.9
MOS *e* 07 26 25.0
MOS ePPP PPP 07 30 03.1
MOS eS **S 07 34 43.8 -2.8**
MOS pmax pmax
comp=Z,600nm,1.8s
MOS pmax pmax
comp=E,100nm,1.2s
MOS pmax pmax
comp=N,200nm,1.0s
MOS pmax pmax
comp=Z,331nm,1.4s
MOS pmax pmax
comp=N,139nm,1.2s
MOS pmax pmax
comp=E,128nm,1.2s
JOF Joensuu 67.19 331 eP P 07 25 55.9 -2.6
JOF pmax pmax
comp=Z,48nm,0.6s
JOF Joensuu 67.19 331 ep P 07 25 55.9 -2.6
comp=Z,48nm,0.6s
DGRG David-gareji 67.35 306 P **P 07 25 59.9 -0.1**
DUS Dusheti 67.58 307 P **P 07 26 03.3 +1.8**
GUDG Gudauri 67.60 307 P **P 07 26 02.1 +0.4**
GOF Gofitskoye 67.60 310 eP P 07 26 01.0 -0.4
GOF pmax pmax
comp=Z,270nm,1.3s
SEAG Tbilisi Sea 67.63 306 P **P 07 26 02.6 +0.9**
TBLG Delisi 67.69 306 P **P 07 26 00.9 -1.2**
OBN Obninsk 67.70 322 P **P 07 26 01.0 -0.8**
comp=Z,946nm,0.7s,SNR=9.0
OBN Obninsk 67.70 322*c* *i*P **P 07 26 01.1 -0.8**
OBN *e* 07 26 25.5
OBN eS **S 07 34 52.5 -3.5**
OBN pmax pmax
comp=Z,309nm,1.7s
OBN MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 67.70 322 eP P 07 26 01.2 -0.7
OBN LR LR
comp=Z,1μm,20.0s
VSR Storozhevoye 67.72 317 eP P 07 25 59.9 -2.2
VSR eS **S 07 34 51.8 -4.6**
VSR pmax pmax
comp=Z,120nm,0.7s
VSR pmax pmax
comp=N,70nm,0.8s
VSR pmax pmax
comp=E,110nm,0.9s
VSR smax smax
comp=N,80nm,1.2s
VSR smax smax
comp=Z,6.0nm,1.6s
VSR smax smax
comp=E,50nm,1.3s
VSR MLR MLR
comp=Z,2μm,22.0s
VSR MLR MLR
comp=N,400nm,14.0s
VSR MLR MLR
comp=E,1μm,21.0s
VORD Divnogorie 67.74 317 eP P 07 26 00.0 -2.2
VORD eS **S 07 34 52.6 -4.0**
VORD pmax pmax
comp=Z,90nm,1.5s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,50nm,1.0s
VORD smax smax
comp=E,70nm,1.4s
VORD smax smax
comp=Z,4.0nm,0.6s
VORD smax smax
comp=N,40nm,0.8s
VORD MLR MLR
comp=Z,1μm,18.0s
VORD MLR MLR
comp=N,950nm,17.0s
VORD MLR MLR
comp=E,2μm,25.0s
DGAR Diego Garcia 67.83 246 PFAKE 07 26 10.0 +6.7
DGAR LR LR
comp=Z,787nm,20.0s
ZEI Tsey 67.87 307 eP P 07 26 00.8 -2.7
ZEI pmax pmax
comp=Z,96nm,0.6s
CAN Canberra 68.02 164 PFAKE 07 26 20.0 +16
CAN LR LR
comp=Z,576nm,22.0s
KZR Kazreti 68.05 306 P **P 07 26 04.0 -0.4**
KBZ Khabaz 68.19 309 P **P 07 26 05.0 -0.1**
KBZ pmax pmax
comp=Z,146nm,0.8s
KBZ MLR MLR
comp=Z,745nm,20.8s
KBZ Khabaz 68.19 309 P **P 07 26 05.0 -0.1**
KBZ Khabaz 68.19 309 P **P 07 26 05.0 -0.1**
comp=Z,146nm,0.8s,baz=88,slow=2.0,SNR=221
KBZ LR LR 07 59 25.0
comp=Z,745nm,20.8s,baz=52,slow=39
KIV Kislovodsk 68.25 309 eP P 07 26 05.1 -0.6
KIV eS **S 07 35 02.5 -0.7**
KIV pmax pmax
comp=Z,336nm,1.0s
KIV pmax pmax
comp=Z,95nm,3.5s
KIV MLR MLR
comp=Z,689nm,18.0s
KIV Kislovodsk 68.25 309 *eP* **P 07 26 05.7 0.0**
comp=Z,324nm,1.0s
KIV LR LR
comp=Z,621nm,19.0s
KIV Kislovodsk 68.25 309⇑ *i*P **P 07 26 05.3 -0.4**
SNR=22
ONI Oni 68.25 307 P **P 07 26 05.3 -0.4**
GNI Garni 68.29 305 *eP* **P 07 26 06.5 +0.4**
comp=Z,377nm,1.6s
GNI LR LR
comp=Z,452nm,22.0s
GNI Garni 68.29 305⇑ *i*P **P 07 26 06.4 +0.4**
SNR=28
TRO Tromso 68.56 340 *e* P 07 26 10.5 +3.5
AKH Akhalkalaki 68.68 306 P **P 07 26 09.1 +0.6**
KAF Kangasniemi 69.63 331 *eP* **P 07 26 11.2 -2.6**
KAF pmax pmax
comp=Z,50nm,0.6s
KAF Kangasniemi 69.63 331 *ep* **P 07 26 11.2 -2.6**
comp=Z,50nm,0.6s
FIA1 FINESS Array S 70.04 330 eP P 07 26 14.8 -1.5
FINES FINESS Array B 70.04 330 P **P 07 26 14.9 -1.4**
FINES FINESS Array B 70.04 330 P **P 07 26 14.9 -1.4**
comp=Z,101nm,0.6s,baz=68,slow=5.6,SNR=483
FINES LR LR 08 00 41.7
comp=Z,1μm,18.4s,baz=64,slow=39
RBK Rabkut 70.23 279 P **P 07 26 17.4 -0.9**
SNR=21
SOC Sochi 70.37 310*c* *i*P **P 07 26 18.2 -0.5**
SOC *e* 07 26 38.3
SOC *e* 07 28 50.4
SOC ePPP PPP 07 30 35.7
SOC eS **S 07 35 29.2 +1.2**
SOC *e* 07 36 20.6
SOC eSS **SS 07 39 57.6 -1.1**
SOC pmax pmax
comp=Z,169nm,0.6s
SOC MLR MLR
comp=Z,612nm,18.0s
RES Resolute Bay 70.45 12 *eP* **P 07 26 18.1 -0.5**
comp=Z,53nm,0.9s
STEI Steigen 70.62 339 *eP* **P 07 26 18.6 -1.1**
STEI IAmb IAmb 07 26 20.0
comp=Z,44nm,0.8s
AFI Afiamalu 70.66 120 LR LR 07 50 06.7
comp=Z,309nm,21.0s,baz=336,slow=30
ABTO Aybut 71.06 279 P **P 07 26 22.7 -0.7**
SNR=20
VSU Vasula 71.17 327*c* *i*P **P 07 26 21.9 -1.3**
VSU pmax pmax
comp=Z,157nm,0.6s
MOR8 Moi Rana 71.91 338 *eP* **P 07 26 25.0 -2.6**
MOR8 IAmb IAmb 07 26 26.5
comp=Z,49nm,0.7s
STOK Stokkvaagen 72.27 338 *eP* **P 07 26 28.9 -0.8**
STOK IAmb IAmb 07 26 32.8
comp=N,14nm,0.9s
MICGM Minsk 72.51 323 *eP* **P 07 26 31.0 -0.3**
MNK Minsk 72.53 323 *eP* **P 07 26 31.5 0.0**
KBSD Kabsdagh 72.58 303 *i* P **P 07 26 32.9 +0.8**
IDID Didziasalis 72.69 325 *eP* **P 07 26 32.4 0.0**
IDID AMB AMB 07 26 34.1
comp=Z,35nm,1.1s
ISAL Salakas 72.86 325 *eP* **P 07 26 33.5 0.0**
ISAL AMB AMB 07 26 35.2
comp=Z,40nm,1.2s
NACGM Naroch 72.87 324 *eP* P 07 26 30.0 -3.5
IIGN Ignalina 72.93 325 *eP* **P 07 26 33.2 -0.6**
IIGN AMB AMB 07 26 35.0
comp=Z,22nm,1.3s
MZRK Al-Mazaregh 73.01 302 *i* P **P 07 26 36.7 +2.0**
SFNV Sufian 73.14 303 *i* P **P 07 26 36.8 +1.2**
YKW3 Yellowknife Ar 73.15 26 *eP* **P 07 26 35.9 +0.9**
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 73.19 26 P **P 07 26 35.5 +0.2**
YKA PKiKP **PKiKP 07 32 32.6 -0.5**
YKA Yellowknife Ar 73.19 26 P **P 07 26 35.5 +0.2**
comp=Z,29nm,0.7s,baz=303,slow=5.6,SNR=461
YKA PKiKP **PKiKP 07 32 32.6 -0.5**
comp=Z,0.6nm,0.6s,baz=313,slow=1.3,SNR=6.7
SIM Simferopol' 73.41 313 *eP* **P 07 26 36.7 -0.2**
SIM pmax pmax
comp=Z,61nm,0.7s
SIM MLR MLR
comp=N,660nm,20.1s
AKASG Malin Array Be 73.62 320 *i* P **P 07 26 36.7 -1.2**
AKASG pmax pmax
comp=Z,68nm,0.5s
AKASG Malin Array Be 73.62 320 P **P 07 26 36.8 -1.2**
AKASG Malin Array Be 73.62 320 P **P 07 26 36.8 -1.2**
comp=Z,68nm,0.5s,baz=56,slow=6.5,SNR=247
AKASG LR LR 08 03 27.9
comp=Z,598nm,19.1s,baz=50,slow=40
AKBB Malin Array Si 73.62 320 *eP* **P 07 26 36.1 -1.9**
AKBB Malin Array Si 73.62 320 *eP* **P 07 26 36.1 -1.9**
AK01 Malin Array Si 73.63 320 *eP* **P 07 26 36.5 -1.6**
KIEV Kiev 73.63 320*c* *iP* **P 07 26 36.4 -1.7**
KIEV Kiev 73.63 320 *eP* **P 07 26 36.3 -1.8**
comp=Z,71nm,0.7s
KIEV LR LR
comp=Z,706nm,19.0s
AK02 Malin Array Si 73.65 320 *eP* **P 07 26 36.7 -1.5**
NSS Namsos 73.73 337 *eP* **P 07 26 37.1 -1.3**
NSS IAmb IAmb 07 26 38.1
comp=Z,26nm,0.6s
KSRV Kasrt alli 74.19 302 *i* P **P 07 26 42.9 +1.3**
KULLO Kullorsuaq 74.61 2 *i* P **P 07 26 42.3 -1.0**
KULLO pmax pmax
comp=Z,17nm,0.7s
KULLO Kullorsuaq 74.61 2 *i* P **P 07 26 42.3 -1.0**
comp=Z,17nm,0.7s
JHLN Al Jahlan 74.69 303 *i* P **P 07 26 45.6 +1.0**
RAYN Ar Rayn 74.75 288 eP P 07 26 44.8 -0.4
SUW Suwalki 75.13 324 eP P 07 26 46.2 -0.5
SUW pmax pmax
comp=Z,190nm,1.3s
SUW Suwalki 75.13 324 *eP* **P 07 26 45.1 -1.6**
SUW LMZ LR 08 01 08.5
SUW Suwalki 75.13 324 *eP* **P 07 26 46.2 -0.5**
comp=Z,190nm,1.3s
KIS Kishinev 75.67 316 *eP* **P 07 26 48.5 -1.5**
KIS *e* 07 27 03.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=N,500nm,19.0s
KIS MLR MLR
comp=Z,1μm,19.0s
KIS MLR MLR
comp=E,400nm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS Kishinev 75.67 316 *eP* **P 07 26 48.5 -1.5**
comp=Z,200nm,2.0s
KIS eLQ LQ 07 54 12.0
KIS eL L 07 57 14.0
KIS LRM MLR 08 03 06.0
comp=Z,500nm,19.0s
BTCH Batrach 75.95 304 *i* P **P 07 26 52.0 +0.2**
BR131 Keskin Array S 76.16 308 *eP* **P 07 26 52.1 -1.0**
comp=Z,112nm,1.1s
BRTR Keskin Array B 76.16 308 P **P 07 26 52.5 -0.6**
BRTR Keskin Array B 76.16 308 P **P 07 26 52.5 -0.6**
comp=Z,47nm,0.8s,baz=102,slow=5.1,SNR=132
BRTR LR LR 08 06 06.3
comp=Z,199nm,19.7s,baz=40,slow=40
NB2 NORSAR Subarra 76.22 334 P **P 07 26 51.4 -1.4**
comp=Z,39nm,0.7s,baz=47,slow=5.6
NB2 NORSAR Subarra 76.22 334 P **P 07 26 51.4 -1.4**
baz=47,slow=5.6
NOA NORSAR Array B 76.22 334 P **P 07 26 51.5 -1.4**
NOA NORSAR Array B 76.22 334 P **P 07 26 51.5 -1.4**
comp=Z,28nm,0.6s,baz=51,slow=5.7,SNR=152
NOA LR LR 08 03 41.2
comp=Z,516nm,20.1s,baz=40,slow=38
NAO01 NORSAR Array S 76.47 334 *eP* **P 07 26 52.8 -1.5**
comp=Z,13nm,0.7s
NAO01 ePP **PP 07 29 44.8 -1.1**
MOL Molde 76.51 337 *eP* **P 07 26 53.9 -0.5**
MOL IAmb IAmb 07 26 55.7
comp=Z,32nm,0.7s
MOL *e* 07 29 35.2
SUMG Summit 76.52 357 *i* P **P 07 26 54.8 0.0**
SUMG pmax pmax
comp=Z,35nm,0.6s
SUMG Summit 76.52 357 *i* P **P 07 26 54.8 0.0**
comp=Z,35nm,0.6s
SUMG Summit 76.52 357 *eP* **P 07 26 53.6 -1.2**
comp=Z,55nm,0.5s
ANTO Ankara 76.66 309 *eP* **P 07 26 55.7 -0.1**
ANTO pmax pmax
comp=Z,216nm,1.6s
ANTO MLR MLR
comp=Z,534nm,20.0s
ANTO Ankara 76.66 309⇑ *i*P **P 07 26 56.0 +0.2**
ANTO Ankara 76.66 309 *eP* **P 07 26 55.7 -0.1**
comp=Z,216nm,1.6s
ANTO LR LR
comp=Z,534nm,20.0s
HAWK Haweek 76.70 302 *i* P **P 07 26 56.2 0.0**
LVV L'vov 76.94 321⇓ *i*P **P 07 26 55.8 -1.3**
LVV MLR MLR
comp=Z,500nm,17.0s
LVV MLR MLR
comp=N,300nm,16.0s
LVV MLR MLR
comp=E,500nm,16.0s
AKN Aaknes 76.97 337 *eP* **P 07 26 57.0 0.0**
AKN *e* 07 29 36.5
CFR Carcaliu 77.00 315⇑ *i*P **P 07 26 57.1 -0.4**
RAO Raoul Island 77.03 136 LR LR 07 56 53.8
comp=E,160nm,20.9s,baz=342,slow=32
TIRR Tirgusor 77.20 314 *eP* **P 07 26 58.7 0.0**
TIRR pmax pmax
comp=Z,63nm,1.2s
TIRR Tirgusor 77.20 314⇓ *i*P **P 07 26 58.1 -0.5**
TIRR Tirgusor 77.20 314 *eP* **P 07 26 58.7 0.0**
comp=Z,63nm,1.2s
TESR Tescani 77.20 317⇑ *i*P **P 07 26 58.0 -0.7**
HARR Harsova 77.38 315⇑ *i*P **P 07 27 00.1 +0.5**
BUR08 Bucovina Ar. S 77.45 318 *eP* **P 07 26 58.2 -2.0**
BURAR Bucovina Array 77.45 318⇑ *i*P **P 07 27 00.1 -0.1**
VRI Vrincioaia 77.49 316⇑ *i*P **P 07 27 01.0 +0.7**
BEL Belsk 77.54 323 *eP* **P 07 26 59.0 -1.4**
BEL Belsk 77.54 323 *eP* **P 07 26 59.0 -1.4**
BEL LMZ LR 08 06 39.0
PLOR Plostina 77.55 316⇑ *i*P **P 07 27 00.8 +0.1**
BRBR Barbar 77.56 301 *i* P **P 07 27 00.9 -0.2**
KONO Kongsberg 77.73 334 *eP* **P 07 27 00.5 -0.8**
KONO pmax pmax
comp=Z,4.0nm,0.5s
KONO MLR MLR
comp=Z,850nm,20.0s
KONO Kongsberg 77.73 334 *eP* **P 07 27 00.5 -0.8**
comp=Z,3.5nm,0.5s
KONO LR LR
comp=Z,850nm,20.0s
KWP Kalwaria Pacla 77.76 321 *eP* **P 07 27 01.2 -0.5**
KWP MLR MLR
comp=Z,1μm,20.5s
KWP Kalwaria Pacla 77.76 321 *eP* **P 07 27 01.1 -0.6**
KWP LMZ LR 08 04 19.3
KWP Kalwaria Pacla 77.76 321⇑ *i*P **P 07 27 02.1 +0.4**
KWP Kalwaria Pacla 77.76 321 *eP* **P 07 27 01.2 -0.6**
comp=Z,190nm,1.2s
KWP LR LR
comp=Z,1μm,20.0s
B06A Marblemount 77.79 40 *eP* **P 07 27 03.1 +1.3**
comp=Z,32nm,0.9s
TCHB Talchebab 77.91 301 *i* P **P 07 27 01.4 -1.4**
HYA Hoyanger 77.95 336 *eP* **P 07 27 02.5 0.0**
HYA IAmb IAmb 07 27 03.7
comp=Z,29nm,0.7s
HYA *e* 07 29 37.8
DOPR Dopca 78.23 317⇓ *i*P **P 07 27 04.8 +0.4**
KOLS Kolonicke sedl 78.38 320 *eP* **P 07 27 05.0 -0.2**
KOLS pmax pmax
comp=Z,56nm,1.7s
KOLS Kolonicke sedl 78.38 320 *eP* **P 07 27 05.0 -0.2**
BMR Baia Mare 78.40 319⇑ *i*P **P 07 27 05.5 +0.2**
BSD Bornholm Skovb 78.43 328 *i* P **P 07 27 04.4 -0.9**
BSD pmax pmax
comp=Z,37nm,0.7s
BSD MLR MLR
comp=Z,1μm,17.0s
BSD Bornholm Skovb 78.43 328 *i* P **P 07 27 04.4 -0.9**
comp=Z,37nm,0.7s
BSD
comp=Z,1μm,17.0s
GKP Gorka Klasztor 78.47 326 *eP* **P 07 27 05.0 -0.6**
GKP Gorka Klasztor 78.47 326 *eP* **P 07 27 04.9 -0.6**
GKP LMZ LR 08 06 52.6
SUE Sulen 78.52 336 *eP* **P 07 27 05.4 -0.2**
SUE IAmb IAmb 07 27 06.9
comp=Z,32nm,0.7s
SUE *e* 07 29 39.7
UZH Uzhgorod 78.54 320*d* *i*P **P 07 27 06.8 +0.8**
UZH *i* 07 27 13.0
UZH *e* 07 27 15.8
UZH *e* 07 30 07.8
UZH eS **S 07 36 57.8 -1.4**
UZH MLR MLR
comp=N,600nm,15.0s
UZH MLR MLR
comp=E,700nm,15.0s
TDL Tradedollar La 78.55 43 P **P 07 27 08.1 +1.7**
F04A Amboy 78.66 43 *eP* **P 07 27 08.3 +1.6**
comp=E,30nm,0.9s
STHS Stebnicka Huta 78.67 321 *eP* **P 07 27 08.0 +1.2**
STHS pmax pmax
comp=Z,33nm,1.3s
STHS Stebnicka Huta 78.67 321 *eP* **P 07 27 08.0 +1.2**
TRPA Tarpa 78.69 320⇑ *i*P **P 07 27 07.1 +0.3**
TRPA Tarpa 78.69 320⇓ *e*P **P 07 27 07.5 +0.7**
CSS Prodhromos 78.70 304 *eP* **P 07 27 07.1 -0.1**
comp=Z,12nm,1.7s
CSS LR LR
comp=Z,113nm,20.0s
RUND Rundenannen 78.76 336 *eP* **P 07 27 05.8 -1.2**
CRVS Cervenica-Dubn 78.84 321 *eP* **P 07 27 08.5 +0.8**
CRVS pmax pmax
comp=Z,35nm,1.3s
CRVS Cervenica-Dubn 78.84 321 *eP* **P 07 27 08.5 +0.8**
CJR Cluj-Napoca 78.87 318⇑ *i*P **P 07 27 08.4 +0.4**
LTY Liberty 78.94 41 *eP* **P 07 27 09.6 +1.2**
comp=Z,99nm,2.1s
OJC Ojcow 78.98 322 *eP* **P 07 27 07.9 -0.5**
OJC *e* 07 27 17.4
OJC Ojcow 78.98 322 *eP* **P 07 27 07.9 -0.5**
OJC ePcP **PcP 07 27 17.4 +0.5**
ARR Arges 79.00 316⇑ *i*P **P 07 27 09.1 +0.4**
BLS5 Blasjo 79.06 335 *eP* **P 07 27 08.7 0.0**
BLS5 *e* 07 29 43.4
B08A Colville Reser 79.07 40 *eP* **P 07 27 10.2 +1.1**
comp=Z,41nm,1.1s
WTV Waterville 79.10 41 P **P 07 27 10.3 +1.1**
NAC Naches 79.14 42 P **P 07 27 10.8 +1.3**
NIE Niedzica 79.17 322 *eP* **P 07 27 09.4 -0.1**
NIE *e* 07 27 18.0
NIE *e* 07 30 09.7
NIE MLR MLR
comp=Z,700nm,19.8s
NIE Niedzica 79.17 322 *eP* **P 07 27 09.4 -0.1**
NIE ePcP **PcP 07 27 18.0 +0.2**
NIE ePP **PP 07 30 09.7 +0.9**
NIE L L 08 05 04.0
comp=Z,700nm,19.8s
ISP Isparta 79.22 308 *eP* **P 07 27 09.7 -0.4**
ISP pmax pmax

	comp=Z,32nm,0.8s								
ISP					MLR	MLR			
	comp=Z,426nm,22.0s								
ISP	**Isparta**	**79.22**	**308**	*eP*	**P**		**07 27 09.7**	**-0.4**
	comp=Z,32nm,0.8s								
ISP					LR	LR			
	comp=Z,426nm,22.0s								
EDM	**Edmonton**	**79.27**	**34**	*eP*	**P**		**07 27 11.1**	**+1.1**
EDM	**Edmonton**	**79.27**	**34**	*eP*	**P**		**07 27 11.1**	**+1.1**
I03D	**Drain, OR**	**79.31**	**45**	⇓P	**P**		**07 27 11.8**	**+1.5**
	baz=79								
DRGR		**79.33**	**318**	⇑*i*P	**P**		**07 27 10.6**	**+0.1**
VLL	**Laurance Lake**	**79.35**	**43**	P	**P**		**07 27 12.5**	**+1.8**
SZH	**Strazhica**	**79.35**	**314**	*i* P	**P**		**07 27 11.5**	**+0.9**
JMB	**Yambol**	**79.38**	**313**	⇓*i*P	**P**		**07 27 11.8**	**+1.1**
SAW	**Saint Andrews**	**79.41**	**40**	P	**P**		**07 27 12.1**	**+1.2**
SNART	**Snartemo**	**79.53**	**334**	*eP*	**P**		**07 27 11.1**	**-0.2**
SNART					IAmb	IAmb	07 27 20.4		
	comp=Z,41nm,1.2s								
KECS	**Kecovo**	**79.61**	**321**	*eP*	**P**		**07 27 11.7**	**-0.2**
KECS					pmax	pmax			
	comp=Z,10.0nm,0.7s								
KECS	**Kecovo**	**79.61**	**321**	*eP*	**P**		**07 27 11.7**	**-0.2**
KMY	**Karmoy**	**79.66**	**335**	*e*	**P**		**07 27 12.8**	**+0.9**
KMY				*e*			07 29 43.6		
G05D	**Wamic, OR**	**79.69**	**43**	⇑P	**P**		**07 27 14.0**	**+1.6**
	baz=80								
E07A	**Sunnyside**	**79.80**	**42**	*eP*	**P**		**07 27 14.7**	**+1.7**
	comp=Z,25nm,1.1s								
I04A	**Tendick Farm,**	**79.83**	**45**	⇓P	**P**		**07 27 14.4**	**+1.1**
	baz=80								
GBB	**Gable Butte**	**79.90**	**41**	P	**P**		**07 27 14.9**	**+1.4**
DAMY	**Dhamar**	**79.91**	**281**	*eP*	**P**		**07 27 15.9**	**+1.4**
	comp=Z,22nm,0.8s								
OD2	**Odessa Site #2**	**79.97**	**40**	P	**P**		**07 27 14.7**	**+0.8**
C09A	**Chrisman Ranch**	**79.97**	**40**	*eP*	**P**		**07 27 15.1**	**+1.2**
	comp=Z,39nm,1.1s								
BLTW	**Bickleton**	**79.98**	**42**	P	**P**		**07 27 15.6**	**+1.6**
L02D	**Cave Junction,**	**79.98**	**47**	⇑P	**P**		**07 27 15.3**	**+1.2**
	baz=80								
MUD	**Monsted U'grnd**	**80.04**	**331**	*i* P	**P**		**07 27 13.7**	**-0.3**
MUD					pmax	pmax			
	comp=Z,15nm,0.6s								
MUD					MLR	MLR			
	comp=Z,1μm,19.0s								
MUD	**Monsted U'grnd**	**80.04**	**331**	*i* P	**P**		**07 27 13.7**	**-0.3**
	comp=Z,15nm,0.6s								
MUD									
	comp=Z,1μm,18.0s								
D08A	**Wollman Farm,**	**80.04**	**41**	*eP*	**P**		**07 27 15.4**	**+1.1**
	comp=Z,23nm,0.9s								
OKC	**Ostrava-Krasne**	**80.06**	**323**	*eP*	**P**		**07 27 14.3**	**0.0**
OKC					MLR	MLR			
	comp=Z,600nm,16.6s								
OKC	**Ostrava-Krasne**	**80.06**	**323**	*eP*	**P**		**07 27 14.3**	**0.0**
OKC					AMS	AMS	08 11 00.0		
	comp=Z,600nm,16.6s								
HAWA	**Hanford**	**80.08**	**42**	*eP*	**P**		**07 27 16.1**	**+1.7**
	comp=Z,19nm,1.0s								
G06A	**Carlson Farm,**	**80.09**	**43**	*eP*	**P**		**07 27 16.3**	**+1.7**
	comp=Z,198nm,2.4s								
ILULI	**Ilulissat**	**80.14**	**1**	*i* P	**P**		**07 27 14.6**	**+0.3**
ILULI					pmax	pmax			
	comp=Z,22nm,0.8s								
ILULI	**Ilulissat**	**80.14**	**1**	*i* P	**P**		**07 27 14.6**	**+0.3**
	comp=Z,22nm,0.8s								
MSEY	**Mahe Island**	**80.17**	**259**	PFAKE			07 27 30.0	+14	
MSEY					LR	LR			
	comp=Z,317nm,22.0s								
I05D	**Terrebonne, OR**	**80.17**	**44**	P	**P**		**07 27 16.1**	**+1.0**
	baz=80								
PSZ	**Piszkesteto**	**80.27**	**320**	*eP*	**P**		**07 27 15.1**	**-0.4**
PSZ					pmax	pmax			
	comp=Z,63nm,1.2s								
PSZ					MLR	MLR			
	comp=Z,807nm,21.0s								
PSZ	**Piszkesteto**	**80.27**	**320**	⇑*i*P	**P**		**07 27 15.8**	**+0.2**
PSZ	**Piszkesteto**	**80.27**	**320**	*eP*	**P**		**07 27 15.1**	**-0.4**
	comp=Z,63nm,1.2s								
PSZ					LR	LR			
	comp=Z,807nm,21.0s								
PSZ	**Piszkesteto**	**80.27**	**320**	⇓*e*P	**P**		**07 27 16.3**	**+0.8**
J04D	**Umpqua Nationa**	**80.32**	**45**	⇑P	**P**		**07 27 17.7**	**+1.6**
	baz=80								
NEW	**Newport**	**80.33**	**39**	*eP*	**P**		**07 27 17.0**	**+1.2**
	comp=Z,33nm,1.0s								
NEW	**Newport**	**80.33**	**39**	⇓P	**P**		**07 27 17.1**	**+1.2**
	baz=80								
KSP	**Ksiaz**	**80.40**	**324**	⇑*e*P	**P**		**07 27 15.7**	**-0.4**
KSP					MLR	MLR			
	comp=Z,5μm,19.1s								
KSP	**Ksiaz**	**80.40**	**324**	*eP*	**P**		**07 27 15.7**	**-0.4**
KSP					LMZ	LR	08 02 19.1		
MORC	**Moravsky Berou**	**80.41**	**323**	*eP*	**P**		**07 27 15.9**	**-0.4**
MORC					pmax	pmax			
	comp=Z,54nm,1.3s								
MORC	**Moravsky Berou**	**80.41**	**323**	⇑*i*P	**P**		**07 27 16.0**	**-0.4**
MORC	**Moravsky Berou**	**80.41**	**323**	*eP*	**P**		**07 27 15.9**	**-0.4**
	comp=Z,54nm,1.3s								
ALN	**Alexandroupoli**	**80.56**	**312**	*eP*	**P**		**07 27 16.5**	**-0.6**
KRLC	**Kraliky**	**80.62**	**323**	*eP*	**P**		**07 27 17.3**	**-0.1**
KRLC	**Kraliky**	**80.62**	**323**	*eP*	**P**		**07 27 17.3**	**-0.1**
DPC	**Dobruska-Polom**	**80.69**	**324**	*eP*	**P**		**07 27 18.0**	**+0.2**
DPC	**Dobruska-Polom**	**80.69**	**324**	*eP*	**P**		**07 27 18.0**	**+0.2**
DPC					AMS	AMS	08 08 10.0		
DPC	**Dobruska-Polom**	**80.69**	**324**	*eP*	**P**		**07 27 17.5**	**-0.3**
RDO	**Rodhopi**	**80.75**	**313**	*eP*	**P**		**07 27 18.0**	**-0.1**
UPC	**Upice**	**80.75**	**324**	*eP*	**P**		**07 27 18.1**	**+0.1**
UPC	**Upice**	**80.75**	**324**	*eP*	**P**		**07 27 18.1**	**+0.1**
E09A	**Wood Farm, Sta**	**80.79**	**41**	*eP*	**P**		**07 27 19.8**	**+1.5**
	comp=Z,37nm,1.1s								
J05D	**Fort Rock, OR**	**80.83**	**45**	P	**P**		**07 27 20.2**	**+1.4**
	baz=81								
PGB	**Panagyurishte**	**80.83**	**314**	*i* P	**P**		**07 27 19.0**	**+0.3**
M02C	**Callahan**	**80.87**	**47**	⇓P	**P**		**07 27 20.7**	**+1.8**
	baz=81								
RZN	**Rozhen**	**80.97**	**313**	*i* P	**P**		**07 27 20.5**	**+0.9**
BUD	**Budapest**	**81.00**	**320**	⇓*e*P	**P**		**07 27 19.8**	**+0.4**
G08A	**Pilot Rock**	**81.03**	**42**	*eP*	**P**		**07 27 21.4**	**+1.6**
	comp=Z,8.8nm,1.0s								
URZ	**Urewera**	**81.10**	**145**	LR	LR		07 59 23.2		
	comp=Z,227nm,22.0s,baz=324,slow=33								
LRW	**Lerwick**	**81.18**	**338**	*eP*	**P**		**07 27 19.1**	**-0.9**
VRAC	**Vranov**	**81.19**	**323**	⇑*i*P	**P**		**07 27 20.9**	**+0.5**
N02D	**Trinity Center**	**81.19**	**47**	⇑P	**P**		**07 27 22.5**	**+1.8**
	baz=81								
BSEG	**Bad Segeberg**	**81.24**	**329**	*eP*	**P**		**07 27 18.8**	**-1.7**
	comp=Z,50nm,1.6s								
M04C	**Macdoel**	**81.29**	**46**	⇓P	**P**		**07 27 22.5**	**+1.2**
	baz=81								
PKSG		**81.40**	**321**	⇓*e*P	**P**		**07 27 21.4**	**-0.1**
VTS	**Vitosha**	**81.40**	**315**	*i* P	**P**		**07 27 22.0**	**+0.2**
VTS	**Vitosha**	**81.40**	**315**	⇑*i*P	**P**		**07 27 22.0**	**+0.2**
I07A	**Izee**	**81.41**	**43**	*eP*	**P**		**07 27 23.2**	**+1.4**
	comp=Z,22nm,1.4s								
PVCC	**Panska Ves**	**81.46**	**325**	*eP*	**P**		**07 27 21.9**	**+0.1**
PVCC				*e*			07 27 39.8		
PVCC					MLR	MLR			
	comp=Z,1μm,19.5s								
PVCC	**Panska Ves**	**81.46**	**325**	*eP*	**P**		**07 27 21.9**	**+0.1**
PVCC				*es*P	**sP**		**07 27 39.8**	**+0.2**
PVCC					AMS	AMS	08 07 50.0		
	comp=Z,1μm,19.5s								
KAVA	**Kavala**	**81.47**	**313**	*eP*	**P**		**07 27 22.0**	**0.0**
CSKK	**Cs˙ˇtkako**	**81.48**	**321**	⇓*e*P	**P**		**07 27 21.9**	**-0.1**
WDC	**Whiskeytown Da**	**81.52**	**48**	*eP*	**P**		**07 27 23.3**	**+1.0**
WDC					pmax	pmax			
	comp=Z,14nm,1.0s								
WDC	**Whiskeytown Da**	**81.52**	**48**	*eP*	**P**		**07 27 23.3**	**+1.0**
	comp=Z,14nm,1.0s								
BRG	**Berggiesshubel**	**81.55**	**325**	*i* P	**P**		**07 27 22.7**	**+0.5**
	comp=Z,82nm,1.8s								
BRG									
	comp=Z,1μm,18.6s								
BRG									
	comp=N,2μm,20.1s								
BRG									
	comp=E,2μm,20.1s								
BRG	**Berggiesshubel**	**81.55**	**325**	*i* P	**P**		**07 27 22.7**	**+0.5**
BRG					pmax	pmax			
	comp=Z,82nm,1.8s								
BRG					MLR	MLR			
	comp=Z,1μm,18.6s								
BRG					MLR	MLR			
	comp=N,2μm,20.1s								
BRG					MLR	MLR			
	comp=E,2μm,20.1s								
BRG	**Berggiesshubel**	**81.55**	**325**	*eP*	**P**		**07 27 20.8**	**-1.4**
	comp=Z,81nm,1.8s								
WALA	**Waterton Lakes**	**81.56**	**37**	*eP*	**P**		**07 27 23.7**	**+1.2**
F10A	**Beach Ranch, E**	**81.62**	**41**	*eP*	**P**		**07 27 20.4**	**-2.5**
	comp=Z,13nm,0.9s								
MMB	**Musomiste**	**81.64**	**314**	*i* P	**P**		**07 27 23.2**	**+0.3**
MMB	**Musomiste**	**81.64**	**314**	⇑*i*P	**P**		**07 27 22.8**	**-0.1**
PKST	**T˙s**	**81.67**	**321**	⇓*e*P	**P**		**07 27 22.6**	**-0.4**
NVR	**Nevrokopi**	**81.69**	**313**	*eP*	**P**		**07 27 23.0**	**-0.2**
ARG	**Arkhangelos**	**81.69**	**307**	*eP*	sP		07 27 41.5	+0.4
CLL	**Collm**	**81.73**	**326**	*i* P	**P**		**07 27 22.6**	**-0.6**
CLL				*e*			07 30 31.0		
CLL				*eS*	**S**		**07 37 33.0**	**+0.4**
CLL				pmax	pmax				
	comp=Z,44nm,1.0s								
CLL				pmax	pmax				
	comp=Z,91nm,2.4s								
CLL				MLR	MLR				
	comp=Z,1μm,18.7s								
CLL	**Collm**	**81.73**	**326**	*eP*	**P**		**07 27 21.3**	**-1.9**
	comp=Z,44nm,1.0s								
CLL	**Collm**	**81.73**	**326**	*i* P	**P**		**07 27 22.6**	**-0.6**
	comp=Z,44nm,1.0s								
CLL				*e*			07 27 42.0		
CLL				*eP*	**PP**		**07 30 31.0**	**+1.2**
	comp=Z,91nm,2.4s								
CLL				*eS*	**S**		**07 37 33.0**	**+0.4**
CLL				*ePPS*	PPS		07 38 54.0		
CLL				*eSS*	**SS**		**07 42 54.0**	**+4.2**
CLL				*e*			07 43 54.0		
CLL				*eSSSS*			07 49 00.0		
CLL				Lm	MLR		08 08 00.0		
	comp=Z,1μm,18.7s								
SMG	**Samos**	**81.77**	**309**	*eP*	**P**		**07 27 21.0**	**-2.6**
TREC	**Trest**	**81.77**	**323**	*eP*	**P**		**07 27 23.5**	**0.0**
TREC					MLR	MLR			
	comp=Z,1μm,18.2s								
TREC	**Trest**	**81.77**	**323**	*eP*	**P**		**07 27 23.5**	**0.0**
TREC					AMS	AMS	08 09 30.0		
	comp=Z,1μm,18.2s								
PRU	**Pruhonice**	**81.81**	**324**	*eP*	**P**		**07 27 23.2**	**-0.4**
PRU				*e*			07 27 40.2		
PRU					MLR	MLR			
	comp=Z,1μm,19.2s								
PRU	**Pruhonice**	**81.81**	**324**	*eP*	**P**		**07 27 23.2**	**-0.4**
PRU				*ePCP*	**PcP**		**07 27 28.0**	**-1.3**
PRU				*es*P	**sP**		**07 27 40.2**	**-1.3**
PRU				AMS	AMS		08 08 10.0		
	comp=Z,1μm,19.2s								
BSMT	**Bassoo Peak**	**81.83**	**38**	*eP*	**P**		**07 27 25.6**	**+1.5**
KKB	**Krupnik**	**81.88**	**314**	*i* P	**P**		**07 27 24.0**	**-0.2**
CHOS	**Chios island**	**81.92**	**310**	*eP*	**P**		**07 27 24.5**	**0.0**
BLMT	**Blacktail Moun**	**81.96**	**38**	*eP*	**P**		**07 27 26.3**	**+1.5**
PKSM	**Moragy**	**81.96**	**320**	⇑*i*P	**P**		**07 27 24.4**	**-0.1**
PKSM	**Moragy**	**81.96**	**320**	⇑*eP*	**P**		**07 27 23.7**	**-0.8**
SRS	**Serrai**	**81.99**	**313**	*eP*	**P**		**07 27 24.0**	**-0.8**
JTMT	**Jette**	**82.17**	**38**	*eP*	**P**		**07 27 27.0**	**+1.3**
MOD	**Modoc**	**82.17**	**46**	*eP*	**P**		**07 27 27.5**	**+1.6**
SOP	**Sopron**	**82.21**	**322**	⇓*e*P	**P**		**07 27 26.7**	**+0.9**
BMO	**Blue Mountains**	**82.24**	**42**	*eP*	**P**		**07 27 27.1**	**+0.9**
	comp=Z,26nm,1.0s								
NRDL	**Niedersach Rie**	**82.30**	**328**	*eP*	**P**		**07 27 24.6**	**-1.4**
	comp=Z,81nm,2.0s								
SOH	**Sokhos**	**82.30**	**313**	*eP*	**P**		**07 27 25.5**	**-1.0**
SFJD	**Kangerlussuaq**	**82.37**	**1**	*i* P	**P**		**07 27 25.7**	**-0.5**
	comp=Z,32nm,0.8s								
SFJD	**Kangerlussuaq**	**82.37**	**1**	*eP*	**P**		**07 27 25.7**	**-0.5**
	comp=Z,46nm,1.0s								
SNZO	**South Karori**	**82.38**	**148**	PFAKE			07 27 40.0	+14	
SNZO					LR	LR			
	comp=Z,529nm,22.0s								
CONA	**Conrad Observa**	**82.42**	**322**	*i* P	**P**		**07 27 27.6**	**+0.6**
	comp=Z,40nm,0.7s,SNR=32								
SWMT	**Swartz Lake**	**82.47**	**38**	*eP*	**P**		**07 27 28.4**	**+1.1**
PLG	**Polygyros**	**82.50**	**313**	*eP*	**P**		**07 27 27.0**	**-0.5**
TANN	**Tannenbergstha**	**82.57**	**326**	*eP*	**P**		**07 27 26.2**	**-1.5**
	comp=Z,66nm,1.7s								
HORT	**Hortiatis**	**82.59**	**313**	*eP*	**P**		**07 27 26.5**	**-1.5**
CLZ	**Clausthal**	**82.62**	**327**	*eP*	**P**		**07 27 26.6**	**-1.3**
	comp=Z,176nm,1.8s								
KARP	**Karpathos**	**82.71**	**307**	*eP*	P		07 27 35.0	+6.3	
RPZ	**Rata Peaks**	**82.79**	**152**	*eP*	**P**		**07 27 28.7**	**+0.2**
	comp=Z,4.0nm,0.6s								
GRG	**Griva**	**82.82**	**314**	*eP*	**P**		**07 27 28.5**	**-0.6**
MOX	**Moxa**	**82.83**	**326**	*eP*	**P**		**07 27 27.5**	**-1.4**
	comp=Z,89nm,1.8s								
KHC	**Kasperske Hory**	**82.84**	**324**	*eP*	**P**		**07 27 29.0**	**-0.1**
KHC				*e*			07 27 46.1		
KHC					MLR	MLR			
	comp=Z,1μm,17.9s								
KHC	**Kasperske Hory**	**82.84**	**324**	*eP*	**P**		**07 27 29.0**	**-0.1**
KHC				*es*P	**sP**		**07 27 46.1**	**-0.8**
KHC				AMS	AMS		08 08 50.0		
	comp=Z,1μm,17.9s								
KHC	**Kasperske Hory**	**82.84**	**324**	*eP*	**P**		**07 27 28.8**	**-0.3**
	comp=Z,62nm,1.7s								
WVOR	**Wild Horse Val**	**82.88**	**44**	*eP*	**P**		**07 27 30.9**	**+1.3**
WVOR					pmax	pmax			
	comp=Z,20nm,1.1s								
WVOR	**Wild Horse Val**	**82.88**	**44**	*eP*	**P**		**07 27 30.9**	**+1.3**
	comp=Z,20nm,1.1s								
OHCM	**Honcut**	**82.88**	**48**	*eP*	P		07 27 24.9	-4.6	
SLMT	**Seeley Lake**	**82.90**	**38**	*eP*	**P**		**07 27 30.4**	**+0.8**
MSO	**Missoula**	**82.92**	**39**	*eP*	**P**		**07 27 29.7**	**+0.1**
	comp=Z,20nm,1.3s								
MSO	**Missoula**	**82.92**	**39**	⇓P	**P**		**07 27 30.4**	**+0.8**
	baz=83								
GEC2	**GERESS Array S**	**82.96**	**324**	*eP*	**P**		**07 27 28.1**	**-1.7**
	comp=Z,66nm,1.9s								
GERES	**GERESS Array B**	**82.96**	**324**	P	**P**		**07 27 29.4**	**-0.4**
GERES				PP	**PP**		**07 30 41.1**	**+0.9**
GERES	**GERESS Array B**	**82.96**	**324**	P	**P**		**07 27 29.4**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=44,slow=5.2,SNR=39								
GERES				PP	**PP**		**07 30 41.1**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=56,slow=8.8,SNR=3.3								
GERES				LR	LR		08 09 04.0		
	comp=Z,833nm,18.3s,baz=44,slow=39								
ARSA	**Arzberg**	**83.03**	**322**	⇑*i*P	**P**		**07 27 30.1**	**+0.1**
	comp=Z,23nm,0.7s,SNR=12								
FCC	**Fort Churchill**	**83.04**	**22**	*eP*	**P**		**07 27 29.8**	**0.0**
FCC	**Fort Churchill**	**83.04**	**22**	*eP*	**P**		**07 27 29.8**	**0.0**
	comp=Z,2.6nm,1.4s								
ROTZ	**Rotzenmuhle**	**83.11**	**325**	*eP*	**P**		**07 27 29.4**	**-1.1**
	comp=Z,162nm,1.9s								
WET	**Wettzell**	**83.19**	**324**	*eP*	**P**		**07 27 29.6**	**-1.3**
	comp=Z,70nm,1.9s								
IVA	**Berane**	**83.23**	**316**	⇓*i*P	**P**		**07 27 31.5**	**+0.2**
CHMT	**Chamberlain Mo**	**83.23**	**38**	*eP*	**P**		**07 27 32.3**	**+0.9**
FFC	**Flin Flon**	**83.25**	**28**	P	**P**		**07 27 31.0**	**0.0**
	comp=Z,354nm,0.7s,SNR=22								
FFC	**Flin Flon**	**83.25**	**28**	*i* P	**P**		**07 27 31.6**	**+0.6**
FFC	**Flin Flon**	**83.25**	**28**	*eP*	**P**		**07 27 31.1**	**0.0**
	comp=Z,23nm,0.9s								
LIT	**Litokhoron**	**83.25**	**313**	*eP*	**P**		**07 27 30.0**	**-1.4**
PLE	**Pljevlja**	**83.25**	**317**	⇓*i*P	**P**		**07 27 32.1**	**+0.6**
MOA	**Molln**	**83.31**	**323**	*i* PcP	**P**		**07 27 33.0**	**+1.5**
	comp=Z,18nm,0.7s,SNR=13								
BIGH	**Upper Bighouse**	**83.34**	**338**	*eP*	**P**		**07 27 30.8**	**-0.6**
BIGH					AMB	AMB	07 27 33.3		
	comp=Z,195nm,1.8s								
MRKA	**Markates**	**83.35**	**311**	*eP*	**P**		**07 27 31.0**	**-0.9**
PVY	**Plav**	**83.35**	**316**	⇓*i*P	**P**		**07 27 31.6**	**-0.4**
UBBA	**Unterbreizbach**	**83.47**	**327**	*eP*	**P**		**07 27 30.7**	**-1.4**
	comp=Z,172nm,2.1s								
IBBN	**Ibbenburen**	**83.48**	**329**	*eP*	**P**		**07 27 30.3**	**-2.0**
	comp=Z,31nm,0.4s								
SMIA	**Simia**	**83.49**	**312**	*eP*	**P**		**07 27 32.5**	**-0.1**
PTL	**Penteli**	**83.54**	**311**	*eP*	P		07 27 24.0	-8.9	
FNA	**Florina**	**83.55**	**314**	*eP*	**P**		**07 27 31.5**	**-1.5**
KZN	**Kozani**	**83.59**	**313**	*eP*	**P**		**07 27 32.0**	**-1.2**
ZKR	**Zakros**	**83.59**	**307**	*eP*	**P**		**07 27 34.0**	**+0.8**
UPM	**Unac-Piva**	**83.61**	**317**	⇓*i*P	**P**		**07 27 32.9**	**-0.5**
GRF	**Grafenberg Arr**	**83.64**	**326**	*eP*	**P**		**07 27 31.9**	**-1.3**
	comp=Z,172nm,1.5s								
GRF				*eL*	L		08 08 37.1		
	comp=Z,1μm,20.3s								
LKR	**Lokris**	**83.76**	**312**	*eP*	**P**		**07 27 33.5**	**-0.5**
NKY	**Niksic**	**83.80**	**317**	⇓*i*P	**P**		**07 27 33.5**	**-0.7**
THL	**Klokotos Trika**	**83.86**	**313**	*eP*	**P**		**07 27 33.0**	**-1.5**
TTG	**Podgorica**	**83.87**	**316**	⇓*i*P	**P**		**07 27 33.9**	**-0.5**
MVH1	**Achvaich**	**83.88**	**338**	*eP*	**P**		**07 27 33.4**	**-0.8**
AXAR	**Agios Charalam**	**83.91**	**312**	*eP*	**P**		**07 27 32.5**	**-2.3**
NPS	**Neapolis**	**83.93**	**308**	*eP*	**P**		**07 27 36.0**	**+1.1**
MFID	**Camas Ranch**	**83.95**	**42**	*eP*	**P**		**07 27 36.5**	**+1.4**
	comp=Z,46nm,1.3s								
NEST	**Nestorio**	**83.97**	**314**	*eP*	**P**		**07 27 34.0**	**-1.2**
AGG	**Agios Georgios**	**83.97**	**312**	*eP*	**P**		**07 27 33.5**	**-1.6**
BRY	**Bratogost**	**84.01**	**317**	⇓*i*P	**P**		**07 27 34.6**	**-0.8**
OBKA	**Obir**	**84.01**	**322**	⇑*i*PcP	**P**		**07 27 35.5**	**+0.2**
	comp=Z,47nm,0.7s,SNR=9.6								
LAST	**Lasithi**	**84.07**	**308**	*eP*	**P**		**07 27 35.0**	**-0.8**
MAKR	**Makrakomi, Fth**	**84.11**	**312**	*eP*	**P**		**07 27 34.0**	**-1.8**
HRY	**Holter Researc**	**84.12**	**38**	*eP*	**P**		**07 27 37.0**	**+1.2**
RAR	**Rarotonga**	**84.14**	**119**	LR	LR		07 57 04.4		
	comp=Z,160nm,21.6s,baz=226,slow=30								
RJOB	**Jochberg**	**84.14**	**323**	*eP*	**P**		**07 27 34.5**	**-1.3**
	comp=Z,65nm,1.1s								
WTSB	**Winterswijk**	**84.14**	**329**	*eP*	**P**		**07 27 34.4**	**-1.2**
	comp=Z,22nm,0.5s								
ULC	**Ulcinj**	**84.16**	**316**	⇓*i*P	**P**		**07 27 35.7**	**-0.3**
BUM	**Brajici-Budva**	**84.16**	**316**	⇓*i*P	**P**		**07 27 35.5**	**-0.5**
DSF	**Desfina**	**84.20**	**312**	*eP*	**P**		**07 27 34.0**	**-2.3**
A19A	**Klindworth Far**	**84.25**	**35**	⇓P	**P**		**07 27 37.5**	**+1.1**
	baz=84,SNR=45								
DID	**Didima**	**84.25**	**310**	*eP*	**P**		**07 27 34.0**	**-2.6**
BOJS	**Bojanci**	**84.27**	**321**	*i* P	**P**		**07 27 36.5**	**+0.1**
KBA	**Koelnbreinsper**	**84.28**	**323**	*i* P	**P**		**07 27 36.5**	**-0.3**
	comp=Z,52nm,0.7s,SNR=16								
BUG	**Bochum--Univer**	**84.30**	**329**	*eP*	**P**		**07 27 34.4**	**-2.0**
	comp=Z,96nm,1.6s								
VISS	**Visnje**	**84.30**	**321**	*i* P	**P**		**07 27 35.6**	**-1.0**
HCY	**Herceg Novi**	**84.31**	**317**	⇓*i*P	**P**		**07 27 36.4**	**-0.3**
CMB	**Columbia Colle**	**84.33**	**49**	*eP*	**P**		**07 27 37.8**	**+0.8**
CMB					pmax	pmax			
	comp=Z,12nm,0.9s								
CMB	**Columbia Colle**	**84.33**	**49**	*eP*	**P**		**07 27 37.8**	**+0.8**
	comp=Z,12nm,0.9s								
EGMT	**Eagleton**	**84.34**	**36**	*eP*	**P**		**07 27 37.9**	**+1.0**
	comp=Z,76nm,0.9s								
EGMT	**Eagleton**	**84.34**	**36**	⇑P	**P**		**07 27 37.8**	**+1.0**
	baz=84,SNR=13								
LRM	**Limekiln Ridge**	**84.35**	**39**	*eP*	**P**		**07 27 38.3**	**+1.1**
EVR	**Evrytania**	**84.37**	**312**	*eP*	**P**		**07 27 36.0**	**-1.2**
MYKA	**Terra Mystica**	**84.42**	**322**	*i* P	**P**		**07 27 36.7**	**-0.6**
	comp=Z,66nm,0.6s,SNR=29								
KALE	**Kalithea**	**84.46**	**312**	*eP*	**P**		**07 27 36.5**	**-1.1**
B19A	**Brinkman Farms**	**84.47**	**35**	⇓P	**P**		**07 27 38.5**	**+1.0**
	baz=84,SNR=7.5								
JAN	**Janina**	**84.54**	**313**	*eP*	**P**		**07 27 37.5**	**-0.5**
DLMT	**Dillon**	**84.57**	**39**	*eP*	**P**		**07 27 39.5**	**+1.3**
KAC	**Achnashellach**	**84.58**	**338**	*eP*	**P**		**07 27 37.0**	**-0.8**
EFP	**Efpalio**	**84.59**	**312**	*eP*	**P**		**07 27 37.5**	**-0.7**
GUR	**Goura**	**84.59**	**311**	*eP*	**P**		**07 27 37.0**	**-1.3**
SIVA	**Sivas**	**84.61**	**308**	*eP*	**P**		**07 27 38.0**	**-0.3**
TNS	**Taunus Mts**	**84.61**	**327**	*eP*	**P**		**07 27 36.6**	**-1.5**
	comp=Z,144nm,2.0s								
FUR	**Furstenfeldbru**	**84.63**	**324**	*eP*	**P**		**07 27 36.9**	**-1.3**
	comp=Z,194nm,1.5s								
LAKA	**Lakka**	**84.65**	**312**	*eP*	**P**		**07 27 37.5**	**-1.0**
KLV	**Kalavryta, Ach**	**84.65**	**311**	*eP*	**P**		**07 27 37.0**	**-1.6

YMR **Madison River** 85.90 39 *e*P P 07 27 47.1 +2.2
comp=Z,30nm,1.0s
BCLA **Clavier** 85.91 329 P P 07 27 43.6 -0.9
comp=Z,18nm,2.0s
DAVA **Damuels** 85.92 324 *i* PcP P 07 27 44.4 -0.4
comp=Z,36nm,0.8s,SNR=16
ELK **Elko** 85.93 44 *e*P P 07 27 46.6 +1.5
comp=Z,10nm,0.9s
BFO **Black Forest** 85.97 326 P P 07 27 44.3 -0.6
comp=Z,224nm,1.1s,SNR=12
BFO **Black Forest** 85.97 326 *i* P P 07 27 44.8 -0.1
BFO **Black Forest** 85.97 326 *e*P P 07 27 42.8 -2.1
comp=Z,112nm,1.5s
BFO **Black Forest** 85.97 326 *e*P P 07 27 44.4 -0.6
comp=Z,72nm,1.3s
BFO LR LR
comp=Z,941nm,19.0s
B22A **Reddig Ranch S** 86.02 34 ⇑P P 07 27 46.1 +0.9
baz=86
WLF **Walferdange** 86.06 328 P P 07 27 45.5 +0.2
comp=Z,54nm,1.9s
WLF **Walferdange** 86.06 328 *e*P P 07 27 45.3 0.0
WLF pmax pmax
comp=Z,36nm,0.8s
WLF MLR MLR
comp=Z,875nm,19.0s
WLF **Walferdange** 86.06 328 *e*P P 07 27 43.9 -1.4
comp=Z,213nm,1.9s
WLF **Walferdange** 86.06 328 *e*P P 07 27 45.2 0.0
comp=Z,36nm,0.8s
WLF LR LR
comp=Z,875nm,19.0s
RCTC **Rector, Farmer** 86.07 50 ⇑P P 07 27 46.0 +0.4
baz=86
A23A **Redstone** 86.09 33 ⇓P P 07 27 46.6 +1.0
baz=86
HPK **Haverah Park** 86.11 334 *e*P P 07 27 44.5 -1.0
HPK AMB AMB 07 27 47.5
comp=Z,88nm,1.7s
SMMC **Simmler** 86.15 51 ⇑P P 07 27 47.8 +1.7
baz=86
KESW **Keswick, Cumbr** 86.16 335 *e*P P 07 27 44.3 -1.4
KESW AMB AMB 07 27 47.2
comp=Z,59nm,1.9s
E20A **Meyer Farm, Mu** 86.18 37 ⇑P P 07 27 47.4 +1.3
baz=86,SNR=42
F19A **Roth Farm, Mol** 86.20 37 ⇓P P 07 27 47.1 +0.9
baz=86,SNR=18
H17A **Grant Village** 86.29 39 *e*P P 07 27 50.1 +3.2
H17A **Grant Village** 86.29 39 ⇑P P 07 27 50.2 +3.3
baz=86
TIN **Tinemaha** 86.29 49 ⇑P P 07 27 47.9 +1.1
baz=86
SNF **Seneffe** 86.29 329 P P 07 27 46.1 -0.3
TPH **Tonopah** 86.33 47 *e*P P 07 27 47.5 +0.4
TPH **Tonopah** 86.33 47 *e*P P 07 27 47.5 +0.4
GIVF **Givet** 86.35 329 *e*P P 07 27 45.2 -1.5
comp=Z,33nm,0.6s
GIVF **Givet** 86.35 329 *e*P P 07 27 45.2 -1.5
GIVF pmax pmax
comp=Z,33nm,0.6s
GIVF **Givet** 86.35 329 *e*P P 07 27 45.2 -1.5
comp=Z,33nm,0.6s
D21A **La Casta Ranch** 86.38 36 ⇓P P 07 27 48.1 +1.1
baz=86,SNR=16
B23A **Brockton** 86.39 34 P P 07 27 48.0 +1.0
baz=86
CDF **Champ du Feu** 86.42 326 *e*P P 07 27 46.1 -1.1
comp=Z,88nm,0.9s
CDF **Champ du Feu** 86.42 326 *e*P P 07 27 46.1 -1.1
CDF pmax pmax
comp=Z,88nm,0.9s
CDF **Champ du Feu** 86.42 326 *e*P P 07 27 46.1 -1.1
comp=Z,88nm,0.9s
FLWY **Flagg Ranch** 86.42 40 *e*P P 07 27 49.9 +2.4
comp=Z,42nm,0.9s
VES **Vestal, Richgr** 86.45 50 ⇓P P 07 27 47.8 +0.3
baz=86
DOU **Dourbes** 86.45 329 P P 07 27 47.4 +0.2
comp=Z,13nm,1.6s
C22A **Vida** 86.46 35 ⇓P P 07 27 48.1 +0.7
baz=86
GAL1 **Galloway** 86.50 336 *e*P P 07 27 46.3 -1.1
RLMT **Red Lodge** 86.51 38 *e*P P 07 27 49.2 +1.3
comp=Z,40nm,1.1s
RLMT LR LR
comp=Z,197nm,19.0s
LHO **Holmfirth** 86.51 334 *e*P P 07 27 45.8 -1.7
A24A **Westby** 86.53 33 ⇑P P 07 27 48.9 +1.2
baz=86
H18A **Shoshone NF, C** 86.59 39 ⇓P P 07 27 49.8 +1.4
baz=86
I17A **Pilgrim Ck.** 86.60 40 ⇓P P 07 27 50.8 +2.5
baz=86
ECH **Echery** 86.61 326 *e*P P 07 27 47.2 -0.9
ECH pmax pmax
comp=Z,54nm,1.3s
ECH MLR MLR
comp=Z,896nm,19.0s
ECH **Echery** 86.61 326⇓*e*P P 07 27 47.6 -0.5
ECH **Echery** 86.61 326 *e*P P 07 27 47.2 -0.9
comp=Z,54nm,1.3s
ECH LR LR
comp=Z,896nm,19.0s
KBI1 **Birley Grange** 86.62 334 *e*P P 07 27 46.5 -1.5
MOOW **Moose Ponds** 86.62 40 *e*P P 07 27 49.9 +1.4
F20A **Billings** 86.64 37 ⇓P P 07 27 49.1 +0.7
baz=86,SNR=6.2
BAIF **Baives** 86.65 329 *e*P P 07 27 46.7 -1.5
comp=Z,9.7nm,0.6s
BAIF **Baives** 86.65 329 *e*P P 07 27 46.7 -1.5
BAIF pmax pmax
comp=Z,10.0nm,0.6s
BAIF **Baives** 86.65 329 *e*P P 07 27 46.7 -1.5
comp=Z,9.7nm,0.6s
E21A **Keefer Ranch,** 86.69 36 ⇑P P 07 27 49.6 +1.0
baz=86
D22A **Cohagen** 86.72 35 P P 07 27 49.9 +1.2
baz=87
HVU **Hansel Valley** 86.74 42 *e*P P 07 27 50.7 +1.7
HVU pmax pmax
comp=Z,21nm,0.9s
HVU **Hansel Valley** 86.74 42 *e*P P 07 27 50.7 +1.7
comp=Z,20nm,0.9s
TUE **Stuetta** 86.74 324 *e*P P 07 27 48.9 -0.1
TUE LR LR
comp=Z,1μm,20.0s
CWC **Cottonwood Cre** 86.75 49 ⇓P P 07 27 50.1 +0.9
baz=87
C23A **Lambert** 86.76 34 ⇓P P 07 27 50.1 +1.3
baz=87
DGMT **Dagmar** 86.76 33 *e*P P 07 27 49.8 +1.0
comp=Z,70nm,0.9s
DGMT **Dagmar** 86.76 33 ⇑P P 07 27 49.8 +1.0
baz=87
LOHW **Long Hollow** 86.78 40 *e*P P 07 27 50.8 +1.5
REDW **Red Top Meadow** 86.81 40 *e*P P 07 27 50.5 +1.1
SBC **Santa Barbara** 86.84 51 ⇓P P 07 27 50.7 +1.3
baz=87
GRAC **Grapevine Rang** 86.88 48 ⇑P P 07 27 50.9 +1.2
baz=87
MOF **Molkenrain** 86.88 326⇓*e*P P 07 27 48.8 -0.7
A25A **Svangstu Ranch** 86.93 32 ⇑P P 07 27 51.1 +1.4
baz=87
H19A **Powell** 86.96 38 ⇓P P 07 27 51.6 +1.6
baz=87,SNR=15
G20A **Bridger** 87.00 38 ⇓P P 07 27 50.8 +0.6
baz=87,SNR=17
LAO **LASA Array** 87.02 35 *e*P P 07 27 51.3 +1.2
comp=Z,80nm,0.8s
ARVC **Arvin** 87.03 50 ⇑P P 07 27 51.1 +0.7
baz=87
HINF **Hinteralfeld** 87.04 326 *e*P P 07 27 48.4 -1.8
HINF **Hinteralfeld** 87.04 326 *e*P P 07 27 48.4 -1.8
HINF **Hinteralfeld** 87.04 326 *e*P P 07 27 48.4 -1.8
PAGF **Fort de Pagny** 87.05 327 *e*P P 07 27 49.2 -1.0
comp=Z,24nm,0.7s
PAGF **Fort de Pagny** 87.05 327 *e*P P 07 27 49.2 -1.0
comp=Z,24nm,0.7s
BGU **Big Grassy Mou** 87.13 43 *e*P P 07 27 52.5 +1.5
comp=Z,4.9nm,0.9s
HAU **Haudompre** 87.14 326 *e*P P 07 27 49.1 -1.6
comp=Z,33nm,0.8s
HAU *e*R
comp=Z,844nm,21.8s
HAU **Haudompre** 87.14 326 *e*P P 07 27 49.1 -1.6
HAU pmax pmax
comp=Z,33nm,0.8s
HAU **Haudompre** 87.14 326 *e*P P 07 27 49.1 -1.6
comp=Z,33nm,0.8s
F21A **Absaloka Mine,** 87.16 37 ⇓P P 07 27 51.6 +0.7
baz=87,SNR=6.3
THEF **They Montfort** 87.16 327⇓*e*P P 07 27 50.1 -0.6
MENF **Mencas** 87.18 330 *e*P P 07 27 50.4 -0.3
D23A **Lindsay** 87.18 35 ⇑P P 07 27 52.5 +1.5
baz=87
R11A **Troy Canyon, C** 87.19 46 *e*P P 07 27 52.4 +1.1
comp=Z,12nm,1.2s
R11A **Troy Canyon, C** 87.19 46 ⇑P P 07 27 52.6 +1.3
baz=87
C24A **Savage** 87.31 34 ⇑P P 07 27 52.7 +1.2
baz=87
E22A **Miles City** 87.33 36 ⇓P P 07 27 52.6 +1.0
baz=87,SNR=14
TIP **Timpagrande** 87.35 315 *e*P P 07 27 51.3 -0.6
comp=Z,69nm,1.7s
TIP LR LR
comp=Z,521nm,21.0s
LOMF **Lomont** 87.38 326⇓*e*P P 07 27 50.9 -1.0
I19A **Meeteetse** 87.38 39 ⇑P P 07 27 53.7 +1.5
baz=87
B25A **Knox Farm, Ray** 87.39 33 ⇓P P 07 27 53.5 +1.6
baz=87
OSI **Osito Adit** 87.41 51 ⇓P P 07 27 53.4 +1.1
baz=87
CUC **Castrocucco** 87.41 316 *e*P P 07 27 52.0 -0.2
comp=Z,14nm,0.7s
CUC LR LR
comp=Z,510nm,20.0s
A26A **Wade Farm, Ken** 87.45 32 ⇑P P 07 27 53.2 +1.1
baz=87
BLG **Laguna Peak** 87.47 51 P P 07 27 53.4 +0.8
baz=87
FURC **Fuce Creek,** 87.52 48 ⇑P P 07 27 54.0 +1.3
baz=87
G21A **Lodge Grass** 87.52 37 ⇑P P 07 27 53.4 +0.7
baz=87,SNR=9.3
FOEL **Foel Wylfa** 87.53 334 *e*P P 07 27 51.6 -0.8
WME **Myndd Eilian** 87.53 335 *e*P P 07 27 51.4 -1.0
HWUT **Hardware Ranch** 87.54 42 PFAKE 07 28 10.0 +17
HWUT LR LR
comp=Z,312nm,19.0s
H20A **Greybull** 87.61 38 ⇓P P 07 27 54.1 +1.0
baz=88,SNR=20
SFTF **Sexfontaines** 87.62 327 *e*P P 07 27 51.6 -1.3
comp=Z,229nm,1.3s
SFTF **Sexfontaines** 87.62 327 *e*P P 07 27 51.6 -1.3
comp=Z,229nm,1.3s
F22A **Rosebud** 87.63 36 ⇓P P 07 27 54.0 +0.8
baz=88,SNR=7.6
D24A **Glendive** 87.65 34 ⇑P P 07 27 54.7 +1.5
baz=88
HLM1 **Long Mynd** 87.70 334 *e*P P 07 27 51.8 -1.5
DUG **Dugway** 87.72 44 *e*P P 07 27 55.4 +1.6
DUG pmax pmax
comp=Z,21nm,1.0s
DUG **Dugway** 87.72 44 *e*P P 07 27 55.4 +1.6
comp=Z,22nm,1.0s
DUG **Dugway** 87.72 44 ⇓P P 07 27 55.5 +1.6
baz=88
EDW2 **Edwards Air Fo** 87.74 50 ⇓P P 07 27 54.6 +0.8
baz=88
B26A **Jensen Ranch,** 87.74 32 ⇓P P 07 27 54.9 +1.3
baz=88
C25A **Freed Ranch, W** 87.74 33 ⇓P P 07 27 55.1 +1.5
baz=88
VLC **Villacollemand** 87.77 322 PFAKE 07 28 00.0 +6.2
VLC LR LR
comp=Z,772nm,19.0s
A27A **Ledoux Ranch,** 87.77 32 P P 07 27 55.0 +1.3
baz=88
J19A **Crowheart** 87.86 39 ⇓P P 07 27 55.9 +1.4
baz=88,SNR=30
I20A **Worland** 87.90 38 ⇑P P 07 27 55.9 +1.4
baz=88,SNR=14
BW06 **Boulder Array** 87.92 40 *e*P P 07 27 55.4 +0.7
comp=Z,21nm,0.9s
BW06 LR LR
comp=Z,424nm,19.0s
PDAR **Pinedale Array** 87.92 40 P P 07 27 55.4 +0.6
PDAR PP PP 07 31 20.9 +0.2
PDAR PKKPbc **PKKPbc** 07 45 40.2 -0.1
PDAR **Pinedale Array** 87.92 40 P P 07 27 55.4 +0.6
comp=Z,17nm,0.8s,baz=314,slow=0.8,SNR=119
PDAR PP PP 07 31 20.9 +0.2
comp=Z,2.1nm,1.0s,baz=330,slow=5.3,SNR=3.8
PDAR PKKPbc **PKKPbc** 07 45 40.2 -0.1
comp=Z,0.6nm,0.7s,baz=104,slow=6.6,SNR=5.5
PDAR LR LR 08 11 11.5
comp=Z,55nm,18.8s,baz=343,slow=38
TCUT **Toone Canyon** 87.95 42 *e*P P 07 27 56.4 +1.4
comp=Z,21nm,0.9s
G22A **Birney** 88.00 37 ⇑P P 07 27 55.9 +0.9
baz=88,SNR=13
H21A **Big Horn, Sher** 88.02 37 ⇓P P 07 27 56.1 +1.0
baz=88,SNR=12
CTU **Camp Tracy** 88.02 43 *e*P P 07 27 56.7 +1.4
comp=Z,13nm,1.0s
E24A **Baker** 88.05 35 ⇓P P 07 27 56.4 +1.2
baz=88
F23A **Volborg** 88.10 36 ⇓P P 07 27 56.4 +1.0
baz=88,SNR=20
D25A **Fairfield** 88.11 34 ⇑P P 07 27 56.9 +1.6
baz=88
MCH1 **Michaelchurch** 88.16 334 *e*P P 07 27 53.9 -1.5
MCH1 AMB AMB 07 27 55.4
comp=Z,48nm,1.7s
B27A **Peters Farms,** 88.16 32 ⇑P P 07 27 56.7 +1.2
baz=88
C26A **Wahner Farm, P** 88.20 33 ⇑P P 07 27 57.2 +1.4
baz=88
A28A **Rude Farm, Bot** 88.24 31 ⇓P P 07 27 57.2 +1.3
baz=88
SHOC **Shoshone** 88.24 49 ⇓P P 07 27 57.3 +1.1
baz=88
JLU **Jordanelle** 88.26 43 *e*P P 07 27 57.9 +1.4
comp=Z,10nm,1.0s
CABF **La Chapelle** 88.26 326 *e*P P 07 27 54.3 -1.8
comp=Z,20nm,0.7s
CABF **La Chapelle** 88.26 326 *e*P P 07 27 54.3 -1.8
CABF pmax pmax
comp=Z,20nm,0.7s
CABF **La Chapelle** 88.26 326 *e*P P 07 27 54.3 -1.8
comp=Z,20nm,0.7s
GSC **Goldstone** 88.26 49 *e*P P 07 27 57.6 +1.2
GSC pmax pmax
comp=Z,11nm,1.1s
GSC **Goldstone** 88.26 49 *e*P P 07 27 57.6 +1.2
comp=Z,11nm,1.1s
GSC **Goldstone** 88.26 49 ⇓P P 07 27 57.6 +1.2
baz=88
NLU **North Lily Min** 88.31 43 *e*P P 07 27 58.3 +1.6
comp=Z,15nm,0.9s
J20A **Shoshoni** 88.33 39 ⇓P P 07 27 57.7 +1.1
baz=88,SNR=18
H22A **Clearmont** 88.40 37 ⇑P P 07 27 57.6 +0.7
baz=88,SNR=6.2
I21A **Big Trails, Te** 88.44 38 ⇑P P 07 27 58.0 +0.9
baz=88,SNR=11
CEL **Celeste** 88.45 315 *e*P P 07 27 55.5 -1.6
comp=Z,72nm,0.7s
CEL LR LR
comp=Z,755nm,22.0s
G23A **Biddle** 88.47 36 ⇓P P 07 27 58.0 +0.9
baz=88,SNR=7.1
LPW **Lampeter** 88.47 334 *e*P P 07 27 56.3 -0.6
F24A **Ekalaka** 88.49 35 ⇑P P 07 27 58.4 +1.2
baz=88
DAU **Daniels Canyon** 88.49 43 *e*P P 07 27 59.3 +1.6
DAU **Daniels Canyon** 88.49 43 *e*P P 07 27 59.3 +1.6
MPU **Maple Canyon** 88.53 43 *e*P P 07 27 59.5 +1.8
comp=Z,21nm,1.0s
B28A **Dugan Ranch, T** 88.54 31 ⇑P P 07 27 58.6 +1.3
baz=88
E25A **Miller Ranch,** 88.54 34 ⇑P P 07 27 58.7 +1.3
baz=88
C27A **Sayler Ranch,** 88.56 32 ⇑P P 07 27 58.8 +1.3
baz=88
SHPR **Sheep Range** 88.58 48 *e*P P 07 27 59.8 +1.8
D26A **Manning** 88.62 33 ⇓P P 07 27 59.1 +1.3
baz=88
J21A **Lysite** 88.67 39 ⇑P P 07 27 59.4 +1.1
baz=88,SNR=17
A29A **Manning Farm,** 88.68 31 ⇓P P 07 27 59.0 +1.1
baz=88
LPL **La Plagne** 88.72 325 *e*P P 07 27 56.9 -1.6
comp=Z,22nm,0.6s
LPL **La Plagne** 88.72 325 *e*P P 07 27 56.9 -1.6
LPL pmax pmax
comp=Z,22nm,0.6s
LPL **La Plagne** 88.72 325 *e*P P 07 27 56.9 -1.6
comp=Z,22nm,0.6s
LPG **La Plagne** 88.72 325 *e*P P 07 27 57.1 -1.5
comp=Z,26nm,0.6s
LPG **La Plagne** 88.72 325 *e*P P 07 27 57.1 -1.5
LPG pmax pmax
comp=Z,26nm,0.6s
LPG **La Plagne** 88.72 325 *e*P P 07 27 57.1 -1.5
comp=Z,26nm,0.6s
TUQ **Turquoise Moun** 88.75 49 ⇑P P 07 28 00.0 +1.3
baz=89
I22A **9 Mile Ranch,** 88.81 38 ⇑P P 07 27 59.9 +1.0
baz=89,SNR=10
LOR **Lormes** 88.84 327 *e*P P 07 27 57.0 -1.8
comp=Z,20nm,0.8s
LOR *e*R
comp=Z,902nm,20.8s
LOR **Lormes** 88.84 327 *e*P P 07 27 57.0 -1.8
comp=Z,20nm,0.8s
HEC **Hector,Ludlow** 88.86 49 ⇓P P 07 28 00.6 +1.4
baz=89
ARUT **Antelope Range** 88.86 46 *e*P P 07 28 00.7 +1.4
ARUT pmax pmax
comp=Z,126nm,0.9s
ARUT **Antelope Range** 88.86 46 *e*P P 07 28 00.7 +1.4
comp=Z,126nm,0.9s
H23A **Clabaugh Cattl** 88.91 37 ⇑P P 07 28 00.0 +0.8
baz=89
F25A **Bowman** 88.92 35 ⇑P P 07 28 00.7 +1.5
baz=89
B29A **Waggoman Farm,** 88.97 31 ⇓P P 07 28 00.5 +1.1
baz=89
D27A **Center** 88.99 33 ⇓P P 07 28 01.1 +1.6
baz=89
E26A **Carlson Angus** 89.01 34 ⇓P P 07 28 00.5 +0.9
baz=89
MURC **Murrieta** 89.02 51 ⇑P P 07 28 01.1 +1.2
baz=89
CCUT **Cedar City** 89.06 46 *e*P P 07 28 02.0 +1.7
C28A **Hausauer Farms** 89.07 32 ⇑P P 07 28 01.5 +1.7
baz=89
BNI **Bardonecchia** 89.07 324 *e*P P 07 27 59.2 -0.9
BNI pmax pmax
comp=Z,29nm,1.4s
BNI MLR MLR
comp=Z,2μm,19.0s
BNI **Bardonecchia** 89.07 324 *e*P P 07 27 59.2 -0.9
comp=Z,29nm,1.4s
BNI LR LR
comp=Z,2μm,19.0s
A30A **Hoffart Farm,** 89.07 30 ⇑P P 07 28 00.7 +0.9
baz=89
ULM **Lac du Bonnet** 89.08 28 P P 07 28 00.5 +0.7
ULM **Lac du Bonnet** 89.08 28 P P 07 28 00.5 +0.7
comp=Z,41nm,0.8s,baz=322,slow=5.3,SNR=65
J22A **Midwest** 89.14 38 ⇑P P 07 28 01.3 +0.8
baz=89
MVU **Marysvale** 89.15 45 *e*P P 07 28 02.5 +1.8
comp=Z,11nm,0.9s
SSF **Saint Saulge** 89.16 327 *e*P P 07 27 58.6 -1.7
comp=Z,9.0nm,0.5s
SSF **Saint Saulge** 89.16 327 *e*P P 07 27 58.6 -1.7
SSF pmax pmax
comp=Z,9.0nm,0.5s
SSF **Saint Saulge** 89.16 327 *e*P P 07 27 58.6 -1.7
comp=Z,9.0nm,0.5s
HEX **Exmoor** 89.20 333 *e*P P 07 27 59.1 -1.2
H24A **Dirks Ranch, A** 89.21 36 ⇑P P 07 28 01.4 +0.7
baz=89,SNR=14
TMUT **Trail Mountain** 89.24 43 *e*P P 07 28 02.7 +1.5
MBDF **Montbardon** 89.25 324 *e*P P 07 27 59.4 -1.5
comp=Z,19nm,0.7s
MBDF **Montbardon** 89.25 324 *e*P P 07 27 59.4 -1.5
MBDF pmax pmax
comp=Z,19nm,0.7s
MBDF **Montbardon** 89.25 324 *e*P P 07 27 59.4 -1.5
comp=Z,19nm,0.7s
K21A **Alcova** 89.26 39 ⇓P P 07 28 02.2 +1.1
baz=89,SNR=23
SMF **Signal de Mont** 89.31 327 *e*P P 07 27 59.2 -1.8
comp=Z,40nm,0.9s
SMF **Signal de Mont** 89.31 327 *e*P P 07 27 59.2 -1.8
SMF pmax pmax
comp=Z,40nm,0.9s
SMF **Signal de Mont** 89.31 327 *e*P P 07 27 59.2 -1.8
comp=Z,40nm,0.9s
GMRC **Granite Mounta** 89.32 49 ⇓P P 07 28 02.5 +1.1
baz=89
F26A **Lodgepole** 89.36 34 ⇓P P 07 28 02.6 +1.3
baz=89
D28A **Regan** 89.37 32 ⇑P P 07 28 02.7 +1.4
baz=89
HYF **Humbligny** 89.41 328 *e*P P 07 28 00.5 -0.9
HYF **Humbligny** 89.41 328 *e*P P 07 28 00.5 -0.9
AVF **Avril sur Loir** 89.43 327 *e*P P 07 27 59.9 -1.6
comp=Z,35nm,0.8s
AVF **Avril sur Loir** 89.43 327 *e*P P 07 27 59.9 -1.6
AVF pmax pmax
comp=Z,35nm,0.8s
AVF **Avril sur Loir** 89.43 327 *e*P P 07 27 59.9 -1.6
comp=Z,35nm,0.8s
B30A **Myrvik Farm, E** 89.43 30 ⇓P P 07 28 02.6 +1.0
baz=89
G25A **Newell** 89.46 35 ⇑P P 07 28 03.2 +1.4
baz=89
E27A **Carson** 89.47 33 ⇑P P 07 28 03.4 +1.6
baz=89
LDFC **Landfair** 89.50 49 *e*P P 07 28 03.7 +1.5
SBF **Sospel** 89.52 323 *e*P P 07 28 00.6 -1.5
comp=Z,34nm,0.7s
SBF **Sospel** 89.52 323 *e*P P 07 28 00.6 -1.5
SBF pmax pmax
comp=Z,34nm,0.7s
SBF **Sospel** 89.52 323 *e*P P 07 28 00.6 -1.5
comp=Z,34nm,0.7s
ORIF **Oris-en-Rattie** 89.57 325 *e*P P 07 28 00.5 -1.8
comp=Z,18nm,0.8s
ORIF *e*R
comp=Z,1μm,19.8s
ORIF **Oris-en-Rattie** 89.57 325 *e*P P 07 28 00.5 -1.8
ORIF pmax pmax
comp=Z,18nm,0.8s
ORIF **Oris-en-Rattie** 89.57 325 *e*P P 07 28 00.5 -1.8
comp=Z,18nm,0.8s
BELC **Belle Mtn. Jos** 89.58 50 ⇓P P 07 28 03.5 +0.8
baz=90
PGF **Pioggiola** 89.61 321 *e*P P 07 28 00.8 -1.8
comp=Z,35nm,1.1s
PGF **Pioggiola** 89.61 321 *e*P P 07 28 00.8 -1.8
PGF pmax pmax
comp=Z,35nm,1.1s
PGF **Pioggiola** 89.61 321 *e*P P 07 28 00.8 -1.8
comp=Z,35nm,1.1s
LDF **La Druitiere** 89.64 330 *e*P P 07 28 00.5 -1.9
comp=Z,14nm,0.7s
LDF **La Druitiere** 89.64 330 *e*P P 07 28 00.5 -1.9
LDF pmax pmax
comp=Z,14nm,0.7s
LDF **La Druitiere** 89.64 330 *e*P P 07 28 00.5 -1.9
comp=Z,14nm,0.7s
J23A **Dilts Ranch, B** 89.64 38 ⇑P P 07 28 03.4 +0.6
baz=90
K22A **Casper** 89.64 39 *e*P P 07 28 04.1 +1.2
K22A **Casper** 89.64 39 ⇓P P 07 28 03.7 +0.8
baz=90,SNR=6.3
F27A **Lemmon** 89.66 34 ⇓P P 07 28 04.0 +1.3
baz=90
FLN **La Foliniere** 89.66 330 *e*P P 07 28 00.9 -1.6
FLN *e*R
comp=Z,1μm,20.2s
FLN **La Foliniere** 89.66 330 *e*P P 07 28 00.9 -1.6
FLN **La Foliniere** 89.66 330 *e*P P 07 28 00.9 -1.6
SRU **San Rafael** 89.77 43 *e*P P 07 28 04.9 +1.4
SRU **San Rafael** 89.77 43 *e*P P 07 28 04.9 +1.4
E28A **Huff** 89.77 33 ⇑P P 07 28 04.5 +1.4
baz=90
H25A **Fruitdale** 89.78 36 ⇑P P 07 28 04.4 +1.1
baz=90
G26A **Maurine** 89.79 35 ⇓P P 07 28 04.8 +1.5
baz=90
I24A **Kuemmerle Ranc** 89.80 37 ⇓P P 07 28 04.1 +0.6

baz=90
BGF Bois d'Agland 89.84 327 eP P 07 28 02.1 -1.3
comp=Z,36nm,1.0s
BGF Bois d'Agland 89.84 327 eP P 07 28 02.1 -1.3
BGF pmax pmax
comp=Z,39nm,1.0s
BGF Bois d'Agland 89.84 327 eP P 07 28 02.1 -1.3
comp=Z,38nm,1.0s
PLDF La Plantade 89.91 326 eP P 07 28 03.3 -0.6
D29A Pettibone, Tap 89.91 32 ⇑P P 07 28 04.9 +1.1
baz=90
RSSD Black Hills 89.92 36 eP P 07 28 05.2 +1.1
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 89.92 36 eP P 07 28 05.2 +1.1
comp=Z,7.6nm,0.7s
N20A Spence Gulch, 89.92 41 ⇑P P 07 28 05.8 +1.5
baz=90,SNR=17
C30A Mose, Pekin 89.93 31 ⇓P P 07 28 04.8 +1.0
baz=90
SSB Saint Sauveur 89.97 325 eP P 07 28 02.2 -1.9
SSB pmax pmax
comp=Z,9.0nm,0.8s
SSB MLR MLR
comp=Z,920nm,20.0s
SSB Saint Sauveur 89.97 325 eP P 07 28 02.2 -1.9
comp=Z,8.8nm,0.8s
SSB LR LR
comp=Z,920nm,20.0s
MONP Monument Peak 89.97 51 ⇓P P 07 28 06.1 +1.5
baz=90
IRM Iron Mountain 90.04 49 ⇑P P 07 28 06.1 +1.4
baz=90
K23A Bowen Ranch, D 90.05 38 ⇓P P 07 28 05.4 +0.7
baz=90
G27A Dupree 90.06 34 ⇓P P 07 28 05.8 +1.3
baz=90
PPT Papeete 90.06 110 LR LR 08 03 01.2
comp=Z,137nm,19.8s,baz=288,slow=32
PMOR Pomariorio Ree 90.07 107 eT T 09 07 22.4
comp=Z,6.7nm,0.2s
PPT2 Papeete2 90.07 110 eLR LR 07 56 31.8
comp=Z,668nm,30.0s
AGO Saint Agoulin 90.08 327 eP P 07 28 04.8 +0.2
GRR Gorron 90.11 330 eP P 07 28 03.0 -1.6
comp=Z,16nm,0.7s
GRR Gorron 90.11 330 eP P 07 28 03.0 -1.6
GRR pmax pmax
comp=Z,16nm,0.7s
GRR Gorron 90.11 330 eP P 07 28 03.0 -1.6
comp=Z,16nm,0.7s
L22A Ellis Ranch, M 90.12 39 ⇓P P 07 28 06.4 +1.3
baz=90,SNR=7.6
I25A Rochford 90.14 36 P P 07 28 06.3 +1.1
baz=90
J24A Dixon Ranch, L 90.15 37 ⇑P P 07 28 05.7 +0.6
baz=90,SNR=6.0
H26A Fairpoint 90.19 35 ⇑P P 07 28 06.3 +1.1
baz=90
VIVF Saint-Julien-l 90.21 325 eP P 07 28 03.4 -1.8
comp=Z,19nm,0.8s
VIVF Saint-Julien-l 90.21 325 eP P 07 28 03.4 -1.8
VIVF pmax pmax
comp=Z,19nm,0.8s
VIVF Saint-Julien-l 90.21 325 eP P 07 28 03.4 -1.8
comp=Z,19nm,0.8s
F28A McLaughlin 90.25 33 ⇓P P 07 28 06.9 +1.5
baz=90
D30A Buchanan 90.26 31 ⇑P P 07 28 06.5 +1.1
baz=90
E29A Napoleon 90.26 32 ⇑P P 07 28 06.3 +0.9
baz=90
W13A Hualapai Mount 90.27 48 ⇓P P 07 28 06.8 +0.9
baz=90
TCF Toulx Ste Croi 90.33 327 eP P 07 28 04.4 -1.4
comp=Z,28nm,0.7s
TCF Toulx Ste Croi 90.33 327 eP P 07 28 04.4 -1.4
TCF pmax pmax
comp=Z,29nm,0.7s
TCF Toulx Ste Croi 90.33 327 eP P 07 28 04.4 -1.4
comp=Z,28nm,0.7s
PYM Petit Puy Mans 90.36 327 eP P 07 28 05.3 -0.7
LMR La Mourre 90.37 323 eP P 07 28 04.3 -1.7
LMR La Mourre 90.37 323 eP P 07 28 04.3 -1.7
LMR La Mourre 90.37 323 eP P 07 28 04.3 -1.7
O20A White River Ci 90.41 41 eP P 07 28 06.7 +0.2
comp=Z,32nm,1.1s
O20A White River Ci 90.41 41 ⇓P P 07 28 07.6 +1.1
baz=90,SNR=13
L23A Garrett 90.45 39 ⇓P P 07 28 07.4 +0.7
baz=90,SNR=23
M22A Cedar Creek Ra 90.46 40 ⇑P P 07 28 07.9 +1.1
baz=90,SNR=6.8
H27A Howes 90.53 35 ⇑P P 07 28 08.1 +1.4
baz=90
J25A Sunshine Ranch 90.55 37 ⇑P P 07 28 07.8 +0.8
baz=90,SNR=7.8
I26A New Underwood 90.57 36 ⇑P P 07 28 08.4 +1.4
baz=90
AGMN Agassiz Nation 90.60 29 PFAKE 07 28 20.0 +13
AGMN LR LR
comp=Z,542nm,21.0s
PDMCI Parker Dam,Lak 90.61 49 ⇓P P 07 28 08.6 +1.3
baz=90
LBL Lubilhac 90.63 326 eP P 07 28 06.7 -0.5
E30A Jud 90.64 32 ⇓P P 07 28 08.5 +1.3
baz=90
Y12C Blythe 90.70 49 ⇓P P 07 28 09.0 +1.4
baz=91
F29A Eureka 90.72 33 ⇑P P 07 28 08.9 +1.3
baz=90
G28A Parade 90.77 34 ⇓P P 07 28 09.3 +1.4
baz=91
WDD Wield Dalam 90.82 313 PFAKE 07 28 20.0 +12
WDD LR LR
comp=Z,375nm,22.0s
M23A Laramie 90.89 39 ⇓P P 07 28 10.0 +1.3
baz=91
L24A Wheatland 90.91 38 ⇓P P 07 28 10.0 +1.3
baz=91
SGMF Saint Gilles 90.93 331 eP P 07 28 07.4 -1.0
comp=Z,25nm,0.7s
SGMF Saint Gilles 90.93 331 eP P 07 28 07.4 -1.0
SGMF pmax pmax
comp=Z,25nm,0.7s
SGMF Saint Gilles 90.93 331 eP P 07 28 07.4 -1.0
comp=Z,25nm,0.7s
GLA Glamis 90.93 50 ⇑P P 07 28 10.5 +1.6
baz=91
I27A Quinn 90.95 35 ⇓P P 07 28 10.2 +1.4
baz=91
N22A Wattenberg Ran 90.95 40 ⇓P P 07 28 10.7 +1.6
baz=91
J26A Sides Ranch, S 90.98 36 ⇓P P 07 28 10.4 +1.4
baz=91
H28A Mission Ridge 91.01 34 ⇓P P 07 28 11.0 +2.0
baz=91
K25A Mack Ranch, Ha 91.07 37 ⇑P P 07 28 11.1 +1.7
baz=91
F30A Leola 91.09 32 ⇓P P 07 28 10.1 +0.8
baz=91
ROSF Rostrenen 91.16 332 eP P 07 28 08.1 -1.4
comp=Z,48nm,1.0s
ROSF Rostrenen 91.16 332 eP P 07 28 08.1 -1.4
ROSF pmax pmax
comp=Z,48nm,1.0s
ROSF Rostrenen 91.16 332 eP P 07 28 08.1 -1.4
comp=Z,48nm,1.0s
MFF Saint Martin d 91.17 329 eP P 07 28 08.5 -1.1
comp=Z,37nm,0.8s
MFF Saint Martin d 91.17 329 eP P 07 28 08.5 -1.1
MFF pmax pmax
comp=Z,37nm,0.8s
MFF Saint Martin d 91.17 329 eP P 07 28 08.5 -1.1
comp=Z,37nm,0.8s
N23A Red Feather La 91.17 40 ⇑P P 07 28 11.8 +1.7
baz=91,SNR=13
LASF Ste Croix 91.18 325 eP P 07 28 08.1 -1.6
LASF Ste Croix 91.18 325 eP P 07 28 08.1 -1.6
PV04 Paradox Valley 91.19 43 eP P 07 28 12.2 +2.0
O22A Kremmling 91.34 40 ⇑P P 07 28 12.0 +1.1
baz=91,SNR=13
L25A Engebretsen Ra 91.35 38 ⇓P P 07 28 11.8 +1.1
baz=91
K26A Motz Farm, Whi 91.36 37 ⇓P P 07 28 11.8 +1.1
baz=91
M24A Cheyenne 91.38 39 ⇓P P 07 28 12.7 +1.7
baz=91,SNR=9.8
LCHF La Chataignera 91.38 329 eP P 07 28 10.5 -0.1
RJF Les Rejaudoux 91.39 327 eP P 07 28 09.5 -1.2
comp=Z,25nm,0.7s
RJF eR
comp=Z,953nm,22.0s
RJF Les Rejaudoux 91.39 327 eP P 07 28 09.5 -1.2
RJF pmax pmax
comp=Z,25nm,0.7s
RJF Les Rejaudoux 91.39 327 eP P 07 28 09.5 -1.2
comp=Z,25nm,0.7s
CAF Calviac 91.42 327 eP P 07 28 09.8 -1.1
comp=Z,36nm,1.0s
CAF Calviac 91.42 327 eP P 07 28 09.8 -1.1
CAF pmax pmax
comp=Z,36nm,1.0s
CAF Calviac 91.42 327 eP P 07 28 09.8 -1.1
comp=Z,36nm,1.0s
I28A Midland 91.44 35 ⇓P P 07 28 12.1 +1.1
baz=91
H29A Onida 91.44 34 ⇑P P 07 28 11.9 +0.9
baz=91
QUIF Quistinic 91.44 331 eP P 07 28 09.2 -1.6
comp=Z,27nm,1.0s
QUIF Quistinic 91.44 331 eP P 07 28 09.2 -1.6
QUIF pmax pmax
comp=Z,27nm,1.0s
QUIF Quistinic 91.44 331 eP P 07 28 09.2 -1.6
comp=Z,27nm,1.0s
VSL Villasalto 91.48 319 PFAKE 07 28 20.0 +8.8
VSL LR LR
comp=Z,448nm,19.0s
PV01 Paradox Valley 91.56 43 eP P 07 28 13.4 +1.4
comp=Z,3μm,0.9s
J27A Elkhorn Farm, 91.56 36 ⇓P P 07 28 13.1 +1.5
baz=91
Y14A Wickenburg 91.56 48 ⇓P P 07 28 12.8 +1.0
baz=91
G30A Faulkton 91.57 33 ⇑P P 07 28 12.6 +1.0
baz=91
WUAZ Wupatki 91.59 46 eP P 07 28 13.6 +1.6
comp=Z,20nm,1.0s
WUAZ Wupatki 91.59 46 ⇑P P 07 28 13.6 +1.6
baz=92
P22A Eagle 91.61 41 ⇑P P 07 28 13.8 +1.6
baz=92,SNR=19
O23A Lake Granby, G 91.66 40 ⇓P P 07 28 14.1 +1.7
baz=92,SNR=12
SMCO Snowmass 91.78 41 eP P 07 28 14.8 +1.7
113A Mohawk Valley, 91.81 50 ⇓P P 07 28 14.1 +1.3
baz=92
M25A Palm-Egli Farm 91.81 38 ⇓P P 07 28 14.3 +1.4
baz=92
J28A Allard Ranch, 91.82 35 ⇓P P 07 28 14.1 +1.3
baz=92
I29A Vivian Onida 91.84 34 ⇓P P 07 28 13.9 +1.1
baz=92
K27A Flueckinger Fa 91.85 36 ⇑P P 07 28 13.9 +0.9
baz=92
L26A Underwood Farm 91.89 37 ⇑P P 07 28 14.4 +1.2
baz=92
Z14A Wintersburg 91.97 49 ⇑P P 07 28 15.0 +1.4
baz=92
LFF La Frestale 92.03 327 eP P 07 28 12.5 -1.1
LFF La Frestale 92.03 327 eP P 07 28 12.5 -1.1
LFF La Frestale 92.03 327 eP P 07 28 12.5 -1.1
ISCO Idaho Springs 92.11 40 eP P 07 28 16.4 +1.9
ISCO pmax pmax
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 92.11 40 eP P 07 28 16.4 +1.9
comp=Z,8.4nm,0.9s
ISCO Idaho Springs 92.11 40 ⇑P P 07 28 16.0 +1.5
baz=92
BRSD Miller 92.17 33 eP P 07 28 15.9 +1.6
comp=Z,100nm,0.9s
BRSD Miller 92.17 33 ⇑P P 07 28 15.2 +0.8
baz=92
O24A Longmont 92.18 40 ⇓P P 07 28 16.3 +1.6
baz=92,SNR=5.2
MVCO Mesa Verde 92.22 44 ⇓P P 07 28 16.3 +1.3
baz=92,SNR=12
X16A Lo Mia Camp, P 92.25 47 ⇑P P 07 28 16.8 +1.7
baz=92
M26A McRoberts Ranc 92.27 38 ⇑P P 07 28 16.8 +1.8
baz=92
K28A Ten Mile Ranch 92.28 36 ⇑P P 07 28 16.3 +1.4
baz=92
P23A Jefferson 92.28 41 ⇓P P 07 28 17.2 +1.9
baz=92
J29A Okreek 92.29 35 ⇓P P 07 28 16.6 +1.7
baz=92
MTLF Montolieu 92.52 325 eP P 07 28 14.2 -1.8
comp=Z,10nm,0.9s
MTLF Montolieu 92.52 325 eP P 07 28 14.2 -1.8
MTLF pmax pmax
comp=Z,10.0nm,0.9s
MTLF Montolieu 92.52 325 eP P 07 28 14.2 -1.8
comp=Z,10nm,0.9s
M27A Reverse DX Ran 92.62 37 ⇓P P 07 28 17.9 +1.3
baz=92
EYMN Ely 92.66 27 PFAKE 07 28 30.0 +14
EYMN LR LR
comp=Z,511nm,20.0s
P24A Kohler Place, 92.70 40 ⇓P P 07 28 18.3 +1.2
baz=93
O25A Wiggins 92.71 39 ⇓P P 07 28 18.2 +1.1
baz=93,SNR=12
J30A Dallas 92.75 34 ⇓P P 07 28 18.1 +1.1
baz=93
K29A Lazy Trails An 92.77 35 ⇑P P 07 28 18.4 +1.2
baz=93
S22A 4UR Ranch, Cre 92.83 42 ⇑P P 07 28 19.3 +1.4
baz=93,SNR=11
214A Organ Pipe Nat 92.94 50 eP P 07 28 19.4 +1.2
comp=Z,16nm,1.2s
214A Organ Pipe Nat 92.94 50 ⇓P P 07 28 19.8 +1.6
baz=93
Q24A Divide 92.95 40 ⇓P P 07 28 19.5 +1.1
baz=93
N27A Anderson Farm, 93.06 38 ⇓P P 07 28 19.8 +1.2
baz=93
R23A Moffat 93.10 41 ⇑P P 07 28 20.7 +1.6
baz=93,SNR=9.5
P25A Willow Gulch B 93.11 40 ⇓P P 07 28 20.1 +1.1
baz=93,SNR=6.2
X18A Snowflake 93.11 46 ⇓P P 07 28 20.4 +1.2
baz=93
K30A Basset 93.18 35 ⇑P P 07 28 20.2 +1.1
baz=93
SCHQ Schefferville 93.19 10 P P 07 28 19.0 +0.2
SCHQ Schefferville 93.19 10 P P 07 28 19.0 +0.2
comp=Z,5.5nm,0.7s,baz=319,slow=6.3,SNR=13
SCHQ LR LR 08 13 50.4
comp=Z,512nm,18.2s,baz=352,slow=38
OGNE Ogallala 93.22 37 ⇑P P 07 28 20.4 +1.0
baz=93
TBI Tubuai 93.23 115 eLR LR 07 58 24.2
comp=Z,978nm,32.0s
M28A Bar X Bar Ranc 93.24 37 ⇑P P 07 28 20.5 +1.1
baz=93
R24A Sanders Place, 93.48 41 ⇓P P 07 28 22.1 +1.4
baz=93,SNR=10.0
P26A Davis Ranch, A 93.52 39 ⇑P P 07 28 21.7 +0.9
baz=93
O27A Beecher Island 93.53 38 ⇑P P 07 28 22.0 +1.2
baz=93
M29A Burnside Ranch 93.55 36 ⇓P P 07 28 22.0 +1.2
baz=93
SDCO Great Sand Dun 93.60 42 PFAKE 07 28 30.0 +8.6
SDCO LR LR
comp=Z,398nm,22.0s
EPF Esparros 93.66 326 eP P 07 28 18.9 -2.4
EPF Esparros 93.66 326 eP P 07 28 18.9 -2.4
EPF Esparros 93.66 326 eP P 07 28 18.9 -2.4
L30A Spencer Herefo 93.67 35 ⇑P P 07 28 21.9 +0.5
baz=94
N28A Pribbeno Ranch 93.67 37 ⇓P P 07 28 22.2 +0.8
baz=94
U22A Llaves 93.75 43 ⇓P P 07 28 23.7 +1.6
baz=94,SNR=7.9
T23A Casias Ranch, 93.78 42 ⇑P P 07 28 23.9 +1.7
baz=94,SNR=8.5
ECSD EROS Data Cent 93.81 33 eP P 07 28 22.7 +0.8
comp=Z,15nm,1.0s
ECSD LR LR
comp=Z,266nm,22.0s
ECSD EROS Data Cent 93.81 33 ⇓P P 07 28 22.5 +0.6
baz=94
S24A Houchin Ranch, 93.83 41 ⇑P P 07 28 23.9 +1.4
baz=94,SNR=5.3
Q26A Hugo 93.88 40 ⇑P P 07 28 23.5 +1.0
baz=94
M30A Dale-Ortello V 93.90 36 ⇑P P 07 28 23.1 +0.7
baz=94
KMBO Kilima Mbogo 93.91 271 eP P 07 28 23.1 0.0
comp=Z,4.9nm,0.9s
KMBO LR LR
comp=Z,322nm,22.0s
KMBO Kilima Mbogo 93.91 271 P P 07 28 23.1 0.0
comp=Z,2.5nm,0.7s,baz=22,slow=7.7,SNR=7.5
L31A Butterfield Fa 93.93 35 ⇓P P 07 28 23.7 +1.2
baz=94
P27A Ficken Ranch, 93.94 39 ⇓P P 07 28 23.5 +0.7
baz=94
O28A Krutsinger Ran 93.95 38 ⇑P P 07 28 23.6 +0.8
baz=94
R25A Fountain Ranch 94.00 41 ⇑P P 07 28 23.8 +0.7
baz=94,SNR=7.5
TUC Tucson 94.03 49 eP P 07 28 24.6 +1.4
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 94.03 49 eP P 07 28 24.6 +1.4
comp=Z,12nm,1.0s
V22A San Miguel Ran 94.04 44 ⇓P P 07 28 24.5 +1.1
baz=94
N29A Votaw Ranch, W 94.04 37 ⇓P P 07 28 23.7 +0.6
baz=94
KEST Kesra 94.06 316 P P 07 28 23.0 -0.3
KEST Kesra 94.06 316 P P 07 28 23.0 -0.3
comp=Z,3.4nm,0.9s,baz=322,slow=4.0,SNR=7.6
KEST LR LR 08 15 02.2
comp=Z,158nm,20.5s,baz=346,slow=38
T24B San Luis 94.14 42 ⇓P P 07 28 25.3 +1.4
baz=94
U23A El Rito 94.18 43 ⇑P P 07 28 25.8 +1.8
baz=94,SNR=17
ETSF Etsaut 94.19 327 eP P 07 28 22.0 -1.7
comp=Z,29nm,1.1s
ETSF Etsaut 94.19 327 eP P 07 28 22.0 -1.7
ETSF pmax pmax
comp=Z,29nm,1.1s
ETSF Etsaut 94.19 327 eP P 07 28 22.0 -1.7
comp=Z,29nm,1.1s
KSCO Kaye Shedlock' 94.30 39 ⇓P P 07 28 25.2 +0.8
baz=94
SPMN St. Paul 94.32 29 eP P 07 28 25.1 +0.9
SPMN St. Paul 94.32 29 ⇓P P 07 28 24.8 +0.6
baz=94
R26A Arlington 94.36 40 ⇑P P 07 28 25.4 +0.7
baz=94,SNR=12
P28A Saint Francis 94.36 38 ⇑P P 07 28 25.6 +1.0
baz=94
O29A 4D Ranch, Culb 94.47 37 ⇑P P 07 28 25.8 +0.8
baz=94
M31A Lambtecht Ranc 94.49 35 ⇓P P 07 28 25.9 +0.8
baz=94
ABPO Ambohimpanom 94.56 251 PFAKE 07 28 40.0 +14
ABPO LR LR
comp=Z,359nm,22.0s
V23A Ortiz Mt. (NFS 94.58 43 ⇓P P 07 28 27.9 +2.1
baz=94,SNR=5.8
T25A Trinidad 94.64 41 ⇑P P 07 28 27.5 +1.4
baz=94
U24A Moreno Valley 94.65 42 ⇓P P 07 28 28.0 +1.7
baz=94
Q28A Sharon Springs 94.69 39 ⇑P P 07 28 26.8 +0.7
baz=94
R27A Eads 94.73 40 ⇑P P 07 28 27.3 +0.9
baz=95
O30A MW Ranch, Wils 94.81 37 ⇓P P 07 28 27.4 +0.8
baz=95
BGNE Belgrade 94.85 35 ⇑P P 07 28 27.6 +0.8
baz=95
ANMO Albuquerque 94.97 44 eP P 07 28 29.4 +1.8
comp=Z,4.8nm,1.1s
T26A Comanche Natio 95.08 41 ⇑P P 07 28 28.7 +0.6
baz=95
V24A Rampart Ranch, 95.13 43 ⇓P P 07 28 30.3 +1.9
baz=95,SNR=15
U25A Circle Dot Ran 95.16 42 ⇓P P 07 28 29.5 +1.0
baz=95
P30A Selden 95.18 37 ⇑P P 07 28 29.1 +0.8
baz=95
O31A Woolen Ranch, 95.20 36 ⇑P P 07 28 28.8 +0.4
baz=95
R28A Tribune 95.23 39 ⇓P P 07 28 29.1 +0.5
baz=95
N32A Stulken Farm, 95.26 35 ⇓P P 07 28 29.0 +0.3
baz=95
Q29A Oakley 95.27 38 ⇓P P 07 28 29.4 +0.6
baz=95
W24A Lazy 6 Ranch, 95.41 43 ⇑P P 07 28 31.5 +1.9
baz=95,SNR=6.6
V25A Rancho No Teng 95.44 42 ⇓P P 07 28 31.3 +1.5
baz=95,SNR=13
R29A Marienthal 95.53 39 ⇑P P 07 28 30.7 +0.7
baz=95
U26A Atchley Ranch, 95.55 42 ⇓P P 07 28 31.0 +0.8
baz=95
Q30A Quinter 95.61 38 ⇑P P 07 28 31.0 +0.7
baz=95
319A Douglas 95.61 48 ⇑P P 07 28 31.7 +1.1
baz=96
P31A Stockton 95.65 37 ⇑P P 07 28 31.1 +0.7
baz=96
S28A Manter 95.72 40 ⇑P P 07 28 31.7 +0.8
baz=96
121A Cookes Peak, D 95.79 47 ⇓P P 07 28 32.3 +0.9
baz=96
Z22A Elephant Butte 95.81 46 ⇓P P 07 28 32.7 +1.3
baz=96,SNR=5.4
X24A Lazy VL Ranch, 95.84 44 ⇑P P 07 28 33.0 +1.3
baz=96
Y23A Lovelace Mesa, 95.90 45 ⇑P P 07 28 33.2 +1.3
baz=96
V26A Tequesquite Ra 95.94 42 ⇑P P 07 28 32.8 +0.8
baz=96
W25A X Bar L Ranch, 95.96 43 ⇑P P 07 28 33.4 +1.3
baz=96,SNR=9.8
P32A Huiting Farm, 95.97 36 ⇑P P 07 28 32.1 +0.2
baz=96
R30A Dighton 96.09 38 ⇓P P 07 28 33.0 +0.5
baz=96
S29A Ulysses 96.13 39 ⇑P P 07 28 33.7 +1.0
baz=96
Y24A Capitan 96.28 44 ⇑P P 07 28 35.0 +1.3
baz=96
X25A Clemmons Ranch 96.32 43 ⇑P P 07 28 34.9 +1.1
baz=96
Q32A Meitler Ranch, 96.46 37 ⇑P P 07 28 34.5 +0.4
baz=96
S30A Montezuma 96.47 39 ⇓P P 07 28 34.9 +0.7
baz=96
R31A Burdett 96.48 38 ⇓P P 07 28 34.2 0.0
baz=96
Y25A Mesa, Roswell 96.73 44 ⇓P P 07 28 36.5 +1.0
baz=97
Z24A Sheeeppen Canyo 96.73 45 ⇓P P 07 28 36.9 +1.1
baz=97
X26A CR and CF Fran 96.81 43 ⇓P P 07 28 36.8 +0.9
baz=97,SNR=5.8
R32A Long Quarter, 96.81 37 ⇓P P 07 28 36.7 +1.0
baz=97
Q33A Connelly Farm, 96.83 36 ⇓P P 07 28 36.6 +0.8
baz=97
W27A Bowe Ranch, En 96.88 42 ⇓P P 07 28 37.3 +1.0
baz=97
S31A Mullinville 97.00 38 ⇓P Pdif 07 28 37.4 +0.6
baz=97
Z25A Roswell 97.16 44 ⇑P Pdif 07 28 38.8 +1.2
baz=97,SNR=8.3
R33A Olander Ranch, 97.27 37 ⇓P Pdif 07 28 38.7 +0.8
baz=97
T31A Randall Ranch, 97.29 39 ⇑P Pdif 07 28 39.3 +1.3
baz=97
KSU1 Kansas State U 97.37 36 PFAKE 07 28 50.0 +12
KSU1 LR LR
comp=Z,579nm,21.0s
KSU1 Kansas State U 97.37 36 ⇓P Pdif 07 28 39.1 +0.8
baz=97
Z26A Caprock 97.61 44 ⇓P Pdif 07 28 40.6 +1.0
baz=98
125A Gardner Draw, 97.63 45 ⇑P Pdif 07 28 40.9 +1.2
baz=98,SNR=6.2
T32A Huddler Ranch, 97.63 38 ⇓P Pdif 07 28 40.4 +0.9
baz=98

Y27A	**Causey**	**97.66**	**43**	⇑P		Pdif	07 28 40.4	+0.6
	baz=98							
X28A	**Dimmitt**	**97.77**	**42**	⇓P		Pdif	07 28 40.7	+0.4
	baz=98							
AMTX	**Amarillo**	**97.80**	**41**	⇓P		Pdif	07 28 41.3	+1.0
	baz=98							
S33A	**Kaszmaul Farm,**	**97.80**	**37**	⇑P		Pdif	07 28 41.2	+1.0
	baz=98							
Z27A	**Tatum**	**98.03**	**43**	⇓P		Pdif	07 28 42.4	+0.9
	baz=98							
T33A	**Patterson Ranc**	**98.06**	**38**	⇑P		Pdif	07 28 42.2	+0.8
	baz=98							
ESDC	**Sonseca Array**	**98.31**	**327**	P		**P**	**07 28 41.7**	**-0.8**
ESDC				PP		**PP**	**07 32 41.6**	**-0.1**
ESDC	**Sonseca Array**	**98.31**	**327**	P		**P**	**07 28 41.7**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=23,slow=4.6,SNR=8.3							
ESDC				PP		**PP**	**07 32 41.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=33,slow=8.9,SNR=5.6							
ESDC				LR		LR	08 18 51.0	
	comp=Z,294nm,18.3s,baz=40,slow=39							
226B	**Tecolote Peak,**	**98.33**	**45**	⇑P		Pdif	07 28 43.8	+1.0
	baz=98							
PAB	**San Pablo**	**98.59**	**327**	PFAKE			07 28 50.0	+6.2
PAB				LR		LR		
	comp=Z,853nm,20.0s							
U34A	**Anderson Ranch**	**98.92**	**38**	⇑Pdiff		Pdif	07 28 46.1	+0.8
	baz=99							
X31A	**McDonald Ranch**	**98.94**	**41**	⇑Pdiff		Pdif	07 28 46.1	+0.7
	baz=99							
128A	**Castleberry Fa**	**98.95**	**43**	⇓Pdiff		Pdif	07 28 46.6	+1.1
	baz=99							
Z29A	**Hungry Hill Ra**	**98.95**	**43**	⇑Pdiff		Pdif	07 28 46.2	+0.6
	baz=99							
Z30A	**Sanderson Ranc**	**99.27**	**42**	⇓Pdiff		**Pdif**	**07 28 47.6**	**+0.7**
	baz=99							
MTE	**Manteigas**	**99.36**	**329**	PFAKE			07 29 00.0	+13
MTE				LR		LR		
	comp=Z,1μm,21.0s							
526A	**Mary Lane Ranc**	**99.78**	**46**	⇓Pdiff		**Pdif**	**07 28 50.7**	**+1.3**
	baz=100							
Z31A	**Sharp Cattle R**	**99.81**	**42**	⇑Pdiff		**Pdif**	**07 28 50.0**	**+0.7**
	baz=100							
626A	**Big Bend Ranch**	**100.11**	**47**	⇓Pdiff		**Pdif**	**07 28 51.1**	**+0.4**
	baz=100							
Z32A	**Haskell**	**100.19**	**41**	⇑Pdiff		**Pdif**	**07 28 51.3**	**+0.3**
	baz=100							
AAM	**Ann Arbor**	**100.40**	**25**	PFAKE			07 29 00.0	+8.4
AAM				LR		LR		
	comp=Z,231nm,19.0s							
TXAR	**Lajitas Array**	**100.55**	**47**	P		**Pdif**	**07 28 53.8**	**+1.1**
TXAR				PP		PP	07 33 05.6	+6.3
TXAR				PKiKP		**PKiKP**	**07 33 19.5**	**+0.4**
TXAR				PKKP		**PKKPbc**	**07 45 08.4**	**+1.5**
TXAR	**Lajitas Array**	**100.55**	**47**	P		**Pdif**	**07 28 53.8**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=284,slow=1.9,SNR=25							
TXAR				PP		PP	07 33 05.6	+6.3
	comp=Z,0.9nm,0.9s,baz=310,slow=7.0,SNR=5.1							
TXAR				PKiKP		**PKiKP**	**07 33 19.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=345,slow=0.6,SNR=4.8							
TXAR				PKKP		**PKKPbc**	**07 45 08.4**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=147,slow=5.4,SNR=3.3							
ERPA	**Erie**	**101.86**	**23**	PFAKE			07 29 10.0	+12
ERPA				LR		LR		
	comp=Z,719nm,19.0s							
PKME	**Peaks-Kenny Pk**	**101.92**	**15**	PFAKE			07 29 10.0	+12
PKME				LR		LR		
	comp=Z,755nm,19.0s							
NCB	**Newcomb**	**101.93**	**18**	PFAKE			07 29 10.0	+12
NCB				LR		LR		
	comp=Z,3μm,20.0s							
MIAR	**Mount Ida**	**102.43**	**36**	PFAKE			07 29 10.0	+9.1
MIAR				LR		LR		
	comp=Z,255nm,19.0s							
ACSO	**Alum Creek Sta**	**102.44**	**26**	PFAKE			07 29 10.0	+9.2
ACSO				LR		LR		
	comp=Z,481nm,20.0s							
BINY	**Binghamton**	**103.06**	**20**	PFAKE			07 29 20.0	+16
BINY				LR		LR		
	comp=Z,606nm,21.0s							
RTC	**Rabat Centre**	**104.23**	**325**	PFAKE			07 29 20.0	+11
RTC				LR		LR		
	comp=Z,417nm,19.0s							
RKT	**Rikitea**	**104.68**	**108**	*e*LR		LR	08 03 19.7	
	comp=Z,465nm,29.5s							
TAM	**Tamanrasset**	**105.35**	**309**	PFAKE			07 33 40.0	
TAM				LR		LR		
	comp=Z,262nm,21.0s							
KVTX	**Kingsville**	**105.36**	**44**	PFAKE			07 33 40.0	
KVTX				LR		LR		
	comp=Z,509nm,19.0s							
CBN	**Corbin**	**106.25**	**23**	PFAKE			07 33 40.0	
CBN				LR		LR		
	comp=Z,1μm,19.0s							
LSZ	**Lusaka**	**108.65**	**263**	PFAKE			07 33 50.0	
LSZ				LR		LR		
	comp=Z,419nm,20.0s							
CNNC	**Cliffs of the**	**108.73**	**25**	PFAKE			07 33 50.0	
CNNC				LR		LR		
	comp=Z,3μm,21.0s							
MAW	**Mawson**	**110.52**	**202**	PP		PP	07 34 13.0	+0.1
MAW	**Mawson**	**110.52**	**202**	PP		PP	07 34 13.0	+0.1
	comp=Z,12nm,0.5s,baz=99,slow=23,SNR=5.8							
TOA0	**Torodi Ar. Sit**	**114.59**	**304**	*e*PKPdf		PKPdf	07 33 44.4	-1.0
TORD	**Torodi Ar. Bea**	**114.59**	**304**	PKP		PKPdf	07 33 43.8	-1.6
TORD				PP		**PP**	**07 34 38.2**	**-4.1**
TORD				PKKPbc		**PKKPbc**	**07 44 23.1**	**+0.4**
TORD				PKKP		**PKKPdf**	**07 44 45.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**114.59**	**304**	PKP		PKPdf	07 33 43.8	-1.6
	comp=Z,2.4nm,0.5s,baz=24,slow=2.0,SNR=29							
TORD				PP		**PP**	**07 34 38.2**	**-4.1**
	comp=Z,4.7nm,1.0s,baz=41,slow=7.4,SNR=8.1							
TORD				PKKPbc		**PKKPbc**	**07 44 23.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=240,slow=3.4,SNR=4.8							
TORD				PKKP		**PKKPdf**	**07 44 45.8**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=234,slow=4.0,SNR=4.3							
BOSA	**Boshof**	**116.77**	**251**	PKP		**PKPdf**	**07 33 48.6**	**-0.7**
BOSA	**Boshof**	**116.77**	**251**	PKP		**PKPdf**	**07 33 48.6**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=117,slow=1.4,SNR=12							
TSUM	**Tsumeb**	**119.45**	**264**	PKP		**PKPdf**	**07 33 54.1**	**-0.6**
TSUM				LR		LR		
	comp=Z,444nm,20.0s							
TSUM	**Tsumeb**	**119.45**	**264**	PKP		**PKPdf**	**07 33 54.2**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=188,slow=12,SNR=3.8							
QSPA	**South Pole Qui**	**120.70**	**180**	*e*PKPdf		**PKPdf**	**07 33 55.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**122.00**	**45**	PFAKE			07 34 10.0	+10
TGUH				LR		LR		
	comp=Z,249nm,22.0s							
DBIC	**Dimbokro**	**123.70**	**304**	PKP		**PKPdf**	**07 34 01.7**	**-1.3**
DBIC				*e*PKPdf		**PKiKP**	**07 34 01.9**	**-1.4**
DBIC				PP		**PP**	**07 35 42.6**	**-2.5**
DBIC	**Dimbokro**	**123.70**	**304**	PKP		**PKPdf**	**07 34 01.7**	**-1.3**
	comp=Z,12nm,0.7s,baz=357,slow=2.9,SNR=18							
DBIC				PP		**PP**	**07 35 42.6**	**-2.5**
	comp=Z,20nm,1.2s,baz=16,slow=8.4,SNR=7.0							
KIC	**Kosan Boka**	**123.83**	**304**	*e*PKIKP		**PKPdf**	**07 34 02.2**	**-1.1**
	comp=Z,28nm,0.6s							
KIC	**Kosan Boka**	**123.83**	**304**	*e*PKP1		**PP**	**07 35 46.1**	**0.0**
	comp=Z,186nm,1.7s							
TIC	**Toumodi**	**123.84**	**304**	*e*PKIKP		**PKPdf**	**07 34 02.0**	**-1.3**
	comp=Z,16nm,0.5s							
TIC	**Toumodi**	**123.84**	**304**	*e*PKP1		**PP**	**07 35 45.6**	**-0.5**
	comp=Z,70nm,1.1s							
LIC	**Lamto**	**124.13**	**304**	*e*PKIKP		**PKPdf**	**07 34 02.0**	**-1.8**
	comp=Z,32nm,0.8s							
LIC				*e*R				
	comp=Z,381nm,23.0s							
LIC	**Lamto**	**124.13**	**304**	*e*PKIKP		**PKPdf**	**07 34 02.6**	**-1.2**
	comp=Z,48nm,0.8s							
LIC	**Lamto**	**124.13**	**304**	*e*PKP1		**PP**	**07 35 46.9**	**-1.2**
	comp=Z,68nm,1.3s							
LIC	**Lamto**	**124.13**	**304**	*e*PKPdf		**PKPdf**	**07 34 02.0**	**-1.8**
SDDR	**Presa de Saban**	**125.89**	**26**	PFAKE			07 34 20.0	+13
SDDR				LR		LR		
	comp=Z,255nm,20.0s							
SACV	**Santiago Islan**	**128.30**	**328**	PFAKE			07 34 20.0	+8.2
SACV				LR		LR		
	comp=Z,508nm,20.0s							
BCIP	**Isla Barro Col**	**130.28**	**42**	PFAKE			07 34 30.0	+14
BCIP				LR		LR		
	comp=Z,171nm,19.0s							
SNAA	**Sanae**	**132.38**	**198**	P		**PKPdf**	**07 34 19.0**	**+1.2**
FDF	**Fort de France**	**133.08**	**16**	PFAKE			07 34 30.0	+9.1
FDF				LR		LR		
	comp=Z,372nm,22.0s							
VNA2	**Neumayer--Watz**	**134.01**	**198**	P		PKPpre	07 34 05.8	
VNA1	**Neumayer--Stat**	**134.41**	**198**	P		PKPpre	07 34 08.1	

SDV	**Santo Domingo**	**135.24**	**31**	*e*PKPdf		**PKPdf**	**07 34 25.6**	**+0.5**
SDV				LR		LR		
	comp=Z,390nm,20.0s							
GRGR	**Grenville**	**135.45**	**18**	PFAKE			07 34 40.0	+15
GRGR				LR		LR		
	comp=Z,434nm,20.0s							
ROSC	**El Rosal**	**136.89**	**39**	PKP		**PKPdf**	**07 34 29.6**	**+1.1**
ROSC				*e*PKPdf		**PKiKP**	**07 34 29.7**	**-0.5**
ROSC	**El Rosal**	**136.89**	**39**	PKP		**PKPdf**	**07 34 29.6**	**+1.1**
	comp=Z,7.9nm,0.6s,baz=99,slow=17,SNR=9.9							
OTAV	**Otavalo**	**138.17**	**48**	PFAKE			07 34 40.0	+9.1
OTAV				LR		LR		
	comp=Z,227nm,21.0s							
ASCN	**Ascension**	**140.49**	**298**	PFAKE			07 34 50.0	+15
ASCN				LR		LR		
	comp=Z,961nm,22.0s							
NNA	**Nana**	**148.00**	**60**	*e*PKPdf		**PKPdf**	**07 34 47.5**	**-0.1**
NNA				*e*PKPbc		**PKPbc**	**07 34 50.7**	**0.0**
NNA				*e*PKPab		**PKPab**	**07 34 54.9**	**+1.4**
PTGA	**Pitinga**	**148.17**	**21**	*e*PKPdf		**PKPdf**	**07 34 48.7**	**+0.8**
PTGA				*e*PKPbc		**PKPbc**	**07 34 51.7**	**+0.6**
PTGA				*e*PKPab		**PKPab**	**07 34 55.4**	**+1.4**
PTGA				LR		LR		
	comp=Z,287nm,22.0s							
RCBR	**Riachuelo**	**152.21**	**331**	PKPbc		**PKPbc**	**07 35 00.4**	**-0.5**
RCBR				LR		LR		
	comp=Z,508nm,22.0s							
RCBR	**Riachuelo**	**152.21**	**331**	PKPbc		**PKPbc**	**07 35 00.4**	**-0.5**
	comp=Z,19nm,0.6s,baz=21,slow=3.1,SNR=13							
SAML	**Samuel**	**154.37**	**34**	*e*PKPdf		**PKPdf**	**07 34 57.5**	**+0.2**
SAML				*e*PKPbc		**PKiKP**	**07 35 06.0**	**+0.4**
SAML				LR		LR		
	comp=Z,287nm,19.0s							
H03N2	**Juan Fernandez**	**154.47**	**104**	T		T	10 28 35.3	
	baz=275,slow=75,SNR=16							
H03N3	**Juan Fernandez**	**154.48**	**104**	T		T	10 28 32.6	
	baz=275,slow=75,SNR=22							
H03N1	**Juan Fernandez**	**154.49**	**104**	T		T	10 28 18.3	
	baz=275,slow=75,SNR=25							
BDFB	**Brasilia**	**164.75**	**357**	PKP		**PKPdf**	**07 35 09.3**	**+0.1**
BDFB				PKPab		**PKPab**	**07 36 04.5**	**-0.2**
BDFB	**Brasilia**	**164.75**	**357**	PKP		**PKPdf**	**07 35 09.3**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=12,slow=4.8,SNR=7.3							
BDFB				PKPab		**PKPab**	**07 36 04.5**	**-0.2**
	comp=Z,8.8nm,0.9s,baz=51,slow=3.1,SNR=9.2							
TRQA	**Tornquist**	**167.07**	**127**	PFAKE			07 35 20.0	+10
TRQA				LR		LR		
	comp=Z,371nm,20.0s							

***IDC* 25 07:36:59.8±2.7, 55°56N×86°10E, *h*0km, mb1 3.0/3, mb1mx2.9/39, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=26.2km s-min=17.6km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**205**	*i*				07 48 02.4	
	baz=21,slow=347,SNR=19								
ZALV	**Zalesovo Beam**	**1.78**	**205**	Pg		Pn		07 37 30.8	-1.1
	4.8nm,0.3s,baz=22,slow=15,SNR=46								
ZALV				Lg		Lg		07 37 58.2	
	3.1nm,0.3s,baz=24,slow=28,SNR=14								
KURBB	**Kurchatov Arra**	**6.73**	**226**	Pn		Pn		07 38 38.6	-1.1
	0.4nm,0.3s,baz=43,slow=14,SNR=8.5								
KURBB				Lg		Lg		07 40 32.2	
	0.2nm,0.3s,baz=40,slow=29,SNR=3.4								
MKAR	**Makanchi Array**	**9.10**	**197**	Pn		Pn		07 39 12.4	+0.1
	0.1nm,0.3s,baz=12,slow=18,SNR=5.8								
MKAR				Lg		Lg		07 41 45.4	
	0.0nm,0.3s,baz=19,slow=32,SNR=3.6								
BVAR	**Borovoye Array**	**9.53**	**261**	Pn		Pn		07 39 18.2	-0.1
	0.1nm,0.3s,baz=64,slow=17,SNR=2.9								

IDC **25** *07:42:58.5±0.9, 12°32N×144°15E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/36, mbtmp3.7/8, Error ellipse: s-maj=38.8km s-min=20.3km az=97.0*
ISCJB **25** *07:43:01.1±0.8, 12°3N±0°1×144°0E±0°3, h27km, mb3.7/8, Error ellipse: s-maj=35.7km s-min=18.5km az=6.8*

ISC 25 07:43:02.7±0.9, 12°3N±0°2×144°1E±0°3, h27km, n8, σ1§23/8, mb3.7/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.45**	**197**	P		**P**		**07 49 39.0**	**-0.6**
	1.1nm,0.8s,baz=20,slow=9.7,SNR=8.0								
ASAR	**Alice Springs**	**37.11**	**196**	P		**P**		**07 50 11.6**	**+0.4**
	0.8nm,0.6s,baz=20,slow=11,SNR=15								
SONM	**Songino Array**	**47.33**	**326**	P		**P**		**07 51 34.5**	**+0.2**
	0.3nm,0.7s,baz=140,slow=9.4,SNR=3.5								
MKAR	**Makanchi Array**	**61.87**	**317**	P		**P**		**07 53 20.9**	**+1.1**
	0.9nm,0.7s,baz=82,slow=8.7,SNR=12								
ILAR	**Eielson Array**	**70.06**	**25**	P		**P**		**07 54 10.8**	**-1.3**
	0.2nm,0.6s,baz=250,slow=5.6,SNR=7.2								
YKA	**Yellowknife Ar**	**84.35**	**27**	P		**P**		**07 55 32.5**	**+0.3**
	0.3nm,0.7s,baz=286,slow=5.0,SNR=4.4								
NVAR	**Mina Array Bea**	**88.33**	**51**	P		**P**		**07 55 54.0**	**+1.4**
	0.2nm,0.5s,baz=288,slow=5.9,SNR=3.7								
FINES	**FINESS Array B**	**91.98**	**335**	P		**P**		**07 56 07.4**	**-1.5**
	0.6nm,0.5s,baz=48,slow=2.8,SNR=5.8								

IDC **25** *07:48:01.4±1.9, 15°19S×167°75E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/26, mbtmp3.8/7, Error ellipse: s-maj=81.0km s-min=24.1km az=137.0*
NEIC **25** *07:48:14.9±2.6, 15°16S×167°52E, h102km±23km, mb4.3/2, Error ellipse: s-maj=19.4km s-min=17.4km az=196.0*
ISCJB **25** *07:48:15.8±0.7, 15°29S±0°06×167°5E±0°2, h124km, mb3.8/9, Error ellipse: s-maj=20.7km s-min=8.1km az=2.9*

ISC 25 07:48:16.9±0.8, 15°28S±0°08×167°6E±0°2, h124km, n24, σ0§79/25, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.83**	**189**	*e*Pn		**Pn**		**07 49 54.4**	**-0.3**
DZM				Sn		**Sn**		**07 51 10.8**	**-0.3**
DZM	**Mont Dzumac**	**6.83**	**189**	Pn		**Pn**		**07 49 53.2**	**-1.5**
	7.3nm,0.3s,baz=86,slow=12,SNR=59								
DZM				Sn		**Sn**		**07 51 10.8**	**-0.3**
	9.4nm,0.3s,baz=295,slow=23,SNR=11								
DZM	**Mont Dzumac**	**6.83**	**189**	*e*P		**Pn**		**07 49 54.3**	**-0.3**
DZM				*e*S		**Sn**		**07 51 10.9**	**-0.2**
NOUC	**Port Laguerre**	**6.88**	**190**	*e*S		**Sn**		**07 51 12.9**	**+0.7**
URZ	**Urewera**	**24.39**	**162**	*e*P		**P**		**07 53 24.6**	**+1.0**
	6.3nm,0.7s								
RPZ	**Rata Peaks**	**28.50**	**175**	*e*P		**P**		**07 54 02.1**	**+1.6**
	9.1nm,0.8s								
STKA	**Stephens Creek**	**28.85**	**231**	*e*P		**P**		**07 54 04.7**	**+0.9**
STKA	**Stephens Creek**	**28.85**	**231**	P		**P**		**07 54 04.2**	**+0.4**
	0.6nm,0.3s,baz=43,slow=9.0,SNR=6.7								
WRA	**Warramunga Arr**	**31.96**	**257**	P		**P**		**07 54 30.5**	**-0.9**
WRA	**Warramunga Arr**	**31.96**	**257**	P		**P**		**07 54 30.5**	**-0.9**
	0.5nm,0.7s,baz=84,slow=7.6,SNR=2.9								
ASAR	**Alice Springs**	**32.74**	**250**	P		**P**		**07 54 38.0**	**-0.1**
ASAR	**Alice Springs**	**32.74**	**250**	P		**P**		**07 54 38.0**	**-0.1**
	0.8nm,0.4s,baz=75,slow=9.1,SNR=16								
SONM	**Songino Array**	**83.10**	**324**	P		**P**		**08 00 29.8**	**+0.9**
SONM	**Songino Array**	**83.10**	**324**	P		**P**		**08 00 29.8**	**+0.9**
	0.4nm,0.3s,baz=152,slow=7.4,SNR=4.4								
ILAR	**Eielson Array**	**86.97**	**18**	P		**P**		**08 00 47.1**	**-0.5**
ILAR	**Eielson Array**	**86.97**	**18**	P		**P**		**08 00 47.1**	**-0.5**
	0.4nm,0.7s,baz=240,slow=4.8,SNR=9.8								
SNAA	**Sanae**	**93.01**	**183**	P		**P**		**08 01 14.5**	**-1.5**
VNA2	**Neumayer--Watz**	**93.94**	**182**	P		**P**		**08 01 19.9**	**-0.3**
MKAR	**Makanchi Array**	**97.79**	**316**	P		Pdif		08 01 39.1	+0.9
MKAR	**Makanchi Array**	**97.79**	**316**	P		Pdif		08 01 39.1	+0.9
	0.2nm,0.5s,baz=90,slow=4.5,SNR=3.4								
YKA	**Yellowknife Ar**	**97.91**	**27**	P		**P**		**08 01 38.0**	**-0.2**
YKA	**Yellowknife Ar**	**97.91**	**27**	P		**P**		**08 01 38.0**	**-0.2**
	0.2nm,0.7s,baz=249,slow=4.6,SNR=3.4								
ARCES	**ARCESS Array B**	**120.86**	**345**	PKP		**PKPdf**		**08 06 54.0**	**+0.1**
ARCES	**ARCESS Array B**	**120.86**	**345**	PKP		**PKPdf**		**08 06 54.0**	**+0.1**
	1.5nm,0.8s,baz=72,slow=2.9,SNR=6.5								

IDC 25 08:01:34.9±6.8, 17°58S×70°67W, h142km±44km, mb3.2/2, mb1 3.3/3, mb1mx3.1/26, mbtmp3.6/3, Error ellipse: s-maj=83.9km s-min=47.6km az=19.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.75**	**63**	P		P	Pn	08 02 19.4	-0.2
	0.6nm,0.3s,baz=242,slow=11,SNR=16								
LPAZ						S	Sn	08 02 54.1	+0.2
	baz=213,slow=17								
SIV	**San Ignacio**	**9.32**	**82**	P		P	Pn	08 03 46.0	-0.2
	0.5nm,0.3s,baz=268,slow=9.2,SNR=4.2								
H03N1	**Juan Fernandez**	**17.45**	**204**	T		T		08 22 44.8	
	baz=27,slow=75,SNR=43								
H03N2	**Juan Fernandez**	**17.45**	**204**	T		T		08 22 52.3	
	baz=27,slow=75,SNR=35								
H03N3	**Juan Fernandez**	**17.47**	**204**	T		T		08 22 48.7	
	baz=27,slow=75,SNR=50								
TORD	**Torodi Ar. Bea**	**77.66**	**72**	P		P		08 13 16.4	+0.1
	0.5nm,0.7s,baz=254,slow=5.6,SNR=5.0								
YKA	**Yellowknife Ar**	**86.96**	**341**	P		P		08 14 03.5	0.0
	0.3nm,0.7s,baz=136,slow=4.9,SNR=7.4								
H11S2	**WAKE ISLAND Hyl**	**25.64**	**280**	T		T		10 38 12.9	
	baz=102,slow=72,SNR=8.1								
H11S1	**WAKE ISLAND Hyl**	**25.65**	**280**	T		T		10 37 58.5	
	baz=102,slow=72,SNR=2.9								
H11S3	**WAKE ISLAND Hyl**	**25.66**	**280**	T		T		10 37 56.8	
	baz=102,slow=72,SNR=5.4								

IDC **25** *08:50:11.2±0.6, 37°74N×21°02E, h0km, mb4.0/15, mb1 3.9/22, mb1mx3.8/40, mbtmp3.8/22, ML3.1/6, MS2.5/1, Ms1 2.5/1, ms1mx2.2/31, Error ellipse: s-maj=14.2km s-min=13.1km az=138.0*
CSEM **25** *08:50:13.9±0.2, 37°73N×20°84E, h5km, ML4.1, Error ellipse: s-maj=5.0km s-min=3.0km az=34.0*
ISCJB **25** *08:50:13.1±0.5, 37°71N±0°02×20°74E±0°02, h20km±3km, mb3.9/15, Error ellipse: s-maj=4.0km s-min=2.6km az=35.0*
SOF **25** *08:50:13.3, 37°64N×21°02E, h10km, MD3.2*
ATH **25** *08:50:14.2, 37°74N×20°88E, h16km±1km, ML3.7*
THE **25** *08:50:15.0, 37°76N×20°94E, h0km±1km, ML3.8/11, Error ellipse: s-maj=1.2km s-min=0.4km az=225.0*
BEO **25** *08:50:17.2±5.1, 38°06N×20°50E, h0km, ML3.7/3*

ISC 25 08:50:13.7±1.0, 37°73N±0°02×20°85E±0°02, h18km±6km, n203, σ1§43/256, mb4.0/15, 7C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.33**	**55**	P		P	**Pb**	**08 50 21.3**	**+0.3**
VTN				S		S	**Sg**	**08 50 25.6**	**+0.2**
KFL	**Anninata**	**0.38**	**353**	P		P	**Pb**	**08 50 22.5**	**+0.4**
KFL				S		S	**Sb**	**08 50 27.8**	**+0.1**
KFL	**Anninata**	**0.38**	**353**	P		P	**Pb**	**08 50 22.5**	**+0.4**
KFL				S		S	**Sb**	**08 50 27.9**	**+0.2**
VLS	**Valsamata**	**0.49**	**335**	P		P	**Pb**	**08 50 24.5**	**+0.6**
VLS				S		S	**Sb**	**08 50 32.3**	**+1.5**
VLS	**Valsamata**	**0.49**	**335**	P		P	**Pb**	**08 50 24.3**	**+0.4**
VLS				S		S	**Sb**	**08 50 31.5**	**+0.7**
SFD	**Strofades**	**0.50**	**164**	P		P	**Pb**	**08 50 25.0**	**+1.1**
SFD	**Strofades**	**0.50**	**164**	P		P	**Pb**	**08 50 24.8**	**+0.9**
RLS	**Riolos of Patr**	**0.59**	**56**	P		P	**Pg**	**08 50 25.2**	**-0.2**
RLS	**Riolos of Patr**	**0.59**	**56**	P		P	**Pg**	**08 50 25.2**	**-0.2**
RLS				S		S	**Sg**	**08 50 33.1**	**-0.2**
AMT	**Artemida-Makis**	**0.71**	**106**	P		P	**Pg**	**08 50 27.6**	**-0.1**
AMT				S		S	**Sb**	**08 50 37.5**	**+0.4**
AMT	**Artemida-Makis**	**0.71**	**106**	*e*PN		P	**Pg**	**08 50 27.6**	**-0.1**
AMT	**Artemida-Makis**	**0.71**	**106**	P		P	**Pg**	**08 50 27.6**	**-0.1**
AMT				S		S	**Sb**	**08 50 37.5**	**+0.4**
DRO	**Drossia**	**0.72**	**72**	P		P	**Pg**	**08 50 27.2**	**-0.6**
DRO				S		S	**Sg**	**08 50 36.7**	**-0.7**
DRO	**Drossia**	**0.72**	**72**	*e*PN		P	**Pg**	**08 50 27.5**	**-0.3**
DRO				*e*SN		P	**Sg**	**08 50 37.4**	**0.0**
DRO	**Drossia**	**0.72**	**72**	P		P	**Pg**	**08 50 27.2**	**-0.6**
DRO	**Drossia**	**0.72**	**72**	*e*Pn		P	**Pg**	**08 50 27.5**	**-0.3**
DRO				*e*Sn		P	**Sg**	**08 50 37.4**	**0.0**
PDO	**Prodromos**	**0.91**	**17**	*e*PN		P	**Pg**	**08 50 31.4**	**0.0**
PDO				*e*SN		P	**Sb**	**08 50 44.6**	**+1.9**
PDO	**Prodromos**	**0.91**	**17**	P		P	**Pg**	**08 50 31.2**	**-0.2**
PDO				S		S	**Sb**	**08 50 44.2**	**+1.5**
UPR	**University Cam**	**0.92**	**53**	P		P	**Pb**	**08 50 31.9**	**+0.7**
ITM	**Ithomi**	**1.02**	**122**	P	

VLI	Veliai	1.95	121	*e*PN	Pb	08 50 49.1	+0.4		
VLI	Veliai	1.95	121	*e*Pn	Pb	08 50 49.1	+0.4		
NAIG	Nisos Aigina	2.09	88	*e*PN	Pb	08 50 50.4	-0.8		
NAIG	Nisos Aigina	2.09	88	*e*Pn	Pb	08 50 50.4	-0.8		
KEK	Kerkira	2.14	338	*e*PN	Pb	08 50 52.0	-0.1		
KEK	Kerkira	2.14	338	*e*Pn	Pb	08 50 52.0	-0.1		
SMIA	Simia	2.18	58	*e*PN	Pb	08 50 52.2	-0.5		
SMIA	Simia	2.18	58	*e*Pn	Pb	08 50 52.2	-0.5		
KYTH	Kithira	2.27	129	*e*PN	Pb	08 50 53.7	-0.5		
KYTH	Kithira	2.27	129	*e*Pn	Pb	08 50 53.7	-0.5		
ATH	Athens Observa	2.28	83	*e*PB	Pn	08 50 52.6	+2.1		
ATH	Athens Observa	2.28	83	*e*Pb	Pn	08 50 52.6	+2.1		
MRKA	Markates	2.37	65	*e*PN	Pb	08 50 55.0	-0.9		
MRKA	Markates	2.37	65	*e*Pn	Pb	08 50 55.0	-0.9		
NEO	Neokhori	2.44	49	*e*P	Pn	08 50 54.7	+2.0		
NEO	Neokhori	2.44	49	*e*PB	Pn	08 50 55.2	+2.5		
NEO	Neokhori	2.44	49	P	Pn	08 50 54.7	+2.0		
NEO	Neokhori	2.44	49	*e*Pb	Pn	08 50 55.2	+2.5		
SKIA	Skiathos	2.51	54	*e*PB	Pb	08 50 57.0	-1.2		
SKIA	Skiathos	2.51	54	*e*Pb	Pb	08 50 57.0	-1.2		
KZN	Kozani	2.67	15	*e*PB	Pn	08 50 59.2	+3.2		
KZN	Kozani	2.67	15	*e*Pb	Pn	08 50 59.2	+3.2		
LIT	Litokhoron	2.69	28	*e*PN	Pn	08 50 58.7	+2.5		
LIT	Litokhoron	2.69	28	*e*Pn	Pn	08 50 58.7	+2.5		
FNA	Florina	3.08	7	*e*PN	Pn	08 51 04.3	+2.8		
FNA	Florina	3.08	7	*e*Pn	Pn	08 51 04.3	+2.8		
PLG	Polygyros	3.33	37	*e*PN	Pn	08 51 06.7	+1.8		
PLG	Polygyros	3.33	37	*e*Pn	Pn	08 51 06.7	+1.8		
HORT	Hortiatis	3.36	31	*e*PN	Pn	08 51 07.5	+2.1		
HORT	Hortiatis	3.36	31	*e*Pn	Pn	08 51 07.5	+2.1		
GRG	Griva	3.44	20	*e*PN	Pn	08 51 08.6	+2.1		
GRG	Griva	3.44	20	*e*Pn	Pn	08 51 08.6	+2.1		
APE	Apeiranthos	3.79	99	ǁ*i*P	Pg	08 51 24.2	-2.1		
VAY	Valandovo	3.83	20	*e*PN	Pn	08 51 13.5	+1.8		
VAY	Valandovo	3.83	20	*e*Pn	Pn	08 51 13.5	+1.8		
TAR1	Taranto	3.94	316	*e*Pn	Pn	08 51 16.3	+3.1		
TAR1				*e*Sn	Sn	08 51 59.8	+0.9		
LIA	Limnos Island	4.02	56	*e*PN	Pn	08 51 16.6	+2.2		
LIA	Limnos Island	4.02	56	*e*Pn	Pn	08 51 16.6	+2.2		
PE1	Pezze di Greco	4.06	320	*e*Pn	Pn	08 51 16.5	+1.5		
PE1				*e*Sn	Sn	08 52 02.4	+0.3		
IDI	Anoyia	4.07	126	Pn	Pn	08 51 15.3	+0.2		
	0.8nm,0.3s,baz=322,slow=19,SNR=3.9								
IDI				Sn	Sn	08 52 02.7	+0.3		
	4.0nm,0.3s,baz=162,slow=20,SNR=3.8								
CHOS	Chios island	4.17	79	*e*PN	Pn	08 51 19.4	+3.0		
CHOS	Chios island	4.17	79	*e*Pn	Pn	08 51 19.4	+3.0		
NVR	Nevrokopi	4.30	32	*e*PN	Pn	08 51 20.5	+2.2		
NVR	Nevrokopi	4.30	32	*e*Pn	Pn	08 51 20.5	+2.2		
KAVA	Kavala	4.33	40	*e*PN	Pn	08 51 21.7	+3.1		
KAVA	Kavala	4.33	40	*e*Pn	Pn	08 51 21.7	+3.1		
MMB	Musomiste	4.45	29	*i* P	Pn	08 51 22.7	+2.3		
MMB	Musomiste	4.45	29	ǁ*i*P	Pn	08 51 22.6	+2.2		
MMB	Musomiste	4.45	29	*i* P	Pn	08 51 22.7	+2.3		
KKB	Krupnik	4.48	22	*i* P	Pn	08 51 23.8	+3.1		
KKB				*i* S	Sn	08 52 14.5	+2.2		
KKB	Krupnik	4.48	22	*i* P	Pn	08 51 23.8	+3.1		
KKB				*i* S	Sn	08 52 14.5	+2.2		
SG1	Sgolgore (BA)	4.49	315	*e*Pn	Pn	08 51 23.5	+2.7		
SG1				*e*Sn	Sn	08 52 11.3	-1.3		
CDT	Castel del Mon	4.88	315	*e*Pn	Pn	08 51 28.0	+1.8		
CDT				*e*Sn	Sn	08 52 20.0	-2.2		
RZN	Rozhen	4.95	36	*i* P	Pn	08 51 30.0	+2.6		
RZN	Rozhen	4.95	36	*i* P	Pn	08 51 30.0	+2.6		
VTS	Vitosha	5.18	20	*e*Pn	Pn	08 51 33.0	+2.5		
VTS	Vitosha	5.18	20	*i* P	Pn	08 51 33.0	+2.5		
VTS	Vitosha	5.18	20	ǁ*i*P	Pn	08 51 33.3	+2.8		
VTS	Vitosha	5.18	20	*i* P	Pn	08 51 33.0	+2.5		
KDZ	Kurdzhali	5.27	41	*i* P	Pn	08 51 32.6	+1.0		
KDZ	Kurdzhali	5.27	41	*i* P	Pn	08 51 32.6	+1.0		
TREB	Trebinje	5.34	340	*e*Pn	Pn	08 51 32.1	-0.4		
TREB	Trebinje	5.34	340	*e*Pn	Pn	08 51 32.1	-0.4		
SELS	Selova	5.49	2	*e*Pn	Pn	08 51 35.0	+0.4		
SJES	Sjenica	5.57	353	*e*Pn	Pn	08 51 34.3	-1.5		
SJES	Sjenica	5.57	353	*e*Pn	Pn	08 51 34.3	-1.5		
STON	Ston	5.67	336	*e*Pn	Pn	08 51 37.2	+0.1		
STON				Sn	Sn	08 52 36.3	-5.5		
STON	Ston	5.67	336	*e*Pn	Pn	08 51 36.7	-0.4		
STON	Ston	5.67	336	*e*Pn	Pn	08 51 36.7	-0.4		
ZAPS	Zavoj	5.70	13	*e*Pn	Pn	08 51 40.1	+2.5		
IVAS	Ivanjica	5.87	355	*e*Pn	Pn	08 51 41.0	+1.2		
IVAS	Ivanjica	5.87	355	*e*Pn	Pn	08 51 41.0	+1.2		
MPEP	Malo Peshtene	6.04	20	*i* P	Pn	08 51 44.7	+2.6		
MPEP	Malo Peshtene	6.04	20	*i* P	Pn	08 51 44.7	+2.6		
GRUS	Gruza	6.15	359	*e*Pn	Pn	08 51 44.2	+0.5		
GRUS	Gruza	6.15	359	*e*Pn	Pn	08 51 44.2	+0.5		
BBLS	Lazići	6.23	350	*e*Pn	Pn	08 51 45.2	+0.4		
BBLS	Lazići	6.23	350	*e*Pn	Pn	08 51 45.2	+0.4		
DIVS	Divibare	6.39	354	*e*Pn	Pn	08 51 47.4	+0.3		
DIVS	Divibare	6.39	354	*e*Pn	Pn	08 51 47.4	+0.3		
FGSL	Fruska Gora	7.46	354	*e*Pn	Pn	08 52 00.8	-0.9		
FRGS	Fruska Gora	7.46	354	*e*Pn	Pn	08 52 00.8	-0.9		
GZR	Gura Zlata	7.79	10	ǁ*i*P	Pn	08 52 07.8	+1.5		
GZR	Gura Zlata	7.79	10	ǁ*i*P	Pn	08 52 07.8	+1.5		
UDBI	Udbina	7.80	332	*e*Pn	Pn	08 52 08.5	+2.1		
UDBI				Sn	Sn	08 53 31.7	-2.5		
UDBI	Udbina	7.80	332	*e*Pn	Pn	08 52 08.4	+2.1		
NVLJ	Novalja	8.18	328	*e*Pn	Pn	08 52 11.6	+0.1		
NVLJ				Sn	Sn	08 53 39.5	-3.9		
NVLJ	Novalja	8.18	328	*e*Pn	Pn	08 52 11.6	+0.1		
VOIR		8.32	21	ǁ*i*P	Pn	08 52 16.5	+3.0		
VOIR		8.32	21	ǁ*i*P	Pn	08 52 16.5	+3.0		
MLR	Muntele Rosu	8.64	25	Pn	Pn	08 52 19.6	+1.6		
	0.0nm,0.3s,baz=175,slow=17,SNR=2.4								
MLR				LR	LR	08 56 33.8			
	comp=Z,33nm,21.9s,baz=32,slow=45								
BOJS	Bojanci	8.82	333	*i* Pn	Pn	08 52 21.1	+0.8		
BOJS				*i* Sn	Sn	08 53 56.1	-3.2		
BOJS	Bojanci	8.82	333	Pn	Pn	08 52 21.1	+0.8		
GBRS	Gornja Briga	9.01	332	*i* Pn	Pn	08 52 24.2	+1.3		
PLOR	Plostina	9.20	26	ǁ*i*P	Pn	08 52 29.2	+3.7		
VISS	Visnje	9.23	333	*i* Pn	Pn	08 52 27.8	+1.9		
VISS				*e*Sn	Sn	08 54 06.9	-2.4		
VISS	Visnje	9.23	333	*i* Pn	Pn	08 52 27.8	+1.9		
KEST	Kesra	9.45	261	Pn	Pn	08 52 30.4	+1.4		
	0.1nm,0.3s,baz=76,slow=12,SNR=2.9								
JAVS	Javornik	9.60	330	*i* Pn	Pn	08 52 32.1	+1.1		
JAVS				*i* Sn	Sn	08 54 13.8	-4.7		
JAVS	Javornik	9.60	332	*i* Pn	Pn	08 52 32.1	+1.1		
CRNS	Crni Vrh	9.68	332	*e*Pn	Pn	08 52 33.5	+1.4		
PERS	Pernice	9.86	336	*i* Pn	Pn	08 52 36.1	+1.5		
PERS				*i* Sn	Sn	08 54 19.9	-5.0		
PERS	Pernice	9.86	336	*i* Pn	Pn	08 52 36.1	+1.5		
BRTR	Keskin Array B	10.19	75	Pn	Pn	08 52 40.9	+1.6		
	0.1nm,0.3s,baz=262,slow=12,SNR=3.1								
MOA	Molln	11.21	337	ǁ*i*Pn	Pn	08 52 55.3	+2.3		
GERES	GERESS Array B	12.26	337	Pn	Pn	08 53 09.0	+1.5		
	0.1nm,0.3s,baz=160,slow=12,SNR=2.4								
GERES				Sn	Sn	08 55 19.8	-3.9		
	0.3nm,0.3s,baz=154,slow=25,SNR=5.2								
AKASG	Malin Array Be	14.28	22	Pn	Pn	08 53 33.9	-1.0		
	0.3nm,0.3s,baz=208,slow=11,SNR=3.6								
ESDC	Sonseca Array	19.45	283	P	Pn	08 54 41.4	+0.8		
	0.3nm,0.3s,baz=83,slow=13,SNR=3.4								
HFS	Hagfors	22.88	351	P	P	08 55 16.5	+0.4		
	5.5nm,0.5s,baz=156,slow=11,SNR=27								
EKA	Eskdalemuir Ar	23.94	325	P	P	08 55 27.9	+1.3		
	2.3nm,0.7s,baz=126,slow=12,SNR=5.5								
FINES	FINESS Array B	23.96	6	P	P	08 55 26.7	0.0		
	0.9nm,0.4s,baz=174,slow=12,SNR=6.6								
FINES				PcP	PcP	08 59 08.9	+0.4		
	1.2nm,0.8s,baz=204,slow=3.0,SNR=3.8								
NB2	NORSAR Subarra	24.11	348	P	P	08 55 28.3	+0.1		
	comp=Z,1.2nm,0.5s,baz=161,slow=9.3								
NB2	NORSAR Subarra	24.11	348	P	P	08 55 28.3	+0.1		
	comp=Z,1.2nm,0.5s,SNR=9.3								
NOA	NORSAR Array B	24.11	348	P	P	08 55 28.0	-0.2		
	comp=Z,1.1nm,0.6s,baz=171,slow=8.1,SNR=10.0								
AKTO	Aktyubinsk	29.25	52	P	P	08 56 13.9	-0.6		
	comp=Z,1.3nm,0.3s,baz=264,slow=6.7,SNR=7.6								
TORD	Torodi Ar. Bea	29.85	220	P	P	08 56 21.2	+1.1		
	comp=Z,2.2nm,0.7s,baz=35,slow=9.1,SNR=16								
ARCES	ARCESS Array B	31.96	3	P	P	08 56 38.1	-0.2		
	comp=Z,1.3nm,0.9s,baz=192,slow=10,SNR=8.1								
ARCES				PcP	PcP	08 59 27.5	-0.4		
	comp=Z,2.1nm,1.0s,baz=183,slow=1.8,SNR=3.0								
DBIC	Dimbokro	38.74	224	P	P	08 57 38.6	+1.5		
	comp=Z,1.9nm,0.7s,baz=45,slow=5.7,SNR=3.3								
MKAR	Makanchi Array	45.32	58	P	P	08 58 29.5	-1.0		
	comp=Z,1.1nm,0.5s,baz=285,slow=8.2,SNR=22								
MKAR				PcP	PcP	09 00 10.1	+0.1		
	comp=Z,0.4nm,0.4s,baz=278,slow=4.3,SNR=4.7								
ZALV	Zalesovo Beam	45.80	48	P	P	08 58 33.5	-0.7		
	comp=Z,4.8nm,0.5s,baz=275,slow=9.0,SNR=21								
SCHQ	Schefferville	58.97	318	P	P	09 00 12.6	+0.7		
	comp=Z,1.1nm,0.8s,baz=49,slow=20,SNR=3.0								
SONM	Songino Array	60.54	50	P	P	09 00 22.0	-1.0		
	comp=Z,0.9nm,0.9s,baz=284,slow=7.7,SNR=4.6								
CMAR	Chiang Mai Arr	69.69	82	P	P	09 01 21.4	-1.3		
	comp=Z,1.5nm,0.6s,baz=307,slow=6.1,SNR=8.9								
YKA	Yellowknife Ar	73.90	340	P	P	09 01 47.9	+0.7		
	comp=Z,0.4nm,0.8s,baz=34,slow=5.4,SNR=8.4								
KSRS	Korea Array	79.41	51	P	P	09 02 18.8	0.0		
	comp=Z,1.2nm,0.6s,baz=303,slow=6.0,SNR=3.5								
WRA	Warramunga Arr	120.26	93	PKP	PKPdf	09 09 04.0	-0.1		
	comp=Z,0.2nm,0.4s,baz=316,slow=2.2,SNR=3.4								
ASAR	Alice Springs	121.86	97	PKP	PKPdf	09 09 06.4	-0.7		
	comp=Z,0.8nm,1.1s,baz=320,slow=1.6,SNR=4.5								

BJI ***25*** *09:07:48.7,3.˚38N×126.˚91E,h54km,mB5.0/23,mb4.6/37, Ms4.6/17,Ms7 4.3/17*
MOS ***25*** *09:07:48.5±0.9,3.˚56N×126.˚88E,h43km,mb4.9/19,Error ellipse: s-maj=20.9km s-min=7.2km az=111.1*
DJA ***25*** *09:07:49.8±0.8,4.˚N±7.˚×12.˚7E±.˚,h10km,M4.6/11,mb4.7/9, mB5.2/7,MLv4.7/11,Mw(mB)4.5/7*
ISCJB ***25*** *09:07:49.2±0.2,3.˚71N±0.˚03×127.˚15E±0.˚04,h48km, mb4.6/52,MS3.8/12,Error ellipse: s-maj=6.2km s-min=3.7km az=163.5*
NEIC ***25*** *09:07:50.2±0.9,3.˚62N×127.˚01E,h44km±8km,mb4.8/19, Error ellipse: s-maj=10.6km s-min=5.0km az=73.0*
IDC ***25*** *09:07:51.1±3.8,3.˚62N×127.˚05E,h51km±33km,mb4.1/16, mb1 4.2/16,mb1mx4.1/30,mbtmp4.4/16,MS3.5/7, Ms1 3.5/7,ms1mx3.2/34,Error ellipse: s-maj=31.5km s-min=11.3km az=72.0*

ISC 25 09:07:51.1±0.4,3.˚69N±0.˚04×127.˚10E±0.˚06,h48km,n142, σ1ᵖ32/165,mb4.7/51,MS3.7/13,4C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SGSI	**Sangihe**	**1.57**	**270**	P		**Pn**	**09 08 17.5**	**+1.0**
SGSI				S		**Sn**	**09 08 37.3**	**+1.6**
TNTI	**Ternate**	**2.91**	**175**	P		**Pn**	**09 08 35.8**	**+0.8**
TNTI				S		**Sn**	**09 09 13.0**	**+4.3**
TNTI	**Ternate**	**2.91**	**175**	*e*Pn		**Pn**	**09 08 33.4**	**-1.6**
GSPH	**General Santos**	**3.20**	**318**	ǁ*i*P		Pn	09 08 34.4	-4.7
DAV	**Davao City (W)**	**3.68**	**336**	*e*Pn		**Pn**	**09 08 46.5**	**+0.9**
LBMI	**Labuha**	**4.32**	**175**	P		**Pn**	**09 08 54.3**	**0.0**
KMSI	**Cibinong**	**4.39**	**225**	P		**Pn**	**09 08 58.0**	**+2.7**
GTOI	**Gorontalo**	**5.09**	**233**	P		**Pn**	**09 09 07.0**	**+2.1**
	92nm,0.8s,999nm0.3nm							
SANI	**Sanana**	**5.81**	**191**	P		Pn	09 09 10.8	-4.0
MRSI	**Marisa**	**6.06**	**238**	P		**Pn**	**09 09 20.7**	**+2.5**
	103nm,0.6s,2μm0.5nm							
SWI	**Sorong**	**6.14**	**137**	P		**Pn**	**09 09 19.9**	**+0.5**
	87nm,0.7s,0.3nm							
LUWI	**Luwuk**	**6.38**	**223**	P		**Pn**	**09 09 25.1**	**+2.4**
	82nm,1.1s,4μm0.6nm							
LUWI	**Luwuk**	**6.38**	**223**	*e*Pn		**Pn**	**09 09 20.3**	**-2.4**
NLAI	**Namlea**	**6.88**	**180**	P		**Pn**	**09 09 30.3**	**+0.8**
	51nm,1.1s,1μm0.4nm							
APSI	**Ampana**	**7.11**	**230**	P		Pn	09 09 36.5	+3.9
	72nm,1.1s,1μm0.3nm							
MSAI	**Masohi**	**7.22**	**165**	P		**Pn**	**09 09 36.8**	**+2.6**
	9.0nm,1.1s,615nm0.1nm							
FAKI	**Fak Fak**	**8.34**	**142**	P		**Pn**	**09 09 50.3**	**+0.7**
	38nm,1.9s							
FAKI	**Fak Fak**	**8.34**	**142**	P		**Pn**	**09 09 50.6**	**+1.0**
	baz=7.4,SNR=6.5							
TTSI	**Tana Toraja**	**9.88**	**227**	P		**Pn**	**09 10 12.3**	**+1.7**
SBUM	**Sibu**	**14.91**	**266**	*e*Pn		**Pn**	**09 11 16.1**	**-2.8**
JAY	**Jayapura**	**14.93**	**114**	LR		LR	09 16 52.1	
	comp=Z,131nm,18.6s,baz=320,slow=36							
MTN	**Manton Dam**	**16.91**	**166**	P		**Pn**	**09 11 42.5**	**-2.0**
	baz=16,SNR=11							
KNRA	**Kununurra**	**19.31**	**175**	P		**P**	**09 12 11.8**	**-0.6**
	baz=19,SNR=11							
TWG	**Pinlang**	**19.89**	**343**	*e*P		**P**	**09 12 17.3**	**-1.4**
	89nm,0.5s							
DLV	**T Lat**	**20.16**	**295**	P		**P**	**09 12 21.9**	**0.0**
YULB	**Yu-li**	**20.38**	**345**	*e*P		**P**	**09 12 22.2**	**-1.8**
	15nm,0.4s							
TPUB	**Ta-pu**	**20.48**	**343**	*e*P		**P**	**09 12 23.7**	**-1.4**
	100nm,0.6s							
SSLB	**Suanglung**	**20.84**	**344**	*e*P		**P**	**09 12 27.1**	**-1.9**
	30nm,0.7s							
QIZ	**Qiongzhong**	**22.73**	**313**	P		**P**	**09 12 48.0**	**-1.3**
QIZ				S		**S**	**09 16 55.8**	**+1.1**
QIZ				LR		LR		
	comp=Z,290nm,23.6s							
PMG	**Port Moresby**	**23.85**	**123**	LR		LR	09 23 12.7	
	comp=Z,142nm,18.7s,baz=328,slow=39							
WRAB	**Tennant Creek**	**24.53**	**163**	*c* ǁP		**P**	**09 13 05.1**	**-1.4**
WRAB				pmax		pmax		
	comp=Z,22nm,1.0s							
WRAB	**Tennant Creek**	**24.53**	**163**	*e*P		**P**	**09 13 05.0**	**-1.4**
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**24.54**	**163**	P		**P**	**09 13 05.2**	**-1.3**
WRA				S		**S**	**09 17 23.8**	**-0.2**
WRA	**Warramunga Arr**	**24.54**	**163**	P		**P**	**09 13 05.2**	**-1.3**
	comp=Z,7.4nm,0.6s,baz=344,slow=10,SNR=31							
WRA				S		**S**	**09 17 23.8**	**-0.2**
	comp=Z,2.8nm,1.1s,baz=346,slow=17,SNR=4.0							
QIS	**Mount Isa**	**27.04**	**153**	P		P	09 13 23.8	-5.4
	baz=26,SNR=5.9							
JCJ	**Chichijima**	**27.38**	**30**	LR		LR	09 22 37.2	
	comp=Z,68nm,20.9s,baz=296,slow=32							
AS31	**Alice Springs**	**27.99**	**167**	*e*P		**P**	**09 13 36.9**	**-0.7**
ASAR	**Alice Springs**	**27.99**	**167**	P		**P**	**09 13 36.6**	**-1.0**
ASAR	**Alice Springs**	**27.99**	**167**	P		**P**	**09 13 36.6**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=343,slow=7.2,SNR=15							
PSI	**Prapat**	**28.14**	**269**	LR		LR	09 25 37.2	
	comp=Z,104nm,21.6s,baz=45,slow=38							
WRKA	**Warakurna**	**28.58**	**178**	P		**P**	**09 13 42.4**	**-0.5**
	baz=28,SNR=20							
NJ2	**Nanjing**	**29.26**	**346**	*e*P		**P**	**09 13 49.5**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**29.93**	**321**	*e*P		**P**	**09 13 55.8**	**+0.9**
GYA				pP		**pP**	**09 14 07.5**	**0.0**
GYA				sP		**sP**	**09 14 13.0**	**-0.2**
GYA				PP		**PnPn**	**09 14 54.3**	**+1.4**
GYA				PcP		**PcP**	**09 16 57.8**	**+0.9**
GYA				S		**S**	**09 18 50.0**	**+0.6**
GYA				ScP		**ScP**	**09 20 35.3**	**0.0**
GYA				ScS		**ScS**	**09 24 28.5**	**-2.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,90nm,4.7s							
GYA				LR		LR		
	comp=Z,460nm,17.5s							
GYA				LR		LR		
	comp=Z,390nm,18.4s							
GYA				LR		LR		
	comp=Z,470nm,17.8s							
CMAR	**Chiang Mai Arr**	**31.21**	**300**	P		**P**	**09 14 06.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.21**	**300**	P		**P**	**09 14 06.3**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=127,slow=7.7,SNR=13							
MEEK	**Meekatharra**	**31.25**	**195**	P		**P**	**09 14 07.4**	**+1.0**
	baz=32,SNR=5.6							
KMI	**Kunming**	**31.67**	**315**	P		**P**	**09 14 10.5**	**+0.1**
KMI				pmax		pmax		
	comp=Z,13nm,0.6s							
KSAR	**Wonju Array Be**	**33.60**	**1**	P		**P**	**09 14 27.4**	**+0.6**
KSRS	**Korea Array**	**33.61**	**1**	P		**P**	**09 14 27.5**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=179,slow=9.1,SNR=4.4							
XAN	**Xi'an**	**34.62**	**333**	P		**P**	**09 14 34.5**	**-1.3**
XAN				pP		**pP**	**09 14 46.8**	**-1.7**
XAN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
XAN				LR		LR		
	comp=Z,150nm,15.3s							
CD2	**Chengdu**	**34.89**	**323**	P		**P**	**09 14 37.8**	**-0.5**
CD2				sP		**sP**	**09 14 54.0**	**-2.6**
CD2				PP		**PnPn**	**09 15 56.0**	**-0.1**
CD2				S		**S**	**09 20 05.0**	**-1.4**
CD2				pmax		pmax		
	comp=Z,20nm,0.7s							
CD2				pmax		pmax		
	comp=Z,220nm,8.2s							
CD2				LR		LR		
	comp=Z,220nm,19.0s							
CD2				LR		LR		
	comp=Z,210nm,16.6s							
HNR	**Honiara**	**35.23**	**112**	LR		LR	09 28 31.5	
	comp=Z,77nm,21.4s,baz=299,slow=35							
BBOO	**Buckleboo**	**37.28**	**167**	P		**P**	**09 14 57.8**	**-0.7**
	baz=37,SNR=21							
BJT	**Baijiatuau**	**37.49**	**346**	*e*P		**P**	**09 15 01.6**	**+1.3**
	comp=Z,15nm,0.6s							
BJI	**Beijing**	**37.51**	**346**	P		**P**	**09 15 01.3**	**+0.9**
BJI				pmax		pmax		
	comp=Z,34nm,0.9s							
BJI				pmax		pmax		
	comp=Z,190nm,7.0s							
STKA	**Stephens Creek**	**37.96**	**160**	*e*P		**P**	**09 15 03.8**	**-0.5**
	comp=Z,2.1nm,0.6s							
STKA	**Stephens Creek**	**37.96**	**160**	P		**P**	**09 15 03.9**	**-0.5**
	comp=Z,11nm,0.6s,baz=333,slow=8.4,SNR=54							
STKA	**Stephens Creek**	**37.96**	**160**	P		**P**	**09 15 03.7**	**-0.7**
	baz=38,SNR=33							
LZH	**Lanzhou**	**38.73**	**329**	*e*P		**P**	**09 15 12.3**	**+1.4**
LZH				pP		**pP**	**09 15 22.5**	**-1.2**
LZH				sP		**sP**	**09 15 28.3**	**-1.1**
LZH				pmax		pmax		
	comp=Z,23nm,1.1s							
LZH				pmax		pmax		
	comp=Z,95nm,4.3s							
HHC	**Hu-ho-hao-te**	**39.55**	**341**	*e*P		**P**	**09 15 18.8**	**+1.1**
HHC				PP		**PnPn**	**09 16 55.0**	**+2.5**
HHC				S		**S**	**09 21 17.0**	**-0.1**
HHC				sS		**sS**	**09 21 37.5**	**-1.1**
HHC				SS		**SS**	**09 24 12.5**	**-1.0**
HHC				pmax		pmax		
	comp=Z,350nm,6.4s							
HHC				LR		LR		
	comp=Z,400nm,14.7s							
HHC				LR		LR		
	comp=Z,360nm,15.2s							
HHC				LR		LR		
	comp=Z,290nm,13.0s							
CN2	**Changchun**	**39.97**	**358**	*e*P		**P**	**09 15 22.8**	**+1.8**
CN2				*e*PP		**PnPn**	**09 16 59.8**	**+2.5**
CN2				*e*S		**S**	**09 21 26.5**	**+3.5**
CN2				LR		LR		
	comp=Z,300nm,13.0s							
CN2				LR		LR		
	comp=Z,300nm,13.0s							
CN2				LR		LR		
	comp=Z,300nm,13.0s							
SHL	**Shillong**	**40.20**	**306**	*ex*		**P**	**09 15 25.0**	**+1.6**
MDJ	**Mudanjiang**	**40.82**	**3**	P		P	09 15 33.8	+5.8
MDJ				pmax		pmax		
	comp=Z,15nm,2.3s							
MDJ				pmax		pmax		
	comp=Z,130nm,3.9s							
ARPS	**Mount Arapiles**	**42.53**	**162**	P		**P**	**09 15 42.7**	**+0.6**
	baz=42,SNR=5.3							
LSA	**Lhasa**	**42.74**	**311**	*e*P		**P**	**09 15 44.1**	**-0.4**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
LSA	**Lhasa**	**42.74**	**311**	*e*P		**P**	**09 15 44.1**	**-0.4**
	comp=Z,10nm,0.6s							
GTA	**Gaotai**	**43.32**	**329**	*e*P		**P**	**09 15 48.8**	**+0.2**
GTA				pP		**pP**	**09 16 01.5**	**-0.1**

comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s
BKZ Black Stump Fm 62.31 138 *e*P **P 09 18 08.2 -0.5**
comp=Z,9.4nm,0.8s
KK31 Karatay Array 63.51 317 *i* P **P 09 18 15.7 -0.9**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 67.63 327 *e*P **P 09 18 43.0 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 67.63 327 *e*P **P 09 18 43.0 +0.1**
comp=Z,7.4nm,0.7s
TIXI Tiksi 67.88 1 *i* P P 09 18 47.4 +3.3
TIXI pmax pmax
comp=Z,4.0nm,1.0s
AB31 Akbulak array 72.41 321 *i* P **P 09 19 12.0 -0.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 73.92 322 LR LR 09 54 49.4
comp=Z,79nm,18.4s,slow=38
SVE Sverdlovsk 74.19 328⇑ *i*P **P 09 19 23.4 +0.7**
SVE pmax pmax
comp=Z,34nm,0.9s
ARU Arti 75.17 328 *d i*P **P 09 19 28.0 -0.3**
ARU 09 22 15.3
ARU S **S 09 29 05.8 +2.4**
ARU SS **SS 09 33 48.8 -4.6**
ARU pmax pmax
comp=Z,30nm,0.8s
ARU Arti 75.17 328 *e*P **P 09 19 28.2 -0.2**
comp=Z,25nm,0.7s
COLD Coldfoot 83.79 23 *e*P **P 09 20 16.8 +1.7**
comp=Z,7.2nm,0.9s
PMR Palmer 83.81 29 *e*P **P 09 20 15.3 +0.1**
PMR pmax pmax
comp=Z,23nm,1.4s
PMR Palmer 83.81 29 *e*P **P 09 20 15.3 +0.1**
comp=Z,23nm,1.4s
MCK McKinley 84.04 26 *e*P **P 09 20 16.5 +0.1**
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 84.04 26 *e*P **P 09 20 16.5 +0.1**
comp=Z,7.2nm,0.8s
ILAR Eielson Array 84.98 25 P P **09 20 21.0 -0.1**
ILAR Eielson Array 84.98 25 P **P 09 20 21.0 -0.1**
comp=Z,1.0nm,0.7s,baz=241,slow=5.9,SNR=15
KLMR Klimovskoe 85.62 331 *e*P **P 09 20 24.9 +0.6**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 87.31 325 *i* P **P 09 20 31.6 -1.1**
OBN pmax pmax
comp=Z,29nm,1.2s
BRTR Keskin Array B 90.33 310 P **P 09 20 47.0 -0.5**
BRTR Keskin Array B 90.33 310 P **P 09 20 47.0 -0.5**
comp=Z,2.3nm,1.0s,baz=81,slow=6.7,SNR=3.6
ARCES ARCESS Array B 90.61 340 P **P 09 20 47.4 -0.7**
ARCES ARCESS Array B 90.61 340 P **P 09 20 47.4 -0.7**
comp=Z,2.2nm,0.8s,baz=68,slow=3.3,SNR=5.4
FINES FINESS Array B 92.04 332 P **P 09 20 53.7 -1.1**
FINES FINESS Array B 92.04 332 P **P 09 20 53.7 -1.1**
comp=Z,1.0nm,0.7s,baz=44,slow=4.2,SNR=3.7
AKASG Malin Array Be 92.16 321 P **P 09 20 54.7 -0.9**
AKASG Malin Array Be 92.16 321 P **P 09 20 54.7 -0.9**
AKASG Malin Array Be 92.16 321 P **P 09 20 54.7 -0.9**
comp=Z,0.7nm,0.7s,baz=72,slow=4.2,SNR=4.8
NOA NORSAR Array B 98.99 334 P **P 09 21 25.4 -1.2**
NOA NORSAR Array B 98.99 334 P **P 09 21 25.4 -1.2**
comp=Z,1.1nm,0.9s,baz=30,slow=1.7,SNR=2.8
YKA Yellowknife Ar 99.38 24 P **Pdif 09 21 28.4 +0.2**
YKA Yellowknife Ar 99.38 24 P **Pdif 09 21 28.4 +0.2**
comp=Z,0.3nm,0.7s,baz=301,slow=4.7,SNR=9.0
TORD Torodi Ar. Bea 123.28 288 PKP **PKPdf 09 26 44.2 +0.3**
TORD Torodi Ar. Bea 123.28 288 PKP **PKPdf 09 26 44.2 +0.3**
comp=Z,0.5nm,0.7s,baz=83,slow=1.8,SNR=2.8

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*DJA **25** 09:17:14.1±0.8,0°N±12°×13°2E±°, h136km±13km, M4.6/3, MLv4.6/3*
*IDC **25** 09:17:25.6±2.5,0°76S×130°96E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/33, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=185.7km s-min=22.4km az=70.0*
*ISCJB **25** 09:17:30.4±0.9, 1°21S±0°08×130°51E±0°10, h33km, mb3.9/3, Error ellipse: s-maj=14.7km s-min=11.2km az=149.9*
ISC 25 09:17:31.9±1.1, 1°23S±0°09×130°55E±0°08, h35km, n10, σ2s72/8, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.80**	**63**	P	**Pn**	**09 17 46.3**	**-0.3**
SWI				S	Sn	09 18 01.3	+4.0
FAKI	**Fak Fak**	**2.39**	**135**	P	**Pn**	**09 18 07.3**	**-1.2**
MSAI	**Masohi**	**2.65**	**218**	P	Pn	09 18 21.4	+9.2
LBMI	**Labuha**	**3.11**	**281**	P	**Pn**	**09 18 17.9**	**-0.5**
MWPI	**Manokwari, Pap**	**3.50**	**85**	P	x	09 17 58.6	
MWPI				S	x	09 18 27.9	
KMPI	**Kaimana, Papua**	**3.97**	**128**	P	Pn	09 18 19.4	-11
WRA	**Warramunga Arr**	**18.96**	**169**	P	**Pn**	**09 21 53.0**	**+1.9**
	0.3nm,0.3s,baz=353,slow=11,SNR=9.2						
WRA				S	**Sn**	**09 25 18.4**	**-4.2**
	0.1nm,0.3s,baz=350,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**22.54**	**172**	P	**P**	**09 22 32.2**	**+3.2**
	5.4nm,0.9s,baz=354,slow=9.4,SNR=25						
STKA	**Stephens Creek**	**32.22**	**162**	P	**P**	**09 23 57.9**	**+1.0**
	0.5nm,0.4s,baz=344,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**63.78**	**325**	P	**P**	**09 27 58.7**	**-1.8**
	1.0nm,0.5s,baz=106,slow=7.4,SNR=16						

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*IDC **25** 09:46:22.6±2.8,54°69N×86°71E, h0km, mb1 3.3/2, mb1mx3.1/30, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=24.8km s-min=15.7km az=55.0*
*NNC **25** 09:46:26.4±4.0,54°45N×86°63E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=34.0km s-min=27.0km az=165.0*
ISC 25 09:46:27.1±4.8, 54.7N±0.2×86.8E±0.2, h35km, n7, σ0s78/9, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**238**	*i*		09 53 30.0	
	baz=53,slow=350,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.38**	**238**	Pg	Pn	09 46 46.0	-3.8
	4.2nm,0.3s,baz=56,slow=16,SNR=32						
ZALV				Lg	Lg	09 47 05.2	
	5.4nm,0.3s,baz=56,slow=28,SNR=20						
KURK	**Kurchatov**	**6.37**	**235**	⇑Pn	**Pn**	**09 47 58.6**	**+0.3**
	2.4nm,0.8s						
KURK				⇑Sn	**Sn**	**09 49 11.1**	**+1.4**
	1.6nm,1.0s						
KURK				⇓Lg	Lg	09 49 43.7	
	5.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.47**	**234**	⇑Pn	**Pn**	**09 47 59.2**	**-0.6**
	5.2nm,0.8s						
KURBB				⇑Sn	**Sn**	**09 49 11.9**	**-0.5**
	5.0nm,0.6s						
KURBB				⇑Lg	Lg	09 49 50.7	
	18nm,0.8s						
KURBB	**Kurchatov Arra**	**6.47**	**234**	Pn	**Pn**	**09 47 59.1**	**-0.6**
	0.5nm,0.3s,baz=51,slow=14,SNR=23						
KURBB				Lg	Lg	09 49 50.6	
	0.2nm,0.3s,baz=52,slow=33,SNR=6.7						
MKAR	**Makanchi Array**	**8.40**	**202**	Pn	**Pn**	**09 48 26.4**	**+0.1**
	0.2nm,0.3s,baz=18,slow=15,SNR=16						
MKAR				Sn	**Sn**	**09 49 59.6**	**-0.3**
	0.1nm,0.3s,baz=19,slow=30,SNR=6.6						
MKAR				Lg	Lg	09 50 45.0	
	0.1nm,0.3s,baz=19,slow=34,SNR=5.6						
MK02	**Makanchi Array**	**8.42**	**202**	⇓Pn	**Pn**	**09 48 27.2**	**+0.6**
	0.4nm,0.6s						
MK02				⇑Sn	**Sn**	**09 49 59.8**	**-0.6**
	1.3nm,0.7s						
MK02				⇑Lg	Lg	09 50 44.2	
	5.9nm,0.9s						

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*IDC **25** 09:56:04.1±0.7,50°71N×173°12W, h0km, mb4.3/24, mb1 4.4/27, mb1mx4.3/44, mbtmp4.3/27, ML4.1/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/35, Error ellipse: s-maj=19.7km s-min=10.1km az=1.0*
*ISCJB **25** 09:56:08.2±0.5, 50°93N±0°04×173°06W±0°02, h34km±4km, mb4.5/81, MS3.9/4, Error ellipse: s-maj=6.9km s-min=2.5km az=178.0*

*MOS **25** 09:56:08.2±1.1, 50°92N×173°15W, h33km, mb4.6/31, Error ellipse: s-maj=9.9km s-min=7.2km az=86.4*
*NEIC **25** 09:56:08.8±1.0, 50°83N×173°14W, h27km±6km, mb4.6/45, Error ellipse: s-maj=6.4km s-min=2.1km az=178.0*
*BJI **25** 09:56:09.4, 51°41N×173°79W, h20km, mB4.9/11, mb4.7/16, Ms4.6/6, Ms7 4.2/7*
ISC 25 09:56:08.6±0.6, 50.89N±0°08×173°15W±0°03, h24km±3km, h23km:pP-P, n493, σ0s91/526, mb4.5/82, MS4.1/4, 127C-137D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**2.16**	**304**	P	**Pn**	**09 56 42.9**	**-0.1**
GSTR	**Great Sitkin T**	**2.19**	**305**	*e*Pn	**Pn**	**09 56 43.8**	**+0.4**
GSCK	**Great Sitkin C**	**2.20**	**302**	P	**Pn**	**09 56 43.4**	**-0.2**
GSTD	**Great Sitkin T**	**2.21**	**303**	P	**Pn**	**09 56 43.9**	**0.0**
GSTD				S	**Sn**	**09 57 09.9**	**-0.5**
ETKA	**Kagalaska Isla**	**2.26**	**297**	P	**Pn**	**09 56 44.5**	**0.0**
ETKA				S	**Sn**	**09 57 09.8**	**-1.8**
ADAG	**Mount Adagdak**	**2.42**	**298**	P	**Pn**	**09 56 47.6**	**+0.9**
KIRH	**Kanaga Island**	**2.67**	**294**	P	**Pn**	**09 56 50.7**	**+0.6**
KIKV	**Kanaga Island**	**2.71**	**293**	P	**Pn**	**09 56 51.1**	**+0.5**
TAFL	**Tanaga Flats**	**3.10**	**288**	P	**Pn**	**09 56 56.9**	**+0.8**
TAFL				S	**Sn**	**09 57 32.8**	**+0.4**
TAFP	**Tanaga Falls P**	**3.19**	**290**	P	**Pn**	**09 56 58.1**	**+0.8**
TAFP				S	**Sn**	**09 57 34.8**	**+0.2**
TASE	**Tanaga Southea**	**3.21**	**289**	P	**Pn**	**09 56 58.5**	**+1.0**
TANO	**Tanaga North**	**3.28**	**290**	P	**Pn**	**09 56 59.7**	**+1.2**
TANO				S	**Sn**	**09 57 38.6**	**+1.9**
GAEA	**Gareloi East**	**3.62**	**286**	P	**Pn**	**09 57 04.4**	**+1.2**
GALAA	**Gareloi Lava P**	**3.63**	**286**	P	**Pn**	**09 57 04.5**	**+1.2**
GANE	**Gareloi Northe**	**3.65**	**287**	P	**Pn**	**09 57 04.8**	**+1.2**
GANE				S	**Sn**	**09 57 45.8**	**-0.1**
OKFG	**Magazine Ridge**	**4.09**	**50**	P	**Pn**	**09 57 09.6**	**0.0**
OKFG				S	**Sn**	**09 57 55.3**	**-1.5**
MSOM	**Makushin Julie**	**4.80**	**50**	P	**Pn**	**09 57 19.2**	**-0.1**
MSOM	**Makushin Julie**	**4.80**	**50**	P	**Pn**	**09 57 19.2**	**-0.1**
MREP	**Makushin Rep't**	**4.89**	**51**	P	**Pn**	**09 57 21.1**	**+0.4**
MSW	**Makushin Switc**	**4.94**	**50**	P	**Pn**	**09 57 21.2**	**0.0**
MSW				S	**Sn**	**09 58 15.7**	**-1.8**
UNV	**Unalaska Valle**	**5.03**	**51**	P	**Pn**	**09 57 22.3**	**-0.2**
UNV				S	**Sn**	**09 58 17.9**	**-1.9**
AKMO	**Akutan Morgan**	**5.41**	**51**	P	**Pn**	**09 57 28.5**	**+0.8**
AKMO				S	**Sn**	**09 58 27.2**	**-2.0**
ZRO	**Akutan Zero**	**5.43**	**51**	P	**Pn**	**09 57 28.6**	**+0.7**
ZRO				S	**Sn**	**09 58 29.7**	**+0.1**
AKUT	**Akutan**	**5.55**	**51**	P	**Pn**	**09 57 30.0**	**+0.4**
AKUT				S	**Sn**	**09 58 31.4**	**-1.3**
WESE	**West Dahl East**	**6.32**	**52**	P	**Pn**	**09 57 40.7**	**+0.4**
WESN	**West Dahl Nort**	**6.37**	**51**	P	**Pn**	**09 57 41.9**	**+1.0**
SPIA	**Saint Paul Isl**	**6.53**	**14**	P	**Pn**	**09 57 42.2**	**-0.8**
SSBA	**Shishaldin**	**6.71**	**51**	P	**Pn**	**09 57 45.8**	**+0.2**
SSLW	**Shishaldin Wes**	**6.71**	**51**	P	**Pn**	**09 57 45.9**	**+0.4**
SSLN	**Shishaldin Nor**	**6.79**	**51**	P	**Pn**	**09 57 47.5**	**+0.8**
FALS	**False Pass**	**7.10**	**52**	P	**Pn**	**09 57 51.1**	**+0.2**
DRIA	**Deer Island**	**7.74**	**54**	P	**Pn**	**09 57 59.1**	**-0.6**
DTNA	**Dutton South F**	**7.83**	**53**	P	**Pn**	**09 58 00.5**	**-0.4**
DOL	**Dolgoi Island**	**8.03**	**54**	P	**Pn**	**09 58 03.3**	**-0.3**
PS4A	**Pavlof South-4**	**8.12**	**52**	P	**Pn**	**09 58 05.7**	**+0.8**
FX1	**Attu Island--F**	**8.70**	**289**	*e*Pn	**Pn**	**09 58 11.6**	**-1.3**
FX1				Sn	**Sn**	**09 59 46.6**	**-3.6**
FX1	**Attu Island--F**	**8.70**	**289**	Pn	**Pn**	**09 58 11.9**	**-1.0**
	5.9nm,0.3s,baz=169,slow=3.0,SNR=83						
FX1				Sn	**Sn**	**09 59 46.6**	**-3.6**
	0.8nm,0.3s,baz=105,slow=20,SNR=2.2						
SDPT	**Sand Point**	**8.83**	**55**	P	**Pn**	**09 58 13.7**	**-0.8**
CHGN	**Chignik**	**10.29**	**53**	*e*Pn	**Pn**	**09 58 33.2**	**-1.3**
PPLA	**Purkeypile**	**16.50**	**35**	*e*Pn	**P**	**09 59 59.8**	**-1.1**
	62nm,1.8s						
KTH	**Kantishna Hill**	**17.36**	**35**	*e*Pn	**P**	**10 00 09.7**	**-0.5**
	84nm,1.1s						
PET	**Petropavlovsk**	**17.47**	**288**	*c i*P	**P**	**10 00 11.4**	**0.0**
PET				pmax	pmax		
	comp=Z,15nm,1.2s						
TRF	**Thorofare Moun**	**17.53**	**35**	*e*P	**P**	**10 00 13.0**	**+0.8**
	comp=Z,65nm,2.1s						
PETK	**Petropavlovsk-**	**18.04**	**288**	P	**P**	**10 00 17.5**	**-0.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**18.04**	**288**	P	**P**	**10 00 17.5**	**-0.2**
PETK	**Petropavlovsk-**	**18.04**	**288**	P	**P**	**10 00 17.5**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=95,slow=14,SNR=26						
PETK				LR	LR	10 06 34.0	
	comp=Z,88nm,21.2s,baz=98,slow=35						
IM04	**Indian Mountai**	**18.07**	**26**	*e*Pn	**Pn**	**10 00 17.9**	**+0.2**
MCK	**McKinley**	**18.18**	**36**	*e*P	**Pn**	**10 00 18.4**	**-0.7**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MCK	**McKinley**	**18.18**	**36**	*e*Pn	**Pn**	**10 00 18.4**	**-0.7**
	comp=Z,9.2nm,1.0s						
RAGM	**Ragged Mountai**	**18.52**	**48**	*e*Pn	**Pn**	**10 00 25.6**	**+2.2**
	comp=Z,34nm,0.8s						
BMRM	**Bremner River**	**18.75**	**46**	*e*Pn	**Pn**	**10 00 27.6**	**+1.6**
	comp=Z,31nm,1.2s						
COLA	**College**	**19.22**	**34**	*e*P	**P**	**10 00 30.2**	**-0.4**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
COLA	**College**	**19.22**	**34**	*e*P	**P**	**10 00 30.1**	**-0.4**
	comp=Z,2.2nm,1.0s						
ILAR	**Eielson Array**	**19.50**	**35**	P	**P**	**10 00 32.4**	**-1.3**
ILAR				S	S	10 04 02.9	-10
ILAR	**Eielson Array**	**19.50**	**35**	P	**P**	**10 00 32.4**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=237,slow=10.0,SNR=72						
ILAR				S	S	10 04 02.9	-10
	comp=Z,0.1nm,0.3s,baz=227,slow=18,SNR=2.7						
ILAR				LR	LR	10 08 56.7	
	comp=Z,57nm,20.1s,baz=253,slow=39						
MENT	**Mentasta**	**19.87**	**41**	*e*P	**P**	**10 00 37.2**	**-0.5**
BILL	**Bilibino**	**19.94**	**337**	*c i*P	**P**	**10 00 38.9**	**+0.5**
BILL				pmax	pmax		
	comp=Z,33nm,1.3s						
BILL				MLR	MLR		
	comp=Z,69nm,22.0s						
BILL	**Bilibino**	**19.94**	**337**	*e*P	**P**	**10 00 39.0**	**+0.6**
COLD	**Coldfoot**	**19.97**	**26**	*e*P	**P**	**10 00 39.6**	**+0.8**
	comp=Z,16nm,1.1s						
EGAK	**Eagle**	**21.66**	**38**	*e*P	**P**	**10 00 57.1**	**+0.1**
	comp=Z,863nm,1.3s						
SEY	**Seymchan**	**22.03**	**316**	*e*P	**P**	**10 01 00.6**	**-0.4**
SEY	**Seymchan**	**22.03**	**316**	P	**P**	**10 01 01.2**	**+0.3**
SEY	**Seymchan**	**22.03**	**316**	P	**P**	**10 01 01.2**	**+0.3**
	comp=Z,9.4nm,1.0s,baz=104,slow=10,SNR=22						
HYT	**Haines Junctio**	**22.06**	**49**	*e*P	**P**	**10 01 02.5**	**+1.0**
DLBC	**Dease Lake**	**25.67**	**56**	*e*P	**P**	**10 01 38.9**	**+2.5**
DLBC	**Dease Lake**	**25.67**	**56**	P	**P**	**10 01 37.9**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=263,slow=8.1,SNR=5.1						
INK	**Inuvik**	**25.88**	**33**	*e*P	**P**	**10 01 38.5**	**+0.5**
INK	**Inuvik**	**25.88**	**33**	P	**P**	**10 01 37.6**	**-0.4**
	comp=Z,9.4nm,0.4s,baz=246,slow=7.0,SNR=52						
INK				LR	LR	10 13 23.0	
	comp=Z,61nm,19.8s,baz=49,slow=40						
YAK	**Yakutsk**	**32.40**	**312**	*i* P	**P**	**10 02 33.5**	**-2.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TIXI	**Tiksi**	**32.82**	**330**	*e*P	**P**	**10 02 39.0**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**32.82**	**330**	*e*P	**P**	**10 02 39.1**	**-0.5**
	comp=Z,2.7nm,0.7s						
YKA	**Yellowknife Ar**	**32.98**	**47**	P	**P**	**10 02 41.6**	**+0.5**
YKA				PcP	**PcP**	**10 05 24.3**	**-0.2**
YKA	**Yellowknife Ar**	**32.98**	**47**	P	**P**	**10 02 41.6**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=272,slow=7.9,SNR=47						
YKA				PcP	**PcP**	**10 05 24.3**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=285,slow=2.9,SNR=17						
I03D	**Drain, OR**	**33.98**	**82**	⇑P	**P**	**10 02 51.1**	**+1.1**
	baz=34						
H04A	**Detroit Lake**	**34.22**	**80**	*e*P	**P**	**10 02 53.1**	**+1.0**
	comp=Z,24nm,0.8s						
B08A	**Colville Reser**	**34.31**	**73**	*e*P	**P**	**10 02 53.1**	**+0.1**
	comp=Z,7.9nm,0.8s						
G05D	**Wamic, OR**	**34.49**	**79**	⇑P	**P**	**10 02 55.3**	**+0.8**
	baz=34						
I04A	**Tendick Farm,**	**34.52**	**82**	⇓P	**P**	**10 02 55.6**	**+0.8**
	baz=34						
HAWA	**Hanford**	**35.05**	**76**	*e*P	**P**	**10 02 59.8**	**+0.4**
	comp=Z,9.1nm,0.9s						
D08A	**Wollman Farm,**	**35.13**	**75**	*e*P	**P**	**10 02 59.9**	**-0.1**
	comp=Z,116nm,3.0s						
NEW	**Newport**	**35.68**	**72**	*e*P	**P**	**10 03 04.4**	**-0.4**
	comp=Z,6.8nm,0.7s						
NEW	**Newport**	**35.68**	**72**	⇓P	**P**	**10 03 04.2**	**-0.6**
	baz=36,SNR=7.5						
N02D	**Trinity Center**	**35.81**	**86**	⇓P	**P**	**10 03 06.5**	**+0.5**
	baz=36						
EDM	**Edmonton**	**35.91**	**62**	*e*P	**P**	**10 03 06.9**	**+0.2**
EDM	**Edmonton**	**35.91**	**62**	*e*P	**P**	**10 03 06.9**	**+0.2**
M04C	**Macdoel**	**35.92**	**84**	⇑P	**P**	**10 03 08.0**	**+1.0**
	baz=36						
I07A	**Izee**	**36.19**	**79**	*e*P	**P**	**10 03 09.9**	**+0.7**
	comp=Z,18nm,1.0s						
MOD	**Modoc**	**36.82**	**83**	*e*P	**P**	**10 03 15.3**	**+0.5**
	comp=Z,2.1nm,0.8s						
USRK	**Ussuriysk Arra**	**36.89**	**282**	P	**P**	**10 03 15.4**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=69,slow=7.9,SNR=16						
BSMT	**Bassoo Peak**	**37.27**	**71**	*e*P	**P**	**10 03 18.4**	**-0.1**
MAJO	**Matsushiro**	**37.27**	**267**	*e*P	**P**	**10 03 20.5**	**+2.1**
WVOR	**Wild Horse Val**	**37.58**	**81**	*e*P	**P**	**10 03 21.6**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,15nm,0.9s						
WVOR	**Wild Horse Val**	**37.58**	**81**	*e*P	**P**	**10 03 21.6**	**+0.5**
	comp=Z,15nm,0.9s						
MSO	**Missoula**	**38.26**	**72**	⇑P	**P**	**10 03 26.4**	**-0.4**
	baz=38						
CHMT	**Chamberlain Mo**	**38.63**	**72**	*e*P	**P**	**10 03 29.0**	**-1.0**
	comp=Z,1.4nm,0.5s						
MFID	**Camas Ranch**	**38.81**	**78**	*e*P	**P**	**10 03 31.2**	**-0.3**
	comp=Z,82nm,2.7s						
BMN	**Battle Mountai**	**39.57**	**83**	*e*P	**P**	**10 03 38.4**	**+0.5**
BMN	**Battle Mountai**	**39.57**	**83**	*e*P	**P**	**10 03 38.4**	**+0.5**
HLID	**Hailey**	**39.61**	**77**	*e*P	**P**	**10 03 38.1**	**-0.1**
	comp=Z,7.4nm,1.1s						
HLID	**Hailey**	**39.61**	**77**	⇑P	**P**	**10 03 38.0**	**-0.3**
	baz=40,SNR=5.8						
MCMT	**McKenzie Canyo**	**39.91**	**74**	*e*P	**P**	**10 03 40.1**	**-0.7**
	comp=Z,2.8nm,0.5s						
NVAR	**Mina Array Bea**	**40.05**	**86**	P	**P**	**10 03 41.6**	**-0.3**
NVAR				PcP	**PcP**	**10 05 46.3**	**-0.2**
NVAR	**Mina Array Bea**	**40.05**	**86**	P	**P**	**10 03 41.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=292,slow=9.0,SNR=13						
NVAR				PcP	**PcP**	**10 05 46.3**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=291,slow=2.8,SNR=12						
EGMT	**Eagleton**	**40.18**	**68**	*e*P	**P**	**10 03 43.0**	**+0.3**
	comp=Z,13nm,0.9s						
EGMT	**Eagleton**	**40.18**	**68**	⇑P	**P**	**10 03 42.5**	**-0.3**
	baz=40,SNR=6.4						
A19A	**Klindworth Far**	**40.34**	**67**	⇓P	**P**	**10 03 43.5**	**-0.6**
	baz=40						
B19A	**Brinkman Farms**	**40.45**	**67**	⇓P	**P**	**10 03 44.2**	**-0.7**
	baz=40,SNR=11						
ELK	**Elko**	**40.64**	**81**	*e*P	**P**	**10 03 47.0**	**+0.1**
	comp=Z,5.2nm,0.8s						
C19A	**Slack Wire Ran**	**40.74**	**69**	⇑P	**P**	**10 03 47.4**	**0.0**
	baz=41						
RCTC	**Rector, Farmer**	**40.74**	**90**	⇓P	**P**	**10 03 48.1**	**+0.6**
	baz=41						
A20A	**Cobblestone Ra**	**40.84**	**66**	⇓P	**P**	**10 03 47.7**	**-0.5**
	baz=41						
TPH	**Tonopah**	**40.95**	**86**	*e*P	**P**	**10 03 49.4**	**0.0**
TPH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TPH	**Tonopah**	**40.95**	**86**	*e*P	**P**	**10 03 49.4**	**0.0**
	comp=Z,7.9nm,1.2s						
B20A	**Solberg Farm,**	**41.00**	**67**	⇑P	**P**	**10 03 48.9**	**-0.6**
	baz=41						
D19A	**Cripps Ranch,**	**41.12**	**69**	⇑P	**P**	**10 03 50.0**	**-0.5**
	baz=41,SNR=5.4						
CN2	**Changchun**	**41.13**	**285**	*e*P	**P**	**10 03 49.5**	**-1.0**
CN2				*e*PP	**PP**	**10 05 27.5**	**+2.1**
CN2				*e*S	**S**	**10 10 00.5**	**-1.5**
CN2				LR	LR		
	comp=Z,500nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
VES	**Vestal, Richgr**	**41.13**	**90**	⇓P	**P**	**10 03 50.7**	**0.0**
	baz=41						
C20A	**Veseth Ranch,**	**41.36**	**68**	⇑P	**P**	**10 03 52.2**	**-0.2**
	baz=41						
GRAC	**Grapevine Rang**	**41.50**	**87**	⇓P	**P**	**10 03 54.2**	**+0.4**
	baz=41						
H17A	**Grant Village**	**41.52**	**74**	*e*P	**P**	**10 03 55.3**	**+1.2**
	comp=Z,15nm,1.5s						
H17A	**Grant Village**	**41.52**	**74**	⇑P	**P**	**10 03 54.3**	**+0.2**
	baz=41						
E19A	**Rath Farm, Rou**	**41.53**	**70**	⇓P	**P**	**10 03 53.6**	**-0.3**
	baz=41						
B21A	**Ellsworth Farm**	**41.59**	**67**	⇑P	**P**	**10 03 53.9**	**-0.4**
	baz=41						
HVU	**Hansel Valley**	**41.59**	**78**	*e*P	**P**	**10 03 55.0**	**+0.4**
HVU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HVU	**Hansel Valley**	**41.59**	**78**	*e*P	**P**	**10 03 55.0**	**+0.4**
	comp=Z,9.6nm,0.7s						
D20A	**Manuel Ranch,**	**41.59**	**69**	⇑P	**P**	**10 03 54.0**	**-0.4**
	baz=41						
R11A	**Troy Canyon, C**	**41.82**	**84**	*e*P	**P**	**10 03 56.3**	**-0.2**
	comp=Z,9.5nm,1.1s						
R11A	**Troy Canyon, C**	**41.82**	**84**	⇑P	**P**	**10 03 56.1**	**-0.4**
	baz=42,SNR=8.9						
E20A	**Meyer Farm, Mu**	**41.90**	**70**	⇓P	**P**	**10 03 56.6**	**-0.3**
	baz=42						
REDW	**Red Top Meadow**	**41.91**	**75**	*e*P	**P**	**10 03 57.5**	**+0.3**
	comp=Z,33nm,1.9s						
BGU	**Big Grassy Mou**	**41.92**	**80**	*e*P	**P**	**10 03 57.5**	**+0.3**
	comp=Z,23nm,2.5s						
H18A	**Shoshone NF, C**	**41.93**	**73**	⇑P	**P**	**10 03 56.9**	**-0.5**
	baz=42						
RLMT	**Red Lodge**	**41.93**	**72**	*e*P	**P**	**10 03 56.9**	**-0.5**
	comp=Z,10nm,0.9s	

	baz=43							
TUQ	Turquoise Moun	43.39	88	⇓P		P	10 04 09.0	-0.2
	baz=43							
HEC	Hector,Ludlow	43.52	89	⇑P		P	10 04 10.0	-0.2
	baz=43							
H21A	Big Horn, Sher	43.53	71	⇓P		P	10 04 09.8	-0.5
	baz=43							
C24A	Savage	43.55	66	⇓P		P	10 04 10.3	+0.1
	baz=43							
A25A	Svangstu Ranch	43.58	64	⇑P		P	10 04 10.0	-0.5
	baz=43							
J20A	Shoshoni	43.60	74	⇓P		P	10 04 10.8	0.0
	baz=44							
G22A	Birney	43.66	70	⇑P		P	10 04 10.8	-0.5
	baz=44							
FCC	Fort Churchill	43.69	48	eP		P	10 04 11.3	+0.2
FCC	Fort Churchill	43.69	48	eP		P	10 04 11.3	+0.2
	comp=Z,0.2nm,0.8s							
CCUT	Cedar City	43.70	84	eP		P	10 04 12.2	+0.4
MURC	Murrieta	43.76	91	⇓P		P	10 04 11.8	-0.3
	baz=44							
D24A	Glendive	43.82	67	⇓P		P	10 04 12.6	+0.2
	baz=44,SNR=10							
I21A	Big Trails, Te	43.83	73	⇑P		P	10 04 11.5	-1.2
	baz=44							
MVU	Marysvale	43.84	82	eP		P	10 04 13.2	+0.2
B25A	Knox Farm, Ray	43.89	65	⇓P		P	10 04 12.1	-0.9
	baz=44							
F23A	Volborg	43.92	69	⇓P		P	10 04 12.7	-0.6
	baz=44							
H22A	Clearmont	43.97	71	⇑P		P	10 04 13.0	-0.7
	baz=44							
GMRC	Granite Mounta	43.97	89	⇓P		P	10 04 13.6	-0.3
	baz=44,SNR=5.4							
J21A	Lysite	43.99	73	⇑P		P	10 04 13.2	-0.8
	baz=44							
TMUT	Trail Mountain	44.00	80	eP		P	10 04 14.7	+0.4
	comp=Z,7.9nm,0.8s							
E24A	Baker	44.12	68	⇑P		P	10 04 14.6	-0.3
	baz=44							
G23A	Biddle	44.21	70	⇑P		P	10 04 14.7	-1.0
	baz=44							
A26A	Wade Farm, Ken	44.21	64	⇓P		P	10 04 14.3	-1.3
	baz=44							
BELC	Belle Mtn. Jos	44.26	90	⇑P		P	10 04 15.8	-0.4
	baz=44							
I22A	9 Mile Ranch,	44.27	72	⇑P		P	10 04 15.9	-0.3
	baz=44							
109C	Camp Elliot, M	44.28	92	⇑P		P	10 04 16.5	+0.3
	baz=44							
K21A	Alcova	44.51	74	⇑P		P	10 04 17.1	-1.1
	baz=44							
SRU	San Rafael	44.54	80	eP		P	10 04 18.5	0.0
SRU					pmax	pmax		
	comp=Z,16nm,1.1s							
SRU	San Rafael	44.54	80	eP		P	10 04 18.5	0.0
	comp=Z,16nm,1.1s							
J22A	Midwest	44.54	73	⇑P		P	10 04 17.5	-0.9
	baz=44							
IRM	Iron Mountain	44.69	89	⇓P		P	10 04 19.4	-0.2
	baz=45							
MONP	Monument Peak	44.72	91	⇑P		P	10 04 19.8	-0.2
	baz=45							
C26A	Wahner Farm, P	44.73	65	⇓P		P	10 04 19.6	-0.2
	baz=45							
W13A	Hualapai Mount	44.89	87	⇑P		P	10 04 21.2	-0.2
	baz=45							
N20A	Spence Gulch,	44.92	77	⇑P		P	10 04 21.3	-0.3
	baz=45							
SWSC	Sam W. Stewart	45.08	91	⇑P		P	10 04 22.5	-0.1
	baz=45							
A28A	Rude Farm, Bot	45.21	63	⇓P		P	10 04 23.2	-0.3
	baz=45							
PDMCI	Parker Dam,Lak	45.24	88	⇑P		P	10 04 23.7	-0.2
	baz=45							
E26A	Carlson Angus	45.24	67	⇑P		P	10 04 23.6	-0.2
	baz=45							
O20A	White River Ci	45.35	77	eP		P	10 04 24.3	-0.6
O20A	White River Ci	45.35	77	⇑P		P	10 04 24.2	-0.7
	baz=45,SNR=9.2							
Y12C	Blythe	45.35	89	⇓P		P	10 04 24.5	-0.3
	baz=45,SNR=7.4							
I24A	Kuemmerle Ranc	45.41	71	⇓P		P	10 04 25.2	0.0
	baz=45							
RSSD	Black Hills	45.61	70	eP		P	10 04 26.0	-1.0
RSSD	Black Hills	45.61	70	eP		P	10 04 26.0	-1.0
M22A	Cedar Creek Ra	45.62	75	⇓P		P	10 04 26.8	-0.3
	baz=46							
GLA	Glamis	45.62	90	⇑P		P	10 04 26.7	-0.2
	baz=46							
J24A	Dixon Ranch, L	45.68	72	⇑P		P	10 04 26.4	-1.0
	baz=46							
L23A	Garrett	45.75	74	⇑P		P	10 04 27.3	-0.8
	baz=46							
A29A	Manning Farm,	45.78	62	⇓P		P	10 04 27.2	-0.8
	baz=46							
D28A	Regan	45.95	65	⇑P		P	10 04 28.8	-0.5
	baz=46							
PV04	Paradox Valley	45.98	80	eP		P	10 04 29.6	-0.3
N22A	Wattenberg Ran	46.05	76	⇑P		P	10 04 30.1	-0.5
	baz=46							
J25A	Sunshine Ranch	46.16	71	⇓P		P	10 04 30.7	-0.5
	baz=46							
Y14A	Wickenburg	46.20	87	⇑P		P	10 04 31.1	-0.4
	baz=46							
E28A	Huff	46.21	66	⇑P		P	10 04 31.4	0.0
	baz=46							
WUAZ	Wupatki	46.22	85	eP		P	10 04 31.7	-0.1
	comp=Z,7.7nm,0.9s							
WUAZ	Wupatki	46.22	85	⇑P		P	10 04 31.6	-0.1
	baz=46,SNR=6.2							
N23A	Red Feather La	46.31	75	⇑P		P	10 04 32.4	-0.2
	baz=46							
PV01	Paradox Valley	46.35	80	eP		P	10 04 32.1	-0.8
	comp=Z,1μm,0.7s							
O22A	Kremmling	46.38	76	⇑P		P	10 04 32.3	-0.9
	baz=46							
H27A	Howes	46.48	69	⇓P		P	10 04 32.4	-1.2
	baz=46							
B30A	Myrvik Farm, E	46.54	62	⇑P		P	10 04 33.2	-0.8
	baz=46							
F28A	McLaughlin	46.55	67	⇑P		P	10 04 33.3	-0.8
	baz=46							
P22A	Eagle	46.59	77	⇓P		P	10 04 33.9	-0.8
	baz=46							
Z14A	Wintersburg	46.61	88	⇑P		P	10 04 34.2	-0.4
	baz=46							
SMCO	Snowmass	46.70	78	eP		P	10 04 35.1	-0.7
	comp=Z,84nm,2.9s							
O23A	Lake Granby, G	46.73	76	⇑P		P	10 04 35.7	-0.2
	baz=47,SNR=5.3							
I27A	Quinn	46.82	69	⇑P		P	10 04 35.3	-1.0
	baz=47							
C30A	Mose, Pekin	46.86	63	⇓P		P	10 04 35.8	-0.7
	baz=47							
X16A	Lo Mia Camp, P	46.88	86	⇑P		P	10 04 37.2	+0.2
	baz=47							
ULM	Lac du Bonnet	46.93	59	P		P	10 04 35.9	-1.0
ULM	Lac du Bonnet	46.93	59	P		P	10 04 35.9	-1.0
	comp=Z,3.7nm,0.6s,baz=302,slow=6.7,SNR=6.5							
MVCO	Mesa Verde	46.96	81	eP		P	10 04 37.2	-0.5
	comp=Z,64nm,2.5s							
MVCO	Mesa Verde	46.96	81	⇓P		P	10 04 37.2	-0.5
	baz=47							
D30A	Buchanan	47.03	64	⇓P		P	10 04 36.5	-1.3
	baz=47							
I28A	Midland	47.38	69	⇑P		P	10 04 39.8	-0.8
	baz=47							
214A	Organ Pipe Nat	47.62	89	⇓P		P	10 04 41.8	-0.8
	baz=48							
S22A	4UR Ranch, Cre	47.67	79	⇓P		P	10 04 43.2	-0.1
	baz=48							
J28A	Allard Ranch,	47.67	70	⇓P		P	10 04 42.1	-0.8
	baz=48							
X18A	Snowflake	47.74	85	⇓P		P	10 04 43.7	0.0
	baz=48							
P25A	Willow Gulch B	48.23	76	⇑P		P	10 04 46.9	-0.5
	baz=48							
O26A	Horse Wrangler	48.31	74	⇑P		P	10 04 47.5	-0.4
	baz=48							
R24A	Sanders Place,	48.44	77	⇓P		P	10 04 48.9	-0.1
	baz=48							
U22A	Llaves	48.51	81	⇑P		P	10 04 49.1	-0.6
	baz=48							
Q25A	Bedland, Calha	48.55	76	⇓P		P	10 04 49.3	-0.6
	baz=48							
T23A	Casias Ranch,	48.60	79	⇑P		P	10 04 50.3	-0.2
	baz=48							
P26A	Davis Ranch, A	48.70	75	⇑P		P	10 04 50.7	-0.3
	baz=48							
S24A	Houchin Ranch,	48.74	78	⇓P		P	10 04 51.4	-0.1
	baz=49							
V22A	San Miguel Ran	48.77	81	⇓P		P	10 04 51.1	-0.6
	baz=49							
M28A	Bar X Bar Ranc	48.79	72	⇓P		P	10 04 51.0	-0.6
	baz=49							
U23A	El Rito	48.95	80	⇑P		P	10 04 52.7	-0.4
	baz=49,SNR=8.1							
Q26A	Hugo	48.99	76	⇑P		P	10 04 53.0	-0.2
	baz=49							
T24B	San Luis	49.00	79	⇑P		P	10 04 53.5	0.0
	baz=49							
R25A	Fountain Ranch	49.00	77	⇑P		P	10 04 52.9	-0.4
	baz=49							
K30A	Basset	49.08	69	⇓P		P	10 04 53.3	-0.5
	baz=49							
P27A	Ficken Ranch,	49.17	74	⇓P		P	10 04 54.5	-0.2
	baz=49							
S25A	Robets Cordova	49.21	78	⇓P		P	10 04 54.4	-0.6
	baz=49							
TLY	Talaya	49.29	305	eP		P	10 04 55.0	-0.2
TLY					pmax	pmax		
	comp=Z,2.0nm,0.8s							
V23A	Ortiz Mt. (NFS	49.33	81	⇓P		P	10 04 56.1	+0.1
	baz=49							
U24A	Moreno Valley	49.47	79	⇑P		P	10 04 56.9	-0.2
	baz=49							
KSCO	Kaye Shedlock'	49.48	75	⇑P		P	10 04 56.2	-0.8
	baz=49							
T25A	Trinidad	49.55	78	⇓P		P	10 04 58.0	+0.4
	baz=49,SNR=6.7							
LAZ	Ladron	49.60	83	eP		P	10 04 58.0	0.0
ANMO	Albuquerque	49.67	82	eP		P	10 04 58.3	-0.3
W23A	Werner Place,	49.73	81	⇓P		P	10 04 58.8	-0.2
	baz=50							
R27A	Eads	49.83	76	⇓P		P	10 04 59.1	-0.5
	baz=50							
S26A	Kim	49.83	77	⇓P		P	10 04 59.0	-0.7
	baz=50							
V24A	Rampart Ranch,	49.91	80	⇓P		P	10 05 00.2	-0.3
	baz=50,SNR=5.2							
Q28A	Sharon Springs	49.94	75	⇑P		P	10 05 00.0	-0.4
	baz=50							
SONM	Songino Array	50.02	300	P		P	10 05 01.0	+0.1
SONM	Songino Array	50.02	300	P		P	10 05 01.0	+0.1
	comp=Z,1.5nm,0.5s,baz=49,slow=7.5,SNR=18							
U25A	Circle Dot Ran	50.02	79	⇓P		P	10 05 00.7	-0.5
	baz=50,SNR=6.7							
T26A	Comanche Natio	50.03	78	⇑P		P	10 05 00.3	-1.0
	baz=50							
P29A	Atwood	50.15	73	⇓P		P	10 05 01.2	-0.7
	baz=50							
W24A	Lazy 6 Ranch,	50.16	81	⇓P		P	10 05 01.7	-0.6
	baz=50							
ECSD	EROS Data Cent	50.21	67	⇓P		P	10 05 00.6	-1.7
	baz=50							
ZAK	Zakamensk	50.22	304	⇑P		P	10 05 02.8	+0.4
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.4s							
V25A	Rancho No Teng	50.25	80	⇓P		P	10 05 02.5	-0.5
	baz=50,SNR=5.0							
O30A	MW Ranch, Wils	50.32	72	⇓P		P	10 05 02.5	-0.7
	baz=50							
R28A	Tribune	50.40	75	⇓P		P	10 05 03.3	-0.6
	baz=50							
U26A	Atchley Ranch,	50.44	78	⇓P		P	10 05 04.2	-0.1
	baz=50							
Z22A	Elephant Butte	50.45	84	⇓P		P	10 05 04.5	0.0
	baz=50							
Y23A	Lovelace Mesa,	50.58	82	⇓P		P	10 05 05.2	-0.3
	baz=50							
W25A	X Bar L Ranch,	50.74	80	⇓P		P	10 05 06.3	-0.3
	baz=51,SNR=6.7							
V26A	Tequesquite Ra	50.79	79	⇑P		P	10 05 06.2	-0.8
	baz=51,SNR=6.3							
S28A	Manter	50.82	76	⇓P		P	10 05 06.5	-0.6
	baz=51							
Q30A	Quinter	50.97	74	⇓P		P	10 05 07.7	-0.5
	baz=51							
Y24A	Capitan	50.98	82	⇓P		P	10 05 08.1	-0.3
	baz=51,SNR=7.0							
T28A	Walsh	50.98	77	⇑P		P	10 05 08.0	-0.4
	baz=51							
U27A	Thompson Grove	50.99	78	⇑P		P	10 05 07.8	-0.7
	baz=51							
X25A	Clemmons Ranch	51.07	81	⇓P		P	10 05 08.9	-0.2
	baz=51							
P31A	Stockton	51.14	73	⇓P		P	10 05 08.7	-0.7
	baz=51							
HHC	Hu-ho-hao-te	51.23	290	eP		P	10 05 08.8	-1.3
HHC					pP	pP	10 05 15.3	-2.1
HHC					S	S	10 12 24.0	-3.2
HHC					sS	sS	10 12 32.5	-6.7
HHC					ScS	ScS	10 14 57.5	-1.5
HHC					pmax	pmax		
	comp=Z,53nm,0.8s							
HHC					pmax	pmax		
	comp=Z,180nm,5.0s							
HHC					LR	LR		
	comp=Z,400nm,20.4s							
HHC					LR	LR		
	comp=Z,280nm,15.9s							
HHC					LR	LR		
	comp=Z,250nm,20.1s							
W26A	Owens Ranch, T	51.26	80	⇑P		P	10 05 10.1	-0.4
	baz=51							
R30A	Dighton	51.37	74	⇓P		P	10 05 10.6	-0.6
	baz=51							
U28A	Mallet	51.39	77	⇓P		P	10 05 10.4	-1.0
	baz=51							
Z24A	Sheeppen Canyo	51.41	83	⇓P		P	10 05 11.4	-0.3
	baz=51							
Y25A	Mesa, Roswell	51.44	82	⇓P		P	10 05 11.2	-0.6
	baz=51							
Q31A	Ellis	51.45	73	⇓P		P	10 05 10.8	-1.0
	baz=51							
T29A	Hugoton	51.46	76	⇓P		P	10 05 11.1	-0.8
	baz=51							
SPMN	St. Paul	51.49	63	⇑P		P	10 05 10.6	-1.3
	baz=51							
P32A	Hutting Farm,	51.55	72	⇓P		P	10 05 11.4	-1.1
	baz=51							
S30A	Montezuma	51.66	75	⇑P		P	10 05 13.1	-0.3
	baz=52							
R31A	Burdett	51.82	74	⇑P		P	10 05 13.5	-1.1
	baz=52							
Z25A	Roswell	51.85	82	⇓P		P	10 05 14.3	-0.6
	baz=52							
U29A	Oasis Ranch, S	51.93	77	⇓P		P	10 05 14.6	-0.8
	baz=52							
Q32A	Meitler Ranch,	51.97	73	⇓P		P	10 05 14.8	-0.8
	baz=52							
R32A	Long Quarter,	52.23	73	⇓P		P	10 05 16.4	-1.2
	baz=52							
U30A	WK&E Inc. Balk	52.26	76	⇑P		P	10 05 16.9	-1.0
	baz=52							
125A	Gardner Draw,	52.30	83	⇑P		P	10 05 17.8	-0.5
	baz=52							
Z26A	Caprock	52.32	82	⇓P		P	10 05 17.4	-1.0
	baz=52							
NJ2	Nanjing	52.40	276	eP		P	10 05 19.3	+0.5
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
Q33A	Connelly Farm,	52.40	72	⇓P		P	10 05 17.6	-1.2
	baz=52							
Y27A	Causey	52.42	80	⇓P		P	10 05 18.7	-0.5
	baz=52,SNR=6.6							
T31A	Randall Ranch,	52.49	75	⇑P		P	10 05 19.0	-0.5
	baz=52							
W29A	Amraillo	52.56	78	⇓P		P	10 05 19.0	-1.1
	baz=52							
225A	Deer Hill, Car	52.56	83	⇓P		P	10 05 20.0	-0.3
	baz=52							
X28A	Dimmitt	52.61	79	⇑P		P	10 05 19.8	-0.7
	baz=52							
MSTX	Muleshoe	52.61	80	eP		P	10 05 19.8	-0.8
MSTX	Muleshoe	52.61	80	⇓P		P	10 05 19.9	-0.6
	baz=52,SNR=5.6							
126A	Clayton Basin,	52.71	82	⇓P		P	10 05 20.7	-0.6
	baz=53							
Z27A	Tatum	52.77	81	⇓P		P	10 05 20.5	-1.2
	baz=53							
T32A	Huddler Ranch,	52.90	75	⇑P		P	10 05 21.2	-1.3
	baz=53							
X29A	Tulia	52.97	79	⇑P		P	10 05 22.3	-0.8
	baz=53							
Y28A	McKinney Farm,	52.98	80	⇑P		P	10 05 22.3	-1.0
	baz=53							
226B	Tecolote Peak,	53.00	83	⇑P		P	10 05 22.5	-0.9
	baz=53							
Z28A	Tucker Farm, M	53.30	80	⇑P		P	10 05 24.6	-1.1
	baz=53							
425A	Indio Mountain	53.35	85	⇓P		P	10 05 25.9	-0.2
	baz=53,SNR=5.3							
U32A	Winter Ranch,	53.37	75	⇓P		P	10 05 25.3	-0.7
	baz=53							
Y29A	Porterfield Fa	53.37	79	⇓P		P	10 05 25.7	-0.5
	baz=53							
X30A	Coker Ranch, T	53.48	78	⇓P		P	10 05 26.2	-0.7
	baz=53							
W31A	Holland Ranch,	53.57	77	⇑P		P	10 05 26.7	-0.8
	baz=53							
326A	Caldwell Ranch	53.63	83	⇑P		P	10 05 27.4	-0.7
	baz=54,SNR=5.2							
128A	Castleberry Fa	53.69	81	⇓P		P	10 05 27.6	-0.8
	baz=54							
Z29A	Hungry Hill Ra	53.75	80	⇓P		P	10 05 28.2	-0.7
	baz=54							
Y30A	Stafford Cattl	53.84	79	⇑P		P	10 05 29.0	-0.5
	baz=54							
X31A	McDonald Ranch	53.91	78	⇑P		P	10 05 29.4	-0.6
	baz=54							
426A	McDonald Obser	54.03	84	⇓P		P	10 05 30.5	-0.7
	baz=54							
129A	Stewart Farms,	54.07	81	⇑P		P	10 05 30.4	-0.8
	baz=54							
Z30A	Sanderson Ranc	54.09	80	⇑P		P	10 05 30.2	-1.1
	baz=54							
U34A	Anderson Ranch	54.23	74	⇑P		P	10 05 31.0	-1.3
	baz=54							
427A	Hayter Ranch,	54.31	83	⇓P		P	10 05 32.0	-1.0
	baz=54							
328A	Wristen Ranch,	54.32	83	⇑P		P	10 05 32.0	-1.0
	baz=54,SNR=5.5							
526A	Mary Lane Ranc	54.41	85	⇓P		P	10 05 33.3	-0.6
	baz=54							
X32A	Elmer	54.48	77	⇓P		P	10 05 33.6	-0.5
	baz=54							
527A	Woodward Ranch	54.65	84	⇓P		P	10 05 34.6	-1.0
	baz=54							
Y32A	R-V Farms, Ver	54.66	78	⇓P		P	10 05 34.9	-0.5
	baz=54							
Z31A	Sharp Cattle R	54.68	79	⇑P		P	10 05 34.4	-1.2
	baz=54							
626A	Big Bend Ranch	54.73	85	⇑P		P	10 05 35.1	-1.0
	baz=55,SNR=5.0							
329A	Wagon Wheel Ra	54.77	82	⇓P		P	10 05 35.2	-1.1
	baz=55							
428A	Kincaid Ranch,	54.84	83	⇓P		P	10 05 36.1	-0.8
	baz=55							
X33A	Lawton	54.88	77	⇓P		P	10 05 35.7	-1.4
	baz=55							
131A	Roby	54.96	80	⇑P		P	10 05 36.9	-0.8
	baz=55							
230A	Sterling City	55.04	81	⇓P		P	10 05 37.5	-0.8
	baz=55							
Z32A	Haskell	55.10	78	⇓P		P	10 05 38.0	-0.6
	baz=55							
528A	Cox Ranch, San	55.16	84	⇓P		P	10 05 38.2	-1.0
	baz=55,SNR=5.2							
Y33A	Hilltop Ranch,	55.16	77	⇑P		P	10 05 38.1	-1.0
	baz=55							
TXAR	Lajitas Array	55.18	85	P		P	10 05 38.3	-1.0
TXAR	Lajitas Array	55.18	85	P		P	10 05 38.3	-1.0
	comp=Z,3.4nm,0.8s,baz=297,slow=5.5,SNR=33							
627A	Terlingua Ranc	55.27	85	⇓P		P	10 05 39.2	-0.8
	baz=55							
330A	Mertzon	55.33	81	⇓P		P	10 05 39.5	-0.9
	baz=55							
429A	Davenport Ranc	55.41	83	⇓P		P	10 05 39.7	-1.2
	baz=55							
ABTX	Abilene, Hawle	55.46	79	⇓P		P	10 05 40.4	-0.9
	baz=55							
529A	Stev Forest Ra	55.55	83	⇑P		P	10 05 40.9	-1.0
	baz=55							
Z33A	Whitaker Ranch	55.56	78	⇓P		P	10 05 41.1	-0.8
	baz=55							
628A	Black Gap, Mar	55.56	84	⇓P		P	10 05 40.8	-1.2
	baz=55,SNR=7.0							
430A	Baggett Ranch,	55.71	82	⇓P		P	10 05 41.6	-1.5
	baz=56,SNR=7.0							
Y34A	Reagan Ranch,	55.73	77	⇑P		P	10 05 42.7	-0.5
	baz=56							
331A	San Angelo	55.86	81	⇑P		P	10 05 42.9	-1.2
	baz=56							
133A	Hamilton Ranch	55.92	79	⇓P		P	10 05 43.7	-0.8
	baz=56							
232A	Coleman	55.95	80	⇓P		P	10 05 43.6	-1.2
	baz=56							
Z34A	Collier Ranch,	56.03	77	⇑P		P	10 05 44.7	-0.6
	baz=56							
530A	J-C Ranch, Com	56.08	83	⇑P		P	10 05 44.8	-1.0
	baz=56,SNR=11							
431A	Sonora	56.17	82	⇑P		P	10 05 44.7	-1.7
	baz=56,SNR=7.4							
332A	Millersview	56.24	80	⇑P		P	10 05 45.7	-1.1
	baz=56							
WHN	Wuhan	56.25	278	P		P	10 05 48.0	+1.2
233A	Rising Star	56.33	79	⇑P		P	10 05 46.6	-0.9
	baz=56							
134A	White-Moore Ra	56.47	78	⇑P		P	10 05 47.8	-0.6
	baz=56							
432A	Menard	56.55	81	⇓P		P	10 05 47.6	-1.5
	baz=56							
531A	Rocksprings	56.57	82	⇑P		P	10 05 48.3	-1.0
	baz=56							
333A	Richland Sprin	56.75	80	⇑P		P	10 05 49.4	-1.1
	baz=57							
234A	Clairette	56.81	79	⇓P		P	10 05 50.0	-1.0
	baz=57							
JCT	Junction City	56.82	81	⇓P		P	10 05 49.8	-1.2
	baz=57							
532A	Rocksprings	57.00	82	⇑P		P	10 05 50.7	-1.6
	baz=57							
433A	Art	57.08	80	⇑P		P	10 05 51.1	-1.7
	baz=57							
334A	Lometa	57.21	79	⇓P		P	10 05 52.3	-1.4
	baz=57,SNR=6.4							
WHTX	Lake Whitney	57.25	78	⇑P		P	10 05 53.4	-0.6
	baz=57							
434A	Burnet	57.55	80	⇓P		P	10 05 54.9	-1.2
	baz=57							
533A	Kerrville	57.58	81	⇑P		P	10 05 54.8	-1.6
	baz=57							
SFIN	Scholer Farm	57.81	64	⇑P		P	10 05 56.4	-1.4
	baz=58							
MIAR	Mount Ida	57.90	73	eP		P	10 05 57.7	-0.8
MIAR	Mount Ida	57.90	73	eP		P	10 05 57.7	-0.8
633A	Saathoff Ranch	57.91	82	⇑P		P	10 05 56.8	-1.9
	baz=58							
732A	Laxson Ranch,	57.92	83	⇑P		P	10 05 57.5	-1.2
	baz=58							
534A	Blanco	57.96	81	⇑P		P	10 05 57.7	-1.3
	baz=58							
SCHQ	Schefferville	58.11	41	P		P	10 05 59.9	+0.2
SCHQ	Schefferville	58.11

936A	**North Padre Is**	**60.51**	**82**	⇓P		**P**		**10 06 15.8**	**-0.8**
	baz=60								
ALLY	**Alegheny Colle**	**60.82**	**59**	*eP*		**P**		**10 06 17.8**	**-0.8**
	comp=Z,15nm,0.7s								
KURK	**Kurchatov**	**61.88**	**317**	*d iP*		**P**		**10 06 25.6**	**0.0**
KURK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**	**61.88**	**317**	*eP*		**P**		**10 06 25.6**	**0.0**
	comp=Z,3.3nm,0.7s								
KURBB	**Kurchatov Arra**	**61.98**	**317**	P		**P**		**10 06 26.6**	**+0.3**
	comp=Z,5.0nm,0.7s,baz=45,slow=6.7,SNR=38								
WMQ	**Urumqi**	**62.55**	**306**	P		**P**		**10 06 32.3**	**+2.0**
WMQ				pP		**pP**		**10 06 38.5**	**+0.8**
WMQ				sP		**sP**		**10 06 41.3**	**+0.7**
WMQ				PcP		**PcP**		**10 07 10.8**	**+1.6**
WMQ				PP		**PP**		**10 08 51.8**	**+4.3**
WMQ				ScP		**ScP**		**10 11 10.5**	**+0.9**
WMQ				ScS		**SKKSac**		**10 16 19.8**	**-1.2**
WMQ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,14nm,7.4s								
WMQ				LR	LR				
	comp=Z,95nm,21.0s								
WMQ				LR	LR				
	comp=Z,61nm,32.3s								
WMQ				LR	LR				
	comp=Z,58nm,18.6s								
MKAR	**Makanchi Array**	**63.07**	**312**	P		**P**		**10 06 33.4**	**-0.3**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**	**63.07**	**312**	P		**P**		**10 06 33.4**	**-0.3**
MKAR	**Makanchi Array**	**63.07**	**312**	P		**P**		**10 06 33.4**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=30,slow=7.4,SNR=8.9								
BVAR	**Borovoye Array**	**63.50**	**323**	P		**P**		**10 06 36.7**	**+0.3**
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
BVAR	**Borovoye Array**	**63.50**	**323**	P		**P**		**10 06 36.7**	**+0.3**
BVAR	**Borovoye Array**	**63.50**	**323**	P		**P**		**10 06 36.7**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=52,slow=5.9,SNR=16								
BRVK	**Borovoye**	**63.51**	**323**	⇑*iP*		**P**		**10 06 37.5**	**+1.1**
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.7s								
KMSC	**Kings Mountain**	**64.72**	**65**	⇑P		**P**		**10 06 43.5**	**-1.1**
	baz=64								
JOF	**Joensuu**	**64.90**	**348**	*eP*		**P**		**10 06 44.1**	**-1.3**
JOF				pmax	pmax				
	comp=Z,3.0nm,0.5s								
JOF	**Joensuu**	**64.90**	**348**	*ep*		**P**		**10 06 44.1**	**-1.3**
	comp=Z,2.7nm,0.5s								
KAF	**Kangasniemi**	**66.29**	**350**	*eP*		**P**		**10 06 53.2**	**-1.1**
KAF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KAF	**Kangasniemi**	**66.29**	**350**	*ep*		**P**		**10 06 53.2**	**-1.1**
	comp=Z,2.9nm,0.7s								
FINES	**FINESS Array B**	**66.97**	**350**	P		**P**		**10 06 58.3**	**-0.3**
FINES	**FINESS Array B**	**66.97**	**350**	P		**P**		**10 06 58.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=1.9,slow=8.3,SNR=4.4								
KMI	**Kunming**	**67.32**	**282**	P		**P**		**10 07 02.5**	**+0.7**
KMI				pP		**pP**		**10 07 10.3**	**+1.0**
KMI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
NB2	**NORSAR Subarra**	**68.37**	**358**	P		**P**		**10 07 07.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=5.4,slow=6.5								
NOA	**NORSAR Array B**	**68.37**	**358**	P		**P**		**10 07 07.9**	**+0.3**
NOA	**NORSAR Array B**	**68.37**	**358**	P		**P**		**10 07 07.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=3.9,slow=6.4,SNR=5.8								
VSU	**Vasula**	**69.80**	**349**	*eP*		**P**		**10 07 16.0**	**-0.4**
VSU				pmax	pmax				
	comp=Z,20nm,0.8s								
AAK	**Ala-Archa**	**69.85**	**313**	*eP*		**P**		**10 07 18.2**	**+0.9**
AAK				pmax	pmax				
	comp=Z,12nm,0.8s								
AAK	**Ala-Archa**	**69.85**	**313**	*eP*		**P**		**10 07 18.0**	**+0.7**
AAK	**Ala-Archa**	**69.85**	**313**	P		**P**		**10 07 17.9**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=58,slow=1.8,SNR=11								
AKTO	**Aktyubinsk**	**70.07**	**328**	P		**P**		**10 07 18.9**	**+0.7**
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.5s								
AKTO	**Aktyubinsk**	**70.07**	**328**	P		**P**		**10 07 18.9**	**+0.7**
AKTO	**Aktyubinsk**	**70.07**	**328**	P		**P**		**10 07 18.9**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=51,slow=7.0,SNR=12								
ABKAR	**Akbulak array**	**70.40**	**326**	*eP*		**P**		**10 07 20.4**	**+0.1**
KSH	**Kashi**	**71.59**	**310**	*eP*		**P**		10 07 31.5	+3.6
KSH				*e*PcP		**PcP**		**10 07 50.3**	**+3.2**
KSH				*e*PP		PP		10 10 13.3	+7.0
KSH				*eS*		**S**		**10 16 50.0**	**+4.4**
KSH				*es*S		**SKiKP**		**10 17 03.0**	**-2.0**
KSH				pmax	pmax				
	comp=Z,1.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,140nm,5.2s								
KSH				LR	LR				
	comp=Z,45nm,3.9s								
AKASG	**Malin Array Be**	**77.01**	**346**	P		**P**		**10 07 58.6**	**-0.4**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	**77.01**	**346**	P		**P**		**10 07 58.6**	**-0.4**
AKASG	**Malin Array Be**	**77.01**	**346**	P		**P**		**10 07 58.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=17,slow=5.9,SNR=5.6								
KIEV	**Kiev**	**77.02**	**346**	*eP*		**P**		**10 08 00.2**	**+1.1**
CLL	**Collm**	**78.05**	**356**	*eP*		**P**		**10 08 06.0**	**+1.2**
CLL				*e**PP		**pP**		**10 08 10.0**	**-2.4**
CLL				pmax	pmax				
	comp=Z,2.0nm,0.6s								
CLL	**Collm**	**78.05**	**356**	*eP*		**P**		**10 08 06.0**	**+1.2**
	comp=Z,2.0nm,0.6s								
CLL				*e*				10 08 10.0	
CLL				*i*				10 08 20.0	
CLL				LmV				10 59 00.0	
	comp=Z,100nm,19.1s								
BRG	**Berggiesshubel**	**78.44**	**355**	*eP*		P		10 08 21.0	+14
	comp=Z,3.6nm,0.7s								
DPC	**Dobruska-Polom**	**78.81**	**354**	*es*P		sP		10 08 24.2	+4.7
GIVF	**Givet**	**79.37**	**1**	*eP*		**P**		**10 08 12.4**	**+0.3**
GIVF	**Givet**	**79.37**	**1**	*eP*		**P**		**10 08 12.4**	**+0.3**
GIVF	**Givet**	**79.37**	**1**	*eP*		**P**		**10 08 12.4**	**+0.3**
KHC	**Kasperske Hory**	**80.19**	**356**	*eP*		**P**		**10 08 17.7**	**+1.0**
KHC				pmax	pmax				
	comp=Z,12nm,1.3s								
GERES	**GERESS Array B**	**80.47**	**355**	P		**P**		**10 08 19.5**	**+1.3**
GERES	**GERESS Array B**	**80.47**	**355**	P		**P**		**10 08 19.5**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=354,slow=3.1,SNR=3.3								
HINF	**Hinteralfeld**	**81.67**	**0**	*eP*		**P**		**10 08 25.0**	**+0.4**
HINF	**Hinteralfeld**	**81.67**	**0**	*eP*		**P**		**10 08 25.0**	**+0.4**
HINF	**Hinteralfeld**	**81.67**	**0**	*eP*		**P**		**10 08 25.0**	**+0.4**
AVF	**Avril sur Loir**	**82.65**	**2**	*eP*		**P**		**10 08 29.7**	**0.0**
AVF	**Avril sur Loir**	**82.65**	**2**	*eP*		**P**		**10 08 29.7**	**0.0**
AVF	**Avril sur Loir**	**82.65**	**2**	*eP*		**P**		**10 08 29.7**	**0.0**
SMF	**Signal de Mont**	**82.81**	**2**	*eP*		**P**		**10 08 30.4**	**-0.1**
SMF	**Signal de Mont**	**82.81**	**2**	*eP*		**P**		**10 08 30.4**	**-0.1**
SMF	**Signal de Mont**	**82.81**	**2**	*eP*		**P**		**10 08 30.4**	**-0.1**
CABF	**La Chapelle**	**82.88**	**1**	*eP*		**P**		**10 08 30.9**	**-0.1**
CABF	**La Chapelle**	**82.88**	**1**	*eP*		**P**		**10 08 30.9**	**-0.1**
CABF	**La Chapelle**	**82.88**	**1**	*eP*		**P**		**10 08 30.9**	**-0.1**
RJF	**Les Rejaudoux**	**84.08**	**4**	*eP*		**P**		**10 08 37.8**	**+0.8**
	comp=Z,36nm,1.3s								
RJF	**Les Rejaudoux**	**84.08**	**4**	*eP*		**P**		**10 08 37.8**	**+0.8**
RJF				pmax	pmax				
	comp=Z,36nm,1.3s								
RJF	**Les Rejaudoux**	**84.08**	**4**	*eP*		**P**		**10 08 37.8**	**+0.8**
	comp=Z,36nm,1.3s								
WRA	**Warramunga Arr**	**84.25**	**229**	P		**P**		**10 08 35.9**	**-2.2**
WRA	**Warramunga Arr**	**84.25**	**229**	P		**P**		**10 08 35.9**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=40,slow=5.7,SNR=4.0								
VIVF	**Saint-Julien-l**	**84.62**	**2**	*eP*		**P**		**10 08 40.7**	**+0.9**
	comp=Z,15nm,0.8s								
VIVF	**Saint-Julien-l**	**84.62**	**2**	*eP*		**P**		**10 08 40.7**	**+0.9**
VIVF				pmax	pmax				
	comp=Z,15nm,0.8s								
VIVF	**Saint-Julien-l**	**84.62**	**2**	*eP*		**P**		**10 08 40.7**	**+0.9**
	comp=Z,15nm,0.8s								
SBF	**Sospel**	**85.63**	**360**	*eP*		**P**		**10 08 45.1**	**+0.2**
SBF	**Sospel**	**85.63**	**360**	*eP*		**P**		**10 08 45.1**	**+0.2**
SBF	**Sospel**	**85.63**	**360**	*eP*		**P**		**10 08 45.1**	**+0.2**
EPF	**Esparros**	**86.29**	**5**	*eP*		**P**		**10 08 48.8**	**+0.6**
	comp=Z,19nm,1.1s								
EPF	**Esparros**	**86.29**	**5**	*eP*		**P**		**10 08 48.8**	**+0.6**
EPF				pmax	pmax				
	comp=Z,19nm,1.1s								
EPF	**Esparros**	**86.29**	**5**	*eP*		**P**		**10 08 48.8**	**+0.6**
	comp=Z,19nm,1.1s								
ASAR	**Alice Springs**	**87.65**	**227**	P		**P**		**10 08 53.1**	**-1.8**
ASAR	**Alice Springs**	**87.65**	**227**	P		**P**		**10 08 53.1**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=44,slow=4.8,SNR=6.8								
STKA	**Stephens Creek**	**91.57**	**217**	P		**P**		**10 09 11.3**	**-1.7**
STKA	**Stephens Creek**	**91.57**	**217**	P		**P**		**10 09 11.3**	**-1.7**
	comp=Z,1.8nm,0.8s,baz=12,slow=9.3,SNR=3.7								
TORD	**Torodi Ar. Bea**	**116.08**	**6**	PKP		**PKPdf**		**10 14 48.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**116.08**	**6**	PKP		**PKPdf**		**10 14 48.3**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=317,slow=3.0,SNR=4.9								

IDC 25 09:56:20.6±3.2, 53°.62N×87°.98E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=30.6km s-min=17.4km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**281**	*i*			10 10 00.0	
	baz=98,slow=343,SNR=2.6							
ZALV	**Zalesovo Beam**	**1.91**	**281**	Pg		Pn	09 56 54.7	+0.3
	1.3nm,0.3s,baz=95,slow=16,SNR=14							
ZALV				Lg		Lg	09 57 21.2	
	4.5nm,0.3s,baz=103,slow=26,SNR=16							
KURBB	**Kurchatov Arra**	**6.55**	**247**	Pn		Pn	09 57 58.8	+0.6
	0.4nm,0.3s,baz=62,slow=14,SNR=13							
KURBB				Lg		Lg	09 59 48.8	
	0.2nm,0.3s,baz=64,slow=32,SNR=6.2							
MKAR	**Makanchi Array**	**7.75**	**210**	Pn		Pn	09 58 15.7	+1.0
	0.1nm,0.3s,baz=21,slow=15,SNR=7.4							

IDC 25 10:10:27.0±2.7, 54°.29N×86°.14E, h0km, mb1 3.0/2, mb1mx2.8/30, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=21.0km s-min=12.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.85**	**247**	*i*			10 15 20.0	
	baz=66,slow=350,SNR=56							
ZALV	**Zalesovo Beam**	**0.85**	**247**	Pg		Pg	10 10 42.5	-0.8
	0.4nm,0.3s,baz=64,slow=16,SNR=4.7							
ZALV				Lg		Lg	10 10 55.6	
	2.0nm,0.3s,baz=65,slow=26,SNR=11							
KURBB	**Kurchatov Arra**	**5.93**	**235**	Pn		Pn	10 11 56.5	+0.5
	0.2nm,0.3s,baz=53,slow=14,SNR=8.8							
MKAR	**Makanchi Array**	**7.90**	**200**	Pn		Pn	10 12 24.1	+1.0
	0.1nm,0.3s,baz=20,slow=14,SNR=5.7							

*IDC **25** 10:17:16.7±1.6, 17°.89S×178°.71W, h493km±20km, mb3.5/11, mb1 3.8/12, mb1mx3.6/23, mbtmp4.4/12, Error ellipse: s-maj=22.6km s-min=10.9km az=143.0*

ISC 25 10:17:22.0±0.8, 18°.1S±0°.2×178°.6W±0°.1, h562km, n35, σ1=17/32, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.80**	**59**	P		P	10 19 11.5	-6.7
	3.8nm,0.3s,baz=238,slow=9.5,SNR=3.0							
AFI				S		S	10 20 43.5	-10
	5.9nm,0.3s,baz=252,slow=20,SNR=2.5							
DZM	**Mont Dzumac**	**14.56**	**252**	P		P	10 20 22.8	-4.2
	0.3nm,0.3s,baz=126,slow=19,SNR=4.1							
URZ	**Urewera**	**20.43**	**190**	P		**P**	**10 21 20.1**	**-1.1**
	6.0nm,0.3s,baz=268,slow=3.5,SNR=26							
ARMA	**Armidale**	**29.66**	**240**	P		**P**	**10 22 43.5**	**+0.5**
	baz=28,SNR=7.3							
MGCD	**Mangrove Creek**	**31.01**	**235**	P		**P**	**10 22 55.5**	**+1.0**
	baz=30,SNR=5.9							
RMQ	**Roma**	**31.24**	**249**	P		**P**	**10 22 56.6**	**+0.1**
	baz=30,SNR=8.9							
CNB	**Canberra Magne**	**33.14**	**232**	P		**P**	**10 23 13.4**	**+0.8**
	baz=32,SNR=12							
CMSA	**Cobar Meteorol**	**34.87**	**241**	P		**P**	**10 23 27.0**	**0.0**
	baz=34,SNR=14							
TOO	**Toolangi**	**36.89**	**231**	P		**P**	**10 23 44.2**	**+0.6**
	baz=36,SNR=19							
STKA	**Stephens Creek**	**38.35**	**241**	P		**P**	**10 23 56.0**	**+0.4**
	6.7nm,0.5s,baz=93,slow=9.9,SNR=35							
STKA	**Stephens Creek**	**38.35**	**241**	P		**P**	**10 23 56.0**	**+0.4**
	baz=37,SNR=28							
HTT	**Hallett**	**40.87**	**240**	P		**P**	**10 24 16.2**	**+0.4**
	baz=39,SNR=15							
BBOO	**Buckleboo**	**43.13**	**241**	P		**P**	**10 24 33.6**	**0.0**
	baz=42,SNR=23							
WRA	**Warramunga Arr**	**44.39**	**260**	P		**P**	**10 24 42.0**	**-1.5**
	1.7nm,0.6s,baz=96,slow=7.4,SNR=52							
ASAR	**Alice Springs**	**44.53**	**254**	P		**P**	**10 24 44.0**	**-0.6**
	20nm,0.6s,baz=90,slow=7.9,SNR=543							
ASAR				S		**S**	**10 30 39.0**	**-0.8**
	1.3nm,0.8s,baz=87,slow=16,SNR=11							
MTN	**Manton Dam**	**48.58**	**269**	S		**S**	**10 31 40.2**	**+4.1**
	baz=47,SNR=3.7							
WRKA	**Warakurna**	**49.58**	**252**	P		**P**	**10 25 22.0**	**-0.5**
	baz=48,SNR=21							
KNRA	**Kununurra**	**50.26**	**264**	P		**P**	**10 25 26.8**	**-0.7**
	baz=49,SNR=5.4							
FITZ	**Fitzroy Crossi**	**52.79**	**261**	P		**P**	**10 25 45.9**	**+0.2**
	baz=51,SNR=4.3							
MEEK	**Meekatharra**	**58.17**	**249**	P		**P**	**10 26 22.6**	**-0.4**
	baz=57,SNR=4.4							
MJAR	**Matsushiro Arr**	**67.93**	**324**	P		**P**	**10 27 24.0**	**-1.3**
	2.9nm,0.7s,baz=155,slow=7.1,SNR=6.0							
PETK	**Petropavlovsk-**	**73.81**	**345**	P		**P**	**10 27 58.8**	**-0.6**
	3.1nm,0.7s,baz=139,slow=9.1,SNR=8.4							
NVAR	**Mina Array Bea**	**79.71**	**44**	P		**P**	**10 28 32.9**	**+0.7**
	1.3nm,0.7s,baz=223,slow=8.6,SNR=12							
ILAR	**Eielson Array**	**86.12**	**13**	P		**P**	**10 29 02.0**	**-1.3**
	0.7nm,0.5s,baz=221,slow=5.3,SNR=26							
TXAR	**Lajitas Array**	**86.28**	**58**	P		**P**	**10 29 07.2**	**+2.1**
	1.2nm,0.7s,baz=224,slow=5.8,SNR=16							
PDAR	**Pinedale Array**	**87.63**	**44**	P		**P**	**10 29 12.3**	**+0.9**
	1.3nm,0.7s,baz=235,slow=3.2,SNR=2.3							
YKA	**Yellowknife Ar**	**94.59**	**25**	P		**P**	**10 29 41.3**	**-1.2**
	0.4nm,0.7s,baz=245,slow=4.4,SNR=7.6							
KWP	**Kalwaria Pacla**	**144.16**	**336**	*eP*		PKPbc	10 35 53.6	-0.2
BRTR	**Keskin Array B**	**144.76**	**314**	PKP		PKPbc	10 35 56.5	+0.4
	1.1nm,0.7s,baz=36,slow=1.9,SNR=4.2							
KSP	**Ksiaz**	**145.23**	**343**	*eP*		**PKPbc**	**10 35 57.8**	**+0.8**
UPC	**Upice**	**145.61**	**343**	*eP*		**PKPab**	**10 36 00.5**	**+0.9**
DPC	**Dobruska-Polom**	**145.66**	**343**	*eP*		**PKPbc**	**10 35 59.2**	**+0.9**
PRU	**Pruhonice**	**146.47**	**345**	*eP*		**PKPbc**	**10 36 01.3**	**+0.8**
KHC	**Kasperske Hory**	**147.50**	**345**	*eP*		**PKPbc**	**10 36 03.8**	**+0.5**
KHC				*ex*		x	10 36 08.2	
GERES	**GERESS Array B**	**147.74**	**345**	PKPbc		**PKPbc**	**10 36 04.6**	**+0.6**
	2.0nm,0.6s,baz=25,slow=3.1,SNR=13							

*IDC **25** 10:27:35.0±0.8, 36°.15N×68°.91E, h0km, mb3.7/12, mb1 3.9/17, mb1mx3.8/50, mbtmp3.8/17, ML3.9/3, MS2.8/2, Ms1 2.8/2, ms1mx2.7/28, Error ellipse: s-maj=15.7km s-min=14.9km az=81.0*

*ISCJB **25** 10:27:36.9±0.5, 36°.34N±0°.03×68°.70E±0°.05, h24km, mb3.7/16, MS2.5/1, Error ellipse: s-maj=6.8km s-min=3.9km az=151.9*

*BJI **25** 10:27:37.0, 37°.30N×68°.40E, h2km, mB4.6/2, mb4.2/4*

*NNC **25** 10:27:39.9±1.8, 36°.64N×68°.49E, h12km±13km, mb4.3, mpv4.1, Error ellipse: s-maj=17.8km s-min=14.7km az=164.0*

*MOS **25** 10:27:40.8±1.9, 36°.49N×68°.75E, h41km, mb4.0/12, Error ellipse: s-maj=13.4km s-min=5.5km az=72.6*

ISC 25 10:27:38.8±0.7, 36°.33N±0°.06×68°.63E±0°.07, h24km, n76, σ1=91/76, mb3.8/16, 7C-12D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**3.67**	**132**	⇑P		Pn	10 28 37.6	+3.4
KSH	**Kashi**	**6.62**	**59**	Pn		**Pn**	**10 29 12.0**	**-2.7**
KSH				Sn		Sn	10 30 22.0	-7.5
KSH				smax	smax			
	comp=N,95nm,0.7s							
KSH				smax	smax			
	comp=E,56nm,0.7s							
KK31	**Karatay Array**	**6.92**	**12**	⇓Pn		**Pn**	**10 29 19.9**	**+1.1**
	comp=E,3.0nm,0.5s,baz=199,slow=11,SNR=51							
KK31				⇓Sn		**Sn**	**10 30 39.1**	**+2.4**
	comp=E,8.5nm,0.6s,baz=226,slow=32,SNR=4.2							
KK31				⇓Lg		Lg	10 31 15.7	
	comp=E,33nm,0.7s,baz=197,slow=27,SNR=7.3							
KK31	**Karatay Array**	**6.92**	**12**	PN		**Pn**	**10 29 19.9**	**+1.1**
KK31							10 30 39.1	
KK31				pmax	pmax			
	comp=Z,3.0nm,0.2s							
KK31				smax	smax			
	comp=Z,3.0nm,0.2s							
AML	**Almayashu**	**7.00**	**33**	*i* PN		**Pn**	**10 29 21.2**	**+1.0**
	SNR=60							
AML	**Almayashu**	**7.00**	**33**	P		**Pn**	**10 29 21.2**	**+1.0**
	SNR=60							
DLH	**Dalhousie**	**7.14**	**120**	*eS*		**Sn**	**10 30 46.0**	**+3.5**
UCH	**Uchtor**	**7.45**	**36**	*i* P		**Pn**	**10 29 26.9**	**+0.5**
UCH	**Uchtor**	**7.45**	**36**	P		**Pn**	**10 29 27.0**	**+0.5**
	SNR=35							
EKS2	**Erkin-Say**	**7.47**	**31**	P		Pn	10 29 30.2	+3.8
	SNR=5.9							
DHRM	**DHARAMSHALA**	**7.54**	**120**	*eP*		Pn	10 29 31.9	+4.4
DHRM				*eS*		**Sn**	**10 30 54.8**	**+2.5**
DHRM				AML		AML	10 31 41.2	
	comp=E,141nm,1.1s							
DHRM				AML		AML	10 31 44.9	
	comp=N,143nm,0.5s							
KZA	**Kyzart**	**7.71**	**40**	*i* P		**Pn**	**10 29 30.9**	**+1.0**
KZA	**Kyzart**	**7.71**	**40**	P		**Pn**	**10 29 30.9**	**+1.0**
	SNR=27							
AAK	**Ala-Archa**	**7.76**	**34**	⇓Pn		**Pn**	**10 29 31.4**	**+1.1**
	comp=N,14nm,0.5s							
AAK				⇓Sn		**Sn**	**10 30 58.1**	**+0.5**
	comp=N,25nm,0.8s							
AAK				⇑Lg		Lg	10 31 35.7	
	comp=N,37nm,1.0s							
AAK	**Ala-Archa**	**7.76**	**34**	*i* P		**Pn**	**10 29 31.6**	**+1.2**
AAK	**Ala-Archa**	**7.76**	**34**	P		**Pn**	**10 29 31.7**	**+1.2**
	SNR=31							
AAK	**Ala-Archa**	**7.76**	**34**	Pn		**Pn**	**10 29 31.6**	**+1.2**
	comp=N,5.5nm,0.3s,baz=200,slow=6.8,SNR=72							
AAK				Sn		**Sn**	**10 30 58.6**	**+1.1**
	baz=131,slow=20,SNR=3.5							
AAK				Lg		Lg	10 31 40.9	
	comp=N,1.2nm,0.3s,baz=319,slow=19,SNR=2.2							
AAK				LR		LR	10 32 48.5	
	comp=N,119nm,21.0s,baz=214,slow=40							
FRU	**Bishkek**	**7.97**	**34**	*eP*		**Pn**	**10 29 36.0**	**+2.8**
FRU				*eS*		**Sn**	**10 31 07.0**	**+4.4**
FRU				smax	smax			
	comp=E,120nm,1.6s							
KBK	**Karagaybulak**	**7.99**	**36**	*i* P		**Pn**	**10 29 35.4**	**+1.9**
KBK	**Karagaybulak**	**7.99**	**36**	P		**Pn**	**10 29 35.4**	**+1.9**
	SNR=8.0							
BHK	**Bhakra**	**8.12**	**125**	*eS*		**Sn**	**10 31 08.2**	**+2.0**
CHMS	**Chumysh**	**8.16**	**33**	*i* P		**Pn**	**10 29 36.7**	**+0.9**
CHMS	**Chumysh**	**8.16**	**33**	P		**Pn**	**10 29 36.7**	**+0.9**
	SNR=22							
USP	**Ospenovka**	**8.27**	**31**	*i* P		**Pn**	**10 29 37.6**	**+0.3**
USP	**Ospenovka**	**8.27**	**31**	P		**Pn**	**10 29 37.6**	**+0.3**
	SNR=10							
ULHL	**Ulahol**	**8.35**	**43**	*i* P		**Pn**	**10 29 39.2**	**+0.7**
ULHL	**Ulahol**	**8.35**	**43**	P		**Pn**	**10 29 39.2**	**+0.7**
	SNR=11							
SDNR	**Sundarnagar**	**8.44**	**122**	*ex*		**Pb**	**10 30 04.0**	**-0.2**
TKM2	**Tokmak 2**	**8.50**	**37**	⇓Pn		**Pn**	**10 29 41.0**	**+0.4**
	comp=E,5.4nm,0.5s							
TKM2				⇓Sn		**Sn**	**10 31 15.1**	**-0.7**
	comp=E,19nm,0.8s							
TKM2				⇑Lg		Lg	10 32 05.6	
	comp=E,34nm,1.4s							
TKM2	**Tokmak 2**	**8.50**	**37**	*i* P		**Pn**	**10 29 41.2**	**+0.6**
TKM2	**Tokmak 2**	**8.50**	**37**	P		**Pn**	**10 29 41.2**	**+0.6**
	SNR=16							
SMLA	**Simla**	**8.80**	**124**	*eP*		**Pn**	**10 29 46.8**	**+2.3**
SMLA				*eS*		**Sn**	**10 31 22.4**	**-0.4**
SMLA				AML		AML	10 32 23.5	
	comp=N,66nm,0.6s							
SMLA				AML		AML	10 32 26.9	
	comp=E,65nm,0.9s							
NDI	**New Delhi**	**10.51**	**134**	*eS*		Sn	10 31 58.0	-7.0
AB31	**Akbulak array**	**14.39**	**337**	Pn		**Pn**	**10 30 59.0**	**-2.0**
	comp=E,3.1nm,0.5s,baz=151,slow=14,SNR=35							
AB31				⇑Sn		**Sn**	**10 33 35.9**	**-3.9**
	comp=E,2.0nm,0.7s,baz=152,slow=23,SNR=3.7							
AB31	**Akbulak array**	**14.39**	**337**	*eP*		**Pn**	**10 30 58.9**	**-2.0**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.5s

comp=Z,0.8nm,0.8s,baz=37,slow=5.2,SNR=5.0
ILAR Eielson Array 75.45 15 P **P 10 39 21.2 +0.9**
comp=Z,0.3nm,0.8s,baz=306,slow=6.2,SNR=5.8
YKA Yellowknife Ar 81.49 2 P **P 10 39 54.7 +1.0**
comp=Z,0.2nm,0.5s,baz=348,slow=5.0,SNR=6.9
WRA Warramunga Arr 83.54 120 P **P 10 40 03.6 -1.4**
comp=Z,0.2nm,0.4s,baz=327,slow=4.9,SNR=4.1
ASAR Alice Springs 85.74 123 P **P 10 40 14.5 -1.6**
comp=Z,0.3nm,0.7s,baz=312,slow=5.1,SNR=3.7

*IDC **25** 10:30:10.5±1.0, 0.°62S×123.°25E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/34, mbtmp3.9/6, Error ellipse: s-maj=99.4km s-min=17.0km az=60.0*
*ISCJB **25** 10:30:14.0±1.0, 0.°59S±0.°04×123.°26E±0.°03, h29km±9km, mb3.8/6, Error ellipse: s-maj=6.5km s-min=5.7km az=163.1*
*DJA **25** 10:30:14.2±0.2, 1.°S±2.°×12.°3E±.°, h10km, M4.6/18, mb4.8/3, MLv4.5/18*
ISC 25 10:30:14.2±0.7, 0.°57S±0.°05×123.°24E±0.°04, h21km±3km, n23, σ1§10/24, mb3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.66**	**225**	P	**Pb**	**10 30 26.4**	**-0.7**
LUWI				S	**Sb**	**10 30 35.3**	**-0.6**
KMSI	**Cibinong**	**1.36**	**33**	P	**Pn**	**10 30 38.3**	**+0.4**
KMSI				S	**Sb**	**10 30 56.1**	**+0.2**
APSI	**Ampana**	**1.63**	**258**	P	**Pb**	**10 30 43.9**	**+0.4**
MRSI	**Marisa**	**1.67**	**309**	P	**Pn**	**10 30 42.0**	**-0.2**
MRSI				S	**Sn**	**10 31 02.5**	**-0.5**
TOLI	**Toli-Toli**	**2.97**	**305**	P	x	10 31 05.9	
SANI	**Sanana**	**3.11**	**118**	P	**Pn**	**10 31 01.1**	**-1.0**
SANI				S	**Sn**	**10 31 38.4**	**-0.2**
KKSI	**Kolaka, Sulawe**	**3.91**	**204**	P	x	10 31 13.4	
KKSI				S	x	10 31 59.7	
TTSI	**Tana Toraja**	**4.21**	**234**	P	**Pn**	**10 31 18.3**	**+1.1**
LBMI	**Labuha**	**4.26**	**91**	P	**Pn**	**10 31 17.6**	**-0.3**
LBMI				S	**Sn**	**10 32 09.6**	**+2.6**
NLAI	**Namlea**	**4.68**	**125**	P	**Pn**	**10 31 24.5**	**+0.9**
SGSI	**Sangihe**	**4.81**	**28**	P	**Pn**	**10 31 26.0**	**+0.6**
MMSI	**Mamuju**	**4.81**	**244**	P	x	10 31 26.6	
SPSI	**Sidrap Palu**	**4.84**	**226**	P	**Pn**	**10 31 27.6**	**+1.8**
BNSI	**Bone**	**4.93**	**219**	P	**Pn**	**10 31 29.0**	**+2.0**
MJSI	**Majene**	**5.18**	**235**	P	x	10 31 34.0	
	105nm,0.8s,0.3nm						
BKSI	**Bulukumba**	**5.65**	**213**	P	**Pn**	**10 31 38.5**	**+1.5**
	29nm,0.7s,0.1nm						
MSAI	**Masohi**	**6.31**	**116**	P	Pn	10 31 29.3	-17
WRA	**Warramunga Arr**	**22.10**	**151**	P	**P**	**10 35 07.2**	**-1.2**
	2.5nm,0.8s,baz=332,slow=10.0,SNR=28						
WRA				ScP	**ScP**	**10 42 41.2**	**-0.9**
	0.3nm,0.6s,baz=325,slow=2.8,SNR=4.3						
ASAR	**Alice Springs**	**25.18**	**157**	P	**P**	**10 35 37.6**	**-0.8**
	1.1nm,0.6s,baz=344,slow=15,SNR=23						
CMAR	**Chiang Mai Arr**	**30.47**	**310**	P	**P**	**10 36 25.8**	**0.0**
	1.4nm,0.3s,baz=135,slow=7.4,SNR=9.3						
STKA	**Stephens Creek**	**35.64**	**153**	P	**P**	**10 37 10.8**	**-0.1**
	1.3nm,0.6s,baz=316,slow=11,SNR=5.2						
SONM	**Songino Array**	**50.40**	**345**	P	**P**	**10 39 10.4**	**+0.3**
	0.5nm,0.8s,baz=173,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**59.23**	**328**	P	**P**	**10 40 13.9**	**-0.1**
	0.5nm,0.4s,baz=122,slow=8.3,SNR=21						

IDC 25 10:43:20.3±2.3, 4.°39S×148.°05E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=288.8km s-min=28.2km az=122.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.43**	**220**	P	P	10 47 59.4	0.0
	0.4nm,0.4s,baz=38,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.53**	**214**	P	P	10 48 32.1	-0.2
	0.3nm,0.5s,baz=48,slow=8.2,SNR=9.0						
ILAR	**Eielson Array**	**83.60**	**23**	P	P	10 55 50.4	+0.1
	0.4nm,1.1s,baz=233,slow=5.5,SNR=2.9						

MEX 25 11:22:07.1±0.3, 17.°38N×100.°44W, h20km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.75**	**132**	*i* P	Pb	11 22 10.4	-11
ACX				*i* S	Sb	11 22 19.2	-12
ARIG	**Puente Sto Nin**	**0.90**	**6**	*e*P	Pb	11 22 21.4	-2.7
ARIG				*i* S	Sb	11 22 32.2	-3.6
PLIG	**Platanillo**	**1.35**	**41**	*e*P	Pn	11 22 27.7	-3.2
PLIG				*e*S	Sn	11 22 43.9	-4.4
TLIG	**Tlapa**	**1.80**	**84**	*i* P	Pn	11 22 34.5	-2.6
TLIG				*i* S	Sn	11 22 55.1	-4.4
PNIG	**Pinotepa**	**2.42**	**114**	*i* P	Pn	11 22 42.5	-3.1
PNIG				*i* S	Sn	11 23 11.6	-3.2

WEL 25 12:01:28.1±0.5, 36.°58S×179.°32W, h33km, ML3.6/10, Error ellipse: s-maj=5.8km s-min=5.5km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.14**	**242**	PN	Pn	12 02 00.4	-1.0
MXZ				SN	Sn	12 02 24.9	-2.0
PUZ	**Puketiti**	**2.44**	**231**	PN	Pn	12 02 04.2	-1.5
PUZ				SN	Sn	12 02 33.1	-1.3
HAZ	**Te Kaha**	**2.59**	**242**	PN	Pn	12 02 07.5	-0.2
CNGZ	**Carnagh Statio**	**2.74**	**225**	PN	Pn	12 02 08.9	-0.8
MWZ	**Matawai**	**3.06**	**234**	PN	Pn	12 02 13.8	-0.4
MWZ				SN	Sn	12 02 48.0	-1.7
RIGZ	**Rimuhau**	**3.14**	**227**	PN	Pn	12 02 14.5	-0.9
URZ	**Urewera**	**3.30**	**238**	PN	Pn	12 02 17.0	-0.4
MHGZ	**Mahia Peninsul**	**3.38**	**220**	PN	Pn	12 02 16.9	-1.7
KNZ	**Kokohu**	**3.41**	**223**	PN	Pn	12 02 16.8	-2.1
SNGZ	**Shannon Statio**	**3.44**	**229**	PN	Pn	12 02 18.9	-0.5
WHHZ	**Waihua**	**3.69**	**226**	PN	Pn	12 02 21.7	-1.2
WHHZ				SN	Sn	12 03 03.7	-1.6
KUZ	**Kuaotunu**	**3.99**	**266**	PN	Pn	12 02 25.8	-1.1
BKZ	**Black Stump Fm**	**4.20**	**231**	PN	Pn	12 02 28.9	-1.0
BKZ				SN	Sn	12 03 14.9	-3.0
MCHZ	**McNeill Hill**	**4.25**	**226**	PN	Pn	12 02 29.6	-1.0
KAHZ	**Kahuranaki**	**4.39**	**222**	PN	Pn	12 02 30.2	-2.3
PXZ	**Pawanui**	**4.57**	**223**	PN	Pn	12 02 31.9	-3.0
BHHZ	**Black Hill Sta**	**4.66**	**230**	PN	Pn	12 02 35.3	-0.9
TSZ	**Takapari Road**	**5.08**	**225**	PN	Pn	12 02 39.6	-2.4
BFZ	**Birch Farm**	**5.37**	**219**	PN	Pn	12 02 41.5	-4.4
MRZ	**Mangatainoka R**	**5.71**	**223**	PN	Pn	12 02 47.2	-3.3
NNZ	**Nelson**	**7.34**	**229**	AML	AML	12 04 56.1	
CTZ	**Chatham Island**	**7.45**	**165**	PN	Pn	12 03 13.8	-0.5
QRZ	**Quartz Range**	**7.65**	**234**	PN	Pn	12 03 15.3	-2.0

IDC 25 12:06:06.7±2.8, 16.°00S×174.°66W, h119km±21km, mb3.3/5, mb1 3.7/6, mb1mx3.4/24, mbtmp3.7/6, Error ellipse: s-maj=134.2km s-min=17.6km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.47**	**54**	P	Pn	12 07 01.1	+1.9
	13nm,0.3s,baz=166,slow=18,SNR=6.6						
AFI				S	Sn	12 07 39.8	-0.1
	58nm,0.3s,baz=22,slow=20,SNR=18						
WRA	**Warramunga Arr**	**48.53**	**257**	P	P	12 14 37.3	-0.8
	0.4nm,0.8s,baz=91,slow=6.8,SNR=5.8						
ASAR	**Alice Springs**	**48.78**	**252**	P	P	12 14 40.0	0.0
	0.8nm,0.6s,baz=87,slow=8.2,SNR=22						
NVAR	**Mina Array Bea**	**75.58**	**42**	P	P	12 17 39.0	+0.3
	0.7nm,0.7s,baz=228,slow=9.4,SNR=6.8						
ILAR	**Eielson Array**	**83.26**	**12**	P	P	12 18 20.1	+0.6
	0.4nm,0.9s,baz=230,slow=7.0,SNR=3.9						
PDAR	**Pinedale Array**	**83.52**	**42**	P	P	12 18 21.1	-0.5
	0.7nm,0.6s,baz=228,slow=2.9,SNR=7.3						

MAN 25 12:10:54, 9.°39N×125.°96E, h82km, mb5.1, ML4.1, MS4.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.53**	**218**	*e*P	Pn	12 11 10.8	+2.6
SCPH	**Surigao**	**0.60**	**310**	*e*P	Pn	12 11 11.2	+2.3
SCPH				*e*S	Sn	12 11 23.6	+3.7
MSLP	**Maasin**	**1.31**	**304**	*e*P	Pn	12 11 18.6	+1.6
MSLP				*e*S	Sn	12 11 43.3	+9.0
CGP	**Cagayan de Oro**	**1.56**	**233**	*i* P	Pn	12 11 21.3	+1.2
CGP				*i* S	Sn	12 11 41.1	+1.3
BUKP	**Musuan**	**1.74**	**211**	*e*P	Pn	12 11 24.0	+1.3
BUKP				*e*S	Sn	12 11 45.9	+1.6
BESP	**Borongan**	**2.25**	**347**	*e*P	Pn	12 11 30.8	+1.5
MATI	**Mati**	**2.45**	**173**	*e*P	Pn	12 11 33.9	+2.0
PAGZ	**Pagadian**	**2.97**	**239**	*e*P	Pn	12 11 41.0	+2.0

*ISCJB **25** 12:21:48.1±0.5, 6.°86N±0.°07×73.°02W±0.°06, h166km, mb3.8/5, Error ellipse: s-maj=10.8km s-min=7.0km az=138.3*
*IDC **25** 12:21:49.4±1.7, 6.°75N×73.°00W, h171km±17km, mb3.7/4, mb1 3.8/7, mb1mx3.3/35, mbtmp4.2/7, Error ellipse: s-maj=25.5km s-min=17.4km az=63.0*
*FUNV **25** 12:21:59.3, 7.°21N×72.°49W, h124km, MW3.5*
ISC 25 12:21:49.0±0.7, 6.°83N±0.°08×73.°00W±0.°08, h166km, n19, σ0§55/20, mb3.9/5, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**33**	*i* P	Pn	**12 22 17.9**	**+0.4**
CAPV				*e*S	Sn	12 22 33.6	-6.0
ROSC	**El Rosal**	**2.37**	**214**	P	Pn	**12 22 29.5**	**-0.2**
	181nm,0.3s,baz=326,slow=2.4,SNR=139						
ROSC				S	Sn	**12 23 01.5**	**+0.3**
	60nm,0.3s,baz=95,slow=14,SNR=5.4						
SOCV	**Socops**	**2.57**	**56**	*e*P	Pn	**12 22 32.1**	**+0.3**
SOCV				*e*S	Sn	12 22 54.7	-10
ELOV	**Elorza**	**3.49**	**87**	*i* P	Pn	**12 22 44.0**	**+0.8**
ELOV				*e*S	Sn	12 23 18.1	-7.3
SANV	**Sanarito**	**4.33**	**52**	*e*P	Pn	**12 22 54.0**	**-0.1**
CURV	**Curarigua**	**4.36**	**43**	*i* *e*P	Pn	**12 22 54.5**	**0.0**
MAPV	**Macapo**	**5.39**	**56**	*e*P	Pn	**12 23 07.9**	**0.0**
MONV	**Montecano**	**5.91**	**30**	*e*P	Pn	**12 23 14.0**	**-0.6**
TURV	**Turiamo**	**6.24**	**54**	*e*P	Pn	**12 23 18.9**	**-0.1**
PCRV	**Puerto La Cruz**	**8.91**	**67**	*e*P	Pn	**12 23 54.8**	**+0.3**
PTGA	**Pitinga**	**15.01**	**120**	P	Pn	**12 25 12.7**	**-0.3**
	0.2nm,0.3s,baz=293,slow=18,SNR=2.2						
APG	**El Apazote**	**18.97**	**297**	P	P	**12 25 58.5**	**+0.5**
	0.2nm,0.3s,baz=135,slow=16,SNR=4.7						
BDFB	**Brasilia**	**33.33**	**132**	P	P	**12 28 11.0**	**-0.5**
	2.5nm,0.5s,baz=324,slow=8.7,SNR=3.2						
TXAR	**Lajitas Array**	**36.55**	**312**	P	P	**12 28 39.6**	**+0.6**
	0.1nm,0.3s,baz=116,slow=8.7,SNR=5.5						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	P	**12 30 05.0**	**-0.9**
	1.2nm,0.4s,baz=151,slow=7.1,SNR=4.6						
SCHQ	**Schefferville**	**48.12**	**5**	P	P	**12 30 12.8**	**+0.9**
	2.5nm,0.5s,baz=188,slow=6.8,SNR=9.6						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	P	**12 32 00.1**	**+0.3**
	1.0nm,0.6s,baz=137,slow=6.7,SNR=26						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**12 41 18.1**	**-0.8**
	0.4nm,0.5s,baz=120,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**12 41 21.1**	**-0.8**
	0.4nm,0.3s,baz=108,slow=2.6,SNR=18						

*ISCJB **25** 12:30:16.3±0.3, 23.°23S±0.°04×69.°01W±0.°04, h117km±3km, mb4.3/16, Error ellipse: s-maj=6.1km s-min=5.8km az=31.7*
*IDC **25** 12:30:17.7±0.6, 23.°20S×68.°85W, h110km±4km, mb4.1/13, mb1 4.1/14, mb1mx4.0/26, mbtmp4.4/14, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=19.1km s-min=13.0km az=58.0*
*GUC **25** 12:30:17.8±0.6, 23.°13S×68.°98W, h106km±3km, ML4.6*
*NEIC **25** 12:30:17.9, 23.°12S×68.°98W, h106km, MG4.6(GUC), After GUC.*
*SJA **25** 12:30:17.5±0.3, 22.°80S×68.°78W, h122km±6km, ML3.3*
ISC 25 12:30:17.8±0.5, 23.°15S±0.°04×68.°97W±0.°04, h113km±4km, n83, σ1§28/101, mb4.3/16, 7C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.54**	**6**	*e*Pn	Pn	**12 30 35.5**	**-0.1**
LVC				*e*Sn	Sn	**12 30 48.1**	**-0.9**
LVC	**Limon Verde**	**0.54**	**6**	*i* P	Pn	**12 30 35.5**	**-0.1**
LVC				*i* P	Pn	**12 30 35.5**	**-0.1**
LVC				*e*S	Sn	**12 30 48.9**	**-0.1**
PB06	**Plate Boundary**	**0.71**	**308**	*i* P	Pn	**12 30 36.5**	**-0.2**
PB06				*i* S	Sn	**12 30 50.4**	**-0.6**
PB06				AML	AML	12 30 51.2	
	comp=N,28μm,0.3s						
PB06	**Plate Boundary**	**0.71**	**308**	*i* P	Pn	**12 30 36.5**	**-0.2**
PB06				*i* S	Sn	**12 30 50.4**	**-0.6**
SPCH	**San Pedro de A**	**0.75**	**71**	*i* P	Pn	**12 30 37.3**	**0.0**
SPCH				*i* S	Sn	**12 30 51.7**	**-0.1**
SPCH	**San Pedro de A**	**0.75**	**71**	*i* P	Pn	**12 30 37.3**	**0.0**
SPCH				*i* S	Sn	**12 30 51.7**	**-0.1**
PB04	**Plate Boundary**	**1.00**	**331**	*i* P	Pn	12 30 43.1	+3.8
PB04				*i* S	Sn	12 31 02.2	+6.7
PB04				AML	AML	12 31 03.7	
	comp=E,14μm,0.2s						
PB04	**Plate Boundary**	**1.00**	**331**	*i* P	Pn	12 30 43.1	+3.8
PB04				*i* S	Sn	12 31 02.2	+6.7
CEN1	**Los Morros**	**1.16**	**258**	*i* P	Pn	**12 30 42.9**	**+1.8**
CEN1				*i* S	Sn	**12 31 02.0**	**+3.4**
CEN1	**Los Morros**	**1.16**	**258**	*i* P	Pn	**12 30 42.9**	**+1.8**
CEN1				*i* S	Sn	**12 31 02.0**	**+3.4**
PB09	**Plate Boundary**	**1.37**	**349**	*e*P	Pn	**12 30 44.2**	**+0.6**
PB09				*i* S	Sn	**12 31 03.5**	**+0.5**
PB09				AML	AML	12 31 04.9	
	comp=N,21μm,0.5s						
PB09	**Plate Boundary**	**1.37**	**349**	*e*P	Pn	**12 30 44.2**	**+0.6**
PB09				*i* S	Sn	**12 31 03.5**	**+0.5**
ANCH	**Antofagasta**	**1.43**	**248**	*i* P	Pn	**12 30 42.0**	**-2.0**
ANCH				*i* S	Sn	**12 31 01.7**	**-2.1**
ANCH	**Antofagasta**	**1.43**	**248**	*i* P	Pn	**12 30 42.0**	**-2.0**
ANCH				*i* S	Sn	**12 31 01.7**	**-2.1**
PB10	**Plate Boundary**	**1.50**	**256**	*i* P	Pn	**12 30 44.3**	**-0.5**
PB10				*i* S	Sn	**12 31 04.5**	**-0.9**
PB10				AML	AML	12 31 09.8	
	comp=N,25μm,0.6s						
PB07	**Plate Boundary**	**1.65**	**329**	*i* P	Pn	**12 30 46.7**	**-0.2**
PB07				*i* S	Sn	**12 31 08.5**	**-0.4**
PB07				AML	AML	12 31 11.1	
	comp=N,6μm,0.5s						
PB07	**Plate Boundary**	**1.65**	**329**	*i* P	Pn	**12 30 46.7**	**-0.2**
PB07				*i* S	Sn	**12 31 08.5**	**-0.4**
PB01	**Plate Boundary**	**2.15**	**347**	*e*P	Pn	**12 30 52.8**	**-0.2**
PB01				*i* S	Sn	**12 31 19.2**	**-0.7**
PB01				AML	AML	12 31 22.2	
	comp=N,2μm,0.3s						
PB01	**Plate Boundary**	**2.15**	**347**	*e*P	Pn	**12 30 52.8**	**-0.2**
PB01				*i* S	Sn	**12 31 19.2**	**-0.7**
PATCX	**Punta Patache**	**2.57**	**334**	AML	AML	12 31 44.6	
	comp=N,1μm,0.7s						
HMBC	**Humberstone**	**2.98**	**343**	*e*P	Pn	**12 31 04.1**	**+0.2**
HMBC	**Humberstone**	**2.98**	**343**	*e*P	Pn	**12 31 04.1**	**+0.2**
SLA	**San Lorenzo**	**3.53**	**117**	*i* P	Pn	**12 31 12.7**	**+1.5**
SLA				AML	AML	12 31 49.2	
	comp=Z,36nm,0.6s						
AZAP	**Zapla**	**3.73**	**107**	*i* P	Pn	**12 31 14.8**	**+0.9**
ASTB	**Santa Barbara**	**4.19**	**102**	*i* P	Pn	**12 31 20.5**	**+0.5**
ALOL	**LOMAS DE OLMED**	**4.63**	**99**	*i* P	Pn	**12 31 25.3**	**-0.5**
CYA	**Choya**	**5.99**	**152**	*i* P	Pn	12 31 48.2	+4.0
CYA				AML	AML	12 32 50.7	
	comp=Z,10nm,0.7s						
LCO	**Las Campanas**	**6.04**	**195**	*e*Pn	Pn	12 31 40.9	-4.1
LPAZ	**La Paz**	**6.87**	**7**	P	**Pn**	**12 31 57.2**	**+0.6**
LPAZ	**La Paz**	**6.87**	**7**	P	**Pn**	**12 31 57.2**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=180,slow=8.1,SNR=27						
CFAA	**Coronel Fontan**	**8.45**	**176**	P	**Pn**	**12 32 14.7**	**-2.7**
CFAA				S	Sn	12 33 42.8	-8.2
CFAA	**Coronel Fontan**	**8.45**	**176**	P	**Pn**	**12 32 14.7**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=354,slow=11,SNR=20						
CFAA				S	Sn	12 33 42.8	-8.2
	comp=Z,0.6nm,0.3s,baz=215,slow=15,SNR=3.6						
SIV	**San Ignacio**	**10.30**	**48**	P	Pn	12 32 37.7	-4.9
SIV				S	Sn	12 34 25.8	-10
SIV	**San Ignacio**	**10.30**	**48**	P	Pn	12 32 37.7	-4.9
	comp=Z,12nm,0.3s,baz=254,slow=8.5,SNR=129						
SIV				S	Sn	12 34 25.8	-10
	comp=Z,1.3nm,0.3s,baz=322,slow=19,SNR=5.2						
SIV				LR	LR	12 36 09.1	
	comp=Z,44nm,19.0s,baz=210,slow=34						
CPUP	**Villa Florida**	**11.04**	**109**	P	**Pn**	**12 32 50.1**	**-2.4**
CPUP	**Villa Florida**	**11.04**	**109**	P	**Pn**	**12 32 50.1**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=267,slow=12,SNR=6.8						
H03N1	**Juan Fernandez**	**13.48**	**218**	P	**Pn**	**12 33 22.4**	**-1.8**
	baz=28,slow=14,SNR=39						
H03N2	**Juan Fernandez**	**13.49**	**218**	P	**Pn**	**12 33 22.2**	**-2.1**
	baz=28,slow=14,SNR=40						
H03N3	**Juan Fernandez**	**13.49**	**218**	P	**Pn**	**12 33 22.4**	**-2.0**
	baz=28,slow=14,SNR=31						
PLCA	**Paso Flores**	**17.58**	**184**	P	**Pn**	**12 34 20.1**	**+4.3**
PLCA	**Paso Flores**	**17.58**	**184**	P	**Pn**	**12 34 20.1**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=336,slow=13,SNR=3.1						
BDFB	**Brasilia**	**21.11**	**73**	P	**P**	**12 34 53.2**	**-0.6**
BDFB	**Brasilia**	**21.11**	**73**	P	**P**	**12 34 53.2**	**-0.6**
	comp=Z,9.4nm,0.6s,baz=255,slow=11,SNR=11						
PTGA	**Pitinga**	**23.94**	**23**	P	**P**	**12 35 21.5**	**-0.2**
PTGA	**Pitinga**	**23.94**	**23**	P	**P**	**12 35 21.5**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=200,slow=12,SNR=9.0						
TEIG	**Tepich**	**47.05**	**335**	P	**P**	**12 38 38.5**	**+0.3**
TEIG	**Tepich**	**47.05**	**335**	P	**P**	**12 38 38.4**	**+0.3**
	comp=Z,55nm,1.4s,baz=92,slow=15,SNR=2.8						
VNA2	**Neumayer--Watz**	**59.12**	**160**	P	**P**	**12 40 06.7**	**+0.5**
SNAA	**Sanae**	**60.75**	**161**	P	**P**	**12 40 17.7**	**+0.4**
SNAA	**Sanae**	**60.75**	**161**	P	**P**	**12 40 17.2**	**-0.1**
SNAA	**Sanae**	**60.75**	**161**	P	**P**	**12 40 17.2**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=273,slow=8.4,SNR=15						
TXAR	**Lajitas Array**	**61.95**	**326**	P	**P**	**12 40 26.8**	**+0.8**
TXAR				pP	**pP**	**12 40 53.4**	**-0.2**
TXAR				sP	**sP**	**12 41 06.6**	**+0.6**
TXAR	**Lajitas Array**	**61.95**	**326**	P	**P**	**12 40 26.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=139,slow=9.8,SNR=4.8						
TXAR				pP	**pP**	**12 40 53.4**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=156,slow=9.3,SNR=3.6						
TXAR				sP	**sP**	**12 41 06.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=153,slow=8.4,SNR=3.0						
LIC	**Lamto**	**68.91**	**73**	*e*P	**P**	**12 41 10.3**	**-0.7**
	comp=Z,30nm,1.2s						
TIC	**Toumodi**	**69.11**	**73**	*e*P	**P**	**12 41 09.3**	**-3.0**
	comp=Z,3.8nm,0.2s						
KIC	**Kosan Boka**	**69.22**	**73**	*e*P	**P**	**12 41 12.5**	**-0.5**
	comp=Z,9.2nm,0.7s						
DBIC	**Dimbokro**	**69.26**	**73**	P	**P**	**12 41 13.2**	**0.0**
DBIC	**Dimbokro**	**69.26**	**73**	P	**P**	**12 41 13.2**	**0.0**
	comp=Z,4.4nm,0.6s,baz=227,slow=7.0,SNR=10						
PDAR	**Pinedale Array**	**75.51**	**330**	P	**P**	**12 41 50.9**	**+0.9**
PDAR	**Pinedale Array**	**75.51**	**330**	P	**P**	**12 41 50.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=139,slow=7.9,SNR=8.3						
NVAR	**Mina Array Bea**	**76.76**	**322**	P	**P**	**12 41 59.1**	**+2.0**
NVAR	**Mina Array Bea**	**76.76**	**322**	P	**P**	**12 41 59.1**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=160,slow=6.5,SNR=6.8						
ULM	**Lac du Bonnet**	**76.87**	**343**	P	**P**	**12 41 57.4**	**+0.2**
ULM	**Lac du Bonnet**	**76.87**	**343**	P	**P**	**12 41 57.4**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=170,slow=7.0,SNR=7.1						
SCHQ	**Schefferville**	**77.68**	**1**	P	**P**	**12 42 01.6**	**-0.1**
SCHQ	**Schefferville**	**77.68**	**1**	P	**P**	**12 42 01.6**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=71,slow=1.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.96**	**70**	P	**P**	**12 42 03.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.96**	**70**	P	**P**	**12 42 03.8**	**-0.3**
	comp=Z,13nm,0.4s,baz=256,slow=5.4,SNR=191						
BOSA	**Boshof**	**82.72**	**118**	P	**P**	**12 42 29.5**	**-0.1**
BOSA	**Boshof**	**82.72**	**118**	P	**P**	**12 42 29.5**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=246,slow=3.9,SNR=5.8						
YKA	**Yellowknife Ar**	**92.72**	**341**	P	**P**	**12 43 17.1**	**+0.4**
YKA				pP	**pP**	**12 43 46.2**	**+0.1**
YKA	**Yellowknife Ar**	**92.72**	**341**	P	**P**	**12 43 17.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=143,slow=4.8,SNR=23						
YKA				pP	**pP**	**12 43 46.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=146,slow=4.8,SNR=6.2						
RAO	**Raoul Island**	**94.08**	**236**	LR	LR	13 16 11.4	
	comp=Z,333nm,19.8s,baz=254,slow=29						
ASAR	**Alice Springs**	**128.43**	**207**	PKP	**PKPdf**	**12 49 11.8**	**-0.2**
ASAR				pPKP	**pPKPdf**	**12 49 42.5**	**-0.2**
ASAR	**Alice Springs**	**128.43**	**207**	PKP	**PKPdf**	**12 49 11.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=141,slow=2.0,SNR=14						
ASAR				pPKP	**pPKPdf**	**12 49 42.5**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=154,slow=2.5,SNR=9.9						
WRA	**Warramunga Arr**	**131.51**	**210**	PKP	**PKPdf**	**12 49 17.6**	**-0.4**
WRA				pPKP	**pPKPdf**	**12 49 48.5**	**-0.1**
WRA	**Warramunga Arr**	**131

CPUP	**Villa Florida**	**47.09**	**161**	LR	LR	12 59 46.5	
	comp=Z,87nm,18.1s,baz=246,slow=38						
YKA	**Yellowknife Ar**	**52.50**	**337**	P	**P**	**12 39 33.4**	**-0.3**
YKA	**Yellowknife Ar**	**52.50**	**337**	P	**P**	**12 39 33.4**	**-0.3**
	0.6nm,0.9s,baz=135,slow=7.9,SNR=6.5						
PLCA	**Paso Flores**	**58.99**	**178**	P	**P**	**12 40 19.9**	**-0.7**
PLCA	**Paso Flores**	**58.99**	**178**	P	**P**	**12 40 19.9**	**-0.7**
	1.4nm,0.6s,baz=338,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**66.57**	**333**	P	**P**	**12 41 10.2**	**-0.7**
ILAR	**Eielson Array**	**66.57**	**333**	P	**P**	**12 41 10.2**	**-0.7**
	0.4nm,0.8s,baz=99,slow=5.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**12 41 42.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**71.55**	**82**	P	**P**	**12 41 42.1**	**-0.5**
	1.0nm,1.0s,baz=289,slow=5.4,SNR=3.6						
GERES	**GERESS Array B**	**74.10**	**43**	P	**P**	**12 41 57.2**	**-0.1**
GERES	**GERESS Array B**	**74.10**	**43**	P	**P**	**12 41 57.2**	**-0.1**
	1.2nm,0.8s,baz=266,slow=3.6,SNR=7.8						
WRA	**Warramunga Arr**	**154.23**	**262**	PKPbc	**PKPbc**	**12 50 24.5**	**+2.5**
WRA	**Warramunga Arr**	**154.23**	**262**	PKPbc	**PKPbc**	**12 50 24.5**	**+2.5**
	0.3nm,0.6s,baz=83,slow=2.1,SNR=4.7						

*IDC **25** 13:17:02.7±2.9, 33.˚54N× 140.˚85E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/26, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=97.8km s-min=26.4km az=68.0*
*ISCJB **25** 13:17:07.5±0.9, 33.˚64N±0.˚04× 140.˚74E±0.˚09, h59km±10km, mb3.5/2, Error ellipse: s-maj=12.7km s-min=6.2km az=17.7*
*JMA **25** 13:17:08.1±0.2, 33.˚69N× 140.˚70E, h57km±5km, M2.7*

ISC 25 13:17:08.7±1.4**, 33.˚64N**±0.˚05×**140.˚73E**±0.˚09**, h47**km±18**km, n12,** σ0**.94/18, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.92**	**236**	P	**Pn**	**13 17 25.5**	**+0.2**
JHJ2				S	**Sn**	**13 17 37.7**	**+0.2**
JHCJ	**Hachijojimakas**	**0.96**	**234**	S	**Sn**	**13 17 38.1**	**-0.2**
BSO1	**Boso 1**	**1.04**	**12**	P	**Pn**	**13 17 25.9**	**-0.4**
BSO1				S	**Sn**	**13 17 39.6**	**+0.2**
BSO2	**Boso 2**	**1.11**	**1**	S	**Sn**	**13 17 42.4**	**+0.8**
BSO3	**Boso 3**	**1.18**	**351**	S	**Sn**	**13 17 43.4**	**+0.2**
BSO4	**Boso 4**	**1.39**	**347**	P	**Pn**	**13 17 31.3**	**-0.2**
BSO4				S	**Sn**	**13 17 49.0**	**+0.4**
JIZS	**Izushimoda**	**1.87**	**306**	P	**Pn**	**13 17 38.7**	**+0.4**
KTJJ	**Kamata 2**	**1.88**	**314**	P	**Pn**	**13 17 37.9**	**-0.5**
KTJJ				S	**Sn**	**13 17 59.9**	**-1.1**
JOD2	**Odawara 2**	**2.11**	**321**	P	**Pn**	**13 17 41.0**	**-0.6**
JOD2				S	**Sn**	**13 18 05.4**	**-1.2**
MJAR	**Matsushiro Arr**	**3.56**	**325**	Pn	**Pn**	**13 18 01.1**	**-0.3**
	0.7nm,0.3s,baz=143,slow=9.7,SNR=7.6						
MJAR				Sn	**Sn**	**13 18 45.0**	**+2.8**
	0.4nm,0.3s,baz=143,slow=22,SNR=3.3						
WRA	**Warramunga Arr**	**53.63**	**187**	P	**P**	**13 26 25.1**	**-0.2**
	0.3nm,0.3s,baz=5.4,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**57.35**	**187**	P	**P**	**13 26 52.1**	**+0.1**
	0.1nm,0.3s,baz=3.3,slow=6.6,SNR=7.2						

IDC 25 13:41:13.4±2.1**, 0.˚96N**×**126.˚49E, h0**km**, mb3.1**/3, **mb1 3.4/3, mb1mx3.2/**31**, **mbtmp3.2/**3**, Error ellipse: s-maj=176.4km s-min=26.4km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.15**	**160**	P	P	13 46 09.7	-1.3
	0.6nm,0.9s,baz=338,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**25.52**	**164**	P	P	13 46 44.9	+1.1
	0.3nm,0.7s,baz=347,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**59.70**	**326**	P	P	13 51 19.7	-0.1
	0.1nm,0.3s,baz=115,slow=8.6,SNR=5.4						

*SKHL **25** 13:43:01.5±0.5, 55.˚56N× 130.˚80E, h11km±1km, mb3.7/5*
*YARS **25** 13:43:03.4±0.6, 55.˚87N±0.˚02× 130.˚78E±0.˚04, h10km, MSV2.6*

ISC 25 13:43:02.0±0.9**, 55.˚54N**±0.˚03×**130.˚72E**±0.˚04**, h10**km**, n14,** σ2**.9**12**/28, 1D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMKR	**Bomnak**	**1.36**	**233**	*e*Pn	**Pn**	**13 43 26.0**	**-1.1**
BMKR				⇓*i*Pg	**Pb**	**13 43 26.9**	**-0.7**
BMKR				AMB	AMB	13 43 27.2	
	80nm,0.4s						
BMKR				pPg	**Pg**	**13 43 30.6**	**+2.5**
BMKR				*e*Sg	**Sg**	**13 43 45.7**	**-0.1**
BMKR				A	A	13 43 52.4	
	120nm,0.4s						
BMKR				A	A	13 43 52.4	
	154nm,0.4s						
ZEA	**Zeya**	**2.71**	**230**	*e*Pg	**Pb**	**13 43 50.3**	**-0.2**
ZEA				AMB	AMB	13 43 51.6	
	10.0nm,0.3s						
ZEA				*e*Sn	**Sn**	**13 44 19.1**	**+0.8**
ZEA				*e*Sg	**Sb**	**13 44 26.1**	**+2.4**
ZEA				A	A	13 44 28.9	
	49nm,0.5s						
EKMR	**Ekimchan**	**2.80**	**151**	*e*Pg	**Pb**	**13 43 51.7**	**-0.3**
EKMR				AMB	AMB	13 43 55.0	
	5.0nm,0.3s						
EKMR				sPg	sPg	13 43 58.0	
EKMR				*e*Sg	**Sb**	**13 44 27.9**	**+1.6**
EKMR				A	A	13 44 34.5	
	25nm,0.4s						
EKMR				A	A	13 44 34.5	
	15nm,0.4s						
EKMR				A	A	13 44 34.5	
	9.0nm,0.4s						
CGD	**Chagda**	**3.22**	**359**	*e*P	**Pn**	**13 43 55.1**	**+2.5**
CGD				Pm		13 43 55.1	
	comp=Z,7.0nm,0.8s						
CGD				*e*S	**Sn**	**13 44 32.8**	**+1.8**
CGD				Sm		13 44 32.8	
	comp=E,74nm,0.5s						
IENR				*e*P		13 43 57.0	
IENR	**Iengra**	**3.38**	**284**	*e*P	**Pb**	**13 44 02.7**	**+0.8**
IENR				Pm		13 44 02.7	
	comp=Z,2.0nm,0.4s						
IENR				*e*S		13 44 35.2	
IENR				*e*S	**Sg**	**13 44 47.4**	**-2.9**
IENR				Sm		13 44 47.4	
	comp=N,39nm,0.8s						
TNDR	**Tynda**	**3.45**	**266**	*e*P	**Pg**	**13 44 06.6**	**-1.5**
TNDR				Pm		13 44 06.6	
	comp=Z,10.0nm,0.3s						
TNDR				*e*S	**Sg**	**13 44 52.0**	**-0.7**
TNDR				Sm		13 44 52.0	
	comp=N,82nm,0.3s						
CLNS	**Chul'man**	**3.51**	**294**	*e*Pg	**Pg**	**13 44 06.9**	**-2.3**
CLNS				AMB	AMB	13 44 07.3	
	comp=N,4.0nm,0.3s						
CLNS				*e*Sg	**Sb**	**13 44 50.0**	**+3.2**
CLNS				A	A	13 44 53.8	
	comp=N,39nm,0.4s						
CLNS				A	A	13 44 53.8	
	comp=N,35nm,0.4s						
CLNS				*e*P		13 43 57.4	
CLNS	**Chul'man**	**3.51**	**294**	*e*P	**Pb**	**13 44 04.7**	**+0.5**
CLNS				Pm		13 44 04.7	
	comp=Z,4.0nm,0.2s						
CLNS				*e*S	**Sb**	**13 44 48.8**	**+2.0**
CLNS				Sm		13 44 48.8	
	comp=E,61nm,0.5s						
ALDR	**Aldan**	**4.23**	**319**	*e*P	**Pb**	**13 44 16.9**	**+0.5**
ALDR				Pm		13 44 16.9	
	comp=Z,5.0nm,0.6s						
ALDR				*e*S	**Sb**	**13 45 07.9**	**+0.4**
ALDR				Sm		13 45 07.9	
	comp=E,35nm,0.8s						
USMR				*e*P		13 44 18.4	
USMR	**Ust'-Maya**	**5.30**	**21**	*e*P	**Pb**	**13 44 34.0**	**-0.6**
USMR				Pm		13 44 34.0	
	comp=Z,4.0nm,0.8s						
USMR				*e*S	**Sb**	**13 45 37.5**	**-0.7**
USMR				Sm		13 45 37.5	
	comp=N,22nm,0.7s						
NKL	**Nikolayevsk**	**6.29**	**108**	*e*Sg	Sg	13 46 15.5	-8.4
NKL				A	A	13 46 30.0	
	comp=N,7.0nm,0.9s						
TUP	**Tupik**	**6.30**	**264**	*e*rx	rx	13 44 59.9	
TUP				*e*Sg	**Sg**	**13 46 19.1**	**-5.0**
TBGR	**Tabaga**	**6.33**	**355**	*e*P	**Pb**	**13 44 50.4**	**-1.7**
TBGR				Pm		13 44 50.4	
	comp=Z,3.0nm,0.3s						
TBGR				*e*S	**Sb**	**13 46 08.4**	**+0.7**
TBGR				Sm		13 46 08.4	
	comp=E,22nm,0.9s						
KLR	**Kul'dur**	**6.35**	**174**	*e*Sg	**Sg**	**13 46 21.4**	**-4.3**
NBS				*e*S	**Sb**	**13 46 13.3**	**+2.6**
YAK				*e*S	Sg	13 46 15.7	-16
YAK				Sm		13 46 15.7	
	comp=E,22nm,0.6s						

*IDC **25** 14:08:22.0±0.7, 32.˚93S× 179.˚97E, h0km, mb4.8/10, mb1 5.0/13, mb1mx4.7/25, mbtmp4.8/13, ML4.0/3, MS4.2/22, Ms1 4.2/22, ms1mx4.1/31, Error ellipse: s-maj=20.5km s-min=15.5km az=177.0*
*ISCJB **25** 14:08:26.3±0.2, 33.˚07S±0.˚03× 179.˚80E±0.˚04, h33km, mb5.0/38, MS4.3/26, Error ellipse: s-maj=5.9km s-min=3.6km az=138.0*
*NEIC **25** 14:08:27.5±0.3, 32.˚94S× 179.˚83E, h35km, mb5.3/20, Error ellipse: s-maj=11.6km s-min=7.7km az=153.0*
*GCMT **25** 14:08:27.5±0.2, 32.˚98S× 179.˚87E, h12km, MW5.1/84, Moment Tensor Solution. s34,c47; s84,c130; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=3.63±.15; $M_{\theta\theta}$=-1.60±.16; $M_{\phi\phi}$=5.23±.12; $M_{r\theta}$=-0.22±.47; $M_{r\phi}$=3.06±.12; $M_{\theta\phi}$=-0.98±.39; Best double couple: M=5.12400×10^16^ NP1:ϕ=13.00000°, δ=51.00000°, λ=-101.00000°. NP2: ϕ=210.00000°, δ=40.00000°, λ=-77.00000°. Principal axes: T 6.4980, Plg6.0000°, Azm111.0000°; N -2.7490, Plg8.0000°, Azm20.0000°; P -3.7500, Plg80.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 14:08:27.8±0.4**, 33.˚01S**±0.˚07×**179.˚89E**±0.˚06**, h35**km**, n203,** σ1**.9/50/195, mb5.1/37, MS4.3/26, 35C-30D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.19**	**27**	*e*P	**Pn**	**14 09 26.4**	**-2.8**
RAO	**Raoul Island**	**4.19**	**27**	Pn	**Pn**	**14 09 27.7**	**-1.5**
	26nm,0.3s,baz=193,slow=8.4,SNR=22						
RAO				LR	LR	14 10 46.6	
	comp=Z,1μm,18.3s,baz=166,slow=35						
MXZ	**Matakaoa Point**	**4.73**	**195**	PN	**Pn**	**14 09 36.1**	**-0.5**
HAZ	**Te Kaha**	**5.04**	**199**	PN	**Pn**	**14 09 41.9**	**+1.0**
KUZ	**Kuaotunu**	**5.07**	**221**	PN	**Pn**	**14 09 41.7**	**+0.4**
PUZ	**Puketiti**	**5.23**	**194**	PN	**Pn**	**14 09 42.3**	**-1.2**
WCZ	**Waipu Caves**	**5.44**	**236**	PN	**Pn**	**14 09 45.0**	**-1.4**
CNGZ	**Carnagh Statio**	**5.64**	**194**	PN	**Pn**	**14 09 48.0**	**-1.1**
MWZ	**Matawai**	**5.66**	**199**	PN	**Pn**	**14 09 48.9**	**-0.5**
OUZ	**Omahuta**	**5.67**	**245**	*e*P	**Pn**	**14 09 47.2**	**-2.3**
	242nm,0.9s						
OUZ	**Omahuta**	**5.67**	**245**	PN	**Pn**	**14 09 47.2**	**-2.3**
URZ	**Urewera**	**5.71**	**203**	*e*P	**Pn**	**14 09 50.5**	**+0.4**
	99nm,0.7s						
URZ	**Urewera**	**5.71**	**203**	Pn	**Pn**	**14 09 50.8**	**+0.8**
	5.4nm,0.3s,baz=31,slow=3.0,SNR=51						
URZ	**Urewera**	**5.71**	**203**	PN	**Pn**	**14 09 51.0**	**+0.9**
TOZ	**Tahuroa Road**	**5.92**	**216**	PN	**Pn**	**14 09 54.6**	**+1.6**
RIGZ	**Rimuhau**	**5.94**	**196**	PN	**Pn**	**14 09 51.7**	**-1.6**
SNGZ	**Shannon Statio**	**6.12**	**199**	PN	**Pn**	**14 09 55.2**	**-0.6**
KNZ	**Kokohu**	**6.26**	**196**	PN	**Pn**	**14 09 56.2**	**-1.4**
BKZ	**Black Stump Fm**	**6.74**	**203**	PN	**Pn**	**14 10 03.0**	**-1.2**
HIZ	**Hauiti**	**6.85**	**215**	PN	**Pn**	**14 10 08.1**	**+2.3**
PXZ	**Pawanui**	**7.42**	**198**	PN	**Pn**	**14 10 10.5**	**-3.1**
BFZ	**Birch Farm**	**8.20**	**200**	PN	Pn	14 10 19.9	-4.3
MRZ	**Mangatainoka R**	**8.39**	**203**	PN	Pn	14 10 23.0	-3.8
DZM	**Mont Dzumac**	**16.14**	**309**	*e*Pn	**Pn**	**14 12 10.9**	**-1.2**
	172nm,1.6s						
DZM				*e*LR	LR	14 15 50.7	
	6μm,26.0s						
DZM	**Mont Dzumac**	**16.14**	**309**	Pn	**Pn**	**14 12 10.1**	**-1.9**
DZM	**Mont Dzumac**	**16.14**	**309**	Pn	**Pn**	**14 12 10.1**	**-1.9**
	0.2nm,0.3s,baz=117,slow=15,SNR=6.5						
DZM				LR	LR	14 17 14.3	
	comp=Z,3μm,18.1s,baz=142,slow=33						
DZM	**Mont Dzumac**	**16.14**	**309**	*e*P	**Pn**	**14 12 09.6**	**-2.5**
DZM	**Mont Dzumac**	**16.14**	**309**	*e*P	**Pn**	**14 12 09.6**	**-2.5**
NOUC	**Port Laguerre**	**16.21**	**309**	*e*P	**Pn**	**14 12 11.4**	**-1.4**
NOUC	**Port Laguerre**	**16.21**	**309**	*e*P	**Pn**	**14 12 11.4**	**-1.4**
CNB	**Canberra Magne**	**25.32**	**256**	⇑P	**P**	**14 13 53.1**	**+1.8**
	baz=25,SNR=5.7						
CAN	**Canberra**	**25.62**	**256**	*e*P	**P**	**14 13 55.4**	**+1.4**
	24nm,1.2s						
CAN	**Canberra**	**25.62**	**256**	⇑P	**P**	**14 13 55.7**	**+1.7**
	baz=25						
YNG	**Young**	**26.20**	**258**	⇓P	**P**	**14 14 00.9**	**+1.6**
	baz=26,SNR=7.4						
EIDS	**Eidsvold**	**26.22**	**279**	*e*P	**P**	**14 13 58.5**	**-1.0**
	45nm,1.2s						
EIDS	**Eidsvold**	**26.22**	**279**	P	**P**	**14 13 59.7**	**+0.2**
	baz=26,SNR=7.3						
TAU	**Tasmania Unive**	**27.37**	**239**	*e*P	**P**	**14 14 10.4**	**+0.8**
	56nm,1.1s						
MOO	**Moorlands**	**27.39**	**240**	⇑P	**P**	**14 14 12.2**	**+2.4**
	baz=27,SNR=4.5						
RMQ	**Roma**	**27.74**	**275**	⇑P	**P**	**14 14 14.5**	**+1.3**
	baz=28,SNR=8.6						
TBI	**Tubuai**	**28.59**	**78**	*e*LQ	LQ	14 20 04.0	
	2μm,27.8s						
TBI				*e*LR	LR	14 21 31.3	
	2μm,29.8s,baz=238						
TBI	**Tubuai**	**28.59**	**78**	*e*T	T	14 43 14.3	
	15nm,0.3s						
CMSA	**Cobar Meteorol**	**28.89**	**264**	P	**P**	**14 14 23.9**	**+0.6**
	baz=29,SNR=7.1						
ARPS	**Mount Arapiles**	**31.30**	**252**	P	**P**	**14 14 46.2**	**+1.6**
	baz=31,SNR=15						
PAE	**Paea**	**31.39**	**68**	*e*T	T	14 46 40.5	
	5.4nm,0.2s						
PPT2	**Papeete2**	**31.44**	**68**	*e*LQ	LQ	14 21 08.8	
	1μm,25.0s						
PPT2				*e*LR	LR	14 22 45.3	
	2μm,28.2s,baz=229						
PPT2	**Papeete2**	**31.44**	**68**	*e*T	T	14 46 45.6	
	9.8nm,0.4s						
PPT	**Papeete**	**31.45**	**68**	LR	LR	14 23 53.9	
	comp=Z,290nm,22.0s,baz=242,slow=30						
QLP	**Quilpie**	**31.50**	**272**	P	**P**	**14 14 46.4**	**0.0**
	baz=31,SNR=11						
TVO	**Taravao**	**31.58**	**69**	*e*T	T	14 46 56.3	
	1.4nm,0.4s						
TIAR	**Tiarei**	**31.64**	**68**	*e*P	**P**	**14 14 47.9**	**+0.2**
	10nm,0.8s						
STKA	**Stephens Creek**	**32.23**	**261**	*e*P	**P**	**14 14 52.8**	**0.0**
	10nm,1.8s						
STKA	**Stephens Creek**	**32.23**	**261**	P	**P**	**14 14 53.0**	**+0.2**
	8.0nm,0.9s,baz=94,slow=11,SNR=11						
STKA				LR	LR	14 27 18.4	
	comp=Z,1μm,18.1s,baz=98,slow=35						
STKA	**Stephens Creek**	**32.23**	**261**	P	**P**	**14 14 53.3**	**+0.5**
	baz=32,SNR=8.2						
MEH	**Mehetia**	**32.46**	**70**	*e*T	T	14 48 03.5	
	13nm,0.3s						
CTA	**Charters Tower**	**32.58**	**285**	P	**P**	**14 14 55.8**	**-0.2**
CTA	**Charters Tower**	**32.58**	**285**	P	**P**	**14 14 55.8**	**-0.2**
	16nm,1.0s,baz=105,slow=10,SNR=8.7						
HTT	**Hallett**	**34.12**	**258**	P	**P**	**14 15 10.1**	**+0.7**
	baz=34,SNR=7.0						
PMOR	**Pomariorio Ree**	**34.26**	**66**	*e*P	**P**	**14 15 10.8**	**+0.2**
	33nm,1.1s						
VAH	**Vaihoa**	**34.33**	**67**	*e*P	**P**	**14 15 11.0**	**-0.2**
	31nm,1.1s						
VAH	**Vaihoa**	**34.33**	**67**	*e*T	T	14 50 19.5	
	26nm,0.2s						
BBOO	**Buckleboo**	**36.60**	**258**	*e*P	**P**	**14 15 29.8**	**-0.9**
	115nm,1.0s						
QIS	**Mount Isa**	**37.83**	**279**	P	**P**	**14 15 40.6**	**-0.5**
	baz=38,SNR=7.3						
PMG	**Port Moresby**	**38.24**	**300**	LR	LR	14 28 53.3	
	comp=Z,1μm,21.0s,baz=174,slow=32						
COEN	**Coen**	**38.38**	**291**	P	**P**	**14 15 45.8**	**-0.1**
	baz=38,SNR=5.5						
RKT	**Rikitea**	**40.76**	**88**	*e*S	**S**	**14 22 13.7**	**-0.4**
	142nm,25.5s						
RKT				*e*LQ	LQ	14 25 23.6	
	364nm,28.0s						
RKT				*e*LR	LR	14 27 12.1	
	2μm,30.0s,baz=245						
RKT	**Rikitea**	**40.76**	**88**	*e*T	T	14 58 44.2	
	2.7nm,0.2s						
AS31	**Alice Springs**	**41.26**	**271**	*e*P	**P**	**14 16 08.6**	**-1.2**
ASAR	**Alice Springs**	**41.26**	**271**	P	**P**	**14 16 08.9**	**-0.9**
ASAR				S	S	14 22 27.6	+6.0
ASAR	**Alice Springs**	**41.26**	**271**	P	**P**	**14 16 08.9**	**-0.9**
	26nm,0.9s,baz=109,slow=7.5,SNR=195						
ASAR				S	S	14 22 27.6	+6.0
	1.1nm,1.0s,baz=120,slow=16,SNR=6.0						
ASAR				LR	LR	14 31 50.5	
	comp=Z,377nm,21.9s,baz=122,slow=34						
WRAB	**Tennant Creek**	**42.49**	**276**	P	**P**	**14 16 18.2**	**-1.6**
	250nm,0.9s,SNR=9.7						
WRAB	**Tennant Creek**	**42.49**	**276**	*e*P	**P**	**14 16 18.4**	**-1.4**
	56nm,1.2s						
WRA	**Warramunga Arr**	**42.49**	**276**	P	**P**	**14 16 18.6**	**-1.3**
WRA	**Warramunga Arr**	**42.49**	**276**	P	**P**	**14 16 18.6**	**-1.3**
	35nm,0.9s,baz=115,slow=7.9,SNR=78						
WRA				LR	LR	14 32 35.1	
	comp=Z,495nm,21.2s,baz=140,slow=34						
VNDA	**Vanda**	**45.33**	**185**	LR	LR	14 33 03.6	
	comp=Z,130nm,20.4s,baz=43,slow=33						
WRKA	**Warakurna**	**45.44**	**266**	⇓P	**P**	**14 16 42.5**	**-1.0**
	baz=45,SNR=22						
JAY	**Jayapura**	**47.60**	**301**	LR	LR	14 35 06.5	
	comp=Z,504nm,21.1s,baz=126,slow=34						
KNRA	**Kununurra**	**49.19**	**278**	⇓P	**P**	**14 17 12.1**	**-0.6**
	baz=49,SNR=5.8						
NWAO	**Narrogin (SRO)**	**51.84**	**252**	LR	LR	14 35 46.4	
	comp=Z,276nm,20.1s,baz=102,slow=32						
MEEK	**Meekatharra**	**52.90**	**260**	⇓P	**P**	**14 17 39.6**	**-1.0**
	baz=53,SNR=4.9						
MORW	**Morawa**	**54.11**	**256**	P	**P**	**14 17 48.9**	**-0.4**
	baz=54,SNR=7.3						
SOEI	**Soe**	**56.02**	**281**	*e*P	**P**	**14 18 04.1**	**+0.6**
	75nm,1.1s						
QSPA	**South Pole Qui**	**57.11**	**180**	*e*P	**P**	**14 18 11.2**	**+0.7**
	42nm,1.1s						
QSPA	**South Pole Qui**	**57.11**	**180**	P	**P**	**14 18 11.2**	**+0.7**
	21nm,0.9s,baz=4.2,slow=1.1,SNR=29						
MMRI	**Maumere**	**58.31**	**281**	*e*P	**P**	**14 18 18.0**	**-1.5**
	196nm,1.4s						
JAGI	**Jajag, Banyuwa**	**65.11**	**276**	*e*P	**P**	**14 19 03.6**	**-1.8**
	40nm,1.1s						
JAGI	**Jajag, Banyuwa**	**65.11**	**276**	⇑P	**P**	**14 19 04.6**	**-0.8**
	baz=65,SNR=3.7						
MAW	**Mawson**	**69.24**	**201**	LR	LR	14 49 27.4	
	comp=Z,177nm,18.4s,baz=120,slow=36						
JCJ	**Chichijima**	**69.70**	**324**	LR	LR	14 42 55.9	
	comp=Z,122nm,21.3s,baz=146,slow=30						
SYO	**Syowa Base**	**74.17**	**194**	⇑*e*P	**P**	**14 20 00.8**	**+0.5**
SNAA	**Sanae**	**75.59**	**179**	P	**P**	**14 20 08.2**	**-0.3**
SNAA	**Sanae**	**75.59**	**179**	*e*P	**P**	**14 20 07.8**	**-0.8**
	30nm,1.4s						
VNA2	**Neumayer--Watz**	**76.23**	**178**	P	**P**	**14 20 12.0**	**-0.2**
VNA1	**Neumayer--Stat**	**76.47**	**177**	P	**P**	**14 20 13.3**	**-0.2**
MJAR	**Matsushiro Arr**	**79.40**	**327**	P	P	14 20 35.5	+5.3
MJAR	**Matsushiro Arr**	**79.40**	**327**	P	P	14 20 35.4	+5.3
	3.5nm,1.0s,baz=160,slow=8.5,SNR=3.9						
MJAR				LR	LR	14 55 00.2	
	comp=Z,48nm,18.5s,baz=235,slow=35						
H03N3	**Juan Fernandez**	**80.72**	**124**	T	T	15 49 32.9	
	baz=236,slow=74,SNR=1302						
H03N2	**Juan Fernandez**	**80.72**	**124**	T	T	15 49 34.2	
	baz=236,slow=74,SNR=999						
H03N1	**Juan Fernandez**	**80.74**	**124**	T	T	15 49 35.2	
	baz=236,slow=74,SNR=1163						
PLCA	**Paso Flores**	**82.03**	**134**	P	**P**	**14 20 44.2**	**-0.3**
PLCA	**Paso Flores**	**82.03**	**134**	P	**P**	**14 20 44.2**	**-0.3**
	3.8nm,1.0s,baz=242,slow=3.3,SNR=3.4						
PLCA				LR	LR	14 48 19.6	
	comp=Z,79nm,21.6s,baz=268,slow=29						
QIZ	**Qiongzhong**	**84.52**	**297**	P	**P**	**14 20 57.8**	**+0.4**
QIZ				S	**S**	**14 31 20.5**	**-1.4**
QIZ				SS	**SS**	**14 36 50.3**	**-3.4**
KSRS	**Korea Array**	**85.20**	**321**	P	**P**	**14 21 01.1**	**+0.7**
	1.3nm,0.8s,baz=138,slow=3.3,SNR=3.9						
KSRS				LR	LR	14 58 13.0	
	comp=Z,42nm,18.0s,baz=154,slow=35						
KSAR	**Wonju Array Be**	**85.21**	**321**	P	**P**	**14 21 01.1**	**+0.6**
PETK	**Petropavlovsk-**	**87.91**	**347**	LR	LR	14 56 04.1	
	comp=Z,75nm,19.9s,baz=173,slow=33						
CIS	**Catalina Islan**	**87.93**	**47**	⇓P	**P**	**14 21 14.3**	**+0.3**
	baz=88						
USRK	**Ussuriysk Arra**	**88.37**	**328**	LR	LR	14 55 53.4	
	comp=Z,114nm,20.7s,baz=141,slow=32						
MURC	**Murrieta**	**88.81**	**48**	⇑P	**P**	**14 21 18.7**	**+0.6**
	baz=89,SNR=5.5						
ARVC	**Arvin**	**88.83**	**46**	⇓P	**P**	**14 21 18.9**	**+0.8**
	baz=89						
MONP	**Monument Peak**	**88.83**	**49**	⇓P	**P**	**14 21 19.4**	**+0.9**
	baz=89,SNR=6.8						
BFSC	**Mount Baldy Ra**	**88.95**	**47**	⇑P	**P**	**14 21 19.3**	**+0.5**
	baz=89,SNR=11						
EDW2	**Edwards Air Fo**	**89.17**	**47**	⇓P	**P**	**14 21 20.5**	**+0.7**
	baz=89,SNR=13						
SWSC	**Sam W. Stewart**	**89.26**	**49**	⇑P	**P**	**14 21 21.0**	**+0.9**
	baz=90						
PFO	**Pinyon Flat Ob**	**89.28**	**48**	*e*P	**P**	**14 21 21.1**	**+0.7**
	33nm,1.5s						
LRMC	**Laurel Mountai**	**89.75**	**46**	⇑P	**P**	**14 21 23.3**	**+0.7**
	baz=90,SNR=13						
BELC	**Belle Mtn. Jos**	**89.83**	**48**	⇓P	**P**	**14 21 24.0**	**+1.1**
	baz=90,SNR=15						
BC3	**Big Chuckawall**	**89.94**	**49**	⇓P	**P**

18nm,1.2s
W13A Hualapai Mount 91.86 49 ⇑P P 14 21 33.2 +0.7
baz=92,SNR=6.1
SHPR Sheep Range 91.97 47 *e*P P 14 21 33.6 +0.7
10nm,1.3s
TUC Tucson 92.13 52 *e*P P 14 21 34.8 +1.1
28nm,1.5s
319A Douglas 92.57 54 ⇓P P 14 21 36.3 +0.5
baz=93
CMAR Chiang Mai Arr 92.59 290 P P 14 21 38.2 +2.2
CMAR Chiang Mai Arr 92.59 290 P P 14 21 38.2 +2.2
0.5nm,0.7s,baz=132,slow=5.4,SNR=3.6
CMAR LR LR 15 04 33.9
comp=Z,49nm,20.2s,baz=135,slow=36
R11A Troy Canyon, C 92.91 45 ⇑P P 14 21 37.2 -0.1
baz=93
X16A Lo Mia Camp, P 93.00 50 ⇑P P 14 21 38.7 +0.9
baz=93,SNR=5.1
J05D Fort Rock, OR 93.05 39 P P 14 21 37.9 +0.2
baz=93
KMI Kunming 93.42 298 P P 14 21 39.5 -0.5
KMI pP **pP** 14 21 53.0 +1.9
KMI sP **sP** 14 21 58.8 +3.7
KMI S **S** 14 32 45.8 +0.1
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI pmax pmax
comp=Z,100nm,5.2s
KMI LR LR
comp=Z,210nm,38.5s
BJI Beijing 93.54 316 P P 14 21 41.3 +1.5
BJI S **S** 14 32 48.0 +2.4
BJI SS **SS** 14 39 07.5 +3.3
BJI pmax pmax
comp=Z,6.0nm,0.5s
BJI pmax pmax
comp=Z,110nm,4.8s
BJI LR LR
comp=N,150nm,28.7s
BJI LR LR
comp=E,250nm,29.6s
BJI LR LR
comp=Z,110nm,28.7s
WUAZ Wupatki 93.72 50 ⇓P P 14 21 41.5 +0.5
baz=94
626A Big Bend Ranch 95.08 58 ⇑P P 14 21 47.6 +0.3
baz=95
425A Indio Mountain 95.19 57 ⇑P P 14 21 47.9 0.0
baz=95
Z22A Elephant Butte 95.26 54 ⇑P P 14 21 48.4 +0.2
baz=96
TXAR Lajitas Array 95.29 58 P P 14 21 48.2 -0.1
TXAR Lajitas Array 95.29 58 P P 14 21 48.2 -0.1
2.1nm,1.0s,baz=210,slow=7.2,SNR=12
TXAR LR LR 14 58 15.2
comp=Z,100nm,18.6s,baz=0.0,slow=31
526A Mary Lane Ranc 95.40 58 ⇑P P 14 21 48.7 -0.2
baz=96
627A Terlingua Ranc 95.56 59 ⇓P P 14 21 49.7 +0.1
baz=96
426A McDonald Obser 95.79 57 ⇓P P 14 21 50.6 -0.1
baz=96
628A Black Gap, Mar 95.94 59 ⇓P P 14 21 51.4 +0.2
baz=96
CD2 Chengdu 95.97 303 *e*P P 14 21 51.5 +0.2
CD2 sP **sP** 14 22 06.8 +0.3
CD2 PP **PP** 14 25 46.8 +2.4
CD2 SKS **SKSac** 14 32 23.8 -1.3
CD2 S **S** 14 33 04.3 -3.1
CD2 SS **SS** 14 39 39.8 +0.5
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,250nm,10.7s
CD2 LR LR
comp=N,520nm,17.8s
CD2 LR LR
comp=Z,320nm,17.8s
MFID Camas Ranch 96.06 41 *e*P P 14 21 50.5 -1.0
4.3nm,0.9s
225A Deer Hill, Car 96.06 56 ⇑P P 14 21 52.0 +0.1
baz=96
427A Hayter Ranch, 96.34 57 ⇓P P 14 21 53.5 +0.4
baz=96
528A Cox Ranch, San 96.39 58 ⇑P P 14 21 53.8 +0.5
baz=97,SNR=5.7
226B Tecolote Peak, 96.50 56 ⇓P P 14 21 54.2 +0.4
baz=97
Y24A Capitan 96.69 54 ⇓P P 14 21 55.3 +0.6
baz=97
HHC Hu-ho-hao-te 96.77 315 *e*P P 14 21 56.0 +1.2
HHC sP **sP** 14 22 12.3 +2.4
HHC PP **PP** 14 25 55.0 +4.5
HHC SKS **SKSac** 14 32 30.3 +1.4
HHC S **ScS** 14 33 14.8 +0.4
HHC SS **SS** 14 39 49.3 -1.1
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,190nm,6.7s
HHC LR LR
comp=N,320nm,16.5s
HHC LR LR
comp=E,390nm,16.8s
HHC LR LR
comp=Z,250nm,16.5s
HLID Hailey 96.94 42 ⇓P P 14 21 56.1 +0.6
baz=97
429A Davenport Ranc 97.29 58 ⇓P Pdif 14 21 57.4 0.0
baz=98
530A J-C Ranch, Com 97.42 59 ⇑P Pdif 14 21 58.4 +0.4
baz=98
732A Laxson Ranch, 97.63 61 ⇑P Pdif 14 21 59.2 +0.3
baz=98
531A Rocksprings 98.00 59 ⇑P Pdif 14 22 01.7 +1.2
baz=98
V25A Rancho No Teng 98.33 53 ⇑Pdiff Pdif 14 22 03.3 +1.1
baz=98
532A Rocksprings 98.44 60 ⇑Pdiff Pdif 14 22 03.6 +1.0
baz=99
U25A Circle Dot Ran 98.79 52 ⇑Pdiff Pdif 14 22 04.3 +0.2
baz=99
936A North Padre Is 98.90 63 ⇓Pdiff Pdif 14 22 05.6 +1.0
baz=99
332A Millersview 99.25 59 ⇑Pdiff **Pdif** 14 22 06.8 +0.7
baz=99
PDAR Pinedale Array 99.25 45 P **Pdif** 14 22 05.2 -0.8
PDAR Pinedale Array 99.25 45 P **Pdif** 14 22 05.2 -0.8
0.4nm,0.8s,baz=132,slow=1.3,SNR=3.5
PDAR LR LR 15 03 42.3
comp=Z,93nm,18.0s,baz=293,slow=34
433A Art 99.38 60 ⇓Pdiff **Pdif** 14 22 07.3 +0.7
baz=100
CPUP Villa Florida 99.73 130 LR LR 14 59 14.2
comp=Z,223nm,21.1s,baz=208,slow=31
WMQ Urumqi 113.42 308 PKP **PKiKP** 14 27 01.3 -0.5
WMQ sPKP 14 27 15.8
WMQ PP **PP** 14 27 56.5 +2.7
WMQ PKS **PKSdf** 14 30 36.3 -2.2
WMQ SKS **SKSdf** 14 34 08.5 -2.7
WMQ SKKS **SKKSac** 14 34 45.5 -6.9
WMQ SS **SS** 14 43 35.8 -2.2
WMQ AMB AMB
comp=Z,23nm,9.3s
WMQ LR LR
comp=N,34nm,21.0s
WMQ LR LR
comp=E,130nm,36.0s
WMQ LR LR
comp=Z,97nm,23.0s
KSH Kashi 120.00 300 *e*PKP **PKPdf** 14 27 16.3 +1.6
KSH *es*PKP 14 27 30.3
KSH *e*SKS **SKSdf** 14 34 23.5 -0.6
KSH AMB AMB
comp=Z,73nm,4.6s
KSH LR LR
comp=N,86nm,4.9s
KSH LR LR
comp=E,110nm,6.2s
KSH LR LR
comp=Z,110nm,6.1s
KURK Kurchatov 121.53 313 PKPpre PKPpre 14 27 13.2
KURBB Kurchatov Arra 121.56 313 PKhKP PKPpre 14 27 13.2
0.3nm,0.7s,baz=101,slow=1.1,SNR=5.2
KAF Kangasniemi 146.34 338 *e*pkp **PKPab** 14 28 09.7 +4.8
FIA1 FINESS Array S 146.91 337 *e*PKPdf **PKPdf** 14 28 01.9 -1.8
FINES FINESS Array B 146.91 337 PKPbc **PKPdf** 14 28 02.9 -0.8
FINES FINESS Array B 146.91 337 PKPbc **PKPdf** 14 28 02.9 -0.8
5.7nm,0.9s,baz=51,slow=4.3,SNR=13
NB2 NORSAR Subarra 151.00 349 PKP **PKPbc** 14 28 13.6 -2.6
comp=Z,1.0nm,0.6s,baz=15,slow=2.6
NOA NORSAR Array B 151.00 349 PKPbc **PKPbc** 14 28 14.9 -1.3
NOA NORSAR Array B 151.00 349 PKPbc **PKPbc** 14 28 14.9 -1.3
comp=Z,0.5nm,0.7s,baz=22,slow=4.6,SNR=6.9
LIC Lamto 152.96 169 *e*P **PKPab** 14 28 29.8 -3.3
comp=Z,31nm,1.1s
KIC Kosan Boka 153.14 170 *e*P **PKPab** 14 28 31.8 -2.1
comp=Z,27nm,1.1s
TIC Toumodi 153.37 169 *e*P **PKPab** 14 28 30.3 -4.6
comp=Z,4.5nm,0.2s
DBIC Dimbokro 153.43 169 PKPab **PKPab** 14 28 34.3 -0.7
DBIC Dimbokro 153.43 169 PKPab **PKPab** 14 28 34.3 -0.7
comp=Z,4.0nm,0.9s,baz=135,slow=5.7,SNR=3.9
TORD Torodi Ar. Bea 160.16 185 PKPab **PKPab** 14 29 03.0 -1.0
TORD Torodi Ar. Bea 160.16 185 PKPab **PKPab** 14 29 03.0 -1.0
comp=Z,1.4nm,0.9s,baz=181,slow=3.4,SNR=7.3

IDC ***25*** *14:24:36.5±1.7, 12.85N×125.12E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/38, mbtmp3.7/7, MS3.5/3, Ms1 3.5/3, ms1mx2.9/28, Error ellipse: s-maj=193.0km s-min=16.9km az=67.0*
MAN ***25*** *14:24:40, 12.96N×124.89E, h32km, mb4.9, ML3.8, MS3.9*
ISCJB ***25*** *14:24:41.1±0.8, 12.91N±0.04×124.92E±0.06, h46km±9km, mb3.7/7, MS3.5/3, Error ellipse: s-maj=11.3km s-min=5.3km az=150.9*

ISC 25 14:24:40.8±1.6, 12.91N±0.05×124.91E±0.07, h27km±13km, n26, σ1°27/29, mb3.8/7, MS3.5/3, 1C-4D, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PVCP	**Virac**	**1.01**	**313**	⇑*e*P		**Pn**	**14 24 58.1**	**-1.1**
PVCP				*i* S		**Sn**	**14 25 13.3**	**+0.8**
MMPH	**Masbate**	**1.37**	**247**	⇓*e*P		**Pn**	**14 25 03.2**	**-1.0**
MMPH				*i* S		**Sn**	**14 25 20.5**	**-1.0**
BESP	**Borongan**	**1.40**	**158**	*e*P		**Pb**	**14 25 05.4**	**-0.8**
BESP				*e*S		**Sb**	**14 25 25.4**	**+1.8**
PLP	**Palo**	**1.73**	**178**	*e*P		**Pn**	**14 25 08.2**	**-1.0**
PLP				*i* S		**Sn**	**14 25 30.5**	**+0.1**
OCLP	**Ormoc**	**1.87**	**189**	*e*P		**Pn**	**14 25 11.4**	**+0.4**
AUQP	**San Andres**	**2.22**	**281**	*e*P		**Pb**	**14 25 19.5**	**-0.8**
RCP	**Roxas**	**2.51**	**238**	⇓*e*P		**Pn**	**14 25 20.1**	**+0.2**
RCP				*e*S		**Sn**	**14 25 49.8**	**+0.3**
GQP	**Guinayangan**	**2.60**	**293**	⇓*e*P		**Pn**	**14 25 19.5**	**-1.5**
GQP				*e*S		**Sn**	**14 25 54.1**	**+2.4**
MSLP	**Maasin**	**2.76**	**181**	*e*P		**Pn**	**14 25 25.3**	**+2.0**
BOAC	**Boac**	**3.04**	**281**	*e*P		**Pn**	**14 25 29.0**	**+1.8**
GUIM	**Jordan**	**3.21**	**225**	*e*P		**Pn**	**14 25 30.0**	**+0.5**
SJMP	**San Jose**	**3.73**	**264**	*e*P		Pn	14 25 40.5	+3.9
BUTP	**Butuan**	**3.97**	**170**	*e*P		Pn	14 25 43.3	+3.3
PCPH	**Palayan**	**4.55**	**306**	⇓*e*P		**Pn**	**14 25 48.5**	**+0.6**
BUKP	**Musuan**	**5.00**	**178**	*e*P		**Pn**	**14 25 55.5**	**+1.4**
CAUP	**Cauayan**	**5.00**	**324**	*e*P		**Pn**	**14 25 54.2**	**0.0**
APYP	**Conner**	**6.07**	**325**	*e*P		**Pn**	**14 26 08.7**	**-0.1**
MATI	**Mati**	**6.07**	**167**	*e*P		**Pn**	**14 26 07.4**	**-1.4**
WRA	**Warramunga Arr**	**33.94**	**164**	P		**P**	**14 31 19.5**	**-2.5**
	0.4nm,0.5s,baz=345,slow=9.1,SNR=4.6							
WRA				LR		LR	14 48 37.0	
	comp=Z,103nm,18.4s,baz=55,slow=43							
ASAR	**Alice Springs**	**37.40**	**166**	P		**P**	**14 31 51.0**	**-0.6**
	1.6nm,1.1s,baz=343,slow=7.6,SNR=14							
SONM	**Songino Array**	**38.10**	**340**	P		**P**	**14 31 58.5**	**+1.0**
	0.4nm,0.7s,baz=160,slow=7.7,SNR=3.8							
STKA	**Stephens Creek**	**47.31**	**161**	P		**P**	**14 33 11.4**	**-0.8**
	1.5nm,0.7s,baz=4.1,slow=9.1,SNR=4.0							
STKA				LR		LR	14 55 45.4	
	comp=Z,53nm,20.3s,baz=24,slow=40							
MKAR	**Makanchi Array**	**49.14**	**322**	P		**P**	**14 33 27.4**	**+1.1**
	0.5nm,0.8s,baz=114,slow=8.1,SNR=5.4							
ZALV	**Zalesovo Beam**	**51.69**	**331**	P		**P**	**14 33 45.5**	**+0.1**
	0.7nm,0.6s,baz=125,slow=7.4,SNR=4.7							
AAK	**Ala-Archa**	**52.54**	**314**	LR		LR	14 57 08.0	
	comp=Z,30nm,18.3s,baz=24,slow=37							
KURBB	**Kurchatov Arra**	**53.16**	**325**	P		**P**	**14 33 57.5**	**+1.1**
	1.0nm,0.6s,baz=124,slow=7.7,SNR=8.1							

MEX 25 14:27:14.1±0.6, 16.98N×100.17W, h14km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
ACX	**Acapulco**	**0.32**	**110**	*e*P		Pg	14 27 16.3	-4.5
ACX				*i* S		Sg	14 27 19.6	-5.6
ARIG	**Puente Sto Nin**	**1.30**	**353**	*e*P		Pn	14 27 33.8	-4.2
ARIG				*e*S		Sb	14 27 49.8	-5.3
ZIIG	**Zihuatanejo**	**1.38**	**297**	*e*P		Pn	14 27 35.7	-3.3
ZIIG				*i* S		Sn	14 27 51.9	-5.2
PLIG	**Platanillo**	**1.54**	**24**	*e*P		Pn	14 27 38.2	-3.2
PLIG				*i* S		Sn	14 27 56.7	-4.6
TLIG	**Tlapa**	**1.64**	**69**	*i* P		Pn	14 27 39.2	-3.5
TLIG				*i* S		Sn	14 27 58.0	-5.9
PNIG	**Pinotepa**	**2.05**	**106**	*e*P		Pn	14 27 44.9	-3.3
PNIG				*i* S		Sn	14 28 09.2	-4.5

IDC ***25*** *14:38:36.0±8.6, 18.29S×178.00W, h564km±101km, mb3.1/6, mb1 3.4/6, mb1mx3.0/29, mbtmp4.1/6, Error ellipse: s-maj=97.4km s-min=30.3km az=149.0*
ISCJB ***25*** *14:38:36.9±1.5, 18.35S±0.8×178.11W±0.4, h590km, mb3.7/6, Error ellipse: s-maj=118.8km s-min=19.0km az=154.9*

ISC 25 14:38:38.0±1.6, 18.15S±0.9×178.11W±0.4, h590km, n6, σ0°41/6, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
CTA	**Charters Tower**	**33.70**	**261**	P		**P**	**14 44 31.9**	**+0.1**
	3.8nm,0.6s,baz=78,slow=13,SNR=6.0							
STKA	**Stephens Creek**	**38.79**	**241**	P		**P**	**14 45 13.2**	**-0.2**
	2.3nm,0.7s,baz=87,slow=10,SNR=7.1							
WRA	**Warramunga Arr**	**44.88**	**260**	P		**P**	**14 46 01.1**	**-0.3**
	1.7nm,0.5s,baz=98,slow=6.8,SNR=63							
ASAR	**Alice Springs**	**45.01**	**254**	P		**P**	**14 46 02.4**	**0.0**
	6.1nm,0.6s,baz=88,slow=9.2,SNR=131							
ASAR				PcP		**PcP**	**14 47 31.1**	**+0.6**
	0.3nm,0.5s,baz=104,slow=3.9,SNR=4.5							
NVAR	**Mina Array Bea**	**79.36**	**44**	P		P	14 49 44.8	+0.8
	0.2nm,0.5s,baz=234,slow=7.3,SNR=3.8							
TXAR	**Lajitas Array**	**85.86**	**58**	P		**P**	**14 50 16.5**	**-0.1**
	0.5nm,1.0s,baz=221,slow=7.4,SNR=3.6							

MAN 25 14:42:05, 8.70N×125.68E, h52km, mb4.6, ML3.5, MS3.4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
BUTP	**Butuan**	**0.28**	**349**	*e*P		Pn	14 42 15.2	+1.1
BUTP				*e*S		Sn	14 42 24.4	+3.7
BIPH	**Bislig**	**0.85**	**127**	⇓*e*P		Pn	14 42 21.9	+1.2
BIPH				*e*S		Sn	14 42 34.1	+1.8
CGP	**Cagayan de Oro**	**1.00**	**256**	⇑*i*P		Pn	14 42 22.4	-0.4
CGP				*i* S		Sn	14 42 35.3	-0.6
BUKP	**Musuan**	**1.01**	**217**	*e*P		Pn	14 42 23.6	+0.5
BUKP				*e*S		Sn	14 42 37.5	+1.1
SCPH	**Surigao**	**1.10**	**350**	⇑*e*P		Pn	14 42 24.8	+0.7
MSLP	**Maasin**	**1.64**	**331**	*e*P		Pn	14 42 31.8	+0.3
MSLP				*e*S		Sn	14 42 52.1	+0.6
TBP	**Tagbilaran**	**2.05**	**299**	*e*P		Pn	14 42 38.5	+1.5
TBP				*e*S		Sn	14 43 02.2	+0.8
PAGZ	**Pagadian**	**2.42**	**250**	*e*P		Pn	14 42 44.8	+2.6

SJA 25 14:48:42.9±0.5, 23.38S×63.29W, h28km±3km, ML2.6, MW3.7, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
ALOL	**LOMAS DE OLMED**	**0.76**	**235**	*i* P			14 48 58.2	
ASTB	**Santa Barbara**	**1.23**	**242**	*i* P9			14 49 06.1	
AZAP	**Zapla**	**1.83**	**242**	*i* P			14 49 15.5	
AZAP				*i* S			14 49 39.1	
AZAP				IAML			14 49 41.6	
	comp=Z,47nm,0.5s							
SLA	**San Lorenzo**	**2.42**	**236**	*i* P			14 49 23.3	
SLA				*i* S			14 49 53.8	
SLA				IAML			14 49 57.2	
	comp=Z,30nm,0.5s							
ACAN	**Cantantal**	**9.51**	**200**	*i* P			14 51 00.8	

JMA ***25*** *15:00:14.1±0.3, 28.12N×127.99E, h14km±4km, M2.9*
IDC ***25*** *15:00:15.9±1.1, 27.99N×127.34E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, ML2.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/38, Error ellipse: s-maj=48.7km s-min=19.9km az=70.0*

ISC 25 15:00:13.7±2.3, 28.10N±0.07×128.01E±0.08, h3km±16km, n13, σ0°82/14, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
JTK	**Tokunoshima**	**0.89**	**111**	P		**Pg**	**15 00 31.1**	**+0.3**
JTK				*e*S		**Sg**	**15 00 42.9**	**+0.6**
JAMN	**Amaminishikomi**	**1.04**	**82**	P		**Pg**	**15 00 33.7**	**+0.1**
JAMN				*e*S		**Sg**	**15 00 47.0**	**-0.1**
JIH	**Iheya**	**1.06**	**182**	P		**Pb**	**15 00 33.9**	**-0.8**
JIH				*e*S		**Sg**	**15 00 48.6**	**+0.7**
JOW	**Kunigami**	**1.29**	**169**	P		**Pn**	**15 00 37.5**	**-1.1**
JOW				S		**Sb**	**15 00 55.1**	**-0.4**
JAM	**Amami Oshima**	**1.44**	**77**	P		**Pn**	**15 00 39.9**	**-0.7**
JAM				S		**Sb**	**15 00 59.6**	**-0.2**
JAGN	**Aguni-jima**	**1.66**	**205**	P		**Pn**	**15 00 43.0**	**-0.6**
JNU	**Nakatsue**	**5.58**	**26**	Pn		Pb	15 01 45.5	-6.3
	0.3nm,0.3s,baz=178,slow=14,SNR=3.5							
MJAR	**Matsushiro Arr**	**12.04**	**43**	LR		LR	15 08 27.4	
	comp=Z,94nm,19.3s,baz=200,slow=39							
SONM	**Songino Array**	**25.89**	**325**	P		**P**	**15 05 47.3**	**+0.5**
	1.7nm,1.0s,baz=123,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**40.16**	**310**	P		**P**	**15 07 50.6**	**-0.4**
	0.6nm,0.9s,baz=96,slow=8.8,SNR=2.3							
WRA	**Warramunga Arr**	**48.15**	**172**	P		**P**	**15 08 56.8**	**+1.6**
	1.0nm,0.8s,baz=352,slow=8.3,SNR=7.1							
ASAR	**Alice Springs**	**51.78**	**173**	P		P	15 09 25.9	+3.2
	0.6nm,0.9s,baz=360,slow=14,SNR=6.3							
STKA	**Stephens Creek**	**61.03**	**167**	P		P	15 10 31.5	+2.9
	0.6nm,0.3s,baz=336,slow=10.0,SNR=3.4							

NNC 25 15:02:57.3±8.1, 44.11N×82.62E, h0km, mb3.5, mpv3.1, 6C-4D, Error ellipse: s-maj=89.5km s-min=27.5km az=129.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
MK02	**Makanchi Array**	**2.67**	**355**	⇑Pn		Pn	15 03 42.0	+0.4
	3.3nm,0.4s							
MK02				⇓Lg		Lg	15 04 24.1	
	3.7nm,0.4s							
TKM2	**Tokmak 2**	**5.24**	**259**	⇓Pn		Pn	15 04 15.8	-1.4
	12nm,1.6s							
TKM2				⇑Sn		Sn	15 05 15.3	-3.4
	10nm,0.6s							
AAK	**Ala-Archa**	**6.10**	**259**	⇑Pn		Pn	15 04 30.6	+1.6
	1.8nm,0.9s							
AAK				⇑Sn		Sn	15 05 46.9	+7.1
	4.6nm,0.7s							
KURBB	**Kurchatov Arra**	**7.08**	**338**	⇓Pn		Pn	15 04 41.8	-0.3
	0.7nm,0.7s							
KURBB				⇓Lg		Lg	15 06 36.5	
	7.7nm,0.7s							
KURK	**Kurchatov**	**7.14**	**339**	⇑Pn		Pn	15 04 40.6	-2.4
	2.1nm,1.6s							
KURK				⇑Lg		Lg	15 06 43.3	
	2.5nm,0.8s							

ISCJB ***25*** *15:23:36.9±1.9, 28.10N±0.07×128.00E±0.09, h18km±18km, mb3.2/4, MS3.4/1, Error ellipse: s-maj=17.3km s-min=6.7km az=41.9*
JMA ***25*** *15:23:36.7±0.3, 28.09N×128.00E, h13km±4km, M2.8*
IDC ***25*** *15:23:37.0±1.5, 27.87N×127.62E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/46, mbtmp3.4/5, ML2.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=40.4km s-min=24.2km az=80.0*

ISC 25 15:23:35.5±1.7, 28.13N±0.05×127.99E±0.06, h9km±11km, n11, σ1°56/14, mb3.2/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
JTK	**Tokunoshima**	**0.91**	**112**	P		**Pb**	**15 23 53.4**	**-0.2**
JTK				*e*S		**Sb**	**15 24 05.5**	**-0.4**
JAMN	**Amaminishikomi**	**1.05**	**84**	P		**Pg**	**15 23 56.2**	**+0.5**
JAMN				*e*S		**Sg**	**15 24 10.0**	**+0.6**
JIH	**Iheya**	**1.09**	**181**	P		**Pg**	**15 23 56.2**	**-0.3**
JIH				*e*S		**Sg**	**15 24 10.4**	**-0.3**
JOW	**Kunigami**	**1.32**	**169**	P		**Pb**	**15 23 59.8**	**-0.6**
JOW				*e*S		**Sn**	**15 24 16.5**	**-1.3**
JAM	**Amami Oshima**	**1.45**	**78**	P		**Pb**	**15 24 03.0**	**+0.3**
JAM				*e*S		**Sn**	**15 24 20.0**	**-1.1**
JNU	**Nakatsue**	**5.56**	**26**	Pn		Pn	15 25 05.8	+7.2
	0.2nm,0.3s,baz=161,slow=18,SNR=2.3							
JNU				Sn		**Sb**	**15 26 15.8**	**-3.9**
	0.4nm,0.3s,baz=177,slow=7.2,SNR=3.5							
SONM	**Songino Array**	**25.86**	**325**	P		P	15 29 12.6	+5.0
	0.7nm,0.9s,baz=143,slow=11,SNR=5.6							
JAY	**Jayapura**	**32.83**	**156**	LR		LR	15 43 44.4	
	comp=Z,70nm,18.1s,baz=140,slow=37							
MKAR	**Makanchi Array**	**40.13**	**310**	P		**P**	**15 31 12.6**	**+0.8**
	0.3nm,0.7s,baz=91,slow=10,SNR=3.7							
KURBB	**Kurchatov Arra**	**43.35**	**315**	P		**P**	**15 31 39.6**	**+1.6**
	0.3nm,0.6s,baz=102,slow=9.1,SNR=3.2							
ASAR	**Alice Springs**	**51.81**	**173**	P		**P**	**15 32 45.1**	**+1.2**
	0.3nm,0.8s,baz=355,slow=10,SNR=2.6							

IDC ***25*** *15:26:12.4±1.5, 27.18N×127.97E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/44, mbtmp3.5/6, ML3.2/1, MS3.4/6, Ms1 3.5/6, ms1mx3.1/31, Error ellipse: s-maj=53.2km s-min=24.4km az=71.0*
JMA ***25*** *15:26:18.1±0.3, 28.10N×127.98E, h17km±5km, M3.2*
ISCJB ***25*** *15:26:20.2±0.6, 28.04N±0.06×128.05E±0.05, h33km, mb3.4/5, MS3.5/4, Error ellipse: s-maj=8.1km s-min=6.5km az=163.0*

ISC 25 15:26:21.7±1.0, 27.98N±0.07×128.12E±0.07, h35km, n16, σ0°95/13, mb3.4/5, MS3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
JTK	**Tokunoshima**	**0.76**	**105**	P		**Pn**	**15 26 35.0**	**-0.9**
JTK				*e*S		**Sn**	**15 26 46.9**	**+0.7**
JIH	**Iheya**	**0.95**	**188**	P		**Pn**	**15 26 37.5**	**-1.0**
JIH				S		**Sn**	**15 26 51.8**	**+0.9**
JAMN	**Amaminishikomi**	**0.97**	**74**	P		**Pn**	**15 26 37.5**	**-1.2**
JAMN				*e*S		**Sn**	**15 26 51.6**	**+0.4**
JOW	**Kunigami**	**1.15**	**173**	P		**Pn**	**15 26 41.0**	**-0.3**
JAM	**Amami Oshima**	**1.38**	**72**	P		**Pn**	**15 26 44.3**	**-0.1**
JAM				*e*S		**Sn**	**15 27 02.2**	**+0.8**
JNU	**Nakatsue**	**5.65**	**24**	Pn		Pn	15 27 48.5	+5.3
	0.6nm,0.3s,baz=8.8,slow=2.8,SNR=4.5							
KSRS	**Korea Array**	**9.45**	**359**	LR		LR	15 32 22.3	
	comp=Z,218nm,19.6s,baz=164,slow=36							
MJAR	**Matsushiro Arr**	**12.06**	**42**	LR		LR	15 33 27.3	
	comp=Z,91nm,21.3s,baz=210,slow=34							
SONM	**Songino Array**	**26.05**	**325**	P		**P**	**15 31 52.9**	**+1.1**
	0.4nm,0.6s,baz=136,slow=10,SNR=3.8							
SONM				LR		LR	15 42 48.3	
	comp=Z,112nm,18.3s,baz=192,slow=37							
CMAR	**Chiang Mai Arr**	**28.38**	**257**	LR		LR	15 45 02.2	
	comp=Z,61nm,18.3s,baz=42,slow=40							
MKAR	**Makanchi Array**	**40.31**	**310**	P		**P**	**15 33 55.3**	**-0.3**
	0.5nm,0.8s,baz=96,slow=9.9,SNR=5.3							
KURBB	**Kurchatov Arra**	**43.53**	**315**	P		**P**	**15 34 20.4**	**-1.4**
	0.6nm,0.6s,baz=100,slow=8.7,SNR=6.6							
BVAR	**Borovoye Array**	**48.92**	**317**	P		**P**	**15 35 04.1**	**0.0**
	0.5nm,0.6s,baz=87,slow=7.4,SNR=3.2							
ASAR	**Alice Springs**	**51.65**	**173**	P		P	15 35 15.1	-10
	0.3nm,0.7s,baz=0.5,slow=10,SNR=2.7							
GNI	**Garni**	**67.80**	**305**	LR		LR	16 11 21.9	
	comp=Z,21nm,18.5s,slow=40							
NOA	**NORSAR Array B**	**77.70**	**334**	LR		LR	16 18 53.5	
	comp=Z,60nm,18.2s,baz=75,slow=40							

IDC ***25*** *15:27:38.5±0.7, 55.01N×162.63E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/46, mbtmp3.7/13, ML3.5/1, Error ellipse: s-maj=22.2km s-min=13.2km az=19.0*
MOS ***25*** *15:27:41.7±1.2, 54.94N×163.00E, h27km, mb4.0/9, Error ellipse: s-maj=13.2km s-min=8.0km az=77.8*
KRSC ***25*** *15:27:41.2±0.6, 27.54N×163.04E, h61km±16km, ML4.2*
ISCJB ***25*** *15:27:42.8±0.4, 54.93N±0.02×163.06E±0.04, h49km±5km, mb3.7/13, Error ellipse: s-maj=4.4km s-min=2.8km

ISC 25 15:27:44.1±0.7, 54.96N×163.00E±0.03, h39km±4km, n76, σ1.910/116, mb3.8/13, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.84**	**242**	PN	**Pn**	**15 27 57.8**	**-1.6**
MKZ				S	**Sn**	**15 28 08.6**	**-1.9**
MKZ	**Mys Kozlova**	**0.84**	**242**	*i* P	**Pn**	**15 27 57.8**	**-1.6**
MKZ				*i* S	**Sn**	**15 28 08.6**	**-1.9**
KBTR	**Krutoberegovo**	**1.26**	**355**	PN	**Pn**	**15 28 04.1**	**-1.1**
KBTR				S	**Sn**	**15 28 20.7**	**-0.1**
KBTR	**Krutoberegovo**	**1.26**	**355**	*i* P	**Pn**	**15 28 04.1**	**-1.1**
KBTR				*i* S	**Sn**	**15 28 20.7**	**-0.1**
KBG	**Krutoberegovo**	**1.31**	**353**	PN	**Pn**	**15 28 04.9**	**-1.0**
KBG				S	**Sn**	**15 28 22.4**	**+0.3**
KBG	**Krutoberegovo**	**1.31**	**353**	*i* P	**Pn**	**15 28 04.9**	**-1.0**
KBG				*i* S	**Sn**	**15 28 22.4**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**1.64**	**308**	*e*P	**Pn**	**15 28 10.0**	**-0.5**
BZGR				*e*S	**Sn**	**15 28 31.2**	**+0.8**
TUMR	**Tumrok**	**1.67**	**282**	*i* P	**Pn**	**15 28 10.8**	**-0.2**
TUMR				*i* S	**Sn**	**15 28 32.3**	**+1.1**
BKI	**Bering**	**1.73**	**81**	PN	**Pn**	**15 28 11.3**	**-0.3**
BKI				S	**Sn**	**15 28 31.8**	**-0.5**
BKI	**Bering**	**1.73**	**81**	*i* P	**Pn**	**15 28 11.3**	**-0.3**
BKI				*i* S	**Sn**	**15 28 31.8**	**-0.5**
BZMR	**Bezymyannaya**	**1.73**	**305**	*e*P	**Pn**	**15 28 11.7**	**-0.1**
BZMR				*e*S	**Sn**	**15 28 32.9**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.75**	**306**	*e*P	**Pn**	**15 28 12.8**	**+0.7**
KMNR	**Kamenistaya**	**1.77**	**298**	*e*P	**Pn**	**15 28 11.9**	**-0.4**
KMNR				*e*S	**Sn**	**15 28 33.7**	**+0.1**
KIRR	**Kirishev**	**1.81**	**304**	*e*P	**Pn**	**15 28 13.3**	**+0.4**
KIRR				*e*S	**Sn**	**15 28 36.3**	**+1.6**
SMKR	**Semkarok**	**1.84**	**333**	*e*P	**Pn**	**15 28 12.6**	**-0.7**
SMKR				*e*S	**Sn**	**15 28 35.4**	**0.0**
KRSR	**Krestovskiy**	**1.87**	**313**	*e*P	**Pn**	**15 28 12.6**	**-1.1**
KRSR				*e*S	**Sn**	**15 28 36.4**	**+0.3**
KPT	**Kopyto**	**1.88**	**304**	*e*P	**Pn**	**15 28 14.1**	**+0.3**
KPT				*e*S	**Sn**	**15 28 37.8**	**+1.6**
KLY	**Klyuchi**	**1.90**	**317**	PN	**Pn**	**15 28 12.7**	**-1.3**
KLY				S	**Sn**	**15 28 35.3**	**-1.4**
KLY	**Klyuchi**	**1.90**	**317**	*e*P	**Pn**	**15 28 12.7**	**-1.3**
KLY				*e*S	**Sn**	**15 28 35.3**	**-1.4**
BDR	**Baidarnaya**	**1.91**	**329**	*e*P	**Pn**	**15 28 14.1**	**0.0**
BDR				*e*S	**Sn**	**15 28 38.4**	**+1.5**
SRKR	**Sorokina**	**1.99**	**329**	*e*P	**Pn**	**15 28 15.7**	**+0.4**
SRKR				*e*S	**Sn**	**15 28 41.1**	**+2.1**
KOZR	**Kozyr**	**2.09**	**303**	PN	**Pn**	**15 28 17.1**	**+0.5**
KOZR				S	**Sn**	**15 28 42.7**	**+1.4**
KOZ	**Kozyrevsk**	**2.09**	**303**	*e*P	**Pn**	**15 28 17.1**	**+0.4**
KOZ				*e*S	**Sn**	**15 28 42.7**	**+1.3**
KII	**Karymskiy**	**2.27**	**247**	*e*P	**Pn**	**15 28 19.0**	**-0.1**
KII				*e*S	**Sn**	**15 28 46.3**	**+0.4**
SRDR	**Sredinnyy**	**2.31**	**308**	*e*P	**Pn**	**15 28 20.3**	**+0.7**
SRDR				*e*S	**Sn**	**15 28 48.2**	**+1.4**
SPN	**Mys Shipunski**	**2.56**	**225**	*e*S	**Sn**	**15 28 53.0**	**+0.1**
ESO	**Esso**	**2.63**	**293**	PN	**Pn**	**15 28 23.5**	**-0.6**
ESO				S	**Sn**	**15 28 56.1**	**+1.3**
ESO	**Esso**	**2.63**	**293**	*i* P	**Pn**	**15 28 23.5**	**-0.6**
ESO				*i* S	**Sn**	**15 28 56.1**	**+1.3**
NLC	**Nalytchevo**	**2.80**	**232**	PN	**Pn**	**15 28 26.0**	**-0.4**
NLC				S	**Sn**	**15 28 58.3**	**-0.5**
NLC	**Nalytchevo**	**2.80**	**232**	*e*P	**Pn**	**15 28 26.0**	**-0.4**
NLC				*e*S	**Sn**	**15 28 58.3**	**-0.5**
SMAR	**Somma**	**3.00**	**237**	*e*P	**Pn**	**15 28 29.5**	**+0.2**
SMAR				*e*S	**Sn**	**15 29 04.3**	**+0.2**
KRER	**Koryakskii**	**3.00**	**238**	*e*P	**Pn**	**15 28 30.0**	**+0.7**
KRER				*e*S	**Sn**	**15 29 05.0**	**+0.9**
KRX	**Arik**	**3.02**	**240**	*e*P	**Pn**	**15 28 30.1**	**+0.6**
KRX				*e*S	**Sn**	**15 29 04.6**	**+0.1**
UGLR	**Uglovaya**	**3.02**	**236**	*e*P	**Pn**	**15 28 30.0**	**+0.5**
UGLR				*e*S	**Sn**	**15 29 04.9**	**+0.4**
AVH	**Avacha**	**3.03**	**238**	*i* P	**Pn**	**15 28 30.2**	**+0.6**
AVH				*e*S	**Sn**	**15 29 04.8**	**+0.3**
KOK	**Koryaka**	**3.06**	**239**	*e*P	**Pn**	**15 28 30.9**	**+0.8**
PET	**Petropavlovsk**	**3.22**	**235**	PN	**Pn**	**15 28 32.3**	**+0.2**
PET				S	**Sn**	**15 29 08.7**	**-0.4**
PET	**Petropavlovsk**	**3.22**	**235**	*e*P	**Pn**	**15 28 32.3**	**+0.2**
PET				*e*S	**Sn**	**15 29 08.7**	**-0.4**
GNL	**Ganaly**	**3.22**	**249**	*e*P	**Pn**	**15 28 33.4**	**+1.1**
PETK	**Petropavlovsk-**	**3.63**	**241**	PN	**Pn**	**15 28 38.7**	**+0.9**
PETK						15 29 21.5	
PETK	comp=Z,5.0nm,0.3s			pmax	pmax		
PETK	comp=N,6.0nm,0.3s			smax	smax		
PETK	**Petropavlovsk-** comp=N,4.6nm,0.3s,baz=69,slow=19,SNR=93	**3.63**	**241**	Pn	**Pn**	**15 28 38.7**	**+0.9**
PETK				Sn	**Sn**	**15 29 21.5**	**+2.0**
	comp=N,5.9nm,0.3s,baz=100,slow=15,SNR=7.5						
RUS	**Russkaya**	**3.68**	**228**	PN	**Pn**	**15 28 38.0**	**-0.4**
RUS				S	**Sn**	**15 29 19.8**	**-0.6**
RUS	**Russkaya**	**3.68**	**228**	*e*P	**Pn**	**15 28 38.0**	**-0.4**
RUS				*e*S	**Sn**	**15 29 19.8**	**-0.6**
MTVR	**Mutnovka**	**3.79**	**231**	*e*P	**Pn**	**15 28 40.8**	**+0.8**
MTVR				*e*S	**Sn**	**15 29 23.2**	**-0.2**
GRL	**Gorelyy**	**3.79**	**233**	*e*P	**Pn**	**15 28 40.3**	**+0.2**
ASAK	**Asacha**	**3.98**	**232**	*e*P	**Pn**	**15 28 42.4**	**-0.3**
ASAK				*e*S	**Sn**	**15 29 27.9**	**-0.2**
APC	**Apacha**	**4.01**	**242**	*e*P	**Pn**	**15 28 44.1**	**+1.2**
APC				*e*S	**Sn**	**15 29 31.5**	**+2.9**
OSSR	**Ossora**	**4.30**	**0**	*e*P	**Pn**	**15 28 46.4**	**-0.5**
OSSR				*e*S	**Sn**	**15 29 34.6**	**-1.2**
MIPR	**Malaya Ipel'ka**	**4.59**	**237**	*e*P	**Pn**	**15 28 52.1**	**+1.2**
PAU	**Pauzhetka**	**5.11**	**229**	PN	**Pn**	**15 28 59.8**	**+1.8**
PAU	**Pauzhetka**	**5.11**	**229**	*e*P	**Pn**	**15 28 59.8**	**+1.8**
TILK	**Tilichiki**	**5.75**	**16**	*e*P	**Pn**	**15 29 08.1**	**+1.2**
TILK				*e*S	**Sn**	**15 30 11.7**	**+0.2**
SKR	**Severo-Kuril's**	**5.98**	**227**	*e*PN	**Pn**	**15 29 09.2**	**-0.8**
SKR	**Severo-Kuril's**	**5.98**	**227**	*e*P	**Pn**	**15 29 10.4**	**+0.4**
SKR				*e*S	**Sn**	**15 30 15.7**	**-1.4**
FX1	**Attu Island--F** comp=N,3.8nm,0.3s,baz=330,slow=5.9,SNR=12	**6.36**	**105**	Pn	**Pn**	**15 29 15.0**	**-0.1**
BILL	**Bilibino**	**13.22**	**5**	*e*PN	Pn	15 30 52.2	+3.3
BILL	comp=Z,1.0nm,0.9s			pmax	pmax		
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=269,slow=9.4,SNR=14	**26.29**	**48**	P	**P**	**15 33 16.2**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=357,slow=76,SNR=44	**35.29**	**174**	T	T	16 12 03.9	
H11N3	**WAKE ISLAND Hy** baz=357,slow=76,SNR=42	**35.31**	**174**	T	T	16 12 04.9	
H11N1	**WAKE ISLAND Hy** baz=357,slow=76,SNR=46	**35.31**	**174**	T	T	16 12 05.2	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.4s,baz=296,slow=8.0,SNR=4.0	**40.63**	**45**	P	**P**	**15 35 21.8**	**+2.1**
KURK	**Kurchatov**	**48.20**	**302**	P	**P**	**15 36 18.8**	**-1.5**
KURK	comp=Z,1.0nm,0.3s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.3s,baz=57,slow=7.7,SNR=5.8	**48.31**	**302**	P	**P**	**15 36 18.8**	**-2.4**
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**15 36 23.2**	**-2.5**
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=42,slow=7.1,SNR=14	**48.89**	**296**	P	**P**	**15 36 23.2**	**-2.5**
BVAR	**Borovoye Array**	**50.57**	**309**	P	**P**	**15 36 36.2**	**-2.2**
BVAR	comp=Z,1.0nm,0.4s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=58,slow=7.2,SNR=6.4	**50.57**	**309**	P	**P**	**15 36 36.2**	**-2.2**
FINES	**FINESS Array B** comp=Z,0.8nm,0.4s,baz=37,slow=7.0,SNR=9.8	**59.07**	**338**	P	**P**	**15 37 38.7**	**-1.0**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.8s,baz=44,slow=5.6	**62.21**	**345**	P	**PP**	**15 40 16.7**	**-0.9**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=11,slow=7.1,SNR=3.2	**62.21**	**345**	P	**P**	**15 38 00.4**	**-0.8**
AKASG	**Malin Array Be**	**67.87**	**330**	P	**P**	**15 38 37.0**	**-0.9**
AKASG	**Malin Array Be** comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=4.2	**67.87**	**330**	P	**P**	**15 38 37.0**	**-0.9**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=292,slow=3.5,SNR=4.0	**68.35**	**70**	P	**P**	**15 38 43.8**	**+2.3**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.6s,baz=52,slow=5.0,SNR=3.6	**76.24**	**322**	P	**P**	**15 39 28.2**	**-0.2**
WRA	**Warramunga Ar** comp=Z,0.5nm,0.8s,baz=17,slow=6.5,SNR=2.9	**78.51**	**207**	P	**P**	**15 39 41.3**	**+0.3**
ASAR	**Alice Springs** comp=Z,0.8nm,0.9s,baz=14,slow=4.5,SNR=5.3	**82.18**	**207**	P	**P**	**15 40 01.9**	**+1.2**

JMA 25 15:28:33.1±0.2, 32.47N×140.05E, h123km±2km, M3.2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.64**	**341**	P	Pn	15 28 52.6	+0.3
JHCJ				S	Sn	15 29 06.9	+0.1
JHJ2	**Mitsune**	**0.67**	**343**	P	Pn	15 28 52.5	0.0
JHJ2				S	Sn	15 29 07.8	+0.6
JIM2	**Oshima 3**	**2.30**	**347**	P	Pn	15 29 11.3	+0.8
JIM2				*e*S	Sn	15 29 40.0	+0.8
BSO1	**Boso 1**	**2.31**	**19**	P	Pn	15 29 11.7	+1.8
BSO1				S	Sn	15 29 40.6	+2.4
BSO3	**Boso 3**	**2.36**	**9**	P	Pn	15 29 12.3	+1.5
TK02	**Tokai 2**	**2.42**	**308**	P	Pn	15 29 12.4	+0.7
TK02				S	Sn	15 29 43.0	+1.6
JIZS	**Izushimoda**	**2.45**	**337**	P	Pn	15 29 13.1	+0.8
TTO2	**TONANKAI O.B.S**	**2.83**	**297**	P	Pn	15 29 17.3	+0.4
JOD2	**Odawara 2**	**2.90**	**344**	P	Pn	15 29 19.0	+0.8
JOD2				S	Sn	15 29 55.0	+2.1
SHZ3	**Shizuoka 3**	**3.01**	**330**	P	Pn	15 29 20.8	+1.1
JYN	**Shimob**	**3.27**	**338**	P	Pn	15 29 24.3	+1.2
JRY	**Ryogami san**	**3.66**	**345**	P	Pn	15 29 29.4	+1.2
JRY				S	Sn	15 30 12.1	+1.1

*CSEM **25** 15:36:55.5±1.2, 50.11N×19.15E, h1km, Error ellipse: s-maj=18.5km s-min=16.4km az=168.0*

PRU 25 15:36:57.0, 50.11N×19.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.43**	**75**	*e*Pg	Pg	15 37 05.2	-0.1
OJC				*e*Sg	Sg	15 37 10.9	0.0
OKC	**Ostrava-Krasne**	**0.70**	**248**	*e*PG	Pg	15 37 10.3	-0.2
OKC	comp=Z,7.5nm,0.6s			*e*SG	Sg	15 37 19.8	+0.2
MORC	**Moravsky Berou**	**1.09**	**253**	*e*Pg	Pb	15 37 18.7	-0.1
MORC				*e*Sg	Sb	15 37 33.2	-0.5
KRLC	**Kraliky**	**1.53**	**270**	*e*PG	Pn	15 37 25.0	-0.6
KRLC				*e*SG	Sb	15 37 46.1	-0.1
KRLC	**Kraliky**	**1.53**	**270**	Pg	Pn	15 37 25.0	-0.6
KRLC				Sg	Sb	15 37 46.1	-0.1
DPC	**Dobruska-Polom**	**1.83**	**279**	*e*PG	Pn	15 37 30.3	+0.5
DPC				*e*SG	Sg	15 37 55.8	-0.2
DPC	**Dobruska-Polom**	**1.83**	**279**	Pg	Pn	15 37 30.3	+0.5
DPC				Sg	Sg	15 37 55.8	-0.2
KSP	**Ksiaz**	**1.97**	**293**	*e*Pg	Pg	15 37 40.7	+6.0
KSP				*e*Sg	Sg	15 38 01.6	+1.3
UPC	**Upice**	**2.05**	**282**	*e*SG	Sg	15 38 02.6	-0.4
UPC	**Upice**	**2.05**	**282**	Sg	Sg	15 38 02.6	-0.4
PRU	**Pruhonice** comp=Z,2.1nm,0.3s	**2.97**	**269**	*e*SG	Sg	15 38 31.4	-1.1
PRU	**Pruhonice** 2.1nm,0.3s	**2.97**	**269**	Sg	Sg	15 38 31.4	-1.1
KHC	**Kasperske Hory**	**3.75**	**257**	*e*SG	Sg	15 38 56.0	-1.7
KHC	**Kasperske Hory**	**3.75**	**257**	Sg	Sg	15 38 56.0	-1.7

*IDC **25** 15:53:57.7±2.6, 42.71N×139.58E, h66km±33km, mb3.3/3, mb1 3.4/5, mb1mx2.9/55, mbtmp3.4/5, ML3.1/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/19, Error ellipse: s-maj=52.8km s-min=17.9km az=135.0*

*ISCJB **25** 15:53:59.2±0.6, 41.79N±0.03×141.44E±0.06, h90km±6km, mb3.5/2, Error ellipse: s-maj=7.8km s-min=5.2km az=26.6*

*JMA **25** 15:54:00.2±0.1, 41.79N×141.49E, h81km±2km, M2.8*

ISC 25 15:53:59.8±1.1, 41.78N±0.04×141.45E±0.05, h86km±9km, n17, σ0.951/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	**Kayabe**	**0.33**	**289**	P	**Pn**	**15 54 12.8**	**-0.1**
JKB				*e*S	**Sn**	**15 54 22.3**	**-0.3**
JOT	**Ohata**	**0.50**	**217**	P	**Pn**	**15 54 14.2**	**+0.1**
JOT				*e*S	**Sn**	**15 54 25.2**	**+0.5**
JNB	**Noboribetsu**	**0.75**	**336**	P	**Pn**	**15 54 16.1**	**-0.3**
JNB				*e*S	**Sn**	**15 54 28.5**	**-0.3**
JSR	**Shiriuchi**	**0.81**	**252**	P	**Pn**	**15 54 17.4**	**+0.3**
JSR				*e*S	**Sn**	**15 54 30.2**	**+0.2**
JYM2	**Yakumo 2**	**0.87**	**293**	P	**Pn**	**15 54 18.2**	**+0.5**
JYM2				*e*S	**Sn**	**15 54 32.1**	**+1.0**
JTM	**Tenmabayashi**	**1.04**	**196**	P	**Pn**	**15 54 20.0**	**+0.4**
JTM				*e*S	**Sn**	**15 54 35.0**	**+0.5**
JEW	**Eniwo**	**1.05**	**0**	P	**Pn**	**15 54 20.0**	**+0.1**
JEW				*e*S	**Sn**	**15 54 34.0**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.09**	**63**	P	**Pn**	**15 54 20.1**	**-0.2**
JBT2	**Biratori 2**	**1.20**	**34**	P	**Pn**	**15 54 21.8**	**+0.2**
JBT2				*e*S	**Sn**	**15 54 38.1**	**+0.1**
JANG	**Nango**	**1.41**	**178**	P	**Pn**	**15 54 24.0**	**-0.2**
JANG				*e*S	**Sn**	**15 54 42.2**	**-0.4**
JOSM	**Okushiri--Mats**	**1.50**	**282**	P	**Pn**	**15 54 25.6**	**+0.2**
JOSM				*e*S	**Sn**	**15 54 44.7**	**0.0**
JCH	**Churui**	**1.65**	**59**	P	**Pn**	**15 54 27.8**	**+0.6**
JCH				*e*S	**Sn**	**15 54 48.8**	**+0.8**
ASAJ	**Asahikawa** 2.3nm,0.3s,baz=175,slow=28,SNR=44	**2.48**	**19**	P	**Pn**	**15 54 38.6**	**+0.4**
ASAJ	2.7nm,0.3s,baz=320,slow=22,SNR=7.8			S	**Sn**	**15 55 08.4**	**+0.7**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=22,slow=16,SNR=3.9	**5.81**	**207**	P	Pn	15 55 27.4	+3.9
ILAR	**Eielson Array** 0.2nm,0.6s,baz=262,slow=5.7,SNR=8.5	**45.52**	**35**	P	**P**	**16 02 10.5**	**+0.1**
INK	**Inuvik** 0.5nm,0.3s,baz=309,slow=6.5,SNR=4.5	**50.18**	**29**	P	**P**	**16 02 45.3**	**-0.9**
PMG	**Port Moresby** comp=Z,71nm,19.0s,baz=272,slow=34	**51.21**	**173**	LR	LR	16 23 16.6	

*BJI **25** 15:55:35.4, 5.24S×102.62E, h74km, mB5.1/46, mb5.2/63, Ms4.6/40, Ms7 4.2/40*

*MOS **25** 15:55:42.0±1.0, 4.17S×102.76E, h61km, mb5.5/51, Error ellipse: s-maj=10.0km s-min=4.7km az=117.6*

*ISCJB **25** 15:55:43.6±0.3, 4.33S±0.03×102.66E±0.03, h78km±2km, mb5.2/136, Error ellipse: s-maj=5.3km s-min=2.7km az=135.5*

*DJA **25** 15:55:43.7±0.3, 5°S±3'×10°2E±°, h50km±2km, M5.0/66, mb5.3/66, mB5.5/51, MLv5.5/29, Mw(mB)4.9/51*

*NEIC **25** 15:55:43.3±0.2, 4.26S×102.69E, mb5.2/51, Error ellipse: s-maj=6.3km s-min=3.7km az=44.0*

NEIC Felt [III] at Bengkulu, Kapahiang, Manna, Pagaralam and Pasarseluma; [II] at Argamakmur and Liwa. Also felt at Curup.

*GCMT **25** 15:55:43.3±0.3, 4.41S×102.36E, h66km±2km, MW4.9/55, Moment Tensor Solution. s35,c44; s55,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.59±.14; Mθθ-0.86±.12; Mφφ-1.73±.15; Mrθ0.91±.08; Mθφ1.68±.10; Mφr-0.21±.10; Best double couple: Mo2.97500×10^16 NP1:φs129.00000°, δ54.00000°, λ73.00000°. NP2: φs336.00000°, δ39.00000°, λ112.00000°. Principal axes: T 2.8270, Plg75.0000°, Azm349.0000°; N 0.2980, Plg14.0000°, Azm139.0000°; P -3.1240, Plg7.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **25** 15:55:43.2±0.5, 4.24S×102.75E, h58km±4km, mb4.9/34, mb1 4.9/36, mb1mx4.9/41, mbtmp5.2/36, MS3.8/19, Ms1 3.8/19, ms1mx3.6/31 Error ellipse: s-maj=11.8km s-min=9.4km az=52.0*

*KLM **25** 15:55:44.9, 4.49S×102.42E, h84km, mb5.3, ML5.2, MS6.2*

ISC 25 15:55:44.2±0.3, 4.41S±0.03×102.59E±0.04, h73km±2km, h73km:pP-P, n720, σ1.930/759, mb5.2/137, 135C-102D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.37**	**83**	P	**Pn**	**15 55 55.0**	**-1.2**
MNAI				S	**Sn**	**15 56 03.3**	**-1.8**
MNAI	**Manna**	**0.37**	**83**	*e*Pg	**Pn**	**15 55 54.9**	**-1.3**
MNAI				*e*Sg	**Sn**	**15 56 01.8**	**-3.3**
LHSI	**Lahat**	**1.09**	**58**	P	**Pn**	**15 56 03.9**	**-0.1**
LWLI	**Liwa**	**1.59**	**113**	P	**Pn**	**15 56 10.2**	**-0.3**
LWLI				S	**Sn**	**15 56 29.8**	**-0.6**
MDSI	**Maura Dua**	**1.59**	**93**	P	**Pn**	**15 56 10.2**	**-0.2**
MDSI				S	**Sn**	**15 56 29.8**	**-0.4**
KLSI		**2.15**	**98**	S	**Sn**	**15 56 44.2**	**+0.4**
KASI	**Kota Agung**	**2.20**	**120**	P	**Pn**	**15 56 18.2**	**-0.4**
KASI				S	**Sn**	**15 56 42.9**	**-2.1**
KLI	**Kotabumi**	**2.31**	**101**	P	**Pn**	**15 56 20.3**	**+0.3**
PMBI	**Palembang**	**2.63**	**56**	P	**Pn**	**15 56 23.9**	**-0.5**
BLSI	**Bandar Lampung**	**2.81**	**110**	P	**Pn**	**15 56 27.6**	**+0.7**
JMBI	**JAMBI**	**2.95**	**21**	P	**Pn**	**15 56 29.6**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**3.79**	**126**	P	**Pn**	**15 56 39.8**	**-0.4**
SBJI	**Serang**	**3.92**	**116**	P	**Pn**	**15 56 43.7**	**+1.8**
RGRI	**Rengat**	**4.04**	**356**	P	**Pn**	**15 56 45.3**	**+1.7**
TNG	**Tangerang**	**4.41**	**114**	P	**Pn**	**15 56 49.0**	**+0.4**
PPI	**Padang Panjang**	**4.49**	**331**	P	**Pn**	**15 56 51.4**	**+1.6**
PPI	**Padang Panjang** baz=4.5,SNR=5.9	**4.49**	**331**	⇑P	**Pn**	**15 56 50.7**	**+0.9**
CBJI	**Citeko**	**4.69**	**115**	P	Pn	15 56 57.0	+4.5
SKJI	**Sukabumi**	**4.72**	**123**	P	**Pn**	**15 56 53.6**	**+0.7**
BKNI	**Bangkinang** 569nm,0.9s,6μm5.6nm	**4.95**	**342**	P	**Pn**	**15 56 57.5**	**+1.4**
BKNI	**Bangkinang**	**4.95**	**342**	*e*P	**Pn**	**15 56 57.4**	**+1.3**
BKNI	**Bangkinang** baz=4.9,SNR=4.6	**4.95**	**342**	⇓P	**Pn**	**15 56 57.0**	**+1.0**
TPI	**Tanjungpandan** 156nm,0.8s,2μm1.7nm	**5.31**	**72**	P	**Pn**	**15 57 00.7**	**-0.3**
CNJI	**Cibinong** 527nm,0.9s,6μm4.0nm	**5.36**	**123**	P	**Pn**	**15 57 00.9**	**-0.8**
LEM	**Lembang** 679nm,0.9s,6μm2.6nm	**5.55**	**116**	P	**Pn**	**15 57 07.0**	**+2.5**
TPRI	**Tanjung Pinang** 412nm,0.6s,7μm2.0nm	**5.63**	**20**	P	**Pn**	**15 57 07.6**	**+2.2**
BTDF	**Bukit Timah Da** baz=5.8,SNR=26	**5.85**	**12**	⇑P	**Pn**	**15 57 08.5**	**+0.2**
MNSI	**Mandailing Nat** 111nm,0.4s,2μm0.8nm	**5.98**	**330**	P	**Pn**	**15 57 09.7**	**-0.4**
JCJI	**Jatiwangi** 394nm,0.9s,5μm1.8nm	**6.02**	**110**	P	**Pn**	**15 57 13.5**	**+2.8**
CISI	**Cisompet, Garu** 413nm,0.7s,11μm4.6nm	**6.07**	**121**	P	**Pn**	**15 57 10.4**	**-1.0**
CISI	**Cisompet, Garu** 273nm,0.3s	**6.07**	**121**	*e*P	**Pn**	**15 57 10.5**	**-0.9**
MYKOM	**Kota Tinggi** 292nm,0.9s,3μm1.1nm	**6.28**	**12**	P	x	15 57 15.4	
MYKOM	**Kota Tinggi**	**6.28**	**12**	⇓P	**Pn**	**15 57 15.8**	**+1.5**
KGM	**Kluang**	**6.42**	**7**	⇑P	**Pn**	**15 57 17.8**	**+1.6**
CMJI	**Cimerak** 252nm,0.8s,4μm1.2nm	**6.72**	**120**	P	**Pn**	**15 57 19.8**	**-0.5**
XMIS	**Christmas Isla** 398nm,0.3s	**6.76**	**153**	*e*P	Pn	15 57 13.9	-6.9
GSI	**Gunungsitoli** 217nm,0.6s,3μm0.9nm	**7.57**	**318**	P	**Pn**	**15 57 31.5**	**-0.4**
GSI	**Gunungsitoli** 145nm,0.4s	**7.57**	**318**	*e*P	**Pn**	**15 57 30.1**	**-1.7**
GSI				*e*S	**Sn**	**15 58 51.8**	**-4.4**
FRIM	**Kepong**	**7.65**	**353**	⇑P	**Pn**	**15 57 35.2**	**+2.2**
BJII	**Banjamegara** 99nm,0.8s,1μm0.4nm	**7.66**	**113**	P	x	15 57 36.1	
PSI	**Prapat** 26nm,0.7s,484nm	**8.04**	**333**	P	x	15 57 36.5	
PSI	**Prapat**	**8.04**	**333**	P	**Pn**	**15 57 36.4**	**-2.1**
PSI	**Prapat** 2.8nm,0.3s,baz=322,slow=6.8,SNR=5.1	**8.04**	**333**	P	**Pn**	**15 57 36.4**	**-2.1**
PSI	**Prapat** baz=8.0,SNR=3.9	**8.04**	**333**	P	**Pn**	**15 57 36.6**	**-1.8**
SMRI	**Semarang** 187nm,0.9s	**8.24**	**109**	P	Pn	15 57 46.9	+5.8
SMRI	**Semarang** 163nm,0.9s	**8.24**	**109**	*e*P	**Pn**	**15 57 41.4**	**+0.3**
UGM	**Wanagama** 210nm,0.9s,3μm	**8.62**	**114**	P	**Pn**	**15 57 47.0**	**+0.7**
UGM	**Wanagama** baz=8.6,SNR=62	**8.62**	**114**	⇑P	**Pn**	**15 57 46.5**	**+0.2**
IPM	**Ipoh** 66nm,1.0s,688nm	**8.96**	**350**	P	x	15 57 51.8	
IPM	**Ipoh** 34nm,0.6s	**8.96**	**350**	*e*P	**Pn**	**15 57 50.8**	**-0.2**
IPM	**Ipoh**	**8.96**	**350**	⇓P	**Pn**	**15 57 53.3**	**+2.4**
SNSI	**Sinabang, Aceh** 250nm,0.6s,3μm	**9.22**	**317**	P	**Pn**	**15 57 54.0**	**-0.4**
KCSI	**Kotacane, Aceh** 27nm,0.7s,601nm	**9.23**	**328**	P	**Pn**	**15 57 52.3**	**-2.3**
NGJI	**Ngawi** 81nm,0.9s	**9.30**	**109**	P	Pn	15 57 59.5	+3.9
PCJI	**Pacitan** 118nm,0.6s,2μm	**9.33**	**114**	P	**Pn**	**15 57 55.0**	**-0.9**
TPTI	24nm,1.1s	**9.34**	**325**	P	**Pn**	**15 57 54.5**	**-1.5**
COCO	**West Island** 8μm,0.4s,SNR=21	**9.60**	**216**	Pn	**Pn**	**15 57 59.0**	**-0.7**
COCO	**West Island**	**9.60**	**216**	*e*P	**Pn**	**15 57 56.6**	**-3.1**
COCO	comp=Z,1μm,0.9s			pmax	pmax		
COCO	**West Island** comp=Z,1μm,0.9s	**9.60**	**216**	*e*P	**Pn**	**15 57 56.6**	**-3.1**
KSM	**K

MRSI Marisa 19.93 76 P **P** **16 00 11.3 +0.9**
comp=Z,428nm,0.7s,comp=Z,3µm
MMRI Maumere 19.96 103 P **P** **16 00 08.5 -2.2**
comp=Z,146nm,0.7s,comp=Z,2µm
MMRI Maumere 19.96 103 *eP* **P** **16 00 08.6 -2.2**
comp=Z,96nm,0.6s
LUWI Luwuk 20.43 81 P **P** **16 00 15.5 -0.3**
comp=Z,181nm,0.9s
GTOI Gorontalo 21.01 77 P **P** **16 00 21.8 -0.2**
comp=Z,107nm,0.9s
GIRL Giralia 21.35 149 ⇑P **P** **16 00 27.9 +2.4**
baz=22,SNR=4.3
KMSI Cibinong 21.94 77 P P 16 00 37.6 +5.7
comp=Z,233nm,0.9s
SOEI Soe 22.15 105 P **P** **16 00 31.7 -2.7**
comp=Z,164nm,0.7s,comp=Z,2µm
SOEI Soe 22.15 105 *eP* **P** **16 00 30.9 -3.4**
comp=Z,104nm,0.6s
CM31 Chiang Mai Arr 23.00 351 *eP* **P** **16 00 41.6 -1.4**
comp=Z,62nm,0.9s
CM31 *e*PcP **PcP** **16 04 31.8 +1.1**
CMAR Chiang Mai Arr 23.00 351 P **P** **16 00 42.1 -0.9**
CMAR PcP **PcP** **16 04 32.0 +1.4**
CMAR ScP **ScP** **16 08 04.0 +1.7**
CMAR Chiang Mai Arr 23.00 351 P **P** **16 00 42.1 -0.9**
comp=Z,43nm,0.8s,baz=184,slow=8.8,SNR=253
CMAR PcP **PcP** **16 04 32.0 +1.4**
comp=Z,5.4nm,0.6s,baz=207,slow=3.2,SNR=15
CMAR ScP **ScP** **16 08 04.0 +1.7**
comp=Z,1.4nm,0.8s,baz=208,slow=3.3,SNR=6.1
CMAR LR LR 16 10 06.5
comp=Z,174nm,19.1s,baz=175,slow=38
CHTO Chiang Mai 23.35 351 *eP* **P** **16 00 44.3 -2.1**
CHTO pmax pmax
comp=Z,85nm,1.3s
CHTO Chiang Mai 23.35 351 *eP* **P** **16 00 44.3 -2.1**
comp=Z,85nm,1.3s
SANI Sanana 23.48 85 P **P** **16 00 47.7 0.0**
comp=Z,99nm,1.3s,comp=Z,1µm
QIZ Qiongzhong 24.36 17 P **P** **16 00 55.5 0.0**
QIZ pP **pP** **16 01 12.0 -0.6**
QIZ S **S** **16 05 10.5 +0.6**
QIZ sS **sS** **16 05 39.5 +0.2**
QIZ pmax pmax
comp=Z,150nm,4.6s
QIZ LR LR
comp=Z,270nm,22.5s
QIZ LR LR
comp=Z,430nm,24.4s
NLAI Namlea 24.48 88 P P 16 01 02.7 +6.0
comp=Z,95nm,0.7s
PALK Pallekele 24.73 298 *eP* **P** **16 00 57.3 -1.8**
comp=Z,47nm,0.9s
LBMI Labuha 25.16 82 P **P** **16 01 03.3 +0.3**
comp=Z,320nm,0.9s,comp=Z,2µm
TNTI Ternate 25.29 79 P **P** **16 01 02.5 -1.5**
comp=Z,86nm,1.2s
SLVN Son La 25.61 3 *eP* **P** **16 01 07.2 +0.2**
comp=Z,15nm,0.8s
MSAI Masohi 26.30 89 P **P** **16 01 15.9 +2.7**
comp=Z,11nm,0.8s
MEEK Meekatharra 26.90 147 ⇑P **P** **16 01 19.1 +0.6**
baz=27,SNR=12
KNRA Kununurra 28.06 115 ⇑P **P** **16 01 27.9 -1.1**
baz=28,SNR=43
VIS Vishakhapatnam 29.06 320 *eP* **P** **16 01 39.6 +1.8**
KMI Kunming 29.35 0 P **P** **16 01 41.5 +0.9**
KMI pP **pP** **16 01 57.0 -0.9**
KMI sP **sP** **16 02 07.8 +1.3**
KMI S **S** **16 06 31.5 +2.4**
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,85nm,5.2s
KMI LR LR
comp=Z,380nm,16.9s
KMI LR LR
comp=Z,200nm,15.5s
KMI LR LR
comp=Z,320nm,15.8s
FAKI Fak Fak 29.64 88 P **P** **16 01 41.3 -1.7**
H08S2 Diego Garcia H 30.10 262 T T 16 33 16.4
baz=87,slow=76,SNR=243
H08S3 Diego Garcia H 30.10 262 T T 16 33 08.5
baz=87,slow=76,SNR=261
H08S1 Diego Garcia H 30.11 262 T T 16 33 01.9
baz=87,slow=76,SNR=164
GYA Guiyang 30.93 7⇑*i*P **P** **16 01 54.0 -0.4**
GYA pP **pP** **16 02 14.0 +2.2**
GYA sP **sP** **16 02 23.5 +3.1**
GYA PP **PnPn** **16 03 00.8 +2.7**
GYA PcP **PcP** **16 04 49.5 0.0**
GYA S **S** **16 06 53.3 -0.4**
GYA sS **sS** **16 07 26.8 +3.2**
GYA ScP **ScP** **16 08 25.0 -1.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,550nm,18.4s
GYA LR LR
comp=Z,520nm,19.2s
GYA LR LR
comp=Z,570nm,18.9s
H08N1 Diego Carcia H 31.49 265 T T 16 35 30.3
baz=124,slow=77,SNR=18
H08N2 Diego Garcia H 31.50 265 T T 16 35 31.8
baz=124,slow=77,SNR=16
NWAO Narrogin (SRO) 31.50 156 P **P** **16 02 00.0 +0.8**
NWAO Narrogin (SRO) 31.50 156 P **P** **16 02 00.0 +0.8**
comp=Z,9.9nm,0.6s,baz=332,slow=7.2,SNR=8.9
NWAO LR LR 16 13 21.4
comp=Z,296nm,21.4s,baz=340,slow=34
H08N3 Diego Garcia H 31.51 265 T T 16 35 28.4
baz=124,slow=77,SNR=15
SHL Shillong 31.55 341 *eP* **P** **16 01 58.8 -1.2**
WRKA Warakurna 32.11 132 P **P** **16 02 05.5 +0.8**
baz=32,SNR=69
HYB Hyderabad 32.15 313 *i*P **P** **16 02 06.0 +0.9**
H01W3 Cape Leeuwin H 32.16 162 T T 16 35 49.5
baz=339,slow=76,SNR=101
H01W2 Cape Leeuwin H 32.17 162 T T 16 35 50.5
baz=339,slow=76,SNR=136
H01W1 Cape Leeuwin H 32.17 162 T T 16 35 59.3
baz=339,slow=76,SNR=117
BOK Bokaro 32.42 331 *eP* **P** **16 02 07.0 -0.4**
ODAN Odare 34.38 335 *eP* **P** **16 02 24.8 +0.1**
WRA Warramunga Arr 34.56 119 P **P** **16 02 25.8 -0.3**
WRA PcP **PcP** **16 05 00.2 +0.6**
WRA S **S** **16 07 48.0 -2.2**
WRA PKiKP **PKiKP** **16 12 21.7 -1.0**
WRA *e* 16 33 25.6
WRA Warramunga Arr 34.56 119 P **P** **16 02 25.8 -0.3**
comp=Z,27nm,0.5s,baz=302,slow=9.3,SNR=586
WRA PcP **PcP** **16 05 00.2 +0.6**
comp=Z,7.5nm,0.7s,baz=303,slow=2.0,SNR=6.2
WRA S **S** **16 07 48.0 -2.2**
comp=Z,2.2nm,0.7s,baz=291,slow=16,SNR=4.2
WRA PKiKP **PKiKP** **16 12 21.7 -1.0**
comp=Z,0.5nm,0.7s,baz=280,slow=1.2,SNR=5.2
WRA LR LR 16 19 14.8
comp=Z,48nm,19.1s,baz=310,slow=41
WRA P3KPbc 16 33 25.6
comp=Z,0.8nm,0.5s,baz=106,slow=4.1,SNR=14
WRAB Tennant Creek 34.57 119 P **P** **16 02 26.0 -0.1**
comp=Z,658nm,0.6s
WRAB Tennant Creek 34.57 119*c i*P **P** **16 02 26.1 -0.1**
WRAB pmax pmax
comp=Z,182nm,0.8s
WRAB Tennant Creek 34.57 119 *eP* **P** **16 02 25.7 -0.5**
comp=Z,54nm,0.4s
TAPN Taplejung 34.69 336 *eP* **P** **16 02 27.8 +0.4**
comp=Z,123nm,0.7s
RAMN Ramite 34.79 334 *eP* **P** **16 02 28.7 +0.4**
comp=Z,44nm,0.3s
ENH Enshi 35.11 10 *eP* **P** **16 02 30.3 -0.4**
comp=Z,41nm,0.4s
CD2 Chengdu 35.13 2 P **P** **16 02 30.5 -0.4**
CD2 pP **pP** **16 02 48.5 0.0**
CD2 PP **PP** **16 03 51.8 -0.2**
CD2 S **S** **16 07 58.3 -0.4**
CD2 ScS ScS 16 12 35.3 -9.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,200nm,5.9s
CD2 LR LR
comp=Z,530nm,15.5s
CD2 LR LR
comp=Z,460nm,19.0s
CD2 LR LR
comp=Z,490nm,14.3s
FORT Forrest 35.55 140 ⇓P **P** **16 02 35.5 +1.0**
baz=36,SNR=7.9
JIRN Jiri 35.59 335 *eP* **P** **16 02 35.7 +0.5**
comp=Z,118nm,0.4s
LSA Lhasa 35.64 343 *eP* **P** **16 02 35.5 -0.2**
LSA *e* 16 05 04.0
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 35.64 343 *eP* **P** **16 02 35.5 -0.2**
comp=Z,26nm,0.8s
LSA *e*PcP **PcP** **16 05 04.0 +0.9**
ASAR Alice Springs 35.76 125 P **P** **16 02 36.9 +0.4**
ASAR PcP **PcP** **16 05 04.0 +1.0**
ASAR S **S** **16 08 06.9 -1.6**
ASAR PKiKP **PKiKP** **16 12 22.9 -0.7**
ASAR *e* 16 33 18.6
ASAR Alice Springs 35.76 125 P **P** **16 02 36.9 +0.4**
comp=Z,16nm,0.5s,baz=298,slow=7.9,SNR=677
ASAR PcP **PcP** **16 05 04.0 +1.0**
comp=Z,8.9nm,0.5s,baz=307,slow=2.6,SNR=12
ASAR S **S** **16 08 06.9 -1.6**
comp=Z,3.3nm,0.8s,baz=298,slow=16,SNR=9.3
ASAR PKiKP **PKiKP** **16 12 22.9 -0.7**
comp=Z,0.5nm,0.5s,baz=333,slow=1.2,SNR=6.9
ASAR LR LR 16 18 23.5
comp=Z,86nm,19.0s,baz=284,slow=38
ASAR P3KPbc 16 33 18.6
comp=Z,0.4nm,0.9s,baz=122,slow=4.2,SNR=5.9
AS31 Alice Springs 35.76 125 *eP* **P** **16 02 36.7 +0.2**
PKI Pulchoki 35.85 333 *eP* **P** **16 02 37.5 0.0**
comp=Z,45nm,0.6s
PKIN Phulchoki 35.87 333 *eP* **P** **16 02 37.4 -0.1**
comp=Z,26nm,0.4s
GUN Gumba 35.94 334 *eP* **P** **16 02 38.7 +0.5**
comp=Z,125nm,0.5s
DMN Daman 36.02 333 *eP* **P** **16 02 39.0 +0.2**
comp=Z,37nm,0.3s
KKN Kakani 36.10 333 *eP* **P** **16 02 39.7 +0.3**
comp=Z,100nm,0.5s
POO Poona 36.35 310 *eP* **P** **16 02 42.5 +1.0**
POO AMB AMB 16 03 09.4
comp=Z,19nm,0.4s
GKN Gorkha 36.57 333 *eP* **P** **16 02 43.8 +0.4**
comp=Z,141nm,0.5s
BHPL Bhopal 36.85 319 *eP* **P** **16 02 46.9 +1.2**
KOLN Koldanda 36.86 331 *eP* **P** **16 02 46.6 +0.7**
DANN Dangsing 37.27 332 *eP* **P** **16 02 49.9 +0.4**
comp=Z,332nm,0.5s
PYUN Piuthan 37.43 331 *eP* **P** **16 02 51.4 +0.7**
comp=Z,123nm,0.4s
XAN Xi'an 38.70 8 P **P** **16 03 00.8 -0.3**
XAN pmax pmax
comp=Z,20nm,0.5s
XAN LR LR
comp=Z,140nm,17.3s
XAN LR LR
comp=Z,85nm,16.3s
QIS Mount Isa 39.41 117 ⇑P **P** **16 03 07.0 -0.2**
baz=39,SNR=87
NJ2 Nanjing 39.42 22 *eP* **P** **16 03 06.0 -1.1**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 LR LR
comp=Z,260nm,24.1s
NJ2 LR LR
comp=Z,310nm,21.6s
NJ2 LR LR
comp=Z,420nm,25.0s
SSE Sheshan 39.51 25 P **P** **16 03 07.8 -0.1**
SSE pmax pmax
comp=Z,23nm,0.6s
SSE pmax pmax
comp=Z,160nm,3.8s
SSE LR LR
comp=Z,100nm,29.4s
SSE LR LR
comp=Z,58nm,29.9s
SSE LR LR
comp=Z,130nm,30.9s
LZH Lanzhou 40.30 2 *eP* **P** **16 03 15.0 +0.5**
LZH pP **pP** **16 03 37.0 +4.6**
LZH sP sP 16 03 46.8 +6.0
LZH pmax pmax
comp=Z,38nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.8s
NDI New Delhi 40.96 325 *ex* **P** **16 03 18.0 -1.9**
NDI *ex* **S** **16 09 22.0 -4.8**
COEN Coen 41.11 106 *eP* **P** **16 03 19.8 -1.6**
comp=Z,146nm,0.8s
COEN Coen 41.11 106 P **P** **16 03 20.0 -1.4**
baz=41,SNR=28
DDI Dehra Dun 41.76 327 *eP* **P** **16 03 26.5 0.0**
BBOO Buckleboo 42.13 136 *eP* **P** **16 03 30.0 +0.5**
comp=Z,375nm,0.4s
BBOO Buckleboo 42.13 136 P **P** **16 03 30.2 +0.7**
baz=42,SNR=18
SMLA Simla 42.86 327 *eP* **P** **16 03 34.7 -0.7**
SMLA AMB AMB 16 03 37.2
comp=Z,62nm,1.6s
SDNR Sundarnagar 43.26 327 *ex* **P** **16 03 39.0 +0.4**
GTA Gaotai 43.67 357 P **P** **16 03 42.0 +0.1**
GTA pP **pP** **16 04 00.5 +0.5**
GTA sP **sP** **16 04 09.3 +0.9**
GTA PcP **PcP** **16 05 28.5 +0.5**
GTA S **S** **16 10 06.5 -0.1**
GTA sS **sS** **16 10 40.8 +3.4**
GTA pmax pmax
comp=Z,27nm,1.0s
GTA pmax pmax
comp=Z,71nm,6.2s
GTA LR LR
comp=Z,270nm,16.4s
GTA LR LR
comp=Z,150nm,13.1s
GTA LR LR
comp=Z,280nm,15.7s
DHRM DHARAMSHALA 44.20 327 *eP* **P** **16 03 46.4 0.0**
DHRM AMB AMB 16 03 47.8
comp=Z,81nm,0.8s
HTT Hallett 44.48 135 P **P** **16 03 49.7 +1.3**
baz=45,SNR=34
PMG Port Moresby 44.50 99 *eP* **P** **16 03 47.3 -1.5**
comp=Z,26nm,0.7s
PMG Port Moresby 44.50 99 P **P** **16 03 47.7 -1.1**
baz=44,SNR=5.8
CTAO Charters Tower 45.25 114 *eP* **P** **16 03 54.9 +0.1**
CTAO pmax pmax
comp=Z,107nm,0.8s
CTAO Charters Tower 45.25 114 *eP* **P** **16 03 54.9 +0.1**
comp=Z,107nm,0.8s
QLP Quilpie 45.48 123 P **P** **16 03 57.5 +1.1**
baz=46,SNR=33
STKA Stephens Creek 45.63 131 *eP* **P** **16 03 58.5 +0.9**
comp=Z,14nm,0.8s
STKA *e*PcP **PcP** **16 05 35.2 +0.4**
STKA PcP **PcP** **16 05 35.5 +0.7**
STKA Stephens Creek 45.63 131 P **P** **16 03 58.6 +1.1**
comp=Z,48nm,0.5s,baz=307,slow=7.4,SNR=238
STKA PcP **PcP** **16 05 35.5 +0.7**
comp=Z,17nm,0.7s,baz=314,slow=1.1,SNR=3.4
STKA LR LR 16 25 35.1
comp=Z,54nm,19.5s,baz=285,slow=39
STKA Stephens Creek 45.63 131 P **P** **16 03 58.6 +1.1**
baz=46,SNR=160
HHC Hu-ho-hao-te 45.78 10 *eP* **P** **16 03 59.0 +0.4**
HHC pP **pP** **16 04 15.8 -1.0**
HHC sP **sP** **16 04 29.8 +4.6**
HHC S **S** **16 10 36.5 -0.5**
HHC sS sS 16 11 13.8 +5.8
HHC SS **SS** **16 14 01.0 -1.7**
HHC pmax pmax
comp=Z,73nm,0.6s
HHC pmax pmax
comp=Z,200nm,3.6s
HHC LR LR
comp=Z,590nm,10.0s
HHC LR LR
comp=Z,290nm,10.6s
HHC LR LR
comp=Z,380nm,14.7s
JNU Nakatsue 45.95 34 P **P** **16 03 59.5 -0.5**
JNU Nakatsue 45.95 34 P **P** **16 03 59.5 -0.5**
comp=Z,17nm,0.9s,baz=168,slow=3.9,SNR=16
BJI Beijing 45.96 15 P **P** **16 04 00.3 +0.4**
BJI S **S** **16 10 41.3 +2.0**
BJI pmax pmax
comp=Z,28nm,1.0s
BJI pmax pmax
comp=Z,120nm,4.7s
BJI LR LR
comp=Z,340nm,16.4s
BJI LR LR
comp=Z,180nm,16.1s
BJI LR LR
comp=Z,150nm,29.1s
KSAR Wonju Array Be 47.83 27 P **P** **16 04 14.6 0.0**
KSAR PcP **PcP** **16 05 42.0 -0.3**
KSRS Korea Array 47.86 27 P **P** **16 04 14.6 -0.2**
comp=Z,7.3nm,0.5s,baz=219,slow=7.2,SNR=33
KSRS PcP **PcP** **16 05 42.0 -0.4**
comp=Z,4.0nm,0.8s,baz=212,slow=3.3,SNR=6.5
ARPS Mount Arapiles 48.28 137 P **P** **16 04 20.1 +2.0**
baz=48,SNR=9.7
CMSA Cobar Meteorol 48.60 129 P **P** **16 04 21.9 +1.2**
baz=49,SNR=73
RMQ Roma 49.26 121 P **P** **16 04 27.2 +1.4**
baz=49,SNR=6.8
CBIJ Chichi jima 49.43 48 *eP* P 16 04 22.2 -4.8
comp=Z,26nm,0.4s
JCJ Chichijima 49.43 48 P **P** **16 04 24.0 -3.0**
comp=Z,53nm,0.3s,baz=286,slow=18,SNR=11
SNY Shenyang 49.83 21 ⇓P **P** **16 04 29.0 -0.8**
SNY sP **sP** **16 04 55.5 -1.0**
SNY pmax pmax
comp=Z,13nm,0.8s
SNY pmax pmax
comp=Z,240nm,3.6s
SNY LR LR
comp=Z,230nm,3.7s
SNY LR LR
comp=Z,260nm,5.7s
SNY LR LR
comp=Z,220nm,28.2s
WMQ Urumqi 49.85 346 P **P** **16 04 31.0 +1.0**
WMQ pP **pP** **16 04 50.0 +1.6**
WMQ sP **sP** **16 04 58.8 +2.1**
WMQ PcP **PcP** **16 05 51.0 +1.4**
WMQ PP **PP** **16 06 27.8 +2.3**
WMQ ScP **ScP** **16 09 38.5 -0.5**
WMQ S **S** **16 11 33.5 -1.0**
WMQ sS **sS** **16 12 06.0 +0.2**
WMQ ScS **ScS** **16 14 12.0 -2.7**
WMQ pmax pmax
comp=Z,99nm,0.8s
WMQ pmax pmax
comp=Z,400nm,4.0s
WMQ LR LR
comp=Z,170nm,12.8s
WMQ LR LR
comp=Z,74nm,6.9s
WMQ LR LR
comp=Z,74nm,18.0s
KBL Kabul 49.99 323 *eP* **P** **16 04 30.5 -0.9**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 49.99 323 *eP* **P** **16 04 30.5 -0.9**
comp=Z,16nm,0.9s
KSH Kashi 50.12 333 *i* P **P** **16 04 31.0 -1.2**
KSH *e*PcP **PcP** **16 05 51.0 +0.2**
KSH *e*S **S** **16 11 33.3 -5.2**
KSH *e*sS **sS** **16 12 06.5 -3.4**
KSH pmax pmax
comp=Z,31nm,0.5s
KSH LR LR
comp=Z,150nm,6.9s
KSH LR LR
comp=Z,160nm,11.0s
KSH LR LR
comp=Z,180nm,7.3s
EIDS Eidsvold 50.93 119 P **P** **16 04 38.9 +0.4**
baz=51,SNR=5.8
TOO Toolangi 51.20 136 P **P** **16 04 42.8 +2.5**
baz=51,SNR=7.1
YNG Young 51.81 131 P **P** **16 04 46.4 +1.4**
baz=52,SNR=18
SONM Songino Array 52.13 3 P **P** **16 04 47.6 +0.5**
SONM PcP **PcP** **16 05 58.1 0.0**
SONM Songino Array 52.13 3 P **P** **16 04 47.6 +0.5**
comp=Z,54nm,0.7s,baz=184,slow=9.4,SNR=506
SONM PcP **PcP** **16 05 58.1 0.0**
comp=Z,12nm,0.6s,baz=191,slow=4.1,SNR=12
SONM LR LR 16 27 58.9
comp=Z,115nm,20.3s,baz=212,slow=37
ULN Ulaanbaatar 52.20 4 *eP* **P** **16 04 47.7 +0.1**
comp=Z,28nm,0.9s
CN2 Changchun 52.22 21 *eP* **P** **16 04 46.5 -1.2**
CN2 PcP **PcP** **16 05 58.0 -0.4**
CN2 PP **PP** **16 06 47.3 +0.4**
CN2 *e*S **S** **16 12 04.5 -2.6**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,24.0s
CN2 LR LR
comp=Z,200nm,24.0s
CN2 LR LR
comp=Z,200nm,25.0s
KZA Kyzart 52.52 334 *i* P **P** **16 04 51.4 +0.9**
KZA Kyzart 52.52 334 P **P** **16 04 51.4 +0.9**
SNR=6.8
MAJO Matsushiro 52.59 36 *eP* **P** **16 04 48.6 -2.0**
MAJO pmax pmax
comp=Z,117nm,1.0s
MAJO Matsushiro 52.59 36 *eP* **P** **16 04 48.5 -2.2**
comp=Z,10.0nm,0.7s
MAT Matsushiro 52.59 36 P **P** **16 04 48.4 -2.2**
MAT S **S** **16 12 09.0 -3.4**
MJAR Matsushiro Arr 52.59 36 P **P** **16 04 49.1 -1.5**
MJAR PcP **PcP** **16 06 00.1 +0.1**
MJAR Matsushiro Arr 52.59 36 P **P** **16 04 49.1 -1.5**
comp=Z,19nm,0.9s,baz=216,slow=7.8,SNR=30
MJAR PcP **PcP** **16 06 00.1 +0.1**
comp=Z,6.0nm,0.9s,baz=192,slow=4.4,SNR=4.9
MJAR LR LR 16 27 57.4
comp=Z,58nm,20.0s,baz=220,slow=37
CAN Canberra 52.69 132 *eP* **P** **16 04 52.6 +1.1**
CAN pmax pmax
comp=Z,23nm,1.0s
CAN Canberra 52.69 132 *eP* **P** **16 04 52.6 +1.1**
comp=Z,23nm,1.0s
ARMA Armidale 52.91 125 *eP* **P** **16 04 53.6 +0.4**
comp=Z,13nm,0.7s
ARMA Armidale 52.91 125 P **P** **16 04 55.5 +2.2**
baz=53,SNR=8.5
UCH Uchtor 52.96 334 *i* P **P** **16 04 54.2 +0.4**
UCH Uchtor 52.96 334 P **P** **16 04 54.2 +0.4**
SNR=5.1
TKM2 Tokmak 2 53.07 335 P **P** **16 04 54.3 0.0**
TKM2 pmax pmax
comp=Z,53nm,0.6s
TKM2 Tokmak 2 53.07 335 P **P** **16 04 54.5 +0.2**
SNR=34
KBK Karagaybulak 53.12 335 *i* P **P** **16 04 55.3 +0.7**
KBK Karagaybulak 53.12 335 P **P** **16 04 55.3 +0.7**
SNR=40
AML Almayashu 53.25 333 *i* P **P** **16 04 56.0 +0.2**
AML Almayashu 53.25 333 P **P** **16 04 56.1 +0.2**
SNR=29
AAK Ala-Archa 53.30 334 P **P** **16 04 56.0 0.0**
comp=Z,88nm,0.7s,SNR=14
AAK Ala-Archa 53.30 334 P **P** **16 04 55.9 0.0**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 53.30 334 P **P** **16 04 56.1 +0.2**
SNR=17
AAK Ala-Archa 53.30 334 *eP* **P** **16 04 56.0 0.0**
comp=Z,8.5nm,0.6s
AAK PcP **PcP** **16 06 04.0 +1.3**
AAK Ala-Archa 53.30 334 P **P** **16 04 56.3 +0.4**
comp=Z,8.4nm,0.6s,baz=143,slow=6.0,SNR=40
AAK PcP **PcP** **16 06 04.0 +1.3**
comp=Z,7.0nm,0.5s,baz=134,slow=3.8,SNR=5.5

MGCD Mangrove Creek 53.47 129 ⇓P **P** **16 04 58.2 +1.0**
baz=54,SNR=6.8
CHMS Chumysh 53.49 335 *i* P **P** **16 04 56.9 -0.2**
CHMS Chumysh 53.49 335 P **P** **16 04 57.0 -0.2**
SNR=12
EKS2 Erkin-Say 53.63 334 *i* P **P** **16 04 58.8 +0.5**
EKS2 Erkin-Say 53.63 334 P **P** **16 04 58.9 +0.5**
SNR=50
USP Ospenovka 53.81 335 *i* P **P** **16 04 59.2 -0.3**
USP Ospenovka 53.81 335 P **P** **16 04 59.2 -0.3**
SNR=29
MKAR Makanchi Array 54.05 343 P **P** **16 05 00.8 -0.3**
MKAR Makanchi Array 54.05 343 P **P** **16 05 00.8 -0.3**
MKAR Makanchi Array 54.05 343 P **P** **16 05 00.8 -0.3**
comp=Z,30nm,0.5s,baz=153,slow=9.0,SNR=618
VLA Vladivostok 54.22 26⇑ *e*P P 16 04 58.5 -3.8
VLA 16 06 04.3
VLA S **S** **16 12 31.6 -2.5**
VLA pmax pmax
comp=Z,19nm,1.1s
MDJ Mudanjiang 54.47 23 P **P** **16 05 04.3 +0.1**
MDJ pP **pP** **16 05 22.3 -0.6**
MDJ sP **sP** **16 05 30.5 -0.6**
MDJ PcP **PcP** **16 06 05.0 -1.9**
MDJ PP **PP** **16 07 06.0 -1.2**
MDJ ScP **ScP** **16 09 57.5 -1.4**
MDJ PcS **PcS** **16 10 05.5 -0.9**
MDJ S **S** **16 12 38.3 +0.7**
MDJ ScS **ScS** **16 14 46.8 +0.1**
MDJ SS **SS** **16 16 26.0 +4.8**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,140nm,6.8s
MDJ LR LR
comp=Z,57nm,25.4s
MDJ LR LR
comp=Z,51nm,30.1s
MDJ LR LR
comp=Z,130nm,25.4s
MDJ Mudanjiang 54.47 23 *e*P **P** **16 05 03.6 -0.6**
comp=Z,8.6nm,0.8s
ZAK Zakamensk 54.57 1⇑ *i*P **P** **16 05 05.0 0.0**
ZAK *e* 16 06 07.3
ZAK pmax pmax
comp=Z,13nm,1.0s
MOO Moorlands 54.77 140 ⇑P **P** **16 05 08.0 +1.4**
baz=55,SNR=3.5
USRK Ussuriysk Arra 55.12 25 P **P** **16 05 08.4 -0.5**
comp=Z,32nm,0.6s,baz=222,slow=5.8,SNR=77
USRK LR LR 16 31 18.7
comp=Z,70nm,18.5s,baz=181,slow=39
KK31 Karatay Array 55.47 332 P **P** **16 05 10.8 -0.7**
KK31 pmax pmax
comp=Z,4.0nm,0.3s
KKAR Karatay Array 55.47 332 *e*P **P** **16 05 10.6 -0.9**
KKAR pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 55.47 332 *e*P **P** **16 05 10.6 -0.9**
comp=Z,7.5nm,0.5s
HIA Hailar 55.50 14 *e*P **P** **16 05 10.6 -1.0**
comp=Z,12nm,0.6s
OPO Ambohidratompo 55.86 251 pP pP 16 05 33.5 -0.2
OPO Ambohidratompo 55.86 251 pP **pP** **16 05 33.5 -0.2**
comp=Z,15nm,0.8s,baz=84,slow=4.9,SNR=13
OPO LR LR 16 24 35.9
comp=Z,104nm,19.1s,baz=54,slow=31
MOY Mondy 55.87 359 *e*P **P** **16 05 14.3 0.0**
MOY pmax pmax
comp=Z,31nm,2.8s
TLY Talaya 55.88 1 P **P** **16 05 15.5 +1.3**
comp=Z,215nm,0.9s,SNR=13
TLY Talaya 55.88 1 *e*P **P** **16 05 15.1 +0.9**
TLY pmax pmax
comp=Z,33nm,0.9s
TLY MLR MLR
comp=Z,101nm,19.0s
TLY Talaya 55.88 1 *e*P **P** **16 05 14.8 +0.6**
comp=Z,29nm,0.9s
IRK Irkutsk 56.45 1 *e*P **P** **16 05 17.4 -0.9**
IRK pmax pmax
comp=Z,43nm,1.4s
KURBB Kurchatov Arra 58.59 342 P **P** **16 05 32.9 -0.5**
comp=Z,40nm,0.9s,baz=159,slow=6.7,SNR=349
KURBB PcP **PcP** **16 06 22.5 -0.3**
comp=Z,3.0nm,0.5s,baz=156,slow=3.6,SNR=4.2
KURK Kurchatov 58.65 342 P **P** **16 05 33.4 -0.3**
comp=Z,268nm,0.7s,SNR=73
KURK Kurchatov 58.65 342 *c i*P **P** **16 05 33.2 -0.5**
KURK pmax pmax
comp=Z,45nm,1.0s
KURK Kurchatov 58.65 342 *e*P **P** **16 05 33.2 -0.5**
KURK PcP **PcP** **16 06 22.5 -0.5**
ABKT Ailbek 58.94 320 P **P** **16 05 36.3 +0.2**
comp=Z,185nm,0.7s,SNR=9.1
KLR Kul'dur 59.12 22 *e*P P 16 05 33.0 -4.1
KLR pmax pmax
comp=E,20nm,0.7s
KLR pmax pmax
comp=Z,52nm,0.7s
ZAA0 Zalesovo Array 60.02 348 *e*P **P** **16 05 42.5 -0.6**
ZALV Zalesovo Beam 60.02 348 P **P** **16 05 42.6 -0.5**
ZALV Zalesovo Beam 60.02 348 P **P** **16 05 42.5 -0.5**
ZALV ⇑*e* 16 35 17.4
ZALV Zalesovo Beam 60.02 348 P **P** **16 05 42.5 -0.5**
comp=Z,93nm,0.5s,baz=164,slow=5.5,SNR=386
ZALV LR LR 16 34 58.2
comp=Z,173nm,18.6s,baz=81,slow=39
ZALV PKP2bc 16 35 17.4
comp=Z,0.6nm,0.5s,baz=316,slow=4.1,SNR=4.3
ASAJ Asahikawa 60.19 32 *e*P **P** **16 05 44.1 -0.3**
comp=Z,28nm,1.0s
DAMY Dhamar 60.68 289 *e*P **P** **16 05 51.9 +3.1**
comp=Z,8.2nm,0.7s
NVS Novosibirsk 61.19 347 *e*P **P** **16 05 48.4 -2.6**
NVS *e* 16 06 10.5
NVS *e* 16 13 58.9
NVS pmax pmax
comp=E,24nm,1.2s
NVS pmax pmax
comp=Z,25nm,1.2s
RAYN Ar Rayn 62.16 299 *e*P **P** **16 05 59.5 +1.2**
comp=Z,27nm,1.1s
YSS Yuzh-Sakhalins 62.20 30⇑ *e*P **P** **16 05 57.3 -0.7**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 62.20 30 *e*P **P** **16 05 57.3 -0.7**
comp=Z,62nm,0.9s
BVAR Borovoye Array 63.33 339 P **P** **16 06 04.7 -0.8**
BVAR Borovoye Array 63.33 339 P **P** **16 06 04.7 -0.8**
BVAR Borovoye Array 63.33 339 P **P** **16 06 04.7 -0.8**
comp=Z,60nm,0.6s,baz=144,slow=9.3,SNR=426
BRVK Borovoye 63.40 339 P **P** **16 06 05.4 -0.4**
comp=Z,493nm,0.5s,SNR=34
BRVK Borovoye 63.40 339 *c i*P **P** **16 06 05.1 -0.7**
BRVK pmax pmax
comp=Z,39nm,1.3s
BRVK Borovoye 63.40 339 *e*P **P** **16 06 04.9 -0.9**
comp=Z,42nm,0.6s
CLNS Chul'man 63.69 13 *e*P **P** **16 06 07.1 -0.7**
CLNS pmax pmax
comp=Z,29nm,0.8s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.8s
AB31 Akbulak array 64.98 331 P **P** **16 06 15.7 -0.6**
AB31 pmax pmax
comp=Z,15nm,0.3s
ABKAR Akbulak array 64.98 331 *e*P **P** **16 06 15.7 -0.6**
comp=Z,31nm,0.5s
KMBO Kilima Mbogo 65.32 271 P **P** **16 06 20.1 +0.6**
KMBO pP **pP** **16 06 37.2 -1.5**
KMBO Kilima Mbogo 65.32 271 P **P** **16 06 20.1 +0.6**
comp=Z,1.0nm,0.5s,baz=41,slow=12,SNR=3.6
KMBO pP **pP** **16 06 37.2 -1.5**
comp=Z,7.6nm,1.0s,baz=62,slow=9.6,SNR=7.7
AKTO Aktyubinsk 66.70 331 P **P** **16 06 26.7 -0.7**
AKTO Aktyubinsk 66.70 331 P **P** **16 06 26.7 -0.7**
AKTO Aktyubinsk 66.70 331 P **P** **16 06 26.7 -0.7**
comp=Z,7.9nm,0.3s,baz=130,slow=7.0,SNR=68
AKTO LR LR 16 38 22.9
comp=Z,42nm,18.2s,baz=144,slow=38
MAW Mawson 68.63 195 LR LR 16 30 18.9
comp=Z,300nm,21.0s,baz=51,slow=30
GNI Garni 69.04 316 P **P** **16 06 43.7 +1.2**
GNI Garni 69.04 316 P **P** **16 06 43.7 +1.2**
comp=Z,7.6nm,0.3s,baz=184,slow=10,SNR=6.2
DGRG David-gareji 69.17 317 P **P** **16 06 44.6 +1.4**
YAK Yakutsk 69.44 13 *e*P **P** **16 06 42.5 -1.7**
YAK pmax pmax
comp=Z,74nm,0.7s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=E,17nm,1.1s
YAK Yakutsk 69.44 13 *e*P **P** **16 06 42.6 -1.7**
comp=E,126nm,0.6s
SEAG Tbilisi Sea 69.69 318 P **P** **16 06 46.9 +0.6**
TBLG Delisi 69.72 318 P **P** **16 06 47.6 +1.1**
SVE Sverdlovsk 69.88 337 *de*P **P** **16 06 47.2 +0.1**
SVE *e* 16 09 28.0
SVE *e*S **S** **16 15 56.9 +5.8**
SVE pmax pmax
comp=Z,72nm,1.1s
DUS Dusheti 69.91 318 P **P** **16 06 50.8 +3.1**
GUDG Gudauri 70.22 318 P **P** **16 06 51.3 +1.6**
ARU Arti 70.44 336 P **P** **16 06 50.7 +0.2**
comp=Z,297nm,1.2s,SNR=16
ARU Arti 70.44 336 *c i*P **P** **16 06 50.0 -0.5**
ARU S **S** **16 16 01.6 +4.1**
ARU pmax pmax
comp=Z,50nm,1.0s
ARU Arti 70.44 336 *e*P **P** **16 06 50.0 -0.5**
comp=Z,61nm,1.0s
ZEI Tsey 70.74 318 *e*P **P** **16 06 53.0 +0.1**
ZEI pmax pmax
comp=Z,20nm,0.5s
ONI Oni 70.96 318 P **P** **16 06 55.3 +1.2**
NCK Nalchik 71.25 319 *e*P **P** **16 06 56.1 +0.4**
RPZ Rata Peaks 71.46 135 *e*P **P** **16 06 57.7 +0.6**
comp=Z,29nm,0.5s
KBZ Khabaz 71.81 319 P **P** **16 06 59.8 +0.8**
KBZ Khabaz 71.81 319 P **P** **16 06 59.8 +0.8**
KBZ Khabaz 71.81 319 P **P** **16 06 59.8 +0.8**
comp=Z,24nm,0.8s,baz=170,slow=4.9,SNR=39
KIV Kislovodsk 72.04 319 *e*P **P** **16 07 00.6 0.0**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 72.04 319 *e*P **P** **16 07 00.7 +0.1**
comp=Z,12nm,0.7s
ASF Jabal al Asfar 72.08 306 P **P** **16 07 02.1 +1.0**
ASF Jabal al Asfar 72.08 306 P **P** **16 07 02.1 +1.0**
comp=Z,13nm,0.6s,baz=75,slow=1.4,SNR=14
GOF Gofitskoye 72.28 320 *e*P **P** **16 07 01.9 0.0**
GOF pmax pmax
comp=Z,40nm,1.3s
EIL Elat 72.99 303 P **P** **16 07 08.1 +1.7**
EIL Elat 72.99 303 P **P** **16 07 08.1 +1.7**
comp=Z,30nm,0.8s,baz=129,slow=2.9,SNR=14
EIL Elat 72.99 303 ⇑P **P** **16 07 07.3 +0.9**
baz=73,SNR=5.8
MMAI Mount Meron Ar 73.53 306 P **P** **16 07 12.0 +2.4**
MMAI Mount Meron Ar 73.53 306 P **P** **16 07 12.0 +2.4**
comp=Z,18nm,0.6s,baz=91,slow=8.3,SNR=24
PEA0B Petropavlovsk- 73.56 31 *e*P **P** **16 07 08.4 -0.8**
PETK Petropavlovsk- 73.56 31 P **P** **16 07 08.7 -0.6**
PETK Petropavlovsk- 73.56 31 P **P** **16 07 08.7 -0.6**
PETK Petropavlovsk- 73.56 31 P **P** **16 07 08.7 -0.6**
comp=Z,8.1nm,0.6s,baz=348,slow=2.4,SNR=23
PETK LR LR 16 39 08.2
comp=Z,33nm,21.1s,baz=229,slow=36
LSZ Lusaka 73.81 255 P **P** **16 07 14.0 +2.3**
LSZ pP **pP** **16 07 30.1 -1.1**
LSZ Lusaka 73.81 255 P **P** **16 07 14.0 +2.3**
comp=Z,4.4nm,0.7s,baz=79,slow=6.1,SNR=13
LSZ pP **pP** **16 07 30.1 -1.1**
comp=Z,14nm,0.8s,baz=69,slow=7.7,SNR=17
SOC Sochi 73.86 318 *e*P **P** **16 07 10.0 -1.2**
SOC *e* 16 09 55.5
SOC *e*PPP PPP 16 11 39.9
SOC *e*S **S** **16 16 38.3 +1.0**
SOC *e* 16 17 26.8
SOC pmax pmax
comp=Z,44nm,0.6s
PET Petropavlovsk 74.01 31 *i* P **P** **16 07 11.3 -0.6**
PET pmax pmax
comp=Z,87nm,0.5s
PET Petropavlovsk 74.01 31 *e*P **P** **16 07 10.9 -0.9**
comp=Z,54nm,0.6s
URZ Urewera 75.14 128 *e*P **P** **16 07 17.9 -0.9**
comp=Z,9.5nm,0.4s
VRHR Novokhopersk 75.76 325 *e*P **P** **16 07 20.7 -1.3**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
LBTB Lobatse 76.37 245 *e*P **P** **16 07 27.8 +1.6**
comp=Z,22nm,0.9s
SYO Syowa Base 76.45 199⇓ *e*P **P** **16 07 25.6 0.0**
SYO Syowa Base 76.45 199⇑ *e*PcP **PcP** **16 07 37.2 +0.2**
BOSA Boshof 76.79 242 *e*P **P** **16 07 29.5 +1.0**
comp=Z,8.6nm,1.0s
BOSA pP **pP** **16 07 46.9 -1.3**
BOSA Boshof 76.79 242 P **P** **16 07 30.8 +2.2**
comp=Z,6.5nm,0.8s,baz=96,slow=5.5,SNR=8.3
BOSA pP **pP** **16 07 46.9 -1.3**
comp=Z,16nm,0.7s,baz=90,slow=5.1,SNR=12
BOSA LR LR 16 35 54.2
comp=Z,180nm,20.0s,baz=133,slow=31
BR131 Keskin Array S 76.84 312 *e*P **P** **16 07 28.6 -0.1**
comp=Z,8.0nm,0.6s
BRTR Keskin Array B 76.84 312 P **P** **16 07 28.5 -0.1**
BRTR Keskin Array B 76.84 312 P **P** **16 07 28.5 -0.1**
comp=Z,16nm,0.8s,baz=138,slow=6.9,SNR=46
BRTR LR LR 16 43 47.2
comp=Z,35nm,18.0s,baz=160,slow=38
SEY Seymchan 76.90 21⇑ *i*P **P** **16 07 27.8 -0.4**
SEY Seymchan 76.90 21 P **P** **16 07 27.9 -0.3**
SEY Seymchan 76.90 21 P **P** **16 07 27.9 -0.3**
comp=Z,12nm,0.8s,baz=231,slow=5.1,SNR=51
VSR Storozhevoye 77.22 325 *e*P **P** **16 07 28.2 -2.0**
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=Z,50nm,0.7s
VSR pmax pmax
comp=E,30nm,0.8s
TIXI Tiksi 77.83 8 *c i*P **P** **16 07 31.3 -1.9**
TIXI pmax pmax
comp=Z,49nm,1.7s
TIXI Tiksi 77.83 8 *e*P **P** **16 07 31.2 -2.0**
comp=Z,33nm,0.9s
SIM Simferopol' 78.11 318 *e*P **P** **16 07 35.9 +0.6**
SIM pmax pmax
comp=Z,37nm,0.9s
PRGR Permogore 78.90 336 *e*P **P** **16 07 38.1 -1.2**
PRGR *e*S **S** **16 17 28.0 -3.6**
PRGR pmax pmax
comp=Z,44nm,0.9s
VNDA Vanda 79.32 169 P **P** **16 07 43.1 +1.7**
VNDA Vanda 79.32 169 P **P** **16 07 43.1 +1.7**
comp=Z,4.6nm,0.5s,baz=320,slow=6.5,SNR=18
VNDA LR LR 16 37 56.0
comp=Z,64nm,18.7s,baz=235,slow=32
MOS Moscow 79.88 329 *e*P **P** **16 07 44.0 -0.8**
MOS *e* 16 07 51.8
MOS pmax pmax
comp=Z,100nm,0.7s
MOS pmax pmax
comp=Z,73nm,0.6s
OBN Obninsk 80.19 328 *c i*P **P** **16 07 46.7 +0.3**
OBN *e* 16 10 48.5
OBN pmax pmax
comp=Z,24nm,0.6s
OBN MLR MLR
comp=Z,70nm,15.0s
OBN Obninsk 80.19 328 *e*P **P** **16 07 46.1 -0.4**
comp=Z,26nm,0.4s
KLMR Klimovskoe 81.11 334 *e*P **P** **16 07 49.7 -1.6**
KLMR pmax pmax
comp=Z,58nm,1.3s
IDI Anoyia 82.53 306 P **P** **16 08 01.1 +1.7**
IDI Anoyia 82.53 306 P **P** **16 08 01.1 +1.7**
comp=Z,15nm,0.5s,baz=90,slow=7.2,SNR=9.0
AK02 Malin Array Si 82.95 322 *e*P **P** **16 08 01.0 -0.2**
AKASG Malin Array Be 82.95 322 P **P** **16 08 00.9 -0.2**
AKASG 16 11 08.8
AKASG Malin Array Be 82.95 322 P **P** **16 08 00.9 -0.2**
AKASG PP **PP** **16 11 08.8 -3.9**
AKASG PKKPbc **PKKPbc** **16 26 23.7 -2.0**
AKASG Malin Array Be 82.95 322 P **P** **16 08 00.9 -0.2**
comp=Z,6.8nm,0.5s,baz=88,slow=5.0,SNR=69
AKASG PP **PP** **16 11 08.8 -3.9**
comp=Z,2.2nm,0.9s,baz=87,slow=7.1,SNR=4.9
AKASG PKKPbc **PKKPbc** **16 26 23.7 -2.0**
comp=Z,0.4nm,0.4s,baz=280,slow=3.4,SNR=6.4
AKASG LR LR 16 49 08.1
comp=Z,29nm,20.9s,baz=335,slow=39
AKBB Malin Array Si 82.95 322 *e*P **P** **16 08 00.8 -0.4**
AKBB Malin Array Si 82.95 322 *e*P **P** **16 08 00.8 -0.4**
AK01 Malin Array Si 82.96 322 *e*P **P** **16 08 00.7 -0.5**
KIEV Kiev 82.96 322 *c i*P **P** **16 08 00.9 -0.3**
KIEV Kiev 82.96 322 *e*P **P** **16 08 00.9 -0.3**
comp=Z,9.9nm,0.9s
VRI Vrincioaia 83.36 317 ⇓P **P** **16 08 05.0 +1.5**
VRI Vrincioaia 83.36 317 ⇓*i*P **P** **16 08 04.9 +1.5**
TESR Tescani 83.56 318⇑ *i*P **P** **16 08 05.4 +1.0**
MLR Muntele Rosu 83.81 316 ⇓*i*P **P** **16 08 07.2 +1.3**
PRAR RASCA 84.04 318⇑ *i*P **P** **16 08 07.6 +0.8**
BILL Bilibino 84.52 20 *e*P **P** **16 08 08.1 -0.7**
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 84.52 20 *e*P **P** **16 08 07.6 -1.2**
comp=Z,28nm,1.5s
ARR Arges 84.69 316⇑ *i*P **P** **16 08 10.7 +0.5**
BURAR Bucovina Array 84.76 318 ⇑P **P** **16 08 12.2 +1.6**
BURAR Bucovina Array 84.76 318⇑ *i*P **P** **16 08 12.2 +1.6**
BUR08 Bucovina Ar. S 84.78 318 *e*P **P** **16 08 12.1 +1.4**
VTS Vitosha 85.17 313 ⇑P **P** **16 08 13.4 +0.6**
VTS Vitosha 85.17 313⇑ *i*P **P** **16 08 13.4 +0.6**
JOF Joensuu 85.49 334 *e*P **P** **16 08 13.7 0.0**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 85.49 334 *ep* **P** **16 08 13.7 0.0**
comp=Z,12nm,0.6s
QSPA South Pole Qui 85.57 180 *e*P **P** **16 08 15.9 +1.6**
comp=Z,16nm,1.1s
LVV L'vov 85.99 320 *e*P **P** **16 08 16.6 +0.1**
NVL N'lazarevskaya 86.12 199 *e*P **P** **16 08 17.4 +0.6**
NVL *e**PP **pP** **16 08 34.9 -1.9**
NVL *e*S **S** **16 18 46.2 +1.1**
NVL pmax pmax
comp=Z,7.0nm,0.6s
APA Apatity 86.24 339 ⇓*i*P **P** **16 08 17.2 -0.2**
APA MLR MLR
comp=Z,400nm,13.0s
VSU Vasula 86.38 329 *c i*P **P** **16 08 18.3 +0.1**
VSU pmax pmax
comp=Z,70nm,1.0s
TRPA Tarpa 86.63 319 ⇓*i*P **P** **16 08 20.8 +1.1**
KWP Kalwaria Pacla 86.79 320 ⇑P **P** **16 08 21.6 +1.1**
KWP Kalwaria Pacla 86.79 320 *e*P **P** **16 08 21.3 +0.8**
KWP Kalwaria Pacla 86.79 320⇑ *i*P **P** **16 08 21.6 +1.1**
KWP Kalwaria Pacla 86.79 320 *e*P **P** **16 08 20.8 +0.3**
comp=Z,14nm,0.5s
BZS Buzias 86.82 316 ⇑P **P** **16 08 21.5 +0.8**
BZS Buzias 86.82 316⇑ *i*P **P** **16 08 21.5 +0.8**
UZH Uzhgorod 86.88 319 *e*P **P** **16 08 25.4 +4.5**
SIRR Siria 86.90 317⇑ *i*P **P** **16 08 22.0 +0.9**
KOLS Kolonicke sedl 86.95 319 *e*P **P** **16 08 22.8 +1.5**
KOLS pmax pmax
comp=Z,33nm,0.9s
KOLS Kolonicke sedl 86.95 319 *e*P **P** **16 08 22.8 +1.5**
SUW Suwalki 87.33 324 *e*P **P** **16 08 23.2 +0.3**
SUW Suwalki 87.33 324 *e*P **P** **16 08 23.2 +0.3**
SUW Suwalki 87.33 324 *e*P **P** **16 08 23.0 0.0**
comp=Z,77nm,1.0s
FIA1 FINESS Array S 87.43 332 *e*P **P** **16 08 23.4 +0.1**
FINES FINESS Array B 87.43 332 P **P** **16 08 23.6 +0.3**
FINES PKiKP **PKiKP** **16 13 27.2 +0.3**
FINES PKKP **PKKPbc** **16 26 13.0 -2.5**
FINES FINESS Array B 87.43 332 P **P** **16 08 23.6 +0.3**
comp=Z,17nm,0.5s,baz=116,slow=5.6,SNR=161
FINES PKiKP **PKiKP** **16 13 27.2 +0.3**
comp=Z,0.8nm,0.5s,baz=97,slow=6.3,SNR=4.3
FINES PKKP **PKKPbc** **16 26 13.0 -2.5**
comp=Z,0.4nm,0.5s,baz=356,slow=2.5,SNR=5.0
CRVS Cervenica-Dubn 87.47 319 *e*P **P** **16 08 24.9 +1.1**
CRVS pmax pmax
comp=Z,4.0nm,1.0s
CRVS Cervenica-Dubn 87.47 319 *e*P **P** **16 08 24.9 +1.1**
STHS Stebnicka Huta 87.69 320 *e*P **P** **16 08 26.4 +1.5**
STHS pmax pmax
comp=Z,17nm,0.7s
STHS Stebnicka Huta 87.69 320 *e*P **P** **16 08 26.3 +1.4**
KECS Kecovo 88.04 319 *e*P **P** **16 08 27.2 +0.7**
KECS pmax pmax
comp=Z,7.0nm,0.8s
KECS Kecovo 88.04 319 *e*P **P** **16 08 27.2 +0.7**
PSZ Piszkesteto 88.35 318 ⇑P **P** **16 08 29.0 +0.9**
PSZ Piszkesteto 88.35 318⇑ *i*P **P** **16 08 29.0 +0.9**
PSZ Piszkesteto 88.35 318⇓ *e*P **P** **16 08 29.2 +1.1**
PKSM Moragy 88.96 316 ⇑P **P** **16 08 31.7 +0.8**
PKSM Moragy 88.96 316⇑ *i*P **P** **16 08 31.7 +0.8**
PKSM Moragy 88.96 316⇓ *e*P **P** **16 08 32.0 +1.1**
KEV Kevo 89.15 340 *e*P **P** **16 08 30.1 -1.1**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 89.15 340 *ep* **P** **16 08 30.1 -1.1**
comp=Z,1.4nm,0.3s
PKSG 89.28 317⇓ *e*P **P** **16 08 33.6 +1.2**
CSKK Cs˘‡kako 89.37 317⇓ *e*P **P** **16 08 34.1 +1.3**
PKST T˘'s 89.51 317⇓ *e*P **P** **16 08 34.6 +1.1**
ARCES ARCESS Array B 89.60 340 P **P** **16 08 33.3 -0.1**
ARCES ARCESS Array B 89.60 340 P **P** **16 08 33.3 -0.1**
comp=Z,3.7nm,0.3s,baz=103,slow=6.2,SNR=80
ARCES LR LR 16 54 39.6
comp=Z,55nm,18.0s,baz=62,slow=40
ARE0 ARCESS Array S 89.60 340 *e*P **P** **16 08 33.4 0.0**
OKC Ostrava-Krasne 89.75 320 *e*P **P** **16 08 35.6 +1.1**
OKC Ostrava-Krasne 89.75 320 *e*P **P** **16 08 35.6 +1.1**
OKC *ex* x 16 08 38.1
MORC Moravsky Berou 90.13 320 ⇑P **P** **16 08 37.7 +1.4**
MORC Moravsky Berou 90.13 320⇑ *i*P **P** **16 08 37.7 +1.4**
MORC Moravsky Berou 90.13 320 *e*P **P** **16 08 36.9 +0.5**
comp=Z,14nm,1.0s
BEHE Becsehely 90.28 316⇓ *e*P **P** **16 08 38.9 +1.9**
KRLC Kraliky 90.65 320 *e*P **P** **16 08 40.0 +1.2**
KRLC Kraliky 90.65 320 *e*P **P** **16 08 40.0 +1.2**
SNAA Sanae 90.66 198 P P **16 08 41.8 +3.3**
SNAA Sanae 90.66 198 *e*P **P** **16 08 41.3 +2.8**
comp=Z,17nm,0.9s
DPC Dobruska-Polom 90.97 320 *e*P **P** **16 08 41.6 +1.3**
DPC Dobruska-Polom 90.97 320 *e*P **P** **16 08 41.6 +1.3**
DPC *ex* x 16 08 44.9
DPC *ex* x 16 08 48.9
GOLS Golise 91.03 316 *e*P **P** **16 08 41.9 +1.3**
KSP Ksiaz 91.04 321⇑ *e*P **P** **16 08 41.7 +1.2**
KSP Ksiaz 91.04 321 *e*P **P** **16 08 41.7 +1.2**
UPC Upice 91.19 320 *e*P **P** **16 08 42.4 +1.2**
UPC Upice 91.19 320 *e*P **P** **16 08 42.4 +1.2**
ARSA Arzberg 91.21 317⇑ *i*PcP **PcP** **16 08 42.7 +0.3**
comp=Z,10nm,1.1s
BOJS Bojanci 91.24 315 *i* P **P** **16 08 42.8 +1.3**
TREC Trest 91.41 319 *e*P **P** **16 08 43.2 +0.9**
TREC Trest 91.41 319 *e*P **P** **16 08 43.2 +0.9**
PERS Pernice 91.43 316 *i* P **P** **16 08 43.7 +1.2**
SOKA Soboth 91.49 317⇓ *i*PcP **PcP** **16 08 44.0 +0.3**
comp=Z,14nm,0.9s
VISS Visnje 91.55 316 *i* P **P** **16 08 44.1 +1.1**
PRU Pruhonice 92.08 320 *e*P **P** **16 08 45.8 +0.5**
PRU Pruhonice 92.08 320 *e*P **P** **16 08 45.8 +0.5**
JAVS Javornik 92.10 316 *i* P **P** **16 08 47.5 +1.8**
VNA2 Neumayer--Watz 92.29 198 P **P** **16 08 49.0 +3.1**
BRG Berggiesshubel 92.53 321 *i* P **P** **16 08 48.4 +1.0**
comp=Z,11nm,1.3s
BRG Berggiesshubel 92.53 321 *i* P **P** **16 08 48.4 +1.0**
BRG pmax pmax
comp=Z,11nm,1.3s
GERES GERESS Array B 92.55 319 P **P** **16 08 48.5 +0.8**
GERES GERESS Array B 92.55 319 P **P** **16 08 48.5 +0.8**
comp=Z,2.1nm,0.6s,baz=112,slow=3.3,SNR=23
GERES LR LR 16 58 31.0
comp=Z,40nm,18.9s,baz=75,slow=41
KHC Kasperske Hory 92.65 319 *e*P **P** **16 08 48.3 +0.3**
KHC Kasperske Hory 92.65 319 *e*P **P** **16 08 48.3 +0.3**
VNA1 Neumayer--Stat 92.66 198 P **P** **16 08 50.6 +3.1**
CLL Collm 93.14 321 *e*P **P** **16 08 51.0 +0.8**
CLL Collm 93.14 321 *e*P **P** **16 08 51.0 +0.8**
MOTA Moosalm 94.22 317⇑ *i*P **P** **16 08 55.4 0.0**
comp=Z,3.8nm,0.7s

NB2	NORSAR Subarra	94.49	331	P		P	16 08 55.8	-0.4
	comp=Z,3.6nm,0.8s,baz=95,slow=5.3							
NOA	NORSAR Array B	94.49	331	P		P	16 08 55.9	-0.4
NOA	NORSAR Array B	94.49	331	P		P	16 08 55.9	-0.4
	comp=Z,2.9nm,0.8s,baz=94,slow=6.3,SNR=11							
KEST	Kesra	95.18	305	PKKPbc	PKKPbc		16 25 57.7	+2.9
KEST	Kesra	95.18	305	PKKPbc	PKKPbc		16 25 57.7	+2.9
	comp=Z,1.2nm,0.6s,baz=298,slow=2.9,SNR=4.1							
LPG	La Plagne	97.21	315	*e*P		Pdif	16 09 09.6	+0.2
	comp=Z,14nm,1.0s							
LPG	La Plagne	97.21	315	*e*P		Pdif	16 09 09.6	+0.2
LPG				pmax		pmax		
	comp=Z,14nm,1.0s							
LPG	La Plagne	97.21	315	*e*P		Pdif	16 09 09.6	+0.2
	comp=Z,14nm,1.0s							
LPL	La Plagne	97.23	315	*e*P		Pdif	16 09 09.6	+0.2
	comp=Z,9.9nm,0.8s							
LPL	La Plagne	97.23	315	*e*P		Pdif	16 09 09.6	+0.2
LPL				pmax		pmax		
	comp=Z,10.0nm,0.8s							
LPL	La Plagne	97.23	315	*e*P		Pdif	16 09 09.6	+0.2
	comp=Z,9.9nm,0.8s							
HAU	Haudompre	97.43	318	*e*P		Pdif	16 09 10.0	0.0
HAU	Haudompre	97.43	318	*e*P		Pdif	16 09 10.0	0.0
HAU	Haudompre	97.43	318	*e*P		Pdif	16 09 10.0	0.0
BAIF	Baives	98.74	320	*e*P		Pdif	16 09 16.2	+0.5
BAIF	Baives	98.74	320	*e*P		Pdif	16 09 16.2	+0.5
BAIF	Baives	98.74	320	*e*P		Pdif	16 09 16.2	+0.5
TORD	Torodi Ar. Bea	101.58	282	P		**Pdif**	**16 09 30.4**	**+1.3**
TORD				PKiKP		**PKiKP**	**16 13 53.2**	**+0.5**
TORD				PKKPbc		**PKKPbc**	**16 25 36.9**	**+0.7**
TORD	Torodi Ar. Bea	101.58	282	P		**Pdif**	**16 09 30.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=88,slow=3.8,SNR=4.4							
TORD				PKiKP		**PKiKP**	**16 13 53.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=85,slow=0.4,SNR=3.8							
TORD				PKKPbc		**PKKPbc**	**16 25 36.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=306,slow=3.3,SNR=5.3							
ILAR	Eielson Array	102.64	24	PKiKP		**PKiKP**	**16 13 53.5**	**+0.3**
ILAR				PKKPbc		**PKKPbc**	**16 25 33.0**	**-1.9**
ILAR	Eielson Array	102.64	24	PKiKP		**PKiKP**	**16 13 53.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=295,slow=3.8,SNR=4.9							
ILAR				PKKPbc		**PKKPbc**	**16 25 33.0**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=142,slow=2.7,SNR=9.2							
YKA	Yellowknife Ar	115.87	18	PKP		**PKPdf**	**16 14 17.4**	**-0.7**
YKA				PKKPab		**PKKPab**	**16 24 54.8**	**-0.4**
YKA				PKKP		PKKPdf	16 25 08.6	-8.4
YKA	Yellowknife Ar	115.87	18	PKP		**PKPdf**	**16 14 17.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=316,slow=1.8,SNR=12							
YKA				PKKPab		**PKKPab**	**16 24 54.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=133,slow=4.7,SNR=8.4							
YKA				PKKP		PKKPdf	16 25 08.5	-8.4
	comp=Z,1.4nm,0.8s,baz=133,slow=4.1,SNR=7.2							
I03D	Drain, OR	123.74	39	⇓PKiKP		**PKPdf**	**16 14 34.0**	**+0.1**
	baz=124							
I04A	Tendick Farm,	124.28	38	⇑PKiKP		**PKiKP**	**16 14 35.2**	**-0.1**
	baz=124							
M02C	Callahan	125.21	41	PKiKP		**PKiKP**	**16 14 37.2**	**0.0**
	baz=125							
J05D	Fort Rock, OR	125.27	38	PKiKP		**PKiKP**	**16 14 37.3**	**-0.1**
	baz=125							
FFC	Flin Flon	126.03	17	*i* PKiKP		**PKPdf**	**16 14 38.3**	**+0.4**
MSO	Missoula	127.27	31	⇑PKiKP		**PKPdf**	**16 14 40.7**	**0.0**
	baz=127							
A19A	Klindworth Far	128.25	26	⇓PKiKP		**PKPdf**	**16 14 42.6**	**+0.1**
	baz=128							
EGMT	Eagleton	128.47	27	⇓PKiKP		**PKiKP**	**16 14 43.5**	**0.0**
	baz=128							
A20A	Cobblestone Ra	128.63	25	⇓PKiKP		**PKiKP**	**16 14 43.6**	**-0.2**
	baz=128							
B20A	Solberg Farm,	128.93	26	⇓PKiKP		**PKiKP**	**16 14 44.2**	**-0.3**
	baz=129							
SCHQ	Schefferville	129.00	352	PKP		**PKPdf**	**16 14 44.4**	**+0.7**
SCHQ	Schefferville	129.00	352	PKP		**PKPdf**	**16 14 44.4**	**+0.7**
	comp=Z,4.6nm,0.5s,baz=9.2,slow=1.4,SNR=21							
C19A	Slack Wire Ran	129.00	27	⇓PKiKP		**PKiKP**	**16 14 44.5**	**-0.1**
	baz=129							
BOZ	Bozeman (W)	129.25	31	*e*PKiKP		**PKPdf**	**16 14 45.2**	**+0.6**
BOZ	Bozeman (W)	129.25	31	*e*PKPdf		**PKPdf**	**16 14 45.1**	**+0.6**
C20A	Veseth Ranch,	129.49	26	⇓PKiKP		**PKiKP**	**16 14 45.6**	**+0.1**
	baz=129							
NVAR	Mina Array Bea	129.73	42	PKP		**PKPdf**	**16 14 46.9**	**+1.1**
NVAR	Mina Array Bea	129.73	42	PKP		**PKPdf**	**16 14 46.9**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=287,slow=2.6,SNR=13							
B23A	Brockton	130.18	24	PKiKP		**PKPdf**	**16 14 46.4**	**+0.3**
	baz=130							
C22A	Vida	130.38	25	⇓PKiKP		**PKiKP**	**16 14 47.6**	**+0.3**
	baz=130							
ELK	Elko	130.39	38	PKP		**PKPdf**	**16 14 48.7**	**+1.7**
ELK	Elko	130.39	38	PKP		**PKPdf**	**16 14 48.7**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=295,slow=2.9,SNR=5.3							
A25A	Svangstu Ranch	130.52	22	⇓PKiKP		**PKiKP**	**16 14 47.9**	**+0.3**
	baz=130							
C23A	Lambert	130.62	24	⇓PKiKP		**PKiKP**	**16 14 48.3**	**+0.5**
	baz=130							
D22A	Cohagen	130.72	26	PKiKP		**PKiKP**	**16 14 47.8**	**-0.2**
	baz=130							
G20A	Bridger	131.24	29	⇓PKiKP		**PKPdf**	**16 14 48.4**	**+0.1**
	baz=131							
R11A	Troy Canyon, C	131.56	41	⇑PKiKP		**PKPdf**	**16 14 49.7**	**+0.5**
	baz=131							
LRMC	Laurel Mountai	131.68	45	⇑PKiKP		**PKPdf**	**16 14 49.4**	**0.0**
	baz=131							
ULM	Lac du Bonnet	131.73	16	PKP		**PKPdf**	**16 14 48.9**	**-0.1**
ULM				SKPab		**SKPab**	**16 18 09.3**	**+0.3**
ULM	Lac du Bonnet	131.73	16	PKP		**PKPdf**	**16 14 48.9**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=336,slow=2.7,SNR=11							
ULM				SKPab		**SKPab**	**16 18 09.3**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=295,slow=3.4,SNR=5.3							
EDW2	Edwards Air Fo	131.76	46	⇑PKiKP		**PKPdf**	**16 14 49.9**	**+0.4**
	baz=132							
C26A	Wahner Farm, P	131.83	22	⇑PKiKP		**PKiKP**	**16 14 49.8**	**-0.5**
	baz=132							
H20A	Greybull	131.88	29	⇑PKiKP		**PKPdf**	**16 14 50.0**	**+0.5**
	baz=132							
A29A	Manning Farm,	131.90	19	⇑PKiKP		**PKPdf**	**16 14 48.6**	**-0.7**
	baz=132							
D25A	Fairfield	131.90	24	⇓PKiKP		**PKiKP**	**16 14 50.6**	**+0.1**
	baz=132							
E24A	Baker	131.97	25	⇓PKiKP		**PKiKP**	**16 14 50.6**	**0.0**
	baz=132							
G22A	Birney	132.15	27	⇑PKiKP		**PKiKP**	**16 14 51.3**	**+0.2**
	baz=132							
CIS	Catalina Islan	132.17	48	⇑PKiKP		**PKPdf**	**16 14 50.2**	**-0.1**
	baz=132							
I20A	Worland	132.21	30	⇑PKiKP		**PKPdf**	**16 14 50.1**	**-0.1**
	baz=132							
PDAR	Pinedale Array	132.32	32	PKP		**PKPdf**	**16 14 50.6**	**+0.1**
PDAR				SKPbc		**SKPbc**	**16 18 10.7**	**-0.4**
PDAR	Pinedale Array	132.32	32	PKP		**PKPdf**	**16 14 50.6**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=151,slow=1.5,SNR=8.6							
PDAR				SKPbc		**SKPbc**	**16 18 10.7**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=75,slow=0.4,SNR=9.1							
GSC	Goldstone	132.39	45	⇑PKiKP		**PKiKP**	**16 14 51.4**	**-0.5**
	baz=132							
E25A	Miller Ranch,	132.40	24	⇑PKiKP		**PKiKP**	**16 14 51.0**	**-0.5**
	baz=132							
G23A	Biddle	132.57	27	⇓PKiKP		**PKPdf**	**16 14 51.2**	**+0.4**
	baz=132							
J20A	Shoshoni	132.67	30	⇓PKiKP		**PKPdf**	**16 14 51.5**	**+0.4**
	baz=132							
I21A	Big Trails, Te	132.73	29	⇑PKiKP		**PKPdf**	**16 14 51.6**	**+0.4**
	baz=132							
TUQ	Turquoise Moun	132.93	44	⇓PKiKP		**PKPdf**	**16 14 52.0**	**+0.1**
	baz=133							
HEC	Hector,Ludlow	132.97	45	⇓PKiKP		**PKPdf**	**16 14 51.7**	**-0.1**
	baz=133							
J22A	Midwest	133.42	29	⇑PKiKP		**PKPdf**	**16 14 52.2**	**-0.4**
	baz=133							
PFO	Pinyon Flat Ob	133.50	46	⇑PKiKP		**PKPdf**	**16 14 52.6**	**-0.3**
	baz=133							
K21A	Alcova	133.61	30	⇑PKiKP		**PKPdf**	**16 14 53.2**	**+0.2**
	baz=133							
BELC	Belle Mtn. Jos	133.63	46	⇑PKiKP		**PKPdf**	**16 14 53.5**	**+0.3**
	baz=133							
D30A	Buchanan	133.64	20	⇑PKiKP		**PKPdf**	**16 14 53.0**	**+0.4**
	baz=133							
G27A	Dupree	133.91	24	⇑PKiKP		**PKPdf**	**16 14 53.9**	**+0.6**
	baz=134							
I24A	Kuemmerle Ranc	133.95	27	⇑PKiKP		**PKPdf**	**16 14 53.8**	**+0.3**
	baz=134							
K22A	Casper	133.96	30	⇓PKiKP		**PKPdf**	**16 14 53.7**	**+0.1**
	baz=134							
IRM	Iron Mountain	134.15	45	⇑PKiKP		**PKPdf**	**16 14 54.0**	**0.0**
	baz=134							
PLCA	Paso Flores	134.64	187	PKP		**PKPdf**	**16 14 56.9**	**+2.1**
PLCA	Paso Flores	134.64	187	PKP		**PKPdf**	**16 14 56.9**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=158,slow=4.1,SNR=4.2							
L23A	Garrett	134.77	30	⇑PKiKP		**PKPdf**	**16 14 55.2**	**0.0**
	baz=134							
O20A	White River Ci	134.86	34	⇓PKiKP		**PKPdf**	**16 14 55.8**	**+0.4**
	baz=135							
M23A	Laramie	135.24	30	⇑PKiKP		**PKPdf**	**16 14 55.6**	**-0.5**
	baz=135							
K26A	Motz Farm, Whi	135.52	27	⇑PKiKP		**PKPdf**	**16 14 55.9**	**-0.5**
	baz=135							
P22A	Eagle	136.05	33	⇑PKiKP		**PKPdf**	**16 14 56.8**	**-0.8**
	baz=136							
J30A	Dallas	136.59	24	⇓PKiKP		**PKPdf**	**16 14 58.2**	**-0.1**
	baz=136							
SPMN	St. Paul	137.17	16	⇑PKiKP		**PKPdf**	**16 14 59.2**	**0.0**
	baz=137							
ECSD	EROS Data Cent	137.32	21	⇓PKiKP		**PKPdf**	**16 15 00.1**	**+0.4**
	baz=137							
S25A	Robets Cordova	138.71	33	⇑PKiKP		**PKPdf**	**16 15 02.4**	**-0.2**
	baz=138							
R26A	Arlington	138.76	32	⇑PKiKP		**PKPdf**	**16 15 03.0**	**+0.4**
	baz=138							
V23A	Ortiz Mt. (NFS	139.06	37	⇓PKiKP		**PKPdf**	**16 15 04.1**	**+0.8**
	baz=139							
T25A	Trinidad	139.10	34	⇓PKiKP		**PKPdf**	**16 15 03.8**	**+0.4**
	baz=139							
S26A	Kim	139.25	32	⇓PKiKP		**PKPdf**	**16 15 03.6**	**+0.1**
	baz=139							
T26A	Comanche Natio	139.52	33	⇑PKiKP		**PKiKP**	**16 15 05.9**	**-0.5**
	baz=139							
R28A	Tribune	139.57	30	⇑PKiKP		**PKPdf**	**16 15 04.5**	**+0.5**
	baz=139							
SADO	Sadowa	139.77	2	PKP		**PKPdf**	**16 15 05.5**	**+1.4**
SADO	Sadowa	139.77	2	PKP		**PKPdf**	**16 15 05.5**	**+1.4**
	comp=Z,8.0nm,0.7s,baz=303,slow=3.1,SNR=5.6							
V25A	Rancho No Teng	139.91	35	⇓PKiKP		**PKPdf**	**16 15 05.4**	**+0.5**
	baz=140							
U26A	Atchley Ranch,	140.00	34	⇓PKiKP		**PKPdf**	**16 15 05.5**	**+0.5**
	baz=140							
Z22A	Elephant Butte	140.21	40	⇓PKiKP		**PKPdf**	**16 15 06.1**	**+0.7**
	baz=140							
Y23A	Lovelace Mesa,	140.35	39	⇓PKiKP		**PKPdf**	**16 15 06.5**	**+0.8**
	baz=140							
V26A	Tequesquite Ra	140.41	35	⇑PKiKP		**PKPdf**	**16 15 06.7**	**+1.0**
	baz=140							
Y24A	Capitan	140.74	38	⇑PKiKP		**PKPdf**	**16 15 07.1**	**+0.7**
	baz=140							
V27A	Dan Oppiter Fa	140.97	34	⇑PKiKP		**PKPdf**	**16 15 07.2**	**+0.6**
	baz=141							
Z24A	Sheeppen Canyo	141.18	39	⇑PKiKP		**PKPdf**	**16 15 07.5**	**+0.3**
	baz=141							
Y25A	Mesa, Roswell	141.19	37	⇓PKiKP		**PKPdf**	**16 15 07.9**	**+0.7**
	baz=141							
R33A	Olander Ranch,	141.40	26	⇓PKiKP		**PKPdf**	**16 15 08.2**	**+1.0**
	baz=141							
125A	Gardner Draw,	142.07	39	⇑PKPdf		**PKPdf**	**16 15 05.8**	**-2.9**
	baz=142							
W29A	Amraillo	142.09	33	⇓PKPdf		**PKPdf**	**16 15 05.6**	**-3.0**
	baz=142							
Y27A	Causey	142.13	36	⇑PKiKP		**PKPdf**	**16 15 10.0**	**+1.1**
	baz=142							
MNTX	Cornudas Mount	142.23	41	*e*PKPpre		PKPpre	16 15 04.4	
AMTX	Amarillo	142.25	34	⇓PKiKP		**PKPdf**	**16 15 10.0**	**+1.1**
	baz=142							
V31A	Spring Creek L	142.55	31	⇑PKPdf		**PKPdf**	**16 15 06.0**	**-3.4**
	baz=142							
Y28A	McKinney Farm,	142.65	35	⇑PKPdf		**PKPdf**	**16 15 06.2**	**-3.5**
	baz=142							
U33A	Lingo Farm, Me	142.87	28	⇓PKPdf		**PKPdf**	**16 15 05.9**	**-4.0**
	baz=143							
W31A	Holland Ranch,	142.95	31	⇓PKPdf		**PKPdf**	**16 15 07.0**	**-3.1**
	baz=143							
V32A	Arapaho	142.99	30	⇓PKPdf		**PKPdf**	**16 15 07.5**	**-2.7**
	baz=143							
425A	Indio Mountain	143.08	42	⇓PKPdf		PKPbc	16 15 08.0	+0.4
	baz=143							
SFIN	Scholer Farm	143.14	12	*e*PKPpre		PKPab	16 15 06.4	+0.6
SFIN	Scholer Farm	143.14	12	⇓PKPdf		PKPbc	16 15 07.2	-0.1
	baz=143							
U34A	Anderson Ranch	143.14	28	⇑PKPdf		PKPbc	16 15 07.2	-0.2
	baz=143							
X31A	McDonald Ranch	143.36	32	⇑PKPdf		PKPbc	16 15 08.2	+0.1
	baz=143							
128A	Castleberry Fa	143.42	37	⇑PKPdf		PKPbc	16 15 09.0	+0.6
	baz=143							
Z29A	Hungry Hill Ra	143.43	35	⇓PKPdf		PKPbc	16 15 08.5	+0.1
	baz=143							
Y30A	Stafford Cattl	143.43	34	⇓PKPdf		PKPbc	16 15 08.4	+0.1
	baz=143							
V34A	Guthrie	143.64	28	⇑PKPdf		PKPbc	16 15 08.8	-0.1
	baz=143							
228A	UT Block 9, Go	143.71	38	⇑PKPdf		PKPbc	16 15 09.4	+0.1
	baz=143							
Y31A	Rekieta Farm,	143.72	33	⇑PKPdf		PKPbc	16 15 09.2	+0.1
	baz=143							
W33A	Caddo, Fort Co	143.73	30	⇓PKPdf		PKPbc	16 15 09.4	+0.3
	baz=143							
Z30A	Sanderson Ranc	143.74	35	⇑PKPdf		PKPbc	16 15 09.1	-0.1
	baz=144							
CPUP	Villa Florida	143.78	211	*e*PKP		**PKPdf**	**16 15 11.2**	**-0.6**
CPUP				PKP		PKPbc	16 15 11.4	+1.9
CPUP				pPKP		**pPKPdf**	**16 15 28.1**	**-4.6**
CPUP	Villa Florida	143.78	211	PKP		**PKPdf**	**16 15 11.4**	**-0.4**
	comp=Z,5.4nm,0.5s,baz=104,slow=2.2,SNR=17							
CPUP				pPKP		**pPKPdf**	**16 15 28.1**	**-4.6**
	comp=Z,8.6nm,0.7s,baz=155,slow=3.2,SNR=4.9							
426A	McDonald Obser	143.78	41	⇑PKPdf		PKPbc	16 15 09.8	+0.1
	baz=144							
129A	Stewart Farms,	143.78	36	⇑PKPdf		PKPbc	16 15 09.5	+0.1
	baz=144							
X32A	Elmer	143.89	32	⇑PKPdf		PKPbc	16 15 09.4	-0.2
	baz=144							
WMOK	Wichita Mounta	143.90	31	*e*PKiKP		PKPab	16 15 08.6	-0.4
WMOK	Wichita Mounta	143.90	31	*e*PKPpre		PKPab	16 15 08.6	-0.4
ACSO	Alum Creek Sta	143.98	7	*e*PKPpre		PKPbc	16 15 09.0	-0.6
W34A	Bridge Creek,	144.00	29	⇓PKPdf		PKPbc	16 15 09.9	-0.1
	baz=144							
427A	Hayter Ranch,	144.07	40	⇑PKPdf		PKPbc	16 15 10.7	+0.3
	baz=144							
328A	Wristen Ranch,	144.08	39	⇓PKPdf		PKPbc	16 15 10.6	+0.3
	baz=144							
Y32A	R-V Farms, Ver	144.12	32	⇑PKPdf		**PKPab**	**16 15 10.1**	**+0.2**
	baz=144							
526A	Mary Lane Ranc	144.14	42	⇑PKPdf		PKPbc	16 15 10.9	+0.2
	baz=144							
X33A	Lawton	144.19	31	⇑PKPdf		**PKPab**	**16 15 10.2**	**+0.1**
	baz=144							
Z31A	Sharp Cattle R	144.27	34	⇓PKPdf		PKPbc	16 15 10.9	+0.1
	baz=144							
229A	Bryant Ranch,	144.29	37	⇓PKPdf		PKPbc	16 15 10.9	-0.1
	baz=144							
130A	Snyder	144.34	35	⇓PKPdf		PKPbc	16 15 11.0	-0.1
	baz=144							
TUL1	Tulsa	144.36	26	*e*PKP		**PKPab**	**16 15 10.5**	**-0.2**
TUL1	Tulsa	144.36	26	⇑PKPdf		PKPbc	16 15 10.9	-0.1
	baz=144							
527A	Woodward Ranch	144.40	41	⇑PKiKP		**PKPdf**	**16 15 13.3**	**+0.3**
	baz=144							
626A	Big Bend Ranch	144.43	42	⇑PKiKP		PKPbc	16 15 12.1	+0.6
	baz=144							
OLIL	Olney	144.47	14	*e*PKP		**PKPab**	**16 15 11.1**	**+0.1**
X34A	Smith Ranch, M	144.48	30	⇑PKiKP		**PKPab**	**16 15 11.0**	**-0.2**
	baz=144							
329A	Wagon Wheel Ra	144.52	38	⇓PKiKP		PKPbc	16 15 12.1	+0.3
	baz=144							
Y33A	Hilltop Ranch,	144.55	31	⇑PKiKP		**PKPab**	**16 15 11.2**	**-0.2**
	baz=144							
131A	Roby	144.61	35	⇑PKiKP		PKPbc	16 15 12.3	+0.4
	baz=144							
428A	Kincaid Ranch,	144.61	39	⇓PKiKP		**PKPdf**	**16 15 13.5**	**+0.3**
	baz=144							
Z32A	Haskell	144.64	33	⇑PKiKP		PKPbc	16 15 12.0	0.0
	baz=144							
BDFB	Brasilia	144.74	235	PKP		**PKPdf**	**16 15 14.8**	**+1.0**
BDFB				pPKP		**pPKPdf**	**16 15 30.6**	**-4.1**
BDFB	Brasilia	144.74	235	PKP		**PKPdf**	**16 15 14.8**	**+1.0**
	comp=Z,19nm,0.5s,baz=109,slow=2.4,SNR=27							
BDFB				pPKP		**pPKPdf**	**16 15 30.6**	**-4.1**
	comp=Z,26nm,0.6s,baz=172,slow=5.8,SNR=8.9							
230A	Sterling City	144.76	36	⇑PKiKP		**PKPdf**	**16 15 13.1**	**-0.3**
	baz=144							
MCWV	Mont Chateau	144.84	3	*e*PKPbc		**PKPab**	**16 15 12.2**	**-0.1**
TXAR	Lajitas Array	144.88	42	PKP		**PKPdf**	**16 15 13.4**	**-0.3**
TXAR	Lajitas Array	144.88	42	PKP		**PKPdf**	**16 15 13.4**	**-0.3**
	comp=Z,20nm,0.5s,baz=278,slow=1.2,SNR=303							
528A	Cox Ranch, San	144.92	40	⇓PKiKP		**PKPdf**	**16 15 13.8**	**0.0**
	baz=145							
627A	Terlingua Ranc	144.99	42	⇓PKiKP		**PKPdf**	**16 15 14.1**	**+0.2**
	baz=145							
Y34A	Reagan Ranch,	145.03	30	⇓PKiKP		**PKPbc**	**16 15 12.7**	**-0.4**
	baz=145							
Z33A	Whitaker Ranch	145.04	32	⇓PKiKP		**PKPbc**	**16 15 12.8**	**-0.5**
	baz=145							
ABTX	Abilene, Hawle	145.06	34	*e*PKP		**PKPbc**	**16 15 13.1**	**-0.3**
ABTX	Abilene, Hawle	145.06	34	⇑PKiKP		**PKPbc**	**16 15 13.3**	**-0.1**
	baz=145							
330A	Mertzon	145.07	37	⇓PKiKP		**PKPbc**	**16 15 13.2**	**-0.3**
	baz=145							
SIUC	Southern Illin	145.13	16	*e*PKP		**PKPbc**	**16 15 13.0**	**-0.4**
SDMD	Soldier's Deli	145.15	359	*e*PKP		**PKPbc**	**16 15 12.5**	**-0.9**
429A	Davenport Ranc	145.17	39	⇑PKiKP		**PKPbc**	**16 15 13.7**	**-0.2**
	baz=145							
231A	Bronte	145.19	35	⇓PKiKP		**PKPbc**	**16 15 13.7**	**-0.2**
	baz=145							
628A	Black Gap, Mar	145.30	41	⇓PKiKP		**PKPab**	**16 15 14.8**	**+0.3**
	baz=145							
USIN	University of	145.31	14	*e*PKP		**PKPbc**	**16 15 13.2**	**-0.7**
WCI	Wyandotte Cave	145.37	12	*e*PKiKP		**PKPbc**	**16 15 13.6**	**-0.6**
WCI	Wyandotte Cave	145.37	12	*e*PKP		**PKPbc**	**16 15 13.6**	**-0.6**
Z34A	Collier Ranch,	145.41	31	⇓PKiKP		**PKPdf**	**16 15 13.9**	**-0.5**
	baz=145							
430A	Baggett Ranch,	145.47	38	⇑PKiKP		**PKPbc**	**16 15 14.7**	**0.0**
	baz=145							
133A	Hamilton Ranch	145.47	33	⇓PKiKP		**PKPbc**	**16 15 14.7**	**+0.1**
	baz=145							
331A	San Angelo	145.58	36	⇑PKiKP		**PKPdf**	**16 15 14.9**	**+0.1**
	baz=145							
232A	Coleman	145.61	35	⇑PKiKP		**PKPbc**	**16 15 15.2**	**+0.1**
	baz=145							
Z35A	Perchaven, San	145.78	30	⇑PKiKP		**PKPdf**	**16 15 15.1**	**+0.1**
	baz=146							
530A	J-C Ranch, Com	145.85	39	⇓PKiKP		**PKPab**	**16 15 16.4**	**0.0**
	baz=146							
431A	Sonora	145.92	37	⇓PKiKP		**PKPbc**	**16 15 16.0**	**-0.1**
	baz=146							
332A	Millersview	145.93	35	⇓PKiKP		**PKPab**	**16 15 16.5**	**-0.2**
	baz=146							
233A	Rising Star	145.93	34	⇓PKiKP		**PKPbc**	**16 15 16.3**	**+0.1**
	baz=146							
PARMO	Parma	145.95	18	*e*PKPbc		**PKPdf**	**16 15 15.6**	**+0.4**
134A	White-Moore Ra	145.95	32	⇓PKiKP		**PKPbc**	**16 15 16.1**	**-0.1**
	baz=146							
LCO	Las Campanas	146.16	191	*e*PKP		**PKPab**	**16 15 17.6**	**-0.3**
432A	Menard	146.27	36	⇑PKiKP		**PKPbc**	**16 15 17.0**	**-0.2**
	baz=146							
135A	Vickery Place,	146.32	31	⇓PKiKP		**PKPbc**	**16 15 17.2**	**0.0**
	baz=146							
531A	Rocksprings	146.33	38	⇓PKiKP		**PKPbc**	**16 15 17.4**	**+0.1**
	baz=146							
234A	Clairette	146.36	33	⇑PKiKP		**PKPbc**	**16 15 17.4**	**0.0**
	baz=146							
333A	Richland Sprin	146.41	35	⇓PKiKP		**PKPbc**	**16 15 17.6**	**0.0**
	baz=146							
MIAR	Mount Ida	146.47	25	*e*PKP2		**PKPdf**	**16 15 16.8**	**+0.7**
MIAR	Mount Ida	146.47	25	*e*PKPbc		**PKPdf**	**16 15 16.8**	**+0.7**
JCT

h96km:pP-P,n968,σ1s21/1159,mb5.0/235,245C-170D,
Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH	**Katmai Pasha**	**0.37**	**255**	P	**Pn**	**17 04 21.9**	**-0.9**
MCNL	**McNeil River**	**0.60**	**325**	P	**Pn**	**17 04 24.4**	**0.0**
AUI	**Augustine Isla**	**0.65**	**11**	P	**Pn**	**17 04 24.7**	**-0.1**
AUH	**Augustine H**	**0.68**	**9**	P	**Pn**	**17 04 25.2**	**+0.1**
AUP	**Augustine Pinn**	**0.68**	**10**	P	**Pn**	**17 04 25.2**	**+0.1**
AUP	**Augustine Pinn**	**0.68**	**10**	P	**Pn**	**17 04 25.2**	**+0.1**
AUL	**Augustine Lava**	**0.70**	**9**	P	**Pn**	**17 04 25.4**	**+0.2**
KAHC	**Katmai Hardscr**	**0.70**	**267**	P	**Pn**	**17 04 24.9**	**-0.5**
KAKN	**Katmai Knife C**	**0.84**	**242**	P	**Pn**	**17 04 26.1**	**-0.6**
KAKN				S	**Sn**	**17 04 40.2**	**-0.3**
KABR	**Katmai Barrier**	**0.89**	**231**	P	**Pn**	**17 04 26.2**	**-1.0**
KVTA	**Katmai Vly 10**	**0.91**	**251**	P	**Pn**	**17 04 27.1**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.92**	**241**	P	**Pn**	**17 04 27.1**	**-0.4**
KABU	**Katmai Buttres**	**0.95**	**244**	P	**Pn**	**17 04 27.8**	**0.0**
KABU				S	**Sn**	**17 04 43.4**	**+0.8**
OPT	**Oil Point**	**0.99**	**13**	P	**Pn**	**17 04 28.4**	**+0.2**
KDAK	**Kodiak Island** 94μm,0.4s	**1.08**	**148**	Pn	**Pn**	**17 04 27.1**	**-2.0**
KDAK	**Kodiak Island**	**1.08**	**148**	P	**Pn**	**17 04 27.0**	**-2.1**
KDAK				S	**Sn**	**17 04 41.3**	**-3.6**
KELA	**Mount Kelaz**	**1.12**	**258**	P	**Pn**	**17 04 29.4**	**-0.3**
PDB	**Pedro Bay**	**1.13**	**346**	P	**Pn**	**17 04 29.8**	**+0.1**
PDB	**Pedro Bay**	**1.13**	**346**	P	**Pn**	**17 04 29.8**	**+0.1**
ILW	**Iliamna West**	**1.40**	**11**	P	**Pn**	**17 04 33.0**	**-0.1**
HOM	**Homer**	**1.42**	**46**	P	**Pn**	**17 04 33.1**	**0.0**
HOM				S	**Sn**	**17 04 52.0**	**-0.1**
PLWL	**Peulik Whale M**	**1.56**	**246**	P	**Pn**	**17 04 34.9**	**+0.1**
PLK3	**Peulik 3**	**1.71**	**235**	P	**Pn**	**17 04 37.1**	**+0.3**
PLK4	**Peulik 4**	**1.78**	**234**	P	**Pn**	**17 04 38.0**	**+0.2**
BRLK	**Bradley Lake**	**1.79**	**52**	P	**Pn**	**17 04 36.7**	**-1.1**
BRLK				S	**Sn**	**17 04 57.6**	**-2.7**
RSO	**Redoubt South**	**1.83**	**14**	*e*Pn	**Pn**	**17 04 38.5**	**0.0**
RDWB	**Redoubt West**	**1.85**	**13**	P	**Pn**	**17 04 38.0**	**-0.7**
RDWB				S	**Sn**	**17 04 59.9**	**-2.0**
RDN	**Redoubt North**	**1.88**	**14**	P	**Pn**	**17 04 39.2**	**+0.1**
NCT	**North Crescent**	**1.91**	**11**	P	**Pn**	**17 04 39.6**	**+0.1**
DFR	**Drift River**	**1.97**	**14**	P	**Pn**	**17 04 40.1**	**0.0**
SII	**Sitkinak Islan**	**2.16**	**188**	P	**Pn**	**17 04 40.9**	**-1.7**
SII				S	**Sn**	**17 05 05.2**	**-3.7**
SLKM	**Skilak Lake**	**2.52**	**42**	P	**Pn**	**17 04 46.5**	**-0.9**
SLKM	**Skilak Lake**	**2.52**	**42**	P	**Pn**	**17 04 46.5**	**-0.9**
CKL	**Chakachamna La**	**2.60**	**14**	P	**Pn**	**17 04 48.5**	**0.0**
SVW2	**Sparrevohn**	**2.60**	**339**	P	**Pn**	**17 04 48.7**	**+0.4**
SPU	**Mount Spurr**	**2.62**	**17**	*e*Pn	**Pn**	**17 04 48.6**	**-0.2**
SPBG	**Spurr Blockage**	**2.65**	**14**	P	**Pn**	**17 04 49.3**	**+0.1**
BGL	**Barrier Glacie**	**2.66**	**13**	P	**Pn**	**17 04 49.4**	**+0.2**
CGLM	**Capps Glacier**	**2.75**	**17**	P	**Pn**	**17 04 50.4**	**-0.1**
STLK	**Strandline Lak**	**2.96**	**17**	P	**Pn**	**17 04 53.8**	**0.0**
FIB	**Fire Island**	**3.04**	**34**	P	**Pn**	**17 04 54.4**	**+0.3**
FIB				S	**Sn**	**17 05 30.2**	**+0.5**
FIB	**Fire Island**	**3.04**	**34**	P	**Pn**	**17 04 54.4**	**+0.3**
FIB				S	**Sn**	**17 05 30.2**	**+0.5**
SUA	**Susitna One**	**3.14**	**27**	P	**Pn**	**17 04 55.4**	**-0.3**
SUA				S	**Sn**	**17 05 32.5**	**+0.1**
PTE	**Portage**	**3.20**	**45**	P	**Pn**	**17 04 55.6**	**-0.8**
PWL	**Port Wells**	**3.46**	**49**	P	**Pn**	**17 04 58.7**	**-1.1**
SKT	**Skwentna**	**3.46**	**17**	P	**Pn**	**17 04 59.5**	**-0.5**
MID	**Middleton Isla**	**3.85**	**76**	P	**Pn**	**17 05 03.7**	**-1.4**
MID	**Middleton Isla**	**3.85**	**76**	P	**Pn**	**17 05 03.7**	**-1.4**
JPK	**Jack Peak**	**4.27**	**53**	P	**Pn**	**17 05 10.1**	**-0.9**
VMT	**TAPS Tl Valdez**	**4.38**	**54**	P	**Pn**	**17 05 11.7**	**-0.7**
VLZ	**Valdez**	**4.42**	**53**	P	**Pn**	**17 05 12.0**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.43**	**62**	P	**Pn**	**17 05 11.6**	**-1.3**
DIV	**Divide**	**4.66**	**55**	P	**Pn**	**17 05 15.4**	**-0.8**
SGAM	**Sherman Glacie**	**4.66**	**64**	P	**Pn**	**17 05 15.1**	**-1.0**
CAST	**Castle Rocks**	**4.80**	**9**	P	**Pn**	**17 05 18.1**	**+0.1**
RAGM	**Ragged Mountai**	**4.88**	**66**	P	**Pn**	**17 05 17.9**	**-1.1**
GOAT	**Goat Mountain**	**4.91**	**64**	P	**Pn**	**17 05 18.7**	**-0.9**
BMRM	**Bremner River**	**5.11**	**60**	P	**Pn**	**17 05 20.8**	**-1.3**
RND	**Reindeer**	**5.27**	**24**	P	**Pn**	**17 05 23.3**	**-1.1**
RND	**Reindeer**	**5.27**	**24**	P	**Pn**	**17 05 23.3**	**-1.1**
PS11	**TAPS Pump St11**	**5.29**	**47**	P	**Pn**	**17 05 23.3**	**-1.3**
DHY	**Denali Highway**	**5.36**	**32**	P	**Pn**	**17 05 24.7**	**-1.0**
MCK	**McKinley**	**5.55**	**22**	P	**Pn**	**17 05 27.5**	**-0.6**
MCK	**McKinley**	**5.55**	**22**	P	**Pn**	**17 05 27.4**	**-0.6**
PVV	**Pavlof Volcano**	**5.55**	**237**	P	**Pn**	**17 05 28.5**	**+0.4**
PS4A	**Pavlof South-4**	**5.59**	**237**	P	**Pn**	**17 05 29.2**	**+0.4**
HARP	**HAARP**	**5.61**	**45**	P	**Pn**	**17 05 28.5**	**-0.4**
GLB	**Gilahina Butte**	**5.65**	**57**	P	**Pn**	**17 05 28.4**	**-1.1**
DOL	**Dolgoi Island**	**5.73**	**235**	P	**Pn**	**17 05 30.6**	**0.0**
PAX	**Paxson**	**5.87**	**40**	P	**Pn**	**17 05 31.4**	**-1.1**
PAX	**Paxson**	**5.87**	**40**	P	**Pn**	**17 05 31.4**	**-1.1**
DTNA	**Dutton South F**	**5.89**	**237**	P	**Pn**	**17 05 32.1**	**-0.4**
DRIA	**Deer Island**	**6.02**	**235**	P	**Pn**	**17 05 33.9**	**-0.7**
PS10	**TAPS Pump St10**	**6.09**	**36**	P	**Pn**	**17 05 35.2**	**-0.3**
GCSA	**Galena City Sc**	**6.26**	**347**	P	**Pn**	**17 05 37.9**	**+0.2**
DDM	**Donnelly Dome**	**6.34**	**33**	P	**Pn**	**17 05 39.1**	**+0.1**
WRH	**Wood River Hil**	**6.38**	**22**	P	**Pn**	**17 05 37.6**	**-1.7**
MENT	**Mentasta**	**6.46**	**45**	*e*Pn	**Pn**	**17 05 38.9**	**-1.6**
MLY	**Manley**	**6.51**	**11**	P	**Pn**	**17 05 39.3**	**-1.9**
CHX	**Chaix Hills**	**6.55**	**73**	P	**Pn**	**17 05 41.4**	**-0.5**
HDA	**Harding Lake**	**6.56**	**26**	P	**Pn**	**17 05 40.7**	**-1.2**
CCB	**Clear Creek Bu**	**6.59**	**23**	P	**Pn**	**17 05 40.3**	**-1.9**
PS08	**TAPS Pump Stn8**	**6.71**	**26**	P	**Pn**	**17 05 42.5**	**-1.3**
COLA	**College**	**6.78**	**21**	*d* iP	**Pn**	**17 05 42.8**	**-2.0**
COLA	**College**	**6.78**	**21**	P	**Pn**	**17 05 43.3**	**-1.5**
MDM	**Murphy Dome**	**6.79**	**20**	P	**Pn**	**17 05 43.5**	**-1.5**
SSLN	**Shishaldin Nor**	**6.88**	**240**	P	**Pn**	**17 05 44.9**	**-1.5**
ILAR	**Eielson Array**	**6.89**	**25**	P	**Pn**	**17 05 44.1**	**-2.2**
ILAR				S	**Sn**	**17 06 58.5**	**-4.6**
ILAR				ScP	**ScP**	**17 05 50.5**	**+0.4**
ILAR	**Eielson Array** 20nm,0.3s,baz=222,slow=14,SNR=707	**6.89**	**25**	P	**Pn**	**17 05 44.1**	**-2.2**
ILAR	40nm,0.3s,baz=252,slow=8.0,SNR=5.9			S	**Sn**	**17 06 58.5**	**-4.6**
ILAR	0.0nm,0.3s,baz=275,slow=2.4,SNR=7.0			ScP	**ScP**	**17 15 50.5**	**+0.4**
IL1	**Eielson Array**	**6.89**	**25**	P	**Pn**	**17 05 44.1**	**-2.2**
SSLW	**Shishaldin Wes**	**6.97**	**240**	P	**Pn**	**17 05 47.8**	**+0.4**
SSBA	**Shishaldin**	**6.97**	**240**	P	**Pn**	**17 05 47.2**	**-0.2**
GLM	**Gilmore Dome**	**6.97**	**22**	P	**Pn**	**17 05 45.9**	**-1.6**
YKU2	**Yakutat**	**7.25**	**78**	*e*Pn	**Pn**	**17 05 46.8**	**-4.4**
YKU2				*e*Sn	**Sn**	**17 07 09.0**	**-2.8**
IM04	**Indian Mountai**	**7.31**	**360**	*e*Pn	**Pn**	**17 05 51.2**	**-0.8**
AKUT	**Akutan**	**8.12**	**241**	*e*Pn	**Pn**	**17 06 03.7**	**+0.7**
HYT	**Haines Junctio**	**8.43**	**68**	*e*Pn	**Pn**	**17 06 07.3**	**0.0**
EGAK	**Eagle**	**8.50**	**39**	*e*Pn	**Pn**	**17 06 06.3**	**-1.8**
UNV	**Unalaska Valle**	**8.63**	**241**	*e*Pn	**Pn**	**17 06 09.4**	**-0.7**
COLD	**Coldfoot**	**8.71**	**9**	*e*Pn	**Pn**	**17 06 09.2**	**-1.8**
SKAG	**Skagway**	**9.47**	**78**	*e*Pn	**Pn**	**17 06 20.7**	**-0.6**
TNA	**Tin City**	**9.57**	**322**	*e*Pn	**Pn**	**17 06 24.9**	**+2.1**
SIT	**Sitka**	**9.90**	**92**	*e*P	Pn	17 06 23.6	-3.6
SIT	**Sitka**	**9.90**	**92**	*e*Pn	Pn	17 06 23.6	-3.6
GAMB	**Gambell**	**10.06**	**308**	*e*Pn	**Pn**	**17 06 31.1**	**+1.8**
CRAG	**Craig** 51nm,0.6s	**11.62**	**97**	*e*P	Pn	17 06 46.2	-4.3
WRAK	**Wrangell Islan**	**11.66**	**92**	*e*Pn	**Pn**	**17 06 49.1**	**-1.9**
DLBC	**Dease Lake** 108nm,0.6s	**12.32**	**81**	P	**Pn**	**17 07 00.4**	**+0.4**
DLBC				S	Sn	17 09 08.2	-7.1
DLBC	**Dease Lake** 34nm,0.3s,baz=272,slow=11,SNR=68	**12.32**	**81**	P	**Pn**	**17 07 00.4**	**+0.4**
DLBC	2.7nm,0.3s,baz=168,slow=20,SNR=2.6			S	Sn	17 09 08.2	-7.1
DLBC	comp=Z,292nm,20.0s,baz=342,slow=33			LR	LR	17 10 53.5	
INK	**Inuvik**	**13.10**	**34**	*e*Pn	**Pn**	**17 07 08.2**	**-1.8**
INK	**Inuvik** 2.6nm,0.3s,baz=229,slow=16,SNR=38	**13.10**	**34**	P	**Pn**	**17 07 08.7**	**-1.3**
GSTR	**Great Sitkin T**	**14.29**	**252**	*e*Pn	**P**	**17 07 30.4**	**+0.4**
YKA	**Yellowknife Ar**	**19.33**	**62**	P	**P**	**17 08 25.4**	**+0.1**
YKA				PcP	**PcP**	**17 12 43.3**	**+0.2**
YKA				ScP	**ScP**	**17 16 10.7**	**+0.8**
YKA				PKiKP	**PKiKP**	**17 20 30.1**	**-2.2**
YKA	**Yellowknife Ar** 1.7nm,0.3s,baz=274,slow=10.0,SNR=263	**19.33**	**62**	P	**P**	**17 08 25.4**	**+0.1**
YKA	0.3nm,0.3s,baz=271,slow=1.4,SNR=8.2			PcP	**PcP**	**17 12 43.3**	**+0.2**
YKA	0.0nm,0.3s,baz=284,slow=2.2,SNR=14			ScP	**ScP**	**17 16 10.7**	**+0.8**
YKA	0.0nm,0.3s,baz=251,slow=0.9,SNR=4.9			PKiKP	**PKiKP**	**17 20 30.1**	**-2.2**
FX1	**Attu Island--F**	**19.39**	**267**	*e*P	**P**	**17 08 26.3**	**+0.1**
FX1				S	**S**	**17 12 00.8**	**+0.8**
FX1	**Attu Island--F** 44nm,0.3s,baz=312,slow=3.8,SNR=86	**19.39**	**267**	P	**P**	**17 08 25.7**	**-0.4**
FX1				S	**S**	**17 12 00.8**	**+0.8**
BILL	**Bilibino** 0.4nm,0.3s,baz=120,slow=20,SNR=3.2	**19.86**	**315**	*c* iP	**P**	**17 08 31.3**	**+0.3**
BILL	comp=Z,27nm,0.4s			pmax	pmax		
BILL	**Bilibino** comp=Z,110nm,0.6s	**19.86**	**315**	*e*P	**P**	**17 08 31.6**	**+0.5**
A05A	**Maple Falls** comp=Z,129nm,1.6s	**20.81**	**104**	*e*P	Pn	17 08 43.6	-1.2
D05A	**Emumclaw** comp=Z,110nm,1.1s	**22.06**	**108**	*e*P	**P**	**17 08 58.0**	**+3.2**
D05A				*e*pP	**pP**	**17 09 14.4**	**+0.8**
B08A	**Colville Reser** comp=Z,64nm,1.0s	**22.62**	**102**	*e*P	**P**	**17 09 01.9**	**+1.2**
LVP	**Lakeview Peak**	**22.63**	**110**	P	pP	17 09 23.2	+3.4
HSR	**South Ridge**	**22.67**	**110**	P	pP	17 09 24.5	+4.2
LTY	**Liberty**	**22.67**	**106**	*e*pP	pP	17 09 18.9	-1.4
MTMW	**Mount Mitchell**	**22.76**	**110**	P	pP	17 09 24.9	+3.7
EDM	**Edmonton**	**22.95**	**86**	*e*P	**P**	**17 09 04.0**	**+0.2**
EDM	**Edmonton**	**22.95**	**86**	*e*P	**P**	**17 09 04.0**	**+0.2**
C09A	**Chrisman Ranch**	**23.53**	**102**	*e*P	**P**	**17 09 10.3**	**+1.1**
C09A				*e*pP	**pP**	**17 09 30.4**	**+1.0**
OD2	**Odessa Site #2**	**23.57**	**103**	P	pP	17 09 30.7	+0.8
D08A	**Wollman Farm,** comp=Z,56nm,1.1s	**23.69**	**104**	*e*P	**P**	**17 09 11.8**	**+1.0**
H04A	**Detroit Lake** comp=Z,52nm,1.2s	**23.74**	**112**	*e*P	**P**	**17 09 12.7**	**+1.4**
H04A				*e*pP	**pP**	**17 09 32.5**	**+0.8**
NEW	**Newport**	**23.82**	**100**	*e*P	**P**	**17 09 12.5**	**+0.6**
NEW				pP	**pP**	**17 09 33.5**	**+1.0**
NEW	**Newport** comp=Z,5.7nm,0.4s,baz=312,slow=8.2,SNR=9.4	**23.82**	**100**	P	**P**	**17 09 11.6**	**-0.3**
NEW	comp=Z,32nm,1.0s,baz=312,slow=8.6,SNR=8.9			pP	**pP**	**17 09 33.5**	**+1.0**
NEW	**Newport** baz=24	**23.82**	**100**	⇑P	**P**	**17 09 12.5**	**+0.6**
HAWA	**Hanford**	**23.83**	**106**	*e*P	**P**	**17 09 10.6**	**-1.5**
HAWA				*e*pP	**pP**	**17 09 34.4**	**+1.8**
I04A	**Tendick Farm,** baz=24	**24.30**	**114**	⇓P	**P**	**17 09 17.7**	**+1.4**
VIPM	**Ingram Point**	**24.63**	**111**	P	pP	17 09 41.8	+1.0
G08A	**Pilot Rock**	**24.89**	**107**	*e*P	**P**	**17 09 23.1**	**+1.4**
WALA	**Waterton Lakes** comp=Z,1.0nm,1.0s	**24.98**	**95**	*e*P	**P**	**17 09 23.1**	**+0.6**
F10A	**Beach Ranch, E**	**25.28**	**104**	*e*P	**P**	**17 09 26.4**	**+1.1**
BSMT	**Bassoo Peak**	**25.29**	**98**	*e*P	P	17 09 18.4	-7.0
BSMT				*e*pP	pP	17 09 42.8	-4.1
JTMT	**Jette**	**25.61**	**98**	*e*P	**P**	**17 09 29.6**	**+1.4**
LAMM	**Antelope Mount**	**25.88**	**118**	P	pP	17 09 54.1	+1.9
SWMT	**Swartz Lake**	**25.91**	**98**	*e*P	**P**	**17 09 32.2**	**+1.2**
SEY	**Seymchan**	**25.98**	**302**	*e*P	**P**	**17 09 30.7**	**-0.6**
SEY	**Seymchan**	**25.98**	**302**	P	**P**	**17 09 31.6**	**+0.3**
SEY	**Seymchan** comp=Z,35nm,0.8s,baz=87,slow=7.3,SNR=100	**25.98**	**302**	P	**P**	**17 09 31.6**	**+0.3**
M04C	**Macdoel** baz=26	**26.11**	**116**	⇑P	**P**	**17 09 34.1**	**+1.3**
N02D	**Trinity Center** baz=26	**26.34**	**119**	⇓P	**P**	**17 09 36.0**	**+1.2**
SLMT	**Seeley Lake** comp=Z,9.5nm,1.2s	**26.35**	**98**	*e*P	**P**	**17 09 34.1**	**-0.8**
RES	**Resolute Bay**	**26.60**	**30**	P	**P**	**17 09 36.9**	**+0.1**
RES	**Resolute Bay** comp=Z,5.4nm,0.7s,baz=249,slow=12,SNR=19	**26.60**	**30**	P	**P**	**17 09 36.9**	**+0.1**
CHMT	**Chamberlain Mo**	**26.69**	**98**	*e*P	**P**	**17 09 38.8**	**+0.8**
MOD	**Modoc** comp=Z,19nm,1.1s	**26.74**	**114**	*e*P	**P**	**17 09 40.5**	**+2.0**
PET	**Petropavlovsk**	**26.87**	**279**	*e*P	**P**	**17 09 40.6**	**+1.2**
PET	comp=Z,27nm,0.5s			pmax	pmax		
PET	**Petropavlovsk** comp=Z,46nm,0.9s	**26.87**	**279**	*e*P	**P**	**17 09 39.8**	**+0.4**
PETK	**Petropavlovsk-**	**27.32**	**280**	P	**P**	**17 09 43.2**	**-0.2**
PETK						17 13 01.1	
PETK	**Petropavlovsk-**	**27.32**	**280**	P	**P**	**17 09 43.2**	**-0.2**
PETK				PcP	**PcP**	**17 13 01.1**	**+1.0**
PETK	**Petropavlovsk-** comp=Z,15nm,0.6s,baz=76,slow=10,SNR=88	**27.32**	**280**	P	**P**	**17 09 43.2**	**-0.2**
PETK	comp=Z,1.7nm,0.6s,baz=134,slow=3.5,SNR=5.1			PcP	**PcP**	**17 13 01.1**	**+1.0**
PETK	comp=Z,41nm,21.6s,baz=72,slow=34			LR	LR	17 19 37.7	
HRY	**Holter Researc**	**27.56**	**97**	*e*P	**P**	**17 09 47.0**	**+1.3**
A19A	**Klindworth Far** baz=28,SNR=7.2	**27.76**	**91**	⇓P	**P**	**17 09 48.1**	**+0.7**
EGMT	**Eagleton** comp=Z,49nm,1.2s	**27.79**	**93**	*e*P	**P**	**17 09 47.9**	**+0.1**
EGMT	**Eagleton** baz=28,SNR=5.7	**27.79**	**93**	⇓P	**P**	**17 09 48.3**	**+0.5**
MFID	**Camas Ranch** comp=Z,8.6nm,1.0s	**27.80**	**107**	*e*P	**P**	**17 09 49.1**	**+1.2**
LRM	**Limekiln Ridge** comp=Z,17nm,0.7s	**27.83**	**99**	*e*P	**P**	**17 09 49.3**	**+1.0**
B19A	**Brinkman Farms** baz=28,SNR=17	**27.94**	**92**	⇑P	**P**	**17 09 50.0**	**+0.9**
A20A	**Cobblestone Ra** baz=28	**28.21**	**90**	⇓P	**P**	**17 09 52.4**	**+0.9**
MCMT	**McKenzie Canyo** comp=Z,1.1nm,0.7s	**28.31**	**101**	*e*P	**P**	**17 09 53.6**	**+1.1**
C19A	**Slak Wire Ran** baz=28,SNR=9.5	**28.34**	**93**	⇓P	**P**	**17 09 53.8**	**+1.2**
BOZ	**Bozeman (W)**	**28.37**	**99**	*e*P	**P**	**17 09 54.4**	**+1.4**
BOZ	comp=Z,5.0nm,1.1s			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,4.7nm,1.1s	**28.37**	**99**	*e*P	**P**	**17 09 54.4**	**+1.4**
HLID	**Hailey** baz=28	**28.40**	**105**	⇓P	**P**	**17 09 54.8**	**+1.4**
B20A	**Solberg Farm,** baz=28	**28.43**	**91**	⇑P	**P**	**17 09 54.1**	**+0.7**
D19A	**Cripps Ranch,** baz=29	**28.79**	**94**	⇓P	**P**	**17 09 57.6**	**+0.9**
C20A	**Veseth Ranch,** baz=29,SNR=6.1	**28.90**	**92**	⇓P	**P**	**17 09 58.5**	**+0.9**
QLMT	**Earthquake Lak** comp=Z,1.2nm,1.0s	**29.03**	**100**	*e*P	**P**	**17 10 00.5**	**+1.5**
D20A	**Manuel Ranch,** baz=29,SNR=6.7	**29.23**	**93**	⇓P	**P**	**17 10 01.9**	**+1.4**
GCMT	**Greycliff** comp=Z,61nm,1.1s	**29.29**	**97**	*e*P	**P**	**17 10 03.5**	**+2.3**
GCMT				*e*pP	**pP**	**17 10 19.8**	**-3.1**
E19A	**Rath Farm, Rou** baz=29,SNR=7.8	**29.30**	**95**	⇑P	**P**	**17 10 02.7**	**+1.5**
SKR	**Severo-Kuril's** comp=Z,80nm,0.5s	**29.48**	**277**	*e*P	P	17 09 57.5	-5.0
SKR	comp=E,60nm,0.6s			pmax	pmax		
SKR				pmax	pmax		
E20A	**Meyer Farm, Mu** baz=29	**29.61**	**94**	⇓P	**P**	**17 10 05.1**	**+1.1**
F19A	**Roth Farm, Mol** baz=29,SNR=7.6	**29.62**	**96**	⇓P	**P**	**17 10 05.9**	**+1.8**
H17A	**Grant Village** comp=E,25nm,1.1s	**29.77**	**100**	*e*P	P	17 10 08.7	+3.1
H17A				*e*pP	pP	17 10 29.7	+2.4
H17A	**Grant Village** baz=30,SNR=5.5	**29.77**	**100**	⇓P	**P**	**17 10 08.2**	**+2.7**
WAKR	**Walker** comp=E,34nm,1.3s	**29.83**	**117**	*e*P	**P**	**17 10 07.9**	**+1.9**
WAKR				*e*pP	**pP**	**17 10 29.2**	**+1.5**
D21A	**La Casta Ranch** baz=30	**29.84**	**92**	⇑P	**P**	**17 10 07.3**	**+1.4**
C22A	**Vida** baz=30	**29.98**	**90**	⇑P	**P**	**17 10 07.9**	**+0.8**
FCC	**Fort Churchill**	**30.04**	**64**	*e*P	**P**	**17 10 07.7**	**+0.3**
FCC				*e**PP	**pP**	**17 10 29.8**	**+0.7**
FCC	**Fort Churchill** comp=E,0.3nm,0.6s	**30.04**	**64**	*e*P	**P**	**17 10 07.7**	**+0.3**
FCC				*e*pP	**pP**	**17 10 29.8**	**+0.7**
H18A	**Shoshone NF, C** baz=30	**30.05**	**98**	⇓P	**P**	**17 10 09.3**	**+1.3**
F20A	**Billings** baz=30	**30.07**	**95**	⇓P	**P**	**17 10 09.7**	**+1.7**
I17A	**Pilgrim Ck.** baz=30	**30.11**	**100**	⇑P	**P**	**17 10 10.4**	**+2.0**
D22A	**Cohagen** baz=30	**30.21**	**91**	P	**P**	**17 10 10.3**	**+1.1**
C23A	**Lambert** baz=30,SNR=6.6	**30.31**	**89**	⇑P	**P**	**17 10 11.1**	**+1.0**
H19A	**Powell** baz=30	**30.40**	**98**	⇑P	**P**	**17 10 12.7**	**+1.7**
NVAR	**Mina Array Bea**	**30.42**	**116**	P	**P**	**17 10 13.1**	**+1.9**
NVAR				pP	**pP**	**17 10 34.3**	**+1.3**
NVAR				PcP	**PcP**	**17 13 08.8**	**+0.3**
NVAR	**Mina Array Bea** comp=E,11nm,0.8s,baz=307,slow=9.1,SNR=37	**30.42**	**116**	P	**P**	**17 10 13.1**	**+1.9**
NVAR	comp=E,18nm,1.0s,baz=306,slow=8.0,SNR=10			pP	**pP**	**17 10 34.3**	**+1.3**
NVAR				PcP	**PcP**	**17 13 08.8**	**+0.3**
G20A	**Bridger** baz=30	**30.43**	**96**	⇓P	**P**	**17 10 12.7**	**+1.5**
NV11	**Mina Array Sit**	**30.48**	**116**	*e*P	**P**	**17 10 13.2**	**+1.5**
NV11				*e*pP	**pP**	**17 10 34.8**	**+1.3**
D23A	**Lindsay** baz=30,SNR=7.5	**30.70**	**90**	⇑P	**P**	**17 10 14.9**	**+1.4**
E22A	**Miles City** baz=31	**30.80**	**92**	⇑P	**P**	**17 10 15.8**	**+1.5**
MLAC	**Mammoth Lakes** baz=31	**30.81**	**118**	⇓P	**P**	**17 10 17.1**	**+2.3**
I19A	**Meeteetse** baz=31	**30.84**	**99**	⇓P	**P**	**17 10 17.0**	**+2.1**
C24A	**Savage** baz=31,SNR=7.1	**30.88**	**89**	⇑P	**P**	**17 10 16.6**	**+1.5**
G21A	**Lodge Grass** baz=31	**30.95**	**95**	⇓P	**P**	**17 10 17.2**	**+1.4**
F22A	**Rosebud** baz=31	**31.07**	**93**	⇓P	**P**	**17 10 17.7**	**+1.0**
D24A	**Glendive** baz=31,SNR=12	**31.20**	**90**	⇑P	**P**	**17 10 19.6**	**+1.7**
TPH	**Tonopah**	**31.21**	**115**	*e*P	**P**	**17 10 20.1**	**+1.9**
TPH				*e**PP	**pP**	**17 10 41.2**	**+1.2**
TPH	comp=Z,16nm,1.1s			pmax	pmax		
TPH	**Tonopah** comp=Z,16nm,1.1s	**31.21**	**115**	*e*P	**P**	**17 10 20.1**	**+1.9**
TPH				*e*pP	**pP**	**17 10 41.2**	**+1.2**
I20A	**Worland** baz=31	**31.35**	**98**	⇑P	**P**	**17 10 20.3**	**+1.0**
J19A	**Crowheart** baz=31	**31.35**	**100**	⇑P	**P**	**17 10 21.1**	**+1.7**
BW06	**Boulder Array** comp=Z,22nm,0.8s	**31.45**	**101**	*e*P	**P**	**17 10 21.5**	**+1.2**
BW06				*e*pP	**pP**	**17 10 42.9**	**+0.8**
PDAR	**Pinedale Array**	**31.45**	**101**	P	**P**	**17 10 21.4**	**+1.0**
PDAR				pP	**pP**	**17 10 43.0**	**+0.9**
PDAR				PcP	**PcP**	**17 13 10.5**	**-0.6**
PDAR	**Pinedale Array** comp=Z,4.2nm,0.7s,baz=309,slow=5.1,SNR=37	**31.45**	**101**	P	**P**	**17 10 21.4**	**+1.0**
PDAR	comp=Z,23nm,0.7s,baz=310,slow=4.9,SNR=40			pP	**pP**	**17 10 43.0**	**+0.9**
PDAR	comp=Z,1.0nm,0.5s,baz=106,slow=1.8,SNR=3.9			PcP	**PcP**	**17 13 10.5**	**-0.6**
PDAR	comp=Z,111nm,18.5s,baz=318,slow=37			LR	LR	17 23 37.6	
F23A	**Volborg** baz=31,SNR=5.3	**31.55**	**93**	⇑P	**P**	**17 10 22.0**	**+1.0**
TIN	**Tinemaha** baz=31,SNR=5.7	**31.56**	**118**	⇑P	**P**	**17 10 23.4**	**+2.2**
DUG	**Dugway** baz=32,SNR=9.4	**31.70**	**108**	⇓P	**P**	**17 10 23.8**	**+1.3**
D25A	**Fairfield** baz=32	**31.70**	**89**	⇓P	**P**	**17 10 23.6**	**+1.3**
RCTC	**Rector, Farmer** baz=32	**31.71**	**120**	⇑P	**P**	**17 10 24.3**	**+1.9**
TCUT	**Toone Canyon** comp=Z,32nm,1.5s	**31.71**	**105**	*e*P	**P**	**17 10 23.4**	**+0.8**
TCUT				*e*pP	**pP**	**17 10 45.9**	**+1.4**
R11A	**Troy Canyon, C** comp=Z,24nm,1.0s	**31.77**	**113**	*e*P	**P**	**17 10 24.3**	**+1.2**
R11A				*e*pP	**pP**	**17 10 45.9**	**+1.0**
R11A	**Troy Canyon, C** baz=32,SNR=23	**31.77**	**113**	⇑P	**P**	**17 10 24.7**	**+1.6**
J20A	**Shoshoni** baz=32,SNR=12	**31.79**	**99**	⇑P	**P**	**17 10 25.3**	**+2.1**
I21A	**Big Trails, Te** baz=32,SNR=7.2	**31.88**	**97**	⇓P	**P**	**17 10 25.4**	**+1.5**
G23A	**Biddle** baz=32	**31.91**	**93**	⇓P	**P**	**17 10 25.3**	**+1.2**
C26A	**Wahner Farm, P** baz=32	**31.91**	**87**	⇓P	**P**	**17 10 25.3**	**+1.2**
F24A	**Ekala

ULM PcP **PcP** 17 13 15.5 -1.2
comp=Z,3.4nm,0.7s,baz=320,slow=6.9,SNR=3.4
GSC Goldstone 33.66 118 *e*P **P** 17 10 40.8 +1.3
GSC *e**PP **pP** 17 11 02.9 +1.5
GSC pmax pmax
comp=Z,44nm,1.1s
GSC Goldstone 33.66 118 *e*P **P** 17 10 40.8 +1.3
comp=Z,44nm,1.1s
GSC *e*pP **pP** 17 11 02.9 +1.5
GSC Goldstone 33.66 118 ⇓P **P** 17 10 40.8 +1.3
baz=34,SNR=11
SRU San Rafael 33.67 106 *e*P **P** 17 10 41.2 +1.5
SRU *e**PP **pP** 17 11 02.5 +0.9
SRU pmax pmax
comp=Z,90nm,1.0s
SRU San Rafael 33.67 106 *e*P **P** 17 10 41.2 +1.5
comp=Z,90nm,1.0s
SRU *e*pP **pP** 17 11 02.5 +0.9
F28A McLaughlin 33.87 89 ⇑P **P** 17 10 42.2 +1.1
baz=34
L23A Garrett 33.90 98 ⇑P **P** 17 10 43.1 +1.4
baz=34,SNR=11
M22A Cedar Creek Ra 33.95 100 ⇓P **P** 17 10 42.9 +0.7
baz=34
TUQ Turquoise Moun 33.95 117 ⇓P **P** 17 10 43.9 +1.8
baz=34,SNR=8.1
MWC Mount Wilson 33.98 120 *e*P **P** 17 10 44.0 +1.6
MWC *e**PP **pP** 17 11 05.6 +1.3
MWC pmax pmax
comp=Z,46nm,1.1s
MWC Mount Wilson 33.98 120 *e*P **P** 17 10 44.0 +1.6
comp=Z,46nm,1.1s
MWC *e*pP **pP** 17 11 05.6 +1.3
O20A White River Ci 34.05 103 *e*P **P** 17 10 44.0 +1.1
comp=Z,6.6nm,0.8s
O20A *e*pP **pP** 17 11 05.8 +0.9
O20A White River Ci 34.05 103 ⇑P **P** 17 10 44.3 +1.3
baz=34
BFSC Mount Baldy Ra 34.15 120 ⇓P **P** 17 10 45.5 +1.7
baz=34,SNR=9.2
HEC Hector Ludlow 34.26 118 ⇑P **P** 17 10 46.1 +1.4
baz=34,SNR=7.2
L24A Wheatland 34.35 97 ⇓P **P** 17 10 46.4 +1.0
baz=34
J26A Sides Ranch, S 34.42 94 ⇓P **P** 17 10 47.5 +1.5
baz=34
N22A Wattenberg Ran 34.47 100 ⇑P **P** 17 10 48.1 +1.4
baz=34
GMRC Granite Mounta 34.62 117 ⇑P **P** 17 10 49.2 +1.4
baz=34,SNR=8.5
LDFC Landfair 34.63 116 *e*P **P** 17 10 48.7 +0.8
comp=Z,27nm,0.9s
LDFC *e*pP **pP** 17 11 10.9 +1.0
N23A Red Feather La 34.66 100 ⇑P **P** 17 10 49.4 +1.1
baz=34
SCI San Clemente I 34.81 122 ⇑P **P** 17 10 51.1 +1.8
baz=35
MURC Murrieta 34.89 120 ⇑P **P** 17 10 52.0 +2.0
baz=35
O22A Kremmling 34.89 101 ⇓P **P** 17 10 51.5 +1.2
baz=35
I28A Midland 34.93 91 ⇓P **P** 17 10 51.9 +1.5
baz=35
PV04 Paradox Valley 35.03 105 *e*P **P** 17 10 52.6 +1.2
PV04 *e*pP **pP** 17 11 14.4 +1.0
BELC Belle Mtn. Jos 35.10 118 ⇓P **P** 17 10 53.2 +1.2
baz=35,SNR=12
NEE2 Needles Airpor 35.11 116 ⇑P **P** 17 10 53.4 +1.5
baz=35
O23A Lake Granby, G 35.18 100 ⇓P **P** 17 10 54.7 +1.9
baz=35,SNR=7.0
W13A Hualapai Mount 35.19 114 P **P** 17 10 54.4 +1.5
baz=35
P22A Eagle 35.21 102 ⇑P **P** 17 10 54.4 +1.4
baz=35
G30A Faulkton 35.22 88 ⇓P **P** 17 10 54.2 +1.4
baz=35
PFO Pinyon Flat Ob 35.22 119 *e*P **P** 17 10 53.8 +0.8
comp=Z,15nm,1.1s
PFO *e*pP **pP** 17 11 15.9 +0.8
J28A Allard Ranch, 35.30 92 ⇑P **P** 17 10 55.0 +1.5
baz=35
IRM Iron Mountain 35.37 117 ⇓P **P** 17 10 56.0 +1.8
baz=35,SNR=18
I29A Vivian Onida 35.37 91 ⇓P **P** 17 10 55.4 +1.3
baz=35
PV01 Paradox Valley 35.40 105 *e*P **P** 17 10 55.8 +1.2
comp=Z,2µm,1.0s
PV01 *e*pP **pP** 17 11 17.5 +0.8
109C Camp Elliot, M 35.53 120 ⇑P **P** 17 10 57.5 +2.0
baz=35
ISCO Idaho Springs 35.64 101 ⇓P **P** 17 10 58.2 +1.4
baz=35
PDMCI Parker Dam,Lak 35.72 116 ⇓P **P** 17 10 58.3 +1.2
baz=36
J29A Okreek 35.79 91 ⇓P **P** 17 10 58.7 +1.0
baz=36
MONP Monument Peak 35.84 120 ⇑P **P** 17 11 00.3 +1.9
baz=36,SNR=10
P23A Jefferson 35.84 101 ⇑P **P** 17 11 00.2 +1.6
baz=36
Y12C Blythe 35.99 117 ⇓P **P** 17 11 01.1 +1.6
baz=36,SNR=12
YAK Yakutsk 36.01 309 *e*P **P** 17 10 58.5 -0.8
YAK *e**PP **pP** 17 11 20.2 -1.1
YAK *e* 17 12 23.0
YAK *e* 17 13 22.8
YAK *e*S **S** 17 16 29.2 -1.3
YAK *e**SS **sS** 17 17 08.9 +0.2
YAK *e* 17 21 06.1
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=Z,43nm,1.5s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,38nm,1.3s
YAK smax smax
comp=N,33nm,3.3s
YAK smax smax
comp=E,81nm,3.8s
YAK Yakutsk 36.01 309 *e*P **P** 17 10 58.5 -0.8
comp=E,58nm,0.6s
YAK *e*pP **pP** 17 11 21.0 -0.3
M27A Reverse DX Ran 36.04 95 ⇓P **P** 17 11 01.5 +1.6
baz=36
WUAZ Wupatki 36.06 111 ⇑P **P** 17 11 01.9 +1.7
baz=36,SNR=16
SWSC Sam W. Stewart 36.08 119 ⇓P **P** 17 11 01.2 +1.0
baz=36
MVCO Mesa Verde 36.15 106 P **P** 17 11 01.3 +0.3
baz=36
KULLO Kullorsuaq 36.28 27 *i* P **P** 17 11 00.9 -0.6
KULLO pmax pmax
comp=Z,14nm,0.9s
KULLO Kullorsuaq 36.28 27 *i* P **P** 17 11 00.9 -0.6
comp=Z,14nm,0.8s
GLA Glamis 36.43 118 *e*P **P** 17 11 04.5 +1.2
GLA *e**PP **pP** 17 11 26.7 +1.3
GLA pmax pmax
comp=Z,24nm,1.1s
GLA Glamis 36.43 118 *e*P **P** 17 11 04.5 +1.2
comp=Z,24nm,1.1s
GLA *e*pP **pP** 17 11 26.7 +1.3
GLA Glamis 36.43 118 ⇓P **P** 17 11 04.6 +1.2
baz=36,SNR=6.4
N27A Anderson Farm, 36.49 96 ⇑P **P** 17 11 05.5 +1.7
baz=36
O26A Horse Wrangler 36.50 98 ⇑P **P** 17 11 05.6 +1.7
baz=36
Q24A Divide 36.51 101 ⇓P **P** 17 11 05.8 +1.6
baz=36
Y14A Wickenburg 36.56 115 ⇓P **P** 17 11 05.8 +1.5
baz=36,SNR=7.0
S22A 4UR Ranch, Cre 36.58 104 ⇓P **P** 17 11 06.3 +1.6
baz=36
P25A Willow Gulch B 36.60 99 ⇓P **P** 17 11 06.3 +1.5
baz=36
L29A Maesberg Ranch 36.65 93 ⇓P **P** 17 11 06.2 +1.1
baz=36
R23A Moffat 36.74 103 ⇓P **P** 17 11 07.8 +1.7
baz=36,SNR=5.2
X16A Lo Mia Camp, P 36.91 112 ⇑P **P** 17 11 09.3 +1.8
baz=37,SNR=7.7
Q25A Bedland, Calha 37.01 100 ⇑P **P** 17 11 09.6 +1.4
baz=37

Z14A Wintersburg 37.06 115 ⇑P **P** 17 11 10.6 +2.1
baz=37
R24A Sanders Place, 37.08 102 ⇑P **P** 17 11 10.9 +2.0
baz=37
113A Mohawk Valley, 37.16 117 ⇑P **P** 17 11 11.0 +1.6
baz=37
W18A Petrified Fore 37.18 110 *e*P **P** 17 11 11.3 +1.5
comp=Z,24nm,1.1s
W18A Petrified Fore 37.18 110 ⇓P **P** 17 11 11.9 +2.1
baz=37
SDCO Great Sand Dun 37.25 103 *e*P **P** 17 11 11.9 +1.4
comp=Z,25nm,1.2s
SDCO *e*pP **pP** 17 11 28.1 -4.5
Q26A Hugo 37.37 99 ⇓P **P** 17 11 13.4 +2.0
baz=37
S24A Houchin Ranch, 37.48 102 ⇑P **P** 17 11 14.2 +1.8
baz=37,SNR=8.5
ECSD EROS Data Cent 37.49 88 ⇓P **P** 17 11 11.8 -0.3
baz=37
X18A Snowflake 37.55 111 ⇓P **P** 17 11 14.5 +1.7
baz=37,SNR=6.1
R25A Fountain Ranch 37.57 101 ⇓P **P** 17 11 14.9 +2.0
baz=37,SNR=6.5
U22A Llaves 37.62 105 ⇓P **P** 17 11 15.6 +2.0
baz=37
S25A Robets Cordova 37.86 102 ⇑P **P** 17 11 16.9 +1.4
baz=38
R26A Arlington 37.88 100 ⇓P **P** 17 11 17.0 +1.5
baz=38
V22A San Miguel Ran 37.96 106 ⇓P **P** 17 11 17.9 +1.5
baz=38,SNR=7.9
U23A El Rito 37.99 105 ⇓P **P** 17 11 18.4 +1.8
baz=38,SNR=12
R27A Eads 38.23 99 ⇑P **P** 17 11 19.7 +1.2
baz=38
T25A Trinidad 38.27 102 ⇑P **P** 17 11 20.3 +1.4
baz=38
214A Organ Pipe Nat 38.28 116 *e*P **P** 17 11 18.5 -0.4
comp=Z,16nm,1.0s
214A *e*pP **pP** 17 11 42.4 +1.3
214A Organ Pipe Nat 38.28 116 ⇑P **P** 17 11 20.4 +1.6
baz=38,SNR=7.0
BGNE Belgrade 38.34 92 ⇓P **P** 17 11 20.4 +1.1
baz=38
S26A Kim 38.38 101 ⇑P **P** 17 11 21.3 +1.5
baz=38,SNR=8.7
SPMN St. Paul 38.45 83 ⇓P **P** 17 11 20.9 +0.8
baz=38
V23A Ortiz Mt. (NFS 38.45 105 ⇓P **P** 17 11 23.2 +2.7
baz=38
T26A Comanche Natio 38.66 101 ⇓P **P** 17 11 23.5 +1.3
baz=38,SNR=6.2
YSS Yuzh-Sakhalins 38.70 281⇑*e*P **P** 17 11 24.0 +1.9
U25A Circle Dot Ran 38.84 103 ⇑P **P** 17 11 25.3 +1.5
baz=39,SNR=7.3
V24A Rampart Ranch, 38.93 104 ⇓P **P** 17 11 26.1 +1.6
baz=39
W23A Werner Place, 38.93 106 ⇓P **P** 17 11 26.2 +1.7
baz=39
TUC Tucson 38.95 114 *e*P **P** 17 11 22.9 -1.6
TUC *e**PP **pP** 17 11 48.4 +1.6
TUC Tucson 38.95 114 *e*P **P** 17 11 22.9 -1.6
TUC *e*pP **pP** 17 11 48.4 +1.6
V25A Rancho No Teng 39.17 104 ⇓P **P** 17 11 28.3 +1.8
baz=39
U26A Atchley Ranch, 39.19 102 ⇑P **P** 17 11 28.4 +1.8
baz=39,SNR=8.9
T27A Campo 39.20 101 ⇓P **P** 17 11 28.3 +1.7
baz=39
W24A Lazy 6 Ranch, 39.27 105 ⇑P **P** 17 11 28.8 +1.6
baz=39
X23A Hourglass Bar 39.37 107 ⇑P **P** 17 11 29.5 +1.3
baz=39
P32A Huiting Farm, 39.40 94 ⇓P **P** 17 11 29.1 +0.9
baz=39
Q31A Ellis 39.45 95 ⇑P **P** 17 11 30.2 +1.6
baz=39
T28A Walsh 39.46 100 ⇓P **P** 17 11 30.4 +1.6
baz=39
BNM Barren Site 39.49 107 *e*P **P** 17 11 30.0 +0.8
comp=Z,4.9nm,1.2s
BNM *e*pP **pP** 17 11 53.1 +1.5
V26A Tequesquite Ra 39.63 103 ⇓P **P** 17 11 31.8 +1.6
baz=39,SNR=12
U27A Thompson Grove 39.63 101 ⇑P **P** 17 11 31.6 +1.4
baz=39
W25A X Bar L Ranch, 39.74 104 ⇓P **P** 17 11 32.6 +1.5
baz=40
X24A Lazy VL Ranch, 39.76 106 ⇑P **P** 17 11 32.8 +1.4
baz=40
Q32A Meitler Ranch, 39.89 95 ⇑P **P** 17 11 33.4 +1.2
baz=40
R31A Burdett 39.91 96 ⇑P **P** 17 11 33.6 +1.2
baz=40
Y23A Lovelace Mesa, 39.95 107 ⇑P **P** 17 11 34.7 +1.7
baz=40
U28A Mallet 39.97 101 ⇓P **P** 17 11 34.4 +1.4
baz=40
P33A Williams Farm, 40.01 94 ⇑P **P** 17 11 34.4 +1.2
baz=40
Z22A Elephant Butte 40.04 109 ⇓P **P** 17 11 35.5 +1.8
baz=40
V27A Dan Oppiter Fa 40.14 102 ⇓P **P** 17 11 35.7 +1.3
baz=40
W26A Owens Ranch, T 40.19 104 ⇓P **P** 17 11 36.6 +1.8
baz=40
121A Cookes Peak, D 40.22 110 *e*P **P** 17 11 36.9 +1.7
comp=Z,14nm,1.4s
121A *e*pP **pP** 17 11 58.8 +1.2
121A Cookes Peak, D 40.22 110 ⇑P **P** 17 11 37.2 +2.1
baz=40
Q33A Connelly Farm, 40.27 94 ⇑P **P** 17 11 36.3 +1.1
baz=40
Y24A Capitan 40.27 106 ⇑P **P** 17 11 37.3 +1.7
baz=40,SNR=6.0
S31A Mullinville 40.44 97 ⇓P **P** 17 11 37.7 +0.9
baz=40
319A Douglas 40.44 113 ⇑P **P** 17 11 38.7 +1.8
baz=40
V28A Channing 40.46 101 ⇑P **P** 17 11 38.5 +1.5
baz=40
X26A CR and CF Fran 40.59 104 ⇓P **P** 17 11 39.5 +1.4
baz=40
Y25A Mesa, Roswell 40.64 106 ⇓P **P** 17 11 40.2 +1.7
baz=40
U30A WK&E Inc. Balk 40.67 99 ⇓P **P** 17 11 39.8 +1.2
baz=40
R33A Olander Ranch, 40.70 95 ⇑P **P** 17 11 39.6 +0.7
baz=40
ASAJ Asahikawa 40.71 278 P **P** 17 11 39.0 +0.2
ASAJ Asahikawa 40.71 278 P **P** 17 11 39.0 +0.2
comp=Z,15nm,0.7s,baz=252,slow=2.5,SNR=14
T31A Randall Ranch, 40.74 98 ⇓P **P** 17 11 40.4 +1.2
baz=40
Z24A Sheeppen Canyo 40.78 107 ⇓P **P** 17 11 41.3 +1.5
baz=41,SNR=7.0
KSU1 Kansas State U 40.83 93 ⇑P **P** 17 11 40.6 +0.7
baz=41
W28A Vega 40.85 102 ⇑P **P** 17 11 41.7 +1.4
baz=41
X27A F and S Farms, 40.88 103 ⇑P **P** 17 11 41.9 +1.4
baz=41
S33A Kaszmaul Farm, 41.23 96 ⇓P **P** 17 11 43.8 +0.6
baz=41
JFWS Jewell Farm 41.38 84 *e*P **P** 17 11 44.2 -0.2
JFWS pmax pmax
comp=Z,10.0nm,0.6s
JFWS Jewell Farm 41.38 84 *e*P **P** 17 11 44.2 -0.2
comp=Z,9.5nm,0.6s
AMTX Amarillo 41.41 102 ⇓P **P** 17 11 46.3 +1.4
baz=41
Y27A Causey 41.45 104 ⇑P **P** 17 11 46.3 +1.2
baz=41,SNR=7.3
Z26A Caprock 41.52 106 ⇓P **P** 17 11 46.8 +1.1
baz=41
MSTX Muleshoe 41.58 104 *e*P **P** 17 11 47.2 +1.1
comp=Z,6.1nm,0.7s
MSTX Muleshoe 41.58 104 ⇑P **P** 17 11 47.1 +0.9
baz=41
HABR Khabarovsk 41.58 288 *e*P **P** 17 11 45.0 -0.9
HABR *e**PP **pP** 17 12 07.9 -0.5
HABR *e**SP **sP** 17 12 19.6 +0.2
HABR *e* 17 13 22.6
HABR *e* 17 13 40.4
HABR PPP PPP 17 13 56.2
HABR *e*S **S** 17 17 53.6 -0.8
HABR *e**SS **sS** 17 18 34.0 +0.8

HABR *e*SS **SS** 17 21 02.6 +0.2
HABR *e* 17 21 37.5
HABR pmax pmax
comp=E,43nm,1.1s
HABR pmax pmax
comp=Z,129nm,2.3s
HABR pmax pmax
comp=N,41nm,2.3s
HABR MLR MLR
comp=Z,130nm,21.0s
125A Gardner Draw, 41.67 107 ⇓P **P** 17 11 48.6 +1.6
baz=42,SNR=6.6
SUMG Summit 41.73 24 *i* P **P** 17 11 47.4 0.0
SUMG pmax pmax
comp=Z,50nm,0.8s
SUMG Summit 41.73 24 *i* P **P** 17 11 47.4 0.0
comp=Z,50nm,0.8s
SUMG Summit 41.73 24 *e*P **P** 17 11 47.3 0.0
comp=Z,58nm,0.8s
Z27A Tatum 41.87 105 ⇑P **P** 17 11 49.6 +0.9
baz=42
ERM Erimo 41.90 275 *e*P **P** 17 11 49.7 +1.1
ERM pmax pmax
comp=Z,114nm,1.2s
W31A Holland Ranch, 42.07 100 ⇑P **P** 17 11 51.1 +1.0
baz=42
MNTX Cornudas Mount 42.08 108 *e*P **P** 17 11 51.4 +1.2
comp=Z,15nm,0.9s
MNTX *e*pP **pP** 17 12 13.6 +0.8
X30A Coker Ranch, T 42.17 101 ⇑P **P** 17 11 52.0 +1.1
baz=42
Y29A Porterfield Fa 42.22 103 ⇓P **P** 17 11 52.5 +1.1
baz=42
U34A Anderson Ranch 42.35 96 ⇓P **P** 17 11 53.2 +0.8
baz=42
226B Tecolote Peak, 42.38 107 ⇓P **P** 17 11 53.9 +1.1
baz=42
SFJD Kangerlussuaq 42.45 35 *i* P **P** 17 11 53.0 +0.3
comp=Z,14nm,0.8s
SFJD *i* 17 12 13.3
W32A Sentinel 42.48 99 ⇓P **P** 17 11 54.4 +1.0
baz=42
X31A McDonald Ranch 42.48 100 ⇓P **P** 17 11 54.3 +0.9
baz=42
Y30A Stafford Cattl 42.60 102 ⇑P **P** 17 11 55.6 +1.1
baz=42
Z29A Hungry Hill Ra 42.68 103 ⇓P **P** 17 11 56.2 +1.1
baz=42
KLR Kul'dur 42.69 291 *e*P P 17 11 50.4 -4.5
KLR *e* 17 12 13.0
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,62nm,1.6s
128A Castleberry Fa 42.79 105 ⇓P **P** 17 11 56.9 +0.9
baz=43,SNR=6.0
V34A Guthrie 42.82 97 ⇑P **P** 17 11 57.0 +0.9
baz=43
W33A Caddo, Fort Co 42.86 98 ⇓P **P** 17 11 57.4 +1.0
baz=43
Y31A Rekieta Farm, 42.86 101 ⇓P **P** 17 11 57.7 +1.1
baz=43
Z30A Sanderson Ranc 42.95 103 ⇑P **P** 17 11 57.6 +0.3
baz=43,SNR=6.9
X32A Elmer 43.00 100 ⇓P **P** 17 11 58.9 +1.3
baz=43
425A Indio Mountain 43.02 109 ⇑P **P** 17 11 59.7 +1.7
baz=43,SNR=9.6
326A Caldwell Ranch 43.09 107 ⇓P **P** 17 11 59.5 +1.0
baz=43,SNR=5.5
228A UT Block 9, Go 43.14 105 ⇓P **P** 17 11 59.7 +0.9
baz=43
W34A Bridge Creek, 43.15 98 ⇓P **P** 17 11 59.7 +0.9
baz=43
Y32A R-V Farms, Ver 43.25 100 ⇑P **P** 17 12 00.7 +1.0
baz=43
Z31A Sharp Cattle R 43.43 102 ⇑P **P** 17 12 01.4 +0.3
baz=43
130A Snyder 43.58 103 ⇑P **P** 17 12 03.1 +0.8
baz=43
426A McDonald Obser 43.59 108 ⇓P **P** 17 12 03.3 +0.7
baz=43
X34A Smith Ranch, M 43.61 98 ⇓P **P** 17 12 03.3 +0.8
baz=43
229A Bryant Ranch, 43.66 104 ⇓P **P** 17 12 04.0 +1.0
baz=43
TUL1 Tulsa 43.66 95 ⇓P **P** 17 12 03.1 +0.2
baz=43
Y33A Hilltop Ranch, 43.67 100 ⇓P **P** 17 12 03.6 +0.7
baz=43
427A Hayter Ranch, 43.76 107 ⇑P **P** 17 12 05.0 +1.2
baz=44
Z32A Haskell 43.78 101 ⇓P **P** 17 12 04.4 +0.5
baz=44
131A Roby 43.81 102 ⇑P **P** 17 12 05.0 +0.8
baz=44
329A Wagon Wheel Ra 43.96 105 ⇓P **P** 17 12 06.5 +1.2
baz=44
526A Mary Lane Ranc 44.06 108 ⇓P **P** 17 12 07.3 +1.0
baz=44
230A Sterling City 44.07 104 ⇑P **P** 17 12 07.0 +0.7
baz=44
Y34A Reagan Ranch, 44.15 99 ⇑P **P** 17 12 07.9 +1.0
baz=44,SNR=5.2
Z33A Whitaker Ranch 44.16 100 ⇓P **P** 17 12 07.5 +0.5
baz=44
428A Kincaid Ranch, 44.22 106 ⇑P **P** 17 12 08.9 +1.4
baz=44,SNR=15
527A Woodward Ranch 44.23 108 ⇓P **P** 17 12 08.7 +1.0
baz=44
ABTX Abilene, Hawle 44.23 102 ⇑P **P** 17 12 08.5 +0.9
baz=44
330A Mertzon 44.43 104 ⇓P **P** 17 12 09.8 +0.7
baz=44
231A Bronte 44.44 103 ⇓P **P** 17 12 09.9 +0.7
baz=44
626A Big Bend Ranch 44.45 109 ⇑P **P** 17 12 10.1 +0.7
baz=44
Z34A Collier Ranch, 44.53 100 ⇑P **P** 17 12 10.5 +0.7
baz=44
SCHQ Schefferville 44.57 55 P **P** 17 12 09.8 -0.2
SCHQ pP **pP** 17 12 32.5 -0.3
SCHQ Schefferville 44.57 55 P **P** 17 12 09.8 -0.2
comp=Z,6.2nm,0.4s,baz=325,slow=7.4,SNR=5.6
SCHQ pP **pP** 17 12 32.5 -0.3
comp=Z,8.7nm,0.6s,baz=320,slow=9.8,SNR=3.1
SCHQ LR LR 17 31 41.6
comp=Z,109nm,20.0s,baz=320,slow=37
133A Hamilton Ranch 44.62 101 ⇑P **P** 17 12 11.3 +0.7
baz=44
528A Cox Ranch, San 44.62 107 ⇓P **P** 17 12 12.1 +1.3
baz=44,SNR=9.2
429A Davenport Ranc 44.70 106 ⇑P **P** 17 12 11.9 +0.6
baz=44,SNR=5.4
232A Coleman 44.82 102 ⇑P **P** 17 12 12.9 +0.7
baz=45,SNR=8.2
SFIN Scholer Farm 44.85 84 ⇓P **P** 17 12 12.4 +0.2
baz=45
TXAR Lajitas Array 44.86 109 P **P** 17 12 13.6 +1.0
TXAR pP **pP** 17 12 36.7 +1.2
TXAR PcP **PcP** 17 13 53.2 +0.5
TXAR Lajitas Array 44.86 109 P **P** 17 12 13.6 +1.0
comp=Z,2.6nm,0.8s,baz=335,slow=5.5,SNR=21
TXAR pP **pP** 17 12 36.7 +1.2
comp=Z,3.5nm,0.8s,baz=324,slow=6.2,SNR=7.6
TXAR PcP **PcP** 17 13 53.2 +0.5
comp=Z,1.0nm,0.6s,baz=270,slow=1.5,SNR=2.4
TXAR LR LR 17 29 14.8
comp=Z,58nm,18.1s,baz=0.0,slow=34
331A San Angelo 44.88 104 ⇑P **P** 17 12 13.3 +0.6
baz=45
430A Baggett Ranch, 44.90 105 ⇑P **P** 17 12 13.3 +0.4
baz=45,SNR=5.6
627A Terlingua Ranc 44.90 108 ⇓P **P** 17 12 13.7 +0.7
baz=45,SNR=6.4
Z35A Perchaven, San 44.90 99 ⇓P **P** 17 12 13.5 +0.7
baz=45
529A Stev Forest Ra 44.94 106 ⇑P **P** 17 12 14.4 +1.2
baz=45,SNR=5.8
134A White-Moore Ra 45.08 100 ⇑P **P** 17 12 15.4 +1.2
baz=45
233A Rising Star 45.10 102 ⇓P **P** 17 12 15.3 +0.9
baz=45
628A Black Gap, Mar 45.12 108 ⇓P **P** 17 12 15.6 +0.9
baz=45,SNR=11
332A Millersview 45.17 103 ⇓P **P** 17 12 15.3 +0.3
baz=45
431A Sonora 45.30 104 ⇑P **P** 17 12 16.6 +0.6

baz=45,SNR=6.6
530A J-C Ranch, Com 45.36 106 ⇓P P 17 12 17.1 +0.6
baz=45,SNR=7.1
135A Vickery Place, 45.43 100 ⇓P P 17 12 18.0 +0.9
baz=45
234A Clairette 45.50 101 ⇓P P 17 12 18.1 +0.6
baz=45
432A Menard 45.55 103 ⇓P P 17 12 19.1 +1.1
baz=45
333A Richland Sprin 45.61 102 ⇓P P 17 12 18.6 +0.2
baz=45,SNR=8.0
531A Rocksprings 45.75 105 ⇓P P 17 12 20.3 +0.7
baz=46,SNR=5.6
WHTX Lake Whitney 45.86 100 *eP* P 17 12 20.7 +0.3
comp=Z,5.8nm,0.6s
WHTX *epP* pP 17 12 43.2 0.0
WHTX Lake Whitney 45.86 100 ⇓P P 17 12 20.7 +0.3
baz=46
JCT Junction City 45.87 104 *eP* P 17 12 21.0 +0.5
JCT *e*PP pP 17 12 43.4 0.0
JCT pmax pmax
comp=Z,44nm,0.7s
JCT Junction City 45.87 104 *eP* P 17 12 21.0 +0.5
comp=Z,44nm,0.7s
JCT *epP* pP 17 12 43.4 0.0
JCT Junction City 45.87 104 ⇑P P 17 12 21.2 +0.7
baz=46,SNR=17
334A Lometa 45.98 102 ⇓P P 17 12 22.2 +0.8
baz=46,SNR=8.9
433A Art 46.01 103 ⇓P P 17 12 22.1 +0.5
baz=46,SNR=7.8
USRK Ussuriysk Arra 46.07 286 P P 17 12 22.4 +0.6
comp=Z,4.0nm,0.6s,baz=64,slow=7.7,SNR=10
USRK PcP PcP 17 13 56.8 +0.2
comp=Z,1.4nm,0.4s,baz=37,slow=2.2,SNR=6.9
532A Rocksprings 46.10 104 ⇓P P 17 12 22.7 +0.3
baz=46
631A Perdido Creek 46.34 105 ⇓P P 17 12 24.3 0.0
baz=46,SNR=14
434A Burnet 46.38 102 ⇑P P 17 12 25.5 +1.0
baz=46,SNR=11
335A Moody 46.44 101 ⇑P P 17 12 26.3 +1.4
baz=46
533A Kerrville 46.59 103 ⇑P P 17 12 27.0 +0.8
baz=46
632A Uvalde 46.66 105 ⇑P P 17 12 27.5 +0.8
baz=46
435B Jarrell 46.76 101 ⇑P P 17 12 28.5 +1.1
baz=46
534A Blanco 46.91 103 ⇓P P 17 12 29.7 +1.1
baz=47
MDJ Mudanjiang 46.97 288 P P 17 12 30.0 +1.1
MDJ pP pP 17 12 49.5 -2.3
MDJ sP sP 17 12 58.8 -3.9
MDJ PcP PcP 17 14 01.5 +1.8
MDJ PP PP 17 14 21.3 +1.3
MDJ ScP ScP 17 17 47.5 +3.3
MDJ PcS PcS 17 17 57.8 +3.1
MDJ S S 17 19 15.5 +2.9
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,120nm,3.9s
633A Saathoff Ranch 47.01 104 ⇑P P 17 12 30.2 +0.8
baz=47
732A Laxson Ranch, 47.20 105 ⇑P P 17 12 32.0 +1.1
baz=47
733A Divot King Ran 47.55 105 ⇓P P 17 12 35.1 +1.5
baz=47
832A Faith Ranch, C 47.57 106 ⇓P P 17 12 34.9 +1.2
baz=47
635A Leesville 47.78 103 ⇑P P 17 12 37.3 +1.9
baz=48
833A Chaparral WMA, 47.83 105 ⇓P P 17 12 36.9 +1.2
baz=48
HKT Hockley 48.32 100 *eP* P 17 12 40.7 +1.3
HKT pmax pmax
comp=Z,15nm,1.3s
834A Tilden 48.41 104 ⇓P P 17 12 42.5 +2.2
baz=48
933A Laredo 48.47 105 ⇑P P 17 12 42.9 +2.2
baz=48
MJAR Matsushiro Arr 48.53 274 P P 17 12 41.5 +0.4
MJAR Matsushiro Arr 48.53 274 P P 17 12 41.5 +0.4
comp=Z,11nm,0.9s,baz=346,slow=9.0,SNR=16
MAJO Matsushiro 48.53 274 *eP* P 17 12 42.9 +1.8
MAJO pmax pmax
comp=Z,196nm,0.9s
MAJO Matsushiro 48.53 274 *eP* P 17 12 40.3 -0.8
comp=Z,26nm,0.8s
MAT Matsushiro 48.53 274 P P 17 12 40.6 -0.5
835A Beeville 48.65 104 ⇑P P 17 12 44.5 +2.5
baz=48
934A Benavides 48.86 105 ⇑P P 17 12 46.5 +2.9
baz=49
034A Hebbronville 49.22 105 ⇓P P 17 12 48.6 +2.3
baz=49
CN2 Changchun 49.60 290 *eP* P 17 12 48.8 -0.3
CN2 *epP* pP 17 13 12.3 0.0
CN2 *e*PP PP 17 14 44.0 0.0
CN2 *e*S S 17 19 47.5 -2.2
CN2 *e*SS SS 17 23 18.0 -4.4
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
035A Encino 49.61 105 ⇓P P 17 12 51.8 +2.4
baz=49
035Z Hargill 50.02 105 ⇓P P 17 12 54.4 +1.9
baz=50
TKL Tuckaleechee C 50.12 85 P P 17 12 52.8 -0.4
TKL Tuckaleechee C 50.12 85 P P 17 12 52.8 -0.4
comp=Z,6.9nm,0.7s,baz=102,slow=3.4,SNR=2.9
KEV Kevo 51.85 360 *eP* P 17 13 03.6 -2.0
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 51.85 360 *ep* P 17 13 03.6 -2.0
comp=Z,1.0nm,0.3s
SNY Shenyang 51.99 290 ⇓P P 17 13 07.5 +0.5
SNY pP pP 17 13 31.3 +0.9
SNY S S 17 20 23.8 +1.1
SNY pmax pmax
comp=Z,24nm,1.7s
SNY pmax pmax
comp=Z,180nm,3.5s
SNY LR LR
comp=Z,250nm,3.4s
SNY LR LR
comp=Z,340nm,10.9s
SNY LR LR
comp=Z,220nm,3.7s
ARCES ARCESS Array B 52.07 0 P P 17 13 06.3 -1.0
ARCES PcP PcP 17 14 15.7 -2.3
ARCES ARCESS Array B 52.07 0 P P 17 13 06.3 -1.0
comp=Z,3.8nm,0.6s,baz=356,slow=5.5,SNR=27
ARCES PcP PcP 17 14 15.7 -2.3
comp=Z,2.2nm,0.5s,baz=19,slow=5.9,SNR=3.4
KSRS Korea Array 53.14 283 P P 17 13 16.4 +0.8
comp=Z,14nm,0.6s,baz=38,slow=7.2,SNR=47
KSAR Wonju Array Be 53.17 283 P P 17 13 16.4 +0.6
TLY Talaya 53.42 311 *eP* P 17 13 17.5 0.0
TLY *e* 17 13 41.8
TLY *e* 17 13 51.5
TLY *e* 17 14 24.6
TLY pmax pmax
comp=Z,7.0nm,1.1s
TLY MLR MLR
comp=Z,63nm,13.0s
LVZ Lovozero 53.57 356 *eP* P 17 13 17.9 -0.4
LVZ pmax pmax
comp=Z,41nm,2.5s
CBIJ Chichi jima 53.89 263 P P 17 13 20.4 -0.8
JCJ Chichijima 53.89 263 P P 17 13 20.4 -0.8
comp=Z,36nm,0.5s,baz=301,slow=19,SNR=4.4
ZAK Zakamensk 54.58 310 *eP* P 17 13 25.8 -0.2
ZAK *e* 17 13 49.5
ZAK *e* 17 14 28.2
ZAK pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 54.98 306 *eP* P 17 13 28.9 -0.1
comp=Z,19nm,0.9s
SONM Songino Array 55.29 306 P P 17 13 31.9 +0.7
SONM pP pP 17 13 55.2 +0.5
SONM PcP PcP 17 14 31.4 +0.7
SONM ScP ScP 17 18 21.7 +1.4
SONM Songino Array 55.29 306 P P 17 13 31.9 +0.7
comp=Z,21nm,0.6s,baz=31,slow=4.3,SNR=106
SONM pP pP 17 13 55.2 +0.5
comp=Z,9.7nm,0.7s,baz=39,slow=7.0,SNR=6.1
SONM PcP PcP 17 14 31.4 +0.7
comp=Z,7.9nm,0.6s,baz=50,slow=4.6,SNR=8.9
SONM ScP ScP 17 18 21.7 +1.4
comp=Z,1.6nm,0.7s,baz=50,slow=3.4,SNR=6.0
BJI Beijing 56.95 294 P P 17 13 44.0 +1.0
BJI S S 17 21 31.8 +2.5
BJI SS SS 17 25 22.5 +4.1
BJI pmax pmax
comp=Z,40nm,0.7s
BJI pmax pmax
comp=Z,93nm,3.5s
BJI LR LR
comp=Z,160nm,14.8s
BJI LR LR
comp=Z,170nm,14.5s
BJI LR LR
comp=Z,45nm,18.8s
NVS Novosibirsk 57.95 325 *eP* P 17 13 46.7 -3.0
NVS *e* 17 14 11.7
NVS pmax pmax
comp=Z,11nm,0.8s
NVS pmax pmax
comp=N,5.0nm,0.6s
ZAA0 Zalesovo Array 58.23 324 *eP* P 17 13 51.0 -0.7
ZALV Zalesovo Beam 58.23 324 P P 17 13 51.1 -0.6
ZALV *PP pP 17 14 15.6 +0.1
ZALV Zalesovo Beam 58.23 324 P P 17 13 51.1 -0.6
ZALV pP pP 17 14 15.6 +0.1
ZALV ScP ScP 17 18 32.6 -0.3
ZALV Zalesovo Beam 58.23 324 P P 17 13 51.1 -0.6
comp=N,7.3nm,0.6s,baz=31,slow=6.9,SNR=48
ZALV pP pP 17 14 15.6 +0.1
comp=N,11nm,0.7s,baz=28,slow=7.3,SNR=8.7
ZALV ScP ScP 17 18 32.6 -0.3
comp=N,1.7nm,0.7s,baz=25,slow=5.1,SNR=4.7
HHC Hu-ho-hao-te 58.49 298 *eP* P 17 13 53.8 -0.1
HHC pP pP 17 14 16.5 -1.2
HHC sP sP 17 14 25.0 -3.4
HHC PP PP 17 16 07.3 +3.5
HHC S S 17 21 46.8 -2.8
HHC SS SS 17 25 39.3 -3.4
HHC pmax pmax
comp=N,81nm,0.9s
HHC pmax pmax
comp=N,150nm,3.7s
JOF Joensuu 58.65 357 *eP* P 17 13 53.0 -1.5
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 58.65 357 *ep* P 17 13 53.0 -1.5
comp=Z,8.9nm,0.5s
PRGR Permogore 59.07 349 *eP* P 17 13 55.3 -2.1
PRGR *e*PP pP 17 14 19.8 -1.4
PRGR *e* 17 14 43.3
PRGR 17 16 06.9
KAF Kangasniemi 59.52 0 *eP* P 17 13 58.8 -1.7
KAF pmax pmax
comp=Z,11nm,0.5s
KAF Kangasniemi 59.52 0 *ep* P 17 13 58.8 -1.7
comp=Z,10nm,0.5s
NB2 NORSAR Array B 60.02 8 P P 17 14 03.6 -0.5
comp=Z,17nm,1.1s,baz=352,slow=6.9
NOA NORSAR Array B 60.02 8 P P 17 14 03.5 -0.5
NOA pP pP 17 14 27.0 -0.9
NOA NORSAR Array B 60.02 8 P P 17 14 03.5 -0.5
comp=Z,4.5nm,0.8s,baz=352,slow=6.7,SNR=16
NOA pP pP 17 14 27.0 -0.9
comp=Z,4.7nm,0.9s,baz=352,slow=6.8,SNR=4.9
NOA LR LR 17 42 39.8
comp=Z,29nm,18.6s,baz=15,slow=39
TEIG Tepich 60.17 100 P P 17 14 05.2 -0.4
TEIG Tepich 60.17 100 P P 17 14 05.2 -0.4
comp=Z,13nm,0.5s,baz=330,slow=0.9,SNR=12
FIA1 FINESS Array S 60.19 0 *eP* P 17 14 04.0 -1.1
FINES FINESS Array B 60.20 0 P P 17 14 04.6 -0.5
FINES pP pP 17 14 27.6 -1.5
FINES FINESS Array B 60.20 0 P P 17 14 04.6 -0.5
comp=Z,13nm,0.7s,baz=2.5,slow=7.8,SNR=45
FINES pP pP 17 14 27.6 -1.5
comp=Z,7.3nm,0.7s,baz=356,slow=10,SNR=6.1
KLMR Klimovskoe 60.34 353 *eP* P 17 14 04.2 -1.9
KLMR pmax pmax
comp=Z,28nm,1.0s
KONO Kongsberg 61.26 10 *c iP* P 17 14 12.2 -0.2
KONO pmax pmax
comp=Z,215nm,2.5s
SVE Sverdlovsk 61.62 339 *eP* P 17 14 13.9 -1.0
SVE pmax pmax
comp=Z,15nm,1.2s
NJ2 Nanjing 61.98 286 *eP* P 17 14 17.8 +0.2
NJ2 pmax pmax
comp=Z,30nm,0.8s
ARU Arti 62.37 340 *c iP* P 17 14 18.0 -1.9
ARU *PP pP 17 14 43.2 -0.7
ARU 17 14 58.3
ARU 17 16 35.3
ARU S S 17 22 35.8 -2.6
ARU SS SS 17 26 43.1 +0.6
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 62.37 340 *eP* P 17 14 18.2 -1.7
comp=Z,16nm,1.0s
KURK Kurchatov 62.92 326 P P 17 14 22.0 -1.6
comp=Z,41nm,1.0s,SNR=12
KURK Kurchatov 62.92 326 *c iP* P 17 14 22.1 -1.6
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 62.92 326 *eP* P 17 14 22.3 -1.3
comp=Z,3.3nm,0.6s
BRVK Borovoye 63.06 332 P P 17 14 23.6 -0.9
comp=Z,68nm,0.5s,SNR=7.1
BRVK Borovoye 63.06 332 *c iP* P 17 14 23.1 -1.4
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 63.06 332 *eP* P 17 14 23.1 -1.4
comp=Z,7.7nm,0.8s
VSU Vasula 63.19 360 *c iP* P 17 14 24.8 -0.4
VSU pmax pmax
comp=Z,65nm,0.8s
VOSK Vostochnaya 63.19 331 P P 17 14 24.5 -0.9
VOSK pmax pmax
comp=Z,3.0nm,0.5s
ESK Eskdalemuir 63.89 18 *i* P P 17 14 30.6 +0.7
GTA Gaotai 64.90 305 *eP* P 17 14 37.0 +0.1
GTA pP pP 17 14 57.3 -3.9
GTA sP sP 17 15 06.5 -5.3
GTA PP PP 17 17 00.8 +0.5
GTA S S 17 23 08.5 -2.1
GTA SS SS 17 27 20.8 -2.1
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,210nm,11.4s
GTA LR LR
comp=Z,230nm,11.9s
GTA LR LR
comp=Z,81nm,12.8s
XAN Xi'an 65.22 295 P P 17 14 40.8 +1.8
XAN pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 65.24 321 P P 17 14 37.8 -1.1
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 65.24 321 P P 17 14 37.9 -1.0
MKAR *PP pP 17 15 01.1 -2.0
MKAR Makanchi Array 65.24 321 P P 17 14 37.9 -1.0
MKAR pP pP 17 15 01.1 -2.0
MKAR P'P' 17 43 21.0
MKAR Makanchi Array 65.24 321 P P 17 14 37.9 -1.0
comp=Z,2.6nm,0.4s,baz=13,slow=9.3,SNR=58
MKAR pP pP 17 15 01.1 -2.0
comp=Z,3.4nm,0.7s,baz=29,slow=8.3,SNR=5.4
MKAR PKPPKP P'P'df 17 43 21.0 -1.3
comp=Z,0.5nm,0.8s,baz=263,slow=2.3,SNR=4.8
WHN Wuhan 65.44 289 P P 17 14 40.3 -0.1
LZH Lanzhou 65.88 300 *eP* P 17 14 44.0 +0.6
LZH pP pP 17 15 08.5 +0.9
LZH sP sP 17 15 20.5 +2.3
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.0s
WMQ Urumqi 65.97 316 P P 17 14 45.5 +1.8
WMQ pP pP 17 15 10.0 +2.0
WMQ PcP PcP 17 15 15.3 +1.6
WMQ sP sP 17 15 21.0 +2.4
WMQ PP PP 17 17 14.3 +4.9
WMQ ScP 17 19 08.0
WMQ S S 17 23 24.0 +0.7
WMQ sS sS 17 24 06.3 +1.4
WMQ ScS SKSac 17 24 28.5 -1.8
WMQ SS SS 17 27 42.3 +3.2
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,15nm,6.8s
WMQ LR LR
comp=Z,74nm,24.8s
WMQ LR LR
comp=Z,32nm,23.6s
WMQ LR LR
comp=Z,86nm,29.9s
OBN Obninsk 66.25 354 *eP* P 17 14 44.3 -0.8
OBN *i* 17 15 14.4
OBN pmax pmax
comp=Z,30nm,2.5s
OBN MLR MLR
comp=Z,95nm,19.0s
OBN Obninsk 66.25 354 LR LR 17 48 40.8
comp=Z,55nm,18.2s,baz=262,slow=40
BSEG Bad Segeberg 66.98 10 *eP* P 17 14 50.3 +0.5
comp=Z,39nm,1.2s
SUW Suwalki 67.62 2 *eP* P 17 14 52.8 -1.1
SUW Suwalki 67.62 2 *eP* P 17 14 52.8 -1.1
ENH Enshi 68.05 292 *eP* P 17 14 56.9 -0.1
comp=Z,5.3nm,0.5s
IBBN Ibbenburen 68.33 12 *eP* P 17 14 58.8 +0.5
comp=Z,40nm,1.0s
NRDL Niedersach Rie 68.39 11 *eP* P 17 14 58.9 +0.3
comp=Z,61nm,1.3s
WTSB Winterswijk 68.56 13 *eP* P 17 14 59.9 +0.1
comp=Z,46nm,0.8s
RUE Ruedersdorf 68.71 8 *eP* P 17 15 01.0 +0.3
comp=Z,42nm,1.0s
AB31 Akbulak array 68.94 337 *i* P P 17 15 01.3 -0.9
AB31 pmax pmax
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 68.94 337 *eP* P 17 15 00.4 -1.8
comp=Z,1.7nm,0.4s
CLZ Clausthal 69.06 11 *eP* P 17 15 03.6 +0.6
comp=Z,85nm,1.3s
BUG Bochum--Univer 69.13 13 *eP* P 17 15 03.3 0.0
comp=Z,64nm,0.9s
MENF Mencas 69.33 16 *eP* P 17 15 04.8 +0.2
BEBN Eben Emael 69.57 14 P P 17 15 05.6 -0.4
HGN Heimansgroeve 69.63 14 *eP* P 17 15 06.5 +0.1
comp=Z,59nm,1.2s
SNF Seneffe 69.67 15 P P 17 15 07.2 +0.5
MEM Membach 69.80 14 P P 17 15 07.5 +0.1
comp=Z,28nm,1.2s
CLL Collm 69.82 9 ⇑ *iP* P 17 15 07.5 -0.1
CLL pmax pmax
comp=Z,40nm,1.4s
CLL Collm 69.82 9 *eP* P 17 15 07.5 -0.1
comp=Z,40nm,1.4s
CLL Collm 69.82 9 ⇑ *iP* P 17 15 07.5 -0.1
comp=Z,40nm,1.4s
CLL *epP* pP 17 15 31.0 -1.1
VRHR Novokhopersk 69.86 350 *eP* P 17 15 04.2 -3.6
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.8s
BCLA Clavier 69.89 14 P P 17 15 08.2 +0.1
comp=Z,14nm,1.1s
VSR Storozhevoye 69.95 351 *eP* P 17 15 06.0 -2.4
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,3.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
UBBA Unterbreizbach 70.03 11 *eP* P 17 15 09.2 +0.4
comp=Z,55nm,1.7s
BAIF Baives 70.10 15 ⇑ *iP* P 17 15 09.7 +0.4
comp=Z,92nm,0.9s
BAIF Baives 70.10 15 ⇑ *iP* P 17 15 09.7 +0.4
BAIF pmax pmax
comp=Z,92nm,0.9s
BAIF Baives 70.10 15 ⇑ *iP* P 17 15 09.7 +0.4
comp=Z,92nm,0.9s
DOU Dourbes 70.12 15 P P 17 15 09.3 -0.1
comp=Z,18nm,1.1s
GIVF Givet 70.14 15 ⇑ *iP* P 17 15 09.8 +0.2
comp=Z,97nm,1.0s
GIVF *epP* pP 17 15 34.3 +0.2
GIVF Givet 70.14 15 ⇑ *iP* P 17 15 09.8 +0.2
GIVF *e*PP pP 17 15 34.3 +0.2
GIVF pmax pmax
comp=Z,97nm,1.0s
GIVF Givet 70.14 15 ⇑ *iP* P 17 15 09.8 +0.2
comp=Z,97nm,1.0s
GIVF *epP* pP 17 15 34.3 +0.2
VORD Divnogorie 70.19 351 *eP* P 17 15 07.3 -2.5
VORD pmax pmax
comp=Z,9.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
CD2 Chengdu 70.23 297 P P 17 15 10.0 -0.5
CD2 sP sP 17 15 47.0 +1.4
CD2 PP PP 17 17 48.3 +1.7
CD2 S S 17 24 11.5 -2.9
CD2 sS sS 17 24 56.0 -0.4
CD2 SS SS 17 28 44.8 -0.7
CD2 pmax pmax
comp=E,50nm,0.7s
CD2 pmax pmax
comp=E,170nm,9.5s
BRG Berggiesshubel 70.32 8 ⇑ *iP* P 17 15 10.8 +0.2
comp=E,42nm,1.2s
BRG Berggiesshubel 70.32 8 ⇑ *iP* P 17 15 10.9 +0.2
BRG pmax pmax
comp=Z,42nm,1.2s
BRG Berggiesshubel 70.32 8 *eP* P 17 15 10.8 +0.2
comp=Z,42nm,1.2s
MOX Moxa 70.36 10 *eP* P 17 15 11.1 +0.2
comp=Z,65nm,1.3s
TNS Taunus Mts 70.46 12 *eP* P 17 15 11.9 +0.3
comp=Z,80nm,1.6s
KSP Ksiaz 70.51 7 ⇑ *iP* P 17 15 12.0 +0.2
KSP Ksiaz 70.51 7 *eP* P 17 15 11.7 -0.1
ROSF Rostrenen 70.59 20 *eP* P 17 15 12.6 +0.3
comp=Z,305nm,1.9s
ROSF Rostrenen 70.59 20 *eP* P 17 15 12.6 +0.3
ROSF pmax pmax
comp=Z,305nm,1.9s
ROSF Rostrenen 70.59 20 *eP* P 17 15 12.6 +0.3
comp=Z,305nm,1.9s
TANN Tannenbergstha 70.66 9 *eP* P 17 15 13.2 +0.4
comp=Z,35nm,1.4s
FLN La Foliniere 70.66 18 ⇑ *iP* P 17 15 12.6 -0.2
comp=Z,94nm,1.1s
FLN *eR* 17 15 16.7
comp=Z,134nm,19.2s
FLN La Foliniere 70.66 18 ⇑ *iP* P 17 15 12.6 -0.2
FLN pmax pmax
comp=Z,94nm,1.0s
FLN La Foliniere 70.66 18 ⇑ *iP* P 17 15 12.6 -0.2
comp=Z,94nm,1.0s
PVCC Panska Ves 70.71 8 *eP* P 17 15 13.5 +0.5
PVCC Panska Ves 70.71 8 *eP* P 17 15 13.5 +0.5
PVCC *ex* x 17 15 16.7
WLF Walferdange 70.74 14 P P 17 15 14.3 +1.1
comp=Z,32nm,1.2s
WLF Walferdange 70.74 14 *eP* P 17 15 14.0 +0.8
comp=Z,85nm,1.4s
SGMF Saint Gilles 70.80 20 ⇑ *iP* P 17 15 13.8 +0.2
comp=Z,173nm,1.3s
SGMF Saint Gilles 70.80 20 ⇑ *iP* P 17 15 13.8 +0.2

SGMF pmax pmax
comp=Z,173nm,1.3s
SGMF Saint Gilles 70.80 20⇑*i*P P 17 15 13.8 +0.2
comp=Z,173nm,1.3s
TKM2 Tokmak 2 70.83 324 *i* P P 17 15 13.9 -0.3
TKM2 Tokmak 2 70.83 324 P P 17 15 13.9 -0.3
SNR=7.2
UPC Upice 70.83 7 *e*P P 17 15 14.0 +0.2
UPC *e* 17 15 41.4
UPC Upice 70.83 7 *e*P P 17 15 14.0 +0.2
UPC *ex* x 17 15 17.5
UPC *ep*P **pP 17 15 41.4 +3.1**
USP Ospenovka 70.85 325 *i* P P 17 15 14.2 +0.1
USP Ospenovka 70.85 325 P P 17 15 14.2 +0.1
SNR=7.6
LDF La Druitiere 70.89 18⇑*i*P P 17 15 13.9 -0.2
comp=Z,24nm,0.7s
LDF La Druitiere 70.89 18⇑*i*P P 17 15 13.9 -0.2
LDF pmax pmax
comp=Z,24nm,0.6s
LDF La Druitiere 70.89 18⇑*i*P P 17 15 13.9 -0.2
comp=Z,24nm,0.6s
AKASG Malin Array Be 70.94 358 P P 17 15 13.2 -1.2
AKASG Malin Array Be 70.94 358 P P 17 15 13.2 -1.2
AKASG Malin Array Be 70.94 358 P P 17 15 13.2 -1.2
comp=Z,9.6nm,0.5s,baz=4.4,slow=6.2,SNR=106
AKBB Malin Array Si 70.94 358 *e*P P 17 15 13.0 -1.4
AKBB Malin Array Si 70.94 358 *e*P P 17 15 13.0 -1.4
KIEV Kiev 70.95 358*c i*P P 17 15 13.2 -1.2
KIEV Kiev 70.95 358 *e*P P 17 15 13.0 -1.5
comp=Z,28nm,0.8s
AK01 Malin Array Si 70.95 358 *e*P P 17 15 12.9 -1.5
GRR Gorron 70.96 19⇑*i*P P 17 15 14.7 +0.1
comp=Z,36nm,0.8s
GRR Gorron 70.96 19⇑*i*P P 17 15 14.7 +0.1
GRR pmax pmax
comp=Z,36nm,0.8s
GRR Gorron 70.96 19⇑*i*P P 17 15 14.7 +0.1
comp=Z,36nm,0.8s
AK02 Malin Array Si 70.98 358 *e*P P 17 15 13.2 -1.5
DPC Dobruska-Polom 71.01 7 *e*P P 17 15 15.1 +0.2
DPC *e* 17 15 41.7
DPC Dobruska-Polom 71.01 7 *e*P P 17 15 15.1 +0.2
DPC *ep*P **pP 17 15 41.7 +2.2**
QUIF Quistinic 71.01 21 *e*P P 17 15 15.1 +0.2
comp=Z,99nm,1.3s
QUIF Quistinic 71.01 21 *e*P P 17 15 15.1 +0.2
QUIF pmax pmax
comp=Z,99nm,1.3s
QUIF Quistinic 71.01 21 *e*P P 17 15 15.1 +0.2
comp=Z,99nm,1.3s
CHMS Chumysh 71.02 325 *i* P P 17 15 15.1 0.0
CHMS Chumysh 71.02 325 P P 17 15 15.1 0.0
SNR=8.2
PRA Prague 71.16 8 P P 17 15 17.0 +1.3
PRU Pruhonice 71.25 8 *e*P P 17 15 16.4 +0.1
PRU *e* 17 15 43.8
PRU Pruhonice 71.25 8 *e*P P 17 15 16.4 +0.1
PRU *ep*P **pP 17 15 43.8 +2.9**
GRF Grafenberg Arr 71.27 10 *e*P P 17 15 16.9 +0.5
comp=Z,49nm,1.3s
KBK Karagaybulak 71.27 324 *i* P P 17 15 17.2 +0.4
KBK Karagaybulak 71.27 324 P P 17 15 17.3 +0.4
SNR=13
ROTZ Rotzenmuhle 71.28 10 *e*P P 17 15 17.1 +0.6
comp=Z,32nm,1.1s
KRLC Kraliky 71.31 6 *e*P P 17 15 16.9 +0.2
KRLC Kraliky 71.31 6 *e*P P 17 15 16.9 +0.2
OJC Ojcow 71.31 4 *e*P P 17 15 15.9 -0.8
OJC Ojcow 71.31 4 *e*P P 17 15 15.9 -0.8
AAK Ala-Archa 71.43 325 *i* P P 17 15 17.8 +0.1
AAK pmax pmax
comp=Z,24nm,1.3s
AAK Ala-Archa 71.43 325 P P 17 15 17.9 +0.1
SNR=8.8
AAK Ala-Archa 71.43 325 *e*P P 17 15 16.6 -1.2
comp=Z,5.3nm,0.8s
LANF Langenberg 71.61 13 *e*P P 17 15 19.0 +0.5
EKS2 Erkin-Say 71.62 325 *i* P P 17 15 19.2 +0.4
EKS2 Erkin-Say 71.62 325 P P 17 15 19.2 +0.4
SNR=8.5
OKC Ostrava-Krasne 71.62 6 *e*P P 17 15 18.5 0.0
OKC Ostrava-Krasne 71.62 6 *e*P P 17 15 18.5 0.0
MORC Moravsky Berou 71.65 6 *e*P P 17 15 18.5 -0.2
MORC pmax pmax
comp=Z,70nm,1.9s
MORC Moravsky Berou 71.65 6⇑*i*P P 17 15 18.6 -0.2
MORC Moravsky Berou 71.65 6 *e*P P 17 15 18.5 -0.2
comp=Z,70nm,1.9s
MEZF Maizieres J'vi 71.74 15⇑*i*P P 17 15 19.7 +0.4
comp=Z,67nm,1.0s
MEZF Maizieres J'vi 71.74 15⇑*i*P P 17 15 19.7 +0.4
comp=Z,67nm,1.0s
PAGF Fort de Pagny 71.78 14⇑*i*P P 17 15 20.1 +0.6
comp=Z,18nm,0.7s
PAGF Fort de Pagny 71.78 14⇑*i*P P 17 15 20.1 +0.6
comp=Z,18nm,0.7s
LVV L'vov 71.83 2 *e*P P 17 15 18.6 -1.2
WET Wettzell 71.96 9 *e*P P 17 15 21.3 +0.7
comp=Z,45nm,1.4s
STU Stuttgart 71.97 12 *e*P P 17 15 21.0 +0.3
STU pmax pmax
comp=Z,6.0nm,0.3s
STU Stuttgart 71.97 12 *e*P P 17 15 20.9 +0.3
comp=Z,38nm,0.8s
STU Stuttgart 71.97 12 *e*P P 17 15 20.9 +0.3
comp=Z,6.4nm,0.3s
KWP Kalwaria Pacla 71.99 2 *e*P P 17 15 21.0 +0.2
KWP pmax pmax
comp=Z,37nm,1.2s
KWP Kalwaria Pacla 71.99 2 *e*P P 17 15 20.7 -0.1
KWP Kalwaria Pacla 71.99 2⇑*i*P P 17 15 21.1 +0.2
KWP Kalwaria Pacla 71.99 2 *e*P P 17 15 21.0 +0.2
comp=Z,37nm,1.2s
TREC Trest 72.00 7 *e*P P 17 15 20.9 0.0
TREC *e* 17 15 48.5
TREC Trest 72.00 7 *e*P P 17 15 20.9 0.0
TREC *ep*P **pP 17 15 48.5 +3.0**
KHC Kasperske Hory 72.03 9*c i*P P 17 15 20.8 -0.2
KHC pmax pmax
comp=Z,326nm,1.7s
KHC Kasperske Hory 72.03 9 *e*P P 17 15 20.6 -0.4
KHC *ex* x 17 15 25.4
KHC *ep*P **pP 17 15 47.7 +2.0**
KHC Kasperske Hory 72.03 9 *e*P P 17 15 21.3 +0.3
comp=Z,28nm,0.9s
SFTF Sexfontaines 72.03 15⇑*i*P P 17 15 21.1 +0.1
comp=Z,79nm,1.0s
SFTF *ep*P **pP 17 15 46.0 +0.3**
SFTF Sexfontaines 72.03 15⇑*i*P P 17 15 21.1 +0.1
comp=Z,79nm,1.0s
SFTF *ep*P **pP 17 15 46.0 +0.3**
VRAC Vranov 72.06 7⇓*i*P P 17 15 22.0 +0.8
VRAC Vranov 72.06 7 LR LR 17 50 03.9
comp=Z,46nm,19.0s,baz=12,slow=38
CDF Champ du Feu 72.11 13⇑*i*P P 17 15 21.9 +0.3
comp=Z,74nm,1.1s
CDF Champ du Feu 72.11 13⇑*i*P P 17 15 21.9 +0.3
CDF pmax pmax
comp=Z,74nm,1.1s
CDF Champ du Feu 72.11 13⇑*i*P P 17 15 21.9 +0.3
comp=Z,74nm,1.1s
WLS Welschbruch 72.12 13 *e*P P 17 15 21.9 +0.3
AML Almayashu 72.13 325 *i* P P 17 15 22.9 +0.7
AML Almayashu 72.13 325 P P 17 15 22.9 +0.7
SNR=8.7
THEF They Montfort 72.13 14 *e*P P 17 15 22.2 +0.5
KK31 Karatay Array 72.16 328 *i* P P 17 15 20.9 -1.0
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 72.16 328 *e*P P 17 15 21.0 -0.9
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 72.16 328 *e*P P 17 15 21.0 -0.9
comp=Z,4.2nm,0.7s
STHS Stebnicka Huta 72.17 3 *e*P P 17 15 22.3 +0.4
STHS pmax pmax
comp=Z,13nm,0.7s
STHS Stebnicka Huta 72.17 3 *e*P P 17 15 22.3 +0.4
ECH Echery 72.29 13 *e*P P 17 15 22.6 0.0
ECH pmax pmax
comp=Z,48nm,1.0s
ECH Echery 72.29 13 *e*P P 17 15 23.0 +0.4
ECH Echery 72.29 13 *e*P P 17 15 22.6 0.0
comp=Z,48nm,1.0s

BFO Black Forest 72.31 13 P P 17 15 22.6 -0.1
comp=Z,160nm,0.8s,SNR=9.7
BFO Black Forest 72.31 13 *i*P P 17 15 23.1 +0.3
BFO Black Forest 72.31 13 *e*P P 17 15 22.9 +0.1
comp=Z,62nm,1.5s
BFO Black Forest 72.31 13 *e*P P 17 15 22.8 0.0
comp=Z,72nm,1.5s
GEC2 GERESS Array S 72.32 9 *e*P P 17 15 23.1 +0.2
comp=Z,19nm,0.9s
GERES GERESS Array B 72.32 9 P P 17 15 23.0 +0.2
GERES GERESS Array B 72.32 9 P P 17 15 23.0 +0.2
comp=Z,11nm,0.8s,baz=351,slow=4.3,SNR=87
GERES LR LR 17 50 35.0
comp=Z,25nm,18.1s,baz=320,slow=39
HAU Haudompre 72.40 14⇑*i*P P 17 15 23.5 +0.3
comp=Z,89nm,0.9s
HAU *ep*P **pP 17 15 48.1 +0.2**
HAU *eR*
comp=Z,77nm,19.8s
HAU Haudompre 72.40 14⇑*i*P P 17 15 23.5 +0.3
HAU *e**PP **pP 17 15 48.1 +0.2**
HAU pmax pmax
comp=Z,89nm,0.9s
HAU Haudompre 72.40 14⇑*i*P P 17 15 23.5 +0.3
comp=Z,89nm,0.9s
HAU *ep*P **pP 17 15 48.1 +0.2**
GYA Guiyang 72.59 292⇑*i*P P 17 15 24.0 -0.8
GYA pP **pP 17 15 49.5 0.0**
GYA sP **sP 17 16 01.3 +1.3**
GYA PP **PP 17 18 10.8 +3.8**
GYA S **S 17 24 41.3 -0.4**
GYA SKS **SKSac 17 25 18.0 -2.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.4s
HYF Humbligny 72.61 17 *e*P P 17 15 25.0 +0.5
HYF Humbligny 72.61 17 *e*P P 17 15 25.0 +0.5
HINF Hinteralfeld 72.64 14⇑*i*P P 17 15 24.8 +0.1
comp=Z,40nm,0.8s
HINF Hinteralfeld 72.64 14⇑*i*P P 17 15 24.8 +0.1
HINF pmax pmax
comp=Z,40nm,0.8s
HINF Hinteralfeld 72.64 14⇑*i*P P 17 15 24.8 +0.1
comp=Z,40nm,0.8s
MOF Molkenrain 72.64 13 *e*P P 17 15 24.9 +0.1
KOLS Kolonicke sedl 72.68 3 *e*P P 17 15 24.8 -0.1
KOLS pmax pmax
comp=Z,19nm,1.4s
KOLS Kolonicke sedl 72.68 3 *e*P P 17 15 24.8 -0.1
CRVS Cervenica-Dubn 72.69 3 *e*P P 17 15 25.0 0.0
CRVS pmax pmax
comp=Z,20nm,1.6s
CRVS Cervenica-Dubn 72.69 3 *e*P P 17 15 25.0 0.0
FUR Fuersteldbru 72.78 10 *e*P P 17 15 25.8 +0.3
comp=Z,50nm,1.0s
LOR Lormes 72.79 16⇑*i*P P 17 15 25.7 +0.1
comp=Z,128nm,1.0s
LOR *ep*P **pP 17 15 50.4 +0.2**
LOR *eR*
comp=Z,112nm,17.2s
LOR Lormes 72.79 16⇑*i*P P 17 15 25.7 +0.1
comp=Z,128nm,1.0s
LOR *ep*P **pP 17 15 50.4 +0.2**
MFF Saint Martin d 72.81 19⇑*i*P P 17 15 26.0 +0.3
comp=Z,104nm,1.0s
MFF *ep*P **pP 17 15 50.6 +0.2**
MFF Saint Martin d 72.81 19⇑*i*P P 17 15 26.0 +0.3
MFF *e**PP **pP 17 15 50.6 +0.2**
MFF pmax pmax
comp=Z,104nm,1.0s
MFF Saint Martin d 72.81 19⇑*i*P P 17 15 26.0 +0.3
comp=Z,104nm,1.0s
MFF *ep*P **pP 17 15 50.6 +0.2**
SSF Saint Saulge 72.94 16⇑*i*P P 17 15 26.7 +0.3
comp=Z,150nm,0.9s
SSF *ep*P **pP 17 15 51.4 +0.3**
SSF Saint Saulge 72.94 16⇑*i*P P 17 15 26.7 +0.3
SSF *e**PP **pP 17 15 51.4 +0.3**
SSF pmax pmax
comp=Z,150nm,0.9s
SSF Saint Saulge 72.94 16⇑*i*P P 17 15 26.7 +0.3
comp=Z,150nm,0.9s
SSF *ep*P **pP 17 15 51.4 +0.3**
UZH Uzhgorod 72.98 3*d i*P P 17 15 26.1 -0.5
UZH *e* 17 15 38.7
UZH *e* 17 15 52.3
KECS Kecovo 73.08 4 *e*P P 17 15 26.9 -0.3
KECS pmax pmax
comp=Z,9.0nm,1.1s
KECS Kecovo 73.08 4 *e*P P 17 15 26.9 -0.3
LOMF Lomont 73.10 14 *e*P P 17 15 27.8 +0.3
AVF Avril sur Loir 73.18 16⇑*i*P P 17 15 27.8 0.0
comp=Z,96nm,0.8s
AVF Avril sur Loir 73.18 16⇑*i*P P 17 15 27.8 0.0
AVF pmax pmax
comp=Z,96nm,0.8s
AVF Avril sur Loir 73.18 16⇑*i*P P 17 15 27.8 0.0
comp=Z,96nm,0.8s
BGF Bois d'Agland 73.33 17⇑*i*P P 17 15 28.9 +0.1
comp=Z,140nm,1.0s
BGF *ep*P **pP 17 15 53.5 0.0**
BGF Bois d'Agland 73.33 17⇑*i*P P 17 15 28.9 +0.1
BGF *e**PP **pP 17 15 53.5 0.0**
BGF pmax pmax
comp=Z,140nm,1.0s
BGF Bois d'Agland 73.33 17⇑*i*P P 17 15 28.9 +0.1
comp=Z,140nm,1.0s
BGF *ep*P **pP 17 15 53.5 0.0**
RJOB Jochberg 73.35 9 *e*P P 17 15 29.0 +0.1
comp=Z,49nm,0.8s
MOA Molln 73.35 8⇑*i*P P 17 15 28.9 0.0
comp=Z,18nm,1.0s
CONA Conrad Observa 73.39 7⇑*i*P P 17 15 29.5 +0.3
comp=Z,32nm,0.9s,SNR=17
SMF Signal de Mont 73.39 16⇑*i*P P 17 15 29.1 0.0
comp=Z,111nm,1.0s
SMF Signal de Mont 73.39 16⇑*i*P P 17 15 29.1 0.0
SMF pmax pmax
comp=Z,111nm,1.0s
SMF Signal de Mont 73.39 16⇑*i*P P 17 15 29.1 0.0
comp=Z,111nm,1.0s
TRPA Tarpa 73.49 3⇓*i*P P 17 15 30.2 +0.6
TRPA Tarpa 73.49 3⇑*e*P P 17 15 29.6 0.0
TCF Toulx Ste Croi 73.50 17⇑*i*P P 17 15 29.8 0.0
comp=Z,81nm,1.1s
TCF Toulx Ste Croi 73.50 17⇑*i*P P 17 15 29.8 0.0
TCF pmax pmax
comp=Z,81nm,1.1s
TCF Toulx Ste Croi 73.50 17⇑*i*P P 17 15 29.8 0.0
comp=Z,81nm,1.1s
DAVA Damuels 73.51 12⇑*i*P P 17 15 30.3 +0.2
comp=Z,19nm,1.5s
MOTA Moosalm 73.58 11⇑*i*P P 17 15 30.6 +0.2
comp=Z,31nm,1.0s,SNR=15
PMOR Pomariorio Ree 73.58 174 *e*P P 17 15 30.7 +0.3
comp=Z,60nm,1.2s
PSZ Piszkesteto 73.62 5 *e*P P 17 15 30.6 +0.1
PSZ pmax pmax
comp=Z,28nm,1.0s
PSZ Piszkesteto 73.62 5⇓*i*P P 17 15 31.4 +0.9
PSZ Piszkesteto 73.62 5 *e*P P 17 15 30.6 +0.1
comp=Z,28nm,1.0s
PSZ Piszkesteto 73.62 5⇑*e*P P 17 15 31.0 +0.5
WATA Walderalm 73.63 10⇑*i*P P 17 15 31.0 +0.3
comp=Z,41nm,0.9s,SNR=14
SOP Sopron 73.68 7⇑*e*P P 17 15 31.4 +0.6
WTTA Wattenberg 73.71 10⇑*i*P P 17 15 31.7 +0.5
comp=Z,70nm,1.2s,SNR=13
CABF La Chapelle 73.73 14⇑*i*P P 17 15 31.7 +0.5
comp=Z,95nm,0.9s
CABF *ep*P **pP 17 15 56.5 +0.6**
CABF La Chapelle 73.73 14⇑*i*P P 17 15 31.7 +0.5
CABF *e**PP **pP 17 15 56.5 +0.6**
CABF pmax pmax
comp=Z,95nm,0.9s
CABF La Chapelle 73.73 14⇑*i*P P 17 15 31.7 +0.5
comp=Z,95nm,0.9s
CABF *ep*P **pP 17 15 56.5 +0.6**
KSH Kashi 73.81 322 *i* P P 17 15 34.5 +2.7
KSH *e*PcP **PcP 17 15 51.0 +4.1**
KSH PP **PP 17 18 22.0 +5.1**
KSH *e*S **S 17 24 55.0 -0.2**
KSH sS **sS 17 25 38.0 +0.5**
KSH pmax pmax
comp=Z,12nm,0.4s
KSH pmax pmax
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,80nm,6.0s
KSH LR LR
comp=Z,110nm,6.4s
KSH LR LR
comp=Z,96nm,6.0s
VAH Vaihoa 73.83 174 *e*P P 17 15 32.2 +0.4
comp=Z,70nm,0.9s
FETA Feichten 73.86 11⇑*i*P P 17 15 32.6 +0.5
comp=Z,46nm,1.1s,SNR=10
AGO Saint Agoulin 73.87 17 *e*P P 17 15 32.4 +0.5
BUR08 Bucovina Ar. S 74.02 1 *e*P P 17 15 32.2 -0.7
PLDF La Plantade 74.02 16 *e*P P 17 15 33.6 +0.7
ARSA Arzberg 74.04 8⇑*i*P P 17 15 33.4 +0.5
comp=Z,20nm,0.9s,SNR=8.3
KBA Koelnbreinsper 74.05 9⇑*i*P P 17 15 33.8 +0.7
comp=Z,71nm,0.9s,SNR=16
BURAR Bucovina Array 74.05 1⇑*i*P P 17 15 32.6 -0.5
PKSG 74.07 6⇓*e*P P 17 15 33.9 +0.8
OG01 Vacheresse 74.09 14 *e*P P 17 15 34.0 +0.7
CSKK Cs˙‡kako 74.10 6⇓*e*P P 17 15 34.0 +0.8
PYM Petit Puy Mans 74.14 17 *e*P P 17 15 33.6 0.0
PKST T˜'s 74.19 6⇓*e*P P 17 15 34.5 +0.7
TUE Stuetta 74.26 12 *e*P P 17 15 34.6 +0.1
comp=Z,355nm,0.4s
ABTA Abfaltersbach 74.30 10⇑*i*P P 17 15 34.5 0.0
comp=Z,25nm,1.1s
RJF Les Rejaudoux 74.35 18 *e*P P 17 15 34.6 -0.1
comp=Z,73nm,1.2s
RJF *eR*
comp=Z,139nm,18.5s
RJF Les Rejaudoux 74.35 18 *e*P P 17 15 34.6 -0.1
RJF pmax pmax
comp=Z,73nm,1.2s
RJF Les Rejaudoux 74.35 18 *e*P P 17 15 34.6 -0.1
comp=Z,73nm,1.2s
COLF Collangettes 74.47 16 *e*P P 17 15 37.1 +1.6
MYKA Terra Mystica 74.52 9⇑*i*P P 17 15 35.5 -0.3
comp=Z,16nm,0.8s
LFF La Frestale 74.58 19 *e*P P 17 15 36.5 +0.5
comp=Z,170nm,1.1s
LFF *ep*P **pP 17 16 01.0 +0.2**
LFF La Frestale 74.58 19 *e*P P 17 15 36.5 +0.5
LFF *e**PP **pP 17 16 01.0 +0.2**
LFF pmax pmax
comp=Z,171nm,1.1s
LFF La Frestale 74.58 19 *e*P P 17 15 36.5 +0.5
comp=Z,170nm,1.1s
LFF *ep*P **pP 17 16 01.0 +0.2**
SOKA Soboth 74.58 8⇑*i*P P 17 15 36.1 0.0
comp=Z,27nm,0.8s,SNR=11
PERS Pernice 74.62 8 *e*P P 17 15 37.0 +0.6
LBL Lubilhac 74.69 17 *e*P P 17 15 37.3 +0.5
OBKA Obir 74.71 8⇑*i*P P 17 15 37.0 +0.1
comp=Z,76nm,0.6s,SNR=22
RSL Roselend 74.71 14 *e*P P 17 15 37.6 +0.6
CAF Calviac 74.80 18⇑*i*P P 17 15 37.6 +0.2
comp=Z,76nm,1.1s
CAF Calviac 74.80 18⇑*i*P P 17 15 37.6 +0.2
CAF pmax pmax
comp=Z,76nm,1.1s
CAF Calviac 74.80 18⇑*i*P P 17 15 37.6 +0.2
comp=Z,76nm,1.1s
SSB Saint Sauveur 74.83 16 *e*P P 17 15 37.6 0.0
SSB Saint Sauveur 74.83 16 *e*P P 17 15 37.6 0.0
LPL La Plagne 74.89 14⇑*i*P P 17 15 39.2 +1.1
comp=Z,60nm,1.1s
LPL La Plagne 74.89 14⇑*i*P P 17 15 39.2 +1.1
LPL pmax pmax
comp=Z,60nm,1.1s
LPL La Plagne 74.89 14⇑*i*P P 17 15 39.2 +1.1
comp=Z,60nm,1.1s
LPG La Plagne 74.91 14⇑*i*P P 17 15 39.5 +1.2
comp=Z,103nm,1.2s
LPG La Plagne 74.91 14⇑*i*P P 17 15 39.5 +1.2
LPG pmax pmax
comp=Z,103nm,1.2s
LPG La Plagne 74.91 14⇑*i*P P 17 15 39.5 +1.2
comp=Z,103nm,1.2s
TESR Tescani 75.16 360⇓*i*P P 17 15 38.9 -0.5
PKSM Moragy 75.26 6⇓*i*P P 17 15 40.1 +0.2
PKSM Moragy 75.26 6⇑*e*P P 17 15 39.8 -0.1
VIVF Saint-Julien-l 75.26 16⇑*i*P P 17 15 40.5 +0.5
comp=Z,64nm,0.8s
VIVF *ep*P **pP 17 16 05.2 +0.4**
VIVF Saint-Julien-l 75.26 16⇑*i*P P 17 15 40.5 +0.5
VIVF *e**PP **pP 17 16 05.2 +0.4**
VIVF pmax pmax
comp=Z,64nm,0.8s
VIVF Saint-Julien-l 75.26 16⇑*i*P P 17 15 40.5 +0.5
comp=Z,64nm,0.8s
VIVF *ep*P **pP 17 16 05.2 +0.4**
JAVS Javornik 75.28 9 *i* P P 17 15 39.3 -0.9
BNI Bardonecchia 75.34 14 *e*P P 17 15 39.4 -1.2
BNI pmax pmax
comp=Z,39nm,1.1s
BNI Bardonecchia 75.34 14 *e*P P 17 15 39.4 -1.2
comp=Z,39nm,1.1s
ORIF Oris-en-Rattie 75.37 15⇑*i*P P 17 15 41.2 +0.5
comp=Z,20nm,0.6s
ORIF *eR*
comp=Z,110nm,18.0s
ORIF Oris-en-Rattie 75.37 15⇑*i*P P 17 15 41.2 +0.5
ORIF pmax pmax
comp=Z,20nm,0.6s
ORIF Oris-en-Rattie 75.37 15⇑*i*P P 17 15 41.2 +0.5
comp=Z,20nm,0.6s
VISS Visnje 75.43 8 *i* P P 17 15 40.7 -0.2
KMI Kunming 75.59 295 P P 17 15 41.8 -0.7
KMI sP **sP 17 16 14.3 -3.4**
KMI S **S 17 25 15.5 -0.2**
KMI pmax pmax
comp=Z,10.0nm,1.4s
KMI LR LR
comp=Z,33nm,26.0s
OG22 Abries 75.60 14 *e*P P 17 15 45.1 +2.9
MBDF Montbardon 75.67 14⇑*i*P P 17 15 43.7 +1.2
comp=Z,39nm,0.9s
MBDF Montbardon 75.67 14⇑*i*P P 17 15 43.7 +1.2
MBDF pmax pmax
comp=Z,39nm,0.9s
MBDF Montbardon 75.67 14⇑*i*P P 17 15 43.7 +1.2
comp=Z,39nm,0.9s
GOF Gofitskoye 75.69 348⇑*i*P P 17 15 41.8 -0.6
GOF pmax pmax
comp=Z,50nm,1.3s
BOJS Bojanci 75.76 8 *i* P P 17 15 42.8 0.0
VRI Vrincioaia 75.80 360⇑*i*P P 17 15 42.4 -0.7
PLOR Plostina 75.82 360⇓*i*P P 17 15 43.0 -0.2
LASF Ste Croix 75.91 17 *e*P P 17 15 44.4 +0.7
comp=Z,81nm,1.4s
LASF Ste Croix 75.91 17 *e*P P 17 15 44.4 +0.7
comp=Z,81nm,1.4s
BZS Buzias 75.98 3⇓*i*P P 17 15 44.1 +0.1
TIAR Tiarei 76.05 176 *e*P P 17 15 45.1 +0.5
comp=Z,22nm,1.0s
PPT2 Papeete2 76.08 176 *e*LR LR 17 39 10.5
comp=Z,151nm,27.2s
PAE Paea 76.15 176 *e*P P 17 15 45.7 +0.6
comp=Z,6.5nm,1.1s
MLR Muntele Rosu 76.18 0⇑*i*P P 17 15 44.8 -0.6
MLR Muntele Rosu 76.18 0 LR LR 17 53 44.3
comp=Z,12nm,20.2s,baz=8.5,slow=39
LOT Lotru 76.20 2⇓*i*P P 17 15 44.8 -0.7
VOIR 76.23 1⇑*i*P P 17 15 45.2 -0.4
GZR Gura Zlata 76.23 3⇓*i*P P 17 15 45.8 +0.2
SMRF Simiane la Rot 76.25 15⇑*i*P P 17 15 46.8 +1.1
comp=Z,134nm,1.1s
SMRF *ep*P **pP 17 16 11.7 +1.2**
SMRF Simiane la Rot 76.25 15⇑*i*P P 17 15 46.8 +1.1
comp=Z,134nm,1.1s
SMRF *ep*P **pP 17 16 11.7 +1.2**
TVO Taravao 76.28 176 *e*P P 17 15 47.0 +1.0
comp=Z,12nm,0.9s
ARR Arges 76.29 1⇑*i*P P 17 15 46.1 +0.2
ETSF Etsaut 76.33 20 *e*P P 17 15 47.2 +1.0
comp=Z,46nm,1.1s
ETSF Etsaut 76.33 20 *e*P P 17 15 47.2 +1.0
ETSF pmax pmax
comp=Z,46nm,1.1s
ETSF Etsaut 76.33 20 *e*P P 17 15 47.2 +1.0
comp=Z,46nm,1.1s

EPF	**Esparros**	**76.36**	**19**	*eP*	**P**	**17 15 46.0**	**-0.3**		
	comp=Z,38nm,1.2s								
EPF	**Esparros**	**76.36**	**19**	*eP*	**P**	**17 15 46.0**	**-0.3**		
EPF				pmax	pmax				
	comp=Z,38nm,1.2s								
EPF	**Esparros**	**76.36**	**19**	*eP*	**P**	**17 15 46.0**	**-0.3**		
	comp=Z,38nm,1.2s								
MTLF	**Montolieu**	**76.37**	**18**	*eP*	**P**	**17 15 46.7**	**+0.4**		
	comp=Z,97nm,1.2s								
MTLF	**Montolieu**	**76.37**	**18**	*eP*	**P**	**17 15 46.7**	**+0.4**		
MTLF				pmax	pmax				
	comp=Z,97nm,1.2s								
MTLF	**Montolieu**	**76.37**	**18**	*eP*	**P**	**17 15 46.7**	**+0.4**		
	comp=Z,97nm,1.2s								
TOUF	**Mont Tournerai**	**76.44**	**14**	*eP*	**P**	**17 15 47.4**	**+0.5**		
TLCR		**76.46**	**358**	*iP*	**P**	**17 15 46.5**	**-0.3**		
CFR	**Carcaliu**	**76.48**	**359**	*iP*	**P**	**17 15 46.7**	**-0.2**		
SAOF	**Saorge**	**76.50**	**14**	*eP*	**P**	**17 15 47.4**	**+0.3**		
LUCF	**Luceram**	**76.57**	**14**	*eP*	**P**	**17 15 47.6**	**+0.1**		
SBF	**Sospel**	**76.61**	**14**	*iP*	**P**	**17 15 48.0**	**+0.3**		
	comp=Z,156nm,1.0s								
SBF	**Sospel**	**76.61**	**14**	*iP*	**P**	**17 15 48.0**	**+0.3**		
SBF				pmax	pmax				
	comp=Z,157nm,1.0s								
SBF	**Sospel**	**76.61**	**14**	*iP*	**P**	**17 15 48.0**	**+0.3**		
	comp=Z,156nm,1.0s								
REVF	**Revere**	**76.72**	**14**	*eP*	**P**	**17 15 48.6**	**+0.3**		
KIV	**Kislovodsk**	**76.82**	**348**	*eP*	**P**	**17 15 48.5**	**-0.4**		
KIV				pmax	pmax				
	comp=Z,13nm,0.7s								
KIV				MLR	MLR				
	comp=Z,48nm,18.0s								
LSA	**Lhasa**	**76.88**	**306**	P	**P**	**17 15 51.0**	**+1.0**		
LSA	**Lhasa**	**76.88**	**306**	*eP*	**P**	**17 15 50.5**	**+0.5**		
LSA				pmax	pmax				
	comp=Z,16nm,0.7s								
LSA	**Lhasa**	**76.88**	**306**	*eP*	**P**	**17 15 50.5**	**+0.5**		
	comp=Z,16nm,0.7s								
LMR	**La Mourre**	**77.01**	**15**	*eP*	**P**	**17 15 50.4**	**+0.5**		
LMR	**La Mourre**	**77.01**	**15**	*eP*	**P**	**17 15 50.4**	**+0.5**		
LMR	**La Mourre**	**77.01**	**15**	*eP*	**P**	**17 15 50.4**	**+0.5**		
KBZ	**Khabaz**	**77.02**	**348**	P	**P**	**17 15 50.0**	**+0.1**		
KBZ	**Khabaz**	**77.02**	**348**	P	**P**	**17 15 50.0**	**+0.1**		
KBZ	**Khabaz**	**77.02**	**348**	P	**P**	**17 15 50.0**	**+0.1**		
	comp=Z,4.9nm,0.8s,baz=312,slow=5.3,SNR=14								
NCK	**Nalchik**	**77.17**	**347**	*eP*	**P**	**17 15 51.1**	**+0.3**		
TIRR	**Tirgusor**	**77.20**	**358**	*iP*	**P**	**17 15 50.9**	**0.0**		
PGF	**Pioggiola**	**78.09**	**13**	*eP*	**P**	**17 15 56.3**	**+0.2**		
	comp=Z,200nm,1.1s								
PGF	**Pioggiola**	**78.09**	**13**	*eP*	**P**	**17 15 56.3**	**+0.2**		
PGF				pmax	pmax				
	comp=Z,200nm,1.1s								
PGF	**Pioggiola**	**78.09**	**13**	*eP*	**P**	**17 15 56.3**	**+0.2**		
	comp=Z,200nm,1.1s								
SLVN	**Son La**	**78.25**	**292**	*eP*	**P**	**17 15 57.0**	**-0.2**		
	comp=Z,27nm,0.6s								
ESDC	**Sonseca Array**	**78.79**	**23**	P	**P**	**17 16 00.3**	**+0.4**		
ESDC	**Sonseca Array**	**78.79**	**23**	P	**P**	**17 16 00.3**	**+0.4**		
	comp=Z,1.9nm,0.4s,baz=340,slow=5.0,SNR=18								
ESDC				LR	LR	17 55 40.0			
	comp=Z,28nm,18.5s,baz=265,slow=39								
SDV	**Santo Domingo**	**78.84**	**91**	*eP*	**P**	**17 15 59.8**	**-0.9**		
	comp=Z,9.5nm,0.6s								
EVOP	**Sao Brissos**	**78.97**	**27**	*eP*	**P**	**17 16 00.5**	**-0.3**		
EVOP				pmax	pmax				
	comp=Z,47nm,1.3s								
EVOP	**Sao Brissos**	**78.97**	**27**	*eP*	**P**	**17 16 00.5**	**-0.3**		
	comp=Z,47nm,1.3s								
EVO	**Evora**	**78.99**	**27**	*eP*	**P**	**17 16 00.5**	**-0.4**		
	comp=Z,47nm,1.3s								
EVO				*eR*					
	comp=Z,107nm,19.8s								
VTS	**Vitosha**	**79.04**	**2**	*iP*	**P**	**17 16 00.8**	**-0.6**		
SHL	**Shillong**	**80.17**	**303**	*ex*	P	17 16 01.5	-6.2		
TAPN	**Taplejung**	**80.37**	**308**	*eP*	**P**	**17 16 09.2**	**+0.2**		
	comp=Z,47nm,0.7s								
KBL	**Kabul**	**80.53**	**325**	*eP*	**P**	**17 16 08.2**	**-1.4**		
KBL				pmax	pmax				
	comp=Z,16nm,1.0s								
KBL	**Kabul**	**80.53**	**325**	*eP*	**P**	**17 16 08.2**	**-1.4**		
	comp=Z,16nm,1.0s								
GUN	**Gumba**	**80.63**	**309**	*eP*	**P**	**17 16 10.6**	**+0.2**		
JIRN	**Jiri**	**80.72**	**309**	*eP*	**P**	**17 16 11.4**	**+0.5**		
	comp=Z,57nm,0.3s								
ODAN	**Odare**	**80.94**	**308**	*eP*	**P**	**17 16 11.8**	**-0.1**		
KKN	**Kakani**	**80.97**	**310**	*eP*	**P**	**17 16 12.4**	**+0.3**		
	comp=Z,16nm,0.5s								
GKN	**Gorkha**	**81.04**	**310**	*eP*	**P**	**17 16 12.5**	**+0.1**		
DANN	**Dangsing**	**81.08**	**311**	*eP*	**P**	**17 16 12.9**	**+0.2**		
PKI	**Pulchoki**	**81.12**	**310**	*eP*	**P**	**17 16 12.8**	**-0.2**		
PKIN	**Phulchoki**	**81.12**	**310**	*eP*	**P**	**17 16 12.6**	**-0.3**		
	comp=Z,12nm,0.6s								
RAMN	**Ramite**	**81.18**	**308**	*eP*	**P**	**17 16 12.8**	**-0.4**		
DMN	**Daman**	**81.20**	**310**	*eP*	**P**	**17 16 13.6**	**+0.2**		
	comp=Z,38nm,0.7s								
PYUN	**Piuthan**	**81.60**	**312**	*eP*	**P**	**17 16 15.5**	**+0.1**		
	comp=Z,18nm,0.5s								
ANTO	**Ankara**	**81.65**	**355**	*iP*	**P**	**17 16 15.5**	**+0.2**		
KOLN	**Koldanda**	**81.66**	**311**	*eP*	**P**	**17 16 15.5**	**-0.2**		
BR131	**Keskin Array S**	**81.75**	**354**	*eP*	**P**	**17 16 15.6**	**-0.3**		
	comp=Z,15nm,1.0s								
BRTR	**Keskin Array B**	**81.75**	**354**	P	**P**	**17 16 15.9**	**0.0**		
BRTR	**Keskin Array B**	**81.75**	**354**	P	**P**	**17 16 15.9**	**0.0**		
	comp=Z,19nm,1.1s,baz=2.9,slow=1.9,SNR=31								
OTAV	**Otavalo**	**82.14**	**103**	*eP*	**P**	**17 16 18.4**	**-0.2**		
	comp=Z,5.2nm,0.6s								
CHTO	**Chiang Mai**	**82.79**	**294**	*eP*	**P**	**17 16 20.3**	**-1.1**		
CHTO				pmax	pmax				
	comp=Z,11nm,0.8s								
CHTO	**Chiang Mai**	**82.79**	**294**	*eP*	**P**	**17 16 20.3**	**-1.1**		
	comp=Z,11nm,0.8s								
RKT	**Rikitea**	**82.97**	**163**	*e*LR	LR	17 42 26.5			
	comp=Z,177nm,34.8s								
CM31	**Chiang Mai Arr**	**83.10**	**294**	*eP*	**P**	**17 16 22.4**	**-0.6**		
	comp=Z,18nm,0.8s								
CMAR	**Chiang Mai Arr**	**83.10**	**294**	P	**P**	**17 16 22.4**	**-0.6**		
CMAR	**Chiang Mai Arr**	**83.10**	**294**	P	**P**	**17 16 22.4**	**-0.6**		
	comp=Z,15nm,0.8s,baz=17,slow=5.5,SNR=84								
KEST	**Kesra**	**84.86**	**14**	P	**P**	**17 16 32.1**	**+0.2**		
KEST	**Kesra**	**84.86**	**14**	P	**P**	**17 16 32.1**	**+0.2**		
	comp=Z,13nm,0.9s,baz=284,slow=2.7,SNR=18								
DZM	**Mont Dzumac**	**86.96**	**217**	*e*LR	LR	17 44 25.7			
	comp=Z,98nm,23.9s								
ATAH	**Atahualpa**	**88.48**	**106**	P	**P**	**17 16 50.9**	**+0.9**		
ATAH	**Atahualpa**	**88.48**	**106**	P	**P**	**17 16 50.9**	**+0.9**		
	comp=Z,13nm,0.7s,baz=37,slow=5.0,SNR=8.1								
PTGA	**Pitinga**	**92.55**	**87**	P	**P**	**17 17 08.1**	**-0.4**		
PTGA	**Pitinga**	**92.55**	**87**	P	**P**	**17 17 08.1**	**-0.4**		
	comp=Z,9.3nm,0.6s,baz=353,slow=7.6,SNR=16								
CTA	**Charters Tower**	**92.66**	**235**	P	**P**	**17 17 08.8**	**0.0**		
CTA	**Charters Tower**	**92.66**	**235**	P	**P**	**17 17 08.8**	**0.0**		
	comp=Z,6.8nm,0.8s,baz=34,slow=9.8,SNR=5.6								
RAYN	**Ar Rayn**	**96.56**	**342**	*eP*	**P**	**17 17 26.8**	**-0.1**		
	comp=Z,48nm,1.1s								
WRA	**Warramunga Arr**	**97.90**	**245**	P	**P**	**17 17 31.6**	**-1.0**		
WRA				PKiKP	**PKiKP**	**17 22 05.2**	**-0.5**		
WRA	**Warramunga Arr**	**97.90**	**245**	P	**P**	**17 17 31.6**	**-1.0**		
	comp=Z,0.8nm,0.9s,baz=32,slow=5.6,SNR=4.6								
WRA				PKiKP	**PKiKP**	**17 22 05.2**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=9.4,slow=1.8,SNR=8.8								
ASAR	**Alice Springs**	**101.30**	**243**	P	**Pdif**	**17 17 47.5**	**-0.3**		
ASAR				PKiKP	**PKiKP**	**17 22 10.8**	**-1.0**		
ASAR	**Alice Springs**	**101.30**	**243**	P	**Pdif**	**17 17 47.5**	**-0.3**		
	comp=Z,0.4nm,0.6s,baz=25,slow=4.7,SNR=5.1								
ASAR				PKiKP	**PKiKP**	**17 22 10.8**	**-1.0**		
	comp=Z,0.3nm,0.6s,baz=58,slow=1.4,SNR=5.4								
TORD	**Torodi Ar. Bea**	**105.64**	**25**	PKiKP	**PKiKP**	**17 22 18.3**	**-1.7**		
TORD				PKKPbc	**PKKPbc**	**17 33 41.7**	**+0.5**		
TORD				PKKPab	**PKKPab**	**17 33 59.9**	**-3.6**		
TORD	**Torodi Ar. Bea**	**105.64**	**25**	PKiKP	**PKiKP**	**17 22 18.3**	**-1.7**		
	comp=Z,0.2nm,0.3s,baz=345,slow=5.1,SNR=3.7								
TORD				PKKPbc	**PKKPbc**	**17 33 41.7**	**+0.5**		
	comp=Z,1.3nm,0.6s,baz=168,slow=2.3,SNR=8.6								
TORD				PKKPab	**PKKPab**	**17 33 59.9**	**-3.6**		
	comp=Z,1.4nm,0.8s,baz=178,slow=3.7,SNR=6.6								
PLCA	**Paso Flores**	**120.45**	**119**	PKP	**PKPdf**	**17 22 45.6**	**-1.8**		
PLCA	**Paso Flores**	**120.45**	**119**	PKP	**PKPdf**	**17 22 45.6**	**-1.8**		
	comp=Z,0.8nm,0.4s,baz=324,slow=5.5,SNR=2.9								
KMBO	**Kilima Mbogo**	**121.96**	**347**	PKP	**PKPdf**	**17 22 51.0**	**-0.4**		
KMBO	**Kilima Mbogo**	**121.96**	**347**	PKP	**PKPdf**	**17 22 51.0**	**-0.4**		
	comp=Z,1.2nm,0.4s,baz=37,slow=8.1,SNR=5.5								
LBTB	**Lobatse**	**146.34**	**1**	*e*PKPbc	**PKPbc**	**17 23 37.3**	**0.0**		
QSPA	**South Pole Qui**	**148.49**	**180**	*e*PKPbc	**PKPbc**	**17 23 41.6**	**-0.3**		
BOSA	**Boshof**	**149.92**	**2**	PKPbc	**PKPbc**	**17 23 46.3**	**-0.4**		
BOSA				pPKPbc	**pPKPbc**	**17 24 11.6**	**-1.6**		
BOSA	**Boshof**	**149.92**	**2**	PKPbc	**PKPbc**	**17 23 46.3**	**-0.4**		
	comp=Z,10nm,0.7s,baz=3.9,slow=2.4,SNR=21								
BOSA				pPKPbc	**pPKPbc**	**17 24 11.6**	**-1.6**		
	comp=Z,5.7nm,0.6s,baz=25,slow=3.6,SNR=3.3								
VNA1	**Neumayer--Stat**	**161.32**	**144**	P	**PKPab**	**17 24 37.4**	**-2.8**		
VNA2	**Neumayer--Watz**	**161.48**	**145**	P	**PKPab**	**17 24 39.8**	**-1.1**		
SNAA	**Sanae**	**162.42**	**149**	P	**PKPab**	**17 24 44.0**	**-1.0**		
SNAA	**Sanae**	**162.42**	**149**	PKPab	**PKPab**	**17 24 43.8**	**-1.2**		
SNAA	**Sanae**	**162.42**	**149**	PKPab	**PKPdf**	**17 24 43.8**	**-1.2**		
	comp=Z,3.1nm,0.6s,baz=248,slow=7.4,SNR=20								
SYO	**Syowa Base**	**168.15**	**204**	*e*PKPdf	**PKPdf**	**17 24 04.0**	**+2.7**		

IDC 25 17:06:55.6±8.8, 21.86S×170.18E, h52km±59km, mb3.4/3, mb1 3.7/4, mb1mx3.4/25, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=112.8km s-min=56.0km az=179.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.47**	**266**	P	Pn	17 07 46.9	-0.4
	8.3nm,0.3s,baz=110,slow=9.3,SNR=572						
DZM				S	Sn	17 08 27.7	+0.4
	25nm,0.3s,baz=280,slow=23,SNR=16						
STKA	**Stephens Creek**	**27.31**	**243**	P	P	17 12 35.2	-0.3
	0.9nm,0.6s,baz=98,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**33.44**	**260**	P	P	17 13 30.0	+0.2
	0.6nm,0.9s,baz=83,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**33.49**	**267**	P	P	17 13 30.1	-0.1
	0.4nm,0.4s,baz=100,slow=8.4,SNR=13						

*ISCJB **25** 17:35:11.4±1.5, 72.03N±0.10×1.5E±0.4, h10km, mb3.2/2, Error ellipse: s-maj=17.1km s-min=13.7km az=23.7*
*IDC **25** 17:35:11.4±2.6, 71.92N×0.74E, h0km, mb3.3/2, mb1 3.5/7, mb1mx3.2/60, mbtmp3.4/7, ML3.1/5, Error ellipse: s-maj=35.8km s-min=24.2km az=105.0*
ISC 25 17:35:12.5±1.8, 72.0N±0.1×1.0E±0.2, h10km, n7, σ1s32/8, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**7.33**	**25**	Pn	**Pn**	**17 36 59.4**	**+0.1**
	baz=202,slow=15,SNR=15						
ARCES	**ARCESS Array B**	**8.42**	**95**	Pn	**Pn**	**17 37 15.1**	**+0.6**
	0.5nm,0.3s,baz=302,slow=12,SNR=45						
ARCES				Sn	**Sn**	**17 38 48.6**	**-0.8**
	0.2nm,0.3s,baz=289,slow=19,SNR=2.9						
NOA	**NORSAR Array B**	**11.71**	**155**	Pn	**Pn**	**17 37 60.0**	**+0.5**
	0.1nm,0.3s,baz=344,slow=12,SNR=2.5						
HFS	**Hagfors**	**12.94**	**151**	Pn	**Pn**	**17 38 15.6**	**-0.5**
	0.2nm,0.3s,baz=354,slow=10,SNR=6.9						
FINES	**FINESS Array B**	**14.34**	**125**	Pn	**Pn**	**17 38 37.5**	**+2.2**
	0.1nm,0.3s,baz=312,slow=15,SNR=2.5						
GERES	**GERESS Array B**	**23.96**	**159**	P	**P**	**17 40 27.6**	**+1.0**
	0.8nm,0.7s,baz=0.0,slow=8.0,SNR=7.2						
AKASG	**Malin Array Be**	**24.81**	**134**	P	**P**	**17 40 33.2**	**-1.1**
	0.3nm,0.5s,baz=341,slow=10,SNR=2.9						

*IDC **25** 17:39:25.3±1.3, 2.51N×79.74W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/50, mbtmp3.9/8, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/34, Error ellipse: s-maj=55.5km s-min=18.0km az=52.0*
*ISCJB **25** 17:39:26.3±1.0, 2.6N±0.2×79.9W±0.2, h21km, mb3.6/5, MS3.2/1, Error ellipse: s-maj=40.9km s-min=11.2km az=138.1*
ISC 25 17:39:27.9±1.1, 2.4N±0.2×79.9W±0.3, h21km, n10, σ1s08/9, mb3.7/5, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**9.30**	**327**	Pn	**Pn**	**17 41 40.8**	**0.0**
	0.4nm,0.3s,baz=140,slow=7.9,SNR=5.2						
APG	**El Apazote**	**16.29**	**321**	Pn	**Pn**	**17 43 14.9**	**-0.9**
	0.6nm,0.3s,baz=165,slow=19,SNR=3.9						
PTGA	**Pitinga**	**20.14**	**99**	P	Pn	17 44 00.8	-1.9
	2.4nm,0.3s,baz=304,slow=17,SNR=9.9						
PTGA				LR	LR	17 52 00.7	
	comp=Z,110nm,19.0s,baz=89,slow=38						
LPAZ	**La Paz**	**21.92**	**148**	P	**P**	**17 44 20.6**	**-0.1**
	0.6nm,0.8s,baz=0.0,slow=3.0,SNR=2.0						
SIV	**San Ignacio**	**26.08**	**135**	P	**P**	**17 45 01.4**	**+1.0**
	1.2nm,0.8s,baz=20,slow=12,SNR=2.1						
ULM	**Lac du Bonnet**	**49.54**	**347**	P	**P**	**17 48 16.8**	**-0.3**
	2.2nm,0.6s,baz=171,slow=9.1,SNR=4.8						
YKA	**Yellowknife Ar**	**65.25**	**343**	P	**P**	**17 50 09.2**	**+1.5**
	0.5nm,0.6s,baz=140,slow=6.1,SNR=15						
TORD	**Torodi Ar. Bea**	**81.23**	**77**	P	**P**	**17 51 42.1**	**-1.0**
	0.4nm,0.6s,baz=279,slow=6.0,SNR=3.8						
ASAR	**Alice Springs**	**141.12**	**234**	PKP	**PKPdf**	**17 58 56.6**	**-1.2**
	0.7nm,0.9s,baz=115,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**142.35**	**240**	PKP	**PKPdf**	**17 59 00.8**	**+0.7**
	2.0nm,0.8s,baz=106,slow=3.1,SNR=15						

*BJI **25** 17:46:57.9, 44.83N×108.24E, h10km, mB4.6/8, mb4.3/10, ML4.9/9, Ms4.4/14, Ms7 3.9/10*
*ISCJB **25** 17:46:59.3±0.4, 44.80N±0.04×108.39E±0.08, h10km, mb3.7/16, MS3.6/6, Error ellipse: s-maj=7.9km s-min=4.9km az=166.8*
*IDC **25** 17:46:59.2±0.7, 44.69N×108.26E, h0km, mb3.7/12, mb1 3.8/14, mb1mx3.7/46, mbtmp3.6/14, ML3.0/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/41, Error ellipse: s-maj=19.3km s-min=13.6km az=63.0*
*MOS **25** 17:47:03.7±1.8, 44.86N×108.15E, h33km, mb4.0/11, Error ellipse: s-maj=15.7km s-min=7.6km az=113.2*
ISC 25 17:47:01.1±0.5, 44.70N±0.05×108.36E±0.07, h10km, n56, σ1s69/55, mb3.8/16, MS3.6/6, 1D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**3.42**	**337**	Pg	**Pb**	**17 48 02.3**	**+0.5**
	316nm,0.3s,baz=164,slow=19,SNR=52						
SONM				Lg	Lg	17 48 47.4	
	516nm,0.3s,baz=152,slow=28,SNR=21						
BTO	**Baotou**	**4.27**	**163**	Pg	**Pn**	**17 48 08.3**	**+2.0**
BTO				Sn	**Sn**	**17 48 59.8**	**+3.6**
BTO				Sg	**Sg**	**17 49 14.8**	**-3.5**
BTO				smax	smax		
	comp=N,150nm,0.3s						
BTO				smax	smax		
	comp=E,260nm,0.5s						
BTO	**Baotou**	**4.27**	**163**	Pn	**Pn**	**17 48 08.3**	**+2.0**
BTO				Sn	**Sn**	**17 48 59.8**	**+3.6**
BTO				Sg	**Sg**	**17 49 14.8**	**-3.5**
BTO				smax	smax		
	comp=E,150nm,0.3s						
BTO				smax	smax		
	comp=E,260nm,0.5s						
ZAK	**Zakamensk**	**6.64**	**331**	*eP*	**Pn**	**17 48 37.9**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,133nm,1.7s						
BJI	**Beijing**	**7.42**	**126**	Pn	**Pn**	**17 48 50.3**	**+0.8**
BJI				Pg	Pg	17 49 17.0	-6.2
BJI				Sg	**Sg**	**17 50 54.5**	**-4.8**
BJI				smax	smax		
	comp=Z,520nm,0.8s						
BJI				smax	smax		
	comp=Z,370nm,1.3s						
TLY	**Talaya**	**7.66**	**337**	*eP*	**Pn**	**17 48 52.4**	**-0.3**
TLY				pmax	pmax		
	comp=Z,12nm,0.6s						
IRK	**Irkutsk**	**8.02**	**342**	*eP*	Pn	17 49 00.6	+3.0
IRK				*eS*	**Sn**	**17 50 32.1**	**+3.8**
IRK				pmax	pmax		
	comp=Z,39nm,0.5s						
IRK				smax	smax		
	comp=E,2μm,1.0s						
MOY	**Mondy**	**8.53**	**327**	*eP*	**Pn**	**17 49 04.3**	**-0.4**
MOY				pmax	pmax		
	comp=Z,45nm,1.0s						
LZH	**Lanzhou**	**9.27**	**203**	*eP*	**Pn**	**17 49 17.0**	**+2.1**
LZH				smax	smax		
	comp=Z,420nm,0.9s						
LZH				smax	smax		
	comp=Z,570nm,0.9s						
LZH				LR	LR		
	comp=Z,2μm,6.8s						
LZH				LR	LR		
	comp=Z,1μm,7.4s						
LZH				LR	LR		
	comp=Z,590nm,7.0s						
XAN	**Xi'an**	**10.66**	**177**	P	**Pn**	**17 49 35.3**	**+1.5**
XAN				LR	LR		
	comp=Z,430nm,16.3s						
KSRS	**Korea Array**	**16.41**	**109**	Pn	**P**	**17 50 56.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=291,slow=11,SNR=5.0						
KSRS				Lg	Lg	17 55 44.4	
	comp=Z,0.2nm,0.3s,baz=298,slow=28,SNR=4.2						
KSRS				LR	LR	17 58 18.9	
	comp=Z,42nm,18.1s,baz=320,slow=41						
USRK	**Ussuriysk Arra**	**16.87**	**83**	Pn	**P**	**17 51 02.5**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=261,slow=14,SNR=4.5						
USRK				Lg	Lg	17 56 00.7	
	comp=Z,0.1nm,0.3s,baz=298,slow=29,SNR=3.6						
ZALV	**Zalesovo Beam**	**17.84**	**310**	*eP*	**P**	**17 51 09.6**	**-0.4**
ZALV	**Zalesovo Beam**	**17.84**	**310**	P	**Pn**	**17 51 07.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=4.3						
ZALV				Lg	Lg	17 56 15.4	
	comp=Z,0.1nm,0.3s,baz=109,slow=17,SNR=4.7						
MKAR	**Makanchi Array**	**18.29**	**286**	P	**P**	**17 51 14.3**	**-0.7**
MKAR	**Makanchi Array**	**18.29**	**286**	P	**P**	**17 51 14.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=72,slow=12,SNR=8.2						
MKAR				Lg	Lg	17 56 32.9	
	comp=Z,0.0nm,0.3s,baz=80,slow=26,SNR=5.9						
NVS	**Novosibirsk**	**19.04**	**311**	*eP*	**P**	**17 51 21.0**	**-2.1**
KURK	**Kurchatov**	**20.81**	**297**	*eP*	Pn	17 51 44.1	-0.7
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**20.86**	**297**	P	**P**	**17 51 41.0**	**-2.0**
	comp=Z,2.5nm,0.7s,baz=93,slow=12,SNR=21						
YAK	**Yakutsk**	**21.34**	**28**	*eP*	**P**	**17 51 47.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
SHL	**Shillong**	**23.29**	**220**	*eP*	P	17 52 15.0	+5.8
TAPN	**Taplejung**	**23.95**	**231**	*eP*	**P**	**17 52 16.4**	**+0.6**
	comp=Z,51nm,1.0s						
AAK	**Ala-Archa**	**24.49**	**277**	P	**P**	**17 52 20.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**24.49**	**277**	P	**P**	**17 52 20.3**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=117,slow=5.4,SNR=10						
AAK				LR	LR	18 02 29.3	
	comp=Z,154nm,18.5s,baz=60,slow=38						
ODAN	**Odare**	**24.51**	**230**	*eP*	**P**	**17 52 20.5**	**-0.4**
GUN	**Gumba**	**24.55**	**235**	*eP*	**P**	**17 52 21.7**	**+0.3**
JIRN	**Jiri**	**24.56**	**234**	*eP*	**P**	**17 52 22.0**	**+0.5**
	comp=Z,16nm,0.7s						
RAMN	**Ramite**	**24.88**	**232**	*eP*	**P**	**17 52 24.4**	**+0.2**
	comp=Z,38nm,0.9s						
KKN	**Kakani**	**24.99**	**235**	*eP*	**P**	**17 52 25.8**	**+0.6**
	comp=Z,31nm,0.9s						
PKI	**Pulchoki**	**25.08**	**235**	*eP*	**P**	**17 52 26.2**	**0.0**
PKIN	**Phulchoki**	**25.09**	**235**	*eP*	**P**	**17 52 26.1**	**0.0**
GKN	**Gorkha**	**25.21**	**237**	*eP*	**P**	**17 52 27.2**	**0.0**
	comp=Z,40nm,1.1s						
DMN	**Daman**	**25.23**	**235**	*eP*	**P**	**17 52 27.7**	**+0.3**
DANN	**Dangsing**	**25.49**	**238**	*eP*	**P**	**17 52 29.9**	**+0.1**
	comp=Z,79nm,0.8s						
KOLN	**Koldanda**	**26.01**	**238**	*eP*	**P**	**17 52 34.8**	**+0.4**
	comp=Z,65nm,0.9s						
BVAR	**Borovoye Array**	**26.07**	**302**	P	**P**	**17 52 33.6**	**-1.0**
BVAR	**Borovoye Array**	**26.07**	**302**	P	**P**	**17 52 33.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=101,slow=15,SNR=2.8						
BVAR				LR	LR	18 03 20.1	
	comp=Z,86nm,20.1s,baz=90,slow=38						
BRVK	**Borovoye**	**26.14**	**302**	*eP*	**P**	**17 52 37.3**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.33**	**200**	P	**P**	**17 52 45.9**	**-0.3**
	comp=Z,1.5nm,1.1s,baz=6.3,slow=9.1,SNR=4.5						
TIXI	**Tiksi**	**28.78**	**13**	*eP*	**P**	**17 52 57.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SEY	**Seymchan**	**30.

CAST	Castle Rocks	3.12	5	P	Pn	17 59 28.8	+0.7	
OHAK	Old Harbor	3.12	185	P	Pn	17 59 27.2	-0.9	
PLK4	Peulik 4	3.28	216	P	Pn	17 59 31.4	+1.1	
TRF	Thorofare Moun	3.35	19	P	Pn	17 59 31.5	+0.3	
MID	Middleton Isla	3.35	103	P	Pn	17 59 32.4	+1.4	
KTH	Kantishna Hill	3.35	14	P	Pn	17 59 31.5	+0.4	
EYAK	Cordova Ski Ar	3.48	83	P	Pn	17 59 33.3	+0.6	
DIV	Divide	3.52	74	*e*Pn	Pn	17 59 32.9	-0.5	
KLU	Klutina	3.53	68	P	Pn	17 59 33.3	-0.2	
CHUM	Lake Minchumin	3.58	3	P	Pn	17 59 34.7	+0.7	
RND	Reindeer	3.60	29	P	Pn	17 59 34.8	+0.4	
SGAM	Sherman Glacie	3.74	84	P	Pn	17 59 36.9	+0.6	
DHY	Denali Highway	3.76	40	P	Pn	17 59 37.2	+0.5	
SII	Sitkinak Islan	3.85	192	P	Pn	17 59 36.4	-1.3	
MCK	McKinley	3.86	26	P	Pn	17 59 38.2	+0.4	
PS11	TAPS Pump St11	3.93	60	P	Pn	17 59 39.8	+1.0	
PS11				S	Sn	18 00 25.4	+1.1	
GOAT	Goat Mountain	3.98	83	P	Pn	17 59 40.4	+1.0	
GOAT				S	Sn	18 00 23.6	-1.9	
RAGM	Ragged Mountai	4.01	86	P	Pn	17 59 40.5	+0.7	
RAGM				S	Sn	18 00 25.6	-0.5	
BMRM	Bremner River	4.06	77	P	Pn	17 59 41.3	+0.8	
BMRM				S	Sn	18 00 25.9	-1.5	
HARP	HAARP	4.21	57	P	Pn	17 59 43.0	+0.6	
HARP				S	Sn	18 00 31.5	+0.6	
PAX	Paxson	4.37	49	P	Pn	17 59 45.2	+0.6	
PAX				S	Sn	18 00 33.3	-1.4	
GLB	Gilahina Butte	4.51	72	P	Pn	17 59 47.8	+1.4	
PS10	TAPS Pump St10	4.54	44	P	Pn	17 59 48.4	+1.6	
WRH	Wood River Hil	4.69	25	P	Pn	17 59 48.6	-0.2	
MLY	Manley	4.81	10	P	Pn	17 59 50.4	-0.1	
HDA	Harding Lake	4.90	31	P	Pn	17 59 52.2	+0.5	
CCB	Clear Creek Bu	4.91	26	P	Pn	17 59 51.5	-0.1	
MENT	Mentasta	5.04	55	*e*Pn	Pn	17 59 52.8	-0.7	
PS08	TAPS Pump Stn8	5.05	30	P	Pn	17 59 54.0	+0.4	
COLA	College	5.09	24	P	Pn	17 59 55.1	+1.0	
MDM	Murphy Dome	5.10	22	P	Pn	17 59 54.7	+0.4	
IL1	Eielson Array	5.22	29	P	Pn	17 59 56.0	+0.1	
ILAR	Eielson Array	5.22	29	P	Pn	17 59 55.9	0.0	
ILAR				S	Sn	18 00 52.7	-2.3	
ILAR	Eielson Array	5.22	29	P	Pn	17 59 55.9	0.0	
	8.8nm,0.3s,baz=214,slow=14,SNR=772							
ILAR				S	Sn	18 00 52.7	-2.3	
	2.4nm,0.3s,baz=215,slow=23,SNR=6.7							
CTGM	Chitina Glacie	5.65	79	P	Pn	18 00 03.5	+1.6	
IM04	Indian Mountai	5.69	356	*e*Pn	Pn	18 00 02.4	+0.2	
PS06	TAPS Pump Stn6	5.72	13	P	Pn	18 00 04.0	+1.4	
EGAK	Eagle	6.97	45	P	Pn	18 00 19.5	+0.2	
COLD	Coldfoot	7.02	8	P	Pn	18 00 20.4	+0.3	
INK	Inuvik	11.50	38	P	Pn	18 01 20.1	0.0	
INK	Inuvik	11.50	38	P	Pn	18 01 20.1	0.0	
	0.3nm,0.3s,baz=240,slow=12,SNR=8.2							
DLBC	Dease Lake	11.72	89	P	P	18 01 28.2	-2.9	
DLBC	Dease Lake	11.72	89	P	P	18 01 28.2	-2.9	
	0.5nm,0.3s,baz=299,slow=3.9,SNR=7.5							
YKA	Yellowknife Ar	18.20	67	P	Pn	18 02 45.1	+1.0	
YKA	Yellowknife Ar	18.20	67	P	Pn	18 02 45.1	+1.0	
	0.1nm,0.3s,baz=277,slow=9.9,SNR=10							
R11A	Troy Canyon, C	32.03	116	*e*Pn	P	18 04 51.3	-3.0	
	1.0nm,0.4s							
SONM	Songino Array	54.70	306	P	P	18 07 57.5	+1.9	
SONM	Songino Array	54.70	306	P	P	18 07 57.5	+1.9	
	0.7nm,0.7s,baz=54,slow=7.6,SNR=5.0							
ZALV	Zalesovo Beam	57.19	324	P	P	18 08 14.2	+1.1	
ZALV	Zalesovo Beam	57.19	324	P	P	18 08 14.2	+1.1	
	0.3nm,0.4s,baz=31,slow=6.1,SNR=4.9							
MKAR	Makanchi Array	64.26	321	P	P	18 09 00.7	-0.3	
MKAR	Makanchi Array	64.26	321	P	P	18 09 00.7	-0.3	
	0.2nm,0.5s,baz=46,slow=8.3,SNR=2.5							

JSN ***25*** *18:02:46.4±0.3, 19°.11N×71°.95W, h15km*
ISCJB ***25*** *18:02:56.9±0.5, 18°.44N±0°.07×72°.98W±0°.05, h6km, mb3.6/12, MS3.3/2, Error ellipse: s-maj=10.2km s-min=7.0km az=1.8*
IDC ***25*** *18:02:57.5±0.9, 18°.46N×72°.92W, h0km, mb3.6/11, mb1 4.0/12, mb1mx3.9/26, mbtmp3.7/12, ML3.8/1, MS3.3/3, Ms1 3.2/3, ms1mx2.9/29, Error ellipse: s-maj=28.4km s-min=21.2km az=20.0*
NEIC ***25*** *18:02:59.3±0.3, 18°.48N×72°.99W, h10km, mb4.0/2, Error ellipse: s-maj=8.1km s-min=5.6km az=2.0*

ISC 25 18:02:58.6±0.5, 18°.48N±0°.09×72°.98W±0°.05, h6km, n43, σ0°.76/42, mb3.7/12, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.68	72	*e*Pn	Pb	18 03 28.9	-1.2
GTBY	Guantanamo Bay	2.47	306	*e*Pn	Pn	18 03 37.7	-1.7
GRTK	Grand Turk	3.48	30	Pn	Pn	18 03 54.8	+1.5
GWJ	Greenwich	3.58	264	*e*P	Pn	18 03 55.0	+0.2
GWJ				*i* S	Sb	18 04 46.5	+0.3
GWJ	Greenwich	3.58	264	*e*P	Pn	18 03 55.0	+0.2
GWJ				*i* S	Sb	18 04 46.5	+0.3
HOJ	Hope	3.61	263	*i* P	Pn	18 03 55.6	+0.5
HOJ	Hope	3.61	263	*i* P	Pn	18 03 55.6	+0.5
STH	Stony Hill	3.66	264	*e*P	Pn	18 03 55.9	+0.2
STH	Stony Hill	3.66	264	*e*P	Pn	18 03 55.9	+0.2
CELP	Cerrillos	6.10	93	Pn	Pn	18 04 29.5	+0.2
SDV	Santo Domingo	9.80	166	*e*Pn	Pn	18 05 21.6	+1.2
JTS	JuntasAbangare	14.16	237	LR	LR	18 12 41.6	
	comp=Z,66nm,18.9s,baz=54,slow=41						
TEIG	Tepich	14.54	279	Pn	Pn	18 06 25.4	+0.4
TEIG	Tepich	14.54	279	Pn	Pn	18 06 25.4	+0.4
	0.4nm,0.3s,baz=90,slow=18,SNR=2.2						
ATAH	Atahualpa	26.00	192	LR	LR	18 19 55.3	
	comp=Z,64nm,18.1s,baz=342,slow=39						
SAML	Samuel	28.92	160	P	P	18 08 58.0	-0.6
	1.3nm,0.9s						
TXAR	Lajitas Array	29.98	297	P	P	18 09 08.4	+0.3
TXAR	Lajitas Array	29.98	297	P	P	18 09 08.4	+0.3
	1.0nm,1.1s,baz=127,slow=14,SNR=4.9						
SCHQ	Schefferville	36.59	6	LR	LR	18 24 53.1	
	comp=Z,53nm,18.4s,baz=272,slow=36						
PDAR	Pinedale Array	39.25	316	P	P	18 10 30.0	+1.7
PDAR	Pinedale Array	39.25	316	P	P	18 10 30.0	+1.7
	0.6nm,0.8s,baz=123,slow=8.2,SNR=3.8						
NVAR	Mina Array Bea	44.02	307	P	P	18 11 08.2	+0.8
NVAR	Mina Array Bea	44.02	307	P	P	18 11 08.2	+0.8
	0.4nm,0.7s,baz=97,slow=7.4,SNR=3.5						
YKA	Yellowknife Ar	52.52	337	P	P	18 12 12.2	-0.2
YKA	Yellowknife Ar	52.52	337	P	P	18 12 12.2	-0.2
	0.7nm,0.7s,baz=125,slow=7.7,SNR=11						
RES	Resolute Bay	57.47	353	P	P	18 12 47.7	-0.3
RES	Resolute Bay	57.47	353	P	P	18 12 47.7	-0.3
	0.8nm,0.9s,baz=174,slow=18,SNR=1.9						
PLCA	Paso Flores	58.95	178	*e*P	P	18 12 58.8	0.0
	1.3nm,0.6s						
PLCA	Paso Flores	58.95	178	P	P	18 12 58.8	0.0
	0.7nm,0.3s,baz=349,slow=8.7,SNR=3.5						
ESDC	Sonseca Array	62.45	54	P	P	18 13 22.9	0.0
ESDC	Sonseca Array	62.45	54	P	P	18 13 22.9	0.0
	0.7nm,0.7s,baz=280,slow=8.1,SNR=4.0						
ILAR	Eielson Array	66.58	333	P	P	18 13 48.8	-0.7
ILAR	Eielson Array	66.58	333	P	P	18 13 48.8	-0.7
	0.6nm,1.0s,baz=90,slow=5.4,SNR=4.1						
TORD	Torodi Ar. Bea	71.61	82	P	P	18 14 20.8	-0.7
TORD	Torodi Ar. Bea	71.61	82	P	P	18 14 20.8	-0.7
	0.6nm,0.9s,baz=305,slow=5.1,SNR=2.4						
GERES	GERESS Array B	74.17	43	P	P	18 14 36.6	+0.4
GERES	GERESS Array B	74.17	43	P	P	18 14 36.6	+0.4
	1.0nm,0.8s,baz=266,slow=5.4,SNR=8.6						
AKASG	Malin Array Be	83.37	39	P	P	18 15 26.1	-0.6
AKASG	Malin Array Be	83.37	39	P	P	18 15 26.1	-0.6
	0.3nm,0.5s,baz=292,slow=7.5,SNR=3.6						
WRA	Warramunga Arr	154.17	262	PKPbc	PKPbc	18 22 59.3	-1.0
WRA	Warramunga Arr	154.17	262	PKPbc	PKPbc	18 22 59.3	-1.0
	0.6nm,0.9s,baz=90,slow=3.3,SNR=3.2						
ASAR	Alice Springs	154.40	254	PKPbc	PKPbc	18 23 01.4	+0.6
ASAR	Alice Springs	154.40	254	PKPbc	PKPbc	18 23 01.4	+0.6
	0.4nm,0.8s,baz=112,slow=1.0,SNR=2.8						

IDC ***25*** *18:23:39.7±1.7, 8°.32S×124°.98E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/27, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=153.2km s-min=28.1km az=55.0*
DJA ***25*** *18:23:52.7±1.2, 9°.5±10°.×12°.4E±°, h65km±26km, M4.2/5, mb4.3/5, mB4.8/4, MLv4.2/4, Mw(mB)4.1/4*

ISC 25 18:23:44.8±0.7, 8°.57S±0°.06×124°.43E±0°.06, h20km, n27, σ2°.39/21, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.19	188	P	Pb	18 24 09.1	+2.3
SOEI	Soe	1.19	188	P	Pb	18 24 08.6	+1.8
	baz=1.0,SNR=215						
SOEI				S	Sn	18 24 23.7	+1.5
	baz=1.0,SNR=5.2						
MMRI	Maumere	2.17	268	P	Pb	18 24 23.1	-0.2
WSI	Waingapu	4.22	255	P	Pn	18 24 49.2	+1.2
WSI	Waingapu	4.22	255	P	Pn	18 24 49.2	+1.2
	baz=4.1,SNR=16						
LBFI	Labuhan Bajo,	4.49	271	P	x	18 24 55.8	
BKSI	Bulukumba	5.35	307	P	Pn	18 25 09.5	+5.9
	17nm,1.2s,428nm						
NLAI	Namlea	5.92	27	P	Pn	18 25 14.1	+2.7
BNSI	Bone	5.96	314	P	Pn	18 25 20.5	+8.5
	23nm,0.7s						
SANI	Sanana	6.66	14	P	Pb	18 25 34.4	-5.6
	18nm,0.7s,919nm						
LUWI	Luwuk	7.66	347	P	Pn	18 25 45.7	+10
MTN	Manton Dam	7.84	123	P	Pn	18 25 40.3	+2.5
	baz=7.8,SNR=62						
MTN				S	Sn	18 27 00.7	-5.3
	baz=7.8,SNR=18						
MTNI	Mataram	8.16	269	P	x	18 25 43.8	
	14nm,0.5s,1μm						
KNRA	Kununurra	8.24	149	P	Pn	18 25 42.5	-0.8
	baz=8.2,SNR=25						
KNRA				S	Sn	18 27 05.2	-11
	baz=8.2,SNR=14						
KDU	Kakadu	8.90	118	P	Pn	18 25 54.5	+2.0
	baz=8.9,SNR=32						
KDU				S	Sn	18 27 31.1	-1.1
	baz=8.9,SNR=5.2						
JAGI	Jajag, Banyuwa	10.16	270	P	Pn	18 26 08.3	-1.4
	baz=10,SNR=5.8						
UGM	Wanagama	13.78	272	P	Pn	18 26 58.9	-0.3
	baz=14,SNR=5.6						
WRA	Warramunga Arr	14.83	141	Pn	Pn	18 27 09.2	-4.3
	0.5nm,0.3s,baz=322,slow=14,SNR=29						
WRA				Sn	Sn	18 29 41.0	-16
	1.5nm,0.3s,baz=316,slow=24,SNR=12						
CISI	Cisompet, Garu	16.48	272	P	Pn	18 27 34.1	-0.9
	baz=16,SNR=6.3						
WRKA	Warakurna	16.79	168	P	Pn	18 27 34.5	-4.5
	baz=17,SNR=9.4						
WRKA				S	Sn	18 30 27.2	-18
	baz=17,SNR=4.0						
JAY	Jayapura	17.27	71	P	Pn	18 27 45.8	+0.7
	baz=17,SNR=3.1						
ASAR	Alice Springs	17.55	150	P	Pn	18 27 44.6	-3.8
	0.2nm,0.3s,baz=318,slow=11,SNR=11						
ASAR				S	Sn	18 30 49.0	-14
	0.6nm,0.3s,baz=311,slow=21,SNR=10						
MEEK	Meekatharra	18.80	196	P	Pn	18 28 04.9	+1.2
	baz=19,SNR=8.5						
MEEK				S	Sn	18 31 17.4	-16
	baz=19,SNR=4.4						
COEN	Coen	19.15	108	P	Pn	18 28 14.8	+6.8
	baz=19,SNR=3.8						
MORW	Morawa	21.87	200	P	P	18 28 43.7	+7.3
	baz=22,SNR=4.8						
CMAR	Chiang Mai Arr	36.79	317	P	P	18 30 51.5	0.0
	0.3nm,0.5s,baz=146,slow=6.8,SNR=5.4						
MKAR	Makanchi Array	66.65	330	P	P	18 34 32.4	-1.7
	0.2nm,0.5s,baz=131,slow=5.6,SNR=4.7						

JSN ***25*** *18:40:19.4±4.2, 20°.50N×72°.61W, h50km±999km, MD5.5*
ISCJB ***25*** *18:40:26.5±0.2, 18°.44N±0°.03×72°.97W±0°.02, h6km, mb4.3/46, MS4.0/25, Error ellipse: s-maj=4.4km s-min=3.1km az=14.5*
IDC ***25*** *18:40:26.8±0.4, 18°.51N×72°.96W, h0km, mb4.1/23, mb1 4.3/26, mb1mx4.3/31, mbtmp4.2/26, ML3.6/2, MS4.0/29, Ms1 4.0/29, ms1mx4.0/31, Error ellipse: s-maj=15.2km s-min=11.8km az=73.0*
NEIC ***25*** *18:40:28.5±0.2, 18°.49N×72°.96W, h10km, mb4.8/22, Error ellipse: s-maj=4.8km s-min=3.8km az=7.0*

ISC 25 18:40:28.0±0.3, 18°.48N±0°.05×73°.01W±0°.04, h6km, n324, σ1°.05/330, mb4.4/46, MS4.1/25, 106C-82D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.71	73	*e*Pn	Pn	18 40 57.2	-1.2
SDDR				*e*Sn	Sn	18 41 18.9	-1.6
GTBY	Guantanamo Bay	2.45	306	*e*Pn	Pn	18 41 06.9	-1.7
YHJ	Yallahs	3.36	260	*e*P	Pn	18 41 21.8	+0.6
YHJ	Yallahs	3.36	260	*e*P	Pn	18 41 21.8	+0.6
GRTK	Grand Turk	3.49	30	*e*Pn	Pn	18 41 22.4	-0.5
GWJ	Greenwich	3.56	264	*e*P	Pn	18 41 24.0	0.0
GWJ	Greenwich	3.56	264	*e*P	Pn	18 41 24.0	0.0
HOJ	Hope	3.59	263	*e*P	Pn	18 41 24.9	+0.7
HOJ	Hope	3.59	263	*e*P	Pn	18 41 24.9	+0.7
STH	Stony Hill	3.63	264	*i* P	Pn	18 41 24.9	0.0
STH				*i* S	Sb	18 42 17.3	+0.2
STH	Stony Hill	3.63	264	*e*P	Pn	18 41 24.9	0.0
STH				*i* S	Sb	18 42 17.3	+0.2
PCJ	Portland Cotta	4.01	260	*e*P	Pn	18 41 34.3	+4.2
PCJ	Portland Cotta	4.01	260	*i* P	Pn	18 41 34.3	+4.2
CVJ	Coleyville	4.31	267	*i* P	Pn	18 41 34.9	+0.6
CVJ	Coleyville	4.31	267	*i* P	Pn	18 41 34.9	+0.6
MTDJ	Mount Denham	4.31	267	*e*Pn	Pn	18 41 34.7	+0.5
MCJ	Malvern	4.48	264	*e*P	Pn	18 41 38.7	+2.1
MCJ	Malvern	4.48	264	*e*P	Pn	18 41 38.7	+2.1
MBJ	Montego Bay	4.61	270	*i* S	Sn	18 42 31.7	-0.5
CRPR	Cabo Rojo, PR	5.63	94	*e*Pn	Pn	18 41 51.6	-0.7
LSP	Las Mesas	5.63	92	*e*Pn	Pn	18 41 45.0	-7.4
LRS	Lares	5.86	91	Pn	Pn	18 41 56.3	+0.8
OBIP	Obispado Ponce	6.10	93	*e*Pn	Pn	18 41 57.1	-1.7
CELP	Cerrillos	6.12	93	*e*Pn	Pn	18 41 57.9	-1.2
CBYP	Canovanas	6.79	91	*e*Pn	Pn	18 42 09.2	+0.9
SDV	Santo Domingo	9.81	166	*e*Pn	Pn	18 42 51.0	+1.0
BCIP	Isla Barro Col	11.39	216	P	Pn	18 43 09.6	-1.7
ROSC	El Rosal	13.60	186	*e*Pn	Pn	18 43 43.3	+1.3
ROSC				Sn	Sn	18 46 14.4	+0.6
ROSC	El Rosal	13.60	186	Pn	Pn	18 43 44.4	+2.4
	1.6nm,0.3s,baz=81,slow=9.9,SNR=7.0						
ROSC				Sn	Sn	18 46 14.4	+0.6
	2.0nm,0.3s,baz=270,slow=20,SNR=2.8						
ROSC				LR	LR	18 49 58.3	
	comp=Z,381nm,18.3s,baz=5.0,slow=42						
JTS	JuntasAbangare	14.14	236	Pn	Pn	18 43 49.9	+0.9
JTS	JuntasAbangare	14.14	236	Pn	Pn	18 43 49.9	+0.9
	baz=308,slow=19,SNR=1.9						
JTS				LR	LR	18 49 25.5	
	comp=Z,698nm,18.9s,baz=66,slow=38						
TEIG	Tepich	14.51	279	P	Pn	18 43 55.2	+1.1
TEIG				Sn	Sn	18 46 30.4	-5.0
TEIG	Tepich	14.51	279	Pn	Pn	18 43 55.2	+1.1
	2.2nm,0.3s,baz=29,slow=0.7,SNR=8.8						
TEIG				Sn	Sn	18 46 30.4	-5.0
	0.8nm,0.3s,baz=317,slow=19,SNR=4.1						
TEIG				LR	LR	18 49 05.3	
	comp=Z,339nm,21.1s,baz=126,slow=36						
TIGA	Tifton	16.06	325	⇑P	Pn	18 44 16.2	+1.6
	baz=16						
KMSC	Kings Mountain	18.17	338	⇓P	P	18 44 43.0	+1.7
	baz=18						
OTAV	Otavalo	18.90	197	*e*P	P	18 44 50.0	0.0
	25nm,1.0s						
TKL	Tuckaleechee C	19.59	333	P	Pn	18 44 59.3	+1.1
TKL	Tuckaleechee C	19.59	333	LR	LR	18 52 41.1	
	comp=Z,496nm,21.0s,baz=136,slow=38						
CPCT	Cooper Cave	19.74	331	*e*P	Pn	18 45 02.8	+2.7
WVT	Waverly	21.92	326	*e*P	P	18 45 21.5	-0.6
	30nm,1.1s						
PTGA	Pitinga	23.00	145	*e*P	P	18 45 33.7	-0.1
	19nm,1.1s						
PTGA	Pitinga	23.00	145	P	P	18 45 33.7	-0.1
	10.0nm,0.8s,baz=334,slow=12,SNR=9.9						
PTGA				LR	LR	18 55 03.6	
	comp=Z,244nm,19.2s,baz=344,slow=38						
ACSO	Alum Creek Sta	23.32	340	*e*P	P	18 45 40.1	+3.2
	20nm,0.9s						
HKT	Hockley	23.69	303	*e*P	P	18 45 41.5	+0.9
	68nm,1.7s						
035A	Encino	24.60	295	⇑P	P	18 45 49.7	+0.6
	baz=25						
536A	Bastrop	24.73	302	⇑P	P	18 45 51.5	+1.2
	baz=25						
835A	Beeville	24.74	298	⇑P	P	18 45 51.4	+1.0
	baz=25						
ACCN	Adirondack Com	24.83	359	P	P	18 45 52.2	+1.1
735A	Kenedy	24.90	299	⇑P	P	18 45 53.0	+1.1
	baz=25						
SFIN	Scholer Farm	24.97	334	⇓P	P	18 45 52.5	+0.2
	baz=25						
635A	Leesville	25.05	300	⇓P	P	18 45 53.8	+0.5
	baz=25						
535A	Dale	25.11	302	⇑P	P	18 45 54.0	+0.2
	baz=25						
934A	Benavides	25.13	296	⇓P	P	18 45 55.2	+1.3
	baz=25						
034A	Hebbronville	25.13	295	⇑P	P	18 45 54.6	+0.6
	baz=25						
834A	Tilden	25.30	297	⇑P	P	18 45 56.5	+1.0
	baz=25						
435B	Jarrell	25.41	303	⇑P	P	18 45 57.5	+1.0
	baz=25						
335A	Moody	25.49	305	⇑P	P	18 45 57.9	+0.7
	baz=26						
634A	China Grove, S	25.52	300	⇓P	P	18 45 57.6	+0.1
	baz=26						
933A	Laredo	25.78	295	⇑P	P	18 46 00.6	+0.7
	baz=26						
WHTX	Lake Whitney	25.81	306	*e*P	P	18 46 00.5	+0.4
	16nm,0.7s						
WHTX	Lake Whitney	25.81	306	⇑P	P	18 46 00.9	+0.8
	baz=26						
534A	Blanco	25.85	301	⇓P	P	18 46 01.2	+0.7
	baz=26						
434A	Burnet	25.97	303	⇑P	P	18 46 02.2	+0.6
	baz=26						
ATAH	Atahualpa	26.00	192	P	P	18 46 02.8	+0.4
ATAH	Atahualpa	26.00	192	P	P	18 46 02.8	+0.4
	5.7nm,0.9s,baz=36,slow=15,SNR=4.0						
ATAH				LR	LR	18 57 38.8	
	comp=Z,358nm,20.7s,baz=1.6,slow=40						
833A	Chaparral WMA,	26.07	297	⇑P	P	18 46 02.6	+0.1
	baz=26						
334A	Lometa	26.14	304	⇑P	P	18 46 03.5	+0.4
	baz=26,SNR=6.1						
633A	Saathoff Ranch	26.23	300	⇓P	P	18 46 03.9	0.0
	baz=26						
Z35A	Perchaven, San	26.26	309	⇓P	P	18 46 05.1	+1.0
	baz=26						
533A	Kerrville	26.32	301	⇓P	P	18 46 04.7	0.0
	baz=26						
234A	Clairette	26.34	306	⇓P	P	18 46 05.5	+0.6
	baz=26						
134A	White-Moore Ra	26.54	307	⇑P	P	18 46 06.9	+0.2
	baz=27						
832A	Faith Ranch, C	26.55	297	⇑P	P	18 46 07.0	+0.1
	baz=27,SNR=13						
TUL1	Tulsa	26.58	315	*e*P	P	18 46 07.5	+0.4
	34nm,0.9s						
TUL1	Tulsa	26.58	315	⇓P	P	18 46 07.7	+0.6
	baz=27						
433A	Art	26.60	302	⇓P	P	18 46 07.3	0.0
	baz=27,SNR=13						
SADO	Sadowa	26.71	350	LR	LR	18 55 55.9	
	comp=Z,534nm,21.6s,baz=174,slow=35						
333A	Richland Sprin	26.73	304	⇑P	P	18 46 08.9	+0.5
	baz=27,SNR=12						
632A	Uvalde	26.75	299	⇑P	P	18 46 08.7	0.0
	baz=27						
Z34A	Collier Ranch,	26.77	309	⇑P	P	18 46 10.0	+1.2
	baz=27						
Y34A	Reagan Ranch,	26.93	310	⇑P	P	18 46 10.8	+0.6
	baz=27						
233A	Rising Star	26.93	305	⇑P	P	18 46 10.7	+0.4
	baz=27						
532A	Rocksprings	27.05	300	⇑P	P	18 46 12.1	+0.7
	baz=27,SNR=10						
JCT	Junction City	27.08	301	*e*P	P	18 46 11.6	0.0
	42nm,1.4s						
JCT	Junction City	27.08	301	⇓P	P	18 46 11.6	0.0
	baz=27						
133A	Hamilton Ranch	27.19	306	⇑P	P	18 46 13.4	+0.9
	baz=27						
432A	Menard	27.21	302	⇑P	P	18 46 12.8	0.0
	baz=27						
X34A	Smith Ranch, M	27.30	311	⇓P	P	18 46 14.4	+0.9
	baz=27						
332A	Millersview	27.35	303	⇓P	P	18 46 14.2	+0.1
	baz=27						
Z33A	Whitaker Ranch	27.36	308	⇑P	P	18 46 14.7	+0.5
	baz=27						
631A	Perdido Creek	27.38	299	⇓P	P	18 46 14.0	-0.3
	baz=27						
232A	Coleman	27.47	304	⇑P	P	18 46 15.5	+0.4
	baz=28						
ABTX	Abilene, Hawle	27.75	306	⇑P	P	18 46 18.8	+1.1
	baz=28						
431A	Sonora	27.80	301	⇑P	P	18 46 19.0	+0.9
	baz=28,SNR=6.5						
331A	San Angelo	27.87	303	⇑P	P	18 46 19.3	+0.5
	baz=28						
Z32A	Haskell	27.91	307	⇑P	P	18 46 19.8	+0.8
	baz=28						
Y32A	R-V Farms, Ver	28.19	308	⇑P	P	18 46 21.9	+0.4
	baz=28						
530A	J-C Ranch, Com	28.23	300	⇓P	P	18 46 22.0	+0.1
	baz=28						
V33A	Lossen

X29A	Tulia	30.07	308	⇑P	P	18 46 39.0	+0.6	
	baz=30							
527A	Woodward Ranch	30.11	298	⇓P	P	18 46 39.2	+0.4	
	baz=30,SNR=7.8							
427A	Hayter Ranch,	30.14	300	⇑P	P	18 46 39.6	+0.6	
	baz=30,SNR=7.6							
Q32A	Meitler Ranch,	30.15	318	⇓P	P	18 46 39.1	+0.3	
	baz=30							
AMTX	Amarillo	30.24	308	⇑P	P	18 46 40.1	+0.3	
	baz=30							
R31A	Burdett	30.38	316	⇑P	P	18 46 41.7	+0.7	
	baz=30							
626A	Big Bend Ranch	30.40	297	⇓P	P	18 46 41.7	+0.4	
	baz=30							
526A	Mary Lane Ranc	30.49	298	⇓P	P	18 46 42.6	+0.4	
	baz=30,SNR=13							
426A	McDonald Obser	30.60	299	⇓P	P	18 46 44.0	+0.7	
	baz=31,SNR=12							
MSTX	Muleshoe	30.69	306	*e*P	P	18 46 43.8	0.0	
	3.9nm,0.6s							
MSTX	Muleshoe	30.69	306	⇑P	P	18 46 43.8	0.0	
	baz=31							
Q31A	Ellis	30.69	317	⇑P	P	18 46 44.3	+0.6	
	baz=31							
326A	Caldwell Ranch	30.75	301	⇓P	P	18 46 44.5	+0.1	
	baz=31							
Z27A	Tatum	30.79	305	⇓P	P	18 46 44.5	-0.2	
	baz=31							
R30A	Dighton	30.88	315	⇓P	P	18 46 45.6	+0.3	
	baz=31							
Y27A	Causey	30.96	306	⇑P	P	18 46 45.8	-0.4	
	baz=31							
126A	Clayton Basin,	31.20	303	⇑P	P	18 46 48.4	+0.1	
	baz=31							
U28A	Mallet	31.29	311	⇓P	P	18 46 49.3	+0.2	
	baz=31							
W27A	Bowe Ranch, En	31.34	308	⇓P	P	18 46 49.6	0.0	
	baz=31							
Z26A	Caprock	31.38	304	⇑P	P	18 46 49.5	-0.4	
	baz=31							
425A	Indio Mountain	31.43	299	⇑P	P	18 46 50.5	0.0	
	baz=32							
P30A	Selden	31.54	317	⇑P	P	18 46 51.8	+0.5	
	baz=32							
225A	Deer Hill, Car	31.67	302	⇑P	P	18 46 53.0	+0.4	
	baz=32,SNR=7.6							
125A	Gardner Draw,	31.71	303	⇓P	P	18 46 53.2	+0.4	
	baz=32							
X26A	CR and CF Fran	31.71	306	⇑P	P	18 46 53.5	+0.6	
	baz=32							
U27A	Thompson Grove	31.74	310	⇑P	P	18 46 54.4	+1.3	
	baz=32							
W26A	Owens Ranch, T	31.88	307	⇓P	P	18 46 55.7	+1.3	
	baz=32							
R28A	Tribune	31.94	314	⇓P	P	18 46 55.6	+0.8	
	baz=32							
Z25A	Roswell	31.96	304	⇓P	P	18 46 55.9	+0.9	
	baz=32,SNR=12							
MNTX	Cornudas Mount	32.01	301	*e*P	P	18 46 55.6	+0.3	
	32nm,1.5s							
V26A	Tequesquite Ra	32.18	309	⇑P	P	18 46 57.0	0.0	
	baz=32							
U26A	Atchley Ranch,	32.40	310	⇑P	P	18 46 59.5	+0.6	
	baz=32							
W25A	X Bar L Ranch,	32.46	307	⇓P	P	18 46 59.9	+0.5	
	baz=32							
Z24A	Sheeppen Canyo	32.49	303	⇓P	P	18 47 00.6	+0.8	
	baz=32,SNR=12							
T26A	Comanche Natio	32.63	311	⇑P	P	18 47 01.1	+0.1	
	baz=33							
Y24A	Capitan	32.74	304	⇑P	P	18 47 03.1	+1.2	
	baz=33,SNR=9.1							
S26A	Kim	32.74	312	⇑P	P	18 47 03.2	+1.3	
	baz=33							
V25A	Rancho No Teng	32.81	308	⇑P	P	18 47 04.0	+1.4	
	baz=33,SNR=12							
U25A	Circle Dot Ran	32.89	309	⇓P	P	18 47 03.9	+0.6	
	baz=33							
L29A	Maesberg Ranch	33.14	321	⇓P	P	18 47 07.3	+2.1	
	baz=33							
W24A	Lazy 6 Ranch,	33.17	307	⇑P	P	18 47 08.0	+2.2	
	baz=33,SNR=7.6							
T25A	Trinidad	33.20	310	⇓P	P	18 47 07.4	+1.4	
	baz=33							
Y23A	Lovelace Mesa,	33.23	304	⇑P	P	18 47 07.8	+1.6	
	baz=33,SNR=13							
V24A	Rampart Ranch,	33.26	308	⇑P	P	18 47 08.2	+1.6	
	baz=33							
Q26A	Hugo	33.39	314	⇑P	P	18 47 09.2	+1.7	
	baz=33							
S25A	Robets Cordova	33.45	311	⇓P	P	18 47 09.5	+1.4	
	baz=34							
X23A	Hourglass Bar	33.55	305	⇑P	P	18 47 10.2	+1.2	
	baz=34,SNR=11							
R25A	Fountain Ranch	33.55	312	⇓P	P	18 47 08.6	-0.4	
	baz=34							
W23A	Werner Place,	33.72	306	⇑P	P	18 47 11.9	+1.4	
	baz=34							
Z22A	Elephant Butte	33.74	303	⇑P	P	18 47 11.6	+0.9	
	baz=34,SNR=7.9							
BNM	Barren Site	33.75	304	*e*P	P	18 47 11.9	+1.1	
	19nm,1.1s							
LPM	Los Pinos Moun	33.80	305	*e*P	P	18 47 12.3	+1.0	
	17nm,0.9s							
T24B	San Luis	33.87	310	⇓P	P	18 47 13.1	+1.1	
	baz=34							
V23A	Ortiz Mt. (NFS	33.96	307	⇓P	P	18 47 13.3	+0.7	
	baz=34							
S24A	Houchin Ranch,	33.99	311	⇑P	P	18 47 12.7	-0.3	
	baz=34							
M27A	Reverse DX Ran	34.00	319	⇑P	P	18 47 12.9	+0.2	
	baz=34							
R24A	Sanders Place,	34.17	312	⇓P	P	18 47 15.2	+0.7	
	baz=34							
U23A	El Rito	34.18	308	⇑P	P	18 47 15.2	+0.6	
	baz=34							
121A	Cookes Peak, D	34.19	301	*e*P	P	18 47 16.0	+1.4	
	24nm,1.3s							
121A	Cookes Peak, D	34.19	301	⇑P	P	18 47 15.5	+0.8	
	baz=34							
LAZ	Ladron	34.23	304	*e*P	P	18 47 15.7	+0.7	
	14nm,1.3s							
V22A	San Miguel Ran	34.57	307	⇓P	P	18 47 18.9	+1.0	
	baz=35							
R23A	Moffat	34.67	311	⇓P	P	18 47 20.4	+1.6	
	baz=35							
U22A	Llaves	34.70	308	⇓P	P	18 47 20.8	+1.8	
	baz=35,SNR=7.3							
LPAZ	La Paz	34.88	172	P	P	18 47 20.6	-0.5	
LPAZ	La Paz	34.88	172	P	P	18 47 20.6	-0.5	
	1.2nm,0.8s,baz=359,slow=5.4,SNR=4.7							
K26A	Motz Farm, Whi	35.14	320	⇓P	P	18 47 24.6	+1.9	
	baz=35							
319A	Douglas	35.15	298	⇓P	P	18 47 24.4	+1.6	
	baz=35,SNR=8.1							
S22A	4UR Ranch, Cre	35.20	310	⇑P	P	18 47 24.1	+0.7	
	baz=35							
ISCO	Idaho Springs	35.23	314	⇑P	P	18 47 24.6	+0.9	
	baz=35							
P22A	Eagle	35.93	313	⇓P	P	18 47 31.7	+2.0	
	baz=36							
O22A	Kremmling	36.04	314	⇓P	P	18 47 32.4	+1.8	
	baz=36							
X18A	Snowflake	36.48	303	⇑P	P	18 47 35.6	+1.3	
	baz=36							
W18A	Petrified Fore	36.48	304	⇓P	P	18 47 34.9	+0.5	
	baz=36							
ULM	Lac du Bonnet	36.58	335	P	P	18 47 37.6	+2.9	
ULM	Lac du Bonnet	36.58	335	P	P	18 47 37.6	+2.9	
	4.0nm,0.9s,baz=134,slow=7.5,SNR=5.3							
ULM				LR	LR	19 03 42.8		
	comp=Z,180nm,18.4s,baz=246,slow=38							
SCHQ	Schefferville	36.59	6	P	P	18 47 32.0	-2.8	
SCHQ	Schefferville	36.59	6	P	P	18 47 32.0	-2.8	
	2.1nm,0.9s,baz=209,slow=19,SNR=2.5							
SCHQ				LR	LR	19 01 50.6		
	comp=Z,299nm,19.9s,baz=210,slow=35							
A29A	Manning Farm,	37.02	331	⇓P	P	18 47 39.9	+1.4	
	baz=37							
H24A	Dirks Ranch, A	37.12	322	⇓P	P	18 47 40.6	+1.1	
	baz=37							
J22A	Midwest	37.56	319	⇓P	P	18 47 43.5	+0.1	
	baz=38							
X16A	Lo Mia Camp, P	37.64	303	⇑P	P	18 47 45.3	+1.1	
	baz=38							
K21A	Alcova	37.66	317	⇑P	P	18 47 45.6	+1.3	
	baz=38,SNR=8.1							
I22A	9 Mile Ranch,	37.81	319	⇑P	P	18 47 46.7	+1.2	
	baz=38							
WUAZ	Wupatki	37.88	304	⇑P	P	18 47 46.8	+0.6	
	baz=38							
J21A	Lysite	38.14	318	⇓P	P	18 47 49.0	+0.7	
	baz=38							
214A	Organ Pipe Nat	38.21	298	⇓P	P	18 47 49.3	+0.4	
	baz=38							
I21A	Big Trails, Te	38.27	319	⇓P	P	18 47 49.6	+0.2	
	baz=38							
J20A	Shoshoni	38.55	318	⇑P	P	18 47 52.9	+1.2	
	baz=39							
J19A	Crowheart	39.13	317	⇑P	P	18 47 56.9	+0.3	
	baz=39							
PDAR	Pinedale Array	39.23	316	P	P	18 47 57.2	-0.3	
PDAR				PcP	PcP	18 50 05.9	-0.8	
PDAR	Pinedale Array	39.23	316	P	P	18 47 57.2	-0.3	
	1.1nm,1.0s,baz=101,slow=7.7,SNR=6.5							
PDAR				PcP	PcP	18 50 05.9	-0.8	
	0.8nm,0.8s,baz=119,slow=5.2,SNR=3.6							
PDAR				LR	LR	19 05 25.2		
	comp=Z,340nm,19.4s,baz=118,slow=38							
I19A	Meeteetse	39.45	318	⇓P	P	18 47 59.6	+0.3	
	baz=40							
H19A	Powell	39.76	319	⇓P	P	18 48 02.0	+0.2	
	baz=40							
W13A	Hualapai Mount	39.76	303	⇓P	P	18 48 03.2	+1.2	
	baz=40							
PDMCI	Parker Dam,Lak	39.78	302	⇑P	P	18 48 02.9	+1.0	
	baz=40							
Y12C	Blythe	39.97	301	⇑P	P	18 48 03.7	+0.1	
	baz=40							
CCUT	Cedar City	40.00	307	*e*P	P	18 48 04.6	+0.6	
	6.4nm,1.3s							
E20A	Meyer Farm, Mu	40.18	322	⇑P	P	18 48 06.4	+1.2	
	baz=40							
H18A	Shoshone NF, C	40.18	319	⇓P	P	18 48 06.4	+0.9	
	baz=40							
F19A	Roth Farm, Mol	40.32	321	⇓P	P	18 48 07.3	+0.9	
	baz=40							
I17A	Pilgrim Ck.	40.41	317	⇑P	P	18 48 08.4	+1.1	
	baz=40							
DUG	Dugway	40.44	311	⇑P	P	18 48 08.1	+0.5	
	baz=40							
E19A	Rath Farm, Rou	40.54	322	⇑P	P	18 48 08.7	+0.5	
	baz=41							
IRM	Iron Mountain	40.57	301	⇓P	P	18 48 09.4	+0.9	
	baz=41,SNR=12							
BC3	Big Chuckawall	40.72	300	⇓P	P	18 48 09.3	-0.5	
	baz=41							
LVC	Limon Verde	41.04	174	*i* Pn	P	18 48 15.6	+3.0	
SHPR	Sheep Range	41.10	305	*e*P	P	18 48 14.3	+1.2	
	13nm,1.2s							
GMRC	Granite Mounta	41.11	302	⇓P	P	18 48 14.0	+0.9	
	baz=41							
BELC	Belle Mtn. Jos	41.23	301	⇑P	P	18 48 14.1	0.0	
	baz=41							
QLMT	Earthquake Lak	41.37	318	P	P	18 48 15.6	+0.4	
	0.7nm,0.8s							
MONP	Monument Peak	41.38	299	⇓P	P	18 48 16.2	+0.7	
	baz=41							
TUQ	Turquoise Moun	41.46	303	⇑P	P	18 48 16.5	+0.6	
	baz=42,SNR=7.4							
HEC	Hector,Ludlow	41.66	302	⇑P	P	18 48 18.7	+1.2	
	baz=42							
A19A	Klindworth Far	41.85	325	⇓P	P	18 48 19.4	+0.5	
	baz=42							
BDFB	Brasilia	41.90	142	P	P	18 48 19.5	-0.2	
BDFB	Brasilia	41.90	142	P	P	18 48 19.5	-0.2	
	7.7nm,0.9s,baz=306,slow=8.5,SNR=7.3							
BDFB				LR	LR	19 06 30.1		
	comp=Z,306nm,18.2s,baz=314,slow=37							
R11A	Troy Canyon, C	41.91	307	⇓P	P	18 48 20.3	+0.5	
	baz=42,SNR=5.0							
EGMT	Eagleton	41.92	323	⇓P	P	18 48 20.3	+0.8	
	baz=42							
MURC	Murrieta	42.14	300	⇑P	P	18 48 22.4	+0.9	
	baz=42							
MCMT	McKenzie Canyo	42.27	317	*e*P	P	18 48 23.1	+0.4	
	6.8nm,1.3s							
FURC	Furnace Creek,	42.42	304	⇑P	P	18 48 25.0	+1.4	
	baz=42							
HLID	Hailey	42.79	315	⇑P	P	18 48 27.6	+0.8	
	baz=43							
MPMC	Manual Prospec	42.83	303	⇑P	P	18 48 27.2	-0.1	
	baz=43							
LRMC	Laurel Mountai	42.88	302	⇑P	P	18 48 27.6	0.0	
	baz=43							
GRAC	Grapevine Rang	42.94	305	⇑P	P	18 48 28.8	+0.8	
	baz=43							
EDW2	Edwards Air Fo	43.01	302	⇑P	P	18 48 29.1	+0.6	
	baz=43							
CWC	Cottonwood Cre	43.38	304	⇑P	P	18 48 32.8	+1.1	
	baz=43							
NVAR	Mina Array Bea	44.00	307	P	P	18 48 37.2	+0.5	
NVAR	Mina Array Bea	44.00	307	P	P	18 48 37.2	+0.5	
	1.4nm,0.8s,baz=109,slow=5.6,SNR=8.4							
VES	Vestal, Richgr	44.06	303	⇑P	P	18 48 37.4	+0.4	
	baz=44							
FRB	Frobisher Bay	45.33	3	P	P	18 48 46.5	-0.1	
FRB	Frobisher Bay	45.33	3	P	P	18 48 46.5	-0.1	
	3.0nm,0.5s,baz=186,slow=9.0,SNR=4.4							
NEW	Newport	46.39	320	P	P	18 48 54.9	-0.4	
NEW	Newport	46.39	320	P	P	18 48 54.9	-0.4	
	0.9nm,0.5s,baz=153,slow=6.8,SNR=2.0							
CPUP	Villa Florida	47.08	161	LR	LR	19 10 03.2		
	comp=Z,299nm,20.1s,baz=324,slow=38							
CFAA	Coronel Fontan	50.01	175	P	P	18 49 23.0	-0.4	
CFAA	Coronel Fontan	50.01	175	P	P	18 49 23.0	-0.4	
	0.4nm,0.6s,baz=340,slow=7.8,SNR=8.3							
YKA	Yellowknife Ar	52.51	337	P	P	18 49 41.3	-0.4	
YKA	Yellowknife Ar	52.51	337	P	P	18 49 41.3	-0.4	
	3.0nm,0.9s,baz=123,slow=7.5,SNR=22							
SUMG	Summit	57.59	12	*i* P	P	18 50 20.6	+1.8	
	9.6nm,1.0s							
SUMG	Summit	57.59	12	P	P	18 50 17.8	-1.0	
	18nm,1.1s							
PLCA	Paso Flores	58.95	178	P	P	18 50 27.9	-0.4	
PLCA	Paso Flores	58.95	178	P	P	18 50 27.9	-0.4	
	2.3nm,0.5s,baz=346,slow=7.3,SNR=7.8							
PLCA				LR	LR	19 17 42.9		
	comp=Z,64nm,21.3s,baz=251,slow=38							
INK	Inuvik	62.21	339	P	P	18 50 49.2	-0.9	
INK	Inuvik	62.21	339	P	P	18 50 49.2	-0.9	
	0.5nm,0.5s,baz=179,slow=2.1,SNR=3.9							
INK				LR	LR	19 17 42.9		
	comp=Z,313nm,20.5s,baz=118,slow=36							
ESDC	Sonseca Array	62.46	54	P	P	18 50 52.5	+0.1	
ESDC	Sonseca Array	62.46	54	P	P	18 50 52.5	+0.1	
	1.7nm,0.8s,baz=273,slow=6.7,SNR=8.7							
ESDC				LR	LR	19 15 09.0		
	comp=Z,164nm,18.6s,baz=280,slow=33							
ILAR	Eielson Array	66.57	333	P	P	18 51 17.6	-1.2	
ILAR	Eielson Array	66.57	333	P	P	18 51 17.6	-1.2	
	1.1nm,1.0s,baz=100,slow=4.4,SNR=9.6							
ILAR				LR	LR	19 22 12.1		
	comp=Z,151nm,19.4s,baz=110,slow=38							
DBIC	Dimbokro	67.22	90	LR	LR	19 17 48.1		
	comp=Z,17nm,19.1s,baz=260,slow=33							
IM04	Indian Mountai	69.53	334	*e*P	P	18 51 36.7	-0.7	
NB2	NORSAR Subarra	71.23	31	P	P	18 51 49.0	+1.1	
	comp=Z,20nm,1.7s,baz=274,slow=6.2							
NOA	NORSAR Array B	71.23	31	P	P	18 51 45.6	-2.3	
NOA	NORSAR Array B	71.23	31	P	P	18 51 45.6	-2.3	
	comp=Z,2.3nm,1.0s,baz=274,slow=6.5,SNR=3.2							
NOA				LR	LR	19 18 22.4		
	comp=Z,105nm,21.6s,baz=255,slow=32							
TORD	Torodi Ar. Bea	71.63	82	P	P	18 51 49.7	-1.4	
TORD	Torodi Ar. Bea	71.63	82	P	P	18 51 49.7	-1.4	
	comp=Z,1.5nm,0.9s,baz=308,slow=3.8,SNR=6.3							
TORD				LR	LR	19 21 24.9		
	comp=Z,45nm,20.2s,baz=250,slow=34							
RKT	Rikitea	73.28	238	*e*LR	LR	19 14 34.0		
	comp=Z,173nm,38.0s							
KEST	Kesa	73.39	57	P	P	18 52 01.5	+0.2	
KEST	Kesra	73.39	57	P	P	18 52 01.5	+0.2	
	comp=Z,2.7nm,1.0s,baz=207,slow=4.3,SNR=3.5							
KEST				LR	LR	19 19 42.6		
	comp=Z,24nm,21.8s,baz=246,slow=32							
KHC	Kasperske Hory	74.06	43	*e*P	P	18 52 05.4	+0.4	
KHC				*e*pP	pP	18 52 09.6	+2.7	
GERES	GERESS Array B	74.19	43	P	P	18 52 06.0	+0.2	
GERES	GERESS Array B	74.19	43	P	P	18 52 06.0	+0.2	
	comp=Z,2.1nm,0.8s,baz=270,slow=4.0,SNR=17							
GERES				LR	LR	19 19 29.7		
	comp=Z,257nm,21.6s,baz=264,slow=32							
PRU	Pruhonice	74.52	42	*e*P	P	18 52 08.6	+1.0	
TREC	Trest	75.26	43	*e*P	P	18 52 11.8	-0.1	
UPC	Upice	75.35	41	*e*P	P	18 52 11.5	-0.9	
DPC	Dobruska-Polom	75.58	41	*e*P	P	18 52 14.2	+0.4	
ARCES	ARCESS Array B	75.79	21	P	P	18 52 14.1	-0.5	
ARCES	ARCESS Array B	75.79	21	P	P	18 52 14.1	-0.5	
	comp=Z,2.3nm,0.7s,baz=282,slow=6.1,SNR=6.1							
ARCES				LR	LR	19 20 26.8		
	comp=Z,158nm,21.9s,baz=239,slow=32							
KRLC	Kraliky	75.92	42	*e*P	P	18 52 12.9	-2.8	
KRLC				*e*pP	pP	18 52 17.1	-0.6	
MORC	Moravsky Berou	76.47	42	*e*P	P	18 52 19.6	+0.8	
	comp=Z,4.7nm,1.0s							
OKC	Ostrava-Krasne	76.84	42	*e*P	P	18 52 21.1	+0.3	
FINES	FINESS Array B	78.21	29	P	P	18 52 28.3	0.0	
FINES	FINESS Array B	78.21	29	P	P	18 52 28.3	0.0	
	comp=Z,2.7nm,0.9s,baz=358,slow=5.7,SNR=5.1							
FINES				LR	LR	19 22 42.5		
	comp=Z,126nm,21.2s,baz=257,slow=32							
KWP	Kalwaria Pacla	79.75	41	*e*P	P	18 52 38.1	+1.1	
	comp=Z,21nm,1.3s							
PPT	Papeete	83.35	249	LR	LR	19 23 15.5		
	comp=Z,45nm,18.5s,baz=52,slow=31							
PPT2	Papeete2	83.36	249	*e*LR	LR	19 19 13.5		
	comp=Z,261nm,29.0s							
AKASG	Malin Array Be	83.38	39	P	P	18 52 55.9	-0.3	
AKASG	Malin Array Be	83.38	39	P	P	18 52 55.9	-0.3	
	comp=Z,1.3nm,0.7s,baz=290,slow=4.4,SNR=5.1							
AKASG				LR	LR	19 26 22.4		
	comp=Z,181nm,20.7s,baz=275,slow=33							
BILL	Bilibino	83.71	341	*e*P	P	18 52 57.5	0.0	
	comp=Z,21nm,1.4s							
TBI	Tubuai	85.40	244	*e*LR	LR	19 20 10.7		
	comp=Z,170nm,25.5s							
BRTR	Keskin Array B	90.52	48	P	P	18 53 31.7	+0.3	
BRTR	Keskin Array B	90.52	48	P	P	18 53 31.7	+0.3	
	comp=Z,2.8nm,0.9s,baz=336,slow=2.7,SNR=6.1							
BRTR				LR	LR	19 31 24.2		
	comp=Z,37nm,20.3s,baz=320,slow=34							
KBZ	Khabaz	94.79	41	LR	LR	19 33 05.1		
	comp=Z,125nm,21.1s,baz=274,slow=33							
PETK	Petropavlovsk-	96.37	332	LR	LR	19 40 40.4		
	comp=Z,34nm,19.8s,baz=64,slow=38							
CMAR	Chiang Mai Arr	142.45	13	PKPpre	PKPpre	18 59 58.2		
CMAR	Chiang Mai Arr	142.45	13	PKhKP	PKPpre	18 59 58.2		
	comp=Z,0.2nm,0.3s,baz=309,slow=4.5,SNR=3.6							
STKA	Stephens Creek	146.12	240	PKPbc	PKPdf	19 00 08.4	-0.3	
STKA	Stephens Creek	146.12	240	PKPbc	PKPdf	19 00 08.4	-0.3	
	comp=Z,3.4nm,1.1s,baz=141,slow=6.1,SNR=3.8							
WRA	Warramunga Arr	154.14	262	PKP	PKPdf	19 00 21.1	-0.5	
WRA				PKPbc	PKPbc	19 00 27.8	-2.0	
WRA				PKPab	PKPab	19 00 44.5	+1.0	
WRA	Warramunga Arr	154.14	262	PKP	PKPdf	19 00 21.1	-0.5	
	comp=Z,0.9nm,0.9s,baz=49,slow=0.9,SNR=5.1							
WRA				PKPbc	PKPbc	19 00 27.8	-2.0	
	comp=Z,2.5nm,1.0s,baz=88,slow=2.9,SNR=10							
WRA				PKPab	PKPab	19 00 44.5	+1.0	
	comp=Z,1.7nm,0.8s,baz=89,slow=2.9,SNR=6.3							
ASAR	Alice Springs	154.38	254	PKP	PKPdf	19 00 21.0	-0.9	
ASAR				PKPbc	PKPbc	19 00 29.2	-1.0	
ASAR				PKPab	PKPab	19 00 44.5	+0.1	
ASAR	Alice Springs	154.38	254	PKP	PKPdf	19 00 21.0	-0.9	
	comp=Z,0.4nm,0.7s,baz=100,slow=1.7,SNR=3.1							
ASAR				PKPbc	PKPbc	19 00 29.2	-1.0	
	comp=Z,0.7nm,0.9s,baz=98,slow=2.0,SNR=5.1							
ASAR				PKPab	PKPab	19 00 44.5	+0.1	
	comp=Z,2.4nm,1.0s,baz=101,slow=3.6,SNR=7.7							

IDC ***25*** *18:46:49.0±4.3,6°.79S×127°.59E,h366km±49km, mb3.4/9, mb1 3.4/11,mb1mx3.4/19,mbtmp4.1/11, Error ellipse: s-maj=30.6km s-min=12.4km az=71.0*

ISCJB ***25*** *18:46:50.4±0.4,6°.86S±0°.06×127°.61E±0°.07,h408km, mb3.5/10, Error ellipse: s-maj=9.7km s-min=6.7km az=152.0*

ISC 25 18:46:52.2±0.6,6°.88S±0°.07×127°.58E±0°.09,h408km,n24, σ1°37/22,mb3.5/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	4.34	229	P	P	18 48 03.5	-4.5
	baz=4.6,SNR=107						
FAKI	Fak Fak	6.10	50	P	P	18 48 18.8	-7.2
	baz=5.9,SNR=15						
FAKI				S	S	18 49 27.2	-16
	baz=5.9,SNR=12						
MTN	Manton Dam	6.88	150	P	P	18 48 31.6	-3.6
	baz=7.1,SNR=23						
KDU	Kakadu	7.52	140	P	P	18 48 39.0	-3.2
	baz=7.7,SNR=11						
WSI	Waingapu	7.72	248	P	P	18 48 39.5	-4.9
	baz=7.8,SNR=6.3						
WSI				S	S	18 50 06.6	-9.1
	baz=7.8,SNR=3.7						
KNRA	Kununurra	8.82	173	P	P	18 48 54.7	-1.7
	baz=9.1,SNR=7.4						
JAGI	Jajag, Banyuwa	13.40	262	P	P	18 49 47.7	+0.6
	baz=14,SNR=3.8						
JAGI				S	S	18 52 09.8	-2.0
	baz=14,SNR=4.0						
WRA	Warramunga Arr	14.55	154	P	P	18 49 58.5	-1.1
	0.3nm,0.3s,baz=330,slow=11,SNR=95						
WRA				S	S	18 52 33.5	-1.1
	0.1nm,0.3s,baz=326,slow=19,SNR=4.0						
COEN	Coen	16.87	116	P	P	18 50 23.9	-0.7
	baz=17,SNR=8.6						
ASAR	Alice Springs	17.76	161	P	P	18 50 33.9	0.0
	0.6nm,0.3s,baz=348,slow=13,SNR=40						
ASAR				S	S	18 53

1.0nm,0.3s,baz=90,slow=19,SNR=2.3
JTS JuntasAbangare 14.12 237 *e*P **Pn 18 53 39.1 -0.1**
JTS JuntasAbangare 14.12 237 Pn **Pn 18 53 41.3 +2.2**
0.3nm,0.3s,baz=297,slow=16,SNR=1.8
JTS LR LR 18 58 44.7
comp=Z,90nm,18.1s,baz=70,slow=36
TEIG Tepich 14.56 280 *e*P **Pn 18 53 46.7 +1.6**
TEIG Tepich 14.56 280 Pn **Pn 18 53 46.8 +1.6**
0.5nm,0.3s,baz=80,slow=7,3,SNR=2.5
OTAV Otavalo 18.82 197 *e*P **Pn 18 54 41.0 +1.0**
7.0nm,0.9s
TXAR Lajitas Array 30.03 297 P **P 18 56 27.5 -0.9**
TXAR PcP **PcP 18 59 31.0 +0.4**
TXAR Lajitas Array 30.03 297 P **P 18 56 27.5 -0.9**
0.4nm,0.8s,baz=172,slow=3.8,SNR=4.0
TXAR PcP **PcP 18 59 31.0 +0.4**
0.2nm,0.7s,baz=134,slow=3.9,SNR=2.2
BNM Barren Site 33.83 304 *e*P **P 18 57 02.6 +0.6**
5.5nm,1.1s
LPM Los Pinos Moun 33.89 305 *e*P **P 18 57 03.3 +0.9**
5.0nm,0.7s
SCHQ Schefferville 36.68 6 P **P 18 57 25.1 -0.8**
SCHQ Schefferville 36.68 6 P **P 18 57 25.1 -0.8**
3.3nm,0.7s,baz=227,slow=6.9,SNR=5.7
ULM Lac du Bonnet 36.69 335 P **P 18 57 27.7 +1.7**
ULM Lac du Bonnet 36.69 335 P **P 18 57 27.7 +1.7**
2.8nm,0.9s,baz=132,slow=9.1,SNR=3.0
PDAR Pinedale Array 39.32 316 P **P 18 57 49.5 +0.7**
PDAR Pinedale Array 39.32 316 P **P 18 57 49.5 +0.7**
0.4nm,0.5s,baz=111,slow=9.4,SNR=5.0
NVAR Mina Array Bea 44.08 307 P **P 18 58 27.2 -0.5**
NVAR Mina Array Bea 44.08 307 P **P 18 58 27.2 -0.5**
0.2nm,0.3s,baz=86,slow=12,SNR=2.9
YKA Yellowknife Ar 52.61 337 P **P 18 59 32.0 -0.9**
YKA Yellowknife Ar 52.61 337 P **P 18 59 32.0 -0.9**
1.4nm,0.9s,baz=126,slow=7.2,SNR=9.3
RES Resolute Bay 57.57 353 *e*P **P 19 00 07.8 -0.7**
2.2nm,1.0s
RES Resolute Bay 57.57 353 P **P 19 00 09.7 +1.2**
1.9nm,0.9s,baz=180,slow=11,SNR=5.7
ESDC Sonseca Array 62.49 54 P **P 19 00 42.8 -0.3**
ESDC Sonseca Array 62.49 54 P **P 19 00 42.8 -0.3**
1.4nm,0.8s,baz=280,slow=6.1,SNR=5.6
TORD Torodi Ar. Bea 71.61 82 P **P 19 01 40.0 -1.4**
TORD Torodi Ar. Bea 71.61 82 P **P 19 01 40.0 -1.4**
1.3nm,0.9s,baz=289,slow=5.2,SNR=6.2
GERES GERESS Array B 74.23 43 P **P 19 01 55.9 -0.6**
GERES GERESS Array B 74.23 43 P **P 19 01 55.9 -0.6**
1.4nm,0.8s,baz=268,slow=4.9,SNR=13
ARCES ARCESS Array B 75.86 21 P **P 19 02 06.8 +1.4**
ARCES ARCESS Array B 75.86 21 P **P 19 02 06.8 +1.4**
1.9nm,0.6s,baz=298,slow=3.4,SNR=6.6
FINES FINESS Array B 78.28 29 P **P 19 02 19.5 +0.5**
FINES FINESS Array B 78.28 29 P **P 19 02 19.5 +0.5**
1.5nm,0.8s,baz=317,slow=8.0,SNR=3.3
SKO Skopje 81.12 49 *e*P **P 19 02 35.3 +0.4**
BIA Bitola 81.31 50 *e*P **P 19 02 37.1 +1.1**
VAY Valandovo 82.12 49 *e*P P 19 02 32.1 -8.1
AKASG Malin Array Be 83.43 39 P **P 19 02 46.8 -0.1**
AKASG Malin Array Be 83.43 39 P **P 19 02 46.8 -0.1**
0.5nm,0.6s,baz=288,slow=4.2,SNR=3.7
BRTR Keskin Array B 90.56 48 P **P 19 03 22.1 +0.1**
BRTR Keskin Array B 90.56 48 P **P 19 03 22.1 +0.1**
1.0nm,0.9s,baz=248,slow=5.2,SNR=3.6
WRA Warramunga Arr 154.16 262 PKPbc **PKPbc 19 10 18.9 -1.3**
WRA Warramunga Arr 154.16 262 PKPbc **PKPbc 19 10 18.9 -1.3**
0.6nm,0.8s,baz=98,slow=2.0,SNR=5.2
ASAR Alice Springs 154.39 254 PKPab **PKPab 19 10 34.6 -0.3**
ASAR Alice Springs 154.39 254 PKPab **PKPab 19 10 34.6 -0.3**
0.2nm,0.5s,baz=144,slow=4.5,SNR=4.3

*IDC **25** 19:02:45.7±1.1,46°.41S×165°.70E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/14, Error ellipse: s-maj=40.6km s-min=30.3km az=65.0*
*ISCJB **25** 19:02:46.2±0.6,46°.28S±0°.07×165°.80E±0°.05, h12km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=10.2km s-min=5.1km az=5.4*
*WEL **25** 19:02:47.6±0.5,46°.38S×165°.81E, h12km, ML4.5/13, Error ellipse: s-maj=4.8km s-min=3.0km az=90.0*
*NEIC **25** 19:02:49.4,46°.39S×165°.74E, h33km, ML4.6(WEL), After WEL.*

ISC 25 19:02:47.6±0.6, 46°.24S±0°.07×165°.87E±0°.05, h12km, n60, σ1s17/63, mb3.4/3,1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PYZ	**Puysegur Point**	**0.57**	**83**	P*		**Pb**	**19 02 59.8**	**+0.4**
PYZ				S*		**Sb**	**19 03 08.5**	**+1.0**
DCZ	**Deep Cove**	**1.18**	**50**	PN		**Pn**	**19 03 08.5**	**-1.4**
DCZ				AML	AML		19 03 25.7	
DCZ				AML	AML		19 03 25.7	
DCZ				AML	AML		19 03 28.0	
DCZ				AML	AML		19 03 28.0	
DCZ	**Deep Cove**	**1.18**	**50**	Pn		**Pn**	**19 03 08.3**	**-1.6**
WHZ	**Wether Hill Ro**	**1.49**	**77**	PN		**Pn**	**19 03 14.2**	**+0.1**
WHZ				SN		**Sb**	**19 03 34.6**	**+0.6**
WHZ				AML	AML		19 03 35.3	
WHZ	**Wether Hill Ro**	**1.49**	**77**	Pn		**Pn**	**19 03 14.2**	**+0.1**
APZ	**The Paps**	**1.58**	**113**	PN		**Pn**	**19 03 14.6**	**-0.8**
APZ				SN		**Sn**	**19 03 34.5**	**-1.3**
APZ				AML	AML		19 03 45.9	
APZ	**The Paps**	**1.58**	**113**	Pn		**Pn**	**19 03 14.7**	**-0.8**
MLZ	**Mavora Lakes**	**1.84**	**62**	PN		**Pn**	**19 03 19.5**	**+0.5**
MLZ				AML	AML		19 03 57.6	
MLZ				AML	AML		19 04 00.6	
MLZ	**Mavora Lakes**	**1.84**	**62**	Pn		**Pn**	**19 03 19.6**	**+0.6**
SYZ	**Scrubby Hill**	**2.28**	**99**	PN		**Pn**	**19 03 25.0**	**0.0**
SYZ				SN		**Sn**	**19 03 54.4**	**+1.3**
SYZ				AML	AML		19 03 57.4	
SYZ				AML	AML		19 03 57.4	
SYZ				AML	AML		19 04 10.1	
SYZ	**Scrubby Hill**	**2.28**	**99**	Pn		**Pn**	**19 03 25.1**	**0.0**
SYZ				Sn		**Sn**	**19 03 54.4**	**+1.3**
EAZ	**Earnscleugh**	**2.61**	**69**	⇑PN		**Pn**	**19 03 31.0**	**+1.4**
EAZ				AML	AML		19 04 10.7	
EAZ				AML	AML		19 04 16.2	
EAZ				AML	AML		19 04 17.5	
EAZ				AML	AML		19 04 17.5	
EAZ	**Earnscleugh**	**2.61**	**69**	Pn		**Pn**	**19 03 31.0**	**+1.4**
EAZ				Sn		**Sn**	**19 03 58.0**	**-3.1**
WKZ	**Wanaka**	**2.62**	**59**	PN		**Pn**	**19 03 31.4**	**+1.7**
WKZ				AML	AML		19 04 17.2	
WKZ				AML	AML		19 04 21.5	
WKZ	**Wanaka**	**2.62**	**59**	Pn		**Pn**	**19 03 31.6**	**+1.8**
TUZ	**Tuapeka**	**2.63**	**85**	PN		**Pn**	**19 03 30.7**	**+0.8**
TUZ				AML	AML		19 04 09.1	
TUZ				AML	AML		19 04 10.6	
TUZ	**Tuapeka**	**2.63**	**85**	Pn		**Pn**	**19 03 30.7**	**+0.8**
JCZ	**Jackson Bay**	**2.98**	**44**	PN		**Pn**	**19 03 35.4**	**+0.7**
JCZ				AML	AML		19 04 31.1	
JCZ				AML	AML		19 04 37.2	
JCZ	**Jackson Bay**	**2.98**	**44**	Pn		**Pn**	**19 03 35.7**	**+1.0**
HHSZ	**Highcliff Hill**	**3.31**	**86**	PN		**Pn**	**19 03 39.4**	**+0.2**
ODZ	**Otahua Downs**	**3.55**	**72**	PN		**Pn**	**19 03 42.0**	**-0.5**
ODZ	**Otahua Downs**	**3.55**	**72**	Pn		**Pn**	**19 03 42.0**	**-0.5**
LBZ	**Lake Benmore**	**3.56**	**60**	PN		**Pn**	**19 03 42.9**	**+0.2**
LBZ				AML	AML		19 04 30.4	
LBZ				AML	AML		19 04 30.9	
LBZ	**Lake Benmore**	**3.56**	**60**	Pn		**Pn**	**19 03 42.9**	**+0.2**
FOZ	**Fox Glacier**	**3.81**	**47**	PN		**Pn**	**19 03 47.7**	**+1.6**
FOZ				AML	AML		19 05 01.1	
FOZ				AML	AML		19 05 01.1	
FOZ	**Fox Glacier**	**3.81**	**47**	Pn		**Pn**	**19 03 48.3**	**+2.2**
RPZ	**Rata Peaks**	**4.46**	**57**	PN		**Pn**	**19 03 54.5**	**-0.5**
RPZ				AML	AML		19 05 04.9	
RPZ				AML	AML		19 05 09.0	
RPZ	**Rata Peaks**	**4.46**	**57**	Pn		**Pn**	**19 03 54.5**	**-0.5**
OXZ	**Oxford**	**5.27**	**59**	PN		**Pn**	**19 04 04.9**	**-1.2**
LTZ	**Lake Taylor**	**5.73**	**55**	PN		**Pn**	**19 04 11.7**	**-0.9**
LTZ				AML	AML		19 05 30.7	
LTZ				AML	AML		19 06 43.6	
LTZ	**Lake Taylor**	**5.73**	**55**	Pn		**Pn**	**19 04 11.7**	**-0.9**
QRZ	**Quartz Range**	**7.26**	**44**	PN		**Pn**	**19 04 32.8**	**-0.6**
QRZ	**Quartz Range**	**7.26**	**44**	Pn		**Pn**	**19 04 33.4**	**0.0**
URZ	**Urewera**	**11.52**	**50**	PN		**Pn**	**19 05 34.5**	**+2.7**
URZ				Sn		**Sn**	**19 07 39.0**	**-1.4**
URZ	**Urewera**	**11.52**	**50**	Pn		**Pn**	**19 05 34.5**	**+2.7**
0.8nm,0.3s,baz=252,slow=6.4,SNR=4.6								
URZ				Sn		**Sn**	**19 07 39.0**	**-1.4**
0.3nm,0.3s,baz=248,slow=19,SNR=2.1								
URZ				LR		LR	19 10 10.9	
comp=Z,169nm,20.1s,baz=225,slow=38								
MOO	**Moorlands**	**13.90**	**279**	P		**Pn**	**19 06 06.5**	**+2.2**
baz=14,SNR=4.2								
TOO	**Toolangi**	**17.43**	**293**	P		**P**	**19 06 51.6**	**-0.2**
baz=17,SNR=6.5								
VNDA	**Vanda**	**31.43**	**182**	P		**P**	**19 09 06.8**	**-1.4**
VNDA	**Vanda**	**31.43**	**182**	P		**P**	**19 09 06.8**	**-1.4**
2.4nm,0.9s,baz=22,slow=5.4,SNR=4.8								
ASAR	**Alice Springs**	**34.19**	**300**	P		**P**	**19 09 33.2**	**+0.3**
ASAR	**Alice Springs**	**34.19**	**300**	P		**P**	**19 09 33.2**	**+0.3**
0.4nm,0.8s,baz=136,slow=9.3,SNR=3.5								
WRA	**Warramunga Arr**	**36.81**	**305**	P		**P**	**19 09 55.4**	**-0.1**
WRA	**Warramunga Arr**	**36.81**	**305**	P		**P**	**19 09 55.4**	**-0.1**
0.5nm,0.8s,baz=141,slow=8.2,SNR=4.3								
HNR	**Honiara**	**37.03**	**350**	LR		LR	19 23 27.2	
comp=Z,47nm,21.2s,baz=236,slow=33								
H01W1	**Cape Leeuwin H**	**40.23**	**267**	T		T	19 53 09.0	
baz=122,slow=75,SNR=86								
H01W2	**Cape Leeuwin H**	**40.24**	**267**	T		T	19 53 09.6	
baz=122,slow=75,SNR=60								
H01W3	**Cape Leeuwin H**	**40.24**	**267**	T		T	19 53 10.4	
baz=122,slow=75,SNR=89								
H08S2	**Diego Garcia H**	**86.87**	**262**	T		T	20 51 16.7	
baz=136,slow=76,SNR=62								
H08S1	**Diego Garcia H**	**86.88**	**262**	T		T	20 51 22.9	
baz=136,slow=76,SNR=23								
H08S3	**Diego Garcia H**	**86.89**	**262**	T		T	20 51 23.3	
baz=136,slow=76,SNR=55								
TORD	**Torodi Ar. Bea**	**144.41**	**207**	PKP		PKPbc	19 22 22.5	+0.2
TORD	**Torodi Ar. Bea**	**144.41**	**207**	PKP		PKPbc	19 22 22.5	+0.2
0.4nm,0.5s,baz=153,slow=2.3,SNR=5.4								
BRTR	**Keskin Array B**	**144.89**	**277**	PKP		**PKPdf**	**19 22 23.8**	**-0.5**
BRTR	**Keskin Array B**	**144.89**	**277**	PKP		**PKPdf**	**19 22 23.8**	**-0.5**
0.7nm,0.8s,baz=123,slow=5.3,SNR=2.7								
ARCES	**ARCESS Array B**	**149.53**	**334**	PKPbc		**PKPbc**	**19 22 36.1**	**+0.7**
ARCES	**ARCESS Array B**	**149.53**	**334**	PKPbc		**PKPbc**	**19 22 36.1**	**+0.7**
2.9nm,0.8s,baz=90,slow=2.9,SNR=3.5								
AKASG	**Malin Array Be**	**151.23**	**295**	PKPbc		**PKPbc**	**19 22 40.0**	**+0.1**
AKASG				PKPab		**PKPab**	**19 22 47.2**	**-0.8**
AKASG	**Malin Array Be**	**151.23**	**295**	PKPbc		**PKPbc**	**19 22 40.0**	**+0.1**
0.4nm,0.5s,baz=81,slow=2.2,SNR=6.2								
AKASG				PKPab		**PKPab**	**19 22 47.2**	**-0.8**
0.7nm,0.6s,baz=86,slow=2.6,SNR=6.8								
FINES	**FINESS Array B**	**152.38**	**318**	PKPbc		**PKPbc**	**19 22 42.1**	**-0.1**
FINES				PKPab		**PKPab**	**19 22 51.0**	**-1.6**
FINES	**FINESS Array B**	**152.38**	**318**	PKPbc		**PKPbc**	**19 22 42.1**	**-0.1**
1.5nm,1.0s,baz=40,slow=4.5,SNR=2.7								
FINES				PKPab		**PKPab**	**19 22 51.0**	**-1.6**
0.6nm,0.6s,baz=90,slow=1.9,SNR=3.7								

*CSEM **25** 19:14:26.8±0.2,42°.17N×23°.69E, h2km, MD2.6, Error ellipse: s-maj=4.4km s-min=3.7km az=58.0*
*SOF **25** 19:14:26.5,42°.18N×23°.67E, h4km, MD2.6*
*BEO **25** 19:14:27.3±0.5,42°.16N×23°.74E, h0km, ML2.0/2*
*SKO **25** 19:14:28.6,42°.19N×23°.62E, h1km*
*ATH **25** 19:14:30.5,41°.99N×23°.65E, h27km±2km, MD3.1/9*

ISC 25 19:14:27.4±1.2, 42°.16N±0°.03×23°.64E±0°.02, h4km±12km, n49, σ0s93/54, 1C, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KKB	**Krupnik**	**0.51**	**235**	*i* P		**Pg**	**19 14 37.0**	**-0.1**
KKB	**Krupnik**	**0.51**	**235**	*i* P		**Pg**	**19 14 37.0**	**-0.1**
VTS	**Vitosha**	**0.54**	**324**	↑*i* Pg		**Pg**	19 14 37.5	-0.3
VTS				*e*Sg		**Sg**	**19 14 44.6**	**-0.1**
VTS	**Vitosha**	**0.54**	**324**	*i* P		Pg	19 14 37.5	-0.3
VTS				*i* S		**Sg**	**19 14 44.6**	**-0.1**
VTS	**Vitosha**	**0.54**	**324**	*i* P		Pg	19 14 37.5	-0.3
VTS				*i* S		**Sg**	**19 14 44.6**	**-0.1**
PGB	**Panagyurishte**	**0.55**	**45**	*i* P		Pg	19 14 36.3	-1.8
PGB	**Panagyurishte**	**0.55**	**45**	*i* P		Pg	19 14 36.3	-1.8
MMB	**Musomiste**	**0.57**	**173**	*i* P		**Pb**	**19 14 39.6**	**-0.4**
MMB	**Musomiste**	**0.57**	**173**	*i* P		**Pb**	**19 14 39.6**	**-0.4**
PLD	**Plovdiv**	**0.79**	**94**	*e*Pg		Pg	19 14 39.9	-2.7
PLD	**Plovdiv**	**0.79**	**94**	*i* S		**Sg**	**19 14 51.1**	**-1.8**
PLD	**Plovdiv**	**0.79**	**94**	*e*Pg		Pg	19 14 39.9	-2.7
NVR	**Nevrokopi**	**0.82**	**168**	*e*PN		**Pb**	**19 14 43.8**	**-0.5**
NVR	**Nevrokopi**	**0.82**	**168**	*e*Pn		**Pb**	**19 14 43.8**	**-0.5**
RZN	**Rozhen**	**0.93**	**120**	*i* P		**Pb**	**19 14 44.4**	**-1.8**
RZN				*i* S		**Sg**	**19 14 58.5**	**+1.2**
RZN	**Rozhen**	**0.93**	**120**	*i* P		**Pb**	**19 14 44.4**	**-1.8**
RZN				*i* S		**Sg**	**19 14 58.5**	**+1.2**
SRS	**Serrai**	**1.04**	**182**	*e*PN		**Pg**	**19 14 47.6**	**+0.3**
SRS	**Serrai**	**1.04**	**182**	*e*Pn		**Pg**	**19 14 47.6**	**+0.3**
KNT	**Kendrikon**	**1.14**	**209**	*e*PN		**Pg**	**19 14 49.7**	**+0.5**
KNT	**Kendrikon**	**1.14**	**209**	*e*Pn		**Pg**	**19 14 49.7**	**+0.5**
VAY	**Valandovo**	**1.16**	**224**	*e*Pg		**Pb**	**19 14 49.6**	**-0.4**
VAY				*e*Sg		**Sg**	**19 15 05.3**	**+0.7**
VAY	**Valandovo**	**1.16**	**224**	*e*Pg		**Pb**	**19 14 49.6**	**-0.4**
VAY				*e*Sg		**Sg**	**19 15 05.3**	**+0.7**
MPEP	**Malo Peshtene**	**1.20**	**4**	*i* S		**Sb**	**19 15 05.1**	**-1.5**
MPEP				*i* P		Pn	19 14 49.5	-1.5
MPEP	**Malo Peshtene**	**1.20**	**4**	*i* P		Pn	19 14 49.5	-1.5
MPEP				*i* S		**Sb**	**19 15 05.1**	**-1.5**
KAVA	**Kavala**	**1.33**	**150**	*e*PN		**Pg**	**19 14 52.9**	**0.0**
KAVA	**Kavala**	**1.33**	**150**	*e*Pn		**Pg**	**19 14 52.9**	**0.0**
ZAPS	**Zavoj**	**1.34**	**327**	*e*Pg		**Pn**	**19 14 53.0**	**0.0**
ZAPS				*e*Sg		**Sn**	**19 15 12.0**	**+0.7**
SOH	**Sokhos**	**1.35**	**189**	*e*PN		**Pg**	**19 14 53.4**	**+0.1**
SOH	**Sokhos**	**1.35**	**189**	*e*Pn		**Pg**	**19 14 53.4**	**+0.1**
DIM	**Dimitrovgrad**	**1.41**	**94**	*i* P		**Pn**	**19 14 53.8**	**-0.1**
DIM				*i* S		**Sb**	**19 15 12.9**	**+0.2**
DIM	**Dimitrovgrad**	**1.41**	**94**	*i* P		**Pn**	**19 14 53.8**	**-0.1**
DIM				*i* S		**Sb**	**19 15 12.9**	**+0.2**
KDZ	**Kurdzhali**	**1.42**	**110**	*i* P		**Pg**	**19 14 56.4**	**+1.8**
KDZ				*i* S		**Sb**	**19 15 12.1**	**-0.9**
THE	**Thessaloniki**	**1.61**	**199**	*e*PN		**Pb**	**19 14 56.8**	**-0.8**
THE	**Thessaloniki**	**1.61**	**199**	*e*Pn		**Pb**	**19 14 56.8**	**-0.8**
HORT	**Hortiatis**	**1.61**	**195**	*e*PN		**Pb**	**19 14 57.0**	**-0.8**
HORT	**Hortiatis**	**1.61**	**195**	*e*Pn		**Pb**	**19 14 57.0**	**-0.8**
RDO	**Rodhopi**	**1.75**	**125**	*e*PB		**Pb**	**19 14 59.3**	**-0.7**
RDO	**Rodhopi**	**1.75**	**125**	*e*Pb		**Pb**	**19 14 59.3**	**-0.7**
PLG	**Polygyros**	**1.79**	**185**	*e*PN		**Pb**	**19 14 59.1**	**-1.7**
PLG	**Polygyros**	**1.79**	**185**	*e*Pn		**Pb**	**19 14 59.1**	**-1.7**
OUR	**Ouranopolis**	**1.84**	**172**	*e*PB		**Pn**	**19 14 59.7**	**-0.1**
OUR	**Ouranopolis**	**1.84**	**172**	*e*Pb		**Pn**	**19 14 59.7**	**-0.1**
SZH	**Strazhica**	**2.02**	**56**	*i* S		**Sb**	**19 15 31.1**	**+0.8**
SZH				*i* P		**Pn**	**19 15 04.3**	**+2.0**
SELS	**Selova**	**2.14**	**301**	*e*Pn		**Pn**	**19 15 05.2**	**+1.2**
SELS	**Selova**	**2.14**	**301**	*e*Pn		**Pn**	**19 15 05.2**	**+1.2**
ALN	**Alexandroupoli**	**2.20**	**124**	*e*PB		**Pb**	**19 15 07.0**	**-0.8**
ALN	**Alexandroupoli**	**2.20**	**124**	*e*Pb		**Pb**	**19 15 07.0**	**-0.8**
GRUS	**Gruza**	**2.75**	**310**	*e*Pn		**Pn**	**19 15 12.8**	**+0.4**
GRUS	**Gruza**	**2.75**	**310**	*e*Pn		**Pn**	**19 15 12.8**	**+0.4**

IDC 25 19:16:21.0±3.8, 4°.09S×135°.39E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=171.7km s-min=32.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**15.79**	**184**	Pn		Pn	19 20 04.3	-0.6
0.0nm,0.3s,baz=2.8,slow=13,SNR=2.7								
WRA				Sn		Sn	19 22 48.8	-12
0.0nm,0.3s,baz=1.1,slow=23,SNR=2.9								
ASAR	**Alice Springs**	**19.52**	**184**	P		P	19 20 50.4	+0.3
0.0nm,0.3s,baz=5.7,slow=10,SNR=2.8								
MKAR	**Makanchi Array**	**68.90**	**324**	P		P	19 27 27.8	0.0
0.2nm,0.7s,baz=103,slow=6.5,SNR=4.0								

*IDC **25** 19:52:55.6±0.7,20°.11S×66°.74E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/29, mbtmp4.1/14, MS4.1/14, Ms1 4.1/14, ms1mx3.8/30, Error ellipse: s-maj=21.8km s-min=19.1km az=23.0*
*ISCJB **25** 19:52:56.4±0.6,20°.1S±0°.1×66°.7E±0°.1, h16km, mb4.1/18, MS4.1/13, Error ellipse: s-maj=17.7km s-min=15.2km az=175.8*
*NEIC **25** 19:52:57.2±0.4,20°.12S×66°.70E, h10km, mb4.4/4, Error ellipse: s-maj=13.0km s-min=11.1km az=174.0*

ISC 25 19:52:58.2±0.6, 20°.1S±0°.1×66°.7E±0°.1, h16km, n55, σ0s61/43, mb4.1/18, MS4.2/13, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H08S1	**Diego Garcia H**	**13.59**	**25**	T		T	20 10 07.2	
baz=203,slow=75,SNR=19								
H08S2	**Diego Garcia H**	**13.60**	**25**	T		T	20 09 59.9	
baz=203,slow=75,SNR=8.0								
H08S3	**Diego Garcia H**	**13.61**	**25**	T		T	20 10 01.0	
baz=203,slow=75,SNR=8.3								
OPO	**Ambohidratompo**	**18.49**	**271**	LR		LR	20 02 41.8	
comp=Z,735nm,19.6s,baz=80,slow=32								
KMBO	**Kilima Mbogo**	**34.43**	**300**	P		**P**	**19 59 45.0**	**-0.6**
KMBO	**Kilima Mbogo**	**34.43**	**300**	P		**P**	**19 59 45.0**	**-0.6**
0.6nm,0.4s,baz=74,slow=19,SNR=2.7								
LBTB	**Lobatse**	**38.17**	**255**	P		**P**	**20 00 18.4**	**+1.1**
LBTB	**Lobatse**	**38.17**	**255**	P		**P**	**20 00 18.4**	**+1.1**
3.3nm,1.0s,baz=106,slow=12,SNR=3.3								
BOSA	**Boshof**	**38.55**	**249**	LR		LR	20 12 56.5	
comp=Z,252nm,21.3s,baz=92,slow=31								
MAW	**Mawson**	**47.55**	**182**	LR		LR	20 16 28.1	
comp=Z,230nm,20.7s,baz=122,slow=30								
CMAR	**Chiang Mai Arr**	**49.69**	**42**	P		**P**	**20 01 50.5**	**+0.9**
CMAR				PcP		**PcP**	**20 03 11.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**49.69**	**42**	P		**P**	**20 01 50.5**	**+0.9**
1.5nm,0.9s,baz=238,slow=8.4,SNR=13								
CMAR				PcP		**PcP**	**20 03 11.0**	**+0.1**
0.3nm,0.8s,baz=241,slow=5.0,SNR=2.3								
CMAR				LR		LR	20 21 29.2	
comp=Z,166nm,18.5s,baz=214,slow=34								
CHTO	**Chiang Mai**	**49.95**	**41**	*e*P		**P**	**20 01 54.0**	**+2.3**
18nm,1.9s								
SHL	**Shillong**	**51.58**	**29**	*e*P		P	20 02 11.0	+6.9
EIL	**Elat**	**58.19**	**327**	LR		LR	20 23 01.9	
comp=Z,36nm,21.0s,baz=80,slow=31								
ASAR	**Alice Springs**	**61.94**	**107**	P		**P**	**20 03 17.2**	**-0.5**
ASAR	**Alice Springs**	**61.94**	**107**	P		**P**	**20 03 17.2**	**-0.5**
1.0nm,0.8s,baz=261,slow=6.2,SNR=7.8								
ASAR				LR		LR	20 26 50.6	
comp=Z,214nm,20.1s,baz=268,slow=33								
AAK	**Ala-Archa**	**62.84**	**6**	P		**P**	**20 03 23.2**	**-0.2**
4.9nm,1.3s								
WRA	**Warramunga Arr**	**63.10**	**103**	P		**P**	**20 03 25.0**	**-0.6**
WRA	**Warramunga Arr**	**63.10**	**103**	P		**P**	**20 03 25.0**	**-0.6**
1.2nm,0.9s,baz=263,slow=5.0,SNR=5.5								
STKA	**Stephens Creek**	**67.16**	**117**	LR		LR	20 29 01.2	
comp=Z,131nm,19.9s,baz=214,slow=32								
MKAR	**Makanchi Array**	**68.06**	**11**	P		**P**	**20 03 56.5**	**-0.5**
MKAR	**Makanchi Array**	**68.06**	**11**	P		**P**	**20 03 56.5**	**-0.5**
1.3nm,0.8s,baz=208,slow=4.9,SNR=9.0								
ABKAR	**Akbulak array**	**69.31**	**355**	*e*P		**P**	**20 04 04.8**	**+0.1**
1.2nm,0.6s								
QSPA	**South Pole Qui**	**70.00**	**180**	P		**P**	**20 04 09.0**	**0.0**
QSPA	**South Pole Qui**	**70.00**	**180**	P		**P**	**20 04 09.0**	**0.0**
1.2nm,0.2s,baz=212,slow=3.0,SNR=3.3								
AKTO	**Aktyubinsk**	**70.65**	**354**	P		**P**	**20 04 12.6**	**-0.2**
AKTO	**Aktyubinsk**	**70.65**	**354**	P		**P**	**20 04 12.6**	**-0.2**
1.1nm,0.8s,baz=203,slow=7.9								
TORD	**Torodi Ar. Bea**	**71.97**	**292**	P		**P**	**20 04 21.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**71.97**	**292**	P		**P**	**20 04 21.3**	**-0.3**
1.4nm,1.1s,baz=113,slow=6.0,SNR=4.8								
TORD				LR		LR	20 33 16.0	
comp=Z,65nm,21.5s,baz=250,slow=34								
CTA	**Charters Tower**	**73.92**	**106**	LR		LR	20 35 04.3	
comp=Z,229nm,19.4s,baz=274,slow=34								
MLR	**Muntele Rosu**	**75.06**	**332**	P		**P**	**20 04 39.3**	**0.0**
MLR	**Muntele Rosu**	**75.06**	**332**	P		**P**	**20 04 39.3**	**0.0**
0.8nm,0.9s,baz=90,slow=8.1								
DBIC	**Dimbokro**	**75.18**	**283**	LR		LR	20 35 46.2	
comp=Z,126nm,20.0s,baz=102,slow=34								
ZAA0	**Zalesovo Array**	**75.39**	**11**	*e*P		**P**	**20 04 40.6**	**-0.2**
ZALV	**Zalesovo Beam**	**75.39**	**11**	P		**P**	**20 04 40.1**	**-0.7**
ZALV

0.1nm,0.4s,baz=121,slow=7.3,SNR=3.5

IDC 25 21:01:56.9±47.0, 18°68S×176°59W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=883.6km s-min=163.2km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.79**	**242**	P	P	21 09 31.9	0.0
	0.8nm,0.6s,baz=80,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**46.19**	**260**	P	P	21 10 23.9	0.0
	0.5nm,0.4s,baz=97,slow=7.5,SNR=30						
ASAR	**Alice Springs**	**46.25**	**255**	P	P	21 10 24.1	-0.4
	0.7nm,0.5s,baz=88,slow=8.1,SNR=19						

*ISCJB **25** 21:08:50.1±0.3, 57°.40N±0°.03×154°.98W±0°.05, h93km±3km, mb3.5/7, Error ellipse: s-maj=5.4km s-min=4.0km az=139.2*

*NEIC **25** 21:08:52.9, 57°.41N×155°.01W, h73km, MG3.0(AEIC), After AEIC.*

*IDC **25** 21:08:54.1±7.4, 57°.89N×155°.23W, h82km±53km, mb3.2/8, mb1 3.3/9, mb1mx3.2/29, mbtmp3.5/9, ML3.6/1, Error ellipse: s-maj=62.2km s-min=34.8km az=173.0*

ISC 25 21:08:51.3±0.8, 57°.40N±0°.04×155°.01W±0°.04, h84km±7km, n67, σ0°59/77, mb3.6/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KABR	**Katmai Barrier**	**0.73**	**2**	P	**Pn**	**21 09 07.5**	**-0.2**
KABR				S	**Sn**	**21 09 19.1**	**-0.7**
PLK3	**Peulik 3**	**0.73**	**294**	P	**Pn**	**21 09 08.1**	**+0.5**
PLK3				S	**Sn**	**21 09 20.2**	**+0.4**
PLK4	**Peulik 4**	**0.76**	**288**	P	**Pn**	**21 09 08.4**	**+0.4**
PLK4				S	**Sn**	**21 09 20.8**	**+0.4**
KCE	**Katmai Mt Cerb**	**0.85**	**354**	P	**Pn**	**21 09 09.1**	**+0.2**
KAKN	**Katmai Knife C**	**0.90**	**358**	P	**Pn**	**21 09 09.6**	**+0.2**
KAKN				S	**Sn**	**21 09 22.8**	**-0.2**
OHAK	**Old Harbor**	**0.95**	**100**	P	**Pn**	**21 09 10.2**	**+0.2**
OHAK				S	**Sn**	**21 09 23.7**	**-0.2**
SII	**Sitkinak Islan**	**0.96**	**151**	P	**Pn**	**21 09 10.5**	**+0.4**
SII				S	**Sn**	**21 09 24.5**	**+0.4**
PLWL	**Peulik Whale M**	**0.96**	**313**	P	**Pn**	**21 09 10.0**	**0.0**
PLWL				S	**Sn**	**21 09 23.2**	**-0.9**
KVTA	**Katmai Vly 10**	**0.99**	**351**	P	**Pn**	**21 09 10.5**	**0.0**
KELA	**Mount Kelaz**	**1.11**	**340**	P	**Pn**	**21 09 11.9**	**0.0**
KAHC	**Katmai Hardscr**	**1.25**	**0**	P	**Pn**	**21 09 13.8**	**+0.1**
KDAK	**Kodiak Island**	**1.36**	**73**	P	**Pn**	**21 09 15.3**	**+0.4**
KDAK				S	**Sn**	**21 09 32.7**	**-0.1**
CHIR	**Chirikof Islan**	**1.62**	**192**	P	**Pn**	**21 09 18.4**	**+0.1**
CHIR				S	**Sn**	**21 09 38.6**	**0.0**
MCNL	**McNeil River**	**1.82**	**11**	P	**Pn**	**21 09 21.3**	**+0.4**
AUH	**Augustine H**	**2.13**	**22**	P	**Pn**	**21 09 26.3**	**+1.3**
AUP	**Augustine Pinn**	**2.14**	**22**	P	**Pn**	**21 09 26.4**	**+1.2**
CHGN	**Chignik**	**2.17**	**241**	P	**Pn**	**21 09 25.9**	**+0.4**
OPT	**Oil Point**	**2.44**	**22**	P	**Pn**	**21 09 30.2**	**+1.0**
ILW	**Iliamna West**	**2.84**	**19**	P	**Pn**	**21 09 35.5**	**+0.9**
BRLK	**Bradley Lake**	**3.21**	**41**	P	**Pn**	**21 09 39.4**	**-0.1**
RSO	**Redoubt South**	**3.29**	**20**	ePn	**Pn**	**21 09 41.5**	**+0.9**
RSO				eSn	**Sn**	**21 10 20.1**	**+1.3**
RDWB	**Redoubt West**	**3.29**	**19**	P	**Pn**	**21 09 41.0**	**+0.2**
NCT	**North Crescent**	**3.35**	**18**	P	**Pn**	**21 09 42.5**	**+1.1**
DFR	**Drift River**	**3.42**	**20**	P	**Pn**	**21 09 43.3**	**+0.9**
SDPT	**Sand Point**	**3.67**	**238**	P	**Pn**	**21 09 46.5**	**+0.9**
SEW	**Seward**	**3.97**	**45**	P	**Pn**	**21 09 49.0**	**-0.7**
SLKM	**Skilak Lake**	**3.98**	**37**	P	**Pn**	**21 09 49.8**	**-0.1**
CKL	**Chakachamna La**	**4.05**	**19**	P	**Pn**	**21 09 51.8**	**+1.0**
BGL	**Barrier Glacie**	**4.10**	**18**	P	**Pn**	**21 09 52.7**	**+1.1**
PS4A	**Pavlof South-4**	**4.33**	**244**	P	**Pn**	**21 09 55.3**	**+0.7**
STLK	**Strandline Lak**	**4.42**	**20**	P	**Pn**	**21 09 56.5**	**+0.6**
RC01	**Rabbit Creek A**	**4.58**	**34**	P	**Pn**	**21 09 58.3**	**+0.3**
SUA	**Susitna One**	**4.62**	**26**	P	**Pn**	**21 09 59.4**	**+0.7**
DTNA	**Dutton South F**	**4.62**	**244**	P	**Pn**	**21 09 59.0**	**+0.3**
PTE	**Portage**	**4.64**	**39**	P	**Pn**	**21 09 58.5**	**-0.3**
DRIA	**Deer Island**	**4.73**	**242**	P	**Pn**	**21 09 59.8**	**-0.3**
PWL	**Port Wells**	**4.88**	**42**	P	**Pn**	**21 10 01.7**	**-0.4**
SKT	**Skwentna**	**4.92**	**20**	P	**Pn**	**21 10 03.1**	**+0.4**
MID	**Middleton Isla**	**4.99**	**62**	P	**Pn**	**21 10 03.4**	**-0.2**
PMR	**Palmer**	**5.16**	**33**	P	**Pn**	**21 10 05.7**	**-0.2**
GLI	**Glacier Island**	**5.36**	**46**	P	**Pn**	**21 10 07.7**	**-1.0**
JPK	**Jack Peak**	**5.66**	**46**	P	**Pn**	**21 10 12.8**	**0.0**
EYAK	**Cordova Ski Ar**	**5.74**	**53**	P	**Pn**	**21 10 13.5**	**-0.3**
VLZ	**Valdez**	**5.81**	**46**	P	**Pn**	**21 10 14.6**	**-0.1**
SGAM	**Sherman Glacie**	**5.95**	**54**	P	**Pn**	**21 10 16.9**	**+0.2**
DIV	**Divide**	**6.03**	**48**	P	**Pn**	**21 10 17.6**	**-0.2**
RAGM	**Ragged Mountai**	**6.14**	**56**	P	**Pn**	**21 10 19.5**	**+0.2**
KLU	**Klutina**	**6.19**	**45**	P	**Pn**	**21 10 20.1**	**+0.1**
GOAT	**Goat Mountain**	**6.20**	**55**	P	**Pn**	**21 10 20.4**	**+0.3**
BMRM	**Bremner River**	**6.43**	**52**	P	**Pn**	**21 10 23.0**	**-0.3**
PS12	**TAPS Pump St12**	**6.48**	**47**	P	**Pn**	**21 10 24.1**	**+0.1**
TRF	**Thorofare Moun**	**6.50**	**19**	P	**Pn**	**21 10 24.3**	**0.0**
PS11	**TAPS Pump St11**	**6.72**	**42**	P	**Pn**	**21 10 27.0**	**-0.2**
RND	**Reindeer**	**6.77**	**24**	P	**Pn**	**21 10 27.6**	**-0.9**
GLB	**Gilahina Butte**	**7.00**	**50**	P	**Pn**	**21 10 30.8**	**-0.3**
PAX	**Paxson**	**7.33**	**36**	P	**Pn**	**21 10 35.7**	**+0.2**
UNV	**Unalaska Valle**	**7.41**	**246**	P	**Pn**	**21 10 36.5**	**-0.2**
BALM	**Baldy**	**7.45**	**55**	P	**Pn**	**21 10 37.1**	**-0.1**
ILAR	**Eielson Array**	**8.37**	**25**	P	**Pn**	**21 10 47.9**	**-1.7**
	0.4nm,0.3s,baz=219,slow=14,SNR=18						
ILAR				S	Sn	21 12 15.2	-7.1
	0.4nm,0.3s,baz=328,slow=13,SNR=8.6						
YKA	**Yellowknife Ar**	**20.60**	**59**	P	**P**	**21 13 24.0**	**+0.8**
	0.5nm,0.7s,baz=274,slow=10,SNR=9.5						
SONM	**Songino Array**	**55.47**	**306**	P	**P**	**21 18 17.3**	**+0.2**
	0.4nm,0.5s,baz=48,slow=7.0,SNR=4.2						
NOA	**NORSAR Array B**	**61.40**	**8**	P	**P**	**21 18 58.7**	**+0.7**
	0.9nm,0.8s,baz=9.8,slow=17,SNR=3.3						
FINES	**FINESS Array B**	**61.49**	**359**	P	**P**	**21 18 58.5**	**+0.1**
	1.2nm,0.8s,baz=10,slow=14,SNR=5.0						
KURBB	**Kurchatov Arra**	**63.69**	**325**	P	**P**	**21 19 12.9**	**-0.4**
	0.2nm,0.6s,baz=30,slow=6.7,SNR=4.2						
BVAR	**Borovoye Array**	**63.86**	**331**	P	**P**	**21 19 14.2**	**-0.3**
	0.5nm,0.6s,baz=19,slow=6.3,SNR=5.0						
MKAR	**Makanchi Array**	**65.79**	**321**	P	**P**	**21 19 26.8**	**-0.3**
	0.3nm,0.6s,baz=19,slow=8.9,SNR=5.1						
AKASG	**Malin Array Be**	**72.20**	**357**	P	**P**	**21 20 06.3**	**-0.4**
	0.2nm,0.3s,baz=3.6,slow=5.8,SNR=4.1						

*IDC **25** 21:20:09.8±1.4, 29°.80S×178°.38W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=60.0km s-min=40.3km az=179.0*

ISC 25 21:20:56.3±1.5, 30°.9S±0°.1×179°.8W±0°.3, h377km, n21, σ1°02/23, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**7.37**	**192**	ePN	**Pn**	**21 22 41.9**	**-1.5**
PUZ				SN	**S**	**21 24 10.0**	**-0.9**
URZ	**Urewera**	**7.80**	**198**	PN	**Pn**	**21 22 48.2**	**-0.3**
RIGZ	**Rimuhau**	**8.07**	**194**	PN	**P**	**21 22 52.7**	**-0.3**
KNZ	**Kokohu**	**8.39**	**194**	PN	**Pn**	**21 22 54.9**	**-0.3**
BKZ	**Black Stump Fm**	**8.82**	**199**	PN	**Pn**	**21 23 00.2**	**-0.1**
BHHZ	**Black Hill Sta**	**9.25**	**200**	PN	**Pn**	**21 23 05.1**	**-0.2**
BHHZ				SN	**S**	**21 24 52.0**	**+0.7**
KAHZ	**Kahuranaki**	**9.31**	**196**	PN	**P**	**21 23 07.3**	**+0.5**
PRHZ	**Porangahau**	**9.82**	**196**	PN	**P**	**21 23 12.5**	**+0.1**
BFZ	**Birch Farm**	**10.31**	**197**	PN	**P**	**21 23 18.3**	**+0.5**
MRZ	**Mangatainoka R**	**10.47**	**200**	PN	**Pn**	**21 23 19.2**	**-0.4**
CPWZ	**Castlepoint**	**10.53**	**197**	PN	**P**	**21 23 21.8**	**+1.5**
OGWZ	**Otaki Gorge**	**10.74**	**201**	PN	**P**	**21 23 21.1**	**-1.5**
TMWZ	**Te Maipa**	**10.80**	**198**	PN	**Pn**	**21 23 23.5**	**0.0**
KIWZ	**Kapiti Island**	**10.86**	**202**	PN	**P**	**21 23 23.5**	**-0.4**
MTW	**Mount Morrison**	**10.95**	**199**	PN	**Pn**	**21 23 25.2**	**0.0**
ASAR	**Alice Springs**	**41.56**	**268**	P	**P**	**21 28 08.8**	**-0.1**
	0.3nm,0.6s,baz=105,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**42.60**	**274**	P	**P**	**21 28 17.5**	**+0.4**
	0.3nm,0.3s,baz=110,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**145.04**	**339**	PKP	**PKPdf**	**21 39 46.4**	**-2.0**
	2.2nm,0.4s,baz=48,slow=4.6,SNR=39						
NOA	**NORSAR Array B**	**148.96**	**350**	PKPbc	**PKPdf**	**21 39 56.1**	**+1.1**
	0.3nm,0.5s,baz=21,slow=3.8,SNR=3.0						
AKASG	**Malin Array Be**	**150.73**	**321**	PKPbc	**PKPbc**	**21 40 03.1**	**-0.9**
	0.7nm,0.5s,baz=49,slow=2.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**162.31**	**185**	PKPab	**PKPab**	**21 41 05.6**	**+2.3**
	0.3nm,0.5s,baz=186,slow=3.2,SNR=12						

*IDC **25** 21:38:48.9±0.4, 18°.66S×173°.51W, h0km, mb5.0/19, mb1 5.2/19, mb1mx5.2/20, mbtmp5.0/19, MS5.2/25, Ms1 5.2/25, ms1mx5.2/26, Error ellipse: s-maj=17.1km s-min=11.9km az=123.0*

*BJI **25** 21:38:52.8, 18°.18S×172°.87W, h35km, mB5.7/44, mb5.3/53, Ms5.6/50, Ms7 5.4/48*

*SZGRF **25** 21:38:53.7, 18°.92S×172°.07W, h33km, mb5.5, Tonga Islands region*

*ISCJB **25** 21:38:53.4±0.1, 18°.66S±0°.04×173°.76W±0°.03, h33km, mb5.2/174, MS5.4/197, Error ellipse: s-maj=6.6km s-min=3.2km az=148.9*

*NEIC **25** 21:38:55.2±0.2, 18°.60S×173°.70W, h35km, mb5.3/125, MS5.4/146, MW5.5, Error ellipse: s-maj=9.3km s-min=4.7km az=140.0*

*GCMT **25** 21:38:55.2±0.1, 18°.69S×172°.96W, h19km, MW5.6/110, Moment Tensor Solution. s89,c150; s110,c243; Duration: 1!5 Moment tensor: Scale 10^17^Nm; M_{rr}1.82±.04; $M_{\theta\theta}$-0.04±.03; $M_{\phi\phi}$-1.78±.03; $M_{r\theta}$1.88±.09; $M_{\theta\phi}$-1.48±.03; $M_{\phi r}$0.88±.07; Best double couple: M_o3.11300×10^17^ NP1:ϕ_s55.00000°, δ69.00000°, λ116.00000°. NP2:ϕ_s181.00000°, δ33.00000°, λ41.00000°. Principal axes: T 2.9890, Plg58.0000°, Azm1.0000°; N 0.2520, Plg24.0000°, Azm225.0000°; P -3.2360, Plg20.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **25** 21:38:57.6±1.3, 17°.58S×173°.66W, h33km, mb5.5/51, MS5.4/52 Error ellipse: s-maj=12.4km s-min=7.8km az=73.5*

*NEIC **25** 21:39:07.8±0.0, 18°.08S×173°.27W, h30km, Moment Tensor Solution. s111 Moment tensor: Scale 10^17^Nm; M_{rr}1.91; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-1.72; $M_{r\theta}$-0.68; $M_{\theta\phi}$-1.64; $M_{\phi r}$-0.77; Best double couple: M_o2.60000×10^17^ NP1: ϕ_s219.00000°, δ57.00000°, λ98.00000°. NP2:ϕ_s24.00000°, δ34.00000°, λ78.00000°. Principal axes: T 2.1400, Plg76.0000°, Azm153.0000°; N 0.8400, Plg6.0000°, Azm34.0000°; P -2.9800, Plg11.0000°, Azm302.0000°;*

ISC 25 21:38:54.7±0.3, 18°.70S±0°.05×173°.54W±0°.04, h35km±1km, h35km:pP-P,n1132,σ1°48/1088, mb5.3/173, MS5.4/198, 176C-148D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.05**	**20**	Sn	Sn	21 40 52.6	-13
AFI	**Afiamalu**	**5.05**	**20**	Pn	Pn	21 40 00.8	-7.3
	16nm,0.3s,baz=180,slow=9.1,SNR=3.0						
AFI				Sn	Sn	21 40 52.6	-13
	29nm,0.3s,baz=49,slow=21,SNR=6.4						
AFI				LR	LR	21 42 02.2	
	comp=Z,24μm,19.2s,baz=184,slow=39						
RAO	**Raoul Island**	**11.24**	**200**	LR	LR	21 45 43.9	
	comp=Z,8μm,18.8s,baz=12,slow=37						
RAR	**Rarotonga**	**13.18**	**103**	ePn	Pn	21 41 47.7	-12
RAR	**Rarotonga**	**13.18**	**103**	Pn	Pn	21 41 49.4	-10
	8.8nm,0.3s,baz=266,slow=6.9,SNR=11						
RAR				Sn	Sn	21 44 11.8	-13
	2.5nm,0.3s,baz=73,slow=17,SNR=3.0						
RAR				LR	LR	21 45 38.5	
	comp=Z,10μm,21.3s,baz=286,slow=31						
DZM	**Mont Dzumac**	**19.06**	**256**	eP	**Pn**	**21 43 17.2**	**+1.9**
	606nm,1.3s						
DZM				eLR	LR	21 47 55.1	
	3μm,21.4s						
DZM	**Mont Dzumac**	**19.06**	**256**	eP	**P**	**21 43 14.2**	**-0.1**
	134nm,0.9s						
DZM	**Mont Dzumac**	**19.06**	**256**	P	**Pn**	**21 43 15.8**	**+0.5**
	1.9nm,0.3s,baz=85,slow=18,SNR=32						
DZM				LR	LR	21 49 11.7	
	comp=Z,6μm,18.6s,baz=85,slow=33						
OUZ	**Omahuta**	**20.02**	**212**	ePn	**P**	**21 43 25.4**	**+0.8**
	111nm,1.3s						
URZ	**Urewera**	**21.13**	**201**	eP	**P**	**21 43 35.5**	**-1.0**
	135nm,0.7s						
URZ	**Urewera**	**21.13**	**201**	P	**P**	**21 43 36.3**	**-0.2**
	62nm,0.6s,baz=28,slow=3.6,SNR=37						
URZ				S	**S**	**21 47 32.0**	**+2.3**
	5.4nm,0.6s,baz=265,slow=18,SNR=3.6						
BKZ	**Black Stump Fm**	**22.15**	**201**	eP	**P**	**21 43 46.9**	**-0.8**
	72nm,0.8s						
PAE	**Paea**	**22.78**	**91**	eP	**P**	**21 43 51.6**	**-2.9**
	20nm,1.1s						
PAE	**Paea**	**22.78**	**91**	eT	T	22 06 55.6	
	23nm,0.3s						
PPT2	**Papeete2**	**22.80**	**91**	eP	**P**	**21 43 52.3**	**-2.4**
	81nm,1.0s						
PPT2				eLQ	LQ	21 48 05.7	
	20μm,25.8s						
PPT2				eLR	LR	21 49 09.5	
	17μm,25.5s,baz=259						
PPT2	**Papeete2**	**22.80**	**91**	eT	T	22 06 57.4	
	21nm,0.3s						
PPT	**Papeete**	**22.80**	**91**	P	**P**	**21 43 51.9**	**-2.7**
PPT	**Papeete**	**22.80**	**91**	P	**P**	**21 43 51.9**	**-2.7**
	94nm,0.9s,baz=326,slow=8.3,SNR=8.9						
PPT				LR	LR	21 50 13.2	
	comp=Z,5μm,19.8s,baz=251,slow=30						
TBI	**Tubuai**	**22.93**	**106**	eLQ	LQ	21 48 13.3	
	14μm,26.2s						
TBI				eLR	LR	21 49 04.5	
	14μm,29.0s,baz=276						
TBI	**Tubuai**	**22.93**	**106**	eT	T	22 07 07.6	
	22nm,0.3s						
TIAR	**Tiarei**	**23.02**	**91**	eP	**P**	**21 43 54.0**	**-2.9**
	16nm,0.9s						
TIAR	**Tiarei**	**23.02**	**91**	eT	T	22 07 13.1	
	8.9nm,0.4s						
TVO	**Taravao**	**23.08**	**92**	eP	**P**	**21 43 54.7**	**-2.9**
	25nm,1.1s						
TVO	**Taravao**	**23.08**	**92**	eT	T	22 07 05.8	
	7.8nm,0.3s						
BFZ	**Birch Farm**	**23.60**	**200**	eP	**P**	**21 44 03.0**	**+0.6**
	77nm,0.9s						
TARA	**Tarawa**	**23.97**	**325**	PFAKE		21 44 20.0	+14
TARA				LR	LR		
	comp=Z,8μm,20.0s						
MEH	**Mehetia**	**24.20**	**92**	eP	**P**	**21 44 05.4**	**-2.8**
	comp=Z,43nm,1.3s						
MEH	**Mehetia**	**24.20**	**92**	eT	T	22 08 41.6	
	comp=Z,13nm,0.2s						
SNZO	**South Karori**	**24.68**	**202**	eP	**P**	**21 44 13.9**	**+1.6**
	comp=Z,98nm,1.0s						
SNZO				LR	LR		
	comp=Z,8μm,20.0s						
PMOR	**Pomariorio Ree**	**24.81**	**85**	eP	**P**	**21 44 11.2**	**-2.6**
	comp=Z,67nm,1.0s						
PMOR	**Pomariorio Ree**	**24.81**	**85**	eT	T	22 09 27.5	
	comp=Z,4.2nm,0.3s						
VAH	**Vaihoa**	**25.01**	**86**	eP	**P**	**21 44 12.3**	**-3.3**
	comp=Z,75nm,0.9s						
VAH	**Vaihoa**	**25.01**	**86**	eT	T	22 09 42.5	
	comp=Z,5.9nm,0.3s						
XMAS	**Kiritimati**	**25.99**	**39**	PFAKE		21 44 40.0	+15
XMAS				LR	LR		
	comp=Z,4μm,20.0s						
KHZ	**Kahutara**	**26.07**	**202**	eP	**P**	**21 44 25.4**	**+0.5**
	comp=Z,50nm,0.9s						
HNR	**Honiara**	**27.29**	**286**	LR	LR	21 53 57.4	
	comp=Z,12μm,18.7s,baz=122,slow=33						
RPZ	**Rata Peaks**	**28.11**	**204**	eP	**P**	**21 44 43.9**	**+0.6**
	comp=Z,815nm,2.7s						
WHZ	**Wether Hill Ro**	**31.15**	**205**	eP	**P**	**21 45 11.0**	**+0.8**
EIDS	**Eidsvold**	**33.39**	**252**	eP	**P**	**21 45 28.3**	**-1.8**
	comp=Z,32nm,0.9s						
EIDS	**Eidsvold**	**33.39**	**252**	↑P	**P**	**21 45 27.3**	**-2.9**
	baz=33,SNR=12						
ARMA	**Armidale**	**33.63**	**243**	eP	**P**	**21 45 31.9**	**-0.4**
	comp=Z,17nm,0.7s						
ARMA	**Armidale**	**33.63**	**243**	↓P	**P**	**21 45 31.0**	**-1.3**
	baz=34,SNR=10						
TAOE	**Nuku Hiva Isla**	**33.82**	**78**	eT	T	22 20 34.8	
	comp=Z,447nm,0.3s						
MGCD	**Mangrove Creek**	**34.73**	**238**	↑P	**P**	**21 45 41.7**	**0.0**
	baz=35,SNR=6.3						
RMQ	**Roma**	**35.56**	**250**	↓P	**P**	**21 45 47.8**	**-1.2**
	baz=36,SNR=12						
RKT	**Rikitea**	**36.22**	**104**	eP	**P**	**21 45 52.8**	**-1.8**
	comp=Z,93nm,1.2s						
RKT				eS	**S**	**21 51 27.6**	**-5.1**
	comp=Z,1μm,25.5s						
RKT				eLQ	LQ	21 54 00.7	
	comp=Z,3μm,25.2s						
RKT				eLR	LR	21 55 27.1	
	comp=Z,10μm,26.0s,baz=272						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**36.22**	**104**	eT	T	22 23 43.1	
	comp=Z,2.5nm,0.3s						
CNB	**Canberra Magne**	**36.71**	**236**	↓P	**P**	**21 45 57.8**	**-0.9**
	baz=37,SNR=9.5						
CAN	**Canberra**	**37.00**	**236**	eP	**P**	**21 45 59.6**	**-1.5**
CAN				pmax	pmax		
	comp=Z,51nm,1.3s						
CAN				MLR	MLR		
	comp=Z,4μm,19.0s						
CAN	**Canberra**	**37.00**	**236**	eP	**P**	**21 45 59.6**	**-1.5**
	comp=Z,51nm,1.3s						
CAN				LR	LR		
	comp=Z,4μm,19.0s						
MILA	**Mila**	**37.41**	**233**	↑P	**P**	**21 46 06.0**	**+1.5**
	baz=37,SNR=5.0						
CTA	**Charters Tower**	**37.89**	**261**	P	**P**	**21 46 07.0**	**-1.8**
CTA	**Charters Tower**	**37.89**	**261**	P	**P**	**21 46 07.0**	**-1.8**
	comp=Z,30nm,0.5s,baz=88,slow=10,SNR=30						
CTA				LR	LR	21 59 35.4	
	comp=Z,4μm,19.9s,baz=92,slow=33						
CTAO	**Charters Tower**	**37.89**	**261**	eP	**P**	**21 46 06.6**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,51nm,0.7s						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s						
CTAO	**Charters Tower**	**37.89**	**261**	eP	**P**	**21 46 06.6**	**-2.2**
	comp=Z,50nm,0.7s						
CTAO				LR	LR		
	comp=Z,4μm,19.0s						
PMG	**Port Moresby**	**39.15**	**278**	eP	**P**	**21 46 20.9**	**+1.4**
	comp=Z,70nm,0.9s						
PMG				LR	LR		
	comp=Z,7μm,19.0s						
PMG	**Port Moresby**	**39.15**	**278**	↓P	**P**	**21 46 19.5**	**+0.1**
	baz=39,SNR=5.9						
TOO	**Toolangi**	**40.34**	**234**	↑P	**P**	**21 46 27.2**	**-2.0**
	baz=40,SNR=11						
PTCN	**Pitcairn Islan**	**40.68**	**107**	PFAKE		21 46 50.0	+18
PTCN				LR	LR		
	comp=Z,3μm,19.0s						
TAU	**Tasmania Unive**	**40.86**	**225**	PFAKE		21 46 50.0	+17
TAU				LR	LR		
	comp=Z,2μm,20.0s						
COEN	**Coen**	**41.73**	**270**	eP	**P**	**21 46 41.4**	**+0.5**
	comp=Z,372nm,1.2s						
COEN	**Coen**	**41.73**	**270**	↓P	**P**	**21 46 39.9**	**-0.9**
	baz=42,SNR=17						
STKA	**Stephens Creek**	**42.35**	**243**	eP	**P**	**21 46 44.2**	**-1.4**
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**42.35**	**243**	P	**P**	**21 46 43.9**	**-1.8**
	comp=Z,19nm,0.8s,baz=92,slow=10.0,SNR=26						
STKA				LR	LR	22 01 28.3	
	comp=Z,3μm,21.0s,baz=74,slow=32						
STKA	**Stephens Creek**	**42.35**	**243**	↓P	**P**	**21 46 44.0**	**-1.7**
	baz=42,SNR=30						
KIP	**Kipapa**	**42.67**	**22**	eP	**P**	**21 46 49.3**	**+1.0**
KIP	**Kipapa**	**42.67**	**22**	eP	**P**	**21 46 49.3**	**+1.0**
	comp=Z,1μm,2.6s						
H11N3	**WAKE ISLAND Hy**	**42.73**	**332**	T	T	22 32 30.4	
	baz=154,slow=78,SNR=21						
H11N1	**WAKE ISLAND Hy**	**42.73**	**332**	T	T	22 32 30.7	
	baz=154,slow=78,SNR=27						
H11N2	**WAKE ISLAND Hy**	**42.74**	**332**	T	T	22 32 30.6	
	baz=154,slow=78,SNR=24						
ARPS	**Mount Arapiles**	**42.98**	**236**	↓P	**P**	**21 46 51.3**	**+0.7**
	baz=43,SNR=6.0						
HTT	**Hallett**	**44.78**	**241**	↑P	**P**	**21 47 04.0**	**-1.3**
	baz=45,SNR=14						
MIDW	**Midway**	**46.79**	**355**	PFAKE		21 47 30.0	+9.1
MIDW				LR	LR		
	comp=Z,4μm,19.0s						
BBOO	**Buckleboo**	**47.11**	**242**	eP	**P**	**21 47 23.1**	**-0.5**
	comp=Z,692nm,1.0s						
BBOO	**Buckleboo**	**47.11**	**242**	↑P	**P**	**21 47 21.4**	**-2.2**
	baz=47,SNR=5.4						
JAY	**Jayapura**	**47.58**	**284**	P	**P**	**21 47 26.2**	**-1.3**
JAY	**Jayapura**	**47.58**	**284**	P	**P**	**21 47 26.2**	**-1.3**
	comp=Z,18nm,1.0s,baz=190,slow=12,SNR=2.2						
WRAB	**Tennant Creek**	**49.03**	**260**	*d iP*	**P**	**21 47 37.3**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,130nm,1.2s						
WRAB	**Tennant Creek**	**49.03**	**260**	eP	P	21 47 35.1	-3.5
	comp=Z,40nm,0.8s						
WRAB				LR	LR		
	comp=Z,4μm,20.0s						
AS31	**Alice Springs**	**49.03**	**255**	eP	**P**	**21 47 36.6**	**-2.1**
ASAR	**Alice Springs**	**49.04**	**255**	P	**P**	**21 47 36.8**	**-1.9**
ASAR				S	**S**	**21 54 42.2**	**+0.9**
ASAR	**Alice Springs**	**49.04**	**255**	P	**P**	**21 47 36.8**	**-1.9**
	comp=Z,44nm,0.8s,baz=90,slow=7.8,SNR=55						
ASAR				S	**S**	**21 54 42.2**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=93,slow=15,SNR=6.7						
ASAR				LR	LR	22 08 10.3	
	comp=Z,3μm,19.0s,baz=87,slow=36						
WRA	**Warram

comp=Z,2µm,21.0s
MAT Matsushiro 71.38 321 P P 21 50 10.2 -1.1
MAT S **S** **21 59 24.6 -2.5**
H06S1 SOCORRO T 71.83 62 T T 23 08 27.6
H06E1 SOCORRO T-PHAS 71.88 62 T T 23 08 33.2
SNR=5.8
FX1 Attu Island--F 72.21 352 *eP* **P 21 50 15.4 -0.5**
ERM Erimo 72.45 328 PFAKE 21 50 30.0 +12
ERM LR LR
comp=Z,3µm,19.0s
YUK Yuzh-Kuril'sk 72.64 331 *c i*P P 21 50 11.1 -7.6
YUK *i* 21 50 23.7
YUK *i* PPP PPP 21 54 33.8
YUK *i* S S 21 59 29.6 -12
YUK *i* 22 00 24.7
YUK MLR MLR
comp=N,1µm,17.0s
YUK MLR MLR
comp=E,425nm,17.0s
YUK MLR MLR
comp=Z,634nm,17.0s
KKM Kota Kinabalu 73.42 282 PFAKE 21 50 40.0 +16
KKM LR LR
comp=Z,898nm,21.0s
CIS Catalina Islan 73.82 46 ⇑P **P 21 50 26.9 +1.0**
baz=74
SKR Severo-Kuril's 74.07 340 *eP* P 21 50 18.0 -8.9
SKR *e* 21 50 38.0
SKR *e* 22 00 34.0
SKR pmax pmax
comp=Z,2µm,10.0s
SKR MLR MLR
comp=N,2µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s
UGM Wanagama 74.23 267 *eP* **P 21 50 29.1 +0.2**
comp=Z,65nm,0.8s
UGM Wanagama 74.23 267 ⇑P **P 21 50 28.0 -0.9**
baz=74,SNR=9.4
ASAJ Asahikawa 74.27 329 *eP* **P 21 50 30.0 +1.7**
comp=Z,21nm,0.9s
MWC Mount Wilson 74.53 45 *eP* **P 21 50 31.3 +1.0**
MWC pmax pmax
comp=Z,18nm,0.9s
MWC Mount Wilson 74.53 45 *eP* **P 21 50 31.3 +1.0**
comp=Z,18nm,0.9s
SMRI Semarang 74.57 268 *eP* **P 21 50 29.9 -0.8**
KMRM Mail Ridge 74.74 37 *eP* **P 21 50 33.4 +2.1**
comp=Z,580nm,2.1s
MURC Murrieta 74.75 46 ⇓P **P 21 50 32.0 +0.6**
baz=75
BFSC Mount Baldy Ra 74.81 45 ⇑P **P 21 50 32.5 +0.6**
baz=75
VES Vestal, Richgr 74.81 43 ⇑P **P 21 50 32.4 +0.8**
baz=75
MONP Monument Peak 74.89 47 ⇑P **P 21 50 33.0 +0.6**
baz=75,SNR=7.8
EDW2 Edwards Air Fo 74.96 45 ⇓P **P 21 50 33.6 +1.0**
baz=75
PFO Pinyon Flat Ob 75.27 46 *eP* **P 21 50 35.1 +0.6**
PFO LR LR
comp=Z,1µm,19.0s
CMB Columbia Colle 75.33 41 *eP* **P 21 50 35.5 +0.9**
CMB pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 75.33 41 *eP* **P 21 50 35.5 +0.9**
comp=Z,12nm,1.0s
SWSC Sam W. Stewart 75.35 47 ⇓P **P 21 50 35.7 +0.9**
baz=76
PET Petropavlovsk 75.38 343 *eP* **P 21 50 37.6 +3.2**
PET *e*PS **PnS** **22 00 50.7 -0.3**
PET pmax pmax
comp=Z,500nm,8.0s
PET pmax pmax
comp=Z,800nm,8.0s
PET MLR MLR
comp=Z,1µm,21.0s
PET MLR MLR
comp=Z,1µm,12.0s
PET Petropavlovsk 75.38 343 PFAKE 21 50 50.0 +16
PET LR LR
comp=Z,1µm,19.0s
OHCM Honcut 75.47 39 *eP* **P 21 50 37.4 +2.0**
LRMC Laurel Mountai 75.51 44 ⇑P **P 21 50 36.6 +0.7**
baz=76
WDC Whiskeytown Da 75.65 38 *eP* **P 21 50 36.5 +0.2**
WDC pmax pmax
comp=Z,56nm,1.4s
WDC Whiskeytown Da 75.65 38 *eP* **P 21 50 36.5 +0.2**
comp=Z,56nm,1.4s
PETK Petropavlovsk- 75.72 343 P **P 21 50 35.4 -1.1**
PETK Petropavlovsk- 75.72 343 P **P 21 50 35.4 -1.1**
PETK Petropavlovsk- 75.72 343 P **P 21 50 35.4 -1.1**
comp=Z,13nm,0.7s,baz=145,slow=9.4,SNR=12
PETK LR LR 22 23 17.2
comp=Z,602nm,18.4s,baz=161,slow=35
CHGN Chignik 75.79 9 *eP* **P 21 50 37.0 +0.2**
BELC Belle Mtn. Jos 75.80 46 ⇓P **P 21 50 38.4 +0.8**
baz=76
N02D Trinity Center 75.81 37 P **P 21 50 38.0 +0.6**
baz=76
CWC Cottonwood Cre 75.82 43 ⇑P **P 21 50 38.6 +0.9**
baz=76
BC3 Big Chuckawall 75.98 47 ⇓P **P 21 50 38.1 -0.5**
baz=76,SNR=6.5
MPMC Manual Prospec 75.99 44 ⇑P P 21 50 49.4 +11
baz=76,SNR=14
GSC Goldstone 76.00 45 *eP* **P 21 50 39.1 +0.5**
GSC pmax pmax
comp=Z,5.0nm,1.3s
GSC Goldstone 76.00 45 *eP* **P 21 50 39.1 +0.5**
comp=Z,4.8nm,1.3s
GSC Goldstone 76.00 45 ⇓P **P 21 50 39.5 +0.9**
baz=76
M02C Callahan 76.00 37 P **P 21 50 39.0 +0.5**
baz=76
DAC Darwin (Calif) 76.05 44 *eP* **P 21 50 39.8 +0.8**
DAC pmax pmax
comp=Z,44nm,1.9s
DAC Darwin (Calif) 76.05 44 *eP* **P 21 50 39.8 +0.8**
comp=Z,44nm,1.9s
HEC Hector,Ludlow 76.05 45 ⇓P **P 21 50 39.7 +0.8**
baz=76
MTUM Tungsten Hills 76.06 42 *eP* **P 21 50 39.9 +0.9**
GLA Glamis 76.09 48 *eP* **P 21 50 40.5 +1.4**
GLA pmax pmax
comp=Z,6.0nm,1.1s
GLA Glamis 76.09 48 *eP* **P 21 50 40.5 +1.4**
comp=Z,6.0nm,1.1s
GLA Glamis 76.09 48 ⇑P **P 21 50 40.0 +0.9**
baz=76
WAKR Walker 76.20 41 *eP* **P 21 50 40.6 +0.8**
YSS Yuzh-Sakhalins 76.28 331 *eP* **P 21 50 40.0 +0.3**
YSS pmax pmax
comp=Z,466nm,2.1s
YSS MLR MLR
comp=Z,676nm,20.0s
YSS Yuzh-Sakhalins 76.28 331 *eP* **P 21 50 40.0 +0.3**
comp=Z,466nm,2.1s
YSS LR LR
comp=Z,676nm,20.0s
YBH Yreka Blue Hor 76.30 37 *eP* **P 21 50 39.7 -0.5**
comp=Z,53nm,1.3s
GMRC Granite Mounta 76.47 46 ⇑P **P 21 50 42.0 +0.6**
baz=77
IRM Iron Mountain 76.48 47 ⇑P **P 21 50 42.3 +1.0**
baz=77,SNR=11
FURC Furnace Creek, 76.64 44 ⇑P **P 21 50 42.9 +0.9**
baz=77
YHNB Yeheng 76.64 302 PFAKE 21 50 50.0 +7.5
YHNB LR LR
comp=Z,2µm,21.0s
TUQ Turquoise Moun 76.67 45 ⇓P **P 21 50 43.4 +1.0**
baz=77
113A Mohawk Valley, 76.68 48 P **P 21 50 42.5 +0.2**
baz=77
Y12C Blythe 76.68 47 ⇓P **P 21 50 43.4 +1.0**
baz=77
TATO Taipei 76.70 302 PFAKE 21 50 50.0 +7.4
TATO LR LR
comp=Z,2µm,22.0s
HUMO Hull Mountain 76.74 36 *eP* **P 21 50 44.5 +2.0**
comp=Z,209nm,2.3s
M04C Macdoel 76.83 37 P **P 21 50 43.8 +0.5**
baz=77
NVAR Mina Array Bea 76.87 41 P **P 21 50 41.9 -1.7**
comp=Z,9.4nm,0.8s,baz=227,slow=9.7,SNR=38
NVAR LR LR 22 20 46.8
comp=Z,1µm,18.2s,baz=121,slow=33
CISI Cisompet, Garu 76.90 266 *eP* **P 21 50 42.7 -1.5**
214A Organ Pipe Nat 76.93 50 *eP* **P 21 50 44.2 +0.3**
214A Organ Pipe Nat 76.93 50 ⇑P **P 21 50 44.8 +0.9**
baz=77
NV11 Mina Array Sit 76.96 42 *eP* **P 21 50 43.6 -0.4**
LDFC Landfair 77.02 46 *eP* **P 21 50 45.7 +1.3**
comp=Z,34nm,1.1s
NEE2 Needles Airpor 77.18 46 ⇓P **P 21 50 46.3 +1.1**
baz=77
PDMCI Parker Dam,Lak 77.25 47 ⇑P **P 21 50 46.9 +1.4**
baz=78
LEM Lembang 77.31 267 ⇓P **P 21 50 46.3 -0.3**
baz=77,SNR=7.6
TPH Tonopah 77.34 42 *eP* **P 21 50 47.3 +1.0**
TPH pmax pmax
comp=Z,30nm,1.2s
TPH Tonopah 77.34 42 *eP* **P 21 50 47.3 +1.0**
comp=Z,30nm,1.2s
KSM Kuching 77.37 276 *eP* **P 21 50 47.0 +0.3**
comp=Z,437nm,2.1s
KSM LR LR
comp=Z,531nm,20.0s
KSM Kuching 77.37 276 ⇑P **P 21 50 46.7 0.0**
baz=77,SNR=13
Z14A Wintersburg 77.58 48 ⇓P **P 21 50 48.3 +0.8**
baz=78,SNR=5.4
SHPR Sheep Range 77.78 45 *eP* **P 21 50 50.0 +1.2**
MOD Modoc 77.79 38 *eP* **P 21 50 49.6 +0.9**
comp=Z,13nm,1.4s
I04A Tendick Farm, 77.82 35 P **P 21 50 49.0 +0.4**
baz=78
Y14A Wickenburg 77.85 48 ⇑P **P 21 50 50.0 +1.0**
baz=78,SNR=7.3
W13A Hualapai Mount 77.86 46 ⇑P **P 21 50 50.3 +1.1**
baz=78
XMI Christmas Isla 78.06 263 ⇑P **P 21 50 50.1 -0.5**
baz=78,SNR=4.1
XMIS Christmas Isla 78.08 263 *eP* **P 21 50 52.1 +1.4**
comp=Z,219nm,0.8s
XMIS Christmas Isla 78.08 263 ⇑P **P 21 50 49.6 -1.2**
baz=78,SNR=5.0
J05D Fort Rock, OR 78.14 36 P **P 21 50 51.6 +1.1**
baz=78
KDAK Kodiak Island 78.17 11 PFAKE 21 51 00.0 +10
KDAK LR LR
comp=Z,4µm,22.0s
G03D McMinnville, O 78.30 34 P **P 21 50 52.0 +0.9**
baz=78
KSRS Korea Array 78.42 316 P **P 21 50 52.6 +0.6**
comp=Z,13nm,0.9s,baz=128,slow=5.3,SNR=16
KSRS LR LR 22 22 06.5
comp=Z,2µm,19.4s,baz=131,slow=33
KSAR Wonju Array Be 78.44 316 P **P 21 50 52.6 +0.5**
H04A Detroit Lake 78.53 35 *eP* **P 21 50 52.9 +0.4**
comp=Z,71nm,1.6s
R11A Troy Canyon, C 78.55 43 *eP* **P 21 50 53.8 +0.8**
comp=Z,92nm,2.4s
R11A Troy Canyon, C 78.55 43 ⇓P **P 21 50 53.9 +0.9**
baz=79
TUC Tucson 78.58 50 *eP* **P 21 50 51.9 -1.3**
TUC pmax pmax
comp=Z,17nm,0.9s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC Tucson 78.58 50 *eP* **P 21 50 51.9 -1.3**
comp=Z,17nm,0.9s
TUC LR LR
comp=Z,1µm,19.0s
BMN Battle Mountai 78.73 40 *eP* **P 21 50 52.2 -1.7**
BMN pmax pmax
comp=Z,54nm,1.5s
BMN Battle Mountai 78.73 40 *eP* **P 21 50 52.2 -1.7**
comp=Z,54nm,1.5s
I05D Terrebonne, OR 78.76 35 P **P 21 50 54.5 +0.6**
baz=79
WVOR Wild Horse Val 79.09 38 *eP* **P 21 50 55.6 -0.2**
WVOR pmax pmax
comp=Z,27nm,1.1s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 79.09 38 *eP* **P 21 50 55.6 -0.2**
comp=Z,27nm,1.1s
WVOR LR LR
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 79.20 48 ⇑P **P 21 50 57.9 +1.2**
baz=79,SNR=14
319A Douglas 79.22 52 ⇓P **P 21 50 57.8 +1.1**
baz=79,SNR=10
INCN Inchon 79.29 316 PFAKE 21 51 10.0 +13
INCN LR LR
comp=Z,2µm,20.0s
VFP Flag Point 79.33 34 P **P 21 50 58.5 +1.4**
G05D Wamic, OR 79.36 35 P **P 21 50 58.4 +1.4**
baz=80
CCUT Cedar City 79.56 45 *eP* **P 21 50 59.9 +1.3**
comp=Z,17nm,1.2s
TDL Tradedollar La 79.61 33 P **P 21 51 00.3 +1.8**
I07A Izee 79.62 36 *eP* **P 21 50 59.6 +1.1**
comp=Z,26nm,1.1s
ARUT Antelope Range 79.64 44 *eP* **P**
ARUT pmax pmax **21 50 59.2 +0.3**
comp=Z,263nm,1.1s
ARUT Antelope Range 79.64 44 *eP* **P 21 50 59.2 +0.3**
comp=Z,263nm,1.1s
U15A North Rim 79.67 46 ⇑P **P 21 50 59.7 +0.4**
baz=80,SNR=14
G06A Carlson Farm, 79.72 35 *eP* **P 21 51 00.3 +1.3**
comp=Z,210nm,2.4s
WUAZ Wupatki 79.82 47 *eP* **P 21 51 01.4 +1.5**
comp=Z,36nm,1.5s
WUAZ LR LR
comp=Z,877nm,21.0s
WUAZ Wupatki 79.82 47 ⇑P **P 21 51 01.0 +1.1**
baz=80,SNR=9.6
SSE Sheshan 79.84 308 P **P 21 51 00.3 +0.4**
SSE S **S** **22 00 59.0 -1.9**
SSE pmax pmax
comp=Z,25nm,0.7s
SSE pmax pmax
comp=Z,300nm,7.3s
SSE LR LR
comp=Z,570nm,24.5s
SSE LR LR
comp=Z,880nm,25.2s
SSE LR LR
comp=Z,1µm,27.8s
USRK Ussuriysk Arra 79.94 324 P **P 21 51 01.3 +1.2**
comp=Z,7.6nm,1.0s,baz=111,slow=5.8,SNR=7.7
USRK LR LR 22 20 10.0
comp=Z,3µm,21.9s,baz=120,slow=31
ELK Elko 80.14 41 *eP* **P 21 51 02.5 +0.9**
comp=Z,18nm,1.3s
D05A Enumclaw 80.27 33 *eP* P 21 50 57.9 -4.0
comp=Z,114nm,1.4s
X18A Snowflake 80.31 49 ⇑P **P 21 51 03.7 +1.0**
baz=80
GSM Grass Mountain 80.38 33 P **P 21 51 03.8 +1.1**
GSM Grass Mountain 80.38 33 P **P 21 51 03.8 +1.1**
RSO Redoubt South 80.66 10 *eP* **P 21 51 02.2 -1.7**
G08A Pilot Rock 80.67 36 *eP* **P 21 51 02.7 -1.6**
comp=Z,35nm,1.0s
SVW2 Sparrevohn 80.82 9 *eP* **P 21 51 04.2 -0.4**
comp=Z,9.2nm,0.9s
MVU Marysvale 80.84 44 *eP* **P 21 51 04.9 -0.6**
comp=Z,16nm,1.0s
121A Cookes Peak, D 80.89 51 *eP* **P 21 51 05.2 -0.6**
comp=Z,20nm,1.1s
121A Cookes Peak, D 80.89 51 ⇑P **P 21 51 06.8 +0.9**
baz=81,SNR=6.8
SEW Seward 80.93 12 *eP* **P 21 51 04.5 -0.5**
comp=Z,36nm,1.0s
E07A Sunnyside 80.98 34 *eP* **P 21 51 07.5 +1.7**
comp=Z,27nm,0.9s
HABR Khabarovsk 81.05 328 *eP* **P 21 51 04.5 -1.5**
HABR *e**PP **PcP** **21 51 14.2 +1.9**
HABR *e**SP **sP** **21 51 18.4 -2.5**
HABR *e* 21 54 07.6
HABR *e*PPP PPP 21 55 57.7
HABR *e*S **S** **22 01 10.0 -2.8**
HABR *e*SS **SS** **22 06 23.6 -4.9**
HABR pmax pmax
comp=E,35nm,1.5s
HABR pmax pmax
comp=Z,51nm,1.5s
HABR pmax pmax
comp=N,56nm,3.0s
HABR MLR MLR
comp=Z,759nm,18.0s
HAWA Hanford 81.05 35 *eP* **P 21 51 05.7 -0.4**
comp=Z,126nm,0.2s
HAWA LR LR
comp=Z,2µm,19.0s
PMSA Palmer Station 81.23 156 PFAKE 21 51 20.0 +13
PMSA LR LR
comp=Z,2µm,19.0s
BMO Blue Mountains 81.33 37 PFAKE 21 51 20.0 +12
BMO LR LR
comp=Z,2µm,19.0s
MFID Camas Ranch 81.33 39 *eP* **P 21 51 08.5 +0.7**
comp=Z,20nm,1.3s
DUG Dugway 81.36 43 *eP* **P 21 51 09.4 +1.3**
DUG pmax pmax
comp=Z,27nm,1.5s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 81.36 43 *eP* **P 21 51 09.4 +1.3**
comp=Z,27nm,1.5s
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 81.36 43 ⇑P **P 21 51 09.4 +1.3**
baz=82,SNR=5.7
MDJ Mudanjiang 81.55 323 P **P 21 51 10.3 +1.5**
MDJ pP **pP** **21 51 19.8 +0.1**
MDJ sP **sP** **21 51 23.5 -0.2**
MDJ PP **PP** **21 54 16.5 +0.7**
MDJ S **S** **22 01 20.8 +2.6**
MDJ pmax pmax
comp=Z,19nm,2.0s
MDJ pmax pmax
comp=Z,490nm,8.2s
MDJ LR LR
comp=Z,1µm,19.9s
MDJ LR LR
comp=Z,2µm,19.9s
MDJ LR LR
comp=Z,2µm,20.8s
MDJ Mudanjiang 81.55 323 PFAKE 21 51 20.0 +11
MDJ LR LR
comp=Z,3µm,21.0s
BGU Big Grassy Mou 81.63 42 *eP* **P 21 51 10.9 +1.4**
comp=Z,35nm,2.4s
WTV Waterville 81.66 33 P **P 21 51 07.9 -1.4**
NLW Nelson Butte 81.70 33 P **P 21 51 10.6 +0.9**
RC01 Rabbit Creek A 81.78 11 *eP* **P 21 51 09.5 -0.1**
comp=Z,61nm,1.2s
D08A Wollman Farm, 81.80 34 *eP* **P 21 51 09.3 -0.7**
comp=Z,38nm,1.0s
Z22A Elephant Butte 81.85 51 ⇓P **P 21 51 11.2 +0.3**
baz=82
E09A Wood Farm, Sta 81.88 35 *eP* **P 21 51 11.7 +1.2**
comp=Z,33nm,1.1s
TMUT Trail Mountain 81.92 44 *eP* **P 21 51 12.9 +1.6**
comp=Z,22nm,1.0s
NJ2 Nanjing 82.05 308 *eP* **P 21 51 12.0 +0.3**
NJ2 pP **pP** **21 51 21.0 -1.6**
NJ2 sP **sP** **21 51 25.0 -1.6**
NJ2 S **S** **22 01 26.0 +2.1**
NJ2 sS **ScS** **22 01 40.5 +0.5**
NJ2 SS **SS** **22 06 44.0 0.0**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,350nm,8.8s
NJ2 LR LR
comp=Z,940nm,22.6s
NJ2 LR LR
comp=Z,1µm,20.5s
NJ2 LR LR
comp=Z,1µm,28.4s
F10A Beach Ranch, E 82.05 36 *eP* **P 21 51 10.1 -1.5**
comp=Z,29nm,1.0s
425A Indio Mountain 82.19 54 ⇓P **P 21 51 13.7 +1.1**
baz=82,SNR=12
GAMB Gambell 82.22 1 *eP* **P 21 51 11.5 -0.3**
comp=Z,36nm,1.2s
HLID Hailey 82.26 39 *eP* **P 21 51 12.1 -0.7**
comp=Z,21nm,1.1s
HLID LR LR
comp=Z,1µm,19.0s
HLID Hailey 82.26 39 ⇑P **P 21 51 13.5 +0.7**
baz=82
HVU Hansel Valley 82.26 41 *eP* **P 21 51 13.7 +0.9**
HVU pmax pmax
comp=Z,162nm,2.7s
HVU Hansel Valley 82.26 41 *eP* **P 21 51 13.7 +0.9**
comp=Z,162nm,2.7s
LENM Lemitar 82.28 50 *eP* **P 21 51 14.8 +1.7**
SRU San Rafael 82.28 44 *eP* **P 21 51 13.2 +0.2**
SRU pmax pmax
comp=Z,26nm,1.2s
SRU San Rafael 82.28 44 *eP* **P 21 51 13.2 +0.2**
comp=Z,26nm,1.2s
626A Big Bend Ranch 82.29 55 ⇓P **P 21 51 14.5 +1.3**
baz=82,SNR=12
MNTX Cornudas Mount 82.30 53 *eP* **P 21 51 13.0 0.0**
comp=Z,16nm,1.1s
MNTX LR LR
comp=Z,551nm,19.0s
PMR Palmer 82.36 12 *eP* **P 21 51 11.4 -1.2**
PMR pmax pmax
comp=Z,153nm,1.8s
PMR Palmer 82.36 12 *eP* **P 21 51 11.4 -1.2**
comp=Z,153nm,1.8s
B08A Colville Reser 82.40 33 *eP* **P 21 51 13.6 +0.4**
comp=Z,26nm,1.1s
WRAK Wrangell Islan 82.45 22 PFAKE 21 51 30.0 +17
WRAK LR LR
comp=Z,1µm,21.0s
DAU Daniels Canyon 82.48 43 *eP* **P 21 51 13.6 -0.6**
DAU pmax pmax
comp=Z,31nm,1.6s
DAU Daniels Canyon 82.48 43 *eP* **P 21 51 13.6 -0.6**
comp=Z,31nm,1.6s
526A Mary Lane Ranc 82.55 55 ⇑P **P 21 51 15.9 +1.4**
baz=83,SNR=11
TXAR Lajitas Array 82.56 56 P **P 21 51 13.8 -0.8**
TXAR Lajitas Array 82.56 56 P **P 21 51 13.8 -0.8**
comp=Z,17nm,1.1s,baz=217,slow=6.1,SNR=33
TXAR LR LR 22 21 29.1
comp=Z,363nm,18.7s,baz=0.0,slow=31
LPM Los Pinos Moun 82.59 50 *eP* **P 21 51 16.8 +2.1**
C09A Chrisman Ranch 82.60 34 *eP* **P 21 51 15.2 +1.0**
comp=Z,32nm,1.3s
DIV Divide 82.62 13 *eP* **P 21 51 12.9 -1.2**
comp=Z,55nm,1.2s
MVCO Mesa Verde 82.68 47 PFAKE 21 51 30.0 +15
MVCO LR LR
comp=Z,885nm,20.0s
BMRM Bremner River 82.74 14 *eP* **P 21 51 14.6 -0.1**
comp=Z,202nm,2.0s
TCUT Toone Canyon 82.76 42 *eP* **P 21 51 14.2 -1.3**
comp=Z,97nm,1.5s
627A Terlingua Ranc 82.83 56 ⇑P **P 21 51 17.5 +1.5**
baz=83,SNR=20
Y23A Lovelace Mesa, 82.83 51 ⇑P **P 21 51 17.0 +1.0**
baz=83,SNR=5.4
426A McDonald Obser 82.87 54 ⇑P **P 21 51 17.5 +1.2**
baz=83,SNR=14
HWUT Hardware Ranch 82.92 42 *eP* **P 21 51 16.9 +0.6**
comp=Z,135nm,2.7s
HWUT LR LR
comp=Z,2µm,19.0s
527A Woodward Ranch 82.96 55 ⇓P **P 21 51 17.7 +1.0**
baz=83,SNR=9.8
PV04 Paradox Valley 82.99 46 *eP* **P 21 51 17.6 +0.8**
ANMO Albuquerque 83.02 50 *eP* **P 21 51 18.1 +1.1**
comp=Z,26nm,1.3s
ANMO LR LR
comp=Z,942nm,19.0s
X23A Hourglass Bar 83.04 50 ⇑P **P 21 51 18.1 +1.0**
baz=83
PPLA Purkeypile 83.05 10 *eP* **P 21 51 16.9 +0.6**
comp=Z,20nm,1.2s
Z24A Sheeppen Canyo 83.06 52 ⇓P **P 21 51 18.3 +1.1**
baz=83
PV01 Paradox Valley 83.09 46 *eP* **P 21 51 16.9 -0.4**
comp=Z,2µm,0.9s
326A Caldwell Ranch 83.20 54 ⇓P **P 21 51 18.5 +0.7**
baz=83
KLR Kul'dur 83.21 327 *eP* P 21 51 08.8 -8.5

KLR pmax pmax
comp=Z,1µm,11.5s
628A Black Gap, Mar 83.24 56 ⇓P P 21 51 19.1 +1.1
baz=83,SNR=11
125A Gardner Draw, 83.29 52 ⇓P P 21 51 19.4 +1.1
baz=84,SNR=6.2
W23A Werner Place, 83.34 50 ⇓P P 21 51 19.8 +1.1
baz=84,SNR=5.3
DL2 Dalian 83.39 315 P P 21 51 21.3 +2.8
DL2 S S 22 01 43.5 +6.3
DL2 pmax pmax
comp=Z,50nm,1.0s
DL2 pmax pmax
comp=Z,470nm,7.0s
DL2 LR LR
comp=Z,880nm,16.2s
DL2 LR LR
comp=Z,760nm,18.6s
226B Tecolote Peak, 83.39 53 ⇑P P 21 51 19.6 +0.8
baz=84,SNR=8.7
U22A Llaves 83.42 48 ⇑P P 21 51 20.3 +1.3
baz=84
427A Hayter Ranch, 83.43 55 ⇓P P 21 51 19.8 +0.7
baz=84,SNR=12
NEW Newport 83.50 34 *e*P P 21 51 19.8 +0.9
comp=Z,132nm,3.0s
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 83.50 34 ⇑P P 21 51 19.5 +0.6
baz=84
Z25A Roswell 83.52 52 ⇑P P 21 51 20.7 +1.2
baz=84
CN2 Changchun 83.52 320 *e*P P 21 51 19.8 +0.7
CN2 *e*pP pP 21 51 30.5 +0.5
CN2 *e*PP PP 21 54 34.3 +2.3
CN2 *e*S S 22 01 39.0 +0.6
CN2 *e*SS SS 22 07 07.8 +2.3
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,700nm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CAST Castle Rocks 83.56 10 *e*P P 21 51 17.5 -1.3
comp=Z,13nm,0.8s
X24A Lazy VL Ranch, 83.58 50 ⇓P P 21 51 20.9 +1.0
baz=84
V23A Ortiz Mt. (NFS 83.60 49 ⇓P P 21 51 21.3 +1.4
baz=84
528A Cox Ranch, San 83.61 55 ⇓P P 21 51 21.3 +1.3
baz=84
SNY Shenyang 83.62 318 ⇓P P 21 51 21.5 +1.9
SNY S S 22 01 44.0 +4.6
SNY pmax pmax
comp=Z,31nm,1.6s
SNY pmax pmax
comp=Z,670nm,12.0s
SNY LR LR
comp=Z,930nm,16.6s
SNY LR LR
comp=Z,620nm,19.9s
SNY LR LR
comp=Z,1µm,18.4s
126A Clayton Basin, 83.76 53 ⇓P P 21 51 22.2 +1.6
baz=84
Y25A Mesa, Roswell 83.83 51 ⇑P P 21 51 22.1 +1.0
baz=84,SNR=8.8
AHID Auburn Hatcher 83.84 41 *e*P P 21 51 20.8 -0.2
comp=Z,34nm,1.3s
AHID LR LR
comp=Z,2µm,20.0s
KTH Kantishna Hill 83.87 10 *e*P P 21 51 18.0 -2.5
comp=Z,206nm,1.2s
U23A El Rito 83.87 49 ⇑P P 21 51 22.6 +1.2
baz=84,SNR=9.7
TRF Thorofare Moun 83.88 10 *e*P P 21 51 18.5 -2.2
comp=Z,54nm,0.8s
SKAG Skagway 83.90 19 *e*P P 21 51 23.1 +2.5
comp=Z,33nm,1.0s
MCMT McKenzie Canyo 83.90 39 P P 21 51 22.4 +1.1
W24A Lazy 6 Ranch, 83.91 50 ⇑P P 21 51 22.9 +1.4
baz=84
428A Kincaid Ranch, 83.93 55 ⇑P P 21 51 22.9 +1.3
baz=84,SNR=6.2
QIZ Qiongzhong 84.02 292 P P 21 51 22.3 +0.1
QIZ pP pP 21 51 31.8 -1.3
QIZ sP sP 21 51 35.8 -1.3
QIZ PP PP 21 54 35.5 -1.0
QIZ S S 22 01 44.8 +0.4
QIZ SS SS 22 07 13.8 +0.1
QIZ pmax pmax
comp=Z,34nm,1.9s
QIZ LR LR
comp=Z,370nm,16.2s
QIZ LR LR
comp=Z,1µm,18.8s
QIZ Qiongzhong 84.02 292 PFAKE 21 51 30.0 +7.8
QIZ LR LR
comp=Z,1µm,19.0s
529A Stev Forest Ra 84.04 56 P P 21 51 22.6 +0.5
baz=84
Z26A Caprock 84.07 52 ⇑P P 21 51 23.4 +1.2
baz=84
S22A 4UR Ranch, Cre 84.10 47 ⇓P P 21 51 23.7 +1.2
baz=84
TNA Tin City 84.11 2 *e*P P 21 51 20.9 -0.6
comp=Z,50nm,1.0s
328A Wristen Ranch, 84.12 54 ⇑P P 21 51 23.7 +1.2
baz=84
X25A Clemmons Ranch 84.13 51 ⇓P P 21 51 23.8 +1.1
baz=84
V24A Rampart Ranch, 84.24 49 ⇓P P 21 51 24.5 +1.2
baz=84
127A Arkansas Junct 84.27 53 ⇑P P 21 51 24.6 +1.3
baz=84
REDW Red Top Meadow 84.31 41 *e*P P 21 51 24.5 +1.1
comp=Z,52nm,1.5s
T23A Casias Ranch, 84.31 48 ⇑P P 21 51 24.9 +1.3
baz=84
O20A White River Ci 84.31 44 *e*P P 21 51 23.8 +0.3
comp=Z,63nm,1.6s
O20A White River Ci 84.31 44 ⇑P P 21 51 24.6 +1.1
baz=84
PAX Paxson 84.34 12 *e*P P 21 51 21.4 -1.5
PAX pmax pmax
comp=Z,81nm,2.0s
PAX Paxson 84.34 12 *e*P P 21 51 21.4 -1.5
comp=Z,81nm,2.0s
DLMT Dillon 84.34 38 *e*P P 21 51 24.6 +1.2
comp=Z,17nm,1.1s
MCK McKinley 84.37 11 *e*P P 21 51 21.2 -1.8
MCK pmax pmax
comp=Z,68nm,0.9s
MCK McKinley 84.37 11 *e*P P 21 51 21.2 -1.8
comp=Z,68nm,0.9s
HYT Haines Junctio 84.39 17 *e*P P 21 51 23.9 +0.6
MSO Missoula 84.39 37 *e*P P 21 51 24.3 +0.7
comp=Z,32nm,1.6s
MSO Missoula 84.39 37 ⇓P P 21 51 24.3 +0.7
baz=85
Y26A Elida 84.48 52 ⇓P P 21 51 25.6 +1.3
baz=85
429A Davenport Ranc 84.50 55 ⇓P P 21 51 25.6 +1.1
baz=85
BSMT Bassoo Peak 84.51 35 *e*P P 21 51 24.9 +0.6
MOOW Moose Ponds 84.58 40 *e*P P 21 51 25.5 +0.8
comp=Z,26nm,1.6s
LOHW Long Hollow 84.59 41 *e*P P 21 51 24.8 0.0
comp=Z,42nm,1.7s
W25A X Bar L Ranch, 84.60 50 ⇓P P 21 51 26.1 +1.1
baz=85,SNR=12
228A UT Block 9, Go 84.61 54 ⇑P P 21 51 26.0 +1.0
baz=85
MAW Mawson 84.64 199 LR LR 22 28 22.5
comp=Z,3µm,19.2s,baz=110,slow=35
N20A Spence Gulch, 84.65 44 ⇓P P 21 51 26.2 +1.0
baz=85,SNR=9.2
Z27A Tatum 84.66 52 ⇑P P 21 51 26.6 +1.3
baz=85,SNR=8.9
MENT Mentasta 84.68 13 *e*P P 21 51 23.3 -1.3
LRM Limekiln Ridge 84.68 38 *e*P P 21 51 26.0 +0.7
SMCO Snowmass 84.69 46 *e*P P 21 51 26.0 +0.3
comp=Z,30nm,1.3s

530A J-C Ranch, Com 84.74 56 ⇑P P 21 51 26.5 +0.9
baz=85
QLMT Earthquake Lak 84.75 39 *e*P P 21 51 25.5 0.0
V25A Rancho No Teng 84.77 50 ⇑P P 21 51 26.8 +1.0
baz=85
X26A CR and CF Fran 84.77 51 ⇓P P 21 51 27.0 +1.2
baz=85,SNR=8.4
I17A Pilgrim Ck. 84.78 40 ⇓P P 21 51 27.3 +1.5
baz=85
FLWY Flagg Ranch 84.79 40 *e*P P 21 51 26.4 +0.6
comp=Z,29nm,1.1s
T24B San Luis 84.79 48 ⇑P P 21 51 27.6 +1.6
baz=85,SNR=5.7
BW06 Boulder Array 84.80 42 *e*P P 21 51 25.4 -0.6
comp=Z,14nm,1.1s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 84.80 42 P P 21 51 24.2 -1.7
PDAR PKKPbc PKKPbc 22 09 36.5 +0.1
PDAR Pinedale Array 84.80 42 P P 21 51 24.2 -1.7
comp=Z,7.0nm,0.9s,baz=204,slow=3.3,SNR=34
PDAR PKKPbc PKKPbc 22 09 36.5 +0.1
comp=Z,0.1nm,0.5s,baz=72,slow=2.9,SNR=3.4
PDAR LR LR 22 25 13.3
comp=Z,979nm,18.2s,baz=256,slow=33
329A Wagon Wheel Ra 84.81 54 ⇓P P 21 51 27.3 +1.3
baz=85
CHMT Chamberlain Mo 84.83 37 *e*P P 21 51 26.2 +0.2
WHN Wuhan 84.83 304 P P 21 51 28.8 +2.8
WHN S S 22 01 55.5 +3.4
WHN LR LR
comp=Z,4µm,21.4s
WHN LR LR
comp=Z,1µm,15.3s
WHN LR LR
comp=Z,3µm,21.2s
SLMT Seeley Lake 84.88 36 *e*P P 21 51 26.5 +0.4
128A Castleberry Fa 84.91 53 ⇑P P 21 51 27.4 +0.9
baz=85
YMR Madison River 84.94 39 *e*P P 21 51 28.2 +1.7
comp=Z,30nm,1.1s
Y27A Causey 84.95 52 ⇑P P 21 51 27.9 +1.1
baz=85
R23A Moffat 85.01 47 ⇑P P 21 51 28.0 +0.9
baz=85,SNR=6.3
SDCO Great Sand Dun 85.02 48 *e*P P 21 51 25.9 -1.3
comp=Z,26nm,1.6s
SDCO LR LR
comp=Z,871nm,19.0s
H17A Grant Village 85.03 40 P P 21 51 27.3 +0.3
baz=85
631A Perdido Creek 85.03 57 ⇓P P 21 51 28.1 +1.0
baz=85
P22A Eagle 85.04 45 ⇓P P 21 51 28.0 +0.8
baz=85
W26A Owens Ranch, T 85.05 51 P P 21 51 28.1 +0.9
baz=85
832A Faith Ranch, C 85.05 58 ⇓P P 21 51 27.7 +0.5
baz=85
BOZ Bozeman (W) 85.07 38 PFAKE 21 51 40.0 +13
BOZ LR LR
comp=Z,1µm,20.0s
430A Baggett Ranch, 85.09 55 ⇑P P 21 51 28.3 +0.9
baz=85
229A Bryant Ranch, 85.14 54 ⇑P P 21 51 28.6 +0.9
baz=85
U25A Circle Dot Ran 85.17 49 ⇓P P 21 51 29.1 +1.2
baz=85,SNR=8.3
S24A Houchin Ranch, 85.18 48 P P 21 51 28.6 +0.6
baz=85
732A Laxson Ranch, 85.23 58 ⇑P P 21 51 29.9 +1.8
baz=85
TIA Tai'an 85.24 311 ⇓P P 21 51 28.5 +0.5
TIA pmax pmax
comp=Z,30nm,0.8s
MSTX Muleshoe 85.28 52 *e*P P 21 51 29.6 +1.2
MSTX Muleshoe 85.28 52 ⇓P P 21 51 29.3 +0.9
baz=86
X27A F and S Farms, 85.34 51 ⇓P P 21 51 30.1 +1.4
baz=86
933A Laredo 85.34 59 ⇑P P 21 51 30.3 +1.6
baz=86,SNR=6.0
V26A Tequesquite Ra 85.35 50 ⇑P P 21 51 29.4 +0.7
baz=86
531A Rocksprings 85.37 56 ⇓P P 21 51 29.7 +0.9
baz=86
J19A Crowheart 85.38 41 ⇑P P 21 51 29.5 +0.8
baz=86
330A Mertzon 85.39 55 ⇓P P 21 51 29.6 +0.6
baz=86
O22A Kremmling 85.46 45 ⇑P P 21 51 30.0 +0.7
baz=86
T25A Trinidad 85.51 49 ⇑P P 21 51 30.5 +1.0
baz=86
R24A Sanders Place, 85.53 47 ⇑P P 21 51 30.4 +0.7
baz=86
HRY Holter Researc 85.53 37 *e*P P 21 51 30.2 +0.9
833A Chaparral WMA, 85.53 58 ⇑P P 21 51 30.8 +1.2
baz=86
431A Sonora 85.53 56 ⇑P P 21 51 30.7 +1.1
baz=86
W27A Bowe Ranch, En 85.55 51 P P 21 51 30.4 +0.7
baz=86
034A Hebbronville 85.61 60 ⇑P P 21 51 31.6 +1.6
baz=86
COLA College 85.61 11 *c i*P P 21 51 27.0 -2.1
COLA College 85.61 11 *e*P P 21 51 26.6 -2.5
comp=Z,29nm,0.8s
COLA LR LR
comp=Z,3µm,21.0s
230A Sterling City 85.65 54 P P 21 51 31.0 +0.9
baz=86
U26A Atchley Ranch, 85.65 49 ⇑P P 21 51 31.1 +0.9
baz=86,SNR=8.0
SEY Seymchan 85.66 345 *e*P P 21 51 27.5 -1.9
WALA Waterton Lakes 85.69 35 *e*P P 21 51 31.1 +1.1
comp=Z,1.2nm,1.6s
ILAR Eielson Array 85.69 11 P P 21 51 27.6 -1.9
ILAR Eielson Array 85.69 11 P P 21 51 27.6 -1.9
comp=Z,15nm,0.7s,baz=219,slow=5.6,SNR=74
ILAR LR LR 22 25 24.0
comp=Z,959nm,18.7s,baz=206,slow=33
632A Uvalde 85.70 57 ⇑P P 21 51 32.0 +1.5
baz=86,SNR=9.5
IM04 Indian Mountai 85.73 8 *e*P P 21 51 28.0 -1.7
H18A Shoshone NF, C 85.73 40 ⇓P P 21 51 31.4 +0.9
baz=86
S25A Robets Cordova 85.73 48 ⇓P P 21 51 30.8 +0.1
baz=86
Z29A Hungry Hill Ra 85.78 53 ⇑P P 21 51 31.5 +0.6
baz=86
I19A Meeteetse 85.81 41 ⇑P P 21 51 31.8 +0.9
baz=86
COCO West Island 85.82 259 PFAKE 21 51 40.0 +8.7
COCO LR LR
comp=Z,2µm,20.0s
N22A Wattenberg Ran 85.83 45 ⇓P P 21 51 32.0 +0.9
baz=86
Q24A Divide 85.84 47 ⇑P P 21 51 32.9 +1.6
baz=86
532A Rocksprings 85.86 56 ⇓P P 21 51 31.8 +0.6
baz=86
O23A Lake Granby, G 85.90 45 ⇑P P 21 51 32.5 +0.9
baz=86
ISCO Idaho Springs 85.92 46 PFAKE 21 51 40.0 +8.3
ISCO LR LR
comp=Z,1µm,21.0s
ISCO Idaho Springs 85.92 46 ⇑P P 21 51 32.9 +1.3
baz=86
331A San Angelo 85.94 55 ⇓P P 21 51 32.6 +1.0
baz=86
X28A Dimmitt 85.95 52 ⇑P P 21 51 33.1 +1.4
baz=86
934A Benavides 85.95 59 ⇑P P 21 51 32.8 +1.1
baz=86
M22A Cedar Creek Ra 86.03 44 ⇑P P 21 51 33.0 +0.9
baz=86
J20A Shoshoni 86.03 42 ⇑P P 21 51 33.5 +1.6
baz=86
035A Encino 86.03 60 ⇓P P 21 51 34.3 +2.2
baz=86
130A Snyder 86.06 54 ⇓P P 21 51 33.6 +1.4
baz=86
Y29A Porterfield Fa 86.06 52 P P 21 51 32.8 +0.6
baz=86
JCT Junction City 86.08 56 *e*P P 21 51 33.1 +0.8
JCT pmax pmax
comp=Z,17nm,1.1s
JCT MLR MLR
comp=Z,529nm,19.0s
JCT Junction City 86.08 56 *e*P P 21 51 33.1 +0.8
comp=Z,17nm,1.1s
JCT LR LR
comp=Z,529nm,19.0s
JCT Junction City 86.08 56 ⇑P P 21 51 33.7 +1.3
baz=86
T26A Comanche Natio 86.11 49 ⇑P P 21 51 33.5 +1.0
baz=86
834A Tilden 86.13 59 ⇑P P 21 51 34.3 +1.7
baz=86
H19A Powell 86.14 40 ⇑P P 21 51 33.9 +1.5
baz=86
633A Saathoff Ranch 86.17 57 ⇑P P 21 51 34.2 +1.4
baz=86,SNR=5.8
K21A Alcova 86.20 43 ⇑P P 21 51 34.0 +1.1
baz=86
N23A Red Feather La 86.21 45 ⇓P P 21 51 34.0 +1.0
baz=86
Z30A Sanderson Ranc 86.22 53 ⇑P P 21 51 33.9 +0.9
baz=86
432A Menard 86.25 56 ⇓P P 21 51 34.3 +1.1
baz=86,SNR=5.4
231A Bronte 86.28 55 ⇑P P 21 51 33.8 +0.5
baz=86
X29A Tulia 86.29 52 ⇓P P 21 51 34.5 +1.1
baz=86
I20A Worland 86.30 41 ⇓P P 21 51 34.3 +1.1
baz=86
GCMT Greycliff 86.31 39 *e*P P 21 51 34.7 +1.5
comp=Z,6.7nm,1.1s
U27A Thompson Grove 86.32 50 ⇓P P 21 51 34.4 +0.9
baz=86
S26A Kim 86.40 48 ⇓P P 21 51 34.4 +0.5
baz=87
J21A Lysite 86.43 42 ⇑P P 21 51 35.0 +1.0
baz=87
L22A Ellis Ranch, M 86.44 43 ⇓P P 21 51 34.9 +0.8
baz=87
Q25A Bedland, Calha 86.44 47 ⇓P P 21 51 35.2 +1.1
baz=87
AMTX Amarillo 86.49 52 *e*P P 21 51 35.4 +1.1
comp=Z,37nm,1.0s
AMTX Amarillo 86.49 52 ⇑P P 21 51 35.5 +1.1
baz=87
332A Millersview 86.50 55 ⇑P P 21 51 35.0 +0.6
baz=87
533A Kerrville 86.52 57 ⇑P P 21 51 35.2 +0.7
baz=87
131A Roby 86.53 54 ⇑P P 21 51 35.8 +1.3
baz=87,SNR=9.7
W29A Amraillo 86.62 51 ⇓P P 21 51 36.0 +1.1
baz=87,SNR=6.9
M23A Laramie 86.63 44 ⇓P P 21 51 35.7 +0.6
baz=87
Y30A Stafford Cattl 86.65 53 ⇓P P 21 51 35.9 +0.8
baz=87
H20A Greybull 86.65 41 ⇑P P 21 51 35.7 +0.8
baz=87
T27A Campo 86.68 49 ⇑P P 21 51 35.9 +0.6
baz=87
R26A Arlington 86.72 48 ⇓P P 21 51 36.1 +0.7
baz=87
U28A Mallet 86.74 50 ⇓P P 21 51 36.8 +1.3
baz=87
433A Art 86.75 56 ⇑P P 21 51 36.2 +0.6
baz=87
I21A Big Trails, Te 86.76 42 ⇓P P 21 51 36.5 +1.0
baz=87
F19A Roth Farm, Mol 86.77 39 ⇑P P 21 51 36.8 +1.3
baz=87
232A Coleman 86.78 55 ⇓P P 21 51 36.4 +0.6
baz=87
S27A Las Animas 86.83 49 ⇓P P 21 51 36.9 +0.9
baz=87
EGAK Eagle 86.84 13 *e*P P 21 51 34.0 -1.2
comp=Z,49nm,1.1s
EGAK LR LR
comp=Z,3µm,19.0s
X30A Coker Ranch, T 86.91 52 ⇑P P 21 51 37.4 +1.0
baz=87
Q26A Hugo 86.95 47 ⇓P P 21 51 37.6 +1.0
baz=87
534A Blanco 86.95 57 ⇓P P 21 51 37.8 +1.2
baz=87
L23A Garrett 86.95 44 ⇑P P 21 51 37.0 +0.4
baz=87
Z31A Sharp Cattle R 86.99 53 ⇑P P 21 51 37.6 +0.9
baz=87
333A Richland Sprin 87.07 56 ⇓P P 21 51 38.0 +0.9
baz=87
J22A Midwest 87.08 42 P P 21 51 37.5 +0.4
baz=87
ABTX Abilene, Hawle 87.08 54 *e*P P 21 51 36.6 -0.6
ABTX Abilene, Hawle 87.08 54 ⇓P P 21 51 38.3 +1.1
baz=87
IPM Ipoh 87.11 276 *e*P P 21 51 38.9 +1.1
comp=Z,45nm,1.0s
Y31A Rekieta Farm, 87.16 53 ⇓P P 21 51 38.8 +1.3
baz=87
R27A Eads 87.17 48 ⇓P P 21 51 39.0 +1.4
baz=87
E19A Rath Farm, Rou 87.18 39 ⇑P P 21 51 39.0 +1.6
baz=87
635A Leesville 87.26 58 ⇓P P 21 51 39.4 +1.3
baz=88
COLD Coldfoot 87.41 9 *e*P P 21 51 37.4 -0.5
comp=Z,22nm,1.2s
PLCA Paso Flores 87.41 132 P P 21 51 36.1 -2.7
PLCA Paso Flores 87.41 132 P P 21 51 36.1 -2.7
comp=Z,6.5nm,1.0s,baz=318,slow=4.4,SNR=7.0
PLCA LR LR 22 22 56.4
comp=Z,1µm,20.3s,baz=266,slow=30
233A Rising Star 87.41 55 ⇑P P 21 51 40.0 +1.2
baz=88,SNR=9.1
434A Burnet 87.43 56 ⇑P P 21 51 39.8 +0.9
baz=88
EGMT Eagleton 87.43 37 *e*P P 21 51 39.8 +1.2
comp=Z,55nm,2.0s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 87.43 37 ⇑P P 21 51 39.6 +1.1
baz=88
U29A Oasis Ranch, S 87.47 50 ⇑P P 21 51 40.3 +1.3
baz=88
D19A Cripps Ranch, 87.49 38 ⇓P P 21 51 40.0 +1.2
baz=88
Z32A Haskell 87.49 54 ⇑P P 21 51 40.1 +1.0
baz=88
E20A Meyer Farm, Mu 87.59 39 P P 21 51 40.1 +0.7
baz=88
BJT Baijiatuau 87.63 314 *e*P P 21 51 39.0 -0.6
comp=Z,26nm,0.9s
BJT LR LR
comp=Z,1µm,19.0s
BJI Beijing 87.64 314 P P 21 51 41.0 +1.4
BJI pmax pmax
comp=Z,30nm,1.4s
BJI pmax pmax
comp=Z,420nm,6.9s
BJI LR LR
comp=Z,710nm,20.3s
BJI LR LR
comp=Z,1µm,19.4s
BJI LR LR
comp=Z,920nm,25.0s
133A Hamilton Ranch 87.64 55 ⇓P P 21 51 40.7 +0.9
baz=88
X31A McDonald Ranch 87.65 52 ⇓P P 21 51 40.4 +0.5
baz=88
334A Lometa 87.66 56 ⇓P P 21 51 40.4 +0.5
baz=88
C19A Slack Wire Ran 87.68 38 ⇑P P 21 51 40.6 +0.8
baz=88
KULM Kulim 87.72 276 PFAKE 21 51 50.0 +9.4
KULM LR LR
comp=Z,577nm,19.0s
H22A Clearmont 87.73 41 ⇑P P 21 51 40.8 +0.7
baz=88
BILL Bilibino 87.75 353 *c i*P P 21 51 38.0 -1.5
BILL *e**PP pP 21 51 49.3 -1.2
BILL pmax pmax
comp=Z,30nm,0.8s
BILL Bilibino 87.75 353 *e*P P 21 51 37.8 -1.7
comp=Z,34nm,0.9s
BILL LR LR

comp=Z,2µm,21.0s
Y32A R-V Farms, Ver 87.80 53 ⇑P **P 21 51 42.0 +1.4**
baz=88,SNR=11
D20A Manuel Ranch, 87.89 38 ⇓P **P 21 51 41.6 +0.8**
baz=88
R28A Tribune 87.89 48 ⇑P **P 21 51 41.9 +0.9**
baz=88
W31A Holland Ranch, 87.91 52 ⇑P **P 21 51 42.3 +1.1**
baz=88
435B Jarrell 87.95 57 ⇑P **P 21 51 42.8 +1.4**
baz=88
234A Clairette 88.00 55 ⇑P **P 21 51 43.0 +1.4**
baz=88,SNR=8.0
Z33A Whitaker Ranch 88.03 54 ⇓P **P 21 51 43.1 +1.5**
baz=88,SNR=5.3
X32A Elmer 88.09 53 ⇓P **P 21 51 43.0 +1.0**
baz=88
B19A Brinkman Farms 88.11 37 ⇑P **P 21 51 42.9 +1.1**
baz=88
134A White-Moore Ra 88.27 55 ⇑P **P 21 51 43.9 +1.1**
baz=88
335A Moody 88.27 56 ⇓P **P 21 51 44.1 +1.2**
baz=88
C20A Veseth Ranch, 88.28 38 ⇑P **P 21 51 44.0 +1.4**
baz=88
EDM Edmonton 88.36 31 *e*P **P 21 51 42.2 -0.6**
EDM Edmonton 88.36 31 *e*P **P 21 51 42.2 -0.6**
W32A Sentinel 88.41 52 ⇑P **P 21 51 44.9 +1.4**
baz=89,SNR=6.7
Y33A Hilltop Ranch, 88.42 53 ⇑P **P 21 51 44.7 +1.1**
baz=89
A19A Klindworth Far 88.47 37 ⇑P **P 21 51 44.6 +1.1**
baz=89
WHTX Lake Whitney 88.53 56 ⇓P **P 21 51 45.6 +1.6**
baz=89
D21A La Casta Ranch 88.55 39 ⇓P **P 21 51 45.2 +1.3**
baz=89
ENH Enshi 88.57 303 *e*P **P 21 51 44.1 -0.3**
comp=Z,34nm,1.3s
ENH *e*PP **PP 21 55 12.4 -0.8**
ENH LR LR
comp=Z,44nm,20.0s
WMOK Wichita Mounta 88.60 53 PFAKE 21 52 00.0 +16
WMOK LR LR
comp=Z,706nm,19.0s
B20A Solberg Farm, 88.64 37 ⇑P **P 21 51 45.8 +1.6**
baz=89
Z34A Collier Ranch, 88.71 54 ⇓P **P 21 51 45.0 +0.1**
baz=89
135A Vickery Place, 88.78 55 ⇑P **P 21 51 46.5 +1.2**
baz=89
LAO LASA Array 88.83 39 PFAKE 21 52 00.0 +15
LAO LR LR
comp=Z,967nm,20.0s
OGNE Ogallala 88.87 46 PFAKE 21 52 00.0 +14
OGNE LR LR
comp=Z,971nm,20.0s
A20A Cobblestone Ra 88.91 37 ⇑P **P 21 51 46.1 +0.6**
baz=89
H24A Dirks Ranch, A 88.93 42 P **P 21 51 46.1 +0.3**
baz=89
RSSD Black Hills 88.97 42 *e*P **P 21 51 46.3 +0.1**
RSSD Black Hills 88.97 42 *e*P **P 21 51 46.3 +0.1**
comp=Z,1.6nm,1.0s
HKT Hockley 89.03 58 *e*P **P 21 51 49.0 +2.6**
HKT pmax pmax
comp=Z,47nm,1.6s
HKT Hockley 89.03 58 *e*P **P 21 51 49.0 +2.6**
comp=Z,48nm,1.6s
Y34A Reagan Ranch, 89.06 54 ⇑P **P 21 51 47.7 +1.1**
baz=89
U32A Winter Ranch, 89.10 51 ⇓P **P 21 51 47.5 +0.8**
baz=89
I25A Rochford 89.12 43 ⇓P **P 21 51 47.5 +0.7**
baz=89
Z35A Perchaven, San 89.21 54 ⇑P **P 21 51 48.3 +1.1**
baz=89
B21A Ellsworth Farm 89.21 38 ⇓P **P 21 51 48.7 +1.8**
baz=89
J26A Sides Ranch, S 89.22 43 ⇓P **P 21 51 48.9 +1.8**
baz=89
S31A Mullinville 89.25 50 ⇑P **P 21 51 48.6 +1.2**
baz=90
X34A Smith Ranch, M 89.26 53 ⇓P **P 21 51 49.3 +1.9**
baz=90
Q30A Quinter 89.29 48 ⇑P **P 21 51 48.7 +1.2**
baz=90
SYO Syowa Base 89.35 191⇑*e*P **P 21 51 45.8 -1.5**
GSI Gunungsitoli 89.36 272 *e*P P 21 51 52.2 +3.8
GYA Guiyang 89.47 298⇓*i*P **P 21 51 51.0 +2.2**
GYA pP **pP 21 52 00.5 +0.7**
GYA PP **PP 21 55 22.5 +1.9**
GYA SKS **SKSac 22 02 14.8 -2.1**
GYA S **S 22 02 35.5 -1.7**
GYA SS **SS 22 08 33.5 -0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.0s
GYA LR LR
comp=Z,950nm,22.6s
GYA LR LR
comp=Z,720nm,23.0s
GYA LR LR
comp=Z,870nm,22.5s
T32A Huddler Ranch, 89.48 50 ⇑P **P 21 51 49.7 +1.3**
baz=90
H25A Fruitdale 89.48 42 ⇓P **P 21 51 49.9 +1.6**
baz=90
P30A Selden 89.51 48 ⇓P **P 21 51 50.3 +1.7**
baz=90
W34A Bridge Creek, 89.56 53 ⇓P **P 21 51 50.1 +1.3**
baz=90
SNAA Sanae 89.64 177 P **P 21 51 48.0 -0.7**
SNAA Sanae 89.64 177 *e*P **P 21 51 47.6 -1.1**
comp=Z,30nm,1.0s
HIA Hailar 89.74 323 *e*P **P 21 51 49.4 0.0**
comp=Z,23nm,0.9s
HIA LR LR
comp=Z,3µm,19.0s
C23A Lambert 89.98 39 ⇓P **P 21 51 51.8 +1.3**
baz=90
SLVN Son La 90.05 292 *e*P **P 21 51 54.5 +3.1**
VNA2 Neumayer--Watz 90.09 175 P **P 21 51 50.4 -0.3**
R32A Long Quarter, 90.14 49 ⇑P **P 21 51 52.9 +1.4**
baz=90
U34A Anderson Ranch 90.20 51 ⇑P **P 21 51 52.7 +0.9**
baz=90
VNA1 Neumayer--Stat 90.29 175 P **P 21 51 51.3 -0.3**
B23A Brockton 90.41 38 P **P 21 51 53.4 +0.8**
baz=91
XAN Xi'an 90.44 306 P **P 21 51 53.0 -0.1**
XAN pP **pP 21 52 03.5 -0.6**
XAN SKS **SKSac 22 02 19.8 -2.3**
XAN S **S 22 02 41.3 -4.5**
XAN SS **SS 22 08 51.5 +4.2**
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN pmax pmax
comp=Z,80nm,6.5s
XAN LR LR
comp=Z,500nm,20.5s
XAN LR LR
comp=Z,240nm,20.5s
XAN LR LR
comp=Z,330nm,20.5s
Q32A Meitler Ranch, 90.47 49 ⇑P **P 21 51 54.9 +1.8**
baz=91
J28A Allard Ranch, 90.48 44 ⇓P **P 21 51 54.6 +1.6**
baz=91
NVL N'lazarevskaya 90.69 182 *e*P P 21 51 50.0 -3.5
NVL *e* 21 55 45.6
NVL pmax pmax
comp=Z,8.0nm,0.8s
DGMT Dagmar 90.88 39 *e*P **P 21 51 56.5 +1.9**
comp=Z,335nm,2.8s
DGMT LR LR
comp=Z,1µm,20.0s
DGMT Dagmar 90.88 39 ⇓P **P 21 51 56.6 +1.9**
baz=91
TGUH Tegucigalpa,Un 90.97 76 PFAKE 21 52 10.0 +14
TGUH LR LR
comp=Z,866nm,19.0s
CLNS Chul'man 91.04 331 *e*P **P 21 51 54.7 -0.6**
CLNS pmax pmax
comp=Z,40nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=N,26nm,1.1s
HHC Hu-ho-hao-te 91.16 313 *e*P **P 21 51 56.8 +0.5**
HHC pP **pP 21 52 07.0 -0.4**
HHC SKS **SKSac 22 02 23.5 -2.5**
HHC S **S 22 02 50.8 -1.4**
HHC SS **SS 22 08 57.3 -0.3**
HHC pmax pmax
comp=N,39nm,0.4s
HHC pmax pmax
comp=N,530nm,6.4s
HHC LR LR
comp=N,920nm,15.9s
HHC LR LR
comp=N,1µm,16.4s
HHC LR LR
comp=N,1µm,17.1s
D26A Manning 91.29 40 ⇑P **P 21 51 58.3 +1.6**
baz=92
INK Inuvik 91.49 14 *e*P **P 21 51 55.6 -1.4**
comp=N,29nm,1.1s
INK PKKPbc **PKKPdf 22 09 18.0 +0.1**
INK Inuvik 91.49 14 PKKPbc PKKPbc 22 09 18.0 -2.6
comp=N,0.5nm,0.7s,baz=90,slow=3.0,SNR=3.0
J30A Dallas 91.59 45 ⇓P **P 21 51 59.2 +1.0**
baz=92
LCO Las Campanas 91.76 121 *e*P **P 21 51 59.8 +0.1**
comp=N,39nm,1.0s
LCO LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 91.91 49 PFAKE 21 52 10.0 +10
KSU1 LR LR
comp=Z,1µm,19.0s
JTS JuntasAbangare 91.92 80 *e*P **P 21 52 02.0 +1.7**
comp=Z,6.9nm,0.9s
JTS LR LR
comp=Z,1µm,20.0s
TEIG Tepich 92.06 69 PFAKE 21 52 10.0 +9.2
TEIG LR LR
comp=Z,695nm,20.0s
YAK Yakutsk 92.08 337 *e*P **P 21 51 58.6 -1.2**
YAK *e**PP **pP 21 52 08.4 -2.5**
YAK *e* 21 55 41.0
YAK *e*PPP PPP 21 57 40.5
YAK *e*S **SKSac 22 02 28.6 -1.3**
YAK *e* 22 02 59.1
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=Z,121nm,4.0s
YAK pmax pmax
comp=N,138nm,3.7s
YAK pmax pmax
comp=E,135nm,3.6s
YAK smax smax
comp=E,233nm,10.4s
YAK smax smax
comp=N,248nm,12.1s
YAK MLR MLR
comp=Z,740nm,17.0s
YAK MLR MLR
comp=N,747nm,20.0s
YAK MLR MLR
comp=E,268nm,17.0s
YAK Yakutsk 92.08 337 PFAKE 21 52 10.0 +10
YAK LR LR
comp=Z,861nm,19.0s
KMI Kunming 92.33 296 P **P 21 52 03.5 +1.3**
KMI pP **pP 21 52 14.5 +1.2**
KMI sP **sP 21 52 18.5 +1.2**
KMI SKS **SKSac 22 02 34.0 +0.5**
KMI S **S 22 03 04.5 +0.9**
KMI sS **sS 22 03 22.3 +0.3**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,280nm,7.4s
KMI LR LR
comp=Z,430nm,22.4s
KMI LR LR
comp=Z,1µm,19.9s
KMI LR LR
comp=Z,1µm,19.9s
NNA Nana 92.43 103 PFAKE 21 52 20.0 +17
NNA LR LR
comp=Z,1µm,21.0s
MIAR Mount Ida 92.50 54 PFAKE 21 52 10.0 +7.5
MIAR LR LR
comp=Z,654nm,19.0s
YKA Yellowknife Ar 93.16 23 P **P 21 52 03.5 -1.3**
YKA Yellowknife Ar 93.16 23 P **P 21 52 03.5 -1.3**
comp=Z,4.3nm,1.0s,baz=236,slow=4.2,SNR=32
CD2 Chengdu 93.41 301 *e*P **P 21 52 07.3 +0.4**
CD2 sP **sP 21 52 24.0 +2.1**
CD2 PP **PP 21 55 53.5 +1.9**
CD2 SKS **SKSac 22 02 37.0 -1.9**
CD2 S **S 22 03 11.5 -1.1**
CD2 pmax pmax
comp=Z,20nm,1.6s
CD2 pmax pmax
comp=Z,450nm,10.7s
CD2 LR LR
comp=Z,880nm,15.5s
CD2 LR LR
comp=Z,1µm,16.6s
CD2 LR LR
comp=Z,1µm,16.7s
CM31 Chiang Mai Arr 93.52 288 *e*P **P 21 52 07.5 -0.1**
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 93.52 288 P **P 21 52 08.7 +1.1**
CMAR PKKPbc **PKKPbc 22 09 14.1 +0.7**
CMAR Chiang Mai Arr 93.52 288 P **P 21 52 08.7 +1.1**
comp=Z,6.4nm,0.9s,baz=111,slow=2.7,SNR=30
CMAR PKKPbc **PKKPbc 22 09 14.1 +0.7**
comp=Z,0.6nm,0.8s,baz=289,slow=4.8,SNR=5.4
CMAR LR LR 22 32 32.3
comp=Z,697nm,19.2s,baz=96,slow=34
CHTO Chiang Mai 93.63 289 *e*P **P 21 52 08.4 +0.3**
CHTO pmax pmax
comp=Z,3.0nm,0.9s
CHTO MLR MLR
comp=Z,888nm,20.0s
CHTO Chiang Mai 93.63 289 *e*P **P 21 52 08.4 +0.3**
comp=Z,2.6nm,0.9s
CHTO LR LR
comp=Z,888nm,20.0s
ECSD EROS Data Cent 93.67 45 *e*P **P 21 52 09.1 +1.3**
comp=Z,29nm,1.1s
ECSD LR LR
comp=Z,1µm,19.0s
ECSD EROS Data Cent 93.67 45 ⇓P **P 21 52 08.8 +1.1**
baz=94
TRQA Tornquist 94.55 133 PFAKE 21 52 20.0 +7.9
TRQA LR LR
comp=Z,1µm,19.0s
A30A Hoffart Farm, 94.61 40 ⇓P **P 21 52 13.3 +1.4**
baz=95
OTAV Otavalo 94.90 91 PFAKE 21 52 30.0 +15
OTAV LR LR
comp=Z,971nm,20.0s
FFC Flin Flon 94.92 34 *i*P **P 21 52 14.6 +1.5**
FFC Flin Flon 94.92 34 PFAKE 21 52 20.0 +6.9
FFC LR LR
comp=Z,1µm,19.0s
LZH Lanzhou 95.06 306 *e*P **P 21 52 17.0 +2.5**
LZH pP **pP 21 52 27.0 +1.4**
LZH sP **sP 21 52 32.5 +3.0**
LZH *e*S **ScS 22 03 28.0 0.0**
LZH sS **sS 22 03 46.0 +0.4**
LZH SS **SS 22 09 56.3 +2.6**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,100nm,5.2s
LZH LR LR
comp=Z,190nm,17.3s
LZH LR LR
comp=Z,530nm,19.1s
LZH LR LR
comp=Z,1µm,20.1s
LVC Limon Verde 95.70 116 *e*P **P 21 52 20.8 +2.9**
comp=Z,21nm,1.3s
LVC LR LR
comp=Z,1µm,21.0s
AGMN Agassiz Nation 95.86 41 PFAKE 21 52 30.0 +12
AGMN LR LR
comp=Z,1µm,19.0s
BCIP Isla Barro Col 96.36 83 PFAKE 21 52 30.0 +9.3
BCIP LR LR
comp=Z,559nm,19.0s
ULM Lac du Bonnet 96.57 39 P **P 21 52 19.9 -0.9**
ULM Lac du Bonnet 96.57 39 P **P 21 52 19.9 -0.9**
comp=Z,4.6nm,1.0s,baz=233,slow=5.1,SNR=3.9
ULM LR 22 32 17.6
comp=Z,901nm,18.1s,baz=256,slow=33
SPMN St. Paul 96.75 45 *e*P **P 21 52 22.6 +0.9**
comp=Z,29nm,1.2s
SPMN St. Paul 96.75 45 ⇑P **P 21 52 22.6 +0.9**
baz=97
ULN Ulaanbaatar 96.79 318 *e*P **P 21 52 22.5 +0.5**
comp=Z,7.5nm,1.2s
ULN LR LR
comp=Z,1µm,22.0s
SONM Songino Array 97.20 318 P Pdif 21 52 24.3 +0.3
SONM Songino Array 97.20 318 P Pdif 21 52 24.3 +0.3
comp=Z,1.6nm,0.8s,baz=125,slow=3.6,SNR=15
SONM LR LR 22 31 20.9
comp=Z,768nm,21.8s,baz=116,slow=32
JFWS Jewell Farm 97.75 47 PFAKE 21 52 40.0 +14
JFWS LR LR
comp=Z,893nm,21.0s
TIXI Tiksi 98.13 344 *e*P Pdif 21 52 27.5 +0.2
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 98.13 344 *e*P Pdif 21 52 29.1 +1.8
comp=Z,9.6nm,1.2s
TIXI LR LR
comp=Z,1µm,20.0s
EYMN Ely 98.49 42 PFAKE 21 52 40.0 +10
EYMN LR LR
comp=Z,1µm,20.0s
GTA Gaotai 99.12 308 *e*P **Pdif 21 52 33.8 +1.1**
GTA pP **pP 21 52 44.0 +0.2**
GTA sP **sP 21 52 48.0 +0.2**
GTA PP **PP 21 56 38.5 +2.8**
GTA SKS **SKSac 22 03 08.5 -0.2**
GTA S **S 22 04 00.5 -1.2**
GTA sS **sS 22 04 16.3 -3.9**
GTA SS **SS 22 10 50.0 -0.9**
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,200nm,6.2s
GTA LR LR
comp=Z,560nm,19.9s
GTA LR LR
comp=Z,1µm,23.8s
GTA LR LR
comp=Z,2µm,24.5s
ZAK Zakamensk 99.95 320 *e*P **Pdif 21 52 39.2 +3.1**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 100.11 321 *e*P **Pdif 21 52 37.0 +0.3**
TLY *e*S **Sdif 22 04 07.6 -1.6**
TLY *e*PS **PS 22 05 42.9 +0.4**
TLY *e*SS SS 22 10 54.5 -9.4
TLY pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 100.11 321 PFAKE 21 52 50.0 +13
TLY LR LR
comp=Z,1µm,21.0s
MTDJ Mount Denham 101.15 74 PFAKE 21 52 50.0 +7.9
MTDJ LR LR
comp=Z,549nm,21.0s
ACSO Alum Creek Sta 102.24 52 PFAKE 21 53 00.0 +14
ACSO LR LR
comp=Z,851nm,19.0s
AAM Ann Arbor 102.25 49 PFAKE 21 53 00.0 +14
AAM LR LR
comp=Z,1µm,20.0s
LSA Lhasa 103.50 297 PFAKE 21 53 00.0 +7.1
LSA LR LR
comp=Z,697nm,21.0s
ERPA Erie 104.87 50 PFAKE 21 53 10.0 +12
ERPA LR LR
comp=Z,954nm,20.0s
SAML Samuel 106.05 105 PFAKE 21 57 30.0
SAML LR LR
comp=Z,6µm,19.0s
SDDR Presa de Saban 107.06 75 PFAKE 21 57 30.0
SDDR LR LR
comp=Z,1µm,20.0s
GRTK Grand Turk 107.81 73 PFAKE 21 57 30.0
GRTK LR LR
comp=Z,979nm,21.0s
BINY Binghamton 107.81 51 PFAKE 21 57 30.0
BINY LR LR
comp=Z,876nm,19.0s
LONY Lake Ozonia 109.17 48 PFAKE 21 57 30.0
LONY LR LR
comp=Z,706nm,19.0s
NCB Newcomb 109.35 49 PFAKE 21 57 30.0
NCB LR LR
comp=Z,1µm,21.0s
DGAR Diego Garcia 109.98 255 PFAKE 21 57 40.0
DGAR LR LR
comp=Z,2µm,20.0s
LBNH Lisbon 111.02 49 PFAKE 21 57 40.0
LBNH LR LR
comp=Z,1µm,19.0s
ZALV Zalesovo Beam 111.72 321 PKiKP **PKiKP 21 57 25.0 -0.6**
ZALV Zalesovo Beam 111.72 321 PKiKP **PKiKP 21 57 25.0 -0.6**
comp=Z,3.9nm,0.8s,baz=104,slow=1.8,SNR=15
PTGA Pitinga 112.02 99 PFAKE 21 57 40.0
PTGA LR LR
comp=Z,6µm,20.0s
NVS Novosibirsk 112.67 322 *e*PKIKP **PKiKP 21 57 27.3 0.0**
PKME Peaks-Kenny Pk 112.98 48 PFAKE 21 57 40.0
PKME LR LR
comp=Z,1µm,19.0s
MKAR Makanchi Array 113.02 314 Pdif **Pdif 21 53 36.0 +1.8**
MKAR PKiKP **PKiKP 21 57 27.5 -0.8**
MKAR PKKPbc **PKKPbc 22 08 16.1 -0.1**
MKAR PKKPab **PKKPab 22 08 21.7 -0.1**
MKAR Makanchi Array 113.02 314 Pdiff **Pdif 21 53 36.0 +1.8**
comp=Z,0.3nm,0.8s,baz=32,slow=8.5,SNR=3.1
MKAR PKiKP **PKiKP 21 57 27.5 -0.8**
comp=Z,3.7nm,0.7s,baz=28,slow=3.4,SNR=29
MKAR PKKPbc **PKKPbc 22 08 16.1 -0.1**
comp=Z,0.8nm,0.9s,baz=267,slow=2.9,SNR=6.1
MKAR PKKPab **PKKPab 22 08 21.7 -0.1**
comp=Z,1.0nm,0.9s,baz=286,slow=5.4,SNR=5.2
GRGR Grenville 114.33 85 PFAKE 21 57 40.0 +8.3
GRGR LR LR
comp=Z,11µm,21.0s
BBSR BB Station 115.39 62 PFAKE 21 57 50.0 +17
BBSR LR LR
comp=Z,746nm,19.0s
FDF Fort de France 115.46 82 PFAKE 21 57 50.0 +16
FDF LR LR
comp=Z,5µm,20.0s
KURK Kurchatov 115.51 318 *e*PKIKP **PKPdf 21 57 32.7 -0.2**
KURK MLR MLR
comp=Z,744nm,20.0s
KURK Kurchatov 115.51 318 *e*PKPdf **PKPdf 21 57 32.7 -0.2**
KURK LR LR
comp=Z,744nm,20.0s
ANWB Willy Bob 115.53 79 PFAKE 21 57 50.0 +16
ANWB LR LR
comp=Z,4µm,21.0s
BBGH Gun Hill 116.57 84 PFAKE 21 57 50.0 +14
BBGH LR LR
comp=Z,6µm,21.0s
KSH Kashi 117.30 305 *e*PKP **PKPdf 21 57 37.5 +0.6**
KSH *e*SPKP 21 57 52.0
KSH *e*SKS **SKSdf 22 04 44.8 -1.8**
KSH AMB AMB
comp=Z,80nm,8.0s
KSH LR LR
comp=Z,770nm,20.1s
KSH LR LR
comp=Z,1µm,22.6s
KSH LR LR
comp=Z,990nm,18.7s
TKM2 Tokmak 2 117.66 309 *i*PKIKP **PKPdf 21 57 36.7 -0.9**
TKM2 Tokmak 2 117.66 309 P **PKPdf 21 57 36.8 -0.9**
SNR=9.3
TKM2 Tokmak 2 117.66 309 *e*PKPdf **PKPdf 21 57 37.0 -0.6**
TKM2 LR LR
comp=Z,816nm,22.0s

KBK	Karagaybulak	118.14	309	*i* PKIKP	PKPdf	21 57	39.2	+0.8
KBK	Karagaybulak	118.14	309	P	PKPdf	21 57	39.3	+0.8
	SNR=8.1							
CHMS	Chumysh	118.28	309	P	PKPdf	21 57	38.2	-0.3
	SNR=7.5							
USP	Ospenovka	118.46	310	P	PKPdf	21 57	39.2	+0.3
	SNR=8.6							
AAK	Ala-Archa	118.47	309	*i* PKIKP	PKPdf	21 57	38.9	-0.2
AAK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
AAK	Ala-Archa	118.47	309	P	PKPdf	21 57	38.5	-0.7
	SNR=5.4							
AAK	Ala-Archa	118.47	309	*e*PKPdf	PKPdf	21 57	38.4	-0.8
AAK				LR	LR			
	comp=Z,1μm,22.0s							
EKS2	Erkin-Say	119.00	309	*e*PKIKP	PKPdf	21 57	41.0	+1.0
EKS2				MLR	MLR			
	comp=Z,706nm,20.0s							
EKS2	Erkin-Say	119.00	309	P	PKPdf	21 57	41.1	+1.0
	SNR=6.5							
EKS2	Erkin-Say	119.00	309	*e*PKPdf	PKPdf	21 57	41.0	+1.0
EKS2				LR	LR			
	comp=Z,706nm,20.0s							
AML	Almayashu	119.07	308	P	PKPdf	21 57	40.3	-0.3
	SNR=9.5							
KBS	Kingsbay	119.67	359	PFAKE		21 57	50.0	+10
KBS				LR	LR			
	comp=Z,600nm,19.0s							
SFJD	Kangerlussuaq	119.70	22	PFAKE		21 57	50.0	+10
SFJD				LR	LR			
	comp=Z,958nm,20.0s							
BRVK	Borovoye	120.43	321	*i* PKIKP	PKPdf	21 57	42.8	+0.5
BRVK	Borovoye	120.43	321	*e*PKPdf	PKPdf	21 57	42.0	-0.3
BRVK				LR	LR			
	comp=Z,1μm,20.0s							
KK31	Karatay Array	121.38	310*c*	*i* PKIKP	PKPdf	21 57	43.5	-1.0
KK31				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KKAR	Karatay Array	121.38	310	*e*PKIKP	PKPdf	21 57	44.8	+0.3
KKAR	Karatay Array	121.38	310	*e*PKPdf	PKPdf	21 57	44.8	+0.3
KBL	Kabul	122.69	299	*e*PKIKP	PKPdf	21 57	47.5	0.0
KBL	Kabul	122.69	299	*e*PKPdf	PKPdf	21 57	47.5	0.0
SVE	Sverdlovsk	124.83	327	⇑*i* PKIKP	PKPdf	21 57	51.8	+1.2
SVE				*e*		22 05	02.7	
SVE				*e*		22 09	37.5	
SVE				pmax	pmax			
	comp=Z,21nm,1.2s							
SVE				MLR	MLR			
	comp=Z,2μm,20.0s							
ABPO	Ambohimpanom	125.17	229	PFAKE		21 58	00.0	+7.3
ABPO				LR	LR			
	comp=Z,711nm,19.0s							
ARU	Arti	126.05	327	*i* PKIKP	PKPdf	21 57	53.4	+0.4
ARU						21 59	44.7	
ARU				SP	SP	22 09	49.9	+5.4
ARU				SS	SS	22 16	31.7	-15
ARU				MLR	MLR			
	comp=Z,2μm,21.0s							
ARU	Arti	126.05	327	*e*PKPdf	PKPdf	21 57	52.6	-0.4
ARU				LR	LR			
	comp=Z,2μm,20.0s							
MSEY	Mahe Island	126.43	249	PFAKE		21 58	10.0	+15
MSEY				LR	LR			
	comp=Z,938nm,19.0s							
SUR	Sutherland	127.38	195	PFAKE		21 58	10.0	+13
SUR				LR	LR			
	comp=Z,2μm,19.0s							
KEV	Kevo	127.42	351	*e*PKIKP	PKPdf	21 57	52.0	-3.2
KEV	Kevo	127.42	351	*e*pkp	PKPdf	21 57	52.0	-3.2
KEV	Kevo	127.42	351	PFAKE		21 58	10.0	+15
KEV				LR	LR			
	comp=Z,695nm,20.0s							
AB31	Akbulak array	127.61	318*c*	*i* PKIKP	PKPdf	21 57	57.6	+1.4
AB31				pmax	pmax			
	comp=Z,16nm,1.1s							
ABKAR	Akbulak array	127.61	318	*e*PKPdf	PKPdf	21 57	57.7	+1.5
LVZ	Lovozero	127.67	347	PFAKE		21 58	10.0	+14
LVZ				LR	LR			
	comp=Z,1μm,20.0s							
ARCES	ARCESS Array B	127.84	352	PKP	PKPdf	21 57	56.6	+0.5
ARCES	ARCESS Array B	127.84	352	PKP	PKPdf	21 57	56.6	+0.5
	comp=Z,9.1nm,0.9s,baz=323,slow=1.8,SNR=9.8							
APA	Apatity	128.21	347	⇓*i* PKIKP	PKPdf	21 57	58.4	+1.6
APA				*i*		22 05	07.0	
APA				MLR	MLR			
	comp=Z,1μm,18.0s							
PRGR	Permogore	129.12	337	*e*PKIKP	PKPdf	21 57	58.9	+0.3
PRGR				pmax	pmax			
	comp=Z,12nm,0.8s							
BOSA	Boshof	129.58	202	PKP	PKPdf	21 58	02.1	+1.2
BOSA	Boshof	129.58	202	PKP	PKPdf	21 58	02.1	+1.2
	comp=Z,3.1nm,0.8s,baz=166,slow=3.1,SNR=3.9							
RCBR	Riachuelo	131.66	116	PFAKE		21 58	20.0	+15
RCBR				LR	LR			
	comp=Z,2μm,20.0s							
KLMR	Klimovskoe	131.82	339	*e*PKIKP	PKPdf	21 58	05.1	+1.3
KLMR				pmax	pmax			
	comp=Z,47nm,1.6s							
JOF	Joensuu	132.61	345	*e*PKIKP	PKPdf	21 58	02.0	-3.2
JOF	Joensuu	132.61	345	*e*pkp	PKPdf	21 58	02.0	-3.2
KAF	Kangasniemi	134.47	347	*e*PKIKP	PKPdf	21 58	06.9	-1.9
KAF	Kangasniemi	134.47	347	*e*pkp	PKPdf	21 58	06.9	-1.9
FINES	FINESS Array B	135.11	347	PKP	PKPdf	21 58	07.2	-2.8
FINES	FINESS Array B	135.11	347	PKP	PKPdf	21 58	07.2	-2.8
	comp=Z,6.8nm,0.9s,baz=297,slow=0.9,SNR=5.0							
OBN	Obninsk	137.05	335	*i* PKIKP	PKPdf	21 58	14.1	+0.4
OBN				*e*		22 01	00.5	
OBN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,618nm,18.0s							
OBN	Obninsk	137.05	335	PFAKE		21 58	30.0	+16
OBN				LR	LR			
	comp=Z,806nm,19.0s							
VRHR	Novokhopersk	137.39	328	*e*PKIKP	PKPdf	21 58	15.2	+0.7
VRHR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.7s							
VRHR				pmax	pmax			
	comp=E,5.0nm,0.7s							
NB2	NORSAR Subarra	137.57	357	PKPdf	PKPdf	21 58	16.4	+1.7
	comp=Z,5.3nm,1.0s,baz=358,slow=1.9							
NB2	NORSAR Subarra	137.57	357	PKPdf	PKPdf	21 58	16.4	+1.7
	baz=358,slow=1.9							
NOA	NORSAR Array B	137.57	357	PKP	PKPdf	21 58	12.4	-2.3
NOA	NORSAR Array B	137.57	357	PKP	PKPdf	21 58	12.4	-2.3
	comp=Z,4.5nm,0.9s,baz=13,slow=4.0,SNR=9.3							
VSU	Vasula	137.60	344	*i* PKIKP	PKPdf	21 58	15.5	+0.8
MAK	Makhachkala	137.83	314	*i* P	Pdif	21 55	40.9	+16
MAK				*e*		22 05	15.0	
MAK				pmax	pmax			
	comp=Z,128nm,1.0s							
VSR	Storozhevoye	138.54	329	*e*PKIKP	PKPdf	21 58	17.7	+1.1
VSR				pmax	pmax			
	comp=Z,9.0nm,0.7s							
VSR				pmax	pmax			
	comp=N,6.0nm,1.0s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.8s							
VSR				MLR	MLR			
	comp=Z,2μm,22.0s							
VSR				MLR	MLR			
	comp=N,710nm,23.0s							
VSR				MLR	MLR			
	comp=E,350nm,18.0s							
VORD	Divnogorie	138.63	329	*e*PKIKP	PKPdf	21 58	18.3	+1.5
VORD				pmax	pmax			
	comp=N,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=Z,9.0nm,0.8s							
VORD				pmax	pmax			
	comp=E,6.0nm,0.6s							
VORD				MLR	MLR			
	comp=Z,950nm,18.0s							
VORD				MLR	MLR			
	comp=N,590nm,20.0s							
VORD				MLR	MLR			
	comp=E,760nm,19.0s							
KONO	Kongsberg	139.04	358	*i* PKIKP	PKPdf	21 58	20.4	+3.1
KONO				pmax	pmax			
	comp=Z,113nm,1.7s							
KONO	Kongsberg	139.04	358	PFAKE		21 58	30.0	+13
KONO				LR	LR			
	comp=Z,756nm,20.0s							
LSZ	Lusaka	140.03	214	*e*PKPdf	PKPdf	21 58	20.9	+0.3
LSZ				LR	LR			
	comp=Z,893nm,19.0s							
NCK	Nalchik	140.22	317	*i* PKIKP	PKPdf	21 58	22.6	+2.6
KBZ	Khabaz	140.56	317	PKIKP	PKPdf	21 58	20.2	-0.3
KBZ	Khabaz	140.56	317	PKP	PKPdf	21 58	20.2	-0.3
KBZ	Khabaz	140.56	317	PKP	PKPdf	21 58	20.2	-0.3
	comp=Z,2.8nm,0.8s,baz=45,slow=5.7,SNR=2.1							
KIV	Kislovodsk	140.59	318	*i* PKIKP	PKPdf	21 58	21.3	+0.5
KIV				*e*		22 01	15.9	
KIV				*e*SS	SS	22 19	40.0	-3.2
KIV				*e*SSS	SSS	22 24	55.1	
KIV				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,1μm,22.0s							
KIV	Kislovodsk	140.59	318	PFAKE		21 58	30.0	+9.2
KIV				LR	LR			
	comp=Z,1μm,20.0s							
MICGM	Minsk	140.67	340	*e*	PKPdf	21 58	24.0	+3.6
NACGM	Naroch	140.68	342	*e*	PKPdf	21 58	13.0	-7.4
MNK	Minsk	140.69	340	*e*PKIKP	PKPdf	21 58	24.0	+3.5
TSUM	Tsumeb	140.78	197	PFAKE		21 58	30.0	+8.1
TSUM				LR	LR			
	comp=Z,1μm,19.0s							
GNI	Garni	140.81	311	PFAKE		21 58	30.0	+8.6
GNI				LR	LR			
	comp=Z,726nm,20.0s							
SUW	Suwalki	142.47	344	*e*PKHKP	PKPpre	21 58	19.0	
SUW				*e*		21 58	26.6	
SUW	Suwalki	142.47	344	*e*PKP	PKPpre	21 58	19.0	
SUW				*e*		21 58	26.5	
SUW	Suwalki	142.47	344	*e*PKPdf	PKPdf	21 58	20.7	-3.0
HAKT	HAKKARI	142.47	308	*i* P	PKPdf	21 58	22.1	-2.4
SOC	Sochi	142.65	319	*i* PKHKP	PKPpre	21 58	16.6	
ESK	Eskdalemuir	142.71	9	PFAKE		21 58	40.0	+16
ESK				LR	LR			
	comp=Z,1μm,19.0s							
EKAR	Karacoban	143.05	311	*i* P	PKPdf	21 58	30.2	+4.7
AKASG	Malin Array Be	143.30	336	PKHKP	PKPab	21 58	21.3	+0.2
AKASG	Malin Array Be	143.30	336	PKPpre	PKPab	21 58	21.3	+0.2
AKASG	Malin Array Be	143.30	336	PKhKP	PKPab	21 58	21.3	+0.2
	comp=Z,5.0nm,0.7s,baz=37,slow=4.1,SNR=30							
AKBB	Malin Array Si	143.30	336	*e*PKHKP	PKPab	21 58	20.9	-0.2
AKBB	Malin Array Si	143.30	336	*e*PKPdf	PKPab	21 58	20.9	-0.2
KIEV	Kiev	143.31	336	*e*PKHKP	PKPbc	21 58	21.9	-0.4
KIEV				MLR	MLR			
	comp=Z,949nm,19.0s							
KIEV	Kiev	143.31	336	*e*PKPdf	PKPbc	21 58	21.9	-0.5
KIEV				LR	LR			
	comp=Z,949nm,19.0s							
AK01	Malin Array Si	143.31	336	*e*PKPdf	PKPab	21 58	21.0	-0.1
AK02	Malin Array Si	143.34	336	*e*PKPdf	PKPab	21 58	21.0	-0.3
RAYN	Ar Rayn	143.34	284	*e*PKPdf	PKPdf	21 58	27.4	+1.2
SIRN	S¨–rnak	143.46	308	*i* P	PKPbc	21 58	24.2	+0.8
SHEL	Horse Pasture	143.52	160	PFAKE		21 58	40.0	+13
SHEL				LR	LR			
	comp=Z,1μm,20.0s							
VRTB	Varto-Mus	143.53	311	*e*P	PKPab	21 58	22.3	-0.4
KMBO	Kilima Mbogo	143.89	240	*e*PKPdf	PKPbc	21 58	25.2	-0.3
KMBO				PKP	PKPab	21 58	25.5	+0.6
KMBO				LR	LR			
	comp=Z,914nm,19.0s							
KMBO	Kilima Mbogo	143.89	240	PKP	PKPbc	21 58	25.5	0.0
	comp=Z,14nm,0.9s,baz=56,slow=6.5,SNR=24							
GUMT	Gumushane	144.33	315	*e*P	PKPab	21 58	25.7	+0.1
EUZM	Uzumlu	144.53	313	*i* P	PKPdf	21 58	27.9	-0.1
ERZN	Erzincan	144.56	313	*e*P	PKPab	21 58	25.3	-1.2
KELT	Kelkit	144.63	314	*i* P	PKPbc	21 58	27.6	+0.6
BSEG	Bad Segeberg	144.71	356	*e*PKPbc	PKPdf	21 58	27.5	-0.1
MARD	Mardin	144.74	309	*i* P	PKPdf	21 58	28.4	0.0
MAZI	Mazidag	144.93	309	*e*P	PKPab	21 58	26.9	-1.0
DYBB	Diyarbakir	144.96	310	*e*P	PKPab	21 58	27.3	-0.7
DIYA	Diyarbakir	144.98	310	*i* P	PKPdf	21 58	29.3	+0.6
BEL	Belsk	145.06	344	*e*PKIKP	PKPdf	21 58	28.0	-0.3
BEL	Belsk	145.06	344	*e*PKP	PKPdf	21 58	28.0	-0.3
PTK	Pertek	145.10	312	*e*P	PKPbc	21 58	27.6	-0.9
SIM	Simferopol'	145.14	325	*i* PKIKP	PKPdf	21 58	30.2	+1.5
SIM				*e*		21 58	40.0	
SIM				pmax	pmax			
	comp=Z,38nm,0.9s							
SUSE	Susehri	145.31	315	*i* P	PKPdf	21 58	32.2	+2.9
ILIC	ilic-Erzincan	145.42	314	*e*P	PKPab	21 58	33.9	+4.2
ELZG	Elazig	145.56	312	*i* P	PKPab	21 58	31.7	+1.4
KEMA	Kemaliye	145.56	313	*i* P	PKPab	21 58	32.0	+1.9
RSDY	Resadiye-TOKAT	145.80	316	*e*P	PKPdf	21 58	27.6	-2.4
RUE	Ruedersdorf	145.81	352	*e*PKPdf	PKPdf	21 58	29.4	-0.1
LVV	L'vov	145.91	340	⇓*i* PKIKP	PKPdf	21 58	29.4	-0.4
URFA	Urfa	146.12	310	*e*P	PKPdf	21 58	30.8	+0.1
KVT	Kavak	146.28	318	*e*P	PKPab	21 58	33.9	+1.1
KIS	Kishinev	146.34	332	*e*PKP2	PKPdf	21 58	30.0	-0.6
KIS				*e*		22 01	52.0	
KIS				*e*PPP	PPP	22 05	04.0	
KIS				pmax	pmax			
	comp=Z,180nm,1.4s							
KIS	Kishinev	146.34	332	*e*PKP	PKPdf	21 58	30.0	-0.6
	comp=Z,200nm,1.4s							
KIS	Kishinev	146.34	332	*e*PP	PP	22 01	52.0	-2.0
TOKA	Tokat	146.40	316	*i* P	PKPab	21 58	34.2	+1.0
IBBN	Ibbenburen	146.45	359	*e*PKPbc	PKPdf	21 58	31.1	+0.5
DIKM	Dikmen	146.46	319	*e*P	PKPab	21 58	34.3	+0.9
ATAB	Bozova	146.49	311	*i* P	PKPab	21 58	34.6	+1.0
HAVZ	Havza	146.49	318	*i* P	PKPdf	21 58	22.9	-8.3
KWP	Kalwaria Pacla	146.49	341	*e*PKP2	PKPbc	21 58	31.6	-0.7
KWP				MLR	MLR			
	comp=Z,1μm,19.0s							
KWP	Kalwaria Pacla	146.49	341	*e*PKP	PKPbc	21 58	31.8	-0.5
KWP	Kalwaria Pacla	146.49	341	⇓*i* P	PKPbc	21 58	32.5	+0.2
KWP	Kalwaria Pacla	146.49	341	*e*PKPdf	PKPbc	21 58	31.6	-0.7
KWP				LR	LR			
	comp=Z,1μm,19.0s							
ASCN	Ascension	146.50	140	PFAKE		21 58	40.0	+5.7
ASCN				LR	LR			
	comp=Z,1μm,21.0s							
DARE	Darende-Malaty	146.57	313	*e*P	PKPab	21 58	34.3	+0.2
OJC	Ojcow	146.79	344	*e*PKIKP	PKPbc	21 58	32.4	-0.7
OJC	Ojcow	146.79	344	*e*PKP	PKPbc	21 58	32.4	-0.7
WTSB	Winterswijk	146.80	360	*e*PKP	PKPdf	21 58	32.0	+0.8
	comp=Z,113nm,1.3s							
BOYT	Boyabat	146.81	319	*i* P	PKPab	21 58	34.4	-0.3
KSP	Ksiaz	146.99	349	*e*PKP2	PKPbc	21 58	33.3	-0.3
KSP				MLR	MLR			
	comp=Z,4μm,21.9s							
KSP	Ksiaz	146.99	349	*e*PKP	PKPbc	21 58	33.5	-0.1
LEOM	Leova	147.00	332	⇓PKP2	PKPab	21 58	35.3	+0.1
LEOM	Leova	147.00	332	⇓*i* P	PKPab	21 58	35.3	+0.1
CLL	Collm	147.05	352	*e*PKIKP	PKPbc	21 58	33.0	-0.8
CLL				*e*		21 58	34.0	
CLL				*i*		21 58	43.6	
CLL				MLR	MLR			
	comp=Z,900nm,18.6s							
CLL	Collm	147.05	352	*e*PKPbc	PKPbc	21 58	33.0	-0.8
CLL				*e*PKPab	PKiKP	21 58	36.0	-0.3
CLL	Collm	147.05	352	*e*PKPdf	PKPbc	21 58	33.0	-0.8
CLL				*e*PKPbc	PKPab	21 58	34.0	-1.3
CLL				*i* PKPab	PKiKP	21 58	35.9	-0.3
	comp=Z,84nm,0.9s							
CLL				*e*PKPlp		21 58	37.0	
	comp=Z,800nm,16.3s							
CLL				*i* pPKPbc	pPKPbc	21 58	43.6	-1.5
CLL				*e*pPKPab	pPKPab	21 58	47.0	+0.5
CLL				*e*PP	PP	22 01	54.0	-3.8
CLL				*e*PPP	PPP	22 05	24.0	
CLL				*e*SKKSac	SKKSac	22 08	53.0	+5.4
CLL				*e*PSKS		22 12	06.0	
CLL				*e*		22 19	47.0	
CLL				*e*(PSS)		22 22	24.0	
CLL				*e*SSS	SSS	22 26	19.0	
CLL				LmH		23 08	00.0	
	comp=N,400nm,19.0s							
CLL				LmH		23 08	00.0	
	comp=E,500nm,21.5s							
CLL				LmH		23 08	00.0	
	comp=Z,700nm,19.3s							
CLL				LmV		23 16	00.0	
	comp=Z,900nm,18.6s							
GZT	Gaziantep	147.06	311	*i* P	PKPbc	21 58	34.7	+0.2
STHS	Stebnicka Huta	147.13	342	*e*PKP2	PKPbc	21 58	34.8	+0.7
STHS	Stebnicka Huta	147.13	342	*e*PKP	PKPbc	21 58	34.8	+0.7
PRAR	RASCA	147.15	335	⇑*i* P	PKPab	21 58	37.4	+1.5
KOLS	Kolonicke sedl	147.24	341	*e*PKIKP	PKPbc	21 58	33.9	-0.5
KOLS	Kolonicke sedl	147.24	341	*e*PKP	PKPbc	21 58	33.9	-0.5
PINB	Pinarbasi	147.27	314	*i* P	PKPbc	21 58	34.8	-0.4
FURI	Furi	147.28	257	*e*P	PKPab	21 58	37.9	+0.1
BUR08	Bucovina Ar. S	147.33	336	*e*PKPdf	PKPdf	21 58	32.8	+0.3
CTKT	Corum	147.33	318	*i* P	PKPab	21 58	40.3	+3.3
BURAR	Bucovina Array	147.34	336	⇑*i* P	PKPdf	21 58	31.7	-0.8
BRG	Berggiesshubel	147.35	351	*i* PKP	PKPbc	21 58	34.1	-0.6
	comp=Z,14nm,0.9s							
BRG				*i*		21 58	37.4	
	comp=Z,40nm,0.9s							
BRG				*e*		21 58	56.4	
	comp=Z,92nm,1.4s							
BRG								
	comp=Z,882nm,22.2s							
BRG								
	comp=N,1μm,28.7s							
BRG								
	comp=E,560nm,28.7s							
BRG	Berggiesshubel	147.35	351	*e*PKPbc	PKPbc	21 58	34.2	-0.4
UPC	Upice	147.36	349	*e*PKP2	PKPbc	21 58	34.5	-0.2
UPC	Upice	147.36	349	*e*PKP	PKPbc	21 58	34.5	-0.2
UPC				*e*pPKP	pPKPdf	21 58	45.3	+1.6
NIE	Niedzica	147.39	343	*e*PKP2	PKPbc	21 58	34.9	+0.1
NIE	Niedzica	147.39	343	*e*PKP	PKPbc	21 58	34.9	+0.1
DPC	Dobruska-Polom	147.45	348	*e*PKIKP	PKPdf	21 58	33.7	+1.2
DPC	Dobruska-Polom	147.45	348	*e*PKP	PKPdf	21 58	33.7	+1.2
DPC				AMS	AMS	23 02	20.0	
KMRS	Kahramanmaras	147.47	311	*e*P	PKPdf	21 58	33.5	+0.6
UZH	Uzhgorod	147.50	340	*e*PKIKP	PKPdf	21 58	33.6	+1.1
UZH				*e*		21 58	36.2	
UZH				*e*		21 58	39.2	
UZH				*e*		21 58	47.4	
UZH				*e*		22 01	58.2	
CRVS	Cervenica-Dubn	147.52	341	*e*PKIKP	PKPbc	21 58	34.7	-0.5
CRVS	Cervenica-Dubn	147.52	341	*e*PKP	PKPbc	21 58	34.7	-0.5
OKC	Ostrava-Krasne	147.55	346	*e*PKIKP	PKPbc	21 58	34.0	-1.2
OKC				*e*		21 58	36.9	
OKC				*e*		21 58	48.7	
OKC				MLR	MLR			
	comp=Z,1μm,21.0s							
OKC	Ostrava-Krasne	147.55	346	*e*PKP	PKPbc	21 58	34.0	-1.2
OKC				*ex*	x	21 58	36.9	
OKC				*ep*PKP	pPKPdf	21 58	48.7	+4.7
OKC				AMS	AMS	23 02	50.0	
	comp=Z,1μm,21.0s							
BNN	Bunyan	147.56	314	*e*P	PKPbc	21 58	36.6	+0.8
PVCC	Panska Ves	147.59	350	*e*PKIKP	PKPbc	21 58	34.5	-0.8
PVCC				MLR	MLR			
	comp=Z,1μm,20.2s							
PVCC	Panska Ves	147.59	350	*e*PKP	PKPbc	21 58	34.5	-0.8
PVCC				AMS	AMS	23 03	10.0	
	comp=Z,1μm,20.2s							
KRLC	Kraliky	147.62	348	*e*PKIKP	PKPbc	21 58	34.7	-0.8
KRLC				*e*		21 58	46.0	
KRLC	Kraliky	147.62	348	*e*PKP	PKPbc	21 58	34.7	-0.8
KRLC				*ep*PKP	pPKPdf	21 58	46.0	+1.8
TESR	Tescani	147.66	334	⇓*i* P	PKPab	21 58	36.9	-1.0
KUZU	Kuzuini	147.67	310	*i* P	PKPab	21 58	38.2	-0.2
CORM	Corum	147.67	317	*e*P	PKPbc	21 58	35.0	-1.0
TLCR		147.70	330	⇑PKP2	PKPbc	21 58	36.7	+1.0
TLCR		147.70	330	⇑*i* P	PKPbc	21 58	36.7	+1.0
MORC	Moravsky Berou	147.75	346	*e*PKIKP	PKPdf	21 58	33.9	+0.9
MORC	Moravsky Berou	147.75	346	⇓*i* P	PKPbc	21 58	36.0	+0.2
MORC	Moravsky Berou	147.75	346	⇓*i* P	PKPab	21 58	38.7	+0.5
MORC	Moravsky Berou	147.75	346	*e*PKPdf	PKPdf	21 58	33.9	+0.9
TRPA	Tarpa	147.86	340	⇓*i* P	PKPbc	21 58	35.3	-0.8
TRPA	Tarpa	147.86	340	*e*PKPdf	PKPbc	21 58	37.0	+0.9
MOX	Moxa	147.86	354	*e*PKPbc	PKPbc	21 58	35.0	-1.1
MOX				*e*PKPab	PKPab	21 58	38.8	+0.2
BMR	Baia Mare	147.93	338	⇓PKP2	PKPbc	21 58	36.6	+0.3
BMR	Baia Mare	147.93	338	⇓*i* P	PKPbc	21 58	36.6	+0.3
BEBN	Eben Emael	147.97	1	PKPab	PKPab	21 58	39.7	+0.8
HGN	Heimansgroeve	148.00	1	*e*PKP	PKPbc	21 58	37.2	+0.8
	comp=Z,142nm,2.3s							
MENF	Mencas	148.03	5	PKP	PKPab	21 58	38.3	-0.9
PRA	Prague	148.06	350	PKP	PKPbc	21 58	37.0	+0.4
CANT	Cankiri	148.07	319	*e*P	PKPdf	21 58	35.0	+1.2
PRU	Pruhonice	148.12	350	*e*PKP2	PKPbc	21 58	36.4	-0.3
PRU				MLR	MLR			
	comp=Z,1μm,21.5s							
PRU	Pruhonice	148.12	350	*e*PKP	PKPbc	21 58	36.4	-0.3
PRU				*ep*PKP	pPKPdf	21 58	47.5	+2.6
PRU				AMS	AMS	23 04	30.0	
	comp=Z,1μm,21.5s							
VRI	Vrincioaia	148.13	333	⇑PKP2	PKPab	21 58	38.6	-

KHC *e* 21 58 49.8
KHC MLR MLR
comp=Z,1µm,19.6s
KHC Kasperske Hory 149.10 351 *e*PKP **PKPbc 21 58 37.4 -2.0**
KHC *ex* x 21 58 39.6
KHC *ep*PKP **pPKPdf 21 58 49.8 +3.2**
KHC *ex* x 21 58 57.5
KHC AMS AMS 23 04 50.0
comp=Z,1µm,19.6s
KHC Kasperske Hory 149.10 351 *e*PKPdf **PKPbc 21 58 38.0 -1.4**
WLF Walferdange 149.11 0 PKPbc **PKPbc 21 58 40.6 +1.3**
WLF APKPbc 21 58 50.3
WLF Walferdange 149.11 0 *e*PKP2 **PKPbc 21 58 39.6 +0.3**
WLF MLR MLR
comp=Z,1µm,20.0s
WLF Walferdange 149.11 0 *e*PKPbc **PKPbc 21 58 39.0 -0.3**
WLF *e*PKPab **PKPab 21 58 42.2 -1.4**
WLF Walferdange 149.11 0 *e*PKPdf **PKPbc 21 58 39.6 +0.3**
WLF LR LR
comp=Z,1µm,20.0s
SULR 149.27 332 ⇓ *i* P **PKPbc 21 58 40.9 +1.1**
GEC2 GERESS Array S 149.36 351 *e*PKPbc **PKPbc 21 58 39.9 -0.2**
GERES GERESS Array B 149.36 351 PKPbc **PKPbc 21 58 39.8 -0.3**
GERES GERESS Array B 149.36 351 PKPbc **PKPbc 21 58 39.8 -0.3**
comp=Z,20nm,0.8s,baz=27,slow=1.5,SNR=49
ROSF Rostrenen 149.40 13 *e*PKIKP **PKPdf 21 58 37.8 +2.2**
ROSF Rostrenen 149.40 13 *e*PKIKP **PKPdf 21 58 37.8 +2.2**
ROSF Rostrenen 149.40 13 *e*PKPdf **PKPdf 21 58 37.8 +2.2**
ARR Arges 149.42 334 ⇑ *i* P **PKPbc 21 58 40.7 +0.4**
MERS Mersin 149.45 312 *e*P **PKPdf 21 58 33.9 -2.3**
SULT Sultanhani-AKS 149.47 315 *e*P **PKPbc 21 58 40.1 -0.6**
FLN La Foliniere 149.49 9 *e*PKIKP **PKPbc 21 58 38.1 -2.2**
comp=Z,21nm,0.8s
FLN *e*R
comp=Z,901nm,18.8s
FLN La Foliniere 149.49 9 *e*PKIKP **PKPbc 21 58 38.1 -2.2**
FLN La Foliniere 149.49 9 *e*PKPdf **PKPbc 21 58 38.1 -2.2**
BUD Budapest 149.51 343 *e* **PKPbc 21 58 48.0 -2.8**
ASF Jabal al Asfar 149.53 302 PKPbc **PKPbc 21 58 42.7 +1.6**
ASF Jabal al Asfar 149.53 302 PKPbc **PKPbc 21 58 42.7 +1.6**
comp=Z,5.4nm,0.7s,baz=61,slow=6.4,SNR=2.6
SGMF Saint Gilles 149.62 12 *e*PKIKP **PKPdf 21 58 38.1 +2.1**
SGMF Saint Gilles 149.62 12 *e*PKIKP **PKPdf 21 58 38.1 +2.1**
SGMF Saint Gilles 149.62 12 *e*PKPdf **PKPdf 21 58 38.1 +2.1**
MDUB Mudurnu 149.63 321 *e*P **PKPbc 21 58 40.9 -0.2**
DEV Deva 149.66 337 ⇓ PKP2 **PKPab 21 58 44.4 -1.6**
DEV Deva 149.66 337 ⇓ *i* P **PKPab 21 58 44.4 -1.6**
LDF La Druitiere 149.71 9 *e*PKIKP **PKPdf 21 58 38.3 +2.2**
comp=Z,41nm,1.1s
LDF La Druitiere 149.71 9 *e*PKIKP **PKPdf 21 58 38.3 +2.2**
LDF La Druitiere 149.71 9 *e*PKPdf **PKPdf 21 58 38.3 +2.2**
PKSG 149.76 344 *e*PKPdf **PKPbc 21 58 41.8 +0.8**
LANF Langenberg 149.77 358 PKP **PKPbc 21 58 42.2 +1.2**
SIRR Siria 149.78 339 ⇑ *i* P **PKPbc 21 58 42.8 +1.7**
GRR Gorron 149.79 10 *e*PKIKP **PKPdf 21 58 38.5 +2.2**
GRR Gorron 149.79 10 *e*PKIKP **PKPdf 21 58 38.5 +2.2**
GRR Gorron 149.79 10 *e*PKPdf **PKPdf 21 58 38.5 +2.2**
QUIF Quistinic 149.82 13 *e*PKIKP **PKPdf 21 58 38.6 +2.3**
QUIF Quistinic 149.82 13 *e*PKIKP **PKPdf 21 58 38.6 +2.3**
QUIF Quistinic 149.82 13 *e*PKPdf **PKPdf 21 58 38.6 +2.3**
CSKK Cs˘ˇtkako 149.82 344 *e*PKPdf **PKPbc 21 58 40.8 -0.3**
PRD Provadia 149.85 329 *i* P **PKPbc 21 58 42.6 +1.3**
CONA Conrad Observa 149.85 347 ⇑ *i* PKPbc **PKPdf 21 58 38.8 +2.3**
comp=Z,55nm,0.9s,SNR=15
PKS7 Kunszentmiklos 149.87 343 *e*PKPdf **PKPbc 21 58 38.9 -2.3**
KIZK Mersin 149.90 312 *i* P **PKPbc 21 58 43.1 +1.5**
STU Stuttgart 149.92 356 *e*PKP2 **PKPbc 21 58 44.1 +2.7**
STU Stuttgart 149.92 356 *e*PKPab **PKPbc 21 58 44.1 +2.7**
SOP Sopron 149.94 346 *e*PKPdf **PKPbc 21 58 42.8 +1.4**
PKST T˜˜s 149.98 344 *e*PKPdf **PKPbc 21 58 42.1 +0.6**
GZR Gura Zlata 150.13 337 ⇓ PKIKP **PKPdf 21 58 39.5 +2.5**
GZR Gura Zlata 150.13 337 ⇓ *i* P **PKPdf 21 58 39.5 +2.5**
KIZT Kizilcal 150.16 318 *e*P **PKPbc 21 58 40.1 -2.3**
PAGF Fort de Pagny 150.21 1 *e*PKIKP **PKPbc 21 58 39.7 -2.4**
PAGF Fort de Pagny 150.21 1 *e*PKPdf **PKPbc 21 58 39.7 -2.4**
LADK Ladik-KONYA 150.23 316 *e*P **PKPbc 21 58 41.2 -1.3**
MOA Molln 150.24 349 ⇑ *i* PKPbc **PKPbc 21 58 40.0 -2.2**
comp=Z,22nm,0.9s,SNR=6.1
MEZF Maizieres J'vi 150.25 2 *e*PKIKP **PKPbc 21 58 39.9 -2.2**
MEZF Maizieres J'vi 150.25 2 *e*PKPdf **PKPbc 21 58 39.9 -2.2**
HRT Hereke 150.30 323 *e*P **PKPbc 21 58 40.1 -2.5**
WLS Welschbruch 150.35 359 PKP **PKPbc 21 58 43.6 +1.1**
BZS Buzias 150.36 338 ⇓ *i* P **PKPbc 21 58 41.4 -1.1**
BFO Black Forest 150.41 357 *e*PKIKP **PKPdf 21 58 37.5 +0.2**
BFO MLR MLR
comp=Z,769nm,20.0s
BFO Black Forest 150.41 357 *e*PKPbc **PKPbc 21 58 41.8 -0.8**
BFO Black Forest 150.41 357 *e*PKPdf **PKPdf 21 58 37.5 +0.2**
BFO LR LR
comp=Z,769nm,20.0s
SEYT Eskypehyr 150.43 320 *i* P **PKPbc 21 58 42.3 -0.7**
MMAI Mount Meron Ar 150.43 305 PKPbc **PKPbc 21 58 43.9 +0.8**
MMAI Mount Meron Ar 150.43 305 PKPbc **PKPbc 21 58 43.9 +0.8**
comp=Z,40nm,1.0s,baz=36,slow=5.4,SNR=12
SZH Strazhica 150.51 330 *i* P **PKPbc 21 58 43.7 +0.8**
PKS9 Tamasi 150.53 343 *e* **PKPbc 21 58 43.0 +0.1**
THEF They Montfort 150.55 1 PKP **PKPbc 21 58 44.0 +1.1**
SFTF Sexfontaines 150.55 2 *e*PKIKP **PKPdf 21 58 40.1 +2.6**
SFTF Sexfontaines 150.55 2 *e*PKPdf **PKPdf 21 58 40.1 +2.6**
ECH Echery 150.55 359 *e*PKIKP **PKPdf 21 58 37.1 -0.4**
ECH MLR MLR
comp=Z,718nm,20.0s
ECH Echery 150.55 359 PKP **PKPbc 21 58 45.2 +2.3**
ECH Echery 150.55 359 *e*PKPdf **PKPdf 21 58 37.1 -0.4**
ECH LR LR
comp=Z,718nm,20.0s
BGKT Bogazkoy 150.57 324 *e*P **PKPdf 21 58 39.7 +2.0**
ARSA Arzberg 150.57 347 ⇑ *i* PKPbc **PKPbc 21 58 41.0 -2.0**
comp=Z,20nm,1.1s,SNR=6.5
SRE Strehaia 150.57 335 ⇓ PKP2 **PKPbc 21 58 45.2 +2.2**
SRE Strehaia 150.57 335 ⇓ *i* P **PKPbc 21 58 45.2 +2.2**
RJOB Jochberg 150.58 351 *e*PKPbc **PKPbc 21 58 43.3 +0.3**
CTKS Kestanelik-??a 150.68 325 *e*P **PKPdf 21 58 40.5 +2.6**
PKSM Moragy 150.78 343 ⇑ *i* P **PKPdf 21 58 40.4 +2.5**
PKSM Moragy 150.78 343 *e*PKPdf **PKPdf 21 58 39.9 +2.0**
JMB Yambol 150.80 329 ⇑ PKP2 **PKPbc 21 58 45.2 +1.6**
JMB Yambol 150.80 329 ⇑ *i* P **PKPbc 21 58 45.2 +1.6**
PVL Pavlikeni 150.82 331 *i* P **PKPbc 21 58 46.7 +3.1**
SLVT Silivri 150.84 325 *e*P **PKPbc 21 58 41.2 -2.5**
LFK Lefkose 150.90 310 *e*P **PKPbc 21 58 42.8 -1.4**
MOF Molkenrain 150.92 359 PKP **PKPbc 21 58 44.9 +1.0**
ARMT Armutlu 150.93 323 *e*P **PKPbc 21 58 41.6 -2.4**
HINF Hinteralfeld 150.96 359 *e*PKIKP **PKPdf 21 58 40.5 +2.3**
HINF Hinteralfeld 150.96 359 *e*PKPdf **PKPdf 21 58 40.5 +2.3**
SACV Santiago Islan 151.00 93 PFAKE 21 58 50.0 -2.4
SACV LR LR
comp=Z,1µm,19.0s
BEHE Becsehely 151.03 345 *e*PKPdf **PKPbc 21 58 42.1 -1.9**
ULDT Uludag 151.06 322 *i* P **PKPbc 21 58 45.4 +0.8**
RETA Reutte 151.07 354 ⇑ *i* PKPbc **PKPdf 21 58 41.2 +2.8**
comp=Z,32nm,1.1s,SNR=7.4
WATA Walderalm 151.13 353 ⇑ *i* PKPdf **PKPdf 21 58 40.8 +2.2**
comp=Z,26nm,0.8s,SNR=8.2
KBA Koelnbreinsper 151.14 350 ⇑ *i* PKPbc **PKPdf 21 58 40.9 +2.2**
comp=Z,20nm,0.7s,SNR=6.9
ALT Altintas 151.16 320 *e*P **PKPbc 21 58 42.8 -1.9**
EDRB Edirne 151.18 328 *e*P **PKPbc 21 58 44.4 -0.2**
MOTA Moosalm 151.18 353 ⇓ *i* PKPdf **PKPdf 21 58 40.4 +1.7**
comp=Z,54nm,1.0s,SNR=16
CSS Prodhromos 151.19 310 *e*PKPdf **PKPdf 21 58 40.2 +1.3**
CSS LR LR
comp=Z,233nm,20.0s
SHUT Suhut-Afyon 151.19 318 *e*P **PKPbc 21 58 44.8 -0.1**
WTTA Wattenberg 151.20 353 ⇑ *i* PKPbc **PKPbc 21 58 43.1 -1.5**
comp=Z,57nm,0.8s,SNR=15
SOKA Soboth 151.22 348 ⇑ *i* PKPbc **PKPdf 21 58 41.2 +2.5**
comp=Z,40nm,0.9s,SNR=12
PERS Pernice 151.24 348 *i* PKPbc **PKPbc 21 58 45.0 +0.3**
PERS *e* 21 58 56.9
GAZI Gazipasa 151.30 313 *i* P **PKPdf 21 58 35.7 -3.4**
TVSB Tavsanli 151.31 321 *e*P **PKPbc 21 58 46.3 +1.2**
DAVA Damuels 151.35 355 ⇑ *i* PKPbc **PKPdf 21 58 41.9 +2.9**
comp=Z,61nm,1.0s,SNR=11
LOMF Lomont 151.42 359 PKP **PKPbc 21 58 45.6 +0.6**
LOR Lormes 151.43 4 *e*PKIKP **PKPdf 21 58 41.5 +2.6**
comp=Z,45nm,1.4s
LOR *e*R
comp=Z,1µm,20.5s
LOR Lormes 151.43 4 *e*PKPdf **PKPdf 21 58 41.5 +2.6**
LEF Lefka 151.44 310 *e*P **PKPbc 21 58 43.6 -1.8**
MYKA Terra Mystica 151.52 350 ⇓ *i* PKPdf **PKPdf 21 58 41.2 +2.1**
comp=Z,23nm,0.8s

GDZ Gediz 151.53 320 *i* P **PKPbc 21 58 46.7 +1.1**
SUTC Sutluce-Ispart 151.53 316 *e*P **PKPbc 21 58 45.5 -0.2**
FETA Feichten 151.54 354 ⇑ *i* PKPdf **PKPdf 21 58 40.5 +1.3**
comp=Z,34nm,0.8s,SNR=7.7
ABTA Abfaltersbach 151.59 351 ⇑ *i* PKPdf **PKPdf 21 58 40.7 +1.5**
comp=Z,66nm,0.8s,SNR=13
SSF Saint Saulge 151.61 4 *e*PKIKP **PKPdf 21 58 41.7 +2.6**
SSF Saint Saulge 151.61 4 *e*PKIKP **PKPdf 21 58 41.7 +2.6**
SSF Saint Saulge 151.61 4 *e*PKPdf **PKPdf 21 58 41.7 +2.6**
ISP Isparta 151.64 317 *e*PKIKP **PKPbc 21 58 46.5 +0.6**
ISP MLR MLR
comp=Z,760nm,21.0s
ISP Isparta 151.64 317 *e*PKPdf **PKPbc 21 58 46.5 +0.6**
ISP LR LR
comp=Z,760nm,21.0s
SART Tekirdag 151.78 325 *i* P **PKPbc 21 58 47.8 +1.7**
RKY Sarkoy-Tekirda 151.78 325 *e*P **PKPbc 21 58 46.7 +0.6**
DURS Dursunbey 151.79 322 *i* P **PKPbc 21 58 47.5 +1.4**
BCK Bucak 151.81 316 *e*P **PKPbc 21 58 44.4 -1.9**
DAVOX Davos/Dischmat 151.85 355 PKPbc **PKPbc 21 58 46.5 +0.3**
DAVOX Davos/Dischmat 151.85 355 PKPbc **PKPbc 21 58 46.5 +0.3**
baz=357,slow=11
EIL Elat 151.88 298 PKPbc **PKPbc 21 58 46.9 +0.3**
EIL Elat 151.88 298 PKPbc **PKPbc 21 58 46.9 +0.3**
comp=Z,24nm,0.8s,baz=3.9,slow=4.9,SNR=9.6
CRNS Crni Vrh 151.94 348 *i* PKPdf **PKPdf 21 58 42.1 +2.4**
KHAL Karahalli 151.97 319 *i* P **PKPbc 21 58 46.7 +0.1**
KHL Karahalli 151.98 319 *e*P **PKPbc 21 58 47.1 +0.5**
KDZ Kurdzhali 151.99 329 ⇑ PKIKP **PKPbc 21 58 46.5 +0.1**
KDZ Kurdzhali 151.99 329 *i* P **PKPbc 21 58 46.8 +0.4**
KDZ Kurdzhali 151.99 329 ⇑ *i* P **PKPbc 21 58 46.5 +0.1**
DEMI Demirci 152.02 321 *i* P **PKPbc 21 58 48.0 +1.3**
BGF Bois d'Agland 152.06 5 *e*PKIKP **PKPdf 21 58 42.2 +2.4**
BGF Bois d'Agland 152.06 5 *e*PKIKP **PKPdf 21 58 42.2 +2.4**
BGF Bois d'Agland 152.06 5 *e*PKPdf **PKPdf 21 58 42.2 +2.4**
VISS Visnje 152.09 347 *i* PKPbc **PKPbc 21 58 46.1 -0.4**
VISS *e* 21 58 55.8
BALB Balikesir 152.11 323 *e*P **PKPbc 21 58 45.9 -0.8**
ERIK Erikli-Kesan 152.15 326 *e*P **PKPdf 21 58 41.2 +1.1**
JAVS Javornik 152.16 349 ⇓ *i* PKPbc **PKPbc 21 58 47.1 +0.3**
JAVS *i* 21 58 56.9
CABF La Chapelle 152.16 1 *e*PKIKP **PKPdf 21 58 42.2 +2.1**
comp=Z,48nm,1.1s
CABF La Chapelle 152.16 1 *e*PKIKP **PKPdf 21 58 42.2 +2.1**
CABF La Chapelle 152.16 1 *e*PKPdf **PKPdf 21 58 42.2 +2.1**
BALY Balya 152.19 323 *i* P **PKPbc 21 58 47.6 +0.6**
TUE Stuetta 152.20 356 *e*PKPdf **PKPdf 21 58 41.2 +0.9**
TUE LR LR
comp=Z,1µm,19.0s
KORT Korkueli 152.22 316 *i* P **PKPbc 21 58 47.4 +0.1**
TCF Toulx Ste Croi 152.26 6 *e*PKIKP **PKPdf 21 58 42.6 +2.4**
TCF Toulx Ste Croi 152.26 6 *e*PKIKP **PKPdf 21 58 42.6 +2.4**
TCF Toulx Ste Croi 152.26 6 *e*PKPdf **PKPdf 21 58 42.6 +2.4**
VTS Vitosha 152.27 333 ⇓ PKIKP **PKPbc 21 58 47.9 +0.7**
VTS Vitosha 152.27 333 *i* P **PKPbc 21 58 49.4 +2.2**
VTS Vitosha 152.27 333 ⇓ *i* P **PKPbc 21 58 47.9 +0.7**
BOJS Bojanci 152.29 347 *i* PKPbc **PKPbc 21 58 47.7 +0.7**
BOJS *e* 21 58 57.7
GELI Tayfur-Gelibol 152.36 326 *e*P **PKPbc 21 58 45.1 -2.1**
KULA Kula-Manisa 152.39 320 *e*P **PKPbc 21 58 45.9 -1.6**
TRI Trieste 152.39 349 *e*PKIKP **PKPdf 21 58 40.8 +0.5**
TRI Trieste 152.39 349 *e*PKPdf **PKPdf 21 58 40.8 +0.5**
MANT Manisa 152.46 320 *i* P **PKPbc 21 58 48.1 +0.2**
AGO Saint Agoulin 152.58 5 PKP **PKPbc 21 58 48.2 +0.6**
GOLH Golhisar 152.60 317 *i* P **PKPbc 21 58 50.8 +2.7**
ELL Elmali 152.66 316 *e*P **PKPbc 21 58 46.7 -1.6**
PLDF La Plantade 152.71 4 PKP **PKPbc 21 58 48.9 +0.9**
MMB Musomiste 152.84 331 ⇓ PKIKP **PKPbc 21 58 47.1 -1.3**
MMB Musomiste 152.84 331 *i* P **PKPbc 21 58 50.3 +1.9**
MMB Musomiste 152.84 331 ⇓ *i* P **PKPbc 21 58 47.1 -1.3**
PYM Petit Puy Mans 152.87 5 PKP **PKPbc 21 58 48.8 +0.4**
KKB Krupnik 152.91 332 *i* P **PKPbc 21 58 50.8 +2.3**
AYVA Ayvalik 153.01 324 *i* P **PKPbc 21 58 50.5 +1.8**
AKAS Kas 153.15 315 *i* P **PKPbc 21 58 50.7 +1.4**
RJF Les Rejaudoux 153.15 8 *e*PKIKP **PKPdf 21 58 43.7 +2.2**
RJF *e*R
comp=Z,1µm,20.5s
RJF Les Rejaudoux 153.15 8 *e*PKIKP **PKPdf 21 58 43.7 +2.2**
RJF Les Rejaudoux 153.15 8 *e*PKPdf **PKPdf 21 58 43.7 +2.2**
LPL La Plagne 153.26 360 *e*PKIKP **PKPdf 21 58 44.8 +2.9**
comp=Z,38nm,1.5s
LPL La Plagne 153.26 360 *e*PKIKP **PKPdf 21 58 44.8 +2.9**
LPL La Plagne 153.26 360 *e*PKPdf **PKPdf 21 58 44.8 +2.9**
LBIL Lubilhac 153.41 5 PKP **PKPbc 21 58 51.0 +1.4**
SSB Saint Sauveur 153.45 3 *e*PKIKP **PKPbc 21 58 49.4 -0.2**
SSB MLR MLR
comp=Z,1µm,21.0s
SSB Saint Sauveur 153.45 3 *e*PKPbc **PKPbc 21 58 49.4 -0.2**
SSB LR LR
comp=Z,1µm,21.0s
BNI Bardonecchia 153.72 360 *e*PKIKP **PKPdf 21 58 46.3 +3.8**
BNI MLR MLR
comp=Z,1µm,20.0s
BNI Bardonecchia 153.72 360 *e*PKPdf **PKPdf 21 58 46.3 +3.8**
BNI LR LR
comp=Z,1µm,20.0s
ORIF Oris-en-Rattie 153.85 1 *e*PKIKP **PKPdf 21 58 45.2 +2.6**
ORIF *e*R
comp=Z,1µm,21.8s
ORIF Oris-en-Rattie 153.85 1 *e*PKIKP **PKPdf 21 58 45.2 +2.6**
ORIF Oris-en-Rattie 153.85 1 *e*PKPdf **PKPdf 21 58 45.2 +2.6**
MBDF Montbardon 154.05 359 *e*PKIKP **PKPdf 21 58 45.7 +2.7**
comp=Z,15nm,1.0s
MBDF Montbardon 154.05 359 *e*PKIKP **PKPdf 21 58 45.7 +2.7**
MBDF Montbardon 154.05 359 *e*PKPdf **PKPdf 21 58 45.7 +2.7**
POLO Lamas de Olo 154.32 25 *e*PKPab **PKPab 21 59 06.8 +1.1**
VLC Villacollemand 154.40 353 PFAKE 21 58 50.0 -1.7
VLC LR LR
comp=Z,1µm,20.0s
PVRL Vila Real 154.44 25 *e*PKPab **PKPab 21 59 07.9 +1.8**
MVO Moncorvo 154.81 24 *e*PKPab **PKPab 21 59 09.5 +1.8**
MVO Moncorvo 154.81 24 *e*LR LR 22 58 42.2
comp=Z,673nm,18.0s
EPF Esparros 155.20 11 *e*PKIKP **PKPdf 21 58 47.0 +2.5**
comp=Z,19nm,1.0s
EPF Esparros 155.20 11 *e*PKIKP **PKPdf 21 58 47.0 +2.5**
EPF Esparros 155.20 11 *e*PKPdf **PKPdf 21 58 47.0 +2.5**
MTE Manteigas 155.24 26 *e*LR LR 23 00 37.3
comp=Z,999nm,18.0s
MTE Manteigas 155.24 26 PFAKE 21 59 00.0 -10
MTE LR LR
comp=Z,1µm,19.0s
SANT Santorini 155.71 320 PFAKE 21 59 00.0 -12
SANT LR LR
comp=Z,653nm,20.0s
PMRV Marv??o 156.12 27 *e*LR LR 23 00 42.1
comp=Z,700nm,18.0s
EVOP Sao Brissos 156.52 30 *e*PKIKP **PKPdf 21 58 50.3 +4.0**
EVOP Sao Brissos 156.52 30 *e*PKPdf **PKPdf 21 58 50.3 +4.0**
EVO Evora 156.57 30 *e*PKIKP **PKPdf 21 58 50.3 +3.9**
comp=Z,29nm,1.3s
EVO *e*R
comp=Z,732nm,21.2s
MESJ Messejana 157.02 31 *e*P **PKPdf 21 58 46.2 -0.8**
MESJ *e*PP **PP 22 02 56.4 +1.3**
MESJ AMS AMS 23 14 37.3
comp=E,1µm,17.5s
MESJ Messejana 157.02 31 *e*P **PKPdf 21 58 46.2 -0.8**
MESJ Messejana 157.02 31 *e*PKIKP **PKPdf 21 58 46.2 -0.8**
MESJ *e* 22 02 56.4
MORF Marmelete 157.22 32 *e*PKIKP **PKPdf 21 58 46.9 -0.4**
MORF *e* 22 02 57.2
PAB San Pablo 157.22 22 PFAKE 21 59 00.0 +13
PAB LR LR
comp=Z,923nm,20.0s
ESDC Sonseca Array 157.24 21 PKP **PKPdf 21 58 48.5 +1.3**
ESDC PKPab **PKPab 21 59 16.5 -1.7**
ESDC Sonseca Array 157.24 21 PKP **PKPdf 21 58 48.6 +1.3**
comp=Z,0.2nm,0.5s,baz=270,slow=1.5,SNR=4.5
ESDC PKPab **PKPab 21 59 16.5 -1.7**
comp=Z,2.0nm,0.7s,baz=328,slow=2.7,SNR=7.8
CUC Castrocucco 157.30 341 PFAKE 21 59 00.0 +13
CUC LR LR
comp=Z,833nm,20.0s
PVAQ Vaqueiros 157.60 31 *e*LR LR 22 59 20.5
comp=Z,992nm,18.0s
TIP Timpagrande 157.72 338 PFAKE 21 59 00.0 +12
TIP LR LR
comp=Z,644nm,21.0s
CEL Celeste 158.85 339 PFAKE 21 59 00.0 +11
CEL LR LR
comp=Z,1µm,22.0s
VSL Villasalto 159.12 354 PFAKE 21 59 00.0 +10
VSL LR LR
comp=Z,1µm,19.0s
RTC Rabat Centre 160.69 35 PFAKE 21 59 00.0 +8.6
RTC LR LR
comp=Z,2µm,21.0s
WDD Wield Dalam 161.47 339 PFAKE 21 59 00.0 +7.8
WDD LR LR
comp=Z,1µm,20.0s
DBIC Dimbokro 163.74 136 PKP **PKPdf 21 58 52.5 -2.6**
DBIC Dimbokro 163.74 136 PKP **PKPdf 21 58 52.5 -2.6**
comp=Z,2.6nm,0.9s,baz=176,slow=2.8,SNR=2.8
TOA0 Torodi Ar. Sit 172.82 140 *e*PKPdf **PKPdf 21 59 00.7 -0.4**
TOA0 *e*PKPab **PKPab 22 00 27.6 +0.4**
TORD Torodi Ar. Bea 172.82 140 PKP **PKPdf 21 59 00.1 -1.0**
TORD PKPab **PKPab 22 00 28.1 +0.9**
TORD PP **PP 22 04 19.4 +1.4**
TORD Torodi Ar. Bea 172.82 140 PKP **PKPdf 21 59 00.1 -1.0**
comp=Z,5.0nm,1.1s,baz=349,slow=1.4,SNR=12
TORD PKPab **PKPab 22 00 28.1 +0.9**
comp=Z,5.9nm,1.0s,baz=250,slow=2.9,SNR=8.5
TORD PP **PP 22 04 19.4 +1.4**
comp=Z,2.8nm,1.2s,baz=224,slow=6.0,SNR=5.4
TAM Tamanrasset 175.84 12 *e*PKIKP **PKPdf 21 59 02.7 +0.6**
TAM MLR MLR
comp=Z,1µm,20.0s
TAM Tamanrasset 175.84 12 *e*PKPdf **PKPdf 21 59 02.7 +0.6**
TAM LR LR
comp=Z,1µm,20.0s

IDC ***25*** *21:50:08.9±1.4, 18°.55S×173°.63W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=56.0km s-min=24.7km az=139.0*
ISCJB ***25*** *21:50:11.6±1.1, 18°.6S±0°.2×173°.6W±0°.2, h31km, mb3.8/6, Error ellipse: s-maj=39.5km s-min=21.9km az=42.6*
ISC 25 21:50:12.9±1.2, 18°.5S±0°.2×173°.6W±0°.3, h31km, n7,
σ1§44/7, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.28**	**201**	P	**P**	**21 54 56.8**	**+0.1**
	3.8nm,0.6s,baz=74,slow=7.4,SNR=3.4						
CTA	**Charters Tower**	**37.90**	**261**	P	**P**	**21 57 28.6**	**+1.1**
	2.5nm,0.8s,baz=98,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**49.06**	**259**	P	**P**	**21 58 56.5**	**-1.0**
	0.6nm,0.7s,baz=97,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**49.07**	**254**	P	**P**	**21 58 57.1**	**-0.4**
	0.6nm,0.5s,baz=89,slow=8.2,SNR=12						
PDAR	**Pinedale Array**	**84.69**	**42**	P	**P**	**22 02 43.9**	**-0.1**
	0.4nm,0.7s,baz=212,slow=3.2,SNR=3.3						
ILAR	**Eielson Array**	**85.53**	**11**	P	**P**	**22 02 48.8**	**+1.3**
	0.5nm,0.7s,baz=228,slow=6.2,SNR=12						
GERES	**GERESS Array B**	**149.20**	**351**	PKPbc	**PKPab**	**22 10 00.7**	**-2.1**
	0.5nm,0.8s,baz=10,slow=2.2,SNR=4.1						

IDC ***25*** *22:29:33.7±3.0, 12°.69N×91°.06W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=86.4km s-min=33.4km az=30.0*
ISCJB ***25*** *22:29:39.1±1.3, 13°.1N±0°.1×91°.05W±0°.05, h33km, mb3.9/4, Error ellipse: s-maj=19.6km s-min=6.7km az=8.1*
CASC ***25*** *22:29:40.3±1.5, 13°.36N×90°.91W, h10km±11km, MD3.8*
ISC 25 22:29:40.5±1.5, 13°.2N±0°.2×90°.87W±0°.06, h33km, n18,
σ1§37/21, mb4.0/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**1.23**	**12**	*e*P	**Pn**	**22 30 00.2**	**-1.5**
JAT	**Jato**	**1.36**	**327**	*e*P	**Pn**	**22 30 01.7**	**-1.5**
SBLS	**San Blas**	**1.38**	**61**	*e*P	**Pn**	**22 30 03.7**	**+0.1**
RTR	**El Retiro**	**1.39**	**59**	*e*P	**Pn**	**22 30 04.0**	**+0.3**
SNJE	**San Jose**	**1.41**	**61**	*e*P	**Pn**	**22 30 04.3**	**+0.3**
RBDL	**Robledal**	**1.48**	**51**	*e*P	**Pn**	**22 30 05.1**	**+0.1**
NBG	**Las Nubes**	**1.49**	**20**	*e*P	**Pn**	**22 30 05.2**	**0.0**
BOQS	**Boqueron**	**1.64**	**70**	*e*P	**Pb**	**22 30 08.4**	**-1.9**
BOQS				*e*S	**Sb**	**22 30 31.7**	**+0.9**
LFU	**La Fuente**	**1.80**	**71**	*e*P	**Pb**	**22 30 11.2**	**-1.7**
LFRS	**El Faro**	**1.81**	**76**	*e*P	**Pb**	**22 30 11.3**	**-1.8**
LFRS				*e*S	**Sb**	**22 30 35.0**	**-0.6**
LBRS	**Las Brisas**	**1.86**	**72**	*e*P	**Pb**	**22 30 12.4**	**-1.5**
SNVI	**San Vicente**	**2.02**	**77**	*e*P	**Pb**	**22 30 14.7**	**-2.0**
SNVI				*e*S	**Sb**	**22 30 40.5**	**-1.1**
MRL	**Marmol**	**2.20**	**31**	*e*P	**Pn**	**22 30 16.0**	**+1.1**
TXAR	**Lajitas Array**	**19.99**	**326**	P	**P**	**22 34 11.4**	**+1.0**
	0.7nm,0.7s,baz=145,slow=13,SNR=7.9						
NVAR	**Mina Array Bea**	**35.00**	**321**	P	**P**	**22 36 31.4**	**+1.2**
	1.2nm,0.7s,baz=126,slow=9.0,SNR=7.9						
SCHQ	**Schefferville**	**45.62**	**19**	P	**P**	**22 37 60.0**	**+2.4**
	2.1nm,0.8s,baz=222,slow=16,SNR=3.1						
ILAR	**Eielson Array**	**64.02**	**337**	P	**P**	**22 40 09.8**	**-0.9**
	0.1nm,0.4s,baz=124,slow=5.9,SNR=4.1						
DBIC	**Dimbokro**	**84.64**	**84**	P	**P**	**22 42 11.4**	**-0.2**
	0.9nm,0.4s,baz=247,slow=5.9,SNR=5.8						

ISCJB ***25*** *22:39:15.5±0.4, 4°.70N±0°.05×123°.62E±0°.07, h512km, mb4.0/11, Error ellipse: s-maj=10.5km s-min=5.1km az=152.6*
BJI ***25*** *22:39:18.5, 4°.50N×123°.40E, h537km, mb4.5/4*
IDC ***25*** *22:39:19.7±1.6, 4°.44N×123°.33E, h561km±21km, mb3.3/10, mb1 3.5/11, mb1mx3.2/27, mbtmp4.3/11, Error ellipse: s-maj=23.4km s-min=9.9km az=59.0*
DJA ***25*** *22:39:20.7±0.9, 4°.N±9°×123°.3E±°, h520km±12km, M4.4/14, mb4.5/14, mB4.6/7, MLv4.9/7, Mw(mB)3.8/7*
KLM ***25*** *22:39:20.5, 4°.48N×123°.31E, h559km, mb4.4*
ISC 25 22:39:16.4±0.6, 4°.64N±0°.07×123°.55E±0°.10, h512km, n65,
σ1§79/54, mb4.2/11, 5C-3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**4.01**	**188**	P	**P**	**22 40 38.4**	**+2.6**
KMSI	**Cibinong**	**4.06**	**174**	P	P	22 40 43.9	+7.8
MRSI	**Marisa**	**4.43**	**201**	P	P	22 40 29.3	-10
TNTI	**Ternate**	**5.41**	**135**	P	P	22 40 52.1	+4.3
	175nm,0.9s,3µm0.9nm						
TSM	**Tawau**	**5.67**	**267**	⇓ P	P	22 40 54.0	+3.7
LUWI	**Luwuk**	**5.69**	**188**	P	**P**	**22 40 52.8**	**+2.4**
	122nm,0.5s						
LUWI	**Luwuk**	**5.69**	**188**	P	P	22 40 54.4	+3.9
	baz=5.5,SNR=15						
LUWI				S	**S**	**22 42 08.1**	**+1.0**
	baz=5.5,SNR=15						
APSI	**Ampana**	**5.83**	**199**	P	**P**	**22 40 52.9**	**

FRIM	**Kepong**	**21.92**	**267**	⇑P	**P**	**22 43 30.2**	**-1.7**
PSI	**Prapat**	**24.64**	**267**	P	**P**	**22 43 55.4**	**-1.0**
	3.9nm,0.5s,baz=88,slow=7.2,SNR=5.1						
WRA	**Warramunga Arr**	**26.63**	**157**	P	**P**	**22 44 12.8**	**-0.9**
	6.0nm,0.5s,baz=334,slow=10,SNR=116						
WRA				S	S	22 48 03.5	-8.9
	0.5nm,0.7s,baz=338,slow=15,SNR=4.2						
CMAR	**Chiang Mai Arr**	**27.69**	**302**	P	**P**	**22 44 22.9**	**-0.2**
	1.6nm,0.6s,baz=121,slow=7.5,SNR=18						
QIS	**Mount Isa**	**29.59**	**148**	P	**P**	**22 44 39.8**	**+0.2**
	baz=30,SNR=3.5						
WRKA	**Warakurna**	**29.85**	**171**	P	**P**	**22 44 40.9**	**-1.0**
	baz=30,SNR=18						
ASAR	**Alice Springs**	**29.89**	**161**	P	**P**	**22 44 41.6**	**-0.6**
	3.6nm,0.3s,baz=338,slow=7.2,SNR=77						
ASAR				S	S	22 48 56.5	-6.7
	1.0nm,0.8s,baz=344,slow=19,SNR=5.5						
ASAR				ScP	**ScP**	**22 50 16.3**	**-6.7**
	0.6nm,0.6s,baz=349,slow=2.7,SNR=7.2						
MEEK	**Meekatharra**	**31.45**	**188**	P	**P**	**22 44 53.6**	**-2.0**
	baz=31,SNR=6.3						
MORW	**Morawa**	**34.28**	**192**	P	**P**	**22 45 17.7**	**-1.8**
	baz=34,SNR=5.5						
LZH	**Lanzhou**	**36.18**	**332**	*eP*	**P**	**22 45 37.5**	**+2.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
NWAO	**Narrogin (SRO)**	**37.84**	**189**	P	**P**	**22 45 46.8**	**-2.1**
	13nm,0.9s,baz=10,slow=5.7,SNR=5.9						
BBOO	**Buckleboo**	**39.09**	**163**	P	**P**	**22 45 58.8**	**-0.3**
	baz=39,SNR=6.3						
STKA	**Stephens Creek**	**40.17**	**156**	P	**P**	**22 46 08.0**	**+0.1**
	7.5nm,0.7s,baz=330,slow=7.1,SNR=24						
STKA	**Stephens Creek**	**40.17**	**156**	P	**P**	**22 46 08.1**	**+0.2**
	baz=40,SNR=18						
HTT	**Hallett**	**40.56**	**160**	P	**P**	**22 46 11.3**	**+0.2**
	baz=41,SNR=6.4						
TAPN	**Taplejung**	**40.94**	**307**	*eP*	**P**	**22 46 15.1**	**+0.6**
ODAN	**Odare**	**40.98**	**306**	*eP*	**P**	**22 46 15.2**	**+0.5**
	15nm,0.8s						
RAMN	**Ramite**	**41.65**	**306**	*eP*	**P**	**22 46 20.9**	**+0.8**
	17nm,0.9s						
CMSA	**Cobar Meteorol**	**41.71**	**151**	P	**P**	**22 46 21.3**	**+1.2**
	baz=42,SNR=7.6						
JIRN	**Jiri**	**42.29**	**307**	*eP*	**P**	**22 46 25.9**	**+0.6**
GUN	**Gumba**	**42.64**	**307**	*eP*	**P**	**22 46 28.4**	**+0.4**
PKI	**Pulchoki**	**42.87**	**306**	*eP*	**P**	**22 46 29.8**	**0.0**
	2.7nm,0.2s						
PKIN	**Phulchoki**	**42.89**	**306**	*eP*	**P**	**22 46 29.9**	**0.0**
	3.1nm,0.4s						
KKN	**Kakani**	**43.07**	**307**	*eP*	**P**	**22 46 31.3**	**+0.1**
DMN	**Daman**	**43.13**	**306**	*eP*	**P**	**22 46 31.9**	**+0.1**
GKN	**Gorkha**	**43.68**	**306**	*eP*	**P**	**22 46 36.0**	**+0.1**
KOLN	**Koldanda**	**44.42**	**306**	*eP*	**P**	**22 46 42.2**	**+0.5**
DANN	**Dangsing**	**44.52**	**306**	*eP*	**P**	**22 46 42.8**	**+0.2**
PYUN	**Piuthan**	**45.04**	**306**	*eP*	**P**	**22 46 47.1**	**+0.6**
	22nm,0.6s						
SONM	**Songino Array**	**45.49**	**344**	P	**P**	**22 46 50.5**	**+1.0**
	0.9nm,0.5s,baz=159,slow=8.4,SNR=10.0						
MKAR	**Makanchi Array**	**55.03**	**326**	P	**P**	**22 47 59.0**	**-0.3**
	3.1nm,0.5s,baz=118,slow=7.5,SNR=46						
MKAR				ScP	**ScP**	**22 51 57.1**	**-5.5**
	0.5nm,0.7s,baz=98,slow=3.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**58.38**	**334**	P	**P**	**22 48 21.7**	**-0.4**
	0.4nm,0.4s,baz=147,slow=8.5,SNR=3.7						
ILAR	**Eielson Array**	**85.65**	**25**	P	**P**	**22 50 59.8**	**-0.6**
	0.2nm,0.3s,baz=258,slow=4.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**119.63**	**288**	PKP	**PKPdf**	**22 57 06.7**	**-2.3**
	0.3nm,1.0s,baz=84,slow=2.5,SNR=3.2						

DJA 25 22:41:41.6±1.1,1°N±6°×12°7E±°,h10km,M3.6/4,MLv3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.75**	**88**	P	Pg	22 41 51.1	-5.0
TNTI				S	Sn	22 42 09.2	-0.4
LBMI	**Labuha**	**1.64**	**147**	P	Pn	22 42 08.0	-2.5
LBMI				S	Sn	22 42 29.3	-2.3
SANI	**Sanana**	**2.85**	**193**	P	Pn	22 42 23.5	-3.7
SANI				S	Sn	22 42 33.0	-29
NLAI	**Namlea**	**3.99**	**173**	P	Pb	22 42 50.9	-1.2

IDC 25 22:52:11.6±1.5,3°95N×126°80E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.4/23,mbtmp3.4/4,Error ellipse: s-maj=137.8km s-min=22.5km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.87**	**163**	P	P	22 57 35.8	-0.3
	0.4nm,0.5s,baz=344,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**28.31**	**166**	P	P	22 58 07.6	+0.5
	0.2nm,0.6s,baz=341,slow=11,SNR=3.4						
SONM	**Songino Array**	**47.12**	**341**	P	P	23 00 46.5	+0.9
	0.5nm,0.9s,baz=155,slow=9.2,SNR=2.5						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	23 02 01.5	-0.6
	0.4nm,0.5s,baz=121,slow=7.9,SNR=11						

*ISCJB **25** 22:52:44.4±0.4,8°45S±0°02'×74°57W±0°02,h140km±4km, mb5.5/289,Error ellipse: s-maj=3.9km s-min=2.4km az=43.4*

*MOS **25** 22:52:45.0±1.2,8°47S×74°51W,h150km,mb5.7/59,Error ellipse: s-maj=17.8km s-min=6.7km az=105.2*

*NEIC **25** 22:52:46.5±0.1,8°50S×74°47W,mb5.7/147,MW5.8, MW5.9,Error ellipse: s-maj=4.4km s-min=2.9km az=62.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}-8.71; $M_{\theta\theta}$4.86; $M_{\phi\phi}$3.85; $M_{r\theta}$2.27; $M_{\theta\phi}$-1.47; $M_{\phi r}$-5.74; Best double couple: $M_0$9.90000×10^{17} NP1: ϕ_s326.00000°,δ65.00000°,λ-81.00000°. NP2: ϕ_s125.00000°,δ27.00000°,λ-109.00000°. Principal axes: T 7.8000, Plg19.0000°, Azm49.0000°; N 3.3000, Plg8.0000°, Azm142.0000°; P -11.1000, Plg68.0000°, Azm253.0000°;*

NEIC Felt [IV] at Pucallpa and Puerto Inca, [III] at Acobamba and [II] at Lima. Also felt at Bagua Grande, Barranca, Chimbote, Chosica, Huacho, Huanuco, La Union, San Luis, Santa Maria, Tarapoto, Tocache and Trujillo. Felt at Cruzeiro do Sul, Brazil.

*BJI **25** 22:52:46.6,8°50S-74°50W,h153km,mB5.5/37*

*GCMT **25** 22:52:46.5±0.1,8°53S×74°52W,h148km,MW5.9/122, Moment Tensor Solution. s120,c249; s122,c339; Duration: 2≥1 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.70±.01; $M_{\theta\theta}$0.60±.01; $M_{\phi\phi}$0.10±.01; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$-0.05±.01; $M_{\phi r}$-0.56±.01; Best double couple: $M_0$0.85400×10^{18} NP1:ϕ_s308.00000°,δ65.00000°, λ-67.00000°. NP2:ϕ_s83.00000°,δ33.00000°, λ-130.00000°. Principal axes: T 0.6940, Plg17.0000°, Azm22.0000°; N 0.3200, Plg21.0000°, Azm118.0000°; P -1.0140, Plg63.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **25** 22:52:47.2±0.3,8°34S×74°29W,h146km±2km,mb5.2/32, mb1 5.3/33,mb1mx5.3/34,mbtmp5.6/33,MS4.6/10, Ms1 4.6/10,ms1mx4.3/31 Error ellipse: s-maj=9.8km s-min=6.9km az=55.0*

*CASC **25** 22:52:47.6±2.5,8°27S×73°80W,h153km,mb5.8(NEIC)*

*SZGRF **25** 22:52:58.7,6°67S×72°38W,h142km,mb5.6,Peru-Brazil border region*

*NEIC **25** 22:53:03.5±0.0,8°33S×74°06W,h121km,Moment Tensor Solution. s108 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.65; $M_{\theta\theta}$5.35; $M_{\phi\phi}$ 1.30; $M_{r\theta}$ 1.66; $M_{\theta\phi}$-0.04; $M_{\phi r}$-4.91; Best double couple: $M_0$7.40000×10^{17} NP1:ϕ_s303.00000°, δ62.00000°,λ-64.00000°. NP2:ϕ_s79.00000°,δ37.00000°, λ-127.00000°. Principal axes: T 5.7600, Plg13.0000°, Azm15.0000°; N 3.3800, Plg21.0000°, Azm110.0000°; P -9.1400, Plg64.0000°, Azm256.0000°;*

ISC 25 22:52:46.5±0.2,8°48S±0°03×74°42W±0°03,h147km±1km, h147km:pP-P,n1423,σ1s17/1744,mb5.6/286**,311C-229D, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.16**	**288**	P	**Pn**	**22 53 46.9**	**-2.2**
ATAH				S	**Sn**	**22 54 33.1**	**-4.6**
ATAH	**Atahualpa**	**4.16**	**288**	P	**Pn**	**22 53 46.9**	**-2.2**
	2μm,0.3s,baz=115,slow=5.7,SNR=1123						
ATAH				S	**Sn**	**22 54 33.1**	**-4.6**
	658nm,0.3s,baz=135,slow=16,SNR=7.1						
NNA	**Nana**	**4.22**	**214**	⇑*i*Pn	**Pn**	**22 53 47.7**	**-1.9**
NNA				*e*Sn	**Sn**	**22 54 35.2**	**-3.6**
NNA				S	**Sn**	**22 54 35.7**	**-3.1**
NNA	**Nana**	**4.22**	**214**	P	**Pn**	**22 53 47.8**	**-1.9**
	2μm,0.3s,baz=34,slow=5.0,SNR=571						
NNA				S	**Sn**	**22 54 35.7**	**-3.1**
	3μm,0.3s,baz=320,slow=22,SNR=16						
ARE	**Arequipa**	**8.44**	**160**	⇑*i*P	**Pn**	**22 54 45.6**	**-0.5**
ARE	**Arequipa**	**8.44**	**160**	⇑*i*P	**Pn**	**22 54 45.6**	**-0.5**
OTAV	**Otavalo**	**9.54**	**335**	*e*Pn	**Pn**	**22 54 59.9**	**-1.2**
OTAV				*e*Sn	**Sn**	**22 56 45.0**	**-2.0**
OTAV	**Otavalo**	**9.54**	**335**	⇑*i*Pn	**Pn**	**22 54 59.1**	**-1.9**
OTAV				*e*Sn	**Sn**	**22 56 45.0**	**-2.0**
LPAZ	**La Paz**	**9.90**	**142**	P	**Pn**	**22 55 06.7**	**+0.8**
LPAZ	**La Paz**	**9.90**	**142**	P	**Pn**	**22 55 06.7**	**+0.8**
	baz=336,slow=11						
SAML	**Samuel**	**11.12**	**93**	⇑*i*Pn	**Pn**	**22 55 19.4**	**-2.1**
SAML				*e*Sn	**Sn**	**22 57 21.9**	**-2.6**
MNMC	**Minimini**	**11.58**	**157**	⇑*i*P	**Pn**	**22 55 26.0**	**-1.7**
PSGC	**Pisagua**	**11.81**	**160**	⇑*i*P	**Pn**	**22 55 29.0**	**-1.6**
HMBC	**Humberstone**	**12.52**	**160**	⇑*i*P	**Pn**	**22 55 37.7**	**-2.2**
HMBC				*e*P	P	22 55 38.1	-7.5
ROSC	**El Rosal**	**13.25**	**0**	⇑*i*Pn	**Pn**	**22 55 48.8**	**-0.7**
ROSC				*e*Sn	Sn	22 58 04.7	-12
ROSC	**El Rosal**	**13.25**	**0**	P	**P**	**22 55 52.3**	**-1.6**
	22nm,0.3s,baz=124,slow=7.7,SNR=74						
ROSC				S	**S**	**22 58 27.3**	**-1.9**
	6.7nm,0.3s,baz=266,slow=19,SNR=1.6						
PB01	**Plate Boundary**	**13.37**	**160**	*e*P	**Pn**	**22 55 48.8**	**-1.9**
PB07	**Plate Boundary**	**13.88**	**162**	*e*P	**Pn**	**22 55 56.2**	**-1.0**
PB09	**Plate Boundary**	**14.15**	**160**	⇑*i*P	**Pn**	**22 55 59.4**	**-1.2**
PB04	**Plate Boundary**	**14.51**	**161**	⇓*i*P	**Pn**	**22 56 04.0**	**-0.9**
PB06	**Plate Boundary**	**14.89**	**162**	⇑*i*P	**Pn**	**22 56 09.4**	**-0.5**
LVC	**Limon Verde**	**15.02**	**160**	⇑*e*Pn	**Pn**	**22 56 11.9**	**+0.3**
LVC				*e*Sn	**Sn**	**22 58 59.6**	**+1.0**
SIV	**San Ignacio**	**15.03**	**121**	P	**Pn**	**22 56 12.0**	**+0.4**
SIV				S	**Sn**	**22 58 53.8**	**-4.7**
SIV	**San Ignacio**	**15.03**	**121**	P	**Pn**	**22 56 12.0**	**+0.4**
	23nm,0.3s,baz=309,slow=12,SNR=196						
SIV				S	**Sn**	**22 58 53.8**	**-4.7**
	10nm,0.3s,baz=207,slow=19,SNR=2.1						
SIV				LR	LR	23 02 12.6	
	comp=Z,1μm,19.1s,baz=4.0,slow=38						
CEN1	**Los Morros**	**15.37**	**165**	⇑*i*P	**P**	**22 56 17.7**	**+0.5**
YJA	**Yavi**	**16.09**	**149**	*i* P	**P**	**22 56 26.1**	**+0.6**
YJA				*e*S	**sP**	**22 57 09.4**	**-0.1**
YJA				AML	AML	22 57 14.3	
	comp=Z,8.7nm,0.8s						
PTGA	**Pitinga**	**16.33**	**63**	*e*Pn	**P**	**22 56 28.3**	**+0.6**
PTGA				S	**S**	**22 59 22.8**	**-6.5**
PTGA	**Pitinga**	**16.33**	**63**	P	**P**	**22 56 28.6**	**+0.8**
	comp=Z,60nm,0.3s,baz=247,slow=14,SNR=107						
PTGA				S	**S**	**22 59 22.8**	**-6.5**
	comp=Z,23nm,0.3s,baz=134,slow=20,SNR=5.6						
PTGA				LR	LR	23 02 31.3	
	comp=Z,2μm,19.1s,baz=235,slow=36						
PAYG	**Puerto Ayora**	**17.60**	**295**	⇓*e*P	**P**	**22 56 42.1**	**+0.4**
	comp=Z,1μm,1.3s						
PAYG				*e*S	**S**	**22 59 57.0**	**-0.4**
PAYG				*e*PcP	**PcP**	**23 01 14.6**	**+0.7**
AZAP	**Zapla**	**18.03**	**151**	*i* P	**Pn**	**22 56 48.6**	**+0.4**
AZAP				AML	AML	22 57 31.8	
	comp=Z,65nm,0.6s						
UPA	**Univ. de Panam**	**18.08**	**344**	⇑*i*P	**Pn**	**22 56 48.4**	**-0.1**
ASTB	**Santa Barbara**	**18.09**	**149**	*i* P	**Pn**	**22 56 48.9**	**+0.1**
ALOL	**LOMAS DE OLMED**	**18.24**	**148**	*i* P	**P**	**22 56 48.7**	**0.0**
ALOL				*i* P	**P**	**22 56 48.7**	**0.0**
SLA	**San Lorenzo**	**18.26**	**153**	*i* P	**Pn**	**22 56 52.1**	**+1.3**
SLA				AML	AML	22 57 23.1	
	comp=Z,146nm,0.6s						
BCIP	**Isla Barro Col**	**18.34**	**343**	*e*P	**P**	**22 56 50.6**	**+0.8**
	comp=Z,443nm,0.6s						
BRU	**Baru**	**18.99**	**335**	*e*P	**Pn**	**22 56 58.8**	**-0.9**
BRU2	**Volcan**	**19.03**	**334**	*e*P	**P**	**22 56 58.2**	**+0.7**
ACR	**Cerro Adams**	**19.12**	**333**	*e*P	**Pn**	**22 57 00.3**	**-0.5**
ACR				*e*P	**P**	**22 57 00.5**	**+2.2**
CTCR	**Cotoan**	**19.15**	**334**	⇑*i*P	**Pn**	**22 57 02.1**	**+0.8**
BUS	**Buena Vista**	**20.18**	**332**	⇑*e*P	**P**	**22 57 11.8**	**+1.6**
BUS				*e*P	**P**	**22 57 11.8**	**+1.6**
QCR	**Quepos**	**20.26**	**331**	*e*P	**P**	**22 57 12.0**	**+1.4**
URSC	**Urasca**	**20.44**	**333**	*e*P	Pn	22 57 14.8	-1.7
LCO	**Las Campanas**	**20.72**	**171**	*e*P	**P**	**22 57 15.3**	**-0.4**
	comp=Z,133nm,0.8s						
LCO				*e*PcP	**PcP**	**23 01 18.6**	**-0.9**
JCR	**Jicaral**	**21.09**	**329**	*e*P	**P**	**22 57 21.6**	**+2.1**
JTS	**JuntasAbangare**	**21.39**	**330**	*e*P	**P**	**22 57 23.4**	**+0.7**
	comp=Z,175nm,2.0s						
JTS	**JuntasAbangare**	**21.39**	**330**	P	**P**	**22 57 24.3**	**+1.5**
	comp=Z,106nm,0.7s,baz=155,slow=3.0,SNR=50						
TPP	**Pointe-a-Pierr**	**22.70**	**35**	*e*	**P**	**22 57 38.6**	**+2.8**
TRN	**Trinidad (W)**	**23.00**	**35**	*e*	**P**	**22 57 40.3**	**+1.7**
TBH	**Brigand Hill**	**23.06**	**35**	*e*	**P**	**22 57 41.5**	**+2.3**
CFAA	**Coronel Fontan**	**23.72**	**167**	P	**P**	**22 57 46.5**	**+1.3**
CFAA	**Coronel Fontan**	**23.72**	**167**	P	**P**	**22 57 46.5**	**+1.3**
	comp=Z,12nm,0.8s,baz=343,slow=9.5,SNR=101						
TPR	**Prospect**	**23.79**	**35**	*e*	**P**	**22 57 47.8**	**+1.9**
BOT	**Bacolet**	**23.81**	**35**	*e*	**P**	**22 57 47.7**	**+1.7**
CPUP	**Villa Florida**	**24.06**	**140**	⇓*e*P	**P**	**22 57 47.7**	**-0.5**
	comp=Z,7.9nm,0.7s						
CPUP				*e*S	**S**	**23 01 56.6**	**+1.6**
CPUP	**Villa Florida**	**24.06**	**140**	P	**P**	**22 57 48.0**	**-0.1**
	comp=Z,37nm,0.6s,baz=305,slow=10,SNR=35						
CPUP				pP	**pP**	**22 58 18.6**	**+0.9**
	comp=Z,101nm,0.8s,baz=306,slow=9.5,SNR=6.9						
GRGR	**Grenville**	**24.09**	**32**	*e*P	**P**	**22 57 48.4**	**-0.3**
	comp=Z,1μm,0.6s						
GRGR				*e*S	**S**	**23 01 55.9**	**+0.2**
GRW	**Mount Saint Ca**	**24.11**	**32**	*e*	**P**	**22 57 50.6**	**+1.7**
GRHS	**Sauteurs**	**24.18**	**32**	*e*	**P**	**22 57 52.1**	**+2.7**
GRSS	**Sisters**	**24.25**	**32**	*e*	**P**	**22 57 51.1**	**+1.1**
FCV	**Fort Charlotte**	**25.17**	**31**	*e*P	**P**	**22 57 59.1**	**+0.7**
SVV	**Soufriere Volc**	**25.32**	**31**	*e*	**P**	**22 57 58.8**	**-0.9**
SSV	**Crater Summit**	**25.34**	**31**	⇓*i*P	**P**	**22 57 59.8**	**-0.2**
BHS	**Barnard House**	**25.34**	**32**	*e*P	**P**	**22 58 00.7**	**+0.8**
TGUH	**Tegucigalpa,Un**	**25.77**	**330**	*e*P	**P**	**22 58 04.7**	**+0.9**
	comp=Z,113nm,0.8s						
SLB	**Belfond**	**25.84**	**31**	*e*P	**P**	**22 58 03.5**	**-0.9**
SLB	**Belfond**	**25.84**	**31**	*e*	**P**	**22 58 07.3**	**+2.8**
BBGH	**Gun Hill**	**26.07**	**35**	*e*P	**P**	**22 58 07.6**	**+1.1**
	comp=Z,801nm,0.6s						
PCJ	**Portland Cotta**	**26.19**	**354**	*e*P	**P**	**22 58 08.6**	**+1.0**
PCJ	**Portland Cotta**	**26.19**	**354**	*e*P	**P**	**22 58 08.6**	**+1.0**
HOJ	**Hope**	**26.41**	**355**	*e*P	**P**	**22 58 11.2**	**+1.6**
HOJ	**Hope**	**26.41**	**355**	*e*P	**P**	**22 58 11.2**	**+1.6**
HOJ	**Hope**	**26.41**	**355**	*i* P	**P**	**22 58 11.8**	**+2.3**
HOJ	**Hope**	**26.41**	**355**	*e*P	**P**	**22 58 11.2**	**+1.6**
MCJ	**Malvern**	**26.43**	**353**	*e*P	**P**	**22 58 12.4**	**+2.6**
MCJ	**Malvern**	**26.43**	**353**	*e*P	**P**	**22 58 12.4**	**+2.6**
GWJ	**Greenwich**	**26.48**	**355**	*e*P	**P**	**22 58 12.2**	**+1.8**
GWJ	**Greenwich**	**26.48**	**355**	*i* P	**P**	**22 58 12.1**	**+1.8**
GWJ				*i* S	**pP**	**22 58 43.2**	**+2.0**
GWJ	**Greenwich**	**26.48**	**355**	*e*P	**P**	**22 58 12.2**	**+1.8**
STH	**Stony Hill**	**26.49**	**355**	*e*P	**P**	**22 58 11.2**	**+0.9**
STH	**Stony Hill**	**26.49**	**355**	*e*P	**P**	**22 58 11.2**	**+0.9**
STH				*i* S	pP	22 58 49.3	+8.1
STH	**Stony Hill**	**26.49**	**355**	*i* P	**P**	**22 58 11.2**	**+0.9**
STH	**Stony Hill**	**26.49**	**355**	*e*P	**P**	**22 58 11.2**	**+0.9**
STH				*i* S	pP	22 58 49.3	+8.1
FDF	**Fort de France**	**26.55**	**30**	*e*P	**P**	**22 58 09.0**	**-1.9**
FDF				*e*S	**S**	**23 02 30.0**	**-4.7**
FDF				pmax	pmax		
	comp=Z,450nm,0.8s						
FDF	**Fort de France**	**26.55**	**30**	*e*P	**P**	**22 58 09.0**	**-1.9**
	comp=Z,450nm,0.8s						
FDF				*e*S	**S**	**23 02 30.0**	**-4.7**
CVJ	**Coleyville**	**26.71**	**353**	*i* P	**P**	**22 58 15.1**	**+2.8**
CVJ	**Coleyville**	**26.71**	**353**	*i* P	**P**	**22 58 15.1**	**+2.8**
MTDJ	**Mount Denham**	**26.71**	**353**	*e*P	**P**	**22 58 13.9**	**+1.5**
	comp=Z,426nm,0.7s						
BDFB	**Brasilia**	**26.77**	**108**	P	**P**	**22 58 13.4**	**+0.5**
BDFB	**Brasilia**	**26.77**	**108**	P	**P**	**22 58 13.4**	**+0.5**
	comp=Z,74nm,0.6s,baz=270,slow=11,SNR=44						
TBG	**Guadaloupe-3**	**27.29**	**28**	*e*P	**P**	**22 58 16.2**	**-1.2**
CRPR	**Cabo Rojo, PR**	**27.29**	**15**	*e*P	**P**	**22 58 17.5**	**+0.2**
	comp=Z,194nm,0.5s						
HMG	**Houelmont**	**27.38**	**27**	*e*P	**P**	**22 58 17.6**	**-0.6**
SCG	**Saint Claude**	**27.42**	**27**	*e*P	**P**	**22 58 18.1**	**-0.6**
PHG	**Guadaloupe-2**	**27.43**	**28**	*e*P	**P**	**22 58 19.1**	**+0.3**
TAG	**Tarade**	**27.44**	**27**	*e*P	**P**	**22 58 17.9**	**-1.1**
ECG	**Echelle**	**27.45**	**27**	*e*P	**P**	**22 58 18.4**	**-0.6**
FNG	**Fond-Bernard**	**27.45**	**27**	*e*P	**P**	**22 58 18.2**	**-0.7**
CRG	**Carmichael**	**27.46**	**27**	*e*P	**P**	**22 58 18.6**	**-0.5**
DOG	**Dongo Capester**	**27.46**	**28**	*e*P	**P**	**22 58 15.8**	**-3.2**
LSP	**Las Mesas**	**27.46**	**15**	*e*P	**P**	**22 58 19.8**	**+0.9**
OBIP	**Obispado Ponce**	**27.46**	**16**	*e*P	**P**	**22 58 19.0**	**+0.1**
	comp=Z,457nm,0.7s						
OBIP				*e*S	**S**	**23 02 51.8**	**+3.0**
OBIP				*e*ScP	**ScP**	**23 05 00.5**	**-0.4**
SDDR	**Presa de Saban**	**27.46**	**6**	*e*P	**P**	**22 58 19.9**	**+1.0**
	comp=Z,286nm,0.6s						
CELP	**Cerrillos**	**27.50**	**16**	*e*P	**P**	**22 58 19.6**	**+0.3**
LRS	**Lares**	**27.63**	**16**	*e*P	**P**	**22 58 20.6**	**+0.1**
AOPR	**Arecibo Observ**	**27.71**	**16**	*e*P	**P**	**22 58 21.8**	**+0.6**
	comp=Z,855nm,0.6s						
AGPR	**Aguadilla, PR**	**27.73**	**15**	*e*P	**P**	**22 58 21.8**	**+0.5**
	comp=Z,375nm,0.7s						
CDVI	**St. Croix**	**27.75**	**20**	*e*P	**P**	**22 58 23.0**	**+1.5**
	comp=Z,986nm,0.6s						
HUMP	**Col San Antoni**	**27.77**	**18**	*e*P	**P**	**22 58 23.0**	**+1.3**
SEG	**Port Louis**	**27.83**	**27**	*e*P	**P**	**22 58 21.9**	**-0.3**
BB16B	**Bebedouro**	**27.87**	**119**	*e*P	**P**	**22 58 20.9**	**-1.8**
BB16B				*i*		22 58 23.6	
BB16B				*i*		22 58 26.6	
BB16B				*i*		22 58 34.8	
CBYP	**Canovanas**	**27.89**	**18**	*e*P	**P**	**22 58 22.5**	**-0.4**
	comp=Z,503nm,0.7s						
SABA	**Saba**	**28.19**	**23**	*e*P	**P**	**22 58 26.4**	**+1.0**
	comp=Z,352nm,0.6s						
GTBY	**Guantanamo Bay**	**28.23**	**359**	*e*P	**P**	**22 58 28.1**	**+2.3**
	comp=Z,120nm,0.7s						
APG	**El Apazote**	**28.23**	**326**	P	**P**	**22 58 24.1**	**-2.0**
APG	**El Apazote**	**28.23**	**326**	P	**P**	**22 58 24.1**	**-2.0**
	comp=Z,108nm,0.8s,baz=139,slow=5.1,SNR=94						
ANWB	**Willy Bob**	**28.82**	**26**	*e*P	**P**	**22 58 29.1**	**-1.9**
	comp=Z,666nm,0.6s						
GRTK	**Grand Turk**	**29.98**	**6**	*e*P	**P**	**22 58 41.9**	**+0.7**
	comp=Z,341nm,0.7s						
TRQA	**Tornquist**	**31.52**	**161**	*e*P	**P**	**22 58 54.1**	**-0.5**
	comp=Z,34nm,0.8s						
TEIG	**Tepich**	**31.61**	**335**	*e*P	**P**	**22 58 55.8**	**+0.1**
	comp=Z,231nm,0.9s						
TEIG	**Tepich**	**31.61**	**335**	P	**P**	**22 58 55.9**	**+0.3**
	comp=Z,141nm,0.7s,baz=332,slow=2.1,SNR=36						
PLCA	**Paso Flores**	**32.30**	**174**	*e*P	**P**	**22 59 02.1**	**+0.5**
	comp=Z,44nm,0.7s						
PLCA				*e*pP	**pP**	**22 59 33.0**	**0.0**
PLCA				*e*PcP	**PcP**	**23 01 47.6**	**+1.4**
PLCA				PcP	PcP	23 01 48.0	+1.8
PLCA	**Paso Flores**	**32.30**	**174**	P	**P**	**22 59 02.7**	**+1.1**
	comp=Z,36nm,0.7s,baz=351,slow=9.3,SNR=94						
PLCA				PcP	**PcP**	**23 01 48.0**	**+1.7**
	comp=Z,26nm,0.7s,baz=350,slow=4.8,SNR=5.5						
RCBR	**Riachuelo**	**38.30**	**89**	*e*P	**P**	**22 59 53.3**	**+0.1**
	comp=Z,17nm,0.8s						
RCBR	**Riachuelo**	**38.30**	**89**	P	**P**	**22 59 53.3**	**+0.1**
	comp=Z,54nm,0.8s,baz=243,slow=11,SNR=13						
TIGA	**Tifton**	**40.65**	**348**	*e*P	**P**	**23 00 12.5**	**+0.2**
BRAL	**Brewton**	**41.09**	**343**	*e*pP	pP	**23 00 52.6**	**+4.2**
RGRS	**Roger Stewart**	**41.52**	**353**	*e*P	**P**	**23 00 21.1**	**+1.7**
CSU	**Charleston Sou**	**41.58**	**353**	*e*P	**P**	**23 00 22.4**	**+2.6**
035Z	**Hargill**	**41.64**	**327**	⇓P	**P**	**23 00 21.1**	**+0.7**
	baz=42,SNR=8.5						
BBSR	**BB Station**	**41.67**	**12**	*e*P	**P**	**23 00 21.8**	**+1.3**
	comp=Z,82nm,0.6s						
NHSC	**New Hope**	**41.

BLA pmax pmax
comp=Z,173nm,0.7s
BLA **Blacksburg** **45.80 353** *e*P **P** **23 00 53.6 +0.1**
comp=Z,173nm,0.7s
BLA *e*pP **pP** **23 01 27.0 +0.3**
BLA *e*PcP **PcP** **23 02 29.0 +0.3**
WHTX **Lake Whitney** **45.87 332** ⇓P **P** **23 00 54.5 +0.3**
baz=46,SNR=30
531A **Rocksprings** **45.90 328** ⇓P **P** **23 00 54.4 -0.1**
baz=46,SNR=16
333A **Richland Sprin** **46.04 330** ⇑P **P** **23 00 55.2 -0.3**
baz=46,SNR=50
432A **Menard** **46.08 329** ⇑P **P** **23 00 55.7 -0.1**
baz=46,SNR=28
WVT **Waverly** **46.13 345** *e*P **P** **23 00 53.6 -2.5**
WVT pmax pmax
comp=Z,56nm,0.6s
WVT **Waverly** **46.13 345** *e*P **P** **23 00 53.6 -2.5**
comp=Z,56nm,0.6s
234A **Clairette** **46.19 332** ⇑P **P** **23 00 56.6 -0.1**
baz=46,SNR=23
UALR **University of** **46.24 339** *e*P **P** **23 00 56.2 -0.8**
comp=Z,182nm,0.7s
530A **J-C Ranch, Com** **46.30 327** ⇑P **P** **23 00 57.7 0.0**
baz=46
135A **Vickery Place,** **46.32 333** ⇓P **P** **23 00 57.8 +0.1**
baz=46,SNR=12
431A **Sonora** **46.34 328** ⇓P **P** **23 00 57.6 -0.3**
baz=46,SNR=37
HBAR **Harrisburg** **46.40 342** *e*P **P** **23 00 56.7 -1.5**
332A **Millersview** **46.46 330** ⇑P **P** **23 00 58.7 -0.1**
baz=47,SNR=73
MIAR **Mount Ida** **46.47 338** *e*P **P** **23 00 58.2 -0.7**
MIAR pmax pmax
comp=Z,76nm,0.7s
MIAR **Mount Ida** **46.47 338** *e*P **P** **23 00 58.2 -0.7**
comp=Z,76nm,0.7s
USHA **Ushuaia** **46.48 175** P **P** **23 01 00.8 +2.2**
USHA **Ushuaia** **46.48 175** P **P** **23 01 00.8 +2.2**
comp=Z,100nm,0.6s,baz=348,slow=6.6,SNR=115
CBN **Corbin** **46.52 357** *e*P **P** **23 00 59.7 +0.6**
comp=Z,274nm,0.6s
233A **Rising Star** **46.57 331** ⇓P **P** **23 00 59.5 -0.2**
baz=47,SNR=54
GNAR **Gosnell** **46.58 343** *e*P **P** **23 00 59.1 -0.6**
GNAR *e*PcP **PcP** **23 02 31.4 +0.1**
134A **White-Moore Ra** **46.64 332** ⇓P **P** **23 01 00.4 +0.2**
baz=47,SNR=65
628A **Black Gap, Mar** **46.65 325** ⇑P **P** **23 01 00.5 +0.1**
baz=47,SNR=6.8
331A **San Angelo** **46.74 329** ⇑P **P** **23 01 00.7 -0.4**
baz=47,SNR=36
430A **Baggett Ranch,** **46.75 328** ⇓P **P** **23 01 00.9 -0.2**
baz=47,SNR=46
529A **Stev Forest Ra** **46.76 326** P **P** **23 01 01.3 0.0**
baz=47
232A **Coleman** **46.82 330** ⇑P **P** **23 01 01.6 -0.1**
baz=47,SNR=88
627A **Terlingua Ranc** **46.91 325** ⇑P **P** **23 01 02.6 +0.1**
baz=47,SNR=6.7
Z35A **Perchaven, San** **46.91 334** ⇑P **P** **23 01 02.4 +0.1**
baz=47,SNR=44
429A **Davenport Ranc** **46.97 327** ⇓P **P** **23 01 02.8 -0.1**
baz=47,SNR=40
TXAR **Lajitas Array** **46.98 324** P **P** **23 01 03.5 +0.5**
TXAR pP **pP** **23 01 36.0 -0.2**
TXAR **Lajitas Array** **46.98 324** P **P** **23 01 03.5 +0.5**
comp=Z,15nm,0.4s,baz=144,slow=7.8,SNR=54
TXAR pP **pP** **23 01 36.0 -0.2**
comp=Z,16nm,0.6s,baz=149,slow=10,SNR=4.7
133A **Hamilton Ranch** **47.06 331** ⇑P **P** **23 01 03.3 -0.2**
baz=47,SNR=47
528A **Cox Ranch, San** **47.11 326** ⇓P **P** **23 01 03.9 -0.1**
baz=47
PARMO **Parma** **47.16 343** *e*P **P** **23 01 03.5 -0.6**
231A **Bronte** **47.19 330** ⇑P **P** **23 01 04.0 -0.5**
baz=47,SNR=26
330A **Mertzon** **47.21 328** ⇑P **P** **23 01 04.1 -0.6**
baz=47,SNR=31
Z34A **Collier Ranch,** **47.24 333** ⇑P **P** **23 01 05.0 +0.2**
baz=47,SNR=25
626A **Big Bend Ranch** **47.41 324** ⇓P **P** **23 01 06.2 -0.2**
baz=48,SNR=96
ABTX **Abilene, Hawle** **47.42 331** *e*P **P** **23 01 06.4 +0.1**
ABTX **Abilene, Hawle** **47.42 331** ⇓P **P** **23 01 06.2 -0.1**
baz=48,SNR=59
PBMO **Poplar Bluff** **47.46 343** *e*P **P** **23 01 05.1 -1.4**
comp=Z,138nm,0.6s
428A **Kincaid Ranch,** **47.48 326** ⇑P **P** **23 01 06.8 -0.1**
baz=48,SNR=17
Z33A **Whitaker Ranch** **47.55 332** ⇑P **P** **23 01 07.7 +0.4**
baz=48,SNR=53
527A **Woodward Ranch** **47.56 325** ⇑P **P** **23 01 06.9 -0.6**
baz=48,SNR=63
230A **Sterling City** **47.56 329** ⇑P **P** **23 01 07.1 -0.3**
baz=48,SNR=16
Y34A **Reagan Ranch,** **47.66 334** ⇓P **P** **23 01 08.2 +0.1**
baz=48,SNR=89
329A **Wagon Wheel Ra** **47.69 328** ⇑P **P** **23 01 08.1 -0.4**
baz=48,SNR=8.9
SDMD **Soldier's Deli** **47.70 357** *e*P **P** **23 01 08.7 +0.4**
comp=Z,79nm,0.6s
LPIG **La Paz** **47.71 314** P **P** **23 01 09.4 +0.8**
LPIG **La Paz** **47.71 314** P **P** **23 01 09.4 +0.8**
comp=Z,23nm,0.3s,baz=34,slow=3.6,SNR=4.4
526A **Mary Lane Ranc** **47.76 325** ⇓P **P** **23 01 08.5 -0.6**
baz=48,SNR=60
WCI **Wyandotte Cave** **47.77 347** *e*P **P** **23 01 07.3 -1.5**
WCI pmax pmax
comp=Z,176nm,0.4s
WCI **Wyandotte Cave** **47.77 347** *e*P **P** **23 01 07.3 -1.5**
comp=Z,176nm,0.4s
131A **Roby** **47.83 330** ⇑P **P** **23 01 09.2 -0.2**
baz=48,SNR=40
USIN **University of** **47.83 346** *e*P **P** **23 01 07.9 -1.4**
Z32A **Haskell** **47.90 331** ⇑P **P** **23 01 10.1 +0.1**
baz=48,SNR=36
427A **Hayter Ranch,** **47.97 326** ⇓P **P** **23 01 10.3 -0.4**
baz=48,SNR=22
229A **Bryant Ranch,** **47.98 328** ⇑P **P** **23 01 10.0 -0.6**
baz=48,SNR=19
130A **Snyder** **48.05 330** ⇓P **P** **23 01 10.8 -0.4**
baz=48,SNR=32
328A **Wristen Ranch,** **48.05 327** ⇓P **P** **23 01 10.8 -0.4**
baz=48,SNR=56
Y33A **Hilltop Ranch,** **48.09 333** ⇑P **P** **23 01 11.4 +0.1**
baz=48,SNR=27
MCWV **Mont Chateau** **48.16 354** *e*P **P** **23 01 12.3 +0.5**
comp=Z,167nm,0.6s
426A **McDonald Obser** **48.19 325** ⇓P **P** **23 01 12.2 -0.3**
baz=48,SNR=47
Z31A **Sharp Cattle R** **48.23 331** ⇑P **P** **23 01 12.6 +0.1**
baz=48,SNR=96
X34A **Smith Ranch, M** **48.24 334** ⇑P **P** **23 01 12.6 +0.1**
baz=48,SNR=68
MVL **Millersville** **48.27 358** *e*P **P** **23 01 13.4 +0.8**
comp=Z,215nm,0.8s
327A **Balmorhea Ranc** **48.42 326** P **P** **23 01 14.2 +0.2**
baz=49
Y32A **R-V Farms, Ver** **48.46 332** ⇑P **P** **23 01 14.4 +0.2**
baz=49,SNR=62
X33A **Lawton** **48.48 333** ⇑P **P** **23 01 13.9 -0.5**
baz=49,SNR=57
228A **UT Block 9, Go** **48.51 328** ⇑P **P** **23 01 13.9 -0.8**
baz=49,SNR=23
TUL1 **Tulsa** **48.52 337** *e*P **P** **23 01 14.5 -0.1**
TUL1 **Tulsa** **48.52 337** ⇓P **P** **23 01 14.1 -0.6**
baz=49,SNR=76
129A **Stewart Farms,** **48.53 329** ⇓P **P** **23 01 14.2 -0.8**
baz=49,SNR=16
326A **Caldwell Ranch** **48.65 326** ⇑P **P** **23 01 15.5 -0.4**
baz=49,SNR=48
OLIL **Olney** **48.66 346** *e*P **P** **23 01 14.3 -1.4**
Z30A **Sanderson Ranc** **48.69 330** ⇓P **P** **23 01 15.9 -0.1**
baz=49,SNR=212
BLO **Bloomington** **48.72 347** *e*P **P** **23 01 14.9 -1.2**
BLO pmax pmax
comp=Z,235nm,0.6s
BLO **Bloomington** **48.72 347** *e*P **P** **23 01 14.9 -1.2**
comp=Z,235nm,0.6s
X32A **Elmer** **48.73 332** ⇑P **P** **23 01 16.1 -0.2**
baz=49,SNR=63
W34A **Bridge Creek,** **48.75 334** ⇓P **P** **23 01 15.7 -0.7**
baz=49,SNR=20
WMOK **Wichita Mounta** **48.77 333** *e*P **P** **23 01 15.9 -0.7**
WMOK pmax pmax
comp=Z,653nm,2.6s
WMOK **Wichita Mounta** **48.77 333** *e*P **P** **23 01 15.9 -0.7**
comp=Z,653nm,2.6s
227A **Bennet, Jal** **48.80 327** ⇓P **P** **23 01 17.0 0.0**
baz=49,SNR=32
Y31A **Rekieta Farm,** **48.81 331** ⇑P **P** **23 01 17.2 +0.2**
baz=49,SNR=74
425A **Indio Mountain** **48.82 324** ⇓P **P** **23 01 17.0 -0.2**
baz=50,SNR=115
128A **Castleberry Fa** **48.85 328** ⇓P **P** **23 01 16.9 -0.4**
baz=49,SNR=61
Z29A **Hungry Hill Ra** **48.95 329** ⇑P **P** **23 01 17.5 -0.6**
baz=49,SNR=16
W33A **Caddo, Fort Co** **48.98 334** ⇑P **P** **23 01 18.3 +0.1**
baz=49,SNR=25
CPNY **Central Park** **49.02 0** *e*P **P** **23 01 17.5 -0.8**
CPNY *e*pP **pP** **23 01 52.6 +0.7**
Y30A **Stafford Cattl** **49.05 331** ⇓P **P** **23 01 18.6 -0.2**
baz=49,SNR=54
ACSO **Alum Creek Sta** **49.11 351** *e*P **P** **23 01 18.3 -0.7**
comp=Z,126nm,0.6s
SLM **Saint Louis** **49.13 344** *e*P **P** **23 01 19.3 +0.1**
SLM pmax pmax
comp=Z,104nm,0.6s
SLM **Saint Louis** **49.13 344** *e*P **P** **23 01 19.3 +0.1**
comp=Z,104nm,0.6s
V34A **Guthrie** **49.16 335** ⇑P **P** **23 01 19.0 -0.5**
baz=49,SNR=44
X31A **McDonald Ranch** **49.23 332** ⇑P **P** **23 01 20.1 0.0**
baz=49,SNR=69
PAL **Palisades** **49.24 1** *e*P **P** **23 01 21.7 +1.7**
PAL pmax pmax
comp=Z,59nm,0.8s
PAL **Palisades** **49.24 1** *e*P **P** **23 01 21.7 +1.7**
comp=Z,59nm,0.8s
W32A **Sentinel** **49.30 333** ⇓P **P** **23 01 20.3 -0.4**
baz=50,SNR=69
ODNJ **Ogdensburg** **49.31 360** *e*P **P** **23 01 22.7 +2.1**
comp=Z,42nm,0.7s
Z28A **Tucker Farm, M** **49.32 329** ⇓P **P** **23 01 20.3 -0.6**
baz=50,SNR=12
226B **Tecolote Peak,** **49.33 326** ⇓P **P** **23 01 21.1 +0.1**
baz=50,SNR=44
127A **Arkansas Junct** **49.35 327** P **P** **23 01 20.6 -0.6**
baz=50
Y29A **Porterfield Fa** **49.41 330** P **P** **23 01 21.3 -0.4**
baz=50,SNR=50
V33A **Loseen Ranch,** **49.47 334** ⇓P **P** **23 01 21.4 -0.4**
baz=50,SNR=52
X30A **Coker Ranch, T** **49.50 331** ⇓P **P** **23 01 21.8 -0.3**
baz=50,SNR=52
GDL2 **Guadalupe Moun** **49.53 326** *e*P **P** **23 01 23.4 +0.9**
YLE **Yale** **49.56 1** *e*P **P** **23 01 25.0 +2.6**
W31A **Holland Ranch,** **49.67 332** ⇑P **P** **23 01 22.4 -1.1**
baz=50,SNR=24
U34A **Anderson Ranch** **49.68 335** ⇓P **P** **23 01 22.7 -0.8**
baz=50,SNR=53
126A **Clayton Basin,** **49.68 327** ⇑P **P** **23 01 23.4 -0.3**
baz=50,SNR=34
V32A **Arapaho** **49.71 334** ⇑P **P** **23 01 23.8 +0.1**
baz=50,SNR=41
225A **Deer Hill, Car** **49.72 326** ⇓P **P** **23 01 23.8 -0.2**
baz=50,SNR=63
Y28A **McKinney Farm,** **49.74 329** ⇑P **P** **23 01 23.5 -0.6**
baz=50
Z27A **Tatum** **49.77 328** ⇑P **P** **23 01 23.5 -0.8**
baz=50,SNR=64
KSPA **Keystone Colle** **49.80 359** *e*P **P** **23 01 26.1 +1.8**
X29A **Tulia** **49.90 330** ⇑P **P** **23 01 24.3 -1.0**
baz=50,SNR=18
U33A **Lingo Farm, Me** **49.91 335** ⇓P **P** **23 01 24.0 -1.2**
baz=50,SNR=28
W30A **Crocket Farms** **49.96 332** ⇑P **P** **23 01 25.1 -0.6**
baz=50
SFIN **Scholer Farm** **50.00 347** *e*P **P** **23 01 23.9 -1.9**
SFIN **Scholer Farm** **50.00 347** P **P** **23 01 23.7 -2.0**
baz=50
125A **Gardner Draw,** **50.04 326** ⇑P **P** **23 01 25.9 -0.5**
baz=50,SNR=90
MSTX **Muleshoe** **50.05 329** *e*P **P** **23 01 26.2 -0.3**
MSTX **Muleshoe** **50.05 329** ⇑P **P** **23 01 26.0 -0.5**
baz=50,SNR=34
V31A **Spring Creek L** **50.11 333** ⇑P **P** **23 01 26.8 0.0**
baz=50,SNR=34
Z26A **Caprock** **50.14 327** ⇑P **P** **23 01 27.0 -0.2**
baz=50,SNR=73
Y27A **Causey** **50.19 329** ⇓P **P** **23 01 26.7 -0.8**
baz=50,SNR=24
X28A **Dimmitt** **50.20 330** ⇓P **P** **23 01 26.8 -0.7**
baz=50,SNR=11
AMTX **Amarillo** **50.24 331** *e*P **P** **23 01 27.4 -0.4**
comp=Z,100nm,0.6s
AMTX **Amarillo** **50.24 331** ⇑P **P** **23 01 27.2 -0.7**
baz=50
U32A **Winter Ranch,** **50.25 334** ⇑P **P** **23 01 27.6 -0.2**
baz=50,SNR=42
W29A **Amraillo** **50.42 331** ⇑P **P** **23 01 28.3 -0.8**
baz=51,SNR=16
BINY **Binghamton** **50.45 358** *e*P **P** **23 01 29.3 +0.1**
comp=Z,335nm,0.6s
BINY *e*pP **pP** **23 02 03.9 +1.0**
V30A **Spur Ranch, Mi** **50.49 332** ⇓P **P** **23 01 29.1 -0.6**
baz=51,SNR=6.4
T33A **Patterson Ranc** **50.52 335** ⇓P **P** **23 01 29.6 -0.3**
baz=51,SNR=24
Z25A **Roswell** **50.54 327** ⇓P **P** **23 01 29.7 -0.5**
baz=51,SNR=78
Y26A **Elida** **50.56 328** ⇓P **P** **23 01 29.7 -0.6**
baz=51,SNR=24
ERPA **Erie** **50.61 355** *e*P **P** **23 01 30.6 +0.3**
U31A **Nine Bar Ranch** **50.61 333** ⇑P **P** **23 01 30.0 -0.5**
baz=51
X27A **F and S Farms,** **50.75 329** ⇓P **P** **23 01 30.9 -0.8**
baz=51,SNR=24
W28A **Vega** **50.80 331** P **P** **23 01 31.3 -0.8**
baz=51
HRV **Adam Dziewonsk** **50.80 3** *e*P **P** **23 01 31.9 +0.1**
HRV *e*PP **pP** **23 02 04.8 -0.7**
HRV pmax pmax
comp=Z,86nm,0.8s
HRV **Adam Dziewonsk** **50.80 3** *e*P **P** **23 01 31.9 +0.1**
comp=Z,86nm,0.8s
HRV *e*pP **pP** **23 02 04.8 -0.7**
S33A **Kaszmaul Farm,** **50.86 336** ⇓P **P** **23 01 32.1 -0.3**
baz=51,SNR=24
T32A **Huddler Ranch,** **50.89 335** ⇓P **P** **23 01 32.2 -0.5**
baz=51,SNR=29
Z24A **Sheeppen Canyo** **50.93 326** ⇑P **P** **23 01 32.5 -0.7**
baz=51,SNR=59
TRY **Troy** **50.97 1** *e*P **P** **23 01 35.5 +2.6**
comp=Z,69nm,0.9s
TRY *e*pP **pP** **23 02 11.1 +4.4**
V29A **Stinnett** **50.97 332** ⇓P **P** **23 01 32.8 -0.5**
baz=51,SNR=5.5
Y25A **Mesa, Roswell** **51.02 327** ⇑P **P** **23 01 32.9 -0.9**
baz=51,SNR=38
X26A **CR and CF Fran** **51.04 329** ⇓P **P** **23 01 33.2 -0.7**
baz=51,SNR=70
MMNY **Mt. Morris Dam** **51.06 357** *e*P **P** **23 01 34.3 +0.6**
comp=Z,209nm,0.7s
W27A **Bowe Ranch, En** **51.07 330** ⇓P **P** **23 01 33.7 -0.4**
baz=51
U30A **WK&E Inc. Balk** **51.10 333** ⇑P **P** **23 01 34.2 0.0**
baz=51
T31A **Randall Ranch,** **51.14 334** ⇑P **P** **23 01 34.2 -0.3**
baz=51,SNR=22
V28A **Channing** **51.20 331** P **P** **23 01 34.7 -0.4**
baz=51
AAM **Ann Arbor** **51.23 351** *e*P **P** **23 01 34.1 -0.9**
AAM pmax pmax
comp=Z,536nm,2.1s
AAM **Ann Arbor** **51.23 351** *e*P **P** **23 01 34.1 -0.9**
comp=Z,536nm,2.1s
U29A **Oasis Ranch, S** **51.32 332** ⇑P **P** **23 01 35.8 -0.1**
baz=52,SNR=12
S32A **Newby Ranch, P** **51.34 335** ⇑P **P** **23 01 35.5 -0.4**
baz=52,SNR=30
Y24A **Capitan** **51.42 327** ⇓P **P** **23 01 35.6 -1.3**
baz=52,SNR=46
W26A **Owens Ranch, T** **51.44 329** P **P** **23 01 36.5 -0.3**
baz=52
X25A **Clemmons Ranch** **51.47 328** ⇓P **P** **23 01 36.5 -0.6**
baz=52,SNR=42
R33A **Olander Ranch,** **51.47 336** ⇑P **P** **23 01 36.0 -0.9**
baz=52,SNR=25
T30A **Plains** **51.48 333** ⇓P **P** **23 01 36.5 -0.5**
baz=52,SNR=10
S31A **Mullinville** **51.50 335** ⇑P **P** **23 01 37.3 +0.1**
baz=52,SNR=42
V27A **Dan Oppiter Fa** **51.50 330** ⇓P **P** **23 01 37.0 -0.3**
baz=52
ACCN **Adirondack Com** **51.62 1** *e*P **P** **23 01 38.4 +0.6**
comp=Z,296nm,1.8s
KSU1 **Kansas State U** **51.63 338** ⇓P **P** **23 01 37.3 -0.7**
baz=52,SNR=27
U28A **Mallet** **51.71 331** ⇑P **P** **23 01 37.8 -1.0**
baz=52,SNR=11
121A **Cookes Peak, D** **51.72 324** ⇑P **P** **23 01 38.9 -0.1**
baz=52,SNR=41
Y23A **Lovelace Mesa,** **51.76 326** ⇓P **P** **23 01 38.6 -0.7**
baz=52,SNR=47
Z22A **Elephant Butte** **51.77 325** ⇑P **P** **23 01 38.6 -0.7**
baz=52,SNR=59
319A **Douglas** **51.80 322** ⇑P **P** **23 01 39.1 -0.5**
baz=52,SNR=32
R32A **Long Quarter,** **51.86 336** ⇓P **P** **23 01 39.4 -0.4**
baz=52,SNR=25
W25A **X Bar L Ranch,** **51.90 329** ⇑P **P** **23 01 39.6 -0.7**
baz=52,SNR=55
X24A **Lazy VL Ranch,** **51.91 327** ⇑P **P** **23 01 40.1 -0.3**
baz=52,SNR=90
T29A **Hugoton** **51.91 333** ⇓P **P** **23 01 39.8 -0.5**
baz=52,SNR=44
S30A **Montezuma** **51.94 334** ⇓P **P** **23 01 40.0 -0.4**
baz=52,SNR=7.3
HNH **Hanover** **51.97 2** *e*P **P** **23 01 42.7 +2.3**
comp=Z,330nm,2.0s
Q33A **Connelly Farm,** **52.01 337** ⇑P **P** **23 01 40.6 -0.2**
baz=52,SNR=20
V26A **Tequesquite Ra** **52.01 330** ⇓P **P** **23 01 40.3 -0.8**
baz=52,SNR=66
U27A **Thompson Grove** **52.03 331** ⇓P **P** **23 01 40.3 -0.9**
baz=52,SNR=5.8
R31A **Burdett** **52.08 335** ⇑P **P** **23 01 41.3 -0.2**
baz=52,SNR=29
NCB **Newcomb** **52.20 0** *e*P **P** **23 01 42.8 +0.6**
S29A **Ulysses** **52.21 333** ⇓P **P** **23 01 42.2 -0.3**
baz=52,SNR=40
MDV **Middlebury** **52.24 1** *e*P **P** **23 01 42.9 +0.4**
T28A **Walsh** **52.26 332** ⇑P **P** **23 01 42.2 -0.7**
baz=52,SNR=12
Q32A **Meitler Ranch,** **52.29 336** ⇑P **P** **23 01 42.5 -0.4**
baz=52
X23A **Hourglass Bar** **52.32 327** ⇓P **P** **23 01 42.9 -0.6**
baz=52
P33A **Williams Farm,** **52.33 337** ⇑P **P** **23 01 42.5 -0.8**
baz=52
LPM **Los Pinos Moun** **52.37 326** *e*P **P** **23 01 43.4 -0.4**
W24A **Lazy 6 Ranch,** **52.38 328** ⇑P **P** **23 01 43.4 -0.5**
baz=53,SNR=28
R30A **Dighton** **52.40 334** ⇑P **P** **23 01 43.6 -0.2**
baz=53,SNR=30
LENM **Lemitar** **52.45 326** *e*P **P** **23 01 45.1 +0.7**
U26A **Atchley Ranch,** **52.46 330** ⇑P **P** **23 01 44.0 -0.4**
baz=53,SNR=47
V25A **Rancho No Teng** **52.46 329** ⇓P **P** **23 01 44.0 -0.5**
baz=53,SNR=92
T27A **Campo** **52.49 331** ⇑P **P** **23 01 44.1 -0.6**
baz=53,SNR=56
LBNH **Lisbon** **52.52 2** *e*P **P** **23 01 45.3 +0.8**
LBNH *e**PP **pP** **23 02 18.9 +0.4**
LBNH pmax pmax
comp=Z,107nm,1.0s
LBNH **Lisbon** **52.52 2** *e*P **P** **23 01 45.3 +0.8**
comp=Z,107nm,1.0s
LBNH *e*pP **pP** **23 02 18.9 +0.4**
S28A **Manter** **52.54 333** ⇓P **P** **23 01 44.3 -0.6**
baz=53,SNR=19
Q31A **Ellis** **52.63 336** ⇑P **P** **23 01 44.9 -0.6**
baz=53,SNR=17
V24A **Rampart Ranch,** **52.71 328** ⇑P **P** **23 01 45.5 -0.8**
baz=53,SNR=79
W23A **Werner Place,** **52.74 327** ⇓P **P** **23 01 46.0 -0.6**
baz=53,SNR=39
ANMO **Albuquerque** **52.74 327** *e*P **P** **23 01 46.2 -0.4**
comp=Z,75nm,1.0s
U25A **Circle Dot Ran** **52.79 330** ⇓P **P** **23 01 46.4 -0.5**
baz=53,SNR=57
PTN **Potsdam (NY)** **52.80 359** *e*P **P** **23 01 47.0 +0.5**
PTN pmax pmax
comp=Z,306nm,0.9s
PTN **Potsdam (NY)** **52.80 359** *e*P **P** **23 01 47.0 +0.5**
comp=Z,306nm,0.9s
P32A **Huiting Farm,** **52.84 337** ⇓P **P** **23 01 46.2 -0.8**
baz=53,SNR=12
LONY **Lake Ozonia** **52.85 360** *e*pP pP 23 02 20.7 -0.2
comp=Z,136nm,0.9s
R29A **Marienthal** **52.89 334** ⇑P **P** **23 01 46.9 -0.6**
baz=53,SNR=18
Q30A **Quinter** **52.95 335** ⇓P **P** **23 01 47.7 -0.2**
baz=53,SNR=27
WVL **Waterville** **52.97 4** *e*P **P** **23 01 50.4 +2.6**
comp=Z,466nm,2.0s
T26A **Comeche Natio** **53.00 331** ⇑P **P** **23 01 48.0 -0.4**
baz=53,SNR=25
P31A **Stockton** **53.07 336** ⇑P **P** **23 01 48.3 -0.4**
baz=53,SNR=45
FRNY **Flat Rock** **53.07 1** *e*P **P** **23 01 49.5 +1.0**
comp=Z,21nm,0.8s
S27A **Las Animas** **53.08 332** ⇑P **P** **23 01 48.5 -0.4**
baz=53,SNR=46
R28A **Tribune** **53.12 333** ⇓P **P** **23 01 48.7 -0.5**
baz=53,SNR=36
JFWS **Jewell Farm** **53.14 346** *e*P **P** **23 01 47.6 -1.5**
JFWS pmax pmax
comp=Z,100nm,0.6s
JFWS **Jewell Farm** **53.14 346** *e*P **P** **23 01 47.6 -1.5**
comp=Z,100nm,0.6s
V23A **Ortiz Mt. (NFS** **53.20 328** ⇑P **P** **23 01 49.7 -0.3**
baz=53,SNR=22
Q29A **Oakley** **53.20 334** ⇓P **P** **23 01 49.3 -0.4**
baz=53,SNR=18
U24A **Moreno Valley** **53.24 329** ⇓P **P** **23 01 50.1 -0.2**
baz=53,SNR=5.5
O32A **Brockman Farm,** **53.27 337** ⇓P **P** **23 01 49.4 -0.8**
baz=54,SNR=21
S26A **Kim** **53.30 331** ⇑P **P** **23 01 50.6 +0.1**
baz=54,SNR=70
TUC **Tucson** **53.37 321** *e*P **P** **23 01 50.6 -0.5**
TUC pmax pmax
comp=Z,55nm,0.9s
TUC **Tucson** **53.37 321** *e*P **P** **23 01 50.5 -0.5**
comp=Z,55nm,0.9s
T25A **Trinidad** **53.37 330** ⇓P **P** **23 01 51.3 +0.1**
baz=54,SNR=62
P30A **Selden** **53.44 335** ⇓P **P** **23 01 50.7 -0.7**
baz=54,SNR=20
R27A **Eads** **53.52 332** ⇑P **P** **23 01 51.0 -1.1**
baz=54,SNR=27
O31A **Woolen Ranch,** **53.59 336** ⇑P **P** **23 01 51.1 -1.4**
baz=54,SNR=5.8
U23A **El Rito** **53.65 328** ⇑P **P** **23 01 53.2 0.0**
baz=54,SNR=40
PKME **Peaks-Kenny Pk** **53.69 4** *e*P **P** **23 01 53.8 +0.8**
comp=Z,102nm,0.6s
N32A **Stulken Farm,** **53.71 338** ⇓P **P** **23 01 52.3 -1.0**
baz=54,SNR=10
V22A **San Miguel Ran** **53.71 327** P **P** **23 01 53.7 -0.1**
baz=54
Q28A **Sharon Springs** **53.72 334** ⇑P **P** **23 01 52.9 -0.6**
baz=54,SNR=18
P29A **Atwood** **53.78 335** ⇑P **P** **23 01 53.8 -0.1**
baz=54,SNR=14
S25A **Robets Cordova** **53.79 331** ⇓P **P** **23 01 53.9 -0.3**
baz=54,SNR=36
T24B **San Luis** **53.80 329** ⇓P **P** **23 01 54.2 -0.2**
baz=54,SNR=37
R26A **Arlington** **53.83 332** ⇑P **P** **23 01 53.7 -0.7**
baz=54,SNR=48
O30A **MW Ranch, Wils** **53.90 336** ⇑P **P** **23 01 54.2 -0.6**
baz=54,SNR=20
N31A **Bailey Ranch,** **54.02 337** ⇑P **P** **23 01 54.9 -0.7**
baz=54,SNR=11
KSCO **Kaye Shedlock'** **54.03 333** *e*P **P** **23 01 56.1 +0.3**
KSCO *e*pP **pP** **23 02 31.6 +1.7**
KSCO **Kaye Shedlock'** **54.03 333** ⇓P **P** **23 01 55.4 -0.4**
baz=54,SNR=18
U22A **Llaves** **54.03 328** ⇑P **P** **23 01 55.7 -0.3**
baz=54,SNR=38
P28A **Saint Francis** **54.11 334** ⇑P **P** **23 01 56.2 -0.2**
baz=54,SNR=16
T23A **Casias Ranch,** **54.11 329** ⇓P **P** **23 01 56.3 -0.3**
baz=54,SNR=19
O29A **4D Ranch, Culb** **54.16 335** ⇓P **P** **23 01 56.2 -0.5**
baz=54,SNR=51
S24A **Houchin Ranch,** **54.16 330** P **P** **23 01 57.1 +0.1**
baz=54

BGNE **Belgrade** 54.22 338 *e*P P 23 01 56.5 -0.5
BGNE **Belgrade** 54.22 338 ⇓P P 23 01 56.3 -0.7
baz=54,SNR=17
Q26A **Hugo** 54.37 332 ⇓P P 23 01 58.3 0.0
baz=55,SNR=42
SDCO **Great Sand Dun** 54.39 330 *e*P P 23 01 58.4 -0.2
comp=Z,94nm,0.8s
SDCO *e*pP pP 23 02 32.4 -0.4
X18A **Snowflake** 54.41 324 ⇓P P 23 01 58.4 -0.3
baz=55,SNR=27
214A **Organ Pipe Nat** 54.41 320 *e*P P 23 01 58.9 +0.3
comp=Z,343nm,1.3s
214A *e*pP pP 23 02 32.8 0.0
214A **Organ Pipe Nat** 54.41 320 ⇓P P 23 01 58.4 -0.2
baz=55,SNR=34
N30A **Hueftle Ranch,** 54.44 336 ⇓P P 23 01 58.5 -0.2
baz=55,SNR=13
P27A **Ficken Ranch,** 54.45 333 ⇑P P 23 01 58.5 -0.3
baz=55,SNR=8.2
M31A **Lambtecht Ranc** 54.47 337 ⇑P P 23 01 58.6 -0.2
baz=55,SNR=14
R24A **Sanders Place,** 54.57 330 ⇓P P 23 01 59.8 0.0
baz=55,SNR=36
O28A **Krutsinger Ran** 54.57 334 ⇑P P 23 01 59.7 0.0
baz=55,SNR=10
S23A **Nye Farm, Mont** 54.61 329 ⇓P P 23 02 00.2 0.0
baz=55,SNR=6.4
N29A **Votaw Ranch, W** 54.67 336 ⇓P P 23 02 00.2 -0.2
baz=55,SNR=15
Q25A **Bedland, Calha** 54.70 332 ⇑P P 23 02 00.1 -0.7
baz=55,SNR=14
W18A **Petrified Fore** 54.70 325 *e*P P 23 02 01.2 +0.4
W18A **Petrified Fore** 54.70 325 ⇑P P 23 02 01.0 +0.1
baz=55,SNR=28
P26A **Davis Ranch, A** 54.80 333 P P 23 02 01.5 +0.1
baz=55
HOPE **Hope Point** 54.82 154 *e*P P 23 02 03.7 +2.6
comp=Z,159nm,0.9s
HOPE *e*pP pP 23 02 38.5 +3.2
R23A **Moffat** 54.89 330 ⇓P P 23 02 01.7 -0.6
baz=55,SNR=42
O27A **Beecher Island** 54.93 334 ⇑P P 23 02 02.4 +0.1
baz=55,SNR=20
N28A **Pribbeno Ranch** 54.94 335 ⇓P P 23 02 01.9 -0.4
baz=55,SNR=13
M30A **Dale-Ortello V** 54.98 337 ⇓P P 23 02 01.6 -1.0
baz=55
S22A **4UR Ranch, Cre** 55.06 329 ⇓P P 23 02 03.4 -0.1
baz=55,SNR=60
P25A **Willow Gulch B** 55.14 332 ⇓P P 23 02 03.9 0.0
baz=55
L31A **Butterfield Fa** 55.14 338 ⇑P P 23 02 02.7 -0.9
baz=55,SNR=30
Q24A **Divide** 55.17 331 ⇑P P 23 02 03.7 -0.6
baz=55,SNR=14
X16A **Lo Mia Camp, P** 55.21 323 ⇓P P 23 02 04.3 -0.2
baz=55,SNR=36
M29A **Burnside Ranch** 55.23 336 ⇑P P 23 02 04.0 -0.3
baz=55,SNR=20
L30A **Spencer Herefo** 55.28 337 ⇑P P 23 02 04.2 -0.4
baz=56,SNR=14
O26A **Horse Wrangler** 55.34 333 ⇓P P 23 02 04.7 -0.5
baz=56
OGNE **Ogallala** 55.36 335 *e*P P 23 02 04.8 -0.5
comp=Z,99nm,0.6s
OGNE *e*pP pP 23 02 37.5 -2.1
OGNE **Ogallala** 55.36 335 ⇑P P 23 02 04.7 -0.7
baz=56,SNR=22
PTCN **Pitcairn Islan** 55.42 245 *e*P P 23 02 05.9 0.0
comp=Z,399nm,0.6s
Z14A **Wintersburg** 55.42 321 ⇑P P 23 02 05.2 -0.6
baz=56,SNR=8.3
Q23A **Hartsel** 55.45 330 ⇓P P 23 02 05.7 -0.6
baz=56
N27A **Anderson Farm,** 55.46 334 ⇑P P 23 02 05.8 -0.3
baz=56,SNR=6.0
M28A **Bar X Bar Ranc** 55.46 336 ⇑P P 23 02 05.9 -0.1
baz=56,SNR=32
P24A **Kohler Place,** 55.49 332 ⇓P P 23 02 06.3 -0.1
baz=56
MVCO **Mesa Verde** 55.53 327 *e*P P 23 02 06.8 0.0
comp=Z,375nm,1.9s
MVCO **Mesa Verde** 55.53 327 ⇑P P 23 02 06.3 -0.5
baz=56,SNR=24
113A **Mohawk Valley,** 55.55 320 P P 23 02 06.3 -0.4
baz=56
O25A **Wiggins** 55.60 333 P P 23 02 07.1 0.0
baz=56
L29A **Maesberg Ranch** 55.67 337 ⇑P P 23 02 07.0 -0.4
baz=56,SNR=20
ECSD **EROS Data Cent** 55.73 341 *e*P P 23 02 06.3 -1.5
comp=Z,94nm,0.6s
ECSD **EROS Data Cent** 55.73 341 ⇓P P 23 02 06.4 -1.5
baz=56,SNR=76
N26A **Koester Ranch,** 55.78 334 ⇓P P 23 02 08.1 -0.2
baz=56
P23A **Jefferson** 55.82 331 ⇑P P 23 02 07.6 -1.3
baz=56,SNR=18
Y14A **Wickenburg** 55.84 321 ⇓P P 23 02 08.3 -0.5
baz=56,SNR=10
K30A **Basset** 55.86 338 ⇓P P 23 02 08.1 -0.6
baz=56,SNR=8.7
WUAZ **Wupatki** 55.93 324 *e*P P 23 02 09.7 +0.1
comp=Z,153nm,1.0s
WUAZ **Wupatki** 55.93 324 ⇑P P 23 02 09.6 0.0
baz=56,SNR=81
SPMN **St. Paul** 55.96 344 *e*P P 23 02 08.0 -1.4
SPMN **St. Paul** 55.96 344 ⇑P P 23 02 07.6 -1.8
baz=56,SNR=31
M27A **Reverse DX Ran** 55.99 335 ⇑P P 23 02 09.4 -0.5
baz=56,SNR=15
L28A **Connealy Angus** 56.04 336 ⇑P P 23 02 09.9 -0.2
baz=56,SNR=22
ISCO **Idaho Springs** 56.05 331 *e*P P 23 02 10.8 +0.3
ISCO pmax pmax
comp=Z,320nm,1.9s
ISCO **Idaho Springs** 56.05 331 *e*P P 23 02 10.8 +0.3
comp=Z,320nm,1.9s
ISCO **Idaho Springs** 56.05 331 ⇓P P 23 02 10.2 -0.3
baz=56
O24A **Longmont** 56.05 332 ⇓P P 23 02 10.0 -0.3
baz=56,SNR=7.2
N25A **Grover** 56.15 333 ⇓P P 23 02 10.7 -0.3
baz=56
K29A **Lazy Trails An** 56.20 337 ⇑P P 23 02 10.5 -0.7
baz=56,SNR=16
SMCO **Snowmass** 56.22 330 *e*P P 23 02 12.3 +0.4
comp=Z,120nm,1.3s
PV01 **Paradox Valley** 56.25 328 *e*P P 23 02 11.6 -0.3
comp=Z,25μm,1.5s
PV01 *e*pP pP 23 02 46.1 -0.2
M26A **McRoberts Ranc** 56.26 334 ⇓P P 23 02 11.6 -0.2
baz=56,SNR=9.2
J30A **Dallas** 56.38 338 ⇓P P 23 02 11.4 -1.0
baz=57,SNR=80
GLA **Glamis** 56.42 319 *e*P P 23 02 13.4 +0.5
GLA **Glamis** 56.42 319 *e*P P 23 02 13.4 +0.5
GLA **Glamis** 56.42 319 ⇓P P 23 02 12.7 -0.2
baz=57,SNR=13
L27A **T5 Ranch, Ells** 56.42 335 ⇓P P 23 02 12.1 -0.8
baz=57
P22A **Eagle** 56.44 330 ⇓P P 23 02 12.4 -0.8
baz=57,SNR=44
O23A **Lake Granby, G** 56.51 331 ⇓P P 23 02 13.5 -0.2
baz=57,SNR=107
K28A **Ten Mile Ranch** 56.57 336 ⇓P P 23 02 14.2 +0.4
baz=57,SNR=84
PV04 **Paradox Valley** 56.62 328 *e*P P 23 02 14.6 +0.1
M25A **Palm-Egli Farm** 56.63 334 ⇑P P 23 02 14.5 0.0
baz=57,SNR=20
Y12C **Blythe** 56.67 320 ⇑P P 23 02 14.8 +0.2
baz=57,SNR=14
PMSA **Palmer Station** 56.68 175 P P 23 02 16.7 +2.6
PMSA **Palmer Station** 56.68 175 P P 23 02 16.7 +2.6
comp=Z,84nm,0.7s,baz=356,slow=5.4,SNR=16
L26A **Underwood Farm** 56.71 335 ⇓P P 23 02 14.9 0.0
baz=57
J29A **Okreek** 56.76 338 P P 23 02 14.5 -0.6
baz=57
O22A **Kremmling** 56.77 331 ⇓P P 23 02 15.2 -0.4
baz=57,SNR=44
PDMCI **Parker Dam,Lak** 56.79 321 ⇓P P 23 02 15.0 -0.4
baz=57,SNR=6.3
K27A **Flueckinger Fa** 56.91 336 ⇓P P 23 02 16.2 -0.1
baz=57,SNR=35
SWSC **Sam W. Stewart** 56.98 318 ⇑P P 23 02 16.7 -0.1
baz=57,SNR=10
M24A **Cheyenne** 57.00 333 ⇓P P 23 02 17.2 +0.1
baz=57,SNR=27
N23A **Red Feather La** 57.06 332 ⇓P P 23 02 17.4 -0.2
baz=57
U15A **North Rim** 57.10 324 ⇑P P 23 02 17.8 -0.1
baz=57,SNR=84
J28A **Allard Ranch,** 57.12 337 ⇑P P 23 02 17.1 -0.6
baz=57,SNR=40
BRSD **Miller** 57.15 339 *e*P P 23 02 17.3 -0.6
BRSD **Miller** 57.15 339 ⇑P P 23 02 16.9 -1.0
baz=57,SNR=9.7
W13A **Hualapai Mount** 57.15 322 ⇓P P 23 02 18.4 +0.1
baz=57,SNR=62
PHWY **Pilot Hill** 57.16 332 *e*P P 23 02 18.5 +0.2
comp=Z,96nm,1.1s
L25A **Engebretsen Ra** 57.18 334 ⇑P P 23 02 17.6 -0.6
baz=57
BC3 **Big Chuckawall** 57.20 319 ⇑P P 23 02 17.7 -0.8
baz=57
N22A **Wattenberg Ran** 57.23 331 ⇓P P 23 02 18.7 -0.1
baz=57,SNR=22
I29A **Vivian Onida** 57.27 338 ⇑P P 23 02 18.1 -0.6
baz=58,SNR=21
J27A **Elkhorn Farm,** 57.28 336 P P 23 02 19.1 +0.3
baz=58
K26A **Motz Farm, Whi** 57.30 335 ⇓P P 23 02 18.6 -0.4
baz=58,SNR=22
IRM **Iron Mountain** 57.33 320 ⇑P P 23 02 19.2 -0.2
baz=58
MONP **Monument Peak** 57.36 318 ⇑P P 23 02 19.7 0.0
baz=58,SNR=13
NEE2 **Needles Airpor** 57.39 321 ⇓P P 23 02 19.6 -0.1
baz=58
BAR **Barrett** 57.40 318 *e*P P 23 02 20.3 +0.5
M23A **Laramie** 57.41 332 ⇑P P 23 02 19.9 -0.1
baz=58
K25A **Mack Ranch, Ha** 57.51 335 ⇑P P 23 02 21.1 +0.5
baz=58,SNR=8.9
I28A **Midland** 57.58 337 ⇑P P 23 02 20.4 -0.5
baz=58,SNR=52
O20A **White River Ci** 57.59 330 *e*P P 23 02 21.5 +0.3
O20A **White River Ci** 57.59 330 ⇓P P 23 02 20.7 -0.5
baz=58,SNR=22
J26A **Sides Ranch, S** 57.76 336 ⇓P P 23 02 22.2 +0.1
baz=58,SNR=70
H29A **Onida** 57.76 338 ⇓P P 23 02 21.2 -0.9
baz=58
M22A **Cedar Creek Ra** 57.77 332 ⇓P P 23 02 22.1 -0.5
baz=58,SNR=24
BELC **Belle Mtn. Jos** 57.77 319 ⇓P P 23 02 22.7 +0.1
baz=58
109C **Camp Elliot, M** 57.81 318 ⇑P P 23 02 22.2 -0.5
baz=58
G30A **Faulkton** 57.82 340 ⇑P P 23 02 21.4 -1.1
baz=58,SNR=20
PFO **Pinyon Flat Ob** 57.83 319 *e*P P 23 02 23.1 +0.1
PFO **Pinyon Flat Ob** 57.83 319 ⇓P P 23 02 22.8 -0.2
baz=58
LDFC **Landfair** 57.90 321 *e*P P 23 02 23.9 +0.5
L23A **Garrett** 57.91 333 ⇑P P 23 02 22.9 -0.7
baz=58,SNR=42
I27A **Quinn** 57.98 337 ⇑P P 23 02 23.4 -0.3
baz=58,SNR=33
SRU **San Rafael** 58.01 327 *e*P P 23 02 24.2 0.0
SRU **San Rafael** 58.01 327 *e*P P 23 02 24.2 0.0
K24A **Anderson Ranch** 58.01 334 P P 23 02 24.1 0.0
baz=58
GMRC **Granite Mounta** 58.05 320 ⇑P P 23 02 24.2 -0.3
baz=58
H28A **Mission Ridge** 58.10 338 ⇓P P 23 02 23.7 -0.8
baz=58,SNR=26
J25A **Sunshine Ranch** 58.12 335 ⇑P P 23 02 24.9 +0.1
baz=58,SNR=12
N20A **Spence Gulch,** 58.13 330 ⇓P P 23 02 24.7 -0.4
baz=58,SNR=46
G29A **Hoven** 58.15 339 ⇓P P 23 02 23.7 -1.1
baz=58,SNR=7.2
EYMN **Ely** 58.17 347 *e*P P 23 02 23.5 -1.4
comp=Z,75nm,0.8s
L22A **Ellis Ranch, M** 58.18 332 ⇓P P 23 02 25.1 -0.2
baz=58,SNR=32
I26A **New Underwood** 58.27 336 ⇓P P 23 02 25.8 0.0
baz=58,SNR=35
MURC **Murrieta** 58.31 318 ⇓P P 23 02 25.9 -0.3
baz=58,SNR=16
K23A **Bowen Ranch, D** 58.39 333 P P 23 02 26.5 -0.2
baz=59
F30A **Leola** 58.39 340 ⇓P P 23 02 25.8 -0.7
baz=59
G28A **Parade** 58.40 338 ⇓P P 23 02 26.4 -0.2
baz=59
J24A **Dixon Ranch, L** 58.44 334 ⇓P P 23 02 26.6 -0.3
baz=59,SNR=19
H27A **Howes** 58.46 337 ⇓P P 23 02 26.4 -0.7
baz=59
CCUT **Cedar City** 58.49 324 *e*P P 23 02 28.1 +0.5
MVU **Marysvale** 58.50 326 *e*P P 23 02 27.8 +0.1
TMUT **Trail Mountain** 58.51 327 *e*P P 23 02 27.8 0.0
HEC **Hector,Ludlow** 58.51 320 ⇓P P 23 02 26.8 -0.8
baz=59
BBRC **Big Bear Solar** 58.53 319 ⇑P P 23 02 27.7 -0.3
baz=59
I25A **Rochford** 58.61 336 P P 23 02 28.6 +0.3
baz=59
TUQ **Turquoise Moun** 58.64 321 ⇓P P 23 02 28.0 -0.5
baz=59
F29A **Eureka** 58.67 339 ⇓P P 23 02 27.7 -0.7
baz=59,SNR=12
ARUT **Antelope Range** 58.70 324 *e*P P 23 02 28.9 0.0
ARUT *e**PP pP 23 03 03.1 -0.5
ARUT **Antelope Range** 58.70 324 *e*P P 23 02 28.9 0.0
comp=Z,4μm,1.4s
ARUT *e*pP pP 23 03 03.1 -0.5
K22A **Casper** 58.71 333 *e*P P 23 02 28.8 -0.2
K22A **Casper** 58.71 333 ⇓P P 23 02 28.5 -0.5
baz=59,SNR=30
RSSD **Black Hills** 58.82 335 *e*P P 23 02 29.2 -0.5
RSSD pmax pmax
comp=Z,67nm,1.5s
RSSD **Black Hills** 58.82 335 *e*P P 23 02 29.1 -0.5
comp=Z,67nm,1.5s
SCI **San Clemente I** 58.84 317 ⇑P P 23 02 29.4 -0.4
baz=59
I24A **Kuemmerle Ranc** 58.85 335 ⇓P P 23 02 29.9 +0.1
baz=59,SNR=23
SHPR **Sheep Range** 58.86 322 *e*P P 23 02 30.1 0.0
J23A **Dilts Ranch, B** 58.88 334 ⇑P P 23 02 30.0 -0.1
baz=59
E30A **Jud** 58.94 340 ⇑P P 23 02 29.7 -0.5
baz=59,SNR=21
RRX **Edison Barstow** 58.97 320 ⇓P P 23 02 30.0 -0.8
baz=59
CIS **Catalina Islan** 58.99 317 ⇑P P 23 02 30.2 -0.7
baz=59
BFSC **Mount Baldy Ra** 59.00 319 ⇓P P 23 02 30.4 -0.6
baz=59,SNR=14
F28A **McLaughlin** 59.02 339 ⇑P P 23 02 30.1 -0.8
baz=59,SNR=12
K21A **Alcova** 59.03 332 ⇑P P 23 02 30.5 -0.7
baz=59
G27A **Dupree** 59.04 338 ⇓P P 23 02 30.6 -0.4
baz=59
H25A **Fruitdale** 59.05 336 ⇓P P 23 02 30.8 -0.3
baz=59,SNR=42
FMP **Fort Macarthur** 59.10 318 ⇓P P 23 02 30.1 -1.5
baz=59
GSC **Goldstone** 59.11 320 ⇓P P 23 02 31.7 -0.1
baz=59
SHOC **Shoshone** 59.16 321 ⇑P P 23 02 31.3 -0.7
baz=59
G26A **Maurine** 59.22 337 ⇓P P 23 02 31.7 -0.6
baz=59,SNR=29
E29A **Napoleon** 59.24 340 ⇑P P 23 02 31.7 -0.7
baz=60,SNR=29
MPU **Maple Canyon** 59.25 327 *e*P P 23 02 33.0 +0.3
MWC **Mount Wilson** 59.25 318 *e*P P 23 02 33.3 +0.4
MWC **Mount Wilson** 59.25 318 *e*P P 23 02 33.2 +0.4
I23A **Meade Ranch, G** 59.29 334 ⇓P P 23 02 32.4 -0.5
baz=60
J22A **Midwest** 59.29 333 ⇑P P 23 02 32.0 -1.0
baz=60
PASC **Pasadena Art C** 59.31 318 *e*P P 23 02 32.6 -0.4
comp=Z,228nm,1.6s
PASC *e*pP pP 23 03 07.2 -0.5
DAU **Daniels Canyon** 59.34 328 *e*P P 23 02 24.9 -8.6
DAU **Daniels Canyon** 59.34 328 *e*P P 23 02 24.9 -8.6
D30A **Buchanan** 59.42 341 ⇓P P 23 02 33.0 -0.5
baz=60,SNR=63
NLU **North Lily Min** 59.45 327 *e*P P 23 02 34.5 +0.4
DECC **Green Verdugo** 59.45 318 ⇑P P 23 02 33.5 -0.5
baz=60
G25A **Newell** 59.45 337 ⇓P P 23 02 33.2 -0.7
baz=60
F27A **Lemmon** 59.49 338 ⇓P P 23 02 33.6 -0.5
baz=60,SNR=25
H24A **Dirks Ranch, A** 59.54 335 P P 23 02 33.9 -0.7
baz=60
JLU **Jordanelle** 59.58 328 *e*P P 23 02 35.4 +0.4
EDW2 **Edwards Air Fo** 59.61 319 ⇓P P 23 02 34.8 -0.4
baz=60
E28A **Huff** 59.61 339 ⇓P P 23 02 34.6 -0.3
baz=60,SNR=18
D29A **Pettibone, Tap** 59.66 340 ⇑P P 23 02 34.4 -0.8
baz=60,SNR=7.1
RKT **Rikitea** 59.67 248 *e*P P 23 02 36.6 +0.8
RKT *e*pP pP 23 03 09.3 -1.2
comp=Z,135nm,1.4s
RKT *e*S S 23 10 30.7 -4.4
comp=Z,4μm,26.8s
RKT *e*LQ LQ 23 17 36.9
comp=Z,2μm,30.5s
RKT *e*LR LR 23 20 11.0
comp=Z,1μm,37.5s
I22A **9 Mile Ranch,** 59.67 334 ⇓P P 23 02 35.1 -0.4
baz=60
J21A **Lysite** 59.68 333 ⇑P P 23 02 35.5 -0.1
baz=60,SNR=42
F26A **Lodgepole** 59.72 337 ⇑P P 23 02 35.1 -0.6
baz=60,SNR=71
H23A **Clabaugh Cattl** 59.74 335 ⇑P P 23 02 35.4 -0.6
baz=60
LRMC **Laurel Mountai** 59.78 320 ⇓P P 23 02 36.1 -0.3
baz=60
E27A **Carson** 59.80 339 ⇓P P 23 02 36.2 +0.1
baz=60
CTU **Camp Tracy** 59.80 328 *e*P P 23 02 36.6 +0.1
comp=Z,48nm,0.8s
C30A **Mose, Pekin** 59.86 341 ⇓P P 23 02 36.0 -0.5
baz=60,SNR=26
FURC **Furnace Creek,** 59.88 321 ⇑P P 23 02 37.0 +0.1
baz=60
OSI **Osito Adit** 59.93 318 *e*P P 23 02 37.1 -0.2
comp=Z,43nm,0.8s
OSI **Osito Adit** 59.93 318 ⇑P P 23 02 36.8 -0.6
baz=60
TCUT **Toone Canyon** 59.93 328 *e*P P 23 02 37.4 -0.1
comp=Z,178nm,0.6s
TCUT *e*pP pP 23 03 12.3 0.0
TCUT *e*PP PP 23 04 52.5 +1.0
G24A **Alzada** 59.96 336 ⇓P P 23 02 37.0 -0.4
baz=60
I21A **Big Trails, Te** 59.97 333 ⇑P P 23 02 36.9 -0.7
baz=60
J20A **Shoshoni** 59.97 332 ⇑P P 23 02 37.4 -0.2
baz=60,SNR=77
DUG **Dugway** 60.02 327 *e*P P 23 02 38.0 0.0
DUG pmax pmax
comp=Z,282nm,1.4s
DUG **Dugway** 60.02 327 *e*P P 23 02 38.0 0.0
comp=Z,282nm,1.4s
DUG **Dugway** 60.02 327 ⇑P P 23 02 37.9 0.0
baz=60
MPMC **Manual Prospec** 60.02 320 ⇑P P 23 02 50.3 +12
baz=60
F25A **Bowman** 60.08 337 ⇑P P 23 02 37.8 -0.3
baz=60
D28A **Regan** 60.10 340 ⇓P P 23 02 38.1 -0.2
baz=60,SNR=20
E26A **Carlson Angus** 60.16 338 ⇓P P 23 02 38.5 -0.1
baz=60,SNR=19
BSC **Santa Cruz Isl** 60.17 317 ⇓P P 23 02 38.6 -0.3
baz=60
H22A **Clearmont** 60.18 334 ⇑P P 23 02 38.4 -0.5
baz=60
DAC **Darwin (Calif)** 60.22 320 *e*P P 23 02 39.4 0.0
DAC **Darwin (Calif)** 60.22 320 *e*P P 23 02 39.4 0.0
BW06 **Boulder Array** 60.22 331 *e*P P 23 02 38.8 -0.6
comp=Z,52nm,1.0s
PDAR **Pinedale Array** 60.22 331 P P 23 02 38.7 -0.7
PDAR pP pP 23 03 15.1 +0.8
PDAR P'P' 23 32 01.5
PDAR ⇑*e* 23 32 12.2
PDAR **Pinedale Array** 60.22 331 P P 23 02 38.7 -0.7
comp=Z,18nm,0.6s,baz=129,slow=9.5,SNR=63
PDAR pP pP 23 03 15.1 +0.8
comp=Z,12nm,0.7s,baz=134,slow=8.5,SNR=3.9
PDAR LR LR 23 30 55.3
comp=Z,416nm,19.7s,baz=140,slow=38
PDAR PKPPKP P'P'df 23 32 01.5 +0.7
comp=Z,0.9nm,0.8s,baz=68,slow=1.4,SNR=5.2
PDAR PKP2bc 23 32 12.2
comp=Z,1.0nm,0.8s,baz=270,slow=1.5,SNR=3.5
G23A **Biddle** 60.26 335 ⇓P P 23 02 38.9 -0.5
baz=60
ARVC **Arvin** 60.31 319 ⇑P P 23 02 39.4 -0.5
baz=60
R11A **Troy Canyon, C** 60.33 323 *e*P P 23 02 40.4 +0.2
R11A **Troy Canyon, C** 60.33 323 ⇑P P 23 02 40.1 -0.1
baz=60
J19A **Crowheart** 60.36 331 ⇑P P 23 02 39.3 -0.9
baz=61,SNR=73
D27A **Center** 60.36 339 ⇑P P 23 02 39.8 -0.2
baz=61
HWUT **Hardware Ranch** 60.37 329 *e*P P 23 02 39.6 -0.7
comp=Z,636nm,1.8s
F24A **Ekalaka** 60.40 336 ⇑P P 23 02 39.9 -0.5
baz=61,SNR=45
ISA **Isabella** 60.40 319 *e*P P 23 02 40.5 0.0
ISA **Isabella** 60.40 319 *e*P P 23 02 40.5 0.0
comp=Z,11nm,0.9s
ISA **Isabella** 60.40 319 ⇑P P 23 02 40.2 -0.4
baz=60
I20A **Worland** 60.46 333 ⇑P P 23 02 40.4 -0.4
baz=61,SNR=60
B30A **Myrvik Farm, E** 60.48 342 ⇑P P 23 02 40.2 -0.5
baz=61,SNR=19
SBC **Santa Barbara** 60.48 318 ⇑P P 23 02 40.0 -1.0
baz=61
C28A **Hausauer Farms** 60.49 340 ⇓P P 23 02 40.6 -0.3
baz=61
H21A **Big Horn, Sher** 60.50 334 ⇑P P 23 02 39.9 -1.2
baz=61
GRAC **Grapevine Rang** 60.53 321 ⇑P P 23 02 40.0 -1.4
baz=61
E25A **Miller Ranch,** 60.54 337 ⇓P P 23 02 41.1 -0.2
baz=61
SPUT **South Promonto** 60.61 328 *e*P P 23 02 41.8 -0.2
comp=Z,53nm,0.8s
SPUT *e*pP pP 23 03 17.5 +0.6
D26A **Manning** 60.62 338 ⇓P P 23 02 41.4 -0.4
baz=61
BGU **Big Grassy Mou** 60.65 327 *e*P P 23 02 42.0 -0.3
comp=Z,64nm,1.4s
G22A **Birney** 60.65 335 ⇑P P 23 02 41.5 -0.6
baz=61
F23A **Volborg** 60.69 336 ⇑P P 23 02 41.9 -0.4
baz=61
B29A **Wagenman Farm,** 60.81 341 ⇑P P 23 02 42.9 -0.1
baz=61
H20A **Greybull** 60.82 333 ⇑P P 23 02 42.6 -0.7
baz=61
C27A **Sayler Ranch,** 60.87 339 ⇑P P 23 02 43.5 +0.1
baz=61
A30A **Hoffart Farm,** 60.90 342 ⇑P P 23 02 43.0 -0.6
baz=61
VES **Vestal, Richgr** 60.90 319 ⇑P P 23 02 43.1 -0.7
baz=61
I19A **Meeteetse** 60.92 332 ⇓P P 23 02 43.5 -0.5
baz=61
E24A **Baker** 60.94 337 ⇑P P 23 02 44.0 +0.1
baz=61
AHID **Auburn Hatcher** 60.98 330 *e*P P 23 02 43.8 -0.7
comp=Z,48nm,0.6s
AHID *e*pP pP 23 03 20.2 +0.9
G21A **Lodge Grass** 61.05 334 ⇑P P 23 02 44.2 -0.6
baz=61
D25A **Fairfield** 61.05 338 ⇑P P 23 02 44.7 0.0
baz=61
F22A **Rosebud** 61.08 335 ⇓P P 23 02 44.1 -0.8
baz=61
TIN **Tinemaha** 61.10 321 ⇓P P 23 02 45.2 -0.1
baz=61
HVU **Hansel Valley** 61.12 328 *e*P P 23 02 45.1 -0.3
HVU pmax pmax
comp=Z,69nm,0.9s

HVU **Hansel Valley** 61.12 328 *e*P P 23 02 45.1 -0.3
comp=Z,69nm,0.9s
TPH **Tonopah** 61.13 322 *e*P P 23 02 45.6 0.0
TPH pmax pmax
comp=Z,243nm,1.8s
TPH **Tonopah** 61.13 322 *e*P P 23 02 45.5 0.0
comp=Z,243nm,1.8s
A29A **Manning Farm,** 61.17 342 ⇑P P 23 02 44.5 -0.9
baz=61
C26A **Wahner Farm, P** 61.18 339 ⇑P P 23 02 45.6 +0.1
baz=61
SMMC **Simmler** 61.18 318 ⇑P P 23 02 45.6 -0.2
baz=61
REDW **Red Top Meadow** 61.30 330 *e*P P 23 02 46.5 -0.1
LOHW **Long Hollow** 61.36 331 *e*P P 23 02 46.6 -0.5
B27A **Peters Farms,** 61.38 340 ⇓P P 23 02 46.7 -0.1
baz=62
ULM **Lac du Bonnet** 61.40 344 *e*P P 23 02 45.4 -1.4
comp=Z,62nm,0.8s
ULM *e*pP pP 23 03 21.5 -0.3
ULM **Lac du Bonnet** 61.40 344 P P 23 02 45.4 -1.4
comp=Z,59nm,0.6s,baz=156,slow=7.0,SNR=61
ULM pP pP 23 03 21.7 -0.1
comp=Z,36nm,0.6s,baz=156,slow=8.1,SNR=3.3
ULM PKP2bc 23 32 07.0
comp=Z,2.5nm,0.7s,baz=315,slow=3.0,SNR=4.3
D24A **Glendive** 61.40 337 ⇓P P 23 02 47.0 0.0
baz=62
H19A **Powell** 61.40 333 ⇓P P 23 02 46.7 -0.6
baz=62
G20A **Bridger** 61.48 333 ⇓P P 23 02 46.8 -1.0
baz=62
F21A **Absaloka Mine,** 61.48 335 ⇑P P 23 02 47.1 -0.6
baz=62
E22A **Miles City** 61.49 336 ⇓P P 23 02 46.9 -0.8
baz=62
A28A **Rude Farm, Bot** 61.49 341 ⇑P P 23 02 47.3 -0.3
baz=62
C25A **Freed Ranch, W** 61.50 338 ⇓P P 23 02 47.7 0.0
baz=62
MTUM **Tungsten Hills** 61.50 321 *e*P P 23 02 48.1 +0.1
MOOW **Moose Ponds** 61.53 331 *e*P P 23 02 47.6 -0.7
I17A **Pilgrim Ck.** 61.58 331 ⇑P P 23 02 48.1 -0.5
baz=62
B26A **Jensen Ranch,** 61.69 339 ⇓P P 23 02 48.9 -0.1
baz=62
H18A **Shoshone NF, C** 61.72 332 ⇑P P 23 02 48.9 -0.6
baz=62
ELK **Elko** 61.73 326 *e*P P 23 02 49.3 -0.4
FLWY **Flagg Ranch** 61.76 331 *e*P P 23 02 49.5 -0.3
C24A **Savage** 61.78 337 ⇓P P 23 02 49.7 +0.1
baz=62
D23A **Lindsay** 61.79 337 P P 23 02 49.8 +0.1
baz=62
LAO **LASA Array** 61.80 336 *e*P P 23 02 49.4 -0.4
BBTS **Babate** 61.83 68 P P 23 02 50.8 +0.3
BBTS **Babate** 61.83 68 P P 23 02 50.8 +0.3
comp=Z,82nm,0.9s,baz=124,slow=1.2,SNR=9.9
MLAC **Mammoth Lakes** 61.84 321 ⇓P P 23 02 49.8 -0.7
baz=62
A27A **Ledoux Ranch,** 61.85 340 ⇑P P 23 02 50.0 +0.1
baz=62
F20A **Billings** 61.91 334 ⇓P P 23 02 50.2 -0.3
baz=62
NV11 **Mina Array Sit** 61.92 322 *e*P P 23 02 50.3 -0.5
NV11 *e*pP pP 23 03 25.9 +0.1
B25A **Knox Farm, Ray** 61.93 339 ⇑P P 23 02 51.0 +0.5
baz=62
H17A **Grant Village** 61.94 331 *e*P P 23 02 51.3 +0.4
comp=Z,198nm,1.5s
H17A *e*PcP PcP 23 03 30.5 +0.2
H17A **Grant Village** 61.94 331 ⇓P P 23 02 51.0 +0.1
baz=62
NVAR **Mina Array Bea** 62.01 322 P P 23 02 51.8 +0.3
NVAR pP pP 23 03 27.9 +1.4
NVAR PP PP 23 05 10.3 +0.4
NVAR P'P' 23 31 57.2
NVAR ⇑*e* 23 32 05.2
NVAR P'P'ab P'P'ab 23 32 13.3 -2.1
NVAR **Mina Array Bea** 62.01 322 P P 23 02 51.8 +0.3
comp=Z,24nm,0.6s,baz=129,slow=6.4,SNR=100
NVAR pP pP 23 03 27.9 +1.4
comp=Z,8.0nm,0.6s,baz=107,slow=8.6,SNR=4.8
NVAR PP PP 23 05 10.3 +0.4
comp=Z,4.4nm,0.7s,baz=152,slow=7.8,SNR=2.0
NVAR PKPPKP P'P'df 23 31 57.2 -1.3
comp=Z,0.6nm,0.5s,baz=256,slow=5.9,SNR=4.4
NVAR PKP2bc 23 32 05.2
comp=Z,1.1nm,0.7s,baz=332,slow=2.7,SNR=6.7
NVAR PKP2ab 23 32 13.3
comp=Z,1.6nm,0.8s,baz=293,slow=2.5,SNR=5.7
E21A **Keefer Ranch,** 62.03 335 ⇓P P 23 02 51.1 -0.2
baz=62
A26A **Wade Farm, Ken** 62.07 340 ⇑P P 23 02 51.4 0.0
baz=62
D22A **Cohagen** 62.16 336 P P 23 02 52.3 +0.2
baz=62
C23A **Lambert** 62.30 337 ⇑P P 23 02 53.1 +0.1
baz=62
F19A **Roth Farm, Mol** 62.30 333 ⇑P P 23 02 52.9 -0.2
baz=62
YMR **Madison River** 62.32 331 *e*P P 23 02 54.7 +1.2
comp=Z,402nm,1.5s
D21A **La Casta Ranch** 62.42 335 ⇑P P 23 02 54.1 +0.2
baz=63
E20A **Meyer Farm, Mu** 62.45 334 P P 23 02 54.0 -0.1
baz=63
DGMT **Dagmar** 62.48 338 *e*P P 23 02 54.5 +0.3
DGMT **Dagmar** 62.48 338 ⇓P P 23 02 54.5 +0.3
baz=63
A25A **Svangstu Ranch** 62.48 339 ⇓P P 23 02 54.5 +0.4
baz=63
C22A **Vida** 62.52 337 ⇑P P 23 02 54.6 +0.1
baz=63
GCMT **Greycliff** 62.57 333 *e*P P 23 02 54.9 -0.1
comp=Z,396nm,1.4s
GCMT *e*pP pP 23 03 29.1 -1.0
GCMT *e*PcP PcP 23 03 32.1 -0.6
BMN **Battle Mountai** 62.65 324 *e*P P 23 02 55.6 -0.1
BMN **Battle Mountai** 62.65 324 *e*P P 23 02 55.6 -0.1
QLMT **Earthquake Lak** 62.67 331 *e*P P 23 02 56.8 +1.1
E19A **Rath Farm, Rou** 62.70 334 ⇓P P 23 02 55.6 -0.2
baz=63
WAKR **Walker** 62.75 321 *e*P P 23 02 56.8 +0.3
B23A **Brockton** 62.77 338 P P 23 02 56.5 +0.4
baz=63
A24A **Westby** 62.78 339 ⇑P P 23 02 56.9 +0.7
baz=63
D20A **Manuel Ranch,** 62.92 335 ⇑P P 23 02 57.2 0.0
baz=63
SAO **San Andreas Ge** 62.98 319 *e*P P 23 02 58.4 +0.6
SAO pmax pmax
comp=Z,197nm,1.8s
SAO **San Andreas Ge** 62.98 319 *e*P P 23 02 58.4 +0.6
comp=Z,197nm,1.8s
B22A **Reddig Ranch S** 63.02 337 ⇓P P 23 02 57.8 0.0
baz=63
CMB **Columbia Colle** 63.06 320 *e*P P 23 02 58.4 +0.1
CMB **Columbia Colle** 63.06 320 *e*P P 23 02 58.4 +0.1
A23A **Redstone** 63.14 338 P P 23 02 58.9 +0.4
baz=63
HLID **Hailey** 63.23 328 *e*P P 23 02 59.2 -0.3
HLID **Hailey** 63.23 328 ⇓P P 23 02 59.2 -0.3
baz=63
D19A **Cripps Ranch,** 63.29 334 ⇓P P 23 02 59.6 0.0
baz=64
MCMT **McKenzie Canyo** 63.35 330 *e*P P 23 02 59.7 -0.6
comp=Z,54nm,1.3s
C20A **Veseth Ranch,** 63.35 335 ⇑P P 23 02 59.6 -0.4
baz=64
BOZ **Bozeman (W)** 63.37 332 *e*P P 23 02 59.3 -1.0
BOZ *e* 23 03 34.4
BOZ pmax pmax
comp=Z,193nm,1.4s
BOZ **Bozeman (W)** 63.37 332 *e*P P 23 02 59.3 -1.0
comp=Z,193nm,1.4s
BOZ *e*PcP pP 23 03 34.4 -1.0
SCHQ **Schefferville** 63.40 5 *e*P P 23 02 60.0 -0.1
SCHQ *e*PcP PcP 23 03 36.1 +0.4
SCHQ *es*P sP 23 03 51.4 +0.2
SCHQ **Schefferville** 63.40 5 P P 23 02 59.7 -0.4
comp=Z,110nm,0.7s,baz=197,slow=4.8,SNR=106
B21A **Ellsworth Farm** 63.52 336 ⇑P P 23 03 01.3 +0.2
baz=64
DLMT **Dillon** 63.62 331 *e*P P 23 03 02.3 +0.3
C19A **Slack Wire Ran** 63.80 335 ⇓P P 23 03 03.0 0.0
baz=64
MFID **Camas Ranch** 63.87 328 *e*P P 23 03 03.7 +0.1
comp=Z,168nm,0.9s
LRM **Limekiln Ridge** 63.88 331 *e*P P 23 03 03.8 0.0
B20A **Solberg Farm,** 63.93 336 ⇑P P 23 03 04.0 +0.2
baz=64
A20A **Cobblestone Ra** 64.25 336 ⇓P P 23 03 05.9 0.0
baz=64
HRY **Holter Researc** 64.25 332 *e*P P 23 03 06.1 0.0
B19A **Brinkman Farms** 64.33 335 ⇑P P 23 03 06.4 0.0
baz=64
EGMT **Eagleton** 64.33 334 *e*P P 23 03 06.2 -0.3
EGMT **Eagleton** 64.33 334 ⇓P P 23 03 06.1 -0.3
baz=64
OHCM **Honcut** 64.52 321 *e*P P 23 03 08.4 +0.6
A19A **Klindworth Far** 64.61 336 ⇑P P 23 03 08.1 -0.1
baz=65
WVOR **Wild Horse Val** 64.76 325 *e*P P 23 03 09.3 -0.1
WVOR **Wild Horse Val** 64.76 325 *e*P P 23 03 09.3 -0.1
CHMT **Chamberlain Mo** 65.06 332 *e*P P 23 03 11.0 -0.3
MSO **Missoula** 65.33 331 *e*P P 23 03 13.1 +0.2
MSO **Missoula** 65.33 331 ⇑P P 23 03 13.3 +0.3
baz=66
MOD **Modoc** 65.38 324 *e*P P 23 03 13.6 +0.1
SLMT **Seeley Lake** 65.41 332 *e*P P 23 03 13.8 +0.2
BMO **Blue Mountains** 65.63 328 *e*P P 23 03 14.1 -0.8
comp=Z,23nm,1.0s
BMO *e*pP pP 23 03 50.3 0.0
SWMT **Swartz Lake** 65.84 332 *e*P P 23 03 16.3 0.0
WDC **Whiskeytown Da** 65.92 322 *e*P P 23 03 15.1 -1.6
WDC **Whiskeytown Da** 65.92 322 *e*P P 23 03 15.1 -1.6
JTMT **Jette** 66.15 332 *e*P P 23 03 18.3 +0.1
M04C **Macdoel** 66.21 323 ⇓P P 23 03 18.7 0.0
baz=66
K05A **Summer Lake** 66.23 324 *e*P P 23 03 19.8 +0.8
N02D **Trinity Center** 66.25 322 ⇓P P 23 03 18.4 -0.5
baz=66
I07A **Izee** 66.31 326 *e*P P 23 03 19.5 +0.2
F10A **Beach Ranch, E** 66.35 329 *e*P P 23 03 19.2 -0.3
BLMT **Blacktail Moun** 66.38 332 *e*P P 23 03 20.0 +0.2
KMRM **Mail Ridge** 66.43 321 *e*P P 23 03 21.6 +1.4
BSMT **Bassoo Peak** 66.46 332 *e*P P 23 03 20.6 +0.3
M02C **Callahan** 66.59 322 ⇑P P 23 03 20.1 -1.0
baz=67
YBH **Yreka Blue Hor** 66.70 323 *e*P P 23 03 20.7 -1.1
YBH ⇑*e* P'P'bc 23 31 53.7 -0.3
YBH **Yreka Blue Hor** 66.70 323 PKP2bc P'P'bc 23 31 53.7 -0.3
comp=Z,0.7nm,0.3s,baz=340,slow=5.2,SNR=3.4
J05D **Fort Rock, OR** 66.78 325 ⇑P P 23 03 22.1 -0.2
baz=67
G08A **Pilot Rock** 66.80 327 *e*P P 23 03 22.4 0.0
KHMM **Horse Mountain** 66.82 321 *e*P P 23 03 23.9 +1.2
WALA **Waterton Lakes** 66.93 333 *e*P P 23 03 22.9 -0.2
comp=Z,3.5nm,0.6s
WALA *e*PcP pP 23 03 59.7 +1.1
FFC **Flin Flon** 67.08 343 *i*P P 23 03 23.3 -0.5
FFC **Flin Flon** 67.08 343 *e*P P 23 03 22.6 -1.2
VIPM **Ingram Point** 67.19 326 P P 23 03 25.5 +0.5
VIPM **Ingram Point** 67.19 326 P P 23 03 25.5 +0.5
HUMO **Hull Mountain** 67.37 323 *e*P P 23 03 25.0 -1.0
I05D **Terrebonne, OR** 67.49 325 ⇑P P 23 03 27.2 +0.5
baz=68
L02D **Cave Junction,** 67.49 322 P P 23 03 27.0 +0.3
baz=68
G06A **Carlson Farm,** 67.67 327 *e*P P 23 03 28.7 +0.9
I04A **Tendick Farm,** 67.76 324 ⇓P P 23 03 28.4 0.0
baz=68
HAWA **Hanford** 67.82 328 *e*P P 23 03 30.6 +1.9
BLTW **Bickleton** 67.85 327 P P 23 03 29.8 +0.9
NEW **Newport** 67.86 331 *e*P P 23 03 28.8 -0.1
NEW **Newport** 67.86 331 ⇓P P 23 03 28.5 -0.5
baz=68
D08A **Wollman Farm,** 67.94 329 *e*P P 23 03 29.4 0.0
G05D **Wamic, OR** 68.04 326 ⇑P P 23 03 31.2 +1.1
baz=68
E07A **Sunnyside** 68.10 328 *e*P P 23 03 31.2 +0.8
C09A **Chrisman Ranch** 68.11 330 *e*P P 23 03 31.9 +1.4
VFP **Flag Point** 68.17 326 P P 23 03 31.9 +0.8
H04A **Detroit Lake** 68.18 325 *e*P P 23 03 30.7 -0.3
I03D **Drain, OR** 68.25 324 ⇑P P 23 03 31.9 +0.6
baz=68
KEBM **Edson Butte** 68.34 323 *e*P P 23 03 34.4 +2.3
SAW **Saint Andrews** 68.61 329 P P 23 03 34.1 +0.4
COR **Corvallis** 68.75 325 *e*P P 23 03 34.6 +0.1
COR *e*PP pP 23 04 10.2 +0.1
COR pmax pmax
comp=Z,315nm,1.4s
COR **Corvallis** 68.75 325 *e*P P 23 03 34.6 +0.1
comp=Z,316nm,1.4s
COR *e*pP pP 23 04 10.2 +0.1
FCC **Fort Churchill** 68.87 349 *e*P P 23 03 33.8 -1.1
FCC *e* 23 04 11.0
FCC **Fort Churchill** 68.87 349 *e*P P 23 03 33.8 -1.1
comp=Z,1.2nm,0.4s
FCC *e*PcP pP 23 04 11.0 +0.4
WTV **Waterville** 68.89 329 P P 23 03 35.4 0.0
LTY **Liberty** 68.98 328 *e*P P 23 03 36.4 +0.4
B08A **Colville Reser** 69.02 330 *e*P P 23 03 35.8 -0.3
F04D **Rainier, OR** 69.50 326 ⇓P P 23 03 39.7 +0.6
baz=70
D05A **Enumclaw** 69.63 328 *e*P P 23 03 40.1 +0.3
EDM **Edmonton** 69.78 336 *e*P P 23 03 39.2 -1.5
EDM *e*PP pP 23 04 13.5 -2.9
EDM **Edmonton** 69.78 336 *e*P P 23 03 39.2 -1.5
EDM *e*pP pP 23 04 13.5 -2.9
B06A **Marblemount** 70.21 329 *e*P P 23 03 43.0 -0.3
HDW **Hoodsport** 70.48 327 P P 23 03 45.8 +0.7
LIC **Lamto** 70.71 80 *e*P P 23 03 47.0 -0.1
comp=Z,97nm,0.6s,baz=261
LIC *e*R
comp=Z,1µm,20.0s
LIC **Lamto** 70.71 80 *e*P P 23 03 46.2 -0.9
comp=Z,164nm,0.6s
NLWA **Neilton Lookou** 70.76 327 *e*P P 23 03 46.5 -0.3
comp=Z,157nm,1.3s
TIC **Toumodi** 70.80 80 *e*P P 23 03 46.8 -0.9
comp=Z,170nm,0.7s
DBIC **Dimbokro** 70.97 80 *e*P P 23 03 48.2 -0.4
DBIC **Dimbokro** 70.97 80 *e*P P 23 03 48.0 -0.6
comp=Z,170nm,0.9s
DBIC pP pP 23 04 23.7 -0.8
DBIC S S 23 12 51.7 -1.3
DBIC ⇑*e* 23 31 40.5
DBIC **Dimbokro** 70.97 80 P P 23 03 48.1 -0.6
comp=Z,120nm,0.6s,baz=241,slow=5.4,SNR=193
DBIC pP pP 23 04 23.7 -0.8
comp=Z,92nm,0.7s,baz=225,slow=6.5,SNR=4.6
DBIC S S 23 12 51.7 -1.3
comp=Z,5.2nm,0.7s,baz=359,slow=2.3,SNR=14
DBIC PKP2bc 23 31 40.5
comp=Z,2.2nm,0.8s,baz=126,slow=5.0,SNR=4.5
DBIC LR LR 23 32 52.9
comp=Z,526nm,19.6s,baz=283,slow=34
KIC **Kosan Boka** 71.02 80 *e*P P 23 03 48.3 -0.7
comp=Z,331nm,0.9s
KIC **Kosan Boka** 71.02 80 *e*P S 23 12 51.2 -2.5
comp=Z,63nm,1.4s
PGC **Sidney** 71.31 328 *e*P P 23 03 50.0 +0.1
comp=Z,1.9nm,0.7s
PGC *e*pP pP 23 04 27.5 +1.7
VAH **Vaihoa** 71.69 257 *e*P P 23 03 54.3 +1.4
comp=Z,205nm,1.0s
VAH *e*pP pP 23 04 25.3 -3.5
comp=Z,98nm,1.1s
MEH **Mehetia** 71.94 254 *e*P P 23 03 55.7 +1.2
comp=Z,25nm,0.8s
PMOR **Pomariorio Ree** 71.96 257 *e*P P 23 03 55.8 +1.2
comp=Z,286nm,0.8s
TBI **Tubuai** 73.00 248 *e*P P 23 04 01.7 +1.1
comp=Z,398nm,1.1s
TBI *e*S S 23 13 12.5 -3.5
comp=Z,1µm,29.2s
TBI **Tubuai** 73.00 248 *e*LQ LQ 23 23 13.5
comp=Z,1µm,32.2s
TBI *e*LR LR 23 26 14.2
comp=Z,1µm,35.2s
TVO **Taravao** 73.08 254 *e*P P 23 04 02.7 +1.5
comp=Z,20nm,1.0s
TIAR **Tiarei** 73.18 254 *e*P P 23 04 03.1 +1.3
comp=Z,15nm,0.7s
PAE **Paea** 73.39 254 *e*P P 23 04 04.6 +1.6
comp=Z,28nm,0.7s
PPT2 **Papeete2** 73.40 254 *e*P P 23 04 04.7 +1.6
comp=Z,84nm,1.0s
PPT2 *e*S SKiKP 23 13 17.0 -2.6
comp=Z,1µm,28.5s
PPT2 **Papeete2** 73.40 254 *e*LQ LQ 23 23 25.0
comp=Z,1µm,23.5s
PPT2 *e*LR LR 23 26 26.1
comp=Z,3µm,29.0s
PPT **Papeete** 73.40 254 P P 23 04 04.5 +1.4
PPT **Papeete** 73.40 254 P P 23 04 04.5 +1.4
comp=Z,52nm,0.6s,baz=142,slow=10,SNR=15
PPT LR LR 23 29 04.8
comp=Z,932nm,18.8s,baz=86,slow=30
VNA1 **Neumayer--Stat** 74.25 162 P P 23 04 08.8 +1.8
VNA2 **Neumayer--Watz** 74.62 162 P P 23 04 10.2 +1.0
SNAA **Sanae** 76.24 162 P P 23 04 19.7 +1.2
SNAA **Sanae** 76.24 162 *e*P P 23 04 19.3 +0.8
SNAA **Sanae** 76.24 162 *e*P P 23 04 18.5 0.0
comp=Z,78nm,0.6s
SNAA *e*pP pP 23 04 56.1 +1.3
MORF **Marmelete** 76.39 48 *e*P P 23 04 22.0 +2.1
comp=Z,290nm,1.1s
MORF **Marmelete** 76.39 48 *e*P P 23 04 21.2 +1.3
PTEO **Sao Teotonio** 76.43 48 *e*P P 23 04 23.6 +3.6
comp=Z,153nm,1.8s
PMAFR **Mafra** 76.55 47 *e*P P 23 04 24.2 +3.5
comp=Z,141nm,1.3s
PNCL **Nicolau / Gran** 76.78 48 *e*P P 23 04 23.0 +1.0
comp=Z,182nm,0.9s
PBDV **Barranco-do-Ve** 76.90 49 *e*P P 23 04 24.4 +1.6
comp=Z,130nm,1.6s
MESJ **Messejana** 76.91 48 *e*P P 23 04 23.8 +1.1
MESJ AMb AMB 23 04 27.5
comp=Z,86nm,1.1s
MESJ **Messejana** 76.91 48 *e*P P 23 04 23.8 +1.1
comp=Z,86nm,1.1s
MESJ **Messejana** 76.91 48 *e*P P 23 04 23.8 +1.1
PVAQ **Vaqueiros** 77.12 49 *e*P P 23 04 25.3 +1.4
comp=Z,78nm,1.8s
YKA **Yellowknife Ar** 77.22 342 P P 23 04 23.4 -0.6
YKA pP pP 23 05 00.8 +0.5
YKA P'P' 23 31 35.6
YKA **Yellowknife Ar** 77.22 342 P P 23 04 23.4 -0.6
comp=Z,45nm,0.5s,baz=142,slow=6.0,SNR=347
YKA pP pP 23 05 00.8 +0.5
comp=Z,35nm,0.5s,baz=142,slow=6.0,SNR=8.1
YKA PKPPKP P'P'df 23 31 35.6 +4.7
comp=Z,0.3nm,0.8s,baz=316,slow=1.8,SNR=3.8
SFJD **Kangerlussuaq** 77.23 9 *i*P P 23 04 24.0 +0.1
comp=Z,52nm,0.8s
SFJD *i*pP pP 23 04 59.7 -0.6
SFJD **Kangerlussuaq** 77.23 9 *e*P P 23 04 21.6 -2.2
comp=Z,73nm,0.6s
SFJD *e*pP pP 23 04 59.8 -0.4
SFJD pP pP 23 05 00.0 -0.2
SFJD **Kangerlussuaq** 77.23 9 P P 23 04 22.7 -1.1
comp=Z,50nm,0.7s,baz=202,slow=4.3,SNR=22
SFJD pP pP 23 05 00.0 -0.2
comp=Z,81nm,0.6s,baz=201,slow=2.2,SNR=10
PBEJ **Beja** 77.23 48 *e*P P 23 04 25.8 +1.2
comp=Z,75nm,1.0s
EVO **Evora** 77.31 47 *e*P P 23 04 25.0 0.0
comp=Z,201nm,0.8s
EVO *e*R
comp=Z,866nm,19.5s
EVO **Evora** 77.31 47 *e*P P 23 04 26.1 +1.1
comp=Z,103nm,1.0s
PMTG **Montargil** 77.36 47 *e*P P 23 04 25.9 +0.7
comp=Z,150nm,1.4s
PTOM **Tomar** 77.43 46 *e*P P 23 04 26.5 +0.9
comp=Z,123nm,0.9s
PCAS **Casmilo, Conde** 77.53 46 *e*P P 23 04 27.3 +1.1
comp=Z,133nm,1.7s
PESTR **Estremoz** 77.74 47 *e*P P 23 04 28.8 +1.4
comp=Z,168nm,1.3s
PMRV **Marv??o** 78.09 47 *e*P P 23 04 30.2 +0.9
comp=Z,53nm,1.4s
PCBR **Castelo Branco** 78.18 46 *e*P P 23 04 30.3 +0.5
comp=Z,54nm,1.2s
PVIS **Viseu** 78.21 45 *e*P P 23 04 30.5 +0.5
comp=Z,130nm,1.1s
MTE **Manteigas** 78.34 46 *e*P P 23 04 31.4 +0.7
comp=Z,75nm,1.3s
MTE **Manteigas** 78.34 46 *e*P P 23 04 31.1 +0.3
comp=Z,41nm,0.7s
MTE pP pP 23 05 07.6 +0.4
PCAB **Cabril** 78.49 44 *e*P P 23 04 33.8 +2.3
comp=Z,108nm,1.0s
POLO **Lamas de Olo** 78.53 45 *e*P P 23 04 32.3 +0.5
comp=Z,40nm,1.1s
PVRL **Vila Real** 78.55 45 *e*P P 23 04 32.8 +1.0
comp=Z,82nm,1.3s
TOA0 **Torodi Ar. Sit** 78.57 75 *e*P P 23 04 31.7 -0.7
TOA0 *e*pP pP 23 05 06.2 -2.7
TOA0 *e*S S 23 14 13.6 -3.9
TORD **Torodi Ar. Bea** 78.57 75 P P 23 04 31.6 -0.8
TORD pP pP 23 05 08.1 -0.9
TORD S S 23 14 14.8 -2.6
TORD PKKPbc PKKPbc 23 23 27.9 +0.7
TORD P'P' 23 31 26.8
TORD **Torodi Ar. Bea** 78.57 75 P P 23 04 31.6 -0.8
comp=Z,50nm,0.7s,baz=264,slow=5.6,SNR=288
TORD pP pP 23 05 08.0 -0.9
comp=Z,51nm,0.6s,baz=278,slow=5.5,SNR=5.1
TORD S S 23 14 14.8 -2.6
comp=Z,4.9nm,0.9s,baz=245,slow=11,SNR=7.7
TORD PKKPbc PKKPbc 23 23 27.9 +0.7
comp=Z,0.7nm,0.8s,baz=78,slow=2.1,SNR=5.4
TORD PKPPKP P'P'df 23 31 26.8 -5.3
comp=Z,1.1nm,0.7s,baz=55,slow=2.0,SNR=5.6
TORD LR LR 23 37 57.0
comp=Z,716nm,19.0s,baz=275,slow=35
MVO **Moncorvo** 78.99 45 *e*P P 23 04 35.1 +0.8
comp=Z,105nm,1.2s
ILULI **Ilulissat** 79.19 8 *i*P P 23 04 34.3 -0.3
ILULI *i**PP pP 23 05 11.6 +0.4
ILULI pmax pmax
comp=Z,98nm,0.6s
ILULI **Ilulissat** 79.19 8 *i*P P 23 04 34.3 -0.3
comp=Z,98nm,0.6s
ILULI *i*pP pP 23 05 11.6 +0.4
PBRG **Braganca** 79.42 45 *e*P P 23 04 37.4 +0.8
comp=Z,71nm,1.6s
DLBC **Dease Lake** 80.25 334 *e*P P 23 04 40.4 -0.3
DLBC *e*pP pP 23 05 16.7 -0.6
PAB **San Pablo** 80.34 48 *e*P P 23 04 42.1 +0.5
PAB *e**PP pP 23 05 18.0 -0.3
PAB pmax pmax
comp=Z,72nm,0.8s
PAB **San Pablo** 80.34 48 *e*P P 23 04 42.1 +0.5
comp=Z,72nm,0.8s
PAB *e*pP pP 23 05 17.9 -0.3
ESDC **Sonseca Array** 80.66 47 P P 23 04 44.5 +1.1
ESDC pP pP 23 05 18.3 -1.7
ESDC **Sonseca Array** 80.66 47 P P 23 04 44.5 +1.1
comp=Z,59nm,0.8s,baz=255,slow=4.9,SNR=66
ESDC pP pP 23 05 18.3 -1.7
comp=Z,12nm,0.8s,baz=272,slow=4.3,SNR=2.6
ESDC LR LR 23 38 13.1
comp=Z,406nm,18.4s,baz=305,slow=34
ESLA **Sonseca Array** 80.66 47 *e*P P 23 04 44.2 +0.9
comp=Z,22nm,1.0s
ESLA *e*pP pP 23 05 20.6 +0.7
ESLA *es*P sP 23 05 36.9 +1.3
NVL **N'lazarevskaya** 80.82 160 *e*P P 23 04 42.9 -0.5
NVL *e*PPP PPP 23 09 38.5
NVL *e*S S 23 14 33.8 -5.3
NVL *e*SS SS 23 19 56.7 +1.2
NVL pmax pmax
comp=Z,74nm,0.6s
VAL **Valentia** 81.27 34 *e*P P 23 04 46.4 +0.3
QSPA **South Pole Qui** 81.63 180 *e*P P 23 04 49.4 +1.4
comp=Z,71nm,0.8s
QSPA *e*pP pP 23 05 24.4 -0.4
BORG **Borgarnes** 82.96 20 P P 23 04 56.6 +2.0
BORG **Borgarnes** 82.96 20 P P 23 04 56.6 +2.0
comp=Z,180nm,0.8s,baz=231,slow=1.5,SNR=28
SKAG **Skagway** 83.12 333 *e*P P 23 04 55.6 0.0
comp=Z,19nm,0.6s
SKAG *e*pP pP 23 05 31.8 -0.7
KULLO **Kullorsuaq** 83.59 5 *i*P P 23 04 57.4 -0.3
KULLO *i**PP pP 23 05 35.3 +0.7
KULLO pmax pmax
comp=Z,38nm,0.8s
KULLO **Kullorsuaq** 83.59 5 *i*P P 23 04 57.4 -0.3
comp=Z,38nm,0.8s
KULLO *i*pP pP 23 05 35.3 +0.7
SJPF **Ste Jean** 83.70 45 ⇑*i*P P 23 04 58.4 -0.6
comp=Z,264nm,0.7s

OSSF **Osses** 83.72 45⇑*e*P P 23 04 59.7 +0.6
LARF **Larrau** 83.85 45⇑*e*P P 23 05 01.2 +1.4
QUIF **Quistinic** 83.95 40⇑*i*P P 23 05 00.5 +0.4
comp=Z,103nm,0.9s
DSB **Dublin** 83.96 34 *e*P P 23 04 59.9 -0.2
comp=Z,77nm,1.1s
DSB *e*pP **pP** 23 05 37.3 +0.3
ROSF **Rostrenen** 84.02 39⇑*i*P P 23 05 00.9 +0.4
comp=Z,154nm,0.8s
ATE **Arette** 84.06 45 *e*P P 23 05 01.8 +1.0
TAM **Tamanrasset** 84.09 66 *e*P P 23 05 02.4 +0.8
TAM *e**PP **pP** 23 05 38.5 0.0
TAM pmax pmax
comp=Z,94nm,0.8s
TAM **Tamanrasset** 84.09 66 *e*P P 23 05 02.4 +0.8
comp=Z,94nm,0.8s
TAM *e*pP **pP** 23 05 38.5 0.0
ETSF **Etsaut** 84.11 45 *e*P P 23 05 01.6 +0.5
comp=Z,99nm,0.8s
ETSF *e*pP **pP** 23 05 40.0 +1.9
SUMG **Summit** 84.17 10⇓*i*P P 23 05 01.6 +0.4
SUMG *i**PP **pP** 23 05 38.9 +0.7
SUMG pmax pmax
comp=Z,260nm,0.7s
SUMG **Summit** 84.17 10⇓*i*P P 23 05 01.6 +0.4
comp=Z,255nm,0.7s
SUMG *i* pP **pP** 23 05 38.9 +0.7
SUMG **Summit** 84.17 10 *e*P P 23 05 01.2 0.0
comp=Z,486nm,0.8s
SUMG *e*pP **pP** 23 05 38.3 +0.1
PUH **Pauahi** 84.20 290 *e*P P 23 05 02.5 +0.4
comp=Z,1µm,1.3s
REYF **Montagne du Re** 84.27 45⇑*e*P P 23 05 00.4 -1.6
SGMF **Saint Gilles** 84.44 40⇑*i*P P 23 05 03.0 +0.4
comp=Z,215nm,1.2s
VIEF **Viey** 84.51 45⇑*e*P P 23 05 04.2 +1.0
HEX **Exmoor** 84.64 37 *e*P P 23 05 03.6 +0.1
HYT **Haines Junctio** 84.74 334 *e*P P 23 05 03.3 -0.7
HYT *e*pP **pP** 23 05 42.2 +1.2
EPF **Esparros** 84.78 45⇑*i*P P 23 05 05.5 +1.0
comp=Z,94nm,0.7s
YRE **Yr Eifl** 84.95 35 *e*P P 23 05 05.3 +0.2
YRC **Rhoscolyn** 84.97 34 *e*P P 23 05 04.7 -0.4
MELF **Melles** 85.03 46⇑*e*P P 23 05 07.6 +1.8
WLF1 **Llynfaes** 85.08 34 *e*P P 23 05 06.6 +1.0
WLF1 AMB AMB 23 05 08.8
comp=Z,65nm,2.0s
LCHF **La Chataignera** 85.11 42⇑*e*P P 23 05 07.4 +1.4
WME **Myndd Eilian** 85.17 34 *e*P P 23 05 06.7 +0.6
ADJB **Djebel Djouab** 85.28 53 P P 23 05 08.8 +1.6
MLS **Moulis** 85.29 45⇑*e*P P 23 05 08.4 +1.4
WPM1 **Penmaenmawr** 85.35 35 *e*P P 23 05 06.6 -0.4
MCH1 **Michaelchurch** 85.43 36 *e*P P 23 05 07.0 -0.4
MCH1 AMB AMB 23 05 08.4
comp=Z,64nm,3.1s
GAL1 **Galloway** 85.48 33 *e*P P 23 05 07.4 -0.2
GAL1 AMB AMB 23 05 08.8
comp=Z,100nm,4.0s
MFF **Saint Martin d** 85.48 42⇑*i*P P 23 05 08.4 +0.6
comp=Z,214nm,0.9s
MONM **Monmouth** 85.49 36 *e*P P 23 05 07.4 -0.3
MONM AMB AMB 23 05 10.5
comp=Z,79nm,1.9s
GRR **Gorron** 85.56 40⇑*i*P P 23 05 08.5 +0.3
comp=Z,224nm,1.0s
LFF **La Frestale** 85.60 44 *e*P P 23 05 08.2 -0.2
comp=Z,312nm,0.8s
FOEL **Foel Wylfa** 85.62 35 *e*P P 23 05 08.3 0.0
FOEL AMB AMB 23 05 10.2
comp=Z,51nm,2.7s
STRD **Stroud** 85.84 36 *e*P P 23 05 10.2 +0.7
STRD AMB AMB 23 05 13.1
comp=Z,116nm,2.6s
FLN **La Foliniere** 85.91 40⇑*i*P P 23 05 10.4 +0.5
comp=Z,245nm,0.9s
FLN *e*R
comp=Z,825nm,19.5s
KPL **Plockton** 85.92 30 *e*P P 23 05 10.0 +0.4
KPL AMB AMB 23 05 15.8
comp=Z,140nm,3.1s
PGBU **Glenifferbraes** 85.95 32 *e*P P 23 05 09.7 -0.2
LDF **La Druitiere** 86.09 40⇑*i*P P 23 05 11.1 +0.3
comp=Z,178nm,1.0s
MTLF **Montolieu** 86.18 45⇑*i*P P 23 05 11.4 0.0
comp=Z,69nm,0.8s
RJF **Les Rejaudoux** 86.22 43⇑*i*P P 23 05 11.8 +0.3
comp=Z,98nm,0.9s
RJF *e*pP **pP** 23 05 49.9 +1.3
RJF *e*R
comp=Z,845nm,22.2s
WOL **Wolverton** 86.25 37 *e*P P 23 05 11.7 +0.3
WOL AMB AMB 23 05 19.4
comp=Z,104nm,2.0s
STNC **Stoke** 86.25 35 *e*P P 23 05 12.5 +1.0
KESW **Keswick, Cumbr** 86.25 34 *e*P P 23 05 11.8 +0.4
KESW AMB AMB 23 05 14.9
comp=Z,119nm,1.4s
ESK **Eskdalemuir** 86.45 33 *e*P P 23 05 12.1 -0.3
ESK AMB AMB 23 05 17.7
comp=Z,86nm,3.1s
ESK **Eskdalemuir** 86.45 33 *i*P P 23 05 15.4 +3.0
ESK **Eskdalemuir** 86.45 33 *e*P P 23 05 12.7 +0.3
comp=Z,24nm,0.8s
ESK *e*pP **pP** 23 05 48.6 -0.9
EKA **Eskdalemuir Ar** 86.48 33 P P 23 05 12.0 -0.5
EKA pP **pP** 23 05 49.5 -0.1
EKA PKKPbc **PKKPbc** 23 23 09.4 -1.6
EKA **Eskdalemuir Ar** 86.48 33 P P 23 05 12.0 -0.5
comp=Z,14nm,0.8s,baz=237,slow=5.0,SNR=21
EKA pP **pP** 23 05 49.5 -0.1
comp=Z,14nm,0.7s,baz=247,slow=4.9,SNR=4.1
EKA PKKPbc **PKKPbc** 23 23 09.4 -1.6
comp=Z,1.7nm,0.6s,baz=41,slow=1.5,SNR=8.5
CAF **Calviac** 86.50 44⇑*i*P P 23 05 13.1 +0.2
comp=Z,149nm,1.0s
LHO **Holmfirth** 86.60 35 *e*P P 23 05 13.3 +0.1
MDO **Dochfour** 86.61 31 *e*P P 23 05 12.9 -0.2
KBI1 **Birley Grange** 86.69 35 *e*P P 23 05 14.6 +1.0
EBL **Broad Law** 86.70 32 *e*P P 23 05 13.4 -0.1
SET **Setif** 86.83 53 P P 23 05 11.0 -3.8
HPK **Haverah Park** 86.86 34 *e*P P 23 05 14.3 0.0
HPK AMB AMB 23 05 17.3
comp=Z,74nm,2.2s
MVH1 **Achvaich** 86.87 30 *e*P P 23 05 14.3 0.0
FRNF **Fournols** 86.96 43 *e*P P 23 05 15.4 +0.3
TCF **Toulx Ste Croi** 86.96 43⇑*i*P P 23 05 15.0 -0.1
comp=Z,90nm,0.7s
INK **Inuvik** 86.97 341 *e*P P 23 05 13.7 -0.9
comp=Z,30nm,0.6s
INK *e*pP **pP** 23 05 51.5 -0.2
ESY **Stoneypath** 86.97 32 *e*P P 23 05 14.9 0.0
BIGH **Upper Bighouse** 87.21 30 *e*P P 23 05 15.9 0.0
BIGH AMB AMB 23 05 18.9
comp=Z,326nm,2.7s
MCD **Coleburn Disti** 87.22 31 *e*P P 23 05 16.1 0.0
DFRA **Djebel Bou Aff** 87.28 53 P P 23 05 18.4 +1.4
PYM **Petit Puy Mans** 87.35 43⇑*e*P P 23 05 17.3 +0.2
DRUM **Mains of Drumt** 87.38 31 *e*P P 23 05 16.6 -0.2
LBL **Lubilhac** 87.39 44⇑*e*P P 23 05 17.9 +0.7
BGF **Bois d'Agland** 87.45 42⇑*i*P P 23 05 17.6 +0.2
comp=Z,329nm,0.7s
HYF **Humbligny** 87.50 42⇑*i*P P 23 05 18.0 +0.3
AGO **Saint Agoulin** 87.52 43⇑*e*P P 23 05 17.8 0.0
LASF **Ste Croix** 87.52 45⇑*i*P P 23 05 18.3 +0.5
comp=Z,100nm,0.9s
CASM **Ain Smara** 87.71 53 P P 23 05 19.6 +0.7
COLF **Collangettes** 87.76 44⇑*e*P P 23 05 20.7 +1.7
PLDF **La Plantade** 87.83 43⇑*e*P P 23 05 19.5 +0.2
AVF **Avril sur Loir** 87.85 42⇑*i*P P 23 05 19.1 -0.2
comp=Z,108nm,0.7s
CKFL **Kef-Lekhel** 87.92 53 P P 23 05 20.7 +0.7
BMRM **Bremner River** 87.95 333 *e*P P 23 05 19.5 0.0
comp=Z,115nm,1.0s
BMRM *e*pP **pP** 23 05 56.5 -0.3
EGAK **Eagle** 87.99 337 *e*P P 23 05 18.3 -1.2
comp=Z,100nm,1.0s
EGAK *e*pP **pP** 23 05 57.3 +0.5
SSF **Saint Saulge** 88.02 42 *e*P P 23 05 19.7 -0.4
comp=Z,80nm,0.8s
MENF **Menceas** 88.07 38 *e*P P 23 05 20.1 -0.1
CAEH **Ain El Ouahch** 88.10 53 P P 23 05 21.4 +0.7
SMF **Signal de Mont** 88.14 42⇑*i*P P 23 05 20.7 0.0
comp=Z,249nm,0.8s
WIN **Windhoek** 88.19 112⇑*e*P P 23 05 22.4 +0.7
WIN AMB AMB 23 05 49.2
comp=Z,5.5nm,2.7s
VIVF **Saint-Julien-l** 88.27 44 *e*P P 23 05 21.2 -0.2
comp=Z,124nm,0.7s
SSB **Saint Sauveur** 88.28 44⇑*e*P P 23 05 22.1 +0.6
LOR **Lormes** 88.31 42⇑*i*P P 23 05 21.2 -0.3
comp=Z,111nm,0.7s
LOR *e*R
comp=Z,726nm,20.8s
ABSA **Djebel Ababsia** 88.49 53 P P 23 05 23.5 +0.8
CMAH **Djebel Manchou** 88.52 53 P P 23 05 23.2 +0.4
DIV **Divide** 88.54 333 *e*P P 23 05 22.0 -0.4
comp=Z,137nm,0.9s
DIV *e*pP **pP** 23 05 59.8 +0.1
VNDA **Vanda** 88.65 190 *e*P P 23 05 23.2 +0.7
comp=Z,29nm,0.7s
VNDA *e*pP **pP** 23 06 00.3 +0.5
VNDA *e*sP **sP** 23 06 15.0 -0.4
VNDA **Vanda** 88.65 190 P P 23 05 23.9 +1.3
comp=Z,33nm,0.7s,baz=129,slow=4.3,SNR=78
LEPF **PUYLOUBIER** 88.69 46 *e*P P 23 05 23.7 +0.4
SMRF **Simiane la Rot** 88.70 45 *e*P P 23 05 23.6 +0.2
comp=Z,82nm,1.0s
PAX **Paxson** 89.05 334 *e*P P 23 05 23.6 -1.1
PAX *e**PP **pP** 23 06 01.9 -0.2
PAX pmax pmax
comp=Z,156nm,1.1s
PAX **Paxson** 89.05 334 *e*P P 23 05 23.6 -1.1
comp=Z,156nm,1.1s
PAX *e*pP **pP** 23 06 01.9 -0.2
ORIF **Oris-en-Rattie** 89.12 44 *e*P P 23 05 25.5 0.0
comp=Z,322nm,0.7s
ORIF *e*R
comp=Z,894nm,22.0s
TSUM **Tsumeb** 89.13 109 *e*P P 23 05 26.4 +0.2
comp=Z,35nm,0.8s
TSUM *e*pP **pP** 23 06 02.1 -1.3
TSUM **Tsumeb** 89.13 109 P P 23 05 26.8 +0.7
comp=Z,41nm,0.9s,baz=259,slow=3.8,SNR=48
TSUM pP **pP** 23 06 02.5 -0.9
comp=Z,31nm,0.8s,baz=245,slow=4.0,SNR=6.6
BAIF **Baives** 89.22 39⇑*i*P P 23 05 25.8 +0.2
comp=Z,69nm,0.7s
LMR **La Mourre** 89.22 46⇑*i*P P 23 05 26.2 +0.4
comp=Z,176nm,1.0s
SFTF **Sexfontaines** 89.30 41⇑*i*P P 23 05 26.0 -0.1
comp=Z,139nm,0.9s
SFTF *e*pP **pP** 23 06 04.2 +0.7
SNF **Seneffe** 89.37 39 P P 23 05 26.6 +0.3
MEZF **Maizieres J'vi** 89.38 41⇑*i*P P 23 05 26.5 +0.1
comp=Z,54nm,0.6s
DOU **Dourbes** 89.47 39 P P 23 05 27.1 +0.3
comp=Z,63nm,1.1s
CALN **Calern** 89.58 46⇑*e*P P 23 05 28.2 +0.5
GIVF **Givet** 89.61 39⇑*i*P P 23 05 27.9 +0.4
comp=Z,378nm,0.7s
GIVF *e*pP **pP** 23 06 06.1 +1.3
CABF **La Chapelle** 89.64 43⇑*i*P P 23 05 28.1 +0.3
comp=Z,178nm,1.0s
MBDF **Montbardon** 89.70 45⇑*i*P P 23 05 28.9 +0.6
comp=Z,72nm,0.9s
MVIF **Mont Vial** 89.80 46 *e*P P 23 05 29.3 +0.6
RSL **Roselend** 89.80 44⇑*e*P P 23 05 29.2 +0.5
PAGF **Fort de Pagny** 89.83 41⇑*i*P P 23 05 28.8 +0.2
comp=Z,24nm,0.9s
LPL **La Plagne** 89.84 44 *e*P P 23 05 29.1 +0.1
comp=Z,232nm,0.7s
LPG **La Plagne** 89.85 44 *e*P P 23 05 29.2 +0.1
comp=Z,282nm,0.7s
KEST **Kesra** 89.87 54 P P 23 05 30.1 +0.9
KEST **Kesra** 89.87 54 P P 23 05 30.1 +0.9
comp=Z,16nm,0.7s,baz=302,slow=0.9,SNR=32
TOUF **Mont Tournerai** 89.89 46⇑*e*P P 23 05 29.5 +0.3
SUR **Sutherland** 89.90 123 *e*P P 23 05 29.7 +0.1
comp=Z,19nm,0.8s
SUR *e*pP **pP** 23 06 07.2 +0.2
THEF **They Montfort** 89.93 41⇑*e*P P 23 05 29.3 +0.3
SEW **Seward** 89.93 331 *e*P P 23 05 27.2 -1.5
comp=Z,62nm,1.1s
OG01 **Vacheresse** 89.98 43 *e*P P 23 05 29.8 +0.4
BCLA **Clavier** 89.98 39 P P 23 05 29.4 +0.2
comp=Z,37nm,1.4s
SBF **Sospel** 89.99 46⇑*i*P P 23 05 29.7 +0.2
comp=Z,130nm,0.8s
SBF *e*pP **pP** 23 06 07.4 +0.5
AUTN **L'Aution** 90.01 46 *e*P P 23 05 31.5 +1.7
HAU **Haudompre** 90.11 42⇑*i*P P 23 05 29.8 -0.1
comp=Z,44nm,0.6s
HAU *e*R
comp=Z,654nm,21.5s
PMR **Palmer** 90.22 333 *e*P P 23 05 29.2 -0.8
PMR *e**PP **pP** 23 06 07.3 -0.1
PMR pmax pmax
comp=Z,82nm,1.2s
PMR **Palmer** 90.22 333 *e*P P 23 05 29.2 -0.8
comp=Z,82nm,1.2s
PMR *e*pP **pP** 23 06 07.3 -0.1
ILAR **Eielson Array** 90.26 336 P P 23 05 29.8 -0.5
ILAR pP **pP** 23 06 08.4 +0.9
ILAR PP **PP** 23 09 05.4 -0.8
ILAR PKKPbc **PKKPdf** 23 22 58.5 +0.8
ILAR **Eielson Array** 90.26 336 P P 23 05 29.7 -0.5
comp=Z,16nm,0.8s,baz=135,slow=3.1,SNR=111
ILAR pP **pP** 23 06 08.4 +0.9
comp=Z,28nm,0.9s,baz=133,slow=3.7,SNR=8.3
ILAR PP **PP** 23 09 05.4 -0.8
comp=Z,5.2nm,0.7s,baz=106,slow=6.6,SNR=9.2
ILAR PKKPbc **PKKPdf** 23 22 58.5 +0.8
comp=Z,1.2nm,0.8s,baz=283,slow=3.2,SNR=6.6
LOMF **Lomont** 90.29 42⇑*e*P P 23 05 31.2 +0.3
BEBN **Eben Emael** 90.30 39 P P 23 05 31.1 +0.4
WLF **Walferdange** 90.35 40 P P 23 05 31.1 +0.1
comp=Z,96nm,1.1s
WLF **Walferdange** 90.35 40 *e*P P 23 05 31.1 +0.1
WLF *e**PP **pP** 23 06 09.0 +0.7
WLF pmax pmax
comp=Z,153nm,1.0s
WLF **Walferdange** 90.35 40 *e*P P 23 05 31.1 +0.1
comp=Z,152nm,1.0s
WLF **Walferdange** 90.35 40 *e*P P 23 05 31.1 +0.1
comp=Z,153nm,1.0s
WLF *e*pP **pP** 23 06 09.0 +0.7
RC01 **Rabbit Creek A** 90.35 332 *e*P P 23 05 30.4 -0.3
comp=Z,208nm,1.3s
RC01 *e*pP **pP** 23 06 05.7 -2.4
HINF **Hinteralfeld** 90.41 42⇑*i*P P 23 05 31.2 -0.1
comp=Z,63nm,1.0s
MEM **Membach** 90.46 39 P P 23 05 31.8 +0.4
comp=Z,19nm,1.0s
SYO **Syowa Base** 90.48 161⇓*e*P P 23 05 30.0 -1.2
SYO **Syowa Base** 90.48 161⇓*i*P P 23 05 31.2 0.0
MOF **Molkenrain** 90.60 42⇑*e*P P 23 05 32.1 -0.2
COLA **College** 90.69 336⇑*i*P P 23 05 31.3 -0.8
COLA pmax pmax
comp=Z,258nm,0.9s
COLA **College** 90.69 336 *e*P P 23 05 31.6 -0.6
comp=Z,135nm,1.0s
COLA *e*pP **pP** 23 06 09.4 -0.1
ECH **Echery** 90.69 41⇑*e*P P 23 05 32.8 +0.2
MCK **McKinley** 90.78 335 *e*P P 23 05 31.9 -0.8
MCK *e**PP **pP** 23 06 08.6 -1.5
MCK pmax pmax
comp=Z,51nm,0.8s
MCK **McKinley** 90.78 335 *e*P P 23 05 31.9 -0.8
comp=Z,51nm,0.8s
MCK *e*pP **pP** 23 06 08.6 -1.5
CDF **Champ du Feu** 90.81 41⇑*i*P P 23 05 33.2 0.0
comp=Z,134nm,1.0s
CDF *e*pP **pP** 23 06 11.0 +0.4
KDAK **Kodiak Island** 90.86 328 *e*P P 23 05 32.1 -1.0
comp=Z,54nm,0.6s
KDAK *e*pP **pP** 23 06 09.4 -1.1
UPI **Upington** 90.97 119⇑*e*P P 23 05 34.5 0.0
UPI AMB AMB 23 06 00.7
comp=Z,56nm,3.7s
ALE **Alert** 91.04 2 P P 23 05 31.9 -1.6
comp=Z,148nm,1.0s,SNR=9.3
WTSB **Winterswijk** 91.24 38 *e*P P 23 05 35.1 +0.1
comp=Z,110nm,0.9s
LANF **Langenberg** 91.26 41⇑*e*P P 23 05 35.7 +0.5
TRF **Thorofare Moun** 91.28 334 *e*P P 23 05 34.5 -0.6
comp=Z,66nm,0.7s
TRF *e*pP **pP** 23 06 11.0 -1.6
RUDU **RUNDU** 91.33 108 *e*P P 23 05 37.2 +0.8
RUDU AMB AMB 23 05 44.6
comp=Z,32nm,4.3s
BUG **Bochum--Univer** 91.42 38 *e*P P 23 05 36.2 +0.4
comp=Z,109nm,1.2s
BFO **Black Forest** 91.48 41 *i*P P 23 05 37.2 +0.9
BFO **Black Forest** 91.48 41 *e*P P 23 05 36.2 -0.1
comp=Z,19nm,1.2s
KTH **Kantishna Hill** 91.58 334 *e*P P 23 05 35.4 -1.1
comp=Z,762nm,0.5s
KTH *e*pP **pP** 23 06 13.7 -0.1
RSO **Redoubt South** 91.61 331 *e*P P 23 05 36.2 -0.6
comp=Z,170nm,0.7s
RSO *e*pP **pP** 23 06 14.2 0.0
TNS **Taunus Mts** 91.91 40 *e*P P 23 05 38.1 -0.2
comp=Z,37nm,1.2s
PPLA **Purkeypile** 91.96 333 *e*P P 23 05 37.4 -0.9
comp=Z,62nm,0.8s
PPLA *e*pP **pP** 23 06 12.8 -2.9
PPLA *e*PP **PP** 23 09 19.8 0.0
KMY **Karmoy** 91.97 30 *e*P P 23 05 39.0 +0.8
STU **Stuttgart** 92.13 41 *e*P P 23 05 38.5 -0.7
STU pmax pmax
comp=Z,26nm,0.7s
STU **Stuttgart** 92.13 41 *e*P P 23 05 38.5 -0.7
comp=Z,26nm,0.7s
DAVOX **Davos/Dischmat** 92.23 43 P P 23 05 40.1 +0.1
DAVOX PKKPbc **PKKPdf** 23 22 54.8 +0.8
DAVOX **Davos/Dischmat** 92.23 43 P P 23 05 40.1 +0.1
comp=Z,44nm,0.6s,baz=258,slow=5.1,SNR=35
DAVOX PKKPbc **PKKPdf** 23 22 54.8 +0.8
comp=Z,2.3nm,0.7s,baz=135,slow=16,SNR=2.8
ASK **Askoy** 92.23 29 *e*P P 23 05 42.9 +3.6
COLD **Coldfoot** 92.31 338 *e*P P 23 05 39.8 +0.1
comp=Z,26nm,0.9s
COLD *e*pP **pP** 23 06 17.2 +0.2
DAVA **Damuels** 92.32 43⇑*i*PcP **PcP** 23 05 40.8 -0.2
comp=Z,53nm,0.9s,SNR=6.2
BLS5 **Blasjo** 92.62 30 *e*P P 23 05 41.6 +0.4
BLS5 *e*pP **pP** 23 06 18.4 -0.3
SNART **Snartemo** 92.78 31 *e*P P 23 05 42.3 +0.3
ODD1 **Odda** 92.81 30 *e*P P 23 05 42.7 +0.5
FETA **Feichten** 92.84 43⇑*i*P P 23 05 43.1 +0.3
comp=Z,52nm,1.4s
HYA **Hoyanger** 92.86 29 *e*P P 23 05 42.9 +0.7
RETA **Reutte** 92.94 43⇑*i*P P 23 05 43.3 +0.2
comp=Z,38nm,1.1s,SNR=6.0
UBBA **Unterbreizbach** 93.00 39 *e*P P 23 05 43.4 +0.4
comp=Z,48nm,1.6s
MOTA **Moosalm** 93.15 43⇑*i*PcP **PcP** 23 05 44.5 -0.2
comp=Z,28nm,0.5s,SNR=19
IM04 **Indian Mountai** 93.37 336 *e*P P 23 05 43.8 -0.8
FUR **Furstenfeldbru** 93.39 42 *e*pP pP 23 06 20.9 -1.6
CLZ **Clausthal** 93.39 38 *e*P P 23 05 45.1 +0.1
comp=Z,25nm,0.8s
HOMB **Homborsund** 93.44 32 *e*P P 23 05 45.7 +0.7
WATA **Walderalm** 93.46 43⇑*i*P P 23 05 45.9 +0.3
comp=Z,18nm,0.5s,SNR=23
MUD **Monsted U'grnd** 93.47 34 *i*P P 23 05 46.2 +1.0
MUD *i**PP **pP** 23 06 21.1 -1.5
MUD pmax pmax
comp=Z,50nm,0.8s
MUD **Monsted U'grnd** 93.47 34 *i*P P 23 05 46.2 +1.0
comp=Z,50nm,0.8s
MUD *i*pP **pP** 23 06 21.1 -1.5
WTTA **Wattenberg** 93.49 43⇑*i*PcP **PcP** 23 05 46.3 +0.1
comp=Z,58nm,1.0s,SNR=18
GRF **Grafenberg Arr** 93.59 40 *e*P P 23 05 46.5 +0.5
comp=Z,46nm,1.3s
MOX **Moxa** 93.98 40 *e*P P 23 05 47.8 +0.1
comp=Z,22nm,1.1s
MOX *e*pP **pP** 23 06 24.3 -0.9
ABTA **Abfaltersbach** 94.01 44 *i*PcP **PcP** 23 05 48.7 +0.3
comp=Z,71nm,1.3s,SNR=17
HVD **Gariep Dam** 94.17 122 *e*P P 23 05 50.4 +1.1
HVD AMB AMB 23 05 51.5
comp=Z,64nm,1.1s
ROTZ **Rotzenmuhle** 94.23 40 *e*P P 23 05 48.9 0.0
comp=Z,37nm,1.5s
KONO **Kongsberg** 94.23 30 *e*P P 23 05 49.1 +0.5
KONO *e**PP **pP** 23 06 26.3 +0.2
KONO *e*SP **sP** 23 06 41.6 +0.1
KONO pmax pmax
comp=Z,16nm,0.9s
KONO **Kongsberg** 94.23 30 *e*P P 23 05 49.1 +0.5
KONO *e*pP **pP** 23 06 26.2 +0.1
KONO **Kongsberg** 94.23 30 *e*P P 23 05 49.1 +0.5
comp=Z,16nm,0.9s
KONO *e*pP **pP** 23 06 26.3 +0.2
KONO *e*sP **sP** 23 06 41.6 +0.1
RJOB **Jochberg** 94.34 43 *e*P P 23 05 49.4 -0.1
comp=Z,29nm,1.0s
BOSA **Boshof** 94.38 120 *e*P P 23 05 50.8 +0.5
BOSA AMB AMB 23 06 03.0
comp=Z,38nm,3.5s
BOSA **Boshof** 94.38 120 *e*P P 23 05 50.8 +0.5
BOSA *e*pP **pP** 23 06 27.8 +0.1
BOSA PP **PP** 23 09 42.4 +3.0
BOSA PKKPbc **PKKPdf** 23 22 48.8 -0.1
BOSA **Boshof** 94.38 120 P P 23 05 49.8 -0.5
comp=Z,12nm,0.8s,baz=275,slow=2.9,SNR=14
BOSA PP **PP** 23 09 42.4 +3.0
comp=Z,4.5nm,0.9s,baz=270,slow=4.0,SNR=3.0
BOSA PKKPbc **PKKPdf** 23 22 48.8 -0.1
comp=Z,5.0nm,0.6s,baz=103,slow=1.8,SNR=23
BOSA LR LR 23 44 12.4
comp=Z,439nm,21.4s,baz=294,slow=33
GRM **Grahamstown** 94.42 124 *e*P P 23 05 50.6 +0.4
GRM AMB AMB 23 05 53.3
comp=Z,67nm,1.3s
TANN **Tannenbergstha** 94.48 40 *e*P P 23 05 50.8 +0.7
comp=Z,32nm,1.1s
WET **Wettzell** 94.58 41 *e*P P 23 05 51.0 +0.5
comp=Z,29nm,1.4s
KBA **Koelnbreinsper** 94.62 43⇑*i*P P 23 05 51.1 +0.1
comp=Z,56nm,1.0s,SNR=7.8
ROBS **Robic** 94.63 44 *i*P P 23 05 51.2 +0.4
SWZ **Schweizer** 94.75 118 *e*P P 23 05 52.3 +0.3
SWZ AMB AMB 23 06 02.4
comp=Z,46nm,2.7s
MYKA **Terra Mystica** 94.77 44 *i*PcP **PcP** 23 05 51.9 +0.1
comp=Z,53nm,0.8s,SNR=11
CLL **Collm** 94.94 39⇑*i*P P 23 05 52.8 +0.7
CLL *e* 23 09 43.0
CLL pmax pmax
comp=Z,26nm,0.8s
CLL **Collm** 94.94 39 *e*P P 23 05 52.6 +0.5
comp=Z,27nm,0.9s
CLL **Collm** 94.94 39⇑*i*P P 23 05 52.8 +0.7
comp=Z,26nm,0.8s
CLL *e*pP **pP** 23 06 28.0 -1.5
CLL *e*PP **PP** 23 09 43.0 -0.2
CLL *e*sPP 23 10 36.0
CLL *e*SKSac **SKSac** 23 16 15.0 +1.2
CLL *e*PPS PPS 23 19 11.0
CLL *e*PKKPdf **PKKPdf** 23 22 48.0 -0.9
CLL *e*SS SS 23 23 39.0 +17
CLL *e*(sSSS) 23 28 06.0
CLL *e*SSSS 23 31 42.0
CLL *e* 23 33 00.0
JAVS **Javornik** 94.97 44 *i*P P 23 05 53.1 +0.6
KHC **Kasperske Hory** 95.04 41*c i*P P 23 05 53.3 +0.7
KHC pmax pmax
comp=Z,62nm,1.3s
KHC **Kasperske Hory** 95.04 41 *e*P P 23 05 52.9 +0.3
KHC *e*pP **pP** 23 06 27.5 -2.6
KHC *e*sP **sP** 23 06 41.8 -3.7
KHC *e*PP **PP** 23 09 43.5 -0.6
KHC *e*SKS **SKSac** 23 16 14.9 +0.4
KHC *e*PKKP **PKKPdf** 23 22 48.6 -0.2
KHC **Kasperske Hory** 95.04 41 *e*P P 23 05 52.5 -0.1
comp=Z,15nm,1.1s
KHC *e*pP **pP** 23 06 27.9 -2.2
NAO01 **NORSAR Array S** 95.05 29 *e*P P 23 05 52.6 +0.2
comp=Z,21nm,0.8s
NAO01 *e*pP **pP** 23 06 28.1 -1.7
GERES **GERESS Array B** 95.08 42 P P 23 05 52.4 -0.5
GERES PP **PP** 23 09 42.4 -2.1
GERES PKKPbc **PKKPdf** 23 22 48.4 -0.4
GERES P'P' 23 30 57.7
GERES **GERESS Array B** 95.08 42 P P 23 05 52.4 -0.5
comp=Z,5.9nm,0.8s,baz=253,slow=2.8,SNR=20
GERES PP **PP** 23 09 42.4 -2.1
comp=Z,1.4nm,0.8s,baz=265,slow=5.9,SNR=2.5
GERES PKKPbc **PKKPdf** 23 22 48.4 -0.4
comp=Z,2.7nm,0.6s,baz=71,slow=1.9,SNR=14
GERES PKPPKP **P'P'df** 23 30 57.7 -1.8

comp=Z,0.5nm,0.6s,baz=57,slow=2.3,SNR=6.4
COP Copenhagen 95.16 35 *e*P **P** **23 05 55.7 +2.8**
COP pmax pmax
comp=Z,17nm,0.8s
COP Copenhagen 95.16 35 *i* P **P** **23 05 55.7 +2.8**
comp=Z,17nm,0.8s
NB2 NORSAR Subarra 95.24 29 P **P** **23 05 53.9 +0.6**
comp=Z,46nm,0.9s,baz=261,slow=4.6
NB2 NORSAR Subarra 95.24 29 P **P** **23 05 53.9 +0.6**
baz=261,slow=4.6
NOA NORSAR Array B 95.24 29 P **P** **23 05 54.2 +0.9**
NOA pP **pP** **23 06 31.4 +0.7**
NOA PKKPbc **PKKPdf** **23 22 47.0 -1.8**
NOA NORSAR Array B 95.24 29 P **P** **23 05 54.2 +0.9**
comp=Z,27nm,0.8s,baz=258,slow=4.5,SNR=49
NOA pP **pP** **23 06 31.4 +0.7**
comp=Z,28nm,0.8s,baz=259,slow=4.5,SNR=10
NOA PKKPbc **PKKPdf** **23 22 47.0 -1.8**
comp=Z,2.1nm,0.7s,baz=255,slow=3.0,SNR=8.5
NOA LR LR 23 49 16.3
comp=Z,144nm,18.1s,baz=275,slow=36
MOA Molln 95.34 43 *i* PcP **PcP** **23 05 54.4 +0.2**
comp=Z,48nm,0.8s,SNR=18
OBKA Obir 95.37 44⇑ *i* PcP **PcP** **23 05 54.7 +0.1**
comp=Z,36nm,0.8s
NVLJ Novalja 95.38 46 P **P** **23 05 54.5 +0.3**
LBTB Lobatse 95.43 116 *e*P **P** **23 05 55.0 -0.1**
LBTB AMB AMB 23 05 57.5
comp=Z,31nm,2.7s
LBTB Lobatse 95.43 116 *e*P **P** **23 05 54.7 -0.4**
comp=Z,16nm,0.7s
LBTB *e*pP **pP** **23 06 30.8 -1.8**
LBTB *e*sP **sP** **23 06 48.6 +0.6**
BRG Berggiesshubel 95.48 40 *i* P **P** **23 05 54.9 +0.4**
comp=Z,26nm,1.1s
BRG Berggiesshubel 95.48 40 S **SKSac** **23 16 23.0 +6.4**
BRG *e* 23 23 45.0
BRG Berggiesshubel 95.48 40 *e*P **P** **23 05 54.7 +0.2**
comp=Z,26nm,1.1s
BRG *e*pP **pP** **23 06 30.5 -1.5**
VISS Visnje 95.50 45 *i* P **P** **23 05 55.9 +1.1**
PRA Prague 95.70 40 P **P** **23 05 56.0 +0.4**
PRA pP **pP** **23 06 35.0 +2.0**
PRA PP **PP** **23 09 48.0 -1.1**
SOKA Soboth 95.72 44⇑ *i* PcP **PcP** **23 05 56.1 0.0**
comp=Z,13nm,0.7s
BOJS Bojanci 95.75 45 *i* P **P** **23 05 56.5 +0.6**
PRU Pruhonice 95.76 40 *e*P **P** **23 05 55.8 0.0**
PRU *e* 23 06 34.3
PRU *e* 23 09 47.4
PRU *e* 23 16 22.9
PRU Pruhonice 95.76 40 *e*P **P** **23 05 55.8 0.0**
PRU *e*pP **pP** **23 06 34.3 +1.0**
PRU *e*PP **PP** **23 09 47.4 -2.2**
PRU *e*SKS **SKSac** **23 16 22.9 +4.7**
PRU *e*PKKP **PKKPbc** **23 22 46.4 -0.7**
PVCC Panska Ves 95.83 40 *e*P **P** **23 05 56.8 +0.6**
PVCC *e* 23 06 34.0
PVCC *e* 23 16 19.5
PVCC Panska Ves 95.83 40 *e*P **P** **23 05 56.8 +0.6**
PVCC *e*pP **pP** **23 06 34.0 +0.4**
PVCC *e*SKS **SKSac** **23 16 19.5 +1.0**
UDBI Udbina 96.01 46 P **P** **23 05 58.0 +0.7**
BFSD Buffelsfontein 96.08 118 *e*P **P** **23 05 59.1 +1.0**
ARSA Arzberg 96.12 43⇑ *i* P **P** **23 05 57.8 +0.2**
comp=Z,37nm,0.9s,SNR=18
TREC Trest 96.30 41 *e*P **P** **23 05 58.6 +0.2**
TREC *e* 23 06 36.7
TREC *e* 23 16 25.4
TREC Trest 96.30 41 *e*P **P** **23 05 58.6 +0.2**
TREC *e*pP **pP** **23 06 36.7 +0.9**
TREC *e*SKS **SKSac** **23 16 25.4 +4.3**
CONA Conrad Observa 96.41 43⇑ *i* PcP **PcP** **23 05 59.6 +0.5**
comp=Z,63nm,1.4s,SNR=20
BSD Bornholm Skovb 96.51 35 *i* P **P** **23 06 01.3 +2.2**
BSD Bornholm Skovb 96.51 35 *i* P **P** **23 06 01.3 +2.2**
PRYS Parys 96.57 118 *e*P P 23 05 54.2 -6.1
PRYS AMB AMB 23 05 59.6
comp=Z,12nm,4.4s
UPC Upice 96.75 40 *e*P **P** **23 06 01.3 +1.0**
UPC Upice 96.75 40 *e*P **P** **23 06 01.3 +1.0**
SOP Sopron 96.86 43 *e* **P** **23 06 00.9 0.0**
BEHE Becsehely 96.90 44⇓ *e* **P** **23 06 02.5 +1.4**
KLOF Kloof 96.91 118 *e*P **P** **23 06 00.9 -1.0**
KLOF AMB AMB 23 06 05.4
comp=Z,16nm,0.8s
DPC Dobruska-Polom 96.93 40 *e*P **P** **23 06 01.9 +0.7**
DPC *e* 23 06 37.9
DPC *e* 23 10 00.2
DPC *e* 23 16 27.4
DPC Dobruska-Polom 96.93 40 *e*P **P** **23 06 01.9 +0.7**
DPC *e*pP **pP** **23 06 37.9 -0.8**
DPC *e*PP **PP** **23 10 00.2 +1.5**
DPC *e*SKS **SKSac** **23 16 27.4 +3.0**
DPC *e*PKKP **PKKPbc** **23 22 43.8 -0.2**
KSP Ksiaz 96.96 40 *e*P **P** **23 06 02.1 +0.8**
KSP *e* 23 16 26.0
KSP Ksiaz 96.96 40 *e*P **P** **23 06 02.3 +1.0**
VRAC Vranov 97.02 41 P Pdif 23 06 02.5 +0.9
VRAC PKKPbc **PKKPbc** **23 22 43.7 +0.1**
VRAC Vranov 97.02 41 P Pdif 23 06 02.5 +0.9
comp=Z,17nm,0.9s,baz=262,slow=5.7,SNR=14
VRAC PKKPbc **PKKPbc** **23 22 43.7 +0.1**
comp=Z,1.7nm,0.7s,baz=84,slow=10,SNR=2.4
OBSV Observatory 97.36 118 *e*P **P** **23 06 03.9 0.0**
OBSV AMB AMB 23 06 04.8
comp=Z,22nm,1.8s
ERPM east rand prop 97.47 118 *e*P Pdif 23 06 05.0 +0.5
ERPM AMB AMB 23 06 06.9
comp=Z,17nm,2.8s
SLR Silverton 97.64 117 *e*P **P** **23 06 03.7 -1.5**
SLR AMB AMB 23 06 11.5
comp=Z,37nm,4.0s
MORC Moravsky Berou 97.67 41 *e*P Pdif 23 06 05.0 +0.4
MORC pmax pmax
comp=Z,25nm,1.1s
MORC Moravsky Berou 97.67 41 *e*P Pdif 23 06 05.0 +0.4
comp=Z,26nm,1.1s
GKP Gorka Klasztor 97.72 37 *e*P Pdif 23 06 05.9 +1.3
GKP Gorka Klasztor 97.72 37 *e*P Pdif 23 06 05.9 +1.3
PKST T"s 97.82 43 *e* Pdif 23 06 07.6 +2.3
PKS9 Tamasi 97.94 44⇓ *e* Pdif 23 06 07.2 +1.4
CSKK Cs˙‡kako 97.98 43⇓ *e* Pdif 23 06 06.2 +0.2
OKC Ostrava-Krasne 98.07 41 *e*P Pdif 23 06 07.0 +0.7
OKC *e* 23 06 45.1
OKC *e* 23 16 32.3
OKC Ostrava-Krasne 98.07 41 *e*PDIFF Pdif 23 06 07.0 +0.7
OKC *e*pP pP 23 06 45.1 +1.3
OKC *e*PP PP 23 10 01.7 -5.6
OKC *e*SKS **SKSac** **23 16 32.3 +2.2**
PKSG 98.07 43⇓ *e* Pdif 23 06 06.9 +0.5
PKSM Moragy 98.17 44⇓ *e* Pdif 23 06 07.4 +0.6
MAW Mawson 98.24 165 LR LR 23 52 16.6
comp=Z,168nm,18.1s,baz=235,slow=36
SPITS Spitsbergen Ar 98.40 12 PKKPbc PKKPbc 23 22 38.0 -2.8
SPITS Spitsbergen Ar 98.40 12 PKKPbc PKKPbc 23 22 38.0 -2.8
comp=Z,7.0nm,0.6s,baz=70,slow=1.7,SNR=6.4
TNA Tin City 99.11 335 *e*P **Pdif** **23 06 10.2 -0.4**
comp=Z,2.4nm,0.5s
TNA *e*pP **pP** **23 06 47.3 -0.8**
OJC Ojcow 99.15 40 *e*P **Pdif** **23 06 11.3 +0.2**
OJC Ojcow 99.15 40 *e*P **Pdif** **23 06 11.3 +0.2**
NIE Niedzica 99.45 41 *e*P **Pdif** **23 06 13.6 +1.1**
NIE Niedzica 99.45 41 *e*P **Pdif** **23 06 13.6 +1.1**
KECS Kecovo 99.54 42 *e*P **Pdif** **23 06 14.1 +1.2**
KECS pmax pmax
comp=Z,4.0nm,1.2s
KECS Kecovo 99.54 42 PDIF **Pdif** **23 06 14.1 +1.2**
LSZ Lusaka 99.79 107 *e*Pdif **Pdif** **23 06 14.4 -0.5**
comp=Z,3.0nm,0.7s
LSZ *e*PP **PP** **23 10 21.6 +0.2**
BEL Belsk 99.83 39 *e*P **Pdif** **23 06 16.6 +2.5**
BEL Belsk 99.83 39 *e*P **Pdif** **23 06 16.5 +2.5**
STHS Stebnicka Huta 100.06 41 *e*P **Pdif** **23 06 16.7 +1.5**
STHS pmax pmax
comp=Z,4.0nm,1.3s
STHS Stebnicka Huta 100.06 41 PDIF **Pdif** **23 06 16.7 +1.5**
CRVS Cervenica-Dubn 100.19 42 *e*P **Pdif** **23 06 18.3 +2.5**
CRVS pmax pmax
comp=Z,9.0nm,1.0s
CRVS Cervenica-Dubn 100.19 42 PDIF **Pdif** **23 06 18.3 +2.5**
KTK1 Kautokeino 100.61 21 *e* pP 23 06 55.4 +0.6
MOPA Mopani 100.92 116 *e*P **Pdif** **23 06 21.7 +2.1**
MOPA AMB AMB 23 06 23.6
comp=Z,12nm,2.8s
KWP Kalwaria Pacla 101.02 41 *e*P **Pdif** **23 06 20.9 +1.4**
KWP Kalwaria Pacla 101.02 41 *e*P **Pdif** **23 06 20.9 +1.4**
KWP Kalwaria Pacla 101.02 41 *e*Pdif **Pdif** **23 06 19.7 +0.3**
comp=Z,23nm,1.0s
SUW Suwalki 101.27 37 *e*P **Pdif** **23 06 21.6 +1.2**
SUW Suwalki 101.27 37 *e*P **Pdif** **23 06 21.6 +1.2**
ARCES ARCESS Array B 101.37 21 P **Pdif** **23 06 20.3 -0.3**
ARCES pP pP 23 06 58.4 +0.2
ARCES PKKPbc **PKKPbc** **23 22 29.7 -2.4**
ARCES ARCESS Array B 101.37 21 P **Pdif** **23 06 20.3 -0.3**
comp=Z,3.6nm,0.7s,baz=270,slow=2.8,SNR=10
ARCES pP pP 23 06 58.4 +0.2
comp=Z,23nm,0.7s,baz=296,slow=3.6,SNR=12
ARCES PKKPbc **PKKPbc** **23 22 29.7 -2.4**
comp=Z,5.0nm,0.6s,baz=106,slow=3.2,SNR=15
KEV Kevo 101.86 20 *e*P **Pdif** **23 06 22.9 +0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 101.86 20 *e*p **Pdif** **23 06 22.9 +0.2**
comp=Z,0.5nm,0.4s
FINES FINESS Array B 102.42 29 P **Pdif** **23 06 26.6 +1.3**
FINES pP 23 07 01.7
FINES PKKPbc **PKKPbc** **23 22 26.9 -1.8**
FINES FINESS Array B 102.42 29 P **Pdif** **23 06 26.6 +1.3**
comp=Z,1.5nm,0.7s,baz=259,slow=3.9,SNR=9.4
FINES pP 23 07 01.7
comp=Z,2.7nm,0.7s,baz=298,slow=4.1,SNR=3.8
FINES PKKPbc **PKKPbc** **23 22 26.9 -1.8**
comp=Z,4.8nm,0.6s,baz=102,slow=3.4,SNR=9.6
IDI Anoyia 102.43 56 P **Pdif** **23 06 26.8 +0.6**
IDI Anoyia 102.43 56 P **Pdif** **23 06 26.8 +0.6**
comp=Z,15nm,0.6s,baz=323,slow=6.2,SNR=7.1
KAF Kangasniemi 102.47 28 *e*P **Pdif** **23 06 28.9 +3.3**
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 102.47 28 *e*p **Pdif** **23 06 28.9 +3.3**
comp=Z,1.4nm,0.5s
BUR08 Bucovina Ar. S 102.69 43 *e*Pdif **Pdif** **23 06 27.7 +0.6**
JOF Joensuu 104.66 27 *e*P **Pdif** **23 06 35.0 -0.3**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 104.66 27 *e*p **Pdif** **23 06 35.0 -0.3**
comp=Z,2.5nm,0.7s
AKASG Malin Array Be 105.16 40 P **Pdif** **23 06 37.6 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 105.16 40 Pdif **Pdif** **23 06 37.6 -0.2**
AKASG PKiKP **PKiKP** **23 10 51.6 +0.2**
AKASG PP **PP** **23 10 59.5 -0.9**
AKASG PKKPbc **PKKPbc** **23 22 19.1 -1.0**
AKASG PKKPab **PKKPab** **23 22 36.6 +0.5**
AKASG PˆP' 23 30 41.5
AKASG Malin Array Be 105.16 40 Pdiff **Pdif** **23 06 37.6 -0.2**
comp=Z,0.6nm,0.6s,baz=269,slow=3.9,SNR=4.9
AKASG PKiKP **PKiKP** **23 10 51.6 +0.2**
comp=Z,0.6nm,0.4s,baz=267,slow=3.5,SNR=5.9
AKASG PP **PP** **23 10 59.5 -0.9**
comp=Z,0.3nm,0.3s,baz=271,slow=6.6,SNR=7.7
AKASG PKKPbc **PKKPbc** **23 22 19.1 -1.0**
comp=Z,4.7nm,0.5s,baz=78,slow=3.6,SNR=15
AKASG PKKPab **PKKPab** **23 22 36.6 +0.5**
comp=Z,2.7nm,0.7s,baz=84,slow=4.3,SNR=4.5
AKASG PKPPKP **PˆP'df** **23 30 41.5 +1.5**
comp=Z,0.2nm,0.4s,baz=81,slow=2.1,SNR=4.3
BILL Bilibino 108.53 340 *e*P **Pdif** **23 06 53.4 +1.0**
BILL *i* 23 11 24.0
BILL pmax pmax
comp=Z,3.0nm,1.5s
OBN Obninsk 108.87 35 *i* P **Pdif** **23 06 54.0 -0.2**
OBN *i* 23 11 28.0
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 108.87 35 PKKPbc PKKPbc 23 22 08.0 -0.7
OBN Obninsk 108.87 35 PKKPbc PKKPbc 23 22 08.0 -0.7
comp=Z,15nm,0.6s,baz=245,slow=22,SNR=6.0
KLMR Klimovskoe 108.92 28 *e*P **Pdif** **23 06 54.2 -0.1**
KLMR pmax pmax
comp=Z,24nm,1.8s
BRTR Keskin Array B 109.25 51 PKiKP **PKiKP** **23 11 00.8 +1.1**
BRTR PP **PP** **23 11 31.9 +1.0**
BRTR PKKPbc **PKKPbc** **23 22 06.5 -0.7**
BRTR Keskin Array B 109.25 51 PKiKP **PKiKP** **23 11 00.8 +1.1**
comp=Z,1.4nm,0.8s,baz=201,slow=2.8,SNR=5.4
BRTR PP **PP** **23 11 31.9 +1.0**
comp=Z,2.0nm,0.8s,baz=224,slow=3.4,SNR=4.8
BRTR PKKPbc **PKKPbc** **23 22 06.5 -0.7**
comp=Z,2.6nm,0.7s,baz=109,slow=2.8,SNR=4.7
FX1 Attu Island--F 110.19 323 PKKPbc PKKPbc 23 22 04.0 -0.4
FX1 Attu Island--F 110.19 323 PKKPbc PKKPbc 23 22 04.0 -0.4
comp=Z,4.2nm,0.6s,baz=302,slow=9.5,SNR=3.6
VSR Storozhevoye 111.28 38 *e*PKiKP **PKiKP** **23 11 02.1 -0.8**
VSR *e* 23 11 42.7
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR pmax pmax
comp=N,4.0nm,1.0s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.8s
VORD Divnogorie 111.41 38 *e*PKiKP **PKiKP** **23 11 04.1 +1.0**
VORD *e* 23 11 42.3
VORD pmax pmax
comp=N,4.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.5s
VRHR Novokhopersk 112.81 38 *e*PKiKP **PKiKP** **23 11 07.1 +1.3**
VRHR *e* 23 11 45.4
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,7.0nm,0.8s
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,9.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.7s
DZM Mont Dzumac 113.08 242 PKiKP **PKiKP** **23 11 09.0 +1.7**
DZM Mont Dzumac 113.08 242 PKiKP **PKiKP** **23 11 09.0 +1.7**
comp=E,4.6nm,0.7s,baz=230,slow=13,SNR=5.1
KBZ Khabaz 115.47 46 PKiKP **PKPdf** **23 11 11.8 +0.7**
KBZ pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 115.47 46 PKP **PKPdf** **23 11 11.8 +0.7**
KBZ Khabaz 115.47 46 PKP **PKPdf** **23 11 11.8 +0.7**
comp=Z,12nm,0.9s,baz=195,slow=5.9,SNR=18
NCK Nalchik 116.02 46 *i* PKiKP **PKPdf** **23 11 12.8 +0.5**
SEY Seymchan 116.10 338 PKiKP **PKPdf** **23 11 12.3 +0.5**
SEY 23 11 52.2
SEY pmax pmax
comp=Z,9.0nm,0.6s
SEY Seymchan 116.10 338 PKP **PKPdf** **23 11 12.3 +0.5**
SEY pPKP pPKPdf 23 11 52.2 +1.4
SEY Seymchan 116.10 338 PKP **PKPdf** **23 11 12.3 +0.5**
comp=Z,8.6nm,0.6s,baz=87,slow=2.2,SNR=25
SEY pPKP pPKPdf 23 11 52.2 +1.4
comp=Z,8.4nm,0.6s,baz=96,slow=3.1,SNR=7.5
GNI Garni 117.62 49 *e*PKPdf **PKPdf** **23 11 15.1 -0.5**
GNI PKP **PKPdf** **23 11 16.1 +0.5**
GNI pPKP **pPKPdf** **23 11 57.5 +2.7**
GNI Garni 117.62 49 PKP **PKPdf** **23 11 16.1 +0.5**
comp=Z,7.8nm,0.6s,baz=2.6,slow=3.8,SNR=16
GNI pPKP **pPKPdf** **23 11 57.5 +2.7**
comp=Z,12nm,0.6s,baz=287,slow=4.5,SNR=7.1
GNI Garni 117.62 49 ⇓PKiKP **PKiKP** **23 11 17.3 +1.6**
PETK Petropavlovsk- 118.88 327 PKiKP **PKPdf** **23 11 18.1 +0.7**
PETK 23 11 56.3
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK pmax pmax
comp=Z,5.0nm,0.6s
PETK Petropavlovsk- 118.88 327 PKP **PKPdf** **23 11 18.1 +0.7**
PETK pPKP **pPKPdf** **23 11 56.3 -0.2**
PETK Petropavlovsk- 118.88 327 PKP **PKPdf** **23 11 18.1 +0.7**
comp=Z,4.2nm,0.7s,baz=104,slow=3.1,SNR=4.1
PETK pPKP **pPKPdf** **23 11 56.3 -0.2**
comp=Z,5.0nm,0.6s,baz=106,slow=4.6,SNR=3.8
ARU Arti 119.77 28 *i* PKiKP **PKPdf** **23 11 19.5 +0.5**
ARU 23 12 43.3
ARU Arti 119.77 28 *e*PKPdf **PKPdf** **23 11 18.5 -0.5**
ARU *ep*PKPdf **pPKPdf** **23 11 57.4 -0.7**
SVE Sverdlovsk 120.48 27 *e*PKiKP **PKPdf** **23 11 20.6 +0.2**
SVE pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 120.74 68 *e*PKPdf **PKPdf** **23 11 21.8 -0.1**
RAYN *ep*PKPdf **pPKPdf** **23 12 01.6 +0.6**
AKTO Aktyubinsk 122.65 34 pPKP **pPKPdf** **23 12 02.1 -1.8**
AKTO PKKPbc **PKKPab** **23 21 19.4 +0.4**
AKTO Aktyubinsk 122.65 34 pPKP **pPKPdf** **23 12 02.1 -1.8**
baz=207,slow=4.5
AKTO PKKPbc **PKKPab** **23 21 19.4 +0.4**
comp=Z,14nm,0.6s,baz=107,slow=5.4,SNR=11
YAK Yakutsk 123.70 347 *e*PKiKP **PKPdf** **23 11 25.4 -1.0**
YAK pmax pmax
comp=Z,16nm,0.6s
YAK Yakutsk 123.70 347 *e*PKPdf **PKPdf** **23 11 26.0 -0.4**
YAK *ep*PKPdf **pPKPdf** **23 12 05.6 +0.1**
ABKAR Akbulak array 124.32 35 *e*PKPdf **PKPdf** **23 11 28.6 +0.6**
ABKAR *ep*PKPdf **pPKPdf** **23 12 07.4 +0.3**
STKA Stephens Creek 127.14 219 *e*PKPdf **PKPdf** **23 11 33.9 -0.1**
STKA PKP **PKPdf** **23 11 34.6 +0.6**
STKA *ep*PKPdf **pPKPdf** **23 12 11.8 -1.3**
STKA Stephens Creek 127.14 219 PKP **PKPdf** **23 11 34.6 +0.6**
comp=Z,54nm,0.7s,baz=112,slow=2.7,SNR=88
BRVK Borovoye 127.17 26*c* *i* PKiKP **PKPdf** **23 11 33.1 -0.2**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 127.17 26 *e*PKPdf **PKPdf** **23 11 33.6 +0.3**
BRVK *ep*PKPdf **pPKPdf** **23 12 13.2 +0.7**
BVAR Borovoye Array 127.23 26 pPKP **pPKPdf** **23 12 13.6 +1.0**
BVAR PKKPbc PKKPbc 23 21 01.3
BVAR SKKPbc SKKPbc 23 24 41.7 +0.2
BVAR Borovoye Array 127.23 26 pPKP **pPKPdf** **23 12 13.6 +1.0**
comp=Z,15nm,0.6s,baz=265,slow=2.1,SNR=5.6
BVAR PKKPbc PKKPbc 23 21 01.3
comp=Z,2.6nm,0.6s,baz=142,slow=7.5,SNR=4.6
BVAR SKKPbc SKKPbc 23 24 41.7 +0.2
comp=Z,2.6nm,0.8s,baz=134,slow=8.3,SNR=5.2
ASUD Al Ashush, Dub 129.52 65 ⇓PKiKP **PKiKP** **23 11 39.6 +0.2**
ASUD ⇓ *i* PKiKP **PKPdf** **23 11 40.3 +1.7**
SNR=11
FAQ Al Faqa, Dubai 129.74 65⇑ *i* PKiKP **PKiKP** **23 11 39.5 -0.4**
SNR=16
NAZ Nazwa, Dubai 129.76 65⇑ *i* PKiKP **PKiKP** **23 11 40.3 +0.4**
SNR=5.9
HATD Hatta, Dubai 130.21 65 ⇑PKiKP **PKPdf** **23 11 40.3 +0.3**
YSS Yuzh-Sakhalins 130.29 327 *i* PKiKP **PKPdf** **23 11 39.7 +0.3**
YSS pmax pmax
comp=Z,95nm,2.5s
YSS Yuzh-Sakhalins 130.29 327 *e*PKPdf **PKPdf** **23 11 39.5 +0.1**
NVS Novosibirsk 130.45 17 *e*PKiKP **PKPdf** **23 11 38.2 -1.3**
NVS *e* 23 12 18.0
NVS pmax pmax
comp=E,14nm,1.4s
NVS pmax pmax
comp=Z,35nm,1.4s
CTA Charters Tower 130.93 234 PKP **PKPdf** **23 11 42.0 +0.5**
CTA pPKP **pPKPdf** **23 12 21.1 +0.5**
CTA Charters Tower 130.93 234 PKP **PKPdf** **23 11 42.0 +0.5**
comp=Z,14nm,0.5s,baz=129,slow=3.0,SNR=22
CTA pPKP **pPKPdf** **23 12 21.1 +0.5**
comp=Z,13nm,0.9s,baz=263,slow=2.3,SNR=3.6
CTAO Charters Tower 130.93 234 *e*PKiKP **PKPdf** **23 11 41.4 -0.1**
CTAO *e* 23 12 20.2
CTAO Charters Tower 130.93 234 *e*PKPdf **PKPdf** **23 11 41.4 -0.1**
CTAO *ep*PKPdf **pPKPdf** **23 12 20.2 -0.4**
ZAA0 Zalesovo Array 131.68 16 *e*PKPdf **PKPdf** **23 11 40.8 -1.0**
ZAA0 *ep*PKPdf **pPKPdf** **23 12 21.2 +0.2**
ZAA0 *e*SKP 23 14 55.1
ZALV Zalesovo Beam 131.68 16 PKiKP **PKPdf** **23 11 42.5 +0.6**
ZALV 23 12 21.7
ZALV pmax pmax
comp=Z,38nm,0.6s
ZALV Zalesovo Beam 131.68 16 PKP **PKPdf** **23 11 42.5 +0.6**
ZALV pPKP **pPKPdf** **23 12 21.6 +0.7**
ZALV SKPbc **SKPab** **23 14 55.7 +1.0**
ZALV SKP 23 15 07.2
ZALV Zalesovo Beam 131.68 16 PKP **PKPdf** **23 11 42.5 +0.6**
comp=Z,38nm,0.6s,baz=281,slow=2.2,SNR=76
ZALV pPKP **pPKPdf** **23 12 21.6 +0.7**
comp=Z,32nm,0.5s,baz=278,slow=2.1,SNR=6.2
ZALV SKPbc **SKPab** **23 14 55.7 +1.0**
comp=Z,9.1nm,0.7s,baz=328,slow=4.5,SNR=4.6
ZALV SKP 23 15 07.2
comp=Z,12nm,0.6s,baz=332,slow=4.2,SNR=6.4
ASAJ Asahikawa 132.10 324 PKP **PKPdf** **23 11 44.2 +1.2**
ASAJ pPKP **pPKPdf** **23 12 23.7 +1.6**
ASAJ Asahikawa 132.10 324 PKP **PKPdf** **23 11 44.2 +1.2**
comp=Z,20nm,0.8s,baz=16,slow=7.4,SNR=3.9
ASAJ pPKP **pPKPdf** **23 12 23.7 +1.6**
comp=Z,27nm,0.8s,baz=322,slow=4.0,SNR=3.9
KURK Kurchatov 132.34 23*d* *i* PKiKP **PKPdf** **23 11 43.6 +0.3**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 132.34 23 *e*PKPdf **PKPdf** **23 11 43.5 +0.3**
KURK *ep*PKPdf **pPKPdf** **23 12 22.4 0.0**
KURK SKPbc **SKPab** **23 14 57.4 -0.3**
KURK SKP 23 15 07.8
KURK SKKPbc **SKKPbc** **23 24 24.5 +1.2**
KURBB Kurchatov Arra 132.38 23 SKPbc **SKPab** **23 14 57.4 -0.5**
comp=Z,10nm,0.9s,baz=318,slow=4.9,SNR=13
KURBB SKP 23 15 07.8
comp=Z,8.4nm,0.9s,baz=318,slow=3.8,SNR=4.9
KURBB SKKPbc **SKKPbc** **23 24 24.5 +1.3**
comp=Z,1.4nm,0.7s,baz=143,slow=4.6,SNR=6.0
KLR Kul'dur 133.84 336 *e*PKiKP **PKPdf** **23 11 42.0 -4.1**
KLR *e* 23 12 21.7
KKAR Karatay Array 133.85 36 *e*PKiKP **PKPdf** **23 11 46.7 +0.3**
KKAR *e* 23 12 25.3
KKAR Karatay Array 133.85 36 *e*PKPdf **PKPdf** **23 11 46.7 +0.3**
KKAR *ep*PKPdf **pPKPdf** **23 12 25.3 -0.2**
FORT Forrest 135.41 208 *e*PKPpre PKPpre 23 11 41.9
USP Ospenovka 135.96 33 P **PKPdf** **23 11 51.9 +1.5**
SNR=17
EKS2 Erkin-Say 135.98 34 *e*PKiKP **PKPdf** **23 11 50.8 +0.3**
EKS2 *e* 23 12 27.2
EKS2 *e* 23 14 33.6
EKS2 Erkin-Say 135.98 34 P **PKPdf** **23 11 52.1 +1.7**
SNR=18
EKS2 Erkin-Say 135.98 34 *e*PKPdf **PKPdf** **23 11 50.8 +0.3**
EKS2 *ep*PKPdf **pPKPdf** **23 12 27.2 -2.4**
EKS2 *e*PP **PP** **23 14 33.6 +3.0**
EKS2 *e*SKP 23 15 08.8
AML Almayashu 136.28 35 P **PKPdf** **23 11 52.6 +1.2**
SNR=12
CHMS Chumysh 136.28 33 *i* PKiKP **PKPdf** **23 11 51.9 +1.0**
CHMS Chumysh 136.28 33 P **PKPdf** **23 11 52.0 +1.0**
SNR=11
FRU Bishkek 136.32 33 *e*PKiKP **PKPdf** **23 11 54.0 +3.0**
FRU *e* 23 12 34.0
AAK Ala-Archa 136.39 34*c* *i* PKiKP **PKPdf** **23 11 53.0 +1.7**
AAK pmax pmax
comp=Z,51nm,1.0s
AAK Ala-Archa 136.39 34 P **PKPdf** **23 11 53.0 +1.7**
SNR=16
AAK Ala-Archa 136.39 34 *e*PKPdf **PKPdf** **23 11 51.0 -0.3**
AAK PKP **PKPdf** **23 11 52.7 +1.4**
AAK *ep*PKPdf **pPKPdf** **23 12 30.1 -0.3**
AAK pPKP 23 12 30.6
AAK SKPbc **SKPbc** **23 15 12.6 +2.5**
AAK SKKPbc **SKKPbc** **23 24 08.7 +0.5**
AAK Ala-Archa 136.39 34 PKP **PKPdf** **23 11 52.7 +1.4**
comp=Z,20nm,0.9s,baz=199,slow=2.2,SNR=36
AAK pPKP **pPKPdf** **23 12 30.6 +0.2**
comp=Z,13nm,0.6s,baz=135,slow=4.5,SNR=4.2
AAK SKPbc **SKPbc** **23 15 12.6 +2.5**
comp=Z,11nm,0.8s,baz=284,slow=2.0,SNR=5.9
AAK SKKPbc **SKKPbc** **23 24 08.7 +0.5**
comp=Z,2.1nm,0.6s,baz=150,slow=8.1,SNR=4.5
KBK Karagaybulak 136.62 33 P **PKPdf** **23 11 53.8 +2.0**
SNR=7.6
UCH Uchtor 136.67 34 *i* PKiKP **PKPdf** **23 11 54.6 +2.4**

UCH	**Uchtor**	**136.67**	**34**	P	**PKPdf**	**23 11 54.7**	**+2.4**
	SNR=15						
MOY	**Mondy**	**136.78**	**4**	*e*PKIKP	**PKPdf**	**23 11 53.7**	**+2.0**
TKM2	**Tokmak 2**	**136.79**	**32**	*e*PKIKP	**PKPdf**	**23 11 51.7**	**-0.4**
TKM2				*e*		23 12 30.6	
TKM2	**Tokmak 2**	**136.79**	**32**	P	**PKPdf**	**23 11 49.1**	**-3.0**
	SNR=13						
TKM2	**Tokmak 2**	**136.79**	**32**	*e*PKPdf	**PKPdf**	**23 11 51.6**	**-0.4**
TKM2				*e*pPKPdf	**pPKPdf**	**23 12 30.6**	**-0.7**
TKM2				*e*SKP		23 15 11.2	
TLY	**Talaya**	**136.90**	**2**	*e*PKIKP	**PKPdf**	**23 11 53.1**	**+1.3**
TLY				*e*SS	SS	23 32 25.5	-1.9
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,296nm,18.0s						
MKAR	**Makanchi Array**	**136.95**	**23**	*i* PKHKP	PKPpre	23 11 41.6	
MKAR						23 11 52.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,31nm,0.9s						
MKAR	**Makanchi Array**	**136.95**	**23**	PKPpre	PKPpre	23 11 41.6	
MKAR				PKP	**PKPdf**	**23 11 52.4**	**+0.3**
MKAR				pPKP	pPKPdf	23 12 31.0	-0.2
MKAR				SKPbc	**SKPbc**	**23 15 12.7**	**+1.3**
MKAR	**Makanchi Array**	**136.95**	**23**	PKhKP	PKPpre	23 11 41.6	
	comp=Z,0.9nm,0.5s,baz=3.4,slow=3.8,SNR=11						
MKAR				PKP	**PKPdf**	**23 11 52.4**	**+0.3**
	comp=Z,31nm,0.9s,baz=340,slow=3.4,SNR=63						
MKAR				pPKP	pPKPdf	23 12 31.0	-0.2
	comp=Z,17nm,0.6s,baz=343,slow=3.8,SNR=6.5						
MKAR				SKPbc	**SKPbc**	**23 15 12.7**	**+1.3**
	comp=Z,5.7nm,0.7s,baz=328,slow=5.1,SNR=4.0						
KZA	**Kyzart**	**137.18**	**34**	P	**PKPdf**	**23 11 54.5**	**+1.4**
	SNR=6.5						
NWAO	**Narrogin (SRO)**	**137.35**	**195**	PKPpre	PKPpre	23 11 43.0	
NWAO				PKP	**PKiKP**	**23 11 54.6**	**-0.5**
NWAO				SKPbc	**SKPbc**	**23 15 14.7**	**+1.6**
NWAO	**Narrogin (SRO)**	**137.35**	**195**	PKhKP	PKPpre	23 11 43.0	
	comp=Z,13nm,0.7s,baz=134,slow=6.2,SNR=7.6						
NWAO				PKP	**PKiKP**	**23 11 54.6**	**-0.5**
	comp=Z,10nm,0.6s,baz=145,slow=4.6,SNR=7.0						
NWAO				SKPbc	**SKPbc**	**23 15 14.7**	**+1.6**
	comp=Z,4.2nm,0.7s,baz=169,slow=5.2,SNR=2.5						
ULHL	**Ulahol**	**137.60**	**33**	P	**PKPdf**	**23 11 52.5**	**-1.1**
	SNR=9.1						
KBL	**Kabul**	**137.63**	**47**	*e*PKIKP	**PKPdf**	**23 11 54.1**	**+0.2**
KBL				*e*		23 12 32.7	
KBL	**Kabul**	**137.63**	**47**	*e*PKPdf	**PKPdf**	**23 11 54.1**	**+0.2**
KBL				*e*pPKPdf	**pPKPdf**	**23 12 32.7**	**-0.4**
HIA	**Hailar**	**137.64**	**346**	*e*PKPdf	**PKPdf**	**23 11 53.0**	**-0.3**
USRK	**Ussuriysk Arra**	**137.65**	**332**	PKhKP	PKPpre	23 11 40.6	
	comp=Z,1.3nm,0.6s,baz=287,slow=1.5,SNR=6.1						
USRK				PKP	**PKPdf**	**23 11 52.6**	**-0.7**
	comp=Z,17nm,0.8s,baz=335,slow=1.6,SNR=18						
USRK				pPKP	pPKPdf	23 12 33.0	+0.5
	comp=Z,21nm,0.7s,baz=246,slow=0.7,SNR=7.7						
USRK				SKPbc	**SKPbc**	**23 15 14.6**	**+1.1**
	comp=Z,15nm,0.7s,baz=37,slow=2.1,SNR=12						
AS31	**Alice Springs**	**137.72**	**220**	*e*PKPdf	**PKPdf**	**23 11 53.9**	**-0.3**
ASAR	**Alice Springs**	**137.72**	**220**	PKPpre	PKPpre	23 11 42.9	
ASAR				PKP	**PKiKP**	**23 11 55.2**	**-0.9**
ASAR				pPKP	pPKPdf	23 12 33.4	+0.1
ASAR				SKPbc	**SKPbc**	**23 15 14.9**	**+0.4**
ASAR				SKKPbc	**SKKPbc**	**23 23 59.9**	**-1.5**
ASAR	**Alice Springs**	**137.72**	**220**	PKhKP	PKPpre	23 11 42.9	
	comp=Z,13nm,0.6s,baz=132,slow=2.0,SNR=27						
ASAR				PKP	**PKiKP**	**23 11 55.2**	**-0.9**
	comp=Z,38nm,0.7s,baz=126,slow=2.2,SNR=27						
ASAR				pPKP	pPKPdf	23 12 33.4	+0.1
	comp=Z,11nm,0.6s,baz=125,slow=2.3,SNR=2.4						
ASAR				SKPbc	**SKPbc**	**23 15 14.9**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=124,slow=3.8,SNR=4.2						
ASAR				SKKPbc	**SKKPbc**	**23 23 59.9**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=316,slow=5.1,SNR=4.8						
MDJ	**Mudanjiang**	**138.40**	**334**	PKP	**PKPdf**	**23 11 54.0**	**-0.7**
MDJ				sPKP		23 12 49.3	
MDJ				PP	**PP**	**23 14 44.5**	**-0.8**
MDJ				SKS	**SKSdf**	**23 18 50.0**	**-1.7**
MDJ				SS	**SS**	**23 32 47.3**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,200nm,5.3s						
MDJ				LR	LR		
	comp=Z,350nm,32.1s						
MDJ				LR	LR		
	comp=Z,400nm,32.1s						
MDJ				LR	LR		
	comp=Z,340nm,30.1s						
MDJ	**Mudanjiang**	**138.40**	**334**	*e*PKPdf	**PKPdf**	**23 11 54.8**	**+0.1**
MJAR	**Matsushiro Arr**	**139.26**	**318**	PKPpre	PKPpre	23 11 47.5	
MJAR				PKP	**PKPdf**	**23 11 57.3**	**+0.8**
MJAR				pPKP	pPKPdf	23 12 35.4	-0.3
MJAR				SKPbc	**SKPbc**	**23 15 18.5**	**+0.2**
MJAR	**Matsushiro Arr**	**139.26**	**318**	PKhKP	PKPpre	23 11 47.5	
	comp=Z,9.2nm,0.6s,baz=84,slow=1.5,SNR=14						
MJAR				PKP	**PKPdf**	**23 11 57.3**	**+0.8**
	comp=Z,13nm,0.6s,baz=104,slow=1.7,SNR=16						
MJAR				pPKP	pPKPdf	23 12 35.4	-0.3
	comp=Z,16nm,0.7s,baz=108,slow=2.0,SNR=4.9						
MJAR				SKPbc	**SKPbc**	**23 15 18.5**	**+0.2**
	comp=Z,12nm,1.1s,baz=80,slow=1.0,SNR=7.9						
MAJO	**Matsushiro**	**139.26**	**318**	*i* PKIKP	**PKPdf**	**23 11 57.4**	**+0.8**
MAJO	**Matsushiro**	**139.26**	**318**	*e*PKPdf	PKPpre	23 11 50.6	
MAT	**Matsushiro**	**139.26**	**318**	P	PKPpre	23 11 48.2	
MAT				*e*S	pPKPdf	23 12 31.4	-4.3
KSH	**Kashi**	**139.30**	**36**	*e*PKP	**PKPdf**	**23 11 54.0**	**-2.7**
KSH				*es*PKP		23 12 53.0	
KSH				PKS	**PKSdf**	**23 15 30.5**	**-2.4**
KSH				*e*SKS	**SKSdf**	**23 18 49.0**	**-4.7**
KSH				AMB	AMB		
	comp=Z,240nm,5.4s						
KSH				LR	LR		
	comp=Z,260nm,11.7s						
KSH				LR	LR		
	comp=Z,360nm,15.7s						
KSH				LR	LR		
	comp=Z,280nm,12.8s						
WRAB	**Tennant Creek**	**140.01**	**225**	*e*PKIKP	**PKPdf**	**23 11 58.8**	**+0.4**
WRAB	**Tennant Creek**	**140.01**	**225**	*e*PKPdf	**PKPdf**	**23 11 58.8**	**+0.4**
WRA	**Warramunga Arr**	**140.01**	**225**	PKPpre	PKPpre	23 11 51.0	
WRA				PKP	**PKPdf**	**23 11 59.1**	**+0.7**
WRA				SKPbc	**SKPbc**	**23 15 21.0**	**+0.1**
WRA				SKKPbc	**SKKPbc**	**23 23 46.9**	**-5.6**
WRA	**Warramunga Arr**	**140.01**	**225**	PKhKP	PKPpre	23 11 51.0	
	comp=Z,12nm,0.6s,baz=127,slow=3.1,SNR=21						
WRA				PKP	**PKPdf**	**23 11 59.1**	**+0.7**
	comp=Z,76nm,0.6s,baz=125,slow=2.1,SNR=31						
WRA				SKPbc	**SKPbc**	**23 15 21.0**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=125,slow=2.8,SNR=5.1						
WRA				SKKPbc	**SKKPbc**	**23 23 46.9**	**-5.6**
	comp=Z,1.7nm,0.7s,baz=320,slow=5.4,SNR=6.3						
ULN	**Ulaanbaatar**	**140.73**	**358**	*e*PKPpre	PKPpre	23 11 52.0	
ULN				*e*PKPdf	**PKPdf**	**23 11 58.4**	**-0.7**
ULN				*e*PP	**PP**	**23 14 58.5**	**-0.7**
CN2	**Changchun**	**140.77**	**337**	*e*PKP	**PKPdf**	**23 11 54.3**	**-4.8**
CN2				*e*PP	**PP**	**23 14 58.8**	**-0.9**
CN2				SKKS		23 21 32.0	
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,22.0s						
CN2				LR	LR		
	comp=Z,400nm,22.0s						
CN2				LR	LR		
	comp=Z,300nm,23.0s						
SONM	**Songino Array**	**140.77**	**359**	PKPpre	PKPpre	23 11 51.9	
SONM				PKP	**PKPdf**	**23 11 59.8**	**+0.7**
SONM				SKKPbc	SKKPbc	23 23 50.6	-1.0
SONM	**Songino Array**	**140.77**	**359**	PKhKP	PKPpre	23 11 51.9	
	comp=Z,6.1nm,0.5s,baz=332,slow=2.9,SNR=55						
SONM				PKP	**PKPdf**	**23 11 59.8**	**+0.7**
	comp=Z,6.9nm,0.5s,baz=32,slow=0.7,SNR=17						
SONM				SKKPbc	SKKPbc	23 23 50.6	-1.0
	comp=Z,1.3nm,0.7s,baz=167,slow=3.1,SNR=3.5						
WMQ	**Urumqi**	**141.49**	**21**	PKP	**PKPdf**	**23 11 59.0**	**-1.5**
WMQ				sPKP		23 12 58.3	
WMQ				PP	**PP**	**23 15 08.5**	**+4.4**
WMQ				PKS	**PKSdf**	**23 15 33.5**	**-2.8**
WMQ				SKS	**SKSdf**	**23 18 51.0**	**-6.0**
WMQ				SKKS	**SKKSac**	**23 21 41.0**	**-3.0**
WMQ				SS	**SS**	**23 33 23.3**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,290nm,5.6s						
WMQ				LR	LR		
	comp=Z,240nm,29.9s						
WMQ				LR	LR		
	comp=Z,210nm,28.9s						
WMQ				LR	LR		
	comp=Z,340nm,25.5s						
BHJ	**Bhuj**	**142.59**	**63**	*e*P	**PKPdf**	**23 12 01.5**	**-1.4**
SNY	**Shenyang**	**143.17**	**337**	↑PKP	PKPbc	23 12 01.3	+0.6
SNY				sPKP		23 13 00.5	
SNY				AMB	AMB		
	comp=Z,320nm,12.0s						
SNY				LR	LR		
	comp=Z,280nm,13.5s						
SNY				LR	LR		
	comp=Z,320nm,14.1s						
SNY				LR	LR		
	comp=Z,250nm,18.0s						
JAY	**Jayapura**	**143.31**	**254**	PKP	PKPbc	23 12 02.5	+0.5
JAY	**Jayapura**	**143.31**	**254**	PKP	PKPbc	23 12 02.5	+0.5
	comp=Z,29nm,0.7s,baz=203,slow=5.5,SNR=13						
DLH	**Dalhousie**	**143.59**	**45**	*e*P	**PKPdf**	**23 12 04.0**	**-0.7**
GENI	**Genyem**	**143.80**	**254**	P	PKPbc	23 12 04.2	+0.9
	comp=Z,692nm,1.5s,comp=Z,11μm						
DHRM	**DHARAMSHALA**	**143.99**	**45**	*e*P	PKPbc	23 12 03.9	+0.2
BHK	**Bhakra**	**144.54**	**46**	*e*P	**PKPab**	**23 12 05.0**	**+0.1**
KSRS	**Korea Array**	**144.77**	**328**	PKP	**PKPab**	**23 12 05.2**	**-0.4**
	comp=Z,71nm,0.9s,baz=53,slow=2.3,SNR=50						
KSRS				pPKP	**pPKPdf**	**23 12 44.1**	**-1.3**
	comp=Z,31nm,0.7s,baz=33,slow=2.7,SNR=4.8						
KSRS				SKPbc	**SKiKP**	**23 15 33.0**	**+0.4**
	comp=Z,12nm,0.9s,baz=4.8,slow=2.0,SNR=6.6						
KSAR	**Wonju Array Be**	**144.79**	**328**	PKP	**PKPab**	**23 12 05.2**	**-0.5**
KSAR				pPKP	**pPKPdf**	**23 12 44.1**	**-1.4**
KSAR				SKPbc	**SKiKP**	**23 15 33.0**	**+0.3**
SDNR	**Sundarnagar**	**144.88**	**45**	*e*P	PKPbc	23 12 06.0	-0.2
SMLA	**Simla**	**145.23**	**46**	*e*P	**PKPbc**	**23 12 07.1**	**-0.1**
SMPI	**Sarmi**	**145.37**	**254**	P	**PKPab**	**23 12 08.4**	**-0.1**
	comp=Z,193nm,1.1s,comp=Z,5μm						
INCN	**Inchon**	**145.40**	**330**	*e*PKPdf	**PKPdf**	**23 12 06.2**	**-1.2**
JNU	**Nakatsue**	**146.12**	**320**	*e*PKPdf	**PKPdf**	**23 12 08.3**	**-0.5**
JNU				PKPbc	**PKPdf**	**23 12 08.8**	**-0.1**
JNU				*e*pPKPdf	**pPKPdf**	**23 12 47.1**	**-0.9**
JNU				pPKPbc	pPKPbc	23 12 47.6	-1.0
JNU	**Nakatsue**	**146.12**	**320**	PKPbc	**PKPdf**	**23 12 08.8**	**-0.1**
	comp=Z,51nm,0.5s,baz=278,slow=1.2,SNR=54						
JNU				pPKPbc	pPKPbc	23 12 47.6	-1.0
	comp=Z,130nm,0.7s,baz=37,slow=5.9,SNR=11						
DDI	**Dehra Dun**	**146.32**	**46**	*e*P	**PKPdf**	**23 12 08.8**	**-0.5**
NDI	**New Delhi**	**146.59**	**49**	*e*P	**PKPdf**	**23 12 07.5**	**-2.2**
BJI	**Beijing**	**147.18**	**345**	PKPbc	**PKPdf**	**23 12 09.3**	**-1.0**
BJI				pPKP	**pPKPdf**	**23 12 51.3**	**+1.8**
BJI				PP	**PP**	**23 15 38.0**	**+0.3**
BJI				SS	SS	23 34 28.8	+2.3
BJT	**Baijiatuau**	**147.20**	**345**	*e*PKPdf	**PKPdf**	**23 12 10.3**	**0.0**
BJT				*e*pPKPdf	**pPKPdf**	**23 12 49.6**	**0.0**
HHC	**Hu-ho-hao-te**	**147.33**	**352**	*e*PKPbc	**PKPdf**	**23 12 11.3**	**+0.6**
HHC				pPKP	**pPKPdf**	**23 12 52.5**	**+2.6**
HHC				sPKP		23 13 08.3	
HHC				PP	**PP**	**23 15 41.3**	**+2.6**
HHC				SKKS		23 22 15.8	
HHC				AMB	AMB		
	comp=Z,180nm,4.1s						
POO	**Poona**	**147.63**	**69**	*e*P	**PKPbc**	**23 12 13.5**	**-1.1**
SRPI	**Serui, Papua**	**147.75**	**253**	P	**PKPdf**	**23 12 12.5**	**+0.5**
	comp=Z,434nm,0.4s						
BAKI	**Biak**	**148.09**	**254**	P	**PKPdf**	**23 12 14.2**	**+1.6**
	comp=Z,352nm,0.7s,comp=Z,4μm						
GOA	**Goa**	**148.20**	**74**	*e*P	**PKPdf**	**23 12 11.2**	**-1.5**
GOA				AMS	AMS	23 34 34.2	
	comp=Z,502nm,13.1s						
GTA	**Gaotai**	**148.77**	**9**	PKPbc	**PKPdf**	**23 12 14.0**	**+0.8**
GTA				pPKP	**pPKPdf**	**23 12 55.5**	**+3.1**
GTA				sPKP		23 13 12.3	
GTA				PKS	**PKSdf**	**23 15 47.8**	**-0.5**
GTA				PP	PP	23 15 54.8	+7.7
GTA				SKS	**SKSdf**	**23 19 08.3**	**+0.3**
GTA				SKKS	**SKKSac**	**23 22 24.8**	**-0.7**
GTA				SS	**SS**	**23 34 44.8**	**+0.3**
GTA				AMB	AMB		
	comp=Z,240nm,6.2s						
GTA				LR	LR		
	comp=Z,280nm,18.3s						
GTA				LR	LR		
	comp=Z,260nm,19.9s						
GTA				LR	LR		
	comp=Z,620nm,22.8s						
JHNI	**Jhansi**	**149.22**	**53**	*ex*	**PKPdf**	**23 12 15.0**	**+0.9**
BHPL	**Bhopal**	**149.28**	**58**	*e*P	**PKPdf**	**23 12 13.0**	**-1.3**
MWPI	**Manokwari, Pap**	**150.13**	**253**	P	x	23 12 21.1	
	comp=Z,345nm,0.7s						
TIA	**Tai'an**	**150.46**	**341**	PKPbc	**PKPdf**	**23 12 16.3**	**+0.5**
FAKI	**Fak Fak**	**151.09**	**248**	*e*PKPdf	**PKPdf**	**23 12 19.1**	**+1.7**
FAKI				*e*PKPbc	**PKPbc**	**23 12 23.3**	**-0.1**
PYUN	**Piuthan**	**151.10**	**45**	*e*P	**PKPdf**	**23 12 18.0**	**+0.7**
	comp=Z,33nm,0.6s						
DANN	**Dangsing**	**151.48**	**43**	*e*P	**PKPdf**	**23 12 18.8**	**+0.9**
	comp=Z,52nm,0.7s						
TRD	**Trivandrum**	**151.70**	**88**	*e*P	**PKPdf**	**23 12 18.9**	**+0.7**
KOLN	**Koldanda**	**151.73**	**44**	*e*P	**PKPdf**	**23 12 19.2**	**+1.0**
HYB	**Hyderabad**	**152.24**	**69**	*i* PKP	**PKPdf**	**23 12 18.0**	**-1.0**
HYB				*e*pPKP	**PKPab**	**23 12 36.0**	**-0.2**
HYB				*es*PKP		23 13 04.0	
HYB				*e*SKS	**SKSdf**	**23 19 08.0**	**-5.1**
HYB	**Hyderabad**	**152.24**	**69**	*e*P	**PKPdf**	**23 12 18.6**	**-0.4**
GKN	**Gorkha**	**152.29**	**43**	*e*P	**PKPdf**	**23 12 19.5**	**+0.5**
LZH	**Lanzhou**	**152.47**	**3**	*e*PKPbc	**PKPdf**	**23 12 20.5**	**+1.5**
SWI	**Sorong**	**152.77**	**251**	P	**PKPbc**	**23 12 26.2**	**-0.9**
	comp=Z,75nm,1.2s,comp=Z,2μm						
KKN	**Kakani**	**152.86**	**42**	*e*P	**PKPdf**	**23 12 20.3**	**+0.4**
	comp=Z,38nm,0.6s						
DMN	**Daman**	**152.86**	**43**	*e*P	**PKPdf**	**23 12 20.4**	**+0.4**
	comp=Z,15nm,0.5s						
PKIN	**Phulchoki**	**153.08**	**43**	*e*P	**PKPdf**	**23 12 19.8**	**-0.5**
	comp=Z,14nm,0.7s						
PKI	**Pulchoki**	**153.09**	**43**	*e*P	**PKPdf**	**23 12 20.0**	**-0.4**
GUN	**Gumba**	**153.18**	**41**	*e*P	**PKPdf**	**23 12 21.0**	**+0.5**
	comp=Z,32nm,0.7s						
SSE	**Sheshan**	**153.20**	**329**	PKPbc	**PKPdf**	**23 12 21.5**	**+1.5**
SSE				PP	**PP**	**23 16 13.0**	**+0.2**
SSE				LR	LR		
	comp=Z,320nm,23.7s						
SSE				LR	LR		
	comp=Z,200nm,23.7s						
SSE				LR	LR		
	comp=Z,260nm,20.8s						
NJ2	**Nanjing**	**153.50**	**334**	*e*PKPbc	**PKPdf**	**23 12 18.8**	**-1.6**
NJ2				PKPab	**PKPab**	**23 12 39.8**	**-1.1**
NJ2				pPKP	**pPKPdf**	**23 12 59.5**	**-0.1**
NJ2				sPKP		23 13 15.0	
NJ2				PP	**PP**	**23 16 14.0**	**-0.3**
NJ2				SKKS		23 22 50.5	
NJ2				SS	**SS**	**23 35 37.0**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,410nm,8.0s						
NJ2				LR	LR		
	comp=Z,310nm,22.0s						
NJ2				LR	LR		
	comp=Z,400nm,27.1s						
NJ2				LR	LR		
	comp=Z,270nm,28.8s						
JIRN	**Jiri**	**153.55**	**41**	*e*P	**PKPdf**	**23 12 20.8**	**-0.3**
	comp=Z,12nm,0.7s						
MSAI	**Masohi**	**153.92**	**244**	P	**PKPdf**	**23 12 23.2**	**+1.7**
	comp=Z,36nm,0.6s,comp=Z,998nm						
SOEI	**Soe**	**154.03**	**226**	*e*PKPdf	**PKPdf**	**23 12 22.6**	**+0.8**
SOEI				*e*PKPbc	**PKiKP**	**23 12 31.5**	**+1.4**
RAMN	**Ramite**	**154.29**	**42**	*e*P	**PKPdf**	**23 12 22.1**	**+0.1**
	comp=Z,117nm,0.7s						
XAN	**Xi'an**	**154.38**	**354**	PKPbc	**PKPdf**	**23 12 21.3**	**-0.4**
XAN				pPKP	**pPKPdf**	**23 13 03.0**	**+2.1**
XAN				SKS	**SKSdf**	**23 19 10.0**	**-5.0**
XAN				LR	LR		
	comp=Z,240nm,23.6s						
XAN				LR	LR		
	comp=Z,110nm,22.6s						
TAPN	**Taplejung**	**154.74**	**40**	*e*P	**PKPdf**	**23 12 23.0**	**+0.3**
	comp=Z,33nm,0.9s						
ODAN	**Odare**	**154.87**	**41**	*e*P	**PKPdf**	**23 12 22.7**	**-0.1**
	comp=Z,41nm,0.7s						
LSA	**Lhasa**	**154.92**	**31**	*e*PKIKP	**PKPdf**	**23 12 22.1**	**-1.0**
LSA				*e*		23 12 48.2	
LSA	**Lhasa**	**154.92**	**31**	*e*PKPdf	**PKPdf**	**23 12 22.1**	**-1.0**
LSA				*e*PKPab	**PKPab**	**23 12 48.2**	**+0.6**
NLAI	**Namlea**	**155.58**	**242**	P	**PKPdf**	**23 12 24.9**	**+1.1**
	comp=Z,153nm,1.5s,comp=Z,3μm						
BOK	**Bokaro**	**155.77**	**49**	*e*P	**PKPdf**	**23 12 22.8**	**-1.0**
MMRI	**Maumere**	**156.24**	**225**	P	**PKPab**	**23 12 54.8**	**+1.7**
	comp=Z,118nm,1.3s						
LBMI	**Labuha**	**156.35**	**249**	P	**PKPab**	**23 12 56.7**	**+2.9**
	comp=Z,87nm,1.7s,comp=Z,2μm						
VIS	**Vishakhapatnam**	**156.49**	**65**	*ex*	**PKPab**	**23 12 54.0**	**-0.2**
WHN	**Wuhan**	**156.56**	**341**	PKP	**PKPdf**	**23 12 24.8**	**+0.2**
WHN				PP	**PP**	**23 16 28.8**	**-2.4**
WHN				LR	LR		
	comp=Z,1μm,14.4s						
WSI	**Waingapu**	**156.76**	**219**	P	**PKPab**	**23 12 57.5**	**+2.2**
	comp=Z,499nm,0.6s						
TNTI	**Ternate**	**156.99**	**252**	P	**PKPab**	**23 12 54.0**	**-2.5**
	comp=Z,73nm,0.9s						
SANI	**Sanana**	**157.12**	**244**	P	PKPab	23 12 49.3	-7.8
	comp=Z,219nm,0.9s,comp=Z,3μm						
CD2	**Chengdu**	**157.62**	**4**	*e*PKP	**PKPdf**	**23 12 26.5**	**+0.5**
CD2				pPKP	**pPKPdf**	**23 13 07.3**	**+2.0**
CD2				sPKP		23 13 19.0	
CD2				PKS	**PKSdf**	**23 15 58.0**	**-1.9**
CD2				SKS	**SKSdf**	**23 19 15.3**	**-3.3**
CD2				SKKS	**SKKSac**	**23 23 13.0**	**-0.4**
CD2				SS	**SS**	**23 36 22.3**	**+1.5**
CD2				AMB	AMB		
	comp=Z,820nm,11.8s						
ENH	**Enshi**	**158.01**	**351**	*e*PKPdf	**PKPdf**	**23 12 26.8**	**+0.3**
SHL	**Shillong**	**158.58**	**36**	*e*P	**PKPdf**	**23 12 26.3**	**-1.3**
SHL				*ex*	x	23 13 08.5	
KKSI	**Kolaka, Sulawe**	**159.63**	**233**	P	x	23 13 09.0	
	comp=Z,57nm,1.2s						
BKSI	**Bulukumba**	**160.04**	**227**	P	**PKPab**	**23 13 09.1**	**-0.5**
	comp=Z,52nm,1.7s,comp=Z,944nm						
KMSI	**Cibinong**	**160.06**	**248**	P	**PKPab**	**23 13 11.7**	**+1.9**
	comp=Z,407nm,0.7s						
LUWI	**Luwuk**	**160.43**	**242**	P	**PKPab**	**23 13 12.8**	**+1.4**
	comp=Z,130nm,1.0s,comp=Z,3μm						
LUWI	**Luwuk**	**160.43**	**242**	*e*PKPdf	**PKPdf**	**23 12 29.8**	**+0.1**
BNSI	**Bone**	**160.67**	**229**	P	**PKPab**	**23 13 08.4**	**-4.0**
	comp=Z,98nm,0.7s,comp=Z,2μm						
SPSI	**Sidrap Palu**	**161.21**	**229**	P	**PKPab**	**23 13 15.9**	**+1.2**
	comp=Z,74nm,1.4s,comp=Z,1μm						
APSI	**Ampana**	**161.46**	**241**	P	**PKPab**	**23 13 16.9**	**+1.0**
	comp=Z,92nm,1.2s,comp=Z,2μm						
TTSI	**Tana Toraja**	**161.76**	**232**	P	PKPab	23 13 29.1	+12
	comp=Z,27nm,1.3s						
KMI	**Kunming**	**163.23**	**9**	PKP	**PKPdf**	**23 12 33.0**	**+0.4**
KMI				pPKP	**pPKPdf**	**23 13 06.0**	**-5.9**
KMI				sPKP		23 13 23.3	
KMI				PKS	**PKSdf**	**23 16 05.3**	**-0.7**
KMI				PP	PP	23 17 13.3	+6.0
KMI				SKKS		23 23 39.8	
KMI				SS	**SS**	**23 37 20.0**	**0.0**
KMI				AMB	AMB		
	comp=Z,180nm,6.7s						
KMI				LR	LR		
	comp=Z,290nm,19.7s						
KMI				LR	LR		
	comp=Z,210nm,24.1s						
KMI				LR	LR		
	comp=Z,430nm,26.6s						
DGPR	**DIGLIPUR**	**166.73**	**68**	*ex*	**PKPab**	**23 13 40.0**	**+0.9**
SLVN	**Son La**	**167.12**	**7**	*e*PKPdf	**PKPdf**	**23 12 36.1**	**+0.4**
CHTO	**Chiang Mai**	**167.88**	**31**	*e*PKIKP	**PKPdf**	**23 12 35.4**	**-0.9**
CHTO	**Chiang Mai**	**167.88**	**31**	*e*PKPdf	**PKPdf**	**23 12 35.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**168.17**	**32**	PKP	**PKPdf**	**23 12 36.8**	**+0.3**
CMAR				pPKP	**pPKPdf**	**23 13 16.6**	**+0.7**
CMAR				PKPab	**PKPab**	**23 13 46.3**	**+1.1**
CMAR				pPKPab	**pPKPab**	**23 14 23.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**168.17**	**32**	PKP	**PKPdf**	**23 12 36.8**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=274,slow=1.6,SNR=44						
CMAR				pPKP	**pPKPdf**	**23 13 16.6**	**+0.7**
	comp=Z,11nm,0.8s,baz=277,slow=1.9,SNR=9.6						
CMAR				PKPab	**PKPab**	**23 13 46.3**	**+1.1**
	comp=Z,26nm,0.8s,baz=316,slow=5.7,SNR=24						
CMAR				pPKPab	**pPKPab**	**23 14 23.6**	**+0.8**
	comp=Z,21nm,0.6s,baz=316,slow=5.7,SNR=8.1						
QIZ	**Qiongzhong**	**168.72**	**339**	PKP	**PKPdf**	**23 12 34.3**	**-2.5**
QIZ				PP	**PP**	**23 17 36.8**	**+1.2**
QIZ				SS	SS	23 38 18.3	+2.5
QIZ				LR	LR		
	comp=Z,340nm,16.5s						
PSI	**Prapat**	**171.30**	**130**	PKP	**PKPdf**	**23 12 37.8**	**-0.8**
PSI				pPKP	**pPKPdf**	**23 13 17.6**	**-0.4**
PSI				PKPab	**PKPab**	**23 13 58.8**	**-0.7**
PSI				pPKPab	**pPKPab**	**23 14 35.3**	**-1.7**
PSI	**Prapat**	**171.

UNV	**Unalaska Valle**	**7.57**	**65**	*e*Pn		**Pn**	**23 10 47.5**	**+0.2**
UNV				*e*Sn		**Sn**	**23 12 12.1**	**+0.4**
SPIA	**Saint Paul Isl**	**7.58**	**34**	P		**Pn**	**23 10 49.9**	**+2.7**
AKRB	**Akutan Reef Bi**	**7.90**	**63**	P		**Pn**	**23 10 52.4**	**+0.6**
ZRO	**Akutan Zero**	**7.94**	**64**	P		**Pn**	**23 10 53.8**	**+1.5**
AKGG	**Akutan Green G**	**7.96**	**63**	P		**Pn**	**23 10 54.6**	**+2.0**
AKUT	**Akutan**	**8.07**	**64**	*e*Pn		**Pn**	**23 10 54.1**	**0.0**
AKUT				*e*Sn		**Sn**	**23 12 23.9**	**+0.1**
FALS	**False Pass**	**9.59**	**62**	*e*Pn		**Pn**	**23 11 15.5**	**+0.6**
FALS				*e*Sn		**Sn**	**23 13 00.8**	**-0.4**
SDPT	**Sand Point**	**11.35**	**62**	*e*Pn		**Pn**	**23 11 38.7**	**-0.2**
CHGN	**Chignik**	**12.72**	**59**	*e*Pn		**Pn**	**23 11 57.5**	**-0.1**
GAMB	**Gambell**	**13.08**	**13**	*e*Pn		**Pn**	**23 12 01.6**	**-0.9**
PETK	**Petropavlovsk-**	**14.96**	**287**	P		**Pn**	**23 12 28.5**	**+0.7**
PETK	**Petropavlovsk-**	**14.96**	**287**	Pn		**Pn**	**23 12 28.5**	**+0.7**
PETK	**Petropavlovsk-**	**14.96**	**287**	Pn		**Pn**	**23 12 28.5**	**+0.7**
	0.4nm,0.3s,baz=94,slow=20,SNR=10							
PETK				LR		LR	23 17 55.4	
	comp=Z,1µm,21.8s,baz=95,slow=36							
SII	**Sitkinak Islan**	**15.07**	**60**	*e*Pn		**Pn**	**23 12 27.0**	**-2.2**
TNA	**Tin City**	**15.35**	**16**	*e*Pn		**Pn**	**23 12 32.9**	**+0.1**
	34nm,1.0s							
OHAK	**Old Harbor**	**15.68**	**58**	*e*Pn		**Pn**	**23 12 33.9**	**-3.2**
	134nm,0.6s							
SVW2	**Sparrevohn**	**15.92**	**43**	*e*Pn		**Pn**	**23 12 41.4**	**+1.1**
	129nm,1.1s							
KDAK	**Kodiak Island**	**16.18**	**56**	Pn		**Pn**	**23 12 39.0**	**-4.4**
	914nm,1.0s,SNR=25							
KDAK	**Kodiak Island**	**16.18**	**56**	*e*Pn		**Pn**	**23 12 39.5**	**-3.9**
	111nm,0.8s							
RSO	**Redoubt South**	**16.91**	**47**	*e*Pn		**Pn**	**23 12 52.5**	**-0.3**
SPU	**Mount Spurr**	**17.50**	**45**	*e*Pn		**Pn**	**23 12 55.8**	**-4.2**
PPLA	**Purkeypile**	**18.19**	**40**	*e*P		**Pn**	**23 13 09.2**	**+0.7**
	261nm,1.4s							
SEW	**Seward**	**18.34**	**50**	*e*P		**P**	**23 13 08.5**	**-1.4**
	73nm,0.7s							
CAST	**Castle Rocks**	**18.48**	**39**	*e*Pn		**Pn**	**23 13 12.7**	**+0.8**
	35nm,0.9s							
RC01	**Rabbit Creek A**	**18.52**	**47**	*e*Pn		**P**	**23 13 11.3**	**-0.4**
	43nm,1.0s							
RC01				*e*Sn		**Sn**	**23 16 38.1**	**0.0**
BILL	**Bilibino**	**18.56**	**341**	*e*P		**Pn**	**23 13 12.5**	**-0.3**
BILL				pmax	pmax			
	comp=Z,133nm,1.3s							
BILL				MLR	MLR			
	comp=Z,1µm,21.0s							
BILL	**Bilibino**	**18.56**	**341**	*e*Pn		**P**	**23 13 12.3**	**+0.2**
	comp=Z,119nm,1.1s							
BILL				*e*Sn		**Sn**	**23 16 36.8**	**-2.2**
PMR	**Palmer**	**18.96**	**45**	*e*P		**P**	**23 13 16.7**	**+0.1**
PMR				pmax	pmax			
	comp=Z,55nm,1.2s							
PMR	**Palmer**	**18.96**	**45**	*e*P		**P**	**23 13 16.7**	**+0.1**
	comp=Z,55nm,1.2s							
KTH	**Kantishna Hill**	**19.01**	**39**	*e*Pn		**P**	**23 13 17.7**	**+0.5**
	comp=Z,1µm,1.0s							
TRF	**Thorofare Moun**	**19.21**	**40**	*e*P		**P**	**23 13 19.5**	**-0.1**
	comp=Z,214nm,1.0s							
IM04	**Indian Mountai**	**19.31**	**31**	*e*P		**P**	**23 13 20.7**	**+0.2**
SEY	**Seymchan**	**19.68**	**318**	P		**Pn**	**23 13 25.5**	**-0.7**
SEY				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SEY	**Seymchan**	**19.68**	**318**	P		**Pn**	**23 13 25.4**	**-0.7**
SEY	**Seymchan**	**19.68**	**318**	P		**Pn**	**23 13 25.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=109,slow=11,SNR=17							
MCK	**McKinley**	**19.88**	**40**	*e*P		**P**	**23 13 25.7**	**-1.0**
MCK				pmax	pmax			
	comp=Z,43nm,0.8s							
MCK	**McKinley**	**19.88**	**40**	*e*P		**P**	**23 13 25.6**	**-1.0**
	comp=Z,43nm,0.8s							
DIV	**Divide**	**20.37**	**48**	*e*P		**P**	**23 13 32.1**	**0.0**
	comp=Z,58nm,0.8s							
COLA	**College**	**20.81**	**37**	*e*P		**P**	**23 13 36.3**	**-0.4**
COLA				pmax	pmax			
	comp=Z,31nm,1.0s							
COLA	**College**	**20.81**	**37**	*e*P		**P**	**23 13 36.2**	**-0.4**
	comp=Z,31nm,1.0s							
BMRM	**Bremner River**	**20.88**	**49**	*e*P		**P**	**23 13 38.5**	**+0.9**
	comp=Z,77nm,1.0s							
PAX	**Paxson**	**21.04**	**43**	*e*P		**P**	**23 13 38.1**	**-1.2**
PAX				pmax	pmax			
	comp=Z,73nm,0.9s							
PAX	**Paxson**	**21.04**	**43**	*e*P		**P**	**23 13 38.1**	**-1.2**
	comp=Z,74nm,0.9s							
ILAR	**Eielson Array**	**21.13**	**38**	P		**P**	**23 13 39.1**	**-1.1**
ILAR				ScP		**ScP**	**23 21 17.9**	**+0.8**
ILAR	**Eielson Array**	**21.13**	**38**	P		**P**	**23 13 39.1**	**-1.1**
	comp=Z,11nm,0.9s,baz=240,slow=9.5,SNR=28							
ILAR				ScP		**ScP**	**23 21 17.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=277,slow=3.6,SNR=4.7							
COLD	**Coldfoot**	**21.21**	**30**	*e*P		**P**	**23 13 40.9**	**-0.1**
	comp=Z,44nm,0.9s							
MENT	**Mentasta**	**21.79**	**44**	*e*P		**P**	**23 13 46.6**	**-0.6**
EGAK	**Eagle**	**23.42**	**40**	*e*P		**P**	**23 14 02.6**	**-1.5**
	comp=Z,44nm,0.9s							
HYT	**Haines Junctio**	**24.29**	**51**	*e*P		**P**	**23 14 12.2**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**25.12**	**268**	*c* /P		**P**	**23 14 15.9**	**-4.0**
YUK				*i* S		**S**	**23 18 39.5**	**-1.8**
YUK				*i* SS		SnSn	23 19 45.9	+12
YUK				MLR	MLR			
	comp=Z,1µm,20.0s							
YSS	**Yuzh-Sakhalins**	**25.77**	**276**	⇑*e*P		**P**	**23 14 26.8**	**+1.1**
YSS				pmax	pmax			
	comp=Z,50nm,0.9s							
YSS	**Yuzh-Sakhalins**	**25.77**	**276**	*e*P		**P**	**23 14 24.5**	**-1.3**
	comp=Z,82nm,1.1s							
ASAJ	**Asahikawa**	**27.13**	**270**	P		**P**	**23 14 38.9**	**+0.8**
ASAJ	**Asahikawa**	**27.13**	**270**	P		**P**	**23 14 38.9**	**+0.8**
	comp=Z,47nm,1.1s,baz=49,slow=13,SNR=3.9							
ASAJ				LR		LR	23 23 58.3	
	comp=Z,350nm,21.6s,baz=88,slow=33							
INK	**Inuvik**	**27.38**	**35**	*e*P		**P**	**23 14 39.5**	**-0.6**
	comp=Z,22nm,1.1s							
INK				PcP		**PcP**	**23 17 57.6**	**-0.2**
INK				*e*PcP		PcP	23 17 57.7	-0.1
INK	**Inuvik**	**27.38**	**35**	P		**P**	**23 14 39.4**	**-0.6**
	comp=Z,5.6nm,0.8s,baz=255,slow=12,SNR=12							
INK				PcP		**PcP**	**23 17 57.6**	**-0.2**
	comp=Z,6.5nm,0.9s,baz=237,slow=2.7,SNR=4.3							
YAK	**Yakutsk**	**29.87**	**312**	*e*P		**P**	**23 15 02.9**	**+0.6**
YAK				pmax	pmax			
	comp=Z,13nm,1.0s							
HABR	**Khabarovsk**	**29.94**	**283**	*ce*P		**P**	**23 15 01.3**	**-1.7**
HABR				*e**PP		**pP**	**23 15 14.4**	**-0.7**
HABR							23 18 01.9	
HABR				*e*S		**S**	**23 19 57.1**	**0.0**
HABR				*e*SS		**SnSn**	**23 21 34.7**	**+3.5**
HABR				*e*			23 25 35.5	
HABR				pmax	pmax			
	comp=Z,196nm,2.4s							
HABR				pmax	pmax			
	comp=N,57nm,2.4s							
HABR				pmax	pmax			
	comp=E,81nm,2.4s							
HABR				MLR	MLR			
	comp=Z,268nm,17.0s							
TIXI	**Tiksi**	**31.02**	**331**	*e*P		**P**	**23 15 13.9**	**+1.6**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TIXI	**Tiksi**	**31.02**	**331**	*e*P		**P**	**23 15 14.7**	**+2.4**
	comp=Z,17nm,1.5s							
H11N2	**WAKE ISLAND Hy**	**33.53**	**206**	T		T	23 52 18.5	
	baz=20,slow=76,SNR=1176							
H11N3	**WAKE ISLAND Hy**	**33.54**	**206**	T		T	23 52 13.6	
	baz=20,slow=76,SNR=1163							
H11N1	**WAKE ISLAND Hy**	**33.55**	**206**	T		T	23 52 19.9	
	baz=20,slow=76,SNR=936							
KIP	**Kipapa**	**33.60**	**145**	*e*P		**P**	**23 15 32.8**	**-2.6**
KIP				pmax	pmax			
	comp=Z,46nm,1.7s							
USRK	**Ussuriysk Arra**	**33.75**	**278**	P		**P**	**23 15 36.4**	**-0.1**
	comp=Z,9.7nm,0.8s,baz=49,slow=6.5,SNR=4.2							
USRK				PcP		**PcP**	**23 18 15.9**	**+1.0**
	comp=Z,7.2nm,0.9s,baz=55,slow=5.5,SNR=4.7							
USRK				LR		LR	23 29 39.5	
	comp=Z,334nm,20.1s,baz=56,slow=37							
MJAR	**Matsushiro Arr**	**34.18**	**262**	P		**P**	**23 15 40.5**	**+0.1**
MJAR				PcP		**PcP**	**23 18 16.7**	**+0.4**
MJAR	**Matsushiro Arr**	**34.18**	**262**	P		**P**	**23 15 40.5**	**+0.1**
	comp=Z,8.6nm,1.0s,baz=52,slow=6.4,SNR=7.8							
MJAR				PcP		**PcP**	**23 18 16.7**	**+0.4**
	comp=Z,9.0nm,0.9s,baz=78,slow=3.5,SNR=8.7							
MJAR				LR		LR	23 27 36.6	
	comp=Z,601nm,22.0s,baz=60,slow=33							
MAJO	**Matsushiro**	**34.18**	**262**	*e*P		**P**	**23 15 41.4**	**+1.1**
MAJO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MAJO	**Matsushiro**	**34.18**	**262**	*e*P		**P**	**23 15 41.4**	**+1.1**
	comp=Z,7.1nm,1.1s							
MAT	**Matsushiro**	**34.18**	**262**	P		**P**	**23 15 40.6**	**+0.3**
H11S1	**WAKE ISLAND Hy**	**34.75**	**206**	T		T	23 52 49.2	
	baz=18,slow=78,SNR=1526							
H11S2	**WAKE ISLAND Hy**	**34.77**	**206**	T		T	23 52 56.9	
	baz=18,slow=78,SNR=822							
H11S3	**WAKE ISLAND Hy**	**34.77**	**206**	T		T	23 52 50.5	
	baz=18,slow=78,SNR=701							
NLWA	**Neilton Lookou**	**34.91**	**74**	*e*P		**P**	**23 15 49.4**	**+2.8**
	comp=Z,67nm,1.0s							
MDJ	**Mudanjiang**	**35.03**	**280**	P		**P**	**23 15 47.3**	**-0.3**
MDJ				pP		**pP**	**23 15 58.3**	**-1.5**
MDJ				sP		**sP**	**23 16 03.5**	**-1.7**
MDJ				PP		**PnPn**	**23 17 05.5**	**-0.1**
MDJ				PcP		**PcP**	**23 18 20.5**	**+1.9**
MDJ				S		**S**	**23 21 15.8**	**-0.6**
MDJ				ScP		**ScP**	**23 22 02.0**	**+1.8**
MDJ				PcS		**PcS**	**23 22 06.5**	**+1.2**
MDJ				ScS		**ScS**	**23 26 05.0**	**+1.1**
MDJ				pmax	pmax			
	comp=Z,14nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,220nm,4.5s							
MDJ				LR	LR			
	comp=Z,150nm,16.1s							
MDJ				LR	LR			
	comp=Z,300nm,22.6s							
MDJ				LR	LR			
	comp=Z,540nm,21.0s							
MDJ	**Mudanjiang**	**35.03**	**280**	*e*P		**P**	**23 15 45.4**	**-2.1**
	comp=Z,13nm,0.9s							
YKW3	**Yellowknife Ar**	**35.04**	**46**	*e*P		**P**	**23 15 46.5**	**-0.9**
	comp=Z,0.4nm,0.9s							
YKA	**Yellowknife Ar**	**35.06**	**46**	P		**P**	**23 15 46.6**	**-1.0**
YKA				PcP		**PcP**	**23 18 19.2**	**+0.8**
YKA				ScP		**ScP**	**23 22 01.9**	**+2.0**
YKA	**Yellowknife Ar**	**35.06**	**46**	P		**P**	**23 15 46.6**	**-1.0**
	comp=Z,12nm,0.8s,baz=280,slow=8.7,SNR=44							
YKA				PcP		**PcP**	**23 18 19.2**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=289,slow=2.8,SNR=7.1							
YKA				ScP		**ScP**	**23 22 01.9**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=290,slow=3.2,SNR=8.1							
A05A	**Maple Falls**	**35.28**	**71**	*e*P		P	23 15 46.4	-3.3
	comp=Z,186nm,1.6s							
MBW	**Mount Baker**	**35.48**	**71**	P		**P**	**23 15 53.0**	**+1.4**
BMW	**Boistfort Moun**	**35.73**	**76**	P		**P**	**23 15 55.4**	**+1.8**
BMW	**Boistfort Moun**	**35.73**	**76**	P		**P**	**23 15 55.4**	**+1.8**
B06A	**Marblemount**	**35.85**	**71**	*e*P		**P**	**23 15 55.7**	**+1.2**
	comp=Z,110nm,1.8s							
F04D	**Rainier, OR**	**36.05**	**76**	⇓P		**P**	**23 15 57.6**	**+1.3**
	baz=36							
D05A	**Enumclaw**	**36.15**	**74**	*e*P		**P**	**23 15 59.7**	**+2.6**
	comp=Z,131nm,1.0s							
FL2	**Flat Top 2**	**36.39**	**75**	P		**P**	**23 16 01.1**	**+1.7**
RCS	**Mount Rainier-**	**36.45**	**74**	P		**P**	**23 16 01.8**	**+1.7**
LON	**Longmire**	**36.46**	**74**	*e*P		**P**	**23 16 01.4**	**+1.5**
LON				pmax	pmax			
	comp=Z,28nm,0.9s							
LON	**Longmire**	**36.46**	**74**	*e*P		**P**	**23 16 01.4**	**+1.5**
	comp=Z,28nm,0.9s							
NLW	**Nelson Butte**	**36.73**	**72**	P		**P**	**23 16 03.5**	**+1.3**
VLMM	**Larch Mountain**	**36.90**	**76**	P		**P**	**23 16 05.5**	**+1.8**
LTY	**Liberty**	**36.91**	**73**	*e*P		**P**	**23 16 04.7**	**+1.0**
	comp=Z,55nm,1.2s							
ETW	**Entiat**	**36.95**	**72**	P		**P**	**23 16 05.2**	**+1.1**
I03D	**Drain, OR**	**37.03**	**80**	⇓P		**P**	**23 16 06.3**	**+1.6**
	baz=37							
WTV	**Waterville**	**37.13**	**72**	P		**P**	**23 16 06.4**	**+0.8**
B08A	**Colville Reser**	**37.20**	**71**	*e*P		**P**	**23 16 07.2**	**+1.0**
	comp=Z,152nm,1.7s							
H04A	**Detroit Lake**	**37.24**	**78**	*e*P		**P**	**23 16 08.1**	**+1.5**
	comp=Z,95nm,0.9s							
TRW	**Toppenish Ridg**	**37.45**	**74**	P		**P**	**23 16 09.9**	**+1.7**
G05D	**Wamic, OR**	**37.49**	**76**	⇓P		**P**	**23 16 10.0**	**+1.4**
	baz=37							
I04A	**Tendick Farm,**	**37.56**	**79**	P		**P**	**23 16 10.7**	**+1.4**
	baz=37							
E07A	**Sunnyside**	**37.73**	**74**	*e*P		**P**	**23 16 12.1**	**+1.5**
	comp=Z,54nm,1.2s							
BLTW	**Bickleton**	**37.85**	**75**	P		**P**	**23 16 13.2**	**+1.6**
G06A	**Carlson Farm,**	**37.91**	**76**	*e*P		**P**	**23 16 13.2**	**+0.9**
	comp=Z,35nm,1.1s							
I05D	**Terrebonne, OR**	**37.94**	**78**	⇑P		**P**	**23 16 13.8**	**+1.4**
	baz=38							
CN2	**Changchun**	**38.01**	**282**	*e*P		**P**	**23 16 14.8**	**+1.9**
CN2				*es*P		**sP**	**23 16 32.3**	**+1.7**
CN2				*e*S		**S**	**23 22 02.0**	**+0.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
CN2				LR	LR			
	comp=Z,400nm,15.0s							
HAWA	**Hanford**	**38.01**	**74**	*e*P		P	23 16 07.2	-5.8
	comp=Z,78nm,0.9s							
OD2	**Odessa Site #2**	**38.02**	**72**	P		**P**	**23 16 13.7**	**+0.7**
D08A	**Wollman Farm,**	**38.05**	**72**	*e*P		**P**	**23 16 14.2**	**+0.9**
	comp=Z,32nm,0.8s							
C09A	**Chrisman Ranch**	**38.09**	**71**	*e*P		**P**	**23 16 14.5**	**+0.9**
	comp=Z,162nm,1.8s							
VIPM	**Ingram Point**	**38.29**	**77**	P		**P**	**23 16 16.8**	**+1.2**
VIPM	**Ingram Point**	**38.29**	**77**	P		**P**	**23 16 16.8**	**+1.2**
JCJ	**Chichijima**	**38.39**	**246**	LR		LR	23 28 12.3	
	comp=Z,585nm,21.0s,baz=136,slow=30							
YBH	**Yreka Blue Hor**	**38.48**	**82**	*e*P		**P**	**23 16 19.4**	**+2.3**
YBH	**Yreka Blue Hor**	**38.48**	**82**	LR		LR	23 30 38.2	
	comp=Z,367nm,18.7s,baz=114,slow=34							
EDM	**Edmonton**	**38.53**	**61**	*e*P		**P**	**23 16 17.4**	**+0.1**
EDM	**Edmonton**	**38.53**	**61**	*e*P		**P**	**23 16 17.4**	**+0.1**
NEW	**Newport**	**38.55**	**70**	*e*P		**P**	**23 16 18.0**	**+0.5**
	comp=Z,110nm,1.5s							
NEW	**Newport**	**38.55**	**70**	⇑P		**P**	**23 16 17.8**	**+0.3**
	baz=38,SNR=23							
J05D	**Fort Rock, OR**	**38.56**	**79**	⇓P		**P**	**23 16 19.4**	**+1.7**
	baz=38							
M02C	**Callahan**	**38.58**	**82**	⇑P		**P**	**23 16 19.8**	**+1.9**
	baz=38							
HIA	**Hailar**	**38.76**	**292**	*e*P		**P**	**23 16 18.8**	**-0.4**
	comp=Z,110nm,1.4s							
E09A	**Wood Farm, Sta**	**38.78**	**73**	*e*P		**P**	**23 16 20.1**	**+0.7**
	comp=Z,52nm,1.0s							
G08A	**Pilot Rock**	**38.91**	**75**	*e*P		**P**	**23 16 21.4**	**+0.7**
	comp=Z,32nm,1.1s							
N02D	**Trinity Center**	**38.91**	**83**	⇑P		**P**	**23 16 22.3**	**+1.7**
	baz=39							
M04C	**Macdoel**	**39.00**	**81**	⇑P		**P**	**23 16 23.3**	**+1.8**
	baz=39							
K05A	**Summer Lake**	**39.07**	**79**	*e*P		**P**	**23 16 24.3**	**+2.2**
	comp=Z,65nm,1.0s							
I07A	**Izee**	**39.20**	**77**	*e*P		**P**	**23 16 24.4**	**+1.3**
	comp=Z,52nm,0.8s							
WDC	**Whiskeytown Da**	**39.24**	**83**	*e*P		**P**	**23 16 25.0**	**+1.7**
WDC	**Whiskeytown Da**	**39.24**	**83**	*e*P		**P**	**23 16 25.0**	**+1.7**
F10A	**Beach Ranch, E**	**39.61**	**73**	*e*P		**P**	**23 16 27.0**	**+0.6**
	comp=Z,43nm,1.1s							
MOD	**Modoc**	**39.89**	**80**	*e*P		**P**	**23 16 30.2**	**+1.3**
WALA	**Waterton Lakes**	**40.05**	**67**	*e*P		**P**	**23 16 30.2**	**+0.1**
	comp=Z,2.4nm,1.1s							
KSRS	**Korea Array**	**40.07**	**272**	P		**P**	**23 16 30.4**	**+0.1**
	comp=Z,9.8nm,0.9s,baz=58,slow=7.7,SNR=7.4							
KSRS				PcP		**PcP**	**23 18 34.3**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=61,slow=2.7,SNR=5.1							
KSRS				LR		LR	23 32 19.6	
	comp=Z,143nm,21.9s,baz=55,slow=35							
KSAR	**Wonju Array Be**	**40.10**	**272**	P		**P**	**23 16 30.4**	**-0.1**
KSAR				PcP		**PcP**	**23 18 34.3**	**0.0**
BSMT	**Bassoo Peak**	**40.12**	**69**	*e*P		**P**	**23 16 31.5**	**+0.6**
BMO	**Blue Mountains**	**40.13**	**74**	*e*P		**P**	**23 16 31.5**	**+0.7**
	comp=Z,31nm,1.1s							
JTMT	**Jette**	**40.47**	**69**	*e*P		**P**	**23 16 34.2**	**+0.6**
OHCM	**Honcut**	**40.62**	**84**	*e*P		**P**	**23 16 35.9**	**+1.1**
WVOR	**Wild Horse Val**	**40.62**	**78**	*e*P		**P**	**23 16 36.0**	**+1.1**
WVOR	**Wild Horse Val**	**40.62**	**78**	*e*P		**P**	**23 16 36.0**	**+1.1**
SWMT	**Swartz Lake**	**40.76**	**69**	*e*P		**P**	**23 16 34.5**	**-1.5**
JNU	**Nakatsue**	**40.98**	**264**	*e*P		**P**	**23 16 37.5**	**-0.3**
JNU	**Nakatsue**	**40.98**	**264**	P		**P**	**23 16 38.0**	**+0.1**
	comp=Z,46nm,1.0s,baz=34,slow=8.4,SNR=6.2							
TJN	**Taejon**	**41.09**	**271**	*e*P		**P**	**23 16 39.2**	**+0.6**
MSO	**Missoula**	**41.13**	**70**	*e*P		**P**	**23 16 39.3**	**+0.3**
MSO	**Missoula**	**41.13**	**70**	⇑P		**P**	**23 16 39.3**	**+0.3**
	baz=41,SNR=25							
SLMT	**Seeley Lake**	**41.19**	**69**	*e*P		**P**	**23 16 39.8**	**+0.2**
CHMT	**Chamberlain Mo**	**41.50**	**70**	*e*P		**P**	**23 16 42.5**	**+0.3**
MFID	**Camas Ranch**	**41.80**	**75**	*e*P		**P**	**23 16 45.3**	**+0.7**
WAKR	**Walker**	**42.40**	**84**	*e*P		**P**	**23 16 51.2**	**+1.6**
HRY	**Holter Researc**	**42.44**	**69**	*e*P		**P**	**23 16 50.4**	**+0.7**
LRM	**Limekiln Ridge**	**42.54**	**70**	*e*P		**P**	**23 16 51.1**	**+0.4**
HLID	**Hailey**	**42.58**	**74**	*e*P		**P**	**23 16 51.8**	**+0.8**
HLID	**Hailey**	**42.58**	**74**	⇓P		**P**	**23 16 51.7**	**+0.7**
	baz=42,SNR=62							
BMN	**Battle Mountai**	**42.63**	**80**	*e*P		**P**	**23 16 52.3**	**+0.9**
BMN	**Battle Mountai**	**42.63**	**80**	*e*P		**P**	**23 16 52.3**	**+0.9**
MCMT	**McKenzie Canyo**	**42.83**	**72**	*e*P		**P**	**23 16 53.6**	**+0.4**
	comp=Z,21nm,0.9s							
EGMT	**Eagleton**	**42.97**	**66**	*e*P		**P**	**23 16 54.4**	**+0.4**
EGMT	**Eagleton**	**42.97**	**66**	⇓P		**P**	**23 16 53.8**	**-0.2**
	baz=43,SNR=14							
A19A	**Klindworth Far**	**43.09**	**65**	⇓P		**P**	**23 16 54.6**	**-0.2**
	baz=43,SNR=18							
BOZ	**Bozeman (W)**	**43.12**	**70**	*e*P		**P**	**23 16 55.5**	**+0.2**
BOZ				pmax	pmax			
	comp=Z,18nm,0.7s							
BOZ	**Bozeman (W)**	**43.12**	**70**	*e*P		**P**	**23 16 55.5**	**+0.2**
	comp=Z,18nm,0.7s							
NVAR	**Mina Array Bea**	**43.15**	**83**	P		**P**	**23 16 56.4**	**+0.6**
NVAR				PcP		**PcP**	**23 18 45.6**	**+1.0**
NVAR				PKKP		PKKPdf	23 40 29.6	+7.1
NVAR	**Mina Array Bea**	**43.15**	**83**	P		**P**	**23 16 56.4**	**+0.6**
	comp=Z,11nm,0.9s,baz=291,slow=8.3,SNR=38							
NVAR				PcP		**PcP**	**23 18 45.6**	**+1.0**
	comp=Z,3.6nm,0.8s,baz=266,slow=3.7,SNR=4.6							
NVAR				PKKP		PKKPdf	23 40 29.6	+7.1
	comp=Z,0.4nm,0.7s,baz=127,slow=5.7,SNR=3.6							
B19A	**Brinkman Farms**	**43.21**	**65**	⇓P		**P**	**23 16 55.8**	**-0.1**
	baz=43,SNR=13							
C19A	**Slack Wire Ran**	**43.52**	**66**	⇑P		**P**	**23 16 59.1**	**+0.7**
	baz=43,SNR=68							
A20A	**Cobblestone Ra**	**43.57**	**64**	⇑P		**P**	**23 16 58.7**	**-0.1**
	baz=44,SNR=18							
MTUM	**Tungsten Hills**	**43.65**	**84**	*e*P		**P**	**23 17 01.2**	**+1.5**
QLMT	**Earthquake Lak**	**43.68**	**71**	*e*P		**P**	**23 17 00.7**	**+0.8**
B20A	**Solberg Farm,**	**43.75**	**65**	⇓P		**P**	**23 17 00.1**	**-0.1**
	baz=44,SNR=22							
KWAJ	**Kwajalein Atol**	**43.86**	**201**	*i* P		**P**	**23 16 59.6**	**-1.7**
FFC	**Flin Flon**	**43.91**	**54**	*i* P		**P**	**23 17 01.6**	**+0.2**
D19A	**Cripps Ranch,**	**43.92**	**67**	⇓P		**P**	**23 17 01.9**	**+0.3**
	baz=44,SNR=22							
TIN	**Tinemaha**	**44.04**	**85**	⇑P		**P**	**23 17 03.9**	**+1.1**
	baz=44,SNR=5.7							
TPH	**Tonopah**	**44.04**	**83**	*e*P		**P**	**23 17 03.9**	**+1.0**
TPH	**Tonopah**	**44.04**	**83**	*e*P		**P**	**23 17 03.9**	**+1.0**
C20A	**Veseth Ranch,**	**44.14**	**66**	⇑P		**P**	**23 17 03.6**	**+0.3**
	baz=44,SNR=38							
GCMT	**Greycliff**	**44.20**	**69**	*e*P		**P**	**23 17 04.1**	**+0.2**
	comp=Z,46nm,1.5s							
B21A	**Ellsworth Farm**	**44.32**	**64**	⇑P		**P**	**23 17 04.5**	**-0.3**
	baz=44,SNR=12							
E19A	**Rath Farm, Rou**	**44.35**	**68**	⇓P		**P**	**23 17 05.3**	**+0.2**
	baz=44,SNR=18							
D20A	**Manuel Ranch,**	**44.39**	**67**	⇓P		**P**	**23 17 05.8**	**+0.4**
	baz=44,SNR=18							
H17A	**

MWC	Mount Wilson	45.95	88	eP		P	23 17 17.4	-0.5
	comp=Z,19nm,1.1s							
G21A	Lodge Grass	45.95	68	⇓P		P	23 17 17.5	-0.3
	baz=46,SNR=7.0							
PDAR	Pinedale Array	45.96	72	P		P	23 17 18.6	+0.5
PDAR				PKKP		PKKPdf	23 40 19.7	+0.5
PDAR	Pinedale Array	45.96	72	P		P	23 17 18.6	+0.5
	comp=Z,75nm,0.9s,baz=301,slow=3.9,SNR=202							
PDAR				PKKP		PKKPdf	23 40 19.7	+0.5
	comp=Z,1.1nm,0.7s,baz=148,slow=6.7,SNR=8.6							
J19A	Crowheart	45.98	72	⇑P		P	23 17 19.0	+0.8
	baz=46,SNR=22							
SHOC	Shoshone	45.99	84	⇓P		P	23 17 18.8	+0.7
	baz=46,SNR=8.5							
E22A	Miles City	46.01	66	⇑P		P	23 17 18.5	+0.3
	baz=46,SNR=24							
D23A	Lindsay	46.03	65	P		P	23 17 18.9	+0.6
	baz=46							
GSC	Goldstone	46.04	85	eP		P	23 17 18.7	+0.1
GSC				pmax		pmax		
	comp=Z,12nm,0.8s							
GSC	Goldstone	46.04	85	eP		P	23 17 18.7	+0.1
	comp=Z,12nm,0.8s							
GSC	Goldstone	46.04	85	⇑P		P	23 17 19.1	+0.5
	baz=46,SNR=11							
JLU	Jordanelle	46.09	76	eP		P	23 17 19.7	+0.6
	comp=Z,38nm,0.9s							
NLU	North Lily Min	46.09	77	eP		P	23 17 20.0	+0.8
I20A	Worland	46.13	70	⇑P		P	23 17 19.9	+0.6
	baz=46,SNR=6.9							
BFSC	Mount Baldy Ra	46.19	87	⇑P		P	23 17 20.7	+0.9
	baz=46,SNR=6.5							
F22A	Rosebud	46.20	67	⇓P		P	23 17 19.6	-0.1
	baz=46,SNR=16							
A25A	Svangstu Ranch	46.24	62	⇑P		P	23 17 19.9	0.0
	baz=46,SNR=13							
C24A	Savage	46.27	64	⇑P		P	23 17 20.8	+0.5
	baz=46,SNR=10							
SHPR	Sheep Range	46.30	83	eP		P	23 17 20.6	-0.2
	comp=Z,5.8nm,0.9s							
DAU	Daniels Canyon	46.32	76	eP		P	23 17 22.2	+1.2
DAU	Daniels Canyon	46.32	76	eP		P	23 17 22.2	+1.2
H21A	Big Horn, Sher	46.39	69	⇑P		P	23 17 21.2	-0.1
	baz=46,SNR=10							
G22A	Birney	46.49	68	⇑P		P	23 17 22.1	0.0
	baz=46,SNR=9.6							
J20A	Shoshoni	46.50	71	⇓P		P	23 17 22.9	+0.7
	baz=46,SNR=17							
TUQ	Turquoise Moun	46.51	85	⇓P		P	23 17 23.0	+0.6
	baz=46,SNR=6.8							
TLY	Talaya	46.53	303	eP		P	23 17 22.7	+0.5
TLY				pmax		pmax		
	comp=Z,6.0nm,1.2s							
D24A	Glendive	46.56	65	⇓P		P	23 17 23.1	+0.6
	baz=46,SNR=17							
ARUT	Antelope Range	46.57	80	eP		P	23 17 23.6	+0.7
ARUT	Antelope Range	46.57	80	eP		P	23 17 23.6	+0.7
	comp=Z,722nm,1.6s							
B25A	Knox Farm, Ray	46.58	63	⇓P		P	23 17 22.6	0.0
	baz=46							
HEC	Hector,Ludlow	46.64	86	⇓P		P	23 17 24.1	+0.7
	baz=46,SNR=6.5							
I21A	Big Trails, Te	46.71	70	⇓P		P	23 17 23.8	-0.1
	baz=47,SNR=20							
F23A	Volborg	46.72	67	⇑P		P	23 17 24.1	+0.3
	baz=47,SNR=17							
H22A	Clearmont	46.81	69	⇑P		P	23 17 24.6	0.0
	baz=47,SNR=8.3							
C25A	Freed Ranch, W	46.84	63	⇓P		P	23 17 24.5	-0.1
	baz=47							
A26A	Wade Farm, Ken	46.86	61	⇓P		P	23 17 24.8	-0.1
	baz=47							
E24A	Baker	46.88	65	⇓P		P	23 17 25.4	+0.4
	baz=47,SNR=19							
J21A	Lysite	46.89	71	⇓P		P	23 17 25.4	+0.1
	baz=47,SNR=5.8							
MVU	Marysvale	46.89	79	eP		P	23 17 25.5	+0.1
	comp=Z,23nm,1.0s							
MURC	Murrieta	46.89	88	P		P	23 17 26.0	+0.7
	baz=47							
TMUT	Trail Mountain	47.02	77	eP		P	23 17 27.3	+0.7
	comp=Z,62nm,1.0s							
G23A	Biddle	47.02	67	⇓P		P	23 17 26.5	+0.3
	baz=47,SNR=7.3							
B26A	Jensen Ranch,	47.04	62	⇓P		P	23 17 26.1	-0.2
	baz=47							
GMRC	Granite Mounta	47.09	85	⇑P		P	23 17 27.2	+0.3
	baz=47,SNR=7.5							
D25A	Fairfield	47.11	64	⇑P		P	23 17 26.9	+0.1
	baz=47							
SONM	Songino Array	47.12	297	P		P	23 17 27.4	+0.5
SONM				PcP		PcP	23 18 59.5	+1.4
SONM				ScP		ScP	23 22 47.5	-0.4
SONM	Songino Array	47.12	297	P		P	23 17 27.4	+0.5
	comp=Z,20nm,1.0s,baz=53,slow=9.6,SNR=16							
SONM				PcP		PcP	23 18 59.5	+1.4
	comp=Z,2.2nm,0.8s,baz=45,slow=2.2,SNR=3.2							
SONM				ScP		ScP	23 22 47.5	-0.4
	comp=Z,1.4nm,1.0s,baz=60,slow=3.3,SNR=3.5							
SONM				LR		LR	23 38 07.3	
	comp=Z,860nm,20.0s,baz=46,slow=37							
I22A	9 Mile Ranch,	47.14	69	⇑P		P	23 17 27.7	+0.5
	baz=47,SNR=17							
F24A	Ekalaka	47.21	66	⇓P		P	23 17 27.8	+0.1
	baz=47,SNR=14							
LDFC	Landfair	47.24	84	eP		P	23 17 27.6	-0.5
	comp=Z,34nm,1.2s							
BELC	Belle Mtn. Jos	47.39	86	⇓P		P	23 17 29.2	-0.1
	baz=47							
K21A	Alcova	47.42	71	⇑P		P	23 17 29.4	-0.1
	baz=47,SNR=16							
J22A	Midwest	47.42	70	⇓P		P	23 17 29.6	+0.2
	baz=47,SNR=24							
C26A	Wahner Farm, P	47.42	63	⇓P		P	23 17 29.2	0.0
	baz=47,SNR=8.9							
ZAK	Zakamensk	47.42	302	⇓i/e P		P	23 17 30.2	+0.9
ZAK							23 19 07.5	
ZAK				pmax		pmax		
	comp=Z,16nm,1.3s							
E25A	Miller Ranch,	47.43	65	⇓P		P	23 17 29.7	+0.4
	baz=47,SNR=11							
G24A	Alzada	47.52	67	⇓P		P	23 17 29.8	-0.2
	baz=47,SNR=5.2							
SRU	San Rafael	47.56	77	eP		P	23 17 30.9	+0.3
SRU				pmax		pmax		
	comp=Z,52nm,0.9s							
SRU	San Rafael	47.56	77	eP		P	23 17 30.9	+0.3
	comp=Z,52nm,0.9s							
D26A	Manning	47.68	64	⇑P		P	23 17 31.0	-0.2
	baz=48,SNR=5.3							
F25A	Bowman	47.73	65	⇑P		P	23 17 31.8	+0.1
	baz=48,SNR=12							
NEE2	Needles Airpor	47.75	84	⇑P		P	23 17 32.2	+0.3
	baz=48							
H24A	Dirks Ranch, A	47.77	67	P		P	23 17 31.6	-0.4
	baz=48							
IRM	Iron Mountain	47.81	85	⇑P		P	23 17 32.6	+0.2
	baz=48,SNR=7.9							
C27A	Sayler Ranch,	47.82	62	⇓P		P	23 17 31.9	-0.4
	baz=48							
A28A	Rude Farm, Bot	47.83	60	⇓P		P	23 17 31.9	-0.5
	baz=48							
K22A	Casper	47.84	71	eP		P	23 17 32.3	-0.4
	comp=Z,28nm,0.8s							
K22A	Casper	47.84	71	⇑P		P	23 17 32.4	-0.3
	baz=48,SNR=9.0							
MONP	Monument Peak	47.85	88	⇑P		P	23 17 33.5	+0.5
	baz=48							
N20A	Spence Gulch,	47.88	74	⇓P		P	23 17 33.6	+0.5
	baz=48,SNR=21							
BC3	Big Chuckawall	47.95	86	⇑P		P	23 17 33.6	0.0
	baz=48							
J23A	Dilts Ranch, B	47.97	69	⇑P		P	23 17 34.1	+0.4
	baz=48							
E26A	Carlson Angus	47.98	64	⇓P		P	23 17 33.5	-0.1
	baz=48,SNR=6.4							
W13A	Hualapai Mount	48.00	84	⇑P		P	23 17 34.2	+0.1
	baz=48,SNR=12							
B28A	Dugan Ranch, T	48.03	61	P		P	23 17 33.8	-0.2
	baz=48							
U15A	North Rim	48.14	81	⇓P		P	23 17 35.9	+0.7
	baz=48,SNR=28							
HHC	Hu-ho-hao-te	48.16	286	eP		P	23 17 35.8	+0.7
HHC				sP		sP	23 17 52.5	-0.5
HHC				PP		PP	23 19 28.5	+1.1
HHC				S		S	23 24 29.0	-1.7
HHC				SS		SS	23 27 54.0	-5.8
HHC					pmax		pmax	
	comp=Z,32nm,0.8s							
HHC					pmax		pmax	
	comp=Z,510nm,4.1s							
HHC					LR		LR	
	comp=Z,720nm,13.6s							
HHC					LR		LR	
	comp=Z,1µm,16.1s							
HHC					LR		LR	
	comp=Z,1µm,18.6s							
G25A	Newell	48.17	66	⇓P		P	23 17 34.9	-0.2
	baz=48,SNR=5.1							
SWSC	Sam W. Stewart	48.21	87	⇓P		P	23 17 35.3	-0.2
	baz=48							
F26A	Lodgepole	48.22	65	⇓P		P	23 17 35.2	-0.2
	baz=48,SNR=8.2							
I24A	Kuemmerle Ranc	48.25	68	⇑P		P	23 17 35.4	-0.3
	baz=48							
L22A	Ellis Ranch, M	48.26	71	⇑P		P	23 17 36.2	+0.1
	baz=48,SNR=11							
K23A	Bowen Ranch, D	48.31	70	P		P	23 17 36.2	-0.1
	baz=48							
O20A	White River Ci	48.32	75	eP		P	23 17 36.8	+0.3
	comp=Z,113nm,0.9s							
O20A	White River Ci	48.32	75	⇑P		P	23 17 36.5	0.0
	baz=48,SNR=36							
PDMCI	Parker Dam,Lak	48.36	85	⇑P		P	23 17 36.7	+0.2
	baz=48							
A29A	Manning Farm,	48.39	60	⇓P		P	23 17 35.8	-0.8
	baz=48,SNR=5.1							
H25A	Fruitdale	48.40	67	⇓P		P	23 17 36.9	0.0
	baz=48,SNR=8.5							
RSSD	Black Hills	48.44	68	eP		P	23 17 36.9	-0.4
RSSD	Black Hills	48.44	68	eP		P	23 17 36.9	-0.4
Y12C	Blythe	48.48	85	⇑P		P	23 17 37.7	+0.2
	baz=48,SNR=7.2							
E27A	Carson	48.51	64	⇑P		P	23 17 37.7	0.0
	baz=48							
J24A	Dixon Ranch, L	48.54	69	⇓P		P	23 17 37.7	-0.3
	baz=48,SNR=8.5							
M22A	Cedar Creek Ra	48.55	72	⇓P		P	23 17 38.5	+0.2
	baz=48,SNR=30							
F27A	Lemmon	48.58	65	⇓P		P	23 17 38.1	-0.1
	baz=48,SNR=13							
B29A	Wagenman Farm,	48.58	61	⇓P		P	23 17 37.4	-0.7
	baz=48							
G26A	Maurine	48.58	66	⇓P		P	23 17 38.3	0.0
	baz=48,SNR=8.7							
D28A	Regan	48.63	63	⇑P		P	23 17 38.3	-0.3
	baz=48							
L23A	Garrett	48.65	71	⇑P		P	23 17 38.8	-0.3
	baz=48,SNR=33							
I25A	Rochford	48.67	68	P		P	23 17 38.6	-0.5
	baz=48							
GLA	Glamis	48.75	86	⇑P		P	23 17 39.8	+0.2
	baz=49							
A30A	Hoffart Farm,	48.88	59	⇑P		P	23 17 39.8	-0.6
	baz=49							
G27A	Dupree	48.92	65	⇑P		P	23 17 40.7	-0.1
	baz=49,SNR=8.3							
N22A	Wattenberg Ran	48.99	73	⇑P		P	23 17 42.0	+0.2
	baz=49,SNR=32							
PV04	Paradox Valley	48.99	77	eP		P	23 17 42.0	+0.3
M23A	Laramie	49.03	72	⇓P		P	23 17 42.1	+0.1
	baz=49,SNR=11							
B30A	Myrvik Farm, E	49.15	60	⇑P		P	23 17 42.6	+0.2
	baz=49,SNR=5.9							
L24A	Wheatland	49.15	70	P		P	23 17 43.1	+0.3
	baz=49							
I26A	New Underwood	49.18	67	⇓P		P	23 17 42.6	-0.2
	baz=49							
N23A	Red Feather La	49.24	72	⇓P		P	23 17 44.1	+0.5
	baz=49,SNR=20							
NJ2	Nanjing	49.25	273	eP		P	23 17 43.0	-0.4
NJ2				pmax		pmax		
	comp=Z,30nm,1.2s							
D29A	Pettibone, Tap	49.25	62	⇑P		P	23 17 43.0	-0.3
	baz=49							
H27A	Howes	49.27	66	⇑P		P	23 17 42.9	-0.6
	baz=49							
F28A	McLaughlin	49.28	64	⇓P		P	23 17 43.7	+0.1
	baz=49,SNR=5.1							
WUAZ	Wupatki	49.30	81	eP		P	23 17 44.2	+0.2
	comp=Z,25nm,1.0s							
WUAZ	Wupatki	49.30	81	P		P	23 17 44.7	+0.7
	baz=49							
Y14A	Wickenburg	49.30	84	⇓P		P	23 17 44.3	+0.4
	baz=49							
O22A	Kremmling	49.33	73	⇓P		P	23 17 44.3	0.0
	baz=49,SNR=18							
PV01	Paradox Valley	49.36	77	eP		P	23 17 44.7	+0.2
	comp=Z,5µm,0.9s							
K25A	Mak Ranch, Ha	49.43	69	⇑P		P	23 17 44.7	-0.2
	baz=49							
ULM	Lac du Bonnet	49.43	57	P		P	23 17 43.6	-1.0
ULM	Lac du Bonnet	49.43	57	P		P	23 17 43.6	-1.0
	comp=Z,4.5nm,0.6s,baz=305,slow=8.3,SNR=6.3							
J26A	Sides Ranch, S	49.48	68	⇓P		P	23 17 45.0	-0.2
	baz=49							
C30A	Mose, Pekin	49.50	61	⇓P		P	23 17 45.2	+0.1
	baz=49							
P22A	Eagle	49.55	74	⇑P		P	23 17 46.1	+0.1
	baz=49,SNR=14							
M24A	Cheyenne	49.56	71	⇓P		P	23 17 46.0	0.0
	baz=49							
I27A	Quinn	49.62	67	⇓P		P	23 17 46.3	+0.1
	baz=50,SNR=9.3							
G28A	Parade	49.67	65	⇓P		P	23 17 46.5	-0.1
	baz=50,SNR=8.8							
O23A	Lake Granby, G	49.68	73	⇓P		P	23 17 47.7	+0.7
	baz=50,SNR=30							
D30A	Buchnan	49.69	62	⇑P		P	23 17 46.1	-0.5
	baz=50,SNR=7.5							
Z14A	Wintersburg	49.72	85	⇓P		P	23 17 47.3	+0.3
	baz=50							
K26A	Motz Farm, Whi	49.79	69	⇓P		P	23 17 47.1	-0.4
	baz=50							
H28A	Mission Ridge	49.85	65	⇑P		P	23 17 48.1	+0.2
	baz=50,SNR=9.1							
E30A	Jud	49.96	62	⇑P		P	23 17 48.6	-0.2
	baz=50							
X16A	Lo Mia Camp, P	49.97	83	⇑P		P	23 17 50.0	+0.9
	baz=50,SNR=9.8							
MVCO	Mesa Verde	49.99	78	eP		P	23 17 49.6	+0.3
	comp=Z,55nm,1.3s							
MVCO	Mesa Verde	49.99	78	⇑P		P	23 17 49.8	+0.5
	baz=50,SNR=18							
M25A	Palm-Egli Farm	50.04	71	⇑P		P	23 17 50.0	+0.4
	baz=50,SNR=7.5							
ISCO	Idaho Springs	50.12	73	eP		P	23 17 50.9	+0.6
ISCO				pmax		pmax		
	comp=Z,30nm,1.1s							
ISCO	Idaho Springs	50.12	73	eP		P	23 17 50.9	+0.6
	comp=Z,30nm,1.1s							
ISCO	Idaho Springs	50.12	73	⇑P		P	23 17 51.1	+0.7
	baz=50,SNR=15							
J27A	Elkhorn Farm,	50.14	68	P		P	23 17 50.3	+0.2
	baz=50							
G29A	Hoven	50.17	64	⇓P		P	23 17 50.5	+0.1
	baz=50							
I28A	Midland	50.17	66	⇓P		P	23 17 50.3	-0.1
	baz=50,SNR=22							
O24A	Longmont	50.24	73	⇑P		P	23 17 52.0	+0.9
	baz=50							
P23A	Jefferson	50.25	74	⇑P		P	23 17 52.2	+0.8
	baz=50,SNR=5.5							
K27A	Flueckinger Fa	50.34	68	⇓P		P	23 17 51.6	-0.1
	baz=50							
H29A	Onida	50.34	65	⇓P		P	23 17 51.7	0.0
	baz=50							
J28A	Allard Ranch,	50.48	67	⇑P		P	23 17 53.0	+0.3
	baz=50,SNR=9.8							
Q23A	Hartsel	50.55	74	⇓P		P	23 17 54.3	+0.8
	baz=50							
M26A	McRoberts Ranc	50.56	70	⇑P		P	23 17 54.0	+0.6
	baz=50							
W18A	Petrified Fore	50.57	81	eP		P	23 17 54.1	+0.5
	comp=Z,26nm,1.1s							
W18A	Petrified Fore	50.57	81	⇓P		P	23 17 54.1	+0.5
	baz=50,SNR=5.8							
SPITS	Spitsbergen Ar	50.60	356	ScP		ScP	23 23 03.6	+1.5
SPITS	Spitsbergen Ar	50.60	356	ScP		ScP	23 23 03.6	+1.5
	comp=Z,18nm,0.9s,baz=154,slow=12,SNR=3.7							
G30A	Faulkton	50.65	64	⇓P		P	23 17 53.8	-0.1
	baz=50							
I29A	Vivian Onida	50.66	66	⇑P		P	23 17 53.6	-0.4
	baz=50							
L27A	T5 Ranch, Ells	50.67	69	⇓P		P	23 17 54.1	-0.2
	baz=50							
S22A	4UR Ranch, Cre	50.67	76	⇑P		P	23 17 55.3	+0.7
	baz=50,SNR=35							
P24A	Kohler Place,	50.72	73	⇓P		P	23 17 55.6	+0.9
	baz=51							
214A	Organ Pipe Nat	50.74	86	⇑P		P	23 17 55.3	+0.5
	baz=51							
O25A	Wiggins	50.82	72	P		P	23 17 56.3	+0.9
	baz=51							
X18A	Snowflake	50.82	81	⇑P		P	23 17 55.9	+0.3
	baz=51,SNR=8.3							
K28A	Ten Mile Ranch	50.84	68	⇑P		P	23 17 55.6	+0.2
	baz=51							
N26A	Koester Ranch,	50.91	71	⇑P		P	23 17 56.7	+0.6
	baz=51							
Q24A	Divide	50.92	74	⇓P		P	23 17 56.5	+0.1
	baz=51,SNR=6.0							
M27A	Reverse DX Ran	50.97	70	⇓P		P	23 17 56.6	+0.1
	baz=51							
R23A	Moffat	51.00	75	⇓P		P	23 17 57.6	+0.6
	baz=51,SNR=7.4							
J29A	Okreek	51.02	66	P		P	23 17 56.9	+0.1
	baz=51							
P25A	Willow Gulch B	51.17	73	⇓P		P	23 17 59.2	+1.1
	baz=51							
BRSD	Miller	51.17	65	eP		P	23 17 57.4	-0.4
	comp=Z,140nm,0.9s							
BRSD	Miller	51.17	65	⇑P		P	23 17 57.9	0.0
	baz=51,SNR=5.0							
S23A	Nye Farm, Mont	51.20	76	⇑P		P	23 17 59.7	+1.3
	baz=51							
O26A	Horse Wrangler	51.22	71	⇓P		P	23 17 59.1	+0.6
	baz=51,SNR=5.9							
N27A	Anderson Farm,	51.33	70	⇑P		P	23 17 59.7	+0.5
	baz=51							
R24A	Sanders Place,	51.41	74	⇓P		P	23 18 00.5	+0.5
	baz=51,SNR=11							
K29A	Lazy Trails An	51.42	67	⇑P		P	23 18 00.1	+0.3
	baz=51							
SDCO	Great Sand Dun	51.48	75	eP		P	23 18 01.0	+0.4
	comp=Z,105nm,1.6s							
Q25A	Bedland, Calha	51.50	73	⇑P		P	23 18 01.2	+0.6
	baz=51,SNR=18							
U22A	Llaves	51.53	77	⇓P		P	23 18 01.4	+0.5
	baz=51,SNR=5.2							
OGNE	Ogallala	51.54	70	eP		P	23 18 00.9	+0.2
	comp=Z,82nm,0.8s							
OGNE				ePcP		PcP	23 19 14.0	-0.3
OGNE				ePP		PP	23 19 55.9	-2.2
OGNE	Ogallala	51.54	70	⇑P		P	23 18 01.4	+0.6
	baz=51							
J30A	Dallas	51.55	66	⇓P		P	23 18 00.7	0.0
	baz=51,SNR=14							
T23A	Casias Ranch,	51.61	76	⇓P		P	23 18 02.1	+0.5
	baz=52,SNR=5.2							
P26A	Davis Ranch, A	51.63	72	P		P	23 18 02.4	+0.9
	baz=52							
M28A	Bar X Bar Ranc	51.65	69	⇓P		P	23 18 01.7	+0.1
	baz=52,SNR=5.3							
S24A	Houchin Ranch,	51.73	75	P		P	23 18 03.5	+1.1
	baz=52							
O27A	Beecher Island	51.75	71	⇓P		P	23 18 02.9	+0.5
	baz=52,SNR=7.2							
L29A	Maesberg Ranch	51.76	68	⇑P		P	23 18 02.8	+0.5
	baz=52							
TUC	Tucson	51.78	84	eP		P	23 18 02.7	+0.1
TUC				pmax		pmax		
	comp=Z,15nm,1.1s							
TUC	Tucson	51.78	84	eP		P	23 18 02.7	+0.1
	comp=Z,15nm,1.1s							
V22A	San Miguel Ran	51.80	78	P		P	23 18 03.1	+0.2
	baz=52							
K30A	Basset	51.88	67	⇑P		P	23 18 03.5	+0.3
	baz=52,SNR=6.9							
Q26A	Hugo	51.93	73	⇑P		P	23 18 04.4	+0.7
	baz=52,SNR=8.2							
R25A	Fountain Ranch	51.97	74	P		P	23 18 04.4	+0.4
	baz=52							
U23A	El Rito	51.97	77	⇓P		P	23 18 04.9	+0.7
	baz=52,SNR=28							
N28A	Pribbeno Ranch	51.99	70	⇓P		P	23 18 04.6	+0.5
	baz=52							
T24B	San Luis	51.99	76	⇓P		P	23 18 05.3	+0.9
	baz=52,SNR=11							
M29A	Burnside Ranch	52.02	69	⇓P		P	23 18 04.8	+0.5
	baz=52							
P27A	Ficken Ranch,	52.09	72	⇓P		P	23 18 05.5	+0.5
	baz=52,SNR=5.4							
S25A	Robets Cordova	52.19	75	⇑P		P	23 18 06.1	+0.4
	baz=52,SNR=8.2							
O28A	Krutsinger Ran	52.21	71	⇓P		P	23 18 06.2	+0.4
	baz=52,SNR=5.7							
L30A	Spencer Herefo	52.27	68	⇑P		P	23 18 06.1	0.0
	baz=52							
V23A	Ortiz Mt. (NFS	52.36	78	⇑P		P	23 18 08.2	+1.1
	baz=52,SNR=16							
R26A	Arlington	52.37	73	⇓P		P	23 18 07.2	+0.2
	baz=52,SNR=18							
KSCO	Kaye Shedlock'	52.41	72	eP		P	23 18 07.4	+0.1
	comp=Z,94nm,1.0s							
KSCO	Kaye Shedlock'	52.41	72	⇑P		P	23 18 07.7	+0.4
	baz=52,SNR=9.5							
U24A	Moreno Valley	52.48	76	⇑P		P	23 18 08.9	+0.9
	baz=52							
T25A	Trinidad	52.54	75	⇓P		P	23 18 09.2	+0.8
	baz=52,SNR=29							
P28A	Saint Francis	52.57	71	⇑P		P	23 18 09.1	+0.7
	baz=52,SNR=7.5							
L31A	Butterfield Fa	52.64	67	⇓P		P	23 18 09.4	+0.6
	baz=52							
W23A	Werner Place,	52.76	78	⇑P		P	23 18 10.5	+0.4
	baz=53,SNR=9.2							
R27A	Eads	52.77	73	⇓P		P	23 18 10.4	+0.5
	baz=53,SNR=18							
O29A	4D Ranch, Culb	52.79	70	⇓P		P	23 18 10.5	+0.6
	baz=53,SNR=9.6							
S26A	Kim	52.79	74	⇑P		P	23 18 10.1	0.0
	baz=53,SNR=16							
Q28A	Sharon Springs	52.85	72	⇓P		P	23 18 10.7	+0.2
	baz=53,SNR=8.5							
V24A	Rampart Ranch,	52.93	77	⇑P		P	23 18 12.0	+0.7
	baz=53,SNR=33							
ECSD	EROS Data Cent	52.94	64	eP		P	23 18 09.5	-1.5
	comp=Z,36nm,1.2s							
ECSD	EROS Data Cent	52.94	64	⇓P		P	23 18 10.0	-1.0

baz=53
Z22A Elephant Butte 53.52 80 ⇑P P 23 18 16.2 +0.6
baz=53,SNR=8.9
X24A Lazy VL Ranch, 53.60 78 ⇓P P 23 18 16.9 +0.7
baz=54,SNR=9.7
T27A Campo 53.61 74 ⇑P P 23 18 16.2 0.0
baz=54
Y23A Lovelace Mesa, 53.63 79 ⇑P P 23 18 17.2 +0.8
baz=54,SNR=28
O31A Woolen Ranch, 53.64 69 ⇑P P 23 18 16.4 +0.2
baz=54
R29A Marienthal 53.68 72 ⇓P P 23 18 17.1 +0.6
baz=54,SNR=7.5
W25A X Bar L Ranch, 53.76 77 ⇑P P 23 18 17.9 +0.5
baz=54,SNR=30
S28A Manter 53.76 73 ⇓P P 23 18 17.7 +0.5
baz=54,SNR=11
V26A Tequesquite Ra 53.79 76 ⇑P P 23 18 17.8 +0.3
baz=54,SNR=18
Q30A Quinter 53.87 71 ⇓P P 23 18 18.4 +0.5
baz=54
T28A Walsh 53.94 74 ⇑P P 23 18 18.7 +0.2
baz=54,SNR=9.7
U27A Thompson Grove 53.97 75 ⇑P P 23 18 18.8 0.0
baz=54,SNR=9.8
P31A Stockton 54.02 70 ⇑P P 23 18 19.0 +0.1
baz=54,SNR=7.0
Y24A Capitan 54.02 79 ⇑P P 23 18 19.8 +0.6
baz=54,SNR=39
X25A Clemmons Ranch 54.10 78 ⇓P P 23 18 20.3 +0.5
baz=54,SNR=14
XAN Xi'an 54.12 282 P P 23 18 19.3 -0.5
XAN pP pP 23 18 32.3 -0.3
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=Z,350nm,21.5s
XAN LR LR
comp=Z,140nm,15.4s
XAN LR LR
comp=Z,130nm,31.8s
SPMN St. Paul 54.12 60 *e*P P 23 18 18.9 -0.7
comp=Z,11nm,0.8s
SPMN St. Paul 54.12 60 ⇑P P 23 18 19.3 -0.3
baz=54
O32A Brockman Farm, 54.19 68 ⇑P P 23 18 20.4 +0.2
baz=54
S29A Ulysses 54.21 73 ⇓P P 23 18 20.8 +0.3
baz=54
W26A Owens Ranch, T 54.27 77 P P 23 18 21.2 +0.2
baz=54
R30A Dighton 54.28 71 ⇑P P 23 18 21.1 +0.1
baz=54,SNR=15
Q31A Ellis 54.34 70 ⇑P P 23 18 21.6 +0.2
baz=54,SNR=7.4
U28A Mallet 54.36 74 ⇑P P 23 18 21.7 +0.1
baz=54
V27A Dan Oppiter Fa 54.40 75 ⇑P P 23 18 22.0 +0.1
baz=54
P32A Huiting Farm, 54.41 69 ⇓P P 23 18 21.9 +0.1
baz=54
T29A Hugoton 54.41 73 ⇓P P 23 18 22.1 +0.2
baz=54
Z24A Sheeppen Canyo 54.47 79 ⇑P P 23 18 23.0 +0.5
baz=54,SNR=15
ZALV Zalesovo Beam 54.48 314 PcP PcP 23 19 25.8 +0.8
ZALV Zalesovo Beam 54.48 314 PcP PcP 23 19 25.8 +0.8
comp=Z,14nm,0.8s,baz=31,slow=3.5,SNR=14
Y25A Mesa, Roswell 54.48 78 ⇓P P 23 18 23.1 +0.5
baz=54,SNR=20
S30A Montezuma 54.59 72 ⇓P P 23 18 23.7 +0.5
baz=54,SNR=8.1
X26A CR and CF Fran 54.60 77 ⇑P P 23 18 23.6 +0.2
baz=54,SNR=17
W27A Bowe Ranch, En 54.72 76 ⇓P P 23 18 24.2 0.0
baz=55
R31A Burdett 54.73 71 ⇓P P 23 18 24.1 -0.1
baz=55,SNR=13
V28A Channing 54.78 75 P P 23 18 24.4 -0.2
baz=55
Q32A Meitler Ranch, 54.84 70 ⇓P P 23 18 25.1 +0.1
baz=55,SNR=24
U29A Oasis Ranch, S 54.89 74 ⇑P P 23 18 25.6 +0.2
baz=55,SNR=11
Z25A Roswell 54.90 79 ⇓P P 23 18 25.9 +0.4
baz=55,SNR=9.1
T30A Plains 54.94 73 ⇑P P 23 18 26.0 +0.3
baz=55
X27A F and S Farms, 54.98 77 P P 23 18 26.3 +0.2
baz=55
Y26A Elida 55.02 78 ⇑P P 23 18 26.7 +0.3
baz=55,SNR=12
P33A Williams Farm, 55.06 69 ⇑P P 23 18 26.4 -0.2
baz=55
W28A Vega 55.12 75 P P 23 18 27.1 0.0
baz=55
R32A Long Quarter, 55.12 70 ⇑P P 23 18 26.8 -0.3
baz=55,SNR=9.7
S31A Mullinville 55.19 71 ⇑P P 23 18 27.6 0.0
baz=55
U30A WK&E Inc. Balk 55.21 73 ⇓P P 23 18 27.6 -0.2
baz=55
Q33A Connelly Farm, 55.27 69 ⇑P P 23 18 28.0 0.0
baz=55,SNR=24
125A Gardner Draw, 55.36 79 ⇓P P 23 18 29.2 +0.4
baz=55,SNR=21
Z26A Caprock 55.36 78 ⇑P P 23 18 28.9 0.0
baz=55,SNR=14
T31A Randall Ranch, 55.42 72 ⇑P P 23 18 29.0 -0.2
baz=55,SNR=10
Y27A Causey 55.45 77 ⇓P P 23 18 29.7 +0.2
baz=55,SNR=10
W29A Amarillo 55.55 75 ⇓P P 23 18 30.3 +0.1
baz=55
MNTX Cornudas Mount 55.56 81 *e*P P 23 18 30.1 -0.1
comp=Z,20nm,1.0s
X28A Dimmitt 55.61 76 ⇑P P 23 18 30.4 -0.2
baz=56
225A Deer Hill, Car 55.63 80 ⇑P P 23 18 31.2 +0.3
baz=56,SNR=14
R33A Olander Ranch, 55.63 70 ⇓P P 23 18 30.3 -0.4
baz=56,SNR=7.1
MSTX Muleshoe 55.63 77 *e*P P 23 18 30.4 -0.5
comp=Z,62nm,1.1s
MSTX Muleshoe 55.63 77 ⇑P P 23 18 30.7 -0.1
baz=56,SNR=7.2
AMTX Amarillo 55.68 75 ⇑P P 23 18 31.3 +0.1
baz=56
126A Clayton Basin, 55.76 79 ⇑P P 23 18 31.7 0.0
baz=56,SNR=6.6
U31A Nine Bar Ranch 55.80 73 ⇑P P 23 18 31.9 0.0
baz=56
Z27A Tatum 55.80 78 ⇑P P 23 18 31.8 -0.3
baz=56
T32A Huddler Ranch, 55.82 72 ⇑P P 23 18 31.6 -0.4
baz=56,SNR=7.5
LZH Lanzhou 55.85 287 *e*P P 23 18 33.5 +1.1
LZH pP pP 23 18 48.0 +2.7
LZH sP sP 23 18 54.3 +3.8
LZH PcP PcP 23 19 35.0 +4.2
LZH *e*S S 23 26 16.3 -0.2
LZH sS sS 23 26 39.5 +1.6
LZH pmax pmax
comp=Z,51nm,1.2s
LZH pmax pmax
comp=Z,230nm,4.0s
LZH LR LR
comp=Z,550nm,10.4s
LZH LR LR
comp=Z,880nm,15.8s
LZH LR LR
comp=Z,710nm,17.0s
KSU1 Kansas State U 55.91 68 *e*P P 23 18 32.1 -0.6
comp=Z,78nm,0.8s
KSU1 *e*PcP PcP 23 19 30.4 -0.4
KSU1 Kansas State U 55.91 68 ⇓P P 23 18 32.4 -0.3
baz=56,SNR=7.7
GTA Gaotai 56.04 292 P P 23 18 34.3 +0.6
GTA pP pP 23 18 46.8 +0.3
GTA sP sP 23 18 52.5 +0.7
GTA S S 23 26 18.8 0.0
GTA sS sS 23 26 40.0 -0.2
GTA pmax pmax
comp=Z,49nm,1.0s
GTA pmax pmax
comp=Z,260nm,5.0s
GTA LR LR
comp=Z,380nm,19.7s
GTA LR LR
comp=Z,480nm,18.0s
GTA LR LR
comp=Z,530nm,18.8s
226B Tecolote Peak, 56.05 80 ⇓P P 23 18 34.0 +0.2
baz=56,SNR=13
S33A Kaszmaul Farm, 56.09 71 ⇓P P 23 18 33.9 -0.1
baz=56,SNR=8.8
V31A Spring Creek L 56.20 73 ⇑P P 23 18 34.8 0.0
baz=56
U32A Winter Ranch, 56.30 72 ⇑P P 23 18 35.3 -0.2
baz=56,SNR=9.8
ENH Enshi 56.33 278 *e*P P 23 18 34.9 -0.8
comp=Z,10nm,0.9s
Z28A Tucker Farm, M 56.33 77 ⇑P P 23 18 35.3 -0.5
baz=56
Y29A Porterfield Fa 56.38 76 P P 23 18 36.2 0.0
baz=56
425A Indio Mountain 56.43 81 ⇓P P 23 18 37.0 +0.4
baz=56,SNR=15
X30A Coker Ranch, T 56.47 75 ⇓P P 23 18 36.7 -0.1
baz=56,SNR=8.2
W31A Holland Ranch, 56.54 74 ⇑P P 23 18 37.3 +0.1
baz=56
227A Bennet, Jal 56.64 79 ⇑P P 23 18 38.3 +0.3
baz=56
326A Caldwell Ranch 56.69 80 ⇑P P 23 18 38.9 +0.5
baz=57,SNR=18
V32A Arapaho 56.72 73 ⇓P P 23 18 38.8 +0.4
baz=57
128A Castleberry Fa 56.72 78 ⇓P P 23 18 38.4 -0.2
baz=57,SNR=23
Z29A Hungry Hill Ra 56.77 77 ⇑P P 23 18 38.7 -0.2
baz=57,SNR=8.5
U33A Lingo Farm, Me 56.80 72 ⇓P P 23 18 38.7 -0.3
baz=57
Y30A Stafford Cattl 56.84 76 ⇑P P 23 18 39.6 +0.2
baz=57,SNR=16
X31A McDonald Ranch 56.89 74 ⇓P P 23 18 39.6 0.0
baz=57,SNR=6.5
W32A Sentinel 57.00 74 ⇓P P 23 18 40.7 +0.3
baz=57,SNR=5.7
228A UT Block 9, Go 57.00 78 ⇑P P 23 18 40.3 -0.2
baz=57,SNR=5.7
JFWS Jewell Farm 57.02 61 *e*P P 23 18 38.6 -1.8
JFWS pmax pmax
comp=Z,9.0nm,0.6s
JFWS Jewell Farm 57.02 61 *e*P P 23 18 38.6 -1.8
comp=Z,9.4nm,0.6s
Z30A Sanderson Ranc 57.10 76 ⇓P P 23 18 41.2 0.0
baz=57,SNR=14
426A McDonald Obser 57.11 81 ⇑P P 23 18 41.2 -0.3
baz=57,SNR=11
V33A Lossen Ranch, 57.11 72 ⇓P P 23 18 41.1 -0.1
baz=57
U34A Anderson Ranch 57.14 71 ⇓P P 23 18 41.4 0.0
baz=57,SNR=18
Y31A Rekieta Farm, 57.17 75 ⇑P P 23 18 41.5 -0.2
baz=57
328A Wristen Ranch, 57.37 79 ⇑P P 23 18 43.0 -0.1
baz=57,SNR=25
427A Hayter Ranch, 57.37 80 ⇓P P 23 18 42.8 -0.4
baz=57,SNR=7.6
X32A Elmer 57.45 74 ⇑P P 23 18 43.5 -0.2
baz=57,SNR=6.5
526A Mary Lane Ranc 57.49 81 ⇑P P 23 18 44.2 +0.1
baz=57,SNR=10
WMOK Wichita Mounta 57.54 74 *e*P P 23 18 44.2 -0.1
WMOK *e* 23 19 37.1
WMOK pmax pmax
comp=Z,29nm,1.1s
WMOK Wichita Mounta 57.54 74 *e*P P 23 18 44.2 -0.1
comp=Z,29nm,1.1s
WMOK *e*PcP PcP 23 19 37.1 -0.2
V34A Guthrie 57.56 72 ⇑P P 23 18 44.2 -0.1
baz=57,SNR=7.8
229A Bryant Ranch, 57.59 78 ⇑P P 23 18 44.5 -0.2
baz=57
Y32A R-V Farms, Ver 57.64 75 ⇑P P 23 18 45.1 +0.1
baz=58,SNR=14
130A Snyder 57.67 77 ⇓P P 23 18 45.0 -0.2
baz=58,SNR=5.8
Z31A Sharp Cattle R 57.68 76 ⇑P P 23 18 45.3 0.0
baz=58,SNR=10
527A Woodward Ranch 57.73 81 ⇑P P 23 18 45.9 +0.1
baz=58,SNR=8.2
W34A Bridge Creek, 57.81 72 ⇓P P 23 18 46.3 +0.1
baz=58
329A Wagon Wheel Ra 57.81 79 ⇑P P 23 18 46.2 -0.1
baz=58,SNR=6.3
626A Big Bend Ranch 57.82 82 ⇓P P 23 18 46.3 -0.1
baz=58,SNR=15
X33A Laton 57.84 74 ⇓P P 23 18 46.4 +0.1
baz=58
428A Kincaid Ranch, 57.90 80 ⇓P P 23 18 47.0 +0.1
baz=58,SNR=12
131A Roby 57.97 76 ⇑P P 23 18 47.5 +0.1
baz=58,SNR=6.3
KEV Kevo 57.99 350 *e*P P 23 18 46.1 -0.7
KEV Kevo 57.99 350 *e*p P 23 18 46.1 -0.7
comp=Z,0.5nm,0.3s
230A Sterling City 58.07 78 ⇑P P 23 18 47.6 -0.4
baz=58,SNR=21
Z32A Haskell 58.09 75 ⇓P P 23 18 48.0 -0.1
baz=58,SNR=17
Y33A Hilltop Ranch, 58.13 74 ⇑P P 23 18 48.1 -0.3
baz=58,SNR=5.6
X34A Smith Ranch, M 58.21 73 ⇑P P 23 18 48.8 -0.1
baz=58
528A Cox Ranch, San 58.23 80 ⇓P P 23 18 49.1 -0.2
baz=58,SNR=5.8
TXAR Lajitas Array 58.26 82 P P 23 18 49.2 -0.2
TXAR PcP PcP 23 19 41.0 +0.7
TXAR ⇑*e* 23 48 42.0
TXAR Lajitas Array 58.26 82 P P 23 18 49.2 -0.2
comp=Z,7.8nm,1.0s,baz=301,slow=4.3,SNR=34
TXAR PcP PcP 23 19 41.0 +0.7
comp=Z,3.4nm,0.8s,baz=296,slow=2.9,SNR=2.8
TXAR LR LR 23 43 36.6
comp=Z,159nm,18.8s,baz=0.0,slow=36
TXAR PKP2bc 23 48 42.0
comp=Z,0.8nm,1.0s,baz=134,slow=3.9,SNR=4.1
627A Terlingua Ranc 58.35 81 ⇑P P 23 18 49.9 -0.2
baz=58,SNR=8.8
ARCES ARCESS Array B 58.36 350 P P 23 18 48.7 -0.7
ARCES ARCESS Array B 58.36 350 P P 23 18 48.7 -0.7
comp=Z,6.4nm,0.7s,baz=25,slow=7.3,SNR=24
330A Mertzon 58.36 78 ⇑P P 23 18 49.6 -0.5
baz=58,SNR=8.6
429A Davenport Ranc 58.46 79 ⇓P P 23 18 50.2 -0.6
baz=58,SNR=7.5
ABTX Abilene, Hawle 58.46 76 *e*P P 23 18 50.7 -0.1
comp=Z,42nm,1.1s
ABTX Abilene, Hawle 58.46 76 ⇓P P 23 18 50.6 -0.1
baz=58,SNR=8.7
231A Bronte 58.52 77 ⇑P P 23 18 50.6 -0.6
baz=58
TUL1 Tulsa 58.53 71 *e*P P 23 18 50.6 -0.6
comp=Z,74nm,1.1s
TUL1 Tulsa 58.53 71 ⇓P P 23 18 51.1 0.0
baz=58,SNR=12
Z33A Whitaker Ranch 58.54 75 ⇑P P 23 18 51.0 -0.2
baz=58,SNR=6.5
529A Stev Forest Ra 58.61 80 P P 23 18 51.7 -0.1
baz=58
628A Black Gap, Mar 58.64 81 ⇑P P 23 18 51.9 -0.2
baz=58,SNR=12
Y34A Reagan Ranch, 58.69 74 ⇓P P 23 18 52.6 +0.3
baz=59,SNR=14
430A Baggett Ranch, 58.76 79 ⇓P P 23 18 52.5 -0.4
baz=59,SNR=11
331A San Angelo 58.89 78 ⇓P P 23 18 53.2 -0.5
baz=59
133A Hamilton Ranch 58.92 75 P P 23 18 53.9 +0.1
baz=59
232A Coleman 58.97 77 P P 23 18 53.9 -0.4
baz=59
Z34A Collier Ranch, 59.00 74 P P 23 18 54.4 -0.1
baz=59
530A J-C Ranch, Com 59.14 79 P P 23 18 55.3 -0.2
baz=59
431A Sonora 59.22 78 ⇓P P 23 18 55.4 -0.6
baz=59,SNR=16
332A Millersview 59.26 77 ⇓P P 23 18 56.0 -0.3
baz=59,SNR=13
233A Rising Star 59.34 76 ⇑P P 23 18 56.6 -0.2
baz=59,SNR=7.1
Z35A Perchaven, San 59.43 74 ⇓P P 23 18 57.1 -0.3
baz=59
CD2 Chengdu 59.43 282 ⇓*i*P P 23 18 58.0 +0.5
CD2 pP pP 23 19 10.5 0.0
CD2 sP sP 23 19 18.8 +3.1
CD2 PP PP 23 21 09.5 +0.7
CD2 S S 23 27 01.5 -1.8
CD2 sS sS 23 27 23.3 -1.6
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,210nm,6.0s
CD2 LR LR
comp=Z,430nm,19.0s
CD2 LR LR
comp=Z,660nm,20.2s
CD2 LR LR
comp=Z,530nm,14.3s
134A White-Moore Ra 59.45 75 ⇓P P 23 18 57.8 +0.3
baz=59,SNR=10
KURK Kurchatov 59.47 314 *e*P P 23 18 57.0 -0.4
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 59.47 314 P P 23 18 57.6 +0.2
KURK PcP PcP 23 19 45.6 +1.0
KURBB Kurchatov Arra 59.57 314 P P 23 18 57.6 -0.5
comp=Z,6.7nm,0.9s,baz=42,slow=6.5,SNR=12
KURBB PcP PcP 23 19 45.6 +0.6
comp=Z,10nm,1.0s,baz=48,slow=3.8,SNR=11
432A Menard 59.58 78 ⇓P P 23 18 57.9 -0.7
baz=59
531A Rocksprings 59.61 79 ⇓P P 23 18 58.1 -0.7
baz=60,SNR=10.0
333A Richland Sprin 59.77 77 ⇑P P 23 18 59.5 -0.3
baz=60,SNR=8.1
WMQ Urumqi 59.81 303 P P 23 19 03.3 +3.3
WMQ pP pP 23 19 16.0 +3.1
WMQ sP sP 23 19 21.3 +3.2
WMQ PcP PcP 23 19 49.3 +3.1
WMQ PP PP 23 21 17.3 +5.5
WMQ ScP ScP 23 23 45.0 +1.9
WMQ S S 23 27 09.0 +1.1
WMQ pmax pmax
comp=Z,14nm,1.0s
WMQ pmax pmax
comp=Z,220nm,7.8s
WMQ LR LR
comp=Z,150nm,11.9s
WMQ LR LR
comp=Z,440nm,14.9s
WMQ LR LR
comp=Z,450nm,23.2s
234A Clairette 59.81 75 ⇑P P 23 19 00.1 +0.1
baz=60,SNR=16
JCT Junction City 59.85 78 *e*P P 23 18 59.5 -0.9
JCT pmax pmax
comp=Z,18nm,0.9s
JCT Junction City 59.85 78 *e*P P 23 18 59.5 -0.9
comp=Z,18nm,0.9s
JCT Junction City 59.85 78 ⇓P P 23 18 59.5 -0.9
baz=60
135A Vickery Place, 59.87 74 ⇑P P 23 19 00.5 0.0
baz=60
532A Rocksprings 60.03 78 ⇓P P 23 19 00.8 -0.9
baz=60,SNR=6.3
433A Art 60.10 77 ⇑P P 23 19 01.5 -0.6
baz=60,SNR=11
631A Perdido Creek 60.12 79 ⇑P P 23 19 01.2 -1.0
baz=60,SNR=9.8
334A Lometa 60.22 76 ⇑P P 23 19 02.7 -0.2
baz=60,SNR=27
WHTX Lake Whitney 60.23 75 *e*P P 23 19 02.8 -0.1
comp=Z,28nm,0.8s
WHTX Lake Whitney 60.23 75 ⇓P P 23 19 03.1 +0.2
baz=60
SFIN Scholer Farm 60.47 61 *e*P P 23 19 04.2 -0.2
comp=Z,141nm,1.0s
SFIN Scholer Farm 60.47 61 ⇓P P 23 19 04.5 +0.1
baz=60,SNR=14
MKAR Makanchi Array 60.49 309 *i*P P 23 19 03.5 -1.0
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 60.49 309 P P 23 19 04.3 -0.3
MKAR Makanchi Array 60.49 309 P P 23 19 04.3 -0.3
comp=Z,9.0nm,0.8s,baz=28,slow=7.3,SNR=15
632A Uvalde 60.54 79 ⇓P P 23 19 04.4 -0.7
baz=60,SNR=5.3
434A Burnet 60.56 77 ⇑P P 23 19 04.8 -0.4
baz=60,SNR=13
533A Kerrville 60.61 78 ⇑P P 23 19 05.2 -0.4
baz=60
335A Moody 60.75 76 ⇓P P 23 19 06.5 +0.1
baz=61
GYA Guiyang 60.77 277 P P 23 19 08.5 +1.7
GYA pP pP 23 19 22.0 +2.2
GYA sP sP 23 19 28.5 +3.5
GYA PP PP 23 21 24.5 +3.7
GYA ScP ScP 23 23 48.0 +0.3
GYA S S 23 27 19.8 -0.9
GYA sS sS 23 27 42.3 0.0
GYA SS SS 23 31 20.3 +0.7
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,450nm,18.2s
GYA LR LR
comp=Z,380nm,19.0s
GYA LR LR
comp=Z,470nm,18.6s
MIAR Mount Ida 60.79 70 *e*P P 23 19 06.8 +0.1
MIAR pmax pmax
comp=Z,72nm,1.2s
MIAR Mount Ida 60.79 70 *e*P P 23 19 06.8 +0.1
comp=Z,72nm,1.2s
633A Saathoff Ranch 60.95 78 ⇓P P 23 19 07.8 -0.1
baz=61
534A Blanco 60.98 77 ⇓P P 23 19 07.6 -0.5
baz=61,SNR=6.4
435B Jarrell 61.00 76 ⇑P P 23 19 08.9 +0.7
baz=61
AAM Ann Arbor 61.01 58 *e*P P 23 19 08.2 +0.2
AAM pmax pmax
comp=Z,16nm,0.4s
AAM Ann Arbor 61.01 58 *e*P P 23 19 08.2 +0.2
comp=Z,16nm,0.4s
TGY Tagaytay City 61.01 256 P P 23 19 08.2 -0.2
TGY Tagaytay City 61.01 256 P P 23 19 08.2 -0.2
comp=Z,126nm,0.3s,baz=77,slow=18,SNR=3.7
OLIL Olney 61.05 63 *e*P P 23 19 08.4 0.0
comp=Z,149nm,1.1s
832A Faith Ranch, C 61.29 80 ⇓P P 23 19 09.8 -0.3
baz=61,SNR=7.1
BVAR Borovoye Array 61.32 320 P P 23 19 09.9 -0.1
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 61.32 320 P P 23 19 09.9 -0.1
BVAR Borovoye Array 61.32 320 P P 23 19 09.9 -0.1
comp=Z,1.3nm,0.3s,baz=54,slow=6.9,SNR=9.1
BRVK Borovoye 61.34 320 *e*P P 23 19 10.2 +0.1
BRVK pmax pmax
comp=Z,5.0nm,1.2s
UALR University of 61.36 69 *e*P P 23 19 09.9 -0.6
comp=Z,27nm,1.0s
733A Divot King Ran 61.41 79 ⇓P P 23 19 11.1 +0.1
baz=61
PARMO Parma 61.55 66 *e*P P 23 19 11.2 -0.5
833A Chaparral WMA, 61.62 79 ⇓P P 23 19 12.4 0.0
baz=62
BLO Bloomington 61.63 62 *e*P P 23 19 12.0 -0.3
BLO pmax pmax
comp=Z,159nm,1.1s
BLO Bloomington 61.63 62 *e*P P 23 19 12.0 -0.3
comp=Z,159nm,1.1s
USIN University of 61.83 64 *e*P P 23 19 13.7 +0.1
comp=Z,212nm,1.2s
635A Leesville 61.87 77 ⇓P P 23 19 14.2 +0.2
baz=62
SVE Sverdlovsk 61.99 328 ⇑*i*P P 23 19 15.0 +0.6
SVE pmax pmax
comp=Z,39nm,1.4s
933A Laredo 62.20 80 ⇑P P 23 19 17.0 +0.7
baz=62
735A Kenedy 62.22 78 ⇑P P 23 19 17.4 +1.0
baz=62
PRGR Permogore 62.25 338 ⇓*i*P P 23 19 16.1 0.0

PRGR *PP **pP** **23 19 29.6 +0.5**
PRGR *e* 23 19 55.0
PRGR *e* 23 21 32.9
PRGR pmax pmax
comp=Z,20nm,0.8s
WCI Wyandotte Cave 62.41 63 *eP* **P** **23 19 17.1 -0.5**
WCI pmax pmax
comp=Z,73nm,0.9s
WCI Wyandotte Cave 62.41 63 *eP* **P** **23 19 17.1 -0.5**
comp=Z,73nm,0.9s
835A Beeville 62.62 78 ⇑P **P** **23 19 19.9 +0.9**
baz=62
HKT Hockley 62.66 76 *eP* **P** **23 19 19.7 +0.5**
HKT pmax pmax
comp=Z,17nm,1.2s
HKT Hockley 62.66 76 *eP* **P** **23 19 19.7 +0.5**
comp=Z,17nm,1.2s
934A Benavides 62.68 79 ⇑P **P** **23 19 20.4 +0.9**
baz=62
ACSO Alum Creek Sta 62.82 59 *eP* **P** **23 19 20.0 -0.3**
comp=Z,94nm,1.3s
034A Hebbronville 62.96 80 ⇑P **P** **23 19 22.1 +0.7**
baz=63
ARU Arti 63.00 329 P **P** **23 19 20.7 -0.5**
comp=Z,149nm,1.1s,SNR=7.1
ARU Arti 63.00 329*c i*P **P** **23 19 21.0 -0.2**
ARU 23 19 56.2
ARU 23 21 42.9
ARU S **S** **23 27 50.2 +2.5**
ARU 23 29 13.8
ARU SS **SS** **23 31 57.4 +4.6**
ARU pmax pmax
comp=Z,37nm,1.2s
WVT Waverly 63.02 65 *eP* **P** **23 19 21.9 +0.2**
WVT pmax pmax
comp=Z,45nm,1.4s
WVT Waverly 63.02 65 *eP* **P** **23 19 21.9 +0.2**
comp=Z,45nm,1.4s
OXF Oxford 63.26 68 *eP* **P** **23 19 23.1 -0.1**
OXF Oxford 63.26 68 *eP* **P** **23 19 23.1 -0.1**
comp=Z,211nm,0.9s
035A Encino 63.41 79 ⇑P **P** **23 19 25.2 +0.9**
baz=63
JOF Joensuu 63.90 345 *eP* **P** **23 19 25.0 -2.0**
JOF pmax pmax
comp=Z,11nm,0.8s
JOF Joensuu 63.90 345 *ep* **P** **23 19 25.0 -2.0**
comp=Z,10nm,0.8s
KMI Kunming 64.18 279 P **P** **23 19 30.0 +0.3**
KMI pP **pP** **23 19 40.5 -2.3**
KMI sP **sP** **23 19 45.0 -3.0**
KMI S **S** **23 28 02.0 -1.7**
KMI pmax pmax
comp=Z,14nm,1.2s
KMI pmax pmax
comp=Z,190nm,4.2s
KMI LR LR
comp=Z,300nm,28.4s
KMI LR LR
comp=Z,360nm,26.8s
KMI LR LR
comp=Z,410nm,21.8s
QIZ Qiongzhong 64.19 269 P **P** **23 19 31.0 +1.5**
QIZ S **S** **23 28 02.8 -0.7**
QIZ LR LR
comp=Z,610nm,14.9s
QIZ LR LR
comp=Z,470nm,18.3s
KLMR Klimovskoe 64.31 341 *eP* **P** **23 19 28.1 -1.6**
KLMR pmax pmax
comp=Z,21nm,1.4s
SWET Sewanee 64.76 65 *eP* **P** **23 19 32.6 -0.5**
comp=Z,15nm,0.7s
CPCT Cooper Cave 65.39 64 *eP* **P** **23 19 37.1 -0.1**
KAF Kangasniemi 65.40 348 *eP* **P** **23 19 34.4 -2.4**
KAF pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 65.40 348 *ep* **P** **23 19 34.4 -2.4**
comp=Z,8.2nm,0.8s
TKL Tuckaleechee C 65.66 63 *eP* **P** **23 19 39.3 +0.4**
LRAL Lakeview Retre 65.72 67 *eP* **P** **23 19 38.6 -0.7**
comp=Z,26nm,0.8s
FIA1 FINESS Array S 66.07 348 *eP* **P** **23 19 39.6 -1.5**
FIA1 *e*PcP **PcP** **23 20 11.2 -0.1**
FINES FINESS Array B 66.07 348 P **P** **23 19 40.2 -0.9**
FINES FINESS Array B 66.07 348 P **P** **23 19 40.2 -0.9**
comp=Z,8.2nm,0.8s,baz=22,slow=7.2,SNR=16
BLA Blacksburg 66.38 60 *eP* **P** **23 19 43.6 0.0**
BLA pmax pmax
comp=Z,94nm,1.2s
BLA Blacksburg 66.38 60 *eP* **P** **23 19 43.6 0.0**
comp=Z,94nm,1.2s
TKM2 Tokmak 2 66.57 310 *eP* **P** **23 19 44.3 -0.6**
TKM2 Tokmak 2 66.57 310 *eP* **P** **23 19 44.3 -0.6**
VWCC Virginia Weste 66.60 59 *eP* **P** **23 19 45.2 +0.3**
AAK Ala-Archa 67.32 310 P **P** **23 19 50.9 +1.2**
comp=Z,59nm,1.3s,SNR=5.0
AAK Ala-Archa 67.32 310⇑*iP* **P** **23 19 49.9 +0.2**
AAK pmax pmax
comp=Z,47nm,1.7s
AAK Ala-Archa 67.32 310 P **P** **23 19 49.9 +0.2**
AAK Ala-Archa 67.32 310 P **P** **23 19 49.9 +0.2**
comp=Z,7.3nm,0.9s,baz=97,slow=2.6,SNR=6.9
KMSC Kings Mountain 67.40 62 *eP* **P** **23 19 50.3 +0.3**
comp=Z,175nm,0.9s
KMSC Kings Mountain 67.40 62 ⇑P **P** **23 19 50.5 +0.4**
baz=67,SNR=31
GOGA Godfrey 67.47 64 *eP* **P** **23 19 49.7 -0.8**
GOGA pmax pmax
comp=Z,41nm,0.8s
GOGA Godfrey 67.47 64 *eP* **P** **23 19 49.7 -0.8**
comp=Z,41nm,0.8s
EKS2 Erkin-Say 67.64 311 *eP* **P** **23 19 51.3 -0.4**
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 67.64 311 *eP* **P** **23 19 51.3 -0.4**
comp=Z,9.8nm,1.0s
NB2 NORSAR Subarra 67.88 355 P **P** **23 19 51.8 -0.9**
comp=Z,9.1nm,1.0s,baz=5.4,slow=6.5
NOA NORSAR Array B 67.88 355 P **P** **23 19 52.1 -0.6**
NOA NORSAR Array B 67.88 355 P **P** **23 19 52.1 -0.6**
comp=Z,3.7nm,0.8s,baz=6.5,slow=6.2,SNR=16
LSA Lhasa 67.91 290 *eP* **P** **23 19 54.6 +0.7**
LSA Lhasa 67.91 290 *eP* **P** **23 19 54.6 +0.7**
AKTO Aktyubinsk 68.09 325 P **P** **23 19 54.0 -0.2**
AKTO pmax pmax
comp=Z,25nm,0.9s
AKTO Aktyubinsk 68.09 325 P **P** **23 19 54.0 -0.2**
AKTO Aktyubinsk 68.09 325 P **P** **23 19 54.0 -0.2**
comp=Z,25nm,0.9s,baz=47,slow=6.4,SNR=41
ABKAR Akbulak arg 68.36 323 *eP* **P** **23 19 55.0 -0.8**
comp=Z,12nm,1.0s
HFS Hagfors 68.63 354 P **P** **23 19 56.6 -0.8**
HFS Hagfors 68.63 354 P **P** **23 19 56.6 -0.8**
comp=Z,6.3nm,0.8s,baz=352,slow=2.1,SNR=13
KKAR Karatay Array 68.83 313 *eP* **P** **23 19 58.2 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 68.83 313 *eP* **P** **23 19 58.2 -0.8**
comp=Z,7.0nm,0.9s
TIGA Tifton 68.85 66 ⇓P **P** **23 19 59.2 0.0**
baz=69
VSU Vasula 68.85 346⇑*iP* **P** **23 19 58.2 -0.5**
VSU pmax pmax
comp=Z,93nm,1.3s
KSH Kashi 68.96 307 P **P** **23 20 03.0 +3.1**
KSH *e*PcP **PcP** **23 20 28.0 +4.0**
KSH *e*PP **PP** **23 22 37.3 +5.2**
KSH *e*S **S** **23 29 01.0 -0.1**
KSH *es*S **sS** **23 29 23.3 +0.2**
KSH *e*SS **SS** **23 33 27.0 +0.7**
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH pmax pmax
comp=Z,170nm,7.8s
KSH LR LR
comp=Z,340nm,16.8s
KSH LR LR
comp=Z,340nm,14.8s
KSH LR LR
comp=Z,220nm,12.4s
KONO Kongsberg 69.35 356 *eP* **P** **23 20 00.6 -1.2**
KONO pmax pmax
comp=Z,50nm,0.8s
MOS Moscow 69.40 339 *eP* **P** **23 20 01.7 -0.4**
MOS *e* 23 20 15.8
MOS pmax pmax
comp=Z,80nm,1.4s
NHSC New Hope 69.55 63 *eP* **P** **23 20 03.3 -0.1**
comp=Z,142nm,1.0s
OBN Obninsk 70.21 340*c i*P **P** **23 20 06.6 -0.5**
OBN *i* 23 20 28.1
OBN *e* 23 22 42.8
OBN pmax pmax
comp=Z,78nm,1.7s
OBN Obninsk 70.21 340 *eP* **P** **23 20 06.5 -0.6**
comp=Z,68nm,1.3s
OBN Obninsk 70.21 340 P **P** **23 20 06.8 -0.3**
comp=Z,29nm,1.1s,baz=15,slow=5.1,SNR=13
CHTO Chiang Mai 71.19 277 *eP* **P** **23 20 12.4 -1.3**
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 71.19 277 *eP* **P** **23 20 12.4 -1.3**
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 71.46 277 P **P** **23 20 15.3 0.0**
CMAR Chiang Mai Arr 71.46 277 P **P** **23 20 15.3 0.0**
comp=Z,3.1nm,0.4s,baz=28,slow=6.7,SNR=16
TAPN Taplejung 71.68 291 *eP* **P** **23 20 17.6 +0.7**
comp=Z,309nm,1.0s
ODAN Odare 72.23 291 *eP* **P** **23 20 20.6 +0.4**
comp=Z,162nm,1.3s
NACGM Naroch 72.27 345 *e* P 23 20 14.0 -5.6
GUN Gumba 72.33 293 *eP* **P** **23 20 21.7 +0.8**
comp=Z,410nm,0.9s
JIRN Jiri 72.33 292 *eP* **P** **23 20 21.9 +1.0**
comp=Z,366nm,1.1s
RAMN Ramite 72.63 291 *eP* **P** **23 20 23.0 +0.5**
comp=Z,202nm,0.9s
VRHR Novokhopersk 72.67 335 *eP* **P** **23 20 19.2 -2.8**
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=E,40nm,0.8s
KKN Kakani 72.77 293 *eP* **P** **23 20 24.0 +0.7**
comp=E,79nm,0.8s
PKI Pulchoki 72.86 293 *eP* **P** **23 20 24.6 +0.6**
comp=E,217nm,1.2s
PKIN Phulchoki 72.86 293 *eP* **P** **23 20 24.3 +0.4**
comp=E,164nm,1.2s
GKN Gorkha 72.98 293 *eP* **P** **23 20 25.1 +0.6**
comp=E,285nm,1.1s
DMN Daman 73.00 293 *eP* **P** **23 20 25.7 +0.9**
comp=E,222nm,1.2s
VSR Storozhevoye 73.19 337 *eP* **P** **23 20 23.7 -1.4**
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
VSR pmax pmax
comp=N,20nm,0.8s
DANN Dangsing 73.22 294 *eP* **P** **23 20 26.8 +0.7**
comp=N,290nm,1.0s
VORD Divnogorie 73.39 336 *eP* **P** **23 20 24.8 -1.5**
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s
VORD pmax pmax
comp=E,20nm,1.4s
SUW Suwalki 73.67 347 *eP* **P** **23 20 26.5 -1.4**
SUW Suwalki 73.67 347 *eP* **P** **23 20 26.5 -1.4**
KOLN Koldanda 73.75 294 *eP* **P** **23 20 29.7 +0.6**
comp=E,162nm,1.1s
EKA Eskdalemuir Ar 73.77 3 P **P** **23 20 28.3 -0.2**
EKA Eskdalemuir Ar 73.77 3 P **P** **23 20 28.3 -0.2**
comp=E,12nm,0.9s,baz=353,slow=4.6,SNR=16
PYUN Piuthan 73.85 295 *eP* **P** **23 20 30.1 +0.4**
DZM Mont Dzumac 74.19 195 P **P** **23 20 31.7 +0.4**
DZM Mont Dzumac 74.19 195 P **P** **23 20 31.7 +0.4**
comp=E,17nm,1.1s,baz=27,slow=10,SNR=4.1
BSEG Bad Segeberg 75.02 355 *eP* **P** **23 20 35.8 +0.1**
comp=Z,39nm,1.3s
GKP Gorka Klasztor 75.12 351 *eP* **P** **23 20 35.7 -0.7**
GKP Gorka Klasztor 75.12 351 *eP* **P** **23 20 35.7 -0.7**
AKASG Malin Array Be 75.87 342*ceP* **P** **23 20 40.4 -0.3**
AKASG pmax pmax
comp=Z,20nm,0.8s
AKASG Malin Array Be 75.87 342 P **P** **23 20 40.3 -0.3**
AKASG Malin Array Be 75.87 342 P **P** **23 20 40.3 -0.3**
comp=Z,21nm,0.8s,baz=18,slow=5.8,SNR=60
AKBB Malin Array Si 75.87 342 *eP* **P** **23 20 39.6 -1.1**
AKBB Malin Array Si 75.87 342 *eP* **P** **23 20 39.6 -1.1**
KIEV Kiev 75.88 342*c iP* **P** **23 20 39.5 -1.2**
KIEV Kiev 75.88 342 *eP* **P** **23 20 40.0 -0.7**
comp=Z,42nm,1.0s
AK01 Malin Array Si 75.88 342 *eP* **P** **23 20 39.8 -1.0**
AK02 Malin Array Si 75.91 342 *eP* **P** **23 20 40.0 -0.9**
KBL Kabul 76.30 308 *eP* **P** **23 20 42.6 -1.1**
KBL *e* 23 23 33.0
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 76.30 308 *eP* **P** **23 20 42.5 -1.1**
comp=Z,16nm,0.8s
KBL *e*PP **PP** **23 23 33.0 -1.8**
NRDL Niedersach Rie 76.47 355 *eP* **P** **23 20 43.6 -0.3**
comp=Z,38nm,1.3s
IBBN Ibbenburen 76.77 356 *eP* **P** **23 20 45.8 +0.1**
comp=Z,54nm,1.1s
CLZ Clausthal 77.10 355 *eP* **P** **23 20 47.8 +0.1**
comp=Z,37nm,1.1s
WTSB Winterswijk 77.14 357 *eP* **P** **23 20 48.1 +0.3**
comp=Z,25nm,0.9s
CLL Collm 77.45 353⇑*iP* **P** **23 20 48.6 -1.0**
CLL *i* *PP **pP** **23 21 02.2 -0.8**
CLL pmax pmax
comp=Z,19nm,1.2s
CLL Collm 77.45 353 *eP* **P** **23 20 48.8 -0.8**
comp=Z,19nm,1.2s
CLL Collm 77.45 353⇑*iP* **P** **23 20 48.6 -1.0**
comp=Z,19nm,1.2s
CLL *i* PcP **pP** **23 21 02.2 -0.8**
CTA Charters Tower 77.55 214 P **P** **23 20 50.3 -0.1**
CTA Charters Tower 77.55 214 P **P** **23 20 50.3 -0.1**
comp=Z,8.6nm,0.8s,baz=34,slow=9.5,SNR=4.9
KSP Ksiaz 77.62 351 *eP* **P** **23 20 50.0 -0.5**
KSP Ksiaz 77.62 351 *eP* **P** **23 20 50.1 -0.5**
LVV L'vov 77.62 346 *eP* **P** **23 20 49.3 -1.3**
BUG Bochum--Univer 77.65 357 *eP* **P** **23 20 50.4 -0.3**
comp=Z,50nm,1.5s
GOF Gofitskoye 77.74 331⇑*iP* **P** **23 20 51.3 -0.1**
GOF pmax pmax
comp=Z,220nm,1.3s
BRG Berggiesshubel 77.81 352 *i* P **P** **23 20 51.3 -0.3**
comp=Z,20nm,1.1s
BRG Berggiesshubel 77.81 352 *eP* **P** **23 20 50.9 -0.7**
comp=Z,20nm,1.1s
OJC Ojcow 77.83 348 *eP* **P** **23 20 51.1 -0.7**
OJC Ojcow 77.83 348 *eP* **P** **23 20 51.1 -0.7**
UPC Upice 77.98 351 *eP* **P** **23 20 52.6 0.0**
UPC Upice 77.98 351 *eP* **P** **23 20 52.6 0.0**
KWP Kalwaria Pacla 78.00 346 *eP* **P** **23 20 52.4 -0.4**
KWP pmax pmax
comp=Z,87nm,1.1s
KWP Kalwaria Pacla 78.00 346 *eP* **P** **23 20 52.6 -0.1**
KWP Kalwaria Pacla 78.00 346⇑*iP* **P** **23 20 53.0 +0.3**
KWP Kalwaria Pacla 78.00 346 *eP* **P** **23 20 52.4 -0.4**
comp=Z,87nm,1.1s
PVCC Panska Ves 78.10 352 *eP* **P** **23 20 53.7 +0.5**
PVCC Panska Ves 78.10 352 *eP* **P** **23 20 53.7 +0.5**
DPC Dobruska-Polom 78.10 351 *eP* **P** **23 20 53.2 -0.1**
DPC *e* 23 20 58.8
DPC *e* 23 21 02.4
DPC *e* 23 21 07.5
DPC Dobruska-Polom 78.10 351 *eP* **P** **23 20 53.2 -0.1**
DPC *ep*P **PcP** **23 20 58.8 -4.0**
DPC *es*P sP 23 21 02.4 -9.5
DPC *e*PCP **pP** **23 21 07.5 +0.8**
UBBA Unterbreizbach 78.14 355 *eP* **P** **23 20 53.2 -0.1**
comp=Z,32nm,1.6s
MOX Moxa 78.22 354 *eP* **P** **23 20 53.5 -0.4**
comp=Z,24nm,1.3s
BEBN Eben Emael 78.35 358 P **P** **23 20 55.4 +0.8**
HGN Heimansgroeve 78.38 357 *eP* **P** **23 20 54.9 +0.2**
comp=Z,33nm,1.0s
TANN Tannenbergstha 78.38 353 *eP* **P** **23 20 54.6 -0.3**
comp=Z,21nm,1.4s
OKC Ostrava-Krasne 78.41 349 *eP* **P** **23 20 54.6 -0.3**
OKC *e* 23 20 59.3
OKC Ostrava-Krasne 78.41 349 *eP* **P** **23 20 54.6 -0.3**
OKC *ep*P **PcP** **23 20 59.3 -4.8**
STHS Stebnicka Huta 78.43 347 *eP* **P** **23 20 55.8 +0.7**
STHS pmax pmax
comp=Z,19nm,1.2s
STHS Stebnicka Huta 78.43 347 *eP* **P** **23 20 55.8 +0.7**
ABKT Ailbek 78.52 318 P **P** **23 20 56.3 +0.5**
comp=Z,90nm,1.0s,SNR=6.5
MEM Membach 78.53 357 P **P** **23 20 55.8 +0.2**
comp=Z,23nm,1.4s
MORC Moravsky Berou 78.54 350⇓*iP* **P** **23 20 55.7 0.0**
NIE Niedzica 78.55 348 *eP* **P** **23 20 55.8 0.0**
NIE Niedzica 78.55 348 *eP* **P** **23 20 55.8 0.0**
PRU Pruhonice 78.63 352 *eP* **P** **23 20 55.0 -1.2**
PRU Pruhonice 78.63 352 *eP* **P** **23 20 55.0 -1.2**
SNF Seneffe 78.67 358 P **P** **23 20 56.6 +0.3**
BCLA Clavier 78.74 358 P **P** **23 20 56.0 -0.7**
comp=Z,6.3nm,1.1s
KOLS Kolonicke sedl 78.75 346 *eP* **P** **23 20 56.4 -0.5**
KOLS pmax pmax
comp=Z,17nm,1.1s
KOLS Kolonicke sedl 78.75 346 *eP* **P** **23 20 56.4 -0.5**
TNS Taunus Mts 78.82 356 *eP* **P** **23 20 56.9 -0.4**
comp=Z,26nm,1.1s
KIV Kislovodsk 78.85 331 P **P** **23 20 58.0 +0.4**
comp=Z,211nm,1.0s,SNR=5.0
KIV Kislovodsk 78.85 331 *eP* **P** **23 20 58.0 +0.4**
KIV pmax pmax
comp=Z,33nm,0.9s
KIV MLR MLR
comp=Z,295nm,18.0s
KIV Kislovodsk 78.85 331 *eP* **P** **23 20 57.7 +0.1**
comp=Z,32nm,1.0s
CRVS Cervenica-Dubn 78.90 347 *eP* **P** **23 20 57.6 -0.1**
CRVS pmax pmax
comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 78.90 347 *eP* **P** **23 20 57.6 -0.1**
NCK Nalchik 78.99 330 *eP* **P** **23 20 58.1 -0.2**
KBZ Khabaz 78.99 331 P **P** **23 20 58.4 +0.2**
KBZ pmax pmax
comp=Z,18nm,0.8s
KBZ Khabaz 78.99 331 P **P** **23 20 58.4 +0.2**
KBZ Khabaz 78.99 331 P **P** **23 20 58.4 +0.2**
comp=Z,18nm,0.8s,baz=19,slow=2.3,SNR=22
KBZ LR LR 00 01 08.1
comp=Z,440nm,18.7s,baz=307,slow=40
UZH Uzhgorod 79.04 346*c iP* **P** **23 20 58.4 0.0**
UZH *e* 23 21 08.4
ROTZ Rotzenmuhle 79.05 353 *eP* **P** **23 20 58.4 -0.1**
comp=Z,19nm,1.2s
GIVF Givet 79.06 358 *eP* **P** **23 20 58.3 -0.2**
comp=Z,80nm,1.2s
GIVF Givet 79.06 358 *eP* **P** **23 20 58.3 -0.2**
GIVF pmax pmax
comp=Z,81nm,1.2s
GIVF Givet 79.06 358 *eP* **P** **23 20 58.3 -0.2**
comp=Z,80nm,1.2s
DOU Dourbes 79.08 358 P **P** **23 20 58.4 -0.2**
comp=Z,15nm,1.3s
VRAC Vranov 79.10 350⇓*iP* **P** **23 20 59.0 +0.2**
VRAC Vranov 79.10 350 P **P** **23 20 58.7 -0.1**
VRAC Vranov 79.10 350 P **P** **23 20 58.7 -0.1**
comp=Z,11nm,0.9s,baz=20,slow=4.9,SNR=14
BAIF Baives 79.12 358⇑*iP* **P** **23 20 58.9 +0.1**
comp=Z,98nm,1.2s
BAIF Baives 79.12 358⇑*iP* **P** **23 20 58.9 +0.1**
BAIF pmax pmax
comp=Z,98nm,1.2s
BAIF Baives 79.12 358⇑*iP* **P** **23 20 58.9 +0.1**
comp=Z,98nm,1.2s
GRF Grafenberg Arr 79.19 354 *eP* **P** **23 20 59.4 +0.1**
comp=Z,40nm,1.2s
TREC Trest 79.23 351 *eP* **P** **23 20 58.7 -0.8**
TREC Trest 79.23 351 *eP* **P** **23 20 58.7 -0.8**
KECS Kecovo 79.44 348 *eP* **P** **23 21 00.7 0.0**
KECS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 79.44 348 *eP* **P** **23 21 00.7 0.0**
WLF Walferdange 79.47 357 P **P** **23 21 01.4 +0.6**
comp=Z,18nm,1.3s
WLF Walferdange 79.47 357 *eP* **P** **23 21 01.0 +0.2**
comp=Z,23nm,1.0s
KIS Kishinev 79.49 342 *eP* **P** **23 21 00.0 -0.9**
KIS *i* 23 21 05.0
KIS *e* 23 21 15.0
KIS Kishinev 79.49 342 *eP* **P** **23 21 00.0 -0.9**
TRPA Tarpa 79.49 346⇓*iP* **P** **23 21 01.5 +0.6**
TRPA Tarpa 79.49 346⇓*eP* **P** **23 21 01.4 +0.6**
ZEI Tsey 79.53 330 *eP* **P** **23 20 59.1 -2.4**
ZEI pmax pmax
comp=Z,46nm,0.9s
BUR08 Bucovina Ar. S 79.54 344 *eP* **P** **23 21 01.0 -0.3**
KHC Kasperske Hory 79.57 352 *eP* **P** **23 21 01.1 -0.3**
KHC *e* 23 21 14.4
KHC Kasperske Hory 79.57 352 *eP* **P** **23 21 01.1 -0.3**
KHC *ep*P **PcP** **23 21 05.3 -3.9**
KHC *ex* x 23 21 14.4
KHC Kasperske Hory 79.57 352 *eP* **P** **23 21 00.7 -0.7**
comp=Z,18nm,1.1s
WET Wettzell 79.61 353 *eP* **P** **23 21 01.0 -0.6**
comp=Z,14nm,1.2s
GEC2 GERESS Array S 79.84 352 *eP* **P** **23 21 02.2 -0.7**
comp=Z,9.0nm,1.1s
GERES GERESS Array B 79.84 352 P **P** **23 21 02.3 -0.7**
GERES GERESS Array B 79.84 352 P **P** **23 21 02.3 -0.7**
comp=Z,4.5nm,0.9s,baz=20,slow=4.3,SNR=29
SOC Sochi 80.06 333 *eP* P 23 20 58.4 -5.7
SOC *e**PP pP 23 21 16.6 -0.9
SOC *e* 23 24 08.9
SOC *eS* S 23 30 58.7 -6.0
SOC *eSS* SS 23 36 23.0 +8.9
SOC MLR MLR
comp=Z,654nm,16.0s
PSZ Piszkesteto 80.08 348 *eP* **P** **23 21 03.5 -0.7**
PSZ pmax pmax
comp=Z,28nm,1.1s
PSZ Piszkesteto 80.08 348⇑*iP* **P** **23 21 05.5 +1.3**
PSZ Piszkesteto 80.08 348 *eP* **P** **23 21 03.5 -0.7**
comp=Z,28nm,1.1s
PSZ Piszkesteto 80.08 348⇓*e* **P** **23 21 05.2 +1.0**
STU Stuttgart 80.23 355 *eP* **P** **23 21 04.4 -0.5**
comp=Z,38nm,1.4s
TESR Tescani 80.37 343⇓*iP* **P** **23 21 05.9 +0.2**
FLN La Foliniere 80.42 2 *eP* **P** **23 21 05.4 -0.5**
comp=Z,91nm,1.1s
FLN La Foliniere 80.42 2 *eP* **P** **23 21 05.4 -0.5**
FLN pmax pmax
comp=Z,91nm,1.1s
FLN La Foliniere 80.42 2 *eP* **P** **23 21 05.4 -0.5**
comp=Z,91nm,1.1s
CONA Conrad Observa 80.54 351⇓*iP* **P** **23 21 07.0 +0.2**
comp=Z,17nm,1.0s,SNR=7.2
PAGF Fort de Pagny 80.59 357⇑*iP* **P** **23 21 07.1 +0.3**
comp=Z,29nm,0.9s
PAGF Fort de Pagny 80.59 357⇑*iP* **P** **23 21 07.1 +0.3**
comp=Z,27nm,0.9s
LDF La Druitiere 80.59 1⇑*iP* **P** **23 21 06.2 -0.6**
comp=Z,96nm,1.1s
LDF La Druitiere 80.59 1⇑*iP* **P** **23 21 06.2 -0.6**
LDF pmax pmax
comp=Z,96nm,1.1s
LDF La Druitiere 80.59 1⇑*iP* **P** **23 21 06.2 -0.6**
comp=Z,96nm,1.1s
MEZF Maizieres J'vi 80.66 358⇑*iP* **P** **23 21 07.3 +0.1**
comp=Z,70nm,1.1s
MEZF Maizieres J'vi 80.66 358⇑*iP* **P** **23 21 07.3 +0.1**
comp=Z,70nm,1.1s
CDF Champ du Feu 80.68 356⇑*iP* **P** **23 21 07.0 -0.4**
comp=Z,19nm,0.9s
CDF Champ du Feu 80.68 356⇑*iP* **P** **23 21 07.0 -0.4**
CDF pmax pmax
comp=Z,19nm,0.9s
CDF Champ du Feu 80.68 356⇑*iP* **P** **23 21 07.0 -0.4**
comp=Z,19nm,0.9s
FUR Furstenfeldbru 80.71 354 *eP* **P** **23 21 07.2 -0.3**
comp=Z,29nm,1.3s
SOP Sopron 80.71 350⇓*eP* **P** **23 21 08.1 +0.6**
BFO Black Forest 80.72 356 *i* P **P** **23 21 08.0 +0.4**
BFO Black Forest 80.72 356 *eP* **P** **23 21 07.2 -0.4**
comp=Z,22nm,1.4s
BFO Black Forest 80.72 356 *eP* **P** **23 21 06.6 -1.0**
comp=Z,12nm,1.3s
ROSF Rostrenen 80.77 3 *eP* **P** **23 21 07.7 -0.1**
comp=Z,65nm,1.1s
ROSF Rostrenen 80.77 3 *eP* **P** **23 21 07.7 -0.1**

ROSF						pmax		pmax		
	comp=Z,65nm,1.1s									
ROSF	**Rostrenen**	**80.77**	**3**	*eP*		**P**		**23 21 07.7**	**-0.1**	
	comp=Z,65nm,1.1s									
DRGR		**80.77**	**346**	⇓*iP*		**P**		**23 21 08.3**	**+0.4**	
GRR	**Gorron**	**80.78**	**2**	⇑*iP*		**P**		**23 21 07.6**	**-0.3**	
	comp=Z,72nm,0.9s									
GRR	**Gorron**	**80.78**	**2**	⇑*iP*		**P**		**23 21 07.6**	**-0.3**	
GRR						pmax		pmax		
	comp=Z,72nm,0.9s									
GRR	**Gorron**	**80.78**	**2**	⇑*iP*		**P**		**23 21 07.6**	**-0.3**	
	comp=Z,72nm,0.9s									
PKSG		**80.79**	**349**	⇓*eP*		**P**		**23 21 08.7**	**+0.8**	
CSKK	**Cs^‡kako**	**80.83**	**349**	⇓*eP*		**P**		**23 21 09.6**	**+1.5**	
SGMF	**Saint Gilles**	**80.87**	**3**	⇑*iP*		**P**		**23 21 08.1**	**-0.2**	
	comp=Z,108nm,1.1s									
SGMF	**Saint Gilles**	**80.87**	**3**	⇑*iP*		**P**		**23 21 08.1**	**-0.2**	
SGMF						pmax		pmax		
	comp=Z,108nm,1.1s									
SGMF	**Saint Gilles**	**80.87**	**3**	⇑*iP*		**P**		**23 21 08.1**	**-0.2**	
	comp=Z,108nm,1.1s									
ECH	**Echery**	**80.88**	**356**	*eP*		**P**		**23 21 08.0**	**-0.5**	
ECH						pmax		pmax		
	comp=Z,14nm,1.0s									
ECH	**Echery**	**80.88**	**356**	*eP*		**P**		**23 21 08.0**	**-0.5**	
	comp=Z,14nm,1.0s									
SFTF	**Sexfontaines**	**80.96**	**358**	⇑*iP*		**P**		**23 21 08.7**	**-0.1**	
	comp=Z,119nm,1.0s									
SFTF	**Sexfontaines**	**80.96**	**358**	⇑*iP*		**P**		**23 21 08.7**	**-0.1**	
	comp=Z,119nm,1.0s									
PKST	**T``s**	**80.96**	**349**	⇓*eP*		**P**		**23 21 09.4**	**+0.5**	
VRI	**Vrincioaia**	**80.98**	**343**	⇓*iP*		**P**		**23 21 09.5**	**+0.5**	
PLOR	**Plostina**	**81.01**	**343**	⇓*iP*		**P**		**23 21 09.8**	**+0.6**	
RJOB	**Jochberg**	**81.02**	**353**	*eP*		**P**		**23 21 08.8**	**-0.4**	
	comp=Z,10.0nm,1.1s									
PETR	**Petresti**	**81.02**	**342**	⇓*iP*		**P**		**23 21 10.7**	**+1.5**	
PKS7	**Kunszentmiklos**	**81.03**	**348**	⇓*eP*		**P**		**23 21 10.0**	**+0.8**	
PKSN	**Nyarlorinc**	**81.08**	**348**	⇓*eP*		**P**		**23 21 10.8**	**+1.3**	
HAU	**Haudompre**	**81.12**	**357**	⇑*iP*		**P**		**23 21 09.3**	**-0.4**	
	comp=Z,50nm,1.2s									
HAU	**Haudompre**	**81.12**	**357**	⇑*iP*		**P**		**23 21 09.3**	**-0.4**	
HAU						pmax		pmax		
	comp=Z,50nm,1.2s									
HAU	**Haudompre**	**81.12**	**357**	⇑*iP*		**P**		**23 21 09.3**	**-0.4**	
	comp=Z,50nm,1.2s									
QUIF	**Quistinic**	**81.19**	**3**	*eP*		**P**		**23 21 09.7**	**-0.3**	
	comp=Z,390nm,1.8s									
QUIF	**Quistinic**	**81.19**	**3**	*eP*		**P**		**23 21 09.7**	**-0.3**	
QUIF	**Quistinic**	**81.19**	**3**	*eP*		**P**		**23 21 09.7**	**-0.3**	
	comp=Z,390nm,1.8s									
TLCR		**81.22**	**341**	⇑*iP*		**P**		**23 21 10.3**	**+0.1**	
ARSA	**Arzberg**	**81.25**	**351**	⇑*iP*		**P**		**23 21 10.7**	**+0.3**	
	comp=Z,16nm,1.1s,SNR=7.0									
HINF	**Hinteralfeld**	**81.29**	**357**	⇑*iP*		**P**		**23 21 10.1**	**-0.6**	
	comp=Z,17nm,1.0s									
HINF	**Hinteralfeld**	**81.29**	**357**	⇑*iP*		**P**		**23 21 10.1**	**-0.6**	
HINF						pmax		pmax		
	comp=Z,17nm,1.0s									
HINF	**Hinteralfeld**	**81.29**	**357**	⇑*iP*		**P**		**23 21 10.1**	**-0.6**	
	comp=Z,17nm,1.0s									
CFR	**Carcaliu**	**81.37**	**342**	⇓*iP*		**P**		**23 21 11.2**	**+0.2**	
GRER		**81.40**	**342**	⇑*iP*		**P**		**23 21 13.1**	**+1.9**	
SIRR	**Siria**	**81.44**	**346**	⇓*iP*		**P**		**23 21 11.9**	**+0.4**	
MLR	**Muntele Rosu**	**81.49**	**343**	⇑*iP*		**P**		**23 21 13.4**	**+1.6**	
MLR	**Muntele Rosu**	**81.49**	**343**	P		**P**		**23 21 12.7**	**+0.9**	
MLR	**Muntele Rosu**	**81.49**	**343**	P		**P**		**23 21 12.7**	**+0.9**	
	comp=Z,11nm,1.0s,baz=341,slow=6.8,SNR=34									
WATA	**Walderalm**	**81.51**	**353**	⇓*iP*		**P**		**23 21 11.8**	**-0.2**	
	comp=Z,36nm,1.3s,SNR=5.8									
MOTA	**Moosalm**	**81.53**	**354**	⇑*iP*		**P**		**23 21 11.7**	**-0.4**	
	comp=Z,19nm,1.1s,SNR=8.8									
WTTA	**Wattenberg**	**81.58**	**353**	⇑*iP*		**P**		**23 21 12.4**	**0.0**	
	comp=Z,26nm,1.0s,SNR=7.4									
PKS9	**Tamasi**	**81.59**	**349**	⇓*eP*		**P**		**23 21 13.0**	**+0.8**	
KBA	**Koelnbreinsper**	**81.63**	**352**	⇑*iP*		**P**		**23 21 12.9**	**+0.3**	
	comp=Z,69nm,1.1s,SNR=22									
GNI	**Garni**	**81.64**	**328**	*eP*		**P**		**23 21 12.7**	**-0.1**	
	comp=Z,34nm,1.2s									
GNI	**Garni**	**81.64**	**328**	P		**P**		**23 21 13.6**	**+0.8**	
	comp=Z,7.8nm,0.8s,baz=328,slow=5.2,SNR=5.9									
DAVA	**Damuels**	**81.67**	**355**	⇑*iP*		**P**		**23 21 13.5**	**+0.7**	
	comp=Z,16nm,1.4s									
ISR	**Istrita**	**81.73**	**343**	⇑*iP*		**P**		**23 21 14.8**	**+1.7**	
ARR	**Arges**	**81.84**	**344**	⇓*iP*		**P**		**23 21 14.7**	**+1.1**	
SOKA	**Soboth**	**81.86**	**351**	⇑*iP*		**P**		**23 21 13.8**	**+0.1**	
	comp=Z,40nm,1.0s,SNR=12									
FETA	**Feichten**	**81.88**	**354**	⇓*iP*		**P**		**23 21 13.7**	**-0.2**	
	comp=Z,27nm,1.1s,SNR=6.5									
PERS	**Pernice**	**81.90**	**351**	*iP*		**P**		**23 21 13.7**	**-0.2**	
MTUR	**Matau**	**81.90**	**344**	⇑*iP*		**P**		**23 21 15.6**	**+1.6**	
PKSM	**Moragy**	**81.92**	**348**	⇓*iP*		**P**		**23 21 13.6**	**-0.3**	
PKSM	**Moragy**	**81.92**	**348**	⇓*eP*		**P**		**23 21 13.4**	**-0.5**	
LOR	**Lormes**	**81.92**	**359**	⇑*iP*		**P**		**23 21 13.7**	**-0.2**	
	comp=Z,34nm,0.9s									
LOR	**Lormes**	**81.92**	**359**	⇑*iP*		**P**		**23 21 13.7**	**-0.2**	
	comp=Z,34nm,0.9s									
HYF	**Humbligny**	**81.93**	**359**	*eP*		**P**		**23 21 14.0**	**0.0**	
HYF	**Humbligny**	**81.93**	**359**	*eP*		**P**		**23 21 14.0**	**0.0**	
TIRR	**Tirgusor**	**82.00**	**341**	⇓*iP*		**P**		**23 21 14.8**	**+0.4**	
ABTA	**Abfaltersbach**	**82.02**	**353**	⇑*iP*		**P**		**23 21 14.4**	**-0.2**	
	comp=Z,25nm,1.1s,SNR=7.1									
OBKA	**Obir**	**82.08**	**351**	⇑*iP*		**P**		**23 21 14.6**	**-0.3**	
	comp=Z,19nm,0.8s									
BZS	**Buzias**	**82.09**	**346**	⇓*iP*		**P**		**23 21 15.0**	**+0.2**	
GZR	**Gura Zlata**	**82.12**	**345**	⇓*iP*		**P**		**23 21 15.5**	**+0.4**	
SSF	**Saint Saulge**	**82.13**	**359**	⇑*iP*		**P**		**23 21 14.9**	**-0.1**	
	comp=Z,30nm,0.9s									
SSF	**Saint Saulge**	**82.13**	**359**	⇑*iP*		**P**		**23 21 14.9**	**-0.1**	
SSF						pmax		pmax		
	comp=Z,30nm,0.9s									
SSF	**Saint Saulge**	**82.13**	**359**	⇑*iP*		**P**		**23 21 14.9**	**-0.1**	
	comp=Z,30nm,0.9s									
WRAB	**Tennant Creek**	**82.16**	**224**	*iP*		**P**		**23 21 12.9**	**-2.5**	
WRA	**Warramunga Arr**	**82.17**	**224**	P		**P**		**23 21 14.8**	**-0.7**	
WRA	**Warramunga Arr**	**82.17**	**224**	P		**P**		**23 21 14.8**	**-0.7**	
	comp=Z,10nm,0.8s,baz=37,slow=6.2,SNR=28									
DAVOX	**Davos/Dischmat**	**82.18**	**354**	P		**P**		**23 21 15.4**	**-0.1**	
DAVOX	**Davos/Dischmat**	**82.18**	**354**	P		**P**		**23 21 15.4**	**-0.1**	
	comp=Z,8.6nm,0.9s,baz=17,slow=13,SNR=7.3									
SULR		**82.21**	**343**	⇑*iP*		**P**		**23 21 16.1**	**+0.6**	
AVF	**Avril sur Loir**	**82.40**	**359**	*eP*		**P**		**23 21 16.2**	**-0.2**	
	comp=Z,56nm,1.1s									
AVF	**Avril sur Loir**	**82.40**	**359**	*eP*		**P**		**23 21 16.2**	**-0.2**	
AVF						pmax		pmax		
	comp=Z,56nm,1.1s									
AVF	**Avril sur Loir**	**82.40**	**359**	*eP*		**P**		**23 21 16.2**	**-0.2**	
	comp=Z,56nm,1.1s									
TUE	**Stuetta**	**82.52**	**355**	*eP*		**P**		**23 21 17.1**	**-0.3**	
	comp=Z,36nm,1.4s									
CABF	**La Chapelle**	**82.52**	**357**	*eP*		**P**		**23 21 17.2**	**0.0**	
	comp=Z,70nm,1.1s									
CABF	**La Chapelle**	**82.52**	**357**	*eP*		**P**		**23 21 17.2**	**0.0**	
CABF						pmax		pmax		
	comp=Z,70nm,1.1s									
CABF	**La Chapelle**	**82.52**	**357**	*eP*		**P**		**23 21 17.2**	**0.0**	
	comp=Z,70nm,1.1s									
SMF	**Signal de Mont**	**82.54**	**359**	⇑*iP*		**P**		**23 21 16.9**	**-0.3**	
	comp=Z,70nm,1.0s									
SMF	**Signal de Mont**	**82.54**	**359**	⇑*iP*		**P**		**23 21 16.9**	**-0.3**	
SMF						pmax		pmax		
	comp=Z,70nm,1.0s									
SMF	**Signal de Mont**	**82.54**	**359**	⇑*iP*		**P**		**23 21 16.9**	**-0.3**	
	comp=Z,70nm,1.0s									
MFF	**Saint Martin d**	**82.58**	**1**	⇑*iP*		**P**		**23 21 17.3**	**-0.1**	
	comp=Z,83nm,1.0s									
MFF	**Saint Martin d**	**82.58**	**1**	⇑*iP*		**P**		**23 21 17.3**	**-0.1**	
MFF						pmax		pmax		
	comp=Z,83nm,1.0s									
MFF	**Saint Martin d**	**82.58**	**1**	⇑*iP*		**P**		**23 21 17.3**	**-0.1**	
	comp=Z,83nm,1.0s									
GCIS	**Gornji Cirnik**	**82.61**	**350**	*iP*		**P**		**23 21 17.1**	**-0.4**	
BGF	**Bois d'Agland**	**82.64**	**359**	⇑*iP*		**P**		**23 21 17.5**	**-0.2**	
	comp=Z,44nm,1.0s									
BGF	**Bois d'Agland**	**82.64**	**359**	⇑*iP*		**P**		**23 21 17.5**	**-0.2**	
BGF						pmax		pmax		
	comp=Z,44nm,1.0s									
BGF	**Bois d'Agland**	**82.64**	**359**	⇑*iP*		**P**		**23 21 17.5**	**-0.2**	
	comp=Z,44nm,1.0s									
JAVS	**Javornik**	**82.74**	**351**	*iP*		**P**		**23 21 18.2**	**-0.1**	
VISS	**Visnje**	**82.75**	**351**	*iP*		**P**		**23 21 17.5**	**-0.8**	
TCF	**Toulx Ste Croi**	**82.91**	**360**	⇑*iP*		**P**		**23 21 18.8**	**-0.4**	
	comp=Z,34nm,1.0s									
TCF	**Toulx Ste Croi**	**82.91**	**360**	⇑*iP*		**P**		**23 21 18.8**	**-0.4**	
TCF						pmax		pmax		
	comp=Z,34nm,1.0s									
TCF	**Toulx Ste Croi**	**82.91**	**360**	⇑*iP*		**P**		**23 21 18.8**	**-0.4**	
	comp=Z,34nm,1.0s									
BOJS	**Bojanci**	**83.00**	**351**	*eP*		**P**		**23 21 19.7**	**+0.1**	
PSI	**Prapat**	**83.41**	**266**	P		**P**		**23 21 22.1**	**-0.1**	
PSI	**Prapat**	**83.41**	**266**	P		**P**		**23 21 22.1**	**-0.1**	
	comp=Z,19nm,0.9s,baz=331,slow=1.7,SNR=12									
LPL	**La Plagne**	**83.59**	**357**	*eP*		**P**		**23 21 23.4**	**+0.5**	
LPL	**La Plagne**	**83.59**	**357**	*eP*		**P**		**23 21 23.4**	**+0.5**	
LPL	**La Plagne**	**83.59**	**357**	*eP*		**P**		**23 21 23.4**	**+0.5**	
LPG	**La Plagne**	**83.61**	**357**	⇑*iP*		**P**		**23 21 23.9**	**+0.8**	
LPG	**La Plagne**	**83.61**	**357**	⇑*iP*		**P**		**23 21 23.9**	**+0.8**	
LPG	**La Plagne**	**83.61**	**357**	⇑*iP*		**P**		**23 21 23.9**	**+0.8**	
RJF	**Les Rejaudoux**	**83.90**	**0**	*eP*		**P**		**23 21 23.9**	**-0.3**	
	comp=Z,57nm,1.1s									
RJF	**Les Rejaudoux**	**83.90**	**0**	*eP*		**P**		**23 21 23.9**	**-0.3**	
RJF						pmax		pmax		
	comp=Z,57nm,1.1s									
RJF	**Les Rejaudoux**	**83.90**	**0**	*eP*		**P**		**23 21 23.9**	**-0.3**	
	comp=Z,57nm,1.1s									
BNI	**Bardonecchia**	**84.06**	**357**	*eP*		**P**		**23 21 25.3**	**+0.1**	
BNI						pmax		pmax		
	comp=Z,45nm,1.3s									
BNI	**Bardonecchia**	**84.06**	**357**	*eP*		**P**		**23 21 25.3**	**+0.1**	
	comp=Z,45nm,1.3s									
ORIF	**Oris-en-Rattie**	**84.22**	**357**	*eP*		**P**		**23 21 26.5**	**+0.5**	
	comp=Z,61nm,1.3s									
ORIF	**Oris-en-Rattie**	**84.22**	**357**	*eP*		**P**		**23 21 26.5**	**+0.5**	
ORIF						pmax		pmax		
	comp=Z,61nm,1.3s									
ORIF	**Oris-en-Rattie**	**84.22**	**357**	*eP*		**P**		**23 21 26.5**	**+0.5**	
	comp=Z,61nm,1.3s									
LFF	**La Frestale**	**84.26**	**1**	*eP*		**P**		**23 21 26.0**	**0.0**	
	comp=Z,196nm,1.3s									
LFF	**La Frestale**	**84.26**	**1**	*eP*		**P**		**23 21 26.0**	**0.0**	
LFF						pmax		pmax		
	comp=Z,196nm,1.3s									
LFF	**La Frestale**	**84.26**	**1**	*eP*		**P**		**23 21 26.0**	**0.0**	
	comp=Z,196nm,1.3s									
CAF	**Calviac**	**84.28**	**360**	⇑*iP*		**P**		**23 21 26.3**	**+0.1**	
	comp=Z,64nm,1.0s									
CAF	**Calviac**	**84.28**	**360**	⇑*iP*		**P**		**23 21 26.3**	**+0.1**	
CAF						pmax		pmax		
	comp=Z,64nm,1.0s									
CAF	**Calviac**	**84.28**	**360**	⇑*iP*		**P**		**23 21 26.3**	**+0.1**	
	comp=Z,64nm,1.0s									
VIVF	**Saint-Julien-l**	**84.31**	**358**	*eP*		**P**		**23 21 26.5**	**+0.1**	
	comp=Z,52nm,1.3s									
VIVF	**Saint-Julien-l**	**84.31**	**358**	*eP*		**P**		**23 21 26.5**	**+0.1**	
VIVF						pmax		pmax		
	comp=Z,52nm,1.3s									
VIVF	**Saint-Julien-l**	**84.31**	**358**	*eP*		**P**		**23 21 26.5**	**+0.1**	
	comp=Z,52nm,1.3s									
MBDF	**Montbardon**	**84.38**	**356**	*eP*		**P**		**23 21 27.3**	**+0.4**	
	comp=Z,25nm,0.8s									
MBDF	**Montbardon**	**84.38**	**356**	*eP*		**P**		**23 21 27.3**	**+0.4**	
MBDF						pmax		pmax		
	comp=Z,25nm,0.8s									
MBDF	**Montbardon**	**84.38**	**356**	*eP*		**P**		**23 21 27.3**	**+0.4**	
	comp=Z,25nm,0.8s									
HYB	**Hyderabad**	**84.69**	**291**	*iP*		**P**		**23 21 28.0**	**-0.6**	
VTS	**Vitosha**	**84.78**	**344**	⇓*iP*		**P**		**23 21 28.7**	**-0.2**	
LASF	**Ste Croix**	**85.11**	**359**	*eP*		**P**		**23 21 30.6**	**+0.2**	
	comp=Z,20nm,0.9s									
LASF	**Ste Croix**	**85.11**	**359**	*eP*		**P**		**23 21 30.6**	**+0.2**	
	comp=Z,20nm,0.9s									
SMRF	**Simiane la Rot**	**85.17**	**357**	*eP*		**P**		**23 21 31.4**	**+0.7**	
	comp=Z,83nm,1.1s									
SMRF	**Simiane la Rot**	**85.17**	**357**	*eP*		**P**		**23 21 31.4**	**+0.7**	
	comp=Z,83nm,1.1s									
SBF	**Sospel**	**85.22**	**356**	*eP*		**P**		**23 21 30.5**	**-0.5**	
	comp=Z,117nm,1.0s									
SBF	**Sospel**	**85.22**	**356**	*eP*		**P**		**23 21 30.5**	**-0.5**	
SBF						pmax		pmax		
	comp=Z,117nm,1.0s									
SBF	**Sospel**	**85.22**	**356**	*eP*		**P**		**23 21 30.5**	**-0.5**	
	comp=Z,117nm,1.0s									
BR131	**Keskin Array S**	**85.30**	**336**	*eP*		**P**		**23 21 31.1**	**-0.4**	
	comp=Z,16nm,0.8s									
BRTR	**Keskin Array B**	**85.30**	**336**	P		**P**		**23 21 31.6**	**+0.1**	
BRTR	**Keskin Array B**	**85.30**	**336**	P		**P**		**23 21 31.6**	**+0.1**	
	comp=Z,19nm,0.9s,baz=48,slow=2.8,SNR=45									
ARMA	**Armidale**	**85.51**	**206**	*eP*		**P**		**23 21 31.9**	**-0.5**	
	comp=Z,23nm,1.0s									
ASAR	**Alice Springs**	**85.63**	**223**	P		**P**		**23 21 33.2**	**+0.1**	
ASAR	**Alice Springs**	**85.63**	**223**	P		**P**		**23 21 33.2**	**+0.1**	
	comp=Z,13nm,0.8s,baz=29,slow=4.9,SNR=44									
SKO	**Skopje**	**85.67**	**346**	*eP*		**P**		**23 21 31.0**	**-2.2**	
LMR	**La Mourre**	**85.78**	**357**	⇑*iP*		**P**		**23 21 33.6**	**-0.1**	
	comp=Z,78nm,1.3s									
LMR	**La Mourre**	**85.78**	**357**	⇑*iP*		**P**		**23 21 33.6**	**-0.1**	
LMR						pmax		pmax		
	comp=Z,78nm,1.3s									
LMR	**La Mourre**	**85.78**	**357**	⇑*iP*		**P**		**23 21 33.6**	**-0.1**	
	comp=Z,78nm,1.3s									
MTLF	**Montolieu**	**85.86**	**360**	*eP*		**P**		**23 21 34.2**	**+0.1**	
	comp=Z,53nm,1.1s									
MTLF	**Montolieu**	**85.86**	**360**	*eP*		**P**		**23 21 34.2**	**+0.1**	
MTLF						pmax		pmax		
	comp=Z,53nm,1.1s									
MTLF	**Montolieu**	**85.86**	**360**	*eP*		**P**		**23 21 34.2**	**+0.1**	
	comp=Z,53nm,1.1s									
SJPF	**Ste Jean**	**86.05**	**2**	*eP*		**P**		**23 21 35.4**	**+0.4**	
	comp=Z,26nm,0.9s									
SJPF	**Ste Jean**	**86.05**	**2**	*eP*		**P**		**23 21 35.4**	**+0.4**	
SJPF						pmax		pmax		
	comp=Z,27nm,0.9s									
SJPF	**Ste Jean**	**86.05**	**2**	*eP*		**P**		**23 21 35.4**	**+0.4**	
	comp=Z,26nm,0.9s									
VAY	**Valandovo**	**86.12**	**345**	*eP*		P		23 21 27.2	-8.2	
EPF	**Esparros**	**86.16**	**1**	*eP*		**P**		**23 21 34.9**	**-0.7**	
	comp=Z,20nm,1.0s									
EPF	**Esparros**	**86.16**	**1**	*eP*		**P**		**23 21 34.9**	**-0.7**	
EPF						pmax		pmax		
	comp=Z,20nm,1.0s									
EPF	**Esparros**	**86.16**	**1**	*eP*		**P**		**23 21 34.9**	**-0.7**	
	comp=Z,20nm,1.0s									
ETSF	**Etsaut**	**86.28**	**2**	*eP*		**P**		**23 21 36.5**	**+0.2**	
	comp=Z,39nm,1.1s									
ETSF	**Etsaut**	**86.28**	**2**	*eP*		**P**		**23 21 36.5**	**+0.2**	
ETSF						pmax		pmax		
	comp=Z,39nm,1.0s									
ETSF	**Etsaut**	**86.28**	**2**	*eP*		**P**		**23 21 36.5**	**+0.2**	
	comp=Z,39nm,1.0s									
PGF	**Pioggiola**	**86.45**	**355**	⇑*iP*		**P**		**23 21 36.8**	**-0.3**	
	comp=Z,85nm,0.9s									
PGF	**Pioggiola**	**86.45**	**355**	⇑*iP*		**P**		**23 21 36.8**	**-0.3**	
PGF						pmax		pmax		
	comp=Z,85nm,0.9s									
PGF	**Pioggiola**	**86.45**	**355**	⇑*iP*		**P**		**23 21 36.8**	**-0.3**	
	comp=Z,85nm,0.9s									
MVO	**Moncorvo**	**87.71**	**7**	*eP*		**P**		**23 21 43.1**	**-0.1**	
	comp=Z,30nm,1.5s									
PVIS	**Viseu**	**88.08**	**7**	*eP*		**P**		**23 21 44.9**	**-0.1**	
	comp=Z,35nm,1.6s									
MTE	**Manteigas**	**88.43**	**7**	*eP*		**P**		**23 21 46.6**	**0.0**	
	comp=Z,40nm,1.6s									
LRS	**Lares**	**88.54**	**62**	*eP*		**P**		**23 21 47.4**	**-0.1**	
PCAS	**Casmilo, Conde**	**88.69**	**8**	*eP*		**P**		**23 21 47.6**	**-0.2**	
	comp=Z,48nm,1.3s									
PCBR	**Castelo Branco**	**88.99**	**7**	*eP*		**P**		**23 21 48.5**	**-0.7**	
	comp=Z,28nm,1.8s									
TIP	**Timpagrande**	**89.08**	**348**	*eP*		**P**		**23 21 49.0**	**-0.8**	
	comp=Z,12nm,1.1s									
ESDC	**Sonseca Array**	**89.38**	**5**	P		**P**		**23 21 50.2**	**-0.9**	
ESDC	**Sonseca Array**	**89.38**	**5**	P		**P**		**23 21 50.2**	**-0.9**	
	comp=Z,6.8nm,0.9s,baz=360,slow=4.3,SNR=24									
STKA	**Stephens Creek**	**89.99**	**213**	*eP*		**P**		**23 21 53.9**	**+0.2**	
	comp=Z,6.4nm,1.0s									
STKA	**Stephens Creek**	**89.99**	**213**	P		**P**		**23 21 54.0**	**+0.3**	
	comp=Z,25nm,0.9s,baz=9.5,slow=6.1,SNR=3.8									
STKA						LR		LR		
	comp=Z,420nm,20.8s,baz=96,slow=32							23 56 32.1		
MMAI	**Mount Meron Ar**	**91.12**	**332**	P		**P**		**23 22 00.2**	**+0.8**	
MMAI	**Mount Meron Ar**	**91.12**	**332**	P		**P**		**23 22 00.2**	**+0.8**	
	comp=Z,5.1nm,0.6s,baz=78,slow=6.1,SNR=8.9									
ASF	**Jabal al Asfar**	**91.46**	**331**	P		**P**		**23 22 00.1**	**-0.8**	
ASF	**Jabal al Asfar**	**91.46**	**331**	P		**P**		**23 22 00.1**	**-0.8**	
	comp=Z,5.1nm,0.9s,baz=254,slow=2.6,SNR=5.1									
IDI	**Anoyia**	**91.55**	**341**	P		**P**		**23 22 00.8**	**-0.6**	
IDI	**Anoyia**	**91.55**	**341**	P		**P**		**23 22 00.8**	**-0.6**	
	comp=Z,14nm,0.9s,baz=22,slow=15,SNR=2.2									
KEST	**Kesra**	**93.21**	**354**	P		**P**		**23 22 07.0**	**-2.0**	
KEST	**Kesra**	**93.21**	**354**	P		**P**		**23 22 07.0**	**-2.0**	
	comp=Z,3.1nm,1.0s,baz=313,slow=3.5,SNR=4.1									
EIL	**Elat**	**94.38**	**332**	P		**P**		**23 22 12.0**	**-2.3**	
EIL	**Elat**	**94.38**	**332**	P		**P**		**23 22 12.0**	**-2.3**	
	comp=Z,4.7nm,0.7s,baz=82,slow=4.4,SNR=6.1									
TORD	**Torodi Ar. Bea**	**115.95**	**0**	PKP		**PKPdf**		**23 27 36.8**	**-0.6**	
TORD				PKKPbc		**PKKPbc**		**23 38 06.6**	**+0.3**	
TORD	**Torodi Ar. Bea**	**115.95**	**0**	PKP		**PKPdf**		**23 27 36.8**	**-0.6**	
	comp=Z,1.3nm,0.8s,baz=3.0,slow=2.1,SNR=9.4									
TORD				PKKPbc		**PKKPbc**		**23 38 06.6**	**+0.3**	
	comp=Z,2.6nm,0.9s,baz=166,slow=2.8,SNR=6.0									
H03N2	**Juan Fernandez**	**120.68**	**106**	T		T		01 40 16.7		
	baz=315,slow=75,SNR=76									
H03N1	**Juan Fernandez**	**120.69**	**106**	T		T		01 40 09.2		
	baz=315,slow=75,SNR=59									
H03N3	**Juan Fernandez**	**120.69**	**106**	T		T		01 40 21.0		
	baz=315,slow=75,SNR=76									
DBIC	**Dimbokro**	**122.09**	**8**	PKP		**PKPdf**		**23 27 49.1**	**-0.2**	
DBIC	**Dimbokro**	**122.09**	**8**	PKP		**PKPdf**		**23 27 49.1**	**-0.2**	
	comp=Z,1.4nm,0.3s,baz=141,slow=6.5,SNR=24									
CFAA	**Coronel Fontan**	**126.01**	**97**	PKP		**PKPdf**		**23 27 56.1**	**-0.1**	
CFAA	**Coronel Fontan**	**126.01**	**97**	PKP		**PKPdf**		**23 27 56.1**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=280,slow=4.1,SNR=3.3									
PLCA	**Paso Flores**	**130.50**	**108**	PKP		**PKPdf**		**23 28 05.4**	**+0.8**	
PLCA	**Paso Flores**	**130.50**	**108**	PKP		**PKPdf**		**23 28 05.4**	**+0.8**	
	comp=Z,9.6nm,1.0s,baz=291,slow=3.2,SNR=10.0									
TSUM	**Tsumeb**	**145.76**	**333**	*eP*		**PKPdf**		**23 28 33.2**	**+0.1**	
MAW	**Mawson**	**146.59**	**217**	PKPbc		**PKPbc**		**23 28 34.0**	**-0.4**	
MAW	**Mawson**	**146.59**	**217**	PKPbc		**PKPbc**		**23 28 34.0**	**-0.4**	
	comp=Z,49nm,0.9s,ba

	comp=E,134nm,0.2s							
YUK				*e*S		**Sn**	**00 05 41.3**	**-0.5**
YUK				A		A	00 05 43.2	
	comp=E,447nm,0.2s							
YUK				A		A	00 05 43.2	
	comp=E,273nm,0.2s							
NEM2	**Nemuro 2**	**2.23**	**247**	P		**Pn**	**00 05 22.8**	**+1.2**
NEM2				*e*S		**Sn**	**00 05 46.5**	**-1.8**
JRA	**Rausu**	**2.50**	**264**	P		**Pn**	**00 05 27.4**	**+2.2**
JNK	**Nakash**	**2.85**	**258**	P		**Pn**	**00 05 32.0**	**+2.0**
JNK				*e*S		**Sn**	**00 06 02.6**	**-0.8**
JAK	**Akkeshi**	**3.08**	**247**	P		**Pn**	**00 05 34.4**	**+1.4**
JAK				*e*S		**Sn**	**00 06 07.0**	**-1.7**
JAR	**Ashorobuto**	**3.60**	**256**	*e*S		**Sn**	**00 06 21.0**	**-0.5**
JCH	**Churui**	**4.12**	**248**	P		**Pn**	**00 05 48.8**	**+1.6**
JCH				*e*S		**Sn**	**00 06 32.3**	**-2.0**
JNBK	**Urakawa-nobuka**	**4.68**	**247**	*e*S		**Sn**	**00 06 46.2**	**-1.5**
JOT	**Ohata**	**6.22**	**245**	*e*S		**Sn**	**00 07 21.0**	**-4.5**
H11N2	**WAKE ISLAND Hy**	**28.85**	**142**	T		T	00 41 42.6	
	baz=335,slow=76,SNR=35							
H11N1	**WAKE ISLAND Hy**	**28.86**	**142**	T		T	00 41 44.3	
	baz=335,slow=76,SNR=27							
H11N3	**WAKE ISLAND Hy**	**28.87**	**142**	T		T	00 41 44.1	
	baz=335,slow=76,SNR=30							
SONM	**Songino Array**	**29.22**	**292**	P		**P**	**00 10 40.2**	**-0.2**
	comp=E,0.1nm,0.4s,baz=79,slow=9.1,SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**29.84**	**144**	T		T	00 42 53.3	
	baz=337,slow=77,SNR=63							
H11S3	**WAKE ISLAND Hy**	**29.85**	**144**	T		T	00 42 54.4	
	baz=337,slow=77,SNR=38							
H11S2	**WAKE ISLAND Hy**	**29.86**	**144**	T		T	00 42 55.3	
	baz=337,slow=77,SNR=41							
ILAR	**Eielson Array**	**40.48**	**37**	P		P	00 12 22.6	+5.8
	comp=E,0.2nm,0.7s,baz=282,slow=11,SNR=4.9							
MKAR	**Makanchi Array**	**45.25**	**298**	P		**P**	**00 12 56.3**	**+0.7**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**45.25**	**298**	P		**P**	**00 12 56.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=67,slow=8.0,SNR=8.9							
YKA	**Yellowknife Ar**	**54.81**	**34**	P		P	00 14 13.6	+6.0
	comp=Z,0.2nm,0.5s,baz=302,slow=6.7,SNR=4.8							
ARCES	**ARCESS Array B**	**59.12**	**340**	P		**P**	**00 14 36.6**	**-1.3**
	comp=Z,7.7nm,1.0s,baz=55,slow=7.8,SNR=3.2							
FINES	**FINESS Array B**	**64.88**	**333**	P		**P**	**00 15 16.0**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=36,slow=8.3,SNR=8.4							
NOA	**NORSAR Array B**	**69.49**	**339**	P		**P**	**00 15 45.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=31,slow=6.7,SNR=4.5							
AKASG	**Malin Array Be**	**71.77**	**324**	P		**P**	**00 16 00.1**	**+0.4**
AKASG	**Malin Array Be**	**71.77**	**324**	P		**P**	**00 16 00.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=35,slow=6.1,SNR=3.6							

IDC ***26*** *00:05:40.6±2.4,5˚.65S×105˚.55E,h0km,mb4.0/7, mb1 4.0/7,mb1mx3.7/32,mbtmp4.0/7,Error ellipse: s-maj=84.4km s-min=20.6km az=55.0*

ISCJB ***26*** *00:05:58.8±0.5,6˚.02S±0˚.08×105˚.56E±0˚.08,h188km±4km, mb3.8/7,Error ellipse: s-maj=17.1km s-min=6.3km az=41.7*

DJA ***26*** *00:06:02.3±1.0,6˚S±11˚×10˚6E±˚,h150km±11km,M3.7/11, MLv3.7/11*

ISC 26 00:05:59.7±0.8,6˚.05S±0˚.08×105˚.55E±0˚.07,h182km±7km, n24,σ1§14/28,mb3.7/7,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.58**	**166**	P	**Pn**	**00 06 25.9**	**+0.8**
CGJI				S	**Sn**	**00 06 44.2**	**-0.6**
SBJI	**Serang**	**0.58**	**97**	P	**Pn**	**00 06 24.8**	**-0.3**
KASI	**Kota Agung**	**1.17**	**296**	P	**Pn**	**00 06 30.4**	**+1.5**
KASI				S	**Sn**	**00 06 51.0**	**-0.5**
SKJI	**Sukabumi**	**1.38**	**134**	P	**Pn**	**00 06 31.8**	**+1.1**
CNJI	**Cibinong**	**2.01**	**129**	P	**Pn**	**00 06 36.9**	**-0.1**
CNJI				S	**Sn**	**00 07 03.9**	**-2.1**
MDSI	**Maura Dua**	**2.07**	**319**	P	**Pn**	**00 06 38.6**	**+1.0**
MDSI				S	**Sn**	**00 07 06.4**	**-0.7**
LEM	**Lembang**	**2.20**	**111**	P	**Pn**	**00 06 40.7**	**+1.5**
LEM	**Lembang**	**2.20**	**111**	P	**Pn**	**00 06 40.6**	**+1.4**
	baz=4.4,SNR=5.2						
CISI	**Cisompet, Garu**	**2.70**	**124**	P	**Pn**	**00 06 45.4**	**+0.5**
CISI				S	**Sn**	**00 07 19.3**	**-0.9**
CISI	**Cisompet, Garu**	**2.70**	**124**	P	**Pn**	**00 06 45.5**	**+0.6**
	baz=5.0,SNR=5.8						
JCJI	**Jatiwangi**	**2.74**	**99**	P	**Pn**	**00 06 46.6**	**+1.3**
LHSI	**Lahat**	**2.99**	**317**	P	**Pn**	**00 06 50.0**	**+1.7**
XMI	**Christmas Isla**	**4.38**	**178**	P	**Pn**	**00 07 06.1**	**+0.4**
	baz=6.5,SNR=5.8						
XMIS	**Christmas Isla**	**4.41**	**179**	P	**Pn**	**00 07 06.3**	**+0.2**
	baz=6.5,SNR=13						
UGM	**Wanagama**	**5.27**	**111**	P	**Pn**	**00 07 17.6**	**+0.3**
	baz=7.4,SNR=3.8						
JAGI	**Jajag, Banyuwa**	**8.87**	**106**	P	**Pn**	**00 08 04.4**	**0.0**
	baz=11,SNR=3.2						
WRA	**Warramunga Arr**	**31.19**	**119**	P	**P**	**00 12 03.6**	**+1.7**
	0.4nm,0.3s,baz=300,slow=11,SNR=24						
ASAR	**Alice Springs**	**32.41**	**126**	P	**P**	**00 12 14.8**	**+2.2**
	0.4nm,0.3s,baz=299,slow=8.2,SNR=3.9						
SONM	**Songino Array**	**52.65**	**1**	P	**P**	**00 15 02.5**	**0.0**
	0.5nm,0.4s,baz=182,slow=9.8,SNR=13						
USRK	**Ussuriysk Arra**	**55.40**	**23**	P	**P**	**00 15 14.6**	**-0.4**
	2.6nm,0.6s,baz=219,slow=8.6,SNR=5.0						
MKAR	**Makanchi Array**	**56.51**	**341**	P	**P**	**00 15 22.0**	**-0.9**
	0.5nm,0.4s,baz=151,slow=8.3,SNR=16						
ZALV	**Zalesovo Beam**	**62.26**	**346**	P	**P**	**00 16 00.7**	**-1.4**
	0.7nm,0.3s,baz=155,slow=6.6,SNR=5.6						
PETK	**Petropavlovsk-**	**73.47**	**30**	P	**P**	**00 17 11.4**	**-0.7**
	4.0nm,0.9s,baz=225,slow=1.8,SNR=3.0						
TXAR	**Lajitas Array**	**143.99**	**46**	PKhKP	PKPpre	00 25 14.6	
	0.2nm,0.6s,baz=309,slow=3.3,SNR=3.0						

IDC ***26*** *00:08:07.6±0.7,13˚.80N×91˚.79W,h0km,mb4.3/12, mb1 4.5/13,mb1mx4.2/29,mbtmp4.3/13,ML4.4/1,MS3.7/3, Ms1 3.7/3,ms1mx3.1/28,Error ellipse: s-maj=17.8km s-min=15.1km az=162.0*

MEX ***26*** *00:08:14.1±0.2,13˚.89N×92˚.07W,h16km±17km,MD4.7*

CASC ***26*** *00:08:14.2±2.8,13˚.68N×91˚.79W,h14km±16km,MD4.1, ML4.2*

NEIC ***26*** *00:08:14.3±1.0,13˚.95N×91˚.83W,h36km±7km,mb4.7/47, MD4.7(MEX),Error ellipse: s-maj=11.9km s-min=6.9km az=206.0*

NEIC Felt at Guatemala. Felt [III] at San Salvador, El Salvador. Also felt at Santo Tomas.

ISCJB ***26*** *00:08:16.1±0.5,14˚.05N±0˚.04×91˚.77W±0˚.03,h65km±4km, mb4.5/51,Error ellipse: s-maj=8.4km s-min=3.9km az=30.8*

ISC 26 00:08:16.7±1.0,13˚.97N±0˚.06×91˚.82W±0˚.06,h65km±8km, n370,σ1§05/384,mb4.6/55,116C-111D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.39**	**27**	*i*P	**Pn**	**00 08 26.8**	**-1.4**
PCG	**Pacaya**	**1.25**	**70**	*e*P	**Pn**	**00 08 38.4**	**-0.2**
PCG				*e*S	**Sn**	**00 08 57.8**	**+3.0**
IXG	**Ixpaco**	**1.34**	**81**	*e*P	**Pn**	**00 08 37.4**	**-2.2**
GCG	**Guatemala City**	**1.39**	**64**	*e*P	**Pn**	**00 08 41.1**	**+0.8**
GCG				*e*S	Sn	00 09 02.7	+4.7
NBG	**Las Nubes**	**1.56**	**66**	*e*P	**Pn**	**00 08 43.9**	**+1.3**
NBG				*e*S	Sn	00 09 07.6	+5.6
APG	**El Apazote**	**1.67**	**52**	Pn	**Pn**	**00 08 41.2**	**-2.9**
APG				Lg	Lg	00 09 04.3	
APG	**El Apazote**	**1.67**	**52**	Pn	**Pn**	**00 08 41.2**	**-2.9**
	434nm,0.3s,baz=271,slow=13,SNR=1034						
APG				Lg	Lg	00 09 04.3	
	254nm,0.3s,baz=71,slow=22,SNR=7.6						
APG				LR	LR	00 09 15.1	
	comp=Z,440nm,20.6s,baz=150,slow=38						
RBDL	**Robledal**	**2.08**	**86**	*e*P	**Pn**	**00 08 48.2**	**-1.3**
RBDL				*e*S	**Sn**	**00 09 13.1**	**-1.4**
RTR	**El Retiro**	**2.11**	**92**	*e*P	**Pn**	**00 08 49.1**	**-0.9**
SBLS	**San Blas**	**2.14**	**93**	*e*P	**Pn**	**00 08 49.1**	**-1.3**
SBLS				*e*S	**Sn**	**00 09 16.4**	**+0.4**
SNJE	**San Jose**	**2.15**	**92**	*e*P	**Pn**	**00 08 49.3**	**-1.2**
SNJE				*e*S	**Sn**	**00 09 15.7**	**-0.7**
PCIG		**2.20**	**322**	*e*P	Pn	00 08 45.7	-5.3
PCIG				*i* S	Sn	00 09 10.4	-6.7
PCIG		**2.20**	**322**	*e*P	Pn	00 08 45.7	-5.3
PCIG				*i* S	Sn	00 09 10.4	-6.7
MRL	**Marmol**	**2.33**	**62**	*e*P	**Pn**	**00 08 54.6**	**+1.6**
BOQS	**Boqueron**	**2.48**	**95**	*e*P	**Pn**	**00 08 54.0**	**-1.0**
SNET	**Serv Nac Est T**	**2.53**	**96**	AML	AML	00 09 31.3	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**2.64**	**94**	*e*P	**Pn**	**00 08 56.0**	**-1.1**
LFRS	**El Faro**	**2.70**	**97**	*e*P	**Pn**	**00 08 56.8**	**-1.1**
LBRS	**Las Brisas**	**2.71**	**94**	*e*P	**Pn**	**00 08 57.1**	**-0.9**
LBRS				*e*S	**Sn**	**00 09 30.4**	**+0.8**
SNVI	**San Vicente**	**2.92**	**97**	*e*P	**Pn**	**00 08 59.5**	**-1.4**
VSM	**San Miguel**	**3.49**	**98**	*e*P	**Pn**	**00 09 07.8**	**-1.0**
CNCH	**Conchagua**	**3.94**	**100**	*e*P	**Pn**	**00 09 14.7**	**-0.1**
TGUH	**Tegucigalpa,Un**	**4.41**	**88**	*e*Pn	**Pn**	**00 09 20.4**	**-0.9**
TGUH				*e*Sn	**Sn**	**00 10 11.7**	**+0.3**
SCIG	**Sabancuy**	**5.01**	**7**	*i* P	**Pn**	**00 09 28.1**	**-1.3**
SCIG				*i* S	**Sn**	**00 10 26.1**	**0.0**
SCIG	**Sabancuy**	**5.01**	**7**	*i* P	**Pn**	**00 09 28.1**	**-1.3**
SCIG				*i* S	**Sn**	**00 10 26.1**	**0.0**
VHO	**Vista Hermosa**	**5.65**	**304**	*i* P	Pn	00 09 33.6	-4.8
VHO				*i* S	Sn	00 10 35.1	-7.0
VHO	**Vista Hermosa**	**5.65**	**304**	*i* P	Pn	00 09 33.6	-4.8
VHO				*i* S	Sn	00 10 35.1	-7.0
PNIG	**Pinotepa**	**6.55**	**292**	*e*P	Pn	00 09 45.6	-4.9
PNIG				*i* S	Sn	00 10 56.0	-7.8
PNIG	**Pinotepa**	**6.55**	**292**	*e*P	Pn	00 09 45.6	-4.9
PNIG				*i* S	Sn	00 10 56.0	-7.8
TPIG	**Tehuac#an**	**6.92**	**310**	*e*P	Pn	00 09 51.6	-4.2
TPIG				*i* S	Sn	00 11 07.0	-6.3
TPIG	**Tehuac#an**	**6.92**	**310**	*e*P	Pn	00 09 51.6	-4.2
TPIG				*i* S	Sn	00 11 07.0	-6.3
TEIG	**Tepich**	**7.09**	**28**	*e*P	**Pn**	**00 09 58.5**	**+0.6**
TEIG				*i* S	**Sn**	**00 11 19.1**	**+2.1**
TEIG	**Tepich**	**7.09**	**28**	*e*Pn	**Pn**	**00 09 58.5**	**+0.6**
TEIG	**Tepich**	**7.09**	**28**	Pn	**Pn**	**00 09 58.6**	**+0.8**
	comp=Z,65nm,0.3s,baz=241,slow=1.8,SNR=291						
TEIG				LR	LR	00 12 32.2	
	comp=Z,178nm,21.6s,baz=129,slow=37						
JTS	**JuntasAbangare**	**7.64**	**118**	*e*Pn	**Pn**	**00 10 06.3**	**+0.8**
JTS				Lg	Lg	00 11 59.2	
JTS	**JuntasAbangare**	**7.64**	**118**	Pn	**Pn**	**00 10 07.0**	**+1.5**
	comp=Z,2.7nm,0.3s,baz=305,slow=20,SNR=9.6						
JTS				Lg	Lg	00 11 59.2	
	comp=Z,0.4nm,0.3s,baz=253,slow=17,SNR=4.9						
PPM	**Popocatepetl**	**8.27**	**309**	*e*P	**Pn**	**00 10 14.7**	**+0.3**
PPM				*e*S	**Sn**	**00 11 45.9**	**-0.7**
YAIG	**Yautepec**	**8.49**	**306**	*e*P	**Pn**	**00 10 16.2**	**-1.0**
YAIG				*e*S	**Sn**	**00 11 47.5**	**-4.0**
034A	**Hebbronville**	**14.53**	**335**	⇓P	**Pn**	**00 11 39.5**	**+0.6**
	baz=15						
933A	**Laredo**	**15.26**	**334**	⇓P	**Pn**	**00 11 49.0**	**+0.7**
	baz=15						
834A	**Tilden**	**15.42**	**337**	⇑P	**Pn**	**00 11 51.4**	**+1.0**
	baz=16						
833A	**Chaparral WMA,**	**15.93**	**335**	⇓P	**Pn**	**00 11 57.2**	**+0.3**
	baz=16						
832A	**Faith Ranch, C**	**16.14**	**333**	⇑P	**Pn**	**00 11 59.1**	**-0.4**
	baz=16						
733A	**Divot King Ran**	**16.24**	**336**	⇓P	**Pn**	**00 12 00.6**	**-0.2**
	baz=16						
633A	**Saathoff Ranch**	**16.86**	**337**	⇓P	**Pn**	**00 12 09.0**	**+0.5**
	baz=17						
534A	**Blanco**	**17.13**	**340**	⇓P	**Pn**	**00 12 12.2**	**+0.4**
	baz=17						
632A	**Uvalde**	**17.14**	**336**	⇑P	**Pn**	**00 12 12.5**	**+0.6**
	baz=17						
533A	**Kerrville**	**17.36**	**339**	⇓P	**Pn**	**00 12 14.4**	**-0.3**
	baz=17						
631A	**Perdido Creek**	**17.38**	**334**	⇑P	**Pn**	**00 12 15.3**	**+0.3**
	baz=17						
532A	**Rocksprings**	**17.73**	**336**	⇑P	**P**	**00 12 19.9**	**+0.6**
	baz=18						
434A	**Burnet**	**17.79**	**342**	⇑P	**Pn**	**00 12 19.8**	**-0.2**
	baz=18						
335A	**Moody**	**17.99**	**344**	⇑P	**Pn**	**00 12 22.6**	**+0.3**
	baz=18						
433A	**Art**	**18.00**	**339**	⇓P	**Pn**	**00 12 23.3**	**+0.8**
	baz=18						
JCT	**Junction City**	**18.01**	**337**	⇓P	**Pn**	**00 12 23.1**	**+0.5**
	baz=18						
531A	**Rocksprings**	**18.02**	**335**	⇑P	**Pn**	**00 12 23.5**	**+0.7**
	baz=18						
334A	**Lometa**	**18.26**	**342**	⇓P	**P**	**00 12 25.7**	**+0.6**
	baz=18,SNR=7.1						
530A	**J-C Ranch, Com**	**18.35**	**333**	⇓P	**Pn**	**00 12 27.4**	**+0.7**
	baz=18						
432A	**Menard**	**18.36**	**338**	⇓P	**P**	**00 12 26.7**	**+0.5**
	baz=18						
333A	**Richland Sprin**	**18.49**	**340**	⇑P	**Pn**	**00 12 28.4**	**0.0**
	baz=19						
431A	**Sonora**	**18.50**	**335**	⇓P	**Pn**	**00 12 29.1**	**+0.5**
	baz=19,SNR=6.7						
628A	**Black Gap, Mar**	**18.53**	**328**	⇓P	**Pn**	**00 12 29.8**	**+0.8**
	baz=19,SNR=6.5						
WHTX	**Lake Whitney**	**18.67**	**345**	*e*Pn	**Pn**	**00 12 30.4**	**-0.1**
WHTX				*e*Sn	**Sn**	**00 15 57.9**	**-1.0**
WHTX	**Lake Whitney**	**18.67**	**345**	⇑P	**P**	**00 12 30.3**	**+0.8**
	baz=19						
627A	**Terlingua Ranc**	**18.77**	**327**	⇓P	**Pn**	**00 12 32.2**	**+0.3**
	baz=19,SNR=17						
332A	**Millersview**	**18.80**	**339**	⇓P	**Pn**	**00 12 32.3**	**+0.1**
	baz=19,SNR=5.4						
TXAR	**Lajitas Array**	**18.82**	**326**	P	**Pn**	**00 12 32.5**	**0.0**
TXAR	**Lajitas Array**	**18.82**	**326**	P	**Pn**	**00 12 32.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=62						
430A	**Bangett Ranch,**	**18.85**	**334**	⇓P	**Pn**	**00 12 32.8**	**-0.1**
	baz=19						
234A	**Clairette**	**18.86**	**343**	⇓P	**P**	**00 12 32.3**	**+0.6**
	baz=19,SNR=5.6						
H06E1	**SOCORRO T-PHAS**	**18.94**	**287**	T	T	00 31 41.4	
	SNR=40						
TIGA	**Tifton**	**18.96**	**22**	⇓P	**P**	**00 12 32.3**	**-0.5**
	baz=19						
331A	**San Angelo**	**18.99**	**337**	⇑P	**P**	**00 12 33.9**	**+0.8**
	baz=19,SNR=6.3						
429A	**Davenport Ranc**	**19.00**	**332**	⇑P	**Pn**	**00 12 34.9**	**+0.2**
	baz=19,SNR=8.1						
528A	**Cox Ranch, San**	**19.03**	**330**	⇑P	**P**	**00 12 34.3**	**+0.6**
	baz=19						
233A	**Rising Star**	**19.10**	**341**	⇓P	**P**	**00 12 35.0**	**+0.6**
	baz=19,SNR=9.1						
135A	**Vickery Place,**	**19.20**	**346**	⇓P	**P**	**00 12 35.6**	**+0.2**
	baz=19						
232A	**Coleman**	**19.23**	**339**	⇓P	**P**	**00 12 36.5**	**+0.8**
	baz=19						
626A	**Big Bend Ranch**	**19.25**	**326**	⇑P	**P**	**00 12 37.2**	**+1.2**
	baz=19,SNR=25						
330A	**Mertzon**	**19.37**	**335**	⇓P	**P**	**00 12 37.5**	**+0.2**
	baz=19,SNR=5.3						
134A	**White-Moore Ra**	**19.39**	**344**	⇑P	**P**	**00 12 37.8**	**+0.4**
	baz=20,SNR=5.4						
527A	**Woodward Ranch**	**19.44**	**328**	⇓P	**P**	**00 12 39.3**	**+1.2**
	baz=20,SNR=8.6						
428A	**Kincaid Ranch,**	**19.45**	**331**	⇑P	**Pn**	**00 12 39.6**	**-0.4**
	baz=20,SNR=11						
LRAL	**Lakeview Retre**	**19.49**	**12**	*e*Pn	**P**	**00 12 38.0**	**-0.4**
	comp=Z,177nm,2.4s						
231A	**Bronte**	**19.51**	**338**	⇑P	**P**	**00 12 39.4**	**+0.6**
	baz=20						
526A	**Mary Lane Ranc**	**19.62**	**327**	⇓P	**P**	**00 12 41.2**	**+1.1**
	baz=20,SNR=6.6						
133A	**Hamilton Ranch**	**19.66**	**342**	⇑P	**P**	**00 12 41.0**	**+0.6**
	baz=20,SNR=9.8						
230A	**Sterling City**	**19.77**	**336**	⇓P	**P**	**00 12 41.9**	**+0.3**
	baz=20,SNR=7.9						
329A	**Wagon Wheel Ra**	**19.78**	**334**	⇑P	**P**	**00 12 42.3**	**+0.5**
	baz=20,SNR=5.4						
427A	**Hayter Ranch,**	**19.90**	**330**	⇑P	**P**	**00 12 43.9**	**+0.8**
	baz=20,SNR=8.1						
ABTX	**Abilene, Hawle**	**19.90**	**340**	*e*P	**P**	**00 12 43.6**	**+0.6**
ABTX	**Abilene, Hawle**	**19.90**	**340**	⇓P	**P**	**00 12 43.6**	**+0.6**
	baz=20						
Z35A	**Perchaven, San**	**19.90**	**347**	⇑P	**P**	**00 12 43.3**	**+0.3**
	baz=20						
328A	**Wristen Ranch,**	**20.06**	**332**	⇓P	**P**	**00 12 46.0**	**+1.2**
	baz=20,SNR=26						
426A	**McDonald Obser**	**20.07**	**328**	⇓P	**P**	**00 12 46.2**	**+1.1**
	baz=20						
Z34A	**Collier Ranch,**	**20.10**	**345**	⇓P	**P**	**00 12 45.5**	**+0.3**
	baz=20						
229A	**Bryant Ranch,**	**20.12**	**335**	⇓P	**P**	**00 12 46.3**	**+0.8**
	baz=20						
131A	**Roby**	**20.20**	**339**	⇑P	**P**	**00 12 46.9**	**+0.6**
	baz=20						
Z33A	**Whitaker Ranch**	**20.25**	**343**	⇑P	**P**	**00 12 47.6**	**+0.8**
	baz=20,SNR=9.2						
130A	**Snyder**	**20.34**	**337**	⇑P	**P**	**00 12 48.6**	**+0.8**
	baz=20						
Z32A	**Haskell**	**20.48**	**341**	⇑P	**P**	**00 12 49.4**	**+0.1**
	baz=21,SNR=13						
MIAR	**Mount Ida**	**20.55**	**356**	*e*P	**P**	**00 12 49.3**	**-0.7**
	comp=Z,25nm,1.3s						
MIAR				*e*S	**S**	**00 16 34.2**	**-2.0**
326A	**Caldwell Ranch**	**20.57**	**329**	⇓P	**P**	**00 12 51.2**	**+0.9**
	baz=21,SNR=27						
228A	**UT Block 9, Go**	**20.58**	**333**	⇓P	**P**	**00 12 51.0**	**+0.5**
	baz=21,SNR=5.8						
Y34A	**Reagan Ranch,**	**20.62**	**346**	⇑P	**P**	**00 12 50.0**	**-0.8**
	baz=21						
425A	**Indio Mountain**	**20.67**	**326**	⇑P	**P**	**00 12 52.2**	**+0.7**
	baz=21,SNR=14						
Z31A	**Sharp Cattle R**	**20.70**	**340**	⇓P	**P**	**00 12 52.0**	**+0.3**
	baz=21,SNR=16						
129A	**Stewart Farms,**	**20.72**	**335**	⇓P	**P**	**00 12 52.1**	**+0.2**
	baz=21,SNR=6.8						
227A	**Bennet, Jal**	**20.81**	**332**	⇑P	**P**	**00 12 53.5**	**+0.6**
	baz=21,SNR=9.9						
Y33A	**Hilltop Ranch,**	**20.89**	**344**	⇑P	**P**	**00 12 53.4**	**-0.2**
	baz=21						
128A	**Castleberry Fa**	**20.97**	**334**	⇑P	**P**	**00 12 54.8**	**+0.2**
	baz=21,SNR=12						
Z30A	**Sanderson Ranc**	**21.02**	**338**	⇓P	**P**	**00 12 54.6**	**-0.5**
	baz=21,SNR=7.7						
Y32A	**R-V Farms, Ver**	**21.11**	**342**	⇓P	**P**	**00 12 54.9**	**-1.2**
	baz=21						
Z29A	**Hungry Hill Ra**	**21.21**	**337**	⇓P	**P**	**00 12 56.6**	**-0.6**
	baz=21,SNR=12						
X34A	**Smith Ranch, M**	**21.25**	**346**	⇑P	**P**	**00 12 57.3**	**-0.3**
	baz=21						
226B	**Tecolote Peak,**	**21.28**	**330**	⇑P	**P**	**00 12 58.6**	**+0.6**
	baz=21,SNR=27						
Y31A	**Rekieta Farm,**	**21.33**	**340**	⇑P	**P**	**00 12 58.2**	**-0.2**
	baz=21,SNR=10						
X33A	**Lawton**	**21.36**	**345**	⇑P	**P**	**00 12 58.0**	**-0.7**
	baz=22,SNR=11						
X32A	**Elmer**	**21.46**	**343**	⇓P	**P**	**00 12 59.0**	**-0.8**
	baz=22,SNR=9.7						
Y30A	**Stafford Cattl**	**21.47**	**339**	⇓P	**P**	**00 12 59.4**	**-0.6**
	baz=22						
GDL2	**Guadalupe Moun**	**21.47**	**330**	*e*P	**P**	**00 13 01.1**	**+1.0**
Z28A	**Tucker Farm, M**	**21.51**	**335**	⇑P	**P**	**00 13 00.1**	**-0.3**
	baz=22						
MNTX	**Cornudas Mount**	**21.59**	**327**	*e*P	**P**	**00 13 01.0**	**-0.2**
	comp=Z,12nm,0.9s						
WMOK	**Wichita Mounta**	**21.62**	**344**	*e*P	**P**	**00 13 00.8**	**-0.7**
	comp=Z,6.0nm,0.7s						
225A	**Deer Hill, Car**	**21.63**	**329**	⇑P	**P**	**00 13 02.2**	**+0.4**
	baz=22,SNR=32						
126A	**Clayton Basin,**	**21.68**	**331**	⇓P	**P**	**00 13 02.4**	**+0.2**
	baz=22,SNR=8.4						
SWET	**Sewanee**	**21.82**	**13**	*e*P	**P**	**00 13 02.0**	**-1.6**
	comp=Z,11nm,0.7s						
W34A	**Bridge Creek,**	**21.85**	**347**	⇓P	**P**	**00 13 02.6**	**-1.4**
	baz=22,SNR=6.2						
X31A	**McDonald Ranch**	**21.86**	**342**	⇓P	**P**	**00 13 03.7**	**-0.4**
	baz=22,SNR=9.6						
Z27A	**Tatum**	**21.88**	**334**	⇓P	**P**	**00 13 03.7**	**-0.7**
	baz=22,SNR=19						
W33A	**Caddo, Fort Co**	**21.93**	**345**	⇓P	**P**	**00 13 03.8**	**-1.0**
	baz=22,SNR=7.0						
X30A	**Coker Ranch, T**	**21.98**	**340**	⇓P	**P**	**00 13 05.0**	**-0.4**
	baz=22,SNR=10						
125A	**Gardner Draw,**	**21.99**	**330**	⇓P	**P**	**00 13 05.4**	**-0.2**
	baz=22,SNR=24						
Y28A	**McKinney Farm,**	**22.00**	**336**	⇑P	**P**	**00 13 05.0**	**-0.7**
	baz=22						
W32A	**Sentinel**	**22.11**	**344**	⇓P	**P**	**00 13 05.5**	**-1.3**
	baz=22,SNR=16						
TUL1	**Tulsa**	**22.14**	**351**	⇓P	**P**	**00 13 05.5**	**-1.6**
	baz=22						
Z26A	**Caprock**	**22.18**	**332**	⇑P	**P**	**00 13 07.6**	**-0.1**
	baz=22,SNR=16						
MSTX	**Muleshoe**	**22.26**	**335**	*e*P	**P**	**00 13 07.5**	**-1.0**
MSTX	**Muleshoe**	**22.26**	**335**	⇓P	**P**	**00 13 07.4**	**-1.0**
	baz=22,SNR=6.4						
X29A	**Tulia**	**22.27**	**338**	⇑P	**P**	**00 13 07.5**	**-1.0**
	baz=22,SNR=6.5						
**Y27A

LAZ	Ladron	24.62	328	*e*P		P	00 13 32.5	+1.2
	comp=Z,5.2nm,0.8s							
V25A	Rancho No Teng	24.63	334	⇑P		P	00 13 32.7	+1.3
	baz=25,SNR=6.8							
WCI	Wyandotte Cave	24.66	10	*e*P		P	00 13 30.8	-0.6
	comp=Z,93nm,2.0s							
ANMO	Albuquerque	24.72	330	*e*P		P	00 13 33.2	+1.1
	comp=Z,8.5nm,0.8s							
ANMO	Albuquerque	24.72	330	P		P	00 13 33.2	+1.1
	comp=Z,8.2nm,0.8s,baz=144,slow=11,SNR=27							
W23A	Werner Place,	24.75	331	⇑P		P	00 13 33.4	+0.9
	baz=25							
U26A	Atchley Ranch,	24.76	337	⇑P		P	00 13 33.3	+0.8
	baz=25,SNR=14							
V24A	Rampart Ranch,	24.82	333	⇑P		P	00 13 34.1	+0.9
	baz=25,SNR=6.7							
T28A	Walsh	24.82	340	⇑P		P	00 13 32.5	-0.5
	baz=25							
OLIL	Olney	24.89	7	*e*P		P	00 13 33.8	+0.4
	comp=Z,35nm,0.8s							
S29A	Ulysses	24.97	342	⇓P		P	00 13 34.9	+0.6
	baz=25,SNR=18							
T27A	Campo	24.98	339	⇑P		P	00 13 34.7	+0.3
	baz=25							
U25A	Circle Dot Ran	25.03	335	⇑P		P	00 13 35.7	+0.7
	baz=25							
R31A	Burdett	25.17	346	⇑P		P	00 13 35.9	-0.2
	baz=25							
TUC	Tucson	25.18	320	*e*P		P	00 13 38.6	+2.4
	comp=Z,72nm,1.2s							
S28A	Manter	25.18	341	⇓P		P	00 13 36.4	+0.1
	baz=25							
V23A	Ortiz Mt. (NFS	25.24	332	⇓P		P	00 13 38.6	+1.6
	baz=25,SNR=12							
R30A	Dighton	25.36	344	⇓P		P	00 13 38.5	+0.7
	baz=26,SNR=7.7							
Q32A	Meitler Ranch,	25.63	348	⇑P		P	00 13 39.6	-0.6
	baz=26							
T25A	Trinidad	25.67	336	⇑P		P	00 13 42.6	+1.7
	baz=26,SNR=5.1							
R29A	Marienthal	25.72	343	⇓P		P	00 13 42.1	+0.9
	baz=26							
U23A	El Rito	25.73	332	⇑P		P	00 13 42.7	+1.3
	baz=26,SNR=9.9							
S26A	Kim	25.74	338	⇑P		P	00 13 42.3	+0.9
	baz=26							
R28A	Tribune	25.85	342	⇑P		P	00 13 41.9	-0.4
	baz=26,SNR=6.5							
T24B	San Luis	26.00	335	⇑P		P	00 13 44.7	+0.8
	baz=26							
U22A	Llaves	26.07	332	⇓P		P	00 13 45.5	+1.0
	baz=26							
R27A	Eads	26.11	340	⇓P		P	00 13 44.9	+0.3
	baz=26							
S25A	Robets Cordova	26.13	337	⇓P		P	00 13 45.6	+0.6
	baz=26							
214A	Organ Pipe Nat	26.26	317	*e*P		P	00 13 45.4	-0.7
	comp=Z,11nm,0.6s							
214A	Organ Pipe Nat	26.26	317	⇓P		P	00 13 46.7	+0.6
	baz=26							
P30A	Selden	26.54	345	⇓P		P	00 13 47.7	-0.7
	baz=27							
SFIN	Scholer Farm	26.64	8	⇑P		P	00 13 47.8	-1.4
	baz=27							
Q26A	Hugo	26.93	340	⇑P		P	00 13 53.0	+0.9
	baz=27							
X16A	Lo Mia Camp, P	27.01	322	⇑P		P	00 13 54.2	+1.3
	baz=27,SNR=8.4							
S22A	4UR Ranch, Cre	27.19	333	⇑P		P	00 13 55.6	+1.0
	baz=27							
P27A	Ficken Ranch,	27.20	342	⇓P		P	00 13 54.9	+0.4
	baz=27							
O29A	4D Ranch, Culb	27.23	345	⇑P		P	00 13 55.2	+0.5
	baz=27							
MVCO	Mesa Verde	27.52	330	*e*P		P	00 13 59.1	+1.7
	comp=Z,13nm,1.0s							
MVCO	Mesa Verde	27.52	330	⇑P		P	00 13 58.4	+0.9
	baz=28,SNR=8.6							
WUAZ	Wupatki	27.75	324	*e*P		P	00 14 01.2	+1.7
	comp=Z,32nm,1.3s							
WUAZ	Wupatki	27.75	324	⇑P		P	00 14 00.6	+1.1
	baz=28,SNR=5.1							
Y12C	Blythe	28.50	318	⇓P		P	00 14 07.0	+1.0
	baz=28							
PDMCI	Parker Dam,Lak	28.60	319	⇑P		P	00 14 08.0	+1.1
	baz=29							
PV04	Paradox Valley	28.66	331	*e*P		P	00 14 09.3	+1.7
U15A	North Rim	28.92	324	⇓P		P	00 14 11.4	+1.3
	baz=29,SNR=7.7							
W13A	Hualapai Mount	28.95	320	⇓P		P	00 14 11.5	+1.3
	baz=29							
BC3	Big Chuckawall	29.06	316	⇑P		P	00 14 12.3	+1.2
	baz=29							
IRM	Iron Mountain	29.16	318	⇓P		P	00 14 13.1	+1.1
	baz=29							
BELC	Belle Mtn. Jos	29.63	317	⇑P		P	00 14 17.5	+1.3
	baz=30							
LDFC	Landfair	29.71	319	*e*P		P	00 14 19.4	+2.5
	comp=Z,5.1nm,0.8s							
109C	Camp Elliot, M	29.75	314	⇑P		P	00 14 18.9	+1.8
	baz=30							
GMRC	Granite Mounta	29.88	318	⇑P		P	00 14 19.9	+1.5
	baz=30							
ECSD	EROS Data Cent	29.95	353	⇓P		P	00 14 19.3	+0.6
	baz=30							
L25A	Engebretsen Ra	30.00	342	⇑P		P	00 14 20.7	+1.4
	baz=30							
CCUT	Cedar City	30.32	325	*e*P		P	00 14 24.8	+2.5
	comp=Z,5.9nm,0.8s							
N20A	Spence Gulch,	30.38	335	⇓P		P	00 14 23.6	+0.7
	baz=30							
MVU	Marysvale	30.39	327	*e*P		P	00 14 23.9	+1.0
	comp=Z,47nm,2.3s							
TMUT	Trail Mountain	30.47	329	*e*P		P	00 14 25.2	+1.4
	comp=Z,141nm,3.0s							
ARUT	Antelope Range	30.53	325	*e*P		P	00 14 25.8	+1.7
	comp=Z,194nm,0.8s							
J26A	Sides Ranch, S	30.81	344	⇓P		P	00 14 26.7	+0.3
	baz=31							
I29A	Vivian Onida	30.82	348	⇑P		P	00 14 26.3	-0.2
	baz=31							
J22A	Midwest	31.93	340	⇑P		P	00 14 37.8	+1.4
	baz=32							
DUG	Dugway	31.96	329	*e*P		P	00 14 37.6	+0.9
	comp=Z,59nm,2.8s							
DUG	Dugway	31.96	329	⇑P		P	00 14 38.4	+1.7
	baz=32							
DAC	Darwin (Calif)	32.04	319	*e*P		P	00 14 38.5	+1.1
	comp=Z,91nm,3.0s							
R11A	Troy Canyon, C	32.14	323	⇓P		P	00 14 39.8	+1.5
	baz=32							
H25A	Fruitdale	32.16	344	⇓P		P	00 14 39.4	+1.1
	baz=32							
J21A	Lysite	32.21	338	⇑P		P	00 14 40.0	+1.1
	baz=32							
ISA	Isabella	32.25	317	⇑P		P	00 14 40.5	+1.3
	baz=32							
I22A	9 Mile Ranch,	32.36	340	⇓P		P	00 14 40.5	+0.4
	baz=32							
HWUT	Hardware Ranch	32.45	332	*e*P		P	00 14 42.2	+1.2
	comp=Z,3.9nm,0.8s							
J20A	Shoshoni	32.45	338	⇓P		P	00 14 42.3	+1.3
	baz=32							
PDAR	Pinedale Array	32.52	335	P		P	00 14 41.8	+0.1
PDAR				PcP		PcP	00 17 27.5	+0.3
PDAR	Pinedale Array	32.52	335	P		P	00 14 41.8	+0.1
	comp=Z,1.0nm,0.7s,baz=134,slow=11,SNR=6.8							
PDAR				PcP		PcP	00 17 27.5	+0.3
	comp=Z,0.7nm,0.5s,baz=129,slow=4.2,SNR=6.3							
I21A	Big Trails, Te	32.57	339	⇑P		P	00 14 43.2	+1.3
	baz=33							
BGU	Big Grassy Mou	32.62	329	*e*P		P	00 14 44.1	+1.7
	comp=Z,35nm,2.8s							
H23A	Clabaugh Cattl	32.62	342	⇓P		P	00 14 43.1	+0.8
	baz=33							
J19A	Crowheart	32.74	336	⇑P		P	00 14 44.4	+0.8
	baz=33							
H22A	Clearmont	32.94	341	⇑P		P	00 14 45.5	+0.3
	baz=33							
I20A	Worland	32.98	338	⇓P		P	00 14 45.9	+0.3
	baz=33							
F26A	Lodgepole	33.08	346	⇓P		P	00 14 46.3	+0.1
	baz=33							
HVU	Hansel Valley	33.15	331	*e*P		P	00 14 48.9	+1.9
	comp=Z,7.7nm,0.9s							
G23A	Biddle	33.20	342	⇓P		P	00 14 48.0	+0.6
	baz=33							
F25A	Bowman	33.34	345	⇑P		P	00 14 50.0	+1.4
	baz=33							
I19A	Meeteetse	33.38	337	⇓P		P	00 14 49.9	+0.9
	baz=34							
H20A	Greybull	33.40	339	⇓P		P	00 14 49.1	0.0
	baz=34							
G22A	Birney	33.48	341	⇓P		P	00 14 49.9	0.0
	baz=34							
REDW	Red Top Meadow	33.55	335	*e*P		P	00 14 51.9	+1.3
	comp=Z,23nm,1.4s							
ELK	Elko	33.62	327	*e*P		P	00 14 53.2	+1.9
	comp=Z,4.1nm,0.8s							
LOHW	Long Hollow	33.65	335	*e*P		P	00 14 52.6	+1.1
	comp=Z,3.9nm,0.9s							
F23A	Volborg	33.67	343	⇑P		P	00 14 52.1	+0.6
	baz=34							
NVAR	Mina Array Bea	33.81	321	P		P	00 14 54.0	+1.1
NVAR				PcP		PcP	00 17 32.3	+1.5
NVAR	Mina Array Bea	33.81	321	P		P	00 14 54.0	+1.1
	comp=Z,6.4nm,0.7s,baz=132,slow=8.4,SNR=30							
NVAR				PcP		PcP	00 17 32.3	+1.5
	comp=Z,1.0nm,0.6s,baz=140,slow=3.5,SNR=4.7							
I17A	Pilgrim Ck.	33.90	335	⇑P		P	00 14 54.7	+1.1
	baz=34							
H19A	Powell	33.92	338	⇓P		P	00 14 54.2	+0.5
	baz=34							
F22A	Rosebud	33.98	342	⇓P		P	00 14 54.4	+0.3
	baz=34							
G20A	Bridger	34.12	339	⇓P		P	00 14 55.9	+0.5
	baz=34							
E24A	Baker	34.15	345	⇑P		P	00 14 55.7	+0.2
	baz=34							
H18A	Shoshone NF, C	34.17	337	⇑P		P	00 14 56.3	+0.3
	baz=34,SNR=7.2							
D25A	Fairfield	34.45	346	⇑P		P	00 14 57.9	-0.3
	baz=35							
E22A	Miles City	34.48	343	⇓P		P	00 14 58.8	+0.4
	baz=35							
PTGA	Pitinga	34.76	112	*e*P		P	00 15 02.5	+1.3
	comp=Z,5.3nm,0.9s							
PTGA	Pitinga	34.76	112	P		P	00 15 00.5	-0.7
	comp=Z,6.2nm,0.8s,baz=301,slow=11,SNR=9.0							
LAO	LASA Array	34.79	343	*e*P		P	00 15 01.9	+0.7
	comp=Z,183nm,3.0s							
E21A	Keefer Ranch,	34.91	341	⇓P		P	00 15 02.2	0.0
	baz=35							
F19A	Roth Farm, Mol	34.92	339	⇓P		P	00 15 02.3	0.0
	baz=35							
E20A	Meyer Farm, Mu	35.22	340	⇓P		P	00 15 05.2	+0.4
	baz=35							
HLID	Hailey	35.29	331	*e*P		P	00 15 06.9	+1.3
	comp=Z,7.0nm,1.1s							
HLID	Hailey	35.29	331	⇓P		P	00 15 06.5	+0.9
	baz=35,SNR=8.7							
D21A	La Casta Ranch	35.36	342	⇓P		P	00 15 06.7	+0.7
	baz=36							
E19A	Rath Farm, Rou	35.40	340	⇑P		P	00 15 06.9	+0.5
	baz=36							
C23A	Lambert	35.52	344	⇑P		P	00 15 07.8	+0.4
	baz=36							
MCMT	McKenzie Canyo	35.58	334	*e*P		P	00 15 09.0	+0.9
	comp=Z,3.0nm,0.9s							
C22A	Vida	35.66	344	⇑P		P	00 15 08.7	+0.2
	baz=36							
D20A	Manuel Ranch,	35.73	341	⇓P		P	00 15 10.2	+1.0
	baz=36							
A26A	Wade Farm, Ken	35.84	348	⇑P		P	00 15 10.2	+0.2
	baz=36							
MFID	Camas Ranch	35.86	330	*e*P		P	00 15 12.8	+2.4
	comp=Z,65nm,2.6s							
DGMT	Dagmar	35.90	346	⇑P		P	00 15 10.7	+0.1
	baz=36							
D19A	Cripps Ranch,	36.04	340	⇓P		P	00 15 12.0	+0.1
	baz=36							
A25A	Svangstu Ranch	36.10	347	⇑P		P	00 15 13.6	+1.4
	baz=36							
LRM	Limekiln Ridge	36.22	335	*e*P		P	00 15 15.1	+1.5
C20A	Veseth Ranch,	36.25	341	⇓P		P	00 15 14.6	+1.0
	baz=36							
ULM	Lac du Bonnet	36.34	356	P		P	00 15 13.3	-0.9
ULM				PcP		PcP	00 17 37.6	0.0
ULM	Lac du Bonnet	36.34	356	P		P	00 15 13.3	-0.9
	comp=Z,1.4nm,0.6s,baz=165,slow=12,SNR=2.9							
ULM				PcP		PcP	00 17 37.6	0.0
	comp=Z,2.6nm,0.6s,baz=176,slow=3.5,SNR=5.3							
C19A	Slack Wire Ran	36.60	340	⇑P		P	00 15 16.8	+0.2
	baz=37							
WVOR	Wild Horse Val	36.62	326	*e*P		P	00 15 19.2	+2.3
	comp=Z,129nm,2.7s							
B20A	Solberg Farm,	36.90	342	⇑P		P	00 15 19.4	+0.3
	baz=37							
EGMT	Eagleton	37.08	340	⇓P		P	00 15 20.9	+0.2
	baz=37							
B19A	Brisman Farms	37.20	341	⇑P		P	00 15 22.4	+0.7
	baz=37							
A20A	Cobblestone Ra	37.26	342	⇓P		P	00 15 22.5	+0.3
	baz=37							
A19A	Klindworth Far	37.55	342	⇓P		P	00 15 25.2	+0.6
	baz=38							
MSO	Missoula	37.64	335	⇑P		P	00 15 26.4	+0.9
	baz=38							
F10A	Beach Ranch, E	38.42	331	*e*P		P	00 15 32.7	+0.6
	comp=Z,18nm,0.9s							
E09A	Wood Farm, Sta	39.25	331	*e*P		P	00 15 40.0	+1.2
	comp=Z,53nm,2.3s							
G05D	Wamic, OR	39.94	327	⇓P		P	00 15 46.6	+1.9
	baz=40							
H04A	Detroit Lake	40.04	326	*e*P		P	00 15 46.5	+0.9
	comp=Z,16nm,0.9s							
NEW	Newport	40.10	334	⇓P		P	00 15 48.0	+1.9
	baz=40							
C09A	Chrisman Ranch	40.26	332	*e*P		P	00 15 48.2	+0.9
	comp=Z,70nm,2.4s							
B08A	Colville Reser	41.15	332	*e*P		P	00 15 54.9	+0.3
	comp=Z,84nm,2.8s							
EDM	Edmonton	42.72	341	*e*P		P	00 16 07.5	+0.2
SCHQ	Schefferville	45.19	20	*e*P		P	00 16 26.0	-1.1
	comp=Z,9.3nm,0.9s							
SCHQ				PcP		PcP	00 18 05.9	-0.4
SCHQ	Schefferville	45.19	20	P		P	00 16 25.7	-1.4
	comp=Z,5.8nm,0.8s,baz=228,slow=6.5,SNR=5.6							
SCHQ				PcP		PcP	00 18 05.9	-0.4
	comp=Z,2.5nm,0.8s,baz=220,slow=17,SNR=3.8							
H03N2	Juan Fernandez	48.72	166	T		T	01 09 24.6	
	baz=350							
H03N1	Juan Fernandez	48.72	166	T		T	01 09 24.5	
	baz=350							
H03N3	Juan Fernandez	48.73	166	T		T	01 09 18.8	
	baz=350							
YKA	Yellowknife Ar	51.10	347	P		P	00 17 11.8	-0.6
YKA				PcP		PcP	00 18 27.9	+0.6
YKA	Yellowknife Ar	51.10	347	P		P	00 17 11.8	-0.6
	comp=Z,4.0nm,0.6s,baz=149,slow=7.5,SNR=60							
YKA				PcP		PcP	00 18 27.9	+0.6
	comp=Z,1.3nm,0.6s,baz=149,slow=3.7,SNR=18							
INK	Inuvik	60.52	343	*e*P		P	00 18 20.5	+0.8
PAX	Paxson	61.56	335	*e*P		P	00 18 24.1	-2.9
	comp=Z,24nm,1.8s							
ILAR	Eielson Array	62.94	337	P		P	00 18 36.5	+0.3
ILAR	Eielson Array	62.94	337	P		P	00 18 36.5	+0.3
	comp=Z,4.0nm,0.8s,baz=124,slow=4.5,SNR=33							
ILAR				LR		LR	00 47 37.3	
	comp=Z,107nm,18.7s,baz=95,slow=38							
TRF	Thorofare Moun	63.74	335	*e*P		P	00 18 42.9	+1.2
RSO	Redoubt South	63.77	331	*e*P		P	00 18 42.6	+0.7
KTH	Kantishna Hill	64.05	335	*e*P		P	00 18 45.1	+1.6
	comp=Z,140nm,3.0s							
PPLA	Purkeypile	64.34	334	*e*P		P	00 18 45.6	+0.1
PPT	Papeete	65.03	243	LR		LR	00 40 41.2	
	comp=Z,89nm,20.9s,baz=46,slow=30							
COLD	Coldfoot	65.23	339	*e*P		P	00 18 53.0	+1.9
BILL	Bilibino	81.56	338	*e*P		P	00 20 27.3	+0.3
	comp=Z,16nm,0.9s							
NOA	NORSAR Array B	84.09	28	P		P	00 20 40.3	-0.1
NOA	NORSAR Array B	84.09	28	P		P	00 20 40.3	-0.1
	comp=Z,1.1nm,0.8s,baz=289,slow=5.2,SNR=3.5							
DBIC	Dimbokro	85.48	84	P		P	00 20 47.8	-0.4
DBIC	Dimbokro	85.48	84	P		P	00 20 47.8	-0.4
	comp=Z,1.6nm,0.6s,baz=268,slow=1.6,SNR=3.3							
TORD	Torodi Ar. Bea	90.22	76	P		P	00 21 09.3	-1.6
TORD	Torodi Ar. Bea	90.22	76	P		P	00 21 09.3	-1.6
	comp=Z,0.4nm,0.7s,baz=291,slow=4.3,SNR=7.5							
SONM	Songino Array	116.37	346	PKP		PKPdf	00 26 53.8	+0.5
SONM	Songino Array	116.37	346	PKP		PKPdf	00 26 53.8	+0.5
	comp=Z,0.4nm,0.7s,baz=326,slow=1.3,SNR=4.0							
MKAR	Makanchi Array	119.29	5	PKP		PKPdf	00 26 58.4	-0.4
MKAR	Makanchi Array	119.29	5	PKP		PKPdf	00 26 58.4	-0.4
	comp=Z,0.2nm,0.4s,baz=317,slow=3.7,SNR=5.5							
BOSA	Boshof	120.18	115	PKP		PKPdf	00 27 01.6	+0.5
BOSA	Boshof	120.18	115	PKP		PKPdf	00 27 01.6	+0.5
	comp=Z,1.3nm,0.6s,baz=162,slow=3.2,SNR=3.2							
HHC	Hu-ho-hao-te	121.31	339	*e*PKP		PKPdf	00 27 00.5	-2.5
HHC				PP		PP	00 28 34.0	+0.8
HHC				LR		LR		
	comp=Z,190nm,15.3s							
HHC				LR		LR		
	comp=Z,280nm,13.5s							
HHC				LR		LR		
	comp=Z,170nm,13.2s							
WMQ	Urumqi	122.50	0	PKP		PKPdf	00 27 03.8	-1.3
WMQ				sPKP			00 27 41.3	
WMQ				PP		PP	00 28 44.5	+3.6
WMQ				PKS		PKSdf	00 30 39.3	-2.5
WMQ				SKS		SKSdf	00 34 04.5	-7.2
WMQ				SKKS		SKKSac	00 35 25.8	-10
WMQ				SS		SS	00 45 12.8	-3.4
WMQ				AMB		AMB		
	comp=Z,52nm,8.2s							
WMQ				LR		LR		
	comp=Z,12nm,19.5s							
WMQ				LR		LR		
	comp=Z,27nm,19.2s							
WMQ				LR		LR		
	comp=Z,33nm,18.3s							
KSH	Kashi	125.59	12	*e*PKP		PKPdf	00 27 11.0	-0.2
KSH				*es*PKP			00 27 48.5	
KSH				*e*SKS		SKSdf	00 34 12.0	-5.8
KSH				AMB		AMB		
	comp=Z,72nm,4.3s							
KSH				LR		LR		
	comp=Z,20nm,6.1s							
KSH				LR		LR		
	comp=Z,30nm,3.5s							
NJ2	Nanjing	125.62	328	*e*PKP		PKPdf	00 27 11.3	0.0
WRA	Warramunga Arr	135.56	256	PKP		PKPdf	00 27 30.3	-0.1
WRA	Warramunga Arr	135.56	256	PKP		PKPdf	00 27 30.3	-0.1
	comp=Z,0.3nm,0.6s,baz=88,slow=3.0,SNR=4.9							
ASAR	Alice Springs	135.82	250	PKP		PKPdf	00 27 30.9	+0.1
ASAR	Alice Springs	135.82	250	PKP		PKPdf	00 27 30.9	+0.1
	comp=Z,0.5nm,0.9s,baz=101,slow=2.5,SNR=2.9							
GYA	Guiyang	135.98	336	*e*Pdif		Pdif	00 24 33.5	-2.0
GYA				PKP		PKPdf	00 27 29.5	-1.8
GYA				sPKP			00 28 07.3	
GYA				PP		PP	00 30 12.3	+2.9
GYA				AMB		AMB		
	comp=Z,90nm,7.8s							
CHTO	Chiang Mai	145.75	342	*e*PKPdf		PKPdf	00 27 49.0	+0.2
CMAR	Chiang Mai Arr	146.08	341	PKPbc		PKPbc	00 27 51.2	+0.9
CMAR	Chiang Mai Arr	146.08	341	PKPbc		PKPbc	00 27 51.2	+0.9
	comp=Z,9.7nm,0.6s,baz=335,slow=3.1,SNR=40							
HYB	Hyderabad	147.40	17	*i* PKP		PKPdf	00 27 52.5	+0.8

*ISCJB **26** 00:30:01.7±1.0,30°.1S±0°.2×13°.8W±0°.1,h10km,mb4.2/7, MS3.8/5,Error ellipse: s-maj=24.4km s-min=16.1km az=176.8*

*IDC **26** 00:30:02.2±1.6,30°.09S×13°.81W,h0km,mb4.1/6, mb1 4.2/6,mb1mx3.8/29,mbtmp4.1/6,MS3.8/5,Ms1 3.8/5, ms1mx3.4/22,Error ellipse: s-maj=54.3km s-min=25.9km az=12.0*

*NEIC **26** 00:30:03.6±1.1,30°.05S×13°.82W,h10km,mb4.6/3,Error ellipse: s-maj=17.3km s-min=11.5km az=175.0*

ISC 26 00:30:03.6±1.1,30°.1S±0°.2×13°.8W±0°.1,h10km,n23, σ0§36/17,mb4.2/7,MS3.8/5,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEL	Horse Pasture	15.87	30	*e*Pn		Pn	00 33 46.9	-0.4
	36nm,0.6s							
H10S2	ASCENSION HYDR	21.00	358	T	T	T	00 56 30.6	
	baz=177,slow=74,SNR=3.1							
H10S3	ASCENSION HYDR	21.01	358	T	T	T	00 56 31.7	
	baz=177							
H10S1	ASCENSION HYDR	21.02	358	T	T	T	00 56 31.9	
	baz=177,slow=74,SNR=2.7							
TSUM	Tsumeb	30.43	76	LR	LR	LR	00 46 03.6	
	comp=Z,211nm,18.5s,baz=326,slow=32							
BOSA	Boshof	33.99	98	*e*P		P	00 36 47.4	-0.4
	12nm,1.3s							
BOSA	Boshof	33.99	98	P		P	00 36 47.5	-0.3
	4.0nm,0.9s,baz=226,slow=6.4,SNR=4.1							
BOSA				LR		LR	00 48 24.2	
	comp=Z,145nm,18.2s,baz=289,slow=32							
BDFB	Brasilia	34.47	287	P		P	00 36 52.1	+0.2
BDFB	Brasilia	34.47	287	P		P	00 36 52.1	+0.2
	5.5nm,0.9s,baz=130,slow=7.1,SNR=6.6							
BDFB				LR		LR	00 48 23.6	
	comp=Z,81nm,19.7s,baz=71,slow=32							
LBTB	Lobatse	35.20	92	P		P	00 36 58.1	-0.1
LBTB	Lobatse	35.20	92	P		P	00 36 58.1	-0.1
	3.4nm,0.9s,baz=298,slow=10,SNR=4.6							
DBIC	Dimbokro	37.52	15	*e*P		P	00 37 17.5	-0.4
CPUP	Villa Florida	38.35	265	LR	LR	LR	00 50 20.5	
	comp=Z,230nm,21.8s,baz=124,slow=32							
TORD	Torodi Ar. Bea	45.48	21	P		P	00 38 23.3	+0.1
TORD	Torodi Ar. Bea	45.48	21	P		P	00 38 23.3	+0.1
	1.9nm,0.9s,baz=198,slow=7.8,SNR=8.0							
SAML	Samuel	50.59	284	*e*P		P	00 39 02.3	-0.6
	4.5nm,1.2s							
KMBO	Kilima Mbogo	56.34	69	LR	LR	LR	01 02 20.1	
	comp=Z,102nm,18.9s,baz=97,slow=34							
BRTR	Keskin Array B	82.25	35	P		P	00 42 25.8	+0.5
BRTR	Keskin Array B	82.25	35	P		P	00 42 25.8	+0.5
	1.0nm,0.9s,baz=182,slow=6.5,SNR=3.8							
AKASG	Malin Array Be	88.95	26	P		P	00 42 58.4	+0.4
AKASG	Malin Array Be	88.95	26	P		P	00 42 58.4	+0.4
	0.9nm,0.8s,baz=220,slow=3.7,S

LFU	La Fuente	2.59	94	*e*P		Pn	01 05 30.6	-0.3
LFRS	El Faro	2.65	97	*e*P		Pn	01 05 31.4	-0.5
LFRS				*e*S		Sn	01 06 02.1	-0.9
LBRS	Las Brisas	2.66	94	*e*P		Pn	01 05 31.3	-0.5
CNCH	Conchagua	3.89	99	*e*P		Pn	01 05 49.2	+0.5
TGUH	Tegucigalpa,Un	4.37	88	*e*Pn		Pn	01 05 55.4	+0.2
TGUH				*e*S		Sn	01 06 39.9	-5.0
VHO	Vista Hermosa	5.70	304	*e*P		Pn	01 06 07.7	-5.9
VHO				*i* S		Sn	01 07 08.1	-10
VHO	Vista Hermosa	5.70	304	*e*P		Pn	01 06 07.7	-5.9
VHO				*i* S		Sn	01 07 08.1	-10
PNIG	Pinotepa	6.60	292	*e*P		Pn	01 06 20.4	-5.4
PNIG				*i* S		Sn	01 07 30.7	-8.9
PNIG	Pinotepa	6.60	292	*e*P		Pn	01 06 20.4	-5.4
PNIG				*i* S		Sn	01 07 30.7	-8.9
TPIG	Tehuac#an	6.97	310	*e*P		Pn	01 06 25.9	-5.0
TPIG				*e*S		Sn	01 07 39.8	-9.2
TEIG	Tepich	7.08	28	*e*P		Pn	01 06 33.0	+0.7
TEIG				*i* S		Sn	01 07 51.3	-0.2
TEIG	Tepich comp=Z,78nm,0.4s	7.08	28	*e*Pn		Pn	01 06 33.0	+0.7
TEIG	Tepich comp=Z,20nm,0.3s,baz=231,slow=1.9,SNR=61	7.08	28	Pn		Pn	01 06 33.3	+0.9
TEIG				LR		LR	01 09 54.6	
	comp=Z,248nm,20.5s,baz=224,slow=42							
JTS	JuntasAbangare	7.59	118	Pn		Pn	01 06 41.4	+2.1
JTS				Lg		Lg	01 08 34.1	
JTS	JuntasAbangare comp=Z,2.2nm,0.3s,baz=307,slow=19,SNR=7.2	7.59	118	Pn		Pn	01 06 41.4	+2.1
JTS				Lg		Lg	01 08 34.1	
	comp=Z,1.4nm,0.3s,baz=345,slow=20,SNR=4.1							
034A	Hebbronville baz=15	14.56	335	⇓P		P	01 08 16.1	-2.7
832A	Faith Ranch, C baz=16	16.18	333	⇑P		P	01 08 35.7	-1.0
733A	Divot King Ran baz=16	16.28	336	⇓P		P	01 08 36.9	-0.9
633A	Saathoff Ranch baz=17	16.89	337	⇑P		Pn	01 08 43.6	+0.1
632A	Uvalde baz=17	17.17	336	⇑P		P	01 08 47.5	-0.2
533A	Kerrville baz=17	17.39	338	⇑P		P	01 08 49.8	-0.4
631A	Perdido Creek baz=17	17.42	334	⇑P		P	01 08 50.5	+0.1
532A	Rocksprings baz=18	17.77	336	⇓P		Pn	01 08 53.9	-0.5
335A	Moody baz=18	18.02	344	⇓P		P	01 08 57.0	-0.1
433A	Art baz=18	18.04	339	⇑P		Pn	01 08 57.6	+0.1
JCT	Junction City baz=18	18.04	337	⇑P		Pn	01 08 57.5	-0.2
531A	Rocksprings baz=18	18.06	335	⇓P		Pn	01 08 57.8	-0.1
334A	Lometa baz=18	18.30	342	⇓P		Pn	01 09 00.4	-0.3
530A	J-C Ranch, Com baz=18	18.39	333	⇓P		Pn	01 09 02.4	+0.6
333A	Richland Sprin baz=19	18.52	340	⇑P		P	01 09 02.8	+0.2
431A	Sonora baz=19	18.54	335	⇑P		Pn	01 09 03.3	-0.4
628A	Black Gap, Mar baz=19	18.57	328	⇑P		Pn	01 09 03.9	-0.3
WHTX	Lake Whitney baz=19	18.70	345	⇓P		P	01 09 03.8	-0.8
627A	Terlingua Ranc baz=19,SNR=9.1	18.81	327	⇑P		Pn	01 09 07.2	+0.2
332A	Millersview baz=19	18.84	338	⇑P		P	01 09 05.9	-0.2
TXAR	Lajitas Array	18.86	326	P		Pn	01 09 07.2	-0.5
TXAR	Lajitas Array comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=34	18.86	326	P		Pn	01 09 07.2	-0.5
430A	Baggett Ranch, baz=19	18.89	334	⇑P		P	01 09 07.1	+0.4
H06E1	SOCORRO T-PHAS SNR=11	18.99	287	T		T	01 28 27.2	
331A	San Angelo baz=19	19.02	337	⇑P		P	01 09 08.5	+0.4
429A	Davenport Ranc baz=19	19.04	332	⇓P		Pn	01 09 09.2	-0.4
528A	Cox Ranch, San baz=19	19.07	330	⇓P		Pn	01 09 10.1	0.0
233A	Rising Star baz=19,SNR=7.0	19.14	341	⇑P		P	01 09 09.7	+0.3
135A	Vickery Place, baz=19	19.23	345	⇓P		P	01 09 10.4	+0.1
626A	Big Bend Ranch baz=19,SNR=15	19.29	326	⇑P		Pn	01 09 12.1	-0.6
330A	Mertzon baz=19	19.41	335	⇑P		P	01 09 12.5	+0.2
134A	White-Moore Ra baz=20	19.42	344	⇓P		P	01 09 12.3	0.0
527A	Woodward Ranch baz=20,SNR=6.4	19.48	328	⇑P		Pn	01 09 14.1	-0.8
428A	Kincaid Ranch, baz=20,SNR=6.4	19.49	331	⇓P		Pn	01 09 15.2	+0.1
231A	Bronte baz=20	19.54	338	⇓P		P	01 09 14.0	+0.2
526A	Mary Lane Ranc baz=20	19.66	327	⇑P		Pn	01 09 16.0	-1.1
133A	Hamilton Ranch baz=20	19.69	342	⇑P		P	01 09 14.8	-0.5
329A	Wagon Wheel Ra baz=20	19.81	333	⇓P		P	01 09 17.5	+0.7
Z35A	Perchaven, San baz=20	19.93	346	⇓P		P	01 09 18.2	+0.3
ABTX	Abilene, Hawle baz=20	19.93	340	⇓P		P	01 09 18.2	+0.1
427A	Hayter Ranch, baz=20	19.94	329	⇑P		Pn	01 09 19.1	-1.3
328A	Wristen Ranch, baz=20,SNR=11	20.10	332	⇓P		P	01 09 20.3	+0.5
426A	McDonald Obser baz=20	20.11	328	⇓P		P	01 09 20.9	+0.7
Z34A	Collier Ranch, baz=20	20.13	345	⇓P		P	01 09 20.2	+0.1
229A	Bryant Ranch, baz=20	20.16	335	⇑P		P	01 09 21.0	+0.5
131A	Roby baz=20	20.23	339	⇑P		P	01 09 21.4	+0.1
Z33A	Whitaker Ranch baz=20,SNR=7.0	20.28	343	⇓P		P	01 09 21.9	+0.1
Z32A	Haskell baz=21,SNR=6.8	20.51	341	⇓P		P	01 09 24.0	-0.2
MIAR	Mount Ida comp=Z,4.8nm,0.7s	20.57	356	*e*P		P	01 09 18.5	-6.4
326A	Caldwell Ranch baz=21,SNR=7.7	20.61	329	⇓P		P	01 09 26.1	+0.7
228A	UT Block 9, Go baz=21	20.62	333	⇓P		P	01 09 25.8	+0.2
Y34A	Reagan Ranch, baz=21	20.65	346	⇓P		P	01 09 25.4	-0.3
425A	Indio Mountain baz=21,SNR=7.1	20.71	326	⇓P		P	01 09 26.8	+0.3
Z31A	Sharp Cattle R baz=21,SNR=9.1	20.74	340	⇓P		P	01 09 26.3	-0.4
129A	Stewart Farms, baz=21,SNR=8.2	20.76	335	⇑P		P	01 09 26.5	-0.5
227A	Bennet, Jal baz=21	20.85	332	⇑P		P	01 09 28.4	+0.4
Y33A	Hilltop Ranch, baz=21	20.92	344	⇑P		P	01 09 28.3	-0.3
128A	Castleberry Fa baz=21,SNR=8.7	21.01	334	⇓P		P	01 09 29.2	-0.4
Z30A	Sanderson Ranc baz=21,SNR=7.3	21.05	338	⇓P		P	01 09 29.4	-0.7
Y32A	R-V Farms, Ver baz=21	21.15	342	⇓P		P	01 09 30.4	-0.7
Z29A	Hungry Hill Ra baz=21,SNR=8.7	21.25	336	⇑P		P	01 09 31.3	-0.9
X34A	Smith Ranch, M baz=21	21.28	346	⇓P		P	01 09 32.7	+0.2
226B	Tecolote Peak, baz=21,SNR=18	21.32	330	⇑P		P	01 09 33.3	+0.3
Y31A	Rekieta Farm, baz=21	21.36	340	⇓P		P	01 09 33.5	+0.1
X33A	Lawton baz=22	21.39	345	⇓P		P	01 09 33.0	-0.7
X32A	Elmer baz=22	21.49	343	⇓P		P	01 09 34.2	-0.5
Y30A	Stafford Cattl baz=22	21.50	339	⇑P		P	01 09 34.2	-0.8
GDL2	Guadalupe Moun	21.51	330	*e*Pn		P	01 09 35.7	+0.6
Z28A	Tucker Farm, M baz=22	21.54	335	⇓P		P	01 09 34.8	-0.6
MNTX	Cornudas Mount comp=Z,5.1nm,0.8s	21.63	327	*e*P		P	01 09 35.5	-0.7
WMOK	Wichita Mounta comp=Z,4.1nm,0.8s	21.65	344	*e*P		P	01 09 35.0	-1.4
225A	Deer Hill, Car baz=22,SNR=16	21.67	329	⇑P		P	01 09 36.6	-0.3
126A	Clayton Basin, baz=22	21.71	331	⇑P		P	01 09 37.0	-0.3
W34A	Bridge Creek, baz=22	21.88	347	⇑P		P	01 09 38.1	-0.8
X31A	McDonald Ranch baz=22	21.89	342	⇑P		P	01 09 38.3	-0.8
Z27A	Tatum baz=22,SNR=9.2	21.91	334	⇓P		P	01 09 38.5	-0.9
W33A	Caddo, Fort Co baz=22	21.96	345	⇓P		P	01 09 38.6	-1.2
X30A	Coker Ranch, T baz=22,SNR=5.4	22.01	340	⇓P		P	01 09 39.3	-1.0
125A	Gardner Draw, baz=22,SNR=16	22.03	330	⇓P		P	01 09 39.9	-0.7
W32A	Sentinel baz=22,SNR=8.2	22.14	344	⇑P		P	01 09 40.1	-1.6
TUL1	Tulsa baz=22	22.17	351	⇑P		P	01 09 41.5	-0.5
MSTX	Muleshoe comp=Z,2.9nm,0.6s	22.29	335	*e*P		P	01 09 42.2	-1.3
MSTX	Muleshoe baz=22	22.29	335	⇓P		P	01 09 42.9	-0.6
X29A	Tulia baz=22	22.30	338	⇑P		P	01 09 42.9	-0.7
Y27A	Causey baz=22,SNR=5.5	22.38	334	⇓P		P	01 09 43.3	-1.2
W31A	Holland Ranch, baz=22	22.40	342	⇓P		P	01 09 43.9	-0.6
V33A	Lossen Ranch, baz=23	22.56	346	⇓P		P	01 09 45.2	-1.0
Z25A	Roswell baz=23,SNR=6.0	22.57	331	⇑P		P	01 09 45.3	-1.1
V32A	Arapaho baz=23	22.65	344	⇓P		P	01 09 46.0	-1.1
AMTX	Amarillo comp=Z,14nm,0.6s	22.69	338	*e*P		P	01 09 46.5	-1.2
AMTX	Amarillo baz=23	22.69	338	⇑P		P	01 09 46.4	-1.2
Y26A	Elida baz=23	22.70	333	⇑P		P	01 09 46.7	-1.1
W29A	Amraillo baz=23	22.89	339	⇑P		P	01 09 48.7	-1.1
V31A	Spring Creek L baz=23	22.91	343	⇑P		P	01 09 49.1	-0.8
Z24A	Sheeppen Canyo baz=23,SNR=24	22.92	330	⇓P		P	01 09 49.9	-0.3
X27A	F and S Farms, baz=23,SNR=5.1	23.02	336	⇓P		P	01 09 49.4	-1.6
Y25A	Mesa, Roswell baz=23,SNR=16	23.09	332	⇑P		P	01 09 51.5	-0.3
X26A	CR and CF Fran baz=23	23.23	334	⇑P		P	01 09 53.2	+0.1
Y24A	Capitan baz=23,SNR=14	23.44	330	⇑P		P	01 09 55.0	-0.2
X25A	Clemmons Ranch baz=24	23.58	333	⇓P		P	01 09 56.2	-0.3
121A	Cookes Peak, D baz=24	23.58	324	⇓P		P	01 09 57.9	+1.4
319A	Douglas baz=24	23.65	320	⇑P		P	01 09 58.6	+1.5
Z22A	Elephant Butte baz=24,SNR=6.9	23.68	327	⇓P		P	01 09 58.8	+1.4
Y23A	Lovelace Mesa, baz=24,SNR=19	23.74	329	⇓P		P	01 09 59.2	+1.2
SIUC	Southern Illin comp=Z,24nm,0.8s	23.78	5	*e*P		P	01 09 57.2	-0.8
U30A	WHE Inc. Balk baz=24	23.86	342	⇓P		P	01 09 58.7	-0.1
W25A	X Bar L Ranch, baz=24,SNR=5.2	24.07	334	⇓P		P	01 10 01.0	+0.2
V26A	Tequesquite Ra baz=24	24.29	336	⇓P		P	01 10 03.6	+0.7
U27A	Thompson Grove baz=24	24.48	338	⇓P		P	01 10 05.3	+0.7
W24A	Lazy 6 Ranch, baz=24	24.48	332	⇓P		P	01 10 06.1	+1.4
T29A	Hugoton baz=25	24.63	342	⇓P		P	01 10 06.3	+0.5
V25A	Rancho No Teng baz=25	24.67	334	⇑P		P	01 10 06.8	+0.5
ANMO	Albuquerque comp=Z,4.1nm,0.8s	24.76	330	*e*P		P	01 10 07.7	+0.5
ANMO	Albuquerque comp=Z,3.6nm,0.7s,baz=155,slow=13,SNR=21	24.76	330	P		P	01 10 08.1	+0.9
W23A	Wener Place, baz=25	24.79	331	⇓P		P	01 10 08.4	+0.9
U26A	Atchley Ranch, baz=25,SNR=6.2	24.80	336	⇓P		P	01 10 08.3	+0.7
V24A	Rampart Ranch, baz=25	24.85	333	⇑P		P	01 10 09.2	+1.1
T28A	Walsh baz=25	24.86	340	⇓P		P	01 10 08.1	+0.1
S29A	Ulysses baz=25,SNR=8.3	25.00	342	⇓P		P	01 10 09.4	+0.1
R31A	Burdett baz=25	25.20	346	⇓P		P	01 10 11.1	0.0
S28A	Manter baz=25	25.21	341	⇓P		P	01 10 11.2	0.0
V23A	Ortiz Mt. (NFS baz=25,SNR=6.5	25.28	332	⇓P		P	01 10 13.4	+1.5
R30A	Dighton baz=26	25.39	344	⇓P		P	01 10 13.0	+0.3
Q32A	Meitler Ranch, baz=26	25.66	348	⇑P		P	01 10 15.7	+0.6
T25A	Trinidad baz=26	25.70	336	⇑P		P	01 10 17.3	+1.5
U23A	El Rito baz=26,SNR=5.6	25.77	332	⇑P		P	01 10 16.9	+0.6
R28A	Tribune baz=26	25.88	342	⇓P		P	01 10 17.2	0.0
U22A	Llaves baz=26	26.11	331	⇓P		P	01 10 20.5	+1.0
R27A	Eads baz=26	26.14	340	⇑P		P	01 10 20.4	+0.8
X16A	Lo Mia Camp, P baz=27	27.06	322	⇓P		P	01 10 29.2	+1.2
S22A	4UR Ranch, Cre baz=27	27.23	333	⇓P		P	01 10 30.4	+0.8
MVCO	Mesa Verde comp=Z,6.6nm,0.8s	27.56	330	*e*P		P	01 10 33.4	+0.9
MVCO	Mesa Verde baz=28	27.56	330	⇓P		P	01 10 33.3	+0.8
WUAZ	Wupatki comp=Z,3.6nm,0.9s	27.79	324	*e*P		P	01 10 35.8	+1.3
WUAZ	Wupatki baz=28	27.79	324	⇓P		P	01 10 36.1	+1.6
PDMCI	Parker Dam,Lak baz=29	28.64	319	⇓P		P	01 10 42.9	+1.0
U15A	North Rim baz=29	28.96	324	⇓P		P	01 10 46.4	+1.4
W13A	Hualapai Mount baz=29	29.00	320	⇑P		P	01 10 47.2	+1.9
BC3	Big Chuckawall baz=29	29.10	316	⇑P		P	01 10 47.6	+1.4
IRM	Iron Mountain baz=29	29.21	318	⇓P		P	01 10 49.7	+2.7
BELC	Belle Mtn. Jos baz=30	29.67	316	⇓P		P	01 10 52.4	+1.2
CCUT	Cedar City comp=Z,5.4nm,1.0s	30.36	325	*e*P		P	01 10 59.1	+1.7
R11A	Troy Canyon, C baz=32	32.18	323	⇓P		P	01 11 14.8	+1.5
PDAR	Pinedale Array	32.56	335	P		P	01 11 16.7	0.0
PDAR				PcP		PcP	01 14 02.5	+0.6
PDAR	Pinedale Array comp=Z,0.6nm,0.8s,baz=131,slow=9.8,SNR=4.3	32.56	335	P		P	01 11 16.7	0.0
PDAR				PcP		PcP	01 14 02.5	+0.6
	comp=Z,0.4nm,0.5s,baz=151,slow=4.9,SNR=4.0							
I21A	Big Trails, Te baz=33	32.60	339	⇑P		P	01 11 18.1	+1.2
BGU	Big Grassy Mou comp=Z,18nm,2.4s	32.66	329	*e*P		P	01 11 18.5	+1.1
F28A	McLaughlin baz=33	32.70	348	⇓P		P	01 11 17.9	+0.3
J19A	Crowheart baz=33	32.78	336	⇑P		P	01 11 18.9	+0.4
I20A	Worland baz=33	33.02	338	⇑P		P	01 11 20.5	0.0
F26A	Lodgepole baz=33	33.11	346	⇑P		P	01 11 21.9	+0.7
I19A	Meeteetse baz=34	33.41	337	⇓P		P	01 11 24.8	+0.8
G22A	Birney baz=34	33.52	341	⇓P		P	01 11 25.1	+0.3
REDW	Red Top Meadow comp=Z,40nm,2.0s	33.59	334	*e*P		P	01 11 25.6	0.0
F23A	Volborg baz=34	33.71	343	⇑P		P	01 11 27.2	+0.8
NVAR	Mina Array Bea	33.85	321	P		P	01 11 29.5	+1.6
NVAR				PcP		PcP	01 14 06.8	+1.2
NVAR	Mina Array Bea comp=Z,4.1nm,0.8s,baz=134,slow=8.5,SNR=18	33.85	321	P		P	01 11 29.5	+1.6
NVAR				PcP		PcP	01 14 06.8	+1.2
	comp=Z,0.7nm,0.7s,baz=128,slow=5.8,SNR=3.5							
H18A	Shoshone NF, C baz=34,SNR=5.3	34.21	337	⇑P		P	01 11 31.4	+0.4
E22A	Miles City baz=35	34.52	343	⇓P		P	01 11 34.1	+0.8
PTGA	Pitinga comp=Z,17nm,1.5s	34.71	112	*e*P		P	01 11 37.3	+1.9
F19A	Roth Farm, Mol baz=35	34.96	339	⇑P		P	01 11 37.5	+0.3
HLID	Hailey comp=Z,3.1nm,0.8s	35.33	331	*e*P		P	01 11 41.4	+0.8
HLID	Hailey baz=35,SNR=5.6	35.33	331	⇑P		P	01 11 41.6	+1.0
D21A	La Casta Ranch baz=36	35.39	342	⇑P		P	01 11 41.7	+0.8
MCMT	McKenzie Canyo comp=Z,2.7nm,1.1s	35.62	334	*e*P		P	01 11 45.1	+2.0
C22A	Vida baz=36	35.69	344	⇓P		P	01 11 43.8	+0.3
D20A	Manuel Ranch, baz=36	35.77	341	⇑P		P	01 11 44.7	+0.6
C19A	Slack Wire Ran baz=37	36.63	340	⇓P		P	01 11 51.7	+0.2
B20A	Solberg Farm, baz=37	36.93	342	⇑P		P	01 11 54.7	+0.6
EGMT	Eagleton baz=37	37.12	340	⇓P		P	01 11 56.1	+0.5
A20A	Cobblestone Ra baz=37	37.30	342	⇑P		P	01 11 57.6	+0.5
I07A	Izee comp=Z,71nm,2.2s	38.25	327	*e*P		P	01 12 06.7	+1.4
F10A	Beach Ranch, E comp=Z,9.7nm,0.8s	38.46	331	*e*P		P	01 12 06.9	-0.2
SCHQ	Schefferville comp=Z,127nm,18.6s,baz=56,slow=37	45.20	20	LR		LR	01 32 49.1	
YKA	Yellowknife Ar	51.13	347	P		P	01 13 46.5	-0.8
YKA				PcP		PcP	01 15 02.4	+0.2
YKA	Yellowknife Ar comp=Z,1.8nm,0.6s,baz=149,slow=7.6,SNR=40	51.13	347	P		P	01 13 46.5	-0.8
YKA				PcP		PcP	01 15 02.3	+0.2
	comp=Z,1.1nm,0.8s,baz=152,slow=3.5,SNR=17							
ILAR	Eielson Array	62.98	337	P		P	01 15 11.4	+0.4
ILAR	Eielson Array comp=Z,3.4nm,1.0s,baz=130,slow=4.9,SNR=22	62.98	337	P		P	01 15 11.4	+0.4
RSO	Redoubt South	63.81	331	*e*P		P	01 15 16.0	-0.9
COLD	Coldfoot comp=Z,75nm,3.0s	65.26	339	*e*P		P	01 15 26.9	+0.9
TORD	Torodi Ar. Bea	90.18	76	P		P	01 17 43.1	-2.3
TORD	Torodi Ar. Bea comp=Z,0.5nm,1.0s,baz=294,slow=3.3,SNR=4.4	90.18	76	P		P	01 17 43.1	-2.3
SONM	Songino Array	116.39	346	PKP		PKPdf	01 23 26.7	-1.4
SONM	Songino Array comp=Z,0.4nm,0.9s,baz=66,slow=1.7,SNR=3.8	116.39	346	PKP		PKPdf	01 23 26.7	-1.4
MKAR	Makanchi Array	119.31	5	PKP		PKPdf	01 23 32.7	-0.8
MKAR	Makanchi Array comp=Z,0.1nm,0.6s,baz=10,slow=1.6,SNR=2.2	119.31	5	PKP		PKPdf	01 23 32.7	-0.8
ASAR	Alice Springs	135.86	250	PKP		PKPdf	01 24 05.2	-0.4
ASAR	Alice Springs comp=Z,0.3nm,0.9s,baz=81,slow=2.4,SNR=2.7	135.86	250	PKP		PKPdf	01 24 05.2	-0.4
CMAR	Chiang Mai Arr	146.11	342	PKPbc		PKPab	01 24 25.9	+0.2
CMAR	Chiang Mai Arr comp=Z,6.4nm,0.7s,baz=334,slow=3.7,SNR=22	146.11	342	PKPbc		PKPab	01 24 25.9	+0.2

GUC 26 01:13:46.0±0.4, 21.04S×68.67W, h130km±4km, ML3.5, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	Plate Boundary	0.76	269	*i* P	Pn	01 14 07.5	+0.5
PB01				*i* S	Sn	01 14 23.5	+0.6
PB09	Plate Boundary	0.93	215	*e*P	Pn	01 14 09.3	+0.8
PB09				*i* S	Sn	01 14 26.4	+0.8
PB07	Plate Boundary	1.32	238	⇑*i* P	Pn	01 14 13.1	+0.7
PB07				*i* S	Sn	01 14 33.7	+1.1
HMBC	Humberstone	1.36	303	*i* P	Pn	01 14 13.3	+0.5
HMBC				*i* S	Sn	01 14 34.2	+1.0
PB11	Plate Boundary	1.57	324	*e*P	Pn	01 14 15.3	+0.1
PB11				*i* S	Sn	01 14 38.1	+0.8
PB11				AML	AML	01 14 40.2	
	comp=N,735nm,0.2s						
PSGC	Pisagua	1.97	316	*e*P	Pn	01 14 19.7	-0.2
PSGC				*i* S	Sn	01 14 46.1	+0.4
MNMC	Minimini	2.08	335	*e*P	Pn	01 14 22.0	+0.6
MNMC				*i* S	Sn	01 14 49.7	+1.2
MNMC				AML	AML	01 14 51.2	
	comp=N,232nm,0.6s						

IDC 26 01:24:31.5±2.1, 2.87N×127.55E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/34, mbtmp3.3/3, Error ellipse: s-maj=150.6km s-min=24.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.63	164	P	P	01 29 44.4	-0.1
	0.6nm,0.6s,baz=344,slow=11,SNR=3.5						
ASAR	Alice Springs	27.09	167	P	P	01 30 16.2	0.0
	0.3nm,0.6s,baz=346,slow=7.3,SNR=7.0						
MKAR	Makanchi Array	58.73	325	P	P	01 34 31.2	0.0
	0.2nm,0.6s,baz=131,slow=8.1,SNR=3.8						

*ISCJB **26** 01:38:56.3±0.7, 21.0S±0.1×178.4W±0.1, h495km, mb4.2/13, Error ellipse: s-maj=20.8km s-min=8.6km az=144.0*

*IDC **26** 01:38:59.5±2.0, 21.19S×178.29W, h536km±21km, mb3.7/13, mb1 3.9/16, mb1mx3.6/32, mbtmp4.6/16, Error ellipse: s-maj=23.6km s-min=12.6km az=152.0*

ISC 26 01:38:56.3±0.7, 21.1S±0.2×178.2W±0.1, h495km, n25, σ1°39/26, mb4.2/13, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	9.44	41	P	P	01 41 11.0	+3.1
	6.9nm,0.3s,baz=204,slow=20,SNR=2.9						
AFI				S	S	01 42 54.4	-1.6
	1.4nm,0.3s,baz=217,slow=20,SNR=5.3						
DZM	Mont Dzumac	14.32	264	P	P	01 42 01.7	+2.2
	0.8nm,0.3s,baz=72,slow=17,SNR=6.7						
URZ	Urewera	17.53	192	P	P	01 42 32.8	+0.4
	1.0nm,0.3s,baz=10,slow=6.2,SNR=5.1						
CTA	Charters Tower	33.25	265	P	P	01 44 52.3	+0.3
	13nm,0.6s,baz=98,slow=12						
PMG	Port Moresby	35.32	284	P	P	01 45 09.5	+0.1
	40nm,0.8s,baz=116,slow=7.5,SNR=5.8						
STKA	Stephens Creek	37.35	245	P	P	01 45 26.4	+0.3
	9.4nm,0.8s,baz=95,slow=10.0,SNR=16						
JAY	Jayapura	44.08	289	P	P	01 46 20.0	-0.1
	33nm,0.6s,baz=144,slow=3.7,SNR=11						
ASAR	Alice Springs	44.20	257	P	P	01 46 20.4	-0.5
	10nm,0.5s,baz=94,slow=8.0,SNR=206						
ASAR				PcP	pP	01 47 53.1	+0.3
	1.4nm,0.8s,baz=100,slow=4.6,SNR=4.0						
WRA	Warramunga Arr	44.34	263	P	P	01 46 20.6	-1.4
	3.1nm,0.4s,baz=98,slow=7.5,SNR=49						
PETK	Petropavlovsk-	76.84	345	P	P	01 49 55.4	-1.0
	3.8nm,0.7s,baz=125,slow=9.0,SNR=3.4						
USRK	Ussuriysk Arra	79.39	326	P	P	01 50 10.6	+0.3
	4.1nm,0.9s,baz=144,slow=7.1,SNR=5.9						
NVAR

ARCES	**ARCESS Array B** 6.7nm,1.0s,baz=59,slow=2.7,SNR=6.2	**129.52**	**349**	PKP		**PKPdf**	**01 57 06.5**	**-1.2**
AKASG	**Malin Array Be** 1.9nm,0.4s,baz=39,slow=4.5,SNR=18	**143.49**	**331**	PKP		PKPab	01 57 29.9	-2.2
BRTR	**Keskin Array B** 1.6nm,0.8s,baz=131,slow=2.9,SNR=7.8	**147.13**	**311**	PKPbc		**PKPdf**	**01 57 42.0**	**+1.3**
BRG	**Berggiesshubel** 24nm 1.9s	**148.84**	**345**	*e*(P)		**PKPbc**	**01 57 46.9**	**-0.6**
GERES	**GERESS Array B** 2.2nm,0.9s,baz=48,slow=2.0,SNR=13	**150.77**	**344**	PKPbc		**PKPbc**	**01 57 51.1**	**-1.1**
CONA	**Conrad Observa** 3.3nm,1.0s	**150.97**	**340**	↑/PKPbc		**PKPbc**	**01 57 52.0**	**-0.7**
TORD	**Torodi Ar. Bea** 1.1nm,1.0s,baz=295,slow=1.5,SNR=4.7	**172.05**	**179**	PKP		**PKPdf**	**01 58 06.0**	**-2.6**

IDC 26 01:46:25.6±2.9, 2°14.5S×151°15.E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=108.1km s-min=42.5km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=47,slow=9.4,SNR=6.2	**24.15**	**222**	P	P	01 51 45.0	+1.3
ASAR	**Alice Springs** 0.7nm,0.6s,baz=46,slow=7.8,SNR=8.9	**27.15**	**217**	P	P	01 52 10.4	-0.4
STKA	**Stephens Creek** 2.0nm,0.9s,baz=4.1,slow=14,SNR=2.9	**30.92**	**196**	P	P	01 52 43.9	-0.3
TORD	**Torodi Ar. Bea** 0.9nm,0.3s,baz=88,slow=2.5,SNR=51	**147.86**	**291**	PKPbc	PKPbc	02 06 12.7	-1.1

IDC 26 01:47:42.3±2.4, 15°.86S×174°.71W, h194km±27km, mb3.3/5, mb1 3.6/6, mb1mx3.3/33, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/13, Error ellipse: s-maj=119.7km s-min=20.1km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 20nm,0.3s,baz=229,slow=11,SNR=7.6	**3.44**	**56**	P	Pn	01 48 37.1	0.0
AFI				S	Sn	01 49 16.2	-3.6
HNR	**Honiara** comp=Z,57nm,19.8s,baz=272,slow=34	**25.53**	**281**	LR	LR	02 02 03.3	
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=87,slow=6.7,SNR=5.1	**48.51**	**257**	P	P	01 56 05.5	-0.6
ASAR	**Alice Springs** 2.5nm,0.6s,baz=88,slow=8.0,SNR=28	**48.77**	**252**	P	P	01 56 08.1	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=220,slow=6.0,SNR=4.9	**83.15**	**12**	P	P	01 59 45.6	-0.5
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=202,slow=3.2,SNR=3.8	**83.45**	**42**	P	P	01 59 48.5	0.0
SONM	**Songino Array** 0.2nm,0.3s,baz=111,slow=3.2,SNR=4.4	**94.35**	**318**	P	P	02 00 40.3	+0.3
GERES	**GERESS Array B** 0.5nm,0.7s,baz=28,slow=6.0,SNR=5.1	**146.40**	**350**	PKPbc	PKPbc	02 07 00.1	-0.4

IDC 26 01:51:37.4±1.3, 0°.02N×126°.03E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/35, mbtmp3.9/4, Error ellipse: s-maj=68.2km s-min=22.8km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 2.0nm,0.5s,baz=335,slow=11,SNR=18	**21.45**	**158**	P	P	01 56 27.1	-0.3
ASAR	**Alice Springs** 1.7nm,0.9s,baz=345,slow=11,SNR=8.0	**24.76**	**163**	P	P	01 57 01.3	+0.3
PETK	**Petropavlovsk-** 6.8nm,1.0s,baz=177,slow=5.8,SNR=4.3	**59.11**	**22**	P	P	02 01 39.3	-0.3
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=121,slow=6.9,SNR=6.2	**60.22**	**327**	P	P	02 01 47.6	+0.1

*CSEM **26** 01:52:23.8±0.2, 35°.75N×52°.82E, h2km, ML3.5, Error ellipse: s-maj=4.7km s-min=3.4km az=64.0*
*IDC **26** 01:52:23.7±4.5, 35°.78N×52°.62E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/35, mbtmp3.4/6, ML2.9/1, Error ellipse: s-maj=88.2km s-min=23.5km az=4.0*
*ISCJB **26** 01:52:23.1±0.4, 35°.79N±0°.02×52°.80E±0°.03, h6km±3km, mb3.3/5, Error ellipse: s-maj=3.9km s-min=3.5km az=140.3*
*TEH **26** 01:52:24.2, 35°.78N×52°.84E, h2km, ML3.5*
*THR **26** 01:52:25.6±1.1, 35°.76N×52°.65E, h14km±8km, ML3.7*
*AZER **26** 01:52:25.7±1.0, 35°.90N×52°.89E, h5km, Error ellipse: s-maj=17.5km s-min=7.3km az=53.0*

ISC 26 01:52:23.8±0.9, 35°.76N±0°.02×52°.73E±0°.03, h3km±8km, n78, σ1°48/92, mb3.4/5, 18C-17D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IFIR	**Firoozkooh**	**0.12**	**171**	*e*Pg	**Pg**	**01 52 26.0**	**-0.3**
IFIR				*e*Sg	**Sg**	**01 52 29.0**	**+1.0**
IFIR	comp=Z,51μm,0.1s			*e*		01 52 30.1	
IFIR	**Firoozkooh**	**0.12**	**171**	*e*Pg	**Pg**	**01 52 26.0**	**-0.3**
IFIR				*e*Sg	**Sg**	**01 52 29.0**	**+1.0**
IALA	**Alasht**	**0.33**	**111**	*e*Pg	**Pg**	**01 52 29.3**	**-0.9**
IALA				*e*Sg	**Sg**	**01 52 34.1**	**-0.4**
IALA	comp=Z,47μm,0.2s			*e*		01 52 35.9	
IALA	**Alasht**	**0.33**	**111**	*e*Pg	**Pg**	**01 52 29.3**	**-0.9**
IALA				*e*Sg	**Sg**	**01 52 34.1**	**-0.4**
ILAS	**Lasjerd**	**0.42**	**154**	*e*Pg	**Pg**	**01 52 31.3**	**-0.7**
ILAS				*e*Sg	**Sg**	**01 52 37.3**	**-0.2**
ILAS	comp=Z,63μm,0.2s			*e*		01 52 38.4	
ILAS	**Lasjerd**	**0.42**	**154**	*e*Pg	**Pg**	**01 52 31.3**	**-0.7**
ILAS				*e*Sg	**Sg**	**01 52 37.3**	**-0.2**
ISHM	**Shahmirzad**	**0.46**	**84**	*e*Pg	Pg	01 52 30.9	-1.8
ISHM				*e*Sg	**Sg**	**01 52 37.0**	**-1.7**
ISHM	comp=Z,74μm,0.2s			*e*		01 52 40.5	
ISHM	**Shahmirzad**	**0.46**	**84**	*e*Pg	Pg	01 52 30.9	-1.8
ISHM				*e*Sg	**Sg**	**01 52 37.0**	**-1.7**
IPRN	**Peran**	**0.57**	**327**	*e*Pg	**Pg**	**01 52 34.7**	**-0.2**
IPRN				*e*Sg	**Sb**	**01 52 44.3**	**-1.0**
IPRN	comp=Z,72μm,0.2s			*e*		01 52 45.7	
IDMV	**Damavand**	**0.60**	**252**	*e*Pg	**Pg**	**01 52 36.0**	**+0.8**
IDMV				*e*Sg	**Sn**	**01 52 46.5**	**-3.4**
IDMV	comp=Z,65μm,0.2s			*e*		01 52 50.1	
IDMV	**Damavand**	**0.60**	**252**	*e*Pg	**Pg**	**01 52 36.1**	**+0.8**
IDMV				*e*Sg	**Sn**	**01 52 46.5**	**-3.4**
DAMV	**Damavand** comp=Z,3μm,0.4s	**0.63**	**258**	*e*Pg	**Pg**	**01 52 36.5**	**+0.6**
DAMV	**Damavand**	**0.63**	**258**	*e*Pg	**Pg**	**01 52 36.5**	**+0.6**
DAMV				AML	AML	01 52 49.3	
DAMV	comp=E,4μm,0.3s			AML	AML	01 52 53.7	
IANJ	comp=N,3μm,0.4s **Anjilo**	**1.01**	**107**	*e*Pg	Pb	01 52 41.0	-3.1
IANJ				*e*		01 52 54.9	
IANJ	comp=Z,8μm,0.1s **Anjilo**	**1.01**	**107**	*e*Pg	Pb	01 52 41.0	-3.1
IVRN	**Varamin**	**1.12**	**227**	*e*Pg	**Pn**	**01 52 45.7**	**-0.8**
IVRN				*e*		01 53 04.2	
IVRN	comp=Z,20μm,0.1s **Varamin**	**1.12**	**227**	*e*Pg	**Pn**	**01 52 45.7**	**-0.8**
IGLO	**Ghaloghah**	**1.16**	**50**	*e*Pg	Pn	01 52 43.8	-3.3
IGLO				*e*		01 53 10.9	
CHTH	comp=Z,17μm,0.3s **Charan**	**1.31**	**277**	*e*Pg	**Pn**	**01 52 48.5**	**-0.8**
CHTH	**Charan**	**1.31**	**277**	*e*Pg	**Pn**	**01 52 48.5**	**-0.8**
IMHD	**Mahdasht**	**1.68**	**268**	*e*Pn	**Pg**	**01 52 55.5**	**-0.5**
IMHD				*e*		01 53 26.4	
IMHD	comp=Z,11μm,0.1s **Mahdasht**	**1.68**	**268**	*e*Pn	**Pg**	**01 52 55.5**	**-0.5**
GHVR	**GHOM** comp=Z,1μm,0.4s	**1.74**	**223**	*e*Pg	**Pg**	**01 52 57.1**	**0.0**
GHVR	**GHOM**	**1.74**	**223**	*e*Pg	**Pg**	**01 52 57.1**	**0.0**
GHVR				AML	AML	01 53 31.0	
GHVR	comp=E,2μm,0.5s			AML	AML	01 53 31.7	
QAM	comp=N,1μm,0.4s **Ghamsar**	**2.26**	**208**	*e*Pn	**Pb**	**01 53 05.4**	**-0.1**
IRAZ	**Razeghan**	**2.31**	**262**	*e*Pn	**Pb**	**01 53 04.3**	**-2.0**
IRAZ	comp=Z,9μm,0.2s			*e*		01 53 47.6	

IRAZ	**Razeghan**	**2.31**	**262**	*e*Pn	**Pb**	**01 53 04.3**	**-2.0**
SHRO	**Shahrood**	**2.67**	**84**	*e*Pn	Pn	01 53 11.1	+3.2
SHRO	**Shahrood**	**2.67**	**84**	*e*Pn	Pn	01 53 11.1	+3.2
SHRO				*e*Sg	**Sg**	**01 53 51.3**	**+1.6**
IZEF	**Zefreh**	**2.88**	**187**	*e*Pn	**Pn**	**01 53 11.3**	**+0.4**
IZEF	comp=Z,2μm,0.2s			*e*		01 54 05.8	
IZEF	**Zefreh**	**2.88**	**187**	*e*Pn	**Pn**	**01 53 11.3**	**+0.4**
KHMZ	**Khomeyn** comp=Z,145nm,0.4s	**3.05**	**229**	*e*Pn	**Pn**	**01 53 15.2**	**+2.1**
KHMZ	**Khomeyn**	**3.05**	**229**	*e*Pn	**Pn**	**01 53 15.2**	**+2.1**
KHMZ	comp=N,120nm,0.5s			AML	AML	01 54 01.4	
KHMZ				AML	AML	01 54 06.2	
MRVT	**Maraveh tapeh**	**3.30**	**54**	*e*Pn	Pn	01 53 19.7	+3.2
MRVT	**Maraveh tapeh**	**3.30**	**54**	*e*Pn	Pn	01 53 19.7	+3.2
ZNJK	**Zanjan**	**3.39**	**287**	*e*Pn	Pn	01 53 20.2	+2.3
ZNJK	**Zanjan**	**3.39**	**287**	*e*Pn	Pn	01 53 20.2	+2.3
ICHK	**Chekchek**	**3.77**	**158**	*e*Pn	**Pn**	**01 53 23.5**	**+0.3**
ICHK	comp=Z,2μm,0.5s			*e*		01 54 37.0	
ICHK	**Chekchek**	**3.77**	**158**	*e*Pn	**Pn**	**01 53 23.5**	**+0.3**
LRK	**Lerik**	**4.53**	**311**	↑P	**Pn**	**01 53 34.8**	**+1.3**
LRK				↑S	Sn	01 54 30.9	+4.1
LRK	**Lerik**	**4.53**	**311**	P	**Pn**	**01 53 34.8**	**+1.3**
LRK				S	Sn	01 54 30.9	+4.1
IMEH	**Mehriz**	**4.63**	**160**	*e*Pn	**Pn**	**01 53 34.3**	**-0.7**
IMEH	comp=Z,482nm,0.3s			*e*		01 54 59.3	
IMEH	**Mehriz**	**4.63**	**160**	*e*Pn	**Pn**	**01 53 34.3**	**-0.7**
IBAF	**Bafgh**	**4.79**	**150**	*e*Pn	**Pn**	**01 53 37.2**	**+0.2**
IBAF	comp=Z,431nm,0.2s			*e*		01 53 39.0	
IBAF	**Bafgh**	**4.79**	**150**	*e*Pn	**Pn**	**01 53 37.2**	**+0.2**
GLBA	**Clilabad** SNR=17	**4.89**	**316**	↑P	**Pn**	**01 53 39.1**	**+0.8**
GLBA				↑S	**Sn**	**01 54 37.8**	**+2.4**
GLBA	**Clilabad** SNR=17	**4.89**	**316**	P	**Pn**	**01 53 39.1**	**+0.8**
GLBA				S	**Sn**	**01 54 37.8**	**+2.4**
ALIB	**Äli-Bayra** SNR=14	**5.12**	**326**	↓P	Pn	01 53 44.3	+2.9
ALIB	**Äli-Bayra** SNR=14	**5.12**	**326**	P	Pn	01 53 44.3	+2.9
ATGJ	**Altiaghaj** SNR=3.3	**5.90**	**331**	↑P	**Pn**	**01 53 53.5**	**+1.3**
ATGJ				↓S	**Sn**	**01 55 02.5**	**+2.1**
ATGJ	**Altiaghaj** SNR=3.3	**5.90**	**331**	P	**Pn**	**01 53 53.5**	**+1.3**
ATGJ				S	**Sn**	**01 55 02.5**	**+2.1**
SIZA	**Siyzn** SNR=5.7	**6.10**	**332**	↓P	**Pn**	**01 53 57.3**	**+2.3**
SIZA				↓S	**Sn**	**01 55 06.2**	**+0.9**
SIZA	**Siyzn** SNR=5.7	**6.10**	**332**	P	**Pn**	**01 53 57.3**	**+2.3**
SIZA				S	**Sn**	**01 55 06.2**	**+0.9**
IML	**Ismayilli** SNR=12	**6.17**	**326**	↓P	**Pn**	**01 53 56.2**	**+0.4**
IML				↓S	**Sn**	**01 55 08.5**	**+1.6**
IML	**Ismayilli** SNR=12	**6.17**	**326**	P	**Pn**	**01 53 56.2**	**+0.4**
IML				S	**Sn**	**01 55 08.5**	**+1.6**
BRDA	**Brd** SNR=11	**6.28**	**317**	↓P	**Pn**	**01 53 59.4**	**+2.1**
BRDA				↓S	Sn	01 55 13.7	+4.2
BRDA	**Brd** SNR=11	**6.28**	**317**	P	**Pn**	**01 53 59.4**	**+2.1**
BRDA				S	Sn	01 55 13.7	+4.2
QUBA	**Quba, Azerbaij** SNR=2.8	**6.50**	**331**	↓P	**Pn**	**01 54 01.6**	**+1.3**
QUBA				↓S	**Sn**	**01 55 15.9**	**+0.9**
QUBA	**Quba, Azerbaij** SNR=2.8	**6.50**	**331**	P	**Pn**	**01 54 01.6**	**+1.3**
QUBA				S	**Sn**	**01 55 15.9**	**+0.9**
NAX	**Nakhchivan** SNR=3.8	**6.69**	**303**	↓P	**Pn**	**01 54 04.4**	**+1.4**
NAX	**Nakhchivan** SNR=3.8	**6.69**	**303**	P	**Pn**	**01 54 04.4**	**+1.4**
SEKA	**Sheki** SNR=16	**6.96**	**323**	↓P	**Pn**	**01 54 06.9**	**+0.2**
SEKA				↑S	**Sn**	**01 55 27.5**	**+1.1**
SEKA	**Sheki** SNR=16	**6.96**	**323**	P	**Pn**	**01 54 06.9**	**+0.2**
SEKA				S	**Sn**	**01 55 27.5**	**+1.1**
GANJ	**Ganja** SNR=14	**7.01**	**316**	↓P	**Pn**	**01 54 08.1**	**+0.6**
GANJ				↑S	**Sn**	**01 55 30.0**	**+2.2**
GANJ	**Ganja** SNR=14	**7.01**	**316**	P	**Pn**	**01 54 08.1**	**+0.6**
GANJ				S	**Sn**	**01 55 30.0**	**+2.2**
ZKTA	**Zakatala** SNR=24	**7.56**	**323**	↓P	**Pn**	**01 54 16.4**	**+1.4**
ZKTA				↑S	**Sn**	**01 55 41.7**	**+0.4**
QZX	**Qazax, Azerbai**	**7.83**	**315**	↓P	**Pn**	**01 54 20.3**	**+1.7**
QZX				↑S	**Sn**	**01 55 50.3**	**+2.5**
QZX	**Qazax, Azerbai**	**7.83**	**315**	P	**Pn**	**01 54 20.3**	**+1.7**
QZX				S	**Sn**	**01 55 50.3**	**+2.5**
KBZ	**Khabaz** comp=Z,0.1nm,0.3s,baz=135,slow=16,SNR=2.9	**10.97**	**319**	Pn	**Pn**	**01 55 03.2**	**+1.5**
AB31	**Akbulak array** comp=Z,0.4nm,0.4s,baz=207,slow=13,SNR=17	**14.48**	**19**	↓Pn	Pn	01 55 45.0	-4.6
AB31				↑Sn	Sn	01 58 16.2	-14
AB31	comp=Z,0.9nm,0.5s,baz=203,slow=24,SNR=5.0 **Akbulak array** comp=Z,0.4nm,0.4s,SNR=17	**14.48**	**19**	Pn	Pn	01 55 45.0	-4.6
AB31				Sn	Sn	01 58 16.2	-15
AKTO	comp=Z,0.9nm,0.5s,SNR=5.0 **Aktyubinsk** comp=Z,2.0nm,0.7s	**15.16**	**13**	↓Pn	**Pn**	**01 55 54.9**	**-3.8**
AKTO				↑Sn	Sn	01 58 34.1	-13
AKTO	comp=Z,4.8nm,1.3s **Aktyubinsk** comp=Z,2.0nm,0.7s	**15.16**	**13**	Pn	**Pn**	**01 55 54.9**	**-3.8**
AKTO				Sn	Sn	01 58 34.1	-13
BVAR	comp=Z,4.8nm,1.3s **Borovoye Array** comp=Z,1.0nm,0.7s,baz=230,slow=11,SNR=5.6	**21.28**	**30**	P	**P**	**01 57 12.0**	**+0.7**
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.9s,baz=248,slow=9.2,SNR=3.1	**23.80**	**43**	P	**P**	**01 57 38.5**	**+0.7**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=255,slow=9.5,SNR=6.2	**24.66**	**54**	P	**P**	**01 57 46.7**	**+1.0**
GERES	**GERESS Array B** comp=Z,0.7nm,0.7s,baz=99,slow=8.2,SNR=6.0	**31.33**	**307**	P	**P**	**01 58 45.0**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.8s,baz=107,slow=7.4,SNR=3.8	**36.42**	**327**	P	**P**	**01 59 28.9**	**-0.6**

IDC 26 02:23:24.1±1.4, 8°.43S×157°.51E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/30, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=36.6km s-min=23.0km az=168.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 49nm,0.3s,baz=221,slow=7.9,SNR=6.6	**2.60**	**113**	Pn	Pn	02 24 08.3	+0.8
HNR				Sn	Sn	02 24 39.0	-0.9
HNR	80nm,0.3s,baz=292,slow=19,SNR=12 **Honiara**	**2.60**	**113**	*e*P	Pb	02 24 10.0	-1.7
HNR				*e*S	Sn	02 24 40.0	+0.1
WRA	**Warramunga Arr** 2.2nm,0.6s,baz=67,slow=9.5,SNR=9.9	**25.17**	**240**	P	P	02 28 52.0	+0.5
ASAR	**Alice Springs** 0.6nm,0.8s,baz=61,slow=9.6,SNR=5.1	**27.21**	**233**	P	P	02 29 09.0	-1.0
STKA	**Stephens Creek** 2.0nm,0.7s,baz=36,slow=14,SNR=6.5	**27.63**	**210**	P	P	02 29 13.8	+0.2
H11S3	**WAKE ISLAND Hy** baz=200,slow=78,SNR=6.3	**28.24**	**19**	T	T	02 57 53.5	
H11S2	**WAKE ISLAND Hy** baz=200,slow=78,SNR=13	**28.24**	**19**	T	T	02 57 53.0	
H11S1	**WAKE ISLAND Hy** baz=200,slow=78,SNR=4.9	**28.26**	**19**	T	T	02 57 54.6	
ILAR	**Eielson Array** 0.1nm,0.5s,baz=245,slow=3.9,SNR=4.5	**83.80**	**21**	P	P	02 35 55.1	0.0

CASC 26 02:27:46.1±1.6, 13°.73N×89°.20W, h4km±2km, MD3.6, ML3.6, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.05**	**217**	↑*e*P	Pg	02 27 48.1	+0.6
SNET				*e*S	Sg	02 27 49.8	+1.2
SNET	comp=Z,18μm,0.2s			AML	AML	02 27 52.5	

BOQS	**Boqueron**	**0.08**	**274**	*e*P	Pg	02 27 48.8	+0.6
BOQS				*e*S	Sg	02 27 50.5	+0.9
LFU	**La Fuente**	**0.08**	**77**	*e*P	Pg	02 27 48.7	+0.7
LBRS	**Las Brisas**	**0.15**	**87**	*e*P	Pg	02 27 49.8	+0.6
LFRS	**El Faro**	**0.17**	**129**	*e*P	Pg	02 27 50.2	+0.6
LFRS				*e*S	Sg	02 27 53.7	+1.7
SNVI	**San Vicente**	**0.37**	**108**	*e*P	Pg	02 27 54.1	+0.7
SNVI				*e*S	Sb	02 28 00.0	-1.6
SNJE	**San Jose**	**0.42**	**289**	*e*P	Pg	02 27 54.6	+0.1
SBLS	**San Blas**	**0.43**	**285**	*e*P	Pg	02 27 55.0	+0.3
SBLS				*e*S	Sb	02 28 02.9	-0.7
RTR	**El Retiro**	**0.47**	**291**	*e*P	Pg	02 27 55.7	+0.4
RBDL	**Robledal**	**0.61**	**309**	*e*P	Pg	02 27 57.8	-0.3
VSM	**San Miguel**	**0.95**	**108**	*e*P	Pg	02 28 04.3	-0.4
CAHU	**Cacaxuatique**	**0.96**	**87**	*e*P	Pg	02 28 04.2	-0.6
CNCH	**Conchagua**	**1.40**	**109**	*e*P	Pn	02 28 12.0	-0.5
NBG	**Las Nubes**	**1.40**	**308**	*e*P	Pg	02 28 14.0	+0.6
MRL	**Marmol**	**1.41**	**340**	*e*P	Pn	02 28 11.8	-1.0
MRL				*e*P	Pb	02 28 13.0	-0.3
MRL				*e*S	Sn	02 28 32.6	+0.6

*IDC **26** 02:31:46.4±1.4, 23°.00S×175°.61W, h0km, mb4.0/11, mb1 4.3/11, mb1mx4.1/28, mbtmp4.0/11, MS3.6/6, Ms1 3.6/6, ms1mx3.4/24, Error ellipse: s-maj=62.0km s-min=20.0km az=155.0*
*ISCJB **26** 02:31:50.5±1.2, 23°.05S±0°.3×175°.7W±0°.2, h34km, mb4.0/11, MS3.8/3, Error ellipse: s-maj=53.3km s-min=16.2km az=154.3*

ISC 26 02:31:51.6±1.4, 23°.05S±0°.4×175°.6W±0°.2, h34km, n26, σ0°78/13, mb3.9/11, MS3.8/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 6.3nm,0.3s,baz=218,slow=19,SNR=3.1	**9.78**	**22**	Pn	Pn	02 34 02.2	-7.8
RAR	**Rarotonga** 3.6nm,0.3s,baz=288,slow=6.4,SNR=4.3	**14.79**	**86**	Pn	Pn	02 35 03.9	-14
RAR				LR	LR	02 40 03.1	
URZ	comp=Z,333nm,21.0s,baz=264,slow=34 **Urewera** comp=Z,111nm,19.6s,baz=244,slow=30	**16.40**	**201**	LR	LR	02 40 02.1	
DZM	**Mont Dzumac** 356nm,26.4s	**16.61**	**270**	*e*LR	LR	02 39 10.6	
DZM	**Mont Dzumac** comp=Z,76nm,19.2s,baz=114,slow=30	**16.61**	**270**	LR	LR	02 40 00.3	
TBI	**Tubuai** 445nm,26.0s	**24.03**	**96**	*e*LR	LR	02 42 15.0	
PAE	**Paea** 2.3nm,0.3s	**24.97**	**82**	*e*T	T	03 02 32.4	
PPT2	**Papeete2** 280nm,22.0s	**24.99**	**82**	*e*LR	LR	02 42 39.4	
PPT	**Papeete** comp=Z,270nm,19.7s,baz=204,slow=31	**25.00**	**82**	LR	LR	02 44 45.0	
CTA	**Charters Tower** 1.8nm,0.3s,baz=103,slow=13,SNR=5.3	**35.52**	**267**	P	**P**	**02 38 46.0**	**+0.3**
RKT	**Rikitea** 193nm,23.2s	**37.30**	**98**	*e*LR	LR	02 48 22.8	
STKA	**Stephens Creek** 1.2nm,0.6s,baz=82,slow=11,SNR=2.8	**38.78**	**247**	P	**P**	**02 39 13.8**	**+0.6**
STKA				LR	LR	02 54 51.3	
ASAR	comp=Z,165nm,18.1s,baz=38,slow=36 **Alice Springs** 0.5nm,0.5s,baz=93,slow=7.5,SNR=8.1	**46.15**	**259**	P	**P**	**02 40 12.2**	**-1.0**
WRA	**Warramunga Arr** 1.4nm,0.4s,baz=102,slow=8.4,SNR=13	**46.50**	**264**	P	**P**	**02 40 15.3**	**-0.7**
MJAR	**Matsushiro Arr** 1.4nm,0.7s,baz=161,slow=7.0,SNR=3.4	**73.56**	**323**	P	**P**	**02 43 20.2**	**-1.1**
NVAR	**Mina Array Bea** 1.0nm,1.0s,baz=225,slow=12,SNR=3.6	**81.38**	**42**	P	**P**	**02 44 05.1**	**-0.2**
USRK	**Ussuriysk Arra** 1.7nm,0.7s,baz=112,slow=3.1,SNR=4.9	**82.31**	**325**	P	**P**	**02 44 10.7**	**+1.0**
H03N2	**Juan Fernandez** baz=243	**82.88**	**123**	T	T	04 16 05.2	
H03N3	**Juan Fernandez** baz=243	**82.88**	**123**	T	T	04 16 05.0	
H03N1	**Juan Fernandez** baz=243	**82.90**	**123**	T	T	04 15 60.0	
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=198,slow=5.4,SNR=2.9	**86.58**	**56**	P	**P**	**02 44 31.3**	**-0.5**
PDAR	**Pinedale Array** 0.4nm,1.0s,baz=226,slow=5.8,SNR=2.7	**89.31**	**42**	P	**P**	**02 44 45.4**	**+0.7**
PDAR				LR	LR	03 22 20.1	
ILAR	comp=Z,37nm,19.1s,baz=270,slow=34 **Eielson Array** 0.6nm,0.9s,baz=216,slow=5.5,SNR=3.8	**90.31**	**12**	P	**P**	**02 44 48.9**	**+0.4**
CMAR	**Chiang Mai Arr** 1.1nm,0.3s,baz=134,slow=3.4,SNR=7.5	**93.04**	**289**	P	**P**	**02 45 02.9**	**+0.6**
AKASG	**Malin Array Be** 1.1nm,0.6s,baz=41,slow=4.1,SNR=8.6	**146.30**	**331**	PKPbc	**PKPdf**	**02 51 27.5**	**+0.1**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=143,slow=5.5,SNR=3.6	**150.18**	**311**	PKPbc	**PKPbc**	**02 51 38.6**	**-0.8**

*ISCJB **26** 02:42:31.8±0.5, 51°.46N±0°.03×16°.09E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=2.8km az=4.1*
*CSEM **26** 02:42:32.4±0.2, 51°.52N×16°.05E, h2km, ML3.5/10, Error ellipse: s-maj=4.5km s-min=3.5km az=157.0*
*VIE **26** 02:42:34.9±0.4, 51°.33N×16°.08E, h0km, mb2.3/3, ML2.9/6, Error ellipse: s-maj=2.8km s-min=2.5km az=158.0 69 km WNW of Wroclaw Suspected Mining induced.*
*PRU **26** 02:42:34.0, 51°.48N×16°.07E, h0km*

ISC 26 02:42:31.9±0.8, 51°.57N±0°.03×16°.08E±0°.02, h0km, n39, σ0°83/77, 4C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**169**	*e*Pg	**Pg**	**02 42 46.3**	**+0.3**
KSP				*e*Sg	**Sg**	**02 42 54.4**	**-1.2**
KSP	**Ksiaz**	**0.74**	**169**	*e*Sg	**Sg**	**02 42 55.6**	**0.0**
UPC	**Upice**	**1.06**	**182**	*e*PG	**Pg**	**02 42 52.5**	**+0.3**
UPC	comp=Z,64nm,0.2s			*e*SG	**Sg**	**02 43 05.3**	**-0.7**
UPC	**Upice** 64nm,0.2s	**1.06**	**182**	Pg	**Pg**	**02 42 52.5**	**+0.3**
UPC				Sg	**Sg**	**02 43 05.3**	**-0.7**
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*PG	**Pg**	**02 42 55.3**	**-0.1**
DPC				*e*SG	**Sg**	**02 43 10.5**	**-0.8**
DPC	**Dobruska-Polom**	**1.23**	**173**	Pg	**Pg**	**02 42 55.3**	**-0.1**
DPC				Sg	**Sg**	**02 43 10.5**	**-0.8**
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG	**Pb**	**02 42 59.1**	**0.0**
PVCC	comp=Z,208nm,0.2s			*e*SG	**Sb**	**02 43 17.4**	**-0.2**
PVCC	**Panska Ves** 208nm,0.2s	**1.41**	**223**	Pg	**Pb**	**02 42 59.1**	**0.0**
PVCC				Sg	**Sb**	**02 43 17.4**	**-0.2**
BRG	**Berggiesshubel** 135nm,0.4s	**1.51**	**243**	PN	**Pg**	**02 43 01.3**	**+0.5**
BRG				PG	**Pb**	**02 43 02.1**	**+1.3**
BRG				SG	**Sn**	**02 43 22.0**	**+1.4**
PRA	**Prague**	**1.82**	**215**	PG		02 03 06.0	
PRA				PN	**Pn**	**02 43 04.0**	**

KHC				*e*SN		**Sn**	**02 43 54.7**	**-0.6**
KHC				*e*SG		**Sg**	**02 44 04.0**	**-1.6**
	comp=Z,15nm,0.4s							
KHC	**Kasperske Hory**	**2.92**	**214**	Pn		**Pn**	**02 43 19.9**	**+0.3**
NIE	**Niedzica**	**3.46**	**127**	*e*P		**Pg**	**02 43 38.0**	**-0.1**
NIE				*e*S		**Sg**	**02 44 22.4**	**-0.5**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P		**Pn**	**02 43 29.5**	**+0.3**
BSD				*i* S		**Sn**	**02 44 09.5**	**-3.1**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P		**Pn**	**02 43 29.5**	**+0.3**
BSD				*i* S		**Sn**	**02 44 09.5**	**-3.1**
CONA	**Conrad Observa**	**3.65**	**182**	⇓*i* Pn		**Pn**	**02 43 29.1**	**-0.5**
CONA				⇑*i* Sg		**Sg**	**02 44 28.2**	**-0.8**
	comp=Z,24nm,0.4s							
CONA	**Conrad Observa**	**3.65**	**182**	Pn		**Pn**	**02 43 29.1**	**-0.5**
CONA				Sg		**Sg**	**02 44 28.2**	**-0.8**
	comp=Z,24nm,0.4s							
MOA	**Molln**	**3.90**	**198**	⇑*i* Pn		**Pn**	**02 43 33.7**	**+0.6**
MOA				⇓*i* Sg		**Sg**	**02 44 36.7**	**-0.5**
	comp=Z,11nm,0.5s							
MOA	**Molln**	**3.90**	**198**	Pn		**Pn**	**02 43 33.7**	**+0.6**
MOA				Sg		**Sg**	**02 44 36.7**	**-0.5**
	comp=Z,11nm,0.5s							
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PN		**Pn**	**02 43 33.8**	**+0.2**
STHS				*e*PG		**Pg**	**02 43 48.5**	**+1.1**
STHS				*e*SG		**Sg**	**02 44 40.2**	**+1.8**
ARSA	**Arzberg**	**4.33**	**185**	⇑*i* Pn		**Pn**	**02 43 38.8**	**-0.3**
ARSA				⇑*i* Sg		**Sg**	**02 44 50.4**	**-0.7**
	comp=Z,12nm,0.6s							
ARSA	**Arzberg**	**4.33**	**185**	Pn		**Pn**	**02 43 38.8**	**-0.3**
ARSA				Sg		**Sg**	**02 44 50.4**	**-0.7**
	comp=Z,12nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*PN		**Pn**	**02 43 40.5**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*Pn		**Pn**	**02 43 40.5**	**+1.0**
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*PN		**Pn**	**02 43 44.5**	**-0.5**
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*Pn		**Pn**	**02 43 44.5**	**-0.5**
KBA	**Koelnbreinsper**	**4.83**	**203**	⇓*i* Pn		**Pn**	**02 43 46.9**	**+0.8**
KBA				⇓*i* Sg		**Sg**	**02 45 07.5**	**+0.3**
	comp=Z,7.7nm,0.4s							
KBA	**Koelnbreinsper**	**4.83**	**203**	Pn		**Pn**	**02 43 46.9**	**+0.8**
KBA				Sg		**Sg**	**02 45 07.5**	**+0.3**
	comp=Z,7.7nm,0.4s							

ISCJB ***26*** *02:55:33.5±1.0,29.9S±0.2×13.8W±0.1,h10km,mb4.1/10, MS3.8/7, Error ellipse: s-maj=31.0km s-min=15.5km az=6.3*

IDC ***26*** *02:55:33.9±1.1,29.88S×13.75W,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.0/32,mbtmp4.1/10,MS3.8/7, Ms1 3.8/7,ms1mx3.4/29, Error ellipse: s-maj=37.6km s-min=19.3km az=3.0*

ISC 26 02:55:35.3±1.1,29.9S±0.2×13.7W±0.1,h10km,n19, σ0.95/12,mb4.1/10,MS3.7/7,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**20.84**	**357**	T	T	03 21 56.2	
	baz=178						
H10S3	**ASCENSION HYDR**	**20.84**	**357**	T	T	03 21 58.3	
	baz=178						
H10S1	**ASCENSION HYDR**	**20.86**	**357**	T	T	03 21 54.9	
	baz=178						
SUR	**Sutherland**	**29.61**	**104**	LR	LR	03 11 01.4	
	comp=Z,270nm,18.8s,baz=247,slow=31						
BOSA	**Boshof**	**33.94**	**98**	P	**P**	**03 02 18.9**	**-0.1**
	4.5nm,1.1s,baz=235,slow=9.2,SNR=3.4						
BOSA				LR	LR	03 13 55.6	
	comp=Z,132nm,19.2s,baz=245,slow=32						
BDFB	**Brasilia**	**34.48**	**287**	P	**P**	**03 02 23.2**	**-0.5**
	8.2nm,0.9s,baz=154,slow=3.8,SNR=11						
BDFB				LR	LR	03 13 44.9	
	comp=Z,155nm,21.9s,baz=110,slow=32						
LBTB	**Lobatse**	**35.13**	**92**	P	**P**	**03 02 29.2**	**-0.1**
	6.3nm,1.0s,baz=271,slow=12,SNR=5.8						
DBIC	**Dimbokro**	**37.34**	**15**	P	**P**	**03 02 47.0**	**-1.1**
	2.5nm,0.9s,baz=180,slow=9.4,SNR=4.2						
CPUP	**Villa Florida**	**38.44**	**264**	LR	LR	03 16 14.2	
	comp=Z,254nm,19.2s,baz=104,slow=32						
LSZ	**Lusaka**	**41.12**	**79**	P	**P**	**03 03 19.6**	**-0.3**
	1.5nm,0.9s,baz=294,slow=8.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**45.30**	**21**	P	**P**	**03 03 54.9**	**+1.4**
	3.0nm,1.0s,baz=201,slow=7.3,SNR=12						
TORD				LR	LR	03 19 09.7	
	comp=Z,78nm,20.1s,baz=215,slow=31						
SIV	**San Ignacio**	**45.42**	**277**	P	**P**	**03 03 55.0**	**+0.4**
	4.1nm,0.9s,baz=124,slow=11,SNR=8.0						
PLCA	**Paso Flores**	**46.88**	**241**	LR	LR	03 20 21.8	
	comp=Z,93nm,21.0s,baz=285,slow=32						
ROSC	**El Rosal**	**67.46**	**290**	LR	LR	03 36 47.5	
	comp=Z,64nm,18.6s,baz=90,slow=37						
BRTR	**Keskin Array B**	**82.07**	**35**	P	**P**	**03 07 56.9**	**+0.9**
	1.5nm,0.9s,baz=197,slow=8.2,SNR=5.3						
GERES	**GERESS Array B**	**82.13**	**18**	P	**P**	**03 07 56.4**	**+0.4**
	0.3nm,0.6s,baz=226,slow=2.6,SNR=3.3						
AKASG	**Malin Array Be**	**88.77**	**26**	P	**P**	**03 08 27.2**	**-1.7**
	0.5nm,0.6s,baz=219,slow=5.2,SNR=5.6						
ILAR	**Eielson Array**	**134.62**	**334**	PKP	**PKPdf**	**03 14 53.4**	**+0.2**
	0.3nm,0.7s,baz=88,slow=0.3,SNR=4.9						
KSRS	**Korea Array**	**147.39**	**66**	PKPbc	**PKPbc**	**03 15 20.1**	**+0.7**
	2.9nm,1.0s,baz=247,slow=2.6,SNR=5.0						

OMAN ***26*** *03:16:43.5±99.0,32.49N×57.11E,h139km±999km, Error ellipse: s-maj=1218.0km s-min=87.6km az=3.0*

IDC ***26*** *03:16:59.6±0.7,30.79N×56.93E,h0km,mb3.9/18, mb1 4.0/22,mb1mx3.9/42,mbtmp3.9/22,ML3.6/4,MS3.3/5, Ms1 3.3/5,ms1mx2.8/40, Error ellipse: s-maj=18.9km s-min=13.2km az=152.0*

ISCJB ***26*** *03:17:00.2±0.3,30.84N±0.03×57.00E±0.03,h10km, mb3.9/24,MS3.3/4, Error ellipse: s-maj=4.0km s-min=3.6km az=40.0*

THR ***26*** *03:17:00.3±0.5,30.82N×57.14E,h17km±5km,ML4.2*

NEIC ***26*** *03:17:00.5,30.82N×57.10E,h14km,mb3.9/6, ML4.2(THR),MN4.3(TEH),After THR.*

CSEM ***26*** *03:17:01.4±0.2,30.76N×57.03E,h12km,mb4.0/9, Error ellipse: s-maj=5.7km s-min=4.7km az=138.0*

MOS ***26*** *03:17:02.1±1.1,30.80N×56.89E,h29km,mb4.2/7, Error ellipse: s-maj=11.9km s-min=8.5km az=84.9*

TEH ***26*** *03:17:05.4,30.89N×56.94E,h21km,ML4.3*

ISC 26 03:17:01.1±0.4,30.79N±0.04×56.94E±0.03,h10km,n205, σ1.33/206,mb4.0/24,MS3.2/4,5C-6D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.82**	**191**	P	**Pg**	**03 17 17.0**	**+0.1**
KRBR	**Kerman**	**0.82**	**191**	P	**Pg**	**03 17 17.0**	**+0.1**
KRBR	**Kerman**	**0.82**	**191**	*e*Pg	**Pb**	**03 17 17.4**	**-0.2**
KRBR	**Kerman**	**0.82**	**191**	*e*Pg	**Pb**	**03 17 17.4**	**-0.2**
IBAF	**Bafgh**	**1.43**	**304**	*e*Pn	**Pn**	**03 17 26.4**	**-0.8**
IBAF				*e*		03 17 50.5	
	comp=Z,37μm,0.2s						
IBAF	**Bafgh**	**1.43**	**304**	Pn	**Pn**	**03 17 26.4**	**-0.8**
IBAF	**Bafgh**	**1.43**	**304**	*e*Pn	**Pn**	**03 17 26.4**	**-0.8**
IMEH	**Mehriz**	**2.09**	**287**	⇑*e*Pn	**Pn**	**03 17 37.5**	**+1.1**
IMEH				*e*		03 18 16.9	
	comp=Z,20μm,0.2s						
IMEH	**Mehriz**	**2.09**	**287**	Pn	**Pn**	**03 17 37.4**	**+1.1**
IMEH				Sn	**Sn**	**03 18 02.8**	**+0.3**
IMEH	**Mehriz**	**2.09**	**287**	⇑*e*Pn	**Pn**	**03 17 37.5**	**+1.1**
IMEH				Sn	**Sn**	**03 18 02.8**	**+0.3**
IKOO	**Kooshah**	**2.40**	**47**	*e*Pn	**Pn**	**03 17 40.9**	**+0.2**
IKOO				*e*		03 18 17.9	
	comp=Z,31μm,0.2s						
IKOO	**Kooshah**	**2.40**	**47**	Pn	**Pn**	**03 17 40.8**	**+0.2**
IKOO	**Kooshah**	**2.40**	**47**	Pn	**Pn**	**03 17 40.8**	**+0.2**
ICHK	**Chekchek**	**2.61**	**304**	*e*Pn	**Pn**	**03 17 44.9**	**+1.3**
ICHK				*e*		03 18 32.8	
	comp=Z,18μm,0.3s						
ICHK	**Chekchek**	**2.61**	**304**	Pn	**Pn**	**03 17 44.8**	**+1.3**
ICHK				Sn	**Sn**	**03 18 14.8**	**-0.6**
ICHK	**Chekchek**	**2.61**	**304**	*e*Pn	**Pn**	**03 17 44.8**	**+1.3**
ICHK				Sn	**Sn**	**03 18 14.8**	**-0.6**
TABS	**Tabas**	**2.86**	**3**	*e*Pn	**Pn**	**03 17 46.8**	**0.0**
TABS	**Tabas**	**2.86**	**3**	*e*Pn	**Pn**	**03 17 46.8**	**0.0**
TABS				*e*Sg	**Sb**	**03 18 28.6**	**+1.4**
TABS				AML	AML	03 18 38.9	
	comp=N,1μm,0.6s						
TABS				AML	AML	03 18 42.7	
	comp=E,747nm,0.6s						
ISAD	**Sadrabad**	**3.00**	**293**	*e*Pn	**Pn**	**03 17 51.4**	**+2.3**
ISAD				*e*		03 18 41.4	
	comp=Z,10μm,0.3s						
ISAD	**Sadrabad**	**3.00**	**293**	Pn	**Pn**	**03 17 51.1**	**+2.1**
ISAD	**Sadrabad**	**3.00**	**293**	Pn	**Pn**	**03 17 51.1**	**+2.1**
IDAH	**Dahanechah**	**3.16**	**51**	*e*Pn	**Pn**	**03 17 52.7**	**+1.5**
IDAH				*e*Sg	**Sg**	**03 18 42.1**	**-0.5**
IDAH				*e*		03 18 53.0	
	comp=Z,7μm,0.5s						
IDAH	**Dahanechah**	**3.16**	**51**	Pn	**Pn**	**03 17 52.4**	**+1.3**
IDAH				Sg	**Sg**	**03 18 42.1**	**-0.5**
IDAH	**Dahanechah**	**3.16**	**51**	Pn	**Pn**	**03 17 52.4**	**+1.3**
IDAH				*e*Sg	**Sg**	**03 18 42.1**	**-0.5**
IBND	**Bandar-abas**	**3.35**	**186**	*e*Pn	**Pb**	**03 17 57.5**	**-3.1**
IBND				*e*		03 18 09.1	
	comp=Z,4μm,0.2s						
IBND	**Bandar-abas**	**3.35**	**186**	Pn	**Pb**	**03 17 57.4**	**-3.1**
IBND	**Bandar-abas**	**3.35**	**186**	Pn	**Pb**	**03 17 57.4**	**-3.1**
IPAR	**Pars**	**3.50**	**255**	*e*Pn	**Pn**	**03 17 59.0**	**+3.2**
IPAR				*e*		03 19 07.3	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**3.50**	**255**	Pn	Pn	03 17 59.1	+3.3
IPAR	**Pars**	**3.50**	**255**	*e*Pn	**Pn**	**03 17 59.0**	**+3.2**
ISRV	**Sarvestan**	**3.60**	**248**	*e*Pn	Pn	03 18 00.8	+3.5
ISRV				*e*		03 19 08.4	
	comp=Z,5μm,0.5s						
ISRV	**Sarvestan**	**3.60**	**248**	Pn	Pb	03 18 01.3	-3.8
ISRV	**Sarvestan**	**3.60**	**248**	*e*Pn	Pn	03 18 00.8	+3.5
NASN	**Na'in**	**4.05**	**301**	P	**Pn**	**03 18 06.0**	**+2.5**
NASN	**Na'in**	**4.05**	**301**	*e*Pn	**Pn**	**03 18 05.7**	**+2.2**
	comp=Z,184nm,0.4s						
NASN	**Na'in**	**4.05**	**301**	P	**Pn**	**03 18 06.0**	**+2.5**
NASN	**Na'in**	**4.05**	**301**	*e*Pn	**Pn**	**03 18 05.7**	**+2.2**
NASN				AML	AML	03 19 12.8	
	comp=N,184nm,0.4s						
GHIR	**Ghir-Karzin**	**4.25**	**235**	Sg	**Sg**	**03 19 16.0**	**-1.8**
GHIR	**Ghir-Karzin**	**4.25**	**235**	Sg	**Sg**	**03 19 16.0**	**-1.8**
IZEF	**Zefreh**	**4.45**	**299**	*e*Pn	**Pn**	**03 18 10.3**	**+1.4**
IZEF				*e*		03 19 32.2	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**4.45**	**299**	Pn	**Pn**	**03 18 10.1**	**+1.2**
IZEF	**Zefreh**	**4.45**	**299**	Pn	**Pn**	**03 18 10.1**	**+1.2**
IKAZ	**Kazeroun**	**4.53**	**258**	*e*Pn	**Pn**	**03 18 12.8**	**+2.8**
IKAZ				*e*		03 19 49.0	
	comp=Z,3μm,0.6s						
IKAZ	**Kazeroun**	**4.53**	**258**	Pn	**Pn**	**03 18 12.6**	**+2.6**
IKAZ	**Kazeroun**	**4.53**	**258**	Pn	**Pn**	**03 18 12.6**	**+2.6**
BANOM	**Banah**	**4.88**	**187**	⇑P	Pn	03 18 17.9	+3.3
BANOM	**Banah**	**4.88**	**187**	P	Pn	03 18 17.9	+3.3
IANJ	**Anjilo**	**5.31**	**332**	*e*Pn	**Pn**	**03 18 20.9**	**+0.2**
IANJ				*e*		03 19 54.7	
	comp=Z,1μm,0.3s						
IANJ	**Anjilo**	**5.31**	**332**	Pn	**Pn**	**03 18 20.8**	**+0.2**
IANJ	**Anjilo**	**5.31**	**332**	*e*Pn	**Pn**	**03 18 20.9**	**+0.2**
QAM	**Ghamsar**	**5.52**	**304**	*e*Pn	**Pn**	**03 18 26.5**	**+3.0**
ILAS	**Lasjerd**	**5.67**	**325**	*e*Pn	**Pn**	**03 18 27.0**	**+1.4**
ILAS				*e*		03 20 15.4	
	comp=Z,1μm,0.4s						
ILAS	**Lasjerd**	**5.67**	**325**	Pn	**Pn**	**03 18 26.4**	**+0.8**
ILAS	**Lasjerd**	**5.67**	**325**	Pn	**Pn**	**03 18 26.4**	**+0.8**
ISHM	**Shahmirzad**	**5.86**	**330**	*e*Pn	**Pn**	**03 18 29.5**	**+1.2**
ISHM				*e*		03 20 19.7	
	comp=Z,3μm,0.4s						
ISHM	**Shahmirzad**	**5.86**	**330**	Pn	**Pn**	**03 18 29.8**	**+1.5**
ISHM	**Shahmirzad**	**5.86**	**330**	*e*Pn	**Pn**	**03 18 29.5**	**+1.2**
IPAY	**Payeh**	**5.90**	**16**	*e*Pn	**Pn**	**03 18 29.5**	**+0.7**
IPAY				*e*		03 20 20.5	
	comp=Z,896nm,0.3s						
IPAY	**Payeh**	**5.90**	**16**	*e*Pn	**Pn**	**03 18 29.5**	**+0.7**
IFIR	**Firoozkooh**	**5.98**	**325**	*e*Pn	**Pn**	**03 18 30.9**	**+1.0**
IFIR				*e*		03 20 30.6	
	comp=Z,489nm,0.2s						
IFIR	**Firoozkooh**	**5.98**	**325**	Pn	**Pn**	**03 18 30.9**	**+1.0**
IFIR	**Firoozkooh**	**5.98**	**325**	*e*Pn	**Pn**	**03 18 30.9**	**+1.0**
IAKL	**Akhelmad**	**5.99**	**14**	*e*Pn	**Pn**	**03 18 31.8**	**+1.7**
GHVR	**GHOM**	**6.02**	**309**	P	**Pn**	**03 18 33.0**	**+2.7**
GHVR	**GHOM**	**6.02**	**309**	P	**Pn**	**03 18 33.0**	**+2.7**
GHVR	**GHOM**	**6.02**	**309**	*e*Pn	**Pn**	**03 18 33.3**	**+3.0**
	comp=Z,66nm,0.7s						
GHVR	**GHOM**	**6.02**	**309**	*e*Pn	**Pn**	**03 18 33.3**	**+3.0**
GHVR				AML	AML	03 20 29.1	
	comp=N,59nm,0.6s						
GHVR				AML	AML	03 20 29.5	
	comp=E,66nm,0.7s						
IVRN	**Varamin**	**6.07**	**315**	*e*Pn	**Pn**	**03 18 32.1**	**+1.1**
IVRN				*e*		03 18 59.3	
	comp=Z,866nm,0.4s						
IVRN	**Varamin**	**6.07**	**315**	Pn	**Pn**	**03 18 31.7**	**+0.7**
IVRN	**Varamin**	**6.07**	**315**	*e*Pn	**Pn**	**03 18 32.1**	**+1.1**
IKRD	**Kardeh**	**6.11**	**12**	*e*Pn	Pn	03 18 35.6	+3.9
IKRD				*e*		03 20 50.3	
	comp=Z,849nm,0.5s						
ASHO	**Ashiyiah**	**6.13**	**188**	⇓P	Pn	03 18 35.5	+3.7
IGLO	**Ghaloghah**	**6.26**	**336**	*e*Pn	**Pn**	**03 18 34.7**	**+0.9**
IGLO				*e*		03 20 33.1	
	comp=Z,3μm,0.5s						
IGLO	**Ghaloghah**	**6.26**	**336**	Pn	**Pn**	**03 18 35.0**	**+1.3**
IDMV	**Damavand**	**6.30**	**321**	*e*Pn	**Pn**	**03 18 35.6**	**+1.2**
IDMV				*e*		03 20 40.3	
	comp=Z,2μm,0.6s						
IDMV	**Damavand**	**6.30**	**321**	Pn	**Pn**	**03 18 36.2**	**+1.8**
IDMV	**Damavand**	**6.30**	**321**	*e*Pn	**Pn**	**03 18 35.6**	**+1.2**
IALA	**Alasht**	**6.31**	**328**	*e*Pn	**Pn**	**03 18 35.5**	**+1.0**
IALA				*e*		03 20 38.9	
	comp=Z,838nm,0.2s						
IALA	**Alasht**	**6.31**	**328**	Pn	**Pn**	**03 18 35.8**	**+1.3**
IALA	**Alasht**	**6.31**	**328**	*e*Pn	**Pn**	**03 18 35.5**	**+1.0**
ISFR	**Sfrayin**	**6.31**	**8**	*e*Pn	**Pn**	**03 18 35.8**	**+1.3**
IPRN	**Peran**	**6.66**	**326**	*e*Pn	**Pn**	**03 18 40.3**	**+1.1**
IPRN				*e*		03 20 58.0	
	comp=Z,2μm,0.4s						
IPRN	**Peran**	**6.66**	**326**	Pn	**Pn**	**03 18 40.7**	**+1.6**
ISHV	**Shirvan**	**6.76**	**5**	*e*Pn	**Pn**	**03 18 41.2**	**+0.7**
ISHV	**Shirvan**	**6.76**	**5**	*e*Pn	**Pn**	**03 18 41.2**	**+0.7**
HOQ	**Hoqain**	**7.18**	**177**	⇓P	**Pn**	**03 18 47.8**	**+1.5**
ARQ	**Araqi**	**7.43**	**183**	⇓P	Pn	03 18 53.5	+3.8
IRAZ	**Razeghan**	**7.47**	**310**	*e*Pn	**Pn**	**03 18 51.5**	**+1.2**
IRAZ				*e*		03 21 13.7	
	comp=Z,541nm,0.4s						
IRAZ	**Razeghan**	**7.47**	**310**	Pn	**Pn**	**03 18 51.7**	**+1.4**
IRAZ	**Razeghan**	**7.47**	**310**	*e*Pn	**Pn**	**03 18 51.5**	**+1.2**
WBK	**Wadi Bani Khal**	**8.34**	**167**	⇑P	**Pn**	**03 19 04.1**	**+1.9**
RAYN	**Ar Rayn**	**12.49**	**237**	*e*Pn	Pn	03 19 55.2	-3.8
	comp=Z,5.5nm,0.4s						
RAYN				*e*S	Sn	03 22 00.5	-18
RAYN	**Ar Rayn**	**12.49**	**237**	*e*Pn	Pn	03 19 55.2	-3.8
	comp=Z,5.5nm,0.4s						
RAYN				*e*S	Sn	03 22 00.5	-18
ABTO	**Aybut**	**13.78**	**195**	⇓P	**Pn**	**03 20 14.7**	**-1.9**
ABTO	**Aybut**	**13.78**	**195**	P	**Pn**	**03 20 14.7**	**-1.9**
NCK	**Nalchik**	**16.53**	**324**	*e*P	**Pn**	**03 20 53.8**	**+0.8**
ASF	**Jabal al Asfar**	**17.16**	**280**	P	**Pn**	**03 20 59.1**	**-2.0**
ASF	**Jabal al Asfar**	**17.16**	**280**	P	**Pn**	**03 20 59.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=3.7						
KSH	**Kashi**	**17.81**	**56**	*e*P	Pn	03 21 04.0	-5.1
KSH				*e*PP	**PnPn**	**03 21 19.0**	**-0.8**
KSH				*e*S	Sn	03 24 11.5	-16
KSH				*e*sS	sS	03 24 23.3	-16
KSH				*e*SS	**S**	**03 24 31.5**	**-3.2**
KSH				*e*PcP	**PcP**	**03 25 50.0**	**+3.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,83nm,4.9s						
KSH				LR	LR		
	comp=N,180nm,5.6s						
KSH				LR	LR		
	comp=E,160nm,5.6s						
KSH				LR	LR		
	comp=Z,170nm,6.0s						
EKS2	**Erkin-Say**	**17.92**	**44**	*e*P	**Pn**	**03 21 09.9**	**-0.6**
EKS2				pmax	pmax		
	comp=Z,7.0nm,1.1s						
EKS2	**Erkin-Say**	**17.92**	**44**	*e*Pn	**Pn**	**03 21 09.9**	**-0.6**
	comp=Z,6.9nm,1.1s						
EKS2	**Erkin-Say**	**17.92**	**44**	*e*P	**Pn**	**03 21 09.9**	**-0.6**
	comp=Z,7.0nm,1.1s						
AAK	**Ala-Archa**	**18.34**	**45**	*e*P	**Pn**	**03 21 15.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**18.34**	**45**	*e*Pn	**Pn**	**03 21 15.0**	**-0.7**
	comp=Z,1.5nm,0.6s						
AAK	**Ala-Archa**	**18.34**	**45**	P	**P**	**03 21 15.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=187,slow=4.7,SNR=6.0						
AAK	**Ala-Archa**	**18.34**	**45**	*e*P	**Pn**	**03 21 15.2**	**-0.5**
	comp=Z,5.0nm,1.0s						
ABKAR	**Akbulak array**	**18.59**	**6**	*e*Pn	**Pn**	**03 21 19.1**	**+0.7**
	comp=Z,3.1nm,0.9s						
ABKAR	**Akbulak array**	**18.59**	**6**	*e*Pn	**Pn**	**03 21 19.1**	**+0.7**
	comp=Z,3.1nm,0.9s						
EIL	**Elat**	**19.04**	**272**	P	**P**	**03 21 23.3**	**0.0**
EIL	**Elat**	**19.04**	**272**	P	**P**	**03 21 23.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=34,slow=15,SNR=2.3						
EIL	**Elat**	**19.04**	**272**	P	**P**	**03 21 23.3**	**0.0**
AKTK	**Aktyubinsk**	**19.64**	**2**	P	**Pn**	**03 21 30.5**	**-0.7**
AKTO	**Aktyubinsk**	**19.64**	**2**	P	**Pn**	**03 21 30.5**	**-0.7**
AKTO	**Aktyubinsk**	**19.64**	**2**	P	**Pn**	**03 21 30.4**	**-0.7**
AKTO	**Aktyubinsk**	**19.64**	**2**	P	**Pn**	**03 21 30.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=190,slow=12,SNR=16						
AKTO				LR	LR	03 29 12.0	
	comp=Z,56nm,18.2s,baz=221,slow=37						
AKTO	**Aktyubinsk**	**19.64**	**2**	P	**Pn**	**03 21 30.5**	**-0.7**
BR131	**Keskin Array S**	**20.97**	**302**	P	**P**	**03 21 44.6**	**+0.2**
	comp=Z,2.2nm,0.8s						
BR131	**Keskin Array S**	**20.97**	**302**	P	**P**	**03 21 44.7**	**+0.2**
	comp=Z,2.2nm,0.8s						
BRTR	**Keskin Array B**	**20.97**	**302**	P	**P**	**03 21 45.0**	**+0.5**
BRTR	**Keskin Array B**	**20.97**	**302**	P	**P**	**03 21 45.0**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=122,slow=13,SNR=7.9						
BRTR	**Keskin Array B**	**20.97**	**302**	P	**P**	**03 21 45.0**	**+0.5**
BRVK	**Borovoye**	**24.29**	**20**	*e*P	**P**	**03 22 18.9**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BRVK	**Borovoye**	**24.29**	**20**	*e*P	**P**	**03 22 19.0**	**+0.5**
	comp=Z,13nm,1.4s						
BRVK	**Borovoye**	**24.29**	**20**	*e*P	**P**	**03 22 18.9**	**+0.5**
	comp=Z,6.0nm,1.3s						
BVAR	**Borovoye Array**	**24.29**	**20**	P	**P**	**03 22 19.0**	**+0.5**
BVAR	**Borovoye Array**	**24.29**	**20**	P	**P**	**03 22 19.0**	**+0.5**
BVAR	**Borovoye Array**	**24.29**	**20**	P	**P**	**03 22 19.0**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=212,slow=7.0,SNR=8.8						
BVAR				LR	LR	03 32 23.4	
	comp=Z,95nm,18.3s,baz=217,slow=38						
BVAR	**Borovoye Array**	**24.29**	**20**	P	**P**	**03 22 19.0**	**+0.5**
MKAR	**Makanchi Array**	**25.25**	**44**	*i* P	**P**	**03 22 28.1**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**25.25**	**44**	P	**P**	**03 22 28.1**	**+0.7**
MKAR	**Makanchi Array**	**25.25**	**44**	P	**P**	**03 22 28.1**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=231,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**25.25**	**44**	P	**P**	**03 22 28.0**	**+0.7**
KURBB	**Kurchatov Arra**	**25.53**	**33**	P	**P**	**03 22 30.3**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=234,slow=8.9,SNR=8.7						
KURK	**Kurchatov**	**25.64**	**33**	*e*P	**P**	**03 22 30.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	**Kurchatov**	**25.64**	**33**	*e*P	**P**	**03 22 30.2**	**-0.5**
	comp=Z,4.0nm,1.3s						
KURK	**Kurchatov**	**25.64**	**33**	*e*P	**P**	**03 22 30.2**	**-0.5**
	comp=Z,4.0nm,1.3s						
ARU	**Arti**	**25.66**	**2**	*d i* P	**P**	**03 22 31.6**	**+0.8**
ARU						03 23 03.9	
ARU				S	**S**	**03 26 57.6**	**-1.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ARU	**Arti**	**25.66**	**2**	*i* P	**P**	**03 22 31.6**	**+0.8**
	comp=Z,8.0nm,1.7s						
ARU				S	**S**	**03 26 57.6**	**-1.4**
AKASG	**Malin Array Be**	**28.66**	**322**	*i* P	**P**	**03 22 58.5**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**28.66**	**322**	P	**P**	**03 22 58.1

RCBR	**Riachuelo**	**95.39**	**266**	LR	LR	04 16 09.9	
	comp=Z,23nm,18.1s,baz=175,slow=37						

*IDC **26** 03:23:11.6±4.3, 43.63N×147.80E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/25, mbtmp3.4/6, Error ellipse: s-maj=129.6km s-min=26.0km az=173.0*
*ISCJB **26** 03:23:24.4±0.9, 44.13N±0.09×147.7E±0.1, h100km±5km, mb3.2/6, Error ellipse: s-maj=19.4km s-min=6.7km az=137.0*
*MOS **26** 03:23:25.6±0.7, 44.30N×147.55E, h107km, mb4.2/1, Error ellipse: s-maj=32.1km s-min=29.0km az=144.1*
*JMA **26** 03:23:26.4±0.3, 43.93N×147.70E, h85km, M3.6*
*SKHL **26** 03:23:27.9±0.1, 44.27N×147.48E, h95km±5km, mb4.8/2, msh5.7/3*

ISC 26 03:23:24.6±1.3, 44.08N±0.10×147.8E±0.1, h91km±9km, n29, σ0.98/34, mb3.2/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.73**	**254**	*eP*		**Pn**		**03 23 42.3**	**+0.9**
SHO					AMB		AMB	03 23 42.6	
	382nm,0.6s								
SHO				*eS*		**Sn**		**03 23 54.0**	**0.0**
SHO					A		A	03 23 54.4	
	2μm,0.7s								
SHO					A		A	03 23 54.4	
	2μm,0.7s								
KUR	**Kuril'sk**	**1.16**	**2**	PN		**Pn**		**03 23 46.5**	**+0.4**
KUR				*i* S		**Sn**		**03 24 02.1**	**-0.2**
KUR					smax		smax		
	comp=N,1μm,0.4s								
KUR					smax		smax		
	comp=E,1μm,0.5s								
KUR	**Kuril'sk**	**1.16**	**2**	*eP*		**Pn**		**03 23 46.5**	**+0.4**
KUR				*eS*		**Sn**		**03 24 00.5**	**-1.8**
KUR					A		A	03 24 03.0	
	comp=E,1μm,0.4s								
KUR					A		A	03 24 03.0	
	comp=E,1μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.40**	**269**	*d*	*i* PN	**Pn**		**03 23 50.1**	**+1.0**
YUK					*i* S	**Sn**		**03 24 06.7**	**-0.8**
YUK					pmax		pmax		
	comp=N,79nm,0.2s								
YUK					pmax		pmax		
	comp=Z,236nm,0.2s								
YUK					pmax		pmax		
	comp=E,137nm,0.1s								
YUK					smax		smax		
	comp=N,1μm,0.2s								
YUK					smax		smax		
	comp=E,877nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.40**	**269**	*eP*		**Pn**		**03 23 50.1**	**+1.0**
YUK					AMB		AMB	03 23 50.7	
	comp=E,79nm,0.2s								
YUK					AMB		AMB	03 23 50.7	
	comp=E,137nm,0.2s								
YUK					AMB		AMB	03 23 50.7	
	comp=E,236nm,0.2s								
YUK				*eS*		**Sn**		**03 24 06.7**	**-0.8**
YUK					A		A	03 24 10.3	
	comp=E,1μm,0.2s								
YUK					A		A	03 24 10.3	
	comp=E,877nm,0.2s								
NEM2	**Nemuro 2**	**1.65**	**245**	P		**Pn**		**03 23 52.6**	**+0.3**
NEM2				*eS*		**Sn**		**03 24 11.9**	**-1.4**
JRA	**Rausu**	**1.93**	**267**	P		**Pn**		**03 23 57.0**	**+1.1**
JRA				*eS*		**Sn**		**03 24 20.4**	**+0.6**
JNK	**Nakash**	**2.28**	**259**	P		**Pn**		**03 24 01.1**	**+0.6**
JAK	**Akkeshi**	**2.50**	**245**	P		**Pn**		**03 24 03.9**	**+0.5**
JAK				*eS*		**Sn**		**03 24 31.8**	**-1.4**
JTKR	**Abashiri--Toko**	**2.81**	**269**	P		**Pn**		**03 24 08.5**	**+1.0**
JAR	**Ashorobuto**	**3.02**	**256**	P		**Pn**		**03 24 12.0**	**+1.5**
JAR				*eS*		**Sn**		**03 24 46.4**	**+0.6**
JOB	**Onbets**	**3.11**	**249**	P		**Pn**		**03 24 12.7**	**+1.1**
JOB				*eS*		**Sn**		**03 24 46.7**	**-1.2**
JMP	**Maruseppu**	**3.20**	**270**	P		**Pn**		**03 24 13.8**	**+1.0**
JCH	**Churui**	**3.55**	**247**	P		**Pn**		**03 24 18.0**	**+0.5**
JCH				*eS*		**Sn**		**03 24 56.6**	**-1.9**
JNBK	**Urakawa-nobuka**	**4.10**	**246**	P		**Pn**		**03 24 25.3**	**+0.3**
SONM	**Songino Array**	**28.78**	**292**	P		**P**		**03 29 13.3**	**-0.5**
	comp=E,0.3nm,0.6s,baz=90,slow=9.0,SNR=3.4								
H11N2	**WAKE ISLAND Hy 29.05**	**141**		T		T		04 00 22.3	
	baz=334,slow=77,SNR=18								
H11N1	**WAKE ISLAND Hy 29.06**	**141**		T		T		04 00 23.7	
	baz=334,slow=77,SNR=17								
H11N3	**WAKE ISLAND Hy 29.07**	**141**		T		T		04 00 22.9	
	baz=334,slow=77,SNR=14								
H11S1	**WAKE ISLAND Hy 30.03**	**142**		T		T		04 01 31.8	
	baz=335,slow=77,SNR=24								
H11S3	**WAKE ISLAND Hy 30.04**	**142**		T		T		04 01 32.3	
	baz=335,slow=77,SNR=16								
H11S2	**WAKE ISLAND Hy 30.05**	**142**		T		T		04 01 39.9	
	baz=335,slow=77,SNR=16								
ILAR	**Eielson Array**	**40.95**	**36**	P		**P**		**03 30 58.9**	**+1.0**
	comp=E,0.3nm,0.8s,baz=260,slow=8.2,SNR=5.2								
MKAR	**Makanchi Array**	**44.85**	**298**	P		**P**		**03 31 29.1**	**-0.5**
MKAR	**Makanchi Array**	**44.85**	**298**	P		**P**		**03 31 29.1**	**-0.5**
	comp=E,0.3nm,0.5s,baz=66,slow=8.3,SNR=6.8								
KURK	**Kurchatov**	**45.73**	**304**	P		**P**		**03 31 35.8**	**-0.7**
KURBB	**Kurchatov Arra**	**45.82**	**304**	P		**P**		**03 31 35.8**	**-1.3**
	comp=E,0.3nm,0.5s,baz=74,slow=9.2,SNR=2.9								
YKA	**Yellowknife Ar**	**55.27**	**34**	P		**P**		**03 32 48.3**	**+0.3**
	comp=E,0.2nm,0.6s,baz=296,slow=6.7,SNR=4.0								
TXAR	**Lajitas Array**	**82.08**	**57**	P		**P**		**03 35 35.5**	**+0.3**
	comp=E,0.2nm,0.6s,baz=316,slow=3.8,SNR=2.8								

WEL 26 03:23:50.4±0.1, 38.97S×175.79E, h2km, ML3.5/36, 12C-14D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RITZ	**Rihia Road**	**0.05**	**99**	↓P*		Pg		03 23 51.4	-0.1
RITZ					AML		AML	03 23 52.8	
RITZ					AML		AML	03 23 53.0	
KATZ	**Kakaramea**	**0.08**	**266**	↑P*		Pg		03 23 53.4	+1.3
KATZ					AML		AML	03 23 55.9	
KATZ					AML		AML	03 23 58.0	
RATZ	**Rangitukua**	**0.10**	**351**	↑P*		Pg		03 23 53.5	+1.0
RATZ				S*		Sg		03 23 57.1	+1.8
RATZ					AML		AML	03 23 57.7	
KRVZ	**Karewarewa**	**0.17**	**223**	↓P*		Pg		03 23 54.8	+0.9
KRVZ				S*		Sg		03 23 57.3	+1.0
KRVZ					AML		AML	03 24 01.8	
WTVZ	**West Tongariro**	**0.21**	**227**	↓P*		Pg		03 23 55.6	+0.9
WTVZ					AML		AML	03 24 01.0	
WTVZ					AML		AML	03 24 01.3	
OTVZ	**Oturere**	**0.22**	**207**	↓P*		Pg		03 23 55.5	+0.6
OTVZ				SG		Sg		03 23 58.6	+0.7
OTVZ					AML		AML	03 24 02.8	
HATZ	**Hinemaiaia**	**0.25**	**72**		AML		AML	03 23 57.7	
HATZ					AML		AML	03 23 57.8	
NGZ	**Ngauruhoe**	**0.25**	**216**	↓PG		Pg		03 23 56.2	+0.7
NGZ					AML		AML	03 24 05.4	
NGZ					AML		AML	03 24 06.1	
WATZ	**Wairara**	**0.27**	**350**	↑PG		Pg		03 23 56.4	+0.9
WATZ					AML		AML	03 24 01.2	
WATZ					AML		AML	03 24 03.4	
TWVZ	**Taurewa**	**0.29**	**250**	↑PG		Pg		03 23 57.2	+0.9
TWVZ					AML		AML	03 24 02.3	
TWVZ					AML		AML	03 24 02.8	
COVZ	**Chateau Observ**	**0.30**	**220**	↓PG		Pg		03 23 57.1	+0.8
WPVZ	**Whakapapa**	**0.30**	**219**	↓PG		Pg		03 23 57.2	+0.8
WPVZ					AML		AML	03 24 02.8	
WPVZ					AML		AML	03 24 03.4	
TUVZ	**Tukino**	**0.32**	**200**	PG		Pg		03 23 57.2	+0.4
TUVZ					AML		AML	03 24 05.9	
TUVZ					AML		AML	03 24 07.6	
WHTZ	**Whakaora**	**0.33**	**23**	↓PG		Pg		03 23 57.5	+0.7
FWVZ	**Far West T-bar**	**0.34**	**213**	PG		Pg		03 23 57.7	+0.4
FWVZ					AML		AML	03 24 07.0	
FWVZ					AML		AML	03 24 10.2	
WHVZ	**Whangaehu Hut**	**0.35**	**207**	↓PG		Pg		03 23 57.8	+0.3
DRZ	**Dome Shelter**	**0.35**	**210**	PG		Pg		03 23 58.0	+0.3
DRZ					AML		AML	03 24 10.7	
DRZ					AML		AML	03 24 12.7	
TRVZ	**Turoa**	**0.38**	**210**	↓PG		Pg		03 23 58.3	+0.2
TRVZ					AML		AML	03 24 08.0	
TRVZ					AML		AML	03 24 12.0	
WNVZ	**Wahianoa**	**0.39**	**203**	↓PG		Pg		03 23 58.4	+0.3
WNVZ					AML		AML	03 24 09.3	
WNVZ					AML		AML	03 24 11.9	
MOVZ	**Moawhango**	**0.44**	**184**	↑PG		Pg		03 23 58.8	-0.2
MOVZ					AML		AML	03 24 04.5	
MOVZ					AML		AML	03 24 05.8	
PKVZ	**Pokaka**	**0.47**	**227**	PG		Pg		03 24 00.2	+0.6
PKVZ					AML		AML	03 24 11.8	
PKVZ					AML		AML	03 24 18.4	
MTVZ	**Mangateitei**	**0.48**	**211**	PG		Pg		03 24 00.2	+0.4
MTVZ					AML		AML	03 24 12.0	
MTVZ					AML		AML	03 24 12.9	
BHHZ	**Black Hill Sta**	**0.56**	**158**	↑PG		Pg		03 24 00.8	-0.4
BKZ	**Black Stump Fm**	**0.58**	**110**	PG		Pg		03 24 00.9	-0.7
BKZ					AML		AML	03 24 09.0	
BKZ					AML		AML	03 24 10.1	
ALRZ	**Allen Road**	**0.59**	**47**	↓PG		Pg		03 24 00.9	-0.9
PRRZ	**Plateau Road**	**0.67**	**45**	↓P*		Pg		03 24 02.3	-0.9
TLZ	**Tolley Road**	**0.67**	**343**	↑P*		Pg		03 24 03.4	+0.1
HRRZ	**Handcock Road**	**0.69**	**34**	P*		Pg		03 24 03.8	0.0
NMHZ	**Naumai**	**0.80**	**100**	↑P*		Pg		03 24 05.8	-0.1
VRZ	**Vera Road**	**0.82**	**259**	P*		Pb		03 24 07.0	-0.4
VRZ					AML		AML	03 24 17.0	
VRZ					AML		AML	03 24 24.7	
RRRZ	**Republican Roa**	**0.85**	**42**	P*		Pg		03 24 05.7	-1.0
MCHZ	**McNeill Hill**	**0.85**	**124**	P*		Pb		03 24 07.5	-0.4
HIZ	**Hauiti**	**0.86**	**302**	P*		Pb		03 24 07.7	-0.4
HIZ					AML		AML	03 24 23.0	
HIZ					AML		AML	03 24 23.4	
TARZ	**Mount Tarawera**	**0.92**	**38**	*eP*		Pg		03 24 07.7	-0.6
PNHZ	**Pukenui**	**0.99**	**162**	↑P*		Pg		03 24 09.3	-0.3
WAZ	**Wanganui**	**1.00**	**218**		AML		AML	03 24 30.6	
WAZ					AML		AML	03 24 31.1	
RAHZ	**Arahi**	**1.01**	**87**	↑P*		Pg		03 24 09.6	-0.2
TSZ	**Takapari Road**	**1.10**	**173**	P*		Pg		03 24 11.2	-0.3
TSZ					AML		AML	03 24 28.8	
TSZ					AML		AML	03 24 32.8	
WHHZ	**Waihua**	**1.13**	**96**	P*		Pg		03 24 12.4	+0.3
MHEZ	**Mangahewa**	**1.15**	**264**	P*		Pn		03 24 16.0	+2.4
KAHZ	**Kahuranaki**	**1.18**	**135**	P*		Pb		03 24 13.6	0.0
WPHZ	**Waipukurau**	**1.20**	**156**	P*		Pb		03 24 13.8	-0.2
CKHZ	**Cape Kidnapper**	**1.21**	**125**	P*		Pb		03 24 14.0	0.0
URZ	**Urewera**	**1.25**	**56**	↓P*		Pg		03 24 12.7	-1.7
URZ					AML		AML	03 24 35.0	
URZ					AML		AML	03 24 35.5	
TOZ	**Tahuroa Road**	**1.26**	**349**	P*		Pg		03 24 13.0	-1.5
PXZ	**Pawanui**	**1.34**	**142**	↑P*		Pb		03 24 16.5	+0.2
PXZ					AML		AML	03 24 37.8	
PXZ					AML		AML	03 24 45.8	
DVHZ	**Dannevirke**	**1.36**	**168**	P*		Pn		03 24 16.5	0.0
KHEZ	**Kahui Hut**	**1.42**	**256**	PN		Pg		03 24 18.9	+1.1
POWZ	**Post Office Ro**	**1.42**	**181**	↑PN		Pn		03 24 17.1	-0.1
PKE	**Pukeiti**	**1.42**	**260**	PN		Pg		03 24 18.6	+0.9
PKE					AML		AML	03 24 42.6	
PKE					AML		AML	03 24 43.3	
PRHZ	**Porangahau**	**1.45**	**154**	PN		Pb		03 24 18.0	-0.1
KNZ	**Kokohu**	**1.47**	**93**	PN		Pn		03 24 17.4	-0.5
MWZ	**Matawai**	**1.50**	**66**	P*		Pn		03 24 16.4	-2.0
MWZ					AML		AML	03 24 43.1	
MWZ					AML		AML	03 24 44.2	
NWEZ	**Newall Road**	**1.53**	**258**	PN		Pg		03 24 20.3	+0.5
NMEZ	**Namu Road**	**1.55**	**253**	PN		Pg		03 24 21.2	+1.0
MRZ	**Mangatainoka R**	**1.70**	**185**		AML		AML	03 24 49.6	
MRZ					AML		AML	03 24 50.5	
KIW	**Kapiti Island**	**2.01**	**199**		AML		AML	03 24 58.8	
KIW					AML		AML	03 25 02.3	
MTW	**Mount Morrison**	**2.20**	**186**		AML		AML	03 25 05.6	
MTW					AML		AML	03 25 09.3	
CAW	**Cannon Point**	**2.21**	**194**		AML		AML	03 25 04.4	
CAW					AML		AML	03 25 08.6	
DUWZ	**D'Urville Isla**	**2.33**	**218**		AML		AML	03 25 12.7	
SNZO	**South Karori**	**2.48**	**199**		AML		AML	03 25 15.3	
SNZO					AML		AML	03 25 18.0	
TCW	**Tory Channel**	**2.52**	**207**		AML		AML	03 25 14.9	
TCW					AML		AML	03 25 17.3	
TUWZ	**Tuamarina**	**2.84**	**209**		AML		AML	03 25 28.0	
TUWZ					AML		AML	03 25 28.6	

IDC 26 03:39:20.9±65.0, 13.69S×171.84E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, Error ellipse: s-maj=1124.0km s-min=133.6km az=67.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.08**	**232**	P		P		03 45 59.1	+0.6
	2.9nm,0.8s,baz=59,slow=10,SNR=4.8								
WRA	**Warramunga Arr**	**36.38**	**255**	P		P		03 46 27.7	+0.5
	1.1nm,1.2s,baz=89,slow=8.5,SNR=2.5								
ASAR	**Alice Springs**	**37.18**	**249**	P		P		03 46 33.0	-1.1
	1.2nm,0.8s,baz=79,slow=8.9,SNR=13								

SJA 26 04:03:52.0±0.3, 33.36S×68.23W, h12km±1km, ML2.8, MW3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AVIZ	**Vizcacheras**	**0.26**	**244**	*i* P				04 03 58.0	
AAGR	**Agrelo**	**0.57**	**298**	*i* P				04 04 03.6	
AAGR				*i* S				04 04 12.2	
ARCO	**CERRO ARCO**	**0.78**	**311**	*i* P				04 04 07.4	
ARCO					IAML			04 04 20.2	
	comp=Z,234nm,0.4s								
ASAL	**Salagasta**	**0.92**	**326**	*i* P				04 04 09.7	
ACAN	**Cantantal**	**1.39**	**39**	*i* P				04 04 18.3	
AUSP	**Uspallata**	**1.49**	**319**	*i* P				04 04 20.6	
CFAA	**Coronel Fontan**	**1.75**	**360**	*i* P				04 04 24.1	
CFAA				*eS*				04 04 47.9	
RTLS	**Leoncito**	**1.79**	**330**	*i* P				04 04 25.6	
RTLS				*eS*				04 04 50.3	
AMOG	**MOGNA**	**2.42**	**355**	*i* P				04 04 34.0	
AMOG				*i* S				04 05 04.8	
AVFE	**Valle Fertil**	**2.77**	**14**	*i* P				04 04 38.6	
AVFE					AML			04 05 20.3	
	comp=Z,62nm,0.2s								

IDC 26 04:22:56.0±3.8, 5.00S×150.30E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/19, mbtmp3.1/2, Error ellipse: s-maj=155.2km s-min=47.2km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.49**	**225**	P		P		04 27 46.8	+0.1
	0.6nm,0.6s,baz=50,slow=10,SNR=3.2								
ASAR	**Alice Springs**	**24.38**	**219**	P		P		04 28 16.4	+0.2
	0.3nm,0.5s,baz=55,slow=9.5,SNR=7.0								
TORD	**Torodi Ar. Bea**	**147.99**	**287**	PKPbc		PKPbc		04 42 43.7	-0.9
	1.0nm,0.7s,baz=80,slow=2.7,SNR=11								

*ISCJB **26** 04:26:13.1±0.7, 20.3S±0.1×169.99E±0.09, h84km, mb4.1/8, Error ellipse: s-maj=22.0km s-min=8.6km az=153.4*
*NOU **26** 04:26:18.9±0.6, 19.81S×169.50E, h10km, MD3.3, ML3.0*
*IDC **26** 04:26:23.8±13.0, 20.61S×169.64E, h157km±120km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp4.3/8, Error ellipse: s-maj=42.4km s-min=29.5km az=77.0*

ISC 26 04:26:15.1±0.8, 20.4S±0.2×170.0E±0.1, h84km, n32, σ1.9s64/36, mb4.2/8, 6C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.37**	**239**	*eP*		**Pn**		**04 27 08.5**	**+3.0**
BAYA				*eS*		**Sn**		**04 27 45.2**	**+0.7**
BAYA					AMP			04 27 49.8	
	comp=Z,64nm,4.9s								
BAYA	**Yate Dam**	**3.37**	**239**	*eP*		**Pn**		**04 27 08.5**	**+3.0**
BAYA				*eS*		**Sn**		**04 27 45.2**	**+0.7**
BAYA					AMP			04 27 49.8	
	comp=Z,64nm,4.9s								
DZM	**Mont Dzumac**	**3.70**	**243**	*eP*		**Pn**		**04 27 12.0**	**+2.0**
DZM				*eS*		**Sn**		**04 27 51.0**	**-1.5**
DZM					AMP			04 27 55.1	
	comp=Z,3μm,9.9s								
DZM	**Mont Dzumac**	**3.70**	**243**	*eP*		**Pn**		**04 27 12.0**	**+2.0**
DZM				*eS*		**Sn**		**04 27 51.0**	**-1.5**
DZM					AMP			04 27 55.1	
	comp=Z,3μm,9.9s								
NOUC	**Port Laguerre**	**3.83**	**244**	*eP*		**Pn**		**04 27 14.6**	**+2.9**
NOUC				*eS*		**Sn**		**04 27 56.1**	**+0.6**
NOUC					AMP			04 28 12.9	
	comp=Z,144nm,4.0s								
NOUC	**Port Laguerre**	**3.83**	**244**	*eP*		**Pn**		**04 27 14.6**	**+2.9**
NOUC				*eS*		**Sn**		**04 27 56.1**	**+0.6**
NOUC					AMP			04 28 12.9	
	comp=Z,144nm,4.0s								
EIDS	**Eidsvold**	**18.10**	**251**	P		**Pn**		**04 30 22.4**	**+1.4**
	baz=17,SNR=3.7								
ARMA	**Armidale**	**19.32**	**235**	↑P		**Pn**		**04 30 36.2**	**+0.6**
	baz=19,SNR=9.7								
RMQ	**Roma**	**20.39**	**249**	↑P		Pn		04 30 47.1	-0.9
	baz=20,SNR=10								
CTA	**Charters Tower**	**22.27**	**267**	P		**P**		**04 31 05.5**	**-0.1**
	comp=Z,6.9nm,0.5s,baz=91,slow=11,SNR=12								
CNB	**Canberra Magne**	**23.44**	**226**	P		**P**		**04 31 17.5**	**+0.4**
	baz=23,SNR=10.0								
YNG	**Young**	**23.58**	**230**	↑P		**P**		**04 31 19.8**	**+1.5**
	baz=23								
CAN	**Canberra**	**23.69**	**227**	↑P		**P**		**04 31 20.5**	**+1.2**
	baz=23								
QLP	**Quilpie**	**24.38**	**251**	↑P		**P**		**04 31 25.1**	**-0.5**
	baz=24,SNR=11								
CMSA	**Cobar Meteorol**	**24.43**	**238**	↑P		**P**		**04 31 25.6**	**-0.4**
	baz=24,SNR=39								
STKA	**Stephens Creek**	**27.84**	**240**	P		**P**		**04 31 56.0**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=94,slow=11,SNR=11								
STKA	**Stephens Creek**	**27.84**	**240**	P		**P**		**04 31 56.4**	**-0.3**
	baz=27,SNR=5.9								
HTT	**Hallett**	**30.46**	**238**	↓P		**P**		**04 32 19.4**	**-0.5**
	baz=30,SNR=3.5								
BBOO	**Buckleboo**	**32.61**	**241**	↓P		**P**		**04 32 37.8**	**-1.0**
	baz=32								
WRA	**Warramunga Arr**	**33.43**	**265**	P		**P**		**04 32 43.5**	**-2.6**
	comp=Z,0.9nm,0.5s,baz=99,slow=12,SNR=6.1								
ASAR	**Alice Springs**	**33.55**	**258**	P		**P**		**04 32 45.6**	**-1.6**
	comp=Z,5.0nm,0.5s,baz=94,slow=8.9,SNR=83								
MTN	**Manton Dam**	**37.92**	**275**	↓P		**P**		**04 33 23.4**	**-1.1**
	baz=37								
WRKA	**Warakurna**	**38.63**	**255**	P		**P**		**04 33 29.0**	**-1.4**
	baz=38,SNR=20								
MEEK	**Meekatharra**	**47.26**	**252**	P		**P**		**04 34 38.5**	**-1.7**
	baz=46,SNR=15								
NWAO	**Narrogin (SRO)**	**48.32**	**244**	P		**P**		**04 34 46.4**	**-1.9**
	comp=Z,3.6nm,0.5s,baz=152,slow=2.6,SNR=4.1								
WSI	**Waingapu**	**49.00**	**275**	P		P		04 34 49.6	-4.0
	baz=48,SNR=6.5								
VNDA	**Vanda**	**57.28**	**182**	P		**P**		**04 35 52.9**	**-0.6**
	comp=Z,3.2nm,1.1s,baz=7.8,slow=6.9,SNR=7.1								
SNAA	**Sanae**	**88.01**	**182**	P		**P**		**04 38 54.2**	**-1.4**
VNA2	**Neumayer--Watz**	**88.88**	**181**	P		**P**		**04 38 58.4**	**-1.2**
	baz=150,slow=8.0								
NVAR	**Mina Array Bea**	**89.05**	**48**	P		**P**		**04 39 02.6**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=228,slow=8.7,SNR=7.3								
ILAR	**Eielson Array**	**91.15**	**17**	P		**P**		**04 39 12.2**	**+2.2**
	comp=Z,0.3nm,0.9s,baz=236,slow=5.7,SNR=4.1								
GERES	**GERESS Array B**	**145.87**	**332**	PKPbc		**PKPbc**		**04 45 44.0**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=34,slow=3.4,SNR=9.7								

MEX 26 05:14:53.4±0.4, 16.98N×95.22W, h161km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.46**	**274**	*eP*		Pn		05 15 22.3	-1.4
VHO				*eS*		Sn		05 15 44.8	-2.0
PCIG		**2.30**	**123**	*eP*		Pn		05 15 31.8	-0.9
PCIG				*eS*		Sn		05 16 00.6	-2.4
PNIG	**Pinotepa**	**2.85**	**259**	*eP*		Pn		05 15 38.0	-1.5
PNIG				*eS*		Sn		05 16 13.5	-1.6

IDC 26 05:28:41.4±2.8, 2.15S×126.30E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/23, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=386.7km s-min=25.3km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.36**	**157**	P		P		05 33 09.0	+0.3
	0.2nm,0.3s,baz=334,slow=12,SNR=4.7								
ASAR	**Alice Springs**	**22.63**	**162**	P		P		05 33 44.0	-0.1
	0.9nm,0.5s,baz=342,slow=12,SNR=15								
MKAR	**Makanchi Array**	**62.17**	**327**	P		P		05 39 04.6	-0.1
	0.2nm,0.5s,baz=112,slow=7.6,SNR=3.9								

IDC 26 05:30:49.0±2.3, 5.10S×129.38E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/16, Error ellipse: s-maj=158.7km s-min=30.4km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.52**	**162**	Pn		Pn		05 34 30.0	+0.6
	baz=345,slow=13,SNR=2.6								
WRA					Sn		Sn	05 37 10.6	-12
	0.4nm,0.3s,baz=341,slow=22,SNR=5.5								
ASAR	**Alice Springs**	**18.97**	**167**	P		P		05 35 11.7	-0.3
	0.2nm,0.3s,baz=344,slow=11,SNR=7.5								
KSRS	**Korea Array**	**42.36**	**358**	LR		LR		05 54 38.1	
	comp=Z,7.5nm,21.9s,baz=165,slow=34								
MKAR	**Makanchi Array**	**66.31**	**327**	P		P		05 41 39.4	0.0

comp=Z,182nm,0.4s
DZM Mont Dzumac 3.74 199 Pn **Pn** **05 43 23.6 -0.8**
comp=Z,14nm,0.3s,baz=38,slow=16,SNR=49
DZM Sn **Sn** **05 44 08.2 +0.7**
comp=Z,70nm,0.3s,baz=314,slow=22,SNR=14
DZM Mont Dzumac 3.74 199 *e*P **Pn** **05 43 23.7 -0.8**
DZM *e*S **Sn** **05 44 07.6 0.0**
DZM AMP 05 44 14.3
comp=Z,3μm,1.9s
NOUC Port Laguerre 3.81 201 *e*P **Pn** **05 43 24.7 -0.6**
NOUC *e*S **Sn** **05 44 10.9 +1.7**
NOUC AMP 05 44 18.2
comp=Z,91nm,0.8s
HNR Honiara 11.80 319 Pn **Pn** **05 45 13.2 -1.8**
comp=Z,32nm,0.3s,baz=176,slow=13,SNR=10
HNR LR LR 05 49 02.0
comp=Z,206nm,21.1s,baz=164,slow=34
URZ Urewera 21.28 159 P **P** **05 47 10.5 -2.2**
comp=Z,2.5nm,0.5s,baz=300,slow=20,SNR=2.8
URZ LR LR 05 54 29.3
comp=Z,234nm,19.0s,baz=344,slow=34
PMG Port Moresby 21.94 292 LR LR 05 55 09.2
comp=Z,165nm,18.0s,baz=92,slow=35
STKA Stephens Creek 27.07 236 LR LR 05 57 23.0
comp=Z,95nm,18.2s,baz=31,slow=33
WRA Warramunga Arr 31.57 262 P **P** **05 48 49.5 +0.7**
comp=Z,0.3nm,0.4s,baz=84,slow=6.1,SNR=3.6
WRA LR LR 06 01 47.7
comp=Z,71nm,19.2s,baz=220,slow=37
ASAR Alice Springs 31.96 255 P **P** **05 48 51.6 -0.7**
comp=Z,1.8nm,0.8s,baz=78,slow=9.3,SNR=12
TBI Tubuai 40.13 104 *e*LR LR 06 01 11.7
comp=Z,210nm,32.8s
PPT2 Papeete2 40.50 96 *e*LR LR 06 01 26.2
comp=Z,178nm,25.5s
PETK Petropavlovsk- 71.87 354 LR LR 06 20 02.3
comp=Z,25nm,21.3s,baz=229,slow=31
CMAR Chiang Mai Arr 76.94 295 P **P** **05 54 18.4 -0.5**
comp=Z,0.7nm,0.2s,baz=98,slow=4.6,SNR=4.5
SONM Songino Array 85.82 324 P P 05 55 08.3 +2.9
comp=Z,2.0nm,0.9s,baz=147,slow=5.7,SNR=11
ILAR Eielson Array 89.98 18 P **P** **05 55 25.1 +0.3**
comp=Z,0.4nm,0.8s,baz=237,slow=5.7,SNR=3.8
MKAR Makanchi Array 100.26 316 P **Pdif** **05 56 14.0 +1.8**
comp=Z,0.2nm,0.5s,baz=86,slow=5.9,SNR=3.2
GERES GERESS Array B 143.21 331 PKHKP PKPpre 06 01 54.3
comp=Z,0.2nm,0.4s,baz=358,slow=4.9,SNR=2.1
ABTA Abfaltersbach 145.27 330 ⇓*i*PKPdf **PKPdf** **06 02 06.1 +2.5**
comp=Z,14nm,1.1s
FETA Feichten 145.90 332 ⇑*i*PKPbc **PKPab** **06 02 08.9 +2.9**
comp=Z,9.8nm,0.9s

ISC 26 06:22:11.2±1.0, 8°28S±0.0°04×107°22E±0.0°04, h35km, n25, σ1§72/34, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.93**	**40**	P	**Pn**	**06 22 27.4**	**-0.4**
CISI				S	**Sn**	**06 22 38.0**	**-1.9**
CISI	**Cisompet, Garu**	**0.93**	**40**	P	**Pn**	**06 22 27.1**	**-0.6**
	baz=1.0,SNR=165						
CNJI	**Cibinong**	**0.96**	**355**	P	**Pn**	**06 22 28.2**	**0.0**
CMJI	**Cimerak**	**1.31**	**68**	P	**Pn**	**06 22 32.9**	**-0.1**
CMJI				S	**Sn**	**06 22 49.2**	**-0.1**
SKJI	**Sukabumi**	**1.42**	**332**	P	**Pn**	**06 22 35.4**	**+0.9**
SKJI				S	**Sn**	**06 22 53.0**	**+1.0**
LEM	**Lembang**	**1.49**	**15**	P	**Pn**	**06 22 36.4**	**+0.8**
LEM				S	**Sn**	**06 22 57.5**	**+3.5**
LEM	**Lembang**	**1.49**	**15**	P	**Pn**	**06 22 36.2**	**+0.6**
	baz=1.6,SNR=21						
DBJI	**Dramaga**	**1.77**	**345**	P	**Pn**	**06 22 40.3**	**+0.9**
CGJI	**Cibinong**	**2.24**	**317**	P	**Pn**	**06 22 46.1**	**+0.3**
XMI	**Christmas Isla**	**2.64**	**215**	P	**Pn**	**06 22 53.1**	**+1.9**
	baz=2.5,SNR=18						
XMI				S	**Sn**	**06 23 22.0**	**0.0**
	baz=2.5,SNR=18						
BJII	**Banjamegara**	**2.64**	**69**	P	P	06 22 51.7	
XMIS	**Christmas Isla**	**2.68**	**215**	P	**Pn**	**06 22 53.4**	**+1.6**
	baz=2.6,SNR=28						
XMIS				S	**Sn**	**06 23 22.4**	**-0.8**
	baz=2.6,SNR=22						
UGM	**Wanagama**	**3.29**	**84**	P	**Pn**	**06 23 00.2**	**-0.1**
UGM				S	**Sn**	**06 23 38.0**	**-0.2**
UGM	**Wanagama**	**3.29**	**84**	P	**Pn**	**06 23 00.9**	**+0.6**
	baz=3.4,SNR=11						
SMRI	**Semarang**	**3.42**	**69**	P	**Pn**	**06 23 03.8**	**+1.8**
	baz=3.5,SNR=3.3						
KASI	**Kota Agung**	**3.84**	**315**	P	**Pn**	**06 23 08.2**	**+0.3**
KASI				S	**Sn**	**06 23 49.8**	**-2.0**
PCJI	**Pacitan**	**3.92**	**89**	P	**Pn**	**06 23 09.6**	**+0.7**
PWJI	**Pagerwojo**	**4.55**	**87**	P	**Pn**	**06 23 17.7**	**+0.2**
PWJI				S	**Sn**	**06 24 09.1**	**-0.1**
MDSI	**Maura Dua**	**4.83**	**321**	P	**Pn**	**06 23 21.9**	**+0.5**
MNAI	**Manna**	**5.75**	**312**	P	**Pn**	**06 23 35.3**	**+1.2**
	baz=5.8,SNR=5.5						
MNAI				S	**Sn**	**06 24 37.2**	**-1.8**
	baz=5.8,SNR=4.2						
JAGI	**Jajag, Banyuwa**	**6.86**	**92**	P	**Pn**	**06 23 52.0**	**+2.6**
JAGI	**Jajag, Banyuwa**	**6.86**	**92**	P	**Pn**	**06 23 52.0**	**+2.6**
	baz=6.9,SNR=12						
JAGI				S	**Sn**	**06 25 10.6**	**+4.3**
	baz=6.9,SNR=3.4						
GIRL	**Giralia**	**15.80**	**156**	P	**Pn**	**06 25 50.5**	**-0.5**
	baz=16,SNR=6.9						
GIRL				S	**Sn**	**06 28 40.7**	**-4.4**
	baz=16,SNR=3.4						
MEEK	**Meekatharra**	**21.23**	**151**	P	P	06 27 05.5	+11
	baz=21,SNR=5.1						
JAY	**Jayapura**	**33.81**	**82**	P	P	06 29 00.1	+10
	baz=34,SNR=4.2						

*IDC **26** 06:37:20.7±1.8, 18°.34S×168°.08E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/18, mbtmp3.9/5, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=62.7km s-min=28.5km az=133.0*
*ISCJB **26** 06:37:23.1±1.6, 18°.47S±0°.10×168°.1E±0°.3, h29km, mb3.8/4, MS3.2/1, Error ellipse: s-maj=38.9km s-min=10.3km az=14.3*

ISC 26 06:37:24.7±1.5, 18°.5S±0°.1×168°.1E±0°.3, h29km, n11, σ0§53/13, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.90**	**204**	Pn	**Pn**	**06 38 23.4**	**+0.5**
	4.0nm,0.3s,baz=113,slow=20,SNR=133						
DZM				Sn	**Sn**	**06 39 07.9**	**+0.1**
	19nm,0.3s,baz=87,slow=4.3,SNR=15						
DZM	**Mont Dzumac**	**3.90**	**204**	*e*P	**Pn**	**06 38 22.6**	**-0.3**
DZM				*e*S	**Sn**	**06 39 07.3**	**-0.5**
DZM	**Mont Dzumac**	**3.90**	**204**	*e*P	**Pn**	**06 38 22.6**	**-0.3**
DZM				*e*S	**Sn**	**06 39 07.3**	**-0.5**
NOUC	**Port Laguerre**	**3.98**	**205**	*e*S	**Sn**	**06 39 09.7**	**+0.1**
NOUC	**Port Laguerre**	**3.98**	**205**	*e*S	**Sn**	**06 39 09.7**	**+0.1**
PMG	**Port Moresby**	**22.23**	**291**	LR	LR	06 49 33.9	
	comp=Z,90nm,18.8s,baz=238,slow=33						
STKA	**Stephens Creek**	**27.37**	**236**	P	**P**	**06 43 08.2**	**+0.5**
	2.7nm,0.7s,baz=76,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**31.91**	**262**	P	**P**	**06 43 47.2**	**-0.8**
	0.5nm,0.4s,baz=92,slow=8.8,SNR=3.9						
ASAR	**Alice Springs**	**32.29**	**255**	P	**P**	**06 43 51.9**	**+0.5**
	1.5nm,0.5s,baz=83,slow=8.6,SNR=32						
ILAR	**Eielson Array**	**89.83**	**18**	P	**P**	**06 50 19.8**	**-0.4**
	0.2nm,0.8s,baz=228,slow=5.4,SNR=4.1						
ARCES	**ARCESS Array B 124.07**	**345**		PKP	**PKPdf**	**06 56 20.4**	**+0.7**
	5.9nm,1.0s,baz=46,slow=2.6,SNR=4.1						

CASC 26 06:40:38.6±1.8, 8°.87N×82°.82W, h5km±5km, MD3.6, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCR	**Cotoan**	**0.06**	**68**	⇓*i*P	Pg	06 40 41.1	+0.6
BRU2	**Volcan**	**0.15**	**121**	⇑*i*P	Pg	06 40 42.7	+0.9
BRU2				*e*S	Sg	06 40 46.0	+2.0
TBS2		**0.18**	**116**	*e*P	Pg	06 40 44.0	+1.6
TBS2				*e*S	Sg	06 40 47.4	+2.5
BRU	**Baru**	**0.26**	**104**	*e*P	Pg	06 40 45.1	+0.7
ACR	**Cerro Adams**	**0.41**	**238**	⇓*e*P	Pg	06 40 47.0	+0.4
ACR				*e*S	Sb	06 40 53.7	-1.2
BUS	**Buena Vista**	**1.15**	**306**	*e*P	Pg	06 40 59.5	-1.7
BUS				*e*S	Sb	06 41 17.3	+0.1
URSC	**Urasca**	**1.35**	**315**	*e*P	Pn	06 41 02.8	-1.5
URSC				*e*S	Sb	06 41 20.8	-1.5
QCR	**Quepos**	**1.44**	**293**	*e*P	Pn	06 41 04.2	-1.1
QCR				*e*S	Sg	06 41 27.7	+2.8
PTP	**Ponta Puerca**	**19.12**	**59**	*e*S	x	06 41 01.8	

*IDC **26** 06:51:15.5±5.5, 30°.09N×79°.99E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/46, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=94.7km s-min=48.9km az=175.0*
*NDI **26** 06:51:20.1±1.9, 29°.72N×80°.55E, h33km, ML3.5*

ISC 26 06:51:16.5±3.6, 29°.99N±0°.07×80°.35E±0°.07, h12km±24km, n12, σ1§31/18, mb3.9/4, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**0.55**	**190**	*e*P	**Pn**	**06 51 31.0**	**+1.0**
LGTI				*e*S	**Sn**	**06 51 38.5**	**-0.6**
DDI	**Dehra Dun**	**2.02**	**280**	*e*P	**Pb**	**06 51 53.5**	**+0.4**
DDI				*e*S	**Sb**	**06 52 20.0**	**+1.8**
DDI				AML	AML	06 52 21.8	
	comp=N,668nm,0.5s						
DDI				AML	AML	06 52 22.6	
	comp=E,447nm,0.1s						
SMLA	**Simla**	**2.97**	**293**	*e*P	**Pb**	**06 52 09.1**	**-0.3**
SMLA				*e*S	**Sb**	**06 52 45.2**	**-0.5**
SMLA				AML	AML	06 52 52.7	
	comp=N,186nm,0.4s						
SMLA				AML	AML	06 52 53.4	
	comp=E,201nm,0.4s						
NDI	**New Delhi**	**3.03**	**245**	*e*P	**Pn**	**06 52 05.0**	**+0.7**
NDI				*e*S	**Sn**	**06 52 39.0**	**-1.5**
SDNR	**Sundarnagar**	**3.28**	**298**	*e*P	**Pb**	**06 52 14.0**	**-0.6**
SDNR				*e*S	**Sb**	**06 52 53.1**	**-1.4**
DHRM	**DHARAMSHALA**	**4.14**	**304**	*ex*	**Pb**	**06 52 29.5**	**0.0**
DHRM				*e*S	**Sn**	**06 53 10.5**	**+2.2**
DHRM				AML	AML	06 53 17.0	
	comp=N,75nm,0.1s						
DHRM				AML	AML	06 53 17.4	
	comp=E,79nm,0.5s						
MKAR	**Makanchi Array**	**16.85**	**5**	Pn	**Pn**	**06 55 10.8**	**-1.3**
	comp=E,0.2nm,0.3s,baz=191,slow=12,SNR=24						
KURBB	**Kurchatov Arra**	**20.66**	**357**	P	**P**	**06 55 55.2**	**-0.7**
	comp=E,0.8nm,0.7s,baz=183,slow=10.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**24.16**	**6**	P	**P**	**06 56 31.9**	**-0.4**
	comp=E,1.8nm,0.6s,baz=189,slow=9.4,SNR=9.2						
SONM	**Songino Array**	**26.79**	**41**	P	**P**	**06 56 58.6**	**+2.2**
	comp=E,0.5nm,0.7s,baz=240,slow=9.1,SNR=4.2						
FINES	**FINESS Array B**	**47.19**	**328**	P	**P**	**06 59 47.6**	**-1.1**
	comp=E,0.5nm,0.5s,baz=87,slow=7.1,SNR=3.4						
ARCES	**ARCESS Array B**	**50.12**	**338**	P	**P**	**07 00 10.8**	**-0.3**
	comp=E,2.6nm,0.8s,baz=118,slow=9.6,SNR=5.1						

*IDC **26** 06:53:17.5±0.4, 0°.33S×99°.08E, h0km, mb4.7/30, mb1 4.8/31, mb1mx4.7/40, mbtmp4.7/31, ML4.9/1, MS4.1/22, Ms1 4.1/22, ms1mx4.0/30, Error ellipse: s-maj=16.1km s-min=11.8km az=53.0*
*BJI **26** 06:53:19.7, 0°.91S×98°.97E, h55km, mB5.1/40, mb5.0/55, Ms4.7/42, Ms7 4.5/40*
*MOS **26** 06:53:22.0±0.9, 0°.27S×99°.17E, h41km, mb5.4/39, MS4.5/4, Error ellipse: s-maj=10.5km s-min=4.7km az=116.6*
*ISCJB **26** 06:53:23.9±0.5, 0°.34S±0°.03×99°.03E±0°.03, h57km±3km, mb5.0/113, MS4.3/40, Error ellipse: s-maj=5.8km s-min=3.4km az=139.9*
*DJA **26** 06:53:23.5±0.9, 0°.S±3°×9°9E±°, h18km±8km, M5.0/26, mB5.5/18, mb5.0/26, MLv5.2/20, Mw(mB)4.9/18*
*NEIC **26** 06:53:25.9±0.5, 0°.32S×99°.09E, h64km±4km, mb5.2/36, Error ellipse: s-maj=5.9km s-min=3.7km az=46.0*
NEIC Felt at Padang.
*KLM **26** 06:53:25.4, 0°.38S×98°.96E, h39km, mb5.1, ML4.8, MS5.9*
*GCMT **26** 06:53:26.0±0.4, 0°.55S×99°.00E, h52km±1km, MW5.0/65, Moment Tensor Solution. s43,c54; s65,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.49±.23; Mθθ-3.42±.16; Mϕϕ-0.07±.21; Mrθ1.24±.11; Mθϕ2.35±.11; Mϕr-0.31±.13; Best double couple: M=4.26400×10^16 NP1:ϕs111.00000°, δ54.00000°, λ82.00000°. NP2: ϕs304.00000°, δ37.00000°, λ101.00000°. Principal axes: T 3.7090, Plg79.0000°, Azm350.0000°; N 1.1040, Plg6.0000°, Azm116.0000°; P -4.8180, Plg9.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 06:53:25.9±0.4, 0°.36S±0°.04×98°.99E±0°.04, h61km±2km, n611, σ1§23/632, mb5.1/113, 118C-126D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.29**	**27**	P	**Pn**	**06 53 45.3**	**-2.5**
PPI	**Padang Panjang**	**1.41**	**94**	P	**Pn**	**06 53 47.1**	**-2.3**
PPI	**Padang Panjang**	**1.41**	**94**	P	**Pn**	**06 53 47.9**	**-1.5**
	baz=1.4,SNR=6.3						
PPI				S	**Sn**	**06 54 05.5**	**-1.5**
	baz=1.4,SNR=35						
BKNI	**Bangkinang**	**2.16**	**72**	P	**Pn**	**06 53 58.5**	**-1.0**
BKNI	**Bangkinang**	**2.16**	**72**	*e*Pn	**Pn**	**06 53 59.3**	**-0.2**
GSI	**Gunungsitoli**	**2.18**	**319**	P	**Pn**	**06 53 59.1**	**-0.7**
GSI	**Gunungsitoli**	**2.18**	**319**	*e*Pn	**Pn**	**06 53 58.9**	**-0.9**
PSI	**Prapat**	**3.14**	**359**	P	x	06 54 10.3	
PSI	**Prapat**	**3.14**	**359**	Pn	**Pn**	**06 54 10.5**	**-2.6**
PSI	**Prapat**	**3.14**	**359**	Pn	**Pn**	**06 54 10.5**	**-2.6**
	46nm,0.3s,baz=324,slow=1.2,SNR=100						
PSI	**Prapat**	**3.14**	**359**	⇓P	**Pn**	**06 54 10.5**	**-2.6**
	baz=3.1,SNR=94						
RGRI	**Rengat**	**3.34**	**90**	P	**Pn**	**06 54 14.7**	**-1.0**
SNSI	**Sinabang, Aceh**	**3.83**	**316**	P	**Pn**	**06 54 21.6**	**-0.8**
TSI	**Tuntungan**	**3.86**	**354**	P	**Pn**	**06 54 21.9**	**-0.9**
TPTI		**4.03**	**333**	P	**Pn**	**06 54 23.5**	**-1.6**
KCSI	**Kotacane, Aceh**	**4.05**	**342**	P	**Pn**	**06 54 24.6**	**-0.7**
FRIM	**Kepong**	**4.44**	**36**	⇑P	**Pn**	**06 54 29.8**	**-0.9**
MBSI	**MBSI**	**4.71**	**136**	P	x	06 54 35.8	
KGM	**Kluang**	**4.93**	**61**	⇑P	**Pn**	**06 54 36.4**	**-1.1**
BTDF	**Bukit Timah Da**	**5.08**	**70**	P	**Pn**	**06 54 38.3**	**-1.2**
	baz=5.1,SNR=9.4						
IPM	**Ipoh**	**5.22**	**23**	P	x	06 54 41.3	
	318nm,1.1s,3μm1.3nm						
IPM	**Ipoh**	**5.22**	**23**	*e*Pn	**Pn**	**06 54 41.4**	**-0.1**
IPM	**Ipoh**	**5.22**	**23**	⇑P	**Pn**	**06 54 42.2**	**+0.8**
MYKOM	**Kota Tinggi**	**5.31**	**66**	P	x	06 54 41.7	
	145nm,1.0s,3μm0.8nm						
MYKOM	**Kota Tinggi**	**5.31**	**66**	*e*Pn	**Pn**	**06 54 41.6**	**-1.1**
MYKOM	**Kota Tinggi**	**5.31**	**66**	⇓P	**Pn**	**06 54 41.7**	**-0.9**
MNAI	**Manna**	**5.61**	**135**	P	**Pn**	**06 54 48.0**	**+1.2**
	391nm,0.6s,20μm4.2nm						
MNAI	**Manna**	**5.61**	**135**	*e*Pn	**Pn**	**06 54 47.1**	**+0.4**
	193nm,0.4s						
MNAI				*e*Sn	**Sn**	**06 55 48.8**	**-1.2**
MNAI	**Manna**	**5.61**	**135**	⇓P	**Pn**	**06 54 46.5**	**-0.2**
	baz=5.6,SNR=19						
MNAI				S	**Sn**	**06 55 48.0**	**-1.9**
	baz=5.6,SNR=7.3						
TPRI	**Tanjung Pinang**	**5.68**	**77**	P	Pn	06 54 54.4	+6.7
	142nm,0.6s,56μm2.3nm						
LHSI	**Lahat**	**5.69**	**127**	P	Pn	06 54 51.3	+3.5
	169nm,0.9s,1.0nm						
KULM	**Kulim**	**5.85**	**16**	P	x	06 54 50.0	
	423nm,1.1s,4μm1.2nm						
KULM	**Kulim**	**5.85**	**16**	*e*Pn	**Pn**	**06 54 49.7**	**-0.4**
KULM	**Kulim**	**5.85**	**16**	⇑P	**Pn**	**06 54 50.3**	**+0.2**
LHMI	**Lhok Sumawe**	**5.92**	**340**	P	Pn	06 54 55.4	+4.4
	348nm,1.2s,7μm4.3nm						
LHMI	**Lhok Sumawe**	**5.92**	**340**	*e*Pn	**Pn**	**06 54 50.5**	**-0.5**
	317nm,0.6s						
MDSI	**Maura Dua**	**6.61**	**128**	P	**Pn**	**06 55 00.5**	**+0.1**
	105nm,0.9s,1μm0.3nm						
LWLI	**Liwa**	**6.86**	**133**	P	Pn	06 55 10.2	+6.3
KTGM	**Kuala Trenggan**	**7.00**	**36**	⇓P	**Pn**	**06 55 05.3**	**-0.6**
KASI	**Kota Agung**	**7.52**	**133**	P	**Pn**	**06 55 12.6**	**-0.3**
	132nm,0.9s,2μm0.6nm						
CMBY	**CAMPBELL BAY**	**8.90**	**325**	*e*P	Pn	06 55 26.8	-5.0
CMBY				AMB	AMB	06 55 34.3	
	comp=Z,88nm,0.6s						
CGJI	**Cibinong**	**9.13**	**133**	P	**Pn**	**06 55 33.0**	**-1.9**
	comp=Z,40nm,0.5s,comp=Z,4μm						
SURT	**Suratani**	**9.26**	**359**	P	**Pn**	**06 55 37.9**	**+1.2**
	comp=Z,45nm,1.0s						
CISI	**Cisompet, Garu**	**11.34**	**129**	P	Pn	06 56 14.5	+9.3
CISI	**Cisompet, Garu**	**11.34**	**129**	*e*Pn	**Pn**	**06 56 04.3**	**-0.9**
KSM	**Kuching**	**11.46**	**81**	⇓P	**Pn**	**06 56 06.2**	**-0.7**
CMJI	**Cimerak**	**11.97**	**128**	P	Pn	06 56 09.3	-4.5
	comp=Z,60nm,0.6s						
XMI	**Christmas Isla**	**12.03**	**147**	S	Sn	06 58 18.9	-8.4
	baz=12,SNR=3.6						
CHBT	**CHBT**	**13.44**	**14**	P	x	06 56 34.5	
	comp=Z,36nm,1.2s						
SBUM	**Sibu**	**13.52**	**78**	P	x	06 56 38.5	
	comp=Z,41nm,1.9s,comp=Z,747nm						
SBUM	**Sibu**	**13.52**	**78**	*e*Pn	**Pn**	**06 56 37.6**	**+2.7**
SBUM	**Sibu**	**13.52**	**78**	⇑P	**Pn**	**06 56 36.8**	**+1.9**
PCJI	**Pacitan**	**14.42**	**123**	P	Pn	06 56 42.9	-4.0
	comp=Z,37nm,1.4s						
BTM	**Bintulu**	**14.52**	**76**	⇑P	**P**	**06 56 52.1**	**-1.1**
DGPR	**DIGLIPUR**	**14.73**	**336**	*e*P	Pn	06 56 47.6	-3.3
DGPR				AMB	AMB	06 57 06.3	
	comp=Z,39nm,1.5s						
PWJI	**Pagerwojo**	**14.87**	**121**	P	**Pn**	**06 56 54.0**	**+1.4**
	comp=Z,25nm,1.2s						
KHLT	**Khaolaem Dam**	**15.07**	**359**	P	**P**	**06 56 57.3**	**-1.9**
	comp=Z,23nm,1.0s						
DLV	**T Lat**	**15.44**	**37**	*e*Pn	**Pn**	**06 56 58.9**	**-1.3**
PBKT	**Sadao Pong**	**16.94**	**7**	P	**P**	**06 57 21.9**	**+2.0**
	comp=Z,45nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.12**	**118**	⇓P	**Pn**	**06 57 19.8**	**-1.3**
	baz=17,SNR=3.5						
SUKH	**Sukhothai**	**17.74**	**2**	P	**Pn**	**06 57 28.3**	**-0.5**
	comp=Z,8.2nm,1.4s,comp=Z,86nm						
UTTA	**Uttaradit**	**18.06**	**5**	P	**Pn**	**06 57 35.3**	**+2.7**
	comp=Z,10nm,0.9s,comp=Z,86nm						
KKM	**Kota Kinabalu**	**18.33**	**69**	P	x	06 57 38.0	
	comp=Z,85nm,0.9s,comp=Z,823nm						
KKM	**Kota Kinabalu**	**18.33**	**69**	*e*P	**P**	**06 57 35.7**	**+0.2**
	comp=Z,63nm,0.8s						
KKM	**Kota Kinabalu**	**18.33**	**69**	⇑P	**Pn**	**06 57 36.3**	**+0.2**
	baz=18,SNR=9.5						
KKM	**Kota Kinabalu**	**18.33**	**69**	⇓P	**Pn**	**06 57 37.3**	**+1.1**
CM31	**Chiang Mai Arr**	**18.70**	**360**	*e*P	**P**	**06 57 39.2**	**-0.2**
	comp=Z,15nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.70**	**360**	P	**P**	**06 57 38.7**	**-0.7**
CMAR				PcP	**PcP**	**07 02 06.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**18.70**	**360**	P	**P**	**06 57 38.7**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=191,slow=11,SNR=46						
CMAR				PcP	**PcP**	**07 02 06.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=213,slow=3.4,SNR=4.5						
CMAR				LR	LR	07 05 28.2	
	comp=Z,1μm,18.2s,baz=186,slow=39						
LAMP	**Lampang**	**18.78**	**2**	P	**Pn**	**06 57 41.2**	**-0.1**
	comp=Z,9.4nm,1.0s,comp=Z,91nm						
CHTO	**Chiang Mai**	**19.06**	**360**	*e*P	**P**	**06 57 41.9**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**19.06**	**360**	P	**P**	**06 57 42.5**	**-0.8**
	comp=Z,82nm,1.0s,comp=Z,2μm						
CHTO	**Chiang Mai**	**19.06**	**360**	*e*P	**P**	**06 57 41.9**	**-1.4**
	comp=Z,3.4nm,0.8s						
SDKM	**Sandakan**	**19.13**	**72**	⇑P	**Pn**	**06 57 45.3**	**-0.3**
KDM	**Kudat**	**19.21**	**68**	⇑P	**Pn**	**06 57 48.4**	**+1.9**
TSM	**Tawau**	**19.43**	**76**	⇓P	**Pn**	**06 57 49.7**	**+0.6**
PALK	**Pallekele**	**19.75**	**293**	*e*P	**Pn**	**06 57 53.0**	**-0.1**
	comp=Z,199nm,1.0s						
MMSI	**Mamuju**	**20.05**	**97**	P	x	06 57 56.7	
	comp=Z,78nm,1.3s,comp=Z,2μm						
TTSI	**Tana Toraja**	**20.99**	**98**	P	Pn	06 58 09.9	+2.4
	comp=Z,53nm,1.3s,comp=Z,2μm						
BNSI	**Bone**	**21.47**	**101**	P	**P**	**06 58 13.1**	**+3.6**
	comp=Z,66nm,1.7s,comp=Z,927nm						
BKSI	**Bulukumba**	**21.67**	**104**	P	**P**	**06 58 15.0**	**+3.4**
	comp=Z,44nm,1.1s,comp=Z,669nm						
QIZ	**Qiongzhong**	**22.02**	**28**	P	**P**	**06 58 16.8**	**+1.5**
QIZ				sP	**sP**	**06 58 35.0**	**-1.5**
QIZ				S	**S**	**07 02 15.3**	**+0.4**
QIZ				sS	**sS**	**07 02 37.3**	**+0.2**
QIZ				LR	LR		
	comp=Z,520nm,17.6s						
QIZ				LR	LR		
	comp=Z,670nm,22.9s						
SLVN	**Son La**	**22.09**	**12**	*e*P	**P**	**06 58 17.1**	**+1.0**
MRSI	**Marisa**	**22.96**	**88**	P	**P**	**06 58 25.3**	**-0.1**
	comp=Z,91nm,0.7s,comp=Z,3μm						
TRD	**Trivandrum**	**23.66**	**292**	⇓*ex*	x	06 58 51.9	
TRD				*ex*	Sn	07 03 05.9	-2.1
VIS	**Vishakhapatnam**	**23.68**	**320**	*e*P	**P**	**06 58 32.8**	**+0.8**
VIS				AMB	AMB	06 58 33.4	
	comp=Z,54nm,2.0s						
LUWI	**Luwuk**	**23.79**	**92**	P	**P**	**06 58 34.2**	**+1.0**
	comp=Z,130nm,1.1s,comp=Z,8μm						
LUWI	**Luwuk**	**23.79**	**92**	*e*P	**P**	**06 58 31.5**	**-1.7**
GTOI	**Gorontalo**	**24.04**	**88**	P	**P**	**06 58 34.1**	**-1.4**
	comp=Z,123nm,0.8s						
KMI	**Kunming**	**25.59**	**8**	P	**P**	**06 58 50.8**	**+1.1**
KMI				pP	**pP**	**06 59 08.8**	**+4.1**
KMI				PP	**PnPn**	**06 59 34.0**	**+5.3**
KMI				S	**S**	**07 03 12.5**	**-1.1**
KMI				sS	**sS**	**07 03 43.5**	**+4.3**
KMI				pmax	pmax		
	comp=Z,46nm,1.2s						
KMI				pmax	pmax		
	comp=Z,100nm,3.9s						
KMI				LR	LR		
	comp=Z,540nm,25.9s						
KMI				LR	LR		
	comp=Z,320nm,17.1s						
K

	comp=Z,47nm,0.9s									
GKN	**Gorkha**	**31.39**	**335**		*e*P	**P**	**06 59 41.8**	**+0.5**
CD2	**Chengdu**	**31.43**	**8**	⇓	*i*P	**P**	**06 59 41.0**	**-0.4**
CD2					pP	**pP**	**06 59 57.8**	**+1.2**
CD2					sP	**sP**	**07 00 03.8**	**0.0**
CD2					PP	**PP**	**07 00 50.8**	**-2.7**
CD2					S	**S**	**07 04 41.5**	**-3.5**
CD2					SS	**SnSn**	**07 06 40.3**	**+5.6**
CD2					pmax	pmax				
	comp=Z,70nm,1.0s									
CD2					pmax	pmax				
	comp=Z,220nm,6.0s									
CD2					LR	LR				
	comp=Z,910nm,23.8s									
CD2					LR	LR				
	comp=Z,550nm,19.0s									
CD2					LR	LR				
	comp=Z,1μm,19.0s									
BHPL	**Bhopal**	**31.47**	**320**		*e*P	**P**	**06 59 42.4**	**+0.5**
BHPL					AMB	AMB	06 59 43.5			
	comp=Z,26nm,0.3s									
KOLN	**Koldanda**	**31.64**	**333**		*e*P	**P**	**06 59 44.3**	**+0.8**
	comp=Z,107nm,0.8s									
ENH	**Enshi**	**32.06**	**17**		*e*P	**P**	**06 59 45.5**	**-1.5**
	comp=Z,111nm,0.4s									
DANN	**Dangsing**	**32.06**	**334**		*e*P	**P**	**06 59 47.8**	**+0.4**
	comp=Z,79nm,1.0s									
PYUN	**Piuthan**	**32.19**	**333**		*e*P	**P**	**06 59 49.1**	**+0.7**
MEEK	**Meekatharra**	**32.24**	**146**	⇑	P	**P**	**06 59 50.3**	**+1.7**
	baz=32,SNR=6.0									
KNRA	**Kununurra**	**33.09**	**119**	⇓	P	**P**	**06 59 53.0**	**-3.1**
	baz=33,SNR=5.5									
FAKI	**Fak Fak**	**33.34**	**95**		P	**P**	**06 59 57.2**	**-1.2**
	baz=33,SNR=6.2									
XAN	**Xi'an**	**35.47**	**14**		P	**P**	**07 00 14.8**	**-1.8**
XAN					pP	**pP**	**07 00 29.5**	**-2.4**
XAN					sP	**sP**	**07 00 37.0**	**-2.1**
XAN					PP	**PnPn**	**07 01 34.3**	**-2.9**
XAN					pmax	pmax				
	comp=Z,8.0nm,0.6s									
XAN					pmax	pmax				
	comp=Z,28nm,6.4s									
XAN					LR	LR				
	comp=Z,340nm,15.6s									
XAN					LR	LR				
	comp=Z,76nm,12.9s									
XAN					LR	LR				
	comp=Z,190nm,16.9s									
NDI	**New Delhi**	**35.62**	**326**		*e*P	**P**	**07 00 15.8**	**-2.1**
DDI	**Dehra Dun**	**36.45**	**329**		*e*P	**P**	**07 00 25.4**	**+0.4**
DDI					AMB	AMB	07 00 26.2			
	comp=Z,90nm,1.3s									
LZH	**Lanzhou**	**36.54**	**7**	⇑	P	**P**	**07 00 26.0**	**+0.1**
LZH					pP	**pP**	**07 00 41.0**	**-0.2**
LZH					sP	**sP**	**07 00 49.5**	**+1.1**
LZH					PP	**PnPn**	**07 01 52.0**	**+1.6**
LZH					PcP	**PcP**	**07 02 49.3**	**+0.9**
LZH					S	**S**	**07 06 03.0**	**-1.1**
LZH					sS	**sS**	**07 06 31.3**	**+1.1**
LZH					SS	**SnSn**	**07 08 36.3**	**-2.4**
LZH					pmax	pmax				
	comp=Z,140nm,1.4s									
LZH					pmax	pmax				
	comp=Z,420nm,4.7s									
LZH					LR	LR				
	comp=Z,630nm,14.9s									
LZH					LR	LR				
	comp=Z,520nm,14.7s									
LZH					LR	LR				
	comp=Z,820nm,17.0s									
NWAO	**Narrogin (SRO)**	**36.67**	**154**		LR	LR	07 13 24.3			
	comp=Z,342nm,21.6s,baz=342,slow=33									
H01W3	**Cape Leeuwin H**	**37.15**	**159**		T	T	07 38 50.1			
	baz=335,slow=76,SNR=6.6									
H01W2	**Cape Leeuwin H**	**37.16**	**159**		T	T	07 38 52.8			
	baz=335,slow=76,SNR=7.5									
H01W1	**Cape Leeuwin H**	**37.16**	**159**		T	T	07 38 53.7			
	baz=335,slow=76,SNR=6.6									
NJ2	**Nanjing**	**37.31**	**28**		*e*P	**P**	**07 00 32.0**	**-0.3**
NJ2					S	**S**	**07 06 18.0**	**+2.4**
NJ2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
NJ2					LR	LR				
	comp=Z,2μm,15.2s									
NJ2					LR	LR				
	comp=Z,420nm,15.8s									
NJ2					LR	LR				
	comp=Z,440nm,21.8s									
WRKA	**Warakurna**	**37.47**	**133**	⇑	P	**P**	**07 00 34.2**	**+0.4**
	baz=38,SNR=23									
SMLA	**Simla**	**37.55**	**328**		*e*P	**P**	**07 00 34.5**	**+0.2**
SSE	**Sheshan**	**37.72**	**32**		P	**P**	**07 00 35.8**	**+0.1**
SSE					pmax	pmax				
	comp=Z,26nm,0.7s									
SSE					pmax	pmax				
	comp=Z,150nm,4.8s									
SSE					LR	LR				
	comp=Z,550nm,14.2s									
SSE					LR	LR				
	comp=Z,390nm,14.2s									
SSE					LR	LR				
	comp=Z,820nm,13.8s									
DHRM	**DHARAMSHALA**	**38.88**	**329**		*e*P	**P**	**07 00 45.7**	**-0.1**
DHRM					AMB	AMB	07 00 46.3			
	comp=Z,101nm,1.6s									
GTA	**Gaotai**	**39.59**	**1**		P	**P**	**07 00 51.5**	**+0.1**
GTA					pP	**pP**	**07 01 06.5**	**-0.4**
GTA					sP	**sP**	**07 01 14.3**	**+0.2**
GTA					PcP	**PcP**	**07 02 57.8**	**+0.1**
GTA					S	**S**	**07 06 51.0**	**+1.0**
GTA					sS	**sS**	**07 07 17.0**	**+0.7**
GTA					SS	**SS**	**07 09 43.5**	**-3.7**
GTA					pmax	pmax				
	comp=Z,48nm,1.0s									
GTA					pmax	pmax				
	comp=Z,160nm,5.7s									
GTA					LR	LR				
	comp=Z,290nm,18.5s									
GTA					LR	LR				
	comp=Z,320nm,15.9s									
GTA					LR	LR				
	comp=Z,370nm,20.7s									
WRA	**Warramunga Arr**	**39.70**	**122**		P	**P**	**07 00 50.6**	**-1.9**
WRA					PcP	**PcP**	**07 02 58.5**	**+0.2**
WRA	**Warramunga Arr**	**39.70**	**122**		P	**P**	**07 00 50.6**	**-1.9**
	comp=Z,4.2nm,0.4s,baz=304,slow=8.5,SNR=30									
WRA					PcP	**PcP**	**07 02 58.5**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=313,slow=2.7,SNR=6.3									
WRA					LR	LR	07 17 24.7			
	comp=Z,107nm,21.6s,baz=290,slow=36									
WRAB	**Tennant Creek**	**39.70**	**122**		P	**P**	**07 00 51.6**	**-0.9**
	comp=Z,122nm,0.4s,SNR=30									
WRAB	**Tennant Creek**	**39.70**	**122**		*e*P	**P**	**07 00 50.9**	**-1.6**
WRAB					pmax	pmax				
	comp=Z,100nm,2.5s									
WRAB	**Tennant Creek**	**39.70**	**122**		*e*P	**P**	**07 00 51.1**	**-1.4**
	comp=Z,8.8nm,0.4s									
FORT	**Forrest**	**40.94**	**140**		P	**P**	**07 01 04.0**	**+1.5**
	baz=41,SNR=12									
AS31	**Alice Springs**	**41.03**	**127**		*e*P	**P**	**07 01 02.4**	**-1.1**
ASAR	**Alice Springs**	**41.03**	**127**		P	**P**	**07 01 02.2**	**-1.3**
ASAR					PcP	**PcP**	**07 03 03.5**	**+0.9**
ASAR	**Alice Springs**	**41.03**	**127**		P	**P**	**07 01 02.2**	**-1.3**
	comp=Z,9.5nm,0.6s,baz=299,slow=7.6,SNR=111									
ASAR					PcP	**PcP**	**07 03 03.5**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=298,slow=2.7,SNR=10									
ASAR					LR	LR	07 20 54.7			
	comp=Z,188nm,20.1s,baz=303,slow=40									
HHC	**Hu-ho-hao-te**	**42.58**	**14**		*e*P	**P**	**07 01 15.5**	**-0.5**
HHC					S	**S**	**07 07 34.3**	**-0.1**
HHC					ScS	**ScS**	**07 11 11.0**	**-0.9**
HHC					pmax	pmax				
	comp=Z,42nm,0.5s									
HHC					pmax	pmax				
	comp=Z,320nm,4.3s									
HHC					LR	LR				
	comp=Z,1μm,20.6s									
HHC					LR	LR				
	comp=Z,550nm,17.2s									
HHC					LR	LR				
	comp=Z,930nm,19.0s									
BJT	**Baijiatuan**	**43.14**	**19**		*e*P	**P**	**07 01 19.8**	**-0.5**
	comp=Z,24nm,1.0s									
BJI	**Beijing**	**43.16**	**19**		P	**P**	**07 01 20.0**	**-0.5**
BJI					S	**S**	**07 07 46.5**	**+3.9**
BJI					pmax	pmax				
	comp=Z,23nm,1.2s									
BJI					pmax	pmax				
	comp=Z,160nm,5.2s									
BJI					LR	LR				
	comp=Z,340nm,19.3s									
BJI					LR	LR				
	comp=Z,410nm,19.3s									
BJI					LR	LR				
	comp=Z,190nm,29.0s									
QIS	**Mount Isa**	**44.48**	**119**	⇑	P	**P**	**07 01 30.4**	**-1.1**
	baz=44,SNR=4.4									
JNU	**Nakatsue**	**44.84**	**39**		P	**P**	**07 01 33.2**	**-0.9**
JNU	**Nakatsue**	**44.84**	**39**		P	**P**	**07 01 33.2**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=172,slow=5.5,SNR=5.0									
JNU					LR	LR	07 20 02.8			
	comp=Z,204nm,22.0s,baz=234,slow=36									
KSH	**Kashi**	**44.93**	**335**	⇑	*i*P	**P**	**07 01 33.8**	**-1.1**
KSH					*e*PP	**PP**	**07 03 19.5**	**-1.4**
KSH					*e*PcS	**PcS**	**07 07 09.3**	**+0.1**
KSH					*e*S	**S**	**07 08 03.5**	**-5.2**
KSH					sS	**sS**	**07 08 30.3**	**-5.1**
KSH					pmax	pmax				
	comp=Z,15nm,0.6s									
KSH					pmax	pmax				
	comp=Z,140nm,5.5s									
KSH					LR	LR				
	comp=Z,170nm,6.2s									
KSH					LR	LR				
	comp=Z,170nm,5.8s									
KSH					LR	LR				
	comp=Z,180nm,4.7s									
WMQ	**Urumqi**	**45.13**	**348**		P	**P**	**07 01 37.0**	**+0.7**
WMQ					pP	**pP**	**07 01 52.5**	**+0.4**
WMQ					sP	**sP**	**07 01 59.5**	**+0.3**
WMQ					PcP	**PcP**	**07 03 17.8**	**+1.8**
WMQ					PP	**PP**	**07 03 23.8**	**+0.9**
WMQ					ScP	**ScP**	**07 07 03.5**	**+0.1**
WMQ					S	**S**	**07 08 10.5**	**-0.9**
WMQ					sS	**sS**	**07 08 37.0**	**-1.1**
WMQ					ScS	**ScS**	**07 11 26.0**	**-1.7**
WMQ					pmax	pmax				
	comp=Z,45nm,1.1s									
WMQ					pmax	pmax				
	comp=Z,390nm,4.2s									
WMQ					LR	LR				
	comp=Z,190nm,29.8s									
WMQ					LR	LR				
	comp=Z,170nm,38.9s									
WMQ					LR	LR				
	comp=Z,200nm,29.9s									
KSAR	**Wonju Array Be**	**46.13**	**32**		P	**P**	**07 01 42.8**	**-1.5**
KSRS	**Korea Array**	**46.16**	**32**		P	**P**	**07 01 42.8**	**-1.7**
	comp=Z,9.0nm,0.7s,baz=224,slow=8.4,SNR=25									
KSRS					LR	LR	07 23 33.2			
	comp=Z,256nm,18.4s,baz=234,slow=39									
ULHL	**Ulahol**	**47.11**	**337**	*i*	P	**P**	**07 01 53.0**	**+0.9**
ULHL	**Ulahol**	**47.11**	**337**		P	**P**	**07 01 53.0**	**+0.9**
	SNR=33									
KZA	**Kyzart**	**47.37**	**336**	*i*	P	**P**	**07 01 55.4**	**+1.1**
KZA	**Kyzart**	**47.37**	**336**		P	**P**	**07 01 55.5**	**+1.1**
	SNR=20									
BBOO	**Buckleboo**	**47.52**	**137**	⇓	P	**P**	**07 01 55.4**	**+0.2**
	baz=48,SNR=13									
UCH	**Uchtor**	**47.80**	**335**	*i*	P	**P**	**07 01 58.8**	**+1.1**
UCH	**Uchtor**	**47.80**	**335**		P	**P**	**07 01 58.8**	**+1.1**
	SNR=49									
TKM2	**Tokmak 2**	**47.94**	**337**		P	**P**	**07 01 59.4**	**+0.9**
TKM2					pmax	pmax				
	comp=Z,63nm,0.7s									
TKM2	**Tokmak 2**	**47.94**	**337**		P	**P**	**07 01 59.5**	**+1.0**
	SNR=16									
TKM2	**Tokmak 2**	**47.94**	**337**	*e*	P	**P**	**07 01 59.3**	**+0.9**
	comp=Z,101nm,0.9s									
KBK	**Karagaybulak**	**47.98**	**336**		P	**P**	**07 02 00.3**	**+1.5**
	SNR=26									
AML	**Almayashu**	**48.06**	**335**		P	**P**	**07 02 01.0**	**+1.3**
	SNR=7.9									
AAK	**Ala-Archa**	**48.14**	**336**		P	**P**	**07 02 01.6**	**+1.6**
	comp=Z,131nm,0.7s,SNR=22									
AAK	**Ala-Archa**	**48.14**	**336**	*c i*	P	**P**	**07 02 01.2**	**+1.2**
AAK	**Ala-Archa**	**48.14**	**336**		P	**P**	**07 02 01.4**	**+1.3**
	SNR=24									
AAK	**Ala-Archa**	**48.14**	**336**	*e*	P	**P**	**07 02 01.1**	**+1.0**
	comp=Z,66nm,1.4s									
AAK	**Ala-Archa**	**48.14**	**336**		P	**P**	**07 02 01.2**	**+1.2**
	comp=Z,13nm,0.7s,baz=138,slow=6.0,SNR=42									
FRU	**Bishkek**	**48.26**	**336**	*e*	P	**P**	**07 02 00.0**	**-0.8**
CHMS	**Chumysh**	**48.34**	**336**	*i*	P	**P**	**07 02 02.2**	**+0.8**
CHMS	**Chumysh**	**48.34**	**336**		P	**P**	**07 02 02.2**	**+0.8**
	SNR=17									
SONM	**Songino Array**	**48.43**	**7**		P	**P**	**07 02 02.5**	**+0.3**
SONM					PcP	**PcP**	**07 03 27.8**	**+0.2**
SONM	**Songino Array**	**48.43**	**7**		P	**P**	**07 02 02.5**	**+0.3**
	comp=Z,25nm,0.5s,baz=190,slow=9.3,SNR=192									
SONM					PcP	**PcP**	**07 03 27.8**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=192,slow=4.2,SNR=9.1									
SONM					LR	LR	07 24 46.3			
	comp=Z,473nm,18.5s,baz=181,slow=39									
EKS2	**Erkin-Say**	**48.46**	**335**	*i*	P	**P**	**07 02 03.1**	**+0.7**
EKS2	**Erkin-Say**	**48.46**	**335**		P	**P**	**07 02 03.2**	**+0.7**
	SNR=37									
EKS2	**Erkin-Say**	**48.46**	**335**	*e*	P	**P**	**07 02 03.5**	**+1.0**
	comp=Z,64nm,0.9s									
ULN	**Ulaanbaatar**	**48.54**	**7**	*e*	P	**P**	**07 02 03.1**	**+0.1**
	comp=Z,64nm,1.2s									
USP	**Ospenovka**	**48.67**	**336**	*i*	P	**P**	**07 02 04.7**	**+0.8**
USP	**Ospenovka**	**48.67**	**336**		P	**P**	**07 02 04.8**	**+0.8**
	SNR=13									
MKAR	**Makanchi Array**	**49.19**	**345**	*i*	P	**P**	**07 02 08.0**	**+0.2**
MKAR					pmax	pmax				
	comp=Z,29nm,0.9s									
MKAR	**Makanchi Array**	**49.19**	**345**		P	**P**	**07 02 08.0**	**+0.2**
MKAR	**Makanchi Array**	**49.19**	**345**		P	**P**	**07 02 08.0**	**+0.2**
	comp=Z,29nm,0.9s,baz=151,slow=7.8,SNR=150									
HTT	**Hallett**	**49.86**	**135**	⇓	P	**P**	**07 02 13.8**	**+0.6**
	baz=50,SNR=7.9									
CN2	**Changchun**	**49.92**	**25**		*e*P	**P**	**07 02 11.5**	**-1.9**
CN2					*e*pP	**pP**	**07 02 27.3**	**-2.0**
CN2					pmax	pmax				
	comp=Z,20nm,0.6s									
CN2					pmax	pmax				
	comp=Z,200nm,4.0s									
CN2					LR	LR				
	comp=Z,700nm,11.0s									
CN2					LR	LR				
	comp=Z,800nm,11.0s									
CN2					LR	LR				
	comp=Z,500nm,12.0s									
CTAO	**Charters Tower**	**50.21**	**116**		*e*P	**P**	**07 02 15.4**	**-0.7**
CTAO	**Charters Tower**	**50.21**	**116**		*e*P	**P**	**07 02 15.3**	**-0.7**
KK31	**Karatay Array**	**50.25**	**333**	*i*	P	**P**	**07 02 15.8**	**-0.1**
KK31					pmax	pmax				
	comp=Z,25nm,1.1s									
KKAR	**Karatay Array**	**50.25**	**333**		*e*P	**P**	**07 02 15.8**	**-0.1**
KKAR					pmax	pmax				
	comp=Z,5.0nm,0.7s									
KKAR	**Karatay Array**	**50.25**	**333**		*e*P	**P**	**07 02 15.8**	**-0.1**
	comp=Z,5.3nm,0.7s									
ZAK	**Zakamensk**	**50.69**	**4**	⇑	*i*P	**P**	**07 02 19.2**	**0.0**
ZAK					pmax	pmax				
	comp=Z,11nm,1.4s									
QLP	**Quilpie**	**50.71**	**125**		P	**P**	**07 02 19.4**	**-0.2**
	baz=51,SNR=31									
STKA	**Stephens Creek**	**50.99**	**132**		*e*P	**P**	**07 02 21.4**	**-0.2**
	comp=Z,1.8nm,0.6s									
STKA	**Stephens Creek**	**50.99**	**132**		P	**P**	**07 02 21.9**	**+0.2**
	comp=Z,9.6nm,0.6s,baz=306,slow=6.4,SNR=31									
STKA					LR	LR	07 24 07.2			
	comp=Z,199nm,21.7s,baz=289,slow=36									
STKA	**Stephens Creek**	**50.99**	**132**		P	**P**	**07 02 21.6**	**-0.1**
	baz=51,SNR=21									
MJAR	**Matsushiro Arr**	**51.67**	**40**		P	**P**	**07 02 24.6**	**-2.1**
MJAR	**Matsushiro Arr**	**51.67**	**40**		P	**P**	**07 02 24.6**	**-2.1**
	comp=Z,3.4nm,0.8s,baz=219,slow=7.6,SNR=6.8									
MJAR					LR	LR	07 27 26.8			
	comp=Z,84nm,18.6s,baz=230,slow=40									
MOY	**Mondy**	**51.87**	**2**		*e*P	**P**	**07 02 28.7**	**+0.7**
TLY	**Talaya**	**52.00**	**4**		P	**P**	**07 02 29.9**	**+1.0**
	comp=Z,86nm,0.8s,SNR=6.7									
TLY	**Talaya**	**52.00**	**4**		*e*P	**P**	**07 02 29.6**	**+0.7**
TLY					*e*		07 02 40.8			
TLY					*e*S	**S**	**07 09 45.9**	**-1.9**
TLY					*e*SS	SS	07 13 16.4	-9.3		
TLY					pmax	pmax				
	comp=Z,37nm,1.8s									
TLY					MLR	MLR				
	comp=Z,286nm,15.0s									
TLY	**Talaya**	**52.00**	**4**		*e*P	**P**	**07 02 29.2**	**+0.3**
	comp=Z,71nm,1.7s									
MDJ	**Mudanjiang**	**52.39**	**27**		P	**P**	**07 02 34.0**	**+2.1**
MDJ					pP	**pP**	**07 02 47.0**	**-1.0**
MDJ					sP	**sP**	**07 02 53.8**	**-1.2**
MDJ					PcP	**PcP**	**07 03 43.5**	**+1.4**
MDJ					PP	**PP**	**07 04 32.8**	**+1.6**
MDJ					S	**S**	**07 09 53.5**	**+0.3**
MDJ					sS	**sS**	**07 10 23.0**	**+2.6**
MDJ					SS	**SS**	**07 13 34.8**	**+2.8**
MDJ					pmax	pmax				
	comp=Z,6.0nm,1.3s									
MDJ					pmax	pmax				
	comp=Z,150nm,5.9s									
MDJ					LR	LR				
	comp=Z,430nm,14.4s									
MDJ					LR	LR				
	comp=Z,410nm,14.0s									
MDJ					LR	LR				
	comp=Z,680nm,16.5s									
USRK	**Ussuriysk Arra**	**53.21**	**29**		P	**P**	**07 02 37.0**	**-1.0**
	comp=Z,13nm,0.6s,baz=234,slow=5.3,SNR=27									
USRK					LR	LR	07 28 08.8			
	comp=Z,341nm,18.1s,baz=211,slow=39									
ARPS	**Mount Arapiles**	**53.67**	**137**	⇓	P	**P**	**07 02 43.4**	**+1.9**
	baz=54,SNR=6.1									
KURBB	**Kurchatov Arra**	**53.70**	**344**		P	**P**	**07 02 41.2**	**-0.2**
	comp=Z,19nm,0.9s,baz=164,slow=7.1,SNR=122									
KURK	**Kurchatov**	**53.76**	**344**		P	**P**	**07 02 42.9**	**+1.0**
	comp=Z,160nm,1.1s,SNR=18									
KURK	**Kurchatov**	**53.76**	**344**		P	**P**	**07 02 41.9**	**0.0**
KURK					pmax	pmax				
	comp=Z,33nm,1.1s									
KURK	**Kurchatov**	**53.76**	**344**		*e*P	**P**	**07 02 41.7**	**-0.2**
	comp=Z,28nm,1.0s									
CMSA	**Cobar Meteorol**	**53.93**	**130**		P	**P**	**07 02 43.8**	**+0.3**
	baz=54,SNR=25									
ZAA0	**Zalesovo Array**	**55.39**	**350**		*e*P	**P**	**07 02 53.4**	**-0.1**
ZALV	**Zalesovo Beam**	**55.39**	**350**		P	**P**	**07 02 53.5**	**-0.1**
ZALV	**Zalesovo Beam**	**55.39**	**350**		P	**P**	**07 02 53.5**	**-0.1**
ZALV	**Zalesovo Beam**	**55.39**	**350**		P	**P**	**07 02 53.5**	**-0.1**
	comp=Z,28nm,0.5s,baz=165,slow=6.2,SNR=129									
ZALV					LR	LR	07 29 04.7			
	comp=Z,114nm,18.2s,baz=80,slow=39									
EIDS	**Eidsvold**	**56.05**	**121**	⇓	P	**P**	**07 02 58.2**	**-0.6**
	baz=56,SNR=6.0									
NVS	**Novosibirsk**	**56.52**	**349**		*e*P	**P**	**07 02 59.0**	**-2.7**
NVS					*e*		07 03 20.1			
NVS					pmax	pmax				
	comp=N,18nm,1.3s									
NVS					pmax	pmax				
	comp=Z,33nm,1.3s									
NVS					pmax	pmax				
	comp=E,21nm,1.0s									
KLR	**Kul'dur**	**56.87**	**25**		*e*P	P	07 02 59.3	-5.0		
RAYN	**Ar Rayn**	**57.07**	**298**		*e*P	**P**	**07 03 06.2**	**0.0**
	comp=E,6.0nm,0.7s									
ARMA	**Armidale**	**58.17**	**126**		P	**P**	**07 03 15.1**	**+1.2**
	baz=58,SNR=8.6									
BVAR	**Borovoye Array**	**58.31**	**340**		P	**P**	**07 03 13.7**	**-0.6**
BVAR	**Borovoye Array**	**58.31**	**340**		P	**P**	**07 03 13.7**	**-0.6**
BVAR	**Borovoye Array**	**58.31**	**340**		P	**P**	**07 03 13.7**	**-0.6**
	comp=E,14nm,0.7s,baz=148,slow=8.7,SNR=50									
BRVK	**Borovoye**	**58.37**	**340**		P	**P**	**07 03 14.7**	**0.0**
	comp=E,146nm,0.7s,SNR=8.8									
BRVK	**Borovoye**	**58.37**	**340**		P	**P**	**07 03 14.0**	**-0.7**
BRVK					pmax	pmax				
	comp=Z,30nm,0.8s									
BRVK	**Borovoye**	**58.37**	**340**		*e*P	**P**	**07 03 13.8**	**-1.0**
	comp=Z,33nm,1.0s									
AB31	**Akbulak array**	**59.73**	**331**	*i*	P	**P**	**07 03 23.5**	**-0.7**
AB31					pmax	pmax				
	comp=Z,8.0nm,0.4s									
ABKAR	**Akbulak array**	**59.73**	**331**		*e*P	**P**	**07 03 23.5**	**-0.7**
	comp=Z,48nm,1.0s									
YSS	**Yuzh-Sakhalins**	**60.65**	**33**		*e*P	**P**	**07 03 30.4**	**-0.1**
YSS					pmax	pmax				
	comp=Z,110nm,1.3s									
AKTO	**Aktyubinsk**	**61.45**	**331**		P	**P**	**07 03 34.9**	**-1.0**
AKTO					pmax	pmax				
	comp=Z,32nm,1.3s									
AKTO	**Aktyubinsk**	**61.45**	**331**		P	**P**	**07 03 34.9**	**-1.0**
AKTO	**Aktyubinsk**	**61.45**	**331**		P	**P**	**07 03 34.9**	**-1.0**
	comp=Z,6.7nm,0.6s,baz=135,slow=6.5,SNR=29									
KMBO	**Kilima Mbogo**	**61.74**	**269**		P	**P**	**07 03 39.8**	**+0.9**
KMBO	**Kilima Mbogo**	**61.74**	**269**		P	**P**	**07 03 39.8**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=86,slow=6.8,SNR=5.6									
GNI	**Garni**	**63.65**	**316**		*e*P	**P**	**07 03 51.3**	**+0.3**
	comp=Z,20nm,1.1s									
GNI	**Garni**	**63.65**	**316**		P	**P**	**07 03 51.3**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=192,slow=9.3,SNR=5.0									
SVE	**Sverdlovsk**	**64.80**	**338**	⇓	*e*P	**P**	**07 03 57.6**	**-0.3**
SVE					*e*S	**S**	**07 12 31.8**	**-2.2**
SVE					pmax	pmax				
	comp=Z,47nm,1.3s									
SVE					MLR	MLR				
	comp=Z,832nm,22.0s									
ARU	**Arti**	**65.31**	**337**		P	**P**	**07 04 00.6**	**-0.7**
	comp=Z,137nm,1.5s,SNR=6.2									
ARU	**Arti**	**65.31**	**337**	*d i*	P	**P**	**07 04 00.3**	**-1.0**
ARU							07 04 32.9			
ARU							07 06 22.4			
ARU					S	**S**	**07 12 43.5**	**+3.1**
ARU					pmax	pmax				
	comp=Z,42nm,1.7s									
ARU					MLR	MLR				
	comp=Z,269nm,21.0s									
ARU	**Arti**	**65.31**	**337**	*e*	P	**P**	**07 04 00.0**	**-1.3**
	comp=Z,52nm,1.4s					

VORD pmax pmax
comp=E,30nm,0.6s
VSR Storozhevoye 71.86 325 *e*P **P 07 04 39.4 -2.8**
VSR pmax pmax
comp=Z,30nm,1.6s
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.1s
PETK Petropavlovsk- 72.05 33 P **P 07 04 42.7 -0.7**
PETK Petropavlovsk- 72.05 33 P **P 07 04 42.7 -0.7**
PETK Petropavlovsk- 72.05 33 P **P 07 04 42.7 -0.7**
comp=E,3.1nm,0.6s,baz=240,slow=1.2,SNR=3.1
PETK LR LR 07 40 36.7
comp=E,44nm,18.4s,baz=255,slow=39
PRGR Permogore 73.77 336 *e*P **P 07 04 51.8 -1.5**
PRGR *PP PcP 07 05 00.8 -7.8
PRGR *e* 07 05 06.0
PRGR pmax pmax
comp=Z,30nm,0.9s
TIXI Tiksi 74.41 9*d i*P **P 07 04 56.0 -0.9**
TIXI pmax pmax
comp=Z,38nm,1.7s
TIXI Tiksi 74.41 9 *e*P **P 07 04 56.0 -0.9**
comp=Z,46nm,1.1s
MOS Moscow 74.58 329 *e*P **P 07 04 57.6 -0.6**
MOS pmax pmax
comp=Z,69nm,1.2s
OBN Obninsk 74.88 328*c i*P **P 07 05 00.0 +0.1**
OBN *i* 07 05 10.3
OBN pmax pmax
comp=Z,51nm,1.5s
OBN MLR MLR
comp=E,61nm,17.0s
OBN Obninsk 74.88 328 P **P 07 04 59.8 -0.1**
OBN Obninsk 74.88 328 P **P 07 04 59.8 -0.1**
comp=E,11nm,0.4s,baz=132,slow=8.5,SNR=7.9
BOSA Boshof 75.57 241 P **P 07 05 04.7 0.0**
BOSA Boshof 75.57 241 P **P 07 05 04.7 0.0**
comp=E,2.8nm,0.8s,baz=40,slow=7.9,SNR=3.3
BOSA LR LR 07 32 51.0
comp=E,166nm,20.2s,baz=102,slow=31
KLMR Klimovskoe 75.92 334 *e*P **P 07 05 03.9 -1.9**
KLMR pmax pmax
comp=Z,41nm,1.5s
RPZ Rata Peaks 76.84 135 *e*P **P 07 05 11.5 +0.1**
comp=Z,9.2nm,0.6s
AK02 Malin Array Si 77.58 322 *e*P **P 07 05 14.3 -1.0**
AKASG Malin Array Be 77.58 322 *i* P **P 07 05 14.5 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 77.58 322 P **P 07 05 14.3 -1.0**
AKASG PP **PP 07 08 08.1 -2.9**
AKASG Malin Array Be 77.58 322 P **P 07 05 14.3 -1.0**
comp=Z,3.6nm,0.7s,baz=88,slow=4.8,SNR=23
AKASG PP **PP 07 08 08.1 -2.9**
comp=Z,1.6nm,0.8s,baz=99,slow=6.0,SNR=5.1
AKASG LR LR 07 43 13.5
comp=Z,67nm,21.9s,baz=85,slow=39
AK01 Malin Array Si 77.58 322 *e*P **P 07 05 14.4 -1.0**
KIEV Kiev 77.59 322 *e*P **P 07 05 14.1 -1.2**
KIEV Kiev 77.59 322 *e*P **P 07 05 14.5 -0.9**
comp=Z,9.9nm,1.2s
VRI Vrincioaia 77.97 317 ⇓P **P 07 05 18.3 +0.6**
VRI Vrincioaia 77.97 317 ⇓*i*P **P 07 05 18.3 +0.6**
TESR Tescani 78.17 318 ⇓*i*P **P 07 05 18.9 +0.2**
MLR Muntele Rosu 78.42 317 ⇑*i*P **P 07 05 20.8 +0.5**
VOIR 79.03 316 ⇓P **P 07 05 23.1 -0.5**
VOIR 79.03 316 ⇓*i*P **P 07 05 23.1 -0.5**
BURAR Bucovina Array 79.37 319 ⇓P **P 07 05 26.5 +1.1**
BURAR Bucovina Array 79.37 319 ⇓*i*P **P 07 05 26.5 +1.1**
BUR08 Bucovina Ar. S 79.39 319 *e*P **P 07 05 26.1 +0.6**
VTS Vitosha 79.80 313 ⇑P **P 07 05 27.8 -0.1**
VTS Vitosha 79.80 313 ⇑*i*P **P 07 05 27.8 -0.1**
CJR Cluj-Napoca 80.27 318 ⇑P **P 07 05 31.4 +1.1**
CJR Cluj-Napoca 80.27 318 ⇑*i*P **P 07 05 31.4 +1.1**
JOF Joensuu 80.31 335 *e*P **P 07 05 28.5 -1.5**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 80.31 335 *ep* **P 07 05 28.5 -1.5**
comp=Z,3.1nm,0.7s
FX1 Attu Island--F 80.78 36 *e*P **P 07 05 31.9 -0.9**
DRGR 80.89 317 ⇓P **P 07 05 34.5 +0.9**
DRGR 80.89 317 ⇓*i*P **P 07 05 34.5 +0.9**
APA Apatity 81.21 339 *e*P **P 07 05 35.0 +0.3**
APA MLR MLR
comp=Z,800nm,14.0s
KWP Kalwaria Pacla 81.41 320 *e*P **P 07 05 36.5 +0.3**
KWP Kalwaria Pacla 81.41 320 *e*P **P 07 05 36.5 +0.3**
KWP Kalwaria Pacla 81.41 320 ⇑*i*P **P 07 05 36.5 +0.3**
BZS Buzias 81.43 316 ⇓P **P 07 05 36.3 -0.1**
BZS Buzias 81.43 316 ⇓*i*P **P 07 05 36.3 -0.1**
SIRR Siria 81.51 317 ⇓*i*P **P 07 05 37.6 +0.8**
KOLS Kolonicke sedl 81.56 320 *e*P **P 07 05 37.8 +0.8**
KOLS pmax pmax
comp=Z,20nm,1.0s
KOLS Kolonicke sedl 81.56 320 *e*P **P 07 05 37.8 +0.8**
SUW Suwalki 81.97 325 *e*P **P 07 05 38.8 -0.2**
SUW Suwalki 81.97 325 *e*P **P 07 05 38.8 -0.2**
SUW Suwalki 81.97 325 *e*P **P 07 05 38.6 -0.4**
comp=Z,50nm,1.1s
BILL Bilibino 81.98 21⇑*e*P **P 07 05 40.1 +1.3**
BILL pmax pmax
comp=Z,5.0nm,1.6s
CRVS Cervenica-Dubn 82.08 319 *e*P **P 07 05 40.3 +0.5**
CRVS pmax pmax
comp=Z,9.0nm,1.3s
CRVS Cervenica-Dubn 82.08 319 *e*P **P 07 05 40.3 +0.5**
FINES FINESS Array B 82.20 332 P **P 07 05 40.1 +0.1**
FINES FINESS Array B 82.20 332 P **P 07 05 40.1 +0.1**
comp=Z,4.4nm,0.7s,baz=105,slow=5.6,SNR=20
FINES LR LR 07 45 48.3
comp=Z,61nm,18.6s,baz=115,slow=38
KAF Kangasniemi 82.28 333 *e*P **P 07 05 39.1 -1.3**
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 82.28 333 *ep* **P 07 05 39.1 -1.3**
comp=Z,6.7nm,0.6s
STHS Stebnicka Huta 82.31 320 *e*P **P 07 05 42.0 +1.1**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 82.31 320 *e*P **P 07 05 42.0 +1.1**
KECS Kecovo 82.65 319 *e*P **P 07 05 42.7 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 82.65 319 *e*P **P 07 05 42.7 0.0**
PSZ Piszkesteto 82.96 318 ⇑P **P 07 05 44.2 -0.2**
PSZ Piszkesteto 82.96 318 ⇑*i*P **P 07 05 44.2 -0.2**
PKSM Moragy 83.58 316 ⇓P **P 07 05 47.9 +0.4**
PKSM Moragy 83.58 316 ⇓*i*P **P 07 05 47.8 +0.3**
VNDA Vanda 83.95 169 P **P 07 05 49.4 +0.6**
VNDA Vanda 83.95 169 P **P 07 05 49.4 +0.6**
comp=Z,1.0nm,0.5s,baz=278,slow=14,SNR=5.3
VNDA LR LR 07 37 04.3
comp=Z,131nm,19.6s,baz=289,slow=31
KEV Kevo 84.16 341 *e*P **P 07 05 49.7 -0.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 84.16 341 *ep* **P 07 05 49.7 -0.3**
comp=Z,0.7nm,0.3s
OKC Ostrava-Krasne 84.36 320 *e*P **P 07 05 51.8 +0.3**
OKC Ostrava-Krasne 84.36 320 *e*P **P 07 05 51.8 +0.3**
ARCES ARCESS Array B 84.60 340 P **P 07 05 52.6 +0.3**
ARCES ARCESS Array B 84.60 340 P **P 07 05 52.6 +0.3**
comp=Z,3.7nm,0.4s,baz=100,slow=6.2,SNR=59
ARCES LR LR 07 46 45.0
comp=Z,138nm,21.6s,baz=80,slow=38
MORC Moravsky Berou 84.74 320 *e*P **P 07 05 53.3 -0.2**
MORC pmax pmax
comp=Z,31nm,1.9s
MORC Moravsky Berou 84.74 320 *e*P **P 07 05 53.3 -0.2**
comp=Z,31nm,1.9s
DPC Dobruska-Polom 85.59 320 *e*P **P 07 05 58.7 +1.0**
DPC Dobruska-Polom 85.59 320 *e*P **P 07 05 58.7 +1.0**
KSP Ksiaz 85.66 321 *e*P **P 07 05 59.2 +1.3**
UPC Upice 85.80 321 *e*P **P 07 05 59.8 +1.1**
UPC Upice 85.80 321 *e*P **P 07 05 59.8 +1.1**
TREC Trest 86.02 319 *e*P **P 07 05 59.8 0.0**
TREC Trest 86.02 319 *e*P **P 07 05 59.8 0.0**
PRU Pruhonice 86.69 320 *e*P **P 07 06 03.4 +0.3**
PRU Pruhonice 86.69 320 *e*P **P 07 06 03.4 +0.3**
BRG Berggiesshubel 87.14 321 *e*P **P 07 06 06.0 +0.8**
comp=Z,9.2nm,1.1s
BRG Berggiesshubel 87.14 321 *e*P **P 07 06 06.0 +0.8**

BRG pmax pmax
comp=Z,9.0nm,1.1s
GERES GERESS Array B 87.16 319 P **P 07 06 06.0 +0.5**
GERES GERESS Array B 87.16 319 P **P 07 06 06.0 +0.5**
comp=Z,1.5nm,0.5s,baz=102,slow=5.6,SNR=16
KHC Kasperske Hory 87.26 319 *e*P **P 07 06 05.1 -0.8**
KHC Kasperske Hory 87.26 319 *e*P **P 07 06 05.1 -0.8**
CLL Collm 87.76 321 *i* P **P 07 06 08.3 +0.1**
CLL pmax pmax
comp=Z,20nm,1.5s
CLL Collm 87.76 321 *i* P **P 07 06 08.3 +0.1**
comp=Z,20nm,1.5s
GRF Grafenberg Arr 88.82 320 *e*P **P 07 06 14.2 +0.9**
comp=Z,11nm,1.0s
FETA Feichten 89.07 317⇑*i*PcP **P 07 06 15.1 +0.4**
comp=Z,9.1nm,1.2s
NOA NORSAR Array B 89.23 331 P **P 07 06 14.6 -0.3**
NOA NORSAR Array B 89.23 331 P **P 07 06 14.6 -0.3**
comp=Z,0.8nm,0.7s,baz=94,slow=5.2,SNR=3.4
NOA LR LR 07 51 09.1
comp=Z,70nm,19.1s,baz=120,slow=39
DAVA Damuels 89.66 317⇑*i*PcP **PcP 07 06 18.2 -0.5**
comp=Z,16nm,1.1s
KEST Kesra 89.92 306 P **P 07 06 20.4 +1.6**
KEST Kesra 89.92 306 P **P 07 06 20.4 +1.6**
comp=Z,3.0nm,0.9s,baz=45,slow=11,SNR=4.0
PGF Pioggiola 90.23 312 *e*P **P 07 06 20.5 +0.3**
PGF Pioggiola 90.23 312 *e*P **P 07 06 20.5 +0.3**
PGF Pioggiola 90.23 312 *e*P **P 07 06 20.5 +0.3**
BFO Black Forest 90.71 318*ce*P **P 07 06 22.6 +0.5**
SBF Sospel 91.37 314 *e*P **P 07 06 25.8 +0.4**
SBF Sospel 91.37 314 *e*P **P 07 06 25.8 +0.4**
SBF Sospel 91.37 314 *e*P **P 07 06 25.8 +0.4**
CDF Champ du Feu 91.41 318⇑*i*P **P 07 06 25.7 +0.2**
comp=Z,11nm,0.9s
CDF Champ du Feu 91.41 318⇑*i*P **P 07 06 25.7 +0.2**
CDF pmax pmax
comp=Z,11nm,0.9s
CDF Champ du Feu 91.41 318⇑*i*P **P 07 06 25.7 +0.2**
comp=Z,11nm,0.9s
ECH Echery 91.49 318 *e*P **P 07 06 25.6 -0.2**
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH Echery 91.49 318 *e*P **P 07 06 25.6 -0.2**
comp=Z,5.4nm,0.9s
LPG La Plagne 91.83 315⇑*i*P **P 07 06 28.3 +0.6**
comp=Z,17nm,0.8s
LPG La Plagne 91.83 315⇑*i*P **P 07 06 28.3 +0.6**
LPG pmax pmax
comp=Z,17nm,0.8s
LPG La Plagne 91.83 315⇑*i*P **P 07 06 28.3 +0.6**
comp=Z,17nm,0.8s
MBDF Montbardon 91.83 315 *e*P **P 07 06 27.4 -0.2**
MBDF Montbardon 91.83 315 *e*P **P 07 06 27.4 -0.2**
MBDF Montbardon 91.83 315 *e*P **P 07 06 27.4 -0.2**
LPL La Plagne 91.84 315⇑*i*P **P 07 06 28.3 +0.6**
comp=Z,25nm,0.9s
LPL La Plagne 91.84 315⇑*i*P **P 07 06 28.3 +0.6**
LPL pmax pmax
comp=Z,25nm,0.9s
LPL La Plagne 91.84 315⇑*i*P **P 07 06 28.3 +0.6**
comp=Z,25nm,0.9s
HAU Haudompre 92.04 318⇑*i*P **P 07 06 28.6 +0.3**
comp=Z,28nm,0.9s
HAU *eR*
comp=Z,109nm,17.0s
HAU Haudompre 92.04 318⇑*i*P **P 07 06 28.6 +0.3**
HAU pmax pmax
comp=Z,28nm,0.9s
HAU Haudompre 92.04 318⇑*i*P **P 07 06 28.6 +0.3**
comp=Z,28nm,0.9s
LMR La Mourre 92.06 313 *e*P **P 07 06 28.5 +0.1**
LMR La Mourre 92.06 313 *e*P **P 07 06 28.5 +0.1**
LMR La Mourre 92.06 313 *e*P **P 07 06 28.5 +0.1**
CABF La Chapelle 92.26 316⇑*i*P **P 07 06 30.1 +0.6**
comp=Z,44nm,1.2s
CABF La Chapelle 92.26 316⇑*i*P **P 07 06 30.1 +0.6**
CABF pmax pmax
comp=Z,44nm,1.2s
CABF La Chapelle 92.26 316⇑*i*P **P 07 06 30.1 +0.6**
comp=Z,44nm,1.2s
ORIF Oris-en-Rattie 92.46 315 *e*P **P 07 06 30.9 +0.5**
ORIF *eR*
comp=Z,133nm,20.8s
ORIF Oris-en-Rattie 92.46 315 *e*P **P 07 06 30.9 +0.5**
ORIF Oris-en-Rattie 92.46 315 *e*P **P 07 06 30.9 +0.5**
BCLA Clavier 92.63 320 P **P 07 06 29.9 -1.1**
comp=Z,13nm,2.0s
SFTF Sexfontaines 92.91 318⇑*i*P **P 07 06 32.8 +0.5**
comp=Z,46nm,0.9s
SFTF Sexfontaines 92.91 318⇑*i*P **P 07 06 32.8 +0.5**
comp=Z,46nm,0.9s
GIVF Givet 92.96 320 *e*P **P 07 06 33.2 +0.8**
GIVF Givet 92.96 320 *e*P **P 07 06 33.2 +0.8**
GIVF Givet 92.96 320 *e*P **P 07 06 33.2 +0.8**
DOU Daurbes 93.10 320 P **P 07 06 33.3 +0.2**
BAIF Baives 93.36 320 *e*P **P 07 06 35.0 +0.7**
BAIF Baives 93.36 320 *e*P **P 07 06 35.0 +0.7**
BAIF Baives 93.36 320 *e*P **P 07 06 35.0 +0.7**
LOR Lormes 93.76 317⇑*i*P **P 07 06 36.6 +0.4**
comp=Z,6.1nm,0.6s
LOR *eR*
comp=Z,102nm,20.5s
LOR Lormes 93.76 317⇑*i*P **P 07 06 36.6 +0.4**
comp=Z,6.1nm,0.6s
SMF Signal de Mont 93.81 317 *e*P **P 07 06 36.7 +0.2**
comp=Z,13nm,0.9s
SMF Signal de Mont 93.81 317 *e*P **P 07 06 36.7 +0.2**
SMF pmax pmax
comp=Z,13nm,0.9s
SMF Signal de Mont 93.81 317 *e*P **P 07 06 36.7 +0.2**
comp=Z,13nm,0.9s
AVF Avril sur Loir 94.13 317 *e*P **P 07 06 38.2 +0.3**
comp=Z,14nm,1.1s
AVF Avril sur Loir 94.13 317 *e*P **P 07 06 38.2 +0.3**
AVF pmax pmax
comp=Z,14nm,1.0s
AVF Avril sur Loir 94.13 317 *e*P **P 07 06 38.2 +0.3**
comp=Z,14nm,1.0s
MTLF Montolieu 95.18 313 *e*P **P 07 06 43.4 +0.6**
MTLF Montolieu 95.18 313 *e*P **P 07 06 43.4 +0.6**
MTLF Montolieu 95.18 313 *e*P **P 07 06 43.4 +0.6**
RJF Les Rejaudoux 95.52 315 *e*P **P 07 06 45.6 +1.2**
RJF *eR*
comp=Z,140nm,17.8s
RJF Les Rejaudoux 95.52 315 *e*P **P 07 06 45.6 +1.2**
RJF Les Rejaudoux 95.52 315 *e*P **P 07 06 45.6 +1.2**
TORD Torodi Ar. Bea 97.19 283 P Pdif 07 06 53.1 +0.5
TORD Torodi Ar. Bea 97.19 283 P Pdif 07 06 53.1 +0.5
comp=Z,1.0nm,0.9s,baz=90,slow=6.8,SNR=5.1
TORD LR LR 07 49 33.2
comp=Z,70nm,19.2s,baz=115,slow=35
IM04 Indian Mountai 97.30 23 *e*P **P 07 06 51.3 -0.6**
ILAR Eielson Array 100.42 23 P **Pdif 07 07 04.2 -1.7**
ILAR Eielson Array 100.42 23 P **Pdif 07 07 04.2 -1.7**
comp=Z,0.2nm,0.5s,baz=291,slow=4.5,SNR=3.6
YKA Yellowknife Ar 113.10 16 PKiKP **PKiKP 07 11 55.0 -1.0**
YKA Yellowknife Ar 113.10 16 PKiKP **PKiKP 07 11 55.0 -1.0**
comp=Z,0.4nm,0.6s,baz=326,slow=1.8,SNR=10
NEW Newport 122.99 28⇑P **PKPdf 07 12 15.8 +0.3**
baz=123
BSMT Bassoo Peak 124.36 27 *e*PKPdf **PKPdf 07 12 17.3 -1.1**
SLMT Seeley Lake 125.40 27 *e*PKPdf **PKPdf 07 12 19.6 -0.8**
MSO Missoula 125.51 27 ⇓P **PKPdf 07 12 20.5 0.0**
baz=125
A19A Klindworth Far 126.05 22⇑P **PKPdf 07 12 21.4 0.0**
baz=126
B19A Brinkman Farms 126.36 23 ⇓P **PKPdf 07 12 21.4 -0.6**
baz=126
EGMT Eagleton 126.39 24 *e*PKPdf **PKPdf 07 12 21.6 -0.5**
EGMT Eagleton 126.39 24⇑P **PKPdf 07 12 21.8 -0.3**
baz=126
A20A Cobblestone Ra 126.39 22 ⇓P **PKPdf 07 12 22.0 -0.1**
baz=126
B20A Solberg Farm, 126.72 22 ⇓P **PKPdf 07 12 22.7 0.0**
baz=126
C19A Slack Wire Ran 126.90 23⇑P **PKPdf 07 12 23.4 +0.4**
baz=127
C20A Veseth Ranch, 127.33 23⇑P **PKPdf 07 12 24.2 +0.3**
baz=127
HLID Hailey 127.67 30 ⇓P **PKPdf 07 12 25.1 +0.3**
baz=128
A24A Westby 127.72 19⇑P **PKPdf 07 12 25.2 +0.7**
baz=128
D20A Manuel Ranch, 127.78 23 ⇓P **PKPdf 07 12 24.8 0.0**
baz=128

B23A Brockton 127.79 20 ⇓P **PKPdf 07 12 24.8 +0.1**
baz=128
A25A Svangstu Ranch 128.00 18⇑P **PKPdf 07 12 25.4 +0.3**
baz=128
E19A Rath Farm, Rou 128.03 24⇑P **PKPdf 07 12 25.4 +0.1**
baz=128
DGMT Dagmar 128.06 19 ⇓P **PKPdf 07 12 25.4 +0.2**
baz=128
C22A Vida 128.09 21 ⇓P **PKPdf 07 12 25.7 +0.4**
baz=128
D21A La Casta Ranch 128.25 22 ⇓P **PKPdf 07 12 26.0 +0.3**
baz=128
E20A Meyer Farm, Mu 128.27 24⇑P **PKPdf 07 12 25.8 +0.1**
baz=128
C23A Lambert 128.29 21 ⇓P **PKPdf 07 12 26.4 +0.7**
baz=128
F19A Roth Farm, Mol 128.46 25 ⇓P **PKPdf 07 12 26.4 +0.3**
baz=128
D22A Cohagen 128.48 22 ⇓P **PKPdf 07 12 27.0 +0.9**
baz=128
B25A Knox Farm, Ray 128.57 19 ⇓P **PKPdf 07 12 27.0 +0.8**
baz=128
ULM Lac du Bonnet 128.70 12 PKP **PKPdf 07 12 25.9 -0.4**
ULM Lac du Bonnet 128.70 12 PKP **PKPdf 07 12 25.9 -0.4**
comp=Z,3.4nm,0.7s,baz=2.3,slow=1.4,SNR=9.1
C24A Savage 128.79 20 ⇓P **PKPdf 07 12 26.7 +0.1**
baz=129
D23A Lindsay 128.82 21⇑P **PKPdf 07 12 27.2 +0.4**
baz=129
F20A Billings 128.83 24⇑P **PKPdf 07 12 27.2 +0.3**
baz=129
NVAR Mina Array Bea 128.95 38 PKP **PKPdf 07 12 28.2 +0.7**
NVAR Mina Array Bea 128.95 38 PKP **PKPdf 07 12 28.2 +0.7**
comp=Z,0.5nm,0.6s,baz=272,slow=4.2,SNR=5.1
C25A Freed Ranch, W 129.03 19 ⇓P **PKPdf 07 12 28.1 +1.0**
baz=129
H18A Shoshone NF, C 129.08 26 ⇓P **PKPdf 07 12 28.1 +0.5**
baz=129
A29A Manning Farm, 129.14 15 ⇓P **PKPdf 07 12 28.2 +1.0**
baz=129
D24A Glendive 129.18 20⇑P **PKPdf 07 12 28.4 +1.0**
baz=129
G20A Bridger 129.27 25 ⇓P **PKPdf 07 12 28.1 +0.3**
baz=129
C26A Wahner Farm, P 129.30 18⇑P **PKPdf 07 12 28.4 +0.8**
baz=129
A30A Hoffart Farm, 129.37 15⇑P **PKPdf 07 12 28.1 +0.4**
baz=129
H19A Powell 129.38 26⇑P **PKPdf 07 12 29.1 +1.1**
baz=129
D25A Fairfield 129.49 20 ⇓P **PKPdf 07 12 28.8 +0.8**
baz=129
F22A Rosebud 129.60 23 ⇓P **PKPdf 07 12 29.1 +0.8**
baz=129
B30A Myrvik Farm, E 129.81 15 ⇓P **PKPdf 07 12 28.7 +0.2**
baz=130
I19A Meeteetse 129.88 26 ⇓P **PKPdf 07 12 29.7 +0.7**
baz=130
G22A Birney 130.05 23 ⇓P **PKPdf 07 12 30.0 +0.8**
baz=130
I20A Worland 130.33 26⇑P **PKPdf 07 12 30.2 +0.4**
baz=130
G23A Biddle 130.42 23 ⇓P **PKPdf 07 12 30.6 +0.7**
baz=130
PDAR Pinedale Array 130.62 28 PKP **PKPdf 07 12 30.7 +0.2**
PDAR Pinedale Array 130.62 28 PKP **PKPdf 07 12 30.7 +0.2**
comp=Z,0.6nm,0.5s,baz=82,slow=1.9,SNR=7.3
R11A Troy Canyon, C 130.64 36 ⇓P **PKPdf 07 12 31.5 +0.9**
baz=130
I21A Big Trails, Te 130.80 25 ⇓P **PKPdf 07 12 31.1 +0.3**
baz=131
J20A Shoshoni 130.83 26⇑P **PKPdf 07 12 31.4 +0.6**
baz=131
E28A Huff 130.85 18⇑P **PKPdf 07 12 31.2 +0.6**
baz=131
F26A Lodgepole 130.85 20 ⇓P **PKPdf 07 12 31.1 +0.4**
baz=131
DUG Dugway 130.92 32⇑P **PKPdf 07 12 31.4 +0.3**
baz=131
D30A Buchanan 130.93 16 ⇓P **PKPdf 07 12 31.7 +1.0**
baz=131
I22A 9 Mile Ranch, 131.07 24⇑P **PKPdf 07 12 31.8 +0.6**
baz=131
FURC Furnace Creek, 131.08 39⇑P **PKPdf 07 12 31.8 +0.6**
baz=131
J21A Lysite 131.11 26 ⇓P **PKPdf 07 12 31.8 +0.4**
baz=131
H24A Dirks Ranch, A 131.12 22 ⇓P **PKPdf 07 12 31.7 +0.4**
baz=131
EDW2 Edwards Air Fo 131.32 41⇑P **PKPdf 07 12 32.3 +0.4**
baz=131
G26A Maurine 131.36 20 ⇓P **PKPdf 07 12 32.4 +0.8**
baz=131
J22A Midwest 131.47 25 ⇓P **PKPdf 07 12 32.1 +0.1**
baz=131
K21A Alcova 131.77 26 ⇓P **PKPdf 07 12 33.6 +0.9**
baz=132
GSC Goldstone 131.84 40 ⇓P **PKPdf 07 12 33.9 +1.0**
baz=132
K22A Casper 132.07 25⇑P **PKPdf 07 12 33.1 0.0**
baz=132
K23A Bowen Ranch, D 132.36 25 ⇓P **PKPdf 07 12 33.7 0.0**
baz=132
L23A Garrett 132.86 25⇑P **PKPdf 07 12 34.9 +0.2**
baz=133
I28A Midland 132.98 20 ⇓P **PKPdf 07 12 34.6 -0.1**
baz=133
O20A White River Ci 133.29 29 ⇓P **PKPdf 07 12 35.8 +0.2**
baz=133
M23A Laramie 133.38 26 ⇓P **PKPdf 07 12 35.1 -0.7**
baz=133
K26A Motz Farm, Whi 133.38 23⇑P **PKPdf 07 12 35.8 +0.3**
baz=133
N23A Red Feather La 133.75 26⇑P **PKPdf 07 12 36.7 +0.2**
baz=134
U15A North Rim 133.86 36 ⇓P **PKPdf 07 12 37.6 +0.7**
baz=134
PV04 Paradox Valley 134.29 31 *e*PKPdf **PKPdf 07 12 37.6 +0.1**
O23A Lake Granby, G 134.31 27 ⇓P **PKPdf 07 12 38.1 +0.4**
baz=134
ECSD EROS Data Cent 134.62 16 ⇓P **PKPdf 07 12 37.9 +0.2**
baz=134
PV01 Paradox Valley 134.66 31 *e*PKPdf **PKPdf 07 12 36.6 -1.7**
Y14A Wickenburg 135.12 39⇑P **PKPdf 07 12 38.7 -0.4**
baz=135
P25A Willow Gulch B 135.66 26⇑P **PKPdf 07 12 40.3 +0.3**
baz=135
N28A Pribbeno Ranch 135.74 22⇑P **PKPdf 07 12 40.5 +0.4**
baz=136
X16A Lo Mia Camp, P 135.75 37 ⇓P **PKPdf 07 12 41.5 +1.1**
baz=136
S22A 4UR Ranch, Cre 135.84 30 ⇓P **PKPdf 07 12 42.3 +1.7**
baz=136
P26A Davis Ranch, A 135.97 25 ⇓P **PKPdf 07 12 41.5 +0.9**
baz=136
X18A Snowflake 136.56 36 ⇓P **PKPdf 07 12 42.8 +1.0**
baz=136
S25A Robets Cordova 137.06 28⇑P **PKPdf 07 12 43.4 +0.7**
baz=137
R27A Eads 137.27 25 ⇓P **PKPdf 07 12 43.7 +0.8**
baz=137
T25A Trinidad 137.49 28 ⇓P **PKPdf 07 12 44.2 +0.6**
baz=137
Q29A Oakley 137.51 23 ⇓P **PKPdf 07 12 44.2 +0.8**
baz=137
S26A Kim 137.53 27⇑P **PKPdf 07 12 44.2 +0.7**
baz=137
P31A Stockton 137.56 21⇑P **PKPdf 07 12 44.6 +1.3**
baz=137
R28A Tribune 137.64 24⇑P **PKPdf 07 12 44.6 +1.0**
baz=137
V23A Ortiz Mt. (NFS 137.72 31⇑P **PKPdf 07 12 45.1 +1.1**
baz=138
P32A Huiting Farm, 137.75 20 ⇓P **PKPdf 07 12 44.8 +1.1**
baz=138
T26A Comanche Natio 137.84 27⇑P **PKPdf 07 12 45.1 +0.9**
baz=138
Q31A Ellis 138.01 22⇑P **PKPdf 07 12 45.2 +1.0**
baz=138
V24A Rampart Ranch, 138.20 30 ⇓P **PKPdf 07 12 45.8 +0.9**
baz=138
R30A Dighton 138.31 23 ⇓P **PKPdf 07 12 46.1 +1.3**
baz=138
T27A Campo 138.32 26⇑P **PKPdf 07 12 46.0 +1.0**
baz=138
U26A Atchley Ranch, 138.41 28⇑P **PKPdf 07 12 45.8 +0.6**
baz=138
V25A Rancho No Teng 138.43 29 ⇓P **PKPdf 07 12 46.0 +0.7**

	baz=138							
W24A	**Lazy 6 Ranch,** baz=138	**138.53**	**31**	⇓P		**PKPdf**	**07 12 46.0**	**+0.5**
Q33A	**Connelly Farm,** baz=138	**138.57**	**20**	⇓P		**PKPdf**	**07 12 46.4**	**+1.2**
R31A	**Burdett** baz=138	**138.59**	**22**	⇓P		**PKPdf**	**07 12 46.1**	**+0.8**
V26A	**Tequesquite Ra** baz=139	**138.87**	**29**	⇓P		**PKPdf**	**07 12 45.7**	**-0.3**
Y23A	**Lovelace Mesa,** baz=139	**139.18**	**33**	⇓P		**PKPdf**	**07 12 47.3**	**+0.6**
121A	**Cookes Peak, D** baz=139	**139.24**	**36**	⇓P		**PKPdf**	**07 12 47.8**	**+0.9**
Y24A	**Capitan** baz=139	**139.51**	**32**	⇓P		**PKPdf**	**07 12 48.7**	**+1.3**
X26A	**CR and CF Fran** baz=140	**139.86**	**30**	⇓P		**PKPdf**	**07 12 48.4**	**+0.5**
Y25A	**Mesa, Roswell** baz=140	**139.90**	**31**	⇑P		**PKPdf**	**07 12 49.0**	**+1.0**
Z24A	**Sheeppen Canyo** baz=140	**140.01**	**32**	⇑P		**PKPdf**	**07 12 49.0**	**+0.7**
U32A	**Winter Ranch,** baz=140	**140.47**	**23**	⇑P		**PKPdf**	**07 12 49.3**	**+0.5**
125A	**Gardner Draw,** baz=141	**140.90**	**32**	⇑P		**PKPdf**	**07 12 50.6**	**+0.8**
X29A	**Tulia** baz=141	**140.95**	**28**	⇑P		**PKPdf**	**07 12 50.8**	**+1.0**
Z27A	**Tatum** baz=141	**141.14**	**30**	⇓P		**PKPdf**	**07 12 51.4**	**+1.2**
X31A	**McDonald Ranch** baz=141	**141.57**	**26**	⇑P		PKPdf	07 12 44.8	-6.0
Z31A	**Sharp Cattle R** baz=142	**142.61**	**27**	⇓P		**PKPdf**	**07 12 48.5**	**-4.2**
Z32A	**Haskell** baz=143	**142.91**	**26**	⇓P		**PKPdf**	**07 12 50.8**	**-2.5**
427A	**Hayter Ranch,** baz=143	**142.97**	**33**	⇑P		**PKPdf**	**07 12 50.9**	**-2.6**
131A	**Roby** baz=143	**143.03**	**28**	⇓P		PKPbc	07 12 50.8	+0.4
Y34A	**Reagan Ranch,** baz=143	**143.07**	**23**	⇑P		PKPbc	07 12 50.8	+0.4
526A	**Mary Lane Ranc** baz=143	**143.19**	**35**	⇓P		PKPbc	07 12 52.1	+1.1
Z33A	**Whitaker Ranch** baz=143	**143.24**	**25**	⇓P		PKPbc	07 12 51.1	+0.2
230A	**Sterling City** baz=143	**143.33**	**29**	⇑P		PKPbc	07 12 51.2	0.0
527A	**Woodward Ranch** baz=143	**143.40**	**34**	⇓P		PKPbc	07 12 51.5	-0.1
ABTX	**Abilene, Hawle** baz=143	**143.42**	**27**	⇑P		**PKPdf**	**07 12 52.8**	**-1.3**
428A	**Kincaid Ranch,** baz=143	**143.46**	**32**	⇑P		PKPbc	07 12 52.5	+0.9
626A	**Big Bend Ranch** baz=143,SNR=6.2	**143.55**	**35**	⇑P		PKPbc	07 12 52.3	+0.3
231A	**Bronte** baz=144	**143.68**	**28**	⇓P		PKPbc	07 12 52.3	+0.1
330A	**Mertzon** baz=144	**143.69**	**30**	⇓P		PKPbc	07 12 52.7	+0.4
BDFB	**Brasilia**	**143.74**	**243**	PKP		**PKPdf**	**07 12 54.5**	**-0.8**
BDFB	**Brasilia** comp=Z,2.5nm,0.8s,baz=155,slow=9.9,SNR=3.4	**143.74**	**243**	PKP		**PKPdf**	**07 12 54.5**	**-0.8**
133A	**Hamilton Ranch** baz=144	**143.75**	**26**	⇑P		PKPbc	07 12 52.3	-0.1
528A	**Cox Ranch, San** baz=144,SNR=5.2	**143.84**	**33**	⇑P		PKPbc	07 12 52.7	-0.2
429A	**Davenport Ranc** baz=144,SNR=6.0	**143.95**	**31**	⇑P		PKPab	07 12 52.4	-0.1
TXAR	**Lajitas Array**	**143.98**	**35**	PKP		PKPbc	07 12 53.5	+0.2
TXAR	**Lajitas Array** comp=Z,2.1nm,0.7s,baz=325,slow=0.4,SNR=58	**143.98**	**35**	PKP		PKPbc	07 12 53.5	+0.2
MIAR	**Mount Ida**	**144.02**	**18**	ePKIKP		PKPbc	07 12 52.8	-0.3
MIAR	**Mount Ida**	**144.02**	**18**	ePKPdf		PKPbc	07 12 52.8	-0.2
627A	**Terlingua Ranc** baz=144,SNR=8.9	**144.05**	**34**	⇓P		PKPbc	07 12 53.4	-0.1
331A	**San Angelo** baz=144,SNR=7.0	**144.14**	**29**	⇓P		**PKPab**	**07 12 53.1**	**-0.1**
134A	**White-Moore Ra** baz=144	**144.14**	**25**	⇓P		**PKPab**	**07 12 53.0**	**-0.1**
430A	**Baggett Ranch,** baz=144,SNR=5.4	**144.16**	**31**	⇓P		**PKPab**	**07 12 53.0**	**-0.3**
529A	**Stev Forest Ra** baz=144	**144.18**	**32**	⇓P		PKPbc	07 12 53.9	+0.1
233A	**Rising Star** baz=144,SNR=9.0	**144.26**	**27**	⇑P		**PKPab**	**07 12 53.3**	**-0.3**
628A	**Black Gap, Mar** baz=144,SNR=7.8	**144.31**	**34**	⇑P		**PKPab**	**07 12 53.9**	**0.0**
332A	**Millersview** baz=144,SNR=14	**144.41**	**28**	⇓P		PKPbc	07 12 54.4	0.0
431A	**Sonora** baz=144,SNR=7.1	**144.56**	**30**	⇑P		**PKPab**	**07 12 54.7**	**-0.1**
234A	**Clairette** baz=144,SNR=8.3	**144.61**	**26**	⇑P		**PKPab**	**07 12 54.2**	**-0.6**
530A	**J-C Ranch, Com** baz=144,SNR=33	**144.62**	**31**	⇑P		PKPbc	07 12 55.4	+0.2
TKL	**Tuckaleechee C**	**144.79**	**4**	ePKPdf		**PKPab**	**07 12 54.6**	**-0.7**
432A	**Menard** baz=145,SNR=8.4	**144.81**	**29**	⇑P		**PKPab**	**07 12 54.9**	**-0.7**
333A	**Richland Sprin** baz=145,SNR=18	**144.81**	**27**	⇓P		**PKPab**	**07 12 55.0**	**-0.6**
WHTX	**Lake Whitney** baz=145	**144.91**	**25**	⇑P		**PKPab**	**07 12 54.9**	**-1.0**
CPUP	**Villa Florida**	**144.99**	**219**	ePKPbc		**PKPdf**	**07 12 56.7**	**-0.2**
CPUP	**Villa Florida** comp=Z,5.8nm,0.6s,baz=68,slow=2.2,SNR=11	**144.99**	**219**	PKPbc		**PKPdf**	**07 12 57.2**	**+0.2**
531A	**Rocksprings** baz=145,SNR=42	**145.01**	**30**	⇑P		**PKPbc**	**07 12 56.1**	**-0.3**
JCT	**Junction City**	**145.13**	**29**	ePKIKP		**PKPbc**	**07 12 56.2**	**-0.5**
JCT	**Junction City**	**145.13**	**29**	ePKPbc		**PKPbc**	**07 12 56.2**	**-0.5**
JCT	**Junction City** baz=145,SNR=23	**145.13**	**29**	⇑P		**PKPbc**	**07 12 56.5**	**-0.3**
334A	**Lometa** baz=145,SNR=5.4	**145.14**	**26**	⇑P		**PKPbc**	**07 12 56.1**	**-0.6**
433A	**Art** baz=145,SNR=6.3	**145.24**	**28**	⇑P		**PKPbc**	**07 12 56.3**	**-0.8**
532A	**Rocksprings** baz=145,SNR=19	**145.37**	**30**	⇑P		**PKPbc**	**07 12 57.1**	**-0.4**
335A	**Moody** baz=145,SNR=7.1	**145.54**	**25**	⇑P		**PKPdf**	**07 12 57.1**	**-0.7**
434A	**Burnet** baz=145,SNR=8.5	**145.57**	**27**	⇓P		**PKPdf**	**07 12 57.1**	**-0.8**
631A	**Perdido Creek** baz=145,SNR=19	**145.61**	**31**	⇓P		**PKPdf**	**07 12 57.8**	**-0.2**
533A	**Kerrville** baz=146,SNR=33	**145.83**	**29**	⇓P		**PKPdf**	**07 12 58.4**	**0.0**
435B	**Jarrell** baz=146	**145.90**	**26**	⇓P		**PKPbc**	**07 12 59.3**	**+0.2**
632A	**Uvalde** baz=146,SNR=39	**145.93**	**30**	⇑P		**PKPbc**	**07 12 59.3**	**+0.1**
534A	**Blanco** baz=146,SNR=13	**146.13**	**28**	⇓P		**PKPbc**	**07 12 59.4**	**-0.5**
NATX	**Nacogdoches**	**146.21**	**21**	ePKPdf		**PKPbc**	**07 12 59.7**	**-0.3**
633A	**Saathoff Ranch** baz=146,SNR=19	**146.27**	**29**	⇓P		**PKPbc**	**07 13 00.3**	**0.0**
535A	**Dale** baz=146,SNR=5.7	**146.55**	**27**	⇓P		**PKPbc**	**07 13 01.0**	**-0.1**
536A	**Bastrop** baz=146	**146.73**	**26**	⇓P		**PKPbc**	**07 13 02.0**	**+0.4**
634A	**China Grove, S** baz=146	**146.74**	**28**	⇑P		**PKPab**	**07 13 02.5**	**-0.3**
733A	**Divot King Ran** baz=147	**146.82**	**30**	⇑P		**PKPbc**	**07 13 02.4**	**+0.5**
635A	**Leesville** baz=147,SNR=12	**147.00**	**28**	⇓P		**PKPbc**	**07 13 02.5**	**+0.1**
GOGA	**Godfrey**	**147.04**	**4**	ePKP2		**PKPbc**	**07 13 01.8**	**-0.6**
GOGA	**Godfrey**	**147.04**	**4**	ePKPbc		**PKPbc**	**07 13 01.8**	**-0.6**
734A	**La Parita Cree** baz=147	**147.08**	**29**	⇓P		**PKPab**	**07 13 03.4**	**-0.8**
833A	**Chaparral WMA,** baz=147	**147.09**	**31**	⇑P		**PKPab**	**07 13 04.0**	**-0.2**
HKT	**Hockley**	**147.37**	**24**	ePKP2		**PKPdf**	**07 13 01.4**	**+0.6**
HKT	**Hockley**	**147.37**	**24**	ePKPdf		**PKPdf**	**07 13 01.4**	**+0.6**
735A	**Kenedy** baz=147,SNR=8.2	**147.43**	**28**	⇑P		**PKPbc**	**07 13 03.7**	**+0.1**
834A	**Tilden** baz=148	**147.68**	**30**	⇑P		**PKPbc**	**07 13 04.6**	**+0.4**
933A	**Laredo** baz=148	**147.73**	**31**	⇓P		**PKPbc**	**07 13 04.6**	**+0.2**
835A	**Beeville** baz=148	**147.90**	**29**	⇓P		**PKPab**	**07 13 06.3**	**-1.2**
034A	**Hebbronville** baz=148	**148.48**	**31**	⇓P		**PKPbc**	**07 13 07.2**	**+0.7**
035A	**Encino** baz=149	**148.88**	**31**	⇓P		**PKPbc**	**07 13 08.2**	**+0.8**

IDC 26 06:56:46.6±1.9, 33°69'N×94°89'E, h0km, mb3.6/2,
mb1 3.5/4, mb1mx3.2/45, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=76.2km s-min=28.8km az=61.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.21**	**328**	Pn	Pn	07 00 33.5	-2.3
	0.0nm,0.3s,baz=136,slow=14,SNR=2.4						
SONM	**Songino Array**	**16.58**	**28**	Pn	Pn	07 00 40.5	0.0
	0.2nm,0.3s,baz=220,slow=12,SNR=5.9						
KURBB	**Kurchatov Arra**	**20.74**	**330**	P	P	07 01 28.4	-0.3
	1.9nm,0.7s,baz=138,slow=11,SNR=25						
ASAR	**Alice Springs**	**68.06**	**142**	P	P	07 07 48.2	0.0
	0.5nm,0.8s,baz=324,slow=6.4,SNR=4.3						

*ISCJB **26** 07:04:12.7±0.4, 38°.41N±0°.02×22°.04E±0°.03, h9km±3km, Error ellipse: s-maj=3.8km s-min=3.4km az=30.5*
*CSEM **26** 07:04:12.5±0.1, 38°.41N×22°.04E, h10km, MD2.7, Error ellipse: s-maj=3.4km s-min=3.0km az=124.0*
*ATH **26** 07:04:13.0, 38°.41N×22°.03E, h9km±2km, MD2.7/13*
*THE **26** 07:04:13.3, 38°.40N×22°.03E, h2km±33km, ML2.6/7, Error ellipse: s-maj=33.8km s-min=0.5km az=183.0*
ISC 26 07:04:12.8±0.9, 38°42'N±0°.02×22°03'E±0°.02, h8km±5km, n42, σ0°50/73, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.09**	**272**	P	**Pg**	**07 04 15.0**	**-0.1**
EFP				S	**Sg**	**07 04 16.7**	**+0.1**
EFP	**Efpalio**	**0.09**	**272**	*e*PG	**Pg**	**07 04 14.9**	**-0.1**
EFP				*e*SG	**Sg**	**07 04 16.6**	**0.0**
EFP	**Efpalio**	**0.09**	**272**	*e*Pg	**Pg**	**07 04 14.9**	**-0.1**
EFP				S	**Sg**	**07 04 16.7**	**+0.1**
KALE	**Kalithea**	**0.10**	**110**	P	**Pg**	**07 04 15.5**	**+0.4**
KALE				S	**Sg**	**07 04 16.6**	**-0.2**
KALE	**Kalithea**	**0.10**	**110**	*e*PG	**Pg**	**07 04 15.5**	**+0.4**
KALE				*e*SG	**Sg**	**07 04 17.7**	**+0.9**
KALE	**Kalithea**	**0.10**	**110**	P	**Pg**	**07 04 15.5**	**+0.4**
KALE				S	**Sg**	**07 04 16.6**	**-0.2**
KALE				*e*Sg	Sg	07 04 17.7	+0.9
LAKA	**Lakka**	**0.19**	**191**	P	**Pg**	**07 04 16.8**	**+0.2**
LAKA	**Lakka**	**0.19**	**191**	*e*PG	**Pg**	**07 04 16.8**	**+0.2**
LAKA	**Lakka**	**0.19**	**191**	P	**Pg**	**07 04 16.8**	**+0.2**
KLV	**Kalavryta, Ach**	**0.39**	**165**	P	**Pg**	**07 04 20.3**	**-0.1**
KLV				S	**Sg**	**07 04 25.6**	**0.0**
KLV	**Kalavryta, Ach**	**0.39**	**165**	*e*PG	**Pg**	**07 04 20.3**	**-0.1**
KLV				*e*SB	**Sg**	**07 04 25.7**	**+0.1**
KLV	**Kalavryta, Ach**	**0.39**	**165**	P	**Pg**	**07 04 20.3**	**-0.1**
KLV				S	**Sg**	**07 04 25.6**	**0.0**
DSF	**Desfina**	**0.40**	**92**	P	**Pg**	**07 04 20.3**	**-0.2**
DSF				S	**Sg**	**07 04 27.1**	**+1.3**
DSF	**Desfina**	**0.40**	**92**	*e*PG	**Pg**	**07 04 20.2**	**-0.2**
DSF				*e*SB	**Sg**	**07 04 27.0**	**+1.3**
DSF	**Desfina**	**0.40**	**92**	P	**Pg**	**07 04 20.3**	**-0.2**
DSF				*e*Sb	**Sg**	**07 04 27.0**	**+1.3**
EVR	**Evrytania**	**0.52**	**341**	P	**Pg**	**07 04 22.9**	**0.0**
EVR				S	**Sb**	**07 04 31.7**	**-0.3**
EVR	**Evrytania**	**0.52**	**341**	*e*PB	**Pg**	**07 04 22.9**	**0.0**
EVR				*e*SB	**Sb**	**07 04 31.7**	**-0.3**
EVR	**Evrytania**	**0.52**	**341**	P	**Pg**	**07 04 22.9**	**0.0**
EVR				S	**Sb**	**07 04 31.7**	**-0.3**
DRO	**Drossia**	**0.53**	**208**	P	**Pg**	**07 04 22.8**	**-0.3**
DRO				S	**Sg**	**07 04 30.8**	**+0.8**
DRO	**Drossia**	**0.53**	**208**	*e*PG	**Pg**	**07 04 22.8**	**-0.3**
DRO				*e*SB	**Sg**	**07 04 30.9**	**+0.9**
DRO	**Drossia**	**0.53**	**208**	P	**Pg**	**07 04 22.8**	**-0.3**
DRO				S	**Sg**	**07 04 30.8**	**+0.8**
GUR	**Goura**	**0.55**	**153**	*e*PB	**Pg**	**07 04 23.5**	**+0.1**
GUR	**Goura**	**0.55**	**153**	*e*Pb	**Pg**	**07 04 23.5**	**+0.1**
RLS	**Riolos of Patr**	**0.57**	**230**	*e*PB	**Pg**	**07 04 24.0**	**+0.2**
RLS	**Riolos of Patr**	**0.57**	**230**	*e*Pb	**Pg**	**07 04 24.0**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.59**	**8**	P	**Pg**	**07 04 24.5**	**+0.2**
MAKR				S	**Sb**	**07 04 34.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.59**	**8**	*e*PG	**Pg**	**07 04 24.5**	**+0.2**
MAKR				*e*SB	**Sb**	**07 04 33.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.59**	**8**	P	**Pg**	**07 04 24.5**	**+0.2**
MAKR				*e*Sb	**Sb**	**07 04 33.9**	**-0.2**
MAKR				S	**Sb**	**07 04 34.5**	**+0.4**
AXAR	**Agios Charalam**	**0.60**	**55**	P	**Pg**	**07 04 24.3**	**-0.1**
AXAR				S	**Sb**	**07 04 34.1**	**-0.2**
AXAR	**Agios Charalam**	**0.60**	**55**	*e*PB	**Pg**	**07 04 24.3**	**-0.1**
AXAR				*e*SB	**Sb**	**07 04 34.1**	**-0.2**
AXAR	**Agios Charalam**	**0.60**	**55**	P	**Pg**	**07 04 24.3**	**-0.1**
AXAR				S	**Sb**	**07 04 34.1**	**-0.2**
AGG	**Agios Georgios**	**0.64**	**22**	*e*PB	**Pg**	**07 04 24.6**	**-0.6**
AGG	**Agios Georgios**	**0.64**	**22**	*e*Pb	**Pg**	**07 04 24.6**	**-0.6**
PDO	**Prodromos**	**0.68**	**285**	P	**Pg**	**07 04 26.4**	**+0.5**
PDO				S	**Sb**	**07 04 37.1**	**+0.5**
PDO	**Prodromos**	**0.68**	**285**	*e*PB	**Pg**	**07 04 26.4**	**+0.5**
PDO				*e*SB	**Sb**	**07 04 36.6**	**0.0**
PDO	**Prodromos**	**0.68**	**285**	P	**Pg**	**07 04 26.4**	**+0.5**
PDO				*e*Sb	**Sb**	**07 04 36.6**	**0.0**
PDO				S	**Sb**	**07 04 37.1**	**+0.5**
LKR	**Lokris**	**0.80**	**73**	*e*PB	**Pg**	**07 04 27.5**	**-0.6**
LKR	**Lokris**	**0.80**	**73**	*e*Pb	**Pg**	**07 04 27.5**	**-0.6**
THL	**Klokotos Trika**	**1.14**	**360**	*e*PG	**Pb**	**07 04 34.5**	**-0.2**
THL	**Klokotos Trika**	**1.14**	**360**	*e*Pg	**Pb**	**07 04 34.5**	**-0.2**
VLS	**Valsamata**	**1.16**	**258**	*e*PB	**Pb**	**07 04 33.7**	**-1.3**
VLS				*e*SB	**Sn**	**07 04 51.8**	**+0.5**
VLS	**Valsamata**	**1.16**	**258**	*e*Pb	**Pb**	**07 04 33.7**	**-1.3**
VLS				*e*Sb	**Sn**	**07 04 51.8**	**+0.5**

IDC 26 07:05:30.6±1.5, 4°26N×127°38E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/36, mbtmp4.0/6, MS3.7/2, Ms1 3.7/2, ms1mx3.0/34, Error ellipse: s-maj=213.6km s-min=17.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.00**	**164**	P	P	07 10 56.5	+0.1
	3.5nm,0.8s,baz=343,slow=10,SNR=9.9						
PSI	**Prapat**	**28.44**	**268**	LR	LR	07 25 40.0	
	comp=Z,98nm,18.5s,baz=212,slow=42						
ASAR	**Alice Springs**	**28.48**	**167**	P	P	07 11 28.0	+0.4
	1.2nm,0.5s,baz=353,slow=7.6,SNR=34						
STKA	**Stephens Creek**	**38.40**	**160**	P	P	07 12 53.3	-0.5
	3.7nm,0.7s,baz=341,slow=6.5,SNR=7.9						
SONM	**Songino Array**	**47.01**	**341**	P	P	07 14 04.3	+0.5
	0.2nm,0.4s,baz=139,slow=5.3,SNR=2.8						
MKAR	**Makanchi Array**	**57.50**	**325**	P	P	07 15 21.9	+0.2
	1.4nm,0.5s,baz=112,slow=7.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	07 15 41.0	-0.8
	0.5nm,0.4s,baz=115,slow=8.3,SNR=2.6						
ILAR	**Eielson Array**	**84.35**	**25**	LR	LR	07 58 58.4	
	comp=Z,44nm,18.2s,baz=314,slow=38						

*KRNET **26** 07:10:22.7±0.1, 41°.91N×81°.00E, h3km, mb3.7*
*NNC **26** 07:10:26.0±5.4, 42°.11N×80°.99E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=55.6km s-min=19.8km az=140.0*
ISC 26 07:10:27.0±3.0, 42°.0N±0°.2×81°.0E±0°.1, h10km, n8, σ1°29/10, 6C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**2.56**	**288**	⇓*i*P	**Pn**	**07 11 09.5**	**+0.8**
	baz=291						
ANVS				⇓*e*S	**Sb**	**07 11 43.5**	**-1.2**
	baz=291						
NRN	**Naryn**	**3.76**	**263**	*e*P	**Pb**	**07 11 34.2**	**+0.4**
	baz=264						
NRN				*e*S	**Sg**	**07 12 27.4**	**-0.5**
	baz=264						
TKM2	**Tokmak 2**	**4.07**	**284**	⇑Pn	**Pn**	**07 11 29.9**	**+0.4**
	2.4nm,0.7s						
TKM2				⇓Lg	Lg	07 12 31.4	
	13nm,0.4s						
MK08	**Makanchi Array**	**4.82**	**11**	⇓Pn	**Pn**	**07 11 38.4**	**-1.3**
	2.0nm,0.2s,baz=182,slow=14						
MK08				⇑Sn	**Sn**	**07 12 35.1**	**-0.5**
	2.3nm,0.3s						
MK08				⇑Lg	Lg	07 12 53.0	
	7.1nm,0.7s,baz=174,slow=28						
AAK	**Ala-Archa**	**4.84**	**279**	⇓Pn	**Pn**	**07 11 39.9**	**-0.2**
	2.4nm,0.6s						
AAK				⇑Lg	Lg	07 12 55.8	
	10nm,0.6s						
KK31	**Karatay Array**	**7.79**	**281**	⇓Pg	Pb	07 12 49.0	+6.8
	0.4nm,0.5s,baz=82,slow=15,SNR=3.8						
KK31				⇓Lg	Lg	07 14 25.8	
	1.7nm,0.5s,baz=90,slow=29,SNR=6.8						
KURBB	**Kurchatov Arra**	**8.76**	**350**	⇑Pn	**Pn**	**07 12 36.2**	**+2.5**
	1.3nm,0.5s						
KURBB				⇑Lg	Lg	07 15 01.0	
	8.1nm,0.7s						
KURK	**Kurchatov**	**8.84**	**350**	⇓Pn	**Pn**	**07 12 35.7**	**+0.9**
	1.4nm,1.3s						
KURK				⇓Lg	Lg	07 15 02.2	
	5.8nm,0.9s						

IDC 26 07:19:52.8±1.6, 8°.03S×121°.76E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/29, mbtmp3.9/5, ML4.1/2, Error ellipse: s-maj=208.0km s-min=21.0km az=57.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.00**	**135**	Pn	P	07 23 54.3	+0.1
	0.7nm,0.3s,baz=315,slow=12,SNR=5.9						
WRA				Sn		07 26 53.9	-8.0
	0.2nm,0.3s,baz=320,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**19.43**	**145**	P	P	07 24 22.9	+0.7
	0.8nm,0.3s,baz=323,slow=9.5,SNR=28						
ASAR				S		07 27 56.1	-4.8
	0.0nm,0.3s,baz=319,slow=24,SNR=3.6						
STKA	**Stephens Creek**	**30.07**	**145**	P	P	07 26 02.0	-2.0
	1.0nm,0.5s,baz=334,slow=9.9,SNR=5.0						
MKAR	**Makanchi Array**	**64.89**	**331**	P	P	07 30 34.6	+0.6
	0.4nm,0.4s,baz=140,slow=8.2,SNR=10.0						
ZALV	**Zalesovo Beam**	**69.14**	**338**	P	P	07 31 00.4	-0.5
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.5						

SJA 26 08:17:55.2±0.6, 33°32S×67°47W, h15km±2km, MD3.5, ML2.8, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AVIZ	**Vizcacheras**	**0.89**	**260**	*i* P		08 18 12.4	
ACAN	**Cantantal**	**1.06**	**13**	*i* P		08 18 15.3	
ACAN				*i* S		08 18 30.6	
AAGR	**Agrelo**	**1.17**	**281**	*i* P		08 18 17.7	
AAGR				*i* S		08 18 34.1	
ARCO	**CERRO ARCO**	**1.32**	**291**	*i* P		08 18 20.2	
ARCO				*i* S		08 18 38.9	
ARCO				AML		08 18 41.5	
	comp=Z,279nm,0.5s						
ASAL	**Salagasta**	**1.36**	**302**	*i* P		08 18 21.1	
ASAL				*i* P		08 18 21.1	
RTCV	**Cerro Valdivia**	**1.71**	**328**	*i* P		08 18 26.4	
CFAA	**Coronel Fontan**	**1.83**	**339**	*i* P		08 18 27.7	
CFAA				AML		08 18 51.6	
	comp=Z,14nm,0.6s						
AUSP	**Uspallata**	**1.95**	**303**	*i* P		08 18 30.7	
SJA	**San Juan**	**2.01**	**332**	*i* P		08 18 31.1	
SJA				*i* S		08 18 57.1	
SJA				AML		08 18 58.7	
	comp=Z,90nm,0.2s						
RTLL	**Cerro Villicun**	**2.16**	**336**	*i* P		08 18 33.3	
RTLS	**Leoncito**	**2.16**	**314**	*i* P		08 18 33.6	
RTLS				*i* S		08 19 02.0	
ACHE	**Chepes**	**2.25**	**18**	*i* P		08 18 34.5	
AMOG	**MOGNA**	**2.52**	**340**	*i* P		08 18 38.5	
AMOG				*i* S		08 19 09.9	
AVFE	**Valle Fertil**	**2.65**	**0**	*i* P		08 18 40.4	
AVFE				*i* S		08 19 13.5	
AVFE				AML		08 19 15.5	
	comp=Z,102nm,0.5s						

IDC 26 08:20:01.8±12.0, 20°09S×177°71W, h529km±119km, mb3.1/4, mb1 3.4/4, mb1mx3.0/28, mbtmp4.1/4, Error ellipse: s-maj=141.7km s-min=47.2km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.21**	**244**	P	P	08 26 36.6	+0.2
	1.8nm,0.5s,baz=109,slow=6.2,SNR=4.1						
ASAR	**Alice Springs**	**44.88**	**256**	P	P	08 27 29.0	-0.3
	1.9nm,0.5s,baz=92,slow=7.7,SNR=30						
ASAR				PcP	PcP	08 29 00.1	+0.3
	0.5nm,0.6s,baz=100,slow=3.9,SNR=5.3						
WRA	**Warramunga Arr**	**44.93**	**262**	P	P	08 27 29.3	-0.4
	1.4nm,0.4s,baz=96,slow=8.6,SNR=11						
ILAR	**Eielson Array**	**87.85**	**13**	P	P	08 31 54.5	+0.2
	0.5nm,1.0s,baz=217,slow=5.6,SNR=6.9						
AKASG	**Malin Array Be**	**142.78**	**332**	PKP	PKPdf	08 38 31.9	-2.9
	0.7nm,0.3s,baz=41,slow=4.1,SNR=8.9						
BRTR	**Keskin Array B**	**146.76**	**313**	PKPbc	PKPbc	08 38 45.1	+0.2
	0.9nm,0.6s,baz=134,slow=3.9,SNR=3.7						

IDC 26 08:21:28.1±2.5, 54°.14N×86°.24E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=20.2km s-min=11.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**258**	*i*		08 27 10.0	
	baz=77,slow=346,SNR=20						
ZALV	**Zalesovo Beam**	**0.86**	**258**	Pg	Pg	08 21 43.5	-1.1
	2.9nm,0.3s,baz=78,slow=16,SNR=25						
ZALV				Lg	Lg	08 21 56.8	
	1.1nm,0.3s,baz=77,slow=32,SNR=6.6						
ZALV				Rg	Rg	08 22 05.3	
	19nm,0.9s,baz=74,slow=29,SNR=15						
KURBB	**Kurchatov Arra**	**5.89**	**236**	Pn	Pn	08 22 58.2	+1.8
	0.1nm,0.3s,baz=54,slow=14,SN

baz=70,slow=342,SNR=5.6
ZALV Zalesovo Beam 1.50 251 Pg Pn 08 34 48.9 -1.4
0.6nm,0.3s,baz=72,slow=15,SNR=9.8
ZALV Lg Lg 08 35 09.3
1.0nm,0.3s,baz=79,slow=25,SNR=5.6
KURBB Kurchatov Arra 6.55 237 Pn Pn 08 36 00.5 +0.8
0.3nm,0.3s,baz=54,slow=14,SNR=3.1
MKAR Makanchi Array 8.30 204 Pn Pn 08 36 24.6 +0.9
0.1nm,0.3s,baz=18,slow=15,SNR=6.0
MKAR Lg Lg 08 38 49.9
0.0nm,0.3s,baz=24,slow=36,SNR=2.5

*NNC **26** 09:15:24.0±8.9, 54°.39N×87°.50E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=71.6km s-min=60.4km az=173.0*
*IDC **26** 09:15:28.7±3.0, 54°.19N×87°.28E, h0km, mb1 3.0/2, mb1mx2.8/30, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=26.5km s-min=17.7km az=55.0*
ISC 26 09:15:26.4±4.6, 54°.5N±0°.2×87°.7E±0°.2, h35km, n7, σ2≤48/9, 8C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**253**	*i*			09 25 40.0	
	baz=82,slow=339,SNR=1.4							
ZALV	**Zalesovo Beam**	**1.80**	**252**	Pg		**Pn**	**09 15 54.5**	**-0.3**
	3.9nm,0.3s,baz=76,slow=16,SNR=38							
ZALV				Lg		Lg	09 16 15.0	
	1.0nm,0.3s,baz=81,slow=27,SNR=9.2							
KURK	**Kurchatov**	**6.73**	**239**	⇑Pn		**Pn**	**09 17 00.9**	**-1.6**
	1.2nm,0.8s							
KURK				⇑Sn		**Sn**	**09 18 21.1**	**+3.2**
	0.6nm,0.8s							
KURK				⇑Lg		Lg	09 18 48.3	
	1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**6.83**	**239**	⇑Pn		**Pn**	**09 17 01.5**	**-2.5**
	1.1nm,0.3s,baz=55,slow=12							
KURBB				⇑Sn		**Sn**	**09 18 20.5**	**+0.2**
	1.3nm,0.5s							
KURBB				⇑Lg		Lg	09 18 50.7	
	2.7nm,0.7s,baz=40,slow=24							
KURBB	**Kurchatov Arra**	**6.83**	**239**	Pn		**Pn**	**09 17 05.5**	**+1.6**
	0.4nm,0.3s,baz=54,slow=14,SNR=4.4							
KURBB				Lg		Lg	09 18 54.2	
	0.0nm,0.3s,baz=53,slow=31,SNR=3.8							
MKAR	**Makanchi Array**	**8.47**	**206**	Pn		**Pn**	**09 17 28.1**	**+1.6**
	0.1nm,0.3s,baz=23,slow=14,SNR=7.9							
MKAR				Lg		Lg	09 19 47.6	
	0.1nm,0.3s,baz=26,slow=39,SNR=4.0							
MK08	**Makanchi Array**	**8.51**	**206**	⇓Pn		**Pn**	**09 17 28.2**	**+1.2**
	0.3nm,0.6s							
MK08				⇑Sn		**Sn**	**09 18 58.4**	**-3.3**
	0.5nm,0.6s							
MK08				⇑Lg		Lg	09 19 49.1	
	1.2nm,0.8s							

*ISCJB **26** 09:44:05.1±0.7, 16°.24S±0°.04×176°.61W±0°.04, h363km±7km, mb4.7/90, Error ellipse: s-maj=7.8km s-min=4.2km az=146.9*
*BJI **26** 09:44:05.0, 16°.10S×176°.60W, h362km, mB5.1/11, mb4.6/21*
*MOS **26** 09:44:05.1±1.0, 16°.08S×176°.62W, h362km, mb4.7/18, Error ellipse: s-maj=10.5km s-min=9.0km az=155.2*
*NEIC **26** 09:44:06.8±0.8, 16°.16S×176°.59W, h372km±8km, mb4.7/54, Error ellipse: s-maj=7.9km s-min=4.5km az=146.0*
*IDC **26** 09:44:06.9±1.0, 16°.36S×176°.55W, h376km±10km, mb4.1/17, mb1 4.3/20, mb1mx4.2/28, mbtmp4.8/20, Error ellipse: s-maj=13.6km s-min=8.0km az=149.0*
ISC 26 09:44:05.6±0.4, 16°.20S±0°.05×176°.63W±0°.05, h360km±3km, h360km; pP-P, n609, σ0≤88/603, mb4.7/90, 192C-162D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.21**	**65**	*e*Pn		**Pn**	**09 45 28.3**	**+0.2**
AFI				*e*S		**S**	**09 46 34.6**	**-0.3**
AFI	**Afiamalu**	**5.21**	**65**	P		**Pn**	**09 45 28.2**	**+0.1**
	116nm,0.3s,baz=140,slow=1.2,SNR=42							
AFI				S		**S**	**09 46 33.5**	**-1.4**
	baz=1.6,slow=22,SNR=0.9							
RAO	**Raoul Island**	**13.04**	**185**	*e*P		**Pn**	**09 46 59.7**	**+0.4**
RAO				S		**S**	**09 49 19.6**	**-1.7**
RAO				*e*S		S	09 49 23.7	+2.5
RAO	**Raoul Island**	**13.04**	**185**	S		**S**	**09 49 19.6**	**-1.7**
	175nm,0.3s,baz=281,slow=20,SNR=4.8							
KNTN	**Kanton**	**14.19**	**20**	*e*P		P	09 47 04.6	-6.4
RAR	**Rarotonga**	**16.72**	**110**	*e*P		**P**	**09 47 39.8**	**+1.4**
RAR	**Rarotonga**	**16.72**	**110**	P		**P**	**09 47 39.6**	**+1.2**
	3.1nm,0.3s,baz=178,slow=3.2,SNR=6.1							
DZM	**Mont Dzumac**	**17.02**	**247**	*e*P		**P**	**09 47 42.2**	**+0.5**
	77nm,0.7s							
DZM	**Mont Dzumac**	**17.02**	**247**	P		**Pn**	**09 47 44.1**	**-1.3**
	3.5nm,0.6s							
DZM	**Mont Dzumac**	**17.02**	**247**	P		**Pn**	**09 47 44.1**	**-1.3**
	4.7nm,0.3s,baz=67,slow=20,SNR=54							
DZM	**Mont Dzumac**	**17.02**	**247**	*e*P		**P**	**09 47 43.2**	**+1.4**
NOUC	**Port Laguerre**	**17.16**	**247**	*e*P		**Pn**	**09 47 46.8**	**0.0**
OUZ	**Omahuta**	**20.86**	**203**	*e*P		**P**	**09 48 23.4**	**+2.8**
	242nm,1.6s							
MKAZ	**Moumakai**	**22.06**	**198**	PN		**P**	**09 48 32.9**	**+1.4**
URZ	**Urewera**	**22.65**	**193**	*e*P		**P**	**09 48 35.0**	**-1.8**
	52nm,0.5s							
URZ				S		**S**	**09 52 11.8**	**-6.0**
URZ	**Urewera**	**22.65**	**193**	P		**P**	**09 48 35.4**	**-1.5**
	30nm,0.3s,baz=261,slow=1.8,SNR=46							
URZ				S		**S**	**09 52 11.8**	**-6.0**
	8.2nm,0.8s,baz=79,slow=23,SNR=5.6							
URZ	**Urewera**	**22.65**	**193**	PN		**P**	**09 48 35.2**	**-1.6**
BKZ	**Black Stump Fm**	**23.66**	**193**	*e*P		**P**	**09 48 45.2**	**-0.9**
	16nm,0.6s							
BKZ	**Black Stump Fm**	**23.66**	**193**	PN		**P**	**09 48 45.0**	**-1.1**
PAE	**Paea**	**25.91**	**97**	*e*P		**P**	**09 49 05.3**	**-1.1**
	7.7nm,1.1s							
PPT	**Papeete**	**25.91**	**97**	P		**P**	**09 49 07.1**	**+0.7**
PPT	**Papeete**	**25.91**	**97**	P		**P**	**09 49 07.1**	**+0.7**
	23nm,0.6s,baz=75,slow=23,SNR=5.4							
PPT2	**Papeete2**	**25.91**	**97**	*e*P		**P**	**09 49 05.7**	**-0.8**
	51nm,1.3s							
TVO	**Taravao**	**26.22**	**97**	*e*P		**P**	**09 49 08.5**	**-0.7**
	9.5nm,0.8s							
QRZ	**Quartz Range**	**26.28**	**199**	PN		**P**	**09 49 09.8**	**+0.5**
THZ	**Tophouse**	**27.02**	**197**	PN		**P**	**09 49 16.0**	**-0.1**
KHZ	**Kahutara**	**27.45**	**196**	PN		**P**	**09 49 19.2**	**-0.5**
PMOR	**Pomariorio Ree**	**27.69**	**91**	*e*P		**P**	**09 49 21.4**	**-0.8**
	119nm,1.2s							
VAH	**Vaihoa**	**27.92**	**92**	*e*P		**P**	**09 49 23.1**	**-1.1**
	86nm,1.3s							
LTZ	**Lake Taylor**	**28.14**	**197**	PN		**P**	**09 49 25.0**	**-0.9**
MQZ	**McQueen's Vall**	**28.89**	**196**	PN		**P**	**09 49 32.2**	**-0.2**
RPZ	**Rata Peaks**	**29.36**	**198**	*e*P		**P**	**09 49 35.7**	**-0.9**
	73nm,1.8s							
EIDS	**Eidsvold**	**31.47**	**248**	*e*P		**P**	**09 49 55.0**	**-0.2**
	91nm,2.1s							
DCZ	**Deep Cove**	**32.21**	**202**	*e*P		**P**	**09 50 02.0**	**+0.8**
	34nm,0.9s							
ARMA	**Armidale**	**32.27**	**238**	*e*P		**P**	**09 50 03.3**	**+1.1**
	24nm,0.5s							
WHZ	**Wether Hill Ro**	**32.30**	**200**	*e*P		**P**	**09 50 02.4**	**+0.3**
	70nm,0.6s							
CTA	**Charters Tower**	**35.44**	**258**	P		**P**	**09 50 29.9**	**+0.7**
CTA	**Charters Tower**	**35.44**	**258**	P		**P**	**09 50 29.9**	**+0.7**
	11nm,0.6s,baz=101,slow=10,SNR=5.8							
CTAO	**Charters Tower**	**35.44**	**258**	*e*P		**P**	**09 50 30.0**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,18nm,0.8s							
CTAO	**Charters Tower**	**35.44**	**258**	*e*P		**P**	**09 50 30.0**	**+0.7**
	comp=Z,18nm,0.8s							
PMG	**Port Moresby**	**35.91**	**276**	P		x	09 50 36.2	
	comp=Z,53nm,0.7s							
PMG	**Port Moresby**	**35.91**	**276**	*e*P		**P**	**09 50 34.4**	**+1.1**
	comp=Z,35nm,0.7s							
COEN	**Coen**	**38.84**	**268**	*e*P		**P**	**09 50 59.4**	**+1.8**
	comp=Z,179nm,0.6s							
STKA	**Stephens Creek**	**40.95**	**240**	*e*P		**P**	**09 51 15.7**	**+1.1**
STKA	**Stephens Creek**	**40.95**	**240**	P		**P**	**09 51 15.7**	**+1.1**
	comp=Z,9.0nm,0.5s,baz=89,slow=9.9,SNR=34							
JAY	**Jayapura**	**44.12**	**283**	P		**P**	**09 51 41.1**	**+1.0**
JAY	**Jayapura**	**44.12**	**283**	P		**P**	**09 51 41.1**	**+1.0**
	comp=Z,13nm,0.5s,baz=63,slow=2.5,SNR=9.5							
BBOO	**Buckleboo**	**45.73**	**240**	*e*P		**P**	**09 51 53.0**	**+0.7**
	comp=Z,480nm,0.6s							
WRAB	**Tennant Creek**	**46.63**	**258**	*e*P		**P**	**09 51 59.5**	**0.0**
WRAB				pmax		pmax		
	comp=Z,21nm,0.6s							
WRAB	**Tennant Creek**	**46.63**	**258**	*e*P		**P**	**09 51 59.5**	**0.0**
	comp=Z,21nm,0.6s							
WRA	**Warramunga Arr**	**46.64**	**258**	P		**P**	**09 51 59.6**	**0.0**
WRA				ScP		**ScP**	**09 56 46.0**	**+0.6**
WRA				S		**S**	**09 58 17.7**	**-3.5**
WRA	**Warramunga Arr**	**46.64**	**258**	P		**P**	**09 51 59.6**	**0.0**
	comp=Z,20nm,0.5s,baz=90,slow=6.8,SNR=129							
WRA				ScP		**ScP**	**09 56 46.0**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=84,slow=3.8,SNR=4.9							
WRA				S		**S**	**09 58 17.7**	**-3.5**
	comp=Z,2.1nm,0.7s,baz=90,slow=14,SNR=7.5							
AS31	**Alice Springs**	**46.91**	**253**	*e*P		**P**	**09 52 02.1**	**+0.5**
ASAR	**Alice Springs**	**46.91**	**253**	P		**P**	**09 52 02.3**	**+0.7**
ASAR				ScP		**ScP**	**09 56 46.3**	**-0.3**
ASAR				S		**S**	**09 58 21.9**	**-3.1**
ASAR	**Alice Springs**	**46.91**	**253**	P		**P**	**09 52 02.3**	**+0.7**
	comp=Z,113nm,0.5s,baz=87,slow=7.9,SNR=1588							
ASAR				ScP		**ScP**	**09 56 46.3**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=97,slow=3.7,SNR=7.3							
ASAR				S		**S**	**09 58 21.9**	**-3.1**
	comp=Z,3.0nm,0.9s,baz=82,slow=17,SNR=11							
FORT	**Forrest**	**52.28**	**243**	*e*P		**P**	**09 52 41.6**	**0.0**
	comp=Z,84nm,0.6s							
SOEI	**Soe**	**57.80**	**269**	P		P	09 53 24.4	+3.4
	comp=Z,108nm,0.8s							
SOEI	**Soe**	**57.80**	**269**	*e*P		**P**	**09 53 23.1**	**+2.1**
	comp=Z,63nm,0.6s							
VNDA	**Vanda**	**62.28**	**185**	*e*P		**P**	**09 53 53.1**	**+3.1**
VNDA	**Vanda**	**62.28**	**185**	P		**P**	**09 53 52.4**	**+2.4**
	comp=Z,1.1nm,0.5s,baz=22,slow=2.5,SNR=6.0							
MAJO	**Matsushiro**	**67.60**	**322**	*e*P		**P**	**09 54 24.7**	**+0.1**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.4s							
MAJO	**Matsushiro**	**67.60**	**322**	*e*P		**P**	**09 54 24.7**	**+0.1**
	comp=Z,7.7nm,0.4s							
FX1	**Attu Island--F**	**69.36**	**353**	*e*P		**P**	**09 54 33.8**	**-1.1**
PWJI	**Pagerwojo**	**70.17**	**267**	P		**P**	**09 54 42.5**	**+1.8**
	comp=Z,32nm,0.8s,comp=Z,3μm							
PCJI	**Pacitan**	**70.73**	**267**	P		**P**	**09 54 46.4**	**+2.3**
	comp=Z,56nm,0.7s,comp=Z,4μm							
UGM	**Wanagama**	**71.42**	**267**	P		**P**	**09 54 50.2**	**+1.9**
	comp=Z,68nm,0.8s							
PETK	**Petropavlovsk-**	**72.49**	**344**	P		**P**	**09 54 53.3**	**-0.4**
PETK	**Petropavlovsk-**	**72.49**	**344**	P		**P**	**09 54 53.3**	**-0.4**
PETK	**Petropavlovsk-**	**72.49**	**344**	P		**P**	**09 54 53.3**	**-0.4**
	comp=Z,8.5nm,0.7s,baz=131,slow=8.7,SNR=6.4							
QSPA	**South Pole Qui**	**73.84**	**180**	*e*P		**P**	**09 55 02.5**	**+0.9**
	comp=Z,0.7nm,0.3s							
SCI	**San Clemente I**	**73.93**	**48**	⇓P		**P**	**09 55 03.0**	**+0.5**
	baz=74							
SMMC	**Simmler**	**74.18**	**45**	⇑P		**P**	**09 55 04.6**	**+0.8**
	baz=74							
KSRS	**Korea Array**	**74.59**	**317**	P		**P**	**09 55 07.5**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=134,slow=8.9,SNR=4.7							
KSAR	**Wonju Array Be**	**74.61**	**317**	P		**P**	**09 55 07.5**	**+1.3**
ARVC	**Arvin**	**74.88**	**46**	⇑P		**P**	**09 55 08.0**	**+0.2**
	baz=75							
109C	**Camp Elliot, M**	**74.92**	**49**	⇓P		**P**	**09 55 08.5**	**+0.4**
	baz=75							
MWC	**Mount Wilson**	**74.94**	**47**	*e*P		**P**	**09 55 08.8**	**+0.4**
MWC				pmax		pmax		
	comp=Z,15nm,0.6s							
MWC	**Mount Wilson**	**74.94**	**47**	*e*P		**P**	**09 55 08.8**	**+0.4**
	comp=Z,15nm,0.6s							
VES	**Vestal, Richgr**	**75.09**	**45**	⇑P		**P**	**09 55 09.0**	**0.0**
	baz=75,SNR=5.1							
MURC	**Murrieta**	**75.22**	**48**	⇓P		**P**	**09 55 10.2**	**+0.4**
	baz=75							
BFSC	**Mount Baldy Ra**	**75.23**	**47**	⇓P		**P**	**09 55 09.9**	**-0.1**
	baz=75,SNR=7.6							
EDW2	**Edwards Air Fo**	**75.33**	**47**	⇓P		**P**	**09 55 10.9**	**+0.5**
	baz=75,SNR=10							
MONP	**Monument Peak**	**75.42**	**49**	⇑P		**P**	**09 55 11.7**	**+0.6**
	baz=76,SNR=14							
CMB	**Columbia Colle**	**75.44**	**43**	*e*P		**P**	**09 55 11.0**	**0.0**
CMB				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CMB	**Columbia Colle**	**75.44**	**43**	*e*P		**P**	**09 55 10.9**	**0.0**
	comp=Z,9.3nm,0.9s							
N02D	**Trinity Center**	**75.68**	**39**	⇑P		**P**	**09 55 13.2**	**+0.9**
	baz=76							
M02C	**Callahan**	**75.84**	**39**	⇓P		**P**	**09 55 14.1**	**+0.9**
	baz=76							
LRMC	**Laurel Mountai**	**75.86**	**46**	⇓P		**P**	**09 55 13.7**	**+0.2**
	baz=76							
SWSC	**Sam W. Stewart**	**75.90**	**49**	⇓P		**P**	**09 55 14.2**	**+0.6**
	baz=76							
CWC	**Cottonwood Cre**	**76.10**	**45**	⇑P		**P**	**09 55 15.3**	**+0.5**
	baz=76							
MLAC	**Mammoth Lakes**	**76.23**	**44**	⇓P		**P**	**09 55 16.3**	**+0.6**
	baz=76							
BELC	**Belle Mtn. Jos**	**76.28**	**48**	⇑P		**P**	**09 55 16.3**	**+0.4**
	baz=76,SNR=16							
WAKR	**Walker**	**76.32**	**43**	*e*P		**P**	**09 55 16.4**	**+0.3**
	comp=Z,7.9nm,0.6s							
TIN	**Tinemaha**	**76.33**	**45**	⇓P		**P**	**09 55 16.6**	**+0.5**
	baz=75							
GSC	**Goldstone**	**76.38**	**47**	⇑P		**P**	**09 55 16.6**	**+0.3**
	baz=76,SNR=8.9							
CGJI	**Cibinong**	**76.39**	**267**	P		**P**	**09 55 16.5**	**-0.2**
HEC	**Hector,Ludlow**	**76.47**	**47**	⇑P		**P**	**09 55 17.0**	**+0.2**
	baz=77,SNR=13							
BC3	**Big Chuckawall**	**76.50**	**49**	⇓P		**P**	**09 55 17.6**	**+0.5**
	baz=77,SNR=8.8							
GLA	**Glamis**	**76.66**	**50**	⇓P		**P**	**09 55 18.5**	**+0.6**
	baz=77,SNR=6.2							
M04C	**Madoel**	**76.69**	**39**	⇑P		**P**	**09 55 18.6**	**+0.7**
	baz=77							
GRAC	**Grapevine Rang**	**76.88**	**45**	⇑P		**P**	**09 55 19.6**	**+0.6**
	baz=77							
GMRC	**Granite Mounta**	**76.92**	**48**	⇑P		**P**	**09 55 19.7**	**+0.3**
	baz=77,SNR=8.4							
I03D	**Drain, OR**	**76.95**	**37**	⇑P		**P**	**09 55 19.8**	**+0.6**
	baz=77							
IRM	**Iron Mountain**	**76.97**	**48**	⇑P		**P**	**09 55 20.3**	**+0.7**
	baz=77,SNR=12							
NVAR	**Mina Array Bea**	**77.02**	**43**	P		**P**	**09 55 20.2**	**+0.2**
NVAR	**Mina Array Bea**	**77.02**	**43**	P		**P**	**09 55 20.2**	**+0.2**
	comp=Z,8.2nm,0.6s,baz=226,slow=9.0,SNR=66							
SHOC	**Shoshone**	**77.05**	**46**	⇑P		**P**	**09 55 20.2**	**+0.2**
	baz=77							
TUQ	**Turquoise Moun**	**77.06**	**47**	⇓P		**P**	**09 55 20.4**	**+0.2**
	baz=77,SNR=6.1							
Y12C	**Blythe**	**77.22**	**49**	⇓P		**P**	**09 55 21.4**	**+0.5**
	baz=77,SNR=14							
113A	**Mohawk Valley,**	**77.30**	**50**	⇓P		**P**	**09 55 21.7**	**+0.4**
	baz=77,SNR=13							
HABR	**Khabarovsk**	**77.40**	**329**	*e*P		**P**	**09 55 19.9**	**-1.6**
HABR				*e*			09 55 28.8	
HABR				*e**PP		**pP**	**09 56 41.2**	**-1.9**
HABR				*e*			09 58 19.4	
HABR				*e*PPP		PPP	10 00 08.5	
HABR				S		**S**	**10 04 39.1**	**-2.4**
HABR				*e*			10 05 02.5	
HABR				*e*SS		**SS**	**10 09 46.9**	**-2.7**
HABR				*e*SSS		SSS	10 13 13.5	
HABR				pmax		pmax		
	comp=Z,24nm,2.0s							
HABR				MLR		MLR		
	comp=Z,193nm,22.0s							
LDFC	**Landfair**	**77.46**	**48**	*e*P		**P**	**09 55 22.8**	**+0.4**
	comp=Z,18nm,0.6s							
214A	**Organ Pipe Nat**	**77.62**	**51**	⇓P		**P**	**09 55 23.7**	**+0.4**
	baz=78							
NEE2	**Needles Airpor**	**77.65**	**48**	⇓P		**P**	**09 55 23.8**	**+0.6**
	baz=78							
MOD	**Modoc**	**77.69**	**39**	*e*P		**P**	**09 55 23.9**	**+0.4**
	comp=Z,8.3nm,0.6s							
PDMCI	**Parker Dam,Lak**	**77.77**	**49**	⇓P		**P**	**09 55 24.4**	**+0.6**
	baz=78,SNR=8.4							
J05D	**Fort Rock, OR**	**77.94**	**38**	⇓P		**P**	**09 55 25.5**	**+0.7**
	baz=78							
SHPR	**Sheep Range**	**78.14**	**46**	*e*P		**P**	**09 55 26.5**	**+0.4**
	comp=Z,5.5nm,0.9s							
Z14A	**Wintersburg**	**78.19**	**50**	⇑P		**P**	**09 55 27.1**	**+0.8**
	baz=78,SNR=9.7							
NJ2	**Nanjing**	**78.20**	**308**	*e*P		**P**	**09 55 26.3**	**0.0**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
W13A	**Hualapai Mount**	**78.34**	**48**	⇓P		**P**	**09 55 27.6**	**+0.3**
	baz=78,SNR=8.1							
Y14A	**Wickenburg**	**78.42**	**49**	⇓P		**P**	**09 55 28.1**	**+0.6**
	baz=78,SNR=13							
F04D	**Rainier, OR**	**78.61**	**35**	⇓P		**P**	**09 55 28.9**	**+0.7**
	baz=79							
R11A	**Troy Canyon, C**	**78.79**	**45**	⇑P		**P**	**09 55 29.8**	**+0.2**
	baz=79							
CN2	**Changchun**	**79.74**	**321**	*e*P		**P**	**09 55 32.0**	**-2.3**
X16A	**Lo Mia Camp, P**	**79.79**	**50**	⇑P		**P**	**09 55 35.9**	**+0.9**
	baz=80,SNR=24							
ARUT	**Antelope Range**	**79.97**	**46**	*e*P		**P**	**09 55 35.9**	**0.0**
ARUT				pmax		pmax		
	comp=Z,48nm,0.8s							
ARUT	**Antelope Range**	**79.97**	**46**	*e*P		**P**	**09 55 35.9**	**0.0**
	comp=Z,48nm,0.8s							
319A	**Douglas**	**80.05**	**53**	⇑P		**P**	**09 55 37.4**	**+1.0**
	baz=80							
U15A	**North Rim**	**80.12**	**48**	⇑P		**P**	**09 55 37.6**	**+0.7**
	baz=80,SNR=11							
QIZ	**Qiongzhong**	**80.34**	**293**	P		**P**	**09 55 38.3**	**+0.3**
QIZ				pP		**pP**	**09 57 00.8**	**+0.6**
QIZ				S		**S**	**10 05 12.5**	**-1.0**
QIZ				pmax		pmax		
	comp=Z,25nm,1.8s							
WUAZ	**Wupatki**	**80.34**	**49**	⇓P		**P**	**09 55 38.6**	**+0.6**
	baz=80							
PMR	**Palmer**	**80.56**	**13**	*e*P		**P**	**09 55 37.3**	**-0.9**
PMR				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PMR	**Palmer**	**80.56**	**13**	*e*P		**P**	**09 55 37.3**	**-0.9**
	comp=Z,6.7nm,0.6s							
X18A	**Snowflake**	**80.93**	**50**	⇓P		**P**	**09 55 41.8**	**+0.7**
	baz=81							
BMRM	**Bremner River**	**81.07**	**15**	*e*P		**P**	**09 55 40.2**	**-0.8**
	comp=Z,5.1nm,0.5s							
W18A	**Petrified Fore**	**81.36**	**50**	⇓P		**P**	**09 55 44.0**	**+0.7**
	baz=82							
DUG	**Dugway**	**81.58**	**44**	⇓P		**P**	**09 55 44.5**	**+0.3**
	baz=82							
121A	**Cookes Peak, D**	**81.69**	**53**	*e*P		**P**	**09 55 46.2**	**+1.2**
	comp=Z,19nm,0.8s							
121A	**Cookes Peak, D**	**81.69**	**53**	⇓P		**P**	**09 55 46.2**	**+1.2**
	baz=82,SNR=17							
TNA	**Tin City**	**81.78**	**4**	*e*P		**P**	**09 55 44.5**	**0.0**
	comp=Z,4nm,0.9s							
KTH	**Kantishna Hill**	**81.97**	**11**	*e*P		**P**	**09 55 43.6**	**-2.0**
	comp=Z,11nm,0.9s							
TRF	**Thorofare Moun**	**82.00**	**12**	*e*P		**P**	**09 55 44.5**	**-1.4**
	comp=Z,18nm,0.7s							
TMUT	**Trail Mountain**	**82.23**	**45**	*e*P		**P**	**09 55 48.7**	**+0.8**
	comp=Z,9.0nm,0.6s							
HLID	**Hailey**	**82.23**	**40**	*e*P		**P**	**09 55 48.1**	**+0.5**
	comp=Z,8.3nm,0.7s							
HLID	**Hailey**	**82.23**	**40**	⇓P		**P**	**09 55 48.4**	**+0.8**
	baz=82							
HVU	**Hansel Valley**	**82.38**	**43**	*e*P		**P**	**09 55 48.5**	**+0.1**
HVU				pmax		pmax		
	comp=Z,12nm,0.7s							
HVU	**Hansel Valley**	**82.38**	**43**	*e*P		**P**	**09 55 48.5**	**+0.1**
	comp=Z,12nm,0.7s							
MCK	**McKinley**	**82.52**	**12**	*e*P		**P**	**09 55 47.4**	**-1.0**
MCK				pmax		pmax		
	comp=Z,12nm,0.8s							
MCK	**McKinley**	**82.52**	**12**	*e*P		**P**	**09 55 47.4**	**-1.0**
	comp=Z,12nm,0.8s							
CTU	**Camp Tracy**	**82.53**	**44**	*e*P		**P**	**09 55 48.9**	**-0.3**
	comp=Z,3.5nm,0.6s							
SRU	**San Rafael**	**82.61**	**46**	*e*P		**P**	**09 55 49.6**	**-0.1**
SRU				pmax		pmax		
	comp=Z,12nm,0.6s							
SRU	**San Rafael**	**82.61**	**46**	*e*P		**P**	**09 55 49.6**	**-0.1**
	comp=Z,12nm,0.6s							
Z22A	**Elephant Butte**	**82.62**	**52**	⇑P		**P**	**09 55 50.6**	**+0.8**
	baz=83,SNR=9.6							
HYT	**Haines Junctio**	**82.91**	**18**	*e*P		**P**	**09 55 50.6**	**0.0**
TCUT	**Toone Canyon**	**82.96**	**44**	*e*P		**P**	**09 55 51.9**	**+0.4**
	comp=Z,23nm,0.6s							
MENT	**Mentasta**	**82.97**	**14**	*e*P		**P**	**09 55 50.5**	**-0.3**
NEW	**Newport**	**83.14**	**35**	⇑P		**P**	**09 55 51.6**	**-0.3**
	baz=83							
425A	**Indio Mountain**	**83.16**	**55**	⇓P		**P**	**09 55 53.6**	**+1.0**
	baz=83,SNR=41							
MVCO	**Mesa Verde**	**83.18**	**48**	*e*P		**P**	**09 55 53.1**	**+0.4**
	comp=Z,3.8nm,0.6s							
MVCO	**Mesa Verde**	**83.18**	**48**	⇓P		**P**	**09 55 52.9**	**+0.2**
	baz=83							
MNTX	**Cornudas Mount**	**83.20**	**54**	*e*P		**P**	**09 55 53.4**	**+0.8**
	comp=Z,14nm,0.7s							
LPM	**Los Pinos Moun**	**83.31**	**52**	*e*P		**P**	**09 55 53.7**	**+0.4**
	comp=Z,3.9nm,0.9s							
626A	**Big Bend Ranch**	**83.35**	**57**	⇓P		**P**	**09 55 54.7**	**+

QLMT **Earthquake Lak** 84.72 40 *e*P P 09 56 00.8 +0.6
comp=Z,1.1nm,0.7s
I17A **Pilgrim Ck.** 84.83 42 ⇑P P 09 56 01.4 +0.6
baz=85
T23A **Casias Ranch,** 84.88 49 ⇓P P 09 56 01.4 +0.2
baz=85
X25A **Clemmons Ranch** 84.89 52 ⇑P P 09 56 01.1 0.0
baz=85
V24A **Rampart Ranch,** 84.91 51 ⇓P P 09 56 01.4 +0.1
baz=85
Z26A **Caprock** 84.91 53 ⇑P P 09 56 01.6 +0.3
baz=85,SNR=7.7
BILL **Bilibino** 84.92 354 ⇑*i*P P 09 55 59.9 -0.4
BILL *e**PP pP 09 57 24.0 +0.4
BILL pmax pmax
comp=Z,20nm,0.9s
BILL **Bilibino** 84.92 354 *e*P P 09 55 59.8 -0.6
comp=Z,22nm,0.8s
PDAR **Pinedale Array** 84.95 43 P P 09 56 00.8 -0.6
PDAR **Pinedale Array** 84.95 43 P P 09 56 00.8 -0.6
comp=Z,2.9nm,0.7s,baz=218,slow=3.7,SNR=27
428A **Kincaid Ranch,** 84.96 56 ⇑P P 09 56 02.6 +1.1
baz=85,SNR=6.5
227A **Bennet, Jal** 84.96 55 ⇑P P 09 56 00.6 -0.9
baz=85
H17A **Grant Village** 85.05 41 ⇓P P 09 56 03.4 +1.5
baz=85,SNR=6.1
328A **Wristen Ranch,** 85.11 56 ⇓P P 09 56 02.5 +0.3
baz=85,SNR=11
529A **Stev Forest Ra** 85.11 57 ⇑P P 09 56 02.6 +0.3
baz=85
EGAK **Eagle** 85.14 14 *e*P P 09 56 01.3 -0.2
comp=Z,7.9nm,0.8s
Y26A **Elida** 85.29 53 ⇑P P 09 56 02.8 -0.3
baz=85
W25A **X Bar L Ranch,** 85.31 51 ⇓P P 09 56 03.1 -0.1
baz=85
P22A **Eagle** 85.44 47 ⇑P P 09 56 04.0 +0.2
baz=86,SNR=5.2
V25A **Rancho No Teng** 85.44 51 ⇑P P 09 56 03.9 0.0
baz=86
J19A **Crowheart** 85.51 43 ⇓P P 09 56 04.2 +0.1
baz=86
R23A **Moffat** 85.51 48 ⇑P P 09 56 04.3 0.0
baz=86
Z27A **Tatum** 85.52 54 ⇓P P 09 56 04.0 -0.3
baz=86
429A **Davenport Ranc** 85.55 57 ⇓P P 09 56 05.1 +0.7
baz=86,SNR=19
228A **UT Block 9, Go** 85.56 55 ⇓P P 09 56 04.4 0.0
baz=86
GYA **Guiyang** 85.69 299 *e*P P 09 56 06.3 +1.1
GYA pP pP 09 57 30.5 +1.9
GYA sP sP 09 58 07.0 +0.9
GYA PP PP 09 59 33.0 +2.6
GYA SKS SKSac 10 05 54.3 -1.8
GYA S SKKSac 10 06 05.5 +1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
H18A **Shoshone NF, C** 85.76 41 ⇑P P 09 56 05.7 +0.4
baz=86
Y27A **Causey** 85.78 53 ⇑P P 09 56 05.5 0.0
baz=86
329A **Wagon Wheel Ra** 85.80 56 ⇓P P 09 56 05.9 +0.3
baz=86
128A **Castleberry Fa** 85.83 54 ⇓P P 09 56 05.9 +0.2
baz=86
530A **J-O Ranch, Com** 85.83 57 ⇓P P 09 56 06.3 +0.5
baz=86,SNR=7.6
O22A **Kremmling** 85.83 46 ⇓P P 09 56 05.9 0.0
baz=86
I19A **Meeteetse** 85.89 42 ⇑P P 09 56 06.2 +0.3
baz=86
P23A **Jefferson** 86.00 47 ⇓P P 09 56 07.1 +0.4
baz=86
R24A **Sanders Place,** 86.05 48 ⇑P P 09 56 07.1 +0.3
baz=86
MSTX **Muleshoe** 86.11 53 *e*P P 09 56 06.8 -0.3
comp=Z,4.6nm,0.7s
MSTX **Muleshoe** 86.11 53 ⇓P P 09 56 07.1 0.0
baz=86
T25A **Trinidad** 86.11 50 ⇑P P 09 56 07.2 0.0
baz=86
X27A **F and S Farms,** 86.12 52 ⇑P P 09 56 07.0 -0.2
baz=86
430A **Baggett Ranch,** 86.14 57 ⇑P P 09 56 07.2 0.0
baz=86
Z28A **Tucker Farm, M** 86.15 54 ⇓P P 09 56 06.9 -0.4
baz=86
N22A **Wattenberg Ran** 86.17 46 ⇑P P 09 56 07.4 0.0
baz=86,SNR=8.2
J20A **Shoshoni** 86.18 43 ⇑P P 09 56 07.3 +0.1
baz=86,SNR=8.2
631A **Perdido Creek** 86.18 58 ⇓P P 09 56 08.1 +0.7
baz=86,SNR=14
H19A **Powell** 86.19 41 ⇑P P 09 56 07.6 +0.4
baz=86,SNR=7.2
832A **Faith Ranch, C** 86.28 59 ⇓P P 09 56 08.4 +0.5
baz=86,SNR=19
O23A **Lake Granby, G** 86.29 46 ⇑P P 09 56 08.2 +0.1
baz=86
S25A **Robets Cordova** 86.30 49 ⇓P P 09 56 08.0 0.0
baz=86
U26A **Atchley Ranch,** 86.31 51 ⇓P P 09 56 07.9 -0.2
baz=86
Q24A **Divide** 86.31 48 ⇑P P 09 56 08.3 +0.1
baz=86
GSI **Gunungsitoli** 86.32 272 *e*P P 09 56 10.5 +2.0
comp=Z,10nm,0.7s
M22A **Cedar Creek Ra** 86.32 45 ⇑P P 09 56 08.6 +0.4
baz=86
ISCO **Idaho Springs** 86.33 47 ⇓P P 09 56 08.3 0.0
baz=86
K21A **Alcova** 86.41 44 ⇑P P 09 56 08.2 -0.2
baz=86
330A **Mertzon** 86.41 56 ⇑P P 09 56 08.3 -0.3
baz=86
I20A **Worland** 86.41 42 ⇓P P 09 56 08.4 +0.1
baz=86
732A **Laxson Ranch,** 86.44 59 ⇑P P 09 56 09.1 +0.5
baz=86,SNR=12
531A **Rocksprings** 86.47 57 ⇓P P 09 56 09.5 +0.6
baz=86,SNR=15
N23A **Red Feather La** 86.56 46 ⇑P P 09 56 09.6 +0.3
baz=87
J21A **Lysite** 86.59 43 ⇑P P 09 56 09.5 +0.2
baz=87
XAN **Xi'an** 86.60 307 P P 09 56 09.8 +0.5
XAN pP pP 09 57 31.0 -1.9
XAN sP sP 09 58 07.8 -2.6
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,37nm,5.6s
431A **Sonora** 86.61 57 ⇓P P 09 56 09.5 0.0
baz=87
933A **Laredo** 86.63 60 ⇓P P 09 56 10.3 +0.8
baz=87
230A **Sterling City** 86.64 56 ⇓P P 09 56 09.4 -0.2
baz=87
Z29A **Hungry Hill Ra** 86.67 54 ⇑P P 09 56 09.4 -0.4
baz=87
L22A **Ellis Ranch, M** 86.70 45 ⇓P P 09 56 10.2 +0.3
baz=87
T26A **Comanche Natio** 86.73 50 ⇑P P 09 56 10.0 -0.1
baz=87
F19A **Roth Farm, Mol** 86.75 40 ⇓P P 09 56 10.1 +0.2
baz=87,SNR=6.4
833A **Chaparral WMA,** 86.77 59 ⇑P P 09 56 10.5 +0.3
baz=87
O24A **Longmont** 86.84 47 ⇑P P 09 56 10.9 +0.4
baz=87
632A **Uvalde** 86.86 58 ⇑P P 09 56 11.5 +0.8
baz=87,SNR=8.0
I21A **Big Trails, Te** 86.90 43 ⇓P P 09 56 10.4 -0.3
baz=87,SNR=5.3
G20A **Bridger** 86.92 41 ⇓P P 09 56 10.8 +0.1
baz=87
034A **Hebbronville** 86.94 61 ⇑P P 09 56 12.7 +1.6
baz=87,SNR=7.5
Q25A **Bedland, Calha** 86.94 48 ⇑P P 09 56 10.8 -0.3
baz=87
M23A **Laramie** 86.95 45 ⇓P P 09 56 10.6 -0.4
baz=87
331A **San Angelo** 86.98 56 ⇑P P 09 56 10.9 -0.3
baz=87
532A **Rocksprings** 86.98 58 ⇑P P 09 56 11.7 +0.4
baz=87,SNR=8.7
S26A **Kim** 86.99 50 ⇓P P 09 56 11.4 +0.2
baz=87
733A **Divot King Ran** 86.99 59 ⇑P P 09 56 12.1 +0.8
baz=87
U27A **Thompson Grove** 87.01 51 ⇓P P 09 56 10.7 -0.7
baz=87
130A **Snyder** 87.01 55 ⇓P P 09 56 11.4 0.0
baz=87
E19A **Rath Farm, Rou** 87.13 40 ⇑P P 09 56 12.0 +0.4
baz=87,SNR=6.2
Z30A **Sanderson Ranc** 87.13 54 ⇓P P 09 56 11.8 -0.1
baz=87
JCT **Junction City** 87.19 57 *e*P P 09 56 12.4 +0.2
JCT pmax pmax
comp=Z,50nm,1.1s
JCT **Junction City** 87.19 57 *e*P P 09 56 12.4 +0.2
comp=Z,50nm,1.1s
JCT **Junction City** 87.19 57 ⇑P P 09 56 12.6 +0.4
baz=87,SNR=8.0
F20A **Billings** 87.22 41 ⇑P P 09 56 12.3 +0.2
baz=87
L23A **Garrett** 87.23 45 ⇓P P 09 56 12.2 -0.2
baz=87
P25A **Willow Gulch B** 87.23 48 ⇑P P 09 56 12.6 +0.2
baz=87,SNR=7.7
934A **Benavides** 87.25 60 ⇓P P 09 56 13.9 +1.3
baz=87
J22A **Midwest** 87.26 43 ⇓P P 09 56 12.2 -0.2
baz=87
EGMT **Eagleton** 87.26 38 ⇑P P 09 56 12.5 +0.3
baz=87
R26A **Arlington** 87.27 49 ⇓P P 09 56 12.3 -0.3
baz=87
231A **Bronte** 87.29 56 ⇓P P 09 56 12.4 -0.2
baz=87,SNR=6.7
AMTX **Amarillo** 87.29 53 ⇓P P 09 56 12.6 -0.1
baz=87
HHC **Hu-ho-hao-te** 87.31 314 *e*P P 09 56 13.5 +0.8
HHC pmax pmax
comp=Z,33nm,0.6s
HHC pmax pmax
comp=Z,580nm,5.4s
T27A **Campo** 87.33 50 ⇓P P 09 56 12.4 -0.4
baz=87
432A **Menard** 87.33 57 ⇓P P 09 56 13.0 +0.1
baz=87,SNR=8.8
633A **Seathoff Ranch** 87.34 58 ⇓P P 09 56 13.9 +1.0
baz=87,SNR=14
035A **Encino** 87.38 61 ⇓P P 09 56 14.5 +1.4
baz=87
834A **Tilden** 87.40 60 ⇑P P 09 56 15.0 +1.8
baz=88,SNR=9.8
W29A **Amraillo** 87.40 52 ⇓P P 09 56 13.0 -0.2
baz=88
H21A **Big Horn, Sher** 87.41 42 ⇓P P 09 56 13.2 +0.2
baz=88
I22A **9 Mile Ranch,** 87.46 43 ⇑P P 09 56 13.4 +0.1
baz=88
Q26A **Hugo** 87.46 48 ⇓P P 09 56 13.1 -0.4
baz=88
131A **Roby** 87.49 55 ⇓P P 09 56 13.6 0.0
baz=88
Y30A **Stafford Cattl** 87.53 54 ⇓P P 09 56 13.7 0.0
baz=88
C19A **Slack Wire Ran** 87.55 39 ⇑P P 09 56 14.2 +0.6
baz=88
K23A **Bowen Ranch, D** 87.55 44 ⇑P P 09 56 13.7 -0.1
baz=88
332A **Millersview** 87.55 56 ⇑P P 09 56 14.1 +0.2
baz=88,SNR=6.6
E20A **Meyer Farm, Mu** 87.55 40 ⇑P P 09 56 14.0 +0.4
baz=88
M24A **Cheyenne** 87.56 46 ⇑P P 09 56 14.2 +0.3
baz=88
734A **La Parita Cree** 87.64 59 ⇓P P 09 56 15.5 +1.2
baz=88
533A **Kerrville** 87.67 58 ⇓P P 09 56 15.0 +0.5
baz=88,SNR=14
R27A **Eads** 87.74 49 ⇑P P 09 56 14.3 -0.4
baz=88
X30A **Coker Ranch, T** 87.75 53 ⇑P P 09 56 14.4 -0.4
baz=88
V29A **Stinnett** 87.78 52 ⇓P P 09 56 14.6 -0.3
baz=88
D20A **Manuel Ranch,** 87.81 40 ⇑P P 09 56 15.3 +0.5
baz=88,SNR=7.3
EDM **Edmonton** 87.81 33 *e*P P 09 56 13.5 -1.1
EDM **Edmonton** 87.81 33 *e*P P 09 56 13.5 -1.1
433A **Art** 87.86 57 ⇓P P 09 56 15.6 +0.3
baz=88,SNR=13
Z31A **Sharp Cattle R** 87.91 55 ⇑P P 09 56 15.0 -0.6
baz=88
B19A **Brinman Farms** 87.94 38 ⇓P P 09 56 15.6 +0.2
baz=88
Y31A **Rekieta Farm,** 88.05 54 ⇓P P 09 56 15.8 -0.4
baz=88
ABTX **Abilene, Hawle** 88.06 55 *e*P P 09 56 15.9 -0.4
comp=Z,8.9nm,0.6s
ABTX **Abilene, Hawle** 88.06 55 ⇑P P 09 56 16.5 +0.2
baz=88,SNR=7.2
M25A **Paim-Egli Farm** 88.08 46 ⇑P P 09 56 16.3 0.0
baz=88
534A **Blanco** 88.11 58 ⇑P P 09 56 17.2 +0.6
baz=88,SNR=38
333A **Richland Sprin** 88.14 57 ⇓P P 09 56 16.6 -0.1
baz=88,SNR=6.3
G22A **Birney** 88.15 42 ⇓P P 09 56 15.9 -0.5
baz=88
C20A **Veseth Ranch,** 88.17 39 ⇓P P 09 56 17.0 +0.5
baz=88,SNR=6.8
E21A **Keefer Ranch,** 88.22 40 ⇑P P 09 56 17.0 +0.3
baz=88
A19A **Klindworth Far** 88.28 38 ⇑P P 09 56 17.1 +0.2
baz=88
V30A **Spur Ranch, Mi** 88.37 52 ⇓P P 09 56 18.5 +0.8
baz=88
F22A **Rosebud** 88.41 41 ⇓P P 09 56 18.1 +0.5
baz=88
Z32A **Haskell** 88.43 55 ⇓P P 09 56 18.3 +0.3
baz=88,SNR=9.6
233A **Rising Star** 88.44 56 ⇑P P 09 56 17.9 -0.2
baz=88
635A **Leesville** 88.47 59 ⇓P P 09 56 19.1 +0.9
baz=88
R28A **Tribune** 88.48 49 ⇑P P 09 56 18.3 +0.1
baz=89
B20A **Solberg Farm,** 88.48 38 ⇑P P 09 56 18.1 +0.2
baz=89
D21A **La Casta Ranch** 88.50 40 ⇑P P 09 56 18.5 +0.4
baz=89,SNR=9.5
X31A **McDonald Ranch** 88.50 53 ⇑P P 09 56 18.1 -0.2
baz=89
434A **Burnet** 88.54 57 ⇓P P 09 56 18.8 +0.2
baz=89,SNR=10
KMI **Kunming** 88.59 297 P P 09 56 17.5 -1.6
KMI pmax pmax
comp=Z,9.0nm,0.9s
133A **Hamilton Ranch** 88.63 56 ⇑P P 09 56 18.8 -0.1
baz=89
Y32A **R-V Farms, Ver** 88.70 54 ⇑P P 09 56 19.3 +0.1
baz=89,SNR=9.4
G23A **Biddle** 88.72 42 ⇓P P 09 56 19.2 +0.1
baz=89,SNR=7.4
W31A **Holland Ranch,** 88.73 53 ⇑P P 09 56 19.3 -0.1
baz=89,SNR=5.7
A20A **Cobblestone Ra** 88.73 38 ⇓P P 09 56 19.6 +0.5
baz=89
334A **Lometa** 88.74 57 ⇓P P 09 56 19.8 +0.3
baz=89,SNR=11
LAO **LASA Array** 88.81 40 *e*P P 09 56 20.2 +0.7
comp=Z,6.6nm,0.7s
535A **Dale** 88.85 58 ⇓P P 09 56 20.7 +0.8
baz=89
E22A **Miles City** 88.88 41 ⇓P P 09 56 20.0 +0.2
baz=89
F23A **Volborg** 88.92 42 ⇑P P 09 56 20.3 +0.2
baz=89,SNR=7.4
X32A **Elmer** 88.97 54 ⇓P P 09 56 20.2 -0.2
baz=89,SNR=8.2
Z33A **Whitaker Ranch** 88.98 55 ⇓P P 09 56 20.6 +0.1
baz=89,SNR=5.5
V31A **Spring Creek L** 89.01 52 ⇓P P 09 56 21.2 +0.5
baz=89
J25A **Sunshine Ranch** 89.03 44 ⇓P P 09 56 21.0 +0.3
baz=89
D22A **Cohagen** 89.04 40 ⇑P P 09 56 21.3 +0.8
baz=89
H24A **Dirks Ranch, A** 89.08 43 ⇑P P 09 56 20.7 -0.1
baz=89,SNR=12
RSSD **Black Hills** 89.16 43 *e*P P 09 56 20.7 -0.7
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD **Black Hills** 89.16 43 *e*P P 09 56 20.7 -0.7
comp=Z,5.9nm,0.8s
K26A **Motz Farm, Whi** 89.18 45 ⇑P P 09 56 21.3 0.0
baz=89
W32A **Sentinel** 89.24 53 ⇑P P 09 56 21.8 0.0
baz=89,SNR=5.1
536A **Bastrop** 89.28 58 ⇓P P 09 56 22.7 +0.8
baz=89
134A **White-Moore Ra** 89.28 56 ⇑P P 09 56 22.4 +0.5
baz=89
Y33A **Hilltop Ranch,** 89.34 54 ⇓P P 09 56 22.1 -0.1
baz=89
335A **Moody** 89.38 57 ⇓P P 09 56 22.4 0.0
baz=89
G24A **Alzada** 89.40 42 ⇑P P 09 56 22.4 +0.1
baz=90
C22A **Vida** 89.47 40 ⇓P P 09 56 22.6 +0.1
baz=90
J26A **Sides Ranch, S** 89.48 44 ⇑P P 09 56 22.9 +0.1
baz=90
F24A **Ekalaka** 89.59 42 ⇓P P 09 56 23.4 +0.2
baz=90,SNR=5.8
WHTX **Lake Whitney** 89.59 57 ⇑P P 09 56 23.3 0.0
baz=90
V32A **Arapaho** 89.60 53 ⇓P P 09 56 23.5 +0.1
baz=90
X33A **Lawton** 89.62 54 ⇓P P 09 56 23.2 -0.3
baz=90
B22A **Reddig Ranch S** 89.64 39 ⇑P P 09 56 23.9 +0.6
baz=90
H25A **Fruitdale** 89.65 43 ⇑P P 09 56 23.5 +0.1
baz=90
D23A **Lindsay** 89.65 40 ⇓P P 09 56 24.0 +0.6
baz=90
W33A **Caddo, Fort Co** 89.85 53 ⇓P P 09 56 25.1 +0.5
baz=90
C23A **Lambert** 89.92 40 ⇓P P 09 56 25.2 +0.6
baz=90
CMAR **Chiang Mai Arr** 89.93 289 P P 09 56 27.2 +1.9
CMAR **Chiang Mai Arr** 89.93 289 P P 09 56 27.2 +1.9
comp=Z,0.6nm,0.3s,baz=97,slow=2.3,SNR=7.7
G25A **Newell** 89.99 43 ⇑P P 09 56 25.2 +0.2
baz=90
R31A **Burdett** 90.13 50 ⇑P P 09 56 26.5 +0.7
baz=90
X34A **Smith Ranch, M** 90.16 54 ⇑P P 09 56 26.7 +0.7
baz=90
D24A **Glendive** 90.17 41 ⇑P P 09 56 26.8 +1.0
baz=90
Z35A **Perchaven, San** 90.19 55 ⇓P P 09 56 26.6 +0.5
baz=90
T32A **Huddler Ranch,** 90.20 51 ⇓P P 09 56 26.7 +0.6
baz=90
V33A **Lossen Ranch,** 90.22 53 ⇓P P 09 56 26.3 +0.1
baz=90
F25A **Bowman** 90.25 42 ⇑P P 09 56 26.5 +0.3
baz=90,SNR=5.1
C24A **Savage** 90.28 40 ⇓P P 09 56 27.2 +0.9
baz=90
B23A **Brockton** 90.31 39 ⇑P P 09 56 27.2 +0.8
baz=90
S32A **Newby Ranch, P** 90.37 51 ⇑P P 09 56 27.4 +0.5
baz=90
I27A **Quinn** 90.46 44 ⇓P P 09 56 27.5 +0.3
baz=91
E25A **Miller Ranch,** 90.52 41 ⇑P P 09 56 28.0 +0.6
baz=91
G26A **Maurine** 90.56 43 ⇑P P 09 56 27.7 0.0
baz=91
F26A **Lodgepole** 90.73 42 ⇓P P 09 56 28.4 0.0
baz=91
J28A **Allard Ranch,** 90.77 45 ⇓P P 09 56 28.8 +0.1
baz=91
R32A **Long Quarter,** 90.78 50 ⇑P P 09 56 29.4 +0.6
baz=91
DGMT **Dagmar** 90.80 39 ⇓P P 09 56 29.3 +0.6
baz=91
V34A **Guthrie** 90.81 53 ⇑P P 09 56 29.2 +0.2
baz=91
D25A **Fairfield** 90.82 41 ⇓P P 09 56 29.6 +0.8
baz=91
U34A **Anderson Ranch** 91.00 52 ⇑P P 09 56 29.9 +0.1
baz=91
I28A **Midland** 91.02 44 ⇑P P 09 56 29.7 -0.1
baz=91
G27A **Dupree** 91.03 43 ⇓P P 09 56 29.8 -0.1
baz=91
C25A **Freed Ranch, W** 91.08 40 ⇑P P 09 56 30.7 +0.7
baz=91
Q32A **Meitler Ranch,** 91.09 50 ⇓P P 09 56 30.9 +0.7
baz=91
A24A **Westby** 91.10 39 ⇑P P 09 56 30.3 +0.3
baz=91
E26A **Carlson Angus** 91.10 42 ⇑P P 09 56 30.4 +0.3
baz=91
F27A **Lemmon** 91.16 42 ⇑P P 09 56 30.2 -0.2
baz=91,SNR=5.1
LZH **Lanzhou** 91.21 307 *e*P P 09 56 33.3 +2.3
LZH pP pP 09 57 53.0 -2.3
LZH sP sP 09 58 31.0 -1.6
LZH pmax pmax
comp=Z,10.0nm,1.0s
PLCA **Paso Flores** 91.26 133 *e*P P 09 56 31.2 +0.1
comp=Z,1.3nm,0.4s
PLCA **Paso Flores** 91.26 133 P P 09 56 31.9 +0.8
comp=Z,1.6nm,0.8s,baz=212,slow=6.0,SNR=5.9
P32A **Hutting Farm,** 91.27 49 ⇓P P 09 56 31.4 +0.4
baz=91
R33A **Olander Ranch,** 91.28 50 ⇑P P 09 56 31.4 +0.3
baz=91
D26A **Manning** 91.33 41 ⇓P P 09 56 31.7 +0.6
baz=91
B25A **Knox Farm, Ray** 91.36 40 ⇑P P 09 56 32.1 +0.9
baz=92
J29A **Okreek** 91.38 45 ⇑P P 09 56 31.5 +0.1
baz=92
G28A **Parade** 91.58 43 ⇑P P 09 56 32.5 +0.1
baz=92
K30A **Basset** 91.61 46 ⇑P P 09 56 32.9 +0.3
baz=92
Q33A **Connelly Farm,** 91.62 50 ⇑P P 09 56 33.3 +0.7
baz=92
E27A **Carson** 91.66 42 ⇑P P 09 56 33.1 +0.4
baz=92,SNR=5.6
C26A **Wahner Farm, P** 91.85 41 ⇓P P 09 56 34.3 +0.8
baz=92
J30A **Dallas** 91.92 45 ⇑P P 09 56 34.0 0.0
baz=92
F28A **McLaughlin** 91.94 43 ⇓P P 09 56 33.9 -0.1
baz=92
B26A **Jensen Ranch,** 91.97 40 ⇑P P 09 56 34.7 +0.6
baz=92
YKA **Yellowknife Ar** 92.08 24 P P 09 56 33.4 -0.7
YKA **Yellowknife Ar** 92.08 24 P P 09 56 33.4 -0.7
comp=Z,2.0nm,0.7s,baz=242,slow=4.5,SNR=41
TUL1 **Tulsa** 92.16 53 ⇑P P 09 56 35.5 +0.3
baz=92
C27A **Sayler Ranch,** 92.18 41 ⇑P P 09 56 35.6 +0.6
baz=92
E28A **Huff** 92.27 42 ⇓P P 09 56 35.4 -0.1
baz=92
A26A **Wade Farm, Ken** 92.28 40 ⇓P P 09 56 36.1 +0.6
baz=92
A28A **Rude Farm, Bot** 93.38 40 ⇑P P 09 56 40.9 +0.4
baz=94
SONM **Songino Array** 93.39 319 P P 09 56 40.8 +0.1
SONM **Songino Array** 93.39 319 P P 09 56 40.8 +0.1
comp=Z,0.6nm,0.6s,baz=130,slow=5.8,SNR=4.5
E30A **Jud** 93.40 43 ⇑P P 09 56 39.9 -0.7
baz=94
D30A **Buchanan** 93.71 42 ⇓P P 09 56 41.3 -0.8
baz=94
A29A **Manning Farm,** 94.02 40 ⇑P P 09 56 43.1 -0.3
baz=94
ECSD **EROS Data Cent** 94.03 46 ⇓P P 09 56 42.9 -0.7
baz=94
C30A **Mose, Pekin** 94.08 42 ⇓P P 09 56 43.9 +0.1
baz=94
TIXI **Tiksi** 94.95 345 *e*P P 09 56 45.9 -1.2
TIXI pmax pmax
comp=Z,3.0nm,0.8s
ZAK **Zakamensk** 96.15 321 *e*P P 09 56 56.2 +3.0
ZAK pmax pmax
comp=Z,3.0nm,2.7s

ULM	Lac du Bonnet	96.52	40	P		P		09 56 53.4	-1.3
ULM	Lac du Bonnet	96.52	40	P		P		09 56 53.4	-1.3
	comp=Z,2.6nm,0.8s,baz=307,slow=5.1,SNR=3.1								
KURK	Kurchatov	111.69	319	*e*PKIKP		PKiKP		10 01 56.5	-1.2
KURK	Kurchatov	111.69	319	*e*PKPdf		PKiKP		10 01 56.5	-1.2
KURBB	Kurchatov Arra	111.75	318	PKiKP		PKiKP		10 01 57.4	-0.4
	comp=Z,0.4nm,0.5s,baz=89,slow=2.0,SNR=8.5								
BVAR	Borovoye Array	116.59	322	PKIKP		PKPdf		10 02 06.2	-0.9
BVAR	Borovoye Array	116.59	322	PKP		PKPdf		10 02 06.2	-0.9
BVAR	Borovoye Array	116.59	322	PKP		PKPdf		10 02 06.2	-0.9
	comp=Z,1.7nm,0.4s,baz=141,slow=2.0,SNR=10								
ARU	Arti	122.36	327	*i* PKIKP		PKPdf		10 02 17.5	-0.5
ARU								10 03 56.1	
ARU								10 08 41.5	
ARU	Arti	122.36	327	*e*PKPdf		PKPdf		10 02 17.6	-0.4
ABKAR	Akbulak array	123.80	319	*e*PKPdf		PKPdf		10 02 21.4	+0.3
AKTO	Aktyubinsk	124.66	321	PKIKP		PKPdf		10 02 22.5	-0.2
AKTO	Aktyubinsk	124.66	321	PKP		PKPdf		10 02 22.4	-0.2
AKTO	Aktyubinsk	124.66	321	PKP		PKPdf		10 02 22.4	-0.2
	comp=Z,0.9nm,0.5s,baz=14,slow=4.2,SNR=4.2								
ARCES	ARCESS Array B	124.93	351	PKP		PKPdf		10 02 22.1	-0.6
ARCES	ARCESS Array B	124.93	351	PKP		PKPdf		10 02 22.1	-0.6
	comp=Z,7.3nm,0.5s,baz=21,slow=1.4,SNR=49								
FINES	FINESS Array B	132.00	346	PKPpre		PKPpre		10 02 26.9	
FINES				PKP		PKPdf		10 02 36.4	+0.2
FINES	FINESS Array B	132.00	346	PKhKP		PKPpre		10 02 26.9	
	comp=Z,0.9nm,0.6s,baz=326,slow=0.7,SNR=5.6								
FINES				PKP		PKPdf		10 02 36.4	+0.2
	comp=Z,2.4nm,0.7s,baz=32,slow=1.9,SNR=7.7								
OBN	Obninsk	133.54	334	*e*PKIKP		PKPdf		10 02 38.7	-0.6
OBN				pmax		pmax			
	comp=Z,5.0nm,1.0s								
NB2	NORSAR Subarra	134.87	355	PKP		PKPdf		10 02 42.3	+0.5
	comp=Z,1.2nm,0.6s,baz=17,slow=2.6								
NOA	NORSAR Array B	134.87	355	PKP		PKPdf		10 02 42.5	+0.7
NOA	NORSAR Array B	134.87	355	PKP		PKPdf		10 02 42.5	+0.7
	comp=Z,1.5nm,0.6s,baz=13,slow=3.9,SNR=5.0								
KIV	Kislovodsk	136.78	318	*e*PKIKP		PKPdf		10 02 48.0	+2.1
KIV				pmax		pmax			
	comp=Z,11nm,1.1s								
AKASG	Malin Array Be	139.81	335	PKHKP		PKPpre		10 02 41.9	
AKASG	Malin Array Be	139.81	335	PKPpre		PKPpre		10 02 41.9	
AKASG	Malin Array Be	139.81	335	PKhKP		PKPpre		10 02 41.9	
	comp=Z,0.8nm,0.5s,baz=40,slow=4.2,SNR=7.0								
KMBO	Kilima Mbogo	142.38	246	PKPpre		PKPpre		10 02 55.0	
KMBO				*e*PKPdf		PKPdf		10 02 55.8	-1.4
KMBO	Kilima Mbogo	142.38	246	PKhKP		PKPpre		10 02 55.0	
	comp=Z,1.9nm,0.7s,baz=36,slow=4.7,SNR=4.9								
KWP	Kalwaria Pacla	143.15	339	*e*PKIKP		PKPbc		10 02 55.0	-0.1
KWP	Kalwaria Pacla	143.15	339	*e*PKP		PKPbc		10 02 55.0	-0.1
KWP	Kalwaria Pacla	143.15	339	⇑*iP*		PKPbc		10 02 54.6	-0.5
STHS	Stebnicka Huta	143.82	340	*e*PKIKP		PKPbc		10 02 56.9	-0.1
STHS	Stebnicka Huta	143.82	340	*e*PKP		PKPbc		10 02 56.9	-0.1
BUR08	Bucovina Ar. S	143.84	335	*e*PKPdf		PKPbc		10 02 57.3	0.0
BURAR	Bucovina Array	143.86	335	⇓PKIKP		PKPbc		10 02 57.3	0.0
BURAR	Bucovina Array	143.86	335	⇓*iP*		PKPbc		10 02 57.3	0.0
KOLS	Kolonicke sedl	143.89	339	*e*PKIKP		PKPbc		10 02 57.0	-0.2
KOLS	Kolonicke sedl	143.89	339	*e*PKP		PKPbc		10 02 57.0	-0.2
KSP	Ksiaz	143.92	346	*e*PKIKP		PKPab		10 02 56.8	0.0
KSP	Ksiaz	143.92	346	*e*PKP		PKPab		10 02 56.8	0.0
TLCR		144.06	329	⇑PKIKP		PKPbc		10 02 57.7	-0.1
TLCR		144.06	329	⇑*iP*		PKPbc		10 02 57.7	-0.1
TESR	Tescani	144.11	332	⇓*iP*		PKPab		10 02 57.6	0.0
UZH	Uzhgorod	144.14	338	*d*PKIKP		PKPab		10 02 57.3	-0.4
CLL	Collm	144.14	350	⇑*e*PKIKP		PKPab		10 02 57.0	-0.6
CLL				pmax		pmax			
	comp=Z,17nm,0.7s								
CLL	Collm	144.14	350	*e*PKP		PKPab		10 02 56.8	-0.8
CLL	Collm	144.14	350	⇑*i*PKPdf		PKPab		10 02 56.9	-0.6
	comp=Z,17nm,0.7s								
CRVS	Cervenica-Dubn	144.19	340	*e*PKIKP		PKPab		10 02 57.8	-0.1
CRVS	Cervenica-Dubn	144.19	340	*e*PKP		PKPab		10 02 57.8	-0.1
WTSB	Winterswijk	144.22	356	*e*PKP		PKPab		10 02 57.1	-0.7
UPC	Upice	144.29	346	*e*PKIKP		PKPab		10 02 58.2	0.0
UPC	Upice	144.29	346	⇑*e*PKP		PKPab		10 02 58.2	0.0
DPC	Dobruska-Polom	144.37	346	⇑*i*PKIKP		PKPbc		10 02 58.8	+0.1
DPC	Dobruska-Polom	144.37	346	⇑*i*PKP		PKPbc		10 02 58.8	+0.1
DPC				*ex*		x		10 03 00.6	
OKC	Ostrava-Krasne	144.38	344	*e*PKIKP		PKPab		10 02 58.4	-0.1
OKC	Ostrava-Krasne	144.38	344	⇑*e*PKP		PKPab		10 02 58.4	-0.1
BRG	Berggiesshubel	144.39	348	*i* PKP		PKPab		10 02 58.0	-0.5
	comp=Z,9.5nm,0.6s								
BRG				*i*				10 03 03.1	
	comp=Z,4.1nm,0.6s								
BRG	Berggiesshubel	144.39	348	*i* PKIKP		PKPab		10 02 58.0	-0.5
BRG				pmax		pmax			
	comp=Z,10.0nm,0.6s								
BRG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
BRG	Berggiesshubel	144.39	348	*e*PKP		PKPab		10 02 57.8	-0.7
NEUB	Neuenburg	144.44	351	*e*PKP		PKPab		10 02 58.4	-0.3
FBE	Freiberg	144.45	349	*e*PKP		PKPab		10 02 58.6	-0.2
TRPA	Tarpa	144.47	338	⇑*i*P		PKPbc		10 02 58.9	0.0
KRLC	Kraliky	144.51	345	*e*PKIKP		PKPbc		10 02 59.0	-0.1
KRLC	Kraliky	144.51	345	⇑*e*PKP		PKPbc		10 02 59.0	-0.1
VRI	Vrincioaia	144.56	331	⇑PKIKP		PKPbc		10 02 59.3	0.0
VRI	Vrincioaia	144.56	331	⇑*i*P		PKPbc		10 02 59.3	0.0
PVCC	Panska Ves	144.59	348	*e*PKIKP		PKPbc		10 02 59.2	0.0
PVCC	Panska Ves	144.59	348	⇑*e*PKP		PKPbc		10 02 59.2	0.0
PVCC				*ex*		x		10 03 00.7	
MORC	Moravsky Berou	144.59	344	⇑PKIKP		PKPbc		10 02 59.3	-0.1
MORC	Moravsky Berou	144.59	344	⇑*i*P		PKPbc		10 02 59.3	-0.1
MORC	Moravsky Berou	144.59	344	*e*PKPdf		PKPbc		10 02 59.1	-0.3
PLOR	Plostina	144.61	332	⇓PKIKP		PKPbc		10 02 59.0	-0.5
PLOR	Plostina	144.61	332	⇓*iP*		PKPbc		10 02 59.0	-0.5
BUG	Bochum--Univer	144.71	356	*e*PKP		PKPbc		10 02 59.0	-0.5
BR131	Keskin Array S	144.74	318	*e*PKPbc		PKPbc		10 03 00.2	0.0
BRTR	Keskin Array B	144.74	318	PKP		PKPbc		10 03 00.1	-0.2
BRTR	Keskin Array B	144.74	318	PKP		PKPbc		10 03 00.1	-0.2
	comp=Z,7.7nm,0.7s,baz=113,slow=2.8,SNR=31								
TIRR	Tirgusor	144.78	328	*e*PKIKP		PKPdf		10 03 00.1	0.0
TIRR	Tirgusor	144.78	328	⇓*iP*		PKPbc		10 02 59.6	-0.4
TIRR	Tirgusor	144.78	328	*e*PKPbc		PKPdf		10 03 00.1	0.0
HARR	Harsova	144.85	329	⇑PKIKP		PKPab		10 03 00.5	0.0
HARR	Harsova	144.85	329	⇑*i*P		PKPab		10 03 00.5	0.0
KECS	Kecovo	144.88	340	*e*PKIKP		PKPdf		10 03 00.1	-0.1
KECS	Kecovo	144.88	340	*e*PKP		PKPdf		10 03 00.1	-0.1
MOX	Moxa	145.01	352	*e*PKP		PKPdf		10 03 00.0	-0.3
PLN	Plauen	145.08	350	*e*PKP		PKPdf		10 03 00.6	+0.2
DOPR	Dopca	145.08	333	⇓*iP*		PKPab		10 03 01.8	+0.4
WERD	Werda	145.09	350	*e*PKP		PKPdf		10 03 00.4	-0.1
TANN	Tannenbergstha	145.09	350	*e*PKP		PKPdf		10 03 00.6	+0.1
PRU	Pruhonice	145.11	347	*e*PKIKP		PKPbc		10 03 00.8	0.0
PRU	Pruhonice	145.11	347	⇑*e*PKP		PKPbc		10 03 00.8	0.0
GUNZ	Gunzen	145.17	350	*e*PKP		PKPbc		10 03 01.0	-0.1
ANTO	Ankara	145.20	319	⇓PKP2		PKPab		10 03 02.0	-0.1
ANTO	Ankara	145.20	319	⇓*iP*		PKPab		10 03 02.0	-0.1
MLR	Muntele Rosu	145.20	332	⇑*i*P		PKPab		10 03 01.9	-0.1
ISR	Istrita	145.21	331	⇑PKP2		PKPbc		10 03 01.5	+0.1
ISR	Istrita	145.21	331	⇑*i*P		PKPbc		10 03 01.5	+0.1
WERN	Wernitzgruen	145.23	350	*e*PKP		PKPbc		10 03 01.3	0.0
VRAC	Vranov	145.27	345	⇑*i*P		PKPbc		10 03 01.4	0.0
ROHR	Rohrbach	145.29	350	*e*PKP		PKPdf		10 03 01.1	+0.2
HGN	Heimansgroeve	145.46	357	*e*PKP		PKPdf		10 03 01.3	+0.3
	comp=Z,8.8nm,0.7s								
SECR		145.49	331	⇑*i*P		PKPbc		10 03 02.1	-0.1
DRGR		145.53	336	⇑PKP2		PKPbc		10 03 02.1	-0.2
DRGR		145.53	336	⇑*i*P		PKPbc		10 03 02.1	-0.2
TREC	Trest	145.55	346	*e*PKP2		PKPbc		10 03 02.0	-0.2
TREC	Trest	145.55	346	⇑*e*PKP		PKPbc		10 03 02.0	-0.2
PSZ	Piszkesteto	145.57	340	⇓PKP2		PKPbc		10 03 02.8	+0.4
PSZ	Piszkesteto	145.57	340	⇓*iP*		PKPbc		10 03 02.8	+0.4
MEM	Membach	145.61	357	PKP		PKPbc		10 03 02.0	-0.3
ROTZ	Rotzenmuhle	145.76	350	*e*PKP		PKPbc		10 03 02.9	+0.1
SNF	Seneffe	145.77	359	PKP		PKPbc		10 03 02.6	-0.2
SMOL	Smolenice	145.78	343	*e*PKP2		PKPbc		10 03 03.3	+0.4
SMOL	Smolenice	145.78	343	*e*PKP		PKPbc		10 03 03.3	+0.4
BCLA	Clavier	145.83	358	PKP		PKPbc		10 03 03.2	+0.2
ARR	Arges	145.88	333	⇑*i*P		PKPbc		10 03 03.3	-0.1
GRF	Grafenberg Arr	146.00	351	*e*PKP		PKPbc		10 03 03.7	+0.2
KHC	Kasperske Hory	146.12	348	*e*PKPdf		PKPdf		10 03 02.0	-0.3
KHC				*e*				10 03 04.0	
KHC	Kasperske Hory	146.12	348	⇑*i*PKP		PKPbc		10 03 03.9	0.0
KHC				*ex*		x		10 03 05.4	
KHC				*ex*		x		10 03 34.4	
KHC	Kasperske Hory	146.12	348	*e*PKPdf		PKPdf		10 03 02.0	-0.3
KHC				*e*PKPbc		PKPbc		10 03 04.0	0.0
KHC				*e*PKPab		PKPab		10 03 05.2	-0.1
DOU	Dourbes	146.18	359	PKP		PKPbc		10 03 03.8	-0.2
LOT	Lotru	146.19	334	⇑*i*P		PKPbc		10 03 04.1	-0.3
SIRR	Siria	146.37	337	⇓*iP*		PKPbc		10 03 04.7	0.0
GEC2	GERESS Array S	146.37	348	*e*PKP		PKPbc		10 03 04.4	-0.3
GERES	GERESS Array B	146.37	348	PKPbc		PKPbc		10 03 04.2	-0.5
GERES	GERESS Array B	146.37	348	PKPbc		PKPbc		10 03 04.2	-0.5
	comp=Z,4.6nm,0.6s,baz=26,slow=3.4,SNR=36								
WLF	Walferdange	146.55	357	PKP		PKPab		10 03 08.1	+1.2
GZR	Gura Zlata	146.65	335	⇑PKIKP		PKPbc		10 03 05.1	-0.5
GZR	Gura Zlata	146.65	335	⇑*iP*		PKPbc		10 03 05.1	-0.5
CONA	Conrad Observa	146.73	345	⇑*i*PKPab		PKPbc		10 03 05.9	+0.2
	comp=Z,14nm,0.6s,SNR=5.6								
BZS	Buzias	146.93	336	⇑PKP2		PKPbc		10 03 05.9	-0.3
BZS	Buzias	146.93	336	⇑*i*P		PKPbc		10 03 05.9	-0.3
MOA	Molln	147.19	346	⇑*i*PKPbc		PKPbc		10 03 06.8	-0.1
	comp=Z,12nm,0.9s								
ARSA	Arzberg	147.44	345	⇑*i*PKiKP		PKPbc		10 03 08.1	+0.5
	comp=Z,6.4nm,0.8s								
BFO	Black Forest	147.70	354	*i* PKP2		PKPbc		10 03 08.2	-0.1
BFO	Black Forest	147.70	354	*e*PKPbc		PKPbc		10 03 08.1	-0.2
PERS	Pernice	148.12	345	*i* PKPbc		PKPbc		10 03 08.8	-0.7
PERS				*i* PKPab		PKPab		10 03 12.9	-0.5
KBA	Koelnbreinsper	148.12	347	⇑*i*PKPbc		PKPbc		10 03 09.0	-0.5
	comp=Z,7.5nm,0.5s								
RETA	Reutte	148.21	350	⇑*i*PKPbc		PKPbc		10 03 09.2	-0.4
	comp=Z,6.2nm,0.5s								
WATA	Walderalm	148.22	349	⇑*i*PKPbc		PKPbc		10 03 09.2	-0.6
	comp=Z,7.3nm,0.6s								
WTTA	Wattenberg	148.28	349	⇑*i*PKPbc		PKPbc		10 03 09.6	-0.4
	comp=Z,23nm,0.6s,SNR=7.0								
MOTA	Moosalm	148.29	350	⇓*i*PKPbc		PKPbc		10 03 09.5	-0.5
	comp=Z,5.8nm,0.5s								
MYKA	Terra Mystica	148.48	346	⇑*i*PKPbc		PKPbc		10 03 09.3	-1.1
	comp=Z,11nm,0.6s								
DAVA	Damuels	148.54	351	⇑*i*PKiKP		PKPbc		10 03 10.6	0.0
	comp=Z,12nm,0.7s								
ABTA	Abfaltersbach	148.61	348	⇑*i*PKPbc		PKPbc		10 03 09.9	-0.8
	comp=Z,13nm,0.6s								
FETA	Feichten	148.67	350	⇑*i*PKiKP		PKPbc		10 03 10.8	-0.2
	comp=Z,11nm,0.7s								
VTS	Vitosha	148.69	331	⇓*iP*		PKPdf		10 03 08.7	+1.8
CRNS	Crni Vrh	148.85	345	*i* PKPbc		PKPbc		10 03 10.5	-0.7
VISS	Visnje	148.97	344	*i* PKPbc		PKPbc		10 03 11.2	-0.3
VISS				*i* PKPab		PKPab		10 03 16.2	-0.6
JAVS	Javornik	149.07	345	*i* PKPbc		PKPbc		10 03 11.3	-0.6
JAVS				*i* PKPab		PKPab		10 03 16.1	-1.3
BOJS	Bojanci	149.13	344	*i* PKPbc		PKPbc		10 03 12.0	+0.1
MMB	Musomiste	149.22	329	⇑PKHKP		PKPdf		10 03 10.0	+2.3
MMB	Musomiste	149.22	329	⇑*i*P		PKPdf		10 03 09.9	+2.3
TUE	Stuetta	149.41	352	*e*PKPbc		PKPbc		10 03 12.7	-0.2
TUE				*e*PKPab		PKPab		10 03 18.3	-0.6
BNI	Bardonecchia	151.11	355	*e*PKIKP		PKPbc		10 03 16.9	+0.1
BNI	Bardonecchia	151.11	355	*e*PKPbc		PKPbc		10 03 16.9	+0.1
ESDC	Sonseca Array	155.75	14	PKPbc		PKPdf		10 03 25.1	+7.8
ESDC	Sonseca Array	155.75	14	PKPbc		PKPdf		10 03 25.1	+7.8
	comp=Z,1.0nm,0.6s,baz=124,slow=7.4,SNR=4.6								
DBIC	Dimbokro	167.56	139	PKP		PKPdf		10 03 29.1	-0.8
DBIC	Dimbokro	167.56	139	PKP		PKPdf		10 03 29.1	-0.8
	comp=Z,2.3nm,0.8s,baz=133,slow=1.4,SNR=3.6								
TORD	Torodi Ar. Bea	176.56	152	PKP		PKPdf		10 03 32.8	-1.2
TORD				PKPab		PKPab		10 05 18.7	+1.0
TORD	Torodi Ar. Bea	176.56	152	PKP		PKPdf		10 03 32.8	-1.2
	comp=Z,1.3nm,0.8s,baz=339,slow=1.2,SNR=7.9								
TORD				PKPab		PKPab		10 05 18.7	+1.0
	comp=Z,1.5nm,0.7s,baz=261,slow=3.8,SNR=8.6								

*ISCJB **26** 09:58:56.5±2.3, 18°.3N±0°.5×72°.5W±0°.2, h13km, mb3.6/7, MS3.3/2, Error ellipse: s-maj=66.4km s-min=23.3km az=12.9*

*IDC **26** 09:58:56.2±2.8, 18°.30N×72°.51W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/41, mbtmp3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=93.8km s-min=25.7km az=18.0*

ISC 26 09:58:58.3±2.5, 18°.3N±0°.5×72°.5W±0°.2, h13km, n8, σ0s.92/7, mb3.6/7, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	25.90	193	LR	LR	10 15 11.3	
	comp=Z,53nm,18.1s,baz=5.6,slow=38						
TXAR	Lajitas Array	30.45	297	P	P	10 05 11.5	+0.5
	0.4nm,0.8s,baz=112,slow=7.0,SNR=4.8						
PDAR	Pinedale Array	39.69	316	P	P	10 06 30.7	+0.1
	0.2nm,0.3s,baz=122,slow=10,SNR=5.6						
PDAR				LR	LR	10 24 00.3	
	comp=Z,62nm,19.0s,baz=102,slow=38						
YKA	Yellowknife Ar	52.88	337	P	P	10 08 12.6	-1.1
	1.0nm,0.6s,baz=124,slow=7.4,SNR=16						
SUMG	Summit	57.71	12	*i* P	P	10 08 49.1	+0.3
	5.2nm,0.9s						
ILAR	Eielson Array	66.96	333	P	P	10 09 50.1	-0.3
	0.3nm,0.9s,baz=105,slow=5.7,SNR=4.3						
TORD	Torodi Ar. Bea	71.22	82	P	P	10 10 17.0	-0.7
	0.5nm,0.9s,baz=300,slow=8.0,SNR=2.2						
GERES	GERESS Array B	74.03	43	P	P	10 10 35.2	+1.1
	0.6nm,0.6s,baz=272,slow=4.7,SNR=5.3						

*IDC **26** 09:59:57.0±2.9, 53°.60N×87°.79E, h0km, mb1 3.1/2, mb1mx2.9/30, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=25.8km s-min=14.7km az=63.0*

*NNC **26** 10:00:01.1±3.1, 53°.34N×87°.52E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=22.8km s-min=18.7km az=34.0*

ISC 26 10:00:00.7±4.0, 53°.7N±0°.1×87°.8E±0°.2, h35km, n7, σ0s.55/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.79	280	*i*		10 13 22.1	
	baz=98,slow=344,SNR=6.9						
ZALV	Zalesovo Beam	1.79	280	Pg	Pn	10 00 29.1	-0.1
	1.8nm,0.3s,baz=103,slow=11,SNR=33						
ZALV				Lg	Lg	10 00 54.6	
	4.9nm,0.3s,baz=98,slow=28,SNR=17						
KURK	Kurchatov	6.37	246	⇓Pn	Pn	10 01 31.8	-0.1
	0.7nm,0.8s						
KURK				⇓Sn	Sn	10 02 43.3	-0.1
	0.9nm,0.8s						
KURK				⇑Lg	Lg	10 03 17.0	
	2.7nm,1.0s						
KURBB	Kurchatov Arra	6.46	246	⇑Pn	Pn	10 01 33.7	+0.3
	1.5nm,0.4s,baz=62,slow=14						
KURBB				⇑Sn	Sn	10 02 45.5	-0.3
	5.8nm,0.6s						
KURBB				⇑Lg	Lg	10 03 18.8	
	6.5nm,0.6s,baz=64,slow=34						
KURBB	Kurchatov Arra	6.46	246	Pn	Pn	10 01 33.8	+0.4
	0.3nm,0.3s,baz=64,slow=15,SNR=17						
KURBB				Lg	Lg	10 03 17.7	
	0.2nm,0.3s,baz=62,slow=34,SNR=3.8						
MKAR	Makanchi Array	7.73	209	Pn	Pn	10 01 51.1	+0.4
	0.1nm,0.3s,baz=20,slow=3.9,SNR=8.0						
MKAR				Sn	Sn	10 03 17.7	+0.8
	0.1nm,0.3s,baz=30,slow=26,SNR=4.3						
MKAR				Lg	Lg	10 03 58.7	
	0.1nm,0.3s,baz=32,slow=30,SNR=4.2						
MK06	Makanchi Array	7.74	209	⇑Pn	Pn	10 01 50.3	-0.5
	1.3nm,0.8s						
MK06				⇓Sn	Sn	10 03 16.4	-0.8
	1.0nm,0.8s						
MK06				⇓Lg	Lg	10 03 57.8	
	1.2nm,0.6s						

*IDC **26** 10:07:31.6±5.8, 24°.23S×179°.88E, h492km±67km, mb3.3/5, mb1 3.5/6, mb1mx3.1/32, mbtmp4.3/6, Error ellipse: s-maj=50.1km s-min=36.8km az=160.0*

*ISCJB **26** 10:07:32.1±1.6, 24°.3S±0°.2×179°.9E±0°.3, h517km, mb3.7/5, Error ellipse: s-maj=37.4km s-min=21.8km az=3.8*

ISC 26 10:07:33.1±1.4, 24°.4S±0°.2×179°.9E±0°.3, h517km, n8, σ0s57/9, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.05	189	P	P	10 10 32.7	-0.3
	3.2nm,0.3s,baz=35,slow=1.6,SNR=24						
STKA	Stephens Creek	34.50	249	P	P	10 13 38.5	+0.8
	0.7nm,0.4s,baz=92,slow=11,SNR=3.9						
ASAR	Alice Springs	41.90	261	P	P	10 14 38.1	-0.1
	0.9nm,0.4s,baz=94,slow=7.7,SNR=20						
WRA	Warramunga Arr	42.32	267	P	P	10 14 40.8	-0.7
	3.3nm,0.5s,baz=103,slow=8.2,SNR=16						
MJAR	Matsushiro Arr	72.25	326	P	P	10 18 05.2	-0.6
	1.6nm,0.8s,baz=179,slow=6.1,SNR=4.0						
PETK	Petropavlovsk-	79.54	347	P	P	10 18 46.0	+0.3
	6.2nm,0.9s,baz=116,slow=6.6,SNR=2.4						
AKASG	Malin Array Be	145.33	327	PKPbc		PKPdf	10 26 12.1	+0.5
	0.6nm,0.4s,baz=41,slow=3.9,SNR=8.1						
BRTR	Keskin Array B	147.81	307	PKPbc		PKPbc	10 26 19.9	-0.1
	0.8nm,0.8s,baz=116,slow=3.4,SNR=2.8						
BRTR				PKPab		PKPab	10 26 24.5	+0.1
	0.7nm,0.5s,baz=102,slow=1.6,SNR=4.2						

*NNC **26** 10:18:59.4±3.6, 40°.42N×77°.33E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=28.4km s-min=21.9km az=151.0*

*KRNET **26** 10:19:00.3±0.1, 40°.50N×77°.17E, h3km, mb3.2*

ISC 26 10:19:02.0±4.9, 40°.5N±0°.2×77°.15E±0°.09, h15km±22km, n26, σ1s52/37, 19C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	Ulahol	1.90	339	P	Pb	10 19 35.7	-0.8
	SNR=44						
ULHL	Ulahol	1.90	339	⇑*iP*	Pb	10 19 35.2	-1.3
	baz=339						
ULHL				⇑*iS*	Sg	10 20 04.5	+1.4
	baz=339						
KZA	Kyzart	2.15	319	P	Pb	10 19 38.8	-2.1
	SNR=49						
KZA	Kyzart	2.15	319	⇑*iP*	Pb	10 19 38.6	-2.3
	baz=318						
KZA				⇑*iS*	Sg	10 20 12.4	+1.2
	baz=318						
ANVS	Anan'yevo	2.34	9	⇓*iP*	Pb	10 19 43.0	-1.0
	baz=9.0						
ANVS				⇓*eS*	Sg	10 20 18.1	+0.8
	baz=9.0						
ARLS	Aral	2.54	304	⇓*iP*	Pn	10 19 42.8	-0.2
	baz=303						
ARLS				⇓*iS*	Sb	10 20 20.1	+1.4
	baz=303						
UCH	Uchtor	2.65	312	P	Pn	10 19 45.4	+0.7
	SNR=9.8						
UCH	Uchtor	2.65	312	⇓*iP*	Pn	10 19 45.3	+0.7
	baz=312						
UCH				⇓*iS*	Sg	10 20 26.9	-0.3

0.6nm,0.9s,baz=234,slow=4.3,SNR=3.6
ILAR Eielson Array 83.78 11 P **P 10 31 39.2 -0.5**
ILAR Eielson Array 83.78 11 P **P 10 31 39.2 -0.5**
0.5nm,0.6s,baz=218,slow=5.5,SNR=13
YKA Yellowknife Ar 91.22 23 P **P 10 32 16.6 +0.9**
YKA Yellowknife Ar 91.22 23 P **P 10 32 16.6 +0.9**
0.0nm,0.3s,baz=317,slow=16,SNR=2.9
CMAR Chiang Mai Arr 93.62 288 P **P 10 32 29.8 +2.1**
CMAR Chiang Mai Arr 93.62 288 P **P 10 32 29.8 +2.1**
0.9nm,0.3s,baz=76,slow=2.8,SNR=5.1
KMBO Kilima Mbogo 145.38 242 PKPbc **PKPbc 10 38 49.0 -0.9**
KMBO Kilima Mbogo 145.38 242 PKPbc **PKPbc 10 38 49.0 -0.9**
1.2nm,0.7s,baz=181,slow=5.8,SNR=3.0
BRTR Keskin Array B 147.66 320 PKPbc **PKPab 10 38 57.5 -0.5**
BRTR Keskin Array B 147.66 320 PKPbc **PKPab 10 38 57.5 -0.5**
2.9nm,1.0s,baz=90,slow=2.5,SNR=5.3
GERES GERESS Array B 147.68 352 PKPbc **PKPab 10 38 56.9 -0.8**
GERES GERESS Array B 147.68 352 PKPbc **PKPab 10 38 56.9 -0.8**
0.2nm,0.3s,baz=48,slow=1.5,SNR=2.3
TORD Torodi Ar. Bea 173.52 124 PKPab **PKPab 10 40 49.0 -1.2**
TORD Torodi Ar. Bea 173.52 124 PKPab **PKPab 10 40 49.0 -1.2**
0.6nm,0.8s,baz=255,slow=3.0,SNR=3.2

*IDC **26** 10:34:27.8±2.0,8.˚59S×127.˚56E,h0km,mb3.3/1, mb1 3.5/3,mb1mx3.3/24,mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=250.9km s-min=28.1km az=63.0*
ISC 26 10:34:29.1±1.5,**8.˚7S**±0.˚1×**127.˚7E**±0.2,**h10**km,**n7,** σ3**3˚58**/10,**Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.35**	**141**	P	Pn	10 35 53.6	+4.5
	baz=5.7,SNR=6.5						
MTN				S	**Sn**	**10 36 54.8**	**+4.0**
	baz=5.7,SNR=7.4						
KDU	**Kakadu**	**6.16**	**131**	P	**Pn**	**10 35 59.6**	**-0.6**
	baz=6.2,SNR=18						
KDU				S	**Sn**	**10 37 08.4**	**-2.3**
	baz=6.2,SNR=7.2						
KNRA	**Kununurra**	**7.05**	**172**	P	Pb	10 36 23.9	-7.8
	baz=8.2,SNR=4.2						
KNRA				S	**Sb**	**10 37 50.9**	**-5.2**
	baz=8.2,SNR=3.8						
WRA	**Warramunga Arr**	**12.92**	**151**	Pn	**Pn**	**10 37 34.6**	**+1.6**
	0.2nm,0.3s,baz=328,slow=13,SNR=10						
WRA				Sn	**Sn**	**10 39 56.9**	**-0.1**
	0.5nm,0.3s,baz=343,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**16.06**	**159**	Pn	**P**	**10 38 16.6**	**-2.1**
	0.1nm,0.3s,baz=340,slow=10,SNR=11						
ASAR				Sn	**Sn**	**10 41 18.8**	**+5.2**
	0.1nm,0.3s,baz=321,slow=18,SNR=2.0						
WRKA	**Warakurna**	**16.30**	**178**	P	**P**	**10 38 23.8**	**+2.5**
	baz=18,SNR=3.9						
MKAR	**Makanchi Array**	**68.40**	**328**	P	**P**	**10 45 30.6**	**-0.5**
	0.1nm,0.4s,baz=136,slow=5.1,SNR=2.8						

*ISCJB **26** 10:56:53.7±0.8,6.˚9S±0.˚1×154.˚7E±0.˚1,h39km,mb3.9/10, MS3.7/2,Error ellipse: s-maj=24.1km s-min=9.8km az=146.8*
*IDC **26** 10:56:56.4±0.8,6.˚90S×154.˚74E,h52km±4km,mb3.7/10, mb1 3.9/11,mb1mx3.8/19,mbtmp4.0/11,MS3.2/5, Ms1 3.2/5,ms1mx3.0/22,Error ellipse: s-maj=29.1km s-min=15.4km az=136.0*
ISC 26 10:56:55.9±0.9,**6.˚9S**±0.˚2×**154.˚7E**±0.˚1,**h39**km,**n18,** σ1**9 93**/19,**mb4.1**/10,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.72**	**116**	LR	LR	11 00 26.8	
	comp=Z,143nm,20.0s,baz=306,slow=37						
PMG	**Port Moresby**	**7.90**	**251**	P	**Pn**	**10 58 49.3**	**+1.1**
	1.3nm,0.3s,baz=72,slow=9.6,SNR=9.9						
PMG				S	**Sn**	**11 00 16.7**	**+0.3**
	0.7nm,0.3s,baz=42,slow=13,SNR=2.8						
PMG				LR	LR	11 01 25.4	
	comp=Z,137nm,18.8s,baz=61,slow=34						
JAY	**Jayapura**	**14.65**	**287**	LR	LR	11 05 35.0	
	comp=Z,20nm,20.9s,baz=120,slow=35						
WRA	**Warramunga Arr**	**23.65**	**235**	P	**P**	**11 02 03.1**	**-0.8**
	1.2nm,1.0s,baz=59,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**26.03**	**228**	P	**P**	**11 02 24.9**	**-0.7**
	0.8nm,1.0s,baz=61,slow=9.6,SNR=3.3						
STKA	**Stephens Creek**	**27.69**	**205**	P	**P**	**11 02 39.9**	**-0.6**
	2.2nm,1.0s,baz=29,slow=16,SNR=2.3						
STKA				LR	LR	11 13 44.7	
	comp=Z,72nm,18.8s,baz=21,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.87**	**25**	T	T	11 31 14.6	
	baz=206,slow=74,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**27.88**	**25**	T	T	11 31 14.6	
	baz=206,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**27.89**	**25**	T	T	11 31 12.9	
	baz=206,slow=74,SNR=3.5						
CMAR	**Chiang Mai Arr**	**60.52**	**296**	P	**P**	**11 07 02.5**	**-0.2**
	0.5nm,0.3s,baz=128,slow=5.9,SNR=6.7						
SONM	**Songino Array**	**69.14**	**327**	P	**P**	**11 07 56.1**	**-2.3**
	2.6nm,0.9s,baz=25,slow=31,SNR=7.3						
QSPA	**South Pole Qui**	**83.05**	**180**	LR	LR	11 42 35.7	
	comp=Z,104nm,20.5s,baz=154,slow=33						
MKAR	**Makanchi Array**	**83.19**	**319**	P	**P**	**11 09 17.8**	**-0.3**
	3.3nm,0.8s,baz=90,slow=4.9,SNR=30						
MKAR				sP	**sP**	**11 09 38.5**	**+3.9**
	2.5nm,1.0s,baz=66,slow=6.8,SNR=3.5						
ILAR	**Eielson Array**	**83.40**	**22**	P	**P**	**11 09 17.3**	**-1.6**
	1.5nm,0.9s,baz=258,slow=5.1,SNR=12						
ILAR				sP	**sP**	**11 09 37.2**	**+2.0**
	0.8nm,0.9s,baz=250,slow=5.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**83.98**	**326**	P	**P**	**11 09 20.8**	**-1.1**
	0.6nm,0.3s,baz=110,slow=6.3,SNR=3.6						
NVAR	**Mina Array Bea**	**91.88**	**52**	P	**P**	**11 10 00.0**	**-0.6**
	0.8nm,0.8s,baz=246,slow=5.8,SNR=5.0						
NVAR				pP	**pP**	**11 10 14.4**	**+1.7**
	0.3nm,0.8s,baz=253,slow=9.3,SNR=1.8						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**11 10 19.8**	**-0.7**
	0.2nm,0.7s,baz=262,slow=4.7,SNR=3.8						
YKA				sP	**sP**	**11 10 40.5**	**+3.5**
	0.3nm,0.7s,baz=269,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.76**	**285**	PKPbc	**PKPbc**	**11 16 47.9**	**-1.8**
	1.3nm,0.8s,baz=73,slow=2.2,SNR=6.9						
TORD				PKPab	**PKPab**	**11 16 59.4**	**-1.2**
	0.8nm,0.8s,baz=74,slow=1.8,SNR=3.3						
TORD				pPKPbc	**pPKPbc**	**11 17 05.0**	**+2.8**
	1.0nm,0.7s,baz=57,slow=2.2,SNR=4.2						

*ISCJB **26** 11:16:55.8±0.2, 18.˚52N±0.˚03×72.˚97W±0.˚02,h6km, mb4.3/40,MS3.4/8,Error ellipse: s-maj=4.7km s-min=2.8km az=9.9*
*IDC **26** 11:16:56.3±0.6, 18.˚58N×72.˚92W,h0km,mb4.1/18, mb1 4.3/21,mb1mx4.2/43,mbtmp4.1/21,ML3.6/3,MS3.4/10, Ms1 3.4/10,ms1mx3.1/31,Error ellipse: s-maj=17.7km s-min=14.0km az=51.0*
*NEIC **26** 11:16:57.9±0.2, 18.˚50N×72.˚98W,h10km,mb4.5/21,Error ellipse: s-maj=6.4km s-min=4.4km az=11.0*
ISC 26 11:16:57.2±0.3,**18.˚58N**±0.˚05×**72.˚98W**±0.˚03,**h6**km,**n251,** σ1**9 29**/260,**mb4.3**/40,**MS3.4**/8,**75C-75D,Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.66**	**76**	*e*Pn	**Pn**	**11 17 26.3**	**-0.5**
SDDR				*e*Sn	**Sg**	**11 17 51.3**	**+0.9**
GTBY	**Guantanamo Bay**	**2.42**	**304**	*e*Pn	**Pn**	**11 17 35.5**	**-1.7**
GTBY				*e*Sn	**Sn**	**11 18 04.7**	**-2.5**
YHJ	**Yallahs**	**3.40**	**259**	*i* P	**Pn**	**11 17 53.2**	**+2.3**
YHJ	**Yallahs**	**3.40**	**259**	*e*P	**Pn**	**11 17 53.2**	**+2.3**
GWJ	**Greenwich**	**3.59**	**263**	*i* P	**Pn**	**11 17 52.9**	**-0.7**
GWJ	**Greenwich**	**3.59**	**263**	*i* P	**Pn**	**11 17 52.9**	**-0.7**
HOJ	**Hope**	**3.62**	**262**	*i* P	**Pn**	**11 17 54.1**	**+0.2**
HOJ	**Hope**	**3.62**	**262**	*i* P	**Pn**	**11 17 54.1**	**+0.2**
STH	**Stony Hill**	**3.67**	**263**	*i* P	**Pn**	**11 17 54.0**	**-0.5**
STH				*i* S	**Sb**	**11 18 49.5**	**+2.2**
STH	**Stony Hill**	**3.67**	**263**	*i* P	**Pn**	**11 17 54.0**	**-0.5**
STH				*i* S	**Sb**	**11 18 49.5**	**+2.2**
MTDJ	**Mount Denham**	**4.33**	**266**	*e*Pn	**Pn**	**11 18 02.9**	**-0.8**
MTDJ				*e*Sn	**Sn**	**11 18 54.8**	**+0.1**
MTDJ				*e*Sg	**Sg**	**11 19 19.0**	**+2.5**
CRPR	**Cabo Rojo, PR**	**5.61**	**95**	*e*Pn	**Pn**	**11 18 21.1**	**0.0**
LSP	**Las Mesas**	**5.61**	**93**	Pn	**Pn**	**11 18 21.6**	**+0.4**
LSP				*e*Sn	**Sn**	**11 19 26.6**	**+0.5**
LSP				*e*Sg	**Sg**	**11 20 02.4**	**+4.8**
AOPR	**Arecibo Observ**	**5.92**	**91**	*e*Pn	Pn	11 18 30.1	+4.7
OBIP	**Obispado Ponce**	**6.08**	**94**	Pn	**Pn**	**11 18 28.2**	**+0.6**
OBIP				*e*Sn	**Sn**	**11 19 35.0**	**-2.6**
OBIP				*e*Sg	**Sg**	**11 20 14.4**	**+1.9**
CELP	**Cerrillos**	**6.10**	**94**	*e*Pn	**Pn**	**11 18 28.4**	**+0.4**
CBYP	**Canovanas**	**6.77**	**91**	*e*Pn	**Pn**	**11 18 38.6**	**+1.4**
CBYP				*e*Sg	**Sg**	**11 20 34.9**	**+0.2**
BCIP	**Isla Barro Col**	**11.48**	**216**	*e*Pn	**Pn**	**11 19 39.2**	**-2.5**
BCIP				*e*Sn	**Sn**	**11 21 52.1**	**+1.8**
ROSC	**El Rosal**	**13.70**	**186**	*e*Pn	**Pn**	**11 20 14.0**	**+1.5**
ROSC				Sn	**Sn**	**11 22 47.5**	**+2.2**
ROSC	**El Rosal**	**13.70**	**186**	Pn	**Pn**	**11 20 13.0**	**+0.5**
	1.8nm,0.3s,baz=90,slow=20,SNR=3.3						
ROSC				Sn	**Sn**	**11 22 47.5**	**+2.2**
	2.4nm,0.3s,baz=73,slow=19,SNR=3.3						
JTS	**JuntasAbangare**	**14.21**	**236**	*e*Pn	**Pn**	**11 20 17.7**	**-1.4**
JTS				*e*Sn	**Sn**	**11 22 51.6**	**-5.7**
JTS	**JuntasAbangare**	**14.21**	**236**	Pn	**Pn**	**11 20 20.5**	**+1.3**
	0.4nm,0.3s,baz=68,slow=19,SNR=3.4						
JTS				LR	LR	11 25 24.4	
	comp=Z,22nm,20.8s,baz=106,slow=36						
TEIG	**Tepich**	**14.52**	**279**	Pn	**Pn**	**11 20 23.0**	**-0.3**
TEIG	**Tepich**	**14.52**	**279**	Pn	**Pn**	**11 20 25.1**	**+1.7**
	1.2nm,0.3s,baz=76,slow=2.4,SNR=6.7						
JSC	**Jenkinsville**	**17.30**	**336**	*e*Pn	**P**	**11 21 03.6**	**+2.8**
OTAV	**Otavalo**	**19.00**	**197**	*e*P	**Pn**	**11 21 22.0**	**+1.2**
	8.9nm,0.9s						
TKL	**Tuckaleechee C**	**19.51**	**333**	LR	LR	11 28 58.4	
	comp=Z,138nm,21.8s,baz=136,slow=37						
WVT	**Waverly**	**21.85**	**326**	*e*P	**P**	**11 21 51.5**	**+1.0**
	108nm,2.1s						
PTGA	**Pitinga**	**23.06**	**145**	P	**P**	**11 22 03.3**	**-0.2**
PTGA	**Pitinga**	**23.06**	**145**	P	**P**	**11 22 03.3**	**-0.2**
	3.0nm,0.7s,baz=312,slow=12,SNR=3.8						
PTGA				LR	LR	11 30 55.2	
	comp=Z,63nm,19.5s,baz=340,slow=36						
035A	**Encino**	**24.58**	**294**	⇓P	**P**	**11 22 18.7**	**+0.6**
	baz=25,SNR=5.3						
735A	**Kenedy**	**24.88**	**299**	⇓P	**P**	**11 22 22.1**	**+1.3**
	baz=25						
934A	**Benavides**	**25.11**	**296**	⇑P	**P**	**11 22 24.1**	**+1.2**
	baz=25						
034A	**Hebbronville**	**25.11**	**294**	⇓P	**P**	**11 22 24.1**	**+1.2**
	baz=25,SNR=5.8						
834A	**Tilden**	**25.28**	**297**	⇑P	**P**	**11 22 26.1**	**+1.7**
	baz=25						
WHTX	**Lake Whitney**	**25.77**	**306**	*e*P	**P**	**11 22 29.3**	**+0.4**
	14nm,0.9s						
WHTX	**Lake Whitney**	**25.77**	**306**	⇑P	**P**	**11 22 30.2**	**+1.3**
	baz=26						
534A	**Blanco**	**25.82**	**301**	⇓P	**P**	**11 22 30.0**	**+0.6**
	baz=26,SNR=7.0						
434A	**Burnet**	**25.94**	**303**	⇓P	**P**	**11 22 31.4**	**+0.9**
	baz=26						
833A	**Chaparral WMA,**	**26.05**	**297**	⇓P	**P**	**11 22 32.1**	**+0.6**
	baz=26,SNR=5.8						
733A	**Divot King Ran**	**26.08**	**298**	⇑P	**P**	**11 22 32.2**	**+0.5**
	baz=26						
ATAH	**Atahualpa**	**26.10**	**192**	LR	LR	11 34 44.1	
	comp=Z,88nm,19.1s,baz=7.6,slow=41						
334A	**Lometa**	**26.11**	**304**	⇑P	**P**	**11 22 32.8**	**+0.8**
	baz=26						
633A	**Seathoff Ranch**	**26.20**	**299**	⇓P	**P**	**11 22 33.6**	**+0.7**
	baz=26						
134A	**White-Moore Ra**	**26.50**	**307**	⇑P	**P**	**11 22 36.6**	**+1.1**
	baz=27						
TUL1	**Tulsa**	**26.53**	**315**	*e*P	**P**	**11 22 37.0**	**+1.3**
	28nm,1.0s						
TUL1	**Tulsa**	**26.53**	**315**	⇑P	**P**	**11 22 36.5**	**+0.8**
	baz=27						
832A	**Faith Ranch, C**	**26.53**	**296**	⇓P	**P**	**11 22 36.3**	**+0.5**
	baz=27,SNR=5.3						
433A	**Art**	**26.57**	**302**	⇑P	**P**	**11 22 36.7**	**+0.5**
	baz=27						
SADO	**Sadowa**	**26.62**	**350**	LR	LR	11 31 23.4	
	comp=Z,140nm,21.0s,baz=209,slow=33						
333A	**Richland Sprin**	**26.70**	**303**	⇓P	**P**	**11 22 37.5**	**+0.2**
	baz=27						
632A	**Uvalde**	**26.72**	**299**	⇑P	**P**	**11 22 37.9**	**+0.3**
	baz=27						
Z34A	**Collier Ranch,**	**26.73**	**308**	⇓P	**P**	**11 22 38.3**	**+0.8**
	baz=27						
Y34A	**Reagan Ranch,**	**26.89**	**310**	⇑P	**P**	**11 22 39.7**	**+0.7**
	baz=27						
233A	**Rising Star**	**26.90**	**305**	⇓P	**P**	**11 22 39.7**	**+0.6**
	baz=27						
532A	**Rocksprings**	**27.02**	**300**	⇑P	**P**	**11 22 41.0**	**+0.8**
	baz=27,SNR=5.4						
JCT	**Junction City**	**27.05**	**301**	*e*P	**P**	**11 22 42.8**	**+2.3**
	15nm,1.4s						
JCT	**Junction City**	**27.05**	**301**	⇓P	**P**	**11 22 41.5**	**+1.0**
	baz=27						
133A	**Hamilton Ranch**	**27.15**	**306**	⇓P	**P**	**11 22 42.6**	**+1.2**
	baz=27						
432A	**Menard**	**27.18**	**302**	⇓P	**P**	**11 22 42.5**	**+0.9**
	baz=27						
X34A	**Smith Ranch, M**	**27.25**	**311**	⇑P	**P**	**11 22 43.7**	**+1.5**
	baz=27						
332A	**Millersview**	**27.32**	**303**	⇓P	**P**	**11 22 43.5**	**+0.5**
	baz=27						
Z33A	**Whitaker Ranch**	**27.33**	**307**	⇑P	**P**	**11 22 43.8**	**+0.9**
	baz=27						
631A	**Perdido Creek**	**27.35**	**298**	⇑P	**P**	**11 22 43.6**	**+0.4**
	baz=27						
431A	**Sonora**	**27.77**	**301**	⇓P	**P**	**11 22 47.7**	**+0.7**
	baz=28						
331A	**San Angelo**	**27.84**	**302**	⇑P	**P**	**11 22 48.1**	**+0.5**
	baz=28						
Z32A	**Haskell**	**27.87**	**307**	⇓P	**P**	**11 22 48.9**	**+1.1**
	baz=28						
231A	**Bronte**	**27.98**	**304**	⇓P	**P**	**11 22 49.3**	**+0.4**
	baz=28						
Y32A	**R-V Farms, Ver**	**28.15**	**308**	⇑P	**P**	**11 22 51.7**	**+1.4**
	baz=28						
V33A	**Lossen Ranch,**	**28.18**	**313**	⇑P	**P**	**11 22 51.6**	**+1.0**
	baz=28						
530A	**J-C Ranch, Com**	**28.20**	**299**	⇑P	**P**	**11 22 51.5**	**+0.6**
	baz=28						
430A	**Baggett Ranch,**	**28.32**	**301**	⇓P	**P**	**11 22 52.5**	**+0.5**
	baz=28						
Z31A	**Sharp Cattle R**	**28.39**	**306**	⇓P	**P**	**11 22 53.7**	**+1.3**
	baz=28						
W32A	**Sentinel**	**28.52**	**311**	⇓P	**P**	**11 22 54.7**	**+1.1**
	baz=29						
230A	**Sterling City**	**28.59**	**303**	⇓P	**P**	**11 22 54.9**	**+0.6**
	baz=29						
Y31A	**Rekieta Farm,**	**28.74**	**308**	⇑P	**P**	**11 22 56.6**	**+1.0**
	baz=29						
429A	**Davenport Ranc**	**28.80**	**300**	⇑P	**P**	**11 22 56.6**	**+0.4**
	baz=29						
529A	**Stev Forest Ra**	**28.93**	**299**	⇑P	**P**	**11 22 57.6**	**+0.2**
	baz=29						
SAML	**Samuel**	**29.01**	**160**	*e*P	**P**	**11 22 55.6**	**-2.4**
	1.9nm,0.7s						
329A	**Wagon Wheel Ra**	**29.15**	**302**	⇑P	**P**	**11 22 59.5**	**+0.2**
	baz=29						
Y30A	**Stafford Cattl**	**29.19**	**307**	⇓P	**P**	**11 23 00.6**	**+1.0**
	baz=29						
V31A	**Spring Creek L**	**29.26**	**311**	⇑P	**P**	**11 23 01.3**	**+1.1**
	baz=29						
528A	**Cox Ranch, San**	**29.41**	**299**	⇑P	**P**	**11 23 02.5**	**+0.8**
	baz=29						
X30A	**Coker Ranch, T**	**29.41**	**308**	⇓P	**P**	**11 23 02.4**	**+0.8**
	baz=30						
428A	**Kincaid Ranch,**	**29.48**	**300**	⇓P	**P**	**11 23 03.2**	**+0.8**
	baz=30,SNR=6.6						
Z29A	**Hungry Hill Ra**	**29.56**	**305**	⇓P	**P**	**11 23 04.0**	**+1.0**
	baz=30						
Q33A	**Connelly Farm,**	**29.64**	**319**	⇓P	**P**	**11 23 05.0**	**+1.5**
	baz=30						
627A	**Terlingua Ranc**	**29.73**	**297**	⇓P	**P**	**11 23 05.0**	**+0.5**
	baz=30,SNR=5.3						
TXAR	**Lajitas Array**	**29.93**	**297**	P	**P**	**11 23 06.7**	**+0.4**
TXAR	**Lajitas Array**	**29.93**	**297**	P	**P**	**11 23 06.7**	**+0.4**
	1.6nm,0.9s,baz=111,slow=9.8,SNR=11						
128A	**Castaberry Fa**	**29.94**	**304**	⇓P	**P**	**11 23 07.0**	**+0.7**
	baz=30						
S31A	**Mullinville**	**29.94**	**315**	⇑P	**P**	**11 23 07.3**	**+1.1**
	baz=30						
X29A	**Tulia**	**30.03**	**307**	⇓P	**P**	**11 23 07.8**	**+0.7**
	baz=30						
527A	**Woodward Ranch**	**30.09**	**298**	⇑P	**P**	**11 23 08.0**	**+0.2**
	baz=30						
Q32A	**Meitler Ranch,**	**30.09**	**318**	⇑P	**P**	**11 23 09.0**	**+1.5**
	baz=30						
Z28A	**Tucker Farm, M**	**30.10**	**305**	⇓P	**P**	**11 23 08.5**	**+0.8**
	baz=30						
427A	**Hayter Ranch,**	**30.11**	**300**	⇓P	**P**	**11 23 08.4**	**+0.6**
	baz=30						
AMTX	**Amarillo**	**30.20**	**308**	⇓P	**P**	**11 23 09.8**	**+1.3**
	baz=30						
Y28A	**McKinney Farm,**	**30.23**	**306**	⇑P	**P**	**11 23 09.6**	**+0.7**
	baz=30						
626A	**Big Bend Ranch**	**30.38**	**297**	⇑P	**P**	**11 23 10.6**	**+0.4**
	baz=30						
526A	**Mary Lane Ranc**	**30.47**	**298**	⇑P	**P**	**11 23 11.7**	**+0.6**
	baz=30,SNR=7.1						
426A	**McDonald Obser**	**30.58**	**299**	⇑P	**P**	**11 23 12.7**	**+0.5**
	baz=31,SNR=6.0						
S30A	**Montezuma**	**30.62**	**314**	⇑P	**P**	**11 23 13.3**	**+1.0**
	baz=31						
Z27A	**Tatum**	**30.76**	**304**	⇑P	**P**	**11 23 13.9**	**+0.3**
	baz=31						
R30A	**Dighton**	**30.82**	**315**	⇑P	**P**	**11 23 15.4**	**+1.3**
	baz=31						
P31A	**Stockton**	**30.92**	**318**	⇑P	**P**	**11 23 16.6**	**+1.7**
	baz=31						
Y27A	**Causey**	**30.92**	**306**	⇓P	**P**	**11 23 15.5**	**+0.5**
	baz=31						
T29A	**Hugoton**	**30.95**	**313**	⇓P	**P**	**11 23 15.9**	**+0.7**
	baz=31						
S29A	**Ulysses**	**31.05**	**313**	⇑P	**P**	**11 23 17.6**	**+1.5**
	baz=31						
226B	**Tecolote Peak,**	**31.10**	**302**	⇓P	**P**	**11 23 16.7**	**+0.1**
	baz=31						
Q30A	**Quinter**	**31.16**	**316**	⇑P	**P**	**11 23 17.9**	**+0.9**
	baz=31						
X27A	**F and S Farms,**	**31.16**	**307**	⇓P	**P**	**11 23 17.6**	**+0.4**
	baz=31						
O31A	**Woolen Ranch,**	**31.25**	**319**	⇓P	**P**	**11 23 19.4**	**+1.6**
	baz=31						
Z26A	**Caprock**	**31.34**	**304**	⇓P	**P**	**11 23 19.2**	**+0.4**
	baz=31						
425A	**Indio Mountain**	**31.40**	**299**	⇓P	**P**	**11 23 20.2**	**+0.8**
	baz=31						
R29A	**Marienthal**	**31.48**	**315**	⇓P	**P**	**11 23 20.6**	**+0.8**
	baz=32						
P30A	**Selden**	**31.49**	**317**	⇑P	**P**	**11 23 20.7**	**+0.8**
	baz=32						
T28A	**Walsh**	**31.51**	**312**	⇑P	**P**	**11 23 21.0**	**+0.9**
	baz=32						
Q29A	**Oakley**	**31.61**	**316**	⇑P	**P**	**11 23 22.1**	**+1.1**
	baz=32						
225A	**Deer Hill, Car**	**31.64**	**301**	⇑P	**P**	**11 23 22.3**	**+0.9**
	baz=32,SNR=8.8						
X26A	**CR and CF Fran**	**31.67**	**306**	⇓P	**P**	**11 23 22.5**	**+0.9**
	baz=32						
125A	**Gardner Draw,**	**31.68**	**302**	⇑P	**P**	**11 23 22.1**	**+0.4**
	baz=32						
U27A	**Thompson Grove**	**31.70**	**310**	⇓P	**P**	**11 23 22.3**	**+0.4**
	baz=32						
R28A	**Tribune**	**31.89**	**314**	⇓P	**P**	**11 23 24.2**	**+0.7**
	baz=32						
Z25A	**Roswell**	**31.93**	**304**	⇓P	**P**	**11 23 24.2**	**+0.3**
	baz=32,SNR=6.2						
Y25A	**Mesa, Roswell**	**32.12**	**305**	⇑P	**P**	**11 23 26.2**	**+0.5**
	baz=32						
V26A	**Tequesquite Ra**	**32.14**	**309**	⇓P	**P**	**11 23 26.7**	**+0.9**
	baz=32						
X25A	**Clemmons Ranch**	**32.31**	**306**	⇑P	**P**	**11 23 28.3**	**+0.9**
	baz=32						
U26A	**Atchley Ranch,**	**32.36**	**310**	⇑P	**P**	**11 23 28.5**	**+0.8**
	baz=32						
W25A	**X Bar L Ranch,**	**32.42**	**307**	⇑P	**P**	**11 23 29.3**	**+1.1**
	baz=32						
Z24A	**Sheeppen Canyo**	**32.45**	**303**	⇑P	**P**	**11 23 28.9**	**+0.3**
	baz=32,SNR=7.8						
P28A	**Saint Francis**	**32.48**	**316**	⇑P	**P**	**11 23 30.0**	**+1.3**
	baz=33						
L30A	**Spencer Herefo**	**32.56**	**321**	⇑P	**P**	**11 23 31.0**	**+1.7**
	baz=33						
Y24A	**Capitan**	**32.71**	**304**	⇑P	**P**	**11 23 32.0**	**+1.2**
	baz=33,SNR=7.5						
V25A	**Rancho No Teng**	**32.78**	**308**	⇑P	**P**	**11 23 32.7**	**+1.3**
	baz=33						
X24A	**Lazy VL Ranch,**	**32.92**	**305**	⇓P	**P**	**11 23 33.7**	**+1.0**
	baz=33						
R26A	**Arlington**	**32.99**	**313**	⇓P	**P**	**11 23 34.4**	**+1.2**
	baz=33						
W24A	**Lazy 6 Ranch,**	**33.13**	**307**	⇓P	**P**	**11 23 35.9**	**+1.4**
	baz=33						
T25A	**Trinidad**	**33.16**	**310**	⇑P	**P**	**11 23 35.9**	**+1.1**
	baz=33						
Y23A	**Lovelace Mesa,**	**33.19**	**304**	⇓P	**P**	**11 23 35.7**	**+0.7**
	baz=33,SNR=7.4						
V24A	**Rampart Ranch,**	**33.22**	**308**	⇑P	**P**	**11 23 36.5**	**+1.1**
	baz=33						
Q26A	**Hugo**	**33.34**	**314**	⇓P	**P**	**11 23 37.6**	**+1.3**
	baz=33						
W23A	**Werner Place,**	**33.68**	**306**	⇑P	**P**	**11 23 40.7**	**+1.3**
	baz=34						
BNM	**Barren Site**	**33.72**	**304**	*e*P	**P**	**11 23 41.1**	**+1.5**
	9.3nm,1.1s						
LPM	**Los Pinos Moun**	**33.77**	**304

comp=Z,65nm,18.8s,baz=88,slow=38
D22A Cohagen 39.36 324 ⇓P **P 11 24 28.7 +1.3**
baz=39
I19A Meeteetse 39.40 318 ⇓P **P 11 24 28.9 +0.8**
baz=40
H19A Powell 39.70 319 ⇑P **P 11 24 31.5 +1.1**
baz=40
W13A Hualapai Mount 39.73 303 ⇓P **P 11 24 31.2 +0.3**
baz=40
D21A La Casta Ranch 39.77 323 ⇓P **P 11 24 32.1 +1.2**
baz=40
H18A Shoshone NF, C 40.13 319 ⇓P **P 11 24 34.1 -0.1**
baz=40
LOHW Long Hollow 40.24 317 *e*P **P 11 24 35.6 +0.5**
7.7nm,1.0s
REDW Red Top Meadow 40.29 316 *e*P **P 11 24 35.8 +0.3**
14nm,1.1s
I17A Pilgrim Ck. 40.36 317 ⇓P **P 11 24 36.5 +0.5**
baz=40
MOOW Moose Ponds 40.39 317 *e*P **P 11 24 36.8 +0.5**
7.3nm,1.0s
DUG Dugway 40.40 311 *e*P **P 11 24 37.1 +0.8**
2.8nm,0.8s
DUG Dugway 40.40 311 ⇓P **P 11 24 36.4 +0.1**
baz=40
E19A Rath Farm, Rou 40.48 321 ⇑P **P 11 24 37.6 +0.8**
baz=41
IRM Iron Mountain 40.54 301 ⇓P **P 11 24 37.6 +0.2**
baz=41
SHPR Sheep Range 41.07 305 *e*P **P 11 24 43.3 +1.4**
A20A Cobblestone Ra 41.31 325 ⇓P **P 11 24 44.8 +1.2**
baz=41
A19A Klindworth Far 41.78 325 ⇑P **P 11 24 48.5 +1.0**
baz=42
EGMT Eagleton 41.86 323 ⇓P **P 11 24 49.0 +0.8**
baz=42
R11A Troy Canyon, C 41.87 307 ⇑P **P 11 24 48.7 +0.1**
baz=42
BDFB Brasilia 41.96 143 P **P 11 24 48.8 -0.6**
BDFB Brasilia 41.96 143 P **P 11 24 48.8 -0.6**
2.9nm,0.6s,baz=316,slow=8.5,SNR=4.5
DLMT Dillon 42.29 318 *e*P P 11 24 57.8 +6.0
56nm,2.4s
FURC Furnace Creek, 42.39 304 ⇑P **P 11 24 52.7 +0.2**
baz=42
HLID Hailey 42.74 315 *e*P **P 11 24 57.7 +2.2**
0.9nm,0.7s
HLID Hailey 42.74 315 ⇑P **P 11 24 54.5 -1.1**
baz=43
TPH Tonopah 43.05 306 *e*P **P 11 24 59.8 +1.7**
6.5nm,1.0s
NVAR Mina Array Bea 43.96 306 P **P 11 25 06.0 +0.5**
NVAR Mina Array Bea 43.96 306 P **P 11 25 06.0 +0.5**
0.9nm,0.8s,baz=104,slow=7.5,SNR=6.2
NVAR LR LR 11 44 36.3
comp=Z,31nm,20.0s,baz=182,slow=38
VES Vestal, Richgr 44.03 303 ⇓P **P 11 25 05.0 -0.8**
baz=44
G08A Pilot Rock 46.40 316 *e*P P 11 25 30.7 +6.0
72nm,2.8s
YKA Yellowknife Ar 52.43 337 P **P 11 26 10.2 -0.1**
YKA Yellowknife Ar 52.43 337 P **P 11 26 10.2 -0.1**
1.3nm,0.9s,baz=127,slow=7.6,SNR=14
SUMG Summit 57.49 12 *i* P **P 11 26 46.8 -0.5**
4.6nm,1.0s
PLCA Paso Flores 59.05 178 P **P 11 26 55.7 -2.4**
PLCA Paso Flores 59.05 178 P **P 11 26 55.7 -2.4**
0.8nm,0.3s,baz=350,slow=7.2,SNR=4.4
ESDC Sonseca Array 62.39 54 P **P 11 27 21.3 +0.2**
ESDC Sonseca Array 62.39 54 P **P 11 27 21.3 +0.2**
3.0nm,0.8s,baz=274,slow=8.4,SNR=6.7
EKA Eskdalemuir Ar 63.46 37 P **P 11 27 27.7 -0.1**
EKA Eskdalemuir Ar 63.46 37 P **P 11 27 27.7 -0.1**
0.9nm,0.6s,baz=269,slow=6.3,SNR=2.7
ILAR Eielson Array 66.50 333 P **P 11 27 47.2 -0.2**
ILAR Eielson Array 66.50 333 P **P 11 27 47.2 -0.2**
1.1nm,1.0s,baz=99,slow=5.5,SNR=7.6
ILAR LR LR 12 00 11.6
comp=Z,36nm,20.8s,baz=148,slow=39
KTH Kantishna Hill 68.17 332 *e*P **P 11 27 58.4 +0.3**
9.9nm,1.1s
TORD Torodi Ar. Bea 71.59 82 P **P 11 28 18.7 -1.3**
TORD Torodi Ar. Bea 71.59 82 P **P 11 28 18.7 -1.3**
1.7nm,1.0s,baz=280,slow=3.9,SNR=6.0
FETA Feichten 72.42 46 *j* pP pP 11 28 25.7 -0.9
5.4nm,0.8s
GERES GERESS Array B 74.10 43 P **P 11 28 34.6 +0.2**
GERES GERESS Array B 74.10 43 P **P 11 28 34.6 +0.2**
2.5nm,0.8s,baz=273,slow=3.6,SNR=12
GERES LR LR 11 57 48.7
comp=Z,31nm,19.0s,baz=72,slow=33
ARCES ARCESS Array B 75.69 21 P **P 11 28 43.5 +0.4**
ARCES ARCESS Array B 75.69 21 P **P 11 28 43.5 +0.4**
4.6nm,0.9s,baz=293,slow=4.8,SNR=2.9
FINES FINESS Array B 78.12 29 P **P 11 28 57.2 +0.3**
FINES FINESS Array B 78.12 29 P **P 11 28 57.2 +0.3**
2.6nm,0.8s,baz=316,slow=3.8,SNR=3.9
MLR Muntele Rosu 83.02 44 P **P 11 29 23.9 +0.1**
MLR Muntele Rosu 83.02 44 P **P 11 29 23.9 +0.1**
2.1nm,0.8s,baz=281,slow=5.2
AKASG Malin Array Be 83.29 39 P **P 11 29 24.8 0.0**
AKASG Malin Array Be 83.29 39 P **P 11 29 24.8 0.0**
1.5nm,0.8s,baz=287,slow=3.9,SNR=7.0
BILL Bilibino 83.63 341 *e*P **P 11 29 27.0 +0.7**
17nm,1.4s
BRTR Keskin Array B 90.44 48 P **P 11 29 60.0 -0.2**
BRTR Keskin Array B 90.44 48 P **P 11 29 60.0 -0.2**
1.4nm,0.8s,baz=298,slow=3.1,SNR=4.8
KSH Kashi 115.34 26 *e*PKP **PKPdf 11 35 42.0 +1.7**
KSH *es*PKP 11 35 56.3
KSH *e*PP PP 11 36 48.0 +8.0
KSH *e*SKS **SKSdf 11 42 49.0 -4.4**
KSH *e*SKKS **SKKSac 11 43 37.3 -6.2**
KSH Kashi 115.34 26 *e*SS SS 11 52 41.0 +3.0
KSH AMB AMB
comp=Z,42nm,4.5s
HHC Hu-ho-hao-te 120.73 356 *e*PKP **PKPdf 11 35 46.8 -3.8**
HHC PP **PP 11 37 17.5 +0.5**
HHC Hu-ho-hao-te 120.73 356 SS SS 11 53 33.0 -14
HHC pmax pmax
comp=Z,330nm,5.3s
CMAR Chiang Mai Arr 142.35 13 PKP **PKPdf 11 36 31.4 -0.3**
CMAR Chiang Mai Arr 142.35 13 PKP **PKPdf 11 36 31.4 -0.3**
comp=Z,0.7nm,0.8s,baz=325,slow=4.4,SNR=4.3
WRA Warramunga Arr 154.18 262 PKP **PKPdf 11 36 49.9 -0.9**
WRA Warramunga Arr 154.18 262 PKP **PKPdf 11 36 49.9 -0.9**
comp=Z,1.2nm,0.9s,baz=89,slow=1.4,SNR=3.0
ASAR Alice Springs 154.43 254 PKP **PKPdf 11 36 49.9 -1.2**
ASAR PKPab **PKPab 11 37 13.3 -0.5**
ASAR Alice Springs 154.43 254 PKP **PKPdf 11 36 49.9 -1.2**
comp=Z,0.4nm,1.0s,baz=123,slow=3.4,SNR=3.0
ASAR PKPab **PKPab 11 37 13.3 -0.5**
comp=Z,1.5nm,0.9s,baz=104,slow=3.9,SNR=6.5

*IDC **26** 11:21:44.7±4.5, 4°.46S×151°.78E, h170km±38km, mb3.5/4, mb1 3.6/5, mb1mx3.2/30, mbtmp3.9/5, MS3.8/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=73.6km s-min=26.6km az=120.0*

ISC 26 11:21:42.6±1.4, 4°.5S±0°.3×152°.0E±0°.4, h153km, n7, σ1§12/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.87**	**224**	P		**Pn**	**11 23 21.9**	**+0.9**
	0.7nm,0.3s,baz=45,slow=20,SNR=2.5							
PMG				S		**Sn**	**11 24 38.2**	**+0.1**
	3.3nm,0.3s,baz=105,slow=19,SNR=7.6							
WRA	**Warramunga Arr**	**23.08**	**227**	P		**P**	**11 26 34.0**	**-1.1**
	4.5nm,0.3s,baz=52,slow=10,SNR=155							
ASAR	**Alice Springs**	**25.86**	**221**	P		**P**	**11 26 59.5**	**-0.8**
	0.8nm,0.3s,baz=54,slow=8.9,SNR=55							
STKA	**Stephens Creek**	**28.95**	**199**	P		**P**	**11 27 27.6**	**-0.1**
	1.9nm,0.8s,baz=20,slow=12,SNR=3.1							
USRK	**Ussuriysk Arra**	**51.70**	**342**	LR		LR	11 48 59.4	
	comp=Z,98nm,21.8s,baz=160,slow=32							
ILAR	**Eielson Array**	**82.16**	**22**	P		**P**	**11 33 46.9**	**+0.8**
	0.3nm,0.8s,baz=243,slow=6.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**149.46**	**288**	PKPbc		**PKPbc**	**11 41 13.5**	**-1.3**
	0.2nm,0.4s,baz=70,slow=2.0,SNR=5.0							

*ISCJB **26** 11:24:36.6±0.5, 39°.68N±0°.02×26°.46E±0°.03, h2km±5km, Error ellipse: s-maj=4.3km s-min=3.6km az=162.5*
*CSEM **26** 11:24:37.5±0.2, 39°.70N×26°.48E, h2km, MD3.0, Error ellipse: s-maj=4.0km s-min=3.6km az=117.0*
*DDA **26** 11:24:37.4, 39°.68N×26°.60E, h6km, MD2.9*
*ATH **26** 11:24:37.2, 39°.66N×26°.43E, h25km±2km, MD3.1/5*
*ISK **26** 11:24:37.1, 39°.75N×26°.54E, h5km, MD3.0*

ISC 26 11:24:37.2±0.9, 39.69N±0°.02×26.50E±0°.02, h8km±10km, n78, σ0§84/96, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.19**	**314**	*e*PG		**Pg**	**11 24 41.1**	**0.0**
EZN				*e*SG		**Sg**	**11 24 44.7**	**+1.0**
EZN	**Ezine**	**0.19**	**314**	*e*Pg		**Pg**	**11 24 41.1**	**0.0**
EZN				*e*Sg		**Sg**	**11 24 44.7**	**+1.0**
AYVA	**Ayvalik**	**0.41**	**159**	*i* P		**Pg**	**11 24 45.0**	**-0.2**
AYVA				*i* S		**Sg**	**11 24 49.8**	**-0.7**
AYVA	**Ayvalik**	**0.41**	**159**	*i* P		**Pg**	**11 24 45.0**	**-0.2**
AYVA				*i* S		**Sg**	**11 24 49.8**	**-0.7**
PRK	**Paraskevi**	**0.48**	**202**	*e*PB		**Pg**	**11 24 46.1**	**-0.4**
PRK				*e*SB		**Sg**	**11 24 53.0**	**+0.2**
PRK	**Paraskevi**	**0.48**	**202**	*e*Pb		**Pg**	**11 24 46.1**	**-0.4**
PRK				*e*Sb		**Sg**	**11 24 53.0**	**+0.2**
SIGR	**SIGRI**	**0.69**	**226**	*e*PN		**Pg**	**11 24 49.9**	**-0.7**
SIGR				*e*SN		**Sg**	**11 24 59.3**	**-0.3**
SIGR	**SIGRI**	**0.69**	**226**	*e*Pn		**Pg**	**11 24 49.9**	**-0.7**
SIGR				*e*Sn		**Sg**	**11 24 59.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.70**	**358**	*e*PG		**Pg**	**11 24 50.8**	**0.0**
GELI				*e*SG		**Sb**	**11 25 00.9**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.70**	**358**	*e*Pg		**Pg**	**11 24 50.8**	**0.0**
GELI				*e*Sg		**Sb**	**11 25 00.9**	**-0.7**
BALY	**Balya**	**0.86**	**86**	*i* P		**Pb**	**11 24 55.0**	**+0.5**
BALY				*i* S		**Sg**	**11 25 04.6**	**-0.4**
BALY	**Balya**	**0.86**	**86**	*i* P		**Pb**	**11 24 55.0**	**+0.5**
BALY				*i* S		**Sg**	**11 25 04.6**	**-0.4**
KRBG	**Karabiga-Canak**	**0.93**	**41**	*e*PG		**Pg**	**11 24 54.5**	**-0.5**
KRBG	**Karabiga-Canak**	**0.93**	**41**	*e*Pg		**Pg**	**11 24 54.5**	**-0.5**
GONE	**Gonen-Balikesi**	**0.98**	**68**	*e*PG		**Pg**	**11 24 55.6**	**-0.3**
GONE	**Gonen-Balikesi**	**0.98**	**68**	*e*Pg		**Pg**	**11 24 55.6**	**-0.3**
ERIK	**Erikli-Kesan**	**0.98**	**0**	*e*PG		**Pb**	**11 24 56.5**	**+0.1**
ERIK	**Erikli-Kesan**	**0.98**	**0**	*e*Pg		**Pb**	**11 24 56.5**	**+0.1**
LIA	**Limnos Island**	**1.04**	**282**	*e*PN		**Pg**	**11 24 56.7**	**-0.4**
LIA				*e*SN		**Sg**	**11 25 09.9**	**-0.7**
LIA	**Limnos Island**	**1.04**	**282**	*e*Pn		**Pg**	**11 24 56.7**	**-0.4**
LIA				*e*Sn		**Sg**	**11 25 09.9**	**-0.7**
BALB	**Balikesir**	**1.06**	**92**	*e*PG		**Pb**	**11 24 57.9**	**+0.1**
BALB	**Balikesir**	**1.06**	**92**	*e*Pg		**Pb**	**11 24 57.9**	**+0.1**
ENEZ	**Enez**	**1.08**	**346**	*e*PG		**Pg**	**11 24 58.0**	**+0.1**
ENEZ	**Enez**	**1.08**	**346**	*e*Pg		**Pg**	**11 24 58.0**	**+0.1**
SMTH	**Samothraki Isl**	**1.08**	**316**	*e*PN		**Pg**	**11 24 57.7**	**-0.2**
SMTH				*e*SN		**Sg**	**11 25 11.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.08**	**316**	*e*Pn		**Pg**	**11 24 57.7**	**-0.2**
SMTH				*e*Sn		**Sg**	**11 25 11.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.12**	**27**	*e*PG		**Pg**	**11 24 58.1**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.12**	**27**	*e*Pg		**Pg**	**11 24 58.1**	**-0.6**
SART	**Tekirdag**	**1.12**	**27**	*i* P		**Pg**	**11 24 58.1**	**-0.6**
SART				*i* S		**Sg**	**11 25 12.9**	**-0.4**
SART	**Tekirdag**	**1.12**	**27**	*i* P		**Pg**	**11 24 58.1**	**-0.6**
SART				*i* S		**Sg**	**11 25 12.9**	**-0.4**
EDC	**Edincik**	**1.23**	**58**	*e*PN		**Pn**	**11 25 00.7**	**0.0**
EDC	**Edincik**	**1.23**	**58**	*e*Pn		**Pn**	**11 25 00.7**	**0.0**
ALN	**Alexandroupoli**	**1.25**	**344**	*e*PN		**Pg**	**11 25 01.6**	**+0.3**
ALN	**Alexandroupoli**	**1.25**	**344**	*e*PN		**Pn**	**11 25 01.2**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**344**	*e*Pn		**Pg**	**11 25 01.6**	**+0.3**
BNT	**Bandirma**	**1.27**	**58**	*e*PN		**Pb**	**11 25 01.2**	**-0.3**
BNT	**Bandirma**	**1.27**	**58**	*e*Pn		**Pb**	**11 25 01.2**	**-0.3**
AKS	**Akhisar**	**1.30**	**128**	*e*PN		**Pg**	**11 25 03.6**	**+1.4**
AKS	**Akhisar**	**1.30**	**128**	*e*Pn		**Pg**	**11 25 03.6**	**+1.4**
CHOS	**Chios island**	**1.35**	**195**	*e*PN		**Pg**	**11 25 04.5**	**+1.4**
CHOS	**Chios island**	**1.35**	**195**	*e*PN		**Pn**	**11 25 01.3**	**-1.1**
CHOS	**Chios island**	**1.35**	**195**	*e*Pn		**Pg**	**11 25 04.5**	**+1.4**
IZM	**Izmir**	**1.42**	**155**	*e*PN		**Pg**	**11 25 05.8**	**+1.3**
IZM	**Izmir**	**1.42**	**155**	*e*Pn		**Pg**	**11 25 05.8**	**+1.3**
CRLT	**Corlu**	**1.72**	**33**	*e*PN		**Pb**	**11 25 08.7**	**-0.3**
CRLT	**Corlu**	**1.72**	**33**	*e*Pn		**Pb**	**11 25 08.7**	**-0.3**
ORLT	**Orhaneli**	**1.88**	**78**	*e*PN		**Pb**	**11 25 11.3**	**-0.4**
ORLT	**Orhaneli**	**1.88**	**78**	*e*Pn		**Pb**	**11 25 11.3**	**-0.4**
SMG	**Samos**	**2.00**	**172**	*e*PN		**Pn**	**11 25 11.2**	**-0.1**
SMG	**Samos**	**2.00**	**172**	*e*Pn		**Pn**	**11 25 11.2**	**-0.1**
ARMT	**Armutlu**	**2.01**	**64**	*e*PN		**Pb**	**11 25 13.1**	**-0.9**
ARMT	**Armutlu**	**2.01**	**64**	*e*Pn		**Pb**	**11 25 13.1**	**-0.9**
SLVT	**Silivri**	**2.01**	**40**	*e*PN		**Pb**	**11 25 12.8**	**-1.3**
SLVT	**Silivri**	**2.01**	**40**	*e*Pn		**Pb**	**11 25 12.8**	**-1.3**
OUR	**Ouranopolis**	**2.04**	**289**	*e*PN		**Pb**	**11 25 14.6**	**+0.1**
OUR	**Ouranopolis**	**2.04**	**289**	*e*Pn		**Pb**	**11 25 14.6**	**+0.1**
KULA	**Kula-Manisa**	**2.05**	**124**	*e*PN		**Pb**	**11 25 14.5**	**-0.2**
KULA	**Kula-Manisa**	**2.05**	**124**	*e*Pn		**Pb**	**11 25 14.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**148**	*e*PN		**Pb**	**11 25 14.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**148**	*e*Pn		**Pb**	**11 25 14.5**	**-0.3**
EDRB	**Edirne**	**2.16**	**5**	*e*PN		**Pn**	**11 25 15.1**	**+1.6**
EDRB	**Edirne**	**2.16**	**5**	*e*Pn		**Pn**	**11 25 15.1**	**+1.6**
CTKS	**Kestanelik-??a**	**2.17**	**44**	*e*PN		**Pb**	**11 25 15.4**	**-1.3**
CTKS	**Kestanelik-??a**	**2.17**	**44**	*e*Pn		**Pb**	**11 25 15.4**	**-1.3**
BGKT	**Bogazkoy**	**2.28**	**49**	*e*PN		**Pb**	**11 25 17.2**	**-1.4**
BGKT	**Bogazkoy**	**2.28**	**49**	*e*Pn		**Pb**	**11 25 17.2**	**-1.4**
TVSB	**Tavsanli**	**2.30**	**95**	*e*PN		**Pb**	**11 25 17.7**	**-1.3**
TVSB	**Tavsanli**	**2.30**	**95**	*e*Pn		**Pb**	**11 25 17.7**	**-1.3**
ISK	**Istanbul-Kandi**	**2.39**	**54**	*e*PN		**Pn**	**11 25 18.3**	**+1.7**
ISK	**Istanbul-Kandi**	**2.39**	**54**	*e*Pn		**Pn**	**11 25 18.3**	**+1.7**
SKIA	**Skiathos**	**2.41**	**258**	*e*PB		**Pb**	**11 25 20.3**	**-0.5**
SKIA	**Skiathos**	**2.41**	**258**	*e*Pb		**Pb**	**11 25 20.3**	**-0.5**
MRKA	**Markates**	**2.47**	**247**	*e*PN		**Pn**	**11 25 18.0**	**+0.2**
MRKA	**Markates**	**2.47**	**247**	*e*Pn		**Pn**	**11 25 18.0**	**+0.2**
NEO	**Neokhori**	**2.57**	**262**	*e*PN		**Pn**	**11 25 19.0**	**-0.1**
NEO	**Neokhori**	**2.57**	**262**	*e*Pn		**Pn**	**11 25 19.0**	**-0.1**
VTS	**Vitosha**	**3.82**	**320**	*e*PN		**Pn**	**11 25 38.9**	**+2.5**
VTS	**Vitosha**	**3.82**	**320**	*e*Pn		**Pn**	**11 25 38.9**	**+2.5**

*IDC **26** 11:24:38.5±1.2, 38°.07N×20°.84E, h0km, mb3.5/5, mb1 3.4/8, mb1mx3.3/35, mbtmp3.4/8, ML3.0/3, Error ellipse: s-maj=24.4km s-min=21.7km az=118.0*
*ISCJB **26** 11:24:41.5±0.4, 37°.84N±0°.02×21°.03E±0°.03, h19km±3km, mb3.4/5, Error ellipse: s-maj=4.2km s-min=3.1km az=144.8*
*THE **26** 11:24:41.7, 37°.86N×21°.06E, h16km, ML3.7/8, Error ellipse: s-maj=1.1km s-min=0.9km az=257.0*
*ATH **26** 11:24:41.4, 37°.91N×21°.09E, h21km, ML3.3*
*CSEM **26** 11:24:41.7±0.2, 37°.87N×21°.09E, h10km, ML3.6, Error ellipse: s-maj=3.8km s-min=2.8km az=48.0*

ISC 26 11:24:41.4±0.7, 37.87N±0°.02×21.07E±0°.02, h20km±2km, n140, σ1§02/178, mb3.4/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.10**	**63**	P		**Pg**	**11 24 45.4**	**+0.1**
VTN				S		**Sg**	**11 24 48.0**	**+0.1**
VTN	**Vitineika**	**0.10**	**63**	P		**Pg**	**11 24 45.4**	**+0.1**
VTN				S		**Sg**	**11 24 48.0**	**+0.1**
KFL	**Anninata**	**0.33**	**317**	P		**Pg**	**11 24 48.5**	**-0.1**
KFL	**Anninata**	**0.33**	**317**	P		**Pg**	**11 24 48.5**	**-0.1**
KFL				S		**Sb**	**11 24 54.1**	**+0.6**
RLS	**Riolos of Patr**	**0.36**	**59**	P		**Pg**	**11 24 48.9**	**-0.2**
RLS				S		**Sb**	**11 24 54.9**	**+0.4**
RLS	**Riolos of Patr**	**0.36**	**59**	*e*PB		**Pg**	**11 24 48.9**	**-0.2**
RLS				*e*SB		**Sb**	**11 24 54.9**	**+0.4**
RLS	**Riolos of Patr**	**0.36**	**59**	P		**Pg**	**11 24 48.9**	**-0.2**
RLS				S		**Sg**	**11 24 54.3**	**-0.1**
VLS	**Valsamata**	**0.49**	**309**	P		**Pg**	**11 24 51.2**	**-0.2**
VLS				S		**Sb**	**11 24 58.7**	**+0.5**
VLS	**Valsamata**	**0.49**	**309**	*e*PB		**Pg**	**11 24 50.8**	**-0.6**
VLS				*e*SB		**Sb**	**11 24 59.0**	**+0.8**
VLS	**Valsamata**	**0.49**	**309**	*e*Pb		**Pg**	**11 24 50.8**	**-0.6**
VLS	**Valsamata**	**0.49**	**309**	P		**Pg**	**11 24 51.2**	**-0.2**
VLS				S		**Sb**	**11 24 58.7**	**+0.5**
VLS				*e*Sb		**Sb**	**11 24 59.0**	**+0.8**
DRO	**Drossia**	**0.51**	**81**	P		**Pg**	**11 24 51.4**	**-0.4**
DRO				S		**Sb**	**11 24 59.7**	**+1.0**
DRO	**Drossia**	**0.51**	**81**	*e*PB		**Pg**	**11 24 51.3**	**-0.5**
DRO				*e*SB		**Sb**	**11 24 59.1**	**+0.4**
DRO	**Drossia**	**0.51**	**81**	P		**Pg**	**11 24 51.4**	**-0.4**
DRO				*e*Sb		**Sb**	**11 24 59.1**	**+0.4**
AMT	**Artemida-Makis**	**0.61**	**124**	P		**Pg**	**11 24 53.8**	**+0.2**
AMT	**Artemida-Makis**	**0.61**	**124**	*e*PN		**Pg**	**11 24 53.8**	**+0.2**
AMT	**Artemida-Makis**	**0.61**	**124**	P		**Pg**	**11 24 53.8**	**+0.2**
AMT				S		**Sg**	**11 25 02.4**	**+0.7**
SFD	**Strofades**	**0.62**	**184**	P		**Pg**	**11 24 54.4**	**+0.7**
SFD				S		**Sn**	**11 25 05.9**	**+1.4**
SFD	**Strofades**	**0.62**	**184**	*e*PN		**Pg**	**11 24 54.5**	**+0.7**
SFD	**Strofades**	**0.62**	**184**	*e*Pn		**Pg**	**11 24 54.5**	**+0.7**
SFD				S		**Sn**	**11 25 04.6**	**+0.1**

UPR	**University Cam**	**0.70**	**54**	P		**Pg**	**11 24 55.4**	**+0.2**
UPR				S		**Sn**	**11 25 06.7**	**+0.3**
UPR	**University Cam**	**0.70**	**54**	P		**Pg**	**11 24 55.4**	**+0.2**
UPR				S		**Sn**	**11 25 06.7**	**+0.3**
PDO	**Prodromos**	**0.73**	**7**	P		**Pb**	**11 24 55.5**	**0.0**
PDO				S		**Sn**	**11 25 07.1**	**-0.2**
PDO	**Prodromos**	**0.73**	**7**	*e*PN		**Pb**	**11 24 55.4**	**0.0**
PDO	**Prodromos**	**0.73**	**7**	P		**Pb**	**11 24 55.5**	**0.0**
PDO				S		**Sn**	**11 25 07.1**	**-0.2**
LAKA	**Lakka**	**0.80**	**62**	P		**Pb**	**11 24 56.2**	**-0.6**
LAKA	**Lakka**	**0.80**	**62**	*e*PN		**Pb**	**11 24 56.2**	**-0.6**
LAKA	**Lakka**	**0.80**	**62**	P		**Pb**	**11 24 56.2**	**-0.6**
PVO	**Paravola**	**0.82**	**25**	P		**Pg**	**11 24 57.5**	**-0.1**
PVO				S		**Sn**	**11 25 10.5**	**+0.9**
PVO	**Paravola**	**0.82**	**25**	P		**Pg**	**11 24 57.5**	**-0.1**
PVO				S		**Sn**	**11 25 10.5**	**+0.9**
EFP	**Efpalio**	**0.86**	**50**	P		**Pb**	**11 24 57.2**	**-0.4**
EFP				S		**Sn**	**11 25 10.6**	**+0.2**
EFP	**Efpalio**	**0.86**	**50**	*e*PN		**Pb**	**11 24 57.3**	**-0.4**
EFP	**Efpalio**	**0.86**	**50**	P		**Pb**	**11 24 57.2**	**-0.4**
EFP				S		**Sg**	**11 25 09.4**	**-0.2**
KLV	**Kalavryta, Ach**	**0.87**	**78**	P		**Pb**	**11 24 57.3**	**-0.6**
KLV				S		**Sn**	**11 25 11.2**	**+0.5**
KLV	**Kalavryta, Ach**	**0.87**	**78**	*e*PB		**Pb**	**11 24 57.2**	**-0.6**
KLV	**Kalavryta, Ach**	**0.87**	**78**	P		**Pb**	**11 24 57.3**	**-0.6**
KLV				S		**Sn**	**11 25 11.2**	**+0.5**
ITM	**Ithomi**	**0.97**	**135**	P		**Pb**	**11 24 59.5**	**-0.1**
ITM	**Ithomi**	**0.97**	**135**	*e*PB		**Pb**	**11 24 59.4**	**-0.1**
ITM	**Ithomi**	**0.97**	**135**	P		**Pb**	**11 24 59.5**	**-0.1**
LKD2	**Lefkada island**	**0.97**	**340**	*i* PN		**Pb**	**11 24 59.3**	**-0.3**
LKD2	**Lefkada island**	**0.97**	**340**	P		**Pb**	**11 24 59.4**	**-0.3**
LKD2	**Lefkada island**	**0.97**	**340**	*e*PN		**Pb**	**11 24 59.3**	**-0.3**
LKD2	**Lefkada island**	**0.97**	**340**	P		**Pb**	**11 24 59.4**	**-0.3**
KALE	**Kalithea**	**0.99**	**58**	P		**Pb**	**11 24 59.3**	**-0.6**
KALE				S		**Sg**	**11 25 13.4**	**-0.3**
KALE	**Kalithea**	**0.99**	**58**	*e*PN		**Pb**	**11 24 59.3**	**-0.6**
KALE	**Kalithea**	**0.99**	**58**	P		**Pb**	**11 24 59.3**	**-0.6**
KALE				S		**Sg**	**11 25 13.4**	**-0.3**
GUR	**Goura**	**1.00**	**86**	P		**Pb**	**11 24 59.6**	**-0.7**
GUR				S		**Sn**	**11 25 15.8**	**+1.6**
GUR	**Goura**	**1.00**	**86**	*e*PB		**Pb**	**11 24 59.5**	**-0.7**
GUR	**Goura**	**1.00**	**86**	P		**Pb**	**11 24 59.6**	**-0.7**
GUR				S		**Sg**	**11 25 14.2**	**-0.1**
PYL	**PYLOS**	**1.11**	**151**	P		**Pn**	**11 25 01.4**	**-0.4**
PYL				S		**Sb**	**11 25 16.6**	**+0.6**
PYL	**PYLOS**	**1.11**	**151**	*e*PB		**Pn**	**11 25 01.5**	**-0.4**
PYL	**PYLOS**	**1.11**	**151**	P		**Pn**	**11 25 01.4**	**-0.4**
PYL				S		**Sb**	**11 25 16.6**	**+0.6**
VLX	**Vlachokerasia**	**1.15**	**115**	P		**Pn**	**11 25 03.0**	**+0.5**
VLX				S		**Sg**	**11 25 18.9**	**0.0**
VLX	**Vlachokerasia**	**1.15**	**115**	*e*PN		**Pb**	**11 25 03.5**	**+0.8**
VLX	**Vlachokerasia**	**1.15**	**115**	P		**Pb**	**11 25 03.2**	**+0.5**
VLX	**Vlachokerasia**	**1.15**	**115**	*e*Pn		**Pb**	**11 25 03.5**	**+0.8**
VLX				S		**Sg**	**11 25 18.9**	**0.0**
EVR	**Evrytania**	**1.19**	**29**	P		**Pn**	**11 25 03.4**	**+0.3**
EVR				S		**Sg**	**11 25 20.1**	**-0.1**
EVR	**Evrytania**	**1.19**	**29**	*e*PN		**Pn**	**11 25 03.0**	**-0.1**
EVR	**Evrytania**	**1.19**	**29**	*e*Pn		**Pn**	**11 25 03.0**	**-0.1**
EVR	**Evrytania**	**1.19**	**29**	P		**Pn**	**11 25 03.4**	**+0.3**
EVR				S		**Sg**	**11 25 20.1**	**-0.1**
DSF	**Desfina**	**1.27**	**64**	P		**Pn**	**11 25 03.8**	**-0.3**
DSF	**Desfina**	**1.27**	**64**	*e*PB		**Pn**	**11 25 03.9**	**-0.2**
DSF	**Desfina**	**1.27**	**64**	P		**Pn**	**11 25 03.8**	**-0.3**
DSF				S		**Sg**	**11 25 22.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.41**	**36**	P		**Pb**	**11 25 07.8**	**+0.7**
MAKR				S		**Sg**	**11 25 29.4**	**+2.3**
MAKR	**Makrakomi, Fth**	**1.41**	**36**	*e*PN		**Pb**	**11 25 07.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.41**	**36**	*e*Pn		**Pb**	**11 25 07.4**	**+0.3**
MAKR

IDC ***26*** *11:34:47.6±14.0, 22°.17S×68°.93W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/21, mbtmp3.7/2, Error ellipse: s-maj=625.9km s-min=66.3km az=19.0*

ISCJB ***26*** *11:34:55.2±0.7, 23°.01S±0°.05×69°.44W±0°.06, h95km±6km, mb3.6/2, Error ellipse: s-maj=9.4km s-min=8.0km az=27.2*

GUC ***26*** *11:34:55.7±0.3, 23°.00S×69°.44W, h76km±1km, ML3.9*

ISC 26 11:34:55.9±1.0, 23°.00S±0°.05×69°.42W±0°.06, h91km±7km, n11, σ1°49/19, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**0.32**	**334**	⇓*iP*	**Pn**	**11 35 08.1**	**-1.8**
PB06				*i* S	**Sn**	**11 35 17.7**	**-2.5**
PB06				AML	AML	11 35 18.0	
	comp=N,13μm,0.2s						
PB04	**Plate Boundary**	**0.73**	**355**	⇑*iP*	**Pn**	**11 35 14.4**	**+1.6**
PB04				*i* S	**Sn**	**11 35 28.6**	**+3.1**
CEN1	**Los Morros**	**0.82**	**241**	*i* P	**Pn**	**11 35 15.1**	**+1.3**
CEN1				*i* S	**Sn**	**11 35 29.7**	**+2.4**
SPCH	**San Pedro de A**	**1.13**	**86**	*i* P	**Pn**	**11 35 17.4**	**-0.1**
SPCH				*i* S	**Sn**	**11 35 33.7**	**0.0**
PB10	**Plate Boundary**	**1.16**	**244**	*eP*	**Pn**	**11 35 16.8**	**-0.8**
PB10				*i* S	**Sn**	**11 35 32.8**	**-1.2**
PB10				AML	AML	11 35 36.3	
	comp=N,4μm,0.3s						
PB07	**Plate Boundary**	**1.34**	**341**	*eP*	**Pn**	**11 35 19.5**	**-0.4**
PB07				*i* S	**Sn**	**11 35 37.7**	**-0.3**
PB01	**Plate Boundary**	**1.94**	**358**	⇑*iP*	**Pn**	**11 35 27.7**	**+0.1**
PB01				*i* S	**Sn**	**11 35 52.1**	**+0.4**
PB01				AML	AML	11 35 56.8	
	comp=E,1μm,0.5s						
PATCX	**Punta Patache**	**2.27**	**342**	⇑*iP*	**Pn**	**11 35 31.1**	**-0.7**
PATCX				*i* S	**Sn**	**11 35 58.9**	**-0.4**
PATCX				AML	AML	11 36 07.4	
	comp=E,564nm,0.4s						
TORD	**Torodi Ar. Bea**	**78.30**	**70**	P	**P**	**11 46 46.1**	**-0.4**
	comp=E,0.6nm,0.5s,baz=255,slow=5.2,SNR=7.2						
YKA	**Yellowknife Ar**	**92.44**	**341**	P	**P**	**11 47 56.7**	**+0.8**
	comp=E,0.2nm,0.5s,baz=144,slow=4.6,SNR=4.6						
MKAR	**Makanchi Array**	**147.11**	**37**	PKPbc	**PKPab**	**11 54 29.4**	**-0.8**
	comp=E,0.2nm,0.5s,baz=304,slow=1.6,SNR=3.0						

IDC 26 11:44:12.3±3.5, 10°.26S×118°.33E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=264.6km s-min=27.2km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Ar**	**18.20**	**124**	P	Pn	11 48 26.4	-0.2
	0.2nm,0.3s,baz=296,slow=13,SNR=12						
WRA				S	Sn	11 51 36.3	-14
	0.2nm,0.3s,baz=293,slow=21,SNR=6.8						
ASAR	**Alice Springs**	**19.97**	**134**	P	P	11 48 46.5	+0.2
	0.1nm,0.3s,baz=311,slow=12,SNR=14						
MKAR	**Makanchi Array**	**65.27**	**334**	P	P	11 54 55.9	0.0
	0.1nm,0.4s,baz=131,slow=4.4,SNR=3.3						

NIED ***26*** *11:59:00, 45°.60N×142°.50E, h300km, Mw4.3 Best double couple: M0 3.50000×10^15 NP1:φ1=6.00000°, δ16.00000°, λ151.00000°. NP2:φ2=125.00000°, δ82.00000°, λ76.00000°.*

ISCJB ***26*** *11:59:42.0±0.2, 45°.59N±0°.03×142°.45E±0°.04, h311km±2km, mb3.8/24, Error ellipse: s-maj=5.6km s-min=4.9km az=16.9*

MOS ***26*** *11:59:41.7±0.9, 45°.66N×142°.25E, h309km, mb3.6/18, Error ellipse: s-maj=12.7km s-min=8.4km az=83.8*

BJI ***26*** *11:59:42.4, 45°.88N×142°.38E, h316km, mB4.7/13, mb4.5/30*

JMA ***26*** *11:59:42.6±0.2, 45°.58N×142°.47E, h311km±2km, M4.2*

SKHL ***26*** *11:59:42.7±1.1, 45°.65N×142°.42E, h318km±15km, mb4.9/2, msh5.2/3*

IDC ***26*** *11:59:42.9±0.5, 45°.68N×142°.35E, h305km±6km, mb3.5/18, mb1 3.7/24, mb1mx3.7/37, mbtmp4.3/24, Error ellipse: s-maj=11.7km s-min=8.5km az=149.0*

ISC 26 11:59:42.7±0.5, 45°.60N±0°.05×142°.41E±0°.04, h307km±5km, n91, σ1°23/113, mb3.7/24, 10C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.46**	**232**	⇑P	**Pn**	**12 00 22.6**	**+0.6**
JWK2				*eS*	**S**	**12 00 53.5**	**+0.2**
JSE	**Soyaes**	**0.66**	**169**	⇑P	**Pn**	**12 00 22.7**	**+0.1**
JSE				*eS*	**S**	**12 00 53.6**	**-0.7**
JRR	**Rishiri**	**0.91**	**239**	P	**Pn**	**12 00 24.0**	**+0.6**
JRR				*eS*	**S**	**12 00 56.3**	**+0.5**
JSS	**Shosan**	**1.27**	**198**	⇑P	**Pn**	**12 00 25.8**	**+0.6**
JSS				*eS*	**S**	**12 00 59.3**	**+0.2**
JYG	**Yagishiri**	**1.37**	**211**	P	**Pn**	**12 00 26.3**	**+0.5**
JYG				*eS*	**S**	**12 01 00.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**1.37**	**10**	⇓*i*PN	**Pn**	**12 00 25.6**	**0.0**
YSS				*i* S	**S**	**12 00 58.3**	**-1.6**
YSS				pmax	pmax		
	comp=Z,240nm,0.4s						
YSS				smax	smax		
	comp=N,390nm,1.0s						
YSS	**Yuzh-Sakhalins**	**1.37**	**10**	⇓*i*P	**Pn**	**12 00 25.6**	**0.0**
YSS				AMB	AMB	12 00 25.9	
	comp=N,240nm,0.4s						
YSS				*i* S	**S**	**12 00 58.3**	**-1.6**
YSS				A	A	12 00 59.6	
	comp=N,390nm,1.0s						
YSS	**Yuzh-Sakhalins**	**1.37**	**10**	*eP*	**Pn**	**12 00 25.6**	**0.0**
YSS				AMB	AMB	12 00 25.9	
	comp=N,240nm,0.4s						
YSS				*eS*	**S**	**12 00 58.6**	**-1.3**
YSS				A	A	12 00 59.6	
	comp=N,390nm,1.0s						
ASAJ	**Asahikawa**	**1.49**	**175**	P	**Pn**	**12 00 27.1**	**+0.5**
ASAJ				*eS*	**S**	**12 01 02.2**	**+0.7**
ASAJ	**Asahikawa**	**1.49**	**175**	P	**Pn**	**12 00 27.1**	**+0.5**
	comp=N,30nm,0.3s,baz=337,slow=5.4,SNR=237						
ASAJ				S	**S**	**12 01 02.5**	**+1.0**
	comp=N,4.0nm,0.3s,baz=83,slow=19,SNR=9.4						
JMP	**Maruseppu**	**1.73**	**157**	*eS*	**S**	**12 01 04.6**	**+0.1**
JKK2	**Kamakawa 2**	**1.75**	**172**	⇑P	**Pn**	**12 00 28.8**	**+0.5**
JHR	**Hokuryu**	**1.92**	**195**	P	**Pn**	**12 00 30.1**	**+0.5**
JTKR	**Abashiri--Toko**	**1.95**	**146**	P	**Pn**	**12 00 30.1**	**+0.4**
JTKR				*eS*	**S**	**12 01 06.9**	**-0.3**
JAB	**Ashibetsu**	**2.10**	**184**	⇑P	**Pn**	**12 00 31.3**	**+0.3**
JFR	**Furan**	**2.44**	**177**	⇑P	**Pn**	**12 00 34.0**	**+0.1**
JFR				*eS*	**S**	**12 01 14.6**	**-0.1**
JAR	**Ashorobuto**	**2.50**	**157**	⇑P	**Pn**	**12 00 34.8**	**+0.4**
JAR				*eS*	**S**	**12 01 15.5**	**-0.1**
JRA	**Rausu**	**2.55**	**130**	P	**Pn**	**12 00 35.5**	**+0.8**
JSK	**Shakotan**	**2.64**	**212**	P	**Pn**	**12 00 36.3**	**+0.7**
JEW	**Eniwo**	**2.85**	**194**	⇑P	**Pn**	**12 00 38.4**	**+0.8**
JEW				*eS*	**S**	**12 01 21.0**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**2.91**	**121**	⇓*i*PN	**Pn**	**12 00 39.6**	**+1.5**
YUK				*i* S	**S**	**12 01 25.4**	**+3.1**
YUK				pmax	pmax		
	comp=E,51nm,0.3s						
YUK				pmax	pmax		
	comp=Z,80nm,0.3s						
YUK				smax	smax		
	comp=N,174nm,0.7s						
YUK				smax	smax		
	comp=E,155nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.91**	**121**	*eP*	**Pn**	**12 00 39.6**	**+1.5**
YUK				AMB	AMB	12 00 43.7	
	comp=E,80nm,0.3s						
YUK				*eS*	**S**	**12 01 25.4**	**+3.1**
YUK				A	A	12 01 41.5	
	comp=E,174nm,0.5s						
YUK				A	A	12 01 41.5	
	comp=E,155nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.91**	**121**	*eP*	**Pn**	**12 00 39.0**	**+0.9**
YUK				AMB	AMB	12 00 43.7	
	comp=E,80nm,0.3s						
YUK				*eS*	**S**	**12 01 24.0**	**+1.7**
YUK				A	A	12 01 41.5	
	comp=E,174nm,0.7s						
YUK				A	A	12 01 41.5	
	comp=E,155nm,0.7s						
JCH	**Churui**	**3.07**	**167**	⇑P	**Pn**	**12 00 38.2**	**-1.5**
JCH				*eS*	**S**	**12 01 21.3**	**-3.9**
JAK	**Akkeshi**	**3.08**	**147**	P	**Pn**	**12 00 38.6**	**-1.2**
JAK				*eS*	**S**	**12 01 21.9**	**-3.5**
NEM2	**Nemuro 2**	**3.27**	**132**	*eS*	**S**	**12 01 24.5**	**-4.3**
JNBK	**Urakawa-nobuka**	**3.33**	**176**	P	**Pn**	**12 00 41.4**	**-0.9**
JNBK				*eS*	**S**	**12 01 27.1**	**-2.9**
SHO	**Shikotan**	**3.59**	**117**	*eP*	**Pn**	**12 00 43.6**	**-1.3**
SHO				*eS*	**S**	**12 01 31.2**	**-3.6**
SHO				A	A	12 01 33.1	
	comp=E,281nm,0.4s						
ERM	**Erimo**	**3.63**	**171**	*d* iPN	**Pn**	**12 00 45.4**	**0.0**
ERM	**Erimo**	**3.63**	**171**	*eP*	**Pn**	**12 00 45.4**	**0.0**
JKB	**Kayabe**	**3.85**	**196**	P	**Pn**	**12 00 46.9**	**-0.8**
JKB				*eS*	**S**	**12 01 37.1**	**-2.6**
TEY	**Ternei**	**4.14**	**264**	*eP*	**Pn**	**12 00 51.0**	**+0.3**
TEY				AMB	AMB	12 00 51.3	
	comp=E,19nm,0.7s						
TEY				*eS*	**S**	**12 01 44.0**	**-1.3**
TEY				A	A	12 01 46.0	
	comp=E,40nm,0.9s						
HABR	**Khabarovsk**	**5.79**	**302**	*e*PN	**Pn**	**12 01 08.7**	**-0.9**
HABR				*eS*	**S**	**12 02 19.1**	**-0.6**
HABR				pmax	pmax		
	comp=E,27nm,1.7s						
HABR				pmax	pmax		
	comp=N,20nm,1.7s						
HABR				pmax	pmax		
	comp=Z,76nm,1.7s						
HABR				MLR	MLR		
	comp=Z,79nm,15.0s						
GRNR	**Gornyy**	**6.54**	**324**	*eP*	**Pn**	**12 01 18.0**	**-0.5**
USRK	**Ussuriysk Arra**	**7.53**	**263**	P	**Pn**	**12 01 31.4**	**+0.8**
	comp=Z,6.5nm,0.3s,baz=70,slow=13,SNR=156						
USRK				S	**S**	**12 02 58.8**	**+0.8**
	baz=74,slow=23,SNR=5.4						
KLR	**Kul'dur**	**8.09**	**300**	*e*PN	Pn	12 01 33.7	-3.6
MDJ	**Mudanjiang**	**9.12**	**268**	P	**Pn**	**12 01 50.8**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,59nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,200nm,6.1s						
MAJO	**Matsushiro**	**9.59**	**201**	*e*PN	**Pn**	**12 01 54.3**	**-1.6**
MAT	**Matsushiro**	**9.59**	**201**	P	**Pn**	**12 01 53.8**	**-2.1**
MAT				S	**S**	**12 03 46.3**	**+1.8**
MJAR	**Matsushiro Arr**	**9.59**	**201**	P	**Pn**	**12 01 55.4**	**-0.5**
	comp=Z,5.0nm,0.3s,baz=8.8,slow=13,SNR=38						
EKMR	**Ekimchan**	**9.69**	**324**	*eP*	Pn	12 01 53.5	-3.3
EKMR				AMB	AMB	12 01 54.5	
	comp=Z,11nm,0.6s						
EKMR				AMB	AMB	12 02 18.2	
	comp=Z,4.0nm,0.6s						
CN2	**Changchun**	**12.21**	**268**	*eP*	**Pn**	**12 02 27.5**	**-0.1**
CN2				pmax	pmax		
	comp=Z,50nm,0.6s						
PETK	**Petropavlovsk-**	**12.46**	**47**	PN	**P**	**12 02 31.2**	**0.0**
PETK	**Petropavlovsk-**	**12.46**	**47**	P	**P**	**12 02 31.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=225,slow=7.7,SNR=5.0						
BMKR	**Bomnak**	**12.58**	**321**	*eP*	Pn	12 02 27.5	-4.4
ZEA	**Zeya**	**12.73**	**315**	*eP*	**P**	**12 02 34.4**	**+0.2**
KSRS	**Korea Array**	**13.55**	**238**	P	**Pn**	**12 02 44.2**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=54,slow=11,SNR=26						
JNU	**Nakatsue**	**15.31**	**219**	P	**Pn**	**12 03 03.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=7.1,slow=8.1,SNR=6.2						
SEY	**Seymchan**	**18.27**	**15**	P	**P**	**12 03 34.2**	**-0.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY	**Seymchan**	**18.27**	**15**	P	**P**	**12 03 34.2**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=210,slow=10,SNR=86						
FX1	**Att Island--F**	**21.23**	**59**	P	**P**	**12 04 05.8**	**+0.8**
	comp=Z,7.8nm,0.5s,baz=184,slow=3.8,SNR=8.8						
SONM	**Songino Array**	**24.66**	**288**	P	**P**	**12 04 36.2**	**0.0**
	comp=Z,11nm,0.5s,baz=80,slow=8.8,SNR=70						
BILL	**Bilibino**	**25.66**	**21**	*eP*	**P**	**12 04 47.0**	**+2.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.6s						
ZAK	**Zakamensk**	**26.40**	**295**	*eP*	**P**	**12 04 50.9**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA	**Gaotai**	**31.72**	**274**	*eP*	**P**	**12 05 40.0**	**+1.4**
GTA				pmax	pmax		
	comp=Z,17nm,0.7s						
ZALV	**Zalesovo Beam**	**37.17**	**304**	P	**P**	**12 06 24.1**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**37.17**	**304**	P	**P**	**12 06 24.1**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=56,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**40.73**	**294**	P	**P**	**12 06 54.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**40.73**	**294**	P	**P**	**12 06 54.0**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=68,slow=9.0,SNR=14						
COLA	**College**	**41.60**	**37**	⇓*i*P	**P**	**12 07 00.5**	**-0.4**
COLA				pmax	pmax		
	comp=Z,37nm,1.2s						
ILAR	**Eielson Array**	**42.02**	**37**	P	**P**	**12 07 03.4**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=280,slow=7.6,SNR=40						
CMAR	**Chiang Mai Arr**	**44.95**	**248**	P	**P**	**12 07 27.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=40,slow=7.4,SNR=7.4						
BRVK	**Borovoye**	**45.75**	**307**	*eP*	P	12 07 37.6	+3.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**46.52**	**31**	P	**P**	**12 07 38.7**	**-0.9**
	comp=Z,2.4nm,0.4s,baz=292,slow=6.7,SNR=25						
TAPN	**Taplejung**	**46.66**	**266**	*eP*	**P**	**12 07 42.7**	**+1.0**
	comp=Z,14nm,0.4s						
ODAN	**Odare**	**47.19**	**266**	*eP*	**P**	**12 07 46.5**	**+0.9**
AAK	**Ala-Archa**	**47.52**	**292**	⇑*iP*	**P**	**12 07 47.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
JIRN	**Jiri**	**47.54**	**268**	*eP*	**P**	**12 07 49.4**	**+0.9**
GUN	**Gumba**	**47.61**	**268**	*eP*	**P**	**12 07 49.4**	**+0.5**
	comp=Z,16nm,0.5s						
RAMN	**Ramite**	**47.69**	**267**	*eP*	**P**	**12 07 50.1**	**+0.7**
	comp=Z,37nm,0.7s						
KKN	**Kakani**	**48.10**	**269**	*eP*	**P**	**12 07 53.5**	**+1.0**
PKI	**Pulchoki**	**48.14**	**268**	*eP*	**P**	**12 07 53.7**	**+0.7**
PKIN	**Phulchoki**	**48.15**	**268**	*eP*	**P**	**12 07 53.3**	**+0.3**
DMN	**Daman**	**48.33**	**269**	*eP*	**P**	**12 07 55.5**	**+1.2**
GKN	**Gorkha**	**48.42**	**269**	*eP*	**P**	**12 07 55.5**	**+0.6**
	comp=Z,8.0nm,0.3s						
DANN	**Dangsing**	**48.83**	**270**	*eP*	**P**	**12 07 59.2**	**+1.1**
KOLN	**Koldanda**	**49.29**	**270**	*eP*	**P**	**12 08 00.9**	**-0.6**
	comp=Z,12nm,0.7s						
PYUN	**Piuthan**	**49.52**	**271**	*eP*	**P**	**12 08 04.0**	**+0.8**
	comp=Z,28nm,0.6s						
YKA	**Yellowknife Ar**	**56.12**	**33**	P	**P**	**12 08 50.1**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=304,slow=6.7,SNR=56						
FINES	**FINESS Array B**	**61.65**	**331**	P	**P**	**12 09 27.1**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=42,slow=8.8,SNR=6.8						
WRA	**Warramunga Arr**	**65.64**	**188**	P	**P**	**12 09 54.9**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=6.8,slow=6.7,SNR=14						
NB2	**NORSAR Subarra**	**66.60**	**336**	P	**P**	**12 09 58.9**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**66.60**	**336**	P	**P**	**12 09 59.5**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=36,slow=6.4,SNR=6.7						
AKASG	**Malin Array Be**	**68.05**	**321**	*i* P	**P**	**12 10 09.8**	**+0.5**
AKASG	**Malin Array Be**	**68.05**	**321**	P	**P**	**12 10 08.6**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=41,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**69.37**	**188**	P	**P**	**12 10 18.8**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=2.0,slow=5.4,SNR=16						
NVAR	**Mina Array Bea**	**69.40**	**56**	P	**P**	**12 10 18.9**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=294,slow=5.6,SNR=20						
PDAR	**Pinedale Array**	**71.23**	**48**	P	**P**	**12 10 29.3**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=300,slow=1.8,SNR=21						
ULM	**Lac du Bonnet**	**71.99**	**35**	P	**P**	**12 10 33.3**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=342,slow=6.0,SNR=3.8						
BRTR	**Keskin Array B**	**73.79**	**310**	P	**P**	**12 10 44.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=97,slow=4.3,SNR=3.7						
TXAR	**Lajitas Array**	**84.34**	**53**	P	**P**	**12 11 41.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=286,slow=3.6,SNR=15						

IDC ***26*** *12:00:49.2±1.0, 0°.20N×124°.49E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/30, mbtmp3.5/4, Error ellipse: s-maj=136.3km s-min=20.4km az=67.0*

ISCJB ***26*** *12:00:54.5±0.9, 0°.52N±0°.10×125°.19E±0°.08, h53km, mb3.5/4, Error ellipse: s-maj=14.9km s-min=10.2km az=31.5*

DJA ***26*** *12:00:58.9±1.8, 0°N±7°×12°.5E±°, h32km±24km, M4.2/9, mb4.5/2, mB5.0/1, MLv4.1/9, Mw(mB)4.4/1*

ISC 26 12:00:56.4±1.0, 0°.5N±0°.1×125°.12E±0°.10, h53km, n15, σ0°92/12, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.14**	**276**	P	**Pn**	**12 01 16.7**	**+0.6**
GTOI	**Gorontalo**	**2.12**	**275**	P	Pn	12 01 33.1	+3.7
TNTI	**Ternate**	**2.27**	**82**	P	Pn	12 01 38.2	+6.7
LBMI	**Labuha**	**2.62**	**115**	P	Pn	12 01 41.3	+5.0
SANI	**Sanana**	**2.64**	**161**	P	**Pn**	**12 01 36.1**	**-0.5**
LUWI	**Luwuk**	**2.78**	**238**	P	**Pn**	**12 01 39.2**	**+0.7**
MRSI	**Marisa**	**3.18**	**270**	P	Pn	12 01 40.1	-3.8
APSI	**Ampana**	**3.73**	**249**	P	**Pn**	**12 01 52.0**	**+0.5**
NLAI	**Namlea**	**4.17**	**152**	P	**Pn**	**12 01 59.4**	**+1.8**
TTSI	**Tana Toraja**	**6.34**	**237**	P	**Pn**	**12 02 27.7**	**+0.4**
	33nm,0.7s,1μm						
MMSI	**Mamuju**	**6.95**	**243**	P	x	12 02 37.7	
WRA	**Warramunga Arr**	**22.20**	**156**	P	**P**	**12 05 47.4**	**-1.1**
	0.7nm,0.5s,baz=333,slow=11,SNR=10.0						
WRA				PcP	**PcP**	**12 09 44.0**	**+0.2**
	0.6nm,1.1s,baz=337,slow=2.1,SNR=4.2						
ASAR	**Alice Springs**	**25.46**	**161**	P	**P**	**12 06 18.8**	**-0.8**
	0.3nm,0.6s,baz=338,slow=6.5,SNR=9.4						
ASAR				PcP	**PcP**	**12 09 51.3**	**+0.6**
	0.3nm,0.4s,baz=347,slow=2.0,SNR=12						
SONM	**Songino Array**	**49.91**	**344**	P	**P**	**12 09 45.2**	**+0.4**
	0.3nm,0.4s,baz=150,slow=6.1,SNR=2.3						
MKAR	**Makanchi Array**	**59.36**	**327**	P	**P**	**12 10 52.4**	**-0.8**
	0.4nm,0.4s,baz=122,slow=7.9,SNR=9.9						

DJA 26 12:10:26.4±1.1, 8°S±10°×107°E±°, h10km, M3.7/5, MLv3.7/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.96**	**37**	P	Pg	12 10 43.2	-1.9
CISI				S	Sg	12 10 52.7	-5.0
CNJI	**Cibinong**	**1.02**	**354**	P	Pg	12 10 44.3	-1.7
CMJI	**Cimerak**	**1.32**	**66**	P	Pn	12 10 49.6	-1.3
SKJI	**Sukabumi**	**1.48**	**333**	P	Pn	12 10 53.0	-0.1
SKJI				S	Sn	12 11 07.9	-4.6
CGJI	**Cibinong**	**2.29**	**318**	P	Pn	12 11 03.3	-0.9
UGM	**Wanagama**	**3.29**	**83**	P	Pn	12 11 18.3	+0.3
PCJI	**Pacitan**	**3.91**	**88**	P	Pn	12 11 26.4	-0.1

IDC 26 12:36:29.4±3.6, 7°.39S×132°.01E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=245.9km s-min=32.0km az=73.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.68**	**170**	Pn	Pn	12 39 31.4	+0.2
	0.1nm,0.3s,baz=355,slow=13,SNR=11						
WRA				Sn	Sn	12 41 48.5	-4.8
	0.1nm,0.3s,baz=357,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**16.28**	**174**	Pn	Pn	12 40 19.5	-0.3
	0.1nm,0.3s,baz=353,slow=8.8,SNR=10.0						
MKAR	**Makanchi Array**	**69.65**	**326**	P	P	12 47 40.9	0.0
	0.2nm,0.4s,baz=126,slow=6.0,SNR=3.8						

IDC 26 12:44:38.5±1.6, 4°.05S×145°.07E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/24, mbtmp3.4/4, ML3.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=64.4km s-min=26.3km az=111.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.71**	**159**	Pn	Pn	12 46 05.0	+0.3
	0.8nm,0.3s,baz=336,slow=10.0,SNR=5.2						
PMG				Sn	Sn	12 46 58.2	-13
	1.5nm,0.3s,baz=186,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	**18.94**	**213**	P	P	12 49 01.4	0.0
	0.2nm,0.3s,baz=37,slow=10.0,SNR=22						
WRA				LR	LR	12 56 31.3	
	comp=Z,38nm,19.0s,baz=160,slow=38						
ASAR	**Alice Springs**	**22.28**	**208**	P	P	12 49 36.9	-0.7
	0.2nm,0.3s,baz=38,slow=7.9,SNR=14						
ILAR	**Eielson Array**	**84.47**	**24**	P	P	12 57 13.2	+0.3
	0.6nm,0.6s,baz=249,slow=5.3,SNR=12						

ISCJB ***26*** *12:47:09.2±0.7, 13°.00N±0°.05×124°.56E±0°.06, h46km±7km, mb3.6/7, Error ellipse: s-maj=11.7km s-min=5.5km az=149.6*

IDC ***26*** *12:47:13.0±5.5, 12°.82N×124°.40E, h64km±51km, mb3.4/7, mb1 3.6/8, mb1mx3.4/33, mbtmp3.7/8, ML4.2/1, Error ellipse: s-maj=62.6km s-min=14.9km az=64.0*

ISC 26 12:47:09.0±1.4, 13°.01N±0°.05×124°.55E±0°.07, h28km±10km, n27, σ1°46/26, mb3.7/7, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.51**	**167**	*eP*	**Pb**	**12 47 18.9**	**-0.5**
CNP				*eS*	**Sn**	**12 47 27.7**	**-0.5**
PVCP	**Virac**	**0.70**	**327**	⇑*iP*	**Pb**	12 47 18.9	-0.8
PVCP	**Virac**	**0.70**	**327**	*eP*	Pb	12 47 19.0	-3.6
PVCP				*eS*	**Sb**	**12 47 31.8**	**-0.1**
MMPH	**Masbate**	**1.11**	**234**	*eP*	Pn	12 47 23.1	-5.6
MMPH				*i* S	Sb	12 48 10.6	+27
AUQP	**San Andres**	**1.85**	**280**	*eP*	**Pb**	**12 47 40.7**	**-1.4**
PLP	**Palo**	**1.88**	**167**	⇓*eP*	**Pn**	**12 47 38.8**	**-0.5**

σ0°71/33, **mb4.7**/10, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.20**	**159**	P	**P**	**13 01 37.0**	**+0.8**
VNA2	**Neumayer--Watz**	**17.59**	**159**	P	**P**	**13 01 43.2**	**+2.7**
	baz=327,slow=11						
SNAA	**Sanae**	**19.13**	**157**	P	**P**	**13 01 57.3**	**-0.1**
SNAA	**Sanae**	**19.13**	**157**	*e*P	**Pn**	**13 01 58.2**	**-0.4**
	4.9nm,0.6s						
SNAA				*e*S	**Sn**	**13 05 31.3**	**-0.3**
TRQA	**Tornquist**	**29.36**	**292**	*e*P	**P**	**13 03 36.9**	**-0.3**
	37nm,1.8s						
PLCA	**Paso Flores**	**32.18**	**279**	*e*P	**P**	**13 04 01.6**	**-0.4**
	7.1nm,1.2s						
QSPA	**South Pole Qui**	**34.74**	**180**	*e*P	**P**	**13 04 24.1**	**-0.1**
	7.1nm,0.6s						
BDFB	**Brasilia**	**43.03**	**329**	LR	LR	13 24 20.3	
	comp=Z,94nm,18.2s,baz=211,slow=37						
LVC	**Limon Verde**	**45.27**	**299**	*e*P	**P**	**13 05 53.1**	**+1.1**
	6.4nm,0.6s						
SBA	**Scott Base**	**46.64**	**184**	P	**P**	**13 06 01.9**	**+0.1**
	28nm,1.1s						
VNDA	**Vanda**	**47.12**	**183**	*e*P	**P**	**13 06 05.8**	**+0.2**
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**13 06 05.0**	**-0.6**
	4.4nm,0.8s,baz=191,slow=7.0,SNR=15						
DBIC	**Dimbokro**	**64.56**	**24**	P	**P**	**13 08 10.8**	**-0.3**
DBIC	**Dimbokro**	**64.56**	**24**	P	**P**	**13 08 10.8**	**-0.3**
	2.0nm,0.8s,baz=175,slow=12,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**72.45**	**29**	*e*P	**P**	**13 08 59.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**72.45**	**29**	P	**P**	**13 09 00.3**	**0.0**
TORD	**Torodi Ar. Bea**	**72.45**	**29**	P	**P**	**13 09 00.3**	**0.0**
	5.7nm,0.7s,baz=198,slow=6.3,SNR=36						
SNZO	**South Karori**	**81.84**	**196**	*e*P	**P**	**13 09 51.5**	**-1.3**
	42nm,1.3s						
RAO	**Raoul Island**	**92.05**	**205**	*e*P	**P**	**13 10 43.1**	**+0.3**
	118nm,0.4s						
ASAR	**Alice Springs**	**99.42**	**162**	P	**Pdif**	**13 11 16.3**	**-0.3**
ASAR	**Alice Springs**	**99.42**	**162**	P	**Pdif**	**13 11 16.3**	**-0.3**
	0.9nm,0.8s,baz=188,slow=4.5,SNR=5.5						
ARCES	**ARCESS Array B**	**130.34**	**21**	PKP	**PKPdf**	**13 16 43.4**	**+0.9**
ARCES	**ARCESS Array B**	**130.34**	**21**	PKP	**PKPdf**	**13 16 43.4**	**+0.9**
	7.9nm,1.0s,baz=116,slow=2.1,SNR=3.8						
YKA	**Yellowknife Ar**	**135.95**	**318**	PKP	**PKPdf**	**13 16 52.5**	**-0.6**
YKA	**Yellowknife Ar**	**135.95**	**318**	PKP	**PKPdf**	**13 16 52.5**	**-0.6**
	0.6nm,0.7s,baz=126,slow=2.1,SNR=8.6						
INK	**Inuvik**	**145.55**	**321**	*e*PKPbc	**PKPab**	**13 17 10.9**	**0.0**
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKPbc**	**13 17 22.7**	**0.0**
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKPbc**	**13 17 22.7**	**0.0**
	2.3nm,0.7s,baz=123,slow=2.6,SNR=19						
SONM	**Songino Array**	**150.42**	**85**	PKPbc	**PKPbc**	**13 17 24.6**	**+0.1**
SONM	**Songino Array**	**150.42**	**85**	PKPbc	**PKPbc**	**13 17 24.6**	**+0.1**
	1.3nm,0.6s,baz=226,slow=3.5,SNR=8.8						
KTH	**Kantishna Hill**	**151.47**	**309**	*e*PKPdf	**PKPdf**	**13 17 20.2**	**0.0**
KTH				*e*PKPbc	**PKiKP**	**13 17 26.9**	**+0.1**
KTH				*e*PKPab	**PKPab**	**13 17 34.8**	**-0.3**

MEX 26 13:13:40.2±1.1, 17°25N×100°86W, h5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**301**	*e*P	Pg	13 13 52.4	-0.9
ZIIG				*i* S	Sg	13 14 02.3	+0.1
ACP2	**Acapulco**	**1.00**	**112**	*i* P	Pg	13 13 56.4	-3.0
ACP2				*i* S	Sg	13 14 09.5	-2.9
ARIG	**Puente Sto Nin**	**1.13**	**25**	*e*P	Pg	13 13 58.4	-3.6
ARIG				*i* S	Sg	13 14 13.1	-3.6
PLIG	**Platanillo**	**1.72**	**48**	*e*P	Pn	13 14 08.0	-2.9
PLIG				*i* S	Sn	13 14 28.2	-5.1
TLIG	**Tlapa**	**2.21**	**82**	*i* P	Pn	13 14 15.0	-2.7
TLIG				*i* S	Sn	13 14 41.8	-3.7
YAIG	**Yautepec**	**2.34**	**46**	*e*P	Pn	13 14 17.5	-2.0
YAIG				*e*S	Sn	13 14 45.0	-3.8
PNIG	**Pinotepa**	**2.75**	**108**	*e*P	Pn	13 14 20.7	-4.3
PNIG				*i* S	Sn	13 14 55.5	-3.1

*SJA **26** 13:28:45.0±1.3, 31°32S×72°11W, h58km±19km, ML3.9*
*GUC **26** 13:28:47.4±0.4, 31°52S×71°68W, h25km±2km, ML3.8*

ISC 26 13:28:45.5±2.5, 31°57S±0°08×71°7W±0°1, h2km±15km, n19, σ1°72/26, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.74**	**58**	*i* P	**Pg**	**13 29 00.2**	**+0.6**
CMCH				*i* S	**Sg**	**13 29 09.9**	**+0.7**
JACH	**Jahuel**	**1.47**	**139**	*i* P	**Pn**	**13 29 13.0**	**-0.2**
JACH				*i* S	**Sn**	**13 29 32.1**	**-1.0**
ROCH	**El Roble**	**1.53**	**157**	*e*P	**Pn**	**13 29 13.9**	**-0.2**
ROCH				*i* S	**Sn**	**13 29 34.5**	**-0.2**
ROCH				AML	AML	13 29 38.7	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.81**	**151**	*e*P	**Pn**	**13 29 18.2**	**+0.4**
PEL				*i* S	**Sn**	**13 29 41.9**	**+0.6**
PEL				AML	AML	13 29 44.6	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**2.08**	**151**	*e*P	**Pn**	**13 29 22.5**	**+0.9**
CLCH				*i* S	**Sn**	**13 29 49.1**	**+0.9**
CLCH				AML	AML	13 30 00.1	
	comp=E,842nm,0.6s						
RTLS	**Leoncito**	**2.09**	**97**	*i* P9	**Pb**	**13 29 24.0**	**-0.3**
RTLS				⇓*e*S	**Sg**	**13 29 53.3**	**+0.7**
AUSP	**Uspallata**	**2.10**	**109**	*i* P	**Pb**	**13 29 24.8**	**+0.3**
AUSP				*e*S4	**Sb**	**13 29 52.4**	**+1.2**
CHCH	**Chadas Angostu**	**2.53**	**159**	⇓*i*P	**Pn**	**13 29 28.4**	**+0.7**
CHCH				*i* S	**Sn**	**13 29 59.9**	**+0.7**
ARCO	**CERRO ARCO**	**2.69**	**119**	*i* P	**Pb**	**13 29 34.6**	**+0.1**
ARCO				AML	AML	13 30 21.7	
	comp=Z,236nm,0.5s						
RTCV	**Cerro Valdivia**	**2.73**	**97**	*i* P	**Pb**	**13 29 33.8**	**-1.5**
RTLL	**Cerro Villicun**	**2.79**	**86**	*i* P	**Pb**	**13 29 33.9**	**-2.3**
RTLL				*e*S4	**Sb**	**13 30 12.6**	**+1.7**
AMOG	**MOGNA**	**2.84**	**78**	*i* P	**Pb**	**13 29 35.1**	**-2.0**
AMOG				*i* P	**Pb**	**13 29 35.1**	**-2.0**
AAGR	**Agrelo**	**2.89**	**122**	*i* P	**Pb**	**13 29 36.8**	**-1.1**
CFAA	**Coronel Fontan**	**2.98**	**92**	*i* P	**Pb**	**13 29 37.0**	**-2.4**
AVFE	**Valle Fertil**	**3.78**	**77**	*i* P	Pn	13 29 46.3	+1.4
AVFE				*e*S	**Sn**	**13 30 33.1**	**+3.1**
AVFE				AML	AML	13 30 41.6	
	comp=Z,164nm,0.5s						
ACAN	**Cantantal**	**3.93**	**102**	*i* P4	Pn	13 29 49.0	+2.1
ACAN				⇓*e*S	**Sb**	**13 30 38.8**	**-4.8**
ACHE	**Chepes**	**4.35**	**86**	*i* P4	Pn	13 29 54.3	+1.4
APLL	**PUNTA DE LOS L**	**4.62**	**77**	*i* P	Pn	13 29 58.6	+2.1
CYA	**Choya**	**6.01**	**60**	AML	AML	13 31 33.0	
	comp=Z,33nm,0.8s						

*NSSC **26** 13:31:11.8±1.5, 34°88N×26°77E, h0km±173km, ML3.7*
*BJI **26** 13:31:12.0, 35°37N×26°17E, h23km, mB5.0/3, mb4.5/17*
*MOS **26** 13:31:13.7±1.3, 34°95N×26°70E, h23km, mb4.8/31, Error ellipse: s-maj=5.4km s-min=3.8km az=102.3*
*DDA **26** 13:31:13.6, 35°12N×26°80E, h11km, MD4.0, ML4.2*
*ISCJB **26** 13:31:14.2±0.5, 35°04N±0°02×26°91E±0°01, h22km±3km, mb4.4/59, MS3.7/12, Error ellipse: s-maj=3.5km s-min=1.9km az=8.4*
*NEIC **26** 13:31:14.2±0.3, 35°00N×26°79E, h10km, mb4.5/37, ML4.4(THE), Error ellipse: s-maj=6.1km s-min=3.8km az=184.0*
*ISK **26** 13:31:14.9, 35°25N×27°00E, h16km, ML4.3*
*IDC **26** 13:31:15.9±2.2, 35°15N×26°76E, h22km±15km, mb4.1/21, mb1 4.2/32, mb1mx4.1/37, mbtmp4.2/32, ML3.9/9, MS3.7/15, Ms1 3.7/15, ms1mx3.5/35, Error ellipse: s-maj=14.0km s-min=10.5km az=178.0*
*THE **26** 13:31:15.9, 35°12N×26°76E, h1km±1km, ML4.4/4, Error ellipse: s-maj=3.8km s-min=0.9km az=153.0*
*CSEM **26** 13:31:16.0±0.1, 35°06N×26°90E, h20km, mb4.4/17, Ms3.4, Error ellipse: s-maj=4.6km s-min=2.5km az=8.0*
*ATH **26** 13:31:16.1, 35°21N×26°76E, h19km, ML4.1*
*NIC **26** 13:31:18.9±0.4, 34°93N×26°99E, h106km, mb4.7, ML4.3*

ISC 26 13:31:15.3±0.5, 35°12N±0°03×26°80E±0°02, h19km±1km, n780, σ1°37/731, mb4.5/59, MS3.7/12, 14C-15D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.47**	**270**	P	**Pg**	**13 31 23.8**	**-1.2**
ZKR				S	**Sb**	**13 31 31.8**	**+0.1**
ZKR	**Zakros**	**0.47**	**270**	*e*PB	**Pb**	**13 31 24.5**	**-0.6**
ZKR	**Zakros**	**0.47**	**270**	P	**Pg**	**13 31 23.8**	**-1.2**
ZKR				S	**Sb**	**13 31 31.8**	**+0.1**
ZKR	**Zakros**	**0.47**	**270**	P	**Pg**	**13 31 23.8**	**-1.2**
ZKR				S	**Sb**	**13 31 31.8**	**+0.1**
KARP	**Karpathos**	**0.52**	**35**	P	**Pb**	**13 31 25.4**	**-0.5**
KARP				S	**Sn**	**13 31 35.0**	**-1.2**
KARP	**Karpathos**	**0.52**	**35**	*e*PB	**Pb**	**13 31 25.4**	**-0.5**
KARP				*e*SB	**Sb**	**13 31 33.0**	**0.0**
KARP	**Karpathos**	**0.52**	**35**	P	**Pb**	**13 31 25.4**	**-0.5**
KARP				S	**Sn**	**13 31 35.0**	**-1.2**
KARP	**Karpathos**	**0.52**	**35**	P	**Pb**	**13 31 25.4**	**-0.5**
KARP				*e*Sb	**Sb**	**13 31 33.0**	**0.0**
KARP				S	**Sn**	**13 31 35.0**	**-1.2**
NPS	**Neapolis**	**0.98**	**279**	P	**Pg**	**13 31 33.8**	**-0.6**
NPS				S	**Sn**	**13 31 48.2**	**+0.8**
NPS	**Neapolis**	**0.98**	**279**	P	**Pg**	**13 31 33.8**	**-0.6**
NPS				S	**Sn**	**13 31 48.2**	**+0.8**
NPS	**Neapolis**	**0.98**	**279**	*e*PN	**Pg**	**13 31 34.1**	**-0.3**
NPS				*e*SN	**Sn**	**13 31 47.1**	**-0.3**
NPS	**Neapolis**	**0.98**	**279**	P	**Pg**	**13 31 33.8**	**-0.6**
NPS				S	**Sn**	**13 31 48.2**	**+0.8**
NPS	**Neapolis**	**0.98**	**279**	P	**Pg**	**13 31 33.8**	**-0.6**
NPS	**Neapolis**	**0.98**	**279**	*e*Pn	**Pg**	**13 31 34.1**	**-0.3**
NPS				*e*Sn	**Sn**	**13 31 47.1**	**-0.3**
NPS				S	**Sn**	**13 31 48.2**	**+0.8**
LAST	**Lasithi**	**1.08**	**273**	P	**Pg**	**13 31 35.4**	**-0.9**
LAST				S	**Sg**	**13 31 50.8**	**+0.3**
LAST	**Lasithi**	**1.08**	**273**	*e*PN	**Pg**	**13 31 35.9**	**-0.4**
LAST	**Lasithi**	**1.08**	**273**	P	**Pg**	**13 31 35.4**	**-0.9**
LAST				S	**Sg**	**13 31 50.8**	**+0.3**
LAST	**Lasithi**	**1.08**	**273**	P	**Pg**	**13 31 35.4**	**-0.9**
LAST	**Lasithi**	**1.08**	**273**	*e*Pn	**Pg**	**13 31 35.9**	**-0.4**
LAST				S	**Sg**	**13 31 50.8**	**+0.3**
NIS1	**Nisyros Isl.**	**1.51**	**12**	*e*PN	**Pn**	**13 31 40.6**	**-0.8**
NIS1	**Nisyros Isl.**	**1.51**	**12**	*e*Pn	**Pn**	**13 31 40.6**	**-0.8**
NISR	**Nisiros**	**1.52**	**10**	P	**Pb**	**13 31 43.3**	**+0.5**
NISR				S	**Sg**	**13 32 03.4**	**-0.9**
NISR	**Nisiros**	**1.52**	**10**	P	**Pb**	**13 31 43.3**	**+0.5**
NISR	**Nisiros**	**1.52**	**10**	P	**Pb**	**13 31 43.3**	**+0.5**
NISR				S	**Sg**	**13 32 03.4**	**-0.9**
ARG	**Arkhangelos**	**1.54**	**44**	P	**Pb**	**13 31 43.9**	**+0.7**
ARG				S	**Sg**	**13 32 05.2**	**+0.1**
ARG	**Arkhangelos**	**1.54**	**44**	P	**Pb**	**13 31 43.9**	**+0.7**
ARG	**Arkhangelos**	**1.54**	**44**	*e*PN	**Pg**	**13 31 44.3**	**-0.7**
ARG				*e*SN	**Sg**	**13 32 05.0**	**-0.1**
ARG	**Arkhangelos**	**1.54**	**44**	P	**Pb**	**13 31 43.9**	**+0.7**
ARG	**Arkhangelos**	**1.54**	**44**	P	**Pb**	**13 31 43.9**	**+0.7**
ARG	**Arkhangelos**	**1.54**	**44**	*e*Pn	**Pg**	**13 31 44.3**	**-0.7**
ARG				S	**Sg**	**13 32 05.2**	**+0.1**
IDI	**Anoyia**	**1.57**	**277**	Pg	**Pg**	**13 31 45.3**	**-0.3**
IDI				Lg	Lg	13 32 04.1	
IDI	**Anoyia**	**1.57**	**277**	*e*Pn	**Pg**	**13 31 45.3**	**-0.3**
	196nm,0.3s,baz=103,slow=16,SNR=6.74						
IDI				Lg	Lg	13 32 04.1	
	141nm,0.3s,baz=311,slow=20,SNR=6.7						
IDI				LR	LR	13 32 40.0	
	comp=Z,5μm,20.8s,baz=99,slow=55						
IDI	**Anoyia**	**1.57**	**277**	Pg	**Pg**	**13 31 45.3**	**-0.3**
IDI				Lg	Lg	13 32 04.1	
SIVA	**Sivas**	**1.63**	**267**	P	**Pb**	**13 31 44.5**	**-0.3**
SIVA				S	**Sg**	**13 32 06.2**	**-1.8**
SIVA	**Sivas**	**1.63**	**267**	*e*PN	**Pg**	**13 31 45.9**	**-0.8**
SIVA	**Sivas**	**1.63**	**267**	P	**Pb**	**13 31 44.5**	**-0.3**
SIVA	**Sivas**	**1.63**	**267**	P	**Pb**	**13 31 44.5**	**-0.3**
SIVA	**Sivas**	**1.63**	**267**	*e*Pn	**Pg**	**13 31 45.9**	**-0.8**
SIVA				S	**Sg**	**13 32 06.2**	**-1.8**
SANT	**Santorini**	**1.66**	**319**	P	**Pb**	**13 31 44.6**	**-0.7**
SANT				S	**Sg**	**13 32 07.5**	**-1.3**
SANT	**Santorini**	**1.66**	**319**	*e*PN	**Pb**	**13 31 44.9**	**-0.4**
SANT				*e*SN	**Sb**	**13 32 06.1**	**+0.3**
SANT	**Santorini**	**1.66**	**319**	*e*PN	**Pb**	**13 31 44.8**	**-0.4**
SANT	**Santorini**	**1.66**	**319**	*e*P	**Pb**	**13 31 44.6**	**-0.7**
SANT	**Santorini**	**1.66**	**319**	P	**Pb**	**13 31 44.6**	**-0.7**
SANT	**Santorini**	**1.66**	**319**	*e*Pn	**Pb**	**13 31 44.9**	**-0.4**
SANT				*e*Sn	**Sb**	**13 32 06.1**	**+0.3**
SANT				S	**Sg**	**13 32 07.5**	**-1.3**
BDRM	**Kayabasi**	**2.01**	**15**	*i* P	**Pn**	**13 31 48.9**	**+0.6**
BDRM				*i* S	**Sb**	**13 32 15.0**	**-1.0**
BDRM	**Kayabasi**	**2.01**	**15**	*i* P	**Pn**	**13 31 48.9**	**+0.6**
BDRM				*i* S	**Sb**	**13 32 15.0**	**-1.0**
VAM	**Vamos**	**2.14**	**278**	P	**Pb**	**13 31 52.7**	**-0.8**
VAM	**Vamos**	**2.14**	**278**	P	**Pb**	**13 31 52.7**	**-0.8**
VAM	**Vamos**	**2.14**	**278**	*e*PN	**Pb**	**13 31 52.7**	**-0.8**
VAM	**Vamos**	**2.14**	**278**	P	**Pb**	**13 31 52.7**	**-0.8**
VAM	**Vamos**	**2.14**	**278**	P	**Pb**	**13 31 52.7**	**-0.8**
APE	**Apeiranthos**	**2.20**	**333**	P	**Pb**	**13 31 52.4**	**-2.1**
APE				S	**Sb**	**13 32 19.8**	**-1.6**
APE	**Apeiranthos**	**2.20**	**333**	*e*PN	**Pn**	**13 31 50.8**	**-0.1**
APE	**Apeiranthos**	**2.20**	**333**	*e*P	**Pb**	**13 31 52.5**	**-2.1**
APE	**Apeiranthos**	**2.20**	**333**	*e*PN	**Pb**	**13 31 52.6**	**-1.9**
APE	**Apeiranthos**	**2.20**	**333**	⇓*i*P	**Pb**	**13 31 52.6**	**-1.9**
APE				S	**Sn**	**13 32 18.4**	**+0.8**
APE	**Apeiranthos**	**2.20**	**333**	P	**Pb**	**13 31 52.4**	**-2.1**
APE				S	**Sb**	**13 32 19.8**	**-1.6**
APE	**Apeiranthos**	**2.20**	**333**	*e*Pn	**Pb**	**13 31 52.6**	**-1.9**
APE				S	**Sb**	**13 32 19.8**	**-1.6**
GVD	**Gavdhos**	**2.24**	**264**	*e*PN	**Pb**	**13 31 55.2**	**0.0**
GVD	**Gavdhos**	**2.24**	**264**	*e*PN	**Pb**	**13 31 54.9**	**-0.3**
GVD	**Gavdhos**	**2.24**	**264**	*e*P	**Pb**	**13 31 53.5**	**-1.7**
GVD	**Gavdhos**	**2.24**	**264**	*e*P	**Pb**	**13 31 53.5**	**-1.7**
GVD	**Gavdhos**	**2.24**	**264**	*e*Pn	**Pb**	**13 31 54.9**	**-0.3**
DALY	**Dalyan (Mu˘la**	**2.27**	**41**	*e*PN	**Pn**	**13 31 50.5**	**-1.2**
DALY	**Dalyan (Mu˘la**	**2.27**	**41**	*e*Pn	**Pn**	**13 31 50.5**	**-1.2**
TURN	**Turunc**	**2.28**	**39**	*i* P	**Pn**	**13 31 50.9**	**-1.1**
TURN				*i* S	**Sn**	**13 32 19.3**	**-0.2**
TURN	**Turunc**	**2.28**	**39**	*i* P	**Pn**	**13 31 50.9**	**-1.1**
TURN				*i* S	**Sn**	**13 32 19.3**	**-0.2**
YER	**Yerkesik**	**2.34**	**30**	*e*PN	**Pn**	**13 31 51.3**	**-1.6**
YER	**Yerkesik**	**2.34**	**30**	*e*Pn	**Pn**	**13 31 51.3**	**-1.6**
AKAS	**Kas**	**2.54**	**63**	*i* P	**Pn**	**13 31 57.3**	**+1.6**
AKAS				*i* S	**Sn**	**13 32 25.2**	**-1.0**
AKAS	**Kas**	**2.54**	**63**	*i* P	**Pn**	**13 31 57.3**	**+1.6**
AKAS				*i* S	**Sn**	**13 32 25.2**	**-1.0**
SMG	**Samos**	**2.59**	**1**	P	**Pn**	**13 31 57.5**	**+1.4**
SMG	**Samos**	**2.59**	**1**	*e*PN	**Pn**	**13 31 58.0**	**+1.9**
SMG	**Samos**	**2.59**	**1**	P	**Pn**	**13 31 57.5**	**+1.4**
SMG	**Samos**	**2.59**	**1**	P	**Pn**	**13 31 57.5**	**+1.4**
SMG	**Samos**	**2.59**	**1**	*e*Pn	**Pn**	**13 31 58.0**	**+1.9**
GCAM	**G?zelcaml?**	**2.60**	**8**	*i* P	**Pn**	**13 31 59.8**	**-1.5**
GCAM	**G?zelcaml?**	**2.60**	**8**	*i* P	**Pn**	**13 31 59.8**	**-1.5**
ANKY	**Antikythira Is**	**2.95**	**286**	P	**Pn**	**13 32 01.3**	**+0.2**
ANKY	**Antikythira Is**	**2.95**	**286**	*e*PN	**Pb**	**13 32 03.9**	**-3.3**
ANKY	**Antikythira Is**	**2.95**	**286**	P	**Pn**	**13 32 01.3**	**+0.2**
ANKY	**Antikythira Is**	**2.95**	**286**	P	**Pn**	**13 32 01.3**	**+0.2**
ANKY	**Antikythira Is**	**2.95**	**286**	*e*Pn	**Pb**	**13 32 03.9**	**-3.3**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**17**	*e*PN	**Pn**	**13 32 00.5**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**17**	*e*Pn	**Pn**	**13 32 00.5**	**-0.9**
ELL	**Elmali**	**3.00**	**56**	*e*PN	**Pn**	**13 32 00.1**	**-1.9**
ELL	**Elmali**	**3.00**	**56**	*e*Pn	**Pn**	**13 32 00.1**	**-1.9**
GOLH	**Golhisar**	**3.08**	**46**	*i* P	**Pn**	**13 32 05.7**	**+2.7**
GOLH				*i* S	**Sb**	**13 32 47.9**	**+1.1**
GOLH	**Golhisar**	**3.08**	**46**	*i* P	**Pn**	**13 32 05.7**	**+2.6**
DNZL	**Cakiroluk**	**3.14**	**35**	*i* P	**Pn**	**13 32 06.6**	**+2.6**
DNZL	**Cakiroluk**	**3.14**	**35**	*i* P	**Pn**	**13 32 06.6**	**+2.6**
BLCB	**Balcova**	**3.27**	**3**	*e*PN	**Pn**	**13 32 04.9**	**-0.6**
BLCB	**Balcova**	**3.27**	**3**	*e*PN	**Pn**	**13 32 04.9**	**-0.6**
KYTH	**Kithira**	**3.27**	**292**	*e*PN	**Pn**	**13 32 07.5**	**+1.9**
KYTH	**Kithira**	**3.27**	**292**	*e*Pn	**Pn**	**13 32 07.5**	**+1.9**
IZM	**Izmir**	**3.29**	**6**	*e*PN	**Pn**	**13 32 05.9**	**0.0**
IZM	**Izmir**	**3.29**	**6**	*e*Pn	**Pn**	**13 32 05.9**	**0.0**
CHOS	**Chios island**	**3.32**	**350**	P	**Pn**	**13 32 07.0**	**+0.8**
CHOS	**Chios island**	**3.32**	**350**	*e*PN	**Pn**	**13 32 06.4**	**+0.1**
CHOS	**Chios island**	**3.32**	**350**	*e*PN	**Pn**	**13 32 07.6**	**+1.4**
CHOS	**Chios island**	**3.32**	**350**	P	**Pn**	**13 32 07.0**	**+0.8**
CHOS	**Chios island**	**3.32**	**350**	P	**Pn**	**13 32 07.0**	**+0.8**
CHOS	**Chios island**	**3.32**	**350**	*e*Pn	**Pn**	**13 32 07.6**	**+1.4**
KORT	**Korkueli**	**3.44**	**56**	*i* P	**Pn**	**13 32 10.9**	**+2.9**
KORT				*i* S	**Sb**	**13 32 55.5**	**-1.7**
KORT	**Korkueli**	**3.44**	**56**	*i* P	**Pn**	**13 32 10.9**	**+2.9**
VLI	**Veliai**	**3.52**	**298**	P	**Pn**	**13 32 10.6**	**+1.7**
VLI				S	**Sn**	**13 32 53.1**	**+3.1**
VLI	**Veliai**	**3.52**	**298**	*e*PN	**Pn**	**13 32 10.6**	**+1.7**
VLI	**Veliai**	**3.52**	**298**	P	**Pn**	**13 32 10.6**	**+1.7**
VLI				S	**Sn**	**13 32 53.1**	**+3.1**
VLI	**Veliai**	**3.52**	**298**	P	**Pn**	**13 32 10.6**	**+1.7**
VLI				S	**Sn**	**13 32 53.1**	**+3.1**
ANTB	**Antalya**	**3.60**	**59**	*e*PN	**Pn**	**13 32 09.0**	**-1.0**
ANTB	**Antalya**	**3.60**	**59**	*e*Pn	**Pn**	**13 32 09.0**	**-1.0**
KULA	**Kula-Manisa**	**3.71**	**23**	*e*PN	**Pn**	**13 32 10.8**	**-0.7**
KULA	**Kula-Manisa**	**3.71**	**23**	*e*Pn	**Pn**	**13 32 10.9**	**-0.7**
DID	**Didima**	**3.73**	**311**	P	**Pn**	**13 32 13.3**	**+1.4**
DID	**Didima**	**3.73**	**311**	*e*PN	**Pn**	**13 32 14.9**	**+3.0**
DID	**Didima**	**3.73**	**311**	P	**Pn**	**13 32 13.3**	**+1.4**
DID	**Didima**	**3.73**	**311**	P	**Pn**	**13 32 13.3**	**+1.4**
DID	**Didima**	**3.73**	**311**	*e*Pn	Pn	13 32 14.9	+3.0
NAIG	**Nisos Aigina**	**3.75**	**316**	*e*PN	Pn	13 32 14.8	+2.7
NAIG	**Nisos Aigina**	**3.75**	**316**	*e*Pn	Pn	13 32 14.8	+2.7
PTL	**Penteli**	**3.76**	**322**	*e*PN	**Pn**	**13 32 14.8**	**+2.5**
PTL	**Penteli**	**3.76**	**322**	*e*Pn	**Pn**	**13 32 14.8**	**+2.5**
ATH	**Athens Observa**	**3.78**	**320**	*e*PN	Pn	13 32 15.4	+2.9
ATH	**Athens Observa**	**3.78**	**320**	*e*Pn	Pn	13 32 15.4	+2.9
AKHS	**Akhisar**	**3.84**	**12**	*i* P	Pn	13 32 16.6	+3.2
AKHS	**Akhisar**	**3.84**	**12**	*i* P	Pn	13 32 16.6	+3.2
AKS	**Akhisar**	**3.84**	**12**	*e*PN	**Pn**	**13 32 13.2**	**-0.2**
AKS	**Akhisar**	**3.84**	**12**	*e*Pn	**Pn**	**13 32 13.2**	**-0.2**
BCK	**Bucak**	**3.85**	**52**	*e*PN	**Pn**	**13 32 12.6**	**-1.0**
BCK	**Bucak**	**3.85**	**52**	*e*Pn	**Pn**	**13 32 12.6**	**-1.0**
KHL	**Karahalli**	**3.88**	**34**	*e*PN	**Pn**	**13 32 13.2**	**-0.8**
KHL	**Karahalli**	**3.88**	**34**	*e*Pn	**Pn**	**13 32 13.2**	**-0.8**
KHAL	**Karahalli**	**3.90**	**33**	*i* P	**Pn**	**13 32 16.1**	**+1.8**
KHAL	**Karahalli**	**3.90**	**33**	*i* P	**Pn**	**13 32 16.1**	**+1.8**
ISP	**Isparta**	**4.04**	**47**	P	**Pn**	**13 32 18.7**	**+2.5**
ISP	**Isparta**	**4.04**	**47**	*e*PN	**Pn**	**13 32 15.7**	**-0.5**
ISP	**Isparta**	**4.04**	**47**	*e*P	**Pn**	**13 32 18.3**	**+2.1**
ISP	**Isparta**	**4.04**	**47**	*e*P	**Pn**	**13 32 18.2**	**+2.1**
ISP	**Isparta**	**4.04**	**47**	*e*Pn	**Pn**	**13 32 15.7**	**-0.5**
ISP	**Isparta**	**4.04**	**47**	P	**Pn**	**13 32 18.7**	**+2.5**
ERET	**Eretria**	**4.09**	**325**	P	**Pn**	**13 32 19.5**	**+2.6**
ERET	**Eretria**	**4.09**	**325**	P	**Pn**	**13 32 19.5**	**+2.6**
SUTC	**Sutluce-Ispart**	**4.13**	**54**	*e*PN	**Pn**	**13 32 16.6**	**-0.9**
SUTC	**Sutluce-Ispart**	**4.13**	**54**	*e*Pn	**Pn**	**13 32 16.6**	**-0.9**
PRK	**Paraskevi**	**4.14**	**354**	*e*PN	Pn	13 32 20.1	+2.6
PRK	**Paraskevi**	**4.14**	**354**	*e*Pn	Pn	13 32 20.1	+2.6
SIGR	**SIGRI**	**4.16**	**350**	P	**Pn**	**13 32 19.0**	**+1.3**
SIGR	**SIGRI**	**4.16**	**350**	*e*PN	**Pn**	**13 32 18.0**	**+0.3**
SIGR	**SIGRI**	**4.16**	**350**	*e*PN	Pn	13 32 19.2	+1.5
SIGR	**SIGR

LFK	Lefkose	5.52	86	ePN		Pn	13 32 36.3	-0.2
LFK	Lefkose	5.52	86	ePn		Pn	13 32 36.3	-0.2
KIZT	Kizilcal	5.54	46	ePN		Pn	13 32 37.1	+0.3
KIZT	Kizilcal	5.54	46	ePn		Pn	13 32 37.1	+0.3
ERIK	Erikli-Kesan	5.55	358	ePN		Pn	13 32 37.3	+0.5
ERIK	Erikli-Kesan	5.55	358	ePn		Pn	13 32 37.3	+0.5
RKY	Sarkoy-Tekirda	5.57	3	ePN		Pn	13 32 37.8	+0.6
RKY	Sarkoy-Tekirda	5.57	3	ePn		Pn	13 32 37.8	+0.6
CAVI	Cavuskoy	5.62	25	ePN		Pn	13 32 37.9	0.0
CAVI	Cavuskoy	5.62	25	ePn		Pn	13 32 37.9	0.0
ENEZ	Enez	5.63	355	ePN		Pn	13 32 38.5	+0.5
ENEZ	Enez	5.63	355	ePn		Pn	13 32 38.5	+0.5
OUR	Ouranopolis	5.67	338	ePN		Pn	13 32 41.0	+2.6
OUR	Ouranopolis	5.67	338	ePn		Pn	13 32 41.0	+2.6
ARMT	Armutlu	5.68	16	ePN		Pn	13 32 39.1	+0.5
ARMT	Armutlu	5.68	16	ePn		Pn	13 32 39.1	+0.5
PDO	Prodromos	5.69	309	ePN		Pn	13 32 43.3	+4.6
PDO	Prodromos	5.69	309	ePn		Pn	13 32 43.3	+4.6
SVRH	Sivrihisar-ESK	5.73	40	ePN		Pn	13 32 39.5	+0.1
SVRH	Sivrihisar-ESK	5.73	40	ePn		Pn	13 32 39.5	+0.1
ALN	Alexandroupoli	5.80	354	ePN		Pn	13 32 42.0	+1.7
ALN	Alexandroupoli	5.80	354	ePN		Pn	13 32 42.2	+1.9
ALN	Alexandroupoli	5.80	354	ePn		Pn	13 32 42.0	+1.7
THL	Klokotos Trika	5.85	321	P		Pn	13 32 42.9	+2.0
THL	Klokotos Trika	5.85	321	ePN		Pn	13 32 44.9	+4.0
THL	Klokotos Trika	5.85	321	P		Pn	13 32 42.9	+2.0
THL	Klokotos Trika	5.85	321	ePn		Pn	13 32 44.9	+4.0
VLS	Valsamata	5.85	303	ePN		Pn	13 32 45.5	+4.5
VLS	Valsamata	5.85	303	ePn		Pn	13 32 45.5	+4.5
PLG	Polygyros	5.88	334	ePN		Pn	13 32 42.2	+0.8
PLG	Polygyros	5.88	334	ePn		Pn	13 32 42.2	+0.8
LIT	Litokhoron	6.04	327	ePN		Pn	13 32 47.4	+3.9
LIT	Litokhoron	6.04	327	ePn		Pn	13 32 47.4	+3.9
EREN	Erenkoy	6.04	84	ePN		Pn	13 32 44.0	+0.4
EREN	Erenkoy	6.04	84	ePn		Pn	13 32 44.0	+0.4
CRLT	Corlu	6.05	7	ePN		Pn	13 32 44.3	+0.6
CRLT	Corlu	6.05	7	ePn		Pn	13 32 44.3	+0.6
RDO	Rodhopi	6.10	351	ePN		Pn	13 32 46.6	+2.2
RDO	Rodhopi	6.10	351	ePn		Pn	13 32 46.6	+2.2
HRT	Hereke	6.13	21	ePN		Pn	13 32 45.5	+0.6
HRT	Hereke	6.13	21	ePn		Pn	13 32 45.5	+0.6
LKD2	Lefkada island	6.13	309	ePN		Pn	13 32 48.2	+3.3
LKD2	Lefkada island	6.13	309	ePn		Pn	13 32 48.2	+3.3
ISK	Istanbul-Kandi	6.20	16	ePN		Pn	13 32 46.3	+0.5
ISK	Istanbul-Kandi	6.20	16	ePn		Pn	13 32 46.3	+0.5
HORT	Hortiatis	6.20	333	ePN		Pn	13 32 50.2	+4.3
HORT	Hortiatis	6.20	333	ePn		Pn	13 32 50.2	+4.3
SLVT	Silivri	6.20	10	ePN		Pn	13 32 46.5	+0.8
SLVT	Silivri	6.20	10	ePn		Pn	13 32 46.6	+0.8
SULT	Sultanhani-AKS	6.21	58	ePN		Pn	13 32 45.5	-0.6
SULT	Sultanhani-AKS	6.21	58	ePn		Pn	13 32 45.5	-0.6
BGKT	Bogazkoy	6.25	14	ePN		Pn	13 32 47.5	+1.0
BGKT	Bogazkoy	6.25	14	ePn		Pn	13 32 47.5	+1.0
CTKS	Kestanelik-??a	6.26	12	ePN		Pn	13 32 47.1	+0.6
CTKS	Kestanelik-??a	6.26	12	ePn		Pn	13 32 47.1	+0.6
MDUB	Mudurnu	6.38	32	ePN		Pn	13 32 48.3	-0.1
MDUB	Mudurnu	6.38	32	ePn		Pn	13 32 48.3	-0.1
SILT	Sile	6.43	20	ePN		Pn	13 32 49.9	+1.0
SILT	Sile	6.43	20	ePn		Pn	13 32 49.9	+1.0
SRS	Serrai	6.50	338	ePN		Pn	13 32 53.1	+3.2
SRS	Serrai	6.50	338	ePn		Pn	13 32 53.1	+3.2
MERS	Mersin	6.50	72	ePN		Pn	13 32 50.8	+0.8
MERS	Mersin	6.50	72	ePn		Pn	13 32 50.8	+0.8
KZN	Kozani	6.53	324	ePN		Pn	13 32 54.7	+4.3
KZN	Kozani	6.53	324	ePn		Pn	13 32 54.7	+4.3
AFSR	Af`ar-Bala (A	6.61	47	ePN		Pn	13 32 51.1	-0.4
AFSR	Af`ar-Bala (A	6.61	47	ePn		Pn	13 32 51.1	-0.4
NVR	Nevrokopi	6.64	341	ePN		Pn	13 32 55.9	+4.1
NVR	Nevrokopi	6.64	341	ePn		Pn	13 32 55.9	+4.1
EDRB	Edirne	6.72	360	ePN		Pn	13 32 53.7	+0.8
EDRB	Edirne	6.72	360	ePn		Pn	13 32 53.7	+0.8
LOD	Lodumlu	6.72	43	ePN		Pn	13 32 53.1	+0.1
LOD	Lodumlu	6.72	43	ePn		Pn	13 32 53.1	+0.1
ANTO	Ankara	6.72	43	ePN		Pn	13 32 52.8	-0.3
ANTO	Ankara	6.72	43	P		Pn	13 32 52.1	-1.0
ANTO					pmax	pmax		
	comp=Z,34nm,0.6s							
ANTO	Ankara	6.72	43	‖	iP	Pn	13 32 55.8	+2.7
ANTO	Ankara	6.72	43	P		Pn	13 32 52.0	-1.0
	comp=Z,34nm,0.6s							
ANTO	Ankara	6.72	43	P		Pn	13 32 52.1	-1.0
	comp=Z,34nm,0.6s							
ANTO	Ankara	6.72	43	ePn		Pn	13 32 52.8	-0.3
KNT	Kendrikon	6.77	334	ePN		Pn	13 32 57.0	+3.4
KNT	Kendrikon	6.77	334	ePn		Pn	13 32 57.0	+3.4
GRG	Griva	6.78	331	ePN		Pn	13 32 57.5	+3.7
GRG	Griva	6.78	331	ePn		Pn	13 32 57.5	+3.7
MMB	Musomiste	6.90	340	‖	iP	Pn	13 32 59.8	+4.4
NEST	Nestorio	6.98	321	P		Pn	13 32 58.6	+2.1
NEST	Nestorio	6.98	321	ePN		Pn	13 33 00.3	+3.8
NEST	Nestorio	6.98	321	P		Pn	13 32 58.6	+2.1
NEST	Nestorio	6.98	321	ePn		Pn	13 33 00.3	+3.8
KARA	Karaisali	7.01	70	ePN		Pn	13 32 57.2	+0.3
KARA	Karaisali	7.01	70	ePn		Pn	13 32 57.2	+0.3
FNA	Florina	7.09	324	ePN		Pn	13 33 02.1	+4.0
FNA	Florina	7.09	324	ePn		Pn	13 33 02.1	+4.0
BR131	Keskin Array S	7.13	48	eP		Pn	13 32 59.1	+0.5
	comp=Z,7.1nm,0.6s							
BR131	Keskin Array S	7.13	48	eP		Pn	13 32 59.1	+0.5
	comp=Z,7.1nm,0.6s							
BRTR	Keskin Array B	7.13	48	Pn		Pn	13 33 00.3	+1.7
BRTR				Sn		Sn	13 34 22.2	+3.1
BRTR	Keskin Array B	7.13	48	Pn		Pn	13 33 00.3	+1.7
	comp=Z,1.0nm,0.3s,baz=223,slow=15,SNR=20							
BRTR				Sn		Sn	13 34 22.2	+3.1
	comp=Z,0.1nm,0.3s,baz=216,slow=26,SNR=2.3							
BRTR				LR		LR	13 36 39.5	
	comp=Z,1µm,19.3s,baz=205,slow=45							
BRTR	Keskin Array B	7.13	48	Pn		Pn	13 33 00.3	+1.7
BRTR				Sn		Sn	13 34 22.2	+3.1
JMB	Yambol	7.34	359	⇑	iP	Pn	13 33 10.3	+8.9
MMAI	Mount Meron Ar	7.44	104	Pn		Pn	13 33 02.3	-0.7
MMAI				Sn		Sn	13 34 26.0	-0.9
MMAI	Mount Meron Ar	7.44	104	Pn		Pn	13 33 02.3	-0.7
	comp=Z,18nm,0.3s,baz=294,slow=11,SNR=23							
MMAI				Sn		Sn	13 34 26.0	-0.9
	comp=Z,14nm,0.3s,baz=311,slow=25,SNR=5.6							
MMAI	Mount Meron Ar	7.44	104	Pn		Pn	13 33 02.3	-0.7
MMAI				Sn		Sn	13 34 26.0	-0.9
ARNB	Al Arnab	7.52	82	eP		Pn	13 33 05.4	+1.4
ARNB				eS		Sn	13 34 26.1	-2.7
ARNB				AML		AML	13 34 32.6	
	comp=N,31nm,0.8s							
ARNB				AML		AML	13 34 41.2	
	comp=E,55nm,0.7s							
ARNB	Al Arnab	7.52	82	eP		Pn	13 33 05.4	+1.4
	SNR=45							
ARNB				eS		Sn	13 34 26.1	-2.7
	comp=E,55nm,0.7s,SNR=40							
HWQ	Hawqa	7.58	94	eP		Pn	13 33 05.5	+0.6
HWQ	Hawqa	7.58	94	eP		Pn	13 33 05.5	+0.6
RCY	Rachaya	7.65	100	eP		Pn	13 33 05.0	-0.9
RCY	Rachaya	7.65	100	eP		Pn	13 33 05.0	-0.9
KOZT	Kozan	7.66	69	ePN		Pn	13 33 05.9	0.0
KOZT	Kozan	7.66	69	ePn		Pn	13 33 05.9	0.0
BRBR	Barbar	7.77	100	eP		Pn	13 33 07.0	-0.6
BRBR				eS		Sn	13 34 30.6	-4.5
BRBR				AML		AML	13 34 40.1	
	comp=N,78nm,0.8s							
BRBR				AML		AML	13 34 44.2	
	comp=E,80nm,0.7s							
BRBR				AML		AML	13 34 46.2	
	comp=Z,40nm,0.7s							
BRBR	Barbar	7.77	100	eP		Pn	13 33 06.9	-0.6
	SNR=45							
BRBR				eS		Sn	13 34 30.5	-4.5
	comp=Z,40nm,0.7s,SNR=40							
BIDA	Albida	7.81	88	eP		Pn	13 33 07.4	-0.6
BIDA				eS		Sn	13 34 32.4	-3.6
BIDA				AML		AML	13 34 36.9	
	comp=N,241nm,0.5s							
BIDA				AML		AML	13 34 40.8	
	comp=Z,72nm,0.5s							
BIDA	Albida	7.81	88	eP		Pn	13 33 07.4	-0.6
	SNR=45							
BIDA				eS		Sn	13 34 32.4	-3.6
	comp=Z,72nm,0.5s,SNR=40							
WRDH	Warideh	7.87	84	eP		Pn	13 33 09.0	+0.2
WRDH				eS		Sn	13 34 33.6	-3.8
WRDH				AML		AML	13 34 43.5	
	comp=E,72nm,0.4s							
WRDH				AML		AML	13 34 53.5	
	comp=N,31nm,0.4s							
WRDH	Warideh	7.87	84	eP		Pn	13 33 09.0	+0.2
	SNR=45							
WRDH				eS		Sn	13 34 33.6	-3.8
	comp=N,31nm,0.4s,SNR=40							
HAWK	Haweek	7.92	92	eP		Pn	13 33 09.2	-0.4
HAWK				eS		Sn	13 34 35.8	-3.0
HAWK				AML		AML	13 34 44.5	
	comp=E,64nm,0.5s							
HAWK				AML		AML	13 34 46.9	
	comp=N,72nm,0.5s							
HAWK	Haweek	7.92	92	eP		Pn	13 33 09.2	-0.4
	SNR=45							
HAWK				eS		Sn	13 34 35.8	-3.0
	comp=N,72nm,0.5s,SNR=40							
BTCH	Batrach	7.93	81	eP		Pn	13 33 10.9	+1.3
BTCH				eS		Sn	13 34 36.7	-2.1
BTCH				AML		AML	13 34 49.1	
	comp=E,99nm,0.8s							
BTCH				AML		AML	13 34 52.5	
	comp=N,48nm,0.4s							
BTCH	Batrach	7.93	81	eP		Pn	13 33 10.9	+1.3
	SNR=45							
BTCH				eS		Sn	13 34 36.7	-2.1
	comp=N,99nm,0.8s,SNR=40							
FKH	Fakeheh	7.97	94	eP		Pn	13 33 09.9	-0.3
FKH	Fakeheh	7.97	94	eP		Pn	13 33 09.9	-0.3
VTS	Vitosha	7.97	341	ePN		Pn	13 33 11.0	+0.8
VTS	Vitosha	7.97	341	‖	iP	Pn	13 33 14.3	+4.1
VTS	Vitosha	7.97	341	ePn		Pn	13 33 11.0	+0.8
VTS	Vitosha	7.97	341	‖	iP	Pn	13 33 14.3	+4.1
QASN	Qassioun	8.00	99	eP		Pn	13 33 10.9	+0.3
QASN				eS		Sn	13 34 37.3	-3.3
QASN				AML		AML	13 34 49.3	
	comp=E,210nm,0.4s							
QASN				AML		AML	13 34 50.6	
	comp=N,112nm,0.3s							
QASN	Qassioun	8.00	99	eP		Pn	13 33 10.9	+0.3
	SNR=45							
QASN				eS		Sn	13 34 37.3	-3.3
	comp=N,48nm,0.4s,SNR=40							
CORM	Corum	8.01	49	ePN		Pn	13 33 10.3	-0.4
CORM	Corum	8.01	49	ePn		Pn	13 33 10.3	-0.4
TCHB	Talchebab	8.01	105	eP		Pn	13 33 10.0	-0.6
TCHB				eS		Sn	13 34 35.0	-5.7
TCHB				AML		AML	13 34 48.1	
	comp=E,156nm,0.5s							
TCHB				AML		AML	13 34 55.0	
	comp=N,119nm,0.6s							
TCHB	Talchebab	8.01	105	eP		Pn	13 33 10.0	-0.6
	SNR=45							
BNN	Bunyan	8.14	60	ePN		Pn	13 33 11.8	-0.8
BNN	Bunyan	8.14	60	ePn		Pn	13 33 11.8	-0.8
KFRA	Kufra	8.19	86	eP		Pn	13 33 13.4	+0.2
KFRA				eS		Sn	13 34 41.2	-4.1
KFRA				AML		AML	13 34 48.5	
	comp=E,213nm,0.6s							
KFRA				AML		AML	13 34 52.7	
	comp=Z,212nm,0.4s							
KFRA				AML		AML	13 35 09.2	
	comp=N,72nm,0.5s							
KFRA	Kufra	8.19	86	eP		Pn	13 33 13.4	+0.2
	SNR=45							
KFRA				eS		Sn	13 34 41.2	-4.1
	comp=N,72nm,0.5s,SNR=40							
KMRS	Kahramanmaras	8.50	71	ePN		Pn	13 33 17.1	-0.3
KMRS	Kahramanmaras	8.50	71	ePn		Pn	13 33 17.1	-0.3
PSN	Preselentsi	8.62	7	‖	iP	Pn	13 33 23.0	+4.0
EIL	Elat	8.78	126	Pn		Pn	13 33 20.6	-0.5
EIL				Sn		Sn	13 34 50.5	-9.1
EIL	Elat	8.78	126	Pn		Pn	13 33 20.6	-0.5
	comp=N,3.1nm,0.3s,baz=323,slow=12,SNR=34							
EIL				Sn		Sn	13 34 50.5	-9.1
	comp=N,2.8nm,0.3s,baz=351,slow=17,SNR=2.6							
EIL	Elat	8.78	126	Pn		Pn	13 33 20.6	-0.5
EIL				Sn		Sn	13 34 50.5	-9.1
ASF	Jabal al Asfar	8.92	106	Pn		Pn	13 33 22.9	-0.3
ASF				Sn		Sn	13 35 03.7	+0.5
ASF	Jabal al Asfar	8.92	106	Pn		Pn	13 33 22.9	-0.3
	comp=N,1.7nm,0.3s,baz=240,slow=5.4,SNR=11							
ASF				Sn		Sn	13 35 03.7	+0.5
	comp=N,0.6nm,0.3s,baz=241,slow=19,SNR=2.0							
TIP	Timpagrande	8.98	300	eP		Pn	13 33 22.0	-2.0
	comp=N,15nm,0.8s							
TIP	Timpagrande	8.98	300	eP		Pn	13 33 22.0	-2.0
	comp=N,15nm,0.8s							
TIRR	Tirgusor	9.41	7	eP		Pn	13 33 33.6	+3.8
TIRR				pmax		pmax		
	comp=Z,37nm,0.8s							
TIRR	Tirgusor	9.41	7	⇑	iP	Pn	13 33 34.3	+4.5
TIRR	Tirgusor	9.41	7	eP		Pn	13 33 33.6	+3.8
	comp=Z,37nm,0.8s							
TIRR	Tirgusor	9.41	7	eP		Pn	13 33 33.6	+3.8
	comp=Z,37nm,0.8s							
HARR	Harsova	9.60	5	⇑	iP	Pn	13 33 36.1	+3.7
IVAS	Ivanjica	9.89	331	ePn		Pn	13 33 40.4	+4.0
GRUS	Viruza	9.94	334	ePn		Pn	13 33 39.9	+2.9
CUC	Castrocucco	9.98	302	eP		Pn	13 33 39.0	+1.3
	comp=Z,19nm,0.6s							
CUC	Castrocucco	9.98	302	eP		Pn	13 33 39.0	+1.3
	comp=Z,19nm,0.6s							
ISR	Istrita	9.99	359	⇑	iP	Pn	13 33 41.6	+3.8
CFR	Carcaliu	10.10	5	⇑	iP	Pn	13 33 42.9	+3.7
TLCR		10.17	8	‖	iP	Pn	13 33 45.7	+5.5
TRUS	Trudelj	10.34	334	ePn		Pn	13 33 46.5	+4.0
MLR	Muntele Rosu	10.38	357	‖	iP	Pn	13 33 49.3	+6.1
MLR	Muntele Rosu	10.38	357	Pn		Pn	13 33 46.7	+3.5
MLR	Muntele Rosu	10.38	357	Pn		Pn	13 33 46.7	+3.5
	comp=Z,0.1nm,0.3s,baz=168,slow=7.6,SNR=10							
MLR				LR		LR	13 38 09.3	
	comp=Z,135nm,19.1s,baz=186,slow=40							
MLR	Muntele Rosu	10.38	357	P		Pn	13 33 46.7	+3.5
GZR	Gura Zlata	10.71	345	‖	iP	Pn	13 33 50.6	+2.9
GZR	Gura Zlata	10.71	345	‖	iP	Pn	13 33 50.6	+2.9
PLOR	Plostina	10.72	359	‖	iP	Pn	13 33 52.9	+5.1
VRI	Vrincioaia	10.74	360	⇑	iP	Pn	13 33 54.7	+6.7
TEKS	Tekeris	10.95	332	ePn		Pn	13 33 53.1	+2.2
SIM	Simferopol'	11.30	27	P		Pn	13 33 56.0	+0.3
SIM				MLR		MLR		
	comp=Z,150nm,13.9s							
SIM	Simferopol'	11.30	27	P		Pn	13 33 56.0	+0.3
	comp=Z,150nm,13.9s							
TESR	Tescani	11.38	359	⇑	iP	Pn	13 34 02.5	+5.7
KIS	Kishinev	11.97	7	eP		Pn	13 34 16.0	+11
KIS				MLR		MLR		
	comp=Z,900nm,8.0s							
KIS				MLR		MLR		
	comp=N,600nm,9.0s							
KIS				MLR		MLR		
	comp=Z,900nm,12.0s							
KIS	Kishinev	11.97	7	eP		Pn	13 34 16.0	+11
KIS				LRM		MLR	13 39 20.0	
	comp=Z,900nm,12.0s							
BURAR	Bucovina Array	12.54	355	⇑	iP	Pn	13 34 17.6	+4.9
BUR08	Bucovina Ar. S	12.57	355	eP		Pn	13 34 16.9	+3.8
BUR08	Bucovina Ar. S	12.57	355	eP		Pn	13 34 16.9	+3.8
PKSM	Moragy	12.69	333	⇑	iP	Pn	13 34 17.6	+3.0
PKSM	Moragy	12.69	333	⇑	iP	Pn	13 34 17.6	+3.0
PSZ	Piszkesteto	13.79	340	‖	iP	P	13 34 34.6	-3.5
PSZ	Piszkesteto	13.79	340	‖	iP	P	13 34 34.6	-3.5
KECS	Kecovo	14.15	343	eP		P	13 34 46.1	+4.0
KECS	Kecovo	14.15	343	e		P	13 34 46.1	+4.0
KOLS	Kolonicke sedl	14.20	348	eP		P	13 34 44.7	+2.0
KOLS	Kolonicke sedl	14.20	348	eP		P	13 34 44.7	+2.0
KOLS	Kolonicke sedl	14.20	348	eP		P	13 34 44.7	+2.0
KEST	Kesra	14.25	278	Pn		Pn	13 34 36.3	+0.2
KEST	Kesra	14.25	278	Pn		Pn	13 34 36.3	+0.2
	comp=Z,0.1nm,0.3s,baz=76,slow=8.3,SNR=1.8							
KEST	Kesra	14.25	278	Pn		Pn	13 34 36.3	+0.2
CRVS	Cervenica-Dubn	14.33	346	eP		P	13 34 50.5	+6.5
CRVS	Cervenica-Dubn	14.33	346	e		P	13 34 50.5	+6.5
STHS	Stebnicka Huta	14.86	346	eP		Pn	13 34 44.5	+0.2
STHS	Stebnicka Huta	14.86	346	e		Pn	13 34 44.5	+0.2
STHS				e			13 34 59.3	
GNI	Garni	15.07	65	eP		P	13 34 50.2	-2.3
GNI	Garni	15.07	65	Pn		P	13 34 49.9	-2.6
	comp=Z,3.4nm,0.3s,baz=165,slow=20,SNR=12							
GNI	Garni	15.07	65	eP		P	13 34 50.2	-2.3
KIV	Kislovodsk	15.09	49	eP		P	13 34 50.3	-2.3
KIV				pmax		pmax		
	comp=Z,29nm,1.0s							
KIV				MLR		MLR		
	comp=Z,165nm,12.0s							
KIV	Kislovodsk	15.09	49	eP		P	13 34 54.6	+2.0
	comp=Z,42nm,1.2s							
KIV	Kislovodsk	15.09	49	eP		P	13 34 50.3	-2.3
	comp=Z,165nm,12.0s							
KBZ	Khabaz	15.11	50	P		P	13 34 51.5	-1.2
KBZ	Khabaz	15.11	50	Pn		P	13 34 51.5	-1.2
KBZ	Khabaz	15.11	50	Pn		P	13 34 51.5	-1.2
	comp=Z,0.1nm,0.3s,baz=241,slow=10,SNR=2.4							
KBZ				LR		LR	13 42 32.6	
	comp=Z,251nm,18.3s,baz=238,slow=45							
KBZ	Khabaz	15.11	50	P		P	13 34 51.5	-1.2
ZEI	Tsey	15.34	55	eP		P	13 34 56.4	+0.9
ZEI				pmax		pmax		
	comp=Z,18nm,0.6s							
ZEI	Tsey	15.34	55	eP		P	13 34 56.4	+0.9
	comp=Z,18nm,0.6s							
AK02	Malin Array Si	15.63	6	eP		P	13 34 57.4	-1.0
AK02	Malin Array Si	15.63	6	eP		P	13 34 57.4	-1.0
AK01	Malin Array Si	15.66	6	P		P	13 34 57.1	-1.7
AK01	Malin Array Si	15.66	6	P		P	13 34 57.1	-1.7
KIEV	Kiev	15.67	6	eP		P	13 34 59.3	+0.4
KIEV	Kiev	15.67	6	eP		P	13 34 57.3	-1.6
	comp=Z,5.0nm,0.5s							
KIEV	Kiev	15.67	6	eP		P	13 34 59.3	+0.4
AKASG	Malin Array Be	15.68	6	c	eP	P	13 34 58.5	-0.4
AKASG				pmax		pmax		
	comp=Z,6.0nm,0.5s							
AKASG	Malin Array Be	15.68	6	Pn		Pn	13 34 55.6	+0.6
AKASG	Malin Array Be	15.68	6	Pn		Pn	13 34 55.6	+0.6
	comp=Z,3.3nm,0.3s,baz=193,slow=11,SNR=16							
AKASG				LR		LR	13 41 28.7	
	comp=Z,231nm,20.9s,baz=200,slow=39							
AKASG	Malin Array Be	15.68	6	Pn		Pn	13 34 55.6	+0.6
AKASG	Malin Array Be	15.68	6	eP		P	13 34 58.5	-0.4
	comp=Z,6.0nm,0.5s							
AKBB	Malin Array Si	15.68	6	eP		P	13 34 59.2	+0.2
AKBB	Malin Array Si	15.68	6	eP		P	13 34 59.2	+0.2
AKBB	Malin Array Si	15.68	6	eP		P	13 34 59.2	+0.2
PGF	Pioggiola	15.71	303	eP		P	13 34 59.4	-0.1
	comp=Z,24nm,0.7s							
PGF	Pioggiola	15.71	303	eP		P	13 34 59.4	-0.1
PGF				pmax		pmax		
	comp=Z,25nm,0.7s							
PGF	Pioggiola	15.71	303	eP		P	13 34 59.4	-0.1
	comp=Z,24nm,0.7s							
PGF	Pioggiola	15.71	303	eP		P	13 34 59.4	-0.1
	comp=Z,12nm,0.7s							
OKC	Ostrava-Krasne	16.02	339	eP		P	13 35 07.1	+4.3
OKC	Ostrava-Krasne	16.02	339	eP		P	13 35 07.1	+4.3
VRAC	Vranov	16.05	335	⇑	iP	P	13 35 07.4	+4.3
VRAC	Vranov	16.05	335	Pn		P	13 35 01.8	-1.3
VRAC	Vranov	16.05	335	Pn		P	13 35 01.8	-1.3
	comp=Z,0.3nm,0.3s,baz=137,slow=10,SNR=2.4							
VRAC	Vranov	16.05	335	P		P	13 35 01.8	-1.3
MORC	Moravsky Berou	16.14	338	P		P	13 35 05.1	+0.9
MORC				pmax		pmax		
	comp=Z,9.0nm,1.1s							
MORC	Moravsky Berou	16.14	338	‖	iP	P	13 35 02.2	-2.0
MORC	Moravsky Berou	16.14	338	P		P	13 35 05.1	+0.9
	comp=Z,9.3nm,1.1s							
MORC	Moravsky Berou	16.14	338	P		P	13 35 05.1	+0.9
	comp=Z,9.3nm,1.1s							
TREC	Trest	16.43	333	eP		P	13 34 59.3	+0.4
TREC				MLR		MLR		
	comp=Z,400nm,8.7s							
TREC	Trest	16.43	333	eP		P	13 35 10.6	+3.2
TREC				AMS		AMS	13 44 00.0	
	comp=Z,400nm,8.7s							
TREC	Trest	16.43	333	eP		P	13 35 10.6	+3.2
	comp=Z,400nm,8.7s							
KRLC	Kraliky	16.64	337	eP		P	13 35 14.1	+4.3
KRLC	Kraliky	16.64	337	eP		P	13 35 14.1	+4.3
KRLC				epP		pP	13 35 17

SMRF	Simiane la Rot	18.56	305	*e*P		Pn	13 35 30.8	-0.5
SMRF	Simiane la Rot	18.56	305	*e*P		Pn	13 35 30.8	-0.5
CLL	Collm	19.00	333	*i* P		Pn	13 35 36.9	+0.5
CLL				*e*S		S	13 39 14.0	+3.5
CLL				MLR		MLR		
	comp=Z,200nm,18.8s							
CLL	Collm	19.00	333	*i* P		Pn	13 35 36.9	+0.5
CLL				*e*sP		sP	13 35 42.0	-1.5
CLL				*e*			13 35 47.0	
CLL				*e*S		S	13 39 14.0	+3.5
CLL				LmV			13 46 00.0	
	comp=Z,200nm,18.8s							
CLL	Collm	19.00	333	*i* P		Pn	13 35 36.9	+0.5
VRHR	Novokhopersk	19.23	29	*e*P		Pn	13 35 39.9	+0.7
VRHR				pmax		pmax		
	comp=Z,110nm,1.7s							
VRHR				pmax		pmax		
	comp=N,30nm,1.0s							
VRHR				pmax		pmax		
	comp=E,20nm,0.7s							
VRHR	Novokhopersk	19.23	29	*e*P		Pn	13 35 39.9	+0.7
	comp=E,30nm,1.0s							
CABF	La Chapelle	19.36	313	*e*P		Pn	13 35 40.8	-0.1
	comp=E,31nm,0.8s							
CABF	La Chapelle	19.36	313	*e*P		Pn	13 35 40.8	-0.1
CABF				pmax		pmax		
	comp=Z,31nm,0.8s							
CABF	La Chapelle	19.36	313	*e*P		Pn	13 35 40.8	-0.1
	comp=Z,31nm,0.8s							
CABF	La Chapelle	19.36	313	*e*P		Pn	13 35 40.8	-0.1
	comp=Z,16nm,0.8s							
VIVF	Saint-Julien-l	19.49	307	*e*P		Pn	13 35 41.3	-1.1
VIVF	Saint-Julien-l	19.49	307	*e*P		Pn	13 35 41.3	-1.1
VIVF	Saint-Julien-l	19.49	307	*e*P		Pn	13 35 41.3	-1.1
VIVF	Saint-Julien-l	19.49	307	*e*P		Pn	13 35 41.3	-1.1
HINF	Hinteralfeld	19.53	317	*e*P		Pn	13 35 43.9	+1.0
	comp=Z,14nm,0.7s							
HINF	Hinteralfeld	19.53	317	*e*P		Pn	13 35 43.9	+1.0
HINF				pmax		pmax		
	comp=Z,14nm,0.7s							
HINF	Hinteralfeld	19.53	317	*e*P		Pn	13 35 43.9	+1.0
	comp=Z,14nm,0.7s							
HINF	Hinteralfeld	19.53	317	*e*P		Pn	13 35 43.9	+1.0
	comp=Z,6.9nm,0.7s							
CDF	Champ du Feu	19.64	319	*e*P		Pn	13 35 44.9	+0.7
	comp=Z,12nm,0.8s							
CDF	Champ du Feu	19.64	319	*e*P		Pn	13 35 44.9	+0.7
CDF				pmax		pmax		
	comp=Z,13nm,0.8s							
CDF	Champ du Feu	19.64	319	*e*P		Pn	13 35 44.9	+0.7
	comp=Z,12nm,0.8s							
CDF	Champ du Feu	19.64	319	*e*P		Pn	13 35 44.9	+0.7
	comp=Z,6.2nm,0.8s							
HAU	Haudompre	19.92	316	*e*P		Pn	13 35 48.1	+0.6
	comp=Z,14nm,0.7s							
HAU				*e*R				
	comp=Z,214nm,17.0s							
HAU	Haudompre	19.92	316	*e*P		Pn	13 35 48.1	+0.6
HAU				pmax		pmax		
	comp=Z,14nm,0.7s							
HAU	Haudompre	19.92	316	*e*P		Pn	13 35 48.1	+0.6
	comp=Z,14nm,0.7s							
HAU	Haudompre	19.92	316	*e*P		Pn	13 35 48.1	+0.6
	comp=Z,7.1nm,0.7s							
RAYN	Ar Rayn	19.95	120	*e*P		P	13 35 47.0	+0.7
	comp=Z,14nm,0.9s							
RAYN	Ar Rayn	19.95	120	*e*P		P	13 35 47.0	+0.7
	comp=Z,14nm,0.9s							
PAGF	Fort de Pagny	20.57	317	*e*P		Pn	13 35 53.8	-1.3
	comp=Z,8.1nm,0.7s							
PAGF	Fort de Pagny	20.57	317	*e*P		Pn	13 35 53.8	-1.3
	comp=Z,8.1nm,0.7s							
PAGF	Fort de Pagny	20.57	317	*e*P		Pn	13 35 53.8	-1.3
	comp=Z,4.1nm,0.7s							
SMF	Signal de Mont	20.75	311	*e*P		P	13 35 53.7	-1.1
	comp=Z,16nm,0.5s							
SMF	Signal de Mont	20.75	311	*e*P		P	13 35 53.7	-1.1
SMF				pmax		pmax		
	comp=Z,17nm,0.5s							
SMF	Signal de Mont	20.75	311	*e*P		P	13 35 53.7	-1.1
	comp=Z,16nm,0.5s							
LOR	Lormes	21.01	312	*e*P		P	13 35 57.0	-0.7
	comp=Z,23nm,0.8s							
LOR				*e*R				
	comp=Z,168nm,20.5s							
LOR	Lormes	21.01	312	*e*P		P	13 35 57.0	-0.7
	comp=Z,23nm,0.8s							
LOR	Lormes	21.01	312	*e*P		P	13 35 57.0	-0.7
	comp=Z,12nm,0.8s							
OBN	Obninsk	21.11	16	*e*P		P	13 36 00.5	+1.9
OBN				*i*			13 36 08.4	
OBN				*i*			13 36 22.2	
OBN				*i* S		Sn	13 40 03.0	+3.7
OBN				pmax		pmax		
	comp=Z,10.0nm,1.3s							
OBN				MLR		MLR		
	comp=Z,234nm,17.0s							
OBN	Obninsk	21.11	16	*e*P		P	13 36 00.5	+1.9
	comp=Z,10.0nm,1.3s							
AVF	Avril sur Loir	21.11	311	*e*P		P	13 35 57.7	-1.0
	comp=Z,22nm,0.8s							
AVF	Avril sur Loir	21.11	311	*e*P		P	13 35 57.7	-1.0
AVF				pmax		pmax		
	comp=Z,23nm,0.8s							
AVF	Avril sur Loir	21.11	311	*e*P		P	13 35 57.7	-1.0
	comp=Z,22nm,0.8s							
AVF	Avril sur Loir	21.11	311	*e*P		P	13 35 57.7	-1.0
	comp=Z,11nm,0.8s							
SSF	Saint Saulge	21.14	311	*e*P		P	13 35 58.3	-0.7
	comp=Z,43nm,0.8s							
SSF	Saint Saulge	21.14	311	*e*P		P	13 35 58.3	-0.7
SSF				pmax		pmax		
	comp=Z,43nm,0.8s							
SSF	Saint Saulge	21.14	311	*e*P		P	13 35 58.3	-0.7
	comp=Z,43nm,0.8s							
SSF	Saint Saulge	21.14	311	*e*P		P	13 35 58.3	-0.7
	comp=Z,21nm,0.8s							
CAF	Calviac	21.25	305	*e*P		P	13 36 00.1	-0.2
	comp=Z,18nm,1.0s							
CAF	Calviac	21.25	305	*e*P		P	13 36 00.1	-0.2
CAF				pmax		pmax		
	comp=Z,18nm,1.0s							
CAF	Calviac	21.25	305	*e*P		P	13 36 00.1	-0.2
	comp=Z,18nm,1.0s							
CAF	Calviac	21.25	305	*e*P		P	13 36 00.1	-0.2
	comp=Z,9.0nm,1.0s							
BGF	Bois d'Agland	21.34	310	*e*P		P	13 36 01.3	+0.2
	comp=Z,31nm,0.8s							
BGF	Bois d'Agland	21.34	310	*e*P		P	13 36 01.3	+0.2
BGF				pmax		pmax		
	comp=Z,31nm,0.8s							
BGF	Bois d'Agland	21.34	310	*e*P		P	13 36 01.3	+0.2
	comp=Z,31nm,0.8s							
BGF	Bois d'Agland	21.34	310	*e*P		P	13 36 01.3	+0.2
	comp=Z,16nm,0.8s							
TCF	Toulx Ste Croi	21.64	309	*e*P		P	13 36 04.3	-0.1
TCF	Toulx Ste Croi	21.64	309	*e*P		P	13 36 04.3	-0.1
TCF	Toulx Ste Croi	21.64	309	*e*P		P	13 36 04.3	-0.1
TCF	Toulx Ste Croi	21.64	309	*e*P		P	13 36 04.3	-0.1
RJF	Les Rejaudoux	21.74	306	*e*P		P	13 36 05.2	-0.3
	comp=Z,30nm,0.9s							
RJF				*e*R				
	comp=Z,178nm,17.8s							
RJF	Les Rejaudoux	21.74	306	*e*P		P	13 36 05.2	-0.3
RJF				pmax		pmax		
	comp=Z,30nm,0.9s							
RJF	Les Rejaudoux	21.74	306	*e*P		P	13 36 05.2	-0.3
	comp=Z,30nm,0.9s							
RJF	Les Rejaudoux	21.74	306	*e*P		P	13 36 05.2	-0.3
	comp=Z,15nm,0.9s							
BAIF	Baives	22.23	319	*e*P		P	13 36 10.5	-0.1
	comp=Z,34nm,0.8s							
BAIF	Baives	22.23	319	*e*P		P	13 36 10.5	-0.1
BAIF				pmax		pmax		
	comp=Z,34nm,0.8s							
BAIF	Baives	22.23	319	*e*P		P	13 36 10.5	-0.1
	comp=Z,34nm,0.8s							
TAM	Tamanrasset	22.25	242	*e*P		P	13 36 13.5	+2.3
TAM				pmax		pmax		
	comp=Z,8.0nm,1.1s							
TAM	Tamanrasset	22.25	242	*e*P		P	13 36 13.5	+2.3
	comp=Z,8.3nm,1.1s							
TAM	Tamanrasset	22.25	242	*e*P		P	13 36 13.5	+2.3
	comp=Z,8.2nm,1.1s							
SJPF	Ste Jean	23.08	299	*e*P		P	13 36 16.5	-3.3
	comp=Z,36nm,1.0s							
SJPF	Ste Jean	23.08	299	*e*P		P	13 36 16.5	-3.3
SJPF				pmax		pmax		
	comp=Z,36nm,1.0s							
SJPF	Ste Jean	23.08	299	*e*P		P	13 36 16.5	-3.3
	comp=Z,36nm,1.0s							
MFF	Saint Martin d	23.27	308	*e*P		P	13 36 22.0	+0.4
	comp=Z,21nm,0.9s							
MFF	Saint Martin d	23.27	308	*e*P		P	13 36 22.0	+0.4
MFF				pmax		pmax		
	comp=Z,21nm,0.9s							
MFF	Saint Martin d	23.27	308	*e*P		P	13 36 22.0	+0.4
	comp=Z,21nm,0.9s							
VSU	Vasula	23.35	360	*e*P		P	13 36 28.9	+6.6
VSU				pmax		pmax		
	comp=Z,20nm,1.0s							
LDF	La Druitiere	24.00	312	*e*P		P	13 36 28.1	-0.6
LDF	La Druitiere	24.00	312	*e*P		P	13 36 28.1	-0.6
LDF	La Druitiere	24.00	312	*e*P		P	13 36 28.1	-0.6
FLN	La Foliniere	24.29	312	*e*P		P	13 36 30.0	-1.3
	comp=Z,29nm,0.8s							
FLN				*e*R				
	comp=Z,271nm,20.5s							
FLN	La Foliniere	24.29	312	*e*P		P	13 36 30.0	-1.3
FLN				pmax		pmax		
	comp=Z,29nm,0.8s							
FLN	La Foliniere	24.29	312	*e*P		P	13 36 30.0	-1.3
	comp=Z,29nm,0.8s							
GRR	Gorron	24.37	311	*e*P		P	13 36 30.7	-1.3
	comp=Z,17nm,0.6s							
GRR	Gorron	24.37	311	*e*P		P	13 36 30.7	-1.3
GRR				pmax		pmax		
	comp=Z,17nm,0.6s							
GRR	Gorron	24.37	311	*e*P		P	13 36 30.7	-1.3
	comp=Z,17nm,0.6s							
ESDC	Sonseca Array	24.79	290	P		P	13 36 35.3	-0.7
ESDC	Sonseca Array	24.79	290	P		P	13 36 35.3	-0.7
	comp=Z,0.8nm,0.4s,baz=82,slow=9.7,SNR=11							
ESDC				LR		LR	13 46 30.6	
	comp=Z,66nm,20.6s,baz=0.0,slow=37							
ESDC	Sonseca Array	24.79	290	P		P	13 36 35.3	-0.7
SGMF	Saint Gilles	25.37	310	*e*P		P	13 36 41.0	-0.1
	comp=Z,33nm,1.1s							
SGMF	Saint Gilles	25.37	310	*e*P		P	13 36 41.0	-0.1
SGMF				pmax		pmax		
	comp=Z,33nm,1.1s							
SGMF	Saint Gilles	25.37	310	*e*P		P	13 36 41.0	-0.1
	comp=Z,33nm,1.1s							
QUIF	Quistinic	25.64	309	*e*P		P	13 36 44.5	+0.9
QUIF	Quistinic	25.64	309	*e*P		P	13 36 44.5	+0.9
QUIF	Quistinic	25.64	309	*e*P		P	13 36 44.5	+0.9
ROSF	Rostrenen	25.85	310	*e*P		P	13 36 43.6	-1.9
ROSF	Rostrenen	25.85	310	*e*P		P	13 36 43.6	-1.9
ROSF	Rostrenen	25.85	310	*e*P		P	13 36 43.6	-1.9
FINES	FINESS Array B	26.35	359	P		P	13 36 49.4	-0.4
FINES	FINESS Array B	26.35	359	P		P	13 36 49.4	-0.4
	comp=Z,0.9nm,0.5s,baz=171,slow=11,SNR=6.0							
FINES				LR		LR	13 47 06.6	
	comp=Z,132nm,18.8s,baz=160,slow=36							
FINES	FINESS Array B	26.35	359	P		P	13 36 49.4	-0.4
HFS	Hagfors	26.44	345	P		P	13 36 50.1	-0.6
HFS	Hagfors	26.44	345	P		P	13 36 50.1	-0.6
	comp=Z,1.2nm,0.5s,baz=138,slow=8.8,SNR=5.8							
HFS	Hagfors	26.44	345	P		P	13 36 50.1	-0.6
AKTO	Aktyubinsk	27.30	46	P		P	13 36 58.5	0.0
AKTO				pmax		pmax		
	comp=Z,13nm,1.2s							
AKTO	Aktyubinsk	27.30	46	P		P	13 36 58.6	0.0
AKTO	Aktyubinsk	27.30	46	P		P	13 36 58.6	0.0
	comp=Z,5.2nm,0.7s,baz=241,slow=9.2,SNR=15							
AKTO	Aktyubinsk	27.30	46	P		P	13 36 58.6	0.0
NB2	NORSAR Subarra	27.80	344	P		P	13 37 03.1	+0.1
	comp=Z,0.9nm,0.6s,baz=152,slow=9.3							
NB2	NORSAR Subarra	27.80	344	P		P	13 37 03.1	+0.1
	comp=Z,0.9nm,0.6s,SNR=6.0							
NOA	NORSAR Array B	27.80	344	P		P	13 37 03.0	+0.1
NOA	NORSAR Array B	27.80	344	P		P	13 37 03.0	+0.1
	comp=Z,0.4nm,0.7s,baz=149,slow=9.3,SNR=3.1							
NOA				LR		LR	13 49 17.6	
	comp=Z,66nm,18.1s,baz=295,slow=39							
NOA	NORSAR Array B	27.80	344	P		P	13 37 03.0	+0.1
AB31	Akbulak array	28.07	50	P		P	13 37 06.5	+1.0
AB31				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ABKAR	Akbulak array	28.07	50	*e*P		P	13 37 06.6	+1.1
	comp=Z,2.9nm,0.7s							
ABKAR	Akbulak array	28.07	50	*e*P		P	13 37 06.6	+1.1
	comp=Z,2.9nm,0.7s							
EKA	Eskdalemuir Ar	28.86	324	P		P	13 37 11.7	-0.7
EKA	Eskdalemuir Ar	28.86	324	P		P	13 37 11.7	-0.7
	comp=Z,0.7nm,0.5s,baz=119,slow=9.4,SNR=3.9							
EKA	Eskdalemuir Ar	28.86	324	P		P	13 37 11.7	-0.7
PRGR	Permogore	29.11	18	P		P	13 37 13.6	-0.9
PRGR				pmax		pmax		
	comp=Z,16nm,1.1s							
ARU	Arti	30.30	35	*d i*P		P	13 37 26.0	+0.8
ARU							13 40 24.6	
ARU				S		S	13 42 25.3	+1.3
ARU				pmax		pmax		
	comp=Z,13nm,1.7s							
SVE	Sverdlovsk	31.49	36	*e*P		P	13 37 36.3	+0.6
SVE				pmax		pmax		
	comp=Z,9.0nm,0.8s							
TOA0	Torodi Ar. Sit	31.51	232	*e*P		P	13 37 36.0	-0.2
TOA0	Torodi Ar. Sit	31.51	232	*e*P		P	13 37 36.0	-0.2
TORD	Torodi Ar. Bea	31.51	232	P		P	13 37 36.1	-0.1
TORD	Torodi Ar. Bea	31.51	232	P		P	13 37 36.1	-0.1
	comp=Z,1µm,1.0s,baz=35,slow=8.8,SNR=45							
TORD				LR		LR	13 53 49.8	
	comp=Z,239nm,18.2s,baz=255,slow=43							
TORD	Torodi Ar. Bea	31.51	232	P		P	13 37 36.1	-0.1
ARCES	ARCESS Array B	34.48	359	P		P	13 38 01.5	-0.1
ARCES	ARCESS Array B	34.48	359	P		P	13 38 01.5	-0.1
	comp=Z,3.4nm,0.8s,baz=169,slow=6.9,SNR=8.6							
ARCES	ARCESS Array B	34.48	359	P		P	13 38 01.5	-0.1
KK31	Karatay Array	34.52	63	*i* P		P	13 38 03.4	+1.1
KK31				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KKAR	Karatay Array	34.52	63	P		P	13 38 01.4	-0.9
KKAR				pmax		pmax		
	comp=Z,11nm,0.9s							
KKAR	Karatay Array	34.52	63	P		P	13 38 01.4	-0.9
	comp=Z,11nm,0.9s							
KKAR	Karatay Array	34.52	63	P		P	13 38 01.4	-0.9
	comp=Z,11nm,0.9s							
BRVK	Borovoye	35.35	46	P		P	13 38 10.5	+1.2
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BVAR	Borovoye Array	35.41	46	LR		LR	13 56 24.3	
	comp=Z,200nm,19.4s,baz=246,slow=43							
VOSK	Vostochnaya	35.70	47	P		P	13 38 12.8	+0.5
VOSK				pmax		pmax		
	comp=Z,12nm,0.9s							
EKS2	Erkin-Say	36.94	64	*i* P		P	13 38 24.8	+1.6
EKS2	Erkin-Say	36.94	64	P		P	13 38 24.9	+1.6
	SNR=17							
EKS2	Erkin-Say	36.94	64	*e*P		P	13 38 24.5	+1.2
	comp=Z,12nm,1.0s							
EKS2	Erkin-Say	36.94	64	*e*P		P	13 38 24.5	+1.2
	comp=Z,12nm,1.0s							
USP	Ospenovka	37.43	63	*i* P		P	13 38 28.4	+1.2
USP	Ospenovka	37.43	63	P		P	13 38 28.4	+1.2
	SNR=5.8							
AAK	Ala-Archa	37.47	64	*i* P		P	13 38 28.0	+0.2
AAK				pmax		pmax		
	comp=Z,22nm,0.8s							
AAK	Ala-Archa	37.47	64	P		P	13 38 29.9	+2.1
	SNR=12							
AAK	Ala-Archa	37.47	64	*e*P		P	13 38 29.0	+1.2
	comp=Z,16nm,0.9s							
AAK	Ala-Archa	37.47	64	LR		LR	13 57 05.5	
	comp=Z,148nm,18.2s,baz=268,slow=41							
AAK	Ala-Archa	37.47	64	*e*P		P	13 38 29.0	+1.2
	comp=Z,16nm,0.9s							
UCH	Uchtor	37.52	64	*i* P		P	13 38 30.0	+1.5
UCH	Uchtor	37.52	64	P		P	13 38 30.0	+1.5
	SNR=6.1							
CHMS	Chumysh	37.63	63	*i* P		P	13 38 30.5	+1.5
CHMS	Chumysh	37.63	63	P		P	13 38 30.6	+1.5
	SNR=9.7							
KBK	Karagaybulak	37.81	64	P		P	13 38 32.8	+2.2
	SNR=9.1							
KZA	Kyzart	38.08	65	*i* P		P	13 38 35.6	+2.4
KZA	Kyzart	38.08	65	P		P	13 38 35.6	+2.4
	SNR=14							
TKM2	Tokmak 2	38.26	63	P		P	13 38 35.4	+0.9
TKM2				pmax		pmax		
	comp=Z,8.0nm,0.9s							
TKM2	Tokmak 2	38.26	63	P		P	13 38 36.0	+1.6
	SNR=12							
TKM2	Tokmak 2	38.26	63	*e*P		P	13 38 35.3	+0.8
	comp=Z,7.5nm,0.8s							
TKM2	Tokmak 2	38.26	63	*e*P		P	13 38 35.3	+0.8
	comp=Z,7.5nm,0.8s							
ULHL	Ulahol	38.80	64	*i* P		P	13 38 41.0	+2.0
ULHL	Ulahol	38.80	64	P		P	13 38 41.0	+2.0
	SNR=20							
KSH	Kashi	38.97	69	*e*P		P	13 38 39.8	-0.6
KSH				*e*PP		PnPn	13 40 13.3	+1.2
KSH				*e*PcP		PcP	13 40 52.5	+1.9
KSH				*e*S		S	13 44 34.0	-4.2
KSH				*e*sS		sS	13 44 50.3	+2.3
KSH				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KSH				pmax		pmax		
	comp=Z,74nm,3.0s							
KURK	Kurchatov	40.17	51	*e*P		P	13 38 50.6	+0.6
KURK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
KURK	Kurchatov	40.17	51	*e*P		P	13 38 50.6	+0.6
	comp=Z,8.8nm,0.8s							
KURK	Kurchatov	40.17	51	*e*P		P	13 38 50.6	+0.6
	comp=Z,8.8nm,0.8s							
DBIC	Dimbokro	40.60	233	P		P	13 38 53.9	-0.1
DBIC	Dimbokro	40.60	233	P		P	13 38 53.9	-0.1
	comp=Z,2.4nm,0.7s,baz=45,slow=7.1,SNR=3.7							
DBIC				LR		LR	13 58 49.2	
	comp=Z,104nm,18.2s,baz=26,slow=41							
DBIC	Dimbokro	40.60	233	P		P	13 38 53.9	-0.1
MKAR	Makanchi Array	42.68	57	*i* P		P	13 39 11.6	+0.8
MKAR				pmax		pmax		
	comp=Z,18nm,0.6s							
MKAR	Makanchi Array	42.68	57	P		P	13 39 11.6	+0.8
MKAR	Makanchi Array	42.68	57	P		P	13 39 11.6	+0.8
	comp=Z,18nm,0.6s,baz=275,slow=7.7,SNR=196							
MKAR	Makanchi Array	42.68	57	P		P	13 39 11.6	+0.8
NVS	Novosibirsk	43.17	45	*i* P		P	13 39 14.6	0.0
NVS				pmax		pmax		
	comp=N,5.0nm,0.6s							
NVS				pmax		pmax		
	comp=Z,19nm,0.6s							
NVS				pmax		pmax		
	comp=E,11nm,0.8s							
ZAA0	Zalesovo Array	44.07	46	*e*P		P	13 39 22.0	+0.2
ZAA0	Zalesovo Array	44.07	46	*e*P		P	13 39 22.0	+0.2
ZALV	Zalesovo Beam	44.07	46	*i* P		P	13 39 22.1	+0.3
ZALV				pmax		pmax		
	comp=Z,21nm,0.5s							
ZALV	Zalesovo Beam	44.07	46	P		P	13 39 22.0	+0.2
ZALV	Zalesovo Beam	44.07	46	P		P	13 39 22.0	+0.2
	comp=Z,21nm,0.5s,baz=268,slow=8.8,SNR=89							
ZALV				LR		LR	13 59 24.4	
	comp=Z,80nm,20.6s,baz=254,slow=38							
ZALV	Zalesovo Beam	44.07	46	P		P	13 39 22.0	+0.2
PYUN	Piuthan	47.83	82	*e*P		P	13 39 53.2	+1.1
	comp=Z,33nm,0.5s							
DANN	Dangsing	48.36	81	*e*P		P	13 39 57.3	+1.0
	comp=Z,48nm,0.7s							
KOLN	Koldanda	48.46	82	*e*P		P	13 39 58.2	+1.2
GKN	Gorkha	49.21	81	*e*P		P	13 40 03.2	+0.5
DMN	Daman	49.75	82	*e*P		P	13 40 08.3	+1.4
	comp=Z,28nm,0.9s							
PKIN	Phulchoki	50.00	82	*e*P		P	13 40 09.8	+1.0
	comp=Z,10.0nm,0.7s							
PKI	Pulchoki	50.01	82	*e*P		P	13 40 09.3	+0.3
	comp=Z,30nm,1.2s							
GUN	Gumba	50.25	81	*e*P		P	13 40 11.1	+0.3
JIRN	Jiri	50.60	81	*e*P		P	13 40 14.3	+0.8
	comp=Z,18nm,0.9s							
RAMN	Ramite	51.23	82	*e*P		P	13 40 17.9	-0.2
	comp=Z,11nm,0.7s							
ODAN	Odare	51.91	81	*e*P		P	13 40 23.4	+0.3
TAPN	Taplejung	51.96	81	*e*P		P	13 40 24.0	+0.4
LSA	Lhasa	53.77	76	*e*P		P	13 40 37.9	+0.7
LSA				pmax		pmax		
	comp=Z,2.0nm,0.4s							
LSA	Lhasa	53.77	76	*e*P		P	13 40 37.9	+0.7
	comp=Z,1.6nm,0.4s							
LSA	Lhasa	53.77	76	*e*P		P	13 40 37.9	+0.7
	comp=Z,1.6nm,0.4s							
MOY	Mondy	54.05	48	*e*P		P	13 40 40.4	+1.9
TLY	Talaya	55.65	47	*e*P		P	13 40 53.2	+3.3
TLY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TLY				MLR		MLR		
	comp=Z,32nm,5.0s							
ZAK	Zakamensk	55.77	49	*e*P		P	13 40 51.9	+1.0
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GTA	Gaotai	56.80	62	*e*P		P	13 40 59.5	+1.0
GTA				pP		pP	13 41 04.8	+0.2
GTA				sP		sP	13 41 08.0	+1.1
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SONM	Songino Array	58.47	51	P		P	13 41 10.7	+0.5
SONM	Songino Array	58.47	51	P		P	13 41 10.6	+0.5
	comp=Z,4.2nm,0.6s,baz=283,slow=7.7,SNR=25							
SONM	Songino Array	58.47	51	P		P	13 41 10.6	+0.5
ULN	Ulaanbaatar	58.88	51	*e*P		P	13 41 14.2	+1.2
	comp=Z,6.6nm,0.9s							
ULN	Ulaanbaatar	58.88	51	*e*P		P	13 41 14.2	+1.2
	comp=Z,6.6nm,0.9s							
TIXI	Tiksi	60.73	21	*e*P		P	13 41 25.4	+0.3
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.2s							
BOSA	Boshof	63.41	182	P		P	13 41 45.0	+1.4
BOSA	Boshof	63.41	182	P		P	13 41 45.0	+1.4
	com

s-min=11.0km az=50.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.24**	**308**	P	Pn	13 36 33.2	-1.4
	2.1nm,0.3s,baz=105,slow=16,SNR=9.2						
JAY				S	Sn	13 37 24.2	+1.3
	1.0nm,0.3s,baz=353,slow=16,SNR=2.1						
JAY				LR	LR	13 38 07.1	
	comp=Z,56nm,20.7s,baz=52,slow=36						
PMG	**Port Moresby**	**5.24**	**144**	P	Pn	13 36 47.7	-0.5
	3.2nm,0.3s,baz=315,slow=12,SNR=16						
PMG				S	Sn	13 37 48.5	+1.1
	1.6nm,0.3s,baz=311,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**17.51**	**212**	P	Pn	13 39 31.4	-0.8
	0.1nm,0.3s,baz=32,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**20.87**	**207**	P	P	13 40 09.6	+0.3
	0.4nm,0.7s,baz=34,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**26.71**	**185**	LR	LR	13 54 17.3	
	comp=Z,107nm,18.1s,baz=215,slow=42						

*ISK **26** 13:44:38.5, 34˚.85N×27˚.29E, h14km, ML3.3*
*CSEM **26** 13:44:39.7±0.6, 34˚.84N×27˚.26E, h10km, ML3.1, Error ellipse: s-maj=13.7km s-min=6.5km az=161.0*
*ISCJB **26** 13:44:45.0±1.0, 35˚.00N±0˚.05×26˚.86E±0˚.03, h9km±5km, mb3.6/4, Error ellipse: s-maj=9.2km s-min=3.6km az=160.4*
*IDC **26** 13:44:44.2±1.4, 35˚.55N×26˚.31E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.8/4, Error ellipse: s-maj=330.3km s-min=24.2km az=142.0*
*THE **26** 13:44:46.8, 35˚.10N×26˚.78E, h1km±3km, ML3.1/2, Error ellipse: s-maj=8.4km s-min=1.6km az=158.0*
*ATH **26** 13:44:47.0, 35˚.16N×26˚.80E, h12km±1km, MD3.5/9*
*DDA **26** 13:44:50.7, 35˚.24N×27˚.12E, h25km, MD3.4*

ISC 26 13:44:42.0±1.4, 34˚.94N±0˚.06×27˚.02E±0˚.03, h10km±10km, n89, σ1°52/85, mb3.6/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.62**	**10**	P	Pn	13 44 56.7	-0.1
KARP				S	Sb	13 45 05.3	+1.6
KARP	**Karpathos**	**0.62**	**10**	*e*PB	Pn	13 44 56.8	-0.1
KARP				*e*SB	Sg	13 45 03.3	+1.1
KARP	**Karpathos**	**0.62**	**10**	*e*Pb	Pn	13 44 56.8	-0.1
KARP				*e*Sb	Sg	13 45 03.3	+1.1
KARP				S	Sb	13 45 05.3	+1.6
ZKR	**Zakros**	**0.69**	**285**	P	Pb	13 44 55.5	-0.5
ZKR				S	Sg	13 45 03.4	-0.8
ZKR	**Zakros**	**0.69**	**285**	*e*PG	Pb	13 44 56.6	+0.6
ZKR	**Zakros**	**0.69**	**285**	*e*PB	Pb	13 44 55.8	-0.2
ZKR				*e*SB	Sg	13 45 03.5	-0.8
ZKR	**Zakros**	**0.69**	**285**	P	Pb	13 44 55.5	-0.5
ZKR	**Zakros**	**0.69**	**285**	*e*Pb	Pb	13 44 55.8	-0.2
ZKR	**Zakros**	**0.69**	**285**	*e*Pg	Pb	13 44 56.6	+0.6
ZKR				S	Sg	13 45 03.4	-0.8
NPS	**Neapolis**	**1.20**	**286**	P	Pn	13 45 05.7	+0.9
NPS				S	Sg	13 45 18.9	-1.8
NPS	**Neapolis**	**1.20**	**286**	*e*PG	Pn	13 45 05.3	+0.5
NPS	**Neapolis**	**1.20**	**286**	*e*Pg	Pn	13 45 05.3	+0.5
NPS	**Neapolis**	**1.20**	**286**	P	Pn	13 45 05.7	+0.9
NPS				S	Sg	13 45 18.9	-1.8
LAST	**Lasithi**	**1.29**	**280**	P	Pn	13 45 07.1	+1.0
LAST	**Lasithi**	**1.29**	**280**	*e*PB	Pn	13 45 07.4	+1.3
LAST	**Lasithi**	**1.29**	**280**	P	Pn	13 45 07.1	+1.0
LAST	**Lasithi**	**1.29**	**280**	*e*Pb	Pn	13 45 07.4	+1.3
ARG	**Arkhangelos**	**1.56**	**35**	P	Pg	13 45 14.9	+3.0
ARG				S	Sg	13 45 35.9	+3.7
ARG	**Arkhangelos**	**1.56**	**35**	*e*PB	Pg	13 45 15.5	+3.6
ARG	**Arkhangelos**	**1.56**	**35**	P	Pg	13 45 14.9	+3.0
ARG	**Arkhangelos**	**1.56**	**35**	*e*Pb	Pg	13 45 15.5	+3.6
ARG				S	Sg	13 45 35.9	+3.7
NIS1	**Nisyros Isl.**	**1.67**	**4**	P	Pg	13 45 14.3	+0.3
NIS1	**Nisyros Isl.**	**1.67**	**4**	*e*PN	Pn	13 45 09.2	-2.1
NIS1	**Nisyros Isl.**	**1.67**	**4**	*e*Pn	Pn	13 45 09.2	-2.1
NIS1	**Nisyros Isl.**	**1.67**	**4**	P	Pg	13 45 14.3	+0.3
SIVA	**Sivas**	**1.82**	**273**	*e*PN	Pb	13 45 14.2	-1.1
SIVA				*e*SN	Sb	13 45 38.9	+0.7
SIVA	**Sivas**	**1.82**	**273**	*e*PB	Pg	13 45 17.8	+0.9
SIVA	**Sivas**	**1.82**	**273**	*e*Pn	Pb	13 45 14.2	-1.1
SIVA	**Sivas**	**1.82**	**273**	*e*Pb	Pg	13 45 17.8	+0.9
SIVA				*e*Sn	Sb	13 45 38.9	+0.7
SANT	**Santorini**	**1.92**	**319**	*e*PN	Pn	13 45 14.6	-0.1
SANT	**Santorini**	**1.92**	**319**	*e*PB	Pg	13 45 18.1	-0.6
SANT	**Santorini**	**1.92**	**319**	*e*Pn	Pn	13 45 14.6	-0.1
SANT	**Santorini**	**1.92**	**319**	*e*Pb	Pg	13 45 18.1	-0.6
BDRM	**Kayabasi**	**2.15**	**9**	*i* P	Pg	13 45 22.5	-0.7
BDRM	**Kayabasi**	**2.15**	**9**	*i* P	Pg	13 45 22.5	-0.7
TURN	**Turunc**	**2.32**	**33**	*i* P	Pn	13 45 21.8	+1.7
TURN				*i* S	Sn	13 45 45.5	-3.2
VAM	**Vamos**	**2.36**	**282**	*e*PN	Pb	13 45 24.2	-0.4
VAM	**Vamos**	**2.36**	**282**	*e*Pn	Pb	13 45 24.2	-0.4
GVD	**Gavdhos**	**2.42**	**269**	*e*PN	Pn	13 45 21.0	-0.5
GVD	**Gavdhos**	**2.42**	**269**	*e*Pn	Pn	13 45 21.0	-0.5
YER	**Yerkesik**	**2.42**	**25**	*e*PN	Pn	13 45 18.7	-2.9
YER	**Yerkesik**	**2.42**	**25**	*e*Pn	Pn	13 45 18.7	-2.9
APE	**Apeiranthos**	**2.45**	**331**	P	Pb	13 45 24.8	-1.3
APE				S	Sn	13 45 52.6	+0.6
APE	**Apeiranthos**	**2.45**	**331**	*e*PN	Pn	13 45 21.3	-0.7
APE	**Apeiranthos**	**2.45**	**331**	*e*PB	Pn	13 45 24.5	+2.5
APE	**Apeiranthos**	**2.45**	**331**	*e*Pn	Pn	13 45 21.3	-0.7
APE	**Apeiranthos**	**2.45**	**331**	*e*Pb	Pn	13 45 24.5	+2.5
APE	**Apeiranthos**	**2.45**	**331**	P	Pb	13 45 24.8	-1.3
APE				S	Sn	13 45 52.6	+0.6
AKAS	**Kas**	**2.47**	**58**	*i* P	Pg	13 45 28.4	-0.9
AKAS				*i* S	Sn	13 45 58.8	+1.7
ELL	**Elmali**	**2.96**	**52**	*e*PN	Pn	13 45 24.5	-4.6
ELL	**Elmali**	**2.96**	**52**	*e*Pn	Pn	13 45 24.5	-4.6
GOLH	**Golhisar**	**3.08**	**41**	*i* P	Pb	13 45 36.7	-0.2
GOLH				*i* S	Sb	13 46 16.8	+2.2
GOLH	**Golhisar**	**3.08**	**41**	*i* P	Pb	13 45 36.7	-0.2
GOLH				*i* S	Sb	13 46 16.8	+2.2
AYDB	**Zeytinkoy-Aydi**	**3.08**	**13**	*e*PN	Pn	13 45 29.2	-1.7
AYDB	**Zeytinkoy-Aydi**	**3.08**	**13**	*e*Pn	Pn	13 45 29.2	-1.7
ANKY	**Antikythira Is**	**3.18**	**288**	*e*PB	Pb	13 45 36.4	-2.1
ANKY	**Antikythira Is**	**3.18**	**288**	*e*Pb	Pb	13 45 36.4	-2.1
DNZL	**Cakiroluk**	**3.20**	**30**	*i* P	Pb	13 45 37.8	-1.2
DNZL				*i* S	Sb	13 46 20.7	+2.7
DNZL	**Cakiroluk**	**3.20**	**30**	*i* P	Pb	13 45 37.8	-1.2
IZM	**Izmir**	**3.46**	**3**	*e*PN	Pn	13 45 34.7	-1.2
IZM	**Izmir**	**3.46**	**3**	*e*Pn	Pn	13 45 34.7	-1.2
CHOS	**Chios island**	**3.53**	**348**	*e*PN	Pn	13 45 36.1	-0.8
CHOS	**Chios island**	**3.53**	**348**	*e*Pn	Pn	13 45 36.1	-0.8
VLI	**Veliai**	**3.77**	**299**	*e*PN	Pn	13 45 43.0	+2.9
VLI	**Veliai**	**3.77**	**299**	*e*Pn	Pn	13 45 43.0	+2.9
KULA	**Kula-Manisa**	**3.81**	**20**	*e*PN	Pn	13 45 38.6	-2.0
KULA	**Kula-Manisa**	**3.81**	**20**	*e*Pn	Pn	13 45 38.7	-2.0
KHL	**Karahalli**	**3.93**	**30**	*e*PN	Pn	13 45 40.1	-2.3
KHL	**Karahalli**	**3.93**	**30**	*e*Pn	Pn	13 45 40.1	-2.3
KHAL	**Karahalli**	**3.96**	**29**	*i* P	Pn	13 45 47.3	+4.4
KHAL	**Karahalli**	**3.96**	**29**	*i* P	Pn	13 45 47.3	+4.4
DID	**Didima**	**3.99**	**311**	*e*PN	Pn	13 45 47.2	+4.0
DID	**Didima**	**3.99**	**311**	*e*Pn	Pn	13 45 47.2	+4.0
SUTC	**Sutluce-Ispart**	**4.09**	**51**	*e*PN	Pn	13 45 41.5	-3.2
SUTC	**Sutluce-Ispart**	**4.09**	**51**	*e*Pn	Pn	13 45 41.5	-3.2
LTK	**Loutraki**	**4.49**	**314**	*e*PN	Pn	13 45 54.5	+4.4
LTK	**Loutraki**	**4.49**	**314**	*e*Pn	Pn	13 45 54.5	+4.4
ALT	**Altintas**	**4.80**	**30**	*e*PN	Pn	13 45 52.5	-1.8
ALT	**Altintas**	**4.80**	**30**	*e*Pn	Pn	13 45 52.5	-1.8
GUR	**Goura**	**4.82**	**310**	*e*PN	Pn	13 45 58.5	+3.9
GUR	**Goura**	**4.82**	**310**	*e*Pn	Pn	13 45 58.5	+3.9
LEF	**Lefka**	**4.82**	**86**	*e*PN	Pn	13 45 49.4	-5.1
LEF	**Lefka**	**4.82**	**86**	*e*Pn	Pn	13 45 49.4	-5.1
TVSB	**Tavsanli**	**4.91**	**23**	*e*PN	Pn	**13 45 54.6**	**-1.2**
TVSB	**Tavsanli**	**4.91**	**23**	*e*Pn	Pn	**13 45 54.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**31.54**	**233**	P	P	13 51 07.6	+3.1
	0.3nm,0.5s,baz=34,slow=8.7,SNR=7.6						
KURBB	**Kurchatov Arra**	**40.08**	**51**	P	P	13 52 21.7	+4.4
	0.8nm,0.5s,baz=277,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**42.62**	**56**	P	P	13 52 43.1	+4.7
	0.8nm,0.6s,baz=282,slow=8.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**44.06**	**46**	P	P	13 52 53.5	+3.8
	0.9nm,0.4s,baz=273,slow=9.6,SNR=3.9						

*IDC **26** 13:52:15.0±6.0, 43˚.22N×99˚.23E, h0km, mb1 3.5/4, mb1mx3.2/43, mbtmp3.5/4, ML3.3/4, Error ellipse: s-maj=81.6km s-min=21.6km az=167.0*
*BJI **26** 13:52:16.4, 43˚.28N×98˚.91E, h7km, ML3.7/10*

ISC 26 13:52:15.5±0.8, 43˚.38N±0˚.06×98˚.63E±0˚.07, h10km, n7, σ1°13/11, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.06**	**167**	Pn	**Pn**	**13 53 17.5**	**-0.3**
GTA				Pg	**Pb**	**13 53 27.0**	**-0.2**
GTA				Sn	**Sn**	**13 54 05.5**	**0.0**
GTA				Sg	**Sb**	**13 54 16.8**	**+0.4**
GTA				smax	smax		
	comp=N,89nm,0.7s						
GTA				smax	smax		
	comp=E,180nm,0.8s						
SONM	**Songino Array**	**7.04**	**48**	Pn	**Pn**	**13 53 56.8**	**-1.8**
	1.2nm,0.3s,baz=230,slow=15,SNR=14						
SONM				Pg	**Pb**	**13 54 19.4**	**+1.6**
	1.7nm,0.3s,baz=227,slow=19,SNR=8.2						
SONM				Lg	Lg	13 55 50.8	
	3.1nm,0.3s,baz=227,slow=32,SNR=7.1						
WMQ	**Urumqi**	**7.95**	**277**	Pn	**Pn**	**13 54 12.0**	**+0.9**
WMQ				Sg	**Sg**	**13 56 29.5**	**-1.0**
MKAR	**Makanchi Array**	**12.04**	**292**	Pn	Pn	13 55 13.9	+6.8
	0.1nm,0.3s,baz=99,slow=14,SNR=2.5						
MKAR				Lg	Lg	13 58 49.8	
	0.2nm,0.3s,baz=103,slow=30,SNR=6						
ZALV	**Zalesovo Beam**	**13.94**	**324**	Pn	**P**	**13 55 40.4**	**-0.7**
	0.5nm,0.3s,baz=130,slow=11,SNR=5.3						
ZALV				Lg	Lg	13 59 42.2	
	0.1nm,0.3s,baz=137,slow=19,SNR=4.4						
KURBB	**Kurchatov Arra**	**15.48**	**305**	Pn	**P**	**13 55 59.4**	**+1.2**
	0.2nm,0.3s,baz=114,slow=10,SNR=12						
BVAR	**Borovoye Array**	**21.02**	**307**	P	**P**	**13 56 59.7**	**+0.6**
	1.2nm,0.4s,baz=104,slow=10,SNR=12						

*JSN **26** 14:03:06.0±0.8, 18˚.12N×71˚.20W, h15km*
*ISCJB **26** 14:03:13.1±0.3, 18˚.35N±0˚.05×72˚.03W±0˚.03, h10km, mb4.0/20, MS3.2/3, Error ellipse: s-maj=6.8km s-min=4.4km az=165.1*
*IDC **26** 14:03:13.1±0.6, 18˚.26N×72˚.14W, h0km, mb4.0/15, mb1 4.3/16, mb1mx4.2/26, mbtmp4.0/16, ML3.9/1, MS3.1/6, Ms1 3.1/6, ms1mx2.9/32, Error ellipse: s-maj=21.2km s-min=15.6km az=54.0*
*NEIC **26** 14:03:14.8±0.3, 18˚.38N×72˚.04W, h10km, mb4.2/5, Error ellipse: s-maj=6.8km s-min=4.6km az=178.0*

ISC 26 14:03:14.9±0.5, 18˚.38N±0˚.06×72˚.01W±0˚.06, h10km, n71, σ0°91/67, mb4.2/20, MS3.2/3, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.91**	**49**	*e*Pg	**Pg**	**14 03 30.3**	**-2.3**
SDDR				*e*Sg	**Sg**	**14 03 44.0**	**-0.4**
GRTK	**Grand Turk**	**3.22**	**15**	Pn	**Pn**	**14 04 04.1**	**-1.6**
GTBY	**Guantanamo Bay**	**3.31**	**298**	Pn	**Pn**	**14 04 04.8**	**-2.0**
YHJ	**Yallahs**	**4.29**	**264**	*i* P	**Pn**	**14 04 19.9**	**-0.4**
YHJ	**Yallahs**	**4.29**	**264**	*i* P	**Pn**	**14 04 19.9**	**-0.4**
YHJ	**Yallahs**	**4.29**	**264**	*i* P	**Pn**	**14 04 19.9**	**-0.4**
GWJ	**Greenwich**	**4.49**	**267**	*i* P	**Pn**	**14 04 22.5**	**-0.7**
GWJ	**Greenwich**	**4.49**	**267**	*i* P	**Pn**	**14 04 22.5**	**-0.7**
GWJ	**Greenwich**	**4.49**	**267**	*i* P	**Pn**	**14 04 22.5**	**-0.7**
HOJ	**Hope**	**4.52**	**266**	*i* P	**Pn**	**14 04 24.0**	**+0.5**
HOJ	**Hope**	**4.52**	**266**	*i* P	**Pn**	**14 04 24.0**	**+0.5**
HOJ	**Hope**	**4.52**	**266**	*i* P	**Pn**	**14 04 24.0**	**+0.5**
STH	**Stony Hill**	**4.57**	**267**	*i* P	**Pn**	**14 04 24.0**	**-0.2**
STH				*i* S	Sn	14 05 22.4	+4.9
STH	**Stony Hill**	**4.57**	**267**	*i* P	**Pn**	**14 04 24.0**	**-0.2**
STH				*i* S	Sn	14 05 22.4	+4.9
STH	**Stony Hill**	**4.57**	**267**	*i* P	**Pn**	**14 04 24.0**	**-0.2**
STH				*i* S	Sn	14 05 22.4	+4.9
CRPR	**Cabo Rojo, PR**	**4.67**	**94**	*e*P	**Pn**	**14 04 25.7**	**0.0**
LSP	**Las Mesas**	**4.69**	**92**	*e*P	**Pn**	**14 04 25.7**	**-0.1**
LRS	**Lares**	**4.91**	**90**	*e*P	Pn	14 04 32.9	+4.0
OBIP	**Obispado Ponce**	**5.15**	**93**	*e*P	**Pn**	**14 04 33.7**	**+1.5**
CELP	**Cerrillos**	**5.17**	**93**	*e*P	**Pn**	**14 04 32.5**	**+0.1**
MTDJ	**Mount Denham**	**5.25**	**269**	*e*Pn	**Pn**	**14 04 32.6**	**-1.0**
CBYP	**Canovanas**	**5.85**	**90**	*e*P	**Pn**	**14 04 42.9**	**+1.0**
SDV	**Santo Domingo**	**9.53**	**172**	*e*P	**Pn**	**14 05 31.6**	**-1.0**
BCIP	**Isla Barro Col**	**11.90**	**221**	*e*P	**Pn**	**14 06 04.0**	**-0.7**
ROSC	**El Real**	**13.63**	**190**	LR	LR	14 10 49.6	
	comp=Z,51nm,19.4s,baz=21,slow=34						
JTS	**JuntasAbangare**	**14.89**	**239**	P	**Pn**	**14 06 45.8**	**+0.1**
JTS	**JuntasAbangare**	**14.89**	**239**	Pn	Pn	14 06 41.6	-4.1
	0.6nm,0.3s,baz=105,slow=16,SNR=3.9						
JTS				LR	LR	14 11 33.7	
	comp=Z,50nm,21.1s,baz=114,slow=34						
APG	**El Apazote**	**17.99**	**262**	LR	LR	14 15 21.4	
	comp=Z,68nm,20.2s,baz=92,slow=41						
OTAV	**Otavalo**	**19.11**	**200**	P	**Pn**	**14 07 41.6**	**+2.2**
	14nm,1.4s						
PTGA	**Pitinga**	**22.38**	**147**	*e*P	**P**	**14 08 14.8**	**+1.2**
PTGA	**Pitinga**	**22.38**	**147**	P	**P**	**14 08 14.0**	**+0.4**
	7.8nm,0.8s,baz=339,slow=12,SNR=8.1						
ATAH	**Atahualpa**	**26.12**	**195**	LR	LR	14 19 32.5	
	comp=Z,52nm,18.2s,baz=6.6,slow=38						
SADO	**Sadowa**	**26.98**	**349**	LR	LR	14 18 24.4	
	comp=Z,70nm,20.5s,baz=6.5,slow=34						
SAML	**Samuel**	**28.52**	**161**	*e*P	**P**	**14 09 10.4**	**-0.4**
	3.5nm,0.8s						
TXAR	**Lajitas Array**	**30.84**	**297**	P	**P**	**14 09 31.2**	**-0.4**
TXAR				PcP	**PcP**	**14 12 28.0**	**-0.6**
TXAR	**Lajitas Array**	**30.84**	**297**	P	**P**	**14 09 31.2**	**-0.4**
	0.7nm,0.8s,baz=113,slow=8.3,SNR=5.3						
TXAR				PcP	**PcP**	**14 12 28.0**	**-0.6**
	0.6nm,0.7s,baz=132,slow=4.4,SNR=6.7						
MNTX	**Cornudas Mount**	**32.87**	**300**	*e*P	**P**	**14 09 49.7**	**+0.4**
	2.7nm,1.0s						
BNM	**Barren Site**	**34.59**	**304**	*e*P	**P**	**14 10 05.2**	**+0.8**
	3.4nm,0.9s						
LPM	**Los Pinos Moun**	**34.64**	**304**	*e*P	**P**	**14 10 05.2**	**+0.3**
	5.0nm,0.9s						
SIV	**San Ignacio**	**35.81**	**162**	P	**P**	**14 10 14.4**	**-0.4**
SIV	**San Ignacio**	**35.81**	**162**	P	**P**	**14 10 14.4**	**-0.4**
	1.6nm,0.7s,baz=345,slow=9.6,SNR=3.9						
SCHQ	**Schefferville**	**36.60**	**5**	LR	LR	14 24 16.5	
	comp=Z,45nm,20.6s,baz=299,slow=34						
ULM	**Lac du Bonnet**	**37.08**	**334**	P	**P**	**14 10 25.9**	**+0.7**
ULM	**Lac du Bonnet**	**37.08**	**334**	P	**P**	**14 10 25.9**	**+0.7**
	5.8nm,1.0s,baz=133,slow=8.3,SNR=5.1						
PDAR	**Pinedale Array**	**39.96**	**316**	P	**P**	**14 10 49.5**	**-0.4**
PDAR				PcP	**PcP**	**14 12 54.3**	**-0.9**
PDAR	**Pinedale Array**	**39.96**	**316**	P	**P**	**14 10 49.5**	**-0.4**
	0.9nm,0.6s,baz=129,slow=8.6,SNR=8.0						
PDAR				PcP	**PcP**	**14 12 54.3**	**-0.9**
	1.2nm,0.9s,baz=99,slow=5.6,SNR=6.1						
NVAR	**Mina Array Bea**	**44.82**	**306**	P	**P**	**14 11 29.2**	**-0.3**
NVAR				PcP	**PcP**	**14 13 11.5**	**+0.1**
NVAR	**Mina Array Bea**	**44.82**	**306**	P	**P**	**14 11 29.2**	**-0.3**
	0.7nm,0.8s,baz=97,slow=7.4,SNR=5.2						
NVAR				PcP	**PcP**	**14 13 11.5**	**+0.1**
	0.9nm,0.7s,baz=141,slow=4.5,SNR=5.8						
YKA	**Yellowknife Ar**	**52.98**	**337**	P	**P**	**14 12 31.1**	**-0.4**
YKA	**Yellowknife Ar**	**52.98**	**337**	P	**P**	**14 12 31.0**	**-0.4**
	4.2nm,1.0s,baz=121,slow=7.1,SNR=21						
PLCA	**Paso Flores**	**58.82**	**179**	P	**P**	**14 13 12.6**	**-1.0**
PLCA	**Paso Flores**	**58.82**	**179**	P	**P**	**14 13 12.6**	**-1.0**
	5.9nm,0.9s,baz=5.2,slow=8.9,SNR=8.0						
ESDC	**Sonseca Array**	**61.76**	**54**	P	**P**	**14 13 35.2**	**+1.2**
ESDC	**Sonseca Array**	**61.76**	**54**	P	**P**	**14 13 35.2**	**+1.2**
	0.4nm,0.4s,baz=286,slow=8.2,SNR=5.6						
ILAR	**Eielson Array**	**67.09**	**333**	P	**P**	**14 14 08.5**	**+0.2**
ILAR	**Eielson Array**	**67.09**	**333**	P	**P**	**14 14 08.5**	**+0.2**
	1.2nm,1.1s,baz=109,slow=5.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**70.71**	**82**	P	**P**	**14 14 30.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**70.71**	**82**	P	**P**	**14 14 30.6**	**-1.2**
	0.9nm,0.9s,baz=305,slow=5.5,SNR=3.6						
NOA	**NORSAR Array B**	**70.84**	**31**	P	**P**	**14 14 32.8**	**+1.0**
NOA	**NORSAR Array B**	**70.84**	**31**	P	**P**	**14 14 32.8**	**+1.0**
	0.8nm,0.8s,baz=286,slow=6.9,SNR=2.8						
BRG	**Berggiesshubel**	**73.45**	**41**	*e*P	**P**	**14 14 48.5**	**+0.9**
	2.2nm,0.7s						
GERES	**GERESS Array B**	**73.61**	**43**	P	**P**	**14 14 49.6**	**+0.9**
GERES	**GERESS Array B**	**73.61**	**43**	P	**P**	**14 14 49.6**	**+0.9**
	2.6nm,0.9s,baz=270,slow=4.0,SNR=7.6						
FINES	**FINESS Array B**	**77.84**	**29**	P	**P**	**14 15 13.7**	**+1.3**
FINES	**FINESS Array B**	**77.84**	**29**	P	**P**	**14 15 13.7**	**+1.3**
	2.2nm,0.9s,baz=289,slow=4.3,SNR=3.3						
AKASG	**Malin Array Be**	**82.87**	**39**	P	**P**	**14 15 41.1**	**+1.3**
AKASG	**Malin Array Be**	**82.87**	**39**	P	**P**	**14 15 41.1**	**+1.3**
	0.1nm,0.3s,baz=282,slow=4.3,SNR=3.3						
WRA	**Warramunga Arr**	**155.07**	**262**	PKPbc	PKPdf	14 23 16.2	+7.1
WRA	**Warramunga Arr**	**155.07**	**262**	PKPbc	PKPdf	14 23 16.2	+7.1
	0.7nm,0.7s,baz=79,slow=1.5,SNR=8.0						
ASAR	**Alice Springs**	**155.26**	**253**	PKPbc	PKPdf	14 23 16.9	+7.5
ASAR	**Alice Springs**	**155.26**	**253**	PKPbc	PKPdf	14 23 16.9	+7.5
	0.7nm,0.7s,baz=81,slow=2.3,SNR=6.2						

*IDC **26** 14:07:11.7±0.8, 7˚.87N×126˚.60E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/36, mbtmp3.9/11, Error ellipse: s-maj=34.9km s-min=17.7km az=75.0*
*MAN **26** 14:07:15, 7˚.91N×126˚.93E, h1km, mb4.8, ML3.7, MS3.7*
*ISCJB **26** 14:07:16.4±0.7, 7˚.9N±0˚.1×126˚.94E±0˚.09, h46km, mb3.9/11, Error ellipse: s-maj=16.7km s-min=9.7km az=34.5*

ISC 26 14:07:18.1±0.8, 7˚.9N±0˚.1×126˚.7E±0˚.2, h46km, n14, σ0°81/16, mb3.8/11, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.49**	**310**	*e*P	**Pn**	**14 07 29.5**	**+0.5**
BIPH				*e*S	**Sn**	**14 07 38.4**	**+1.6**
CGP	**Cagayan de Oro**	**2.11**	**286**	*e*P	Pn	14 07 55.6	+4.6
CGP				*i* S	Sn	14 08 23.9	+7.9
SCPH	**Surigao**	**2.27**	**327**	*e*P	**Pn**	**14 07 53.0**	**-0.2**
WRA	**Warramunga Arr**	**28.63**	**165**	P	**P**	**14 13 10.6**	**+0.2**
	0.4nm,0.8s,baz=345,slow=10,SNR=3.0						
CMAR	**Chiang Mai Arr**	**29.00**	**294**	P	**P**	**14 13 12.6**	**-1.2**
	0.3nm,0.4s,baz=83,slow=7.7,SNR=2.8						
KSRS	**Korea Array**	**29.48**	**2**	P	**P**	**14 13 17.1**	**-0.6**
	0.9nm,0.8s,baz=171,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**32.11**	**168**	P	**P**	**14 13 41.2**	**+0.1**
	0.5nm,0.7s,baz=351,slow=8.1,SNR=5.4						
ASAR				PcP	**PcP**	**14 16 30.6**	**+0.8**
	0.2nm,0.6s,baz=347,slow=2.4,SNR=3.8						
USRK	**Ussuriysk Arra**	**36.48**	**6**	P	**P**	**14 14 19.6**	**+0.9**
	3.7nm,0.8s,baz=210,slow=7.7,SNR=9.4						
MKAR	**Makanchi Array**	**54.22**	**324**	P	**P**	**14 16 39.0**	**-0.2**
	1.3nm,0.6s,baz=119,slow=7.9,SNR=18						
MKAR				PcP	**PcP**	**14 17 43.0**	**-0.2**
	0.7nm,0.7s,baz=95,slow=3.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**56.95**	**332**	P	**P**	**14 16 57.4**	**-1.3**
	0.5nm,0.5s,baz=101,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**81.39**	**26**	P	**P**	**14 19 30.1**	**+0.3**
	0.4nm,0.7s,baz=235,slow=5.3,SNR=6.8						
ARCES	**ARCESS Array B**	**86.60**	**340**	P	**P**	**14 19 55.9**	**-0.4**
	11nm,1.1s,baz=59,slow=7.7,SNR=4.5						
FINES	**FINESS Array B**	**88.22**	**332**	P	**P**	**14 20 03.8**	**-0.3**
	1.6nm,0.7s,baz=67,slow=5.0,SNR=6.8						
YKA	**Yellowknife Ar**	**95.75**	**24**	P	**P**	**14 20 39.6**	**+0.6**
	0.2nm,0.6s,baz=306,slow=5.3,SNR=4.1						

**MAN 26 14:10:19, 7˚.92N×127˚.10E, h11km, mb4.6, ML

DEMI				*i* S		**Sn**	**14 26 17.0**	**-0.1**
DEMI	**Demirci**	**0.92**	**190**	*i* P		**Pg**	**14 26 02.9**	**+0.3**
DEMI				*i* S		**Sn**	**14 26 17.0**	**-0.1**
GONE	**Gonen-Balikesi**	**0.95**	**276**	*e*PG		**Pg**	**14 26 02.4**	**-0.8**
GONE	**Gonen-Balikesi**	**0.95**	**276**	*e*Pg		**Pg**	**14 26 02.4**	**-0.8**
GDZ	**Gediz**	**0.97**	**153**	*i* P		**Pb**	**14 26 04.2**	**+0.6**
GDZ				*i* S		**Sn**	**14 26 21.2**	**+2.9**
GDZ	**Gediz**	**0.97**	**153**	*i* P		**Pb**	**14 26 04.2**	**+0.6**
BALY	**Balya**	**1.02**	**258**	*i* P		**Pb**	**14 26 04.8**	**+0.2**
BALY				*i* S		**Sb**	**14 26 18.0**	**-0.1**
BALY	**Balya**	**1.02**	**258**	*i* P		**Pb**	**14 26 04.8**	**+0.2**
BALY				*i* S		**Sb**	**14 26 18.0**	**-0.1**
HRT	**Hereke**	**1.04**	**33**	*e*PG		**Pb**	**14 26 04.8**	**-0.1**
HRT	**Hereke**	**1.04**	**33**	*e*Pg		**Pb**	**14 26 04.8**	**-0.1**
ALT	**Altintas**	**1.28**	**134**	*e*PN		**Pn**	**14 26 08.3**	**-0.5**
ALT	**Altintas**	**1.28**	**134**	*e*Pn		**Pn**	**14 26 08.3**	**-0.5**
KHAL	**Karahalli**	**1.64**	**164**	*i* P		**Pb**	**14 26 14.8**	**-0.4**
KHAL				*i* S		**Sg**	**14 26 37.9**	**+0.2**
KHAL	**Karahalli**	**1.64**	**164**	*i* P		**Pb**	**14 26 14.8**	**-0.4**

MOS ***26*** *15:06:56.8±0.9, 30°.22N×138°.55E, h420km, mb3.9/26, Error ellipse: s-maj=15.1km s-min=7.4km az=113.2*

ISCJB ***26*** *15:06:57.2±0.4, 30°.23N±0°.05×138°.76E±0°.07, h428km±3km, mb3.8/35, Error ellipse: s-maj=10.0km s-min=6.5km az=156.3*

IDC ***26*** *15:06:57.5±0.8, 30°.23N×138°.68E, h412km±9km, mb3.4/19, mb1 3.5/25, mb1mx3.5/39, mbtmp4.2/25, Error ellipse: s-maj=12.4km s-min=8.4km az=75.0*

BJI ***26*** *15:06:57.5, 30°.16N×138°.56E, h432km, mB4.5/12, mb4.5/21*

JMA ***26*** *15:06:58.0±0.2, 30°.26N×138°.95E, h428km, M3.7*

ISC 26 15:06:58.1±0.7, 30°.24N±0°.06×138°.79E±0°.07, h421km±7km, n81, σ1§19/97, mb3.8/35, 7C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.95**	**17**	P	**P**	**15 08 03.5**	**+1.1**
JHCJ				S	**S**	**15 08 54.6**	**-0.1**
JHJ2	**Mitsune**	**2.99**	**17**	P	**P**	**15 08 03.5**	**+0.8**
JHJ2				*e*S	**S**	**15 08 55.8**	**+0.5**
JWZ	**Kozaga**	**4.19**	**322**	P	**P**	**15 08 14.4**	**+1.3**
CBIJ	**Chichi jima**	**4.33**	**136**	P	**P**	**15 08 14.5**	**-0.1**
JCJ	**Chichijima**	**4.33**	**136**	P	**P**	**15 08 14.6**	**0.0**
	42nm,0.3s,baz=294,slow=15,SNR=32						
JCJ				S	**S**	**15 09 14.4**	**-2.4**
	98nm,0.3s,baz=264,slow=21,SNR=12						
JIE	**Ise**	**4.50**	**337**	P	**P**	**15 08 17.8**	**+1.9**
JIE				S	**S**	**15 09 21.2**	**+1.7**
JKN2	**Miekihoku**	**4.52**	**333**	P	**P**	**15 08 17.1**	**+1.0**
JKN2				S	**S**	**15 09 20.1**	**+0.2**
JHMK	**Hamakita**	**4.64**	**349**	P	**P**	**15 08 19.0**	**+1.8**
BSO1	**Boso 1**	**4.77**	**22**	P	**P**	**15 08 18.4**	**+0.4**
BSO1				S	**S**	**15 09 20.9**	**-2.5**
BSO3	**Boso 3**	**4.77**	**17**	P	**P**	**15 08 18.1**	**-0.2**
BSO3				S	**S**	**15 09 21.4**	**-2.5**
BSO4	**Boso 4**	**4.91**	**15**	P	**P**	**15 08 20.8**	**+0.9**
BSO4				S	**S**	**15 09 26.1**	**-0.6**
MJAR	**Matsushiro Arr**	**6.30**	**356**	P	**P**	**15 08 34.1**	**-0.2**
	1.3nm,0.3s,baz=202,slow=7.2,SNR=15						
MJAR				S	**S**	**15 09 53.2**	**-0.1**
	1.1nm,0.3s,baz=174,slow=19,SNR=5.6						
MAJO	**Matsushiro**	**6.30**	**356**	*e*P	**P**	**15 08 34.6**	**+0.2**
MAT	**Matsushiro**	**6.30**	**356**	P	**P**	**15 08 34.3**	**-0.1**
MAT				S	**S**	**15 09 50.9**	**-2.5**
JNU	**Nakatsue**	**7.33**	**295**	P	**P**	**15 08 45.5**	**-0.6**
	0.5nm,0.3s,baz=187,slow=8.1,SNR=6.6						
KSRS	**Korea Array**	**11.54**	**311**	P	**P**	**15 09 32.7**	**+0.5**
	0.9nm,0.3s,baz=125,slow=10,SNR=32						
ASAJ	**Asahikawa**	**14.17**	**11**	P	**P**	**15 10 02.0**	**+1.1**
	0.5nm,0.3s,baz=343,slow=19,SNR=4.1						
USRK	**Ussuriysk Arra**	**14.94**	**341**	P	**P**	**15 10 09.2**	**+0.1**
	1.1nm,0.3s,baz=147,slow=11,SNR=16						
XAN	**Xi'an**	**25.53**	**286**	P	**P**	**15 11 50.0**	**-1.1**
XAN				pP	pP	15 11 58.0	-65
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,44nm,6.1s						
SONM	**Songino Array**	**30.39**	**314**	P	**P**	**15 12 32.9**	**-0.9**
	2.0nm,0.4s,baz=125,slow=9.0,SNR=8.3						
GTA	**Gaotai**	**33.06**	**297**	*e*P	**P**	**15 12 56.0**	**-0.9**
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
ZAK	**Zakamensk**	**33.28**	**317**	*e*P	**P**	**15 12 57.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SEY	**Seymchan**	**33.86**	**11**	P	**P**	**15 13 03.7**	**+0.6**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SEY	**Seymchan**	**33.86**	**11**	P	**P**	**15 13 03.7**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=218,slow=19,SNR=2.8						
CMAR	**Chiang Mai Arr**	**37.97**	**261**	P	**P**	**15 13 37.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=57,slow=6.6,SNR=16						
BILL	**Bilibino**	**41.14**	**15**	*e*P	**P**	**15 14 04.3**	**+1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**45.16**	**318**	P	**P**	**15 14 34.1**	**-1.0**
ZALV						15 16 06.1	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**45.16**	**318**	P	**P**	**15 14 34.1**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=96,slow=8.3,SNR=11						
ZALV				PcP	**PcP**	**15 16 06.1**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=101,slow=3.6,SNR=6.0						
MKAR	**Makanchi Array**	**46.19**	**307**	P	**P**	**15 14 42.5**	**-0.7**
MKAR						15 16 10.3	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**46.19**	**307**	P	**P**	**15 14 42.5**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=81,slow=8.9,SNR=16						
MKAR				PcP	**PcP**	**15 16 10.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=72,slow=4.7,SNR=3.8						
WRA	**Warramunga Arr**	**50.08**	**185**	P	**P**	**15 15 13.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=5.1,slow=7.9,SNR=22						
TKM2	**Tokmak 2**	**51.19**	**303**	P	**P**	**15 15 20.2**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TKM2	**Tokmak 2**	**51.19**	**303**	P	**P**	**15 15 21.0**	**0.0**
	SNR=5.6						
KSH	**Kashi**	**51.43**	**298**	*i* P	P	15 15 25.5	+2.8
KSH				*e*PP	**PP**	**15 17 29.0**	**+4.1**
KSH				*e*PcS	**PcS**	**15 20 30.5**	**+1.5**
KSH				*e*S	**S**	**15 22 12.0**	**+2.1**
KSH				*e*SS	**SS**	**15 25 55.0**	**+2.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,140nm,4.3s						
KZA	**Kyzart**	**51.56**	**302**	*i* P	**P**	**15 15 24.2**	**+0.3**
KZA	**Kyzart**	**51.56**	**302**	P	**P**	**15 15 24.3**	**+0.3**
	SNR=5.7						
KBK	**Karagaybulak**	**51.70**	**302**	P	**P**	**15 15 24.5**	**-0.1**
	SNR=8.0						
AAK	**Ala-Archa**	**52.03**	**302**	*ce*P	**P**	**15 15 25.8**	**-1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
UCH	**Uchtor**	**52.08**	**302**	*i* P	**P**	**15 15 28.0**	**+0.3**
UCH	**Uchtor**	**52.08**	**302**	P	**P**	**15 15 28.1**	**+0.3**
	SNR=5.8						
AML	**Almayashu**	**52.70**	**302**	P	**P**	**15 15 32.4**	**+0.3**
	SNR=11						
VOSK	**Vostochnaya**	**53.37**	**315**	P	**P**	**15 15 34.9**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**53.77**	**316**	*ce*P	**P**	**15 15 39.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ASAR	**Alice Springs**	**53.81**	**186**	P	**P**	**15 15 39.8**	**0.0**
	comp=Z,0.8nm,0.6s,baz=8.7,slow=7.1,SNR=18						
KK31	**Karatay Array**	**54.84**	**304**	*i* P	**P**	**15 15 46.4**	**-0.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ILAR	**Eielson Array**	**56.43**	**30**	P	**P**	**15 15 58.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=255,slow=5.6,SNR=9.4						
ARU	**Arti**	**60.11**	**321**	*c i*P	**P**	**15 16 22.0**	**-0.9**
ARU						15 18 38.1	
ARU				S	**S**	**15 24 00.9**	**-1.4**
ARU				pmax	pmax		
	comp=Z,23nm,2.5s						
AB31	**Akbulak array**	**60.77**	**313**	*i* P	**P**	**15 16 26.7**	**-0.7**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO	**Aktyubinsk**	**61.70**	**314**	P	**P**	**15 16 32.5**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
STKA	**Stephens Creek**	**61.84**	**177**	P	**P**	**15 16 35.9**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=45,slow=7.1,SNR=3.4						
KEV	**Kevo**	**69.02**	**340**	*e*P	**P**	**15 17 19.1**	**-0.4**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**69.02**	**340**	*e*p	**P**	**15 17 19.1**	**-0.4**
	comp=Z,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**69.58**	**340**	P	**P**	**15 17 23.0**	**+0.1**
	comp=Z,2.6nm,0.4s,baz=72,slow=8.8,SNR=26						
YKA	**Yellowknife Ar**	**70.79**	**28**	P	**P**	**15 17 30.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=296,slow=6.0,SNR=11						
JOF	**Joensuu**	**70.93**	**332**	*e*P	**P**	**15 17 29.8**	**-1.3**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
JOF	**Joensuu**	**70.93**	**332**	*e*p	**P**	**15 17 29.8**	**-1.3**
	comp=Z,3.1nm,0.4s						
KAF	**Kangasniemi**	**73.34**	**333**	*e*p	**P**	**15 17 44.1**	**-1.0**
	comp=Z,3.1nm,0.5s						
KBZ	**Khabaz**	**73.69**	**311**	P	**P**	**15 17 47.6**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**73.69**	**311**	P	**P**	**15 17 47.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=70,slow=4.9,SNR=4.3						
FINES	**FINESS Array B**	**73.80**	**333**	P	**P**	**15 17 47.5**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=66,slow=5.4,SNR=41						
AKASG	**Malin Array Be**	**78.32**	**322**	P	**P**	**15 18 12.3**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**78.32**	**322**	P	**P**	**15 18 12.3**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=50,slow=5.6,SNR=11						
KIEV	**Kiev**	**78.33**	**322**	*e*P	**P**	**15 18 12.6**	**-0.6**
NB2	**NORSAR Subarra**	**79.57**	**337**	P	**P**	**15 18 18.8**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=45,slow=5.3						
NOA	**NORSAR Array B**	**79.57**	**337**	P	**P**	**15 18 19.4**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=45,slow=5.0,SNR=7.1						
NVAR	**Mina Array Be**	**80.89**	**53**	P	**P**	**15 18 28.8**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=293,slow=5.7,SNR=6.6						
BRTR	**Keskin Array B**	**81.69**	**311**	P	**P**	**15 18 31.2**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=95,slow=4.6,SNR=14						
TESR	**Tescani**	**82.11**	**320**	⇓*i*P	**P**	**15 18 33.0**	**-0.2**
BURAR	**Bucovina Array**	**82.25**	**321**	⇑P	**P**	**15 18 34.1**	**+0.1**
BURAR	**Bucovina Array**	**82.25**	**321**	⇑*i*P	**P**	**15 18 34.1**	**+0.1**
TLB	**Topalu**	**82.44**	**318**	⇑P	**P**	**15 18 34.9**	**0.0**
TLB	**Topalu**	**82.44**	**318**	⇑*i*P	**P**	**15 18 34.9**	**0.0**
VRI	**Vrincioaia**	**82.45**	**319**	⇓P	**P**	**15 18 35.8**	**+0.8**
VRI	**Vrincioaia**	**82.45**	**319**	⇓*i*P	**P**	**15 18 35.8**	**+0.8**
VOIR		**83.65**	**320**	⇓P	**P**	**15 18 38.5**	**-2.6**
VOIR		**83.65**	**320**	⇓*i*P	**P**	**15 18 38.5**	**-2.6**
PDAR	**Pinedale Array**	**84.03**	**43**	P	**P**	**15 18 44.3**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=302,slow=1.7,SNR=4.7						
CLL	**Collm**	**85.84**	**329**	*e*P	**P**	**15 18 50.0**	**-1.7**
CLL	**Collm**	**85.84**	**329**	*e*P	**P**	**15 18 50.0**	**-1.7**
TXAR	**Lajitas Array**	**96.04**	**51**	P	**P**	**15 19 41.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=282,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**120.28**	**310**	PKP	**PKPdf**	**15 25 00.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=339,slow=0.5,SNR=4.8						

ISCJB ***26*** *15:16:22.9±0.8, 18°.14S±0°.07×172°.4W±0°.1, h10km, mb4.1/6, MS3.0/2, Error ellipse: s-maj=14.9km s-min=9.7km az=22.9*

IDC ***26*** *15:16:24.8±1.3, 18°.32S×172°.52W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/39, mbtmp4.3/9, ML4.4/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/29, Error ellipse: s-maj=34.2km s-min=22.3km az=137.0*

ISC 26 15:16:25.7±0.8, 18°.23S±0°.09×172°.5W±0°.1, h10km, n15, σ1§87/9, mb4.1/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.34**	**9**	Pn	**Pn**	**15 17 34.3**	**+2.4**
	8.9nm,0.3s,baz=127,slow=20,SNR=6.7						
AFI				Sn	**Sn**	**15 18 19.4**	**-3.3**
	20nm,0.3s,baz=202,slow=18,SNR=7.6						
RAR	**Rarotonga**	**12.30**	**106**	Pn	**Pn**	**15 19 20.3**	**-0.8**
	4.4nm,0.3s,baz=261,slow=10,SNR=10						
RAR				Sn	Sn	15 21 28.6	-10
	0.7nm,0.3s,baz=342,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**20.17**	**256**	P	Pn	15 21 01.5	-1.1
	9.1nm,0.7s,baz=80,slow=17,SNR=6.1						
PAE	**Paea**	**21.77**	**92**	*e*T	T	15 43 21.6	
	6.0nm,0.3s						
PPT2	**Papeete2**	**21.78**	**92**	*e*LR	LR	15 26 28.6	
	78nm,23.5s						
PPT2	**Papeete2**	**21.78**	**92**	*e*T	T	15 43 23.5	
	3.7nm,0.3s						
PPT	**Papeete**	**21.78**	**92**	LR	LR	15 27 08.4	
	comp=Z,49nm,20.6s,baz=187,slow=30						
URZ	**Urewera**	**21.94**	**202**	P	**P**	**15 21 19.9**	**+0.4**
	2.9nm,0.3s,baz=225,slow=2.9,SNR=13						
URZ				S	S	15 25 09.0	-13
	5.7nm,0.9s,baz=135,slow=20,SNR=3.8						
URZ				LR	LR	15 29 37.0	
	comp=Z,57nm,18.9s,baz=39,slow=36						
TVO	**Taravao**	**22.07**	**92**	*e*T	T	15 43 40.4	
	1.5nm,0.3s						
TBI	**Tubuai**	**22.08**	**107**	*e*T	T	15 43 30.6	
	4.0nm,0.4s						
CTA	**Charters Tower**	**38.98**	**260**	P	**P**	**15 23 52.0**	**-0.6**
	2.0nm,0.5s,baz=88,slow=16,SNR=3.3						
STKA	**Stephens Creek**	**43.48**	**243**	P	**P**	**15 24 29.0**	**-0.4**
	2.3nm,0.8s,baz=90,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**50.14**	**259**	P	**P**	**15 25 21.0**	**-0.7**
	1.5nm,0.3s,baz=94,slow=8.6,SNR=57						
ASAR	**Alice Springs**	**50.15**	**254**	P	**P**	**15 25 21.6**	**-0.2**
	4.4nm,0.7s,baz=90,slow=8.3,SNR=59						
ILAR	**Eielson Array**	**85.04**	**11**	P	**P**	**15 29 02.6**	**+1.5**
	0.4nm,0.9s,baz=216,slow=5.4,SNR=3.6						

IDC ***26*** *15:22:04.8±0.6, 39°.07S×15°.91W, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.3/25, mbtmp4.2/14, MS4.8/17, Ms1 4.8/17, ms1mx4.7/18, Error ellipse: s-maj=19.1km s-min=17.0km az=132.0*

ISCJB ***26*** *15:22:05.6±0.3, 39°.20S±0°.06×16°.05W±0°.1, h10km, mb5.2/60, MS4.9/96, Error ellipse: s-maj=11.5km s-min=8.5km az=25.7*

MOS ***26*** *15:22:05.9±0.8, 39°.22S×16°.13W, h10km, mb5.9/20, MS4.9/7, Error ellipse: s-maj=24.8km s-min=9.0km az=78.3*

NEIC ***26*** *15:22:06.2±0.3, 39°.26S×15°.90W, h10km, mb5.7/33, MS5.0/63, Error ellipse: s-maj=11.8km s-min=9.3km az=142.0*

GCMT ***26*** *15:22:06.2±0.2, 39°.30S×15°.70W, h12km, MW5.3/108, Moment Tensor Solution. s63,c87; s108,c213; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-1.18±.02; Mθθ 0.05±.02; Mϕϕ 1.13±.02; Mrθ-0.25±.07; Mθϕ-0.19±.02; Mϕr-0.17±.05; Best double couple: M0 1.20800×10^17 NP1:ϕs2.00000°, δ49.00000°, λ-74.00000°. NP2:ϕs158.00000°, δ43.00000°, λ-108.00000°. Principal axes: T 1.1700, Plg3.0000°, Azm81.0000°; N 0.0790, Plg12.0000°, Azm172.0000°; P -1.2460, Plg77.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 26 15:22:06.4±0.3, 39°.16S±0°.08×15°.81W±0°.07, h10km, n302, σ1§58/247, mb5.5/60, MS5.0/96, 4C-2D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.43**	**54**	T	T	15 26 42.9	
	SNR=5.9						
HOPE	**Hope Point**	**20.61**	**216**	PFAKE		15 27 00.0	+12
HOPE				LR	LR		
	comp=Z,1.0nm,21.0s						
H10S2	**ASCENSION HYDR**	**30.09**	**2**	T	T	16 00 00.4	
	baz=182,slow=75,SNR=43						
H10S3	**ASCENSION HYDR**	**30.10**	**2**	T	T	15 59 52.6	
	baz=182,slow=75,SNR=53						
H10S1	**ASCENSION HYDR**	**30.11**	**2**	T	T	15 59 53.5	
	baz=182,slow=75,SNR=70						
SUR	**Sutherland**	**30.33**	**89**	PFAKE		15 28 30.0	+12
SUR				LR	LR		
	comp=Z,3μm,20.0s						
H10N1	**ASCENSION HYDR**	**31.20**	**3**	T	T	16 01 19.8	
	baz=179						
H10N3	**ASCENSION HYDR**	**31.21**	**3**	T	T	16 01 23.1	
	baz=179,slow=74,SNR=28						
H10N2	**ASCENSION HYDR**	**31.22**	**3**	T	T	16 01 22.2	
	baz=179,slow=74,SNR=12						
VNA1	**Neumayer--Stat**	**31.80**	**175**	P	**P**	**15 28 31.7**	**+1.1**
VNA2	**Neumayer--Watz**	**32.13**	**175**	P	**P**	**15 28 34.1**	**+0.5**
	baz=337,slow=10						
SNAA	**Sanae**	**33.24**	**173**	P	**P**	**15 28 43.8**	**+0.5**
SNAA	**Sanae**	**33.24**	**173**	*e*P	**P**	**15 28 43.1**	**-0.3**
	comp=Z,54nm,1.8s						
SNAA	**Sanae**	**33.24**	**173**	P	**P**	**15 28 43.6**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=334,slow=7.9,SNR=8.6						
BB16B	**Bebedouro**	**33.38**	**293**	(P)	**P**	**15 28 44.8**	**-0.2**
BB16B				*i*		15 28 47.8	
BB16B				*i*		15 28 51.2	
TSUM	**Tsumeb**	**35.01**	**65**	*e*P	**P**	**15 28 57.8**	**-1.5**
	comp=Z,23nm,0.8s						
TSUM				LR	LR		
	comp=Z,5μm,19.0s						
BOSA	**Boshof**	**35.41**	**85**	P	**P**	**15 29 00.3**	**-2.4**
	comp=Z,36nm,1.5s						
BOSA	**Boshof**	**35.41**	**85**	P	**P**	**15 29 00.5**	**-2.2**
	comp=Z,4.5nm,0.6s,baz=258,slow=9.3,SNR=3.1						
BOSA				LR	LR	15 40 46.8	
	comp=Z,3μm,19.8s,baz=242,slow=32						
TRQA	**Tornquist**	**35.79**	**257**	*e*P	P	15 29 01.9	-3.8
TRQA				LR	LR		
	comp=Z,3μm,20.0s						
BDFB	**Brasilia**	**36.65**	**301**	P	**P**	**15 29 12.4**	**-0.9**
BDFB	**Brasilia**	**36.65**	**301**	P	**P**	**15 29 12.4**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=127,slow=8.4,SNR=6.5						
BDFB				LR	LR	15 41 27.7	
	comp=Z,2μm,19.7s,baz=136,slow=32						
CPUP	**Villa Florida**	**36.88**	**278**	LR	LR	15 42 06.2	
	comp=Z,4μm,20.6s,baz=119,slow=33						
RCBR	**Riachuelo**	**37.83**	**326**	P	**P**	**15 29 20.9**	**-2.4**
RCBR				LR	LR		
	comp=Z,2μm,20.0s						
RCBR	**Riachuelo**	**37.83**	**326**	P	**P**	**15 29 20.9**	**-2.4**
	comp=Z,9.7nm,1.1s,baz=145,slow=8.3,SNR=3.8						
PLCA	**Paso Flores**	**41.42**	**250**	P	**P**	**15 29 53.9**	**+0.9**
PLCA	**Paso Flores**	**41.42**	**250**	P	**P**	**15 29 53.9**	**+0.9**
	comp=Z,3.9nm,1.1s,baz=117,slow=9.0,SNR=3.0						
PLCA				LR	LR	15 44 19.0	
	comp=Z,2μm,22.0s,baz=102,slow=32						
SYO	**Syowa Base**	**41.77**	**154**	⇓*e*pP	**P**	**15 29 54.0**	**-1.4**
CFAA	**Coronel Fontan**	**42.90**	**263**	P	**P**	**15 30 04.2**	**-1.0**
CFAA	**Coronel Fontan**	**42.90**	**263**	P	**P**	**15 30 04.2**	**-1.0**
	comp=Z,1.1nm,1.1s,baz=113,slow=9.2,SNR=11						
LSZ	**Lusaka**	**45.22**	**71**	*e*P	**P**	**15 30 24.0**	**-0.1**
	comp=Z,139nm,2.1s						
LSZ				LR	LR		
	comp=Z,2μm,21.0s						
LSZ	**Lusaka**	**45.22**	**71**	P	**P**	**15 30 24.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=180,slow=8.1,SNR=6.0						
LCO	**Las Campanas**	**45.96**	**265**	PFAKE		15 30 40.0	+10
LCO				LR	LR		
	comp=Z,2μm,20.0s						
MSKU	**Masuku**	**45.98**	**43**	PFAKE		15 30 40.0	+10
MSKU				LR	LR		
	comp=Z,2.0nm,22.0s						
LIC	**Lamto**	**46.25**	**15**	⇑*i*P	**P**	**15 30 31.7**	**-0.2**
	comp=Z,42nm,1.3s,baz=210						
LIC				*e*R			
	comp=Z,476nm,18.2s						
LIC	**Lamto**	**46.25**	**15**	*e*P	**P**	**15 30 32.4**	**+0.5**
	comp=Z,77nm,1.9s						
LIC	**Lamto**	**46.25**	**15**	⇑*i*P	**P**	**15 30 31.7**	**-0.2**
	comp=Z,42nm,1.3s						
KIC	**Kosan Boka**	**46.44**	**15**	*e*P	**P**	**15 30 33.4**	**-0.1**
	comp=Z,103nm,1.6s						
TIC	**Toumodi**	**46.66**	**15**	*e*P	**P**	**15 30 35.0**	**-0.2**
	comp=Z,5.0nm,0.2s						
DBIC	**Dimbokro**	**46.72**	**15**	P	**P**	**15 30 34.8**	**-0.8**
DBIC	**Dimbokro**	**46.72**	**15**	P	**P**	**15 30 34.8**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=166,slow=4.2,SNR=3.2						
DBIC				LR	LR	15 45 28.2	
	comp=Z,473nm,20.3s,baz=167,slow=30						
LVC	**Limon Verde**	**47.79**	**274**	PFAKE		15 31 00.0	+16
LVC				LR	LR		
	comp=Z,2μm,20.0s						
MAW	**Mawson**	**50.25**	**151**	LR	LR	15 49 20.6	
	comp=Z,452nm,19.3s,baz=280,slow=32						
LPAZ	**La Paz**	**50.82**	**281**	P	**P**	**15 31 07.3**	**-0.7**
LPAZ	**La Paz**	**50.82**	**281**	P	**P**	**15 31 07.3**	**-0.7**
	comp=Z,17nm,1.3s,baz=110,slow=6.5,SNR=14						
LPAZ				LR	LR	15 52 36.9	
	comp=Z,885nm,18.6s,baz=130,slow=36						
QSPA	**South Pole Qui**	**51.09**	**180**	*e*P	**P**	**15 31 09.4**	**+0.5**
	comp=Z,98nm,1.6s						
QSPA				*e*PcP	**PcP**	**15 32 24.0**	**-0.4**
QSPA				LR	LR		
	comp=Z,928nm,19.0s						
SAML	**Samuel**	**51.88**	**292**	*e*P	**P**	**15 31 14.1**	**-1.0**
	comp=Z,71nm,1.6s						
SAML				LR	LR		
	comp=Z,3μm,19.0s						
TOA0	**Torodi

comp=Z,221nm,18.2s,baz=140,slow=34
MTE Manteigas 79.55 6 PFAKE 15 34 30.0 +17
MTE LR LR
comp=Z,855nm,21.0s
JTS JuntasAbangare 80.75 291 PFAKE 15 34 30.0 +10
JTS LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 80.77 305 PFAKE 15 34 30.0 +10
GTBY LR LR
comp=Z,914nm,20.0s
MTDJ Mount Denham 81.11 302 PFAKE 15 34 30.0 +7.8
MTDJ LR LR
comp=Z,892nm,22.0s
VSL Villasalto 81.61 19 PFAKE 15 34 40.0 +16
VSL LR LR
comp=Z,488nm,22.0s
CEL Celeste 82.37 25 PFAKE 15 34 40.0 +12
CEL LR LR
comp=Z,525nm,22.0s
ETSF Etsaut 82.85 11 *eP* **P 15 34 31.8 +1.1**
comp=Z,237nm,1.9s
ETSF Etsaut 82.85 11 *eP* **P 15 34 31.8 +1.1**
ETSF pmax pmax
comp=Z,237nm,1.9s
ETSF Etsaut 82.85 11 *eP* **P 15 34 31.8 +1.1**
comp=Z,237nm,1.9s
SJPF Ste Jean 82.96 11 *eP* **P 15 34 32.7 +1.5**
comp=Z,80nm,1.5s
SJPF Ste Jean 82.96 11 *eP* **P 15 34 32.7 +1.5**
SJPF pmax pmax
comp=Z,80nm,1.5s
SJPF Ste Jean 82.96 11 *eP* **P 15 34 32.7 +1.5**
comp=Z,80nm,1.5s
EPF Esparros 83.11 12 *eP* **P 15 34 33.2 +1.2**
comp=Z,141nm,1.9s
EPF Esparros 83.11 12 *eP* **P 15 34 33.2 +1.2**
EPF pmax pmax
comp=Z,141nm,1.9s
EPF Esparros 83.11 12 *eP* **P 15 34 33.2 +1.2**
comp=Z,141nm,1.9s
TIP Timpagrande 83.48 25 PFAKE 15 34 50.0 +16
TIP LR LR
comp=Z,171nm,21.0s
MTLF Montolieu 83.73 13 *eP* **P 15 34 35.7 +0.6**
comp=Z,46nm,1.4s
MTLF Montolieu 83.73 13 *eP* **P 15 34 35.7 +0.6**
MTLF pmax pmax
comp=Z,46nm,1.4s
MTLF Montolieu 83.73 13 *eP* **P 15 34 35.7 +0.6**
comp=Z,46nm,1.4s
CUC Castrocucco 83.92 24 PFAKE 15 34 50.0 +14
CUC LR LR
comp=Z,285nm,22.0s
DGAR Diego Garcia 84.03 95 PFAKE 15 34 50.0 +13
DGAR LR LR
comp=Z,606nm,19.0s
SANT Santorini 84.25 32 PFAKE 15 34 50.0 +12
SANT LR LR
comp=Z,247nm,19.0s
RAYN Ar Rayn 84.67 54 *eP* **P 15 34 39.5 -1.0**
comp=Z,133nm,2.3s
LASF Ste Croix 84.74 14 *eP* **P 15 34 41.2 +0.9**
comp=Z,172nm,1.7s
LASF Ste Croix 84.74 14 *eP* **P 15 34 41.2 +0.9**
comp=Z,172nm,1.7s
LFF La Frestale 85.04 12 *eP* **P 15 34 42.7 +1.0**
comp=Z,91nm,1.3s
LFF La Frestale 85.04 12 *eP* **P 15 34 42.7 +1.0**
LFF pmax pmax
comp=Z,91nm,1.3s
LFF La Frestale 85.04 12 *eP* **P 15 34 42.7 +1.0**
comp=Z,91nm,1.3s
CAF Calviac 85.24 13 *eP* **P 15 34 43.7 +0.9**
comp=Z,117nm,1.8s
CAF Calviac 85.24 13 *eP* **P 15 34 43.7 +0.9**
CAF pmax pmax
comp=Z,117nm,1.8s
CAF Calviac 85.24 13 *eP* **P 15 34 43.7 +0.9**
comp=Z,117nm,1.8s
RJF Les Rejaudoux 85.52 12 *eP* **P 15 34 45.2 +1.1**
comp=Z,106nm,1.6s
RJF *eR*
comp=Z,358nm,19.5s
RJF Les Rejaudoux 85.52 12 *eP* **P 15 34 45.2 +1.1**
RJF pmax pmax
comp=Z,106nm,1.6s
RJF Les Rejaudoux 85.52 12 *eP* **P 15 34 45.2 +1.1**
comp=Z,106nm,1.6s
VIVF Saint-Julien-I 85.65 14 *eP* **P 15 34 45.7 +0.9**
comp=Z,192nm,1.9s
VIVF Saint-Julien-I 85.65 14 *eP* **P 15 34 45.7 +0.9**
VIVF pmax pmax
comp=Z,192nm,1.9s
VIVF Saint-Julien-I 85.65 14 *eP* **P 15 34 45.7 +0.9**
comp=Z,192nm,1.9s
ORIF Oris-en-Rattie 85.95 15 *eP* **P 15 34 47.7 +1.3**
ORIF *eR*
comp=Z,1μm,20.5s
ORIF Oris-en-Rattie 85.95 15 *eP* **P 15 34 47.7 +1.3**
ORIF Oris-en-Rattie 85.95 15 *eP* **P 15 34 47.7 +1.3**
MBDF Montbardon 85.96 16 *eP* **P 15 34 47.9 +1.4**
comp=Z,146nm,1.9s
MBDF Montbardon 85.96 16 *eP* **P 15 34 47.9 +1.4**
MBDF pmax pmax
comp=Z,146nm,1.9s
MBDF Montbardon 85.96 16 *eP* **P 15 34 47.9 +1.4**
comp=Z,146nm,1.9s
VLC Villacollemand 86.25 19 PFAKE 15 35 00.0 +12
VLC LR LR
comp=Z,587nm,22.0s
MFF Saint Martin d 86.53 11 *eP* **P 15 34 50.3 +1.2**
MFF Saint Martin d 86.53 11 *eP* **P 15 34 50.3 +1.2**
MFF Saint Martin d 86.53 11 *eP* **P 15 34 50.3 +1.2**
TCF Toulx Ste Croi 86.59 12 *eP* **P 15 34 51.0 +1.6**
comp=Z,99nm,1.6s
TCF Toulx Ste Croi 86.59 12 *eP* **P 15 34 51.0 +1.6**
TCF pmax pmax
comp=Z,99nm,1.6s
TCF Toulx Ste Croi 86.59 12 *eP* **P 15 34 51.0 +1.6**
comp=Z,99nm,1.6s
LPG La Plagne 86.69 16 *eP* **P 15 34 51.6 +1.3**
LPG La Plagne 86.69 16 *eP* **P 15 34 51.6 +1.3**
LPG La Plagne 86.69 16 *eP* **P 15 34 51.6 +1.3**
LPL La Plagne 86.70 16 *eP* **P 15 34 51.3 +1.1**
LPL La Plagne 86.70 16 *eP* **P 15 34 51.3 +1.1**
LPL La Plagne 86.70 16 *eP* **P 15 34 51.3 +1.1**
SMF Signal de Mont 87.22 13 *eP* **P 15 34 53.5 +1.0**
comp=Z,71nm,1.6s
SMF Signal de Mont 87.22 13 *eP* **P 15 34 53.5 +1.0**
SMF pmax pmax
comp=Z,71nm,1.6s
SMF Signal de Mont 87.22 13 *eP* **P 15 34 53.5 +1.0**
comp=Z,71nm,1.6s
AVF Avril sur Loir 87.27 13 *eP* **P 15 34 53.9 +1.2**
comp=Z,97nm,1.7s
AVF Avril sur Loir 87.27 13 *eP* **P 15 34 53.9 +1.2**
AVF pmax pmax
comp=Z,97nm,1.7s
AVF Avril sur Loir 87.27 13 *eP* **P 15 34 53.9 +1.2**
comp=Z,97nm,1.7s
QUIF Quistinic 87.43 8 *eP* **P 15 34 54.5 +1.1**
comp=Z,297nm,1.9s
QUIF Quistinic 87.43 8 *eP* **P 15 34 54.5 +1.1**
QUIF pmax pmax
comp=Z,297nm,1.9s
QUIF Quistinic 87.43 8 *eP* **P 15 34 54.5 +1.1**
comp=Z,297nm,1.9s
SSF Saint Saulge 87.56 13 *eP* **P 15 34 55.1 +1.0**
SSF Saint Saulge 87.56 13 *eP* **P 15 34 55.1 +1.0**
SSF Saint Saulge 87.56 13 *eP* **P 15 34 55.1 +1.0**
CABF La Chapelle 87.61 15 *eP* **P 15 34 56.1 +1.6**
comp=Z,121nm,1.8s
CABF La Chapelle 87.61 15 *eP* **P 15 34 56.1 +1.6**
CABF pmax pmax
comp=Z,121nm,1.8s
CABF La Chapelle 87.61 15 *eP* **P 15 34 56.1 +1.6**
comp=Z,121nm,1.8s
ISP Isparta 87.65 35 PFAKE 15 35 10.0 +15
ISP LR LR
comp=Z,242nm,21.0s
LOR Lormes 87.83 13 *eP* **P 15 34 56.5 +1.1**
LOR *eR*
comp=Z,292nm,18.0s
LOR Lormes 87.83 13 *eP* **P 15 34 56.5 +1.1**
SGMF Saint Gilles 87.83 9 *eP* **P 15 34 56.2 +0.9**
SGMF Saint Gilles 87.83 9 *eP* **P 15 34 56.2 +0.9**
SGMF Saint Gilles 87.83 9 *eP* **P 15 34 56.2 +0.9**
GRR Gorron 88.18 10 *eP* **P 15 34 58.0 +1.0**
GRR Gorron 88.18 10 *eP* **P 15 34 58.0 +1.0**
GRR Gorron 88.18 10 *eP* **P 15 34 58.0 +1.0**
TUE Stuetta 88.18 17 PFAKE 15 35 10.0 +13
TUE LR LR
comp=Z,530nm,19.0s
LDF La Druitiere 88.48 10 *eP* **P 15 34 59.4 +1.0**
comp=Z,122nm,1.6s
LDF La Druitiere 88.48 10 *eP* **P 15 34 59.4 +1.0**
LDF pmax pmax
comp=Z,122nm,1.6s
LDF La Druitiere 88.48 10 *eP* **P 15 34 59.4 +1.0**
comp=Z,122nm,1.6s
FLN La Foliniere 88.60 10 *eP* **P 15 35 00.0 +1.1**
comp=Z,240nm,1.7s
FLN *eR*
comp=Z,414nm,18.2s
FLN La Foliniere 88.60 10 *eP* **P 15 35 00.0 +1.1**
FLN pmax pmax
comp=Z,240nm,1.7s
FLN La Foliniere 88.60 10 *eP* **P 15 35 00.0 +1.1**
comp=Z,240nm,1.7s
HINF Hinteralfeld 88.92 15 *eP* **P 15 35 01.2 +0.6**
HINF Hinteralfeld 88.92 15 *eP* **P 15 35 01.2 +0.6**
HINF Hinteralfeld 88.92 15 *eP* **P 15 35 01.2 +0.6**
SFTF Sexfontaines 88.94 14 *eP* **P 15 35 01.9 +1.3**
comp=Z,102nm,1.4s
SFTF Sexfontaines 88.94 14 *eP* **P 15 35 01.9 +1.3**
comp=Z,102nm,1.4s
HAU Haudompre 89.00 15 *eP* **P 15 35 01.8 +0.9**
HAU *eR*
comp=Z,324nm,18.2s
HAU Haudompre 89.00 15 *eP* **P 15 35 01.8 +0.9**
HAU Haudompre 89.00 15 *eP* **P 15 35 01.8 +0.9**
DAVA Damuels 89.07 17⇑ *iP* **P 15 35 02.5 +1.0**
comp=Z,16nm,2.0s
MEZF Maizieres J'vi 89.23 14 *eP* **P 15 35 03.4 +1.5**
MEZF Maizieres J'vi 89.23 14 *eP* **P 15 35 03.4 +1.5**
ECH Echery 89.36 15 PFAKE 15 35 10.0 +7.4
ECH LR LR
comp=Z,409nm,19.0s
PAGF Fort de Pagny 89.41 14 *eP* **P 15 35 04.2 +1.4**
PAGF Fort de Pagny 89.41 14 *eP* **P 15 35 04.2 +1.4**
CDF Champ du Feu 89.58 15 *eP* **P 15 35 04.6 +0.9**
comp=Z,85nm,1.7s
CDF Champ du Feu 89.58 15 *eP* **P 15 35 04.6 +0.9**
CDF pmax pmax
comp=Z,85nm,1.7s
CDF Champ du Feu 89.58 15 *eP* **P 15 35 04.6 +0.9**
comp=Z,85nm,1.7s
BFO Black Forest 89.72 16 *iP* **P 15 35 07.4 +3.1**
BFO Black Forest 89.72 16 PFAKE 15 35 20.0 +16
BFO LR LR
comp=Z,838nm,20.0s
TEIG Tepich 89.78 296 PFAKE 15 35 20.0 +15
TEIG LR LR
comp=Z,1μm,22.0s
STU Stuttgart 90.32 16 *eP* **P 15 35 06.8 -0.2**
comp=Z,40nm,1.3s
WLF Walferdange 90.55 14 P **P 15 35 10.6 +2.5**
comp=Z,33nm,2.1s
WLF Walferdange 90.55 14 AP pP 15 35 15.7 +4.2
WLF Walferdange 90.55 14 *eP* **P 15 35 09.3 +1.2**
comp=Z,90nm,1.8s
WLF Walferdange 90.55 14 PFAKE 15 35 20.0 +12
WLF LR LR
comp=Z,563nm,21.0s
BAIF Baives 90.58 13 *eP* **P 15 35 09.6 +1.4**
comp=Z,139nm,1.7s
BAIF Baives 90.58 13 *eP* **P 15 35 09.6 +1.4**
BAIF pmax pmax
comp=Z,139nm,1.7s
BAIF Baives 90.58 13 *eP* **P 15 35 09.6 +1.4**
comp=Z,139nm,1.7s
BRTR Keskin Array B 90.61 36 P **P 15 35 07.0 -1.9**
BRTR Keskin Array B 90.61 36 P **P 15 35 07.0 -1.9**
comp=Z,1.4nm,1.0s,baz=163,slow=5.4,SNR=3.4
BRTR LR LR 16 15 16.3
comp=Z,134nm,20.6s,baz=210,slow=35
DOU Dourbes 90.68 13 P **P 15 35 11.3 +2.6**
comp=Z,12nm,1.6s
DOU AP **pP 15 35 16.5 +4.5**
GIVF Givet 90.73 13 *eP* **P 15 35 10.2 +1.3**
comp=Z,124nm,1.6s
GIVF Givet 90.73 13 *eP* **P 15 35 10.2 +1.3**
GIVF pmax pmax
comp=Z,124nm,1.6s
GIVF Givet 90.73 13 *eP* **P 15 35 10.2 +1.3**
comp=Z,124nm,1.6s
BCLA Clavier 91.12 13 P **P 15 35 13.5 +2.8**
comp=Z,24nm,1.8s
BCLA AP **pP 15 35 18.4 +4.3**
CONA Conrad Observa 91.18 21⇑ *iP* **P 15 35 12.9 +1.8**
comp=Z,13nm,1.6s
PTCN Pitcairn Islan 91.42 236 PFAKE 15 35 20.0 +7.0
PTCN LR LR
comp=Z,3μm,20.0s
MEM Membach 91.43 14 P **P 15 35 14.0 +1.9**
GEC2 GERESS Array S 91.45 19 *eP* **P 15 35 12.8 +0.4**
comp=Z,6.0nm,1.5s
GERES GERESS Array B 91.45 19 LR LR 16 12 36.8
comp=Z,435nm,21.9s,baz=202,slow=33
WET Wettzell 91.52 18 *eP* **P 15 35 12.8 +0.1**
comp=Z,72nm,2.3s
TNS Taunus Mts 91.54 15 *eP* **P 15 35 14.7 +2.0**
comp=Z,48nm,1.8s
GRF Grafenberg Arr 91.64 17 *eP* **P 15 35 14.6 +1.4**
comp=Z,41nm,1.5s
GRF *eL* L 16 14 31.6
comp=Z,203nm,19.2s
KHC Kasperske Hory 91.68 19 *eP* **P 15 35 13.7 +0.3**
KHC *e* 15 35 19.5
KHC MLR MLR
comp=Z,700nm,18.9s
KHC Kasperske Hory 91.68 19 *eP* **P 15 35 13.7 +0.3**
KHC *epP* **pP 15 35 19.5 +2.7**
KHC AMS AMS 16 12 40.0
comp=Z,700nm,18.9s
TREC Trest 92.33 20 *eP* **P 15 35 18.2 +1.8**
TREC *e* 15 35 23.0
TREC MLR MLR
comp=Z,500nm,20.9s
TREC Trest 92.33 20 *eP* **P 15 35 18.2 +1.8**
TREC *epP* **pP 15 35 23.0 +3.3**
TREC AMS AMS 16 13 10.0
comp=Z,500nm,20.9s
PSZ Piszkesteto 92.34 23 PFAKE 15 35 30.0 +13
PSZ LR LR
comp=Z,340nm,19.0s
UBBA Unterbreizbach 92.43 16 *eP* **P 15 35 18.4 +1.8**
comp=Z,70nm,2.3s
PRU Pruhonice 92.72 19 *eP* **P 15 35 20.4 +2.3**
PRU *e* 15 35 25.1
PRU MLR MLR
comp=Z,500nm,18.2s
PRU Pruhonice 92.72 19 *eP* **P 15 35 20.4 +2.3**
PRU *epP* **pP 15 35 25.1 +3.6**
PRU AMS AMS 16 14 20.0
comp=Z,500nm,18.2s
PRA Prague 92.77 19 P **P 15 35 21.0 +2.7**
H01W2 Cape Leeuwin H 92.98 141 T T 17 19 28.2
baz=218,slow=75,SNR=34
H01W3 Cape Leeuwin H 93.00 141 T T 17 19 26.6
baz=218,slow=75,SNR=29
H01W1 Cape Leeuwin H 93.00 141 T T 17 19 27.6
baz=218,slow=75,SNR=43
KECS Kecovo 93.02 23 *eP* **P 15 35 21.8 +2.2**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 93.02 23 *eP* **P 15 35 21.8 +2.2**
DPC Dobruska-Polom 93.51 20 *eP* **P 15 35 23.9 +2.1**
DPC *e* 15 35 28.1
DPC Dobruska-Polom 93.51 20 *eP* **P 15 35 23.9 +2.1**
DPC *epP* **pP 15 35 28.1 +2.9**
DPC AMS AMS 16 16 00.0
OKC Ostrava-Krasne 93.55 21 *eP* P 15 35 25.7 +3.8
OKC Ostrava-Krasne 93.55 21 *eP* P 15 35 25.7 +3.8
CLL Collm 93.56 18 *eP* **P 15 35 24.0 +2.0**
CLL *e**SP **sP 15 35 28.0 +1.5**
CLL MLR MLR
comp=Z,200nm,19.6s
CLL Collm 93.56 18 *eP* **P 15 35 24.0 +2.0**
CLL *esP* **sP 15 35 28.0 +1.5**
CLL *eS* S 15 46 24.0 -6.0
CLL *ePS* **PS 15 47 48.0 +3.0**
CLL *eSS* **SS 15 52 48.0 -0.5**
CLL *eSSSS* 15 59 48.0
CLL LV 16 13 00.0
comp=Z,200nm,19.6s
UPC Upice 93.57 20 *eP* **P 15 35 23.6 +1.5**
UPC Upice 93.57 20 *eP* **P 15 35 23.6 +1.5**
CNNC Cliffs of the 93.63 314 PFAKE 15 35 30.0 +7.3
CNNC LR LR
comp=Z,1μm,19.0s
CRVS Cervenica-Dubn 93.69 24 *eP* **P 15 35 25.6 +2.9**
CRVS pmax pmax
comp=Z,23nm,1.7s
CRVS Cervenica-Dubn 93.69 24 *eP* **P 15 35 25.5 +2.9**
STHS Stebnicka Huta 94.08 23 *eP* **P 15 35 25.8 +1.3**
STHS Stebnicka Huta 94.08 23 *eP* **P 15 35 25.8 +1.3**
ESK Eskdalemuir 94.73 7 *iP* P 15 35 23.6 -3.6
CBN Corbin 95.49 316 PFAKE 15 35 40.0 +8.8
CBN LR LR
comp=Z,561nm,20.0s
RKT Rikitea 95.92 234 *eLR* LR 16 06 29.0
comp=Z,390nm,34.5s
NWAO Narrogin (SRO) 96.09 142 LR LR 16 09 24.5
comp=Z,241nm,21.5s,slow=30
TAU Tasmania Unive 96.89 168 PFAKE 15 35 50.0 +12
TAU LR LR
comp=Z,713nm,19.0s
AKASG Malin Array Be 97.82 27 *iP* Pdif 15 35 44.5 +3.0
AKASG Malin Array Be 97.82 27 P **P 15 35 41.0 -0.5**
AKASG Malin Array Be 97.82 27 P **P 15 35 41.0 -0.5**
comp=Z,0.1nm,0.3s,baz=218,slow=5.8,SNR=5.2
AKASG LR LR 16 17 59.0
comp=Z,147nm,21.7s,baz=150,slow=34
NCB Newcomb 98.11 322 PFAKE 15 35 50.0 +7.0
NCB LR LR
comp=Z,453nm,19.0s
KIV Kislovodsk 98.15 38 *eP* Pdif 15 35 45.8 +2.6
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,343nm,20.0s
KIV Kislovodsk 98.15 38 PFAKE 15 35 50.0 +6.8
KIV LR LR
comp=Z,485nm,20.0s
COCO West Island 99.25 114 PFAKE 15 36 00.0 +11
COCO LR LR
comp=Z,637nm,20.0s
ACSO Alum Creek Sta 100.00 314 PFAKE 15 36 00.0 +8.5
ACSO LR LR
comp=Z,877nm,21.0s
KVTX Kingsville 101.20 296 PFAKE 15 36 10.0 +13
KVTX LR LR
comp=Z,572nm,20.0s
AAM Ann Arbor 101.79 315 PFAKE 15 36 10.0 +11
AAM LR LR
comp=Z,536nm,20.0s
MIAR Mount Ida 102.65 304 PFAKE 15 36 10.0 +6.6
MIAR LR LR
comp=Z,541nm,20.0s
TBI Tubuai 104.20 223 *eSS* SS 15 55 18.3 +1.8
comp=Z,184nm,28.5s
TBI Tubuai 104.20 223 *eLR* LR 16 10 24.2
comp=Z,754nm,32.2s
JCT Junction City 104.31 298 PFAKE 15 36 20.0 +9.1
JCT LR LR
comp=Z,441nm,21.0s
JFWS Jewell Farm 105.87 313 PFAKE 15 40 40.0
JFWS LR LR
comp=Z,687nm,19.0s
WMOK Wichita Mounta 106.17 302 PFAKE 15 40 40.0
WMOK LR LR
comp=Z,130nm,19.0s
KSU1 Kansas State U 107.36 306 PFAKE 15 40 40.0
KSU1 LR LR
comp=Z,381nm,21.0s
MNTX Cornudas Mount 108.90 296 PFAKE 15 40 50.0
MNTX LR LR
comp=Z,281nm,22.0s
PPT2 Papeete2 108.90 227 *eSP* SP 15 50 22.9 -4.8
comp=Z,79nm,22.0s
PPT2 *eSS* **SS 15 56 26.7 +5.7**
comp=Z,221nm,27.0s
PPT2 Papeete2 108.90 227 *eLR* LR 16 12 30.7
comp=Z,759nm,26.0s
EYMN Ely 109.66 316 PFAKE 15 40 50.0
EYMN LR LR
comp=Z,423nm,19.0s
ECSD EROS Data Cent 110.07 310 PFAKE 15 40 50.0
ECSD LR LR
comp=Z,806nm,21.0s
OGNE Ogallala 111.83 305 PFAKE 15 40 50.0
OGNE LR LR
comp=Z,515nm,21.0s
SDCO Great Sand Dun 112.34 301 PFAKE 15 40 50.0
SDCO LR LR
comp=Z,491nm,20.0s
ISCO Idaho Springs 113.51 303 PFAKE 15 41 00.0
ISCO LR LR
comp=Z,495nm,22.0s
MVCO Mesa Verde 114.07 299 PFAKE 15 41 00.0 +14
MVCO LR LR
comp=Z,557nm,22.0s
KSH Kashi 114.67 58 *ePKP* PKPdf 15 40 46.0 -0.8
KSH *ePP* **PP 15 41 49.0 +4.0**
KSH *eSKS* **SKSdf 15 47 53.5 -5.5**
KSH *eSKKS* SKKSac 15 48 38.0 -8.1
KSH *eSS* **SS 15 57 38.0 -1.3**
KSH LR LR
comp=Z,180nm,6.4s
KSH LR LR
comp=Z,210nm,6.5s
KSH LR LR
comp=Z,250nm,5.7s
WUAZ Wupatki 115.17 296 PFAKE 15 41 00.0 +12
WUAZ LR LR
comp=Z,317nm,22.0s
DZM Mont Dzumac 119.05 182 *eLR* LR 16 17 24.6
comp=Z,312nm,22.9s
CMAR Chiang Mai Arr 120.46 90 PKP **PKPdf 15 40 59.7 +1.2**
CMAR Chiang Mai Arr 120.46 90 PKP **PKPdf 15 40 59.7 +1.2**
comp=Z,0.7nm,1.0s,baz=253,slow=4.0,SNR=5.8
WMQ Urumqi 124.43 59 PKP **PKPdf 15 41 04.8 -0.6**
WMQ sPKP 15 41 10.0
WMQ PP **PP 15 42 54.8 +2.7**
WMQ PKS **PKSdf 15 44 40.0 -2.0**
WMQ SKS **SKSdf 15 48 15.3 -1.9**
WMQ SKKS **SKKSac 15 49 46.8 -3.2**
WMQ SS **SS 15 59 44.5 -0.5**
WMQ AMB AMB
comp=Z,25nm,8.9s
WMQ LR LR
comp=Z,240nm,27.8s
WMQ LR LR
comp=Z,140nm,19.8s
WMQ LR LR
comp=Z,360nm,29.9s
ZALV Zalesovo Beam 126.31 46 PKIKP **PKPdf 15 41 07.3 -1.2**
ZALV Zalesovo Beam 126.31 46 PKP **PKPdf 15 41 07.3 -1.2**
ZALV Zalesovo Beam 126.31 46 PKP **PKPdf 15 41 07.3 -1.2**
comp=Z,0.6nm,0.7s,baz=231,slow=0.9,SNR=3.0
KMI Kunming 127.04 86 PKP **PKPdf 15 41 10.0 -1.2**
KMI PP PP 15 43 15.3 +5.4
KMI SS SS 16 00 15.5 -3.0
KMI AMB AMB
comp=Z,120nm,4.1s
KMI LR LR
comp=Z,260nm,17.4s
KMI LR LR
comp=Z,290nm,18.5s
KMI LR LR
comp=Z,380nm,20.6s
YKA Yellowknife Ar 127.75 325 PKP **PKPdf 15 41 10.7 -0.3**
YKA Yellowknife Ar 127.75 325 PKP **PKPdf 15 41 10.7 -0.3**
comp=Z,1.1nm,1.0s,baz=104,slow=2.3,SNR=10
QIZ Qiongzhong 129.24 97 PKP **PKPdf 15 41 14.3 -0.9**
QIZ PP **PP 15 43 24.3 +0.3**
QIZ SS SS 16 00 45.0 -0.2
QIZ LR LR
comp=Z,360nm,15.6s
QIZ LR LR
comp=Z,230nm,17.4s
QIZ LR LR
comp=Z,690nm,15.6s
CD2 Chengdu 130.64 80 *ePKP* **PKPdf 15 41 16.8 -0.8**
CD2 PP **PP 15 43 37.0 +3.8**

CD2				SKS	SKSdf	15 48 21.5	-7.8		
CD2				SKKS	**SKKSac**	**15 50 26.5**	**-3.1**		
CD2				SS	**SS**	**16 01 03.3**	**+0.8**		
CD2				AMB	AMB				
	comp=Z,160nm,7.1s								
CD2				LR	LR				
	comp=Z,410nm,17.8s								
CD2				LR	LR				
	comp=Z,380nm,17.8s								
GYA	**Guiyang**	**130.76**	**87**	*e*Pdif	**Pdif**	**15 38 07.5**	**-1.3**		
GYA				PKP	**PKPdf**	**15 41 17.5**	**-0.6**		
GYA				PP	**PP**	**15 43 37.5**	**+3.3**		
GYA				PKS	**PKSdf**	**15 44 52.3**	**-2.5**		
GYA				SKKS		15 50 27.8			
GYA				SS	**SS**	**16 01 04.0**	**-0.3**		
GYA				AMB	AMB				
	comp=Z,180nm,7.6s								
GYA				LR	LR				
	comp=Z,180nm,22.8s								
GYA				LR	LR				
	comp=Z,160nm,23.0s								
GYA				LR	LR				
	comp=Z,210nm,21.4s								
GTA	**Gaotai**	**131.16**	**68**	*e*PKP	**PKPdf**	**15 41 19.8**	**+1.3**		
GTA				PP	**PP**	**15 43 40.8**	**+4.2**		
GTA				PKS	**PKSdf**	**15 44 55.0**	**0.0**		
GTA				SKS	**SKSdf**	**15 48 30.5**	**+0.5**		
GTA				SKKS	**SKKSac**	**15 50 32.0**	**-0.7**		
GTA				SS	**SS**	**16 01 10.5**	**+1.6**		
GTA				AMB	AMB				
	comp=Z,200nm,5.7s								
GTA				LR	LR				
	comp=Z,280nm,20.2s								
GTA				LR	LR				
	comp=Z,300nm,19.0s								
GTA				LR	LR				
	comp=Z,450nm,20.4s								
LZH	**Lanzhou**	**132.88**	**74**	*e*PKP	**PKPdf**	**15 41 18.5**	**-3.4**		
LZH				sPKP		15 41 26.3			
MOY	**Mondy**	**135.27**	**52**	*e*PKIKP	**PKPdf**	**15 41 27.7**	**+1.9**		
TLY	**Talaya**	**136.91**	**53**	*e*PKIKP	**PKPdf**	**15 41 29.3**	**+0.6**		
TLY				pmax	pmax				
	comp=Z,5.0nm,1.3s								
SONM	**Songino Array**	**138.07**	**59**	PKP	**PKPdf**	**15 41 29.9**	**-1.2**		
SONM	**Songino Array**	**138.07**	**59**	PKP	**PKPdf**	**15 41 29.9**	**-1.2**		
	comp=Z,2.1nm,0.9s,baz=225,slow=3.3,SNR=5.0								
HHC	**Hu-ho-hao-te**	**140.16**	**70**	*e*PKP	PKPdf	15 41 29.8	-5.3		
HHC				PP	**PP**	**15 44 31.0**	**-2.3**		
HHC				SS	SS	16 02 50.5	-6.2		
HHC				AMB	AMB				
	comp=Z,190nm,6.1s								
HHC				LR	LR				
	comp=Z,420nm,19.0s								
HHC				LR	LR				
	comp=Z,650nm,17.5s								
HHC				LR	LR				
	comp=Z,580nm,22.6s								
ILAR	**Eielson Array**	**141.93**	**328**	PKPpre	PKPpre	15 41 31.9			
ILAR	**Eielson Array**	**141.93**	**328**	PKhKP	PKPpre	15 41 31.9			
	comp=Z,1.9nm,1.1s,baz=59,slow=2.7,SNR=10								
COLD	**Coldfoot**	**142.29**	**333**	*e*PKPdf	**PKPdf**	**15 41 38.3**	**+0.3**		
NJ2	**Nanjing**	**142.78**	**87**	*e*PKP	**PKPdf**	**15 41 38.5**	**-1.4**		
NJ2				LR	LR				
	comp=Z,310nm,14.7s								
BJI	**Beijing**	**143.35**	**73**	PKP	**PKPdf**	**15 41 39.8**	**-0.9**		
BJI				PP	**PP**	**15 44 52.0**	**-0.5**		
BJI				LR	LR				
	comp=Z,520nm,18.8s								
BJI				LR	LR				
	comp=Z,380nm,16.5s								
BJI				LR	LR				
	comp=Z,300nm,23.4s								
TRF	**Thorofare Moun**	**143.77**	**327**	*e*PKPdf	PKPbc	15 41 39.3	+0.7		
KTH	**Kantishna Hill**	**144.00**	**327**	*e*PKP	PKPbc	15 41 39.2	+0.1		
IM04	**Indian Mountai**	**144.12**	**332**	*e*PKPdf	**PKPab**	**15 41 38.4**	**-0.5**		
PPLA	**Purkeypile**	**144.77**	**327**	*e*PKP	PKPbc	15 41 41.8	+0.1		
RSO	**Redoubt South**	**145.87**	**323**	*e*PKP	**PKPdf**	**15 41 44.5**	**-0.2**		
YAK	**Yakutsk**	**148.95**	**31**	*e*PKP2	**PKPbc**	**15 41 53.7**	**+0.2**		
YAK	**Yakutsk**	**148.95**	**31**	*e*PKPbc	**PKPbc**	**15 41 53.7**	**+0.2**		
TNA	**Tin City**	**149.07**	**338**	*e*PKPdf	**PKPdf**	**15 41 48.5**	**-1.0**		
CN2	**Changchun**	**150.80**	**68**	*e*PKPbc	**PKPbc**	**15 41 58.3**	**-0.3**		
CN2				LR	LR				
	comp=Z,700nm,19.0s								
CN2				LR	LR				
	comp=Z,600nm,19.0s								
CN2				LR	LR				
	comp=Z,500nm,18.0s								
BILL	**Bilibino**	**151.05 358**		⇓*e*PKIKP	**PKPdf**	**15 41 53.4**	**+0.8**		
BILL				pmax	pmax				
	comp=Z,106nm,1.9s								
BILL	**Bilibino**	**151.05 358**		*e*PKPdf	**PKPdf**	**15 41 52.3**	**-0.3**		
GAMB	**Gambell**	**151.49 338**		*e*PKPbc	**PKPbc**	**15 41 58.8**	**-0.7**		
KSAR	**Wonju Array Be**	**151.58**	**82**	PKP	**PKPdf**	**15 41 54.6**	**+0.2**		
KSAR				PKPbc	**PKPbc**	**15 42 00.6**	**-0.1**		
KSRS	**Korea Array**	**151.61**	**82**	PKP	**PKPdf**	**15 41 54.6**	**+0.2**		
	comp=Z,1.4nm,1.1s,baz=270,slow=2.4,SNR=3.0								
KSRS				PKPbc	**PKPbc**	**15 42 00.6**	**-0.1**		
	comp=Z,2.5nm,0.8s,baz=248,slow=3.3,SNR=9.1								
MJAR	**Matsushiro Arr**	**159.34**	**89**	PKPab	**PKPab**	**15 42 43.3**	**+0.8**		
MJAR	**Matsushiro Arr**	**159.34**	**89**	PKPab	**PKPab**	**15 42 43.3**	**+0.8**		
	comp=Z,8.0nm,1.3s,baz=257,slow=2.3,SNR=8.5								

*IDC **26** 15:23:07.8±1.9, 7.°92S×120.°16E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/31, mbtmp3.8/5, ML3.3/1, MS3.9/2, Ms1 3.9/2, ms1mx3.0/26, Error ellipse: s-maj=207.4km s-min=21.0km az=55.0*

*ISCJB **26** 15:23:09.3±0.5, 7.°90S±0.°04×120.°28E±0.°06, h10km, mb3.9/3, MS3.8/2, Error ellipse: s-maj=8.1km s-min=5.7km az=2.3*

*DJA **26** 15:23:11.3±0.3, 8.°S±3.°×12.°0E±°, h10km, M3.6/8, MLv3.6/8*

ISC 26 15:23:09.5±0.9, 7.°93S±0.°07×120.°2E±0.°1, h10km, n15, σ1§36/12, mb4.1/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.64**	**211**	P	x	15 23 24.1	
LBFI				S	x	15 23 32.3	
WSI	**Waingapu**	**1.73**	**177**	P	**Pg**	**15 23 42.2**	**-0.6**
MMRI	**Maumere**	**2.12**	**110**	P	**Pn**	**15 23 45.3**	**+0.3**
MMRI				S	**Sn**	**15 24 11.5**	**+0.1**
BKSI	**Bulukumba**	**2.59**	**358**	P	**Pn**	**15 23 51.9**	**+0.4**
BKSI				S	**Sn**	**15 24 20.4**	**-2.7**
BNSI	**Bone**	**3.51**	**358**	P	Pn	15 24 07.6	+3.5
SPSI	**Sidrap Palu**	**3.96**	**353**	P	**Pn**	**15 24 11.5**	**+1.1**
KKSI	**Kolaka, Sulawe**	**3.99**	**21**	P	x	15 24 13.2	
TTSI	**Tana Toraja**	**4.87**	**355**	P	**Pn**	**15 24 25.3**	**+2.4**
WRA	**Warramunga Arr**	**18.16**	**133**	P	**Pn**	**15 27 21.8**	**-0.1**
	0.1nm,0.3s,baz=305,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**20.42**	**142**	P	**P**	**15 27 47.0**	**0.0**
	0.9nm,0.4s,baz=316,slow=10,SNR=14						
PSI	**Prapat**	**23.77**	**296**	LR	LR	15 39 02.0	
	comp=Z,46nm,20.1s,baz=108,slow=40						
STKA	**Stephens Creek**	**31.04**	**143**	P	**P**	**15 29 28.4**	**+0.6**
	1.1nm,0.4s,baz=328,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**64.07**	**332**	P	**P**	**15 33 44.0**	**+0.3**
	0.6nm,0.6s,baz=137,slow=7.1,SNR=8.2						
ZALV	**Zalesovo Beam**	**68.48**	**338**	P	**P**	**15 34 10.8**	**-1.0**
	0.7nm,0.5s,baz=144,slow=5.4,SNR=4.6						
ARCES	**ARCESS Array B**	**99.03**	**339**	LR	LR	16 25 37.5	
	comp=Z,250nm,19.1s,baz=232,slow=38						

*ISCJB **26** 15:31:28.7±1.0, 55.°18N±0.°02×163.°39E±0.°06, h5km±8km, Error ellipse: s-maj=6.1km s-min=3.8km az=11.6*

*KRSC **26** 15:31:29.9±1.2, 55.°21N×163.°47E, h61km±26km, ML3.9*

*MOS **26** 15:31:30.2±2.0, 55.°31N×163.°37E, h11km, mb4.2/1, Error ellipse: s-maj=22.6km s-min=14.6km az=105.3*

ISC 26 15:31:28.5±1.3, 55.°22N±0.°03×163.°40E±0.°03, h2km±11km, n38, σ1§02/67, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.04**	**342**	PN	**Pb**	**15 31 49.1**	**-0.2**
KBTR				S	**Sb**	**15 32 03.9**	**+0.5**
KBTR	**Krutoberegovo**	**1.04**	**342**	*e*P	**Pb**	**15 31 49.1**	**-0.2**
KBTR				*e*S	**Sb**	**15 32 03.8**	**+0.4**
KBG	**Krutoberegovo**	**1.11**	**339**	PN	**Pb**	**15 31 50.5**	**+0.1**
KBG				S	**Sn**	**15 32 06.2**	**-0.7**
KBG	**Krutoberegovo**	**1.11**	**339**	*e*P	**Pb**	**15 31 50.5**	**+0.1**
KBG				*e*S	**Sn**	**15 32 06.2**	**-0.7**
MKZ	**Mys Kozlova**	**1.17**	**236**	PN	**Pg**	**15 31 50.5**	**-0.5**
MKZ				S	**Sg**	**15 32 06.5**	**+0.3**
MKZ	**Mys Kozlova**	**1.17**	**236**	*e*P	**Pg**	**15 31 50.5**	**-0.5**
MKZ				*e*S	**Sg**	**15 32 06.5**	**+0.3**
BKI	**Bering**	**1.47**	**90**	PN	**Pg**	**15 31 56.7**	**0.0**
BKI				S	**Sn**	**15 32 15.6**	**-0.3**
BKI	**Bering**	**1.47**	**90**	*e*P	**Pg**	**15 31 56.7**	**0.0**
BKI				*e*S	**Sn**	**15 32 15.6**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.69**	**296**	*e*P	**Pn**	**15 31 59.3**	**+0.1**
SMKR	**Semkarok**	**1.74**	**322**	*e*P	**Pn**	**15 31 59.4**	**-0.5**
SMKR				*e*S	**Sn**	**15 32 22.7**	**0.0**
KZV	**Kizimen**	**1.79**	**268**	*e*P	**Pn**	**15 32 00.0**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.81**	**295**	*e*P	**Pn**	**15 32 01.4**	**+0.6**
BDR	**Baidarnaya**	**1.83**	**318**	*e*P	**Pn**	**15 32 01.4**	**+0.4**
BDR				*e*S	**Sn**	**15 32 25.6**	**+0.8**
TUMR	**Tumrok**	**1.86**	**273**	*e*P	**Pn**	**15 32 01.5**	**-0.1**
TUMR				*e*S	**Sn**	**15 32 26.0**	**+0.3**
KMNR	**Kamenistaya**	**1.88**	**288**	*e*P	**Pn**	**15 32 02.3**	**+0.6**
KMNR				*e*S	**Sb**	**15 32 27.9**	**+0.4**
KIRR	**Kirishev**	**1.88**	**294**	*e*P	**Pn**	**15 32 02.3**	**+0.4**
KIRR				*e*S	**Sn**	**15 32 27.3**	**+1.0**
KLY	**Klyuchi**	**1.90**	**306**	PN	**Pn**	**15 32 00.8**	**-1.1**
KLY				S	**Sn**	**15 32 24.1**	**-2.3**
KLY	**Klyuchi**	**1.90**	**306**	*e*P	**Pn**	**15 32 00.8**	**-1.1**
KLY				*e*S	**Sn**	**15 32 24.1**	**-2.3**
SRKR	**Sorokina**	**1.91**	**320**	*e*P	**Pn**	**15 32 02.3**	**+0.2**
SRKR				*e*S	**Sb**	**15 32 28.4**	**+0.1**
KPT	**Kopyto**	**1.95**	**294**	*e*P	**Pn**	**15 32 02.6**	**-0.1**
KOZR	**Kozyr**	**2.16**	**294**	PN	**Pn**	**15 32 06.1**	**+0.6**
KOZR				S	**Sn**	**15 32 33.9**	**+1.0**
KOZ	**Kozyrevsk**	**2.17**	**294**	*e*P	**Pn**	**15 32 06.1**	**+0.5**
KOZ				*e*S	**Sn**	**15 32 33.9**	**+0.8**
SRDR	**Sredinnyy**	**2.35**	**299**	*e*P	**Pn**	**15 32 09.0**	**+0.8**
SRDR				*e*S	**Sn**	**15 32 39.8**	**+2.1**
ESO	**Esso**	**2.76**	**287**	PN	**Pn**	**15 32 14.6**	**+0.8**
ESO	**Esso**	**2.76**	**287**	*e*P	**Pn**	**15 32 14.6**	**+0.8**
NLC	**Nalytchevo**	**3.15**	**231**	*e*S	**Sn**	**15 32 53.2**	**-3.9**
SDLR	**Sedlovina**	**3.29**	**236**	*e*P	**Pn**	**15 32 21.2**	**+0.1**
SDLR				*e*S	**Sn**	**15 33 00.8**	**-0.1**
KRER	**Koryakskii**	**3.34**	**237**	*e*P	**Pn**	**15 32 23.0**	**+1.1**
KRER				*e*S	**Sn**	**15 33 01.6**	**-0.6**
SMAR	**Somma**	**3.34**	**236**	*e*P	**Pn**	**15 32 22.5**	**+0.6**
SMAR				*e*S	**Sn**	**15 33 02.4**	**+0.2**
KRX	**Arik**	**3.35**	**238**	*e*P	**Pn**	**15 32 23.1**	**+1.1**
KRX				*e*S	**Sn**	**15 33 02.6**	**+0.1**
UGLR	**Uglovaya**	**3.36**	**235**	*e*P	**Pn**	**15 32 22.5**	**+0.4**
AVH	**Avacha**	**3.37**	**236**	*e*P	**Pn**	**15 32 23.5**	**+1.3**
AVH				*e*S	**Sn**	**15 33 03.5**	**+0.8**
GNL	**Ganaly**	**3.53**	**247**	*e*P	**Pn**	**15 32 25.4**	**+0.9**
PET	**Petropavlovsk**	**3.56**	**234**	*e*PN	**Pb**	**15 32 31.2**	**-0.9**
PET				*e*S	**Sb**	**15 33 14.3**	**-1.4**
PET				smax	smax		
	comp=N,131nm,0.6s						
PET	**Petropavlovsk**	**3.56**	**234**	*e*P	**Pn**	**15 32 25.9**	**+1.2**
PET				*e*S	**Sn**	**15 33 07.0**	**-0.3**
OSSR	**Ossora**	**4.04**	**358**	*e*P	**Pn**	**15 32 32.4**	**+1.1**
OSSR				*e*S	**Sn**	**15 33 16.8**	**-2.4**
MTVR	**Mutnovka**	**4.13**	**231**	*e*P	**Pn**	**15 32 33.7**	**+1.0**
MTVR				*e*S	**Sn**	**15 33 22.8**	**+1.1**
ASAK	**Asacha**	**4.33**	**231**	*e*P	**Pn**	**15 32 37.1**	**+1.7**
ASAK				*e*S	**Sn**	**15 33 26.6**	**+0.2**

*IDC **26** 16:14:27.4±0.5, 8.°15S×128.°97E, h0km, mb4.8/24, mb1 4.8/25, mb1mx4.8/32, mbtmp4.8/25, ML3.8/1, MS4.1/8, Ms1 4.2/8, ms1mx3.6/36, Error ellipse: s-maj=18.2km s-min=12.3km az=74.0*

*BJI **26** 16:14:28.0, 8.°61S×129.°21E, h42km, mB5.1/32, mb4.8/43, Ms4.8/29, Ms7 4.5/26*

*MOS **26** 16:14:31.3±1.2, 8.°08S×129.°00E, h33km, mb5.1/23, Error ellipse: s-maj=13.3km s-min=7.1km az=118.8*

*ISCJB **26** 16:14:32.7±0.5, 8.°28S±0.°03×129.°03E±0.°03, h56km±4km, mb4.8/78, MS4.3/15, Error ellipse: s-maj=4.7km s-min=4.0km az=139.6*

*NEIC **26** 16:14:32.6±0.1, 8.°17S×129.°00E, h35km, mb4.9/38, MS4.8/1, Error ellipse: s-maj=5.6km s-min=4.4km az=59.0*

*KLM **26** 16:14:33.4, 8.°17S×129.°08E, h35km, mb5.0, MS5.8*

*DJA **26** 16:14:36.0±0.3, 8.°S±3.°×12.°9E±°, h77km±5km, M4.8/45, mb5.0/45, mB5.2/19, MLv5.2/11, Mw(mB)4.6/19*

ISC 26 16:14:32.3±0.4, 8.°32S±0.°04×128.°99E±0.°04, h35km±3km, n345, σ1§54/336, mb4.8/77, MS4.3/16, 6C-10D, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.31**	**82**	P	**Pn**	**16 15 09.5**	**+1.6**
SAUI				S	**Sn**	**16 15 39.3**	**+4.2**
BNDI	**Bandanaira**	**3.88**	**14**	P	**Pn**	**16 15 31.2**	**+1.7**
SOEI	**Soe**	**4.88**	**253**	P	**Pn**	**16 15 44.4**	**+1.0**
SOEI	**Soe**	**4.88**	**253**	*e*P	**Pn**	**16 15 46.0**	**+2.6**
SOEI	**Soe**	**4.88**	**253**	P	**Pn**	**16 15 44.5**	**+1.1**
	baz=4.9,SNR=18						
MSAI	**Masohi**	**4.95**	**359**	P	**Pn**	**16 15 47.1**	**+2.9**
	107nm,0.8s,875nm0.3nm						
MTN	**Manton Dam**	**4.96**	**155**	P	**Pn**	**16 15 44.1**	**-0.2**
	baz=4.8,SNR=94						
MTN				S	**Sn**	**16 16 41.0**	**+0.5**
	baz=4.8,SNR=6.9						
NLAI	**Namlea**	**5.39**	**339**	P	Pn	16 15 55.2	+4.9
	766nm,0.9s,5μm2.1nm						
KDU	**Kakadu**	**5.52**	**142**	P	**Pn**	**16 15 51.0**	**-1.0**
	baz=5.4,SNR=224						
FAKI	**Fak Fak**	**6.27**	**31**	P	**Pn**	**16 16 00.6**	**-1.8**
FAKI	**Fak Fak**	**6.27**	**31**	*e*P	**Pn**	**16 16 01.5**	**-0.9**
	98nm,0.6s						
FAKI	**Fak Fak**	**6.27**	**31**	P	**Pn**	**16 16 01.6**	**-0.9**
	baz=6.4,SNR=73						
KMPI	**Kaimana, Papua**	**6.59**	**46**	P	**Pn**	**16 16 08.6**	**+1.9**
	304nm,1.0s,2.0nm						
MMRI	**Mamere**	**6.69**	**267**	P	Pn	16 16 13.7	+5.5
	211nm,0.9s,2μm0.6nm						
MMRI	**Maumere**	**6.69**	**267**	*e*P	Pn	16 16 14.4	+6.2
	186nm,0.9s						
SANI	**Sanana**	**6.91**	**334**	P	Pn	16 16 16.5	+5.3
	144nm,0.8s,1μm0.5nm						
KNRA	**Kununurra**	**7.31**	**182**	P	**Pn**	**16 16 15.7**	**-1.0**
	baz=7.2,SNR=249						
KNRA				S	**Sn**	**16 17 33.9**	**-4.6**
	baz=7.2,SNR=22						
SWI	**Sorong**	**7.75**	**17**	P	**Pn**	**16 16 23.5**	**+0.8**
	112nm,1.1s,1μm0.4nm						
LBMI	**Labuha**	**7.78**	**349**	P	Pn	16 16 29.5	+6.4
	470nm,1.5s,6μm1.6nm						
KKSI	**Kolaka, Sulawe**	**8.38**	**299**	P	x	16 16 36.8	
	47nm,0.9s						
WSI	**Waingapu**	**8.69**	**260**	P	Pn	16 16 40.3	+4.6
	307nm,0.7s,8μm						
WSI	**Waingapu**	**8.69**	**260**	P	Pn	16 16 46.3	+11
	baz=8.7,SNR=5.4						
MWPI	**Manokwari, Pap**	**8.90**	**35**	P	x	16 16 38.8	
	284nm,0.9s						
LBFI	**Labuhan Bajo,**	**9.01**	**268**	P	x	16 16 42.2	
	113nm,0.8s,1μm						
TNTI	**Ternate**	**9.18**	**350**	P	Pn	16 16 46.6	+4.3
	196nm,0.9s						
TNTI	**Ternate**	**9.18**	**350**	*e*P	Pn	16 16 47.2	+4.9
	196nm,0.8s						
BKSI	**Bulukumba**	**9.30**	**288**	P	Pn	16 16 49.3	+5.3
	78nm,1.0s,776nm						
LUWI	**Luwuk**	**9.53**	**319**	P	Pn	16 16 52.7	+5.6
	170nm,1.1s,2μm						
LUWI	**Luwuk**	**9.53**	**319**	*e*P	Pn	16 16 53.1	+6.0
	198nm,1.1s						
LUWI	**Luwuk**	**9.53**	**319**	P	Pn	16 16 53.7	+6.6
	baz=9.7,SNR=9.5						
BNSI	**Bone**	**9.65**	**293**	P	Pn	16 16 53.7	+4.9
	101nm,1.7s,1μm						
KAPI	**Kappang**	**9.75**	**289**	*e*P	Pn	16 16 56.8	+6.7
	145nm,0.9s						
BAKI	**Biak**	**10.02**	**45**	P	**Pn**	**16 16 54.7**	**+0.8**
	131nm,0.9s						
SPSI	**Sidrap Palu**	**10.14**	**295**	P	Pn	16 17 01.0	+5.5
	80nm,0.9s,1μm						
KMSI	**Cibinong**	**10.15**	**330**	P	Pn	16 17 00.8	+5.1
	539nm,1.1s,5μm						
APSI	**Ampana**	**10.38**	**315**	P	Pn	16 17 05.0	+6.2
	178nm,1.2s,2μm						
TTSI	**Tana Toraja**	**10.53**	**299**	P	Pn	16 17 08.3	+7.5
	64nm,1.2s,747nm						
GTOI	**Gorontalo**	**10.71**	**326**	P	Pn	16 17 13.2	+10
	95nm,1.2s						
MJSI	**Majene**	**11.03**	**295**	P	x	16 17 10.1	
	104nm,1.4s,1μm						
MRSI	**Marisa**	**11.22**	**321**	P	Pn	16 17 17.2	+6.9
	62nm,1.2s,620nm						
MMSI	**Mamuju**	**11.49**	**299**	P	x	16 17 23.3	
SMPI	**Sarmi**	**11.54**	**57**	P	**Pn**	**16 17 15.9**	**+1.2**
	56nm,1.3s						
WRAB	**Tennant Creek**	**12.65**	**156**	*e*P	Pn	16 17 26.6	-3.3
WRAB	**Tennant Creek**	**12.65**	**156**	*e*P	Pn	16 17 25.8	-4.1
	59nm,0.8s						
WRA	**Warramunga Arr**	**12.66**	**156**	Pn	Pn	16 17 25.1	-4.8
WRA				Sn	Sn	16 19 39.6	-10
WRA	**Warramunga Arr**	**12.66**	**156**	Pn	Pn	16 17 25.1	-4.8
	12nm,0.3s,baz=337,slow=13,SNR=294						
WRA				Sn	Sn	16 19 39.6	-10
	22nm,0.3s,baz=331,slow=23,SNR=12						
WRA				LR	LR	16 22 52.8	
	comp=Z,990nm,18.2s,baz=330,slow=39						
SRBI	**Singaraja**	**13.64**	**270**	P	**P**	**16 17 49.4**	**-2.4**
	24nm,0.9s						
IGBI	**Denpasar**	**13.70**	**267**	P	**Pn**	**16 17 47.1**	**+2.8**
	51nm,1.0s						
JAGI	**Jajag, Banyuwa**	**14.68**	**268**	P	**P**	**16 18 01.0**	**-2.4**
	48nm,0.9s						
JAGI	**Jajag, Banyuwa**	**14.68**	**268**	*e*P	**P**	**16 18 02.5**	**-0.9**
	46nm,0.9s						
JAGI	**Jajag, Banyuwa**	**14.68**	**268**	P	**P**	**16 18 03.7**	**+0.3**
	baz=15,SNR=4.1						
COEN	**Coen**	**14.99**	**113**	*e*P	Pn	16 17 57.5	-4.3
	276nm,0.9s						
COEN	**Coen**	**14.99**	**113**	P	Pn	16 17 57.3	-4.5
	baz=15,SNR=45						
COEN				S	Sn	16 20 34.8	-12
	baz=15,SNR=4.5						
QIS	**Mount Isa**	**15.91**	**141**	P	**Pn**	**16 18 09.1**	**-4.6**
	baz=16,SNR=24						
AS31	**Alice Springs**	**15.96**	**163**	*e*P	Pn	16 18 09.2	-5.2
ASAR	**Alice Springs**	**15.97**	**163**	Pn	Pn	16 18 08.3	-6.1
ASAR				Sn	Sn	16 21 00.7	-10
ASAR	**Alice Springs**	**15.97**	**163**	Pn	Pn	16 18 08.3	-6.1
	2.8nm,0.3s,baz=330,slow=9.9,SNR=80						
ASAR				Sn	Sn	16 21 00.7	-10
	3.3nm,0.3s,baz=341,slow=25,SNR=4.2						
ASAR				LR	LR	16 24 53.6	
	comp=Z,635nm,19.8s,baz=252,slow=39						
WRKA	**Warakurna**	**16.64**	**182**	P	**Pn**	**16 18 19.0**	**-3.9**
	baz=17,SNR=67						
WRKA				S	Sn	16 21 14.9	-12
	baz=17,SNR=12						
TSM	**Tawau**	**16.74**	**318**	⇑P	**Pn**	**16 18 21.3**	**-2.9**
PWJI	**Pagerwojo**	**17.02**	**270**	P	**P**	**16 18 29.6**	**+0.3**
	52nm,0.8s						
PCJI	**Pacitan**	**17.63**	**269**	P	**Pn**	**16 18 34.3**	**-1.1**
	62nm,0.8s						
PMG	**Port Moresby**	**17.98**	**95**	P	x	16 18 40.4	
	53nm,1.2s						
PMG	**Port Moresby**	**17.98**	**95**	*e*P	**Pn**	**16 18 39.7**	**0.0**
PMG	**Port Moresby**	**17.98**	**95**	P	**Pn**	**16 18 39.6**	**-0.1**
	1.0nm,0.3s,baz=284,slow=8.3,SNR=11						
PMG				LR	LR	16 26 39.0	
	comp=Z,563nm,19.4s,baz=252,slow=41						
PMG	**Port Moresby**	**17.98**	**95**	P	**P**	**16 18 40.9**	**+0.9**
	baz=18,SNR=12						
SDKM	**Sandakan**	**18.19**	**319**	⇓P	**P**	**16 18 46.3**	**+4.0**
UGM	**Wanagama**	**18.29**	**270**	P	**P**	**16 18 40.8**	**-2.6**
	82nm,1.6s						
UGM	**Wanagama**	**18.29**	**270**	P	**Pn**	**16 18 44.6**	**+1.1**
	baz=18,SNR=6.3						
BJII	**Banjamegara**	**19.13**	**272**	P	x	16 18 56.5	
	28nm,1.0s						
KKM	**Kota Kinabalu**	**19.13**	**318**	P	x	16 18 54.5	
	62nm,1.0s,724nm						
KKM	**Kota Kinabalu**	**19.13**	**318**	*e*P	**Pn**	**16 18 54.2**	**+0.5**
	47nm,0.9s						
KKM	**Kota Kinabalu**	**19.13**	**318**	P	**Pn**	**16 18 56.8**	**+3.0**
	baz=19,SNR=4.7						
KKM	**Kota Kinabalu**	**19.13**	**318**	⇑P	**Pn**	**16 18 57.3**	**+3.5**
MANU	**Manus Island**	**19.32**	**72**	S	**S**	**16 22 26.7**	**-5.0**
	baz=19,SNR=4.6						
BTM	**Bintulu**	**19.57**	**305**	⇑P	**Pn**	**16 19 00.1**	**+1.3**
SBUM	**Sibu**	**19.86**	**302**	P	x	16 19 02.1	
	37nm,1.1s						
SBUM	**Sibu**	**19.86**	**302**	⇓P	**P**	**16 18 58.3**	**-2.2**
KPJI	**Karang Pucung**	**19.90**	**271**	P	**Pn**	**16 19 02.4**	**-0.4**
	54nm,0.9s,923nm						
CMJI	**Cimerak**	**20.35**	**270**	P	**P**	**16 19 04.4**	**-1.5**
	97nm,1.1s						
CTA	**Charters Tower**	**20.39**	**127**	P	Pn	16 19 08.1	-0.5
CTA				S	Sn	16 23 04.8	+7.4
CTA	**Charters Tower**	**20.39**	**127**	P	Pn	16 19 08.1	-0.5
	28nm,1.0s,baz=305,slow=13,SNR=11						
CTA				S

YNG	**Young**	**31.42**	**148**	P	**P**	**16**	**20**	**52.3**	**+2.0**
	baz=31,SNR=7.5								
PSI	**Prapat**	**31.96**	**289**	P	**P**	**16**	**20**	**54.4**	**-1.1**
PSI	**Prapat**	**31.96**	**289**	P	**P**	**16**	**20**	**54.4**	**-1.1**
	comp=Z,17nm,0.8s,baz=108,slow=5.2,SNR=16								
PSI	**Prapat**	**31.96**	**289**	P	**P**	**16**	**20**	**55.0**	**-0.4**
	baz=32,SNR=13								
CAN	**Canberra**	**32.52**	**149**	*e*P	**P**	**16**	**21**	**02.4**	**+2.4**
CAN				pmax	pmax				
	comp=Z,22nm,1.0s								
CAN	**Canberra**	**32.52**	**149**	*e*P	**P**	**16**	**21**	**02.4**	**+2.4**
	comp=Z,22nm,1.0s								
CNB	**Canberra Magne**	**32.70**	**148**	P	**P**	**16**	**21**	**03.7**	**+2.1**
	baz=33,SNR=5.2								
TOO	**Toolangi**	**32.73**	**155**	P	**P**	**16**	**21**	**04.5**	**+2.7**
	baz=33,SNR=16								
QIZ	**Qiongzhong**	**33.09**	**325**	P	**P**	**16**	**21**	**06.5**	**+1.4**
UTTA	**Uttaradit**	**38.21**	**313**	P	**P**	**16**	**21**	**49.8**	**+0.8**
	comp=Z,3.4nm,0.9s								
SLVN	**Son La**	**38.41**	**320**	*e*P	**P**	**16**	**21**	**50.9**	**+0.1**
	comp=Z,6.5nm,1.0s								
SUKH	**Sukhothai**	**38.72**	**312**	P	P	16	22	02.4	+9.1
CM31	**Chiang Mai Arr**	**39.84**	**312**	*e*P	**P**	**16**	**22**	**00.9**	**-1.8**
	comp=Z,2.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**39.84**	**312**	P	**P**	**16**	**22**	**02.3**	**-0.5**
CMAR				PcP	**PcP**	**16**	**24**	**08.5**	**+0.2**
CMAR				ScP	**ScP**	**16**	**27**	**59.3**	**+4.5**
CMAR	**Chiang Mai Arr**	**39.84**	**312**	P	**P**	**16**	**22**	**02.3**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=144,slow=6.9,SNR=31								
CMAR				PcP	**PcP**	**16**	**24**	**08.5**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=168,slow=2.9,SNR=24								
CMAR				ScP	**ScP**	**16**	**27**	**59.3**	**+4.5**
	comp=Z,0.8nm,0.9s,baz=149,slow=2.8,SNR=4.8								
CMAR				LR	LR	16	41	10.2	
	comp=Z,237nm,18.0s,baz=115,slow=40								
CHTO	**Chiang Mai**	**40.07**	**313**	*e*P	P	16	22	01.4	-3.2
CHTO				pmax	pmax				
	comp=Z,8.0nm,1.0s								
CHTO	**Chiang Mai**	**40.07**	**313**	P	**P**	**16**	**22**	**04.0**	**-0.6**
	comp=Z,38nm,1.0s								
CHTO	**Chiang Mai**	**40.07**	**313**	*e*P	P	16	22	01.4	-3.2
	comp=Z,7.9nm,1.0s								
CMAI	**Chiengmai2**	**40.71**	**314**	P	**P**	**16**	**22**	**12.6**	**+2.5**
	comp=Z,41nm,0.7s								
GYA	**Guiyang**	**40.81**	**329**	P	**P**	**16**	**22**	**12.8**	**+2.0**
GYA				pP	**pP**	**16**	**22**	**22.0**	**+0.9**
GYA				PP	**PnPn**	**16**	**23**	**50.5**	**+0.9**
GYA				PcP	**PcP**	**16**	**24**	**14.0**	**+2.5**
GYA				ScP	**ScP**	**16**	**27**	**58.5**	**-0.1**
GYA				S	**S**	**16**	**28**	**21.0**	**+1.3**
GYA				sS	**sS**	**16**	**28**	**38.8**	**+2.2**
GYA				SS	**SS**	**16**	**31**	**17.0**	**-4.8**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=Z,480nm,18.8s								
GYA				LR	LR				
	comp=Z,390nm,19.0s								
GYA				LR	LR				
	comp=Z,440nm,18.4s								
JNU	**Nakatsue**	**41.25**	**2**	P	**P**	**16**	**22**	**12.1**	**-2.1**
JNU	**Nakatsue**	**41.25**	**2**	P	**P**	**16**	**22**	**12.1**	**-2.1**
	comp=Z,6.8nm,0.8s,baz=167,slow=1.9,SNR=4.9								
NJ2	**Nanjing**	**41.30**	**347**	*e*P	**P**	**16**	**22**	**13.3**	**-1.2**
NJ2				pmax	pmax				
	comp=Z,20nm,0.9s								
KMI	**Kunming**	**41.94**	**323**	P	**P**	**16**	**22**	**20.8**	**+0.6**
KMI				pP	**pP**	**16**	**22**	**28.3**	**-2.2**
KMI				sP	**sP**	**16**	**22**	**33.5**	**-1.2**
KMI				S	**S**	**16**	**28**	**39.0**	**+2.3**
KMI				pmax	pmax				
	comp=Z,8.0nm,1.5s								
KMI				pmax	pmax				
	comp=Z,76nm,4.5s								
KMI				LR	LR				
	comp=Z,200nm,14.4s								
KMI				LR	LR				
	comp=Z,150nm,16.6s								
KMI				LR	LR				
	comp=Z,250nm,17.1s								
ENH	**Enshi**	**42.71**	**335**	*e*P	**P**	**16**	**22**	**24.6**	**-1.5**
	comp=Z,9.1nm,0.7s								
MJAR	**Matsushiro Arr**	**45.46**	**10**	P	**P**	**16**	**22**	**45.4**	**-2.7**
MJAR				PcP	**PcP**	**16**	**24**	**27.1**	**+0.4**
MJAR	**Matsushiro Arr**	**45.46**	**10**	P	**P**	**16**	**22**	**45.4**	**-2.7**
	comp=Z,12nm,1.1s,baz=189,slow=9.6,SNR=18								
MJAR				PcP	**PcP**	**16**	**24**	**27.1**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=195,slow=3.4,SNR=5.9								
MAJO	**Matsushiro**	**45.46**	**10**	*e*P	P	16	22	43.3	-4.8
MAJO				pmax	pmax				
	comp=Z,16nm,0.8s								
MAJO	**Matsushiro**	**45.46**	**10**	*e*P	P	16	22	43.3	-4.8
	comp=Z,16nm,0.8s								
MAT	**Matsushiro**	**45.46**	**10**	P	**P**	**16**	**22**	**45.4**	**-2.7**
MAT				S	S	16	29	10.0	-17
KSAR	**Wonju Array Be**	**45.54**	**359**	P	**P**	**16**	**22**	**47.6**	**-1.0**
KSAR				PcP	**PcP**	**16**	**24**	**27.8**	**+0.9**
KSRS	**Korea Array**	**45.55**	**359**	P	**P**	**16**	**22**	**47.6**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=176,slow=9.3,SNR=11								
KSRS				PcP	**PcP**	**16**	**24**	**27.8**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=188,slow=3.4,SNR=21								
CD2	**Chengdu**	**45.90**	**329**	*e*P	**P**	**16**	**22**	**54.0**	**+2.3**
CD2				S	**S**	**16**	**29**	**35.0**	**+1.0**
CD2				SS	**ScS**	**16**	**32**	**52.0**	**+6.8**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CD2				LR	LR				
	comp=Z,350nm,13.1s								
XAN	**Xi'an**	**46.23**	**337**	P	**P**	**16**	**22**	**52.0**	**-2.3**
XAN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
XAN				pmax	pmax				
	comp=Z,28nm,8.5s								
BJI	**Beijing**	**49.56**	**347**	P	**P**	**16**	**23**	**18.3**	**-1.5**
BJI				S	**S**	**16**	**30**	**23.8**	**-1.6**
BJI				pmax	pmax				
	comp=Z,21nm,0.9s								
BJI				pmax	pmax				
	comp=Z,220nm,5.0s								
BJI				LR	LR				
	comp=Z,270nm,18.5s								
BJI				LR	LR				
	comp=Z,410nm,17.5s								
BJI				LR	LR				
	comp=Z,250nm,23.4s								
LZH	**Lanzhou**	**50.11**	**333**	‖P	**P**	**16**	**23**	**24.0**	**-0.4**
LZH				pP	**pP**	**16**	**23**	**35.5**	**+0.6**
LZH				sP	**sP**	**16**	**23**	**41.0**	**+2.0**
LZH				*e*S	**S**	**16**	**30**	**32.0**	**-1.7**
LZH				sS	**sS**	**16**	**30**	**51.0**	**0.0**
LZH				SS	**SS**	**16**	**34**	**01.0**	**-6.5**
LZH				pmax	pmax				
	comp=Z,40nm,1.0s								
LZH				pmax	pmax				
	comp=Z,160nm,4.3s								
LZH				LR	LR				
	comp=Z,280nm,13.5s								
LZH				LR	LR				
	comp=Z,510nm,15.8s								
LZH				LR	LR				
	comp=Z,610nm,17.2s								
RPZ	**Rata Peaks**	**50.82**	**141**	*e*P	**P**	**16**	**23**	**31.2**	**+1.7**
	comp=Z,37nm,1.0s								
CN2	**Changchun**	**51.98**	**357**	*e*P	**P**	**16**	**23**	**41.0**	**+3.0**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
USRK	**Ussuriysk Arra**	**52.35**	**3**	P	**P**	**16**	**23**	**39.3**	**-1.4**
	comp=Z,4.6nm,0.6s,baz=183,slow=7.5,SNR=14								
LSA	**Lhasa**	**52.48**	**318**	*e*P	**P**	**16**	**23**	**42.2**	**-0.4**
LSA				pmax	pmax				
	comp=Z,8.0nm,0.8s								
LSA	**Lhasa**	**52.48**	**318**	*e*P	**P**	**16**	**23**	**42.2**	**-0.4**
	comp=Z,7.9nm,0.8s								
URZ	**Urewera**	**52.50**	**132**	*e*P	**P**	**16**	**23**	**42.8**	**+0.8**
MDJ	**Mudanjiang**	**52.70**	**1**	P	**P**	**16**	**23**	**45.3**	**+2.0**
MDJ				pP	**pP**	**16**	**23**	**54.5**	**+0.6**
MDJ				sP	**sP**	**16**	**23**	**58.0**	**0.0**
MDJ				PcP	**PcP**	**16**	**24**	**53.8**	**+1.0**
MDJ				S	**S**	**16**	**31**	**08.8**	**+0.1**
MDJ				SS	**SS**	**16**	**34**	**46.8**	**-1.0**
MDJ				pmax	pmax				
	comp=Z,7.0nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,200nm,5.1s								
MDJ				LR	LR				
	comp=Z,110nm,21.9s								
MDJ				LR	LR				
	comp=Z,140nm,23.0s								
MDJ				LR	LR				
	comp=Z,220nm,18.4s								
ODAN	**Odare**	**53.39**	**312**	*e*P	**P**	**16**	**23**	**46.4**	**-2.6**
	comp=Z,17nm,0.8s								
TAPN	**Taplejung**	**53.44**	**313**	*e*P	**P**	**16**	**23**	**48.2**	**-1.3**
	comp=Z,27nm,1.0s								
ASAJ	**Asahikawa**	**53.63**	**12**	P	**P**	**16**	**23**	**49.0**	**-1.2**
ASAJ	**Asahikawa**	**53.63**	**12**	P	**P**	**16**	**23**	**49.0**	**-1.2**
	comp=Z,25nm,0.9s,baz=270,slow=15,SNR=7.2								
ASAJ				LR	LR	16	43	11.0	
	comp=Z,107nm,22.0s,baz=9.0,slow=32								
RAMN	**Ramite**	**54.02**	**312**	*e*P	**P**	**16**	**23**	**52.6**	**-1.1**
	comp=Z,46nm,0.8s								
GTA	**Gaotai**	**54.66**	**332**	*e*P	**P**	**16**	**23**	**57.0**	**-1.0**
GTA				pP	**pP**	**16**	**24**	**07.5**	**-1.1**
GTA				sP	**sP**	**16**	**24**	**12.0**	**-0.7**
GTA				PcP	**PcP**	**16**	**25**	**02.5**	**+1.9**
GTA				S	**S**	**16**	**31**	**34.3**	**-1.5**
GTA				sS	**sS**	**16**	**31**	**51.5**	**-1.8**
GTA				SS	**SS**	**16**	**35**	**17.0**	**-2.3**
GTA				pmax	pmax				
	comp=Z,14nm,1.1s								
GTA				pmax	pmax				
	comp=Z,130nm,6.9s								
GTA				LR	LR				
	comp=Z,210nm,14.0s								
GTA				LR	LR				
	comp=Z,210nm,12.1s								
GTA				LR	LR				
	comp=Z,250nm,14.0s								
JIRN	**Jiri**	**54.72**	**312**	*e*P	**P**	**16**	**23**	**57.8**	**-1.1**
	comp=Z,23nm,0.9s								
GUN	**Gumba**	**55.09**	**312**	*e*P	**P**	**16**	**24**	**00.5**	**-1.1**
	comp=Z,44nm,0.8s								
PKI	**Pulchoki**	**55.24**	**312**	*e*P	**P**	**16**	**24**	**01.3**	**-1.4**
	comp=Z,10nm,0.7s								
PKIN	**Phulchoki**	**55.25**	**312**	*e*P	**P**	**16**	**24**	**00.6**	**-2.1**
	comp=Z,9.0nm,0.7s								
KKN	**Kakani**	**55.46**	**312**	*e*P	**P**	**16**	**24**	**01.9**	**-2.2**
DMN	**Daman**	**55.49**	**312**	*e*P	**P**	**16**	**24**	**03.4**	**-0.9**
	comp=Z,19nm,0.9s								
GKN	**Gorkha**	**56.05**	**312**	*e*P	**P**	**16**	**24**	**06.8**	**-1.4**
	comp=Z,20nm,0.8s								
YSS	**Yuzh-Sakhalins**	**56.38**	**11**	*e*P	**P**	**16**	**24**	**08.9**	**-1.1**
KOLN	**Koldanda**	**56.69**	**311**	*e*P	**P**	**16**	**24**	**11.9**	**-1.0**
	comp=Z,22nm,0.7s								
DANN	**Dangsing**	**56.89**	**312**	*e*P	**P**	**16**	**24**	**12.9**	**-1.5**
	comp=Z,16nm,0.8s								
PYUN	**Piuthan**	**57.32**	**311**	*e*P	**P**	**16**	**24**	**16.4**	**-1.0**
	comp=Z,42nm,0.8s								
ULN	**Ulaanbaatar**	**59.22**	**343**	*e*P	**P**	**16**	**24**	**28.9**	**-1.3**
	comp=Z,5.0nm,0.9s								
SONM	**Songino Array**	**59.38**	**342**	P	**P**	**16**	**24**	**31.0**	**-0.3**
SONM	**Songino Array**	**59.38**	**342**	P	**P**	**16**	**24**	**31.0**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=155,slow=6.6,SNR=10								
ZAK	**Zakamensk**	**62.59**	**342**	*e*P	**P**	**16**	**24**	**51.8**	**-1.2**
ZAK				pmax	pmax				
	comp=Z,3.0nm,2.2s								
TLY	**Talaya**	**63.62**	**343**	*e*P	**P**	**16**	**24**	**59.3**	**-0.4**
TLY				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WMQ	**Urumqi**	**63.97**	**328**	P	**P**	**16**	**25**	**03.0**	**+0.8**
WMQ				pmax	pmax				
	comp=Z,5.0nm,1.1s								
WMQ				LR	LR				
	comp=Z,59nm,16.4s								
WMQ				LR	LR				
	comp=Z,63nm,17.5s								
WMQ				LR	LR				
	comp=Z,90nm,19.0s								
MOY	**Mondy**	**64.43**	**341**	*e*P	**P**	**16**	**25**	**05.1**	**0.0**
PETK	**Petropavlovsk-**	**65.89**	**18**	P	**P**	**16**	**25**	**14.7**	**+0.3**
PETK	**Petropavlovsk-**	**65.89**	**18**	P	**P**	**16**	**25**	**14.7**	**+0.3**
PETK	**Petropavlovsk-**	**65.89**	**18**	P	**P**	**16**	**25**	**14.6**	**+0.3**
	comp=Z,25nm,0.8s,baz=184,slow=5.4,SNR=25								
KSH	**Kashi**	**68.33**	**318**	*e*P	**P**	**16**	**25**	**31.5**	**+1.2**
KSH				*e*PP	**PP**	**16**	**28**	**03.5**	**+2.0**
KSH				*e*PcS		16	30	02.0	
KSH				*e*S	**S**	**16**	**34**	**26.0**	**-3.2**
KSH				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KSH				pmax	pmax				
	comp=Z,91nm,4.3s								
KSH				LR	LR				
	comp=Z,71nm,6.1s								
KSH				LR	LR				
	comp=Z,150nm,5.3s								
KSH				LR	LR				
	comp=Z,95nm,4.9s								
MKAR	**Makanchi Array**	**68.79**	**328**	*e*P	**P**	**16**	**25**	**32.4**	**-0.5**
MKAR				pmax	pmax				
	comp=Z,12nm,0.8s								
MKAR	**Makanchi Array**	**68.79**	**328**	P	**P**	**16**	**25**	**32.6**	**-0.4**
MKAR	**Makanchi Array**	**68.79**	**328**	P	**P**	**16**	**25**	**32.6**	**-0.4**
	comp=Z,12nm,0.8s,baz=120,slow=7.2,SNR=99								
YAK	**Yakutsk**	**70.14**	**0**	*e*P	**P**	**16**	**25**	**38.0**	**-2.9**
YAK				*e*		16	25	52.2	
YAK				pmax	pmax				
	comp=N,10.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,15nm,1.4s								
YAK	**Yakutsk**	**70.14**	**0**	*e*P	**P**	**16**	**25**	**39.8**	**-1.1**
	comp=Z,20nm,0.7s								
KZA	**Kyzart**	**70.14**	**320**	*i* P	**P**	**16**	**25**	**42.0**	**+0.1**
KZA	**Kyzart**	**70.14**	**320**	P	**P**	**16**	**25**	**42.0**	**+0.1**
	SNR=8.0								
TKM2	**Tokmak 2**	**70.38**	**321**	*i* P	**P**	**16**	**25**	**43.1**	**+0.1**
TKM2	**Tokmak 2**	**70.38**	**321**	P	**P**	**16**	**25**	**43.2**	**+0.1**
	SNR=7.5								
TKM2	**Tokmak 2**	**70.38**	**321**	*e*P	**P**	**16**	**25**	**42.3**	**-0.7**
	comp=Z,5.3nm,0.9s								
AAK	**Ala-Archa**	**70.91**	**321**	‖P	**P**	**16**	**25**	**46.5**	**+0.2**
AAK				pmax	pmax				
	comp=Z,30nm,1.7s								
AAK	**Ala-Archa**	**70.91**	**321**	P	**P**	**16**	**25**	**46.8**	**+0.5**
	SNR=9.7								
AAK	**Ala-Archa**	**70.91**	**321**	*e*P	**P**	**16**	**25**	**46.1**	**-0.1**
	comp=Z,4.5nm,0.8s								
AAK	**Ala-Archa**	**70.91**	**321**	P	**P**	**16**	**25**	**46.3**	**0.0**
	comp=Z,4.1nm,0.7s,baz=129,slow=6.5,SNR=20								
AML	**Almayashu**	**71.16**	**320**	P	**P**	**16**	**25**	**47.6**	**-0.4**
	SNR=7.2								
USP	**Ospenovka**	**71.24**	**321**	*i* P	**P**	**16**	**25**	**48.2**	**+0.1**
USP	**Ospenovka**	**71.24**	**321**	P	**P**	**16**	**25**	**48.3**	**+0.1**
	SNR=13								
VNDA	**Vanda**	**71.26**	**173**	P	**P**	**16**	**25**	**48.9**	**+1.3**
VNDA	**Vanda**	**71.26**	**173**	P	**P**	**16**	**25**	**48.9**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=322,slow=6.1,SNR=7.4								
VNDA				LR	LR	16	55	33.7	
	comp=Z,147nm,19.5s,baz=314,slow=34								
EKS2	**Erkin-Say**	**71.38**	**320**	*e*P	**P**	**16**	**25**	**49.7**	**+0.7**
EKS2				pmax	pmax				
	comp=Z,6.0nm,0.9s								
EKS2	**Erkin-Say**	**71.38**	**320**	*e*P	**P**	**16**	**25**	**49.7**	**+0.7**
	comp=Z,6.4nm,0.9s								
FX1	**Attu Island--F**	**71.59**	**26**	P	**P**	**16**	**25**	**50.0**	**+0.1**
FX1	**Attu Island--F**	**71.59**	**26**	P	**P**	**16**	**25**	**50.0**	**+0.1**
	comp=Z,21nm,0.8s,baz=209,slow=13,SNR=5.1								
ZAA0	**Zalesovo Array**	**72.33**	**334**	*e*P	**P**	**16**	**25**	**52.5**	**-1.8**
ZALV	**Zalesovo Beam**	**72.33**	**334**	*i* P	**P**	**16**	**25**	**53.0**	**-1.3**
ZALV				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ZALV	**Zalesovo Beam**	**72.33**	**334**	P	**P**	**16**	**25**	**52.7**	**-1.6**
ZALV	**Zalesovo Beam**	**72.33**	**334**	P	**P**	**16**	**25**	**52.7**	**-1.6**
	comp=Z,5.8nm,0.7s,baz=135,slow=6.1,SNR=21								
KURBB	**Kurchatov Arra**	**73.12**	**329**	P	**P**	**16**	**25**	**58.5**	**-0.6**
	comp=Z,13nm,0.9s,baz=130,slow=4.9,SNR=129								
KURK	**Kurchatov**	**73.13**	**329**	*e*P	**P**	**16**	**25**	**57.4**	**-1.7**
KURK				pmax	pmax				
	comp=Z,15nm,0.9s								
KURK	**Kurchatov**	**73.13**	**329**	*e*P	**P**	**16**	**25**	**57.4**	**-1.7**
	comp=Z,15nm,0.9s								
SEY	**Seymchan**	**73.28**	**11**	P	**P**	**16**	**25**	**59.8**	**0.0**
SEY	**Seymchan**	**73.28**	**11**	P	**P**	**16**	**25**	**59.8**	**0.0**
SEY	**Seymchan**	**73.28**	**11**	P	**P**	**16**	**25**	**59.8**	**0.0**
	comp=Z,29nm,0.8s,baz=211,slow=4.5,SNR=70								
NVS	**Novosibirsk**	**73.62**	**334**	*e*P	**P**	**16**	**25**	**59.9**	**-2.0**
KKAR	**Karatay Array**	**73.68**	**319**	*e*P	**P**	**16**	**26**	**01.9**	**-0.7**
KKAR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KKAR	**Karatay Array**	**73.68**	**319**	*e*P	**P**	**16**	**26**	**01.9**	**-0.7**
	comp=Z,4.6nm,0.9s								
BVAR	**Borovoye Array**	**78.65**	**328**	P	**P**	**16**	**26**	**30.0**	**-0.7**
BVAR	**Borovoye Array**	**78.65**	**328**	P	**P**	**16**	**26**	**30.0**	**-0.7**
BVAR	**Borovoye Array**	**78.65**	**328**	P	**P**	**16**	**26**	**30.0**	**-0.7**
	comp=Z,7.1nm,0.9s,baz=131,slow=6.7,SNR=34								
BRVK	**Borovoye**	**78.72**	**328**	‖*i*P	**P**	**16**	**26**	**30.8**	**-0.2**
BRVK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BRVK	**Borovoye**	**78.72**	**328**	*e*P	**P**	**16**	**26**	**30.2**	**-0.8**
	comp=Z,12nm,0.9s								
TIXI	**Tiksi**	**79.80**	**360**	*e*P	**P**	**16**	**26**	**36.3**	**-0.2**
TIXI				pmax	pmax				
	comp=Z,11nm,0.8s								
TIXI	**Tiksi**	**79.80**	**360**	*e*P	**P**	**16**	**26**	**35.9**	**-0.6**
	comp=Z,9.5nm,0.6s								
BILL	**Bilibino**	**80.62**	**13**	*e*P	**P**	**16**	**26**	**41.8**	**+0.8**
BILL				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BILL				MLR	MLR				
	comp=Z,296nm,20.0s								
BILL	**Bilibino**	**80.62**	**13**	*e*P	**P**	**16**	**26**	**40.8**	**-0.2**
	comp=Z,3.4nm,0.8s								
QSPA	**South Pole Qui**	**81.66**	**180**	*e*P	**P**	**16**	**26**	**47.7**	**+0.9**
	comp=Z,11nm,1.0s								
SYO	**Syowa Base**	**82.08**	**201**	‖*e*P	**P**	**16**	**26**	**49.4**	**+0.6**
ABKAR	**Akbulak array**	**82.92**	**322**	*e*P	**P**	**16**	**26**	**52.5**	**-1.0**
	comp=Z,3.0nm,0.7s								
AKTO	**Aktyubinsk**	**84.51**	**323**	P	**P**	**16**	**27**	**01.2**	**-0.4**
AKTO	**Aktyubinsk**	**84.51**	**323**	P	**P**	**16**	**27**	**01.2**	**-0.4**
AKTO	**Aktyubinsk**	**84.51**	**323**	P	**P**	**16**	**27**	**01.2**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=102,slow=6.9,SNR=16								
GAMB	**Gambell**	**84.52**	**23**	*e*P	**P**	**16**	**27**	**01.9**	**+0.6**
	comp=Z,37nm,0.9s								
SVE	**Sverdlovsk**	**85.38**	**329**	*e*P	**P**	**16**	**27**	**05.7**	**-0.2**
SVE				pmax	pmax				
	comp=Z,14nm,1.1s								
ARU	**Arti**	**86.30**	**328**	*d* ‖P	**P**	**16**	**27**	**09.9**	**-0.5**
ARU				S	S	16	37	31.0	-12
ARU				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ARU	**Arti**	**86.30**	**328**	*e*P	**P**	**16**	**27**	**08.9**	**-1.5**
	comp=Z,10nm,1.0s								
TNA	**Tin City**	**86.81**	**22**	*e*P	**P**	**16**	**27**	**12.4**	**-0.3**
	comp=Z,7.3nm,0.8s								
RAYN	**Ar Rayn**	**87.37**	**294**	*e*P	**P**	**16**	**27**	**16.4**	**0.0**
	comp=Z,9.9nm,0.9s								
KMBO	**Kilima Mbogo**	**91.56**	**269**	*e*P	**P**	**16**	**27**	**38.8**	**+2.1**
KMBO	**Kilima Mbogo**	**91.56**	**269**	P	**P**	**16**	**27**	**38.2**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=48,slow=7.9,SNR=6.3								
KBZ	**Khabaz**	**92.88**	**314**	P	**P**	**16**	**27**	**40.5**	**-1.2**
KBZ	**Khabaz**	**92.88**	**314**	P	**P**	**16**	**27**	**40.5**	**-1.2**
KBZ	**Khabaz**	**92.88**	**314**	P	**P**	**16**	**27**	**40.5**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=191,slow=5.2,SNR=3.7								
KTH	**Kantishna Hill**	**93.00**	**26**	*e*P	**P**	**16**	**27**	**41.1**	**-0.8**
	comp=Z,7.9nm,0.8s								
KIV	**Kislovodsk**	**93.06**	**314**	*e*P	**P**	**16**	**27**	**42.4**	**-0.3**
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MCK	**McKinley**	**93.90**	**26**	*e*P	**P**	**16**	**27**	**44.7**	**-1.3**
MCK				pmax	pmax				
	comp=Z,32nm,1.1s								
MCK	**McKinley**	**93.90**	**26**	*e*P	**P**	**16**	**27**	**44.7**	**-1.3**
	comp=Z,32nm,1.1s								
COLD	**Coldfoot**	**94.07**	**23**	*e*P	**P**	**16**	**27**	**46.6**	**0.0**
	comp=Z,12nm,0.9s								
SNAA	**Sanae**	**94.15**	**194**	P	**P**	**16**	**27**	**49.7**	**+2.5**
SNAA	**Sanae**	**94.15**	**194**	*e*P	**P**	**16**	**27**	**47.5**	**+0.3**
	comp=Z,7.4nm,1.2s								
COLA	**College**	**94.57**	**25**	‖*i*P	**P**	**16**	**27**	**49.2**	**+0.2**
COLA	**College**	**94.57**	**25**	*e*P	**P**	**16**	**27**	**47.9**	**-1.1**
	comp=Z,6.8nm,0.9s								
DIV	**Divide**	**94.92**	**29**	*e*P	**P**	**16**	**27**	**51.1**	**+0.3**
	comp=Z,7.9nm,0.6s								
ILAR	**Eielson Array**	**94.96**	**25**	P	**P**	**16**	**27**	**49.2**	**-1.6**
ILAR				PKKPbc	**PKKPdf**	**16**	**44**	**46.2**	**-2.8**
ILAR	**Eielson Array**	**94.96**	**25**	P	**P**	**16**	**27**	**49.2**	**-1.6**
	comp=Z,6.2nm,0.7s,baz=273,slow=4.3,SNR=65								
ILAR				PKKPbc	**PKKPdf**	**16**	**44**	**46.2**	**-2.8**
	comp=Z,0.4nm,0.9s,baz=108,slow=0.5,SNR=4.5								
BMRM	**Bremner River**	**95.47**	**29**	*e*P	**P**	**16**	**27**	**52.7**	**-0.6**
VNA2	**Neumayer--Watz**	**95.72**	**193**	P	**P**	**16**	**27**	**56.5**	**+2.2**
	baz=150,slow=11								
VNA1	**Neumayer--Stat**	**96.12**	**193**	P	**P**	**16**	**27**	**54.9**	**-1.1**
EGAK	**Eagle**	**97.40**	**26**	PFAKE		16	28	10.0	+8.0
EGAK				LR	LR				
	comp=Z,329nm,21.0s								
OBN	**Obninsk**	**98.15**	**325**	*e*P	**P**	**16**	**28**	**04.5**	**-0.9**
OBN			

QUIF	Quistinic	123.59	323	*e*PKIKP	PKPdf	16 33 27.0	+0.8
QUIF	Quistinic	123.59	323	*e*PKPdf	PKPdf	16 33 27.0	+0.8
ULM	Lac du Bonnet	124.09	33	PKP	PKPdf	16 33 26.7	-0.4
ULM	Lac du Bonnet	124.09	33	PKP	PKPdf	16 33 26.7	-0.4
	comp=Z,3.1nm,0.8s,baz=300,slow=2.5,SNR=4.9						
TXAR	Lajitas Array	126.46	60	PKP	PKPdf	16 33 33.0	+0.5
TXAR	Lajitas Array	126.46	60	PKP	PKPdf	16 33 32.9	+0.5
	comp=Z,1.3nm,1.0s,baz=222,slow=1.2,SNR=6.3						
TORD	Torodi Ar. Bea	128.07	280	PKP	PKPdf	16 33 36.2	+0.4
TORD	Torodi Ar. Bea	128.07	280	PKP	PKPdf	16 33 36.2	+0.4
	comp=Z,2.9nm,0.8s,baz=79,slow=1.8,SNR=14						
JCT	Junction City	129.45	57	*e*PKIKP	PKPdf	16 33 39.1	+1.0
JCT	Junction City	129.45	57	*e*PKPdf	PKPdf	16 33 39.1	+1.0
SCHQ	Schefferville	131.92	12	PKP	PKPdf	16 33 43.3	+1.3
SCHQ	Schefferville	131.92	12	PKP	PKPdf	16 33 43.3	+1.3
	comp=Z,3.8nm,0.8s,baz=297,slow=4.5,SNR=3.7						
LIC	Lamto	134.36	271	*e*PKIKP	PKPdf	16 33 48.3	+0.6
	comp=Z,15nm,1.0s						
LIC	Lamto	134.36	271	*e*PKPdf	PKPdf	16 33 48.3	+0.6
LVC	Limon Verde	144.60	151	*e*PKPdf	PKPdf	16 34 07.4	+0.9
CPUP	Villa Florida	145.01	170	*e*PKP	PKPdf	16 34 07.0	+0.3
CPUP	Villa Florida	145.01	170	PKPbc	PKPdf	16 34 07.3	+0.6
	comp=Z,20nm,0.7s,baz=175,slow=4.1,SNR=39						
NNA	Nana	147.34	128	*e*PKPbc	PKPab	16 34 14.5	-0.7
LPAZ	La Paz	150.25	145	PKPbc	PKPbc	16 34 22.7	+1.1
LPAZ	La Paz	150.25	145	PKPbc	PKPbc	16 34 22.7	+1.1
	baz=253,slow=1.5						

IDC ***26*** *16:45:59.9±17.0, 17.42N×73.29E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.1/39, mbtmp3.3/3, Error ellipse: s-maj=435.4km s-min=77.9km az=133.0*

ISCJB ***26*** *16:46:05.1±1.4, 17.10N±0.08×73.9E±0.1, h17km, mb3.1/3, Error ellipse: s-maj=16.5km s-min=9.0km az=149.5*

NDI ***26*** *16:46:06.5±9.2, 17.24N×73.79E, h10km, ML3.4*

ISC 26 16:46:06.5±2.0,**17.28N**±0.09×**73.8E**±0.2,**h17km,n6,** σ1§**47/8,mb3.4/3,Southern India**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POO	Poona	1.25	1	*e*P	Pg	16 46 30.6	0.0
POO				*e*S	Sg	16 46 48.4	+1.5
POO				AML	AML	16 46 50.3	
	comp=E,498nm,0.3s						
POO				AML	AML	16 46 51.6	
	comp=N,242nm,0.3s						
HYB	Hyderabad	4.51	88	*e*P	Pn	16 47 14.9	+0.7
HYB				*e*S	Sn	16 48 06.1	-0.2
HYB				AML	AML	16 48 26.2	
	comp=N,198nm,0.6s						
HYB				AML	AML	16 48 27.2	
	comp=E,88nm,0.6s						
BHPL	Bhopal	6.83	29	*e*S	Sn	16 49 00.8	-2.5
BHPL				AML	AML	16 49 45.2	
	comp=N,32nm,0.6s						
BHPL				AML	AML	16 49 48.1	
	comp=E,34nm,0.7s						
CMAR	Chiang Mai Arr	23.93	83	P	P	16 51 20.6	+0.7
	comp=E,0.3nm,0.7s,baz=275,slow=9.9,SNR=5.2						
WRA	Warramunga Arr	69.98	119	P	P	16 57 17.0	-0.5
	comp=E,0.4nm,0.8s,baz=307,slow=5.6,SNR=7.2						
ASAR	Alice Springs	71.39	123	P	P	16 57 25.2	-0.8
	comp=E,0.2nm,0.6s,baz=304,slow=5.9,SNR=7.4						

ISK ***26*** *17:04:00.0, 35.08N×26.80E, h8km, MD3.7*

CSEM ***26*** *17:04:00.8±0.5, 35.07N×26.83E, h2km, MD3.3, Error ellipse: s-maj=12.5km s-min=3.6km az=161.0*

ATH ***26*** *17:04:00.4, 35.03N×26.84E, h14km±1km, MD3.3/11*

ISC 26 17:04:01.4±1.4,**35.09N**±0.07×**26.82E**±0.04,**h4km**±11km, **n64,**σ0§**87/76,Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.49	273	*e*PB	Pg	17 04 10.1	-0.8
ZKR				*e*SB	Sg	17 04 17.6	+0.2
ZKR	Zakros	0.49	273	*e*Pb	Pg	17 04 10.1	-0.8
ZKR				*e*Sb	Sg	17 04 17.6	+0.2
KARP	Karpathos	0.53	32	*e*PG	Pg	17 04 11.2	-0.5
KARP				*e*SB	Sg	17 04 19.9	+1.3
KARP	Karpathos	0.53	32	*e*Pg	Pg	17 04 11.2	-0.5
KARP				*e*Sb	Sg	17 04 19.9	+1.3
NPS	Neapolis	1.00	280	*e*PG	Pg	17 04 20.0	-0.7
NPS				*e*SB	Sg	17 04 34.1	+0.4
NPS	Neapolis	1.00	280	*e*Pg	Pg	17 04 20.0	-0.7
NPS				*e*Sb	Sg	17 04 34.1	+0.4
LAST	Lasithi	1.10	274	*e*PB	Pg	17 04 21.8	-0.7
LAST				*e*SB	Sb	17 04 38.0	+0.2
LAST	Lasithi	1.10	274	*e*Pb	Pg	17 04 21.8	-0.7
LAST				*e*Sb	Sb	17 04 38.0	+0.2
NIS1	Nisyros Isl.	1.53	11	*e*PN	Pn	17 04 28.8	-0.8
NIS1				*e*SN	Sn	17 04 49.6	-0.3
NIS1	Nisyros Isl.	1.53	11	*e*PG	Pb	17 04 30.1	-0.3
NIS1	Nisyros Isl.	1.53	11	*e*Pn	Pn	17 04 28.8	-0.8
NIS1	Nisyros Isl.	1.53	11	*e*Pg	Pb	17 04 30.1	-0.3
NIS1				*e*Sn	Sn	17 04 49.6	-0.3
ARG	Arkhangelos	1.54	43	*e*PB	Pb	17 04 30.2	-0.4
ARG				*e*SB	Sg	17 04 52.5	+1.4
ARG	Arkhangelos	1.54	43	*e*Pb	Pb	17 04 30.2	-0.4
ARG				*e*Sb	Sg	17 04 52.5	+1.4
SIVA	Sivas	1.65	268	*e*PG	Pb	17 04 31.7	-0.7
SIVA	Sivas	1.65	268	*e*Pg	Pb	17 04 31.7	-0.7
SANT	Santorini	1.69	319	*e*PN	Pn	17 04 30.6	-1.1
SANT	Santorini	1.69	319	*e*PN	Pn	17 04 31.8	+0.1
SANT	Santorini	1.69	319	*e*Pn	Pn	17 04 31.8	+0.1
BDRM	Kayabasi	2.03	14	*i* P	Pn	17 04 35.9	-0.5
BDRM	Kayabasi	2.03	14	*i* P	Pn	17 04 35.9	-0.5
VAM	Vamos	2.17	279	*e*PN	Pn	17 04 39.4	+1.2
VAM	Vamos	2.17	279	*e*Pn	Pn	17 04 39.4	+1.2
APE	Apeiranthos	2.23	332	*e*PN	Pn	17 04 38.5	-0.7
APE	Apeiranthos	2.23	332	*e*PB	Pn	17 04 39.6	+0.4
APE	Apeiranthos	2.23	332	*e*Pn	Pn	17 04 38.5	-0.7
DALY	Dalyan (Mu¨la	2.27	40	*e*PN	Pn	17 04 39.6	-0.1
DALY	Dalyan (Mu¨la	2.27	40	*e*Pn	Pn	17 04 39.6	-0.1
TURN	Turunc	2.29	39	*i* P	Pn	17 04 37.3	-2.6
TURN	Turunc	2.29	39	*i* P	Pn	17 04 37.3	-2.6
YER	Yerkesik	2.36	30	*e*PN	Pn	17 04 40.9	0.0
YER	Yerkesik	2.36	30	*e*Pn	Pn	17 04 40.9	0.0
SMG	Samos	2.61	0	*e*PN	Pn	17 04 45.2	+0.8
SMG	Samos	2.61	0	*e*Pn	Pn	17 04 45.2	+0.8
AYDB	Zeytinkoy-Aydi	2.98	17	*e*PN	Pn	17 04 49.2	-0.3
AYDB	Zeytinkoy-Aydi	2.98	17	*e*Pn	Pn	17 04 49.2	-0.3
ELL	Elmali	3.00	56	*e*PN	Pn	17 04 49.8	-0.1
ELL	Elmali	3.00	56	*e*Pn	Pn	17 04 49.8	-0.1
GOLH	Golhisar	3.08	45	*i* P	Pn	17 04 51.6	+0.7
GOLH	Golhisar	3.08	45	*i* P	Pn	17 04 51.6	+0.7
DNZL	Cakiroluk	3.15	34	*i* P	Pn	17 04 52.2	+0.2
DNZL	Cakiroluk	3.15	34	*i* P	Pn	17 04 52.2	+0.2
CHOS	Chios island	3.34	350	*e*PN	Pn	17 04 54.3	-0.2
CHOS	Chios island	3.34	350	*e*Pn	Pn	17 04 54.3	-0.2
KORT	Korkueli	3.44	55	*i* P	Pn	17 04 56.6	+0.8
KORT	Korkueli	3.44	55	*i* P	Pn	17 04 56.6	+0.8
VLI	Veliai	3.54	298	*e*PN	Pn	17 04 57.3	+0.1
VLI	Veliai	3.54	298	*e*Pn	Pn	17 04 57.3	+0.1
KULA	Kula-Manisa	3.72	23	*e*PN	Pn	17 04 59.5	-0.1
KULA	Kula-Manisa	3.72	23	*e*Pn	Pn	17 04 59.6	-0.1
DID	Didima	3.77	311	*e*PN	Pn	17 05 01.8	+1.6
DID	Didima	3.77	311	*e*Pn	Pn	17 05 01.8	+1.6
KHL	Karahalli	3.89	33	*e*PN	Pn	17 05 01.8	-0.2
KHL	Karahalli	3.89	33	*e*Pn	Pn	17 05 01.8	-0.2
KHAL	Karahalli	3.91	32	*i* P	Pn	17 05 01.7	-0.6
KHAL	Karahalli	3.91	32	*i* P	Pn	17 05 01.7	-0.6
SUTC	Sutluce-Ispart	4.13	54	*e*PN	Pn	17 05 05.5	+0.1
SUTC	Sutluce-Ispart	4.13	54	*e*Pn	Pn	17 05 05.5	+0.1
GUR	Goura	4.59	310	*e*PN	Pn	17 05 12.6	+1.0
GUR	Goura	4.59	310	*e*Pn	Pn	17 05 12.6	+1.0
AMT	Artemida-Makis	4.79	302	*e*PN	Pn	17 05 16.5	+2.1
AMT	Artemida-Makis	4.79	302	*e*Pn	Pn	17 05 16.5	+2.1
TVSB	Tavsanli	4.83	25	*e*PN	Pn	17 05 15.1	+0.1
TVSB	Tavsanli	4.83	25	*e*Pn	Pn	17 05 15.1	+0.1

ISCJB ***26*** *17:20:29.6±0.7, 39.10S×15.74W, h10km, mb4.6/6, Error ellipse: s-maj=18.6km s-min=15.2km az=19.1*

NEIC ***26*** *17:20:31.6±0.7, 39.10S×15.74W, h10km, mb4.5/6, Error ellipse: s-maj=21.4km s-min=16.7km az=143.0*

GCMT ***26*** *17:20:40.0±0.3, 39.47S×15.72W, h12km, MW5.0/80, Moment Tensor Solution. s27,c30; s80,c102; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mr=-3.45±.12; Mθθ=0.43±.13; Mϕϕ=3.02±.09; Mrθ=-3.93±.49; Mθϕ=-0.88±.10; Mrϕ=-0.91±.42; Best double couple: M=4.70100×10¹⁶ NP1:φs126.00000°, δ61.00000°, λ=-126.00000°. NP2: φs3.00000°, δ45.00000°, λ=-43.00000°. Principal axes: T 3.3390, Plg9.0000°, Azm241.0000°; N 2.7230, Plg31.0000°, Azm145.0000°; P -6.0630, Plg57.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 17:20:31.7±0.7,**39.15S**±0.1×**15.7W**±0.1,**h10km,n12,** σ1§**04/14,mb4.5/6,1D,Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	31.91	175	P	P	17 26 58.7	+1.8
VNA2	Neumayer--Watz	32.24	175	P	P	17 27 00.4	+0.6
	baz=330,slow=12						
SNAA	Sanae	33.35	173	P	P	17 27 09.4	-0.2
SNAA	Sanae	33.35	173	*e*P	P	17 27 08.0	-1.6
	2.9nm,0.9s						
TSUM	Tsumeb	34.91	65	*e*P	P	17 27 23.9	+0.1
	4.9nm,0.8s						
TRQA	Tornquist	35.88	257	*e*P	P	17 27 31.2	-0.6
	8.7nm,1.0s						
SYO	Syowa Base	41.85	154	⇓P	P	17 28 20.5	-0.9
LSZ	Lusaka	45.13	71	*e*P	P	17 28 48.1	-0.5
	6.8nm,1.4s						
QSPA	South Pole Qui	51.21	180	*e*P	P	17 29 35.7	+0.6
	56nm,2.0s						
QSPA				*e*		17 30 49.9	
SAML	Samuel	51.88	292	*e*P	P	17 29 40.2	-0.3
	19nm,1.7s						
TOA0	Torodi Ar. Sit	54.42	21	*e*P	P	17 29 59.1	0.0
BILL	Bilibino	150.93	358	*e*PKPdf	PKPdf	17 40 19.7	+1.9
BILL				*e*PKPbc	PKiKP	17 40 24.2	+0.1
BILL				*e*PKPab	PKPab	17 40 30.9	0.0

ISCJB ***26*** *17:44:46.8±0.4, 37.14N±0.04×69.51E±0.06, h10km, mb3.7/12, MS3.5/2, Error ellipse: s-maj=7.5km s-min=4.4km az=148.4*

IDC ***26*** *17:44:46.4±0.9, 37.05N×69.74E, h0km, mb3.8/11, mb1 3.9/16, mb1mx3.7/44, mbtmp3.7/16, ML3.3/5, MS3.5/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=19.5km s-min=14.5km az=146.0*

NNC ***26*** *17:44:50.5±3.1, 37.56N×69.18E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=31.3km s-min=20.6km az=4.0*

ISC 26 17:44:48.4±0.6,**37.10N**±0.07×**69.65E**±0.08,**h10km,n57,** σ1§**81/55,mb3.9/12,6C-6D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	3.75	150	P	Pb	17 45 55.8	+1.0
CEP				S	Sg	17 47 00.0	+11
CHCP	Chirah Chowk	4.53	138	P	Pb	17 46 05.9	-2.1
THW	Thamme Wali	4.63	158	P	Pb	17 46 07.2	-2.5
AML	Almayashu	5.92	31	P	Pn	17 46 18.6	+2.1
	SNR=23						
KK31	Karatay Array	6.03	6	Pn	Pn	17 46 18.1	+0.3
	0.6nm,0.2s,baz=198,slow=16,SNR=59						
KK31				⇓Lg	Lg	17 47 50.1	
	41nm,0.5s,baz=191,slow=28,SNR=5.3						
UCH	Uchtor	6.35	35	P	Pn	17 46 24.3	+1.9
	SNR=23						
EKS2	Erkin-Say	6.40	28	P	Pn	17 46 24.9	+2.1
	SNR=10.0						
KZA	Kyzart	6.59	39	P	Pn	17 46 27.5	+1.8
	SNR=16						
AAK	Ala-Archa	6.67	32	⇑Pn	Pn	17 46 28.4	+1.9
	8.8nm,0.4s						
AAK				⇑Lg	Lg	17 48 14.7	
	38nm,0.8s						
AAK	Ala-Archa	6.67	32	P	Pn	17 46 28.4	+1.9
	SNR=28						
AAK	Ala-Archa	6.67	32	Pn	Pn	17 46 28.4	+1.9
	5.2nm,0.3s,baz=193,slow=7.0,SNR=97						
AAK				Lg	Lg	17 48 13.3	
	2.7nm,0.3s,baz=11,slow=18,SNR=4.7						
KBK	Karagaybulak	6.88	35	P	Pn	17 46 32.2	+2.7
	SNR=18						
CHMS	Chumysh	7.07	32	P	Pn	17 46 33.8	+1.8
	SNR=10						
USP	Ospenovka	7.19	30	P	Pn	17 46 35.4	+1.8
	SNR=6.4						
ULHL	Ulahol	7.23	43	P	Pn	17 46 36.2	+1.9
	SNR=7.8						
TKM2	Tokmak 2	7.39	36	⇑Pn	Pn	17 46 38.0	+1.5
	11nm,0.6s						
TKM2				⇓Lg	Lg	17 48 43.8	
	39nm,1.4s						
TKM2	Tokmak 2	7.39	36	P	Pn	17 46 38.2	+1.7
	SNR=27						
SMLA	Simla	8.62	132	*e*P	Pn	17 46 58.0	+4.9
SMLA				*e*S	Sn	17 48 34.9	+4.5
NDI	New Delhi	10.53	141	*ex*	Sn	17 49 15.0	-2.3
MK09	Makanchi Array	13.47	40	⇑Pn	Pn	17 47 59.3	-0.1
	4.3nm,0.8s						
MKAR	Makanchi Array	13.49	40	Pn	Pn	17 48 00.0	+0.3
	1.3nm,0.3s,baz=228,slow=13,SNR=7.4						
AB31	Akbulak array	14.05	333	Pn		17 48 04.0	-3.4
	1.3nm,0.3s,baz=156,slow=12,SNR=86						
AB31				⇑Sn	Sn	17 50 31.0	-12
	2.9nm,0.6s,baz=55,slow=39,SNR=3.6						
PYUN	Piuthan	14.37	125	*e*P	Pn	17 48 12.8	+0.6
PYUN				*e*S	Sn	17 50 47.7	-4.0
DANN	Dangsing	14.72	122	*e*P	Pn	17 48 17.9	+0.9
DANN				*e*S	Sn	17 50 57.2	-3.2
KURBB	Kurchatov Arra	14.94	22	⇓Pn	Pn	17 48 16.7	-2.8
	2.9nm,1.1s						
KURBB				⇓Lg	Lg	17 52 39.7	
	14nm,0.9s						
KURBB	Kurchatov Arra	14.94	22	Pn	Pn	17 48 15.5	-4.1
	0.1nm,0.3s,baz=213,slow=12,SNR=5.5						
KURBB				Lg	Lg	17 52 40.1	
	0.1nm,0.3s,baz=216,slow=28,SNR=4.5						
KOLN	Koldanda	14.99	124	*e*P	Pn	17 48 20.9	+0.3
KURK	Kurchatov	15.05	22	⇓Pn	Pn	17 48 18.9	-2.1
	3.3nm,1.8s						
GKN	Gorkha	15.54	121	*e*P	Pn	17 48 28.7	+0.9
	4.0nm,0.7s						
AKTO	Aktyubinsk	15.73	332	⇑Pn	Pn	17 48 28.2	-1.8
	13nm,0.7s						
BVAR	Borovoye Array	15.93	2	Pn	Pn	17 48 29.2	-3.3
	0.1nm,0.3s,baz=181,slow=8.6,SNR=3.0						
BRVK	Borovoye	15.96	1	⇓Pn	Pn	17 48 31.2	-1.7
	3.8nm,0.6s						
DMN	Daman	16.11	122	*e*P	Pn	17 48 36.2	+1.0
KKN	Kakani	16.11	121	*e*P	Pn	17 48 36.8	+1.6
PKIN	Phulchoki	16.33	121	*e*P	Pn	17 48 39.2	+1.2
PKI	Pulchoki	16.34	121	*e*P	Pn	17 48 39.5	+1.2
GUN	Gumba	16.45	119	*e*P	Pn	17 48 41.5	+1.8
	20nm,0.4s						
JIRN	Jiri	16.82	119	*e*P	Pn	17 48 45.4	+0.9
RAMN	Ramite	17.55	120	*e*P	P	17 48 54.9	+0.3
TAPN	Taplejung	18.08	117	*e*P	P	17 49 01.5	+1.0
	13nm,0.5s						
ODAN	Odare	18.16	119	*e*P	P	17 49 02.7	+1.5
	18nm,0.7s						
ZALV	Zalesovo Beam	19.85	27	P	P	17 49 18.0	-1.3
	0.3nm,0.3s,baz=215,slow=8.6,SNR=4.8						
KBZ	Khabaz	21.36	296	P	P	17 49 35.4	-0.4
	3.8nm,0.8s,baz=97,slow=12,SNR=6.6						
BRTR	Keskin Array B	28.22	286	P	P	17 50 43.5	+1.9
	1.3nm,0.7s,baz=100,slow=8.2,SNR=8.0						
SONM	Songino Array	28.90	57	LR	LR	18 01 39.1	
	comp=Z,57nm,19.2s,baz=70,slow=35						
CMAR	Chiang Mai Arr	31.69	118	P	P	17 51 14.3	+2.0
	0.7nm,0.7s,baz=300,slow=8.2,SNR=8.6						
AKASG	Malin Array Be	31.73	308	P	P	17 51 12.0	-0.3
	1.3nm,0.8s,baz=83,slow=8.3,SNR=8.2						
FINES	FINESS Array B	36.38	326	P	P	17 51 52.0	-0.5
	0.2nm,0.3s,baz=124,slow=8.6,SNR=5.2						
ARCES	ARCESS Array B	40.18	338	P	P	17 52 24.1	-0.3
	1.7nm,0.6s,baz=104,slow=7.5,SNR=8.9						
GERES	GERESS Array B	41.70	305	LR	LR	18 11 02.3	
	comp=Z,114nm,19.8s,baz=208,slow=38						
NB2	NORSAR Subarra	43.25	323	P	P	17 52 48.7	-1.0
	comp=Z,1.3nm,0.6s,baz=96,slow=8.6						
NOA	NORSAR Array B	43.25	323	P	P	17 52 49.0	-0.7
	comp=Z,1.4nm,0.6s,baz=98,slow=8.3,SNR=5.1						
ESDC	Sonseca Array	56.22	297	P	P	17 54 29.3	+0.5
	comp=Z,0.9nm,0.6s,baz=64,slow=7.0,SNR=5.6						
TORD	Torodi Ar. Bea	64.65	268	P	P	17 55 26.9	+0.3
	comp=Z,1.1nm,0.8s,baz=48,slow=6.1,SNR=9.5						
YKA	Yellowknife Ar	80.69	2	P	P	17 57 01.0	-0.3
	comp=Z,0.2nm,0.5s,baz=353,slow=5.6,SNR=4.8						
WRA	Warramunga Arr	83.23	121	P	P	17 57 14.1	-1.1
	comp=Z,0.7nm,1.1s,baz=331,slow=5.0,SNR=3.3						
ASAR	Alice Springs	85.49	124	P	P	17 57 26.1	-0.6
	comp=Z,0.1nm,0.6s,baz=314,slow=4.8,SNR=4.3						

IDC 26 17:55:26.7±55.0,**20.48S×177.58W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/21,mbtmp3.9/3,Error ellipse: s-maj=1015.0km s-min=161.4km az=83.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.15	244	P	P	18 02 48.2	+0.2
	0.9nm,0.4s,baz=82,slow=6.9,SNR=3.9						
ASAR	Alice Springs	44.91	257	P	P	18 03 43.5	-0.1
	1.1nm,0.5s,baz=92,slow=8.3,SNR=36						
WRA	Warramunga Arr	45.00	262	P	P	18 03 43.8	-0.4
	0.3nm,0.3s,baz=100,slow=7.5,SNR=35						

DJA ***26*** *18:12:47.0±1.5, 1.7N×14.2E, h333km±16km, M4.0/6, mB4.8/1, MLv4.0/6, Mw(mB)4.1/1*

IDC ***26*** *18:13:00.2±1.9, 1.36N×126.03E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=177.0km s-min=24.5km az=65.0*

ISC 26 18:13:02.2±1.5,**1.40N**±0.08×**125.97E**±0.08,**h10km,n7,** σ1§**50/9,mb3.6/3,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.53	114	P	Pg	18 13 32.5	+0.9
TNTI				S	Sg	18 13 50.6	-0.9
LBMI	Labuha	2.54	143	P	Pg	18 13 52.3	+1.4
LBMI				S	Sg	18 14 24.1	+0.2
SANI	Sanana	3.43	180	P	Pg	18 14 09.8	+1.8
SANI				S	Sg	18 14 50.4	-2.0
NLAI	Namlea	4.75	166	P	Pn	18 14 06.1	-7.8
WRA	Warramunga Arr	22.75	159	P	P	18 18 03.5	-1.3
	0.8nm,0.3s,baz=338,slow=11,SNR=24						
ASAR	Alice Springs	26.09	163	P	P	18 18 35.4	-0.9
	0.3nm,0.4s,baz=347,slow=7.6,SNR=6.3						
MKAR	Makanchi Array	59.04	326	P	P	18 23 02.6	+0.1
	0.4nm,0.6s,baz=123,slow=6.1,SNR=8.4						

MEX 26 18:18:18.4±0.6,**16.87N×99.03W,h11km**±7km,**MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	Acapulco	0.79	270	*i* P	Pg	18 18 32.9	-0.8
ACX				*i* S	Sg	18 18 42.9	-1.2
TLIG	Tlapa	0.82	33	*i* P	Pg	18 18 31.7	-2.7
TLIG				*i* S	Sg	18 18 43.0	-2.3
PNIG	Pinotepa	0.99	119	*e*P	Pg	18 18 34.4	-3.1
PNIG				*i* S	Sg	18 18 47.5	-3.0
PLIG	Platanillo	1.58	344	*i* P	Pn	18 18 43.0	-3.6
PLIG				*i* S	Sn	18 19 02.5	-4.6
YAIG	Yautepec	1.98	359	*e*P	Pn	18 18 49.6	-2.5
YAIG				*i* S	Sn	18 19 12.2	-4.9

ISCJB ***26*** *18:35:37.3±0.8, 39.21S±0.1×15.5W±0.2, h10km, mb4.7/6, Error ellipse: s-maj=22.1km s-min=17.2km az=142.6*

NEIC ***26*** *18:35:39.5±0.7, 39.09S×15.51W, h10km, mb4.6/6, Error ellipse: s-maj=22.8km s-min=17.8km az=142.0*

GCMT ***26*** *18:35:44.0±0.3, 39.40S×15.75W, h12km, MW5.0/84, Moment Tensor Solution. s28,c30; s84,c113; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mr=-3.44±.10; Mθθ=0.26±.11; Mϕϕ=3.18±.08; Mrθ=-1.90±.42; Mθϕ=-0.64±.09; Mrϕ=0.20±.36; Best double couple: Mo3.80600×10¹⁶ NP1:φs146.00000°, δ54.00000°, λ=-118.00000°. NP2: φs8.00000°, δ44.00000°, λ=-57.00000°. Principal axes: T 3.3690, Plg6.0000°, Azm255.0000°; N 0.8690, Plg22.0000°, Azm163.0000°; P -4.2430, Plg67.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 18:35:39.4±0.8,**39.13S**±0.2×**15.5W**±0.1,**h10km,n11,** σ1§**17/10,mb4.7/6,Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	Sanae	33.29	173	*e*P	P	18 42 16.1	-0.7
	11nm,1.3s						
TSUM	Tsumeb	34.77	65	*e*P	P	18 42 30.9	+0.6
	55nm,1.8s						
TRQA	Tornquist	36.03	257	P	P	18 42 40.1	-0.8
	5.5nm,1.0s						
LSZ	Lusaka	44.98	71	P	P	18 43 53.5	-1.7
	18nm,1.8s						
QSPA	South Pole Qui	51.17	180	*e*P	P	18 44 43.7	+1.2
	20nm,1.3s						
QSPA				*e*		18 45 58.2	
SAML	Samuel	52.06	292	P	P	18 44 49.5	-0.1
	4.3nm,1.1s						
TOA0	Torodi Ar. Sit	54.39

HTT	**Hallett**	**37.34**	**253**	P	P	19 08 17.2	+4.5	
	baz=35,SNR=4.4							
PMG	**Port Moresby**	**38.99**	**294**	*e*P	**P**	**19 08 27.3**	**+0.7**	
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**19 09 08.0**	**+1.5**	
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**19 09 08.0**	**+1.5**	
	0.7nm,0.5s,baz=104,slow=7.4,SNR=17							
WRAB	**Tennant Creek**	**44.77**	**271**	*e*P	**P**	**19 09 14.6**	**+0.6**	
WRA	**Warramunga Arr**	**44.78**	**271**	P	**P**	**19 09 14.6**	**+0.6**	
WRA	**Warramunga Arr**	**44.78**	**271**	P	**P**	**19 09 14.6**	**+0.6**	
	0.5nm,0.3s,baz=108,slow=7.9,SNR=32							
WRA				LR	LR	19 27 05.3		
	comp=Z,65nm,19.6s,baz=225,slow=35							
WRKA	**Warakurna**	**48.25**	**262**	P	**P**	**19 09 42.0**	**+0.8**	
	baz=47,SNR=6.4							
MTN	**Manton Dam**	**50.58**	**278**	P	P	19 10 06.3	+7.3	
	baz=49,SNR=3.0							
CASY	**Casey**	**56.00**	**208**	P	**P**	**19 10 36.4**	**-1.8**	
	54nm,0.7s							
WSI	**Waingapu**	**61.44**	**275**	P	**P**	**19 11 14.3**	**-2.5**	
	baz=60,SNR=3.3							
H03N3	**Juan Fernandez**	**80.40**	**123**	T	T	20 42 54.5		
	baz=236,slow=74,SNR=606							
H03N2	**Juan Fernandez**	**80.41**	**123**	T	T	20 42 54.7		
	baz=236,slow=74,SNR=612							
H03N1	**Juan Fernandez**	**80.42**	**123**	T	T	20 42 55.3		
	baz=236,slow=74,SNR=744							
CMB	**Columbia Colle**	**85.84**	**41**	P	**P**	**19 13 38.4**	**-1.1**	
NVAR	**Mina Array Bea**	**87.32**	**42**	P	**P**	**19 13 47.2**	**+0.2**	
NVAR	**Mina Array Bea**	**87.32**	**42**	P	**P**	**19 13 47.2**	**+0.2**	
	2.5nm,0.8s,baz=224,slow=7.6,SNR=14							
TXAR	**Lajitas Array**	**91.47**	**57**	P	**P**	**19 14 07.0**	**+0.5**	
TXAR	**Lajitas Array**	**91.47**	**57**	P	**P**	**19 14 07.0**	**+0.5**	
	0.8nm,1.0s,baz=260,slow=5.4,SNR=4.4							
PDAR	**Pinedale Array**	**95.21**	**43**	P	**P**	**19 14 23.3**	**-0.4**	
PDAR	**Pinedale Array**	**95.21**	**43**	P	**P**	**19 14 23.3**	**-0.4**	
	1.0nm,0.9s,baz=204,slow=2.0,SNR=6.1							
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**19 19 46.2**	**-0.1**	
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**19 19 46.2**	**-0.1**	
	0.3nm,0.9s,baz=108,slow=3.2,SNR=3.2							
H10N3	**ASCENSION HYDR**	**139.05**	**153**	T	T	21 54 37.2		
	baz=203,slow=75,SNR=26							
H10N1	**ASCENSION HYDR**	**139.05**	**153**	T	T	21 54 52.4		
	baz=203,slow=75,SNR=24							
H10N2	**ASCENSION HYDR**	**139.07**	**153**	T	T	21 54 38.9		
	baz=203,slow=75,SNR=23							
FINES	**FINESS Array B**	**144.81**	**341**	PKP	**PKPab**	**19 20 34.3**	**-0.8**	
FINES	**FINESS Array B**	**144.81**	**341**	PKP	**PKPab**	**19 20 34.3**	**-0.8**	
	3.7nm,0.9s,baz=90,slow=4.2,SNR=4.3							
NB2	**NORSAR Subarra**	**148.25**	**352**	PKP	**PKPbc**	**19 20 44.5**	**-0.9**	
	comp=Z,1.3nm,0.7s,baz=5,slow=2.9							
NOA	**NORSAR Array B**	**148.25**	**352**	PKPbc	**PKPbc**	**19 20 44.2**	**-1.2**	
NOA	**NORSAR Array B**	**148.25**	**352**	PKPbc	**PKPbc**	**19 20 44.2**	**-1.2**	
	comp=Z,2.0nm,0.8s,baz=14,slow=4.6,SNR=4.9							
AKASG	**Malin Array Be**	**151.23**	**324**	PKPbc	**PKPbc**	**19 20 52.6**	**-0.3**	
AKASG	**Malin Array Be**	**151.23**	**324**	PKPbc	**PKPbc**	**19 20 52.6**	**-0.3**	
	comp=Z,2.1nm,0.7s,baz=43,slow=2.8,SNR=12							
AK01	**Malin Array Si**	**151.24**	**324**	*e*PKPbc	**PKPbc**	**19 20 52.8**	**-0.2**	
AK02	**Malin Array Si**	**151.26**	**324**	*e*PKPbc	**PKPbc**	**19 20 52.6**	**-0.4**	
BRTR	**Keskin Array B**	**152.91**	**300**	PKPbc	**PKPbc**	**19 20 58.2**	**+0.9**	
BRTR	**Keskin Array B**	**152.91**	**300**	PKPbc	**PKPbc**	**19 20 58.2**	**+0.9**	
	comp=Z,1.2nm,0.8s,baz=91,slow=3.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**163.41**	**176**	PKPab	**PKPab**	**19 21 56.5**	**+2.4**	
TORD	**Torodi Ar. Bea**	**163.41**	**176**	PKPab	**PKPab**	**19 21 56.4**	**+2.4**	
	comp=Z,0.6nm,0.8s,baz=173,slow=4.4,SNR=3.7							

*CSEM **26** 19:29:57.5±0.2,38°.14N×26°.73E,h2km,ML3.6,Error ellipse: s-maj=4.5km s-min=4.2km az=57.0*
*DDA **26** 19:29:57.1,38°.18N×26°.75E,h6km,ML3.6*
*ISK **26** 19:29:57.0,38°.14N×26°.82E,h2km,MD3.1*
*THE **26** 19:29:57.9,38°.14N×26°.74E,h16km±1km,ML2.7/4,Error ellipse: s-maj=2.5km s-min=1.0km az=246.0*

ISC 26 19:29:56.9±1.2,38°.15N±0°.02×26.71E±0°.02,h3km±12km, n75,σ0956/102,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.23**	**337**	*i* P	**Pg**	**19 30 01.5**	**+0.1**
URLA				*i* S	**Sg**	**19 30 05.0**	**+0.5**
BLCB	**Balcova**	**0.35**	**47**	*e*PG	**Pg**	**19 30 03.4**	**-0.2**
BLCB				*e*SG	**Sg**	**19 30 08.3**	**+0.1**
BLCB	**Balcova**	**0.35**	**47**	*e*Pg	**Pg**	**19 30 03.4**	**-0.2**
BLCB				*e*Sg	**Sg**	**19 30 08.4**	**+0.1**
SMG	**Samos**	**0.45**	**167**	P	**Pg**	**19 30 06.6**	**+1.2**
SMG				S	**Sb**	**19 30 14.0**	**-0.5**
SMG	**Samos**	**0.45**	**167**	P	**Pg**	**19 30 06.6**	**+1.2**
SMG				S	**Sb**	**19 30 14.0**	**-0.5**
IZM	**Izmir**	**0.50**	**60**	*e*PG	**Pg**	**19 30 06.5**	**0.0**
IZM				*e*SG	**Sg**	**19 30 13.1**	**+0.1**
IZM	**Izmir**	**0.50**	**60**	*e*Pg	**Pg**	**19 30 06.5**	**0.0**
IZM				*e*Sg	**Sg**	**19 30 13.1**	**+0.1**
CHOS	**Chios island**	**0.57**	**295**	P	**Pg**	**19 30 08.1**	**+0.3**
CHOS				S	**Sb**	**19 30 19.4**	**+1.2**
CHOS	**Chios island**	**0.57**	**295**	*e*PG	**Pb**	**19 30 09.8**	**+0.2**
CHOS	**Chios island**	**0.57**	**295**	P	**Pg**	**19 30 08.1**	**+0.3**
CHOS	**Chios island**	**0.57**	**295**	*e*Pg	**Pb**	**19 30 09.8**	**+0.2**
CHOS				S	**Sb**	**19 30 19.4**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**102**	*e*PG	**Pg**	**19 30 15.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**102**	*e*Pg	**Pg**	**19 30 15.1**	**0.0**
AKHS	**Akhisar**	**1.13**	**49**	*i* P	**Pg**	**19 30 18.1**	**-0.5**
AKHS				*i* S	**Sb**	**19 30 33.9**	**-0.4**
AKHS	**Akhisar**	**1.13**	**49**	*i* P	**Pg**	**19 30 18.1**	**-0.5**
AKHS				*i* S	**Sb**	**19 30 33.9**	**-0.4**
AKS	**Akhisar**	**1.13**	**49**	*e*PG	**Pg**	**19 30 17.8**	**-0.7**
AKS	**Akhisar**	**1.13**	**49**	*e*Pg	**Pg**	**19 30 17.8**	**-0.7**
PRK	**Paraskevi**	**1.15**	**343**	P	**Pg**	**19 30 18.4**	**-0.6**
PRK				S	**Sb**	**19 30 34.9**	**0.0**
PRK	**Paraskevi**	**1.15**	**343**	P	**Pg**	**19 30 18.4**	**-0.6**
PRK				S	**Sb**	**19 30 34.9**	**0.0**
AYVA	**Ayvalik**	**1.16**	**359**	*i* P	**Pg**	**19 30 18.9**	**-0.2**
AYVA				*i* S	**Sb**	**19 30 35.2**	**+0.1**
AYVA	**Ayvalik**	**1.16**	**359**	*i* P	**Pg**	**19 30 18.9**	**-0.2**
AYVA				*i* S	**Sb**	**19 30 35.2**	**+0.1**
SIGR	**SIGRI**	**1.26**	**328**	P	**Pg**	**19 30 19.6**	**-1.4**
SIGR				S	**Sg**	**19 30 36.8**	**-0.5**
SIGR	**SIGRI**	**1.26**	**328**	*e*PN	**Pn**	**19 30 22.2**	**+0.8**
SIGR	**SIGRI**	**1.26**	**328**	P	**Pg**	**19 30 19.6**	**-1.4**
SIGR	**SIGRI**	**1.26**	**328**	*e*Pn	**Pn**	**19 30 22.2**	**+0.8**
SIGR				S	**Sg**	**19 30 36.8**	**-0.5**
APE	**Apeiranthos**	**1.43**	**222**	P	**Pn**	**19 30 22.1**	**-1.7**
APE				S	**Sb**	**19 30 41.1**	**-1.7**
APE	**Apeiranthos**	**1.43**	**222**	P	**Pn**	**19 30 22.1**	**-1.7**
APE				S	**Sb**	**19 30 41.1**	**-1.7**
MANT	**Manisa**	**1.49**	**76**	*i* P	**Pn**	**19 30 25.0**	**+0.2**
MANT				*i* S	**Sb**	**19 30 44.2**	**-0.7**
MANT	**Manisa**	**1.49**	**76**	*i* P	**Pn**	**19 30 25.0**	**+0.2**
MANT				*i* S	**Sb**	**19 30 44.2**	**-0.7**
KULA	**Kula-Manisa**	**1.57**	**76**	*e*PN	**Pn**	**19 30 26.1**	**+0.3**
KULA	**Kula-Manisa**	**1.57**	**76**	*e*Pn	**Pn**	**19 30 26.1**	**+0.3**
NIS1	**Nisyros Isl.**	**1.58**	**166**	*e*PN	**Pb**	**19 30 26.9**	**+0.1**
NIS1	**Nisyros Isl.**	**1.58**	**166**	*e*Pn	**Pb**	**19 30 26.9**	**+0.1**
YER	**Yerkesik**	**1.60**	**129**	*e*PN	**Pn**	**19 30 26.1**	**-0.1**
YER	**Yerkesik**	**1.60**	**129**	*e*Pn	**Pn**	**19 30 26.1**	**-0.1**
EZN	**Ezine**	**1.71**	**350**	*e*PN	**Pb**	**19 30 29.6**	**+0.7**
EZN	**Ezine**	**1.71**	**350**	*e*Pn	**Pb**	**19 30 29.6**	**+0.7**
BALY	**Balya**	**1.74**	**24**	*i* P	**Pb**	**19 30 29.1**	**-0.5**
BALY				*i* S	**Sg**	**19 30 53.3**	**+0.5**
BALY	**Balya**	**1.74**	**24**	*i* P	**Pb**	**19 30 29.1**	**-0.5**
BALY				*i* S	**Sg**	**19 30 53.3**	**+0.5**
BALB	**Balikesir**	**1.75**	**31**	*e*PN	**Pb**	**19 30 29.6**	**0.0**
BALB	**Balikesir**	**1.75**	**31**	*e*Pn	**Pb**	**19 30 29.6**	**0.0**
DEMI	**Demirci**	**1.81**	**60**	*i* P	**Pb**	**19 30 30.9**	**+0.2**
DEMI				*i* S	**Sb**	**19 30 53.5**	**-0.3**
DEMI	**Demirci**	**1.81**	**60**	*i* P	**Pb**	**19 30 30.9**	**+0.2**
DEMI				*i* S	**Sb**	**19 30 53.5**	**-0.3**
DALY	**Dalyan (Mu˘la**	**2.03**	**130**	*e*PN	**Pn**	**19 30 32.7**	**+0.6**
DALY	**Dalyan (Mu˘la**	**2.03**	**130**	*e*Pn	**Pn**	**19 30 32.7**	**+0.6**
SANT	**Santorini**	**2.03**	**210**	*e*PN	**Pn**	**19 30 33.6**	**+1.5**
SANT	**Santorini**	**2.03**	**210**	*e*Pn	**Pn**	**19 30 33.6**	**+1.5**
GONE	**Gonen-Balikesi**	**2.04**	**21**	*e*PN	**Pb**	**19 30 33.8**	**-0.8**
GONE	**Gonen-Balikesi**	**2.04**	**21**	*e*Pn	**Pb**	**19 30 33.8**	**-0.8**
LIA	**Limnos Island**	**2.12**	**326**	P	**Pn**	**19 30 31.9**	**-1.3**
LIA	**Limnos Island**	**2.12**	**326**	P	**Pn**	**19 30 31.9**	**-1.3**
KHAL	**Karahalli**	**2.20**	**83**	*i* P	**Pg**	**19 30 39.5**	**+0.5**
KHAL				*i* S	**Sb**	**19 31 05.4**	**+0.3**
KHL	**Karahalli**	**2.22**	**85**	*e*PN	**Pn**	**19 30 34.6**	**-0.1**
KHL	**Karahalli**	**2.22**	**85**	*e*Pn	**Pn**	**19 30 34.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.26**	**355**	*e*PN	**Pb**	**19 30 37.7**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.26**	**355**	*e*Pn	**Pb**	**19 30 37.7**	**-0.6**
KRBG	**Karabiga-Canak**	**2.29**	**11**	*e*PN	**Pb**	**19 30 37.7**	**-1.2**
KRBG	**Karabiga-Canak**	**2.29**	**11**	*e*Pn	**Pb**	**19 30 37.7**	**-1.2**
EDC	**Edincik**	**2.37**	**22**	*e*PN	**Pn**	**19 30 38.4**	**+1.7**
EDC	**Edincik**	**2.37**	**22**	*e*Pn	**Pn**	**19 30 38.4**	**+1.7**
TVSB	**Tavsanli**	**2.51**	**58**	*e*PN	**Pn**	**19 30 39.3**	**+0.6**
TVSB	**Tavsanli**	**2.51**	**58**	*e*Pn	**Pn**	**19 30 39.3**	**+0.6**
ERIK	**Erikli-Kesan**	**2.53**	**357**	*e*PN	**Pn**	**19 30 40.9**	**+2.1**
ERIK	**Erikli-Kesan**	**2.53**	**357**	*e*Pn	**Pn**	**19 30 40.9**	**+2.1**
RKY	**Sarkoy-Tekirda**	**2.56**	**8**	*e*PN	**Pn**	**19 30 41.1**	**+1.7**
RKY	**Sarkoy-Tekirda**	**2.56**	**8**	*e*Pn	**Pn**	**19 30 41.1**	**+1.7**
ENEZ	**Enez**	**2.62**	**351**	*e*PN	**Pn**	**19 30 42.4**	**+2.2**
ENEZ	**Enez**	**2.62**	**351**	*e*Pn	**Pn**	**19 30 42.4**	**+2.2**
ULDT	**Uludag**	**2.74**	**43**	*i* P	**Pg**	**19 30 48.6**	**-0.8**
ULDT				*i* S	**Sg**	**19 31 23.2**	**-1.8**
ALN	**Alexandroupoli**	**2.80**	**350**	*e*PN	**Pn**	**19 30 44.5**	**+2.0**
ALN	**Alexandroupoli**	**2.80**	**350**	*e*Pn	**Pn**	**19 30 44.6**	**+2.0**
ALT	**Altintas**	**2.81**	**70**	*e*PN	**Pn**	**19 30 43.5**	**+0.7**
ALT	**Altintas**	**2.81**	**70**	*e*Pn	**Pn**	**19 30 43.6**	**+0.7**
ARMT	**Armutlu**	**2.94**	**34**	*e*PN	**Pn**	**19 30 45.7**	**+1.2**
ARMT	**Armutlu**	**2.94**	**34**	*e*Pn	**Pn**	**19 30 45.7**	**+1.2**

IDC 26 19:40:17.2±12.0,1°.36N×127°.08E,h649km±210km, mb2.2/4,mb1 2.4/4,mb1mx2.3/21,mbtmp3.3/4,Error ellipse: s-maj=173.7km s-min=25.7km az=49.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**162**	P	P	19 44 29.6	-0.3
	0.5nm,0.9s,baz=339,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**25.75**	**165**	P	P	19 45 00.8	+1.0
	0.1nm,0.3s,baz=351,slow=7.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**32.41**	**303**	P	P	19 45 57.4	+0.3
	0.3nm,0.6s,baz=115,slow=6.2,SNR=5.3						
MKAR	**Makanchi Array**	**59.70**	**326**	P	P	19 49 21.5	-0.1
	0.2nm,0.5s,baz=118,slow=5.6,SNR=2.9						

*ISCJB **26** 19:53:14.0±0.2,24°.60N±0°.01×121°.38E±0°.02,h6km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=40.7*
*JMA **26** 19:53:13.3±0.2,24°.58N×121°.37E,h7km±1km,M3.3*
*TAP **26** 19:53:13.3,24°.60N×121°.35E,h9km,ML3.8,B*

ISC 26 19:53:13.6±0.8,24°.60N±0°.02×121°.35E±0°.02,h10km±6km, n61,σ0956/102,11C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSK	**Sanguang**	**0.08**	**6**	⇑*i* P	**Pg**	**19 53 15.8**	**-0.3**
	baz=14						
NNS	**Nan Shan**	**0.16**	**172**	⇑*i* P	**Pg**	**19 53 17.5**	**+0.3**
	baz=168						
NNS				*e*S	**Sg**	**19 53 19.9**	**+0.2**
	baz=168						
NSTT	**Nanjuang**	**0.32**	**276**	⇓*i* P	**Pg**	**19 53 20.4**	**+0.4**
	baz=276						
NSTT				S	**Sg**	**19 53 24.9**	**+0.5**
	baz=276						
TWT	**Tachien**	**0.38**	**205**	⇓*i* P	**Pg**	**19 53 21.3**	**+0.1**
	baz=204						
TWT				*i* S	**Sg**	**19 53 26.3**	**+0.1**
	baz=204						
ENA	**Nanau**	**0.39**	**115**	⇑*i* P	**Pg**	**19 53 21.7**	**+0.3**
	baz=115						
ENA				*e*S	**Sg**	**19 53 26.7**	**+0.1**
	baz=115						
ILA	**Ilan**	**0.40**	**65**	*e*P	**Pg**	**19 53 21.1**	**-0.4**
	baz=68						
ILA				*e*S	**Sb**	**19 53 28.2**	**-0.8**
	baz=68						
NCU	**National Centr**	**0.40**	**338**	⇓*e*P	**Pb**	**19 53 22.5**	**-0.3**
	baz=341						
HSN	**Hsinchu**	**0.40**	**301**	*e*P	**Pb**	**19 53 22.4**	**-0.4**
	baz=300						
HSN				S	**Sb**	**19 53 28.8**	**-0.3**
	baz=300						
TWA	**Mucha**	**0.44**	**29**	⇓*i* P	**Pg**	**19 53 22.5**	**+0.2**
	baz=42						
TWA				*i* S	**Sg**	**19 53 28.4**	**+0.3**
	baz=42						
TWC	**Suao**	**0.46**	**88**	⇓*i* P	**Pg**	**19 53 22.6**	**0.0**
	baz=90						
TWC				*e*S	**Sg**	**19 53 28.7**	**+0.1**
	baz=90						
WHF	**Hehuan Shan**	**0.46**	**190**	⇑*i* P	**Pg**	**19 53 23.1**	**+0.5**
	baz=186						
WHF				*i* S	**Sg**	**19 53 28.9**	**+0.1**
	baz=186						
EHP	**Heping Village**	**0.46**	**128**	*e*P	**Pb**	**19 53 24.4**	**+0.7**
	baz=127						
EHP				*e*S	**Sb**	**19 53 29.8**	**-0.8**
	baz=127						
TAP	**Taipei**	**0.46**	**18**	P	**Pg**	**19 53 23.1**	**+0.4**
	baz=21						
TAP				*e*S	**Sg**	**19 53 28.8**	**-0.1**
	baz=21						
TAP1	**Taipei**	**0.47**	**20**	⇓*i* P	**Pg**	**19 53 23.2**	**+0.4**
	baz=21						
TAP1				*e*S	**Sg**	**19 53 29.2**	**+0.2**
	baz=21						
TWS1	**Kuangyinshan**	**0.51**	**7**	⇓P	**Pg**	**19 53 24.8**	**+0.2**
	baz=20						
TWS1				S	**Sb**	**19 53 31.7**	**-0.3**
	baz=20						
TWD	**Chiawan**	**0.56**	**156**	⇑*i* P	**Pg**	**19 53 24.9**	**+0.4**
	baz=154						
TWD				S	**Sg**	**19 53 32.2**	**+0.3**
	baz=154						
NSY	**Sanyi**	**0.56**	**252**	⇓*i* P	**Pb**	**19 53 25.7**	**+0.1**
	baz=250						
TWQ1	**Liyutan**	**0.58**	**245**	⇓*i* P	**Pb**	**19 53 25.7**	**-0.2**
	baz=243						
TWQ1				*e*S	**Sb**	**19 53 33.7**	**-0.5**
	baz=243						
EGS		**0.58**	**65**	⇓*i* P	**Pg**	**19 53 25.1**	**+0.1**
	baz=67						
NWF	**Wu-fen Shan**	**0.61**	**40**	⇓*i* P	**Pg**	**19 53 25.9**	**+0.3**
	baz=56						
NWF				*i* S	**Sg**	**19 53 33.9**	**+0.1**
	baz=56						
HWA	**Hwalien**	**0.66**	**159**	⇑*i* P	**Pb**	**19 53 26.9**	**-0.3**
	baz=157						
HWA				*e*S	**Sb**	**19 53 36.0**	**-0.4**
	baz=157						
TWB1	**Santiao Chiao**	**0.71**	**55**	P	**Pg**	**19 53 26.8**	**-0.6**
	baz=57						
TWY	**Chenhua**	**0.71**	**18**	*e*P	**Pb**	**19 53 27.9**	**-0.2**
	baz=32						
TWY				*e*S	**Sb**	**19 53 38.6**	**+0.6**
	baz=32						
ESF	**Shoufeng Towns**	**0.74**	**169**	*e*P	**Pb**	**19 53 28.7**	**+0.1**
	baz=166						
TCU	**Taichung**	**0.76**	**234**	⇓P	**Pn**	**19 53 29.7**	**-0.7**
	baz=231						
TCU				*e*S	**Sn**	**19 53 41.1**	**-0.9**
	baz=231						
ESL	**Shilin**	**0.78**	**174**	⇑*i* P	**Pg**	**19 53 28.8**	**0.0**
	baz=172						
ESL				*e*S	**Sg**	**19 53 38.7**	**-0.2**
	baz=172						
SMLT	**Sun Moon Lake**	**0.82**	**210**	⇓*i* P	**Pg**	**19 53 29.2**	**-0.3**
	baz=200						
TYC	**Yuchr**	**0.82**	**213**	⇓*i* P	**Pg**	**19 53 29.2**	**-0.3**
	baz=203						
WNT	**Mingjian**	**0.94**	**221**	⇑*e*P	**Pn**	**19 53 32.9**	**0.0**
	baz=237						
WNT				*e*S	**Sn**	**19 53 46.2**	**-0.2**
	baz=237						
EHY	**Hungye**	**1.08**	**181**	*e*P	**Pb**	**19 53 33.9**	**-0.6**
	baz=178						
EHY				*e*S	**Sg**	**19 53 49.2**	**+0.5**
	baz=178						
WGK	**Gukeng**	**1.16**	**219**	P	**Pg**	**19 53 36.3**	**+0.4**
	baz=231						
WGK				*e*S	**Sn**	**19 53 52.8**	**+1.1**
	baz=231						
YUS	**Yu-Shan**	**1.16**	**198**	*e*P	**Pb**	**19 53 35.0**	**-1.1**
	baz=204						
CHN5	**Tsauling**	**1.17**	**212**	⇓P	**Pg**	**19 53 36.5**	**+0.4**
	baz=225						
CHN5				*e*S	**Sn**	**19 53 52.5**	**+0.3**
	baz=225						
ALS	**Alishan**	**1.19**	**205**	*e*P	**Pn**	**19 53 36.0**	**-0.6**
	baz=195						
WTCT	**Ta-ch'eng**	**1.22**	**233**	*e*P	**Pn**	**19 53 36.3**	**-0.4**
	baz=230						
WTCT				*e*S	**Sg**	**19 53 52.9**	**0.0**
	baz=230						
TWF1	**Yuli**	**1.24**	**182**	*e*P	**Pn**	**19 53 36.8**	**-0.3**
	baz=178						
TWF1				*e*S	**Sb**	**19 53 52.6**	**-0.6**
	baz=178						
CHN2	**Minshiung**	**1.33**	**217**	*e*P	**Pg**	**19 53 39.0**	**-0.1**
	baz=231						
CHN2				*e*S	**Sg**	**19 53 57.7**	**+1.3**
	baz=231						
CHY	**Chiayi**	**1.38**	**218**	*e*P	**Pn**	**19 53 39.1**	**+0.2**
	baz=234						
WSF	**Szhu**	**1.40**	**227**	⇑*e*P	**Pn**	**19 53 39.4**	**+0.1**
	baz=222						
WSF				*e*S	**Sb**	**19 53 58.1**	**+0.2**
	baz=222						
ELDTW	**Lidau**	**1.43**	**192**	*e*P	**Pn**	**19 53 39.7**	**-0.1**
	baz=175						
CHKT	**Chengkung**	**1.49**	**179**	*e*P	**Pn**	**19 53 40.4**	**-0.1**
	baz=161						
WTP	**Ta-pu**	**1.50**	**207**	⇓*e*P	**Pb**	**19 53 41.8**	**+0.2**
	baz=214						
WTP				*e*S	**Sg**	**19 54 03.4**	**+1.4**
	baz=214						
YOJ	**Yonaguni jima**	**1.52**	**95**	P	**Pn**	**19 53 41.0**	**+0.1**
YOJ				*e*S	**Sb**	**19 54 01.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.52**	**95**	*e*P	**Pn**	**19 53 40.6**	**-0.2**
	baz=84						
YOJ				*e*S	**Sb**	**19 54 01.2**	**0.0**
	baz=84						
STYT	**Tauyuan**	**1.53**	**201**	*e*P	**Pg**	**19 53 42.6**	**-0.4**
	baz=196						
STYT				*e*S	**Sg**	**19 54 04.9**	**+2.1**
	baz=196						
TWK	**Hsinying**	**1.54**	**211**	⇓P	**Pb**	**19 53 42.2**	**-0.1**
	baz=223						
TWK				*e*S	**Sg**	**19 54 04.2**	**+0.9**
	baz=223						
CHN1	**Nanshi**	**1.59**	**208**	⇑P	**Pb**	**19 53 43.1**	**-0.1**
	baz=215						
CHN1				*e*S	**Sg**	**19 54 05.8**	**+0.9**
	baz=215						
SGST	**Jiashian**	**1.66**	**205**	*e*P	**Pb**	**19 53 44.1**	**-0.3**
	baz=210						
SGST				*e*S	**Sg**	**19 54 07.2**	**+0.1**
	baz=210						
CHN3	**Shinhua**	**1.76**	**211**	*e*P	**Pn**	**19 53 44.8**	**+0.6**
	baz=222						
TWG	**Pinlang**	**1.79**	**188**	*e*P	**Pb**	**19 53 45.8**	**-0.6**
	baz=182						
TWG				*e*S	**Sg**	**19 54 11.1**	**+0.1**
	baz=182						
TTN	**Taitung**	**1.84**	**186**	*e*P	**Pb**	**19 53 48.0**	**+0.6**
	baz=197						
PNG	**Penghu**	**1.93**	**238**	⇑*e*P	**Pn**	**19 53 45.7**	**-0.9**
	baz=234						
SSD	**Sandimen**	**1.96**	**200**	*e*P	**Pb**	**19 53 49.2**	**-0.2**
	baz=191						
TWM1	**Shoushan**	**1.96**	**206**	*e*P	**Pb**	**19 53 50.2**	**+0.8**
	baz=197						
ECL	**Taimali**	**2.02**	**190**	*e*P	**Pb**	**19 53 49.8**	**-0.7**
	baz=183						
ECL				*e*S	**Sg**	**19 54 17.5**	**-1.2**
	baz=183						
IRIF	**Iriomote-Funau**	**2.19**	**96**	P	**Pn**	**19 53 50.3**	**+0.3**
IRIF				*e*S	**Sn**	**19 54 17.4**	**+0.3**
EAST	**Anshuo**	**2.25**	**192**	*e*P	**Pb**	**19 53 53.4**	**-1.0**
	baz=183						
SCZT	**Fangliau**	**2.31**	**197**	*e*P	**Pb**	**19 53 54.2**	**-1.2**
	baz=188						
SCZT				*e*S	**Sb**	**19 54 24.0**	**-0.1**
	baz=188						
JKRS	**Kuro-shima**	**2.45**	**98**	P	**Pn**	**19 53 54.6**	**+0.9**
JKRS				*e*S	**Sn**	**19 54 23.5**	**-0.2**
JIJ	**Ishigaki jima**	**2.56**	**95**	P	**Pn**	**19 53 55.9**	**+0.8**
JIJ				*e*S	**Sn**	**19 54 26.0**	**-0.3**
KNM	**Kinmen**	**2.66**	**267**	*e*P	**Pn**	**19 53 56.8**	**+0.2**
	baz=266						

*ISCJB **26** 19:53:59.5±0.4,82°.13N±0°.06×5°.5W±0°.4,h10km,mb3.8/24, MS3.5/6,Error ellipse: s-maj=9.4km s-min=6.9km az=24.3*
*IDC **26** 19:54:00.0±0.7,82°.22N×5°.10W,h0km,mb3.6/17, mb1 3.8/19,mb1mx3.7/52,mbtmp3.7/19,ML3.9/2,MS3.5/9, Ms1 3.5/9,ms1mx3.

NOA	**NORSAR Array B**	**21.58**	**159**	P	**P**	**19 58 52.8**	**+2.1**
FINES	**FINESS Array B**	**22.24**	**139**	P	**P**	**19 58 58.4**	**+0.8**
FINES	**FINESS Array B**	**22.24**	**139**	P	**P**	**19 58 58.4**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=352,slow=8.4,SNR=2.3						
FINES	**FINESS Array B**	**22.24**	**139**	P	**P**	**19 58 58.4**	**+0.8**
KONO	**Kongsberg**	**22.90**	**161**	P	P	19 58 60.0	-4.7
	comp=Z,55nm,1.6s						
EKA	**Eskdalemuir Ar**	**26.90**	**178**	P	**P**	**19 59 43.1**	**+1.2**
EKA	**Eskdalemuir Ar**	**26.90**	**178**	P	**P**	**19 59 43.1**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=0,slow=9.9,SNR=3.9						
EKA	**Eskdalemuir Ar**	**26.90**	**178**	P	**P**	**19 59 43.1**	**+1.2**
ESK	**Eskdalemuir**	**26.92**	**178**	P	**P**	**19 59 44.1**	**+2.0**
ESK	**Eskdalemuir**	**26.92**	**178**	P	**P**	**19 59 44.1**	**+2.0**
INK	**Inuvik**	**27.48**	**321**	*eP*	**P**	**19 59 46.3**	**-0.6**
INK	**Inuvik**	**27.48**	**321**	*eP*	**P**	**19 59 46.3**	**-0.6**
BILL	**Bilibino**	**29.97**	**7**	P	P	20 00 14.9	+5.8
	comp=Z,4.4nm,1.3s						
YKW3	**Yellowknife Ar**	**31.13**	**303**	P	**P**	**20 00 18.9**	**-0.6**
YKW3	**Yellowknife Ar**	**31.13**	**303**	P	**P**	**20 00 18.9**	**-0.6**
YKA	**Yellowknife Ar**	**31.20**	**303**	P	**P**	**20 00 19.2**	**-0.8**
YKA	**Yellowknife Ar**	**31.20**	**303**	P	**P**	**20 00 19.2**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=16,slow=9.7,SNR=3.4						
YKA	**Yellowknife Ar**	**31.20**	**303**	P	**P**	**20 00 19.2**	**-0.8**
ILAR	**Eielson Array**	**32.00**	**330**	P	**P**	**20 00 27.4**	**+0.3**
ILAR				PcP	**PcP**	**20 03 15.5**	**-0.9**
ILAR	**Eielson Array**	**32.00**	**330**	P	**P**	**20 00 27.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=7.4,slow=7.2,SNR=9.4						
ILAR				PcP	**PcP**	**20 03 15.5**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=339,slow=3.4,SNR=4.7						
ILAR	**Eielson Array**	**32.00**	**330**	P	**P**	**20 00 27.4**	**+0.3**
ILAR	**Eielson Array**	**32.00**	**330**	PcP	**PcP**	**20 03 15.5**	**-0.9**
SCHQ	**Schefferville**	**32.30**	**253**	P	**P**	**20 00 30.0**	**+0.2**
	comp=Z,17nm,1.2s						
SCHQ	**Schefferville**	**32.30**	**253**	LR	LR	20 12 33.5	
	comp=Z,98nm,21.0s,baz=344,slow=34						
SCHQ	**Schefferville**	**32.30**	**253**	P	**P**	**20 00 30.0**	**+0.2**
	comp=Z,17nm,1.2s						
AKASG	**Malin Array Be**	**33.15**	**139**	P	**P**	**20 00 37.3**	**+0.1**
AKASG	**Malin Array Be**	**33.15**	**139**	P	**P**	**20 00 37.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=351,slow=9.1,SNR=3.7						
AKASG	**Malin Array Be**	**33.15**	**139**	P	**P**	**20 00 37.3**	**+0.1**
MORC	**Moravsky Berou**	**33.17**	**153**	P	**P**	**20 00 37.5**	**0.0**
	comp=Z,3.4nm,1.0s						
MORC	**Moravsky Berou**	**33.17**	**153**	P	**P**	**20 00 37.5**	**0.0**
	comp=Z,3.4nm,1.0s						
GERES	**GERESS Array B**	**33.88**	**158**	P	P	20 00 46.8	+3.0
GERES	**GERESS Array B**	**33.88**	**158**	P	P	20 00 46.8	+3.0
	comp=Z,1.2nm,0.6s,baz=353,slow=6.3,SNR=6.9						
GERES	**GERESS Array B**	**33.88**	**158**	P	P	20 00 46.8	+3.0
ZALV	**Zalesovo Beam**	**36.92**	**80**	P	**P**	**20 01 10.3**	**+0.7**
ZALV	**Zalesovo Beam**	**36.92**	**80**	P	**P**	**20 01 10.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=343,slow=8.3,SNR=3.8						
ZALV				LR	LR	20 18 45.5	
	comp=Z,44nm,18.9s,baz=64,slow=40						
ZALV	**Zalesovo Beam**	**36.92**	**80**	P	**P**	**20 01 10.4**	**+0.7**
KURK	**Kurchatov**	**39.23**	**87**	P	**P**	**20 01 30.6**	**+1.5**
KURK	**Kurchatov**	**39.23**	**87**	P	**P**	**20 01 30.6**	**+1.5**
KURBB	**Kurchatov Arra**	**39.31**	**87**	P	**P**	**20 01 30.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=352,slow=7.5,SNR=6.7						
ESDC	**Sonseca Array**	**42.57**	**179**	P	**P**	**20 01 57.3**	**+0.5**
ESDC	**Sonseca Array**	**42.57**	**179**	P	**P**	**20 01 57.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=359,slow=9.2,SNR=5.1						
ESDC	**Sonseca Array**	**42.57**	**179**	P	**P**	**20 01 57.3**	**+0.5**
MKAR	**Makanchi Array**	**43.57**	**85**	P	**P**	**20 02 05.7**	**+0.8**
MKAR	**Makanchi Array**	**43.57**	**85**	P	**P**	**20 02 05.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=351,slow=9.3,SNR=4.4						
MKAR	**Makanchi Array**	**43.57**	**85**	P	**P**	**20 02 05.7**	**+0.8**
SONM	**Songino Array**	**45.71**	**61**	P	**P**	**20 02 22.7**	**+0.6**
SONM	**Songino Array**	**45.71**	**61**	P	**P**	**20 02 22.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=348,slow=6.5,SNR=4.0						
SONM	**Songino Array**	**45.71**	**61**	P	**P**	**20 02 22.7**	**+0.6**
ULN	**Ulaanbaatar**	**45.76**	**61**	*eP*	**P**	**20 02 21.8**	**-0.7**
	comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**45.76**	**61**	*eP*	**P**	**20 02 21.8**	**-0.7**
	comp=Z,5.0nm,0.9s						
TKM2	**Tokmak 2**	**46.45**	**92**	P	**P**	**20 02 28.3**	**+0.3**
	comp=Z,1.5nm,0.9s						
TKM2	**Tokmak 2**	**46.45**	**92**	P	**P**	**20 02 28.3**	**+0.3**
	comp=Z,1.5nm,0.9s						
AAK	**Ala-Archa**	**46.58**	**93**	P	**P**	**20 02 30.3**	**+1.3**
AAK	**Ala-Archa**	**46.58**	**93**	P	**P**	**20 02 30.3**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=211,slow=3.4,SNR=4.4						
AAK				LR	LR	20 25 44.1	
	comp=Z,60nm,18.5s,baz=292,slow=41						
AAK	**Ala-Archa**	**46.58**	**93**	P	**P**	**20 02 30.3**	**+1.3**
KEST	**Kesra**	**46.77**	**164**	P	**P**	**20 02 32.6**	**+2.2**
KEST	**Kesra**	**46.77**	**164**	P	**P**	**20 02 32.6**	**+2.2**
	comp=Z,5.9nm,1.1s,baz=333,slow=5.2,SNR=6.3						
KEST				LR	LR	20 24 11.9	
	comp=Z,19nm,18.1s,baz=298,slow=39						
KEST	**Kesra**	**46.77**	**164**	P	**P**	**20 02 32.7**	**+2.2**
RSSD	**Black Hills**	**47.85**	**287**	P	P	20 02 31.6	-7.3
	comp=Z,6.3nm,1.0s						
PDAR	**Pinedale Array**	**49.91**	**291**	LR	LR	20 24 42.6	
	comp=Z,75nm,18.6s,baz=21,slow=37						
TXAR	**Lajitas Array**	**62.35**	**283**	P	**P**	**20 04 23.2**	**-0.5**
TXAR	**Lajitas Array**	**62.35**	**283**	P	**P**	**20 04 23.2**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=11,slow=5.5,SNR=3.6						
TXAR				LR	LR	20 31 49.7	
	comp=Z,52nm,18.1s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**62.35**	**283**	P	**P**	**20 04 23.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**69.04**	**173**	P	**P**	**20 05 07.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**69.04**	**173**	P	**P**	**20 05 07.5**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=356,slow=4.5,SNR=17						
TORD	**Torodi Ar. Bea**	**69.04**	**173**	P	**P**	**20 05 07.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**73.70**	**74**	P	**P**	**20 05 33.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**73.70**	**74**	P	**P**	**20 05 33.6**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=353,slow=6.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**73.70**	**74**	P	**P**	**20 05 33.6**	**-1.4**

*IDC **26** 20:20:30.4±3.4, 28°.45N×66°.47E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.5/43, mbtmp3.6/10, ML3.0/1, Error ellipse: s-maj=72.4km s-min=23.6km az=149.0*
*ISCJB **26** 20:20:31.1±0.9, 28°.4N±0°.1×66°.52E±0°.08, h20km, mb3.6/9, Error ellipse: s-maj=20.3km s-min=7.9km az=20.6*

ISC 26 20:20:32.8±1.2, 28°.4N±0°.2×66°.6E±0°.1, h20km, n21, σ0°88/20, mb3.6/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PYUN	**Piuthan**	**14.48**	**87**	*eP*		**Pn**	**20 23 58.5**	**+1.7**
	24nm,0.7s							
KOLN	**Koldanda**	**15.05**	**88**	*eS*		Sn	20 26 43.7	-7.1
DANN	**Dangsing**	**15.13**	**86**	*eP*		**Pn**	**20 24 06.5**	**+0.7**
AAK	**Ala-Archa**	**15.52**		P	Pn	**Pn**	**20 24 10.2**	**-1.1**
	0.1nm,0.3s,baz=180,slow=13,SNR=3.1							
GKN	**Gorkha**	**15.93**	**87**	*eP*		**Pn**	**20 24 16.4**	**+0.3**
	4.3nm,0.5s							
PKIN	**Phulchoki**	**16.65**	**88**	*eP*		**Pn**	**20 24 25.4**	**0.0**
PKI	**Pulchoki**	**16.66**	**88**	*eP*		**Pn**	**20 24 25.6**	**0.0**
GUN	**Gumba**	**17.04**	**87**	*eP*		**P**	**20 24 31.3**	**-0.7**
	34nm,0.7s							
JIRN	**Jiri**	**17.34**	**88**	*eP*		**P**	**20 24 35.3**	**-0.1**
RAMN	**Ramite**	**17.80**	**90**	*eP*		**Pn**	**20 24 39.3**	**-0.4**
ODAN	**Odare**	**18.51**	**90**	*eP*		**P**	**20 24 47.9**	**-0.3**
TAPN	**Taplejung**	**18.72**	**88**	*eP*		**Pn**	**20 24 50.7**	**-0.3**
MKAR	**Makanchi Array**	**22.10**	**30**	P		**P**	**20 25 25.9**	**-0.9**
	0.6nm,0.6s,baz=211,slow=10.0,SNR=9.6							
KURBB	**Kurchatov Arra**	**23.96**	**19**	P		**P**	**20 25 46.6**	**+0.9**
	0.3nm,0.7s,baz=206,slow=9.5,SNR=3.2							
BVAR	**Borovoye Array**	**24.75**	**6**	P		**P**	**20 25 52.9**	**0.0**
	0.5nm,0.5s,baz=182,slow=7.2,SNR=3.6							
ZALV	**Zalesovo Beam**	**28.80**	**23**	P		**P**	**20 26 31.7**	**+2.5**
	0.7nm,0.6s,baz=218,slow=9.1,SNR=2.4							
AKASG	**Malin Array Be**	**35.84**	**319**	P		**P**	**20 27 31.1**	**+0.1**
	0.5nm,0.5s,baz=117,slow=7.6,SNR=3.3							
FINES	**FINESS Array B**	**42.52**	**333**	P		**P**	**20 28 26.7**	**+0.1**
	4.0nm,1.1s,baz=101,slow=7.2,SNR=3.2							
GERES	**GERESS Array B**	**45.04**	**312**	P		**P**	**20 28 47.1**	**-0.1**
	0.7nm,0.7s,baz=97,slow=8.0,SNR=5.9							
NOA	**NORSAR Array B**	**48.91**	**328**	P		**P**	**20 29 17.1**	**-0.1**
	0.8nm,0.6s,baz=108,slow=7.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**61.88**	**270**	P		**P**	**20 30 51.1**	**-0.1**
	0.8nm,0.6s,baz=62,slow=6.5,SNR=5.6							

*IDC **26** 20:26:03.5±1.4, 13°.29S×166°.43E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/29, mbtmp3.9/6, ML3.3/1, MS3.0/2, Ms1 2.9/2, ms1mx2.6/26, Error ellipse: s-maj=40.1km s-min=24.3km az=117.0*
*ISCJB **26** 20:26:08.7±1.4, 13°.31S±0°.09×166°.3E±0°.2, h44km, mb3.8/5, MS3.0/1, Error ellipse: s-maj=31.6km s-min=12.4km az=172.6*

ISC 26 20:26:10.4±1.4, 13°.2S±0°.1×166°.3E±0°.2, h44km, n8, σ1s33/7, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HNR	**Honiara**	**7.30**	**300**	LR		LR	20 30 54.3	
	comp=Z,71nm,20.2s,baz=157,slow=39							
DZM	**Mont Dzumac**	**8.79**	**179**	Pn		Pn	20 28 10.4	-4.7
	0.3nm,0.3s,baz=175,slow=12,SNR=3.4							
DZM				Sn		**Sn**	**20 29 53.0**	**+0.1**
	0.5nm,0.3s,baz=165,slow=20,SNR=2.6							
STKA	**Stephens Creek**	**29.30**	**227**	P		**P**	**20 32 09.8**	**+0.9**
	3.2nm,1.1s,baz=69,slow=11,SNR=4.1							
STKA				LR		LR	20 43 00.8	
	comp=Z,43nm,20.7s,baz=32,slow=35							
WRA	**Warramunga Arr**	**31.33**	**253**	P		**P**	**20 32 25.7**	**-1.3**
	1.0nm,0.7s,baz=85,slow=9.0,SNR=8.7							
ASAR	**Alice Springs**	**32.38**	**247**	P		**P**	**20 32 34.8**	**-1.4**
	0.5nm,0.6s,baz=72,slow=9.4,SNR=13							
CMAR	**Chiang Mai Arr**	**73.50**	**294**	P		**P**	**20 37 40.6**	**+1.5**
	0.5nm,0.7s,baz=125,slow=5.3,SNR=6.5							
ILAR	**Eielson Array**	**85.40**	**18**	P		**P**	**20 38 42.1**	**-0.6**
	1.1nm,0.4s,baz=238,slow=4.9,SNR=57							
ARCES	**ARCESS Array B**	**118.58**	**345**	PKP		**PKPdf**	**20 44 52.9**	**0.0**
	9.6nm,1.1s,baz=108,slow=2.9,SNR=4.7							

WEL 26 21:03:12.7±0.5, 37°.66S×176°.11E, h195km±4km, ML3.6/16, 7C-1D, Error ellipse: s-maj=4.6km s-min=4.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
URZ	**Urewera**	**0.99**	**127**	⇑P		Pn	21 03 41.9	+0.1
URZ				SN		Sn	21 04 04.5	0.0
MWZ	**Matawai**	**1.31**	**121**	⇑P		Pn	21 03 44.4	+0.1
MWZ				SN		Sn	21 04 08.8	-0.1
HAZ	**Te Kaha**	**1.33**	**95**	⇓P		Pn	21 03 44.3	-0.1
HAZ				SN		Sn	21 04 08.8	-0.1
SNGZ	**Shannon Statio**	**1.48**	**139**	PN		Pn	21 03 45.9	+0.2
SNGZ				SN		Sn	21 04 10.9	-0.7
TWVZ	**Taurewa**	**1.51**	**200**	PN		Pn	21 03 46.5	+0.4
BKZ	**Black Stump Fm**	**1.54**	**169**	⇑Pn		Pn	21 03 45.8	-0.5
BKZ				AML		AML	21 04 12.4	
NMHZ	**Naumai**	**1.54**	**159**	PN		Pn	21 03 46.9	+0.6
TUVZ	**Tukino**	**1.65**	**192**	PN		Pn	21 03 47.4	0.0
RIQZ	**Rimuhau**	**1.67**	**129**	⇑Pn		Pn	21 03 47.6	+0.1
TRVZ	**Turoa**	**1.70**	**195**	PN		Pn	21 03 48.2	+0.2
WNVZ	**Wahianoa**	**1.71**	**193**	PN		Pn	21 03 47.9	-0.2
MXZ	**Matakaoa Point**	**1.75**	**88**	PN		Pn	21 03 48.7	+0.5
PUZ	**Puketiti**	**1.75**	**104**	PN		Pn	21 03 48.0	-0.2
BHHZ	**Black Hill Sta**	**1.83**	**181**	PN		Pn	21 03 48.3	-0.8
KNZ	**Kokohu**	**1.83**	**138**	⇑PN		Pn	21 03 48.7	-0.3
CNGZ	**Carnagh Statio**	**1.85**	**117**	⇑PN		Pn	21 03 49.7	+0.5
PRGZ	**Paritu Road**	**1.88**	**133**	PN		Pn	21 03 49.4	-0.2
MHGZ	**Mahia Peninsul**	**2.05**	**137**	PN		Pn	21 03 50.9	-0.4
CKHZ	**Cape Kidnapper**	**2.14**	**160**	PN		Pn	21 03 51.6	-0.6
TSZ	**Takapari Road**	**2.40**	**183**	PN		Pn	21 03 53.5	-1.6
WPHZ	**Waipukurau**	**2.42**	**174**	PN		Pn	21 03 53.9	-1.3
PRHZ	**Porangahau**	**2.64**	**171**	PN		Pn	21 03 56.4	-1.3
DVHZ	**Dannevirke**	**2.64**	**179**	PN		Pn	21 03 55.8	-2.0
POWZ	**Post Office Ro**	**2.74**	**185**	PN		Pn	21 03 57.0	-2.0
PRWZ	**Pori Road**	**2.89**	**182**	PN		Pn	21 03 58.9	-1.9
BFZ	**Birch Farm**	**3.02**	**178**	PN		Pn	21 03 59.9	-2.3
MRZ	**Mangatainoka R**	**3.03**	**188**	⇑PN		Pn	21 03 59.6	-2.7
MRZ				AML		AML	21 04 38.8	
MRZ				AML		AML	21 04 38.8	
OGWZ	**Otaki Gorge**	**3.24**	**193**	PN		Pn	21 04 02.2	-2.6
HOWZ	**Holdsworth Sta**	**3.27**	**188**	PN		Pn	21 04 02.1	-3.1
KIW	**Kapiti Island**	**3.33**	**196**	PN		Pn	21 04 02.8	-3.2
TMWZ	**Te Maipa**	**3.45**	**183**	PN		Pn	21 04 04.3	-3.2
MTW	**Mount Morrison**	**3.53**	**187**	PN		Pn	21 04 04.8	-3.5
CAW	**Cannon Point**	**3.54**	**193**	PN		Pn	21 04 05.3	-3.2
PAWZ	**Paruwai Farm**	**3.75**	**188**	*e*PN		Pn	21 04 07.4	-3.7
MSWZ	**Moikau Station**	**3.81**	**190**	PN		Pn	21 04 07.9	-4.0
TCW	**Tory Channel**	**3.82**	**201**	PN		Pn	21 04 08.6	-3.3
BHW	**Baring Head**	**3.87**	**194**	PN		Pn	21 04 08.6	-3.9
PLWZ	**Palliser**	**3.96**	**189**	PN		Pn	21 04 09.5	-4.3
TUWZ	**Tuamarina**	**4.12**	**203**	PN		Pn	21 04 12.0	-3.7
QRZ	**Quartz Range**	**4.21**	**220**	PN		Pn	21 04 13.5	-3.4
THZ	**Tophouse**	**4.79**	**210**	PN		Pn	21 04 20.1	-4.1
KHZ	**Kahutara**	**5.14**	**202**	PN		Pn	21 04 24.6	-4.1
OXZ	**Oxford**	**6.45**	**207**	PN		Pn	21 04 40.0	-5.7
MQZ	**McQueen's Vall**	**6.59**	**202**	PN		Pn	21 04 41.4	-6.0

*IGIL **26** 21:05:11.8, 37°.06N×13°.63W, h30km, ML2.5*
*MDD **26** 21:05:13.2±2.3, 37°.20N×13°.23W, h0km, mb4.1/9, Error ellipse: s-maj=20.6km s-min=19.2km az=38.0, PRX/MO*
*INMG **26** 21:05:14.5±0.8, 37°.04N×13°.63W, h10km, ML2.5, Error ellipse: s-maj=5.1km s-min=5.0km az=151.0*
*CSEM **26** 21:05:16.5±0.4, 37°.33N×12°.95W, h10km, mb4.1, Error ellipse: s-maj=7.4km s-min=6.6km az=37.0*

ISC 26 21:05:13.5±3.8, 37°.26N±0°.10×13°.1W±0°.2, h10km, n65, σ1s09/101, 1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMAFR	**Mafra**	**3.48**	**60**	*e*Pn		**Pn**	**21 06 09.2**	**+1.4**
PMAFR				*e*Sn		**Sn**	**21 06 50.2**	**+1.2**
PMAFR				A		A	21 07 02.3	
	14nm,0.7s							
PMAFR	**Mafra**	**3.48**	**60**	⇓P		**Pn**	**21 06 09.2**	**+1.4**
	6.5nm,0.1s,SNR=18							
PMAFR				S		**Sn**	**21 06 50.0**	**+1.0**
	6.8nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**3.48**	**60**	P		**Pn**	**21 06 09.2**	**+1.4**
	6.5nm,0.1s,SNR=18							
PMAFR				S		**Sn**	**21 06 50.0**	**+1.0**
	6.8nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**3.58**	**88**	*e*Pn		**Pn**	**21 06 09.7**	**+0.5**
MORF				*e*Sn		**Sn**	**21 06 51.1**	**-0.4**
MORF				A		A	21 06 53.3	
	9.5nm,0.2s							
MORF	**Marmelete**	**3.58**	**88**	P		**Pn**	**21 06 09.7**	**+0.5**
MORF				S		**Sn**	**21 06 51.1**	**-0.4**
	9.5nm,0.2s							
MORF	**Marmelete**	**3.58**	**88**	P		**Pn**	**21 06 09.7**	**+0.5**
MORF				S		**Sn**	**21 06 51.1**	**-0.4**
	9.5nm,0.2s							
PNCL	**Nicolau / Gran**	**3.75**	**76**	*e*Pn		**Pn**	**21 06 12.1**	**+0.6**
PNCL				*e*Sn		**Sn**	**21 06 55.7**	**0.0**
PNCL				A		A	21 07 02.1	
	5.0nm,0.2s							
PNCL	**Nicolau / Gran**	**3.75**	**76**	*e*Pn		**Pn**	**21 06 12.1**	**+0.6**
PNCL				*e*Sn		**Sn**	**21 06 55.7**	**0.0**
	5.0nm,0.2s							
MESJ	**Messejana**	**3.95**	**80**	*e*P		**Pn**	**21 06 15.0**	**+0.8**
MESJ				*e*S		**Sn**	**21 07 01.0**	**+0.4**
MESJ				AML		AML	21 07 03.2	
	comp=E,4.5nm,0.0s							
MESJ	**Messejana**	**3.95**	**80**	*e*P		**Pn**	**21 06 15.0**	**+0.8**
MESJ				*e*S		**Sn**	**21 07 01.0**	**+0.4**
MESJ	**Messejana**	**3.95**	**80**	P		**Pn**	**21 06 15.0**	**+0.8**
MESJ				S		**Sn**	**21 07 01.0**	**+0.4**
MESJ	**Messejana**	**3.95**	**80**	P		**Pn**	**21 06 15.0**	**+0.8**
MESJ				S		**Sn**	**21 07 01.0**	**+0.4**
PBDV	**Barranco-do-Ve**	**4.16**	**89**	*e*Pn		**Pn**	**21 06 17.5**	**+0.4**
PBDV				*e*Sn		**Sn**	**21 07 05.1**	**-0.6**
PBDV				A		A	21 07 10.7	
	comp=E,5.5nm,0.3s							
PBDV	**Barranco-do-Ve**	**4.16**	**89**	P		**Pn**	**21 06 17.5**	**+0.4**
PBDV				S		**Sn**	**21 07 05.1**	**-0.6**
	comp=E,5.5nm,0.3s							
PBDV	**Barranco-do-Ve**	**4.16**	**89**	P		**Pn**	**21 06 17.5**	**+0.4**
PBDV				S		**Sn**	**21 07 05.1**	**-0.6**
	comp=E,5.5nm,0.3s							
EVO	**Evora**	**4.25**	**71**	*e*Pn		**Pn**	**21 06 19.4**	**+1.1**
EVO				*e*Sn		**Sn**	**21 07 07.9**	**-0.1**
EVO				A		A	21 07 12.8	
	comp=E,6.2nm,0.1s							
EVO	**Evora**	**4.25**	**71**	P		**Pn**	**21 06 19.4**	**+1.1**
EVO				S		**Sn**	**21 07 07.9**	**-0.1**
	comp=E,6.2nm,0.1s							
EVO	**Evora**	**4.25**	**71**	P		**Pn**	**21 06 19.4**	**+1.1**
EVO				S		**Sn**	**21 07 07.9**	**-0.1**
	comp=E,6.2nm,0.1s							
PMTG	**Montargil**	**4.27**	**64**	*e*Pn		**Pn**	**21 06 19.5**	**+0.9**
PMTG				*e*Sn		**Sn**	**21 07 08.7**	**+0.2**
PMTG				A		A	21 07 14.0	
	comp=E,2.2nm,0.2s							
PMTG	**Montargil**	**4.27**	**64**	*e*Pn		**Pn**	**21 06 19.5**	**+0.9**
PMTG				*e*Sn		**Sn**	**21 07 08.7**	**+0.2**
	comp=E,2.2nm,0.2s							
PVAQ	**Vaqueiros**	**4.32**	**86**	*e*Pn		**Pn**	**21 06 20.1**	**+1.3**
PVAQ				*e*Sn		**Sn**	**21 07 08.5**	**-1.3**
PVAQ				A		A	21 07 13.6	
	comp=E,6.3nm,0.2s							
PVAQ	**Vaqueiros**	**4.32**	**86**	P		**Pn**	**21 06 20.1**	**+0.8**
PVAQ				S		**Sn**	**21 07 08.5**	**-1.3**
	comp=E,6.3nm,0.2s							
PVAQ	**Vaqueiros**	**4.32**	**86**	P		**Pn**	**21 06 20.1**	**+0.8**
PVAQ				S		**Sn**	**21 07 08.5**	**-1.3**
	comp=E,6.3nm,0.2s							
EGRO	**El Granado**	**4.51**	**85**	P		**Pn**	**21 06 22.6**	**+0.6**
	comp=E,0.6nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**21 07 12.2**	**-2.3**
	comp=E,3.2nm,0.1s,SNR=5.7							
EGRO	**El Granado**	**4.51**	**85**	P		**Pn**	**21 06 22.5**	**+0.6**
	comp=E,0.6nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**21 07 12.1**	**-2.3**
	comp=E,3.2nm,0.1s,SNR=5.7							
PCAS	**Casmilo, Conde**	**4.58**	**51**	*e*Pn		**Pn**	**21 06 23.9**	**+1.1**
PCAS	**Casmilo, Conde**	**4.58**	**51**	*e*Pn		**Pn**	**21 06 23.9**	**+1.1**
PESTR	**Estremoz**	**4.66**	**68**	*e*Pn		**Pn**	**21 06 25.1**	**+1.1**
PESTR				*e*Sn		**Sn**	**21 07 17.9**	**-0.3**
PESTR				A		A	21 07 23.9	
	comp=E,31nm,0.2s							
PESTR	**Estremoz**	**4.66**	**68**	*e*Pn		**Pn**	**21 06 25.1**	**+1.1**
PESTR				*e*Sn		**Sn**	**21 07 17.9**	**-0.3**
	comp=E,31nm,0.2s							
PMPST	**Porto Santo, M**	**4.92**	**213**	*e*Sn		Sn	21 07 00.4	-24
PMPST				A		A	21 07 02.9	
	comp=E,28nm,0.6s							
PMPS	**Porto Santo**	**4.94**	**213**	S		Sn	21 07 00.4	-25
	comp=E,14nm,0.6s							
PMPS	**Porto Santo**	**4.94**	**213**	S		Sn	21 07 00.4	-25
	comp=E,14nm,0.6s							
PMRV	**Marv??o**	**5.01**	**63**	*e*Pn		**Pn**	**21 06 29.8**	**+1.0**
PMRV				*e*Sn		**Sn**	**21 07 26.5**	**-0.2**
PMRV				A		A	21 07 31.1	
	comp=E,2.0nm,0.3s							
PMRV	**Marv??o**	**5.01**	**63**	P		**Pn**	**21 06 29.8**	**+1.0**
PMRV				S		**Sn**	**21 07 26.5**	**-0.2**
	comp=E,2.0nm,0.3s							
PMRV	**Marv??o**	**5.01**	**63**	P		**Pn**	**21 06 29.8**	**+1.0**
PMRV				S		**Sn**	**21 07 26.5**	**-0.2**
	comp=E,2.0nm,0.3s							
EBAD	**Badajoz**	**5.06**	**71**	P		**Pn**	**21 06 29.9**	**+0.4**
	comp=E,1.1nm,0.1s,SNR=8.4							
EBAD				S		**Sn**	**21 07 26.3**	**-1.7**
	comp=E,5.9nm,0.2s,SNR=6.9							
EBAD	**Badajoz**	**5.06**	**71**	P		**

Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.03**	**344**	PN	**Pn**	**21 14 07.8**	**-0.9**
KBTR				S	**Sn**	**21 14 23.2**	**+1.3**
KBG	**Krutoberegovo**	**1.10**	**342**	PN	**Pn**	**21 14 09.0**	**-0.5**
KBG				S	**Sn**	**21 14 24.5**	**+1.0**
MKZ	**Mys Kozlova**	**1.13**	**235**	PN	**Pn**	**21 14 08.0**	**-2.0**
MKZ				S	**Sn**	**21 14 22.8**	**-1.5**
BKI	**Bering**	**1.52**	**89**	PN	**Pn**	**21 14 15.2**	**-0.1**
BKI				S	**Sn**	**21 14 34.4**	**+0.5**
KLY	**Klyuchi**	**1.86**	**307**	PN	**Pn**	**21 14 18.9**	**-1.2**
ESO	**Esso**	**2.72**	**287**	PN	**Pn**	**21 14 32.0**	**+0.2**
PET	**Petropavlovsk**	**3.52**	**233**	PN	**Pn**	**21 14 44.7**	**+2.0**
PETK	**Petropavlovsk-**	**3.92**	**240**	PN	**Pn**	**21 14 48.1**	**-0.2**
PETK						21 15 36.3	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.92**	**240**	Pn	**Pn**	**21 14 48.1**	**-0.2**
	comp=N,2.4nm,0.3s,baz=85,slow=18,SNR=14						
PETK				Sn	**Sn**	**21 15 36.3**	**+3.3**
	comp=N,1.1nm,0.3s,baz=59,slow=17,SNR=4.1						
RUS	**Russkaya**	**3.98**	**228**	PN	**Pn**	**21 14 49.5**	**+0.3**
RUS				S	**Sn**	**21 15 35.1**	**+0.5**
FX1	**Attu Island--F**	**6.25**	**108**	Pn	**Pn**	**21 15 20.6**	**+0.2**
	comp=N,3.9nm,0.3s,baz=331,slow=11,SNR=13						
FX1				S	**Sn**	**21 16 27.6**	**-2.8**
	comp=N,2.6nm,0.3s,baz=181,slow=18,SNR=5.6						
MJAR	**Matsushiro Arr**	**25.35**	**233**	P	**P**	**21 19 14.0**	**+0.3**
	comp=N,5.7nm,0.8s,baz=23,slow=8.7,SNR=7.2						
ILAR	**Eielson Array**	**25.98**	**48**	P	**P**	**21 19 20.8**	**+1.6**
	comp=N,0.5nm,1.0s,baz=268,slow=9.9,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**35.53**	**174**	T	T	22 00 07.5	
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.54**	**174**	T	T	22 00 07.5	
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.55**	**174**	T	T	22 00 09.7	
	baz=359,slow=76						
YKA	**Yellowknife Ar**	**40.31**	**45**	P	**P**	**21 21 25.0**	**+1.4**
	comp=N,0.2nm,0.7s,baz=299,slow=8.1,SNR=3.6						
KURK	**Kurchatov**	**48.22**	**302**	P	**P**	**21 22 25.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**48.33**	**302**	P	**P**	**21 22 25.9**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=51,slow=7.5,SNR=7.5						
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**21 22 31.0**	**-1.5**
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**21 22 31.0**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=33,slow=7.7,SNR=3.5						
BVAR	**Borovoye Array**	**50.55**	**309**	P	**P**	**21 22 43.1**	**-1.6**
BVAR	**Borovoye Array**	**50.55**	**309**	P	**P**	**21 22 43.1**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=52,slow=9.5,SNR=2.5						
AKASG	**Malin Array Be**	**67.73**	**330**	P	**P**	**21 24 43.5**	**0.0**
AKASG	**Malin Array Be**	**67.73**	**330**	P	**P**	**21 24 43.5**	**0.0**
	comp=Z,0.1nm,0.2s,baz=30,slow=6.9,SNR=3.0						

*NDI **26** 21:20:50.1±5.8, 33.87N×71.58E, h15km±999km, ML3.9*
*ISCJB **26** 21:21:02.2±0.7, 34.10N±0.06×74.1E±0.1, h20km, mb3.3/6, Error ellipse: s-maj=14.9km s-min=5.4km az=150.1*
*IDC **26** 21:21:10.6±5.8, 34.37N×74.18E, h64km±53km, mb3.2/6, mb1 3.3/10, mb1mx3.1/31, mbtmp3.4/10, ML3.2/4, Error ellipse: s-maj=41.4km s-min=22.4km az=42.0*

ISC 26 21:21:04.8±0.8, 34.17N±0.08×74.1E±0.1, h20km, n29, σ1§58/29, mb3.4/6, 1C-1D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.28**	**135**	*ex*	**Pb**	**21 21 45.0**	**-0.4**
DLH				*ex*	x	21 22 19.0	
SDNR	**Sundarnagar**	**3.62**	**137**	*ex*	**Pb**	**21 22 10.6**	**+2.5**
SDNR				*eS*	Sb	21 23 01.0	+9.4
SMLA	**Simla**	**4.01**	**138**	*eP*	Pn	21 22 09.5	+4.4
SMLA				*eS*	Sb	21 23 10.7	+7.9
KHET	**Khetri**	**6.26**	**166**	*eP*	Pn	21 22 30.0	-6.0
KHET				*eS*	Sn	21 23 42.1	-4.9
KHET				AML	AML	21 23 55.0	
	comp=N,126nm,0.1s						
KHET				AML	AML	21 23 55.5	
	comp=E,88nm,0.1s						
KUDL	**Kundal**	**6.36**	**160**	*eP*	Pn	21 22 32.5	-4.9
KUDL				*eS*	**Sn**	**21 23 46.9**	**-2.6**
KUDL				AML	AML	21 23 56.6	
	comp=N,4.8nm,0.4s						
KUDL				AML	AML	21 23 57.3	
	comp=E,6.3nm,0.5s						
AAK	**Ala-Archa**	**8.46**	**2**	P	**Pn**	**21 23 08.8**	**+2.5**
	comp=E,0.1nm,0.3s,baz=173,slow=14,SNR=3.2						
AAK				S	**Sn**	**21 24 40.0**	**-1.2**
	comp=E,0.1nm,0.3s,baz=149,slow=12,SNR=2.5						
KK31	**Karatay Array**	**9.34**	**344**	⇑Pn	**Pn**	**21 23 18.3**	**0.0**
	comp=E,0.3nm,0.3s,baz=158,slow=12,SNR=9.3						
KK31				⇓Sn	**Sn**	**21 24 58.9**	**-3.8**
	comp=E,0.5nm,0.3s,baz=151,slow=22,SNR=4.6						
PYUN	**Piuthan**	**9.75**	**126**	*eP*	**Pn**	**21 23 22.8**	**-1.4**
	comp=E,24nm,0.3s						
DANN	**Dangsing**	**10.12**	**122**	*eP*	**Pn**	**21 23 28.5**	**-0.9**
	comp=E,7.9nm,0.2s						
KOLN	**Koldanda**	**10.38**	**125**	*eP*	**Pn**	**21 23 31.0**	**-1.7**
	comp=E,6.0nm,0.3s						
GKN	**Gorkha**	**10.95**	**121**	*eP*	**Pn**	**21 23 40.2**	**-0.4**
	comp=E,17nm,0.3s						
DMN	**Daman**	**11.52**	**122**	*eP*	**Pn**	**21 23 47.1**	**-1.3**
	comp=E,5.5nm,0.3s						
KKN	**Kakani**	**11.54**	**120**	*eP*	**Pn**	**21 23 47.4**	**-1.2**
PKIN	**Phulchoki**	**11.74**	**121**	*eP*	**Pn**	**21 23 50.2**	**-1.3**
	comp=E,12nm,0.4s						
PKI	**Pulchoki**	**11.76**	**121**	*eP*	**Pn**	**21 23 51.0**	**-0.7**
GUN	**Gumba**	**11.90**	**118**	*eP*	**Pn**	**21 23 52.7**	**-1.0**
JIRN	**Jiri**	**12.27**	**119**	*eP*	**Pn**	**21 23 57.5**	**-1.2**
	comp=E,51nm,0.4s						
RAMN	**Ramite**	**12.98**	**120**	*eP*	**Pn**	**21 24 07.4**	**-0.9**
	comp=E,10nm,0.4s						
TAPN	**Taplejung**	**13.56**	**116**	*eP*	**Pn**	**21 24 14.4**	**-1.9**
	comp=E,7.4nm,0.3s						
ODAN	**Odare**	**13.60**	**119**	*eP*	**Pn**	**21 24 15.4**	**-1.4**
	comp=E,9.2nm,0.5s						
MKAR	**Makanchi Array**	**14.07**	**24**	P	**Pn**	**21 24 24.6**	**+1.7**
	comp=E,0.0nm,0.3s,baz=203,slow=14,SNR=2.6						
BVAR	**Borovoye Array**	**19.03**	**353**	P	**P**	**21 25 25.3**	**-0.1**
	comp=E,0.3nm,0.3s,baz=158,slow=9.6,SNR=8.7						
AKTO	**Aktyubinsk**	**20.05**	**329**	P	**P**	**21 25 37.1**	**+0.5**
	comp=E,0.1nm,0.3s,baz=153,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**21.18**	**18**	P	**P**	**21 25 46.9**	**-1.9**
	comp=E,0.7nm,0.6s,baz=219,slow=9.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**27.14**	**119**	P	**P**	**21 26 47.9**	**+1.1**
	comp=E,0.5nm,0.3s,baz=14,slow=34,SNR=5.0						
TORD	**Torodi Ar. Bea**	**68.22**	**271**	P	**P**	**21 32 05.1**	**+0.8**
	comp=E,0.2nm,0.6s,baz=29,slow=3.3,SNR=3.8						
WRA	**Warramunga Arr**	**78.63**	**124**	P	**P**	**21 33 06.2**	**+0.7**
	comp=E,0.7nm,1.0s,baz=319,slow=5.3,SNR=4.8						
ASAR	**Alice Springs**	**80.87**	**127**	P	**P**	**21 33 18.1**	**+0.5**
	comp=E,0.2nm,0.7s,baz=316,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**83.42**	**4**	P	**P**	**21 33 30.5**	**+0.2**
	comp=E,0.1nm,0.4s,baz=347,slow=5.7,SNR=2.7						

*NIED **26** 21:32:00, 36.70N×142.10E, h23km, Mw3.6 Best double couple: M₀2.68000×10¹⁴ NP1:φ220.00000°, δ25.00000°, λ95.00000°. NP2:φ35.00000°, δ65.00000°, λ88.00000°.*

JMA 26 21:32:04.0±0.2, 36.71N×142.09E, h29km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.11**	**291**	P	Pn	21 32 23.5	-0.1
JFK	**Kawauchi**	**1.17**	**304**	P	Pn	21 32 24.5	0.0
JHO	**Hitachi**	**1.23**	**266**	P	Pn	21 32 25.3	+0.1
JHO				*eS*	Sb	21 32 41.8	-0.2
JMM	**Marumori**	**1.55**	**319**	P	Pn	21 32 30.2	+0.6
JMM				*eS*	Sn	21 32 49.6	+0.8
JFT	**Otama**	**1.62**	**300**	P	Pn	21 32 31.9	+1.3
JFT				*eS*	Sb	21 32 52.7	-0.6
JIO	**Ouri**	**1.84**	**342**	P	Pn	21 32 34.8	+1.2
JOU	**Okura**	**2.00**	**326**	P	Pn	21 32 37.7	+1.8
JOU				S	Sb	21 33 03.0	-1.4
JFY	**Yanaizu**	**2.03**	**291**	P	Pn	21 32 38.1	+1.8
JAG	**Ashikaga**	**2.14**	**263**	P	Pn	21 32 39.1	+1.3
BSO1	**Boso 1**	**2.24**	**204**	P	Pn	21 32 40.3	+1.8
BSO1				*eS*	Sb	21 33 07.5	-2.5
JMK	**Ichinoseki**	**2.34**	**343**	P	Pn	21 32 42.4	+1.9
JMK				*eS*	Sn	21 33 10.6	+2.3
MAT	**Matsushiro**	**3.13**	**268**	P	Pn	21 32 54.2	+2.8
MAT				S	Sb	21 33 32.6	-4.1

IDC 26 21:38:26.5±2.1, 6.55S×129.56E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/24, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=54.6km s-min=31.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.87**	**238**	Pn	Pn	21 40 09.3	+0.7
	7.2nm,0.3s,baz=105,slow=16,SNR=12						
BATI				Sn	Sn	21 41 14.7	-13
	4.3nm,0.3s,baz=72,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**14.10**	**161**	Pn	Pn	21 41 48.1	+0.4
	0.1nm,0.3s,baz=342,slow=13,SNR=3.3						
WRA				Sn	Sn	21 44 08.8	-16
	0.3nm,0.3s,baz=332,slow=25,SNR=7.1						
ASAR	**Alice Springs**	**17.52**	**167**	Pn	Pn	21 42 31.6	-0.9
	0.1nm,0.3s,baz=339,slow=9.4,SNR=5.5						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	21 49 25.1	-0.1
	0.3nm,0.5s,baz=112,slow=6.7,SNR=7.1						

DJA 26 21:42:17.5±1.1, 7°S±10°×10°5E±°, h20km±7km, M4.0/13, mb4.4/1, MLv3.8/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.51**	**24**	P	Pb	21 42 27.3	-0.4
SKJI	**Sukabumi**	**1.06**	**86**	P	Pb	21 42 37.0	-0.2
SBJI	**Serang**	**1.15**	**34**	P	Pb	21 42 41.8	+3.2
CNJI	**Cibinong**	**1.64**	**98**	P	Pn	21 42 44.7	-0.5
CNJI				S	Sn	21 43 05.4	-0.4
KASI	**Kota Agung**	**1.83**	**327**	P	Pn	21 42 47.1	-0.8
LEM	**Lembang**	**2.13**	**83**	P	Pb	21 42 54.9	-0.7
KLI	**Kotabumi**	**2.29**	**344**	P	Pn	21 42 55.1	+0.9
CISI	**Cisompet, Garu**	**2.35**	**102**	P	Pn	21 42 54.6	-0.5
CISI				S	Sn	21 43 22.3	-1.2
LWLI	**Liwa**	**2.50**	**325**	P	Pn	21 42 56.7	-0.4
MDSI	**Maura Dua**	**2.89**	**333**	P	Pn	21 43 02.0	-0.4
CMJI	**Cimerak**	**3.02**	**104**	P	Pn	21 43 04.6	+0.4
KPJI	**Karang Pucung**	**3.42**	**94**	P	Pn	21 43 11.8	+2.0
TPI	**Tanjungpandan**	**4.80**	**27**	P	Pn	21 43 29.1	+0.3
UGM	**Wanagama**	**5.06**	**100**	P	Pn	21 43 31.0	-1.3

*SZGRF **26** 22:11:30.5, 19.46S×177.97W, h33km, Fiji Islands region*
*BJI **26** 22:12:29.8, 17.40S×178.11W, h525km, mB5.0/17, mb4.5/36*
*ISCJB **26** 22:12:31.3±0.6, 17.75S±0.05×178.80W±0.03, h527km±7km, mb4.6/88, Error ellipse: s-maj=7.7km s-min=4.0km az=155.0*
*MOS **26** 22:12:32.4±1.1, 17.62S×178.75W, h539km, mb4.9/23, Error ellipse: s-maj=10.4km s-min=8.8km az=143.1*
*NEIC **26** 22:12:33.6±0.6, 17.76S×178.73W, h552km±6km, mb4.8/55, Error ellipse: s-maj=7.1km s-min=4.0km az=147.0*
*IDC **26** 22:12:34.5±0.8, 17.76S×178.72W, h558km±8km, mb4.0/22, mb1 4.2/24, mb1mx4.1/35, mbtmp4.9/24, Error ellipse: s-maj=12.6km s-min=9.7km az=160.0*

ISC 26 22:12:32.9±0.3, 17.85S±0.05×178.61W±0.05, h546km±3km, h547km:pP-P, n923, σ1§18/973, mb4.7/88, 211C-177D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.65**	**60**	*eP*	**P**	**22 14 26.2**	**-1.0**
AFI				S	**S**	**22 15 57.5**	**-3.4**
AFI	**Afiamalu**	**7.65**	**60**	P	**P**	**22 14 26.3**	**-1.0**
	72nm,0.3s,baz=217,slow=5.2,SNR=15						
AFI				S	**S**	**22 15 57.5**	**-3.4**
	12nm,0.3s,baz=152,slow=17,SNR=2.7						
NIUE	**Niue**	**8.33**	**100**	⇓P	**P**	**22 14 35.0**	**+1.2**
	baz=8.2,SNR=12						
RAO	**Raoul Island**	**11.37**	**177**	S	**S**	**22 17 07.5**	**-2.2**
RAO	**Raoul Island**	**11.37**	**177**	S	**S**	**22 17 07.4**	**-2.2**
	154nm,0.3s,baz=90,slow=20,SNR=4.2						
DZM	**Mont Dzumac**	**14.67**	**251**	*e*LR	LR	22 17 59.1	
	452nm,27.4s						
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**22 15 38.5**	**-0.7**
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**22 15 38.5**	**-0.7**
	7.4nm,0.3s,baz=142,slow=23,SNR=36						
NOUC	**Port Laguerre**	**14.80**	**251**	*eP*	P	22 15 47.1	+6.7
KNTN	**Kanton**	**16.44**	**25**	*eP*	**P**	**22 15 56.0**	**-0.8**
	2um,2.6s						
NFK	**Norfolk Island**	**16.61**	**225**	⇑P	**P**	**22 16 00.4**	**+2.2**
	baz=17,SNR=4.4						
RAR	**Rarotonga**	**18.06**	**104**	P	**P**	**22 16 12.5**	**+0.9**
RAR	**Rarotonga**	**18.06**	**104**	P	**P**	**22 16 12.5**	**+0.9**
	1.9nm,0.3s,baz=270,slow=5.2,SNR=3.3						
OUZ	**Omahuta**	**18.64**	**200**	*eP*	**P**	**22 16 20.1**	**+3.5**
	115nm,1.4s						
URZ	**Urewera**	**20.68**	**190**	*eP*	**P**	**22 16 33.8**	**-1.3**
	28nm,0.5s						
URZ				S	**S**	**22 19 47.9**	**-3.2**
URZ	**Urewera**	**20.68**	**190**	P	**P**	**22 16 33.3**	**-1.8**
	13nm,0.5s,baz=275,slow=2.5,SNR=21						
URZ				S	**S**	**22 19 47.9**	**-3.2**
	3.3nm,0.5s,baz=72,slow=20,SNR=3.5						
BKZ	**Black Stump Fm**	**21.66**	**190**	*eP*	**P**	**22 16 44.0**	**-0.1**
	11nm,0.5s						
RPZ	**Rata Peaks**	**27.23**	**197**	*eP*	**P**	**22 17 33.6**	**+0.4**
	109nm,2.0s						
PPT2	**Papeete2**	**27.64**	**94**	*e*LR	LR	22 24 03.4	
	192nm,24.5s						
TBI	**Tubuai**	**27.80**	**106**	*e*LR	LR	22 23 55.7	
	175nm,27.2s						
EIDS	**Eidsvold**	**29.11**	**250**	*eP*	**P**	**22 17 49.7**	**-0.3**
	38nm,0.8s						
EIDS	**Eidsvold**	**29.11**	**250**	⇑P	**P**	**22 17 49.5**	**-0.4**
	baz=29,SNR=11						
ARMA	**Armidale**	**29.81**	**240**	*eP*	**P**	**22 17 57.3**	**+1.2**
	43nm,0.6s						
ARMA	**Armidale**	**29.81**	**240**	⇑P	**P**	**22 17 56.8**	**+0.7**
	baz=30,SNR=40						
WHZ	**Wether Hill Ro**	**30.12**	**199**	*eP*	**P**	**22 17 59.5**	**+1.1**
MGCD	**Mangrove Creek**	**31.17**	**235**	⇓P	**P**	**22 18 08.7**	**+1.1**
	baz=31,SNR=23						
RMQ	**Roma**	**31.35**	**248**	P	**P**	**22 18 10.2**	**+1.0**
	baz=32,SNR=9.1						
CTA	**Charters Tower**	**33.27**	**260**	P	**P**	**22 18 25.6**	**0.0**
CTA	**Charters Tower**	**33.27**	**260**	P	**P**	**22 18 25.6**	**0.0**
	46nm,1.0s,baz=91,slow=11,SNR=23						
CTAO	**Charters Tower**	**33.27**	**260**	*eP*	**P**	**22 18 25.7**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,42nm,0.9s						
CTAO	**Charters Tower**	**33.27**	**260**	*eP*	**P**	**22 18 25.7**	**+0.1**
	comp=Z,42nm,0.9s						
CNB	**Canberra Magne**	**33.31**	**232**	⇓P	**P**	**22 18 26.7**	**+0.9**
	baz=33,SNR=42						
CAN	**Canberra**	**33.59**	**232**	*eP*	**P**	**22 18 28.0**	**-0.2**
CAN				pmax	pmax		
	comp=Z,37nm,1.1s						
CAN	**Canberra**	**33.59**	**232**	*eP*	**P**	**22 18 28.0**	**-0.2**
	comp=Z,37nm,1.1s						
MILA	**Mila**	**34.18**	**229**	⇓P	**P**	**22 18 34.1**	**+1.0**
	baz=34,SNR=18						
PMG	**Port Moresby**	**34.26**	**280**	*eP*	**P**	**22 18 34.8**	**+0.8**
	comp=Z,51nm,0.8s						
PMG	**Port Moresby**	**34.26**	**280**	P	**P**	**22 18 34.8**	**+0.8**
	comp=Z,54nm,0.8s,baz=90,slow=7.5,SNR=13						
PMG	**Port Moresby**	**34.26**	**280**	⇓P	**P**	**22 18 34.9**	**+0.9**
	baz=34,SNR=7.7						
CMSA	**Cobar Meteorol**	**35.02**	**240**	⇓P	**P**	**22 18 40.7**	**+0.6**
	baz=35,SNR=79						
QLP	**Quilpie**	**35.38**	**249**	⇓P	**P**	**22 18 43.3**	**+0.1**
	baz=36,SNR=34						
COEN	**Coen**	**36.92**	**270**	*eP*	**P**	**22 18 56.9**	**+0.8**
	comp=Z,308nm,0.8s						
COEN	**Coen**	**36.92**	**270**	⇓P	**P**	**22 18 56.4**	**+0.4**
	baz=37,SNR=29						
TOO	**Toolangi**	**37.06**	**231**	P	**P**	**22 18 58.0**	**+1.1**
	baz=37,SNR=27						
STKA	**Stephens Creek**	**38.49**	**241**	*eP*	**P**	**22 19 09.5**	**+0.9**
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**22 19 09.6**	**+0.9**
	comp=Z,33nm,0.5s,baz=85,slow=9.3,SNR=157						
STKA	**Stephens Creek**	**38.49**	**241**	⇓P	**P**	**22 19 09.2**	**+0.5**
	baz=39,SNR=136						
QIS	**Mount Isa**	**39.48**	**259**	⇓P	**P**	**22 19 15.9**	**-1.0**
	baz=40,SNR=3.0						
ARPS	**Mount Arapiles**	**39.53**	**233**	⇓P	**P**	**22 19 17.1**	**+0.2**
	baz=40,SNR=12						
HTT	**Hallett**	**41.01**	**239**	P	**P**	**22 19 29.6**	**+0.7**
	baz=41,SNR=32						
JAY	**Jayapura**	**42.71**	**286**	P	**P**	**22 19 42.4**	**-0.2**
JAY	**Jayapura**	**42.71**	**286**	P	**P**	**22 19 42.4**	**-0.2**
	comp=Z,24nm,0.7s,baz=179,slow=7.1,SNR=8.1						
BBOO	**Buckleboo**	**43.27**	**241**	*eP*	**P**	**22 19 47.1**	**+0.5**
	comp=Z,1μm,0.8s						
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**22 19 47.0**	**+0.5**
	baz=43,SNR=115						
WRAB	**Tennant Creek**	**44.45**	**260**	*d iP*	**P**	**22 19 54.9**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,94nm,1.2s						
WRAB	**Tennant Creek**	**44.45**	**260**	*eP*	**P**	**22 19 55.0**	**-0.9**
	comp=Z,23nm,0.7s						
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**22 19 55.2**	**-0.8**
WRA				PcP	**PcP**	**22 21 27.1**	**-0.6**
WRA				ScP	**ScP**	**22 24 30.6**	**+2.6**
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**22 19 55.2**	**-0.8**
	comp=Z,14nm,0.6s,baz=96,slow=6.9,SNR=247						
WRA				PcP	**PcP**	**22 21 27.1**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=97,slow=3.4,SNR=5.6						
WRA				ScP	**ScP**	**22 24 30.6**	**+2.6**
	comp=Z,2.0nm,0.9s,baz=80,slow=4.0,SNR=5.1						
ASAR	**Alice Springs**	**44.62**	**254**	PcP	**PcP**	**22 21 28.2**	**-0.1**
ASAR				ScP	**ScP**	**22 24 31.0**	**+2.3**
ASAR	**Alice Springs**	**44.62**	**254**	PcP	**PcP**	**22 21 28.2**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=95,slow=4.9,SNR=11						
ASAR				ScP	**ScP**	**22 24 31.0**	**+2.3**
	comp=Z,2.5nm,0.7s,baz=108,slow=4.6,SNR=7.6						
KDU	**Kakadu**	**47.37**	**269**	P	**P**	**22 20 17.8**	**-0.4**
	baz=48,SNR=7.8						
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**22 20 26.8**	**-0.6**
	baz=49,SNR=7.2						
WRKA	**Warakurna**	**49.68**	**252**	P	**P**	**22 20 35.3**	**0.0**
	baz=50,SNR=222						
FORT	**Forrest**	**49.86**	**245**	*eP*	**P**	**22 20 36.0**	**-0.5**
FORT	**Forrest**	**49.86**	**245**	P	**P**	**22 20 36.3**	**-0.1**
	baz=50,SNR=22						
KNRA	**Kununurra**	**50.31**	**264**	P	**P**	**22 20 39.5**	**-0.4**
	baz=50,SNR=19						
SOEI	**Soe**	**55.88**	**270**	*eP*	**P**	**22 21 20.9**	**+1.1**
	comp=Z,49nm,0.7s						
SOEI	**Soe**	**55.88**	**270**	P	**P**	**22 21 20.8**	**+1.1**
	baz=56,SNR=4.8						
MEEK	**Meekatharra**	**58.28**	**249**	P	**P**	**22 21 35.2**	**-0.7**
	baz=58,SNR=7.3						
MORW	**Morawa**	**60.33**	**246**	⇓P	**P**	**22 21 48.8**	**-0.7**
	baz=60,SNR=4.5						
VNDA	**Vanda**	**60.48**	**185**	P	**P**	**22 21 51.0**	**+1.4**
VNDA	**Vanda**	**60.48**	**185**	P	**P**	**22 21 51.0**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=34,slow=4.6,SNR=6.1						
JAGI	**Jajag, Banyuwa**	**65.85**	**269**	*eP*	**P**	**22 22 23.6**	**-1.5**
JAGI	**Jajag, Banyuwa**	**65.85**	**269**	⇓P	**P**	**22 22 23.6**	**-1.5**
	baz=66,SNR=4.9						
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	**P**	**22 22 35.2**	**-1.1**
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	**P**	**22 22 35.2**	**-1.1**
	comp=Z,7.9nm,0.5s,baz=151,slow=5.6,SNR=32						
MAJO	**Matsushiro**	**67.75**	**323**	*c iP*	**P**	**22 22 35.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,108nm,1.2s						
MAJO	**Matsushiro**	**67.75**	**323**	*eP*	**P**	**22 22 35.9**	**-0.5**
	comp=Z,1.4nm,0.6s						
MAT	**Matsushiro**	**67.75**	**323**	P	**P**	**22 22 35.5**	**-0.9**
JNU	**Nakatsue**	**69.97**	**316**	P	**P**	**22 22 49.4**	**-0.4**
JNU	**Nakatsue**	**69.97**	**316**	P	**P**	**22 22 49.4**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=135,slow=1.4,SNR=4.6						
ASAJ	**Asahikawa**	**71.14**	**332**	P	**P**	**22 22 57.1**	**+0.7**
ASAJ	**Asahikawa**	**71.14**	**332**	P	**P**	**22 22 57.1**	**+0.7**
	comp=Z,7.5nm,0.4s,baz=208,slow=9.5,SNR=6.2						
CISI	**Cisompet, Garu**	**72.14**	**268**	⇓P	**P**	**22 23 01.1**	**-1.9**
	baz=72,SNR=3.0						
QSPA	**South Pole Qui**	**72.20**	**180**	*eP*	**P**	**22 23 02.9**	**+0.3**
	comp=Z,17nm,0.9s						
KSM	**Kuching**	**72.49**	**277**	*eP*	**P**	**22 23 04.0**	**-1.0**
	comp=Z,24nm,1.0s						
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**	**22 23 09.9**	**-0.5**
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**	**22 23 09.8**	**-0.5**
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**	**22 23 09.8**	**-0.5**
	comp=Z,18nm,0.8s,baz=130,slow=9.2,SNR=12						
KSRS	**Korea Array**	**74.53**	**318**	P	**P**	**22 23 15.2**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=134,slow=5.7,SNR=8.3						
KSAR	**Wonju Array Be**

GLA	**Glamis**	79.16	50	⇑P		P		22 23 43.1	+1.5
	baz=79,SNR=5.4								
GRAC	**Grapevine Rang**	79.38	46	⇓P		P		22 23 44.1	+1.6
	baz=80								
I03D	**Drain, OR**	79.40	37	⇑P		P		22 23 44.0	+1.5
	baz=80								
GMRC	**Granite Mounta**	79.42	48	⇓P		P		22 23 44.1	+1.1
	baz=80,SNR=9.5								
IRM	**Iron Mountain**	79.48	49	⇑P		P		22 23 44.6	+1.5
	baz=80,SNR=13								
NVAR	**Mina Array Bea**	79.51	44	P		P		22 23 44.3	+0.8
NVAR				pP		pP		22 25 44.0	+4.0
NVAR	**Mina Array Bea**	79.51	44	P		P		22 23 44.3	+0.8
	comp=Z,12nm,0.8s,baz=226,slow=8.9,SNR=89								
NVAR				pP		pP		22 25 44.0	+4.0
	comp=Z,2.7nm,1.1s,baz=239,slow=8.8,SNR=4.7								
SHOC	**Shoshone**	79.56	47	⇑P		P		22 23 44.7	+1.2
	baz=80,SNR=6.4								
TUQ	**Turquoise Moun**	79.57	48	⇓P		P		22 23 44.9	+1.1
	baz=80,SNR=14								
NV11	**Mina Array Sit**	79.61	44	eP		P		22 23 44.2	+0.2
Y12C	**Blythe**	79.73	50	⇑P		P		22 23 46.2	+1.7
	baz=80,SNR=6.7								
113A	**Mohawk Valley,**	79.80	51	⇑P		P		22 23 46.4	+1.6
	baz=80								
CN2	**Changchun**	79.86	322	eP		P		22 23 45.5	+0.6
CN2				pmax		pmax			
	comp=Z,30nm,1.2s								
LDFC	**Landfair**	79.96	48	eP		P		22 23 47.6	+1.8
KLR	**Kul'dur**	79.97	330	eP		P		22 23 41.7	-3.6
TPH	**Tonopah**	80.04	45	eP		P		22 23 47.5	+1.3
TPH	**Tonopah**	80.04	45	eP		P		22 23 47.5	+1.3
214A	**Organ Pipe Nat**	80.13	52	eP		P		22 23 46.4	-0.2
	comp=Z,30nm,1.4s								
214A	**Organ Pipe Nat**	80.13	52	⇑P		P		22 23 48.4	+1.7
	baz=80,SNR=8.7								
MOD	**Modoc**	80.16	40	eP		P		22 23 46.3	-0.4
	comp=Z,52nm,1.3s								
PDMCI	**Parker Dam,Lak**	80.27	49	⇓P		P		22 23 48.6	+1.4
	baz=80,SNR=5.9								
J05D	**Fort Rock, OR**	80.39	39	⇓P		P		22 23 49.9	+2.0
	baz=81								
SHPR	**Sheep Range**	80.64	47	eP		P		22 23 49.8	+0.5
	comp=Z,36nm,1.5s								
H04A	**Detroit Lake**	80.66	37	eP		P		22 23 49.3	+0.2
Z14A	**Wintersburg**	80.69	51	⇑P		P		22 23 51.3	+1.8
	baz=81								
RSO	**Redoubt South**	80.79	13	eP		P		22 23 49.0	-0.6
W13A	**Hualapai Mount**	80.84	49	⇑P		P		22 23 52.1	+1.6
	baz=81								
PINOR	**Pine Mountain**	80.91	38	eP		P		22 23 51.3	+1.0
	comp=Z,50nm,1.2s								
Y14A	**Wickenburg**	80.92	50	⇓P		P		22 23 52.1	+1.4
	baz=81,SNR=6.9								
I05D	**Terrebonne, OR**	80.95	38	⇓P		P		22 23 52.1	+1.5
	baz=81								
R11A	**Troy Canyon, C**	81.29	45	⇓P		P		22 23 53.8	+1.1
	baz=82								
BMN	**Battle Mountai**	81.29	43	eP		P		22 23 52.2	-0.4
BMN				pmax		pmax			
	comp=Z,42nm,1.3s								
BMN	**Battle Mountai**	81.29	43	eP		P		22 23 52.2	-0.4
	comp=Z,42nm,1.3s								
VFP	**Flag Point**	81.45	37	P		P		22 23 54.2	+0.9
FL2	**Flat Top 2**	81.47	36	P		P		22 23 54.5	+1.1
WVOR	**Wild Horse Val**	81.49	40	eP		P		22 23 53.9	+0.4
WVOR				pmax		pmax			
	comp=Z,36nm,1.0s								
WVOR	**Wild Horse Val**	81.49	40	eP		P		22 23 53.9	+0.4
	comp=Z,36nm,1.0s								
G05D	**Wamic, OR**	81.49	37	⇑P		P		22 23 54.6	+1.3
	baz=82								
GAMB	**Gambell**	81.54	3	eP		P		22 23 52.5	-0.5
	comp=Z,9.5nm,0.6s								
TDL	**Tradedollar La**	81.64	36	P		P		22 23 55.3	+1.1
RC01	**Rabbit Creek A**	82.01	14	eP		P		22 23 54.2	-1.3
	comp=Z,38nm,1.1s								
X16A	**Lo Mia Camp, P**	82.29	50	⇓P		P		22 23 59.7	+1.8
	baz=82,SNR=36								
JBO	**Jordan Butte**	82.47	37	P		P		22 23 59.4	+1.1
319A	**Douglas**	82.54	54	⇑P		P		22 24 01.2	+2.0
	baz=83,SNR=15								
PMR	**Palmer**	82.59	14	eP		P		22 23 57.2	-1.2
PMR				pmax		pmax			
	comp=Z,13nm,0.6s								
PMR	**Palmer**	82.59	14	eP		P		22 23 57.2	-1.2
	comp=Z,13nm,0.6s								
U15A	**North Rim**	82.62	48	⇓P		P		22 24 01.3	+1.6
	baz=83,SNR=49								
NAC	**Naches**	82.64	36	P		P		22 23 60.0	+0.8
MCW	**Mount Constitu**	82.71	34	P		P		22 24 00.5	+1.0
MCW	**Mount Constitu**	82.71	34	P		P		22 24 00.5	+1.0
WUAZ	**Wupatki**	82.85	49	eP		P		22 24 00.8	+0.2
	comp=Z,32nm,1.1s								
WUAZ	**Wupatki**	82.85	49	⇑P		P		22 24 02.3	+1.6
	baz=83,SNR=21								
BMRM	**Bremner River**	83.16	16	eP		P		22 24 00.5	-0.9
	comp=Z,11nm,0.4s								
HAWA	**Hanford**	83.17	37	eP		P		22 24 02.0	+0.2
	comp=Z,51nm,1.3s								
ETW	**Emtiat**	83.42	35	P		P		22 24 03.5	+0.3
X18A	**Snowflake**	83.44	51	⇓P		P		22 24 05.2	+1.5
	baz=84								
TNA	**Tin City**	83.55	4	eP		P		22 24 02.7	-0.4
	comp=Z,67nm,1.4s								
BJI	**Beijing**	83.61	315	P		P		22 24 04.3	+0.2
BJI				S		S		22 33 45.0	+3.8
BJI				pmax		pmax			
	comp=Z,18nm,1.3s								
BJI				pmax		pmax			
	comp=Z,150nm,3.9s								
BMO	**Blue Mountains**	83.62	39	eP		P		22 24 04.2	0.0
BMO				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BMO	**Blue Mountains**	83.62	39	eP		P		22 24 04.2	0.0
	comp=Z,4.2nm,0.8s								
MVU	**Marysvale**	83.67	46	eP		P		22 24 05.8	+1.1
	comp=Z,23nm,1.3s								
WTV	**Waterville**	83.68	35	P		P		22 24 04.7	+0.4
NLW	**Nelson Butte**	83.69	35	P		P		22 24 05.0	+0.5
PSI	**Prapat**	83.69	275	P		P		22 24 04.5	-0.8
PSI	**Prapat**	83.69	275	P		P		22 24 04.5	-0.8
	comp=Z,4.1nm,0.3s,baz=158,slow=2.4,SNR=6.2								
MFID	**Camas Ranch**	83.75	41	eP		P		22 24 04.9	0.0
	comp=Z,30nm,1.1s								
W18A	**Petrified Fore**	83.86	50	⇑P		P		22 24 07.1	+1.4
	baz=84								
KTH	**Kantishna Hill**	83.96	12	eP		P		22 24 03.2	-2.2
	comp=Z,15nm,0.8s								
TRF	**Thorofare Moun**	84.00	12	eP		P		22 24 04.5	-1.2
	comp=Z,43nm,0.8s								
DUG	**Dugway**	84.07	45	⇓P		P		22 24 08.0	+1.4
	baz=84								
ENH	**Enshi**	84.08	304	eP		P		22 24 06.3	-0.5
	comp=Z,26nm,1.1s								
121A	**Cookes Peak, D**	84.19	53	eP		P		22 24 08.1	+0.7
	comp=Z,7.5nm,0.9s								
121A	**Cookes Peak, D**	84.19	53	⇓P		P		22 24 09.1	+1.7
	baz=84,SNR=7.0								
OD2	**Odessa Site #2**	84.20	36	P		P		22 24 07.8	+0.9
MCK	**McKinley**	84.53	13	eP		P		22 24 06.6	-1.5
MCK				pmax		pmax			
	comp=Z,33nm,0.9s								
MCK	**McKinley**	84.53	13	eP		P		22 24 06.6	-1.5
	comp=Z,33nm,0.9s								
PAX	**Paxson**	84.64	15	eP		P		22 24 07.6	-1.2
PAX				pmax		pmax			
	comp=Z,11nm,0.9s								
PAX	**Paxson**	84.64	15	eP		P		22 24 07.6	-1.2
	comp=Z,11nm,0.9s								
HLID	**Hailey**	84.71	41	eP		P		22 24 10.2	+0.5
	comp=Z,20nm,1.1s								
HLID	**Hailey**	84.71	41	⇓P		P		22 24 11.1	+1.4
	baz=85,SNR=24								
TMUT	**Trail Mountain**	84.73	46	eP		P		22 24 10.1	0.0
	comp=Z,19nm,1.2s								
GYA	**Guiyang**	84.84	300	eP		P		22 24 11.0	+0.3
GYA				pP		pP		22 26 07.5	-1.6
GYA				sP		sP		22 27 02.0	-2.4
GYA				PP		PP		22 27 38.5	+1.1
GYA				SKS		SKSac		22 33 42.3	-1.1
GYA				S		S		22 33 54.3	+0.2
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
Z22A	**Elephant Butte**	85.12	53	⇑P		P		22 24 13.4	+1.5
	baz=85,SNR=5.8								
DOT	**Dot Lake**	85.56	15	eP		P		22 24 12.4	-0.7
	comp=Z,20nm,0.9s								
NEW	**Newport**	85.58	36	⇓P		P		22 24 14.4	+0.9
	baz=86								
425A	**Indio Mountain**	85.64	56	⇓P		P		22 24 16.1	+1.6
	baz=86,SNR=12								
MNTX	**Cornudas Mount**	85.70	55	eP		P		22 24 15.4	+0.9
	comp=Z,8.5nm,1.0s								
COLA	**College**	85.76	13	⇓P		P		22 24 13.1	-0.9
COLA				pmax		pmax			
	comp=Z,104nm,1.2s								
COLA	**College**	85.76	13	eP		P		22 24 12.6	-1.4
	comp=Z,20nm,0.9s								
626A	**Big Bend Ranch**	85.83	57	⇓P		P		22 24 17.1	+1.8
	baz=86,SNR=26								
ILAR	**Eielson Array**	85.88	13	P		P		22 24 13.2	-1.3
ILAR				pP		pP		22 26 15.6	+2.2
ILAR				PP		PP		22 27 43.0	-1.7
ILAR				PKKPbc		PKKPdf		22 42 10.8	+3.3
ILAR	**Eielson Array**	85.88	13	P		P		22 24 13.2	-1.3
	comp=Z,4.3nm,0.4s,baz=222,slow=5.3,SNR=157								
ILAR				pP		pP		22 26 15.6	+2.2
	comp=Z,1.8nm,1.1s,baz=239,slow=5.1,SNR=4.4								
ILAR				PP		PP		22 27 43.0	-1.7
	comp=Z,0.7nm,0.9s,baz=209,slow=9.1,SNR=3.2								
ILAR				PKKPbc		PKKPdf		22 42 10.8	+3.3
	comp=Z,0.2nm,0.5s,baz=342,slow=1.5,SNR=4.7								
526A	**Mary Lane Ranc**	86.07	57	⇑P		P		22 24 18.0	+1.5
	baz=86,SNR=14								
XAN	**Xi'an**	86.08	307	P		P		22 24 17.0	+0.7
XAN				pmax		pmax			
	comp=Z,9.0nm,1.2s								
Y23A	**Lovelace Mesa,**	86.09	53	⇑P		P		22 24 17.6	+1.0
	baz=86,SNR=6.3								
TXAR	**Lajitas Array**	86.12	58	P		P		22 24 18.5	+1.8
TXAR	**Lajitas Array**	86.12	58	P		P		22 24 18.5	+1.8
	comp=Z,11nm,0.7s,baz=224,slow=6.0,SNR=96								
ANMO	**Albuquerque**	86.21	52	eP		P		22 24 17.6	+0.5
	comp=Z,11nm,1.1s								
X23A	**Hourglass Bar**	86.26	52	⇓P		P		22 24 18.3	+0.9
	baz=86,SNR=5.4								
V22A	**San Miguel Ran**	86.28	51	⇑P		P		22 24 18.8	+1.3
	baz=86								
225A	**Deer Hill, Car**	86.30	55	⇑P		P		22 24 19.2	+1.6
	baz=86,SNR=6.0								
MCMT	**McKenzie Canyo**	86.32	41	P		P		22 24 18.6	+1.1
426A	**McDonald Obser**	86.35	56	⇓P		P		22 24 19.4	+1.5
	baz=86,SNR=13								
BILL	**Bilibino**	86.36	354	⇓P		P		22 24 16.7	-0.1
BILL				e*PP		pP		22 26 17.3	+1.5
BILL				e				22 27 47.0	
BILL				pmax		pmax			
	comp=Z,22nm,1.3s								
BILL	**Bilibino**	86.36	354	eP		P		22 24 16.4	-0.3
	comp=Z,24nm,1.0s								
Z24A	**Sheeppen Canyo**	86.37	53	⇓P		P		22 24 19.3	+1.4
	baz=86								
627A	**Terlingua Ranc**	86.39	58	⇑P		P		22 24 20.0	+2.0
	baz=87,SNR=28								
527A	**Woodward Ranch**	86.48	57	⇑P		P		22 24 19.9	+1.5
	baz=87,SNR=16								
U22A	**Llaves**	86.52	50	⇓P		P		22 24 19.6	+1.1
	baz=87								
W23A	**Werner Place,**	86.53	52	⇑P		P		22 24 20.4	+1.8
	baz=87								
Y24A	**Capitan**	86.56	53	⇑P		P		22 24 19.8	+1.0
	baz=87,SNR=17								
125A	**Gardner Draw,**	86.65	54	⇑P		P		22 24 20.6	+1.5
	baz=87								
326A	**Caldwell Ranch**	86.65	56	⇑P		P		22 24 20.5	+1.3
	baz=87								
MSO	**Missoula**	86.66	38	⇓P		P		22 24 19.4	+0.6
	baz=87								
V23A	**Ortiz Mt. (NFS**	86.75	51	⇓P		P		22 24 20.8	+1.2
	baz=87								
226B	**Tecolote Peak,**	86.80	55	⇓P		P		22 24 20.7	+0.9
	baz=87,SNR=5.9								
628A	**Black Gap, Mar**	86.81	58	⇑P		P		22 24 21.6	+1.7
	baz=87,SNR=17								
Z25A	**Roswell**	86.85	54	⇓P		P		22 24 20.8	+0.7
	baz=87								
427A	**Hayter Ranch,**	86.92	56	⇑P		P		22 24 22.1	+1.7
	baz=87,SNR=12								
U23A	**El Rito**	86.98	50	⇓P		P		22 24 21.7	+0.9
	baz=87,SNR=5.4								
DAWY	**Dawson**	87.09	16	eP		P		22 24 19.8	-0.6
W24A	**Lazy 6 Ranch,**	87.10	52	⇓P		P		22 24 22.3	+0.9
	baz=87,SNR=5.4								
S22A	**4UR Ranch, Cre**	87.11	49	⇑P		P		22 24 22.8	+1.4
	baz=87,SNR=10								
Y25A	**Mesa, Roswell**	87.12	53	⇓P		P		22 24 22.2	+0.8
	baz=87,SNR=6.4								
126A	**Clayton Basin,**	87.13	55	⇑P		P		22 24 22.4	+1.0
	baz=87								
528A	**Cox Ranch, San**	87.15	57	⇓P		P		22 24 23.2	+1.6
	baz=87,SNR=9.0								
O20A	**White River Ci**	87.15	46	⇓P		P		22 24 22.6	+1.2
	baz=87								
QLMT	**Earthquake Lak**	87.20	41	eP		P		22 24 22.5	+0.9
	comp=Z,0.9nm,0.7s								
EGAK	**Eagle**	87.21	15	eP		P		22 24 20.4	-0.4
	comp=Z,5.1nm,0.8s								
I17A	**Pilgrim Ck.**	87.31	42	⇑P		P		22 24 23.5	+1.4
	baz=88,SNR=14								
COLD	**Coldfoot**	87.39	11	eP		P		22 24 21.5	-0.2
	comp=Z,18nm,1.0s								
Z26A	**Caprock**	87.41	54	⇑P		P		22 24 23.8	+1.1
	baz=88,SNR=5.7								
V24A	**Rampart Ranch,**	87.41	51	⇑P		P		22 24 24.3	+1.5
	baz=88								
YMR	**Madison River**	87.42	41	eP		P		22 24 23.1	+0.5
	comp=Z,47nm,1.3s								
BW06	**Boulder Array**	87.44	44	eP		P		22 24 22.7	-0.1
PDAR	**Pinedale Array**	87.44	44	P		P		22 24 23.4	+0.7
PDAR				pP		pP		22 26 26.1	+3.9
PDAR				PP		PP		22 27 56.1	-1.8
PDAR	**Pinedale Array**	87.44	44	P		P		22 24 23.4	+0.7
	comp=Z,8.0nm,0.5s,baz=196,slow=2.7,SNR=52								
PDAR				pP		pP		22 26 26.1	+3.9
	comp=Z,0.7nm,0.9s,baz=243,slow=11,SNR=3.4								
PDAR				PP		PP		22 27 56.1	-1.8
	comp=Z,1.9nm,1.2s,baz=243,slow=6.5,SNR=3.8								
N20A	**Spence Gulch,**	87.44	46	⇑P		P		22 24 23.8	+0.9
	baz=88,SNR=5.6								
428A	**Kincaid Ranch,**	87.44	57	⇑P		P		22 24 24.7	+1.8
	baz=88								
BOZ	**Bozeman (W)**	87.47	40	eP		P		22 24 22.5	-0.2
BOZ				pmax		pmax			
	comp=Z,31nm,1.5s								
BOZ	**Bozeman (W)**	87.47	40	eP		P		22 24 22.5	-0.2
	comp=Z,31nm,1.5s								
H17A	**Grant Village**	87.53	42	eP		P		22 24 23.7	+0.5
	comp=Z,19nm,1.0s								
H17A	**Grant Village**	87.53	42	⇑P		P		22 24 25.5	+2.2
	baz=88,SNR=13								
529A	**Stev Forest Ra**	87.59	57	⇓P		P		22 24 24.7	+1.2
	baz=88,SNR=6.3								
328A	**Wristen Ranch,**	87.59	56	⇓P		P		22 24 25.0	+1.5
	baz=88								
KMI	**Kunming**	87.64	297	P		P		22 24 25.3	+1.2
KMI				pmax		pmax			
	comp=Z,12nm,1.3s								
127A	**Arkansas Junct**	87.66	55	⇑P		P		22 24 25.6	+1.7
	baz=88								
Y26A	**Elida**	87.78	53	⇓P		P		22 24 25.8	+1.3
	baz=88								
W25A	**X Bar L Ranch,**	87.81	52	⇑P		P		22 24 25.4	+0.9
	baz=88								
T24B	**San Luis**	87.88	50	⇑P		P		22 24 26.4	+1.3
	baz=88								
P22A	**Eagle**	87.94	47	⇓P		P		22 24 26.6	+1.4
	baz=88								
J19A	**Crowheart**	88.00	43	⇓P		P		22 24 26.2	+0.9
	baz=88,SNR=13								
R23A	**Moffat**	88.02	49	⇑P		P		22 24 27.0	+1.4
	baz=88								
Z27A	**Tatum**	88.02	54	⇑P		P		22 24 26.5	+1.0
	baz=88								
429A	**Davenport Ranc**	88.04	57	⇑P		P		22 24 27.2	+1.6
	baz=88,SNR=15								
X26A	**CR and CF Fran**	88.04	53	⇑P		P		22 24 26.6	+1.0
	baz=88								
228A	**UT Block 9, Go**	88.05	55	⇑P		P		22 24 26.7	+1.1
	baz=88								
H18A	**Shoshone NF, C**	88.24	42	⇑P		P		22 24 27.6	+1.1
	baz=88								
Y27A	**Causey**	88.28	54	⇓P		P		22 24 27.8	+1.1
	baz=88								
W26A	**Owens Ranch, T**	88.29	52	⇑P		P		22 24 28.1	+1.4
	baz=88								
329A	**Wagon Wheel Ra**	88.29	56	⇑P		P		22 24 28.2	+1.4
	baz=88								
530A	**J-C Ranch, Com**	88.31	58	⇓P		P		22 24 28.3	+1.4
	baz=88,SNR=6.1								
128A	**Castleberry Fa**	88.32	55	⇓P		P		22 24 28.1	+1.2
	baz=88,SNR=5.4								
O22A	**Kremmling**	88.33	47	⇓P		P		22 24 27.9	+0.8
	baz=88,SNR=12								
I19A	**Meeteetse**	88.38	43	⇑P		P		22 24 28.3	+1.2
	baz=89,SNR=9.0								
P23A	**Jefferson**	88.50	48	⇓P		P		22 24 29.0	+1.1
	baz=89								
R24A	**Sanders Place,**	88.55	49	⇑P		P		22 24 29.4	+1.3
	baz=89								
MSTX	**Muleshoe**	88.61	54	⇓P		P		22 24 29.4	+1.1
	baz=89								
430A	**Baggett Ranch,**	88.62	57	⇑P		P		22 24 29.5	+1.2
	baz=89,SNR=5.6								
631A	**Perdido Creek**	88.65	59	⇑P		P		22 24 29.8	+1.3
	baz=89,SNR=17								
N22A	**Wattenberg Ran**	88.67	46	⇓P		P		22 24 30.1	+1.5
	baz=89,SNR=14								
J20A	**Shoshoni**	88.67	43	⇓P		P		22 24 29.7	+1.3
	baz=89,SNR=18								
H19A	**Powell**	88.67	42	⇑P		P		22 24 30.0	+1.6
	baz=89,SNR=8.3								
CMAR	**Chiang Mai Arr**	88.69	290	P		P		22 24 29.9	+1.0
CMAR				PKKPbc		PKKPbc		22 42 06.0	0.0
CMAR	**Chiang Mai Arr**	88.69	290	P		P		22 24 29.9	+1.0
	comp=Z,5.7nm,0.9s,baz=107,slow=2.8,SNR=34								
CMAR				PKKPbc		PKKPbc		22 42 06.0	0.0
	comp=Z,0.2nm,0.3s,baz=289,slow=4.7,SNR=5.4								
832A	**Faith Ranch, C**	88.74	60	⇑P		P		22 24 30.6	+1.7
	baz=89,SNR=12								
CHTO	**Chiang Mai**	88.80	290	eP		P		22 24 29.1	-0.3
CHTO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CHTO	**Chiang Mai**	88.80	290	eP		P		22 24 29.1	-0.3
	comp=Z,6.1nm,0.9s								
S25A	**Robets Cordova**	88.81	50	⇓P		P		22 24 30.2	+1.0
	baz=89								
U26A	**Atchley Ranch,**	88.81	51	⇓P		P		22 24 30.3	+1.1
	baz=89								
Q24A	**Divide**	88.82	48	⇓P		P		22 24 30.3	+0.9
	baz=89,SNR=5.6								
M22A	**Cedar Creek Ra**	88.82	46	⇑P		P		22 24 30.2	+0.9
	baz=89,SNR=6.0								
ISCO	**Idaho Springs**	88.83	47	⇑P		P		22 24 30.8	+1.4
	baz=89								
CD2	**Chengdu**	88.88	303	eP		P		22 24 30.5	+1.0
CD2				pP		pP		22 26 27.8	-1.5
CD2				sP		sP		22 27 21.0	-3.3
CD2				PP		PP		22 28 11.8	+2.6
CD2				SKS		SKSac		22 34 09.8	+2.5
CD2				S		S		22 34 33.0	+1.4
CD2				sS		sS		22 38 00.0	-5.2
CD2				SS		SS		22 40 43.0	+1.9
CD2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
I20A	**Worland**	88.90	43	⇑P		P		22 24 30.3	+0.9
	baz=89,SNR=11								
732A	**Laxson Ranch,**	88.90	59	⇑P		P		22 24 30.9	+1.3
	baz=89								
K21A	**Alcova**	88.91	44	⇑P		P		22 24 30.4	+0.9
	baz=89,SNR=11								
531A	**Rocksprings**	88.95	58	⇑P		P		22 24 31.3	+1.4
	baz=89,SNR=13								
N23A	**Red Feather La**	89.06	46	⇓P		P		22 24 31.6	+1.2
	baz=89,SNR=8.2								
933A	**Laredo**	89.08	61	⇓P		P		22 24 32.4	+1.9
	baz=89								
J21A	**Lysite**	89.08	44	⇑P		P		22 24 31.9	+1.5
	baz=89,SNR=18								
431A	**Sonora**	89.09	57	⇑P		P		22 24 31.8	+1.3
	baz=89								
230A	**Sterling City**	89.12	56	⇑P		P		22 24 31.9	+1.2
	baz=89								
Z29A	**Hungry Hill Ra**	89.17	55	⇓P		P		22 24 32.3	+1.5
	baz=89								
SYO	**Syowa Base**	89.17	193	⇑eP		P		22 24 28.4	-1.7
L22A	**Ellis Ranch, M**	89.20	45	⇑P		P		22 24 32.5	+1.6
	baz=89,SNR=11								
H20A	**Greybull**	89.22	42	⇓P		P		22 24 31.9	+1.0
	baz=89								
F19A	**Roth Farm, Mol**	89.23	41	⇑P		P		22 24 32.0	+1.1
	baz=89,SNR=5.9								
833A	**Chaparral WMA,**	89.23	60	⇑P		P		22 24 32.7	+1.6
	baz=89,SNR=5.4								
632A	**Uvalde**	89.33	59	⇑P		P		22 24 33.2	+1.6
	baz=90,SNR=8.8								
034A	**Hebbronville**	89.39	61	⇑P		P		22 24 34

R27A **Eads** 90.24 50 ⇓P P 22 24 36.8 +1.1
baz=90
232A **Coleman** 90.29 57 ⇑P P 22 24 36.6 +0.6
baz=90,SNR=5.3
T28A **Walsh** 90.30 51 ⇑P P 22 24 37.5 +1.4
baz=90
N25A **Grover** 90.31 47 ⇓P P 22 24 37.5 +1.4
baz=90
H22A **Clearmont** 90.33 43 ⇑P P 22 24 37.4 +1.4
baz=90
433A **Art** 90.33 58 ⇑P P 22 24 37.4 +1.2
baz=90,SNR=12
P26A **Davis Ranch, A** 90.34 48 ⇓P P 22 24 37.5 +1.3
baz=90
F21A **Absaloka Mine,** 90.36 42 ⇑P P 22 24 37.9 +1.8
baz=90
B19A **Brinkman Farms** 90.40 39 ⇓P P 22 24 37.8 +1.7
baz=91
Z31A **Sharp Cattle R** 90.41 55 ⇓P P 22 24 37.5 +1.0
baz=91
Y31A **Rekieta Farm,** 90.54 54 ⇑P P 22 24 38.2 +1.0
baz=91
ABTX **Abilene, Hawle** 90.55 56 ⇓P P 22 24 38.1 +0.9
baz=91,SNR=8.2
M25A **Palm-Egli Farm** 90.58 46 ⇑P P 22 24 38.8 +1.5
baz=91
534A **Blanco** 90.58 59 ⇑P P 22 24 38.6 +1.2
baz=91,SNR=8.1
333A **Richland Sprin** 90.62 57 ⇑P P 22 24 38.4 +0.8
baz=91,SNR=6.4
O26A **Horse Wrangler** 90.63 48 ⇑P P 22 24 39.0 +1.4
baz=91
C20A **Veseth Ranch,** 90.64 40 ⇓P P 22 24 38.7 +1.4
baz=91
SNAA **Sanae** 90.66 179 *e*P P 22 24 36.6 -0.4
comp=Z,7.2nm,0.5s
LZH **Lanzhou** 90.71 308 *e*P P
LZH pP **pP** 22 26 39.3 +1.2
LZH sP **sP** 22 27 32.0 -1.0
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.0s
A19A **Klindworth Far** 90.73 38 ⇑P P 22 24 38.9 +1.2
baz=91
V30A **Spur Ranch, Mi** 90.87 53 ⇑P P 22 24 39.9 +1.3
baz=91
P27A **Ficken Ranch,** 90.89 49 ⇓P P 22 24 39.9 +1.2
baz=91
F22A **Rosebud** 90.89 42 ⇑P P 22 24 39.5 +1.0
baz=91
N26A **Koester Ranch,** 90.92 47 ⇑P P 22 24 40.1 +1.2
baz=91
Z32A **Haskell** 90.92 55 ⇓P P 22 24 40.1 +1.3
baz=91,SNR=11
L25A **Engebretsen Ra** 90.92 46 ⇑P P 22 24 40.2 +1.4
baz=91,SNR=5.9
233A **Rising Star** 90.93 57 ⇓P P 22 24 39.7 +0.7
baz=91,SNR=5.9
635A **Leesville** 90.94 60 ⇑P P 22 24 40.6 +1.6
baz=91
D21A **La Casta Ranch** 90.97 40 ⇑P P 22 24 40.3 +1.5
baz=91
R28A **Tribune** 90.98 50 ⇓P P 22 24 40.2 +1.1
baz=91,SNR=5.9
X31A **McDonald Ranch** 91.00 54 ⇓P P 22 24 40.3 +1.0
baz=91
434A **Burnet** 91.02 58 ⇑P P 22 24 40.1 +0.7
baz=91,SNR=9.3
133A **Hamilton Ranch** 91.12 56 ⇓P P 22 24 41.1 +1.2
baz=91
A20A **Cobblestone Ra** 91.19 39 ⇑P P 22 24 41.1 +1.3
baz=91
Y32A **R-V Farms, Ver** 91.19 55 ⇓P P 22 24 41.4 +1.3
baz=91
O27A **Beecher Island** 91.20 48 ⇑P P 22 24 41.8 +1.7
baz=91
G23A **Biddle** 91.20 43 ⇓P P 22 24 41.4 +1.4
baz=91
334A **Lometa** 91.22 58 ⇓P P 22 24 41.1 +0.8
baz=91,SNR=9.5
W31A **Holland Ranch,** 91.23 53 ⇓P P 22 24 41.6 +1.3
baz=91
VNA2 **Neumayer--Watz** 91.24 177 P P 22 24 39.8 +0.1
LAO **LASA Array** 91.29 41 *e*P P 22 24 40.7 +0.3
E22A **Miles City** 91.36 41 ⇑P P 22 24 42.1 +1.5
baz=92
F23A **Volborg** 91.41 42 ⇓P P 22 24 42.2 +1.3
baz=92
X32A **Elmer** 91.46 54 ⇓P P 22 24 42.5 +1.2
baz=92
VNA1 **Neumayer--Stat** 91.47 177 P P 22 24 41.6 +0.9
Z33A **Whitaker Ranch** 91.47 56 ⇓P P 22 24 42.6 +1.1
baz=92
R29A **Marienthal** 91.50 50 ⇑P P 22 24 43.3 +1.8
baz=92
PLCA **Paso Flores** 91.51 134 P P 22 24 42.3 +0.7
PLCA **Paso Flores** 91.51 134 P P 22 24 42.3 +0.7
comp=Z,2.6nm,0.8s,baz=269,slow=3.5,SNR=4.7
D22A **Cohagen** 91.51 41 ⇑P P 22 24 42.7 +1.4
baz=92
V31A **Spring Creek L** 91.51 53 ⇑P P 22 24 43.3 +1.6
baz=92
J25A **Sunshine Ranch** 91.52 45 ⇓P P 22 24 42.7 +1.2
baz=92
234A **Clairette** 91.53 57 ⇑P P 22 24 42.9 +1.2
baz=92
B21A **Ellsworth Farm** 91.54 39 ⇑P P 22 24 42.7 +1.3
baz=92
H24A **Dirks Ranch, A** 91.56 43 ⇓P P 22 24 42.8 +1.1
baz=92
RSSD **Black Hills** 91.66 44 *e*P P 22 24 42.5 +0.2
RSSD **Black Hills** 91.66 44 *e*P P 22 24 42.5 +0.2
K26A **Motz Farm, Whi** 91.67 46 ⇑P P 22 24 43.4 +1.2
baz=92,SNR=6.2
S30A **Montezuma** 91.72 51 ⇑P P 22 24 43.7 +1.2
baz=92
U31A **Nine Bar Ranch** 91.72 52 ⇓P P 22 24 43.7 +1.2
baz=92
W32A **Sentinel** 91.74 54 ⇓P P 22 24 43.9 +1.3
baz=92,SNR=5.6
134A **White-Moore Ra** 91.77 56 ⇑P P 22 24 44.3 +1.5
baz=92
Q29A **Oakley** 91.79 50 ⇑P P 22 24 44.4 +1.6
baz=92
I25A **Rochford** 91.82 44 ⇑P P 22 24 44.1 +1.1
baz=92
Y33A **Hilltop Ranch,** 91.83 55 ⇑P P 22 24 44.7 +1.6
baz=92
INK **Inuvik** 91.88 15 *e*P P 22 24 41.4 -1.0
comp=Z,20nm,1.1s
INK PP PP 22 28 27.4 -4.3
INK **Inuvik** 91.88 15 PP PP 22 28 27.4 -4.3
comp=Z,0.8nm,0.4s,baz=209,slow=6.5,SNR=4.3
C22A **Vida** 91.94 40 ⇓P P 22 24 44.5 +1.2
baz=92
J26A **Sides Ranch, S** 91.98 45 ⇓P P 22 24 44.7 +1.1
baz=92
N28A **Pribbeno Ranch** 92.05 48 ⇑P P 22 24 45.5 +1.5
baz=92
R30A **Dighton** 92.08 50 ⇑P P 22 24 45.5 +1.3
baz=92
B22A **Reddig Ranch S** 92.11 40 ⇓P P 22 24 45.9 +1.9
baz=92
T31A **Randall Ranch,** 92.11 52 ⇓P P 22 24 45.8 +1.6
baz=92
D23A **Lindsay** 92.13 41 ⇓P P 22 24 45.9 +1.7
baz=92
H25A **Fruitdale** 92.14 44 ⇑P P 22 24 46.0 +1.7
baz=92
U32A **Winter Ranch,** 92.36 53 ⇓P P 22 24 46.8 +1.3
baz=92
O29A **4D Ranch, Culb** 92.37 49 ⇓P P 22 24 47.1 +1.6
baz=92
Q30A **Quinter** 92.37 50 ⇓P P 22 24 47.2 +1.7
baz=92
C23A **Lambert** 92.40 40 ⇑P P 22 24 47.0 +1.6
baz=93
S31A **Mullinville** 92.43 51 ⇓P P 22 24 47.3 +1.5
baz=93
G25A **Newell** 92.48 43 ⇓P P 22 24 47.1 +1.2
baz=93
P30A **Selden** 92.56 49 ⇓P P 22 24 47.9 +1.6
baz=93
R31A **Burdett** 92.64 51 ⇑P P 22 24 48.0 +1.3
baz=93
X34A **Smith Ranch, M** 92.65 55 ⇓P P 22 24 48.1 +1.3
baz=93
D24A **Glendive** 92.65 41 ⇑P P 22 24 48.1 +1.6
baz=93
J27A **Elkhorn Farm,** 92.68 45 ⇓P P 22 24 48.5 +1.6
baz=93
T32A **Huddler Ranch,** 92.70 52 ⇓P P 22 24 48.5 +1.5
baz=93
C24A **Savage** 92.76 41 ⇓P P 22 24 48.5 +1.5
baz=93
APG **El Apazote** 92.78 75 P P 22 24 46.6 -1.4
APG **El Apazote** 92.78 75 P P 22 24 46.6 -1.4
comp=Z,1.5nm,0.5s,baz=90,slow=17,SNR=3.1
B23A **Brockton** 92.78 40 ⇓P P 22 24 49.0 +1.9
baz=93
M29A **Burnside Ranch** 92.92 47 ⇓P P 22 24 49.3 +1.4
baz=93
G26A **Maurine** 93.05 43 ⇑P P 22 24 49.2 +0.7
baz=93
H27A **Howes** 93.15 44 ⇑P P 22 24 50.1 +1.2
baz=93
T33A **Patterson Ranc** 93.18 52 ⇓P P 22 24 50.3 +1.2
baz=93
P31A **Stockton** 93.18 50 ⇓P P 22 24 50.4 +1.2
baz=93
F26A **Lodgepole** 93.22 43 ⇓P P 22 24 50.3 +1.1
baz=93
J28A **Allard Ranch,** 93.27 45 ⇑P P 22 24 50.8 +1.3
baz=93
DGMT **Dagmar** 93.27 40 ⇑P P 22 24 50.7 +1.3
baz=93
R32A **Long Quarter,** 93.28 51 ⇑P P 22 24 51.3 +1.7
baz=94,SNR=6.7
L29A **Maesberg Ranch** 93.30 47 ⇑P P 22 24 51.1 +1.5
baz=94
D25A **Fairfield** 93.30 41 ⇑P P 22 24 51.6 +2.0
baz=94
SONM **Songino Array** 93.39 319 P P 22 24 49.1 -0.9
SONM **Songino Array** 93.39 319 P P 22 24 49.1 -0.9
comp=Z,1.0nm,0.6s,baz=145,slow=3.6,SNR=8.0
U34A **Anderson Ranch** 93.50 53 ⇓P P 22 24 52.3 +1.6
baz=94
I28A **Midland** 93.52 45 ⇓P P 22 24 51.8 +1.2
baz=94
A24A **Westby** 93.57 40 ⇑P P 22 24 52.3 +1.6
baz=94
Q32A **Meitler Ranch,** 93.59 50 ⇓P P 22 24 53.0 +1.9
baz=94
F27A **Lemmon** 93.65 43 ⇑P P 22 24 52.4 +1.2
baz=94
R33A **Olander Ranch,** 93.78 51 ⇑P P 22 24 53.3 +1.4
baz=94
D26A **Manning** 93.81 42 ⇓P P 22 24 53.3 +1.4
baz=94
B25A **Knox Farm, Ray** 93.83 40 ⇑P P 22 24 53.3 +1.4
baz=94
J29A **Okreek** 93.88 46 ⇑P P 22 24 53.3 +1.0
baz=94
M31A **Lambtecht Ranc** 94.09 48 ⇓P P 22 24 54.9 +1.6
baz=94
K30A **Basset** 94.11 47 ⇑P P 22 24 55.1 +1.7
baz=94
Q33A **Connelly Farm,** 94.13 50 ⇓P P 22 24 55.0 +1.6
baz=94
O32A **Brockman Farm,** 94.23 49 ⇑P P 22 24 55.1 +1.2
baz=94
C26A **Wahner Farm, P** 94.32 41 ⇓P P 22 24 55.8 +1.6
baz=94
YKA **Yellowknife Ar** 94.36 25 P P 22 24 53.3 -0.6
YKA PP PP 22 28 50.5 -0.4
YKA PKKPbc **PKKPdf** 22 41 50.5 -1.9
YKA **Yellowknife Ar** 94.36 25 P P 22 24 53.3 -0.6
comp=Z,3.6nm,0.8s,baz=246,slow=4.4,SNR=44
YKA PP PP 22 28 50.5 -0.4
comp=Z,0.4nm,0.9s,baz=237,slow=7.2,SNR=4.6
YKA PKKPbc **PKKPdf** 22 41 50.4 -1.9
comp=Z,0.2nm,0.4s,baz=43,slow=2.1,SNR=5.1
P33A **Williams Farm,** 94.37 50 ⇓P P 22 24 56.2 +1.7
baz=94
J30A **Dallas** 94.42 46 ⇑P P 22 24 55.6 +0.9
baz=95
BGNE **Belgrade** 94.70 48 ⇑P P 22 24 57.6 +1.6
baz=95
GTA **Gaotai** 94.85 310 *e*P P 22 24 57.5 +0.6
GTA pP **pP** 22 26 57.5 +0.2
GTA sP **sP** 22 27 51.3 -0.8
GTA pmax pmax
comp=Z,5.0nm,1.1s
KSU1 **Kansas State U** 95.06 51 ⇓P P 22 24 59.2 +1.5
baz=95
TIXI **Tiksi** 96.05 345 ⇓*i*P P 22 25 00.2 -1.1
TIXI pmax pmax
comp=Z,6.0nm,1.2s
ZAK **Zakamensk** 96.23 321 *e*P P 22 25 01.7 -1.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
A29A **Manning Farm,** 96.50 41 ⇑Pdiff P 22 25 04.5 +0.6
baz=97
ECSD **EROS Data Cent** 96.53 46 ⇑Pdiff P 22 25 04.8 +0.6
baz=97
A30A **Hoffart Farm,** 97.08 41 ⇓Pdiff Pdif 22 25 07.8 +1.3
baz=97
ZALV **Zalesovo Beam** 108.07 322 PKiKP **PKiKP** 22 29 57.2 -1.3
ZALV **Zalesovo Beam** 108.07 322 PKiKP **PKiKP** 22 29 57.2 -1.3
comp=Z,2.0nm,0.5s,baz=96,slow=1.2,SNR=14
MKAR **Makanchi Array** 108.96 314 P **Pdif** 22 26 01.6 +2.1
MKAR **Makanchi Array** 108.96 314 Pdif **Pdif** 22 26 01.6 +2.1
MKAR PKiKP **PKiKP** 22 29 59.3 -1.2
MKAR PKKPbc **PKKPbc** 22 41 08.9 -1.7
MKAR **Makanchi Array** 108.96 314 Pdiff **Pdif** 22 26 01.6 +2.1
comp=Z,0.3nm,0.8s,baz=125,slow=7.2,SNR=3.7
MKAR PKiKP **PKiKP** 22 29 59.3 -1.2
comp=Z,2.5nm,0.5s,baz=110,slow=1.1,SNR=58
MKAR PKKPbc **PKKPbc** 22 41 08.9 -1.7
comp=Z,0.4nm,0.6s,baz=255,slow=4.2,SNR=5.0
KURK **Kurchatov** 111.66 318 PKiKP **PKiKP** 22 30 04.1 -1.3
KURK **Kurchatov** 111.66 318 PKiKP **PKiKP** 22 30 04.1 -1.3
KURBB **Kurchatov Arra** 111.71 318 PKiKP **PKiKP** 22 30 04.1 -1.5
comp=Z,1.9nm,0.5s,baz=102,slow=1.7,SNR=47
AAK **Ala-Archa** 114.20 309 PKiKP **PKiKP** 22 30 10.3 -0.5
AAK **Ala-Archa** 114.20 309 PKP **PKiKP** 22 30 10.3 -0.5
AAK **Ala-Archa** 114.20 309 PKP **PKiKP** 22 30 10.3 -0.5
comp=Z,1.0nm,0.6s,baz=90,slow=2.0,SNR=6.3
BRVK **Borovoye** 116.74 321 ⇓*i*PKIKP **PKPdf** 22 30 14.4 -0.7
BRVK pmax pmax
comp=Z,8.0nm,1.2s
KKAR **Karatay Array** 117.14 310 *e*PKIKP **PKPdf** 22 30 15.0 -1.3
KKAR **Karatay Array** 117.14 310 *e*PKPdf **PKPdf** 22 30 15.0 -1.3
KBL **Kabul** 118.10 300 *e*PKIKP **PKPdf** 22 30 18.3 -0.3
KBL **Kabul** 118.10 300 *e*PKPdf **PKPdf** 22 30 18.3 -0.3
SVE **Sverdlovsk** 121.49 326 *e*PKIKP **PKPdf** 22 30 23.5 -0.6
SVE pmax pmax
comp=Z,14nm,1.1s
ARU **Arti** 122.70 326 *i* PKIKP **PKPdf** 22 30 25.9 -0.6
ARU 22 32 12.7
ARU 22 36 36.1
ABKAR **Akbulak array** 123.77 318 *e*PKPdf **PKPdf** 22 30 27.9 -0.9
KEV **Kevo** 125.77 349 *e*PKIKP **PKPdf** 22 30 29.2 -2.8
KEV **Kevo** 125.77 349 *e*pkp **PKPdf** 22 30 29.2 -2.8
ARCES **ARCESS Array B** 126.23 350 PKP **PKPdf** 22 30 32.4 -0.5
ARCES **ARCESS Array B** 126.23 350 PKP **PKPdf** 22 30 32.4 -0.5
comp=Z,2.4nm,0.4s,baz=11,slow=1.7,SNR=21
PRGR **Permogore** 126.41 336 PKIKP **PKPdf** 22 30 32.0 -1.4
PRGR pmax pmax
comp=Z,8.0nm,0.7s
BOSA **Boshof** 128.37 207 PKP **PKPdf** 22 30 39.3 +0.9
BOSA **Boshof** 128.37 207 PKP **PKPdf** 22 30 39.3 +0.9
comp=Z,1.0nm,0.4s,baz=146,slow=7.3,SNR=5.3
JOF **Joensuu** 130.45 343 *e*PKIKP **PKPdf** 22 30 40.1 -1.0
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF **Joensuu** 130.45 343 *e*pkp **PKPdf** 22 30 40.1 -1.0
comp=Z,5.8nm,0.5s
KAF **Kangasniemi** 132.46 344 *e*PKIKP **PKPdf** 22 30 43.7 -1.2
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF **Kangasniemi** 132.46 344 *e*pkp **PKPdf** 22 30 43.7 -1.2
comp=Z,4.4nm,0.5s
FINES **FINESS Array B** 133.08 344 PKPpre PKPpre 22 30 40.2
FINES PKP **PKPdf** 22 30 45.6 -0.4
FINES SKPbc **SKPab** 22 33 24.4 -1.3
FINES **FINESS Array B** 133.08 344 PKhKP PKPpre 22 30 40.2
comp=Z,1.1nm,0.4s,baz=36,slow=2.9,SNR=11
FINES PKP **PKPdf** 22 30 45.6 -0.4
comp=Z,3.5nm,0.5s,baz=111,slow=4.1,SNR=16
FINES SKPbc **SKPab** 22 33 24.4 -1.3
comp=Z,5.1nm,1.0s,baz=44,slow=4.2,SNR=3.4
VRHR **Novokhopersk** 134.03 325 *e*PKIKP **PKPdf** 22 30 47.3 -0.8
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,9.0nm,0.8s
OBN **Obninsk** 134.16 333 *i* PKIKP **PKPdf** 22 30 49.3 +1.1
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN **Obninsk** 134.16 333 PKP **PKPdf** 22 30 47.5 -0.8
OBN **Obninsk** 134.16 333 PKP **PKPdf** 22 30 47.5 -0.8
comp=Z,10nm,0.5s,baz=155,slow=9.3,SNR=4.3
VSR **Storozhevoye** 135.27 327 *e*PKIKP **PKPdf** 22 30 50.6 +0.1
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VORD **Divnogorie** 135.34 326 *e*PKIKP **PKPdf** 22 30 48.4 -2.2
VORD pmax pmax
comp=Z,8.0nm,0.8s
VORD pmax pmax
comp=N,6.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
NB2 **NORSAR Subarra** 136.30 353 PKP PKPpre 22 30 42.1
comp=Z,2.8nm,0.7s,baz=12,slow=4.0
NOA **NORSAR Array B** 136.30 353 PKP **PKPdf** 22 30 51.8 -0.4
NOA **NORSAR Array B** 136.30 353 PKP **PKPdf** 22 30 51.8 -0.4
comp=Z,1.9nm,0.7s,baz=51,slow=2.0,SNR=6.1
AKASG **Malin Array Be** 140.42 332 PKHKP PKPpre 22 30 52.6
AKASG 22 30 59.4
AKASG **Malin Array Be** 140.42 332 PKPpre PKPpre 22 30 52.6
AKASG PKP **PKPdf** 22 30 59.4 -0.6
AKASG SKPbc **SKPbc** 22 33 45.9 +1.0
AKASG **Malin Array Be** 140.42 332 PKhKP PKPpre 22 30 52.6
comp=Z,2.9nm,0.3s,baz=41,slow=4.0,SNR=38
AKASG PKP **PKPdf** 22 30 59.4 -0.6
comp=Z,2.3nm,0.4s,baz=38,slow=3.3,SNR=16
AKASG SKPbc **SKPbc** 22 33 45.9 +1.0
comp=Z,0.2nm,0.3s,baz=30,slow=2.8,SNR=3.2
SFNV **Sufian** 141.22 306 *e*P **PKPdf** 22 31 03.2 +1.3
SFNV **Sufian** 141.22 306 *e*P **PKPdf** 22 31 03.2 +1.3
SNR=93
AKCD **Akcadag** 142.21 310 *i* P **PKPdf** 22 31 01.8 -1.9
DARE **Darende-Malaty** 142.42 311 *e*P **PKPdf** 22 31 01.9 -2.1
EKA **Eskdalemuir Ar** 142.43 4 PKPpre PKPpre 22 30 58.8
EKA PKP **PKPdf** 22 31 03.2 -0.1
EKA **Eskdalemuir Ar** 142.43 4 PKhKP PKPpre 22 30 58.8
comp=Z,1.4nm,0.3s,baz=341,slow=2.3,SNR=25
EKA PKP **PKPdf** 22 31 03.3 -0.1
comp=Z,1.1nm,0.4s,baz=344,slow=1.9,SNR=14
BEL **Belsk** 142.78 340 *e*PKIKP **PKPdf** 22 31 02.7 -1.4
BEL **Belsk** 142.78 340 *e*PKP **PKPdf** 22 31 02.6 -1.5
BOYT **Boyabat** 142.95 316 *i* P **PKPdf** 22 31 03.3 -1.5
PINB **Pinarbasi** 143.15 312 *i* P PKPbc 22 31 03.7 -0.1
KMRS **Kahramanmaras** 143.26 309 *e*P PKPab 22 31 03.5 0.0
LVV **L'vov** 143.28 335 *e*PKHKP PKPab 22 31 01.9 -1.2
BSEG **Bad Segeberg** 143.33 351 *e*PKPbc PKPab 22 31 02.9 -0.2
KUZU **Kuzuini** 143.40 308 *i* P PKPbc 22 31 04.3 0.0
CTKT **Corum** 143.41 315 *i* P PKPbc 22 31 04.9 +0.5
BNN **Bunyan** 143.48 312 *e*P PKPab 22 31 02.3 -2.1
CORM **Corum** 143.72 315 *e*P PKPbc 22 31 05.5 +0.2
LEOM **Leova** 143.85 328 ⇑PKIKP PKPab 22 31 05.3 -0.1
LEOM **Leova** 143.85 328 ⇑*i*P PKPab 22 31 05.3 -0.1
ILGA **Ilgaz** 143.91 317 *i* P **PKPdf** 22 31 06.6 -0.2
KWP **Kalwaria Pacla** 143.94 336 *e*PKIKP PKPbc 22 31 05.4 -0.1
KWP **Kalwaria Pacla** 143.94 336 *e*PKP PKPbc 22 31 05.4 -0.1
KWP **Kalwaria Pacla** 143.94 336 ⇑*i*P PKPbc 22 31 05.4 -0.1
KWP **Kalwaria Pacla** 143.94 336 *e*PKPbc PKPbc 22 31 05.2 -0.3
KOZT **Kozan** 144.05 310 *e*P PKPbc 22 31 05.1 -1.2
BTCH **Batrach** 144.13 307 *e*P **PKPdf** 22 31 07.2 +0.1
BTCH **Batrach** 144.13 307 *e*P **PKPdf** 22 31 07.2 +0.1
SNR=46
CDAG **Cicekdag** 144.16 314 *i* P PKPbc 22 31 06.3 -0.3
PRAR **RASCA** 144.20 331 ⇑*i*P PKPbc 22 31 06.1 -0.3
AVNT **Avonos** 144.21 313 *i* P PKPbc 22 31 06.7 -0.2
WRDH **Warideh** 144.35 307 *e*P **PKPab** 22 31 07.8 +0.1
WRDH **Warideh** 144.35 307 *e*P **PKPab** 22 31 07.8 +0.1
SNR=46
TLCR 144.42 326 ⇓PKIKP **PKPdf** 22 31 07.3 +0.1
TLCR 144.42 326 ⇓*i*P **PKPdf** 22 31 07.3 +0.1
BUR08 **Bucovina Ar. S** 144.46 332 *e*PKPbc **PKPdf** 22 31 07.2 -0.1
BURAR **Bucovina Array** 144.48 332 ⇑PKIKP **PKPdf** 22 31 07.3 -0.1
BURAR **Bucovina Array** 144.48 332 ⇑*i*P **PKPdf** 22 31 07.3 -0.1
SAFT **Safranbolu** 144.48 318 *e*P PKPbc 22 31 07.5 0.0
OJC **Ojcow** 144.49 340 *e*PKIKP **PKPdf** 22 31 07.0 -0.2
OJC **Ojcow** 144.49 340 *e*PKP **PKPdf** 22 31 07.0 -0.2
BIDA **Albida** 144.59 306 *e*P **PKPdf** 22 31 07.5 -0.3
BIDA **Albida** 144.59 306 *e*P **PKPdf** 22 31 07.6 -0.3
SNR=46
BR131 **Keskin Array S** 144.61 315 *e*PKPdf **PKPdf** 22 31 06.8 -1.1
BRTR **Keskin Array B** 144.61 315 PKP **PKPdf** 22 31 07.6 -0.3
BRTR **Keskin Array B** 144.61 315 PKP **PKPdf** 22 31 07.6 -0.3
comp=Z,14nm,0.7s,baz=132,slow=3.1,SNR=66
TESR **Tescani** 144.62 329 ⇓*i*P **PKPdf** 22 31 07.4 -0.1
STHS **Stebnicka Huta** 144.67 337 *e*PKIKP **PKPab** 22 31 08.2 -0.2
STHS **Stebnicka Huta** 144.67 337 *e*PKP **PKPab** 22 31 08.2 -0.2
KOLS **Kolonicke sedl** 144.68 336 *e*PKIKP PKPbc 22 31 08.1 +0.3
KOLS **Kolonicke sedl** 144.68 336 *e*PKP PKPbc 22 31 08.1 +0.3
HAWK **Haweek** 144.69 305 *e*P PKPbc 22 31 08.3 -0.1
HAWK **Haweek** 144.69 305 *e*P PKPbc 22 31 08.3 -0.2
SNR=46
KARA **Karaisali** 144.71 310 *e*P **PKPdf** 22 31 06.7 -1.3
NRDL **Niedersach Rie** 144.76 351 *e*PKPbc **PKPdf** 22 31 07.1 -0.3
VAL **Valentia** 144.76 13 ⇓*i*P **PKPab** 22 31 09.1 +0.5
CFR **Carcaliu** 144.78 327 ⇓PKIKP PKPbc 22 31 08.0 -0.2
CFR **Carcaliu** 144.78 327 ⇓*i*P PKPbc 22 31 08.0 -0.2
PETR **Petresti** 144.88 328 ⇑*i*P **PKPab** 22 31 10.1 +0.8
GULE **Gulek** 144.90 310 *i* P **PKPdf** 22 31 08.7 +0.2
UZH **Uzhgorod** 144.91 336 *d i*PKIKP **PKPdf** 22 31 07.8 -0.1
ASF **Jabal al Asfar** 144.99 301 PKP **PKPdf** 22 31 08.8 +0.1
ASF **Jabal al Asfar** 144.99 301 PKP **PKPdf** 22 31 08.8 +0.1
comp=Z,14nm,1.0s,baz=235,slow=3.0,SNR=14
NIE **Niedzica** 145.00 338 *e*PKIKP PKPbc 22 31 09.2 +0.4
NIE **Niedzica** 145.00 338 *e*PKP PKPbc 22 31 09.2 +0.4
KSP **Ksiaz** 145.00 343 *e*PKIKP **PKPbc** 22 31 08.6 -0.1
KSP **Ksiaz** 145.00 343 *e*PKP **PKPbc** 22 31 08.9 +0.2
CRVS **Cervenica-Dubn** 145.01 337 *e*PKIKP **PKPbc** 22 31 08.9 0.0
CRVS **Cervenica-Dubn** 145.01 337 *e*PKP **PKPbc** 22 31 08.9 0.0
TOTH **TOTAH** 145.03 303 *e*P **PKPab** 22 31 14.9 +4.5
TOTH **TOTAH** 145.03 303 *e*P **PKPab** 22 31 14.9 +4.5
SNR=46
VRI **Vrincioaia** 145.03 329 ⇓PKIKP **PKPbc** 22 31 09.1 +0.1
VRI **Vrincioaia** 145.03 329 ⇓*i*P **PKPbc** 22 31 09.1 +0.1
BBAL **Bala** 145.05 315 *i* P **PKPbc** 22 31 09.2 -0.3
PLOR **Plostina** 145.08 329 ⇓PKIKP **PKPbc** 22 31 09.6 +0.4
PLOR **Plostina** 145.08 329 ⇓*i*P **PKPbc** 22 31 09.6 +0.4
BCAM **Yenicaga** 145.10 317 *i* P **PKPbc** 22 31 09.4 -0.2
ANTO **Ankara** 145.11 315 *e*P **PKPab** 22 31 10.4 -0.1
ANTO **Ankara** 145.11 315 *e*PKIKP **PKPdf** 22 31 08.9 +0.2
ANTO **Ankara** 145.11 315 ⇑PKIKP **PKPbc** 22 31 09.4 -0.1
ANTO **Ankara** 145.11 315 ⇑*i*P **PKPbc** 22 31 09.4 -0.1
ANTO **Ankara** 145.11 315 *e*PKPdf **PKPdf** 22 31 08.9 +0.2
TIRR **Tirgusor** 145.11 325 ⇑PKIKP **PKPbc** 22 31 09.1 -0.2
TIRR **Tirgusor** 145.11 325 ⇑*i*P **PKPbc** 22 31 09.1 -0.2
AFSR **Af`ar-Bala (A** 145.13 315 *e*P **PKPdf** 22 31 07.5 -1.2
BMR **Baia Mare** 145.18 334 ⇓PKIKP **PKPbc** 22 31 09.5 +0.1
BMR **Baia Mare** 145.18 334 ⇓*i*P **PKPbc** 22 31 09.5 +0.1
TRPA **Tarpa** 145.22 335 ⇑*i*P **PKPbc** 22 31 09.4 0.0
TRPA **Tarpa** 145.22 335 *e* **PKPbc** 22 31 09.3 -0.1
HARR **Harsova** 145.22 326 ⇑PKIKP **PKPbc** 22 31 09.4 -0.2
HARR **Harsova** 145.22 326 ⇑*i*P **PKPbc** 22 31 09.4 -0.2
TLB **Topalu** 145.23 326 ⇑PKIKP **PKPbc** 22 31 09.6 0.0
TLB **Topalu** 145.23 326 ⇑*i*P **PKPbc** 22 31 09.6 0.0
MERS **Mersin** 145.25 310 *e*P **PKPdf** 22 31 06.7 -2.3
IBBN **Ibbenburen** 145.25 353 *e*PKPbc **PKPbc** 22 31 08.9 -0.5
CLZ **Clausthal** 145.35 350 *e*PKPbc **PKPdf** 22 31 08.9 +0.3
OKC **Ostrava-Krasne** 145.36 341 *e*PKIKP **PKPbc** 22 31 09.4 -0.4
OKC **Ostrava-Krasne** 145.36 341 *e*PKP **PKPbc** 22 31 09.4 -0.4
CLL **Collm** 145.37 347 *e*PKIKP **PKPdf** 22 31 09.0 +0.4
CLL **Collm** 145.37 347 *e*PKPbc **PKPdf** 22 31 09.0 +0.4
CLL **Collm** 145.37 347 ⇑*i*PKPbc **PKPbc** 22 31 09.4 -0.4
comp=Z,53nm,0.7s
CLL *i* PKPab **PKPab** 22 31 11.3 +0.3
CLL *e*PKIKP **PKiKP** 22 31 13.0 +0.2
UPC **Upice** 145.38 344 *e*PKIKP **PKPbc** 22 31 09.6 -0.3
UPC *e* 22 31 10.3
UPC **Upice** 145.38 344 *e*PKP **PKPbc** 22 31 09.6 -0.3
UPC *ex* x 22 31 10.3

BRBR	Barbar	145.40 303	*e*P	PKPdf	22 31 09.2	-0.3		
BRBR	Barbar	145.40 303	*e*P	PKPdf	22 31 09.2	-0.3		
	SNR=46							
SULT	Sultanhani-AKS	145.41 312	*e*P	PKPdf	22 31 08.7	-0.5		
MANR	Mangalia	145.43 324	⇑*i*P	PKPbc	22 31 10.1	-0.1		
DPC	Dobruska-Polom	145.44 343	*e*PKIKP	PKPdf	22 31 09.2	+0.4		
DPC			*e*		22 31 10.5			
DPC	Dobruska-Polom	145.44 343	*e*PKP	PKPdf	22 31 09.2	+0.4		
DPC			*ex*	x	22 31 10.5			
DPC			*ep*PKP	pPKPdf	22 33 20.5	+3.4		
KRLC	Kraliky	145.56 342	*e*PKP2	PKPbc	22 31 10.6	+0.1		
KRLC	Kraliky	145.56 342	*e*PKP	PKPbc	22 31 10.6	+0.1		
BRG	Berggiesshubel	145.57 346	*i* PKP	PKPbc	22 31 10.5	+0.1		
	comp=Z,42nm,0.9s							
BRG			*e*		22 31 28.6			
	comp=Z,46nm,1.9s							
BRG	Berggiesshubel	145.57 346	*i* PKP2	PKPbc	22 31 10.5	+0.1		
BRG			pmax	pmax				
	comp=Z,42nm,1.0s							
BRG	Berggiesshubel	145.57 346	*e*PKPbc	PKPbc	22 31 10.1	-0.3		
AMRR	Amara	145.59 326	⇓*i*PKP2	PKPbc	22 31 11.2	+0.6		
AMRR	Amara	145.59 326	⇓*i*P	PKPbc	22 31 11.2	+0.6		
MORC	Moravsky Berou	145.60 341	*e*PKIKP	PKPdf	22 31 09.0	-0.1		
MORC	Moravsky Berou	145.60 341	*e*PKPdf	PKPdf	22 31 09.0	-0.1		
TCHB	Talchebab	145.60 302	*e*P	PKPbc	22 31 11.3	+0.2		
TCHB	Talchebab	145.60 302	*e*P	PKPbc	22 31 11.3	+0.2		
	SNR=46							
DOPR	Dopca	145.61 330	⇓*i*P	PKPab	22 31 11.7	-0.5		
ISR	Istrita	145.65 328	⇓PKP2	PKPbc	22 31 11.1	+0.2		
ISR	Istrita	145.65 328	⇓*i*P	PKPbc	22 31 11.1	+0.2		
MLR	Muntele Rosu	145.69 329	⇑*i*P	PKPbc	22 31 10.4	-0.7		
MLR	Muntele Rosu	145.69 329	PKPbc	PKPbc	22 31 10.5	-0.6		
MLR	Muntele Rosu	145.69 329	PKPbc	PKPbc	22 31 10.5	-0.6		
	comp=Z,1.6nm,0.4s,baz=333,slow=6.7,SNR=49							
WTSB	Winterswijk	145.69 354	*e*PKP	PKPbc	22 31 10.2	-0.5		
	comp=Z,30nm,0.5s							
KECS	Kecovo	145.72 337	*e*PKP2	PKPbc	22 31 11.0	+0.1		
KECS	Kecovo	145.72 337	*e*PKP	PKPbc	22 31 11.0	+0.1		
PVCC	Panska Ves	145.74 345	*e*PKIKP	PKPbc	22 31 10.2	-0.7		
PVCC	Panska Ves	145.74 345	*e*PKP	PKPbc	22 31 10.2	-0.7		
PSN	Preselentsi	145.74 324	⇑PKIKP	PKPdf	22 31 09.8	+0.3		
PSN	Preselentsi	145.74 324	⇑*i*P	PKPdf	22 31 09.8	+0.3		
MDUB	Mudurnu	145.84 318	*e*P	PKPdf	22 31 07.5	-2.4		
CJR	Cluj-Napoca	145.88 332	⇑PKP2	PKPbc	22 31 11.6	+0.1		
CJR	Cluj-Napoca	145.88 332	⇑*i*P	PKPbc	22 31 11.6	+0.1		
BTAS	Taskesti	145.91 318	*i* P	PKPbc	22 31 11.4	-0.4		
SECR		145.95 328	⇑*i*P	PKPbc	22 31 11.7	0.0		
MMAI	Mount Meron Ar	145.95 303	PKPbc	PKPbc	22 31 12.4	+0.2		
MMAI	Mount Meron Ar	145.95 303	PKPbc	PKPbc	22 31 12.4	+0.2		
	comp=Z,15nm,0.5s,baz=71,slow=6.3,SNR=91							
SULR		146.10 327	⇑*i*P	PKPbc	22 31 12.2	+0.1		
VOIR		146.16 330	⇓PKP2	PKPbc	22 31 12.6	+0.2		
VOIR		146.16 330	⇓*i*P	PKPbc	22 31 12.6	+0.2		
BUG	Bochum--Univer	146.16 353	*e*PKPbc	PKPbc	22 31 11.9	-0.1		
BUG			*e*PKPab	PKPab	22 31 13.6	-0.5		
PRA	Prague	146.19 345	PKP	PKPbc	22 31 12.0	-0.2		
DRGR		146.20 333	⇑PKP2	PKPbc	22 31 12.3	-0.1		
DRGR		146.20 333	⇑*i*P	PKPbc	22 31 12.3	-0.1		
LADK	Ladik-KONYA	146.21 313	*e*P	PKPdf	22 31 11.1	+0.5		
KIZT	Kizilcal	146.21 315	*e*P	PKPbc	22 31 12.6	-0.2		
PRU	Pruhonice	146.24 345	*i* PKP2	PKPbc	22 31 12.3	0.0		
PRU	Pruhonice	146.24 345	*i* PKP	PKPbc	22 31 12.3	0.0		
PRU			*ex*	x	22 31 15.1			
VRAC	Vranov	146.30 342	⇑*i*P	PKPbc	22 31 12.6	+0.1		
VRAC	Vranov	146.30 342	PKPbc	PKPbc	22 31 12.6	+0.1		
VRAC	Vranov	146.30 342	PKPbc	PKPbc	22 31 12.6	+0.1		
	comp=Z,11nm,0.8s,baz=70,slow=2.2,SNR=13							
TANN	Tannenbergstha	146.32 347	*e*PKPbc	PKPbc	22 31 12.4	-0.2		
KONT	Konya--Tatoy	146.33 313	*e*P	PKPbc	22 31 11.9	-1.1		
ORH	Orhaniye	146.34 319	*i* P	PKPab	22 31 17.1	+1.8		
AVR	AVREN	146.39 324	*i* P	PKPbc	22 31 13.0	0.0		
PSZ	Piszkesteto	146.41 337	*e*PKIKP	PKPdf	22 31 11.2	+0.6		
PSZ	Piszkesteto	146.41 337	⇓*i*P	PKPbc	22 31 12.7	-0.2		
PSZ	Piszkesteto	146.41 337	*e*PKPdf	PKPdf	22 31 11.2	+0.6		
PSZ	Piszkesteto	146.41 337	⇑*e*	PKPbc	22 31 12.8	-0.2		
ARR	Arges	146.41 330	⇑*i*P	PKPdf	22 31 11.1	+0.4		
TREC	Trest	146.63 343	*i* PKP2	PKPbc	22 31 13.3	-0.1		
TREC	Trest	146.63 343	*i* PKP	PKPbc	22 31 13.3	-0.1		
BORA	Eskisehir	146.64 317	*i* P	PKPbc	22 31 13.4	-0.5		
SMOL	Smolenice	146.75 340	*e*PKP2	PKPbc	22 31 14.2	+0.4		
SMOL	Smolenice	146.75 340	*e*PKP	PKPbc	22 31 14.2	+0.4		
HUMR	Humele	146.85 328	⇑*i*P	PKPbc	22 31 13.3	-0.9		
CSS	Prodhromos	146.90 307	P	PKPbc	22 31 14.1	-0.5		
CSS	Prodhromos	146.90 307	*e*P	PKPdf	22 31 13.0	+1.3		
CSS	Prodhromos	146.90 307	P	PKPbc	22 31 14.1	-0.5		
HGN	Heimansgroeve	146.96 355	*e*PKP	PKPbc	22 31 14.0	-0.2		
	comp=Z,72nm,1.6s							
ROTZ	Rotzenmuhle	146.99 347	*e*PKPbc	PKPbc	22 31 14.4	0.0		
SIRR	Siria	147.06 334	⇑*i*P	PKPbc	22 31 14.7	0.0		
CTKS	Kestanelik-??a	147.08 321	*e*P	PKPdf	22 31 11.5	-0.3		
BUD	Budapest	147.09 338	*e*	PKPbc	22 31 14.9	+0.2		
MEM	Membach	147.11 355	PKP	PKPdf	22 31 11.8	+0.2		
MEM	Membach	147.11 355	PKPbc	PKPbc	22 31 14.5	-0.2		
LEF	Lefka	147.17 308	*e*P	PKPdf	22 31 12.7	+0.5		
TNS	Taunus Mts	147.21 352	*e*PKPbc	PKPbc	22 31 14.7	-0.3		
TNS			*e*PKPab	PKPab	22 31 17.6	-0.9		
EIL	Elat	147.23 297	PKPbc	PKPbc	22 31 15.1	-0.6		
EIL	Elat	147.23 297	PKPbc	PKPbc	22 31 15.1	-0.6		
	comp=Z,20nm,1.1s,baz=4.8,slow=4.6,SNR=7.9							
GZR	Gura Zlata	147.26 330	⇑*i*P	PKPbc	22 31 14.9	-0.4		
GRF	Grafenberg Arr	147.26 348	*e*PKPbc	PKPbc	22 31 15.1	0.0		
ARMT	Armutlu	147.26 319	*e*P	PKPdf	22 31 13.1	+0.9		
PKSN	Nyarlorinc	147.27 336	*e*	PKPbc	22 31 15.3	+0.1		
KHC	Kasperske Hory	147.27 345	*e*PKIKP	PKPdf	22 31 11.9	0.0		
KHC			*e*		22 31 19.0			
KHC	Kasperske Hory	147.27 345	*e*PKP	PKPdf	22 31 11.9	0.0		
KHC			*i* x	x	22 31 15.3			
KHC			*ex*	x	22 31 19.0			
KHC			*ep*PKP	pPKPdf	22 33 25.8	+5.5		
KHC	Kasperske Hory	147.27 345	*e*PKPbc	PKPbc	22 31 15.2	0.0		
SHUT	Suhut-Afyon	147.28 315	*e*P	PKPdf	22 31 11.5	-0.9		
SNF	Seneffe	147.34 357	PKPbc	PKPbc	22 31 15.4	+0.2		
BCLA	Clavier	147.36 355	PKPbc	PKPbc	22 31 15.5	+0.2		
BCLA			PKPab	PKPab	22 31 18.7	-0.3		
PKSG		147.40 338	⇑*e*	PKPbc	22 31 15.2	-0.3		
PKS7	Kunszentmiklos	147.41 337	⇑*e*	PKPbc	22 31 15.4	-0.1		
JMB	Yambol	147.43 324	⇓PKP2	PKPab	22 31 17.7	-1.9		
JMB	Yambol	147.43 324	⇓*i*P	PKPab	22 31 17.7	-1.9		
WET	Wettzell	147.43 346	*e*PKPbc	PKPbc	22 31 15.6	0.0		
WET			*e*PKPab	PKPab	22 31 19.2	-0.2		
CSKK	Cs˙ákako	147.47 338	⇓*e*	PKPbc	22 31 16.5	+0.8		
GEC2	GERESS Array S	147.51 345	*e*PKPbc	PKPbc	22 31 15.8	-0.1		
GERES	GERESS Array B	147.51 345	PKPbc	PKPbc	22 31 15.7	-0.1		
GERES	GERESS Array B	147.51 345	PKPbc	PKPbc	22 31 15.7	-0.1		
	comp=Z,19nm,0.6s,baz=23,slow=2.9,SNR=29							
TVSB	Tavsanli	147.52 317	*e*P	PKPdf	22 31 13.5	+0.7		
BZS	Buzias	147.60 333	⇑PKIKP	PKPdf	22 31 12.7	+0.2		
BZS	Buzias	147.60 333	⇑*i*P	PKPdf	22 31 12.7	+0.2		
PKST	T˙s	147.64 339	⇑*e*	PKPbc	22 31 15.6	-0.5		
DOU	Dourbes	147.73 356	PKPbc	PKPbc	22 31 16.1	-0.1		
EDRB	Edirne	147.74 323	*e*P	PKPbc	22 31 15.1	-1.5		
CONA	Conrad Observa	147.75 342	⇑*i*PKiKP	PKPbc	22 31 16.7	+0.2		
	comp=Z,67nm,1.2s,SNR=10							
SOP	Sopron	147.75 341	⇓*e*	PKPbc	22 31 16.7	+0.3		
BANR	Banloc	147.99 333	⇓*i*P	PKPbc	22 31 18.4	+1.4		
EDC	Edincik	148.01 320	*e*P	PKPdf	22 31 12.7	-0.7		
WLF	Walferdange	148.03 354	PKP	PKPdf	22 31 14.6	+1.5		
WLF			PKPbc	PKPbc	22 31 17.5	+0.4		
WLF	Walferdange	148.03 354	*e*PKPdf	PKPdf	22 31 14.0	+0.9		
WLF			*e*PKPbc	PKPbc	22 31 17.4	+0.4		
WLF			*e*PKPab	PKPab	22 31 21.1	-0.7		
KHAL	Karahalli	148.08 316	*i* P	PKPbc	22 31 17.1	-0.6		
KHL	Karahalli	148.08 315	*e*P	PKPdf	22 31 14.7	+1.0		
PKS9	Tamasi	148.12 338	⇓*e*	PKPbc	22 31 17.4	0.0		
DEMI	Demirci	148.22 317	*i* P	PKPbc	22 31 17.3	-0.7		
MOA	Molln	148.28 343	⇑*i*PKPbc	PKPbc	22 31 17.5	-0.2		
	comp=Z,17nm,0.8s,SNR=6.8							
DIM	Dimitrovgrad	148.28 325	*i* P	PKPbc	22 31 17.9	0.0		
PKSM	Moragy	148.31 337	⇑*i*P	PKPdf	22 31 13.7	+0.1		
PKSM	Moragy	148.31 337	⇑*e*	PKPbc	22 31 17.6	-0.2		
ARSA	Arzberg	148.46 341	⇑*i*PKPbc	PKPbc	22 31 17.4	-0.8		
	comp=Z,19nm,1.0s							
LANF	Langenberg	148.52 352	PKP	PKPbc	22 31 18.5	+0.2		
BALY	Balya	148.52 319	*i* P	PKPbc	22 31 17.9	-0.8		
KDZ	Kurdzhali	148.62 324	*i* P	PKPbc	22 31 18.6	-0.2		
KDZ	Kurdzhali	148.62 324	⇓*i*P	PKPbc	22 31 18.4	-0.4		
ELL	Elmali	148.62 313	*e*P	PKPdf	22 31 15.1	+0.4		
FUR	Furstenfeldbru	148.71 347	*e*PKPbc	PKPbc	22 31 18.7	-0.1		
FUR			*e*PKPab	PKPab	22 31 24.5	-0.1		
ALN	Alexandroupoli	148.75 322	*e*P	PKPdf	22 31 16.0	+1.5		
RJOB	Jochberg	148.76 345	*e*PKPbc	PKPbc	22 31 18.8	-0.2		
RJOB			*e*PKPab	PKPab	22 31 24.9	0.0		
RDO	Rodhopi	148.88 323	P	PKPbc	22 31 18.8	-0.6		
RDO	Rodhopi	148.88 323	PKPbc	PKPbc	22 31 18.8	-0.6		
BFO	Black Forest	149.08 351	*e*PKPbc	PKPbc	22 31 19.4	-0.3		
BFO	Black Forest	149.08 351	*e*PKPdf	PKPdf	22 31 15.0	+0.1		
BFO			*e*PKPdf	PKPdf	22 31 19.4	-0.3		
BFO			*e*PKPab	PKPab	22 31 26.0	-0.1		
AKAS	Kas	149.08 312	*i* P	PKPbc	22 31 19.2	-1.1		
SOKA	Soboth	149.12 342	⇑*i*PKPbc	PKPbc	22 31 19.3	-0.7		
	comp=Z,34nm,1.2s,SNR=5.5							
PERS	Pernice	149.13 341	*i* PKPbc	PKPbc	22 31 19.2	-0.8		
PERS			*i* PKPab	PKPab	22 31 26.2	-0.3		
VTS	Vitosha	149.14 328	P	PKPbc	22 31 19.9	-0.3		
VTS	Vitosha	149.14 328	*i* P	PKPbc	22 31 19.7	-0.5		
VTS	Vitosha	149.14 328	⇑*i*P	PKPbc	22 31 20.0	-0.3		
VTS	Vitosha	149.14 328	PKPbc	PKPbc	22 31 19.9	-0.3		
KBA	Koelnbreinsper	149.23 344	*i* PKPbc	PKPbc	22 31 19.5	-0.9		
	comp=Z,26nm,0.5s,SNR=7.9							
EZN	Ezine	149.26 321	*e*P	PKPdf	22 31 16.7	+1.3		
SMTH	Samothraki Isl	149.32 322	P	PKPbc	22 31 19.6	-0.9		
SMTH	Samothraki Isl	149.32 322	PKPbc	PKPbc	22 31 19.6	-0.9		
ECH	Echery	149.35 352	*e*PKPdf	PKPdf	22 31 15.5	+0.2		
ECH			*e*PKPbc	PKPbc	22 31 20.3	0.0		
ECH			*e*PKPab	PKPab	22 31 26.2	-1.1		
AYDB	Zeytinkoy-Aydi	149.37 316	*e*P	PKPbc	22 31 20.2	-0.6		
WATA	Walderalm	149.43 346	⇑*i*PKPbc	PKPbc	22 31 20.2	-0.5		
	comp=Z,24nm,0.5s,SNR=12							
RETA	Reutte	149.46 347	⇑*i*PKPbc	PKPbc	22 31 20.4	-0.3		
	comp=Z,15nm,0.4s,SNR=5.8							
TURN	Turunc	149.46 314	*i* P	PKPbc	22 31 19.6	-1.3		
THEF	They Montfort	149.47 354	PKP	PKPbc	22 31 20.7	+0.1		
WTTA	Wattenberg	149.48 346	*i* PKiKP	PKPbc	22 31 20.8	-0.1		
	comp=Z,37nm,0.4s,SNR=13							
DIVS	Divibare	149.51 333	P	PKPbc	22 31 20.6	-0.4		
MOTA	Moosalm	149.52 347	⇑*i*PKPdf	PKPdf	22 31 14.7	-1.1		
	comp=Z,9.7nm,1.1s							
MOTA			⇑*i*PKPbc	PKPbc	22 31 20.5	-0.5		
	comp=Z,49nm,1.1s,SNR=9.8							
YER	Yerkesik	149.54 315	*e*P	PKPdf	22 31 17.1	+1.1		
KAVA	Kavala	149.56 324	P	PKPbc	22 31 20.5	-0.5		
KAVA	Kavala	149.56 324	PKPbc	PKPbc	22 31 20.5	-0.5		
MYKA	Terra Mystica	149.57 343	⇑*i*PKPbc	PKPbc	22 31 19.9	-1.1		
	comp=Z,20nm,0.4s,SNR=6.2							
MMB	Musomiste	149.58 326	*i* P	PKPbc	22 31 20.6	-0.6		
MMB	Musomiste	149.58 326	⇓*i*P	PKPbc	22 31 20.6	-0.6		
NVR	Nevrokopi	149.68 325	P	PKPbc	22 31 20.5	-0.9		
NVR	Nevrokopi	149.68 325	PKPbc	PKPbc	22 31 20.5	-0.9		
KKB	Krupnik	149.73 327	*i* P	PKPbc	22 31 21.4	-0.1		
ABTA	Abfaltersbach	149.75 345	⇑*i*PKPbc	PKPbc	22 31 20.5	-0.9		
	comp=Z,54nm,1.0s,SNR=8.9							
DAVA	Damuels	149.82 348	⇑*i*PKiKP	PKPbc	22 31 21.5	-0.2		
	comp=Z,54nm,1.1s,SNR=8.4							
CRNS	Crni Vrh	149.89 342	*i* PKPbc	PKPbc	22 31 21.1	-0.7		
LIA	Limnos Island	149.90 322	P	PKPbc	22 31 21.1	-0.8		
LIA	Limnos Island	149.90 322	PKPbc	PKPbc	22 31 21.1	-0.8		
FETA	Feichten	149.91 347	⇑*i*PKiKP	PKPbc	22 31 21.7	-0.2		
	comp=Z,47nm,1.1s,SNR=6.6							
SIGR	SIGRI	149.93 320	P	PKPbc	22 31 21.0	-1.0		
SIGR	SIGRI	149.93 320	PKPbc	PKPbc	22 31 21.0	-1.0		
VISS	Visnje	149.97 341	*i* PKPbc	PKPbc	22 31 21.7	-0.2		
VISS			*i* PKPab	PKPab	22 31 29.8	-0.1		
SRS	Serrai	149.98 325	P	PKPbc	22 31 20.7	-1.4		
SRS	Serrai	149.98 325	PKPbc	PKPbc	22 31 20.7	-1.4		
BOJS	Bojanci	150.10 340	PKPbc	PKPbc	22 31 22.3	+0.1		
JAVS	Javornik	150.12 342	*i* PKPbc	PKPbc	22 31 21.6	-0.8		
JAVS			*i* PKPab	PKPab	22 31 29.7	-1.0		
BDRM	Kayabasi	150.15 315	*i* P	PKPbc	22 31 21.2	-1.4		
SMG	Samos	150.19 317	P	PKPbc	22 31 21.9	-0.8		
SMG	Samos	150.19 317	PKPbc	PKPbc	22 31 21.9	-0.8		
LOMF	Lomont	150.24 353	PKP	PKPbc	22 31 22.4	-0.2		
CHOS	Chios island	150.30 319	P	PKPbc	22 31 22.4	-0.6		
CHOS	Chios island	150.30 319	PKPbc	PKPbc	22 31 22.4	-0.6		
OUR	Ouranopolis	150.30 324	P	PKPbc	22 31 21.7	-1.1		
OUR	Ouranopolis	150.30 324	PKIKP	PKPbc	22 31 21.7	-1.1		
OUR	Ouranopolis	150.30 324	PKPdf	PKPbc	22 31 21.7	-1.1		
DAVOX	Davos/Dischmat	150.31 348	PKP	PKPdf	22 31 18.1	+1.0		
DAVOX			PKPbc	PKPbc	22 31 22.8	-0.1		
DAVOX	Davos/Dischmat	150.31 348	PKP	PKPdf	22 31 18.1	+1.0		
	comp=Z,18nm,0.4s,baz=172,slow=7.1,SNR=4.5							
DAVOX			PKPbc	PKPbc	22 31 22.8	-0.1		
	comp=Z,40nm,0.5s,baz=260,slow=3.6,SNR=98							
SOH	Sokhos	150.32 325	P	PKPbc	22 31 21.4	-1.5		
SOH	Sokhos	150.32 325	PKIKP	PKPbc	22 31 21.4	-1.5		
SOH	Sokhos	150.32 325	PKPdf	PKPbc	22 31 21.4	-1.5		
NIS1	Nisyros Isl.	150.58 315	P	PKPbc	22 31 22.3	-1.3		
NIS1	Nisyros Isl.	150.58 315	PKPbc	PKPbc	22 31 22.3	-1.3		
HORT	Hortiatis	150.61 325	P	PKPbc	22 31 22.2	-1.5		
HORT	Hortiatis	150.61 325	PKPdf	PKPbc	22 31 22.2	-1.5		
TUE	Stuetta	150.71 349	*e*PKPdf	PKPdf	22 31 17.7	0.0		
TUE			*e*PKPbc	PKiKP	22 31 24.1	-0.2		
TUE			*e*PKPab	PKPab	22 31 33.7	+0.4		
UDBI	Udbina	150.79 339	P	PKPbc	22 31 23.4	-0.5		
NVLJ	Novalja	151.06 340	P	PKPbc	22 31 23.6	-0.8		
PHP	Peshkopia	151.19 330	P	PKPbc	22 31 24.2	-0.7		
PHP	Peshkopia	151.19 330	PKIKP	PKPbc	22 31 24.2	-0.7		
PHP	Peshkopia	151.19 330	PKPbc	PKPbc	22 31 24.2	-0.7		
LIT	Litokhoron	151.29 325	P	PKPbc	22 31 24.0	-1.1		
LIT	Litokhoron	151.29 325	PKIKP	PKPbc	22 31 24.0	-1.1		
LIT	Litokhoron	151.29 325	PKPdf	PKPbc	22 31 24.0	-1.1		
SKIA	Skiathos	151.38 322	P	PKPbc	22 31 24.1	-1.2		
FNA	Florina	151.40 327	P	PKPbc	22 31 24.4	-1.0		
FNA	Florina	151.40 327	PKIKP	PKPbc	22 31 24.4	-1.0		
FNA	Florina	151.40 327	PKPbc	PKPbc	22 31 24.4	-1.0		
NEO	Neokhori	151.43 323	P	PKPbc	22 31 24.1	-1.4		
NEO	Neokhori	151.43 323	PKPdf	PKPbc	22 31 24.1	-1.4		
STON	Ston	151.47 334	P	PKPbc	22 31 23.9	-1.5		
MRKA	Markates	151.61 322	P	PKPbc	22 31 25.0	-0.9		
SMIA	Simia	151.72 322	P	PKPbc	22 31 25.1	-1.0		
KBN	Korca	151.82 328	P	PKPbc	22 31 25.9	-0.5		
KBN	Korca	151.82 328	PKIKP	PKPbc	22 31 25.9	-0.5		
KBN	Korca	151.82 328	PKPbc	PKPbc	22 31 25.9	-0.5		
NEST	Nestorio	151.84 327	P	PKPbc	22 31 26.0	-0.4		
AGO	Saint Agoulin	151.84 357	PKP	PKPbc	22 31 25.0	-1.2		
PLNT	La Plantade	151.90 357	PKP	PKPbc	22 31 25.0	-0.2		
LKR	Lokris	151.99 322	P	PKPbc	22 31 25.5	-1.2		
LKR	Lokris	151.99 322	PKPbc	PKPbc	22 31 25.5	-1.2		
ZKR	Zakros	152.03 313	P	PKPbc	22 31 26.5	-0.4		
ZKR	Zakros	152.03 313	PKPbc	PKPbc	22 31 26.5	-0.4		
AXAR	Agios Charalam	152.12 323	P	PKPbc	22 31 25.9	-1.1		
AXAR	Agios Charalam	152.12 323	PKPbc	PKPbc	22 31 25.9	-1.1		
PYM	Petit Puy Mans	152.15 358	PKP	PKPbc	22 31 27.0	+0.1		
MAKR	Makrakomi, Fth	152.25 324	P	PKPbc	22 31 26.6	-0.7		
MAKR	Makrakomi, Fth	152.25 324	PKPbc	PKPbc	22 31 26.6	-0.7		
LTK	Loutraki	152.43 321	P	PKPbc	22 31 26.4	-1.3		
LTK	Loutraki	152.43 321	PKPbc	PKPbc	22 31 26.4	-1.3		
DSF	Desfina	152.43 322	P	PKPbc	22 31 26.4	-1.4		
DSF	Desfina	152.43 322	PKPbc	PKPbc	22 31 26.4	-1.4		
LAST	Lasithi	152.51 314	P	PKPbc	22 31 27.6	-0.5		
LAST	Lasithi	152.51 314	PKPbc	PKPbc	22 31 27.6	-0.5		
DID	Didima	152.60 320	P	PKPbc	22 31 26.4	-1.7		
DID	Didima	152.60 320	PKPbc	PKPbc	22 31 26.4	-1.7		
LBL	Lubilhac	152.66 357	PKP	PKPbc	22 31 28.8	+0.7		
KALE	Kalithea	152.67 323	P	PKPbc	22 31 27.9	-0.4		
KALE	Kalithea	152.67 323	PKPbc	PKPbc	22 31 27.9	-0.4		
SRN	Sarande	152.77 328	P	PKPbc	22 31 27.7	-0.6		
SRN	Sarande	152.77 328	PKPbc	PKPbc	22 31 27.7	-0.6		
IDI	Anoyia	152.85 314	PKPbc	PKPbc	22 31 28.7	0.0		
IDI	Anoyia	152.85 314	PKPbc	PKPbc	22 31 28.7	0.0		
	comp=Z,6.6nm,0.5s,baz=0.0,slow=4.0,SNR=15							
GUR	Goura	152.85 322	P	PKPbc	22 31 27.9	-0.9		
GUR	Goura	152.85 322	PKPbc	PKPbc	22 31 27.9	-0.9		
IGT	Igoumenitsa	152.86 327	P	PKPbc	22 31 28.0	-0.6		
IGT	Igoumenitsa	152.86 327	PKIKP	PKPbc	22 31 28.0	-0.6		
IGT	Igoumenitsa	152.86 327	PKPbc	PKPbc	22 31 28.0	-0.6		
KLV	Kalavryta, Ach	152.90 322	P	PKPbc	22 31 28.0	-0.8		
KLV	Kalavryta, Ach	152.90 322	PKPbc	PKPbc	22 31 28.0	-0.8		
SIVA	Sivas	153.05 314	P	PKPbc	22 31 29.1	0.0		
SIVA	Sivas	153.05 314	PKPbc	PKPbc	22 31 29.1	0.0		
PDO	Prodromos	153.07 324	P	PKPbc	22 31 28.5	-0.6		
VLX	Vlachokerasia	153.21 321	P	PKPbc	22 31 29.1	-0.4		
VLX	Vlachokerasia	153.21 321	PKPbc	PKPbc	22 31 29.1	-0.4		
DRO	Drossia	153.21 322	P	PKPbc	22 31 30.5	+1.1		
LKD2	Lefkada island	153.22 325	P	PKPbc	22 31 29.0	-0.4		
LKD2	Lefkada island	153.22 325	PKPbc	PKPbc	22 31 29.0	-0.4		
VAM	Vamos	153.25 315	P	PKPbc	22 31 29.8	+0.3		
VAM	Vamos	153.25 315	PKIKP	PKPbc	22 31 29.8	+0.3		
VAM	Vamos	153.25 315	PKPbc	PKPbc	22 31 29.8	+0.3		
ITM	Ithomi	153.60 321	P	PKPbc	22 31 29.5	-0.8		
ITM	Ithomi	153.60 321	PKPbc	PKPbc	22 31 29.5	-0.8		
POLO	Lamas de Olo	155.26 17	*e*PKPab	PKPab	22 31 53.4	+0.7		
MVO	Moncorvo	155.66 16	*e*PKPab	PKPab	22 31 55.1	+0.7		
MTE	Manteigas	156.24 17	*e*PKPab	PKPab	22 31 57.1	+0.2		
ESDC	Sonseca Array	157.76 11	PKP	PKPdf	22 31 28.0	+0.5		
ESDC			PKPab	PKPab	22 32 03.0	-0.5		
ESDC	Sonseca Array	157.76 11	PKP	PKPdf	22 31 28.0	+0.5		
	comp=Z,0.5nm,0.6s,baz=335,slow=6.6,SNR=4.3							
ESDC			PKPab	PKPab	22 32 03.0	-0.5		
	comp=Z,1.9nm,0.6s,baz=349,slow=3.8,SNR=8.5							
PNCL	Nicolau / Gran	158.02 21	*e*PKPab	PKPab	22 32 04.8	+0.2		
KEST	Kesra	160.84 340	PKPab	PKPab	22 32 17.0	-0.1		
KEST	Kesra	160.84 340

ELK	Elko	79.75	41	P	P	23 28 52.5	+0.8
ELK	Elko	79.75	41	P	P	23 28 52.5	+0.8
	0.3nm,0.3s,baz=178,slow=6.9,SNR=3.4						
TXAR	Lajitas Array	82.34	56	P	P	23 29 06.5	+0.9
TXAR	Lajitas Array	82.34	56	P	P	23 29 06.5	+0.9
	0.7nm,0.9s,baz=213,slow=6.0,SNR=6.2						
H03N2	Juan Fernandez	84.19	123	T	T	01 02 22.1	
	baz=254,slow=74,SNR=11						
H03N3	Juan Fernandez	84.19	123	T	T	01 02 09.2	
	baz=254,slow=74,SNR=7.9						
H03N1	Juan Fernandez	84.20	123	T	T	01 02 26.2	
	baz=254,slow=74,SNR=6.7						
PDAR	Pinedale Array	84.41	42	P	P	23 29 16.2	+0.2
PDAR	Pinedale Array	84.41	42	P	P	23 29 16.2	+0.2
	0.7nm,0.8s,baz=212,slow=4.0,SNR=6.4						
COLA	College	84.95	11	*e*P	P	23 29 17.1	-0.7
	8.5nm,1.0s						
ILAR	Eielson Array	85.03	11	P	P	23 29 17.4	-1.0
ILAR	Eielson Array	85.03	11	P	P	23 29 17.4	-1.0
	3.5nm,1.2s,baz=203,slow=9.9,SNR=4.2						
CMAR	Chiang Mai Arr	93.09	288	P	P	23 29 58.8	+1.2
CMAR	Chiang Mai Arr	93.09	288	P	P	23 29 58.8	+1.2
	0.6nm,0.4s,baz=92,slow=3.3,SNR=8.3						
CMAR				LR	LR	00 06 23.4	
	comp=Z,14nm,21.9s,baz=270,slow=32						
MKAR	Makanchi Array	112.37	314	PKiKP	PKiKP	23 35 19.1	+0.3
MKAR	Makanchi Array	112.37	314	PKiKP	PKiKP	23 35 19.1	+0.3
	0.2nm,0.6s,baz=117,slow=1.6,SNR=2.7						
FINES	FINESS Array B	134.37	347	PKP	PKPdf	23 36 00.8	+0.6
FINES	FINESS Array B	134.37	347	PKP	PKPdf	23 36 00.8	+0.6
	2.7nm,1.1s,baz=335,slow=8.6,SNR=3.4						
AKASG	Malin Array Be	142.56	336	PKPpre	PKPpre	23 36 13.1	
AKASG	Malin Array Be	142.56	336	PKhKP	PKPpre	23 36 13.1	
	0.3nm,0.5s,baz=37,slow=3.7,SNR=2.6						
CLL	Collm	146.32	352	*e*PKPdf	PKPab	23 36 24.0	-0.3
CLL				*i* PKPbc	PKiKP	23 36 25.4	-1.0
	comp=Z,21nm,1.2s						
BUR08	Bucovina Ar. S	146.59	336	*e*PKP	PKPbc	23 36 24.5	0.0
BR131	Keskin Array S	147.89	318	*e*PKPdf	PKPdf	23 36 26.1	+0.8
BRTR	Keskin Array B	147.89	318	PKPbc	PKPab	23 36 29.9	-1.3
BRTR	Keskin Array B	147.89	318	PKPbc	PKPab	23 36 29.9	-1.3
	comp=Z,3.9nm,1.1s,baz=90,slow=2.5,SNR=7.8						
GERES	GERESS Array B	148.63	351	PKPbc	PKPbc	23 36 30.8	+0.8
GERES	GERESS Array B	148.63	351	PKPbc	PKPbc	23 36 30.8	+0.8
	comp=Z,1.4nm,0.8s,baz=29,slow=3.0,SNR=7.4						
TORD	Torodi Ar. Bea	173.50	137	PKPab	PKPab	23 38 22.6	+0.4
TORD	Torodi Ar. Bea	173.50	137	PKPab	PKPab	23 38 22.6	+0.4
	comp=Z,2.4nm,1.1s,baz=261,slow=3.6,SNR=5.3						

*IDC **26** 23:40:17.5±3.2, 28°.46N×112°.02W, h0km, mb3.6/2, mb1 3.8/7, mb1mx3.6/28, mbtmp3.4/7, ML3.3/5, MS3.7/11, Ms1 3.7/11, ms1mx3.4/34, Error ellipse: s-maj=49.4km s-min=13.8km az=25.0*

ISC 26 23:40:17.7±3.1, 28°.2N±0°.3×112°.1W±0°.2, h10km, n13, σ1s27/7, MS3.6/5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	La Paz	4.42	159	LR	LR	23 43 03.2	
	comp=Z,486nm,20.4s,baz=261,slow=36						
PFO	Pinyon Flat Ob	6.54	326	Pg	Pb	23 42 08.4	-3.3
	0.2nm,0.3s,baz=160,slow=12,SNR=2.6						
PFO				Lg	Lg	23 43 45.0	
	0.5nm,0.3s,baz=236,slow=16,SNR=20						
PFO				LR	LR	23 44 17.6	
	comp=Z,574nm,18.8s,baz=138,slow=38						
TXAR	Lajitas Array	7.46	80	Pn	Pn	23 42 07.4	+0.7
	0.5nm,0.3s,baz=258,slow=13,SNR=14						
TXAR				Lg	Lg	23 44 09.4	
	0.4nm,0.3s,baz=274,slow=25,SNR=3.6						
TXAR				LR	LR	23 45 23.2	
	comp=Z,612nm,19.5s,baz=0.0,slow=42						
ANMO	Albuquerque	8.22	34	Pn	Pn	23 42 16.3	-0.9
	0.1nm,0.3s,baz=79,slow=19,SNR=1.9						
ANMO				Lg	Lg	23 44 38.1	
	1.3nm,0.3s,baz=3.4,slow=4.8,SNR=10						
NVAR	Mina Array Bea	11.41	334	Pn	Pn	23 43 02.3	+1.3
	0.1nm,0.3s,baz=153,slow=12,SNR=4.5						
ELK	Elko	12.74	349	Pn	Pn	23 43 20.1	+0.9
	0.1nm,0.3s,baz=178,slow=7.7,SNR=5.1						
ELK				LR	LR	23 48 26.8	
	comp=Z,259nm,18.8s,baz=181,slow=39						
PDAR	Pinedale Array	14.64	7	Pn	Pn	23 43 45.8	+0.7
	0.0nm,0.3s,baz=181,slow=11,SNR=3.3						
PDAR				Lg	Lg	23 47 57.7	
	0.1nm,0.3s,baz=175,slow=21,SNR=3.2						
PDAR				LR	LR	23 49 26.5	
	comp=Z,214nm,20.5s,baz=194,slow=38						
YBH	Yreka Blue Hor	16.02	330	LR	LR	23 50 11.8	
	comp=Z,306nm,18.1s,baz=206,slow=38						
NEW	Newport	20.37	350	P	P	23 44 53.8	-0.6
	2.7nm,0.9s,baz=168,slow=16,SNR=3.4						
NEW				LR	LR	23 51 50.2	
	comp=Z,114nm,18.0s,baz=182,slow=34						
TEIG	Tepich	23.09	105	LR	LR	23 56 17.3	
	comp=Z,184nm,20.4s,baz=283,slow=42						
TKL	Tuckaleechee C	25.07	66	LR	LR	23 56 08.0	
	comp=Z,247nm,18.3s,baz=268,slow=38						
DLBC	Dease Lake	32.67	343	LR	LR	23 59 56.4	
	comp=Z,199nm,20.8s,baz=154,slow=36						
ILAR	Eielson Array	42.63	339	P	P	23 48 12.7	-1.3
	1.1nm,0.9s,baz=152,slow=6.8,SNR=9.5						
ILAR				LR	LR	00 06 52.6	
	comp=Z,86nm,19.7s,baz=117,slow=38						

IDC 26 23:47:29.9±11.0, 30°.24S×71°.33W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.3/26, mbtmp3.7/1, Error ellipse: s-maj=847.3km s-min=111.0km az=2.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N1	Juan Fernandez	7.20	242	T	T	23 58 07.6	
	baz=53,slow=74,SNR=486						
H03N2	Juan Fernandez	7.21	242	T	T	23 58 29.5	
	baz=53,slow=74,SNR=408						
H03N3	Juan Fernandez	7.21	242	T	T	23 58 12.7	
	baz=53,slow=74,SNR=529						
TORD	Torodi Ar. Bea	82.37	70	P	P	23 59 54.2	0.0
	0.5nm,0.7s,baz=251,slow=4.1,SNR=3.8						
ZALV	Zalesovo Beam	150.70	29	PKPbc	PKPbc	00 07 23.2	-0.3
	1.2nm,0.6s,baz=314,slow=5.0,SNR=5.9						
MKAR	Makanchi Array	153.74	44	PKPbc	PKPbc	00 07 30.7	0.0
	0.8nm,0.7s,baz=278,slow=1.7,SNR=7.6						

IDC 26 23:53:01.1±11.0, 2°.86S×98°.95W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.5/3, MS3.7/4, Ms1 3.7/4, ms1mx3.3/17, Error ellipse: s-maj=410.8km s-min=210.0km az=103.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	La Paz	28.99	338	LR	LR	00 07 29.2	
	comp=Z,99nm,18.9s,baz=200,slow=30						
TXAR	Lajitas Array	32.33	352	LR	LR	00 10 58.0	
	comp=Z,298nm,19.9s,baz=0.0,slow=33						
PFO	Pinyon Flat Ob	39.86	337	LR	LR	00 13 15.0	
	comp=Z,155nm,18.5s,baz=100,slow=30						
PDAR	Pinedale Array	46.42	349	P	P	00 01 29.8	-0.1
	0.7nm,0.9s,baz=160,slow=2.9,SNR=3.8						
PPT	Papeete	51.73	250	LR	LR	00 18 03.4	
	comp=Z,36nm,18.8s,baz=76,slow=29						
YKA	Yellowknife Ar	66.26	352	P	P	00 03 51.4	+0.6
	0.4nm,0.8s,baz=160,slow=6.8,SNR=5.8						
ILAR	Eielson Array	76.00	341	P	P	00 04 49.2	-0.7
	0.6nm,0.9s,baz=139,slow=4.5,SNR=4.6						

*IDC **26** 23:57:24.6±3.4, 13°.90N×92°.39W, h0km, mb3.6/4, mb1 4.1/7, mb1mx3.8/23, mbtmp3.7/7, ML4.0/3, Error ellipse: s-maj=67.5km s-min=25.1km az=173.0*

*ISCJB **26** 23:57:31.7±0.8, 14°.32N±0°.08×92°.48W±0°.05, h46km, mb3.6/4, Error ellipse: s-maj=11.7km s-min=6.2km az=23.3*

*CASC **26** 23:57:31.3±1.7, 14°.19N×92°.51W, h62km±44km, MD3.9, ML3.8*

ISC 26 23:57:33.3±1.1, 14°.27N±0°.10×92°.44W±0°.08, h46km, n22, σ1s07/25, mb3.6/4, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.78	86	‖*i*P	Pn	23 57 48.2	+0.2
PCG	Pacaya	1.78	86	‖*e*P	Pn	23 58 01.5	-0.3
PCG				*e*S	Sn	23 58 23.9	+0.4
IXG	Ixpaco	1.93	93	*e*P	Pn	23 58 02.2	-1.6
APG	El Apazote	2.05	69	Pn	Pn	23 58 02.5	-3.0
	31nm,0.3s,baz=249,slow=14,SNR=266						
APG				Sn	Sn	23 58 30.8	+0.8
	55nm,0.3s,baz=119,slow=20,SNR=9.5						
NBG	Las Nubes	2.05	81	*e*P	Pn	23 58 06.8	+1.2
RBDL	Robledal	2.68	93	*e*P	Pn	23 58 13.5	-0.6
RTR	El Retiro	2.74	97	*e*P	Pn	23 58 14.9	-0.1
SBLS	San Blas	2.77	99	*e*P	Pn	23 58 15.1	-0.3
SBLS				*e*S	Sn	23 58 49.0	+1.2
MRL	Marmol	2.78	73	*e*P	Pn	23 58 15.5	+0.1
MRL				*e*P	Pn	23 58 16.3	+0.8
SNJE	San Jose	2.78	98	*e*P	Pn	23 58 14.2	-1.3
BOQS	Boqueron	3.12	99	*e*P	Pn	23 58 19.6	-0.5
SNET	Serv Nac Est T	3.17	100	AML	AML	23 59 02.1	
	comp=Z,442nm,0.3s						
LFU	La Fuente	3.27	99	*e*P	Pn	23 58 20.9	-1.3
LFRS	El Faro	3.34	101	*e*P	Pn	23 58 22.3	-0.9
TEIG	Tepich	7.13	33	Pn	Pn	23 59 14.6	-0.5
	comp=Z,5.7nm,0.3s,baz=231,slow=3.9,SNR=19						
TEIG				Sn	Sn	00 00 34.6	-0.3
	comp=Z,0.4nm,0.3s,baz=30,slow=20,SNR=2.7						
TXAR	Lajitas Array	18.24	327	P	Pn	00 01 44.3	+1.2
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=8.9						
H06E1	SOCORRO T-PHAS	18.28	287	T	T	00 20 28.4	
	SNR=25						
PDAR	Pinedale Array	32.00	336	P	P	00 03 55.7	+0.2
	comp=Z,0.3nm,0.8s,baz=145,slow=9.7,SNR=3.1						
NVAR	Mina Array Bea	33.19	321	P	P	00 04 07.1	+1.1
	comp=Z,0.7nm,0.7s,baz=133,slow=7.3,SNR=5.7						
YKA	Yellowknife Ar	50.67	347	P	P	00 06 27.0	-0.7
	comp=Z,1.5nm,0.7s,baz=152,slow=7.4,SNR=23						
ILAR	Eielson Array	62.42	337	P	P	00 07 51.1	-0.2
	comp=Z,0.4nm,0.7s,baz=114,slow=6.2,SNR=7.5						
CMAR	Chiang Mai Arr	145.60	341	PKPbc	PKPdf	00 17 06.7	-0.8
	comp=Z,0.7nm,0.3s,baz=352,slow=5.5,SNR=5.0						

IDC 27 00:06:20.4±20.0, 21°.98S×176°.50W, h377km±168km, mb3.3/4, mb1 3.6/4, mb1mx3.2/18, mbtmp4.0/4, Error ellipse: s-maj=236.5km s-min=56.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	45.56	258	P	P	00 14 05.0	+0.5
	0.7nm,0.5s,baz=100,slow=7.7,SNR=6.6						
WRA	Warramunga Arr	45.80	263	P	P	00 14 05.5	-1.0
	0.2nm,0.3s,baz=97,slow=6.7,SNR=4.7						
ILAR	Eielson Array	89.44	12	P	P	00 18 34.9	0.0
	2.1nm,1.3s,baz=212,slow=5.2,SNR=7.2						
CMAR	Chiang Mai Arr	91.92	289	P	P	00 18 47.5	0.0
	0.9nm,0.3s,baz=124,slow=4.2,SNR=4.4						
AKASG	Malin Array Be	144.97	331	PKP	PKPdf	00 25 11.7	-1.3
	1.5nm,0.5s,baz=41,slow=4.2,SNR=14						
BRTR	Keskin Array B	148.86	312	PKPbc	PKPbc	00 25 24.4	-0.1
	0.4nm,0.6s,baz=137,slow=5.7,SNR=3.0						

IDC 27 00:08:49.0±1.8, 8°.57S×157°.57E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=43.6km s-min=31.8km az=3.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.50	110	Pn	Pn	00 09 30.5	-0.5
	24nm,0.3s,baz=220,slow=16,SNR=5.6						
HNR				Sn	Sg	00 10 10.4	+0.9
	117nm,0.3s,baz=258,slow=24,SNR=7.0						
HNR	Honiara	2.50	110	*e*P	Pb	00 09 34.0	-0.8
HNR				*i* S	Sg	00 10 11.0	+1.6
WRA	Warramunga Arr	25.16	241	P	P	00 14 15.2	-1.0
	1.7nm,0.8s,baz=67,slow=9.5,SNR=5.4						
STKA	Stephens Creek	27.54	210	P	P	00 14 38.4	+0.8
	1.6nm,0.7s,baz=46,slow=9.3,SNR=3.7						
H11S3	WAKE ISLAND Hy	28.36	18	T	T	00 43 34.8	
	baz=198,slow=74						
H11S2	WAKE ISLAND Hy	28.36	18	T	T	00 43 27.3	
	baz=198,slow=74						
H11S1	WAKE ISLAND Hy	28.37	18	T	T	00 43 32.1	
	baz=198						
MKAR	Makanchi Array	86.27	318	P	P	00 21 33.3	+0.5
	0.3nm,0.5s,baz=102,slow=4.7,SNR=4.3						

IDC 27 00:11:40.5±265.0, 40°.29N×145°.64E, h0km, Error ellipse: s-maj=545.6km s-min=25.5km az=114.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N2	WAKE ISLAND Hy	27.41	132	H	H	00 45 56.0	
	baz=325,slow=76,SNR=1073						
H11N1	WAKE ISLAND Hy	27.42	132	H	H	00 45 56.4	
	baz=325,slow=76,SNR=1334						
H11N3	WAKE ISLAND Hy	27.43	132	H	H	00 45 56.9	
	baz=325,slow=76,SNR=1319						
H11S1	WAKE ISLAND Hy	28.23	134	H	H	00 46 58.6	
	baz=327,slow=76,SNR=1720						
H11S3	WAKE ISLAND Hy	28.29	134	H	H	00 46 59.3	
	baz=327,slow=76,SNR=1671						
H11S2	WAKE ISLAND Hy	28.30	134	H	H	00 46 59.9	
	baz=327,slow=76,SNR=2316						
H03N2	Juan Fernandez	143.99	94	H	H	03 11 44.5	
	baz=296,slow=75,SNR=189						
H03N3	Juan Fernandez	144.01	94	H	H	03 11 46.1	
	baz=296,slow=75,SNR=176						
H03N1	Juan Fernandez	144.01	93	H	H	03 11 45.7	
	baz=296,slow=75,SNR=231						

IDC 27 00:18:32.1±258.0, 40°.24N×145°.68E, h0km, Error ellipse: s-maj=529.8km s-min=26.0km az=114.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N2	WAKE ISLAND Hy	27.36	132	H	H	00 52 41.4	
	baz=325,slow=76,SNR=456						
H11N1	WAKE ISLAND Hy	27.37	132	H	H	00 52 43.2	
	baz=325,slow=76,SNR=572						
H11N3	WAKE ISLAND Hy	27.38	132	H	H	00 52 41.9	
	baz=325,slow=76,SNR=510						
H11S1	WAKE ISLAND Hy	28.23	134	H	H	00 53 46.3	
	baz=327,slow=76,SNR=960						
H11S3	WAKE ISLAND Hy	28.24	134	H	H	00 53 47.3	
	baz=327,slow=76,SNR=774						
H11S2	WAKE ISLAND Hy	28.25	134	H	H	00 53 47.6	
	baz=327,slow=76,SNR=922						
H03N2	Juan Fernandez	143.96	94	H	H	03 18 34.7	
	baz=296,slow=75,SNR=40						
H03N3	Juan Fernandez	143.97	94	H	H	03 18 33.4	
	baz=296,slow=75,SNR=34						
H03N1	Juan Fernandez	143.97	94	H	H	03 18 35.3	
	baz=296,slow=75,SNR=48						

IDC 27 00:30:27.5±270.0, 40°.23N×145°.88E, h0km, Error ellipse: s-maj=555.1km s-min=25.9km az=114.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N2	WAKE ISLAND Hy	27.24	132	H	H	01 04 30.9	
	baz=324,slow=76,SNR=590						
H11N1	WAKE ISLAND Hy	27.25	132	H	H	01 04 29.6	
	baz=324,slow=76,SNR=595						
H11N3	WAKE ISLAND Hy	27.26	132	H	H	01 04 30.3	
	baz=324,slow=76,SNR=624						
H11S1	WAKE ISLAND Hy	28.11	134	H	H	01 05 32.2	
	baz=327,slow=76,SNR=778						
H11S3	WAKE ISLAND Hy	28.12	134	H	H	01 05 32.0	
	baz=327,slow=76,SNR=818						
H11S2	WAKE ISLAND Hy	28.13	134	H	H	01 05 33.0	
	baz=327,slow=76,SNR=1069						
H03N2	Juan Fernandez	143.80	94	H	H	03 30 18.2	
	baz=296,slow=75,SNR=38						
H03N3	Juan Fernandez	143.81	94	H	H	03 30 18.8	
	baz=296,slow=75,SNR=31						
H03N1	Juan Fernandez	143.82	94	H	H	03 30 18.7	
	baz=296,slow=75,SNR=37						

*IDC **27** 00:57:22.9±0.5, 18°.47N×72°.92W, h0km, mb4.6/23, mb1 4.7/26, mb1mx4.7/30, mbtmp4.6/26, ML4.2/3, MS4.0/17, Ms1 4.0/17, ms1mx3.9/43, Error ellipse: s-maj=15.5km s-min=11.7km az=46.0*

*ISCJB **27** 00:57:23.1±1.2, 18°.42N±0°.03×72°.97W±0°.02, h9km±8km, mb4.8/119, MS4.3/20, Error ellipse: s-maj=5.2km s-min=2.4km az=11.5*

*MOS **27** 00:57:23.5±1.1, 18°.45N×72°.86W, h10km, mb5.1/30, Error ellipse: s-maj=7.7km s-min=6.1km az=133.2*

*BJI **27** 00:57:25.0, 18°.40N×72°.90W, h10km, mB5.3/4, Ms4.9/1, Ms7 4.7/5*

*NEIC **27** 00:57:25.4±0.2, 18°.43N×72°.90W, h10km, mb4.9/76, Error ellipse: s-maj=5.8km s-min=4.0km az=21.0*

NEIC Felt at Vieux Bourg d'Aquin.

*JSN **27** 00:57:30.0±1.7, 17°.67N×74°.06W, h317km±51km, MD5.5*

ISC 27 00:57:25.3±0.6, 18°.46N±0°.04×72°.92W±0°.03, h12km±3km, n614, σ1s27/632, mb4.9/122, MS4.2/20, 158C-152D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDDR	Presa de Saban	1.63	71	*e*Pn	Pn	00 57 53.0	-0.8
SDDR				*e*Sn	Sn	00 58 15.2	+0.4
GTBY	Guantanamo Bay	2.53	306	*e*Pn	Pn	00 58 02.3	-4.0
GTBY				*e*Sn	Sn	00 58 37.4	+0.3
GRTK	Grand Turk	3.47	29	*e*Pn	Pn	00 58 18.0	-1.1
GRTK				*e*Sn	Sn	00 59 00.4	+0.3
GWJ	Greenwich	3.64	265	*i* P	Pn	00 58 23.0	+1.4
GWJ	Greenwich	3.64	265	*i* P	Pn	00 58 23.0	+1.4
HOJ	Hope	3.67	263	*i* P	Pn	00 58 23.7	+1.9
HOJ	Hope	3.67	263	*i* PA	Pn	00 58 23.7	+1.9
HOJ	Hope	3.67	263	*i* P	Pn	00 58 23.7	+1.9
STH	Stony Hill	3.71	265	*i* P	Pn	00 58 25.1	+2.5
STH				*i* S	Sn	00 59 04.7	-1.6
STH	Stony Hill	3.71	265	*i* P	Pn	00 58 25.1	+2.5
STH				*i* S	Sn	00 59 04.7	-1.6
STH	Stony Hill	3.71	265	*i* P	Pn	00 58 25.1	+2.5
STH				*i* S	Sn	00 59 04.7	-1.6
PCJ	Portland Cotta	4.09	261	*i* P	Pn	00 58 26.4	-1.3
PCJ	Portland Cotta	4.09	261	*i* P	Pn	00 58 26.4	-1.3
MTDJ	Mount Denham	4.39	268	*e*Pn	Pn	00 58 29.5	-2.3
MTDJ				*e*Sn	Sn	00 59 23.0	-0.1
MCJ	Malvern	4.56	264	*i* P	Pn	00 58 33.4	-0.8
MCJ	Malvern	4.56	264	*i* P	Pn	00 58 33.4	-0.8
MBJ	Montego Bay	4.69	270	*i* P	Pn	00 58 34.3	-1.7
MBJ	Montego Bay	4.69	270	*i* P	Pn	00 58 34.3	-1.7
AGPR	Aguadilla, PR	5.51	89	*e*Pn	Pn	00 58 48.3	+1.1
AGPR				*e*Sg	Sg	01 00 21.2	-1.1
LSP	Las Mesas	5.55	92	*e*Pn	Pn	00 58 49.1	+1.3
LSP				*e*Sn	Sn	00 59 52.4	+0.8
LRS	Lares	5.77	91	*e*Pn	Pn	00 58 52.6	+1.8
LRS				*e*Sn	Sn	00 59 58.9	+1.9
AOPR	Arecibo Observ	5.86	90	*e*Pn	Pn	00 58 54.1	+2.1
AOPR				*e*Sn	Sn	01 00 02.5	+3.4
CELP	Cerrillos	6.04	93	*e*Pn	Pn	00 58 54.5	0.0
CELP				*e*Sn	Sn	01 00 02.3	-1.3
CBYP	Canovanas	6.71	90	*e*Pn	Pn	00 59 04.4	+0.6
CBYP				*e*Sn	Sn	01 00 20.7	+0.5
HUMP	Col San Antoni	6.72	92	*e*Pn	Pn	00 59 07.8	+3.9
SDV	Santo Domingo	9.77	167	*e*Pn	Pn	00 59 46.1	+0.2
SDV				*e*Sn	Sn	01 01 33.9	-1.9
MLG	Mont-d'or	10.97	101	*e*P	Pn	01 00 03.8	+1.6
SCG	Saint Claude	11.01	101	*e*P	Pn	01 00 04.3	+1.6
FDF	Fort de France	11.88	106	*e*P	Pn	01 00 14.7	+0.1
FDF				pmax	pmax		
	comp=Z,160nm,1.0s						
FDF	Fort de France	11.88	106	*e*Pn	Pn	01 00 14.7	+0.1
	comp=Z,160nm,1.0s						
GRGR	Grenville	12.55	118	*e*Pn	Pn	01 00 22.8	-1.0
ROSC	El Rosal	13.59	186	*e*Pn	Pn	01 00 39.0	+0.7
ROSC				Sn	Sn	01 03 14.6	+5.0
ROSC	El Rosal	13.59	186	Pn	Pn	01 00 40.4	+2.0
	comp=Z,2.5nm,0.3s,baz=50,slow=9.3,SNR=20						
ROSC				Sn	Sn	01 03 14.6	+5.0
	comp=Z,1.0nm,0.3s,baz=90,slow=20,SNR=2.1						
ROSC				LR	LR	01 06 21.9	
	comp=Z,118nm,20.3s,baz=2.5,slow=40						
TPP	Pointe-a-Pierr	13.74	125	*e*	P	01 00 48.8	+0.1
JTS	JuntasAbangare	14.20	237	*e*Pn	Pn	01 00 47.7	+1.4
JTS	JuntasAbangare	14.20	237	Pn	P	01 00 50.3	-3.6
	comp=Z,0.6nm,0.3s,baz=67,slow=4.1,SNR=14						
JTS				LR	LR	01 06 21.1	
	comp=Z,668nm,19.0s,baz=101,slow=38						
TGUH	Tegucigalpa,Un	14.46	254	*e*Pn	Pn	01 00 51.2	+1.4
TEIG	Tepich	14.60	279	*e*Pn	Pn	01 00 53.6	+1.8
TEIG	Tepich	14.60	279	Pn	Pn	01 00 50.1	-1.7
	comp=Z,2.2nm,0.3s,baz=67,slow=3.2,SNR=7.4						
TIGA	Tifton	16.13	325	*e*Pn	P	01 01 14.6	-0.5
TIGA	Tifton	16.13	325	‖P	Pn	01 01 12.2	+0.4
	baz=16						
APG	El Apazote	17.15	261	P	Pn	01 01 26.0	+0.8
APG	El Apazote	17.15	261	P	Pn	01 01 26.0	+0.8
	comp=Z,1.5nm,0.3s,baz=91,slow=16,SNR=3.9						
APG				LR	LR	01 08 33.5	
	comp=Z,357nm,18.6s,baz=129,slow=39						
BRAL	Brewton	17.89	317	Pn	P	01 01 35.5	+0.8
KMSC	Kings Mountain	18.22	337	P	P	01 01 38.7	+0.4
KMSC	Kings Mountain	18.22	337	‖P	P	01 01 38.9	+0.7
	baz=18						
OTAV	Otavalo	18.91	197	*e*Pn	Pn	01 01 48.9	+1.9
	comp=Z,266nm,1.8s						
TKL	Tuckaleechee C	19.64	333	*e*P	Pn	01 01 55.1	-0.2
TKL				S	S	01 05 22.0	-13
TKL	Tuckaleechee C	19.64	333	P	Pn	01 01 55.0	-0.3
	comp=Z,0.2nm,0.3s,baz=156,slow=19,SNR=5.5						
TK

PBMO **Poplar Bluff** 23.88 323 *e*P P 01 02 41.1 +2.4
comp=Z,67nm,1.5s
SIUC **Southern Illin** 23.90 327 *e*P P 01 02 40.4 +1.4
comp=Z,176nm,1.7s
936A **North Padre Is** 24.13 296 ⇑P P 01 02 41.0 -0.2
baz=24
OLIL **Olney** 24.13 330 *e*P P 01 02 42.2 +1.1
comp=Z,158nm,1.9s
MIAR **Mount Ida** 24.38 315 *e*P P 01 02 44.2 +0.7
MIAR pmax pmax
comp=Z,235nm,2.8s
MIAR **Mount Ida** 24.38 315 *e*P P 01 02 44.2 +0.7
comp=Z,235nm,2.8s
035Z **Hargill** 24.54 293 ⇓P P 01 02 45.1 +0.2
baz=25
035A **Encino** 24.68 295 ⇑P P 01 02 46.2 0.0
baz=25
536A **Bastrop** 24.81 302 ⇓P P 01 02 48.2 +0.8
baz=25
835A **Beeville** 24.82 298 ⇑P P 01 02 47.4 -0.1
baz=25
735A **Kenedy** 24.99 299 ⇓P P 01 02 48.6 -0.3
baz=25,SNR=5.3
SFIN **Scholer Farm** 25.03 334 *e*P P 01 02 49.4 +0.2
comp=Z,50nm,1.2s
SFIN **Scholer Farm** 25.03 334 ⇑P P 01 02 50.2 +1.0
baz=25
635A **Leesville** 25.14 300 ⇓P P 01 02 50.5 +0.2
baz=25
535A **Dale** 25.20 302 ⇓P P 01 02 51.5 +0.6
baz=25
934A **Benavides** 25.21 296 ⇓P P 01 02 51.5 +0.4
baz=25
034A **Hebbronville** 25.21 295 ⇑P P 01 02 51.3 +0.3
baz=25,SNR=16
834A **Tilden** 25.39 297 ⇓P P 01 02 52.7 +0.1
baz=26,SNR=6.7
435B **Jarrell** 25.49 303 ⇑P P 01 02 53.3 -0.2
baz=26
335A **Moody** 25.57 305 ⇓P P 01 02 54.0 -0.2
baz=26,SNR=5.8
634A **China Grove, S** 25.61 300 ⇓P P 01 02 55.1 +0.5
baz=26
734A **La Parita Cree** 25.61 299 ⇓P P 01 02 55.1 +0.5
baz=26
933A **Laredo** 25.86 295 ⇑P P 01 02 57.4 +0.4
baz=26
WHTX **Lake Whitney** 25.89 306 *e*P P 01 02 56.8 -0.3
WHTX **Lake Whitney** 25.89 306 ⇓P P 01 02 57.3 +0.2
baz=26
534A **Blanco** 25.93 301 ⇑P P 01 02 56.8 -0.7
baz=26,SNR=9.9
ATAH **Atahualpa** 26.00 192 P P 01 02 59.4 +0.7
ATAH **Atahualpa** 26.00 192 P P 01 02 59.4 +0.7
comp=Z,9.3nm,1.0s,baz=2.0,slow=7.6,SNR=6.9
ATAH LR LR 01 14 35.2
comp=Z,430nm,21.5s,baz=2.6,slow=40
434A **Burnet** 26.05 303 ⇓P P 01 02 57.4 -1.3
baz=26,SNR=5.1
135A **Vickery Place,** 26.10 307 ⇓P P 01 02 58.0 -1.1
baz=26
833A **Chaparral WMA,** 26.16 297 ⇑P P 01 02 58.8 -0.8
baz=26,SNR=19
733A **Divot King Ran** 26.18 298 ⇓P P 01 02 59.2 -0.7
baz=26,SNR=6.4
334A **Lometa** 26.22 304 ⇑P P 01 02 59.3 -0.9
baz=26,SNR=6.2
633A **Saathoff Ranch** 26.31 299 ⇓P P 01 03 00.5 -0.5
baz=26
Z35A **Perchaven, San** 26.34 309 ⇓P P 01 03 01.1 -0.1
baz=26
533A **Kerrville** 26.40 301 ⇑P P 01 03 01.1 -0.8
baz=26,SNR=6.2
234A **Clairette** 26.42 306 ⇓P P 01 03 01.4 -0.6
baz=26,SNR=5.2
134A **White-Moore Ra** 26.61 307 ⇑P P 01 03 03.1 -0.7
baz=27,SNR=7.3
832A **Faith Ranch, C** 26.64 297 ⇓P P 01 03 03.0 -1.0
baz=27,SNR=16
TUL1 **Tulsa** 26.65 315 *e*P P 01 03 03.8 -0.3
TUL1 **Tulsa** 26.65 315 ⇑P P 01 03 03.6 -0.4
baz=27,SNR=7.9
433A **Art** 26.68 302 ⇑P P 01 03 03.3 -1.1
baz=27,SNR=15
SADO **Sadowa** 26.74 350 LR LR 01 13 11.0
comp=Z,610nm,20.1s,baz=180,slow=36
732A **Laxson Ranch,** 26.76 297 ⇓P P 01 03 04.0 -1.0
baz=27
333A **Richland Sprin** 26.81 304 ⇓P P 01 03 04.4 -1.2
baz=27,SNR=7.6
632A **Uvalde** 26.83 299 ⇑P P 01 03 05.7 0.0
baz=27,SNR=5.6
Z34A **Collier Ranch,** 26.85 308 ⇓P P 01 03 05.8 0.0
baz=27
Y34A **Reagan Ranch,** 27.00 310 ⇑P P 01 03 07.4 +0.2
baz=27,SNR=11
233A **Rising Star** 27.01 305 ⇓P P 01 03 07.0 -0.4
baz=27
532A **Rocksprings** 27.13 300 ⇓P P 01 03 08.1 -0.3
baz=27,SNR=27
JCT **Junction City** 27.16 301 *e*P P 01 03 08.3 -0.4
JCT pmax pmax
comp=Z,68nm,1.6s
JCT **Junction City** 27.16 301 *e*P P 01 03 08.3 -0.4
comp=Z,68nm,1.6s
JCT **Junction City** 27.16 301 ⇑P P 01 03 08.1 -0.6
baz=27,SNR=5.8
133A **Hamilton Ranch** 27.27 306 ⇑P P 01 03 09.3 -0.3
baz=27,SNR=5.7
432A **Menard** 27.29 302 ⇓P P 01 03 09.3 -0.6
baz=27,SNR=6.8
X34A **Smith Ranch, M** 27.37 311 ⇓P P 01 03 10.6 +0.1
baz=28
332A **Millersview** 27.43 303 ⇑P P 01 03 10.7 -0.5
baz=28,SNR=8.0
Z33A **Whitaker Ranch** 27.44 308 ⇓P P 01 03 10.8 -0.4
baz=28,SNR=8.8
631A **Perdido Creek** 27.46 299 ⇓P P 01 03 10.6 -0.8
baz=28,SNR=8.5
232A **Coleman** 27.55 304 ⇑P P 01 03 11.5 -0.7
baz=28,SNR=5.3
W34A **Bridge Creek,** 27.65 312 ⇑P P 01 03 12.2 -0.8
baz=28
531A **Rocksprings** 27.67 300 ⇓P P 01 03 12.2 -1.1
baz=28
Y33A **Hilltop Ranch,** 27.67 309 ⇑P P 01 03 12.7 -0.5
baz=28
V34A **Guthrie** 27.78 313 ⇓P P 01 03 13.6 -0.6
baz=28
X33A **Lawton** 27.82 310 ⇓P P 01 03 13.6 -1.0
baz=28
ABTX **Abilene, Hawle** 27.83 306 *e*P P 01 03 18.1 +3.4
comp=Z,32nm,1.4s
ABTX **Abilene, Hawle** 27.83 306 ⇑P P 01 03 14.2 -0.5
baz=28
431A **Sonora** 27.88 301 ⇑P P 01 03 14.5 -0.7
baz=28,SNR=10
331A **San Angelo** 27.95 303 ⇓P P 01 03 14.9 -0.9
baz=28,SNR=5.7
Z32A **Haskell** 27.99 307 ⇓P P 01 03 15.5 -0.6
baz=28,SNR=8.6
231A **Bronte** 28.09 304 ⇑P P 01 03 16.1 -0.9
baz=28
W33A **Caddo, Fort Co** 28.10 311 ⇓P P 01 03 16.8 -0.2
baz=28
U34A **Anderson Ranch** 28.12 315 ⇓P P 01 03 17.2 0.0
baz=28
WMOK **Wichita Mounta** 28.12 310 *e*P P 01 03 20.1 +2.8
WMOK pmax pmax
comp=Z,35nm,1.8s
WMOK **Wichita Mounta** 28.12 310 *e*P P 01 03 20.1 +2.8
comp=Z,35nm,1.8s
Y32A **R-V Farms, Ver** 28.27 308 ⇓P P 01 03 17.5 -1.0
baz=28,SNR=5.9
V33A **Lossen Ranch,** 28.31 313 ⇓P P 01 03 18.2 -0.7
baz=28
530A **J-C Ranch, Com** 28.31 300 ⇑P P 01 03 18.1 -1.0
baz=28,SNR=8.4
X32A **Elmer** 28.34 309 ⇓P P 01 03 18.4 -0.8
baz=28,SNR=5.5
430A **Baggett Ranch,** 28.43 301 ⇓P P 01 03 19.1 -0.9
baz=28
131A **Roby** 28.43 305 ⇑P P 01 03 18.8 -1.3
baz=28
Z31A **Sharp Cattle R** 28.50 307 ⇓P P 01 03 19.8 -0.9
baz=29
U33A **Lingo Farm, Me** 28.51 314 ⇓P P 01 03 19.1 -1.5
baz=29

330A **Mertzon** 28.59 302 ⇑P P 01 03 20.5 -1.0
baz=29
W32A **Sentinel** 28.64 311 ⇑P P 01 03 20.8 -1.1
baz=29,SNR=7.4
230A **Sterling City** 28.70 303 ⇓P P 01 03 21.4 -1.1
baz=29
V32A **Arapaho** 28.79 312 ⇑P P 01 03 23.4 +0.3
baz=29
130A **Snyder** 28.85 305 ⇓P P 01 03 24.7 +0.9
baz=29
Y31A **Rekieta Farm,** 28.86 308 ⇑P P 01 03 23.3 -0.6
baz=29
SAML **Samuel** 28.88 160 *e*P P 01 03 22.6 -1.5
comp=Z,4.6nm,1.2s
429A **Davenport Ranc** 28.91 300 ⇑P P 01 03 23.2 -1.2
baz=29
X31A **McDonald Ranch** 28.95 309 ⇑P P 01 03 24.2 -0.4
baz=29
529A **Stev Forest Ra** 29.04 299 ⇓P P 01 03 23.9 -1.6
baz=29,SNR=8.1
U32A **Winter Ranch,** 29.09 313 ⇑P P 01 03 24.6 -1.3
baz=29
W31A **Holland Ranch,** 29.17 310 ⇓P P 01 03 26.6 0.0
baz=29
Z30A **Sanderson Ranc** 29.24 306 ⇑P P 01 03 27.1 -0.2
baz=29
329A **Wagon Wheel Ra** 29.26 302 ⇑P P 01 03 26.2 -1.3
baz=29,SNR=5.9
229A **Bryant Ranch,** 29.29 303 ⇑P P 01 03 27.3 -0.4
baz=29
Y30A **Stafford Cattl** 29.31 307 ⇑P P 01 03 27.7 -0.1
baz=29
V31A **Spring Creek L** 29.38 311 ⇓P P 01 03 28.5 0.0
baz=30
628A **Black Gap, Mar** 29.42 298 ⇑P P 01 03 28.7 -0.2
baz=30
T32A **Huddler Ranch,** 29.45 315 ⇑P P 01 03 29.3 +0.2
baz=30
R33A **Olander Ranch,** 29.46 317 ⇓P P 01 03 28.8 -0.3
baz=30
528A **Cox Ranch, San** 29.52 299 ⇓P P 01 03 28.7 -1.1
baz=30,SNR=7.7
X30A **Coker Ranch, T** 29.53 308 ⇑P P 01 03 29.3 -0.5
baz=30
129A **Stewart Farms,** 29.57 304 ⇑P P 01 03 29.5 -0.8
baz=30
428A **Kincaid Ranch,** 29.59 300 ⇑P P 01 03 29.2 -1.3
baz=30,SNR=11
Z29A **Hungry Hill Ra** 29.68 305 ⇑P P 01 03 30.5 -0.7
baz=30
Q33A **Connelly Farm,** 29.77 319 ⇓P P 01 03 31.2 -0.6
baz=30,SNR=5.9
627A **Terlingua Ranc** 29.83 297 ⇑P P 01 03 31.7 -0.9
baz=30,SNR=22
Y29A **Porterfield Fa** 29.89 307 ⇑P P 01 03 32.3 -0.7
baz=30
328A **Wristen Ranch,** 29.90 301 ⇑P P 01 03 32.0 -1.1
baz=30
T31A **Randall Ranch,** 29.92 314 ⇑P P 01 03 32.3 -0.9
baz=30
P33A **Williams Farm,** 29.94 319 ⇑P P 01 03 33.5 +0.2
baz=30
228A **UT Block 9, Go** 29.96 303 ⇑P P 01 03 32.8 -0.9
baz=30
R32A **Long Quarter,** 29.99 317 ⇑P P 01 03 31.7 -2.2
baz=30
TXAR **Lajitas Array** 30.04 297 P P 01 03 33.5 -0.9
TXAR PcP PcP 01 06 36.0 -0.4
TXAR **Lajitas Array** 30.04 297 P P 01 03 33.5 -0.9
comp=Z,4.2nm,1.1s,baz=120,slow=8.9,SNR=10
TXAR PcP PcP 01 06 36.0 -0.4
comp=Z,0.7nm,0.8s,baz=115,slow=4.3,SNR=3.9
TXAR LR LR 01 17 30.7
comp=Z,56nm,19.0s,baz=0.0,slow=40
128A **Castleberry Fa** 30.05 304 ⇑P P 01 03 33.2 -1.3
baz=30,SNR=5.7
S31A **Mullinville** 30.07 315 ⇓P P 01 03 34.0 -0.5
baz=30
X29A **Tulia** 30.15 308 ⇓P P 01 03 34.7 -0.7
baz=30
527A **Woodward Ranch** 30.20 298 ⇑P P 01 03 35.0 -0.9
baz=30,SNR=10
Z28A **Tuer Farm, M** 30.22 305 ⇑P P 01 03 35.2 -0.8
baz=30
Q32A **Meitler Ranch,** 30.22 318 ⇓P P 01 03 35.6 -0.3
baz=30
427A **Hayter Ranch,** 30.22 300 ⇑P P 01 03 35.5 -0.5
baz=30,SNR=11
AMTX **Amarillo** 30.32 308 *e*P P 01 03 39.8 +3.0
comp=Z,27nm,1.4s
AMTX **Amarillo** 30.32 308 ⇑P P 01 03 36.2 -0.7
baz=30
Y28A **McKinney Farm,** 30.35 306 ⇓P P 01 03 36.5 -0.6
baz=30
W29A **Amraillo** 30.39 309 ⇓P P 01 03 37.6 +0.1
baz=30
R31A **Burdett** 30.45 316 ⇓P P 01 03 37.8 -0.1
baz=31
626A **Big Bend Ranch** 30.48 297 ⇑P P 01 03 38.0 -0.4
baz=31
526A **Mary Lane Ranc** 30.57 298 ⇑P P 01 03 38.6 -0.7
baz=31,SNR=26
V29A **Stinnett** 30.63 310 ⇑P P 01 03 39.0 -0.6
baz=31
426A **McDonald Obser** 30.69 299 ⇓P P 01 03 39.0 -1.3
baz=31,SNR=26
Q31A **Ellis** 30.76 317 ⇓P P 01 03 40.3 -0.3
baz=31
MSTX **Muleshoe** 30.77 306 *e*P P 01 03 40.6 -0.3
MSTX **Muleshoe** 30.77 306 ⇑P P 01 03 40.1 -0.8
baz=31
Z27A **Tatum** 30.87 305 ⇑P P 01 03 40.3 -1.4
baz=31,SNR=7.0
P31A **Stockton** 31.05 318 ⇓P P 01 03 42.3 -0.8
baz=31,SNR=5.0
S29A **Ulysses** 31.18 314 ⇓P P 01 03 43.5 -0.9
baz=31
226B **Tecolote Peak,** 31.21 302 ⇑P P 01 03 43.9 -0.9
baz=31
126A **Clayton Basin,** 31.28 303 ⇑P P 01 03 44.5 -0.9
baz=31
X27A **F and S Farms,** 31.28 307 ⇓P P 01 03 45.2 -0.2
baz=31
O31A **Woolen Ranch,** 31.38 319 ⇓P P 01 03 46.1 +0.1
baz=32
W27A **Bowe Ranch, En** 31.42 308 ⇑P P 01 03 46.0 -0.6
baz=32
BGNE **Belgrade** 31.43 322 ⇓P P 01 03 45.7 -0.8
baz=32
Z26A **Caprock** 31.46 304 ⇑P P 01 03 45.5 -1.5
baz=32
425A **Indio Mountain** 31.51 299 ⇓P P 01 03 46.1 -1.4
baz=32,SNR=6.3
P30A **Selden** 31.61 317 ⇑P P 01 03 47.4 -0.7
baz=32,SNR=6.1
T28A **Walsh** 31.63 312 ⇓P P 01 03 46.8 -1.6
baz=32
S28A **Manter** 31.70 313 ⇑P P 01 03 48.0 -1.0
baz=32
Q29A **Oakley** 31.74 316 ⇓P P 01 03 48.5 -0.8
baz=32
225A **Deer Hill, Car** 31.75 302 ⇑P P 01 03 48.9 -0.8
baz=32,SNR=10.0
X26A **CR and CF Fran** 31.79 306 ⇓P P 01 03 48.8 -1.1
baz=32,SNR=5.6
125A **Gardner Draw,** 31.79 303 ⇑P P 01 03 49.0 -0.9
baz=32,SNR=6.1
U27A **Thompson Grove** 31.82 310 ⇓P P 01 03 49.1 -1.1
baz=32
M31A **Lambtecht Ranc** 31.88 321 ⇓P P 01 03 49.6 -0.9
baz=32
W26A **Owens Ranch, T** 31.96 307 ⇓P P 01 03 49.9 -1.5
baz=32
R28A **Tribune** 32.01 314 ⇑P P 01 03 51.3 -0.4
baz=32,SNR=7.8
T27A **Campo** 32.03 311 ⇓P P 01 03 51.1 -0.9
baz=32
Z25A **Roswell** 32.04 304 ⇓P P 01 03 50.9 -1.1
baz=32,SNR=9.1
MNTX **Cornudas Mount** 32.09 301 *e*P P 01 03 51.1 -1.2
comp=Z,51nm,1.5s
ECSD **EROS Data Cent** 32.13 327 ⇑P P 01 03 52.9 +0.3
baz=32
Y25A **Mesa, Roswell** 32.24 305 ⇑P P 01 03 53.2 -0.6
baz=32
V26A **Tequesquite Ra** 32.26 309 ⇓P P 01 03 53.6 -0.4
baz=32
O29A **4D Ranch, Culb** 32.29 318 ⇑P P 01 03 53.8 -0.3
baz=32
Q28A **Sharon Springs** 32.39 315 ⇓P P 01 03 54.6 -0.5
baz=32
X25A **Clemmons Ranch** 32.43 306 ⇑P P 01 03 55.2 -0.4
baz=32
U26A **Atchley Ranch,** 32.48 310 ⇓P P 01 03 55.7 -0.3
baz=33,SNR=8.6
M30A **Dale-Ortello V** 32.53 321 ⇓P P 01 03 57.3 +1.1
baz=33
W25A **X Bar L Ranch,** 32.54 307 ⇑P P 01 03 56.6 +0.2
baz=33,SNR=11
Z24A **Sheeppen Canyo** 32.57 303 ⇓P P 01 03 56.9 +0.1
baz=33,SNR=11
P28A **Saint Francis** 32.61 316 ⇑P P 01 03 58.0 +1.0
baz=33
R27A **Eads** 32.66 313 ⇓P P 01 03 57.6 +0.2
baz=33
L30A **Spencer Herefo** 32.69 321 ⇓P P 01 03 58.3 +0.7
baz=33,SNR=6.0
T26A **Comanche Natio** 32.71 311 ⇑P P 01 03 57.6 -0.4
baz=33
S26A **Kim** 32.82 312 ⇑P P 01 03 59.0 +0.1
baz=33
Y24A **Capitan** 32.82 304 ⇓P P 01 03 58.7 -0.4
baz=33,SNR=18
V25A **Rancho No Teng** 32.89 308 ⇑P P 01 03 59.5 -0.1
baz=33,SNR=11
O28A **Krutsinger Ran** 32.91 317 ⇑P P 01 04 00.9 +1.3
baz=33
U25A **Circle Dot Ran** 32.97 309 ⇑P P 01 04 00.4 +0.2
baz=33,SNR=6.1
N28A **Pribbeno Ranch** 33.07 318 ⇓P P 01 04 01.7 +0.7
baz=33
K30A **Basset** 33.07 323 ⇓P P 01 04 02.6 +1.6
baz=33
R26A **Arlington** 33.12 313 ⇓P P 01 04 02.3 +0.9
baz=33
W24A **Lazy 6 Ranch,** 33.25 307 ⇓P P 01 04 03.2 +0.4
baz=33,SNR=10
T25A **Trinidad** 33.28 310 ⇑P P 01 04 03.4 +0.4
baz=33,SNR=7.6
Y23A **Lovelace Mesa,** 33.31 304 ⇑P P 01 04 03.8 +0.5
baz=33,SNR=23
V24A **Rampart Ranch,** 33.34 308 ⇑P P 01 04 05.1 +1.5
baz=34,SNR=8.6
J30A **Dallas** 33.41 324 ⇓P P 01 04 05.2 +1.3
baz=34
Q26A **Hugo** 33.46 314 ⇑P P 01 04 05.2 +0.7
baz=34
S25A **Robets Cordova** 33.52 311 ⇓P P 01 04 06.4 +1.3
baz=34,SNR=5.7
R25A **Fountain Ranch** 33.63 312 ⇑P P 01 04 07.4 +1.4
baz=34,SNR=6.0
W23A **Werner Place,** 33.80 306 ⇑P P 01 04 08.6 +1.0
baz=34,SNR=6.8
Z22A **Elephant Butte** 33.82 303 ⇑P P 01 04 08.4 +0.7
baz=34,SNR=11
BNM **Barren Site** 33.83 304 *e*P P 01 04 07.2 -0.6
comp=Z,33nm,1.2s
LPM **Los Pinos Moun** 33.88 305 *e*P P 01 04 08.3 +0.1
J29A **Okreek** 33.94 323 ⇑P P 01 04 08.2 -0.3
baz=34
T24B **San Luis** 33.95 310 ⇓P P 01 04 09.5 +0.5
baz=34,SNR=7.9
Q25A **Bedland, Calha** 33.96 313 ⇓P P 01 04 09.8 +0.9
baz=34
ANMO **Albuquerque** 33.96 306 *e*P P 01 04 09.0 0.0
comp=Z,29nm,1.5s
O26A **Horse Wrangler** 33.98 316 ⇑P P 01 04 10.1 +1.2
baz=34
V23A **Ortiz Mt. (NFS** 34.04 307 ⇑P P 01 04 10.3 +0.7
baz=34,SNR=8.7
S24A **Houchin Ranch,** 34.07 311 ⇑P P 01 04 10.6 +0.7
baz=34
LENM **Lemitar** 34.11 304 *e*P P 01 04 12.2 +2.0
K28A **Ten Mile Ranch** 34.12 321 ⇑P P 01 04 11.3 +1.1
baz=34
P25A **Willow Gulch B** 34.19 314 ⇑P P 01 04 11.9 +1.0
baz=34
N26A **Koester Ranch,** 34.22 317 ⇑P P 01 04 12.0 +1.0
baz=34
R24A **Sanders Place,** 34.25 312 ⇓P P 01 04 11.9 +0.4
baz=34
U23A **El Rito** 34.26 308 ⇓P P 01 04 12.4 +0.8
baz=34,SNR=9.1
121A **Cookes Peak, D** 34.28 301 *e*P P 01 04 11.9 +0.2
comp=Z,51nm,1.4s
121A **Cookes Peak, D** 34.28 301 ⇓P P 01 04 12.2 +0.5
baz=34,SNR=10
LAZ **Ladron** 34.31 304 *e*P P 01 04 11.8 -0.2
comp=Z,24nm,1.3s
SDCO **Great Sand Dun** 34.32 311 *e*P P 01 04 13.0 +0.8
comp=Z,18nm,1.4s
L27A **T5 Ranch, Ells** 34.33 320 ⇑P P 01 04 12.9 +0.9
baz=34
Q24A **Divide** 34.61 313 ⇓P P 01 04 14.6 0.0
baz=35
V22A **San Miguel Ran** 34.65 307 ⇑P P 01 04 15.4 +0.5
baz=35,SNR=7.8
U22A **Llaves** 34.77 308 ⇑P P 01 04 16.9 +0.9
baz=35,SNR=7.8
M25A **Palm-Egli Farm** 35.08 317 ⇓P P 01 04 19.1 +0.6
baz=35
O24A **Longmont** 35.09 315 ⇓P P 01 04 19.0 +0.4
baz=35
AGMN **Agassiz Nation** 35.12 333 ⇓P P 01 04 19.5 +0.9
baz=35
H28A **Mission Ridge** 35.12 324 ⇓P P 01 04 19.3 +0.7
baz=35
K26A **Motz Farm, Whi** 35.21 320 ⇓P P 01 04 20.5 +1.0
baz=35
LPIG **La Paz** 35.22 286 P P 01 04 20.2 +0.5
LPIG **La Paz** 35.22 286 P P 01 04 20.2 +0.5
comp=Z,14nm,0.2s,baz=72,slow=3.2,SNR=3.8
319A **Douglas** 35.23 298 ⇓P P 01 04 20.0 +0.1
baz=35,SNR=20
P23A **Jefferson** 35.27 313 ⇓P P 01 04 21.4 +1.0
baz=35
S22A **4UR Ranch, Cre** 35.28 310 ⇑P P 01 04 19.6 -0.9
baz=35,SNR=5.8
ISCO **Idaho Springs** 35.31 314 ⇑P P 01 04 20.8 +0.1
baz=35
I27A **Quinn** 35.33 323 ⇑P P 01 04 20.3 -0.2
baz=36
J26A **Sides Ranch, S** 35.49 321 ⇑P P 01 04 22.4 +0.5
baz=36
D30A **Buchanan** 35.57 329 ⇓P P 01 04 23.4 +0.9
baz=36
K25A **Mack Ranch, Ha** 35.59 319 ⇑P P 01 04 23.0 +0.2
baz=36
M24A **Cheyenne** 35.59 317 ⇓P P 01 04 23.1 +0.2
baz=36
H27A **Howes** 35.69 323 ⇑P P 01 04 24.1 +0.6
baz=36
C30A **Mose, Pekin** 35.86 330 ⇑P P 01 04 26.0 +1.1
baz=36
L24A **Wheatland** 35.95 318 ⇑P P 01 04 26.6 +0.6
baz=36
SMCO **Snowmass** 35.98 312 *e*P P 01 04 29.4 +2.9
comp=Z,28nm,1.5s
SMCO *e*PcP PcP 01 06 58.9 +5.7
N23A **Red Feather La** 36.04 315 ⇓P P 01 04 27.1 +0.2
baz=36
O22A **Kremmling** 36.11 314 ⇓P P 01 04 27.9 +0.3
baz=36
SIV **San Ignacio** 36.17 160 P P 01 04 28.0 +0.1
SIV **San Ignacio** 36.17 160 P P 01 04 28.0 +0.1
comp=Z,4.2nm,0.9s,baz=355,slow=10,SNR=7.0
M23A **Laramie** 36.17 316 ⇑P P 01 04 28.4 +0.4
baz=36
I25A **Rochford** 36.29 321 ⇑P P 01 04 28.7 -0.2
baz=36
MVCO **Mesa Verde** 36.31 308 *e*P P 01 04 32.2 +3.0
comp=Z,39nm,2.0s
MVCO **Mesa Verde** 36.31 308 ⇑P P 01 04 28.8 -0.4
baz=36
B30A **Myrvik Farm, E** 36.33 331 ⇑P P 01 04 29.3 +0.3
baz=36
N22A **Wattenberg Ran** 36.34 315 ⇓P P 01 04 29.0 -0.5
baz=36
G26A **Maurine** 36.39 324 ⇑P P 01 04 30.1 +0.6
baz=36
F27A **Lemmon** 36.43 325 ⇑P P 01 04 30.8 +1.0
baz=37
J24A **Dixon Ranch, L** 36.46 320 ⇓P P 01 04 30.3 0.0
baz=37
L23A **Garrett** 36.48 317 ⇓P P 01 04 30.1 -0.5
baz=37,SNR=5.6

X18A Snowflake 36.56 303 ⇓P P 01 04 31.0 -0.4
baz=37,SNR=6.0
SCHQ Schefferville 36.60 6 *e*P P 01 04 34.2 +3.0
SCHQ Schefferville 36.60 6 P P 01 04 33.3 +2.1
comp=Z,8.6nm,0.9s,baz=213,slow=8.3,SNR=5.9
SCHQ LR LR 01 20 09.5
comp=Z,299nm,18.3s,baz=202,slow=37
ULM Lac du Bonnet 36.64 335 *e*P P 01 04 32.5 +0.9
comp=Z,13nm,1.1s
ULM Lac du Bonnet 36.64 335 P P 01 04 32.6 +1.0
comp=Z,8.5nm,0.9s,baz=149,slow=8.6,SNR=12
ULM LR LR 01 20 24.3
comp=Z,220nm,18.6s,baz=186,slow=38
A30A Hoffart Farm, 36.67 332 ⇓P P 01 04 31.5 -0.4
baz=37,SNR=10
TUC Tucson 36.68 300 *e*P P 01 04 31.8 -0.5
TUC pmax pmax
comp=Z,17nm,1.4s
TUC Tucson 36.68 300 *e*P P 01 04 31.8 -0.5
comp=Z,17nm,1.4s
PV01 Paradox Valley 36.70 310 *e*P P 01 04 34.4 +1.8
comp=Z,1μm,1.5s
F26A Lodgepole 36.77 325 ⇑P P 01 04 31.4 -1.4
baz=37
G25A Newell 36.79 323 ⇑P P 01 04 32.6 -0.4
baz=37
A29A Manning Farm, 37.08 331 ⇑P P 01 04 36.2 +0.8
baz=37
H24A Dirks Ranch, A 37.18 322 ⇑P P 01 04 36.9 +0.5
baz=37
K22A Casper 37.28 318 *e*P P 01 04 39.8 +2.5
comp=Z,14nm,1.1s
K22A Casper 37.28 318 ⇓P P 01 04 38.0 +0.7
baz=37
J22A Midwest 37.63 319 ⇓P P 01 04 39.3 -1.0
baz=38,SNR=7.1
X16A Lo Mia Camp, P 37.72 303 ⇓P P 01 04 40.6 -0.6
baz=38,SNR=11
K21A Alcova 37.74 317 ⇓P P 01 04 40.9 -0.4
baz=38,SNR=13
I22A 9 Mile Ranch, 37.88 319 ⇑P P 01 04 42.2 -0.2
baz=38
WUAZ Wupatki 37.96 304 *e*P P 01 04 43.3 +0.1
comp=Z,28nm,1.3s
WUAZ Wupatki 37.96 304 ⇓P P 01 04 42.5 -0.7
baz=38,SNR=6.0
J21A Lysite 38.21 318 ⇑P P 01 04 45.0 -0.2
baz=38,SNR=7.9
214A Organ Pipe Nat 38.29 298 ⇑P P 01 04 45.8 -0.1
baz=38,SNR=7.6
I21A Big Trails, Te 38.34 319 ⇑P P 01 04 44.9 -1.4
baz=38,SNR=8.0
G22A Birney 38.47 321 ⇓P P 01 04 47.5 +0.2
baz=39
SRU San Rafael 38.48 310 *e*P P 01 04 48.9 +1.3
SRU pmax pmax
comp=Z,5.0nm,1.1s
SRU San Rafael 38.48 310 *e*P P 01 04 48.9 +1.3
comp=Z,5.2nm,1.1s
J20A Shoshoni 38.62 318 ⇓P P 01 04 48.3 -0.3
baz=39
F22A Rosebud 38.76 322 ⇓P P 01 04 49.8 +0.2
baz=39
U15A North Rim 38.93 306 ⇓P P 01 04 50.4 -1.1
baz=39,SNR=22
I20A Worland 38.94 319 ⇓P P 01 04 51.0 -0.3
baz=39
D23A Lindsay 38.96 325 ⇓P P 01 04 51.2 -0.1
baz=39
J19A Crowheart 39.20 317 ⇓P P 01 04 52.6 -0.9
baz=39,SNR=6.5
BW06 Boulder Array 39.30 316 *e*P P 01 04 54.9 +0.5
comp=Z,26nm,1.6s
PDAR Pinedale Array 39.30 316 P P 01 04 53.0 -1.4
PDAR PcP **PcP** 01 07 01.5 -1.7
PDAR Pinedale Array 39.30 316 P P 01 04 53.0 -1.4
comp=Z,1.9nm,1.0s,baz=116,slow=10,SNR=14
PDAR PcP **PcP** 01 07 01.5 -1.7
comp=Z,1.8nm,1.0s,baz=134,slow=5.1,SNR=4.4
PDAR LR LR 01 22 18.9
comp=Z,394nm,19.5s,baz=117,slow=38
A24A Westby 39.40 328 ⇓P P 01 04 55.2 +0.2
baz=40
D22A Cohagen 39.49 324 ⇑P P 01 04 55.5 -0.2
baz=40
DAU Daniels Canyon 39.49 312 *e*P P 01 04 55.0 -1.2
DAU Daniels Canyon 39.49 312 *e*P P 01 04 55.0 -1.2
MVU Marysvale 39.51 309 *e*P P 01 04 58.7 +2.5
comp=Z,30nm,1.8s
I19A Meeteetse 39.53 318 ⇑P P 01 04 55.6 -0.6
baz=40,SNR=7.6
MPU Maple Canyon 39.61 311 *e*P P 01 04 60.0 +2.9
comp=Z,25nm,1.4s
G20A Bridger 39.63 320 ⇓P P 01 04 57.0 0.0
baz=40
C22A Vida 39.67 325 ⇑P P 01 04 56.8 -0.4
baz=40
JLU Jordanelle 39.70 312 *e*P P 01 04 59.5 +1.7
comp=Z,17nm,1.5s
H19A Powell 39.83 319 ⇑P P 01 04 57.6 -1.0
baz=40,SNR=6.5
W13A Hualapai Mount 39.84 303 ⇑P P 01 04 58.7 -0.3
baz=40,SNR=18
PDMCI Parker Dam,Lak 39.86 302 ⇓P P 01 04 58.4 -0.5
baz=40
D21A La Casta Ranch 39.90 323 ⇓P P 01 04 59.5 +0.3
baz=40
CCUT Cedar City 40.08 307 *e*P P 01 05 01.7 +0.7
comp=Z,13nm,1.3s
HWUT Hardware Ranch 40.17 313 *e*P P 01 05 03.5 +1.9
comp=Z,20nm,1.5s
GLA Glamis 40.17 300 ⇑P P 01 05 00.6 -1.0
baz=40
ARUT Antelope Range 40.21 307 *e*P P 01 05 02.0 0.0
ARUT Antelope Range 40.21 307 *e*P P 01 05 02.0 0.0
comp=Z,362nm,1.2s
E20A Meyer Farm, Mu 40.25 322 ⇑P P 01 05 01.4 -0.6
baz=40,SNR=5.1
H18A Shoshone NF, C 40.25 319 ⇑P P 01 05 00.7 -1.7
baz=40,SNR=9.0
LOHW Long Hollow 40.37 317 *e*P P 01 05 02.0 -1.3
comp=Z,38nm,1.4s
F19A Roth Farm, Mol 40.39 321 ⇑P P 01 05 03.2 -0.1
baz=40
REDW Red Top Meadow 40.42 316 *e*P P 01 05 03.1 -0.6
comp=Z,44nm,1.4s
I17A Pilgrim Ck. 40.48 317 ⇓P P 01 05 04.1 -0.1
baz=41,SNR=7.4
MOOW Moose Ponds 40.52 317 *e*P P 01 05 03.3 -1.2
comp=Z,15nm,1.0s
DUG Dugway 40.52 311 *e*P P 01 05 05.1 +0.6
DUG pmax pmax
comp=Z,21nm,1.4s
DUG Dugway 40.52 311 *e*P P 01 05 05.1 +0.6
comp=Z,21nm,1.4s
DUG Dugway 40.52 311 ⇓P P 01 05 04.4 -0.1
baz=41,SNR=9.6
D20A Manuel Ranch, 40.56 323 ⇓P P 01 05 04.7 0.0
baz=41
E19A Rath Farm, Rou 40.61 322 ⇑P P 01 05 04.9 -0.2
baz=41,SNR=6.6
IRM Iron Mountain 40.65 301 ⇑P P 01 05 05.0 -0.5
baz=41,SNR=26
BC3 Big Chuckawall 40.80 300 ⇑P P 01 05 07.0 +0.1
baz=41,SNR=6.3
LDFC Landfair 40.81 303 *e*P P 01 05 09.4 +2.5
comp=Z,37nm,1.3s
C20A Veseth Ranch, 40.83 324 ⇓P P 01 05 08.3 +1.4
baz=41
BGU Big Grassy Mou 40.93 312 *e*P P 01 05 08.2 +0.3
comp=Z,10nm,1.3s
SWSC Sam W. Stewart 40.95 299 ⇓P P 01 05 08.5 +0.5
baz=41
D19A Cripps Ranch, 41.03 322 ⇑P P 01 05 09.7 +1.1
baz=41
SHPR Sheep Range 41.18 305 *e*P P 01 05 11.0 +1.0
GMRC Granite Mounta 41.19 302 ⇓P P 01 05 09.9 -0.2
baz=41,SNR=6.0
BELC Belle Mtn. Jos 41.31 301 ⇓P P 01 05 11.6 +0.5
baz=41
C19A Slack Wire Ran 41.43 323 ⇓P P 01 05 12.6 +0.8
baz=42
A20A Cobblestone Ra 41.44 325 ⇓P P 01 05 12.5 +0.7
baz=42
QLMT Earthquake Lak 41.44 318 *e*P P 01 05 13.6 +1.5
MONP Monument Peak 41.46 299 ⇑P P 01 05 11.9 -0.5
baz=42,SNR=5.8
TUQ Turquoise Moun 41.54 303 ⇓P P 01 05 12.5 -0.5
baz=42,SNR=6.8
BDFB Brasilia 41.83 143 P P 01 05 15.0 -0.5
BDFB Brasilia 41.83 143 P P 01 05 15.0 -0.5
comp=Z,10nm,0.7s,baz=321,slow=11,SNR=18
BDFB LR LR 01 22 59.4
comp=Z,310nm,19.0s,baz=318,slow=37
A19A Klindworth Far 41.91 325 ⇓P P 01 05 16.3 +0.5
baz=42
SHOC Shoshone 41.92 303 ⇑P P 01 05 16.1 +0.2
baz=42,SNR=6.9
EGMT Eagleton 41.99 323 *e*P P 01 05 19.1 +2.7
comp=Z,36nm,1.7s
EGMT Eagleton 41.99 323 ⇑P P 01 05 17.7 +1.3
baz=42
R11A Troy Canyon, C 41.99 307 *e*P P 01 05 17.1 +0.5
R11A Troy Canyon, C 41.99 307 ⇑P P 01 05 16.9 +0.2
baz=42,SNR=7.4
GSC Goldstone 42.22 302 *e*P P 01 05 18.7 +0.3
GSC pmax pmax
comp=Z,31nm,1.4s
GSC Goldstone 42.22 302 *e*P P 01 05 18.7 +0.3
comp=Z,31nm,1.4s
GSC Goldstone 42.22 302 ⇓P P 01 05 18.4 -0.1
baz=42,SNR=5.6
MURC Murrieta 42.22 300 ⇓P P 01 05 18.5 0.0
baz=42
MCMT McKenzie Canyo 42.35 317 *e*P P 01 05 21.3 +1.7
comp=Z,4.8nm,1.1s
DLMT Dillon 42.42 318 *e*P P 01 05 22.1 +2.1
comp=Z,18nm,1.4s
FFC Flin Flon 42.47 335 *e*P P 01 05 21.6 +1.6
FFC pmax pmax
comp=Z,76nm,2.5s
FFC Flin Flon 42.47 335 *e*P P 01 05 21.6 +1.6
comp=Z,76nm,2.5s
FURC Furnace Creek, 42.51 304 ⇓P P 01 05 21.4 +0.8
baz=43
LRM Limekiln Ridge 42.53 319 *e*P P 01 05 23.9 +2.9
BFSC Mount Baldy Ra 42.71 301 ⇑P P 01 05 22.6 +0.1
baz=43
HLID Hailey 42.87 315 *e*P P 01 05 25.8 +2.1
comp=Z,20nm,1.6s
HLID Hailey 42.87 315 ⇑P P 01 05 23.8 +0.1
baz=43,SNR=6.7
LRMC Laurel Mountai 42.96 302 ⇓P P 01 05 24.6 +0.1
baz=43,SNR=6.5
GRAC Grapevine Rang 43.02 305 ⇑P P 01 05 25.3 +0.4
baz=43,SNR=6.7
DAC Darwin (Calif) 43.04 304 *e*P P 01 05 25.5 +0.2
DAC pmax pmax
comp=Z,19nm,1.3s
DAC Darwin (Calif) 43.04 304 *e*P P 01 05 25.5 +0.2
comp=Z,19nm,1.3s
EDW2 Edwards Air Fo 43.09 302 ⇓P P 01 05 25.1 -0.4
baz=43,SNR=7.1
FCC Fort Churchill 43.12 344 *e*P P 01 05 26.8 +1.5
FCC Fort Churchill 43.12 344 *e*P P 01 05 26.8 +1.5
comp=Z,0.5nm,1.2s
TPH Tonopah 43.16 306 *e*P P 01 05 26.8 +0.6
TPH pmax pmax
comp=Z,24nm,1.2s
TPH Tonopah 43.16 306 *e*P P 01 05 26.8 +0.6
comp=Z,24nm,1.2s
MFID Camas Ranch 43.77 314 *e*P P 01 05 33.9 +3.0
comp=Z,58nm,2.5s
BMN Battle Mountai 43.79 310 *e*P P 01 05 34.1 +2.9
BMN pmax pmax
comp=Z,20nm,1.5s
BMN Battle Mountai 43.79 310 *e*P P 01 05 34.1 +2.9
comp=Z,20nm,1.5s
ARVC Arvin 43.81 302 ⇓P P 01 05 32.1 +0.9
baz=44
NV11 Mina Array Sit 43.96 307 *e*P P 01 05 33.9 +1.3
NVAR Mina Array Bea 44.08 307 P P 01 05 33.0 -0.6
NVAR PcP **PP** 01 07 17.6 +1.3
NVAR Mina Array Bea 44.08 307 P P 01 05 33.0 -0.6
comp=Z,5.1nm,1.1s,baz=113,slow=6.9,SNR=12
NVAR PcP **PP** 01 07 17.6 +1.3
comp=Z,1.0nm,0.8s,baz=126,slow=4.7,SNR=3.2
NVAR LR LR 01 25 48.0
comp=Z,70nm,18.8s,baz=262,slow=39
VES Vestal, Richgr 44.14 303 ⇑P P 01 05 33.6 -0.3
baz=44,SNR=10
SWMT Swartz Lake 44.24 320 *e*P P 01 05 35.5 +0.9
comp=Z,27nm,2.0s
FRB Frobisher Bay 45.35 3 LR LR 01 23 21.5
comp=Z,365nm,22.0s,baz=188,slow=34
WVOR Wild Horse Val 45.40 312 *e*P P 01 05 46.7 +2.7
WVOR pmax pmax
comp=Z,14nm,1.3s
WVOR Wild Horse Val 45.40 312 *e*P P 01 05 46.7 +2.7
comp=Z,14nm,1.3s
MOD Modoc 46.43 311 *e*P P 01 05 55.0 +2.8
comp=Z,14nm,1.4s
NEW Newport 46.46 320 *e*P P 01 05 52.7 +0.5
comp=Z,9.5nm,1.1s
NEW Newport 46.46 320 ⇑P P 01 05 51.6 -0.6
baz=47,SNR=5.1
G08A Pilot Rock 46.52 316 *e*P P 01 05 54.4 +1.6
comp=Z,164nm,3.0s
EDM Edmonton 46.69 328 *e*P P 01 05 56.2 +2.3
EDM Edmonton 46.69 328 *e*P P 01 05 56.2 +2.3
CPUP Villa Florida 47.03 161 P P 01 05 55.5 -1.2
CPUP Villa Florida 47.03 161 P P 01 05 55.5 -1.2
comp=Z,0.7nm,0.4s,baz=331,slow=12,SNR=3.1
CPUP LR LR 01 27 00.0
comp=Z,321nm,20.4s,baz=332,slow=38
J05D Fort Rock, OR 47.47 312 ⇓P P 01 05 59.5 -0.8
baz=48
M04C Macdoel 47.51 310 ⇓P P 01 06 00.4 -0.2
baz=48
B08A Colville Reser 47.86 319 *e*P P 01 06 01.6 -1.5
comp=Z,190nm,3.0s
YKA Yellowknife Ar 52.56 337 P P 01 06 37.0 -1.4
YKA Yellowknife Ar 52.56 337 P P 01 06 37.0 -1.4
comp=Z,7.1nm,1.0s,baz=125,slow=7.3,SNR=32
YKW3 Yellowknife Ar 52.61 337 *e*P P 01 06 40.1 +1.4
comp=Z,0.3nm,1.1s
SUMG Summit 57.60 12 *e*P P 01 07 14.6 -0.5
SUMG Summit 57.60 12 *i* P P 01 07 14.4 -0.7
comp=Z,14nm,1.0s
SUMG Summit 57.60 12 *e*P P 01 07 14.6 -0.5
PVAQ Vaqueiros 59.51 57 *e*LR LR 01 56 57.5
comp=Z,396nm,20.0s
PESTR Estremoz 59.60 55 *e*P P 01 07 29.6 +0.4
comp=Z,43nm,1.4s
MTE Manigas 59.65 54 *e*P P 01 07 28.8 -0.8
comp=Z,44nm,1.3s
MTE Manteigas 59.65 54 *e*LR LR 01 55 58.8
comp=Z,831nm,20.0s
PMRV Marv??o 59.76 55 *e*P P 01 07 30.1 -0.2
comp=Z,62nm,1.4s
MVO Moncorvo 60.06 53 *e*LR LR 01 55 45.3
comp=Z,678nm,20.0s
PBRG Braganca 60.29 52 *e*P P 01 07 37.6 +3.7
comp=Z,355nm,1.6s
ESDC Sonseca Array 62.41 54 P P 01 07 48.7 +0.4
ESDC Sonseca Array 62.41 54 P P 01 07 48.7 +0.4
comp=Z,14nm,1.0s,baz=270,slow=6.5,SNR=12
ESLA Sonseca Array 62.41 54 *e*P P 01 07 48.3 -0.1
comp=Z,11nm,1.2s
BMRM Bremner River 65.15 329 *e*P P 01 08 08.1 +2.1
comp=Z,63nm,1.5s
ILAR Eielson Array 66.63 333 P P 01 08 13.7 -1.7
ILAR Eielson Array 66.63 333 P P 01 08 13.7 -1.7
comp=Z,3.0nm,1.1s,baz=90,slow=4.7,SNR=14
ILAR LR LR 01 38 56.1
comp=Z,150nm,20.1s,baz=97,slow=37
TIC Toumodi 66.99 91 *e*P P 01 08 17.2 -1.4
comp=Z,23nm,1.1s
COLA College 67.05 333 *e*P P 01 08 19.2 +1.2
COLA pmax pmax
comp=Z,29nm,1.1s
LIC Lamto 67.11 91 *e*P P 01 08 17.7 -1.6
comp=Z,48nm,1.5s
DBIC Dimbokro 67.14 90 P P 01 08 17.5 -2.0
DBIC Dimbokro 67.14 90 P P 01 08 17.5 -2.0
comp=Z,8.4nm,1.1s,baz=255,slow=7.0,SNR=4.7
KIC Kosan Boka 67.34 91 *e*P P 01 08 19.5 -1.3
comp=Z,40nm,1.2s
COLD Coldfoot 68.21 336 *e*P P 01 08 26.1 +0.7
comp=Z,20nm,1.4s
KTH Kantishna Hill 68.30 332 *e*P P 01 08 24.1 -2.0
comp=Z,28nm,1.2s
IM04 Indian Mountai 69.58 334 *e*P P 01 08 34.8 +0.9
ECH Echery 69.92 45 *e*P P 01 08 37.2 +0.8
ECH pmax pmax
comp=Z,8.0nm,1.1s
ECH Echery 69.92 45 *e*P P 01 08 37.2 +0.8
comp=Z,8.4nm,1.1s
BFO Black Forest 70.69 44 *ce*P P 01 08 41.5 +0.4
NB2 NORSAR Subarra 71.21 31 P P 01 08 47.5 +3.5
comp=Z,11nm,1.2s,baz=276,slow=6.2
NOA NORSAR Array B 71.21 31 P P 01 08 44.2 +0.2
NOA NORSAR Array B 71.21 31 P P 01 08 44.2 +0.2
comp=Z,3.2nm,0.9s,baz=275,slow=6.2,SNR=5.8
TOA0 Torodi Ar. Sit 71.55 82 *e*P P 01 08 45.8 -1.1
TORD Torodi Ar. Bea 71.55 82 P P 01 08 45.5 -1.3
TORD Torodi Ar. Bea 71.55 82 P P 01 08 45.5 -1.3
comp=Z,3.1nm,0.9s,baz=289,slow=5.6,SNR=12
RETA Reutte 72.41 45 ⇓ *i*P P 01 08 52.2 +0.6
comp=Z,29nm,1.2s
FETA Feichten 72.46 45 ⇑ *i*pP P 01 08 53.2 +1.2
comp=Z,30nm,1.5s
MOTA Moosalm 72.67 45 ⇓ *i*P P 01 08 53.4 +0.2
comp=Z,11nm,1.0s
CLL Collm 73.30 41 *e*P P 01 08 56.0 -0.6
CLL *e* 01 08 59.0
CLL pmax pmax
comp=Z,31nm,2.0s
CLL MLR MLR
comp=Z,300nm,19.7s
CLL Collm 73.30 41 *e*P P 01 08 56.0 -0.6
comp=Z,31nm,2.0s
CLL *e*(sP) **sP** 01 08 59.0 -3.0
CLL Lm MLR 01 34 00.0
comp=Z,300nm,19.7s
KEST Kesra 73.33 57 P P 01 08 57.3 0.0
KEST Kesra 73.33 57 P P 01 08 57.3 0.0
comp=Z,3.4nm,0.9s,baz=307,slow=5.1,SNR=4.1
BRG Berggiesshubel 73.95 41 *e*P P 01 09 04.6 +4.1
comp=Z,9.7nm,1.1s
BRG *e* 01 11 56.1
comp=Z,11nm,1.5s
BRG Berggiesshubel 73.95 41 *e*P P 01 09 04.6 +4.1
BRG pmax pmax
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 74.01 43 *e*P P 01 09 01.3 +0.3
KHC *e* 01 09 05.0
KHC Kasperske Hory 74.01 43 *e*P P 01 09 01.3 +0.3
KHC *e*pP **pP** 01 09 05.0 +0.1
KHC Kasperske Hory 74.01 43 *e*P P 01 09 00.5 -0.5
comp=Z,17nm,1.3s
GERES GERESS Array B 74.14 43 P P 01 09 01.9 +0.1
GERES GERESS Array B 74.14 43 P P 01 09 01.9 +0.1
comp=Z,7.3nm,1.0s,baz=260,slow=4.7,SNR=20
PVCC Panska Ves 74.41 41 *e*P P 01 09 03.4 +0.2
PVCC *e* 01 09 07.9
PVCC Panska Ves 74.41 41 *e*P P 01 09 03.4 +0.2
PVCC *e*pP **pP** 01 09 07.9 +0.8
PRU Pruhonice 74.48 42 *e*P P 01 09 04.1 +0.5
PRU *e* 01 09 08.5
PRU MLR MLR
comp=Z,700nm,22.3s
PRU Pruhonice 74.48 42 *e*P P 01 09 04.1 +0.5
PRU *e*pP **pP** 01 09 08.5 +1.0
PRU AMS AMS 01 35 10.0
comp=Z,700nm,22.3s
MOA Molln 74.69 44 ⇑ *i*P P 01 09 04.7 -0.2
comp=Z,22nm,1.3s
TREC Trest 75.22 43 *e*P P 01 09 08.3 +0.4
TREC MLR MLR
comp=Z,700nm,22.4s
TREC Trest 75.22 43 *e*P P 01 09 08.3 +0.4
TREC AMS AMS 01 35 50.0
comp=Z,700nm,22.4s
UPC Upice 75.31 41 *e*P P 01 09 09.5 +1.1
UPC *e* 01 09 13.1
UPC Upice 75.31 41 *e*P P 01 09 09.5 +1.1
UPC *e*pP **pP** 01 09 13.1 +0.7
TNA Tin City 75.42 335 *e*P P 01 09 08.5 -0.2
comp=Z,20nm,1.3s
KSP Ksiaz 75.42 41 *e*P P 01 09 10.2 +1.2
GKP Gorka Klasztor 75.52 38 *e*P P 01 09 14.2 +4.7
GKP Gorka Klasztor 75.52 38 *e*P P 01 09 14.2 +4.7
DPC Dobruska-Polom 75.54 41 *e*P P 01 09 10.2 +0.4
DPC *e* 01 09 14.6
DPC Dobruska-Polom 75.54 41 *e*P P 01 09 10.2 +0.4
DPC *e*pP **pP** 01 09 14.6 +0.9
CONA Conrad Observa 75.73 44 ⇑ *i*P P 01 09 08.2 -2.7
comp=Z,16nm,1.4s
ARCES ARCESS Array B 75.78 21 P P 01 09 10.3 -0.4
ARCES ARCESS Array B 75.78 21 P P 01 09 10.3 -0.4
comp=Z,8.6nm,1.0s,baz=270,slow=3.6,SNR=5.7
KRLC Kraliky 75.88 42 *e*P P 01 09 11.9 +0.1
KRLC *e* 01 09 16.2
KRLC Kraliky 75.88 42 *e*P P 01 09 11.9 +0.1
KRLC *e*pP **pP** 01 09 16.2 +0.5
SMOL Smolenice 76.63 43 *e*P P 01 09 18.1 +2.1
SMOL Smolenice 76.63 43 *e*P P 01 09 18.1 +2.1
OKC Ostrava-Krasne 76.80 42 *e*P P 01 09 17.3 +0.4
OKC *e* 01 09 21.6
OKC Ostrava-Krasne 76.80 42 *e*P P 01 09 17.3 +0.4
OKC *e*pP **pP** 01 09 21.6 +0.8
BEL Belsk 77.95 39 *e*P P 01 09 28.7 +5.4
BEL Belsk 77.95 39 *e*P P 01 09 28.6 +5.3
FINES FINESS Array B 78.19 29 P P 01 09 24.1 -0.3
FINES FINESS Array B 78.19 29 P P 01 09 24.1 -0.3
comp=Z,7.1nm,1.1s,baz=218,slow=8.8,SNR=3.3
PSZ Piszkesteto 78.37 43 *e*P P 01 09 27.6 +1.8
PSZ pmax pmax
comp=Z,56nm,1.5s
PSZ Piszkesteto 78.37 43 ⇑ *i*P P 01 09 31.4 +5.6
PSZ Piszkesteto 78.37 43 *e*P P 01 09 27.6 +1.8
comp=Z,56nm,1.5s
KECS Kecovo 78.61 43 *e*P P 01 09 27.9 +0.9
KECS pmax pmax
comp=Z,2.0nm,1.1s
KECS Kecovo 78.61 43 *e*P P 01 09 27.9 +0.9
SUW Suwalki 78.78 37 *e*P P 01 09 27.8 0.0
SUW Suwalki 78.78 37 *e*P P 01 09 27.8 0.0
STHS Stebnicka Huta 78.85 42 *e*P P 01 09 30.0 +1.6
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 78.85 42 *e*P P 01 09 30.0 +1.6
CRVS Cervenica-Dubn 79.13 42 *e*P P 01 09 30.7 +0.8
CRVS pmax pmax
comp=Z,151nm,3.9s
CRVS Cervenica-Dubn 79.13 42 *e*P P 01 09 30.7 +0.8
KOLS Kolonicke sedl 79.63 42 *e*P P 01 09 33.0 +0.4
KOLS pmax pmax
comp=Z,10.0nm,1.4s
KOLS Kolonicke sedl 79.63 42 *e*P P 01 09 33.0 +0.4
KWP Kalwaria Pacla 79.71 41 *e*P P 01 09 34.7 +1.7
KWP Kalwaria Pacla 79.71 41 *e*P P 01 09 34.7 +1.7
KWP Kalwaria Pacla 79.71 41 ⇑ *i*P P 01 09 34.8 +1.7
KWP Kalwaria Pacla 79.71 41 *e*P P 01 09 34.3 +1.2
comp=Z,36nm,1.1s
UZH Uzhgorod 79.73 42 *e*P P 01 09 33.9 +0.8
UZH *i* 01 09 37.5
ISAL Salakas 79.96 35 *e*P P 01 09 35.4 +1.1
ISAL AML AML 01 09 36.1
comp=Z,2.4nm,0.6s
SIRR Siria 79.97 45 ⇓ *i*P P 01 09 35.3 +0.8
TRPA Tarpa 80.03 43 ⇓ *i*P P 01 09 35.9 +1.2
IIGN Ignalina 80.08 35 *e*P P 01 09 35.3 +0.4
IIGN AML AML 01 09 41.3
comp=Z,1.9nm,1.0s
BZS Buzias 80.12 45 ⇑ *i*P P 01 09 36.5 +1.2
IDID Didziasalis 80.38 35 *e*P P 01 09 37.2 +0.8
LVV L'vov 80.48 41 *e*P P 01 09 41.9 +4.7
DRGR 80.52 44 ⇑ *i*P P 01 09 37.9 +0.3
NACGM Naroch 80.53 35 *e* P 01 09 36.0 -1.3
VAH Vaihoa 80.82 251 *e*P P 01 09 40.7 +1.2
comp=Z,39nm,1.0s
GZR Gura Zlata 80.97 45 ⇑ *i*P P 01 09 41.0 +1.0
PMOR Pomariorio Ree 80.98 251 *e*P P 01 09 41.6 +1.3
BUR08 Bucovina Ar. S 81.88 43 *e*P P 01 09 45.8 +0.9
BURAR Bucovina Array 81.90 43 ⇓ *i*P P 01 09 46.1 +1.2
VTS Vitosha 82.10 48 ⇓ *i*P P 01 09 47.1 +1.0
ARR Arges 82.22 45 ⇓ *i*P P 01 09 47.7 +1.1
VOIR 82.48 45 ⇑ *i*P P 01 09 48.6 +0.6
HUMR Humele 82.72 46 ⇓ *i*P P 01 09 49.6 +0.5
MMB Musomiste 82.78 49 ⇓ *i*P P 01 09 50.7 +1.1
MLR Muntele Rosu 83.06 44 ⇑ *i*P P 01 09 51.9 +0.8
KIEV Kiev 83.34 39 *e*P P 01 09 51.9 -0.3
AKASG Malin Array Be 83.34 39 *i* P P 01 09 55.5 +3.3
AKASG pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 83.34 39 P P 01 09 51.6 -0.6

AKASG	**Malin Array Be**	**83.34**	**39**	P		**P**	**01 09 51.6**	**-0.6**
	comp=Z,7.8nm,1.1s,baz=282,slow=4.0,SNR=16							
PLOR	**Plostina**	**83.41**	**44**	⇑*iP*		**P**	**01 09 53.4**	**+0.7**
PPT	**Papeete**	**83.42**	**249**	LR		LR	01 42 28.5	
	comp=Z,48nm,19.8s,baz=56,slow=32							
PPT2	**Papeete2**	**83.43**	**249**	*e*LR		LR	01 36 09.4	
	comp=Z,242nm,30.2s							
VRI	**Vrincioaia**	**83.45**	**44**	⇑*iP*		**P**	**01 09 54.4**	**+1.5**
BILL	**Biiibino**	**83.76**	**341**	⇑P		**P**	**01 09 53.3**	**-0.7**
BILL				*i*			01 09 56.8	
BILL				*e*PPP		PPP	01 09 56.9	
BILL				pmax		pmax		
	comp=Z,9.0nm,1.5s							
KDZ	**Kurdzhali**	**83.96**	**48**	⇑*iP*		**P**	**01 09 56.4**	**+0.8**
CFR	**Carcaliu**	**84.62**	**44**	⇓*iP*		**P**	**01 09 59.0**	**+0.2**
OBN	**Obninsk**	**85.66**	**33**	*e*P		**P**	**01 10 02.5**	**-1.3**
OBN				*i*			01 10 06.7	
OBN				pmax		pmax		
	comp=Z,12nm,1.2s							
MOS	**Moscow**	**85.92**	**32**	*e*P		P	01 10 08.4	+3.3
MOS				pmax		pmax		
	comp=Z,74nm,1.6s							
PRGR	**Permogore**	**86.56**	**25**	*e*P		**P**	**01 10 05.8**	**-2.4**
PRGR				pmax		pmax		
	comp=Z,72nm,1.1s							
TIXI	**Tiksi**	**88.89**	**353**	*e*P		**P**	**01 10 17.6**	**-1.5**
TIXI				pmax		pmax		
	comp=Z,13nm,1.2s							
BR131	**Keskin Array S**	**90.47**	**48**	*e*P		**P**	**01 10 29.2**	**+1.7**
	comp=Z,16nm,1.3s							
BRTR	**Keskin Array B**	**90.47**	**48**	P		**P**	**01 10 27.4**	**0.0**
BRTR	**Keskin Array B**	**90.47**	**48**	P		**P**	**01 10 27.4**	**0.0**
	comp=Z,5.5nm,1.0s,baz=273,slow=4.3,SNR=14							
SEY	**Seymchan**	**91.46**	**341**	P		**P**	**01 10 31.4**	**+0.1**
SEY	**Seymchan**	**91.46**	**341**	P		**P**	**01 10 31.4**	**+0.1**
SEY	**Seymchan**	**91.46**	**341**	P		**P**	**01 10 31.4**	**+0.1**
	comp=Z,9.9nm,1.1s,baz=10,slow=19,SNR=2.8							
KIV	**Kislovodsk**	**94.51**	**41**	*e*P		**P**	**01 10 45.1**	**-0.8**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KSH	**Kashi**	**115.42**	**26**	*e*PKP		**PKPdf**	**01 16 09.0**	**+1.4**
KSH				*e*PP		PP	01 17 16.0	+8.3
KSH				*e*SKS		**SKSdf**	**01 23 16.0**	**-3.9**
KSH				*e*SKKS		**SKKSac**	**01 24 05.3**	**-5.1**
KSH				*e*SS		**SS**	**01 33 10.3**	**+4.8**
KSH				AMB		AMB		
	comp=Z,48nm,5.5s							
WMQ	**Urumqi**	**115.53**	**15**	PKP		**PKPdf**	**01 16 09.5**	**+1.9**
WMQ				PP		PP	01 17 16.5	+8.3
WMQ				PKS		**PKSdf**	**01 19 45.0**	**+0.7**
WMQ				SKS		**SKSdf**	**01 23 20.5**	**+0.7**
WMQ				SKKS		**SKKSac**	**01 24 09.5**	**-1.4**
WMQ				SS		**SS**	**01 33 13.3**	**+7.0**
WMQ				AMB		AMB		
	comp=Z,12nm,9.7s							
WMQ				LR		LR		
	comp=Z,78nm,22.1s							
WMQ				LR		LR		
	comp=Z,140nm,22.4s							
WMQ				LR		LR		
	comp=Z,140nm,18.4s							
HHC	**Hu-ho-hao-te**	**120.85**	**356**	*e*PKP		**PKPdf**	**01 16 15.5**	**-2.5**
HHC				PP		**PP**	**01 17 47.3**	**+2.3**
HHC				SKS		**SKSdf**	**01 23 23.3**	**-6.9**
HHC				LR		LR		
	comp=Z,410nm,18.5s							
BJI	**Beijing**	**121.19**	**352**	PKP		**PKPdf**	**01 16 17.0**	**-1.4**
NJ2	**Nanjing**	**128.52**	**347**	*e*PKP		**PKPdf**	**01 16 32.5**	**-0.2**
GYA	**Guiyang**	**135.35**	**1**	*e*Pdif		**Pdif**	**01 13 47.5**	**-0.8**
GYA				PKP		**PKiKP**	**01 16 47.0**	**-0.5**
GYA				PP		PP	01 19 26.0	+5.6
GYA				AMB		AMB		
	comp=Z,90nm,7.5s							
KMI	**Kunming**	**136.47**	**6**	PKP		**PKPdf**	**01 16 49.0**	**+0.8**
KMI				PP		PP	01 19 33.8	+6.2
KMI				SS		SS	01 37 32.0	+3.1
KMI				AMB		AMB		
	comp=Z,81nm,5.6s							
KMI				LR		LR		
	comp=Z,120nm,16.9s							
QIZ	**Qiongzhong**	**142.65**	**356**	PKP		**PKPdf**	**01 16 57.0**	**-2.3**
QIZ				PP		**PP**	**01 20 07.3**	**+1.9**
QIZ				SS		SS	01 38 42.5	+1.5
QIZ				LR		LR		
	comp=Z,120nm,21.8s							
STKA	**Stephens Creek**	**146.18**	**240**	PKPbc		**PKPdf**	**01 17 04.0**	**-1.0**
STKA	**Stephens Creek**	**146.18**	**240**	PKPbc		**PKPdf**	**01 17 04.0**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=111,slow=6.0,SNR=3.6							
WRA	**Warramunga Arr**	**154.22**	**262**	PKP		**PKPdf**	**01 17 16.8**	**-1.1**
WRA	**Warramunga Arr**	**154.22**	**262**	PKP		**PKPdf**	**01 17 16.8**	**-1.1**
	comp=Z,2.4nm,1.0s,baz=84,slow=0.8,SNR=5.9							
ASAR	**Alice Springs**	**154.46**	**254**	PKP		**PKPdf**	**01 17 16.6**	**-1.6**
ASAR				PKPab		**PKPdf**	**01 17 39.6**	**-1.3**
ASAR	**Alice Springs**	**154.46**	**254**	PKP		**PKPdf**	**01 17 16.6**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=98,slow=1.9,SNR=3.2							
ASAR				PKPab		**PKPab**	**01 17 39.6**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=104,slow=3.9,SNR=7.6							

IDC 27 01:04:45.6±279.0, 40°.23N×145°.91E, h0km, Error ellipse: s-maj=572.8km s-min=25.9km az=114.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**27.22**	**132**	H	H	01 38 45.7	
	baz=325,slow=76,SNR=518						
H11N1	**WAKE ISLAND Hy**	**27.23**	**133**	H	H	01 38 46.2	
	baz=325,slow=76,SNR=586						
H11N3	**WAKE ISLAND Hy**	**27.24**	**132**	H	H	01 38 46.2	
	baz=325,slow=76,SNR=522						
H11S1	**WAKE ISLAND Hy**	**28.10**	**134**	H	H	01 39 50.0	
	baz=327,slow=76,SNR=656						
H11S3	**WAKE ISLAND Hy**	**28.10**	**134**	H	H	01 39 52.5	
	baz=327,slow=76,SNR=661						
H11S2	**WAKE ISLAND Hy**	**28.11**	**134**	H	H	01 39 51.1	
	baz=327,slow=76,SNR=810						
H03N2	**Juan Fernandez**	**143.78**	**94**	H	H	04 04 35.5	
	baz=296,slow=75,SNR=32						
H03N3	**Juan Fernandez**	**143.79**	**94**	H	H	04 04 38.8	
	baz=296,slow=75,SNR=27						
H03N1	**Juan Fernandez**	**143.80**	**94**	H	H	04 04 34.2	
	baz=296,slow=75,SNR=32						

*ISCJB **27** 01:05:12.8±0.7, 30°.72S±0°.04×71°.72W±0°.06, h53km±11km, mb3.8/3, Error ellipse: s-maj=8.5km s-min=6.0km az=176.4*
*GUC **27** 01:05:12.1±0.3, 30°.74S×71°.48W, h20km±2km, MD4.2, ML4.4*
*IDC **27** 01:05:13.6±3.7, 31°.57S×71°.88W, h68km±33km, mb3.6/3, mb1 3.9/6, mb1mx3.6/18, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=44.0km s-min=24.5km az=162.0*
ISC 27 01:05:13.8±1.1, 30°.73S±0°.04×71°.56W±0°.07, h43km±11km, n25, σ1°52/27, mb3.8/3, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.65**	**133**	⇑*iP*	**Pn**	**01 05 25.1**	**-1.7**
CMCH				*e*S	**Sn**	**01 05 33.9**	**-2.1**
JACH	**Jahuel**	**2.11**	**157**	*e*P	**Pn**	**01 05 47.1**	**+0.3**
JACH				*i* S	**Sn**	**01 06 13.7**	**+1.9**
VACH	**Vallenar**	**2.26**	**18**	*e*P	**Pn**	**01 05 49.4**	**+0.7**
VACH				*i* S	**Sn**	**01 06 17.5**	**+2.2**
ROCH	**El Roble**	**2.28**	**168**	*e*P	**Pn**	**01 05 49.4**	**+0.2**
ROCH				*i* S	**Sn**	**01 06 18.3**	**+2.1**
ROCH				AML	AML	01 06 23.1	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**2.52**	**163**	*e*P	**Pn**	**01 05 52.9**	**+0.6**
PEL				*i* S	**Sn**	**01 06 23.6**	**+1.8**
PEL				AML	AML	01 06 35.3	
	comp=E,4μm,0.4s						
CLCH	**Cerro Calan**	**2.79**	**162**	⇑*iP*	**Pn**	**01 05 56.7**	**+0.5**
CLCH				*i* S	**Sn**	**01 06 30.5**	**+1.9**
CLCH				AML	AML	01 06 44.2	
	comp=E,1μm,0.9s						
ANTU	**Antumapu**	**2.94**	**165**	AML	AML	01 06 49.8	
	comp=E,1μm,0.3s						
TACH	**Talagante**	**2.96**	**170**	*e*P	**Pn**	**01 05 59.0**	**+0.7**
TACH				*i* S	**Sn**	**01 06 34.5**	**+1.8**
CFAA	**Coronel Fontan**	**2.98**	**108**	P	**Pn**	**01 05 59.9**	**+1.3**
	comp=E,7.1nm,0.3s,baz=300,slow=8.1,SNR=167						
CFAA				S	**Sn**	**01 06 36.9**	**+3.8**
	comp=E,8.8nm,0.3s,baz=24,slow=20,SNR=8.4						
CHCH	**Chadas Angostu**	**3.28**	**167**	*i* P	**Pn**	**01 06 03.1**	**+0.3**
CHCH				*i* S	**Sn**	**01 06 42.2**	**+1.5**
H03N1	**Juan Fernandez**	**6.80**	**245**	P	**Pn**	**01 06 50.7**	**-0.1**
	baz=55,slow=13,SNR=45						
H03N1				T	T	01 13 40.2	
	baz=68,slow=74,SNR=1742						
H03N3	**Juan Fernandez**	**6.81**	**245**	P	**Pn**	**01 06 50.6**	**-0.4**
	baz=55,slow=13,SNR=32						
H03N3				T	T	01 13 42.0	
	baz=68,slow=74,SNR=1709						
H03N2	**Juan Fernandez**	**6.81**	**245**	P	**Pn**	**01 06 50.9**	**-0.1**
	baz=55,slow=13,SNR=56						
H03N2				T	T	01 13 41.3	
	baz=68,slow=74,SNR=1566						
PLCA	**Paso Flores**	**10.01**	**176**	P	Pn	01 07 23.6	-12
	comp=E,0.4nm,0.3s,baz=356,slow=10,SNR=16						
CPUP	**Villa Florida**	**13.25**	**74**	P	**P**	**01 08 27.0**	**-1.3**
	comp=E,0.7nm,0.3s,baz=246,slow=16,SNR=3.1						
TXAR	**Lajitas Array**	**67.11**	**330**	P	**P**	**01 16 03.4**	**+0.3**
	comp=E,0.3nm,0.6s,baz=156,slow=9.5,SNR=4.3						
DBIC	**Dimbokro**	**73.76**	**72**	P	**P**	**01 16 43.2**	**-0.7**
	comp=E,1.8nm,0.6s,baz=221,slow=12,SNR=3.8						
TORD	**Torodi Ar. Bea**	**82.72**	**70**	P	**P**	**01 17 32.9**	**-0.6**
	comp=E,0.4nm,0.4s,baz=251,slow=5.0,SNR=20						
H11S2	**WAKE ISLAND Hy**	**126.17**	**271**	T	T	03 43 00.5	
	baz=118,slow=73,SNR=26						
H11S1	**WAKE ISLAND Hy**	**126.18**	**271**	T	T	03 43 02.8	
	baz=118,slow=73,SNR=24						
H11S3	**WAKE ISLAND Hy**	**126.18**	**271**	T	T	03 43 01.1	
	baz=118,slow=73,SNR=25						
H11N3	**WAKE ISLAND Hy**	**126.50**	**273**	T	T	03 43 28.1	
	baz=118						
H11N1	**WAKE ISLAND Hy**	**126.51**	**273**	T	T	03 43 27.6	
	baz=118						
H11N2	**WAKE ISLAND Hy**	**126.51**	**273**	T	T	03 43 27.7	
	baz=118,SNR=4.7						
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc	**PKPbc**	**01 25 01.5**	**-0.5**
	comp=E,2.2nm,0.6s,baz=301,slow=3.4,SNR=10						
ZALV				pPKPbc	**pPKPbc**	**01 25 15.0**	**-0.3**
	comp=E,0.7nm,0.5s,baz=323,slow=4.9,SNR=3.1						

*ISCJB **27** 01:14:32.7±0.6, 20°.6S±0°.1×177°.9W±0°.1, h534km, mb3.8/11, Error ellipse: s-maj=18.6km s-min=11.6km az=140.4*
*IDC **27** 01:14:32.6±5.0, 20°.56S×177°.83W, h523km±56km, mb3.4/11, mb1 3.6/12, mb1mx3.6/19, mbtmp4.3/12, Error ellipse: s-maj=23.7km s-min=21.7km az=14.0*
ISC 27 01:14:33.1±0.8, 20°.7S±0°.2×177°.8W±0°.2, h534km, n33, σ0°66/29, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.07**	**193**	P	**P**	**01 18 11.8**	**-0.4**
	1.0nm,0.3s,baz=0.0,slow=1.0,SNR=4.6						
EIDS	**Eidsvold**	**28.99**	**255**	P	**P**	**01 19 50.4**	**+0.6**
	baz=28,SNR=4.4						
MGCD	**Mangrove Creek**	**30.28**	**239**	P	P	01 20 06.3	+5.5
	baz=30,SNR=5.8						
CMSA	**Cobar Meteorol**	**34.38**	**244**	P	**P**	**01 20 36.2**	**+0.5**
	baz=34,SNR=14						
QLP	**Quilpie**	**35.19**	**253**	P	**P**	**01 20 42.9**	**+0.3**
	baz=34,SNR=4.8						
STKA	**Stephens Creek**	**37.89**	**244**	P	**P**	**01 21 05.1**	**+0.4**
	3.9nm,0.5s,baz=93,slow=11,SNR=15						
STKA	**Stephens Creek**	**37.89**	**244**	P	**P**	**01 21 05.4**	**+0.7**
	baz=37,SNR=12						
MANU	**Manus Island**	**38.69**	**294**	P	P	01 21 18.5	+7.0
	baz=38,SNR=4.8						
HTT	**Hallett**	**40.32**	**242**	P	**P**	**01 21 24.8**	**+0.4**
	baz=40,SNR=3.5						
BBOO	**Buckleboo**	**42.64**	**244**	P	**P**	**01 21 42.8**	**+0.1**
	baz=42,SNR=8.5						
ASAR	**Alice Springs**	**44.67**	**257**	P	**P**	**01 21 58.6**	**0.0**
	13nm,0.8s,baz=97,slow=7.7,SNR=109						
ASAR				PcP	**PcP**	**01 23 30.1**	**+0.3**
	1.0nm,0.7s,baz=108,slow=3.4,SNR=4.6						
WRA	**Warramunga Arr**	**44.77**	**262**	P	**P**	**01 21 59.0**	**-0.4**
	7.0nm,0.4s,baz=98,slow=8.5,SNR=49						
KDU	**Kakadu**	**48.15**	**271**	P	**P**	**01 22 24.8**	**-0.2**
	baz=43,SNR=4.0						
MTN	**Manton Dam**	**49.36**	**271**	P	**P**	**01 22 33.0**	**-0.9**
	baz=49,SNR=3.9						
WRKA	**Warakurna**	**49.60**	**254**	P	**P**	**01 22 35.8**	**+0.1**
	baz=49,SNR=11						
KNRA	**Kununurra**	**50.84**	**266**	P	**P**	**01 22 44.8**	**-0.1**
	baz=50,SNR=5.9						
VNDA	**Vanda**	**57.76**	**185**	P	P	01 23 35.0	+2.5
	0.3nm,0.3s,baz=11,slow=5.2,SNR=3.3						
MJAR	**Matsushiro Arr**	**70.48**	**324**	P	**P**	**01 24 53.3**	**-0.5**
	5.6nm,0.7s,baz=156,slow=6.6,SNR=8.8						
KSRS	**Korea Array**	**77.14**	**318**	P	**P**	**01 25 32.6**	**+0.9**
	0.8nm,0.3s,baz=131,slow=5.5,SNR=4.3						
USRK	**Ussuriysk Arra**	**79.21**	**326**	P	**P**	**01 25 44.0**	**+1.3**
	3.0nm,0.8s,baz=106,slow=3.9,SNR=5.5						
NVAR	**Mina Array Bea**	**81.02**	**43**	P	**P**	**01 25 53.2**	**+0.7**
	0.8nm,0.8s,baz=225,slow=8.8,SNR=5.3						
TXAR	**Lajitas Array**	**86.99**	**57**	P	**P**	**01 26 23.1**	**+1.1**
	0.4nm,0.6s,baz=197,slow=3.8,SNR=4.7						
ILAR	**Eielson Array**	**88.44**	**13**	P	**P**	**01 26 26.5**	**-1.4**
	0.7nm,0.6s,baz=218,slow=5.9,SNR=12						
PDAR	**Pinedale Array**	**88.95**	**43**	P	**P**	**01 26 31.0**	**-0.1**
	0.6nm,0.7s,baz=205,slow=2.5,SNR=4.8						
MKAR	**Makanchi Array**	**111.45**	**313**	PKiKP	**PKiKP**	**01 32 05.7**	**-0.9**
	0.3nm,0.5s,baz=184,slow=1.5,SNR=3.0						
FINES	**FINESS Array B**	**135.99**	**344**	PKP	**PKPdf**	**01 32 53.2**	**+0.3**
	1.6nm,0.9s,baz=178,slow=4.2,SNR=2.6						
HFS	**Hagfors**	**139.74**	**351**	PKhKP	PKPpre	01 32 53.3	
	1.6nm,0.8s,baz=66,slow=7.2,SNR=4.9						
AKASG	**Malin Array Be**	**143.26**	**331**	PKhKP	PKPpre	01 33 03.3	
	2.9nm,0.5s,baz=41,slow=4.4,SNR=12						
EKA	**Eskdalemuir Ar**	**145.16**	**5**	PKPbc	**PKPdf**	**01 33 09.4**	**0.0**
	0.5nm,0.5s,baz=339,slow=3.0,SNR=4.8						
BRTR	**Keskin Array B**	**147.10**	**312**	PKPbc	**PKPbc**	**01 33 16.2**	**-0.3**
	0.9nm,0.6s,baz=136,slow=4.8,SNR=6.4						
CLL	**Collm**	**148.27**	**347**	*e*P	**PKPbc**	**01 33 19.0**	**+0.1**
GERES	**GERESS Array B**	**150.42**	**345**	PKPbc	**PKPbc**	**01 33 23.9**	**-0.4**
	0.8nm,0.7s,baz=31,slow=3.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**172.50**	**176**	PKP	**PKPdf**	**01 33 40.7**	**-0.9**
	0.4nm,0.9s,baz=97,slow=2.4,SNR=3.2						

*ISCJB **27** 01:19:42.9±0.7, 49°.4N±0°.1×28°.57W±0°.09, h17km, mb4.0/24, MS4.0/21, Error ellipse: s-maj=20.3km s-min=7.7km az=12.5*
*IDC **27** 01:19:42.8±0.9, 49°.50N×28°.67W, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/44, mbtmp3.8/15, ML3.8/1, MS4.0/22, Ms1 4.0/22, ms1mx3.8/49, Error ellipse: s-maj=26.8km s-min=14.5km az=13.0*
ISC 27 01:19:45.3±0.8, 49°.5N±0°.2×28°.47W±0°.08, h17km, n47, σ1°62/36, mb4.3/24, MS4.0/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.46**	**60**	Pn	**P**	**01 23 37.4**	**-0.4**
	255>255slow=9.1,SNR=6.6						
SGMF	**Saint Gilles**	**17.07**	**84**	*e*P	**Pn**	**01 23 38.6**	**-4.3**
	142nm,1.6s						
GRR	**Gorron**	**18.14**	**83**	*e*P	**Pn**	**01 23 52.3**	**-3.9**
LDF	**La Druitiere**	**18.57**	**82**	*e*P	**Pn**	**01 24 01.2**	**-0.2**
	105nm,1.5s						
MFF	**Saint Martin d**	**19.11**	**88**	*e*P	**P**	**01 24 05.9**	**-1.2**
	26nm,1.1s						
SJPF	**Ste Jean**	**19.81**	**98**	*e*P	**P**	**01 24 11.3**	**-3.5**
	140nm,1.7s						
ESDC	**Sonseca Array**	**19.95**	**110**	P	**Pn**	**01 24 19.5**	**+1.4**
	1.1nm,0.8s,baz=295,slow=13,SNR=2.9						
ESDC				LR	LR	01 30 29.0	
	comp=Z,215nm,20.3s,baz=270,slow=32						
ETSF	**Etsaut**	**20.34**	**98**	*e*P	**P**	**01 24 18.2**	**-2.5**
	116nm,1.6s						
TCF	**Toulx Ste Croi**	**20.75**	**87**	*e*P	Pn	01 24 25.3	-2.1
	43nm,1.3s						
BAIF	**Baives**	**21.03**	**76**	*e*P	**P**	**01 24 29.0**	**+1.1**
	66nm,1.7s						
BGF	**Bois d'Agland**	**21.07**	**86**	*e*P	**P**	**01 24 28.7**	**+0.2**
	44nm,1.1s						
SSF	**Saint Saulge**	**21.34**	**84**	*e*P	**P**	**01 24 31.5**	**+0.2**
	32nm,1.2s						
GIVF	**Givet**	**21.41**	**76**	*e*P	**P**	**01 24 33.8**	**+1.8**
	31nm,1.1s						
LOR	**Lormes**	**21.50**	**84**	*e*P	**P**	**01 24 33.2**	**+0.1**
	70nm,1.6s						
LOR				*e*R			
	970nm,22.0s						
SMF	**Signal de Mont**	**21.69**	**85**	*e*P	**P**	**01 24 33.8**	**-1.3**
	69nm,1.6s						
MEZF	**Maizieres J'vi**	**21.92**	**80**	*e*P	**P**	**01 24 36.8**	**-0.7**
	24nm,0.9s						
SFTF	**Sexfontaines**	**21.99**	**81**	*e*P	**P**	**01 24 39.1**	**+0.8**
	42nm,1.2s						
PAGF	**Fort de Pagny**	**22.34**	**79**	*e*P	**P**	**01 24 43.5**	**+1.5**
HAU	**Haudompre**	**22.89**	**80**	*e*P	**P**	**01 24 47.6**	**-0.3**
	64nm,1.7s						
HAU				*e*R			
	645nm,17.5s						
CABF	**La Chapelle**	**23.16**	**84**	*e*P	**P**	**01 24 49.2**	**-1.6**
	30nm,1.1s						
SCHQ	**Schefferville**	**23.91**	**298**	P	**P**	**01 25 00.2**	**+2.3**
	6.7nm,1.1s,baz=61,slow=10,SNR=4.1						
SCHQ				LR	LR	01 32 02.1	
	comp=Z,330nm,21.7s,baz=98,slow=31						
NOA	**NORSAR Array B**	**24.97**	**47**	LR	LR	01 33 58.6	
	comp=Z,243nm,19.4s,baz=275,slow=34						
DAVOX	**Davos/Dischmat**	**25.55**	**81**	LR	LR	01 34 17.2	
	comp=Z,498nm,20.1s,baz=288,slow=34						
FRB	**Frobisher Bay**	**25.71**	**319**	P	**P**	**01 25 13.3**	**-0.9**
	5.0nm,1.1s,baz=85,slow=12,SNR=2.3						
FRB				LR	LR	01 32 37.0	
	comp=Z,284nm,19.1s,baz=190,slow=30						
HFS	**Hagfors**	**26.07**	**50**	LR	LR	01 35 00.1	
	comp=Z,393nm,18.4s,baz=276,slow=35						
GERES	**GERESS Array B**	**27.32**	**75**	P	**P**	**01 25 30.4**	**+1.4**
	0.4nm,0.7s,baz=263,slow=7.8,SNR=3.8						
GERES				LR	LR	01 36 13.2	
	comp=Z,562nm,19.7s,baz=277,slow=36						
VRAC	**Vranov**	**29.00**	**73**	LR	LR	01 38 02.6	
	comp=Z,542nm,18.4s,baz=328,slow=38						
KEST	**Kesra**	**30.70**	**102**	LR	LR	01 37 27.5	
	comp=Z,69nm,20.3s,baz=282,slow=34						
FINES	**FINESS Array B**	**32.15**	**47**	P	**P**	**01 26 13.6**	**+2.0**
	3.1nm,0.8s,baz=257,slow=5.6,SNR=3.9						
FINES				LR	LR	01 38 20.4	
	comp=Z,282nm,20.6s,baz=266,slow=35						
ARCES	**ARCESS Array B**	**32.37**	**32**	P	**P**	**01 26 14.6**	**+1.2**
	2.4nm,0.7s,baz=268,slow=3.6,SNR=5.8						
AKASG	**Malin Array Be**	**36.22**	**65**	P	**P**	**01 26 47.5**	**+0.5**
	0.1nm,0.3s,baz=310,slow=7.2,SNR=3.5						
AKASG				LR	LR	01 43 36.8	
	comp=Z,336nm,18.2s,baz=300,slow=40						
ULM	**Lac du Bonnet**	**42.08**	**298**	P	**P**	**01 27 34.7**	**-1.2**
	1.7nm,0.8s,baz=141,slow=6.2,SNR=2.9						
ULM				LR	LR	01 43 12.9	
	comp=Z,132nm,18.8s,baz=38,slow=34						
TORD	**Torodi Ar. Bea**	**43.90**	**135**	P	**P**	**01 27 51.5**	**+0.6**
	0.6nm,0.6s,baz=335,slow=8.2,SNR=12						
TORD				LR	LR	01 45 07.7	
	comp=Z,160nm,18.2s,baz=285,slow=35						
BRTR	**Keskin Array B**	**44.12**	**78**	LR	LR	01 47 11.7	
	comp=Z,80nm,20.3s,baz=299,slow=37						
YKA	**Yellowknife Ar**	**46.22**	**320**	P	**P**	**01 28 08.9**	**0.0**
	1.3nm,1.0s,baz=65,slow=8.0,SNR=11						
YKA				PcP	**PcP**	**01 29 43.6**	**-0.6**
	0.3nm,0.6s,baz=65,slow=3.9,SNR=5.2						
DBIC	**Dimbokro**	**47.08**	**147**	LR	LR	01 46 00.4	
	comp=Z,139nm,20.6s,baz=321,slow=34						
KBZ	**Khabaz**	**47.68**	**68**	LR	LR	01 50 41.0	
	comp=Z,157nm,18.7s,baz=286,slow=39						
PDAR	**Pinedale Array**	**54.03**	**296**	P	**P**	**01 29 07.8**	**-0.9**
	1.1nm,0.8s,baz=66,slow=8.4,SNR=8.9						
PDAR				LR	LR	01 50 17.9	
	comp=Z,91nm,18.5s,baz=82,slow=34						
ILAR	**Eielson Array**	**56.49**	**333**	P	**P**	**01 29 26.4**	**+0.6**
	0.9nm,0.9s,baz=26,slow=4.6,SNR=8.1						
ILAR				LR	LR	01 51 19.3	
	comp=Z,131nm,21.1s,baz=76,slow=34						
BVAR	**Borovoye Array**	**57.07**	**45**	LR	LR	01 52 52.5	
	comp=Z,154nm,20.5s,baz=311,slow=35						
TXAR	**Lajitas Array**	**59.00**	**280**	P	**P**	**01 29 43.9**	**-0.2**
	0.5nm,0.7s,baz=77,slow=7.8,SNR=4.2						
TXAR				LR	LR	01 54 07.0	
	comp=Z,183nm,21.9s,baz=0.0,slow=35						
NVAR	**Mina Array Bea**	**61.91**	**297**	LR	LR	01 54 48.3	
	comp=Z,84nm,19.2s,baz=317,slow=34						
MKAR	**Makanchi Array**	**66.92**	**44**	P	**P**	**01 30 36.9**	**+0.6**
	1.4nm,0.6s,baz=332,slow=6.8,SNR=14						
SONM	**Songino Array**	**75.50**	**30**	P	**P**	**01 31 27.2**	**-1.3**
	0.8nm,0.8s,baz=316,slow=6.0,SNR=4.3						
CPUP	**Villa Florida**	**79.75**	**206**	LR	LR	02 01 17.1	
	comp=Z,379nm,22.0s,baz=122,slow=31						
WRA	**Warramunga Arr**	**147.47**	**31**	PKPbc	**PKPbc**	**01 39 28.4**	**+0.1**
	0.9nm,0.8s,baz=338,slow=3.0,SNR=4.8						
ASAR	**Alice Springs**	**150.74**	**35**	PKPbc	**PKPbc**	**01 39 36.5**	**0.0**
	1.6nm,0.7s,baz=346,slow=1.8,SNR=21						

IDC 27 01:24:47.7±251.0, 40°.21N×146°.34E, h0km, Error ellipse: s-maj=516.8km s-min=25.5km az=114.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**26.97**	**133**	H	H	01 58 26.6	
	baz=325,slow=76,SNR=593						
H11N1	**WAKE ISLAND Hy**	**26.98**	**133**	H	H	01 58 27.2	
	baz=325,slow=76,SNR=1012	

TUMR Tumrok 1.43 269 *i* P **Pn** 01 40 53.7 -1.3
TUMR eS **Sn** 01 41 13.1 +0.5
KMNR Kamenistaya 1.43 288 *i* P **Pn** 01 40 54.2 -0.8
KIRR Kirishev 1.45 297 *i* P **Pn** 01 40 54.5 -0.8
KIRR eS **Sb** 01 41 15.5 -0.4
KRSR Krestovskiy 1.47 308 *eP* **Pn** 01 40 54.0 -1.6
KRSR eS **Sb** 01 41 15.2 -1.4
BDR Baidarnaya 1.48 328 *eP* **Pn** 01 40 54.5 -1.2
BDR eS **Sn** 01 41 14.5 +0.6
KLY Klyuchi 1.49 312 PN **Pn** 01 40 53.2 -2.6
KLY S **Sn** 01 41 12.6 -1.5
KLY Klyuchi 1.49 312 *i* P **Pn** 01 40 53.2 -2.6
KLY eS **Sn** 01 41 12.5 -1.5
KPT Kopyto 1.51 296 *i* P **Pn** 01 40 55.6 -0.5
KPT eS **Sn** 01 41 15.9 +1.2
SRKR Sorokina 1.56 329 *i* P **Pn** 01 40 55.6 -1.2
SRKR eS **Sb** 01 41 18.2 -1.0
KOZR Kozyr 1.72 297 PN **Pn** 01 40 59.1 +0.2
KOZR S **Sb** 01 41 23.2 -0.4
KOZ Kozyrevsk 1.73 296 *eP* **Pn** 01 40 59.1 +0.1
KOZ eS **Sb** 01 41 23.2 -0.6
BKI Bering 1.91 92 PN **Pn** 01 41 00.0 -1.4
BKI S **Sn** 01 41 23.7 -0.6
BKI Bering 1.91 92 *eP* **Pn** 01 41 00.0 -1.4
BKI eS **Sn** 01 41 23.7 -0.6
SRDR Sredinnyy 1.92 302 *eP* **Pn** 01 41 01.7 0.0
SRDR eS **Sb** 01 41 27.3 -2.2
KII Karymskiy 2.26 236 *eP* **Pn** 01 41 04.5 -1.9
ESO Esso 2.31 287 PN **Pn** 01 41 07.2 +0.1
ESO S **Sn** 01 41 36.0 +1.7
ESO Esso 2.31 287 *eP* **Pn** 01 41 07.2 +0.1
ESO eS **Sn** 01 41 36.0 +1.7
SPN Mys Shipunskiy 2.71 216 PN **Pn** 01 41 12.0 -0.5
SPN S **Sn** 01 41 44.2 0.0
SPN Mys Shipunskiy 2.71 216 *eP* **Pn** 01 41 12.0 -0.5
SPN eS **Sn** 01 41 44.2 0.0
NLC Nalytchevo 2.90 223 PN **Pn** 01 41 13.6 -1.5
NLC S **Sn** 01 41 48.0 -0.8
NLC Nalytchevo 2.90 223 *eP* **Pn** 01 41 13.6 -1.5
NLC eS **Sn** 01 41 48.0 -0.8
SDLR Sedlovina 3.01 228 *eP* **Pn** 01 41 15.2 -1.6
SDLR eS **Sn** 01 41 51.1 -0.6
KRER Koryakskii 3.05 230 *eP* **Pn** 01 41 16.3 -1.1
KRER eS **Sn** 01 41 53.0 +0.2
SMAR Somma 3.06 229 *eP* **Pn** 01 41 16.0 -1.5
SMAR eS **Sn** 01 41 53.4 +0.4
KRX Arik 3.06 231 *eP* **Pn** 01 41 16.9 -0.5
AVH Avacha 3.08 229 *eP* **Pn** 01 41 16.4 -1.3
AVH eS **Sn** 01 41 52.8 -0.6
UGLR Uglovaya 3.09 228 *eP* **Pn** 01 41 16.5 -1.3
UGLR eS **Sn** 01 41 53.6 +0.1
KOK Koryaka 3.11 231 *eP* **Pn** 01 41 16.7 -1.4
KOK eS **Sn** 01 41 54.0 -0.1
GNL Ganaly 3.19 241 *eP* **Pn** 01 41 18.2 -1.0
GNL eS **Sn** 01 41 55.7 -0.4
PET Petropavlovsk 3.29 227 ⇓ *i* PN **Pn** 01 41 19.7 -0.7
PET eS **Sn** 01 41 58.9 +0.5
PET pmax pmax
comp=Z,587nm,0.8s
PET smax smax
comp=E,649nm,0.8s
PET smax smax
comp=N,684nm,0.6s
PET MLR MLR
comp=Z,2µm,12.0s
PET Petropavlovsk 3.29 227 *eP* **Pn** 01 41 19.2 -1.2
PET eS **Sn** 01 41 58.6 +0.2
PET Petropavlovsk 3.29 227 *ePn* **Pn** 01 41 20.6 +0.2
PET eSn **Sn** 01 41 59.4 +1.0
PEA0B Petropavlovsk- 3.66 235 *ePn* **Pn** 01 41 26.6 +1.1
PEA0B eSn **Sn** 01 42 03.0 -4.4
PETK Petropavlovsk- 3.66 235 PN **Pn** 01 41 23.9 -1.6
PETK 01 42 12.2
PETK Petropavlovsk- 3.66 235 Pn **Pn** 01 41 23.9 -1.6
PETK Sn **Sn** 01 42 12.2 +4.8
PETK Petropavlovsk- 3.66 235 Pn **Pn** 01 41 23.9 -1.6
comp=Z,6.7nm,0.3s,baz=66,slow=14,SNR=29
PETK Sn **Sn** 01 42 12.2 +4.8
baz=16,slow=28,SNR=3.4
RUS Russkaya 3.79 222 PN **Pn** 01 41 27.0 -0.4
RUS S **Sn** 01 42 12.4 +1.7
RUS Russkaya 3.79 222 *eP* **Pn** 01 41 27.0 -0.4
RUS eS **Sn** 01 42 12.4 +1.7
GRL Gorelyy 3.88 226 *eP* **Pn** 01 41 29.3 +0.7
GRL eS **Sn** 01 42 14.8 +1.8
MTVR Mutnovka 3.88 225 *eP* **Pn** 01 41 27.6 -1.2
MTVR eS **Sn** 01 42 12.5 -0.7
OSSR Ossora 3.94 3 *eP* **Pn** 01 41 29.7 +0.4
APC Apacha 4.03 235 *eP* **Pn** 01 41 31.0 +0.5
APC eS **Sn** 01 42 19.2 +2.7
PALN Palana 4.04 340 *eP* Pn 01 41 36.2 +5.5
ASAK Asacha 4.07 225 *eP* **Pn** 01 41 31.9 +0.6
ASAK eS **Sn** 01 42 19.9 +2.1
MIPR Malaya Ipel'ka 4.64 231 *eP* **Pn** 01 41 40.1 +1.1
TILK Tilichiki 5.46 19 *eP* **Pn** 01 41 51.8 +1.6
SKR Severo-Kuril's 6.10 223 *ePN* **Pn** 01 41 59.0 0.0
SKR eS Sn 01 43 16.5 +9.1
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR smax smax
comp=N,80nm,0.5s
SKR smax smax
comp=E,80nm,0.5s
FX1 Attu Island--F 6.66 107 *ePn* **Pn** 01 42 05.4 -1.2
FX1 eSn **Sn** 01 43 20.7 -0.6
FX1 Attu Island--F 6.66 107 Pn **Pn** 01 42 04.5 -2.1
comp=E,5.9nm,0.3s,baz=315,slow=6.9,SNR=24
FX1 Sn Sn 01 43 14.7 -6.6
comp=E,2.3nm,0.3s,baz=254,slow=5.1,SNR=2.2
FX1 LR LR 01 44 51.7
comp=E,459nm,19.2s,baz=352,slow=39
BILL Bilibino 12.87 6 ⇑ *i* PN Pn 01 43 36.1 +4.5
BILL pmax pmax
comp=Z,19nm,1.3s
BILL Bilibino 12.87 6 *ePn* Pn 01 43 35.4 +3.8
YSS Yuzh-Sakhalins 14.99 244 ⇑ *eP* **Pn** 01 44 02.0 +1.5
GAMB Gambell 15.41 46 *ePn* **Pn** 01 44 06.2 +0.3
comp=Z,4.7nm,0.8s
YUK Yuzh-Kuril'sk 15.63 231 *c i* P **Pn** 01 44 09.7 +0.9
YUK *i* S **Sn** 01 47 03.8 +3.1
YUK pmax pmax
comp=N,71nm,0.8s
YUK pmax pmax
comp=Z,106nm,0.8s
YUK pmax pmax
comp=E,60nm,0.4s
ASAJ Asahikawa 17.07 237 Pn **Pn** 01 44 26.6 -0.6
ASAJ Asahikawa 17.07 237 Pn **Pn** 01 44 26.6 -0.6
comp=E,0.6nm,0.3s,baz=131,slow=20,SNR=6.0
TNA Tin City 17.58 43 *ePn* **P** 01 44 35.3 +1.2
comp=E,20nm,1.6s
YAK Yakutsk 18.24 305 *eP* **Pn** 01 44 43.4 +2.0
YAK eS **S** 01 48 06.6 -1.4
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,327nm,5.3s
YAK smax smax
comp=E,515nm,5.3s
YAK MLR MLR
comp=Z,321nm,13.0s
YAK MLR MLR
comp=E,90nm,8.0s
YAK MLR MLR
comp=N,100nm,9.0s
YAK Yakutsk 18.24 305 *ePn* **P** 01 44 39.9 -1.5
comp=N,30nm,1.0s
ERM Erimo 18.43 232 *eP* **Pn** 01 44 45.8 +1.8
ERM Erimo 18.43 232 *ePn* **Pn** 01 44 45.8 +1.8
KLR Kul'dur 19.75 265 *eP* **Pn** 01 45 03.7 +4.0
KLR MLR MLR
comp=Z,2µm,11.0s
CLNS Chul'man 20.95 290 *eP* Pn 01 45 20.1 +6.4
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=N,12nm,1.1s
TIXI Tiksi 21.74 332 *eP* **P** 01 45 20.0 +0.7
TIXI pmax pmax
comp=Z,24nm,1.5s
TIXI MLR MLR
comp=Z,162nm,19.0s
TIXI Tiksi 21.74 332 *eP* **P** 01 45 20.1 +0.7
comp=Z,54nm,0.9s
USRK Ussuriysk Arra 22.52 253 P **P** 01 45 26.7 -1.3
comp=Z,0.7nm,0.6s,baz=56,slow=7.7,SNR=2.0
IM04 Indian Mountai 23.33 45 *eP* **P** 01 45 36.2 0.0
RSO Redoubt South 23.88 59 *eP* **P** 01 45 42.6 +1.0
PPLA Purkeypile 23.93 53 *eP* **P** 01 45 43.4 +1.3
comp=E,89nm,1.6s
KTH Kantishna Hill 24.48 52 *eP* **P** 01 45 47.7 +0.8
comp=E,61nm,0.9s
TRF Thorofare Moun 24.77 52 *eP* **P** 01 45 50.2 +0.5
comp=Z,27nm,0.9s
COLD Coldfoot 24.88 43 *eP* **P** 01 45 50.6 +0.1
comp=Z,28nm,0.8s
MJA0 Matsu Arr-Jizo 25.09 232 *eP* **P** 01 45 52.3 -0.4
MJA0 pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 25.11 232 *eP* **P** 01 45 53.6 +0.7
MAJO Matsushiro 25.11 232 *eP* **P** 01 45 52.5 -0.3
comp=Z,3.6nm,0.8s
MAT Matsushiro 25.11 232 P **P** 01 45 52.5 -0.4
MJAR Matsushiro Arr 25.11 232 P **P** 01 45 52.3 -0.6
MJAR Matsushiro Arr 25.11 232 P **P** 01 45 52.3 -0.6
comp=Z,9.0nm,0.7s,baz=23,slow=7.7,SNR=18
MCK McKinley 25.36 51 *eP* **P** 01 45 55.3 +0.5
MCK pmax pmax
comp=Z,18nm,1.0s
MCK McKinley 25.36 51 *eP* **P** 01 45 55.3 +0.5
comp=Z,18nm,1.0s
COLA College 25.77 48 ⇓ *i* P **P** 01 45 59.3 +0.8
COLA pmax pmax
comp=Z,74nm,1.2s
COLA College 25.77 48 *eP* **P** 01 45 59.1 +0.6
comp=Z,4.2nm,0.9s
ILAR Eielson Array 26.19 49 P **P** 01 46 02.2 -0.1
ILAR Eielson Array 26.19 49 P **P** 01 46 02.2 -0.1
comp=Z,12nm,0.8s,baz=266,slow=8.6,SNR=124
PAX Paxson 26.98 52 *eP* **P** 01 46 09.8 +0.1
PAX pmax pmax
comp=Z,152nm,3.0s
PAX Paxson 26.98 52 *eP* **P** 01 46 09.8 +0.1
comp=Z,152nm,3.0s
DOT Dot Lake 27.52 51 *eP* **P** 01 46 13.4 -1.0
comp=Z,9.8nm,0.8s
BMRM Bremner River 27.74 57 *eP* **P** 01 46 16.7 +0.3
comp=Z,20nm,0.9s
EGAK Eagle 28.63 48 *eP* **P** 01 46 23.6 -0.6
comp=Z,15nm,0.8s
HYT Haines Junctio 31.13 55 *eP* **P** 01 46 47.8 +1.3
INK Inuvik 31.18 40 *eP* **P** 01 46 47.1 +0.4
comp=Z,2.9nm,0.6s
INK Inuvik 31.18 40 P **P** 01 46 47.5 +0.8
comp=Z,2.3nm,0.5s,baz=295,slow=7.5,SNR=7.2
BJI Beijing 34.10 263 P **P** 01 47 10.0 -2.5
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,110nm,3.8s
SONM Songino Array 34.88 282 P **P** 01 47 18.7 -0.6
SONM PcP **PcP** 01 49 51.4 -0.2
SONM Songino Array 34.88 282 P **P** 01 47 18.7 -0.6
comp=Z,0.9nm,0.9s,baz=45,slow=6.5,SNR=3.7
SONM PcP **PcP** 01 49 51.4 -0.2
comp=Z,1.3nm,0.7s,baz=73,slow=2.1,SNR=5.4
ZAK Zakamensk 35.23 287 *eP* P 01 47 29.5 +7.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s
DLBC Dease Lake 35.53 57 P **P** 01 47 26.2 +1.4
DLBC Dease Lake 35.53 57 P **P** 01 47 26.2 +1.4
comp=Z,11nm,0.8s,baz=296,slow=9.9,SNR=17
H11N2 WAKE ISLAND Hy 35.69 173 T T 02 24 59.4
baz=360
H11N3 WAKE ISLAND Hy 35.70 173 T T 02 24 59.4
baz=360
H11N1 WAKE ISLAND Hy 35.70 173 T T 02 24 59.9
baz=360
HHC Hu-ho-hao-te 36.19 268 *eP* **P** 01 47 30.8 +0.1
HHC pP **pP** 01 47 40.5 0.0
HHC sP **sP** 01 47 44.0 -0.5
HHC PP **PP** 01 48 53.3 +0.2
HHC S **S** 01 53 06.5 -1.8
HHC SS **SnSn** 01 55 29.5 -6.1
HHC pmax pmax
comp=Z,52nm,0.7s
HHC pmax pmax
comp=Z,160nm,8.5s
HHC LR LR
comp=Z,490nm,16.0s
HHC LR LR
comp=Z,590nm,14.8s
HHC LR LR
comp=Z,350nm,16.0s
NJ2 Nanjing 38.40 251 *eP* **P** 01 47 51.5 +2.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YKW3 Yellowknife Ar 40.47 45 *eP* **P** 01 48 07.1 +0.9
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 40.51 45 P **P** 01 48 07.5 +0.9
YKA PcP **PcP** 01 50 08.8 +0.4
YKA Yellowknife Ar 40.51 45 P **P** 01 48 07.5 +0.9
comp=Z,1.5nm,0.5s,baz=299,slow=8.2,SNR=28
YKA PcP **PcP** 01 50 08.8 +0.4
comp=Z,0.6nm,0.9s,baz=300,slow=3.6,SNR=4.0
RES Resolute Bay 40.68 23 P **P** 01 48 08.5 +0.7
RES Resolute Bay 40.68 23 P **P** 01 48 08.5 +0.7
comp=Z,2.6nm,0.7s,baz=294,slow=3.4,SNR=8.8
WHN Wuhan 42.02 254 *eP* P 01 48 14.5 -4.7
ZALV Zalesovo Beam 42.85 302 P **P** 01 48 23.7 -2.1
ZALV 01 50 14.3
ZALV Zalesovo Beam 42.85 302 P **P** 01 48 23.7 -2.1
ZALV PcP **PcP** 01 50 14.3 -1.9
ZALV Zalesovo Beam 42.85 302 P **P** 01 48 23.7 -2.1
comp=Z,0.4nm,0.4s,baz=62,slow=6.8,SNR=2.4
ZALV PcP **PcP** 01 50 14.3 -1.9
comp=Z,1.5nm,0.7s,baz=72,slow=4.8,SNR=6.1
GTA Gaotai 43.86 276 *eP* **P** 01 48 31.5 -2.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 45.17 351 P **P** 01 48 44.7 +0.6
SPITS Spitsbergen Ar 45.17 351 P **P** 01 48 44.7 +0.6
comp=Z,13nm,0.8s,baz=57,slow=9.1,SNR=6.6
EDM Edmonton 46.24 56 *eP* **P** 01 48 54.5 +1.5
EDM Edmonton 46.24 56 *eP* **P** 01 48 54.5 +1.5
B08A Colville Reser 46.33 64 *eP* **P** 01 48 55.5 +1.9
WMQ Urumqi 47.65 289 P **P** 01 49 05.5 +1.4
WMQ pmax pmax
comp=Z,5.0nm,0.8s
WMQ pmax pmax
comp=Z,43nm,5.4s
KURK Kurchatov 47.83 301 P **P** 01 49 03.6 -1.7
KURK 01 50 32.5
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 47.83 301 *eP* **P** 01 49 02.5 -2.8
comp=Z,4.6nm,0.9s
KURK PcP **PcP** 01 50 32.5 -1.0
KURBB Kurchatov Arra 47.94 301 P **P** 01 49 03.6 -2.4
comp=Z,2.0nm,0.5s,baz=56,slow=8.0,SNR=9.7
KURBB PcP **PcP** 01 50 32.5 -1.4
comp=Z,0.7nm,0.3s,baz=53,slow=3.1,SNR=5.1
E09A Wood Farm, Sta 48.13 66 *eP* **P** 01 49 08.8 +1.2
comp=Z,7.1nm,0.9s
MKAR Makanchi Array 48.54 295 *eP* **P** 01 49 08.1 -2.7
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 48.54 295 P **P** 01 49 08.2 -2.7
MKAR Makanchi Array 48.54 295 P **P** 01 49 08.2 -2.7
comp=Z,2.2nm,0.7s,baz=34,slow=8.2,SNR=18
YBH Yreka Blue Hor 48.89 73 P **P** 01 49 13.9 +0.2
YBH Yreka Blue Hor 48.89 73 P **P** 01 49 14.0 +0.2
comp=Z,1.1nm,0.4s,baz=307,slow=3.1,SNR=3.6
BSMT Bassoo Peak 48.98 62 *eP* **P** 01 49 15.3 +0.9
comp=Z,3.2nm,0.7s
M04C Macdoel 49.34 73 ⇓ P **P** 01 49 18.9 +1.7
baz=49
GYA Guiyang 49.44 258 *eP* **P** 01 49 19.8 +1.7
GYA pP **pP** 01 49 30.0 +1.8
GYA PP **PP** 01 51 13.8 +1.6
GYA ScP **ScP** 01 54 33.5 +1.1
GYA S **S** 01 56 22.5 -0.4
GYA sS **sS** 01 56 37.8 -1.8
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.8s
MSO Missoula 50.09 63 ⇓ P **P** 01 49 23.6 +0.8
baz=50
MOD Modoc 50.09 72 *eP* **P** 01 49 23.6 +0.7
comp=Z,49nm,2.4s
BVAR Borovoye Array 50.17 308 P **P** 01 49 21.0 -2.2
BVAR 01 50 40.1
BVAR Borovoye Array 50.17 308 P **P** 01 49 21.0 -2.2
BVAR PcP **PcP** 01 50 40.1 -1.9
BVAR Borovoye Array 50.17 308 P **P** 01 49 21.0 -2.2
comp=Z,2.2nm,0.6s,baz=56,slow=7.9,SNR=15
BVAR PcP **PcP** 01 50 40.1 -1.9
comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=2.3
BRVK Borovoye 50.20 308 *eP* **P** 01 49 21.0 -2.4
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 50.20 308 *eP* **P** 01 49 21.0 -2.4
comp=Z,4.5nm,0.7s
FFC Flin Flon 50.40 49 *eP* **P** 01 49 25.9 +1.0
FFC pmax pmax
comp=Z,2.0nm,0.8s
FFC Flin Flon 50.40 49 *eP* **P** 01 49 25.9 +1.0
comp=Z,2.2nm,0.8s
FCC Fort Churchill 50.80 41 *eP* **P** 01 49 28.6 +0.8
FCC pmax pmax
comp=Z,5.0nm,2.8s
FCC Fort Churchill 50.80 41 *eP* **P** 01 49 28.6 +0.8
comp=Z,4.5nm,2.8s
A19A Klindworth Far 51.24 58 ⇑ P **P** 01 49 32.1 +0.7
baz=51
EGMT Eagleton 51.37 59 ⇑ P **P** 01 49 33.4 +1.0
baz=51
B19A Brinkman Farms 51.47 58 ⇓ P **P** 01 49 34.0 +0.9
baz=51
SUMG Summit 51.55 8 *eP* **P** 01 49 34.1 +0.4
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 51.55 8 *eP* **P** 01 49 34.1 +0.4
comp=Z,14nm,1.2s
ARCES ARCESS Array B 51.62 342 P **P** 01 49 32.6 -1.2
ARCES ARCESS Array B 51.62 342 P **P** 01 49 32.6 -1.2
comp=Z,5.6nm,1.0s,baz=38,slow=10,SNR=2.8
SVE Sverdlovsk 51.67 317 *eP* P 01 49 41.0 +6.6
A20A Cobblestone Ra 51.67 57 ⇑ P **P** 01 49 35.7 +1.1
baz=52
C19A Slack Wire Ran 51.91 59 ⇑ P **P** 01 49 37.8 +1.4
baz=52
HLID Hailey 52.08 66 ⇓ P **P** 01 49 39.3 +1.4
baz=52
D19A Cripps Ranch, 52.39 59 ⇓ P **P** 01 49 41.6 +1.6
baz=52
C20A Veseth Ranch, 52.44 58 ⇓ P **P** 01 49 41.7 +1.4
baz=52
A22A Carney Farms, 52.55 56 ⇓ P **P** 01 49 42.1 +0.9
baz=52
KMI Kunming 52.68 260 P **P** 01 49 43.8 +1.2
KMI S **S** 01 57 09.0 +1.0
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI LR LR
comp=Z,250nm,21.5s
KMI LR LR
comp=Z,190nm,15.6s
KMI LR LR
comp=Z,130nm,16.3s
ARU Arti 52.76 317 *d i* P P 01 49 47.4 +4.9
ARU S S 01 57 18.8 +11
ARU SS **SKiKP** **02 00 52.9 -6.3**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 52.76 317 *eP* **P** 01 49 41.4 -1.0
comp=Z,13nm,1.1s
D20A Manuel Ranch, 52.81 59 ⇓ P **P** 01 49 44.4 +1.4
baz=53
E20A Meyer Farm, Mu 53.22 60 ⇑ P **P** 01 49 47.4 +1.2
baz=53
F19A Roth Farm, Mol 53.27 61 ⇑ P **P** 01 49 47.9 +1.4
baz=53
B23A Brockton 53.36 56 ⇑ P **P** 01 49 48.5 +1.4
baz=53
D21A La Casta Ranch 53.38 58 ⇓ P **P** 01 49 48.9 +1.6
baz=53
NVAR Mina Array Bea 53.62 73 P **P** 01 49 51.1 +1.8
NVAR Mina Array Bea 53.62 73 P **P** 01 49 51.1 +1.8
comp=Z,3.7nm,0.9s,baz=298,slow=7.6,SNR=22
F20A Billings 53.71 60 ⇓ P **P** 01 49 51.1 +1.3
baz=54
D22A Cohagen 53.72 58 ⇓ P **P** 01 49 51.3 +1.6
baz=54
DGMT Dagmar 53.73 56 ⇑ P **P** 01 49 51.3 +1.5
baz=54
C23A Lambert 53.74 57 ⇑ P **P** 01 49 51.5 +1.7
baz=54
H18A Shoshone NF, C 53.74 62 ⇑ P **P** 01 49 51.8 +1.6
baz=54
I17A Pilgrim Ck. 53.81 63 ⇓ P **P** 01 49 52.2 +1.5
baz=54
A25A Svangstu Ranch 53.91 54 ⇓ P **P** 01 49 52.5 +1.4
baz=54
LAO LASA Array 54.02 58 *eP* **P** 01 49 53.9 +1.9
comp=Z,8.7nm,0.9s
G20A Bridger 54.08 61 ⇑ P **P** 01 49 54.0 +1.4
baz=54
H19A Powell 54.09 62 ⇓ P **P** 01 49 54.5 +2.0
baz=54
C24A Savage 54.29 56 ⇓ P **P** 01 49 55.7 +1.8
baz=54
E22A Miles City 54.33 58 ⇑ P **P** 01 49 55.8 +1.6
baz=54
AHID Auburn Hatcher 54.36 65 *eP* **P** 01 49 55.2 +0.5
comp=Z,9.7nm,0.7s
TPH Tonopah 54.46 73 *eP* **P** 01 49 57.1 +1.6
TPH pmax pmax
comp=Z,9.0nm,0.9s
TPH Tonopah 54.46 73 *eP* **P** 01 49 57.1 +1.6
comp=Z,9.3nm,0.9s
G21A Lodge Grass 54.58 60 ⇑ P **P** 01 49 57.8 +1.7
baz=54
D24A Glendive 54.63 57 ⇓ P **P** 01 49 58.2 +1.8
baz=54
TIN Tinemaha 54.65 74 ⇑ P **P** 01 49 58.7 +2.0
baz=55
F22A Rosebud 54.65 59 ⇑ P **P** 01 49 57.8 +1.2
baz=54
TKM2 Tokmak 2 54.66 296 *eP* **P** 01 49 56.1 -0.7
TKM2 pmax pmax
comp=Z,5.0nm,1.1s
TKM2 Tokmak 2 54.66 296 *eP* **P** 01 49 56.1 -0.7
comp=Z,5.5nm,1.1s
H20A Greybull 54.71 61 ⇑ P **P** 01 49 58.3 +1.2
baz=55
FRB Frobisher Bay 54.85 25 P **P** 01 49 57.0 -0.5
FRB Frobisher Bay 54.85 25 P **P** 01 49 57.0 -0.5
comp=Z,7.0nm,0.8s,baz=343,slow=7.7,SNR=9.8
HWUT Hardware Ranch 54.95 66 *eP* **P** 01 50 01.0 +2.1
comp=Z,5.7nm,1.0s
I20A Worland 55.03 62 ⇓ P **P** 01 50 00.9 +1.5
baz=55
G22A Birney 55.04 60 ⇑ P **P** 01 50 01.1 +1.7
baz=55
E24A Baker 55.04 57 ⇑ P **P** 01 50 00.9 +1.5
baz=55
J19A Crowheart 55.05 63 ⇓ P **P** 01 50 01.7 +2.1
baz=55
VES Vestal, Richgr 55.06 76 ⇓ P **P** 01 50 01.0 +1.5
baz=55
D25A Fairfield 55.09 56 ⇓ P **P** 01 50 01.4 +1.8
baz=55
H21A Big Horn, Sher 55.09 61 ⇓ P **P** 01 50 01.9 +2.0
baz=55
F23A Volborg 55.11 59 ⇑ P **P** 01 50 01.2 +1.3
baz=55,SNR=6.6
BW06 Boulder Array 55.15 64 *eP* **P** 01 50 01.7 +1.3
comp=Z,5.3nm,0.9s
PDAR Pinedale Array 55.15 64 P **P** 01 50 02.0 +1.5
PDAR Pinedale Array 55.15 64 P **P** 01 50 02.0 +1.5
comp=Z,3.5nm,0.8s,baz=328,slow=2.9,SNR=24
R11A Troy Canyon, C 55.16 71 ⇓ P **P** 01 50 02.1 +1.7
baz=55
GRAC Grapevine Rang 55.16 74 ⇓ P **P** 01 50 02.8 +2.5
baz=55
C26A Wahner Farm, P 55.18 55 ⇑ P **P** 01 50 01.8 +1.5

baz=55
DUG **Dugway** 55.31 68 *e*P P 01 50 03.1 +1.6
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway** 55.31 68 *e*P P 01 50 03.1 +1.6
comp=Z,7.7nm,0.9s
DUG **Dugway** 55.31 68 ⇑P P 01 50 03.4 +1.9
baz=55,SNR=7.6
AAK **Ala-Archa** 55.43 296 *e*P P 01 50 03.0 +0.7
AAK pmax pmax
comp=Z,14nm,1.4s
AAK **Ala-Archa** 55.43 296 *e*P P 01 50 01.5 -0.9
comp=Z,8.4nm,1.0s
H22A **Clearmont** 55.46 60 ⇑P P 01 50 04.5 +2.1
baz=55
J20A **Shoshoni** 55.48 62 ⇓P P 01 50 04.3 +1.6
baz=55,SNR=8.0
E25A **Miller Ranch,** 55.52 57 ⇑P P 01 50 04.4 +1.6
baz=55
ISA **Isabella** 55.52 76 P P 01 50 04.5 +1.5
baz=56
B28A **Dugan Ranch, T** 55.53 53 ⇓P P 01 50 04.3 +1.5
baz=55
I21A **Big Trails, Te** 55.55 61 ⇓P P 01 50 04.5 +1.3
baz=55
A29A **Manning Farm,** 55.70 52 ⇑P P 01 50 05.1 +1.1
baz=56
EKS2 **Erkin-Say** 55.77 297 *e*P P 01 50 03.9 -0.9
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 **Erkin-Say** 55.77 297 *e*P P 01 50 03.9 -0.9
comp=Z,9.6nm,1.0s
LSA **Lhasa** 55.78 274 *e*P P 01 50 04.7 -0.7
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA **Lhasa** 55.78 274 *e*P P 01 50 04.7 -0.7
comp=Z,4.2nm,0.6s
FURC **Furnace Creek,** 55.83 74 ⇑P P 01 50 07.2 +2.2
baz=56,SNR=5.5
NLU **North Lily Min** 55.87 68 *e*P P 01 50 07.1 +1.5
comp=Z,7.8nm,0.9s
G24A **Alzada** 55.88 58 ⇑P P 01 50 06.5 +1.0
baz=56
I22A **9 Mile Ranch,** 55.90 61 ⇑P P 01 50 07.2 +1.5
baz=56
F25A **Bowman** 55.91 57 ⇓P P 01 50 07.0 +1.4
baz=56
DAU **Daniels Canyon** 55.97 67 *e*P P 01 50 08.4 +2.0
DAU pmax pmax
comp=Z,4.0nm,1.0s
DAU **Daniels Canyon** 55.97 67 *e*P P 01 50 08.4 +2.0
comp=Z,4.0nm,1.0s
E26A **Carlson Angus** 55.99 56 ⇓P P 01 50 07.3 +1.1
baz=56
MPU **Maple Canyon** 56.06 67 *e*P P 01 50 09.2 +2.3
comp=Z,9.2nm,0.9s
LRMC **Laurel Mountai** 56.09 75 ⇑P P 01 50 08.4 +1.3
baz=56
JOF **Joensuu** 56.16 336 *e*P P 01 50 06.8 -0.2
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF **Joensuu** 56.16 336 *e*p P 01 50 06.8 -0.2
comp=Z,4.6nm,0.5s
ULM **Lac du Bonnet** 56.21 49 *e*P P 01 50 08.8 +1.2
comp=Z,53nm,2.0s
ULM **Lac du Bonnet** 56.21 49 P P 01 50 08.4 +0.8
comp=Z,5.9nm,0.9s,baz=312,slow=6.7,SNR=8.6
H24A **Dirks Ranch, A** 56.23 59 ⇓P P 01 50 09.0 +1.0
baz=56
J22A **Midwest** 56.25 61 ⇓P P 01 50 09.8 +1.7
baz=56
F26A **Lodgepole** 56.34 57 ⇓P P 01 50 09.9 +1.3
baz=56
EDW2 **Edwards Air Fo** 56.37 76 ⇑P P 01 50 11.0 +2.0
baz=56
K21A **Alcova** 56.43 62 ⇓P P 01 50 10.5 +1.0
baz=56
B30A **Myrvik Farm, E** 56.45 52 ⇑P P 01 50 10.7 +1.3
baz=56
G25A **Newell** 56.46 58 ⇓P P 01 50 10.7 +1.2
baz=56
SHOC **Shoshone** 56.56 74 ⇓P P 01 50 12.1 +1.7
baz=56
F27A **Lemmon** 56.63 56 ⇑P P 01 50 12.1 +1.4
baz=56
GSC **Goldstone** 56.71 75 *e*P P 01 50 13.4 +1.9
GSC pmax pmax
comp=Z,86nm,2.5s
GSC **Goldstone** 56.71 75 *e*P P 01 50 13.4 +1.9
comp=Z,86nm,2.5s
GSC **Goldstone** 56.71 75 ⇑P P 01 50 13.2 +1.7
baz=57,SNR=5.9
ARUT **Antelope Range** 56.72 70 *e*P P 01 50 13.3 +1.6
ARUT pmax pmax
comp=Z,70nm,0.9s
ARUT **Antelope Range** 56.72 70 *e*P P 01 50 13.3 +1.6
comp=Z,70nm,0.9s
G26A **Maurine** 56.78 57 ⇓P P 01 50 12.7 +0.9
baz=57
K22A **Casper** 56.78 62 ⇓P P 01 50 12.9 +0.9
baz=57
H25A **Fruitdale** 56.79 58 ⇑P P 01 50 13.2 +1.3
baz=57
TMUT **Trail Mountain** 56.81 68 *e*P P 01 50 14.0 +1.6
comp=Z,11nm,0.9s
KSH **Kashi** 56.92 293 *e*P P 01 50 16.8 +3.8
KSH *e*PP PP 01 52 24.5 +5.2
KSH *e*PcS **PcS** **01 55 10.5 +1.5**
KSH *e*S **S** **01 58 07.3 +2.8**
KSH *e*sS sS 01 58 23.5 +2.2
KSH *e*SS **SS** **02 01 56.5 +4.1**
KSH pmax pmax
comp=Z,2.0nm,1.1s
KSH pmax pmax
comp=Z,110nm,3.6s
KSH LR LR
comp=Z,100nm,4.3s
KSH LR LR
comp=Z,50nm,4.2s
CCUT **Cedar City** 56.94 71 *e*P P 01 50 15.5 +2.2
comp=Z,3.1nm,0.8s
RSSD **Black Hills** 56.94 59 *e*P P 01 50 13.9 +0.7
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD **Black Hills** 56.94 59 *e*P P 01 50 13.9 +0.7
comp=Z,5.8nm,1.0s
G27A **Dupree** 57.04 57 ⇓P P 01 50 14.5 +0.9
baz=57
KKAR **Karatay Array** 57.10 299 *e*P P 01 50 12.5 -1.6
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR **Karatay Array** 57.10 299 *e*P P 01 50 12.5 -1.6
comp=Z,8.5nm,0.9s
TUQ **Turquoise Moun** 57.10 74 ⇓P P 01 50 15.6 +1.3
baz=57
K23A **Bowen Ranch, D** 57.16 61 ⇑P P 01 50 16.0 +1.4
baz=57
I25A **Rochford** 57.16 59 ⇑P P 01 50 15.4 +0.7
baz=57
J24A **Dixon Ranch, L** 57.21 60 ⇓P P 01 50 16.6 +1.7
baz=57
N20A **Spence Gulch,** 57.22 64 ⇑P P 01 50 17.4 +2.1
baz=57,SNR=15
F28A **McLaughlin** 57.23 56 ⇓P P 01 50 16.3 +1.4
baz=57
D30A **Buchanan** 57.25 53 ⇑P P 01 50 16.5 +1.5
baz=57
L22A **Ellis Ranch, M** 57.28 62 ⇑P P 01 50 17.6 +2.0
baz=57
SRU **San Rafael** 57.31 67 *e*P P 01 50 17.6 +1.8
SRU pmax pmax
comp=Z,16nm,0.9s
SRU **San Rafael** 57.31 67 *e*P P 01 50 17.6 +1.8
comp=Z,16nm,0.9s
ABKAR **Akbulak array** 57.48 311 *e*P P 01 50 14.9 -1.7
comp=Z,3.5nm,0.7s
L23A **Garrett** 57.59 62 ⇓P P 01 50 19.0 +1.2
baz=58,SNR=6.4
J25A **Sunshine Ranch** 57.59 60 ⇓P P 01 50 18.9 +1.3
baz=58
M22A **Cedar Creek Ra** 57.66 63 ⇓P P 01 50 19.9 +1.6
baz=58
AGMN **Agassiz Nation** 57.67 51 *e*P P 01 50 19.1 +1.1
comp=Z,176nm,3.0s
AGMN **Agassiz Nation** 57.67 51 ⇓P P 01 50 19.0 +1.1
baz=58
GMRC **Granite Mounta** 57.73 74 ⇑P P 01 50 20.4 +1.7
baz=58
G28A **Parade** 57.75 56 ⇓P P 01 50 20.1 +1.5
baz=58
O20A **White River Ci** 57.75 65 *e*P P 01 50 20.4 +1.5
comp=Z,14nm,0.8s
O20A **White River Ci** 57.75 65 ⇓P P 01 50 20.7 +1.8
baz=58,SNR=7.8
MURC **Murrieta** 57.75 76 ⇑P P 01 50 20.9 +2.0
baz=58
LDFC **Landfair** 57.81 74 *e*P P 01 50 19.1 -0.2
comp=Z,9.7nm,0.9s
I27A **Quinn** 57.95 58 ⇑P P 01 50 22.1 +2.0
baz=58
H28A **Mission Ridge** 57.99 57 ⇓P P 01 50 22.1 +1.8
baz=58
KAF **Kangasniemi** 58.00 337 *e*P P
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF **Kangasniemi** 58.00 337 *e*p P 01 50 19.6 -0.5
comp=Z,1.3nm,0.4s
J26A **Sides Ranch, S** 58.01 59 ⇓P P 01 50 22.3 +1.8
baz=58
BELC **Belle Mtn. Jos** 58.12 75 ⇑P P 01 50 23.4 +1.9
baz=58
N22A **Wattenberg Ran** 58.17 63 ⇑P P 01 50 23.8 +1.8
baz=58
U15A **North Rim** 58.34 71 ⇓P P 01 50 25.1 +1.9
baz=58
N23A **Red Feather La** 58.37 63 ⇓P P 01 50 25.1 +1.8
baz=58,SNR=8.9
K26A **Motz Farm, Whi** 58.41 60 ⇑P P 01 50 24.9 +1.5
baz=58
I28A **Midland** 58.42 57 ⇓P P 01 50 24.4 +1.1
baz=58
W13A **Hualapai Mount** 58.47 73 ⇓P P 01 50 25.8 +1.8
baz=58
IRM **Iron Mountain** 58.47 75 ⇓P P 01 50 25.8 +2.0
baz=58
M24A **Cheyenne** 58.51 62 ⇑P P 01 50 25.7 +1.5
baz=58
G30A **Faulkton** 58.54 55 ⇑P P 01 50 25.5 +1.4
baz=58
J27A **Elkhorn Farm,** 58.58 58 ⇑P P 01 50 26.4 +1.9
baz=58
FINES **FINESS Array B** 58.65 337 P P 01 50 24.0 -0.6
FINES **FINESS Array B** 58.65 337 P P 01 50 24.0 -0.6
comp=Z,3.8nm,0.6s,baz=31,slow=8.1,SNR=25
BC3 **Big Chuckawall** 58.68 75 ⇓P P 01 50 27.0 +1.6
baz=59
PV04 **Paradox Valley** 58.69 67 *e*P P 01 50 27.6 +2.1
J28A **Allard Ranch,** 58.82 58 ⇑P P 01 50 27.8 +1.7
baz=59,SNR=7.9
I29A **Vivian Onida** 58.82 57 ⇑P P 01 50 27.3 +1.2
baz=59
O23A **Lake Granby, G** 58.89 63 ⇑P P 01 50 28.7 +1.8
baz=59
P22A **Eagle** 58.91 64 ⇑P P 01 50 28.8 +1.8
baz=59,SNR=5.0
M25A **Palm-Egli Farm** 58.92 61 ⇓P P 01 50 29.0 +2.0
baz=59
PDMCI **Parker Dam,Lak** 58.92 74 ⇑P P 01 50 28.6 +1.7
baz=59
SMCO **Snowmass** 59.11 65 *e*P P 01 50 30.6 +1.9
comp=Z,5.8nm,0.9s
Y12C **Blythe** 59.12 74 ⇓P P 01 50 30.1 +1.8
baz=59
J29A **Okreek** 59.27 57 ⇑P P 01 50 30.6 +1.3
baz=59,SNR=6.2
K28A **Ten Mile Ranch** 59.29 58 ⇓P P 01 50 31.2 +1.8
baz=59
L27A **T5 Ranch, Ells** 59.30 60 ⇑P P 01 50 31.4 +1.9
baz=59
ISCO **Idaho Springs** 59.35 64 *e*P P 01 50 32.7 +2.5
ISCO pmax pmax
comp=Z,12nm,1.1s
ISCO **Idaho Springs** 59.35 64 *e*P P 01 50 32.6 +2.5
comp=Z,12nm,1.1s
ISCO **Idaho Springs** 59.35 64 ⇓P P 01 50 32.3 +2.1
baz=59,SNR=10.0
M26A **McRoberts Ranc** 59.35 61 ⇑P P 01 50 32.0 +2.0
baz=59
N25A **Grover** 59.37 62 ⇓P P 01 50 32.2 +2.1
baz=59
O24A **Longmont** 59.38 63 ⇑P P 01 50 32.5 +2.3
baz=59
GLA **Glamis** 59.48 75 *e*P P 01 50 32.5 +1.7
GLA pmax pmax
comp=Z,44nm,2.2s
GLA **Glamis** 59.48 75 *e*P P 01 50 32.5 +1.7
comp=Z,44nm,2.2s
GLA **Glamis** 59.48 75 ⇑P P 01 50 32.6 +1.7
baz=60
WUAZ **Wupatki** 59.52 71 *e*P P 01 50 33.6 +2.3
comp=Z,8.6nm,1.1s
WUAZ **Wupatki** 59.52 71 ⇓P P 01 50 33.2 +1.9
baz=60,SNR=5.9
J30A **Dallas** 59.73 57 ⇑P P 01 50 33.6 +1.2
baz=60
K29A **Lazy Trails An** 59.76 58 ⇓P P 01 50 34.1 +1.4
baz=60
MVCO **Mesa Verde** 59.78 67 *e*P P 01 50 34.9 +1.7
comp=Z,74nm,2.6s
MVCO **Mesa Verde** 59.78 67 ⇑P P 01 50 34.9 +1.7
baz=60
N26A **Koester Ranch,** 59.79 61 ⇓P P 01 50 34.9 +1.9
baz=60
Y14A **Wickenburg** 59.81 73 ⇑P P 01 50 34.9 +1.8
baz=60
EYMN **Ely** 59.84 48 *e*P P 01 50 34.0 +1.0
comp=Z,106nm,2.3s
CMAR **Chiang Mai Arr** 60.09 259 P P 01 50 34.5 -0.6
CMAR **Chiang Mai Arr** 60.09 259 P P 01 50 34.5 -0.6
comp=Z,0.9nm,0.4s,baz=21,slow=5.8,SNR=3.8
K30A **Basset** 60.17 57 ⇓P P 01 50 37.0 +1.5
baz=60,SNR=5.0
L29A **Maesberg Ranch** 60.21 58 ⇓P P 01 50 37.6 +1.8
baz=60
Q24A **Divide** 60.21 64 ⇑P P 01 50 38.3 +2.1
baz=60
S22A **4UR Ranch, Cre** 60.26 66 ⇓P P 01 50 38.7 +2.2
baz=60,SNR=7.2
113A **Mohawk Valley,** 60.28 75 ⇑P P 01 50 37.8 +1.5
baz=60
M28A **Bar X Bar Ranc** 60.28 59 ⇑P P 01 50 38.0 +1.7
baz=60
OGNE **Ogallala** 60.29 60 ⇑P P 01 50 39.3 +2.9
baz=60
P25A **Willow Gulch B** 60.30 63 ⇓P P 01 50 38.7 +2.1
baz=60,SNR=5.9
X16A **Lo Mia Camp, P** 60.31 72 ⇑P P 01 50 38.9 +2.2
baz=60,SNR=5.2
R23A **Moffat** 60.45 65 ⇓P P 01 50 38.9 +1.2
baz=60
M29A **Burnside Ranch** 60.58 59 ⇑P P 01 50 39.8 +1.5
baz=60
O27A **Beecher Island** 60.64 61 ⇑P P 01 50 40.5 +1.7
baz=60
P26A **Davis Ranch, A** 60.68 62 ⇑P P 01 50 41.0 +1.9
baz=61
Q25A **Bedland, Calha** 60.71 63 ⇑P P 01 50 40.9 +1.5
baz=61,SNR=6.1
N28A **Pribbeno Ranch** 60.73 60 ⇑P P 01 50 40.7 +1.3
baz=61
ECSD **EROS Data Cent** 60.78 55 *e*P P 01 50 40.4 +0.8
comp=Z,47nm,2.0s
ECSD **EROS Data Cent** 60.78 55 ⇑P P 01 50 40.7 +1.1
baz=61
R24A **Sanders Place,** 60.79 64 ⇑P P 01 50 41.7 +1.8
baz=61
L31A **Butterfield Fa** 60.92 57 ⇑P P 01 50 41.7 +1.2
baz=61,SNR=5.2
X18A **Snowflake** 61.03 71 ⇓P P 01 50 43.5 +1.9
baz=61
O28A **Krutsinger Ran** 61.04 61 ⇑P P 01 50 42.7 +1.2
baz=61
P27A **Ficken Ranch,** 61.07 62 ⇑P P 01 50 43.4 +1.7
baz=61
Q26A **Hugo** 61.08 63 ⇓P P 01 50 43.5 +1.7
baz=61
N29A **Votaw Ranch, W** 61.08 59 ⇑P P 01 50 43.3 +1.6
baz=61
S24A **Houchin Ranch,** 61.18 65 ⇓P P 01 50 44.5 +1.8
baz=61
R25A **Fountain Ranch** 61.27 64 ⇓P P 01 50 44.4 +1.2
baz=61
U22A **Llaves** 61.28 67 ⇓P P 01 50 45.0 +1.7
baz=61
SPMN **St. Paul** 61.37 51 ⇑P P 01 50 44.7 +1.2
baz=61
214A **Organ Pipe Nat** 61.42 74 ⇓P P 01 50 46.2 +2.1
baz=61
OBN **Obninsk** 61.42 328 *i* P P 01 50 42.4 -1.2
OBN *i* 01 51 25.5
OBN pmax pmax
comp=Z,9.0nm,1.7s
OBN MLR MLR
comp=Z,169nm,16.0s
KSCO **Kaye Shedlock'** 61.46 62 *e*P P 01 50 46.4 +1.9
comp=Z,10nm,0.9s
KSCO **Kaye Shedlock'** 61.46 62 ⇓P P 01 50 46.0 +1.6
baz=61
P28A **Saint Francis** 61.47 61 ⇑P P 01 50 46.1 +1.7
baz=61
O29A **4D Ranch, Culb** 61.53 60 ⇑P P 01 50 46.3 +1.6
baz=61
T24B **San Luis** 61.53 65 ⇑P P 01 50 47.2 +2.1
baz=61
S25A **Robets Cordova** 61.56 64 ⇓P P 01 50 47.4 +2.2
baz=62
R26A **Arlington** 61.58 63 ⇓P P 01 50 46.8 +1.6
baz=62,SNR=7.6
V22A **San Miguel Ran** 61.60 67 ⇑P P 01 50 47.1 +1.6
baz=62
U23A **El Rito** 61.66 67 ⇑P P 01 50 48.1 +2.2
baz=62,SNR=6.0
NB2 **NORSAR Subarra** 61.79 345 P P 01 50 45.4 -0.8
comp=Z,2.7nm,0.7s,baz=22,slow=6.5
NOA **NORSAR Array B** 61.79 345 P P 01 50 46.5 +0.3
NOA **NORSAR Array B** 61.79 345 P P 01 50 46.5 +0.3
comp=Z,0.5nm,0.5s,baz=3.3,slow=7.2,SNR=3.5
Q28A **Sharon Springs** 61.82 62 ⇓P P 01 50 48.1 +1.3
baz=62
BGNE **Belgrade** 61.84 57 *e*P P 01 50 48.5 +1.7
comp=Z,30nm,1.0s
BGNE **Belgrade** 61.84 57 ⇑P P 01 50 48.3 +1.6
baz=62
O30A **MW Ranch, Wils** 61.85 60 ⇓P P 01 50 48.0 +1.1
baz=62
P29A **Atwood** 61.86 61 ⇑P P 01 50 48.1 +1.1
baz=62
R27A **Eads** 61.93 63 ⇑P P 01 50 48.5 +1.0
baz=62
T25A **Trinidad** 61.97 65 ⇓P P 01 50 49.5 +1.5
baz=62
S26A **Kim** 62.09 64 ⇓P P 01 50 50.4 +1.7
baz=62
V23A **Ortiz Mt. (NFS** 62.11 67 ⇓P P 01 50 51.4 +2.5
baz=62,SNR=5.2
HFS **Hagfors** 62.26 343 P P 01 50 47.9 -1.3
HFS **Hagfors** 62.26 343 P P 01 50 47.9 -1.3
comp=Z,1.9nm,0.6s,baz=64,slow=10,SNR=5.1
T26A **Comanche Natio** 62.37 64 ⇑P P 01 50 51.5 +0.9
baz=62
Q29A **Oakley** 62.38 61 ⇑P P 01 50 51.5 +1.0
baz=62
R28A **Tribune** 62.38 62 ⇓P P 01 50 51.6 +1.0
baz=62
U25A **Circle Dot Ran** 62.54 65 ⇑P P 01 50 53.5 +1.7
baz=62,SNR=5.5
W23A **Werner Place,** 62.57 67 ⇓P P 01 50 53.8 +1.8
baz=62
ANMO **Albuquerque** 62.58 68 *e*P P 01 50 54.0 +2.0
comp=Z,4.4nm,1.2s
V24A **Rampart Ranch,** 62.60 66 ⇑P P 01 50 53.8 +1.6
baz=62
LAZ **Ladron** 62.63 69 *e*P P 01 50 54.9 +2.5
comp=Z,4.6nm,1.5s
P31A **Stockton** 62.69 60 ⇓P P 01 50 53.5 +1.0
baz=63
V25A **Rancho No Teng** 62.86 66 ⇓P P 01 50 55.5 +1.6
baz=63
U26A **Atchley Ranch,** 62.89 65 ⇑P P 01 50 55.6 +1.6
baz=63
T27A **Campo** 62.90 64 ⇑P P 01 50 55.7 +1.6
baz=63
S28A **Manter** 62.92 63 ⇓P P 01 50 55.5 +1.4
baz=63
W24A **Lazy 6 Ranch,** 62.93 67 ⇑P P 01 50 56.0 +1.6
baz=63
SCHQ **Schefferville** 62.97 30 P P 01 50 53.3 -0.7
SCHQ **Schefferville** 62.97 30 P P 01 50 53.3 -0.7
comp=Z,5.4nm,0.8s,baz=310,slow=9.9,SNR=5.3
P32A **Hutting Farm,** 62.99 59 ⇓P P 01 50 55.1 +0.6
baz=63
T28A **Walsh** 63.17 63 ⇑P P 01 50 56.7 +0.9
baz=63
R30A **Dighton** 63.20 61 ⇓P P 01 50 56.9 +1.0
baz=63
S29A **Ulysses** 63.29 62 ⇑P P 01 50 57.5 +0.9
baz=63
V26A **Tequesquite Ra** 63.32 65 ⇓P P 01 50 58.1 +1.2
baz=63
U27A **Thompson Grove** 63.34 64 ⇓P P 01 50 57.9 +0.9
baz=63,SNR=5.1
W25A **X Bar L Ranch,** 63.42 66 ⇑P P 01 50 58.9 +1.3
baz=63
Q32A **Meitler Ranch,** 63.50 59 ⇑P P 01 50 58.2 +0.3
baz=63
Y23A **Lovelace Mesa,** 63.57 68 ⇑P P 01 51 00.5 +1.9
baz=64,SNR=6.4
P33A **Williams Farm,** 63.58 58 ⇓P P 01 50 58.8 +0.4
baz=64
S30A **Montezuma** 63.60 62 ⇑P P 01 51 00.1 +1.5
baz=64
Z22A **Elephant Butte** 63.60 69 ⇓P P 01 51 00.8 +2.0
baz=64
Q33A **Connelly Farm,** 63.85 59 ⇑P P 01 51 00.5 +0.3
baz=64
R32A **Long Quarter,** 63.87 60 ⇑P P 01 51 00.8 +0.5
baz=64
Y24A **Capitan** 63.90 68 ⇑P P 01 51 03.0 +2.2
baz=64,SNR=11
X26A **CR and CF Fran** 64.27 66 ⇓P P 01 51 04.5 +1.3
baz=64
Y25A **Mesa, Roswell** 64.29 67 ⇑P P 01 51 05.0 +1.7
baz=64,SNR=6.8
Z24A **Sheeppen Canyo** 64.39 68 ⇑P P 01 51 05.8 +1.7
baz=64
X27A **F and S Farms,** 64.57 66 ⇑P P 01 51 06.7 +1.6
baz=64
Y27A **Causey** 65.12 66 ⇓P P 01 51 10.3 +1.6
baz=65
Z26A **Caprock** 65.17 67 ⇓P P 01 51 10.2 +1.1
baz=65
MSTX **Muleshoe** 65.26 66 *e*P P 01 51 10.8 +1.2
comp=Z,9.3nm,1.0s
MSTX **Muleshoe** 65.26 66 ⇓P P 01 51 10.3 +0.7
baz=65
125A **Gardner Draw,** 65.29 68 ⇓P P 01 51 11.5 +1.7
baz=65
X29A **Tulia** 65.45 65 ⇑P P 01 51 12.1 +1.3
baz=65
Z27A **Tatum** 65.54 67 ⇓P P 01 51 12.4 +1.0
baz=66
225A **Deer Hill, Car** 65.63 69 ⇓P P 01 51 13.5 +1.5
baz=66
U33A **Lingo Farm, Me** 65.72 61 ⇑P P 01 51 12.8 +0.4
baz=66
PMG **Port Moresby** 65.79 197 *e*P P 01 51 11.8 -1.1
comp=Z,15nm,0.9s
X30A **Coker Ranch, T** 65.87 64 ⇑P P 01 51 14.3 +0.9
baz=66
Z28A **Tucker Farm, M** 65.99 66 ⇑P P 01 51 15.1 +0.8
baz=66
226B **Tecolote Peak,** 66.00 68 ⇑P P 01 51 15.6 +1.2
baz=66
U34A **Anderson Ranch** 66.00 60 ⇑P P 01 51 15.0 +0.8
baz=66
W32A **Sentinel** 66.17 63 ⇑P P 01 51 16.6 +1.2
baz=66
X31A **McDonald Ranch** 66.19 63 ⇓P P 01 51 16.6 +1.1
baz=66
Z29A **Hungry Hill Ra** 66.37 66 ⇑P P 01 51 18.0 +1.3
baz=66
128A **Castleberry Fa** 66.46 67 ⇓P P 01 51 18.7 +1.4
baz=66
Y31A **Rekieta Farm,** 66.57 64 ⇑P P 01 51 19.3 +1.4
baz=66
425A **Indio Mountain** 66.57 70 ⇑P P 01 51 19.8 +1.7
baz=66
Z30A **Sanderson Ranc** 66.65 65 ⇓P P 01 51 19.4 +0.9
baz=67
WMOK **Wichita Mounta** 66.71 62 *e*P P 01 51 19.9 +1.1
WMOK pmax pmax
comp=Z,12nm,0.9s
WMOK **Wichita Mounta** 66.71 62 *e*P P 01 51 19.9 +1.1
comp=Z,12nm,0.9s

228A	UT Block 9, Go	66.80	67	⇑P		P	01 51 20.0 +0.6
	baz=67						
Y32A	R-V Farms, Ver	66.95	63	⇓P		P	01 51 21.6 +1.3
	baz=67						
X33A	Lawton	67.01	62	⇑P		P	01 51 21.7 +1.0
	baz=67						
Z31A	Sharp Cattle R	67.13	64	⇓P		P	01 51 22.4 +0.9
	baz=67						
426A	McDonald Obser	67.17	69	⇑P		P	01 51 23.1 +1.1
	baz=67						
328A	Wristen Ranch,	67.26	68	⇓P		P	01 51 23.6 +1.2
	baz=67						
130A	Snyder	67.28	65	⇑P		P	01 51 23.4 +0.9
	baz=67						
TUL1	Tulsa	67.28	60	⇓P		P	01 51 23.3 +0.9
	baz=67						
X34A	Smith Ranch, M	67.30	62	⇓P		P	01 51 23.9 +1.4
	baz=67						
427A	Hayter Ranch,	67.37	68	⇓P		P	01 51 24.2 +1.1
	baz=67						
AKASG	Malin Array Be	67.44	330	eP		P	01 51 23.4 +0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	Malin Array Be	67.44	330	P		P	01 51 21.6 -1.5
AKASG	Malin Array Be	67.44	330	P		P	01 51 21.6 -1.5
	comp=Z,1.6nm,0.4s,baz=27,slow=6.8,SNR=8.7						
AKBB	Malin Array Si	67.44	330	eP		P	01 51 20.4 -2.7
AKBB	Malin Array Si	67.44	330	eP		P	01 51 20.4 -2.7
KIEV	Kiev	67.45	330	eP		P	01 51 23.5 +0.3
KIEV	Kiev	67.45	330	eP		P	01 51 22.6 -0.6
	comp=Z,3.7nm,0.7s						
Z32A	Haskell	67.48	64	⇑P		P	01 51 25.0 +1.3
	baz=67						
AK02	Malin Array Si	67.49	330	eP		P	01 51 22.4 -1.0
131A	Roby	67.51	65	⇑P		P	01 51 25.3 +1.4
	baz=67						
329A	Wagon Wheel Ra	67.62	67	⇑P		P	01 51 26.0 +1.3
	baz=68						
526A	Mary Lane Ranc	67.62	69	⇓P		P	01 51 26.4 +1.7
	baz=68						
230A	Sterling City	67.76	66	⇑P		P	01 51 27.2 +1.7
	baz=68						
527A	Woodward Ranch	67.81	69	⇓P		P	01 51 27.2 +1.3
	baz=68						
428A	Kincaid Ranch,	67.84	68	⇑P		P	01 51 27.7 +1.6
	baz=68,SNR=8.9						
Y34A	Reagan Ranch,	67.85	62	⇑P		P	01 51 27.2 +1.3
	baz=68						
Z33A	Whitaker Ranch	67.87	63	⇑P		P	01 51 26.8 +0.7
	baz=68						
ABTX	Abilene, Hawle	67.94	64	⇓P		P	01 51 27.6 +1.0
	baz=68						
626A	Big Bend Ranch	67.99	70	⇑P		P	01 51 28.3 +1.3
	baz=68						
330A	Mertzon	68.10	66	⇓P		P	01 51 28.6 +0.9
	baz=68						
528A	Cox Ranch, San	68.23	68	⇓P		P	01 51 29.9 +1.3
	baz=68						
133A	Hamilton Ranch	68.33	64	⇓P		P	01 51 29.7 +0.7
	baz=68						
429A	Davenport Ranc	68.34	67	⇓P		P	01 51 30.0 +0.8
	baz=68						
TXAR	Lajitas Array	68.42	70	P		P	01 51 30.9 +1.2
TXAR	Lajitas Array	68.42	70	P		P	01 51 30.9 +1.2
	comp=Z,3.2nm,0.8s,baz=298,slow=4.5,SNR=27						
627A	Terlingua Ranc	68.47	69	⇑P		P	01 51 31.5 +1.5
	baz=68,SNR=5.1						
232A	Coleman	68.52	65	⇑P		P	01 51 31.0 +0.8
	baz=68						
430A	Baggett Ranch,	68.56	67	⇑P		P	01 51 31.4 +0.8
	baz=68						
529A	Stev Forest Ra	68.56	68	⇑P		P	01 51 31.8 +1.2
	baz=68,SNR=5.9						
331A	San Angelo	68.57	66	⇓P		P	01 51 31.7 +1.1
	baz=68						
628A	Black Gap, Mar	68.71	69	⇑P		P	01 51 32.8 +1.3
	baz=69						
134A	White-Moore Ra	68.78	63	⇓P		P	01 51 32.5 +0.7
	baz=69						
233A	Rising Star	68.80	64	⇓P		P	01 51 32.5 +0.5
	baz=69						
332A	Millersview	68.87	65	⇑P		P	01 51 33.2 +0.8
	baz=69						
KBZ	Khabaz	68.92	318	P		P	01 51 33.1 +0.6
KBZ	Khabaz	68.92	318	P		P	01 51 33.0 +0.6
KBZ	Khabaz	68.92	318	P		P	01 51 33.0 +0.6
	comp=Z,3.1nm,0.9s,baz=27,slow=9.0,SNR=3.0						
431A	Sonora	68.97	66	⇑P		P	01 51 33.9 +0.8
	baz=69,SNR=5.4						
530A	J-C Ranch, Com	69.01	67	⇓P		P	01 51 34.3 +1.0
	baz=69						
EKA	Eskdalemuir Ar	69.09	351	P		P	01 51 32.9 -0.4
EKA	Eskdalemuir Ar	69.09	351	P		P	01 51 32.9 -0.4
	comp=Z,2.3nm,0.9s,baz=17,slow=4.2,SNR=4.7						
PBMO	Poplar Bluff	69.17	55	eP		P	01 51 34.7 +0.6
	comp=Z,94nm,2.1s						
234A	Clairette	69.20	64	⇑P		P	01 51 35.4 +0.9
	baz=69						
432A	Menard	69.24	66	⇓P		P	01 51 35.8 +1.1
	baz=69						
333A	Richland Sprin	69.31	65	⇓P		P	01 51 36.2 +1.1
	baz=69						
531A	Rocksprings	69.42	67	⇓P		P	01 51 37.1 +1.2
	baz=69						
MIAR	Mount Ida	69.46	59	eP		P	01 51 36.9 +0.9
MIAR				pmax	pmax		
	comp=Z,11nm,1.1s						
MIAR	Mount Ida	69.46	59	eP		P	01 51 36.9 +0.9
	comp=Z,11nm,1.1s						
JCT	Junction City	69.55	66	eP		P	01 51 37.5 +0.8
JCT				pmax	pmax		
	comp=Z,11nm,0.9s						
JCT	Junction City	69.55	66	eP		P	01 51 37.5 +0.8
	comp=Z,11nm,0.9s						
JCT	Junction City	69.55	66	⇓P		P	01 51 38.0 +1.3
	baz=70						
PARMO	Parma	69.58	55	eP		P	01 51 38.2 +1.6
334A	Lometa	69.69	64	⇓P		P	01 51 38.5 +1.1
	baz=70						
433A	Art	69.71	65	⇑P		P	01 51 38.2 +0.6
	baz=70,SNR=5.3						
532A	Rocksprings	69.78	66	⇓P		P	01 51 39.1 +1.0
	baz=70						
WCI	Wyandotte Cave	69.88	52	eP		P	01 51 38.6 0.0
WCI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WCI	Wyandotte Cave	69.88	52	eP		P	01 51 38.6 0.0
	comp=Z,9.0nm,0.8s						
KULM	Kulim	69.98	249	eP		P	01 51 38.2 -1.2
	comp=Z,26nm,1.3s						
631A	Perdido Creek	70.00	67	⇓P		P	01 51 39.9 +0.5
	baz=70,SNR=6.4						
434A	Burnet	70.08	65	⇓P		P	01 51 40.4 +0.4
	baz=70,SNR=5.7						
335A	Moody	70.14	64	⇓P		P	01 51 41.3 +1.1
	baz=70						
KWP	Kalwaria Pacla	70.18	334	⇓iP		P	01 51 40.3 +0.1
533A	Kerrville	70.28	66	⇓P		P	01 51 42.2 +1.1
	baz=70						
632A	Uvalde	70.34	67	⇓P		P	01 51 42.6 +1.1
	baz=70						
534A	Blanco	70.60	65	⇑P		P	01 51 43.1 0.0
	baz=70,SNR=5.4						
633A	Saathoff Ranch	70.69	66	⇑P		P	01 51 44.8 +1.1
	baz=71						
CLL	Collm	70.77	340	eP		P	01 51 44.0 +0.3
CLL				pmax	pmax		
	comp=Z,54nm,2.3s						
CLL	Collm	70.77	340	eP		P	01 51 44.0 +0.3
	comp=Z,54nm,2.3s						
CLL				epP		pP	01 51 55.0 +0.8
732A	Laxson Ranch,	70.86	67	⇑P		P	01 51 46.2 +1.6
	baz=71						
WVT	Waverly	70.91	54	eP		P	01 51 45.8 +1.0
WVT				pmax	pmax		
	comp=Z,11nm,1.0s						
WVT	Waverly	70.91	54	eP		P	01 51 45.8 +1.0
	comp=Z,11nm,1.0s						
832A	Faith Ranch, C	71.21	67	⇓P		P	01 51 48.6 +1.8
	baz=71						
BUR08	Bucovina Ar. S	71.34	331	eP		P	01 51 47.1 -0.3
BURAR	Bucovina Array	71.36	331	⇑iP		P	01 51 46.9 -0.6
833A	Chaparral WMA,	71.49	67	⇓P		P	01 51 50.1 +1.7
	baz=71						
OXF	Oxford	71.49	56	eP		P	01 51 49.4 +1.0
OXF				pmax	pmax		
	comp=Z,29nm,1.0s						
OXF	Oxford	71.49	56	eP		P	01 51 49.4 +1.0
	comp=Z,28nm,1.0s						
734A	La Parita Cree	71.50	66	⇑P		P	01 51 50.6 +2.0
	baz=71						
TRPA	Tarpa	71.60	333	⇓iP		P	01 51 48.7 -0.1
TESR	Tescani	71.96	330	⇑iP		P	01 51 50.3 -0.7
933A	Laredo	72.12	67	⇓P		P	01 51 54.8 +2.6
	baz=72						
SWET	Sewanee	72.53	53	eP		P	01 51 54.8 +0.2
	comp=Z,15nm,0.8s						
DRGR		72.80	332	⇑iP		P	01 51 55.2 -0.9
GERES	GERESS Array B	72.98	339	P		P	01 51 57.8 +0.6
GERES	GERESS Array B	72.98	339	P		P	01 51 57.8 +0.6
	comp=Z,0.3nm,0.5s,baz=39,slow=6.8,SNR=4.2						
MLR	Muntele Rosu	73.09	330	⇑iP		P	01 51 57.6 -0.4
CONA	Conrad Observa	73.39	337	⇓iP		P	01 51 59.2 -0.4
	comp=Z,9.8nm,1.6s						
VOIR		73.40	330	⇑iP		P	01 51 58.7 -1.0
ARR	Arges	73.58	331	⇑iP		P	01 52 00.1 -0.6
GZR	Gura Zlata	74.07	332	⇑iP		P	01 52 02.8 -0.8
BZS	Buzias	74.17	333	⇑iP		P	01 52 07.8 +3.7
BR131	Keskin Array S	75.82	322	eP		P	01 52 13.1 -0.8
	comp=Z,1.4nm,0.7s						
BRTR	Keskin Array B	75.82	322	P		P	01 52 13.4 -0.4
BRTR	Keskin Array B	75.82	322	P		P	01 52 13.4 -0.4
	comp=Z,0.9nm,0.9s,baz=43,slow=3.3,SNR=3.5						
CTAO	Charters Tower	76.40	196	eP		P	01 52 17.4 +0.4
CTAO				pmax	pmax		
	comp=Z,178nm,2.2s						
CTAO	Charters Tower	76.40	196	eP		P	01 52 17.4 +0.4
	comp=Z,178nm,2.2s						
WRAB	Tennant Creek	78.74	207	eP		P	01 52 30.0 -0.1
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s						
WRAB	Tennant Creek	78.74	207	eP		P	01 52 29.9 -0.1
	comp=Z,10nm,1.0s						
WRA	Warramunga Arr	78.75	207	P		P	01 52 30.0 -0.2
WRA	Warramunga Arr	78.75	207	P		P	01 52 30.0 -0.2
	comp=Z,3.6nm,0.9s,baz=19,slow=6.0,SNR=9.7						
AS31	Alice Springs	82.42	206	eP		P	01 52 49.5 -0.3
ASAR	Alice Springs	82.42	206	P		P	01 52 50.5 +0.6
ASAR	Alice Springs	82.42	206	P		P	01 52 50.5 +0.6
	comp=Z,4.6nm,0.9s,baz=16,slow=5.1,SNR=23						
RAYN	Ar Rayn	85.04	305	eP		P	01 53 02.1 -1.4
	comp=Z,38nm,1.6s						
STKA	Stephens Creek	88.71	198	P		P	01 53 21.5 +0.7
STKA	Stephens Creek	88.71	198	P		P	01 53 21.5 +0.7
	comp=Z,2.1nm,0.8s,baz=297,slow=6.8,SNR=3.4						
SAML	Samuel	121.35	56	ePKPdf		PKPdf	01 59 19.9 -1.0
LSZ	Lusaka	126.95	300	ePKPdf		PKPdf	01 59 31.2 -0.5
RCBR	Riachuelo	128.45	24	ePKPdf		PKPdf	01 59 32.6 -2.0
LVC	Limon Verde	129.94	71	ePKPdf		PKPdf	01 59 35.4 -2.1
ASCN	Ascension	132.67	356	ePKPdf		PKPdf	01 59 41.4 -1.2
CPUP	Villa Florida	139.03	62	ePKPdf		PKPdf	01 59 54.0 0.0
PLCA	Paso Flores	142.52	90	ePKPdf		PKPdf	02 00 00.6 +0.6
QSPA	South Pole Qui	145.08	180	PKPbc		PKPbc	02 00 02.2 -1.0
QSPA				ePKPdf		PKPab	02 00 02.5 -0.8
QSPA	South Pole Qui	145.08	180	PKPbc		PKPbc	02 00 02.2 -1.0
	comp=Z,6.6nm,0.9s,baz=3.0,slow=2.5,SNR=13						
TRQA	Tornquist	145.57	79	ePKPdf		PKPbc	02 00 05.6 0.0

*BJI **27** 01:47:55.8, 49˚.70N×28˚.80W, h10km, mB5.2/8, mb4.8/16, Ms5.2/4, Ms7 4.9/4*

*MOS **27** 01:47:55.7±0.9, 49˚.39N×28˚.49W, h10km, mb4.8/43, Error ellipse: s-maj=9.9km s-min=8.2km az=168.7*

*ISCJB **27** 01:47:56.9±0.2, 49˚.41N±0˚.06×28˚.54W±0˚.03, h17km, mb4.6/107, MS4.0/29, Error ellipse: s-maj=9.1km s-min=2.8km az=0.3*

*IDC **27** 01:47:56.3±0.6, 49˚.55N×28˚.57W, h0km, mb3.9/17, mb1 4.1/18, mb1mx4.0/33, mbtmp3.9/18, ML3.8/1, MS4.1/27, Ms1 4.0/27, ms1mx3.9/38, Error ellipse: s-maj=21.3km s-min=13.7km az=13.0*

*NEIC **27** 01:47:57.9±0.2, 49˚.51N×28˚.47W, h10km, mb4.7/62, Error ellipse: s-maj=9.8km s-min=3.3km az=184.0*

*CSEM **27** 01:47:57.6±0.1, 49˚.52N×28˚.44W, h10km, mb4.7/67, Ms3.9, Mw4.9, Error ellipse: s-maj=10.4km s-min=3.5km az=4.0*

*GCMT **27** 01:47:57.9±0.3, 49˚.42N×28˚.44W, h12km, MW4.9/77, Moment Tensor Solution. s18,c19; s77,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.34±.10; Mθθ 0.09±.12; Mφφ 2.25±.07; Mrθ -0.67±.46; Mφθ 0.68±.08; Mφr 0.02±.33; Best double couple: Mo 2.48600×10^16 NP1: φs 182.00000°, δ45.00000°, λ -112.00000°. Principal axes: T 2.4520, Plg2.0000°, Azm107.0000°; N 0.0670, Plg15.0000°, Azm197.0000°; P -2.5210, Plg75.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **27** 01:48:18.4, 49.21N×25.16W, h33km, mb4.4, Northern Mid-Atlantic Ridge*

ISC 27 01:47:59.5±0.4, 49˚45N±0˚.07×28˚.56W±0˚.04, h17km, n555, s1918/532, mb4.7/110, MS4.1/30, 115C-104D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	Eskdalemuir Ar	16.53	59	Pn	Pn	01 51 48.0	-2.3
EKA	Eskdalemuir Ar	16.53	59	Pn	Pn	01 51 48.0	-2.3
	baz=262,slow=8.5,SNR=3.9						
EKA	Eskdalemuir Ar	16.53	59	Pn	Pn	01 51 48.0	-2.3
ROSF	Rostrenen	16.64	84	eP	Pn	01 51 44.3	-7.5
	181nm,1.8s						
ROSF	Rostrenen	16.64	84	eP	Pn	01 51 44.3	-7.5
ROSF				pmax	pmax		
	comp=Z,181nm,1.8s						
ROSF	Rostrenen	16.64	84	eP	Pn	01 51 44.3	-7.5
	comp=Z,181nm,1.8s						
SGMF	Saint Gilles	17.13	84	eP	Pn	01 51 51.6	-6.3
	comp=Z,192nm,1.8s						
SGMF	Saint Gilles	17.13	84	eP	Pn	01 51 51.6	-6.3
SGMF				pmax	pmax		
	comp=Z,192nm,1.8s						
SGMF	Saint Gilles	17.13	84	eP	Pn	01 51 51.6	-6.3
	comp=Z,192nm,1.8s						
MTE	Manteigas	17.37	113	ePn	P	01 52 05.7	+3.4
	comp=Z,36nm,1.3s						
GRR	Gorron	18.20	83	eP	Pn	01 52 05.4	-5.7
	comp=Z,77nm,1.5s						
GRR	Gorron	18.20	83	eP	Pn	01 52 05.4	-5.7
GRR				pmax	pmax		
	comp=Z,77nm,1.5s						
GRR	Gorron	18.20	83	eP	Pn	01 52 05.4	-5.7
	comp=Z,77nm,1.5s						
LDF	La Druitiere	18.63	82	eP	P	01 52 13.8	-2.2
	comp=Z,22nm,1.1s						
LDF	La Druitiere	18.63	82	eP	P	01 52 13.8	-2.2
LDF				pmax	pmax		
	comp=Z,23nm,1.1s						
LDF	La Druitiere	18.63	82	eP	P	01 52 13.8	-2.2
	comp=Z,22nm,1.1s						
LDF	La Druitiere	18.63	82	eP	P	01 52 13.8	-2.2
	comp=Z,11nm,1.1s						
SJPF	Ste Jean	19.86	98	eP	P	01 52 23.7	-5.9
	comp=Z,77nm,1.5s						
SJPF	Ste Jean	19.86	98	eP	P	01 52 23.7	-5.9
SJPF				pmax	pmax		
	comp=Z,77nm,1.5s						
SJPF	Ste Jean	19.86	98	eP	P	01 52 23.7	-5.9
	comp=Z,77nm,1.5s						
ESDC	Sonseca Array	19.98	110	P	Pn	01 52 31.4	-1.3
ESDC	Sonseca Array	19.98	110	P	Pn	01 52 31.4	-1.3
	comp=Z,0.5nm,0.7s,baz=322,slow=8.1,SNR=3.5						
ESDC				LR	LR	01 58 51.9	
	comp=Z,592nm,19.0s,baz=305,slow=33						
ESDC	Sonseca Array	19.98	110	P	Pn	01 52 31.4	-1.3
ETSF	Etsaut	20.39	98	eP	P	01 52 28.7	-6.7
	comp=Z,139nm,1.5s						
ETSF	Etsaut	20.39	98	eP	P	01 52 28.7	-6.7
ETSF				pmax	pmax		
	comp=Z,139nm,1.5s						
ETSF	Etsaut	20.39	98	eP	P	01 52 28.7	-6.7
	comp=Z,139nm,1.5s						
TCF	Toulx Ste Croi	20.81	87	eP	P	01 52 37.5	-2.4
	comp=Z,48nm,1.2s						
TCF	Toulx Ste Croi	20.81	87	eP	P	01 52 37.5	-2.4
TCF				pmax	pmax		
	comp=Z,48nm,1.2s						
TCF	Toulx Ste Croi	20.81	87	eP	P	01 52 37.5	-2.4
	comp=Z,48nm,1.2s						
TCF	Toulx Ste Croi	20.81	87	eP	P	01 52 37.5	-2.4
	comp=Z,24nm,1.2s						
SFJD	Kangerlussuaq	20.86	336	LR	LR	01 58 35.0	
	comp=Z,386nm,19.7s,baz=145,slow=31						
EPF	Esparros	20.91	97	eP	P	01 52 32.5	-8.5
EPF	Esparros	20.91	97	eP	P	01 52 32.5	-8.5
EPF	Esparros	20.91	97	eP	P	01 52 32.5	-8.5
BAIF	Baives	21.09	76	eP	P	01 52 42.5	-0.3
	comp=Z,111nm,1.6s						
BAIF	Baives	21.09	76	eP	P	01 52 42.5	-0.3
BAIF				pmax	pmax		
	comp=Z,111nm,1.6s						
BAIF	Baives	21.09	76	eP	P	01 52 42.5	-0.3
	comp=Z,111nm,1.6s						
BAIF	Baives	21.09	76	eP	P	01 52 42.5	-0.3
	comp=Z,56nm,1.6s						
BGF	Bois d'Agland	21.13	86	eP	P	01 52 42.5	-0.8
	comp=Z,27nm,0.8s						
BGF	Bois d'Agland	21.13	86	eP	P	01 52 42.5	-0.8
BGF				pmax	pmax		
	comp=Z,27nm,0.8s						
BGF	Bois d'Agland	21.13	86	eP	P	01 52 42.5	-0.8
	comp=Z,27nm,0.8s						
BGF	Bois d'Agland	21.13	86	eP	P	01 52 42.5	-0.8
	comp=Z,14nm,0.8s						
CAF	Calviac	21.21	91	eP	P	01 52 41.4	-2.9
	comp=Z,99nm,1.6s						
CAF	Calviac	21.21	91	eP	P	01 52 41.4	-2.9
CAF				pmax	pmax		
	comp=Z,99nm,1.6s						
CAF	Calviac	21.21	91	eP	P	01 52 41.4	-2.9
	comp=Z,99nm,1.6s						
CAF	Calviac	21.21	91	eP	P	01 52 41.4	-2.9
	comp=Z,49nm,1.6s						
DOU	Dourbes	21.33	76	P	P	01 52 45.1	-0.2
	comp=Z,8.8nm,1.5s						
SSF	Saint Saulge	21.40	84	eP	P	01 52 44.3	-1.9
	comp=Z,64nm,1.4s						
SSF	Saint Saulge	21.40	84	eP	P	01 52 44.3	-1.9
SSF				pmax	pmax		
	comp=Z,64nm,1.4s						
SSF	Saint Saulge	21.40	84	eP	P	01 52 44.3	-1.9
	comp=Z,64nm,1.4s						
SSF	Saint Saulge	21.40	84	eP	P	01 52 44.3	-1.9
	comp=Z,32nm,1.4s						
GIVF	Givet	21.47	75	eP	P	01 52 46.5	-0.4
GIVF	Givet	21.47	75	eP	P	01 52 46.5	-0.4
GIVF	Givet	21.47	75	eP	P	01 52 46.5	-0.4
GIVF	Givet	21.47	75	eP	P	01 52 46.5	-0.4
LOR	Lormes	21.56	83	eP	P	01 52 46.1	-1.8
	comp=Z,107nm,1.7s						
LOR				eR			
	comp=Z,1μm,20.2s						
LOR	Lormes	21.56	83	eP	P	01 52 46.1	-1.8
	comp=Z,107nm,1.7s						
LOR	Lormes	21.56	83	eP	P	01 52 46.1	-1.8
	comp=Z,54nm,1.7s						
SMF	Signal de Mont	21.75	85	eP	P	01 52 47.7	-2.3
	comp=Z,87nm,1.5s						
SMF	Signal de Mont	21.75	85	eP	P	01 52 47.7	-2.3
SMF				pmax	pmax		
	comp=Z,87nm,1.5s						
SMF	Signal de Mont	21.75	85	eP	P	01 52 47.7	-2.3
	comp=Z,87nm,1.5s						
SMF	Signal de Mont	21.75	85	eP	P	01 52 47.7	-2.3
	comp=Z,43nm,1.5s						
MEZF	Maizieres J'vi	21.98	80	eP	P	01 52 50.0	-2.4
	comp=Z,140nm,1.6s						
MEZF	Maizieres J'vi	21.98	80	eP	P	01 52 50.0	-2.4
	comp=Z,140nm,1.6s						
MEZF	Maizieres J'vi	21.98	80	eP	P	01 52 50.0	-2.4
	comp=Z,70nm,1.6s						
MTLF	Montolieu	21.99	94	eP	P	01 52 49.3	-3.2
	comp=Z,78nm,1.4s						
MTLF	Montolieu	21.99	94	eP	P	01 52 49.3	-3.2
MTLF				pmax	pmax		
	comp=Z,78nm,1.4s						
MTLF	Montolieu	21.99	94	eP	P	01 52 49.3	-3.2
	comp=Z,78nm,1.4s						
MTLF	Montolieu	21.99	94	eP	P	01 52 49.3	-3.2
	comp=Z,39nm,1.4s						
SFTF	Sexfontaines	22.05	80	eP	P	01 52 51.9	-1.3
	comp=Z,103nm,1.4s						
SFTF	Sexfontaines	22.05	80	eP	P	01 52 51.9	-1.3
	comp=Z,103nm,1.4s						
SFTF	Sexfontaines	22.05	80	eP	P	01 52 51.9	-1.3
	comp=Z,52nm,1.4s						
MEM	Membach	22.12	74	eP	P	01 52 58.2	+4.3
MEM				pmax	pmax		
	comp=Z,87nm,2.1s						
MEM	Membach	22.12	74	eP	P	01 52 58.2	+4.3
	comp=Z,87nm,2.1s						
PAGF	Fort de Pagny	22.40	79	eP	P	01 52 56.6	-0.3
	comp=Z,25nm,1.6s						
PAGF	Fort de Pagny	22.40	79	eP	P	01 52 56.6	-0.3
	comp=Z,25nm,1.6s						
PAGF	Fort de Pagny	22.40	79	eP	P	01 52 56.6	-0.3
	comp=Z,12nm,1.6s						
WLF	Walferdange	22.40	76	eP	P	01 52 58.3	+1.4
WLF				pmax	pmax		
	comp=Z,18nm,1.2s						
WLF	Walferdange	22.40	76	eP	P	01 52 58.3	+1.4
	comp=Z,18nm,1.2s						
LASF	Ste Croix	22.73	91	eP	P	01 52 56.7	-3.8
	comp=Z,52nm,1.2s						
LASF	Ste Croix	22.73	91	eP	P	01 52 56.7	-3.8
	comp=Z,52nm,1.2s						
LASF	Ste Croix	22.73	91	eP	P	01 52 56.7	-3.8
	comp=Z,26nm,1.2s						
HAU	Haudompre	22.95	80	eP	P	01 53 00.8	-2.0
	comp=Z,33nm,1.1s						
HAU				eR			
	comp=Z,834nm,18.0s						
HAU	Haudompre	22.95	80	eP	P	01 53 00.8	-2.0
HAU				pmax	pmax		
	comp=Z,33nm,1.1s						
HAU	Haudompre	22.95	80	eP	P	01 53 00.8	-2.0
	comp=Z,33nm,1.1s						
HAU	Haudompre	22.95	80	eP	P	01 53 00.8	-2.0
	comp=Z,16nm,1.1s						
CABF	La Chapelle	23.22	84	eP	P	01 53 02.9	-2.7
	comp=Z,62nm,1.3s						
CABF	La Chapelle	23.22	84	eP	P	01 53 02.9	-2.7
CABF				pmax	pmax		
	comp=Z,63nm,1.3s						
CABF	La Chapelle	23.22	84	eP	P	01 53 02.9	-2.7
	comp=Z,62nm,1.3s						
CABF	La Chapelle	23.22	84	eP	P	01 53 02.9	-2.7
	comp=Z,31nm,1.3s						
HINF	Hinteralfeld	23.33	80	eP	P	01 53 04.2	-2.4
	comp=Z,35nm,1.3s						
HINF	Hinteralfeld	23.33	80	eP	P	01 53 04.2	-2.4
HINF				pmax	pmax		
	comp=Z,35nm,1.3s						
HINF	Hinteralfeld	23.33	80	eP	P	01 53 04.2	-2.4
	comp=Z,35nm,1.3s						
HINF	Hinteralfeld	23

FRB **Frobisher Bay** 25.71 319 P **P** 01 53 28.6 +0.2
comp=Z,5.9nm,1.2s,baz=104,slow=8.4,SNR=3.9
FRB LR LR 02 01 00.6
comp=Z,286nm,20.1s,baz=125,slow=31
FRB Frobisher Bay 25.71 319 P P 01 53 28.6 +0.2
HFS Hagfors 26.14 50 LR LR 02 03 32.2
comp=Z,358nm,19.2s,baz=47,slow=36
CLL Collm 26.32 70 *eP* P 01 53 41.0 +6.9
CLL *e* 01 53 44.0
CLL MLR MLR
comp=Z,500nm,18.4s
CLL Collm 26.32 70 *es*P P 01 53 41.0 +6.9
comp=Z,18nm,1.6s
CLL LV 02 03 00.0
comp=Z,500nm,18.4s
GERES GERESS Array B 27.39 75 P P 01 53 43.8 -0.1
GERES GERESS Array B 27.39 75 P P 01 53 43.8 -0.1
comp=Z,0.5nm,0.7s,baz=281,slow=10,SNR=4.0
GERES LR LR 02 04 07.4
comp=Z,551nm,19.5s,baz=288,slow=36
GERES GERESS Array B 27.39 75 P P 01 53 43.8 -0.1
VRAC Vranov 29.06 73 LR LR 02 05 08.6
comp=Z,554nm,18.6s,baz=291,slow=36
KEST Kesra 30.74 102 LR LR 02 05 39.4
comp=Z,110nm,20.5s,baz=250,slow=34
LONY Lake Ozonia 31.35 279 *eP* **P 01 54 21.5 +2.5**
comp=Z,33nm,0.9s
PSZ Piszkesteto 31.59 74 *eP* **P 01 54 21.8 +0.7**
PSZ pmax pmax
comp=Z,22nm,1.6s
PSZ Piszkesteto 31.59 74 *eP* **P 01 54 21.8 +0.7**
comp=Z,22nm,1.6s
KECS Kecovo 31.76 73 *eP* P 01 54 25.1 +2.6
KECS pmax pmax
comp=Z,18nm,2.8s
KECS Kecovo 31.76 73 *eP* P 01 54 25.0 +2.6
STHS Stebnicka Huta 31.91 71 *eP* **P 01 54 24.3 +0.5**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 31.91 71 *eP* **P 01 54 24.3 +0.5**
CRVS Cervenica-Dubn 32.22 72 *eP* **P 01 54 27.1 +0.6**
CRVS pmax pmax
comp=Z,50nm,2.7s
CRVS Cervenica-Dubn 32.22 72 *eP* **P 01 54 27.1 +0.6**
FINES FINESS Array B 32.22 47 LR LR 02 06 35.4
comp=Z,392nm,18.3s,baz=260,slow=35
ARCES ARCESS Array B 32.43 32 P P 01 54 26.9 -1.2
ARCES ARCESS Array B 32.43 32 P P 01 54 26.9 -1.2
comp=Z,9.9nm,1.1s,baz=273,slow=7.2,SNR=4.7
KOLS Kolonicke sedl 32.71 71 *eP* **P 01 54 31.9 +1.1**
KOLS pmax pmax
comp=Z,6.0nm,1.5s
KOLS Kolonicke sedl 32.71 71 *eP* **P 01 54 31.9 +1.1**
BUR08 Bucovina Ar. S 35.01 72 *eP* **P 01 54 51.7 +0.8**
KIEV Kiev 36.28 65 *eP* **P 01 55 02.6 +0.9**
KIEV pmax pmax
comp=Z,22nm,1.5s
KIEV Kiev 36.28 65 *eP* **P 01 55 02.5 +0.9**
comp=Z,22nm,1.5s
AKASG Malin Array Be 36.29 65*ce*P **P 01 55 04.0 +2.3**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 36.29 65 P **P 01 54 59.5 -2.2**
AKASG Malin Array Be 36.29 65 P **P 01 54 59.5 -2.2**
comp=Z,0.7nm,0.6s,baz=289,slow=8.4,SNR=3.4
AKASG LR LR 02 10 30.6
comp=Z,554nm,18.5s,baz=305,slow=37
FCC Fort Churchill 38.04 310 *eP* **P 01 55 15.3 -1.2**
FCC Fort Churchill 38.04 310 *eP* **P 01 55 15.3 -1.2**
comp=Z,0.3nm,1.1s
OBN Obninsk 38.93 56 *eP* **P 01 55 25.7 +1.7**
OBN pmax pmax
comp=Z,3.0nm,1.0s
GVD Gavdhos 40.83 91 *eP* **P 01 55 41.5 +1.4**
comp=Z,57nm,0.7s
VSR Storozhevoye 41.87 61 *eP* **P 01 55 47.9 -0.5**
VSR pmax pmax
comp=Z,9.0nm,0.7s
ULM Lac du Bonnet 42.05 298 P P 01 55 48.2 -1.7
ULM Lac du Bonnet 42.05 298 P P 01 55 48.2 -1.7
comp=Z,2.2nm,0.7s,baz=72,slow=13,SNR=4.4
ULM LR LR 02 11 15.7
comp=Z,209nm,19.4s,baz=52,slow=33
FFC Flin Flon 43.51 306 *eP* **P 01 56 00.9 -0.8**
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC Flin Flon 43.51 306 *eP* **P 01 56 00.9 -0.8**
comp=Z,9.1nm,1.1s
TOA0 Torodi Ar. Sit 43.91 135 *eP* P 01 56 08.5 +3.2
TORD Torodi Ar. Bea 43.91 135 P P 01 56 05.0 -0.3
TORD Torodi Ar. Bea 43.91 135 P P 01 56 05.0 -0.3
comp=Z,1.2nm,0.7s,baz=335,slow=7.3,SNR=10
TORD LR LR 02 13 20.5
comp=Z,287nm,18.6s,baz=300,slow=35
BR131 Keskin Array S 44.19 78 *eP* **P 01 56 09.2 +1.7**
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 44.19 78 P P 01 56 07.5 0.0
BRTR Keskin Array B 44.19 78 P P 01 56 07.5 0.0
comp=Z,0.8nm,1.0s,baz=293,slow=8.6,SNR=3.2
BRTR LR LR 02 15 34.8
comp=Z,77nm,18.4s,baz=298,slow=38
B30A Myrvik Farm, E 44.31 297 ⇓P **P 01 56 08.2 0.0**
baz=44
SIUC Southern Illin 44.34 278 *eP* **P 01 56 09.5 +0.9**
comp=Z,27nm,1.1s
TIGA Tifton 44.52 267 *eP* **P 01 56 10.5 +0.5**
comp=Z,9.7nm,0.3s
ECSD EROS Data Cent 45.67 290 *eP* **P 01 56 19.5 +0.4**
ECSD EROS Data Cent 45.67 290 ⇑P **P 01 56 19.6 +0.5**
baz=46
ECSD EROS Data Cent 45.67 290 *eP* **P 01 56 19.5 +0.4**
YKW3 Yellowknife Ar 46.19 320 *eP* **P 01 56 21.9 -1.0**
YKW3 Yellowknife Ar 46.19 320 *eP* **P 01 56 21.9 -1.0**
YKA Yellowknife Ar 46.21 320 P **P 01 56 21.8 -1.3**
YKA PcP **PcP 01 57 55.9 -2.5**
YKA Yellowknife Ar 46.21 320 P **P 01 56 21.8 -1.3**
comp=Z,1.9nm,1.0s,baz=65,slow=7.6,SNR=15
YKA PcP **PcP 01 57 55.9 -2.5**
comp=Z,1.1nm,1.0s,baz=56,slow=4.2,SNR=6.8
YKA Yellowknife Ar 46.21 320 P **P 01 56 21.8 -1.3**
DBIC Dimbokro 47.08 147 LR LR 02 14 23.5
comp=Z,223nm,19.9s,baz=318,slow=34
E27A Carson 47.22 296 ⇑P **P 01 56 31.6 +0.3**
baz=47
KIV Kislovodsk 47.50 68 *eP* P 01 56 28.9 -4.6
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,150nm,16.0s
G28A Parade 47.56 294 ⇓P **P 01 56 34.2 +0.2**
baz=47
J30A Dallas 47.65 291 ⇓P **P 01 56 34.5 -0.1**
baz=48
KBZ Khabaz 47.75 68 PcP **PcP 01 58 04.2 0.0**
KBZ Khabaz 47.75 68 PcP **PcP 01 58 04.2 0.0**
comp=Z,3.9nm,1.0s,baz=226,slow=8.7,SNR=3.9
KBZ LR LR 02 19 10.3
comp=Z,154nm,18.4s,baz=312,slow=39
KBZ Khabaz 47.75 68 PcP **PcP 01 58 04.2 0.0**
F27A Lemmon 47.79 295 ⇓P **P 01 56 35.7 +0.1**
baz=48
H28A Mission Ridge 47.84 293 ⇓P **P 01 56 36.0 -0.1**
baz=48
G27A Dupree 48.00 295 ⇓P **P 01 56 36.7 -0.7**
baz=48
K30A Basset 48.09 290 ⇓P **P 01 56 37.8 -0.2**
baz=48
J29A Okreek 48.12 292 ⇓P **P 01 56 38.3 +0.1**
baz=48
B23A Brockton 48.13 300 ⇑P **P 01 56 38.5 +0.2**
baz=48
F26A Lodgepole 48.18 296 ⇑P **P 01 56 39.0 +0.3**
baz=48
E25A Miller Ranch, 48.26 297 ⇑P **P 01 56 39.6 +0.3**
baz=48
I28A Midland 48.30 293 ⇑P **P 01 56 39.8 +0.2**
baz=48
A22A Carney Farms, 48.38 301 ⇓P **P 01 56 40.2 0.0**
baz=48
G26A Maurine 48.44 295 ⇑P **P 01 56 40.1 -0.7**
baz=48
M31A Lambtecht Ranc 48.45 289 ⇑P **P 01 56 40.4 -0.4**
baz=48
C23A Lambert 48.59 299 ⇓P **P 01 56 42.0 +0.1**
baz=48
J28A Allard Ranch, 48.66 292 ⇓P **P 01 56 42.4 -0.1**
baz=48
P33A Williams Farm, 48.75 286 ⇑P **P 01 56 42.9 -0.3**
baz=49
I27A Quinn 48.79 293 ⇑P **P 01 56 43.2 -0.2**
baz=49
D23A Lindsay 48.95 298 ⇑P **P 01 56 44.7 +0.1**
baz=49
L29A Mansberg Ranch 48.96 290 ⇓P **P 01 56 44.7 -0.1**
baz=49
G25A Newell 48.98 295 ⇑P **P 01 56 44.8 -0.1**
baz=49
C22A Vida 49.02 299 ⇓P **P 01 56 43.9 -1.3**
baz=49
P32A Huiting Farm, 49.21 286 ⇓P **P 01 56 45.6 -1.0**
baz=49
D22A Cohagen 49.52 299 ⇓P **P 01 56 49.0 +0.1**
baz=49
Q32A Meitler Ranch, 49.55 286 ⇑P **P 01 56 48.1 -1.2**
baz=49
R33A Olander Ranch, 49.60 285 ⇑P **P 01 56 48.3 -1.3**
baz=50
P31A Stockton 49.75 287 ⇑P **P 01 56 50.2 -0.7**
baz=50
O30A MW Ranch, Wils 49.79 288 ⇑P **P 01 56 50.4 -0.7**
baz=50
LAO LASA Array 49.79 298 *eP* **P 01 56 51.4 +0.3**
comp=Z,16nm,1.2s
LAO LASA Array 49.79 298 *eP* **P 01 56 51.4 +0.3**
comp=Z,16nm,1.2s
I25A Rochford 49.82 294 ⇓P **P 01 56 51.1 -0.4**
baz=50
J26A Sides Ranch, S 49.83 293 ⇑P **P 01 56 51.2 -0.2**
baz=50
F23A Volborg 49.85 297 ⇑P **P 01 56 51.1 -0.5**
baz=50
H24A Dirks Ranch, A 49.90 295 ⇑P **P 01 56 51.5 -0.5**
baz=50
A19A Klindworth Far 49.99 302 ⇑P **P 01 56 51.7 -0.9**
baz=50
L27A T5 Ranch, Ells 50.07 291 ⇑P **P 01 56 53.2 -0.1**
baz=50
G23A Biddle 50.14 296 ⇓P **P 01 56 53.8 0.0**
baz=50
INK Inuvik 50.15 332 LR LR 02 15 55.0
comp=Z,281nm,20.3s,baz=42,slow=34
J25A Sunshine Ranch 50.22 293 ⇓P **P 01 56 53.6 -0.8**
baz=50
K26A Motz Farm, Whi 50.24 292 ⇓P **P 01 56 54.0 -0.6**
baz=50
C20A Veseth Ranch, 50.24 300 ⇓P **P 01 56 53.4 -1.1**
baz=50
O29A 4D Ranch, Culb 50.28 288 ⇓P **P 01 56 54.2 -0.6**
baz=50
P30A Selden 50.28 287 ⇑P **P 01 56 54.5 -0.3**
baz=50
B19A Brinkman Farms 50.36 302 ⇑P **P 01 56 55.0 -0.3**
baz=50
I24A Kuemmerle Ranc 50.45 294 ⇓P **P 01 56 55.9 -0.2**
baz=50
D20A Manuel Ranch, 50.66 300 ⇓P **P 01 56 56.6 -1.0**
baz=50
V34A Guthrie 50.80 282 ⇑P **P 01 56 58.0 -0.8**
baz=51
C19A Slack Wire Ran 50.82 301 ⇑P **P 01 56 58.1 -0.7**
baz=51
E20A Meyer Farm, Mu 50.99 299 ⇓P **P 01 56 59.5 -0.7**
baz=51
D19A Cripps Ranch, 51.04 300 ⇑P **P 01 56 59.9 -0.6**
baz=51
H22A Clearmont 51.04 296 ⇓P **P 01 57 00.1 -0.5**
baz=51
EGMT Eagleton 51.05 301 *eP* **P 01 56 60.0 -0.6**
comp=Z,11nm,1.1s
EGMT Eagleton 51.05 301 ⇑P **P 01 56 60.0 -0.6**
baz=51
EGMT Eagleton 51.05 301 *eP* **P 01 57 00.0 -0.6**
comp=Z,11nm,1.1s
R30A Dighton 51.05 286 ⇓P **P 01 56 59.8 -0.9**
baz=51
Q29A Oakley 51.13 287 ⇓P **P 01 57 00.3 -1.0**
baz=51
G21A Lodge Grass 51.18 297 ⇓P **P 01 57 00.3 -1.4**
baz=51
P28A Saint Francis 51.20 288 ⇑P **P 01 57 01.2 -0.7**
baz=51
O27A Beecher Island 51.28 289 ⇑P **P 01 57 01.5 -1.0**
baz=51
V33A Lossen Ranch, 51.30 282 ⇑P **P 01 57 02.1 -0.4**
baz=51
E19A Rath Farm, Rou 51.38 299 ⇓P **P 01 57 01.9 -1.2**
baz=51
F20A Billings 51.40 298 ⇑P **P 01 57 02.9 -0.3**
baz=51
T31A Randall Ranch, 51.40 285 ⇓P **P 01 57 03.0 -0.3**
baz=51
U32A Winter Ranch, 51.41 283 ⇑P **P 01 57 03.0 -0.4**
baz=51
H21A Big Horn, Sher 51.43 297 ⇓P **P 01 57 02.8 -0.8**
baz=51
I22A 9 Mile Ranch, 51.52 295 ⇑P **P 01 57 04.0 -0.2**
baz=51,SNR=12
P27A Ficken Ranch, 51.72 289 ⇓P **P 01 57 05.4 -0.3**
baz=52
G20A Bridger 51.77 298 ⇑P **P 01 57 05.4 -0.7**
baz=52
X34A Smith Ranch, M 51.77 281 ⇑P **P 01 57 06.4 +0.3**
baz=52
J22A Midwest 51.80 295 ⇑P **P 01 57 05.5 -0.9**
baz=52
W33A Caddo, Fort Co 51.83 282 ⇑P **P 01 57 06.5 0.0**
baz=52
V32A Arapaho 51.84 283 ⇑P **P 01 57 06.7 +0.1**
baz=52
M24A Cheyenne 51.95 292 ⇓P **P 01 57 07.3 -0.3**
baz=52
R28A Tribune 51.98 287 ⇓P **P 01 57 06.9 -0.7**
baz=52
S29A Ulysses 51.98 286 ⇓P **P 01 57 06.9 -0.8**
baz=52
I21A Big Trails, Te 52.05 296 ⇓P **P 01 57 07.2 -1.0**
baz=52,SNR=7.0
H20A Greybull 52.07 297 ⇓P **P 01 57 07.9 -0.4**
baz=52,SNR=10
K22A Casper 52.27 294 *eP* **P 01 57 09.1 -0.8**
comp=Z,7.0nm,0.9s
K22A Casper 52.27 294 ⇓P **P 01 57 09.1 -0.8**
baz=52,SNR=6.2
K22A Casper 52.27 294 *eP* **P 01 57 09.1 -0.8**
comp=Z,7.0nm,0.9s
WMOK Wichita Mounta 52.29 282 *eP* **P 01 57 09.6 -0.4**
WMOK pmax pmax
comp=Z,7.0nm,1.0s
WMOK Wichita Mounta 52.29 282 *eP* **P 01 57 09.6 -0.4**
comp=Z,6.6nm,1.0s
WMOK Wichita Mounta 52.29 282 *eP* **P 01 57 09.6 -0.4**
comp=Z,6.6nm,1.0s
W32A Sentinel 52.35 282 ⇓P **P 01 57 09.9 -0.4**
baz=52
J21A Lysite 52.41 295 ⇑P **P 01 57 10.3 -0.7**
baz=52
I20A Worland 52.46 296 ⇑P **P 01 57 10.7 -0.5**
baz=52
S28A Manter 52.49 286 ⇓P **P 01 57 10.9 -0.6**
baz=52
M23A Laramie 52.50 293 ⇓P **P 01 57 11.2 -0.5**
baz=52
H19A Powell 52.53 298 ⇓P **P 01 57 11.0 -0.8**
baz=52
L22A Ellis Ranch, M 52.59 294 ⇑P **P 01 57 11.9 -0.4**
baz=52
Z34A Collier Ranch, 52.60 280 ⇓P **P 01 57 12.0 -0.2**
baz=52
R27A Eads 52.63 288 ⇑P **P 01 57 11.9 -0.6**
baz=52
Q26A Hugo 52.69 289 ⇓P **P 01 57 13.1 +0.1**
baz=52
K21A Alcova 52.72 295 ⇑P **P 01 57 12.6 -0.6**
baz=53,SNR=8.2
P25A Willow Gulch B 52.73 290 ⇑P **P 01 57 12.8 -0.6**
baz=53
WALA Waterton Lakes 52.74 305 *eP* **P 01 57 11.9 -1.3**
comp=Z,0.9nm,1.4s
WALA Waterton Lakes 52.74 305 *eP* **P 01 57 11.9 -1.3**
comp=Z,0.9nm,1.4s
J20A Shoshoni 52.78 296 ⇓P **P 01 57 13.1 -0.5**
baz=53,SNR=14
I19A Meeteetse 52.91 297 ⇓P **P 01 57 14.0 -0.6**
baz=53
H18A Shoshone NF, C 52.92 298 ⇑P **P 01 57 13.7 -1.0**
baz=53
N23A Red Feather La 52.97 292 ⇑P **P 01 57 15.1 -0.1**
baz=53,SNR=11
R26A Arlington 53.02 288 ⇑P **P 01 57 15.4 0.0**
baz=53,SNR=7.2
X31A McDonald Ranch 53.12 282 ⇓P **P 01 57 15.6 -0.5**
baz=53
WHTX Lake Whitney 53.19 278 *eP* **P 01 57 15.9 -0.7**
comp=Z,9.2nm,0.9s
WHTX Lake Whitney 53.19 278 ⇑P **P 01 57 16.1 -0.5**
baz=53
WHTX Lake Whitney 53.19 278 *eP* **P 01 57 15.9 -0.7**
comp=Z,9.2nm,0.9s
Z33A Whitaker Ranch 53.20 280 ⇓P **P 01 57 16.1 -0.6**
baz=53
134A White-Moore Ra 53.22 279 ⇑P **P 01 57 16.5 -0.3**
baz=53
V29A Stinnett 53.32 284 ⇓P **P 01 57 17.7 +0.1**
baz=53
T27A Campo 53.33 286 ⇑P **P 01 57 17.4 -0.3**
baz=53
J19A Crowheart 53.40 296 ⇑P **P 01 57 18.0 -0.3**
baz=53,SNR=6.0
ISCO Idaho Springs 53.44 291 ⇑P **P 01 57 18.5 -0.2**
baz=53
S26A Kim 53.45 287 ⇓P **P 01 57 18.5 -0.1**
baz=53
234A Clairette 53.62 279 ⇑P **P 01 57 19.6 -0.2**
baz=54
CHMT Chamberlain Mo 53.63 302 *eP* **P 01 57 19.1 -0.8**
CHMT Chamberlain Mo 53.63 302 *eP* **P 01 57 19.1 -0.8**
R25A Fountain Ranch 53.63 288 ⇓P **P 01 57 19.8 -0.2**
baz=54
335A Moody 53.63 277 ⇑P **P 01 57 19.4 -0.5**
baz=54
Z32A Haskell 53.65 281 ⇓P **P 01 57 19.2 -0.8**
baz=54
Y31A Rekieta Farm, 53.73 282 ⇑P **P 01 57 20.1 -0.5**
baz=54
O22A Kremmling 53.78 292 ⇓P **P 01 57 20.3 -0.9**
baz=54
U27A Thompson Grove 53.80 286 ⇑P **P 01 57 20.9 -0.3**
baz=54,SNR=9.3
T26A Comanche Natio 53.81 287 ⇓P **P 01 57 21.0 -0.3**
baz=54
X30A Coker Ranch, T 53.81 283 ⇑P **P 01 57 21.0 -0.2**
baz=54
P23A Jefferson 53.84 291 ⇓P **P 01 57 21.5 -0.1**
baz=54
W29A Amraillo 53.87 284 ⇓P **P 01 57 21.5 -0.2**
baz=54
BSMT Bassoo Peak 53.92 304 *eP* **P 01 57 21.0 -1.0**
comp=Z,1.8nm,0.8s
BSMT Bassoo Peak 53.92 304 *eP* **P 01 57 21.0 -1.0**
comp=Z,1.8nm,0.8s
BW06 Boulder Array 54.00 296 *eP* **P 01 57 21.2 -1.5**
comp=Z,6.7nm,1.0s
BW06 Boulder Array 54.00 296 *eP* **P 01 57 21.2 -1.5**
comp=Z,6.7nm,1.0s
PDAR Pinedale Array 54.00 296 P **P 01 57 20.9 -1.8**
PDAR Pinedale Array 54.00 296 P **P 01 57 20.9 -1.8**
comp=Z,5.4nm,1.0s,baz=65,slow=5.5,SNR=29
PDAR LR LR 02 20 42.5
comp=Z,46nm,18.9s,baz=58,slow=36
PDAR Pinedale Array 54.00 296 P **P 01 57 20.9 -1.8**
S25A Robets Cordova 54.03 288 ⇑P **P 01 57 22.3 -0.6**
baz=54
AMTX Amarillo 54.05 284 *eP* **P 01 57 22.9 -0.1**
comp=Z,17nm,1.0s
AMTX Amarillo 54.05 284 ⇓P **P 01 57 22.6 -0.4**
baz=54
AMTX Amarillo 54.05 284 *eP* **P 01 57 22.9 -0.1**
comp=Z,17nm,1.0s
MSO Missoula 54.06 302 ⇓P **P 01 57 21.7 -1.3**
baz=54
Z31A Sharp Cattle R 54.07 281 ⇑P **P 01 57 22.0 -1.1**
baz=54
R24A Sanders Place, 54.09 289 ⇓P **P 01 57 22.7 -0.7**
baz=54
LOHW Long Hollow 54.10 297 *eP* **P 01 57 23.4 0.0**
comp=Z,7.8nm,1.4s
LOHW Long Hollow 54.10 297 *eP* **P 01 57 23.4 0.0**
comp=Z,7.8nm,1.4s
MOOW Moose Ponds 54.10 298 *eP* **P 01 57 22.9 -0.5**
comp=Z,4.4nm,1.1s
MOOW Moose Ponds 54.10 298 *eP* **P 01 57 22.9 -0.5**
comp=Z,4.4nm,1.1s
233A Rising Star 54.11 279 ⇓P **P 01 57 22.2 -1.2**
baz=54
334A Lometa 54.13 278 ⇑P **P 01 57 22.6 -0.9**
baz=54
X29A Tulia 54.34 283 ⇑P **P 01 57 25.0 -0.1**
baz=54
T25A Trinidad 54.34 288 ⇑P **P 01 57 24.4 -0.8**
baz=54
U26A Atchley Ranch, 54.39 286 ⇑P **P 01 57 25.4 -0.2**
baz=54
REDW Red Top Meadow 54.39 297 *eP* **P 01 57 25.6 +0.1**
comp=Z,23nm,1.6s
REDW Red Top Meadow 54.39 297 *eP* **P 01 57 25.6 +0.1**
comp=Z,23nm,1.6s
N20A Spence Gulch, 54.41 293 ⇓P **P 01 57 25.7 0.0**
baz=54,SNR=9.8
R23A Moffat 54.56 289 ⇓P **P 01 57 26.4 -0.5**
baz=54
333A Richland Sprin 54.61 278 ⇑P **P 01 57 25.9 -1.2**
baz=54,SNR=8.1
232A Coleman 54.67 279 ⇑P **P 01 57 26.9 -0.6**
baz=55
V26A Tequesquite Ra 54.80 286 ⇓P **P 01 57 27.8 -0.7**
baz=55
U25A Circle Dot Ran 54.80 287 ⇓P **P 01 57 28.7 +0.1**
baz=55,SNR=8.1
W27A Bowe Ranch, En 54.81 285 ⇑P **P 01 57 28.4 -0.1**
baz=55
O20A White River Ci 54.82 293 ⇑P **P 01 57 27.7 -1.0**
baz=55
NEW Newport 54.92 305 ⇓P **P 01 57 28.0 -1.1**
baz=55
T24B San Luis 54.99 288 ⇓P **P 01 57 29.7 -0.3**
baz=55
433A Art 55.06 278 ⇓P **P 01 57 28.8 -1.5**
baz=55,SNR=6.2
130A Snyder 55.06 281 ⇓P **P 01 57 29.4 -0.9**
baz=55
332A Millersview 55.06 279 ⇑P **P 01 57 29.4 -0.9**
baz=55
Z29A Hungry Hill Ra 55.10 282 ⇓P **P 01 57 29.9 -0.8**
baz=55
635A Leesville 55.11 276 ⇑P **P 01 57 29.9 -0.7**
baz=55
534A Blanco 55.14 277 ⇓P **P 01 57 29.6 -1.3**
baz=55,SNR=7.1
MSTX Muleshoe 55.32 283 *eP* **P 01 57 31.4 -0.9**
comp=Z,10nm,0.9s
MSTX Muleshoe 55.32 283 ⇑P **P 01 57 31.8 -0.5**
baz=55
MSTX Muleshoe 55.32 283 *eP* **P 01 57 31.4 -0.9**
comp=Z,10nm,0.9s
432A Menard 55.43 279 ⇓P **P 01 57 32.4 -0.6**
baz=55
533A Kerrville 55.47 277 ⇓P **P 01 57 32.4 -0.8**
baz=55
Z28A Tucker Farm, M 55.52 283 ⇑P **P 01 57 32.8 -0.8**
baz=55
W25A X Bar L Ranch, 55.59 286 ⇓P **P 01 57 33.7 -0.5**
baz=56
X26A CR and CF Fran 55.61 285 ⇑P **P 01 57 33.9 -0.5**
baz=56
129A Stewart Farms, 55.61 282 ⇓P **P 01 57 33.6 -0.7**
baz=56
Y27A Causey 55.63 284 ⇑P **P 01 57 33.7 -0.8**
baz=56
JCT Junction City 55.70 278 *eP* **P 01 57 34.8 -0.1**
JCT pmax pmax
comp=Z,8.0nm,1.1s
JCT Junction City 55.70 278 *eP* **P 01 57 34.8 -0.1**
comp=Z,8.1nm,1.1s
JCT Junction City 55.70 278 ⇑P **P 01 57 34.6 -0.3**
baz=56
JCT Junction City 55.70 278 *eP* **P 01 57 34.8 -0.1**
comp=Z,8.1nm,1.1s
V24A Rampart Ranch, 55.77 287 ⇑P **P 01 57 35.3 -0.3**
baz=56
HWUT Hardware Ranch 55.89 296 *eP* **P 01 57 34.9 -1.4**
comp=Z,12nm,1.0s
HWUT Hardware Ranch 55.89 296 *eP* **P 01 57 34.9 -1.4**

comp=Z,12nm,1.0s
U23A **El Rito** 55.96 288 ⇓P P 01 57 37.1 +0.2
baz=56
532A **Rocksprings** 56.00 278 ⇓P P 01 57 36.3 -0.8
baz=56,SNR=7.1
Z27A **Tatum** 56.03 283 ⇑P P 01 57 37.0 -0.4
baz=56
B08A **Colville Reser** 56.04 306 *e*P P 01 57 35.3 -1.8
comp=Z,12nm,1.4s
B08A **Colville Reser** 56.04 306 *e*P P 01 57 35.3 -1.8
comp=Z,12nm,1.4s
431A **Sonora** 56.08 279 ⇓P P 01 57 37.4 -0.3
baz=56
936A **North Padre Is** 56.13 274 ⇑P P 01 57 38.5 +0.6
baz=56
W24A **Lazy 6 Ranch,** 56.19 286 ⇓P P 01 57 38.9 +0.4
baz=56,SNR=6.8
PV04 **Paradox Valley** 56.31 291 *e*P P 01 57 39.5 +0.1
PV04 **Paradox Valley** 56.31 291 *e*P P 01 57 39.5 +0.1
HLID **Hailey** 56.32 299 *e*P P 01 57 39.5 +0.2
comp=Z,78nm,3.0s
HLID **Hailey** 56.32 299 ⇑P P 01 57 39.0 -0.3
baz=56
HLID **Hailey** 56.32 299 *e*P P 01 57 39.5 +0.2
comp=Z,78nm,3.0s
632A **Uvalde** 56.33 277 ⇑P P 01 57 39.5 +0.1
baz=56
531A **Rocksprings** 56.39 279 ⇑P P 01 57 39.2 -0.6
baz=56,SNR=6.0
430A **Baggett Ranch,** 56.42 280 ⇓P P 01 57 39.6 -0.5
baz=56
329A **Wagon Wheel Ra** 56.44 281 ⇑P P 01 57 39.4 -0.8
baz=56
DAU **Daniels Canyon** 56.45 295 *e*P P 01 57 39.7 -0.8
DAU **Daniels Canyon** 56.45 295 *e*P P 01 57 39.6 -0.8
DAU **Daniels Canyon** 56.45 295 *e*P P 01 57 39.7 -0.8
834A **Tilden** 56.46 275 ⇑P P 01 57 40.4 +0.1
baz=56
HVU **Hansel Valley** 56.49 297 *e*P P 01 57 40.2 -0.4
HVU pmax pmax
comp=Z,7.0nm,1.2s
HVU **Hansel Valley** 56.49 297 *e*P P 01 57 40.2 -0.4
comp=Z,7.3nm,1.2s
HVU **Hansel Valley** 56.49 297 *e*P P 01 57 40.2 -0.4
comp=Z,7.3nm,1.2s
ILAR **Eielson Array** 56.50 333 P P 01 57 39.6 -0.5
ILAR **Eielson Array** 56.50 333 P P 01 57 39.6 -0.5
comp=Z,1.7nm,0.9s,baz=44,slow=5.3,SNR=14
ILAR LR LR 02 19 56.7
comp=Z,160nm,21.4s,baz=70,slow=34
ILAR **Eielson Array** 56.50 333 P P 01 57 39.7 -0.5
Z26A **Caprock** 56.54 284 ⇑P P 01 57 41.6 +0.6
baz=56
V22A **San Miguel Ran** 56.67 288 ⇓P P 01 57 41.8 -0.2
baz=56
W23A **Werner Place,** 56.68 287 ⇑P P 01 57 42.2 +0.1
baz=56
934A **Benavides** 56.79 275 ⇓P P 01 57 43.1 +0.4
baz=57
MVCO **Mesa Verde** 56.82 290 *e*P P 01 57 43.6 +0.5
comp=Z,97nm,2.6s
MVCO **Mesa Verde** 56.82 290 ⇑P P 01 57 42.9 -0.2
baz=57
MVCO **Mesa Verde** 56.82 290 *e*P P 01 57 43.6 +0.5
comp=Z,97nm,2.6s
SRU **San Rafael** 56.84 293 *e*P P 01 57 42.7 -0.4
SRU pmax pmax
comp=Z,11nm,1.1s
SRU **San Rafael** 56.84 293 *e*P P 01 57 42.7 -0.4
comp=Z,11nm,1.1s
SRU **San Rafael** 56.84 293 *e*P P 01 57 42.7 -0.4
comp=Z,11nm,1.1s
833A **Chaparral WMA,** 56.87 276 ⇑P P 01 57 42.8 -0.4
baz=57
530A **J-C Ranch, Com** 56.91 279 ⇑P P 01 57 42.6 -0.9
baz=57
429A **Davenport Ranc** 56.95 280 ⇓P P 01 57 43.0 -0.8
baz=57
732A **Laxson Ranch,** 56.98 277 ⇓P P 01 57 43.4 -0.6
baz=57
ANMO **Albuquerque** 57.01 287 *e*P P 01 57 44.8 +0.4
comp=Z,65nm,2.7s
ANMO **Albuquerque** 57.01 287 *e*P P 01 57 44.6 +0.2
comp=Z,113nm,5.0s
BRVK **Borovoye** 57.07 45 *e*P P 01 57 44.9 +0.6
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK **Borovoye** 57.07 45 *e*P P 01 57 44.9 +0.6
comp=Z,3.2nm,1.0s
BRVK **Borovoye** 57.07 45 *e*P P 01 57 44.9 +0.6
comp=Z,3.2nm,1.0s
TMUT **Trail Mountain** 57.13 294 *e*P P 01 57 45.6 +0.3
comp=Z,9.4nm,1.1s
TMUT **Trail Mountain** 57.13 294 *e*P P 01 57 45.6 +0.3
comp=Z,9.4nm,1.1s
NLU **North Lily Min** 57.23 295 *e*P P 01 57 46.7 +0.8
comp=Z,102nm,3.0s
NLU **North Lily Min** 57.23 295 *e*P P 01 57 46.7 +0.8
comp=Z,102nm,3.0s
832A **Faith Ranch, C** 57.28 276 ⇑P P 01 57 45.4 -0.7
baz=57,SNR=6.2
125A **Gardner Draw,** 57.37 284 ⇑P P 01 57 45.8 -1.1
baz=57
LTY **Liberty** 57.43 306 *e*P P 01 57 46.0 -1.0
comp=Z,11nm,1.1s
LTY **Liberty** 57.43 306 *e*P P 01 57 46.0 -1.0
comp=Z,11nm,1.1s
226B **Tecolote Peak,** 57.44 283 ⇓P P 01 57 46.6 -0.8
baz=57
529A **Stev Forest Ra** 57.49 280 ⇑P P 01 57 46.6 -1.1
baz=57,SNR=6.4
DUG **Dugway** 57.51 295 *e*P P 01 57 47.2 -0.6
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG **Dugway** 57.51 295 *e*P P 01 57 47.2 -0.6
comp=Z,10nm,1.0s
DUG **Dugway** 57.51 295 ⇑P P 01 57 47.3 -0.5
baz=57,SNR=9.9
DUG **Dugway** 57.51 295 *e*P P 01 57 47.2 -0.6
comp=Z,10nm,1.0s
427A **Hayter Ranch,** 57.77 281 ⇑P P 01 57 48.9 -0.8
baz=58
326A **Caldwell Ranch** 57.83 282 ⇑P P 01 57 49.6 -0.5
baz=58
528A **Cox Ranch, San** 57.83 280 ⇓P P 01 57 49.3 -0.9
baz=58,SNR=6.3
225A **Deer Hill, Car** 57.84 283 ⇓P P 01 57 49.6 -0.6
baz=58
MCK **McKinley** 57.88 333 *e*P P 01 57 49.0 -0.9
MCK pmax pmax
comp=Z,6.0nm,1.0s
MCK **McKinley** 57.88 333 *e*P P 01 57 49.0 -0.9
comp=Z,5.5nm,1.0s
MCK **McKinley** 57.88 333 *e*P P 01 57 49.0 -0.9
comp=Z,5.5nm,1.0s
TIXI **Tiksi** 58.14 8 *e*P P 01 57 50.1 -1.4
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI **Tiksi** 58.14 8 *e*P P 01 57 50.1 -1.4
comp=Z,7.0nm,1.7s
MVU **Marysvale** 58.24 293 *e*P P 01 57 53.3 +0.2
comp=Z,10nm,1.1s
MVU **Marysvale** 58.24 293 *e*P P 01 57 53.3 +0.2
comp=Z,10nm,1.1s
426A **McDonald Obser** 58.29 281 ⇓P P 01 57 52.5 -0.9
baz=58,SNR=8.3
628A **Black Gap, Mar** 58.35 280 ⇑P P 01 57 53.2 -0.5
baz=58
527A **Woodward Ranch** 58.37 281 ⇑P P 01 57 52.9 -1.1
baz=58
Z22A **Elephant Butte** 58.44 286 ⇓P P 01 57 53.7 -0.7
baz=58,SNR=8.1
ELK **Elko** 58.58 297 *e*P P 01 57 55.6 +0.2
comp=Z,7.8nm,1.3s
ELK **Elko** 58.58 297 *e*P P 01 57 55.6 +0.2
comp=Z,7.8nm,1.3s
627A **Terlingua Ranc** 58.69 280 ⇑P P 01 57 55.5 -0.7
baz=59,SNR=11
526A **Mary Lane Ranc** 58.74 281 ⇑P P 01 57 55.9 -0.6
baz=59
425A **Indio Mountain** 58.82 282 ⇓P P 01 57 56.5 -0.6
baz=59
ROSC **El Rosal** 58.85 237 LR LR 02 21 25.8
comp=Z,270nm,20.9s,baz=90,slow=34
TXAR **Lajitas Array** 58.95 280 P P 01 57 57.4 -0.6
TXAR **Lajitas Array** 58.95 280 P P 01 57 57.4 -0.6
comp=Z,0.8nm,0.8s,baz=52,slow=8.1,SNR=7.1
TXAR LR LR 02 22 19.5
comp=Z,329nm,21.2s,baz=0.0,slow=35
TXAR **Lajitas Array** 58.95 280 P P 01 57 57.4 -0.6
626A **Big Bend Ranch** 59.10 280 ⇓P P 01 57 58.8 -0.2
baz=59
WVOR **Wild Horse Val** 59.42 301 *e*P P 01 58 01.2 +0.1
WVOR pmax pmax
comp=Z,94nm,2.6s
WVOR **Wild Horse Val** 59.42 301 *e*P P 01 58 01.1 +0.1
comp=Z,94nm,2.6s
WVOR **Wild Horse Val** 59.42 301 *e*P P 01 58 01.1 +0.1
comp=Z,94nm,2.6s
CCUT **Cedar City** 59.55 293 *e*P P 01 58 02.3 +0.1
comp=Z,13nm,1.1s
CCUT **Cedar City** 59.55 293 *e*P P 01 58 02.3 +0.1
comp=Z,13nm,1.1s
U15A **North Rim** 59.64 292 ⇑P P 01 58 01.6 -1.2
baz=60,SNR=8.4
WUAZ **Wupatki** 59.68 290 *e*P P 01 58 03.0 -0.1
comp=Z,9.6nm,1.1s
WUAZ **Wupatki** 59.68 290 ⇓P P 01 58 02.9 -0.1
baz=60
WUAZ **Wupatki** 59.68 290 *e*P P 01 58 03.0 -0.1
comp=Z,9.6nm,1.1s
BMN **Battle Mountai** 59.93 298 *e*P P 01 58 05.2 +0.6
BMN pmax pmax
comp=Z,10.0nm,1.3s
BMN **Battle Mountai** 59.93 298 *e*P P 01 58 05.2 +0.6
comp=Z,9.5nm,1.3s
BMN **Battle Mountai** 59.93 298 *e*P P 01 58 05.2 +0.6
comp=Z,9.5nm,1.3s
J05D **Fort Rock, OR** 60.30 303 ⇑P P 01 58 06.4 -0.8
baz=60
R11A **Troy Canyon, C** 60.34 295 *e*P P 01 58 07.0 -0.5
comp=Z,4.0nm,1.1s
R11A **Troy Canyon, C** 60.34 295 ⇓P P 01 58 07.1 -0.5
baz=60
R11A **Troy Canyon, C** 60.34 295 *e*P P 01 58 07.0 -0.5
comp=Z,4.0nm,1.1s
X16A **Lo Mia Camp, P** 60.45 289 ⇓P P 01 58 08.1 -0.2
baz=60
MOD **Modoc** 60.70 301 *e*P P 01 58 10.0 +0.1
comp=Z,94nm,2.8s
MOD **Modoc** 60.70 301 *e*P P 01 58 10.0 +0.1
comp=Z,94nm,2.8s
319A **Douglas** 61.15 285 ⇑P P 01 58 13.1 +0.1
baz=61
TUC **Tucson** 61.46 287 *e*P P 01 58 15.1 0.0
TUC pmax pmax
comp=Z,7.0nm,1.4s
TUC **Tucson** 61.46 287 *e*P P 01 58 15.1 0.0
comp=Z,7.2nm,1.4s
TUC **Tucson** 61.46 287 *e*P P 01 58 15.1 0.0
comp=Z,7.2nm,1.4s
TPH **Tonopah** 61.49 296 *e*P P 01 58 15.6 +0.3
TPH pmax pmax
comp=Z,14nm,1.4s
TPH **Tonopah** 61.49 296 *e*P P 01 58 15.6 +0.3
comp=Z,14nm,1.4s
TPH **Tonopah** 61.49 296 *e*P P 01 58 15.6 +0.3
comp=Z,14nm,1.4s
W13A **Hualapai Mount** 61.49 292 ⇑P P 01 58 15.1 -0.3
baz=61
M04C **Macdoel** 61.64 302 ⇓P P 01 58 15.4 -0.8
baz=61
Y14A **Wickenburg** 61.73 290 ⇑P P 01 58 16.5 -0.4
baz=62
NVAR **Mina Array Bea** 61.88 297 P P 01 58 17.2 -0.8
NVAR **Mina Array Bea** 61.88 297 P P 01 58 17.2 -0.8
comp=Z,1.1nm,0.9s,baz=73,slow=4.5,SNR=5.8
NVAR LR LR 02 22 50.1
comp=Z,115nm,20.4s,baz=302,slow=34
NVAR **Mina Array Bea** 61.88 297 P P 01 58 17.2 -0.8
PDMCI **Parker Dam,Lak** 62.18 291 ⇓P P 01 58 19.7 -0.1
baz=62
LDFC **Landfair** 62.25 292 *e*P P 01 58 19.8 -0.6
comp=Z,16nm,1.2s
LDFC **Landfair** 62.25 292 *e*P P 01 58 19.8 -0.6
comp=Z,16nm,1.2s
GRAC **Grapevine Rang** 62.30 295 ⇓P P 01 58 20.3 -0.4
baz=62
BILL **Bilibino** 62.30 354 ⇑*i*P P 01 58 19.2 -0.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL **Bilibino** 62.30 354 *i* P P 01 58 19.2 -0.9
comp=Z,4.0nm,1.0s
FURC **Furace Creek,** 62.35 295 ⇓P P 01 58 20.7 -0.2
baz=62
SHOC **Shoshone** 62.39 294 ⇑P P 01 58 21.8 +0.6
baz=62
KURK **Kurchatov** 62.46 43 *e*P P 01 58 20.3 -1.1
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK **Kurchatov** 62.46 43 *e*P P 01 58 20.3 -1.1
comp=Z,2.6nm,1.2s
KURK **Kurchatov** 62.46 43 *e*P P 01 58 20.3 -1.1
comp=Z,2.6nm,1.2s
TUQ **Turquoise Moun** 62.49 293 ⇑P P 01 58 22.7 +0.6
baz=62
ZALV **Zalesovo Beam** 62.73 38 LR LR 02 26 49.6
comp=Z,77nm,18.5s,baz=259,slow=37
GMRC **Granite Mounta** 62.78 292 ⇓P P 01 58 23.9 -0.1
baz=63
Y12C **Blythe** 62.79 291 ⇓P P 01 58 23.9 0.0
baz=63
IRM **Iron Mountain** 62.89 292 ⇑P P 01 58 24.4 -0.2
baz=63
DAC **Darwin (Calif)** 62.92 295 *e*P P 01 58 25.4 +0.4
DAC pmax pmax
comp=Z,69nm,2.8s
DAC **Darwin (Calif)** 62.92 295 *e*P P 01 58 25.4 +0.4
comp=Z,69nm,2.8s
DAC **Darwin (Calif)** 62.92 295 *e*P P 01 58 25.4 +0.4
comp=Z,69nm,2.8s
214A **Organ Pipe Nat** 62.96 288 ⇓P P 01 58 24.7 -0.4
baz=63
MPMC **Manual Prospec** 63.01 295 ⇓P P 01 58 40.8 +15
baz=63,SNR=8.8
GSC **Goldstone** 63.11 294 *e*P P 01 58 26.5 +0.4
GSC pmax pmax
comp=Z,4.0nm,1.0s
GSC **Goldstone** 63.11 294 *e*P P 01 58 26.5 +0.4
comp=Z,3.9nm,1.0s
GSC **Goldstone** 63.11 294 ⇓P P 01 58 26.2 0.0
baz=63
GSC **Goldstone** 63.11 294 *e*P P 01 58 26.5 +0.4
comp=Z,3.9nm,1.0s
HEC **Hector,Ludlow** 63.15 293 ⇑P P 01 58 26.5 +0.1
baz=63
BC3 **Big Chuckawall** 63.42 291 ⇑P P 01 58 28.1 -0.1
baz=63
GLA **Glamis** 63.45 290 ⇑P P 01 58 27.8 -0.5
baz=63
BELC **Belle Mtn. Jos** 63.52 292 ⇑P P 01 58 29.1 +0.2
baz=63
LRMC **Laurel Mountai** 63.52 294 ⇓P P 01 58 28.7 -0.2
baz=63
ISA **Isabella** 63.86 295 ⇑P P 01 58 31.1 0.0
baz=64
EDW2 **Edwards Air Fo** 64.11 294 ⇑P P 01 58 33.0 +0.4
baz=64
BFSC **Mount Baldy Ra** 64.35 293 ⇓P P 01 58 34.7 +0.3
baz=64
MURC **Murrieta** 64.52 292 ⇑P P 01 58 35.5 +0.2
baz=64
OTAV **Otavalo** 64.94 238 *e*P P 01 58 39.1 +0.3
comp=Z,2.7nm,0.8s
OTAV **Otavalo** 64.94 238 *e*P P 01 58 39.1 +0.3
comp=Z,2.7nm,0.8s
SAML **Samuel** 65.58 218 *e*P P 01 58 41.5 -0.7
comp=Z,5.4nm,1.4s
SAML **Samuel** 65.58 218 *e*P P 01 58 41.5 -0.7
comp=Z,5.4nm,1.4s
EKS2 **Erkin-Say** 65.87 52 *e*P P 01 58 42.9 -1.2
EKS2 pmax pmax
comp=Z,8.0nm,1.3s
EKS2 **Erkin-Say** 65.87 52 *e*P P 01 58 42.9 -1.2
comp=Z,8.0nm,1.3s
EKS2 **Erkin-Say** 65.87 52 *e*P P 01 58 42.9 -1.2
comp=Z,8.0nm,1.3s
AAK **Ala-Archa** 66.26 52 *e*P P 01 58 48.7 +2.0
AAK pmax pmax
comp=Z,15nm,1.7s
AAK **Ala-Archa** 66.26 52 *e*P P 01 58 46.1 -0.6
comp=Z,3.5nm,1.1s
AAK **Ala-Archa** 66.26 52 *e*P P 01 58 46.1 -0.6
comp=Z,3.5nm,1.1s
TKM2 **Tokmak 2** 66.61 51 *e*P P 01 58 49.3 +0.3
TKM2 pmax pmax
comp=Z,2.0nm,1.0s
TKM2 **Tokmak 2** 66.61 51 *e*P P 01 58 49.3 +0.3
comp=Z,2.4nm,1.0s
MKAR **Makanchi Array** 66.98 44 *ce*P P 01 58 49.7 -1.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR **Makanchi Array** 66.98 44 P P 01 58 49.8 -1.3
MKAR **Makanchi Array** 66.98 44 P P 01 58 49.8 -1.3
comp=Z,1.1nm,0.6s,baz=328,slow=5.9,SNR=12
MKAR **Makanchi Array** 66.98 44 *e*P P 01 58 49.7 -1.3
comp=Z,1.0nm,0.6s
BDFB **Brasilia** 67.06 200 P P 01 58 52.7 +0.9
BDFB **Brasilia** 67.06 200 P P 01 58 52.7 +0.9
comp=Z,2.3nm,0.6s,baz=31,slow=5.9,SNR=3.6
BDFB LR LR 02 22 06.4
comp=Z,97nm,20.5s,baz=112,slow=30
BDFB **Brasilia** 67.06 200 P P 01 58 52.7 +0.9
KSH **Kashi** 69.30 53 *e*P P 01 59 05.5 -0.3
KSH *e*PP **PP** 02 01 40.0 +1.6
KSH *e*PcS 02 03 33.5
KSH *e*S **S** 02 08 08.0 -3.5
KSH *e*SS **SS** 02 12 34.5 -2.9
KSH pmax pmax
comp=Z,83nm,1.9s
KSH LR LR
comp=Z,120nm,5.6s
KSH LR LR
comp=Z,140nm,6.2s
KSH LR LR
comp=Z,190nm,4.9s
WMQ **Urumqi** 71.71 43 P P 01 59 23.0 +2.6
WMQ pP **pP** 01 59 27.5 +1.6
WMQ sP **sP** 01 59 30.0 +2.0
WMQ PcP **PcP** 01 59 42.0 +2.6
WMQ PP PP 02 02 04.0 +5.0
WMQ S **S** 02 08 41.5 +2.2
WMQ sS **sS** 02 08 49.5 +1.0
WMQ SKS **SKSac** 02 09 21.5 -1.6
WMQ SS **SS** 02 13 19.5 +5.5
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ LR LR
comp=Z,160nm,14.9s
WMQ LR LR
comp=Z,160nm,24.0s
SONM **Songino Array** 75.56 29 P P 01 59 42.2 -0.8
SONM **Songino Array** 75.56 29 P P 01 59 42.2 -0.8
comp=Z,0.8nm,0.8s,baz=318,slow=2.0,SNR=5.4
SONM **Songino Array** 75.56 29 P P 01 59 42.2 -0.8
ULN **Ulaanbaatar** 75.75 29 *e*P P 01 59 43.7 -0.4
comp=Z,4.5nm,1.2s
ULN **Ulaanbaatar** 75.75 29 *e*P P 01 59 43.7 -0.4
comp=Z,4.5nm,1.2s
PETK **Petropavlovsk-** 77.68 356 P P 01 59 54.8 +0.1
PETK **Petropavlovsk-** 77.68 356 P P 01 59 54.8 +0.1
PETK **Petropavlovsk-** 77.68 356 P P 01 59 54.8 +0.1
comp=Z,3.8nm,0.9s,baz=29,slow=6.6,SNR=2.4
PETK LR LR 02 35 49.8
comp=Z,26nm,18.1s,baz=212,slow=37
PETK **Petropavlovsk-** 77.68 356 P P 01 59 54.8 +0.1
CPUP **Villa Florida** 79.68 206 LR LR 02 32 04.1
comp=Z,157nm,20.4s,baz=121,slow=33
LVC **Limon Verde** 80.22 217 *e*P P 02 00 09.6 +0.4
comp=Z,3.2nm,0.7s
LVC **Limon Verde** 80.22 217 *e*P P 02 00 09.6 +0.4
comp=Z,3.2nm,0.7s
HHC **Hu-ho-hao-te** 83.47 29 *e*P P 02 00 26.3 +0.2
HHC sP **sP** 02 00 32.3 -1.5
HHC PP **PP** 02 03 39.5 +2.1
HHC S **S** 02 10 44.5 -2.3
HHC sS **SKSac** 02 10 52.8 +0.5
HHC SS **SS** 02 16 12.5 +1.5
HHC pmax pmax
comp=Z,42nm,0.9s
HHC pmax pmax
comp=Z,370nm,7.8s
HHC LR LR
comp=Z,330nm,16.0s
HHC LR LR
comp=Z,650nm,16.0s
HHC LR LR
comp=Z,320nm,16.0s
LZH **Lanzhou** 84.96 37 *e*P P 02 00 35.5 +1.7
LZH pP **pP** 02 00 39.5 0.0
LZH sP **sP** 02 00 43.0 +1.5
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,73nm,5.0s
BJI **Beijing** 85.61 26 P P 02 00 36.0 -0.8
BJI pmax pmax
comp=Z,7.0nm,0.6s
NJ2 **Nanjing** 93.83 27 *e*P P 02 01 08.5 -7.2
NJ2 pmax pmax
comp=Z,20nm,0.8s
KMI **Kunming** 94.04 43 P P 02 01 20.8 +3.7
KMI pmax pmax
comp=Z,7.0nm,0.8s
GYA **Guiyang** 94.56 39 *e*P P 02 01 20.8 +1.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
WRA **Warramunga Arr** 147.53 31 PKPbc **PKPbc** 02 07 41.3 -1.4
WRA **Warramunga Arr** 147.53 31 PKPbc **PKPbc** 02 07 41.3 -1.4
comp=Z,2.2nm,1.0s,baz=343,slow=2.6,SNR=3.8
ASAR **Alice Springs** 150.81 35 PKPbc **PKPbc** 02 07 49.2 -1.7
ASAR **Alice Springs** 150.81 35 PKPbc **PKPbc** 02 07 49.2 -1.7
comp=Z,2.7nm,0.9s,baz=359,slow=2.5,SNR=9.1
VNDA **Vanda** 151.54 185 PKPbc **PKPbc** 02 07 50.5 -0.4
VNDA **Vanda** 151.54 185 PKPbc **PKPbc** 02 07 50.5 -0.4
comp=Z,1.9nm,1.1s,baz=214,slow=3.6,SNR=2.6
VNDA **Vanda** 151.54 185 PKPbc **PKPbc** 02 07 50.5 -0.4

IDC ***27*** *01:58:19.8±0.6, 1.°68N×97.°59E, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.4/28, mbtmp4.4/20, ML4.3/1, Error ellipse: s-maj=18.2km s-min=14.3km az=43.0*

BJI ***27*** *01:58:21.4, 1.°10N×97.°53E, h53km, mB4.8/13, mb4.7/30, Ms4.6/10, Ms7 4.3/11*

NEIC ***27*** *01:58:26.7±0.5, 1.°70N×97.°72E, h50km±4km, mb4.5/15, Error ellipse: s-maj=6.6km s-min=5.1km az=69.0*

ISCJB ***27*** *01:58:26.2±0.4, 1.°74N±0.°03×97.°65E±0.°03, h59km±3km, mb4.5/46, MS4.2/2, Error ellipse: s-maj=5.6km s-min=4.4km az=135.2*

DJA ***27*** *01:58:26.6±0.3, 2.°N±2.°×9.°8E±.°, h10km, M4.5/12, MLv4.5/12*

KLM ***27*** *01:58:28.8, 1.°77N×97.°65E, h38km, mb4.5, ML4.2, MS5.5*

ISC 27 01:58:27.5±0.4, 1.72N±0.03×97.63E±0.04, h57km±3km, h57km:pP-P, n140, σ1§13/162, mb4.5/46, 5C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GSI	**Gunungsitoli**	0.42	187	P		**Pn**	01 58 36.8	-1.7
GSI				S		**Sn**	01 58 45.5	-0.8
GSI	**Gunungsitoli**	0.42	187	*e*Pn		**Pn**	01 58 36.8	-1.7
GSI				*e*Sn		**Sn**	01 58 44.5	-1.9
SNSI	**Sinabang, Aceh**	1.47	298	P		**Pn**	01 58 51.3	-0.5
SNSI				S		**Sn**	01 59 09.5	-0.5
TPTI		1.59	344	P		**Pn**	01 58 52.4	-1.0
TPTI				S		**Sn**	01 59 11.9	-1.1
PSI	**Prapat**	1.68	50	P		x	01 58 53.1	
PSI	**Prapat**	1.68	50	Pn		**Pn**	01 58 52.6	-2.1
PSI				Sn		**Sn**	01 59 13.7	-1.6
PSI	**Prapat**	1.68	50	Pn		**Pn**	01 58 52.6	-2.1
	62nm,0.3s,baz=211,slow=5.8,SNR=202							
PSI				Sn		**Sn**	01 59 13.7	-1.6
	78nm,0.3s,baz=217,slow=20,SNR=11							
PSI	**Prapat**	1.68	50	P		**Pn**	01 58 53.0	-1.8
	baz=1.2,SNR=107							
KCSI	**Kotacane, Aceh**	1.79	5	P		**Pn**	01 58 55.1	-1.1
KCSI				S		**Sn**	01 59 17.3	-0.6
TSI	**Tuntungan**	2.00	28	P		**Pn**	01 58 59.3	+0.3
MNSI	**Mandailing Nat**	2.16	115	P		**Pn**	01 59 01.1	0.0
LASI	**Langsa, Aceh**	2.74	7	P		x	01 59 07.9	
PPI	**Padang Panjang**	3.51	128	P		**Pn**	01 59 21.8	+2.1
PPI	**Padang Panjang**	3.51	128	P		**Pn**	01 59 21.4	+1.8
	baz=3.4,SNR=5.0							
LHMI	**Lhok Sumawe**	3.55	349	P		**Pn**	01 59 19.2	-1.0
LHMI	**Lhok Sumawe**	3.55	349	*e*Pn		**Pn**	01 59 20.2	+0.1
LHMI	**Lhok Sumawe**	3.55	349	P		**Pn**	01 59 20.2	+0.1
	baz=3.4,SNR=5.1							

BKNI	**Bangkinang**	**3.68**	**112**	P		Pn	01 59 29.6	+7.6
PDSI	**Padang**	**3.85**	**133**	P		**Pn**	**01 59 26.7**	**+2.3**
FRIM	**Kepong**	**4.27**	**69**	⇓P		**Pn**	**01 59 30.5**	**+0.5**
IPM	**Ipoh**	**4.36**	**51**	*e*Pn		**Pn**	**01 59 31.1**	**-0.2**
IPM				*e*Sn		**Sn**	**02 00 19.7**	**-1.2**
IPM	**Ipoh**	**4.36**	**51**	⇓P		**Pn**	**01 59 32.3**	**+1.0**
KULM	**Kulim**	**4.65**	**40**	*e*Pn		**Pn**	**01 59 34.7**	**-0.6**
KULM	**Kulim**	**4.65**	**40**	⇓P		**Pn**	**01 59 35.9**	**+0.6**
KGM	**Kluang**	**5.69**	**87**	⇓P		**Pn**	**01 59 50.7**	**+1.1**
MYKOM	**Kota Tinggi**	**6.22**	**89**	⇑P		**Pn**	**01 59 58.0**	**+1.3**
CMBY	**CAMPBELL BAY**	**6.42**	**325**	*e*P		**Pn**	**02 00 00.6**	**+1.1**
CMBY					AMB	AMB	02 00 08.7	
	comp=Z,102nm,1.0s							
KTGM	**Kuala Trenggan**	**6.56**	**57**	⇑P		**Pn**	**02 00 01.6**	**+0.2**
MNAI	**Manna**	**8.05**	**139**	P		**Pn**	**02 00 22.0**	**+0.1**
	baz=8.1,SNR=4.1							
MNAI				S		**Sn**	**02 01 48.6**	**-3.0**
	baz=8.1,SNR=5.0							
PBA	**Port Blair**	**11.00**	**334**	*e*P		Pn	02 01 01.3	-0.9
PBA					AMB	AMB	02 01 04.9	
	comp=Z,68nm,1.7s							
BTM	**Bintulu**	**15.51**	**84**	⇓P		**Pn**	**02 02 03.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.68**	**4**	Pn		**Pn**	**02 02 15.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**16.68**	**4**	Pn		**Pn**	**02 02 15.8**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=193,slow=11,SNR=12							
CHTO	**Chiang Mai**	**17.04**	**4**	*e*Pn		**Pn**	**02 02 20.4**	**-1.6**
	comp=Z,3.2nm,0.6s							
KDM	**Kudat**	**19.83**	**74**	⇑P		**P**	**02 02 54.7**	**+1.0**
TSM	**Tawau**	**20.38**	**82**	⇓P		Pn	02 03 03.4	+1.1
SLVN	**Son La**	**20.43**	**17**	*e*P		**P**	**02 02 59.2**	**-1.1**
	comp=Z,7.9nm,0.9s							
QIZ	**Qiongzhong**	**20.95**	**34**	P		Pn	02 03 07.5	-1.5
QIZ				S		**S**	**02 06 58.0**	**+1.6**
QIZ				pmax		pmax		
	comp=Z,170nm,5.5s							
QIZ				LR		LR		
	comp=Z,180nm,3.8s							
VIS	**Vishakhapatnam**	**21.22**	**319**	*e*P		**P**	**02 03 08.6**	**-0.1**
SHL	**Shillong**	**24.35**	**347**	*e*P		**P**	**02 03 40.4**	**0.0**
SHL					AMB	AMB	02 03 41.1	
	comp=Z,14nm,0.7s							
HYB	**Hyderabad**	**24.39**	**311**	*e*P		**P**	**02 03 42.0**	**+1.3**
BOK	**Bokaro**	**24.72**	**334**	*e*P		**P**	**02 03 43.0**	**-0.5**
BOK					AMB	AMB	02 03 45.5	
	comp=Z,15nm,1.4s							
GYA	**Guiyang**	**26.08**	**19**	*e*P		**P**	**02 03 56.8**	**+0.7**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
H08S2	**Diego Garcia H**	**26.75**	**249**	T		T	02 31 19.1	
	baz=71,slow=75,SNR=200							
H08S3	**Diego Garcia H**	**26.75**	**249**	T		T	02 31 19.4	
	baz=71,slow=75,SNR=275							
H08S1	**Diego Garcia H**	**26.76**	**249**	T		T	02 31 20.5	
	baz=71,slow=75,SNR=70							
GOA	**Goa**	**27.17**	**302**	*e*P		**P**	**02 04 06.0**	**+0.2**
LSA	**Lhasa**	**28.50**	**348**	*e*P		**P**	**02 04 17.8**	**-0.3**
	comp=Z,7.2nm,0.8s							
CD2	**Chengdu**	**29.61**	**11**	*e*P		**P**	**02 04 29.5**	**+2.1**
CD2				pmax		pmax		
	comp=Z,20nm,0.6s							
DDI	**Dehra Dun**	**33.97**	**329**	*e*P		**P**	**02 05 04.4**	**-1.4**
DDI					AMB	AMB	02 05 21.0	
	comp=Z,16nm,0.9s							
LZH	**Lanzhou**	**34.68**	**9**	*e*P		**P**	**02 05 12.8**	**+0.9**
LZH				pP		**pP**	**02 05 28.8**	**+2.4**
LZH				sP		**sP**	**02 05 36.5**	**+3.4**
LZH				pmax		pmax		
	comp=Z,12nm,1.0s							
SMLA	**Simla**	**35.07**	**329**	*e*P		**P**	**02 05 15.5**	**+0.3**
SMLA					AMB	AMB	02 05 21.2	
	comp=Z,8.5nm,1.0s							
NJ2	**Nanjing**	**36.20**	**31**	*e*P		**P**	**02 05 26.5**	**+1.7**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
DHRM	**DHARAMSHALA**	**36.41**	**329**	*e*P		**P**	**02 05 26.4**	**-0.6**
DHRM					AMB	AMB	02 05 32.6	
	comp=Z,15nm,1.0s							
GTA	**Gaotai**	**37.56**	**3**	*e*P		**P**	**02 05 36.5**	**0.0**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
H01W3	**Cape Leeuwin H**	**39.57**	**158**	T		T	02 47 21.8	
	baz=338							
H01W2	**Cape Leeuwin H**	**39.58**	**158**	T		T	02 47 23.0	
	baz=338							
H01W1	**Cape Leeuwin H**	**39.58**	**158**	T		T	02 47 24.1	
	baz=338							
WRKA	**Warakurna**	**39.88**	**134**	P		**P**	**02 05 55.9**	**-0.2**
	baz=40,SNR=5.9							
HHC	**Hu-ho-hao-te**	**40.94**	**16**	*e*P		**P**	**02 06 04.5**	**-0.1**
HHC				pP		**pP**	**02 06 19.0**	**-0.4**
HHC				sP		**sP**	**02 06 26.3**	**+0.2**
HHC				PP		**PnPn**	**02 07 43.3**	**-1.4**
HHC				S		**S**	**02 12 12.5**	**0.0**
HHC				sS		**sS**	**02 12 36.8**	**-0.6**
HHC				pmax		pmax		
	comp=Z,33nm,0.9s							
HHC				pmax		pmax		
	comp=Z,380nm,8.9s							
HHC				LR		LR		
	comp=Z,380nm,16.0s							
HHC				LR		LR		
	comp=Z,660nm,14.8s							
HHC				LR		LR		
	comp=Z,310nm,16.7s							
BJI	**Beijing**	**41.70**	**22**	P		**P**	**02 06 10.5**	**-0.2**
BJI				pmax		pmax		
	comp=Z,13nm,0.6s							
BJI				pmax		pmax		
	comp=Z,170nm,4.1s							
WRA	**Warramunga Arr**	**41.95**	**123**	P		**P**	**02 06 12.1**	**-1.0**
WRA				PcP		**PcP**	**02 08 08.5**	**+0.7**
WRA	**Warramunga Arr**	**41.95**	**123**	P		**P**	**02 06 12.1**	**-1.0**
	comp=Z,5.5nm,0.4s,baz=303,slow=9.0,SNR=20							
WRA				PcP		**PcP**	**02 08 08.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=315,slow=2.5,SNR=2.8							
WRAB	**Tennant Creek**	**41.95**	**123**	*e*P		**P**	**02 06 11.8**	**-1.4**
	comp=Z,7.0nm,0.4s							
KSH	**Kashi**	**42.48**	**335**	P		**P**	**02 06 16.5**	**-0.8**
KSH				*e*PP		**PP**	**02 07 58.8**	**+2.1**
KSH				*e*PcS		**PcS**	**02 12 00.0**	**-1.4**
KSH				*e*S		**S**	**02 12 33.0**	**-2.4**
KSH				*e*sS		**sS**	**02 12 58.8**	**-1.6**
KSH				*e*SS		SS	02 15 38.0	-8.7
KSH				pmax		pmax		
	comp=Z,5.0nm,0.5s							
KSH				pmax		pmax		
	comp=Z,120nm,4.0s							
KSH				LR		LR		
	comp=Z,96nm,4.4s							
KSH				LR		LR		
	comp=Z,84nm,3.2s							
KSH				LR		LR		
	comp=Z,120nm,4.3s							
WMQ	**Urumqi**	**42.84**	**349**	P		**P**	**02 06 20.3**	**+0.2**
WMQ				pP		**pP**	**02 06 35.5**	**+0.6**
WMQ				sP		**sP**	**02 06 42.8**	**+1.3**
WMQ				PP		**PP**	**02 08 03.0**	**+2.5**
WMQ				PcP		**PcP**	**02 08 11.0**	**+0.7**
WMQ				ScP		**ScP**	**02 11 55.5**	**-1.1**
WMQ				S		**S**	**02 12 39.5**	**-0.9**
WMQ				sS		**sS**	**02 13 06.0**	**+0.5**
WMQ				ScS		**ScS**	**02 16 13.0**	**-2.9**
WMQ				pmax		pmax		
	comp=Z,4.0nm,0.6s							
WMQ				pmax		pmax		
	comp=Z,11nm,6.5s							
WMQ				LR		LR		
	comp=Z,110nm,20.5s							
WMQ				LR		LR		
	comp=Z,140nm,21.3s							
WMQ				LR		LR		
	comp=Z,190nm,22.3s							
ASAR	**Alice Springs**	**43.37**	**128**	P		**P**	**02 06 23.9**	**-0.7**
ASAR	**Alice Springs**	**43.37**	**128**	P		**P**	**02 06 23.9**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=296,slow=7.6,SNR=16							
AS31	**Alice Springs**	**43.37**	**128**	*e*P		**P**	**02 06 22.9**	**-1.8**
KSAR	**Wonju Array Be**	**45.15**	**34**	P		**P**	**02 06 37.8**	**-0.8**
KSRS	**Korea Array**	**45.18**	**34**	P		**P**	**02 06 37.8**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=222,slow=9.0,SNR=11							
UCH	**Uchtor**	**45.35**	**336**	P		**P**	**02 06 41.8**	**+1.1**
	SNR=13							
TKM2	**Tokmak 2**	**45.50**	**337**	P		**P**	**02 06 42.8**	**+1.2**
	SNR=7.6							
TKM2	**Tokmak 2**	**45.50**	**337**	*e*P		**P**	**02 06 42.6**	**+1.0**
	comp=Z,4.5nm,0.7s							
KBK	**Karagaybulak**	**45.53**	**337**	P		**P**	**02 06 44.0**	**+2.2**
	SNR=12							
AML	**Almayashu**	**45.61**	**335**	P		**P**	**02 06 44.2**	**+1.6**
	SNR=7.1							
AAK	**Ala-Archa**	**45.70**	**336**	*e*P		**P**	**02 06 43.8**	**+0.7**
	comp=Z,1.8nm,0.6s							
EKS2	**Erkin-Say**	**46.01**	**336**	P		**P**	**02 06 47.2**	**+1.7**
	comp=Z,5.0nm,0.8s							
EKS2	**Erkin-Say**	**46.01**	**336**	*e*P		**P**	**02 06 47.0**	**+1.5**
	comp=Z,5.0nm,0.8s							
USP	**Ospenovka**	**46.23**	**337**	P		**P**	**02 06 48.4**	**+1.3**
	SNR=13							
SONM	**Songino Array**	**46.56**	**8**	P		**P**	**02 06 49.9**	**+0.2**
SONM				PcP		**PcP**	**02 08 23.6**	**+0.5**
SONM	**Songino Array**	**46.56**	**8**	P		**P**	**02 06 49.9**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=190,slow=9.3,SNR=41							
SONM				PcP		**PcP**	**02 08 23.6**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=191,slow=3.9,SNR=6.6							
ULN	**Ulaanbaatar**	**46.68**	**9**	*e*P		**P**	**02 06 50.5**	**-0.2**
	comp=Z,4.2nm,0.7s							
QIS	**Mount Isa**	**46.69**	**121**	P		**P**	**02 06 50.8**	**-0.2**
	baz=47,SNR=5.8							
MKAR	**Makanchi Array**	**46.84**	**346**	P		**P**	**02 06 52.6**	**+0.8**
MKAR	**Makanchi Array**	**46.84**	**346**	P		**P**	**02 06 52.6**	**+0.8**
	comp=Z,17nm,0.5s,baz=157,slow=9.6,SNR=386							
KKAR	**Karatay Array**	**47.78**	**333**	*e*P		**P**	**02 06 59.9**	**+0.8**
	comp=Z,1.2nm,0.5s							
PMG	**Port Moresby**	**50.56**	**104**	*e*P		**P**	**02 07 19.0**	**-1.8**
	comp=Z,21nm,1.0s							
MJAR	**Matsushiro Arr**	**51.02**	**42**	P		**P**	**02 07 23.9**	**-0.1**
MJAR	**Matsushiro Arr**	**51.02**	**42**	P		**P**	**02 07 23.9**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=223,slow=7.4,SNR=4.8							
KURK	**Kurchatov**	**51.41**	**345**	*e*P		**P**	**02 07 27.2**	**+0.6**
	comp=Z,6.9nm,0.8s							
USRK	**Ussuriysk Arra**	**52.10**	**31**	P		**P**	**02 07 32.3**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=237,slow=10.0,SNR=4.1							
ZAA0	**Zalesovo Array**	**53.12**	**351**	*e*P		**P**	**02 07 39.4**	**+0.2**
ZAA0				*e*pP		**pP**	**02 07 53.1**	**-1.3**
ZALV	**Zalesovo Beam**	**53.12**	**351**	P		**P**	**02 07 39.5**	**+0.4**
ZALV	**Zalesovo Beam**	**53.12**	**351**	P		**P**	**02 07 39.5**	**+0.4**
	comp=Z,16nm,0.4s,baz=173,slow=7.1,SNR=102							
STKA	**Stephens Creek**	**53.39**	**133**	P		**P**	**02 07 42.1**	**+0.5**
STKA	**Stephens Creek**	**53.39**	**133**	P		**P**	**02 07 42.1**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=308,slow=6.5,SNR=7.1							
BRVK	**Borovoye**	**55.97**	**340**	*e*P		**P**	**02 07 59.8**	**-0.1**
	comp=Z,5.6nm,0.8s							
BRVK				*e*pP		**pP**	**02 08 13.4**	**-1.9**
CMSA	**Cobar Meteorol**	**56.30**	**130**	P		**P**	**02 08 03.7**	**+1.0**
	baz=56,SNR=6.8							
ABKAR	**Akbulak array**	**57.26**	**332**	*e*P		**P**	**02 08 09.3**	**+0.1**
	comp=Z,6.3nm,0.8s							
ASAJ	**Asahikawa**	**57.99**	**37**	P		**P**	**02 08 13.9**	**-0.5**
ASAJ	**Asahikawa**	**57.99**	**37**	P		**P**	**02 08 13.9**	**-0.5**
	comp=Z,13nm,1.0s,baz=288,slow=20,SNR=3.5							
KBZ	**Khabaz**	**63.96**	**319**	P		**P**	**02 08 55.6**	**+0.7**
KBZ	**Khabaz**	**63.96**	**319**	P		**P**	**02 08 55.6**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=110,slow=6.9,SNR=7.6							
BR131	**Keskin Array S**	**69.08**	**312**	*e*P		**P**	**02 09 27.8**	**-0.1**
	comp=Z,1.2nm,0.6s							
BRTR	**Keskin Array B**	**69.08**	**312**	P		**P**	**02 09 27.8**	**-0.1**
BRTR	**Keskin Array B**	**69.08**	**312**	P		**P**	**02 09 27.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=133,slow=7.0,SNR=9.5							
TIXI	**Tiksi**	**72.60**	**10**	*e*P		**P**	**02 09 47.4**	**-1.0**
	comp=Z,4.6nm,0.6s							
SEY	**Seymchan**	**73.12**	**23**	P		**P**	**02 09 51.6**	**0.0**
SEY	**Seymchan**	**73.12**	**23**	P		**P**	**02 09 51.6**	**0.0**
	comp=Z,3.3nm,0.7s,baz=237,slow=2.9,SNR=6.3							
KIS	**Kishinev**	**74.39**	**318**	LRM		MLR	02 10 16.0	
	comp=Z,600nm,18.0s							
AKASG	**Malin Array Be**	**75.11**	**322**	P		**P**	**02 10 03.3**	**-0.1**
AKASG	**Malin Array Be**	**75.11**	**322**	P		**P**	**02 10 03.3**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=89,slow=5.2,SNR=15							
VRI	**Vrincioaia**	**75.53**	**317**	⇓*i*P		**P**	**02 10 07.3**	**+1.3**
TESR	**Tescani**	**75.73**	**318**	⇑*i*P		**P**	**02 10 08.0**	**+0.9**
BURAR	**Bucovina Array**	**76.92**	**319**	⇑*i*P		**P**	**02 10 15.5**	**+1.5**
BUR08	**Bucovina Ar. S**	**76.94**	**319**	*e*P		**P**	**02 10 14.9**	**+0.8**
JOF	**Joensuu**	**77.86**	**335**	*e*p		**P**	**02 10 19.5**	**+0.7**
	comp=Z,7.1nm,4.0s							
FINES	**FINESS Array B**	**79.74**	**332**	P		**P**	**02 10 29.7**	**+0.6**
FINES	**FINESS Array B**	**79.74**	**332**	P		**P**	**02 10 29.7**	**+0.6**
	comp=Z,2.5nm,0.4s,baz=103,slow=5.0,SNR=38							
KAF	**Kangasniemi**	**79.81**	**333**	*e*p		**P**	**02 10 29.8**	**+0.3**
	comp=Z,2.2nm,0.4s							
BILL	**Bilibino**	**80.53**	**21**	*e*P		**P**	**02 10 33.0**	**-0.3**
ARCES	**ARCESS Array B**	**82.19**	**340**	P		**P**	**02 10 42.8**	**+0.7**
ARCES	**ARCESS Array B**	**82.19**	**340**	P		**P**	**02 10 42.8**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=93,slow=5.0,SNR=15							
GERES	**GERESS Array B**	**84.71**	**319**	P		**P**	**02 10 56.3**	**+0.8**
GERES	**GERESS Array B**	**84.71**	**319**	P		**P**	**02 10 56.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=101,slow=6.9,SNR=5.0							
NB2	**NORSAR Subarra**	**86.76**	**331**	P		**P**	**02 11 05.6**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=91,slow=4.6							
NOA	**NORSAR Array B**	**86.76**	**331**	P		**P**	**02 11 05.9**	**+0.5**
NOA	**NORSAR Array B**	**86.76**	**331**	P		**P**	**02 11 05.9**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=95,slow=5.0,SNR=4.8							
TOA0	**Torodi Ar. Sit**	**95.39**	**283**	*e*P		**P**	**02 11 46.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**95.39**	**283**	P		**P**	**02 11 45.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**95.39**	**283**	P		**P**	**02 11 45.9**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=108,slow=4.7,SNR=3.7							
NVAR	**Mina Array Bea**	**128.11**	**36**	PKP		**PKPdf**	**02 17 29.1**	**+1.0**
NVAR	**Mina Array Bea**	**128.11**	**36**	PKP		**PKPdf**	**02 17 29.1**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=315,slow=1.8,SNR=3.4							
PDAR	**Pinedale Array**	**129.39**	**26**	PKP		**PKPdf**	**02 17 31.1**	**+0.7**
PDAR	**Pinedale Array**	**129.39**	**26**	PKP		**PKPdf**	**02 17 31.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=205,slow=1.7,SNR=2.9							
TXAR	**Lajitas Array**	**143.00**	**32**	PKP		**PKPdf**	**02 17 55.1**	**-0.7**
TXAR	**Lajitas Array**	**143.00**	**32**	PKP		**PKPdf**	**02 17 55.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=270,slow=1.3,SNR=3.6							
CPUP	**Villa Florida**	**145.68**	**222**	PKPbc		**PKPab**	**02 18 02.0**	**+0.9**
CPUP	**Villa Florida**	**145.68**	**222**	PKPbc		**PKPab**	**02 18 02.0**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=120,slow=6.4,SNR=5.4							

*ISCJB **27** 02:47:44.4±1.8,20°.3S±0°.3×66°.3E±0°.3,h10km,mb3.6/8, MS3.6/4,Error ellipse: s-maj=56.5km s-min=23.6km az=42.1*

*IDC **27** 02:47:44.8±1.9,20°.28S×66°.27E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.6/29,mbtmp3.6/8,MS3.6/4,Ms1 3.6/4, ms1mx3.1/36,Error ellipse: s-maj=62.4km s-min=24.6km az=42.0*

ISC 27 02:47:46.3±2.2,20°.3S±0°.4×66°.3E±0°.3,h10km,n17, σ0§92/8,mb3.7/8,MS3.6/4,Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.96**	**26**	T		T	T	03 05 09.6	
	baz=205,slow=75,SNR=13								
H08S2	**Diego Garcia H**	**13.97**	**27**	T		T	T	03 05 11.3	
	baz=205,slow=75,SNR=17								
H08S3	**Diego Garcia H**	**13.98**	**26**	T		T	T	03 05 12.2	
	baz=205,slow=75,SNR=25								
H08N3	**Diego Garcia H**	**14.63**	**19**	T		T	T	03 06 02.0	
	baz=197,slow=76,SNR=20								
H08N1	**Diego Garcia H**	**14.64**	**19**	T		T	T	03 06 07.8	
	baz=197,slow=76,SNR=13								
H08N2	**Diego Garcia H**	**14.65**	**19**	T		T	T	03 06 01.5	
	baz=197,slow=76,SNR=17								
BOSA	**Boshof**	**38.07**	**249**	LR		LR	LR	03 07 22.5	
	comp=Z,117nm,18.3s,baz=192,slow=31								
CMAR	**Chiang Mai Arr**	**50.12**	**42**	P			**P**	**02 56 42.5**	**+0.5**
	0.9nm,0.3s,baz=249,slow=6.7,SNR=3.1								
CMAR				LR			LR	03 14 23.8	
	comp=Z,61nm,21.7s,baz=24,slow=32								
ASAR	**Alice Springs**	**62.29**	**107**	P			**P**	**02 58 08.9**	**-0.3**
	0.3nm,0.7s,baz=263,slow=5.5,SNR=3.6								
WRA	**Warramunga Arr**	**63.48**	**103**	P			**P**	**02 58 17.8**	**+0.7**
	0.9nm,1.1s,baz=270,slow=6.2,SNR=2.7								
BRTR	**Keskin Array B**	**67.04**	**333**	P			**P**	**02 58 40.9**	**+1.0**
	0.5nm,0.9s,baz=139,slow=6.8,SNR=2.5								
MKAR	**Makanchi Array**	**68.35**	**12**	P			**P**	**02 58 48.3**	**+0.6**
	0.8nm,0.9s,baz=187,slow=5.8,SNR=3.2								
DBIC	**Dimbokro**	**74.81**	**283**	LR		LR		03 30 25.7	
	comp=Z,32nm,20.8s,baz=126,slow=34								
ZALV	**Zalesovo Beam**	**75.67**	**11**	P			**P**	**02 59 30.5**	**-1.0**
	0.3nm,0.4s,baz=205,slow=6.4,SNR=2.8								
SONM	**Songino Array**	**76.80**	**26**	P			**P**	**02 59 37.3**	**-1.0**
	0.4nm,0.7s,baz=197,slow=8.8,SNR=2.7								
AKASG	**Malin Array Be**	**77.87**	**337**	P			**P**	**02 59 43.4**	**-0.5**
	0.1nm,0.3s,baz=142,slow=5.0,SNR=2.8								
KSRS	**Korea Array**	**81.64**	**45**	LR		LR		03 36 26.2	
	comp=Z,29nm,19.3s,baz=150,slow=36								

*ISCJB **27** 03:07:57.2±0.4,18°.57N±0°.05×72°.89W±0°.04,h6km, mb3.8/16,MS3.2/4,Error ellipse: s-maj=7.0km s-min=5.4km az=0.5*

*IDC **27** 03:07:57.9±0.7,18°.64N×72°.69W,h0km,mb3.8/13, mb1 4.1/15,mb1mx4.0/27,mbtmp3.9/15,ML3.2/2,MS3.2/6, Ms1 3.2/6,ms1mx2.9/41,Error ellipse: s-maj=25.0km s-min=16.6km az=56.0*

*NEIC **27** 03:07:59.6±0.4,18°.69N×72°.83W,h10km,mb4.1/5,Error ellipse: s-maj=9.4km s-min=7.2km az=14.0*

ISC 27 03:07:59.0±0.5,18°.68N±0°.07×72°.84W±0°.04,h6km,n53, σ1§48/54,mb3.8/16,MS3.2/4,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.50**	**78**	*e*Pn		**Pn**	**03 08 27.5**		**+0.3**
SDDR				*e*S		**Sg**	**03 08 51.1**		**+4.0**
GTBY	**Guantanamo Bay**	**2.48**	**300**	*e*Pn		Pn	03 08 36.7		-3.2
GRTK	**Grand Turk**	**3.24**	**29**	*e*Pn		**Pn**	**03 08 49.8**		**-0.5**
GRTK				*e*S		**Sb**	**03 09 33.3**		**-3.3**
MTDJ	**Mount Denham**	**4.48**	**265**	*e*Pn		**Pn**	**03 09 06.3**		**-1.3**
CRPR	**Cabo Rojo, PR**	**5.48**	**96**	*e*Pn		**Pn**	**03 09 23.3**		**+2.1**
LSP	**Las Mesas**	**5.48**	**94**	*e*Pn		**Pn**	**03 09 20.8**		**-0.5**
LSP				*e*Pg		Pb	03 09 39.6		+4.4
CELP	**Cerrillos**	**5.97**	**95**	*e*Pn		**Pn**	**03 09 28.4**		**+0.4**
CELP				*e*Pg		**Pg**	**03 09 51.3**		**-2.2**
CELP				*e*S		**Sg**	**03 11 12.0**		**+1.1**
CBYP	**Canovanas**	**6.64**	**92**	Pn		**Pn**	**03 09 35.3**		**-1.8**
CBYP				*e*S		**Sn**	**03 10 56.1**		**+2.9**
SDV	**Santo Domingo**	**9.97**	**167**	*e*Pn		**Pn**	**03 10 21.9**		**-1.2**
	26nm,0.6s								
BCIP	**Isla Barro Col**	**11.64**	**217**	*e*Pn		**Pn**	**03 10 45.8**		**0.0**
ROSC	**El Rosal**	**13.82**	**186**	*e*Pn		**Pn**	**03 11 17.5**		**+1.6**
ROSC	**El Rosal**	**13.82**	**186**	Pn		**Pn**	**03 11 15.5**		**-0.4**
	0.6nm,0.3s,baz=267,slow=18,SNR=3.2								
JTS	**JuntasAbangare**	**14.39**	**236**	LR		LR	03 17 06.0		
	comp=Z,67nm,20.1s,baz=62,slow=38								
TEIG	**Tepich**	**14.64**	**279**	Pn		**Pn**	**03 11 27.3**		**+0.5**
TEIG	**Tepich**	**14.64**	**279**	Pn		**Pn**	**03 11 27.3**		**+0.5**
	0.7nm,0.3s,baz=90,slow=20,SNR=4.1								
OTAV	**Otavalo**	**19.14**	**197**	P		**Pn**	**03 12 26.0**		**+1.6**
	6.7nm,0.8s								
TKL	**Tuckaleechee C**	**19.48**	**332**	LR		LR	03 19 57.2		
	comp=Z,56nm,20.8s,baz=157,slow=37								
PTGA	**Pitinga**	**23.07**	**145**	*e*P		**P**	**03 13 05.3**		**-0.1**
	9.0nm,1.2s								
PTGA	**Pitinga**	**23.07**	**145**	P		**P**	**03 13 04.9**		**-0.6**
	6.7nm,1.0s,baz=341,slow=14,SNR=4.8								
ATAH	**Atahualpa**	**26.23**	**193**	LR		LR	03 25 20.0		
	comp=Z,52nm,20.8s,baz=23,slow=40								
SADO	**Sadowa**	**26.54**	**350**	LR		LR	03 23 09.5		
	comp=Z,88nm,18.2s,baz=335,slow=34								
TXAR	**Lajitas Array**	**30.01**	**297**	P		**P**	**03 14 08.7**		**-0.1**
TXAR	**Lajitas Array**	**30.01**	**297**	P		**P**	**03 14 08.7**		**-0.1**
	0.8nm,0.9s,baz=99,slow=5.6,SNR=2.3								
MNTX	**Cornudas Mount**	**32.05**	**300**	*e*P		**P**	**03 14 28.0**		**+1.3**
	3.5nm,1.2s								
BNM	**Barren Site**	**33.77**	**304**	*e*P		**P**	**03 14 43.2**		**+1.3**
	3.5nm,1.0s								
LAZ	**Ladron**	**34.25**	**304**	*e*P		**P**	**03 14 47.0**		**+0.9**
	0.7nm,0.6s								
SCHQ	**Schefferville**	**36.38**	**6**	P		**P**	**03 15 04.9**		**+1.0**
SCHQ	**Schefferville**	**36.38**	**6**	P		**P**	**03 15 04.9**		**+1.0**

TYV				*e*Sg	Sg	04 38 43.5	+3.2
TYV				A	A	04 38 57.0	
	21nm,0.6s						
YSS	**Yuzh-Sakhalins**	**2.06**	**172**	*e*P	Pn	04 38 15.0	+0.3
YSS				*e*Pg	Pg	04 38 21.0	+1.4
YSS				AMB	AMB	04 38 22.0	
	50nm,0.6s						
YSS				*e*S	Sn	04 38 40.0	-0.5
YSS				*e*Sg	Sg	04 38 49.3	+3.0
YSS				A	A	04 38 51.0	
	80nm,0.6s						
GRNR	**Gornyy**	**4.23**	**297**	*e*Sg	Sg	04 39 54.5	-1.3
GRNR				A	A	04 39 56.0	
	23nm,0.5s						
NKL	**Nikolayevsk**	**4.29**	**346**	*e*Pg	Pg	04 39 04.5	+2.4
NKL				*e*Sg	Sg	04 40 03.5	+5.9
NKL				A	A	04 41 27.5	
	17nm,1.0s						
NKL				A	A	04 41 27.5	
	4.0nm,1.0s						
NKL				A	A	04 41 27.5	
	6.0nm,1.0s						

IDC ***27*** *04:40:12.8±2.1,7°.68S×129°.53E,h0km,mb3.5/1, mb1 3.5/3,mb1mx3.4/20,mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=138.6km s-min=31.8km az=67.0*

ISC 27 04:40:15.4±1.7,7.7S±0.1×130.4E±0.2,h27km,n6,σ2.285/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.16**	**172**	P	Pb	04 41 40.6	-4.3
	baz=3.9,SNR=4.6						
MTN				S	**Sb**	**04 42 41.8**	**-4.6**
	baz=3.9,SNR=16						
KDU	**Kakadu**	**5.35**	**158**	P	Pb	04 41 45.0	-3.2
	baz=4.6,SNR=16						
KDU				S	**Sb**	**04 42 50.6**	**-1.4**
	baz=4.6,SNR=7.0						
KNRA	**Kununurra**	**8.08**	**191**	P	**Pn**	**04 42 13.6**	**+2.6**
	baz=6.2,SNR=5.9						
KNRA				S	**Sn**	**04 43 41.8**	**+0.1**
	baz=6.2,SNR=10						
WRA	**Warramunga Arr**	**12.75**	**163**	Pn	Pn	04 43 20.5	+5.5
	0.2nm,0.3s,baz=342,slow=13,SNR=2.8						
WRA				Sn	**Sn**	**04 45 39.0**	**+2.9**
	0.4nm,0.3s,baz=340,slow=22,SNR=3.9						
ASAR	**Alice Springs**	**16.22**	**168**	Pn	**P**	**04 44 04.3**	**-0.1**
	0.1nm,0.3s,baz=340,slow=9.0,SNR=4.4						
ASAR				Sn	**Sn**	**04 47 01.8**	**+0.9**
	0.1nm,0.3s,baz=325,slow=21,SNR=2.8						
MKAR	**Makanchi Array**	**69.03**	**327**	P	**P**	**04 51 17.4**	**-1.3**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.4						

ISCJB ***27*** *04:42:20.7±0.7,45°.73N±0°.02×26°.72E±0°.04,h128km±5km, Error ellipse: s-maj=5.0km s-min=4.0km az=170.4*
CSEM ***27*** *04:42:20.1,45°.77N×26°.69E,h139km,MD3.6/5,After BUC*
BUC ***27*** *04:42:20.4±0.8,45°.76N×26°.70E,h136km±7km,MD3.9/3, Error ellipse: s-maj=5.0km s-min=4.5km az=47.0*
SIGU ***27*** *04:42:21.0,45°.74N×26°.76E,h126km,mb2.7*

ISC 27 04:42:20.6±1.4,45.74N±0°.03×26.71E±0°.03,h133km±7km, n82,σ0.972/119,30C-33D,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**341**	⇑*i*P	**Pn**	**04 42 38.7**	**0.0**
PLOR	**Plostina**	**0.12**	**341**	⇑*i*P	**Pn**	**04 42 38.7**	**0.0**
PLOR				*i* S	**Sn**	**04 42 51.8**	**-0.7**
PLOR	**Plostina**	**0.12**	**341**	⇑*i*P	**Pn**	**04 42 38.7**	**0.0**
PLOR				*i* S	**Sn**	**04 42 51.8**	**-0.7**
VRI	**Vrincioaia**	**0.13**	**6**	⇑*i*P	**Pn**	**04 42 38.8**	**+0.1**
VRI	**Vrincioaia**	**0.13**	**6**	⇑*i*P	**Pn**	**04 42 38.8**	**+0.1**
VRI				*i* S	**Sn**	**04 42 51.7**	**-0.8**
VRI	**Vrincioaia**	**0.13**	**6**	⇑*i*P	**Pn**	**04 42 38.8**	**+0.1**
VRI				*i* S	**Sn**	**04 42 51.7**	**-0.8**
ODBI	**Odobesti**	**0.24**	**83**	S	**Sn**	**04 42 53.9**	**+1.1**
ODBI	**Odobesti**	**0.24**	**83**	*i* S	**Sn**	**04 42 53.9**	**+1.1**
ODBI	**Odobesti**	**0.24**	**83**	*i* S	**Sn**	**04 42 53.9**	**+1.1**
PETR	**Petresti**	**0.37**	**92**	⇑*i*P	**Pn**	**04 42 39.8**	**+0.5**
PETR	**Petresti**	**0.37**	**92**	⇑*i*P	**Pn**	**04 42 39.8**	**+0.5**
PETR				*i* S	**Sn**	**04 42 54.0**	**+0.5**
PETR	**Petresti**	**0.37**	**92**	⇑*i*P	**Pn**	**04 42 39.8**	**+0.5**
PETR				*i* S	**Sn**	**04 42 54.0**	**+0.5**
GRER		**0.40**	**152**	⇓*i*P	**Pn**	**04 42 40.7**	**+1.2**
GRER		**0.40**	**152**	⇓*i*P	**Pn**	**04 42 40.7**	**+1.2**
GRER		**0.40**	**152**	⇓*i*P	**Pn**	**04 42 40.7**	**+1.2**
MLR	**Muntele Rosu**	**0.59**	**246**	⇑*i*P	**Pn**	**04 42 40.9**	**+0.2**
MLR	**Muntele Rosu**	**0.59**	**246**	⇑*i*P	**Pn**	**04 42 40.9**	**+0.2**
MLR				*i* S	**Sn**	**04 42 54.7**	**-1.2**
MLR	**Muntele Rosu**	**0.59**	**246**	⇑*i*P	**Pn**	**04 42 40.9**	**+0.2**
MLR				*i* S	**Sn**	**04 42 54.7**	**-1.2**
ISR	**Istrita**	**0.63**	**191**	⇑*i*P	**Pn**	**04 42 41.7**	**+0.8**
ISR	**Istrita**	**0.63**	**191**	⇑*i*P	**Pn**	**04 42 41.7**	**+0.8**
ISR				*i* S	**Sn**	**04 42 56.0**	**-0.2**
ISR	**Istrita**	**0.63**	**191**	⇑*i*P	**Pn**	**04 42 41.7**	**+0.8**
ISR				*i* S	**Sn**	**04 42 56.0**	**-0.2**
TESR	**Tescani**	**0.78**	**357**	⇑*i*P	**Pn**	**04 42 41.6**	**-0.3**
TESR	**Tescani**	**0.78**	**357**	⇑*i*P	**Pn**	**04 42 41.6**	**-0.3**
TESR				*i* S	**Sn**	**04 42 56.2**	**-1.9**
TESR	**Tescani**	**0.78**	**357**	⇑*i*P	**Pn**	**04 42 41.6**	**-0.3**
TESR				*i* S	**Sn**	**04 42 56.2**	**-1.9**
PGOR	**Pogoanele**	**0.85**	**167**	⇑*i*P	**Pn**	**04 42 42.9**	**+0.5**
PGOR	**Pogoanele**	**0.85**	**167**	⇑*i*P	**Pn**	**04 42 42.9**	**+0.5**
PGOR				*i* S	**Sn**	**04 43 00.1**	**+1.1**
PGOR	**Pogoanele**	**0.85**	**167**	⇑*i*P	**Pn**	**04 42 42.9**	**+0.5**
PGOR				*i* S	**Sn**	**04 43 00.1**	**+1.1**
DOPR	**Dopca**	**0.95**	**285**	⇑*i*P	**Pn**	**04 42 43.4**	**+0.1**
DOPR	**Dopca**	**0.95**	**285**	⇑*i*P	**Pn**	**04 42 43.4**	**+0.1**
DOPR				*i* S	**Sn**	**04 43 00.3**	**-0.3**
DOPR	**Dopca**	**0.95**	**285**	⇑*i*P	**Pn**	**04 42 43.4**	**+0.1**
DOPR				*i* S	**Sn**	**04 43 00.3**	**-0.3**
SULR		**1.10**	**197**	⇓*i*P	**Pn**	**04 42 45.3**	**+0.6**
SULR		**1.10**	**197**	⇓*i*P	**Pn**	**04 42 45.3**	**+0.6**
SULR				*i* S	**Sn**	**04 43 03.7**	**+0.6**
SULR		**1.10**	**197**	⇓*i*P	**Pn**	**04 42 45.3**	**+0.6**
SULR				*i* S	**Sn**	**04 43 03.7**	**+0.6**
CFR	**Carcaliu**	**1.15**	**118**	⇓*i*P	**Pn**	**04 42 45.1**	**0.0**
CFR	**Carcaliu**	**1.15**	**118**	⇓*i*P	**Pn**	**04 42 45.1**	**0.0**
CFR				*i* S	**Sn**	**04 43 03.1**	**-0.7**
CFR	**Carcaliu**	**1.15**	**118**	⇓*i*P	**Pn**	**04 42 45.1**	**0.0**
CFR				*i* S	**Sn**	**04 43 03.1**	**-0.7**
VOIR		**1.20**	**256**	⇑*i*P	**Pn**	**04 42 45.8**	**0.0**
VOIR		**1.20**	**256**	⇑*i*P	**Pn**	**04 42 45.8**	**0.0**
VOIR				*i* S	**Sn**	**04 43 03.9**	**-1.1**
VOIR		**1.20**	**256**	⇑*i*P	**Pn**	**04 42 45.8**	**0.0**
VOIR				*i* S	**Sn**	**04 43 03.9**	**-1.1**
AMRR	**Amara**	**1.21**	**158**	⇓*i*P	**Pn**	**04 42 46.2**	**+0.4**
AMRR	**Amara**	**1.21**	**158**	⇓*i*P	**Pn**	**04 42 46.2**	**+0.4**
AMRR				*i* S	**Sn**	**04 43 05.0**	**+0.1**
AMRR	**Amara**	**1.21**	**158**	⇓*i*P	**Pn**	**04 42 46.2**	**+0.4**
AMRR				*i* S	**Sn**	**04 43 05.0**	**+0.1**
LEOM	**Leova**	**1.30**	**55**	⇑*i*P	**Pn**	**04 42 47.3**	**+0.6**
LEOM	**Leova**	**1.30**	**55**	⇑*i*P	**Pn**	**04 42 47.3**	**+0.6**
LEOM				*i* S	**Sn**	**04 43 06.3**	**-0.3**
LEOM	**Leova**	**1.30**	**55**	⇑*i*P	**Pn**	**04 42 47.3**	**+0.6**
LEOM				*i* S	**Sn**	**04 43 06.3**	**-0.3**
HARR	**Harsova**	**1.36**	**140**	⇓*i*P	**Pn**	**04 42 47.5**	**+0.2**
HARR	**Harsova**	**1.36**	**140**	⇓*i*P	**Pn**	**04 42 47.5**	**+0.2**
HARR	**Harsova**	**1.36**	**140**	⇓*i*P	**Pn**	**04 42 47.5**	**+0.2**
BTMR	**Bucharest-Geot**	**1.37**	**198**	S	**Sn**	**04 43 07.3**	**-0.5**
BTMR	**Bucharest-Geot**	**1.37**	**198**	*i* S	**Sn**	**04 43 07.3**	**-0.5**
CIOR	**Ciorogarla**	**1.41**	**205**	S	**Sn**	**04 43 08.2**	**-0.5**
CIOR	**Ciorogarla**	**1.41**	**205**	*i* S	**Sn**	**04 43 08.2**	**-0.5**
CIOR	**Ciorogarla**	**1.41**	**205**	*i* S	**Sn**	**04 43 08.2**	**-0.5**
BUC1	**Bucharest**	**1.47**	**199**	S	**Sn**	**04 43 10.4**	**+0.6**
BUC1	**Bucharest**	**1.47**	**199**	*i* S	**Sn**	**04 43 10.4**	**+0.6**
TLB	**Topalu**	**1.49**	**140**	⇓*i*P	**Pn**	**04 42 48.9**	**+0.2**
TLB	**Topalu**	**1.49**	**140**	⇓*i*P	**Pn**	**04 42 48.9**	**+0.2**
TLB				*i* S	**Sn**	**04 43 08.7**	**-1.4**
TLB	**Topalu**	**1.49**	**140**	⇓*i*P	**Pn**	**04 42 48.9**	**+0.2**
TLB				*i* S	**Sn**	**04 43 08.7**	**-1.4**
ARR	**Arges**	**1.50**	**257**	⇓*i*P	**Pn**	**04 42 49.4**	**+0.4**
ARR	**Arges**	**1.50**	**257**	⇓*i*P	**Pn**	**04 42 49.4**	**+0.4**
ARR				*i* S	**Sn**	**04 43 11.1**	**+0.5**
ARR	**Arges**	**1.50**	**257**	⇓*i*P	**Pn**	**04 42 49.4**	**+0.4**
IAS	**Iasi**	**1.57**	**22**	S	**Sn**	**04 43 10.7**	**-1.2**
IAS	**Iasi**	**1.57**	**22**	*i* S	**Sn**	**04 43 10.7**	**-1.2**
IAS	**Iasi**	**1.57**	**22**	*i* S	**Sn**	**04 43 10.7**	**-1.2**
TLCR		**1.58**	**110**	⇓*i*P	**Pn**	**04 42 49.9**	**+0.2**
TLCR		**1.58**	**110**	⇓*i*P	**Pn**	**04 42 49.9**	**+0.2**
TLCR				*i* S	**Sn**	**04 43 11.4**	**-0.6**
TLCR		**1.58**	**110**	⇓*i*P	**Pn**	**04 42 49.9**	**+0.2**
TLCR				*i* S	**Sn**	**04 43 11.4**	**-0.6**
CVD	**Cernavoda**	**1.70**	**146**	⇓*i*P	**Pn**	**04 42 51.2**	**0.0**
CVD	**Cernavoda**	**1.70**	**146**	⇓*i*P	**Pn**	**04 42 51.2**	**0.0**
CVD	**Cernavoda**	**1.70**	**146**	⇓*i*P	**Pn**	**04 42 51.2**	**0.0**
HUMR	**Humele**	**1.72**	**226**	S	**Sn**	**04 43 13.7**	**-1.2**
HUMR	**Humele**	**1.72**	**226**	*i* S	**Sn**	**04 43 13.7**	**-1.2**
HUMR	**Humele**	**1.72**	**226**	*i* S	**Sn**	**04 43 13.7**	**-1.2**
TIRR	**Tirgusor**	**1.76**	**136**	⇓*i*P	**Pn**	**04 42 51.9**	**+0.1**
TIRR	**Tirgusor**	**1.76**	**136**	⇓*i*P	**Pn**	**04 42 51.9**	**+0.1**
TIRR				*i* S	**Sn**	**04 43 14.9**	**-0.7**
TIRR	**Tirgusor**	**1.76**	**136**	⇓*i*P	**Pn**	**04 42 51.9**	**+0.1**
TIRR				*i* S	**Sn**	**04 43 14.9**	**-0.7**
MSAB	**Monastry St. A**	**1.83**	**154**	⇓*i*P	**Pn**	**04 42 52.9**	**+0.3**
MSAB	**Monastry St. A**	**1.83**	**154**	⇓*i*P	**Pn**	**04 42 52.9**	**+0.3**
MSAB				*i* S	**Sn**	**04 43 16.0**	**-1.1**
MSAB	**Monastry St. A**	**1.83**	**154**	⇓*i*P	**Pn**	**04 42 52.9**	**+0.3**
MSAB				*i* S	**Sn**	**04 43 16.0**	**-1.1**
KSV	**Kosov**	**2.81**	**337**	*e*P	**Pn**	**04 43 05.8**	**+0.9**
KSV				*es*P	sP	04 43 37.8	
KSV				*e*S	**Sn**	**04 43 40.2**	**+1.1**
KMPD	**K-Podol'skiy**	**2.83**	**357**	*e*P	Pn	04 43 07.8	+2.7
KMPD				*es*P	sP	04 43 36.7	
KMPD				*e*S	**Sn**	**04 43 40.6**	**+1.2**
NDNU	**Novodnistrovsk**	**2.90**	**9**	*e*P	**Pn**	**04 43 06.7**	**+0.8**
NDNU				*es*P	sP	04 43 38.1	
NDNU				Sm		04 43 39.3	
NDNU				*e*S	**Sn**	**04 43 40.9**	**0.0**

IDC 27 04:59:52.2±1.2,0°.89N×126°.72E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/34,mbtmp3.8/5,Error ellipse: s-maj=130.2km s-min=19.1km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.01**	**161**	P	P	05 04 47.4	-0.9
	4.9nm,0.5s,baz=340,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.39**	**164**	P	P	05 05 22.2	+0.7
	0.7nm,0.4s,baz=348,slow=14,SNR=11						
SONM	**Songino Array**	**49.98**	**342**	P	P	05 08 48.7	+0.5
	0.3nm,0.6s,baz=152,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**59.88**	**326**	P	P	05 10 00.0	+0.1
	0.6nm,0.3s,baz=118,slow=7.4,SNR=10.0						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	P	05 10 27.7	-0.6
	0.9nm,0.6s,baz=130,slow=6.0,SNR=13						

MEX 27 05:17:33.1±0.5,16°.11N×98°.23W,h8km±3km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.30**	**19**	*e*P	Pg	05 17 38.6	-0.4
PNIG				*i* S	Sg	05 17 43.0	0.0
TLIG	**Tlapa**	**1.48**	**347**	*e*P	Pn	05 17 56.3	-4.0
TLIG				*i* S	Sn	05 18 14.7	-5.2
VHO	**Vista Hermosa**	**1.72**	**56**	*e*P	Pn	05 18 00.2	-3.5
VHO				*e*S	Sn	05 18 21.3	-4.8
HUIG	**Huatulco**	**2.07**	**99**	*e*P	Pn	05 18 04.8	-3.4
HUIG				*i* S	Sn	05 18 30.0	-4.2
PLIG	**Platanillo**	**2.58**	**332**	*e*P	Pn	05 18 13.0	-2.3
PLIG				*e*S	Sn	05 18 42.4	-4.5
YAIG	**Yautepec**	**2.85**	**344**	*e*P	Pn	05 18 16.6	-2.6
YAIG				*i* S	Sn	05 18 50.6	-3.3
ARIG	**Puente Sto Nin**	**2.96**	**317**	*e*P	Pn	05 18 18.6	-1.9
ARIG				*e*S	Sn	05 18 52.2	-4.1
ZIIG	**Zihuatanejo**	**3.44**	**296**	*i* P	Pn	05 18 24.2	-2.8
ZIIG				*i* S	Sn	05 19 04.7	-3.3
PCIG		**4.84**	**94**	*e*P	Pn	05 18 43.8	-2.4
PCIG				*i* S	Sn	05 19 39.1	-3.5

ISCJB ***27*** *05:19:45.9±0.2,37°.08N±0°.02×71°.78E±0°.04,h106km, mb4.0/25,Error ellipse: s-maj=4.9km s-min=3.0km az=159.8*
IDC ***27*** *05:19:48.2±4.1,37°.18N×71°.55E,h102km±30km,mb3.6/16, mb1 3.9/21,mb1mx3.7/45,mbtmp4.1/21,MS2.9/1, Ms1 3.1/1,ms1mx2.5/32,Error ellipse: s-maj=36.2km s-min=14.3km az=161.0*
BJI ***27*** *05:19:50.8,37°.90N×71°.30E,h146km,mB4.4/3,mb4.2/11*
MOS ***27*** *05:19:50.8±1.2,37°.49N×71°.47E,h119km,mb4.0/19,Error ellipse: s-maj=10.4km s-min=5.2km az=84.3*
NNC ***27*** *05:19:53.5±3.8,37°.68N×71°.24E,h168km±38km,mb4.0, mpv4.9,Error ellipse: s-maj=31.2km s-min=20.5km az=15.0*

ISC 27 05:19:47.8±0.3,37°.13N±0°.03×71°.66E±0°.04,h106km,n112, σ1.871/103,mb4.1/25,8C-13D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.31**	**176**	⇓P	**Pn**	**05 20 39.9**	**+2.0**
CEP				S	**Sn**	**05 21 19.0**	**+2.5**
CHCP	**Chirah Chowk**	**3.70**	**159**	⇓P	Pn	05 20 46.1	+3.0
KSH	**Kashi**	**4.14**	**54**	P	**Pn**	**05 20 46.3**	**-2.8**
KSH				S	Sn	05 21 29.8	-6.8
KSH				smax	smax		
	comp=N,750nm,0.7s						
KSH				smax	smax		
	comp=E,980nm,0.5s						
THW	**Thamme Wali**	**4.33**	**179**	P	**Pn**	**05 20 52.4**	**+0.9**
AML	**Almayashu**	**5.24**	**17**	*i* PN	**Pn**	**05 21 04.8**	**+0.7**
AML	**Almayashu**	**5.24**	**17**	P	**Pn**	**05 21 04.8**	**+0.7**
	SNR=345						
SARP	**Sargodha**	**5.26**	**171**	P	**Pn**	**05 21 04.3**	**+0.2**
UCH	**Uchtor**	**5.55**	**22**	*i* PN	**Pn**	**05 21 09.4**	**+1.1**
UCH	**Uchtor**	**5.55**	**22**	P	**Pn**	**05 21 09.4**	**+1.1**
	SNR=85						
KZA	**Kyzart**	**5.67**	**28**	*i* PN	**Pn**	**05 21 11.0**	**+1.1**
KZA	**Kyzart**	**5.67**	**28**	P	**Pn**	**05 21 11.0**	**+1.1**
	SNR=60						
EKS2	**Erkin-Say**	**5.76**	**16**	*i* PN	**Pn**	**05 21 11.9**	**+1.0**
EKS2	**Erkin-Say**	**5.76**	**16**	P	**Pn**	**05 21 11.9**	**+1.0**
	SNR=44						
DLH	**Dalhousie**	**5.79**	**141**	*e*P	**Pn**	**05 21 13.0**	**+1.6**
DLH				*e*S	**Sn**	**05 22 17.0**	**+0.4**
AAK	**Ala-Archa**	**5.91**	**21**	⇓P	**Pn**	**05 21 14.4**	**+1.4**
	48nm,0.3s						
AAK				⇓S	**Sn**	**05 22 18.3**	**-1.2**
	205nm,0.8s						
AAK	**Ala-Archa**	**5.91**	**21**	PN	**Pn**	**05 21 14.5**	**+1.4**
AAK				S	**Sn**	**05 22 18.9**	**-0.6**
AAK				pmax	pmax		
	comp=Z,47nm,0.3s						
AAK				smax	smax		
	comp=N,11nm,0.3s						
AAK	**Ala-Archa**	**5.91**	**21**	P	**Pn**	**05 21 14.5**	**+1.4**
	SNR=168						
AAK	**Ala-Archa**	**5.91**	**21**	P	**Pn**	**05 21 14.5**	**+1.4**
	comp=N,47nm,0.3s,baz=165,slow=5.7,SNR=578						
AAK				S	**Sn**	**05 22 18.9**	**-0.6**
	comp=N,11nm,0.3s,baz=322,slow=19,SNR=12						
KK31	**Karatay Array**	**6.03**	**352**	⇓P	**Pn**	**05 21 14.0**	**-0.6**
	comp=N,111nm,0.5s,baz=181,slow=13,SNR=1653						
KK31				⇓S	**Sn**	**05 22 16.8**	**-5.4**
	comp=N,25nm,0.3s,baz=177,slow=22,SNR=5.3						
KK31	**Karatay Array**	**6.03**	**352**	*e*PN	**Pn**	**05 21 13.9**	**-0.6**
KK31				S	**Sn**	**05 22 17.4**	**-4.8**
KK31				pmax	pmax		
	comp=Z,131nm,0.4s						
KK31				smax	smax		
	comp=Z,31nm,0.2s						
KBK	**Karagaybulak**	**6.07**	**24**	P	**Pn**	**05 21 16.9**	**+1.7**
	SNR=38						
FRU	**Bishkek**	**6.13**	**21**	*i* PN	**Pn**	**05 21 18.0**	**+2.1**
FRU				*i* S	**Sn**	**05 22 24.0**	**-0.6**
FRU				pmax	pmax		
	comp=Z,140nm,2.0s						
FRU				smax	smax		
	comp=E,680nm,2.0s						
ULHL	**Ulahol**	**6.21**	**33**	*i* PN	**Pn**	**05 21 18.9**	**+1.8**
ULHL	**Ulahol**	**6.21**	**33**	P	**Pn**	**05 21 18.9**	**+1.8**
	SNR=30						
CHMS	**Chumysh**	**6.32**	**21**	*i* PN	**Pn**	**05 21 19.7**	**+1.2**
CHMS	**Chumysh**	**6.32**	**21**	P	**Pn**	**05 21 19.7**	**+1.2**
	SNR=107						
USP	**Ospenovka**	**6.50**	**19**	*i* PN	**Pn**	**05 21 21.4**	**+0.5**
USP	**Ospenovka**	**6.50**	**19**	P	**Pn**	**05 21 21.5**	**+0.5**
	SNR=100						
TKM2	**Tokmak 2**	**6.52**	**26**	⇓P	**Pn**	**05 21 22.3**	**+0.9**
	comp=E,66nm,0.8s						
TKM2				⇓S	**Sn**	**05 22 33.2**	**-1.2**
	comp=E,55nm,0.8s						
TKM2	**Tokmak 2**	**6.52**	**26**	*i* PN	**Pn**	**05 21 22.6**	**+1.3**
TKM2	**Tokmak 2**	**6.52**	**26**	P	**Pn**	**05 21 22.7**	**+1.3**
	SNR=89						
BHK	**Bhakra**	**6.92**	**144**	*e*P	**Pn**	**05 21 29.0**	**+2.3**
BHK				*e*S	**Sn**	**05 22 43.2**	**-0.8**
SMLA	**Simla**	**7.53**	**141**	*e*P	**Pn**	**05 21 34.9**	**+0.1**
SMLA				*ex*	x	05 22 54.0	
JOSI	**Joshimath**	**9.28**	**133**	*ex*	x	05 22 21.2	
JOSI				*ex*	**Sn**	**05 23 44.8**	**+3.3**
NDI	**New Delhi**	**9.63**	**149**	*e*P	Pn	05 22 00.0	-3.4
NDI				*e*S	Sn	05 23 41.0	-8.7
KHET	**Khetri**	**9.68**	**158**	*e*P	Pn	05 22 01.4	-2.7
KHET				*e*S	Sn	05 23 42.4	-8.7
KHET				AML	AML	05 23 47.0	
	comp=E,297nm,0.5s						
KHET				AML	AML	05 23 48.7	
	comp=N,274nm,0.3s						
KUDL	**Kundal**	**9.84**	**154**	*e*P	**Pn**	**05 22 03.8**	**-2.4**
KUDL				AMB	AMB	05 22 06.8	
	comp=Z,64nm,1.4s						
KUDL				*e*S	Sn	05 23 46.4	-8.4
KUDL				AML	AML	05 23 56.0	
	comp=N,41nm,0.4s						
KUDL				AML	AML	05 23 56.3	
	comp=E,43nm,0.7s						
SONA	**Sohna**	**9.96**	**151**	*e*P	**Pn**	**05 22 05.8**	**-2.0**
SONA				*e*S	Sn	05 23 50.6	-7.1
SONA				AML	AML	05 23 54.9	
	comp=E,74nm,0.4s						
SONA				AML	AML	05 23 59.0	
	comp=N,51nm,0.2s						
AGRA	**Agra**	**11.21**	**150**	*e*P	**Pn**	**05 22 23.1**	**-1.7**
AGRA				AMB	AMB	05 22 24.2	
	comp=Z,60nm,0.1s						
MK09	**Makanchi Array**	**12.45**	**36**	⇓P	**Pn**	**05 22 40.6**	**-0.5**
	comp=Z,6.6nm,0.7s						
MKAR	**Makanchi Array**	**12.47**	**36**	P	**Pn**	**05 22 41.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**12.47**	**36**	P	**Pn**	**05 22 41.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=231,slow=14,SNR=63						
PYUN	**Piuthan**	**13.11**	**130**	*e*P	Pn	05 22 47.2	-3.0
	comp=Z,208nm,0.4s						
DANN	**Dangsing**	**13.42**	**127**	*e*P	Pn	05 22 50.9	-3.3
	comp=Z,72nm,0.3s						
KOLN	**Koldanda**	**13.72**	**129**	*e*P	Pn	05 22 55.2	-2.9
	comp=Z,66nm,0.4s						
GKN	**Gorkha**	**14.22**	**126**	*e*P	Pn	05 23 01.4	-3.0
	comp=Z,64nm,0.3s						
KURBB	**Kurchatov Arra**	**14.36**	**18**	⇓P	**Pn**	**05 23 02.9**	**-3.0**
	comp=Z,9.9nm,0.7s						
KURBB	**Kurchatov Arra**	**14.36**	**18**	P	Pn	05 23 02.3	-3.6
	comp=Z,0.6nm,0.3s,baz=209,slow=11,SNR=12						
KURK	**Kurchatov**	**14.47**	**18**	⇓P	**Pn**	**05 23 02.9**	**-4.4**
	comp=Z,3.2nm,0.6s						
KURK	**Kurchatov**	**14.47**	**18**	P	Pn	05 23 02.9	-4.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKN	**Kakani**	**14.78**	**125**	*e*P	Pn	05 23 08.2	-3.5
	comp=Z,84nm,0.6s						
DMN	**Daman**	**14.79**	**126**	*e*P	Pn	05 23 08.9	-2.9
	comp=Z,106nm,0.8s						
AB31	**Akbulak array**	**14.81**	**329**	P	Pn	05 23 07.9	-3.8
	comp=Z,26nm,0.6s,baz=136,slow=13,SNR=664						
AB31				⇑S	Sn	05 25 40.3	-15
	comp=Z,13nm,0.6s,baz=153,slow=23,SNR=13						
AB31	**Akbulak array**	**14.81**	**329**	P	Pn	05 23 07.8	-3.8
AB31				*e*S	Sn	05 25 40.2	-15
AB31				pmax	pmax		
	comp=Z,18nm,0.4s						
AB31				smax	smax		
	comp=Z,13nm,0.5s						
PKIN	**Phulchoki**	**15.00**	**125**	*e*P	Pn	05 23 10.9	-3.6
	comp=Z,58nm,0.6s						
PKI	**Pulchoki**	**15.01**	**125**	*e*P	**Pn**	**05 23 11.4**	**-3.3**
	comp=Z,83nm,0.7s						
GUN	**Gumba**	**15.10**	**123**	*e*P	**Pn**	**05 23 12.3**	**-3.5**
	comp=Z,265nm,1.0s		

AKASG	**Malin Array Be**	**32.97**	**308**	P		**P**		**05 26 12.0**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=80,slow=7.3,SNR=6.2								
KIEV	**Kiev**	**32.98**	**308**	*e*P		P		05 26 15.3	+3.0
JOF	**Joensuu**	**35.59**	**329**	*e*P		**P**		**05 26 35.1**	**+0.4**
JOF				pmax		pmax			
	comp=Z,2.0nm,0.3s								
JOF	**Joensuu**	**35.59**	**329**	*e*p		**P**		**05 26 35.1**	**+0.4**
	comp=Z,1.6nm,0.3s								
FINES	**FINESS Array B**	**37.26**	**325**	P		**P**		**05 26 49.4**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=124,slow=8.0,SNR=8.3								
ARCES	**ARCESS Array B**	**40.77**	**337**	P		**P**		**05 27 18.2**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=111,slow=6.8,SNR=11								
GERES	**GERESS Array B**	**43.00**	**305**	P		**P**		**05 27 37.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=154,slow=9.6,SNR=3.7								
CLL	**Collm**	**43.21**	**308**	*e*P		P		05 27 34.0	-4.1
CLL	**Collm**	**43.21**	**308**	*e*P		P		05 27 34.0	-4.1
NB2	**NORSAR Subarra**	**44.20**	**323**	P		**P**		**05 27 46.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.20**	**323**	P		**P**		**05 27 46.2**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=97,slow=7.9,SNR=3.4								
TIXI	**Tiksi**	**44.99**	**22**	⇓*i*P		**P**		**05 27 53.2**	**+1.2**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.9s								
DAVOX	**Davos/Dischmat**	**45.87**	**302**	P		**P**		**05 27 59.5**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=144,slow=10,SNR=3.7								
HINF	**Hinteralfeld**	**47.68**	**304**	*e*P		**P**		**05 28 13.2**	**-0.2**
LPG	**La Plagne**	**48.27**	**301**	*e*P		**P**		**05 28 18.9**	**+0.6**
LPL	**La Plagne**	**48.28**	**301**	*e*P		**P**		**05 28 18.6**	**+0.3**
MBDF	**Montbardon**	**48.45**	**300**	*e*P		**P**		**05 28 19.4**	**-0.1**
	comp=Z,18nm,0.9s								
KEST	**Kesra**	**49.34**	**288**	P		**P**		**05 28 26.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=296,slow=3.7,SNR=4.0								
SMF	**Signal de Mont**	**49.95**	**304**	*e*P		**P**		**05 28 30.1**	**-0.7**
	comp=Z,16nm,1.1s								
ESDC	**Sonseca Array**	**57.63**	**298**	P		**P**		**05 29 26.8**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=56,slow=7.3,SNR=6.7								
BILL	**Bilibino**	**57.81**	**26**	⇑*i*P		**P**		**05 29 27.6**	**0.0**
BILL				pmax		pmax			
	comp=Z,3.0nm,1.3s								
TORD	**Torodi Ar. Bea**	**66.26**	**269**	P		**P**		**05 30 23.6**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=50,slow=6.1,SNR=54								
INK	**Inuvik**	**73.20**	**10**	P		**P**		**05 31 07.8**	**+1.2**
	comp=Z,1.8nm,1.0s,baz=5.5,slow=10,SNR=5.9								
ILAR	**Eielson Array**	**74.03**	**16**	P		**P**		**05 31 11.6**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=310,slow=4.4,SNR=4.4								
YKA	**Yellowknife Ar**	**80.59**	**3**	P		**P**		**05 31 48.7**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=350,slow=5.4,SNR=17								

ISCJB ***27*** *06:02:21.4±0.5, 11.58N±0.06×86.70W±0.06, h55km±4km, mb4.5/49, MS3.6/8, Error ellipse: s-maj=12.8km s-min=4.1km az=41.7*

NEIC ***27*** *06:02:21.2±0.5, 11.40N×86.74W, mb4.6/43, Error ellipse: s-maj=12.9km s-min=6.5km az=42.0*

CASC ***27*** *06:02:21.4±3.2, 12.21N×86.22W, h29km±33km, MD4.4, ML3.8*

BJI ***27*** *06:02:21.0, 11.40N×86.70W, h44km*

IDC ***27*** *06:02:22.7±2.4, 11.87N×86.26W, h48km±24km, mb4.0/11, mb1 4.3/12, mb1mx3.9/33, mbtmp4.3/12, ML4.0/1, MS3.5/11, Ms1 3.5/11, ms1mx3.3/42, Error ellipse: s-maj=41.5km s-min=15.7km az=53.0*

ISC 27 06:02:22.4±0.8, 11.59N±0.09×86.75W±0.09, h50km±5km, n382, σ1°08/391, mb4.5/51, MS3.7/8, 123C-130D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNCH	**Conchagua**	**1.98**	**328**	*e*P		**Pn**	**06 02 54.2**	**+0.6**
CNCH				*e*S		**Sn**	**06 03 15.8**	**-1.5**
JTS	**JuntasAbangare**	**2.19**	**126**	*e*Pn		**Pn**	**06 02 54.2**	**-2.1**
JTS				S		**Sn**	**06 03 25.4**	**+3.2**
JTS	**JuntasAbangare**	**2.19**	**126**	P		**Pn**	**06 02 54.6**	**-1.7**
	60nm,0.3s,baz=319,slow=19,SNR=75							
JTS				S		**Sn**	**06 03 25.4**	**+3.2**
	107nm,0.3s,baz=248,slow=5.4,SNR=8.8							
JTS				LR		LR	06 03 27.1	
	comp=Z,184nm,21.8s,baz=319,slow=32							
BLLM	**Bellamira**	**2.34**	**322**	*e*P		**Pn**	**06 02 59.5**	**+0.9**
BLLM				*e*S		**Sn**	**06 03 27.5**	**+1.3**
VSM	**San Miguel**	**2.36**	**321**	*e*P		**Pn**	**06 02 59.8**	**+0.9**
JCR	**Jicaral**	**2.36**	**137**	*e*P		Pn	06 02 55.9	-2.9
JCR				*e*S		Sn	06 03 34.2	+7.6
CAO	**Cobano**	**2.48**	**139**	*e*P		**Pn**	**06 03 03.1**	**+2.7**
TGUH	**Tegucigalpa,Un**	**2.50**	**348**	*e*Pn		**Pn**	**06 03 03.0**	**+2.4**
LFRS	**El Faro**	**3.03**	**312**	*e*P		**Pn**	**06 03 08.4**	**+0.4**
LBRS	**Las Brisas**	**3.09**	**314**	*e*P		**Pn**	**06 03 08.2**	**-0.7**
SJS	**Escuela Geolog**	**3.12**	**122**	*e*P		Pn	06 03 13.9	+4.7
SJS				*e*S		Sn	06 03 57.7	+12
LFU	**La Fuente**	**3.15**	**313**	*e*P		**Pn**	**06 03 10.1**	**+0.5**
SNET	**Serv Nac Est T**	**3.19**	**311**	*e*P		**Pn**	**06 03 10.3**	**+0.1**
SNET				*e*S		**Sn**	**06 03 47.9**	**+0.7**
SNET				AML		AML	06 04 05.2	
	comp=Z,475nm,0.5s							
QCR	**Quepos**	**3.33**	**130**	*e*P		**Pn**	**06 03 12.6**	**+0.6**
BUS	**Buena Vista**	**3.57**	**124**	*e*P		**Pn**	**06 03 16.2**	**+0.5**
BUS				*e*S		Sn	06 04 08.4	+12
ACR	**Cerro Adams**	**4.58**	**129**	*e*P		**Pn**	**06 03 29.1**	**-0.1**
CTCR	**Cotoan**	**4.75**	**124**	*e*P		**Pn**	**06 03 31.2**	**-0.5**
BRU2	**Volcan**	**4.87**	**124**	*e*P		**Pn**	**06 03 32.5**	**-0.8**
BRU	**Baru**	**4.96**	**123**	*e*P		**Pn**	**06 03 35.1**	**+0.3**
BCIP	**Isla Barro Col**	**7.21**	**109**	*e*Pn		**Pn**	**06 04 03.4**	**-1.9**
TEIG	**Tepich**	**8.71**	**350**	Pn		Pn	**06 04 28.0**	**+2.2**
TEIG	**Tepich**	**8.71**	**350**	LR		LR	06 08 19.0	
	comp=Z,288nm,18.1s,baz=63,slow=42							
ROSC	**El Rosal**	**13.99**	**118**	P		**P**	**06 05 44.3**	**-0.7**
ROSC	**El Rosal**	**13.99**	**118**	P		**P**	**06 05 47.6**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=286,slow=17,SNR=22							
ROSC				LR		LR	06 10 51.4	
	comp=Z,97nm,18.3s,baz=1.5,slow=37							
SDV	**Santo Domingo**	**16.09**	**98**	*e*P		**Pn**	**06 06 05.2**	**-0.3**
	comp=Z,10nm,0.8s							
035Z	**Hargill**	**18.24**	**326**	⇑P		**Pn**	**06 06 32.7**	**+0.8**
	baz=18							
035A	**Encino**	**18.63**	**327**	⇓P		**Pn**	**06 06 37.3**	**+0.6**
	baz=19							
034A	**Hebbronville**	**19.05**	**326**	⇑P		**Pn**	**06 06 42.6**	**+0.9**
	baz=19,SNR=11							
934A	**Benavides**	**19.38**	**327**	⇑P		**P**	**06 06 45.5**	**+1.4**
	baz=20							
835A	**Beeville**	**19.58**	**330**	⇑P		**P**	**06 06 47.4**	**+1.1**
	baz=20							
933A	**Laredo**	**19.80**	**325**	⇑P		**P**	**06 06 49.7**	**+0.9**
	baz=20,SNR=5.4							
834A	**Tilden**	**19.82**	**328**	⇓P		**P**	**06 06 49.7**	**+0.8**
	baz=20,SNR=7.3							
TIGA	**Tifton**	**19.97**	**8**	*e*P		**Pn**	**06 06 52.0**	**-0.5**
	comp=Z,53nm,0.9s							
TIGA	**Tifton**	**19.97**	**8**	⇓P		**Pn**	**06 06 52.6**	**0.0**
	baz=20							
735A	**Kenedy**	**20.04**	**331**	⇓P		**P**	**06 06 52.6**	**+1.3**
	baz=20							
HKT	**Hockley**	**20.13**	**337**	*e*P		**P**	**06 06 53.8**	**+1.6**
	comp=Z,26nm,1.0s							
ATAH	**Atahualpa**	**20.38**	**156**	LR		LR	06 13 52.2	
	comp=Z,181nm,20.9s,baz=340,slow=34							
734A	**La Parita Cree**	**20.41**	**329**	⇑P		**P**	**06 06 56.0**	**+0.7**
	baz=21							
833A	**Chaparral WMA,**	**20.42**	**326**	⇓P		**P**	**06 06 56.4**	**+0.9**
	baz=21,SNR=9.9							
635A	**Leesville**	**20.47**	**332**	⇑P		**P**	**06 06 56.4**	**+0.4**
	baz=21							
733A	**Divot King Ran**	**20.68**	**327**	⇑P		**P**	**06 06 58.8**	**+0.5**
	baz=21,SNR=7.3							
832A	**Faith Ranch, C**	**20.71**	**325**	⇑P		**P**	**06 06 59.4**	**+0.8**
	baz=21,SNR=17							
536A	**Bastrop**	**20.74**	**334**	⇓P		**P**	**06 06 59.9**	**+1.0**
	baz=21							
634A	**China Grove, S**	**20.74**	**330**	⇓P		**P**	**06 06 59.4**	**+0.5**
	baz=21							
VBMS	**Vicksburg**	**20.82**	**351**	*e*P		Pn	06 07 03.2	+0.5
	comp=Z,31nm,0.8s							
535A	**Dale**	**20.92**	**333**	⇑P		**P**	**06 07 01.3**	**+0.5**
	baz=21							
732A	**Laxson Ranch,**	**21.06**	**326**	⇑P		**P**	**06 07 03.2**	**+0.8**
	baz=21							
633A	**Saathoff Ranch**	**21.22**	**329**	⇑P		**P**	**06 07 04.6**	**+0.6**
	baz=22							
534A	**Blanco**	**21.34**	**331**	⇑P		**P**	**06 07 05.9**	**+0.5**
	baz=22,SNR=6.8							
LRAL	**Lakeview Retre**	**21.34**	**359**	*e*P		**P**	**06 07 08.1**	**+2.7**
	comp=Z,11nm,0.9s							
NATX	**Nacogdoches**	**21.36**	**341**	*e*P		**P**	**06 07 07.7**	**+2.2**
	comp=Z,43nm,0.7s							
PTP	**Ponta Puerca**	**21.45**	**70**	*e*P		x	06 03 36.4	
632A	**Uvalde**	**21.57**	**328**	⇓P		**P**	**06 07 08.6**	**+0.8**
	baz=22,SNR=7.0							
435B	**Jarrell**	**21.58**	**334**	⇑P		**P**	**06 07 08.9**	**+1.0**
	baz=22							
533A	**Kerrville**	**21.65**	**330**	⇓P		**P**	**06 07 09.8**	**+1.1**
	baz=22							
434A	**Burnet**	**21.91**	**333**	⇓P		**P**	**06 07 12.7**	**+1.3**
	baz=22							
631A	**Perdido Creek**	**21.92**	**326**	⇑P		**P**	**06 07 12.3**	**+0.7**
	baz=22,SNR=18							
GOGA	**Godfrey**	**21.93**	**7**	*e*P		**P**	**06 07 13.4**	**+1.9**
	comp=Z,136nm,2.3s							
335A	**Moody**	**21.94**	**335**	⇓P		**P**	**06 07 12.8**	**+1.0**
	baz=22							
532A	**Rocksprings**	**22.13**	**328**	⇓P		**P**	**06 07 14.2**	**+0.3**
	baz=22,SNR=8.8							
433A	**Art**	**22.24**	**331**	⇓P		**P**	**06 07 15.5**	**+0.5**
	baz=22,SNR=8.2							
334A	**Lometa**	**22.33**	**333**	⇑P		**P**	**06 07 16.3**	**+0.3**
	baz=23							
JCT	**Junction City**	**22.36**	**329**	*e*P		**P**	**06 07 17.2**	**+0.9**
	comp=Z,38nm,1.8s							
JCT	**Junction City**	**22.36**	**329**	⇑P		**P**	**06 07 16.8**	**+0.5**
	baz=23							
531A	**Rocksprings**	**22.49**	**327**	⇓P		**P**	**06 07 18.5**	**+0.8**
	baz=23							
WHTX	**Lake Whitney**	**22.58**	**336**	*e*P		**P**	**06 07 18.8**	**+0.2**
WHTX	**Lake Whitney**	**22.58**	**336**	⇓P		**P**	**06 07 19.2**	**+0.6**
	baz=23							
333A	**Richland Sprin**	**22.66**	**332**	⇑P		**P**	**06 07 19.8**	**+0.2**
	baz=23,SNR=15							
432A	**Menard**	**22.68**	**330**	⇑P		**P**	**06 07 19.7**	**0.0**
	baz=23							
234A	**Clairette**	**22.87**	**334**	⇑P		**P**	**06 07 21.9**	**+0.2**
	baz=23,SNR=7.1							
530A	**J-C Ranch, Com**	**22.91**	**326**	⇑P		**P**	**06 07 21.9**	**-0.3**
	baz=23							
431A	**Sonora**	**22.93**	**328**	⇑P		**P**	**06 07 23.2**	**+0.8**
	baz=23,SNR=13							
OXF	**Oxford**	**22.95**	**354**	*e*P		**P**	**06 07 22.9**	**+0.5**
	comp=Z,27nm,0.7s							
135A	**Vickery Place,**	**23.06**	**336**	⇓P		**P**	**06 07 24.0**	**+0.5**
	baz=23							
332A	**Millersview**	**23.07**	**331**	⇑P		**P**	**06 07 24.4**	**+0.6**
	baz=23,SNR=27							
JSC	**Jenkinsville**	**23.14**	**12**	*e*P		**P**	**06 07 26.1**	**+1.8**
233A	**Rising Star**	**23.21**	**333**	⇓P		**P**	**06 07 25.6**	**+0.5**
	baz=24,SNR=7.6							
628A	**Black Gap, Mar**	**23.30**	**322**	⇑P		**P**	**06 07 26.0**	**-0.1**
	baz=24,SNR=9.0							
134A	**White-Moore Ra**	**23.34**	**335**	⇑P		**P**	**06 07 26.7**	**+0.4**
	baz=24							
331A	**San Angelo**	**23.34**	**329**	⇑P		**P**	**06 07 26.2**	**-0.2**
	baz=24,SNR=15							
430A	**Baggett Ranch,**	**23.35**	**327**	⇑P		**P**	**06 07 26.4**	**-0.1**
	baz=24							
529A	**Stev Forest Ra**	**23.38**	**324**	⇓P		**P**	**06 07 26.8**	**-0.1**
	baz=24							
232A	**Coleman**	**23.44**	**331**	⇓P		**P**	**06 07 27.2**	**-0.2**
	baz=24							
429A	**Davenport Ranc**	**23.58**	**326**	⇑P		**P**	**06 07 29.0**	**+0.3**
	baz=24,SNR=9.4							
627A	**Terlingua Ranc**	**23.58**	**321**	⇑P		**P**	**06 07 28.8**	**0.0**
	baz=24,SNR=9.7							
UALR	**University of**	**23.64**	**348**	*e*P		**P**	**06 07 29.0**	**-0.1**
	comp=Z,15nm,0.6s							
TXAR	**Lajitas Array**	**23.67**	**321**	P		**P**	**06 07 30.2**	**+0.6**
TXAR				PcP		**PcP**	**06 11 13.9**	**+0.9**
TXAR	**Lajitas Array**	**23.67**	**321**	P		**P**	**06 07 30.2**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=142,slow=9.2,SNR=52							
TXAR				PcP		**PcP**	**06 11 13.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=159,slow=3.8,SNR=7.2							
MIAR	**Mount Ida**	**23.68**	**346**	*e*P		**P**	**06 07 29.2**	**-0.3**
	comp=Z,19nm,0.8s							
Z35A	**Perchaven, San**	**23.68**	**338**	⇓P		**P**	**06 07 30.2**	**+0.6**
	baz=24,SNR=6.0							
133A	**Hamilton Ranch**	**23.72**	**334**	⇑P		**P**	**06 07 30.9**	**+1.0**
	baz=24,SNR=7.7							
528A	**Cox Ranch, San**	**23.74**	**324**	⇓P		**P**	**06 07 29.9**	**-0.4**
	baz=24							
231A	**Bronte**	**23.80**	**330**	⇓P		**P**	**06 07 30.3**	**-0.4**
	baz=24							
330A	**Mertzon**	**23.80**	**328**	⇑P		**P**	**06 07 31.2**	**+0.5**
	baz=24,SNR=7.1							
CPCT	**Cooper Cave**	**23.84**	**5**	*e*P		**P**	**06 07 34.5**	**+3.6**
KMSC	**Kings Mountain**	**23.96**	**11**	⇑P		**P**	**06 07 32.9**	**+0.9**
	baz=24							
Z34A	**Collier Ranch,**	**23.97**	**336**	⇓P		**P**	**06 07 32.8**	**+0.6**
	baz=24,SNR=7.8							
ABTX	**Abilene, Hawle**	**24.06**	**332**	*e*P		**P**	**06 07 33.9**	**+0.9**
ABTX	**Abilene, Hawle**	**24.06**	**332**	⇓P		**P**	**06 07 33.7**	**+0.7**
	baz=24							
428A	**Kincaid Ranch,**	**24.10**	**325**	⇓P		**P**	**06 07 33.8**	**+0.3**
	baz=24							
TKL	**Tuckaleechee C**	**24.11**	**6**	P		**P**	**06 07 35.8**	**+2.4**
TKL	**Tuckaleechee C**	**24.11**	**6**	P		**P**	**06 07 35.8**	**+2.4**
	comp=Z,9.0nm,0.6s,baz=179,slow=12,SNR=12							
626A	**Big Bend Ranch**	**24.11**	**320**	⇓P		**P**	**06 07 34.2**	**+0.5**
	baz=24,SNR=7.5							
230A	**Sterling City**	**24.16**	**329**	⇓P		**P**	**06 07 34.0**	**0.0**
	baz=24							
527A	**Woodward Ranch**	**24.21**	**322**	⇑P		**P**	**06 07 35.0**	**+0.4**
	baz=24							
Z33A	**Whitaker Ranch**	**24.24**	**335**	⇑P		**P**	**06 07 35.9**	**+1.2**
	baz=24,SNR=12							
329A	**Wagon Wheel Ra**	**24.29**	**327**	⇑P		**P**	**06 07 35.7**	**+0.4**
	baz=24,SNR=10.0							
H06E1	**SOCORRO T-PHAS**	**24.38**	**290**	T		T	06 32 41.2	
	SNR=19							
Y34A	**Reagan Ranch,**	**24.43**	**337**	⇑P		**P**	**06 07 36.7**	**+0.3**
	baz=25,SNR=7.0							
526A	**Mary Lane Ranc**	**24.44**	**321**	⇓P		**P**	**06 07 37.3**	**+0.6**
	baz=25,SNR=7.0							
131A	**Roby**	**24.44**	**331**	⇑P		**P**	**06 07 36.9**	**+0.4**
	baz=25							
Z32A	**Haskell**	**24.56**	**334**	⇑P		**P**	**06 07 38.3**	**+0.7**
	baz=25,SNR=8.7							
229A	**Bryant Ranch,**	**24.58**	**328**	⇓P		**P**	**06 07 38.0**	**+0.2**
	baz=25,SNR=7.1							
427A	**Hayter Ranch,**	**24.60**	**324**	⇑P		**P**	**06 07 39.1**	**+1.0**
	baz=25							
130A	**Snyder**	**24.66**	**330**	⇑P		**P**	**06 07 38.2**	**-0.3**
	baz=25							
328A	**Wristen Ranch,**	**24.66**	**325**	⇓P		**P**	**06 07 39.1**	**+0.5**
	baz=25,SNR=11							
Y33A	**Hilltop Ranch,**	**24.81**	**336**	⇓P		**P**	**06 07 40.0**	**+0.2**
	baz=25,SNR=9.1							
426A	**McDonald Obser**	**24.84**	**322**	⇑P		**P**	**06 07 41.2**	**+0.8**
	baz=25,SNR=7.5							
Z31A	**Sharp Cattle R**	**24.87**	**333**	⇓P		**P**	**06 07 41.7**	**+1.3**
	baz=25,SNR=9.5							
X34A	**Smith Ranch, M**	**25.03**	**338**	⇑P		**P**	**06 07 42.2**	**+0.3**
	baz=25,SNR=13							
228A	**UT Block 9, Go**	**25.11**	**327**	⇑P		**P**	**06 07 42.7**	**0.0**
	baz=25							
PARMO	**Parma**	**25.11**	**354**	*e*P		**P**	**06 07 43.9**	**+1.3**
129A	**Stewart Farms,**	**25.13**	**329**	⇑P		**P**	**06 07 43.2**	**+0.4**
	baz=25							
Y32A	**R-V Farms, Ver**	**25.14**	**335**	⇓P		**P**	**06 07 42.8**	**-0.1**
	baz=25,SNR=6.5							
X33A	**Lawton**	**25.23**	**337**	⇑P		**P**	**06 07 43.9**	**+0.2**
	baz=26,SNR=44							
326A	**Caldwell Ranch**	**25.28**	**324**	⇓P		**P**	**06 07 44.8**	**+0.5**
	baz=26,SNR=8.3							
Z30A	**Sanderson Ranc**	**25.30**	**331**	⇓P		**P**	**06 07 44.2**	**-0.2**
	baz=26,SNR=7.6							
PBMO	**Poplar Bluff**	**25.30**	**353**	*e*P		**P**	**06 07 44.7**	**+0.5**
	comp=Z,21nm,1.3s							
227A	**Bennet, Jal**	**25.41**	**326**	⇑P		**P**	**06 07 45.8**	**+0.4**
	baz=26							
X32A	**Elmer**	**25.44**	**335**	⇓P		**P**	**06 07 46.6**	**+1.0**
	baz=26							
128A	**Castleberry Fa**	**25.44**	**328**	⇑P		**P**	**06 07 45.7**	**0.0**
	baz=26,SNR=8.2							
Y31A	**Rekieta Farm,**	**25.46**	**333**	⇑P		**P**	**06 07 46.9**	**+1.1**
	baz=26,SNR=8.5							
Z29A	**Hungry Hill Ra**	**25.56**	**330**	⇓P		**P**	**06 07 46.9**	**+0.2**
	baz=26,SNR=9.2							
TUL1	**Tulsa**	**25.56**	**343**	*e*P		**P**	**06 07 46.3**	**-0.3**
TUL1	**Tulsa**	**25.56**	**343**	⇓P		**P**	**06 07 46.6**	**0.0**
	baz=26,SNR=9.6							
W34A	**Bridge Creek,**	**25.58**	**339**	⇑P		**P**	**06 07 47.3**	**+0.5**
	baz=26,SNR=8.9							
Y30A	**Stafford Cattl**	**25.68**	**332**	⇑P		**P**	**06 07 48.2**	**+0.4**
	baz=26							
W33A	**Caddo, Fort Co**	**25.76**	**337**	⇓P		**P**	**06 07 50.0**	**+1.6**
	baz=26,SNR=9.7							
X31A	**McDonald Ranch**	**25.91**	**334**	⇓P		**P**	**06 07 50.2**	**+0.4**
	baz=26,SNR=12							
Z28A	**Tucker Farm, M**	**25.92**	**329**	⇓P		**P**	**06 07 49.9**	**-0.1**
	baz=26,SNR=8.2							
226B	**Tecolote Peak,**	**25.95**	**324**	⇓P		**P**	**06 07 51.0**	**+0.7**
	baz=26							
127A	**Arkansas Junct**	**25.95**	**327**	⇓P		**P**	**06 07 50.7**	**+0.4**
	baz=26							
Y29A	**Portarfield Fa**	**26.03**	**331**	⇑P		**P**	**06 07 51.8**	**+0.8**
	baz=26,SNR=7.7							
V34A	**Guthrie**	**26.03**	**340**	⇑P		**P**	**06 07 50.9**	**0.0**
	baz=26							
W32A	**Sentinel**	**26.03**	**336**	⇑P		**P**	**06 07 52.2**	**+1.3**
	baz=26,SNR=16							
SIUC	**Southern Illin**	**26.11**	**356**	*e*P		**P**	**06 07 52.6**	**+1.0**
	comp=Z,20nm,0.7s							
X30A	**Coker Ranch, T**	**26.14**	**333**	⇓P		**P**	**06 07 53.1**	**+1.2**
	baz=26,SNR=14							
GDL2	**Guadalupe Moun**	**26.15**	**324**	*e*P		**P**	**06 07 53.3**	**+1.2**
	comp=Z,1.9nm,0.5s							
126A	**Clayton Basin,**	**26.29**	**326**	⇓P		**P**	**06 07 54.1**	**+0.7**
	baz=26							
V33A	**Lossen Ranch,**	**26.29**	**338**	⇓P		**P**	**06 07 53.9**	**+0.6**
	baz=27							
225A	**Deer Hill, Car**	**26.35**	**324**	⇑P		**P**	**06 07 55.8**	**+1.8**
	baz=27,SNR=5.7							
Z27A	**Tatum**	**26.36**	**328**	⇓P		**P**	**06 07 54.9**	**+0.8**
	baz=27,SNR=8.0							
W31A	**Holland Ranch,**	**26.37**	**335**	⇑P		**P**	**06 07 54.9**	**+0.9**
	baz=27							
MNTX	**Cornudas Mount**	**26.38**	**322**	*e*P		**P**	**06 07 53.6**	**-0.5**
	comp=Z,4.0nm,1.0s							
V32A	**Arapaho**	**26.48**	**337**	⇓P		**P**	**06 07 57.5**	**+2.5**
	baz=27,SNR=7.1							
X29A	**Tulia**	**26.52**	**331**	⇑P		**P**	**06 07 56.1**	**+0.7**
	baz=27,SNR=11							
U34A	**Anderson Ranch**	**26.59**	**340**	⇑P		**P**	**06 07 56.1**	**+0.2**
	baz=27							
125A	**Gardner Draw,**	**26.65**	**325**	⇑P		**P**	**06 07 57.0**	**+0.3**
	baz=27							
MSTX	**Muleshoe**	**26.65**	**329**	*e*P		**P**	**06 07 56.5**	**-0.2**
MSTX	**Muleshoe**	**26.65**	**329**	⇑P		**P**	**06 07 57.0**	**+0.3**
	baz=27,SNR=7.1							
Z26A	**Caprock**	**26.74**	**327**	⇑P		**P**	**06 07 59.6**	**+2.1**
	baz=27,SNR=6.0							
U33A	**Lingo Farm, Me**	**26.78**	**339**	⇓P		**P**	**06 07 58.5**	**+0.9**
	baz=27							
Y27A	**Causey**	**26.78**	**329**	⇓P		**P**	**06 07 58.6**	**+0.7**
	baz=27,SNR=11							
X28A	**Dimmitt**	**26.81**	**331**	⇓P		**P**	**06 07 58.5**	**+0.4**
	baz=27							
V31A	**Spring Creek L**	**26.84**	**336**	⇑P		**P**	**06 08 02.0**	**+3.7**
	baz=27,SNR=8.3							
AMTX	**Amarillo**	**26.87**	**332**	*e*P		**P**	**06 07 59.0**	**+0.3**
	comp=Z,17nm,1.0s							
AMTX	**Amarillo**	**26.87**	**332**	⇑P		**P**	**06 07 59.6**	**+1.0**
	baz=27							
U32A	**Winter Ranch,**	**27.05**	**338**	⇓P		**P**	**06 08 02.4**	**+2.3**
	baz=27							
W29A	**Amraillo**	**27.05**	**332**	⇓P		**P**	**06 08 00.7**	**+0.5**
	baz=27							
Z25A	**Roswell**	**27.15**	**326**	⇓P		**P**	**06 08 02.6**	**+1.4**
	baz=27,SNR=11							
Y26A	**Elida**	**27.16**	**328**	⇑P		**P**	**06 08 02.7**	**+1.5**
	baz=27							
Z24A	**Sheeppen Canyo**	**27.55**	**325**	⇓P		**P**	**06 08 06.0**	**+1.2**
	baz=28,SNR=7.7							
Y25A	**Mesa, Roswell**	**27.62**	**326**	⇑P		**P**	**06 08 06.3**	**+1.0**
	baz=28							
X26A	**CR and CF Fran**	**27.64**	**329**	⇓P		**P**	**06 08 06.5**	**+0.9**
	baz=28							
W27A	**Bowe Ranch, En**	**27.67**	**330**	⇑P		**P**	**06 08 06.3**	**+0.5**
	baz=28,SNR=5.5							
U30A	**WK&E Inc. Balk**	**27.82**	**336**	⇓P		**P**	**06 08 09.4**	**+2.3**
	baz=28,SNR=5.5							
Y24A	**Capitan**	**28.03**	**325**	⇓P		**P**	**06 08 10

baz=32,SNR=6.5
S22A 4UR Ranch, Cre 31.65 329 ⇓P P 06 08 42.3 +1.1
baz=32
N28A Pribbeno Ranch 31.78 338 ⇑P P 06 08 43.1 +1.0
baz=32
P25A Willow Gulch B 31.82 334 ⇓P P 06 08 42.9 +0.4
baz=32
X16A Lo Mia Camp, P 31.97 319 ⇑P P 06 08 45.2 +1.2
baz=32,SNR=6.4
MVCO Mesa Verde 32.13 326 *e*P P 06 08 46.0 +0.6
comp=Z,4.2nm,0.7s
MVCO *e*pP **pP** 06 08 58.8 +0.3
MVCO Mesa Verde 32.13 326 ⇓P P 06 08 46.2 +0.8
baz=32
L31A Butterfield Fa 32.25 343 ⇓P P 06 08 46.5 +0.4
baz=32,SNR=6.7
P23A Jefferson 32.45 332 ⇑P P 06 08 50.1 +1.9
baz=33
WUAZ Wupatki 32.63 321 *e*P P 06 08 52.2 +2.4
comp=Z,3.6nm,0.9s
ISCO Idaho Springs 32.69 333 *e*P P 06 08 51.8 +1.5
comp=Z,81nm,3.0s
ISCO Idaho Springs 32.69 333 ⇑P P 06 08 50.8 +0.4
baz=33
SMCO Snowmass 32.83 330 *e*P P 06 08 53.5 +1.7
K30A Basset 32.93 342 ⇓P P 06 08 52.6 +0.5
baz=33,SNR=9.1
P22A Eagle 33.06 331 ⇑P P 06 08 54.2 +0.7
baz=33
ECSD EROS Data Cent 33.14 347 *e*P P 06 08 52.8 -1.1
comp=Z,13nm,0.8s
ECSD *e*pP **pP** 06 09 05.4 -1.5
ECSD EROS Data Cent 33.14 347 ⇑P P 06 08 52.9 -1.0
baz=33,SNR=10
PV04 Paradox Valley 33.22 327 *e*P P 06 08 57.0 +2.1
K29A Lazy Trails An 33.22 342 ⇑P P 06 08 55.0 +0.3
baz=34,SNR=8.1
O22A Kremmling 33.41 332 ⇓P P 06 08 56.2 -0.4
baz=34
J30A Dallas 33.49 343 ⇑P P 06 08 56.5 -0.5
baz=34,SNR=8.2
PDMCI Parker Dam,Lak 33.67 317 ⇑P P 06 08 59.2 +0.6
baz=34
M24A Cheyenne 33.72 335 ⇑P P 06 08 59.8 +0.6
baz=34
K27A Flueckinger Fa 33.80 339 ⇓P P 06 09 00.3 +0.6
baz=34
J29A Okreek 33.81 342 ⇓P P 06 08 60.0 +0.2
baz=34,SNR=13
SPMN St. Paul 33.92 352 *e*P P 06 09 00.1 -0.5
SPMN St. Paul 33.92 352 ⇑P P 06 09 00.2 -0.4
baz=34,SNR=10
M23A Laramie 34.10 334 ⇑P P 06 09 03.0 +0.5
baz=34
J28A Allard Ranch, 34.11 341 ⇑P P 06 09 03.3 +0.9
baz=34
O20A White River Ci 34.19 330 *e*P P 06 09 05.2 +1.9
O20A White River Ci 34.19 330 ⇓P P 06 09 03.7 +0.4
baz=34
BC3 Big Chuckawall 34.21 315 ⇓P P 06 09 03.8 +0.4
baz=34
J27A Elkhorn Farm, 34.21 340 ⇑P P 06 09 04.3 +1.0
baz=34
I29A Vivian Onida 34.37 343 ⇑P P 06 09 04.8 +0.2
baz=35
BRSD Miller 34.38 344 ⇑P P 06 09 04.6 -0.1
baz=35
SRU San Rafael 34.61 326 *e*P P 06 09 08.3 +1.4
comp=Z,6.9nm,0.7s
I28A Midland 34.61 342 ⇑P P 06 09 06.7 +0.1
baz=35,SNR=6.9
J26A Sides Ranch, S 34.63 339 ⇑P P 06 09 07.4 +0.5
baz=35
N20A Spence Gulch, 34.74 331 ⇓P P 06 09 08.5 +0.4
baz=35
I27A Quinn 34.95 341 ⇑P P 06 09 10.4 +0.8
baz=35,SNR=6.0
J25A Sunshine Ranch 34.96 338 ⇑P P 06 09 10.3 +0.5
baz=35
G30A Faulkton 35.07 345 ⇓P P 06 09 09.5 -1.1
baz=35
MVU Marysvale 35.12 324 *e*P P 06 09 13.4 +2.0
comp=Z,17nm,2.0s
H28A Mission Ridge 35.17 342 ⇑P P 06 09 10.7 -0.8
baz=36
ARUT Antelope Range 35.37 322 *e*P P 06 09 14.2 +0.7
comp=Z,37nm,0.7s
K21A Alcova 35.70 334 ⇓P P 06 09 15.8 -0.5
baz=36
DAU Daniels Canyon 35.94 327 *e*P P 06 09 19.6 +1.2
comp=Z,10nm,1.3s
G27A Dupree 36.09 342 ⇓P P 06 09 19.4 0.0
baz=36
JLU Jordanelle 36.17 327 *e*P P 06 09 21.8 +1.3
comp=Z,3.2nm,0.9s
F28A McLaughlin 36.18 343 ⇑P P 06 09 19.5 -0.6
baz=36
G26A Maurine 36.22 341 ⇓P P 06 09 21.3 +0.8
baz=36,SNR=5.0
E30A Jud 36.29 346 ⇓P P 06 09 20.3 -0.7
baz=37
J21A Lysite 36.37 334 ⇓P P 06 09 23.0 +1.0
baz=37,SNR=6.0
G25A Newell 36.40 340 ⇓P P 06 09 22.4 +0.3
baz=37
H24A Dirks Ranch, A 36.40 338 ⇑P P 06 09 22.3 +0.1
baz=37
E29A Napoleon 36.53 345 ⇓P P 06 09 22.8 -0.4
baz=37
F27A Lemmon 36.56 342 ⇑P P 06 09 23.9 +0.5
baz=37
DUG Dugway 36.62 326 ⇓P P 06 09 24.1 0.0
baz=37
J20A Shoshoni 36.65 334 ⇑P P 06 09 24.8 +0.6
baz=37
FURC Furnace Creek, 36.73 317 ⇑P P 06 09 25.2 +0.3
baz=37
F26A Lodgepole 36.74 341 ⇓P P 06 09 25.6 +0.6
baz=37
D30A Buchanan 36.83 346 ⇑P P 06 09 24.9 -0.7
baz=37,SNR=8.7
BW06 Boulder Array 36.85 332 *e*P P 06 09 26.3 +0.1
comp=Z,71nm,2.9s
PDAR Pinedale Array 36.85 332 P P 06 09 26.5 +0.4
PDAR PcP **PcP** 06 11 48.1 +0.9
PDAR Pinedale Array 36.85 332 P P 06 09 26.5 +0.4
comp=Z,2.9nm,0.6s,baz=129,slow=11,SNR=39
PDAR PcP **PcP** 06 11 48.1 +0.9
comp=Z,0.5nm,0.6s,baz=131,slow=4.9,SNR=3.5
J19A Crowheart 37.01 333 ⇑P P 06 09 27.7 +0.3
baz=37
F25A Bowman 37.06 341 ⇓P P 06 09 27.9 +0.2
baz=37
G23A Biddle 37.10 338 ⇑P P 06 09 28.1 +0.1
baz=37
H21A Big Horn, Sher 37.25 336 ⇑P P 06 09 29.9 +0.5
baz=38
C30A Mose, Pekin 37.32 347 ⇑P P 06 09 29.3 -0.5
baz=38
AGMN Agassiz Nation 37.38 350 *e*P P 06 09 29.5 -0.7
comp=Z,34nm,1.3s
AGMN Agassiz Nation 37.38 350 ⇓P P 06 09 29.6 -0.7
baz=38,SNR=8.0
H20A Greybull 37.53 335 ⇓P P 06 09 31.9 +0.2
baz=38
E25A Miller Ranch, 37.55 341 ⇑P P 06 09 32.8 +1.0
baz=38
HVU Hansel Valley 37.71 328 *e*P P 06 09 35.0 +1.6
comp=Z,6.2nm,1.1s
F22A Rosebud 37.91 338 ⇑P P 06 09 35.1 +0.3
baz=38
REDW Red Top Meadow 37.91 331 *e*P P 06 09 36.0 +0.8
LOHW Long Hollow 37.99 331 *e*P P 06 09 36.9 +1.2
B30A Myrvik Farm, E 38.00 347 ⇑P P 06 09 34.8 -0.7
baz=38
MOOW Moose Ponds 38.16 332 *e*P P 06 09 36.5 -0.7
G20A Bridger 38.21 335 ⇓P P 06 09 37.7 +0.2
baz=38
I17A Pilgrim Ck. 38.21 332 ⇓P P 06 09 38.7 +1.1
baz=38
B29A Wagenman Farm, 38.24 346 ⇓P P 06 09 37.3 -0.2
baz=38
C26A Wahner Farm, P 38.35 343 ⇑P P 06 09 38.7 +0.2
baz=39
E22A Miles City 38.36 339 ⇓P P 06 09 38.9 +0.3
baz=39
D24A Glendive 38.39 341 ⇓P P 06 09 39.3 +0.5
baz=39,SNR=6.4
FLWY Flagg Ranch 38.39 332 *e*P P 06 09 40.6 +1.5
comp=Z,7.0nm,0.9s
A30A Hoffart Farm, 38.46 348 ⇓P P 06 09 38.9 -0.5
baz=39
B28A Dugan Ranch, T 38.46 345 ⇓P P 06 09 39.6 +0.2
baz=39
C25A Freed Ranch, W 38.59 342 ⇓P P 06 09 40.7 +0.3
baz=39
A29A Manning Farm, 38.64 347 ⇓P P 06 09 40.3 -0.6
baz=39,SNR=5.5
D23A Lindsay 38.73 340 ⇓P P 06 09 42.7 +0.9
baz=39
C24A Savage 38.79 341 ⇓P P 06 09 43.0 +0.8
baz=39
NVAR Mina Array Bea 38.80 319 P P 06 09 44.5 +1.8
NVAR PcP **PcP** 06 11 54.8 +1.6
NVAR Mina Array Bea 38.80 319 P P 06 09 44.5 +1.8
comp=Z,1.2nm,0.8s,baz=142,slow=6.4,SNR=8.3
NVAR PcP **PcP** 06 11 54.8 +1.6
comp=Z,3.6nm,0.7s,baz=133,slow=4.0,SNR=25
B26A Jensen Ranch, 38.89 344 ⇓P P 06 09 43.4 +0.4
baz=39
F19A Roth Farm, Mol 39.02 335 ⇓P P 06 09 44.7 +0.5
baz=39
D22A Cohagen 39.05 339 ⇑P P 06 09 45.0 +0.7
baz=39,SNR=6.3
B25A Knox Farm, Ray 39.06 343 ⇓P P 06 09 45.3 +0.9
baz=39
E20A Meyer Farm, Mu 39.23 337 ⇓P P 06 09 46.6 +0.7
baz=40,SNR=6.6
D21A La Casta Ranch 39.27 338 ⇑P P 06 09 47.2 +1.0
baz=40
ULM Lac du Bonnet 39.27 351 *e*P P 06 09 44.6 -1.5
comp=Z,12nm,0.8s
ULM Lac du Bonnet 39.27 351 P P 06 09 44.7 -1.5
comp=Z,11nm,0.7s,baz=174,slow=8.2,SNR=20
C23A Lambert 39.27 340 ⇓P P 06 09 46.9 +0.7
baz=40
A26A Wade Farm, Ken 39.31 344 ⇓P P 06 09 46.9 +0.4
baz=40
C22A Vida 39.46 340 ⇑P P 06 09 48.3 +0.5
baz=40,SNR=7.6
DGMT Dagmar 39.55 342 *e*P P 06 09 48.6 +0.1
comp=Z,10nm,0.6s
DGMT Dagmar 39.55 342 ⇓P P 06 09 49.2 +0.7
baz=40
D20A Manuel Ranch, 39.72 337 ⇓P P 06 09 50.9 +0.9
baz=40
B23A Brockton 39.79 341 ⇓P P 06 09 51.5 +1.0
baz=40
HLID Hailey 39.83 328 *e*P P 06 09 53.0 +1.9
comp=Z,2.2nm,0.6s
HLID Hailey 39.83 328 ⇑P P 06 09 51.7 +0.6
baz=40,SNR=5.3
MCMT McKenzie Canyo 39.97 331 *e*P P 06 09 53.6 +1.3
comp=Z,1.8nm,0.8s
B22A Reddig Ranch S 39.98 340 ⇓P P 06 09 52.5 +0.4
baz=40
D19A Cripps Ranch, 40.07 336 ⇓P P 06 09 53.5 +0.6
baz=40
C20A Veseth Ranch, 40.19 338 ⇓P P 06 09 55.1 +1.2
baz=40
DLMT Dillon 40.24 332 *e*P P 06 09 55.8 +1.3
comp=Z,21nm,2.0s
LRM Limekiln Ridge 40.52 332 *e*P P 06 09 57.3 +0.4
LRM *e*pP **pP** 06 10 08.0 -2.2
A22A Carney Farms, 40.55 341 ⇑P P 06 09 57.6 +0.8
baz=41
C19A Slack Wire Ran 40.60 337 ⇓P P 06 09 58.1 +0.8
baz=41
B20A Solberg Farm, 40.80 338 ⇑P P 06 10 00.1 +1.2
baz=41
HRY Holter Researc 40.93 334 *e*P P 06 10 01.5 +1.4
A20A Cobblestone Ra 41.14 339 ⇓P P 06 10 02.3 +0.6
baz=41,SNR=9.7
B19A Brinkman Farms 41.16 338 ⇑P P 06 10 02.0 +0.2
baz=41
WVOR Wild Horse Val 41.40 324 *e*P P 06 10 04.9 +0.9
comp=Z,5.8nm,1.1s
A19A Klindworth Far 41.47 338 ⇓P P 06 10 05.0 +0.5
baz=42
MSO Missoula 41.96 332 ⇓P P 06 10 09.0 +0.4
baz=42
F10A Beach Ranch, E 42.95 329 *e*P P 06 10 16.9 +0.4
comp=Z,100nm,3.0s
YBH Yreka Blue Hor 43.45 320 LR LR 06 31 06.4
comp=Z,79nm,20.1s,baz=137,slow=40
NEW Newport 44.49 331 LR LR 06 31 03.9
comp=Z,43nm,20.1s,baz=122,slow=39
D08A Wollman Farm, 44.54 329 *e*P P 06 10 29.6 +0.4
comp=Z,150nm,2.9s
FFC Flin Flon 44.68 347 *e*P P 06 10 29.5 -0.7
comp=Z,3.8nm,0.6s
E07A Sunnyside 44.69 328 *e*P P 06 10 30.8 +0.3
comp=Z,6.2nm,0.6s
SCHQ Schefferville 45.91 16 P P 06 10 38.0 -1.9
SCHQ Schefferville 45.91 16 P P 06 10 38.0 -1.9
comp=Z,2.2nm,0.5s,baz=225,slow=6.8,SNR=14
SCHQ LR LR 06 29 52.3
comp=Z,126nm,18.8s,baz=68,slow=36
BDFB Brasilia 46.93 124 P P 06 10 46.9 -1.7
BDFB Brasilia 46.93 124 P P 06 10 46.9 -1.7
comp=Z,6.0nm,0.7s,baz=287,slow=11,SNR=14
FCC Fort Churchill 47.40 355 *e*P P 06 10 50.5 -1.0
comp=Z,0.1nm,0.4s
BBB Bella Bella 52.40 329 LR LR 06 38 07.2
comp=Z,70nm,19.4s,baz=172,slow=41
FRB Frobisher Bay 53.65 10 LR LR 06 33 36.6
comp=Z,100nm,20.2s,baz=182,slow=35
YKA Yellowknife Ar 54.62 345 P P 06 11 44.5 -1.2
YKA PcP **PcP** 06 12 47.4 -0.7
YKA Yellowknife Ar 54.62 345 P P 06 11 44.4 -1.2
comp=Z,3.2nm,0.7s,baz=141,slow=7.2,SNR=58
YKA PcP **PcP** 06 12 47.4 -0.7
comp=Z,0.9nm,0.6s,baz=147,slow=4.2,SNR=13
DLBC Dease Lake 56.97 335 P P 06 12 03.8 +1.1
DLBC Dease Lake 56.97 335 P P 06 12 03.8 +1.1
comp=Z,3.3nm,0.7s,baz=146,slow=6.9,SNR=9.1
INK Inuvik 64.22 342 P P 06 12 51.4 -0.4
INK Inuvik 64.22 342 P P 06 12 51.4 -0.4
comp=Z,3.3nm,0.9s,baz=136,slow=7.2,SNR=11
ILAR Eielson Array 67.08 336 P P 06 13 09.4 -0.8
ILAR Eielson Array 67.08 336 P P 06 13 09.4 -0.8
comp=Z,1.5nm,0.7s,baz=141,slow=4.3,SNR=40
FINES FINESS Array B 90.44 26 LR LR 06 54 03.8
comp=Z,60nm,18.8s,baz=49,slow=34
SONM Songino Array 119.69 350 PKP **PKPdf** 06 21 06.9 -0.3
SONM Songino Array 119.69 350 PKP **PKPdf** 06 21 06.9 -0.3
comp=Z,0.7nm,0.5s,baz=356,slow=2.3,SNR=6.2
MKAR Makanchi Array 121.06 9 PKP **PKPdf** 06 21 08.5 -1.2
MKAR Makanchi Array 121.06 9 PKP **PKPdf** 06 21 08.5 -1.2
comp=Z,0.2nm,0.5s,baz=309,slow=4.3,SNR=2.4
WMQ Urumqi 124.62 5 *e*PKP **PKPdf** 06 21 16.0 -0.7
HHC Hu-ho-hao-te 125.14 343 *e*PKP **PKPdf** 06 21 18.3 +0.5
HHC sPKP 06 21 35.0
HHC PP PP 06 23 12.5 +6.2
HHC SKS **SKSdf** 06 28 25.0 -0.9
HHC SKKS **SKKSac** 06 30 00.5 -1.3
HHC SS **SS** 06 40 04.5 +5.8
KSH Kashi 126.67 17 *e*PKP **PKPdf** 06 21 20.0 -0.8
KSH *es*PKP 06 21 34.3
KSH *e*SKS **SKSdf** 06 28 25.5 -3.4
NJ2 Nanjing 130.16 331 *e*PKP **PKPdf** 06 21 28.5 +1.0
ASAR Alice Springs 139.58 247 PKP **PKPdf** 06 21 44.7 -0.6
ASAR Alice Springs 139.58 247 PKP **PKPdf** 06 21 44.7 -0.6
comp=Z,0.7nm,0.7s,baz=95,slow=1.8,SNR=7.1
WRA Warramunga Arr 139.68 253 PKP **PKPdf** 06 21 45.7 +0.2
WRA Warramunga Arr 139.68 253 PKP **PKPdf** 06 21 45.7 +0.2
comp=Z,0.9nm,0.7s,baz=93,slow=2.4,SNR=5.8
KMI Kunming 142.35 346 PKP **PKPdf** 06 21 47.8 -2.8

IDC 27 06:11:08.2±2.3, 54°12'N×86°41'E, h0km, mb1 3.4/2, mb1mx3.1/47, mbtmp3.4/2, ML3.5/2, Error ellipse: s-maj=19.0km s-min=11.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**260**	*i*		06 16 58.0	
	baz=80,slow=351,SNR=3.8						
ZALV	**Zalesovo Beam**	**0.95**	**260**	Pg	Pg	06 11 25.0	-1.4
	3.3nm,0.3s,baz=75,slow=16,SNR=33						
ZALV				Lg	Lg	06 11 39.9	
	6.8nm,0.3s,baz=80,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	06 12 38.7	+1.2
	1.1nm,0.3s,baz=54,slow=13,SNR=31						
KURBB				Lg	Lg	06 14 17.7	
	0.1nm,0.3s,baz=55,slow=29,SNR=5.7						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	06 13 03.5	+0.8
	0.6nm,0.3s,baz=21,slow=16,SNR=23						
MKAR				Sn	Sn	06 14 31.3	-0.3
	0.2nm,0.3s,baz=25,slow=27,SNR=9.5						
MKAR				Lg	Lg	06 15 15.9	
	0.1nm,0.3s,baz=45,slow=31,SNR=4.3						

IDC 27 06:25:14.6±1.6, 3°83N×127°15E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/28, mbtmp3.5/4, Error ellipse: s-maj=142.1km s-min=24.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.66**	**164**	P	P	06 30 37.9	+0.6
	0.5nm,0.4s,baz=345,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**28.11**	**167**	P	P	06 31 08.0	-0.4
	0.1nm,0.3s,baz=342,slow=11,SNR=1.3						
SONM	**Songino Array**	**47.34**	**341**	P	P	06 33 51.2	+0.8
	0.3nm,0.6s,baz=163,slow=7.0,SNR=2.6						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	06 35 06.4	-0.8
	0.4nm,0.4s,baz=116,slow=8.1,SNR=6.3						

IDC ***27*** *06:29:15.5±1.7, 7°83S×130°60E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/28, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=129.8km s-min=25.4km az=66.0*

ISC 27 06:29:21.5±1.5, 8°4S±0°2×129°5E±0°5, h35km, n6, σ0°46/7, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**5.14**	**146**	P	**Pn**	**06 30 36.1**	**+0.1**
	baz=28,SNR=12						
KNRA	**Kununurra**	**7.24**	**186**	P	Pn	06 31 13.2	+8.3
	baz=32,SNR=4.3						
WRA	**Warramunga Arr**	**12.37**	**158**	Pn	**Pn**	**06 32 15.1**	**-0.1**
	0.3nm,0.3s,baz=347,slow=13,SNR=3.2						
WRA				Sn	**Sn**	**06 34 31.7**	**-0.2**
	0.7nm,0.3s,baz=353,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**15.73**	**165**	Pn	**P**	**06 33 03.7**	**-0.5**
	0.2nm,0.3s,baz=345,slow=9.1,SNR=6.2						
ASAR				Sn	**Sn**	**06 35 54.5**	**+0.7**
	0.1nm,0.3s,baz=356,slow=28,SNR=3.3						
STKA	**Stephens Creek**	**25.90**	**156**	P	**P**	**06 34 50.5**	**+0.2**
	1.8nm,0.8s,baz=6.3,slow=9.2,SNR=2.3						
MKAR	**Makanchi Array**	**69.15**	**327**	P	**P**	**06 40 24.4**	**+0.1**
	0.2nm,0.3s,baz=114,slow=7.5,SNR=7.2						

IDC 27 06:39:29.2±2.2, 6°86S×129°24E, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.5/32, mbtmp3.7/3, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=150.8km s-min=31.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.94**	**38**	P	Pb	06 40 56.2	-0.4
	baz=18,SNR=5.6						
MTN	**Manton Dam**	**6.23**	**163**	P	Pn	06 41 09.5	+7.0
	baz=18,SNR=4.8						
KDU	**Kakadu**	**6.61**	**151**	P	Pn	06 41 13.1	+5.4
	baz=17,SNR=59						
KNRA	**Kununurra**	**8.77**	**183**	P	Pn	06 41 42.4	+5.0
	baz=22,SNR=14						
WRA	**Warramunga Arr**	**13.91**	**160**	Pn	Pn	06 42 47.3	-0.6
	0.5nm,0.3s,baz=342,slow=13,SNR=6.3						
WRA				Sn	Sn	06 45 10.6	-13
	1.0nm,0.3s,baz=336,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**17.30**	**165**	P	Pn	06 43 32.8	+0.4
	0.2nm,0.3s,baz=334,slow=9.1,SNR=8.8						
ASAR				S	Sn	06 46 33.1	-13
	0.3nm,0.3s,baz=354,slow=26,SNR=4.6						
CMAR	**Chiang Mai Arr**	**39.07**	**311**	LR	LR	07 04 52.1	
	comp=Z,18nm,19.1s,baz=195,slow=39						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	06 50 28.5	0.0
	0.4nm,0.4s,baz=115,slow=7.3,SNR=8.1						
KBZ	**Khabaz**	**92.05**	**314**	LR	LR	07 41 21.7	
	comp=Z,26nm,18.2s,baz=184,slow=40						

IDC ***27*** *06:46:31.6±1.6, 7°52N×94°11E, h0km, mb4.0/7, mb1 4.0/9, mb1mx3.8/52, mbtmp3.9/9, ML3.7/2, MS2.9/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=61.8km s-min=19.2km az=60.0*

ISCJB ***27*** *06:46:34.2±0.9, 7°7N±0°1×94°4E±0°2, h21km, mb3.9/10, MS3.3/1, Error ellipse: s-maj=25.9km s-min=6.9km az=145.3*

NEIC ***27*** *06:46:40.8±2.4, 7°75N×94°69E, h58km±22km, mb4.1/1, Error ellipse: s-maj=37.3km s-min=11.1km az=67.0*

ISC 27 06:46:37.3±0.9, 7°8N±0°1×94°5E±0°1, h21km, n29, σ1°60/26, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.61**	**112**	*e*Pn	**Pn**	**06 48 13.0**	**-0.3**
	13nm,0.4s						
PSI	**Prapat**	**6.63**	**138**	Pn	**Pn**	**06 48 14.2**	**+0.6**
PSI				Sn	**Sn**	**06 49 30.4**	**+1.7**
PSI	**Prapat**	**6.63**	**138**	Pn	**Pn**	**06 48 14.2**	**+0.6**
	1.8nm,0.3s,baz=311,slow=9.5,SNR=5.5						
PSI				Sn	**Sn**	**06 49 30.4**	**+1.7**
	2.6nm,0.3s,baz=243,slow=17,SNR=3.5						
PSI				LR	LR	06 50 57.1	
	comp=Z,138nm,21.2s,baz=280,slow=39						
IPM	**Ipoh**	**7.28**	**116**	*e*Pn	**Pn**	**06 48 21.6**	**-1.0**
	33nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.47**	**22**	Pn	**Pn**	**06 49 21.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.47**	**22**	Pn	**Pn**	**06 49 21.3**	**+1.3**
	0.1nm,0.3s,baz=213,slow=13,SNR=7.9						
CMAR				LR	LR	06 53 15.2	
	comp=Z,26nm,19.9s,baz=192,slow=34						
LSA	**Lhasa**	**22.03**	**352**	*e*P	**P**	**06 51 32.5**	**+1.5**
	5.7nm,0.8s						
H08S3	**Diego Garcia H**	**26.74**	**236**	T	T	07 19 02.1	
	baz=55,slow=74,SNR=26						
H08S2	**Diego Garcia H**	**26.75**	**236**	T	T	07 19 01.9	
	baz=250,slow=74,SNR=18						
H08S1	**Diego Carcia H**	**26.76**	**236**	T	T	07 18 56.9	
MKAR	**Makanchi Array**	**40.26**	**347**	P	**P**	**06 54 11.4**	**-1.3**
MKAR	**Makanchi Array**	**40.26**	**347**	P	**P**	**06 54 11.4**	**-1.3**
	2.0nm,0.7s,baz=161,slow=7.7,SNR=17						
SONM	**Songino Array**	**41.19**	**12**	P	**P**	**06 54 20.7**	**+0.2**
SONM	**Songino Array**	**41.19**	**12**	P	**P**	**06 54 20.7**	**+0.2**
	0.9nm,0.7s,baz=213,slow=7.0,SNR=6.5						
KURBB	**Kurchatov Arra**	**44.73**	**346**	P	**P**	**06 54 47.8**	**-1.1**
	1.2nm,0.3s,baz=169,slow=7.5,SNR=11						
KURK	**Kurchatov**	**44.79**	**346**	P	**P**	**06 54 47.8**	**-1.6**
ZAA0	**Zalesovo Array**	**46.70**	**352**	*e*P	**P**	**06 55 03.8**	**-0.7**
ZALV	**Zalesovo Beam**	**46.70**	**352**	P	**P**	**06 55 03.9**	**-0.6**
ZALV	**Zalesovo Beam**	**46.70**	**352**	P	**P**	**06 55 03.9**	**-0.6**
	4.0nm,0.7s,baz=179,slow=7.4,SNR=17						
WRA	**Warramunga Arr**	**47.93**	**126**	P	**P**	**06 55 12.8**	**-1.8**
WRA	**Warramunga Arr**	**47.93**	**126**	P	**P**	**06 55 12.8**	**-1.8**
	0.4nm,0.8s,baz=296,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**49.59**	**130**	P	**P**	**06 55 25.4**	**-2.0**
ASAR	**Alice Springs**	**49.59**	**130**	P	**P**	**06 55 25.4**	**-2.0**
	0.1nm,0.3s,baz=303,slow=7.8,SNR=1.3						
BRTR	**Keskin Array B**	**62.75**	**311**	P	**P**	**06 57 04.0**	**+2.6**
BRTR	**Keskin Array B**	**62.75**	**311**	P	**P**	**06 57 04.0**	**+2.6**
	0.5nm,0.7s,baz=137,slow=6.2,SNR=3.7						
BRTR				LR	LR	07 25 48.6	
	comp=Z,22nm,20.9s,baz=233,slow=38						
FINES	**FINESS Array B**	**72.96**	**332**	P	**P**	**06 58 02.8**	**-2.2**
FINES	**FINESS Array B**	**72.96**	**332**	P	**P**	**06 58 02.8**	**-2.2**
	6.9nm,1.2s,baz=122,slow=9.3,SNR=4.6						
GERES	**GERESS Array B**	**78.13**	**318**	P	P	06 58 39.9	+4.9
GERES	**GERESS Array B**	**78.13**	**318**	P	P	06 58 39.9	+4.9
	0.5nm,0.7s,baz=76,slow=4.1,SNR=3.8						

ISCJB ***27*** *06:47:20.0±1.0, 2°81N±0°09×124°1E±0°1, h10km, mb3.6/5, Error ellipse: s-maj=20.9km s-min=13.3km az=9.1*

IDC ***27*** *06:47:20.5±1.2, 2°89N×124°41E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/44, mbtmp3.8/5, Error ellipse: s-maj=145.4km s-min=20.0km az=66.0*

DJA ***27*** *06:47:36.0±6.3, 2°N±43°×12°3E±3°2, h10km, M4.2/3, MLv4.2/3*

ISC 27 06:47:21.9±1.1, 2°8N±0°1×124°1E±0°2, h10km, n9, σ1°13/8, mb3.7/5, Celebes Sea

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

GTOI	Gorontalo	2.42 207	P	Pn	06 47 58.5	-3.0
MRSI	Marisa	3.17 223	P	Pn	06 48 10.6	-1.2
LUWI	Luwuk	4.05 199	P	Pn	06 48 24.0	+0.1
APSI	Ampana	4.44 214	P	Pn	06 48 30.5	+1.2
WRA	Warramunga Arr 7.3nm,1.0s,baz=334,slow=10,SNR=11	24.74 156	P	P	06 52 43.6	-0.1
ASAR	Alice Springs 0.6nm,0.6s,baz=341,slow=7.8,SNR=11	27.99 161	P	P	06 53 12.8	-0.3
STKA	Stephens Creek 0.8nm,0.5s,baz=326,slow=6.7,SNR=1.5	38.29 156	P	P	06 54 42.5	-0.2
SONM	Songino Array 0.2nm,0.6s,baz=170,slow=9.6,SNR=1.9	47.39 344	P	P	06 55 55.4	-1.1
MKAR	Makanchi Array 0.3nm,0.4s,baz=121,slow=7.1,SNR=9.9	56.85 327	P	P	06 57 08.2	+1.4

IDC 27 06:48:18.2±8.7, 18°44S×173°73W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/32, mbtmp3.6/3, Error ellipse: s-maj=381.0km s-min=40.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.4nm,0.3s,baz=97,slow=8.3,SNR=1.9	48.90	259	P	P	06 57 06.0	-0.3
ASAR	Alice Springs 0.6nm,0.7s,baz=88,slow=8.3,SNR=5.4	48.93	254	P	P	06 57 06.6	+0.1
ILAR	Eielson Array 0.4nm,1.0s,baz=219,slow=5.4,SNR=5.4	85.48	11	P	P	07 00 57.4	-0.1

IDC 27 06:50:50.1±5.0, 12°.49N×144°.30E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/45, mbtmp3.9/8, Error ellipse: s-maj=151.9km s-min=35.4km az=5.0

ISC 27 06:50:54.8±4.6, 12°.5N±1°.0×144°.3E±0°.3, h30km, n8, σ0s85/8, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	Songino Array 0.2nm,0.5s,baz=123,slow=5.3,SNR=2.7	47.30	326	P	P	06 59 26.4	+0.6
MKAR	Makanchi Array 0.4nm,0.4s,baz=77,slow=7.7,SNR=7.5	61.88	317	P	P	07 01 11.9	+0.4
KURBB	Kurchatov Arra 0.8nm,0.4s,baz=103,slow=6.6,SNR=8.3	65.09	320	P	P	07 01 32.6	+0.1
ILAR	Eielson Array 0.3nm,0.4s,baz=255,slow=5.4,SNR=9.3	69.83	25	P	P	07 02 01.6	-0.7
BVAR	Borovoye Array 1.9nm,0.5s,baz=115,slow=8.2,SNR=9.3	70.43	322	P	P	07 02 06.0	-0.2
YKA	Yellowknife A 0.1nm,0.4s,baz=289,slow=5.0,SNR=3.1	84.12	27	P	P	07 03 23.1	+0.4
NVAR	Mina Array Bea 0.3nm,0.7s,baz=277,slow=7.2,SNR=2.6	88.08	51	P	P	07 03 43.8	+0.7
FINES	FINESS Array B 3.8nm,1.0s,baz=64,slow=4.4,SNR=5.0	91.91	335	P	P	07 03 58.8	-1.4

ISCJB 27 06:53:32.8±0.8, 6°.21S±0°.04×155°.03E±0°.03, h225km±8km, mb5.0/113, Error ellipse: s-maj=5.8km s-min=5.5km az=144.8

MOS 27 06:53:33.3±0.9, 6°.11S×155°.00E, h228km, mb4.9/23, Error ellipse: s-maj=10.6km s-min=8.1km az=89.5

IDC 27 06:53:33.5±1.6, 6°.21S×155°.16E, h220km±15km, mb4.4/23, mb1 4.5/27, mb1mx4.5/35, mbtmp5.0/27, Error ellipse: s-maj=11.0km s-min=7.5km az=106.0

DJA 27 06:53:34.4±2.4, 6°.5S×10°×15°.5E±1°.8, h231km±13km, M5.1/35, mb5.4/35, mB5.6/18, Mw(mB)5.1/18

BJI 27 06:53:34.6, 5°.98S×155°.26E, h243km, mB5.0/32, mb4.9/56

NEIC 27 06:53:35.2±1.1, 6°.22S×155°.05E, h236km±10km, mb4.8/36, Error ellipse: s-maj=5.9km s-min=5.7km az=72.0

ISC 27 06:53:35.8±0.5, 6°.26S±0°.05×155°.10E±0°.05, h242km±3km, h242km:pP-P, n317, σ1s23/332, mb4.9/108, 13C-8D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul baz=3.7,SNR=5.9	3.57	305	P	Pn	06 54 30.8	-3.4
HNR	Honiara	5.75	124	*e*P	Pn	06 54 53.0	-7.6
PMG	Port Moresby 294nm,1.5s,3µm	8.46	248	P	x	06 55 33.1	
PMG	Port Moresby	8.46	248	*e*Pn	Pn	06 55 33.1	-1.9
PMG				S	S	06 57 14.4	+3.4
PMG	Port Moresby 1.6nm,0.3s,baz=52,slow=12,SNR=7.6	8.46	248	P	Pn	06 55 32.7	-2.4
PMG				S	S	06 57 14.4	+3.4
PMG	baz=10,slow=19,SNR=1.0 Port Moresby baz=8.6,SNR=22	8.46	248	P	Pn	06 55 33.4	-1.6
COEN	Coen	14.01	236	*e*Pn	Pn	06 56 44.7	+0.3
COEN	Coen baz=14,SNR=26	14.01	236	⇑P	P	06 56 45.4	+0.2
JAY	Jayapura	14.82	284	P	P	06 56 52.0	-2.3
JAY	Jayapura 17nm,0.3s,baz=134,slow=5.1,SNR=41	14.82	284	P	P	06 56 52.0	-2.3
JAY	Jayapura baz=15,SNR=28	14.82	284	P	P	06 56 51.9	-2.3
CTA	Charters Tower	16.21	211	P	Pn	06 57 10.8	-0.1
CTA	Charters Tower 2.6nm,0.3s,baz=33,slow=13,SNR=23	16.21	211	P	Pn	06 57 10.8	-0.1
CTAO	Charters Tower	16.21	211	*e*P	Pn	06 57 10.8	-0.1
CTAO				pmax	pmax		
CTAO	comp=Z,156nm,1.4s Charters Tower comp=Z,156nm,1.4s	16.21	211	*e*Pn	Pn	06 57 10.8	-0.1
SMPI	Sarmi comp=Z,345nm,1.4s,comp=Z,21µm	16.88	284	P	P	06 57 16.9	0.0
NOUC	Port Laguerre	19.11	147	*e*P	P	06 57 38.9	-2.0
DZM	Mont Dzumac comp=Z,43nm,0.5s	19.17	146	*e*P	P	06 57 40.1	-1.6
DZM	Mont Dzumac comp=Z,11nm,0.3s,baz=266,slow=8.5,SNR=108	19.17	146	P	P	06 57 40.2	-1.4
DZM	Mont Dzumac	19.17	146	*e*P	P	06 57 40.1	-1.6
TARA	Tarawa comp=Z,399nm,2.3s	19.33	68	*e*P	Pn	06 57 46.3	-1.3
EIDS	Eidsvold comp=Z,39nm,0.8s	19.39	191	*e*P	P	06 57 44.0	+0.1
EIDS	Eidsvold baz=20,SNR=10	19.39	191	⇑P	P	06 57 43.9	+0.1
QIS	Mount Isa baz=21,SNR=12	20.69	225	P	P	06 57 57.4	-0.4
RMQ	Roma baz=21,SNR=19	21.01	196	⇓P	P	06 58 01.2	+0.1
QLP	Quilpie baz=23,SNR=40	22.71	206	P	P	06 58 17.0	0.0
FAKI	Fak Fak comp=Z,180nm,1.3s	23.01	277	P	P	06 58 18.1	-1.8
FAKI	Fak Fak	23.01	277	*e*P	P	06 58 18.8	-1.1
FAKI	Fak Fak baz=23,SNR=11	23.01	277	⇓P	P	06 58 18.8	-1.1
KDU	Kakadu baz=23,SNR=45	23.20	252	P	P	06 58 21.3	-0.3
ARMA	Armidale baz=24,SNR=14	24.26	187	P	P	06 58 31.8	+0.7
WRAB	Tennant Creek comp=Z,557nm,0.5s	24.31	234	P	P	06 58 32.6	+0.9
WRAB	Tennant Creek	24.31	234	*d*P	P	06 58 32.1	+0.4
WRAB	comp=Z,117nm,0.7s Tennant Creek comp=Z,50nm,0.6s	24.31	234	*e*P	P	06 58 32.0	+0.4
WRA	Warramunga Arr	24.33	234	P	P	06 58 32.2	+0.5
WRA				S	S	07 02 36.5	+3.4
WRA	Warramunga Arr comp=Z,44nm,0.5s,baz=57,slow=9.3,SNR=90	24.33	234	P	P	06 58 32.2	+0.5
WRA	comp=Z,5.4nm,0.9s,baz=63,slow=14,SNR=5.1			S	S	07 02 36.5	+3.4
SWI	Sorong comp=Z,127nm,0.8s,comp=Z,2µm	24.38	282	P	P	06 58 31.8	-0.5
MTN	Manton Dam baz=25,SNR=22	24.51	253	P	P	06 58 33.3	-0.1
CMSA	Cobar Meteorol baz=27,SNR=9.8	26.65	198	P	P	06 58 52.3	-0.2
AS31	Alice Springs	26.74	227	*e*P	P	06 58 52.8	-0.7
ASAR	Alice Springs	26.74	227	P	P	06 58 53.1	-0.4
ASAR				S	S	07 03 14.0	+2.8
ASAR	Alice Springs comp=Z,2.9nm,0.3s,baz=55,slow=9.5,SNR=61	26.74	227	P	P	06 58 53.1	-0.4
ASAR	comp=Z,3.7nm,0.8s,baz=45,slow=16,SNR=7.9			S	S	07 03 14.0	+2.8
H11S3	WAKE ISLAND Hy baz=203,slow=77,SNR=93	27.12	25	T	T	07 27 45.2	
H11S2	WAKE ISLAND Hy baz=203,slow=77,SNR=67	27.12	25	T	T	07 27 45.4	
H11S1	WAKE ISLAND Hy baz=203,slow=77,SNR=51	27.14	25	T	T	07 27 46.3	
KNRA	Kununurra baz=28,SNR=4.8	27.47	248	P	P	06 58 59.6	-0.3
NLAI	Namlea comp=Z,135nm,0.8s,comp=Z,2µm	28.06	275	P	P	06 59 05.5	+0.3
LBMI	Labuha comp=Z,278nm,1.0s,comp=Z,2µm	28.10	280	P	P	06 59 06.4	+0.8
H11N1	WAKE ISLAND Hy baz=215,slow=78,SNR=13	28.30	24	T	T	07 29 22.5	
H11N3	WAKE ISLAND Hy baz=215,slow=78,SNR=26	28.31	24	T	T	07 29 16.3	
H11N2	WAKE ISLAND Hy baz=215,slow=78,SNR=11	28.31	24	T	T	07 29 24.0	
STKA	Stephens Creek	28.45	205	P	P	06 59 08.1	-0.3
STKA	Stephens Creek comp=Z,4.3nm,0.6s,baz=27,slow=8.6,SNR=21	28.45	205	P	P	06 59 08.1	-0.3
STKA	Stephens Creek baz=29,SNR=18	28.45	205	P	P	06 59 08.2	-0.3
SANI	Sanana comp=Z,125nm,0.9s,comp=Z,1µm	29.33	277	P	P	06 59 15.7	-0.7
SOEI	Soe comp=Z,125nm,0.8s	30.72	261	P	P	06 59 28.8	0.0
SOEI	Soe comp=Z,125nm,0.8s	30.72	261	P	P	06 59 29.1	+0.3
SOEI	Soe	30.72	261	*e*P	P	06 59 29.4	+0.6
SOEI	Soe baz=31,SNR=4.9	30.72	261	P	P	06 59 29.5	+0.7
HTT	Hallett baz=31,SNR=3.8	30.93	207	P	P	06 59 30.4	0.0
BATI	Baumata	31.35	261	P	P	06 59 35.3	+1.0
BATI	Baumata comp=Z,39nm,0.4s,baz=148,slow=1.5,SNR=8.2	31.35	261	P	P	06 59 35.3	+1.0
WRKA	Warakurna baz=32,SNR=35	31.74	231	P	P	06 59 37.0	-0.6
KMSI	Cibinong comp=Z,231nm,0.9s	31.79	281	P	P	06 59 38.7	+0.6
BBOO	Buckleboo baz=32,SNR=11	31.82	211	P	P	06 59 37.7	-0.3
LUWI	Luwuk comp=Z,222nm,0.9s	32.66	278	P	P	06 59 45.8	+0.1
LUWI	Luwuk	32.66	278	*e*P	P	06 59 45.8	+0.1
LUWI	Luwuk baz=33,SNR=7.7	32.66	278	P	P	06 59 45.8	+0.1
MMRI	Maumere comp=Z,453nm,0.7s,comp=Z,6µm	32.66	264	P	P	06 59 44.7	-1.0
MMRI	Maumere comp=Z,453nm,0.7s,comp=Z,6µm	32.66	264	P	P	06 59 44.9	-0.8
MMRI	Maumere comp=Z,267nm,0.6s	32.66	264	*e*P	P	06 59 44.7	-1.0
ARPS	Mount Arapiles baz=33,SNR=7.3	32.70	200	P	P	06 59 46.0	+0.3
KKSI	Kolaka, Sulawe comp=Z,349nm,0.5s	33.37	272	P	x	06 59 52.6	
MRSI	Marisa	33.77	280	P	P	07 00 08.2	+13
APSI	Ampana comp=Z,211nm,0.8s,comp=Z,2µm	33.79	278	P	P	06 59 55.7	+0.3
BKSI	Bulukumba	34.81	270	P	P	07 00 03.6	-0.5
BKSI	Bulukumba comp=Z,52nm,0.9s,comp=Z,508nm	34.81	270	P	P	07 00 04.1	0.0
BNSI	Bone comp=Z,102nm,0.8s,comp=Z,782nm	34.88	271	P	P	07 00 03.9	-0.9
BNSI	Bone comp=Z,102nm,0.8s,comp=Z,783nm	34.88	271	P	P	07 00 05.1	+0.3
LBFI	Labuhan Bajo, comp=Z,135nm,0.8s,comp=Z,1µm	34.98	264	P	x	07 00 03.0	
LBFI	Labuhan Bajo, comp=Z,135nm,0.8s,comp=Z,1µm	34.98	264	P	x	07 00 04.9	
KAPI	Kappang comp=Z,732nm,0.6s,SNR=6.6	35.19	270	P	P	07 00 07.3	-0.1
KAPI	Kappang comp=Z,371nm,0.6s	35.19	270	*e*P	P	07 00 06.7	-0.7
FORT	Forrest comp=Z,34nm,0.6s	35.20	223	*e*P	P	07 00 07.1	-0.1
FORT	Forrest baz=35,SNR=18	35.20	223	P	P	07 00 07.2	-0.1
SPSI	Sidrap Palu comp=Z,69nm,0.9s,comp=Z,573nm	35.26	272	P	P	07 00 06.3	-1.7
SPSI	Sidrap Palu comp=Z,69nm,0.9s,comp=Z,575nm	35.26	272	P	P	07 00 07.2	-0.8
TTSI	Tana Toraja comp=Z,46nm,1.0s	35.30	274	P	P	07 00 09.5	+1.2
URZ	Urewera	37.60	151	P	P	07 00 27.8	+0.4
URZ	Urewera comp=Z,7.7nm,0.7s,baz=253,slow=6.1,SNR=6.5	37.60	151	P	P	07 00 27.8	+0.4
BKZ	Black Stump Fm comp=Z,7.2nm,0.8s	38.03	153	*e*P	P	07 00 30.6	-0.5
MTNI	Mataram comp=Z,95nm,0.8s,comp=Z,882nm	38.66	264	P	x	07 00 34.5	
MTNI	Mataram comp=Z,95nm,0.8s,comp=Z,874nm	38.66	264	P	x	07 00 35.6	
SDKM	Sandakan	39.64	287	⇑P	P	07 00 44.9	+0.2
IGBI	Denpasar comp=Z,108nm,0.6s	39.68	264	P	P	07 00 42.7	-2.2
RPZ	Rata Peaks comp=Z,15nm,0.6s	39.86	162	*e*P	P	07 00 46.5	+0.5
BBKI	Banjar Baru comp=Z,187nm,1.0s,comp=Z,5µm	40.20	272	P	P	07 00 49.8	+0.5
BBKI	Banjar Baru comp=Z,187nm,1.0s,comp=Z,5µm	40.20	272	P	P	07 00 50.1	+0.8
MEEK	Meekatharra baz=40,SNR=37	40.21	236	P	P	07 00 49.2	-0.1
JAGI	Jajag, Banyuwa comp=Z,90nm,1.0s	40.66	264	P	P	07 00 50.7	-2.3
JAGI	Jajag, Banyuwa comp=Z,90nm,1.0s	40.66	264	P	P	07 00 51.4	-1.6
JAGI	Jajag, Banyuwa	40.66	264	*e*P	P	07 00 50.8	-2.2
KKM	Kota Kinabalu comp=Z,31nm,1.0s	40.69	287	*e*P	P	07 00 53.0	-0.3
KKM	Kota Kinabalu baz=41,SNR=3.9	40.69	287	P	P	07 00 53.0	-0.3
KKM	Kota Kinabalu	40.69	287	⇓P	P	07 00 53.2	-0.2
KMMI	Kalianget comp=Z,47nm,1.2s,comp=Z,2µm	40.85	266	P	P	07 00 53.1	-1.5
BLJI	Banyuglugur comp=Z,69nm,0.7s	41.21	265	P	P	07 00 56.9	-0.6
GMJI	Gumukmas comp=Z,40nm,1.5s	41.36	265	P	P	07 00 57.0	-1.7
KRKI	Karangkates comp=Z,217nm,0.5s,comp=Z,17µm	42.34	265	P	x	07 01 05.0	
KRKI	Karangkates comp=Z,217nm,0.5s,comp=Z,17µm	42.34	265	P	x	07 01 06.6	
GIRL	Giralia baz=43,SNR=4.7	42.61	243	⇓P	P	07 01 08.3	-0.4
TBJI	Tambak Boyo comp=Z,140nm,1.0s	42.96	267	P	P	07 01 11.2	-0.4
PWJI	Pagerwojo comp=Z,163nm,0.9s,comp=Z,1µm	42.98	265	P	P	07 01 10.0	-1.8
PWJI	Pagerwojo comp=Z,163nm,0.9s,comp=Z,1µm	42.98	265	P	P	07 01 10.7	-1.1
MORW	Morawa baz=44,SNR=12	43.27	234	P	P	07 01 13.5	-0.4
NGJI	Ngawi comp=Z,48nm,0.9s	43.33	266	P	P	07 01 14.9	+0.3
BLDU	Ballidu baz=44,SNR=25	43.40	231	P	P	07 01 14.5	-0.4
PCJI	Pacitan comp=Z,258nm,0.9s,comp=Z,3µm	43.60	265	P	P	07 01 15.9	-0.8
PCJI	Pacitan comp=Z,258nm,0.9s,comp=Z,3µm	43.60	265	P	P	07 01 16.3	-0.4
SBUM	Sibu	43.68	280	⇑P	P	07 01 17.3	0.0
WOJI	Wonogiri, Jawa comp=Z,102nm,0.6s,comp=Z,3µm	43.85	265	P	P	07 01 17.5	-1.2
WOJI	Wonogiri, Jawa comp=Z,109nm,0.6s,comp=Z,3µm	43.85	265	P	P	07 01 18.8	+0.1
UGM	Wanagama comp=Z,150nm,0.8s	44.25	265	P	P	07 01 20.6	-1.3
UGM	Wanagama comp=Z,93nm,0.6s	44.25	265	*e*P	P	07 01 21.7	-0.2
UGM	Wanagama baz=44,SNR=16	44.25	265	P	P	07 01 21.7	-0.2
SMRI	Semarang comp=Z,152nm,0.8s,comp=Z,6µm	44.35	266	P	P	07 01 21.2	-1.5
SSLB	Suanglung comp=Z,29nm,0.8s	44.74	313	*e*P	P	07 01 25.1	-0.5
RKGY	Rocky Gully baz=45,SNR=16	45.07	226	P	P	07 01 28.9	+0.9
BJII	Banjamegara comp=Z,164nm,0.8s	45.07	266	P	x	07 01 28.9	
BJII	Banjamegara	45.07	266	P	x	07 01 28.8	
KSM	Kuching comp=Z,20nm,0.7s	45.37	278	*e*P	P	07 01 30.1	-0.6
KSM	Kuching baz=46,SNR=3.3	45.37	278	P	P	07 01 30.8	+0.1
JNU	Nakatsue	45.42	331	*e*P	P	07 01 29.9	-0.9
JNU	Nakatsue comp=Z,48nm,0.8s,baz=88,slow=2.8,SNR=19	45.42	331	P	P	07 01 29.9	-0.9
MJAR	Matsushiro Arr	45.42	341	P	P	07 01 28.8	-1.9
MJAR				PcP	PcP	07 03 05.9	+0.3
MJAR	Matsushiro Arr comp=Z,28nm,0.6s,baz=165,slow=8.2,SNR=70	45.42	341	P	P	07 01 28.8	-1.9
MJAR	comp=Z,4.4nm,0.7s,baz=185,slow=4.0,SNR=5.2			PcP	PcP	07 03 05.9	+0.3
MAJO	Matsushiro	45.42	341	*d*P	P	07 01 28.9	-1.8
MAJO	comp=Z,181nm,0.8s			pmax	pmax		
MAJO	Matsushiro comp=Z,9.4nm,0.6s	45.42	341	*e*P	P	07 01 29.5	-1.2
MAT	Matsushiro	45.42	341	P	P	07 01 28.7	-2.0
TGJI	Tegal comp=Z,60nm,1.3s	45.67	267	P	x	07 01 32.5	
KPJI	Karang Pucung comp=Z,214nm,0.7s,comp=Z,2µm	45.84	266	P	P	07 01 33.9	-0.5
CMJI	Cimerak comp=Z,204nm,0.8s,comp=Z,2µm	46.31	265	P	P	07 01 36.4	-1.6
CISI	Cisompet, Garu comp=Z,611nm,0.6s	46.94	266	P	P	07 01 41.7	-1.3
CISI	Cisompet, Garu	46.94	266	*e*P	P	07 01 41.8	-1.2
CISI	Cisompet, Garu baz=47,SNR=14	46.94	266	P	P	07 01 42.0	-1.0
LEM	Lembang comp=Z,172nm,0.7s,comp=Z,2µm	47.16	267	P	P	07 01 44.7	-0.1
LEM	Lembang baz=47,SNR=6.0	47.16	267	P	P	07 01 44.9	+0.1
CNJI	Cibinong	47.63	266	P	P	07 01 47.0	-1.2
XMI	Christmas Isla baz=49,SNR=9.2	49.02	262	P	P	07 01 59.1	+0.3
XMIS	Christmas Isla comp=Z,314nm,0.7s	49.06	262	*e*P	P	07 01 58.9	-0.3
DLV	T Lat	49.76	291	*e*P	P	07 02 04.8	+0.3
KSRS	Korea Array comp=Z,12nm,0.8s,baz=148,slow=7.5,SNR=28	50.34	332	P	P	07 02 07.8	-0.4
KSAR	Wonju Array Be	50.35	332	P	P	07 02 07.8	-0.5
INCN	Inchon comp=Z,44nm,1.6s	50.98	331	*e*P	P	07 02 13.4	+0.3
ASAJ	Asahikawa	51.39	348	P	P	07 02 16.2	+0.3
ASAJ	Asahikawa comp=Z,40nm,0.7s,baz=198,slow=6.4,SNR=14	51.39	348	P	P	07 02 16.2	+0.3
NJ2	Nanjing	51.41	320	*e*P	P	07 02 16.8	+0.4
NJ2	comp=Z,30nm,0.9s			pmax	pmax		
VLA	Vladivostok	53.47	339	*c*P	P	07 02 31.7	+0.5
VLA	comp=Z,59nm,0.8s			pmax	pmax		
WHN	Wuhan	53.49	316	⇑P	P	07 02 32.0	+0.4
WHN	comp=Z,90nm,0.9s			pmax	pmax		
YSS	Yuzh-Sakhalins	54.10	350	⇓P	P	07 02 35.0	-0.7
YSS				*e*		07 03 38.2	
YSS	comp=Z,80nm,1.0s			pmax	pmax		
YSS	Yuzh-Sakhalins comp=Z,91nm,1.1s	54.10	350	*e*P	P	07 02 35.9	+0.2
USRK	Ussuriysk Arra comp=Z,34nm,0.7s,baz=174,slow=7.5,SNR=61	54.38	340	P	P	07 02 37.7	0.0
IPM	Ipoh comp=Z,23nm,0.7s	55.03	280	*e*P	P	07 02 42.1	-0.9
KULM	Kulim comp=Z,54nm,1.4s	55.55	281	*e*P	P	07 02 45.8	-1.0
MDJ	Mudanjiang comp=Z,36nm,1.0s	55.60	338	*e*P	P	07 02 46.0	-0.4
CN2	Changchun	56.57	335	*e*P	P	07 02 53.5	+0.1
CN2	comp=Z,30nm,1.0s			pmax	pmax		
GYA	Guiyang	57.09	307	⇑P	P	07 02 58.0	+0.5
GYA				pP	pP	07 03 53.3	+2.1
GYA				sP	sP	07 04 19.0	+1.3
GYA				PP	PP	07 05 11.8	+4.5
GYA				ScP	ScP	07 07 25.3	-0.6
GYA				PcS	PcS	07 07 51.5	+0.5
GYA				S	S	07 10 34.8	+1.3
GYA				sS	sS	07 12 08.0	+0.1
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,5.0s			pmax	pmax		
SLVN	Son La comp=Z,11nm,1.3s	57.20	300	*e*P	P	07 02 59.2	+0.9
HABR	Khabarovsk	57.27	344	*e*P	P	07 02 56.2	-1.9
HABR				*e**PP	PcP	07 03 43.2	-6.3
HABR				*e*		07 03 48.0	
HABR				*e*		07 05 06.0	
HABR				*e*S	S	07 10 35.3	+0.6
HABR				*e*		07 12 23.6	
HABR				*e*SS	SS	07 14 28.9	+0.5
HABR	comp=Z,92nm,1.1s			pmax	pmax		
HABR	comp=Z,205nm,18.0s			MLR	MLR		
GSI	Gunungsitoli comp=Z,27nm,1.0s	57.91	275	*e*P	P	07 03 01.2	-2.2
BJI	Beijing	58.37	325	P	P	07 03 05.3	-0.7
BJI	comp=Z,13nm,0.6s			pmax	pmax		
BJI	comp=Z,210nm,4.5s			pmax	pmax		
UTTA	Uttaradit comp=Z,10nm,0.8s	58.88	295	P	P	07 03 10.5	+0.6
KLR	Kul'dur	58.90	342	*e*P	P	07 03 05.7	-3.7
KLR	comp=E,28nm,1.4s			pmax	pmax		
KLR	comp=Z,67nm,1.4s			pmax	pmax		
NANT	Nan comp=Z,102nm,0.6s	59.10	296	P	P	07 03 11.7	+0.3
PETK	Petropavlovsk-	59.18	2	P	P	07 03 11.5	+0.2
PETK	Petropavlovsk-	59.18	2	P	P	07 03 11.4	+0.2
PETK	Petropavlovsk- comp=Z,48nm,0.8s,baz=171,slow=9.0,SNR=38	59.18	2	P	P	07 03 11.4	+0.2
XAN	Xi'an	59.25	316	P	P	07 03 11.5	-0.7
XAN	comp=Z,11nm,0.8s			pmax	pmax		
SUKH	Sukhothai comp=Z,9.7nm,0.8s	59.63	294	P	P	07 03 15.9	+0.9
KMI	Kunming	59.69	304	P	P	07 03 16.8	+1.2
KMI				pP	pP	07 04 12.0	+2.2
KMI				S	S	07 11 08.3	+1.0
KMI	comp=Z,21nm,0.9s			pmax	pmax		
KMI	comp=Z,120nm,3.4s			pmax	pmax		
KMI	comp=Z,200nm,11.5s			LR	LR		
KMI	comp=Z,160nm,12.3s			LR	LR		
KMI	comp=Z,110nm,10.2s			LR	LR		
LAMP	Lampang comp=Z,12nm,0.7s	59.96	295	P	P	07 03 18.5	+1.2
CMAR	Chiang Mai Arr	60.56	295	P	P	07 03 22.3	+0.9
CMAR	Chiang Mai Arr comp=Z,15nm,0.8s,baz=116,slow=4.9,SNR=44	60.56	295	P	P	07 03 22.3	+0.9
CHTO	Chiang Mai	60.67	296	*e*P	P	07 03 22.6	+0.5
CHTO	comp=Z,18nm,1.1s			pmax	pmax		
CHTO	Chiang Mai comp=Z,73nm,1.1s	60.67	296	P	P	07 03 22.7	+0.5
CHTO	Chiang Mai comp=Z,18nm,1.1s	60.67	296	*e*P	P	07 03 22.6	+0.5
CD2	Chengdu	61.42	310	⇑P	P	07 03 27.3	+0.4
CD2				pP	pP	07 04 20.5	-0.9
CD2				sP	sP	07 04 44.3	-3.4
CD2				PP	PP	07 05 48.5	+3.1
CD2				S	S	07 11 23.8	-4.9
CD2				sS	sS	07 13 02.5	-1.9
CD2				SS	SS	07 15 34.8	+0.6
CD2	comp=Z,80nm,0.5s			pmax	pmax		
CD2	comp=Z,90nm,4.8s			pmax	pmax		
HHC	Hu-ho-hao-te	61.56	324	*e*P	P	07 03 31.5	+3.7
HHC				pP	pP	07 04 24.3	+2.0
HHC				sP	sP	07 04 46.5	-2.1
HHC				PP	PP	07 05 53.0	+6.4
HHC				S	S	07 11 34.8	+4.6
HHC				sS	sS	07 13 01.0	-5.0
HHC	comp=Z,28nm,0.7s			pmax	pmax		
HHC	comp=Z,370nm,7.1s			pmax	pmax		
HHC	comp=Z,220nm,17.3s			LR	LR		
HHC	comp=Z,470nm,17.9s			LR	LR		

HHC					LR	LR			
	comp=Z,230nm,16.5s								
HIA	**Hailar**	**63.30**	**335**	*e*P	**P**		**07 03 38.8**	**-0.2**	
	comp=Z,13nm,0.7s								
LZH	**Lanzhou**	**63.86**	**315**	⇑P	**P**		**07 03 44.3**	**+1.2**	
LZH				pP	**pP**		**07 04 40.5**	**+2.4**	
LZH				sP	**sP**		**07 05 05.0**	**+0.8**	
LZH				*e*S	**S**		**07 11 59.5**	**+0.4**	
LZH				SS	**SS**		**07 16 14.3**	**+1.8**	
LZH				pmax	pmax				
	comp=Z,180nm,1.9s								
LZH				pmax	pmax				
	comp=Z,400nm,4.5s								
CLNS	**Chul'man**	**67.56**	**343**	*e*P	**P**		**07 04 06.1**	**+0.1**	
CLNS				pmax	pmax				
	comp=Z,56nm,0.9s								
CLNS				pmax	pmax				
	comp=N,20nm,0.8s								
CLNS				pmax	pmax				
	comp=E,10.0nm,0.8s								
GTA	**Gaotai**	**68.27**	**317**	*e*P	**P**		**07 04 11.5**	**+0.5**	
GTA				pP	**pP**		**07 05 04.0**	**-2.7**	
GTA				pmax	pmax				
	comp=E,24nm,0.8s								
ULN	**Ulaanbaatar**	**68.44**	**327**	*e*P	**P**		**07 04 13.2**	**+1.3**	
	comp=E,26nm,0.9s								
SONM	**Songino Array**	**68.77**	**327**	P	**P**		**07 04 14.5**	**+0.5**	
SONM	**Songino Array**	**68.77**	**327**	P	**P**		**07 04 14.5**	**+0.5**	
	comp=E,30nm,0.8s,baz=133,slow=5.6,SNR=133								
SEY	**Seymchan**	**69.02**	**359**	P	**P**		**07 04 13.8**	**-1.1**	
SEY	**Seymchan**	**69.02**	**359**	P	**P**		**07 04 13.8**	**-1.1**	
SEY	**Seymchan**	**69.02**	**359**	P	**P**		**07 04 13.8**	**-1.1**	
	comp=E,11nm,0.9s,baz=159,slow=6.9,SNR=9.3								
YAK	**Yakutsk**	**70.86**	**348**	*e*P	**P**		**07 04 25.6**	**-0.5**	
YAK				*e*			07 04 39.2		
YAK				*e**PP	**pP**		**07 05 22.7**	**+0.5**	
YAK				*e*			07 07 05.7		
YAK				*e*S	**S**		**07 13 20.0**	**-1.0**	
YAK				*e*			07 13 58.0		
YAK				*e*SS	**SS**		**07 18 04.9**	**+5.8**	
YAK				*e*SSS	SSS		07 21 05.0		
YAK				pmax	pmax				
	comp=Z,71nm,1.0s								
YAK				pmax	pmax				
	comp=E,9.0nm,1.1s								
YAK				pmax	pmax				
	comp=N,20nm,1.2s								
YAK				pmax	pmax				
	comp=Z,8.0nm,0.6s								
YAK				smax	smax				
	comp=N,220nm,6.4s								
YAK				smax	smax				
	comp=E,614nm,6.2s								
YAK	**Yakutsk**	**70.86**	**348**	*e*P	**P**		**07 04 26.3**	**+0.2**	
	comp=E,77nm,0.9s								
LSA	**Lhasa**	**70.94**	**304**	*e*P	**P**		**07 04 27.9**	**0.0**	
LSA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
LSA	**Lhasa**	**70.94**	**304**	*e*P	**P**		**07 04 27.9**	**0.0**	
	comp=Z,7.4nm,0.8s								
VNDA	**Vanda**	**71.31**	**178**	P	**P**		**07 04 29.4**	**+0.8**	
VNDA	**Vanda**	**71.31**	**178**	P	**P**		**07 04 29.4**	**+0.8**	
	comp=Z,2.0nm,1.0s,baz=3.5,slow=8.1,SNR=4.2								
ZAK	**Zakamensk**	**71.92**	**328**	*e*P	**P**		**07 04 32.4**	**-0.5**	
ZAK				pmax	pmax				
	comp=Z,20nm,1.0s								
TLY	**Talaya**	**72.48**	**329**	P	**P**		**07 04 36.4**	**+0.4**	
	comp=Z,74nm,1.1s,SNR=6.3								
TLY	**Talaya**	**72.48**	**329**	*e*P	**P**		**07 04 36.7**	**+0.7**	
TLY				pmax	pmax				
	comp=Z,14nm,0.9s								
TLY	**Talaya**	**72.48**	**329**	*e*P	**P**		**07 04 36.4**	**+0.4**	
	comp=Z,17nm,1.1s								
TAPN	**Taplejung**	**73.11**	**301**	*e*P	**P**		**07 04 40.5**	**-0.1**	
	comp=Z,37nm,0.9s								
ODAN	**Odare**	**73.25**	**300**	*e*P	**P**		**07 04 41.1**	**-0.2**	
	comp=Z,65nm,0.8s								
MOY	**Mondy**	**73.84**	**328**	*e*P	**P**		**07 04 44.1**	**0.0**	
RAMN	**Ramite**	**73.95**	**300**	*e*P	**P**		**07 04 45.0**	**-0.4**	
	comp=Z,10nm,0.5s								
JIRN	**Jiri**	**74.49**	**301**	*e*P	**P**		**07 04 48.4**	**-0.3**	
	comp=Z,24nm,0.7s								
BILL	**Bilibino**	**74.54**	**4**	*d i*P	**P**		**07 04 47.5**	**-0.1**	
BILL				*i*			07 04 58.8		
BILL				*i*			07 07 40.5		
BILL				pmax	pmax				
	comp=Z,17nm,1.3s								
BILL	**Bilibino**	**74.54**	**4**	*e*P	**P**		**07 04 48.0**	**+0.4**	
	comp=Z,14nm,0.9s								
GUN	**Gumba**	**74.83**	**301**	*e*P	**P**		**07 04 50.5**	**-0.1**	
	comp=Z,52nm,0.8s								
PKI	**Pulchoki**	**75.14**	**301**	*e*P	**P**		**07 04 52.0**	**-0.3**	
	comp=Z,30nm,0.9s								
PKIN	**Phulchoki**	**75.15**	**301**	*e*P	**P**		**07 04 51.8**	**-0.5**	
	comp=Z,22nm,0.8s								
KKN	**Kakani**	**75.31**	**301**	*e*P	**P**		**07 04 52.8**	**-0.3**	
DMN	**Daman**	**75.41**	**300**	*e*P	**P**		**07 04 53.5**	**-0.3**	
	comp=Z,62nm,0.9s								
GKN	**Gorkha**	**75.91**	**301**	*e*P	**P**		**07 04 56.1**	**-0.4**	
	comp=Z,60nm,1.0s								
TNA	**Tin City**	**76.59**	**15**	*e*P	**P**		**07 04 59.1**	**-0.1**	
KOLN	**Koldanda**	**76.74**	**300**	*e*P	**P**		**07 05 00.6**	**-0.6**	
	comp=Z,35nm,0.9s								
DANN	**Dangsing**	**76.75**	**301**	*e*P	**P**		**07 05 00.5**	**-0.9**	
	comp=Z,24nm,0.8s								
PYUN	**Piuthan**	**77.34**	**300**	*e*P	**P**		**07 05 03.7**	**-0.9**	
	comp=Z,42nm,0.9s								
WMQ	**Urumqi**	**78.36**	**317**	P	**P**		**07 05 10.3**	**+0.7**	
WMQ				LR	LR				
	comp=Z,58nm,14.4s								
WMQ				LR	LR				
	comp=Z,69nm,29.9s								
WMQ				LR	LR				
	comp=Z,48nm,28.9s								
HYB	**Hyderabad**	**79.13**	**289**	*i* P	**P**		**07 05 13.0**	**-1.3**	
RC01	**Rabbit Creek A**	**79.55**	**24**	*e*P	**P**		**07 05 15.7**	**+0.1**	
TIXI	**Tiksi**	**79.64**	**352**	*ce*P	**P**		**07 05 14.9**	**-1.0**	
TIXI				pmax	pmax				
	comp=Z,14nm,1.6s								
TIXI	**Tiksi**	**79.64**	**352**	*e*P	**P**		**07 05 15.7**	**-0.2**	
	comp=Z,42nm,1.8s								
PMR	**Palmer**	**80.08**	**24**	*e*P	**P**		**07 05 18.2**	**-0.1**	
PMR				pmax	pmax				
	comp=Z,11nm,0.9s								
PMR	**Palmer**	**80.08**	**24**	*e*P	**P**		**07 05 18.2**	**-0.1**	
	comp=Z,11nm,0.9s								
KTH	**Kantishna Hill**	**80.50**	**22**	*e*P	**P**		**07 05 19.8**	**-1.0**	
	comp=Z,5.9nm,0.9s								
TRF	**Thorofare Moun**	**80.68**	**22**	P	**P**		**07 05 20.7**	**-1.1**	
	comp=Z,8.7nm,0.9s								
MCK	**McKinley**	**81.34**	**22**	*e*P	**P**		**07 05 24.3**	**-0.8**	
MCK				pmax	pmax				
	comp=Z,19nm,0.9s								
MCK	**McKinley**	**81.34**	**22**	*e*P	**P**		**07 05 24.3**	**-0.8**	
	comp=Z,19nm,0.9s								
COLA	**College**	**82.36**	**21**	⇑*i*P	**P**		**07 05 29.7**	**-0.6**	
COLA				pmax	pmax				
	comp=Z,36nm,1.0s								
COLA	**College**	**82.36**	**21**	*e*P	**P**		**07 05 29.6**	**-0.7**	
	comp=Z,2.5nm,0.9s								
ILAR	**Eielson Array**	**82.65**	**22**	P	**P**		**07 05 30.4**	**-1.4**	
ILAR	**Eielson Array**	**82.65**	**22**	P	**P**		**07 05 30.4**	**-1.4**	
	comp=Z,3.9nm,0.8s,baz=251,slow=5.5,SNR=37								
MKAR	**Makanchi Array**	**82.92**	**319**	*i* P	**P**		**07 05 33.5**	**-0.1**	
MKAR				pmax	pmax				
	comp=Z,21nm,0.7s								
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**		**07 05 33.6**	**-0.1**	
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**		**07 05 33.6**	**-0.1**	
	comp=Z,21nm,0.7s,baz=87,slow=5.0,SNR=173								
DOT	**Dot Lake**	**83.15**	**23**	*e*P	**P**		**07 05 34.3**	**-0.1**	
	comp=Z,9.3nm,0.8s								
ZAA0	**Zalesovo Array**	**83.63**	**326**	*e*P	**P**		**07 05 36.0**	**-1.0**	
ZALV	**Zalesovo Beam**	**83.63**	**326**	*i* P	**P**		**07 05 36.0**	**-1.0**	
ZALV				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ZALV	**Zalesovo Beam**	**83.63**	**326**	P	**P**		**07 05 36.1**	**-0.9**	
ZALV	**Zalesovo Beam**	**83.63**	**326**	P	**P**		**07 05 36.1**	**-0.9**	
	comp=Z,10nm,0.7s,baz=115,slow=5.7,SNR=42								
EGAK	**Eagle**	**84.80**	**23**	*e*P	**P**		**07 05 42.6**	**-0.1**	
	comp=Z,9.9nm,0.8s								
KSH	**Kashi**	**85.61**	**310**	P	**P**		**07 05 49.5**	**+2.0**	
KSH				*e*PP	**PP**		**07 09 10.0**	**-0.1**	
KSH				*e*SKS	**SKSac**		**07 15 45.0**	**-4.8**	
KSH				*e*S	**SKKSac**		**07 15 53.3**	**-4.2**	
KSH				*es*S	**sS**		**07 17 40.0**	**-1.3**	
KSH				pmax	pmax				
	comp=Z,7.0nm,0.5s								
KSH				pmax	pmax				
	comp=Z,57nm,5.4s								
KSH				LR	LR				
	comp=Z,100nm,5.1s								
KSH				LR	LR				
	comp=Z,120nm,4.7s								
KSH				LR	LR				
	comp=Z,130nm,4.8s								
KURK	**Kurchatov**	**86.32**	**322**	P	**P**		**07 05 49.7**	**-0.8**	
KURK	**Kurchatov**	**86.32**	**322**	P	**P**		**07 05 49.7**	**-0.8**	
KURBB	**Kurchatov Arra**	**86.35**	**322**	P	**P**		**07 05 49.7**	**-0.9**	
	comp=Z,2.1nm,0.7s,baz=105,slow=4.1,SNR=26								
AAK	**Ala-Archa**	**87.32**	**313**	*ce*P	**P**		**07 05 54.9**	**-0.8**	
AAK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
AAK	**Ala-Archa**	**87.32**	**313**	*e*P	**P**		**07 05 55.5**	**-0.3**	
	comp=Z,2.8nm,0.8s								
INK	**Inuvik**	**89.00**	**21**	P	**P**		**07 06 02.6**	**-0.2**	
INK	**Inuvik**	**89.00**	**21**	P	**P**		**07 06 02.6**	**-0.2**	
	comp=Z,4.9nm,0.9s,baz=262,slow=3.3,SNR=21								
MLAC	**Mammoth Lakes**	**90.67**	**52**	P	**P**		**07 06 12.6**	**+1.0**	
	baz=91								
EDW2	**Edwards Air Fo**	**91.01**	**55**	P	**P**		**07 06 14.0**	**+1.0**	
	baz=91								
NVAR	**Mina Array Bea**	**91.18**	**52**	P	**P**		**07 06 15.3**	**+1.3**	
NVAR	**Mina Array Bea**	**91.18**	**52**	P	**P**		**07 06 15.3**	**+1.3**	
	comp=Z,2.3nm,0.8s,baz=255,slow=6.4,SNR=17								
BFSC	**Mount Baldy Ra**	**91.20**	**56**	P	**P**		**07 06 14.8**	**+0.8**	
	baz=91								
LRMC	**Laurel Mountai**	**91.32**	**55**	P	**P**		**07 06 16.2**	**+1.7**	
	baz=91								
BRVK	**Borovoye**	**91.84**	**323**	*ce*P	**P**		**07 06 15.5**	**-0.8**	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
GSC	**Goldstone**	**92.02**	**55**	P	**P**		**07 06 18.7**	**+1.0**	
	baz=92								
HEC	**Hector,Ludlow**	**92.36**	**55**	P	**P**		**07 06 20.0**	**+0.7**	
	baz=92								
BELC	**Belle Mtn. Jos**	**92.55**	**56**	P	**P**		**07 06 21.1**	**+0.8**	
	baz=93								
GMRC	**Granite Mounta**	**92.90**	**56**	P	**P**		**07 06 23.4**	**+1.6**	
	baz=93								
IRM	**Iron Mountain**	**93.26**	**56**	P	**P**		**07 06 24.4**	**+1.0**	
	baz=93								
R11A	**Troy Canyon, C**	**93.30**	**52**	P	**P**		**07 06 24.6**	**+1.0**	
	baz=93								
GLA	**Glamis**	**93.43**	**57**	P	**P**		**07 06 25.3**	**+1.1**	
	baz=94								
W13A	**Hualapai Mount**	**94.38**	**55**	P	**P**		**07 06 30.3**	**+1.5**	
	baz=94								
DUG	**Dugway**	**95.59**	**50**	P	**P**		**07 06 34.3**	**+0.3**	
	baz=96								
YKA	**Yellowknife Ar**	**95.64**	**28**	P	**P**		**07 06 33.6**	**+0.1**	
YKA	**Yellowknife Ar**	**95.64**	**28**	P	**P**		**07 06 33.6**	**+0.1**	
	comp=Z,4.2nm,0.8s,baz=268,slow=4.6,SNR=48								
U15A	**North Rim**	**95.77**	**54**	P	**P**		**07 06 36.6**	**+1.5**	
	baz=96								
I17A	**Pilgrim Ck.**	**97.41**	**47**	P	Pdif		07 06 42.3	0.0	
	baz=98								
PDAR	**Pinedale Array**	**98.13**	**48**	P	Pdif		07 06 45.5	-0.1	
PDAR	**Pinedale Array**	**98.13**	**48**	P	Pdif		07 06 45.5	-0.1	
	comp=Z,0.8nm,0.9s,baz=219,slow=2.3,SNR=5.4								
I19A	**Meeteetse**	**98.56**	**47**	P	**P**		**07 06 47.7**	**+0.3**	
	baz=99								
A19A	**Klinkworth Far**	**98.72**	**42**	P	**P**		**07 06 48.1**	**+0.3**	
	baz=99								
O20A	**White River Ci**	**99.08**	**50**	P	**Pdif**		**07 06 50.6**	**+0.8**	
	baz=99								
F22A	**Rosebud**	**100.48**	**45**	P	**Pdif**		**07 06 55.8**	**+0.1**	
	baz=100								
AKASG	**Malin Array Be**	**117.00**	**325**	PKIKP	**PKPdf**		**07 11 51.7**	**-0.1**	
AKASG	**Malin Array Be**	**117.00**	**325**	PKP	**PKPdf**		**07 11 51.7**	**-0.1**	
AKASG	**Malin Array Be**	**117.00**	**325**	PKP	**PKPdf**		**07 11 51.7**	**-0.1**	
	comp=Z,1.3nm,0.5s,baz=52,slow=2.6,SNR=17								
BRTR	**Keskin Array B**	**117.97**	**312**	PKP	**PKPdf**		**07 11 54.4**	**+0.1**	
BRTR	**Keskin Array B**	**117.97**	**312**	PKP	**PKPdf**		**07 11 54.4**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=126,slow=1.1,SNR=4.2								
NB2	**NORSAR Subarra**	**119.04**	**341**	PKPdf	**PKPdf**		**07 11 55.6**	**+0.1**	
	comp=Z,1.0nm,0.7s,baz=39,slow=1.9								
NOA	**NORSAR Array B**	**119.04**	**341**	PKP	**PKPdf**		**07 11 56.1**	**+0.6**	
NOA	**NORSAR Array B**	**119.04**	**341**	PKP	**PKPdf**		**07 11 56.1**	**+0.6**	
	comp=Z,1.2nm,0.7s,baz=252,slow=3.1,SNR=5.1								
KOLS	**Kolonicke sedl**	**121.80**	**325**	*e*PKIKP	**PKPdf**		**07 12 02.3**	**+1.1**	
KOLS	**Kolonicke sedl**	**121.80**	**325**	*e*PKP	**PKPdf**		**07 12 02.3**	**+1.1**	
UZH	**Uzhgorod**	**121.95**	**325**	*e*PKIKP	**PKPdf**		**07 12 00.7**	**-0.7**	
STHS	**Stebnicka Huta**	**122.13**	**326**	*e*PKIKP	**PKPdf**		**07 12 01.9**	**+0.1**	
STHS	**Stebnicka Huta**	**122.13**	**326**	*e*PKP	**PKPdf**		**07 12 01.9**	**+0.1**	
CRVS	**Cervenica-Dubn**	**122.28**	**326**	*e*PKIKP	**PKPdf**		**07 12 01.2**	**-0.9**	
CRVS	**Cervenica-Dubn**	**122.28**	**326**	*e*PKP	**PKPdf**		**07 12 01.2**	**-0.9**	
KECS	**Kecovo**	**123.05**	**326**	*e*PKIKP	**PKPdf**		**07 12 02.6**	**-0.9**	
KECS	**Kecovo**	**123.05**	**326**	*e*PKP	**PKPdf**		**07 12 02.6**	**-0.9**	
BRG	**Berggiesshubel**	**125.05**	**331**	*e*P	**PKPdf**		**07 12 08.4**	**+1.1**	
	comp=Z,22nm,1.6s								
BRG	**Berggiesshubel**	**125.05**	**331**	*e*PKIKP	**PKPdf**		**07 12 08.4**	**+1.1**	
BRG				pmax	pmax				
	comp=Z,22nm,1.6s								
CLL	**Collm**	**125.21**	**332**	*e*PKPdf	**PKPdf**		**07 12 08.5**	**+0.9**	
CLL				LmV			12 17 00.0		
	comp=Z,200nm,19.8s								
CLL				LmV			13 26 00.0		
	comp=Z,300nm,19.5s								
GERES	**GERESS Array B**	**126.47**	**329**	PKP	**PKPdf**		**07 12 11.1**	**+0.9**	
GERES	**GERESS Array B**	**126.47**	**329**	PKP	**PKPdf**		**07 12 11.1**	**+0.9**	
	comp=Z,1.7nm,0.6s,baz=70,slow=1.5,SNR=14								
MTE	**Manteigas**	**142.61**	**338**	*e*PKP	**PKPdf**		**07 12 43.5**	**+3.0**	
PMRV	**Marv??o**	**143.39**	**337**	*e*PKP	PKPbc		07 12 40.2	+0.5	
PTOM	**Tomar**	**143.61**	**338**	*e*PKP	**PKPdf**		**07 12 41.4**	**-0.8**	
EVO	**Evora**	**144.41**	**337**	*e*PKP	**PKPdf**		**07 12 43.4**	**-0.2**	
PMAFR	**Mafra**	**144.51**	**339**	*e*PKP	**PKPdf**		**07 12 44.2**	**+0.4**	
PBEJ	**Beja**	**144.79**	**336**	*e*PKP	**PKPdf**		**07 12 45.1**	**+0.8**	
PNCL	**Nicolau / Gran**	**144.97**	**337**	*e*PKP	**PKPab**		**07 12 45.4**	**+0.8**	
PVAQ	**Vaqueiros**	**145.26**	**336**	*e*PKP	**PKPbc**		**07 12 45.5**	**+0.2**	
PTEO	**Sao Teotonio**	**145.54**	**337**	*e*PKP	**PKPab**		**07 12 47.7**	**+1.0**	
TOA0	**Torodi Ar. Sit**	**152.92**	**287**	*e*PKPdf	**PKPdf**		**07 12 58.5**	**+0.6**	
TOA0				*e*PKPbc	**PKPbc**		**07 13 04.7**	**-0.6**	
TORD	**Torodi Ar. Bea**	**152.92**	**287**	PKP	**PKPdf**		**07 12 57.4**	**-0.5**	
TORD				PKPbc	**PKPbc**		**07 13 04.8**	**-0.6**	
TORD	**Torodi Ar. Bea**	**152.92**	**287**	PKP	**PKPdf**		**07 12 57.4**	**-0.5**	
	comp=Z,1.0nm,0.9s,baz=67,slow=1.1,SNR=4.9								
TORD				PKPbc	**PKPbc**		**07 13 04.8**	**-0.6**	
	comp=Z,5.5nm,0.8s,baz=62,slow=2.4,SNR=28								

*ISCJB **27** 07:21:10.7±0.3,59.99N±0.03×153.18W±0.07, h128km±3km, mb3.5/3, Error ellipse: s-maj=5.9km s-min=4.0km az=31.7*

*NEIC **27** 07:21:12.6,59.98N×153.19W,h121km,MG3.2(AEIC), After AEIC.*

*IDC **27** 07:21:15.9±6.5,60.39N×152.92W,h138km±60km, mb3.0/2, mb1 3.4/6, mb1mx3.1/40, mbtmp3.7/6, Error ellipse: s-maj=56.3km s-min=21.6km az=34.0*

ISC 27 07:21:12.5±0.7, 59.98N±0.04×153.19W±0.04, h120km±5km, n90, σ1#10/100, mb3.7/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.09**	**19**	P		**Pn**	**07 21 28.7**	**-0.5**
ILW				S		**Sn**	**07 21 41.7**	**-0.1**
ILIM	**Iliamna**	**0.16**	**49**	P		**Pn**	**07 21 28.5**	**-0.6**
ILIM				S		**Sn**	**07 21 41.5**	**-0.2**
OPT	**Oil Point**	**0.33**	**183**	P		**Pn**	**07 21 29.4**	**-0.2**
OPT				S		**Sn**	**07 21 42.8**	**+0.3**
PDB	**Pedro Bay**	**0.54**	**250**	P		**Pn**	**07 21 30.1**	**-0.6**
PDB				S		**Sn**	**07 21 43.7**	**-0.7**
RDWB	**Redoubt West**	**0.54**	**19**	P		**Pn**	**07 21 29.5**	**-1.4**
RDWB				S		**Sn**	**07 21 43.2**	**-1.6**
RDN	**Redoubt North**	**0.58**	**22**	P		**Pn**	**07 21 30.7**	**-0.4**
NCT	**North Crescent**	**0.60**	**12**	P		**Pn**	**07 21 30.8**	**-0.5**
AUL	**Augustine Lava**	**0.61**	**192**	P		**Pn**	**07 21 31.1**	**-0.1**
AUH	**Augustine H**	**0.63**	**192**	P		**Pn**	**07 21 31.3**	**-0.2**
AUP	**Augustine Pinn**	**0.63**	**191**	P		**Pn**	**07 21 31.4**	**-0.1**
AUI	**Augustine Isla**	**0.66**	**191**	P		**Pn**	**07 21 31.3**	**-0.2**
AUI				S		**Sn**	**07 21 45.9**	**0.0**
DFR	**Drift River**	**0.67**	**22**	P		**Pn**	**07 21 31.2**	**-0.6**
HOM	**Homer**	**0.85**	**112**	P		**Pn**	**07 21 33.0**	**0.0**
HOM				S		**Sn**	**07 21 48.9**	**+0.3**
MCNL	**McNeil River**	**0.98**	**217**	P		**Pn**	**07 21 33.8**	**-0.6**
BRLK	**Bradley Lake**	**1.18**	**99**	P		**Pn**	**07 21 35.9**	**-0.5**
NKA	**Nikishka**	**1.24**	**51**	P		**Pn**	**07 21 38.2**	**+1.2**
CKL	**Chakachamna La**	**1.29**	**19**	P		**Pn**	**07 21 37.4**	**-0.3**
SPBG	**Spurr Blockage**	**1.35**	**17**	P		**Pn**	**07 21 38.1**	**-0.2**
BGL	**Barrier Glacie**	**1.35**	**17**	P		**Pn**	**07 21 38.2**	**-0.1**
CGLM	**Capps Glacier**	**1.46**	**23**	P		**Pn**	**07 21 39.3**	**-0.2**
SLKM	**Skilak Lake**	**1.57**	**69**	P		**Pn**	**07 21 40.1**	**-0.7**
KAHC	**Katmai Hardscr**	**1.62**	**216**	P		**Pn**	**07 21 40.6**	**-0.9**
SVW2	**Sparrevohn**	**1.63**	**315**	P		**Pn**	**07 21 40.3**	**-1.2**
STLK	**Strandline Lak**	**1.67**	**23**	P		**Pn**	**07 21 41.8**	**-0.1**
SEW	**Seward**	**1.88**	**85**	P		**Pn**	**07 21 43.7**	**-0.8**
FIB	**Fire Island**	**1.91**	**50**	P		**Pn**	**07 21 45.3**	**+0.6**
SUA	**Susitna One**	**1.92**	**38**	P		**Pn**	**07 21 44.8**	**-0.2**
KVTA	**Katmai Vly 10**	**1.93**	**215**	P		**Pn**	**07 21 44.5**	**-0.7**
KAKN	**Katmai Knife C**	**1.94**	**211**	P		**Pn**	**07 21 44.8**	**-0.6**
KCE	**Katmai Mt Cerb**	**2.02**	**211**	P		**Pn**	**07 21 46.0**	**-0.2**
KELA	**Mount Kelaz**	**2.02**	**221**	P		**Pn**	**07 21 45.4**	**-0.9**
RC01	**Rabbit Creek A**	**2.04**	**55**	P		**Pn**	**07 21 45.6**	**-0.8**
RC01				S		**Sn**	**07 22 11.0**	**-1.4**
KABR	**Katmai Barrier**	**2.07**	**207**	P		**Pn**	**07 21 46.2**	**-0.7**
SKT	**Skwentna**	**2.17**	**21**	P		**Pn**	**07 21 48.1**	**+0.1**
KDAK	**Kodiak Island**	**2.22**	**172**	P		**Pn**	**07 21 46.9**	**-1.8**
PTE	**Portage**	**2.25**	**65**	P		**Pn**	**07 21 47.8**	**-1.3**
PWL	**Port Wells**	**2.57**	**68**	P		**Pn**	**07 21 51.3**	**-1.8**
PMR	**Palmer**	**2.57**	**49**	P		**Pn**	**07 21 51.5**	**-1.6**
OHAK	**Old Harbor**	**2.76**	**181**	P		**Pn**	**07 21 53.5**	**-2.2**
PPLA	**Purkeypile**	**2.97**	**9**	P		**Pn**	**07 21 59.0**	**+0.6**
GLI	**Glacier Island**	**3.16**	**71**	P		**Pn**	**07 22 00.1**	**-0.7**
TT01	**Tatalina**	**3.24**	**336**	P		**Pn**	**07 22 00.6**	**-1.2**
SCM	**Sheep Creek Mo**	**3.42**	**54**	P		**Pn**	**07 22 02.9**	**-1.4**
JPK	**Jack Peak**	**3.44**	**69**	P		**Pn**	**07 22 02.9**	**-1.6**
SII	**Sitkinak Islan**	**3.47**	**189**	P		**Pn**	**07 22 02.2**	**-2.7**
CAST	**Castle Rocks**	**3.50**	**8**	P		**Pn**	**07 22 03.9**	**-1.4**
MID	**Middleton Isla**	**3.52**	**96**	P		**Pn**	**07 22 04.9**	**-0.6**
KTH	**Kantishna Hill**	**3.75**	**16**	P		**Pn**	**07 22 07.7**	**-0.9**
TRF	**Thorofare Moun**	**3.75**	**20**	P		**Pn**	**07 22 07.7**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.75**	**78**	P		**Pn**	**07 22 07.5**	**-1.2**
DIV	**Divide**	**3.84**	**69**	P		**Pn**	**07 22 08.5**	**-1.4**
KLU	**Klutina**	**3.88**	**64**	P		**Pn**	**07 22 08.6**	**-1.8**
RND	**Reindeer**	**4.01**	**29**	P		**Pn**	**07 22 10.9**	**-1.3**
SGAM	**Sherman Glacie**	**4.02**	**79**	P		**Pn**	**07 22 11.2**	**-1.0**
DHY	**Denali Highway**	**4.17**	**39**	P		**Pn**	**07 22 13.2**	**-1.2**
GOAT	**Goat Mountain**	**4.26**	**78**	P		**Pn**	**07 22 14.9**	**-0.5**
MCK	**McKinley**	**4.27**	**26**	P		**Pn**	**07 22 15.1**	**-0.6**
RAGM	**Ragged Mountai**	**4.27**	**81**	P		**Pn**	**07 22 14.9**	**-0.8**
CHIR	**Chirikof Islan**	**4.36**	**198**	P		**Pn**	**07 22 14.6**	**-2.2**
BMRM	**Bremner River**	**4.37**	**73**	P		**Pn**	**07 22 15.4**	**-1.5**
HARP	**HAARP**	**4.59**	**54**	P		**Pn**	**07 22 18.5**	**-1.3**
PAX	**Paxson**	**4.77**	**48**	P		**Pn**	**07 22 21.2**	**-1.0**
GLB	**Gilahina Butte**	**4.84**	**68**	P		**Pn**	**07 22 21.6**	**-1.6**
PS10	**TAPS Pump St10**	**4.94**	**42**	P		**Pn**	**07 22 24.1**	**-0.5**
WRH	**Wood River Hil**	**5.10**	**26**	P		**Pn**	**07 22 25.4**	**-1.3**
DDM	**Donnelly Dome**	**5.16**	**39**	P		**Pn**	**07 22 27.9**	**+0.3**
MLY	**Manley**	**5.20**	**12**	P		**Pn**	**07 22 26.9**	**-1.1**
CCB	**Clear Creek Bu**

KPJI	Karang Pucung	13.22	124	P		Pn	07 32 28.0	+4.7
CHBT	CHBT	13.30	19	P		x	07 32 32.2	
CMAR	Chiang Mai Arr	18.27	3	P		P	07 33 26.8	-2.1
CMAR	Chiang Mai Arr	18.27	3	P		P	07 33 26.8	-2.1
	1.0nm,0.3s,baz=195,slow=10,SNR=5.4							
CMAR				LR		LR	07 40 14.0	
	comp=Z,62nm,21.6s,baz=201,slow=36							
KKM	Kota Kinabalu	19.18	72	*e*Pn		Pn	07 33 41.6	+1.5
	22nm,0.6s							
KKM	Kota Kinabalu	19.18	72	⇓P		P	07 33 39.4	+0.4
SDKM	Sandakan	20.00	74	⇓P		P	07 33 47.3	-0.7
KDM	Kudat	20.03	70	⇓P		P	07 33 47.8	-0.4
TSM	Tawau	20.35	78	⇓P		Pn	07 33 54.7	+0.8
SLVN	Son La	21.89	15	*e*P		P	07 34 07.1	-1.3
	8.4nm,1.0s							
SLVN				LR		LR		
	comp=Z,200nm,19.8s							
QIZ	Qiongzhong	22.14	31	P		P	07 34 10.8	-0.2
QIZ				S		S	07 38 16.0	+2.5
KAPI	Kappang	22.37	103	*e*P		P	07 34 12.5	-1.1
KAPI				LR		LR		
	comp=Z,600nm,19.3s							
TOLI	Toli-Toli	22.88	87	PFAKE			07 34 30.0	+11
TOLI				LR		LR		
	comp=Z,100nm,18.7s							
MMRI	Maumere	25.72	110	PFAKE			07 35 00.0	+14
MMRI				LR		LR		
	comp=Z,100nm,21.4s							
H08S2	Diego Garcia H	26.51	253	T		T	08 02 14.4	
	baz=74,slow=75,SNR=608							
H08S3	Diego Garcia H	26.51	253	T		T	08 02 15.6	
	baz=74,slow=75,SNR=667							
H08S1	Diego Garcia H	26.53	253	T		T	08 02 16.6	
	baz=74,slow=75,SNR=86							
TAPN	Taplejung	28.82	341	*e*P		P	07 35 18.9	+5.3
	comp=Z,23nm,0.8s							
RAMN	Ramite	28.84	339	*e*P		P	07 35 19.6	+5.9
	comp=Z,9.5nm,0.6s							
PKI	Pulchoki	29.84	337	*e*P		P	07 35 26.8	+4.1
	comp=Z,35nm,1.2s							
PKIN	Phulchoki	29.85	337	*e*P		P	07 35 26.5	+3.8
GUN	Gumba	29.97	338	*e*P		P	07 35 25.3	+1.5
	comp=Z,23nm,0.7s							
LSA	Lhasa	30.14	348	*e*P		P	07 35 26.8	+1.4
	comp=Z,8.2nm,0.8s							
LSA				LR		LR		
	comp=Z,100nm,18.0s							
KOLN	Koldanda	30.76	335	*e*P		P	07 35 32.6	+2.0
	comp=Z,20nm,0.9s							
WRKA	Warakurna	38.56	133	⇓P		P	07 36 38.3	+0.4
	baz=39,SNR=6.7							
GTA	Gaotai	39.16	2	*e*P		P	07 36 45.5	+2.7
GTA				pP		pP	07 36 49.0	-2.7
GTA				sP		sP	07 36 52.0	-3.3
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
WRA	Warramunga Arr	40.84	121	P		P	07 36 55.5	-1.4
WRA	Warramunga Arr	40.84	121	P		P	07 36 55.5	-1.4
	comp=Z,3.3nm,0.7s,baz=300,slow=9.0,SNR=15							
ASAR	Alice Springs	42.15	127	P		P	07 37 06.8	-0.8
ASAR	Alice Springs	42.15	127	P		P	07 37 06.8	-0.8
	comp=Z,2.4nm,0.5s,baz=298,slow=8.2,SNR=44							
ASAR				LR		LR	07 56 30.0	
	comp=Z,71nm,21.1s,baz=298,slow=39							
AS31	Alice Springs	42.15	127	*e*P		P	07 37 06.9	-0.8
KSH	Kashi	44.07	335	*e*SS		SS	07 47 20.5	+8.6
KSH				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KSH				pmax		pmax		
	comp=Z,250nm,4.1s							
KSH				LR		LR		
	comp=N,62nm,4.8s							
KSH				LR		LR		
	comp=E,73nm,5.1s							
KSH				LR		LR		
	comp=Z,78nm,3.3s							
KSAR	Wonju Array Be	46.31	33	P		P	07 37 40.0	-0.7
KSRS	Korea Array	46.34	33	P		P	07 37 40.0	-0.9
	comp=Z,4.1nm,0.7s,baz=227,slow=8.4,SNR=13							
KSRS				LR		LR	07 57 09.5	
	comp=Z,38nm,20.0s,baz=254,slow=36							
AAK	Ala-Archa	47.29	336	P		P	07 37 50.6	+2.1
AAK	Ala-Archa	47.29	336	P		P	07 37 50.6	+2.1
	comp=Z,0.8nm,0.3s,baz=25,slow=0.3,SNR=3.9							
SONM	Songino Array	48.11	8	P		P	07 37 55.0	+0.3
SONM				PcP		PcP	07 39 22.6	+0.5
SONM	Songino Array	48.11	8	P		P	07 37 55.0	+0.3
	comp=Z,1.2nm,0.5s,baz=190,slow=8.1,SNR=13							
SONM				PcP		PcP	07 39 22.6	+0.5
	comp=Z,1.5nm,0.8s,baz=198,slow=3.5,SNR=2.6							
ULN	Ulaanbaatar	48.23	8	*e*P		P	07 37 55.7	+0.1
	comp=Z,3.6nm,0.8s							
MKAR	Makanchi Array	48.48	346	P		P	07 37 58.0	+0.5
MKAR	Makanchi Array	48.48	346	P		P	07 37 58.0	+0.5
	comp=Z,9.5nm,0.7s,baz=152,slow=8.0,SNR=104							
BBOO	Buckleboo	48.58	136	⇓P		P	07 37 59.7	+1.2
	baz=49,SNR=5.4							
KKAR	Karatay Array	49.36	334	*e*P		P	07 38 05.4	+1.1
HTT	Hallett	50.93	135	⇓P		P	07 38 17.6	+1.2
	baz=51,SNR=6.3							
TLY	Talaya	51.62	5	*e*P		P	07 38 26.8	+5.6
	comp=Z,3.0nm,0.7s							
QLP	Quilpie	51.84	125	⇓P		P	07 38 23.5	+0.2
	baz=52,SNR=3.4							
STKA	Stephens Creek	52.08	132	*e*P		P	07 38 25.8	+0.7
	comp=Z,2.4nm,0.6s							
STKA	Stephens Creek	52.08	132	P		P	07 38 25.7	+0.7
	comp=Z,12nm,0.6s,baz=306,slow=7.0,SNR=33							
STKA	Stephens Creek	52.08	132	P		P	07 38 25.5	+0.5
	baz=52,SNR=24							
KURK	Kurchatov	53.04	345	*e*P		P	07 38 31.3	-0.4
	comp=Z,4.2nm,1.0s							
USRK	Ussuriysk Arra	53.34	30	P		P	07 38 33.6	-0.4
	comp=Z,7.1nm,0.7s,baz=232,slow=5.1,SNR=13							
ZAA0	Zalesovo Array	54.75	351	*e*P		P	07 38 44.0	-0.2
ZALV	Zalesovo Beam	54.75	351	P		P	07 38 44.3	+0.1
ZALV	Zalesovo Beam	54.75	351	P		P	07 38 44.3	+0.1
	comp=Z,3.1nm,0.4s,baz=180,slow=5.9,SNR=24							
CMSA	Cobar Meteorol	55.03	130	P		P	07 38 47.3	+0.7
	baz=55,SNR=25							
BRVK	Borovoye	57.59	341	*e*P		P	07 39 08.9	+4.5
	comp=Z,85nm,2.9s							
YNG	Young	58.26	131	P		P	07 39 10.8	+1.2
	baz=58,SNR=5.6							
KBZ	Khabaz	65.38	319	P		P	07 39 57.7	+0.4
KBZ	Khabaz	65.38	319	P		P	07 39 57.7	+0.4
	comp=Z,3.3nm,0.9s,baz=171,slow=7.5,SNR=4.8							
BRTR	Keskin Array B	70.39	312	P		P	07 40 28.9	-0.2
BRTR	Keskin Array B	70.39	312	P		P	07 40 28.9	-0.2
	comp=Z,1.5nm,0.8s,baz=126,slow=6.8,SNR=8.8							
PETK	Petropavlovsk-	72.24	33	LR		LR	08 17 43.3	
	comp=Z,22nm,19.1s,baz=217,slow=40							
TIXI	Tiksi	74.14	10	*e*P		P	07 40 49.9	-0.8
	comp=Z,18nm,1.7s							
BOSA	Boshof	74.88	240	P		P	07 40 57.9	+1.9
BOSA				LR		LR		
	comp=Z,300nm,18.1s							
BOSA	Boshof	74.88	240	P		P	07 40 57.9	+1.9
	comp=Z,5.3nm,0.8s,baz=96,slow=5.8,SNR=8.9							
AKASG	Malin Array Be	76.57	322	P		P	07 41 04.7	-0.4
AKASG	Malin Array Be	76.57	322	P		P	07 41 04.7	-0.4
	comp=Z,1.9nm,0.7s,baz=90,slow=4.9,SNR=8.3							
VRI	Vrancioaia	76.92	317	⇓*i*P		P	07 41 08.2	+1.0
TESR	Tescani	77.12	318	⇓*i*P		P	07 41 09.2	+0.9
MLR	Muntele Rosu	77.37	317	⇓*i*P		P	07 41 11.0	+1.2
BUR08	Bucovina Ar. S	78.35	319	*e*P		P	07 41 16.2	+1.0
SIRR	Siria	80.45	317	⇑*i*P		P	07 41 27.1	+0.5
KOLS	Kolonicke sedl	80.52	320	*e*P		P	07 41 28.4	+1.5
BKZ	Black Stump Fm	81.19	130	*e*P		P	07 41 31.3	+0.5
	comp=Z,14nm,0.8s							
BKZ				LR		LR		
	comp=Z,200nm,18.1s							
STHS	Stebnicka Huta	81.28	320	*e*P		P	07 41 32.4	+1.4
FINES	FINESS Array B	81.31	332	P		P	07 41 30.9	+0.2
FINES	FINESS Array B	81.31	332	P		P	07 41 31.0	+0.2
	comp=Z,3.8nm,1.0s,baz=126,slow=7.1,SNR=3.9							
KECS	Kecovo	81.61	319	*e*P		P	07 41 33.0	+0.3
ARCES	ARCESS Array B	83.81	340	P		P	07 41 44.4	+0.6
ARCES	ARCESS Array B	83.81	340	P		P	07 41 44.4	+0.6
	comp=Z,4.9nm,0.9s,baz=339,slow=6.5,SNR=4.3							
GERES	GERESS Array B	86.12	319	P		P	07 41 55.7	-0.2
GERES	GERESS Array B	86.12	319	P		P	07 41 55.7	-0.2
	comp=Z,1.6nm,0.9s,baz=59,slow=3.8,SNR=4.9							
NVAR	Mina Array Bea	129.23	37	PKP		PKPdf	07 48 24.7	+1.0
NVAR	Mina Array Bea	129.23	37	PKP		PKPdf	07 48 24.7	+1.0
	comp=Z,0.3nm,0.6s,baz=333,slow=0.7,SNR=5.1							
PDAR	Pinedale Array	130.69	27	PKP		PKPdf	07 48 26.5	+0.1
PDAR	Pinedale Array	130.69	27	PKP		PKPdf	07 48 26.5	+0.1
	comp=Z,0.5nm,0.8s,baz=144,slow=3.3,SNR=4.2							
Z32A	Haskell	142.95	25	⇑P		PKPdf	07 48 44.9	-4.1
	baz=143							
527A	Woodward Ranch	143.59	32	⇓P		PKPbc	07 48 47.5	-0.2
	baz=143							
626A	Big Bend Ranch	143.76	34	⇓P		PKPbc	07 48 48.4	+0.3
	baz=144							
Z35A	Perchaven, San	143.80	22	⇓P		PKPab	07 48 47.6	+0.2
	baz=144							
528A	Cox Ranch, San	144.01	31	⇓P		PKPbc	07 48 49.4	+0.4
	baz=144							
232A	Coleman	144.10	26	⇑P		PKPbc	07 48 49.3	+0.2
	baz=144							
429A	Davenport Ranc	144.10	30	⇑P		PKPbc	07 48 49.3	+0.2
	baz=144							
134A	White-Moore Ra	144.16	23	⇓P		PKPbc	07 48 49.7	+0.5
	baz=144							
TXAR	Lajitas Array	144.19	33	PKP		PKPbc	07 48 50.2	+0.7
TXAR	Lajitas Array	144.19	33	PKP		PKPbc	07 48 50.2	+0.7
	comp=Z,1.3nm,0.7s,baz=288,slow=0.7,SNR=16							
331A	San Angelo	144.24	27	⇑P		PKPbc	07 48 49.5	0.0
	baz=144							
627A	Terlingua Ranc	144.25	33	⇑P		PKPbc	07 48 50.1	+0.4
	baz=144							
233A	Rising Star	144.31	25	⇓P		PKPab	07 48 49.3	0.0
	baz=144,SNR=6.0							
529A	Stev Forest Ra	144.34	31	⇑P		PKPbc	07 48 50.1	+0.3
	baz=144							
332A	Millersview	144.48	27	⇑P		PKPab	07 48 49.8	-0.2
	baz=144,SNR=6.6							
CPUP	Villa Florida	144.67	220	PKP		PKPdf	07 48 52.5	+0.3
CPUP	Villa Florida	144.67	220	PKP		PKPdf	07 48 52.5	+0.3
	comp=Z,9.2nm,0.8s,baz=117,slow=1.7,SNR=10							
431A	Sonora	144.68	28	⇑P		PKPab	07 48 48.6	-2.2
	baz=144							
530A	J-C Ranch, Com	144.76	30	⇓P		PKPbc	07 48 51.7	+0.5
	baz=144,SNR=16							
333A	Richland Sprin	144.87	26	⇓P		PKPab	07 48 51.2	-0.2
	baz=145,SNR=6.0							
432A	Menard	144.89	27	⇑P		PKPab	07 48 50.7	-0.8
	baz=145							
WHTX	Lake Whitney	144.92	23	⇑P		PKPab	07 48 51.1	-0.4
	baz=145							
531A	Rocksprings	145.13	29	⇓P		PKPab	07 48 52.5	0.0
	baz=145,SNR=15							
334A	Lometa	145.18	25	⇑P		PKPbc	07 48 52.2	-0.3
	baz=145,SNR=5.2							
JCT	Junction City	145.22	27	⇓P		PKPbc	07 48 52.5	-0.1
	baz=145,SNR=7.5							
433A	Art	145.31	26	⇑P		PKPbc	07 48 52.5	-0.4
	baz=145							
532A	Rocksprings	145.47	28	⇑P		PKPbc	07 48 53.1	-0.4
	baz=145,SNR=9.9							
335A	Moody	145.55	24	⇓P		PKPbc	07 48 53.7	+0.1
	baz=145							
434A	Burnet	145.62	25	⇓P		PKPdf	07 48 53.4	-0.3
	baz=145							
631A	Perdido Creek	145.74	29	⇓P		PKPab	07 48 54.5	-0.2
	baz=146,SNR=7.9							
533A	Kerrville	145.92	27	⇓P		PKPbc	07 48 54.9	+0.1
	baz=146							
632A	Uvalde	146.04	28	⇓P		PKPbc	07 48 55.5	+0.2
	baz=146,SNR=24							
534A	Blanco	146.20	26	⇓P		PKPbc	07 48 55.3	-0.4
	baz=146,SNR=6.4							
633A	Saathoff Ranch	146.37	28	⇑P		PKPab	07 48 57.0	-0.1
	baz=146,SNR=12							
535A	Dale	146.59	25	⇓P		PKPab	07 48 58.0	+0.2
	baz=146							
732A	Laxson Ranch,	146.60	29	⇑P		PKPab	07 48 57.6	-0.3
	baz=146,SNR=6.2							
733A	Divot King Ran	146.94	28	⇑P		PKPab	07 48 58.9	-0.3
	baz=147							
832A	Faith Ranch, C	146.97	30	⇑P		PKPab	07 48 58.7	-0.7
	baz=147,SNR=5.5							
635A	Leesville	147.06	26	⇑P		PKPab	07 48 59.0	-0.7
	baz=147,SNR=5.4							
734A	La Parita Cree	147.18	27	⇑P		PKPab	07 49 00.1	0.0
	baz=147							
833A	Chaparral WMA,	147.22	29	⇓P		PKPab	07 49 00.1	-0.3
	baz=147							
735A	Kenedy	147.51	26	⇓P		PKPab	07 49 01.2	-0.3
	baz=147							
834A	Tilden	147.79	28	⇓P		PKPab	07 49 01.8	-0.7
	baz=148							
933A	Laredo	147.87	30	⇓P		PKPab	07 49 02.2	-0.7
	baz=148							
835A	Beeville	147.98	27	⇓P		PKPab	07 49 02.8	-0.6
	baz=148							
934A	Benavides	148.24	29	⇑P		PKPab	07 49 03.1	-1.3
	baz=148							

IDC ***27*** *07:52:55.7±3.0,21.0°05×68.0°49E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/36,mbtmp3.7/7,MS3.4/3,Ms1 3.4/3, ms1mx3.1/28,Error ellipse: s-maj=107.3km s-min=27.2km az=51.0*

ISCJB ***27*** *07:52:56.1±2.5,21.0°0S±0.0°4×68.0°6E±0.0°5,h13km,mb3.8/7, MS3.5/3,Error ellipse: s-maj=92.2km s-min=23.0km az=140.2*

ISC 27 07:52:57.6±2.8,21°1S±0.0°5×68°4E±0.0°6,h13km,n13, σ1°20/7,mb3.8/7,MS3.4/3,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Garcia H	13.96	17	T	T	08 10 19.3	
	baz=196,slow=76,SNR=12						
H08S2	Diego Garcia H	13.97	17	T	T	08 10 16.4	
	baz=196,slow=76,SNR=46						
H08S3	Diego Garcia H	13.98	17	T	T	08 10 22.9	
	baz=196,slow=76,SNR=24						
BOSA	Boshof	39.70	250	LR	LR	08 14 22.3	
	comp=Z,93nm,19.3s,baz=156,slow=32						
CMAR	Chiang Mai Arr	49.41	39	LR	LR	08 20 18.7	
	comp=Z,35nm,19.2s,baz=188,slow=33						
ASAR	Alice Springs	60.12	106	P	P	08 03 04.7	-0.6
	0.4nm,0.7s,baz=257,slow=6.5,SNR=5.7						
WRA	Warramunga Arr	61.33	102	P	P	08 03 13.3	-0.2
	1.0nm,0.8s,baz=257,slow=6.4,SNR=3.2						
STKA	Stephens Creek	65.28	116	P	P	08 03 40.0	+0.4
	2.8nm,0.9s,baz=292,slow=5.4,SNR=3.1						
STKA				LR	LR	08 28 51.7	
	comp=Z,21nm,18.2s,baz=205,slow=33						
MKAR	Makanchi Array	68.75	10	P	P	08 04 01.0	-0.1
	0.5nm,0.6s,baz=210,slow=4.6,SNR=2.3						
H09W1	TRISTAN DA CUN	70.42	237	T	T	09 21 09.2	
	SNR=17						
ZALV	Zalesovo Beam	76.09	10	P	P	08 04 42.7	-1.9
	0.5nm,0.5s,baz=235,slow=6.8,SNR=1.9						
SONM	Songino Array	76.64	25	P	P	08 04 49.3	+1.2
	0.3nm,0.7s,baz=195,slow=10,SNR=1.8						
AKASG	Malin Array Be	79.42	336	P	P	08 05 03.6	+0.3
	0.7nm,0.7s,baz=144,slow=4.7,SNR=4.5						

ISCJB ***27*** *07:56:17.7±0.6,42.0°04N±0.0°04×81.0°21E±0.0°07,h10km, mb3.5/7,Error ellipse: s-maj=8.1km s-min=5.4km az=25.6*

IDC ***27*** *07:56:17.3±1.0,42.0°06N×80.0°99E,h0km,mb3.5/6, mb1 3.6/11,mb1mx3.5/37,mbtmp3.5/11,ML3.1/5,Error ellipse: s-maj=17.6km s-min=14.2km az=162.0*

MOS ***27*** *07:56:20.8±1.6,42.0°15N×81.0°28E,h33km,mb4.0/4,Error ellipse: s-maj=11.4km s-min=8.5km az=109.2*

NNC ***27*** *07:56:23.4±1.9,42.0°30N×80.0°78E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=18.8km s-min=7.4km az=139.0*

ISC 27 07:56:19.5±0.8,42°03N±0.0°07×81°10E±0.0°06,h10km,n49, σ1°58/52,mb3.6/7,10C-11D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	Almaty	3.27	293	⇑Pn	Pn	07 57 13.4	+2.5
	41nm,0.6s						
KNDC				⇑Lg	Lg	07 57 56.6	
	333nm,0.8s						
AAA	Alma-Ata	3.31	293	*i* PN	Pb	07 57 16.4	-1.8
AAA				*i* S	Sb	07 57 58.8	+0.3
AAA				pmax	pmax		
	comp=Z,142nm,0.2s						
AAA				smax	smax		
	comp=N,583nm,0.4s						
ULHL	Ulahol	3.62	275	*i* PN	Pn	07 57 16.6	+0.8
ULHL	Ulahol	3.62	275	P	Pn	07 57 16.7	+0.8
	SNR=27						
TKM2	Tokmak 2	4.17	284	⇓Pn	Pn	07 57 24.7	+1.4
	comp=N,24nm,0.6s						
TKM2				⇓Lg	Lg	07 58 24.4	
	comp=N,102nm,0.8s						
TKM2	Tokmak 2	4.17	284	*i* PN	Pn	07 57 25.7	+2.4
TKM2	Tokmak 2	4.17	284	P	Pn	07 57 25.7	+2.4
	SNR=19						
KZA	Kyzart	4.36	273	*i* PN	Pn	07 57 27.9	+1.8
KZA	Kyzart	4.36	273	P	Pn	07 57 27.9	+1.8
	SNR=12						
KBK	Karagaybulak	4.60	280	P	Pn	07 57 31.0	+1.8
	SNR=16						
MK08	Makanchi Array	4.80	10	⇓Sn	Sn	07 58 29.5	+2.0
	comp=N,15nm,0.6s						
MK08				⇓Lg	Lg	07 58 48.4	
	comp=N,23nm,0.5s						
MK09	Makanchi Array	4.81	10	⇓Pn	Pn	07 57 33.1	+1.1
	comp=N,8.0nm,0.5s						
MK31	Makanchi Array	4.84	10	PN	Pn	07 57 33.1	+0.8
MK31				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MKAR	Makanchi Array	4.84	10	*e*PN	Pn	07 57 33.0	+0.7
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	Makanchi Array	4.84	10	Pn	Pn	07 57 33.0	+0.7
	comp=Z,4.2nm,0.3s,baz=197,slow=12,SNR=147						
MKAR				Sn	Sn	07 58 32.0	+3.6
	comp=Z,7.2nm,0.3s,baz=183,slow=23,SNR=9.8						
MKAR				Lg	Lg	07 58 48.8	
	comp=Z,6.8nm,0.3s,baz=114,slow=33,SNR=5.6						
FRU	Bishkek	4.87	282	*e*PN	Pb	07 57 47.0	+2.2
FRU				*i* S	Sg	07 58 53.0	-2.6
FRU				pmax	pmax		
	comp=Z,60nm,2.2s						
FRU				smax	smax		
	comp=N,250nm,2.1s						
AAK	Ala-Archa	4.93	279	⇑Pn	Pn	07 57 35.2	+1.4
	comp=N,2.1nm,0.6s						
AAK				⇑Pg	Pb	07 57 46.8	+0.7
	comp=N,18nm,0.8s						
AAK				⇓Lg	Lg	07 58 50.1	
	comp=N,46nm,0.6s						
AAK	Ala-Archa	4.93	279	PN	Pn	07 57 35.2	+1.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	4.93	279	P	Pn	07 57 35.8	+2.0
	SNR=8.5						
AAK	Ala-Archa	4.93	279	Pn	Pn	07 57 34.9	+1.1
	comp=Z,1.2nm,0.3s,baz=120,slow=9.0,SNR=16						
AAK				Pg	Pb	07 57 47.1	+1.0
	comp=Z,4.2nm,0.3s,baz=108,slow=9.2,SNR=20						
AAK				Lg	Lg	07 58 48.7	
	comp=Z,8.4nm,0.3s,baz=11,slow=23,SNR=11						
USP	Ospenovka	5.02	286	P	Pb	07 57 47.6	+0.1
	SNR=8.2						
EKS2	Erkin-Say	5.46	279	P	Pb	07 57 58.3	+3.2
	SNR=8.3						
AML	Almayashu	5.51	273	P	Pb	07 57 55.6	-0.4
	SNR=19						
KK31	Karatay Array	7.89	281	⇓Pg	Pb	07 58 42.5	+6.2
	comp=Z,1.3nm,0.5s,baz=92,slow=16,SNR=7.3						
KK31				⇓Lg	Lg	08 00 23.3	
	comp=Z,9.2nm,0.6s,baz=90,slow=28,SNR=5.4						
KURBB	Kurchatov Arra	8.77	349	⇓Pn	Pn	07 58 24.9	-1.4
	comp=Z,2.8nm,0.9s						
KURBB				⇑Sn	Sn	08 00 06.3	+1.1
	comp=Z,13nm,0.6s						
KURBB				⇓Lg	Lg	08 00 50.7	
	comp=Z,35nm,0.7s						
KURBB	Kurchatov Arra	8.77	349	Pn	Pn	07 58 26.0	-0.3
	comp=Z,0.1nm,0.3s,baz=174,slow=12,SNR=3.1						
KURBB				Lg	Lg	08 00 48.0	
	comp=Z,1.0nm,0.3s,baz=52,slow=29,SNR=8.3						
KURK	Kurchatov	8.85	350	⇑Pn	Pn	07 58 27.0	-0.4
	comp=Z,0.9nm,0.6s						
KURK				⇑Sn	Sn	08 00 08.7	+1.6
	comp=Z,3.7nm,0.6s						
KURK				⇑Lg	Lg	08 00 52.6	
	comp=Z,12nm,0.8s						
KURK	Kurchatov	8.85	350	P	Pn	07 58 26.0	-1.4
CHCP	Chirah Chowk	10.40	219	P	Pn	07 58 49.8	+1.1
CEP	Cherat	10.94	224	P	Pn	07 58 58.7	+2.5
ZALV	Zalesovo Beam	12.18	10	P	Pn	07 59 11.5	-1.4
ZALV	Zalesovo Beam	12.18	10	Pn	Pn	07 59 11.5	-1.4
	comp=Z,0.1nm,0.3s,baz=193,slow=13,SNR=5.5						
ZALV				Lg	Lg	08 02 34.9	
	baz=210,slow=25,SNR=2.3						
VOSK	Vostochnaya	12.69	331	Pn	Pn	07 59 21.3	+1.4
VOSK				Lg	Lg	08 02 52.9	
BVAR	Borovoye Array	13.15	330	P	Pn	07 59 25.6	-0.5
BVAR	Borovoye Array	13.15	330	Pn	Pn	07 59 25.6	-0.5
	comp=Z,0.2nm,0.3s,baz=268,slow=39,SNR=2.7						
BVAR				Lg	Lg	08 03 06.1	
	comp=Z,0.2nm,0.3s,baz=137,slow=26,SNR=3.6						
BRVK	Borovoye	13.21	330	⇑*i*P	Pn	07 59 29.7	+2.7
AB31	Akbulak array	16.43	303	Pn	Pn	08 00 08.7	-1.3
	comp=Z,0.5nm,0.5s,baz=0.0,slow=0.1,SNR=24						
AKTO	Aktyubinsk	17.99	306	⇑Pn	Pn	08 00 28.1	-1.5
	comp=Z,2.1nm,0.9s						
AKTO	Aktyubinsk	17.99	306	P	Pn	08 00 28.0	-1.5
AKTO				pmax	pmax		
	comp=Z,5.0nm,1.4s						
AK

JOU	**Okura**	**1.47 310**	P	Pb	08 04 39.4	-1.1
JOU			S	Sb	08 04 57.7	-1.2
JMK	**Ichinoseki**	**1.67 336**	P	Pn	08 04 42.2	+1.6
JYS	**Shirataka**	**1.79 297**	P	Pb	08 04 44.8	-1.2
JYS			*e*S	Sb	08 05 06.7	-1.3
JYK	**Kaneyama**	**2.02 318**	P	Pn	08 04 47.1	+1.7
JOM	**Ohasama**	**2.13 343**	P	Pn	08 04 48.6	+1.6
JOM			S	Sn	08 05 14.2	+1.9
JYA	**Atsumi**	**2.21 302**	P	Pn	08 04 50.1	+2.1

IDC 27 08:19:31.0±2.9, 54.14N×87.21E, h0km, mb1 2.8/2, mb1mx2.8/32, mbtmp2.8/2, ML2.8/2, Error ellipse: s-maj=25.9km s-min=18.0km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42 263**	*i*			08 27 48.9	
	baz=83,slow=346,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.42 263**		Pg	Pn	08 19 56.3	-1.8
	2.5nm,0.3s,baz=78,slow=16,SNR=30						
ZALV				Lg	Lg	08 20 16.8	
	1.9nm,0.3s,baz=80,slow=25,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.37 240**		Pn	Pn	08 21 07.0	+0.8
	0.3nm,0.3s,baz=55,slow=14,SNR=7.0						
KURBB				Lg	Lg	08 22 52.5	
	0.1nm,0.3s,baz=53,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**7.99 205**		Pn	Pn	08 21 29.6	+1.2
	0.1nm,0.3s,baz=17,slow=15,SNR=4.7						
MKAR				Lg	Lg	08 23 44.6	
	0.0nm,0.3s,baz=33,slow=29,SNR=2.5						

*KRSC **27** 08:21:48.2±1.2, 54.77N×163.31E, h19km±10km, ML4.0*
*MOS **27** 08:21:48.6±0.7, 54.83N×163.25E, h13km, mb4.1/1, Error ellipse: s-maj=18.2km s-min=12.4km az=86.9*
ISC 27 08:21:52.9±5.9, 54.84N±0.03×163.28E±0.04, h38km±9km, n48, σ1s38/82, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.94 253**		PN	Pn	08 22 06.0	-3.6
MKZ				S	**Sn**	**08 22 19.0**	**-2.8**
MKZ	**Mys Kozlova**	**0.94 253**		P	Pn	08 22 06.0	-3.6
MKZ				S	**Sn**	**08 22 19.0**	**-2.8**
KBTR	**Krutoberegovo**	**1.40 349**		PN	**Pn**	**08 22 14.1**	**-1.7**
KBTR				S	**Sn**	**08 22 33.6**	**+0.6**
KBTR	**Krutoberegovo**	**1.40 349**		P	**Pn**	**08 22 14.1**	**-1.7**
KBTR				S	**Sn**	**08 22 33.6**	**+0.6**
KBG	**Krutoberegovo**	**1.46 347**		PN	**Pn**	**08 22 15.0**	**-1.6**
KBG				S	**Sn**	**08 22 35.4**	**+1.0**
KBG	**Krutoberegovo**	**1.46 347**		P	**Pn**	**08 22 15.0**	**-1.6**
KBG				S	**Sn**	**08 22 35.4**	**+1.0**
BKI	**Bering**	**1.59 76**		PN	**Pn**	**08 22 17.1**	**-1.4**
BKI				S	**Sn**	**08 22 39.1**	**+1.3**
BKI	**Bering**	**1.59 76**		P	**Pn**	**08 22 17.1**	**-1.4**
BKI				S	**Sn**	**08 22 39.1**	**+1.3**
ZLN	**Zelenaya**	**1.84 311**		P	**Pn**	**08 22 22.1**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.84 308**		P	**Pn**	**08 22 20.8**	**-1.3**
BZGR				S	**Sn**	**08 22 45.6**	**+1.5**
TUMR	**Tumrok**	**1.86 285**		P	**Pn**	**08 22 21.3**	**-1.0**
TUMR				S	**Sn**	**08 22 46.5**	**+2.0**
BZMR	**Bezymyannaya**	**1.94 306**		P	**Pn**	**08 22 22.6**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.95 306**		P	**Pn**	**08 22 22.7**	**-0.9**
KMNR	**Kamenistaya**	**1.97 299**		P	**Pn**	**08 22 23.2**	**-0.6**
KMNR				S	**Sn**	**08 22 49.5**	**+2.2**
KIRR	**Kirishev**	**2.01 305**		P	**Pn**	**08 22 24.3**	**-0.2**
SMKR	**Semkarok**	**2.03 330**		P	**Pn**	**08 22 23.8**	**-0.8**
KRSR	**Krestovskiy**	**2.07 313**		S	**Sn**	**08 22 51.8**	**+2.0**
KPT	**Kopyto**	**2.08 304**		P	**Pn**	**08 22 25.2**	**-0.1**
BDR	**Baidarnaya**	**2.09 327**		P	**Pn**	**08 22 24.9**	**-0.6**
BDR				S	**Sn**	**08 22 52.9**	**+2.6**
KLY	**Klyuchi**	**2.10 316**		PN	**Pn**	**08 22 23.7**	**-1.8**
KLY				S	**Sn**	**08 22 50.0**	**-0.3**
KLY	**Klyuchi**	**2.10 316**		P	**Pn**	**08 22 23.7**	**-1.8**
KLY				S	**Sn**	**08 22 50.0**	**-0.3**
SRKR	**Sorokina**	**2.18 328**		P	**Pn**	**08 22 26.4**	**-0.2**
SRKR				S	**Sn**	**08 22 54.9**	**+2.6**
KOZR	**Kozyr**	**2.29 304**		PN	**Pn**	**08 22 28.3**	**+0.2**
KOZ	**Kozyrevsk**	**2.29 304**		P	**Pn**	**08 22 28.3**	**+0.1**
KII	**Karymskiy**	**2.38 252**		P	**Pn**	**08 22 27.8**	**-1.6**
KII				S	**Sn**	**08 22 58.3**	**+1.0**
SRDR	**Sredinnyy**	**2.51 308**		P	**Pn**	**08 22 29.7**	**-1.5**
SRDR				S	**Sn**	**08 23 00.6**	**+0.1**
SPN	**Mys Shipunski**	**2.60 229**		S	**Sn**	**08 23 00.2**	**-2.4**
ESO	**Esso**	**2.83 294**		PN	**Pn**	**08 22 33.5**	**-2.1**
ESO				S	**Sn**	**08 23 07.7**	**-0.7**
ESO	**Esso**	**2.83 294**		P	**Pn**	**08 22 33.5**	**-2.1**
ESO				S	**Sn**	**08 23 07.7**	**-0.7**
NLC	**Nalytchevo**	**2.86 236**		PN	**Pn**	**08 22 35.0**	**-0.9**
NLC				S	**Sn**	**08 23 10.9**	**+1.8**
NLC	**Nalytchevo**	**2.86 236**		P	**Pn**	**08 22 35.0**	**-0.9**
NLC				S	**Sn**	**08 23 10.8**	**+1.7**
SDLR	**Sedlovina**	**3.03 241**		P	**Pn**	**08 22 37.3**	**-1.1**
SDLR				S	**Sn**	**08 23 13.1**	**-0.3**
SMAR	**Somma**	**3.08 241**		P	**Pn**	**08 22 38.0**	**-1.1**
SMAR				S	**Sn**	**08 23 14.6**	**-0.1**
KRER	**Koryakskii**	**3.08 242**		P	**Pn**	**08 22 38.6**	**-0.6**
KRER				S	**Sn**	**08 23 15.6**	**+0.8**
UGLR	**Uglovaya**	**3.10 240**		P	**Pn**	**08 22 38.5**	**-0.8**
UGLR				S	**Sn**	**08 23 16.3**	**+1.3**
KRX	**Arik**	**3.10 243**		P	**Pn**	**08 22 38.5**	**-0.9**
KRX				S	**Sn**	**08 23 16.0**	**+0.7**
AVH	**Avacha**	**3.11 241**		P	**Pn**	**08 22 38.4**	**-1.0**
AVH				S	**Sn**	**08 23 16.2**	**+0.9**
KOK	**Koryaka**	**3.15 242**		P	**Pn**	**08 22 39.3**	**-0.7**
KOK				S	**Sn**	**08 23 17.3**	**+1.0**
PET	**Petropavlovsk**	**3.29 238**	↑*i*	PN	**Pn**	**08 22 41.8**	**0.0**
PET			*e*	S	**Sn**	**08 23 19.1**	**-0.4**
PET				pmax	pmax		
	comp=Z,48nm,0.5s						
PET				smax	smax		
	comp=E,105nm,0.5s						
PET				smax	smax		
	comp=N,196nm,0.6s						
PET	**Petropavlovsk**	**3.29 238**		P	**Pn**	**08 22 41.1**	**-0.7**
PET				S	**Sn**	**08 23 20.6**	**+1.1**
GNL	**Ganaly**	**3.33 252**		P	**Pn**	**08 22 42.1**	**-0.5**
GNL				S	**Sn**	**08 23 22.3**	**+1.4**
RUS	**Russkaya**	**3.72 232**		PN	**Pn**	**08 22 47.3**	**-0.5**
RUS				S	**Sn**	**08 23 32.1**	**+1.8**
RUS	**Russkaya**	**3.72 232**		P	**Pn**	**08 22 47.3**	**-0.5**
RUS				S	**Sn**	**08 23 32.1**	**+1.8**
MTVR	**Mutnovka**	**3.84 234**		P	**Pn**	**08 22 49.5**	**-0.1**
MTVR				S	**Sn**	**08 23 35.2**	**+1.7**
ASAK	**Asacha**	**4.04 235**		P	**Pn**	**08 22 52.6**	**+0.4**
ASAK				S	**Sn**	**08 23 41.4**	**+3.1**
APC	**Apacha**	**4.10 245**		P	**Pn**	**08 22 53.2**	**+0.3**
APC				S	**Sn**	**08 23 42.4**	**+2.8**
OSSR	**Ossora**	**4.42 359**		P	**Pn**	**08 22 56.8**	**-0.6**
MIPR	**Malaya Ipel'ka**	**4.66 239**		P	**Pn**	**08 23 00.6**	**-0.1**

IDC 27 08:49:31.4±4.0, 53.69N×87.95E, h0km, mb1 2.8/2, mb1mx2.7/51, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=39.6km s-min=18.5km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87 279**	*i*			09 02 43.6	
	baz=98,slow=350,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.87 279**		Pg	Pn	08 50 05.0	+0.3
	1.0nm,0.3s,baz=99,slow=12,SNR=9.7						
ZALV				Lg	Lg	08 50 31.4	
	1.5nm,0.3s,baz=105,slow=24,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.56 246**		Pn	Pn	08 51 08.8	-0.2
	0.1nm,0.3s,baz=64,slow=14,SNR=1.3						
MKAR	**Makanchi Array**	**7.79 210**		Pn	Pn	08 51 27.7	+1.7
	0.1nm,0.3s,baz=28,slow=15,SNR=5.3						

*IDC **27** 08:50:56.8±5.7, 5.50S×151.26E, h92km±47km, mb3.8/4, mb1 4.1/5, mb1mx3.5/29, mbtmp4.2/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/29, Error ellipse: s-maj=67.0km s-min=36.5km az=129.0*
ISC 27 08:50:52.8±1.4, 5.4S±0.4×151.4E±0.4, h57km, n8, σ1s37/7, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.82 226**		P	**Pn**	**08 52 18.3**	**+1.7**
	31nm,0.3s,baz=25,slow=5.4,SNR=30						
PMG				S	**Sn**	**08 53 21.7**	**-0.3**
	42nm,0.3s,baz=60,slow=23,SNR=7.0						
HNR	**Honiara**	**9.37 116**		LR	LR	08 57 08.2	
	comp=Z,45nm,20.0s,baz=224,slow=39						
WRA	**Warramunga Arr**	**22.04 227**		P	**P**	**08 55 41.6**	**-1.3**
	4.5nm,0.6s,baz=52,slow=9.9,SNR=24						
DZM	**Mont Dzumac**	**22.06 140**		LR	LR	09 02 41.3	
	comp=Z,49nm,18.3s,baz=23,slow=32						
ASAR	**Alice Springs**	**24.81 221**		P	**P**	**08 56 09.0**	**-0.8**
	4.6nm,0.6s,baz=57,slow=8.7,SNR=64						
STKA	**Stephens Creek**	**27.93 198**		P	**P**	**08 56 37.1**	**-0.6**
	1.3nm,0.7s,baz=54,slow=10,SNR=3.8						
NVAR	**Mina Array Bea**	**93.52 52**		P	**P**	**09 04 03.8**	**+0.7**
	0.4nm,0.8s,baz=243,slow=7.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.17 287**		PKPbc	**PKPbc**	**09 10 34.8**	**-1.2**
	0.5nm,0.5s,baz=67,slow=3.0,SNR=3.6						

IDC 27 09:19:00.1±2.1, 39.06N×110.82E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/54, mbtmp3.4/4, Error ellipse: s-maj=48.5km s-min=26.6km az=91.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.35 341**		Pn	Pn	09 21 16.0	-0.2
	baz=163,slow=11,SNR=8.9						
SONM				Lg	Lg	09 23 57.2	
	0.2nm,0.3s,baz=150,slow=31,SNR=7.1						
MKAR	**Makanchi Array**	**22.19 300**		P	P	09 23 57.9	0.0
	0.8nm,1.0s,baz=103,slow=10,SNR=2.2						
CMAR	**Chiang Mai Arr**	**22.97 210**		P	P	09 24 06.2	-0.1
	1.5nm,0.6s,baz=14,slow=9.4,SNR=2.1						
YKA	**Yellowknife Ar**	**72.42 20**		P	P	09 30 27.9	+0.1
	0.2nm,0.7s,baz=320,slow=5.7,SNR=2.8						

*ISCJB **27** 09:29:06.6±0.5, 6.97S×0.06×125.43E±0.08, h511km, mb3.4/5, Error ellipse: s-maj=10.6km s-min=8.0km az=3.8*
*IDC **27** 09:29:07.1±1.8, 6.95S×125.64E, h492km±29km, mb3.1/5, mb1 3.3/7, mb1mx3.1/34, mbtmp4.1/7, Error ellipse: s-maj=51.6km s-min=17.1km az=61.0*
ISC 27 09:29:08.0±0.8, 7.03S±0.09×125.5E±0.1, h511km, n20, σ1s30/21, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.99 205**		P	**P**	**09 30 18.3**	**-1.6**
	baz=3.0,SNR=52						
SOEI				S	**S**	**09 31 15.0**	**-3.4**
	baz=3.0,SNR=9.2						
BATI	**Baumata**	**3.66 210**		P	**P**	**09 30 23.2**	**-1.3**
	72nm,0.3s,baz=19,slow=1.5,SNR=35						
BATI				S	S	09 31 18.8	-8.2
	19nm,0.3s,baz=252,slow=3.3,SNR=6.2						
LUWI	**Luwuk**	**6.55 335**		P	P	09 30 47.0	-3.2
	baz=6.5,SNR=5.3						
FAKI	**Fak Fak**	**7.83 59**		P	**P**	**09 31 01.9**	**-1.1**
	baz=7.9,SNR=8.7						
FAKI				S	**S**	**09 32 36.7**	**-0.5**
	baz=7.9,SNR=4.0						
MTN	**Manton Dam**	**7.99 137**		P	**P**	**09 31 04.2**	**-0.3**
	baz=8.1,SNR=17						
KDU	**Kakadu**	**8.85 130**		P	**P**	**09 31 12.8**	**-0.6**
	baz=9.0,SNR=6.7						
KNRA	**Kununurra**	**9.16 160**		P	**P**	**09 31 16.9**	**+0.3**
	baz=9.3,SNR=9.3						
WRA	**Warramunga Arr**	**15.42 147**		P	**P**	**09 32 21.4**	**-1.0**
	1.9nm,0.3s,baz=325,slow=11,SNR=36						
WRKA	**Warakurna**	**18.10 172**		P	**P**	**09 32 49.7**	**+0.9**
	baz=18,SNR=20						
ASAR	**Alice Springs**	**18.39 155**		P	**P**	**09 32 52.4**	**+0.9**
	2.1nm,0.3s,baz=333,slow=9.0,SNR=158						
COEN	**Coen**	**18.65 113**		P	**P**	**09 32 54.6**	**+0.8**
	baz=19,SNR=7.0						
QIS	**Mount Isa**	**19.15 136**		P	**P**	**09 32 59.1**	**+0.7**
	baz=19,SNR=26						
MEEK	**Meekatharra**	**20.59 198**		P	**P**	**09 33 12.0**	**+0.7**
	baz=21,SNR=4.6						
STKA	**Stephens Creek**	**28.91 151**		P	**P**	**09 34 25.6**	**+0.4**
	2.4nm,0.5s,baz=335,slow=8.6,SNR=4.8						
HTT	**Hallett**	**29.06 157**		P	**P**	**09 34 27.9**	**+1.4**
	baz=29,SNR=6.2						
CMSA	**Cobar Meteorol**	**30.81 145**		P	**P**	**09 34 43.4**	**+1.7**
	baz=31,SNR=10						
MJAR	**Matsushiro Arr**	**44.94 14**		P	**P**	**09 36 36.2**	**-0.7**
	0.9nm,0.5s,baz=200,slow=10.0,SNR=4.2						
SONM	**Songino Array**	**57.18 345**		P	**P**	**09 38 07.2**	**+1.4**
	0.5nm,0.7s,baz=168,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**65.89 329**		P	**P**	**09 39 03.6**	**+0.8**
	0.5nm,0.6s,baz=118,slow=7.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**69.72 336**		P	**P**	**09 39 25.7**	**-0.2**
	0.6nm,0.4s,baz=137,slow=4.9,SNR=2.7						

IDC 27 09:47:21.2±1.0, 14.07N×145.19E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/36, mbtmp3.6/8, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=39.8km s-min=21.4km az=98.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**21.50 72**		T	T	10 14 53.0	
	baz=253,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**21.51 72**		T	T	10 14 53.6	
	baz=253,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**21.52 72**		T	T	10 14 55.1	
	baz=253,slow=75,SNR=3.8						
JNU	**Nakatsue**	**23.01 328**		LR	LR	09 59 41.5	
	comp=Z,222nm,20.5s,baz=116,slow=32						
MJAR	**Matsushiro Arr**	**23.23 346**		P	P	09 52 31.3	+1.1
	4.0nm,0.7s,baz=170,slow=12,SNR=4.5						
TGY	**Tagaytay City**	**23.52 273**		LR	LR	10 00 08.1	
	comp=Z,24nm,21.8s,baz=123,slow=33						
WRA	**Warramunga Arr**	**35.45 198**		P	P	09 54 19.6	+0.1
	0.3nm,0.3s,baz=16,slow=9.5,SNR=5.8						
ASAR	**Alice Springs**	**39.10 197**		P	P	09 54 50.3	-0.2
	0.5nm,0.9s,baz=20,slow=7.2,SNR=2.2						
SONM	**Songino Array**	**46.52 324**		P	P	09 55 51.2	+0.6
	0.4nm,0.7s,baz=134,slow=6.9,SNR=2.7						
MKAR	**Makanchi Array**	**61.36 316**		P	P	09 57 38.1	-1.0
	0.5nm,0.6s,baz=92,slow=8.8,SNR=4.9						
ILAR	**Eielson Array**	**68.00 25**		P	P	09 58 21.0	-1.1
	0.8nm,1.1s,baz=248,slow=5.9,SNR=8.3						
YKA	**Yellowknife Ar**	**82.29 27**		P	P	09 59 44.2	-0.3
	0.1nm,0.5s,baz=285,slow=4.9,SNR=2.4						
NVAR	**Mina Array Bea**	**86.38 51**		P	P	10 00 07.5	+1.4
	0.5nm,0.6s,baz=262,slow=7.1,SNR=4.4						

IDC 27 09:55:49.3±2.4, 26.97N×141.38E, h389km±10km, mb2.6/3, mb1 3.0/3, mb1mx2.6/26, mbtmp3.4/3, Error ellipse: s-maj=165.4km s-min=20.1km az=107.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.73 80**		P	Pn	09 56 38.9	+0.4
	8.3nm,0.3s,baz=270,slow=20,SNR=7.0						
JCJ				S	S	09 57 18.4	+0.4
	30nm,0.3s,baz=319,slow=22,SNR=8.9						
WRA	**Warramunga Arr**	**47.13 189**		P	P	10 03 44.2	-0.2
	0.7nm,0.8s,baz=7.0,slow=8.3,SNR=8.5						
ILAR	**Eielson Array**	**58.17 29**		P	P	10 05 03.6	0.0
	0.3nm,1.0s,baz=253,slow=5.8,SNR=3.7						
YKA	**Yellowknife Ar**	**72.59 28**		P	P	10 06 35.0	0.0
	0.1nm,0.4s,baz=294,slow=6.1,SNR=5.4						

MEX 27 10:02:04.6±0.4, 16.83N×100.42W, h9km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.27 308**	*i*	P	Pn	10 02 24.0	-4.6
ZIIG			*i*	S	Sb	10 02 40.5	-4.6
ARIG	**Puente Sto Nin**	**1.45 3**	*i*	P	Pn	10 02 27.4	-3.7
ARIG			*i*	S	Sn	10 02 45.0	-5.2
PLIG	**Platanillo**	**1.78 29**	*i*	P	Pn	10 02 32.4	-3.3
PLIG			*i*	S	Sn	10 02 53.2	-5.5
TLIG	**Tlapa**	**1.91 67**	*i*	P	Pn	10 02 34.2	-3.4
TLIG			*e*	S	Sn	10 02 57.4	-4.6
PNIG	**Pinotepa**	**2.24 101**	*i*	P	Pn	10 02 39.1	-2.8
PNIG			*i*	S	Sn	10 03 05.6	-4.2
YAIG	**Yautepec**	**2.40 32**	*i*	P	Pn	10 02 40.4	-3.9
YAIG			*i*	S	Sn	10 03 09.8	-4.2

*IDC **27** 10:24:18.0±2.5, 54.14N×86.59E, h0km, mb1 3.3/2, mb1mx3.0/44, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=21.2km s-min=13.2km az=56.0*
*NNC **27** 10:24:32.9±6.2, 53.45N×85.71E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=52.8km s-min=41.5km az=55.0*
ISC 27 10:24:29.4±6.0, 53.6N±0.3×86.1E±0.3, h10km, n7, σ1s82/6, 2C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.84 295**	*i*			10 30 13.3	
	baz=81,slow=347,SNR=8.5						
ZALV	**Zalesovo Beam**	**0.84 295**		Pg	Pg	10 24 36.4	-9.1
	0.9nm,0.3s,baz=77,slow=17,SNR=4.6						
ZALV				Lg	Lg	10 24 53.9	
	4.5nm,0.3s,baz=78,slow=30,SNR=14						
ZALV				Rg	Rg	10 25 01.6	
	13nm,0.9s,baz=73,slow=25,SNR=19						
KURK	**Kurchatov**	**5.43 241**	↓	Pn	**Pn**	**10 25 52.0**	**+1.5**
	1.6nm,1.2s						
KURK			↓	Lg	Lg	10 27 19.8	
	1.8nm,1.0s						
KURBB	**Kurchatov Arra**	**5.54 240**	↑	Pn	**Pn**	**10 25 52.5**	**+0.7**
	1.4nm,0.4s						
KURBB			↓	Lg	Lg	10 27 20.8	
	1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**5.54 240**		Pn	**Pn**	**10 25 49.4**	**-2.4**
	0.5nm,0.3s,baz=55,slow=13,SNR=13						
KURBB				Lg	Lg	10 27 30.6	
	0.1nm,0.3s,baz=61,slow=31,SNR=3.7						
MK31	**Makanchi Array**	**7.24 201**	↓	Pn	**Pn**	**10 26 16.0**	**+0.8**
	0.2nm,0.3s,baz=21,slow=14,SNR=30						
MK31			↓	Sn	**Sn**	**10 27 37.5**	**0.0**
	0.1nm,0.3s,baz=195,slow=11,SNR=3.1						
MK31			↑	Lg	Lg	10 28 18.7	
	1.6nm,1.2s,baz=12,slow=27						
MKAR	**Makanchi Array**	**7.24 201**		Pn	**Pn**	**10 26 14.5**	**-0.8**
	0.5nm,0.3s,baz=22,slow=14,SNR=22						
MKAR				Lg	Lg	10 28 29.4	
	0.0nm,0.3s,baz=15,slow=30,SNR=5.1						

*NNC **27** 10:27:47.5±5.9, 54.32N×86.01E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=47.3km s-min=35.5km az=56.0*
*IDC **27** 10:27:48.0±2.1, 54.26N×86.06E, h0km, mb1 3.4/3, mb1mx3.1/39, mbtmp3.4/3, ML3.3/3, Error ellipse: s-maj=17.0km s-min=10.0km az=57.0*
ISC 27 10:27:54.6±5.1, 54.2N±0.2×85.7E±0.3, h35km, n9, σ0s73/11, 2C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.57 240**	*i*			10 32 44.7	
	baz=68,slow=351,SNR=22						
ZALV	**Zalesovo Beam**	**0.57 240**		Pg	Pn	10 28 02.1	-4.2
	2.6nm,0.3s,baz=64,slow=17,SNR=8.7						
ZALV				Lg	Lg	10 28 15.0	
	11nm,0.3s,baz=65,slow=28,SNR=30						
KURK	**Kurchatov**	**5.56 233**	↓	Pn	**Pn**	**10 29 15.2**	**+0.4**
	2.7nm,1.2s						
KURBB	**Kurchatov Arra**	**5.67 233**	↓	Pn	**Pn**	**10 29 16.5**	**+0.3**
	3.9nm,0.5s						
KURBB			↑	Sn	Sn	10 30 27.4	+7.5
	3.1nm,0.5s						
KURBB			↓	Lg	Lg	10 30 57.3	
	6.7nm,0.6s						
KURBB	**Kurchatov Arra**	**5.67 233**		Pn	**Pn**	**10 29 17.3**	**+1.1**
	1.0nm,0.3s,baz=51,slow=14,SNR=26						
KURBB				Lg	Lg	10 30 57.6	
	0.2nm,0.3s,baz=54,slow=33,SNR=6.3						
MK31	**Makanchi Array**	**7.75 197**		Pn	**Pn**	**10 29 43.9**	**-1.1**
	1.5nm,0.7s,baz=26,slow=12,SNR=17						
MK31			↓	Sn	**Sn**	**10 31 12.0**	**+0.5**
	0.5nm,0.5s						
MK31			↓	Lg	Lg	10 31 54.0	
	4.3nm,1.0s,baz=11,slow=31,SNR=5.2						
MKAR	**Makanchi Array**	**7.75 197**		Pn	**Pn**	**10 29 44.1**	**-0.8**
	0.4nm,0.3s,baz=23,slow=13,SNR=16						
MKAR				Sn	**Sn**	**10 31 11.6**	**+0.1**
	0.1nm,0.3s,baz=23,slow=27,SNR=4.3						
MKAR				Lg	Lg	10 31 59.3	
	0.1nm,0.3s,baz=24,slow=27,SNR=6.7						
VOSK	**Vostochnaya**	**8.88 266**	↑	Pn	**Pn**	**10 30 00.2**	**-0.2**
	2.1nm,0.6s						
VOSK			↓	Sn	**Sn**	**10 31 39.3**	**+0.1**
	2.9nm,0.8s						
BVAR	**Borovoye Array**	**9.16 269**		Pn	**Pn**	**10 30 04.0**	**-0.1**
	0.3nm,0.3s,baz=70,slow=15,SNR=5.9						
BVAR				Sn	**Sn**	**10 31 44.9**	**-0.9**
	0.3nm,0.3s,baz=78,slow=21,SNR=3.4						

*IDC **27** 10:44:27.7±2.1, 9.67S×118.74E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML4.0/2, Error ellipse: s-maj=83.0km s-min=24.1km az=45.0*
*ISCJB **27** 10:44:35.7±0.4, 9.60S±0.06×119.05E±0.03, h88km±8km, mb3.4/2, Error ellipse: s-maj=9.4km s-min=4.7km az=8.9*
*DJA **27** 10:44:37.9±0.3, 9°S±4°×11°9E±°, h76km±10km, M4.3/16, mb4.3/5, MLv4.3/16*
ISC 27 10:44:37.0±0.8, 9.63S±0.06×119.06E±0.04, h83km±12km, n28, σ1s57/31, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.22 92**		P	**Pn**	**10 44 58.5**	**-0.4**
WSI				S	**Sn**	**10

SONM	**Songino Array**	**58.30**	**350**	P		**P**	**10 54 23.6**	**+0.4**
	0.2nm,0.4s,baz=162,slow=6.1,SNR=2.1								
MKAR	**Makanchi Array**	**65.04**	**333**	P		**P**	**10 55 09.6**	**+1.2**
	0.2nm,0.4s,baz=149,slow=4.5,SNR=5.1								

*ISCJB **27** 10:46:39.5±0.8, 38°.9S±0'.2×15°.8W±0'.2, h10km, mb4.5/6, Error ellipse: s-maj=22.2km s-min=18.4km az=162.4*
*NEIC **27** 10:46:41.7±0.6, 38°.84S×15°.77W, h10km, mb4.5/6, Error ellipse: s-maj=19.9km s-min=15.7km az=158.0*
*GCMT **27** 10:46:48.0±0.3, 39°.02S×15°.72W, h12km, MW4.9/76, Moment Tensor Solution. s21,c24; s76,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=-2.62±.11; Mθθ=0.11±.12; Mφφ=2.50±.08; Mrθ=0.20±.52; Mrφ=-0.67±.10; Mθφ=-0.56±.32; Best double couple: M=2.71200×10^16 NP1:φs=344.00000°, δ=51.00000°, λ=-92.00000°. NP2: φs=167.00000°, δ=39.00000°, λ=-88.00000°. Principal axes: T 2.7370, Plg=6.0000°, Azm=75.0000°; N -0.0580, Plg=1.0000°, Azm=345.0000°; P -2.6860, Plg=84.0000°, Azm=244.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s.*

ISC 27 10:46:41.4±0.8, 38°.9S±0'.1×15°.7W±0'.1, h10km, n11, σ=1.9/06/11, mb4.5/6, 1C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SNAA	**Sanae**	**33.50**	**173**	*e*P		**P**	**10 53 21.1**	**+0.5**
	6.0nm,1.0s							
TSUM	**Tsumeb**	**34.84**	**65**	*e*P		**P**	**10 53 33.7**	**+0.8**
	15nm,1.3s							
TRQA	**Tornquist**	**35.92**	**256**	P		**P**	**10 53 43.1**	**+1.2**
	7.0nm,1.2s							
SYO	**Syowa Base**	**41.98**	**154**	*e*P		**P**	**10 54 30.4**	**-1.7**
LSZ	**Lusaka**	**45.07**	**71**	*e*P		**P**	**10 54 57.8**	**-0.1**
	2.3nm,0.8s							
QSPA	**South Pole Qui**	**51.36**	**180**	*e*P		**P**	**10 55 46.4**	**+0.5**
	15nm,1.1s							
QSPA					*e*PcP	**PcP**	**10 57 00.5**	**+0.1**
SAML	**Samuel**	**51.84**	**292**	*e*P		**P**	**10 55 48.4**	**-1.5**
	9.1nm,1.3s							
TBI	**Tubuai**	**104.44**	**223**	*e*LR		LR	11 35 18.9	
	140nm,29.2s							
PPT2	**Papeete2**	**109.14**	**227**	*e*LR		LR	11 37 28.6	
	122nm,24.5s							
TNA	**Tin City**	**148.85**	**338**	*e*PKPbc		**PKPbc**	**11 06 28.7**	**+0.5**
BILL	**Bilibino**	**150.78**	**358**	*e*PKPbc		**PKPbc**	**11 06 33.4**	**+0.5**
BILL				*e*PKPab		**PKPab**	**11 06 39.2**	**-0.8**

DDA 27 11:12:26.3, 36°.39N×37°.36E, h7km, MD2.7, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUZU	**Kuzuini**	**0.44**	**329**	*i* P		Pg	11 12 34.8	-0.2
GZT	**Gaziantep**	**0.97**	**10**	*i* P		Pg	11 12 45.2	0.0
GZT				*i* S		Sb	11 12 58.8	-0.2

*ISCJB **27** 11:20:34.8±0.4, 38°.69S±0'.09×15°.94W±0'.09, h10km, mb4.6/19, MS4.8/24, Error ellipse: s-maj=13.8km s-min=10.4km az=164.6*
*IDC **27** 11:20:35.6±0.7, 38°.48S×16°.13W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/29, mbtmp4.1/11, MS4.6/17, Ms1 4.6/17, ms1mx4.6/17, Error ellipse: s-maj=25.8km s-min=17.1km az=172.0*
*NEIC **27** 11:20:36.5±0.3, 38°.65S×15°.93W, h10km, mb5.0/14, Error ellipse: s-maj=10.8km s-min=7.7km az=166.0*
*GCMT **27** 11:20:36.5±0.2, 39°.08S×15°.73W, h12km, MW5.2/106, Moment Tensor Solution. s53,c66; s106,c183; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=-0.86±.01; Mθθ=0.08±.01; Mφφ=0.78±.01; Mrθ=-0.13±.05; Mrφ=-0.26±.01; Mθφ=-0.22±.04; Best double couple: M=0.90200×10^17 NP1:φs=354.00000°, δ=52.00000°, λ=-75.00000°. NP2:φs=150.00000°, δ=41.00000°, λ=-108.00000°. Principal axes: T 0.8860, Plg=6.0000°, Azm=73.0000°; N 0.0330, Plg=12.0000°, Azm=164.0000°; P -0.9180, Plg=77.0000°, Azm=318.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s.*

ISC 27 11:20:36.3±0.4, 38°.70S±0°.10×16°.01W±0°.07, h10km, n91, σ=1.5/58/88, mb4.6/19, MS4.8/24, 1C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
H10S2	**ASCENSION HYDR**	**29.64**	**3**	T		T	11 58 11.1	
	baz=182,slow=75,SNR=103							
H10S3	**ASCENSION HYDR**	**29.64**	**3**	T		T	11 58 11.5	
	baz=182,slow=75,SNR=107							
H10S1	**ASCENSION HYDR**	**29.65**	**3**	T		T	11 58 12.4	
	baz=182,slow=75,SNR=90							
H10N1	**ASCENSION HYDR**	**30.75**	**3**	T		T	11 59 33.1	
	baz=180							
H10N3	**ASCENSION HYDR**	**30.75**	**3**	T		T	11 59 31.0	
	baz=180,slow=74							
H10N2	**ASCENSION HYDR**	**30.77**	**3**	T		T	11 59 32.0	
	baz=180,slow=74							
SNAA	**Sanae**	**33.72**	**173**	*e*P		**P**	**11 27 19.8**	**+2.3**
	48nm,1.6s							
SNAA	**Sanae**	**33.72**	**173**	P		**P**	**11 27 20.6**	**+3.1**
	1.6nm,0.8s,baz=324,slow=5.2,SNR=8.2							
TSUM	**Tsumeb**	**34.96**	**66**	*e*P		**P**	**11 27 27.4**	**-1.4**
	125nm,2.3s							
BOSA	**Boshof**	**35.53**	**86**	*e*P		**P**	**11 27 33.4**	**-0.3**
	28nm,1.3s							
BOSA	**Boshof**	**35.53**	**86**	P		**P**	**11 27 36.4**	**+2.8**
	16nm,1.1s,baz=247,slow=6.1,SNR=6.9							
BOSA				LR		LR	11 39 17.2	
	comp=Z,2μm,19.5s,baz=240,slow=32							
TRQA	**Tornquist**	**35.75**	**256**	*e*P		**P**	**11 27 36.8**	**+1.5**
	7.6nm,1.0s							
BDFB	**Brasilia**	**36.28**	**300**	*e*P		**P**	**11 27 40.6**	**+0.5**
BDFB	**Brasilia**	**36.28**	**300**	P		**P**	**11 27 40.1**	**0.0**
	9.6nm,1.0s,baz=114,slow=7.7,SNR=3.9							
BDFB				LR		LR	11 40 11.9	
	comp=Z,1μm,18.2s,baz=150,slow=33							
CPUP	**Villa Florida**	**36.67**	**277**	LR		LR	11 40 23.9	
	comp=Z,2μm,21.1s,baz=118,slow=32							
LBTB	**Lobatse**	**37.56**	**81**	*e*P		**P**	**11 27 51.0**	**0.0**
	65nm,1.8s							
LBTB	**Lobatse**	**37.56**	**81**	P		**P**	**11 27 53.7**	**+2.7**
	6.9nm,1.0s,baz=184,slow=7.1,SNR=4.6							
PLCA	**Paso Flores**	**41.44**	**249**	*e*P		**P**	**11 28 24.2**	**+1.1**
	41nm,1.8s							
PLCA	**Paso Flores**	**41.44**	**249**	P		**P**	**11 28 23.9**	**+0.8**
	4.7nm,1.1s,baz=228,slow=5.8,SNR=3.3							
PLCA				LR		LR	11 42 49.4	
	comp=Z,2μm,21.6s,baz=110,slow=32							
SYO	**Syowa Base**	**42.26**	**154**	*i* P		**P**	**11 28 26.4**	**-2.9**
SYO	**Syowa Base**	**42.26**	**154**	*i* S		sP	11 28 32.6	-1.1
CFAA	**Coronel Fontan**	**42.80**	**263**	P		**P**	**11 28 34.3**	**0.0**
CFAA	**Coronel Fontan**	**42.80**	**263**	P		**P**	**11 28 34.3**	**0.0**
	0.3nm,0.5s,baz=114,slow=10,SNR=4.9							
LSZ	**Lusaka**	**45.22**	**71**	*e*P		**P**	**11 28 53.8**	**-0.1**
	7.9nm,1.1s							
LSZ	**Lusaka**	**45.22**	**71**	P		**P**	**11 28 54.3**	**+0.4**
	3.6nm,0.9s,baz=217,slow=8.4,SNR=4.5							
SIV	**San Ignacio**	**45.41**	**287**	P		**P**	**11 28 56.4**	**+1.0**
SIV	**San Ignacio**	**45.41**	**287**	P		**P**	**11 28 56.4**	**+1.0**
	1.2nm,0.6s,baz=138,slow=7.5,SNR=5.1							
DBIC	**Dimbokro**	**46.31**	**15**	LR		LR	11 43 53.0	
	comp=Z,249nm,20.9s,baz=167,slow=30							
MAW	**Mawson**	**50.73**	**151**	LR		LR	11 48 05.2	
	comp=Z,352nm,18.6s,baz=283,slow=32							
SAML	**Samuel**	**51.55**	**292**	*e*P		**P**	**11 29 43.7**	**+1.1**
	39nm,1.8s							
QSPA	**South Pole Qui**	**51.56**	**180**	*e*P		**P**	**11 29 42.0**	**-0.3**
	44nm,1.4s							
QSPA					*e*PcP	**PcP**	**11 30 54.7**	**-1.4**
BBTS	**Babate**	**53.08**	**359**	LR		LR	11 49 29.9	
	comp=Z,305nm,18.2s,baz=194,slow=33							
TOA0	**Torodi Ar. Sit**	**54.17**	**21**	*e*P		**P**	**11 30 01.2**	**-0.6**
	8.8nm,1.3s							
TORD	**Torodi Ar. Bea**	**54.17**	**21**	P		**P**	**11 30 01.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**54.17**	**21**	P		**P**	**11 30 01.3**	**-0.5**
	1.7nm,1.1s,baz=208,slow=6.6,SNR=5.6							
TORD				LR		LR	11 48 07.7	
	comp=Z,705nm,21.1s,baz=180,slow=31							
KMBO	**Kilima Mbogo**	**61.31**	**66**	LR		LR	11 55 15.3	
	comp=Z,2μm,19.0s,baz=260,slow=34							
VNDA	**Vanda**	**64.05**	**179**	*e*P		**P**	**11 31 09.1**	**-0.5**
	33nm,1.6s							
VNDA	**Vanda**	**64.05**	**179**	P		**P**	**11 31 08.4**	**-1.1**
	4.8nm,1.2s,baz=206,slow=1.7,SNR=5.9							
VNDA				LR		LR	11 56 21.4	
	comp=Z,422nm,19.4s,baz=170,slow=33							
ROSC	**El Rosal**	**69.08**	**295**	LR		LR	12 01 00.7	
	comp=Z,2μm,18.8s,baz=92,slow=35							
SDV	**Santo Domingo**	**69.38**	**301**	*e*P		**P**	**11 31 44.9**	**+0.2**
	27nm,1.4s							
KEST	**Kesra**	**77.69**	**21**	LR		LR	12 03 05.8	
	comp=Z,294nm,20.9s,baz=166,slow=33							
ESDC	**Sonseca Array**	**78.77**	**9**	P		**P**	**11 32 39.6**	**+0.8**
ESDC	**Sonseca Array**	**78.77**	**9**	P		**P**	**11 32 39.6**	**+0.8**
	0.3nm,0.3s,baz=175,slow=6.4,SNR=5.7							
ESDC				LR		LR	12 05 01.2	
	comp=Z,114nm,18.4s,baz=170,slow=34							
JTS	**JuntasAbangare**	**80.43**	**291**	LR		LR	12 07 35.6	
	comp=Z,596nm,21.4s,baz=108,slow=35							
RAYN	**Ar Rayn**	**84.52**	**54**	*e*P		**P**	**11 33 11.0**	**+1.4**
	55nm,1.6s							
BR231	**Keskin MP Arra**	**90.02**	**35**	*e*P		**P**	**11 33 36.7**	**+0.7**
BR131	**Keskin Array S**	**90.32**	**36**	*e*P		**P**	**11 33 35.0**	**-2.4**
	3.8nm,0.9s							
BRTR	**Keskin Array B**	**90.32**	**36**	P		**P**	**11 33 37.2**	**-0.1**
BRTR	**Keskin Array B**	**90.32**	**36**	P		**P**	**11 33 37.2**	**-0.1**
	2.6nm,1.0s,baz=180,slow=5.3,SNR=6.6							
BRTR				LR		LR	12 13 52.3	
	comp=Z,83nm,20.0s,baz=216,slow=35							
GERES	**GERESS Array B**	**91.06**	**19**	LR		LR	12 11 01.7	
	comp=Z,392nm,21.9s,baz=210,slow=33							
H01W2	**Cape Leeuwin H**	**93.44**	**141**	T		T	13 18 17.1	
	baz=218,slow=75,SNR=8.6							
H01W3	**Cape Leeuwin H**	**93.46**	**141**	T		T	13 18 15.1	
	baz=218,slow=75,SNR=7.8							
H01W1	**Cape Leeuwin H**	**93.46**	**141**	T		T	13 18 17.1	
	baz=218,slow=75,SNR=6.3							
RKT	**Rikitea**	**96.07**	**234**	*e*LR		LR	12 05 03.6	
	296nm,27.8s							
KBZ	**Khabaz**	**97.81**	**39**	LR		LR	12 16 51.9	
	comp=Z,185nm,21.5s,baz=210,slow=35							
TBI	**Tubuai**	**104.43**	**224**	*e*LR		LR	12 09 12.0	
	555nm,31.2s							
WMOK	**Wichita Mounta**	**105.79**	**302**	*e*Pdif		**Pdif**	**11 34 46.9**	**-0.4**
PPT2	**Papeete2**	**109.11**	**227**	*e*SS		SS	11 55 01.5	+7.8
	213nm,25.8s							
PPT2	**Papeete2**	**109.11**	**227**	*e*LR		LR	12 11 18.6	
	598nm,25.2s							
KSH	**Kashi**	**114.56**	**58**	*e*PKP		PKPdf	11 39 18.3	+1.8
KSH				*e*SKS		**SKSdf**	**11 46 25.5**	**-3.2**
KSH				*e*SKKS		**SKKSac**	**11 47 11.3**	**-4.0**
KSH				LR		LR		
	comp=N,82nm,4.2s							
KSH				LR		LR		
	comp=E,94nm,3.9s							
KSH				LR		LR		
	comp=Z,150nm,4.7s							
EML	**El Monte Cty P**	**117.41**	**291**	*e*Pdif		**Pdif**	**11 35 40.0**	**+1.0**
DZM	**Mont Dzumac**	**119.51**	**183**	*e*LR		LR	12 16 07.8	
	216nm,22.4s							
CMAR	**Chiang Mai Arr**	**120.62**	**90**	PKP		**PKPdf**	**11 39 28.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**120.62**	**90**	PKP		**PKPdf**	**11 39 28.4**	**-0.3**
	0.5nm,0.3s,baz=264,slow=2.5,SNR=4.0							
RES	**Resolute Bay**	**124.07**	**342**	PKP		**PKPdf**	**11 39 33.0**	**-0.5**
RES	**Resolute Bay**	**124.07**	**342**	PKP		**PKPdf**	**11 39 33.0**	**-0.5**
	1.1nm,0.8s,baz=213,slow=2.1,SNR=3.9							
WMQ	**Urumqi**	**124.32**	**58**	PKP		**PKPdf**	**11 39 35.3**	**+0.2**
WMQ				sPKP			11 39 40.5	
WMQ				PP		**PP**	**11 41 24.5**	**+3.3**
WMQ				PKS		**PKSdf**	**11 43 10.8**	**-0.9**
WMQ				SKS		**SKSdf**	**11 46 46.0**	**-0.9**
WMQ				SKKS		**SKKSac**	**11 48 16.5**	**-2.7**
WMQ				SS		**SS**	**11 58 13.0**	**-0.5**
WMQ				AMB		AMB		
	comp=Z,21nm,7.3s							
WMQ				LR		LR		
	comp=N,180nm,24.2s							
WMQ				LR		LR		
	comp=E,250nm,26.2s							
WMQ				LR		LR		
	comp=Z,340nm,24.5s							
KMI	**Kunming**	**127.16**	**86**	PKP		**PKPdf**	**11 39 41.8**	**+0.5**
KMI				PP		PP	11 41 46.3	+5.7
KMI				LR		LR		
	comp=N,270nm,14.4s							
KMI				LR		LR		
	comp=E,290nm,14.9s							
KMI				LR		LR		
	comp=Z,290nm,16.3s							
YKA	**Yellowknife Ar**	**127.28**	**325**	PKP		**PKPdf**	**11 39 38.8**	**-1.3**
YKA	**Yellowknife Ar**	**127.28**	**325**	PKP		**PKPdf**	**11 39 38.7**	**-1.3**
	0.9nm,0.9s,baz=102,slow=2.1,SNR=5.4							
QIZ	**Qiongzhong**	**129.45**	**97**	PKP		**PKPdf**	**11 39 47.5**	**+2.0**
QIZ				PP		**PP**	**11 41 57.3**	**+2.0**
QIZ				SS		SS	11 59 21.0	+3.3
QIZ				LR		LR		
	comp=E,170nm,18.2s							
QIZ				LR		LR		
	comp=Z,470nm,17.9s							
CD2	**Chengdu**	**130.71**	**80**	*e*PKP		**PKPdf**	**11 39 48.3**	**+0.6**
CD2				PP		**PP**	**11 42 07.8**	**+4.2**
CD2				SKS		**SKSdf**	**11 46 57.0**	**-2.3**
CD2				SKKS		**SKKSac**	**11 48 58.0**	**-2.0**
CD2				SS		**SS**	**11 59 35.8**	**+2.5**
CD2				AMB		AMB		
	comp=Z,230nm,11.2s							
CD2				LR		LR		
	comp=E,260nm,19.0s							
CD2				LR		LR		
	comp=Z,330nm,22.6s							
GYA	**Guiyang**	**130.89**	**87**	*e*Pdif		**Pdif**	**11 36 39.0**	**-0.2**
GYA				PKP		**PKPdf**	**11 39 48.5**	**+0.3**
GYA				PP		**PP**	**11 42 09.0**	**+4.1**
GYA				PKS		**PKSdf**	**11 43 22.5**	**-2.5**
GYA				SKKS			11 48 59.0	
GYA				SS		**SS**	**11 59 35.5**	**-0.3**
GYA				AMB		AMB		
	comp=Z,130nm,7.8s							
GYA				LR		LR		
	comp=N,160nm,23.6s							
GYA				LR		LR		
	comp=E,120nm,24.2s							
GYA				LR		LR		
	comp=Z,140nm,23.0s							
LZH	**Lanzhou**	**132.90**	**74**	*e*PKP		**PKPdf**	**11 39 49.3**	**-2.5**
LZH				sPKP			11 39 54.0	
INK	**Inuvik**	**135.43**	**332**	PKP		**PKPdf**	**11 39 55.5**	**+0.2**
INK	**Inuvik**	**135.43**	**332**	PKP		**PKPdf**	**11 39 55.5**	**+0.2**
	1.9nm,0.9s,baz=66,slow=1.7,SNR=6.7							
SONM	**Songino Array**	**137.96**	**58**	PKP		**PKPdf**	**11 40 01.3**	**+0.5**
SONM	**Songino Array**	**137.96**	**58**	PKP		**PKPdf**	**11 40 01.3**	**+0.5**
	1.5nm,1.1s,baz=193,slow=4.6,SNR=4.6							
HHC	**Hu-ho-hao-te**	**140.15**	**70**	*e*PKP		**PKPdf**	**11 40 01.0**	**-4.0**
HHC				PP		**PP**	**11 43 03.0**	**-0.1**
HHC				SS		SS	12 01 27.8	+1.4
HHC				AMB		AMB		
	comp=Z,230nm,7.8s							
HHC				LR		LR		
	comp=N,330nm,15.9s							
HHC				LR		LR		
	comp=E,660nm,16.0s							
HHC				LR		LR		
	comp=Z,620nm,17.5s							
ILAR	**Eielson Array**	**141.45**	**329**	PKPpre		PKPpre	11 39 59.1	
ILAR				PKP		**PKPdf**	**11 40 06.9**	**+0.4**
ILAR	**Eielson Array**	**141.45**	**329**	PKhKP		PKPpre	11 39 59.1	
	1.1nm,0.9s,baz=66,slow=1.9,SNR=8.2							
ILAR				PKP		**PKPdf**	**11 40 06.9**	**+0.4**
	2.2nm,1.0s,baz=49,slow=1.5,SNR=8.8							
NJ2	**Nanjing**	**142.90**	**86**	*e*PKP		**PKPdf**	**11 40 11.5**	**+1.4**
BJI	**Beijing**	**143.36**	**72**	PKP		**PKPdf**	**11 40 11.8**	**+1.2**
BJI				LR		LR		
	comp=N,350nm,19.1s							
BJI				LR		LR		
	comp=E,400nm,22.1s							
BJI				LR		LR		
	comp=Z,180nm,23.5s							
IM04	**Indian Mountai**	**143.64**	**332**	*e*PKPdf		**PKPdf**	**11 40 10.2**	**-0.2**
PPLA	**Purkeypile**	**144.30**	**327**	*e*PKPdf		**PKPab**	**11 40 08.8**	**-1.0**
HIA	**Hailar**	**146.89**	**57**	*e*PKPdf		**PKPdf**	**11 40 16.7**	**+0.2**
TNA	**Tin City**	**148.59**	**338**	*e*PKPdf		**PKPdf**	**11 40 19.5**	**+0.8**
TNA				*e*PKPbc		**PKPbc**	**11 40 22.4**	**0.0**
TNA				*e*PKPab		**PKPab**	**11 40 27.0**	**+1.1**
BILL	**Bilibino**	**150.58**	**358**	*e*PKPdf		**PKPdf**	**11 40 21.5**	**-0.3**
BILL				*e*PKPbc		**PKPbc**	**11 40 27.1**	**-0.1**
BILL				*e*PKPab		**PKPab**	**11 40 33.4**	**-0.7**
GAMB	**Gambell**	**151.00**	**338**	*e*PKPbc		**PKPbc**	**11 40 29.1**	**+0.8**
GAMB				*e*PKPab		**PKPab**	**11 40 35.4**	**-0.5**
SEY	**Seymchan**	**154.73**	**12**	PKPbc		**PKPbc**	**11 40 35.7**	**-1.0**
SEY	**Seymchan**	**154.73**	**12**	PKPbc		**PKPbc**	**11 40 35.7**	**-1.0**
	0.5nm,0.4s,baz=236,slow=7.3,SNR=3.5							

DDA 27 11:20:44.0, 36°.54N×36°.06E, h7km, MD2.7, Jordan - Syria region

*IDC **27** 11:35:33.7±0.8, 54°.68N×162°.92E, h0km, mb3.8/14, mb1 4.1/15, mb1mx3.8/54, mbtmp3.8/15, ML3.7/1, MS3.9/5, Ms1 3.9/5, ms1mx3.3/38, Error ellipse: s-maj=23.8km s-min=12.5km az=8.0*
*MOS **27** 11:35:34.2±1.6, 54°.79N×163°.18E, h9km, mb4.2/11, Error ellipse: s-maj=11.5km s-min=8.5km az=83.1*

ISC 27 11:35:34.6±1.6, 54°.78N±0°.05×163°.21E±0°.04, h2km±10km, n46, σ=1.9/60/46, mb4.0/18, MS4.1/7, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKZ	**Mys Kozlova**	**0.89**	**256**	PN		**Pn**	**11 35 52.7**	**-1.3**
MKZ				S		**Sn**	**11 36 04.6**	**-2.8**
KBTR	**Krutoberegovo**	**1.44**	**351**	PN		**Pg**	**11 36 02.7**	**+0.4**
KBTR				S		**Sg**	**11 36 21.8**	**+0.8**
BKI	**Bering**	**1.65**	**74**	PN		**Pb**	**11 36 05.7**	**+0.1**
BKI				S		**Sn**	**11 36 26.0**	**-0.2**
KLY	**Klyuchi**	**2.11**	**318**	PN		**Pn**	**11 36 10.7**	**-0.1**
KLY				S		**Sn**	**11 36 37.2**	**-0.4**
KOZR	**Kozyr**	**2.28**	**306**	PN		**Pb**	**11 36 15.6**	**-0.9**
ESO	**Esso**	**2.81**	**296**	PN		**Pn**	**11 36 21.5**	**+0.9**
ESO				S		**Sn**	**11 36 54.9**	**-0.1**
PET	**Petropavlovsk**	**3.22**	**239**	*e*PN		**Pn**	**11 36 27.5**	**+1.4**
PET				*e*S		**Sn**	**11 37 05.7**	**+0.8**
PET				pmax		pmax		
	comp=Z,85nm,0.4s							
PET				smax		smax		
	comp=N,336nm,0.8s							
PET				smax		smax		
	comp=E,185nm,0.5s							
PET				MLR		MLR		
	comp=Z,500nm,17.0s							
RUS	**Russkaya**	**3.66**	**232**	PN		**Pn**	**11 36 33.7**	**+1.6**
RUS				S		**Sn**	**11 37 15.7**	**+0.1**
PETK	**Petropavlovsk-**	**3.66**	**245**	PN		**Pn**	**11 36 33.2**	**+1.0**
PETK							11 37 16.1	
PETK				pmax		pmax		
	comp=Z,5.0nm,0.3s							
PETK				smax		smax		
	comp=N,4.0nm,0.3s							
PETK	**Petropavlovsk-**	**3.66**	**245**	Pn		**Pn**	**11 36 33.1**	**+1.0**
	comp=N,5.4nm,0.3s,baz=74,slow=18,SNR=39							
PETK				Sn		**Sn**	**11 37 16.1**	**+0.2**
	comp=N,3.5nm,0.3s,baz=87,slow=26,SNR=5.7							
PAU	**Pauzhetka**	**5.08**	**232**	PN		Pn	11 36 54.6	+2.9
SKR	**Severo-Kuril's**	**5.95**	**229**	*e*PN		**Pb**	**11 37 20.0**	**+1.1**
SKR				*e*			11 38 24.0	
FX1	**Attu Island--F**	**6.20**	**104**	Pn		**Pn**	**11 37 05.5**	**+0.5**
	comp=N,5.2nm,0.3s,baz=323,slow=6.0,SNR=25							
FX1				Sn		**Sn**	**11 38 13.4**	**-4.8**
	comp=N,14nm,0.3s,baz=156,slow=20,SNR=10							
BILL	**Bilibino**	**13.38**	**5**	*i* Pn		P	11 38 51.0	-4.0
BILL				pmax		pmax		
	comp=Z,7.0nm,1.2s							
BILL				MLR		MLR		
	comp=Z,195nm,15.0s							
TIXI	**Tiksi**	**22.38**	**332**	*e*P		**P**	**11 40 31.7**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MJA0	**Matsu Arr-Jizo**	**25.02**	**233**	*e*P		**P**	**11 41 00.0**	**+0.3**
MJA0				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MJAR	**Matsushiro Arr**	**25.04**	**234**	P		**P**	**11 40 57.4**	**-2.5**
	comp=Z,7.6nm,0.9s,baz=22,slow=10,SNR=6.5							
ILAR	**Eielson Array**	**26.32**	**48**	P		**P**	**11 41 12.2**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=254,slow=7.0,SNR=10							
KSRS	**Korea Array**	**29.55**	**249**	LR		LR	11 54 54.9	
	comp=Z,84nm,18.8s,baz=155,slow=40							
INK	**Inuvik**	**31.40**	**40**	P		**P**	**11 41 58.6**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=312,slow=6.2,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**35.11**	**174**	T		T	12 19 57.7	
	baz=357,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**35.12**	**174**	T		T	12 19 58.8	
	baz=357,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**35.12**	**174**	T		T	12 20 00.8	
	baz=357,slow=76,SNR=17							
YKA	**Yellowknife Ar**	**40.67**	**45**	P		**P**	**11 43 17.6**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=298,slow=8.4,SNR=4.4							
YBH	**Yreka Blue Hor**	**48.74**	**73**	LR		LR	12 00 42.6	
	comp=Z,53nm,19.8s,baz=99,slow=31							
MKAR	**Makanchi Array**	**49.07**	**296**	*e*P		**P**	**11 44 21.8**	**-1.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**49.07**	**296**	P		**P**	**11 44 19.8**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=54,slow=8.9,SNR=4.1							
BRVK	**Borovoye**	**50.80**	**309**	*i* P		**P**	**11 44 34.4**	**-1.4**
NVAR	**Mina Array Bea**	**53.46**	**73**	P		**P**	**11 44 56.9**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=278,slow=7.7,SNR=4.4							
PDAR	**Pinedale Array**	**55.11**	**64**	P		**P**	**11 45 08.4**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=306,slow=3.1,SNR=2.5							

ASAR	**Alice Springs**	**82.08**	**207**	LR	LR	12 22 16.5	
	comp=Z,73nm,21.1s,baz=201,slow=34						
PPT	**Papeete**	**82.49**	**135**	LR	LR	12 15 13.9	
	comp=Z,196nm,21.8s,baz=151,slow=29						

JMA 27 11:36:36.3±0.2, 36.41N×138.91E, h144km±2km, M1.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.39**	**181**	P	Pn	11 36 56.7	+0.2
JAG	**Ashikaga**	**0.44**	**88**	P	Pn	11 36 56.8	+0.2
JYN	**Shimob**	**0.96**	**198**	P	Pn	11 37 00.3	0.0

*IDC **27** 11:36:42.8±1.3, 34.75N×27.09E, h0km, mb3.7/4, mb1 3.5/6, mb1mx3.4/39, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=41.1km s-min=19.4km az=153.0*
*ISCJB **27** 11:36:45.0±1.3, 35.03N±0.07×26.89E±0.05, h19km±10km, mb3.6/4, Error ellipse: s-maj=12.0km s-min=5.9km az=166.0*
*CSEM **27** 11:36:46.1, 35.16N×26.77E, h20km, MD3.5, After ATH*
*ATH **27** 11:36:46.1, 35.16N×26.77E, h20km±1km, MD3.5/17*
ISC 27 11:36:45.7±1.5, 35.09N±0.09×26.83E±0.05, h14km±9km, n46, σ1§29/55, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.50**	**273**	*e*PB	**Pg**	**11 36 54.7**	**-0.9**
ZKR				*e*SB	**Sg**	**11 37 02.6**	**+0.3**
ZKR	**Zakros**	**0.50**	**273**	*e*Pb	**Pg**	**11 36 54.7**	**-0.9**
ZKR				*e*Sb	**Sg**	**11 37 02.6**	**+0.3**
KARP	**Karpathos**	**0.53**	**31**	*e*PN	**Pg**	**11 36 55.5**	**-0.6**
KARP				*e*SN	**Sb**	**11 37 04.2**	**-0.1**
KARP	**Karpathos**	**0.53**	**31**	*e*Pn	**Pg**	**11 36 55.5**	**-0.6**
KARP				*e*Sn	**Sb**	**11 37 04.2**	**-0.1**
NPS	**Neapolis**	**1.01**	**280**	*e*PN	**Pb**	**11 37 04.6**	**-0.4**
NPS				*e*SN	**Sb**	**11 37 17.4**	**-0.8**
NPS	**Neapolis**	**1.01**	**280**	*e*Pn	**Pb**	**11 37 04.6**	**-0.4**
NPS				*e*Sn	**Sb**	**11 37 17.4**	**-0.8**
LAST	**Lasithi**	**1.11**	**274**	*e*PN	**Pb**	**11 37 05.9**	**-0.8**
LAST				*e*SN	**Sb**	**11 37 21.1**	**+0.1**
LAST	**Lasithi**	**1.11**	**274**	*e*Pn	**Pb**	**11 37 05.9**	**-0.8**
LAST				*e*Sn	**Sb**	**11 37 21.1**	**+0.1**
NIS1	**Nisyros Isl.**	**1.53**	**11**	*e*PN	**Pn**	**11 37 13.3**	**+0.6**
NIS1	**Nisyros Isl.**	**1.53**	**11**	*e*Pn	**Pn**	**11 37 13.3**	**+0.6**
ARG	**Arkhangelos**	**1.54**	**43**	*e*PN	**Pg**	**11 37 15.2**	**-0.1**
ARG	**Arkhangelos**	**1.54**	**43**	*e*Pn	**Pg**	**11 37 15.2**	**-0.1**
IDI	**Anoyia**	**1.60**	**278**	Pn	**Pb**	**11 37 15.8**	**+0.7**
	47nm,0.3s,baz=103,slow=16,SNR=176						
IDI				Sn	**Sg**	**11 37 37.8**	**+0.6**
	35nm,0.3s,baz=341,slow=23,SNR=9.9						
IDI				LR	LR	11 38 09.2	
	comp=Z,152nm,19.7s,baz=101,slow=46						
SIVA	**Sivas**	**1.66**	**268**	*e*PN	**Pb**	**11 37 16.4**	**+0.4**
SIVA	**Sivas**	**1.66**	**268**	*e*Pn	**Pb**	**11 37 16.4**	**+0.4**
VAM	**Vamos**	**2.17**	**279**	*e*PN	**Pn**	**11 37 23.4**	**+1.9**
VAM	**Vamos**	**2.17**	**279**	*e*Pn	**Pn**	**11 37 23.4**	**+1.9**
APE	**Apeiranthos**	**2.23**	**332**	*e*PB	**Pn**	**11 37 22.8**	**+0.5**
APE	**Apeiranthos**	**2.23**	**332**	*e*Pb	**Pn**	**11 37 22.8**	**+0.5**
SMG	**Samos**	**2.61**	**0**	*e*PN	**Pn**	**11 37 28.4**	**+0.9**
SMG	**Samos**	**2.61**	**0**	*e*Pn	**Pn**	**11 37 28.4**	**+0.9**
ANKY	**Antikythira Is**	**2.98**	**286**	*e*PN	**Pn**	**11 37 34.2**	**+1.6**
ANKY	**Antikythira Is**	**2.98**	**286**	*e*Pn	**Pn**	**11 37 34.2**	**+1.6**
KYTH	**Kithira**	**3.31**	**292**	*e*PN	**Pn**	**11 37 37.9**	**+0.8**
KYTH	**Kithira**	**3.31**	**292**	*e*Pn	**Pn**	**11 37 37.9**	**+0.8**
CHOS	**Chios island**	**3.34**	**350**	*e*PN	**Pn**	**11 37 38.8**	**+1.1**
CHOS	**Chios island**	**3.34**	**350**	*e*Pn	**Pn**	**11 37 38.8**	**+1.1**
VLI	**Veliai**	**3.55**	**298**	*e*PN	**Pn**	**11 37 41.5**	**+1.1**
VLI	**Veliai**	**3.55**	**298**	*e*Pn	**Pn**	**11 37 41.5**	**+1.1**
DID	**Didima**	**3.77**	**311**	*e*PN	**Pn**	**11 37 45.6**	**+2.2**
DID	**Didima**	**3.77**	**311**	*e*Pn	**Pn**	**11 37 45.6**	**+2.2**
VLX	**Vlachokerasia**	**4.25**	**304**	*e*PN	**Pn**	**11 37 51.2**	**+1.0**
VLX	**Vlachokerasia**	**4.25**	**304**	*e*Pn	**Pn**	**11 37 51.2**	**+1.0**
GUR	**Goura**	**4.59**	**309**	*e*PN	**Pn**	**11 37 57.3**	**+2.5**
GUR	**Goura**	**4.59**	**309**	*e*Pn	**Pn**	**11 37 57.3**	**+2.5**
KLV	**Kalavryta, Ach**	**4.78**	**309**	*e*PN	**Pn**	**11 37 59.8**	**+2.5**
KLV	**Kalavryta, Ach**	**4.78**	**309**	*e*Pn	**Pn**	**11 37 59.8**	**+2.5**
DRO	**Drossia**	**5.01**	**306**	*e*PN	**Pn**	**11 38 02.9**	**+2.4**
DRO	**Drossia**	**5.01**	**306**	*e*Pn	**Pn**	**11 38 02.9**	**+2.4**
BRTR	**Keskin Array B**	**7.12**	**48**	Pn	**Pn**	**11 38 32.0**	**+2.4**
	0.1nm,0.3s,baz=234,slow=8.7,SNR=3.1						
MMAI	**Mount Meron Ar**	**7.41**	**104**	Pn	**Pn**	**11 38 34.0**	**+0.5**
	1.9nm,0.3s,baz=322,slow=11,SNR=4.3						
AKASG	**Malin Array Be**	**15.70**	**6**	Pn	**P**	**11 40 29.0**	**-1.3**
	0.4nm,0.3s,baz=195,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**31.51**	**232**	P	**P**	**11 43 06.6**	**-0.8**
	0.3nm,0.3s,baz=35,slow=8.9,SNR=7.4						
MKAR	**Makanchi Array**	**42.67**	**57**	P	**P**	**11 44 41.4**	**-0.5**
	1.0nm,0.6s,baz=305,slow=4.3,SNR=10						
ZALV	**Zalesovo Beam**	**44.06**	**46**	P	**P**	**11 44 52.1**	**-0.9**
	1.4nm,0.5s,baz=264,slow=9.6,SNR=5.4						
SONM	**Songino Array**	**58.47**	**51**	P	**P**	**11 46 40.7**	**-0.6**
	0.2nm,0.5s,baz=253,slow=6.4,SNR=3.2						

IDC 27 11:42:28.9±1.6, 4.35S×145.19E, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.3/29, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=51.7km s-min=26.0km az=103.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.39**	**159**	Pn	Pn	11 43 52.0	+1.3
	1.0nm,0.3s,baz=353,slow=16,SNR=3.9						
PMG				Sn	Sn	11 44 52.1	-1.4
	0.3nm,0.3s,baz=119,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**18.76**	**213**	P	P	11 46 49.5	-0.3
	0.1nm,0.3s,baz=39,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**22.08**	**209**	P	P	11 47 25.9	+0.1
	0.3nm,0.7s,baz=38,slow=13,SNR=12						
ILAR	**Eielson Array**	**84.69**	**24**	P	P	11 55 04.3	-0.2
	0.3nm,0.8s,baz=261,slow=5.4,SNR=3.0						

WEL 27 12:16:35.3±0.2, 44.37S×168.00E, h5km, ML3.9/14, 3C-3D, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.31**	**190**	PG	Pg	12 16 42.1	+0.8
MSZ				SG	Sg	12 16 46.0	+0.6
MSZ				AML	AML	12 16 46.2	
MSZ				AML	AML	12 16 46.6	
MSZ				AML	AML	12 16 47.5	
JCZ	**Jackson Bay**	**0.62**	**62**	P*	Pg	12 16 47.6	+0.3
JCZ				SG	Sb	12 16 56.9	-1.0
JCZ				AML	AML	12 17 01.1	
WKZ	**Wanaka**	**0.86**	**123**	⇓P*	Pg	12 16 52.0	+0.2
WKZ				S*	Sg	12 17 03.2	+0.1
WKZ				AML	AML	12 17 04.3	
MLZ	**Mavora Lakes**	**0.99**	**173**	P*	Pg	12 16 54.2	-0.2
MLZ				S*	Sb	12 17 08.6	+0.3
MLZ				AML	AML	12 17 15.8	
DCZ	**Deep Cove**	**1.26**	**208**	P*	Pg	12 16 58.2	-1.3
DCZ				S*	Sg	12 17 15.4	-0.5
DCZ				AML	AML	12 17 18.0	
DCZ				AML	AML	12 17 18.0	
DCZ				AML	AML	12 17 18.2	
EAZ	**Earnscleugh**	**1.27**	**133**	P*	Pg	12 16 58.8	-0.8
EAZ				S*	Sg	12 17 15.4	-0.7
EAZ				AML	AML	12 17 17.9	
EAZ				AML	AML	12 17 18.0	
FOZ	**Fox Glacier**	**1.46**	**57**	⇑PN	Pn	12 17 02.4	+0.1
FOZ				AML	AML	12 17 28.9	
FOZ				AML	AML	12 17 29.0	
FOZ				AML	AML	12 17 30.7	
FOZ				AML	AML	12 17 30.7	
WHZ	**Wether Hill Ro**	**1.53**	**181**	PN	Pn	12 17 02.7	-0.6
WHZ				AML	AML	12 17 26.5	
WHZ				AML	AML	12 17 28.8	
LBZ	**Lake Benmore**	**1.56**	**91**	PN	Pn	12 17 04.2	+0.4
LBZ				AML	AML	12 17 27.1	
LBZ				AML	AML	12 17 27.8	
TUZ	**Tuapeka**	**1.96**	**145**	PN	Pn	12 17 09.7	+0.5
TUZ				AML	AML	12 17 36.2	
TUZ				AML	AML	12 17 36.3	
ODZ	**Otahua Downs**	**2.00**	**111**	PN	Pn	12 17 10.1	+0.3
RPZ	**Rata Peaks**	**2.29**	**75**	⇑PN	Pn	12 17 14.3	+0.5
RPZ				AML	AML	12 17 50.5	
RPZ				AML	AML	12 17 51.4	
SYZ	**Scrubby Hill**	**2.31**	**160**	⇓PN	Pn	12 17 14.0	0.0
SYZ				AML	AML	12 17 46.7	
SYZ				AML	AML	12 17 46.9	
SYZ				AML	AML	12 17 48.8	
SYZ				AML	AML	12 17 53.6	
WVZ	**Waitaha Valley**	**2.37**	**58**	⇑PN	Pn	12 17 13.2	-1.6
WVZ				AML	AML	12 17 52.5	
WVZ				AML	AML	12 17 53.3	
HHSZ	**Highcliff Hill**	**2.38**	**130**	PN	Pn	12 17 15.3	+0.3
APZ	**The Paps**	**2.46**	**180**	⇓PN	Pn	12 17 16.6	+0.4
APZ				AML	AML	12 17 50.2	
OXZ	**Oxford**	**3.10**	**72**	PN	Pn	12 17 23.3	-1.6
MQZ	**McQueen's Vall**	**3.42**	**80**	PN	Pn	12 17 28.1	-1.1
CRLZ	**Canterbury Las**	**3.43**	**78**	PN	Pn	12 17 28.4	-0.9
LTZ	**Lake Taylor**	**3.48**	**64**	PN	Pn	12 17 28.9	-1.3
DSZ	**Denniston Nort**	**3.82**	**48**	PN	Pn	12 17 33.7	-1.2
THZ	**Tophouse**	**4.43**	**56**	PN	Pn	12 17 42.5	-0.8
KHZ	**Kahutara**	**4.48**	**66**	PN	Pn	12 17 43.5	-0.3
QRZ	**Quartz Range**	**4.87**	**45**	PN	Pn	12 17 47.9	-1.2
NNZ	**Nelson**	**5.06**	**53**	PN	Pn	12 17 51.4	-0.4
NWEZ	**Newall Road**	**6.71**	**43**	PN	Pn	12 18 13.5	-1.0
KHEZ	**Kahui Hut**	**6.77**	**44**	PN	Pn	12 18 14.6	-0.9

IDC 27 12:18:40.0±1.6, 11.53N×142.07E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.3/38, mbtmp3.3/4, Error ellipse: s-maj=219.7km s-min=23.7km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.18**	**194**	P	P	12 25 09.3	-0.5
	0.5nm,0.8s,baz=16,slow=9.6,SNR=4.7						
ASAR	**Alice Springs**	**35.88**	**193**	P	P	12 25 42.0	+0.1
	0.1nm,0.4s,baz=22,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**71.59**	**25**	P	P	12 30 01.6	-1.3
	0.3nm,0.6s,baz=246,slow=5.9,SNR=8.7						
YKA	**Yellowknife Ar**	**85.93**	**27**	P	P	12 31 23.6	+1.8
	0.1nm,0.4s,baz=290,slow=5.3,SNR=3.3						

*ISCJB **27** 12:31:34.8±0.3, 38.96S±0.06×15.87W±0.08, h10km, mb5.0/50, MS5.0/27, Error ellipse: s-maj=10.4km s-min=7.5km az=137.4*
*IDC **27** 12:31:34.1±0.4, 38.89S×15.76W, h0km, mb4.6/18, mb1 4.7/18, mb1mx4.7/25, mbtmp4.6/18, MS4.9/19, Ms1 4.9/19, ms1mx4.8/22, Error ellipse: s-maj=16.5km s-min=12.9km az=142.0*
*NEIC **27** 12:31:36.0±0.2, 38.90S×15.83W, h10km, mb5.1/12, Error ellipse: s-maj=8.2km s-min=6.3km az=141.0*
*GCMT **27** 12:31:36.0±0.1, 39.01S×15.76W, h12km, MW5.4/115, Moment Tensor Solution. s70,c102; s115,c216; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.68±.02; $M_{\theta\theta}$0.15±.03; $M_{\phi\phi}$1.53±.02; $M_{r\theta}$-0.19±.08; $M_{\theta\phi}$-0.50±.02; $M_{\phi r}$-0.12±.06; Best double couple: $M_0$1.70000×10^{17} NP1:ϕs350.00000°, δ46.00000°, λ-80.00000°. NP2:ϕs155.00000°, δ44.00000°, λ-101.00000°. Principal axes: T 1.6910, Plg1.0000°, Azm72.0000°; N 0.0180, Plg7.0000°, Azm162.0000°; P -1.7100, Plg82.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 12:31:35.9±0.3, 38.87S±0.08×15.71W±0.06, h10km, n230, σ1§48/235, mb5.1/48, MS5.0/27, 12C-4D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**29.79**	**2**	T	T	13 08 58.9	
	baz=182,slow=75,SNR=141						
H10S3	**ASCENSION HYDR**	**29.80**	**2**	T	T	13 09 05.2	
	baz=182,slow=75,SNR=138						
H10S1	**ASCENSION HYDR**	**29.81**	**2**	T	T	13 08 58.8	
	baz=182,slow=75,SNR=149						
SUR	**Sutherland**	**30.24**	**89**	LR	LR	12 46 53.7	
	comp=Z,4μm,20.8s,baz=242,slow=30						
H10N1	**ASCENSION HYDR**	**30.91**	**2**	T	T	13 10 26.2	
	baz=190,slow=78,SNR=9.3						
H10N3	**ASCENSION HYDR**	**30.91**	**2**	T	T	13 10 22.9	
	baz=190,slow=78,SNR=80						
H10N2	**ASCENSION HYDR**	**30.92**	**2**	T	T	13 10 23.6	
	baz=190,slow=78,SNR=22						
SNAA	**Sanae**	**33.53**	**173**	*e*P	**P**	**12 38 15.8**	**+0.5**
	12nm,1.0s						
SNAA	**Sanae**	**33.53**	**173**	P	**P**	**12 38 14.2**	**-1.1**
	2.5nm,0.9s,baz=337,slow=7.7,SNR=11						
SNAA				LR	LR	12 48 24.7	
	comp=Z,941nm,21.9s,baz=5.5,slow=30						
LPA	**La Plata**	**33.78**	**263**	*ce*P	**P**	**12 38 17.0**	**-0.9**
LPA				PP	**PnPn**	**12 39 28.0**	**-2.1**
LPA				PPP	PPP	12 39 40.0	
LPA				sS	**S**	**12 43 45.0**	**+3.5**
TSUM	**Tsumeb**	**34.81**	**65**	*e*P	**P**	**12 38 26.8**	**-0.2**
	33nm,0.9s						
TSUM	**Tsumeb**	**34.81**	**65**	P	**P**	**12 38 26.9**	**-0.2**
	20nm,1.1s,baz=226,slow=9.2,SNR=15						
TSUM				LR	LR	12 50 11.3	
	comp=Z,7μm,18.2s,baz=218,slow=32						
BOSA	**Boshof**	**35.31**	**86**	*e*P	**P**	**12 38 30.7**	**-0.6**
	46nm,1.3s						
BOSA	**Boshof**	**35.31**	**86**	P	**P**	**12 38 30.8**	**-0.6**
	30nm,1.2s,baz=228,slow=7.4,SNR=11						
BOSA				LR	LR	12 50 26.4	
	comp=Z,3μm,18.9s,baz=241,slow=32						
TRQA	**Tornquist**	**35.94**	**256**	*e*P	**P**	**12 38 36.3**	**-0.2**
	17nm,1.0s						
BDFB	**Brasilia**	**36.57**	**300**	P	**P**	**12 38 40.5**	**-1.6**
BDFB	**Brasilia**	**36.57**	**300**	P	**P**	**12 38 40.5**	**-1.6**
	10nm,0.8s,baz=117,slow=8.3,SNR=13						
BDFB				LR	LR	12 51 02.2	
	comp=Z,2μm,18.7s,baz=130,slow=32						
CPUP	**Villa Florida**	**36.92**	**277**	P	**P**	**12 38 45.5**	**+0.5**
CPUP				PcP	**PcP**	**12 41 04.8**	**-1.5**
CPUP	**Villa Florida**	**36.92**	**277**	P	**P**	**12 38 45.5**	**+0.5**
	7.1nm,0.8s,baz=109,slow=6.2,SNR=6.4						
CPUP				PcP	**PcP**	**12 41 04.8**	**-1.5**
	3.3nm,0.7s,baz=150,slow=2.9,SNR=5.5						
CPUP				LR	LR	12 51 23.8	
	comp=Z,4μm,21.2s,baz=118,slow=32						
LBTB	**Lobatse**	**37.36**	**81**	*e*P	**P**	**12 38 49.1**	**+0.3**
LBTB	**Lobatse**	**37.36**	**81**	P	**P**	**12 38 48.0**	**-0.8**
	9.4nm,1.0s,baz=251,slow=12,SNR=6.9						
USHA	**Ushuaia**	**38.44**	**228**	P	**P**	**12 38 56.3**	**-1.1**
USHA	**Ushuaia**	**38.44**	**228**	P	**P**	**12 38 56.3**	**-1.1**
	4.0nm,0.6s,baz=67,slow=13,SNR=2.1						
USHA				LR	LR	12 53 03.0	
	comp=Z,1μm,19.9s,baz=61,slow=34						
PLCA	**Paso Flores**	**41.60**	**249**	P	**P**	**12 39 24.1**	**+0.1**
PLCA	**Paso Flores**	**41.60**	**249**	P	**P**	**12 39 24.1**	**+0.1**
	3.9nm,0.9s,baz=98,slow=5.9,SNR=4.6						
PLCA				LR	LR	12 53 27.8	
	comp=Z,4μm,21.8s,baz=113,slow=32						
SYO	**Syowa Base**	**42.00**	**154**	⇑*e*P	**P**	**12 39 25.2**	**-1.6**
CFAA	**Coronel Fontan**	**43.02**	**263**	P	**P**	**12 39 34.2**	**-1.5**
CFAA				PcP	**PcP**	**12 41 25.7**	**-0.2**
CFAA	**Coronel Fontan**	**43.02**	**263**	P	**P**	**12 39 34.2**	**-1.5**
	0.4nm,0.5s,baz=119,slow=5.8,SNR=6.9						
CFAA				PcP	**PcP**	**12 41 25.7**	**-0.2**
	0.6nm,0.9s,baz=59,slow=5.9,SNR=7						
LSZ	**Lusaka**	**45.04**	**71**	*e*P	**P**	**12 39 51.7**	**-0.4**
	15nm,0.8s						
LIC	**Lamto**	**45.94**	**15**	⇑*i*P	**P**	**12 39 59.7**	**+0.7**
	212nm,1.9s,baz=190						
LIC				*e*R			
	632nm,19.5s						
LIC	**Lamto**	**45.94**	**15**	*e*P	**P**	**12 39 58.7**	**-0.3**
	138nm,1.9s						
LIC	**Lamto**	**45.94**	**15**	⇑*i*P	**P**	**12 39 59.7**	**+0.7**
	212nm,1.9s						
KIC	**Kosan Boka**	**46.13**	**15**	*e*P	**P**	**12 40 00.1**	**-0.4**
	123nm,1.6s						
TIC	**Toumodi**	**46.35**	**15**	*e*P	**P**	**12 40 01.7**	**-0.6**
	37nm,1.1s						
DBIC	**Dimbokro**	**46.41**	**15**	P	**P**	**12 40 02.0**	**-0.6**
DBIC	**Dimbokro**	**46.41**	**15**	P	**P**	**12 40 02.0**	**-0.6**
	6.8nm,1.1s,baz=170,slow=10,SNR=3.3						
DBIC				LR	LR	12 54 52.3	
	comp=Z,508nm,20.9s,baz=167,slow=30						
LVC	**Limon Verde**	**47.86**	**274**	*e*P	**P**	**12 40 13.4**	**-1.0**
	12nm,1.1s						
MAW	**Mawson**	**50.47**	**151**	LR	LR	12 57 31.2	
	comp=Z,894nm,21.5s,baz=276,slow=31						
QSPA	**South Pole Qui**	**51.39**	**180**	P	**P**	**12 40 40.3**	**-0.3**
QSPA				PcP	**PcP**	**12 41 54.9**	**-0.2**
QSPA	**South Pole Qui**	**51.39**	**180**	P	**P**	**12 40 40.3**	**-0.3**
	23nm,1.0s,baz=202,slow=3.7,SNR=30						
QSPA				PcP	**PcP**	**12 41 54.9**	**-0.2**
	16nm,0.9s,baz=250,slow=3.4,SNR=5.5						
SAML	**Samuel**	**51.84**	**292**	*e*P	**P**	**12 40 44.0**	**-0.4**
	26nm,2.2s						
TOA0	**Torodi Ar. Sit**	**54.24**	**21**	*e*P	**P**	**12 41 01.9**	**0.0**
TORD	**Torodi Ar. Bea**	**54.24**	**21**	P	**P**	**12 41 00.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**54.24**	**21**	P	**P**	**12 41 00.8**	**-1.1**
	6.3nm,1.0s,baz=196,slow=5.0,SNR=22						
TORD				LR	LR	12 59 07.2	
	comp=Z,1μm,21.2s,baz=175,slow=30						
PTGA	**Pitinga**	**55.46**	**302**	*e*P	**P**	**12 41 10.8**	**-0.2**
	6.0nm,1.3s						
KMBO	**Kilima Mbogo**	**61.16**	**66**	P	**P**	**12 41 53.9**	**+2.9**
KMBO	**Kilima Mbogo**	**61.16**	**66**	P	**P**	**12 41 53.9**	**+2.9**
	0.7nm,0.4s,baz=205,slow=11,SNR=3.6						
KMBO				LR	LR	13 06 14.9	
	comp=Z,4μm,19.0s,baz=248,slow=34						
SBA	**Scott Base**	**63.54**	**181**	*e*P	**P**	**12 42 07.8**	**+2.0**
	15nm,0.9s						
VNDA	**Vanda**	**63.88**	**179**	P	**P**	**12 42 08.3**	**+0.3**
VNDA	**Vanda**	**63.88**	**179**	P	**P**	**12 42 08.3**	**+0.3**
	6.2nm,1.0s,baz=200,slow=5.7,SNR=10.0						
VNDA				LR	LR	13 06 30.8	
	comp=Z,679nm,21.3s,baz=170,slow=33						
TAM	**Tamanrasset**	**64.48**	**22**	*e*P	**P**	**12 42 12.7**	**-0.1**
	16nm,1.4s						
ROSC	**El Rosal**	**69.36**	**295**	LR	LR	13 12 00.3	
	comp=Z,3μm,18.8s,baz=178,slow=35						
SDV	**Santo Domingo**	**69.67**	**300**	*e*P	**P**	**12 42 44.7**	**-1.4**
	32nm,1.2s						
KEST	**Kesra**	**77.76**	**21**	P	**P**	**12 43 33.1**	**+0.1**
KEST	**Kesra**	**77.76**	**21**	P	**P**	**12 43 33.1**	**+0.1**
	4.7nm,0.9s,baz=272,slow=4.1,SNR=5.1						
KEST				LR	LR	13 14 15.4	
	comp=Z,546nm,20.4s,baz=162,slow=33						
ESDC	**Sonseca Array**	**78.90**	**9**	P	**P**	**12 43 39.8**	**+0.6**
ESDC	**Sonseca Array**	**78.90**	**9**	P	**P**	**12 43 39.8**	**+0.6**
	5.1nm,0.9s,baz=180,slow=6.1,SNR=10						
ESDC				LR	LR	13 15 51.1	
	comp=Z,296nm,18.5s,baz=130,slow=34						
ETSF	**Etsaut**	**82.54**	**11**	*e*P	**P**	**12 43 59.7**	**+1.1**
ETSF	**Etsaut**	**82.54**	**11**	*e*P	**P**	**12 43 59.7**	**+1.1**
SJPF	**Ste Jean**	**82.65**	**11**	*e*P	**P**	**12 43 59.7**	**+0.6**
SJPF	**Ste Jean**	**82.65**	**11**	*e*P	**P**	**12 43 59.7**	**+0.6**
EPF	**Esparros**	**82.81**	**12**	*e*P	**P**	**12 44 00.8**	**+0.9**
	39nm,1.2s						
EPF	**Esparros**	**82.81**	**12**	*e*P	**P**	**12 44 00.8**	**+0.9**
	39nm,1.2s						
MTLF	**Montolieu**	**83.42**	**13**	*e*P	**P**	**12 44 03.2**	**+0.1**
MTLF	**Montolieu**	**83.42**	**13**	*e*P	**P**	**12 44 03.2**	**+0.1**
RAYN	**Ar Rayn**	**84.43**	**54**	*e*P	P	12 44 12.1	+3.4
	76nm,1.3s						
LASF	**Ste Croix**	**84.44**	**14**	*e*P	**P**	**12 44 08.9**	**+0.7**
LASF	**Ste Croix**	**84.44**	**14**	*e*P	**P**	**12 44 08.9**	**+0.7**
APE	**Apeiranthos**	**84.58**	**32**	⇑*i*P	**P**	**12 44 11.1**	**+1.9**
CAF	**Calviac**	**84.94**	**13**	*e*P	**P**	**12 44 11.6**	**+0.9**
	32nm,1.2s						
CAF	**Calviac**	**84.94**	**13**	*e*P	**P**	**12 44 11.6**	**+0.9**
	32nm,1.2s						
RJF	**Les Rejaudoux**	**85.21**	**12**	*e*P	**P**	**12 44 14.0**	**+1.9**
RJF				*e*R			
	534nm,21.0s						
RJF	**Les Rejaudoux**	**85.21**	**12**	*e*P	**P**	**12 44 14.0**	**+1.9**
VIVF	**Saint-Julien-l**	**85.34**	**14**	*e*P	**P**	**12 44 13.6**	**+0.8**
	66nm,1.5s						
VIVF	**Saint-Julien-l**	**85.34**	**14**	*e*P	**P**	**12 44 13.6**	**+0.8**
	66nm,1.5s						
ORIF	**Oris-en-Rattie**	**85.64**	**15**	*e*P	**P**	**12 44 15.4**	**+1.0**
	45nm,1.3s						
ORIF				*e*R			
	1μm,21.2s						
ORIF	**Oris-en-Rattie**	**85.64**	**15**	*e*P	**P**	**12 44 15.4**	**+1.0**
	45nm,1.3s						
MBDF	**Montbardon**	**85.65**	**16**	*e*P	**P**	**12 44 14.6**	**+0.1**
	26nm,1.1s						
MBDF	**Montbardon**	**85.65**	**16**	*e*P	**P**	**12 44 14.6**	**+0.1**
	26nm,1.1s						
MFF	**Saint Martin d**	**86.22**	**11**	*e*P	**P**	**12 44 18.1**	**+1.1**
	30nm,1.1s						
MFF	**Saint Martin d**	**86.22**	**11**	*e*P	**P**	**12 44 18.1**	**+1.1**
	30nm,1.1s						
TCF	**Toulx Ste Croi**	**86.28**	**12**	*e*P	**P**	**12 44 18.7**	**+1.3**
TCF	**Toulx Ste Croi**	**86.28**	**12**	*e*P	**P**	**12 44 18.7**	**+1.3**
LPG	**La Plagne**	**86.38**	**16**	*e*

BCLA	**Clavier**	**90.81**	**13**	P		**P**	**12 44 41.7**	**+3.0**	
	comp=Z,12nm,1.8s								
CONA	**Conrad Observa**	**90.87**	**21**	*j*sP		sP	12 44 47.3	+3.5	
	comp=Z,16nm,1.4s								
GERES	**GERESS Array B**	**91.14**	**19**	P		**P**	**12 44 41.9**	**+1.4**	
GERES	**GERESS Array B**	**91.14**	**19**	P		**P**	**12 44 41.9**	**+1.4**	
	comp=Z,0.2nm,0.3s,baz=184,slow=5.8,SNR=2.9								
GERES				LR		LR	13 22 12.1		
	comp=Z,684nm,22.0s,baz=214,slow=33								
GRF	**Grafenberg Arr**	**91.33**	**17**	*e*P		**P**	**12 44 43.2**	**+2.0**	
	comp=Z,32nm,1.6s								
GRF				*ep*P		**pP**	**12 44 48.9**	**+4.3**	
VOIR		**91.57**	**27**	*j*|*i*P		**P**	**12 44 44.2**	**+1.7**	
DRGR		**91.94**	**25**	*i*P		**P**	**12 44 46.8**	**+2.6**	
MLR	**Muntele Rosu**	**91.94**	**28**	*i*P		**P**	**12 44 46.1**	**+1.8**	
TLB	**Topalu**	**91.96**	**30**	*j*|*i*P		**P**	**12 44 46.1**	**+1.9**	
CFR	**Carcaliu**	**92.50**	**29**	*i*P		**P**	**12 44 48.8**	**+2.1**	
VRI	**Vrincioaia**	**92.55**	**28**	*i*P		**P**	**12 44 48.0**	**+1.0**	
KECS	**Kecovo**	**92.72**	**23**	*e*P		**P**	**12 44 49.3**	**+1.6**	
H01W2	**Cape Leeuwin H**	**93.16**	**141**	T		T	14 29 17.1		
	baz=218,slow=75,SNR=25								
H01W3	**Cape Leeuwin H**	**93.17**	**141**	T		T	14 29 18.4		
	baz=218,slow=75,SNR=28								
H01W1	**Cape Leeuwin H**	**93.18**	**141**	T		T	14 29 15.0		
	baz=218,slow=75,SNR=32								
CRVS	**Cervenica-Dubn**	**93.39**	**24**	*e*P		**P**	**12 44 52.8**	**+2.0**	
BURAR	**Bucovina Array**	**93.50**	**26**	*i*P		**P**	**12 44 54.0**	**+2.6**	
STHS	**Stebnicka Huta**	**93.78**	**23**	*e*P		**P**	**12 44 54.6**	**+2.1**	
RKT	**Rikitea**	**96.16**	**234**	*e*LR		LR	13 16 07.0		
	comp=Z,507nm,36.5s								
AKASG	**Malin Array Be**	**97.52**	**27**	P		Pdif	12 45 10.2	+0.6	
AKASG	**Malin Array Be**	**97.52**	**27**	P		Pdif	12 45 10.2	+0.6	
	comp=Z,1.2nm,0.6s,baz=216,slow=4.0,SNR=6.9								
KBZ	**Khabaz**	**97.80**	**39**	P		Pdif	12 45 12.8	+1.8	
KBZ	**Khabaz**	**97.80**	**39**	P		Pdif	12 45 12.8	+1.8	
	comp=Z,3.6nm,1.0s,baz=299,slow=4.7,SNR=4.2								
KBZ				LR		LR	13 27 51.0		
	comp=Z,392nm,21.4s,baz=207,slow=34								
TBI	**Tubuai**	**104.47**	**223**	*e*SP		SP	12 59 10.1	-1.0	
	comp=Z,181nm,27.2s								
TBI				*e*SS		**SS**	**13 04 53.3**	**+3.5**	
	comp=Z,316nm,29.5s								
TBI	**Tubuai**	**104.47**	**223**	*e*LQ		LQ	13 15 32.3		
	comp=Z,426nm,35.5s								
TBI				*e*LR		LR	13 19 57.7		
	comp=Z,948nm,33.0s								
TXAR	**Lajitas Array**	**106.28**	**295**	PKKPab		PKKPab	13 01 38.2	+2.4	
TXAR	**Lajitas Array**	**106.28**	**295**	PKKPab		PKKPab	13 01 38.2	+2.4	
	comp=Z,0.3nm,0.7s,baz=228,slow=2.3,SNR=3.9								
PPT2	**Papeete2**	**109.17**	**227**	*e*SP		SP	12 59 52.9	-7.0	
	comp=Z,128nm,23.8s								
PPT2				*e*SS		**SS**	**13 05 59.8**	**+5.8**	
	comp=Z,385nm,28.0s								
PPT2	**Papeete2**	**109.17**	**227**	*e*LR		LR	13 22 15.2		
	comp=Z,1μm,29.0s								
ASAR	**Alice Springs**	**111.59**	**150**	PKKPbc		PKKPbc	13 01 03.4	-0.6	
ASAR	**Alice Springs**	**111.59**	**150**	PKKPbc		PKKPbc	13 01 03.4	-0.6	
	comp=Z,0.2nm,0.6s,baz=28,slow=5.9,SNR=4.9								
KSH	**Kashi**	**114.44**	**58**	*e*PKP		PKPdf	12 50 15.5	-0.4	
KSH				*e*PP		**PP**	**12 51 10.3**	**-2.6**	
KSH				*e*SKS		**SKSdf**	**12 57 22.3**	**-5.7**	
KSH				*e*SKKS		SKKSac	12 58 00.5	-14	
KSH				AMB		AMB			
	comp=Z,94nm,5.7s								
KSH				LR		LR			
	comp=Z,53nm,6.7s								
KSH				LR		LR			
	comp=Z,94nm,5.0s								
WRA	**Warramunga Arr**	**115.11**	**149**	PKP		**PKPdf**	**12 50 16.8**	**-1.0**	
WRA	**Warramunga Arr**	**115.11**	**149**	PKP		**PKPdf**	**12 50 16.8**	**-1.0**	
	comp=Z,1.4nm,0.9s,baz=234,slow=2.0,SNR=5.3								
PDAR	**Pinedale Array**	**117.48**	**304**	PKP		**PKPdf**	**12 50 20.9**	**-0.9**	
PDAR	**Pinedale Array**	**117.48**	**304**	PKP		**PKPdf**	**12 50 20.9**	**-0.9**	
	comp=Z,0.9nm,1.0s,baz=67,slow=2.3,SNR=4.3								
E20A	**Meyer Farm, Mu**	**118.34**	**308**	P		**PKPdf**	**12 50 22.9**	**-0.2**	
	baz=118								
F19A	**Roth Farm, Mol**	**118.54**	**307**	P		**PKPdf**	**12 50 23.3**	**-0.3**	
	baz=119								
C20A	**Veseth Ranch,**	**118.82**	**310**	P		**PKPdf**	**12 50 24.2**	**+0.2**	
	baz=119								
DZM	**Mont Dzumac**	**119.35**	**182**	*e*LR		LR	13 27 01.4		
	comp=Z,373nm,22.3s								
R11A	**Troy Canyon, C**	**119.44**	**297**	P		**PKPdf**	**12 50 24.7**	**-1.0**	
	baz=120								
C19A	**Slack Wire Ran**	**119.46**	**309**	P		**PKPdf**	**12 50 25.1**	**-0.1**	
	baz=120								
B19A	**Brinkman Farms**	**119.72**	**310**	P		**PKPdf**	**12 50 26.3**	**+0.7**	
	baz=120								
EGMT	**Eagleton**	**120.01**	**309**	P		**PKPdf**	**12 50 26.9**	**+0.6**	
	baz=120								
ELK	**Elko**	**120.30**	**300**	PKP		**PKPdf**	**12 50 27.5**	**+0.2**	
ELK	**Elko**	**120.30**	**300**	PKP		**PKPdf**	**12 50 27.5**	**+0.2**	
	comp=Z,1.8nm,0.8s,baz=70,slow=2.7,SNR=11								
CMAR	**Chiang Mai Arr**	**120.38**	**90**	PKP		**PKPdf**	**12 50 27.6**	**-0.2**	
CMAR	**Chiang Mai Arr**	**120.38**	**90**	PKP		**PKPdf**	**12 50 27.6**	**-0.2**	
	comp=Z,0.9nm,0.6s,baz=242,slow=3.7,SNR=7.8								
HLID	**Hailey**	**121.00**	**303**	P		**PKPdf**	**12 50 28.9**	**+0.4**	
	baz=121								
KURBB	**Kurchatov Arra**	**121.23**	**48**	PKP		**PKPdf**	**12 50 28.1**	**-0.3**	
	comp=Z,0.6nm,0.7s,baz=241,slow=2.6,SNR=9.2								
KURBB				PP		**PP**	**12 51 57.4**	**-2.2**	
	comp=Z,1.1nm,1.0s,baz=258,slow=7.4,SNR=4.9								
KURK	**Kurchatov**	**121.32**	**48**	PKP		**PKPdf**	**12 50 28.1**	**-0.5**	
KURK				PP		**PP**	**12 51 57.4**	**-2.8**	
NVAR	**Mina Array Bea**	**121.37**	**296**	PKP		**PKPdf**	**12 50 28.8**	**-0.6**	
NVAR				PP		**PP**	**12 52 04.2**	**+3.0**	
NVAR				PKKPab		**PKKPab**	**13 00 29.9**	**+0.3**	
NVAR	**Mina Array Bea**	**121.37**	**296**	PKP		**PKPdf**	**12 50 28.8**	**-0.6**	
	comp=Z,0.6nm,0.8s,baz=117,slow=2.4,SNR=4.9								
NVAR				PP		**PP**	**12 52 04.2**	**+3.0**	
	comp=Z,0.6nm,0.8s,baz=116,slow=3.4,SNR=4.3								
NVAR				PKKPab		**PKKPab**	**13 00 29.9**	**+0.3**	
	comp=Z,0.7nm,0.8s,baz=266,slow=3.9,SNR=5.3								
MKAR	**Makanchi Array**	**121.92**	**53**	PKP		**PKPdf**	**12 50 30.0**	**+0.1**	
MKAR				PP		**PP**	**12 52 07.8**	**+3.3**	
MKAR	**Makanchi Array**	**121.92**	**53**	PKP		**PKPdf**	**12 50 30.0**	**+0.1**	
	comp=Z,0.8nm,1.0s,baz=250,slow=5.8,SNR=4.4								
MKAR				PP		**PP**	**12 52 07.8**	**+3.3**	
	comp=Z,1.0nm,1.0s,baz=258,slow=6.1,SNR=5.4								
MSO	**Missoula**	**122.08**	**307**	P		**PKPdf**	**12 50 30.5**	**+0.1**	
	baz=122								
BMO	**Blue Mountains**	**123.43**	**303**	*e*PKPdf		**PKPdf**	**12 50 32.8**	**-0.2**	
WMQ	**Urumqi**	**124.21**	**58**	PKP		**PKPdf**	**12 50 35.3**	**+0.8**	
WMQ				sPKP			12 50 40.3		
WMQ				PKS		**PKSdf**	**12 54 10.8**	**-0.2**	
WMQ				SKS		**SKSdf**	**12 57 46.0**	**-0.3**	
WMQ				SKKS		**SKKSac**	**12 59 16.5**	**-1.6**	
WMQ				SS		**SS**	**13 09 13.0**	**+1.4**	
WMQ				AMB		AMB			
	comp=Z,24nm,9.2s								
WMQ				LR		LR			
	comp=Z,420nm,24.0s								
WMQ				LR		LR			
	comp=Z,520nm,23.0s								
WMQ				LR		LR			
	comp=Z,580nm,24.5s								
RES	**Resolute Bay**	**124.30**	**342**	*e*PKPdf		**PKPdf**	**12 50 33.9**	**+0.3**	
RES				PKP		**PKPdf**	**12 50 34.2**	**+0.6**	
RES	**Resolute Bay**	**124.30**	**342**	PKP		**PKPdf**	**12 50 34.2**	**+0.6**	
	comp=Z,5.6nm,0.9s,baz=106,slow=2.4,SNR=17								
M04C	**Macdoel**	**125.25**	**298**	P		**PKPdf**	**12 50 37.3**	**+0.7**	
	baz=125								
J05D	**Fort Rock, OR**	**125.42**	**300**	P		**PKPdf**	**12 50 37.6**	**+0.7**	
	baz=126								
N02D	**Trinity Center**	**125.52**	**297**	P		**PKPdf**	**12 50 37.9**	**+0.8**	
	baz=126								
I05D	**Terrebonne, OR**	**125.89**	**301**	P		**PKPdf**	**12 50 38.6**	**+1.0**	
	baz=126								
J04D	**Umpqua Nationa**	**125.99**	**300**	P		**PKPdf**	**12 50 38.6**	**+0.5**	
	baz=126								
ZALV	**Zalesovo Beam**	**126.04**	**46**	PKP		**PKPdf**	**12 50 37.4**	**-0.1**	
ZALV				PP		PP	12 52 37.7	+5.7	
ZALV	**Zalesovo Beam**	**126.04**	**46**	PKP		**PKPdf**	**12 50 37.4**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=248,slow=1.6,SNR=4.2								
ZALV				PP		PP	12 52 37.7	+5.7	
	comp=Z,1.6nm,0.8s,baz=261,slow=5.7,SNR=6.4								
I04A	**Tendick Farm,**	**126.41**	**300**	P		**PKPdf**	**12 50 38.6**	**0.0**	
	baz=126								
KMI	**Kunming**	**126.94**	**86**	PKP		**PKPdf**	**12 50 40.5**	**0.0**	
KMI				PP		**PP**	**12 52 43.5**	**+4.8**	
KMI				SS		SS	13 09 48.0	+1.3	
KMI				AMB		AMB			
	comp=Z,170nm,3.2s								
KMI				LR		LR			
	comp=Z,320nm,17.2s								
KMI				LR		LR			
	comp=Z,350nm,14.1s								
KMI				LR		LR			
	comp=Z,470nm,17.7s								
YKA	**Yellowknife Ar**	**127.56**	**325**	PKP		**PKPdf**	**12 50 39.0**	**-1.1**	
YKA	**Yellowknife Ar**	**127.56**	**325**	PKP		**PKPdf**	**12 50 39.0**	**-1.1**	
	comp=Z,3.0nm,0.8s,baz=103,slow=2.1,SNR=34								
QIZ	**Qiongzhong**	**129.19**	**97**	PKP		**PKPdf**	**12 50 44.8**	**+0.2**	
QIZ				PP		**PP**	**12 52 53.5**	**+0.3**	
QIZ				SS		SS	13 10 15.8	+1.7	
QIZ				LR		LR			
	comp=Z,270nm,16.7s								
QIZ				LR		LR			
	comp=Z,660nm,16.8s								
CD2	**Chengdu**	**130.50**	**80**	*e*PKP		**PKPdf**	**12 50 47.8**	**+0.9**	
CD2				PP		**PP**	**12 53 05.5**	**+3.7**	
CD2				SKKS			12 59 56.5		
CD2				SS		**SS**	**13 10 26.3**	**-4.1**	
CD2				AMB		AMB			
	comp=Z,240nm,7.1s								
CD2				LR		LR			
	comp=Z,310nm,16.4s								
CD2				LR		LR			
	comp=Z,470nm,17.8s								
CD2				LR		LR			
	comp=Z,460nm,26.2s								
GYA	**Guiyang**	**130.66**	**87**	*e*Pdif		**Pdif**	**12 47 37.8**	**0.0**	
GYA				PKP		**PKPdf**	**12 50 47.3**	**-0.1**	
GYA				PP		**PP**	**12 53 07.5**	**+4.5**	
GYA				PKS		**PKSdf**	**12 54 22.0**	**-2.1**	
GYA				SKKS			12 59 56.8		
GYA				SS		**SS**	**13 10 33.3**	**+0.8**	
GYA				AMB		AMB			
	comp=Z,120nm,7.6s								
GYA				LR		LR			
	comp=Z,120nm,23.4s								
GYA				LR		LR			
	comp=Z,110nm,24.1s								
GYA				LR		LR			
	comp=Z,140nm,23.5s								
LZH	**Lanzhou**	**132.72**	**74**	*e*PKP		**PKPdf**	**12 50 46.8**	**-4.2**	
LZH				sPKP			12 50 52.5		
INK	**Inuvik**	**135.69**	**332**	PKP		**PKPdf**	**12 50 54.5**	**-0.9**	
INK				*e*PKPdf		**PKiKP**	**12 50 55.5**	**-1.4**	
INK	**Inuvik**	**135.69**	**332**	PKP		**PKPdf**	**12 50 54.5**	**-0.9**	
	comp=Z,6.2nm,0.8s,baz=38,slow=5.1,SNR=3.8								
SONM	**Songino Array**	**137.84**	**58**	PKP		**PKPdf**	**12 50 60.0**	**-0.2**	
SONM	**Songino Array**	**137.84**	**58**	PKP		**PKPdf**	**12 50 60.0**	**-0.2**	
	comp=Z,1.4nm,0.9s,baz=202,slow=1.7,SNR=8.6								
HHC	**Hu-ho-hao-te**	**139.98**	**70**	*e*PKP		**PKPdf**	**12 51 01.0**	**-3.3**	
HHC				PP		**PP**	**12 54 02.3**	**+0.6**	
HHC				SKKS			13 00 48.8		
HHC				AMB		AMB			
	comp=Z,200nm,8.0s								
HHC				LR		LR			
	comp=Z,570nm,18.5s								
HHC				LR		LR			
	comp=Z,610nm,17.3s								
HHC				LR		LR			
	comp=Z,920nm,19.2s								
ILAR	**Eielson Array**	**141.72**	**329**	PKPpre		PKPpre	12 50 59.8		
ILAR				PKP		**PKPdf**	**12 51 06.8**	**+0.3**	
ILAR	**Eielson Array**	**141.72**	**329**	PKhKP		PKPpre	12 50 59.8		
	comp=Z,4.9nm,1.0s,baz=79,slow=3.1,SNR=29								
ILAR				PKP		**PKPdf**	**12 51 06.8**	**+0.3**	
	comp=Z,5.3nm,0.8s,baz=344,slow=1.0,SNR=23								
COLD	**Coldfoot**	**142.06**	**333**	*e*PKPdf		**PKPdf**	**12 51 06.5**	**-0.5**	
COLA	**College**	**142.07**	**329**	*e*PKPdf		PKPdf	12 51 01.8	-5.3	
NJ2	**Nanjing**	**142.67**	**86**	*e*PKP		**PKPdf**	**12 51 09.5**	**+0.3**	
NJ2				PP		**PP**	**12 54 18.0**	**-0.1**	
NJ2				AMB		AMB			
	comp=Z,330nm,6.8s								
NJ2				LR		LR			
	comp=Z,680nm,28.0s								
NJ2				LR		LR			
	comp=Z,220nm,19.6s								
NJ2				LR		LR			
	comp=Z,370nm,27.5s								
MCK	**McKinley**	**142.90**	**327**	*e*PKPdf		**PKPdf**	**12 51 08.5**	**-0.2**	
BJI	**Beijing**	**143.19**	**73**	PKP		**PKPdf**	**12 51 09.0**	**-0.9**	
BJI				SS		SS	13 13 01.0	-0.1	
BJI				LR		LR			
	comp=Z,560nm,20.7s								
BJI				LR		LR			
	comp=Z,550nm,16.1s								
BJI				LR		LR			
	comp=Z,400nm,21.8s								
TRF	**Thorofare Moun**	**143.56**	**327**	*e*PKPdf		PKPab	12 51 06.7	+0.1	
KTH	**Kantishna Hill**	**143.79**	**328**	*e*PKPdf		PKPab	12 51 07.4	+0.1	
IM04	**Indian Mountai**	**143.90**	**332**	*e*PKPdf		PKPab	12 51 08.0	+0.4	
PPLA	**Purkeypile**	**144.57**	**327**	*e*PKPdf		**PKPab**	**12 51 09.9**	**-0.5**	
YAK	**Yakutsk**	**148.66**	**31**	*e*PKPbc		**PKPbc**	**12 51 22.2**	**0.0**	
TNA	**Tin City**	**148.83**	**338**	*e*PKPbc		**PKPbc**	**12 51 22.8**	**+0.3**	
BILL	**Bilibino**	**150.75**	**358**	*e*PKPbc		**PKPbc**	**12 51 27.1**	**-0.2**	
BILL				*e*PKPab		**PKPab**	**12 51 34.2**	**-0.1**	
GAMB	**Gambell**	**151.25**	**338**	*e*PKPbc		**PKPbc**	**12 51 29.0**	**+0.5**	
GAMB				*e*PKPab		**PKPab**	**12 51 36.1**	**-0.4**	
KSAR	**Wonju Array Be**	**151.45**	**81**	PKPbc		**PKPbc**	**12 51 29.1**	**-0.7**	
KSRS	**Korea Array**	**151.48**	**81**	PKPbc		**PKPbc**	**12 51 29.1**	**-0.8**	
	comp=Z,3.0nm,0.9s,baz=285,slow=2.7,SNR=6.2								
MJAR	**Matsushiro Arr**	**159.25**	**88**	PKPab		**PKPab**	**12 52 12.6**	**+1.0**	
MJAR	**Matsushiro Arr**	**159.25**	**88**	PKPab		**PKPab**	**12 52 12.6**	**+1.0**	
	comp=Z,2.2nm,1.0s,baz=231,slow=5.6,SNR=3.5								

*IDC **27** 12:36:49.3±0.5,59°.60S×26°.24W,h0km,mb4.4/12, mb1 4.5/13,mb1mx4.3/27,mbtmp4.4/13,ML4.5/1,Error ellipse: s-maj=18.6km s-min=17.0km az=44.0*
*ISCJB **27** 12:36:53.8±0.5,59°.61S±0°.09×26°.1W±0°.2,h40km, mb4.3/13,Error ellipse: s-maj=13.7km s-min=12.1km az=140.3*
*NEIC **27** 12:36:54.9±2.3,59°.67S×26°.24W,h39km±20km,mb4.5/2, Error ellipse: s-maj=14.4km s-min=10.4km az=220.0*

ISC 27 12:36:55.2±0.4,59°.60S±0°.09×26°.09W±0°.09,h40km,n63, σ1§14/64,mb4.4/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SNAA	**Sanae**	**15.29**	**152**	*e*Pn	**Pn**	**12 40 25.1**		**-2.8**
	18nm,0.5s							
SNAA				Sn	Sn	12 43 01.9		-14
SNAA				PcP	**PcP**	**12 45 31.3**		**+0.7**
SNAA	**Sanae**	**15.29**	**152**	Pn	**Pn**	**12 40 25.1**		**-2.8**
	1.8nm,0.3s,baz=318,slow=16,SNR=72							
SNAA				Sn	Sn	12 43 01.9		-14
	0.2nm,0.3s,baz=342,slow=20,SNR=6.1							
SNAA				PcP	**PcP**	**12 45 31.3**		**+0.7**
	0.1nm,0.3s,baz=272,slow=9.1,SNR=3.4							
PMSA	**Palmer Station**	**18.23**	**237**	P	**Pn**	**12 41 07.7**		**+3.0**
PMSA	**Palmer Station**	**18.23**	**237**	P	**Pn**	**12 41 07.7**		**+3.0**
	1.9nm,0.3s,baz=22,slow=16,SNR=9.9							
USHA	**Ushuaia**	**23.11**	**263**	P	**P**	**12 41 57.1**		**-0.1**
USHA	**Ushuaia**	**23.11**	**263**	P	**P**	**12 41 57.1**		**-0.1**
	30nm,0.8s,baz=92,slow=6.5,SNR=9.5							
QSPA	**South Pole Qui**	**30.64**	**180**	P	**P**	**12 43 06.1**		**+0.7**
QSPA				PcP	**PcP**	**12 46 02.5**		**+0.1**
QSPA	**South Pole Qui**	**30.64**	**180**	P	**P**	**12 43 06.1**		**+0.7**
	5.7nm,0.5s,baz=201,slow=2.3,SNR=13							
QSPA				PcP	**PcP**	**12 46 02.5**		**+0.1**
	1.1nm,0.6s,baz=164,slow=4.9,SNR=3.6							
PLCA	**Paso Flores**	**33.33**	**284**	P	**P**	**12 43 28.6**		**-0.5**
PLCA	**Paso Flores**	**33.33**	**284**	P	**P**	**12 43 28.6**		**-0.5**
	2.4nm,0.6s,baz=152,slow=9.2,SNR=6.7							
CFAA	**Coronel Fontan**	**39.58**	**296**	P	**P**	**12 44 20.9**		**-1.5**
CFAA	**Coronel Fontan**	**39.58**	**296**	P	**P**	**12 44 20.9**		**-1.5**
	0.4nm,0.3s,baz=171,slow=8.6,SNR=7.8							
CPUP	**Villa Florida**	**39.64**	**313**	P	**P**	**12 44 23.6**		**+0.8**
CPUP	**Villa Florida**	**39.64**	**313**	P	**P**	**12 44 23.6**		**+0.8**
	1.0nm,0.3s,baz=130,slow=4.7,SNR=6.2							
VNDA	**Vanda**	**43.05**	**183**	P	**P**	**12 44 51.4**		**+1.2**
VNDA				PcP	**PcP**	**12 46 40.5**		**+1.0**
VNDA	**Vanda**	**43.05**	**183**	P	**P**	**12 44 51.4**		**+1.2**
	4.0nm,0.8s,baz=196,slow=6.9,SNR=7.4							
VNDA				PcP	**PcP**	**12 46 40.5**		**+1.0**
	1.1nm,0.8s,baz=244,slow=4.4,SNR=3.7							
TSUM	**Tsumeb**	**51.01**	**57**	P	**P**	**12 45 54.4**		**+1.3**
TSUM	**Tsumeb**	**51.01**	**57**	P	**P**	**12 45 54.4**		**+1.3**
	0.8nm,0.3s,baz=211,slow=2.1,SNR=5.1							
H10S2	**ASCENSION HYDR**	**51.27**	**15**	T	T	13 41 36.7		
	baz=191,slow=74							
H10S3	**ASCENSION HYDR**	**51.27**	**15**	T	T	13 41 46.9		
	baz=191,slow=74							
H10S1	**ASCENSION HYDR**	**51.28**	**15**	T	T	13 41 39.3		
	baz=191							
SAML	**Samuel**	**57.73**	**315**	*e*P	**P**	**12 46 41.1**		**-0.7**
	2.2nm,0.6s							
LSZ	**Lusaka**	**59.20**	**66**	P	**P**	**12 46 53.7**		**+1.5**
LSZ	**Lusaka**	**59.20**	**66**	P	**P**	**12 46 53.7**		**+1.5**
	2.1nm,0.7s,baz=198,slow=9.4,SNR=8.4							
TOA0	**Torodi Ar. Sit**	**75.89**	**28**	*e*P	**P**	**12 48 38.6**		**+1.4**
TORD	**Torodi Ar. Bea**	**75.89**	**28**	P	**P**	**12 48 38.6**		**+1.4**
TORD	**Torodi Ar. Bea**	**75.89**	**28**	P	**P**	**12 48 38.6**		**+1.4**
	1.8nm,0.3s,baz=198,slow=6.2,SNR=46							
STKA	**Stephens Creek**	**88.30**	**170**	P	**P**	**12 49 42.3**		**+0.1**
STKA	**Stephens Creek**	**88.30**	**170**	P	**P**	**12 49 42.3**		**+0.1**
	1.8nm,0.7s,baz=205,slow=7.5,SNR=4.3							
ASAR	**Alice Springs**	**95.42**	**162**	P	**P**	**12 50 14.4**		**-0.9**
ASAR	**Alice Springs**	**95.42**	**162**	P	**P**	**12 50 14.4**		**-0.9**
	1.3nm,0.6s,baz=181,slow=4.2,SNR=18							
WRA	**Warramunga Arr**	**99.14**	**161**	P	**Pdif**	**12 50 31.2**		**-1.0**
WRA	**Warramunga Arr**	**99.14**	**161**	P	**Pdif**	**12 50 31.2**		**-1.0**
	1.4nm,1.1s,baz=204,slow=5.0,SNR=4.7							
AKASG	**Malin Array Be**	**118.71**	**37**	PKP	**PKPdf**	**12 55 36.8**		**-0.7**
AKASG	**Malin Array Be**	**118.71**	**37**	PKP	**PKPdf**	**12 55 36.8**		**-0.7**
	0.2nm,0.5s,baz=233,slow=0.5,SNR=3.9							
PDAR	**Pinedale Array**	**122.68**	**300**	PKP	**PKPdf**	**12 55 44.0**		**-1.9**
PDAR	**Pinedale Array**	**122.68**	**300**	PKP	**PKPdf**	**12 55 44.0**		**-1.9**
	0.3nm,0.6s,baz=135,slow=4.8,SNR=5.5							
CMAR	**Chiang Mai Arr**	**123.24**	**112**	PKP	**PKPdf**	**12 55 47.7**		**+0.4**
CMAR	**Chiang Mai Arr**	**123.24**	**112**	PKP	**PKPdf**	**12 55 47.7**		**+0.4**
	1.9nm,0.8s,baz=230,slow=3.7,SNR=12							
NVAR	**Mina Array Bea**	**123.25**	**290**	PKP	**PKPdf**	**12 55 46.9**		**-0.1**
NVAR	**Mina Array Bea**	**123.25**	**290**	PKP	**PKPdf**	**12 55 46.9**		**-0.1**
	0.4nm,0.7s,baz=106,slow=3.0,SNR=3.6							
FRB	**Frobisher Bay**	**127.18**	**338**	PKP	**PKPdf**	**12 55 52.8**		**-0.6**
FRB	**Frobisher Bay**	**127.18**	**338**	PKP	**PKPdf**	**12 55 52.8**		**-0.6**
	2.4nm,0.6s,baz=132,slow=3.3,SNR=4.9							
FINES	**FINESS Array B**	**127.24**	**28**	PKP	**PKPdf**	**12 55 53.5**		**-0.1**
FINES	**FINESS Array B**	**127.24**	**28**	PKP	**PKPdf**	**12 55 53.5**		**-0.1**
	1.1nm,0.5s,baz=129,slow=2.7,SNR=9.2							
ARCES	**ARCESS Array B**	**134.02**	**23**	PKP	**PKPdf**	**12 56 06.1**		**-0.2**
ARCES	**ARCESS Array B**	**134.02**	**23**	PKP	**PKPdf**	**12 56 06.1**		**-0.2**
	2.7nm,0.7s,baz=144,slow=1.7,SNR=12							
MKAR	**Makanchi Array**	**137.38**	**74**	PKPpre	PKPpre	12 56 04.0		
MKAR				PKP	**PKPdf**	**12 56 12.8**		**-0.5**
MKAR	**Makanchi Array**	**137.38**	**74**	PKhKP	PKPpre	12 56 04.0		
	0.2nm,0.6s,baz=222,slow=1.9,SNR=2.1							
MKAR				PKP	**PKPdf**	**12 56 12.8**		**-0.5**
	0.8nm,0.8s,baz=266,slow=3.5,SNR=4.7							
YKA	**Yellowknife Ar**	**139.15**	**315**	PKP	**PKPdf**	**12 56 15.2**		**-0.8**
YKA	**Yellowknife Ar**	**139.15**	**315**	PKP	**PKPdf**	**12 56 15.1**		**-0.8**
	0.9nm,0.6s,baz=134,slow=2.1,SNR=16							
RES	**Resolute Bay**	**141.37**	**337**	PKP	**PKPdf**	**12 56 18.5**		**-1.1**
RES	**Resolute Bay**	**141.37**	**337**	PKP	**PKPdf**	**12 56 18.5**		**-1.1**
	1.4nm,0.9s,baz=191,

MWZ			SN	**Sn**	**13 01 36.3**	**+0.1**
URZ	**Urewera**	**5.36 217**	Pn	**Pn**	**13 00 40.5**	**+1.2**
	4.2nm,0.3s,baz=331,slow=7.8,SNR=26					
URZ			Sn	**Sn**	**13 01 36.4**	**-3.3**
	3.2nm,0.3s,baz=131,slow=19,SNR=2.5					
URZ	**Urewera**	**5.36 217**	PN	**Pn**	**13 00 39.9**	**+0.6**
MARZ	**Manawahe**	**5.39 222**	PN	**Pn**	**13 00 41.3**	**+1.6**
RIGZ	**Rimuhau**	**5.42 210**	PN	**Pn**	**13 00 40.6**	**+0.4**
PRGZ	**Paritu Road**	**5.56 208**	PN	**Pn**	**13 00 42.4**	**+0.4**
SNGZ	**Shannon Statio**	**5.66 213**	PN	**Pn**	**13 00 44.4**	**+0.9**
KNZ	**Kokohu**	**5.72 209**	PN	**Pn**	**13 00 43.5**	**-0.7**
MHGZ	**Mahia Peninsul**	**5.75 207**	PN	**Pn**	**13 00 44.2**	**-0.4**
RAHZ	**Arahi**	**5.89 213**	PN	**Pn**	**13 00 48.3**	**+1.7**
NMHZ	**Naumai**	**6.16 214**	PN	**Pn**	**13 00 51.6**	**+1.2**
BKZ	**Black Stump Fm**	**6.37 215**	PN	**Pn**	**13 00 53.0**	**-0.2**
MCHZ	**McNeill Hill**	**6.49 213**	PN	**Pn**	**13 00 55.8**	**+0.9**
PRHZ	**Porangahau**	**7.20 209**	PN	**Pn**	**13 01 04.8**	**+0.2**
CAW	**Cannon Point**	**8.57 213**	PN	**Pn**	**13 01 22.5**	**-0.8**
LTZ	**Lake Taylor**	**11.19 216**	PN	Pn	13 01 54.7	-4.5
ASAR	**Alice Springs**	**42.41 271**	P	**P**	**13 07 10.9**	**-0.8**
	0.7nm,0.6s,baz=111,slow=7.5,SNR=10					
WRA	**Warramunga Arr**	**43.72 276**	P	**P**	**13 07 21.7**	**-0.7**
	0.6nm,0.4s,baz=117,slow=7.9,SNR=15					
H03N3	**Juan Fernandez**	**79.20 123**	T	T	14 39 54.9	
	baz=236,slow=75,SNR=4.8					
H03N2	**Juan Fernandez**	**79.21 123**	T	T	14 39 57.0	
	baz=236,slow=75,SNR=4.6					
H03N1	**Juan Fernandez**	**79.22 123**	T	T	14 40 01.4	
	baz=236,slow=75,SNR=4.0					
FINES	**FINESS Array B**	**148.31 337**	PKPbc	**PKPab**	**13 19 04.0**	**-1.0**
	1.4nm,0.5s,baz=48,slow=4.3,SNR=7.1					
AKASG	**Malin Array Be**	**153.69 318**	PKPbc	**PKPbc**	**13 19 16.4**	**+1.7**
	0.2nm,0.3s,baz=51,slow=3.0,SNR=3.4					

IDC ***27*** *13:03:03.4±1.9,55°.04S×128°.22W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/26,mbtmp3.8/4,MS4.2/1,Ms1 4.2/1, ms1mx3.4/16,Error ellipse: s-maj=64.0km s-min=37.8km az=83.0*

ISC 27 13:03:04.6±2.0,55°.0S±0°.2×128°.0W±0°.5,h10km,n17, σ0s82/7,mb3.9/4,Pacific-Antarctic Ridge

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.80 202**	P	**P**	**13 09 38.4**	**+1.0**
	1.1nm,0.8s,baz=107,slow=7.5,SNR=3.7					
QSPA	**South Pole Qui**	**35.15 180**	P	**P**	**13 09 57.4**	**-0.7**
	1.7nm,0.8s,baz=101,slow=4.5,SNR=3.5					
H03N3	**Juan Fernandez**	**40.19 78**	T	T	13 53 30.9	
	baz=222,slow=75,SNR=38					
H03N2	**Juan Fernandez**	**40.19 78**	T	T	13 53 35.2	
	baz=222,slow=75,SNR=28					
H03N1	**Juan Fernandez**	**40.20 78**	T	T	13 53 30.8	
	baz=222,slow=75,SNR=28					
DZM	**Mont Dzumac**	**58.23 277**	LR	LR	13 34 24.6	
	comp=Z,184nm,19.1s,baz=170,slow=32					
ASAR	**Alice Springs**	**75.40 250**	P	**P**	**13 14 48.4**	**-0.1**
	1.4nm,0.9s,baz=154,slow=7.2,SNR=8.5					
WRA	**Warramunga Arr**	**78.17 252**	P	**P**	**13 15 03.4**	**-0.7**
	0.6nm,0.9s,baz=141,slow=5.1,SNR=4.1					
H11S2	**WAKE ISLAND Hy**	**91.68 300**	T	T	14 58 06.0	
	baz=151,slow=77,SNR=5.9					
H11S3	**WAKE ISLAND Hy**	**91.69 300**	T	T	14 58 07.1	
	baz=151,slow=77,SNR=4.5					
H11S1	**WAKE ISLAND Hy**	**91.70 300**	T	T	14 58 12.0	
	baz=151,slow=77,SNR=4.6					
H11N3	**WAKE ISLAND Hy**	**92.62 301**	T	T	14 59 17.0	
	baz=149,slow=76					
H11N1	**WAKE ISLAND Hy**	**92.63 301**	T	T	14 59 20.0	
	baz=149					
H11N2	**WAKE ISLAND Hy**	**92.64 301**	T	T	14 59 19.5	
	baz=149,slow=76					
ILAR	**Eielson Array**	**120.35 351**	PKP	**PKPdf**	**13 21 55.2**	**+0.8**
	0.5nm,1.0s,baz=190,slow=4.6,SNR=3.2					
SONM	**Songino Array**	**146.10 281**	PKPbc	**PKPdf**	**13 22 42.9**	**-0.1**
	0.5nm,0.8s,baz=130,slow=2.3,SNR=3.4					
MKAR	**Makanchi Array**	**159.33 259**	PKPab	**PKPab**	**13 23 39.8**	**-0.2**
	0.4nm,0.9s,baz=130,slow=4.5,SNR=2.6					

ISCJB ***27*** *13:09:28.6±1.4,38°.4N±0°.1×27°.42E±0°.07,h9km±12km, Error ellipse: s-maj=17.8km s-min=8.7km az=178.1*
ISK ***27*** *13:09:28.5,38°.35N×27°.39E,h10km,MD2.3*
DDA ***27*** *13:09:29.2,38°.43N×27°.36E,h2km,MD2.7*
CSEM ***27*** *13:09:29.2±0.5,38°.35N×27°.41E,h2km,MD2.3,Error ellipse: s-maj=10.5km s-min=8.8km az=16.0*

ISC 27 13:09:29.5±1.3,38°.43N±0°.09×27°.39E±0°.04,h5km±15km, n9,σ0s63/15,Turkey

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.11 254**	*e*PG	**Pg**	**13 09 31.5**	**-0.2**
IZM			*e*SG	**Sg**	**13 09 33.5**	**+0.3**
IZM	**Izmir**	**0.11 254**	*e*Pg	**Pg**	**13 09 31.5**	**-0.2**
IZM			*e*Sg	**Sg**	**13 09 33.5**	**+0.3**
BLCB	**Balcova**	**0.28 261**	*e*PG	**Pg**	**13 09 34.4**	**-0.5**
BLCB			*e*SG	**Sg**	**13 09 39.0**	**+0.4**
BLCB	**Balcova**	**0.28 261**	*e*Pg	**Pg**	**13 09 34.4**	**-0.5**
BLCB			*e*Sg	**Sg**	**13 09 39.0**	**+0.4**
KULA	**Kula-Manisa**	**1.00 85**	*e*PG	**Pg**	**13 09 48.6**	**-0.1**
KULA	**Kula-Manisa**	**1.00 85**	*e*Pg	**Pg**	**13 09 48.6**	**-0.1**
CHOS	**Chios island**	**1.05 268**	*e*PG	**Pb**	**13 09 50.0**	**-0.3**
CHOS			*e*SG	**Sg**	**13 10 04.5**	**+1.2**
CHOS	**Chios island**	**1.05 268**	*e*Pg	**Pb**	**13 09 50.0**	**-0.3**
CHOS			*e*Sg	**Sg**	**13 10 04.5**	**+1.2**
BALY	**Balya**	**1.32 8**	*i* P	Pn	13 09 50.4	-4.4
BALY			*i* S	**Sg**	**13 10 12.3**	**+0.3**

ATH 27 13:10:14.1,35°.11N×26°.82E,h5km,MD2.9/4,Crete

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.49 271**	*e*PN	Pg	13 10 22.3	-1.4
ZKR	**Zakros**	**0.49 271**	*e*PB	Pg	13 10 23.3	-0.4
ZKR			*e*SB	Sg	13 10 30.7	+0.6
ZKR	**Zakros**	**0.49 271**	*e*Pn	Pg	13 10 22.3	-1.4
KARP	**Karpathos**	**0.52 33**	*e*PB	Pg	13 10 24.1	-0.1
KARP	**Karpathos**	**0.52 33**	*e*Pb	Pg	13 10 24.1	-0.1
NPS	**Neapolis**	**1.00 279**	*e*PG	Pg	13 10 32.8	-0.6
NPS	**Neapolis**	**1.00 279**	*e*Pg	Pg	13 10 32.8	-0.6
LAST	**Lasithi**	**1.10 273**	*e*PB	Pg	13 10 35.1	-0.3
LAST	**Lasithi**	**1.10 273**	*e*Pb	Pg	13 10 35.1	-0.3

CSEM 27 13:14:45.5±0.5,50°.41N×18°.96E,h2km,Error ellipse: s-maj=14.3km s-min=4.2km az=2.0,Poland

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12 169**	*e*Pg	Pg	13 14 48.4	+0.6
CHZP			*e*Sg	Sg	13 14 49.5	+0.2
OJC	**Ojcow**	**0.57 109**	*e*Pg	Pg	13 14 56.4	-0.1
OJC			*e*Sg	Sg	13 15 03.4	-0.5
OJC	**Ojcow**	**0.57 109**	*e*Pg	Pg	13 14 56.4	-0.1
OJC	**Ojcow**	**0.57 109**	*e*Sg	Sg	13 15 03.4	-0.5
OKC	**Ostrava-Krasne**	**0.77 223**	*e*PG	Pg	13 15 00.6	+0.3
OKC			*e*SG	Sg	13 15 09.9	-0.4
	28nm,0.9s					
OKC	**Ostrava-Krasne**	**0.77 223**	Pg	Pg	13 15 00.6	+0.3
OKC			Sg	Sg	13 15 09.9	-0.4
	28nm,0.9s					
MORC	**Moravsky Berou**	**1.11 236**	*e*Pg	Pg	13 15 06.7	-0.1
MORC			*e*Sg	Sg	13 15 20.3	-0.9
KRLC	**Kraliky**	**1.44 258**	*e*PG	Pb	13 15 12.9	-0.2
KRLC			*e*SG	Sn	13 15 32.2	+0.1
KRLC	**Kraliky**	**1.44 258**	Pg	Pb	13 15 12.9	-0.2
KRLC			Sg	Sn	13 15 32.2	+0.1
DPC	**Dobruska-Polom**	**1.69 269**	*e*PG	Pb	13 15 17.3	-0.1
DPC			*e*SG	Sg	13 15 40.7	+0.8
	58nm,0.9s					
DPC	**Dobruska-Polom**	**1.69 269**	Pg	Pb	13 15 17.3	-0.1
DPC			Sg	Sg	13 15 40.7	+0.8
	58nm,0.9s					
KSP	**Ksiaz**	**1.75 286**	*e*Pg	Pg	13 15 20.9	+1.8
KSP			*e*Sg	Sg	13 15 45.0	+3.1
STHS	**Stebnicka Huta**	**1.78 123**	*e*PN	Pb	13 15 18.4	-0.5
STHS			*e*SN	Sg	13 15 42.6	-0.1
STHS	**Stebnicka Huta**	**1.78 123**	*e*Pn	Pb	13 15 18.4	-0.5
STHS			*e*Sn	Sg	13 15 42.6	-0.1
VRAC	**Vranov**	**1.88 235**	*e*Pn	Pb	13 15 19.9	-0.7
VRAC			*e*Sg	Sn	13 15 43.1	0.0
KECS	**Kecovo**	**2.17 152**	*e*PN	Pn	13 15 22.1	-0.5
KECS			*e*SN	Sn	13 15 43.6	-6.4
KECS	**Kecovo**	**2.17 152**	*e*Pn	Pn	13 15 22.1	-0.5
CRVS	**Cervenica-Dubn**	**2.21 132**	*e*PN	Pn	13 15 21.8	-1.5
CRVS	**Cervenica-Dubn**	**2.21 132**	*e*Pn	Pn	13 15 21.8	-1.5
PRU	**Pruhonice**	**2.87 263**	*e*SG	Sg	13 16 18.0	+0.3
PRU	**Pruhonice**	**2.87 263**	Sg	Sg	13 16 18.0	+0.3
KHC	**Kasperske Hory**	**3.71 252**	*e*SG	Sg	13 16 45.1	+0.2
KHC	**Kasperske Hory**	**3.71 252**	Sg	Sg	13 16 45.1	+0.2

IDC ***27*** *13:43:59.9±2.1,5°.97S×129°.05E,h0km,mb3.4/1, mb1 3.9/3,mb1mx3.6/21,mbtmp3.7/3,ML3.7/2,Error ellipse: s-maj=117.1km s-min=31.3km az=68.0*

ISC 27 13:43:59.8±1.6,6°.1S±0°.1×129°.4E±0°.3,h10km,n6,σ2s25/7, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.92 166**	P	Pb	13 45 55.9	-4.3
	baz=7.0,SNR=21					
MTN			S	**Sn**	**13 47 02.7**	**+2.6**
	baz=7.0,SNR=8.3					
KNRA	**Kununurra**	**9.54 184**	P	Pn	13 46 26.7	+9.3
	baz=9.3,SNR=9.1					
KNRA			S	**Sn**	**13 48 03.8**	**-1.1**
	baz=9.3,SNR=5.2					
WRA	**Warramunga Arr**	**14.57 161**	Pn	**P**	**13 47 32.1**	**-0.7**
	0.2nm,0.3s,baz=339,slow=12,SNR=16					
WRA			Sn	**Sn**	**13 50 05.6**	**-2.5**
	0.3nm,0.3s,baz=335,slow=22,SNR=6.3					
ASAR	**Alice Springs**	**18.00 167**	P	**P**	**13 48 13.2**	**+2.4**
	0.9nm,0.3s,baz=345,slow=10,SNR=47					
WRKA	**Warakurna**	**18.86 183**	P	**Pn**	**13 48 21.0**	**+0.1**
	baz=19,SNR=6.8					
MKAR	**Makanchi Array**	**67.15 327**	P	**P**	**13 54 53.8**	**-0.2**
	0.2nm,0.5s,baz=129,slow=7.8,SNR=4.6					

NIED ***27*** *13:58:00,42°.20N×144°.00E,h38km,Mw4.2 Best double couple: M0 2.35000×10^15 NP1:φ=290.00000°,δ15.00000°, λ178.00000°. NP2:φ=22.00000°,δ89.00000°,λ75.00000°.*
BJI ***27*** *13:58:50.3,42°.44N×144°.38E,h34km,mB5.0/6,mb4.3/15, Ms4.6/1,Ms7 4.4/1*
ISCJB ***27*** *13:58:53.4±0.4,42°.19N±0°.03×144°.03E±0°.04,h49km±3km, mb4.1/32,MS3.9/3,Error ellipse: s-maj=6.2km s-min=3.5km az=44.0*
SKHL ***27*** *13:58:53.9±0.2,42°.10N×144°.06E,h61km±7km,msh4.8*
MOS ***27*** *13:58:53.5±0.8,42°.20N×143°.98E,h49km,mb4.3/21,Error ellipse: s-maj=10.7km s-min=7.2km az=80.5*
JMA ***27*** *13:58:53.8±0.1,42°.23N×143°.96E,h58km±2km,M4.0*
JMA Felt II J1.
IDC ***27*** *13:58:55.3±0.8,42°.23N×144°.03E,h47km±6km,mb3.7/20, mb1 3.9/25,mb1mx3.9/33,mbtmp3.9/25,MS3.6/3, Ms1 3.7/3,ms1mx3.0/51,Error ellipse: s-maj=12.3km s-min=9.2km az=53.0*

ISC 27 13:58:54.6±0.5,42°.23N±0°.04×143°.99E±0°.04,h40km±3km, h40km:pP-P,n90,σ1s14/103,mb4.0/32,MS4.0/3,2C-9D, Hokkaido region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYR	**Moyori**	**0.53 277**	*e*P	**Pn**	**13 59 05.8**	**+0.1**
JCH	**Churui**	**0.60 310**	⇓P	**Pn**	**13 59 06.8**	**+0.1**
JCH			*e*S	**Sn**	**13 59 15.1**	**-0.2**
JEM	**Erimo**	**0.66 251**	P	**Pn**	**13 59 07.2**	**-0.2**
JEM			*e*S	**Sn**	**13 59 17.2**	**+0.6**
ERM	**Erimo**	**0.66 251**	*d* iPN	**Pn**	**13 59 07.8**	**+0.4**
ERM			pmax	pmax		
	comp=Z,3μm,1.2s					
ERM	**Erimo**	**0.66 251**	*e*P	**Pn**	**13 59 07.8**	**+0.4**
JOB	**Onbets**	**0.68 350**	⇓P	**Pn**	**13 59 07.8**	**+0.1**
JOB			*e*S	**Sn**	**13 59 18.1**	**+0.9**
JNBK	**Urakawa-nobuka**	**0.92 273**	P	**Pn**	**13 59 10.6**	**-0.4**
JAK	**Akkeshi**	**0.92 34**	P	**Pn**	**13 59 10.7**	**-0.3**
JAK			*e*S	**Sn**	**13 59 23.2**	**+0.1**
JAR	**Ashorobuto**	**1.08 351**	⇓P	**Pn**	**13 59 13.0**	**-0.2**
JAR			*e*S	**Sn**	**13 59 26.9**	**0.0**
JBT2	**Biratori 2**	**1.32 295**	P	**Pn**	**13 59 15.6**	**-0.9**
HRK	**Horoka**	**1.39 333**	*e*P	**Pn**	**13 59 17.5**	**0.0**
JFR	**Furan**	**1.39 313**	P	**Pn**	**13 59 17.3**	**-0.1**
JFR			*e*S	**Sn**	**13 59 34.5**	**-0.1**
JNK	**Nakash**	**1.45 21**	⇓P	**Pn**	**13 59 17.8**	**-0.5**
JNK			*e*S	**Sn**	**13 59 35.3**	**-0.9**
NEM2	**Nemuro 2**	**1.72 48**	P	**Pn**	**13 59 21.2**	**-0.7**
NEM2			*e*S	**Sn**	**13 59 41.7**	**-0.9**
JTKR	**Abashiri--Toko**	**1.74 358**	P	**Pn**	**13 59 22.8**	**+0.6**
JTKR			*e*S	**Sn**	**13 59 44.0**	**+0.8**
JAB	**Ashibetsu**	**1.82 315**	P	**Pn**	**13 59 24.5**	**+1.2**
JMP	**Maruseppu**	**1.83 346**	P	**Pn**	**13 59 23.9**	**+0.3**
JKA	**Kamikawa-asahi**	**2.14 332**	*e*P	**Pn**	**13 59 29.2**	**+1.4**
ASAJ	**Asahikawa**	**2.14 332**	P	**Pn**	**13 59 29.1**	**+1.4**
	comp=Z,67nm,0.3s,baz=196,slow=13,SNR=777					
ASAJ			S	**Sn**	**13 59 55.3**	**+2.2**
	comp=Z,33nm,0.3s,baz=151,slow=31,SNR=11					
ASAJ			LR	LR	14 00 43.1	
	comp=Z,538nm,20.7s,baz=148,slow=50					
YUK	**Yuzh-Kuril'sk**	**2.26 37**	*d* iPN	**Pn**	**13 59 29.8**	**+0.4**
YUK			*i*		13 59 57.2	
YUK			pmax	pmax		
	comp=E,30nm,0.4s					
YUK			pmax	pmax		
	comp=Z,192nm,0.4s					
YUK			pmax	pmax		
	comp=N,20nm,0.2s					
YUK	**Yuzh-Kuril'sk**	**2.26 37**	*e*P	**Pn**	**13 59 29.8**	**+0.4**
YUK			AMB	AMB	13 59 30.3	
	comp=N,20nm,0.3s					
YUK			AMB	AMB	13 59 30.3	
	comp=N,30nm,0.3s					
YUK			AMB	AMB	13 59 30.3	
	comp=N,192nm,0.3s					
YUK			*e*S	**Sn**	**13 59 56.6**	**+0.6**
YUK			A	A	13 59 59.2	
	comp=N,1μm,2.0s					
YUK			A	A	13 59 59.2	
	comp=N,1μm,2.0s					
YUK			A	A	14 00 04.3	
	comp=N,890nm,0.6s					
YUK			A	A	14 00 04.3	
	comp=N,690nm,0.6s					
SHO	**Shikotan**	**2.65 51**	*e*P	**Pn**	**13 59 34.5**	**-0.2**
SHO			*e*S	**Sn**	**14 00 05.1**	**-0.4**
SHO			A	A	14 00 09.0	
	comp=N,788nm,0.6s					
SHO			A	A	14 00 09.0	
	comp=N,807nm,0.6s					
KUR	**Kuril'sk**	**4.11 42**	*e*PN	**Pn**	**13 59 57.0**	**+2.2**
KUR			*e*S	**Sn**	**14 00 47.0**	**+5.5**
KUR			pmax	pmax		
	comp=Z,17nm,0.5s					
KUR			smax	smax		
	comp=N,170nm,0.7s					
KUR			smax	smax		
	comp=E,280nm,1.0s					
KUR	**Kuril'sk**	**4.11 42**	*e*P	**Pn**	**13 59 57.0**	**+2.2**
KUR			AMB	AMB	13 59 58.2	
	comp=E,170nm,0.5s					
KUR			*e*S	**Sn**	**14 00 43.0**	**+1.5**
KUR			A	A	14 00 58.0	
	comp=E,170nm,0.8s					
KUR			A	A	14 00 58.0	
	comp=E,280nm,0.8s					
YSS	**Yuzh-Sakhalins**	**4.80 350**	*e*PN	**Pn**	**14 00 05.5**	**+1.2**
YSS			*e*S	**Sn**	**14 00 59.0**	**+0.4**
YSS			smax	smax		
	comp=N,50nm,0.8s					
YSS			smax	smax		
	comp=E,60nm,0.8s					
YSS	**Yuzh-Sakhalins**	**4.80 350**	*e*P	**Pn**	**14 00 05.5**	**+1.2**
YSS			*e*S	**Sn**	**14 00 59.0**	**+0.4**
YSS			A	A	14 01 02.0	
	comp=E,50nm,0.8s					
YSS			A	A	14 01 02.0	
	comp=E,60nm,0.8s					
MJA0	**Matsu Arr-Jizo**	**7.21 220**	*e*PN	**Pn**	**14 00 38.4**	**+0.9**
MJA0			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MAJO	**Matsushiro**	**7.23 220**	⇑*e*PN	**Pn**	**14 00 38.6**	**+0.9**
MAJO	**Matsushiro**	**7.23 220**	*e*P	**Pn**	**14 00 38.6**	**+0.9**
MAT	**Matsushiro**	**7.23 220**	P	**Pn**	**14 00 38.1**	**+0.4**
MAT			*e*S	**Sn**	**14 01 57.7**	**-0.9**
MJAR	**Matsushiro Arr**	**7.23 220**	P	**Pn**	**14 00 37.9**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=26,slow=14,SNR=10					
MJAR			S	**Sn**	**14 01 59.9**	**+1.3**
	baz=37,slow=17,SNR=2.5					
MJAR	**Matsushiro Arr**	**7.23 220**	*e*P	**Pn**	**14 00 38.4**	**+0.7**
TYV	**Tymovskoe**	**8.68 354**	*e*P	Pn	14 01 02.0	+4.5
HABR	**Khabarovsk**	**8.86 318**	*e*PN	**Pn**	**14 00 58.1**	**-1.8**
HABR			pmax	pmax		
	comp=Z,12nm,1.6s					
HABR			MLR	MLR		
	comp=Z,368nm,20.0s					
USRK	**Ussuriysk Arra**	**8.98 287**	P	**Pn**	**14 01 03.7**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=91,slow=15,SNR=5.7					
OKH	**Okha**	**11.35 357**	*e*rx	rx	14 01 03.4	
EKMR	**Ekimchan**	**13.13 329**	*e*rx	rx	14 03 54.8	
KSRS	**Korea Array**	**13.23 254**	P	**Pn**	**14 02 00.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=4.3					
PETK	**Petropavlovsk-**	**14.24 35**	P	**Pn**	**14 02 12.6**	**-0.8**
PETK	**Petropavlovsk-**	**14.24 35**	P	**Pn**	**14 02 12.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=203,slow=12,SNR=5.8					
ZEA	**Zeya**	**16.02 322**	*e*P	**P**	**14 02 39.3**	**-0.4**
ZEA			AMB	AMB	14 02 39.9	
	comp=Z,13nm,0.8s					
SEY	**Seymchan**	**21.32 11**	P	**P**	**14 03 35.4**	**-2.3**
SEY			pmax	pmax		
	comp=Z,2.0nm,0.4s					
SEY	**Seymchan**	**21.32 11**	P	**P**	**14 03 35.4**	**-2.3**
	comp=Z,2.2nm,0.4s,baz=169,slow=8.7,SNR=6.3					
SONM	**Songino Array**	**26.96 295**	P	**P**	**14 04 32.4**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=76,slow=8.3,SNR=19					
TLY	**Talaya**	**28.79 303**	*e*P	**P**	**14 04 49.6**	**+1.2**
TLY			pmax	pmax		
	comp=Z,3.0nm,0.9s					
ZAK	**Zakamensk**	**28.98 300**	*e*P	**P**	**14 04 49.1**	**-1.1**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.5s					
H11N2	**WAKE ISLAND Hy**	**29.64 132**	T	T	14 36 25.5	
	baz=327,slow=76,SNR=754					
H11N1	**WAKE ISLAND Hy**	**29.65 132**	T	T	14 36 26.3	
	baz=327,slow=76,SNR=471					
H11N3	**WAKE ISLAND Hy**	**29.66 132**	T	T	14 36 32.0	
	baz=327,slow=76,SNR=366					
H11S1	**WAKE ISLAND Hy**	**30.53 134**	T	T	14 37 28.1	
	baz=329,slow=76,SNR=359					
H11S3	**WAKE ISLAND Hy**	**30.53 134**	T	T	14 37 28.5	
	baz=329,slow=76,SNR=280					
H11S2	**WAKE ISLAND Hy**	**30.54 134**	T	T	14 37 32.7	
	baz=329,slow=76,SNR=215					
GTA	**Gaotai**	**33.27 280**	*e*P	**P**	**14 05 29.0**	**+0.8**
GTA			pP	**pP**	**14 05 37.5**	**-1.7**
GTA			sP	**sP**	**14 05 42.0**	**-2.0**
GTA			pmax	pmax		
	comp=Z,7.0nm,0.8s					
ZALV	**Zalesovo Beam**	**40.08 308**	P	**P**	**14 06 25.1**	**-0.7**
ZALV					14 08 30.2	
ZALV			pmax	pmax		
	comp=Z,2.0nm,0.5s					
ZALV	**Zalesovo Beam**	**40.08 308**	P	**P**	**14 06 25.1**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=88,slow=8.0,SNR=14					
ZALV			PcP	**PcP**	**14 08 30.2**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=61,slow=2.2,SNR=5.3					
MKAR	**Makanchi Array**	**43.24 298**	*e*P	**P**	**14 06 51.7**	**-0.1**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.5s					
MKAR	**Makanchi Array**	**43.24 298**	P	**P**	**14 06 51.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=82,slow=10,SNR=38					
MKAR			PcP	**PcP**	**14 08 40.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=54,slow=2.7,SNR=3.3					
ILAR	**Eielson Array**	**44.07 35**	P	**P**	**14 06 58.4**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=264,slow=6.7,SNR=12					
CMAR	**Chiang Mai Arr**	**44.87 252**	P	**P**	**14 07 06.2**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=43,slow=6.9,SNR=11					
BRVK	**Borovoye**	**48.73 310**	⇓*i* P	**P**	**14 07 35.6**	**+0.8**
BRVK			pmax	pmax		
	comp=Z,10.0nm,1.7s					
INK	**Inuvik**	**48.87 29**	P	**P**	**14 07 36.0**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=308,slow=6.0,SNR=13					
AAK	**Ala-Archa**	**49.92 295**	⇓*i* P	**P**	**14 07 44.7**	**+0.4**
AAK			pmax	pmax		
	comp=Z,21nm,2.5s					
SVE	**Sverdlovsk**	**52.65 317**	⇑*e*P	**P**	**14 08 04.7**	**+0.3**
SVE			pmax	pmax		
	comp=Z,14nm,0.9s					
ARU	**Arti**	**53.87 317**	*d* iP	**P**	**14 08 13.3**	**0.0**
ARU					14 10 13.4	
ARU			S	**S**	**14 15 48.1**	**+2.8**
ARU			SS	**SS**	**14 19 28.7**	**+2.7**
ARU			pmax	pmax		
	comp=Z,22nm,1.7s					
RES	**Resolute Bay**	**57.07 16**	P	**P**	**14 08 35.5**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=316,slow=5.8,SNR=19					
YKA	**Yellowknife Ar**	**58.34 32**	P	**P**	**14 08 45.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=306,slow=7.0,SNR=3.4					
YKA			pP	**pP**	**14 08 57.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=306,slow=6.4,SNR=4.2					
KEV	**Kevo**	**59.30 339**	*e*P	**P**	**14 08 51.1**	**-0.6**
KEV			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KEV	**Kevo**	**59.30 339**	*e*p	**P**	**14 08 51.1**	**-0.6**
	comp=Z,0.6nm,0.3s					
ARCES	**ARCESS Array B**	**59.85 339**	P	**P**	**14 08 54.9**	**-0.6**
	comp=Z,4.6nm,1.0s,baz=46,slow=8.7,SNR=5.4					
JOF	**Joensuu**	**62.33 332**	*e*P	P	14 09 09.3	-3.1
JOF			pmax	pmax		
	comp=Z,1.0nm,0.3s					
JOF	**Joensuu**	**62.33 332**	*e*p	P	14 09 09.3	-3.1
	comp=Z,0.9nm,0.3s					
WRA	**Warramunga Arr**	**62.50 190**	P	**P**	**14 09 13.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=8.9,slow=6.9,

σ0°97/13, **mb3.8**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10**	**189**	Pn	**Pn**	**14 20 46.5**	**+0.7**
	3.5nm,0.3s,baz=79,slow=16,SNR=40						
DZM				Sn	**Sn**	**14 21 32.6**	**-0.7**
	4.9nm,0.3s,baz=327,slow=23,SNR=11						
DZM	**Mont Dzumac**	**4.10**	**189**	*e*P	**Pn**	**14 20 46.4**	**+0.7**
DZM				*e*S	**Sn**	**14 21 33.4**	**+0.1**
DZM				AMP		14 21 33.8	
	comp=Z,176nm,16.2s						
NOUC	**Port Laguerre**	**4.15**	**190**	*e*P	**Pn**	**14 20 47.5**	**+1.0**
NOUC				*e*S	**Sn**	**14 21 35.9**	**+1.5**
NORM	**Noumea**	**4.25**	**188**	*e*P	**Pn**	**14 20 48.1**	**+0.4**
NORM				*e*S	**Sn**	**14 21 36.0**	**-0.8**
NORM				AMP		14 21 36.8	
	comp=N,86nm,4.7s						
PLUM	**Mont Dore**	**4.28**	**186**	*e*P	**Pn**	**14 20 48.5**	**+0.3**
PLUM				*e*S	**Sn**	**14 21 35.8**	**-1.7**
STKA	**Stephens Creek**	**26.85**	**234**	P	**P**	**14 25 22.6**	**-1.0**
	comp=N,2.1nm,0.9s,baz=46,slow=9.6,SNR=4.8						
WRA	**Warramunga Arr**	**31.02**	**261**	P	**P**	**14 26 00.8**	**0.0**
	comp=N,0.3nm,0.4s,baz=89,slow=8.7,SNR=8.4						
ASAR	**Alice Springs**	**31.48**	**266**	P	**P**	**14 26 05.1**	**+0.2**
	comp=N,1.1nm,0.4s,baz=82,slow=8.8,SNR=43						

ISCJB ***27*** *14:29:50.9±1.3, 18°.4N±0°.3×73°.1W±0°.1, h6km, mb3.7/6, Error ellipse: s-maj=42.6km s-min=11.7km az=164.3*
IDC ***27*** *14:29:51.1±3.1, 18°.26N×73°.16W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/43, mbtmp3.8/6, MS3.1/2, Ms1 3.1/2, ms1mx2.8/35, Error ellipse: s-maj=96.8km s-min=30.5km az=19.0*
JSN ***27*** *14:30:42.0±0.9, 18°.07N×76°.53W, h2km±117km, MD3.9*
ISC 27 14:29:52.1±1.6, **18°.3N**±0°.3×**73°.2W**±0°.1, **h6km, n12,** σ0°**89**/9, **mb3.8**/6, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**3.40**	**267**	*i* P	**Pn**	**14 30 45.9**	**+0.1**
HOJ	**Hope**	**3.43**	**266**	*i* P	**Pn**	**14 30 46.2**	**+0.1**
STH	**Stony Hill**	**3.48**	**267**	*i* P	**Pn**	**14 30 46.7**	**-0.1**
MCJ	**Malvern**	**4.32**	**266**	*i* P	Pn	14 31 02.3	+3.9
ROSC	**El Rosal**	**13.40**	**185**	LR	LR	14 38 51.3	
	comp=Z,46nm,18.1s,baz=225,slow=40						
TKL	**Tuckaleechee C**	**19.70**	**334**	LR	LR	14 43 07.7	
	comp=Z,94nm,18.5s,slow=40						
NVAR	**Mina Array Bea**	**44.00**	**307**	P	**P**	**14 38 00.5**	**-0.2**
	0.1nm,0.3s,baz=100,slow=9.2,SNR=3.3						
YKA	**Yellowknife Ar**	**52.64**	**337**	P	**P**	**14 39 07.0**	**+0.3**
	0.2nm,0.6s,baz=124,slow=7.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**71.80**	**82**	P	**P**	**14 41 16.7**	**+0.6**
	0.8nm,0.9s,baz=267,slow=4.9,SNR=3.5						
ARCES	**ARCESS Array B**	**76.02**	**21**	P	**P**	**14 41 40.9**	**+1.0**
	1.5nm,0.6s,baz=302,slow=5.2,SNR=7.5						
FINES	**FINESS Array B**	**78.45**	**29**	P	**P**	**14 41 53.9**	**+0.3**
	5.5nm,1.1s,baz=267,slow=5.3,SNR=5.3						
AKASG	**Malin Array Be**	**83.62**	**39**	P	**P**	**14 42 19.7**	**-1.7**
	0.4nm,0.6s,baz=286,slow=5.2,SNR=3.2						

NIED ***27*** *14:36:00, 38°.30N×138°.80E, h11km, Mw3.4 Best double couple: M₀1.65000×10¹⁴ NP1:φs248.00000°, δ35.00000°, λ117.00000°. NP2:φs36.00000°, δ60.00000°, λ73.00000°.*
JMA 27 14:36:24.8±0.1, **38°.31N×138°.77E, h25km**±1km, **M4.0, 2C-4D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.40**	**69**	⇑P	Pb	14 36 33.2	-0.2
JAW				S	Sb	14 36 39.1	-0.2
JSD	**Sado**	**0.48**	**236**	⇑P	Pb	14 36 34.7	-0.1
JSD				S	Sb	14 36 41.4	-0.1
JNS	**Sasagawa**	**0.65**	**138**	⇓P	Pb	14 36 36.6	-1.0
JNS				S	Sb	14 36 46.5	+0.2
JIZZ	**Izumozaki**	**0.78**	**184**	P	Pb	14 36 39.5	-0.2
JIZZ				S	Sn	14 36 50.9	-0.1
JYA	**Atsumi**	**0.79**	**69**	⇓P	Pb	14 36 39.7	-0.3
JYA				S	Sb	14 36 50.6	+0.3
JYS	**Shirataka**	**1.02**	**95**	P	Pn	14 36 43.1	-0.5
JYS				S	Sb	14 36 56.4	-0.5
JHK	**Hiroka**	**1.08**	**169**	⇓P	Pn	14 36 43.5	-0.8
JHK				S	Sb	14 36 57.3	-1.1
JFY	**Yanaizu**	**1.17**	**140**	⇓P	Pn	14 36 44.8	-0.8
JFY				S	Sn	14 37 00.3	-0.4
MAT	**Matsushiro**	**1.82**	**194**	P	Pn	14 36 54.6	0.0
MAT				S	Sn	14 37 16.8	-0.1

ISCJB ***27*** *14:40:56.7±0.4, 0°.33N±0°.06×122°.16E±0°.06, h200km, mb3.6/8, Error ellipse: s-maj=8.8km s-min=7.8km az=162.7*
DJA ***27*** *14:40:59.4±0.6, 0°N±4°×12°2E±°, h155km±6km, M4.3/9, mb4.4/2, mB4.6/1, MLv4.3/9, Mw(mB)3.8/1*
IDC ***27*** *14:41:00.3±4.6, 0°.28N×122°.17E, h213km±45km, mb3.4/8, mb1 3.5/8, mb1mx3.3/33, mbtmp3.9/8, Error ellipse: s-maj=56.8km s-min=10.7km az=63.0*
ISC 27 14:40:58.7±0.6, **0°.25N**±0°.07×**122°.21E**±0°.08, **h200km, n29,** σ1°**34**/28, **mb3.8**/8, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.35**	**309**	P	Pn	14 41 20.5	-4.8
MRSI				S	Sn	14 41 38.5	-7.4
GTOI	**Gorontalo**	**0.89**	**65**	P	Pn	14 41 24.9	-2.8
APSI	**Ampana**	**1.29**	**206**	P	Pn	14 41 28.5	-2.1
LUWI	**Luwuk**	**1.40**	**156**	P	**Pn**	**14 41 30.6**	**-1.0**
LUWI				S	**Sn**	**14 41 53.8**	**-3.4**
LUWI	**Luwuk**	**1.40**	**156**	P	**Pn**	**14 41 30.1**	**-1.5**
	baz=1.4,SNR=21						
LUWI				S	**Sn**	**14 41 54.0**	**-3.2**
	baz=1.4,SNR=11						
TOLI	**Toli-Toli**	**1.66**	**301**	P	x	14 41 30.2	
TOLI				S	x	14 41 52.1	
KMSI	**Cibinong**	**1.80**	**80**	P	**Pn**	**14 41 34.7**	**-0.5**
KMSI				S	**Sn**	**14 42 02.0**	**-1.5**
TTSI	**Tana Toraja**	**4.06**	**216**	P	**Pn**	**14 42 00.2**	**-1.0**
MMSI	**Mamuju**	**4.41**	**228**	P	x	14 42 03.7	
BNSI	**Bone**	**5.08**	**204**	P	**Pn**	**14 42 14.1**	**0.0**
	75nm,1.0s,757nm0.3nm						
BKSI	**Bulukumba**	**5.92**	**201**	P	**Pn**	**14 42 24.7**	**-0.2**
MTN	**Manton Dam**	**15.74**	**146**	P	**P**	**14 44 31.6**	**+1.8**
	baz=16,SNR=6.9						
KNRA	**Kununurra**	**17.10**	**158**	P	**P**	**14 44 46.6**	**+1.8**
	baz=17,SNR=7.8						
WRA	**Warramunga Arr**	**23.33**	**150**	P	**P**	**14 45 49.3**	**+0.1**
	1.3nm,0.5s,baz=324,slow=11,SNR=39						
WRA				pP	pP	14 46 34.5	+8.6
	2.3nm,0.7s,baz=333,slow=10.0,SNR=5.7						
WRA				PcP	**PcP**	**14 49 30.1**	**-0.3**
	0.2nm,0.4s,baz=329,slow=2.1,SNR=5.2						
WRKA	**Warakurna**	**25.82**	**167**	P	**P**	**14 46 12.7**	**+0.9**
	baz=26,SNR=9.7						
ASAR	**Alice Springs**	**26.35**	**155**	P	**P**	**14 46 17.3**	**+0.8**
	1.0nm,0.5s,baz=343,slow=14,SNR=29						
ASAR				PcP	**PcP**	**14 49 37.5**	**+0.3**
	0.7nm,0.3s,baz=344,slow=2.1,SNR=26						
MEEK	**Meekatharra**	**26.96**	**187**	P	**P**	**14 46 21.9**	**+0.1**
	baz=27,SNR=3.6						
CMAR	**Chiang Mai Arr**	**29.15**	**310**	P	**P**	**14 46 41.7**	**+0.3**
	0.6nm,0.7s,baz=133,slow=7.6,SNR=6.1						
MORW	**Morawa**	**29.75**	**191**	P	**P**	**14 46 46.7**	**+0.1**
	baz=30,SNR=3.1						
STKA	**Stephens Creek**	**36.85**	**152**	P	**P**	**14 47 48.9**	**+1.0**
	2.3nm,0.7s,baz=333,slow=7.0,SNR=9.2						
STKA	**Stephens Creek**	**36.85**	**152**	P	**P**	**14 47 49.4**	**+1.5**
	baz=37,SNR=7.3						
HTT	**Hallett**	**37.01**	**156**	P	**P**	**14 47 51.0**	**+1.7**
	baz=37,SNR=4.2						
LHI	**Lord Howe Isla**	**47.07**	**136**	P	P	14 49 08.9	-1.7
	baz=47,SNR=5.5						
SONM	**Songino Array**	**49.35**	**346**	P	**P**	**14 49 28.1**	**+0.3**
	1.4nm,0.7s,baz=163,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**57.99**	**329**	P	**P**	**14 50 30.3**	**-0.1**
	1.9nm,0.5s,baz=120,slow=9.3,SNR=13						
KBL	**Kabul**	**60.18**	**310**	P	**P**	**14 50 45.6**	**-0.4**
	baz=60,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.76**	**336**	P	**P**	**14 50 55.0**	**-0.9**
	0.7nm,0.5s,baz=123,slow=5.5,SNR=5.4						
VNDA	**Vanda**	**80.61**	**172**	P	**P**	**14 52 49.0**	**+0.5**
	1.1nm,0.9s,baz=327,slow=2.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**119.58**	**285**	PKP	**PKPdf**	**14 59 24.6**	**-1.1**
	0.2nm,0.3s,baz=106,slow=2.1,SNR=3.7						

DJA 27 15:10:48.1±0.5, **3°S**±3°×**12°0E**±°, **h10km, M3.5/6, MLv3.5/6, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.21**	**166**	P	Pg	15 10 50.4	-2.1
TTSI				S	Sg	15 10 54.7	-0.8
MMSI	**Mamuju**	**0.87**	**280**	P	x	15 11 01.7	
MJSI	**Majene**	**1.06**	**228**	P	x	15 11 07.1	
MJSI				S	x	15 11 24.2	
SPSI	**Sidrap Palu**	**1.12**	**180**	P	Pb	15 11 06.6	-2.9
SPSI				S	Sg	15 11 24.2	0.0
BNSI	**Bone**	**1.59**	**168**	P	Pn	15 11 15.3	-1.0
BNSI				S	Sg	15 11 39.5	+0.3
BKSI	**Bulukumba**	**2.49**	**172**	P	Pn	15 11 29.6	+0.9
APSI	**Ampana**	**2.68**	**44**	P	Pn	15 11 33.2	+1.8

IDC 27 15:11:02.0±16.0, **15°.23S×178°.07W, h473km**±174km, **mb3.0/4, mb1 3.2/4, mb1mx2.9/23, mbtmp3.8/4, Error ellipse: s-maj=124.8km s-min=56.4km az=131.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.25**	**238**	P	P	15 17 56.8	0.0
	2.7nm,0.9s,baz=73,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**45.50**	**257**	P	P	15 18 37.8	-0.5
	0.2nm,0.3s,baz=94,slow=6.7,SNR=23						
ASAR	**Alice Springs**	**45.88**	**252**	P	P	15 18 41.2	0.0
	1.4nm,0.4s,baz=86,slow=8.6,SNR=97						
ILAR	**Eielson Array**	**83.22**	**13**	P	P	15 22 37.3	-0.1
	0.2nm,0.5s,baz=222,slow=5.3,SNR=6.7						
BRTR	**Keskin Array B**	**143.09**	**318**	PKP	PKPdf	15 29 41.3	-0.5
	0.9nm,0.7s,baz=40,slow=4.7,SNR=5.0						

IDC ***27*** *15:29:23.4±1.1, 23°.91N×120°.74E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/27, mbtmp3.4/6, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/20, Error ellipse: s-maj=55.4km s-min=20.3km az=71.0*
TAP ***27*** *15:29:27.3, 24°.05N×121°.64E, h8km, ML3.9, B*
ISC 27 15:29:26.2±0.9, **24°.02N**±0°.02×**121°.73E**±0°.03, **h10km**±5km, **n79,** σ0°**93**/119, **mb3.5**/5, **16C-5D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.12**	**251**	⇓*i*P	**Pg**	**15 29 29.9**	**+0.7**
	baz=199						
HWA				*e*S	**Sg**	**15 29 32.0**	**+0.7**
	baz=199						
TWD	**Chiawan**	**0.14**	**296**	⇑*i*P	**Pg**	**15 29 29.3**	**-0.1**
	baz=311						
TWD				*i* S	**Sg**	**15 29 30.5**	**-1.2**
	baz=311						
ESF	**Shoufeng Towns**	**0.25**	**235**	P	**Pb**	**15 29 32.6**	**-0.3**
	baz=214						
ESF				S	**Sg**	**15 29 36.0**	**+1.1**
	baz=214						
EHP	**Heping Village**	**0.29**	**1**	P	**Pb**	**15 29 33.1**	**-0.5**
	baz=22						
EHP				S	**Sg**	**15 29 37.1**	**+1.0**
	baz=22						
ESL	**Shilin**	**0.34**	**234**	⇓*i*P	**Pg**	**15 29 33.3**	**+0.3**
	baz=227						
ESL				*i* S	**Sg**	**15 29 37.4**	**-0.3**
	baz=227						
TEGC	**Jichi Village**	**0.35**	**210**	*e*P	**Pn**	**15 29 36.3**	**-1.1**
	baz=183						
ENA	**Nanau**	**0.41**	**1**	⇑*i*P	**Pb**	**15 29 35.1**	**-0.5**
	baz=15						
ENA				*e*S	**Sg**	**15 29 40.2**	**+0.4**
	baz=15						
WHF	**Hehuan Shan**	**0.45**	**287**	⇑*i*P	**Pg**	**15 29 34.8**	**-0.3**
	baz=285						
WHF				*i* S	**Sg**	**15 29 39.7**	**-1.4**
	baz=285						
NNS	**Nan Shan**	**0.53**	**322**	⇑*i*P	**Pg**	**15 29 36.8**	**+0.1**
	baz=328						
NNS				*i* S	**Sg**	**15 29 42.9**	**-0.9**
	baz=328						
TWT	**Tachien**	**0.56**	**295**	⇑*i*P	**Pg**	**15 29 37.5**	**+0.3**
	baz=294						
TWT				*i* S	**Sg**	**15 29 44.3**	**-0.3**
	baz=294						
TWC	**Suao**	**0.60**	**10**	⇑*i*P	**Pb**	**15 29 39.0**	**+0.2**
	baz=20						
TWC				S	**Sg**	**15 29 46.5**	**+0.7**
	baz=20						
EHY	**Hungye**	**0.63**	**217**	⇓P	**Pb**	**15 29 39.1**	**-0.3**
	baz=206						
TWE	**Neicheng**	**0.70**	**355**	⇑*i*P	**Pb**	**15 29 40.7**	**+0.1**
	baz=3.0						
TWE				*i* S	**Sg**	**15 29 49.6**	**+0.6**
	baz=3.0						
NSK	**Sanguang**	**0.74**	**333**	⇑*i*P	**Pb**	**15 29 41.1**	**-0.2**
	baz=331						
NSK				*i* S	**Sg**	**15 29 49.8**	**-0.5**
	baz=331						
ILA	**Ilan**	**0.74**	**1**	P	**Pb**	**15 29 41.7**	**+0.5**
	baz=9.0						
ILA				S	**Sb**	**15 29 51.5**	**0.0**
	baz=9.0						
SMLT	**Sun Moon Lake**	**0.77**	**260**	⇑*i*P	**Pg**	**15 29 41.5**	**+0.3**
	baz=255						
SMLT				*e*S	**Sg**	**15 29 51.5**	**+0.1**
	baz=255						
TWF1	**Yuli**	**0.77**	**211**	P	**Pg**	**15 29 41.5**	**+0.3**
	baz=215						
TWF1				*e*S	**Sb**	**15 29 53.4**	**+1.0**
	baz=215						
TYC	**Yuchr**	**0.81**	**262**	⇑*i*P	**Pg**	**15 29 42.0**	**+0.1**
	baz=258						
TYC				*i* S	**Sg**	**15 29 51.1**	**-1.4**
	baz=258						
EGS		**0.84**	**12**	*e*P	**Pb**	**15 29 43.4**	**+0.4**
	baz=18						
YUS	**Yu-Shan**	**0.89**	**234**	P	**Pg**	**15 29 44.1**	**+0.7**
	baz=228						
YUS				S	**Sg**	**15 29 56.1**	**+1.0**
	baz=228						
NSTT	**Nanjuang**	**0.91**	**313**	P	**Pb**	**15 29 44.3**	**+0.2**
	baz=315						
NSTT				S	**Sg**	**15 29 55.1**	**-0.4**
	baz=315						
TWQ1	**Liyutan**	**0.94**	**291**	*e*P	**Pn**	**15 29 45.0**	**-0.4**
	baz=303						
TWQ1				*e*S	**Sn**	**15 29 58.1**	**-0.8**
	baz=303						
TWA	**Mucha**	**0.97**	**352**	⇑P	**Pn**	**15 29 45.9**	**0.0**
	baz=347						
TWA				S	**Sg**	**15 29 57.5**	**0.0**
	baz=347						
WNT	**Mingjian**	**0.97**	**262**	P	**Pn**	**15 29 46.2**	**+0.4**
	baz=258						
WNT				*e*S	**Sn**	**15 30 00.1**	**+0.4**
	baz=258						
NSY	**Sanyi**	**0.97**	**294**	*e*P	**Pn**	**15 29 46.2**	**+0.3**
	baz=306						
NSY				S	**Sb**	**15 29 58.2**	**+0.1**
	baz=306						
CHKT	**Chengkung**	**0.97**	**200**	*e*P	**Pg**	**15 29 44.9**	**-0.1**
	baz=189						
CHKT				*e*S	**Sn**	**15 30 00.5**	**+0.7**
	baz=189						
TCU	**Taichung**	**0.97**	**278**	*e*P	**Pn**	**15 29 46.1**	**+0.2**
	baz=270						
TCU				S	**Sn**	**15 29 59.1**	**-0.7**
	baz=270						
ALS	**Alishan**	**0.99**	**239**	⇑P	**Pb**	**15 29 46.0**	**+0.3**
	baz=234						
ALS				*e*S	**Sn**	**15 29 59.9**	**-0.6**
	baz=234						
TWB1	**Santiao Chiao**	**1.01**	**13**	*e*P	**Pn**	**15 29 47.4**	**+0.9**
	baz=12						
TWB1				*e*S	**Sb**	**15 29 59.4**	**+0.2**
	baz=12						
TAP1	**Taipei**	**1.03**	**349**	*e*P	**Pn**	**15 29 47.1**	**+0.3**
	baz=344						
TAP1				S	**Sb**	**15 29 59.8**	**0.0**
	baz=344						
TAP	**Taipei**	**1.04**	**349**	*e*P	**Pn**	**15 29 47.6**	**+0.8**
	baz=344						
TAP				*i* S	**Sb**	**15 30 00.3**	**+0.4**
	baz=344						
HSN	**Hsinchu**	**1.05**	**318**	*e*P	**Pn**	**15 29 47.8**	**+0.9**
	baz=323						
HSN				*e*S	**Sn**	**15 30 01.2**	**-0.3**
	baz=323						
NWF	**Wu-fen Shan**	**1.05**	**2**	*e*P	**Pn**	**15 29 47.5**	**+0.4**
	baz=8.0						
NWF				S	**Sb**	**15 30 00.5**	**+0.1**
	baz=8.0						
CHN5	**Tsauling**	**1.05**	**247**	⇑P	**Pn**	**15 29 47.6**	**+0.5**
	baz=231						
CHN5				S	**Sn**	**15 30 02.0**	**+0.2**
	baz=231						
ELDTW	**Lidau**	**1.05**	**219**	*e*P	**Pb**	**15 29 45.7**	**-0.9**
	baz=225						
ELDTW				*e*S	**Sn**	**15 30 02.1**	**+0.2**
	baz=225						
NCU	**National Centr**	**1.07**	**332**	*e*P	**Pn**	**15 29 48.4**	**+1.1**
	baz=335						
TWS1	**Kuangyinshan**	**1.12**	**345**	*e*P	**Pn**	**15 29 49.1**	**+1.2**
	baz=350						
TWS1				*e*S	**Sn**	**15 30 03.6**	**+0.3**
	baz=350						
WGK	**Gukeng**	**1.12**	**253**	*e*P	**Pn**	**15 29 48.5**	**+0.5**
	baz=249						
WGK				*e*S	**Sn**	**15 30 04.9**	**+1.5**
	baz=249						
STYT	**Tauyuan**	**1.23**	**227**	⇑P	**Pg**	**15 29 50.1**	**+0.1**
	baz=222						
STYT				*e*S	**Sn**	**15 30 07.7**	**+1.4**
	baz=222						
CHN4	**Tsaushan**	**1.24**	**238**	⇑*i*P	**Pg**	**15 29 51.1**	**+1.1**
	baz=221						
CHN4				*e*S	**Sn**	**15 30 08.2**	**+1.9**
	baz=221						
YOJ	**Yonaguni jima**	**1.25**	**69**	⇓P	**Pg**	**15 29 51.0**	**+0.8**
	baz=69						
CHN2	**Minshiung**	**1.25**	**247**	*e*P	**Pg**	**15 29 50.3**	**0.0**
	baz=246						
TWY	**Chenhua**	**1.26**	**354**	*e*P	**Pg**	**15 29 51.8**	**+1.4**
	baz=343						
WTP	**Ta-pu**	**1.28**	**233**	P	**Pg**	**15 29 51.5**	**+0.6**
	baz=229						
WTP				*e*S	**Sg**	**15 30 09.4**	**+1.8**
	baz=229						
WTP	**Ta-pu**	**1.28**	**233**	*e*P	**Pg**	**15 29 52.5**	**+1.6**
	baz=43						
CHY	**Chiayi**	**1.31**	**247**	*e*P	**Pg**	**15 29 52.3**	**+1.0**
	baz=256						
CHY				*e*S	**Sg**	**15 30 08.9**	**+0.6**
	baz=256						
TWG	**Pinlang**	**1.34**	**207**	*e*P	**Pn**	**15 29 49.1**	**-1.8**
	baz=205						
WTCT	**Ta-ch'eng**	**1.34**	**264**	*e*P	**Pb**	**15 29 51.5**	**+0.1**
	baz=261						
WTCT				*e*S	**Sg**	**15 30 10.1**	**+0.8**
	baz=261						
TWK	**Hsinying**	**1.36**	**237**	*e*P	**Pg**	**15 29 53.1**	**+0.6**
	baz=221						
TWK				*e*S	**Sg**	**15 30 11.9**	**+1.7**
	baz=221						
CHN1	**Nanshi**	**1.38**	**233**	*e*S	**Sg**	**15 30 13.7**	**+3.0**
	baz=219						
CHN1	**Nanshi**	**1.38**	**233**	*i* S	**Pg**	**15 29 53.8**	**+1.0**
	baz=332						
CHN1	**Nanshi**	**1.38**	**233**	⇓*i*P	**Pn**	**15 29 51.6**	**0.0**
	baz=332						
SGST	**Jiashian**	**1.41**	**229**	⇑*e*P	**Pn**	**15 29 52.1**	**+0.2**
	baz=225						
SGST				*e*S	**Sg**	**15 30 13.6**	**+2.0**
	baz=225						
SGST	**Jiashian**	**1.41**	**229**	*e*S	**Pg**	**15 29 54.8**	**+1.5**
	baz=150						
SGST	**Jiashian**	**1.41**	**229**	P	**Pb**	**15 29 52.4**	**-0.2**
	baz=150						
WSF	**Szhu**	**1.43**	**255**	*e*P	**Pg**	**15 29 53.6**	**-0.2**
	baz=252						
WSF				*e*S	**Sg**	**15 30 13.6**	**+1.1**
	baz=252						
CHN3	**Shinhua**	**1.57**	**234**	*e*P	**Pg**	**15 29 57.6**	**+1.3**
	baz=233						
ECL	**Taimali**	**1.58**	**207**	*e*P	**Pn**	**15 29 53.3**	**-1.0**
	baz=189						
SSD	**Sandimen**	**1.62**	**219**	*e*P	**Pb**	**15 29 56.7**	**+0.5**
	baz=216						
SSD				*e*S	**Sg**	**15 30 18.8**	**+0.4**
	baz=216						
TWM1	**Shoushan**	**1.69**	**226**	*e*P	**Pg**	**15 29 58.8**	**+0.1**
	baz=225						
SGLT	**Jiouru**	**1.72**	**222**	*e*P	**Pb**	**15 29 58.2**	**+0.3**
	baz=209						
EAST	**Anshuo**	**1.82**	**207**	*e*P	**Pn**	**15 29 56.5**	**-1.1**
	baz=190						
TAW	**Tawu**	**1.82**	**205**	*e*P	**Pb**	**15 30 00.3**	**+0.6**
	baz=205						
SCZT	**Fangliau**	**1.93**	**212**	*e*P	**Pb**	**15 30 01.1**	**-0.5**
	baz=213						
LAY	**Lan-yu**	**1.98**	**185**	*e*P	**Pn**	**15 29 57.4**	**-2.4**
	baz=185						
PNG	**Penghu**	**2.04**	**258**	*e*P	**Pn**	**15 30 01.5**	**+0.9**
	baz=255						
PNG				*e*S	**Sb**	**15 30 27.7**	**-1.2**
	baz=255						
TWP	**Hsiaoliuchiu**	**2.09**	**217**	*e*P	**Pb**	**15 30 03.2**	**-0.9**
	baz=237						
TWK1	**Hengchun**	**2.23**	**203**	*e*P	**Pn**	**15 30 02.6**	**-0.6**
	baz=203						
TSEB	**Hengchuen, Pin**	**2.24**	**200**	*e*P	**Pb**	**15 30 08.0**	**+1.2**
	baz=189						
KNM	**Kinmen**	**3.04**	**278**	*e*P	**Pn**	**15 30 16.4**	**+2.1**
	baz=277						
KSRS	**Korea Array**	**14.40**	**20**	Pn	**P**	**15 32 55.4**	**-1.8**
	0.2nm,0.3s,baz=196,slow=12,SNR=6.9						
KSRS				LR	LR	15 39 53.8	
	comp=Z,26nm,19.0s,baz=320,slow=42						
SONM	**Songino Array**	**26.72**	**337**	P	**P**	**15 35 04.1**	**-1.7**
	0.2nm,0.6s,baz=152,slow=6.5,SNR=2.8						
SONM				LR	LR	15 46 43.6	
	comp=Z,65nm,19.0s,baz=202,slow=39						
MKAR	**Makanchi Array**	**38.81**	**316**	P	P	15 36 44.3	-6.9
	0.2nm,0.8s,baz=90,slow=7.2,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**42.12**	**89**	T	T	16 23 06.0	
	baz=282,slow=73						
H11S1	**WAKE ISLAND Hy**	**42.13**	**89**	T	T	16 23 08.0	
	baz=282,slow=73						
H11S2	**WAKE ISLAND Hy**	**42.14**	**89**	T	T	16 23 16.4	
	baz=282,slow=73						
WRA	**Warramunga Arr**	**45.39**	**163**	P	**P**	**15 37 44.2**	**-0.8**
	1.0nm,0.9s,baz=345,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**48.85**	**165**	P	**P**	**15 38 13.2**	**+1.1**
	0.5nm,0.9s,baz=336,slow=7.0,SNR=7.5						
YKA	**Yellowknife Ar**	**82.93**	**23**	P	**P**	**15 41 51.2**	**+0.2**
	0.2nm,0.6s

comp=Z,940nm,19.2s,baz=212,slow=31
H10N1 ASCENSION HYDR 30.85 3 T T 16 26 52.6
baz=180
H10N3 ASCENSION HYDR 30.85 3 T T 16 26 56.1
baz=180,slow=74
H10N2 ASCENSION HYDR 30.87 3 T T 16 26 56.6
baz=180,slow=74
SNAA Sanae 33.62 173 *e*P **P 15 54 39.3 -0.2**
5.5nm,1.0s
SNAA Sanae 33.62 173 P **P 15 54 39.2 -0.2**
1.0nm,1.0s,baz=322,slow=5.3,SNR=3.4
TSUM Tsumeb 34.96 66 P **P 15 54 51.0 -0.7**
TSUM Tsumeb 34.96 66 P **P 15 54 51.0 -0.7**
3.7nm,0.8s,baz=228,slow=7.7,SNR=6.6
BOSA Boshof 35.50 86 LR LR 16 06 30.7
comp=Z,822nm,20.2s,baz=238,slow=31
BDFB Brasilia 36.37 300 P **P 15 55 03.9 +0.1**
BDFB Brasilia 36.37 300 P **P 15 55 03.9 +0.1**
1.5nm,0.6s,baz=81,slow=7.2,SNR=2.4
BDFB LR LR 16 07 16.2
comp=Z,468nm,19.3s,baz=139,slow=32
PLCA Paso Flores 41.44 249 LR LR 16 10 02.1
comp=Z,910nm,21.6s,baz=99,slow=32
CFAA Coronel Fontan 42.83 263 P **P 15 55 56.8 -0.7**
CFAA Coronel Fontan 42.83 263 P **P 15 55 56.8 -0.7**
0.1nm,0.4s,baz=135,slow=8.1,SNR=4.7
LSZ Lusaka 45.21 71 P **P 15 56 17.7 +0.9**
21nm,1.5s
LSZ Lusaka 45.21 71 P **P 15 56 18.9 +2.1**
2.2nm,0.6s,baz=216,slow=17,SNR=2.5
SIV San Ignacio 45.48 287 P **P 15 56 19.2 +0.4**
SIV San Ignacio 45.48 287 P **P 15 56 19.2 +0.4**
1.5nm,0.9s,baz=142,slow=7.1,SNR=5.4
DBIC Dimbokro 46.40 15 LR LR 16 11 16.2
comp=Z,120nm,20.3s,baz=166,slow=30
MAW Mawson 50.62 151 LR LR 16 15 30.6
comp=Z,281nm,18.6s,baz=277,slow=33
QSPA South Pole Qui 51.45 180 *e*P **P 15 57 04.1 -0.3**
18nm,1.4s
SAML Samuel 51.63 292 *e*P **P 15 57 06.8 +0.6**
8.8nm,1.4s
TORD Torodi Ar. Bea 54.25 21 P **P 15 57 23.9 -1.5**
TORD Torodi Ar. Bea 54.25 21 P **P 15 57 23.9 -1.5**
1.9nm,1.1s,baz=199,slow=8.5,SNR=7.4
TORD LR LR 16 15 31.1
comp=Z,306nm,21.2s,baz=185,slow=30
PTGA Pitinga 55.26 302 P **P 15 57 34.1 +1.2**
VNDA Vanda 63.94 179 LR LR 16 23 55.1
comp=Z,191nm,19.2s,baz=177,slow=34
ROSC El Rosal 69.16 295 LR LR 16 28 24.2
comp=Z,775nm,18.7s,baz=173,slow=35
KEST Kesra 77.77 21 LR LR 16 31 08.9
comp=Z,125nm,19.5s,baz=170,slow=33
ESDC Sonseca Array 78.87 9 P **P 16 00 01.5 -0.8**
ESDC Sonseca Array 78.87 9 P **P 16 00 01.5 -0.8**
0.2nm,0.3s,baz=183,slow=6.9,SNR=2.8
ESDC LR LR 16 31 07.6
comp=Z,55nm,20.9s,baz=85,slow=33
IDI Anoyia 82.84 33 LR LR 16 33 43.5
comp=Z,57nm,21.6s,baz=178,slow=33
DAVOX Davos/Dischmat 88.28 17 LR LR 16 36 55.1
comp=Z,146nm,20.4s,baz=203,slow=33
BRTR Keskin Array B 90.38 36 P **P 16 01 01.4 +0.7**
BRTR Keskin Array B 90.38 36 P **P 16 01 01.4 +0.7**
1.2nm,0.8s,baz=198,slow=6.1,SNR=6.2
BRTR LR LR 16 41 36.1
comp=Z,34nm,19.4s,baz=218,slow=36
GERES GERESS Array B 91.14 19 LR LR 16 38 25.3
comp=Z,168nm,22.0s,baz=220,slow=33
VRAC Vranov 92.33 21 LR LR 16 38 12.4
comp=Z,41nm,21.4s,baz=204,slow=33
H01W2 Cape Leeuwin H 93.33 141 T T 17 45 44.2
baz=218,slow=75,SNR=7.8
H01W3 Cape Leeuwin H 93.35 141 T T 17 45 41.9
baz=218,slow=75,SNR=9.4
H01W1 Cape Leeuwin H 93.35 141 T T 17 45 41.9
baz=218,slow=75,SNR=8.6
RKT Rikitea 96.04 234 *e*LR LR 16 32 32.6
200nm,38.2s
GNI Garni 96.18 42 LR LR 16 42 14.4
comp=Z,112nm,21.1s,baz=218,slow=34
AKASG Malin Array Be 97.55 27 P Pdif 16 01 33.8 +0.7
AKASG Malin Array Be 97.55 27 P Pdif 16 01 33.8 +0.7
0.4nm,0.7s,baz=193,slow=3.8,SNR=4.3
KBZ Khabaz 97.87 39 LR LR 16 44 14.7
comp=Z,86nm,21.3s,baz=195,slow=34
TBI Tubuai 104.39 223 *e*LR LR 16 36 22.6
249nm,33.2s
PPT2 Papeete2 109.07 227 *e*SS SS 16 22 24.5 +8.4
68nm,26.2s
PPT2 Papeete2 109.07 227 *e*LR LR 16 38 40.3
303nm,27.5s
YKA Yellowknife Ar 127.39 325 PKP **PKPdf 16 07 02.2 -0.9**
YKA Yellowknife Ar 127.39 325 PKP **PKPdf 16 07 02.2 -0.9**
0.5nm,0.8s,baz=102,slow=2.3,SNR=8.8
INK Inuvik 135.54 332 PKP **PKPdf 16 07 18.8 +0.4**
INK Inuvik 135.54 332 PKP **PKPdf 16 07 18.8 +0.4**
1.1nm,0.7s,baz=114,slow=1.8
ILAR Eielson Array 141.56 329 PKPpre PKPpre 16 07 23.6
ILAR PKP **PKPdf 16 07 29.9 +0.3**
ILAR Eielson Array 141.56 329 PKhKP PKPpre 16 07 23.6
0.9nm,1.0s,baz=22,slow=1.5,SNR=8.5
ILAR PKP **PKPdf 16 07 29.9 +0.3**
1.5nm,0.9s,baz=43,slow=1.7,SNR=11
TNA Tin City 148.70 338 *e*PKPbc **PKPbc 16 07 45.9 +0.3**
BILL Bilibino 150.68 358 *e*PKPbc **PKPbc 16 07 50.6 +0.2**
SEY Seymchan 154.82 13 PKPbc **PKPbc 16 08 00.7 +0.9**
SEY Seymchan 154.82 13 PKPbc **PKPbc 16 08 00.7 +0.9**
1.5nm,0.9s,baz=92,slow=7.1,SNR=4.1

*NOU **27** 15:50:56.2±1.7, 18°.28S×168°.43E, h30km, MD3.1, ML3.3, MS2.7*
*IDC **27** 15:51:00.5±9.5, 18°.54S×167°.27E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.8/29, mbtmp4.1/5, ML4.4/2, Error ellipse: s-maj=166.0km s-min=30.2km az=78.0*
ISC 27 15:50:58.0±4.5, 18°.44S±0°.09×168°.2E±0°.5, h29km, n10, σ1s0°.00/13, mb3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BAYA	**Yate Dam**	**3.89**	**198**	*e*S	**Sn**		**15**	**52 39.0**	**-1.5**
DZM	**Mont Dzumac**	**3.96**	**204**	Pn	**Pn**		**15**	**51 57.4**	**+0.5**
	12nm,0.3s,baz=94,slow=15,SNR=88								
DZM				Sn	**Sn**		**15**	**52 43.3**	**+0.8**
	10nm,0.3s,baz=101,slow=22,SNR=8.0								
DZM	**Mont Dzumac**	**3.96**	**204**	*e*P	**Pn**		**15**	**51 57.1**	**+0.2**
DZM				*e*S	**Sn**		**15**	**52 42.6**	**+0.2**
DZM				AMP			15	52 49.0	
	comp=Z,557nm,23.3s								
NOUC	**Port Laguerre**	**4.04**	**205**	*e*S	**Sn**		**15**	**52 43.9**	**-0.5**
LASL	**Noumea**	**4.07**	**202**	*e*S	**Sn**		**15**	**52 46.0**	**+1.0**
NORM	**Noumea**	**4.09**	**202**	*e*P	**Pn**		**15**	**51 59.1**	**+0.5**
NORM				*e*S	**Sn**		**15**	**52 46.1**	**+0.6**
NORM				AMP			15	52 48.0	
	comp=Z,127nm,0.3s								
HNR	**Honiara**	**11.99**	**317**	Pn	**Pn**		**15**	**53 47.7**	**+0.8**
	comp=Z,6.6nm,0.3s,baz=139,slow=1.1,SNR=7.5								
STKA	**Stephens Creek**	**27.43**	**236**	P	**P**		**15**	**56 42.0**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=70,slow=10,SNR=6.3								
WRA	**Warramunga Arr**	**31.95**	**262**	P	**P**		**15**	**57 19.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=81,slow=6.1,SNR=6.0								
ASAR	**Alice Springs**	**32.35**	**255**	P	**P**		**15**	**57 24.2**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=83,slow=8.4,SNR=57								

MEX 27 15:53:13.4±0.7, 16°.73N×99°.88W, h4km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ACP2	**Acapulco**	**0.14**	**356**	*i* P	Pg		15	53 15.9	-0.3
ACP2				*i* S	Sg		15	53 18.3	+0.2
TLIG	**Tlapa**	**1.50**	**56**	*e*P	Pn		15	53 38.1	-3.2
TLIG				*i* S	Sn		15	53 55.8	-5.7
ARIG	**Puente Sto Nin**	**1.60**	**344**	*e*P	Pn		15	53 38.6	-4.0
ARIG				*i* P	Pb		15	53 39.0	-4.7
ARIG				*e*S	Sn		15	53 58.7	-5.2
PLIG	**Platanillo**	**1.69**	**12**	*e*P	Pn		15	53 40.7	-3.2
PLIG				*i* S	Sn		15	54 01.8	-4.3
PNIG	**Pinotepa**	**1.71**	**101**	*e*P	Pn		15	53 40.8	-3.3
PNIG				*i* S	Sn		15	54 02.0	-4.5
ZIIG	**Zihuatanejo**	**1.75**	**300**	*i* P	Pn		15	53 41.5	-3.1
ZIIG				*i* S	Sn		15	54 02.5	-4.9
YAIG	**Yautepec**	**2.25**	**20**	*i* P	Pn		15	53 47.6	-4.1
YAIG				*i* S	Sn		15	54 16.2	-4.0

*IDC **27** 15:56:15.8±1.1, 30°.00N×68°.01E, h0km, mb3.3/8, mb1 3.6/9, mb1mx3.4/46, mbtmp3.4/9, Error ellipse: s-maj=27.4km s-min=23.8km az=101.0*
ISC 27 15:56:21.3±1.6, 30°.2N±0°.1×68°.4E±0°.2, h20km, n19, σ1s65°/17, mb3.5/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AAK	**Ala-Archa**	**13.34**	**20**	Pn	**Pn**		**15**	**59 30.8**	**+1.1**
AAK				Sn	**Sn**		**16**	**01 56.4**	**-1.0**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.8								
KOLN	**Koldanda**	**13.56**	**97**	*e*P	P		15	59 37.9	-3.8
	5.9nm,0.4s								
DANN	**Dangsing**	**13.57**	**94**	*e*P	**P**		**15**	**59 39.1**	**-2.8**
	12nm,0.4s								
GKN	**Gorkha**	**14.40**	**95**	*e*P	**Pn**		**15**	**59 45.6**	**+1.4**
	5.1nm,0.3s								
DMN	**Daman**	**14.90**	**96**	*e*P	**P**		**15**	**59 54.7**	**-1.9**
	3.9nm,0.3s								
PKI	**Pulchoki**	**15.17**	**96**	*e*P	**P**		**15**	**59 58.3**	**-1.4**
	6.7nm,0.6s								
GUN	**Gumba**	**15.49**	**94**	*e*P	**P**		**16**	**00 03.3**	**-0.1**
	11nm,0.3s								
JIRN	**Jiri**	**15.82**	**95**	*e*P	**P**		**16**	**00 08.2**	**+1.2**
	11nm,0.5s								
RAMN	**Ramite**	**16.35**	**97**	*e*P	**P**		**16**	**00 15.8**	**+3.0**
	17nm,0.5s								
ODAN	**Odare**	**17.05**	**97**	*e*P	P		16	00 25.7	+5.1
MKAR	**Makanchi Array**	**19.77**	**29**	P	**P**		**16**	**00 50.4**	**+0.3**
	0.4nm,0.6s,baz=212,slow=10,SNR=7.8								
KURBB	**Kurchatov Arra**	**21.77**	**18**	P	**P**		**16**	**01 11.4**	**-0.2**
	0.2nm,0.4s,baz=208,slow=10,SNR=3.4								
BVAR	**Borovoye Array**	**22.85**	**3**	P	**P**		**16**	**01 23.1**	**+0.1**
	0.3nm,0.4s,baz=156,slow=11,SNR=3.2								
ZALV	**Zalesovo Beam**	**26.55**	**22**	P	**P**		**16**	**01 59.0**	**+1.4**
	0.4nm,0.3s,baz=214,slow=6.8,SNR=2.9								
CMAR	**Chiang Mai Arr**	**30.13**	**106**	P	**P**		**16**	**02 28.4**	**-1.5**
	0.3nm,0.4s,baz=304,slow=5.3,SNR=2.7								
TORD	**Torodi Ar. Bea**	**63.44**	**270**	P	P		16	06 45.2	-4.9
	0.4nm,0.8s,baz=46,slow=6.2,SNR=2.7								
WRA	**Warramunga Arr**	**80.69**	**119**	P	**P**		**16**	**08 35.3**	**+2.1**
	0.5nm,0.8s,baz=320,slow=4.6,SNR=3.0								
ASAR	**Alice Springs**	**82.60**	**123**	P	**P**		**16**	**08 43.0**	**-0.3**
	0.4nm,0.8s,baz=299,slow=5.6,SNR=4.9								
YKA	**Yellowknife Ar**	**87.59**	**1**	P	**P**		**16**	**09 06.8**	**-0.9**
	0.2nm,0.5s,baz=351,slow=5.4,SNR=3.5								

*NIED **27** 16:04:00, 42°.00N×142°.50E, h53km, Mw4.4 Best double couple: Mo5.16000×10^15 NP1:ϕs230.00000°, δ26.00000°, λ109.00000°. NP2:ϕs29.00000°, δ66.00000°, λ81.00000°.*
*BJI **27** 16:04:10.2, 41°.94N×142°.73E, h74km, mB5.0/29, mb4.5/46, Ms4.5/20, Ms7 4.2/16*
*ISCJB **27** 16:04:11.8±0.3, 42°.01N±0°.03×142°.53E±0°.03, h69km±2km, mb4.2/52, Error ellipse: s-maj=5.3km s-min=3.4km az=147.7*
*MOS **27** 16:04:11.8±0.9, 42°.02N×142°.57E, h72km, mb4.6/26, Error ellipse: s-maj=9.1km s-min=6.4km az=103.4*
*JMA **27** 16:04:12.3±0.1, 41°.98N×142°.54E, h62km±2km, M4.3 Broadband fault plane solution: P waves. NP1: ϕs23.00000°, δ65.00000°, λ73.00000°. NP2:ϕs239.00000°, δ30.00000°, λ122.00000°. Principal axes: T Plg66.0000°, Azm263.0000°; N Plg15.0000°, Azm31.0000°; P Plg18.0000°, Azm126.0000°;*
JMA Felt I J1.
*NEIC **27** 16:04:13.3±0.6, 42°.04N×142°.66E, h74km±8km, mb4.6/11, MW4.4(NIED) Error ellipse: s-maj=20.9km s-min=9.0km az=108.0*
*IDC **27** 16:04:13.5±1.9, 42°.02N×142°.55E, h74km±16km, mb3.7/22, mb1 3.9/27, mb1mx3.9/35, mbtmp4.1/27, MS3.5/10, Ms1 3.5/10, ms1mx3.2/35, Error ellipse: s-maj=14.8km s-min=12.0km az=133.0*
ISC 27 16:04:12.7±0.6, 41°.98N±0°.04×142°.56E±0°.03, h64km±4km, n147, σ1s07/173, mb4.5/52, 7C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JNBK	**Urakawa-nobuka**	**0.34**	**26**	⇑P	**Pn**		**16**	**04 22.8**	**-0.7**
JNBK				*e*S	**Sn**		**16**	**04 30.8**	**-0.6**
ERM	**Erimo**	**0.45**	**85**	*d* iPN	**Pn**		**16**	**04 24.5**	**0.0**
ERM				pmax	pmax				
	comp=Z,990nm,0.5s								
ERM	**Erimo**	**0.45**	**85**	*e*Pn	**Pn**		**16**	**04 24.1**	**-0.4**
JEM	**Erimo**	**0.45**	**85**	⇑P	**Pn**		**16**	**04 24.3**	**-0.2**
JEM				*e*S	**Sn**		**16**	**04 32.7**	**-0.3**
JBT2	**Biratori 2**	**0.81**	**350**	⇓P	**Pn**		**16**	**04 27.9**	**-0.7**
JBT2				*e*S	**Sn**		**16**	**04 39.4**	**-0.8**
JCH	**Churui**	**0.87**	**43**	⇑P	**Pn**		**16**	**04 29.0**	**-0.3**
JCH				*e*S	**Sn**		**16**	**04 41.5**	**-0.1**
JKB	**Kayabe**	**1.14**	**266**	⇓P	**Pn**		**16**	**04 31.9**	**-0.8**
JKB				*e*S	**Sn**		**16**	**04 46.2**	**-1.4**
JFR	**Furan**	**1.19**	**1**	⇓P	**Pn**		**16**	**04 32.8**	**-0.5**
JEW	**Eniwo**	**1.19**	**317**	⇓P	**Pn**		**16**	**04 32.9**	**-0.5**
JEW				*e*S	**Sn**		**16**	**04 48.1**	**-0.7**
JNB	**Noboribetsu**	**1.23**	**294**	⇓P	**Pn**		**16**	**04 32.6**	**-1.3**
JNB				*e*S	**Sn**		**16**	**04 48.1**	**-1.6**
JOT	**Ohata**	**1.28**	**243**	⇓P	**Pn**		**16**	**04 33.9**	**-0.6**
JOT				*e*S	**Sn**		**16**	**04 49.7**	**-1.1**
JOB	**Onbets**	**1.32**	**45**	P	**Pn**		**16**	**04 36.0**	**+0.9**
JAB	**Ashibetsu**	**1.55**	**351**	P	**Pn**		**16**	**04 38.1**	**0.0**
JAR	**Ashorobuto**	**1.59**	**34**	P	**Pn**		**16**	**04 38.9**	**+0.2**
JAR				*e*S	**Sn**		**16**	**04 59.0**	**+0.6**
JTM	**Tenmabayashi**	**1.63**	**224**	P	**Pn**		**16**	**04 39.4**	**+0.2**
JYM2	**Yakumo 2**	**1.63**	**276**	P	**Pn**		**16**	**04 38.7**	**-0.6**
JYM2				*e*S	**Sn**		**16**	**04 58.6**	**-0.7**
JSR	**Shiriuchi**	**1.66**	**255**	P	**Pn**		**16**	**04 39.2**	**-0.4**
JSR				*e*S	**Sn**		**16**	**04 59.5**	**-0.5**
ASAJ	**Asahikawa**	**2.14**	**1**	*e*Pn	**Pn**		**16**	**04 46.6**	**+0.5**
ASAJ				*e*Sn	**Sn**		**16**	**05 11.3**	**-0.3**
ASAJ	**Asahikawa**	**2.14**	**1**	P	**Pn**		**16**	**04 46.6**	**+0.5**
	comp=Z,71nm,0.3s,baz=200,slow=13,SNR=671								
ASAJ				S	**Sn**		**16**	**05 13.8**	**+2.3**
	comp=Z,46nm,0.3s,baz=78,slow=26,SNR=24								
YUK	**Yuzh-Kuril'sk**	**3.18**	**49**	*e* iPN	**Pn**		**16**	**05 01.2**	**+1.0**
YUK				*i* S	**Sn**		**16**	**05 36.0**	**-0.9**
YUK				pmax	pmax				
	comp=E,42nm,0.5s								
YUK				pmax	pmax				
	comp=Z,106nm,0.5s								
YUK				pmax	pmax				
	comp=N,19nm,0.2s								
YUK				smax	smax				
	comp=N,199nm,0.7s								
YUK				smax	smax				
	comp=E,152nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.98**	**2**	*e*PN	**Pn**		**16**	**05 26.0**	**+1.2**
YSS				*e*S	**Sn**		**16**	**06 21.7**	**+0.7**
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
YSS				smax	smax				
	comp=N,30nm,1.0s								
YSS				smax	smax				
	comp=E,30nm,1.0s								
YSS	**Yuzh-Sakhalins**	**4.98**	**2**	*e*Pn	**Pn**		**16**	**05 25.4**	**+0.6**
MAJO	**Matsushiro**	**6.39**	**213**	*i* PN	**Pn**		**16**	**05 46.6**	**+2.4**
MAJO				pmax	pmax				
	comp=Z,50nm,0.9s								
MAJO	**Matsushiro**	**6.39**	**213**	*e*P	Pn		16	05 47.4	+3.2
	comp=Z,17nm,0.6s								
MAT	**Matsushiro**	**6.39**	**213**	P	**Pn**		**16**	**05 45.7**	**+1.5**
MAT				*e*S	Sn		16	07 10.5	+15
MJAR	**Matsushiro Arr**	**6.39**	**213**	P	**Pn**		**16**	**05 45.7**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=27,slow=13,SNR=12								
MJAR				LR	LR		16	08 46.1	
	comp=Z,136nm,20.3s,baz=55,slow=42								
VLA	**Vladivostok**	**7.96**	**282**	⇓*e*PN	**Pn**		**16**	**06 07.8**	**+2.2**
VLA				pmax	pmax				
	comp=Z,23nm,0.9s								
USRK	**Ussuriysk Arra**	**8.05**	**290**	P	**Pn**		**16**	**06 07.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=91,slow=12,SNR=32								
USRK				S	**Sn**		**16**	**07 36.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=100,slow=24,SNR=4.9								
USRK				LR	LR		16	09 05.8	
	comp=Z,266nm,21.4s,baz=110,slow=36								
HABR	**Khabarovsk**	**8.38**	**323**	*e*PN	**Pn**		**16**	**06 11.7**	**+0.4**
HABR				*e*S	**Sn**		**16**	**07 46.2**	**+1.9**
HABR				pmax	pmax				
	comp=Z,24nm,1.6s								
HABR				MLR	MLR				
	comp=Z,180nm,18.0s								
KLR	**Kul'dur**	**10.48**	**317**	*e*PN	**Pn**		**16**	**06 38.3**	**-1.7**

KSRS Korea Array 12.14 253 P **Pn 16 07 04.5 +1.9**
comp=Z,0.2nm,0.3s,baz=73,slow=13,SNR=8.8
KSRS S Sn 16 09 23.6 +7.4
comp=Z,0.6nm,0.3s,baz=66,slow=24,SNR=7.6
KSRS LR LR 16 11 25.7
comp=Z,142nm,19.1s,baz=62,slow=36
CN2 Changchun 12.68 284 *e*P **Pn 16 07 12.3 +2.2**
JNU Nakatsue 12.79 230 LR LR 16 11 31.1
comp=Z,105nm,20.9s,baz=14,slow=34
PETK Petropavlovsk- 15.08 37 P **Pn 16 07 40.6 -1.2**
PETK Petropavlovsk- 15.08 37 P **Pn 16 07 40.6 -1.2**
comp=Z,0.1nm,0.3s,baz=185,slow=7.2,SNR=4.1
BJI Beijing 19.98 273 P **P 16 08 38.0 -1.7**
BJI pP **pP 16 08 55.8 +2.5**
BJI sP sP 16 09 05.8 +4.5
BJI S **S 16 12 21.0 +0.2**
BJI pmax pmax
comp=Z,18nm,1.1s
TIA Tai'an 20.52 262 ⇓P **P 16 08 43.8 -1.9**
TIA pmax pmax
comp=Z,20nm,1.1s
NJ2 Nanjing 21.30 250 *e*P **P 16 08 53.3 -0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 21.51 343 ⇑*i*P **P 16 08 55.6 -0.4**
SEY Seymchan 21.78 12 P **P 16 08 56.6 -2.2**
SEY pmax pmax
comp=Z,2.0nm,0.8s
SEY Seymchan 21.78 12 P **P 16 08 56.6 -2.2**
comp=Z,2.1nm,0.8s,baz=212,slow=13,SNR=7.1
HHC Hu-ho-hao-te 23.21 278 *e*P **P 16 09 14.5 +0.3**
HHC pP **pP 16 09 31.5 +3.1**
HHC sP sP 16 09 40.8 +4.5
HHC PP PnPn 16 09 50.5 +8.2
HHC S **S 16 13 19.5 -1.7**
HHC sS **sS 16 13 46.5 -0.3**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,350nm,6.5s
HHC LR LR
comp=Z,590nm,15.9s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,330nm,16.3s
WHN Wuhan 25.33 252 P **P 16 09 34.8 +1.3**
ULN Ulaanbaatar 25.66 295 *e*P **P 16 09 35.9 -0.7**
comp=Z,4.3nm,0.8s
SONM Songino Array 26.10 295 P **P 16 09 40.1 -0.4**
comp=Z,4.2nm,0.7s,baz=88,slow=7.8,SNR=19
SONM LR LR 16 20 31.9
comp=Z,94nm,19.9s,baz=94,slow=38
TLY Talaya 28.03 304 *e*P **P 16 09 57.9 +0.3**
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY MLR MLR
comp=Z,74nm,9.0s
ZAK Zakamensk 28.18 301 *e*P **P 16 09 58.2 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 29.05 18 *i* P **P 16 10 06.6 +0.2**
BILL pmax pmax
comp=Z,3.0nm,1.4s
H11N2 WAKE ISLAND Hy 30.28 130 T T 16 41 58.4
baz=326
H11N1 WAKE ISLAND Hy 30.29 130 T T 16 41 56.1
baz=326
H11N3 WAKE ISLAND Hy 30.30 130 T T 16 41 48.7
baz=326
H11S1 WAKE ISLAND Hy 31.14 131 T T 16 43 04.7
baz=320
H11S3 WAKE ISLAND Hy 31.14 131 T T 16 42 57.2
baz=320
H11S2 WAKE ISLAND Hy 31.16 131 T T 16 42 55.3
baz=320
GTA Gaotai 32.27 280 *e*P **P 16 10 35.3 0.0**
GTA pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 32.85 263 *e*P **P 16 10 41.8 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
GYA Guiyang 33.20 254 *e*P **P 16 10 45.0 +1.5**
GYA pP pP 16 11 03.5 +4.4
GYA sP sP 16 11 14.5 +7.9
GYA PP **PP 16 11 59.0 -0.5**
GYA PcP **PcP 16 13 25.0 +0.1**
GYA S **S 16 15 58.5 -0.3**
GYA sS sS 16 16 31.5 +6.0
GYA ScP **ScP 16 17 01.0 -2.6**
GYA ScS **ScS 16 21 01.3 -3.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KMI Kunming 36.82 256 P **P 16 11 16.3 +1.5**
KMI pmax pmax
comp=Z,9.0nm,1.3s
SLVN Son La 38.38 250 *e*P **P 16 11 28.4 +0.6**
comp=Z,4.7nm,1.0s
ZAA0 Zalesovo Array 39.40 308 *e*P **P 16 11 35.3 -0.6**
ZALV Zalesovo Beam 39.40 308 P **P 16 11 35.5 -0.4**
ZALV 16 13 42.4
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV MLR MLR
comp=Z,90nm,19.8s
ZALV Zalesovo Beam 39.40 308 P **P 16 11 35.5 -0.4**
comp=Z,9.2nm,0.8s,baz=86,slow=7.6,SNR=38
ZALV PcP **PcP 16 13 42.4 -0.4**
comp=Z,0.6nm,0.4s,baz=151,slow=3.3,SNR=4.1
ZALV LR LR 16 28 32.7
comp=Z,90nm,19.8s,baz=74,slow=37
WMQ Urumqi 39.61 292 P **P 16 11 40.3 +2.4**
WMQ pP pP 16 11 58.5 +4.7
WMQ sP sP 16 12 07.5 +6.2
WMQ PP **PnPn 16 13 17.0 +3.7**
WMQ PcP **PcP 16 13 44.5 +0.7**
WMQ ScP **ScP 16 17 26.5 -0.4**
WMQ S **S 16 17 38.8 +2.6**
WMQ sS sS 16 18 10.3 +7.0
WMQ SS **SS 16 20 31.3 -1.8**
WMQ ScS **ScS 16 21 38.0 -1.5**
WMQ pmax pmax
comp=Z,5.0nm,0.6s
WMQ pmax pmax
comp=Z,43nm,5.4s
WMQ LR LR
comp=Z,44nm,20.7s
WMQ LR LR
comp=Z,66nm,21.2s
NVS Novosibirsk 40.22 310 *e*P **P 16 11 40.2 -2.5**
NVS pmax pmax
comp=Z,7.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.9s
MKAR Makanchi Array 42.42 298 P **P 16 12 00.2 -0.7**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 42.42 298 P **P 16 12 00.2 -0.7**
comp=Z,7.6nm,0.9s,baz=67,slow=9.3,SNR=44
CHTO Chiang Mai 43.53 252 *e*P **P 16 12 10.2 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 43.53 252 *e*P **P 16 12 10.2 0.0**
comp=Z,4.6nm,0.8s
KURK Kurchatov 43.73 304 P **P 16 12 11.6 +0.3**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 43.73 304 *e*P **P 16 12 10.8 -0.5**
comp=Z,9.7nm,0.9s
CMAR Chiang Mai Arr 43.77 251 P **P 16 12 12.1 0.0**
comp=Z,1.0nm,0.7s,baz=40,slow=7.6,SNR=7.3
CMAR LR LR 16 30 41.0
comp=Z,46nm,20.0s,baz=65,slow=36
KURBB Kurchatov Arra 43.80 304 P **P 16 12 11.6 -0.3**
comp=Z,8.5nm,0.8s,baz=77,slow=8.7,SNR=49
ILAR Eielson Array 44.89 35 P **P 16 12 20.6 +0.2**
comp=Z,0.5nm,0.7s,baz=258,slow=5.6,SNR=16
TAPN Taplejung 46.66 270 *e*P **P 16 12 35.7 +0.5**
comp=Z,42nm,1.2s
ODAN Odare 47.16 270 *e*P **P 16 12 38.6 -0.5**
comp=Z,13nm,0.7s
JIRN Jiri 47.62 271 *e*P **P 16 12 43.0 +0.2**
comp=Z,7.9nm,0.4s
RAMN Ramite 47.70 270 *e*P **P 16 12 43.3 0.0**
comp=Z,30nm,0.9s
GUN Gumba 47.72 272 *e*P **P 16 12 43.7 +0.2**

comp=Z,33nm,0.4s
BVAR Borovoye Array 48.01 309 P **P** 16 12 45.1 0.0
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR Borovoye Array 48.01 309 P **P** 16 12 45.1 0.0
comp=Z,3.4nm,0.4s,baz=80,slow=9.0,SNR=31
BRVK Borovoye 48.06 309⇓*i*P **P** 16 12 46.0 +0.6
BRVK pmax pmax
comp=Z,15nm,2.5s
TKM2 Tokmak 2 48.20 295 *i*P **P** 16 12 47.2 +0.3
TKM2 Tokmak 2 48.20 295 P **P** 16 12 47.2 +0.3
SNR=21
TKM2 Tokmak 2 48.20 295 *e*P **P** 16 12 47.0 +0.1
comp=Z,15nm,0.8s
KKN Kakani 48.23 272 *e*P **P** 16 12 47.4 +0.1
PKI Pulchoki 48.25 272 *e*P **P** 16 12 47.5 -0.1
comp=Z,11nm,0.5s
DMN Daman 48.46 272 *e*P **P** 16 12 49.1 0.0
comp=Z,9.3nm,0.5s
GKN Gorkha 48.59 273 *e*P **P** 16 12 50.0 -0.1
comp=Z,11nm,0.5s
KBK Karagaybulak 48.74 295 P **P** 16 12 50.7 -0.4
SNR=17
KZA Kyzart 48.77 294 *i*P **P** 16 12 52.4 +0.8
KZA Kyzart 48.77 294 P **P** 16 12 52.4 +0.8
SNR=7.5
USP Ospenovka 48.80 296 *i*P **P** 16 12 51.1 -0.2
USP Ospenovka 48.80 296 P **P** 16 12 51.2 -0.2
SNR=5.5
DANN Dangsing 49.06 274 *e*P **P** 16 12 54.0 +0.2
comp=Z,38nm,0.5s
AAK Ala-Archa 49.06 295⇑*i*P **P** 16 12 53.4 -0.1
AAK pmax pmax
comp=Z,5.0nm,0.7s
KSH Kashi 49.34 291 P P 16 12 59.5 +3.9
KSH *e*S **S** **16 20 00.3 +2.8**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,390nm,4.5s
KSH LR LR
comp=Z,79nm,4.5s
KSH LR LR
comp=Z,99nm,3.3s
KSH LR LR
comp=Z,81nm,4.6s
KOLN Koldanda 49.49 273 *e*P **P** **16 12 57.1 +0.1**
comp=Z,12nm,0.5s
EKS2 Erkin-Say 49.53 295 *i*P **P** 16 12 56.9 -0.1
EKS2 Erkin-Say 49.53 295 P **P** 16 12 57.0 -0.1
SNR=9.2
INK Inuvik 49.62 29 P **P** 16 12 56.9 -0.2
comp=Z,0.5nm,0.3s,baz=282,slow=5.3,SNR=9.0
AML Almayashu 49.81 295 P **P** 16 12 59.8 +0.4
SNR=5.4
KKAR Karatay Array 51.53 297 *e*P **P** 16 13 11.2 -0.8
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 51.53 297 *e*P **P** 16 13 11.2 -0.8
comp=Z,2.7nm,0.6s
SVE Sverdlovsk 52.10 316 *e*P **P** 16 13 16.5 +0.6
ARU Arti 53.32 316*d i*P **P** 16 13 24.5 -0.4
ARU 16 15 22.0
ARU S **S** **16 20 52.8 +1.3**
ARU SS **SS** **16 24 32.7 +1.3**
ARU pmax pmax
comp=Z,37nm,2.5s
HNR Honiara 53.59 159 LR LR 16 31 37.0
comp=Z,42nm,21.5s,baz=200,slow=31
ABKAR Akbulak array 55.51 308 *e*P **P** 16 13 40.1 -0.8
comp=Z,2.8nm,0.6s
KBL Kabul 56.58 288 *e*P **P** 16 13 48.0 -1.1
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 56.58 288 *e*P **P** 16 13 48.0 -1.1
comp=Z,5.6nm,0.8s
PRGR Permogore 57.15 326 P **P** 16 13 50.9 -1.4
PRGR pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 59.12 32 P **P** 16 14 05.9 -0.2
comp=Z,0.2nm,0.5s,baz=303,slow=6.5,SNR=4.3
HYB Hyderabad 59.32 266 *i*P **P** 16 14 09.0 +0.8
ARCES ARCESS Array B 59.70 339 P **P** 16 14 08.5 -1.6
comp=Z,4.9nm,0.9s,baz=25,slow=6.7,SNR=4.1
JOF Joensuu 62.04 331 *e*P **P** 16 14 25.3 -0.7
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 62.04 331 *e*p **P** 16 14 25.3 -0.7
comp=Z,0.5nm,0.3s
WRA Warramunga Arr 62.07 189 P **P** 16 14 26.3 -0.3
comp=Z,0.5nm,0.4s,baz=6.3,slow=6.9,SNR=14
OBN Obninsk 64.70 322 *e*P **P** 16 14 43.0 -0.6
OBN pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 64.87 332 P **P** 16 14 44.1 -0.5
comp=Z,4.1nm,0.7s,baz=60,slow=6.6,SNR=14
FINES LR LR 16 45 52.9
comp=Z,165nm,19.0s,baz=166,slow=39
ASAR Alice Springs 65.80 189 P **P** 16 14 50.9 -0.2
comp=Z,0.3nm,0.6s,baz=1.5,slow=7.0,SNR=8.1
KIV Kislovodsk 68.37 310 *e*P **P** 16 15 08.3 +0.9
KIV pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 68.39 310 P **P** 16 15 07.3 -0.1
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 68.39 310 P **P** 16 15 07.2 -0.1
comp=Z,3.4nm,0.8s,baz=19,slow=3.5,SNR=5.4
NB2 NORSAR Subarra 69.98 337 P **P** 16 15 16.2 -0.8
comp=Z,2.5nm,0.8s,baz=38,slow=6.5
NOA NORSAR Array B 69.98 337 P **P** 16 15 16.1 -0.9
comp=Z,4.3nm,0.8s,baz=37,slow=6.1,SNR=8.5
AKASG Malin Array Be 70.95 322*ce*P **P** 16 15 22.3 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 70.95 322 P **P** 16 15 22.2 -0.8
comp=Z,1.8nm,0.4s,baz=44,slow=6.1,SNR=28
AK02 Malin Array Si 70.98 322 *e*P **P** 16 15 22.3 -0.9
NVAR Mina Array Bea 71.37 55 P **P** 16 15 24.9 -1.2
comp=Z,0.3nm,0.6s,baz=297,slow=6.0,SNR=4.0
PDAR Pinedale Array 73.61 47 P **P** 16 15 39.5 +0.1
comp=Z,0.6nm,0.7s,baz=292,slow=2.7,SNR=4.9
ULM Lac du Bonnet 74.91 35 LR LR 16 50 35.8
comp=Z,55nm,20.4s,baz=26,slow=37
BUR08 Bucovina Ar. S 74.98 322 *e*P **P** 16 15 47.4 +0.4
BRTR Keskin Array B 76.25 311 P **P** 16 15 54.1 -0.3
comp=Z,1.5nm,0.8s,baz=338,slow=1.3,SNR=5.7
CLL Collm 77.25 330 *e*P **P** 16 16 00.0 +0.3
CLL Collm 77.25 330 *e*P **P** 16 16 00.0 +0.3
GERES GERESS Array B 78.97 328 P **P** 16 16 09.1 -0.3
comp=Z,0.4nm,0.5s,baz=27,slow=6.3,SNR=5.1
CDF Champ du Feu 81.73 332 *e*P **P** 16 16 24.1 -0.1
comp=Z,12nm,1.0s
CDF Champ du Feu 81.73 332 *e*P **P** 16 16 24.1 -0.1
CDF pmax pmax
comp=Z,12nm,1.0s
CDF Champ du Feu 81.73 332 *e*P **P** 16 16 24.1 -0.1
comp=Z,12nm,1.0s
LOR Lormes 83.89 333 *e*P **P** 16 16 35.2 -0.2
comp=Z,12nm,0.9s
LOR Lormes 83.89 333 *e*P **P** 16 16 35.2 -0.2
comp=Z,12nm,0.9s
SSF Saint Saulge 84.19 333 *e*P **P** 16 16 36.7 -0.1
comp=Z,8.3nm,0.8s
SSF Saint Saulge 84.19 333 *e*P **P** 16 16 36.7 -0.1
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF Saint Saulge 84.19 333 *e*P **P** 16 16 36.7 -0.1
comp=Z,8.3nm,0.8s
SMF Signal de Mont 84.44 333 *e*P **P** 16 16 38.0 -0.1
SMF Signal de Mont 84.44 333 *e*P **P** 16 16 38.0 -0.1
SMF Signal de Mont 84.44 333 *e*P **P** 16 16 38.0 -0.1
TXAR Lajitas Array 86.43 53 P **P** 16 16 49.2 +0.7
comp=Z,0.1nm,0.5s,baz=327,slow=4.3,SNR=2.5

*NEIC **27** 16:22:07.0±1.3,4.°91N×126.°70E,h91km±12km, mb4.6/9, Error ellipse: s-maj=13.6km s-min=6.8km az=65.0*
*ISCJB **27** 16:22:06.7±0.4,4.°84N±0.°02×126.°78E±0.°04, h104km±3km, mb4.4/44, Error ellipse: s-maj=6.0km s-min=3.3km az=167.0*
*IDC **27** 16:22:07.3±3.1,4.°87N×126.°63E,h92km±28km, mb4.0/18, mb1 4.2/19,mb1mx4.0/39,mbtmp4.3/19, MS3.3/9, Ms1 3.4/9,ms1mx3.2/30,Error ellipse: s-maj=23.5km s-min=11.8km az=72.0*

*BJI **27** 16:22:09.8,5.°19N×126.°14E,h83km, mB5.0/17, mb4.5/29, Ms4.7/9, Ms7 4.5/9*
*DJA **27** 16:22:12.6±0.6,5.°N±5.°×12.°7E±.°, h101km±4km, M4.9/40, mB5.4/10, mb4.8/40, MLv5.2/11, Mw(mB)4.8/10, Mwp6.2/2*
*KLM **27** 16:22:17.0, 4.°48N×126.°21E, h135km, mb4.7, MS5.8*
ISC 27 16:22:07.2±0.4, **4.°87N**±0.°03×**126.°65E**±0.°05, **h88**km±3km, **n174**, σ1§**55**/174, **mb4.5**/40, **9C-7D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
SGSI	**Sangihe**	**1.62**	**224**	P	Pn	**16 22 34.3**	**-0.1**
SGSI				S	**Sn**	**16 22 58.1**	**+3.1**
GSPH	**General Santos**	**2.08**	**306**⇓	*i*P	**Pn**	**16 22 37.7**	**-2.8**
GSPH				*i* S	**Sn**	**16 23 02.5**	**-3.4**
MATI	**Mati**	**2.10**	**349**	*e*P	**Pn**	**16 22 40.6**	**-0.1**
MATI				*e*S	**Sn**	**16 23 10.3**	**+4.1**
DMPH	**Davao City--Mi**	**2.48**	**333**⇑	*e*P	**Pn**	**16 22 46.9**	**+1.2**
DMPH				*e*S	Sn	16 23 23.7	+8.5
KCP	**Kidapawan**	**2.63**	**324**⇓	*e*P	**Pn**	**16 22 47.7**	**-0.1**
KCP				*e*S	Sn	16 23 28.5	+10
BIPH	**Bislig**	**3.31**	**355**⇓	*e*P	Pn	16 23 02.2	+5.3
BIPH				*e*S	**Sn**	**16 23 36.7**	**+1.6**
CTBH	**Cotabato--PC H**	**3.34**	**314**	*e*P	**Pn**	**16 22 58.4**	**+1.1**
CTBH				*i* S	**Sn**	**16 23 42.0**	**+5.9**
BUKP	**Musuan**	**3.38**	**332**	*e*P	**Pn**	**16 22 59.0**	**+1.1**
CGP	**Cagayan de Oro**	**4.06**	**332**	*e*P	Pn	16 23 10.4	+3.4
CGP				*e*S	Sn	16 23 60.0	+6.5
TNTI	**Ternate**	**4.13**	**170**	P	**Pn**	**16 23 07.0**	**-1.0**
TNTI	**Ternate**	**4.13**	**170**	*e*Pn	**Pn**	**16 23 06.1**	**-1.9**
BUTP	**Butuan**	**4.20**	**346**	*e*P	**Pn**	**16 23 11.9**	**+3.0**
IPIL	**Ipil**	**4.98**	**306**	*e*P	**Pn**	**16 23 22.2**	**+2.6**
KMSI	**Cibinong**	**5.03**	**212**	P	**Pn**	**16 23 21.1**	**+0.9**
MSLP	**Maasin**	**5.53**	**341**	*e*P	**Pn**	**16 23 30.1**	**+3.2**
LBMI	**Labuha**	**5.54**	**171**	P	**Pn**	**16 23 26.6**	**-0.5**
	357nm,0.7s,3μm1.3nm						
GTOI	**Gorontalo**	**5.56**	**221**	P	**Pn**	**16 23 27.8**	**+0.4**
	196nm,0.7s,3μm1.1nm						
MRSI	**Marisa**	**6.41**	**227**	P	**Pn**	**16 23 39.5**	**+0.4**
	207nm,0.7s,2μm1.2nm						
MRSI				S	**Sn**	**16 24 50.5**	**-0.4**
	207nm,0.7s,2μm1.2nm						
OCLP	**Ormoc**	**6.47**	**342**	*e*P	**Pn**	**16 23 42.7**	**+2.9**
SANI	**Sanana**	**6.90**	**186**	P	Pn	16 23 41.9	-3.9
	76nm,0.7s,5μm1.0nm						
TOLI	**Toli-Toli**	**6.93**	**238**	P	x	16 24 00.4	
TOLI	**Toli-Toli**	**6.93**	**238**	*e*Pn	**Pn**	**16 23 47.7**	**+1.6**
	75nm,0.4s						
LUWI	**Luwuk**	**7.03**	**214**	P	**Pn**	**16 23 50.5**	**+3.0**
	430nm,1.1s,5μm1.3nm						
LUWI	**Luwuk**	**7.03**	**214**	*e*Pn	**Pn**	**16 23 49.8**	**+2.2**
	522nm,1.1s						
LUWI	**Luwuk**	**7.03**	**214**	P	Pn	16 23 51.9	+4.4
	baz=7.4,SNR=8.8						
SWI	**Sorong**	**7.32**	**141**	P	**Pn**	**16 23 51.4**	**-0.1**
	66nm,0.7s,0.2nm						
APSI	**Ampana**	**7.61**	**221**	P	Pn	16 23 58.7	+3.3
	224nm,1.1s,2μm0.9nm						
NLAI	**Namlea**	**8.06**	**177**	P	**Pn**	**16 23 59.6**	**-2.0**
	102nm,0.7s,4μm21μm1.5nm						
TSM	**Tawau**	**8.77**	**267**	⇑P	Pn	16 24 14.9	+3.7
SDKM	**Sandakan**	**9.45**	**275**	⇑P	Pn	16 24 24.1	+3.6
FAKI	**Fak Fak**	**9.55**	**144**	P	**Pn**	**16 24 21.1**	**-0.7**
	54nm,1.3s						
FAKI	**Fak Fak**	**9.55**	**144**	P	**Pn**	**16 24 20.6**	**-1.2**
	baz=9.5,SNR=15						
FAKI				S	**Sn**	**16 26 06.0**	**-1.4**
	baz=9.5,SNR=5.1						
KDM	**Kudat**	**9.97**	**282**	⇑P	Pn	16 24 32.1	+4.4
TTSI	**Tana Toraja**	**10.41**	**221**	P	**Pn**	**16 24 35.0**	**+1.4**
	72nm,1.0s,695nm						
KKM	**Kota Kinabalu**	**10.45**	**277**	P	Pn	16 24 40.2	+5.9
	baz=11,SNR=4.0						
KKM	**Kota Kinabalu**	**10.45**	**277**	⇓P	Pn	16 24 38.5	+4.2
MMSI	**Mamuju**	**10.78**	**226**	P	x	16 24 40.9	
	99nm,0.8s						
SPSI	**Sidrap Palu**	**11.14**	**218**	P	**Pn**	**16 24 43.7**	**+0.1**
	25nm,0.8s						
BAKI	**Biak**	**11.20**	**122**	P	**Pn**	**16 24 46.5**	**+2.1**
	119nm,1.1s						
BNSI	**Bone**	**11.29**	**215**	P	**Pn**	**16 24 48.4**	**+2.8**
	31nm,1.2s						
MJSI	**Majene**	**11.34**	**223**	P	x	16 25 05.9	
BKB	**Balikpapan**	**11.49**	**238**	P	Pn	16 24 51.6	+3.3
	125nm,0.8s						
SRPI	**Serui, Papua**	**11.69**	**125**	P	Pn	16 24 55.7	+4.7
	84nm,0.9s,6μm						
BTM	**Bintulu**	**13.63**	**264**	⇓P	**P**	**16 25 20.9**	**-1.8**
MMRI	**Maumere**	**14.12**	**198**	Pn	**Pn**	**16 25 23.6**	**+0.4**
	52nm,0.8s						
SBUM	**Sibu**	**14.60**	**261**	P	x	16 25 36.9	
	35nm,0.9s						
SBUM	**Sibu**	**14.60**	**261**	⇑P	**Pn**	**16 25 30.0**	**+0.5**
SOEI	**Soe**	**14.72**	**189**	P	**P**	**16 25 37.6**	**+2.7**
SOEI	**Soe**	**14.72**	**189**	*e*Pn	**Pn**	**16 25 31.1**	**0.0**
	70nm,1.0s						
SOEI	**Soe**	**14.72**	**189**	P	**P**	**16 25 37.2**	**+2.3**
	baz=15,SNR=5.3						
LBFI	**Labuhan Bajo,**	**14.87**	**207**	P	x	16 25 34.8	
	71nm,0.8s						
BATI	**Baumata**	**15.27**	**191**	P	**Pn**	**16 25 39.5**	**+1.5**
	41nm,0.8s						
BATI	**Baumata**	**15.27**	**191**	P	**Pn**	**16 25 39.2**	**+1.2**
BATI	**Baumata**	**15.27**	**191**	P	**Pn**	**16 25 39.2**	**+1.2**
	5.5nm,0.3s,baz=331,slow=3.2,SNR=13						
BATI				LR	LR	16 33 18.8	
	comp=Z,77nm,18.8s,baz=271,slow=44						
KSM	**Kuching**	**16.66**	**259**	P	x	16 25 58.5	
	45nm,1.2s						
KSM	**Kuching**	**16.66**	**259**	P	**P**	**16 25 58.7**	**+2.3**
	baz=17,SNR=6.4						
KSM	**Kuching**	**16.66**	**259**	⇑P	**P**	**16 25 56.1**	**-0.3**
MTNI	**Mataram**	**17.00**	**218**	P	x	16 25 58.5	
	48nm,0.8s						
BYJI	**Banyuwangi**	**17.87**	**223**	P	x	16 26 15.0	
	124nm,0.9s						
MTN	**Manton Dam**	**18.15**	**166**	P	**P**	**16 26 10.4**	**-2.4**
	baz=18,SNR=14						
JAGI	**Jajag, Banyuwa**	**18.19**	**223**	P	**Pn**	**16 26 17.1**	**+3.0**
	42nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.19**	**223**	*e*P	**P**	**16 26 13.8**	**+0.6**
	31nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.19**	**223**	P	**Pn**	**16 26 15.8**	**+1.8**
	baz=19,SNR=9.8						
KDU	**Kakadu**	**18.38**	**162**	P	**P**	**16 26 14.6**	**-0.7**
	baz=18,SNR=6.1						
TPUB	**Ta-pu**	**19.23**	**343**	*e*P	**P**	**16 26 22.4**	**-2.1**
DLV	**T Lat**	**19.28**	**293**	*e*P	**P**	**16 26 25.1**	**-0.2**
PWJI	**Pagerwojo**	**19.58**	**229**	P	**P**	**16 26 28.3**	**-0.1**
	16nm,0.8s						
KNRA	**Kunumura**	**20.52**	**174**	P	**P**	**16 26 38.1**	**-0.4**
	baz=21,SNR=22						
BJII	**Banjamegara**	**20.80**	**234**	P	x	16 26 43.7	
	44nm,1.8s						
TGJI	**Tegal**	**21.02**	**236**	P	x	16 26 48.9	
	32nm,1.0s						
KPJI	**Karang Pucung**	**21.43**	**236**	P	**P**	**16 26 48.9**	**+0.5**
	38nm,1.1s,6μm437μm						
QIZ	**Qiongzhong**	**21.61**	**312**	P	**P**	**16 26 48.5**	**-1.7**
QIZ				LR	LR		
	comp=Z,340nm,4.7s						
LEM	**Lembang**	**22.27**	**239**	P	**P**	**16 26 59.5**	**+2.0**
	51nm,0.8s						
LEM	**Lembang**	**22.27**	**239**	P	**P**	**16 26 59.5**	**+2.0**
	baz=23,SNR=5.5						
CBJI	**Citeko**	**22.72**	**241**	P	**P**	**16 27 03.5**	**+1.4**
	122nm,0.8s						
MYKOM	**Kota Tinggi**	**22.96**	**263**	⇑P	**P**	**16 27 04.5**	**0.0**
KGM	**Kluang**	**23.46**	**264**	⇑P	**P**	**16 27 10.1**	**+0.9**
CGJI	**Cibinong**	**23.82**	**242**	P	**P**	**16 27 12.4**	**0.0**
	26nm,0.8s						
MDSI	**Maura Dua**	**24.29**	**248**	P	P	16 27 22.7	+6.1
	29nm,0.7s						
COEN	**Coen**	**24.88**	**139**	P	**P**	**16 27 22.0**	**+0.1**
	baz=25,SNR=5.1						
PMG	**Port Moresby**	**24.88**	**125**	LR	LR	16 36 54.1	
	comp=Z,65nm,21.0s,baz=316,slow=36						
FRIM	**Kepong**	**25.01**	**267**	⇑P	**P**	**16 27 23.7**	**+0.5**
CHBT	**CHBT**	**25.26**	**290**	P	x	16 27 27.3	
	12nm,1.2s						
IPM	**Ipoh**	**25.54**	**270**	P	x	16 27 30.4	
	22nm,1.4s						
IPM	**Ipoh**	**25.54**	**270**	⇓P	**P**	**16 27 27.7**	**-0.3**
WRAB	**Tennant Creek**	**25.78**	**163**	*e*P	**P**	**16 27 28.7**	**-1.4**
	21nm,0.8s						
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**16 27 29.1**	**-1.0**
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**16 27 29.1**	**-1.0**
	9.7nm,0.6s,baz=343,slow=9.9,SNR=72						
KULM	**Kulim**	**25.90**	**272**	⇓P	**P**	**16 27 33.7**	**+2.4**
PSI	**Prapat**	**27.74**	**267**	P	**P**	**16 27 47.1**	**-0.8**
PSI	**Prapat**	**27.74**	**267**	P	**P**	**16 27 47.1**	**-0.8**
	3.4nm,0.5s,baz=45,slow=1.4,SNR=4.8						
PSI				LR	LR	16 41 32.9	
	comp=Z,65nm,18.6s,baz=94,slow=42						
NJ2	**Nanjing**	**28.01**	**346**	*e*P	**P**	**16 27 49.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIS	**Mount Isa**	**28.29**	**154**	P	**P**	**16 27 52.9**	**+0.3**
	baz=28,SNR=6.4						
JNU	**Nakatsue**	**28.39**	**7**	LR	LR	16 39 21.9	
	comp=Z,53nm,21.5s,baz=162,slow=36						
GYA	**Guiyang**	**28.74**	**320**	*e*P	**P**	**16 27 56.5**	**-0.2**
GYA				pP	**pP**	**16 28 16.5**	**-0.2**
GYA				sP	**sP**	**16 28 28.0**	**+1.1**
GYA				PP	**PnPn**	**16 28 53.0**	**+1.1**
GYA				PcP	**PcP**	**16 31 05.3**	**+0.2**
GYA				S	**S**	**16 32 41.0**	**+1.1**
GYA				sS	**sS**	**16 33 13.8**	**-0.8**
GYA				ScP	**ScP**	**16 34 36.8**	**-2.0**
GYA				ScS	**ScS**	**16 38 30.3**	**-2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AS31	**Alice Springs**	**29.23**	**166**	*e*P	**P**	**16 27 59.4**	**-1.6**
ASAR	**Alice Springs**	**29.23**	**166**	P	**P**	**16 28 00.3**	**-0.6**
ASAR	**Alice Springs**	**29.23**	**166**	P	**P**	**16 28 00.3**	**-0.6**
	2.2nm,0.6s,baz=342,slow=7.8,SNR=37						
GSI	**Gunungsitoli**	**29.24**	**264**	P	**P**	**16 28 01.8**	**+0.6**
	21nm,0.9s						
WRKA	**Warakurna**	**29.77**	**177**	P	**P**	**16 28 05.6**	**-0.1**
	baz=30,SNR=8.7						
CMAR	**Chiang Mai Arr**	**30.24**	**299**	P	**P**	**16 28 09.8**	**-0.2**
CMAR				ScP	**ScP**	**16 34 42.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**30.24**	**299**	P	**P**	**16 28 09.8**	**-0.2**
	1.0nm,0.9s,baz=112,slow=7.6,SNR=7.4						
CMAR				ScP	**ScP**	**16 34 42.9**	**-0.8**
	0.5nm,0.8s,baz=172,slow=1.8,SNR=6.0						
CMAR				LR	LR	16 40 46.6	
	comp=Z,41nm,20.8s,baz=100,slow=37						
KMI	**Kunming**	**30.53**	**314**	P	P	16 28 17.5	+4.8
KMI				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MEEK	**Meekatharra**	**32.27**	**194**	P	**P**	**16 28 27.3**	**-0.4**
	baz=33,SNR=17						
KSRS	**Korea Array**	**32.45**	**2**	LR	LR	16 42 56.3	
	comp=Z,28nm,19.9s,baz=178,slow=38						
MJAR	**Matsushiro Arr**	**33.26**	**17**	LR	LR	16 41 43.2	
	comp=Z,36nm,21.7s,baz=195,slow=35						
CD2	**Chengdu**	**33.69**	**323**	*e*P	**P**	**16 28 39.5**	**-0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
FORT	**Forrest**	**35.47**	**178**	P	**P**	**16 28 55.3**	**0.0**
	baz=36,SNR=16						
QLP	**Quilpie**	**35.60**	**152**	P	**P**	**16 28 56.6**	**+0.1**
	baz=36,SNR=3.5						
BJI	**Beijing**	**36.27**	**346**	P	**P**	**16 29 01.3**	**-0.7**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,130nm,3.6s						
BLDU	**Ballidu**	**36.54**	**194**	P	**P**	**16 29 04.1**	**-0.4**
	baz=37,SNR=8.6						
LZH	**Lanzhou**	**37.49**	**329**	*e*P	**P**	**16 29 14.0**	**+1.3**
LZH				pP	**pP**	**16 29 36.3**	**+3.1**
LZH				sP	**sP**	**16 29 44.5**	**+1.2**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,6.6s						
EIDS	**Eidsvold**	**38.30**	**143**	P	P	16 29 14.5	-4.9
	baz=38,SNR=8.2						
HHC	**Hu-ho-hao-te**	**38.30**	**341**	*e*P	**P**	**16 29 20.5**	**+1.1**
HHC				pP	**pP**	**16 29 40.8**	**+0.9**
HHC				sP	**sP**	**16 29 48.5**	**-1.5**
HHC				PP	**PnPn**	**16 30 54.0**	**+2.7**
HHC				S	**S**	**16 35 09.3**	**+2.0**
HHC				sS	**sS**	**16 35 41.3**	**-1.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,5.1s						
HHC				LR	LR		
	comp=N,580nm,17.3s						
HHC				LR	LR		
	comp=E,600nm,16.0s						
HHC				LR	LR		
	comp=Z,260nm,16.0s						
NWAO	**Narrogin (SRO)**	**38.63**	**193**	P	**P**	**16 29 22.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**38.63**	**193**	P	**P**	**16 29 22.2**	**+0.1**
	22nm,1.0s,baz=21,slow=8.0,SNR=9.5						
SHL	**Shillong**	**39.15**	**305**	*e*P	**P**	**16 29 27.5**	**+0.7**
STKA	**Stephens Creek**	**39.22**	**160**	*e*P	**P**	**16 29 27.0**	**0.0**
	2.6nm,0.8s						
STKA	**Stephens Creek**	**39.22**	**160**	P	**P**	**16 29 27.0**	**0.0**
	6.0nm,0.4s,baz=342,slow=8.2,SNR=15						
STKA	**Stephens Creek**	**39.22**	**160**	P	**P**	**16 29 26.9**	**0.0**
	baz=39,SNR=19						
RKGY	**Rocky Gully**	**40.31**	**192**	P	**P**	**16 29 37.4**	**+1.4**
	baz=41,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**41.36**	**67**	T	T	17 13 42.5	
	baz=251						
H11S1	**WAKE ISLAND Hy**	**41.38**	**67**	T	T	17 13 47.0	
	baz=251						
H11S2	**WAKE ISLAND Hy**	**41.38**	**68**	T	T	17 13 45.7	
	baz=251						
GTA	**Gaotai**	**42.09**	**329**	*e*P	**P**	**16 29 51.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARMA	**Armidale**	**42.46**	**147**	*e*P	**P**	**16 29 55.0**	**+1.2**
	13nm,0.6s						
ARMA	**Armidale**	**42.46**	**147**	P	**P**	**16 29 54.9**	**+1.1**
	baz=42,SNR=29						
TAPN	**Taplejung**	**43.29**	**305**	*e*P	**P**	**16 29 59.5**	**-1.4**
	4.0nm,0.5s						
ODAN	**Odare**	**43.35**	**305**	*e*P	**P**	**16 30 01.0**	**-0.3**
	17nm,0.9s						
RAMN	**Ramite**	**44.04**	**304**	*e*P	**P**	**16 30 05.8**	**-1.0**
	7.6nm,0.6s						
JIRN	**Jiri**	**44.65**	**305**	*e*P	**P**	**16 30 11.2**	**-0.6**
	15nm,0.8s						
GUN	**Gumba**	**45.00**	**305**	*e*P	**P**	**16 30 14.1**	**-0.5**
	16nm,0.7s						
PKI	**Pulchoki**	**45.26**	**305**	*e*P	**P**	**16 30 15.9**	**-0.7**
ULN	**Ulaanbaatar**	**46.02**	**342**	*e*P	**P**	**16 30 22.6**	**+0.6**
	9.5nm,1.3s						
GKN	**Gorkha**	**46.05**	**305**	*e*P	**P**	**16 30 21.9**	**-0.8**
SONM	**Songino Array**	**46.20**	**341**	P	**P**	**16 30 24.1**	**+0.7**
SONM	**Songino Array**	**46.20**	**341**	P	**P**	**16 30 24.1**	**+0.7**
	0.8nm,0.5s,baz=152,slow=9.7,SNR=6.4						
KOLN	**Koldanda**	**46.82**	**304**	*e*P	**P**	**16 30 28.1**	**-0.6**
DANN	**Dangsing**	**46.90**	**305**	*e*P	**P**	**16 30 28.3**	**-1.1**
WMQ	**Urumqi**	**51.75**	**325**	P	**P**	**16 31 06.5**	**+0.6**
WMQ				pP	**pP**	**16 31 25.3**	**-2.1**
WMQ				sP	**sP**	**16 31 34.0**	**-3.2**
WMQ				PcP	**PcP**	**16 32 18.5**	**+0.4**
WMQ				PP	**PP**	**16 33 06.0**	**

comp=Z,100nm,3.6s
ZALV Zalesovo Beam 59.55 333 P **P** 16 32 00.8 -0.5
ZALV Zalesovo Beam 59.55 333 P **P** 16 32 00.8 -0.5
0.6nm,0.5s,baz=126,slow=7.5,SNR=4.7
KURK Kurchatov 60.74 327 *eP* **P** 16 32 07.9 -1.8
6.1nm,0.8s
SEY Seymchan 60.95 13 P **P** 16 32 13.7 +2.9
SEY Seymchan 60.95 13 P **P** 16 32 13.7 +2.9
2.1nm,0.9s,baz=256,slow=8.3,SNR=3.3
KKAR Karatay Array 62.35 317 *eP* **P** 16 32 19.9 -0.8
0.5nm,0.4s
BRVK Borovoye 66.40 327 *eP* **P** 16 32 46.4 -0.5
14nm,1.1s
ABKAR Akbulak array 71.22 321 *eP* **P** 16 33 14.5 -2.4
3.8nm,0.9s
AKTO Aktyubinsk 72.72 321 P **P** 16 33 25.2 -0.7
AKTO Aktyubinsk 72.72 321 P **P** 16 33 25.2 -0.7
2.7nm,0.9s,baz=105,slow=11,SNR=6.2
IM04 Indian Mountai 81.33 24 *eP* **P** 16 34 14.1 +0.3
ILAR Eielson Array 84.12 25 P **P** 16 34 26.8 -1.5
ILAR Eielson Array 84.12 25 P **P** 16 34 26.8 -1.5
0.6nm,0.6s,baz=251,slow=5.8,SNR=15
VNDA Vanda 84.56 173 P **P** 16 34 30.6 +0.5
VNDA Vanda 84.56 173 P **P** 16 34 30.6 +0.5
3.7nm,1.0s,baz=293,slow=5.6,SNR=4.6
BRTR Keskin Array B 89.24 310 P **P** 16 34 51.8 -2.1
BRTR Keskin Array B 89.24 310 P **P** 16 34 51.8 -2.1
1.1nm,0.9s,baz=134,slow=3.6,SNR=5.1
BRTR LR LR 17 21 31.9
comp=Z,38nm,19.4s,baz=170,slow=40
ARCES ARCESS Array B 89.36 340 P **P** 16 34 52.4 -1.2
ARCES ARCESS Array B 89.36 340 P **P** 16 34 52.4 -1.2
7.3nm,1.1s,baz=69,slow=6.8,SNR=4.7
FINES FINESS Array B 90.80 332 P **P** 16 35 00.6 +0.1
FINES FINESS Array B 90.80 332 P **P** 16 35 00.6 +0.1
2.3nm,0.8s,baz=45,slow=6.1,SNR=7.4
AKASG Malin Array Be 90.96 321 P **P** 16 35 00.3 -1.1
AKASG Malin Array Be 90.96 321 P **P** 16 35 00.3 -1.1
1.3nm,0.8s,baz=79,slow=3.7,SNR=6.4
NOA NORSAR Array B 97.74 334 LR LR 17 27 06.0
comp=Z,49nm,16.9s,baz=20,slow=40
YKA Yellowknife Ar 98.50 24 P Pdif 16 35 36.0 +0.4
YKA Yellowknife Ar 98.50 24 P Pdif 16 35 36.0 +0.4
0.2nm,0.5s,baz=298,slow=4.4,SNR=3.7
TORD Torodi Ar. Bea 122.48 289 PKP **PKPdf** 16 40 53.4 -0.1
TORD Torodi Ar. Bea 122.48 289 PKP **PKPdf** 16 40 53.4 -0.1
0.4nm,0.6s,baz=18,slow=0.6,SNR=3.8

ISCJB ***27*** *16:22:26.6±0.5, 58°.32S±0°.08×14°.6W±0°.2, h10km, mb4.4/14, MS3.9/9, Error ellipse: s-maj=13.2km s-min=10.8km az=146.3*
IDC ***27*** *16:22:26.9±0.6, 58°.22S×14°.70W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.4/22, mbtmp4.4/9, ML5.2/1, MS3.8/10, Ms1 3.8/10, ms1mx3.7/21, Error ellipse: s-maj=22.1km s-min=18.2km az=55.0*
NEIC ***27*** *16:22:28.4±0.4, 58°.30S×14°.63W, h10km, mb4.8/4, Error ellipse: s-maj=12.6km s-min=10.8km az=64.0*
ISC 27 16:22:28.7±0.5, 58°.30S±0°.09×14°.7W±0°.1, h10km, n46, σ1s50/44, mb4.3/14, MS3.9/9, 1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**14.27**	**165**	*e*Pn		**Pn**		**16 25 48.9**	**-1.8**
	132nm,0.8s								
SNAA				*e*S		Sn		16 28 10.5	-18
SNAA				Sn		Sn		16 28 13.8	-15
SNAA	**Sanae**	**14.27**	**165**	Pn		**Pn**		**16 25 49.0**	**-1.6**
	11nm,0.3s,baz=339,slow=13,SNR=306								
SNAA				Sn		Sn		16 28 13.8	-15
	0.8nm,0.3s,baz=303,slow=17,SNR=5.3								
SNAA				LR		LR		16 29 27.6	
	comp=Z,174nm,20.9s,baz=356,slow=29								
H09W1	**TRISTAN DA CUN**	**21.27**	**5**	T		T		16 48 39.3	
	SNR=7.2								
H09N1	**TRISTAN DA CUN**	**21.30**	**5**	T		T		16 48 56.9	
	SNR=6.2								
PMSA	**Palmer Station**	**23.84**	**234**	LR		LR		16 36 04.9	
	comp=Z,398nm,19.2s,baz=90,slow=34								
SYO	**Syowa Base**	**25.40**	**137**	⇓*i*P		**P**		**16 27 53.2**	**-2.6**
USHA	**Ushuaia**	**29.16**	**253**	LR		LR		16 38 11.2	
	comp=Z,193nm,19.8s,baz=50,slow=32								
QSPA	**South Pole Qui**	**31.94**	**180**	*e*P		**P**		**16 28 54.8**	**+0.5**
QSPA	**South Pole Qui**	**31.94**	**180**	P		**P**		**16 28 54.6**	**+0.4**
	7.4nm,0.6s,baz=221,slow=4.4,SNR=34								
MAW	**Mawson**	**34.10**	**138**	P		**P**		**16 29 13.2**	**+0.3**
MAW	**Mawson**	**34.10**	**138**	P		**P**		**16 29 13.2**	**+0.3**
	41nm,1.1s,baz=283,slow=16,SNR=3.4								
MAW				LR		LR		16 40 57.0	
	comp=Z,263nm,20.0s,baz=260,slow=32								
PLCA	**Paso Flores**	**39.00**	**272**	P		**P**		**16 29 54.2**	**-0.9**
PLCA	**Paso Flores**	**39.00**	**272**	P		**P**		**16 29 54.2**	**-0.9**
	1.2nm,0.4s,baz=165,slow=5.9,SNR=3.5								
BOSA	**Boshof**	**40.48**	**60**	P		**P**		**16 30 06.9**	**-0.7**
BOSA	**Boshof**	**40.48**	**60**	P		**P**		**16 30 06.9**	**-0.7**
	3.1nm,1.0s,baz=193,slow=14,SNR=2.8								
CPUP	**Villa Florida**	**43.69**	**298**	P		**P**		**16 30 33.0**	**-0.5**
CPUP	**Villa Florida**	**43.69**	**298**	P		**P**		**16 30 33.0**	**-0.5**
	3.4nm,0.8s,baz=154,slow=11,SNR=4.7								
CPUP				LR		LR		16 48 20.0	
	comp=Z,130nm,19.2s,baz=136,slow=36								
LBTB	**Lobatse**	**43.73**	**58**	*e*P		**P**		**16 30 33.1**	**-1.0**
	11nm,0.4s								
VNDA	**Vanda**	**44.41**	**179**	P		**P**		**16 30 40.1**	**+1.3**
VNDA	**Vanda**	**44.41**	**179**	P		**P**		**16 30 40.1**	**+1.3**
	2.6nm,0.7s,baz=196,slow=5.7,SNR=10								
VNDA				LR		LR		16 48 32.3	
	comp=Z,158nm,20.1s,baz=184,slow=35								
CFAA	**Coronel Fontan**	**44.73**	**283**	P		**P**		**16 30 42.1**	**+0.2**
CFAA	**Coronel Fontan**	**44.73**	**283**	P		**P**		**16 30 42.1**	**+0.2**
	0.7nm,0.9s,baz=149,slow=6.5,SNR=6.0								
BDFB	**Brasilia**	**49.27**	**316**	LR		LR		16 47 57.6	
	comp=Z,162nm,21.9s,baz=31								
LVC	**Limon Verde**	**52.43**	**289**	*e*P		**P**		**16 31 41.7**	**+0.2**
	8.3nm,0.9s								
LSZ	**Lusaka**	**53.42**	**55**	*e*P		**P**		**16 31 48.0**	**-0.8**
	2.2nm,0.8s								
SAML	**Samuel**	**61.52**	**303**	*e*P		**P**		**16 32 45.8**	**+0.1**
	11nm,1.2s								
DBIC	**Dimbokro**	**65.24**	**11**	P		**P**		**16 33 12.2**	**+1.9**
DBIC	**Dimbokro**	**65.24**	**11**	P		**P**		**16 33 12.2**	**+1.9**
	3.7nm,0.9s,baz=197,slow=11,SNR=3.1								
DBIC				LR		LR		16 54 23.8	
	comp=Z,73nm,21.2s,baz=152,slow=29								
TOA0	**Torodi Ar. Sit**	**72.45**	**17**	*e*P		**P**		**16 33 54.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.45**	**17**	P		**P**		**16 33 54.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.45**	**17**	P		**P**		**16 33 54.9**	**-0.2**
	3.4nm,0.8s,baz=174,slow=5.7,SNR=14								
TORD				LR		LR		16 58 45.7	
	comp=Z,40nm,20.6s,baz=40,slow=30								
STKA	**Stephens Creek**	**87.99**	**160**	LR		LR		17 12 10.9	
	comp=Z,69nm,19.8s,baz=203,slow=34								
ASAR	**Alice Springs**	**94.25**	**151**	P		**P**		**16 35 51.0**	**+3.0**
ASAR	**Alice Springs**	**94.25**	**151**	P		**P**		**16 35 51.0**	**+3.0**
	0.6nm,0.8s,baz=185,slow=4.7,SNR=3.6								
FINES	**FINESS Array B**	**123.55**	**22**	PKP		**PKPdf**		**16 41 23.9**	**-0.7**
FINES	**FINESS Array B**	**123.55**	**22**	PKP		**PKPdf**		**16 41 23.9**	**-0.7**
	2.6nm,1.0s,baz=243,slow=6.1,SNR=2.7								
YKA	**Yellowknife Ar**	**142.60**	**311**	PKP		**PKPdf**		**16 41 58.9**	**-1.5**
YKA	**Yellowknife Ar**	**142.60**	**311**	PKP		**PKPdf**		**16 41 58.8**	**-1.5**
	0.8nm,1.0s,baz=123,slow=3.0,SNR=5.1								
SONM	**Songino Array**	**144.21**	**81**	PKP		**PKPab**		**16 42 01.4**	**-0.3**
SONM	**Songino Array**	**144.21**	**81**	PKP		**PKPab**		**16 42 01.4**	**-0.3**
	0.6nm,0.6s,baz=222,slow=3.9,SNR=5.4								
KSAR	**Wonju Array Be**	**147.97**	**114**	PKPbc		**PKPbc**		**16 42 14.2**	**+0.8**
KSRS	**Korea Array**	**148.00**	**114**	PKPbc		**PKPbc**		**16 42 14.2**	**+0.7**
	1.1nm,0.7s,baz=220,slow=3.9,SNR=4.2								
MJAR	**Matsushiro Arr**	**151.87**	**129**	PKPbc		**PKPbc**		**16 42 23.1**	**0.0**
MJAR				PKPab		**PKPab**		**16 42 31.1**	**-1.1**
MJAR	**Matsushiro Arr**	**151.87**	**129**	PKPbc		**PKPbc**		**16 42 23.1**	**0.0**
	1.9nm,0.8s,baz=213,slow=3.7,SNR=2.8								
MJAR				PKPab		**PKPab**		**16 42 31.1**	**-1.1**
	3.6nm,0.8s,baz=188,slow=3.8,SNR=5.7								
ILAR	**Eielson Array**	**156.83**	**306**	PKP		**PKPdf**		**16 42 26.1**	**+3.5**
ILAR				PKPab		**PKPab**		**16 42 50.0**	**-2.5**
ILAR	**Eielson Array**	**156.83**	**306**	PKP		**PKPdf**		**16 42 26.1**	**+3.5**
	0.3nm,1.1s,baz=104,slow=1.7,SNR=2.5								
ILAR				PKPab		**PKPab**		**16 42 50.0**	**-2.5**
	0.4nm,0.8s,baz=113,slow=1.1,SNR=4.4								

IDC 27 17:13:47.5±5.5, 21°.48N×143°.80E, h245km±53km, mb3.2/9, mb1 3.4/10, mb1mx3.2/31, mbtmp3.9/10, Error ellipse: s-maj=36.4km s-min=15.5km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.78**	**343**	P		P		17 17 15.2	-1.0
	0.2nm,0.3s,baz=170,slow=10,SNR=3.6								
KSRS	**Korea Array**	**21.04**	**323**	P		P		17 18 13.1	+0.5
	3.6nm,0.8s,baz=148,slow=8.5,SNR=14								
SONM	**Songino Array**	**39.87**	**320**	P		P		17 20 57.1	-0.5
	0.4nm,0.4s,baz=131,slow=7.2,SNR=12								
WRA	**Warramunga Arr**	**42.19**	**193**	P		P		17 21 16.7	+0.1
	0.4nm,0.6s,baz=17,slow=9.4,SNR=5.6								
ASAR	**Alice Springs**	**45.90**	**193**	P		P		17 21 45.4	-0.5
	0.3nm,0.9s,baz=7.6,slow=7.0,SNR=4.7								
ZALV	**Zalesovo Beam**	**54.74**	**322**	P		P		17 22 51.3	-0.3
	0.3nm,0.3s,baz=116,slow=6.8,SNR=3.6								
MKAR	**Makanchi Array**	**55.27**	**313**	P		P		17 22 55.9	+0.3
	1.1nm,0.6s,baz=90,slow=9.0,SNR=17								
YKA	**Yellowknife Ar**	**76.38**	**28**	P		P		17 25 09.9	+0.4
	0.5nm,0.6s,baz=290,slow=5.5,SNR=7.3								
KBZ	**Khabaz**	**82.93**	**314**	P		P		17 25 45.6	+0.6
	3.0nm,0.9s,baz=35,slow=2.5,SNR=5.4								
FINES	**FINESS Array B**	**83.62**	**335**	P		P		17 25 47.0	-1.2
	2.2nm,0.9s,baz=46,slow=5.5,SNR=5.0								

MEX 27 17:20:36.6±0.5, 16°.69N×99°.92W, h4km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.18**	**9**	*i* P		Pg		17 20 40.1	-0.2
ACP2				*i* S		Sg		17 20 42.5	-0.2
ARIG	**Puente Sto Nin**	**1.63**	**345**	*e*P		Pn		17 21 02.8	-3.4
ARIG				*i* S		Sn		17 21 23.2	-4.5
PLIG	**Platanillo**	**1.74**	**13**	*e*P		Pn		17 21 04.2	-3.5
PLIG				*e*S		Sn		17 21 25.2	-5.2
ZIIG	**Zihuatanejo**	**1.74**	**302**	*e*P		Pn		17 21 03.7	-3.8
ZIIG				*e*S		Sn		17 21 25.4	-4.8
PNIG	**Pinotepa**	**1.74**	**100**	*e*P		Pn		17 21 04.5	-3.1
PNIG				*i* S		Sn		17 21 25.0	-5.3
YAIG	**Yautepec**	**2.30**	**20**	*i* P		Pn		17 21 13.0	-2.6
YAIG				*i* S		Sn		17 21 40.3	-4.3

ISCJB ***27*** *17:31:17.9±0.5, 17°.78S±0°.05×34°.85E±0°.06, h10km, mb3.9/10, Error ellipse: s-maj=9.9km s-min=4.6km az=32.0*
PRE ***27*** *17:31:18.5±2.8, 17°.20S×34°.50E, h10km, ML5.3*
IDC ***27*** *17:31:18.4±0.8, 17°.72S×35°.06E, h0km, mb3.9/10, mb1 4.0/15, mb1mx3.8/46, mbtmp4.0/15, ML3.1/5, MS3.3/2, Ms1 3.2/2, ms1mx2.9/44, Error ellipse: s-maj=25.2km s-min=17.7km az=128.0*
NEIC ***27*** *17:31:20.1±0.5, 17°.65S×35°.07E, h10km, mb4.2/1, ML4.0(PRE), Error ellipse: s-maj=12.8km s-min=6.8km az=126.0*
ISC 27 17:31:20.1±0.6, 17°.72S±0°.07×34°.75E±0°.07, h10km, n54, σ2s31/68, mb4.2/10, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**6.39**	**223**	*e*P		Pn		17 32 59.6	+5.2
MSNA				*e*S		**Sn**		**17 34 10.0**	**+2.3**
MSNA				AML		AML		17 34 50.2	
	comp=Z,144nm,0.5s								
MSNA	**Messina**	**6.39**	**223**	*e*P		Pn		17 32 59.6	+5.2
MSNA				*e*S		**Sn**		**17 34 10.0**	**+2.3**
MOPA	**Mopani**	**6.56**	**208**	*e*P		Pn		17 33 01.0	+4.2
MOPA				*e*S		Sn		17 34 17.1	+5.4
MOPA				AML		AML		17 35 02.3	
	comp=Z,292nm,0.6s								
MOPA	**Mopani**	**6.56**	**208**	*e*P		Pn		17 33 00.1	+3.3
MOPA				*e*S		**Sn**		**17 34 15.4**	**+3.6**
LSZ	**Lusaka**	**6.75**	**290**	Pn		Pn		17 33 03.6	+4.2
LSZ				Sn		**Sn**		**17 34 18.6**	**+2.2**
LSZ				Lg		Lg		17 34 57.2	
LSZ	**Lusaka**	**6.75**	**290**	Pn		Pn		17 33 03.6	+4.2
	comp=Z,21nm,0.3s,baz=124,slow=12,SNR=725								
LSZ				Sn		**Sn**		**17 34 18.6**	**+2.2**
	comp=Z,12nm,0.3s,baz=40,slow=18,SNR=12								
LSZ				Lg		Lg		17 34 57.2	
	comp=Z,9.5nm,0.3s,baz=196,slow=14,SNR=6.0								
SLR	**Silverton**	**9.98**	**216**	*e*P		Pn		17 33 47.1	+3.3
SLR				*e*S		**Sn**		**17 35 35.5**	**-0.5**
SLR				AML		AML		17 36 41.3	
	comp=Z,47nm,0.6s								
SLR	**Silverton**	**9.98**	**216**	*e*P		Pn		17 33 47.1	+3.3
SLR				*e*S		**Sn**		**17 35 35.5**	**-0.5**
ERPM	**east rand prop**	**10.48**	**214**	*e*P		Pn		17 33 55.2	+4.4
ERPM				*e*S		**Sn**		**17 35 48.2**	**-0.3**
ERPM				AML		AML		17 37 03.5	
	comp=Z,23nm,0.8s								
ERPM	**east rand prop**	**10.48**	**214**	*e*P		Pn		17 33 55.2	+4.4
ERPM				*e*S		**Sn**		**17 35 48.2**	**-0.3**
KLOF	**Kloof**	**10.84**	**216**	*e*P		Pn		17 33 57.3	**+1.7**
KLOF				*e*S		**Sn**		**17 35 56.3**	**-0.8**
KLOF				AML		AML		17 38 18.6	
	comp=Z,177nm,0.4s								
KLOF	**Kloof**	**10.84**	**216**	*e*P		**Pn**		**17 33 55.2**	**-0.4**
KLOF				*e*S		**Sn**		**17 35 56.3**	**-0.8**
WDLM	**Western Deep L**	**11.00**	**217**	*e*S		**Sn**		**17 36 00.3**	**-0.8**
WDLM				AML		AML		17 37 13.9	
	comp=Z,26nm,0.5s								
LBTB	**Lobatse**	**11.19**	**228**	*e*P		**Pn**		**17 34 02.6**	**+2.2**
LBTB				*e*S		**Sn**		**17 36 05.2**	**-0.5**
LBTB				AML		AML		17 37 15.2	
	comp=Z,34nm,0.7s								
LBTB	**Lobatse**	**11.19**	**228**	Pn		**Pn**		**17 34 02.9**	**+2.5**
LBTB				Sn		**Sn**		**17 36 03.9**	**-1.8**
LBTB				Lg		Lg		17 37 07.3	
LBTB	**Lobatse**	**11.19**	**228**	Pn		**Pn**		**17 34 02.9**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=50,slow=13,SNR=12								
LBTB				Sn		**Sn**		**17 36 03.9**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=123,slow=18,SNR=3.2								
LBTB				Lg		Lg		17 37 07.3	
	comp=Z,1.5nm,0.3s,baz=21,slow=12,SNR=4.0								
LBTB				LR		LR		17 38 33.0	
	comp=Z,139nm,19.6s,baz=56,slow=38								
PRYS	**Parys**	**11.43**	**215**	*e*P		Pn		17 34 09.2	+5.6
PRYS				*e*S		**Sn**		**17 36 09.5**	**-1.9**
PRYS				AML		AML		17 37 29.6	
	comp=Z,16nm,0.7s								
PRYS	**Parys**	**11.43**	**215**	*e*P		Pn		17 34 09.2	+5.6
PRYS				*e*S		**Sn**		**17 36 09.5**	**-1.9**
ABPO	**Ambohimpanom**	**11.92**	**98**	*e*Pn		Pn		17 34 05.0	-5.4
	comp=Z,13nm,0.7s								
SWZ	**Schweizer**	**12.82**	**221**	*e*P		**Pn**		**17 34 24.7**	**+2.1**
SWZ				*e*S		**Sn**		**17 36 43.1**	**-2.4**
SWZ				AML		AML		17 38 27.6	
	comp=Z,24nm,0.7s								
SWZ	**Schweizer**	**12.82**	**221**	*e*P		**Pn**		**17 34 24.7**	**+2.1**
SWZ				*e*S		**Sn**		**17 36 43.1**	**-2.4**
BOSA	**Boshof**	**13.91**	**217**	*e*P		Pn		17 34 40.5	+3.0
BOSA				*e*S		**Sn**		**17 37 10.0**	**-2.1**
BOSA				AML		AML		17 39 09.4	
	comp=Z,18nm,0.8s								
BOSA	**Boshof**	**13.91**	**217**	Pn		**Pn**		**17 34 39.6**	**+2.0**
BOSA				Sn		**Sn**		**17 37 08.1**	**-4.1**
BOSA				Lg		Lg		17 38 34.8	
BOSA	**Boshof**	**13.91**	**217**	Pn		**Pn**		**17 34 39.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=49,slow=17,SNR=5.5								
BOSA				Sn		**Sn**		**17 37 08.1**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=291,slow=22,SNR=3.0								
BOSA				Lg		Lg		17 38 34.8	
	comp=Z,0.6nm,0.3s,baz=134,slow=22,SNR=5.8								
BOSA				LR		LR		17 40 05.7	
	comp=Z,111nm,18.1s,baz=67,slow=37								
UPI	**Upington**	**16.31**	**227**	*e*P		**P**		**17 35 13.9**	**+1.5**
UPI				*e*S		**Sn**		**17 38 04.1**	**-6.4**
UPI				AML		AML		17 40 07.3	
	comp=Z,15nm,0.7s								
UPI	**Upington**	**16.31**	**227**	*e*P		**P**		**17 35 13.9**	**+1.5**
UPI				*e*S		**Sn**		**17 38 04.1**	**-6.4**
TSUM	**Tsumeb**	**16.35**	**262**	Pn		**Pn**		**17 35 11.7**	**+1.6**
TSUM				*e*S		**Sn**		**17 38 08.9**	**-2.9**
TSUM				Sn		**Sn**		**17 38 09.1**	**-2.7**
TSUM				Lg		Lg		17 39 59.6	
TSUM	**Tsumeb**	**16.35**	**262**	Pn		**Pn**		**17 35 11.7**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=66,slow=8.7,SNR=14								
TSUM				Sn		**Sn**		**17 38 09.1**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=3.2								
TSUM				Lg		Lg		17 39 59.6	
	comp=Z,0.4nm,0.3s,baz=112,slow=8.2,SNR=3.2								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**16.68**	**9**	Pn		**Pn**		**17 35 12.0**	**-2.3**
KMBO				Lg		Lg		17 39 55.5	
KMBO	**Kilima Mbogo**	**16.68**	**9**	Pn		**Pn**		**17 35 12.0**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=186,slow=14,SNR=4.8								
KMBO				Lg		Lg		17 39 55.5	
	comp=Z,0.2nm,0.3s,baz=272,slow=9.3,SNR=4.7								
SUR	**Sutherland**	**19.27**	**218**	P		**P**		**17 35 45.3**	**+0.1**
SUR				S		**Sn**		**17 39 17.1**	**-5.2**
SUR				Lg		Lg		17 41 26.5	
SUR	**Sutherland**	**19.27**	**218**	P		**P**		**17 35 45.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=259,slow=21,SNR=1.9								
SUR				S		**Sn**		**17 39 17.1**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=355,slow=16,SNR=2.5								
SUR				Lg		Lg		17 41 26.5	
	comp=Z,0.5nm,0.3s,baz=117,slow=20,SNR=6.1								
TORD	**Torodi Ar. Bea**	**44.78**	**311**	P		**P**		**17 39 35.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**44.78**	**311**	P		**P**		**17 39 35.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=113,slow=6.8,SNR=3.9								
BRTR	**Keskin Array B**	**57.16**	**359**	P		**P**		**17 41 08.0**	**+0.7**
BRTR	**Keskin Array B**	**57.16**	**359**	P		**P**		**17 41 08.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=171,slow=10,SNR=4.6								
ESDC	**Sonseca Array**	**67.57**	**329**	P		**P**		**17 42 18.8**	**+1.8**
ESDC	**Sonseca Array**	**67.57**	**329**	P		**P**		**17 42 18.8**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=137,slow=5.6,SNR=6.5								
AKASG	**Malin Array Be**	**68.30**	**356**	P		**P**		**17 42 21.1**	**-0.1**
AKASG	**Malin Array Be**	**68.30**	**356**	P		**P**		**17 42 21.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=179,slow=6.2,SNR=2.5								
QSPA	**South Pole Qui**	**72.41**	**180**	*e*P		**P**		**17 42 47.9**	**+1.4**
	comp=Z,1.7nm,0.7s								
QSPA	**South Pole Qui**	**72.41**	**180**	P		**P**		**17 42 47.6**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=240,slow=2.9,SNR=5.0								
CMAR	**Chiang Mai Arr**	**72.62**	**64**	P		**P**		**17 42 46.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**72.62**	**64**	P		**P**		**17 42 46.5**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=257,slow=6.9,SNR=6.2								
BVAR	**Borovoye Array**	**76.89**	**21**	P		**P**		**17 43 11.6**	**-0.7**
BVAR	**Borovoye Array**	**76.89**	**21**	P		**P**		**17 43 11.6**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=255,slow=4.5,SNR=4.6								
MKAR	**Makanchi Array**	**77.16**	**31**	P		**P**		**17 43 12.6**	**-1.4**
MKAR	**Makanchi Array**	**77.16**	**31**	P		**P**		**17 43 12.6**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=266,slow=5.5,SNR=4.3								
KURBB	**Kurchatov Arra**	**78.17**	**27**	P		**P**		**17 43 18.9**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=229,slow=6.2,SNR=7.3								
KURK	**Kurchatov**	**78.27**	**27**	P		**P**		**17 43 18.9**	**-1.2**
ZALV	**Zalesovo Beam**	**83.25**	**27**	P		**P**		**17 43 45.3**	**-1.3**
ZALV	**Zalesovo Beam**	**83.25**	**27**	P		**P**		**17 43 45.3**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=232,slow=7.1,SNR=2.6								
NVAR	**Mina Array Bea**	**148.72**	**317**	PKPbc		**PKPbc**		**17 51 08.2**	**-0.1**
NVAR	**Mina Array Bea**	**148.72**	**317**	PKPbc		**PKPbc**		**17 51 08.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=80,slow=3.6,SNR=8.4								

ISCJB ***27*** *17:36:31.6±0.6, 36°.93N±0°.03×22°.85E±0°.04, h1km±6km, Error ellipse: s-maj=5.8km s-min=4.0km az=156.0*
CSEM ***27*** *17:36:32.0±0.2, 36°.94N×22°.83E, h5km, MD3.1, Error ellipse: s-maj=4.4km s-min=2.9km az=70.0*
ATH ***27*** *17:36:32.3, 36°.92N×22°.82E, h10km±3km, MD3.1/14*
THE ***27*** *17:36:32.1, 36°.96N×22°.90E, h1km±2km, ML2.2/5, Error ellipse: s-maj=2.4km s-min=0.6km az=104.0*
ISC 27 17:36:32.4±1.0, 36°.94N±0°.02×22°.84E±0°.03, h8km±9km, n43, σ0s58/60, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.24**	**160**	P		**Pg**		**17 36 36.9**	**-0.1**
VLI				S		**Sg**		**17 36 40.3**	**0.0**
VLI	**Veliai**	**0.24**	**160**	*e*PG		**Pg**		**17 36 37.0**	**-0.1**
VLI				*e*SG		**Sg**		**17 36 40.2**	**0.0**
VLI	**Veliai**	**0.24**	**160

EKS2 Erkin-Say 7.21 26 P Pn 17 39 00.7 +0.8
SNR=47
KZA Kyzart 7.34 36 *i* PN **Pn 17 39 02.5 +0.7**
KZA Kyzart 7.34 36 P **Pn 17 39 02.6 +0.7**
SNR=110
AAK Ala-Archa 7.46 30 ⇓P **Pn 17 39 04.0 +0.7**
comp=Z,151nm,0.8s
AAK ⇓S **Sn 17 40 25.0 -1.6**
comp=Z,88nm,0.6s
AAK Ala-Archa 7.46 30*d* *i* PN **Pn 17 39 04.3 +1.1**
AAK pmax pmax
comp=Z,258nm,0.6s
AAK Ala-Archa 7.46 30 P **Pn 17 39 04.2 +1.0**
SNR=80
AAK Ala-Archa 7.46 30 P **Pn 17 39 04.3 +1.1**
comp=Z,41nm,0.3s,baz=200,slow=9.4,SNR=479
AAK S **Sn 17 40 25.3 -1.3**
comp=Z,11nm,0.3s,baz=111,slow=23,SNR=16
BHK Bhakra 7.51 128 *e*S **Sn 17 40 27.8 0.0**
KBK Karagaybulak 7.66 32 P **Pn 17 39 07.3 +1.3**
SNR=205
FRU Bishkek 7.67 29 *i* PN **Pn 17 39 08.0 +2.0**
FRU *i* 17 40 34.0
FRU pmax pmax
comp=Z,150nm,1.0s
FRU pmax pmax
comp=E,310nm,1.6s
CHMS Chumysh 7.86 29 *i* PN **Pn 17 39 09.1 +0.6**
CHMS Chumysh 7.86 29 P **Pn 17 39 09.2 +0.6**
SNR=159
ULHL Ulahol 7.95 39 *i* PN **Pn 17 39 11.0 +1.1**
ULHL Ulahol 7.95 39 P **Pn 17 39 11.0 +1.1**
SNR=43
USP Ospenovka 8.00 27 *i* PN **Pn 17 39 10.4 +0.1**
USP Ospenovka 8.00 27 P **Pn 17 39 10.5 +0.1**
SNR=47
TKM2 Tokmak 2 8.16 33 ⇑P **Pn 17 39 12.9 +0.2**
comp=E,147nm,0.7s
TKM2 ⇓S **Sn 17 40 41.9 -1.6**
comp=E,36nm,0.6s
TKM2 Tokmak 2 8.16 33 *i* PN **Pn 17 39 13.3 +0.7**
TKM2 Tokmak 2 8.16 33 P **Pn 17 39 13.3 +0.7**
SNR=77
SMLA Simla 8.18 126 *e*P **Pn 17 39 13.1 +0.3**
SMLA *e*S **Sn 17 40 40.5 -3.4**
KNDC Almaty 9.03 37 ⇓P **Pn 17 39 25.4 +1.3**
comp=E,116nm,0.8s
KNDC ⇑S **Sn 17 41 04.8 +0.6**
comp=E,32nm,0.6s
KHET Khetri 9.75 145 *e*P **Pn 17 39 31.3 -2.4**
KHET AML AML 17 40 04.2
comp=N,78nm,0.1s
KHET AML AML 17 40 04.3
comp=E,59nm,0.1s
KUDL Kundal 10.02 142 *e*P **Pn 17 39 34.5 -2.7**
MK31 Makanchi Array 14.22 38 ⇓P **Pn 17 40 31.0 -0.6**
comp=E,7.9nm,0.8s,baz=228,slow=12,SNR=57
MK31 Makanchi Array 14.22 38 *i* P **Pn 17 40 31.0 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 14.22 38 *e*P **Pn 17 40 30.9 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 14.22 38 P **Pn 17 40 30.9 -0.7**
comp=Z,0.8nm,0.3s,baz=239,slow=9.3,SNR=39
DANN Dangsing 14.40 119 *e*P **Pn 17 40 33.1 -1.1**
comp=Z,33nm,0.5s
KOLN Koldanda 14.64 121 *e*P **Pn 17 40 35.5 -1.7**
comp=Z,16nm,0.4s
AB31 Akbulak array 14.75 335 P **Pn 17 40 37.4 -0.8**
comp=Z,1.2nm,0.6s,baz=153,slow=15,SNR=40
AB31 ⇓S Sn 17 43 11.4 -10
comp=Z,1.1nm,0.3s
AB31 Akbulak array 14.75 335 P **Pn 17 40 37.8 -0.4**
AB31 S Sn 17 43 10.8 -11
AB31 pmax pmax
comp=Z,1.0nm,0.2s
AB31 smax smax
comp=Z,3.0nm,0.3s
GKN Gorkha 15.22 118 *e*P **Pn 17 40 43.2 -1.2**
comp=Z,73nm,0.4s
KURBB Kurchatov Arra 15.78 22 ⇑P **Pn 17 40 48.6 -2.2**
comp=Z,10nm,0.6s
KURBB Kurchatov Arra 15.78 22 P **Pn 17 40 49.5 -1.3**
comp=Z,1.9nm,0.3s,baz=0.4,slow=12,SNR=73
DMN Daman 15.79 119 *e*P **Pn 17 40 50.5 -1.0**
comp=Z,32nm,0.5s
KKN Kakani 15.81 118 *e*P **Pn 17 40 51.2 -0.4**
comp=Z,40nm,0.6s
KURK Kurchatov 15.88 22 ⇓P **Pn 17 40 50.8 -1.4**
comp=Z,4.4nm,0.7s
KURK Kurchatov 15.88 22 P **Pn 17 40 50.7 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.7s
PKIN Phulchoki 16.02 118 *e*P **Pn 17 40 54.4 +0.1**
comp=Z,22nm,0.4s
PKI Pulchoki 16.03 118 *e*P **P 17 40 54.7 -0.3**
comp=Z,26nm,0.5s
GUN Gumba 16.17 116 *e*P **P 17 40 56.8 +0.3**
comp=Z,53nm,0.5s
AKTO Aktyubinsk 16.43 333 ⇑P **Pn 17 40 57.9 -0.9**
comp=Z,4.5nm,1.1s
AKTO ⇓S S 17 43 52.4 -8.7
comp=Z,9.5nm,1.4s
AKTO Aktyubinsk 16.43 333 P **Pn 17 40 58.5 -0.3**
AKTO S S 17 43 51.7 -9.3
AKTO Aktyubinsk 16.43 333 P **Pn 17 40 58.5 -0.3**
comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=5.3
AKTO S S 17 43 51.7 -9.3
comp=Z,0.2nm,0.3s,baz=311,slow=20,SNR=2.2
VOSK Vostochnaya 16.50 3 ⇑P **P 17 40 58.3 -1.4**
comp=Z,9.2nm,1.3s
VOSK Vostochnaya 16.50 3 P **P 17 40 58.2 -1.4**
VOSK pmax pmax
comp=Z,9.0nm,1.3s
JIRN Jiri 16.54 116 *e*P **Pn 17 41 00.8 +0.1**
comp=Z,62nm,0.4s
BVAR Borovoye Array 16.79 2 P **P 17 41 02.6 -0.1**
BVAR S S 17 44 00.1 -9.4
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 16.79 2 P **P 17 41 02.6 -0.1**
comp=Z,1.1nm,0.3s,baz=168,slow=10,SNR=22
BVAR S S 17 44 00.1 -9.4
baz=206,slow=16,SNR=2.1
BRVK Borovoye 16.82 2 ⇓P **P 17 41 02.4 -0.6**
comp=Z,5.5nm,0.5s
BRVK ⇑S S 17 44 02.2 -8.0
comp=Z,6.6nm,0.9s
BRVK Borovoye 16.82 2 P **P 17 41 02.4 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.5s
RAMN Ramite 17.25 118 *e*P **P 17 41 08.5 +0.2**
comp=Z,18nm,0.4s
TAPN Taplejung 17.82 115 *e*P **Pn 17 41 16.2 +0.2**
comp=Z,18nm,0.4s
ODAN Odare 17.87 117 *e*P **Pn 17 41 16.6 +0.1**
comp=Z,53nm,0.9s
ZALV Zalesovo Beam 20.66 26 *e*P **P 17 41 45.3 +0.6**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV Zalesovo Beam 20.66 26 P **P 17 41 45.4 +0.6**
comp=Z,5.4nm,0.4s,baz=222,slow=10.0,SNR=49
ZALV S **S 17 45 25.6 -1.6**
comp=Z,1.0nm,0.7s,baz=212,slow=19,SNR=2.9
NVS Novosibirsk 20.86 23 *e*P **P 17 41 47.0 +0.1**
BRTR Keskin Array B 28.36 288 P **P 17 42 57.6 +0.5**
comp=Z,0.4nm,0.7s,baz=108,slow=9.3,SNR=2.8
SONM Songino Array 29.48 55 P **P 17 43 08.8 +1.9**
comp=Z,0.3nm,0.5s,baz=266,slow=8.7,SNR=5.8
CMAR Chiang Mai Arr 31.41 116 P **P 17 43 24.6 +0.5**
comp=Z,1.4nm,0.8s,baz=292,slow=8.0,SNR=13
AKASG Malin Array Be 32.16 309 P **P 17 43 30.6 +0.3**
AKASG *PP **pP 17 44 06.6 +4.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 32.16 309 P **P 17 43 30.6 +0.3**
comp=Z,0.4nm,0.3s,baz=83,slow=7.6,SNR=3.7
AKASG pP **pP 17 44 06.6 +4.5**
comp=Z,0.6nm,0.5s,baz=84,slow=7.5,SNR=2.5
FINES FINESS Array B 37.02 327 P **P 17 44 11.8 0.0**
comp=Z,2.0nm,0.7s,baz=101,slow=9.9,SNR=3.5
ARCES ARCESS Array B 40.92 338 P **P 17 44 44.3 +0.2**
comp=Z,6.1nm,1.1s,baz=98,slow=7.4,SNR=6.7
PSI Prapat 42.96 134 P **P 17 45 00.9 -0.6**
comp=Z,5.9nm,0.5s,baz=325,slow=7.6,SNR=8.5
NB2 NORSAR Subarra 43.85 323 P **P 17 45 07.2 -0.8**
comp=Z,1.2nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 43.85 323 P **P 17 45 07.5 -0.5**
comp=Z,2.0nm,0.6s,baz=98,slow=8.0,SNR=5.8
ESDC Sonseca Array 56.50 297 P **P 17 46 42.6 -0.9**
comp=Z,0.5nm,0.5s,baz=48,slow=7.9,SNR=3.8
TORD Torodi Ar. Bea 64.50 268 P **P 17 47 35.6 -2.4**
comp=Z,1.2nm,0.7s,baz=51,slow=5.0,SNR=6.6
LBTB Lobatse 73.69 221 P **P 17 48 33.8 -0.7**
comp=Z,3.1nm,0.7s,baz=78,slow=3.5,SNR=6.7
ILAR Eielson Array 75.34 15 P **P 17 48 43.1 -0.3**
comp=Z,0.9nm,1.0s,baz=355,slow=3.0,SNR=7.3
ILAR pP **pP 17 49 23.4 +3.3**
comp=Z,1.1nm,1.1s,baz=252,slow=4.5,SNR=3.7
BOSA Boshof 76.78 219 P **P 17 48 51.1 -1.0**
comp=Z,2.3nm,0.8s,baz=22,slow=5.4,SNR=3.3
YKA Yellowknife Ar 81.54 2 P **P 17 49 17.7 +0.3**
comp=Z,0.3nm,0.7s,baz=350,slow=5.1,SNR=6.7
YKA pP **pP 17 49 57.8 +3.1**
comp=Z,0.5nm,0.7s,baz=350,slow=5.6,SNR=4.4
WRA Warramunga Arr 82.90 121 P **P 17 49 23.2 -1.9**
comp=Z,1.8nm,1.0s,baz=322,slow=5.0,SNR=19
ASAR Alice Springs 85.11 124 P **P 17 49 34.6 -1.6**
comp=Z,1.0nm,0.5s,baz=309,slow=4.8,SNR=31
CFAA Coronel Fontan 144.83 265 PKP PKPbc 17 56 34.4 -1.3
comp=Z,0.3nm,0.6s,baz=171,slow=2.6,SNR=5.3

*ISCJB **27** 17:37:41.0±0.8, 44.6°S±0.2°×37.4°E±0.2°, h10km, mb3.8/9, MS3.5/1, Error ellipse: s-maj=25.1km s-min=22.2km az=33.6*
*IDC **27** 17:37:41.3±0.7, 44.66°S×37.52°E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/32, mbtmp3.8/8, MS3.6/1, Ms1 3.5/1, ms1mx3.0/34, Error ellipse: s-maj=24.9km s-min=22.7km az=64.0*
*NEIC **27** 17:37:42.8±0.4, 44.65°S×37.48E, h10km, mb4.3/2, Error ellipse: s-maj=15.4km s-min=13.5km az=79.0*
ISC 27 17:42:45.7±0.6, 44.75°S±0.1×37.5°E±0.2, h10km, n32, σ0s49/26, mb4.0/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAW	**Mawson**	**26.62**	**158**	LR		LR	17 51 01.4	
	comp=Z,146nm,21.7s,baz=50,slow=30							
SNAA	**Sanae**	**33.22**	**202**	P		**P**	**17 44 19.4**	**-0.1**
SNAA	**Sanae**	**33.22**	**202**	P		**P**	**17 44 19.4**	**-0.1**
	0.5nm,0.9s,baz=114,slow=10.0,SNR=3.5							
H09W1	**TRISTAN DA CUN**	**37.92**	**264**	T		T	18 24 53.3	
	SNR=4.1							
QSPA	**South Pole Qui**	**45.57**	**180**	P		**P**	**17 46 02.4**	**-0.1**
QSPA	**South Pole Qui**	**45.57**	**180**	P		**P**	**17 46 02.4**	**-0.1**
	1.3nm,0.7s,baz=186,slow=3.1,SNR=4.3							
H10S2	**ASCENSION HYDR**	**57.23**	**292**	T		T	18 49 25.6	
	baz=140							
H10S1	**ASCENSION HYDR**	**57.25**	**292**	T		T	18 49 26.8	
	baz=140							
H10S3	**ASCENSION HYDR**	**57.25**	**292**	T		T	18 49 26.6	
	baz=140							
TORD	**Torodi Ar. Bea**	**66.06**	**321**	P		**P**	**17 48 30.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**66.06**	**321**	P		**P**	**17 48 30.2**	**+0.4**
	1.2nm,0.7s,baz=154,slow=6.9,SNR=7.1							
STKA	**Stephens Creek**	**77.29**	**122**	*e*P		**P**	**17 49 38.2**	**+0.8**
	0.9nm,0.8s							
STKA	**Stephens Creek**	**77.29**	**122**	P		**P**	**17 49 38.1**	**+0.7**
	4.0nm,0.8s,baz=223,slow=3.4,SNR=5.1							
ASAR	**Alice Springs**	**78.09**	**111**	P		**P**	**17 49 42.5**	**+0.5**
ASAR	**Alice Springs**	**78.09**	**111**	P		**P**	**17 49 42.5**	**+0.5**
	1.7nm,0.9s,baz=236,slow=4.8,SNR=10							
CFAA	**Coronel Fontan**	**78.45**	**237**	P		**P**	**17 49 43.7**	**-0.2**
CFAA	**Coronel Fontan**	**78.45**	**237**	P		**P**	**17 49 43.7**	**-0.2**
	0.2nm,0.8s,baz=80,slow=11,SNR=2.7							
WRA	**Warramunga Arr**	**80.95**	**109**	P		**P**	**17 49 57.5**	**-0.1**
WRA	**Warramunga Arr**	**80.95**	**109**	P		**P**	**17 49 57.5**	**-0.1**
	1.5nm,0.9s,baz=219,slow=3.4,SNR=4.9							
WRAB	**Tennant Creek**	**80.96**	**109**	*e*P		P	17 49 53.0	-4.7
	7.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**84.07**	**57**	P		**P**	**17 50 12.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**84.07**	**57**	P		**P**	**17 50 12.5**	**-1.2**
	0.3nm,0.8s,baz=224,slow=6.3,SNR=4.0							
TXAR	**Lajitas Array**	**145.77**	**257**	PKPbc		**PKPbc**	**17 57 22.1**	**+0.1**
TXAR	**Lajitas Array**	**145.77**	**257**	PKPbc		**PKPbc**	**17 57 22.1**	**+0.1**
	1.8nm,0.7s,baz=138,slow=5.6,SNR=6.1							
ULM	**Lac du Bonnet**	**148.39**	**297**	PKPbc		**PKPbc**	**17 57 28.6**	**-0.1**
ULM	**Lac du Bonnet**	**148.39**	**297**	PKPbc		**PKPbc**	**17 57 28.6**	**-0.1**
	2.6nm,0.9s,baz=196,slow=0.2,SNR=3.5							
ANMO	**Albuquerque**	**150.86**	**263**	PKPbc		**PKPbc**	**17 57 35.4**	**-0.1**
ANMO	**Albuquerque**	**150.86**	**263**	PKPbc		**PKPbc**	**17 57 35.4**	**-0.1**
	1.6nm,0.7s,baz=194,slow=4.8,SNR=4.7							
YKA	**Yellowknife Ar**	**155.94**	**328**	PKPab		**PKPab**	**17 58 03.2**	**0.0**
YKA	**Yellowknife Ar**	**155.94**	**328**	PKPab		**PKPab**	**17 58 03.2**	**0.0**
	0.4nm,0.7s,baz=50,slow=4.6,SNR=6.3							
ILAR	**Eielson Array**	**159.68**	**5**	PKPab		**PKPab**	**17 58 19.7**	**+0.4**
ILAR	**Eielson Array**	**159.68**	**5**	PKPab		**PKPab**	**17 58 19.7**	**+0.4**
	0.3nm,0.9s,baz=316,slow=3.8,SNR=3.1							

*MOS **27** 17:42:43.8±0.9, 13.93°×14.58W, h10km, mb6.0/86, MS5.6/42, Error ellipse: s-maj=11.5km s-min=4.1km az=69.7*
*IDC **27** 17:42:43.6±0.3, 14.03°×14.51W, h0km, mb4.9/36, mb1 5.0/36, mb1mx5.0/39, mbtmp4.9/36, MS5.4/35, Ms1 5.4/35, ms1mx5.3/37, Error ellipse: s-maj=11.0km s-min=10.1km az=170.0*
*ISCJB **27** 17:42:43.9±0.1, 14.02°S±0.03°×14.50W±0.02, h10km, mb5.6/228, MS5.6/216, Error ellipse: s-maj=4.3km s-min=2.9km az=154.9*
*GCMT **27** 17:42:45.2±0.1, 14.04°S×14.43W, h12km, MW5.8/121, Moment Tensor Solution. s100,c183; s121,c393; Duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr-5.96±.05; Mθθ0.50±.06; Mϕϕ5.46±.05; Mrθ-0.07±.15; Mθϕ-2.46±.05; Mϕr0.37±.15; Best double couple: M:6.22800×10^17 NP1:ϕs158.00000°, δ47.00000°, λ-89.00000°. NP2:ϕs337.00000°, δ43.00000°, λ-91.00000°. Principal axes: T 6.4840, Plg2.0000°, Azm248.0000°; N -0.5110, Plg1.0000°, Azm338.0000°; P -5.9720, Plg88.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **27** 17:42:45.1, 13.77S×14.93W, h11km, mB6.0/31, Ms5.9/26, Ms7 5.6/32*
*NEIC **27** 17:42:45.1±0.1, 14.10S×14.55W, h10km, mb6.0/109, MS5.6/148, MW5.8, Error ellipse: s-maj=4.5km s-min=3.9km az=163.0*
*SZGRF **27** 17:42:52.7, 13.625S×12.97W, h33km, mb6.1, MS5.7, Southern Mid-Atlantic Ridge*
*NEIC **27** 17:42:59.2±0.0, 13.58S×14.56W, h10km, Moment Tensor Solution. s139 Moment tensor: Scale 10^17Nm; Mrr-5.91; Mθθ0.54; Mϕϕ5.37; Mrθ2.98; Mθϕ-1.76; Mrϕ1.34; Best double couple: M:6.70000×10^17 NP1:ϕs184.00000°, δ52.00000°, λ-58.00000°. NP2:ϕs320.00000°, δ48.00000°, λ-122.00000°. Principal axes: T 5.9600, Plg1.0000°, Azm253.0000°; N 1.4000, Plg23.0000°, Azm343.0000°; P -7.3600, Plg66.0000°, Azm158.0000°;*
ISC 27 17:42:45.7±0.6, 14.11S±0.04×14.49W±0.04, h13km±3km, n1100, σ1s37/1021, mb5.8/228, MS5.6/216, 66C-30D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**5.12**	**358**	T		T	17 49 24.0	
	baz=176,slow=74,SNR=3289							
H10S3	**ASCENSION HYDR**	**5.12**	**358**	T		T	17 49 25.3	
	baz=176,slow=74,SNR=2186							
H10S1	**ASCENSION HYDR**	**5.13**	**358**	T		T	17 49 25.3	
	baz=176,slow=74,SNR=2488							
ASCN	**Ascension**	**6.14**	**1**	Pn		**Pn**	**17 44 17.6**	**+1.4**
	2μm,1.3s,SNR=5.2							
ASCN	**Ascension**	**6.14**	**1**	*e*P		**Pn**	**17 44 15.4**	**-0.7**
	619nm,1.3s							
H10N1	**ASCENSION HYDR**	**6.22**	**0**	T		T	17 50 48.9	
	baz=179,slow=72,SNR=120							
H10N3	**ASCENSION HYDR**	**6.23**	**360**	T		T	17 50 40.7	
	baz=179,slow=72,SNR=800							
H10N2	**ASCENSION HYDR**	**6.24**	**360**	T		T	17 50 41.7	
	baz=179,slow=72,SNR=238							
SHEL	**Horse Pasture**	**8.64**	**103**	Pn		**Pn**	**17 44 48.7**	**-2.0**
	2μm,0.9s,SNR=5.0							
SHEL	**Horse Pasture**	**8.64**	**103**	*e*P		**Pn**	**17 44 47.9**	**-2.8**
SHEL	**Horse Pasture**	**8.64**	**103**	*e*Pn		**Pn**	**17 44 47.9**	**-2.8**
LIC	**Lamto**	**22.27**	**26**	*e*P		**P**	**17 47 43.1**	**+0.3**
	976nm,1.7s,baz=215							
LIC				*e*R				
	32μm,23.0s							
LIC	**Lamto**	**22.27**	**26**	*e*P		**P**	**17 47 42.9**	**+0.1**
	720nm,1.7s							
LIC	**Lamto**	**22.27**	**26**	*e*P		**P**	**17 47 43.1**	**+0.3**
	976nm,1.7s							
KIC	**Kosan Boka**	**22.52**	**26**	*e*P		**P**	**17 47 45.7**	**+0.3**
	2μm,1.7s							
RCBR	**Riachuelo**	**22.62**	**289**	*e*P		**P**	**17 47 46.1**	**-0.5**
	40nm,1.1s							
RCBR	**Riachuelo**	**22.62**	**289**	P		**P**	**17 47 46.3**	**-0.3**
	42nm,0.9s,baz=108,slow=10,SNR=9.3							
RCBR				LR		LR	17 54 12.6	
	comp=Z,17μm,21.8s,baz=100,slow=30							
TIC	**Toumodi**	**22.66**	**25**	*e*P		**P**	**17 47 47.6**	**+0.7**
	974nm,1.8s							
DBIC	**Dimbokro**	**22.75**	**25**	⇑*i*P		**P**	**17 47 45.2**	**-2.6**
DBIC	**Dimbokro**	**22.75**	**25**	*e*P		**P**	**17 47 46.8**	**-1.0**
	1μm,2.1s							
DBIC	**Dimbokro**	**22.75**	**25**	P		**P**	**17 47 47.5**	**-0.3**
	22nm,0.7s,baz=184,slow=11,SNR=21							
DBIC				LR		LR	17 54 30.6	
	comp=Z,14μm,19.5s,baz=180,slow=31							
H09W1	**TRISTAN DA CUN**	**22.98**	**176**	T		T	18 11 38.5	
	SNR=16							
BBTS	**Babate**	**28.65**	**356**	P		**P**	**17 48 42.1**	**-0.2**
BBTS	**Babate**	**28.65**	**356**	P		**P**	**17 48 42.1**	**-0.2**
	64nm,0.8s,baz=57,slow=0.8,SNR=16							
BBTS				LR		LR	17 58 27.4	
	comp=Z,10μm,18.7s,baz=186,slow=33							
SACV	**Santiago Islan**	**30.27**	**342**	PFAKE			17 49 10.0	+13
SACV				LR		LR		
	comp=Z,3μm,19.0s							
TSUM	**Tsumeb**	**31.11**	**104**	*e*P		**P**	**17 49 04.2**	**-0.2**
	comp=Z,64nm,1.4s							
TSUM				LR		LR		
	comp=Z,15μm,21.0s							
TSUM	**Tsumeb**	**31.11**	**104**	P		**P**	**17 49 05.0**	**+0.6**
	comp=Z,8.7nm,0.8s,baz=267,slow=8.4,SNR=11							
TOA0	**Torodi Ar. Sit**	**31.47**	**31**	*e*P		**P**	**17 49 05.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**31.47**	**31**	P		**P**	**17 49 06.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**31.47**	**31**	P		**P**	**17 49 06.5**	**-0.8**
	comp=Z,25nm,0.8s,baz=213,slow=8.5,SNR=91							
TORD				LR		LR	18 00 01.0	
	comp=Z,16μm,18.3s,baz=210,slow=33							
BDFB	**Brasilia**	**32.42**	**263**	P		**P**	**17 49 16.6**	**+0.7**
BDFB	**Brasilia**	**32.42**	**263**	P		**P**	**17 49 16.6**	**+0.7**
	comp=Z,8.9nm,0.6s,baz=86,slow=8.8,SNR=7.1							
BDFB				LR		LR	17 59 51.0	
	comp=Z,18μm,21.3s,baz=86,slow=32							
KOMG	**Komaggas**	**33.37**	**123**	*e*P		**P**	**17 49 24.3**	**+0.4**
KOMG				AMB		AMB	17 49 26.2	
	comp=Z,199nm,2.5s							
KOMG	**Komaggas**	**33.37**	**123**	*e*P		**P**	**17 49 24.3**	**+0.4**
UPI	**Upington**	**36.05**	**119**	*e*P		**P**	**17 49 47.6**	**+0.3**
UPI				AMB		AMB	17 49 54.7	
	comp=Z,224nm,1.3s							
UPI	**Upington**	**36.05**	**119**	*e*P		**P**	**17 49 47.6**	**+0.3**
SUR	**Sutherland**	**36.96**	**126**	P		**P**	**17 49 56.9**	**+1.8**
	comp=Z,1μm,1.2s,SNR=11							
SUR	**Sutherland**	**36.96**	**126**	*e*P		**P**	**17 49 55.4**	**+0.3**
	comp=Z,392nm,1.2s							
SUR	**Sutherland**	**36.96**	**126**	P		**P**	**17 49 55.6**	**+0.5**
	comp=Z,126nm,0.9s,baz=285,slow=5.2,SNR=30							
SUR				LR		LR	18 01 44.0	
	comp=Z,7μm,20.3s,baz=280,slow=31							
LBTB	**Lobatse**	**39.16**	**112**	*e*P		**P**	**17 50 13.8**	**+0.2**
	comp=Z,385nm,1.9s							
LBTB	**Lobatse**	**39.16**	**112**	P		**P**	**17 50 13.9**	**+0.2**
	comp=Z,25nm,0.9s,baz=287,slow=9.9,SNR=25							
LBTB				LR		LR	18 04 12.2	
	comp=Z,8μm,18.8s,baz=280,slow=33							
SWZ	**Schweizer**	**39.30**	**116**	*e*P		**P**	**17 50 16.1**	**+1.2**
SWZ				AMB		AMB	17 50 22.2	
	comp=Z,409nm,1.2s							
SWZ	**Schweizer**	**39.30**	**116**	*e*P		**P**	**17 50 16.1**	**+1.2**
BOSA	**Boshof**	**39.53**	**118**	*e*P		**P**	**17 50 16.4**	**-0.4**
BOSA				AMB		AMB	17 50 18.4	
	comp=Z,140nm,1.3s							
BOSA	**Boshof**	**39.53**	**118**	*e*P		**P**	**17 50 15.8**	**-0.9**
	comp=Z,225nm,1.3s							
BOSA	**Boshof**	**39.53**	**118**	P		**P**	**17 50 16.8**	**+0.1**
	comp=Z,76nm,0.9s,baz=289,slow=7.2,SNR=50							
BOSA				LR		LR	18 03 26.7	
	comp=Z,12μm,21.9s,baz=282,slow=31							
HVD	**Gariep Dam**	**40.21**	**121**	⇑*i*P		**P**	**17 50 22.9**	**+0.5**
HVD				AMB		AMB	17 50 23.7	
	comp=Z,196nm,2.5s							
HVD	**Gariep Dam**	**40.21**	**121**	⇑*i*P		**P**	**17 50 22.9**	**+0.5**
HVD	**Gariep Dam**	**40.21**	**121**	⇑*i*P		**P**	**17 50 22.9**	**+0.5**
WDLM	**Western Deep L**	**41.00**	**114**	*e*P		**P**	**17 50 27.9**	**-1.2**
WDLM				AMB		AMB	17 50 36.7	
	comp=Z,54nm,1.6s							
PRYS	**Parys**	**41.03**	**115**	*e*P		**P**	**17 50 29.7**	**+0.5**
PRYS				AMB		AMB	17 50 35.9	
	comp=Z,58nm,1.5s							
PRYS	**Parys**	**41.03**	**115**	*e*P		**P**	**17 50 29.7**	**+0.5**
KLOF	**Kloof**	**41.16**	**114**	*e*P		**P**	**17 50 31.4**	**+1.0**
KLOF				AMB		AMB	17 50 31.5	
	comp=Z,98nm,2.5s							
KLOF	**Kloof**	**41.16**	**114**	*e*P		**P**	**17 50 31.4**	**+1.0**
LSZ	**Lusaka**	**41.25**	**97**	*e*P		**P**	**17 50 32.0**	**+0.9**
	comp=Z,107nm,1.6s							
LSZ	**Lusaka**	**41.25**	**97**	P		**P**	**17 50 32.0**	**+0.9**
	comp=Z,13nm,0.8s,baz=316,slow=6.1,SNR=26							
LSZ				LR		LR	18 05 01.1	
	comp=Z,11μm,21.5s,baz=322,slow=32							
OBSV	**Observatory**	**41.55**	**114**	*e*P		**P**	**17 50 34.3**	**+0.7**
OBSV				AMB		AMB	17 50 41.3	
	comp=Z,202nm,1.3s							
OBSV	**Observatory**	**41.55**	**114**	*e*P		**P**	**17 50 34.3**	**+0.7**
TAM	**Tamanrasset**	**41.58**	**28**	*e*P		**P**	**17 50 34.4**	**+0.7**
TAM				pmax		pmax		
	comp=Z,65nm,1.6s							
TAM				MLR		MLR		
	comp=Z,9μm,20.0s							
TAM	**Tamanrasset**	**41.58**	**28**	*e*P		**P**	**17 50 34.4**	**+0.7**
	comp=Z,65nm,1.6s							
TAM				LR		LR		
	comp=Z,9μm,20.0s							
SLR	**Silverton**	**41.67**	**113**	*e*P		**P**	**17 50 35.0**	**+0.5**
SLR				AMB		AMB	17 50 42.2	
	comp=Z,176nm,1.4s							
SLR	**Silverton**	**41.67**	**113**	*e*P		**P**	**17 50 35.0**	**+0.5**
SLR	**Silverton**	**41.67**	**113**	*e*P		**P**	**17 50 35.0**	**+0.5**
ERPM	**east rand prop**	**41.72**	**114**	*e*P		**P**	**17 50 35.1**	**+0.2**
ERPM				AMB		AMB	17 50 36.2	
	comp=Z,157nm,2.3s							
ERPM	**east rand prop**	**41.72**	**114**	*e*P		**P**	**17 50 35.1**	**+0.2**
CPUP	**Villa Florida**	**41.82**	**246**	*e*P		**P**	**17 50 34.5**	**-1.0**
	comp=Z,6.0nm,1.1s							
CPUP	**Villa Florida**	**41.82**	**246**	P		**P**	**17 50 35.8**	**+0.3**
	comp=Z,14nm,0.8s,baz=78,slow=9.2,SNR=13							
CPUP				LR		LR	18 05 43.5	
	comp=Z,17μm,19.6s,baz=88,slow=33							
MSNA	**Messina**	**42.94**	**108**	*e*P		**P**	**17 50 45.2**	**+0.5**
MSNA				AMB		AMB	17 50 46.8	
	comp=Z,139nm,1.4s							
MSNA	**Messina**	**42.94**	**108**	*e*P	

comp=Z,5µm,20.0s
TRQA Tornquist 48.23 231 eP P 17 51 26.4 -0.1
comp=Z,143nm,1.2s
TRQA LR LR
comp=Z,11µm,22.0s
ODJA Bouhanifia 51.01 15 P P 17 51 48.0 +0.5
MORF Marmelete 51.43 6 eP P 17 51 50.3 -0.4
comp=Z,214nm,2.0s
PVAQ Vaqueiros 51.63 7 eP P 17 51 52.6 +0.5
comp=Z,116nm,1.7s
PVAQ eS S 17 59 19.4 +6.5
PVAQ eLR LR 18 07 53.1
comp=Z,3µm,22.0s
PTEO Sao Teotonio 51.66 6 eP P 17 51 53.7 +1.4
comp=Z,303nm,1.8s
CFAA Coronel Fontan 51.99 241 P P 17 51 54.2 -0.9
CFAA Coronel Fontan 51.99 241 P P 17 51 54.2 -0.9
comp=Z,1.4nm,0.8s,baz=77,slow=6.1,SNR=21
LVC Limon Verde 52.11 252 eP P 17 51 53.3 -3.1
comp=Z,34nm,1.0s
LVC LR LR
comp=Z,7µm,19.0s
BBGH Gun Hill 52.21 299 PFAKE 17 52 10.0 +13
BBGH LR LR
comp=Z,6µm,21.0s
PBEJ Beja 52.23 7 eP P 17 51 57.8 +1.3
comp=Z,118nm,1.9s
PNCL Nicolau / Gran 52.24 6 eP P 17 51 58.0 +1.4
comp=Z,166nm,1.8s
PB09 Plate Boundary 52.43 253 ⇑iP P 17 51 59.5 +0.8
PB04 Plate Boundary 52.65 253 ⇑iP P 17 52 04.8 +4.8
PB01 Plate Boundary 52.68 254 ⇑iP P 17 51 58.9 -1.5
EVOP Sao Brissos 52.69 6 eP P 17 52 00.4 +0.4
EVOP pmax pmax
comp=Z,670nm,1.9s
EVOP Sao Brissos 52.69 6 eP P 17 52 00.4 +0.4
comp=Z,670nm,1.9s
EVO Evora 52.71 6 eP P 17 52 00.4 +0.3
comp=Z,670nm,1.9s
EVO eR
comp=Z,5µm,22.8s
EVO Evora 52.71 6 eP P 17 51 59.6 -0.5
comp=Z,221nm,2.1s
PB06 Plate Boundary 52.72 252 ⇑iP P 17 52 01.6 +0.8
KMBO Kilima Mbogo 52.74 81 eP P 17 52 02.6 +1.4
comp=Z,137nm,1.4s
KMBO Kilima Mbogo 52.74 81 P P 17 52 02.5 +1.4
comp=Z,27nm,1.0s,baz=248,slow=8.0,SNR=45
KMBO LR LR 18 12 01.0
comp=Z,8µm,19.7s,baz=239,slow=33
MNMC Minimini 52.87 257 ⇑iP P 17 52 01.9 -0.2
PB11 Plate Boundary 52.89 256 ⇑iP P 17 52 01.7 -0.4
PMAFR Mafra 53.01 5 eP P 17 52 04.0 +1.7
comp=Z,382nm,1.8s
PB07 Plate Boundary 53.03 253 ⇑iP P 17 52 03.0 -0.1
HMBC Humberstone 53.09 255 ⇑iP P 17 52 02.5 -1.0
PESTR Estremoz 53.09 7 eP P 17 52 04.3 +1.4
comp=Z,171nm,1.8s
PMTG Montargil 53.22 6 eP P 17 52 05.2 +1.4
comp=Z,191nm,2.1s
PATCX Punta Patache 53.31 254 ⇑iP P 17 52 06.1 +1.0
PSGC Pisagua 53.34 256 ⇑iP P 17 52 04.1 -1.3
GRGR Grenville 53.52 297 PFAKE 17 52 20.0 +13
GRGR LR LR
comp=Z,2µm,21.0s
PMRV Marv??o 53.66 7 eP P 17 52 08.1 +0.9
comp=Z,212nm,2.0s
PMRV eS S 17 59 45.9 +5.1
PMRV eLR LR 18 08 41.9
comp=Z,1µm,20.0s
PTOM Tomar 53.74 6 eP P 17 52 09.1 +1.4
comp=Z,244nm,2.1s
LCO Las Campanas 53.88 244 ⇑iP P 17 52 09.8 +0.4
LCO Las Campanas 53.88 244 eP P 17 52 09.3 -0.1
comp=Z,190nm,1.0s
LCO LR LR
comp=Z,11µm,19.0s
H05S1 Guadeloupe/Mar 53.92 300 T T 18 50 23.5
SNR=30
PCBR Castelo Branco 54.06 7 eP P 17 52 10.2 +0.2
comp=Z,106nm,1.9s
PCAS Casmilo, Conde 54.17 6 eP P 17 52 12.6 +1.8
comp=Z,181nm,1.9s
PAB San Pablo 54.20 10 eP P 17 52 11.0 -0.2
PAB pmax pmax
comp=Z,35nm,2.0s
PAB MLR MLR
comp=Z,5µm,22.0s
PAB San Pablo 54.20 10 eP P 17 52 10.9 -0.2
comp=Z,35nm,2.0s
PAB LR LR
comp=Z,5µm,22.0s
FDF Fort de France 54.34 300 PFAKE 17 52 20.0 +7.5
FDF LR LR
comp=Z,1µm,19.0s
ESDC Sonseca Array 54.39 10 P P 17 52 12.4 -0.2
ESDC Sonseca Array 54.39 10 P P 17 52 12.4 -0.2
comp=Z,11nm,0.7s,baz=184,slow=8.1,SNR=35
ESDC LR LR 18 14 36.2
comp=Z,3µm,18.3s,baz=175,slow=35
ESLA Sonseca Array 54.39 10 eP P 17 52 11.4 -1.1
comp=Z,20nm,1.3s
KEST Kesra 54.46 24 eP P 17 52 13.8 +0.7
KEST Kesra 54.46 24 P P 17 52 14.0 +0.9
comp=Z,11nm,0.9s,baz=167,slow=7.7,SNR=13
KEST LR LR 18 14 10.4
comp=Z,3µm,21.1s,baz=166,slow=35
ROCH El Roble 54.48 239 ⇑iP P 17 52 13.3 -0.3
MTE Manteigas 54.61 7 eP P 17 52 14.2 +0.1
comp=Z,169nm,2.1s
MTE eS S 17 59 57.5 +3.9
MTE eLR LR 18 08 53.7
comp=Z,3µm,18.0s
MTE Manteigas 54.61 7 eP P 17 52 14.0 -0.1
comp=Z,73nm,0.9s
MTE LR LR
comp=Z,3µm,19.0s
PVIS Viseu 54.88 6 eP P 17 52 18.0 +1.9
comp=Z,140nm,1.8s
H05N1 Guadeloupe/Mar 55.05 302 T T 18 51 45.9
PLCA Paso Flores 55.32 230 eP P 17 52 20.6 +1.2
comp=Z,62nm,1.5s
PLCA Paso Flores 55.32 230 P P 17 52 19.9 +0.5
comp=Z,2.5nm,0.7s,baz=41,slow=1.9,SNR=5.3
PLCA LR LR 18 12 27.3
comp=Z,7µm,21.6s,baz=86,slow=32
MVO Moncorvo 55.42 7 eP P 17 52 20.5 +0.5
comp=Z,239nm,1.6s
MVO eS S 18 00 12.5 +8.0
MVO eLR LR 18 09 26.9
comp=Z,3µm,18.0s
PVRL Vila Real 55.46 6 eP P 17 52 21.9 +1.7
comp=Z,164nm,1.8s
POLO Lamas de Olo 55.55 6 eP P 17 52 21.1 +0.2
comp=Z,56nm,1.6s
PCAB Cabril 55.85 6 eP P 17 52 24.1 +1.1
comp=Z,320nm,1.9s
PBRG Braganca 56.09 7 eP P 17 52 25.7 +1.0
comp=Z,116nm,1.9s
ANWB Willy Bob 56.34 303 PFAKE 17 52 40.0 +13
ANWB LR LR
comp=Z,1µm,19.0s
WDD Wield Dalam 56.78 28 PFAKE 17 52 40.0 +10
WDD LR LR
comp=Z,6µm,21.0s
COYC Coyhaique 57.48 225 ⇑iP P 17 52 35.4 +0.8
FURI Furi 57.48 70 eP P 17 52 38.9 +3.4
FURI S S 18 00 43.5 +10
VSL Villasalto 57.78 22 PFAKE 17 52 50.0 +13
VSL LR LR
comp=Z,6µm,21.0s
SNAA Sanae 57.97 176 ⇑iP P 17 52 38.6 +0.9
SNAA Sanae 57.97 176 eP P 17 52 37.3 -0.4
comp=Z,196nm,1.2s
SNAA Sanae 57.97 176 P P 17 52 37.6 -0.1
comp=Z,7.3nm,1.0s,baz=344,slow=7.6,SNR=26
ETSF Etsaut 58.15 12 eP P 17 52 39.1 -0.2
ETSF Etsaut 58.15 12 eP P 17 52 39.1 -0.2
ETSF Etsaut 58.15 12 eP P 17 52 39.1 -0.2
LARF Larrau 58.20 12 eP P 17 52 40.2 +0.6
SJPF Ste Jean 58.22 11 eP P 17 52 39.7 0.0
SJPF Ste Jean 58.22 11 eP P 17 52 39.7 0.0
SJPF Ste Jean 58.22 11 eP P 17 52 39.7 0.0
VIEF Viey 58.25 13 eP P 17 52 40.5 +0.5
ATE Arette 58.30 12 eP P 17 52 40.9 +0.6
CHRN Cochrane 58.31 223 ⇑iP P 17 52 40.6 +0.2

OSSF Osses 58.35 11 eP P 17 52 40.9 +0.3
MELF Melles 58.40 13 eP P 17 52 42.0 +0.9
EPF Esparros 58.46 13 eP P 17 52 41.3 -0.2
EPF Esparros 58.46 13 eP P 17 52 41.3 -0.2
EPF Esparros 58.46 13 eP P 17 52 41.3 -0.2
MLS Moulis 58.56 13 eP P 17 52 42.7 +0.6
LRDF Laroque-de-Fa 58.88 15⇑ eP P 17 52 44.7 +0.4
NVL N'lazarevskaya 58.89 170 eP P 17 52 46.8 +2.8
NVL eS S 18 00 50.9 +1.6
NVL eSS SS 18 04 43.4 +0.7
NVL pmax pmax
comp=Z,57nm,1.0s
NVL MLR MLR
comp=Z,1µm,14.0s
ABPO Ambohimpanom 59.11 104 eP P 17 52 47.2 +0.5
ABPO pmax pmax
comp=Z,80nm,1.5s
ABPO MLR MLR
comp=Z,6µm,20.0s
ABPO Ambohimpanom 59.11 104 eP P 17 52 47.2 +0.5
comp=Z,80nm,1.5s
ABPO LR LR
comp=Z,6µm,20.0s
MTLF Montolieu 59.18 14 eP P 17 52 45.4 -1.0
MTLF Montolieu 59.18 14 eP P 17 52 45.4 -1.0
MTLF Montolieu 59.18 14 eP P 17 52 45.4 -1.0
CEL Celeste 59.37 28 PFAKE 17 53 00.0 +12
CEL LR LR
comp=Z,5µm,19.0s
HUMP Col San Antoni 59.93 301 eP P 17 52 54.2 +2.2
CBYP Canovanas 59.99 301 eP P 17 52 51.7 -0.9
comp=Z,151nm,1.3s
SDV Santo Domingo 60.20 289 eP P 17 52 54.2 0.0
comp=Z,203nm,1.3s
SDV LR LR
comp=Z,6µm,19.0s
LASF Ste Croix 60.27 15 eP P 17 52 53.3 -0.6
comp=Z,267nm,1.4s
LASF Ste Croix 60.27 15 eP P 17 52 53.3 -0.6
comp=Z,267nm,1.4s
LMR La Mourre 60.31 18 eP P 17 52 53.6 -0.5
comp=Z,209nm,1.3s
LMR La Mourre 60.31 18 eP P 17 52 53.6 -0.5
LMR pmax pmax
comp=Z,209nm,1.3s
LMR La Mourre 60.31 18 eP P 17 52 53.6 -0.5
comp=Z,209nm,1.3s
LFF La Frestale 60.37 12 eP P 17 52 54.1 -0.4
comp=Z,318nm,1.2s
LFF La Frestale 60.37 12 eP P 17 52 54.1 -0.4
LFF pmax pmax
comp=Z,318nm,1.2s
LFF La Frestale 60.37 12 eP P 17 52 54.1 -0.4
comp=Z,318nm,1.2s
PGF Pioggiola 60.37 20 eP P 17 52 54.1 -0.6
comp=Z,93nm,1.1s
PGF Pioggiola 60.37 20 eP P 17 52 54.1 -0.6
PGF pmax pmax
comp=Z,93nm,1.1s
PGF Pioggiola 60.37 20 eP P 17 52 54.1 -0.6
comp=Z,93nm,1.1s
CELP Cerrillos 60.50 300 eP P 17 52 54.2 -1.8
TIP Timpagrande 60.50 28 PFAKE 17 53 10.0 +14
TIP LR LR
comp=Z,2µm,21.0s
OBIP Obispado Ponce 60.51 300 eP P 17 52 55.2 -0.8
comp=Z,104nm,1.2s
FRF La Foret Royal 60.56 18 eP P 17 52 55.2 -0.7
comp=Z,278nm,1.6s
FRF La Foret Royal 60.56 18 eP P 17 52 55.2 -0.7
FRF pmax pmax
comp=Z,278nm,1.6s
FRF La Foret Royal 60.56 18 eP P 17 52 55.2 -0.7
comp=Z,278nm,1.6s
NNA Nana 60.63 264 eP P 17 52 55.9 -1.1
comp=Z,112nm,1.5s
NNA LR LR
comp=Z,6µm,19.0s
SMRF Simiane la Rot 60.63 17 eP P 17 52 56.4 0.0
comp=Z,168nm,1.5s
SMRF Simiane la Rot 60.63 17 eP P 17 52 56.4 0.0
comp=Z,168nm,1.5s
CAF Calviac 60.64 13 eP P 17 52 55.6 -0.9
comp=Z,114nm,1.2s
CAF Calviac 60.64 13 eP P 17 52 55.6 -0.9
CAF pmax pmax
comp=Z,114nm,1.2s
CAF Calviac 60.64 13 eP P 17 52 55.6 -0.9
comp=Z,114nm,1.2s
CUC Castrocucco 60.76 26 PFAKE 17 53 10.0 +13
CUC LR LR
comp=Z,2µm,19.0s
PMSA Palmer Station 60.76 202 PFAKE 17 53 10.0 +13
PMSA LR LR
comp=Z,3µm,20.0s
AOPR Arecibo Observ 60.78 301 eP P 17 52 57.3 -0.6
comp=Z,143nm,1.0s
LRS Lares 60.83 301 eP P 17 52 57.0 -1.3
RJF Les Rejaudoux 60.88 13 eP P 17 52 57.4 -0.7
comp=Z,324nm,1.3s
RJF eR
comp=Z,5µm,19.0s
RJF Les Rejaudoux 60.88 13 eP P 17 52 57.4 -0.7
RJF pmax pmax
comp=Z,324nm,1.3s
RJF Les Rejaudoux 60.88 13 eP P 17 52 57.4 -0.7
comp=Z,324nm,1.3s
GVD Gavdhos 60.91 36 P P 17 53 01.2 +2.8
GVD Gavdhos 60.91 36 P P 17 53 01.2 +2.8
SBF Sospel 61.06 18 eP P 17 52 58.7 -0.7
comp=Z,259nm,1.4s
SBF Sospel 61.06 18 eP P 17 52 58.7 -0.7
SBF pmax pmax
comp=Z,259nm,1.4s
SBF Sospel 61.06 18 eP P 17 52 58.7 -0.7
comp=Z,259nm,1.4s
OG26 St.-Nazaire-De 61.12 16 eP P 17 53 01.1 +1.4
PYL PYLOS 61.14 33 P P 17 53 11.6 +12
FRNF Fournols 61.19 14 eP P 17 53 01.8 +1.6
LBL Lubilhac 61.21 14⇑ eP P 17 53 01.8 +1.5
VIVF Saint-Julien-l 61.21 15 eP P 17 53 00.0 -0.3
VIVF Saint-Julien-l 61.21 15 eP P 17 53 00.0 -0.3
VIVF Saint-Julien-l 61.21 15 eP P 17 53 00.0 -0.3
SURF Saint Ours 61.45 17 eP P 17 53 03.4 +1.3
ITM Ithomi 61.45 33 P P 17 53 07.3 +5.2
ITM Ithomi 61.45 33 P P 17 53 07.3 +5.2
SSB Saint Sauveur 61.57 15 eP P 17 53 03.5 +0.7
COLF Collangettes 61.58 14 eP P 17 53 04.2 +1.3
ORIF Oris-en-Rattie 61.59 16 eP P 17 53 02.9 -0.1
comp=Z,224nm,1.4s
ORIF eR
comp=Z,11µm,22.5s
ORIF Oris-en-Rattie 61.59 16 eP P 17 53 02.9 -0.1
ORIF pmax pmax
comp=Z,224nm,1.4s
ORIF Oris-en-Rattie 61.59 16 eP P 17 53 02.9 -0.1
comp=Z,224nm,1.4s
PYM Petit Puy Mans 61.64 14 eP P 17 53 04.8 +1.5
VLI Veliai 61.64 34 P P 17 53 04.9 +1.5
VLI Veliai 61.64 34 P P 17 53 04.9 +1.5
MBDF Montbardon 61.66 17 eP P 17 53 03.7 +0.2
comp=Z,302nm,1.4s
MBDF Montbardon 61.66 17 eP P 17 53 03.7 +0.2
MBDF pmax pmax
comp=Z,302nm,1.4s
MBDF Montbardon 61.66 17 eP P 17 53 03.7 +0.2
comp=Z,302nm,1.4s
IDI Anoyia 61.69 36 LR LR 18 20 19.3
comp=Z,741nm,21.0s,baz=224,slow=37
LCHF La Chataignera 61.74 11 eP P 17 53 03.9 +0.1
AQU L'Aquila 61.77 23 P P 17 53 04.2 0.0
comp=Z,163nm,1.3s
AQU LR LR
comp=Z,6µm,21.0s
MFF Saint Martin d 61.79 11 eP P 17 53 03.5 -0.6
comp=Z,252nm,1.3s
MFF Saint Martin d 61.79 11 eP P 17 53 03.5 -0.6
MFF pmax pmax
comp=Z,252nm,1.3s
MFF Saint Martin d 61.79 11 eP P 17 53 03.5 -0.6
comp=Z,252nm,1.3s
OG22 Abries 61.80 17 eP P 17 53 06.9 +2.4
GRN Grenoble 61.85 16 eP P 17 53 06.4 +1.7
RLS Riolos of Patr 61.88 32 P P 17 53 06.6 +1.7
RLS Riolos of Patr 61.88 32 P P 17 53 06.6 +1.7

GDM Grand'Maison 61.92 16 eP P 17 53 07.2 +2.0
DRO Drossia 61.92 32 P P 17 53 12.0 +6.7
BNI Bardonecchia 61.93 17 eP P 17 53 05.8 +0.5
BNI pmax pmax
comp=Z,113nm,1.3s
BNI MLR MLR
comp=Z,9µm,22.0s
BNI Bardonecchia 61.93 17 eP P 17 53 05.8 +0.5
comp=Z,113nm,1.3s
BNI LR LR
comp=Z,9µm,22.0s
AGO Saint Agoulin 61.95 14⇑ eP P 17 53 06.6 +1.3
TCF Toulx Ste Croi 61.97 13 eP P 17 53 05.1 -0.3
comp=Z,288nm,1.3s
TCF Toulx Ste Croi 61.97 13 eP P 17 53 05.1 -0.3
TCF pmax pmax
comp=Z,289nm,1.3s
TCF Toulx Ste Croi 61.97 13 eP P 17 53 05.1 -0.3
comp=Z,288nm,1.3s
PLDF La Plantade 61.99 14⇑ eP P 17 53 06.9 +1.3
LKD2 Lefkada island 62.04 31 P P 17 53 06.6 +0.6
LKD2 Lefkada island 62.04 31 P P 17 53 06.6 +0.6
NPS Neapolis 62.09 37 P P 17 53 07.3 +0.9
NPS Neapolis 62.09 37 P P 17 53 07.3 +0.9
NPS Neapolis 62.09 37 P P 17 53 07.3 +0.9
KLV Kalavryta, Ach 62.22 32 P P 17 53 09.3 +2.0
KLV Kalavryta, Ach 62.22 32 P P 17 53 09.3 +2.0
GUR Goura 62.24 32 P P 17 53 08.9 +1.4
GUR Goura 62.24 32 P P 17 53 08.9 +1.4
VLC Villacollemand 62.26 20 PFAKE 17 53 20.0 +13
VLC LR LR
comp=Z,6µm,21.0s
ROSC El Rosal 62.27 283 eP P 17 53 09.9 +1.3
ROSC El Rosal 62.27 283 P P 17 53 09.2 +0.7
comp=Z,6.2nm,0.4s,baz=92,slow=4.5,SNR=20
ROSC LR LR 18 18 42.2
comp=Z,10µm,21.9s,baz=156,slow=35
LAKA Lakka 62.28 32 P P 17 53 09.9 +2.2
LAKA Lakka 62.28 32 P P 17 53 09.9 +2.2
KEK Kerkira 62.34 29 P P 17 53 17.0 +9.0
LPG La Plagne 62.36 17 eP P 17 53 08.4 0.0
comp=Z,256nm,1.2s
LPG La Plagne 62.36 17 eP P 17 53 08.4 0.0
LPG pmax pmax
comp=Z,256nm,1.2s
LPG La Plagne 62.36 17 eP P 17 53 08.4 0.0
comp=Z,256nm,1.2s
BGF Bois d'Agland 62.37 13 eP P 17 53 07.6 -0.4
comp=Z,171nm,1.4s
BGF Bois d'Agland 62.37 13 eP P 17 53 07.6 -0.4
BGF pmax pmax
comp=Z,171nm,1.4s
BGF Bois d'Agland 62.37 13 eP P 17 53 07.6 -0.4
comp=Z,171nm,1.4s
LPL La Plagne 62.37 17 eP P 17 53 08.3 -0.1
comp=Z,262nm,1.2s
LPL La Plagne 62.37 17 eP P 17 53 08.3 -0.1
LPL pmax pmax
comp=Z,262nm,1.2s
LPL La Plagne 62.37 17 eP P 17 53 08.3 -0.1
comp=Z,262nm,1.2s
DID Didima 62.39 33 P P 17 53 13.0 +4.6
DID Didima 62.39 33 P P 17 53 13.0 +4.6
IGT Igoumenitsa 62.45 30 P P 17 53 09.3 +0.5
IGT Igoumenitsa 62.45 30 P P 17 53 09.3 +0.5
IGT Igoumenitsa 62.45 30 P P 17 53 09.3 +0.5
KALE Kalithea 62.48 32 P P 17 53 09.9 +0.9
KALE Kalithea 62.48 32 P P 17 53 09.9 +0.9
QUIF Quistinic 62.56 9 eP P 17 53 08.5 -0.8
QUIF Quistinic 62.56 9 eP P 17 53 08.5 -0.8
QUIF Quistinic 62.56 9 eP P 17 53 08.5 -0.8
LTK Loutraki 62.63 33 P P 17 53 10.6 +0.6
LTK Loutraki 62.63 33 P P 17 53 10.6 +0.6
SMF Signal de Mont 62.68 14 eP P 17 53 09.5 -0.6
comp=Z,153nm,1.3s
SMF Signal de Mont 62.68 14 eP P 17 53 09.5 -0.6
SMF pmax pmax
comp=Z,153nm,1.3s
SMF Signal de Mont 62.68 14 eP P 17 53 09.5 -0.6
comp=Z,153nm,1.3s
EVR Evrytania 62.71 31 P P 17 53 12.3 +1.7
EVR Evrytania 62.71 31 P P 17 53 12.3 +1.7
SANT Santorini 62.78 36 P P 17 53 11.3 +0.2
SANT Santorini 62.78 36 P P 17 53 11.3 +0.2
SANT LR LR
comp=Z,3µm,22.0s
VLO Vlora 62.79 29 P P 17 53 16.4 +5.4
VLO Vlora 62.79 29 P P 17 53 16.4 +5.4
VLO Vlora 62.79 29 P P 17 53 16.4 +5.4
ROSF Rostrenen 62.96 8 eP P 17 53 11.2 -0.7
comp=Z,487nm,1.7s
ROSF Rostrenen 62.96 8 eP P 17 53 11.2 -0.7
ROSF pmax pmax
comp=Z,487nm,1.7s
ROSF Rostrenen 62.96 8 eP P 17 53 11.2 -0.7
comp=Z,487nm,1.7s
SGMF Saint Gilles 62.98 9 eP P 17 53 11.3 -0.8
SGMF Saint Gilles 62.98 9 eP P 17 53 11.3 -0.8
SGMF Saint Gilles 62.98 9 eP P 17 53 11.3 -0.8
ATH Athens Observa 62.99 33 P P 17 53 13.3 +1.0
ATH Athens Observa 62.99 33 P P 17 53 13.3 +1.0
ATH Athens Observa 62.99 33 P P 17 53 13.3 +1.0
SSF Saint Saulge 62.99 14 eP P 17 53 11.7 -0.5
comp=Z,304nm,1.3s
SSF Saint Saulge 62.99 14 eP P 17 53 11.7 -0.5
SSF pmax pmax
comp=Z,304nm,1.3s
SSF Saint Saulge 62.99 14 eP P 17 53 11.7 -0.5
comp=Z,304nm,1.3s
HYF Humbligny 62.99 13 eP P 17 53 11.8 -0.4
HYF Humbligny 62.99 13 eP P 17 53 11.8 -0.4
ATHU Athens Univers 63.02 33 P P 17 53 13.0 +0.4
ATHU Athens Univers 63.02 33 P P 17 53 13.0 +0.4
AXAR Agios Charalam 63.03 32 P P 17 53 12.7 +0.1
AXAR Agios Charalam 63.03 32 P P 17 53 12.7 +0.1
LKR Lokris 63.12 32 P P 17 53 13.3 +0.1
LKR Lokris 63.12 32 P P 17 53 13.3 +0.1
PTL Penteli 63.12 33 P P 17 53 14.0 +0.7
PTL Penteli 63.12 33 P P 17 53 14.0 +0.7
KARP Karpathos 63.19 37 P P 17 53 06.2 -7.6
CABF La Chapelle 63.21 16 eP P 17 53 12.9 -0.9
comp=Z,346nm,1.3s
CABF La Chapelle 63.21 16 eP P 17 53 12.9 -0.9
CABF pmax pmax
comp=Z,346nm,1.3s
CABF La Chapelle 63.21 16 eP P 17 53 12.9 -0.9
comp=Z,346nm,1.3s
LOR Lormes 63.27 14 eP P 17 53 13.3 -0.7
comp=Z,254nm,1.5s
LOR eR
comp=Z,6µm,17.8s
LOR Lormes 63.27 14 eP P 17 53 13.3 -0.7
comp=Z,254nm,1.5s
THL Klokotos Trika 63.30 31 P P 17 53 15.7 +1.3
SENIN Lac Senin/Sane 63.31 17 eP P 17 53 15.1 +0.5
ERET Eretria 63.38 33 P P 17 53 16.4 +1.3
GRR Gorron 63.39 10 eP P 17 53 14.1 -0.7
comp=Z,256nm,1.3s
GRR Gorron 63.39 10 eP P 17 53 14.1 -0.7
GRR pmax pmax
comp=Z,256nm,1.3s
GRR Gorron 63.39 10 eP P 17 53 14.1 -0.7
comp=Z,256nm,1.3s
SMIA Simia 63.40 32 P P 17 53 15.3 +0.2
MRMA Marmari 63.41 34 P P 17 53 20.7 +5.6
NEST Nestorio 63.49 30 P P 17 53 22.1 +6.4
KBN Korca 63.52 29 P P 17 53 18.0 +2.0
KBN Korca 63.52 29 P P 17 53 18.0 +2.0
KBN Korca 63.52 29 P P 17 53 18.0 +2.0
FYTO Fytoko, Volos 63.65 32 P P 17 53 17.0 +0.3
FYTO Fytoko, Volos 63.65 32 P P 17 53 17.0 +0.3
LDF La Druitiere 63.71 11 eP P 17 53 16.2 -0.7
LDF La Druitiere 63.71 11 eP P 17 53 16.2 -0.7
LDF La Druitiere 63.71 11 eP P 17 53 16.2 -0.7
NEO Neokhori 63.72 32 P P 17 53 18.0 +0.8
NEO Neokhori 63.72 32 P P 17 53 18.0 +0.8
SKIA Skiathos 63.74 32 P P 17 53 18.0 +0.6
KZN Kozani 63.75 30 P P 17 53 18.0 +0.5
KZN Kozani 63.75 30 P P 17 53 18.0 +0.5
KZN Kozani 63.75 30 P P 17 53 18.0 +0.5
FLN La Foliniere 63.81 10 eP P 17 53 16.8 -0.8
FLN eR
comp=Z,7µm,17.8s

FLN	**La Foliniere**	**63.81**	**10**	*e*P	**P**	**17 53 16.8**	**-0.8**
FLN	**La Foliniere**	**63.81**	**10**	*e*P	**P**	**17 53 16.8**	**-0.8**
FNA	**Florina**	**63.93**	**30**	P	**P**	**17 53 19.4**	**+0.8**
FNA	**Florina**	**63.93**	**30**	P	**P**	**17 53 19.4**	**+0.8**
FNA	**Florina**	**63.93**	**30**	P	**P**	**17 53 19.4**	**+0.8**
LIT	**Litokhoron**	**63.95**	**31**	P	**P**	**17 53 19.7**	**+1.0**
LIT	**Litokhoron**	**63.95**	**31**	P	**P**	**17 53 19.7**	**+1.0**
LIT	**Litokhoron**	**63.95**	**31**	P	**P**	**17 53 19.7**	**+1.0**
TUE	**Stuetta**	**64.00**	**18**	*e*P	**P**	**17 53 17.9**	**-1.3**
	comp=Z,532nm,0.4s						
TUE				LR	LR		
	comp=Z,7µm,20.0s						
BIA	**Bitola**	**64.09**	**29**	*e*P	**P**	**17 53 19.1**	**-0.5**
LOMF	**Lomont**	**64.09**	**16⇑**	*e*P	**P**	**17 53 19.1**	**-0.4**
PHP	**Peshkopia**	**64.19**	**28**	P	**P**	**17 53 21.1**	**+0.8**
PHP	**Peshkopia**	**64.19**	**28**	P	**P**	**17 53 21.1**	**+0.8**
PHP	**Peshkopia**	**64.19**	**28**	P	**P**	**17 53 21.1**	**+0.8**
PDG	**Podgorica**	**64.25**	**27**	P	**P**	**17 53 21.1**	**+0.6**
TTG	**Podgorica**	**64.25**	**27**	P	**P**	**17 53 21.1**	**+0.6**
TTG	**Podgorica**	**64.25**	**27**	P	**P**	**17 53 21.1**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**64.42**	**19**	*e*P	**P**	**17 53 23.1**	**+1.2**
	comp=Z,384nm,2.1s						
PAIG	**Paliouri**	**64.42**	**32**	P	**P**	**17 53 22.4**	**+0.6**
PAIG	**Paliouri**	**64.42**	**32**	P	**P**	**17 53 22.4**	**+0.6**
PAIG	**Paliouri**	**64.42**	**32**	P	**P**	**17 53 22.4**	**+0.6**
SFTF	**Sexfontaines**	**64.42**	**14**	*e*P	**P**	**17 53 20.8**	**-0.8**
	comp=Z,393nm,1.6s						
SFTF	**Sexfontaines**	**64.42**	**14**	*e*P	**P**	**17 53 20.8**	**-0.8**
	comp=Z,393nm,1.5s						
DAVOX	**Davos/Dischmat**	**64.44**	**18**	LR	LR	18 20 04.7	
	comp=Z,8µm,21.1s,baz=215,slow=35						
SYO	**Syowa Base**	**64.47**	**161⇑**	*i*P	**P**	**17 53 20.0**	**-1.7**
SYO	**Syowa Base**	**64.47**	**161⇑**	*i*sP	sP	17 53 27.8	+0.5
HINF	**Hinteralfeld**	**64.52**	**16**	*e*P	**P**	**17 53 20.9**	**-1.4**
	comp=Z,368nm,1.9s						
HINF	**Hinteralfeld**	**64.52**	**16**	*e*P	**P**	**17 53 20.9**	**-1.4**
HINF				pmax	pmax		
	comp=Z,368nm,1.9s						
HINF	**Hinteralfeld**	**64.52**	**16**	*e*P	**P**	**17 53 20.9**	**-1.4**
	comp=Z,368nm,1.9s						
EIL	**Elat**	**64.54**	**47**	LR	LR	18 19 14.8	
	comp=Z,3µm,20.9s,baz=236,slow=34						
EIL	**Elat**	**64.54**	**47**	⇓P	**P**	**17 53 22.5**	**-0.3**
	baz=64,SNR=12						
CHOS	**Chios island**	**64.55**	**34**	P	**P**	**17 53 24.1**	**+1.3**
CHOS	**Chios island**	**64.55**	**34**	P	**P**	**17 53 24.1**	**+1.3**
GRG	**Griva**	**64.56**	**30**	P	P	17 53 15.3	-7.4
HAU	**Haudompre**	**64.56**	**15**	*e*P	**P**	**17 53 21.5**	**-1.1**
	comp=Z,329nm,1.6s						
HAU				*e*R			
	comp=Z,5µm,22.8s						
HAU	**Haudompre**	**64.56**	**15**	*e*P	**P**	**17 53 21.5**	**-1.1**
HAU				pmax	pmax		
	comp=Z,329nm,1.5s						
HAU	**Haudompre**	**64.56**	**15**	*e*P	**P**	**17 53 21.5**	**-1.1**
	comp=Z,329nm,1.5s						
THE	**Thessaloniki**	**64.59**	**31**	P	**P**	**17 53 23.1**	**+0.3**
THE	**Thessaloniki**	**64.59**	**31**	P	**P**	**17 53 23.1**	**+0.3**
THE	**Thessaloniki**	**64.59**	**31**	P	**P**	**17 53 23.1**	**+0.3**
MOF	**Molkenrain**	**64.63**	**16⇑**	*e*P	**P**	**17 53 22.6**	**-0.5**
PLG	**Polygyros**	**64.64**	**31**	P	**P**	**17 53 24.4**	**+1.2**
PLG	**Polygyros**	**64.64**	**31**	P	**P**	**17 53 24.4**	**+1.2**
PLG	**Polygyros**	**64.64**	**31**	P	**P**	**17 53 24.4**	**+1.2**
THEF	**They Montfort**	**64.68**	**15⇑**	*e*P	**P**	**17 53 23.4**	**+0.1**
MEZF	**Maizieres J'vi**	**64.70**	**14**	*e*P	**P**	**17 53 22.9**	**-0.5**
	comp=Z,317nm,1.2s						
MEZF	**Maizieres J'vi**	**64.70**	**14**	*e*P	**P**	**17 53 22.9**	**-0.5**
	comp=Z,317nm,1.3s						
OTAV	**Otavalo**	**64.86**	**277**	*e*P	**P**	**17 53 24.6**	**-1.2**
	comp=Z,136nm,1.6s						
OTAV				LR	LR		
	comp=Z,6µm,20.0s						
OUR	**Ouranopolis**	**64.88**	**32**	P	**P**	**17 53 26.1**	**+1.4**
OUR	**Ouranopolis**	**64.88**	**32**	P	**P**	**17 53 26.1**	**+1.4**
OUR	**Ouranopolis**	**64.88**	**32**	P	**P**	**17 53 26.1**	**+1.4**
SKO	**Skopje**	**64.88**	**29**	P	**P**	**17 53 24.8**	**+0.1**
SKO	**Skopje**	**64.88**	**29**	P	**P**	**17 53 24.8**	**+0.1**
SKO	**Skopje**	**64.88**	**29**	*e*P	**P**	**17 53 24.9**	**+0.1**
SKO	**Skopje**	**64.88**	**29**	P	**P**	**17 53 24.8**	**+0.1**
SDDR	**Presa de Saban**	**64.89**	**299**	*e*P	**P**	**17 53 25.6**	**+0.2**
	comp=Z,170nm,1.5s						
SDDR				LR	LR		
	comp=Z,2µm,22.0s						
DAVA	**Damuels**	**64.89**	**18**	*i* P	**P**	**17 53 24.2**	**-0.7**
	comp=Z,129nm,1.5s,SNR=10.0						
FETA	**Feichten**	**64.92**	**19**	*i* P	**P**	**17 53 23.7**	**-1.4**
	comp=Z,80nm,1.2s,SNR=17						
PAGF	**Fort de Pagny**	**64.92**	**15**	*e*P	**P**	**17 53 24.4**	**-0.4**
	comp=Z,66nm,1.3s						
PAGF	**Fort de Pagny**	**64.92**	**15**	*e*P	**P**	**17 53 24.4**	**-0.4**
	comp=Z,66nm,1.3s						
VAY	**Valandovo**	**64.92**	**30**	P	**P**	**17 53 25.4**	**+0.4**
VAY	**Valandovo**	**64.92**	**30**	P	**P**	**17 53 25.4**	**+0.4**
VAY	**Valandovo**	**64.92**	**30**	*e*P	**P**	**17 53 25.3**	**+0.4**
VAY	**Valandovo**	**64.92**	**30**	P	**P**	**17 53 25.4**	**+0.4**
SOH	**Sokhos**	**64.93**	**31**	P	**P**	**17 53 26.1**	**+1.0**
SOH	**Sokhos**	**64.93**	**31**	P	**P**	**17 53 26.1**	**+1.0**
SOH	**Sokhos**	**64.93**	**31**	P	**P**	**17 53 26.1**	**+1.0**
KNT	**Kendrikon**	**64.96**	**30**	P	P	17 53 31.5	+6.2
KNT	**Kendrikon**	**64.96**	**30**	P	P	17 53 31.5	+6.2
KNT	**Kendrikon**	**64.96**	**30**	P	P	17 53 31.5	+6.2
ECH	**Echery**	**64.97**	**16**	*e*P	**P**	**17 53 23.8**	**-1.4**
ECH				pmax	pmax		
	comp=Z,380nm,2.2s						
ECH				MLR	MLR		
	comp=Z,2µm,21.0s						
ECH	**Echery**	**64.97**	**16⇑**	*e*P	**P**	**17 53 24.9**	**-0.3**
ECH	**Echery**	**64.97**	**16**	*e*P	**P**	**17 53 23.8**	**-1.4**
	comp=Z,380nm,2.2s						
ECH				LR	LR		
	comp=Z,2µm,21.0s						
SIGR	**SIGRI**	**65.04**	**34**	P	**P**	**17 53 27.1**	**+1.3**
SIGR	**SIGRI**	**65.04**	**34**	P	**P**	**17 53 27.1**	**+1.3**
JAVS	**Javornik**	**65.05**	**22**	*i* P	**P**	**17 53 26.6**	**+0.8**
BOJS	**Bojanci**	**65.15**	**23**	*i* P	**P**	**17 53 26.7**	**+0.3**
LIA	**Limnos Island**	**65.18**	**33**	P	**P**	**17 53 27.1**	**+0.4**
LIA	**Limnos Island**	**65.18**	**33**	P	**P**	**17 53 27.1**	**+0.4**
CDF	**Champ du Feu**	**65.18**	**16**	*e*P	**P**	**17 53 25.4**	**-1.3**
CDF	**Champ du Feu**	**65.18**	**16**	*e*P	**P**	**17 53 25.4**	**-1.3**
CDF	**Champ du Feu**	**65.18**	**16**	*e*P	**P**	**17 53 25.4**	**-1.3**
VISS	**Visnje**	**65.25**	**22**	*i* P	**P**	**17 53 27.9**	**+0.9**
ABTA	**Abfaltersbach**	**65.25**	**20⇑**	*i*P	**P**	**17 53 27.2**	**0.0**
	comp=Z,79nm,1.7s,SNR=11						
SRS	**Serrai**	**65.27**	**31**	P	**P**	**17 53 28.1**	**+0.8**
SRS	**Serrai**	**65.27**	**31**	P	**P**	**17 53 28.1**	**+0.8**
SRS	**Serrai**	**65.27**	**31**	P	**P**	**17 53 28.1**	**+0.8**
PRK	**Paraskevi**	**65.29**	**34**	P	**P**	**17 53 28.8**	**+1.4**
PRK	**Paraskevi**	**65.29**	**34**	P	**P**	**17 53 28.8**	**+1.4**
PRK	**Paraskevi**	**65.29**	**34**	P	**P**	**17 53 28.8**	**+1.4**
MOTA	**Moosalm**	**65.32**	**19⇑**	*i*P	**P**	**17 53 26.8**	**-0.9**
	comp=Z,28nm,1.1s,SNR=7.7						
RETA	**Reutte**	**65.34**	**19⇑**	*i*P	**P**	**17 53 26.8**	**-1.0**
	comp=Z,46nm,1.3s,SNR=7.3						
BFO	**Black Forest**	**65.39**	**17**	P	**P**	**17 53 27.2**	**-0.7**
	comp=Z,292nm,1.1s,SNR=8.3						
BFO	**Black Forest**	**65.39**	**17**	*e*P	**P**	**17 53 26.5**	**-1.5**
BFO				pmax	pmax		
	comp=Z,128nm,1.3s						
BFO				MLR	MLR		
	comp=Z,4µm,22.0s						
BFO	**Black Forest**	**65.39**	**17**	*ce*P	**P**	**17 53 27.3**	**-0.7**
BFO	**Black Forest**	**65.39**	**17**	*e*P	**P**	**17 53 26.7**	**-1.3**
	comp=Z,185nm,1.5s						
BFO	**Black Forest**	**65.39**	**17**	*e*P	**P**	**17 53 26.5**	**-1.5**
	comp=Z,128nm,1.3s						
BFO				LR	LR		
	comp=Z,4µm,22.0s						
WTTA	**Wattenberg**	**65.42**	**19⇑**	*i*P	**P**	**17 53 28.7**	**+0.4**
	comp=Z,130nm,1.5s,SNR=14						
WATA	**Walderalm**	**65.46**	**19**	⇓*i*P	**P**	**17 53 28.7**	**+0.1**
	comp=Z,66nm,1.4s						
MYKA	**Terra Mystica**	**65.53**	**21⇑**	*i*P	**P**	**17 53 30.7**	**+1.7**
	comp=Z,46nm,1.3s						
NVR	**Nevrokopi**	**65.58**	**31**	P	**P**	**17 53 30.2**	**+0.9**
NVR	**Nevrokopi**	**65.58**	**31**	P	**P**	**17 53 30.2**	**+0.9**
KKB	**Krupnik**	**65.58**	**30**	P	**P**	**17 53 30.0**	**+0.7**
KAVA	**Kavala**	**65.64**	**32**	P	**P**	**17 53 30.9**	**+1.2**
KAVA	**Kavala**	**65.64**	**32**	P	**P**	**17 53 30.9**	**+1.2**
MMB	**Musomiste**	**65.69**	**31**	P	**P**	**17 53 31.1**	**+1.0**
MMB	**Musomiste**	**65.69**	**31⇑**	*i*P	**P**	**17 53 30.1**	**0.0**
OBKA	**Obir**	**65.75**	**22⇑**	*i*P	**P**	**17 53 32.0**	**+1.6**
	comp=Z,63nm,1.8s						
SMTH	**Samothraki Isl**	**65.78**	**33**	P	**P**	**17 53 30.9**	**+0.3**
SMTH	**Samothraki Isl**	**65.78**	**33**	P	**P**	**17 53 30.9**	**+0.3**
KBA	**Koelnbreinsper**	**65.82**	**20⇑**	*i*P	**P**	**17 53 30.6**	**-0.4**
	comp=Z,50nm,1.9s,SNR=5.8						
LANF	**Langenberg**	**65.84**	**16**	*e*P	**P**	**17 53 30.8**	**0.0**
VAL	**Valentia**	**65.87**	**3**	*e*P	P	17 53 38.4	+7.5
GRTK	**Grand Turk**	**65.89**	**302**	*e*P	**P**	**17 53 33.5**	**+1.8**
GRTK				LR	LR		
	comp=Z,1µm,21.0s						
DIVS	**Divibare**	**65.90**	**27**	P	**P**	**17 53 32.9**	**+1.5**
BAIF	**Baives**	**65.97**	**13**	*e*P	**P**	**17 53 30.5**	**-1.1**
	comp=Z,124nm,1.2s						
BAIF	**Baives**	**65.97**	**13**	*e*P	**P**	**17 53 30.5**	**-1.1**
BAIF				pmax	pmax		
	comp=Z,125nm,1.2s						
BAIF	**Baives**	**65.97**	**13**	*e*P	**P**	**17 53 30.5**	**-1.1**
	comp=Z,124nm,1.2s						
STU	**Stuttgart**	**66.03**	**17**	*e*P	**P**	**17 53 30.7**	**-1.4**
	comp=Z,179nm,1.7s						
WLF	**Walferdange**	**66.05**	**15**	P	**P**	**17 53 33.5**	**+1.3**
	comp=Z,128nm,2.3s						
WLF	**Walferdange**	**66.05**	**15**	*e*P	**P**	**17 53 31.3**	**-0.8**
WLF				pmax	pmax		
	comp=Z,382nm,1.9s						
WLF				MLR	MLR		
	comp=Z,4µm,22.0s						
WLF	**Walferdange**	**66.05**	**15**	*e*P	**P**	**17 53 31.4**	**-0.8**
	comp=Z,518nm,2.2s						
WLF	**Walferdange**	**66.05**	**15**	*e*P	**P**	**17 53 31.3**	**-0.8**
	comp=Z,382nm,1.9s						
WLF				LR	LR		
	comp=Z,4µm,22.0s						
PERS	**Pernice**	**66.06**	**22**	*i* P	**P**	**17 53 32.3**	**0.0**
SOKA	**Soboth**	**66.07**	**22⇑**	*i*P	**P**	**17 53 31.3**	**-1.1**
	comp=Z,76nm,1.5s,SNR=8.6						
DOU	**Dourbes**	**66.09**	**13**	P	**P**	**17 53 31.9**	**-0.4**
	comp=Z,60nm,2.1s						
FUR	**Furstenfeldbru**	**66.11**	**19**	*e*P	**P**	**17 53 31.3**	**-1.3**
	comp=Z,791nm,2.2s						
GIVF	**Givet**	**66.15**	**13**	*e*P	**P**	**17 53 31.6**	**-1.2**
	comp=Z,229nm,1.4s						
GIVF	**Givet**	**66.15**	**13**	*e*P	**P**	**17 53 31.6**	**-1.2**
GIVF				pmax	pmax		
	comp=Z,229nm,1.4s						
GIVF	**Givet**	**66.15**	**13**	*e*P	**P**	**17 53 31.6**	**-1.2**
	comp=Z,229nm,1.4s						
VTS	**Vitosha**	**66.19**	**30**	P	**P**	**17 53 33.9**	**+0.5**
VTS	**Vitosha**	**66.19**	**30**	P	**P**	**17 53 33.9**	**+0.5**
VTS	**Vitosha**	**66.19**	**30**	P	**P**	**17 53 33.9**	**+0.5**
VTS	**Vitosha**	**66.19**	**30**	⇓*i*P	**P**	**17 53 33.5**	**+0.1**
VTS	**Vitosha**	**66.19**	**30**	P	**P**	**17 53 33.9**	**+0.5**
RJOB	**Jochberg**	**66.21**	**20**	*e*P	**P**	**17 53 31.5**	**-1.8**
	comp=Z,121nm,2.1s						
RZN	**Rozhen**	**66.25**	**31**	P	**P**	**17 53 35.5**	**+1.6**
RDO	**Rodhopi**	**66.27**	**32**	P	**P**	**17 53 33.9**	**+0.2**
RDO	**Rodhopi**	**66.27**	**32**	P	**P**	**17 53 33.9**	**+0.2**
ALN	**Alexandroupoli**	**66.36**	**33**	P	**P**	**17 53 34.5**	**+0.2**
ALN	**Alexandroupoli**	**66.36**	**33**	P	**P**	**17 53 34.5**	**+0.2**
ALN	**Alexandroupoli**	**66.36**	**33**	P	**P**	**17 53 34.5**	**+0.2**
SNF	**Seneffe**	**66.41**	**13**	P	**P**	**17 53 36.9**	**+2.5**
BEHE	**Becsehely**	**66.53**	**23⇓**	*e*P	**P**	**17 53 35.9**	**+0.6**
BCLA	**Clavier**	**66.56**	**14**	P	**P**	**17 53 36.1**	**+0.8**
	comp=Z,57nm,1.9s						
PLD	**Plovdiv**	**66.56**	**31**	P	**P**	**17 53 36.2**	**+0.6**
PLD	**Plovdiv**	**66.56**	**31**	P	**P**	**17 53 36.2**	**+0.6**
PLD	**Plovdiv**	**66.56**	**31**	P	**P**	**17 53 37.0**	**+1.4**
PLD	**Plovdiv**	**66.56**	**31**	P	**P**	**17 53 36.2**	**+0.6**
KDZ	**Kurdzhali**	**66.58**	**32**	⇓*i*P	**P**	**17 53 35.8**	**+0.1**
CSS	**Prodhromos**	**66.61**	**42**	P	**P**	**17 53 37.6**	**+1.5**
CSS	**Prodhromos**	**66.61**	**42**	P	**P**	**17 53 37.6**	**+1.5**
CSS				LR	LR		
	comp=Z,589nm,21.0s						
PGB	**Panagyurishte**	**66.63**	**30**	P	**P**	**17 53 35.5**	**-0.6**
BBSR	**BB Station**	**66.65**	**315**	PFAKE		17 53 50.0	+14
BBSR				LR	LR		
	comp=Z,3µm,21.0s						
UCC	**Uccle**	**66.70**	**13**	P	**P**	**17 53 39.0**	**+2.7**
ISP	**Isparta**	**66.71**	**38**	P	**P**	**17 53 37.6**	**+0.8**
ISP	**Isparta**	**66.71**	**38**	P	**P**	**17 53 37.6**	**+0.8**
ISP				MLR	MLR		
	comp=Z,2µm,20.0s						
ISP	**Isparta**	**66.71**	**38**	P	**P**	**17 53 37.6**	**+0.8**
ISP				LR	LR		
	comp=Z,2µm,20.0s						
ARSA	**Arzberg**	**66.73**	**22⇑**	*i*P	**P**	**17 53 36.5**	**-0.1**
	comp=Z,76nm,1.7s,SNR=8.2						
MOA	**Molln**	**66.80**	**21**	*i* P	**P**	**17 53 35.8**	**-1.3**
	comp=Z,56nm,1.4s,SNR=9.7						
MMAI	**Mount Meron Ar**	**66.81**	**44**	LR	LR	18 20 39.1	
	comp=Z,1µm,21.9s,baz=230,slow=34						
RER	**Riviere de l'E**	**66.85**	**107**	PFAKE		17 53 50.0	+12
RER				LR	LR		
	comp=Z,8µm,21.0s						
MEM	**Membach**	**66.90**	**14**	P	**P**	**17 53 38.0**	**+0.5**
	comp=Z,83nm,2.2s						
MEM	**Membach**	**66.90**	**14**	*e*P	**P**	**17 53 38.6**	**+1.1**
MEM				pmax	pmax		
	comp=Z,229nm,1.5s						
MEM	**Membach**	**66.90**	**14**	*e*P	**P**	**17 53 38.5**	**+1.1**
	comp=Z,228nm,1.5s						
BEBN	**Eben Emael**	**66.99**	**14**	P	**P**	**17 53 39.0**	**+0.9**
HGN	**Heimansgroeve**	**67.02**	**14**	*e*P	**P**	**17 53 38.6**	**+0.3**
	comp=Z,748nm,2.4s						
HGN				*e*PP	PP	17 55 53.3	-13
HGN				*e*S	**S**	**18 02 33.0**	**+1.4**
HGN				*e*SS	**SS**	**18 06 49.0**	**-1.9**
PKSM	**Moragy**	**67.05**	**24⇑**	*i*P	**P**	**17 53 38.6**	**0.0**
TNS	**Taunus Mts**	**67.15**	**16**	*e*P	**P**	**17 53 38.3**	**-0.9**
	comp=Z,258nm,1.7s						
CONA	**Conrad Observa**	**67.43**	**22⇓**	*i*P	**P**	**17 53 41.1**	**0.0**
	comp=Z,92nm,1.6s,SNR=13						
GRFO	**Grafenberg**	**67.44**	**18**	P	**P**	**17 53 40.5**	**-0.6**
GRFO				pmax	pmax		
	comp=Z,335nm,2.0s						
GRFO	**Grafenberg**	**67.44**	**18**	P	**P**	**17 53 40.5**	**-0.6**
	comp=Z,335nm,2.0s						
GRF	**Grafenberg Arr**	**67.45**	**18**	*e*P	**P**	**17 53 39.9**	**-1.2**
	comp=Z,506nm,2.2s						
GRF				*e*PP	PP	17 56 04.8	-5.2
GRF				*e*L	L	18 21 13.4	
	comp=Z,5µm,22.0s						
WET	**Wettzell**	**67.47**	**19**	*e*P	**P**	**17 53 40.0**	**-1.3**
	comp=Z,155nm,1.6s						
WET				*e*PP	**PP**	**17 56 06.1**	**-4.2**
GEC2	**GERESS Array S**	**67.47**	**20**	*e*P	**P**	**17 53 41.6**	**+0.2**
GEC2	**GERESS Array S**	**67.47**	**20**	*e*P	**P**	**17 53 40.3**	**-1.1**
	comp=Z,199nm,2.0s						
GEC2	**GERESS Array S**	**67.47**	**20**	*e*P	**P**	**17 53 41.6**	**+0.2**
GERES	**GERESS Array B**	**67.47**	**20**	P	**P**	**17 53 40.2**	**-1.2**
GERES				PP	**PP**	**17 56 08.2**	**-2.2**
	comp=Z,5.9nm,0.7s,baz=200,slow=4.8,SNR=27						
GERES	**GERESS Array B**	**67.47**	**20**	P	**P**	**17 53 40.2**	**-1.2**
	comp=Z,5.5nm,1.0s,baz=203,slow=9,SNR=5.9						
GERES				LR	LR	18 22 17.1	
	comp=Z,6µm,20.4s,baz=222,slow=35						
PKS2	**Kecel**	**67.51**	**25⇓**	*e*P	**P**	**17 53 44.0**	**+2.5**
PKST	**T¨s**	**67.67**	**23⇓**	*e*P	**P**	**17 53 44.6**	**+2.0**
KHC	**Kasperske Hory**	**67.68**	**20**	*e*P	**P**	**17 53 43.0**	**+0.4**
KHC				*e*		17 56 08.1	
KHC	**Kasperske Hory**	**67.68**	**20**	*e*P	**P**	**17 53 43.0**	**+0.4**
KHC				*e*PP	**PP**	**17 56 08.1**	**-4.0**
KHC				*ex*	x	17 56 22.5	
KHC	**Kasperske Hory**	**67.68**	**20**	*e*P	**P**	**17 53 41.0**	**-1.6**
	comp=Z,218nm,2.1s						
PKS6	**Bocsa**	**67.73**	**25⇓**	*e*P	**P**	**17 53 45.5**	**+2.6**
JMB	**Yambol**	**67.77**	**32**	P	**P**	**17 53 46.3**	**+3.0**
JMB	**Yambol**	**67.77**	**32**	⇓*i*P	P	17 53 34.8	-8.5
ROTZ	**Rotzenmuhle**	**67.81**	**18**	*e*P	**P**	**17 53 42.3**	**-1.1**
	comp=Z,266nm,2.0s						
BZS	**Buzias**	**67.81**	**27⇑**	*i*P	**P**	**17 53 43.4**	**0.0**
CSKK	**Cs˘‡kako**	**67.84**	**23**	*e*P	**P**	**17 53 43.2**	**-0.4**
PKSG		**67.92**	**23⇓**	*e*P	**P**	**17 53 44.2**	**+0.1**
PKS7	**Kunszentmiklos**	**67.94**	**24⇓**	*e*P	**P**	**17 53 43.9**	**-0.3**
BUG	**Bochum--Univer**	**67.97**	**14**	*e*P	**P**	**17 53 43.5**	**-0.8**
	comp=Z,99nm,1.3s						
SZH	**Strazhica**	**68.03**	**31**	P	**P**	**17 53 44.9**	**0.0**
PKSN	**Nyarlorinc**	**68.10**	**25⇓**	*e*P	**P**	**17 53 47.6**	**+2.4**
UBBA	**Unterbreizbach**	**68.11**	**16**	*e*P	**P**	**17 53 44.4**	**-0.7**
	comp=Z,264nm,2.1s						
GZR	**Gura Zlata**	**68.15**	**27**	⇓*i*P	**P**	**17 53 45.9**	**+0.2**
BUD	**Budapest**	**68.24**	**24⇓**	*e*P	P	17 53 42.4	-3.7
SIRR	**Siria**	**68.34**	**26**	⇓*i*P	**P**	**17 53 46.3**	**-0.5**
WTSB	**Winterswijk**	**68.34**	**14**	*e*P	**P**	**17 53 48.0**	**+1.4**
	comp=Z,363nm,1.6s						
MOX	**Moxa**	**68.41**	**18**	*e*P	**P**	**17 53 46.1**	**-1.0**
	comp=Z,185nm,1.9s						
MOX				*e*PP	**PP**	**17 56 17.4**	**-1.0**
TANN	**Tannenbergstha**	**68.46**	**18**	*e*P	**P**	**17 53 46.3**	**-1.2**
	comp=Z,186nm,1.8s						
TREC	**Trest**	**68.46**	**21**	*e*P	**P**	**17 53 48.1**	**+0.6**
TREC	**Trest**	**68.46**	**21**	*e*P	**P**	**17 53 48.1**	**+0.6**
GTBY	**Guantanamo Bay**	**68.55**	**298**	PFAKE		17 54 00.0	+11
GTBY				LR	LR		
	comp=Z,2µm,19.0s						
LOT	**Lotru**	**68.64**	**28⇓**	*i*P	**P**	**17 53 49.0**	**+0.2**
PRD	**Provadia**	**68.72**	**32**	P	P	17 53 53.6	+4.5
PRU	**Pruhonice**	**68.74**	**20**	*e*P	**P**	**17 53 49.9**	**+0.7**
PRU				*e*		17 56 20.5	
PRU	**Pruhonice**	**68.74**	**20**	*e*P	**P**	**17 53 49.9**	**+0.7**
PRU				*e*PP	**PP**	**17 56 20.5**	**-0.7**
PRA	**Prague**	**68.78**	**20**	P	**P**	**17 53 50.0**	**+0.6**
BCIP	**Isla Barro Col**	**68.83**	**286**	PFAKE		17 54 00.0	+10
BCIP				LR	LR		
	comp=Z,4µm,22.0s						
VRAC	**Vranov**	**68.85**	**21⇓**	*i*P	**P**	**17 53 49.2**	**-0.7**
VRAC	**Vranov**	**68.85**	**21**	LR	LR	18 24 05.4	
	comp=Z,6µm,19.6s,baz=211,slow=36						
IBBN	**Ibbenburen**	**68.89**	**14**	*e*P	**P**	**17 53 49.6**	**-0.4**
	comp=Z,687nm,2.0s						
PSZ	**Piszkesteto**	**68.94**	**24**	*e*P	**P**	**17 53 49.8**	**-0.7**
PSZ				pmax	pmax		
	comp=Z,176nm,1.5s						
PSZ				MLR	MLR		
	comp=Z,6µm,20.0s						
PSZ	**Piszkesteto**	**68.94**	**24⇑**	*i*P	**P**	**17 53 50.4**	**-0.1**
PSZ	**Piszkesteto**	**68.94**	**24**	*e*P	**P**	**17 53 49.8**	**-0.7**
	comp=Z,176nm,1.5s						
PSZ				LR	LR		
	comp=Z,6µm,20.0s						
PSZ	**Piszkesteto**	**68.94**	**24⇑**	*e*P	**P**	**17 53 50.0**	**-0.5**
CLZ	**Clausthal**	**69.13**	**16**	*e*P	**P**	**17 53 50.9**	**-0.7**
	comp=Z,216nm,1.8s						
DRGR		**69.20**	**26⇓**	*i*P	**P**	**17 53 52.7**	**+0.5**
PVCC	**Panska Ves**	**69.22**	**19**	*e*P	**P**	**17 53 53.5**	**+1.4**
PVCC				*e*		17 56 27.2	
PVCC	**Panska Ves**	**69.22**	**19**	*e*P	**P**	**17 53 53.5**	**+1.4**
PVCC				*e*PP	**PP**	**17 56 27.2**	**+1.9**
VOIR		**69.22**	**29⇓**	*i*P	**P**	**17 53 51.4**	**-0.9**
SULR		**69.22**	**30⇓**	*i*P	**P**	**17 53 52.0**	**-0.3**
BRG	**Berggiesshubel**	**69.31**	**19**	*e*P	**P**	**17 53 51.7**	**-1.0**
	comp=Z,59nm,1.5s						
BRG				*e*		17 53 59.6	
	comp=Z,391nm,2.5s						
BRG				*e*		17 54 10.9	
	comp=Z,177nm,2.5s						
BRG				PP	**PP**	**17 56 23.2**	**-3.0**
	comp=Z,200nm,2.1s						
BRG				S	S	18 03 06.0	+7.0
BRG				SS	**SS**	**18 07 31.0**	**+4.7**
BRG							
	comp=Z,6µm,18.3s						
BRG							
	comp=N,4µm,18.4s						
BRG							
	comp=E,5µm,18.4s						
BRG	**Berggiesshubel**	**69.31**	**19**	*e*P	**P**	**17 53 51.7**	**-1.0**
BRG				*e*		17 53 59.6	
BRG				*e*		17 54 10.9	
BRG						17 56 23.2	
BRG				S	S	18 03 06.0	+7.0
BRG				SS	**SS**	**18 07 31.0**	**+4.7**
BRG				pmax	pmax		
	comp=Z,59nm,1.5s						
BRG				MLR	MLR		

KSP *e* 17 54 18.6
KSP *eS* **S** **18 03 13.0 +5.4**
KSP *eSS* **SS** **18 07 40.0 +2.3**
KSP MLR MLR
comp=Z,23μm,19.7s
KSP Ksiaz 70.05 20 *eP* **P** **17 53 56.6 -0.7**
TIRR Tirgusor 70.13 31 *eP* **P** **17 53 58.6 +0.7**
TIRR pmax pmax
comp=Z,119nm,1.7s
TIRR Tirgusor 70.13 31 *eP* **P** **17 53 58.6 +0.7**
comp=Z,119nm,1.7s
TRPA Tarpa 70.18 25⇓ *iP* **P** **17 53 58.0 -0.1**
PLOR Plostina 70.27 29⇓ *iP* **P** **17 53 58.7 -0.1**
VRI Vrincioaia 70.32 29⇑ *iP* **P** **17 53 58.1 -1.0**
CRVS Cervenica-Dubn 70.35 24 *eP* **P** **17 54 01.0 +1.8**
CRVS pmax pmax
comp=Z,189nm,1.9s
CRVS Cervenica-Dubn 70.35 24 *eP* **P** **17 54 01.0 +1.8**
CRVS *ePCP* **PcP** **17 54 19.8 -0.9**
UZH Uzhgorod 70.47 25 *eP* **P** **17 54 00.0 +0.1**
UZH *eS* **S** **18 03 07.0 -5.6**
UZH MLR MLR
comp=Z,4μm,20.0s
CFR Carcaliu 70.50 31⇑ *iP* **P** **17 53 59.7 -0.4**
STHS Stebnicka Huta 70.67 24 *eP* **P** **17 54 01.7 +0.6**
STHS Stebnicka Huta 70.67 24 *eP* **P** **17 54 01.7 +0.6**
STHS *ePCP* **PcP** **17 54 21.5 -0.5**
KOLS Kolonicke sedl 70.70 25 *eP* **P** **17 54 01.7 +0.4**
KOLS pmax pmax
comp=Z,137nm,2.1s
KOLS Kolonicke sedl 70.70 25 *eP* **P** **17 54 01.7 +0.4**
KOLS *ePCP* **PcP** **17 54 21.3 -0.9**
TESR Tescani 70.76 29⇑ *iP* **P** **17 54 01.6 -0.1**
OJC Ojcow 70.77 23 *eP* **P** **17 54 01.1 -0.6**
OJC *e*PP* **pP** **17 54 04.5 -1.3**
OJC MLR MLR
comp=Z,7μm,19.6s
OJC Ojcow 70.77 23 *eP* **P** **17 54 01.1 -0.6**
OJC *epP* **pP** **17 54 04.5 -1.3**
OJC L L 18 25 00.0
comp=Z,7μm,19.6s
BURAR Bucovina Array 70.93 27⇓ *iP* **P** **17 54 03.3 +0.4**
BUR08 Bucovina Ar. S 70.95 27 *eP* **P** **17 54 02.5 -0.5**
BSEG Bad Segeberg 71.01 15 *eP* **P** **17 54 02.3 -0.7**
comp=Z,311nm,1.9s
KWP Kalwaria Pacla 71.42 24 PFAKE 17 54 20.0 +14
KWP LR LR
comp=Z,5μm,19.0s
LVV L'vov 72.11 25 *eP* **P** **17 54 10.5 +0.7**
LVV *e* 17 54 32.7
LVV *eS* **S** **18 03 34.9 +3.3**
LVV *e* 18 04 14.9
LVV MLR MLR
comp=Z,5μm,19.0s
LVV MLR MLR
comp=N,4μm,20.0s
LVV MLR MLR
comp=E,4μm,20.0s
KIS Kishinev 72.14 30 *eP* **P** **17 54 08.0 -2.0**
KIS *i* 17 54 17.0
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS Kishinev 72.14 30 *eP* **P** **17 54 08.0 -2.0**
KIS Kishinev 72.14 30 *i* PcP P 17 54 17.0 +7.0
KIS LRM MLR 18 28 00.0
comp=Z,2μm,20.0s
MAW Mawson 72.24 157 LR LR 18 18 44.6
comp=Z,2μm,21.7s,baz=288,slow=30
GKP Gorka Klasztor 72.42 19 *eP* **P** **17 54 12.1 +0.5**
GKP Gorka Klasztor 72.42 19 *eP* **P** **17 54 12.0 +0.5**
SIM Simferopol' 73.44 34 P P **17 54 17.3 -0.5**
SIM *eS* **S** **18 03 47.0 +0.1**
SIM pmax pmax
comp=Z,300nm,7.5s
ABTO Aybut 73.83 67 P **P** **17 54 20.9 +0.2**
SNR=11
JTS JuntasAbangare 73.96 285 *eP* **P** **17 54 20.7 -0.8**
JTS LR LR
comp=Z,9μm,22.0s
RBK Rabkut 74.69 67 P **P** **17 54 26.6 +0.8**
SNR=23
AK02 Malin Array Si 74.94 27 *eP* **P** **17 54 24.6 -1.9**
AK01 Malin Array Si 74.97 27 *eP* **P** **17 54 25.2 -1.4**
KIEV Kiev 74.97 27⇓ *eP* **P** **17 54 27.5 +0.9**
KIEV Kiev 74.97 27 PFAKE 17 54 40.0 +13
KIEV LR LR
comp=Z,4μm,20.0s
AKASG Malin Array Be 74.98 27 P **P** **17 54 25.3 -1.4**
AKASG Malin Array Be 74.98 27 P **P** **17 54 25.3 -1.4**
AKASG Malin Array Be 74.98 27 P **P** **17 54 25.3 -1.4**
comp=Z,27nm,0.9s,baz=225,slow=6.1,SNR=36
AKASG LR LR 18 27 45.3
comp=Z,3μm,21.7s,baz=225,slow=36
AKBB Malin Array Si 74.98 27 *eP* **P** **17 54 25.0 -1.6**
AKBB Malin Array Si 74.98 27 *eP* **P** **17 54 25.0 -1.6**
SUW Suwalki 75.06 22 *eP* **P** **17 54 26.4 -0.6**
SUW Suwalki 75.06 22 *eP* **P** **17 54 26.4 -0.6**
SUW Suwalki 75.06 22 *eP* **P** **17 54 26.2 -0.8**
comp=Z,213nm,1.3s
IGHG Ghaleghazi 75.37 48 *eP* **P** **17 54 29.2 -0.4**
SOC Sochi 75.76 37 *c iP* **P** **17 54 31.4 +0.1**
SOC *e* 17 54 41.6
SOC *e* 17 57 20.6
SOC *eS* **S** **18 04 13.3 +0.4**
SOC pmax pmax
comp=Z,77nm,1.1s
SOC MLR MLR
comp=Z,775nm,15.0s
ILIN Lien 75.93 48 *eP* **P** **17 54 32.1 -0.8**
PAF Port-aux-Franc 76.01 138 PFAKE 17 54 40.0 +7.3
PAF LR LR
comp=Z,4μm,21.0s
KONO Kongsberg 76.04 12 PFAKE 17 54 40.0 +7.5
KONO LR LR
comp=Z,4μm,21.0s
QSPA South Pole Qui 76.05 180 *eP* **P** **17 54 33.6 +0.8**
comp=Z,352nm,1.4s
QSPA LR LR
comp=Z,2μm,19.0s
QSPA South Pole Qui 76.05 180 P **P** **17 54 33.7 +0.8**
baz=214,slow=2.4
PAYG Puerto Ayora 76.06 273 PFAKE 17 54 40.0 +6.3
PAYG LR LR
comp=Z,4μm,20.0s
CHVG Ch'k'valeri 76.69 39 P P 17 54 40.5 +3.8
AKH Akhalkalaki 76.86 41 P **P** **17 54 39.8 +1.9**
HRV Adam Dziewonsk 76.88 320 P **P** **17 54 36.3 -1.4**
HRV pmax pmax
comp=Z,220nm,1.7s
HRV Adam Dziewonsk 76.88 320 P **P** **17 54 36.3 -1.4**
comp=Z,220nm,1.7s
ITBZ Tabriz 76.97 45 *eP* **P** **17 54 35.6 -2.9**
GNI Garni 77.00 43 *eP* **P** **17 54 41.2 +2.6**
comp=Z,532nm,2.1s
GNI LR LR
comp=Z,1μm,19.0s
GNI Garni 77.00 43 P **P** **17 54 40.4 +1.7**
comp=Z,6.9nm,0.7s,baz=149,slow=4.3,SNR=8.2
GNI Garni 77.00 43⇓ *iP* **P** **17 54 39.7 +1.1**
SNR=13
PKME Peaks-Kenny Pk 77.09 324 PFAKE 17 54 50.0 +11
PKME LR LR
comp=Z,2μm,20.0s
MNK Minsk 77.19 24⇑ *eP* **P** **17 54 37.0 -2.1**
MNK pmax pmax
comp=Z,240nm,1.4s
MICGM Minsk 77.21 24⇑ *eP* **P** **17 54 37.0 -2.2**
IIGN Ignalina 77.22 22 *eP* **P** **17 54 38.6 -0.6**
IIGN AMB AMB 17 54 42.7
comp=Z,43nm,1.7s
TGUH Tegucigalpa,Un 77.28 288 *eP* **P** **17 54 39.3 -1.2**
ISAL Salakas 77.35 22 *eP* **P** **17 54 39.5 -0.5**
ISAL AMB AMB 17 54 43.8
comp=Z,26nm,1.6s
HFS Hagfors 77.39 14 LR LR 18 30 51.3
comp=Z,2μm,18.4s,baz=202,slow=37
ONI Oni 77.47 40 P **P** **17 54 42.2 +1.1**
CNNC Cliffs of the 77.50 311 PFAKE 17 54 50.0 +8.7
CNNC LR LR
comp=Z,1μm,20.0s
IHRS Heris 77.63 45 *eP* **P** **17 54 40.9 -1.4**
NB2 NORSAR Subarra 77.65 12 P **P** **17 54 41.7 +0.1**
comp=Z,89nm,1.2s,baz=204,slow=6.2
NB2 NORSAR Subarra 77.65 12 P **P** **17 54 41.7 +0.1**
baz=204,slow=6.2
NOA NORSAR Array B 77.65 12 P **P** **17 54 41.2 -0.4**
NOA NORSAR Array B 77.65 12 P **P** **17 54 41.2 -0.4**
comp=Z,7.0nm,0.8s,baz=202,slow=6.2,SNR=9.9
NOA LR LR 18 30 37.5
comp=Z,711nm,18.2s,baz=195,slow=37
KIV Kislovodsk 77.74 38 P **P** **17 54 44.2 +1.6**
comp=Z,347nm,1.3s,SNR=9.3
KIV Kislovodsk 77.74 38 *eP* **P** **17 54 41.6 -1.0**
KIV *e* 17 57 34.8
KIV *eS* **S** **18 04 35.1 +0.3**
KIV pmax pmax
comp=Z,197nm,3.5s
KIV pmax pmax
comp=Z,74nm,1.1s
KIV Kislovodsk 77.74 38 *eP* **P** **17 54 41.8 -0.8**
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 77.74 38⇓ *iP* **P** **17 54 43.0 +0.3**
SNR=15
KBZ Khabaz 77.74 39 P **P** **17 54 42.2 -0.3**
KBZ Khabaz 77.74 39 P **P** **17 54 42.2 -0.3**
KBZ Khabaz 77.74 39 P **P** **17 54 42.2 -0.3**
comp=Z,9.5nm,0.9s,baz=219,slow=8.0,SNR=15
KBZ LR LR 18 30 27.1
comp=Z,587nm,20.4s,baz=254,slow=37
TBLG Delisi 77.82 41 P **P** **17 54 43.8 +0.8**
IPIR Pirpir 77.83 52 *eP* **P** **17 54 41.5 -2.2**
ZEI Tsey 77.85 40 *eP* **P** **17 54 42.8 -0.6**
ZEI pmax pmax
comp=Z,57nm,1.9s
NCK Nalchik 78.04 39⇓ *eP* **P** **17 54 43.7 -0.5**
LBNH Lisbon 78.06 322 *eP* P 17 54 47.4 +3.1
LBNH pmax pmax
comp=Z,257nm,2.3s
LBNH Lisbon 78.06 322 *eP* P 17 54 47.4 +3.1
comp=Z,257nm,2.3s
ODNJ Ogdensburg 78.06 318 *eP* P 17 54 47.6 +3.2
comp=Z,97nm,1.5s
DGRG David-gareji 78.08 42 P **P** **17 54 47.5 +3.0**
ISRV Sarvestan 78.20 56 *eP* **P** **17 54 44.2 -1.6**
ASUD Al Ashush, Dub 78.21 61⇑ P **P** **17 54 47.3 +1.8**
NHSC New Hope 78.25 309 PFAKE 17 55 00.0 +14
NHSC LR LR
comp=Z,4μm,20.0s
IRAZ Razeghan 78.31 49 *eP* **P** **17 54 44.6 -1.6**
IPAR Pars 78.33 55 *eP* **P** **17 54 45.9 -0.6**
FAQ Al Faqa, Dubai 78.48 61⇓ *iP* **P** **17 54 48.2 +1.2**
SNR=8.0
CBN Corbin 78.51 314 P **P** **17 54 46.9 0.0**
comp=Z,65nm,0.3s
CBN LR LR
comp=Z,3μm,21.0s
GOF Gofitskoye 78.56 38 *eP* **P** **17 54 46.7 -0.3**
GOF pmax pmax
comp=Z,64nm,1.2s
JSRW J. Sargeant Re 78.62 314 *eP* **P** **17 54 48.0 +0.5**
NAZ Nazwa, Dubai 78.62 61⇑ P **P** **17 54 48.1 +0.3**
IKLH Kolahrood 78.63 51 *eP* **P** **17 54 46.6 -1.4**
ACCN Adirondack Com 78.66 320 *eP* **P** **17 54 47.2 -0.4**
comp=Z,64nm,1.4s
MVL Millersville 78.67 316 *eP* **P** **17 54 49.2 +1.5**
comp=Z,64nm,1.3s
SDMD Soldier's Deli 78.72 316 *eP* **P** **17 54 47.4 -0.6**
comp=Z,94nm,1.2s
ARQ Araqi 78.77 62 P **P** **17 54 49.7 +1.1**
SNR=20
ASHO Ashiyiah 78.85 61 P P 17 54 52.6 +3.5
SNR=7.7
IGZV Ghazvin 78.96 48 *eP* P 17 54 46.3 -3.5
HATD Hatta, Dubai 78.96 61⇑ *iP* **P** **17 54 51.0 +1.3**
SNR=12
IZEF Zefreh 79.02 52 *eP* **P** **17 54 49.4 -0.8**
KSPA Keystone Colle 79.06 318 *eP* **P** **17 54 50.6 +0.7**
UOSS Wadi Hilu 79.07 61 P **P** **17 54 51.5 +1.2**
comp=Z,548nm,1.2s,SNR=7.7
IR3 Iran Long-Peri 79.14 49 *eP* **P** **17 54 49.0 -1.6**
NCB Newcomb 79.31 321 PFAKE 17 55 00.0 +8.8
NCB LR LR
comp=Z,2μm,20.0s
IVRN Varamin 79.45 50 *eP* **P** **17 54 52.6 +0.4**
BINY Binghamton 79.52 318 *eP* **P** **17 54 52.0 -0.4**
comp=Z,121nm,1.5s
BINY LR LR
comp=Z,1μm,19.0s
HOQ Hoqain 79.53 62 P P 17 54 56.1 +3.3
SNR=9.9
JSC Jenkinsville 79.57 309 *eP* **P** **17 54 53.9 +1.1**
JSC Jenkinsville 79.57 309 *eP* **P** **17 54 53.9 +1.1**
ISAD Sadrabad 79.67 53 *eP* **P** **17 54 54.2 +0.4**
VSU Vasula 79.77 21⇑ *eP* **P** **17 54 54.1 +0.8**
VSU pmax pmax
comp=Z,205nm,1.9s
JMDO Jabal Madar 79.80 64 P **P** **17 54 55.6 +1.3**
SNR=9.5
LONY Lake Ozonia 79.87 321 PFAKE 17 55 10.0 +16
LONY LR LR
comp=Z,2μm,22.0s
VORD Divnogorie 79.93 31 *eP* **P** **17 54 52.9 -1.4**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD MLR MLR
comp=N,400nm,18.0s
VORD MLR MLR
comp=E,2μm,18.0s
VORD MLR MLR
comp=Z,2μm,18.0s
KMSC Kings Mountain 79.99 310 P **P** **17 54 55.1 +0.1**
baz=80
SMDO Samad 79.99 63 P **P** **17 54 56.9 +1.4**
SNR=11
VSR Storozhevoye 80.02 31 *eP* **P** **17 54 53.5 -1.3**
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,50nm,1.1s
VSR MLR MLR
comp=N,880nm,22.0s
VSR MLR MLR
comp=E,2μm,22.0s
VSR MLR MLR
comp=Z,4μm,22.0s
TEIG Tepich 80.15 294 PFAKE 17 55 10.0 +14
TEIG LR LR
comp=Z,2μm,20.0s
IMEH Mehriz 80.19 54 *eP* **P** **17 54 54.7 -1.8**
TIGA Tifton 80.21 306 *eP* **P** **17 54 56.3 0.0**
BLA Blacksburg 80.21 312 *eP* **P** **17 54 56.2 -0.1**
BLA pmax pmax
comp=Z,140nm,1.5s
BLA MLR MLR
comp=Z,2μm,20.0s
BLA Blacksburg 80.21 312 *eP* **P** **17 54 56.2 -0.1**
comp=Z,140nm,1.5s
BLA LR LR
comp=Z,2μm,20.0s
MAK Makhachkala 80.21 41 *eP* **P** **17 54 54.6 -1.4**
MAK *ePPP* PPP 17 59 47.6
MAK *eS* **S** **18 04 59.3 -1.7**
MAK pmax pmax
comp=Z,115nm,1.2s
MAK MLR MLR
comp=Z,2μm,17.0s
VOR Voronezh 80.35 31 *eP* **P** **17 54 57.0 +0.4**
VOR pmax pmax
comp=Z,270nm,1.4s
ICHK Chekchek 80.36 53 *eP* **P** **17 54 56.7 -0.7**
IPRN Peran 80.44 49 *eP* **P** **17 54 55.7 -1.9**
IFIR Firoozkooh 80.49 50 *eP* **P** **17 54 59.2 +1.1**
ILAS Lasjerd 80.53 50 *eP* **P** **17 54 56.5 -1.8**
WBK Wadi Bani Khal 80.64 64 P **P** **17 55 00.6 +1.7**
SNR=13
GOGA Godfrey 80.89 308 *eP* **P** **17 55 00.4 +0.5**
GOGA pmax pmax
comp=Z,98nm,1.5s
GOGA MLR MLR
comp=Z,3μm,20.0s
GOGA Godfrey 80.89 308 *eP* **P** **17 55 00.4 +0.5**
comp=Z,98nm,1.5s
GOGA LR LR
comp=Z,3μm,20.0s
MCWV Mont Chateau 80.89 315 P **P** **17 54 59.7 -0.1**
comp=Z,106nm,1.4s
IBAF Bafgh 81.01 54 *eP* **P** **17 54 59.9 -0.9**
VRHR Novokhopersk 81.19 32 *eP* **P** **17 55 00.9 -0.2**
VRHR pmax pmax
comp=N,30nm,1.3s
VRHR pmax pmax
comp=Z,40nm,1.3s
VRHR pmax pmax
comp=E,30nm,1.1s
VRHR MLR MLR
comp=N,210nm,19.0s
VRHR MLR MLR
comp=E,1μm,19.0s
VRHR MLR MLR
comp=Z,2μm,19.0s
OBN Obninsk 81.25 27⇑ *iP* **P** **17 55 02.9 +1.6**
OBN *i* 17 58 07.5
OBN *i* S **S** **18 05 14.2 +3.0**
OBN pmax pmax
comp=Z,90nm,1.6s
OBN MLR MLR
comp=Z,4μm,19.0s
OBN Obninsk 81.25 27 PFAKE 17 55 10.0 +8.7
OBN LR LR
comp=Z,5μm,22.0s
IANJ Anjilo 81.28 50 *eP* **P** **17 55 01.3 -1.0**
IGLO Ghaloghah 81.64 49 *eP* **P** **17 55 03.1 -1.0**
SCHQ Schefferville 81.64 332 P **P** **17 55 02.5 -0.9**
SCHQ Schefferville 81.64 332 P **P** **17 55 02.5 -0.9**
comp=Z,20nm,0.7s,baz=111,slow=3.8,SNR=25
SCHQ LR LR 18 25 51.8
comp=Z,1μm,20.1s,baz=128,slow=32
FINES FINESS Array B 81.85 18 P **P** **17 55 03.7 -0.7**
FINES FINESS Array B 81.85 18 P **P** **17 55 03.7 -0.7**
comp=Z,7.7nm,0.7s,baz=211,slow=5.3,SNR=23
FINES LR LR 18 32 56.1
comp=Z,1μm,18.5s,baz=220,slow=37
TKL Tuckaleechee C 82.02 310 *eP* **P** **17 55 05.2 -0.6**
TKL Tuckaleechee C 82.02 310 P **P** **17 55 05.1 -0.8**
comp=Z,15nm,1.0s,baz=143,slow=9.0,SNR=7.1
ERPA Erie 82.10 317 *eP* **P** **17 55 05.7 -0.5**
comp=Z,155nm,1.1s
ERPA LR LR
comp=Z,2μm,22.0s
MOS Moscow 82.11 27 *eP* **P** **17 55 03.9 -1.9**
MOS *e* 17 58 18.8
MOS *ePPP* PPP 18 00 09.3
MOS pmax pmax
comp=Z,210nm,1.9s
MOS MLR MLR
comp=N,2μm,18.0s
MOS MLR MLR
comp=E,3μm,18.0s
MOS MLR MLR
comp=Z,4μm,18.0s
TZTN Tazewell 82.20 311 *eP* **P** **17 55 07.5 +0.7**
comp=Z,96nm,1.5s
SADO Sadowa 82.77 320 P **P** **17 55 08.3 -1.2**
SADO Sadowa 82.77 320 P **P** **17 55 08.3 -1.2**
comp=Z,17nm,1.0s,baz=94,slow=2.4,SNR=4.8
BRAL Brewton 82.80 304 *eP* **P** **17 55 09.0 -1.0**
BRAL LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 83.31 314 *eP* **P** **17 55 12.0 -0.5**
comp=Z,90nm,1.2s
ACSO LR LR
comp=Z,3μm,20.0s
SWET Sewanee 83.47 309 *eP* **P** **17 55 12.7 -0.8**
comp=Z,80nm,1.2s
LRAL Lakeview Retre 83.48 306 *eP* **P** **17 55 12.9 -0.6**
comp=Z,69nm,1.3s
IKOO Kooshah 84.03 55 *eP* **P** **17 55 15.6 -1.1**
AAM Ann Arbor 84.63 316 PFAKE 17 55 30.0 +11
AAM LR LR
comp=Z,3μm,22.0s
IDAH Dahanechah 84.83 55 *eP* **P** **17 55 20.6 -0.1**
WCI Wyandotte Cave 84.88 311 *eP* **P** **17 55 19.9 -0.7**
WCI pmax pmax
comp=Z,79nm,0.7s
WCI Wyandotte Cave 84.88 311 *eP* **P** **17 55 19.9 -0.7**
comp=Z,79nm,0.7s
ISHV Shirvan 84.89 49 *eP* **P** **17 55 19.7 -1.2**
SFJD Kangerlussuaq 85.11 347 P **P** **17 55 20.6 -0.4**
SFJD Kangerlussuaq 85.11 347 P **P** **17 55 20.6 -0.4**
comp=Z,16nm,0.7s,baz=166,slow=5.4,SNR=9.6
IKRD Kardeh 85.22 50 *eP* **P** **17 55 24.5 +1.9**
WVT Waverly 85.24 309 *eP* **P** **17 55 19.7 -2.7**
WVT pmax pmax
comp=Z,90nm,1.2s
WVT Waverly 85.24 309 *eP* **P** **17 55 19.7 -2.7**
comp=Z,90nm,1.2s
DGAR Diego Garcia 85.27 96 PFAKE 17 55 30.0 +6.9
DGAR LR LR
comp=Z,4μm,21.0s
ABKT Ailbek 85.35 49 P **P** **17 55 22.9 -0.1**
comp=Z,222nm,1.5s,SNR=12
ISRO Mashad 85.77 51 *eP* P 17 55 21.5 -3.7
OXF Oxford 85.88 307 *eP* P 17 55 22.1 -3.5
OXF pmax pmax
comp=Z,74nm,1.0s
OXF Oxford 85.88 307 *eP* P 17 55 22.1 -3.5
comp=Z,74nm,1.0s
KLMR Klimovskoe 86.10 23 *eP* **P** **17 55 24.4 -1.7**
KLMR *e* 17 58 45.2
KLMR S **SKSac** **18 05 44.9 -6.7**
KLMR pmax pmax
comp=Z,130nm,1.7s
KLMR MLR MLR
comp=Z,7μm,21.0s
IMYA Miami 86.26 51 *eP* **P** **17 55 26.8 -0.9**
SFIN Scholer Farm 86.26 313 P **P** **17 55 26.2 -1.2**
baz=86
OLIL Olney 86.38 311 *eP* **P** **17 55 25.6 -2.4**
comp=Z,106nm,1.2s
GNAR Gosnell 86.84 308 P **P** **17 55 27.5 -2.8**
comp=Z,2μm,1.1s
PARMO Parma 86.88 309 *eP* **P** **17 55 29.1 -1.4**
PBMO Poplar Bluff 87.43 309 *eP* **P** **17 55 32.3 -0.8**
comp=Z,527nm,2.8s
FRB Frobisher Bay 87.92 339 P **P** **17 55 33.5 -1.4**
FRB Frobisher Bay 87.92 339 P **P** **17 55 33.5 -1.4**
comp=Z,7.4nm,0.8s,baz=113,slow=5.8,SNR=7.7
SUMG Summit 87.93 353 *eP* **P** **17 55 37.0 +1.8**
SUMG pmax pmax
comp=Z,705nm,2.9s
SUMG Summit 87.93 353 *i* P **P** **17 55 37.2 +2.0**
comp=Z,10nm,0.8s
SUMG Summit 87.93 353 *eP* **P** **17 55 37.0 +1.8**
comp=Z,705nm,2.9s
ARCES ARCESS Array B 88.01 13 P **P** **17 55 35.4 +0.2**
ARCES ARCESS Array B 88.01 13 P **P** **17 55 35.4 +0.2**
comp=Z,7.1nm,0.7s,baz=297,slow=5.3,SNR=11
ARCES LR LR 18 35 15.3
comp=Z,1μm,19.2s,baz=224,slow=36
SBA Scott Base 88.21 180 *eP* **P** **17 55 36.5 +0.3**
SBA pmax pmax
comp=Z,257nm,1.4s
SBA MLR MLR
comp=Z,1μm,21.0s
SBA Scott Base 88.21 180 *eP* **P** **17 55 36.5 +0.3**
comp=Z,257nm,1.4s
SBA LR LR
comp=Z,1μm,21.0s
APA Apatity 88.51 17 *eP* **P** **17 55 37.0 -0.6**
APA MLR MLR
comp=Z,7μm,15.0s
VNDA Vanda 88.52 179 *eP* **P** **17 55 37.4 -0.3**
comp=Z,156nm,1.9s
VNDA Vanda 88.52 179 P **P** **17 55 38.1 +0.4**
comp=Z,4.2nm,0.9s,baz=196,slow=5.1,SNR=14
VNDA LR LR 18 31 56.1
comp=Z,1μm,18.2s,baz=174,slow=33
PRGR Permogore 88.96 24 *eP* **P** **17 55 38.4 -1.4**
PRGR pmax pmax
comp=Z,64nm,1.1s
MIAR Mount Ida 89.14 306 PFAKE 17 55 50.0 +8.6
MIAR LR LR
comp=Z,1μm,20.0s
JFWS Jewell Farm 89.37 315 *eP* **P** **17 55 40.6 -1.6**
JFWS pmax pmax
comp=Z,62nm,1.3s
JFWS MLR MLR

comp=Z,3µm,20.0s
JFWS Jewell Farm 89.37 315 *e*P **P** **17 55 40.6 -1.6**
comp=Z,62nm,1.3s
JFWS LR LR
comp=Z,3µm,20.0s
HKT Hockley 89.63 301 *e*P **P** **17 55 43.9 +0.3**
HKT pmax pmax
comp=Z,106nm,1.7s
HKT Hockley 89.63 301 *e*P **P** **17 55 43.9 +0.3**
comp=Z,106nm,1.7s
COWI Conover 89.73 318 PFAKE 17 55 50.0 +6.2
COWI LR LR
comp=Z,2µm,19.0s
CASY Casey 90.22 161 PFAKE 17 56 00.0 +14
CASY LR LR
comp=Z,2µm,22.0s
636A Smothers Creek 90.53 300 P **P** **17 55 48.6 +0.6**
baz=91
536A Bastrop 90.69 301 P **P** **17 55 49.1 +0.4**
baz=91
ABKAR Akbulak array 90.71 39 *e*P **P** **17 55 48.1 -0.2**
KVTX Kingsville 90.72 298 PFAKE 17 56 00.0 +11
KVTX LR LR
comp=Z,2µm,19.0s
035A Encino 90.73 297 P **P** **17 55 50.7 +1.8**
baz=91
735A Kenedy 90.99 299 P **P** **17 55 50.4 +0.3**
baz=91
635A Leesville 91.10 300 P **P** **17 55 51.3 +0.7**
baz=91
535A Dale 91.10 301 P **P** **17 55 50.9 +0.3**
baz=91
SCIA State Center 91.12 313 *e*P **P** **17 55 50.0 -0.4**
comp=Z,927nm,3.0s
SCIA LR LR
comp=Z,2µm,20.0s
TUL1 Tulsa 91.28 307 *e*P **P** **17 55 52.0 +0.7**
TUL1 Tulsa 91.28 307 P **P** **17 55 51.4 +0.1**
baz=91
435B Jarrell 91.32 301 P **P** **17 55 51.5 -0.1**
baz=91
WHTX Lake Whitney 91.53 302 P **P** **17 55 51.8 -0.7**
baz=92
734A La Parita Cree 91.62 299 P **P** **17 55 53.6 +0.6**
baz=92
135A Vickery Place, 91.65 303 P **P** **17 55 52.3 -0.8**
baz=92
Z35A Perchaven, San 91.73 304 P **P** **17 55 53.0 -0.5**
baz=92
534A Blanco 91.86 300 P **P** **17 55 54.1 -0.1**
baz=92
SPMN St. Paul 91.86 316 *e*P **P** **17 55 54.1 +0.3**
EYMN Ely 91.87 319 PFAKE 17 56 00.0 +6.2
EYMN LR LR
comp=Z,1µm,20.0s
434A Burnet 91.89 301 P **P** **17 55 54.1 -0.2**
baz=92
933A Laredo 91.92 298 P **P** **17 55 53.9 -0.6**
baz=92
334A Lometa 92.00 302 P **P** **17 55 54.1 -0.7**
baz=92
234A Clairette 92.09 302 P **P** **17 55 55.0 -0.2**
baz=92
134A White-Moore Ra 92.20 303 P **P** **17 55 55.7 0.0**
baz=92
833A Chaparral WMA, 92.20 299 P **P** **17 55 56.3 +0.5**
baz=92
733A Divot King Ran 92.22 299 P **P** **17 55 56.0 +0.2**
baz=92
Z34A Collier Ranch, 92.27 304 P **P** **17 55 56.0 0.0**
baz=92
Y34A Reagan Ranch, 92.30 304 P **P** **17 55 55.3 -0.8**
baz=92
633A Saathoff Ranch 92.30 300 P **P** **17 55 56.2 0.0**
baz=92
533A Kerrville 92.34 300 P **P** **17 55 56.7 +0.3**
baz=92
KULLO Kullorsuaq 92.45 350 *e*P **P** **17 55 56.5 +0.7**
KULLO pmax pmax
comp=Z,12nm,1.0s
KULLO Kullorsuaq 92.45 350 *i* P **P** **17 55 56.5 +0.7**
comp=Z,12nm,1.0s
X34A Smith Ranch, M 92.53 305 P **P** **17 55 57.7 +0.5**
baz=93
ARU Arti 92.53 32*c i*P **P** **17 55 55.8 -0.8**
ARU 17 59 36.6
ARU S **SKSac** **18 06 28.9 -0.8**
ARU SP **SP** **18 08 10.5 -0.7**
ARU SS **SS** **18 13 09.8 -2.7**
ARU pmax pmax
comp=Z,79nm,2.5s
ARU MLR MLR
comp=Z,2µm,18.0s
ARU Arti 92.53 32 PFAKE 17 56 10.0 +13
ARU LR LR
comp=Z,2µm,19.0s
433A Art 92.56 301 P **P** **17 55 56.5 -0.8**
baz=93
V34A Guthrie 92.61 306 P **P** **17 55 56.9 -0.5**
baz=93
333A Richland Sprin 92.62 301 P **P** **17 55 57.1 -0.5**
baz=93
W34A Bridge Creek, 92.65 306 P **P** **17 55 57.7 0.0**
baz=93
832A Faith Ranch, C 92.69 298 P **P** **17 55 58.5 +0.5**
baz=93
233A Rising Star 92.72 302 P **P** **17 55 58.2 +0.1**
baz=93
U34A Anderson Ranch 92.78 307 P **P** **17 55 57.4 -0.8**
baz=93
KSU1 Kansas State U 92.79 309 PFAKE 17 56 10.0 +12
KSU1 LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 92.79 309 P **P** **17 55 58.6 +0.4**
baz=93
732A Laxson Ranch, 92.79 299 P **P** **17 55 58.7 +0.2**
baz=93
632A Uvalde 92.83 300 P **P** **17 55 58.3 -0.3**
baz=93
133A Hamilton Ranch 92.89 303 P **P** **17 55 59.3 +0.4**
baz=93
Z33A Whitaker Ranch 92.94 303 P **P** **17 55 59.8 +0.8**
baz=93
Y33A Hilltop Ranch, 93.01 304 P **P** **17 55 59.5 +0.2**
baz=93
532A Rocksprings 93.08 300 P **P** **17 55 59.8 0.0**
baz=93
JCT Junction City 93.08 300 *e*P **P** **17 55 59.4 -0.4**
JCT pmax pmax
comp=Z,37nm,1.0s
JCT MLR MLR
comp=Z,969nm,22.0s
JCT Junction City 93.08 300 *e*P **P** **17 55 59.4 -0.4**
comp=Z,37nm,1.0s
JCT LR LR
comp=Z,969nm,22.0s
JCT Junction City 93.08 300 P **P** **17 55 59.4 -0.4**
baz=93
432A Menard 93.18 301 P **P** **17 55 59.9 -0.3**
baz=93
W33A Caddo, Fort Co 93.18 305 P **P** **17 56 00.6 +0.5**
baz=93
V33A Lossen Ranch, 93.21 306 P **P** **17 56 00.7 +0.4**
baz=93
U33A Lingo Farm, Me 93.23 307 P **P** **17 56 00.7 +0.3**
baz=93
332A Millersview 93.26 301 P **P** **17 55 60.0 -0.6**
baz=93
232A Coleman 93.31 302 P **P** **17 56 01.1 +0.2**
baz=93
WMOK Wichita Mounta 93.32 305 P **P** **17 56 02.5 +1.7**
WMOK pmax pmax
comp=Z,50nm,1.7s
WMOK MLR MLR
comp=Z,1µm,19.0s
WMOK Wichita Mounta 93.32 305 P **P** **17 56 02.5 +1.7**
comp=Z,50nm,1.7s
WMOK LR LR
comp=Z,1µm,19.0s
S33A Kaszmaul Farm, 93.44 308 P **P** **17 56 01.9 +0.6**
baz=94
631A Perdido Creek 93.47 299 P **P** **17 56 01.4 -0.2**
baz=94
ABTX Abilene, Hawle 93.49 303 *e*P **P** **17 56 03.2 +1.6**
ABTX Abilene, Hawle 93.49 303 P **P** **17 56 02.0 +0.4**
baz=94
Z32A Haskell 93.52 303 P **P** **17 56 02.4 +0.6**
baz=94
531A Rocksprings 93.63 300 P **P** **17 56 01.2 -1.2**
baz=94
Y32A R-V Farms, Ver 93.67 304 P **P** **17 56 02.9 +0.5**
baz=94
Q33A Connelly Farm, 93.68 309 P **P** **17 56 02.5 +0.2**
baz=94
P33A Williams Farm, 93.69 310 P **P** **17 56 02.8 +0.4**
baz=94
SVE Sverdlovsk 93.75 32 *e*P **P** **17 56 02.4 +0.2**
SVE *e* 17 59 52.2
SVE *e*S **SKSac** **18 06 33.4 -3.0**
SVE pmax pmax
comp=Z,52nm,1.9s
SVE MLR MLR
comp=Z,2µm,16.0s
V32A Arapaho 93.78 306 P **P** **17 56 02.7 -0.2**
baz=94
W32A Sentinel 93.79 305 P **P** **17 56 03.5 +0.6**
baz=94
331A San Angelo 93.81 301 P **P** **17 56 03.5 +0.3**
baz=94
431A Sonora 93.81 301 P **P** **17 56 02.9 -0.3**
baz=94
231A Bronte 93.87 302 P **P** **17 56 02.9 -0.5**
baz=94
ECSD EROS Data Cent 94.04 314 *e*P **P** **17 56 01.9 -2.0**
comp=Z,45nm,1.3s
ECSD LR LR
comp=Z,2µm,21.0s
ECSD EROS Data Cent 94.04 314 P **P** **17 56 02.5 -1.4**
baz=94
Z31A Sharp Cattle R 94.06 303 P **P** **17 56 03.8 -0.5**
baz=94
131A Roby 94.11 302 P **P** **17 56 04.3 -0.2**
baz=94
S32A Newby Ranch, P 94.19 308 P **P** **17 56 04.6 -0.1**
baz=94
R32A Long Quarter, 94.20 308 P **P** **17 56 04.8 0.0**
baz=94
Q32A Meitler Ranch, 94.22 309 P **P** **17 56 05.0 +0.2**
baz=94
X31A McDonald Ranch 94.25 304 P **P** **17 56 04.8 -0.3**
baz=94
530A J-C Ranch, Com 94.29 300 P **P** **17 56 05.4 0.0**
baz=94
Y31A Rekieta Farm, 94.32 304 P **P** **17 56 05.7 +0.3**
baz=94
430A Baggett Ranch, 94.36 300 P **P** **17 56 05.6 -0.1**
baz=94
P32A Huiting Farm, 94.42 310 P **P** **17 56 05.9 +0.2**
baz=94
V31A Spring Creek L 94.42 306 P **P** **17 56 05.7 -0.2**
baz=94
330A Mertzon 94.45 301 P **P** **17 56 06.7 +0.6**
baz=94
230A Sterling City 94.52 302 P **P** **17 56 07.1 +0.7**
baz=94
130A Snyder 94.56 302 P **P** **17 56 06.8 +0.2**
baz=95
U31A Nine Bar Ranch 94.57 306 P **P** **17 56 07.6 +1.0**
baz=95
S31A Mullinville 94.59 307 P **P** **17 56 07.0 +0.4**
baz=95
T31A Randall Ranch, 94.61 307 P **P** **17 56 07.3 +0.6**
baz=95
AGMN Agassiz Nation 94.77 319 PFAKE 17 56 20.0 +13
AGMN LR LR
comp=Z,1µm,21.0s
R31A Burdett 94.79 308 P **P** **17 56 06.9 -0.6**
baz=95
Z30A Sanderson Ranc 94.86 303 P **P** **17 56 06.7 -1.2**
baz=95
429A Davenport Ranc 94.87 300 P **P** **17 56 07.1 -1.0**
baz=95
ULM Lac du Bonnet 95.30 320 *e*P P 17 56 13.9 +4.4
ULM Lac du Bonnet 95.30 320 P **P** **17 56 07.7 -1.8**
comp=Z,3.5nm,1.0s,baz=59,slow=5.9,SNR=3.6
ULM LR LR 18 32 29.4
comp=Z,1µm,19.8s,baz=89,slow=31
Z29A Hungry Hill Ra 95.32 303 P **P** **17 56 09.5 -0.6**
baz=95
R30A Dighton 95.36 308 P **P** **17 56 09.7 -0.4**
baz=95
628A Black Gap, Mar 95.45 299 P **P** **17 56 10.8 +0.1**
baz=96
528A Cox Ranch, San 95.52 300 P **P** **17 56 10.4 -0.8**
baz=96
428A Kincaid Ranch, 95.56 300 P **P** **17 56 10.4 -0.8**
baz=96
228A UT Block 9, Go 95.79 302 P **P** **17 56 12.5 +0.2**
baz=96
627A Terlingua Ranc 95.87 299 P **P** **17 56 12.6 -0.1**
baz=96
KKAR Karatay Array 95.91 47 *e*P P 17 56 19.3 +6.8
KKAR Karatay Array 95.91 47 *e*P P 17 56 19.3 +6.8
Y28A McKinney Farm, 95.91 303 P **P** **17 56 13.5 +0.7**
baz=96
J30A Dallas 95.97 313 P **P** **17 56 13.6 +0.9**
baz=96
X28A Dimmitt 96.00 304 P **P** **17 56 13.6 +0.4**
baz=96
TXAR Lajitas Array 96.08 299 P **P** **17 56 12.6 -1.1**
TXAR Lajitas Array 96.08 299 P **P** **17 56 12.6 -1.1**
comp=Z,1.2nm,0.8s,baz=120,slow=7.4,SNR=8.8
TXAR LR LR 18 36 08.6
comp=Z,334nm,21.9s,baz=0.0,slow=33
527A Woodward Ranch 96.21 299 P **P** **17 56 14.0 -0.3**
baz=96
K29A Lazy Trails An 96.42 312 P **P** **17 56 15.6 +0.7**
baz=96
U28A Mallet 96.44 306 P **P** **17 56 15.3 +0.2**
baz=96
626A Big Bend Ranch 96.53 299 P **P** **17 56 15.6 0.0**
baz=96
526A Mary Lane Ranc 96.60 299 P **P** **17 56 15.5 -0.5**
baz=97
Y27A Causey 96.65 303 P **P** **17 56 14.8 -1.4**
baz=97
HYB Hyderabad 96.96 74 *i* P **P** **17 56 17.0 -0.8**
HYB *e*PP **PP** **18 00 17.0 +3.4**
HYB *e* 18 02 20.0
HYB *e*SKS **SKSac** **18 06 56.0 +0.7**
HYB *e* 18 07 44.0
HYB *e*PS **PS** **18 08 54.0 -9.4**
A29A Manning Farm, 97.09 319 P **P** **17 56 16.7 -0.9**
baz=97
OGNE Ogallala 97.28 310 *e*P Pdif 17 56 20.2 +1.3
OGNE LR LR
comp=Z,3µm,21.0s
R27A Eads 97.29 308 P **P** **17 56 17.9 -1.1**
baz=97
S26A Kim 97.67 307 P **P** **17 56 19.7 -1.1**
baz=98
MNTX Cornudas Mount 98.02 301 PFAKE 17 56 30.0 +7.7
MNTX LR LR
comp=Z,648nm,19.0s
BRVK Borovoye 98.03 37 PFAKE 17 56 30.0 +8.2
BRVK LR LR
comp=Z,2µm,20.0s
EKS2 Erkin-Say 98.15 48 *e*P Pdif 17 56 24.9 +2.1
EKS2 pmax pmax
comp=Z,14nm,1.5s
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 98.15 48 *e*P Pdif 17 56 24.9 +2.1
comp=Z,14nm,1.5s
EKS2 LR LR
comp=Z,2µm,19.0s
VOSK Vostochnaya 98.37 38 *e*P **P** **17 56 23.2 -0.1**
VOSK pmax pmax
comp=Z,16nm,1.4s
VOSK Vostochnaya 98.37 38 *e*P **P** **17 56 23.2 -0.1**
comp=Z,16nm,1.4s
AAK Ala-Archa 98.67 48 *e*P Pdif 17 56 26.9 +1.7
AAK pmax pmax
comp=Z,35nm,2.2s
AAK MLR MLR
comp=Z,3µm,20.0s
AAK Ala-Archa 98.67 48 *e*P Pdif 17 56 26.9 +1.7
comp=Z,35nm,2.2s
AAK LR LR
comp=Z,3µm,20.0s
FRU Bishkek 98.79 48 *e*P Pdif 17 56 33.0 +7.5
FRU *e* 18 00 25.0
FRU *e* 18 14 42.0
KSH Kashi 99.18 52 *e*P **Pdif** **17 56 28.0 +0.6**
KSH *e*PP **PP** **18 00 31.5 +1.2**
KSH *e*SKS **SKSac** **18 07 04.0 -1.9**
KSH *e*S **S** **18 07 53.3 -5.7**
KSH *es*S **ScS** **18 08 01.3 +2.3**
KSH *e*SS **SS** **18 14 42.0 -5.8**
KSH pmax pmax
comp=Z,390nm,5.7s
KSH LR LR
comp=Z,550nm,6.0s
KSH LR LR
comp=Z,1µm,17.1s
KSH LR LR
comp=Z,2µm,20.3s
SDCO Great Sand Dun 99.28 307 PFAKE 17 56 40.0 +12
SDCO LR LR
comp=Z,2µm,21.0s
TKM2 Tokmak 2 99.52 48 PFAKE 17 56 40.0 +11
TKM2 LR LR
comp=Z,2µm,19.0s
ANMO Albuquerque 99.53 304 *e*P **Pdif** **17 56 33.2 +4.0**
ANMO PP **PP** **18 00 38.0 +4.8**
ANMO LR LR
comp=Z,1µm,20.0s
ANMO Albuquerque 99.53 304 P **Pdif** **17 56 29.1 0.0**
comp=Z,0.5nm,0.4s,baz=135,slow=3.5,SNR=7.1
ANMO PP **PP** **18 00 38.0 +4.8**
comp=Z,1.6nm,0.8s,baz=85,slow=8.0,SNR=3.7
ISCO Idaho Springs 99.74 309 PFAKE 17 56 40.0 +10
ISCO LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 100.22 317 PFAKE 17 56 40.0 +8.3
DGMT LR LR
comp=Z,2µm,21.0s
SMCO Snowmass 100.67 308 *e*Pdif **Pdif** **17 56 39.2 +4.8**
LAO LASA Array 101.30 315 PFAKE 17 56 50.0 +13
LAO LR LR
comp=Z,3µm,21.0s
MVCO Mesa Verde 101.54 306 PFAKE 17 56 50.0 +12
MVCO LR LR
comp=Z,1µm,19.0s
TUC Tucson 102.65 300 PFAKE 17 56 50.0 +7.0
TUC LR LR
comp=Z,1µm,21.0s
KURBB Kurchatov Arra 102.66 41 PP PP 18 00 55.4 -0.7
comp=Z,1.7nm,1.1s,baz=270,slow=7.6,SNR=6.4
KURBB PKKPbc **PKKPbc** **18 12 40.2 -3.4**
comp=Z,0.4nm,0.5s,baz=83,slow=3.0,SNR=9.0
KURK Kurchatov 102.73 41 PP PP 18 00 55.4 -1.2
KURK PKKPbc **PKKPbc** **18 12 40.2 -3.2**
KURK LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 103.12 311 PFAKE 17 57 00.0 +15
BW06 LR LR
comp=Z,2µm,22.0s
RLMT Red Lodge 103.20 314 PFAKE 17 57 00.0 +15
RLMT LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 103.59 304 PFAKE 17 57 00.0 +13
WUAZ LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 103.84 316 PFAKE 17 57 00.0 +12
EGMT LR LR
comp=Z,2µm,21.0s
AHID Auburn Hatcher 104.25 311 PFAKE 17 57 00.0 +10
AHID LR LR
comp=Z,2µm,21.0s
MKAR Makanchi Array 104.75 45 P **Pdif** **17 56 51.8 -0.2**
MKAR Makanchi Array 104.75 45 Pdif **Pdif** **17 56 51.8 -0.2**
MKAR PKiKP **PKiKP** **18 01 06.4 -1.0**
MKAR PKKP **PKKPab** **18 12 52.9 -0.4**
MKAR Makanchi Array 104.75 45 Pdiff **Pdif** **17 56 51.8 -0.2**
comp=Z,0.2nm,0.6s,baz=212,slow=5.1,SNR=2.6
MKAR PKiKP **PKiKP** **18 01 06.4 -1.0**
comp=Z,0.3nm,0.9s,baz=268,slow=4.3,SNR=3.5
MKAR PKKP **PKKPab** **18 12 52.9 -0.4**
comp=Z,0.7nm,0.8s,baz=87,slow=6.2,SNR=4.5
BOZ Bozeman (W) 104.91 314 PFAKE 17 57 00.0 +7.2
BOZ LR LR
comp=Z,2µm,22.0s
DUG Dugway 105.27 308 PFAKE 18 01 20.0
DUG LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 105.39 310 *e*PP PP 18 01 17.7 +0.8
BGU Big Grassy Mou 105.50 309 *e*PP PP 18 01 18.9 +1.1
PTCN Pitcairn Islan 106.16 238 PFAKE 18 01 20.0
PTCN LR LR
comp=Z,3µm,20.0s
HLID Hailey 106.73 312 PFAKE 18 01 20.0
HLID LR LR
comp=Z,1µm,19.0s
ZALV Zalesovo Beam 106.74 38 PKKPbc PKKPbc 18 12 28.9 -2.5
ZALV Zalesovo Beam 106.74 38 PP PP 18 01 22.8 -3.5
comp=Z,0.7nm,0.6s,baz=261,slow=7.4,SNR=4.1
ZALV PKKPbc **PKKPbc** **18 12 28.9 -2.5**
comp=Z,1.2nm,0.7s,baz=126,slow=2.0,SNR=5.5
YKA Yellowknife Ar 107.08 331 Pdif **Pdif** **17 57 05.0 +3.2**
YKA PKKPbc **PKKPbc** **18 12 30.6 0.0**
YKA Yellowknife Ar 107.08 331 Pdiff **Pdif** **17 57 05.0 +3.2**
comp=Z,0.2nm,0.6s,baz=95,slow=4.4,SNR=3.0
YKA PKKPbc **PKKPbc** **18 12 30.5 0.0**
comp=Z,0.5nm,0.9s,baz=272,slow=3.1,SNR=3.9
COCO West Island 107.11 108 PFAKE 18 01 20.0
COCO LR LR
comp=Z,2µm,20.0s
PFO Pinyon Flat Ob 107.54 301 PFAKE 18 01 20.0
PFO LR LR
comp=Z,1µm,21.0s
WMQ Urumqi 108.38 48 Pdif **Pdif** **17 57 09.5 +1.3**
WMQ PP PP 18 01 45.3 +6.6
WMQ S **Sdif** **18 09 14.5 -1.0**
WMQ SS **SS** **18 16 57.0 +3.0**
WMQ AMB AMB
comp=Z,85nm,7.2s
WMQ LR LR
comp=Z,960nm,25.0s
WMQ LR LR
comp=Z,1µm,19.9s
WMQ LR LR
comp=Z,2µm,28.0s
NEW Newport 108.78 316 PFAKE 18 01 30.0
NEW LR LR
comp=Z,3µm,22.0s
BMO Blue Mountains 108.87 313 PFAKE 18 01 30.0
BMO LR LR
comp=Z,2µm,20.0s
NVAR Mina Array Bea 109.38 306 PKKPab PKKPab 18 12 30.2 -3.0
NVAR Mina Array Bea 109.38 306 PP PP 18 01 40.8 -5.6
comp=Z,0.3nm,0.6s,baz=100,slow=6.2,SNR=3.6
NVAR PKKPab **PKKPab** **18 12 30.2 -3.0**
comp=Z,1.1nm,0.8s,baz=269,slow=4.1,SNR=5.7
WVOR Wild Horse Val 109.78 310 PFAKE 18 01 30.0
WVOR LR LR
comp=Z,2µm,20.0s
LSA Lhasa 110.30 63 PFAKE 18 01 30.0
LSA LR LR
comp=Z,3µm,19.0s
HAWA Hanford 110.43 314 PFAKE 18 01 30.0
HAWA LR LR
comp=Z,1µm,20.0s
RKT Rikitea 111.02 238 *e*SP SP 18 11 26.6 -1.0
comp=Z,664nm,30.0s
RKT *e*SS **SS** **18 17 30.1 +0.7**
comp=Z,721nm,28.5s
RKT Rikitea 111.02 238 *e*LR LR 18 34 13.2
comp=Z,3µm,31.0s
NLWA Neilton Lookou 113.36 316 PFAKE 18 01 30.0
NLWA LR LR
comp=Z,2µm,20.0s
INK Inuvik 113.57 339 PKiKP **PKiKP** **18 01 22.6 -0.7**
INK Inuvik 113.57 339 PKiKP **PKiKP** **18 01 22.6 -0.7**
comp=Z,1.7nm,1.1s,baz=52,slow=4.6,SNR=3.4
MHMT Maesarieng 115.27 76 PKP PKPdf 18 01 34.9 +7.0
KULM Kulim 115.63 91 PFAKE 18 01 40.0 +11
KULM LR LR
comp=Z,4µm,20.0s
UMPA Umpang Tak 115.89 79 PKP PKPdf 18 01 23.3 -5.9
CM31 Chiang Mai Arr 116.26 76 *e*PKPdf **PKPdf** **18 01 28.8 -1.1**
CMAR Chiang Mai Arr 116.26 76 PKP **PKPdf** **18 01 29.0 -0.9**
CMAR PKKPbc **PKKPbc** **18 11 59.5 +0.6**
CMAR Chiang Mai Arr 116.26 76 PKP **PKPdf** **18 01 29.0 -0.9**
comp=Z,2.6nm,1.0s,baz=259,slow=3.5,SNR=14
CMAR PKKPbc **PKKPbc** **18 11 59.5 +0.6**
comp=Z,0.6nm,0.8s,baz=118,slow=1.0,SNR=5.5
CHTO Chiang Mai 116.30 76 *e*PKiKP **PKPdf** **18 01 28.8 -1.2**
CHTO MLR MLR

	comp=Z,5μm,20.0s							
CHTO	**Chiang Mai**	**116.30**	**76**	PKP	**PKPdf**	**18 01 32.9**	**+3.0**
CHTO	**Chiang Mai**	**116.30**	**76**	*e*PKPdf	**PKPdf**	**18 01 28.8**	**-1.2**
CHTO				LR	LR		
	comp=Z,5μm,20.0s						
WRAK	**Wrangell Islan**	**116.95**	**327**	PFAKE		18 01 40.0	+10
WRAK				LR	LR		
	comp=Z,2μm,19.0s						
GTA	**Gaotai**	**117.55**	**53**	*e*PKP	**PKPdf**	**18 01 30.5**	**-1.5**
GTA				PP	**PP**	**18 02 44.5**	**+0.3**
GTA				PKS	**PKSdf**	**18 05 06.5**	**-2.2**
GTA				SKS	**SKSdf**	**18 08 41.8**	**-2.3**
GTA				SKKS	**SKKSac**	**18 09 40.3**	**-4.7**
GTA				SS	**SS**	**18 18 56.0**	**+0.1**
GTA				AMB	AMB		
	comp=Z,330nm,6.4s						
GTA				LR	LR		
	comp=Z,550nm,21.1s						
GTA				LR	LR		
	comp=Z,1μm,21.9s						
GTA				LR	LR		
	comp=Z,2μm,22.8s						
UTTA	**Uttaradit**	**117.69**	**77**	PKP	PKPdf	18 01 39.6	+7.0
EGAK	**Eagle**	**117.85**	**337**	PFAKE		18 01 40.0	+8.4
EGAK				LR	LR		
	comp=Z,1μm,19.0s						
PBKT	**Sadao Pong**	**117.94**	**79**	PKP	PKPdf	18 01 39.9	+6.8
TLY	**Talaya**	**118.31**	**39**	*i* PKIKP	**PKPdf**	**18 01 32.7**	**-0.2**
TLY				*e*PS	**PS**	**18 12 33.9**	**-1.6**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TLY	**Talaya**	**118.31**	**39**	PFAKE		18 01 40.0	+7.1
TLY				LR	LR		
	comp=Z,3μm,21.0s						
ZAK	**Zakamensk**	**118.39**	**40**	*e*PKIKP	**PKPdf**	**18 01 29.5**	**-3.7**
ZAK				*e*		18 02 51.2	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
TIXI	**Tiksi**	**118.44**	**12**	PFAKE		18 01 40.0	+7.5
TIXI				LR	LR		
	comp=Z,1μm,21.0s						
CHBT	**CHBT**	**118.70**	**83**	PKP	PKPdf	18 01 41.6	+7.0
ILAR	**Eielson Array**	**119.95**	**339**	PKP	**PKPdf**	**18 01 33.9**	**-1.7**
ILAR				PKKPbc	**PKKPbc**	**18 11 50.4**	**+3.6**
ILAR				SKKPbc	SKKPbc	18 15 25.6	-11
ILAR	**Eielson Array**	**119.95**	**339**	PKP	**PKPdf**	**18 01 33.9**	**-1.7**
	comp=Z,1.9nm,1.0s,baz=249,slow=0.9,SNR=9.0						
ILAR				PKKPbc	**PKKPbc**	**18 11 50.4**	**+3.6**
	comp=Z,1.8nm,1.2s,baz=288,slow=3.7,SNR=4.4						
ILAR				SKKPbc	SKKPbc	18 15 25.6	-11
	comp=Z,1.2nm,1.0s,baz=247,slow=4.4,SNR=4.6						
COLA	**College**	**120.23**	**339**	PFAKE		18 01 50.0	+14
COLA				LR	LR		
	comp=Z,2μm,20.0s						
KMI	**Kunming**	**120.31**	**69**	PKP	**PKPdf**	**18 01 36.5**	**-1.3**
KMI				sPKP		18 01 41.5	
KMI				PP	**PP**	**18 03 07.0**	**+3.1**
KMI				SKKS		18 09 59.0	
KMI				S	**Sdif**	**18 10 52.5**	**-3.6**
KMI				SS	**SS**	**18 19 33.3**	**+0.7**
KMI				AMB	AMB		
	comp=Z,140nm,6.4s						
KMI				LR	LR		
	comp=Z,550nm,20.8s						
KMI				LR	LR		
	comp=Z,840nm,24.1s						
KMI				LR	LR		
	comp=Z,1μm,19.9s						
TAU	**Tasmania Unive**	**120.86**	**165**	PFAKE		18 01 50.0	+12
TAU				LR	LR		
	comp=Z,2μm,20.0s						
SONM	**Songino Array**	**120.96**	**42**	PKP	**PKPdf**	**18 01 36.9**	**-1.4**
SONM				PP	**PP**	**18 03 08.7**	**+1.3**
SONM				PKKPbc	**PKKPab**	**18 11 41.9**	**+0.1**
SONM	**Songino Array**	**120.96**	**42**	PKP	**PKPdf**	**18 01 36.9**	**-1.4**
	comp=Z,2.2nm,1.0s,baz=234,slow=1.5,SNR=12						
SONM				PP	**PP**	**18 03 08.7**	**+1.3**
	comp=Z,2.4nm,1.0s,baz=274,slow=6.6,SNR=3.9						
SONM				PKKPbc	**PKKPab**	**18 11 41.9**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=122,slow=3.5,SNR=12						
LZH	**Lanzhou**	**121.00**	**56**	*e*PKP	**PKPdf**	**18 01 37.8**	**-0.9**
LZH				sPKP		18 01 46.0	
LZH				PP	**PP**	**18 03 12.0**	**+3.8**
LZH				SKKS		18 10 00.0	
LZH				AMB	AMB		
	comp=Z,540nm,6.6s						
LZH				LR	LR		
	comp=Z,1μm,19.0s						
LZH				LR	LR		
	comp=Z,3μm,19.1s						
LZH				LR	LR		
	comp=Z,4μm,20.6s						
SLVN	**Son La**	**121.18**	**73**	PKPdf	**PKPdf**	**18 01 37.2**	**-2.1**
CD2	**Chengdu**	**121.23**	**62**	*e*PKP	**PKPdf**	**18 01 39.0**	**-0.2**
CD2				PP	PP	18 03 16.3	+6.5
CD2				SKKS		18 10 05.3	
CD2				SS	**SS**	**18 19 45.0**	**+1.3**
CD2				AMB	AMB		
	comp=Z,310nm,11.2s						
CD2				LR	LR		
	comp=Z,930nm,19.0s						
CD2				LR	LR		
	comp=Z,750nm,17.8s						
CD2				LR	LR		
	comp=Z,1μm,22.6s						
ULN	**Ulaanbaatar**	**121.39**	**42**	*e*PKPdf	**PKPdf**	**18 01 36.6**	**-2.5**
ULN				LR	LR		
	comp=Z,5μm,19.0s						
TBI	**Tubuai**	**122.33**	**230**	*e*SP	SP	18 13 04.9	-5.1
	comp=Z,150nm,39.0s						
TBI				*e*SS	**SS**	**18 19 59.7**	**+3.1**
	comp=Z,430nm,34.8s						
TBI	**Tubuai**	**122.33**	**230**	*e*LR	LR	18 39 36.6	
	comp=Z,5μm,33.5s						
GYA	**Guiyang**	**123.86**	**68**	Pdif	**Pdif**	**17 58 17.0**	**-0.5**
GYA				PKP	**PKPdf**	**18 01 43.5**	**-1.0**
GYA				PP	**PP**	**18 03 31.3**	**+3.4**
GYA				PKS	**PKSdf**	**18 05 19.0**	**-2.4**
GYA				SKKS		18 10 22.0	
GYA				SS	**SS**	**18 20 17.8**	**+0.1**
GYA				AMB	AMB		
	comp=Z,190nm,8.4s						
GYA				LR	LR		
	comp=Z,660nm,26.8s						
GYA				LR	LR		
	comp=Z,950nm,28.4s						
GYA				LR	LR		
	comp=Z,960nm,27.4s						
KSM	**Kuching**	**124.03**	**98**	PFAKE		18 02 00.0	+15
KSM				LR	LR		
	comp=Z,10μm,20.0s						
SNZO	**South Karori**	**124.21**	**188**	PFAKE		18 02 00.0	+15
SNZO				LR	LR		
	comp=Z,1μm,21.0s						
TNA	**Tin City**	**125.54**	**347**	*e*PKPdf	**PKPdf**	**18 01 45.6**	**-0.7**
PPT2	**Papeete2**	**125.64**	**236**	*e*SP	SP	18 13 23.1	-17
	comp=Z,290nm,30.5s						
PPT2				*e*SS	**SS**	**18 20 41.1**	**+2.1**
	comp=Z,822nm,27.0s						
PPT2	**Papeete2**	**125.64**	**236**	*e*LR	LR	18 41 00.4	
	comp=Z,4μm,27.2s						
YAK	**Yakutsk**	**125.76**	**20**	*e*PKIKP	**PKPdf**	**18 01 44.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,30nm,1.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.6s						
YAK	**Yakutsk**	**125.76**	**20**	*e*PKPdf	**PKPdf**	**18 01 45.6**	**-1.2**
YAK				LR	LR		
	comp=Z,2μm,19.0s						
BKZ	**Black Stump Fm**	**126.02**	**191**	*e*PKPdf	**PKPdf**	**18 01 49.2**	**+0.9**
BILL	**Bilibino**	**126.11**	**360**	*i* PKIKP	**PKPdf**	**18 01 46.0**	**-1.4**
BILL				*i*		18 01 53.6	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL	**Bilibino**	**126.11**	**360**	*e*PKPdf	**PKPdf**	**18 01 46.9**	**-0.4**
BILL				LR	LR		
	comp=Z,2μm,22.0s						
SBUM	**Sibu**	**126.14**	**97**	*e*PKPdf	**PKPdf**	**18 01 53.2**	**+4.2**
ENH	**Enshi**	**126.19**	**63**	PFAKE		18 02 00.0	+11
ENH				LR	LR		
	comp=Z,164nm,19.0s						
HHC	**Hu-ho-hao-te**	**126.22**	**49**	*e*PKP	**PKPdf**	**18 01 44.3**	**-4.2**
HHC				sPKP		18 01 54.8	
HHC				PP	**PP**	**18 03 43.3**	**+0.2**
HHC				SS	SS	18 20 48.5	+2.2
HHC				AMB	AMB		
	comp=Z,380nm,8.6s						
HHC				LR	LR		
	comp=Z,2μm,18.7s						
HHC				LR	LR		
	comp=Z,2μm,19.7s						
HHC				LR	LR		
	comp=Z,4μm,20.0s						
KDAK	**Kodiak Island**	**126.25**	**334**	PFAKE		18 02 00.0	+12
KDAK				LR	LR		
	comp=Z,2μm,20.0s						
QIZ	**Qiongzhong**	**126.59**	**77**	PKP	**PKPdf**	**18 01 48.3**	**-1.4**
QIZ				PP	**PP**	**18 03 47.0**	**+0.8**
QIZ				SS	SS	18 20 53.8	+1.7
QIZ				AMB	AMB		
	comp=Z,220nm,4.8s						
QIZ				LR	LR		
	comp=Z,410nm,22.9s						
QIZ				LR	LR		
	comp=Z,950nm,29.3s						
QIZ	**Qiongzhong**	**126.59**	**77**	PFAKE		18 02 00.0	+10
QIZ				LR	LR		
	comp=Z,19μm,19.0s						
WRKA	**Warakurna**	**126.80**	**137**	⇑P	**PKPdf**	**18 01 49.5**	**-0.6**
	baz=127,SNR=7.0						
CAN	**Canberra**	**128.41**	**163**	PFAKE		18 02 00.0	+7.1
CAN				LR	LR		
	comp=Z,2μm,21.0s						
HIA	**Hailar**	**128.78**	**37**	*e*PKPdf	**PKPdf**	**18 01 51.6**	**-1.4**
HIA				LR	LR		
	comp=Z,6μm,20.0s						
STKA	**Stephens Creek**	**128.85**	**154**	PKP	**PKPdf**	**18 01 53.2**	**-0.5**
STKA				*e*PKPdf	**PKiKP**	**18 01 54.3**	**-0.1**
STKA	**Stephens Creek**	**128.85**	**154**	PKP	**PKPdf**	**18 01 53.2**	**-0.5**
	comp=Z,5.5nm,1.0s,baz=152,slow=2.4,SNR=4.9						
BJI	**Beijing**	**129.83**	**49**	PKP	**PKPdf**	**18 01 55.0**	**-0.3**
BJI				SS	SS	18 21 27.5	-3.2
BJI				LR	LR		
	comp=Z,2μm,25.3s						
BJI				LR	LR		
	comp=Z,1μm,23.9s						
BJI				LR	LR		
	comp=Z,1μm,34.6s						
BJT	**Baijiatuan**	**129.83**	**49**	PFAKE		18 02 10.0	+15
BJT				LR	LR		
	comp=Z,5μm,19.0s						
WHN	**Wuhan**	**130.34**	**62**	PKP	**PKPdf**	**18 01 54.5**	**-2.0**
WHN				PP	**PP**	**18 04 15.3**	**+4.9**
WHN				SS	SS	18 21 38.5	+0.6
WHN				LR	LR		
	comp=Z,3μm,34.4s						
KAPI	**Kappang**	**130.79**	**109**	*e*PKPdf	**PKPdf**	18 02 05.6	+7.7
KAPI				LR	LR		
	comp=Z,10μm,20.0s						
KKM	**Kota Kinabalu**	**130.89**	**94**	PFAKE		18 02 10.0	+12
KKM				LR	LR		
	comp=Z,17μm,20.0s						
ASAR	**Alice Springs**	**131.37**	**140**	PKPpre	PKPpre	18 01 51.8	
ASAR				PKP	**PKPdf**	**18 01 58.1**	**-0.7**
ASAR				PP	PP	18 04 21.6	+5.4
ASAR				SKKPbc	SKKPbc	18 14 45.0	-9.1
ASAR	**Alice Springs**	**131.37**	**140**	PKhKP	PKPpre	18 01 51.8	
	comp=Z,2.7nm,1.1s,baz=213,slow=2.6,SNR=4.7						
ASAR				PKP	**PKPdf**	**18 01 58.1**	**-0.7**
	comp=Z,3.7nm,0.9s,baz=196,slow=1.6,SNR=16						
ASAR				PP	PP	18 04 21.6	+5.4
	comp=Z,0.8nm,0.9s,baz=198,slow=5.7,SNR=3.0						
ASAR				SKKPbc	SKKPbc	18 14 45.0	-9.1
	comp=Z,1.5nm,1.0s,baz=64,slow=4.1,SNR=5.8						
AS31	**Alice Springs**	**131.37**	**140**	*e*PKPdf	**PKPdf**	**18 01 58.7**	**-0.2**
NJ2	**Nanjing**	**133.90**	**59**	*e*PKP	**PKPdf**	**18 02 03.0**	**-0.2**
RAO	**Raoul Island**	**134.02**	**200**	PFAKE		18 02 20.0	+16
RAO				LR	LR		
	comp=Z,2μm,21.0s						
WRA	**Warramunga Arr**	**134.33**	**137**	PKPpre	PKPpre	18 01 53.5	
WRA	**Warramunga Arr**	**134.33**	**137**	PKhKP	PKPpre	18 01 53.5	
	comp=Z,1.0nm,0.8s,baz=229,slow=2.6,SNR=6.6						
WRAB	**Tennant Creek**	**134.35**	**137**	PFAKE		18 02 20.0	+16
WRAB				LR	LR		
	comp=Z,3μm,19.0s						
CN2	**Changchun**	**134.80**	**41**	*e*PKP	**PKPdf**	**18 02 04.5**	**-0.1**
CN2				*e*PP	**PP**	**18 04 42.3**	**+4.1**
CN2				SS	SS	18 22 33.0	+2.3
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
CN2				LR	LR		
	comp=Z,5μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,15.0s						
KLR	**Kul'dur**	**135.37**	**31**	*e*PKIKP	**PKPdf**	**18 02 01.7**	**-3.7**
KLR				*e*		18 04 39.7	
KLR				pmax	pmax		
	comp=Z,150nm,2.4s						
SSE	**Sheshan**	**136.04**	**60**	PKP	**PKPdf**	**18 02 09.3**	**+2.1**
SSE				PP	**PP**	**18 04 51.5**	**+4.8**
SSE				SS	SS	18 22 49.5	+2.7
SSE				AMB	AMB		
	comp=Z,190nm,12.0s						
SSE				LR	LR		
	comp=Z,200nm,33.2s						
SSE				LR	LR		
	comp=Z,420nm,33.2s						
SSE				LR	LR		
	comp=Z,430nm,32.6s						
RMQ	**Roma**	**136.49**	**158**	P	**PKPdf**	**18 02 08.6**	**+0.3**
	baz=137,SNR=4.1						
MTN	**Manton Dam**	**136.68**	**127**	P	**PKPdf**	**18 02 06.9**	**-2.0**
	baz=137,SNR=6.2						
MDJ	**Mudanjiang**	**136.94**	**38**	PFAKE		18 02 20.0	+11
MDJ				LR	LR		
	comp=Z,7μm,19.0s						
YHNB	**Yeheng**	**137.22**	**69**	PFAKE		18 02 20.0	+10
YHNB				LR	LR		
	comp=Z,19μm,19.0s						
TATO	**Taipei**	**137.29**	**68**	PFAKE		18 02 20.0	+10
TATO				LR	LR		
	comp=Z,19μm,20.0s						
INCN	**Inchon**	**138.38**	**49**	PFAKE		18 02 20.0	+8.6
INCN				LR	LR		
	comp=Z,7μm,20.0s						
USRK	**Ussuriysk Arra**	**138.59**	**37**	PKhKP	PKPpre	18 02 05.9	
	comp=Z,1.0nm,0.6s,baz=227,slow=3.2,SNR=3.7						
KSAR	**Wonju Array Be**	**139.31**	**48**	PKPpre	PKPpre	18 02 06.0	
KSRS	**Korea Array**	**139.33**	**48**	PKhKP	PKPpre	18 02 06.0	
	comp=Z,1.0nm,0.8s,baz=308,slow=3.3,SNR=3.9						
DAV	**Davao City (W)**	**140.17**	**96**	*e*PKPdf	**PKPdf**	**18 02 19.4**	**+4.1**
DAV				LR	LR		
	comp=Z,795nm,20.0s						
PET	**Petropavlovsk**	**140.79**	**7**	*i* PKIKP	**PKPdf**	**18 02 15.3**	**0.0**
PET				*e*SS	SS	18 23 46.8	+6.9
PET				pmax	pmax		
	comp=Z,13nm,0.9s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**140.79**	**7**	PFAKE		18 02 30.0	+15
PET				LR	LR		
	comp=Z,3μm,20.0s						
CTA	**Charters Tower**	**141.10**	**150**	PKP	**PKPdf**	**18 02 17.2**	**+0.3**
CTA	**Charters Tower**	**141.10**	**150**	PKP	**PKPdf**	**18 02 17.2**	**+0.3**
	comp=Z,7.5nm,0.9s,baz=243,slow=6.3,SNR=4.0						
CTAO	**Charters Tower**	**141.10**	**150**	PFAKE		18 02 30.0	+13
CTAO				LR	LR		
	comp=Z,5μm,19.0s						
YSS	**Yuzh-Sakhalins**	**142.12**	**26**	*e*PKHKP	PKPpre	18 02 09.0	
YSS	**Yuzh-Sakhalins**	**142.12**	**26**	PFAKE		18 02 30.0	+12
YSS				LR	LR		
	comp=Z,1μm,20.0s						
JNU	**Nakatsue**	**143.29**	**53**	PKP	**PKPdf**	**18 02 22.0**	**+1.6**
JNU	**Nakatsue**	**143.29**	**53**	PKP	**PKPdf**	**18 02 22.0**	**+1.6**
	comp=Z,26nm,1.0s,baz=3.5,slow=12,SNR=5.0						
DZM	**Mont Dzumac**	**144.04**	**181**	*e*LR	LR	18 49 35.9	
	comp=Z,1μm,24.3s						
DZM	**Mont Dzumac**	**144.04**	**181**	PKP	**PKPdf**	**18 02 22.9**	**+0.8**
DZM	**Mont Dzumac**	**144.04**	**181**	PKP	**PKPdf**	**18 02 22.9**	**+0.8**
	comp=Z,8.7nm,0.9s,baz=90,slow=5.1,SNR=2.9						
AFI	**Afiamalu**	**144.22**	**220**	PKP	PKPbc	18 02 20.8	+0.1
AFI				LR	LR		
	comp=Z,3μm,22.0s						
AFI	**Afiamalu**	**144.22**	**220**	PKP	PKPbc	18 02 20.8	+0.2
	comp=Z,37nm,0.3s,baz=128,slow=14,SNR=3.3						
ASAJ	**Asahikawa**	**144.26**	**29**	PKP	PKPbc	18 02 20.1	+0.2
ASAJ	**Asahikawa**	**144.26**	**29**	PKP	PKPbc	18 02 20.1	+0.2
	comp=Z,6.5nm,0.7s,baz=63,slow=6.8,SNR=5.0						
COEN	**Coen**	**144.41**	**141**	*e*PKPdf	**PKPab**	**18 02 20.9**	**-0.1**
COEN	**Coen**	**144.41**	**141**	⇑P	**PKPab**	**18 02 20.5**	**-0.5**
	baz=144,SNR=5.5						
YUK	**Yuzh-Kuril'sk**	**145.77**	**26**	*c i* PKIKP	**PKPbc**	**18 02 24.8**	**+0.1**
YUK				*i*		18 05 47.6	
YUK				*e*		18 09 24.8	
YUK				*e*		18 18 17.8	
YUK				MLR	MLR		
	comp=N,2μm,21.0s						
YUK				MLR	MLR		
	comp=E,3μm,21.0s						
YUK				MLR	MLR		
	comp=Z,3μm,21.0s						
ERM	**Erimo**	**146.12**	**31**	PFAKE		18 02 40.0	+14
ERM				LR	LR		
	comp=Z,6μm,22.0s						
MAJO	**Matsushiro**	**146.91**	**43**	*e*PKP2	**PKPdf**	**18 02 27.1**	**+0.5**
MAJO				MLR	MLR		
	comp=Z,7μm,21.0s						
MAJO	**Matsushiro**	**146.91**	**43**	*e*PKPdf	**PKPdf**	**18 02 27.1**	**+0.5**
MAJO				LR	LR		
	comp=Z,7μm,21.0s						
MAT	**Matsushiro**	**146.91**	**43**	PKP	**PKPdf**	**18 02 25.5**	**-1.1**
MJAR	**Matsushiro Arr**	**146.92**	**43**	PKPbc	**PKPdf**	**18 02 26.6**	**+0.1**
MJAR	**Matsushiro Arr**	**146.92**	**43**	PKPbc	**PKPdf**	**18 02 26.6**	**+0.1**
	comp=Z,15nm,1.0s,baz=275,slow=2.6,SNR=21						
JAY	**Jayapura**	**150.38**	**122**	PKPbc	**PKPbc**	**18 02 38.0**	**-0.1**
JAY				PKPab	**PKPab**	**18 02 44.3**	**-0.1**
JAY	**Jayapura**	**150.38**	**122**	PKPbc	**PKPbc**	**18 02 38.0**	**-0.1**
	comp=Z,20nm,1.0s,baz=198,slow=3.8,SNR=4.9						
JAY				PKPab	**PKPab**	**18 02 44.3**	**-0.1**
	comp=Z,59nm,1.0s,baz=254,slow=4.2,SNR=9.7						
PMG	**Port Moresby**	**150.38**	**141**	*e*PKPbc	**PKPbc**	**18 02 38.0**	**-0.1**
PMG				PKPab	**PKPab**	**18 02 44.1**	**-0.1**
PMG				LR	LR		
	comp=Z,3μm,19.0s						
PMG	**Port Moresby**	**150.38**	**141**	PKPbc	**PKPbc**	**18 02 37.9**	**-0.1**
	comp=Z,37nm,1.1s,baz=164,slow=1.9,SNR=10						
PMG				PKPab	**PKPab**	**18 02 44.1**	**-0.1**
	comp=Z,84nm,1.1s,baz=188,slow=5.8,SNR=9.8						
HNR	**Honiara**	**155.97**	**166**	PFAKE		18 02 50.0	+9.1
HNR				LR	LR		
	comp=Z,258nm,22.0s						
MIDW	**Midway**	**158.78**	**314**	PFAKE		18 02 50.0	+6.0
MIDW				LR	LR		
	comp=Z,4μm,22.0s						

ISCJB ***27*** *17:56:38.9±1.2, 43.62N±0.06×145.61E±0.06, h91km±9km, Error ellipse: s-maj=9.7km s-min=6.9km az=155.0*
SKHL ***27*** *17:56:39.3±0.7, 43.37N×145.34E, h57km±4km, mb5.2/2*
JMA ***27*** *17:56:39.2±0.1, 43.60N×145.63E, h89km±1km, M3.3*

ISC 27 17:56:40.8±1.7, **43.59N**±0.06×**145.57E**±0.05, **h80**km±11km, **n12**, σ1s**17**/21, **1C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.26**	**150**	⇑P	**Pn**	**17 56 52.4**	**-0.4**
NEM2				*e*S	**Sn**	**17 57 02.1**	**+0.5**
JRA	**Rausu**	**0.47**	**317**	⇓P	**Pn**	**17 56 54.0**	**-0.3**
JRA				*e*S	**Sn**	**17 57 04.9**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**0.49**	**25**	*e*P	**Pn**	**17 56 53.8**	**-0.6**
YUK				AMB	AMB	17 56 54.2	
	2μm,0.2s						
YUK				*e*S	**Sn**	**17 57 05.2**	**+0.7**
YUK				A	A	17 57 05.5	
	1μm,0.4s						
YUK				A	A	17 57 05.5	
	3μm,0.4s						
JNK	**Nakash**	**0.62**	**270**	⇓P	**Pn**	**17 56 55.2**	**-0.4**
JNK				*e*S	**Sn**	**17 57 07.0**	**+0.5**
JAK	**Akkeshi**	**0.87**	**227**	⇓P	**Pn**	**17 56 57.8**	**-0.4**
JAK				*e*S	**Sn**	**17 57 11.7**	**+0.4**
SHO	**Shikotan**	**0.96**	**73**	*e*P	**Pn**	**17 56 58.2**	**-1.1**
SHO				AMB	AMB	17 56 58.5	
	220nm,0.2s						
SHO				*e*S	**Sn**	**17 57 11.9**	**-1.2**
SHO				A	A	17 57 12.3	
	1μm,0.4s						
SHO				A	A	17 57 12.3	
	1μm,0.4s						
JTKR	**Abashiri--Toko**	**1.26**	**288**	⇓P	**Pn**	**17 57 02.5**	**-0.5**
JTKR				*e*S	**Sn**	**17 57 20.1**	**+0.4**
JAR	**Ashorobuto**	**1.34**	**258**	⇓P	**Pn**	**17 57 04.0**	**0.0**
JAR				*e*S	**Sn**	**17 57 22.4**	**+0.9**
JOB	**Onbets**	**1.44**	**242**	⇓P	**Pn**	**17 57 05.1**	**-0.2**
JOB				*e*S	**Sn**	**17 57 24.0**	**+0.3**
JMP	**Maruseppu**	**1.65**	**285**	P	**Pn**	**17 57 07.6**	**-0.5**
KUR	**Kuril'sk**	**2.33**	**44**	*e*S	**Sn**	**17 57 48.5**	**+3.8**
YSS	**Yuzh-Sakhalins**	**3.91**	**330**	*e*S	**Sn**	**17 58 21.5**	**-1.5**

ISCJB ***27*** *18:04:52.8±0.9, 51.6N±0.1×176.24W±0.06, h56km±7km, mb3.5/3, Error ellipse: s-maj=23.9km s-min=4.5km az=169.4*
NEIC ***27*** *18:04:53.0, 51.59N×176.24W, h43km, ML3.4(AEIC), After AEIC.*
IDC ***27*** *18:04:54.8±5.2, 51.34N×176.33W, h75km±39km, mb3.1/4, mb1 3.5/5, mb1mx3.1/60, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=70.3km s-min=20.0km az=175.0*

ISC 27 18:04:53.2±1.6, **51.6N**±0.2×**176.21W**±0.04, **h45**km±13km, **n37**, σ0s**92**/34, **mb3.6**/3, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.30**	**336**	P	**Pn**	**18 05 01.6**	**-0.3**
ETKA				S	**Sn**	**18 05 08.3**	**+0.4**
GSCK	**Great Sitkin C**	**0.42**	**4**	P	**Pn**	**18 05 03.2**	**0.0**
ADAG	**Mount Adagdak**	**0.46**	**328**	P	**Pn**	**18 05 04.2**	**+0.5**
GSMY	**Great Sitkin M**	**0.46**	**12**	P	**Pn**	**18 05 03.8**	**0.0**
GSTD	**Great Sitkin T**	**0.47**	**5**	P	**Pn**	**18 05 03.9**	**+0.1**
GSTD				S	**Sn**	**18 05 10.9**	**-0.5**
GSTR	**Great Sitkin T**	**0.51**	**11**	*e*PP	**Pn**	**18 05 04.4**	**0.0**
KIRH	**Kanaga Island**	**0.63**	**300**	P	**Pn**	**18 05 05.7**	**-0.1**
KIKV	**Kanaga Island**	**0.66**	**296**	P	**Pn**	**18 05 05.9**	**-0.3**
TAFL	**Tanaga Flats**	**1.06**	**280**	P	**Pn**	**18 05 11.4**	**-0.2**
TAFL				S	**Sn**	**18 05 25.6**	**+0.4**
TAFP	**Tanaga Falls P**	**1.14**	**286**	P	**Pn**	**18 05 12.8**	**0.0**
TAFP				S	**Sn**	**18 05 28.1**	**+0.9**
TASE	**Tanaga Southea**	**1.16**	**283**	P	**Pn**	**18 05 13.2**	**+0.2**
KOWE	**Korovin West**	**1.44**	**57**	P	**Pn**	**18 05 17.4**	**+0.6**
KOKL	**Mount Kliuchef**	**1.45**	**59**	P	**Pn**	**18 05 17.1**	**+0.1**
KOKL				S	**Sn**	**18 05 35.1**	**+0.3**
KOFP	**Korovin Flat P**	**1.48**	**62**	P	**Pn**	**18 05 17.6**	**+0.2**
KOKV	**Korovin Volcan**	**1.48**	**58**	P	**Pn**	**18 05 18.8**	**+1.3**
KOKV				S	**S

H03N3 Juan Fernandez 119.67 107 T T 20 34 50.1
baz=315,slow=75,SNR=88
BOSA Boshof 151.98 317 PKPbc **PKPbc 18 24 41.2 -2.0**
1.5nm,0.5s,baz=106,slow=4.5,SNR=4.6

MEX 27 18:15:03.4±1.0, 16°.04N×98°.88W, h8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.81**	**64**	*i* P		Pg	18 15 17.8	-1.3
PNIG				*e*S		Sg	18 15 27.5	-2.1
TLIG	**Tlapa**	**1.55**	**11**	*i* P		Pn	18 15 25.4	-6.1
TLIG				*e*S		Sn	18 15 46.1	-5.7
VHO	**Vista Hermosa**	**2.31**	**63**	*e*P		Pn	18 15 39.4	-2.5
VHO				*e*S		Sn	18 16 05.4	-5.3
PLIG	**Platanillo**	**2.42**	**346**	*e*P		Pn	18 15 40.4	-3.0
PLIG				*e*S		Sn	18 16 09.2	-4.1
ARIG	**Puente Sto Nin**	**2.63**	**328**	*e*P		Pn	18 15 42.6	-3.7
ARIG				*i* S		Sn	18 16 14.5	-4.0
YAIG	**Yautepec**	**2.81**	**356**	*i* P		Pn	18 15 46.2	-2.7
YAIG				*i* S		Sn	18 16 20.3	-3.0
ZIIG	**Zihuatanejo**	**2.92**	**303**	*e*P		Pn	18 15 47.0	-3.2
ZIIG				*i* S		Sn	18 16 21.1	-4.4
PPM	**Popocatepetl**	**3.02**	**5**	*i* P		Pn	18 15 49.5	-2.7
PPM				*i* S		Sn	18 16 24.9	-4.3

*DDA **27** 18:20:44.6, 37°.05N×28°.37E, h7km, MD2.6*
ISC 27 18:20:34.1±3.5, 36°.4N±0°.2×28°.1E±0°.2, h10km, n3, σ1$23/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DALY	**Dalyan (Mu˘la**	**0.59**	**44**	*e*PG		**Pb**	**18 20 45.1**	**-1.3**
DALY				*e*SG		**Sg**	**18 20 53.1**	**-0.1**
TURN	**Turunc**	**0.60**	**38**	*i* P		**Pn**	**18 20 50.1**	**+1.4**
TURN				*i* S		**Sb**	**18 20 55.9**	**+0.7**
YER	**Yerkesik**	**0.74**	**9**	*e*PG		**Pg**	**18 20 48.0**	**-0.5**
YER				*e*SG		**Sg**	**18 20 58.4**	**+0.1**

*ISCJB **27** 18:26:10.5±0.6, 1°.83N±0°.05×97°.75E±0°.05, h46km, mb4.1/12, Error ellipse: s-maj=8.1km s-min=6.5km az=33.6*
*IDC **27** 18:26:12.9±4.3, 1°.91N×97°.77E, h52km±36km, mb3.9/12, mb1 4.0/13, mb1mx3.8/32, mbtmp4.2/13, ML4.3/1, Error ellipse: s-maj=31.1km s-min=13.7km az=54.0*
*DJA **27** 18:26:14.2±0.9, 2°.N±4°×9°.8E±°, h22km±12km, M4.3/9, MLv4.3/9*
*KLM **27** 18:26:16.6, 2°.25N×97°.95E, h155km, mb4.2, ML3.8, MS6.2*
ISC 27 18:26:13.0±0.6, 2°.00N±0°.06×97°.82E±0°.05, h46km, n41, σ1$42/40, mb4.2/12, 2C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.36**	**54**	P		x	18 26 35.8	
PSI	**Prapat**	**1.36**	**54**	P		**Pn**	**18 26 35.9**	**+0.2**
	33nm,0.3s,baz=212,slow=5.2,SNR=143							
PSI				S		**Sn**	**18 26 53.5**	**+0.9**
	45nm,0.3s,baz=108,slow=20,SNR=7.3							
TPTI		**1.40**	**333**	P		**Pn**	**18 26 37.4**	**+1.2**
TPTI				S		**Sn**	**18 26 56.2**	**+2.7**
KCSI	**Kotacane, Aceh**	**1.51**	**358**	P		**Pn**	**18 26 38.6**	**+0.9**
KCSI				S		**Sn**	**18 26 57.7**	**+1.5**
SNSI	**Sinabang, Aceh**	**1.55**	**285**	P		**Pn**	**18 26 39.9**	**+1.8**
TSI	**Tuntungan**	**1.67**	**27**	P		**Pn**	**18 26 41.6**	**+1.8**
MNSI	**Mandailing Nat**	**2.13**	**124**	P		**Pn**	**18 26 48.5**	**+2.4**
MLSI	**Meulaboh, Aceh**	**2.66**	**328**	P		Pn	18 27 08.5	+15
LHMI	**Lhok Sumawe**	**3.32**	**345**	P		**Pn**	**18 27 04.8**	**+2.3**
BKNI	**Bangkinang**	**3.62**	**117**	P		**Pn**	**18 27 09.5**	**+2.8**
FRIM	**Kepong**	**4.00**	**72**	⇑P		**Pn**	**18 27 14.3**	**+2.5**
IPM	**Ipoh**	**4.04**	**52**	P		x	18 27 14.1	
IPM	**Ipoh**	**4.04**	**52**	⇓P		**Pn**	**18 27 14.2**	**+1.8**
KULM	**Kulim**	**4.32**	**41**	P		x	18 27 17.3	
KULM	**Kulim**	**4.32**	**41**	⇓P		**Pn**	**18 27 17.9**	**+1.7**
KGM	**Kluang**	**5.50**	**90**	⇑P		**Pn**	**18 27 34.8**	**+2.4**
KTGM	**Kuala Trenggan**	**6.25**	**58**	⇓P		**Pn**	**18 27 43.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.39**	**4**	P		**Pn**	**18 30 00.3**	**+0.3**
	0.4nm,0.3s,baz=193,slow=11,SNR=23							
TAPN	**Taplejung**	**27.00**	**340**	*e*P		**P**	**18 31 51.5**	**+0.4**
	4.5nm,0.4s							
H08S2	**Diego Garcia H**	**27.02**	**249**	T		T	18 59 32.1	
	baz=70,slow=75,SNR=15							
H08S3	**Diego Garcia H**	**27.02**	**249**	T		T	18 59 35.3	
	baz=70,slow=75,SNR=13							
H08S1	**Diego Carcia H**	**27.04**	**249**	T		T	18 59 30.9	
	baz=70,slow=75,SNR=3.5							
RAMN	**Ramite**	**27.04**	**338**	*e*P		**P**	**18 31 53.6**	**+2.2**
	5.2nm,0.4s							
PKI	**Pulchoki**	**28.07**	**336**	*e*P		**P**	**18 32 01.9**	**+1.2**
	5.3nm,0.5s							
GUN	**Gumba**	**28.18**	**337**	*e*P		**P**	**18 32 01.7**	**0.0**
	13nm,0.6s							
KKN	**Kakani**	**28.31**	**336**	*e*P		**P**	**18 32 03.1**	**+0.4**
GKN	**Gorkha**	**28.76**	**335**	*e*P		**P**	**18 32 07.4**	**+0.7**
	5.7nm,0.3s							
KOLN	**Koldanda**	**29.01**	**333**	*e*P		**P**	**18 32 09.7**	**+0.7**
	12nm,0.6s							
DANN	**Dangsing**	**29.44**	**334**	*e*P		**P**	**18 32 12.5**	**-0.4**
	6.1nm,0.4s							
WRA	**Warramunga Arr**	**41.94**	**123**	P		**P**	**18 33 58.5**	**-1.2**
	2.4nm,0.5s,baz=304,slow=9.1,SNR=26							
WRA				pP		**PcP**	**18 35 54.2**	**-0.5**
	0.7nm,0.5s,baz=315,slow=2.6,SNR=8.6							
ASAR	**Alice Springs**	**43.39**	**128**	P		**P**	**18 34 09.9**	**-1.5**
	0.5nm,0.4s,baz=302,slow=8.0,SNR=20							
ASAR				pP		**PcP**	**18 35 58.9**	**-0.6**
	0.6nm,0.7s,baz=293,slow=3.0,SNR=4.9							
KSRS	**Korea Array**	**44.84**	**34**	P		**P**	**18 34 21.6**	**-1.2**
	1.5nm,0.7s,baz=211,slow=9.6,SNR=5.5							
SONM	**Songino Array**	**46.26**	**8**	P		**P**	**18 34 33.9**	**-0.1**
	1.5nm,0.3s,baz=189,slow=9.4,SNR=14							
SONM				pP		**PcP**	**18 36 08.9**	**0.0**
	0.6nm,0.5s,baz=195,slow=4.4,SNR=3.7							
MKAR	**Makanchi Array**	**46.62**	**345**	P		**P**	**18 34 36.8**	**0.0**
	5.8nm,0.6s,baz=152,slow=8.1,SNR=51							
ZALV	**Zalesovo Beam**	**52.87**	**350**	P		**P**	**18 35 23.9**	**-0.1**
	7.1nm,0.4s,baz=171,slow=7.1,SNR=67							
STKA	**Stephens Creek**	**53.44**	**133**	P		**P**	**18 35 28.2**	**-0.4**
	1.4nm,0.7s,baz=306,slow=11,SNR=5.1							
KBZ	**Khabaz**	**63.88**	**319**	P		**P**	**18 36 41.6**	**+0.5**
	1.8nm,0.7s,baz=113,slow=10,SNR=5.9							
BRTR	**Keskin Array B**	**69.04**	**312**	P		**P**	**18 37 13.7**	**-0.7**
	0.7nm,0.7s,baz=119,slow=10,SNR=4.8							
AKASG	**Malin Array Be**	**75.01**	**322**	P		**P**	**18 37 47.9**	**-1.7**
	0.6nm,0.6s,baz=91,slow=4.9,SNR=9.6							
FINES	**FINESS Array B**	**79.58**	**332**	P		**P**	**18 38 14.5**	**-0.5**
	1.2nm,0.5s,baz=105,slow=4.9,SNR=12							
ARCES	**ARCESS Array B**	**82.00**	**340**	P		**P**	**18 38 27.9**	**+0.1**
	2.5nm,0.9s,baz=99,slow=4.1,SNR=13							

IDC 27 18:41:00.8±1.4, 11°.47S×165°.41E, h41km±10km, mb3.4/3, mb1 3.8/4, mb1mx3.4/28, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=46.2km s-min=23.4km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.59**	**175**	P		Pn	18 43 29.3	-0.9
	0.5nm,0.3s,baz=334,slow=12,SNR=6.2							
WRA	**Warramunga Arr**	**31.03**	**250**	P		P	18 47 14.8	-0.2
	1.0nm,0.6s,baz=83,slow=8.7,SNR=9.7							
WRA				pP		pP	18 47 27.1	+0.9
	0.6nm,0.5s,baz=80,slow=8.8,SNR=2.6							
ASAR	**Alice Springs**	**32.31**	**244**	P		P	18 47 25.9	-0.3
	0.3nm,0.8s,baz=66,slow=10,SNR=3.7							
ASAR				pP		pP	18 47 37.2	-0.2
	0.5nm,0.9s,baz=60,slow=10.0,SNR=2.8							
ILAR	**Eielson Array**	**84.02**	**19**	P		P	18 53 26.9	+0.3
	0.8nm,1.1s,baz=222,slow=5.9,SNR=3.5							
ILAR				pP		pP	18 53 38.8	-0.3
	0.3nm,0.5s,baz=234,slow=4.9,SNR=2.2							

*IDC **27** 18:49:29.1±0.4, 13°.61N×125°.49E, h0km, mb5.3/29, mb1 5.4/30, mb1mx5.4/32, mbtmp5.3/30, ML5.8/1, MS5.1/29, Ms1 5.1/29, ms1mx5.0/40, Error ellipse: s-maj=14.6km s-min=9.8km az=74.0*
*BJI **27** 18:49:30.7, 13°.69N×125°.54E, h19km, mB5.8/55, mb5.6/80, Ms5.8/94, Ms7 5.6/85*

*ISCJB **27** 18:49:30.5±0.6, 13°.64N±0°.01×125°.49E±0°.02, h17km±3km, mb5.6/247, MS5.4/180, Error ellipse: s-maj=2.9km s-min=2.1km az=166.1*
*KMA **27** 18:49:31.4, 13°.46N×125°.54E, h15km*
*MAN **27** 18:49:32, 13°.74N×125°.46E, h71km, mb6.2, ML5.3, MS6.0*
MAN INTENSITY III - NAGA CITY; VIRAC CATANDUANES; INTENSITY II - GUINAYANGAN QUEZON.
*MOS **27** 18:49:32.9±0.9, 13°.65N×125°.50E, h33km, mb5.9/69, MS5.3/30, Error ellipse: s-maj=8.0km s-min=4.2km az=119.8*
*GCMT **27** 18:49:33.6±0.1, 13°.74N×125°.53E, h18km, MW5.9/126, Moment Tensor Solution. s116,c224; s126,c401; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr-1.62±.07; Mθθ1.74±.06; Mϕϕ-0.12±.07; Mrθ-0.50±.15; Mθϕ-8.08±.06; Mϕr-0.12±.16; Best double couple: M₀8.15400×10¹⁷ NP1:ϕs357.00000°, δ88.00000°, λ-176.00000°. NP2:ϕs357.00000°, δ86.00000°, λ-2.00000°. Principal axes: T 8.9490, Plg2.0000°, Azm222.0000°; N -1.5960, Plg85.0000°, Azm111.0000°; P -7.3580, Plg4.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **27** 18:49:33.6±1.1, 13°.64N×125°.49E, h29km±7km, mb5.6/107, MS5.4/125, MW5.9 Error ellipse: s-maj=4.3km s-min=3.0km az=82.0*
NEIC Felt [III PIVS] at Virac, Catanduanes. Also felt [III PIVS] at Naga and [II PIVS] at Guinayangan and Legaspi, Luzon.
*KLM **27** 18:49:33.1, 13°.68N×125°.54E, h20km, mb5.9, MS6.3*
*DJA **27** 18:49:39.5±0.8, 14°.N±5°×12°.6E±°, h81km±6km, M5.8/103, mb5.9/103, mB6.2/89, Mw(mB)5.8/89*
*NEIC **27** 18:49:43.5±0.0, 13°.50N×125°.81E, h34km, Moment Tensor Solution. s130 Moment tensor: Scale 10¹⁷Nm; Mrr-2.05; Mθθ2.05; Mϕϕ-0.01; Mrθ0.09; Mθϕ-8.33; Mϕr2.75; Best double couple: M₀8.90000×10¹⁷ NP1:ϕs267.00000°, δ70.00000°, λ-171.00000°. NP2:ϕs175.00000°, δ82.00000°, λ-19.00000°. Principal axes: T 9.6800, Plg8.0000°, Azm222.0000°; N -1.5600, Plg68.0000°, Azm335.0000°; P -8.1300, Plg19.0000°, Azm129.0000°;*
ISC 27 18:49:33.9±0.3, 13°.66N±0°.02×125°.54E±0°.03, h30km±1km, h29km:pP-P, n967, σ1$58/962, mb5.6/239, MS5.4/179, 87C-59D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.35**	**267**	⇑*i*P		**Pn**	**18 49 54.7**	**-2.0**
PVCP				*i* S		**Sn**	**18 50 11.4**	**-2.2**
CNP	**Catarman**	**1.43**	**217**	*e*P		**Pn**	**18 49 58.5**	**+0.7**
CNP				*e*S		**Sb**	**18 50 23.3**	**+5.6**
MMPH	**Masbate**	**2.27**	**235**	⇑*e*P		**Pn**	**18 50 08.6**	**-0.8**
MMPH				*i* S		**Sn**	**18 50 35.0**	**-1.4**
PLP	**Palo**	**2.54**	**193**	⇑*e*P		Pn	18 50 08.6	-4.6
PLP				*i* S		**Sn**	**18 50 42.4**	**-0.6**
OCLP	**Ormoc**	**2.75**	**199**	*e*P		**Pn**	**18 50 16.4**	**+0.4**
OCLP				*e*S		**Sn**	**18 50 51.3**	**+3.1**
AUQP	**San Andres**	**2.81**	**263**	*e*P		**Pn**	**18 50 17.4**	**+0.7**
AUQP				*e*S		**Sb**	**18 50 53.7**	**-3.6**
GQP	**Guinayangan**	**3.02**	**275**	⇓*e*P		**Pn**	**18 50 18.1**	**-1.5**
GQP				*e*S		**Sn**	**18 50 52.9**	**-1.8**
RCP	**Roxas**	**3.44**	**233**	⇑*e*P		**Pn**	**18 50 25.0**	**-0.5**
MSLP	**Maasin**	**3.57**	**191**	*e*P		**Pn**	**18 50 27.2**	**0.0**
LLP	**Lapu-Lapu**	**3.66**	**205**	⇑*e*P		**Pn**	**18 50 27.3**	**-1.3**
LLP				*e*S		**Sn**	**18 51 08.8**	**-2.0**
OTRP	**Odiongan**	**3.66**	**250**	*e*P		**Pn**	**18 50 27.5**	**-1.0**
SCPH	**Surigao**	**3.86**	**181**	⇓*e*P		**Pn**	**18 50 28.6**	**-2.6**
LQP	**Lukban**	**3.91**	**277**	⇑*e*P		**Pn**	**18 50 30.9**	**-1.3**
GUIM	**Jordan**	**4.17**	**224**	*e*P		**Pn**	**18 50 35.4**	**-0.2**
TBP	**Tagbilaran**	**4.27**	**203**	*e*P		**Pn**	**18 50 36.6**	**-0.4**
TBP				*e*S		**Sn**	**18 51 20.1**	**-5.8**
BALP	**Baler**	**4.36**	**299**	*e*P		Pn	18 50 34.2	-3.9
PGP	**Puerto Galera**	**4.46**	**268**	⇑*e*P		**Pn**	**18 50 37.9**	**-1.7**
PGP				*i* S		Sn	18 51 37.0	+6.5
SJMP	**San Jose**	**4.47**	**255**	*e*P		**Pn**	**18 50 40.4**	**+0.8**
TGY	**Tagaytay City**	**4.49**	**276**	Pn		**Pn**	**18 50 39.7**	**-0.2**
TGY				Sn		**Sn**	**18 51 28.6**	**-2.7**
TGY	**Tagaytay City**	**4.49**	**276**	Pn		**Pn**	**18 50 39.7**	**-0.2**
	530nm,0.3s,baz=85,slow=1.4,SNR=56							
TGY				Sn		**Sn**	**18 51 28.6**	**-2.7**
	260nm,0.3s,baz=151,slow=19,SNR=4.6							
TGY	**Tagaytay City**	**4.49**	**276**	⇑*e*P		**Pn**	**18 50 39.8**	**-0.2**
PALP	**Palanan**	**4.52**	**319**	⇑*e*P		**Pn**	**18 50 37.9**	**-2.5**
PCPH	**Palayan**	**4.70**	**294**	⇑*i*P		Pn	18 50 39.2	-3.6
PCPH				*e*S		Sn	18 51 22.3	-14
CAUP	**Cauayan**	**4.85**	**313**	*e*P		**Pn**	**18 50 42.5**	**-2.3**
CUYO	**Cuyo Island**	**5.23**	**238**	*e*P		**Pn**	**18 50 49.4**	**-0.7**
CGP	**Cagayan de Oro**	**5.24**	**189**	*e*P		**Pn**	**18 50 48.5**	**-1.8**
CGP				*i* S		**Sn**	**18 51 47.5**	**-2.2**
CVP	**Callao Caves**	**5.38**	**319**	⇓*i*P		**Pn**	**18 50 50.6**	**-1.6**
CVP				*i* S		Sn	18 51 43.0	-1.0
BUSP	**Coron**	**5.46**	**253**	*e*P		**Pn**	**18 50 52.8**	**-0.5**
BCPH	**Baguio City Da**	**5.50**	**300**	⇑*i*P		**Pn**	**18 50 51.6**	**-2.4**
BCPH				*i* S		Sn	18 51 49.3	-7.1
BIPH	**Bislig**	**5.50**	**171**	⇑*e*P		**Pn**	**18 50 55.1**	**+1.2**
BIPH				*e*S		Pb	18 51 12.9	+3.6
BUKP	**Musuan**	**5.77**	**185**	*e*P		**Pn**	**18 50 58.3**	**+0.8**
APYP	**Conner**	**5.88**	**316**	*e*P		**Pn**	**18 50 57.0**	**-2.0**
BOLP	**Bolinao**	**6.07**	**297**	*e*P		**Pn**	**18 50 59.5**	**-2.2**
ABRA	**Dolores**	**6.11**	**311**	*e*P		**Pn**	**18 51 00.6**	**-1.6**
PAGZ	**Pagadian**	**6.15**	**200**	*e*P		**Pn**	**18 51 02.7**	**-0.1**
SZP	**Santa**	**6.24**	**309**	*e*P		**Pn**	**18 51 02.3**	**-1.7**
	2µm,0.8s							
ENPP	**El Nido**	**6.45**	**248**	*e*P		**Pn**	**18 51 06.7**	**-0.2**
SIPP	**Brgy, Tapao**	**6.47**	**312**	⇑*e*P		**Pn**	**18 51 09.3**	**+2.2**
SIPP				*i* S		**Sn**	**18 52 19.7**	**-0.3**
CTBH	**Cotabato--PC H**	**6.53**	**191**	⇓*e*P		**Pn**	**18 51 07.7**	**-0.2**
CTBH				*i* S		**Sn**	**18 52 24.3**	**+2.9**
IPIL	**Ipil**	**6.53**	**207**	⇑*e*P		**Pn**	**18 51 07.7**	**-0.2**
DMPH	**Davao City--Mi**	**6.54**	**180**	⇑*e*P		Pn	18 51 14.0	+5.9
DMPH				*e*S		**Sn**	**18 52 22.4**	**+0.6**
DAV	**Davao City (W)**	**6.55**	**180**	⇓*e*P		Pn	18 51 16.1	+7.8
DAV	**Davao City (W)**	**6.55**	**180**	*e*P		**Pn**	**18 51 11.3**	**+3.0**
	315nm,0.8s							
PIP	**Pasuquin**	**6.62**	**315**	⇑*i*P		**Pn**	**18 51 07.9**	**-1.4**
PIP				*e*S		**Sn**	**18 52 21.1**	**-2.8**
MATI	**Mati**	**6.71**	**174**	*e*P		**Pn**	**18 51 12.4**	**+1.9**
GSPH	**General Santos**	**7.55**	**184**	⇑*e*P		Pn	18 51 27.1	+5.0
PPR	**Puerto Princes**	**7.71**	**241**	⇑*e*P		**Pn**	**18 51 26.0**	**+1.9**
SGSI	**Sangihe**	**9.91**	**180**	P		**Pn**	**18 51 56.6**	**+2.2**
	44km,1.1s							
TWG	**Pinlang**	**10.05**	**336**	*e*Pn		**Pn**	**18 51 55.1**	**-1.2**
	705nm,0.8s							
YULB	**Yu-li**	**10.48**	**338**	*e*Pn		**Pn**	**18 51 59.5**	**-2.7**
	322nm,1.2s							
TPUB	**Ta-pu**	**10.66**	**335**	*e*Pn		**Pn**	**18 52 05.1**	**+0.5**
	597nm,1.3s							
KDM	**Kudat**	**10.87**	**233**	⇓P		Pn	18 52 12.4	+4.8
SSLB	**Suanglung**	**10.97**	**337**	*e*Pn		**Pn**	**18 52 08.6**	**-0.2**
	347nm,1.1s							
YOJ	**Yonaguni jima**	**11.01**	**348**	*e*P		**Pn**	**18 52 06.8**	**-2.6**
YOJ				pmax		pmax		
	comp=Z,122nm,0.8s							
YOJ	**Yonaguni jima**	**11.01**	**348**	*e*Pn		**Pn**	**18 52 06.8**	**-2.6**
	comp=Z,122nm,0.8s							
NACB	**Ninganchiao**	**11.10**	**341**	*e*Pn		**Pn**	**18 52 08.9**	**-1.7**
	comp=Z,591nm,1.5s							
SDKM	**Sandakan**	**11.45**	**227**	⇑P		**Pn**	**18 52 16.3**	**+0.7**
YHNB	**Yeheng**	**11.63**	**341**	*e*Pn		**Pn**	**18 52 16.5**	**-1.5**
	comp=Z,327nm,1.0s							
TATO	**Taipei**	**11.88**	**342**	*e*P		**Pn**	**18 52 21.5**	**+0.1**
	comp=Z,408nm,1.3s							
KKM	**Kota Kinabalu**	**11.90**	**231**	P		x	18 52 25.8	
	comp=Z,181nm,1.4s,comp=Z,7µm							
KKM	**Kota Kinabalu**	**11.90**	**231**	*e*P		**Pn**	**18 52 23.5**	**+1.7**
	comp=Z,273nm,1.3s							
KKM	**Kota Kinabalu**	**11.90**	**231**	⇓P		**Pn**	**18 52 23.8**	**+2.1**
TSM	**Tawau**	**11.99**	**220**	⇓P		**Pn**	**18 52 25.4**	**+2.4**
TNTI	**Ternate**	**12.93**	**172**	P		**Pn**	**18 52 35.4**	**-0.4**
	comp=Z,502nm,1.3s,comp=Z,7µm							
TNTI	**Ternate**	**12.93**	**172**	*e*P		**Pn**	**18 52 35.1**	**-0.7**
	comp=Z,780nm,1.3s							
QZH	**Quanzhou**	**12.99**	**331**	P		**Pn**	**18 52 34.3**	**-2.2**
QZH				S		Sn	18 54 53.0	-7.1
QZH				pmax		pmax		
	comp=Z,220nm,0.9s							
QZH				LR		LR		
	comp=Z,32µm,10.5s							
QZH				LR		LR		
	comp=Z,32µm,14.7s							
QZH				LR		LR		
	comp=Z,39µm,11.7s							
KMSI	**Cibinong**	**13.09**	**187**	P		**Pn**	**18 52 40.4**	**+2.4**
	comp=Z,694nm,1.1s,comp=Z,12µm							
GTOI	**Gorontalo**	**13.18**	**191**	P		**Pn**	**18 52 39.0**	**-0.2**
	comp=Z,339nm,1.1s,comp=Z,6µm							
TOLI	**Toli-Toli**	**13.31**	**201**	P		x	18 52 40.7	
	comp=Z,679nm,1.1s,comp=Z,6µm							
TOLI	**Toli-Toli**	**13.31**	**201**	*e*P		**Pn**	**18 52 41.5**	**+0.5**
	comp=Z,487nm,0.8s							
JOW	**Kunigami**	**13.35**	**11**	*e*P		**Pn**	**18 52 40.6**	**-0.8**
	comp=Z,303nm,1.3s							
MRSI	**Marisa**	**13.57**	**196**	P		**Pn**	**18 52 44.7**	**+0.2**
	comp=Z,282nm,0.9s,comp=Z,5µm							
HKC	**Hong Kong Obse**	**13.80**	**310**	⇓*i*P		**Pn**	**18 52 48.0**	**+0.4**
LBMI	**Labuha**	**14.34**	**172**	P		**Pn**	**18 52 54.1**	**-0.9**
	comp=Z,562nm,1.1s,comp=Z,5µm							
LUWI	**Luwuk**	**14.86**	**191**	P		**Pn**	**18 53 00.6**	**-1.5**
	comp=Z,787nm,1.2s,comp=Z,17µm							
LUWI	**Luwuk**	**14.86**	**191**	*e*P		**Pn**	**18 53 03.0**	**+0.9**
	comp=Z,1µm,1.1s							
LUWI	**Luwuk**	**14.86**	**191**	⇓P		**Pn**	**18 53 03.2**	**+1.1**
	baz=15,SNR=15							
GZH	**Guangzhou**	**14.88**	**311**	P		**Pn**	**18 53 03.0**	**+0.7**
GZH				LR		LR		
	comp=Z,35µm,17.0s							
GZH				LR		LR		
	comp=Z,29µm,15.7s							
APSI	**Ampana**	**14.98**	**195**	P		**Pn**	**18 53 03.5**	**-0.2**
	comp=Z,1µm,1.2s,comp=Z,12µm							
SWI	**Sorong**	**15.50**	**158**	P		**Pn**	**18 53 11.6**	**+1.1**
	comp=Z,421nm,1.1s,comp=Z,17µm							
SANI	**Sanana**	**15.62**	**178**	P		Pn	18 53 04.7	-7.3
QIZ	**Qiongzhong**	**15.98**	**292**	P		**Pn**	**18 53 15.3**	**-1.3**
QIZ				pP		**P**	**18 53 20.8**	**+0.9**
QIZ				sP		sP	18 53 24.5	-7.1
QIZ				S		**Sn**	**18 56 10.5**	**-2.5**
QIZ				sS		**S**	**18 56 20.0**	**-6.2**
QIZ				pmax		pmax		
	comp=Z,120nm,1.4s							
QIZ				pmax		pmax		
	comp=Z,1µm,5.3s							
QIZ				LR		LR		
	comp=Z,15µm,17.3s							
QIZ				LR		LR		
	comp=Z,5µm,19.5s							
QIZ				LR		LR		
	comp=Z,18µm,18.3s							
QIZ	**Qiongzhong**	**15.98**	**292**	*e*P		**Pn**	**18 53 15.9**	**-0.7**
	comp=Z,372nm,1.2s							
BTM	**Bintulu**	**16.11**	**231**	⇓P		**Pn**	**18 53 17.5**	**-0.9**
DLV	**T Lat**	**16.72**	**266**	*e*P		**Pn**	**18 53 25.9**	**-0.4**
	comp=Z,190nm,1.4s							
MWPI	**Manokwari, Pap**	**16.77**	**149**	P		x	18 53 29.9	
	comp=Z,2µm,1.8s,comp=Z,32µm							
NLAI	**Namlea**	**16.86**	**175**	P		**Pn**	**18 53 26.2**	**-1.7**
	comp=Z,800nm,1.0s,comp=Z,7µm							
BKB	**Balikpapan**	**17.12**	**211**	P		**Pn**	**18 53 30.6**	**-0.6**
	comp=Z,777nm,1.6s,comp=Z,19µm							
MSAI	**Masohi**	**17.23**	**169**	P		**P**	**18 53 34.2**	**+0.4**
	comp=Z,786nm,0.8s,comp=Z,6µm							
SBUM	**Sibu**	**17.25**	**231**	P		x	18 53 31.6	
	comp=Z,561nm,2.1s,comp=Z,12µm							
SBUM	**Sibu**	**17.25**	**231**	⇑P		**Pn**	**18 53 31.8**	**-0.9**
MMSI	**Mamuju**	**17.53**	**203**	P		x	18 53 36.6	
	comp=Z,897nm,1.2s,comp=Z,19µm							
TTSI	**Tana Toraja**	**17.54**	**199**	P		**P**	**18 53 37.0**	**-0.2**
	comp=Z,2µm,1.1s,comp=Z,15µm							
FAKI	**Fak Fak**	**17.77**	**158**	P		**Pn**	**18 53 38.5**	**-0.7**
	comp=Z,730nm,1.1s,comp=Z,14µm							
FAKI	**Fak Fak**	**17.77**	**158**	*e*P		**P**	**18 53 39.9**	**+0.1**
	comp=Z,774nm,1.0s							
FAKI	**Fak Fak**	**17.77**	**158**	⇑P		**Pn**	**18 53 39.1**	**-0.1**
	baz=18,SNR=70							
SSE	**Sheshan**	**17.81**	**348**	P		**P**	**18 53 40.5**	**+0.4**
SSE				sP		**sP**	**18 53 49.8**	**-2.0**
SSE				S		**Sn**	**18 56 58.8**	**+1.6**
SSE				pmax		pmax		
	comp=Z,280nm,1.2s							
SSE				pmax		pmax		
	comp=Z,3µm,5.6s							
SSE				LR		LR

GYA PP **PnPn** **18 54 49.5 +4.2**
GYA S **S** **18 58 22.5 -0.8**
GYA PcP **PcP** **18 58 25.3 +1.9**
GYA SS **SnSn** **18 58 55.3 +6.2**
GYA ScP **ScP** **19 01 59.3 +0.6**
GYA pmax pmax
comp=Z,170nm,1.0s
GYA pmax pmax
comp=Z,2μm,8.4s
GYA LR LR
comp=Z,11μm,16.2s
GYA LR LR
comp=Z,13μm,14.9s
GYA LR LR
comp=Z,10μm,16.5s
SLVN **Son La** **21.98 293** *e*P **P** **18 54 25.0 -0.7**
comp=Z,1μm,1.8s
JAY **Jayapura** **22.01 136** P **P** **18 54 25.5 -0.6**
JAY S **S** **18 58 27.6 0.0**
JAY **Jayapura** **22.01 136** P **P** **18 54 25.5 -0.6**
comp=Z,125nm,1.1s,baz=319,slow=8.5,SNR=17
JAY S **S** **18 58 27.6 0.0**
comp=Z,14nm,1.0s,baz=330,slow=16,SNR=1.6
JAY LR LR 19 01 24.6
comp=Z,8μm,20.3s,baz=318,slow=32
JAY **Jayapura** **22.01 136** ⇓P **P** **18 54 25.8 -0.2**
baz=22,SNR=21
ENH **Enshi** **22.20 321** *e*P **P** **18 54 28.6 +0.7**
comp=Z,213nm,1.1s
SAUI **Saumlaki** **22.25 165** P **P** **18 54 28.8 +0.3**
comp=Z,2μm,1.0s,comp=Z,15μm
KSGUS **GUNSAN** **22.31 3** P **P** **18 54 31.1 +2.1**
SNR=6.3
MMRI **Maumere** **22.39 189** P **P** **18 54 29.2 -0.9**
comp=Z,749nm,1.5s,comp=Z,8μm
MMRI **Maumere** **22.39 189** *e*P **P** **18 54 29.8 -0.3**
comp=Z,847nm,1.1s
CHBT **CHBT** **22.61 270** P x 18 54 30.1
comp=Z,67nm,1.1s,comp=Z,1μm
CHBT **CHBT** **22.61 270** P **P** **18 54 33.3 +0.9**
comp=Z,67nm,1.1s,comp=Z,1μm
LBFI **Labuhan Bajo,** **22.70 195** P x 18 54 32.0
comp=Z,1μm,1.0s,comp=Z,12μm
KSBON **Boeun** **22.83 5** P **P** **18 54 37.8 +3.2**
SNR=7.6
SOEI **Soe** **23.30 183** P **P** **18 54 38.7 -0.9**
comp=Z,703nm,1.1s,comp=Z,8μm
SOEI **Soe** **23.30 183** ⇑P **P** **18 54 38.1 -1.5**
baz=23,SNR=40
KSYOW **Yeongwol** **23.56 6** P **P** **18 54 43.6 +1.8**
SNR=11
KSTBA **Taebaek** **23.56 7** P **P** **18 54 43.7 +1.8**
SNR=8.0
KMMI **Kalianget** **23.57 210** P **P** **18 54 41.2 -0.9**
comp=Z,954nm,0.8s,comp=Z,14μm
KTGM **Kuala Trenggan** **23.58 252** ⇑P **P** **18 54 41.3 -0.9**
TIA **Tai'an** **23.69 343** ⇓P **P** **18 54 42.5 -0.6**
TIA sP **sP** **18 54 56.0 +0.7**
TIA PP **PnPn** **18 55 16.0 +4.8**
TIA S **S** **18 58 55.5 -0.8**
TIA SS **SnSn** **18 59 38.8 +3.4**
TIA pmax pmax
comp=Z,60nm,1.1s
TIA pmax pmax
comp=Z,2μm,4.0s
TIA LR LR
comp=Z,4μm,16.0s
TIA LR LR
comp=Z,23μm,12.5s
TIA LR LR
comp=Z,8μm,14.0s
INCN **Inchon** **23.74 2** *e*P **P** **18 54 43.6 0.0**
comp=Z,169nm,1.1s
INCN LR LR
comp=Z,6μm,20.0s
KSWJU **Wonju** **23.75 5** P **P** **18 54 45.8 +2.1**
SNR=7.6
WSI **Waingapu** **23.75 193** P **P** **18 54 39.5 -4.4**
comp=Z,739nm,1.1s,comp=Z,6μm
KSAR **Wonju Array Be** **23.77 5** P **P** **18 54 44.7 +0.8**
KSAR S **S** **18 59 00.7 +3.2**
BATI **Baumata** **23.79 185** P **P** **18 54 41.6 -2.6**
comp=Z,507nm,1.2s,comp=Z,5μm
BATI **Baumata** **23.79 185** P **P** **18 54 42.5 -1.7**
BATI **Baumata** **23.79 185** P **P** **18 54 42.5 -1.7**
comp=Z,509nm,0.6s,baz=318,slow=0.3,SNR=55
KSRS **Korea Array** **23.79 5** P **P** **18 54 44.7 +0.7**
comp=Z,148nm,1.0s,baz=182,slow=10,SNR=177
KSRS S **S** **18 59 00.7 +3.0**
comp=Z,1.8nm,1.0s,baz=205,slow=16,SNR=2.7
KSRS LR LR 19 03 08.3
comp=Z,3μm,20.9s,baz=185,slow=34
PBKT **Sadao Pong** **23.89 280** P x 18 54 45.0
comp=Z,301nm,0.9s,comp=Z,4μm
PBKT **Sadao Pong** **23.89 280** P **P** **18 54 44.9 -0.3**
comp=Z,302nm,0.9s,comp=Z,4μm
SRBI **Singaraja** **23.91 206** P **P** **18 54 43.4 -2.0**
comp=Z,1μm,1.2s,comp=Z,13μm
PATY **Pattaya** **24.02 271** P **P** **18 54 45.0 -1.4**
comp=Z,23nm,0.9s,comp=Z,825nm
MTNI **Mataram** **24.03 203** P x 18 54 42.7
comp=Z,564nm,1.1s,comp=Z,7μm
ABJI **Asem Bagus** **24.09 208** P **P** **18 54 45.8 -1.2**
comp=Z,743nm,1.2s,comp=Z,10μm
KSDGY **Daegwallycong** **24.09 6** P **P** **18 54 49.3 +2.4**
SNR=6.5
TPI **Tanjungpandan** **24.10 229** P **P** **18 54 46.6 -0.6**
comp=Z,300nm,1.6s,comp=Z,5μm
GRJI **Gresik** **24.21 213** P **P** **18 54 47.5 -0.6**
comp=Z,720nm,1.1s,comp=Z,7μm
KSJMJ **Jumunjin** **24.29 6** P **P** **18 54 50.9 +2.3**
SNR=21
KMI **Kunming** **24.30 301** ⇓P **P** **18 54 50.0 +0.8**
KMI pP **pP** **18 54 55.8 -2.0**
KMI sP **sP** **18 54 58.8 -2.7**
KMI PP **PnPn** **18 55 25.0 +5.3**
KMI S **S** **18 59 01.8 -4.8**
KMI sS sS 18 59 14.8 -6.0
KMI SS **SnSn** **18 59 53.8 +3.1**
KMI pmax pmax
comp=Z,120nm,1.1s
KMI pmax pmax
comp=Z,1μm,3.1s
KMI LR LR
comp=Z,9μm,15.0s
KMI LR LR
comp=Z,8μm,15.7s
KMI LR LR
comp=Z,10μm,17.2s
KSIJA **INJE** **24.34 5** P **P** **18 54 52.0 +2.9**
SNR=15
TPRI **Tanjung Pinang** **24.35 240** P **P** **18 54 48.8 -0.7**
comp=Z,402nm,1.2s,comp=Z,6μm
BLJI **Banyuglugur** **24.35 210** P **P** **18 54 48.4 -1.0**
comp=Z,582nm,1.1s,comp=Z,6μm
NANT **Nan** **24.38 285** P **P** **18 54 47.4 -2.3**
comp=Z,768nm,1.1s,comp=Z,6μm
UTTA **Uttaradit** **24.38 283** P **P** **18 54 48.8 -0.9**
comp=Z,27nm,0.8s,comp=Z,274nm
KSCWO **Cheorwon** **24.39 4** P **P** **18 54 51.9 +2.4**
SNR=5.4
BYJI **Banyuwangi** **24.41 208** P x 18 54 49.9
comp=Z,2μm,1.2s,comp=Z,22μm
NBBI **Negara** **24.43 207** P x 18 54 48.6
comp=Z,2μm,1.3s,comp=Z,17μm
DNP **Denpasar** **24.45 205** P **P** **18 54 50.7 +0.4**
comp=Z,3μm,1.3s,comp=Z,38μm
PHIT **Phitsanulok** **24.46 281** P **P** **18 54 50.2 -0.3**
comp=Z,213nm,0.9s,comp=Z,2μm
TBJI **Tambak Boyo** **24.47 215** P **P** **18 54 50.4 -0.1**
comp=Z,728nm,1.2s,comp=Z,11μm
MYKOM **Kota Tinggi** **24.48 243** P x 18 54 49.8
comp=Z,436nm,1.6s,comp=Z,8μm
MYKOM **Kota Tinggi** **24.48 243** ⇑P **P** **18 54 50.7 0.0**
IGBI **Denpasar** **24.60 205** P **P** **18 54 50.8 -0.9**
comp=Z,2μm,1.4s,comp=Z,20μm
UWJI **Ujung Watu** **24.66 217** P **P** **18 54 55.4 +3.2**
comp=Z,530nm,1.4s,comp=Z,6μm
KSSKC **Sokcho** **24.67 6** P **P** **18 54 54.7 +2.6**
SNR=17
JAGI **Jajag, Banyuwa** **24.72 208** P **P** **18 54 50.5 -2.3**
comp=Z,901nm,1.0s,comp=Z,12μm
JAGI **Jajag, Banyuwa** **24.72 208** *e*P **P** **18 54 50.6 -2.3**
comp=Z,785nm,0.9s
JAGI **Jajag, Banyuwa** **24.72 208** ⇓P **P** **18 54 51.0 -1.8**
baz=25,SNR=69
BTDF **Bukit Timah Da** **24.76 242** ⇓P **P** **18 54 51.1 -2.1**
baz=25,SNR=19
KGM **Kluang** **24.83 244** ⇓P **P** **18 54 53.5 -0.3**
GMJI **Gumukmas** **24.88 210** P **P** **18 54 52.5 -1.7**
comp=Z,766nm,1.1s,comp=Z,8μm
NGJI **Ngawi** **25.14 215** P **P** **18 54 56.8 +0.3**
comp=Z,1μm,1.1s,comp=Z,12μm
SUKH **Sukhothai** **25.24 282** P **P** **18 54 57.1 -0.4**
comp=Z,76nm,1.0s,comp=Z,568nm
KRKI **Karangkates** **25.27 212** P x 18 54 58.2
comp=Z,932nm,1.4s
XAN **Xi'an** **25.28 326** P **P** **18 54 57.0 -0.7**
XAN pP **pP** **18 55 06.8 +0.4**
XAN PP **PnPn** **18 55 36.0 +3.1**
XAN S **S** **18 59 19.0 -2.9**
XAN SS **SnSn** **19 00 20.5 +6.2**
XAN pmax pmax
comp=Z,130nm,1.2s
XAN pmax pmax
comp=Z,200nm,4.3s
XAN LR LR
comp=Z,7μm,17.5s
XAN LR LR
comp=Z,2μm,16.2s
XAN LR LR
comp=Z,4μm,15.2s
LAMP **Lampang** **25.34 284** P **P** **18 54 58.3 -0.2**
comp=Z,55nm,1.1s,comp=Z,437nm
DL2 **Dalian** **25.38 353** P **P** **18 54 59.8 +1.3**
DL2 S **S** **18 59 26.8 +3.6**
DL2 pmax pmax
comp=Z,330nm,1.6s
DL2 pmax pmax
comp=Z,2μm,6.3s
DL2 LR LR
comp=Z,11μm,13.1s
DL2 LR LR
comp=Z,7μm,11.7s
MAJO **Matsushiro** **25.46 24** ⇓*i*P **P** **18 54 59.8 +0.5**
MAJO **Matsushiro** **25.46 24** *e*P **P** **18 54 56.7 -2.6**
MAJO comp=Z,75nm,1.0s LR LR
comp=Z,7μm,21.0s
MAT **Matsushiro** **25.46 24** P **P** **18 54 57.4 -1.9**
MAT S **S** **18 59 29.4 +4.8**
MJAR **Matsushiro Arr** **25.46 24** P **P** **18 54 57.7 -1.6**
MJAR PcP **PcP** **18 58 31.0 +0.2**
MJAR S **S** **18 59 26.5 +1.9**
MJAR **Matsushiro Arr** **25.46 24** P **P** **18 54 57.7 -1.6**
comp=Z,13nm,0.8s,baz=197,slow=10.0,SNR=32
MJAR PcP **PcP** **18 58 31.0 +0.2**
comp=Z,8.9nm,1.0s,baz=190,slow=3.3,SNR=5.3
MJAR S **S** **18 59 26.5 +1.9**
comp=Z,1.5nm,0.8s,baz=245,slow=16,SNR=1.9
MJAR LR LR 19 03 27.4
comp=Z,4μm,19.8s,baz=235,slow=33
SMRI **Semarang** **25.46 217** P **P** **18 54 59.8 +0.3**
comp=Z,576nm,1.2s,comp=Z,7μm
SMRI **Semarang** **25.46 217** *e*P **P** **18 54 59.4 -0.1**
comp=Z,858nm,1.3s
SMRI **Semarang** **25.46 217** ⇑P **P** **18 54 59.4 -0.1**
baz=26,SNR=7.8
FRIM **Kepong** **25.79 248** ⇑P **P** **18 55 01.4 -1.2**
IPM **Ipoh** **25.84 252** P x 18 55 01.7
comp=Z,126nm,0.8s,comp=Z,3μm
IPM **Ipoh** **25.84 252** *e*P **P** **18 55 01.4 -1.6**
comp=Z,76nm,0.8s
IPM **Ipoh** **25.84 252** ⇓P **P** **18 55 01.8 -1.2**
KULM **Kulim** **25.90 254** P x 18 55 02.4
comp=Z,122nm,0.9s,comp=Z,3μm
KULM **Kulim** **25.90 254** *e*P **P** **18 55 02.5 -1.0**
KULM comp=Z,80nm,0.9s LR LR
comp=Z,4μm,20.0s
KULM **Kulim** **25.90 254** ⇑P **P** **18 55 04.1 +0.6**
PCJI **Pacitan** **25.98 214** P **P** **18 55 02.2 -2.0**
comp=Z,515nm,1.0s,comp=Z,7μm
CM31 **Chiang Mai Arr** **25.99 284** *e*P **P** **18 55 03.6 -0.7**
CMAR comp=Z,188nm,0.9s
CMAR **Chiang Mai Arr** **25.99 284** P **P** **18 55 03.9 -0.5**
CMAR PcP **PcP** **18 58 33.9 +1.5**
CMAR S **S** **18 59 39.6 +6.3**
CMAR **Chiang Mai Arr** **25.99 284** P **P** **18 55 03.9 -0.5**
comp=Z,142nm,0.9s,baz=98,slow=7.3,SNR=296
CMAR PcP **PcP** **18 58 33.9 +1.5**
comp=Z,10.0nm,0.9s,baz=58,slow=1.2,SNR=8.0
CMAR S **S** **18 59 39.6 +6.3**
comp=Z,0.5nm,0.6s,baz=130,slow=15,SNR=3.3
CMAR LR LR 19 04 55.9
comp=Z,4μm,20.9s,baz=93,slow=36
CHTO **Chiang Mai** **26.03 285** *e*P **P** **18 55 03.3 -1.4**
CHTO pmax pmax
comp=Z,145nm,1.1s
CHTO MLR MLR
comp=Z,5μm,20.0s
CHTO **Chiang Mai** **26.03 285** P **P** **18 55 03.9 -0.8**
comp=Z,566nm,1.2s,comp=Z,6μm
CHTO **Chiang Mai** **26.03 285** *e*P **P** **18 55 03.3 -1.4**
comp=Z,144nm,1.1s
CHTO LR LR
comp=Z,5μm,20.0s
CMAI **Chiengmai2** **26.10 287** P **P** **18 55 05.0 -0.5**
comp=Z,297nm,1.6s
UGM **Wanagama** **26.11 216** P **P** **18 55 04.4 -1.0**
comp=Z,736nm,1.3s,comp=Z,10μm
UGM **Wanagama** **26.11 216** ⇓P **P** **18 55 04.5 -1.0**
baz=26,SNR=23
TGJI **Tegal** **26.11 220** P x 18 55 06.7
comp=Z,701nm,1.2s,comp=Z,7μm
BJII **Banjamegara** **26.12 218** P x 18 55 05.1
comp=Z,380nm,1.9s,comp=Z,10μm
KHLT **Khaolaem Dam** **26.14 276** P **P** **18 55 05.5 -0.2**
comp=Z,56nm,1.4s,comp=Z,802nm
JCJI **Jatiwangi** **26.36 222** P **P** **18 55 10.0 +2.4**
comp=Z,336nm,1.1s,comp=Z,6μm
PMBI **Palembang** **26.38 233** P **P** **18 55 08.3 +0.4**
comp=Z,696nm,1.2s,comp=Z,7μm
CD2 **Chengdu** **26.39 314** ⇓*i*P **P** **18 55 08.5 +0.6**
CD2 pP **pP** **18 55 14.5 -2.0**
CD2 PP **PnPn** **18 55 54.0 +5.9**
CD2 S **S** **18 59 38.8 -0.7**
CD2 SS **SnSn** **19 00 46.3 +4.8**
CD2 pmax pmax
comp=Z,380nm,0.8s
CD2 pmax pmax
comp=Z,3μm,5.9s
CD2 LR LR
comp=Z,19μm,19.0s
CD2 LR LR
comp=Z,14μm,17.8s
CD2 LR LR
comp=Z,14μm,15.5s
JMBI **JAMBI** **26.50 237** P **P** **18 55 10.1 +1.2**
comp=Z,1μm,1.5s,comp=Z,16μm
KPJI **Karang Pucung** **26.59 219** P **P** **18 55 08.6 -1.1**
comp=Z,187nm,1.0s,comp=Z,5μm
SURT **Suratani** **26.63 263** P **P** **18 55 12.0 +1.9**
comp=Z,24nm,1.7s,comp=Z,567nm
TIY **Taiyuan** **26.65 336** ⇑*i*P **P** **18 55 11.0 +0.9**
TIY S **S** **18 59 41.5 -2.0**
TIY SS **SnSn** **19 00 56.5 +8.8**
TIY pmax pmax
comp=Z,160nm,1.1s
TIY pmax pmax
comp=Z,640nm,4.5s
TIY LR LR
comp=Z,1μm,6.9s
TIY LR LR
comp=Z,9μm,10.3s
TIY LR LR
comp=Z,10μm,11.6s
MTN **Manton Dam** **26.91 168** P **P** **18 55 11.4 -1.1**
baz=27,SNR=26
MHMT **Maesarieng** **26.91 283** P **P** **18 55 12.5 -0.2**
comp=Z,57nm,1.3s,comp=Z,603nm
LEM **Lembang** **27.04 222** P **P** **18 55 13.6 -0.3**
comp=Z,209nm,1.1s,comp=Z,4μm
LEM **Lembang** **27.04 222** ⇑P **P** **18 55 13.1 -0.8**
baz=27,SNR=16
KDU **Kakadu** **27.07 165** ⇑P **P** **18 55 12.5 -1.5**
baz=27,SNR=30
CMJI **Cimerak** **27.24 220** P **P** **18 55 14.9 -0.6**
comp=Z,162nm,1.1s,comp=Z,2μm
CBJI **Citeko** **27.25 224** P **P** **18 55 16.5 +0.9**
comp=Z,492nm,1.1s,comp=Z,11μm
PKDT **Phuket** **27.32 261** P P 18 55 25.8 +9.5
CISI **Cisompet, Garu** **27.46 221** P **P** **18 55 15.0 -2.6**
comp=Z,208nm,1.1s,comp=Z,3μm
CISI **Cisompet, Garu** **27.46 221** *e*P **P** **18 55 14.7 -2.9**
comp=Z,217nm,1.0s
CISI **Cisompet, Garu** **27.46 221** ⇑P **P** **18 55 15.3 -2.3**
baz=28,SNR=12
BJT **Baijiatuau** **27.52 344** *e*P **P** **18 55 17.7 -0.1**
BJT comp=Z,155nm,1.1s LR LR
comp=Z,5μm,19.0s
BJI **Beijing** **27.54 344** P **P** **18 55 18.0 0.0**
BJI S **S** **18 59 56.3 -0.9**
BJI pmax pmax
comp=Z,42nm,2.0s
BJI pmax pmax
comp=Z,520nm,3.2s
BJI LR LR
comp=Z,11μm,12.9s
BJI LR LR
comp=Z,4μm,10.8s
BJI LR LR
comp=Z,3μm,18.2s
KLI **Kotabumi** **27.57 229** P P 18 55 25.0 +6.4
BKNI **Bangkinang** **27.64 243** P **P** **18 55 19.0 -0.2**
comp=Z,484nm,1.1s,comp=Z,5μm
BKNI **Bangkinang** **27.64 243** *e*P **P** **18 55 17.3 -1.9**
comp=Z,495nm,1.0s
BKNI **Bangkinang** **27.64 243** ⇑P **P** **18 55 18.8 -0.5**
baz=28,SNR=8.1
CNJI **Cibinong** **27.72 222** P **P** **18 55 17.1 -2.7**
comp=Z,261nm,1.2s,comp=Z,3μm
MDSI **Maura Dua** **27.83 231** P **P** **18 55 18.4 -2.5**
comp=Z,52nm,1.0s,comp=Z,1μm
LHSI **Lahat** **27.91 233** P **P** **18 55 21.0 -0.6**
comp=Z,365nm,1.1s,comp=Z,13μm
SNY **Shenyang** **28.11 357** ⇓P **P** **18 55 24.3 +1.2**
SNY S **S** **19 00 06.8 +0.5**
SNY pmax pmax
comp=Z,210nm,1.3s
SNY pmax pmax
comp=Z,2μm,10.1s
SNY LR LR
comp=Z,8μm,14.7s
SNY LR LR
comp=Z,16μm,12.4s
SNY LR LR
comp=Z,9μm,13.7s
CGJI **Cibinong** **28.18 226** P P 18 55 20.5 -3.5
comp=Z,79nm,1.1s,comp=Z,2μm
LWLI **Liwa** **28.27 230** P **P** **18 55 22.2 -2.7**
comp=Z,129nm,1.0s
KASI **Kota Agung** **28.28 229** P P 18 55 21.5 -3.4
comp=Z,52nm,1.1s,comp=Z,1μm
PSI **Prapat** **28.43 250** P x 18 55 26.6
comp=Z,165nm,1.0s
PSI **Prapat** **28.43 250** P **P** **18 55 26.5 +0.1**
PSI PcP **PcP** **18 58 39.9 +1.4**
PSI S **S** **19 00 10.2 -1.9**
PSI **Prapat** **28.43 250** P **P** **18 55 26.5 +0.1**
comp=Z,72nm,0.8s,baz=67,slow=5.3,SNR=55
PSI PcP **PcP** **18 58 39.9 +1.4**
comp=Z,6.0nm,0.5s,baz=146,slow=7.3,SNR=3.2
PSI S **S** **19 00 10.2 -1.9**
comp=Z,2.1nm,0.3s,baz=150,slow=20,SNR=2.4
PSI LR LR 19 07 07.2
comp=Z,5μm,19.9s,baz=72,slow=37
PSI **Prapat** **28.43 250** P **P** **18 55 26.3 -0.1**
baz=28,SNR=36
TSI **Tutungan** **28.48 252** P **P** **18 55 28.8 +2.1**
comp=Z,135nm,1.1s,comp=Z,3μm
MNAI **Manna** **28.69 233** P **P** **18 55 27.0 -1.6**
comp=Z,1μm,1.0s,comp=Z,9μm
MNAI **Manna** **28.69 233** *e*P **P** **18 55 26.6 -1.9**
comp=Z,1μm,1.0s
MNAI **Manna** **28.69 233** ⇓P **P** **18 55 27.0 -1.6**
baz=29,SNR=12
MNSI **Mandailing Nat** **28.70 246** P **P** **18 55 28.8 +0.1**
comp=Z,147nm,1.0s,comp=Z,3μm
KCSI **Kotacane, Aceh** **29.21 252** P **P** **18 55 32.0 -1.2**
comp=Z,121nm,1.0s,comp=Z,1μm
KNRA **Kununurra** **29.32 174** P **P** **18 55 33.1 -0.9**
baz=29,SNR=8.8
LHMI **Lhok Sumawe** **29.39 256** P **P** **18 55 34.9 +0.1**
comp=Z,206nm,1.0s,comp=Z,3μm
LHMI **Lhok Sumawe** **29.39 256** *e*P **P** **18 55 34.9 +0.1**
comp=Z,171nm,0.9s
LHMI **Lhok Sumawe** **29.39 256** ⇓P **P** **18 55 35.6 +0.8**
baz=29,SNR=6.4
HHC **Hu-ho-hao-te** **29.71 338** *e*P **P** **18 55 39.0 +1.5**
HHC pP **pP** **18 55 46.0 -0.2**
HHC sP **sP** **18 55 49.5 -0.4**
HHC PP **PnPn** **18 56 36.5 +3.0**
HHC S **S** **19 00 32.3 +0.5**
HHC sS **sS** **19 00 45.8 -0.3**
HHC SS **SnSn** **19 02 08.5 +6.0**
HHC pmax pmax
comp=Z,130nm,1.0s
HHC pmax pmax
comp=Z,2μm,6.1s
HHC LR LR
comp=Z,12μm,14.8s
HHC LR LR
comp=Z,23μm,16.0s
HHC LR LR
comp=Z,11μm,14.8s
TPTI **29.85 252** P P 18 55 42.6 +3.7
comp=Z,41nm,1.3s
VLA **Vladivostok** **29.86 9** ⇑*e*P **P** **18 55 39.8 +1.2**
VLA *e* 18 56 35.9
VLA *e*S **S** **19 00 33.3 -0.4**
VLA pmax pmax
comp=Z,80nm,1.2s
CN2 **Changchun** **30.04 360** *e*P **P** **18 55 40.3 +0.1**
CN2 *es*P **sP** **18 55 53.8 +1.3**
CN2 *e*S **S** **19 00 36.0 -0.5**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,7μm,13.0s
CN2 LR LR
comp=Z,9μm,13.0s
CN2 LR LR
comp=Z,7μm,15.0s
BTO **Baotou** **30.09 336** *e*P **P** **18 55 38.3 -2.5**
USRK **Ussuriysk Arra** **30.93 9** P **P** **18 55 48.8 +0.7**
comp=Z,124nm,0.9s,baz=191,slow=8.0,SNR=112
USRK LR LR 19 08 46.3
comp=Z,2μm,19.6s,baz=185,slow=37
SNSI **Sinabang, Aceh** **30.96 251** P **P** **18 55 46.9 -1.8**
comp=Z,223nm,1.3s,comp=Z,3μm
MDJ **Mudanjiang** **31.04 6** P **P** **18 55 49.8 +0.7**
MDJ pP **pP** **18 55 52.8 -5.0**
MDJ sP **sP** **18 55 57.5 -3.9**
MDJ S **S** **19 00 49.8 -2.5**
MDJ pmax pmax
comp=Z,56nm,1.1s
MDJ pmax pmax
comp=Z,160nm,2.9s
MDJ LR LR
comp=Z,5μm,15.9s
MDJ LR LR
comp=Z,12μm,15.3s
MDJ LR LR
comp=Z,7μm,15.3s
MDJ **Mudanjiang** **31.04 6** *e*P **P** **18 55 49.6 +0.6**
comp=Z,102nm,0.9s
MDJ LR LR
comp=Z,7μm,19.0s
XMIS **Christmas Isla** **31.06 220** *e*P P 18 55 45.3 -4.3
comp=Z,484nm,1.1s
PMG **Port Moresby** **31.40 136** P x 18 55 51.4
comp=Z,56nm,2.3s,comp=Z,2μm
PMG **Port Moresby** **31.40 136** *e*P **P** **18 55 51.5 -1.0**
comp=Z,31nm,0.8s
PMG LR LR
comp=Z,3μm,19.0s
PMG **Port Moresby** **31.40 136** P **P** **18 55 51.7 -0.8**
comp=Z,21nm,0.8s,baz=332,slow=12,SNR=11
CMBY **CAMPBELL BAY** **31.77 261** *e*P **P** **18 55 55.2 -0.7**
CMBY AMB AMB 18 55 57.4
comp=Z,228nm,1.6s
RABL **Rabaul** **31.82 122** ⇓P **P** **18 55 56.7 +0.3**
baz=32,SNR=8.3
ERM **Erimo** **32.12 25** PFAKE 18 56 10.0 +11
ERM LR LR
comp=Z,6μm,22.0s
COEN **Coen** **32.53 147** *e*P **P** **18 56 00.8 -1.6**

	comp=Z,584nm,1.1s									
COEN	**Coen**	**32.53**	**147**		P	**P**	**18 56 01.4**	**-1.0**		
	baz=33,SNR=13									
ASAJ	**Asahikawa**	**33.68**	**22**		LR	LR	19 10 39.0			
	comp=Z,2μm,18.9s,slow=38									
SHL	**Shillong**	**33.74**	**296**	*e*	P	**P**	**18 56 13.0**	**-0.2**		
SHL				*e*	S	**S**	**19 01 33.0**	**-2.2**		
GTA	**Gaotai**	**34.23**	**323**		P	**P**	**18 56 17.8**	**+0.6**		
GTA					pP	**pP**	**18 56 27.0**	**+1.1**		
GTA					sP	**sP**	**18 56 31.3**	**+1.7**		
GTA					PP	**PP**	**18 57 34.5**	**-0.5**		
GTA					PcP	**PcP**	**18 58 54.8**	**+1.3**		
GTA					S	**S**	**19 01 42.3**	**+0.1**		
GTA					sS	**sS**	**19 01 58.5**	**+1.8**		
GTA					SS	**SnSn**	**19 03 53.8**	**+1.6**		
GTA					pmax	pmax				
	comp=Z,78nm,1.4s									
GTA					pmax	pmax				
	comp=Z,2μm,4.5s									
GTA					LR	LR				
	comp=Z,8μm,15.2s									
GTA					LR	LR				
	comp=Z,5μm,18.8s									
GTA					LR	LR				
	comp=Z,8μm,18.5s									
WRAB	**Tennant Creek**	**34.49**	**165**	⇓*i*	P	**P**	**18 56 19.8**	**+0.3**		
WRAB					pmax	pmax				
	comp=Z,127nm,1.0s									
WRAB	**Tennant Creek**	**34.49**	**165**	*e*	P	**P**	**18 56 18.1**	**-1.3**		
	comp=Z,738nm,1.8s									
WRAB					LR	LR				
	comp=Z,3μm,19.0s									
WRA	**Warramunga Arr**	**34.50**	**165**		P	**P**	**18 56 17.2**	**-2.3**		
WRA					S	**S**	**19 01 44.8**	**-1.7**		
WRA	**Warramunga Arr**	**34.50**	**165**		P	**P**	**18 56 17.2**	**-2.3**		
	comp=Z,39nm,0.8s,baz=342,slow=9.6,SNR=108									
WRA					S	**S**	**19 01 44.8**	**-1.7**		
	comp=Z,13nm,1.1s,baz=339,slow=14,SNR=6.7									
YUK	**Yuzh-Kuril'sk**	**34.91**	**26***c*	*i*	P	P	18 56 17.8	-5.1		
YUK				*i*	S	**S**	**19 01 46.9**	**-5.5**		
LSA	**Lhasa**	**35.55**	**302**		P	**P**	**18 56 29.8**	**+0.7**		
LSA					LR	LR				
	comp=Z,3μm,17.3s									
LSA					LR	LR				
	comp=Z,3μm,19.2s									
LSA					LR	LR				
	comp=Z,5μm,25.0s									
LSA	**Lhasa**	**35.55**	**302**	*e*	P	**P**	**18 56 29.8**	**+0.7**		
LSA					pmax	pmax				
	comp=Z,170nm,0.9s									
LSA					MLR	MLR				
	comp=Z,4μm,20.0s									
LSA	**Lhasa**	**35.55**	**302**	*e*	P	**P**	**18 56 29.8**	**+0.7**		
	comp=Z,170nm,0.9s									
LSA					LR	LR				
	comp=Z,4μm,20.0s									
HABR	**Khabarovsk**	**35.59**	**11***c*	*e*	P	**P**	**18 56 27.3**	**-1.4**		
HABR				*e**PP		**pP**	**18 56 36.9**	**-0.5**		
HABR				*e**SP		**sP**	**18 56 41.1**	**+0.1**		
HABR							18 58 55.7			
HABR				*e*S		**S**	**19 02 01.6**	**-1.1**		
HABR				*e**SS		**sS**	**19 02 18.0**	**+0.8**		
HABR				*e*SS		**SnSn**	**19 04 25.1**	**+0.3**		
HABR				*e*			19 06 43.3			
HABR					pmax	pmax				
	comp=Z,312nm,2.8s									
HABR					pmax	pmax				
	comp=E,135nm,2.8s									
HABR					pmax	pmax				
	comp=N,128nm,2.8s									
HABR					MLR	MLR				
	comp=Z,6μm,15.0s									
HIA	**Hailar**	**35.82**	**354**	*e*	P	**P**	**18 56 30.5**	**-0.2**		
	comp=Z,124nm,1.2s									
HIA					LR	LR				
	comp=Z,6μm,20.0s									
KLR	**Kul'dur**	**35.83**	**7**	*e*	P	**P**	**18 56 27.6**	**-3.1**		
KLR				*e*S		**S**	**19 02 02.0**	**-4.4**		
KLR				*e*SS		**SnSn**	**19 04 27.5**	**-3.2**		
KLR					pmax	pmax				
	comp=N,78nm,1.8s									
KLR					pmax	pmax				
	comp=Z,240nm,1.8s									
KLR					smax	smax				
	comp=N,2μm,10.0s									
KLR					smax	smax				
	comp=E,2μm,10.0s									
KLR					MLR	MLR				
	comp=E,5μm,11.5s									
KLR					MLR	MLR				
	comp=Z,21μm,11.5s									
YSS	**Yuzh-Sakhalins**	**36.19**	**20**α	*i*	P	**P**	**18 56 34.0**	**+0.2**		
YSS				*e*			18 59 02.0			
YSS				*e*S		**S**	**19 02 08.0**	**-3.9**		
YSS				*e*SSS		SSS	19 05 04.0			
YSS					pmax	pmax				
	comp=Z,90nm,1.0s									
YSS					pmax	pmax				
	comp=Z,800nm,5.0s									
YSS					MLR	MLR				
	comp=N,3μm,16.0s									
YSS					MLR	MLR				
	comp=Z,2μm,16.0s									
YSS	**Yuzh-Sakhalins**	**36.19**	**20**	*e*	P	**P**	**18 56 33.7**	**-0.1**		
	comp=Z,80nm,0.9s									
QIS	**Mount Isa**	**36.71**	**158**	⇓	P	**P**	**18 56 37.1**	**-1.4**		
	baz=37,SNR=67									
ULN	**Ulaanbaatar**	**37.41**	**339**	*e*	P	**P**	**18 56 44.3**	**-0.1**		
	comp=Z,211nm,1.1s									
SONM	**Songino Array**	**37.62**	**339**		P	**P**	**18 56 46.3**	**+0.2**		
SONM					PcP	**PcP**	**18 59 03.8**	**+0.4**		
SONM					S	**S**	**19 02 33.8**	**-0.2**		
SONM	**Songino Array**	**37.62**	**339**		P	**P**	**18 56 46.3**	**-0.2**		
	comp=Z,72nm,0.9s,baz=158,slow=7.0,SNR=147									
SONM					PcP	**PcP**	**18 59 03.8**	**+0.4**		
	comp=Z,12nm,1.0s,baz=144,slow=2.3,SNR=5.9									
SONM					S	**S**	**19 02 33.8**	**-0.2**		
	comp=Z,0.7nm,0.9s,baz=176,slow=16,SNR=2.5									
SONM					LR	LR	19 14 21.0			
	comp=Z,5μm,18.1s,baz=148,slow=40									
GIRL	**Giralia**	**37.74**	**197**	⇓	P	**P**	**18 56 46.6**	**-0.6**		
	baz=38,SNR=16									
TAPN	**Taplejung**	**37.80**	**297**	*e*	P	**P**	**18 56 47.8**	**-0.4**		
	comp=Z,507nm,1.2s									
ODAN	**Odare**	**37.97**	**296**	*e*	P	**P**	**18 56 49.3**	**-0.2**		
	comp=Z,547nm,0.9s									
AS31	**Alice Springs**	**37.99**	**167**	*e*	P	**P**	**18 56 48.8**	**-0.6**		
ASAR	**Alice Springs**	**37.99**	**167**		P	**P**	**18 56 48.9**	**-0.5**		
ASAR					S	**S**	**19 02 40.9**	**+1.0**		
ASAR	**Alice Springs**	**37.99**	**167**		P	**P**	**18 56 48.9**	**-0.5**		
	comp=Z,45nm,0.7s,baz=344,slow=6.6,SNR=303									
ASAR					S	**S**	**19 02 40.9**	**+1.0**		
	comp=Z,13nm,0.9s,baz=333,slow=15,SNR=9.7									
ASAR					LR	LR	19 17 05.7			
	comp=Z,894nm,18.0s,baz=341,slow=44									
COCO	**West Island**	**38.34**	**229**		PFAKE		18 57 00.0	+7.7		
COCO					LR	LR				
	comp=Z,2μm,20.0s									
WRKA	**Warakurna**	**38.56**	**176**		P	**P**	**18 56 53.7**	**-0.4**		
	baz=39,SNR=214									
RAMN	**Ramite**	**38.67**	**296**	*e*	P	**P**	**18 56 54.9**	**-0.6**		
	comp=Z,623nm,1.1s									
BOK	**Bokaro**	**38.77**	**291**	*e*	P	**P**	**18 56 56.4**	**+0.4**		
BOK					AMB	AMB	18 56 58.5			
	comp=Z,118nm,1.6s									
JIRN	**Jiri**	**39.18**	**297**	*e*	P	**P**	**18 56 59.6**	**-0.3**		
	comp=Z,309nm,1.0s									
CTA	**Charters Tower**	**39.24**	**148**		P	**P**	**18 56 59.7**	**-0.3**		
CTA	**Charters Tower**	**39.24**	**148**		P	**P**	**18 56 59.7**	**-0.3**		
	comp=Z,62nm,1.1s,baz=328,slow=11,SNR=20									
CTA					LR	LR	19 14 34.3			
	comp=Z,2μm,18.8s,baz=324,slow=38									
CTAO	**Charters Tower**	**39.24**	**148**	*e*	P	**P**	**18 56 59.8**	**-0.1**		
CTAO					pmax	pmax				
	comp=Z,165nm,1.3s									
CTAO					MLR	MLR				
	comp=Z,5μm,19.0s									
CTAO	**Charters Tower**	**39.24**	**148**	*e*	P	**P**	**18 56 59.8**	**-0.1**		
	comp=Z,165nm,1.3s									
CTAO					LR	LR				
	comp=Z,5μm,19.0s									
CIT	**Chita**	**39.46**	**348**	*e*	P	**P**	**18 57 01.6**	**+0.2**		
CIT				*e*			18 57 15.4			
CIT				*e*			18 58 34.9			
CIT					pmax	pmax				
	comp=Z,339nm,2.5s									
GUN	**Gumba**	**39.51**	**297**	*e*	P	**P**	**18 57 02.4**	**-0.1**		
	comp=Z,409nm,0.8s									
PKI	**Pulchoki**	**39.84**	**297**	*e*	P	**P**	**18 57 04.5**	**-0.8**		
	comp=Z,290nm,1.1s									
PKIN	**Phulchoki**	**39.85**	**297**	*e*	P	**P**	**18 57 05.3**	**0.0**		
	comp=Z,125nm,0.9s									
H11N1	**WAKE ISLAND Hy**	**39.99**	**76**		T	T	19 41 15.6			
	baz=271,slow=75,SNR=122									
H11N2	**WAKE ISLAND Hy**	**40.00**	**76**		T	T	19 41 16.0			
	baz=271,slow=75,SNR=113									
KKN	**Kakani**	**40.00**	**297**	*e*	P	**P**	**18 57 05.8**	**-0.7**		
	comp=Z,233nm,1.0s									
H11N3	**WAKE ISLAND Hy**	**40.01**	**76**		T	T	19 41 16.9			
	baz=271,slow=75,SNR=135									
DMN	**Daman**	**40.11**	**297**	*e*	P	**P**	**18 57 07.3**	**-0.2**		
	comp=Z,524nm,1.2s									
GKN	**Gorkha**	**40.60**	**297**	*e*	P	**P**	**18 57 10.6**	**-0.8**		
	comp=Z,446nm,1.2s									
VIS	**Vishakhapatnam**	**40.78**	**281**	*e*	P	**P**	**18 57 13.1**	**+0.4**		
VIS					AMB	AMB	18 57 18.9			
	comp=Z,138nm,1.8s									
ZAK	**Zakamensk**	**40.87**	**338**	*e*	P	**P**	**18 57 12.6**	**-0.6**		
HNR	**Honiara**	**41.14**	**122**		LR	LR	19 11 43.6			
	comp=Z,3μm,21.6s,baz=295,slow=32									
DANN	**Dangsing**	**41.43**	**297**	*e*	P	**P**	**18 57 17.8**	**-0.6**		
	comp=Z,434nm,1.1s									
KOLN	**Koldanda**	**41.45**	**297**	*e*	P	**P**	**18 57 17.9**	**-0.6**		
	comp=Z,433nm,1.1s									
TLY	**Talaya**	**41.82**	**340**		P	**P**	**18 57 22.3**	**+1.4**		
	comp=Z,405nm,1.2s,SNR=13									
TLY	**Talaya**	**41.82**	**340**	*d*	P	**P**	**18 57 21.8**	**+0.9**		
TLY				*e*			18 59 04.2			
TLY				*e*S		**S**	**19 03 34.2**	**-2.5**		
TLY				*e*SS		**SS**	**19 06 43.7**	**+0.3**		
TLY					pmax	pmax				
	comp=Z,151nm,1.5s									
TLY					MLR	MLR				
	comp=Z,3μm,17.0s									
TLY	**Talaya**	**41.82**	**340**	*e*	P	**P**	**18 57 21.2**	**+0.3**		
	comp=Z,153nm,1.4s									
TLY					LR	LR				
	comp=Z,3μm,20.0s									
IRK	**Irkutsk**	**42.09**	**341**	*e*	P	**P**	**18 57 23.8**	**+0.7**		
IRK				*e*			18 59 06.3			
IRK				*e*S		**S**	**19 03 40.5**	**-0.1**		
IRK					pmax	pmax				
	comp=Z,181nm,1.6s									
MOY	**Mondy**	**42.75**	**338**	*e*	P	**P**	**18 57 28.9**	**+0.3**		
MOY					pmax	pmax				
	comp=Z,192nm,3.9s									
QLP	**Quilpie**	**43.94**	**156**		P	**P**	**18 57 37.2**	**-1.1**		
	baz=44,SNR=96									
MDRS	**Chennai**	**44.02**	**275**	*e*	P	**P**	**18 57 39.5**	**+0.3**		
MDRS					AMB	AMB	18 57 45.0			
	comp=Z,220nm,0.9s									
WMQ	**Urumqi**	**44.15**	**320**		P	**P**	**18 57 41.0**	**+1.1**		
WMQ					pP	**pP**	**18 57 48.5**	**-0.4**		
WMQ					sP	**sP**	**18 57 51.8**	**-0.6**		
WMQ					PP	**PcP**	**18 59 25.3**	**+0.7**		
WMQ					PcP	**PP**	**18 59 27.0**	**+3.9**		
WMQ					ScP	**ScP**	**19 03 15.8**	**+1.2**		
WMQ					S	**S**	**19 04 11.8**	**+0.7**		
WMQ					sS	**sS**	**19 04 23.5**	**-2.3**		
WMQ					SS	SS	19 07 20.0	-9.4		
WMQ					ScS	**ScS**	**19 07 35.8**	**-0.8**		
WMQ					pmax	pmax				
	comp=Z,72nm,1.5s									
WMQ					pmax	pmax				
	comp=Z,860nm,4.2s									
WMQ					LR	LR				
	comp=Z,9μm,17.3s									
WMQ					LR	LR				
	comp=Z,6μm,14.4s									
WMQ					LR	LR				
	comp=Z,4μm,17.3s									
FORT	**Forrest**	**44.25**	**177**	*e*	P	**P**	**18 57 40.1**	**-0.6**		
	comp=Z,377nm,0.7s									
FORT	**Forrest**	**44.25**	**177**	⇓	P	**P**	**18 57 40.7**	**0.0**		
	baz=44,SNR=34									
PALK	**Pallekele**	**44.49**	**266**	*e*	P	**P**	**18 57 42.8**	**-0.2**		
	comp=Z,85nm,0.9s									
PALK	**Pallekele**	**44.49**	**266**	⇓	*i* P	**P**	**18 57 44.2**	**+1.2**		
	SNR=5.3									
HYB	**Hyderabad**	**45.34**	**281**	*i*	P	**P**	**18 57 49.0**	**-0.8**		
HYB				*e*S		**S**	**19 04 30.0**	**+1.0**		
HYB	**Hyderabad**	**45.34**	**281**	*e*	P	**P**	**18 57 50.3**	**+0.5**		
HYB					AMB	AMB	18 57 55.2			
	comp=Z,163nm,1.2s									
EIDS	**Eidsvold**	**46.09**	**147**	*e*	P	**P**	**18 57 54.2**	**-1.3**		
	comp=Z,141nm,1.0s									
EIDS	**Eidsvold**	**46.09**	**147**		P	**P**	**18 57 55.3**	**-0.2**		
	baz=46,SNR=33									
BHPL	**Bhopal**	**46.45**	**289**	*e*	P	**P**	**18 57 58.8**	**+0.3**		
BHPL					AMB	AMB	18 57 60.0			
	comp=Z,107nm,0.9s									
DDI	**Dehra Dun**	**46.69**	**299**	*e*	P	**P**	**18 58 01.3**	**+1.0**		
DDI					AMB	AMB	18 58 02.3			
	comp=Z,282nm,0.9s									
PEA0B	**Petropavlovsk-**	**46.89**	**26**	*e*	P	**P**	**18 58 02.3**	**+0.8**		
PETK	**Petropavlovsk-**	**46.89**	**26**		P	**P**	**18 58 02.4**	**+1.0**		
PETK	**Petropavlovsk-**	**46.89**	**26**		P	**P**	**18 58 02.4**	**+1.0**		
PETK	**Petropavlovsk-**	**46.89**	**26**		P	**P**	**18 58 02.4**	**+1.0**		
	comp=Z,44nm,1.0s,baz=197,slow=4.5,SNR=17									
PETK					LR	LR	19 15 08.1			
	comp=Z,2μm,21.6s,baz=221,slow=33									
NWAO	**Narrogin (SRO)**	**47.00**	**190**		LR	LR	19 21 29.8			
	comp=Z,2μm,19.3s,baz=11,slow=41									
PET	**Petropavlovsk**	**47.25**	**27**	⇑*i*	P	**P**	**18 58 05.3**	**+1.2**		
PET				*e*S		**S**	**19 04 56.3**	**+1.0**		
PET					pmax	pmax				
	comp=Z,35nm,0.7s									
PET	**Petropavlovsk**	**47.25**	**27**	*e*	P	**P**	**18 58 04.6**	**+0.5**		
	comp=Z,220nm,1.4s									
PET					LR	LR				
	comp=Z,3μm,20.0s									
BBOO	**Buckleboo**	**47.29**	**168**	*e*	P	**P**	**18 58 04.8**	**0.0**		
	comp=Z,5μm,0.7s									
BBOO	**Buckleboo**	**47.29**	**168**		P	**P**	**18 58 04.7**	**0.0**		
	baz=47,SNR=154									
SMLA	**Simla**	**47.59**	**300**	*e*	P	**P**	**18 58 06.9**	**-0.3**		
SMLA					AMB	AMB	18 58 09.2			
	comp=Z,183nm,2.1s									
STKA	**Stephens Creek**	**47.82**	**161**	*e*	P	**P**	**18 58 08.4**	**-0.5**		
	comp=Z,35nm,0.9s									
STKA	**Stephens Creek**	**47.82**	**161**		P	**P**	**18 58 08.8**	**-0.1**		
	comp=Z,110nm,0.8s,baz=335,slow=7.7,SNR=136									
STKA	**Stephens Creek**	**47.82**	**161**		P	**P**	**18 58 08.8**	**-0.1**		
	baz=48,SNR=135									
TRD	**Trivandrum**	**47.89**	**269**	*e*	P	**P**	**18 58 09.5**	**-0.2**		
YAK	**Yakutsk**	**48.39**	**3**	*e*	P	**P**	**18 58 12.3**	**-0.6**		
YAK				*e**PP		**pP**	**18 58 26.4**	**+4.5**		
YAK				*e*			18 59 39.6			
YAK				*e*			19 00 05.1			
YAK				*e*S		**S**	**19 05 12.4**	**+1.2**		
YAK				*e*SSS		SSS	19 10 01.7			
YAK					pmax	pmax				
	comp=Z,170nm,1.1s									
YAK					pmax	pmax				
	comp=N,97nm,1.4s									
YAK					pmax	pmax				
	comp=E,18nm,1.5s									
YAK					pmax	pmax				
	comp=E,260nm,5.0s									
YAK					pmax	pmax				
	comp=Z,428nm,6.1s									
YAK					pmax	pmax				
	comp=N,537nm,7.3s									
YAK					smax	smax				
	comp=N,268nm,3.4s									
YAK					smax	smax				
	comp=E,569nm,6.1s									
YAK					MLR	MLR				
	comp=Z,3μm,14.0s									
YAK					MLR	MLR				
	comp=N,3μm,15.0s									
YAK					MLR	MLR				
	comp=E,2μm,15.0s									
YAK	**Yakutsk**	**48.39**	**3**	*e*	P	**P**	**18 58 12.1**	**-0.7**		
	comp=E,223nm,1.1s									
DHRM	**DHARAMSHALA**	**48.52**	**301**	*e*	P	**P**	**18 58 14.5**	**-0.2**		
DHRM					AMB	AMB	18 58 16.1			
	comp=Z,149nm,1.2s									
HTT	**Hallett**	**48.54**	**165**	⇑	P	**P**	**18 58 14.9**	**+0.4**		
	baz=49,SNR=24									
CMSA	**Cobar Meteorol**	**48.93**	**157**	⇑	P	**P**	**18 58 17.6**	**+0.2**		
	baz=49,SNR=359									
MK31	**Makanchi Array**	**48.93**	**321**	*i*	P	**P**	**18 58 17.7**	**+0.4**		
MK31					pmax	pmax				
	comp=Z,198nm,1.1s									
MKAR	**Makanchi Array**	**48.93**	**321***c*	*e*	P	**P**	**18 58 17.7**	**+0.3**		
MKAR					pmax	pmax				
	comp=Z,93nm,0.9s									
MKAR	**Makanchi Array**	**48.93**	**321**		P	**P**	**18 58 17.7**	**+0.3**		
MKAR	**Makanchi Array**	**48.93**	**321**		P	**P**	**18 58 17.7**	**+0.3**		
	comp=Z,92nm,0.9s,baz=112,slow=5.9,SNR=247									
POO	**Poona**	**49.77**	**283**	*e*	P	**P**	**18 58 24.0**	**-0.2**		
GOA	**Goa**	**49.99**	**279**	*e*	P	**P**	**18 58 26.3**	**+0.5**		
KSH	**Kashi**	**50.48**	**310**		P	**P**	**18 58 31.5**	**+2.1**		
KSH				*e*PcP		**PcP**	**18 59 50.0**	**+2.7**		
KSH				*e*PP		**PP**	**19 00 28.0**	**+2.8**		
KSH				*e*S		**S**	**19 05 42.0**	**+0.5**		
KSH				sS		**sS**	**19 05 54.5**	**-1.9**		
KSH				*e*SS		**SS**	**19 09 12.8**	**-2.8**		
KSH					pmax	pmax				
	comp=Z,800nm,4.3s									
KSH					LR	LR				
	comp=Z,2μm,13.5s									
KSH					LR	LR				
	comp=Z,7μm,15.6s									
KSH					LR	LR				
	comp=Z,6μm,14.2s									
ARMA	**Armidale**	**50.51**	**151**	*e*	P	**P**	**18 58 30.0**	**+0.4**		
	comp=Z,288nm,1.5s									
ARMA	**Armidale**	**50.51**	**151**	⇓	P	**P**	**18 58 30.0**	**+0.4**		
	baz=51,SNR=22									
ULHL	**Ulahol**	**51.10**	**314**	*i*	P	**P**	**18 58 35.2**	**+1.0**		
ULHL	**Ulahol**	**51.10**	**314**		P	**P**	**18 58 35.2**	**+1.0**		
	SNR=199									
ZAA0	**Zalesovo Array**	**51.33**	**330**	*e*	P	**P**	**18 58 34.8**	**-0.6**		
ZALV	**Zalesovo Beam**	**51.33**	**330**	*i*	P	**P**	**18 58 35.0**	**-0.3**		
ZALV					pmax	pmax				
	comp=Z,64nm,0.9s									
ZALV	**Zalesovo Beam**	**51.33**	**330**		P	**P**	**18 58 35.1**	**-0.3**		
ZALV	**Zalesovo Beam**	**51.33**	**330**		P	**P**	**18 58 35.1**	**-0.3**		
	comp=Z,64nm,0.9s,baz=116,slow=6.8,SNR=115									
ZALV					LR	LR	19 20 56.6			
	comp=Z,2μm,19.1s,baz=134,slow=37									
KZA	**Kyzart**	**51.75**	**313**	*i*	P	**P**	**18 58 40.7**	**+1.5**		
KZA	**Kyzart**	**51.75**	**313**		P	**P**	**18 58 40.8**	**+1.5**		
	SNR=236									
TKM2	**Tokmak 2**	**51.77**	**314**	*i*	P	**P**	**18 58 39.9**	**+0.7**		
TKM2	**Tokmak 2**	**51.77**	**314**		P	**P**	**18 58 39.9**	**+0.7**		
	SNR=115									
TKM2	**Tokmak 2**	**51.77**	**314**	*e*	P	**P**	**18 58 39.5**	**+0.4**		
	comp=Z,155nm,1.3s									
TKM2					LR	LR				
	comp=Z,5μm,19.0s									
KBK	**Karagaybulak**	**52.14**	**314**		P	**P**	**18 58 42.8**	**+0.9**		
	SNR=137									
UCH	**Uchtor**	**52.32**	**313**	*i*	P	**P**	**18 58 44.9**	**+1.4**		
UCH	**Uchtor**	**52.32**	**313**		P	**P**	**18 58 45.0**	**+1.4**		
	SNR=241									
CHMS	**Chumysh**	**52.39**	**314**	*i*	P	**P**	**18 58 44.1**	**+0.6**		
CHMS	**Chumysh**	**52.39**	**314**		P	**P**	**18 58 44.1**	**+0.6**		
	SNR=120									
YNG	**Young**	**52.42**	**156**	⇑	P	**P**	**18 58 44.2**	**+0.5**		
	baz=52,SNR=11									
FRU	**Bishkek**	**52.43**	**314**	*i*	P	**P**	**18 58 45.5**	**+1.7**		
FRU				*e*			19 09 40.0			
FRU					pmax	pmax				
	comp=Z,300nm,1.8s									
FRU					MLR	MLR				
	comp=Z,44μm,21.0s									
AAK	**Ala-Archa**	**52.45**	**314**	*i*	P	**P**	**18 58 45.0**	**+0.8**		
AAK					pmax	pmax				
	comp=Z,129nm,1.6s									
AAK					MLR	MLR				
	comp=Z,8μm,20.0s									
AAK	**Ala-Archa**	**52.45**	**314**		P	**P**	**18 58 45.0**	**+0.8**		
	SNR=38									
AAK	**Ala-Archa**	**52.45**	**314**	*e*	P	**P**	**18 58 44.5**	**+0.3**		
	comp=Z,74nm,1.3s									
AAK					LR	LR				
	comp=Z,4μm,20.0s									
NVS	**Novosibirsk**	**52.61**	**331**	*i*	P	**P**	**18 58 44.3**	**-0.5**		
NVS				*e*			18 59 01.9			
NVS				*e*			19 06 07.8			
NVS					pmax	pmax				
	comp=N,105nm,1.4s									
NVS					pmax	pmax				
	comp=E,137nm,1.4s									
NVS					pmax	pmax				
	comp=Z,197nm,1.4s									
MGCD	**Mangrove Creek**	**52.61**	**153**	⇓	P	**P**	**18 58 46.1**	**+0.9**		
	baz=53,SNR=5.0									
USP	**Ospenovka**	**52.65**	**314**	*i*	P	**P**	**18 58 46.0**	**+0.6**		
USP	**Ospenovka**	**52.65**	**314**		P	**P**	**18 58 46.1**	**+0.6**		
	SNR=88									
AML	**Almayashu**	**52.88**	**313**		P	**P**	**18 58 48.7**	**+1.1**		
	SNR=109									
KURK	**Kurchatov**	**52.90**	**324**		P	**P**	**18 58 47.3**	**+0.2**		
KURK					pmax	pmax				
	comp=Z,281nm,1.1s									
KURK	**Kurchatov**	**52.90**	**324**	*e*	P	**P**	**18 58 47.2**	**+0.2**		
	comp=Z,253nm,1.0s									
KURK					LR	LR				
	comp=Z,2μm,19.0s									
EKS2	**Erkin-Say**	**52.97**	**313**	*i*	P	**P**	**18 58 48.8**	**+0.9**		
EKS2	**Erkin-Say**	**52.97**	**313**		P	**P**	**18 58 48.9**	**+0.9**		
	SNR=94									
EKS2	**Erkin-Say**	**52.97**	**313**	*e*	P	**P**	**18 58 48.6**	**+0.7**		
	comp=Z,8.4nm,0.6s									
EKS2					LR	LR				
	comp=Z,4μm,19.0s									
CAN	**Canberra**	**53.55**	**156**	*e*	P	**P**	**18 58 53.7**	**+1.6**	

VOSK pmax pmax
comp=Z,229nm,1.2s
BVAR Borovoye Array 58.50 324 LR LR 19 24 03.4
comp=Z,2µm,21.6s,baz=107,slow=36
BRVK Borovoye 58.57 324*d iP* **P 18 59 28.8 +1.1**
BRVK pmax pmax
comp=Z,412nm,1.2s
BRVK MLR MLR
comp=Z,3µm,14.0s
BRVK Borovoye 58.57 324 PFAKE 18 59 40.0 +12
BRVK LR LR
comp=Z,2µm,20.0s
TAU Tasmania Unive 59.74 162 *eP* **P 18 59 36.5 +0.7**
TAU pmax pmax
comp=Z,91nm,1.1s
TAU MLR MLR
comp=Z,3µm,21.0s
TAU Tasmania Unive 59.74 162 *eP* **P 18 59 36.5 +0.7**
comp=Z,91nm,1.1s
TAU LR LR
comp=Z,3µm,21.0s
BILL Bilibino 60.36 16*c iP* **P 18 59 40.0 +0.1**
BILL *i* 19 01 49.0
BILL pmax pmax
comp=Z,43nm,0.9s
BILL MLR MLR
comp=Z,2µm,18.0s
BILL Bilibino 60.36 16 *eP* **P 18 59 40.1 +0.3**
comp=Z,57nm,1.1s
BILL LR LR
comp=Z,2µm,20.0s
IMYA Miami 62.31 304 *eP* **P 18 59 53.2 -0.6**
IDAH Dahanechah 62.37 300 *eP* **P 18 59 54.5 +0.1**
ISRO Mashad 62.82 304 *eP* **P 18 59 56.9 -0.2**
IMOG Moghan 62.91 304 *eP* **P 18 59 57.3 -0.7**
IKOO Kooshah 63.09 300 *eP* **P 18 59 59.2 0.0**
IKRD Kardeh 63.61 304 *eP* P 18 59 58.0 -4.5
AB31 Akbulak array 63.87 318 *i P* **P 19 00 03.7 0.0**
AB31 pmax pmax
comp=Z,155nm,1.5s
ABKAR Akbulak array 63.87 318 *eP* **P 19 00 03.3 -0.4**
comp=Z,27nm,0.7s
ABKT Ailbek 63.97 306 P **P 19 00 06.7 +2.0**
comp=Z,604nm,1.1s,SNR=28
ISHV Shirvan 64.28 305 *eP* **P 19 00 07.6 +0.7**
SVE Sverdlovsk 64.99 327*ceP* **P 19 00 11.5 +0.6**
SVE *eS* **S 19 08 47.8 -3.1**
SVE *e* 19 10 07.5
SVE *eSS* **SS 19 12 58.6 -4.3**
SVE pmax pmax
comp=Z,224nm,1.1s
SVE MLR MLR
comp=Z,3µm,15.0s
IBND Bandar-abas 65.34 294 *eP* **P 19 00 14.0 +0.2**
HATD Hatta, Dubai 65.88 291 ⇑*P* **P 19 00 18.2 +0.9**
GAMB Gambell 65.92 26 *eP* **P 19 00 18.4 +1.6**
comp=Z,38nm,1.1s
IBAF Bafgh 66.02 299 *eP* **P 19 00 18.2 -0.1**
ARU Arti 66.03 326*d iP* **P 19 00 16.6 -1.0**
ARU 19 02 40.1
ARU S **S 19 09 03.0 -0.5**
ARU pmax pmax
comp=Z,114nm,1.7s
ARU Arti 66.03 326 PFAKE 19 00 30.0 +12
ARU LR LR
comp=Z,2µm,20.0s
UNV Unalaska Valle 66.10 37 *eP* **P 19 00 18.2 +0.1**
comp=Z,148nm,1.1s
FAQ Al Faqa, Dubai 66.38 291 ⇑*P* **P 19 00 20.9 +0.5**
IMEH Mehriz 66.84 298 *eP* **P 19 00 22.7 -0.9**
ICHK Chekchek 66.98 299 *eP* **P 19 00 24.4 -0.1**
IGLO Ghaloghah 67.37 304 *eP* **P 19 00 26.7 -0.1**
SOKR Solikamsk 67.59 329⇓*iP* **P 19 00 28.6 +1.2**
SOKR pmax pmax
comp=Z,80nm,1.4s
ISAD Sadrabad 67.61 299 *eP* **P 19 00 27.4 -1.2**
AFI Afiamalu 67.84 111 PFAKE 19 00 40.0 +10
AFI LR LR
comp=Z,3µm,22.0s
TNA Tin City 68.01 24 *eP* **P 19 00 30.7 +0.7**
comp=Z,58nm,1.3s
ISRV Sarvestan 68.24 296 *eP* **P 19 00 31.4 -1.2**
IFIR Firoozkooh 68.25 303 *eP* **P 19 00 31.6 -0.9**
IPAR Pars 68.27 297 *eP* **P 19 00 31.4 -1.4**
IPRN Peran 68.58 304 *eP* **P 19 00 34.3 -0.1**
IZEF Zefreh 68.71 300 *eP* **P 19 00 34.3 -1.1**
IDMV Damavand 68.84 303 *eP* **P 19 00 36.0 -0.2**
IVRN Varamin 69.12 302 *eP* **P 19 00 37.5 -0.2**
IKLH Kolahrood 69.32 301 *eP* **P 19 00 39.1 0.0**
IPIR Pirpir 69.93 300 *eP* **P 19 00 41.7 -1.3**
IGZV Ghazvin 70.28 304 *eP* **P 19 00 45.1 +0.1**
WHZ Wether Hill Ro 70.53 150 P **P 19 00 44.4 -1.6**
comp=Z,29nm,1.2s
IRAZ Razeghan 70.57 303 *eP* **P 19 00 46.2 -0.5**
RPZ Rata Peaks 70.59 147 *eP* **P 19 00 45.8 -0.6**
comp=Z,57nm,0.8s
URZ Urewera 70.68 139 *eP* **P 19 00 47.3 +0.4**
comp=Z,26nm,0.9s
URZ Urewera 70.68 139 LR LR 19 32 06.3
comp=Z,652nm,19.3s,baz=306,slow=36
MSEY Mahe Island 71.86 260 PFAKE 19 01 10.0 +15
MSEY LR LR
comp=Z,1µm,20.0s
ISRB Sarab 72.24 306 *eP* **P 19 00 57.3 +0.5**
IHRS Heris 72.70 306 *eP* **P 19 00 59.4 -0.2**
ILIN Lien 73.03 303 *eP* **P 19 01 00.7 -0.9**
PRGR Permogore 73.29 331⇑*iP* **P 19 01 02.9 +0.6**
PRGR *e* 19 01 17.5
PRGR 19 03 45.8
PRGR pmax pmax
comp=Z,163nm,1.7s
IGHG Ghaleghazi 73.40 302 *eP* **P 19 01 02.3 -1.5**
ITBZ Tabriz 73.41 306 *eP* **P 19 01 03.5 -0.2**
IDHR Dehrash 73.52 302 *eP* **P 19 01 02.7 -1.8**
IAZR Azarshahr 73.58 306 *eP* **P 19 01 05.3 +0.5**
IMRD Marand 73.72 307 *eP* **P 19 01 05.5 0.0**
DGRG David-gareji 73.77 310 P **P 19 01 07.7 +2.1**
IM04 Indian Mountai 73.82 25 *eP* **P 19 01 06.5 +1.1**
RSO Redoubt South 74.14 31 *eP* **P 19 01 06.2 -1.3**
comp=Z,98nm,1.0s
TBLG Delisi 74.22 310 P **P 19 01 09.1 +0.9**
KDAK Kodiak Island 74.23 33 PFAKE 19 01 20.0 +12
KDAK LR LR
comp=Z,3µm,21.0s
GNI Garni 74.34 308 *eP* **P 19 01 10.1 +1.0**
comp=Z,105nm,1.1s
GNI LR LR
comp=Z,1µm,20.0s
GNI Garni 74.34 308⇓*iP* **P 19 01 11.1 +2.0**
SNR=7.2
PPLA Purkeypile 74.43 28 *eP* **P 19 01 09.2 0.0**
comp=Z,34nm,1.0s
ZEI Tsey 74.76 311 *eP* **P 19 01 09.9 -1.6**
ZEI pmax pmax
comp=Z,99nm,1.0s
MRIV Mauritius Mete 74.92 244 *eP* **P 19 01 13.0 +0.5**
NCK Nalchik 74.92 312⇑*iP* **P 19 01 13.4 +1.2**
KTH Kantishna Hill 75.00 27 *eP* **P 19 01 13.6 +1.3**
comp=Z,51nm,1.2s
ONI Oni 75.10 311 P **P 19 01 15.1 +1.7**
AKH Akhalkalaki 75.18 310 P **P 19 01 15.5 +1.5**
GOF Gofitskoye 75.19 313 *eP* **P 19 01 14.1 +0.4**
GOF pmax pmax
comp=Z,77nm,1.2s
COLD Coldfoot 75.28 24 *eP* **P 19 01 15.2 +1.4**
comp=Z,58nm,0.8s
TRF Thorofare Moun 75.29 28 *eP* **P 19 01 14.0 -0.1**
comp=Z,40nm,1.0s
KBZ Khabaz 75.41 312 P **P 19 01 14.2 -0.8**
KBZ Khabaz 75.41 312 P **P 19 01 14.2 -0.8**
KBZ Khabaz 75.41 312 P **P 19 01 14.2 -0.8**
comp=Z,43nm,0.9s,baz=81,slow=4.0,SNR=22
KBZ LR LR 19 39 19.6
comp=Z,3µm,18.2s,baz=77,slow=40
CUKT Cukurca 75.50 305 *eP* **P 19 01 15.9 0.0**
KIV Kislovodsk 75.54 312 P **P 19 01 17.3 +1.4**
comp=Z,588nm,0.9s,SNR=21
KIV Kislovodsk 75.54 312 *eP* **P 19 01 17.0 +1.1**
KIV *e* 19 01 32.3
KIV *eS* **S 19 10 56.4 +1.6**
KIV pmax pmax
comp=Z,142nm,3.2s
KIV pmax pmax
comp=Z,107nm,1.0s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 75.54 312 PFAKE 19 01 30.0 +14
KIV LR LR
comp=Z,3µm,19.0s
KIV Kislovodsk 75.54 312⇓*iP* **P 19 01 17.1 +1.3**
SNR=30
RC01 Rabbit Creek A 75.61 30 *eP* **P 19 01 15.3 -0.5**
comp=Z,13nm,0.6s
VRHR Novokhopersk 75.69 320 *eP* **P 19 01 14.9 -1.5**
VRHR *eS* **S 19 10 52.2 -3.8**
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=Z,90nm,1.1s
VRHR pmax pmax
comp=E,70nm,1.0s
VRHR smax smax
comp=N,390nm,2.9s
VRHR smax smax
comp=E,730nm,2.9s
VRHR smax smax
comp=Z,410nm,2.9s
AGRB Hanur-Agry 75.74 308 *eP* **P 19 01 16.9 -0.4**
SEW Seward 75.79 31 *eP* **P 19 01 15.4 -1.4**
comp=Z,46nm,0.8s
PMR Palmer 75.88 29 *eP* **P 19 01 16.6 -0.7**
PMR pmax pmax
comp=Z,36nm,1.0s
PMR Palmer 75.88 29 *eP* **P 19 01 16.6 -0.7**
comp=Z,36nm,1.0s
MCK McKinley 75.88 27 *eP* **P 19 01 17.3 0.0**
MCK pmax pmax
comp=Z,177nm,1.0s
MCK McKinley 75.88 27 *eP* **P 19 01 17.3 0.0**
comp=Z,177nm,1.0s
CHVG Ch'k'valeri 76.10 311 P **P 19 01 20.1 +1.1**
KLMR Klimovskoe 76.25 330 *eP* **P 19 01 17.3 -2.1**
KLMR *e* 19 04 10.6
KLMR pmax pmax
comp=Z,278nm,1.6s
COLA College 76.30 26⇑*iP* **P 19 01 21.3 +1.7**
COLA pmax pmax
comp=Z,207nm,1.1s
COLA College 76.30 26 *eP* **P 19 01 19.5 -0.1**
comp=Z,41nm,0.9s
COLA LR LR
comp=Z,2µm,22.0s
SIRT Sirnak 76.40 306 *eP* **P 19 01 23.4 +2.5**
ILAR Eielson Array 76.72 26 P **P 19 01 21.4 -0.7**
ILAR Eielson Array 76.72 26 P **P 19 01 21.4 -0.7**
comp=Z,7.9nm,0.7s,baz=241,slow=5.1,SNR=100
ILAR LR LR 19 33 56.2
comp=Z,933nm,21.9s,baz=279,slow=35
RER Riviere de l'E 76.75 244 PFAKE 19 01 30.0 +6.9
RER LR LR
comp=Z,950nm,19.0s
EZM Erzurum 76.95 308 *eP* **P 19 01 22.0 -2.2**
VRTB Varto-Mus 76.97 307 *eP* **P 19 01 27.0 +2.9**
VOR Voronezh 77.15 320 *eP* **P 19 01 23.0 -1.7**
VOR pmax pmax
comp=Z,250nm,1.4s
VORD Divnogorie 77.17 320 *eP* **P 19 01 23.1 -1.7**
VORD *eS* **S 19 11 06.6 -5.6**
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,80nm,1.1s
VORD pmax pmax
comp=Z,60nm,1.1s
VORD smax smax
comp=N,90nm,1.7s
VORD smax smax
comp=E,100nm,1.7s
VORD smax smax
comp=Z,290nm,1.7s
VSR Storozhevoye 77.22 320 *eP* **P 19 01 23.4 -1.7**
VSR *eS* **S 19 11 10.1 -2.7**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,80nm,1.2s
VSR pmax pmax
comp=Z,80nm,1.2s
VSR smax smax
comp=N,200nm,3.0s
VSR smax smax
comp=E,340nm,3.0s
VSR smax smax
comp=Z,340nm,3.0s
SVAN Silvan-Diyarba 77.29 306 *eP* **P 19 01 24.4 -1.5**
PAX Paxson 77.49 28 *eP* **P 19 01 26.6 +0.1**
PAX pmax pmax
comp=Z,30nm,0.9s
PAX Paxson 77.49 28 *eP* **P 19 01 26.6 +0.1**
comp=Z,30nm,0.9s
DIV Divide 77.53 30 *eP* **P 19 01 27.4 +0.6**
comp=Z,72nm,1.0s
MOS Moscow 77.67 325 *eP* **P 19 01 26.9 -0.6**
MOS *e* 19 04 22.8
MOS *ePPP* PPP 19 06 12.1
MOS pmax pmax
comp=Z,138nm,1.4s
MOS MLR MLR
comp=E,3µm,18.0s
MOS MLR MLR
comp=Z,3µm,18.0s
SOC Sochi 77.72 312 *eP* **P 19 01 26.5 -1.6**
SOC *e* 19 04 17.6
SOC *eS* **S 19 11 17.5 -1.0**
SOC *eSS* **SS 19 16 19.1 +0.6**
SOC pmax pmax
comp=Z,59nm,0.9s
SOC MLR MLR
comp=Z,2µm,19.0s
BAYT Ayd¯ntepe-Bay 77.82 309 *eP* P 19 01 24.9 -4.0
MAZI Mazidag 77.98 306 *eP* **P 19 01 28.3 -1.5**
DOT Dot Lake 78.05 27 *eP* **P 19 01 30.1 +0.6**
comp=Z,56nm,1.1s
BMRM Bremner River 78.11 30 *eP* **P 19 01 30.6 +0.7**
comp=Z,66nm,1.0s
DYBB Diyarbakir 78.15 306 *eP* **P 19 01 30.2 -0.5**
ERZN Erzincan 78.24 308 *eP* **P 19 01 28.8 -2.5**
DAMY Dhamar 78.26 282 *eP* **P 19 01 33.4 +1.5**
comp=Z,202nm,1.6s
MENT Mentasta 78.29 28 *eP* **P 19 01 32.1 +1.2**
APA Apatity 78.30 337⇑*iP* **P 19 01 33.5 +2.7**
APA *i S* **S 19 11 23.0 -0.8**
APA pmax pmax
comp=Z,97nm,1.2s
APA MLR MLR
comp=Z,5µm,17.0s
OBN Obninsk 78.34 324 P **P 19 01 31.3 +0.1**
comp=Z,527nm,1.1s,SNR=6.3
OBN Obninsk 78.34 324 PFAKE 19 01 40.0 +8.8
OBN LR LR
comp=Z,3µm,20.0s
SFNV Sufian 78.39 305 *eP* **P 19 01 32.9 +0.9**
PTK Pertek 78.60 307 *eP* **P 19 01 34.8 +1.5**
EGAK Eagle 79.16 26 *eP* **P 19 01 35.9 +0.3**
comp=Z,38nm,0.9s
EGAK LR LR
comp=Z,1µm,20.0s
KSRV Kasrt alli 79.36 304 *eP* **P 19 01 39.1 +1.8**
PAF Port-aux-Franc 79.39 213 PFAKE 19 01 50.0 +13
PAF LR LR
comp=Z,4µm,22.0s
JOF Joensuu 79.87 332 *eP* **P 19 01 39.3 -0.2**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 79.87 332 *ep* **P 19 01 39.3 -0.2**
comp=Z,5.7nm,0.5s
DARE Darende-Malaty 80.12 307 *eP* P 19 01 37.0 -4.5
KEV Kevo 80.22 340 *eP* **P 19 01 41.9 +0.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 80.22 340 *ep* **P 19 01 41.9 +0.7**
comp=Z,1.7nm,0.4s
CASY Casey 80.49 186 *eP* **P 19 01 43.8 +1.2**
comp=Z,75nm,0.6s
CASY LR LR
comp=Z,2µm,20.0s
KMRS Kahramanmaras 80.76 306 *eP* **P 19 01 43.9 -1.0**
ARCES ARCESS Array B 80.78 339 P **P 19 01 45.0 +0.7**
ARCES ARCESS Array B 80.78 339 P **P 19 01 45.0 +0.7**
comp=Z,24nm,0.9s,baz=79,slow=6.8,SNR=36
ARCES LR LR 19 42 58.5
comp=Z,2µm,18.1s,baz=82,slow=40
KVT Kavak 80.78 310 *eP* **P 19 01 43.9 -1.1**
ZALF Zalf 81.22 302 *eP* **P 19 01 49.5 +2.1**
BNN Bunyan 81.33 308 *eP* P 19 01 44.3 -3.7
BTCH Batrach 81.37 305 *eP* **P 19 01 48.3 +0.1**
INK Inuvik 81.42 22 *eP* **P 19 01 47.5 -0.1**
comp=Z,65nm,1.0s
SIM Simferopol' **81.48 314** *eP* **P 19 01 48.3 -0.2**
SIM *e* 19 02 05.0
SIM S S 19 12 06.0 +7.7
SIM *eSS* SS 19 17 22.0 +7.2
SIM pmax pmax
comp=Z,59nm,1.2s
HYT Haines Junctio 81.55 29 *eP* **P 19 01 49.8 +1.1**
KOZT Kozan 81.60 306 *eP* **P 19 01 47.2 -2.1**
CORM Corum 82.01 309 *eP* **P 19 01 52.1 +0.5**
KARA Karaisali 82.25 306 *eP* **P 19 01 49.7 -3.0**
BRBR Barbar 82.27 302 *eP* **P 19 01 51.7 -1.5**
KAF Kangasniemi 82.31 332 *eP* **P 19 01 53.3 +0.8**
KAF pmax pmax
comp=Z,27nm,0.8s
KAF Kangasniemi 82.31 332 *ep* **P 19 01 53.3 +0.8**
comp=Z,27nm,0.8s
TCHB Talchebab 82.40 302 *eP* **P 19 01 51.7 -1.9**
BHL Bhannes 82.42 303 *eP* **P 19 01 54.3 +0.5**
FINES FINESS Array B 82.59 331 P **P 19 01 53.0 -0.9**
FINES FINESS Array B 82.59 331 P **P 19 01 53.0 -0.9**
comp=Z,25nm,1.0s,baz=61,slow=5.3,SNR=37
FINES LR LR 19 42 59.6
comp=Z,2µm,18.0s,baz=74,slow=39
MERS Mersin 82.74 306 *eP* P 19 01 49.2 -6.2
BR131 Keskin Array S 82.85 309 *eP* **P 19 01 55.6 -0.4**
comp=Z,6.4nm,0.8s
BRTR Keskin Array B 82.85 309 P **P 19 01 54.3 -1.7**
BRTR PP **PP 19 05 09.2 +3.0**
BRTR ScS **ScS 19 12 32.3 +4.9**
BRTR Keskin Array B 82.85 309 P **P 19 01 54.3 -1.7**
comp=Z,6.2nm,0.9s,baz=121,slow=2.9,SNR=20
BRTR PP **PP 19 05 09.2 +3.0**
comp=Z,4.6nm,1.1s,baz=103,slow=3.9,SNR=4.1
BRTR ScS **ScS 19 12 32.3 +4.9**
comp=Z,1.4nm,0.9s,baz=159,slow=3.7,SNR=5.6
BRTR LR LR 19 42 40.5
comp=Z,794nm,20.7s,baz=54,slow=38
SKAG Skagway 82.94 31 P **P 19 01 55.3 -0.5**
comp=Z,14nm,1.0s
VSU Vasula 83.02 328 P **P 19 01 58.0 +1.8**
VSU pmax pmax
comp=Z,270nm,1.2s
SAFT Safranbolu 83.24 311 *eP* P 19 01 53.6 -4.2
SULT Sultanhani-AKS 83.25 308 *eP* **P 19 01 58.0 -0.1**
AFSR Af˙ar-Bala (A 83.33 309 *eP* **P 19 01 56.0 -2.4**
MICGM Minsk 83.39 324⇓*eP* **P 19 01 57.0 -1.3**
MNK Minsk 83.42 324⇓*eP* **P 19 01 57.0 -1.4**
MNK pmax pmax
comp=Z,510nm,1.0s
ANTO Ankara 83.45 309 *eP* **P 19 01 57.9 -1.1**
ANTO Ankara 83.45 309 *eP* **P 19 01 59.5 +0.5**
ANTO pmax pmax
comp=Z,23nm,1.0s
ANTO MLR MLR
comp=Z,1µm,20.0s
ANTO Ankara 83.45 309⇑*iP* **P 19 01 59.0 0.0**
ANTO Ankara 83.45 309 *eP* **P 19 01 59.5 +0.5**
comp=Z,23nm,1.0s
ANTO LR LR
comp=Z,1µm,20.0s
LOD Lodumlu 83.47 309 *eP* P 19 01 52.6 -6.5
AKASG Malin Array Be 83.50 320*ceP* **P 19 01 58.2 -0.7**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 83.50 320 P **P 19 01 57.5 -1.4**
AKASG Malin Array Be 83.50 320 P **P 19 01 57.5 -1.4**
comp=Z,9.6nm,0.8s,baz=66,slow=4.9,SNR=44
AKBB Malin Array Si 83.50 320 *eP* **P 19 01 58.4 -0.5**
AKBB Malin Array Si 83.50 320 *eP* **P 19 01 58.4 -0.5**
AK01 Malin Array Si 83.51 320 *eP* **P 19 01 56.7 -2.2**
KIEV Kiev 83.52 320⇑*iP* **P 19 01 59.3 +0.3**
KIEV Kiev 83.52 320 *eP* **P 19 01 57.9 -1.1**
comp=Z,26nm,0.9s
KIEV LR LR
comp=Z,2µm,20.0s
AK02 Malin Array Si 83.53 320 *eP* **P 19 01 56.5 -2.5**
ABPO Ambohimpanom 83.67 249 PFAKE 19 02 10.0 +9.5
ABPO LR LR
comp=Z,2µm,20.0s
LFK Lefkose 83.85 305 *eP* **P 19 02 02.8 +1.7**
CSS Prodhromos 84.08 304 *eP* **P 19 02 02.9 +0.6**
CSS Prodhromos 84.08 304 *eP* **P 19 02 02.1 -0.1**
comp=Z,44nm,1.1s
CSS LR LR
comp=Z,263nm,21.0s
MAMC Mammari 84.13 305 P **P 19 02 03.7 +1.2**
KONT Konya--Tatoy 84.20 307 *eP* **P 19 02 01.4 -1.5**
KIZT Kizilcal 84.36 308 *eP* **P 19 02 02.8 -0.9**
LEF Lefka 84.40 305 *eP* **P 19 02 03.8 0.0**
SZAC Souni-Zanaja 84.49 304 P **P 19 02 05.1 +0.8**
SVRH Sivrihisar-ESK 84.50 309 *eP* P 19 01 58.9 -5.5
MDUB Mudurnu 84.51 310 *eP* **P 19 02 02.8 -1.6**
ALFC Alevga 84.62 305 P **P 19 02 04.6 -0.4**
KIS Kishinev 84.65 317 *eP* **P 19 02 05.0 +0.2**
KIS MLR MLR
comp=Z,2µm,18.0s
KIS Kishinev 84.65 317 *eP* **P 19 02 05.0 +0.2**
KIS LRM MLR 19 43 50.0
comp=Z,2µm,18.0s
AKMC Akamas 84.87 305 P **P 19 02 06.6 +0.4**
PPCY Paphos 84.89 305 P **P 19 02 05.5 -0.8**
TLCR 85.10 315⇑*iP* **P 19 02 07.4 +0.3**
LEOM Leova 85.16 317⇑*iP* **P 19 02 06.5 -0.9**
SUTC Sutluce-Ispart 85.36 307 *eP* **P 19 02 07.7 -1.1**
IAS Iasi 85.43 317⇑*iP* **P 19 02 09.6 +0.9**
SHUT Suhut-Afyon 85.45 308 *eP* P 19 02 05.7 -3.5
TIRR Tirgusor 85.56 315 *eP* **P 19 02 08.3 -1.1**
TIRR pmax pmax
comp=Z,50nm,1.1s
TIRR Tirgusor 85.56 315⇓*iP* **P 19 02 09.2 -0.2**
TIRR Tirgusor 85.56 315 *eP* **P 19 02 08.3 -1.1**
comp=Z,50nm,1.1s
HRT Hereke 85.56 311 *eP* P 19 02 04.3 -5.3
CFR Carcaliu 85.56 315⇑*iP* **P 19 02 09.1 -0.3**
CAVI Cavuskoy 85.58 310 *eP* P 19 02 04.3 -5.4
ISP Isparta 85.64 308 *eP* P 19 02 06.6 -3.5
ISP Isparta 85.64 308 *eP* **P 19 02 09.0 -1.1**
ISP pmax pmax
comp=Z,96nm,1.3s
ISP MLR MLR
comp=Z,1µm,20.0s
ISP Isparta 85.64 308⇑*iP* **P 19 02 09.5 -0.7**
ISP Isparta 85.64 308 *eP* **P 19 02 09.0 -1.1**
comp=Z,96nm,1.3s
ISP LR LR
comp=Z,1µm,20.0s
ALT Altintas 85.66 309 *eP* P 19 02 05.7 -4.5
ANTB Antalya 85.76 307 *eP* P 19 02 02.3 -8.3
TLB Topalu 85.78 315⇑*iP* **P 19 02 10.5 0.0**
HARR Harsova 85.83 315⇓*iP* **P 19 02 11.6 +0.8**
DLBC Dease Lake 85.86 31 *eP* **P 19 02 12.0 +1.2**
PETR Petresti 86.04 316⇑*iP* **P 19 02 13.1 +1.3**
TVSB Tavsanli 86.05 309 *eP* **P 19 02 09.6 -2.5**
ODBI Odobesti 86.15 316⇑*iP* P 19 02 19.0 +6.7
SUW Suwalki 86.18 325 *eP* **P 19 02 12.5 +0.2**
SUW Suwalki 86.18 325 *eP* **P 19 02 12.5 +0.2**
SUW Suwalki 86.18 325 *eP* **P 19 02 12.4 +0.1**
comp=Z,79nm,0.9s
TESR Tescani 86.22 317⇑*iP* **P 19 02 12.6 -0.1**
ARMT Armutlu 86.22 311 *eP* P 19 02 09.6 -3.2
GRER 86.30 316⇓*iP* **P 19 02 14.1 +1.0**
CTKS Kestanelik-??a 86.31 311 *eP* **P 19 02 10.6 -2.6**
VRI Vrincioaia 86.34 316⇑*iP* **P 19 02 13.7 +0.4**
ELL Elmali 86.38 307 *eP* **P 19 02 13.5 -0.3**
PLOR Plostina 86.40 316⇓*iP* **P 19 02 14.2 +0.6**
PGOR Pogoanele 86.42 315⇑*iP* **P 19 02 14.4 +0.7**
ISR Istrita 86.67 316⇓*iP* **P 19 02 16.7 +1.7**
BURAR Bucovina Array 86.85 318⇑*iP* **P 19 02 15.9 0.0**
BUR08 Bucovina Ar. S 86.85 318 *eP* **P 19 02 15.6 -0.4**
LVV L'vov 86.95 321 *eP* **P 19 02 16.1 -0.1**
LVV *e* 19 07 32.1
LVV *e* 19 12 51.3
LVV *e* 19 22 11.1
MLR Muntele Rosu 86.97 316⇑*iP* **P 19 02 17.2 +0.6**
SULR 86.99 315⇓*iP* **P 19 02 17.7 +1.2**

SECR 87.02 316 ⇓ *i*P P 19 02 16.6 0.0
DOPR Dopca 87.21 317 ⇑ *i*P P 19 02 26.8 +9.2
GONE Gonen-Balikesi 87.22 310 *e*P **P** 19 02 15.9 -1.8
JMB Yambol 87.37 313 ⇓ *i*P **P** 19 02 19.6 +1.2
EDRB Edirne 87.42 312 *e*P **P** 19 02 17.9 -0.8
YER Yerkesik 87.54 307 *e*P P 19 02 25.7 +6.3
VOIR 87.59 316 ⇑ *i*P **P** 19 02 20.3 +0.8
SZH Strazhica 87.61 314 P **P** 19 02 20.2 +0.7
KWP Kalwaria Pacla 87.83 321 *e*P **P** 19 02 20.7 +0.3
KWP Kalwaria Pacla 87.83 321 *e*P **P** 19 02 20.7 +0.3
KWP Kalwaria Pacla 87.83 321 ⇑ *i*P **P** 19 02 20.2 -0.2
KWP Kalwaria Pacla 87.83 321 *e*P **P** 19 02 19.5 -1.0
comp=Z,53nm,0.9s
KWP LR LR
comp=Z,2µm,20.0s
ARR Arges 87.89 316 ⇓ *i*P **P** 19 02 21.5 +0.6
HUMR Humele 87.90 315 ⇑ *i*P **P** 19 02 20.0 -0.9
CJR Cluj-Napoca 88.17 318 ⇓ *i*P **P** 19 02 23.6 +1.4
ALN Alexandroupoli 88.19 312 *e*P P 19 02 19.1 -3.3
EZN Ezine 88.29 310 *e*P **P** 19 02 22.3 -0.5
KOLS Kolonicke sedl 88.32 320 *e*P **P** 19 02 22.4 -0.4
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS Kolonicke sedl 88.32 320 *e*P **P** 19 02 22.4 -0.4
UZH Uzhgorod 88.40 320 *c i*P **P** 19 02 23.4 +0.2
UZH *i* 19 02 32.2
UZH *e* 19 02 38.6
UZH *e*S **S** 19 13 05.2 -1.5
TRPA Tarpa 88.41 319 ⇑ *i*P **P** 19 02 23.4 +0.2
KDZ Kurdzhali 88.43 312 ⇓ *i*P **P** 19 02 22.3 -1.2
KMBO Kilima Mbogo 88.60 269 *e*P **P** 19 02 26.1 +1.0
comp=Z,19nm,1.2s
KMBO LR LR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 88.60 269 P **P** 19 02 25.6 +0.6
comp=Z,4.7nm,0.9s,baz=68,slow=3.9,SNR=8.2
DRGR 88.73 318 ⇑ *i*P **P** 19 02 25.4 +0.5
STHS Stebnicka Huta 88.80 321 *e*P **P** 19 02 25.2 +0.1
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 88.80 321 *e*P **P** 19 02 25.2 +0.1
CRVS Cervenica-Dubn 88.83 320 *e*P **P** 19 02 25.8 +0.6
CRVS pmax pmax
comp=Z,35nm,1.5s
CRVS Cervenica-Dubn 88.83 320 *e*P **P** 19 02 25.8 +0.6
PGB Panagyurishte 89.06 314 P **P** 19 02 26.7 +0.2
GZR Gura Zlata 89.13 317 ⇓ *i*P **P** 19 02 27.5 +0.7
PPT Papeete 89.30 108 LR LR 19 35 14.8
comp=Z,708nm,21.5s,baz=276,slow=31
PPT2 Papeete2 89.30 108 *e*S **S** 19 13 12.3 -4.1
comp=Z,997nm,27.8s
PPT2 *e*SS **SS** 19 19 12.0 +0.4
comp=Z,909nm,25.2s
PPT2 *e*LQ LQ 19 27 02.4
comp=Z,7µm,30.5s
PPT2 *e*LR LR 19 30 53.8
comp=Z,3µm,25.0s
PAE Paea 89.32 108 *e*P **P** 19 02 31.0 +3.0
comp=Z,15nm,1.3s
NB2 NORSAR Subarra 89.42 334 P **P** 19 02 26.7 -1.1
comp=Z,21nm,1.1s,baz=65,slow=4.8
NB2 NORSAR Subarra 89.42 334 P **P** 19 02 26.7 -1.1
baz=65,slow=4.8
NOA NORSAR Array B 89.42 334 P **P** 19 02 26.6 -1.2
NOA PP **PP** 19 05 56.9 -1.6
NOA NORSAR Array B 89.42 334 P **P** 19 02 26.6 -1.2
comp=Z,5.6nm,0.9s,baz=64,slow=4.7,SNR=7.6
NOA PP **PP** 19 05 56.9 -1.6
comp=Z,2.3nm,0.9s,baz=74,slow=7.9,SNR=5.1
NOA LR LR 19 47 17.2
comp=Z,1µm,18.3s,baz=75,slow=39
TIAR Tiarei 89.51 108 *e*P P 19 02 32.2 +3.3
comp=Z,11nm,1.1s
SIRR Siria 89.58 318 ⇑ *i*P **P** 19 02 28.3 -0.5
KECS Kecovo 89.59 320 *e*P **P** 19 02 29.1 +0.4
KECS pmax pmax
comp=Z,10.0nm,1.4s
KECS Kecovo 89.59 320 *e*P **P** 19 02 29.1 +0.4
KECS *e*PP **PP** 19 05 57.7 -2.5
TVO Taravao 89.65 108 *e*P P 19 02 33.1 +3.5
comp=Z,24nm,1.1s
MMB Musomiste 89.66 313 P **P** 19 02 28.9 -0.4
MMB Musomiste 89.66 313 ⇓ *i*P **P** 19 02 27.9 -1.4
VTS Vitosha 89.72 314 *e*P P 19 02 26.2 -3.5
VTS Vitosha 89.72 314 P **P** 19 02 29.7 0.0
VTS Vitosha 89.72 314 ⇑ *i*P **P** 19 02 29.3 -0.4
BZS Buzias 89.83 317 ⇑ *i*P **P** 19 02 29.0 -0.9
SANT Santorini 89.93 307 PFAKE 19 02 40.0 +9.3
SANT LR LR
comp=Z,1µm,20.0s
KKB Krupnik 90.03 313 P **P** 19 02 31.5 +0.5
PSZ Piszkesteto 90.15 320 *e*P **P** 19 02 31.8 +0.3
PSZ pmax pmax
comp=Z,22nm,1.1s
PSZ MLR MLR
comp=Z,2µm,21.0s
PSZ Piszkesteto 90.15 320 ⇑ *i*P P 19 02 34.7 +3.2
PSZ Piszkesteto 90.15 320 *e*P **P** 19 02 31.8 +0.3
comp=Z,22nm,1.1s
PSZ LR LR
comp=Z,2µm,21.0s
PMOR Pomariorio Ree 90.24 105 *e*P P 19 02 35.8 +3.5
comp=Z,106nm,1.1s
OKC Ostrava-Krasne 90.53 322 *e*P **P** 19 02 35.2 +2.1
OKC Ostrava-Krasne 90.53 322 *e*P **P** 19 02 35.2 +2.1
VAH Vaihoa 90.54 105 *e*P **P** 19 02 36.9 +3.2
comp=Z,50nm,1.1s
MEH Mehetia 90.77 108 *e*P **P** 19 02 37.6 +2.8
comp=Z,25nm,1.2s
KONO Kongsberg 90.79 333 PFAKE 19 02 50.0 +16
KONO LR LR
comp=Z,3µm,20.0s
TBI Tubuai 90.84 114 *e*S **S** 19 13 25.7 -4.5
comp=Z,580nm,31.8s
TBI *e*SS **SS** 19 19 32.6 -1.0
comp=Z,925nm,30.2s
TBI *e*LQ LQ 19 27 33.2
comp=Z,2µm,38.0s
TBI *e*LR LR 19 31 33.3
comp=Z,3µm,33.0s
YKA Yellowknife Ar 90.96 24 P **P** 19 02 35.1 +0.3
YKA PKiKP **PKiKP** 19 07 28.4 +0.4
YKA PKKPbc **PKKPbc** 19 20 01.9 +0.8
YKA Yellowknife Ar 90.96 24 P **P** 19 02 35.1 +0.3
comp=Z,7.9nm,1.1s,baz=301,slow=4.5,SNR=33
YKA PKiKP **PKiKP** 19 07 28.4 +0.4
comp=Z,0.3nm,0.7s,baz=318,slow=1.5,SNR=3.9
YKA PKKPbc **PKKPbc** 19 20 01.8 +0.8
comp=Z,0.6nm,0.7s,baz=122,slow=2.5,SNR=6.9
KSP Ksiaz 91.24 323 *e*P **P** 19 02 36.0 -0.4
KSP MLR MLR
comp=Z,13µm,19.7s
KSP Ksiaz 91.24 323 *e*P **P** 19 02 36.4 0.0
DPC Dobruska-Polom 91.42 323 *e*P **P** 19 02 38.0 +0.7
DPC Dobruska-Polom 91.42 323 *e*P **P** 19 02 38.0 +0.7
PKSM Moragy 91.57 318 ⇓ *i*P **P** 19 02 38.8 +0.8
VRAC Vranov 91.67 322 ⇓ *i*P **P** 19 02 40.1 +1.7
KULLO Kullorsuaq 91.93 1 *i*P **P** 19 02 41.2 +2.1
KULLO pmax pmax
comp=Z,21nm,1.0s
KULLO Kullorsuaq 91.93 1 *i*P **P** 19 02 41.2 +2.1
comp=Z,21nm,0.9s
TREC Trest 92.34 322 *e*P P 19 02 37.4 -4.2
TREC Trest 92.34 322 *e*P P 19 02 37.4 -4.2
BRG Berggiesshubel 92.59 324 *e*P **P** 19 02 42.5 -0.1
comp=Z,37nm,1.5s
BRG *e* 19 02 51.9
comp=Z,32nm,1.6s
BRG *e* 19 06 28.6
comp=Z,37nm,1.7s
BRG Berggiesshubel 92.59 324 *e*P **P** 19 02 42.5 -0.1
BRG *e* 19 02 51.8
BRG *e* 19 06 28.6
BRG pmax pmax
comp=Z,37nm,1.5s
BRG pmax pmax
comp=Z,32nm,1.6s
BRG pmax pmax
comp=Z,37nm,1.7s
PRU Pruhonice 92.61 323 *e*P **P** 19 02 43.9 +1.1
PRU *e* 19 06 23.6
PRU Pruhonice 92.61 323 *e*P **P** 19 02 43.9 +1.1
PRU *e*PP **PP** 19 06 23.6 -0.5
MAW Mawson 92.62 200 LR LR 19 44 04.6
comp=Z,489nm,19.0s,baz=61,slow=35
CONA Conrad Observa 92.66 321 ⇑ *i*P **P** 19 02 41.8 -1.4
comp=Z,27nm,1.5s
CLL Collm 92.93 325 *e*P **P** 19 02 44.0 -0.2
CLL MLR MLR
comp=Z,2µm,21.3s
CLL Collm 92.93 325 *e*P **P** 19 02 44.0 -0.2
CLL *e*Pmax 19 02 46.0
comp=Z,22nm,1.2s
CLL *e*pP **pP** 19 02 53.0 -0.8
CLL *e* 19 03 00.0
CLL *i* PP **PP** 19 06 24.2 -2.3
CLL *e*SKKSac **SKKSac** 19 13 31.0 -3.6
CLL *e*sS **sS** 19 14 07.0 +2.9
CLL *e* 19 14 38.0
CLL *e*PS **PS** 19 15 03.0 -0.5
CLL *e*SS SS 19 20 18.0 +16
CLL *e*(SSSS) 19 26 24.0
CLL LmV 19 47 00.0
comp=Z,2µm,21.3s
ARSA Arzberg 93.14 320 ⇑ *i*P P 19 02 41.2 -4.1
comp=Z,14nm,1.6s
SUMG Summit 93.31 355 *i* P **P** 19 02 47.1 +1.1
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 93.31 355 *i* P **P** 19 02 47.1 +1.1
comp=Z,15nm,1.0s
SUMG Summit 93.31 355 *e*P **P** 19 02 45.4 -0.6
comp=Z,25nm,1.0s
VNDA Vanda 93.36 173 *e*P **P** 19 02 45.6 +0.1
comp=Z,11nm,1.0s
VNDA PP **PP** 19 06 28.8 -1.0
VNDA Vanda 93.36 173 P **P** 19 02 45.9 +0.4
comp=Z,4.8nm,0.9s,baz=314,slow=6.6,SNR=11
VNDA PP **PP** 19 06 28.8 -1.0
comp=Z,7.5nm,1.0s,baz=316,slow=8.2,SNR=3.4
VNDA LR LR 19 45 54.6
comp=Z,699nm,18.6s,baz=338,slow=36
NLWA Neilton Lookou 93.44 40 PFAKE 19 03 00.0 +13
NLWA LR LR
comp=Z,1µm,21.0s
KHC Kasperske Hory 93.54 322 *e*P **P** 19 02 47.4 +0.3
KHC Kasperske Hory 93.54 322 *e*P **P** 19 02 47.4 +0.3
KHC *e*PP PP 19 06 24.0 -7.5
GERES GERESS Array B 93.59 322 P **P** 19 02 47.4 0.0
GERES PP **PP** 19 06 32.2 +0.2
GERES GERESS Array B 93.59 322 P **P** 19 02 47.4 0.0
comp=Z,2.3nm,0.9s,baz=90,slow=5.3,SNR=9.7
GERES PP **PP** 19 06 32.2 +0.2
comp=Z,2.2nm,0.9s,baz=67,slow=10,SNR=3.6
GERES LR LR 19 47 23.9
comp=Z,1µm,19.6s,baz=56,slow=37
PERS Pernice 93.65 320 *i* P **P** 19 02 47.6 -0.1
MOA Molln 93.67 321 ⇓ *i*PcP **PcP** 19 02 48.0 -0.3
comp=Z,27nm,1.1s
BOJS Bojanci 94.02 319 *i* P **P** 19 02 51.6 +2.2
VISS Visnje 94.17 319 *i* P **P** 19 02 50.9 +0.9
JAVS Javornik 94.62 319 *i* P **P** 19 02 51.9 -0.3
GRF Grafenberg Arr 94.67 324 *e*P **P** 19 02 52.4 +0.1
comp=Z,18nm,1.3s
GRF *e*PP **PP** 19 06 38.9 -1.3
ABTA Abfaltersbach 95.23 321 ⇑ *i*PcP **P** 19 02 54.3 -0.6
comp=Z,16nm,1.3s
I03D Drain, OR 95.30 43 P **P** 19 02 55.4 +0.2
baz=95
TIP Timpagrande 95.48 312 PFAKE 19 03 10.0 +14
TIP LR LR
comp=Z,2µm,21.0s
L02D Cave Junction, 95.76 44 P **P** 19 02 57.4 -0.1
baz=96
CUC Castrocucco 95.84 313 PFAKE 19 03 10.0 +12
CUC LR LR
comp=Z,983nm,20.0s
I04A Tendick Farm, 95.88 42 P **P** 19 02 57.3 -0.6
baz=96
FETA Feichten 96.19 321 ⇑ *i*PcP **PcP** 19 02 59.6 -0.1
comp=Z,23nm,1.3s
J04D Umpqua Nationa 96.31 43 P **P** 19 03 00.0 -0.2
baz=96
CEL Celeste 96.46 312 PFAKE 19 03 10.0 +9.2
CEL LR LR
comp=Z,1µm,20.0s
AQU L'Aquila 96.55 316 PFAKE 19 03 10.0 +9.0
AQU LR LR
comp=Z,2µm,19.0s
HAWA Hanford 96.56 39 PFAKE 19 03 10.0 +9.1
HAWA LR LR
comp=Z,1µm,19.0s
DAVA Damuels 96.58 322 ⇑ *i*PcP **PcP** 19 03 03.2 +1.8
comp=Z,26nm,1.4s
M02C Callahan 96.59 45 P **P** 19 03 01.7 +0.4
baz=96
N02D Trinity Center 96.86 45 P **P** 19 03 02.7 +0.1
baz=97
BFO Black Forest 97.00 323 *ce*P **P** 19 03 05.2 +2.3
BFO Black Forest 97.00 323 PFAKE 19 03 10.0 +7.1
BFO LR LR
comp=Z,2µm,20.0s
NEW Newport 97.10 37 PFAKE 19 03 10.0 +6.5
NEW LR LR
comp=Z,1µm,21.0s
NEW Newport 97.10 37 P Pdif 19 03 03.6 0.0
baz=97
M04C Macdoel 97.11 44 P Pdif 19 03 03.9 +0.1
baz=97
TUE Stuetta 97.29 321 *e*P **P** 19 03 02.3 -2.2
comp=Z,20nm,1.3s
TUE LR LR
comp=Z,2µm,20.0s
WLF Walferdange 97.56 325 P Pdif 19 03 08.6 +3.2
comp=Z,31nm,1.9s
WLF E 19 03 10.8
WLF Walferdange 97.56 325 PFAKE 19 03 20.0 +15
WLF LR LR
comp=Z,2µm,19.0s
CDF Champ du Feu 97.57 324 *e*P **P** 19 03 05.1 -0.5
comp=Z,66nm,1.4s
CDF Champ du Feu 97.57 324 *e*P **P** 19 03 05.1 -0.5
CDF pmax pmax
comp=Z,66nm,1.4s
CDF Champ du Feu 97.57 324 *e*P **P** 19 03 05.1 -0.5
comp=Z,66nm,1.4s
VLC Villacollemand 97.73 319 PFAKE 19 03 20.0 +14
VLC LR LR
comp=Z,2µm,20.0s
ECH Echery 97.73 324 *e*P Pdif 19 03 07.7 +1.4
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 97.73 324 *e*P Pdif 19 03 07.7 +1.4
comp=Z,10nm,1.0s
ECH LR LR
comp=Z,2µm,19.0s
GIVF Givet 98.06 326 *e*P **P** 19 03 07.3 -0.3
GIVF Givet 98.06 326 *e*P **P** 19 03 07.3 -0.3
GIVF Givet 98.06 326 *e*P **P** 19 03 07.3 -0.3
HINF Hinteralfeld 98.11 323 *e*P **P** 19 03 07.2 -0.8
comp=Z,26nm,1.2s
HINF Hinteralfeld 98.11 323 *e*P **P** 19 03 07.2 -0.8
HINF pmax pmax
comp=Z,27nm,1.2s
HINF Hinteralfeld 98.11 323 *e*P **P** 19 03 07.2 -0.8
comp=Z,26nm,1.2s
HAU Haudompre 98.31 324 *e*P **P** 19 03 08.2 -0.6
comp=Z,12nm,1.0s
HAU Haudompre 98.31 324 *e*P **P** 19 03 08.2 -0.6
HAU pmax pmax
comp=Z,12nm,1.0s
HAU Haudompre 98.31 324 *e*P **P** 19 03 08.2 -0.6
comp=Z,12nm,1.0s
PAGF Fort de Pagny 98.38 324 *e*P **P** 19 03 08.7 -0.4
comp=Z,19nm,1.3s
PAGF Fort de Pagny 98.38 324 *e*P **P** 19 03 08.7 -0.4
comp=Z,19nm,1.3s
BAIF Baives 98.42 326 *e*P **P** 19 03 08.8 -0.4
BAIF Baives 98.42 326 *e*P **P** 19 03 08.8 -0.4
BAIF Baives 98.42 326 *e*P **P** 19 03 08.8 -0.4
BMO Blue Mountains 98.66 40 PFAKE 19 03 20.0 +9.4
BMO LR LR
comp=Z,1µm,21.0s
BSMT Bassoo Peak 98.67 36 *e*P **P** 19 03 10.5 -0.1
comp=Z,2.7nm,0.9s
MEZF Maizieres J'vi 98.79 325 *e*P **P** 19 03 10.7 -0.2
MEZF Maizieres J'vi 98.79 325 *e*P **P** 19 03 10.7 -0.2
ESK Eskdalemuir 98.93 333 PFAKE 19 03 20.0 +8.6
ESK LR LR
comp=Z,3µm,21.0s
SFTF Sexfontaines 98.95 324 *e*P **P** 19 03 11.1 -0.6
comp=Z,53nm,1.1s
SFTF Sexfontaines 98.95 324 *e*P **P** 19 03 11.1 -0.6
comp=Z,53nm,1.1s
CABF La Chapelle 99.18 323 *e*P **Pdif** 19 03 12.5 -0.3
CABF La Chapelle 99.18 323 *e*P **Pdif** 19 03 12.5 -0.3
CABF La Chapelle 99.18 323 *e*P **Pdif** 19 03 12.5 -0.3
LPG La Plagne 99.35 321 *e*P **Pdif** 19 03 13.7 -0.2
comp=Z,73nm,1.6s
LPG La Plagne 99.35 321 *e*P **Pdif** 19 03 13.7 -0.2
LPG pmax pmax
comp=Z,73nm,1.6s
LPG La Plagne 99.35 321 *e*P **Pdif** 19 03 13.7 -0.2
comp=Z,73nm,1.6s
LPL La Plagne 99.35 321 *e*P **Pdif** 19 03 13.6 -0.2
comp=Z,35nm,1.2s
LPL La Plagne 99.35 321 *e*P **Pdif** 19 03 13.6 -0.2
LPL pmax pmax
comp=Z,35nm,1.2s
LPL La Plagne 99.35 321 *e*P **Pdif** 19 03 13.6 -0.2
comp=Z,35nm,1.2s
BNI Bardonecchia 99.62 321 PFAKE 19 03 30.0 +15
BNI LR LR
comp=Z,2µm,20.0s
LOR Lormes 100.13 324 *e*P **Pdif** 19 03 16.3 -0.6
comp=Z,35nm,1.1s
LOR Lormes 100.13 324 *e*P **Pdif** 19 03 16.3 -0.6
comp=Z,35nm,1.1s
MFID Camas Ranch 100.30 41 *e*Pdif **Pdif** 19 03 19.1 +1.2
comp=Z,5.9nm,0.9s
SSF Saint Saulge 100.44 324 *e*P **Pdif** 19 03 17.8 -0.5
comp=Z,16nm,1.1s
SSF Saint Saulge 100.44 324 *e*P **Pdif** 19 03 17.8 -0.5
SSF pmax pmax
comp=Z,16nm,1.1s
SSF Saint Saulge 100.44 324 *e*P **Pdif** 19 03 17.8 -0.5
comp=Z,16nm,1.1s
LSZ Lusaka 100.46 257 PFAKE 19 03 30.0 +11
LSZ LR LR
comp=Z,2µm,22.0s
SMF Signal de Mont 100.47 323 *e*P **Pdif** 19 03 17.8 -0.7
comp=Z,42nm,1.4s
SMF Signal de Mont 100.47 323 *e*P **Pdif** 19 03 17.8 -0.7
SMF pmax pmax
comp=Z,42nm,1.4s
SMF Signal de Mont 100.47 323 *e*P **Pdif** 19 03 17.8 -0.7
comp=Z,42nm,1.4s
FFC Flin Flon 100.93 26 PFAKE 19 03 30.0 +10
FFC LR LR
comp=Z,1µm,19.0s
NVAR Mina Array Bea 101.03 46 P **Pdif** 19 03 22.7 +1.3
NVAR Mina Array Bea 101.03 46 P **Pdif** 19 03 22.7 +1.3
comp=Z,3.6nm,0.8s,baz=294,slow=4.4,SNR=13
BGF Bois d'Agland 101.10 324 *e*P **Pdif** 19 03 20.9 -0.4
BGF Bois d'Agland 101.10 324 *e*P **Pdif** 19 03 20.9 -0.4
BGF Bois d'Agland 101.10 324 *e*P **Pdif** 19 03 20.9 -0.4
HLID Hailey 101.11 40 PFAKE 19 03 30.0 +8.4
HLID LR LR
comp=Z,956nm,19.0s
HLID Hailey 101.11 40 P **Pdif** 19 03 22.0 +0.4
baz=101
EGMT Eagleton 101.40 34 PFAKE 19 03 30.0 +7.3
EGMT LR LR
comp=Z,1µm,22.0s
TCF Toulx Ste Croi 101.61 324 *e*P **Pdif** 19 03 23.4 -0.2
comp=Z,36nm,1.3s
TCF Toulx Ste Croi 101.61 324 *e*P **Pdif** 19 03 23.4 -0.2
TCF pmax pmax
comp=Z,36nm,1.3s
TCF Toulx Ste Croi 101.61 324 *e*P **Pdif** 19 03 23.4 -0.2
comp=Z,36nm,1.3s
BOZ Bozeman (W) 101.68 37 PFAKE 19 03 40.0 +16
BOZ LR LR
comp=Z,1µm,22.0s
TPH Tonopah 101.95 46 P **Pdif** 19 03 26.3 +0.8
TPH pmax pmax
comp=Z,4.0nm,0.9s
TPH Tonopah 101.95 46 Pdif **Pdif** 19 03 26.3 +0.8
comp=Z,4.3nm,0.9s
MPMC Manual Prospec 102.69 48 P **Pdif** 19 03 26.6 -2.2
baz=103
RLMT Red Lodge 103.35 36 PFAKE 19 03 40.0 +8.4
RLMT LR LR
comp=Z,888nm,20.0s
QSPA South Pole Qui 103.50 180 PFAKE 19 03 40.0 +8.5
QSPA LR LR
comp=Z,1µm,22.0s
GSC Goldstone 103.53 48 *e*P **Pdif** 19 03 26.1 -6.4
GSC pmax pmax
comp=Z,6.0nm,0.6s
GSC Goldstone 103.53 48 *e*Pdif **Pdif** 19 03 26.1 -6.4
comp=Z,5.5nm,0.6s
GSC Goldstone 103.53 48 P **Pdif** 19 03 26.9 -5.5
baz=103
AHID Auburn Hatcher 103.58 39 PFAKE 19 03 40.0 +7.3
AHID LR LR
comp=Z,1µm,19.0s
RKT Rikitea 103.84 111 *e*SS SS 19 22 37.9 +0.9
comp=Z,448nm,26.2s
RKT Rikitea 103.84 111 *e*LQ LQ 19 33 12.4
comp=Z,2µm,33.8s
RKT *e*LR LR 19 37 42.4
comp=Z,2µm,30.8s
DUG Dugway 103.88 42 PFAKE 19 03 50.0 +16
DUG LR LR
comp=Z,1µm,22.0s
DGMT Dagmar 104.06 32 PFAKE 19 03 50.0 +16
DGMT LR LR
comp=Z,1µm,21.0s
LAO LASA Array 104.12 34 PFAKE 19 03 50.0 +15
LAO LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 104.53 39 PFAKE 19 03 50.0 +13
BW06 LR LR
comp=Z,2µm,22.0s
PDAR Pinedale Array 104.53 39 PKiKP **PKiKP** 19 07 53.4 +0.5
PDAR Pinedale Array 104.53 39 PKiKP **PKiKP** 19 07 53.4 +0.5
comp=Z,2.0nm,1.0s,baz=308,slow=3.6,SNR=6.5
PFO Pinyon Flat Ob 104.57 50 PFAKE 19 03 50.0 +13
PFO LR LR
comp=Z,2µm,22.0s
AGMN Agassiz Nation 108.19 28 PFAKE 19 08 10.0
AGMN LR LR
comp=Z,1µm,19.0s
MVCO Mesa Verde 108.33 43 PFAKE 19 08 10.0
MVCO LR LR
comp=Z,2µm,22.0s
PTCN Pitcairn Islan 108.52 112 PFAKE 19 08 10.0
PTCN LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 108.67 39 PFAKE 19 08 10.0
ISCO LR LR
comp=Z,1µm,22.0s
ESDC Sonseca Array 109.15 321 PP PP 19 08 28.0 -1.3
ESDC Sonseca Array 109.15 321 PP PP 19 08 28.0 -1.2
comp=Z,4.9nm,0.9s,baz=60,slow=8.8,SNR=5.2
PAB San Pablo 109.46 321 PFAKE 19 08 10.0
PAB LR LR
comp=Z,857nm,19.0s
SUR Sutherland 109.52 240 PFAKE 19 08 10.0
SUR LR LR
comp=Z,1µm,22.0s
SDCO Great Sand Dun 109.97 41 PFAKE 19 08 10.0
SDCO LR LR
comp=Z,982nm,20.0s
OGNE Ogallala 110.09 37 PFAKE 19 08 10.0
OGNE LR LR
comp=Z,931nm,20.0s
EYMN Ely 110.36 26 PFAKE 19 08 10.0
EYMN LR LR
comp=Z,1µm,20.0s
MTE Manteigas 110.83 323 PFAKE 19 08 20.0
MTE LR LR
comp=Z,2µm,21.0s
ANMO Albuquerque 110.97 44 PFAKE 19 08 20.0
ANMO LR LR
comp=Z,1µm,22.0s
TAM Tamanrasset 111.00 301 PFAKE 19 08 20.0
TAM LR LR
comp=Z,654nm,21.0s
ECSD EROS Data Cent 111.14 31 PFAKE 19 08 20.0
ECSD LR LR
comp=Z,1µm,22.0s
T26A Comanche Natio 111.52 40 P **PKiKP** 19 08 05.9 -0.2

baz=111
COWI **Conover** **112.81** **25** PFAKE 19 08 20.0
COWI LR LR
comp=Z,1μm,22.0s
MNTX **Cornudas Mount** **113.55** **46** PFAKE 19 08 20.0
MNTX LR LR
comp=Z,949nm,20.0s
226B **Tecolote Peak,** **114.18** **45** P PKPdf 19 08 12.0 +0.9
baz=114
KSU1 **Kansas State U** **114.42** **35** PFAKE 19 08 20.0 +8.7
KSU1 LR LR
comp=Z,1μm,21.0s
RTC **Rabat Centre** **114.46** **318** PFAKE 19 08 20.0 +8.5
RTC LR LR
comp=Z,926nm,20.0s
JFWS **Jewell Farm** **114.84** **28** PFAKE 19 08 20.0 +8.0
JFWS LR LR
comp=Z,997nm,20.0s
526A **Mary Lane Ranc** **115.40** **47** P **PKPdf** **19 08 13.2 -0.4**
baz=115
527A **Woodward Ranch** **115.69** **47** P **PKPdf** **19 08 14.4 +0.2**
baz=116
H06E1 **SOCORRO T-PHAS** **115.70** **61** T T 21 15 48.4
SNR=13
428A **Kincaid Ranch,** **116.00** **46** P **PKPdf** **19 08 15.9 +1.2**
baz=116
TXAR **Lajitas Array** **116.11** **47** PKP **PKPdf** **19 08 15.6 +0.6**
TXAR **Lajitas Array** **116.11** **47** PKP **PKPdf** **19 08 15.6 +0.6**
comp=Z,2.7nm,1.0s,baz=259,slow=1.9,SNR=8.2
627A **Terlingua Ranc** **116.25** **47** P **PKPdf** **19 08 15.4 +0.1**
baz=116
528A **Cox Ranch, San** **116.26** **46** P **PKPdf** **19 08 15.5 +0.2**
baz=116
Z32A **Haskell** **116.56** **41** P **PKPdf** **19 08 15.9 +0.3**
baz=116
628A **Black Gap, Mar** **116.58** **47** P **PKPdf** **19 08 15.8 +0.1**
baz=116
429A **Davenport Ranc** **116.61** **45** P **PKPdf** **19 08 15.9 0.0**
baz=116
529A **Stev Forest Ra** **116.68** **46** P **PKPdf** **19 08 15.8 -0.2**
baz=117
430A **Baggett Ranch,** **116.96** **45** P **PKPdf** **19 08 15.9 -0.6**
baz=117
332A **Millersview** **117.60** **43** P **PKPdf** **19 08 17.0 -0.7**
baz=118
JCT **Junction City** **118.12** **44** PFAKE 19 08 30.0 +11
JCT LR LR
comp=Z,1μm,20.0s
JCT **Junction City** **118.12** **44** P **PKPdf** **19 08 18.5 -0.2**
baz=118
333A **Richland Sprin** **118.14** **43** P **PKPdf** **19 08 18.8 +0.1**
baz=118
AAM **Ann Arbor** **118.17** **24** PFAKE 19 08 30.0 +12
AAM LR LR
comp=Z,996nm,22.0s
631A **Perdido Creek** **118.25** **46** P **PKPdf** **19 08 19.5 +0.5**
baz=118
TORD **Torodi Ar. Bea** **118.32** **293** PKP **PKPdf** **19 08 19.2 -0.2**
TORD PP **PP** **19 09 37.6 +2.3**
TORD **Torodi Ar. Bea** **118.32** **293** PKP **PKPdf** **19 08 19.2 -0.2**
comp=Z,5.7nm,1.0s,baz=70,slow=2.0,SNR=14
TORD PP **PP** **19 09 37.6 +2.3**
comp=Z,7.5nm,1.2s,baz=55,slow=4.9,SNR=4.2
433A **Art** **118.43** **43** P **PKPdf** **19 08 18.7 -0.5**
baz=118
632A **Uvalde** **118.73** **45** P **PKPdf** **19 08 20.1 +0.2**
baz=119
434A **Burnet** **118.94** **43** P **PKPdf** **19 08 20.3 +0.1**
baz=119
LONY **Lake Ozonia** **119.18** **16** PFAKE 19 08 30.0 +10
LONY LR LR
comp=Z,1μm,20.0s
534A **Blanco** **119.30** **44** P **PKPdf** **19 08 21.3 +0.3**
baz=119
832A **Faith Ranch, C** **119.35** **46** P **PKPdf** **19 08 21.8 +0.8**
baz=119
MIAR **Mount Ida** **119.35** **37** PFAKE 19 08 30.0 +9.1
MIAR LR LR
comp=Z,1μm,19.0s
ERPA **Erie** **119.72** **22** PFAKE 19 08 30.0 +8.6
ERPA LR LR
comp=Z,1μm,21.0s
833A **Chaparral WMA,** **119.73** **46** P **PKPdf** **19 08 21.9 +0.1**
baz=120
PKME **Peaks-Kenny Pk** **119.83** **12** PFAKE 19 08 30.0 +8.5
PKME LR LR
comp=Z,1μm,20.0s
NCB **Newcomb** **119.88** **16** PFAKE 19 08 30.0 +8.3
NCB LR LR
comp=Z,1μm,22.0s
ACSO **Alum Creek Sta** **120.19** **25** PFAKE 19 08 30.0 +7.6
ACSO LR LR
comp=Z,1μm,21.0s
933A **Laredo** **120.25** **46** P **PKPdf** **19 08 24.2 +1.4**
baz=120
BINY **Binghamton** **120.99** **19** PFAKE 19 08 40.0 +16
BINY LR LR
comp=Z,1μm,19.0s
KVTX **Kingsville** **121.25** **46** PFAKE 19 08 40.0 +15
KVTX LR LR
comp=Z,1μm,20.0s
OXF **Oxford** **121.71** **34** *e*PKIKP **PKPdf** **19 08 27.4 +2.0**
OXF **Oxford** **121.71** **34** *e*PKPdf **PKPdf** **19 08 27.4 +2.0**
TKL **Tuckaleechee C** **123.64** **29** *e*PKPdf **PKPdf** **19 08 28.7 -0.4**
BLA **Blacksburg** **123.81** **25** PFAKE 19 08 40.0 +11
BLA LR LR
comp=Z,1μm,19.0s
CBN **Corbin** **124.11** **22** PFAKE 19 08 40.0 +10
CBN LR LR
comp=Z,1μm,19.0s
LRAL **Lakeview Retre** **124.13** **33** *e*PKPdf **PKPdf** **19 08 30.3 +0.2**
GOGA **Godfrey** **125.62** **30** *e*PKIKP **PKPdf** **19 08 33.1 +0.1**
GOGA MLR MLR
comp=Z,1μm,22.0s
GOGA **Godfrey** **125.62** **30** *e*PKPdf **PKPdf** **19 08 33.1 +0.1**
GOGA LR LR
comp=Z,1μm,22.0s
BRAL **Brewton** **125.65** **35** PFAKE 19 08 40.0 +6.9
BRAL LR LR
comp=Z,1μm,22.0s
CNNC **Cliffs of the** **126.53** **24** PFAKE 19 08 50.0 +15
CNNC LR LR
comp=Z,887nm,21.0s
DBIC **Dimbokro** **126.78** **289** PKP **PKPdf** **19 08 36.0 +0.4**
DBIC *e*PKPdf **PKiKP** **19 08 36.2 +0.1**
DBIC **Dimbokro** **126.78** **289** PKP **PKPdf** **19 08 36.0 +0.4**
comp=Z,11nm,0.9s,baz=26,slow=2.3,SNR=9.2
KIC **Kosan Boka** **126.79** **289** *e*PKIKP **PKPdf** **19 08 36.4 +0.7**
comp=Z,65nm,1.1s
TIC **Toumodi** **126.94** **289** *e*PKIKP **PKPdf** **19 08 36.6 +0.6**
comp=Z,16nm,0.5s
LIC **Lamto** **127.10** **289** *e*PKIKP **PKPdf** **19 08 33.2 -3.1**
comp=Z,64nm,1.1s
LIC **Lamto** **127.10** **289** *e*PKIKP **PKPdf** **19 08 36.5 +0.2**
comp=Z,75nm,1.1s
LIC **Lamto** **127.10** **289** *e*PKPdf **PKPdf** **19 08 33.2 -3.1**
NHSC **New Hope** **127.41** **27** PFAKE 19 08 50.0 +14
NHSC LR LR
comp=Z,1μm,21.0s
SHEL **Horse Pasture** **132.93** **261** PFAKE 19 09 00.0 +13
SHEL LR LR
comp=Z,1μm,22.0s
BBSR **BB Station** **133.19** **12** PFAKE 19 09 00.0 +13
BBSR LR LR
comp=Z,919nm,20.0s
SACV **Santiago Islan** **138.27** **312** PFAKE 19 09 10.0 +13
SACV LR LR
comp=Z,784nm,21.0s
ASCN **Ascension** **140.24** **274** PFAKE 19 09 10.0 +9.1
ASCN LR LR
comp=Z,739nm,21.0s
GTBY **Guantanamo Bay** **140.92** **32** PFAKE 19 09 10.0 +8.0
GTBY LR LR
comp=Z,913nm,20.0s
MTDJ **Mount Denham** **140.99** **36** PFAKE 19 09 10.0 +7.7
MTDJ LR LR
comp=Z,922nm,20.0s
GRTK **Grand Turk** **141.40** **25** PFAKE 19 09 10.0 +7.2
GRTK LR LR
comp=Z,1μm,22.0s
JTS **JuntasAbangare** **141.51** **53** PFAKE 19 09 10.0 +6.8
JTS LR LR
comp=Z,682nm,22.0s
LRS **Lares** **145.98** **21** *e*PKPdf **PKPbc** **19 09 11.4 -0.2**
BCIP **Isla Barro Col** **146.10** **49** *e*PKPbc **PKPab** **19 09 13.8 +1.1**
BCIP LR LR
comp=Z,796nm,21.0s
CELP **Cerrillos** **146.28** **21** *e*PKPdf **PKPab** **19 09 13.0 -0.2**
OBIP **Obispado Ponce** **146.29** **21** *e*PKPdf **PKPbc** **19 09 12.8 +0.3**
CBYP **Canovanas** **146.34** **20** *e*PKPdf **PKPdf** **19 09 10.1 -1.5**
ANWB **Willy Bob** **148.04** **13** PFAKE 19 09 30.0 +10
ANWB LR LR
comp=Z,765nm,22.0s
PLCA **Paso Flores** **149.58** **155** PKPbc **PKPdf** **19 09 18.3 +2.0**
PLCA **Paso Flores** **149.58** **155** PKPbc **PKPdf** **19 09 18.3 +2.0**
comp=Z,30nm,1.1s,baz=247,slow=3.3,SNR=12
FDF **Fort de France** **151.02** **13** PFAKE 19 09 30.0 -2.3
FDF LR LR
comp=Z,905nm,22.0s
OTAV **Otavalo** **152.51** **62** *e*PKPdf **PKPdf** **19 09 23.3 +1.2**
OTAV LR LR
comp=Z,590nm,19.0s
ROSC **El Rosal** **153.03** **48** *e*PKPdf **PKPdf** **19 09 22.5 -0.3**
ROSC PKP **PKPdf** **19 09 24.2 +1.5**
ROSC PKPbc **PKiKP** **19 09 31.2 +0.9**
ROSC **El Rosal** **153.03** **48** PKP **PKPdf** **19 09 24.2 +1.5**
comp=Z,5.3nm,0.4s,baz=107,slow=22,SNR=5.1
ROSC PKPbc **PKiKP** **19 09 31.2 +0.9**
comp=Z,5.3nm,0.4s,baz=270,slow=20,SNR=9.2
GRGR **Grenville** **153.40** **16** PFAKE 19 09 30.0 -0.3
GRGR LR LR
comp=Z,1μm,20.0s
TRQA **Tornquist** **154.80** **166** *e*PKPbc **PKPbc** **19 09 32.2 -0.5**
TRQA LR LR
comp=Z,871nm,19.0s
NNA **Nana** **158.11** **88** PFAKE 19 09 40.0 +11
NNA LR LR
comp=Z,650nm,20.0s
LCO **Las Campanas** **158.54** **138** PFAKE 19 09 40.0 +10
LCO LR LR
comp=Z,1μm,20.0s
LVC **Limon Verde** **163.65** **125** PFAKE 19 09 50.0 +15
LVC LR LR
comp=Z,906nm,22.0s
PTGA **Pitinga** **166.04** **23** PFAKE 19 09 50.0 +13
PTGA LR LR
comp=Z,735nm,20.0s
LPAZ **La Paz** **166.54** **103** PKP **PKPdf** **19 09 39.3 +1.1**
LPAZ **La Paz** **166.54** **103** PKP **PKPdf** **19 09 39.3 +1.1**
comp=Z,7.1nm,1.0s,baz=335,slow=3.0,SNR=6.5
SAML **Samuel** **170.25** **62** *e*PKPdf **PKPdf** **19 09 40.5 +0.6**
SAML LR LR
comp=Z,714nm,22.0s
BDFB **Brasilia** **173.46** **252** PKP **PKPdf** **19 09 41.0 -0.5**
BDFB **Brasilia** **173.46** **252** PKP **PKPdf** **19 09 41.0 -0.5**
comp=Z,4.6nm,0.9s,baz=218,slow=15,SNR=5.1

*ISCJB **27** 18:56:19.1±1.1,32.˚05S±0.˚04×70.˚07W±0.˚05, h116km±12km, Error ellipse: s-maj=8.7km s-min=4.9km az=38.2*
*GUC **27** 18:56:19.5±0.3,32.˚09S×70.˚35W, h129km±2km, MD3.4, ML3.7*
*SJA **27** 18:56:19.0±0.6,32.˚02S×70.˚08W, h106km±8km, ML3.6, MW3.7*
ISC 27 18:56:19.1±2.1,32.˚04S±0.˚05×70.˚07W±0.˚05, h119km±18km, n20, σ0°52/32, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
					Op	ISC	
AUSP	**Uspallata**	**0.61**	**107**	*i* P	**Pn**	**18 56 37.6**	**-0.4**
RTLS	**Leoncito**	**0.70**	**70**	*i* P	**Pn**	**18 56 38.6**	**-0.1**
CMCH	**Combarbala**	**1.17**	**317**	⇓*i* P	**Pn**	**18 56 43.3**	**+0.4**
CMCH				*i* S	**Sn**	**18 57 01.4**	**+0.5**
ASAL	**Salagasta**	**1.18**	**118**	*i* P	**Pn**	**18 56 43.2**	**+0.2**
PEL	**Peldehue**	**1.21**	**205**	⇑*i* P	**Pn**	**18 56 43.6**	**+0.2**
PEL				*i* S	**Sn**	**18 57 01.6**	**-0.1**
PEL				AML	AML	18 57 02.4	
	comp=N,2μm,0.3s						
ARCO	**CERRO ARCO**	**1.25**	**130**	*i* P	**Pn**	**18 56 44.1**	**+0.2**
ARCO				*e*S	**Sn**	**18 57 02.9**	**+0.3**
ARCO				AML	AML	18 57 06.0	
	comp=Z,1μm,0.3s						
RTCV	**Cerro Valdivia**	**1.31**	**83**	*i* P	**Pn**	**18 56 44.3**	**-0.1**
SJA	**San Juan**	**1.39**	**69**	*i* P	**Pn**	**18 56 45.1**	**-0.2**
SJA				IAML		18 56 45.7	
	comp=Z,651nm,0.2s						
SJA				*e*S	**Sn**	**18 57 04.5**	**-0.6**
CLCH	**Cerro Calan**	**1.41**	**196**	⇑*i* P	**Pn**	**18 56 45.9**	**+0.4**
CLCH				*i* S	**Sn**	**18 57 06.0**	**+0.5**
CLCH				AML	AML	18 57 08.7	
	comp=E,587nm,0.6s						
AAGR	**Agrelo**	**1.48**	**135**	*i* P	**Pn**	**18 56 46.7**	**+0.4**
SAN	**Santiago**	**1.49**	**199**	⇑*i* P	**Pn**	**18 56 46.5**	**+0.1**
SAN				*i* S	**Sn**	**18 57 07.2**	**-0.1**
RTLL	**Cerro Villicun**	**1.54**	**63**	*i* P	**Pn**	**18 56 47.1**	**+0.2**
RTLL				*e*S	**Sn**	**18 57 07.6**	**-0.6**
ANTU	**Antumapu**	**1.59**	**197**	⇑*i* P	**Pn**	**18 56 48.0**	**+0.4**
ANTU				*i* S	**Sn**	**18 57 09.4**	**+0.1**
ANTU				AML	AML	18 57 10.6	
	comp=E,2μm,0.3s						
PCH	**Pirque**	**1.62**	**193**	*i* P	**Pn**	**18 56 48.4**	**+0.4**
PCH				*i* S	**Sn**	**18 57 10.7**	**+0.7**
AMOG	**MOGNA**	**1.74**	**51**	*i* P	**Pn**	**18 56 50.0**	**+0.6**
TACH	**Talagante**	**1.76**	**204**	*i* P	**Pn**	**18 56 49.6**	**-0.1**
TACH				*i* S	**Sn**	**18 57 12.3**	**-0.7**
AVIZ	**Vizcacheras**	**1.94**	**138**	*i* P	**Pn**	**18 56 52.4**	**+0.6**
CHCH	**Chadas Angostu**	**1.95**	**194**	⇓*i* P	**Pn**	**18 56 52.1**	**+0.2**
CHCH				*i* S	**Sn**	**18 57 17.1**	**+0.1**
LNV	**Longovilo**	**2.21**	**210**	*i* P	**Pn**	**18 56 54.6**	**-0.6**
LNV				*i* S	**Sn**	**18 57 21.1**	**-1.7**
AVFE	**Valle Fertil**	**2.63**	**59**	*i* P9	**Pn**	**18 57 00.7**	**+0.1**
AVFE				IAML		18 57 34.3	
	comp=Z,88nm,0.3s						

*BJI **27** 19:00:26.8, 7.˚70S×125.˚42E, h528km, mB5.5/24, mb5.2/63*
*ISCJB **27** 19:00:32.8±0.2, 7.˚17S±0.˚02×125.˚04E±0.˚02, h541km±2km, mb5.1/141, Error ellipse: s-maj=3.6km s-min=2.9km az=135.5*
*MOS **27** 19:00:33.1±0.7, 7.˚10S×125.˚08E, h545km, mb5.2/40, Error ellipse: s-maj=12.3km s-min=6.3km az=116.2*
*DJA **27** 19:00:33.0±0.1, 7.˚5S±2.˚2×12.˚5E±.˚, h529km±2km, M5.5/79, mb5.3/79, mB5.9/25, MLv5.9/25, Mw(mB)5.5/25*
*NEIC **27** 19:00:33.1±0.2, 7.˚16S×125.˚03E, h531km±2km, mb5.1/63, Error ellipse: s-maj=4.6km s-min=3.2km az=52.0*
*IDC **27** 19:00:33.6±0.7, 7.˚16S×125.˚04E, h535km±7km, mb4.6/32, mb1 4.5/35, mb1mx4.5/39, mbtmp5.4/35, Error ellipse: s-maj=9.8km s-min=6.3km az=63.0*
*KLM **27** 19:00:33.3, 7.˚14S×125.˚12E, h519km, mb5.2, ML5.0, MS5.9*
ISC 27 19:00:33.2±0.3, 7.˚18S±0.˚03×125.˚05E±0.˚04, h535km±2km, h537km: pP-P, n1124, σ1°13/1202, mb5.1/139, 263C-252D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
					Op	ISC	
SOEI	**Soe**	**2.67**	**197**	P	**P**	**19 01 45.1**	**-0.1**
SOEI				S	**S**	**19 02 41.0**	**-2.8**
SOEI	**Soe**	**2.67**	**197**	*e*P	**P**	**19 01 45.2**	**0.0**
SOEI	**Soe**	**2.67**	**197**	⇓P	**P**	**19 01 45.3**	**0.0**
	baz=2.6,SNR=1000						
SOEI				⇑S	**S**	**19 02 42.1**	**-1.7**
	baz=2.6,SNR=6.5						
MMRI	**Maumere**	**3.14**	**242**	P	**P**	**19 01 47.1**	**-0.9**
MMRI	**Maumere**	**3.14**	**242**	*e*P	**P**	**19 01 47.0**	**-1.0**
BATI	**Baumata**	**3.31**	**204**	P	**P**	**19 01 49.6**	**+0.5**
BATI				S	**S**	**19 02 49.7**	**-1.2**
BATI	**Baumata**	**3.31**	**204**	P	**P**	**19 01 50.0**	**+0.9**
BATI				S	**S**	**19 02 50.1**	**-0.7**
BATI	**Baumata**	**3.31**	**204**	P	**P**	**19 01 50.0**	**+0.9**
	3μm,0.3s,baz=83,slow=1.0,SNR=3472						
BATI				S	**S**	**19 02 50.1**	**-0.7**
	1μm,0.3s,baz=110,slow=18,SNR=10						
NLAI	**Namlea**	**4.41**	**28**	P	**P**	**19 01 57.5**	**+0.1**
NLAI				S	**S**	**19 03 05.0**	**-0.9**
KKSI	**Kolaka, Sulawe**	**4.52**	**311**	P	x	19 01 59.0	
SANI	**Sanana**	**5.18**	**10**	P	**P**	**19 02 04.0**	**+0.2**
	10μm,1.0s,87μm36nm						
BKSI	**Bulukumba**	**5.24**	**290**	P	**P**	**19 02 05.2**	**+0.9**
	608nm,0.8s,6μm2.1nm						
LBFI	**Labuhan Bajo,**	**5.28**	**255**	P	x	19 02 04.0	
	811nm,0.7s,5.2nm						
WSI	**Waingapu**	**5.32**	**242**	P	**P**	**19 02 03.9**	**-1.1**
	6μm,0.7s,50μm45nm						
WSI	**Waingapu**	**5.32**	**242**	⇓P	**P**	**19 02 03.6**	**-1.3**
	baz=5.2,SNR=42						
MSAI	**Masohi**	**5.42**	**46**	P	**P**	**19 02 04.5**	**-1.4**
	251nm,0.8s,4μm2.2nm						
BNDI	**Bandanaira**	**5.50**	**62**	P	**P**	**19 02 06.5**	**-0.1**
	5μm,1.1s,50μm18nm						
BNSI	**Bone**	**5.64**	**299**	P	**P**	**19 02 10.1**	**+2.2**
	707nm,1.0s,9μm2.2nm						
KAPI	**Kappang**	**5.69**	**292**	P	**P**	**19 02 10.6**	**+2.2**
	3μm,0.9s,SNR=53						
KAPI	**Kappang**	**5.69**	**292**	*e*P	**P**	**19 02 10.6**	**+2.2**
SPSI	**Sidrap Palu**	**6.15**	**301**	P	**P**	**19 02 13.4**	**+0.8**
	247nm,1.2s,0.8nm						
SAUI	**Saumlaki**	**6.24**	**98**	P	**P**	**19 02 13.0**	**-0.4**
	4μm,0.9s,28μm18nm						
SAUI	**Saumlaki**	**6.24**	**98**	*e*P	**P**	**19 02 12.9**	**-0.6**
LUWI	**Luwuk**	**6.51**	**339**	P	**P**	**19 02 17.0**	**+1.0**
	3μm,1.1s,20μm9.5nm						
LUWI	**Luwuk**	**6.51**	**339**	*e*P	**P**	**19 02 16.9**	**+1.0**
LUWI	**Luwuk**	**6.51**	**339**	⇓P	**P**	**19 02 17.3**	**+1.3**
	baz=6.6,SNR=129						
TTSI	**Tana Toraja**	**6.64**	**308**	P	**P**	**19 02 19.5**	**+2.3**
	386nm,1.3s,4μm1.3nm						
LBMI	**Labuha**	**6.94**	**21**	P	**P**	**19 02 20.1**	**-0.1**
	3μm,1.1s,30μm12nm						
MJSI	**Majene**	**7.04**	**300**	P	x	19 02 23.9	
	285nm,1.4s,1.0nm						
APSI	**Ampana**	**7.09**	**331**	P	**P**	**19 02 23.0**	**+1.4**
	3μm,1.0s,23μm8.5nm						
MMSI	**Mamuju**	**7.57**	**306**	P	x	19 02 28.1	
	409nm,1.0s,1.6nm						
KMSI	**Cibinong**	**7.78**	**352**	P	**P**	**19 02 29.8**	**+1.4**
	12μm,1.1s,93μm37nm						
MTN	**Manton Dam**	**8.21**	**134**	⇑P	**P**	**19 02 32.4**	**-0.3**
	baz=8.2,SNR=466						
MRSI	**Marisa**	**8.22**	**338**	P	**P**	**19 02 33.2**	**+0.4**
	1μm,1.0s						
TNTI	**Ternate**	**8.23**	**16**	P	**P**	**19 02 32.1**	**-0.8**
	2μm,1.0s,21μm7.7nm						
TNTI	**Ternate**	**8.23**	**16**	*e*P	**P**	**19 02 32.0**	**-0.8**
FAKI	**Fak Fak**	**8.32**	**60**	P	**P**	**19 02 32.1**	**-1.8**
	3μm,1.2s,29μm12nm						
FAKI	**Fak Fak**	**8.32**	**60**	*e*P	**P**	**19 02 31.8**	**-2.1**
FAKI	**Fak Fak**	**8.32**	**60**	⇓P	**P**	**19 02 32.3**	**-1.6**
	baz=8.4,SNR=261						
SWI	**Sorong**	**8.81**	**45**	P	**P**	**19 02 39.2**	**+0.4**
	5μm,1.2s,50μm						
MTNI	**Mataram**	**8.92**	**260**	P	x	19 02 38.7	
	178nm,0.7s						
KDU	**Kakadu**	**9.13**	**127**	⇓P	**P**	**19 02 41.4**	**-0.6**
	baz=9.2,SNR=77						
KNRA	**Kununurra**	**9.19**	**157**	⇓P	**P**	**19 02 42.8**	**+0.2**
	baz=9.2,SNR=56						
TOLI	**Toli-Toli**	**9.28**	**333**	P	x	19 02 44.1	
	746nm,0.8s						
TOLI	**Toli-Toli**	**9.28**	**333**	*e*Pn	**P**	**19 02 43.1**	**-0.5**
KMPI	**Kaimana, Papua**	**9.29**	**68**	P	**P**	**19 02 44.5**	**+0.8**
	1μm,0.8s						
SRBI	**Singaraja**	**9.80**	**264**	P	**P**	**19 02 48.4**	**-0.5**
	130nm,0.9s						
DNP	**Denpasar**	**9.86**	**261**	P	**P**	**19 02 50.4**	**+0.8**
	285nm,0.6s						
IGBI	**Denpasar**	**9.95**	**260**	P	**P**	**19 02 48.7**	**-1.8**
	259nm,0.8s						
BYJI	**Banyuwangi**	**10.65**	**264**	P	x	19 02 58.1	
	794nm,1.0s						
ABJI	**Asem Bagus**	**10.74**	**266**	P	**P**	**19 02 59.0**	**+0.3**
	132nm,1.7s						
SGSI	**Sangihe**	**10.80**	**3**	P	**P**	**19 02 57.9**	**-1.5**
	814nm,1.2s,13μm						
JAGI	**Jajag, Banyuwa**	**10.88**	**263**	P	**P**	**19 02 57.6**	**-2.5**
	166nm,0.7s						
JAGI	**Jajag, Banyuwa**	**10.88**	**263**	*e*Pn	**P**	**19 02 57.9**	**-2.2**
	127nm,0.3s						
JAGI	**Jajag, Banyuwa**	**10.88**	**263**	⇑P	**P**	**19 02 58.1**	**-2.1**
	baz=11,SNR=135						
MWPI	**Manokwari, Pap**	**10.90**	**56**	P	x	19 03 02.0	
	2μm,1.2s						
KMMI	**Kalianget**	**11.00**	**270**	P	**P**	**19 03 04.4**	**+3.0**
	245nm,1.0s						
BLJI	**Banyuglugur**	**11.38**	**266**	P	**P**	**19 03 05.2**	**-0.1**
	174nm,0.8s						
GMJI	**Gumukmas**	**11.56**	**264**	P	**P**	**19 03 05.0**	**-2.2**
	95nm,0.9s						
SRPI	**Serui, Papua**	**12.33**	**65**	P	**P**	**19 03 14.8**	**-0.5**
	303nm,0.7s						
GRJI	**Gresik**	**12.48**	**270**	P	**P**	**19 03 17.7**	**+0.8**
	80nm,0.8s						
BAKI	**Biak**	**12.52**	**62**	P	**P**	**19 03 17.7**	**+0.4**
	915nm,0.9s						
KRKI	**Karangkates**	**12.53**	**265**	P	x	19 03 19.4	
	222nm,0.7s,15μm						
PWJI	**Pagerwojo**	**13.16**	**265**	P	**P**	**19 03 22.4**	**-1.5**
	53nm,0.9s						
GSPH	**General Santos**	**13.18**	**360**	⇑*i* P	**P**	**19 03 23.1**	**-1.1**
PCJI	**Pacitan**	**13.79**	**265**	P	**P**	**19 03 28.3**	**-2.1**
	119nm,0.8s						
DAV	**Davao City (W)**	**14.16**	**2**	*e*P	**P**	**19 03 34.3**	**0.0**
CTBH	**Cotabato--PC H**	**14.33**	**357**	⇑*i* P	**P**	**19 03 36.6**	**+0.6**
CTBH				*i* S	**S**	**19 06 09.9**	**+3.1**
UGM	**Wanagama**	**14.42**	**266**	P	**P**	**19 03 35.9**	**-1.2**
	99nm,1.0s						
UGM	**Wanagama**	**14.42**	**266**	*e*P	**P**	**19 03 36.7**	**-0.4**
UGM	**Wanagama**	**14.42**	**266**	⇑P	**P**	**19 03 35.9**	**-1.2**
	baz=14,SNR=8.5						
SMRI	**Semarang**	**14.50**	**270**	P	**P**	**19 03 37.6**	**-0.3**
	106nm,2.3s						
SMPI	**Sarmi**	**14.55**	**70**	P	**P**	**19 03 38.5**	**+0.1**
	263nm,1.1s						
SDKM	**Sandakan**	**14.96**	**328**	⇓P	**P**	**19 03 43.2**	**+0.5**
PAGZ	**Pagadian**	**15.02**	**354**	*e*P	**P**	**19 03 43.5**	**+0.2**
IPIL	**Ipil**	**15.07**	**350**	*e*P	**P**	**19 03 44.0**	**+0.2**
BJII	**Banjamegara**	**15.22**	**268**	P	x	19 03 45.1	
	123nm,1.4s						
MMPI	**Merauke**	**15.24**	**96**	P	**P**	**19 03 45.0**	**-0.6**
	548nm,0.7s						
WRAB	**Tennant Creek**	**15.56**	**145**	P	**P**	**19 03 47.9**	**-0.9**
	1μm,0.5s,SNR=47						
WRAB	**Tennant Creek**	**15.56**	**145**	⇓*i* P	**P**	**19 03 48.4**	**-0.4**
WRAB	**Tennant Creek**	**15.56**	**145**	*e*P	**P**	**19 03 47.9**	**-0.9**
	98nm,0.6s						
WRA	**Warramunga Arr**	**15.56**	**146**	P	**P**	**19 03 47.7**	**-1.1**
WRA				S	**S**	**19 06 27.1**	**-2.3**
WRA	**Warramunga Arr**	**15.56**	**146**	P	**P**	**19 03 47.7**	**-1.1**
	23nm,0.3s,baz=315,slow=9.1,SNR=263						
WRA				S	**S**	**19 06 27.1**	**-2.3**
	8.4nm,0.3s,baz=326,slow=16,SNR=17						
GENI	**Genyem**	**15.73**	**74**	P	**P**	**19 03 50.4**	**-0.2**
	364nm,0.9s						
BTM	**Bintulu**	**15.78**	**310**	⇓P	**P**	**19 03 51.7**	**+0.6**
TGJI	**Tegal**	**15.82**	**270**	P	x	19 03 49.7	
	97nm,1.2s						
KKM	**Kota Kinabalu**	**15.82**	**326**	P	x	19 03 51.0	
	74nm,1.2s						
KKM	**Kota Kinabalu**	**15.82**	**326**	*e*P	**P**	**19 03 51.0**	**-0.6**
	124nm,1.3s						
KKM	**Kota Kinabalu**	**15.82**	**326**	⇑P	**P**	**19 03 50.9**	**-0.7**
	baz=16,SNR=9.3						
KKM	**Kota Kinabalu**	**15.82**	**326**	⇓P	**P**	**19 03 51.7**	**0.0**
SBUM	**Sibu**	**15.99**	**306**	P	x	19 03 53.3	
	140nm,1.0s						
SBUM	**Sibu**	**15.99**	**306**	*e*P	**P**	**19 03 53.6**	**+0.4**
	106nm,0.9s						
SBUM	**Sibu**	**15.99**	**306**	⇑S	**S**	**19 06 38.5**	**+1.6**
SBUM	**Sibu**	**15.99**	**306**	⇑P	**P**	**19 03 53.3**	**+0.2**
KPJI	**Karang Pucung**	**15.99**	**268**	P	**P**	**19 03 51.8**	**-1.4**
	287nm,0.8s						
JAY	**Jayapura**	**16.27**	**74**	P	**P**	**19 03 54.2**	**-1.8**
JAY				S	**S**	**19 06 43.1**	**+1.4**
JAY	**Jayapura**	**16.27**	**74**	P	**P**	**19 03 54.2**	**-1.8**
	5.1nm,0.3s,baz=238,slow=9.2,SNR=12						
JAY				S	**S**	**19 06 43.1**	**+1.4**
	0.9nm,0.3s,baz=105,slow=16,SNR=4.1						
JAY	**Jayapura**	**16.27**	**74**	⇓P	**P**	**19 03 55.3**	**-0.7**
	baz=16,SNR=11						
CMJI	**Cimerak**	**16.48**	**267**	P	**P**	**19 03 55.6**	**-2.3**
	691nm,0.8s,8μm						
JCJI	**Jatiwangi**	**16.68**	**271**	P	**P**	**19 04 01.9**	**+2.1**
	359nm,1.4s						
KSM	**Kuching**	**17.04**	**300**	P	x	19 04 04.6	
	187nm,0.9s						
KSM	**Kuching**	**17.04**	**300**	*e*P	**P**	**19 04 03.5**	**+0.3**
	117

1µm,0.8s,13µm
CISI Cisompet, Garu 17.10 268 *e*P P 19 04 01.6 -2.2
858nm,0.8s
CISI Cisompet, Garu 17.10 268 ⇓P P 19 04 01.8 -2.0
baz=17,SNR=73
MSLP Maasin 17.20 359 *e*P P 19 04 04.7 +0.1
LEM Lembang 17.31 270 P P 19 04 06.2 +0.4
376nm,1.1s
LEM Lembang 17.31 270 ⇓P P 19 04 05.2 -0.7
baz=17,SNR=16
LLP Lapu-Lapu 17.42 356 *e*P P 19 04 07.1 +0.5
CNJI Cibinong 17.78 268 P P 19 04 08.9 -1.1
2µm,0.9s,16µm
GUIM Jordan 17.86 352 *e*P P 19 04 09.9 -0.7
TPI Tanjungpandan 17.88 283 P P 19 04 12.6 +1.7
179nm,1.3s
WRKA Warakurna 18.03 170 ⇑P P 19 04 12.7 +0.6
baz=18,SNR=1000
CBJI Citeko 18.09 271 P P 19 04 11.8 -1.0
1µm,0.8s
OCLP Ormoc 18.12 359 *e*P P 19 04 13.9 +0.9
CUYO Cuyo Island 18.36 347 *e*P P 19 04 17.1 +2.0
SKJI Sukabumi 18.36 269 P P 19 04 15.2 0.0
445nm,0.7s
ASAR Alice Springs 18.46 154 P P 19 04 16.9 +0.8
ASAR S **S 19 07 15.4 -2.1**
ASAR ScP **ScP 19 11 03.2 -0.5**
ASAR Alice Springs 18.46 154 P P 19 04 16.9 +0.8
33nm,0.3s,baz=330,slow=9.0,SNR=365
ASAR S **S 19 07 15.5 -2.1**
5.9nm,0.3s,baz=344,slow=17,SNR=9.2
ASAR ScP **ScP 19 11 03.2 -0.5**
0.4nm,0.3s,baz=345,slow=2.7,SNR=18
GIRL Giralia 18.57 213 ⇓P P 19 04 17.9 +0.8
baz=19,SNR=62
COEN Coen 19.04 112 *e*P P 19 04 20.0 -1.4
1µm,0.5s
COEN Coen 19.04 112 ⇓P P 19 04 21.0 -0.4
baz=19,SNR=341
ENPP El Nido 19.11 343 *e*P P 19 04 23.3 +1.3
CGJI Cibinong 19.23 270 P P 19 04 22.5 -0.7
355nm,0.8s
QIS Mount Isa 19.38 135 ⇑P P 19 04 24.4 0.0
baz=19,SNR=31
XMI Christmas Isla 19.41 259 ⇓P P 19 04 24.4 -0.4
baz=19,SNR=18
XMIS Christmas Isla 19.45 259 *e*P P 19 04 24.0 -1.2
724nm,0.8s
MEEK Meekatharra 20.30 197 ⇓P P 19 04 32.7 0.0
baz=20,SNR=110
KASI Kota Agung 20.50 273 P P 19 04 34.2 -0.5
143nm,0.9s
PMBI Palembang 20.64 281 P P 19 04 41.2 +5.2
312nm,1.3s
MDSI Maura Dua 20.94 276 P P 19 04 39.5 +0.8
35nm,1.8s
TGY Tagaytay City 21.54 349 P P 19 04 44.7 +0.6
TGY Tagaytay City 21.54 349 P P 19 04 44.7 +0.6
131nm,0.4s,baz=291,slow=5.6,SNR=4.7
LHSI Lahat 21.69 278 P P 19 04 50.2 +4.8
74nm,0.8s
PMG Port Moresby 21.98 97 P x 19 04 48.8
66nm,1.1s
PMG Port Moresby 21.98 97 *e*P P 19 04 47.4 -0.7
103nm,1.3s
PMG Port Moresby 21.98 97 P P 19 04 47.9 -0.2
35nm,0.8s,baz=300,slow=6.0,SNR=13
JMBI JAMBI 22.04 283 P P 19 04 56.5 +7.9
210nm,0.8s
MYKOM Kota Tinggi 22.96 292 ⇓P P 19 04 58.2 +1.3
MORW Morawa 23.37 200 ⇑P P 19 05 00.3 -0.1
baz=23,SNR=22
KGM Kluang 23.54 292 ⇑P P 19 05 04.3 +2.4
FORT Forrest 23.65 174 *e*P P 19 05 02.1 -0.6
286nm,1.3s
FORT Forrest 23.65 174 ⇓P P 19 05 02.5 -0.2
baz=24,SNR=47
CTA Charters Tower 24.23 124 P P 19 05 08.9 +0.9
CTA PcP **PcP 19 08 30.8 +0.7**
CTA ScP **ScP 19 11 18.1 -0.2**
CTA Charters Tower 24.23 124 P P 19 05 08.9 +0.9
31nm,0.8s,baz=305,slow=12,SNR=17
CTA PcP **PcP 19 08 30.8 +0.7**
21nm,1.0s,baz=185,slow=2.3,SNR=3.8
CTA ScP **ScP 19 11 18.1 -0.2**
42nm,1.0s,baz=273,slow=8.2,SNR=8.4
CTAO Charters Tower 24.23 124 *e*P P 19 05 09.0 +0.9
CTAO pmax pmax
comp=Z,39nm,0.9s
CTAO Charters Tower 24.23 124 *e*P P 19 05 09.0 +0.9
comp=Z,39nm,0.9s
BLDU Ballidu 24.59 197 ⇑P P 19 05 10.8 -0.3
baz=25,SNR=230
SZP Santa 24.99 350 *e*P P 19 05 14.7 -0.1
BKNI Bangkinang 25.09 286 P P 19 05 23.1 +7.3
comp=Z,138nm,0.7s
KTGM Kuala Trenggan 25.16 299 ⇓P P 19 05 18.8 +2.5
FRIM Kepong 25.57 293 ⇓P P 19 05 21.1 +1.1
QLP Quilpie 26.56 139 ⇑P P 19 05 29.4 +0.9
baz=27,SNR=39
MNSI Mandailing Nat 26.62 286 P P 19 05 29.6 +0.3
comp=Z,66nm,0.8s
NWAO Narrogin (SRO) 26.63 195 P P 19 05 29.4 +0.3
NWAO ScP **ScP 19 11 24.8 -0.2**
NWAO Narrogin (SRO) 26.63 195 P P 19 05 29.4 +0.3
comp=Z,94nm,0.5s,baz=21,slow=8.1,SNR=179
NWAO ScP **ScP 19 11 24.8 -0.2**
comp=Z,20nm,0.7s,baz=216,slow=3.9,SNR=4.5
IPM Ipoh 26.63 295 *e*P P 19 05 29.9 +0.5
comp=Z,55nm,1.3s
IPM Ipoh 26.63 295 ⇓P P 19 05 29.8 +0.5
KULM Kulim 27.32 296 *e*P P 19 05 35.6 +0.2
comp=Z,99nm,1.8s
KULM Kulim 27.32 296 ⇑P P 19 05 35.4 0.0
BBOO Buckleboo 27.48 160 *e*P P 19 05 36.8 +0.2
comp=Z,3µm,1.1s
BBOO Buckleboo 27.48 160 ⇓P P 19 05 36.2 -0.3
baz=28,SNR=139
BBOO ⇑S **S 19 09 42.4 +2.7**
baz=28,SNR=6.2
PSI Prapat 27.90 290 P P 19 05 39.9 -0.7
PSI S **S 19 09 46.7 -0.3**
PSI ScP **ScP 19 11 28.4 -1.1**
PSI Prapat 27.90 290 P P 19 05 39.9 -0.7
comp=Z,67nm,1.0s,baz=142,slow=6.1,SNR=41
PSI S **S 19 09 46.7 -0.3**
comp=Z,2.9nm,0.2s,baz=210,slow=23,SNR=6.0
PSI ScP **ScP 19 11 28.4 -1.1**
comp=Z,22nm,1.0s,baz=138,slow=4.7,SNR=11
TSI Tuntungan 28.49 291 P P 19 05 47.3 +1.7
comp=Z,130nm,0.8s
STKA Stephens Creek 29.01 150 *e*P P 19 05 50.7 +0.6
comp=Z,28nm,0.9s
STKA Stephens Creek 29.01 150 P P 19 05 50.6 +0.6
comp=Z,156nm,0.8s,baz=327,slow=8.0,SNR=159
STKA Stephens Creek 29.01 150 ⇓P P 19 05 50.6 +0.6
baz=29,SNR=91
HTT Hallett 29.11 156 P P 19 05 51.9 +1.0
baz=29,SNR=68
KCSI Kotacane, Aceh 29.23 290 P P 19 05 51.6 -0.5
UBPT Khong Chiam 29.57 319 P P 19 05 55.7 +0.7
comp=Z,50nm,1.5s
CHBT CHBT 30.04 311 P P 19 05 59.2 +0.2
comp=Z,171nm,0.9s
QIZ Qiongzhong 30.05 330 P P 19 05 58.5 -0.6
QIZ pmax pmax
comp=Z,24nm,1.2s
QIZ Qiongzhong 30.05 330 *e*P P 19 05 58.5 -0.6
SURT Suratani 30.69 301 P P 19 06 05.6 +0.9
comp=Z,21nm,1.5s
EIDS Eidsvold 30.73 129 *e*P P 19 06 04.4 -0.5
comp=Z,122nm,2.5s
EIDS Eidsvold 30.73 129 ⇓P P 19 06 03.3 -1.6
baz=31,SNR=4.5
CMSA Cobar Meteorol 30.96 144 ⇓P P 19 06 07.6 +0.8
baz=31,SNR=59
CMSA ⇑S **S 19 10 34.3 +0.6**
baz=31,SNR=8.1
SSLB Suanglung 31.04 353 *e*P P 19 06 05.5 -2.1
comp=Z,46nm,0.8s
PATY Pattaya 31.25 310 P P 19 06 10.0 +0.6
comp=Z,11nm,1.1s,comp=Z,852nm
PBKT Sadao Pong 33.53 315 P P 19 06 29.0 +0.2
comp=Z,87nm,0.7s
ARMA Armidale 33.99 136 *e*P P 19 06 34.6 +1.9
comp=Z,26nm,0.8s
ARMA Armidale 33.99 136 ⇑P P 19 06 33.9 +1.3
baz=34,SNR=28
KHLT Khaolaem Dam 34.14 310 P P 19 06 34.6 +0.7
comp=Z,145nm,1.0s
PHIT Phitsanulok 34.34 315 P P 19 06 36.7 +1.1
comp=Z,90nm,0.9s,comp=Z,934nm
YNG Young 34.52 145 ⇓P P 19 06 38.2 +1.2
baz=35,SNR=42
YNG S **S 19 11 30.1 +2.2**
baz=35,SNR=6.1
HNR Honiara 34.59 96 P P 19 06 37.9 +0.1
HNR Honiara 34.59 96 P P 19 06 37.9 +0.1
comp=Z,438nm,0.8s,baz=234,slow=2.9,SNR=25
UTTA Uttaradit 34.62 316 P P 19 06 38.4 +0.4
comp=Z,23nm,0.9s,comp=Z,183nm
SUKH Sukhothai 35.09 315 P P 19 06 42.7 +0.8
comp=Z,23nm,1.0s,comp=Z,178nm
SLVN Son La 35.13 324 *e*P P 19 06 43.0 +0.8
MGCD Mangrove Creek 35.41 141 ⇑P P 19 06 46.4 +2.1
baz=36,SNR=6.2
TOO Toolangi 35.49 151 ⇑P P 19 06 46.8 +1.8
baz=36,SNR=37
CAN Canberra 35.60 145 *e*P P 19 06 47.5 +1.5
CAN pmax pmax
comp=Z,82nm,0.8s
CAN Canberra 35.60 145 *e*P P 19 06 47.5 +1.5
comp=Z,82nm,0.8s
LAMP Lampang 35.79 316 P P 19 06 48.7 +1.0
comp=Z,18nm,1.0s,comp=Z,168nm
CNB Canberra Magne 35.81 145 ⇑P P 19 06 49.0 +1.3
baz=36,SNR=22
CM31 Chiang Mai Arr 36.23 315 *e*P P 19 06 52.2 +0.9
comp=Z,32nm,0.9s
CMAR Chiang Mai Arr 36.23 315 P P 19 06 52.0 +0.6
CMAR PcP **PcP 19 09 03.4 +1.3**
CMAR ScP **ScP 19 11 59.0 +1.2**
CMAR Chiang Mai Arr 36.23 315 P P 19 06 52.0 +0.6
comp=Z,25nm,0.8s,baz=145,slow=6.5,SNR=161
CMAR PcP **PcP 19 09 03.4 +1.3**
comp=Z,15nm,0.8s,baz=167,slow=2.6,SNR=26
CMAR ScP **ScP 19 11 59.0 +1.2**
comp=Z,8.8nm,0.9s,baz=161,slow=3.3,SNR=15
CHTO Chiang Mai 36.47 315 *e*P P 19 06 53.8 +0.5
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 36.47 315 P P 19 06 53.6 +0.3
comp=Z,258nm,1.2s
CHTO Chiang Mai 36.47 315 *e*P P 19 06 53.8 +0.5
comp=Z,12nm,1.0s
MHMT Maesariang 36.76 314 P P 19 06 56.4 +0.7
comp=Z,11nm,1.4s
CMAI Chiengmai2 37.16 317 P P 19 06 59.4 +0.2
comp=Z,25nm,1.2s
CBIJ Chichi jima 37.90 25 P P 19 07 04.4 -0.5
JCJ Chichijima 37.90 25 P P 19 07 04.4 -0.5
comp=Z,232nm,0.8s,baz=256,slow=21,SNR=6.7
GYA Guiyang 37.90 333 P P 19 07 07.3 +2.2
GYA pP **pP 19 08 41.5 +3.0**
GYA PP **PP 19 08 50.0 +1.1**
GYA sP **sP 19 09 39.8 +0.3**
GYA ScP **ScP 19 12 05.5 +1.4**
GYA S **S 19 12 22.3 +3.7**
GYA sS **sS 19 15 10.0 -0.2**
GYA ScS **ScS 19 16 16.3 +0.8**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.2s
KMI Kunming 38.77 327 ⇓P P 19 07 13.8 +1.6
KMI pP **pP 19 08 49.3 +3.1**
KMI PP **PP 19 08 59.0 +0.8**
KMI PcP **PcP 19 09 12.0 +1.8**
KMI S **S 19 12 34.8 +3.2**
KMI sS **sS 19 15 22.3 -1.6**
KMI SS **SS 19 15 46.5 -5.8**
KMI pmax pmax
comp=Z,53nm,1.0s
KMI pmax pmax
comp=Z,4µm,9.8s
WHN Wuhan 38.89 345 ⇓*i*P P 19 07 13.5 +0.7
WHN pmax pmax
comp=Z,200nm,0.9s
NJ2 Nanjing 39.46 352 *e*P P 19 07 18.0 +0.6
NJ2 pmax pmax
comp=Z,90nm,0.9s
LHI Lord Howe Isla 39.91 132 ⇑P P 19 07 22.0 +0.9
baz=40,SNR=5.6
ENH Enshi 40.12 339 *e*P P 19 07 22.7 -0.2
comp=Z,94nm,0.8s
MOO Moorlands 40.20 154 ⇓P P 19 07 25.6 +2.4
baz=40,SNR=4.2
JNU Nakatsue 40.46 8 *e*P P 19 07 25.6 +0.2
comp=Z,97nm,1.9s
JNU Nakatsue 40.46 8 P P 19 07 25.4 -0.1
comp=Z,36nm,0.9s,baz=272,slow=4.3,SNR=9.9
TAU Tasmania Unive 40.63 155 P P 19 07 28.3 +1.6
comp=Z,250nm,0.9s,SNR=5.6
TAU Tasmania Unive 40.63 155 *e*P P 19 07 28.5 +1.8
TAU pmax pmax
comp=Z,47nm,1.0s
TAU Tasmania Unive 40.63 155 *e*P P 19 07 28.4 +1.8
comp=Z,47nm,1.0s
DZM Mont Dzumac 42.53 115 *e*P P 19 07 42.6 +0.4
comp=Z,109nm,1.1s
DZM Mont Dzumac 42.53 115 P P 19 07 43.1 +0.9
DZM Mont Dzumac 42.53 115 P P 19 07 43.1 +0.9
comp=Z,39nm,0.9s,baz=237,slow=5.7,SNR=14
CD2 Chengdu 43.02 333 ⇓*i*P P 19 07 45.8 +0.1
CD2 pP **PcP 19 09 24.3 +0.4**
CD2 S S 19 13 38.8 +6.2
CD2 sS **sS 19 16 30.0 +1.5**
CD2 ScS **ScS 19 16 44.3 -2.1**
CD2 pmax pmax
comp=Z,190nm,0.8s
XAN Xi'an 43.75 341 P P 19 07 50.5 -0.9
XAN pP **PcP 19 09 27.0 +0.6**
XAN PP **PP 19 09 44.3 -0.1**
XAN S **S 19 13 41.3 -1.7**
XAN pmax pmax
comp=Z,43nm,0.8s
XAN pmax pmax
comp=Z,2µm,12.6s
KSAR Wonju Array Be 44.47 3 P P 19 07 57.5 +0.7
KSAR PcP **PcP 19 09 29.4 +0.7**
KSRS Korea Array 44.48 3 P P 19 07 57.5 +0.6
comp=Z,17nm,0.7s,baz=180,slow=9.9,SNR=54
KSRS PcP **PcP 19 09 29.4 +0.7**
comp=Z,12nm,0.7s,baz=185,slow=2.2,SNR=18
MJAR Matsushiro Arr 45.21 15 P P 19 08 01.9 -0.7
MJAR PcP **PcP 19 09 31.7 +0.4**
MJAR ScP **ScP 19 12 31.6 -1.5**
MJAR Matsushiro Arr 45.21 15 P P 19 08 01.9 -0.7
comp=Z,29nm,0.8s,baz=192,slow=9.7,SNR=61
MJAR PcP **PcP 19 09 31.7 +0.4**
comp=Z,7.9nm,0.8s,baz=206,slow=5.3,SNR=6.6
MJAR ScP **ScP 19 12 31.6 -1.5**
comp=Z,5.6nm,1.1s,baz=196,slow=5.6,SNR=5.8
MAJO Matsushiro 45.21 15 *e*P P 19 08 01.9 -0.6
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MAJO Matsushiro 45.21 15 *e*P P 19 08 01.9 -0.6
comp=Z,5.5nm,0.8s
MAT Matsushiro 45.21 15 P P 19 08 01.6 -1.0
SHL Shillong 45.82 316 *e*P P 19 08 07.3 -0.3
PALK Pallekele 46.51 287 *e*P P 19 08 13.1 +0.2
comp=Z,142nm,1.0s
PALK Pallekele 46.51 287 ⇑P P 19 08 12.7 -0.1
LZH Lanzhou 47.43 337 ⇓P P 19 08 20.5 +0.9
LZH PcP **PcP 19 09 41.0 +1.5**
LZH pP **pP 19 09 58.0 -0.9**
LZH sP **sP 19 10 57.0 -1.2**
LZH S **S 19 14 34.0 -0.7**
LZH pmax pmax
comp=Z,190nm,0.8s
LZH pmax pmax
comp=Z,520nm,6.1s
BJT Baijiatuan 47.67 351 *e*P P 19 08 21.0 -0.1
comp=Z,23nm,0.7s
BJI Beijing 47.70 351 P P 19 08 20.8 -0.4
BJI pmax pmax
comp=Z,52nm,1.4s
VIS Vishakhapatnam 48.06 301 *e*P P 19 08 24.5 +0.1
BOK Bokaro 49.09 310 *e*P P 19 08 31.5 -0.5
ODAN Odare 49.77 314 *e*P P 19 08 37.6 +0.4
comp=Z,236nm,0.7s
TAPN Taplejung 49.84 315 *e*P P 19 08 38.0 +0.2
comp=Z,222nm,0.9s
RAMN Ramite 50.38 314 *e*P P 19 08 42.5 +0.8
comp=Z,611nm,0.8s
TRD Trivandrum 50.41 287⇑*e*P P 19 08 41.0 -0.8
TRD *e*P P 19 08 42.0 +0.2
VLA Vladivostok 50.45 6⇓*e*P P 19 08 41.9 +0.4
VLA pmax pmax
comp=Z,82nm,1.3s
CN2 Changchun 50.74 0 *e*P P 19 08 43.0 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
JIRN Jiri 51.10 314 *e*P P 19 08 47.5 +0.4
comp=Z,242nm,0.8s
GUN Gumba 51.47 314 *e*P P 19 08 50.1 +0.4
comp=Z,393nm,0.7s
USRK Ussuriysk Arra 51.52 6 P P 19 08 49.6 +0.3
comp=Z,35nm,0.7s,baz=189,slow=6.4,SNR=90
PKI Pulchoki 51.60 314 *e*P P 19 08 50.9 +0.2
comp=Z,165nm,0.7s
PKIN Phulchoki 51.62 314 *e*P P 19 08 50.8 +0.1
comp=Z,37nm,0.4s
ERM Erimo 51.68 17⇓*e*P P 19 08 51.2 +0.7
ERM pmax pmax
comp=Z,91nm,1.1s
MDJ Mudanjiang 51.72 4 *e*P P 19 08 50.9 +0.1
comp=Z,110nm,0.8s
KKN Kakani 51.83 314 *e*P P 19 08 52.3 +0.1
comp=Z,264nm,1.0s
DMN Daman 51.84 314 *e*P P 19 08 52.7 +0.4
comp=Z,293nm,0.9s
GTA Gaotai 51.92 335 ⇓P P 19 08 53.0 +0.5
GTA pP **pP 19 10 31.3 -3.1**
GTA sP sP 19 11 26.0 -6.9
GTA ScP **ScP 19 13 03.5 +1.7**
GTA S **S 19 15 36.3 +0.8**
GTA SS **SS 19 19 25.5 +3.1**
GTA pmax pmax
comp=Z,89nm,1.0s
GTA pmax pmax
comp=Z,990nm,5.9s
HYB Hyderabad 52.04 299 *i*P P 19 08 52.0 -1.6
HYB *e*PcP **PcP 19 09 57.0 +0.1**
HYB Hyderabad 52.04 299 *e*P P 19 08 52.8 -0.8
GKN Gorkha 52.41 314 *e*P P 19 08 56.4 +0.1
comp=Z,339nm,0.8s
KOLN Koldanda 53.03 313 *e*P P 19 09 01.1 +0.3
comp=Z,644nm,0.8s
DANN Dangsing 53.24 313 *e*P P 19 09 02.7 +0.3
comp=Z,391nm,0.8s
WHZ Wether Hill Ro 53.38 144 *e*P P 19 09 03.5 +0.8
ASAJ Asahikawa 53.47 16 *e*P P 19 09 04.1 +0.8
comp=Z,89nm,1.7s
ASAJ Asahikawa 53.47 16 P P 19 09 04.0 +0.8
comp=Z,34nm,0.9s,baz=219,slow=9.0,SNR=22
RPZ Rata Peaks 54.18 140 *e*P P 19 09 09.5 +1.1
comp=Z,97nm,1.0s
BHPL Bhopal 55.50 304 *e*P P 19 09 16.4 -1.6
GOA Goa 55.52 294 *e*P P 19 09 18.5 +0.3
BKZ Black Stump Fm 56.02 133 *e*P P 19 09 21.4 0.0
comp=Z,80nm,1.4s
HABR Khabarovsk 56.11 8 *e*P P 19 09 20.0 -1.7
HABR *e* 19 10 10.5
HABR *e*PP **pP 19 11 02.9 -3.0**
HABR *e*S **S 19 16 28.3 -1.6**
HABR *e* 19 18 14.0
HABR *e*SS **SS 19 20 26.6 -1.1**
HABR pmax pmax
comp=Z,131nm,1.8s
HABR MLR MLR
comp=Z,534nm,17.0s
YSS Yuzh-Sakhalins 56.15 15⇑*i*P P 19 09 22.5 +0.6
YSS pmax pmax
comp=Z,60nm,0.9s
YSS Yuzh-Sakhalins 56.15 15 *e*P P 19 09 15.6 -6.3
comp=Z,51nm,0.8s
URZ Urewera 56.16 132 *e*P P 19 09 22.5 +0.2
comp=Z,37nm,0.9s
HIA Hailar 56.40 356 *e*P P 19 09 24.5 +0.8
comp=Z,160nm,1.5s
KLR Kul'dur 56.48 5 *e*P P 19 09 20.2 -4.0
KLR pmax pmax
comp=Z,56nm,1.8s
POO Poona 56.59 298 *e*P P 19 09 24.0 -1.6
POO *e*P P 19 09 24.9 -0.7
ULN Ulaanbaatar 57.07 346 *e*P P 19 09 28.7 +0.2
comp=Z,46nm,0.9s
SONM Songino Array 57.20 345 P P 19 09 29.8 +0.4
SONM PcP **PcP 19 10 16.3 -0.1**
SONM Songino Array 57.20 345 P P 19 09 29.8 +0.4
comp=Z,24nm,0.8s,baz=160,slow=8.4,SNR=143
SONM PcP **PcP 19 10 16.3 -0.1**
comp=Z,9.9nm,0.8s,baz=161,slow=5.5,SNR=5.0
NDI New Delhi 58.27 310⇓*i*x P 19 09 33.5 -3.4
DDI Dehra Dun 58.48 312 *e*P P 19 09 37.2 -1.1
DDI AMB AMB 19 09 38.8
comp=Z,104nm,0.7s
SMLA Simla 59.55 312 *e*P P 19 09 45.6 +0.2
SMLA AMB AMB 19 09 46.6
comp=Z,236nm,0.9s
CIT Chita 59.79 352 *e*P P 19 09 46.7 +0.1
CIT *e* 19 10 25.4
CASY Casey 59.86 187 *e*P P 19 09 46.8 0.0
comp=Z,66nm,1.0s
ZAK Zakamensk 60.36 344⇑*i*P P 19 09 50.2 -0.3
ZAK *e* 19 12 38.6
ZAK pmax pmax
comp=Z,17nm,1.5s
DHRM DHARAMSHALA 60.77 313 *e*P P 19 09 53.4 -0.3
DHRM AMB AMB 19 09 54.3
comp=Z,155nm,0.7s
WMQ Urumqi 60.97 330 P P 19 09 56.5 +1.8
WMQ PcP **PcP 19 10 33.5 +1.9**
WMQ pP **pP 19 11 45.3 +3.9**
WMQ PP **PP 19 12 21.8 +3.9**
WMQ sP **sP 19 12 41.5 +3.0**
WMQ ScP **ScP 19 13 42.8 +1.2**
WMQ PcS **PcS 19 14 35.3 +0.3**
WMQ pmax pmax
comp=Z,78nm,0.9s
TLY Talaya 61.45 345 P P 19 09 58.0 +0.5
comp=Z,106nm,0.8s,SNR=6.9
TLY Talaya 61.45 345 *e*P P 19 09 58.5 +1.0
TLY *e* 19 10 34.0
TLY pmax pmax
comp=Z,36nm,1.5s
TLY Talaya 61.45 345 *e*P P 19 09 58.3 +0.8
comp=Z,107nm,1.9s
IRK Irkutsk 61.80 346 *e*P P 19 10 00.0 +0.2
IRK pmax pmax
comp=Z,82nm,1.4s
MOY Mondy 62.15 343 *e*P P 19 10 02.8 +0.5
MOY pmax pmax
comp=Z,73nm,1.6s
SKR Severo-Kuril's 63.58 22 *e*P P 19 10 06.4 -4.9
KSH Kashi 64.91 320⇓*i*P P 19 10 20.8 +0.6
KSH *e*PcP **PcP 19 10 50.8 +2.8**
KSH *e*PP **PP 19 12 51.3 -1.0**
KSH pmax pmax
comp=Z,39nm,0.8s
KSH pmax pmax
comp=Z,330nm,4.1s
MK31 Makanchi Array 65.78 329 *e*P P 19 10 25.2 -0.2
MK31 Makanchi Array 65.78 329 *e*P P 19 10 25.2 -0.2
MKAR Makanchi Array 65.78 329 P P 19 10 25.9 +0.5
MKAR Makanchi Array 65.78 329 P P 19 10 25.9 +0.5
MKAR Makanchi Array 65.78 329 P P 19 10 25.9 +0.5
comp=Z,64nm,0.8s,baz=132,slow=8.5,SNR=415
PEA0B Petropavlovsk- 66.13 21 *e*P P 19 10 28.6 +1.2
PETK Petropavlovsk- 66.13 21 P P 19 10 28.3 +0.9
PETK Petropavlovsk- 66.13 21 P P 19 10 28.3 +0.9
PETK Petropavlovsk- 66.13 21 P P 19 10 28.3 +0.9
comp=Z,48nm,0.8s,baz=200,slow=4.6,SNR=92
ULHL Ulahol 66.30 322 *i*P P 19 10 29.2 +0.3
ULHL Ulahol 66.30 322 P P 19 10 29.2 +0.3
SNR=10
PET Petropavlovsk 66.40 21⇑*i*P P 19 10 30.0 +1.0
PET pmax pmax
comp=Z,89nm,1.3s
PET Petropavlovsk 66.40 21 *e*P P 19 10 29.8 +0.8
comp=Z,164nm,1.4s
KZA Kyzart 66.81 322 *i*P P 19 10 33.2 +0.9
KZA Kyzart 66.81 322 P P 19 10 33.3 +0.9
SNR=38
TKM2 Tokmak 2 67.07 323 *i*P P 19 10 34.0 +0.3
TKM2 Tokmak 2 67.07 323 P P 19 10 34.0 +0.3

SNR=30
TKM2 Tokmak 2 67.07 323 *e*P **P** **19 10 33.3 -0.4**
comp=Z,27nm,0.8s
KBL Kabul 67.18 312 *e*P **P** **19 10 34.7 +0.2**
KBL pmax pmax
comp=Z,80nm,0.8s
KBL Kabul 67.18 312 *e*P **P** **19 10 34.7 +0.2**
comp=Z,80nm,0.8s
KBK Karagaybulak 67.32 322 P **P** **19 10 36.1 +0.9**
SNR=25
UCH Uchtor 67.34 322 *i* P **P** **19 10 36.5 +0.8**
UCH Uchtor 67.34 322 P **P** **19 10 36.5 +0.8**
SNR=33
AAK Ala-Archa 67.58 322 P **P** **19 10 37.6 +0.8**
comp=Z,383nm,0.7s,SNR=41
AAK Ala-Archa 67.58 322 *i* P **P** **19 10 37.6 +0.8**
AAK Ala-Archa 67.58 322 P **P** **19 10 37.7 +0.8**
SNR=54
AAK Ala-Archa 67.58 322 *e*P **P** **19 10 37.5 +0.8**
comp=Z,45nm,0.7s
AAK Ala-Archa 67.58 322 P **P** **19 10 37.7 +0.8**
comp=Z,37nm,0.7s,baz=120,slow=4.9,SNR=156
FRU Bishkek 67.62 322 *i* P **P** **19 10 37.0 +0.2**
FRU pmax pmax
comp=Z,60nm,2.0s
CHMS Chumysh 67.63 322 *i* P **P** **19 10 37.2 +0.3**
CHMS Chumysh 67.63 322 P **P** **19 10 37.2 +0.3**
SNR=13
AML Almayashu 67.80 321 P **P** **19 10 39.3 +0.9**
SNR=61
USP Ospenovka 67.93 323 *i* P **P** **19 10 39.2 +0.5**
USP Ospenovka 67.93 323 P **P** **19 10 39.2 +0.5**
SNR=42
EKS2 Erkin-Say 68.04 322 *i* P **P** **19 10 40.2 +0.7**
EKS2 Erkin-Say 68.04 322 P **P** **19 10 40.3 +0.7**
SNR=42
EKS2 Erkin-Say 68.04 322 *e*P **P** **19 10 40.3 +0.8**
comp=Z,35nm,0.9s
YAK Yakutsk 69.10 2 *e*P **P** **19 10 44.5 -0.8**
YAK *e* 19 11 05.1
YAK *e**PP **pP** **19 12 33.4 -2.3**
YAK *e*S **S** **19 19 06.4 -1.5**
YAK *e* 19 19 52.1
YAK *e*SS **SS** **19 23 45.5 -2.8**
YAK pmax pmax
comp=Z,114nm,0.8s
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK smax smax
comp=N,3µm,12.4s
YAK smax smax
comp=E,4µm,14.1s
YAK Yakutsk 69.10 2 *e*P **P** **19 10 45.1 -0.2**
comp=E,195nm,0.7s
ZAA0 Zalesovo Array 69.66 336 *e*P **P** **19 10 48.1 -0.7**
ZALV Zalesovo Beam 69.66 336 P **P** **19 10 48.4 -0.4**
ZALV 19 11 05.5
ZALV Zalesovo Beam 69.66 336 P **P** **19 10 48.4 -0.4**
ZALV PcP **PcP** **19 11 05.5 -2.0**
ZALV ⇑*e* 19 38 50.0
ZALV Zalesovo Beam 69.66 336 P **P** **19 10 48.4 -0.4**
comp=E,92nm,0.8s,baz=127,slow=4.5,SNR=318
ZALV PcP **PcP** **19 11 05.5 -2.0**
comp=E,6.1nm,0.7s,baz=330,slow=5.6,SNR=5.0
ZALV PKP2bc 19 38 50.0
comp=E,0.5nm,0.6s,baz=352,slow=3.1,SNR=3.9
KURBB Kurchatov Arra 70.17 331 P **P** **19 10 52.1 +0.1**
comp=E,59nm,0.7s,baz=138,slow=5.0,SNR=408
KURK Kurchatov 70.19 331 P **P** **19 10 52.4 +0.3**
comp=E,546nm,0.7s,SNR=76
KURK Kurchatov 70.19 331 *e*P **P** **19 10 52.1 0.0**
KURK pmax pmax
comp=Z,72nm,0.8s
KURK Kurchatov 70.19 331 *e*P **P** **19 10 52.1 0.0**
comp=Z,72nm,0.8s
KKAR Karatay Array 70.30 321 *e*P **P** **19 10 53.2 +0.2**
KKAR Karatay Array 70.30 321 *e*P **P** **19 10 53.2 +0.2**
NVS Novosibirsk 70.95 336 ⇓*i*P **P** **19 10 54.8 -1.6**
NVS *e*S **S** **19 19 26.2 -3.1**
NVS pmax pmax
comp=Z,141nm,1.2s
NVS pmax pmax
comp=N,91nm,1.5s
NVS pmax pmax
comp=E,75nm,1.4s
NVS smax smax
comp=E,56nm,1.8s
FX1 Attu Island--F 72.38 28 *e*P **P** **19 11 06.1 +1.2**
VNDA Vanda 72.90 172 *e*P **P** **19 11 08.0 +0.6**
comp=E,8.1nm,0.9s
VNDA Vanda 72.90 172 P **P** **19 11 07.9 +0.5**
comp=E,7.2nm,0.5s,baz=321,slow=9.0,SNR=55
IDAH Dahanechah 73.49 307 *e*P **P** **19 11 12.8 +0.7**
IKOO Kooshah 74.07 307 *e*P **P** **19 11 15.2 -0.1**
HATD Hatta, Dubai 74.19 298 ⇓*i*P **P** **19 11 16.3 +0.5**
SNR=6.1
IMYA Miami 74.58 311 *e*P **P** **19 11 17.7 -0.3**
FAQ Al Faqa, Dubai 74.64 298 *i* P **P** **19 11 18.7 +0.4**
SNR=11
ISRO Mashad 75.04 310 *e*P **P** **19 11 19.4 -1.1**
IMOQ Moghan 75.07 310 *e*P **P** **19 11 21.3 +0.4**
VOSK Vostochnaya 75.19 329 *e*P **P** **19 11 20.5 -0.4**
VOSK pmax pmax
comp=Z,111nm,0.6s
VOSK Vostochnaya 75.19 329 *e*P **P** **19 11 20.5 -0.4**
comp=Z,111nm,0.6s
BVAR Borovoye Array 75.66 329 P **P** **19 11 23.8 +0.3**
BVAR Borovoye Array 75.66 329 P **P** **19 11 23.8 +0.3**
BVAR Borovoye Array 75.66 329 P **P** **19 11 23.8 +0.3**
comp=Z,54nm,0.8s,baz=142,slow=7.5,SNR=174
BRVK Borovoye 75.73 329 P **P** **19 11 24.2 +0.4**
comp=Z,594nm,1.0s,SNR=32
BRVK Borovoye 75.73 329 *d*i*P* **P** **19 11 24.4 +0.6**
BRVK pmax pmax
comp=Z,135nm,1.2s
BRVK Borovoye 75.73 329 *e*P **P** **19 11 23.3 -0.5**
comp=Z,105nm,1.0s
IKRD Kardeh 75.93 311 *e*P P 19 11 22.4 -3.3
IBAF Bafgh 76.58 305 *e*P **P** **19 11 28.4 -0.8**
ABKT Ailbek 76.62 312 P **P** **19 11 29.6 +0.5**
comp=Z,476nm,0.8s,SNR=21
ISHV Shirvan 76.80 311 *e*P **P** **19 11 31.2 +0.9**
IMEH Mehriz 77.31 304 *e*P **P** **19 11 32.1 -1.2**
ICHK Chekchek 77.72 305 *e*P **P** **19 11 34.4 -1.1**
ISRV Sarvestan 78.03 302 *e*P **P** **19 11 36.2 -0.9**
IPAR Pars 78.18 302 *e*P **P** **19 11 36.6 -1.5**
ISAD Sadrabad 78.21 305 *e*P **P** **19 11 36.3 -1.9**
TIXI Tiksi 78.71 1 ⇓*e*P **P** **19 11 40.1 +0.5**
TIXI pmax pmax
comp=Z,104nm,1.1s
TIXI Tiksi 78.71 1 *e*P **P** **19 11 38.6 -1.0**
comp=Z,62nm,0.8s
IZEF Zefreh 79.58 305 *e*P **P** **19 11 42.4 -3.1**
ABKAR Akbulak array 79.64 323 *e*P **P** **19 11 45.0 0.0**
IFIR Firoozkooh 80.00 308 *e*P **P** **19 11 46.4 -1.1**
IKLH Kolahrood 80.30 305 *e*P **P** **19 11 48.9 -0.3**
BILL Bilibino 80.46 15 *d*i*P* **P** **19 11 48.8 -0.1**
BILL *i* 19 14 58.9
BILL pmax pmax
comp=Z,35nm,2.1s
BILL Bilibino 80.46 15 *e*P **P** **19 11 49.0 +0.1**
comp=Z,46nm,1.7s
QAM Ghamsar 80.53 306 *e*P **P** **19 11 51.2 +0.9**
IDMV Damavand 80.54 308 *e*P **P** **19 11 49.4 -1.1**
IPIR Pirpir 80.70 305 *e*P **P** **19 11 50.0 -1.3**
AKTO Aktyubinsk 81.25 323 P **P** **19 11 53.7 +0.3**
AKTO Aktyubinsk 81.25 323 P **P** **19 11 53.7 +0.3**
AKTO Aktyubinsk 81.25 323 P **P** **19 11 53.7 +0.3**
comp=Z,54nm,0.7s,baz=108,slow=6.8,SNR=156
SYO Syowa Base 81.71 201 ⇑*eX* **P** **19 11 54.2 -1.2**
SYO Syowa Base 81.71 201 ⇑*e*PcP **PcP** **19 12 00.5 +1.0**
IRAZ Razeghan 82.16 307 *e*P **P** **19 11 57.7 -1.0**
SVE Sverdlovsk 82.42 330 ⇑*e*P **P** **19 11 59.4 +0.2**
SVE pmax pmax
comp=Z,115nm,1.5s
QSPA South Pole Qui 82.80 180 *e*P **P** **19 12 01.6 +0.5**
comp=Z,9.0nm,0.8s
TBI Tubuai 83.07 113 *e*P **P** **19 12 04.9 +1.7**
comp=Z,128nm,0.9s
ARU Arti 83.30 329 P **P** **19 12 03.8 +0.2**
comp=Z,319nm,0.9s,SNR=15
ARU Arti 83.30 329 *d*i*P* **P** **19 12 03.3 -0.3**
ARU 19 15 20.0
ARU S S 19 21 33.4 -6.4
ARU pmax pmax
comp=Z,141nm,1.7s
ARU Arti 83.30 329 *e*P **P** **19 12 03.5 -0.2**
comp=Z,94nm,1.2s
RAYN Ar Rayn 83.34 295 *e*P **P** **19 12 03.7 -0.9**
comp=Z,144nm,1.0s
TIAR Tiarei 83.69 107 *e*P **P** **19 12 08.6 +2.1**
comp=Z,12nm,1.2s
TVO Taravao 83.76 107 *e*P **P** **19 12 09.0 +2.1**
comp=Z,23nm,1.2s
ISRB Sarab 84.50 309 *e*P **P** **19 12 09.8 -0.5**
IGHG Ghaleghazi 84.59 305 *e*P **P** **19 12 09.1 -1.8**
IDHR Dehrash 84.82 306 *e*P **P** **19 12 09.7 -2.2**
MEH Mehetia 84.88 107 *e*P **P** **19 12 13.9 +1.6**
comp=Z,26nm,1.2s
GAMB Gambell 85.00 23 *e*P **P** **19 12 12.4 +0.7**
comp=Z,15nm,0.9s
IHRS Heris 85.10 309 *e*P **P** **19 12 11.9 -1.3**
PMOR Pomariorio Ree 85.34 104 *e*P **P** **19 12 16.6 +2.1**
comp=Z,81nm,1.0s
SOKR Solikamsk 85.41 332 ⇑*i*P **P** **19 12 13.3 -0.5**
SOKR pmax pmax
comp=Z,100nm,1.5s
VAH Vaihoa 85.57 105 *e*P **P** **19 12 17.6 +2.0**
comp=Z,48nm,1.3s
ITBZ Tabriz 85.77 309 *e*P **P** **19 12 14.7 -1.6**
IAZR Azarshahr 85.78 309 *e*P **P** **19 12 16.0 -0.5**
IMRD Marand 86.21 310 *e*P **P** **19 12 18.3 -0.1**
DGRG David-gareji 87.03 312 P **P** **19 12 24.2 +2.1**
TNA Tin City 87.23 23 *e*P **P** **19 12 22.3 0.0**
comp=Z,29nm,1.4s
TBLG Delisi 87.56 312 P **P** **19 12 25.6 +1.0**
KMBO Kilima Mbogo 87.68 269 *e*P **P** **19 12 27.1 +1.1**
comp=Z,32nm,1.5s
KMBO Kilima Mbogo 87.68 269 P **P** **19 12 26.8 +0.8**
comp=Z,6.0nm,1.0s,baz=80,slow=7.5,SNR=9.4
ZEI Tsey 88.38 313 *e*P **P** **19 12 26.4 -2.2**
ZEI pmax pmax
comp=Z,44nm,1.3s
AKH Akhalkalaki 88.41 312 P **P** **19 12 29.9 +1.2**
ONI Oni 88.67 313 P **P** **19 12 31.0 +1.3**
NCK Nalchik 88.73 314 ⇑*e*P **P** **19 12 30.7 +0.7**
KBZ Khabaz 89.28 314 P **P** **19 12 32.6 +0.2**
KBZ Khabaz 89.28 314 P **P** **19 12 32.6 +0.2**
KBZ Khabaz 89.28 314 P **P** **19 12 32.6 +0.2**
comp=Z,8.9nm,0.9s,baz=88,slow=2.9,SNR=14
KIV Kislovodsk 89.47 314 *e*P **P** **19 12 33.7 +0.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 89.47 314 *e*P **P** **19 12 35.0 +1.5**
comp=Z,32nm,1.6s
CHVG Ch'k'valeri 89.68 313 P **P** **19 12 35.9 +1.5**
PRGR Permogore 91.27 332 P **P** **19 12 38.9 -2.3**
PRGR pmax pmax
comp=Z,28nm,1.1s
VRHR Novokhopersk 91.42 321 *e*P **P** **19 12 40.7 -1.4**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
ASF Jabal al Asfar 92.22 302 P **P** **19 12 46.7 +0.3**
ASF Jabal al Asfar 92.22 302 P **P** **19 12 46.7 +0.3**
comp=Z,4.9nm,0.8s,baz=95,slow=1.7,SNR=7.2
RSO Redoubt South 92.35 29 *e*P **P** **19 12 46.8 +0.3**
VORD Divnogorie 92.86 321 *e*P **P** **19 12 46.8 -1.9**
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.8s
VSR Storozhevoye 92.97 321 *e*P **P** **19 12 47.5 -1.8**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,30nm,1.0s
MMAI Mount Meron Ar 93.57 303 P **P** **19 12 52.4 -0.1**
MMAI Mount Meron Ar 93.57 303 P **P** **19 12 52.4 -0.1**
comp=Z,7.2nm,0.9s,baz=86,slow=11,SNR=5.0
KTH Kantishna Hill 93.71 27 *e*P **P** **19 12 52.0 -0.5**
comp=Z,26nm,1.3s
RC01 Rabbit Creek A 93.91 29 *e*P **P** **19 12 52.5 -0.9**
comp=Z,19nm,0.6s
KLMR Klimovskoe 94.04 331 *e*P P 19 12 50.2 -3.7
KLMR pmax pmax
comp=Z,45nm,1.4s
SNAA Sanae 94.30 195 *e*P **P** **19 12 56.2 +1.1**
comp=Z,15nm,1.4s
COLD Coldfoot 94.53 23 *e*P **P** **19 12 56.5 +0.4**
comp=Z,15nm,0.9s
MCK McKinley 94.62 26 *e*P **P** **19 12 55.1 -1.5**
MCK pmax pmax
comp=Z,62nm,1.6s
MCK McKinley 94.62 26 *e*P **P** **19 12 55.1 -1.5**
comp=Z,62nm,1.6s
LSZ Lusaka 94.70 254 *e*P **P** **19 12 58.5 +0.3**
comp=Z,4.9nm,0.9s
OBN Obninsk 94.97 325 ⇓*i*P **P** **19 12 57.3 -0.9**
OBN *i* 19 17 02.2
OBN pmax pmax
comp=Z,26nm,1.4s
OBN Obninsk 94.97 325 *e*P **P** **19 12 57.8 -0.4**
OBN Obninsk 94.97 325 P **P** **19 12 57.0 -1.2**
comp=Z,6.3nm,0.3s,baz=37,slow=14,SNR=4.7
BOSA Boshof 95.12 240 P **P** **19 12 59.6 -0.2**
BOSA Boshof 95.12 240 P **P** **19 12 59.6 -0.2**
comp=Z,6.5nm,0.8s,baz=109,slow=5.3,SNR=9.0
ILAR Eielson Array 95.61 25 P **P** **19 12 58.8 -2.2**
ILAR PP **PP** **19 17 00.1 -1.3**
ILAR PKiKP **PKiKP** **19 17 36.4 -0.9**
ILAR PKKPbc **PKKPdf** **19 29 49.7 -1.7**
ILAR Eielson Array 95.61 25 P **P** **19 12 58.8 -2.2**
comp=Z,5.9nm,0.9s,baz=250,slow=4.0,SNR=42
ILAR PP **PP** **19 17 00.1 -1.3**
comp=Z,1.7nm,1.0s,baz=266,slow=7.4,SNR=5.1
ILAR PKiKP **PKiKP** **19 17 36.4 -0.9**
comp=Z,0.6nm,0.9s,baz=249,slow=3.4,SNR=4.4
ILAR PKKPbc **PKKPdf** **19 29 49.7 -1.7**
comp=Z,0.8nm,0.9s,baz=37,slow=1.4,SNR=4.9
BRTR Keskin Array B 95.62 309 P **P** **19 13 00.8 -1.0**
BRTR PP **PP** **19 16 58.8 -3.5**
BRTR Keskin Array B 95.62 309 P **P** **19 13 00.8 -1.0**
comp=Z,5.8nm,0.8s,baz=128,slow=5.7,SNR=23
BRTR PP **PP** **19 16 58.8 -3.5**
comp=Z,2.1nm,0.9s,baz=126,slow=6.3,SNR=5.5
DIV Divide 95.83 29 *e*P **P** **19 13 02.5 +0.3**
comp=Z,14nm,0.8s
PAX Paxson 96.10 27 *e*P **P** **19 13 03.0 -0.4**
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 96.10 27 *e*P **P** **19 13 03.0 -0.4**
comp=Z,7.3nm,0.8s
DOT Dot Lake 96.77 27 *e*P **P** **19 13 05.9 -0.4**
comp=Z,7.9nm,0.7s
EGAK Eagle 98.06 26 *e*Pdif Pdif 19 13 11.7 -0.3
comp=Z,16nm,1.3s
AKASG Malin Array Be 99.20 320 *i* P **Pdif** **19 13 16.5 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 99.20 320 P **Pdif** **19 13 16.5 -0.8**
AKASG PP **PP** **19 17 25.2 -3.5**
AKASG Malin Array Be 99.20 320 P **Pdif** **19 13 16.5 -0.8**
comp=Z,5.9nm,0.7s,baz=74,slow=4.5,SNR=35
AKASG PP **PP** **19 17 25.2 -3.5**
comp=Z,0.3nm,0.3s,baz=71,slow=7.4,SNR=5.4
KIEV Kiev 99.21 320 *e*P **Pdif** **19 13 16.1 -1.3**
KIEV pmax pmax
comp=Z,92nm,2.1s
KIEV Kiev 99.21 320 *e*Pdif **Pdif** **19 13 16.1 -1.3**
comp=Z,92nm,2.1s
ARCES ARCESS Array B 100.03 339 P **Pdif** **19 13 20.3 -0.3**
ARCES PKiKP **PKiKP** **19 17 45.7 +0.8**
ARCES ARCESS Array B 100.03 339 P **Pdif** **19 13 20.3 -0.3**
comp=Z,3.2nm,0.7s,baz=57,slow=4.5,SNR=8.4
ARCES PKiKP **PKiKP** **19 17 45.7 +0.8**
comp=Z,5.5nm,0.9s,baz=137,slow=1.0,SNR=7.5
FINES FINESS Array B 100.56 331 P **Pdif** **19 13 21.5 -1.6**
FINES PKiKP **PKiKP** **19 17 46.9 +0.8**
FINES FINESS Array B 100.56 331 P **Pdif** **19 13 21.5 -1.6**
comp=Z,2.9nm,0.8s,baz=132,slow=2.8,SNR=3.9
FINES PKiKP **PKiKP** **19 17 46.9 +0.8**
comp=Z,4.1nm,0.8s,baz=70,slow=3.3,SNR=7.1
INK Inuvik 100.86 22 *e*Pdif **Pdif** **19 13 23.8 -0.5**
INK PKiKP **PKiKP** **19 17 46.1 -0.3**
INK Inuvik 100.86 22 PKiKP **PKiKP** **19 17 46.1 -0.3**
comp=Z,1.6nm,0.6s,baz=308,slow=7.1,SNR=9.3
PLOR Plostina 100.96 315 ⇑*i*P **PP** **19 17 40.4 -1.7**
MLR Muntele Rosu 101.46 315 ⇑*i*P PP 19 17 37.8 -8.2
MLR Muntele Rosu 101.46 315 PKiKP **PKiKP** **19 17 46.8 -1.6**
MLR Muntele Rosu 101.46 315 PKiKP **PKiKP** **19 17 46.8 -1.6**
comp=Z,2.1nm,0.9s,baz=178,slow=2.2,SNR=8.4
BURAR Bucovina Array 101.89 317 ⇓*i*P **PKiKP** **19 17 50.9 +1.8**
KOLS Kolonicke sedl 103.77 319 *e*P **Pdif** **19 13 38.0 +0.2**
KOLS Kolonicke sedl 103.77 319 PDIF **Pdif** **19 13 38.0 +0.2**
CRVS Cervenica-Dubn 104.31 319 *e*P **Pdif** **19 13 39.9 -0.2**
CRVS Cervenica-Dubn 104.31 319 PDIF **Pdif** **19 13 39.8 -0.3**
PSZ Piszkesteto 105.45 318 *e*PP PP 19 18 17.2 +2.1
NB2 NORSAR Subarra 107.68 332 PKPdf **PKiKP** **19 18 00.5 +1.2**
comp=Z,60nm,2.0s,baz=68,slow=1.9
NB2 NORSAR Subarra 107.68 332 PKPdf **PKiKP** **19 18 00.5 +1.2**
baz=68,slow=1.9
NOA NORSAR Array B 107.68 332 Pdif **Pdif** **19 13 52.6 -2.3**
NOA PKiKP **PKiKP** **19 17 59.5 +0.2**
NOA NORSAR Array B 107.68 332 Pdiff **Pdif** **19 13 52.6 -2.3**
comp=Z,1.1nm,0.7s,baz=78,slow=4.4,SNR=3.6
NOA PKiKP **PKiKP** **19 17 59.5 +0.2**
comp=Z,1.6nm,0.7s,baz=142,slow=2.1,SNR=4.9
CONA Conrad Observa 108.14 318 ⇓*i*PP PP 19 18 38.3 +3.8
comp=Z,27nm,1.5s
BRG Berggiesshubel 108.81 321 *e*P **PP** **19 18 38.4 -0.6**
comp=Z,65nm,2.4s
BRG
comp=Z,3µm,21.2s
BRG
comp=N,2µm,18.6s
BRG
comp=E,2µm,18.6s
GERES GERESS Array B 109.38 319 PKiKP **PKiKP** **19 18 02.8 -0.1**
GERES PP **PP** **19 18 44.0 +0.8**
GERES GERESS Array B 109.38 319 PKiKP **PKiKP** **19 18 02.8 -0.1**
comp=E,1.5nm,0.6s,baz=48,slow=2.0,SNR=9.2
GERES PP **PP** **19 18 44.0 +0.8**
comp=E,2.0nm,0.8s,baz=90,slow=6.7,SNR=6.1
YKA Yellowknife Ar 110.04 25 Pdif **Pdif** **19 14 05.3 +0.1**
YKA PKiKP **PKiKP** **19 18 03.0 -0.5**
YKA PKKPbc **PKKPbc** **19 29 06.6 -3.1**
YKA PKKPab **PKKPab** **19 29 19.6 -1.4**
YKA Yellowknife Ar 110.04 25 Pdiff **Pdif** **19 14 05.3 +0.1**
comp=E,0.3nm,0.6s,baz=296,slow=4.7,SNR=4.5
YKA PKiKP **PKiKP** **19 18 03.0 -0.5**
comp=E,1.7nm,0.6s,baz=301,slow=1.7,SNR=28
YKA PKKPbc **PKKPbc** **19 29 06.6 -3.1**
comp=E,0.4nm,0.5s,baz=108,slow=2.8,SNR=9.4
YKA PKKPab **PKKPab** **19 29 19.5 -1.4**
comp=E,0.1nm,0.4s,baz=111,slow=5.1,SNR=4.1
HUMO Hull Mountain 110.98 47 *e*PKiKP **PKiKP** **19 18 07.2 +1.1**
WTTA Wattenberg 111.07 318 ⇓*i*PKiKP **PKiKP** **19 18 06.1 -0.2**
comp=E,19nm,1.3s
M02C Callahan 111.26 48 ⇑P **PKiKP** **19 18 07.4 +0.8**
baz=111
N02D Trinity Center 111.44 49 ⇓P **PKiKP** **19 18 07.9 +0.9**
baz=111
J04D Umpqua Nationa 111.48 46 P **PKiKP** **19 18 07.7 +0.5**
baz=112
I05D Terrebonne, OR 111.81 45 ⇓P **PKiKP** **19 18 07.9 +0.3**
baz=112
M04C Macdoel 111.94 48 ⇓P **PKiKP** **19 18 08.6 +0.6**
baz=112
DAVOX Davos/Dischmat 112.35 318 PKiKP **PKiKP** **19 18 09.0 +0.2**
DAVOX Davos/Dischmat 112.35 318 PKiKP **PKiKP** **19 18 09.0 +0.2**
comp=E,1.6nm,0.4s,baz=208,slow=11,SNR=5.1
K05A Summer Lake 112.45 47 *e*PKiKP **PKiKP** **19 18 10.1 +1.0**
K05A *e*PP **PP** **19 19 04.8 -0.6**
MOD Modoc 113.05 48 *e*PKiKP **PKiKP** **19 18 11.1 +1.0**
G08A Pilot Rock 113.26 44 *e*PKiKP **PKiKP** **19 18 11.4 +0.9**
CDF Champ du Feu 113.62 320 *e*PKiKP **PKiKP** **19 18 09.9 -1.1**
CDF Champ du Feu 113.62 320 *e*PKiKP **PKiKP** **19 18 09.9 -1.1**
CDF Champ du Feu 113.62 320 *e*PKPdf **PKiKP** **19 18 09.9 -1.1**
NEW Newport 113.69 40 ⇑P **PKiKP** **19 18 12.0 +0.9**
baz=114
PGF Pioggiola 113.94 313 *e*PKiKP **PKiKP** **19 18 10.4 -1.4**
comp=E,45nm,1.0s
PGF Pioggiola 113.94 313 *e*PKiKP **PKiKP** **19 18 10.4 -1.4**
PGF Pioggiola 113.94 313 *e*PKPdf **PKiKP** **19 18 10.4 -1.4**
HINF Hinteralfeld 114.06 319 *e*PKiKP PKPdf 19 18 11.0 -0.8
comp=E,7.0nm,0.6s
HINF Hinteralfeld 114.06 319 *e*PKiKP PKPdf 19 18 11.0 -0.8
HINF Hinteralfeld 114.06 319 *e*PKPdf PKPdf 19 18 11.0 -0.8
WVOR Wild Horse Val 114.14 47 *e*PKiKP PKPdf 19 18 13.2 +1.0
WVOR Wild Horse Val 114.14 47 *e*PKiKP **PKiKP** **19 18 13.2 +1.0**
EDM Edmonton 114.32 34 *e*PKiKP PKPdf 19 18 12.4 +0.3
EDM Edmonton 114.32 34 *e*PKiKP **PKiKP** **19 18 12.4 +0.2**
HAU Haudompre 114.33 320 *e*PKiKP PKPdf 19 18 11.8 -0.5
comp=E,12nm,0.8s
HAU Haudompre 114.33 320 *e*PKiKP PKPdf 19 18 11.8 -0.5
HAU Haudompre 114.33 320 *e*PKPdf PKPdf 19 18 11.8 -0.5
BMO Blue Mountains 114.50 44 *e*PKiKP PKPdf 19 18 09.4 -3.4
BMO Blue Mountains 114.50 44 *e*PKiKP PKPdf 19 18 09.4 -3.4
GIVF Givet 114.63 322 *e*PKiKP PKPdf 19 18 12.8 +0.1
GIVF Givet 114.63 322 *e*PKiKP PKPdf 19 18 12.8 +0.1
GIVF Givet 114.63 322 *e*PKPdf PKPdf 19 18 12.8 +0.1
SBF Sospel 114.74 315 *e*PKiKP PKPdf 19 18 14.1 +0.9
SBF Sospel 114.74 315 *e*PKiKP PKPdf 19 18 14.1 +0.9
SBF Sospel 114.74 315 *e*PKPdf PKPdf 19 18 14.1 +0.9
LPG La Plagne 114.78 317 *e*PKiKP PKPdf 19 18 13.4 -0.2
comp=E,16nm,0.9s
LPG La Plagne 114.78 317 *e*PKiKP PKPdf 19 18 13.4 -0.2
LPG La Plagne 114.78 317 *e*PKPdf PKPdf 19 18 13.4 -0.2
LPL La Plagne 114.79 317 *e*PKiKP PKPdf 19 18 13.3 -0.2
comp=E,8.9nm,0.6s
LPL La Plagne 114.79 317 *e*PKiKP PKPdf 19 18 13.3 -0.2
LPL La Plagne 114.79 317 *e*PKPdf PKPdf 19 18 13.3 -0.2
CABF La Chapelle 114.91 318 *e*PKiKP PKPdf 19 18 13.4 -0.1
comp=E,26nm,0.8s
CABF La Chapelle 114.91 318 *e*PKiKP PKPdf 19 18 13.4 -0.1
CABF La Chapelle 114.91 318 *e*PKPdf PKPdf 19 18 13.4 -0.1
BSC Santa Cruz Isl 114.94 56 ⇓P PKPdf 19 18 14.0 +0.1
baz=115
MBDF Montbardon 114.97 316 *e*PKiKP PKPdf 19 18 13.7 -0.1
comp=E,11nm,0.8s
MBDF Montbardon 114.97 316 *e*PKiKP PKPdf 19 18 13.7 -0.1
MBDF Montbardon 114.97 316 *e*PKPdf PKPdf 19 18 13.7 -0.1
BAIF Baives 115.01 322 *e*PKiKP **PKPdf** **19 18 13.5 0.0**
comp=E,20nm,0.9s
BAIF Baives 115.01 322 *e*PKiKP **PKPdf** **19 18 13.5 0.0**
BAIF Baives 115.01 322 *e*PKPdf **PKPdf** **19 18 13.5 0.0**
VES Vestal, Richgr 115.09 54 ⇓P **PKPdf** **19 18 14.4 +0.3**
baz=115
SFTF Sexfontaines 115.11 320 *e*PKiKP **PKPdf** **19 18 13.4 -0.3**
SFTF Sexfontaines 115.11 320 *e*PKPdf **PKPdf** **19 18 13.4 -0.3**
NVAR Mina Array Bea 115.23 51 PKP **PKPdf** **19 18 15.7 +1.1**
NVAR PP **PP** **19 19 22.3 -2.6**
NVAR Mina Array Bea 115.23 51 PKP **PKPdf** **19 18 15.7 +1.1**
comp=E,2.2nm,0.7s,baz=247,slow=2.7,SNR=15
NVAR PP **PP** **19 19 22.3 -2.6**
comp=E,1.7nm,0.8s,baz=270,slow=8.1,SNR=5.8
FRF La Foret Royal 115.37 315 *e*PKiKP **PKPdf** **19 18 14.1 -0.3**
FRF La Foret Royal 115.37 315 *e*PKiKP **PKPdf** **19 18 14.1 -0.3**
FRF La Foret Royal 115.37 315 *e*PKPdf **PKPdf** **19 18 14.1 -0.3**
ORIF Oris-en-Rattie 115.53 317 *e*PKiKP **PKPdf** **19 18 14.4 -0.4**
comp=E,11nm,0.7s
ORIF Oris-en-Rattie 115.53 317 *e*PKiKP **PKPdf** **19 18 14.4 -0.4**
ORIF Oris-en-Rattie 115.53 317 *e*PKPdf **PKPdf** **19 18 14.4 -0.4**
CWC Cottonwood Cre 115.79 53 ⇑P **PKPdf** **19 18 16.5 +0.8**
baz=116
MFID Camas Ranch 115.91 45 *e*PKPdf **PKPdf** **19 18 16.2 +0.6**
SMRF Simiane la Rot 116.00 316 *e*PKiKP **PKPdf** **19 18 15.7 +0.1**
SMRF Simiane la Rot 116.00 316 *e*PKPdf **PKPdf** **19 18 15.7 +0.1**
EDW2 Edwards Air Fo 116.14 55 ⇓P **PKPdf** **19 18 17.6 +1.4**
baz=116,SNR=13
LOR Lormes 116.16 320 *e*PKiKP **PKPdf** **19 18 15.5 -0.3**
LOR Lormes 116.16 320 *e*PKPdf **PKPdf** **19 18 15.5 -0.3**
MSO Missoula 116.18 41 *e*PKPdf **PKPdf** **19 18 16.1 0.0**
MSO *e*PP **PP** **19 19 31.4 +0.5**
MSO Missoula 116.18 41 ⇓P **PKPdf** **19 18 15.8 -0.2**
baz=116
MWC Mount Wilson 116.19 55 *e*PKiKP **PKPdf** **19 18 17.3 +0.8**
MWC Mount Wilson 116.19 55 *e*PKPdf **PKPdf** **19 18 17.3 +0.8**
DAC Darwin (Calif) 116.20 53 *e*PKiKP **PKPdf** **19 18 17.7 +1.2**
DAC Darwin (Calif) 116.20 53 *e*PKPdf **PKPdf** **19 18 17.7 +1.2**
LRMC Laurel Mountai 116.27 54 ⇑P **PKPdf** **19 18 17.5 +1.0**
baz=116,SNR=7.3
SLMT Seeley Lake 116.34 40 *e*PKPdf **PKPdf** **19 18 16.3 0.0**
VIVF Saint-Julien-l 116.37 317 *e*PKiKP **PKPdf** **19 18 16.0 -0.3**
comp=E,13nm,0.8s

VIVF	Saint-Julien-I	116.37	317	ePKIKP	PKPdf	19 18 16.0	-0.3	A22A	Carney Farms, baz=120	120.33	36 ⇓P PKPdf 19 18 24.4 +0.5
VIVF	Saint-Julien-I	116.37	317	ePKPdf	PKPdf	19 18 16.0	-0.3	U15A	North Rim baz=120	120.35	52 ⇑P PKPdf 19 18 25.8 +1.2
SMF	Signal de Mont comp=E,5.8nm,0.8s	116.38	319	ePKIKP	PKPdf	19 18 15.6	-0.6	Y14A	Wickenburg baz=120	120.36	55 ⇑P PKPdf 19 18 24.8 +0.5
SMF	Signal de Mont	116.38	319	ePKIKP	PKPdf	19 18 15.6	-0.6	TMUT	Trail Mountain	120.39	48 ePKPdf PKPdf 19 18 25.7 +1.1
SMF	Signal de Mont	116.38	319	ePKPdf	PKPdf	19 18 15.6	-0.6	I19A	Meeteetse	120.41	43 ⇑P PKPdf 19 18 24.6 +0.3
SSF	Saint Saulge comp=E,23nm,0.8s	116.46	319	ePKIKP	PKPdf	19 18 16.2	-0.2	FCC	Fort Churchill	120.47	22 ePKIKP PKPdf 19 18 23.3 -0.4
SSF	Saint Saulge	116.46	319	ePKIKP	PKPdf	19 18 16.2	-0.2	FCC	Fort Churchill	120.47	22 ePKPdf PKPdf 19 18 23.3 -0.4
SSF	Saint Saulge	116.46	319	ePKPdf	PKPdf	19 18 16.2	-0.2	PDAR	Pinedale Array	120.47	44 PKP PKPdf 19 18 24.7 +0.1
BFSC	Mount Baldy Ra baz=116	116.51	55	⇑P	PKPdf	19 18 17.5	+0.4	PDAR			PKKPbc PKKPab 19 28 35.5 +0.3
CHMT	Chamberlain Mo	116.60	41	ePKPdf	PKPdf	19 18 17.2	+0.3	PDAR	Pinedale Array comp=E,3.5nm,0.7s,baz=198,slow=0.7,SNR=26	120.47	44 PKP PKPdf 19 18 24.7 +0.1
FURC	Furnace Creek, baz=117	116.75	53	⇑P	PKPdf	19 18 18.5	+1.3	PDAR			PKKPbc PKKPab 19 28 35.5 +0.3
HLID	Hailey	116.85	45	ePKPdf	PKPdf	19 18 18.8	+1.3		comp=E,1.6nm,0.6s,baz=116,slow=6.8,SNR=12		
HLID	Hailey baz=117	116.85	45	⇑P	PKPdf	19 18 19.0	+1.5	G20A	Bridger baz=120,SNR=9.2	120.48	41 ⇑P PKPdf 19 18 24.8 +0.4
EKA	Eskdalemuir Ar	116.91	330	PKP	PKPdf	19 18 16.1	-0.9	D21A	La Casta Ranch baz=120	120.52	39 ⇑P PKPdf 19 18 24.8 +0.6
EKA	Eskdalemuir Ar	116.91	330	PKP	PKPdf	19 18 16.1	-0.9	Z14A	Wintersburg baz=120	120.53	55 ⇑P PKPdf 19 18 26.0 +1.4
	comp=E,1.7nm,0.6s,baz=54,slow=4.2,SNR=6.6							ETSF	Etsaut comp=E,15nm,0.7s	120.58	316 ePKIKP PKPdf 19 18 25.1 +0.6
MURC	Murrieta baz=117	117.00	56	⇑P	PKPdf	19 18 18.9	+1.0	ETSF	Etsaut	120.58	316 ePKIKP PKPdf 19 18 25.1 +0.6
GSC	Goldstone	117.02	54	ePKIKP	PKPdf	19 18 18.7	+0.8	ETSF	Etsaut	120.58	316 ePKPdf PKPdf 19 18 25.1 +0.6
GSC	Goldstone	117.02	54	ePKPdf	PKPdf	19 18 18.7	+0.8	B22A	Reddig Ranch S baz=120	120.59	37 ⇓P PKPdf 19 18 25.1 +0.7
GSC	Goldstone baz=117	117.02	54	⇑P	PKPdf	19 18 18.9	+1.0	J19A	Crowheart baz=121,SNR=11	120.65	43 ⇑P PKPdf 19 18 25.5 +0.7
ELK	Elko	117.02	48	ePKPdf	PKPdf	19 18 18.9	+0.9	E21A	Keefer Ranch, baz=121	120.68	39 ⇑P PKPdf 19 18 25.4 +0.8
BGF	Bois d'Agland comp=E,34nm,0.7s	117.05	319	ePKIKP	PKPdf	19 18 17.6	+0.1	H20A	Greybull baz=121	120.91	42 ⇑P PKPdf 19 18 25.5 +0.3
BGF	Bois d'Agland	117.05	319	ePKIKP	PKPdf	19 18 17.6	+0.1	C22A	Vida baz=121	120.91	38 ⇓P PKPdf 19 18 25.8 +0.8
BGF	Bois d'Agland	117.05	319	ePKPdf	PKPdf	19 18 17.6	+0.1	214A	Organ Pipe Nat baz=121	120.93	57 ⇑P PKPdf 19 18 25.7 +0.2
LASF	Ste Croix comp=E,11nm,0.8s	117.16	316	ePKIKP	PKPdf	19 18 18.4	+0.5	SRU	San Rafael	120.96	48 ePKIKP PKPdf 19 18 26.2 +0.7
LASF	Ste Croix	117.16	316	ePKPdf	PKPdf	19 18 18.4	+0.5	SRU	San Rafael	120.96	48 ePKPdf PKPdf 19 18 26.2 +0.7
SHOC	Shoshone baz=117	117.32	53	⇑P	PKPdf	19 18 19.4	+1.0	SJPF	Ste Jean comp=E,17nm,0.8s	120.97	316 ePKIKP PKPdf 19 18 25.7 +0.5
R11A	Troy Canyon, C	117.34	50	ePKPdf	PKPdf	19 18 19.4	+0.8	SJPF	Ste Jean	120.97	316 ePKIKP PKPdf 19 18 25.7 +0.5
R11A	Troy Canyon, C baz=117	117.34	50	⇑P	PKPdf	19 18 19.7	+1.1	SJPF	Ste Jean	120.97	316 ePKPdf PKPdf 19 18 25.7 +0.5
HEC	Hector,Ludlow baz=118	117.49	54	⇓P	PKPdf	19 18 20.2	+1.4	D22A	Cohagen baz=121	120.98	38 ⇑P PKPdf 19 18 25.9 +0.7
DLMT	Dillon	117.54	42	ePKPdf	PKPdf	19 18 20.5	+1.8	I20A	Worland baz=121,SNR=12	121.02	42 ⇑P PKPdf 19 18 25.9 +0.5
TCF	Toulx Ste Croi comp=E,24nm,1.0s	117.56	319	ePKIKP	PKPdf	19 18 18.4	-0.2	B23A	Brockton baz=121	121.12	37 ⇑P PKPdf 19 18 26.1 +0.7
TCF	Toulx Ste Croi	117.56	319	ePKIKP	PKPdf	19 18 18.4	-0.2	G21A	Lodge Grass baz=121	121.14	41 ⇓P PKPdf 19 18 26.3 +0.7
TCF	Toulx Ste Croi	117.56	319	ePKPdf	PKPdf	19 18 18.4	-0.2	LAO	LASA Array	121.16	39 ePKPdf PKPdf 19 18 26.2 +0.7
PFO	Pinyon Flat Ob	117.61	56	ePKPdf	PKPdf	19 18 19.7	+0.6	J20A	Shoshoni baz=121,SNR=11	121.27	43 ⇓P PKPdf 19 18 26.5 +0.6
TUQ	Turquoise Moun baz=118	117.70	54	⇓P	PKPdf	19 18 20.6	+1.3	WUAZ	Wupatki	121.30	53 ePKPdf PKPdf 19 18 27.1 +0.9
MONP	Monument Peak baz=118	117.76	57	⇓P	PKPdf	19 18 20.7	+1.1	WUAZ	Wupatki baz=121	121.30	53 ⇓P PKPdf 19 18 27.5 +1.2
BELC	Belle Mtn. Jos baz=118	117.91	55	⇓P	PKPdf	19 18 21.3	+1.5	C23A	Lambert baz=121	121.30	37 ⇑P PKPdf 19 18 27.0 +1.2
GMRC	Granite Mounta baz=118	118.04	54	⇓P	PKPdf	19 18 21.5	+1.5	E22A	Miles City baz=121	121.43	39 ⇓P PKPdf 19 18 26.7 +0.7
SHPR	Sheep Range	118.08	52	ePKPdf	PKPdf	19 18 21.6	+1.5	H21A	Big Horn, Sher baz=121	121.48	41 ⇓P PKPdf 19 18 27.1 +0.8
BOZ	Bozeman (W)	118.09	42	ePKIKP	PKPdf	19 18 20.7	+0.9	A24A	Westby baz=121	121.48	36 ⇓P PKPdf 19 18 26.9 +0.9
BOZ	Bozeman (W)	118.09	42	ePKPdf	PKPdf	19 18 20.7	+0.9	X16A	Lo Mia Camp, P baz=122	121.51	54 ⇑P PKPdf 19 18 28.0 +1.3
CAF	Calviac comp=E,17nm,0.7s	118.11	318	ePKIKP	PKPdf	19 18 19.9	+0.2	F22A	Rosebud baz=122	121.52	40 ⇓P PKPdf 19 18 27.0 +0.8
CAF	Calviac	118.11	318	ePKIKP	PKPdf	19 18 19.9	+0.2	D23A	Lindsay baz=122	121.57	38 ⇓P PKPdf 19 18 27.5 +1.2
CAF	Calviac	118.11	318	ePKPdf	PKPdf	19 18 19.9	+0.2	DGMT	Dagmar	121.58	36 ePKPdf PKPdf 19 18 26.7 +0.5
LDF	La Druitiere	118.19	322	ePKIKP	PKPdf	19 18 19.3	-0.3	DGMT	Dagmar baz=122	121.58	36 ⇓P PKPdf 19 18 26.9 +0.6
LDF	La Druitiere	118.19	322	ePKIKP	PKPdf	19 18 19.3	-0.3	I21A	Big Trails, Te baz=122,SNR=10	121.63	42 ⇓P PKPdf 19 18 26.5 -0.2
LDF	La Druitiere	118.19	322	ePKPdf	PKPdf	19 18 19.3	-0.3	J21A	Lysite baz=2,SNR=5.6	121.71	43 ⇑P PKPdf 19 18 26.7 -0.1
SWSC	Sam W. Stewart baz=118	118.27	56	⇓P	PKPdf	19 18 21.0	+0.7	C24A	Savage baz=122	121.88	37 ⇓P PKPdf 19 18 27.6 +0.7
FLN	La Foliniere	118.34	322	ePKIKP	PKPdf	19 18 19.6	-0.3	H22A	Clearmont baz=122	121.94	41 ⇓P PKPdf 19 18 27.6 +0.4
FLN	La Foliniere	118.34	322	ePKIKP	PKPdf	19 18 19.6	-0.3	N20A	Spence Gulch, baz=122	122.05	46 ⇑P PKPdf 19 18 28.5 +0.9
FLN	La Foliniere	118.34	322	ePKPdf	PKPdf	19 18 19.6	-0.3	F23A	Volborg baz=122	122.08	40 ⇓P PKPdf 19 18 28.1 +0.7
RJF	Les Rejaudoux	118.35	318	ePKIKP	PKPdf	19 18 19.6	-0.5	K21A	Alcova baz=122,SNR=13	122.11	44 ⇓P PKPdf 19 18 27.8 +0.1
RJF	Les Rejaudoux	118.35	318	ePKIKP	PKPdf	19 18 19.6	-0.5	D24A	Glendive baz=122	122.13	38 ⇑P PKPdf 19 18 28.2 +0.8
RJF	Les Rejaudoux	118.35	318	ePKPdf	PKPdf	19 18 19.6	-0.5	I22A	9 Mile Ranch, baz=122	122.14	42 ⇓P PKPdf 19 18 27.7 +0.1
EGMT	Eagleton	118.42	39	ePKPdf	PKPdf	19 18 20.7	+0.4	O20A	White River Ci	122.30	47 ePKPdf PKPdf 19 18 29.3 +1.2
EGMT	Eagleton baz=118	118.42	39	⇓P	PKPdf	19 18 21.0	+0.7	O20A	White River Ci baz=122	122.30	47 ⇑P PKPdf 19 18 29.1 +1.0
BC3	Big Chuckawall baz=118	118.42	56	⇑P	PKPdf	19 18 21.7	+1.0	G23A	Biddle baz=122	122.31	40 ⇓P PKPdf 19 18 28.6 +0.8
MTLF	Montolieu comp=E,14nm,0.9s	118.52	316	ePKIKP	PKPdf	19 18 20.1	-0.4	J22A	Midwest baz=122	122.33	42 P PKPdf 19 18 27.7 -0.3
MTLF	Montolieu	118.52	316	ePKIKP	PKPdf	19 18 20.1	-0.4	PV04	Paradox Valley	122.38	49 ePKPdf PKPdf 19 18 29.1 +0.9
MTLF	Montolieu	118.52	316	ePKPdf	PKPdf	19 18 20.1	-0.4	E24A	Baker baz=122	122.40	38 ⇓P PKPdf 19 18 28.9 +1.0
HVU	Hansel Valley	118.53	46	ePKIKP	PKPdf	19 18 21.6	+0.9	C25A	Freed Ranch, W baz=122	122.50	37 ⇑P PKPdf 19 18 29.3 +1.3
HVU	Hansel Valley	118.53	46	ePKPdf	PKPdf	19 18 21.6	+0.9	TUC	Tucson	122.54	56 ePKIKP PKPdf 19 18 29.8 +1.2
IRM	Iron Mountain baz=119	118.57	55	⇓P	PKPdf	19 18 22.3	+1.4	TUC	Tucson	122.54	56 ePKPdf PKPdf 19 18 29.8 +1.2
BGU	Big Grassy Mou	118.59	47	ePKPdf	PKPdf	19 18 21.7	+0.8	K22A	Casper	122.60	43 ePKIKP PKPdf 19 18 28.6 +0.1
A19A	Klindworth Far baz=119	118.68	37	⇑P	PKPdf	19 18 21.0	+0.3	K22A	Casper baz=123,SNR=5.7	122.60	43 ⇑P PKPdf 19 18 28.2 -0.4
YMR	Madison River	118.86	43	ePKPdf	PKPdf	19 18 23.3	+1.9	A26A	Wade Farm, Ken baz=123	122.62	35 ⇑P PKPdf 19 18 29.1 +0.9
DUG	Dugway baz=119	118.95	48	⇓P	PKPdf	19 18 22.7	+1.2	X18A	Snowflake baz=123	122.68	53 ⇓P PKPdf 19 18 29.9 +0.9
MFF	Saint Martin d comp=E,21nm,0.7s	118.97	320	ePKIKP	PKPdf	19 18 20.9	-0.3	W18A	Petrified Fore	122.69	53 ePKPdf PKPdf 19 18 30.3 +1.3
MFF	Saint Martin d	118.97	320	ePKIKP	PKPdf	19 18 20.9	-0.3	W18A	Petrified Fore baz=123	122.69	53 ⇑P PKPdf 19 18 30.1 +1.1
MFF	Saint Martin d	118.97	320	ePKPdf	PKPdf	19 18 20.9	-0.3	D25A	Fairfield baz=123	122.73	37 ⇑P PKPdf 19 18 29.7 +1.1
C19A	Slack Wire Ran baz=119	118.97	39	⇑P	PKPdf	19 18 22.3	+1.0	L22A	Ellis Ranch, M baz=123,SNR=5.8	122.90	44 ⇑P PKPdf 19 18 30.1 +0.9
LFF	La Frestale comp=E,37nm,0.9s	118.99	318	ePKIKP	PKPdf	19 18 21.5	+0.2	J23A	Dilts Ranch, B baz=123	122.96	42 ⇑P PKPdf 19 18 29.2 +0.1
LFF	La Frestale	118.99	318	ePKIKP	PKPdf	19 18 21.5	+0.2	E25A	Miller Ranch, baz=123	122.98	38 ⇓P PKPdf 19 18 29.8 +0.7
LFF	La Frestale	118.99	318	ePKPdf	PKPdf	19 18 21.5	+0.2	M22A	Cedar Creek Ra baz=123,SNR=7.9	123.02	45 ⇓P PKPdf 19 18 30.0 +0.5
GLA	Glamis baz=119	119.05	56	⇓P	PKPdf	19 18 23.1	+1.2	A27A	Ledoux Ranch, baz=123	123.05	35 ⇓P PKPdf 19 18 30.1 +1.1
Y12C	Blythe baz=119	119.16	55	⇑P	PKPdf	19 18 23.0	+1.1	H24A	Dirks Ranch, A baz=123	123.05	40 ⇑P PKPdf 19 18 29.4 +0.1
A20A	Cobblestone Ra baz=119	119.19	37	⇑P	PKPdf	19 18 22.4	+0.8	MVCO	Mesa Verde	123.05	50 ePKPdf PKPdf 19 18 31.0 +1.3
H17A	Grant Village	119.22	43	ePKPdf	PKPdf	19 18 24.2	+2.1	MVCO	Mesa Verde baz=123	123.05	50 ⇑P PKPdf 19 18 30.8 +1.1
H17A				ePP	PP	19 19 52.2	+0.3	C26A	Wahner Farm, P baz=123	123.13	36 ⇓P PKPdf 19 18 29.8 +0.6
H17A	Grant Village baz=119	119.22	43	⇑P	PKPdf	19 18 23.7	+1.6	K23A	Bowen Ranch, D baz=123	123.17	43 ⇑P PKPdf 19 18 29.5 -0.1
CCUT	Cedar City	119.23	51	ePKPdf	PKPdf	19 18 23.9	+1.5	F25A	Bowman baz=123	123.21	39 ⇑P PKPdf 19 18 29.8 +0.3
D19A	Cripps Ranch, baz=119	119.30	39	⇑P	PKPdf	19 18 22.4	+0.4	D26A	Manning baz=123	123.31	37 ⇓P PKPdf 19 18 30.3 +0.7
B20A	Solberg Farm, baz=119	119.31	38	⇑P	PKPdf	19 18 22.5	+0.6	N22A	Wattenberg Ran baz=123,SNR=6.7	123.34	45 ⇓P PKPdf 19 18 31.2 +1.0
MOOW	Moose Ponds	119.33	43	ePKPdf	PKPdf	19 18 23.1	+0.8	L23A	Garrett baz=123	123.37	44 ⇑P PKPdf 19 18 30.2 0.0
PDMCI	Parker Dam,Lak baz=119	119.36	55	⇑P	PKPdf	19 18 23.4	+1.1	I24A	Kuemmerle Ranc baz=123	123.38	41 ⇑P PKPdf 19 18 30.2 +0.2
REDW	Red Top Meadow	119.38	44	ePKPdf	PKPdf	19 18 23.5	+1.1	O22A	Kremmling baz=124	123.51	46 ⇓P PKPdf 19 18 30.8 +0.2
I17A	Pilgrim Ck. baz=119	119.38	43	⇑P	PKPdf	19 18 23.8	+1.4	C27A	Sayler Ranch, baz=124	123.53	36 ⇓P PKPdf 19 18 30.3 +0.3
W13A	Hualapai Mount baz=119	119.40	54	⇑P	PKPdf	19 18 23.9	+1.2	SMCO	Snowmass	123.55	47 ePKPdf PKPdf 19 18 32.1 +1.3
HWUT	Hardware Ranch	119.44	46	ePKPdf	PKPdf	19 18 23.1	+0.6	P22A	Eagle baz=124,SNR=7.9	123.56	47 ⇓P PKPdf 19 18 31.5 +0.9
LOHW	Long Hollow	119.47	44	ePKPdf	PKPdf	19 18 21.7	-0.9	E26A	Carlson Angus baz=124	123.57	38 ⇑P PKPdf 19 18 30.6 +0.5
NLU	North Lily Min	119.56	48	ePKPdf	PKPdf	19 18 24.3	+1.4	G25A	Newell baz=124	123.57	39 P PKPdf 19 18 30.8 +0.6
C20A	Veseth Ranch, baz=120	119.62	38	⇓P	PKPdf	19 18 23.0	+0.5	J24A	Dixon Ranch, L baz=124	123.58	42 ⇓P PKPdf 19 18 30.3 -0.1
E19A	Rath Farm, Rou baz=120	119.63	40	⇓P	PKPdf	19 18 23.4	+0.8	M23A	Laramie baz=124	123.61	44 ⇓P PKPdf 19 18 30.6 0.0
H18A	Shoshone NF, C baz=120	119.73	42	⇑P	PKPdf	19 18 23.3	+0.3	A28A	Rude Farm, Bot baz=124	123.62	34 ⇑P PKPdf 19 18 30.1 0.0
D20A	Manuel Ranch, baz=120	119.80	39	⇑P	PKPdf	19 18 23.2	+0.3	RSSD	Black Hills	123.65	41 ePKIKP PKPdf 19 18 30.3 -0.3
SGMF	Saint Gilles	119.81	322	ePKIKP	PKPdf	19 18 22.2	-0.6	RSSD	Black Hills	123.65	41 ePKPdf PKPdf 19 18 30.3 -0.3
SGMF	Saint Gilles	119.81	322	ePKIKP	PKPdf	19 18 22.2	-0.6	N23A	Red Feather La baz=124,SNR=5.1	123.67	45 ⇑P PKPdf 19 18 31.5 +0.7
SGMF	Saint Gilles	119.81	322	ePKPdf	PKPdf	19 18 22.2	-0.6	F26A	Lodgepole baz=124	123.73	38 ⇑P PKPdf 19 18 31.1 +0.6
JLU	Jordanelle	119.83	47	ePKPdf	PKPdf	19 18 24.2	+0.8	B28A	Dugan Ranch, T baz=124	123.81	35 ⇓P PKPdf 19 18 31.1 +0.6
MVU	Marysvale	119.86	50	ePKPdf	PKPdf	19 18 25.1	+1.5	D27A	Center baz=124	123.82	37 ⇓P PKPdf 19 18 31.4 +0.8
MPU	Maple Canyon	119.87	48	ePKPdf	PKPdf	19 18 24.7	+1.2	PHWY	Pilot Hill	123.85	44 ePKPdf PKPdf 19 18 31.2 0.0
EPF	Esparros comp=E,6.4nm,0.7s	119.92	316	ePKIKP	PKPdf	19 18 22.8	-0.4	I25A	Rochford baz=124	123.89	41 ⇓P PKPdf 19 18 31.4 +0.4
EPF	Esparros	119.92	316	ePKIKP	PKPdf	19 18 22.8	-0.4	O23A	Lake Granby, G baz=124,SNR=10	123.94	46 ⇓P PKPdf 19 18 32.1 +0.7
EPF	Esparros	119.92	316	ePKPdf	PKPdf	19 18 22.8	-0.4	319A	Douglas baz=124	124.00	57 ⇑P PKPdf 19 18 32.7 +1.2
113A	Mohawk Valley, baz=120	119.98	56	⇑P	PKPdf	19 18 23.9	+0.3	TORD	Torodi Ar. Bea	124.03	281 PKP PKPdf 19 18 31.6 -0.2
DAU	Daniels Canyon	120.03	47	ePKIKP	PKPdf	19 18 24.9	+1.0	TORD			PKKPbc PKKPab 19 28 20.1 +0.1
DAU	Daniels Canyon	120.03	47	ePKPdf	PKPdf	19 18 24.9	+1.0	TORD	Torodi Ar. Bea comp=E,19nm,0.8s,baz=70,slow=1.9,SNR=80	124.03	281 PKP PKPdf 19 18 31.6 -0.2
E20A	Meyer Farm, Mu baz=120	120.03	40	⇓P	PKPdf	19 18 23.8	+0.4	TORD			PKKPbc PKKPab 19 28 20.1 +0.1
H19A	Powell baz=120	120.18	42	⇓P	PKPdf	19 18 24.7	+0.9		comp=E,0.4nm,0.5s,baz=291,slow=3.9,SNR=7.7		
ROSF	Rostrenen comp=E,30nm,0.9s	120.20	323	ePKIKP	PKPdf	19 18 23.7	+0.2	G26A	Maurine baz=124	124.04	39 ⇑P PKPdf 19 18 31.4 +0.3
ROSF	Rostrenen	120.20	323	ePKIKP	PKPdf	19 18 23.7	+0.2	J25A	Sunshine Ranch baz=124	124.12	42 ⇓P PKPdf 19 18 31.4 +0.1
ROSF	Rostrenen	120.20	323	ePKPdf	PKPdf	19 18 23.7	+0.2	F27A	Lemmon baz=124	124.12	38 ⇓P PKPdf 19 18 31.7 +0.5
F20A	Billings baz=120	120.30	40	⇑P	PKPdf	19 18 24.4	+0.5	ESDC	Sonseca Array	124.13	314 PKP PKPdf 19 18 32.0 +0.6
QUIF	Quistinic	120.32	322	ePKIKP	PKPdf	19 18 23.3	-0.4	ESDC			PP PP 19 20 22.4 -2.3
QUIF	Quistinic	120.32	322	ePKIKP	PKPdf	19 18 23.3	-0.4	ESDC	Sonseca Array comp=E,2.1nm,0.6s,baz=20,slow=3.5,SNR=13	124.13	314 PKP PKPdf 19 18 32.0 +0.6
QUIF	Quistinic	120.32	322	ePKPdf	PKPdf	19 18 23.3	-0.4	ESDC			PP PP 19 20 22.4 -2.3
								E27A	Carson baz=124	124.13	37 ⇑P PKPdf 19 18 31.7 +0.5
								S22A	4UR Ranch, Cre baz=124	124.14	49 ⇓P PKPdf 19 18 33.0 +1.2
								A29A	Manning Farm, baz=124	124.18	34 ⇓P PKPdf 19 18 31.3 +0.1
								P23A	Jefferson baz=124	124.30	47 ⇓P PKPdf 19 18 33.1 +0.9
								ISCO	Idaho Springs	124.31	46 ePKIKP PKPdf 19 18 33.0 +0.9
								ISCO	Idaho Springs	124.31	46 ePKPdf PKPdf 19 18 33.0 +0.9
								ISCO	Idaho Springs baz=124,SNR=8.3	124.31	46 ⇑P PKPdf 19 18 32.9 +0.9
								D28A	Regan baz=124	124.34	36 ⇑P PKPdf 19 18 32.0 +0.4
								B29A	Wagenman Farm, baz=124	124.36	34 ⇑P PKPdf 19 18 32.0 +0.5
								K25A	Mack Ranch, Ha baz=124	124.41	42 ⇑P PKPdf 19 18 32.4 +0.4
								G27A	Dupree baz=124	124.41	39 ⇓P PKPdf 19 18 31.8 0.0
								I26A	New Underwood baz=124	124.45	40 ⇓P PKPdf 19 18 32.2 +0.3
								PAB	San Pablo	124.45	314 ePKIKP PKPdf 19 18 32.9 +0.8
								PAB	San Pablo	124.45	314 ePKPdf PKPdf 19 18 32.9 +0.8
								U22A	Llaves baz=124	124.56	50 ⇑P PKPdf 19 18 33.9 +1.3
								E28A	Huff baz=124	124.58	37 ⇑P PKPdf 19 18 32.7 +0.7
								J26A	Sides Ranch, S baz=125	124.63	41 ⇑P PKPdf 19 18 33.0 +0.7
								V22A	San Miguel Ran baz=125	124.67	51 ⇓P PKPdf 19 18 34.3 +1.4
								H27A	Howes baz=125	124.67	40 ⇑P PKPdf 19 18 32.2 -0.1
								A30A	Hoffart Farm, baz=125	124.69	33 ⇑P PKPdf 19 18 32.3 +0.1
								R23A	Moffat baz=125,SNR=10	124.73	48 ⇓P PKPdf 19 18 34.4 +1.4
								K26A	Motz Farm, Whi baz=125	124.83	42 P PKPdf 19 18 32.5 -0.2
								F28A	McLaughlin baz=125	124.88	38 ⇑P PKPdf 19 18 33.0 +0.4
								121A	Cookes Peak, D baz=125	124.94	55 ⇑P PKPdf 19 18 33.5 +0.2
								B30A	Myrvik Farm, E baz=125	124.94	34 ⇑P PKPdf 19 18 32.1 -0.5
								I27A	Quinn baz=125	124.95	40 ⇓P PKPdf 19 18 32.5 -0.4
								T23A	Casias Ranch, baz=125	124.97	49 ⇓P PKPdf 19 18 34.3 +0.9
								U23A	El Rito baz=125	125.09	50 ⇑P PKPdf 19 18 34.4 +0.8
								LENM	Lemitar	125.14	53 ePKPdf PKPdf 19 18 35.1 +1.4
								G28A	Parade baz=125	125.19	39 ⇓P PKPdf 19 18 33.8 +0.6
								ULM	Lac du Bonnet	125.20	31 PKP PKPdf 19 18 32.0 -1.0
								ULM			ePKPdf PKiKP 19 18 32.2 -1.3
								ULM	Lac du Bonnet comp=E,8.0nm,0.6s,baz=302,slow=2.2,SNR=21	125.20	31 PKP PKPdf 19 18 32.0 -1.0
								R24A	Sanders Place, baz=125	125.25	48 ⇓P PKPdf 19 18 34.7 +0.9
								O25A	Wiggins baz=125	125.25	45 ⇑P PKPdf 19 18 34.0 +0.3
								C30A	Mose, Pekin baz=125	125.27	35 ⇓P PKPdf 19 18 33.6 +0.3
								V23A	Ortiz Mt. (NFS baz=125	125.28	51 ⇓P PKPdf 19 18 35.8 +1.8
								ANMO	Albuquerque	125.32	52 ePKPdf PKPdf 19 18 34.8 +0.8
								H28A	Mission Ridge baz=125	125.32	39 ⇓P PKPdf 19 18 34.3 +0.8
								J27A	Elkhorn Farm, baz=125	125.36	41 ⇓P PKPdf 19 18 34.5 +0.8
								LPM	Los Pinos Moun	125.37	53 ePKPdf PKPdf 19 18 35.4 +1.2
								S24A	Houchin Ranch, baz=125,SNR=7.9	125.38	48 ⇑P PKPdf 19 18 35.5 +1.3
								Z22A	Elephant Butte baz=125	125.41	54 ⇓P PKPdf 19 18 34.9 +0.7
								D30A	Buchanan baz=125	125.44	35 ⇓P PKPdf 19 18 33.9 +0.3
								K27A	Flueckinger Fa baz=125	125.45	42 ⇑P PKPdf 19 18 34.0 0.0
								P25A	Willow Gulch B baz=125,SNR=9.2	125.45	46 ⇑P PKPdf 19 18 35.2 +1.1
								T24B	San Luis baz=125,SNR=11	125.46	49 ⇑P PKPdf 19 18 35.9 +1.5
								F29A	Eureka baz=125	125.47	37 ⇑P PKPdf 19 18 34.3 +0.5
								W23A	Werner Place, baz=126	125.49	52 ⇓P PKPdf 19 18 34.9 +0.6
								I28A	Midland baz=126	125.55	40 ⇑P PKPdf 19 18 34.4 +0.4
								Q25A	Bedland, Calha baz=126,SNR=5.4	125.62	47 ⇓P PKPdf 19 18 35.6 +1.0
								E30A	Jud baz=126	125.67	36 ⇓P PKPdf 19 18 34.9 +0.8
								G29A	Hoven baz=126	125.74	38 ⇓P PKPdf 19 18 35.0 +0.7
								O26A	Horse Wrangler baz=126	125.77	45 ⇓P PKPdf 19 18 35.1 +0.4
								J28A	Allard Ranch, baz=126	125.78	40 ⇑P PKPdf 19 18 35.1 +0.6
								H29A	Onida baz=126	125.85	39 ⇑P PKPdf 19 18 35.2 +0.7
								M27A	Reverse DX Ran baz=126	125.87	43 ⇑P PKPdf 19 18 35.5 +0.7
								R25A	Fountain Ranch baz=126,SNR=12	125.88	48 ⇑P PKPdf 19 18 35.7 +0.7
								Y23A	Lovelace Mesa, baz=126	125.94	53 ⇑P PKPdf 19 18 36.2 +0.9

	baz=126								
U25A	**Circle Dot Ran**	126.42	50	⇓P		PKPdf	19 18 37.2	+1.1	
	baz=126,SNR=9.8								
Y24A	**Capitan**	126.43	53	⇑P		PKPdf	19 18 37.5	+1.3	
	baz=126								
R26A	**Arlington**	126.44	47	⇓P		PKPdf	19 18 37.1	+1.1	
	baz=126								
V25A	**Rancho No Teng**	126.45	50	⇓P		PKPdf	19 18 37.1	+0.9	
	baz=126,SNR=16								
P27A	**Ficken Ranch,**	126.56	45	⇓P		PKPdf	19 18 36.6	+0.4	
	baz=126								
Z24A	**Sheeppen Canyo**	126.67	54	⇓P		PKPdf	19 18 38.3	+1.6	
	baz=127								
S26A	**Kim**	126.68	48	⇑P		PKPdf	19 18 37.2	+0.7	
	baz=127,SNR=11								
T26A	**Comanche Natio**	126.75	48	⇑P		PKPdf	19 18 37.4	+0.7	
	baz=127,SNR=21								
W25A	**X Bar L Ranch,**	126.78	51	⇑P		PKPdf	19 18 37.6	+0.9	
	baz=127,SNR=11								
N28A	**Pribbeno Ranch**	126.81	44	⇓P		PKPdf	19 18 37.3	+0.7	
	baz=127								
X25A	**Clemmons Ranch**	126.85	52	⇓P		PKPdf	19 18 37.0	+0.1	
	baz=127								
O28A	**Krutsinger Ran**	126.89	44	⇑P		PKPdf	19 18 37.2	+0.5	
	baz=127								
L29A	**Maesberg Ranch**	126.90	42	⇓P		PKPdf	19 18 37.3	+0.7	
	baz=127								
R27A	**Eads**	126.91	47	⇑P		PKPdf	19 18 37.9	+1.0	
	baz=127								
U26A	**Atchley Ranch,**	126.92	49	⇑P		PKPdf	19 18 38.0	+1.0	
	baz=127,SNR=7.6								
J30A	**Dallas**	126.94	40	⇓P		PKPdf	19 18 36.9	+0.2	
	baz=127								
Y25A	**Mesa, Roswell**	127.02	53	⇓P		PKPdf	19 18 38.1	+0.8	
	baz=127,SNR=16								
M29A	**Burnside Ranch**	127.05	42	⇓P		PKPdf	19 18 38.4	+1.4	
	baz=127								
S27A	**Las Animas**	127.07	48	⇑P		PKPdf	19 18 38.5	+1.3	
	baz=127								
V26A	**Tequesquite Ra**	127.10	50	⇑P		PKPdf	19 18 38.1	+0.8	
	baz=127,SNR=7.9								
P28A	**Saint Francis**	127.14	45	⇑P		PKPdf	19 18 38.4	+1.2	
	baz=127								
K30A	**Basset**	127.18	41	⇓P		PKPdf	19 18 38.1	+1.0	
	baz=127								
Z25A	**Roswell**	127.20	53	⇑P		PKPdf	19 18 38.3	+0.7	
	baz=127,SNR=7.5								
Q28A	**Sharon Springs**	127.29	46	⇓P		PKPdf	19 18 38.5	+0.9	
	baz=127								
W26A	**Owens Ranch, T**	127.36	51	⇓P		PKPdf	19 18 39.0	+1.1	
	baz=127								
125A	**Gardner Draw,**	127.44	54	⇓P		PKPdf	19 18 39.0	+1.0	
	baz=127,SNR=8.8								
T27A	**Campo**	127.44	48	⇓P		PKPdf	19 18 38.7	+0.8	
	baz=127,SNR=8.5								
L30A	**Spencer Herefo**	127.46	41	⇓P		PKPdf	19 18 38.0	+0.3	
	baz=127								
225A	**Deer Hill, Car**	127.47	55	⇑P		PKPdf	19 18 39.2	+1.0	
	baz=128,SNR=9.0								
X26A	**CR and CF Fran**	127.51	52	⇑P		PKPdf	19 18 39.0	+0.9	
	baz=128,SNR=9.4								
O29A	**4D Ranch, Culb**	127.56	44	⇑P		PKPdf	19 18 39.0	+1.0	
	baz=128								
R28A	**Tribune**	127.60	46	⇑P		PKPdf	19 18 39.3	+1.1	
	baz=128								
U27A	**Thompson Grove**	127.60	49	⇓P		PKPdf	19 18 39.2	+0.9	
	baz=128,SNR=10								
P29A	**Atwood**	127.70	45	⇓P		PKPdf	19 18 39.3	+1.1	
	baz=128								
Y26A	**Elida**	127.70	52	⇑P		PKPdf	19 18 39.4	+0.8	
	baz=128,SNR=8.3								
425A	**Indio Mountain**	127.71	56	⇑P		PKPdf	19 18 39.7	+1.0	
	baz=128,SNR=10								
N30A	**Hueftle Ranch,**	127.74	43	⇑P		PKPdf	19 18 39.2	+0.9	
	baz=128								
Z26A	**Caprock**	127.79	53	⇑P		PKPdf	19 18 39.3	+0.6	
	baz=128								
V27A	**Dan Oppiter Fa**	127.84	50	⇑P		PKPdf	19 18 39.6	+0.9	
	baz=128								
T28A	**Walsh**	127.87	48	⇑P		PKPdf	19 18 39.9	+1.2	
	baz=128								
W27A	**Bowe Ranch, En**	127.91	51	⇓P		PKPdf	19 18 40.0	+1.1	
	baz=128,SNR=5.7								
L31A	**Butterfield Fa**	127.92	41	⇑P		PKPdf	19 18 39.0	+0.4	
	baz=128								
126A	**Clayton Basin,**	127.96	54	⇑P		PKPdf	19 18 39.7	+0.7	
	baz=128								
Q29A	**Oakley**	127.97	45	⇓P		PKPdf	19 18 39.9	+1.0	
	baz=128								
226B	**Tecolote Peak,**	128.01	55	⇑P		PKPdf	19 18 40.1	+1.0	
	baz=128,SNR=9.2								
X27A	**F and S Farms,**	128.03	51	⇓P		PKPdf	19 18 39.9	+0.7	
	baz=128								
O30A	**MW Ranch, Wils**	128.05	44	⇑P		PKPdf	19 18 39.8	+0.9	
	baz=128								
U28A	**Mallet**	128.07	49	⇑P		PKPdf	19 18 39.9	+0.8	
	baz=128								
P30A	**Selden**	128.20	44	⇓P		PKPdf	19 18 39.8	+0.6	
	baz=128								
M31A	**Lambtecht Ranc**	128.23	42	⇑P		PKPdf	19 18 39.6	+0.4	
	baz=128								
Y27A	**Causey**	128.24	52	⇑P		PKPdf	19 18 40.5	+1.0	
	baz=128,SNR=10								
V28A	**Channing**	128.30	50	⇑P		PKPdf	19 18 40.5	+0.9	
	baz=128								
Z27A	**Tatum**	128.38	53	⇑P		PKPdf	19 18 40.8	+1.0	
	baz=128,SNR=9.1								
326A	**Caldwell Ranch**	128.39	56	⇑P		PKPdf	19 18 40.8	+0.9	
	baz=128								
S29A	**Ulysses**	128.40	47	⇓P		PKPdf	19 18 40.9	+1.2	
	baz=128								
T29A	**Hugoton**	128.46	48	⇑P		PKPdf	19 18 41.0	+1.2	
	baz=128								
Q30A	**Quinter**	128.47	45	⇑P		PKPdf	19 18 41.2	+1.4	
	baz=128								
N31A	**Bailey Ranch,**	128.50	42	⇓P		PKPdf	19 18 41.5	+1.7	
	baz=128								
W28A	**Vega**	128.50	50	⇓P		PKPdf	19 18 41.0	+1.0	
	baz=128								
MSTX	**Muleshoe**	128.51	52	*e*PKPdf		PKPdf	19 18 41.2	+1.1	
MSTX	**Muleshoe**	128.51	52	⇓P		PKPdf	19 18 41.0	+1.0	
	baz=128,SNR=6.3								
ECSD	**EROS Data Cent**	128.52	38	*e*PKPdf		PKPdf	19 18 39.6	-0.1	
ECSD	**EROS Data Cent**	128.52	38	⇑P		PKPdf	19 18 40.0	+0.4	
	baz=128								
426A	**McDonald Obser**	128.53	56	⇓P		PKPdf	19 18 41.2	+0.9	
	baz=128								
O31A	**Wooden Ranch,**	128.56	43	⇑P		PKPdf	19 18 41.8	+2.0	
	baz=128								
526A	**Mary Lane Ranc**	128.66	57	⇓P		PKPdf	19 18 41.2	+0.7	
	baz=129,SNR=13								
R30A	**Dighton**	128.72	46	⇓P		PKPdf	19 18 41.5	+1.3	
	baz=129								
BGNE	**Belgrade**	128.75	41	*e*PKPdf		PKPdf	19 18 41.0	+0.8	
BGNE	**Belgrade**	128.75	41	⇑P		PKPdf	19 18 41.2	+1.0	
	baz=129								
626A	**Big Bend Ranch**	128.76	58	⇑P		PKPdf	19 18 41.4	+0.8	
	baz=129,SNR=6.2								
V29A	**Stinnett**	128.79	49	⇑P		PKPdf	19 18 41.5	+1.1	
	baz=129								
P31A	**Stockton**	128.81	44	⇑P		PKPdf	19 18 41.7	+1.3	
	baz=129								
S30A	**Montezuma**	128.86	47	⇓P		PKPdf	19 18 41.9	+1.4	
	baz=129								
W29A	**Amraillo**	128.97	50	⇓SKP		SKPdf	19 21 12.8	-13	
	baz=129								
427A	**Hayter Ranch,**	129.00	56	⇓P		PKPdf	19 18 42.1	+1.0	
	baz=129,SNR=10								
427A				⇑SKP			19 21 12.6		
	baz=129								
527A	**Woodward Ranch**	129.03	57	⇓P		PKPdf	19 18 42.4	+1.2	
	baz=129,SNR=13								
527A				⇓SKP			19 21 13.2		
	baz=129								
AMTX	**Amarillo**	129.03	50	⇑P		PKPdf	19 18 42.3	+1.3	
	baz=129								
AMTX				⇓SKP			19 21 12.9		
	baz=129								
T30A	**Plains**	129.06	47	⇓P		PKPdf	19 18 42.3	+1.4	
	baz=129								
U30A	**WK&E Inc. Balk**	129.18	48	⇑P		PKPdf	19 18 42.4	+1.2	
	baz=129								
U30A				⇑SKP			19 21 14.2		
	baz=129								
X29A	**Tulia**	129.18	51	⇓P		PKPdf	19 18 42.4	+1.1	
	baz=129								
X29A				⇓SKP			19 21 13.8		
	baz=129								
128A	**Castleberry Fa**	129.19	53	⇑P		PKPdf	19 18 42.2	+0.8	
	baz=129								
TXAR	**Lajitas Array**	129.21	58	PKP		PKPdf	19 18 42.0	+0.5	
TXAR				SKPbc		SKPbc	19 21 13.8	+0.7	
TXAR	**Lajitas Array**	129.21	58	PKP		PKPdf	19 18 42.0	+0.5	
	comp=E,2.3nm,0.7s,baz=270,slow=1.3,SNR=15								
TXAR				SKPbc		SKPbc	19 21 13.8	+0.7	
	comp=E,18nm,1.0s,baz=270,slow=3.8,SNR=36								
O32A	**Brockman Farm,**	129.22	43	⇓P		PKPdf	19 18 41.8	+0.7	
	baz=129								
R31A	**Burdett**	129.25	46	⇑P		PKPdf	19 18 42.3	+1.0	
	baz=129								
R31A				⇓SKP			19 21 13.9		
	baz=129								
228A	**UT Block 9, Go**	129.27	54	⇑P		PKPdf	19 18 42.7	+1.2	
	baz=129								
228A				⇓SKP			19 21 14.1		
	baz=129								
P32A	**Huiting Farm,**	129.30	44	⇓P		PKPdf	19 18 42.7	+1.5	
	baz=129								
328A	**Wristen Ranch,**	129.32	55	⇓P		PKPdf	19 18 42.7	+1.1	
	baz=129,SNR=12								
328A				⇓SKP			19 21 13.5		
	baz=129								
627A	**Terlingua Ranc**	129.41	58	⇑P		PKPdf	19 18 43.1	+1.2	
	baz=129,SNR=10								
627A				⇑SKP			19 21 14.2		
	baz=129,SNR=25								
S31A	**Mullinville**	129.57	46	⇑SKP		SKPbc	19 21 15.0	+0.9	
	baz=130								
Z29A	**Hungry Hill Ra**	129.59	52	⇓P		PKPdf	19 18 43.1	+1.0	
	baz=130,SNR=5.3								
Z29A				⇑SKP			19 21 14.5		
	baz=130								
Q32A	**Meitler Ranch,**	129.62	44	⇓P		PKPdf	19 18 43.1	+1.2	
	baz=130								
Q32A				⇓SKP			19 21 14.0		
	baz=130,SNR=11								
428A	**Kincaid Ranch,**	129.62	56	⇑P		PKPdf	19 18 43.8	+1.5	
	baz=130,SNR=9.7								
428A				⇑SKP			19 21 15.4		
	baz=130,SNR=27								
T31A	**Randall Ranch,**	129.66	47	⇑P		PKPdf	19 18 43.4	+1.4	
	baz=130								
T31A				⇑SKP			19 21 15.6		
	baz=130								
129A	**Stewart Farms,**	129.68	53	P		PKPdf	19 18 43.2	+0.9	
	baz=130								
528A	**Cox Ranch, San**	129.71	57	⇑P		PKPdf	19 18 43.7	+1.2	
	baz=130,SNR=6.1								
528A				⇓SKP			19 21 15.6		
	baz=130,SNR=5.8								
R32A	**Long Quarter,**	129.77	45	⇓P		PKPdf	19 18 43.9	+1.7	
	baz=130								
R32A				⇑SKP			19 21 15.7		
	baz=130								
X30A	**Coker Ranch, T**	129.81	51	P		PKPdf	19 18 43.4	+1.0	
	baz=130								
628A	**Black Gap, Mar**	129.82	57	⇓P		PKPdf	19 18 43.5	+0.9	
	baz=130								
628A				⇑SKP			19 21 15.8		
	baz=130,SNR=8.5								
U31A	**Nine Bar Ranch**	129.83	48	⇑SKP		SKPbc	19 21 16.3	+1.2	
	baz=130								
SPMN	**St. Paul**	129.90	34	*e*SKPbc		SKPbc	19 21 14.8	-0.2	
SPMN	**St. Paul**	129.90	34	⇑P		PKPdf	19 18 43.3	+1.2	
	baz=130								
S32A	**Newby Ranch, P**	129.93	46	⇓SKP		SKPab	19 21 15.9	+0.4	
	baz=130,SNR=5.4								
229A	**Bryant Ranch,**	129.94	54	⇓SKP		SKPab	19 21 15.6	-0.2	
	baz=130								
329A	**Wagon Wheel Ra**	129.96	55	⇑P		PKPdf	19 18 44.1	+1.3	
	baz=130								
329A				⇓SKP			19 21 16.6		
	baz=130,SNR=8.8								
P33A	**Williams Farm,**	130.00	43	⇓SKP		SKPab	19 21 16.0	+0.2	
	baz=130								
Y30A	**Stafford Cattl**	130.00	51	⇑P		PKPdf	19 18 44.1	+1.3	
	baz=130								
Y30A				⇑SKP			19 21 16.2		
	baz=130								
Z30A	**Sanderson Ranc**	130.04	52	⇓SKP		SKPab	19 21 15.9	-0.3	
	baz=130								
V31A	**Spring Creek L**	130.08	49	⇓P		PKPdf	19 18 44.6	+1.7	
	baz=130								
V31A				⇓SKP			19 21 17.3		
	baz=130,SNR=8.0								
Q33A	**Connelly Farm,**	130.12	44	⇓SKP		SKPab	19 21 16.1	-0.2	
	baz=130,SNR=5.7								
KIC	**Kosan Boka**	130.16	272	*e*PKIKP		PKPdf	19 18 44.4	+0.8	
	comp=E,74nm,1.3s								
KIC	**Kosan Boka**	130.16	272	*e*PKP1		SKPab	19 21 17.4	+0.2	
	comp=E,58nm,0.7s								
T32A	**Huddler Ranch,**	130.17	47	⇓P		PKPdf	19 18 44.6	+1.6	
	baz=130								
T32A				⇑SKP			19 21 16.3		
	baz=130,SNR=8.4								
529A	**Stev Forest Ra**	130.19	56	⇑P		PKPdf	19 18 44.6	+1.3	
	baz=130,SNR=8.6								
529A				⇑SKP			19 21 17.2		
	baz=130,SNR=12								
PLCA	**Paso Flores**	130.21	164	SKPbc		SKPab	19 21 16.6	-0.1	
PLCA	**Paso Flores**	130.21	164	SKPbc		SKPab	19 21 16.6	-0.1	
	comp=E,49nm,1.1s,baz=206,slow=4.1,SNR=26								
W31A	**Holland Ranch,**	130.24	49	⇓P		PKPdf	19 18 44.5	+1.3	
	baz=130								
W31A				⇓SKP			19 21 17.3		
	baz=130,SNR=6.8								
DBIC	**Dimbokro**	130.29	273	PKP		PKPdf	19 18 44.0	+0.2	
DBIC				*e*PKPdf		PKiKP	19 18 44.2	-0.5	
DBIC				SKPbc		SKPab	19 21 17.7	-0.1	
DBIC	**Dimbokro**	130.29	273	PKP		PKPdf	19 18 44.0	+0.2	
	comp=E,12nm,0.7s,baz=79,slow=1.7,SNR=17								
DBIC				SKPbc		SKPab	19 21 17.7	-0.1	
	comp=E,20nm,0.7s,baz=82,slow=3.5,SNR=31								
429A	**Davenport Ranc**	130.31	56	⇑P		PKPdf	19 18 44.8	+1.3	
	baz=130								
429A				⇓SKP			19 21 17.5		
	baz=130,SNR=18								
R33A	**Olander Ranch,**	130.33	45	⇓P		PKPdf	19 18 44.4	+1.2	
	baz=130								
R33A				⇑SKP			19 21 17.3		
	baz=130,SNR=14								
130A	**Snyder**	130.41	53	⇓SKP		SKPab	19 21 17.3	-0.5	
	baz=130								
X31A	**McDonald Ranch**	130.43	50	⇑P		PKPdf	19 18 44.4	+0.8	
	baz=130								
X31A				⇑SKP			19 21 18.0		
	baz=130,SNR=14								
LIC	**Lamto**	130.43	272	*e*PKIKP		PKPdf	19 18 44.3	+0.2	
	comp=E,28nm,0.7s								
LIC	**Lamto**	130.43	272	*e*PKIKP		PKPdf	19 18 44.8	+0.7	
	comp=E,52nm,0.7s								
LIC	**Lamto**	130.43	272	*e*PKP1		SKPab	19 21 18.3	0.0	
	comp=E,35nm,0.6s								
LIC	**Lamto**	130.43	272	*e*PKPdf		PKPdf	19 18 44.3	+0.2	
U32A	**Winter Ranch,**	130.45	48	⇑SKP		SKPab	19 21 18.1	+0.4	
	baz=130								
TIC	**Toumodi**	130.45	273	*e*PKIKP		PKPdf	19 18 44.9	+0.8	
	comp=E,18nm,0.5s								
TIC	**Toumodi**	130.45	273	*e*PKP1		SKPab	19 21 17.9	-0.5	
	comp=E,32nm,0.6s								
Y31A	**Rekieta Farm,**	130.47	51	⇑P		PKPdf	19 18 44.9	+1.3	
	baz=130								
Y31A				⇓SKP			19 21 18.4		
	baz=130,SNR=7.8								
230A	**Sterling City**	130.53	54	⇓SKP		SKPab	19 21 18.2	-0.1	
	baz=130								
330A	**Mertzon**	130.64	54	⇑P		PKPdf	19 18 45.7	+1.6	
	baz=131								
330A				⇑SKP			19 21 18.7		
	baz=131,SNR=5.7								
S33A	**Kaszmaul Farm,**	130.64	46	⇓SKP		SKPab	19 21 19.4	+0.9	
	baz=131								
V32A	**Arapaho**	130.69	48	⇑P		PKPdf	19 18 45.9	+1.8	
	baz=131								
V32A				⇑SKP			19 21 19.7		
	baz=131,SNR=13								
T33A	**Patterson Ranc**	130.70	46	⇑P		PKPdf	19 18 45.4	+1.4	
	baz=131								
T33A				⇑SKP			19 21 19.2		
	baz=131								
W32A	**Sentinel**	130.79	49	⇓P		PKPdf	19 18 46.0	+1.8	
	baz=131								
W32A				⇑SKP			19 21 19.7		
	baz=131,SNR=11								
430A	**Baggett Ranch,**	130.79	55	⇓P		PKPdf	19 18 46.3	+1.9	
	baz=131								
430A				⇑SKP			19 21 19.5		
	baz=131,SNR=7.6								
Z31A	**Sharp Cattle R**	130.79	52	⇓P		PKPdf	19 18 46.1	+1.8	
	baz=131								
Z31A				⇑SKP			19 21 19.3		
	baz=131,SNR=9.9								
131A	**Roby**	130.84	53	⇓SKP		SKPab	19 21 19.4	-0.1	
	baz=131,SNR=5.4								
KSU1	**Kansas State U**	130.90	43	*e*SKPbc		SKPab	19 21 19.7	+0.1	
KSU1	**Kansas State U**	130.90	43	⇑P		PKPdf	19 18 45.9	+1.6	
	baz=131								
KSU1				⇑SKP			19 21 20.0		
	baz=131								
530A	**J-C Ranch, Com**	130.91	56	⇓P		PKPdf	19 18 46.0	+1.4	
	baz=131								
530A				⇑SKP			19 21 20.1		
	baz=131,SNR=17								
X32A	**Elmer**	131.04	50	⇑P		PKPdf	19 18 46.3	+1.6	
	baz=131								
X32A				⇑SKP			19 21 20.2		
	baz=131,SNR=14								
U33A	**Lingo Farm, Me**	131.08	47	⇑SKP		SKPab	19 21 20.1	-0.3	
	baz=131,SNR=9.2								
Y32A	**R-V Farms, Ver**	131.08	51	⇓P		PKPdf	19 18 46.3	+1.6	
	baz=131								
Y32A				⇑SKP			19 21 20.4		
	baz=131,SNR=6.4								
231A	**Bronte**	131.15	53	⇑P		PKPdf	19 18 46.1	+1.1	
	baz=131								
231A				⇓SKP			19 21 20.3		
	baz=131,SNR=6.6								
V33A	**Lossen Ranch,**	131.21	48	⇓SKP		SKPab	19 21 21.0	-0.1	
	baz=131,SNR=5.4								
331A	**San Angelo**	131.28	54	⇓P		PKPdf	19 18 46.8	+1.6	
	baz=131								
331A				⇑SKP			19 21 20.6		
	baz=131								
WMOK	**Wichita Mounta**	131.29	49	*e*SKPbc		SKPab	19 21 21.3	-0.1	
Z32A	**Haskell**	131.32	51	⇑P		PKPdf	19 18 46.9	+1.7	
	baz=131								
Z32A				⇑SKP			19 21 21.2		
	baz=131,SNR=8.7								
431A	**Sonora**	131.34	55	⇑P		PKPdf	19 18 46.8	+1.4	
	baz=131								
431A				⇑SKP			19 21 20.9		
	baz=131,SNR=8.9								
W33A	**Caddo, Fort Co**	131.36	49	⇑SKP		SKPab	19 21 21.6	-0.1	
	baz=131,SNR=13								
ABTX	**Abilene, Hawle**	131.44	52	*e*SKPbc		SKPab	19 21 22.1	0.0	
ABTX	**Abilene, Hawle**	131.44	52	⇑P		PKPdf	19 18 47.3	+1.7	
	baz=131								
ABTX				⇓SKP			19 21 21.4		
	baz=131,SNR=6.6								
U34A	**Anderson Ranch**	131.49	47	⇑P		PKPdf	19 18 46.7	+1.2	
	baz=131								
U34A				⇓SKP			19 21 21.9		
	baz=131,SNR=9.2								
SCHQ	**Schefferville**	131.53	9	PKP		PKPdf	19 18 45.0	0.0	
SCHQ	**Schefferville**	131.53	9	PKP		PKPdf	19 18 45.0	0.0	
	comp=E,8.4nm,0.6s,baz=315,slow=2.1,SNR=14								
531A	**Rocksprings**	131.55	56	⇑P		PKPdf	19 18 47.5	+1.7	
	baz=132								
531A				⇓SKP			19 21 22.1		
	baz=132,SNR=18								
SCIA	**State Center**	131.62	38	*e*SKPbc		SKPab	19 21 23.5	+1.0	
232A	**Coleman**	131.70	53	⇓SKP		SKPab	19 21 22.1	-1.2	
	baz=132,SNR=10								
Y33A	**Hilltop Ranch,**	131.70	50	⇓SKP		SKPab	19 21 22.7	-0.5	
	baz=132								
631A	**Perdido Creek**	131.77	57	⇓P		PKPdf	19 18 48.1	+1.9	
	baz=132								
631A				⇑SKP			19 21 22.6		
	baz=132,SNR=8.1								
V34A	**Guthrie**	131.77	47	⇑SKP		SKPab	19 21 23.4	0.0	
	baz=132								
332A	**Millersview**	131.80	54	⇓P		PKPdf	19 18 48.1	+1.8	
	baz=132								
332A				⇑SKP			19 21 23.0		
	baz=132,SNR=13								
W34A	**Bridge Creek,**	131.84	48	⇑SKP		SKPab	19 21 23.5	-0.2	
	baz=132								
Z33A	**Whitaker Ranch**	131.88	51	⇓SKP		SKPab	19 21 23.6	-0.4	
	baz=132								
432A	**Menard**	131.93	55	⇓SKP		SKPab	19 21 23.2	-1.1	
	baz=132,SNR=9.8								
133A	**Hamilton Ranch**	132.02	52	⇓SKP		SKPab	19 21 23.8	-0.8	
	baz=132,SNR=8.5								
JCT	**Junction City**	132.06	55	*e*PKIKP		PKPdf	19 18 48.3	+1.5	
JCT				*e*			19 21 24.0		
JCT	**Junction City**	132.06	55	*e*PKPdf		PKPdf	19 18 48.3	+1.5	
JCT				*e*SKPbc		SKPbc	19 21 24.0	+0.7	
JCT	**Junction City**	132.06	55	⇑P		PKPdf	19 18 48.3	+1.5	
	baz=132								
JCT				⇓SKP			19 21 23.8		
	baz=132,SNR=14								
X34A	**Smith Ranch, M**	132.06	49	⇓SKP		SKPab	19 21 24.1	-0.6	
	baz=132								
532A	**Rocksprings**	132.09	56	⇓SKP		SKPab	19 21 23.6	-1.5	
	baz=132,SNR=16								
233A	**Rising Star**	132.25	53	⇓P		PKPdf	19 18 48.2	+1.1	
	baz=132								
233A				⇓SKP			19 21 24.6		
	baz=132,SNR=10.0		

534A				⇓SKP			19 21 27.9			
	baz=133									
WHTX	**Lake Whitney**	**133.39**	**52**	⇓SKP	**SKPab**		**19 21 28.5**	**-2.0**		
	baz=133									
933A	**Laredo**	**133.40**	**59**	⇑SKP	**SKPab**		**19 21 29.1**	**-1.7**		
	baz=133									
634A	**China Grove, S**	**133.61**	**56**	⇑SKP	**SKPab**		**19 21 30.0**	**-1.7**		
	baz=134									
734A	**La Parita Cree**	**133.62**	**57**	⇓SKP	**SKPab**		**19 21 30.2**	**-1.5**		
	baz=134									
335A	**Moody**	**133.69**	**53**	⇑SKP	**SKPab**		**19 21 29.3**	**-2.6**		
	baz=134									
834A	**Tilden**	**133.85**	**58**	⇓SKP	**SKPab**		**19 21 31.1**	**-1.6**		
	baz=134									
535A	**Dale**	**134.03**	**55**	⇑SKP	**SKPab**		**19 21 31.4**	**-2.1**		
	baz=134									
934A	**Benavides**	**134.04**	**58**	⇓SKP	**SKPab**		**19 21 31.7**	**-1.9**		
	baz=134									
034A	**Hebbronville**	**134.07**	**59**	⇑P	**PKPdf**		**19 18 51.9**	**+1.4**		
	baz=134									
034A				⇑SKP			19 21 32.1			
	baz=134									
635A	**Leesville**	**134.09**	**56**	⇓P	**PKPdf**		**19 18 52.5**	**+1.9**		
	baz=134									
635A				⇑SKP			19 21 31.8			
	baz=134									
735A	**Kenedy**	**134.24**	**56**	⇓P	**PKPdf**		**19 18 52.7**	**+1.9**		
	baz=134									
735A				⇑SKP			19 21 32.0			
	baz=134									
835A	**Beeville**	**134.41**	**57**	⇓SKP	**SKPab**		**19 21 33.4**	**-1.8**		
	baz=134									
536A	**Bastrop**	**134.42**	**54**	⇓P	**PKPdf**		**19 18 52.9**	**+1.8**		
	baz=134									
536A				⇑SKP			19 21 33.1			
	baz=134									
TRQA	**Tornquist**	**134.52**	**172**	*e*PKPdf	**PKPdf**		**19 18 50.1**	**-1.1**		
TRQA				*e*PP	**PP**		**19 21 31.2**	**+1.2**		
035A	**Encino**	**134.60**	**59**	⇑SKP	**SKPab**		**19 21 34.1**	**-1.9**		
	baz=135									
035Z	**Hargill**	**134.77**	**60**	⇑SKP	**SKPab**		**19 21 35.2**	**-1.5**		
	baz=135									
MIAR	**Mount Ida**	**135.23**	**47**	*e*PKIKP	**PKPdf**		**19 18 53.7**	**+1.2**		
MIAR				*e*			19 21 34.1			
MIAR	**Mount Ida**	**135.23**	**47**	*e*PKPdf	**PKPdf**		**19 18 53.7**	**+1.2**		
MIAR				*e*SKPbc	**SKPbc**		**19 21 34.1**	**+0.6**		
PBMO	**Poplar Bluff**	**136.28**	**42**	*e*PKPdf	**PKPdf**		**19 18 55.9**	**+1.5**		
OLIL	**Olney**	**136.64**	**39**	*e*PKPdf	**PKPdf**		**19 18 57.4**	**+2.3**		
OLIL				*e*SKPbc	**SKPbc**		**19 21 38.1**	**+0.6**		
OXF	**Oxford**	**138.21**	**45**	*e*PKHKP	PKPpre		19 18 50.1			
OXF	**Oxford**	**138.21**	**45**	*e*PKPdf	PKPpre		19 18 50.1			
OXF				*e*SKPbc	**SKPbc**		**19 21 42.1**	**0.0**		
WVT	**Waverly**	**138.37**	**41**	*e*SKPbc	**SKPbc**		**19 21 42.1**	**-0.4**		
VBMS	**Vicksburg**	**138.59**	**48**	*e*SKPbc	**SKPbc**		**19 21 44.2**	**+0.9**		
ACSO	**Alum Creek Sta**	**138.62**	**33**	*e*PKPdf	**PKPdf**		**19 18 58.7**	**+0.1**		
CFAA	**Coronel Fontan**	**139.40**	**162**	PKP	**PKPdf**		**19 19 00.1**	**-0.3**		
CFAA				SKPbc	**SKPbc**		**19 21 44.6**	**-1.0**		
CFAA	**Coronel Fontan**	**139.40**	**162**	PKP	**PKPdf**		**19 19 00.1**	**-0.3**		
	comp=E,1.2nm,0.8s,baz=256,slow=1.8,SNR=7.7									
CFAA				SKPbc	**SKPbc**		**19 21 44.6**	**-1.0**		
	comp=E,1.4nm,1.0s,baz=204,slow=2.8,SNR=8.5									
SWET	**Sewanee**	**140.16**	**41**	*e*PKPdf	PKPdf		19 18 54.8	-6.8		
SWET				*e*SKPbc	**SKPbc**		**19 21 47.3**	**-0.2**		
LRAL	**Lakeview Retre**	**140.70**	**45**	*e*PKPdf	PKPdf		19 18 57.1	-5.4		
LRAL				*e*SKPbc	**SKPbc**		**19 21 48.8**	**-0.1**		
TZTN	**Tazewell**	**140.82**	**38**	*e*PKPdf	**PKPdf**		**19 18 58.7**	**-4.0**		
TZTN				*e*SKPbc	**SKPbc**		**19 21 49.2**	**+0.1**		
CPCT	**Cooper Cave**	**140.92**	**40**	*e*PKPdf	**PKPdf**		**19 18 59.0**	**-4.0**		
CPCT				*e*SKPbc	**SKiKP**		**19 21 50.7**	**-0.5**		
LCO	**Las Campanas**	**140.95**	**158**	*e*PKPdf	**PKPdf**		**19 19 03.7**	**+0.1**		
LCO				*e*SKPbc	**SKPbc**		**19 21 48.3**	**-1.8**		
KSPA	**Keystone Colle**	**141.09**	**25**	*e*PKPdf	**PKPdf**		**19 18 59.4**	**-3.6**		
TKL	**Tuckaleechee C**	**141.26**	**39**	*e*SKPbc	**SKPbc**		**19 21 50.5**	**+0.3**		
MVL	**Millersville**	**142.11**	**27**	*e*PKPdf	**PKPdf**		**19 19 01.6**	**-3.3**		
PAL	**Palisades**	**142.31**	**24**	*e*PKPdf	**PKPdf**		**19 19 02.1**	**-3.1**		
SDMD	**Soldier's Deli**	**142.35**	**28**	*e*PKPdf	**PKPdf**		**19 19 02.4**	**-2.9**		
GOGA	**Godfrey**	**142.87**	**41**	*e*SKPbc	**SKiKP**		**19 21 55.1**	**-0.3**		
KMSC	**Kings Mountain**	**143.09**	**37**	*e*PKPdf	PKPbc		19 19 04.7	-0.2		
KMSC	**Kings Mountain**	**143.09**	**37**	P	PKPbc		19 19 04.8	0.0		
	baz=143									
JSRW	**J. Sargeant Re**	**143.18**	**31**	*e*PKPdf	PKPab		19 19 04.6	0.0		
JSRW				*e*SKPbc	**SKPbc**		**19 21 54.8**	**0.0**		
JSC	**Jenkinsville**	**143.72**	**38**	*e*PKIKP	PKPbc		19 19 06.9	+0.1		
JSC	**Jenkinsville**	**143.72**	**38**	*e*PKPdf	PKPbc		19 19 06.9	+0.1		
TIGA	**Tifton**	**143.98**	**44**	*e*PKPdf	PKPbc		19 19 07.4	-0.3		
TIGA	**Tifton**	**143.98**	**44**	⇑P	PKPbc		19 19 07.3	-0.4		
	baz=144									
CNNC	**Cliffs of the**	**145.01**	**34**	*e*PKPdf	**PKPbc**		**19 19 10.8**	**0.0**		
NHSC	**New Hope**	**145.17**	**39**	*e*PKPab	**PKPab**		**19 19 11.9**	**-0.4**		
TEIG	**Tepich**	**145.21**	**65**	*e*PKPab	**PKPab**		**19 19 12.6**	**-0.3**		
CSU	**Charleston Sou**	**145.32**	**39**	*e*PKPab	**PKPab**		**19 19 12.7**	**-0.2**		
CPUP	**Villa Florida**	**146.61**	**176**	PKPbc	**PKPbc**		**19 19 16.1**	**+0.5**		
CPUP				SKPbc	**SKPbc**		**19 22 02.8**	**-0.3**		
CPUP	**Villa Florida**	**146.61**	**176**	PKPbc	**PKPbc**		**19 19 16.1**	**+0.5**		
	comp=E,24nm,0.8s,baz=186,slow=2.4,SNR=16									
CPUP				SKPbc	**SKPbc**		**19 22 02.8**	**-0.3**		
	comp=E,1.1nm,0.5s,baz=102,slow=0.6,SNR=3.5									
LVC	**Limon Verde**	**147.39**	**156**	*e*PKPdf	**PKPbc**		**19 19 16.7**	**-1.4**		
JTS	**JuntasAbangare**	**150.19**	**82**	*e*PKPdf	**PKPbc**		**19 19 25.1**	**+0.3**		
NNA	**Nana**	**151.07**	**131**	*e*PKPdf	**PKPbc**		**19 19 27.6**	**+0.7**		
LPAZ	**La Paz**	**153.28**	**151**	PKP	**PKPdf**		**19 19 24.8**	**+0.4**		
LPAZ				PKPbc	**PKiKP**		**19 19 32.8**	**+0.3**		
LPAZ				PKPab	**PKPab**		**19 19 46.8**	**-0.1**		
LPAZ	**La Paz**	**153.28**	**151**	PKP	**PKPdf**		**19 19 24.8**	**+0.4**		
	comp=E,5.2nm,1.0s,baz=116,slow=2.9,SNR=7.8									
LPAZ				PKPbc	**PKiKP**		**19 19 32.8**	**+0.3**		
	comp=E,6.3nm,1.0s,baz=31,slow=4.4,SNR=7.7									
LPAZ				PKPab	**PKPab**		**19 19 46.8**	**-0.1**		
	comp=E,14nm,1.1s,baz=186,slow=5.1,SNR=7.8									
OTAV	**Otavalo**	**155.57**	**105**	*e*PKPdf	**PKPdf**		**19 19 28.5**	**+1.0**		
SIV	**San Ignacio**	**156.19**	**165**	PKP	**PKPdf**		**19 19 27.9**	**+0.2**		
SIV				PKPab	**PKPab**		**19 19 59.8**	**+1.2**		
SIV	**San Ignacio**	**156.19**	**165**	PKP	**PKPdf**		**19 19 27.9**	**+0.2**		
	comp=E,5.9nm,1.0s,baz=230,slow=3.7,SNR=5.4									
SIV				PKPab	**PKPab**		**19 19 59.8**	**+1.2**		
	comp=E,5.4nm,0.7s,baz=197,slow=4.2,SNR=7.6									
BDFB	**Brasilia**	**156.31**	**197**	PKP	**PKPdf**		**19 19 28.0**	**0.0**		
BDFB				PKPab	**PKPab**		**19 19 59.5**	**+0.3**		
BDFB	**Brasilia**	**156.31**	**197**	PKP	**PKPdf**		**19 19 28.0**	**0.0**		
	comp=E,1.4nm,0.4s,baz=79,slow=5.2,SNR=3.0									
BDFB				PKPab	**PKPab**		**19 19 59.5**	**+0.3**		
	comp=E,1.7nm,0.5s,baz=264,slow=3.7,SNR=4.3									
ROSC	**El Rosal**	**160.59**	**96**	PKP	**PKPdf**		**19 19 33.2**	**-0.2**		
ROSC				PKPab	**PKPab**		**19 20 20.3**	**+1.7**		
ROSC	**El Rosal**	**160.59**	**96**	PKP	**PKPdf**		**19 19 33.2**	**-0.2**		
	comp=E,10.0nm,0.6s,baz=195,slow=2.6,SNR=4.9									
ROSC				PKPab	**PKPab**		**19 20 20.3**	**+1.7**		
	comp=E,11nm,0.6s,baz=85,slow=22,SNR=6.3									
SAML	**Samuel**	**162.00**	**153**	*e*PKPdf	**PKPdf**		**19 19 35.2**	**+0.9**		
SDV	**Santo Domingo**	**164.37**	**83**	*e*PKPab	**PKPab**		**19 20 35.8**	**+0.8**		

*SJA **27** 19:11:03.0±0.7, 35°.53S×70°.28W, h51km±10km, ML3.5, MW3.8*

*GUC **27** 19:11:07.0±0.4, 34°.75S×70°.24W, h12km±3km, ML4.2*

ISC 27 19:11:05.4±2.5, 34°.8S±0°.1×70°.27W±0°.05, h7km±12km, n23, σ1§06/34, 3C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CHCH	**Chadas Angostu**	**0.94**	**340**	⇓*i*P		**Pg**		**19 11 23.7**		**+0.1**
CHCH				*i* S		**Sg**		**19 11 36.0**		**+0.3**
PCH	**Pirque**	**1.22**	**350**	⇓*i*P		**Pb**		**19 11 28.2**		**-0.6**
PCH				*i* S		**Sg**		**19 11 44.4**		**-0.1**
LNV	**Longovilo**	**1.28**	**312**	⇓*i*P		**Pn**		**19 11 29.7**		**0.0**
LNV				*i* S		**Sn**		**19 11 47.2**		**+0.2**
ANTU	**Antumapu**	**1.29**	**346**	⇑*i*P		**Pn**		**19 11 29.5**		**-0.3**
ANTU				*i* S		**Sn**		**19 11 46.5**		**-0.8**
ANTU				AML	AML		19 11 48.1			
	comp=E,6μm,0.5s									
TACH	**Talagante**	**1.29**	**335**	⇓*i*P		**Pn**		**19 11 29.7**		**-0.1**
TACH				*i* S		**Sg**		**19 11 47.0**		**+0.1**
FSR	**Penalolen**	**1.36**	**351**	*i* P		**Pg**		**19 11 32.0**		**+0.5**
FSR				*i* S		**Sg**		**19 11 49.9**		**+0.7**
LACH	**Col Las Americ**	**1.39**	**351**	*i* P		**Pn**		**19 11 31.3**		**+0.1**
LACH				*i* S		**Sg**		**19 11 49.7**		**-0.3**
SAN	**Santiago**	**1.41**	**347**	⇓*i*P		**Pn**		**19 11 31.5**		**0.0**
SAN				*i* S		**Sn**		**19 11 49.9**		**-0.3**
CLCH	**Cerro Calan**	**1.44**	**351**	⇑*i*P		**Pn**		**19 11 32.2**		**+0.2**
CLCH				*i* S		**Sg**		**19 11 51.4**		**-0.3**
CLCH				AML	AML		19 11 52.3			
	comp=E,7μm,0.4s									
PEL	**Peldehue**	**1.71**	**348**	⇓*i*P		**Pb**		**19 11 36.7**		**-0.5**
PEL				*i* S		**Sg**		**19 11 59.5**		**-0.9**
PEL				AML	AML		19 12 00.9			
	comp=N,9μm,0.4s									
ROCH	**El Roble**	**1.95**	**341**	*i* P		**Pn**		**19 11 40.4**		**+1.3**
ROCH				*i* S		**Sb**		**19 12 06.5**		**+0.6**
ROCH				AML	AML		19 12 07.7			
	comp=E,3μm,0.5s									
AVIZ	**Vizcacheras**	**1.98**	**48**	*i* P		**Pg**		**19 11 43.6**		**+0.2**
AAGR	**Agrelo**	**2.11**	**35**	*i* P		**Pg**		**19 11 46.5**		**+0.6**
IHA	**Instituto Hidr**	**2.12**	**327**	⇑*i*P		**Pb**		**19 11 44.1**		**-0.1**
ARCO	**CERRO ARCO**	**2.27**	**30**	*i* P		**Pg**		**19 11 48.7**		**-0.2**
ARCO				AML	AML		19 12 25.7			
	comp=Z,199nm,0.6s									
ASAL	**Salagasta**	**2.53**	**29**	*i* P		**Pg**		**19 11 53.1**		**-0.8**
ASAL				*i* S		**Sg**		**19 12 29.7**		**+3.1**
RTLS	**Leoncito**	**3.12**	**15**	*i* P9		**Pb**		**19 12 02.2**		**+0.8**
ACAN	**Cantantal**	**3.62**	**46**	*i* P		**Pb**		**19 12 07.0**		**-2.8**
CFAA	**Coronel Fontan**	**3.63**	**29**	*i* P		**Pb**		**19 12 08.7**		**-1.3**
RTLL	**Cerro Villicun**	**3.80**	**24**	*i* P		**Pb**		**19 12 10.4**		**-2.4**
AMOG	**MOGNA**	**4.15**	**22**	*i* P		Pb		19 12 15.5		-3.4
SUCO	**SUCO**	**4.71**	**73**	*i* P		**Pn**		**19 12 17.8**		**+0.8**
SUCO				*e*S		**Sn**		**19 13 12.8**		**+1.1**
SUCO				AML	AML		19 13 39.6			
	comp=Z,43nm,0.7s									
AVFE	**Valle Fertil**	**4.78**	**31**	IAML			19 14 00.0			
	comp=Z,16nm,0.3s									

DDA 27 19:11:25.0, 40°.57N×27°.49E, h7km, MD2.2, Turkey

*ISCJB **27** 19:40:25.7±1.5, 30°.96S±0°.05×177°.4W±0°.2, h33km, mb4.6/6, Error ellipse: s-maj=29.2km s-min=6.1km az=7.3*

*IDC **27** 19:40:26.4±1.0, 30°.22S×177°.90W, h0km, mb4.7/5, mb1 4.8/5, mb1mx4. 1/34, mbtmp4.7/5, MS3.9/1, Ms1 3.8/1, ms1mx3.3/25, Error ellipse: s-maj=32.9km s-min=26.6km az=25.0*

*NEIC **27** 19:40:30.5±3.6, 30°.63S×177°.80W, h32km±24km, mb4.8/4, Error ellipse: s-maj=22.3km s-min=12.5km az=107.0*

ISC 27 19:40:31.9±0.8, 30°.63S±0°.06×177°.9W±0°.1, h46km, n47, σ2§28/47, mb4.7/6, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
RAO	**Raoul Island**	**1.38**	**0**	Pn		**Pn**		**19 40 53.7**		**-1.0**
RAO				Sn		**Sn**		**19 41 07.2**		**-4.5**
RAO	**Raoul Island**	**1.38**	**0**	Pn		**Pn**		**19 40 53.7**		**-1.0**
	152nm,0.3s,baz=186,slow=21,SNR=9.6									
RAO				Sn		**Sn**		**19 41 07.2**		**-4.5**
	496nm,0.3s,baz=135,slow=22,SNR=9.0									
HAZ	**Te Kaha**	**7.95**	**205**	PN		**Pn**		**19 42 21.9**		**-3.0**
HAZ				SN		**Sn**		**19 43 51.2**		**-2.2**
PUZ	**Puketiti**	**8.07**	**202**	PN		Pn		19 42 22.5		-4.0
PUZ				SN		**Sn**		**19 43 50.9**		**-5.4**
CNGZ	**Carnagh Statio**	**8.46**	**201**	PN		Pn		19 42 27.7		-4.1
OUZ	**Omahuta**	**8.47**	**235**	*e*P		**Pn**		**19 42 32.4**		**+0.4**
	26nm,1.0s									
MWZ	**Matawai**	**8.55**	**205**	PN		Pn		19 42 29.3		-3.9
MWZ				SN		**Sn**		**19 44 04.3**		**-4.0**
URZ	**Urewera**	**8.64**	**207**	Pn		**Pn**		**19 42 32.5**		**-1.8**
URZ				Sn		**Sn**		**19 44 07.0**		**-3.5**
URZ	**Urewera**	**8.64**	**207**	Pn		**Pn**		**19 42 32.6**		**-1.8**
	1.3nm,0.3s,baz=258,slow=4.2,SNR=7.4									
URZ				Sn		**Sn**		**19 44 07.0**		**-3.5**
	9.8nm,0.3s,baz=158,slow=19,SNR=19									
RIGZ	**Rimuhau**	**8.80**	**203**	PN		Pn		19 42 30.7		-5.9
KNZ	**Kokohu**	**9.12**	**202**	PN		Pn		19 42 36.2		-4.7
BFZ	**Birch Farm**	**11.09**	**204**	PN		Pn		19 43 00.4		-7.5
CMSA	**Cobar Meteorol**	**31.09**	**259**	P		**P**		**19 46 48.3**		**+2.4**
	baz=31,SNR=15									
CTA	**Charters Tower**	**33.90**	**280**	P		**P**		**19 47 12.4**		**+1.7**
CTA	**Charters Tower**	**33.90**	**280**	P		**P**		**19 47 12.4**		**+1.7**
	4.7nm,0.6s,baz=101,slow=12,SNR=12									
CTAO	**Charters Tower**	**33.90**	**280**	*e*P		**P**		**19 47 12.9**		**+2.3**
	19nm,0.9s									
STKA	**Stephens Creek**	**34.49**	**257**	*e*P		**P**		**19 47 17.3**		**+1.6**
	5.1nm,0.8s									
STKA	**Stephens Creek**	**34.49**	**257**	P		**P**		**19 47 17.4**		**+1.8**
	30nm,0.8s,baz=98,slow=9.9,SNR=53									
STKA				LR		LR		20 00 11.0		
	comp=Z,208nm,20.1s,baz=6.2,slow=34									
STKA	**Stephens Creek**	**34.49**	**257**	P		**P**		**19 47 17.6**		**+2.0**
	baz=34,SNR=41									
HTT	**Hallett**	**36.50**	**254**	P		**P**		**19 47 34.4**		**+1.5**
	baz=36,SNR=6.4									
BBOO	**Buckleboo**	**38.97**	**254**	P		**P**		**19 47 54.4**		**+0.6**
	baz=39,SNR=6.6									
COEN	**Coen**	**39.40**	**286**	P		**P**		**19 47 59.0**		**+1.5**
	baz=39,SNR=5.3									
ASAR	**Alice Springs**	**43.16**	**267**	P		**P**		**19 48 28.6**		**+0.2**
ASAR	**Alice Springs**	**43.16**	**267**	P		**P**		**19 48 28.6**		**+0.2**
	1.7nm,0.5s,baz=105,slow=7.1,SNR=32									
WRAB	**Tennant Creek**	**44.17**	**272**	*e*P		**P**		**19 48 36.1**		**-0.3**
	8.4nm,0.8s									
WRA	**Warramunga Arr**	**44.17**	**272**	P		**P**		**19 48 36.4**		**-0.1**
WRA	**Warramunga Arr**	**44.17**	**272**	P		**P**		**19 48 36.4**		**-0.1**
	3.2nm,0.3s,baz=111,slow=8.2,SNR=173									
WRKA	**Warakurna**	**47.52**	**263**	P		**P**		**19 49 02.1**		**-0.8**
	baz=48,SNR=6.1									
QSPA	**South Pole Qui**	**59.48**	**180**	*e*P		**P**		**19 50 32.1**		**+2.1**
	17nm,0.9s									
QSPA				P		**P**		**19 50 33.5**		**+3.4**
QSPA	**South Pole Qui**	**59.48**	**180**	P		P		19 50 33.5		+3.4
	7.3nm,0.9s,baz=43,slow=1.7,SNR=25									
SYO	**Syowa Base**	**76.91**	**193**	⇑*e*P		**P**		**19 52 18.6**		**-0.3**
SYO	**Syowa Base**	**76.91**	**193**	⇑*e*P		P		19 52 24.6		+5.7
MKAR	**Makanchi Array**	**117.97**	**310**	PKP		**PKPdf**		**19 59 13.0**		**-0.3**
MKAR	**Makanchi Array**	**117.97**	**310**	PKP		**PKPdf**		**19 59 13.0**		**-0.3**
	0.3nm,0.6s,baz=98,slow=2.9,SNR=3.0									
ARCES	**ARCESS Array B**	**138.83**	**348**	PKPpre		PKPpre		19 59 49.6		
ARCES	**ARCESS Array B**	**138.83**	**348**	PKhKP		PKPpre		19 59 49.6		
	2.0nm,0.7s,baz=60,slow=3.6,SNR=5.0									
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc		**PKPdf**		**20 00 03.9**		**-0.1**
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc		**PKPdf**		**20 00 03.9**		**-0.1**
	3.8nm,0.4s,baz=56,slow=4.5,SNR=26									
NB2	**NORSAR Subarra**	**148.99**	**351**	PKP		**PKPbc**		**20 00 14.4**		**+0.2**
	comp=Z,12nm,1.7s,baz=17,slow=2.6									
NOA	**NORSAR Array B**	**148.99**	**351**	PKPbc		**PKPbc**		**20 00 13.8**		**-0.4**
NOA	**NORSAR Array B**	**148.99**	**351**	PKPbc		**PKPbc**		**20 00 13.8**		**-0.4**
	comp=Z,1.1nm,0.5s,baz=15,slow=4.3,SNR=3.3									
AKASG	**Malin Array Be**	**151.52**	**323**	PKPbc		**PKPbc**		**20 00 20.4**		**-0.1**
AKASG	**Malin Array Be**	**151.52**	**323**	PKPbc		**PKPbc**		**20 00 20.4**		**-0.1**
	comp=Z,1.6nm,0.6s,baz=53,slow=2.7,SNR=12									
BRTR	**Keskin Array B**	**152.77**	**298**	PKPbc		**PKPbc**		**20 00 25.0**		**+1.1**
BRTR				PKPab		**PKPab**		**20 00 34.4**		**-0.6**
BRTR	**Keskin Array B**	**152.77**	**298**	PKPbc		**PKPbc**		**20 00 25.0**		**+1.1**
	comp=Z,1.0nm,0.8s,baz=64,slow=2.9,SNR=5.0									
BRTR				PKPab		**PKPab**		**20 00 34.4**		**-0.6**
	comp=Z,0.3nm,0.4s,baz=78,slow=2.3,SNR=2.7									
TORD	**Torodi Ar. Bea**	**162.60**	**179**	PKPab		**PKPab**		**20 01 22.2**		**+4.7**
TORD	**Torodi Ar. Bea**	**162.60**	**179**	PKPab		**PKPab**		**20 01 22.2**		**+4.7**
	comp=Z,1.1nm,0.8s,baz=185,slow=4.2,SNR=5.2									

*BJI **27** 20:30:28.2, 28°.51N×141°.06E, h160km, mB5.0/32, mb4.6/48*

*ISCJB **27** 20:30:32.0±0.4, 28°.60N±0°.03×140°.58E±0°.02, h161km±3km, mb4.7/148, Error ellipse: s-maj=4.2km s-min=3.5km az=2.5*

*MOS **27** 20:30:32.8±0.8, 28°.62N×140°.53E, h174km, mb5.0/43, Error ellipse: s-maj=9.6km s-min=4.7km az=101.4*

*JMA **27** 20:30:32.5±0.1, 28°.61N×141°.07E, h172km, M5.1*

JMA Felt I J1.

*IDC **27** 20:30:33.7±0.6, 28°.59N×140°.57E, h170km±5km, mb4.3/28, mb1 4.5/31, mb1mx4.5/37, mbtmp4.8/31, Error ellipse: s-maj=10.8km s-min=7.3km az=86.0*

*NEIC **27** 20:30:33.3±0.1, 28°.62N×140°.66E, mb4.9/87, Error ellipse: s-maj=4.5km s-min=3.6km az=153.0*

NEIC Recorded [1 JMA] in the Chichijima-retto and Hahajima-retto.

*SZGRF **27** 20:30:34.7, 28°.25N×139°.49E, h168km, mb5.4, Bonin Islands, Japan, region*

ISC 27 20:30:33.1±0.3, 28°.59N±0°.03×140°.65E±0°.04, h167km±2km, h168km:pP-P, n669, σ1§13/750, mb4.8/153, 153C-154D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CBIJ	**Chichi jima**	**2.02**	**137**	P		**Pn**		**20 31 07.2**		**-2.3**
CBIJ				S		**Sn**		**20 31 33.6**		**-3.9**
CBIJ	**Chichi jima**	**2.02**	**137**	P		**Pn**		**20 31 07.4**		**-2.1**
CBIJ				S		**Sn**		**20 31 32.9**		**-4.7**
JCJ	**Chichijima**	**2.02**	**137**	P		**Pn**		**20 31 07.4**		**-2.1**
	6μm,0.3s,baz=311,slow=4.8,SNR=1211									
JCJ				S		**Sn**		**20 31 32.9**		**-4.7**
	6μm,0.3s,baz=274,slow=23,SNR=15									
JHHJ	**Haha-jima-NKT**	**2.38**	**145**	P		**Pn**		**20 31 11.3**		**-2.3**
JHHJ				S		**Sn**		**20 31 41.1**		**-3.9**
JHCJ	**Hachijojimakas**	**4.53**	**351**	P		**Pn**		**20 31 42.0**		**+1.4**
JHCJ				S		**Sn**		**20 32 32.8**		**-0.6**
JHJ2	**Mitsune**	**4.56**	**351**	P		**Pn**		**20 31 42.5**		**+1.5**
JHJ2	**Mitsune**	**4.56**	**351**	*e*Pn		**Pn**		**20 31 41.8**		**+0.8**
JHJ2				*e*Sn		**Sn**		**20 32 32.3**		**-1.9**
JMY	**Miyakejima3**	**5.55**	**350**	P		**Pn**		**20 31 55.2**		**+1.2**
JMY				S		**Sn**		**20 32 57.0**		**-0.5**
JKO	**Kozu shima**	**5.73**	**347**	P		**Pn**		**20 31 57.5**		**+1.2**
JKO				S		**Sn**		**20 33 03.5**		**+1.9**
TK02	**Tokai 2**	**5.89**	**336**	P		**Pn**		**20 32 00.5**		**+2.3**
TTO1	**TONANKAI O.B.S**	**6.01**	**328**	P		**Pn**		**20 32 02.4**		**+2.6**
BSO1	**Boso 1**	**6.05**	**3**	P		**Pn**		**20 31 59.4**		**-0.6**
BSO1				S		**Sn**		**20 33 04.9**		**-3.6**
JWZ	**Kozaga**	**6.49**	**321**	P		**Pn**		**20 32 09.2**		**+2.8**
JIE	**Ise**	**6.69**	**331**	P		**Pn**		**20 32 11.2**		**+2.2**
JOD2	**Odawara 2**	**6.79**	**349**	P		**Pn**		**20 32 10.6**		**+0.3**
JOD2				S		**Sn**		**20 33 25.2**		**-1.6**
JYZW	**Yoshizawa**	**6.85**	**340**	P		**Pn**		**20 32 12.0**		**+0.9**
JRY	**Ryogami san**	**7.55**	**349**	P		**Pn**		**20 32 20.5**		**+0.1**
JRY				S		**Sn**		**20 33 41.0**		**-4.1**
JNT	**Takato**	**7.57**	**344**	P		**Pn**		**20 32 21.7**		**+0.9**
MJAR	**Matsushiro Arr**	**8.19**	**346**	P		**Pn**		**20 32 28.6**		**-0.4**
MJAR				S		**Sn**		**20 33 55.6**		**-4.9**
MJAR	**Matsushiro Arr**	**8.19**	**346**	P		**Pn**		**20 32 28

HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,350nm,8.4s
HHC LR LR
comp=Z,460nm,17.3s
HHC LR LR
comp=Z,1μm,18.5s
HHC LR LR
comp=Z,350nm,18.3s
ENH Enshi 27.15 281 *e*P **P** **20 36 01.5 +0.6**
comp=Z,11nm,0.8s
PETK Petropavlovsk- 27.54 22 P **P** **20 36 04.8 +0.8**
PETK Petropavlovsk- 27.54 22 P **P** **20 36 04.8 +0.8**
PETK Petropavlovsk- 27.54 22 P **P** **20 36 04.8 +0.8**
comp=Z,5.3nm,0.8s,baz=172,slow=6.3,SNR=4.3
XAN Xi'an 27.58 289 P **P** **20 36 05.3 +0.6**
XAN pmax pmax
comp=Z,7.0nm,0.9s
PET Petropavlovsk 27.80 24 *e*P **P** **20 36 07.1 +0.8**
PET pmax pmax
comp=Z,19nm,0.5s
GYA Guiyang 30.16 274⇑ *i*P **P** **20 36 29.0 +1.3**
GYA pP **pP** **20 37 03.8 +1.3**
GYA sP **sP** **20 37 23.0 +1.2**
GYA PP **PnPn** **20 37 35.3 +2.2**
GYA PcP **PcP** **20 39 27.5 +2.7**
GYA S **S** **20 41 13.3 -1.2**
GYA S S 20 41 15.5 +0.9
GYA sS **sS** **20 42 15.0 -1.1**
GYA ScP **ScP** **20 42 52.5 +1.1**
GYA ScS **ScS** **20 46 46.8 -0.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
LZH Lanzhou 31.84 293 *e*P **P** **20 36 43.0 +0.6**
LZH pP **pP** **20 37 16.3 -1.1**
LZH sP **sP** **20 37 34.8 -1.8**
LZH pmax pmax
comp=Z,15nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.0s
CD2 Chengdu 32.02 283⇑ *i*P **P** **20 36 45.3 +1.4**
CD2 pP **pP** **20 37 19.5 +0.6**
CD2 sP **sP** **20 37 38.5 +0.4**
CD2 PP **PnPn** **20 37 57.5 +1.2**
CD2 S **S** **20 41 42.5 -0.9**
CD2 sS **sS** **20 42 43.0 -2.1**
CD2 SS **SnSn** **20 43 48.5 -5.2**
CD2 pmax pmax
comp=Z,100nm,1.0s
CD2 pmax pmax
comp=Z,350nm,8.3s
ULN Ulaanbaatar 32.31 316 *e*P **P** **20 36 46.4 +0.1**
comp=Z,3.4nm,0.6s
ULN *e*PcP **PcP** **20 39 30.5 +0.2**
SONM Songino Array 32.70 315 P **P** **20 36 50.0 +0.3**
SONM PcP **PcP** **20 39 30.1 -1.2**
SONM ScP **ScP** **20 42 58.3 -1.2**
comp=Z,1.2nm,0.6s,baz=123,slow=7.9,SNR=21
SONM Songino Array 32.70 315 P **P** **20 36 50.0 +0.3**
comp=Z,3.5nm,0.9s,baz=128,slow=1.5,SNR=5.0
SONM ScP **ScP** **20 42 58.3 -1.2**
comp=Z,2.6nm,1.0s,baz=131,slow=3.7,SNR=9.8
KMI Kunming 33.91 273 P **P** **20 37 02.3 +1.8**
KMI S **S** **20 42 12.0 -0.9**
KMI pmax pmax
comp=Z,4.0nm,1.4s
KMI LR LR
comp=Z,270nm,14.0s
KMI LR LR
comp=Z,150nm,14.8s
KMI LR LR
comp=Z,180nm,17.9s
SLVN Son La 33.99 266 *e*P **P** **20 37 03.4 +2.3**
comp=Z,4.5nm,0.9s
YAK Yakutsk 34.22 351 *e*P **P** **20 37 02.0 -0.5**
YAK *e**PP **pP** **20 37 41.8 +4.1**
YAK *e* 20 39 35.0
YAK *e*S **S** **20 42 13.3 -3.1**
YAK *e* 20 43 17.2
YAK *e* 20 47 03.7
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,28nm,1.2s
YAK smax smax
comp=N,393nm,5.2s
YAK smax smax
comp=E,294nm,6.1s
YAK Yakutsk 34.22 351 *e*P **P** **20 37 02.6 +0.1**
comp=E,73nm,0.9s
SEY Seymchan 35.19 9 P **P** **20 37 11.5 +0.7**
SEY Seymchan 35.19 9 P **P** **20 37 11.5 +0.7**
SEY ScP **ScP** **20 43 07.3 -0.6**
SEY Seymchan 35.19 9 P **P** **20 37 11.5 +0.7**
comp=E,20nm,0.7s,baz=194,slow=7.2,SNR=64
SEY ScP **ScP** **20 43 07.3 -0.6**
comp=E,3.4nm,0.9s,baz=187,slow=3.3,SNR=3.6
GTA Gaotai 35.27 299 *e*P **P** **20 37 11.8 -0.1**
GTA pP **pP** **20 37 46.5 -0.9**
GTA sP **sP** **20 38 05.8 -0.7**
GTA ScP **ScP** **20 43 07.5 -1.4**
GTA pmax pmax
comp=E,7.0nm,0.8s
ZAK Zakamensk 35.59 318 *e*P **P** **20 37 13.1 -1.4**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
TLY Talaya 35.93 320 *e*P **P** **20 37 18.2 +0.9**
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY Talaya 35.93 320 *e*P **P** **20 37 18.0 +0.7**
comp=Z,3.9nm,0.6s
PMG Port Moresby 38.29 170 P **P** **20 37 38.4 +0.9**
PMG pP **pP** **20 38 14.5 +1.1**
PMG Port Moresby 38.29 170 P **P** **20 37 38.4 +0.9**
comp=Z,3.9nm,0.4s,baz=270,slow=16,SNR=2.3
PMG pP **pP** **20 38 14.5 +1.1**
comp=Z,26nm,1.1s,baz=321,slow=5.1,SNR=4.0
CMAR Chiang Mai Arr 39.38 265 P **P** **20 37 46.7 +0.1**
CMAR pP **pP** **20 38 23.2 +0.6**
CMAR Chiang Mai Arr 39.38 265 P **P** **20 37 46.7 +0.1**
comp=Z,1.0nm,0.8s,baz=50,slow=7.6,SNR=13
CMAR pP **pP** **20 38 23.2 +0.6**
comp=Z,0.9nm,0.7s,baz=86,slow=4.1,SNR=2.9
MMRI Maumere 41.06 208 *e*P **P** **20 38 00.6 +0.3**
comp=Z,64nm,1.3s
BATI Baumata 41.92 205 P **P** **20 38 07.2 -0.2**
BATI Baumata 41.92 205 P **P** **20 38 07.2 -0.2**
comp=Z,30nm,0.6s,baz=117,slow=1.9,SNR=12
BILL Bilibino 42.32 14 *d i*P **P** **20 38 10.7 +0.7**
BILL *i* 20 39 59.5
BILL pmax pmax
comp=Z,86nm,1.3s
BILL Bilibino 42.32 14 *e*P **P** **20 38 10.5 +0.5**
comp=Z,59nm,1.0s
SHL Shillong 43.29 278 *e*P **P** **20 38 20.0 +1.4**
TIXI Tiksi 43.60 355⇓ *i*P **P** **20 38 20.6 +0.4**
TIXI pmax pmax
comp=Z,26nm,0.9s
TIXI Tiksi 43.60 355 *e*P **P** **20 38 20.4 +0.2**
comp=Z,30nm,0.9s
WMQ Urumqi 44.61 305 P **P** **20 38 30.8 +2.1**
WMQ pmax pmax
comp=Z,5.0nm,0.4s
WMQ LR LR
comp=Z,130nm,20.2s
WMQ LR LR
comp=Z,39nm,17.7s
WMQ LR LR
comp=Z,57nm,19.5s
JAGI Jajag, Banyuwa 44.85 219 P **P** **20 38 29.6 -1.3**
comp=Z,36nm,1.3s
GAMB Gambell 46.40 27 *e*P **P** **20 38 42.7 +0.3**
comp=Z,6.7nm,0.8s
TAPN Taplejung 46.45 282 *e*P **P** **20 38 45.0 +1.3**
ODAN Odare 46.85 281 *e*P **P** **20 38 48.3 +1.5**
comp=Z,15nm,0.8s
PSI Prapat 47.26 245 P **P** **20 38 50.9 +1.0**
PSI Prapat 47.26 245 P **P** **20 38 50.9 +1.0**
comp=Z,6.0nm,0.5s,baz=57,slow=6.7,SNR=6.4

ZAA0 Zalesovo Array 47.47 318 *e*P **P** **20 38 50.2 -0.7**
ZALV Zalesovo Beam 47.47 318 *i* P **P** **20 38 50.5 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 47.47 318 P **P** **20 38 50.5 -0.4**
ZALV PcP **PcP** **20 40 18.1 -0.3**
ZALV ScP **ScP** **20 43 54.5 -2.2**
ZALV Zalesovo Beam 47.47 318 P **P** **20 38 50.5 -0.4**
comp=Z,2.8nm,0.4s,baz=101,slow=6.8,SNR=20
ZALV PcP **PcP** **20 40 18.1 -0.3**
comp=Z,12nm,0.7s,baz=110,slow=3.7,SNR=15
ZALV ScP **ScP** **20 43 54.5 -2.2**
comp=Z,3.9nm,0.8s,baz=94,slow=5.9,SNR=8.3
RAMN Ramite 47.51 281 *e*P **P** **20 38 52.6 +0.7**
comp=Z,5.1nm,0.4s
JIRN Jiri 47.68 283 *e*P **P** **20 38 54.4 +1.1**
comp=Z,24nm,0.8s
GUN Gumba 47.88 283 *e*P **P** **20 38 55.7 +0.8**
comp=Z,46nm,1.1s
PKI Pulchoki 48.37 283 *e*P **P** **20 38 59.4 +0.8**
MK31 Makanchi Array 48.48 309 *e*P **P** **20 38 58.5 -0.3**
MK31 Makanchi Array 48.48 309 *e*P **P** **20 38 58.5 -0.3**
MKAR Makanchi Array 48.48 309 P **P** **20 38 58.5 -0.3**
MKAR 20 40 22.4
MKAR Makanchi Array 48.48 309 P **P** **20 38 58.5 -0.3**
MKAR PcP **PcP** **20 40 22.4 +0.1**
MKAR ScP **ScP** **20 43 59.0 -2.2**
MKAR Makanchi Array 48.48 309 P **P** **20 38 58.5 -0.3**
comp=Z,1.6nm,0.8s,baz=103,slow=9.2,SNR=12
MKAR PcP **PcP** **20 40 22.4 +0.1**
comp=Z,1.8nm,0.6s,baz=97,slow=6.2,SNR=6.7
MKAR ScP **ScP** **20 43 59.0 -2.2**
comp=Z,4.6nm,0.7s,baz=61,slow=5.7,SNR=18
NVS Novosibirsk 48.53 319 *e*P **P** **20 38 57.3 -1.6**
NVS *e* 20 39 51.3
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=E,7.0nm,1.0s
WRAB Tennant Creek 48.62 188⇑ *e*P **P** **20 39 00.5 +0.5**
WRAB pmax pmax
comp=Z,49nm,1.3s
TNA Tin City 48.62 26 *e*P **P** **20 39 00.4 +1.0**
comp=Z,46nm,1.3s
DMN Daman 48.62 283 *e*P **P** **20 39 01.3 +0.9**
WRA Warramunga Arr 48.63 188 P **P** **20 39 00.4 +0.3**
WRA pP **pP** **20 39 37.0 -0.5**
WRA ScP **ScP** **20 44 00.5 -1.6**
WRA S **S** **20 45 46.5 -2.9**
WRA Warramunga Arr 48.63 188 P **P** **20 39 00.4 +0.3**
comp=Z,9.1nm,0.3s,baz=7.1,slow=7.9,SNR=126
WRA pP **pP** **20 39 37.0 -0.5**
comp=Z,18nm,0.8s,baz=10,slow=8.4,SNR=7.1
WRA ScP **ScP** **20 44 00.5 -1.6**
comp=Z,4.7nm,0.9s,baz=2.9,slow=4.7,SNR=6.2
WRA S **S** **20 45 46.5 -2.9**
comp=Z,3.0nm,0.9s,baz=7.9,slow=15,SNR=4.9
GKN Gorkha 48.93 283 *e*P **P** **20 39 03.4 +0.8**
DANN Dangsing 49.59 284 *e*P **P** **20 39 08.5 +0.7**
comp=Z,21nm,0.8s
KOLN Koldanda 49.87 283 *e*P **P** **20 39 10.4 +0.6**
KURK Kurchatov 50.97 314 P **P** **20 39 17.5 0.0**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 50.97 314 *e*P **P** **20 39 16.4 -1.1**
comp=Z,9.1nm,1.1s
KURBB Kurchatov Arra 51.03 314 P **P** **20 39 17.5 -0.4**
comp=Z,4.1nm,0.7s,baz=91,slow=6.6,SNR=42
ASAR Alice Springs 52.36 188 P **P** **20 39 28.4 +0.4**
ASAR pP **pP** **20 40 05.4 -0.6**
ASAR Alice Springs 52.36 188 P **P** **20 39 28.4 +0.4**
comp=Z,2.0nm,0.5s,baz=357,slow=4.2,SNR=24
ASAR pP **pP** **20 40 05.4 -0.6**
comp=Z,2.4nm,0.6s,baz=1.7,slow=5.7,SNR=3.3
TKM2 Tokmak 2 53.45 304 *e*P **P** **20 39 36.6 +0.4**
TKM2 pmax pmax
comp=Z,2.0nm,0.5s
TKM2 Tokmak 2 53.45 304 *e*P **P** **20 39 36.6 +0.4**
comp=Z,2.0nm,0.5s
KSH Kashi 53.65 300 *e*P **P** **20 39 35.0 -2.6**
KSH *e*PP **PP** **20 41 38.3 -1.7**
KSH *e*PcS **PcS** **20 44 39.8 -1.4**
KSH *e*S S 20 46 49.0 -9.5
KSH *e*sS sS 20 47 53.0 -12
KSH Kashi 53.65 300 *e*SS **SKiKP** **20 50 29.5 -4.6**
KSH pmax pmax
comp=Z,3.0nm,0.3s
KSH pmax pmax
comp=Z,280nm,3.7s
KSH LR LR
comp=N,180nm,6.0s
KSH LR LR
comp=E,190nm,5.4s
KSH LR LR
comp=Z,220nm,5.4s
AAK Ala-Archa 54.30 304⇑ *i*P **P** **20 39 42.0 -0.2**
AAK pmax pmax
comp=Z,6.0nm,1.6s
AAK Ala-Archa 54.30 304 P **P** **20 39 42.2 0.0**
AAK Ala-Archa 54.30 304 P **P** **20 39 42.2 0.0**
comp=Z,1.0nm,0.4s,baz=118,slow=6.8,SNR=12
BRVK Borovoye 56.09 317⇑ *i*P **P** **20 39 54.9 +0.2**
BRVK pmax pmax
comp=Z,11nm,1.2s
DZM Mont Dzumac 56.18 151 P **P** **20 39 57.1 +1.4**
DZM Mont Dzumac 56.18 151 P **P** **20 39 57.1 +1.4**
comp=Z,8.3nm,0.8s,baz=162,slow=20,SNR=4.2
COLA College 56.66 29 *d i*P **P** **20 40 00.9 +2.4**
COLA College 56.66 29 *e*P **P** **20 39 59.1 +0.6**
comp=Z,27nm,0.9s
ILAR Eielson Array 57.07 29 P **P** **20 40 01.3 -0.1**
ILAR pP **pP** **20 40 39.5 -0.4**
ILAR Eielson Array 57.07 29 P **P** **20 40 01.3 -0.1**
comp=Z,23nm,0.9s,baz=267,slow=5.7,SNR=149
ILAR pP **pP** **20 40 39.5 -0.4**
comp=Z,1.2nm,1.0s,baz=152,slow=17,SNR=1.8
PAX Paxson 57.66 31 *e*P **P** **20 40 05.8 +0.2**
PAX pmax pmax
comp=Z,46nm,1.2s
PAX Paxson 57.66 31 *e*P **P** **20 40 05.8 +0.2**
comp=Z,46nm,1.2s
BMRM Bremner River 58.10 34 *e*P **P** **20 40 09.2 +0.5**
comp=Z,42nm,0.8s
DOT Dot Lake 58.29 30 *e*P **P** **20 40 10.4 +0.5**
comp=Z,71nm,1.1s
MENT Mentasta 58.46 31 *e*P **P** **20 40 12.4 +1.3**
EGAK Eagle 59.52 29 *e*P **P** **20 40 18.6 +0.2**
comp=Z,6.7nm,0.6s
STKA Stephens Creek 60.14 179 P **P** **20 40 23.4 +0.5**
STKA Stephens Creek 60.14 179 P **P** **20 40 23.4 +0.5**
comp=Z,1.1nm,0.5s,baz=19,slow=11,SNR=4.3
DAWY Dawson 60.33 30 *e*P **P** **20 40 24.7 +0.7**
SVE Sverdlovsk 61.22 322 *e*P **P** **20 40 30.7 +0.7**
HYT Haines Junctio 61.57 33 *e*P **P** **20 40 34.0 +1.5**
INK Inuvik 62.24 25 *e*P **P** **20 40 36.8 +0.1**
comp=Z,23nm,1.0s
ARU Arti 62.41 322 *d i*P **P** **20 40 38.5 +0.5**
ARU *PP **PcP** **20 41 16.0 +0.1**
ARU S **S** **20 48 52.7 +1.3**
ARU SS **SS** **20 52 54.1 -3.5**
ARU pmax pmax
comp=Z,39nm,2.5s
ARU Arti 62.41 322 *e*P **P** **20 40 37.5 -0.5**
comp=Z,16nm,1.0s
PRGR Permogore 67.57 329⇑ *i*P **P** **20 41 09.9 -1.3**
PRGR pmax pmax
comp=Z,53nm,0.8s
KLMR Klimovskoe 70.61 329 *e*P **P** **20 41 28.4 -1.5**
KLMR pmax pmax
comp=Z,33nm,0.7s
KEV Kevo 71.12 340 *e*P **P** **20 41 33.8 +1.0**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 71.12 340 *e*p **P** **20 41 33.8 +1.0**
comp=Z,1.6nm,0.4s
YKA Yellowknife Ar 71.48 28 P **P** **20 41 35.0 0.0**
YKA Yellowknife Ar 71.48 28 P **P** **20 41 35.0 0.0**
comp=Z,10nm,0.7s,baz=295,slow=5.9,SNR=137
ARCES ARCESS Array B 71.69 340 P **P** **20 41 37.3 +1.1**
ARCES ARCESS Array B 71.69 340 P **P** **20 41 37.3 +1.1**
comp=Z,46nm,0.9s,baz=78,slow=8.6,SNR=46
PGC Sidney 72.76 44 *e*P **P** **20 41 43.3 +0.3**
JOF Joensuu 73.14 333 *e*P **P** **20 41 45.3 +0.3**
JOF pmax pmax
comp=Z,6.0nm,0.3s

JOF Joensuu 73.14 333 *ep* **P** **20 41 45.3 +0.3**
comp=Z,6.1nm,0.3s
VRHR Novokhopersk 73.59 320 *e*P **P** **20 41 46.8 -1.0**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
CMW Cultus Mountai 73.66 44 P **P** **20 41 50.0 +1.6**
OBN Obninsk 74.53 325⇓ *i*P **P** **20 41 53.6 +0.5**
OBN pmax pmax
comp=Z,32nm,1.1s
I03D Drain, OR 74.87 48⇑P **P** **20 41 56.6 +1.3**
baz=75
NLW Nelson Butte 74.89 43 P **P** **20 41 56.6 +1.1**
VSR Storozhevoye 74.93 320 *e*P **P** **20 41 54.3 -1.2**
VSR pmax pmax
comp=N,9.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 74.97 320 *e*P **P** **20 41 54.1 -1.7**
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,10.0nm,1.1s
VORD pmax pmax
comp=Z,10.0nm,1.1s
ETW Entiat 75.10 44 P **P** **20 41 57.7 +0.9**
EBG Ellensburg 75.26 44 P **P** **20 41 59.0 +1.4**
WTV Waterville 75.28 44 P **P** **20 41 58.1 +0.3**
L02D Cave Junction, 75.35 50⇓P **P** **20 41 59.4 +1.2**
baz=75
I04A Tendick Farm, 75.44 48⇑P **P** **20 41 59.7 +1.0**
baz=75
G05D Wamic, OR 75.52 46⇓P **P** **20 42 00.3 +1.2**
baz=75
KAF Kangasniemi 75.54 334 *e*P **P** **20 41 59.1 +0.3**
KAF pmax pmax
comp=Z,7.0nm,0.4s
KAF Kangasniemi 75.54 334 *ep* **P** **20 41 59.1 +0.3**
comp=Z,6.8nm,0.4s
SAW Saint Andrews 75.62 43 P **P** **20 42 00.1 +0.5**
ZEI Tsey 75.75 311 *e*P **P** **20 41 58.8 -1.9**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
J04D Umpqua Nationa 75.88 48⇓P **P** **20 42 02.7 +1.3**
baz=76
I05D Terrebonne, OR 75.90 47⇑P **P** **20 42 02.6 +1.3**
baz=76
KBZ Khabaz 76.00 312 P **P** **20 42 02.4 +0.6**
KBZ Khabaz 76.00 312 P **P** **20 42 02.4 +0.6**
KBZ Khabaz 76.00 312 P **P** **20 42 02.4 +0.6**
comp=Z,9.6nm,0.8s,baz=108,slow=4.6,SNR=19
FINES FINESS Array B 76.01 333 P **P** **20 42 01.9 +0.5**
FINES FINESS Array B 76.01 333 P **P** **20 42 01.9 +0.5**
comp=Z,19nm,0.6s,baz=69,slow=5.6,SNR=90
KIV Kislovodsk 76.04 313 *e*P **P** **20 42 03.1 +1.0**
KIV pmax pmax
comp=Z,14nm,1.1s
OD2 Odessa Site #2 76.17 43 P **P** **20 42 03.4 +0.7**
M02C Callahan 76.19 50⇓P **P** **20 42 04.3 +1.3**
baz=76
K04D Chiloquin, OR 76.39 49⇓P **P** **20 42 05.3 +1.1**
baz=76
KULLO Kullorsuaq 76.42 5 *i* P **P** **20 42 03.3 -0.3**
KULLO pmax pmax
comp=Z,36nm,0.9s
KULLO Kullorsuaq 76.42 5 *i* P **P** **20 42 03.3 -0.3**
comp=Z,36nm,0.9s
EDM Edmonton 76.43 36 *e*P **P** **20 42 04.4 +0.3**
EDM Edmonton 76.43 36 *e*P **P** **20 42 04.4 +0.3**
J05D Fort Rock, OR 76.43 48⇓P **P** **20 42 06.0 +1.5**
baz=76
N02D Trinity Center 76.47 51⇓P **P** **20 42 05.8 +1.2**
baz=76
M04C Macdoel 76.70 50⇓P **P** **20 42 06.7 +0.7**
baz=76
NEW Newport 76.72 42 *e*P **P** **20 42 06.4 +0.5**
comp=Z,32nm,1.1s
NEW Newport 76.72 42⇑P **P** **20 42 06.6 +0.8**
baz=76
RPZ Rata Peaks 77.17 158 *e*P **P** **20 42 10.0 +1.9**
MOD Modoc 77.67 49 *e*P **P** **20 42 11.8 +0.4**
comp=Z,4.8nm,0.7s
WALA Waterton Lakes 78.20 40 *e*P **P** **20 42 14.6 +0.5**
comp=Z,0.5nm,0.8s
BMO Blue Mountains 78.22 45 *e*P **P** **20 42 14.8 +0.4**
comp=Z,23nm,1.0s
BSMT Bassoo Peak 78.29 42 *e*P **P** **20 42 15.2 +0.4**
comp=Z,18nm,1.3s
BLMT Blacktail Moun 78.46 41 *e*P **P** **20 42 16.7 +1.0**
comp=Z,23nm,1.3s
WVOR Wild Horse Val 78.52 48 *e*P **P** **20 42 16.9 +0.8**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 78.52 48 *e*P **P** **20 42 16.9 +0.8**
comp=Z,9.1nm,0.9s
YBMT Yellow Bay 78.74 41 *e*P **P** **20 42 18.1 +1.0**
comp=Z,20nm,1.3s
SWMT Swartz Lake 78.92 42 *e*P **P** **20 42 18.5 +0.4**
comp=Z,21nm,1.2s
SUMG Summit 79.10 360 *e*P **P** **20 42 19.9 +0.9**
SUMG pmax pmax
comp=Z,24nm,0.8s
SUMG Summit 79.10 360 *i* P **P** **20 42 19.4 +0.4**
comp=Z,18nm,0.8s
SUMG Summit 79.10 360 *e*P **P** **20 42 19.9 +0.9**
comp=Z,24nm,0.8s
MSO Missoula 79.30 42⇓P **P** **20 42 21.0 +0.8**
baz=79
SLMT Seeley Lake 79.36 42 *e*P **P** **20 42 20.8 +0.3**
comp=Z,26nm,1.1s
CMB Columbia Colle 79.40 53 *e*P **P** **20 42 21.3 +0.5**
CMB pmax pmax
comp=Z,17nm,1.0s
CMB Columbia Colle 79.40 53 *e*P **P** **20 42 21.3 +0.5**
comp=Z,17nm,1.0s
CHMT Chamberlain Mo 79.66 42 *e*P **P** **20 42 22.3 0.0**
comp=Z,4.4nm,1.1s
MFID Camas Ranch 79.85 46 *e*P **P** **20 42 23.9 +0.7**
comp=Z,31nm,1.1s
HRY Holter Researc 80.60 42 *e*P **P** **20 42 27.7 +0.5**
comp=Z,23nm,1.3s
AKASG Malin Array Be 80.61 323 *ce*P **P** **20 42 26.7 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 80.61 323 P **P** **20 42 26.8 -0.2**
AKASG Malin Array Be 80.61 323 P **P** **20 42 26.8 -0.2**
comp=Z,6.1nm,0.7s,baz=46,slow=5.7,SNR=35
AK01 Malin Array Si 80.62 323 *e*P **P** **20 42 26.7 -0.3**
AK02 Malin Array Si 80.65 323 *e*P **P** **20 42 26.9 -0.2**
NVAR Mina Array Bea 80.66 51 P **P** **20 42 28.8 +1.1**
NVAR Mina Array Bea 80.66 51 P **P** **20 42 28.8 +1.1**
comp=Z,15nm,0.7s,baz=291,slow=5.2,SNR=38
HLID Hailey 80.67 45 *e*P **P** **20 42 28.4 +0.7**
comp=Z,8.2nm,0.9s
HLID Hailey 80.67 45⇓P **P** **20 42 28.9 +1.2**
baz=80
LRM Limekiln Ridge 80.70 43 *e*P **P** **20 42 28.3 +0.4**
comp=Z,208nm,1.0s
NV11 Mina Array Sit 80.76 51 *e*P **P** **20 42 28.1 -0.1**
EGMT Eagleton 81.09 40 *e*P **P** **20 42 30.0 +0.3**
comp=Z,52nm,1.4s
EGMT Eagleton 81.09 40⇓P **P** **20 42 30.2 +0.5**
baz=81,SNR=9.2
A19A Klindworth Far 81.16 39⇓P **P** **20 42 31.0 +1.0**
baz=81
FFC Flin Flon 81.19 31 *e*P **P** **20 42 29.9 0.0**
FFC pmax pmax
comp=Z,23nm,1.0s
FFC Flin Flon 81.19 31 *e*P **P** **20 42 29.9 0.0**
comp=Z,23nm,1.0s
B19A Brinkman Farms 81.31 39⇓P **P** **20 42 31.4 +0.6**
baz=81,SNR=23
VES Vestal, Richgr 81.36 54⇓P **P** **20 42 31.3 +0.1**
baz=81
PMOR Pomariorio Ree 81.50 112 *e*P **P** **20 42 33.2 +1.1**
comp=Z,38nm,1.0s
A20A Cobblestone Ra 81.63 38⇑P **P** **20 42 33.1 +0.6**
baz=81
C19A Slack Wire Ran 81.65 40⇓P **P** **20 42 33.3 +0.7**
baz=81,SNR=13
SUW Suwalki 81.67 328 *e*P **P** **20 42 32.9 +0.4**
SUW Suwalki 81.67 328 *e*P **P** **20 42 32.9 +0.4**

SUW	Suwalki	81.67	328	eP		P	20 42 32.6	+0.1	
	comp=Z,77nm,1.0s								
NB2	NORSAR Subarra	81.72	338	P		P	20 42 32.4	-0.3	
	comp=Z,46nm,0.9s,baz=46,slow=5.1								
NB2	NORSAR Subarra	81.72	338	P		P	20 42 32.4	-0.3	
	baz=46,slow=5.1								
NOA	NORSAR Array B	81.72	338	P		P	20 42 32.6	0.0	
NOA				PP		PP	20 45 42.0	+0.7	
NOA	NORSAR Array B	81.72	338	P		P	20 42 32.6	0.0	
	comp=Z,26nm,0.8s,baz=45,slow=5.1,SNR=43								
NOA				PP		PP	20 45 42.0	+0.7	
	comp=Z,8.0nm,1.1s,baz=46,slow=7.8,SNR=4.1								
B20A	Solberg Farm,	81.83	39	⇓P		P	20 42 34.1	+0.6	
	baz=82								
QLMT	Earthquake Lak	81.84	43	eP		P	20 42 34.9	+1.0	
	comp=Z,2.8nm,1.2s								
D19A	Cripps Ranch,	82.06	40	⇓P		P	20 42 35.4	+0.6	
	baz=82,SNR=14								
C20A	Veseth Ranch,	82.25	39	⇑P		P	20 42 36.4	+0.7	
	baz=82,SNR=8.1								
GCMT	Greycliff	82.36	42	eP		P	20 42 37.4	+0.9	
	comp=Z,13nm,1.2s								
MPMC	Manual Prospec	82.38	53	⇓P		P	20 42 55.2	+18	
	baz=82								
B21A	Ellsworth Farm	82.39	38	⇓P		P	20 42 37.4	+1.0	
	baz=82								
E19A	Rath Farm, Rou	82.50	41	⇑P		P	20 42 37.7	+0.5	
	baz=82,SNR=28								
D20A	Manuel Ranch,	82.52	40	⇑P		P	20 42 37.9	+0.7	
	baz=82,SNR=21								
LRMC	Laurel Mountai	82.53	54	⇓P		P	20 42 38.0	+0.5	
	baz=82								
R11A	Troy Canyon, C	82.55	50	eP		P	20 42 38.1	+0.5	
	comp=Z,11nm,0.9s								
R11A	Troy Canyon, C	82.55	50	⇓P		P	20 42 38.3	+0.7	
	baz=82								
H17A	Grant Village	82.59	43	eP		P	20 42 40.5	+2.7	
	comp=Z,28nm,1.2s								
H17A	Grant Village	82.59	43	⇑P		P	20 42 40.3	+2.5	
	baz=82								
EDW2	Edwards Air Fo	82.61	54	⇑P		P	20 42 38.6	+0.7	
	baz=82,SNR=9.1								
FURC	Furnace Creek,	82.62	53	⇓P		P	20 42 38.6	+0.8	
	baz=82								
HVU	Hansel Valley	82.63	46	eP		P	20 42 39.0	+1.1	
HVU				pmax		pmax			
	comp=Z,7.0nm,0.6s								
HVU	Hansel Valley	82.63	46	eP		P	20 42 39.0	+1.1	
	comp=Z,7.1nm,0.6s								
A22A	Carney Farms,	82.66	38	⇑P		P	20 42 37.9	+0.1	
	baz=82,SNR=11								
C21A	Desert Coulee	82.69	39	⇑P		P	20 42 38.9	+0.9	
	baz=82								
F19A	Roth Farm, Mol	82.75	41	⇓P		P	20 42 39.0	+0.6	
	baz=82,SNR=9.1								
I17A	Pilgrim Ck.	82.85	44	⇑P		P	20 42 41.3	+2.2	
	baz=83								
E20A	Meyer Farm, Mu	82.86	40	⇑P		P	20 42 39.9	+1.0	
	baz=83								
RLMT	Red Lodge	82.97	42	eP		P	20 42 40.5	+0.8	
	comp=Z,24nm,1.2s								
H18A	Shoshone NF, C	82.98	43	⇑P		P	20 42 40.8	+1.0	
	baz=83,SNR=7.0								
B22A	Reddig Ranch S	83.02	38	⇓P		P	20 42 40.9	+1.2	
	baz=83,SNR=5.3								
D21A	La Casta Ranch	83.18	40	⇓P		P	20 42 41.3	+0.7	
	baz=83,SNR=6.4								
A23A	Redstone	83.23	37	⇓P		P	20 42 42.1	+1.3	
	baz=83								
F20A	Billings	83.24	41	⇓P		P	20 42 42.0	+1.0	
	baz=83								
GSC	Goldstone	83.24	54	⇑P		P	20 42 41.9	+0.7	
	baz=83								
RAYN	Ar Rayn	83.31	293	eP		P	20 42 41.9	+0.3	
	comp=Z,41nm,1.2s								
SHOC	Shoshone	83.31	53	⇑P		P	20 42 41.7	+0.3	
	baz=83								
H19A	Powell	83.39	42	⇑P		P	20 42 42.9	+1.1	
	baz=83,SNR=7.8								
C22A	Vida	83.40	39	⇓P		P	20 42 42.2	+0.6	
	baz=83								
E21A	Keefer Ranch,	83.43	40	⇑P		P	20 42 42.6	+0.7	
	baz=83								
DUG	Dugway	83.44	48	eP		P	20 42 42.6	+0.5	
DUG				pmax		pmax			
	comp=Z,27nm,1.2s								
DUG	Dugway	83.44	48	eP		P	20 42 42.6	+0.5	
	comp=Z,27nm,1.2s								
DUG	Dugway	83.44	48	⇓P		P	20 42 43.2	+1.1	
	baz=83								
B23A	Brockton	83.46	38	⇓P		P	20 42 41.9	-0.1	
	baz=83,SNR=13								
G20A	Bridger	83.53	42	⇓P		P	20 42 42.7	+0.2	
	baz=83,SNR=9.4								
D22A	Cohagen	83.58	39	⇓P		P	20 42 43.1	+0.5	
	baz=83,SNR=8.6								
A24A	Westby	83.71	37	⇓P		P	20 42 43.9	+0.7	
	baz=83								
I19A	Meeteetse	83.73	43	⇓P		P	20 42 44.6	+0.9	
	baz=84,SNR=7.0								
C23A	Lambert	83.75	38	⇓P		P	20 42 44.2	+0.8	
	baz=84								
SHPR	Sheep Range	83.78	52	eP		P	20 42 44.4	+0.4	
	comp=Z,17nm,1.1s								
TUQ	Turquoise Moun	83.80	53	⇑P		P	20 42 44.6	+0.6	
	baz=84								
MURC	Murrieta	83.82	55	⇑P		P	20 42 44.5	+0.5	
	baz=84								
HEC	Hector,Ludlow	83.82	54	⇓P		P	20 42 44.3	+0.3	
	baz=84,SNR=12								
LAO	LASA Array	83.83	40	eP		P	20 42 44.7	+0.8	
	comp=Z,18nm,1.1s								
DGMT	Dagmar	83.88	37	⇑P		P	20 42 44.7	+0.6	
	baz=84								
BR131	Keskin Array S	83.99	312	eP		P	20 42 45.1	+0.1	
	comp=Z,2.6nm,0.8s								
BRTR	Keskin Array B	83.99	312	P		P	20 42 45.4	+0.4	
BRTR	Keskin Array B	83.99	312	P		P	20 42 45.4	+0.4	
	comp=Z,3.0nm,0.7s,baz=97,slow=4.6,SNR=16								
H20A	Greybull	84.07	42	⇑P		P	20 42 46.2	+1.0	
	baz=84								
BW06	Boulder Array	84.10	44	eP		P	20 42 45.6	+0.1	
	comp=Z,13nm,1.1s								
PDAR	Pinedale Array	84.10	44	P		P	20 42 46.0	+0.4	
PDAR	Pinedale Array	84.10	44	P		P	20 42 46.0	+0.4	
	comp=Z,9.7nm,1.0s,baz=275,slow=2.8,SNR=35								
D23A	Lindsay	84.11	39	⇓P		P	20 42 46.5	+1.2	
	baz=84								
G21A	Lodge Grass	84.11	41	⇑P		P	20 42 45.5	+0.1	
	baz=84,SNR=6.9								
E22A	Miles City	84.13	40	⇓P		P	20 42 46.5	+1.2	
	baz=84								
J19A	Crowheart	84.13	44	⇑P		P	20 42 46.1	+0.5	
	baz=84,SNR=16								
ARUT	Antelope Range	84.29	50	eP		P	20 42 47.1	+0.6	
ARUT	Antelope Range	84.29	50	eP		P	20 42 47.1	+0.6	
	comp=Z,313nm,1.2s								
I20A	Worland	84.30	43	⇑P		P	20 42 46.9	+0.5	
	baz=84,SNR=16								
GMRC	Granite Mounta	84.32	53	⇓P		P	20 42 47.0	+0.4	
	baz=84,SNR=11								
C24A	Savage	84.32	38	⇓P		P	20 42 47.6	+1.3	
	baz=84								
DAU	Daniels Canyon	84.33	47	eP		P	20 42 47.7	+0.9	
DAU				pmax		pmax			
	comp=Z,76nm,1.5s								
DAU	Daniels Canyon	84.33	47	eP		P	20 42 47.7	+0.9	
	comp=Z,76nm,1.5s								
SFJD	Kangerlussuaq	84.33	4	*i* P		P	20 42 46.0	+0.1	
	comp=Z,28nm,0.9s								
F22A	Rosebud	84.34	40	⇑P		P	20 42 47.6	+1.1	
	baz=84								
PFO	Pinyon Flat Ob	84.35	55	eP		P	20 42 47.1	+0.2	
	comp=Z,15nm,1.0s								
TESR	Tescani	84.42	321	⇑*i*P		P	20 42 47.0	+0.2	
BELC	Belle Mtn. Jos	84.48	54	⇓P		P	20 42 47.6	+0.1	
	baz=84,SNR=7.7								
BUR08	Bucovina Ar. S	84.54	322	eP		P	20 42 47.7	+0.2	
BURAR	Bucovina Array	84.55	322	⇓P		P	20 42 46.8	-0.7	
BURAR	Bucovina Array	84.55	322	⇓*i*P		P	20 42 46.8	-0.7	
B25A	Knox Farm, Ray	84.55	37	⇓P		P	20 42 48.5	+1.1	
	baz=84								
H21A	Big Horn, Sher	84.55	42	⇓P		P	20 42 48.3	+0.7	
	baz=84,SNR=13								
LDFC	Landfair	84.55	53	eP		P	20 42 48.4	+0.6	
	comp=Z,8.7nm,0.5s								
KWP	Kalwaria Pacla	84.62	325	eP		P	20 42 48.5	+0.8	
KWP	Kalwaria Pacla	84.62	325	eP		P	20 42 48.5	+0.8	
D24A	Glendive	84.62	38	⇑P		P	20 42 48.3	+0.4	
	baz=84,SNR=5.4								
G22A	Birney	84.64	41	⇓P		P	20 42 49.0	+0.9	
	baz=84								
J20A	Shoshoni	84.67	43	⇓P		P	20 42 48.7	+0.5	
	baz=84,SNR=8.4								
MVU	Marysvale	84.73	49	eP		P	20 42 49.4	+0.6	
	comp=Z,11nm,1.1s								
MONP	Monument Peak	84.74	55	⇓P		P	20 42 49.2	+0.3	
	baz=84,SNR=5.2								
TLB	Topalu	84.75	319	⇓P		P	20 42 49.4	+1.0	
TLB	Topalu	84.75	319	⇓*i*P		P	20 42 49.4	+1.0	
A26A	Wade Farm, Ken	84.76	36	⇑P		P	20 42 49.4	+0.9	
	baz=84								
VRI	Vrincioaia	84.76	320	⇑P		P	20 42 48.7	+0.2	
VRI	Vrincioaia	84.76	320	⇑*i*P		P	20 42 48.7	+0.2	
PLOR	Plostina	84.81	320	⇓P		P	20 42 48.9	+0.1	
PLOR	Plostina	84.81	320	⇓*i*P		P	20 42 48.9	+0.1	
F23A	Volborg	84.86	40	⇓P		P	20 42 49.5	+0.4	
	baz=85								
I21A	Big Trails, Te	84.88	42	⇓P		P	20 42 49.8	+0.5	
	baz=85,SNR=9.7								
E24A	Baker	84.97	39	⇑P		P	20 42 51.0	+1.4	
	baz=85								
H22A	Clearmont	84.97	41	⇓P		P	20 42 50.1	+0.4	
	baz=85								
IRM	Iron Mountain	85.00	54	⇑P		P	20 42 50.3	+0.3	
	baz=85,SNR=6.8								
BC3	Big Chuckawall	85.04	54	⇓P		P	20 42 50.6	+0.3	
	baz=85,SNR=11								
J21A	Lysite	85.05	43	⇓P		P	20 42 50.4	+0.2	
	baz=85,SNR=7.6								
D25A	Fairfield	85.15	38	⇑P		P	20 42 51.4	+0.9	
	baz=85								
SWSC	Sam W. Stewart	85.16	55	⇑P		P	20 42 51.4	+0.6	
	baz=85								
G23A	Biddle	85.17	40	⇓P		P	20 42 50.9	+0.3	
	baz=85,SNR=6.6								
I22A	9 Mile Ranch,	85.31	42	⇓P		P	20 42 51.9	+0.5	
	baz=85,SNR=9.6								
F24A	Ekalaka	85.32	40	⇑P		P	20 42 52.0	+0.6	
	baz=85								
C26A	Wahner Farm, P	85.39	37	⇓P		P	20 42 52.5	+0.9	
	baz=85								
W13A	Hualapai Mount	85.40	52	⇓P		P	20 42 52.5	+0.4	
	baz=85								
MLR	Muntele Rosu	85.42	320	⇑*i*P		P	20 42 53.9	+1.9	
E25A	Miller Ranch,	85.50	39	⇓P		P	20 42 53.1	+0.8	
	baz=85								
SRU	San Rafael	85.51	48	eP		P	20 42 52.8	+0.2	
SRU				pmax		pmax			
	comp=Z,19nm,0.8s								
SRU	San Rafael	85.51	48	eP		P	20 42 52.8	+0.2	
	comp=Z,19nm,0.8s								
H23A	Clabaugh Cattl	85.54	41	⇓P		P	20 42 53.5	+1.0	
	baz=85								
K21A	Alcova	85.58	43	⇑P		P	20 42 53.6	+0.7	
	baz=85,SNR=18								
J22A	Midwest	85.59	42	⇓P		P	20 42 53.4	+0.5	
	baz=85								
PDMCI	Parker Dam,Lak	85.64	53	⇑P		P	20 42 53.9	+0.8	
	baz=85								
TRPA	Tarpa	85.65	324	⇑*i*P		P	20 42 53.5	+0.7	
Y12C	Blythe	85.66	54	⇑P		P	20 42 54.0	+0.8	
	baz=85,SNR=5.2								
A28A	Rude Farm, Bot	85.66	35	⇑P		P	20 42 54.1	+1.2	
	baz=85								
C27A	Sayler Ranch,	85.77	37	⇑P		P	20 42 54.7	+1.2	
	baz=86								
U15A	North Rim	85.79	51	⇑P		P	20 42 55.4	+1.2	
	baz=86,SNR=12								
GLA	Glamis	85.80	55	eP		P	20 42 54.7	+0.7	
GLA				pmax		pmax			
	comp=Z,29nm,1.1s								
GLA	Glamis	85.80	55	eP		P	20 42 54.6	+0.7	
	comp=Z,29nm,1.1s								
GLA	Glamis	85.80	55	⇓P		P	20 42 54.7	+0.7	
	baz=86,SNR=5.7								
F25A	Bowman	85.82	39	⇑P		P	20 42 55.3	+1.4	
	baz=86								
B28A	Dugan Ranch, T	85.90	36	⇓P		P	20 42 54.8	+0.7	
	baz=86								
H24A	Dirks Ranch, A	85.92	40	⇓P		P	20 42 54.6	+0.2	
	baz=86,SNR=7.7								
N20A	Spence Gulch,	85.99	45	⇓P		P	20 42 55.9	+0.9	
	baz=86,SNR=20								
K22A	Casper	86.00	43	⇑P		P	20 42 55.5	+0.5	
	baz=86,SNR=5.3								
E26A	Carlson Angus	86.03	38	⇓P		P	20 42 55.9	+1.0	
	baz=86								
D27A	Center	86.14	37	⇑P		P	20 42 56.6	+1.3	
	baz=86								
A29A	Manning Farm,	86.17	35	⇑P		P	20 42 56.6	+1.2	
	baz=86								
ARR	Arges	86.23	321	⇑*i*P		P	20 42 56.6	+0.7	
G25A	Newell	86.29	40	⇑P		P	20 42 56.8	+0.6	
	baz=86								
F26A	Lodgepole	86.30	39	⇑P		P	20 42 56.6	+0.4	
	baz=86								
C28A	Hausauer Farms	86.36	36	⇑P		P	20 42 56.9	+0.6	
	baz=86								
O20A	White River Ci	86.40	46	eP		P	20 42 57.1	+0.1	
	comp=Z,18nm,1.0s								
O20A	White River Ci	86.40	46	⇑P		P	20 42 57.5	+0.5	
	baz=86,SNR=7.4								
B29A	Wagenman Farm,	86.41	35	⇑P		P	20 42 57.6	+1.0	
	baz=86								
I24A	Kuemmerle Ranc	86.41	41	⇓P		P	20 42 57.5	+0.6	
	baz=86								
L22A	Ellis Ranch, M	86.42	43	⇓P		P	20 42 57.9	+0.8	
	baz=86,SNR=5.8								
K23A	Bowen Ranch, D	86.48	42	⇑P		P	20 42 57.6	+0.4	
	baz=86								
H25A	Fruitdale	86.54	40	⇓P		P	20 42 58.3	+0.9	
	baz=86								
RSSD	Black Hills	86.59	41	eP		P	20 42 57.6	-0.3	
RSSD				pmax		pmax			
	comp=Z,8.0nm,0.9s								
RSSD	Black Hills	86.59	41	eP		P	20 42 57.6	-0.3	
	comp=Z,8.0nm,0.9s								
D28A	Regan	86.59	37	⇓P		P	20 42 58.5	+0.9	
	baz=86								
A30A	Hoffart Farm,	86.63	34	⇑P		P	20 42 58.8	+1.1	
	baz=86								
Y14A	Wickenburg	86.63	53	⇓P		P	20 42 59.1	+1.0	
	baz=86								
F27A	Lemmon	86.65	38	⇑P		P	20 42 58.8	+0.9	
	baz=86								
G26A	Maurine	86.69	39	⇓P		P	20 42 58.7	+0.6	
	baz=86								
M22A	Cedar Creek Ra	86.69	44	⇓P		P	20 42 58.8	+0.4	
	baz=86								
J24A	Dixon Ranch, L	86.71	42	⇓P		P	20 42 58.5	+0.2	
	baz=86								
113A	Mohawk Valley,	86.71	54	⇓P		P	20 42 59.0	+0.7	
	baz=86,SNR=7.7								
L23A	Garrett	86.81	43	⇑P		P	20 42 59.4	+0.4	
	baz=86,SNR=12								
I25A	Rochford	86.83	41	⇑P		P	20 42 59.4	+0.4	
	baz=87								
WUAZ	Wupatki	86.91	51	eP		P	20 43 00.1	+0.6	
	comp=Z,14nm,1.0s								
WUAZ	Wupatki	86.91	51	⇓P		P	20 43 00.3	+0.8	
	baz=87,SNR=9.7								
ULM	Lac du Bonnet	86.93	32	P		P	20 42 58.5	-0.6	
ULM	Lac du Bonnet	86.93	32	P		P	20 42 58.5	-0.6	
	comp=Z,6.7nm,0.9s,baz=317,slow=4.3,SNR=9.6								
KSP	Ksiaz	86.93	328	eP		P	20 42 59.1	0.0	
KSP	Ksiaz	86.93	328	eP		P	20 42 59.6	+0.5	
B30A	Myrvik Farm, E	86.93	35	⇑P		P	20 43 00.1	+1.0	
	baz=87								
Z14A	Wintersburg	86.98	54	⇓P		P	20 43 00.4	+0.8	
	baz=87								
G27A	Dupree	87.00	39	⇑P		P	20 43 00.3	+0.7	
	baz=87,SNR=6.5								
H26A	Fairpoint	87.01	40	⇑P		P	20 43 00.3	+0.6	
	baz=87								
N22A	Wattenberg Ran	87.13	44	⇑P		P	20 43 01.2	+0.7	
	baz=87								
PSZ	Piszkesteto	87.15	325	⇓P		P	20 43 00.6	+0.3	
PSZ	Piszkesteto	87.15	325	⇓*i*P		P	20 43 00.6	+0.3	
J25A	Sunshine Ranch	87.17	41	⇑P		P	20 43 01.1	+0.6	
	baz=87								
M23A	Laramie	87.18	44	⇓P		P	20 43 01.4	+0.6	
	baz=87,SNR=5.4								
DPC	Dobruska-Polom	87.26	328	eP		P	20 43 00.2	-0.5	
DPC	Dobruska-Polom	87.26	328	eP		P	20 43 00.2	-0.5	
I26A	New Underwood	87.32	40	⇓P		P	20 43 02.3	+1.1	
	baz=87								
PV01	Paradox Valley	87.32	48	eP		P	20 43 02.3	+0.8	
	comp=Z,1μm,1.0s								
F28A	McLaughlin	87.32	38	⇑P		P	20 43 01.8	+0.7	
	baz=87								
C30A	Mose, Pekin	87.35	35	⇓P		P	20 43 02.1	+1.0	
	baz=87								
N23A	Red Feather La	87.39	44	⇓P		P	20 43 03.1	+1.3	
	baz=87,SNR=8.7								
H27A	Howes	87.39	39	⇓P		P	20 42 03.3	+0.8	
	baz=87								
O22A	Kremmling	87.44	45	⇑P		P	20 43 03.1	+1.0	
	baz=87,SNR=9.3								
X16A	Lo Mia Camp, P	87.46	52	⇓P		P	20 43 03.2	+1.0	
	baz=87,SNR=6.1								
D30A	Buchanan	87.59	36	⇑P		P	20 43 03.2	+0.8	
	baz=87								
K25A	Mack Ranch, Ha	87.60	42	⇓P		P	20 43 03.5	+0.9	
	baz=87								
J26A	Sides Ranch, S	87.64	41	⇑P		P	20 43 03.7	+0.9	
	baz=87,SNR=7.5								
P22A	Eagle	87.64	46	⇑P		P	20 43 04.2	+1.2	
	baz=87,SNR=12								
M24A	Cheyenne	87.72	43	⇑P		P	20 43 04.5	+1.2	
	baz=88								
BZS	Buzias	87.73	322	⇓P		P	20 43 01.3	-1.7	
BZS	Buzias	87.73	322	⇓*i*P		P	20 43 01.3	-1.7	
I27A	Quinn	87.75	40	⇓P		P	20 43 04.3	+1.1	
	baz=88								
O23A	Lake Granby, G	87.80	45	⇓P		P	20 43 04.8	+1.0	
	baz=88,SNR=7.0								
L25A	Engebretsen Ra	87.82	42	⇓P		P	20 43 04.4	+0.8	
	baz=88								
214A	Organ Pipe Nat	87.83	55	eP		P	20 43 04.8	+1.0	
	comp=Z,22nm,1.1s								
214A	Organ Pipe Nat	87.83	55	⇓P		P	20 43 04.5	+0.7	
	baz=88								
F29A	Eureka	87.86	38	⇓P		P	20 43 04.7	+1.1	
	baz=88								
E30A	Jud	87.91	37	⇓P		P	20 43 04.8	+0.9	
	baz=88								
PVCC	Panska Ves	87.94	329	eP		P	20 43 04.0	+0.1	
PVCC	Panska Ves	87.94	329	eP		P	20 43 04.0	+0.1	
BRG	Berggiesshubel	87.98	329	eP		P	20 43 04.1	0.0	
	comp=Z,14nm,1.2s								
BRG	Berggiesshubel	87.98	329	eP		P	20 43 04.1	0.0	
BRG				pmax		pmax			
	comp=Z,14nm,1.2s								
BRG	Berggiesshubel	87.98	329	eP		P	20 43 03.9	-0.1	
CLL	Collm	88.08	330	eP		P	20 43 03.0	-1.5	
CLL	Collm	88.08	330	eP		P	20 43 04.0	-0.5	
ISCO	Idaho Springs	88.23	45	⇓P		P	20 43 06.9	+1.0	
	baz=88								
J27A	Elkhorn Farm,	88.29	40	⇑P		P	20 43 07.0	+1.2	
	baz=88								
I28A	Midland	88.29	40	⇑P		P	20 43 06.8	+1.1	
	baz=88								
PRU	Pruhonice	88.33	329	eP		P	20 43 05.6	-0.1	
PRU	Pruhonice	88.33	329	eP		P	20 43 05.6	-0.1	
J28A	Allard Ranch,	88.62	40	⇓P		P	20 43 08.2	+0.9	
	baz=88								
S22A	4UR Ranch, Cre	88.67	47	⇑P		P	20 43 08.9	+0.9	
	baz=88,SNR=5.8								
CLZ	Clausthal	88.82	332	eP		P	20 43 08.3	+0.3	
	comp=Z,44nm,1.7s								
PKSM	Moragy	88.92	324	⇑P		P	20 43 07.8	-0.7	
PKSM	Moragy	88.92	324	⇑*i*P		P	20 43 07.8	-0.7	
O25A	Wiggins	88.97	44	⇑P		P	20 43 10.2	+1.1	
	baz=89								
R23A	Moffat	89.05	46	⇓P		P	20 43 10.9	+1.1	
	baz=89								
MMB	Musomiste	89.08	318	⇓P		P	20 43 09.5	0.0	
MMB	Musomiste	89.08	318	⇓*i*P		P	20 43 09.5	0.0	
CONA	Conrad Observa	89.15	326	⇑*i*PcP		P	20 43 10.3	+0.5	
	comp=Z,18nm,1.7s								
KHC	Kasperske Hory	89.38	328	eP		P	20 43 10.5	-0.2	
KHC	Kasperske Hory	89.38	328	eP		P	20 43 10.5	-0.2	
R24A	Sanders Place,	89.48	46	⇑P		P	20 43 13.1	+1.4	
	baz=89,SNR=7.3								
N27A	Anderson Farm,	89.50	43	⇑P		P	20 43 12.5	+0.9	
	baz=89								
GEC2	GERESS Array S	89.53	328	eP		P	20 43 11.3	-0.2	
GERES	GERESS Array B	89.53	328	P		P	20 43 11.2	-0.3	
GERES	GERESS Array B	89.53	328	P		P	20 43 11.2	-0.3	
	comp=Z,3.5nm,0.7s,baz=38,slow=4.5,SNR=26								
ROTZ	Rotzenmuhle	89.55	329	eP		P	20 43 11.6	+0.1	
	comp=Z,19nm,1.4s								
K29A	Lazy Trails An	89.56	40	⇑P		P	20 43 13.0	+1.3	
	baz=89								
Q25A	Bedland, Calha	89.61	45	⇑P		P	20 43 13.1	+0.8	
	baz=89								
V22A	San Miguel Ran	89.69	49	⇑P		P	20 43 13.3	+0.7	
	baz=89								
OGNE	Ogallala	89.71	42	⇓P		P	20 43 13.3	+0.7	
	baz=89								
S24A	Houchin Ranch,	89.77	46	⇑P		P	20 43 14.1	+1.0	
	baz=90,SNR=6.3								
P26A	Davis Ranch, A	89.78	44	⇑P		P	20 43 14.0	+1.1	

	baz=91									
T27A	**Campo**	**91.70**	**46**	⇓P		**P**	**20 43 22.8**	**+0.9**		
	baz=91									
W25A	**X Bar L Ranch,**	**91.70**	**48**	⇑P		**P**	**20 43 22.9**	**+1.0**		
	baz=92,SNR=7.8									
V26A	**Tequesquite Ra**	**91.79**	**47**	⇓P		**P**	**20 43 23.3**	**+1.0**		
	baz=92									
R29A	**Marienthal**	**91.83**	**44**	⇑P		**P**	**20 43 24.0**	**+1.6**		
	baz=92									
Y24A	**Capitan**	**91.83**	**50**	⇑P		**P**	**20 43 23.2**	**+0.6**		
	baz=92									
S28A	**Manter**	**91.89**	**45**	⇓P		**P**	**20 43 24.2**	**+1.5**		
	baz=92									
SPMN	**St. Paul**	**91.91**	**35**	⇓P		**P**	**20 43 22.6**	**+0.1**		
	baz=92									
X25A	**Clemmons Ranch**	**91.99**	**49**	⇑P		**P**	**20 43 24.2**	**+0.9**		
	baz=92,SNR=11									
U27A	**Thompson Grove**	**92.03**	**46**	⇓P		**P**	**20 43 24.3**	**+0.9**		
	baz=92									
Q30A	**Quinter**	**92.03**	**43**	⇑P		**P**	**20 43 24.1**	**+0.8**		
	baz=92									
T28A	**Walsh**	**92.04**	**45**	⇑P		**P**	**20 43 24.8**	**+1.4**		
	baz=92									
P31A	**Stockton**	**92.18**	**42**	⇓P		**P**	**20 43 24.0**	**0.0**		
	baz=92									
WLF	**Walferdange**	**92.22**	**332**	*e*P		**P**	**20 43 24.4**	**+0.6**		
	comp=Z,37nm,1.4s									
FETA	**Feichten**	**92.23**	**328**	⇑*i*PcP		**P**	**20 43 23.9**	**-0.2**		
	comp=Z,12nm,1.1s									
Z24A	**Sheeppen Canyo**	**92.23**	**50**	⇑P		**P**	**20 43 25.5**	**+1.0**		
	baz=92,SNR=5.7									
W26A	**Owens Ranch, T**	**92.24**	**48**	⇑P		**P**	**20 43 26.0**	**+1.6**		
	baz=92									
BFO	**Black Forest**	**92.33**	**330**	*ce*P		**P**	**20 43 24.6**	**+0.2**		
BFO	**Black Forest**	**92.33**	**330**	*e*P		**P**	**20 43 23.8**	**-0.6**		
	comp=Z,14nm,1.0s									
Y25A	**Mesa, Roswell**	**92.33**	**49**	⇓P		**P**	**20 43 25.6**	**+0.7**		
	baz=92,SNR=6.0									
DAVA	**Damuels**	**92.42**	**329**	⇑*i*PcP		**P**	**20 43 24.9**	**-0.1**		
	comp=Z,17nm,0.9s									
V27A	**Dan Oppiter Fa**	**92.43**	**47**	⇓P		**P**	**20 43 26.2**	**+0.9**		
	baz=92									
U28A	**Mallet**	**92.43**	**46**	⇓P		**P**	**20 43 26.2**	**+1.0**		
	baz=92									
R30A	**Dighton**	**92.44**	**44**	⇓P		**P**	**20 43 25.8**	**+0.6**		
	baz=92									
X26A	**CR and CF Fran**	**92.53**	**48**	⇑P		**P**	**20 43 26.6**	**+0.8**		
	baz=92,SNR=18									
P32A	**Huiting Farm,**	**92.57**	**42**	⇓P		**P**	**20 43 26.4**	**+0.7**		
	baz=92									
BAIF	**Baives**	**92.68**	**334**	*e*P		**P**	**20 43 25.4**	**-0.5**		
BAIF	**Baives**	**92.68**	**334**	*e*P		**P**	**20 43 25.4**	**-0.5**		
BAIF	**Baives**	**92.68**	**334**	*e*P		**P**	**20 43 25.4**	**-0.5**		
Z25A	**Roswell**	**92.70**	**50**	⇑P		**P**	**20 43 27.5**	**+1.0**		
	baz=92,SNR=5.8									
W27A	**Bowe Ranch, En**	**92.71**	**47**	⇓P		**P**	**20 43 27.8**	**+1.3**		
	baz=92,SNR=17									
CDF	**Champ du Feu**	**92.72**	**331**	*e*P		**P**	**20 43 25.8**	**-0.5**		
CDF	**Champ du Feu**	**92.72**	**331**	*e*P		**P**	**20 43 25.8**	**-0.5**		
CDF	**Champ du Feu**	**92.72**	**331**	*e*P		**P**	**20 43 25.8**	**-0.5**		
R31A	**Burdett**	**92.89**	**43**	⇑P		**P**	**20 43 28.0**	**+0.8**		
	baz=93									
Y26A	**Elida**	**92.90**	**49**	⇓P		**P**	**20 43 28.1**	**+0.6**		
	baz=93									
X27A	**F and S Farms,**	**92.94**	**48**	⇓P		**P**	**20 43 28.6**	**+1.0**		
	baz=93									
Q32A	**Meitler Ranch,**	**93.01**	**42**	⇑P		**P**	**20 43 27.9**	**+0.1**		
	baz=93									
125A	**Gardner Draw,**	**93.11**	**50**	⇑P		**P**	**20 43 29.2**	**+0.7**		
	baz=93,SNR=7.2									
W28A	**Vega**	**93.14**	**47**	⇑P		**P**	**20 43 29.9**	**+1.4**		
	baz=93									
MNTX	**Cornudas Mount**	**93.19**	**51**	*e*P		**P**	**20 43 29.2**	**+0.5**		
	comp=Z,16nm,1.4s									
Z26A	**Caprock**	**93.19**	**49**	⇑P		**P**	**20 43 29.7**	**+0.9**		
	baz=93									
PAGF	**Fort de Pagny**	**93.26**	**332**	*e*P		**P**	**20 43 28.6**	**0.0**		
	comp=Z,5.6nm,0.8s									
PAGF	**Fort de Pagny**	**93.26**	**332**	*e*P		**P**	**20 43 28.6**	**0.0**		
	comp=Z,5.6nm,0.8s									
S31A	**Mullinville**	**93.35**	**44**	⇑P		**P**	**20 43 30.0**	**+0.6**		
	baz=93									
HINF	**Hinteralfeld**	**93.36**	**331**	*e*P		**P**	**20 43 28.4**	**-0.8**		
	comp=Z,10nm,0.9s									
HINF	**Hinteralfeld**	**93.36**	**331**	*e*P		**P**	**20 43 28.4**	**-0.8**		
HINF				pmax		pmax				
	comp=Z,10.0nm,0.9s									
HINF	**Hinteralfeld**	**93.36**	**331**	*e*P		**P**	**20 43 28.4**	**-0.8**		
	comp=Z,10nm,0.9s									
Y27A	**Causey**	**93.36**	**48**	⇑P		**P**	**20 43 30.2**	**+0.6**		
	baz=93,SNR=8.0									
HAU	**Haudompre**	**93.42**	**331**	*e*P		**P**	**20 43 28.8**	**-0.7**		
	comp=Z,13nm,0.8s									
HAU	**Haudompre**	**93.42**	**331**	*e*P		**P**	**20 43 28.8**	**-0.7**		
HAU				pmax		pmax				
	comp=Z,13nm,0.8s									
HAU	**Haudompre**	**93.42**	**331**	*e*P		**P**	**20 43 28.8**	**-0.7**		
	comp=Z,13nm,0.8s									
Q33A	**Connelly Farm,**	**93.43**	**42**	⇑P		**P**	**20 43 30.8**	**+1.2**		
	baz=93									
126A	**Clayton Basin,**	**93.55**	**50**	⇑P		**P**	**20 43 30.9**	**+0.5**		
	baz=93									
T31A	**Randall Ranch,**	**93.56**	**44**	⇓P		**P**	**20 43 31.2**	**+0.9**		
	baz=93									
MEZF	**Maizieres J'vi**	**93.58**	**332**	*e*P		**P**	**20 43 30.0**	**-0.1**		
MEZF	**Maizieres J'vi**	**93.58**	**332**	*e*P		**P**	**20 43 30.0**	**-0.1**		
SCHQ	**Schefferville**	**93.62**	**16**	P		**P**	**20 43 30.6**	**+0.4**		
SCHQ	**Schefferville**	**93.62**	**16**	P		**P**	**20 43 30.6**	**+0.4**		
	comp=Z,5.5nm,0.8s,baz=28,slow=6.3,SNR=5.1									
Z27A	**Tatum**	**93.68**	**49**	⇑P		**P**	**20 43 31.7**	**+0.6**		
	baz=93,SNR=11									
AMTX	**Amarillo**	**93.71**	**47**	⇓P		**P**	**20 43 32.1**	**+0.9**		
	baz=94									
226B	**Tecolote Peak,**	**93.79**	**50**	⇓P		**P**	**20 43 32.7**	**+1.1**		
	baz=94									
R33A	**Olander Ranch,**	**93.80**	**42**	⇓P		**P**	**20 43 31.9**	**+0.5**		
	baz=94									
SFTF	**Sexfontaines**	**93.81**	**332**	*e*P		**P**	**20 43 30.9**	**-0.3**		
	comp=Z,48nm,1.0s									
SFTF	**Sexfontaines**	**93.81**	**332**	*e*P		**P**	**20 43 30.9**	**-0.3**		
	comp=Z,48nm,1.0s									
X29A	**Tulia**	**93.97**	**47**	⇑P		**P**	**20 43 33.6**	**+1.3**		
	baz=94,SNR=5.5									
T32A	**Huddler Ranch,**	**93.97**	**44**	⇑P		**P**	**20 43 33.1**	**+0.9**		
	baz=94									
425A	**Indio Mountain**	**94.00**	**52**	⇑P		**P**	**20 43 33.6**	**+1.0**		
	baz=94,SNR=15									
KSU1	**Kansas State U**	**94.08**	**41**	⇑P		**P**	**20 43 33.6**	**+1.0**		
	baz=94									
V31A	**Spring Creek L**	**94.31**	**45**	⇑P		**P**	**20 43 35.2**	**+1.4**		
	baz=94									
326A	**Caldwell Ranch**	**94.38**	**51**	⇑P		**P**	**20 43 34.7**	**+0.5**		
	baz=94									
CABF	**La Chapelle**	**94.62**	**330**	*e*P		**P**	**20 43 34.4**	**-0.7**		
	comp=Z,38nm,1.4s									
CABF	**La Chapelle**	**94.62**	**330**	*e*P		**P**	**20 43 34.4**	**-0.7**		
CABF				pmax		pmax				
	comp=Z,38nm,1.4s									
CABF	**La Chapelle**	**94.62**	**330**	*e*P		**P**	**20 43 34.4**	**-0.7**		
	comp=Z,38nm,1.4s									
W31A	**Holland Ranch,**	**94.62**	**46**	⇓P		**P**	**20 43 36.2**	**+0.9**		
	baz=94									
Z29A	**Hungry Hill Ra**	**94.70**	**48**	⇑P		**P**	**20 43 36.9**	**+1.2**		
	baz=94									
426A	**McDonald Obser**	**94.73**	**51**	⇑P		**P**	**20 43 36.9**	**+0.8**		
	baz=94,SNR=7.4									
V32A	**Arapaho**	**94.84**	**45**	⇑P		**P**	**20 43 37.1**	**+0.9**		
	baz=95									
Y30A	**Stafford Cattl**	**94.84**	**47**	⇓P		**P**	**20 43 37.3**	**+1.0**		
	baz=95									
X31A	**McDonald Ranch**	**94.95**	**46**	⇓P		**P**	**20 43 37.7**	**+0.9**		
	baz=95									
LOR	**Lormes**	**95.04**	**332**	*e*P		**P**	**20 43 36.4**	**-0.5**		
	comp=Z,26nm,1.1s									
LOR	**Lormes**	**95.04**	**332**	*e*P		**P**	**20 43 36.4**	**-0.5**		
	comp=Z,26nm,1.1s									
427A	**Hayter Ranch,**	**95.05**	**51**	⇑P		**P**	**20 43 38.3**	**+1.0**		
	baz=95									
526A	**Mary Lane Ranc**	**95.05**	**52**	⇓P		**P**	**20 43 38.5**	**+1.0**		
	baz=95,SNR=6.1									
Z30A	**Sanderson Ranc**	**95.07**	**48**	⇑P		**P**	**20 43 37.9**	**+0.6**		
	baz=95									
W32A	**Sentinel**	**95.10**	**45**	⇑P		**P**	**20 43 38.5**	**+1.1**		
	baz=95									
328A	**Wristen Ranch,**	**95.13**	**50**	⇑P		**P**	**20 43 38.6**	**+0.9**		
	baz=95									
LPL	**La Plagne**	**95.18**	**329**	*e*P		**P**	**20 43 37.2**	**-0.6**		
	comp=Z,12nm,0.8s									
LPL	**La Plagne**	**95.18**	**329**	*e*P		**P**	**20 43 37.2**	**-0.6**		
LPL				pmax		pmax				
	comp=Z,12nm,0.8s									
LPL	**La Plagne**	**95.18**	**329**	*e*P		**P**	**20 43 37.2**	**-0.6**		
	comp=Z,12nm,0.8s									
LPG	**La Plagne**	**95.19**	**329**	*e*P		**P**	**20 43 37.4**	**-0.5**		
	comp=Z,16nm,0.8s									
LPG	**La Plagne**	**95.19**	**329**	*e*P		**P**	**20 43 37.4**	**-0.5**		
LPG				pmax		pmax				
	comp=Z,16nm,0.8s									
LPG	**La Plagne**	**95.19**	**329**	*e*P		**P**	**20 43 37.4**	**-0.5**		
	comp=Z,16nm,0.8s									
Y31A	**Rekieta Farm,**	**95.20**	**47**	⇓P		**P**	**20 43 38.8**	**+0.9**		
	baz=95									
626A	**Big Bend Ranch**	**95.33**	**52**	⇓P		**P**	**20 43 40.0**	**+1.4**		
	baz=95									
527A	**Woodward Ranch**	**95.33**	**52**	⇑P		**P**	**20 43 39.8**	**+1.0**		
	baz=95,SNR=5.2									
SSF	**Saint Saulge**	**95.35**	**332**	*e*P		**P**	**20 43 37.8**	**-0.5**		
	comp=Z,12nm,0.9s									
SSF	**Saint Saulge**	**95.35**	**332**	*e*P		**P**	**20 43 37.8**	**-0.5**		
SSF				pmax		pmax				
	comp=Z,12nm,0.9s									
SSF	**Saint Saulge**	**95.35**	**332**	*e*P		**P**	**20 43 37.8**	**-0.5**		
	comp=Z,12nm,0.9s									
FLN	**La Foliniere**	**95.52**	**335**	*e*P		**P**	**20 43 38.2**	**-0.7**		
FLN	**La Foliniere**	**95.52**	**335**	*e*P		**P**	**20 43 38.2**	**-0.7**		
FLN	**La Foliniere**	**95.52**	**335**	*e*P		**P**	**20 43 38.2**	**-0.7**		
LDF	**La Druitiere**	**95.52**	**335**	*e*P		**P**	**20 43 38.3**	**-0.7**		
	comp=Z,8.1nm,0.8s									
LDF	**La Druitiere**	**95.52**	**335**	*e*P		**P**	**20 43 38.3**	**-0.7**		
LDF				pmax		pmax				
	comp=Z,8.0nm,0.8s									
LDF	**La Druitiere**	**95.52**	**335**	*e*P		**P**	**20 43 38.3**	**-0.7**		
	comp=Z,8.1nm,0.8s									
SMF	**Signal de Mont**	**95.55**	**332**	*e*P		**P**	**20 43 38.5**	**-0.7**		
	comp=Z,16nm,1.0s									
SMF	**Signal de Mont**	**95.55**	**332**	*e*P		**P**	**20 43 38.5**	**-0.7**		
SMF				pmax		pmax				
	comp=Z,16nm,1.0s									
SMF	**Signal de Mont**	**95.55**	**332**	*e*P		**P**	**20 43 38.5**	**-0.7**		
	comp=Z,16nm,1.0s									
428A	**Kincaid Ranch,**	**95.61**	**51**	⇓P		**P**	**20 43 40.5**	**+0.6**		
	baz=95									
TXAR	**Lajitas Array**	**95.78**	**52**	P		**P**	**20 43 41.8**	**+1.1**		
TXAR	**Lajitas Array**	**95.78**	**52**	P		**P**	**20 43 41.8**	**+1.1**		
	comp=Z,4.8nm,0.7s,baz=300,slow=3.0,SNR=44									
528A	**Cox Ranch, San**	**95.89**	**51**	⇑P		**P**	**20 43 42.0**	**+0.8**		
	baz=96,SNR=5.3									
627A	**Terlingua Ranc**	**95.91**	**52**	⇓P		**P**	**20 43 42.3**	**+1.0**		
	baz=96,SNR=9.9									
GRR	**Gorron**	**95.97**	**335**	*e*P		**P**	**20 43 40.6**	**-0.4**		
GRR	**Gorron**	**95.97**	**335**	*e*P		**P**	**20 43 40.6**	**-0.4**		
GRR	**Gorron**	**95.97**	**335**	*e*P		**P**	**20 43 40.6**	**-0.4**		
ORIF	**Oris-en-Rattie**	**96.03**	**330**	*e*P		**P**	**20 43 40.8**	**-0.7**		
	comp=Z,46nm,1.4s									
ORIF	**Oris-en-Rattie**	**96.03**	**330**	*e*P		**P**	**20 43 40.8**	**-0.7**		
ORIF				pmax		pmax				
	comp=Z,46nm,1.4s									
ORIF	**Oris-en-Rattie**	**96.03**	**330**	*e*P		**P**	**20 43 40.8**	**-0.7**		
	comp=Z,46nm,1.4s									
Z32A	**Haskell**	**96.12**	**47**	⇑P		**P**	**20 43 43.0**	**+0.9**		
	baz=96									
330A	**Mertzon**	**96.21**	**49**	⇑P		**P**	**20 43 43.4**	**+0.8**		
	baz=96									
429A	**Davenport Ranc**	**96.21**	**50**	⇓P		**P**	**20 43 43.4**	**+0.8**		
	baz=96									
628A	**Black Gap, Mar**	**96.23**	**52**	⇑P		**P**	**20 43 43.5**	**+0.8**		
	baz=96									
529A	**Stev Forest Ra**	**96.30**	**51**	⇓P		**P**	**20 43 43.8**	**+0.8**		
	baz=96									
VIVF	**Saint-Julien-l**	**96.61**	**330**	*e*P		**P**	**20 43 43.4**	**-0.7**		
VIVF	**Saint-Julien-l**	**96.61**	**330**	*e*P		**P**	**20 43 43.4**	**-0.7**		
VIVF	**Saint-Julien-l**	**96.61**	**330**	*e*P		**P**	**20 43 43.4**	**-0.7**		
SGMF	**Saint Gilles**	**96.69**	**336**	*e*P		**P**	**20 43 44.5**	**+0.2**		
	comp=Z,42nm,1.2s									
SGMF	**Saint Gilles**	**96.69**	**336**	*e*P		**P**	**20 43 44.5**	**+0.2**		
SGMF	**Saint Gilles**	**96.69**	**336**	*e*P		**P**	**20 43 44.5**	**+0.2**		
	comp=Z,42nm,1.2s									
530A	**J-Ranch, Com**	**96.88**	**50**	⇑P		**P**	**20 43 46.6**	**+0.9**		
	baz=97									
332A	**Millersview**	**97.17**	**49**	⇓P		Pdif	20 43 47.5	+0.6		
	baz=97									
MFF	**Saint Martin d**	**97.18**	**334**	*e*P		**P**	**20 43 46.1**	**-0.5**		
MFF	**Saint Martin d**	**97.18**	**334**	*e*P		**P**	**20 43 46.1**	**-0.5**		
MFF	**Saint Martin d**	**97.18**	**334**	*e*P		**P**	**20 43 46.1**	**-0.5**		
531A	**Rocksprings**	**97.41**	**50**	⇑P		Pdif	20 43 49.1	+1.0		
	baz=97									
532A	**Rocksprings**	**97.86**	**50**	⇑P		Pdif	20 43 50.5	+0.4		
	baz=98									
TORD	**Torodi Ar. Bea**	**122.58**	**311**	PKP		**PKPdf**	**20 49 08.9**	**-0.6**		
TORD	**Torodi Ar. Bea**	**122.58**	**311**	PKP		**PKPdf**	**20 49 08.9**	**-0.6**		
	comp=Z,3.2nm,0.8s,baz=11,slow=2.7,SNR=17									
DBIC	**Dimbokro**	**131.69**	**311**	PKP		**PKPdf**	**20 49 27.4**	**+0.5**		
DBIC				SKPbc		**SKPbc**	**20 52 35.0**	**-2.0**		
DBIC	**Dimbokro**	**131.69**	**311**	PKP		**PKPdf**	**20 49 27.4**	**+0.5**		
	comp=Z,2.5nm,0.7s,baz=5.1,slow=6.0,SNR=4.1									
DBIC				SKPbc		**SKPbc**	**20 52 35.0**	**-2.0**		
	comp=Z,7.1nm,0.7s,baz=9.4,slow=3.6,SNR=8.7									
TIC	**Toumodi**	**131.81**	**311**	*e*PKP1		**SKPbc**	**20 52 35.3**	**-2.2**		
	comp=Z,7.8nm,0.2s									
KIC	**Ikan Boka**	**131.84**	**311**	*e*PKP1		**SKPbc**	**20 52 35.5**	**-2.1**		
	comp=Z,42nm,1.1s									
SDV	**Santo Domingo**	**132.04**	**44**	*e*PKPdf		**PKPdf**	**20 49 28.1**	**+0.3**		
LIC	**Lamto**	**132.13**	**311**	*e*PKP1		**SKPbc**	**20 52 36.4**	**-2.2**		
	comp=Z,34nm,1.0s									
PTGA	**Pitinga**	**146.00**	**39**	*e*PKPdf		**PKPdf**	**20 49 53.5**	**+0.6**		
SAML	**Samuel**	**150.26**	**54**	*e*PKPdf		**PKPdf**	**20 50 00.4**	**+0.6**		
SAML				*e*PKPbc		**PKPbc**	**20 50 05.1**	**-0.1**		
LPAZ	**La Paz**	**150.80**	**71**	PKPbc		**PKPbc**	**20 50 07.8**	**+0.7**		
LPAZ	**La Paz**	**150.80**	**71**	PKPbc		**PKPbc**	**20 50 07.8**	**+0.7**		
	comp=Z,15nm,0.8s,baz=323,slow=3.9,SNR=26									
PLCA	**Paso Flores**	**151.77**	**124**	PKPbc		**PKPbc**	**20 50 08.4**	**+0.4**		
PLCA				PKPab		**PKPab**	**20 50 18.9**	**+1.3**		
PLCA	**Paso Flores**	**151.77**	**124**	PKPbc		**PKPbc**	**20 50 08.4**	**+0.4**		
	comp=Z,6.2nm,0.6s,baz=256,slow=2.5,SNR=9.8									
PLCA				PKPab		**PKPab**	**20 50 18.9**	**+1.3**		
	comp=Z,1.8nm,0.4s,baz=208,slow=7.5,SNR=5.0									

*ISCJB **27** 20:31:40.2±0.7, 1.°18N±0.°06×126.°46E±0.°05, h39km, mb4.0/7, Error ellipse: s-maj=9.2km s-min=6.9km az=32.4*
*DJA **27** 20:31:43.4±0.8, 1.°1E±.°×12.°6E±.°, h30km± 13km, M4.3/6, mb4.6/4, mB4.7/1, MLv4.1/6, Mw(mB)4.0/1*
*IDC **27** 20:32:03.1±10.0, 0.°72N×126.°18E, h260km±112km, mb3.4/7, mb1 3.5/7, mb1mx3.2/35, mbtmp4.0/7, Error ellipse: s-maj=159.7km s-min=15.3km az=71.0*

ISC 27 20:31:42.2±0.9, **1.°13N**±0.°08×**126.°45E**±0.°05, **h39**km**, n15,** σ1§**51**/18, **mb4.0**/7, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.98**	**111**	P	**Pn**	**20 32 00.0**	**+0.6**
TNTI				S	**Sn**	**20 32 15.4**	**+3.3**
LBMI	**Labuha**	**2.04**	**149**	P	**Pn**	**20 32 14.0**	**-0.1**
LBMI				S	**Sn**	**20 32 39.8**	**+1.4**
KMSI	**Cibinong**	**2.53**	**257**	P	**Pn**	**20 32 19.8**	**-1.0**
KMSI				S	**Sn**	**20 32 52.2**	**+1.8**
SANI	**Sanana**	**3.19**	**188**	P	**Pn**	**20 32 28.8**	**-1.0**
SANI				S	**Sn**	**20 33 06.2**	**-0.5**
LUWI	**Luwuk**	**4.27**	**240**	P	**Pn**	**20 32 45.5**	**+0.9**
APSI	**Ampana**	**5.21**	**247**	P	**Pn**	**20 32 58.2**	**+0.6**
	96nm,1.0s,772nm0.4nm						
SPSI	**Sidrap Palu**	**8.38**	**233**	P	**Pn**	**20 33 42.3**	**+1.2**
	12nm,0.5s						
BKSI	**Bukumba**	**9.00**	**225**	P	**Pn**	**20 33 52.1**	**+2.4**
	9.6nm,1.0s						
WRA	**Warramunga Arr**	**22.32**	**160**	P	**P**	**20 36 35.1**	**-1.6**
	2.4nm,0.5s,baz=340,slow=11,SNR=41						
ASAR	**Alice Springs**	**25.69**	**164**	P	**P**	**20 37 07.8**	**-1.0**
	1.3nm,0.5s,baz=345,slow=7.6,SNR=34						
STKA	**Stephens Creek**	**35.83**	**158**	P	**P**	**20 38 37.9**	**-0.3**
	1.5nm,0.7s,baz=330,slow=7.3,SNR=6.2						
SONM	**Songino Array**	**49.67**	**342**	P	**P**	**20 40 30.6**	**+0.4**
	0.7nm,0.7s,baz=138,slow=5.6,SNR=2.7						
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**20 41 39.9**	**-1.8**
	1.1nm,0.6s,baz=110,slow=7.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**63.78**	**328**	P	**P**	**20 42 09.9**	**-0.2**
	1.8nm,0.6s,baz=128,slow=6.0,SNR=6.8						
VNDA	**Vanda**	**80.90**	**173**	P	P	20 43 45.3	-6.5
	0.5nm,0.3s,baz=24,slow=5.8,SNR=7.9						

*MOS **27** 20:39:10.0±0.9, 8.°53S×110.°98E, h33km, mb5.2/22, Error ellipse: s-maj=14.6km s-min=7.1km az=114.2*
*IDC **27** 20:39:12.6±3.0, 8.°64S×110.°96E, h40km±25km, mb4.4/22, mb1 4.5/23, mb1mx4.4/34, mbtmp4.7/23, ML5.2/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/27, Error ellipse: s-maj=20.2km s-min=11.8km az=64.0*
*BJI **27** 20:39:13.5, 8.°80S×111.°00E, h71km, mB5.1/21, mb4.7/41, Ms4.7/12, Ms7 4.4/12*
*DJA **27** 20:39:13.9±0.5, 9.°3S±3.°×11.°1E±.°, h19km±5km, M5.1/33, mb4.9/24, mB5.6/7, MLv5.2/33, Mw(mB)5.0/7, Mwp6.7/2*
*ISCJB **27** 20:39:14.1±0.4, 8.°82S±0.°04×110.°93E±0.°02, h80km±2km, mb4.7/62, Error ellipse: s-maj=6.9km s-min=3.2km az=16.1*
*NEIC **27** 20:39:15.2±0.9, 8.°74S×111.°01E, h70km±7km, mb4.8/17, Error ellipse: s-maj=10.8km s-min=6.7km az=218.0*
NEIC Felt [III] at Pacitan, Wonosari and Yogyakarta. Also felt at Bantul and Sleman.

ISC 27 20:39:16.0±0.4, **8.°80S**±0.°05×**110.°95E**±0.°03, **h78**km±2km**, n261,** σ1§**56**/295, **mb4.8**/62, **11C-4D, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.64**	**21**	P	**Pn**	**20 39 27.8**	**-3.1**
PCJI				S	**Sn**	**20 39 37.6**	**-4.2**
UGM	**Wanagama**	**0.97**	**334**	P	**Pn**	**20 39 33.4**	**-1.3**
UGM				S	**Sn**	**20 39 47.4**	**-1.2**
UGM	**Wanagama**	**0.97**	**334**	P	**Pn**	**20 39 32.4**	**-2.3**
	baz=1.1,SNR=1000						
UGM				S	**Sn**	**20 39 47.3**	**-1.2**
	baz=1.1,SNR=14						
PWJI	**Pagerwojo**	**1.14**	**48**	P	**Pn**	**20 39 34.5**	**-2.2**
PWJI				S	**Sn**	**20 39 49.7**	**-2.5**
NGJI	**Ngawi**	**1.51**	**20**	P	**Pn**	**20 39 43.4**	**+2.1**
KRKI	**Karangkates**	**1.62**	**67**	P	x	20 39 41.3	
KRKI				S	x	20 40 02.3	
SMRI	**Semarang**	**1.81**	**344**	P	**Pn**	**20 39 46.7**	**+1.4**
SMRI				S	**Sn**	**20 40 11.9**	**+4.4**
SMRI	**Semarang**	**1.81**	**344**	*e*Pn	**Pn**	**20 39 46.4**	**+1.0**
SMRI	**Semarang**	**1.81**	**344**	P	**Pn**	**20 39 46.3**	**+1.0**
	baz=1.9,SNR=302						
BJII	**Banjamegara**	**1.90**	**320**	P	x	20 39 46.4	
BJII				S	x	20 40 13.8	
TBJI	**Tambak Boyo**	**2.16**	**24**	P	**Pn**	**20 39 50.2**	**+0.2**
UWJI	**Ujung Watu**	**2.36**	**360**	P	**Pn**	**20 39 53.1**	**+0.4**
GRJI	**Gresik**	**2.41**	**39**	P	**Pn**	**20 39 53.2**	**-0.1**
KPJI	**Karang Pucung**	**2.47**	**306**	P	**Pn**	**20 39 54.1**	**-0.1**
GMJI	**Gumukmas**	**2.52**	**78**	P	**Pn**	**20 39 53.2**	**-1.7**
TGJI	**Tegal**	**2.63**	**316**	P	x	20 39 55.3	
TGJI				S	x	20 40 27.9	
CMJI	**Cimerak**	**2.67**	**292**	P	**Pn**	**20 39 54.9**	**-2.0**
CMJI				S	**Sn**	**20 40 25.7**	**-2.6**
BLJI	**Banyuglugur**	**2.82**	**68**	P	**Pn**	**20 39 58.2**	**-0.7**
BLJI				S	**Sn**	**20 40 34.9**	**+3.0**
JAGI	**Jajag, Banyuwa**	**3.19**	**84**	P	**Pn**	**20 40 01.9**

baz=20,SNR=28
MTN S **S** **20 47 21.2 -6.7**
baz=20,SNR=4.1
DLV T Lat 20.75 353 P Pn 20 43 52.4 -1.6
KDU Kakadu 21.50 102 P **P** **20 43 57.9 -0.7**
baz=22,SNR=6.5
FAKI Fak Fak 21.97 76 P **P** **20 43 59.8 -4.0**
baz=22,SNR=12
WRKA Warakurna 23.11 136 P **P** **20 44 15.7 +0.1**
baz=23,SNR=17
WRKA S **S** **20 48 26.9 +5.9**
baz=23,SNR=4.6
NWAO Narrogin (SRO) 24.71 167 LR LR 20 54 02.6
comp=Z,124nm,20.0s,baz=12,slow=36
WRA Warramunga Arr 25.19 119 P **P** **20 44 34.6 +0.1**
WRA PcP **PcP** **20 48 07.4 +0.8**
WRA Warramunga Arr 25.19 119 P **P** **20 44 34.6 +0.1**
9.5nm,0.6s,baz=293,slow=11,SNR=37
WRA PcP **PcP** **20 48 07.4 +0.8**
1.5nm,0.6s,baz=288,slow=2.2,SNR=5.0
WRAB Tennant Creek 25.19 119⇑*iP* **P** **20 44 35.5 +0.9**
WRAB pmax pmax
comp=Z,57nm,1.7s
WRAB Tennant Creek 25.19 119 *e*P **P** **20 44 34.3 -0.3**
comp=Z,16nm,0.8s
ASAR Alice Springs 26.48 127 P **P** **20 44 46.5 +0.3**
ASAR PcP **PcP** **20 48 10.9 +1.3**
ASAR Alice Springs 26.48 127 P **P** **20 44 46.5 +0.3**
comp=Z,5.4nm,0.5s,baz=303,slow=8.5,SNR=36
ASAR PcP **PcP** **20 48 10.9 +1.3**
comp=Z,1.8nm,0.6s,baz=306,slow=2.0,SNR=7.7
ASAR LR LR 20 57 32.4
comp=Z,98nm,18.2s,baz=267,slow=41
QIZ Qiongzhong 27.67 358 P **P** **20 44 58.5 +1.7**
QIZ pP **pP** **20 45 14.5 -0.4**
QIZ sP **sP** **20 45 23.0 -1.0**
QIZ S **S** **20 49 37.0 +3.6**
QIZ pmax pmax
comp=Z,11nm,2.5s
QIZ pmax pmax
comp=Z,110nm,3.4s
CMAR Chiang Mai Arr 29.56 336 P **P** **20 45 12.4 -1.2**
CMAR PcP **PcP** **20 48 18.2 +1.1**
CMAR Chiang Mai Arr 29.56 336 P **P** **20 45 12.4 -1.2**
comp=Z,2.2nm,0.6s,baz=173,slow=7.6,SNR=15
CMAR PcP **PcP** **20 48 18.2 +1.1**
comp=Z,4.4nm,0.7s,baz=192,slow=3.1,SNR=24
CMAR LR LR 20 57 06.1
comp=Z,156nm,22.0s,baz=130,slow=36
QIS Mount Isa 30.03 116 P **P** **20 45 18.4 +0.6**
baz=30,SNR=3.2
COEN Coen 31.99 102 P **P** **20 45 35.5 +0.3**
baz=32,SNR=10
YULB Yu-li 33.55 17 *e*P **P** **20 45 47.9 -0.7**
comp=Z,5.5nm,0.6s
SSLB Suanglung 33.83 17 *e*P **P** **20 45 50.8 -0.2**
comp=Z,11nm,0.6s
KMI Kunming 34.65 347 P P 20 46 02.8 +4.4
KMI pmax pmax
comp=Z,4.0nm,0.8s
GYA Guiyang 35.29 353 *e*P P 20 46 07.3 +3.6
GYA pP pP 20 46 23.8 +1.6
GYA sP sP 20 46 33.0 +1.8
GYA PP **PP** **20 47 29.0 +3.7**
GYA PcP **PcP** **20 48 34.5 +1.6**
GYA S **S** **20 51 36.0 +3.7**
GYA sS sS 20 52 06.8 +2.8
GYA ScP **ScP** **20 52 12.3 +0.4**
GYA ScS **ScS** **20 56 15.5 -1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,440nm,17.6s
GYA LR LR
comp=Z,320nm,18.0s
GYA LR LR
comp=Z,460nm,17.8s
QLP Quilpie 36.15 124 P **P** **20 46 12.7 +1.7**
baz=36,SNR=4.5
STKA Stephens Creek 36.56 133 P **P** **20 46 15.3 +0.9**
STKA PcP **PcP** **20 48 37.7 +1.2**
STKA Stephens Creek 36.56 133 P **P** **20 46 15.3 +0.9**
comp=Z,3.1nm,0.5s,baz=328,slow=6.7,SNR=19
STKA PcP **PcP** **20 48 37.7 +1.2**
comp=Z,5.9nm,0.5s,baz=328,slow=2.5,SNR=7.3
STKA LR LR 21 01 40.1
comp=Z,99nm,21.4s,baz=283,slow=37
STKA Stephens Creek 36.56 133 P **P** **20 46 15.2 +0.9**
baz=37,SNR=15
H08S2 Diego Garcia H 38.07 269 T T 21 26 55.6
baz=95,slow=76,SNR=32
H08S3 Diego Garcia H 38.08 269 T T 21 27 13.3
baz=95,slow=76,SNR=28
H08S1 Diego Carcia H 38.09 269 T T 21 26 59.8
baz=95,slow=76,SNR=11
ENH Enshi 38.87 358 *e*P **P** **20 46 32.6 -1.3**
CD2 Chengdu 40.08 350 *e*P **P** **20 46 45.0 +1.0**
CD2 pP **pP** **20 47 02.8 +0.1**
CD2 sP **sP** **20 47 13.0 +1.3**
CD2 PP **PnPn** **20 48 21.0 -0.8**
CD2 S **S** **20 52 46.3 +1.8**
CD2 sS **sS** **20 53 18.3 +1.7**
CD2 SS **SS** **20 55 42.3 -2.7**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,200nm,6.0s
CD2 LR LR
comp=Z,300nm,14.3s
CD2 LR LR
comp=Z,260nm,15.5s
NJ2 Nanjing 41.31 10 *e*P **P** **20 46 54.8 +0.8**
NJ2 pmax pmax
comp=Z,20nm,0.6s
ODAN Odare 42.17 328 *e*P **P** **20 47 00.4 -1.1**
comp=Z,15nm,0.5s
TAPN Taplejung 42.40 329 *e*P **P** **20 47 03.1 -0.3**
comp=Z,9.7nm,0.4s
XAN Xi'an 42.64 358 P **P** **20 47 05.5 +0.6**
XAN pmax pmax
comp=Z,4.0nm,0.6s
XAN pmax pmax
comp=Z,31nm,7.1s
RAMN Ramite 42.66 327 *e*P **P** **20 47 04.9 -0.6**
comp=Z,5.4nm,0.3s
LSA Lhasa 42.76 334 *e*P **P** **20 47 05.6 -0.8**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 42.76 334 *e*P **P** **20 47 05.6 -0.8**
comp=Z,8.8nm,0.6s
JIRN Jiri 43.45 327 *e*P **P** **20 47 10.7 -1.3**
comp=Z,13nm,0.5s
PKI Pulchoki 43.80 326 *e*P **P** **20 47 13.3 -1.4**
comp=Z,3.0nm,0.3s
PKIN Phulchoki 43.81 326 *e*P **P** **20 47 13.3 -1.5**
comp=Z,3.4nm,0.3s
GUN Gumba 43.81 327 *e*P **P** **20 47 14.0 -0.9**
comp=Z,20nm,0.5s
DMN Daman 44.00 326 *e*P **P** **20 47 14.9 -1.3**
comp=Z,11nm,0.3s
KKN Kakani 44.04 326 *e*P **P** **20 47 15.3 -1.2**
comp=Z,5.9nm,0.5s
GKN Gorkha 44.56 326 *e*P **P** **20 47 19.1 -1.5**
comp=Z,12nm,0.3s
KOLN Koldanda 44.97 325 *e*P **P** **20 47 22.2 -1.7**
comp=Z,23nm,0.4s
LZH Lanzhou 45.14 352 *e*P **P** **20 47 27.3 +2.2**
LZH pP **pP** **20 47 45.5 +1.4**
LZH sP **sP** **20 47 53.3 +0.3**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.0s
DANN Dangsing 45.32 326 *e*P **P** **20 47 25.2 -1.6**
comp=Z,20nm,0.4s
POO Poona 45.57 307 *ex* **P** **20 47 27.0 -1.6**
JNU Nakatsue 45.80 24 P **P** **20 47 30.6 +0.4**
JNU Nakatsue 45.80 24 P **P** **20 47 30.6 +0.4**
comp=Z,1.6nm,0.4s,baz=180,slow=5.2,SNR=3.3
KSAR Wonju Array Be 48.65 18 P **P** **20 47 52.0 -0.2**
KSRS Korea Array 48.67 18 P **P** **20 47 52.0 -0.4**
comp=Z,8.3nm,0.7s,baz=200,slow=8.4,SNR=24
BJI Beijing 48.83 5 P **P** **20 47 52.5 -1.0**
BJI pmax pmax

comp=Z,16nm,0.7s
GTA Gaotai 49.06 349 *e*P **P** **20 47 56.0 +0.5**
GTA pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 51.86 28 P **P** **20 48 14.6 -2.0**
MJAR Matsushiro Arr 51.86 28 P **P** **20 48 14.6 -2.0**
comp=Z,9.5nm,0.9s,baz=204,slow=9.3,SNR=11
CN2 Changchun 53.98 13 *e*P **P** **20 48 30.5 -1.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
USRK Ussuriysk Arra 56.08 18 P **P** **20 48 46.5 -0.6**
comp=Z,5.5nm,0.4s,baz=196,slow=3.5,SNR=18
WMQ Urumqi 56.46 340 P **P** **20 48 50.5 +0.6**
WMQ pP **pP** **20 49 09.8 +0.2**
WMQ sP **sP** **20 49 18.5 +0.2**
WMQ PcP **PcP** **20 49 46.5 +0.5**
WMQ PP **PP** **20 50 58.5 +2.0**
WMQ ScP **ScP** **20 53 37.8 -0.8**
WMQ PcS **PcS** **20 53 45.8 -0.8**
WMQ S **S** **20 56 34.3 -0.9**
WMQ sS **sS** **20 57 06.8 -2.0**
WMQ ScS **ScS** **20 58 29.0 -3.0**
WMQ SS **SS** **21 00 22.3 -1.5**
WMQ LR LR
comp=Z,74nm,19.1s
WMQ LR LR
comp=Z,67nm,19.5s
WMQ LR LR
comp=Z,85nm,19.7s
ULN Ulaanbaatar 56.52 357 *e*P **P** **20 48 49.5 -0.8**
comp=Z,3.7nm,0.5s
ULN *e*PcP **PcP** **20 49 46.6 +0.4**
SONM Songino Array 56.52 356 P **P** **20 48 49.8 -0.5**
SONM PcP **PcP** **20 49 46.9 +0.7**
SONM ScP **ScP** **20 53 40.5 +1.6**
SONM Songino Array 56.52 356 P **P** **20 48 49.8 -0.5**
comp=Z,2.3nm,0.4s,baz=173,slow=8.8,SNR=64
SONM PcP **PcP** **20 49 46.9 +0.7**
comp=Z,4.4nm,0.5s,baz=176,slow=4.3,SNR=20
SONM ScP **ScP** **20 53 40.5 +1.6**
comp=Z,0.8nm,0.9s,baz=180,slow=3.2,SNR=4.1
KSH Kashi 57.98 328 *e*P **P** **20 48 59.0 -1.8**
KSH *e*PP **PP** **20 51 09.0 -1.2**
KSH *e*PcS **PcS** **20 53 51.0 -2.6**
KSH *e*S S 20 56 48.5 -6.9
KSH *e*sS sS 20 57 22.5 -6.7
KSH *e*SS **SS** **21 00 42.0 -6.0**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,140nm,2.6s
KSH LR LR
comp=Z,77nm,8.7s
KSH LR LR
comp=Z,95nm,4.7s
KSH LR LR
comp=Z,120nm,5.2s
KBL Kabul 58.57 320 *e*P **P** **20 49 02.6 -2.5**
KBL pmax pmax
comp=Z,2.0nm,0.4s
KBL Kabul 58.57 320 *e*P **P** **20 49 02.6 -2.5**
comp=Z,1.7nm,0.4s
ZAK Zakamensk 59.31 354 *e*P **P** **20 49 08.4 -1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
ASAJ Asahikawa 59.96 26 P **P** **20 49 13.4 -0.8**
ASAJ Asahikawa 59.96 26 P **P** **20 49 13.4 -0.8**
comp=Z,4.0nm,0.6s,baz=202,slow=20,SNR=5.3
KZA Kyzart 60.25 330 *i*P **P** **20 49 16.7 -0.1**
KZA Kyzart 60.25 330 P **P** **20 49 16.8 -0.1**
SNR=6.4
KLR Kul'dur 60.59 16 *e*P P 20 49 13.1 -5.3
TKM2 Tokmak 2 60.72 331 *i*P **P** **20 49 19.3 -0.4**
TKM2 Tokmak 2 60.72 331 P **P** **20 49 19.4 -0.4**
SNR=8.5
TKM2 Tokmak 2 60.72 331 *e*P **P** **20 49 18.6 -1.1**
comp=Z,11nm,0.6s
MOY Mondy 60.83 353 *e*P **P** **20 49 20.1 0.0**
KBK Karagaybulak 60.84 330 P **P** **20 49 20.7 +0.2**
SNR=14
MKAR Makanchi Array 60.95 338 P **P** **20 49 20.3 -0.7**
MKAR Makanchi Array 60.95 338 P **P** **20 49 20.2 -0.7**
MKAR Makanchi Array 60.95 338 P **P** **20 49 20.2 -0.7**
comp=Z,15nm,0.5s,baz=148,slow=6.3,SNR=156
AAK Ala-Archa 61.04 330⇑*iP* **P** **20 49 21.9 +0.1**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 61.04 330 P **P** **20 49 21.5 -0.3**
AAK Ala-Archa 61.04 330 P **P** **20 49 21.5 -0.3**
comp=Z,1.9nm,0.5s,baz=138,slow=6.1,SNR=10
EKS2 Erkin-Say 61.42 330 *i*P **P** **20 49 24.3 0.0**
EKS2 Erkin-Say 61.42 330 P **P** **20 49 24.4 0.0**
SNR=7.6
USP Ospenovka 61.51 330 *i*P **P** **20 49 24.3 -0.5**
USP Ospenovka 61.51 330 P **P** **20 49 24.3 -0.5**
SNR=5.4
YSS Yuzh-Sakhalins 62.31 24 *e*P **P** **20 49 29.2 -0.8**
YSS pmax pmax
comp=Z,30nm,1.0s
FAQ Al Faqa, Dubai 63.41 303 *i*P **P** **20 49 38.0 +0.2**
SNR=5.3
KKAR Karatay Array 63.41 328 *e*P **P** **20 49 35.5 -2.0**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 63.41 328 *e*P **P** **20 49 35.5 -2.0**
comp=Z,0.7nm,0.4s
ASUD Al Ashush, Dub 63.58 303⇑*iP* **P** **20 49 38.7 -0.2**
SNR=7.4
KURK Kurchatov 65.56 338 *e*P **P** **20 49 49.6 -1.7**
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 65.56 338 *e*P **P** **20 49 49.6 -1.7**
comp=Z,3.1nm,0.4s
ZAA0 Zalesovo Array 66.30 343 *e*P **P** **20 49 54.5 -1.4**
ZALV Zalesovo Beam 66.30 343 P **P** **20 49 54.6 -1.3**
ZALV Zalesovo Beam 66.30 343 P **P** **20 49 54.6 -1.3**
ZALV Zalesovo Beam 66.30 343 P **P** **20 49 54.6 -1.3**
comp=Z,8.9nm,0.4s,baz=161,slow=6.5,SNR=77
NVS Novosibirsk 67.53 343 *e*P **P** **20 50 00.6 -3.1**
BRVK Borovoye 70.64 335⇓*iP* **P** **20 50 22.9 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 71.53 298 *e*P **P** **20 50 28.9 -0.2**
comp=Z,16nm,0.8s
YAK Yakutsk 72.10 9 *e*P **P** **20 50 30.5 -1.1**
YAK *e* 20 50 45.3
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 72.10 9 *e*P **P** **20 50 30.6 -1.0**
comp=E,46nm,0.8s
YAK *e* 20 50 46.0
ABKAR Akbulak array 72.98 328 *e*P **P** **20 50 36.7 -0.5**
comp=E,23nm,0.5s
PETK Petropavlovsk- 73.32 27 P **P** **20 50 39.0 -0.1**
PETK Petropavlovsk- 73.32 27 P **P** **20 50 39.0 -0.1**
PETK Petropavlovsk- 73.32 27 P **P** **20 50 39.0 -0.1**
comp=E,9.8nm,0.7s,baz=198,slow=3.9,SNR=12
VNDA Vanda 73.51 170 P **P** **20 50 41.4 +1.5**
VNDA Vanda 73.51 170 P **P** **20 50 41.4 +1.5**
comp=E,1.7nm,0.7s,baz=5.1,slow=6.5,SNR=5.2
SVE Sverdlovsk 77.28 334 *e*P **P** **20 51 01.6 -0.2**
SVE pmax pmax
comp=Z,23nm,1.0s
ARU Arti 77.95 333*d iP* **P** **20 51 05.1 -0.3**
ARU 20 53 58.2
ARU S **S** **21 00 53.6 +1.1**
ARU pmax pmax
comp=Z,15nm,1.1s
DGRG David-gareji 78.05 316 P **P** **20 51 07.9 +1.4**
SEY Seymchan 78.23 18 P **P** **20 51 06.9 0.0**
SEY Seymchan 78.23 18 P **P** **20 51 06.9 0.0**
SEY Seymchan 78.23 18 P **P** **20 51 06.9 0.0**
comp=Z,6.4nm,0.4s,baz=218,slow=3.9,SNR=66
TBLG Delisi 78.60 316 P **P** **20 51 10.4 +1.0**
GUDG Gudauri 79.06 316 P **P** **20 51 13.3 +1.1**
ZEI Tsey 79.58 316 *e*P **P** **20 51 14.9 -0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ONI Oni 79.81 316 P **P** **20 51 17.1 +1.0**
NCK Nalchik 80.05 317⇓*iP* **P** **20 51 18.3 +1.0**
KBZ Khabaz 80.61 317 P **P** **20 51 20.9 +0.7**

KBZ Khabaz 80.61 317 P **P** **20 51 20.9 +0.7**
KBZ Khabaz 80.61 317 P **P** **20 51 20.9 +0.7**
comp=Z,14nm,0.8s,baz=119,slow=4.0,SNR=29
LSZ Lusaka 80.79 256 *e*P **P** **20 51 23.7 +1.7**
comp=Z,3.7nm,0.6s
KIV Kislovodsk 80.83 317 *e*P **P** **20 51 22.2 +0.7**
KIV pmax pmax
comp=Z,21nm,0.9s
KIV Kislovodsk 80.83 317 *e*P **P** **20 51 21.5 -0.1**
comp=Z,18nm,0.6s
KIV Kislovodsk 80.83 317⇑ *e*P **P** **20 51 22.3 +0.7**
SNR=8.9
GOF Gofitskoye 81.00 318 *e*P **P** **20 51 23.5 +1.2**
TIXI Tiksi 81.15 6⇑*iP* **P** **20 51 21.4 -1.1**
TIXI pmax pmax
comp=Z,21nm,0.6s
TIXI Tiksi 81.15 6 *e*P **P** **20 51 21.5 -1.0**
comp=Z,27nm,0.8s
BOSA Boshof 82.09 242 P **P** **20 51 30.6 +2.0**
BOSA Boshof 82.09 242 P **P** **20 51 30.6 +2.0**
comp=Z,2.3nm,0.7s,baz=93,slow=3.4,SNR=5.2
SOC Sochi 82.72 316 *e*P **P** **20 51 30.3 -1.1**
SOC *e* 20 54 38.6
SOC *e*S **S** **21 01 42.8 -0.2**
SOC pmax pmax
comp=Z,31nm,0.8s
VRHR Novokhopersk 84.14 324 *e*P **P** **20 51 37.6 -0.8**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VORD Divnogorie 85.47 323 *e*P **P** **20 51 43.3 -1.8**
VORD pmax pmax
comp=N,3.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.9s
VORD pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 85.63 323 P **P** **20 51 44.9 -1.0**
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 85.94 18 *e*P **P** **20 51 47.3 +0.2**
BILL pmax pmax
comp=Z,3.0nm,1.1s
BR131 Keskin Array S 85.94 311 *e*P **P** **20 51 47.9 -0.1**
comp=Z,11nm,0.9s
BRTR Keskin Array B 85.94 311 P **P** **20 51 48.4 +0.4**
BRTR Keskin Array B 85.94 311 P **P** **20 51 48.4 +0.4**
comp=Z,9.0nm,0.8s,baz=129,slow=6.8,SNR=45
PRGR Permogore 86.35 334 *e*P P 20 51 45.8 -3.5
PRGR pmax pmax
comp=Z,34nm,0.8s
OBN Obninsk 88.36 326⇑*iP* **P** **20 51 59.3 +0.3**
OBN pmax pmax
comp=Z,53nm,2.5s
KLMR Klimovskoe 88.76 332 *e*P **P** **20 51 59.5 -1.3**
KLMR pmax pmax
comp=Z,41nm,1.3s
AKASG Malin Array Be 91.53 321 *i*P **P** **20 52 13.3 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 91.53 321 P **P** **20 52 12.9 -1.0**
AKASG Malin Array Be 91.53 321 P **P** **20 52 12.9 -1.0**
comp=Z,1.6nm,0.4s,baz=86,slow=5.0,SNR=19
VRI Vrincioaia 92.24 316⇑P **P** **20 52 17.7 +0.3**
VRI Vrincioaia 92.24 316⇑*iP* **P** **20 52 17.7 +0.3**
TESR Tescani 92.41 317⇓*iP* **P** **20 52 15.5 -2.7**
MLR Muntele Rosu 92.72 315⇑*iP* **P** **20 52 19.6 -0.2**
BURAR Bucovina Array 93.56 317⇑P **P** **20 52 23.8 +0.2**
BURAR Bucovina Array 93.56 317⇑*iP* **P** **20 52 23.8 +0.2**
BUR08 Bucovina Ar. S 93.57 317 *e*P **P** **20 52 24.3 +0.6**
FINES FINESS Array B 95.21 331 P **P** **20 52 30.8 +0.1**
FINES PKiKP **PKiKP** **20 57 11.7 +0.4**
FINES FINESS Array B 95.21 331 P **P** **20 52 30.8 +0.1**
comp=Z,2.8nm,0.8s,baz=107,slow=6.4,SNR=6.2
FINES PKiKP **PKiKP** **20 57 11.7 +0.4**
comp=Z,9.7nm,1.2s,baz=247,slow=3.9,SNR=4.5
ARCES ARCESS Array B 96.58 339 P **P** **20 52 36.0 -0.7**
ARCES ARCESS Array B 96.58 339 P **P** **20 52 36.0 -0.7**
comp=Z,2.8nm,0.9s,baz=70,slow=4.0,SNR=6.4
TORD Torodi Ar. Bea 110.60 281 PKiKP **PKiKP** **20 57 40.5 -0.2**
TORD PKKPbc **PKKPbc** **21 08 40.4 +0.7**
TORD Torodi Ar. Bea 110.60 281 PKiKP **PKiKP** **20 57 40.5 -0.2**
comp=Z,0.4nm,0.5s,baz=60,slow=2.0,SNR=6.5
TORD PKKPbc **PKKPbc** **21 08 40.4 +0.7**
comp=Z,0.4nm,0.6s,baz=305,slow=4.1,SNR=6.2
RES Resolute Bay 112.51 7 PKiKP **PKiKP** **20 57 42.7 +0.1**
RES Resolute Bay 112.51 7 PKiKP **PKiKP** **20 57 42.7 +0.1**
comp=Z,1.2nm,0.8s,baz=298,slow=6.2,SNR=4.7
YKA Yellowknife Ar 117.12 22 PKP **PKPdf** **20 57 52.0 +0.2**
YKA Yellowknife Ar 117.12 22 PKP **PKPdf** **20 57 52.0 +0.2**
comp=Z,0.7nm,0.5s,baz=314,slow=1.8,SNR=18
NVAR Mina Array Bea 126.92 48 PKP **PKPdf** **20 58 13.4 +1.8**
NVAR Mina Array Bea 126.92 48 PKP **PKPdf** **20 58 13.4 +1.8**
comp=Z,1.3nm,0.7s,baz=266,slow=1.9,SNR=7.3
ELK Elko 128.22 44 PKP **PKPdf** **20 58 15.5 +1.4**
ELK Elko 128.22 44 PKP **PKPdf** **20 58 15.5 +1.4**
comp=Z,1.1nm,0.5s,baz=49,slow=5.5,SNR=7.0
PDAR Pinedale Array 131.01 39 PKP **PKPdf** **20 58 20.6 +1.2**
PDAR Pinedale Array 131.01 39 PKP **PKPdf** **20 58 20.6 +1.2**
comp=Z,0.7nm,0.6s,baz=40,slow=0.6,SNR=5.7
ULM Lac du Bonnet 133.06 23 PKP **PKPdf** **20 58 23.3 +0.6**
ULM Lac du Bonnet 133.06 23 PKP **PKPdf** **20 58 23.3 +0.6**
comp=Z,1.8nm,0.6s,baz=11,slow=8.6,SNR=3.8
SCHQ Schefferville 134.05 358 PKP **PKPdf** **20 58 25.1 +0.7**
SCHQ Schefferville 134.05 358 PKP **PKPdf** **20 58 25.1 +0.7**
comp=Z,2.3nm,0.5s,baz=354,slow=0.7,SNR=9.6
TXAR Lajitas Array 141.66 53 PKPpre PKPpre 20 58 33.9
TXAR PKP **PKiKP** **20 58 41.5 -0.6**
TXAR Lajitas Array 141.66 53 PKhKP PKPpre 20 58 33.9
comp=Z,0.5nm,0.5s,baz=228,slow=2.3,SNR=4.7
TXAR PKP **PKiKP** **20 58 41.5 -0.6**
comp=Z,0.5nm,0.5s,baz=276,slow=1.1,SNR=4.3
CPUP Villa Florida 143.27 198 PKP **PKPdf** **20 58 40.8 -1.3**
CPUP Villa Florida 143.27 198 PKP **PKPdf** **20 58 40.8 -1.3**
comp=Z,1.1nm,0.4s,baz=39,slow=2.3,SNR=3.5
NCB Newcomb 144.67 6 *e*PKP **PKPdf** **20 58 43.8 -0.3**
MDV Middlebury 144.75 5 *e*PKP **PKPdf** **20 58 43.9 -0.2**
WHTX Lake Whitney 144.97 45 *e*PKP **PKPdf** **20 58 45.8 +0.9**
MIAR Mount Ida 145.90 38 *e*PKP2 **PKPab** **20 58 47.7 0.0**
MIAR Mount Ida 145.90 38 *e*PKPbc **PKPab** **20 58 47.7 0.0**
ACSO Alum Creek Sta 146.32 19 *e*PKPbc **PKPab** **20 58 48.8 -0.3**
MCWV Mont Chateau 147.79 16 *e*PKPbc **PKPbc** **20 58 53.1 +0.8**
MCWV *e*PKPab **PKPab** **20 58 55.7 +0.8**
WVT Waverly 147.86 29 *e*PKP2 **PKPbc** **20 58 53.4 +0.7**
WVT Waverly 147.86 29 *e*PKPbc **PKPbc** **20 58 53.4 +0.7**
BDFB Brasilia 148.00 221 PKPbc **PKPab** **20 58 55.4 -1.1**
BDFB Brasilia 148.00 221 PKPbc **PKPab** **20 58 55.4 -1.1**
comp=Z,2.5nm,0.5s,baz=346,slow=5.5,SNR=4.0
TKL Tuckaleechee C 150.07 25 PKPbc **PKPbc** **20 58 58.9 +0.6**
TKL PKPab **PKPab** **20 59 05.2 +1.0**
TKL Tuckaleechee C 150.07 25 PKPbc **PKPbc** **20 58 58.9 +0.6**
comp=Z,13nm,0.5s,baz=129,slow=2.0,SNR=15
TKL PKPab **PKPab** **20 59 05.2 +1.0**
comp=Z,13nm,0.6s,baz=133,slow=8.3,SNR=7.3

MEX 27 21:09:10.2±0.7, 15°51N×96°28W, h6km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.24**	**310**	*i* P		Pg	21 09 15.0	+0.1
PANG				*i* S		Sg	21 09 18.1	0.0
HUIG	**Huatulco**	**0.31**	**34**	*e*P		Pg	21 09 16.3	+0.1
HUIG				*e*S		Sg	21 09 20.0	-0.3
VHO	**Vista Hermosa**	**1.61**	**345**	*e*P		Pn	21 09 35.6	-4.0
VHO				*i* S		Sn	21 09 56.7	-4.2
PNIG	**Pinotepa**	**1.98**	**297**	*e*P		Pn	21 09 40.2	-4.2
PNIG				*e*S		Sn	21 10 05.7	-3.9
PCIG		**2.96**	**86**	*e*P		Pn	21 09 56.4	-1.5
PCIG				*e*S		Sn	21 10 30.5	-3.2
TLIG	**Tlapa**	**2.99**	**313**	*e*P		Pn	21 10 00.5	+2.1
TLIG				*e*S		Sn	21 10 31.7	-3.1
PLIG	**Platanillo**	**4.21**	**313**	*e*P		Pn	21 10 12.8	-2.3
PLIG				*e*S		Sn	21 11 00.7	-4.0

MEX 27 21:11:05.7±0.5, 15°53N×96°29W, h9km±3km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.23**	**307**	*eP*	Pg	21 11 10.1	-0.2
PANG				*eS*	Sg	21 11 13.2	-0.2
HUIG	**Huatulco**	**0.29**	**36**	*i* P	Pg	21 11 11.4	-0.2
HUIG				*i* S	Sg	21 11 15.2	-0.3
VHO	**Vista Hermosa**	**1.59**	**344**	*eP*	Pn	21 11 30.8	-3.6
VHO				*eS*	Sn	21 11 50.4	-4.9
PNIG	**Pinotepa**	**1.97**	**296**	*eP*	Pn	21 11 35.4	-3.9
PNIG				*eS*	Sn	21 12 00.5	-3.7
PCIG		**2.96**	**86**	*eP*	Pn	21 11 51.5	-1.5
PCIG				*eS*	Sn	21 12 24.8	-3.9
TLIG	**Tlapa**	**2.98**	**313**	*eP*	Pn	21 11 55.6	+2.2
TLIG				*eS*	Sn	21 12 25.5	-3.8
PLIG	**Platanillo**	**4.19**	**313**	*eP*	Pn	21 12 14.7	+4.7
PLIG				*eS*	Sn	21 12 55.6	-3.6

*IDC **27** 21:17:43.2±2.8, 46°.84N×151°.91E, h116km±24km, mb3.3/7, mb1 3.5/10, mb1mx3.2/34, mbtmp3.7/10, Error ellipse: s-maj=23.4km s-min=18.3km az=118.0*

ISC 27 21:17:41.0±1.0, 46°.5N±0°.1×152°.0E±0°.1, h106km, n28, σ1°76/22, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.48**	**237**	P	**Pn**	**21 18 59.4**	**-0.8**
NEM2				*eS*	**Sn**	**21 20 00.3**	**-1.6**
JNK	**Nakash**	**5.96**	**243**	P	**Pn**	**21 19 07.9**	**+1.1**
JTKR	**Abashiri--Toko**	**6.29**	**249**	P	**Pn**	**21 19 13.5**	**+2.4**
JAK	**Akkeshi**	**6.31**	**238**	P	**Pn**	**21 19 10.7**	**-0.8**
JAK				*eS*	**Sn**	**21 20 21.0**	**-1.1**
JAR	**Ashorobuto**	**6.70**	**244**	P	**Pn**	**21 19 18.1**	**+1.3**
ASAJ	**Asahikawa**	**7.08**	**253**	P	**Pn**	**21 19 24.7**	**+2.8**
	0.9nm,0.3s,baz=79,slow=13,SNR=7.1						
JKK2	**Kamakawa 2**	**7.08**	**251**	P	**Pn**	**21 19 24.8**	**+2.9**
JCH	**Churui**	**7.33**	**241**	P	**Pn**	**21 19 25.4**	**+0.1**
PETK	**Petropavlovsk-**	**7.53**	**27**	P	**Pn**	**21 19 26.5**	**-1.4**
	0.2nm,0.3s,baz=222,slow=17,SNR=4.2						
JNBK	**Urakawa-nobuka**	**7.89**	**241**	P	**Pn**	**21 19 31.9**	**-1.0**
JKB	**Kayabe**	**9.16**	**243**	P	**Pn**	**21 19 48.9**	**-1.3**
JTM	**Tenmabayashi**	**9.80**	**238**	P	**Pn**	**21 19 56.7**	**-2.2**
JANG	**Nango**	**9.82**	**235**	P	Pn	21 19 55.5	-3.6
USRK	**Ussuriysk Arra**	**14.28**	**268**	P	**Pn**	**21 20 59.8**	**+1.6**
	0.3nm,0.3s,baz=73,slow=11,SNR=5.4						
KSRS	**Korea Array**	**20.02**	**252**	P	Pn	21 22 09.9	+1.9
	1.2nm,0.5s,baz=53,slow=11,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**29.39**	**151**	T	T	21 55 09.2	
	baz=342,slow=77,SNR=216						
H11N1	**WAKE ISLAND Hy**	**29.40**	**151**	T	T	21 55 08.8	
	baz=342,slow=77,SNR=123						
H11N3	**WAKE ISLAND Hy**	**29.40**	**150**	T	T	21 55 10.4	
	baz=342,slow=77,SNR=114						
H11S1	**WAKE ISLAND Hy**	**30.46**	**152**	T	T	21 56 35.5	
	baz=343,slow=78,SNR=129						
H11S3	**WAKE ISLAND Hy**	**30.47**	**152**	T	T	21 56 20.4	
	baz=343,slow=78,SNR=111						
H11S2	**WAKE ISLAND Hy**	**30.48**	**152**	T	T	21 56 37.6	
	baz=343,slow=78,SNR=88						
SONM	**Songino Array**	**30.70**	**289**	P	**P**	**21 23 45.0**	**-0.7**
	0.1nm,0.3s,baz=83,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**46.38**	**297**	P	**P**	**21 25 55.6**	**-0.8**
	0.5nm,0.5s,baz=64,slow=8.2,SNR=6.2						
FINES	**FINESS Array B**	**63.91**	**334**	P	**P**	**21 28 00.9**	**-1.2**
	2.5nm,1.0s,baz=56,slow=4.8,SNR=5.2						
WRA	**Warramunga Arr**	**68.08**	**198**	P	**P**	**21 28 31.4**	**+2.2**
	0.3nm,0.7s,baz=17,slow=6.4,SNR=3.2						
NOA	**NORSAR Array B**	**68.18**	**341**	P	**P**	**21 28 28.8**	**-0.6**
	1.3nm,0.8s,baz=16,slow=6.9,SNR=2.6						
ASAR	**Alice Springs**	**71.78**	**197**	P	**P**	**21 28 54.7**	**+2.9**
	0.5nm,0.8s,baz=19,slow=5.9,SNR=2.7						
TXAR	**Lajitas Array**	**78.24**	**60**	P	**P**	**21 29 30.0**	**+0.8**
	0.4nm,0.6s,baz=298,slow=3.8,SNR=6.3						

MEX 27 21:23:22.1±0.5, 15°52N×96°29W, h8km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.30**	**34**	*eP*	Pg	21 23 28.1	-0.1
HUIG				*i* S	Sg	21 23 32.0	-0.3
VHO	**Vista Hermosa**	**1.61**	**345**	*eP*	Pn	21 23 47.7	-3.5
VHO				*eS*	Sn	21 24 06.6	-5.7
PNIG	**Pinotepa**	**1.97**	**296**	*eP*	Pn	21 23 52.1	-3.8
PNIG				*eS*	Sn	21 24 17.3	-3.7
PCIG		**2.96**	**86**	*eP*	Pn	21 24 06.5	-3.0
PCIG				*i* S	Sn	21 24 41.4	-3.9

WEL 27 21:42:33.1±0.7, 36°.83S×176°.22E, h400km±8km, ML3.6/2, 2D, Error ellipse: s-maj=13.1km s-min=10.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.55**	**127**	PN	Pn	21 43 26.7	+0.3
HAZ				SN	S	21 44 07.8	-1.7
PUZ	**Puketiti**	**2.04**	**128**	PN	Pn	21 43 28.1	-1.1
RIGZ	**Rimuhau**	**2.23**	**147**	PN	Pn	21 43 30.8	+0.4
RIGZ				SN	S	21 44 16.4	-0.6
BKZ	**Black Stump Fm**	**2.34**	**175**	⇓PN	Pn	21 43 31.2	0.0
BKZ				SN	S	21 44 16.6	-1.7
KNZ	**Kokohu**	**2.47**	**153**	⇓PN	Pn	21 43 31.9	-0.1
KNZ				SN	S	21 44 18.7	-1.1
WNVZ	**Wahianoa**	**2.54**	**191**	PN	Pn	21 43 33.2	+0.5
BHHZ	**Black Hill Sta**	**2.66**	**183**	PN	Pn	21 43 33.5	0.0
BFZ	**Birch Farm**	**3.84**	**180**	PN	Pn	21 43 42.9	-0.7
KIW	**Kapiti Island**	**4.15**	**194**	PN	Pn	21 43 45.3	-1.1
TCW	**Tory Channel**	**4.63**	**199**	PN	Pn	21 43 50.6	-0.5
THZ	**Tophouse**	**5.56**	**207**	PN	Pn	21 44 00.0	-0.8

IDC 27 21:58:04.0±7.2, 14°.51S×73°.22W, h128km±52km, mb3.5/1, mb1 3.4/3, mb1mx3.0/31, mbtmp3.8/3, Error ellipse: s-maj=67.8km s-min=49.4km az=58.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.22**	**110**	P	Pn	21 59 20.4	-0.5
	1.0nm,0.3s,baz=291,slow=11,SNR=14						
LPAZ				S	Sn	22 00 20.9	+0.3
	baz=162,slow=19,SNR=1.9						
PTGA	**Pitinga**	**18.96**	**45**	P	P	22 02 15.5	+0.1
	0.5nm,0.3s,baz=236,slow=8.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**79.09**	**73**	P	P	22 09 54.9	-0.1
	0.9nm,0.7s,baz=263,slow=4.6,SNR=7.7						
SONM	**Songino Array**	**146.78**	**0**	PKPbc	PKPbc	22 17 30.7	-0.6
	0.4nm,0.7s,baz=354,slow=2.5,SNR=3.8						

*BJI **27** 22:18:20.2, 34°.14N×85°.13E, h6km, mb3.8/7, Ms3.9/2, Ms7 3.7/1*

*ISCJB **27** 22:18:22.2±0.4, 34°.23N±0°.04×85°.3E±0°.1, h33km, mb3.6/10, Error ellipse: s-maj=14.8km s-min=5.3km az=171.8*

*IDC **27** 22:18:25.6±4.0, 34°.26N×85°.21E, h44km±38km, mb3.4/11, mb1 3.5/15, mb1mx3.4/43, mbtmp3.6/15, ML3.1/3, Error ellipse: s-maj=27.1km s-min=15.8km az=43.0*

ISC 27 22:18:24.4±0.6, 34°.24N±0°.08×85°.2E±0°.1, h35km, n27, σ0°76/26, mb3.5/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.01**	**193**	*eP*	**Pn**	**22 19 50.1**	**-1.0**
	30nm,0.4s						
GKN	**Gorkha**	**6.24**	**185**	*eP*	**Pn**	**22 19 54.8**	**+0.6**
	15nm,0.5s						
GUN	**Gumba**	**6.33**	**175**	*eP*	**Pn**	**22 19 56.0**	**+0.4**
	50nm,0.6s						
KOLN	**Koldanda**	**6.60**	**193**	*eP*	**Pn**	**22 19 59.2**	**0.0**
	35nm,0.8s						
JIRN	**Jiri**	**6.61**	**173**	*eP*	**Pn**	**22 19 59.7**	**+0.2**
	32nm,0.4s						
DMN	**Daman**	**6.61**	**181**	*eP*	**Pn**	**22 20 00.3**	**+0.9**
	12nm,0.3s						
PKIN	**Phulchoki**	**6.64**	**179**	*eP*	**Pn**	**22 19 59.9**	**+0.1**
	14nm,0.4s						
PKI	**Pulchoki**	**6.65**	**179**	*eP*	**Pn**	**22 19 59.6**	**-0.4**
	20nm,0.4s						
TAPN	**Taplejung**	**7.19**	**162**	*eP*	**Pn**	**22 20 07.6**	**+0.2**
	23nm,0.8s						
RAMN	**Ramite**	**7.36**	**170**	*eP*	**Pn**	**22 20 09.2**	**-0.5**
	31nm,0.6s						
ODAN	**Odare**	**7.59**	**165**	*eP*	**Pn**	**22 20 11.5**	**-1.2**
	19nm,0.5s						
KSH	**Kashi**	**9.10**	**308**	*eP*	Pn	22 20 41.0	+7.7
KSH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,68nm,3.2s						
KSH				LR	LR		
	comp=N,180nm,6.7s						
KSH				LR	LR		
	comp=E,180nm,9.1s						
KSH				LR	LR		
	comp=Z,310nm,6.8s						
MKAR	**Makanchi Array**	**12.74**	**351**	P	**Pn**	**22 21 23.3**	**+0.3**
	0.1nm,0.3s,baz=171,slow=13,SNR=6.6						
KURBB	**Kurchatov Arra**	**17.09**	**345**	P	**Pn**	**22 22 20.1**	**-0.3**
	0.1nm,0.3s,baz=159,slow=11,SNR=8.2						
ZALV	**Zalesovo Beam**	**19.70**	**359**	P	**Pn**	**22 22 51.8**	**-0.4**
	0.2nm,0.3s,baz=203,slow=9.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**19.91**	**139**	P	**P**	**22 22 53.2**	**+0.1**
	baz=313,slow=11,SNR=12						
SONM	**Songino Array**	**20.86**	**43**	P	**P**	**22 23 02.7**	**-0.7**
	0.5nm,0.3s,baz=231,slow=15,SNR=16						
BVAR	**Borovoye Array**	**21.55**	**335**	P	**P**	**22 23 12.0**	**+1.4**
	0.8nm,0.7s,baz=96,slow=6.0,SNR=4.2						
BRTR	**Keskin Array B**	**41.12**	**293**	P	**P**	**22 26 05.2**	**0.0**
	0.8nm,0.8s,baz=120,slow=7.5,SNR=4.0						
AKASG	**Malin Array Be**	**43.39**	**310**	P	**P**	**22 26 23.4**	**+0.1**
	0.6nm,0.6s,baz=79,slow=7.7,SNR=2.7						
FINES	**FINESS Array B**	**45.95**	**325**	P	**P**	**22 26 44.3**	**+0.7**
	3.5nm,1.0s,baz=117,slow=7.5,SNR=3.0						
NOA	**NORSAR Array B**	**53.11**	**324**	P	**P**	**22 27 37.4**	**-0.8**
	1.6nm,0.9s,baz=85,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**71.31**	**131**	P	**P**	**22 29 40.6**	**0.0**
	0.5nm,0.7s,baz=324,slow=6.6,SNR=4.7						
ILAR	**Eielson Array**	**73.26**	**21**	P	**P**	**22 29 51.6**	**0.0**
	0.4nm,0.9s,baz=320,slow=5.9,SNR=3.2						
ASAR	**Alice Springs**	**73.85**	**134**	P	**P**	**22 29 57.5**	**+1.8**
	0.6nm,1.0s,baz=354,slow=6.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.45**	**277**	P	**P**	**22 30 15.5**	**-1.1**
	0.7nm,0.6s,baz=44,slow=4.7,SNR=14						
YKA	**Yellowknife Ar**	**82.28**	**9**	P	**P**	**22 30 41.3**	**-0.5**
	0.1nm,0.3s,baz=335,slow=4.6,SNR=4.2						

*IDC **27** 22:26:09.8±0.6, 18°.27N×72°.16W, h0km, mb3.9/16, mb1 4.2/16, mb1mx4.0/43, mbtmp3.9/16, MS3.2/5, Ms1 3.2/5, ms1mx2.9/27, Error ellipse: s-maj=22.2km s-min=14.3km az=56.0*

*NEIC **27** 22:26:10.8±0.3, 18°.42N×72°.04W, h10km, mb4.0/4, Error ellipse: s-maj=6.4km s-min=5.4km az=205.0*

NEIC Felt at Port-au-Prince.

ISC 27 22:26:09.5±1.9, 18°.40N±0°.05×72°.03W±0°.04, h1km±12km, n59, σ1°49/64, mb4.1/19, MS3.3/3, 1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.92**	**50**	⇓*iP*	**Pg**	**22 26 25.6**	**-1.4**
SDDR				*eS*	**Sg**	**22 26 39.2**	**+0.3**
GRTK	**Grand Turk**	**3.21**	**15**	*ePn*	**Pn**	**22 27 00.2**	**-0.9**
GRTK				*eS*	**Sb**	**22 27 45.5**	**-1.5**
GTBY	**Guantanamo Bay**	**3.28**	**298**	*ePn*	**Pn**	**22 27 01.0**	**-1.0**
GTBY				*eS*	**Sb**	**22 27 46.6**	**-2.5**
AGPR	**Aguadilla, PR**	**4.67**	**88**	*ePn*	**Pn**	**22 27 21.6**	**+0.4**
AGPR				*eS*	Sb	22 28 23.5	-5.6
CRPR	**Cabo Rojo, PR**	**4.70**	**94**	*ePn*	**Pn**	**22 27 21.3**	**-0.2**
CRPR				*eS*	**Sn**	**22 28 18.7**	**+2.0**
LRS	**Lares**	**4.93**	**90**	Pn	**Pn**	**22 27 25.8**	**+1.1**
LRS				*eS*	**Sb**	**22 28 31.1**	**-5.4**
OBIP	**Obispado Ponce**	**5.17**	**93**	*ePn*	**Pn**	**22 27 28.7**	**+0.7**
OBIP				*eS*	**Sn**	**22 28 29.6**	**+1.2**
CELP	**Cerrillos**	**5.19**	**93**	*ePn*	**Pn**	**22 27 29.1**	**+0.8**
CELP				*eS*	**Sn**	**22 28 29.9**	**+0.9**
MTDJ	**Mount Denham**	**5.23**	**269**	Pn	Pn	22 27 24.7	-4.2
CBYP	**Canovanas**	**5.87**	**90**	*ePn*	**Pn**	**22 27 37.4**	**-0.3**
CBYP				*eS*	**Sn**	**22 28 48.4**	**+2.7**
SDV	**Santo Domingo**	**9.55**	**172**	*ePn*	**Pn**	**22 28 28.7**	**+0.3**
SDV				*eS*	**Sn**	**22 30 11.8**	**-4.8**
BCIP	**Isla Barro Col**	**11.90**	**221**	*ePn*	**Pn**	**22 29 01.1**	**+0.7**
ROSC	**El Rosal**	**13.64**	**190**	*eP*	Pn	22 29 26.6	+2.0
ROSC	**El Rosal**	**13.64**	**190**	LR	LR	22 34 53.9	
	comp=Z,55nm,20.2s,baz=89,slow=39						
JTS	**JuntasAbangare**	**14.88**	**239**	LR	LR	22 35 24.0	
	comp=Z,72nm,19.2s,baz=58,slow=38						
TGUH	**Tegucigalpa,Un**	**15.26**	**256**	*ePn*	**Pn**	**22 29 46.6**	**+0.4**
OTAV	**Otavalo**	**19.11**	**200**	P	**Pn**	**22 30 36.2**	**+1.0**
	2.8nm,0.6s						
PTGA	**Pitinga**	**22.41**	**147**	*eP*	**P**	**22 31 10.1**	**+0.4**
	12nm,1.0s						
PTGA	**Pitinga**	**22.41**	**147**	P	**P**	**22 31 10.6**	**+0.9**
	11nm,0.9s,baz=340,slow=13,SNR=15						
SAML	**Samuel**	**28.54**	**161**	*eP*	**P**	**22 32 06.0**	**-0.9**
	3.7nm,0.9s						
TXAR	**Lajitas Array**	**30.82**	**297**	P	**P**	**22 32 27.0**	**-0.2**
TXAR				PcP	**PcP**	**22 35 24.8**	**+0.3**
TXAR	**Lajitas Array**	**30.82**	**297**	P	**P**	**22 32 27.0**	**-0.2**
	0.2nm,0.7s,baz=101,slow=8.4,SNR=2.5						
TXAR				PcP	**PcP**	**22 35 24.8**	**+0.3**
	1.1nm,1.0s,baz=130,slow=2.8,SNR=5.9						
MNTX	**Cornudas Mount**	**32.85**	**300**	P	**P**	**22 32 42.4**	**-2.5**
	1.8nm,1.0s						
LPM	**Los Pinos Moun**	**34.62**	**304**	P	**P**	**22 32 59.4**	**-1.1**
	2.2nm,0.8s						
LPAZ	**La Paz**	**34.68**	**173**	LR	LR	22 50 23.0	
	comp=Z,54nm,18.5s,baz=330,slow=42						
SDCO	**Great Sand Dun**	**35.00**	**310**	*eP*	**P**	**22 33 03.0**	**-0.9**
SIV	**San Ignacio**	**35.84**	**162**	P	**P**	**22 33 10.2**	**-0.7**
SIV	**San Ignacio**	**35.84**	**162**	P	**P**	**22 33 10.2**	**-0.7**
	0.4nm,0.3s,baz=31,slow=8.4,SNR=3.5						
SCHQ	**Schefferville**	**36.59**	**5**	LR	LR	22 49 14.6	
	comp=Z,56nm,18.1s,baz=110,slow=38						
PDAR	**Pinedale Array**	**39.94**	**316**	P	**P**	**22 33 44.5**	**-1.1**
PDAR				PcP	**PcP**	**22 35 50.5**	**-0.7**
PDAR	**Pinedale Array**	**39.94**	**316**	P	**P**	**22 33 44.5**	**-1.1**
	0.7nm,0.7s,baz=123,slow=11,SNR=4.7						
PDAR				PcP	**PcP**	**22 35 50.5**	**-0.7**
	0.8nm,0.9s,baz=97,slow=12,SNR=4.9						
LVC	**Limon Verde**	**40.87**	**176**	P	**P**	**22 33 53.7**	**+0.2**
BDFB	**Brasilia**	**41.27**	**144**	P	**P**	**22 33 57.0**	**+0.2**
BDFB	**Brasilia**	**41.27**	**144**	P	**P**	**22 33 57.0**	**+0.2**
	4.0nm,0.9s,baz=320,slow=7.1,SNR=4.6						
FCC	**Fort Churchill**	**43.42**	**343**	*eP*	**P**	**22 34 13.0**	**-0.5**
NVAR	**Mina Array Bea**	**44.79**	**306**	P	**P**	**22 34 26.7**	**+1.4**
NVAR				PcP	**PP**	**22 36 07.6**	**-2.0**
NVAR	**Mina Array Bea**	**44.79**	**306**	P	**P**	**22 34 26.7**	**+1.4**
	0.4nm,0.5s,baz=76,slow=7.6,SNR=3.8						
NVAR				PcP	**PP**	**22 36 07.6**	**-2.0**
	0.2nm,0.3s,baz=133,slow=4.2,SNR=3.0						
NVAR				LR	LR	22 54 47.7	
	comp=Z,15nm,21.5s,baz=267,slow=38						
YKA	**Yellowknife Ar**	**52.95**	**337**	P	**P**	**22 35 29.1**	**+1.8**
YKA	**Yellowknife Ar**	**52.95**	**337**	P	**P**	**22 35 29.0**	**+1.8**
	1.7nm,0.8s,baz=122,slow=7.1,SNR=23						
RES	**Resolute Bay**	**77.66**	**353**	P	**P**	**22 36 02.6**	**+1.6**
RES	**Resolute Bay**	**77.66**	**353**	P	**P**	**22 36 02.6**	**+1.6**
	0.9nm,0.8s,baz=159,slow=9.8,SNR=3.9						
PLCA	**Paso Flores**	**58.84**	**179**	*eP*	**P**	**22 36 08.6**	**-1.2**
PLCA	**Paso Flores**	**58.84**	**179**	P	**P**	**22 36 09.0**	**-0.8**
	3.6nm,0.7s,baz=351,slow=6.5,SNR=6.2						
ESDC	**Sonseca Array**	**61.76**	**54**	P	P	22 36 32.1	+2.2
ESDC	**Sonseca Array**	**61.76**	**54**	P	P	22 36 32.1	+2.2
	2.3nm,0.9s,baz=291,slow=5.6,SNR=7.5						
INK	**Inuvik**	**62.63**	**338**	P	**P**	**22 36 35.9**	**+0.7**
INK	**Inuvik**	**62.63**	**338**	P	**P**	**22 36 35.9**	**+0.7**
	1.5nm,1.0s,baz=122,slow=4.4						
ILAR	**Eielson Array**	**67.06**	**333**	P	**P**	**22 37 03.5**	**-0.6**
ILAR	**Eielson Array**	**67.06**	**333**	P	**P**	**22 37 03.5**	**-0.6**
	0.8nm,0.9s,baz=128,slow=2.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**70.73**	**82**	P	**P**	**22 37 27.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**70.73**	**82**	P	**P**	**22 37 27.9**	**+0.1**
	1.0nm,1.0s,baz=299,slow=6.6,SNR=4.1						
GERES	**GERESS Array B**	**73.61**	**43**	P	**P**	**22 37 45.7**	**+1.0**
GERES	**GERESS Array B**	**73.61**	**43**	P	**P**	**22 37 45.7**	**+1.0**
	2.0nm,0.7s,baz=304,slow=3.1,SNR=5.4						
ARCES	**ARCESS Array B**	**75.53**	**21**	P	**P**	**22 37 57.0**	**+1.7**
ARCES	**ARCESS Array B**	**75.53**	**21**	P	**P**	**22 37 57.0**	**+1.7**
	3.2nm,0.9s,baz=305,slow=4.3,SNR=6.8						
FINES	**FINESS Array B**	**77.83**	**29**	P	P	22 38 10.7	+2.2
FINES	**FINESS Array B**	**77.83**	**29**	P	P	22 38 10.7	+2.2
	2.2nm,1.0s,baz=298,slow=4.1,SNR=4.6						
ASAR	**Alice Springs**	**155.25**	**253**	PKPab	**PKPab**	**22 46 30.6**	**+0.2**
ASAR	**Alice Springs**	**155.25**	**253**	PKPab	**PKPab**	**22 46 30.6**	**+0.2**
	0.4nm,0.9s,baz=85,slow=4.1,SNR=4.4						

IDC 27 22:27:58.9±17.0, 19°.70S×179°.81W, h555km±163km, mb2.7/3, mb1 3.0/3, mb1mx2.8/24, mbtmp3.6/3, Error ellipse: s-maj=279.9km s-min=62.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.03**	**262**	P	P	22 35 10.5	+0.1
	0.3nm,0.3s,baz=96,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**43.05**	**256**	P	P	22 35 10.0	-0.5
	1.0nm,0.8s,baz=94,slow=7.5,SNR=9.5						
ILAR	**Eielson Array**	**87.93**	**13**	P	P	22 39 49.4	0.0
	0.2nm,0.5s,baz=222,slow=5.3,SNR=3.9						
AKASG	**Malin Array Be**	**141.49**	**330**	PKhKP	PKPpre	22 46 22.0	
	1.8nm,0.5s,baz=44,slow=4.3,SNR=15						
BRTR	**Keskin Array B**	**145.04**	**312**	PKPbc	PKPdf	22 46 33.6	-0.2
	0.4nm,0.5s,baz=159,slow=4.9,SNR=3.7						

JMA 27 22:34:20.2±0.1, 38°.54N×142°.06E, h19km±2km, M3.5, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.56**	**262**	⇑P	Pb	22 34 31.3	-0.1
JIO				S	Sb	22 34 38.4	-0.6
OFUJ	**Ofunato**	**0.62**	**331**	⇓P	Pb	22 34 32.2	-0.2
OFUJ				S	Sb	22 34 40.6	-0.1
JMK	**Ichinoseki**	**0.78**	**302**	P	Pb	22 34 35.0	-0.1
JMK				*eS*	Sb	22 34 45.2	0.0
JOM	**Ohasama**	**1.11**	**328**	P	Pn	22 34 40.1	-0.6
JOM				S	Sb	22 34 54.4	-0.4
JOU	**Okura**	**1.11**	**261**	P	Pb	22 34 40.8	0.0
JOU				*eS*	Sn	22 34 55.9	+0.3
JMM	**Marumori**	**1.20**	**236**	P	Pn	22 34 41.3	-0.7
JMM				S	Sb	22 34 56.3	-1.2

JMA 27 22:49:06.9±0.3, 25°.82N×123°.76E, h233km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.45**	**144**	P	Pn	22 49 43.3	+0.1
JTJ				*eS*	S	22 50 11.7	+0.1
IRIF	**Iriomote-Funau**	**1.48**	**181**	P	Pn	22 49 43.4	-0.1
IRIF				*eS*	S	22 50 12.6	+0.5
JIJ	**Ishigaki jima**	**1.49**	**166**	P	Pn	22 49 43.4	-0.2
JIJ				*eS*	S	22 50 11.7	-0.6
YOJ	**Yonaguni jima**	**1.51**	**207**	P	Pn	22 49 44.1	+0.3
YOJ				*eS*	S	22 50 10.7	-1.8
JKRS	**Kuro-shima**	**1.59**	**172**	P	Pn	22 49 44.7	+0.3
JKRS				*eS*	S	22 50 14.0	+0.3
JMJ	**Miyako jima 2**	**1.71**	**125**	*eS*	S	22 50 15.2	-0.2
HATJ	**Hateruma jima**	**1.76**	**179**	*eS*	S	22 50 16.8	+0.6
JOGS	**Gusukube**	**1.83**	**125**	P	Pn	22 49 46.6	+0.2
JOGS				*eS*	S	22 50 17.3	+0.1
JKE	**Kume jima 2**	**2.77**	**79**	*eS*	S	22 50 33.0	-1.1

*CSEM **27** 23:25:58.1, 39°.43N×29°.84W, h15km, ML3.0, After PDA*

PDA 27 23:25:58.1±0.6, 39°.43N×29°.84W, h15km, MD3.6, ML3.0, Error ellipse: s-maj=9.7km s-min=4.2km az=53.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.20**	**132**	*eP*	Pn	23 26 15.7	-4.6
PCED				*eS*	Sb	23 26 29.2	-6.6
PCED				A	A	23 26 31.5	
	87nm,0.2s						
PCED	**Cedros**	**1.20**	**132**	*eP*	Pn	23 26 15.7	-4.6
PCED				*eS*	Sb	23 26 29.2	-6.6
CALA	**Caldeira**	**1.23**	**133**	*eS*	Sb	23 26 30.3	-6.6
CALA	**Caldeira**	**1.23**	**133**	*eS*	Sb	23 26 30.3	-6.6
HOR	**Horta**	**1.31**	**133**	*eP*	Pn	23 26 17.4	-4.4
HOR				*eS*	Sb	23 26 32.4	-6.5
HOR	**Horta**	**1.31**	**133**	*eP*	Pn	23 26 17.4	-4.4
HOR				*eS*	Sb	23 26 32.4	-6.5
PCAN	**Candelaria**	**1.43**	**132**	*eP*	Pn	23 26 19.2	-4.4
PCAN				*eS*	Sn	23 26 35.2	-7.0
PCAN				A	A	23 26 36.2	
	123nm,0.4s						
PCAN	**Candelaria**	**1.43**	**132**	*eP*	Pn

	SNR=12								
KSRS	Korea Array	6.53	308	Pn		Pn	23 33 14.4	+0.3	
	1.3nm,0.3s,baz=122,slow=14,SNR=8.1								
KSRS				Sn		Sn	23 34 26.3	-1.0	
	1.3nm,0.3s,baz=128,slow=23,SNR=5.5								
SONM	Songino Array	25.38	312	P		P	23 37 04.9	+0.3	
	0.3nm,0.5s,baz=121,slow=9.6,SNR=3.1								
MKAR	Makanchi Array	41.20	305	P		P	23 39 22.0	+0.2	
	0.5nm,0.6s,baz=72,slow=9.1,SNR=4.8								
BVAR	Borovoye Array	48.71	314	LR		LR	00 01 01.0		
	comp=Z,54nm,18.0s,baz=90,slow=36								
ILAR	Eielson Array	55.45	31	P		P	23 41 11.8	+0.4	
	0.3nm,0.7s,baz=262,slow=5.9,SNR=6.8								

IGQ 27 23:38:27±0.4, 2.86S×78.66W, h7km±74km, Mb4.3, 4C-6D, Error ellipse: s-maj=4.5km s-min=3.2km az=79.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRY	Arrayan	1.36	9	P	Pn	23 38 51.2	-1.7
BMAS	Trigal station	1.36	8	P	Pn	23 38 51.0	-1.8
BMAS	Trigal station	1.36	8	S	Sb	23 39 09.9	-1.3
IGUA	Igualata	1.36	1	P	Pn	23 38 52.7	-0.4
IGUA	Igualata	1.36	1	S	Sb	23 39 09.4	-2.2
PAT1	Patacocha	1.36	9	⇓P	Pn	23 38 51.1	-1.9
BPAT	Tungurahua Vol	1.36	9	P	Pn	23 38 51.3	-1.7
BPAT	Tungurahua Vol	1.36	9	S	Sb	23 39 09.3	-2.2
ULBA	Ulba	1.42	10	⇓P	Pn	23 38 52.4	-1.4
ULBA	Ulba	1.42	10	⇓S	Sb	23 39 11.0	-2.0
BULB	Ulba Tungurahu	1.43	10	P	Pn	23 38 52.2	-1.7
RUN5	Runtun	1.45	9	P	Pn	23 38 53.6	-0.4
PISA	Pisayambo	1.81	9	P	Pn	23 38 58.6	-0.6
BMOR	Cotopaxi Volca	2.12	5	⇓P	Pn	23 39 02.2	-1.4
MOV1	Cotopaxi Vol s	2.14	6	P	Pn	23 39 02.1	-1.9
PAST	Pastocalle	2.15	0	P	Pn	23 39 02.2	-1.6
TAMB	Tambo	2.17	8	P	Pn	23 39 03.6	-0.6
CAMI	Rancho Maria	2.17	4	P	Pn	23 39 03.1	-1.0
BREF	Cotopaxi Volca	2.18	6	⇑P	Pn	23 39 04.0	-0.6
BTAM	Cotopaxi Volca	2.18	7	⇑P	Pn	23 39 03.7	-0.8
BVC2	Cotopaxi Volca	2.20	6	⇑P	Pn	23 39 04.0	-0.7
COV1	Cotopaxi Volc	2.20	8	P	Pn	23 39 03.4	-1.5
NAS2	Nasa	2.21	5	P	Pn	23 39 04.8	0.0
VC1	Cotopaxi 1	2.21	7	P	Pn	23 39 03.3	-1.6
PITA	Cotopaxi Volc	2.29	6	⇓P	Pn	23 39 05.7	-0.1
ANTI	Antisana	2.44	12	⇑P	Pn	23 39 06.1	-2.0
PECV	Mancha de Ca P	2.49	326	P	Pn	23 39 09.7	+1.7
JUA2	San Juan 2	2.63	1	P	Pn	23 39 08.4	-2.0
GGP	Refugio Guagua	2.67	1	P	Pn	23 39 09.8	-1.3
TERV	Terraza Guagua	2.67	1	P	Pn	23 39 10.8	-0.3
PINO	Pino	2.68	1	P	Pn	23 39 09.1	-2.2
CHAR	Charly	2.92	20	P	Pn	23 39 12.0	-2.4
CAYR	Refugio Cayamb	2.93	13	P	Pn	23 39 13.3	-1.5
MAG1	Magdalena	2.98	338	P	Pn	23 39 12.6	-2.2
CAYA	Cayambe	2.98	13	P	Pn	23 39 14.5	-0.9
OTAV	Otavalo	3.08	4	⇓P	Pn	23 39 14.5	-2.2

UPP 28 00:18:57.1, 67.87N×20.17E, h0km, ML0.5, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKU	Nikkaluokta	0.43	270	P	Pg	00 19 05.3	-0.1

*UPP **28** 00:19:08.2, 67.84N×20.21E, h0km, ML1.2, Mining explosion.*
*HEL **28** 00:19:09.4, 67.83N×20.52E, h0km, ML1.3, Explosion*

CSEM 28 00:19:07.9±0.1, 67.85N×20.25E, h2km, ML1.2, Error ellipse: s-maj=4.0km s-min=3.1km az=141.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.11	17	*i* P	Pg	00 19 10.8	+0.6
KUA				*i* S	Sg	00 19 12.6	+0.9
KUA	Kurravaara	0.11	17	P	Pg	00 19 10.8	+0.6
KUA				S	Sg	00 19 12.6	+0.9
NIKU	Nikkaluokta	0.46	273	*i* P	Pg	00 19 16.8	0.0
NIKU	Nikkaluokta	0.46	273	P	Pg	00 19 16.7	-0.1
LANU	Lannavaara	0.69	72	*i* P	Pg	00 19 21.8	+0.6
LANU	Lannavaara	0.69	72	P	Pg	00 19 21.8	+0.7
DUNU	Dundret	0.74	170	*i* P	Pg	00 19 21.9	-0.2
DUNU	Dundret	0.74	170	P	Pg	00 19 21.9	-0.2
SALU	Saltoluokta	0.81	236	*i* P	Pg	00 19 23.3	-0.3
SALU	Saltoluokta	0.81	236	P	Pg	00 19 23.3	-0.3
KIF	Kilpisjarvi	1.18	10	*e*PB	Pb	00 19 31.2	+0.2
	baz=186						
KIF				*e*SB	Sb	00 19 46.8	+0.1
KIF	Kilpisjarvi	1.18	10	Pb	Pb	00 19 31.1	+0.1
KIF				Sb	Sb	00 19 46.8	+0.1
HEF	Hetta	1.40	65	*e*PG	Pn	00 19 34.4	0.0
	baz=241						
HEF				*e*SB	Sb	00 19 52.9	-0.1
HEF	Hetta	1.40	65	Pg	Pn	00 19 34.4	0.0
HEF				Sb	Sg	00 19 52.9	+0.1
ERTU	Ertsjaerv	1.50	149	*e*P	Pb	00 19 36.2	-0.3
ERTU	Ertsjaerv	1.50	149	P	Pb	00 19 36.2	-0.3
HARU	Harads	1.71	170	*e*P	Pn	00 19 39.3	+0.6
HARU	Harads	1.71	170	P	Pn	00 19 39.3	+0.6
SGF	Sodankyl	2.43	97	*e*PG	Pg	00 19 53.8	-0.7
SGF				MSG	Sb	00 20 21.6	-1.2
	comp=Z,0.6nm,0.2s						
SGF				*e*SB	Sb	00 20 21.6	-1.2
SGF	Sodankyl	2.43	97	Pg	Pg	00 19 53.8	-0.7
SGF	Sodankyl	2.43	97	Sb	Sb	00 20 21.5	-1.2
ARA0	ARCESS Array S	2.56	46	*e*SB	Sb	00 20 25.0	-1.5
ARA0				MSG		00 20 25.0	
	comp=Z,0.9nm,0.2s						
ARA0	ARCESS Array S	2.56	46	Sb	Sb	00 20 25.0	-1.5
	comp=Z,0.9nm,0.2s						
RNF	Rovaniemi	2.56	116	*e*PB	Pb	00 19 53.1	-1.4
	baz=307						
RNF				*e*SB	Sb	00 20 26.4	0.0
RNF				MSG		00 20 26.4	
	comp=Z,1.9nm,0.2s						
RNF	Rovaniemi	2.56	116	Pb	Pb	00 19 53.1	-1.4
RNF				Sb	Sb	00 20 26.4	-0.1
	comp=Z,1.9nm,0.2s						
KEV	Kevo	3.12	49	*e*SG	Sb	00 20 44.1	+1.8
KEV				MSG		00 20 44.1	
	comp=Z,0.6nm,0.3s						
KEV	Kevo	3.12	49	Sg	Sb	00 20 44.1	+1.8
	comp=Z,0.6nm,0.3s						

IDC 28 00:21:14.6±434.0, 46.41N×63.78E, h0km, Error ellipse: s-maj=193.3km s-min=113.7km az=153.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	AKTYUBINSK INF	5.53	318	*i*		00 55 00.0	
	baz=134,slow=321,SNR=0.2						
I46RU	ZALESOVO INFRA	15.41	53	*i*		01 54 48.3	
	baz=248,slow=331,SNR=4.4						
I34MN	SONGINO INFRAS	28.79	71	*i*		03 19 00.0	
	baz=280,slow=334,SNR=1.7						
I18DK	QAANAAQ INFRAS	53.02	348	*i*		06 08 35.0	
	baz=48,slow=330,SNR=3.4						

*ISCJB **28** 00:48:16.2±0.9, 34.88N±0.05×25.59E±0.03, h5km±6km, Error ellipse: s-maj=8.4km s-min=4.3km az=173.3*
*THE **28** 00:48:16.6, 34.92N×25.61E, h8km±1km, Error ellipse: s-maj=1.6km s-min=0.5km az=10.0*
*CSEM **28** 00:48:16.8±0.4, 34.89N×25.56E, h2km, MD2.8, Error ellipse: s-maj=8.9km s-min=3.6km az=172.0*
*ATH **28** 00:48:17.1, 34.92N×25.57E, h5km±2km, MD2.8/6*

ISC 28 00:48:16.5±1.3, 34.90N±0.06×25.58E±0.02, h12km±9km, n24, σ0s72/42, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	Lasithi	0.28	343	P	Pg	00 48 21.8	-0.4
LAST				S	Sg	00 48 26.4	+0.3
LAST	Lasithi	0.28	343	*e*PG	Pg	00 48 22.2	0.0
LAST				*e*SG	Sg	00 48 26.4	+0.3
LAST	Lasithi	0.28	343	P	Pg	00 48 21.8	-0.4
LAST	Lasithi	0.28	343	*e*Pg	Pg	00 48 22.2	0.0
LAST				S	Sg	00 48 26.4	+0.3
NPS	Neapolis	0.37	5	P	Pg	00 48 23.5	-0.3
NPS				S	Sg	00 48 29.1	+0.3
NPS	Neapolis	0.37	5	*e*PG	Pg	00 48 23.6	-0.3
NPS				*e*SB	Sg	00 48 28.9	+0.1
NPS	Neapolis	0.37	5	*e*Pg	Pg	00 48 23.6	-0.3
NPS				*e*Sb	Sg	00 48 28.9	+0.1
ZKR	Zakros	0.57	67	P	Pg	00 48 27.3	-0.3
ZKR				S	Sg	00 48 35.5	+0.3
ZKR	Zakros	0.57	67	*e*PB	Pg	00 48 27.4	-0.2
ZKR				*e*SB	Sb	00 48 37.1	+0.7
ZKR	Zakros	0.57	67	*e*Pb	Pg	00 48 27.4	-0.2
ZKR				S	Sg	00 48 35.5	+0.3
ZKR				*e*Sb	Sb	00 48 37.1	+0.7
SIVA	Sivas	0.64	281	P	Pg	00 48 29.4	+0.5
SIVA				S	Sb	00 48 39.5	+1.1
SIVA	Sivas	0.64	281	*e*PB	Pb	00 48 29.8	+0.3
SIVA				*e*SB	Sb	00 48 38.9	+0.5
SIVA	Sivas	0.64	281	P	Pg	00 48 29.4	+0.5
SIVA	Sivas	0.64	281	*e*Pb	Pb	00 48 29.8	+0.3
SIVA				*e*Sb	Sb	00 48 38.9	+0.5
SIVA				S	Sb	00 48 39.5	+1.1
VAM	Vamos	1.24	295	P	Pg	00 48 39.0	-1.3
VAM				S	Sb	00 48 56.6	+1.0
VAM	Vamos	1.24	295	*e*PG	Pg	00 48 40.1	-0.2
VAM	Vamos	1.24	295	P	Pg	00 48 39.0	-1.3
VAM	Vamos	1.24	295	*e*Pg	Pg	00 48 40.1	-0.2
VAM				S	Sb	00 48 56.6	+1.0
KARP	Karpathos	1.45	63	*e*PB	Pg	00 48 44.9	+0.5
KARP	Karpathos	1.45	63	*e*Pb	Pg	00 48 44.9	+0.5
SANT	Santorini	1.47	356	P	Pn	00 48 41.2	-1.6
SANT	Santorini	1.47	356	*e*PB	Pg	00 48 45.2	+0.4
SANT				*e*SB	Sg	00 49 05.1	+1.2
SANT	Santorini	1.47	356	P	Pn	00 48 41.2	-1.6
SANT	Santorini	1.47	356	*e*Pb	Pg	00 48 45.2	+0.4
SANT				*e*Sb	Sg	00 49 05.1	+1.2

*ATH **28** 00:48:30.3, 39.77N×25.45E, h18km±2km, MD2.8/6*
*THE **28** 00:48:30.5, 39.77N×25.47E, h10km, ML2.2/3, Error ellipse: s-maj=1.0km s-min=0.4km az=222.0*
*ISK **28** 00:48:30.0, 39.79N×25.42E, h5km, MD3.2*
*ISCJB **28** 00:48:30.5±0.6, 39.77N±0.02×25.42E±0.03, h11km±4km, Error ellipse: s-maj=5.0km s-min=3.1km az=43.9*
*CSEM **28** 00:48:30.1±0.1, 39.78N×25.41E, h2km, MD2.8, Error ellipse: s-maj=3.8km s-min=2.8km az=50.0*
*DDA **28** 00:48:32.7, 39.86N×25.74E, h7km, MD2.9*

ISC 28 00:48:30.8±0.9, 39.78N±0.02×25.44E±0.02, h14km±7km, n85, σ0s95/106, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	Limnos Island	0.23	301	P	Pg	00 48 35.9	+0.1
LIA				S	Sg	00 48 39.4	+0.2
LIA	Limnos Island	0.23	301	*e*PB	Pg	00 48 35.9	+0.1
LIA				*e*SB	Sg	00 48 39.7	+0.5
LIA	Limnos Island	0.23	301	P	Pg	00 48 35.9	+0.1
LIA				S	Sg	00 48 39.4	+0.2
SIGR	SIGRI	0.65	151	P	Pg	00 48 42.5	-0.9
SIGR				S	Sg	00 48 51.7	-0.4
SIGR	SIGRI	0.65	151	*e*PG	Pb	00 48 43.5	-0.4
SIGR				*e*SG	Sb	00 48 52.8	0.0
SIGR	SIGRI	0.65	151	*e*PB	Pg	00 48 42.6	-0.9
SIGR				*e*SN	Sg	00 48 52.3	+0.2
SIGR	SIGRI	0.65	151	*e*Pb	Pg	00 48 42.6	-0.9
SIGR	SIGRI	0.65	151	*e*Pg	Pb	00 48 43.5	-0.4
SIGR				S	Sg	00 48 51.7	-0.4
SIGR				*e*Sn	Sg	00 48 52.3	+0.2
EZN	Ezine	0.68	86	*e*PG	Pb	00 48 44.1	-0.3
EZN	Ezine	0.68	86	*e*Pg	Pb	00 48 44.1	-0.3
SMTH	Samothraki Isl	0.69	6	P	Pg	00 48 43.8	-0.5
SMTH	Samothraki Isl	0.69	6	*e*PN	Pg	00 48 44.1	-0.2
SMTH	Samothraki Isl	0.69	6	P	Pg	00 48 43.8	-0.5
SMTH	Samothraki Isl	0.69	6	*e*Pn	Pg	00 48 44.1	-0.2
PRK	Paraskevi	0.83	129	P	Pg	00 48 46.0	-0.9
PRK				S	Sg	00 48 57.6	-0.2
PRK	Paraskevi	0.83	129	*e*PN	Pg	00 48 46.0	-0.9
PRK				*e*SN	Sb	00 48 57.8	-0.3
PRK	Paraskevi	0.83	129	P	Pg	00 48 46.0	-0.9
PRK				S	Sg	00 48 57.6	-0.2
GELI	Tayfur-Gelibol	1.00	52	*e*PG	Pg	00 48 49.0	-1.1
GELI	Tayfur-Gelibol	1.00	52	*e*Pg	Pg	00 48 49.1	-1.1
AYVA	Ayvalik	1.07	116	*i* P	Pg	00 48 50.6	-0.9
AYVA				*i* S	Sb	00 49 05.2	+0.2
AYVA	Ayvalik	1.07	116	*i* P	Pg	00 48 50.6	-0.9
AYVA				*i* S	Sb	00 49 05.2	+0.2
ENEZ	Enez	1.10	29	*e*PN	Pg	00 48 51.0	-1.0
ENEZ	Enez	1.10	29	*e*Pn	Pg	00 48 51.0	-1.0
ALN	Alexandroupoli	1.21	22	P	Pg	00 48 52.2	-1.8
ALN				S	Sg	00 49 09.0	-0.8
ALN	Alexandroupoli	1.21	22	*e*PN	Pn	00 48 53.7	+0.4
ALN	Alexandroupoli	1.21	22	*e*Pn	Pg	00 48 52.8	-1.2
ALN	Alexandroupoli	1.21	22	P	Pg	00 48 52.1	-1.8
ALN	Alexandroupoli	1.21	22	*e*Pn	Pn	00 48 53.7	+0.4
ALN				S	Sg	00 49 09.0	-0.8
ERIK	Erikli-Kesan	1.21	42	*e*PN	Pn	00 48 53.8	+0.5
ERIK	Erikli-Kesan	1.21	42	*e*Pn	Pn	00 48 53.8	+0.5
OUR	Ouranopolis	1.25	297	P	Pn	00 48 53.4	-0.4
OUR	Ouranopolis	1.25	297	*e*PN	Pn	00 48 53.9	0.0
OUR	Ouranopolis	1.25	297	*e*PN	Pn	00 48 54.1	+0.3
OUR				*e*SN	Sn	00 49 11.7	+1.2
OUR	Ouranopolis	1.25	297	P	Pn	00 48 53.4	-0.4
OUR	Ouranopolis	1.25	297	*e*Pn	Pn	00 48 53.9	0.0
OUR				*e*Sn	Sn	00 49 11.7	+1.2
PAIG	Paliouri	1.37	277	P	Pn	00 48 54.6	-0.8
PAIG	Paliouri	1.37	277	P	Pn	00 48 54.6	-0.8
RDO	Rodhopi	1.37	3	P	Pn	00 48 54.9	-0.6
RDO	Rodhopi	1.37	3	P	Pn	00 48 54.9	-0.6
KAVA	Kavala	1.41	330	P	Pn	00 48 55.4	-0.6
KAVA	Kavala	1.41	330	P	Pn	00 48 55.4	-0.6
CHOS	Chios island	1.47	161	P	Pn	00 48 56.0	-0.9
CHOS	Chios island	1.47	161	*e*PN	Pb	00 48 58.0	0.0
CHOS	Chios island	1.47	161	P	Pn	00 48 56.0	-0.9
CHOS	Chios island	1.47	161	*e*Pn	Pb	00 48 58.0	0.0
KRBG	Karabiga-Canak	1.55	66	*e*PN	Pb	00 48 59.0	-0.2
KRBG	Karabiga-Canak	1.55	66	*e*Pn	Pb	00 48 59.0	-0.2
RKY	Sarkoy-Tekirda	1.61	55	*e*PN	Pb	00 49 00.3	0.0
RKY	Sarkoy-Tekirda	1.61	55	*e*Pn	Pb	00 49 00.3	0.0
SART	Tekirdag	1.61	55	*i* P	Pn	00 48 59.2	+0.3
SART				*i* S	Sb	00 49 21.0	+0.4
SART	Tekirdag	1.61	55	*i* P	Pn	00 48 59.2	+0.3
SART				*i* S	Sb	00 49 21.0	+0.4
BALY	Balya	1.68	91	*i* P	Pn	00 48 59.9	+0.1
BALY				*i* S	Sn	00 49 21.3	+0.1
BALY	Balya	1.68	91	*i* P	Pn	00 48 59.9	+0.1
BALY				*i* S	Sn	00 49 21.3	+0.1
GONE	Gonen-Balikesi	1.75	80	*e*PN	Pb	00 49 02.0	-0.6
GONE	Gonen-Balikesi	1.75	80	*e*Pn	Pb	00 49 02.0	-0.6
BLCB	Balcova	1.87	138	*e*PN	Pb	00 49 03.8	-0.9
BLCB	Balcova	1.87	138	*e*Pn	Pb	00 49 03.8	-0.9
BALB	Balikesir	1.89	93	*e*PN	Pb	00 49 04.2	-0.7
BALB	Balikesir	1.89	93	*e*Pn	Pb	00 49 04.2	-0.7
SOH	Sokhos	1.91	304	P	Pn	00 49 02.8	-0.1
SOH	Sokhos	1.91	304	P	Pn	00 49 02.8	-0.1
EDC	Edincik	1.94	72	*e*PN	Pb	00 49 04.8	-1.1
EDC	Edincik	1.94	72	*e*Pn	Pb	00 49 04.8	-1.1
SRS	Serrai	1.94	314	P	Pn	00 49 03.2	-0.2
SRS	Serrai	1.94	314	P	Pn	00 49 03.2	-0.2
AKS	Akhisar	2.05	115	*e*PN	Pn	00 49 06.1	+1.3
AKS	Akhisar	2.05	115	*e*Pn	Pn	00 49 06.1	+1.3
CRLT	Corlu	2.21	52	*e*PN	Pn	00 49 08.4	+1.4
CRLT	Corlu	2.21	52	*e*Pn	Pn	00 49 08.5	+1.4
EDRB	Edirne	2.29	25	*e*PN	Pn	00 49 09.7	+1.6
EDRB	Edirne	2.29	25	*e*Pn	Pn	00 49 09.7	+1.6
SLVT	Silivri	2.56	55	*e*PN	Pn	00 49 13.3	+1.5
SLVT	Silivri	2.56	55	*e*Pn	Pn	00 49 13.3	+1.5
AYDB	Zeytinkoy-Aydi	2.65	133	*e*PN	Pn	00 49 14.7	+1.5
AYDB	Zeytinkoy-Aydi	2.65	133	*e*Pn	Pn	00 49 14.7	+1.5
APE	Apeiranthos	2.71	179	*e*PN	Pn	00 49 15.5	+1.6
APE	Apeiranthos	2.71	179	*e*Pn	Pn	00 49 15.5	+1.6
ARMT	Armutlu	2.73	72	*e*PN	Pn	00 49 16.2	+1.9
ARMT	Armutlu	2.73	72	*e*Pn	Pn	00 49 16.2	+1.9
CTYL	Yal??k??y-??at	2.75	51	*e*PN	Pn	00 49 16.6	+2.2
CTYL	Yal??k??y-??at	2.75	51	*e*Pn	Pn	00 49 16.6	+2.2
CTKS	Kestanelik-??a	2.75	57	*e*PN	Pn	00 49 16.2	+1.7
CTKS	Kestanelik-??a	2.75	57	*e*Pn	Pn	00 49 16.2	+1.7
KULA	Kula-Manisa	2.80	116	*e*PN	Pn	00 49 17.0	+1.7
KULA	Kula-Manisa	2.80	116	*e*Pn	Pn	00 49 17.0	+1.7

*ISN **28** 00:49:49.0±3.6, 28.54N×51.91E, h0km, ML3.4*
*ISCJB **28** 00:49:55.9±0.6, 30.44N±0.05×50.31E±0.05, h10km, mb3.6/10, Error ellipse: s-maj=7.7km s-min=6.3km az=170.9*
*IDC **28** 00:49:56.6±2.0, 30.70N×50.20E, h0km, mb3.7/9, mb1 3.7/11, mb1mx3.5/36, mbtmp3.6/11, ML2.8/2, Error ellipse: s-maj=46.3km s-min=18.9km az=166.0*
*CSEM **28** 00:49:56.7±0.2, 30.41N×50.40E, h2km, ML3.5, Error ellipse: s-maj=6.4km s-min=3.2km az=52.0*
*TEH **28** 00:49:57.3, 30.38N×50.40E, h3km, ML3.5*

ISC 28 00:49:56.5±0.9, 30.36N±0.06×50.38E±0.06, h10km, n43, σ1s10/46, mb3.6/10, 3C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	Pirpir	2.36	10	*e*Pn	Pn	00 50 36.4	+0.8
IPIR				*e*Sg	Sb	00 51 10.1	+1.6
IPIR				*e*		00 51 13.5	
	comp=Z,3μm,0.3s						
IPIR	Pirpir	2.36	10	*e*Pn	Pn	00 50 36.4	+0.8
IPIR				*e*Sg	Sb	00 51 10.1	+1.6
IPAR	Pars	2.37	102	*e*Pn	Pn	00 50 36.9	+1.2
IPAR				*e*		00 51 23.6	
	comp=Z,2μm,0.4s						
IPAR	Pars	2.37	102	*e*Pn	Pn	00 50 36.9	+1.2
ISRV	Sarvestan	2.56	112	*e*Pn	Pn	00 50 39.5	+1.1
ISRV				*e*		00 51 28.5	
	comp=Z,2μm,0.3s						
ISRV	Sarvestan	2.56	112	*e*Pn	Pn	00 50 39.5	+1.1
IZEF	Zefreh	3.02	33	*e*Pn	Pn	00 50 46.0	+1.3
IZEF				*e*		00 50 53.3	
	comp=Z,543nm,0.2s						
IZEF				*e*Sn	Sn	00 51 20.9	-0.2
IZEF	Zefreh	3.02	33	*e*Pn	Pn	00 50 46.0	+1.3
IZEF				*e*Sn	Sn	00 51 20.9	-0.2
IKLH	Kolahrood	3.12	19	*e*Pn	Pn	00 50 46.8	+0.8
IKLH				*e*		00 51 54.2	
	comp=Z,814nm,0.3s						
IKLH	Kolahrood	3.12	19	*e*Pn	Pn	00 50 46.8	+0.8
ISAD	Sadrabad	3.23	61	*e*Pn	Pn	00 50 48.4	+0.9
ISAD				*e*		00 51 42.8	
	comp=Z,3μm,0.5s						
ISAD	Sadrabad	3.23	61	*e*Pn	Pn	00 50 48.4	+0.9
QAM	Ghamsar	3.51	15	*e*Pn	Pn	00 50 54.7	+3.4
IMEH	Mehriz	3.78	73	*e*Pn	Pn	00 50 55.8	+0.7
IMEH				*e*		00 52 12.4	
	comp=Z,528nm,0.5s						
IMEH	Mehriz	3.78	73	*e*Pn	Pn	00 50 55.8	+0.7
ICHK	Chekchek	3.92	60	*e*Pn	Pn	00 50 57.8	+0.8
ICHK				*e*		00 51 49.6	
	comp=Z,664nm,0.2s						
ICHK	Chekchek	3.92	60	*e*Pn	Pn	00 50 57.8	+0.8
IBAF	Bafgh	4.62	73	*e*	Pg	00 51 23.0	-2.0
	comp=Z,222nm,0.3s						
IBAF				*e*Pn	Pn	00 51 07.2	+0.7
IBDR	Badra	4.68	307	*e*Pn	Pg	00 51 35.1	+8.9
	baz=130						
IBDR				*i* Sn	Sg	00 52 42.8	+16
IDMV	Damavand	5.38	14	*e*Pn	Pn	00 51 17.7	+0.5
IDMV	Damavand	5.38	14	*e*Pn	Pn	00 51 17.7	+0.5
IDHR	Dehrash	5.49	323	*e*Pn	Pn	00 51 19.0	+0.5
IDHR				*e*		00 52 26.3	
	comp=Z,348nm,0.2s						
IDHR	Dehrash	5.49	323	*e*Pn	Pn	00 51 19.0	+0.5
IFIR	Firoozkooh	5.63	20	*e*Pn	Pn	00 51 20.9	+0.4
IFIR				*e*		00 51 24.0	
	comp=Z,291nm,0.1s						
IFIR	Firoozkooh	5.63	20	*e*Pn	Pn	00 51 20.9	+0.4
IALA	Alasht	6.06	19	*e*Pn	Pn	00 51 27.1	+0.7
IALA	Alasht	6.06	19	*e*Pn	Pn	00 51 27.1	+0.7
IGLO	Ghaloghah	6.77	24	*e*Pn	Pn	00 51 36.3	+0.2
ASF	Jabal al Asfar	11.68	282	Pn	Pn	00 52 43.2	-0.1
	comp=Z,0.1nm,0.3s,baz=110,slow=15,SNR=2.2						
ASF				Sn	Sn	00 54 48.4	-5.5
	comp=Z,0.1nm,0.3s,baz=323,slow=10,SNR=2.3						
BRTR	Keskin Array B	16.57	309	Pn	Pn	00 53 49.3	+0.2
	comp=Z,0.0nm,0.3s,baz=104,slow=15,SNR=3.4						
AAK	Ala-Archa	22.84	51	P	P	00 55 02.4	+2.5
	comp=Z,0.4nm,0.3s,baz=241,slow=10,SNR=2.5						
MLR	Muntele Rosu	24.36	315	⇑P	P	00 55 16.1	+1.3
MLR	Muntele Rosu	24.36	315	P	P	00 55 16.1	+1.3
	comp=Z,1.8nm,1.1s,baz=202,slow=6.8,SNR=6.5						
VOIR		24.88	314	⇑P	P	00 55 21.3	+1.8
AKASG	Malin Array Be	25.75	328	P	P	00 55 25.6	-1.5
	comp=Z,0.8nm,0.7s,baz=136

CFAA	**Coronel Fontan**	**4.32**	**227**	Pn		**Pn**	**00 54 24.5**	**+0.2**
CFAA				Sn		**Sn**	**00 55 14.4**	**+0.9**
CFAA	**Coronel Fontan**	**4.32**	**227**	Pn		**Pn**	**00 54 24.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=71,slow=2.8,SNR=73							
CFAA				Sn		**Sn**	**00 55 14.4**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=205,slow=13,SNR=5.6							
CFAA	**Coronel Fontan**	**4.32**	**227**	*i* P		**Pn**	**00 54 24.9**	**+0.6**
CFAA				*e*S		**Sn**	**00 55 13.7**	**+0.2**
ASTB	**Santa Barbara**	**4.75**	**0**	*i* P		Pn	00 54 35.2	+4.9
RTLS	**Leoncito**	**5.15**	**232**	*i* P		**Pn**	**00 54 36.9**	**+0.9**
ASAL	**Salagasta**	**5.36**	**223**	*i* P		**Pn**	**00 54 39.1**	**+0.4**
LCO	**Las Campanas**	**5.43**	**265**	*e*Pn		**Pn**	**00 54 37.5**	**-2.3**
	comp=Z,13nm,0.5s							
LCO				*e*Sn		**Sn**	**00 55 41.1**	**-0.1**
AUSP	**Uspallata**	**5.46**	**229**	*i* P		**Pn**	**00 54 41.5**	**+1.1**
ARCO	**CERRO ARCO**	**5.60**	**222**	AML		AML	00 56 28.2	
	comp=Z,68nm,0.5s							
CPUP	**Villa Florida**	**6.81**	**71**	*e*Pn		**Pn**	**00 54 56.7**	**-1.9**
CPUP				*e*Sn		**Sn**	**00 56 18.6**	**+3.6**
CPUP				Lg		Lg	00 57 00.1	
CPUP	**Villa Florida**	**6.81**	**71**	Pn		**Pn**	**00 54 59.7**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=231,slow=12,SNR=13							
CPUP				Lg		Lg	00 57 00.1	
	comp=Z,10nm,0.3s,baz=162,slow=11,SNR=4.7							
LVC	**Limon Verde**	**7.25**	**326**	*e*Pn		**Pn**	**00 55 04.4**	**-0.4**
TRQA	**Tornquist**	**9.56**	**168**	*e*Pn		Pn	00 55 26.5	-10
TRQA				Sn		Sn	00 57 12.5	-10
LPAZ	**La Paz**	**12.81**	**344**	Pn		**Pn**	**00 56 20.0**	**-1.3**
PLCA	**Paso Flores**	**12.97**	**201**	Lg		Lg	01 00 06.5	
	comp=Z,0.2nm,0.3s,baz=148,slow=20,SNR=2.9							
SIV	**San Ignacio**	**13.06**	**15**	Lg		Lg	01 00 20.1	
	comp=Z,0.2nm,0.3s,baz=227,slow=16,SNR=3.4							
SAML	**Samuel**	**19.70**	**4**	*e*P		**Pn**	**00 57 49.2**	**+0.1**
	comp=Z,0.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.29**	**67**	P		**P**	**01 05 07.4**	**+0.7**
TORD				pP		**pP**	**01 05 15.2**	**-2.4**
TORD	**Torodi Ar. Bea**	**76.29**	**67**	P		**P**	**01 05 07.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=275,slow=6.0,SNR=6.8							
TORD				pP		**pP**	**01 05 15.2**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=268,slow=6.9,SNR=4.2							
KURBB	**Kurchatov Arra**	**144.65**	**41**	PKP		**PKPdf**	**01 12 53.6**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=295,slow=3.6,SNR=4.7							
KURK	**Kurchatov**	**144.66**	**41**	PKP		**PKPdf**	**01 12 53.6**	**-0.1**
ZALV	**Zalesovo Beam**	**146.32**	**33**	PKPbc		**PKPab**	**01 12 58.8**	**+0.3**
ZALV				pPKPbc		pPKPbc	01 13 07.0	-2.1
ZALV	**Zalesovo Beam**	**146.32**	**33**	PKPbc		**PKPab**	**01 12 58.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=300,slow=3.3,SNR=3.7							
ZALV				pPKPbc		pPKPbc	01 13 07.0	-2.1
	comp=Z,0.8nm,0.6s,baz=320,slow=3.9,SNR=3.4							
MKAR	**Makanchi Array**	**148.47**	**46**	PKPbc		**PKPbc**	**01 13 04.3**	**+0.4**
MKAR				pPKPbc		**pPKPbc**	**01 13 13.2**	**-2.1**
MKAR	**Makanchi Array**	**148.47**	**46**	PKPbc		**PKPbc**	**01 13 04.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=329,slow=1.7,SNR=3.1							
MKAR				pPKPbc		**pPKPbc**	**01 13 13.2**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=270,slow=2.9,SNR=3.1							

*IDC **28** 01:14:52.6±6.0, 52.°88S×19.°80E, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.5/26, mbtmp3.9/1, MS3.5/3, Ms1 3.4/3, ms1mx3.0/27, Error ellipse: s-maj=320.7km s-min=64.3km az=99.0*

ISC 28 01:14:54.4±6.2, 52.°7S±0.°4×2.°0E±.°, h10km, n10, σ1§15/6, MS3.3/3, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SNAA	**Sanae**	**21.57**	**200**	P		**P**	**01 19 43.7**	**-0.1**
VNA2	**Neumayer--Watz**	**22.06**	**204**	P		**P**	**01 19 49.4**	**+0.5**
BOSA	**Boshof**	**24.36**	**11**	LR		LR	01 27 50.7	
	comp=Z,81nm,21.9s,baz=177,slow=32							
CPUP	**Villa Florida**	**62.06**	**263**	LR		LR	01 48 01.3	
	comp=Z,77nm,20.4s,baz=185,slow=32							
DBIC	**Dimbokro**	**62.85**	**332**	LR		LR	01 48 00.3	
	comp=Z,20nm,18.4s,baz=148,slow=32							
TORD	**Torodi Ar. Bea**	**67.48**	**341**	P		**P**	**01 25 50.0**	**-0.3**
	1.5nm,1.2s,baz=185,slow=5.8,SNR=3.7							
PDAR	**Pinedale Array**	**145.39**	**274**	PKPbc		PKPab	01 34 29.6	-2.7
	1.0nm,0.7s,baz=126,slow=4.6,SNR=8.8							
NVAR	**Mina Array Bea**	**148.08**	**260**	PKPbc		**PKPbc**	**01 34 38.9**	**-1.0**
	0.8nm,0.8s,baz=145,slow=4.1,SNR=6.6							
YKA	**Yellowknife Ar**	**154.38**	**310**	PKPbc		**PKPbc**	**01 34 53.2**	**-0.4**
	0.3nm,0.9s,baz=92,slow=2.7,SNR=5.2							
ILAR	**Eielson Array**	**166.19**	**336**	PKPab		**PKPab**	**01 36 00.8**	**+1.6**
	0.8nm,0.9s,baz=10,slow=4.7,SNR=6.1							

*IDC **28** 01:25:16.8±1.0, 10.°55S×161.°87E, h0km, mb3.9/8, mb1 4.3/11, mb1mx4.1/35, mbtmp4.1/11, ML4.2/3, MS3.5/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=32.6km s-min=20.7km az=135.0*

*ISCJB **28** 01:25:22.1±0.6, 10.°84S±0.°05×162.°07E±0.°08, h54km, mb3.9/10, MS3.5/4, Error ellipse: s-maj=11.3km s-min=6.7km az=158.9*

*NEIC **28** 01:25:22.1±0.6, 10.°55S×161.°86E, h35km, mb4.2/2, Error ellipse: s-maj=13.2km s-min=10.7km az=124.0*

ISC 28 01:25:23.9±0.6, 10.°73S±0.°06×162.°12E±0.°08, h54km, n43, σ1§53/40, mb3.9/10, MS3.5/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**2.50**	**301**	*i* P		**Pn**	**01 26 02.0**	**-0.1**
HNR				*i* S		Sn	01 26 36.0	+4.6
NOUC	**Port Laguerre**	**11.99**	**161**	*e*P		Pn	01 28 15.9	+3.7
NOUC				*e*S		**Sn**	**01 30 22.3**	**-2.2**
DZM	**Mont Dzumac**	**12.01**	**160**	*e*Pn		**Pn**	**01 28 14.4**	**+1.8**
	18nm,0.6s							
DZM				*e*S		**Sn**	**01 30 25.9**	**+0.8**
DZM	**Mont Dzumac**	**12.01**	**160**	Pn		**Pn**	**01 28 14.4**	**+1.8**
	4.6nm,0.3s,baz=24,slow=8.3,SNR=63							
DZM				Sn		**Sn**	**01 30 23.2**	**-2.0**
	6.1nm,0.3s,baz=297,slow=9.3,SNR=11							
DZM				LR		LR	01 31 24.4	
	comp=Z,157nm,19.8s,baz=32,slow=30							
DZM	**Mont Dzumac**	**12.01**	**160**	*e*P		**Pn**	**01 28 14.1**	**+1.5**
DZM				*e*S		**Sn**	**01 30 22.1**	**-3.1**
PMG	**Port Moresby**	**14.79**	**274**	Pn		Pn	01 28 44.9	-5.1
PMG	**Port Moresby**	**14.79**	**274**	Pn		Pn	01 28 44.9	-5.1
	0.8nm,0.3s,baz=294,slow=18,SNR=1.5							
PMG				LR		LR	01 33 42.4	
	comp=Z,127nm,20.1s,baz=114,slow=35							
PATS	**Pohnpei**	**17.86**	**348**	P		**P**	**01 29 31.3**	**+2.5**
	baz=18,SNR=3.4							
CTA	**Charters Tower**	**17.89**	**237**	P		**P**	**01 29 27.9**	**-1.2**
CTA	**Charters Tower**	**17.89**	**237**	P		**P**	**01 29 27.9**	**-1.2**
	1.0nm,0.3s,baz=58,slow=18,SNR=2.9							
EIDS	**Eidsvold**	**17.93**	**214**	*e*Pn		**P**	**01 29 30.2**	**+0.8**
EIDS	**Eidsvold**	**17.93**	**214**	P		**P**	**01 29 30.9**	**+1.4**
	baz=18,SNR=3.7							
COEN	**Coen**	**18.78**	**258**	P		**Pn**	**01 29 41.4**	**+1.5**
	baz=19,SNR=9.6							
RMQ	**Roma**	**20.11**	**217**	P		**Pn**	**01 29 55.3**	**-0.4**
	baz=20,SNR=16							
ARMA	**Armidale**	**21.88**	**205**	*e*P		**P**	**01 30 12.0**	**-0.5**
	8.1nm,0.9s							
ARMA	**Armidale**	**21.88**	**205**	P		**P**	**01 30 12.5**	**0.0**
	baz=22,SNR=4.5							
WRAB	**Tennant Creek**	**28.26**	**248**	*e*P		**P**	**01 31 10.7**	**-1.6**
	5.0nm,0.8s							
WRA	**Warramunga Arr**	**28.27**	**248**	P		**P**	**01 31 10.5**	**-2.0**
WRA	**Warramunga Arr**	**28.27**	**248**	P		**P**	**01 31 10.5**	**-2.0**
	3.6nm,0.6s,baz=77,slow=9.3,SNR=21							
WRA				LR		LR	01 42 06.3	
	comp=Z,114nm,18.9s,baz=80,slow=36							
STKA	**Stephens Creek**	**28.33**	**219**	LR		LR	01 41 30.1	
	comp=Z,175nm,20.0s,baz=30,slow=34							
KDU	**Kakadu**	**29.09**	**263**	P		**P**	**01 31 18.6**	**-1.1**
	baz=29,SNR=3.2							
ASAR	**Alice Springs**	**29.79**	**241**	P		**P**	**01 31 23.1**	**-2.7**
ASAR	**Alice Springs**	**29.79**	**241**	P		**P**	**01 31 23.1**	**-2.7**
	0.7nm,0.4s,baz=70,slow=9.5,SNR=4.2							
BBOO	**Buckleboo**	**32.52**	**223**	P		**P**	**01 31 48.9**	**-0.9**
	baz=33,SNR=6.5							
KNRA	**Kununurra**	**32.82**	**258**	P		**P**	**01 31 51.1**	**-1.5**
	baz=33,SNR=11							
WRKA	**Warakurna**	**35.07**	**241**	P		**P**	**01 32 09.7**	**-2.4**
	baz=35,SNR=11							
WRKA				S		S	01 37 50.0	+9.0
	baz=35,SNR=6.0							
LUWI	**Luwuk**	**40.25**	**281**	S		S	01 39 07.8	+8.1
	baz=41,SNR=3.9							
MEEK	**Meekatharra**	**43.90**	**243**	P		**P**	**01 33 25.1**	**-0.5**
	baz=44,SNR=8.2							
PPT	**Papeete**	**47.23**	**104**	LR		LR	01 51 06.4	
	comp=Z,28nm,18.4s,baz=69,slow=33							
USRK	**Ussuriysk Arra**	**61.13**	**336**	P		**P**	**01 35 31.1**	**-1.5**
	0.8nm,0.6s,baz=138,slow=5.4,SNR=2.0							
PETK	**Petropavlovsk-**	**63.70**	**357**	LR		LR	01 58 08.8	
	comp=Z,29nm,20.1s,baz=172,slow=31							
SONM	**Songino Array**	**76.34**	**325**	P		**P**	**01 37 06.7**	**-0.7**
SONM	**Songino Array**	**76.34**	**325**	P		**P**	**01 37 06.7**	**-0.7**
	0.7nm,0.7s,baz=144,slow=6.8,SNR=8.0							
ILAR	**Eielson Array**	**84.38**	**20**	P		**P**	**01 37 50.5**	**+0.5**
ILAR	**Eielson Array**	**84.38**	**20**	P		**P**	**01 37 50.5**	**+0.5**
	0.6nm,0.7s,baz=248,slow=5.1,SNR=10							
NVAR	**Mina Array Bea**	**88.56**	**51**	P		**P**	**01 38 12.1**	**+0.6**
NVAR	**Mina Array Bea**	**88.56**	**51**	P		**P**	**01 38 12.1**	**+0.6**
	0.4nm,0.8s,baz=243,slow=7.5,SNR=2.8							
MKAR	**Makanchi Array**	**90.87**	**317**	P		**P**	**01 38 21.4**	**-0.4**
MKAR	**Makanchi Array**	**90.87**	**317**	P		**P**	**01 38 21.4**	**-0.4**
	0.2nm,0.5s,baz=33,slow=7.4,SNR=2.9							
YKA	**Yellowknife Ar**	**96.34**	**28**	P		**P**	**01 38 45.4**	**-1.1**
YKA	**Yellowknife Ar**	**96.34**	**28**	P		**P**	**01 38 45.4**	**-1.1**
	0.3nm,0.7s,baz=257,slow=4.8,SNR=6.4							
TORD	**Torodi Ar. Bea**	**160.70**	**279**	PKP		**PKPdf**	**01 45 19.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**160.70**	**279**	PKP		**PKPdf**	**01 45 19.9**	**+1.0**
	0.5nm,0.9s,baz=357,slow=2.9,SNR=2.8							

KRSC 28 01:36:50.7±1.1, 53.°32N×160.°69E, h49km±14km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SPN	**Mys Shipunski**	**0.46**	**241**	*e*P		Pn	01 37 03.1	+1.7
SPN				*e*S		Sn	01 37 09.9	+0.9
NLC	**Nalytchevo**	**0.82**	**260**	*e*P		Pn	01 37 07.2	+1.2
NLC				*e*S		Sn	01 37 17.6	+0.5
KII	**Karymskiy**	**1.03**	**315**	*e*P		Pn	01 37 01.0	-7.9
KII				*e*S		Sn	01 37 22.6	+0.3
SDLR	**Sedlovina**	**1.08**	**268**	*i* P		Pn	01 37 11.4	+1.7
SDLR				*e*S		Sn	01 37 24.9	+1.1
UGLR	**Uglovaya**	**1.13**	**265**	*i* P		Pn	01 37 12.3	+2.0
UGLR				*e*S		Sn	01 37 26.2	+1.4
SMAR	**Somma**	**1.14**	**268**	*e*P		Pn	01 37 12.0	+1.5
SMAR				*e*S		Sn	01 37 25.8	+0.6
KRER	**Koryakskii**	**1.16**	**270**	*i* P		Pn	01 37 12.8	+1.9
KRER				*e*S		Sn	01 37 27.0	+1.1
AVH	**Avacha**	**1.17**	**268**	*i* P		Pn	01 37 12.9	+2.0
AVH				*e*S		Sn	01 37 27.4	+1.6
KRX	**Arik**	**1.22**	**273**	*i* P		Pn	01 37 13.2	+1.6
KRX				*e*S		Sn	01 37 27.5	+0.3
KOK	**Koryaka**	**1.23**	**269**	*i* P		Pn	01 37 13.5	+1.8
KOK				*e*S		Sn	01 37 27.7	+0.4
PET	**Petropavlovsk**	**1.26**	**257**	*i* P		Pn	01 37 13.8	+1.9
PET				*e*S		Sn	01 37 28.5	+0.8
MKZ	**Mys Kozlova**	**1.38**	**26**	*e*P		Pn	01 37 15.6	+2.1
MKZ				*e*S		Sn	01 37 31.9	+1.3
RUS	**Russkaya**	**1.59**	**237**	*e*P		Pn	01 37 18.2	+1.8
RUS				*e*S		Sn	01 37 36.7	+0.9
GNL	**Ganaly**	**1.68**	**284**	*i* P		Pn	01 37 20.2	+2.3
GNL				*e*S		Sn	01 37 41.1	+2.7
MTVR	**Mutnovka**	**1.74**	**242**	*e*P		Pn	01 37 20.7	+2.1
MTVR				*e*S		Sn	01 37 40.7	+1.0
KZV	**Kizimen**	**1.81**	**353**	*e*P		Pn	01 37 22.6	+3.0
ASAK	**Asacha**	**1.94**	**242**	*e*P		Pn	01 37 24.3	+3.0
ASAK				*e*S		Sn	01 37 47.7	+3.2
TUMR	**Tumrok**	**1.99**	**351**	*i* P		Pn	01 37 25.5	+3.4
TUMR				*e*S		Sn	01 37 48.6	+2.7
APC	**Apacha**	**2.17**	**261**	*e*P		Pn	01 37 27.4	+3.1
APC				*e*S		Sn	01 37 52.9	+3.0
KMNR	**Kamenistaya**	**2.45**	**354**	*e*S		Sn	01 38 00.6	+3.4
MIPR	**Malaya Ipel'ka**	**2.61**	**248**	*e*P		Pn	01 37 33.8	+3.4
ESO	**Esso**	**2.85**	**337**	P		Pn	01 37 35.6	+1.8
PAU	**Pauzhetka**	**3.02**	**234**	*e*P		Pn	01 37 39.7	+3.7
KBTR	**Krutoberegovo**	**3.14**	**22**	*e*P		Pn	01 37 41.6	+3.9
KBG	**Krutoberegovo**	**3.16**	**21**	*e*S		Sn	01 38 18.0	+3.7
BKI	**Bering**	**3.63**	**57**	*e*P		Pn	01 37 48.1	+3.8
BKI				*e*S		Sn	01 38 26.0	+0.3

*IDC **28** 01:49:41.7±0.6, 29.°23S×178.°49W, h217km±6km, mb3.2/3, mb1 3.4/4, mb1mx3.2/18, mbtmp3.8/4, Error ellipse: s-maj=31.6km s-min=20.5km az=130.0*

ISC 28 01:49:42.4±0.9, 29.°19S±0.°08×178.°6W±0.°1, h231km, n21, σ2§53/25, mb3.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**0.58**	**97**	P		**Pn**	**01 50 12.7**	**-0.7**
	192nm,0.3s,baz=14,slow=22,SNR=5.6							
RAO				S		**S**	**01 50 33.9**	**-3.7**
	528nm,0.3s,baz=348,slow=24,SNR=6.5							
MXZ	**Matakaoa Point**	**8.75**	**196**	*e*PN		**Pn**	**01 51 44.7**	**-0.4**
MXZ				*e*SN		**S**	**01 53 27.8**	**+3.8**
HAZ	**Te Kaha**	**9.07**	**199**	*e*PN		**Pn**	**01 51 48.7**	**-0.6**
HAZ				SN		**S**	**01 53 33.6**	**+2.1**
PUZ	**Puketiti**	**9.25**	**196**	*e*PN		**Pn**	**01 51 49.5**	**-2.0**
PUZ				SN		**S**	**01 53 35.8**	**+0.1**
CNGZ	**Carnagh Statio**	**9.65**	**195**	*e*PN		**Pn**	**01 51 55.4**	**-1.3**
MWZ	**Matawai**	**9.68**	**199**	*e*SN		**S**	**01 53 46.4**	**+0.5**
URZ	**Urewera**	**9.73**	**200**	P		**Pn**	**01 51 57.9**	**+0.2**
	0.5nm,0.3s,baz=345,slow=6.8,SNR=3.5							
URZ				S		**S**	**01 53 44.8**	**-2.3**
	3.5nm,0.3s,baz=299,slow=2.5,SNR=5.8							
URZ	**Urewera**	**9.73**	**200**	*e*SN		**S**	**01 53 48.3**	**+1.3**
BFZ	**Birch Farm**	**12.22**	**199**	*e*SN		**S**	**01 54 39.4**	**-5.1**
TCW	**Tory Channel**	**13.34**	**204**	*e*SN		**S**	**01 55 07.8**	**-2.6**
CTZ	**Chatham Island**	**14.61**	**174**	*e*PN		P	01 53 06.8	+8.0
CTZ				*e*SN		**S**	**01 55 44.2**	**+4.3**
OXZ	**Oxford**	**15.99**	**206**	*e*SN		**S**	**01 56 04.4**	**-5.8**
STKA	**Stephens Creek**	**34.28**	**255**	P		**P**	**01 56 08.0**	**+1.1**
	1.4nm,0.7s,baz=90,slow=11,SNR=2.7							
ASAR	**Alice Springs**	**42.68**	**266**	P		**P**	**01 57 18.6**	**+1.8**
	0.9nm,0.9s,baz=106,slow=7.5,SNR=4.6							
WRA	**Warramunga Arr**	**43.56**	**271**	P		**P**	**01 57 25.0**	**+1.2**
	0.3nm,0.3s,baz=110,slow=7.2,SNR=5.5							
MKAR	**Makanchi Array**	**116.60**	**311**	PKP		**PKPdf**	**02 07 58.8**	**+0.1**
	0.1nm,0.4s,baz=111,slow=2.0,SNR=3.8							
FINES	**FINESS Array B**	**143.84**	**340**	PKhKP		PKPpre	02 08 46.7	
	1.3nm,0.5s,baz=63,slow=4.7,SNR=6.3							
NOA	**NORSAR Array B**	**147.48**	**351**	PKPbc		**PKPbc**	**02 08 58.1**	**-0.4**
	3.1nm,1.1s,baz=4.2,slow=17,SNR=2.9							
AKASG	**Malin Array Be**	**150.03**	**324**	PKPbc		**PKPbc**	**02 09 05.4**	**+0.2**
	0.8nm,0.3s,baz=42,slow=3.1,SNR=9.3							
BRTR	**Keskin Array B**	**151.56**	**300**	PKPbc		**PKPbc**	**02 09 09.8**	**+0.5**
	0.4nm,0.3s,baz=140,slow=5.1							
TORD	**Torodi Ar. Bea**	**164.04**	**181**	PKPab		**PKPab**	**02 10 14.5**	**+1.7**
	0.5nm,0.6s,baz=168,slow=2.7,SNR=7.5							

MEX 28 01:57:31.8±0.6, 16.°88N×100.°13W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ACP2	**Acapulco**	**0.23**	**91**	*i* P		Pg	01 57 35.6	-0.8
ACP2				*i* S		Sg	01 57 39.3	-0.2
ZIIG	**Zihuatanejo**	**1.47**	**300**	*e*P		Pn	01 57 55.2	-3.8
ZIIG				*e*S		Sn	01 58 13.8	-4.7
PLIG	**Platanillo**	**1.62**	**22**	*e*P		Pn	01 57 57.1	-4.1
PLIG				*e*S		Sn	01 58 17.4	-5.1
TLIG	**Tlapa**	**1.64**	**65**	*e*P		Pn	01 57 57.8	-3.7
TLIG				*e*S		Sn	01 58 18.6	-4.5
PNIG	**Pinotepa**	**1.98**	**104**	*e*P		Pn	01 58 02.1	-4.0
PNIG				*i* S		Sn	01 58 27.2	-4.1
YAIG	**Yautepec**	**2.22**	**27**	*e*P		Pn	01 58 06.0	-3.4
YAIG				*e*S		Sn	01 58 32.8	-4.6

*ISCJB **28** 02:10:03.2±0.3, 24.°51N±0.°03×122.°93E±0.°02, h98km±3km, mb3.6/7, Error ellipse: s-maj=4.3km s-min=2.3km az=166.6*

*JMA **28** 02:10:03.8±0.2, 24.°44N×122.°88E, h95km±2km, M3.8*

*TAP **28** 02:10:04.4, 24.°40N×122.°96E, h68km±1km, ML4.5, D*

*IDC **28** 02:10:06.0±6.4, 24.°47N×122.°94E, h113km±63km, mb3.5/6, mb1 3.8/7, mb1mx3.5/25, mbtmp4.0/7, Error ellipse: s-maj=29.6km s-min=17.0km az=71.0*

ISC 28 02:10:03.9±0.7, 24.°48N±0.°04×122.°93E±0.°02, h94km±6km, n82, σ1§20/140, mb3.6/8, 1C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
YOJ	**Yonaguni jima**	**0.07**	**102**	P		**Pn**	**02 10 17.3**	**+0.3**
YOJ				*e*S		**Sn**	**02 10 26.8**	**-0.1**
IRIF	**Iriomote-Funau**	**0.74**	**101**	P		**Pn**	**02 10 21.6**	**+0.5**
IRIF				*e*S		**Sn**	**02 10 34.1**	**0.0**
HATJ	**Hateruma jima**	**0.90**	**118**	P		**Pn**	**02 10 23.7**	**+0.9**
HATJ				*e*S		**Sn**	**02 10 38.0**	**+1.1**
EGS		**0.98**	**292**	*i* P		**Pn**	**02 10 24.0**	**+0.4**
	baz=295							
EGS				S		**Sn**	**02 10 37.4**	**-1.0**
	baz=295							
TWC	**Suao**	**0.99**	**278**	*i* P		**Pn**	**02 10 23.5**	**-0.3**
	baz=281							
TWC				*i* S		**Sn**	**02 10 37.0**	**-1.8**
	baz=281							
TWB1	**Santiao Chiao**	**1.01**	**302**	P		**Pn**	**02 10 24.0**	**+0.1**
	baz=304							
TWB1				S		**Sn**	**02 10 38.6**	**-0.4**
	baz=304							
JKRS	**Kuro-shima**	**1.01**	**103**	P		**Pn**	**02 10 24.9**	**+0.9**
JKRS				*e*S		**Sn**	**02 10 39.9**	**+0.8**
ENA	**Nanau**	**1.09**	**268**	P		**Pn**	**02 10 24.7**	**-0.1**
	baz=271							
ENA				*e*S		**Sn**	**02 10 39.9**	**-0.7**
	baz=271							
JIJ	**Ishigaki jima**	**1.11**	**96**	P		**Pn**	**02 10 25.4**	**+0.3**
JIJ				*e*S		**Sn**	**02 10 40.7**	**-0.4**
ILA	**Ilan**	**1.11**	**285**	*e*P		**Pn**	**02 10 23.7**	**-1.5**
	baz=288							
ILA				*e*S		**Sn**	**02 10 40.4**	**-0.7**
	baz=288							
TWE	**Neicheng**	**1.18**	**282**	*i* P		**Pn**	**02 10 26.0**	**+0.1**
	baz=285							
TWE				S		**Sn**	**02 10 41.7**	**-0.7**
	baz=285							
NWF	**Wu-fen Shan**	**1.20**	**300**	*i* P		**Pn**	**02 10 26.7**	**+0.4**
	baz=301							
NWF				*e*S		**Sn**	**02 10 42.4**	**-0.7**
	baz=301							
TWD	**Chiawan**	**1.28**	**252**	*i* P		**Pn**	**02 10 26.7**	**-0.4**
	baz=255							
TWD				S		**Sn**	**02 10 43.5**	**-1.2**
	baz=255							
HWA	**Hwalien**	**1.31**	**248**	*i* P		**Pn**	**02 10 27.4**	**-0.1**
	baz=250							
TWA	**Mucha**	**1.32**	**293**	P		**Pn**	**02 10 28.0**	**+0.3**
	baz=294							
TWA				S		**Sn**	**02 10 45.0**	**-0.6**
	baz=294							
TAP1	**Taipei**	**1.40**	**294**	*e*P		**Pn**	**02 10 28.9**	**+0.3**
	baz=295							
TAP1				*e*S		**Sn**	**02 10 46.7**	**-0.5**
	baz=295							
TAP	**Taipei**	**1.41**	**294**	*e*P		**Pn**	**02 10 29.0**	**+0.3**
	baz=295							
TAP				*e*S		**Sn**	**02 10 47.2**	**-0.3**
	baz=295							
NNS	**Nan Shan**	**1.42**	**269**	P		**Pn**	**02 10 28.9**	**0.0**
	baz=271							
NNS				*e*S		**Sn**	**02 10 47.1**	**-0.8**
	baz=271							
ESF	**Shoufeng Towns**	**1.43**	**245**	*e*P		**Pn**	**02 10 29.4**	**+0.4**
	baz=248							
NSK	**Sanguang**	**1.45**	**278**	*i* P		**Pn**	**02 10 29.6**	**+0.4**
	baz=280							
NSK				S		**Sn**	**02 10 47.9**	**-0.5**
	baz=280							
TWY	**Chenhua**	**1.45**	**304**	*e*P		**Pn**	**02 10 29.8**	**+0.6**
	baz=305							
TWY				S		**Sn**	**02 10 48.6**	**+0.3**
	baz=305							
TEGC	**Jichi Village**	**1.48**	**239**	*e*P		**Pn**	**02 10 30.5**	**+0.9**
	baz=241							
TEGC				*e*S		**Sn**	**02 10 49.5**	**+0.4**
	baz=241							
TWS1	**Kuangyinshan**	**1.51**	**295**

CHN2	**Minshiung**	**2.44**	**248**	*e*P		**Pn**	**02 10 43.7**	**+1.8**
	baz=249								
CHN2				*e*S		**Sn**	**02 11 13.8**	**+2.6**
	baz=249								
WTP	**Ta-pu**	**2.45**	**240**	⇑ *i* P		**Pn**	**02 10 43.5**	**+1.4**
	baz=241								
WTP				*e*S		**Sn**	**02 11 12.7**	**+1.1**
	baz=241								
CHY	**Chiayi**	**2.49**	**247**	*e*P		**Pn**	**02 10 44.5**	**+1.9**
	baz=248								
CHY				*e*S		**Sn**	**02 11 13.7**	**+1.2**
	baz=248								
TWK	**Hsinying**	**2.54**	**242**	*e*P		**Pn**	**02 10 44.5**	**+1.1**
	baz=243								
TWK				*e*S		**Sn**	**02 11 15.0**	**+1.3**
	baz=243								
CHN1	**Nanshi**	**2.55**	**240**	*e*P		**Pn**	**02 10 44.8**	**+1.3**
	baz=241								
CHN1				*e*S		**Sn**	**02 11 15.0**	**+1.1**
	baz=241								
SGST	**Jiashian**	**2.56**	**238**	*e*P		**Pn**	**02 10 45.3**	**+1.7**
	baz=238								
SGST				*e*S		**Sn**	**02 11 15.2**	**+1.0**
	baz=238								
ECL	**Taimali**	**2.61**	**225**	P		**Pn**	**02 10 43.5**	**-0.8**
	baz=225								
WSF	**Szhu**	**2.61**	**252**	*e*P		**Pn**	**02 10 45.3**	**+1.0**
	baz=252								
WSF				*e*S		**Sn**	**02 11 15.8**	**+0.5**
	baz=252								
SSD	**Sandimen**	**2.72**	**231**	*e*P		**Pn**	**02 10 47.0**	**+1.2**
	baz=232								
SSD				*e*S		**Sn**	**02 11 19.4**	**+1.3**
	baz=232								
LAY	**Lan-yu**	**2.74**	**208**	*e*P		**Pn**	**02 10 45.0**	**-1.0**
	baz=208								
EAST	**Anshuo**	**2.83**	**223**	*e*P		**Pn**	**02 10 46.8**	**-0.5**
	baz=223								
EAST				*e*S		**Sn**	**02 11 18.2**	**-2.4**
	baz=223								
TWM1	**Shoushan**	**2.83**	**235**	*e*P		**Pn**	**02 10 49.6**	**+2.4**
	baz=235								
SCZT	**Fangliau**	**2.98**	**226**	*e*P		**Pn**	**02 10 50.4**	**+1.2**
	baz=226								
TWK1	**Hengchun**	**3.19**	**218**	*e*P		**Pn**	**02 10 52.1**	**0.0**
	baz=218								
PNG	**Penghu**	**3.22**	**254**	*e*P		**Pn**	**02 10 51.9**	**-0.5**
	baz=254								
WDGT	**Dungji**	**3.23**	**249**	*e*P		**Pn**	**02 10 52.8**	**+0.2**
	baz=249								
WDGT				*e*S		**Sn**	**02 11 28.9**	**-1.3**
	baz=249								
JKE	**Kume jima 2**	**3.94**	**61**	P		**Pn**	**02 11 02.0**	**-0.2**
JKE				*e*S		**Sn**	**02 11 47.8**	**+0.4**
JAGN	**Aguni-jima**	**4.43**	**61**	P		**Pn**	**02 11 08.6**	**-0.1**
JIH	**Iheya**	**5.21**	**60**	P		**Pn**	**02 11 19.0**	**-0.3**
JOW	**Kunigami**	**5.36**	**63**	P		**Pn**	**02 11 20.3**	**-1.1**
JTK	**Tokunoshima**	**6.33**	**57**	P		**Pn**	**02 11 32.8**	**-1.9**
JTK				*e*S		**Sn**	**02 12 42.7**	**-2.9**
JAMN	**Amaminishikomi**	**6.74**	**55**	P		**Pn**	**02 11 37.7**	**-2.5**
JAMN				*e*S		**Sn**	**02 12 51.8**	**-3.6**
JAM	**Amami Oshima**	**7.15**	**55**	P		**Pn**	**02 11 43.2**	**-2.5**
JAM				*e*S		**Sn**	**02 13 00.2**	**-5.2**
KSRS	**Korea Array**	**13.62**	**17**	P		**Pn**	**02 13 15.1**	**+2.1**
	1.1nm,0.3s,baz=196,slow=11,SNR=17								
USRK	**Ussuriysk Arra**	**21.02**	**18**	P		**P**	**02 14 37.5**	**-2.3**
	2.6nm,0.7s,baz=217,slow=9.3,SNR=4.2								
CMAR	**Chiang Mai Arr**	**23.10**	**260**	P		**P**	**02 15 02.6**	**+0.8**
	0.8nm,0.3s,baz=68,slow=7.9,SNR=3.5								
SONM	**Songino Array**	**26.75**	**335**	P		**P**	**02 15 34.0**	**-0.7**
	0.2nm,0.4s,baz=148,slow=8.7,SNR=4.0								
MKAR	**Makanchi Array**	**39.25**	**315**	P		**P**	**02 17 23.9**	**+0.8**
	0.1nm,0.4s,baz=99,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**45.53**	**165**	P		**P**	**02 18 14.1**	**-0.1**
	7.8nm,0.7s,baz=347,slow=8.6,SNR=27								
ASAR	**Alice Springs**	**49.03**	**167**	P		**P**	**02 18 41.5**	**+0.2**
	1.0nm,0.4s,baz=353,slow=9.7,SNR=11								
STKA	**Stephens Creek**	**58.81**	**161**	P		**P**	**02 19 52.2**	**-0.2**
	1.0nm,0.5s,baz=322,slow=8.0,SNR=4.1								
YKA	**Yellowknife Ar**	**82.08**	**23**	P		**P**	**02 22 14.0**	**+0.5**
	0.2nm,0.5s,baz=306,slow=5.3,SNR=7.2								

MEX 28 02:22:04.3±0.7, 18°33N×100°60W, h48±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.24**	**102**		*e*P		Pn	02 22 10.9	-1.9
ARIG					*e*S		Sn	02 22 17.1	-1.8
PLIG	**Platanillo**	**1.04**	**86**		*e*P		Pn	02 22 21.4	-1.3
PLIG					*i* S		Sn	02 22 33.5	-2.8
ZIIG	**Zihuatanejo**	**1.10**	**229**		*i* P		Pn	02 22 21.3	-2.0
ZIIG					*i* S		Sn	02 22 35.5	-1.9
YAIG	**Yautepec**	**1.54**	**70**		*i* P		Pn	02 22 27.6	-2.0
YAIG					*i* S		Sn	02 22 46.5	-2.2
TLIG	**Tlapa**	**2.08**	**111**		*i* P		Pn	02 22 35.1	-1.8
TLIG					*i* S		Sn	02 22 59.3	-2.4

*ISCJB **28** 02:34:07.8±0.3, 11°82N±0°.07×86°.88W±0°.06, h100km±4km, mb4.1/16, Error ellipse: s-maj=15.2km s-min=3.3km az=42.2*

*IDC **28** 02:34:08.7±0.8, 12°.12N×86°.50W, h91km±7km, mb3.7/10, mb1 4.0/11, mb1mx3.7/36, mbtmp4.1/11, MS3.1/4, Ms1 3.1/4, ms1mx2.9/25, Error ellipse: s-maj=29.1km s-min=8.0km az=57.0*

*NEIC **28** 02:34:08.5±1.2, 11°.74N×86°.89W, h93km±8km, mb4.4/7, Error ellipse: s-maj=25.3km s-min=7.3km az=54.0*

*CASC **28** 02:34:09.1±2.4, 11°.75N×86°.95W, h36km±999km, MD4.3, mb4.6(NEIC)*

ISC 28 02:34:08.8±0.6, 11°.88N±0°.08×86°.84W±0°.07, h99km±5km, n63, σ1§67/81, mb4.2/16, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.69**	**325**		*e*P		**Pn**	**02 34 36.6**	**-0.9**
GBS2	**Las Lilas**	**1.71**	**127**		*i* P		**Pn**	**02 34 36.5**	**-1.1**
GBS2					*i* S		**Sn**	**02 34 59.3**	**-0.3**
GBS3	**Finca Las Im˜¡**	**1.74**	**129**		*i* P		**Pn**	**02 34 36.8**	**-1.3**
LAPC	**Finca la Perla**	**1.77**	**129**		*i* P		**Pn**	**02 34 37.1**	**-1.3**
BUEV	**Buena Vista**	**1.77**	**127**		*i* P		**Pn**	**02 34 37.3**	**-1.2**
MESS	**Mesas**	**1.97**	**125**		*i* P		**Pn**	**02 34 40.7**	**-0.3**
MESS					*i* S		**Sn**	**02 35 05.1**	**-0.5**
COLC	**Colonia**	**2.01**	**127**		*i* P		**Pn**	**02 34 41.1**	**-0.3**
BLLM	**Bellamira**	**2.07**	**319**		*e*P		**Pn**	**02 34 42.3**	**+0.1**
VSM	**San Miguel**	**2.08**	**318**		*e*P		**Pn**	**02 34 42.7**	**+0.1**
PTM	**Parque Tenorio**	**2.16**	**122**		*i* P		**Pn**	**02 34 42.8**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.20**	**349**		*e*Pn		**Pn**	**02 34 44.0**	**+0.1**
TGUH					*e*S		Sn	02 35 20.9	+10
CAHU	**Cacacuatique**	**2.31**	**325**		*e*P		**Pn**	**02 34 45.7**	**+0.2**
JTS	**JuntasAbangare**	**2.44**	**130**		*e*Pn		**Pn**	**02 34 46.2**	**-0.9**
JTS					*e*S		**Sn**	**02 35 12.6**	**-3.8**
JTS	**JuntasAbangare**	**2.44**	**130**		P		**Pn**	**02 34 46.5**	**-0.5**
	39nm,0.3s,baz=321,slow=14,SNR=136								
JTS					S		**Sn**	**02 35 14.4**	**-2.0**
	42nm,0.3s,baz=260,slow=21,SNR=6.9								
JCR	**Jicaral**	**2.64**	**140**		*e*P		**Pn**	**02 34 50.1**	**+0.4**
JCR					*e*S		**Sn**	**02 35 19.9**	**-1.3**
LFRS	**El Faro**	**2.77**	**309**		*e*P		**Pn**	**02 34 52.0**	**+0.4**
LFRS					*e*S		**Sn**	**02 35 22.5**	**-2.0**
LFU	**La Fuente**	**2.89**	**310**		*e*P		**Pn**	**02 34 53.7**	**+0.6**
SNET	**Serv Nac Est T**	**2.94**	**308**		*e*P		**Pn**	**02 34 53.3**	**-0.5**
BOQS	**Boqueron**	**3.01**	**308**		*e*P		**Pn**	**02 34 55.6**	**+0.8**
SBLS	**San Blas**	**3.34**	**306**		*e*P		**Pn**	**02 35 00.3**	**+1.0**
SJS	**Escuela Geolog**	**3.35**	**125**		*e*P		**Pn**	**02 35 00.7**	**+1.4**
RTR	**El Retiro**	**3.39**	**307**		*e*P		**Pn**	**02 35 01.3**	**+1.4**
RTR					*e*S		**Sn**	**02 35 37.6**	**-1.8**
RBDL	**Robledal**	**3.55**	**309**		*e*P		**Pn**	**02 35 02.6**	**+0.6**
QCR	**Quepos**	**3.59**	**133**	⇑	*e*P		**Pn**	**02 35 03.6**	**+1.2**
QCR					*e*S		**Sn**	**02 35 43.3**	**-0.6**
BUS	**Buena Vista**	**3.81**	**127**	⇑	*e*P		**Pn**	**02 35 06.4**	**+0.6**
BUS					*e*S		**Sn**	**02 35 50.0**	**+0.1**
ACR	**Cerro Adams**	**4.83**	**131**	⇓	*e*P		**Pn**	**02 35 20.7**	**+1.4**
ACR					*e*S		**Sn**	**02 36 13.0**	**-1.1**
BCIP	**Isla Barro Col**	**7.39**	**111**		*e*Pn		**Pn**	**02 35 54.1**	**+0.1**
TEIG	**Tepich**	**8.41**	**351**		*e*Pn		**Pn**	**02 36 10.2**	**+2.3**
	10nm,0.8s								
TEIG	**Tepich**	**8.41**	**351**		P		**Pn**	**02 36 09.6**	**+1.7**
	0.4nm,0.3s,baz=155,slow=17,SNR=4.1								
TEIG					LR		LR	02 39 50.0	
	comp=Z,52nm,21.3s,baz=318,slow=41								
ROSC	**El Rosal**	**14.20**	**118**		LR		LR	02 44 13.9	
	comp=Z,61nm,19.0s,baz=185,slow=43								

SDV	**Santo Domingo**	**16.22**	**99**		Pn		**Pn**	**02 37 51.3**	**+0.2**
	54nm,1.8s								
ATAH	**Atahualpa**	**20.68**	**156**		P		Pn	02 38 47.8	+3.0
	9.9nm,0.7s,baz=15,slow=7.9,SNR=6.8								
GOGA	**Godfrey**	**21.65**	**8**		*e*P		**P**	**02 38 54.0**	**+2.8**
	13nm,0.6s								
JSC	**Jenkinsville**	**22.87**	**12**		*e*P		**P**	**02 39 05.7**	**+1.8**
TXAR	**Lajitas Array**	**23.39**	**320**		P		**P**	**02 39 10.2**	**+1.1**
	4.9nm,0.7s,baz=139,slow=10.0,SNR=40								
TXAR					pP		**pP**	**02 39 30.6**	**+1.4**
	1.9nm,0.6s,baz=128,slow=9.0,SNR=4.6								
TXAR					PcP		**PcP**	**02 42 53.1**	**+0.3**
	0.3nm,0.6s,baz=151,slow=4.1,SNR=3.4								
CPCT	**Cooper Cave**	**23.56**	**5**		*e*P		**P**	**02 39 12.5**	**+2.1**
KMSC	**Kings Mountain**	**23.69**	**11**		*e*P		**P**	**02 39 12.7**	**+1.2**
	11nm,0.7s								
TKL	**Tuckaleechee C**	**23.83**	**6**		*e*P		**P**	**02 39 13.8**	**+1.0**
TKL	**Tuckaleechee C**	**23.83**	**6**		P		**P**	**02 39 12.6**	**-0.3**
	3.8nm,0.5s,baz=168,slow=2.9,SNR=6.9								
H06E1	**SOCORRO T-PHAS**	**24.20**	**289**		T		T	03 04 21.4	
	SNR=21								
MSTX	**Muleshoe**	**26.36**	**329**		*e*P		**P**	**02 39 37.3**	**+1.4**
	6.0nm,0.9s								
MSTX					*e*pP		**pP**	**02 39 58.1**	**+0.4**
SAML	**Samuel**	**31.33**	**130**		*e*P		**P**	**02 40 19.3**	**-0.7**
	1.0nm,0.8s								
PTN	**Potsdam (NY)**	**34.13**	**15**		*e*P		**P**	**02 40 44.7**	**+0.6**
	28nm,0.7s								
PDAR	**Pinedale Array**	**36.55**	**331**		P		**P**	**02 41 05.5**	**+0.2**
	0.3nm,0.5s,baz=129,slow=8.5,SNR=4.5								
PDAR					pP		**pP**	**02 41 26.6**	**-1.2**
	1.0nm,0.8s,baz=124,slow=10,SNR=6.7								
PDAR					PcP		**PcP**	**02 43 26.4**	**-0.4**
	0.2nm,0.5s,baz=147,slow=4.1,SNR=3.9								
REDW	**Red Top Meadow**	**37.62**	**331**		*e*P		**P**	**02 41 15.6**	**+1.3**
	5.7nm,0.7s								
SIV	**San Ignacio**	**37.64**	**137**		P		**P**	**02 41 15.2**	**+0.7**
	8.9nm,0.6s,baz=315,slow=8.7,SNR=30								
NVAR	**Mina Array Bea**	**38.52**	**319**		pP		**pP**	**02 41 46.0**	**+1.3**
	0.9nm,0.7s,baz=129,slow=6.4,SNR=6.5								
NVAR					PcP		**PcP**	**02 43 34.1**	**+1.2**
	1.0nm,0.6s,baz=139,slow=3.6,SNR=9.3								
NVAR					LR		LR	02 59 46.2	
	comp=Z,65nm,18.6s,baz=37,slow=40								
ULM	**Lac du Bonnet**	**38.97**	**351**		P		**P**	**02 41 23.2**	**-2.0**
	2.8nm,0.5s,baz=174,slow=8.0,SNR=7.8								
SCHQ	**Schefferville**	**45.65**	**16**		P		**P**	**02 42 18.0**	**-1.3**
	5.0nm,0.4s,baz=213,slow=5.9,SNR=43								
BDFB	**Brasilia**	**47.17**	**125**		LR		LR	03 03 19.2	
	comp=Z,27nm,18.7s,baz=322,slow=37								
YKA	**Yellowknife Ar**	**54.31**	**345**		P		**P**	**02 43 23.8**	**-0.8**
	0.3nm,0.6s,baz=144,slow=6.9,SNR=9.5								
PLCA	**Paso Flores**	**54.48**	**165**		P		**P**	**02 43 28.6**	**+2.4**
	3.4nm,0.8s,baz=353,slow=9.0,SNR=6.4								
PLCA					PcP		**PcP**	**02 44 30.1**	**+1.5**
	2.3nm,0.7s,baz=353,slow=8.1,SNR=4.8								
ILAR	**Eielson Array**	**66.78**	**336**		P		**P**	**02 44 48.2**	**-1.2**
	0.3nm,0.8s,baz=142,slow=4.9,SNR=10.0								
ILAR					pP		**pP**	**02 45 12.2**	**-2.0**
	0.6nm,1.1s,baz=124,slow=2.7,SNR=2.5								
ESDC	**Sonseca Array**	**77.07**	**52**		P		**P**	**02 45 50.2**	**-1.3**
	0.8nm,0.6s,baz=279,slow=5.6,SNR=4.4								
BJI	**Beijing**	**124.09**	**339**		PKP		**PKPdf**	**02 52 55.5**	**-0.6**
BJI					SS		SS	03 11 24.5	+2.0
BJI					LR		LR		
	comp=N,360nm,15.6s								
BJI					LR		LR		
	comp=E,310nm,15.1s								
BJI					LR		LR		
	comp=Z,61nm,16.1s								
WMQ	**Urumqi**	**124.34**	**5**		PKP		**PKPdf**	**02 52 56.0**	**-0.6**
WMQ					LR		LR		
	comp=N,12nm,18.0s								
WMQ					LR		LR		
	comp=E,13nm,18.2s								
WMQ					LR		LR		
	comp=Z,17nm,18.4s								
HHC	**Hu-ho-hao-te**	**124.84**	**343**		*e*PKP		**PKPdf**	**02 52 56.5**	**-1.2**
HHC					PP		**PP**	**02 54 50.5**	**+5.1**
HHC					SKS		**SKSdf**	**02 59 55.0**	**-5.9**
HHC					SKKS		**SKKSac**	**03 01 32.0**	**-3.8**
HHC					SS		**SS**	**03 11 33.3**	**+1.4**
HHC					LR		LR		
	comp=N,420nm,18.7s								
HHC					LR		LR		
	comp=E,910nm,21.1s								
HHC					LR		LR		
	comp=Z,140nm,18.2s								
GTA	**Gaotai**	**128.60**	**353**		*e*PKP		**PKPdf**	**02 53 08.0**	**+3.1**
GTA					sPKP			02 53 45.0	
LZH	**Lanzhou**	**131.24**	**348**		*e*PKP		**PKPdf**	**02 53 09.5**	**-0.6**
LZH					sPKP			02 53 45.0	
STKA	**Stephens Creek**	**131.30**	**238**		PKP		**PKPdf**	**02 53 12.1**	**+2.0**
	1.4nm,0.5s,baz=146,slow=3.5,SNR=4.3								
ASAR	**Alice Springs**	**139.61**	**247**		PKhKP		PKPpre	02 53 17.7	
	0.7nm,0.8s,baz=108,slow=1.9,SNR=3.3								
ASAR					PKP		**PKiKP**	**02 53 27.1**	**-1.0**
	1.3nm,0.6s,baz=108,slow=1.8,SNR=6.7								
WRA	**Warramunga Arr**	**139.68**	**253**		PKhKP		PKPpre	02 53 20.1	
	0.5nm,0.5s,baz=89,slow=3.2,SNR=3.0								
WRA					PKP		**PKiKP**	**02 53 27.6**	**-0.8**
	1.7nm,0.6s,baz=91,slow=2.0,SNR=14								
KMI	**Kunming**	**142.05**	**346**		PKP		**PKPdf**	**02 53 27.3**	**-3.1**

*IDC **28** 02:36:09.8±1.3, 34°.89N×25°.29E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/26, mbtmp3.9/6, ML3.1/2, Error ellipse: s-maj=22.4km s-min=10.8km az=43.0*

*CSEM **28** 02:36:10.5±0.4, 34°.86N×25°.35E, h2km, ML3.2, Error ellipse: s-maj=9.4km s-min=3.5km az=175.0*

*ISCJB **28** 02:36:10.3±0.7, 34°.89N±0°.04×25°.34E±0°.02, h10km±3km, mb3.7/5, Error ellipse: s-maj=7.4km s-min=3.1km az=173.8*

*THE **28** 02:36:10.6, 34°.96N×25°.29E, h0km±1km, ML3.4/1, Error ellipse: s-maj=2.7km s-min=0.8km az=172.0*

*ISK **28** 02:36:12.1, 35°.09N×25°.38E, h19km, ML3.7*

*ATH **28** 02:36:12.0, 35°.03N×25°.26E, h16km, ML3.2*

ISC 28 02:36:11.9±1.0, 34°.97N±0°.04×25°.31E±0°.02, h12km±6km, n131, σ1§43/152, mb4.0/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.24**	**36**		P		**Pg**	**02 36 15.9**	**-1.1**
LAST					S		**Sg**	**02 36 20.9**	**+0.4**
LAST	**Lasithi**	**0.24**	**36**		*e*PB		**Pg**	**02 36 16.6**	**-0.4**
LAST					*e*SB		**Sg**	**02 36 21.2**	**+0.7**
LAST	**Lasithi**	**0.24**	**36**		P		**Pg**	**02 36 15.9**	**-1.1**
LAST	**Lasithi**	**0.24**	**36**		*e*Pb		**Pg**	**02 36 16.6**	**-0.4**
LAST					S		**Sg**	**02 36 20.9**	**+0.4**
LAST					*e*Sb		**Sg**	**02 36 21.2**	**+0.7**
NPS	**Neapolis**	**0.39**	**40**		P		**Pg**	**02 36 18.9**	**-0.7**
NPS					S		**Sb**	**02 36 25.9**	**-0.9**
NPS	**Neapolis**	**0.39**	**40**		*e*PB		**Pg**	**02 36 19.0**	**-0.7**
NPS					*e*SB		**Sg**	**02 36 25.2**	**+0.4**
NPS	**Neapolis**	**0.39**	**40**		*e*Pb		**Pg**	**02 36 19.0**	**-0.7**
NPS					*e*Sb		**Sg**	**02 36 25.2**	**+0.4**
SIVA	**Sivas**	**0.41**	**277**		P		**Pg**	**02 36 18.6**	**-1.5**
SIVA					S		**Sg**	**02 36 25.6**	**-0.1**
SIVA	**Sivas**	**0.41**	**277**		*e*PB		**Pg**	**02 36 19.0**	**-1.1**
SIVA					*e*SB		**Sg**	**02 36 25.5**	**-0.1**
SIVA	**Sivas**	**0.41**	**277**		P		**Pg**	**02 36 18.6**	**-1.5**
SIVA	**Sivas**	**0.41**	**277**		*e*Pb		**Pg**	**02 36 19.0**	**-1.1**
SIVA					*e*Sb		**Sg**	**02 36 25.5**	**-0.1**
IDI	**Anoyia**	**0.47**	**313**		Pg		**Pg**	**02 36 19.6**	**-1.6**
	92nm,0.3s,baz=171,slow=8.5,SNR=669								
IDI					Lg		Lg	02 36 26.7	
	baz=189,slow=19								
ZKR	**Zakros**	**0.76**	**78**		P		**Pg**	**02 36 25.3**	**-1.3**
ZKR					S		**Sb**	**02 36 37.9**	**+0.4**
ZKR	**Zakros**	**0.76**	**78**		PG		**Pg**	**02 36 25.5**	**-1.1**
ZKR					SG		**Sg**	**02 36 36.4**	**-0.2**
ZKR	**Zakros**	**0.76**	**78**		P		**Pg**	**02 36 25.3**	**-1.3**
ZKR					*i* Sg		**Sg**	**02 36 36.4**	**-0.2**
ZKR					S		**Sb**	**02 36 37.9**	**+0.4**
VAM	**Vamos**	**1.01**	**296**		P		**Pg**	**02 36 29.3**	**-2.1**
VAM					S		**Sg**	**02 36 44.5**	**0.0**
VAM	**Vamos**	**1.01**	**296**		*e*PB		**Pg**	**02 36 29.6**	**-1.8**
VAM					*e*SN		**Sg**	**02 36 43.7**	**-0.8**
VAM	**Vamos**	**1.01**	**296**		P		**Pg**	**02 36 29.3**	**-2.1**
VAM	**Vamos**	**1.01**	**296**		*e*Pb		**Pg**	**02 36 29.6**	**-1.8**
VAM					S		**Sg**	**02 36 44.5**	**0.0**
GVD	**Gavdhos**	**1.01**	**263**		P		**Pg**	**02 36 30.0**	**-1.4**
GVD	**Gavdhos**	**1.01**	**263**		P		**Pg**	**02 36 30.0**	**-1.4**

SANT	**Santorini**	**1.41**	**5**		P		**Pn**	**02 36 36.4**	**-1.1**
SANT	**Santorini**	**1.41**	**5**		*e*PN		**Pn**	**02 36 36.5**	**-1.1**
SANT					*e*SN		**Sn**	**02 36 51.9**	**-4.2**
SANT	**Santorini**	**1.41**	**5**		*e*PN		**Pn**	**02 36 36.9**	**-0.6**
SANT					*e*SN		**Sn**	**02 36 55.3**	**-0.7**
SANT	**Santorini**	**1.41**	**5**		P		**Pn**	**02 36 36.4**	**-1.1**
SANT	**Santorini**	**1.41**	**5**		*e*Pn		**Pn**	**02 36 36.9**	**-0.6**
KARP	**Karpathos**	**1.62**	**69**		P		**Pn**	**02 36 41.1**	**+0.6**
KARP					S		**Sn**	**02 37 01.8**	**+0.5**
KARP	**Karpathos**	**1.62**	**69**		*e*PN		**Pb**	**02 36 41.8**	**-0.1**
KARP	**Karpathos**	**1.62**	**69**		P		**Pn**	**02 36 41.1**	**+0.6**
KARP	**Karpathos**	**1.62**	**69**		*e*Pn		**Pb**	**02 36 41.8**	**-0.1**
KARP					S		**Sn**	**02 37 01.8**	**+0.5**
ANKY	**Antikythira Is**	**1.87**	**299**		*e*PN		**Pn**	**02 36 44.9**	**+1.1**
ANKY	**Antikythira Is**	**1.87**	**299**		*e*Pn		**Pn**	**02 36 44.9**	**+1.1**
APE	**Apeiranthos**	**2.11**	**5**		*e*PN		**Pn**	**02 36 45.4**	**-1.7**
APE	**Apeiranthos**	**2.11**	**5**		*e*PN		**Pn**	**02 36 48.2**	**+1.1**
APE	**Apeiranthos**	**2.11**	**5**		*e*Pn		**Pn**	**02 36 48.2**	**+1.1**
KYTH	**Kithira**	**2.27**	**306**		*e*PN		**Pn**	**02 36 50.0**	**+0.7**
KYTH	**Kithira**	**2.27**	**306**		*e*Pn		**Pn**	**02 36 50.0**	**+0.7**
VLI	**Veliai**	**2.60**	**313**		*e*PN		**Pn**	**02 36 54.5**	**+0.6**
VLI	**Veliai**	**2.60**	**313**		*e*Pn		**Pn**	**02 36 54.5**	**+0.6**
ARG	**Arkhangelos**	**2.61**	**61**		*e*PN		**Pn**	**02 36 55.8**	**+1.8**
ARG	**Arkhangelos**	**2.61**	**61**		*e*Pn		**Pn**	**02 36 55.8**	**+1.8**
DID	**Didima**	**3.04**	**327**		*e*PB		**Pn**	**02 37 01.5**	**+1.6**
NAIG	**Nisos Aigina**	**3.15**	**333**		*e*PN		**Pn**	**02 37 02.8**	**+1.4**
NAIG	**Nisos Aigina**	**3.15**	**333**		*e*Pn		**Pn**	**02 37 02.8**	**+1.4**
YER	**Yerkesik**	**3.24**	**47**		*e*PN		**Pn**	**02 37 02.2**	**-0.5**
YER	**Yerkesik**	**3.24**	**47**		*e*Pn		**Pn**	**02 37 02.2**	**-0.5**
ATH	**Athens Observa**	**3.26**	**337**		*e*PN		**Pn**	**02 37 04.2**	**+1.3**
ATH	**Athens Observa**	**3.26**	**337**		*e*Pn		**Pn**	**02 37 04.2**	**+1.3**
DALY	**Dalyan (Mu˘la**	**3.29**	**55**		*e*PN		**Pn**	**02 37 02.0**	**-1.2**
DALY	**Zeytinkoy-Aydi**	**3.29**	**55**		*e*PN		**Pn**	**02 37 02.0**	**-1.2**
PTL	**Penteli**	**3.29**	**340**		*e*PN		**Pn**	**02 37 04.4**	**+1.0**
PTL	**Penteli**	**3.29**	**340**		*e*Pn		**Pn**	**02 37 04.4**	**+1.0**
CHOS	**Chios island**	**3.47**	**10**		*e*PN		**Pn**	**02 37 05.0**	**-0.9**
CHOS	**Chios island**	**3.47**	**10**		*e*PN		**Pn**	**02 37 07.8**	**+2.0**
CHOS	**Chios island**	**3.47**	**10**		*e*Pn		**Pn**	**02 37 07.8**	**+2.0**
ITM	**Ithomi**	**3.52**	**310**		*e*PN		**Pn**	**02 37 08.2**	**+1.7**
ITM	**Ithomi**	**3.52**	**310**		*e*Pn		**Pn**	**02 37 08.2**	**+1.7**
LTK	**Loutraki**	**3.59**	**329**		*e*PN		**Pn**	**02 37 09.1**	**+1.7**
LTK	**Loutraki**	**3.59**	**329**		*e*Pn		**Pn**	**02 37 09.1**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**3.63**	**34**		*e*PN		**Pn**	**02 37 07.2**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**3.63**	**34**		*e*Pn		**Pn**	**02 37 07.2**	**-0.9**
BLCB	**Balcova**	**3.69**	**22**		*e*PN		**Pn**	**02 37 08.4**	**-0.3**
BLCB	**Balcova**	**3.69**	**22**		*e*Pn		**Pn**	**02 37

TSUM	**Tsumeb**	**35.03**	**66**	P	**P**	**03 11 33.7**	**-0.8**		
TSUM	**Tsumeb**	**35.03**	**66**	P	**P**	**03 11 33.7**	**-0.8**		
	2.4nm,0.8s,baz=225,slow=4.3,SNR=3.4								
BOSA	**Boshof**	**35.64**	**86**	LR	LR	03 23 41.9			
	comp=Z,492nm,18.3s,baz=241,slow=32								
TRQA	**Tornquist**	**35.66**	**256**	*e*P	**P**	**03 11 40.5**	**+0.7**		
	4.9nm,0.9s								
BDFB	**Brasilia**	**36.14**	**300**	P	**P**	**03 11 44.0**	**-0.2**		
BDFB	**Brasilia**	**36.14**	**300**	P	**P**	**03 11 44.0**	**-0.2**		
	4.9nm,1.0s,baz=119,slow=8.1,SNR=4.3								
BDFB				LR	LR	03 24 09.2			
	comp=Z,271nm,21.2s,baz=153,slow=32								
CPUP	**Villa Florida**	**36.55**	**277**	LR	LR	03 24 29.9			
	comp=Z,628nm,20.7s,baz=120,slow=33								
PLCA	**Paso Flores**	**41.36**	**249**	LR	LR	03 26 33.6			
	comp=Z,585nm,21.1s,baz=100,slow=32								
SYO	**Syowa Base**	**42.38**	**154**↓	*e*P	**P**	**03 12 34.0**	**-1.5**		
SYO	**Syowa Base**	**42.38**	**154**↓	*e*P	**P**	**03 12 38.0**	**+2.5**		
CFAA	**Coronel Fontan**	**42.70**	**263**	P	**P**	**03 12 39.2**	**+0.5**		
CFAA	**Coronel Fontan**	**42.70**	**263**	P	**P**	**03 12 39.2**	**+0.5**		
	0.2nm,0.4s,baz=130,slow=13,SNR=4.6								
LSZ	**Lusaka**	**45.29**	**72**	*e*P	**P**	**03 12 59.1**	**-0.7**		
	1.5nm,0.6s								
LSZ	**Lusaka**	**45.29**	**72**	P	**P**	**03 12 59.9**	**+0.2**		
	0.5nm,0.4s,baz=204,slow=10.0,SNR=3.0								
LPAZ	**La Paz**	**50.46**	**281**	LR	LR	03 34 58.4			
	comp=Z,157nm,19.6s,baz=102,slow=36								
MAW	**Mawson**	**50.85**	**151**	LR	LR	03 30 48.1			
	comp=Z,158nm,20.8s,baz=272,slow=31								
SAML	**Samuel**	**51.42**	**292**	*e*P	**P**	**03 13 45.1**	**-1.7**		
	14nm,1.6s								
QSPA	**South Pole Qui**	**51.64**	**180**	*e*P	**P**	**03 13 46.3**	**-1.8**		
	7.0nm,0.9s								
QSPA	**South Pole Qui**	**51.64**	**180**	P	**P**	**03 13 46.9**	**-1.1**		
	3.4nm,0.7s,baz=210,slow=3.8,SNR=7.4								
TORD	**Torodi Ar. Bea**	**54.13**	**22**	P	**P**	**03 14 06.7**	**-0.1**		
TORD	**Torodi Ar. Bea**	**54.13**	**22**	P	**P**	**03 14 06.7**	**-0.1**		
	1.1nm,0.9s,baz=208,slow=4.9,SNR=4.6								
TORD				LR	LR	03 32 13.7			
	comp=Z,214nm,21.1s,baz=180,slow=31								
KMBO	**Kilima Mbogo**	**61.38**	**66**	LR	LR	03 39 30.6			
	comp=Z,569nm,18.4s,baz=256,slow=34								
VNDA	**Vanda**	**64.13**	**180**	LR	LR	03 39 05.2			
	comp=Z,155nm,21.8s,baz=174,slow=32								
ROSC	**El Rosal**	**68.94**	**295**	LR	LR	03 45 06.7			
	comp=Z,497nm,18.6s,baz=162,slow=35								
KEST	**Kesra**	**77.65**	**21**	LR	LR	03 47 41.7			
	comp=Z,86nm,19.6s,baz=172,slow=33								
ESDC	**Sonseca Array**	**78.71**	**10**	P	**P**	**03 16 41.9**	**-1.9**		
ESDC	**Sonseca Array**	**78.71**	**10**	P	**P**	**03 16 41.9**	**-1.9**		
	1.0nm,0.9s,baz=190,slow=4.6,SNR=3.1								
ESDC				LR	LR	03 47 46.9			
	comp=Z,19nm,20.8s,baz=200,slow=35								
GERES	**GERESS Array B**	**91.02**	**19**	LR	LR	03 54 56.5			
	comp=Z,127nm,21.1s,baz=237,slow=33								
H01W2	**Cape Leeuwin H**	**93.57**	**141**	T	T	05 02 29.7			
	baz=218,slow=75,SNR=7.6								
H01W3	**Cape Leeuwin H**	**93.59**	**141**	T	T	05 02 29.7			
	baz=218,slow=75,SNR=8.2								
H01W1	**Cape Leeuwin H**	**93.59**	**141**	T	T	05 02 32.1			
	baz=218,slow=75,SNR=8.7								
TBI	**Tubuai**	**104.41**	**224**	*e*LR	LR	03 53 15.2			
	160nm,32.8s								
PPT2	**Papeete2**	**109.08**	**227**	*e*LR	LR	03 55 25.5			
	167nm,25.0s								
YKA	**Yellowknife Ar**	**127.16**	**325**	PKP	**PKPdf**	**03 23 45.8**	**+0.8**		
YKA	**Yellowknife Ar**	**127.16**	**325**	PKP	**PKPdf**	**03 23 45.8**	**+0.8**		
	0.6nm,1.0s,baz=99,slow=2.3,SNR=6.2								
ILAR	**Eielson Array**	**141.32**	**329**	PKPpre	PKPpre	03 24 05.4			
ILAR				PKP	**PKPdf**	**03 24 12.6**	**+1.1**		
ILAR	**Eielson Array**	**141.32**	**329**	PKhKP	PKPpre	03 24 05.4			
	0.6nm,1.0s,baz=90,slow=3.6,SNR=4.0								
ILAR				PKP	**PKPdf**	**03 24 12.6**	**+1.1**		
	2.0nm,1.0s,baz=70,slow=2.3,SNR=12								
BILL	**Bilibino**	**150.50**	**358**	*e*PKPbc	**PKPbc**	**03 24 33.7**	**+1.4**		
BILL				*e*PKPab	**PKPab**	**03 24 40.3**	**+1.4**		

IDC ***28*** *03:09:07.4±2.6,9.°17S×110.°42E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/37, mbtmp3.8/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=128.3km s-min=20.1km az=49.0*

ISCJB ***28*** *03:09:13.1±0.9,9.°33S±0.°09×110.°54E±0.°06, h55km, mb3.7/6, MS3.6/2, Error ellipse: s-maj=14.3km s-min=7.3km az=21.5*

DJA ***28*** *03:09:21.4±0.8,8.°S±13.°×11.°1E±.°, h98km±16km, M3.6/6, MLv3.6/6*

ISC 28 03:09:15.1±1.2,9.°2S±0.°1×110.°59E±0.°07, h55km, n26, σ1§00/15, mb3.7/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.16**	**30**	P	**Pn**	**03 09 34.6**	**-0.5**
UGM	**Wanagama**	**1.29**	**357**	P	**Pn**	**03 09 37.5**	**+0.6**
PWJI	**Pagerwojo**	**1.68**	**46**	P	**Pn**	**03 09 42.0**	**-0.2**
NGJI	**Ngawi**	**2.02**	**25**	P	Pn	03 09 50.7	+3.9
BJII	**Banjamegara**	**2.06**	**335**	P	x	03 09 48.4	
KRKI	**Karangkates**	**2.12**	**61**	P	x	03 09 47.5	
CLJI	**Cilicap**	**2.15**	**313**	P	x	03 09 48.1	
SMRI	**Semarang**	**2.15**	**356**	P	**Pn**	**03 09 50.2**	**+1.6**
KPJI	**Karang Pucung**	**2.49**	**318**	P	**Pn**	**03 09 55.0**	**+1.9**
CMJI	**Cimerak**	**2.55**	**304**	P	**Pn**	**03 09 53.4**	**-0.6**
TBJI	**Tambak Boyo**	**2.68**	**28**	P	Pn	03 09 50.3	-5.5
UWJI	**Ujung Watu**	**2.79**	**7**	P	Pn	03 09 48.6	-8.8
GRJI	**Gresik**	**2.95**	**39**	P	Pn	03 09 52.1	-7.4
GMJI	**Gumukmas**	**2.97**	**72**	P	**Pn**	**03 10 00.1**	**+0.3**
BLJI	**Banyuglugur**	**3.31**	**64**	P	Pn	03 09 56.3	-8.1
JAGI	**Jajag, Banyuwa**	**3.59**	**78**	P	**Pn**	**03 10 09.4**	**+1.1**
BYJI	**Banyuwangi**	**3.85**	**9**	P	x	03 10 13.1	
ABJI	**Asem Bagus**	**3.87**	**69**	P	**Pn**	**03 10 12.9**	**+0.8**
WRA	**Warramunga Arr**	**25.30**	**118**	P	**P**	**03 14 37.5**	**+0.8**
	1.2nm,0.9s,baz=290,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**26.52**	**126**	P	**P**	**03 14 48.3**	**+0.6**
	0.4nm,0.6s,baz=304,slow=9.9,SNR=2.9						
MJAR	**Matsushiro Arr**	**52.39**	**28**	LR	LR	03 38 37.2	
	comp=Z,47nm,21.8s,baz=120,slow=34						
SONM	**Songino Array**	**56.91**	**357**	P	**P**	**03 18 54.1**	**-0.5**
	0.5nm,0.6s,baz=178,slow=8.1,SNR=6.2						
MKAR	**Makanchi Array**	**61.20**	**338**	P	**P**	**03 19 23.4**	**-0.7**
	0.7nm,0.4s,baz=156,slow=7.5,SNR=9.2						
KURBB	**Kurchatov Arra**	**65.77**	**338**	P	**P**	**03 19 53.7**	**-0.5**
	0.2nm,0.3s,baz=152,slow=6.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**66.59**	**344**	P	**P**	**03 19 58.4**	**-1.1**
	1.2nm,0.3s,baz=162,slow=6.0,SNR=10.0						
PPT	**Papeete**	**96.50**	**109**	LR	LR	04 07 14.5	
	comp=Z,24nm,19.8s,baz=136,slow=36						

WEL 28 03:14:52.5±0.5,37.°91S×176.°30E, h157km±4km, ML3.9/15, 15C-5D, Error ellipse: s-maj=3.5km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.36**	**153**	PN	Pn	03 15 15.0	+0.8
PRRZ	**Plateau Road**	**0.59**	**173**	⇑PN	Pn	03 15 15.7	+0.6
URZ	**Urewera**	**0.73**	**119**	⇑PN	Pn	03 15 15.8	-0.1
URZ				SN	Sn	03 15 33.8	0.0
URZ				AML	AML	03 15 34.8	
MWZ	**Matawai**	**1.06**	**114**	PN	Pn	03 15 18.5	0.0
MWZ				SN	Sn	03 15 37.7	-0.6
MWZ				AML	AML	03 15 39.3	
MWZ				AML	AML	03 15 41.0	
MWZ				AML	AML	03 15 41.1	
KATZ	**Kakaramea**	**1.16**	**204**	PN	Pn	03 15 19.8	+0.3
RAHZ	**Arahi**	**1.18**	**149**	PN	Pn	03 15 19.9	+0.4
HAZ	**Te Kaha**	**1.19**	**83**	PN	Pn	03 15 19.0	-0.5
HAZ				SN	Sn	03 15 39.4	-0.8
SNGZ	**Shannon Statio**	**1.19**	**137**	⇑PN	Pn	03 15 20.0	+0.3
NMHZ	**Naumai**	**1.25**	**161**	⇑PN	Pn	03 15 20.8	+0.6
BKZ	**Black Stump Fm**	**1.26**	**173**	PN	Pn	03 15 20.0	-0.3
BKZ				SN	Sn	03 15 41.5	-0.2
KRVZ	**Karewarewa**	**1.29**	**203**	PN	Pn	03 15 20.7	0.0
TWVZ	**Taurewa**	**1.34**	**210**	PN	Pn	03 15 21.2	+0.1
OTVZ	**Oturere**	**1.34**	**201**	PN	Pn	03 15 21.5	+0.3
NGZ	**Ngauruhoe**	**1.37**	**203**	PN	Pn	03 15 21.9	+0.3
WHHZ	**Waihua**	**1.38**	**148**	PN	Pn	03 15 21.5	+0.2
RIGZ	**Rimuhau**	**1.40**	**125**	PN	Pn	03 15 21.7	+0.1
WPVZ	**Whakapapa**	**1.42**	**204**	PN	Pn	03 15 22.0	+0.1
TUVZ	**Tukino**	**1.44**	**200**	PN	Pn	03 15 22.2	0.0
WHVZ	**Whangaehu Hut**	**1.48**	**202**	PN	Pn	03 15 22.5	-0.1
DRZ	**Dome Shelter**	**1.48**	**203**	PN	Pn	03 15 22.7	0.0
WNVZ	**Wahianoa**	**1.52**	**201**	⇑PN	Pn	03 15 22.8	-0.2
KNZ	**Kokohu**	**1.55**	**136**	⇑PN	Pn	03 15 22.8	-0.2
MOVZ	**Moawhango**	**1.55**	**196**	⇑PN	Pn	03 15 22.6	-0.7
PUZ	**Puketiti**	**1.56**	**96**	PN	Pn	03 15 22.7	-0.5
PUZ				*e*SN	Sn	03 15 45.2	-1.6
PUZ				AML	AML	03 15 47.7	
MCHZ	**McNeill Hill**	**1.56**	**169**	⇑PN	Pn	03 15 23.5	+0.3
PKVZ	**Pokaka**	**1.56**	**208**	PN	Pn	03 15 23.2	-0.1
BHHZ	**Black Hill Sta**	**1.58**	**187**	⇑PN	Pn	03 15 23.0	-0.6
PRGZ	**Paritu Road**	**1.60**	**129**	PN	Pn	03 15 23.5	-0.2
MTVZ	**Mangateitei**	**1.61**	**203**	PN	Pn	03 15 23.6	-0.2
CNGZ	**Carnagh Statio**	**1.61**	**111**	⇓PN	Pn	03 15 24.2	+0.4
MXZ	**Matakaoa Point**	**1.63**	**78**	⇑PN	Pn	03 15 23.8	-0.2
MXZ				AML	AML	03 15 48.9	
MHGZ	**Mahia Peninsul**	**1.77**	**135**	⇑PN	Pn	03 15 25.4	-0.1
CKHZ	**Cape Kidnapper**	**1.85**	**161**	⇑PN	Pn	03 15 26.1	-0.2
KAHZ	**Kahuranaki**	**1.93**	**167**	⇑PN	Pn	03 15 26.9	-0.4
PNHZ	**Pukenui**	**2.00**	**182**	⇓PN	Pn	03 15 27.0	-1.1
WAZ	**Wanganui**	**2.11**	**209**	⇓PN	Pn	03 15 28.7	-0.6
WPHZ	**Waipukurau**	**2.15**	**177**	PN	Pn	03 15 28.6	-1.2
PXZ	**Pawanui**	**2.16**	**168**	⇑PN	Pn	03 15 28.9	-1.0
PXZ				AML	AML	03 15 59.6	
PXZ				AML	AML	03 15 59.6	
PXZ				AML	AML	03 16 00.6	
PRHZ	**Porangahau**	**2.37**	**174**	⇑PN	Pn	03 15 31.0	-1.3
POWZ	**Post Office Ro**	**2.51**	**189**	PN	Pn	03 15 32.2	-1.9
PRWZ	**Pori Road**	**2.65**	**185**	PN	Pn	03 15 34.1	-1.7
BFZ	**Birch Farm**	**2.77**	**181**	PN	Pn	03 15 35.0	-2.2
TIWZ	**Tintock**	**2.88**	**186**	PN	Pn	03 15 36.3	-2.3
CPWZ	**Castlepoint**	**2.99**	**181**	⇓PN	Pn	03 15 38.2	-1.8
OGWZ	**Otaki Gorge**	**3.03**	**196**	PN	Pn	03 15 37.9	-2.5
HOWZ	**Holdsworth Sta**	**3.04**	**191**	PN	Pn	03 15 37.7	-2.9
KIW	**Kapiti Island**	**3.13**	**200**	PN	Pn	03 15 38.9	-2.9
KIW				AML	AML	03 16 17.1	
KIW				AML	AML	03 16 18.9	
TMWZ	**Te Maipa**	**3.21**	**185**	PN	Pn	03 15 39.4	-3.4
MTW	**Mount Morrison**	**3.30**	**190**	PN	Pn	03 15 40.5	-3.4
MTW				AML	AML	03 16 19.8	
MTW				AML	AML	03 16 20.7	
CAW	**Cannon Point**	**3.33**	**196**	PN	Pn	03 15 41.1	-3.2
CAW				AML	AML	03 16 21.5	
CAW				AML	AML	03 16 22.3	
DUWZ	**D'Urville Isla**	**3.42**	**212**	PN	Pn	03 15 42.4	-3.1
TRWZ	**Traveller**	**3.51**	**187**	PN	Pn	03 15 43.2	-3.4
TRWZ				AML	AML	03 16 24.9	
PAWZ	**Paruwai Farm**	**3.53**	**191**	⇓PN	Pn	03 15 43.3	-3.5
PAWZ				AML	AML	03 16 24.8	
PAWZ				AML	AML	03 16 26.2	
MSWZ	**Moikau Station**	**3.59**	**193**	PN	Pn	03 15 44.0	-3.7
MSWZ				AML	AML	03 16 25.3	
MSWZ				AML	AML	03 16 27.0	
SNZO	**South Karori**	**3.61**	**199**	PN	Pn	03 15 44.2	-3.6
TCW	**Tory Channel**	**3.65**	**205**	PN	Pn	03 15 45.1	-3.3
TCW				AML	AML	03 16 29.6	
TCW				AML	AML	03 16 30.2	
BHW	**Baring Head**	**3.66**	**197**	PN	Pn	03 15 44.8	-3.7
BHW				AML	AML	03 16 28.6	
PLWZ	**Palliser**	**3.74**	**192**	PN	Pn	03 15 45.6	-3.9
TUWZ	**Tuamarina**	**3.96**	**207**	PN	Pn	03 15 48.7	-3.6
TUWZ				AML	AML	03 16 34.2	
TUWZ				AML	AML	03 16 36.1	
QRZ	**Quartz Range**	**4.12**	**224**	PN	Pn	03 15 50.1	-4.4
THZ	**Tophouse**	**4.65**	**213**	PN	Pn	03 15 57.3	-4.2
KHZ	**Kahutara**	**4.97**	**204**	PN	Pn	03 16 01.3	-4.3
LTZ	**Lake Taylor**	**5.75**	**211**	PN	Pn	03 16 10.2	-5.8
OXZ	**Oxford**	**6.30**	**210**	PN	Pn	03 16 16.6	-6.6
MQZ	**McQueen's Vall**	**6.41**	**204**	PN	Pn	03 16 18.1	-6.6
WVZ	**Waitaha Valley**	**6.67**	**218**	PN	Pn	03 16 22.6	-5.6
FOZ	**Fox Glacier**	**7.55**	**220**	PN	Pn	03 16 33.1	-6.7
ODZ	**Otahua Downs**	**8.29**	**209**	PN	Pn	03 16 43.6	-6.1
JCZ	**Jackson Bay**	**8.39**	**220**	PN	Pn	03 16 45.0	-6.1

TAP ***28*** *03:22:45.7,25.°43N×122.°35E, h264km, ML3.9, C*

ISCJB ***28*** *03:22:47.7±1.0,25.°4N±0.°1×122.°24E±0.°04, h243km±6km, Error ellipse: s-maj=16.6km s-min=5.6km az=175.7*

JMA ***28*** *03:22:48.0±0.4,25.°24N×122.°17E, h246km±4km, M3.8*

ISC 28 03:22:47.5±3.0,25.°4N±0.°1×122.°22E±0.°05, h245km±16km, n33, σ0§71/49, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**210**	*e*P	**Pn**	**03 23 19.9**	**+0.2**
	baz=219						
TWB1				*e*S	**S**	**03 23 46.3**	**+1.4**
	baz=219						
NWF	**Wu-fen Shan**	**0.50**	**233**	*i* P	**Pn**	**03 23 20.2**	**+0.2**
	baz=248						
TWY	**Chenhua**	**0.57**	**260**	*e*P	**Pn**	**03 23 20.1**	**0.0**
	baz=248						
EGS		**0.59**	**207**	*e*P	**Pn**	**03 23 19.9**	**-0.3**
	baz=207						
TWA	**Mucha**	**0.70**	**236**	*e*P	**Pn**	**03 23 20.6**	**0.0**
	baz=245						
TWA				*e*S	**S**	**03 23 46.6**	**+0.1**
	baz=245						
TWE	**Neicheng**	**0.82**	**218**	*e*P	**Pn**	**03 23 21.5**	**+0.4**
	baz=222						
TWE				*e*S	**S**	**03 23 47.6**	**+0.1**
	baz=222						
TWC	**Suao**	**0.83**	**204**	P	**Pn**	**03 23 21.4**	**+0.2**
	baz=204						
TWC				*e*S	**S**	**03 23 46.9**	**-0.7**
	baz=204						
ENA	**Nanau**	**1.04**	**205**	P	**Pn**	**03 23 23.0**	**+0.7**
	baz=203						
ENA				*e*S	**S**	**03 23 50.9**	**+1.2**
	baz=203						
NSK	**Sanguang**	**1.05**	**229**	P	**Pn**	**03 23 22.2**	**-0.3**
	baz=225						
NSK				S	**S**	**03 23 48.8**	**-1.0**
	baz=225						
YOJ	**Yonaguni jima**	**1.16**	**142**	P	**Pn**	**03 23 23.1**	**+0.1**
YOJ				*e*S	**S**	**03 23 51.0**	**+0.1**
NNS	**Nan Shan**	**1.21**	**220**	*e*P	**Pn**	**03 23 23.5**	**0.0**
	baz=223						
NSTT	**Nanjuang**	**1.33**	**236**	*e*P	**Pn**	**03 23 24.4**	**+0.2**
	baz=234						
NSTT				*e*S	**S**	**03 23 52.0**	**-0.9**
	baz=234						
TWD	**Chiawan**	**1.41**	**204**	*e*P	**Pn**	**03 23 23.9**	**-0.9**
	baz=215						
WHF	**Hehuan Shan**	**1.50**	**216**	⇑*i* P	**Pn**	**03 23 26.4**	**+0.5**
	baz=218						
WHF				*e*S	**S**	**03 23 56.1**	**0.0**
	baz=218						
NSY	**Sanyi**	**1.64**	**235**	*e*P	**Pn**	**03 23 27.3**	**+0.8**
	baz=241						
TWQ1	**Liyutan**	**1.67**	**232**	*e*P	**Pn**	**03 23 26.3**	**-0.4**
	baz=228						
IRIF	**Iriomote-Funau**	**1.72**	**127**	P	**Pn**	**03 23 27.1**	**0.0**
IRIF				*e*S	**S**	**03 23 58.8**	**+0.6**
SMLT	**Sun Moon Lake**	**1.91**	**219**	*e*P	**Pn**	**03 23 29.4**	**+0.4**
	baz=227						
TYC	**Yuchr**	**1.92**	**221**	P	**Pn**	**03 23 28.8**	**-0.1**
	baz=228						
TYC				*e*S	**S**	**03 24 01.5**	**+0.1**
	baz=228						
HATJ	**Hateruma jima**	**1.95**	**132**	P	**Pn**	**03 23 30.2**	**+1.1**
HATJ				*e*S	**S**	**03 24 01.1**	**-0.8**
JKRS	**Kuro-shima**	**1.98**	**125**	P	**Pn**	**03 23 30.1**	**+0.7**
JKRS				*e*S	**S**	**03 24 01.8**	**-0.6**
JIJ	**Ishigaki jima**	**2.01**	**120**	P	**Pn**	**03 23 30.0**	**+0.3**
JIJ				*e*S	**S**	**03 24 01.0**	**-1.9**
EHY	**Hungye**	**2.03**	**204**	*e*P	**Pn**	**03 23 31.0**	**+1.0**
	baz=204						
TWF1	**Yuli**	**2.18**	**203**	*e*P	**Pn**	**03 23 30.7**	**-0.7**
	baz=208						
YUS	**Yu-Shan**	**2.21**	**212**	*e*P	**Pn**	**03 23 32.4**	**+0.3**
	baz=223						
ALS	**Alishan**	**2.26**	**215**	*e*P	**Pn**	**03 23 33.0**	**+0.5**
	baz=223						
CHN5	**Tsauling**	**2.26**	**219**	⇑*i*P	**Pn**	**03 23 32.7**	**+0.5**
	baz=226						
CHN5				*e*S	**S**	**03 24 06.1**	**-1.3**
	baz=226						
JTJ	**Tarama**	**2.37**	**107**	P	**Pn**	**03 23 34.1**	**+1.0**
JTJ				*e*S	**S**	**03 24 08.4**	**-0.5**
ELDTW	**Lidau**	**2.44**	**207**	*e*P	**Pn**	**03 23 34.6**	**+0.6**
	baz=206						
WTP	**Ta-pu**	**2.58**	**215**	*e*P	**Pn**	**03 23 35.2**	**-0.2**
	baz=222						
JMJ	**Miyako jima 2**	**2.84**	**101**	*e*S	**S**	**03 24 16.6**	**-1.2**
JOGS	**Gusukube**	**2.95**	**101**	*e*S	**S**	**03 24 19.4**	**-0.5**
ECL	**Taimali**	**3.00**	**203**	*e*P	**Pn**	**03 23 40.4**	**+0.7**
	baz=205						

IDC ***28*** *03:37:44.6±1.2, 11.°62N×143.°50E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/42, mbtmp3.8/9, Error ellipse: s-maj=33.1km s-min=25.5km az=102.0*

ISCJB ***28*** *03:37:48.3±1.1, 11.°6N±0.°2×143.°4E±0.°2, h37km, mb3.8/9, Error ellipse: s-maj=32.1km s-min=21.5km az=5.8*

ISC 28 03:37:50.3±1.2, 11.°6N±0.°2×143.°5E±0.°2, h37km, n9, σ1§03/9, mb3.9/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.60**	**196**	P	**P**	**03 44 18.6**	**0.0**
	0.6nm,0.6s,baz=21,slow=9.4,SNR=3.1						
USRK	**Ussuriysk Arra**	**33.97**	**345**	P	**P**	**03 44 30.1**	**-0.2**
	2.0nm,0.6s,baz=134,slow=8.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**43.47**	**285**	P	**P**	**03 45 50.2**	**0.0**
	0.8nm,0.3s,baz=94,slow=7.3,SNR=2.8						
SONM	**Songino Array**	**47.61**	**327**	P	**P**	**03 46 24.2**	**+1.4**
	0.2nm,0.5s,baz=142,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**62.00**	**317**	P	**P**	**03 48 05.9**	**-1.0**
	0.5nm,0.8s,baz=96,slow=8.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**62.47**	**325**	P	**P**	**03 48 08.4**	**-1.4**
	0.5nm,0.6s,baz=95,slow=7.2,SNR=3.1						
BVAR	**Borovoye Array**	**70.66**	**322**	P	**P**	**03 49 01.9**	**-0.3**
	0.9nm,0.4s,baz=95,slow=8.0,SNR=6.8						
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**03 49 02.9**	**-0.8**
	1.2nm,0.8s,baz=251,slow=6.0,SNR=21						
YKA	**Yellowknife Ar**	**85.25**	**27**	P	**P**	**03 50 23.8**	**+0.9**
	0.4nm,0.8s,baz=290,slow=5.5,SNR=6.8						

FUNV 28 03:40:53.0, 8.°93N×71.°26W, h5km, MW3.5, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.75**	**148**	↓*i* P	Pg	03 41 06.7	-0.9
SOCV				*e*S	Sg	03 41 17.2	-0.1
QARV	**Quebrada Arrib**	**1.47**	**30**	*e*P	Pn	03 41 20.1	-0.2
QARV				*e*S	Sb	03 41 39.8	-0.1
CAPV	**Capacho**	**1.48**	**225**	*e*P	Pn	03 41 20.4	-0.3
CAPV				*e*S	Sb	03 41 40.9	+0.2
CURV	**Curarigua**	**1.68**	**50**	*e*P	Pn	03 41 22.4	-0.8
CURV				*e*S	Sn	03 41 43.9	-1.3
SANV	**Sanarito**	**1.80**	**71**	*e*P	Pn	03 41 25.1	+0.2
SANV				*e*S	Sn	03 41 47.7	-0.6
VIRV	**Villa del Rosa**	**1.93**	**324**	*e*P	Pn	03 41 25.5	-1.1
VIRV				*e*S	Sn	03 41 49.9	-1.4
DABV	**Dabajuro**	**2.08**	**17**	*e*P	Pn	03 41 27.6	-1.0
DABV				*e*S	Sn	03 41 53.2	-1.7
SIQV	**Siquisique**	**2.23**	**40**	*e*P	Pn	03 41 30.5	-0.3
SIQV				*e*S	Sn	03 41 57.8	-1.0
TEPV	**Terepaima**	**2.29**	**63**	*e*P	Pn	03 41 31.7	+0.2
ELOV	**Elorza**	**2.60**	**137**	*e*P	Pn	03 41 35.2	-0.6
MAPV	**Macapo**	**2.91**	**72**	*e*P	Pn	03 41 39.3	-0.8
BAUV	**El Baul**	**3.18**	**89**	*e*P	Pn	03 41 42.5	-1.3
MONV	**Montecano**	**3.27**	**23**	*e*P	Pn	03 41 44.0	-1.0
TURV	**Turiamo**	**3.70**	**66**	*e*P	Pn	03 41 49.5	-1.4
CUPV	**Cœpira**	**5.51**	**78**	*e*P	Pn	03 42 14.2	-1.8

BJI ***28*** *04:01:14.7, 10.°53S×108.°73E, h40km, mB5.2/38, mb5.0/53, Ms5.0/42, Ms7 4.7/41*

IDC ***28*** *04:01:16.7±0.6, 9.°57S×109.°01E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.5/35, mbtmp4.5/19, ML4.4/2, MS4.0/8, Ms1 4.0/8, ms1mx3.7/26, Error ellipse: s-maj=27.2km s-min=12.7km az=52.0*

ISCJB ***28*** *04:01:18.0±0.9, 9.°94S±0.°03×108.°69E±0.°03, h32km±6km, mb4.8/75, MS4.3/16, Error ellipse: s-maj=5.8km s-min=4.3km az=24.6*

NEIC ***28*** *04:01:18.2±3.2, 9.°83S×108.°79E, h16km±18km, mb5.0/25, Error ellipse: s-maj=11.1km s-min=5.4km az=223.0*

MOS ***28*** *04:01:19.7±1.0, 9.°57S×108.°98E, h33km, mb5.0/24, Error ellipse: s-maj=18.8km s-min=7.0km az=116.7*

DJA ***28*** *04:01:21.8±0.4, 10.°S±4.°×10.°9E±.°, h10km, M4.9/35, mb5.1/21, mB5.4/21, MLv5.0/35, Mw(mB)4.9/21*

ISC 28 04:01:20.6±0.4, 9.°93S±0.°04×108.°65E±0.°04, h35km±1km, h35km:pP-P, n301, σ1§48/320, mb4.8/75, MS4.4/19, 38C-44D, South of Jawa

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

47nm,1.1s,2µm0.2nm
MTNI Mataram 7.53 81 P x 04 03 05.2
109nm,1.0s,1µm
MNAI Manna 7.91 314 P Pn 04 03 21.1 +7.9
baz=7.8,SNR=3.4
LHSI Lahat 7.91 320 P **Pn** **04 03 15.2 +1.9**
75nm,1.0s,2µm0.4nm
BBKI Banjar Baru 8.89 44 P Pn 04 03 30.0 +3.3
90nm,1.5s,7µm0.6nm
KBKI Kotabaru 9.95 49 P **Pn** **04 03 42.4 +1.2**
62nm,0.8s,2µm
LBFI Labuhan Bajo, 11.19 84 P x 04 03 58.6
129nm,0.9s,1µm
BKSI Bulukumba 12.25 69 P **Pn** **04 04 15.8 +3.0**
62nm,1.0s,619nm
MMSI Mamuju 12.47 55 P x 04 04 17.5
10.4nm,1.1s,2µm
SPSI Sidrap Palu 12.52 63 P **Pn** **04 04 15.6 -0.8**
SBUM Sibu 12.80 16 *e*Pn Pn 04 04 16.7 -3.5
GIRL Giralia 13.73 158 P Pn 04 04 26.1 -6.8
baz=14,SNR=25
GIRL S Sn 04 06 47.8 -16
baz=14,SNR=6.7
BATI Baumata 14.79 92 Pn Pn 04 04 43.4 -4.0
BATI Sn Sn 04 07 14.3 -16
BATI Baumata 14.79 92 Pn Pn 04 04 43.4 -4.0
2.6nm,0.3s,baz=243,slow=6.8,SNR=2.2
BATI Sn Sn 04 07 14.3 -16
3.7nm,0.3s,baz=18,slow=19,SNR=5.3
GSI Gunungsitoli 15.69 315 *e*Pn **P** **04 05 02.5 -0.3**
PSI Prapat 15.93 322 Pn **Pn** **04 05 01.3 -1.1**
PSI Prapat 15.93 322 Pn **Pn** **04 05 01.3 -1.1**
0.9nm,0.3s,baz=163,slow=10,SNR=4.5
LUWI Luwuk 16.59 59 Pn **Pn** **04 05 10.3 -0.3**
135nm,0.9s
KKM Kota Kinabalu 17.56 26 Pn **Pn** **04 05 20.0 -2.9**
MEEK Meekatharra 19.11 152 P **P** **04 05 40.1 -0.5**
baz=19,SNR=15
MEEK S Sn 04 08 55.8 -19
baz=19,SNR=6.0
SURT Suratani 21.17 332 P **P** **04 06 06.5 +3.4**
19nm,1.1s
TNTI Ternate 21.45 61 *e*P **P** **04 06 04.0 -2.1**
175nm,1.1s
DLV T Lat 21.73 360 *e*P **P** **04 06 07.7 -1.5**
92nm,1.3s
KDU Kakadu 23.52 99 P P 04 06 35.1 +7.4
baz=24,SNR=3.5
WRKA Warakurna 23.97 131 P **P** **04 06 33.9 +1.9**
baz=24,SNR=7.4
WRKA S **S** **04 10 51.9 +5.2**
baz=24,SNR=11
NWAO Narrogin (SRO) 24.22 162 P **P** **04 06 38.0 +3.8**
NWAO Narrogin (SRO) 24.22 162 P **P** **04 06 38.0 +3.8**
6.7nm,0.9s,baz=337,slow=7.7,SNR=2.4
KHLT Khaolaem Dam 26.51 338 P **P** **04 06 55.6 +0.5**
15nm,0.8s
WRA Warramunga Arr 26.70 115 P **P** **04 06 55.8 -1.1**
WRA Warramunga Arr 26.70 115 P **P** **04 06 55.8 -1.1**
3.3nm,0.8s,baz=287,slow=11,SNR=12
WRAB Tennant Creek 26.71 115 *e*P **P** **04 06 56.6 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 26.71 115 *e*P **P** **04 06 56.6 -0.3**
comp=Z,8.6nm,1.0s
UTHA Uthaitani 26.91 340 P **P** **04 06 59.5 +0.8**
comp=Z,5.7nm,1.1s
AS31 Alice Springs 27.70 123 *e*P **P** **04 07 04.7 -1.2**
ASAR Alice Springs 27.70 123 P **P** **04 07 07.1 +1.2**
ASAR PcP **PcP** **04 10 24.4 +2.0**
ASAR Alice Springs 27.70 123 P **P** **04 07 07.1 +1.2**
comp=Z,4.3nm,0.9s,baz=301,slow=9.3,SNR=16
ASAR PcP **PcP** **04 10 24.4 +2.0**
comp=Z,0.7nm,0.6s,baz=292,slow=1.6,SNR=3.5
ASAR LR LR 04 20 13.2
comp=Z,376nm,18.4s,baz=298,slow=41
UTTA Uttaradit 28.63 344 P **P** **04 07 14.6 +0.6**
comp=Z,2.7nm,1.1s
QIZ Qiongzhong 28.80 2 P **P** **04 07 17.0 +1.5**
QIZ pP **pP** **04 07 25.5 0.0**
QIZ S **S** **04 12 05.0 +1.9**
QIZ sS **sS** **04 12 20.3 +0.7**
QIZ pmax pmax
comp=Z,9.0nm,2.0s
QIZ pmax pmax
comp=Z,130nm,6.8s
QIZ LR LR
comp=Z,550nm,13.2s
QIZ LR LR
comp=Z,390nm,14.9s
QIZ LR LR
comp=Z,620nm,13.9s
LAMP Lampang 29.64 342 P **P** **04 07 24.1 +1.1**
comp=Z,7.3nm,1.1s,comp=Z,86nm
CMAR Chiang Mai Arr 29.79 341 P **P** **04 07 24.9 +0.6**
CMAR PcP **PcP** **04 10 30.5 +2.9**
CMAR Chiang Mai Arr 29.79 341 P **P** **04 07 24.9 +0.6**
comp=Z,6.7nm,0.8s,baz=176,slow=8.6,SNR=46
CMAR PcP **PcP** **04 10 30.5 +2.9**
comp=Z,0.7nm,0.3s,baz=190,slow=4.6,SNR=3.2
CMAR LR LR 04 20 22.7
comp=Z,462nm,18.2s,baz=179,slow=39
MHMT Maesarieng 29.86 339 P **P** **04 07 26.3 +1.3**
comp=Z,18nm,1.1s
CHTO Chiang Mai 30.12 341 *e*P **P** **04 07 27.3 0.0**
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CHTO Chiang Mai 30.12 341 P **P** **04 07 27.6 +0.3**
comp=Z,73nm,1.1s,comp=Z,1µm
CHTO Chiang Mai 30.12 341 *e*P **P** **04 07 27.3 0.0**
comp=Z,5.7nm,1.3s
SLVN Son La 31.41 351 *e*P **P** **04 07 39.2 +0.5**
TPUB Ta-pu 35.04 19 *e*P **P** **04 08 09.7 -0.6**
comp=Z,58nm,1.0s
KMI Kunming 35.31 351 P **P** **04 08 14.8 +2.0**
KMI pP **pP** **04 08 23.0 +0.1**
KMI sP **sP** **04 08 26.5 -0.6**
KMI PP **PP** **04 09 36.3 +2.8**
KMI S **S** **04 13 48.5 +3.6**
KMI sS **sS** **04 14 03.5 +1.9**
KMI SS **SnSn** **04 16 07.5 +2.5**
KMI pmax pmax
comp=Z,42nm,1.0s
KMI pmax pmax
comp=Z,99nm,3.1s
KMI LR LR
comp=Z,1µm,11.0s
KMI LR LR
comp=Z,1µm,12.2s
KMI LR LR
comp=Z,1µm,10.4s
YULB Yu-li 35.35 20 *e*P **P** **04 08 11.0 -2.0**
comp=Z,27nm,0.8s
SSLB Suanglung 35.60 20 *e*P **P** **04 08 13.9 -1.2**
comp=Z,86nm,0.9s
SSLB *e*pP **pP** **04 08 22.7 -2.5**
SSLB *es*P **sP** **04 08 28.6 -0.7**
H08S2 Diego Garcia H 35.80 271 T T 04 46 17.1
baz=101
H08S3 Diego Garcia H 35.81 271 T T 04 46 21.3
baz=101
H08S1 Diego Carcia H 35.81 271 T T 04 46 22.2
baz=101
GYA Guiyang 36.22 357 ↓*i*P **P** **04 08 21.0 +0.5**
GYA pP **pP** **04 08 29.8 -0.8**
GYA pmax pmax
comp=Z,20nm,1.0s
YHNB Yeheng 36.56 20 *e*P **P** **04 08 21.9 -1.4**
comp=Z,61nm,1.0s
TATO Taipei 36.88 20 *e*P **P** **04 08 25.0 -1.0**
comp=Z,19nm,0.9s
QLP Quilpie 37.46 121 P P 04 08 39.6 +8.6
baz=38,SNR=5.2
STKA Stephens Creek 37.49 131 *e*P **P** **04 08 30.7 -0.6**
STKA *ep*P **pP** **04 08 39.3 -2.0**
STKA *es*P **sP** **04 08 45.3 -0.2**
STKA Stephens Creek 37.49 131 P **P** **04 08 30.6 -0.6**
comp=Z,11nm,1.0s,baz=314,slow=8.6,SNR=9.0
STKA LR LR 04 26 25.3
comp=Z,320nm,18.9s,baz=281,slow=40
STKA Stephens Creek 37.49 131 P **P** **04 08 31.4 +0.2**
baz=38,SNR=7.4
MANU Manus Island 39.26 81 P P 04 08 51.4 +5.1
baz=39,SNR=3.9
MANU S S 04 14 51.5 +6.5
baz=39,SNR=8.7

ENH Enshi 39.97 1 *e*P **P** **04 08 51.1 -0.9**
comp=Z,15nm,1.0s
HYB Hyderabad 40.28 312 *i* P P 04 08 58.5 +3.7
CMSA Cobar Meteorol 40.48 128 P **P** **04 08 56.9 +0.7**
baz=41,SNR=7.0
WHN Wuhan 40.61 8 ↓P **P** **04 08 57.0 -0.2**
WHN S **S** **04 15 02.0 -2.6**
WHN pmax pmax
comp=Z,150nm,1.4s
WHN LR LR
comp=Z,600nm,4.5s
WHN LR LR
comp=Z,690nm,10.5s
WHN LR LR
comp=Z,510nm,16.7s
CD2 Chengdu 40.87 354 ↓*i*P **P** **04 08 59.5 +0.1**
CD2 pP **pP** **04 09 09.8 +0.2**
CD2 sP **sP** **04 09 14.0 +0.2**
CD2 PP **PnPn** **04 10 39.0 +0.5**
CD2 S **S** **04 15 09.3 +0.6**
CD2 sS **sS** **04 15 27.3 +1.9**
CD2 SS **SS** **04 18 08.3 -2.8**
CD2 pmax pmax
comp=Z,50nm,1.3s
CD2 pmax pmax
comp=Z,200nm,7.1s
CD2 LR LR
comp=Z,300nm,16.6s
CD2 LR LR
comp=Z,290nm,10.7s
LSA Lhasa 42.85 337 P **P** **04 09 16.0 -0.1**
LSA Lhasa 42.85 337 *e*P **P** **04 09 16.2 0.0**
LSA pmax pmax
comp=Z,45nm,1.3s
LSA Lhasa 42.85 337 *e*P **P** **04 09 16.1 0.0**
comp=Z,45nm,1.3s
NJ2 Nanjing 42.87 13 *e*P **P** **04 09 15.0 -0.6**
NJ2 pP **pP** **04 09 24.3 -1.6**
NJ2 sP **sP** **04 09 28.0 -2.0**
NJ2 S **S** **04 15 40.0 +2.0**
NJ2 sS **sS** **04 15 54.5 -0.3**
NJ2 SS **SS** **04 18 53.5 +3.1**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,240nm,6.5s
NJ2 LR LR
comp=Z,360nm,20.5s
NJ2 LR LR
comp=Z,340nm,21.3s
NJ2 LR LR
comp=Z,570nm,20.5s
XAN Xi'an 43.72 0 P **P** **04 09 21.8 -0.8**
XAN pP **pP** **04 09 29.3 -3.5**
XAN pmax pmax
comp=Z,12nm,1.3s
XAN pmax pmax
comp=Z,50nm,12.3s
POO Poona 44.48 309 ↓*i*P **P** **04 09 27.0 -1.9**
comp=Z,3.0nm,1.2s
ARMA Armidale 44.85 123 P P 04 09 41.4 +10
baz=45,SNR=4.1
LZH Lanzhou 45.99 355 *e*P **P** **04 09 41.0 +0.2**
LZH pP **pP** **04 09 51.3 +0.2**
LZH sP **sP** **04 09 55.5 +0.3**
LZH S **S** **04 16 28.0 +4.4**
LZH sS **sS** **04 16 44.0 +3.4**
LZH pmax pmax
comp=Z,65nm,1.3s
LZH pmax pmax
comp=Z,280nm,7.4s
LZH LR LR
comp=Z,840nm,14.2s
LZH LR LR
comp=Z,650nm,16.1s
LZH LR LR
comp=Z,820nm,17.4s
GTA Gaotai 49.77 351 *e*P **P** **04 10 10.5 +0.6**
GTA pP **pP** **04 10 20.3 0.0**
GTA sP **sP** **04 10 24.3 -0.1**
GTA S **S** **04 17 17.3 +0.3**
GTA SS **SS** **04 20 45.8 -4.3**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,330nm,5.0s
GTA LR LR
comp=Z,420nm,15.7s
GTA LR LR
comp=Z,420nm,17.6s
GTA LR LR
comp=Z,460nm,18.1s
BJI Beijing 50.20 8 P **P** **04 10 12.3 -0.7**
BJI S **S** **04 17 19.0 -3.7**
BJI pmax pmax
comp=Z,24nm,1.0s
BJI pmax pmax
comp=Z,180nm,6.6s
BJI LR LR
comp=Z,360nm,14.2s
BJI LR LR
comp=Z,430nm,21.0s
BJI LR LR
comp=Z,320nm,21.0s
KSAR Wonju Array Be 50.45 20 P **P** **04 10 14.7 -0.3**
KSRS Korea Array 50.48 20 P **P** **04 10 14.7 -0.4**
comp=Z,4.2nm,0.7s,baz=196,slow=8.7,SNR=5.4
KSRS LR LR 04 32 39.5
comp=Z,61nm,18.3s,baz=127,slow=38
HHC Hu-ho-hao-te 50.59 3 *e*P **P** **04 10 19.3 +3.2**
HHC sP **sP** **04 10 34.3 +3.7**
HHC PcP **PcP** **04 11 29.0 -4.5**
HHC S **S** **04 17 31.5 +3.1**
HHC sS sS 04 17 52.0 +6.4
HHC ScS **ScS** **04 20 05.0 +0.5**
HHC pmax pmax
comp=Z,38nm,1.4s
HHC pmax pmax
comp=Z,330nm,6.2s
HHC LR LR
comp=Z,1µm,12.4s
HHC LR LR
comp=Z,920nm,13.7s
HHC LR LR
comp=Z,1µm,12.4s
MJAR Matsushiro Arr 53.94 29 LR LR 04 35 22.9
comp=Z,88nm,19.1s,baz=210,slow=38
CN2 Changchun 55.61 15 *e*P P 04 10 58.8 +5.9
CN2 pmax pmax
comp=Z,20nm,0.6s
WMQ Urumqi 56.78 342 P **P** **04 11 02.5 +1.1**
WMQ pP **pP** **04 11 12.8 +0.9**
WMQ sP **sP** **04 11 16.5 +0.5**
WMQ PcP **PcP** **04 11 58.0 +1.1**
WMQ PP **PP** **04 13 10.5 +2.4**
WMQ ScP **ScP** **04 15 53.5 -0.5**
WMQ S **S** **04 18 51.8 -0.4**
WMQ ScS **ScS** **04 20 45.5 -2.6**
WMQ SS **SS** **04 22 40.8 -0.1**
WMQ pmax pmax
comp=Z,14nm,1.5s
WMQ pmax pmax
comp=Z,77nm,7.0s
WMQ LR LR
comp=Z,200nm,22.8s
WMQ LR LR
comp=Z,190nm,23.5s
WMQ LR LR
comp=Z,200nm,23.6s
MDJ Mudanjiang 57.50 18 P **P** **04 11 08.0 +1.7**
MDJ pmax pmax
comp=Z,13nm,1.7s
MDJ pmax pmax
comp=Z,150nm,4.5s
SONM Songino Array 57.54 358 P **P** **04 11 06.5 -0.2**
SONM Songino Array 57.54 358 P **P** **04 11 06.5 -0.2**
comp=Z,16nm,1.2s,baz=175,slow=6.1,SNR=48
ULN Ulaanbaatar 57.55 359 *e*P **P** **04 11 06.2 -0.6**
comp=Z,28nm,0.9s
KSH Kashi 57.80 330 *e*P **P** **04 11 07.0 -1.7**
KSH *e*PP **PP** **04 13 14.8 -2.4**
KSH *e*PcS **PcS** **04 16 01.0 -1.5**
KSH *e*S S 04 18 57.5 -8.3
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,210nm,5.5s
KSH LR LR
comp=Z,190nm,6.7s
KSH LR LR
comp=Z,180nm,5.6s
USRK Ussuriysk Arra 57.88 20 P **P** **04 11 07.5 -1.5**
comp=Z,9.3nm,1.0s,baz=192,slow=5.6,SNR=4.1
KBL Kabul 58.00 322 *e*P **P** **04 11 10.2 -0.1**
KBL pmax pmax
comp=Z,6.0nm,1.0s
KBL Kabul 58.00 322 *e*P **P** **04 11 10.2 -0.1**
comp=Z,6.1nm,1.0s
ZAK Zakamensk 60.24 356 *e*P **P** **04 11 23.4 -2.0**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
TKM2 Tokmak 2 60.63 333 *e*P **P** **04 11 28.0 -0.4**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 60.63 333 *e*P **P** **04 11 27.9 -0.4**
comp=Z,9.3nm,0.8s
AAK Ala-Archa 60.92 332 *e*P **P** **04 11 30.8 +0.5**
AAK Ala-Archa 60.92 332 *e*P **P** **04 11 30.8 +0.5**
AAK Ala-Archa 60.92 332 P **P** **04 11 30.8 +0.5**
comp=Z,5.2nm,1.2s,baz=156,slow=5.9,SNR=2.4
MK31 Makanchi Array 61.18 340 *e*P **P** **04 11 31.8 0.0**
MK31 Makanchi Array 61.18 340 *e*P **P** **04 11 31.8 0.0**
MKAR Makanchi Array 61.18 340 P **P** **04 11 31.9 +0.1**
MKAR Makanchi Array 61.18 340 P **P** **04 11 31.9 +0.1**
MKAR Makanchi Array 61.18 340 P **P** **04 11 31.9 +0.1**
comp=Z,7.3nm,0.8s,baz=146,slow=8.2,SNR=33
EKS2 Erkin-Say 61.28 331 *e*P **P** **04 11 33.2 +0.6**
EKS2 pmax pmax
comp=Z,9.0nm,0.9s
EKS2 Erkin-Say 61.28 331 *e*P **P** **04 11 33.2 +0.6**
comp=Z,8.5nm,0.9s
TLY Talaya 61.51 356 *e*P **P** **04 11 33.9 0.0**
TLY pmax pmax
comp=Z,9.0nm,1.2s
TLY MLR MLR
comp=Z,185nm,12.0s
MOY Mondy 61.70 355 *e*P **P** **04 11 35.2 -0.1**
IRK Irkutsk 62.03 357 *e*P **P** **04 11 36.3 -1.1**
IRK pmax pmax
comp=Z,22nm,1.5s
IDAH Dahanechah 62.94 315 *e*P **P** **04 11 44.2 0.0**
IKOO Kooshah 63.38 314 *e*P **P** **04 11 44.3 -2.8**
MAW Mawson 65.07 198 LR LR 04 34 03.8
comp=Z,136nm,19.7s,baz=62,slow=30
IBAF Bafgh 65.44 311 *e*P **P** **04 11 59.9 -0.6**
KURBB Kurchatov Arra 65.75 339 P **P** **04 12 01.3 -0.5**
comp=Z,14nm,1.1s,baz=152,slow=5.6,SNR=23
KURK Kurchatov 65.79 340 P **P** **04 12 01.3 -0.8**
comp=Z,59nm,1.0s,SNR=14
KURK Kurchatov 65.79 340 *e*P **P** **04 12 01.8 -0.3**
KURK Kurchatov 65.79 340 *e*P **P** **04 12 01.8 -0.3**
IKRD Kardeh 66.11 318 *e*P P 04 12 00.1 -4.7
ZAA0 Zalesovo Array 66.76 345 *e*P **P** **04 12 07.7 -0.6**
ZALV Zalesovo Beam 66.76 345 *i* P **P** **04 12 10.3 +2.0**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 66.76 345 P **P** **04 12 07.3 -1.0**
ZALV Zalesovo Beam 66.76 345 P **P** **04 12 07.3 -1.0**
comp=Z,5.6nm,0.8s,baz=126,slow=3.8,SNR=15
NVS Novosibirsk 67.97 344 *e*P **P** **04 12 13.4 -2.5**
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=Z,12nm,1.3s
IPIR Pirpir 69.44 310 *e*P **P** **04 12 25.1 -0.9**
IFIR Firoozkooh 69.48 314 *e*P **P** **04 12 26.4 +0.3**
VOSK Vostochnaya 70.22 337 *e*P **P** **04 12 29.1 -0.9**
VOSK pmax pmax
comp=Z,42nm,1.9s
VOSK Vostochnaya 70.22 337 *e*P **P** **04 12 29.1 -0.9**
comp=Z,42nm,1.9s
BVAR Borovoye Array 70.68 337 P **P** **04 12 32.9 +0.1**
BVAR Borovoye Array 70.68 337 P **P** **04 12 32.9 +0.1**
BVAR Borovoye Array 70.68 337 P **P** **04 12 32.9 +0.1**
comp=Z,8.0nm,1.1s,baz=142,slow=7.5,SNR=14
BRVK Borovoye 70.75 337 *e*P **P** **04 12 33.5 +0.3**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 70.75 337 *e*P **P** **04 12 33.5 +0.3**
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 71.49 272 P P 04 12 43.4 +4.6
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 71.49 272 P P 04 12 43.4 +4.6
comp=Z,1.3nm,0.8s,baz=84,slow=2.9,SNR=3.7
AB31 Akbulak array 72.75 329 P **P** **04 12 45.1 -0.1**
AB31 pmax pmax
comp=Z,25nm,1.0s
ABKAR Akbulak array 72.75 329 *e*P **P** **04 12 45.3 +0.1**
comp=Z,14nm,0.8s
VNDA Vanda 72.81 169 LR LR 04 44 05.3
comp=Z,82nm,18.1s,baz=292,slow=35
SYO Syowa Base 73.34 201 ↓*e*PcP **PcP** **04 13 05.6 +0.9**
AKTO Aktyubinsk 74.46 329 LR LR 04 50 02.2
comp=Z,58nm,19.4s,slow=39
PETK Petropavlovsk- 75.36 28 P **P** **04 12 59.7 -0.7**
PETK Petropavlovsk- 75.36 28 P **P** **04 12 59.7 -0.7**
PETK Petropavlovsk- 75.36 28 P **P** **04 12 59.7 -0.7**
comp=Z,4.2nm,0.8s,baz=198,slow=4.2,SNR=3.1
SVE Sverdlovsk 77.33 335 *e*P **P** **04 13 11.7 +0.2**
SVE pmax pmax
comp=Z,25nm,1.2s
ARU Arti 77.95 334 *d i*P **P** **04 13 15.1 +0.1**
ARU 04 16 09.0
ARU S **S** **04 23 07.6 +1.8**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU Arti 77.95 334 *e*P **P** **04 13 15.5 +0.5**
comp=Z,24nm,1.1s
KBZ Khabaz 79.90 318 P **P** **04 13 27.3 +1.3**
KBZ Khabaz 79.90 318 P **P** **04 13 27.3 +1.3**
KBZ Khabaz 79.90 318 P **P** **04 13 27.3 +1.3**
comp=Z,4.8nm,0.9s,baz=171,slow=5.8,SNR=5.1
QSPA South Pole Qui 80.08 180 *e*P **P** **04 13 27.0 +0.2**
comp=Z,5.9nm,1.0s
KIV Kislovodsk 80.13 318 *e*P **P** **04 13 26.0 -1.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 80.13 318 *e*P **P** **04 13 28.7 +1.4**
comp=Z,3.2nm,0.4s
TIXI Tiksi 82.51 6 ↓*e*P **P** **04 13 38.5 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 82.51 6 *e*P **P** **04 13 38.0 -1.1**
comp=Z,13nm,0.9s
VRHR Novokhopersk 83.71 324 *e*P **P** **04 13 45.3 -0.5**
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,1.6s
BR131 Keskin Array S 84.98 312 *e*P **P** **04 13 53.5 +0.7**
comp=N,6.9nm,1.0s
BRTR Keskin Array B 84.98 312 P **P** **04 13 53.5 +0.7**
BRTR Keskin Array B 84.98 312 P **P** **04 13 53.5 +0.7**
comp=N,3.0nm,0.8s,baz=143,slow=4.6,SNR=16
VORD Divnogorie 85.01 324 *e*P **P** **04 13 55.5 +3.1**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,70nm,0.6s
VORD pmax pmax
comp=E,90nm,0.6s
VSR Storozhevoye 85.18 324 *e*P **P** **04 13 52.2 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.1s
PRGR Permogore 86.39 335 *e*P **P** **04 13 57.7 -1.3**
PRGR *e**PP **pP** **04 14 06.9 -3.1**
PRGR pmax pmax
comp=Z,17nm,0.9s
OBN Obninsk 88.05 327 ↑*e*P **P** **04 14 08.6 +1.4**
OBN *e* 04 14 15.3
OBN *e* 04 24 49.8
OBN pmax pmax
comp=Z,46nm,1.7s

KLMR	**Klimovskoe**	**88.71**	**333**	*e*P		**P**		**04 14 08.9**	**-1.3**
KLMR				pmax		pmax			
	comp=Z,54nm,1.5s								
AKASG	**Malin Array Be**	**90.99**	**321**	*i* P		**P**		**04 14 22.2**	**+1.1**
AKASG				pmax		pmax			
	comp=Z,2.0nm,1.0s								
AKASG	**Malin Array Be**	**90.99**	**321**	P		**P**		**04 14 20.7**	**-0.4**
AKASG	**Malin Array Be**	**90.99**	**321**	P		**P**		**04 14 20.7**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=88,slow=4.7,SNR=5.5								
YKA	**Yellowknife Ar**	**119.00**	**21**	PKP		**PKPdf**		**04 20 05.2**	**-0.1**
YKA	**Yellowknife Ar**	**119.00**	**21**	PKP		**PKPdf**		**04 20 05.2**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=297,slow=2.2,SNR=6.2								
NVAR	**Mina Array Bea**	**129.36**	**48**	PKP		**PKPdf**		**04 20 27.2**	**+1.0**
NVAR	**Mina Array Bea**	**129.36**	**48**	PKP		**PKPdf**		**04 20 27.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=305,slow=3.2,SNR=3.2								
PDAR	**Pinedale Array**	**133.31**	**39**	PKP		**PKPdf**		**04 20 32.5**	**-1.0**
PDAR	**Pinedale Array**	**133.31**	**39**	PKP		**PKPdf**		**04 20 32.5**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=258,slow=3.5,SNR=2.8								
X29A	**Tulia**	**143.04**	**44**	⇓P		**PKPdf**		**04 20 53.2**	**+1.7**
	baz=143								
Z28A	**Tucker Farm, M**	**143.19**	**46**	⇓P		**PKPdf**		**04 20 53.7**	**+1.9**
	baz=143								
527A	**Woodward Ranch**	**143.82**	**52**	⇓P		**PKPdf**		**04 20 55.0**	**+1.9**
	baz=144								
X31A	**McDonald Ranch**	**144.09**	**42**	⇓P		**PKPdf**		**04 20 55.8**	**+2.5**
	baz=144								
TXAR	**Lajitas Array**	**144.14**	**53**	PKP		PKPbc		04 20 52.4	+0.7
TXAR	**Lajitas Array**	**144.14**	**53**	PKP		PKPbc		04 20 52.4	+0.7
	comp=Z,2.0nm,1.1s,baz=256,slow=2.1,SNR=4.7								
229A	**Bryant Ranch,**	**144.29**	**48**	⇑P		PKPbc		04 20 52.7	+0.6
	baz=144								
Y31A	**Rekieta Farm,**	**144.29**	**44**	⇓P		PKPbc		04 20 52.4	+0.5
	baz=144								
627A	**Terlingua Ranc**	**144.31**	**52**	⇓P		PKPbc		04 20 53.1	+0.8
	baz=144								
329A	**Wagon Wheel Ra**	**144.41**	**48**	⇑P		PKPbc		04 20 53.2	+0.8
	baz=144								
V33A	**Lossen Ranch,**	**144.45**	**39**	⇑P		PKPbc		04 20 53.1	+0.7
	baz=144								
528A	**Cox Ranch, San**	**144.45**	**51**	⇓P		PKPbc		04 20 53.4	+0.8
	baz=144								
U34A	**Anderson Ranch**	**144.51**	**38**	⇓P		**PKPdf**		**04 20 53.5**	**-0.4**
	baz=144								
130A	**Snyder**	**144.57**	**46**	⇓P		PKPbc		04 20 53.6	+0.8
	baz=144								
X32A	**Elmer**	**144.68**	**42**	⇑P		PKPbc		04 20 53.4	+0.3
	baz=144,SNR=5.8								
Z31A	**Sharp Cattle R**	**144.74**	**44**	⇑P		**PKPdf**		**04 20 54.1**	**-0.4**
	baz=144,SNR=6.4								
W33A	**Caddo, Fort Co**	**144.76**	**40**	⇓P		**PKPdf**		**04 20 55.0**	**+0.6**
	baz=144								
Y32A	**R-V Farms, Ver**	**144.82**	**43**	⇓P		PKPbc		04 20 54.1	+0.5
	baz=145								
230A	**Sterling City**	**144.84**	**47**	⇓P		PKPbc		04 20 54.2	+0.4
	baz=145								
529A	**Stev Forest Ra**	**144.90**	**51**	⇑P		**PKPdf**		**04 20 54.7**	**-0.2**
	baz=145								
429A	**Davenport Ranc**	**144.91**	**50**	⇓P		PKPbc		04 20 54.4	+0.4
	baz=145								
V34A	**Guthrie**	**144.92**	**39**	⇓P		**PKPdf**		**04 20 54.6**	**-0.1**
	baz=145								
131A	**Roby**	**144.93**	**45**	⇓P		**PKPdf**		**04 20 54.6**	**-0.2**
	baz=145								
330A	**Mertzon**	**145.05**	**48**	⇑P		**PKPab**		**04 20 54.8**	**+0.3**
	baz=145								
X33A	**Lawton**	**145.12**	**41**	⇑P		**PKPdf**		**04 20 55.0**	**0.0**
	baz=145								
W34A	**Bridge Creek,**	**145.15**	**40**	⇑P		**PKPab**		**04 20 54.8**	**+0.2**
	baz=145								
Z32A	**Haskell**	**145.21**	**44**	⇓P		**PKPdf**		**04 20 55.8**	**+0.6**
	baz=145,SNR=11								
430A	**Baggett Ranch,**	**145.32**	**49**	⇑P		**PKPdf**		**04 20 55.9**	**+0.4**
	baz=145,SNR=12								
LONY	**Lake Ozonia**	**145.32**	**4**	*e*PKPbc		**PKPdf**		**04 20 55.2**	**+0.2**
Y33A	**Hilltop Ranch,**	**145.36**	**42**	⇓P		**PKPdf**		**04 20 55.8**	**+0.3**
	baz=145								
231A	**Bronte**	**145.39**	**46**	⇓P		**PKPab**		**04 20 55.9**	**+0.2**
	baz=145,SNR=8.6								
ABTX	**Abilene, Hawle**	**145.48**	**45**	*e*PKPbc		**PKPab**		**04 20 56.7**	**+0.7**
ABTX	**Abilene, Hawle**	**145.48**	**45**	⇓P		**PKPab**		**04 20 56.4**	**+0.4**
	baz=145,SNR=8.5								
X34A	**Smith Ranch, M**	**145.51**	**41**	⇑P		**PKPab**		**04 20 56.6**	**+0.6**
	baz=145								
530A	**J-C Ranch, Com**	**145.56**	**50**	⇓P		**PKPab**		**04 20 56.8**	**+0.4**
	baz=145,SNR=20								
331A	**San Angelo**	**145.64**	**47**	⇓P		**PKPab**		**04 20 56.8**	**+0.2**
	baz=145,SNR=7.4								
BDFB	**Brasilia**	**145.66**	**223**	PKPbc		**PKPab**		**04 21 00.6**	**+3.5**
BDFB	**Brasilia**	**145.66**	**223**	PKPbc		**PKPab**		**04 21 00.6**	**+3.5**
	comp=Z,4.3nm,0.8s,baz=189,slow=0.2,SNR=3.2								
Z33A	**Whitaker Ranch**	**145.70**	**43**	⇓P		**PKPab**		**04 20 56.8**	**0.0**
	baz=146,SNR=11								
431A	**Sonora**	**145.84**	**49**	⇑P		**PKPab**		**04 20 57.5**	**+0.1**
	baz=146,SNR=12								
232A	**Coleman**	**145.89**	**46**	⇑P		**PKPab**		**04 20 57.6**	**+0.1**
	baz=146,SNR=14								
TUL1	**Tulsa**	**145.91**	**37**	*e*PKPbc		**PKPab**		**04 20 57.4**	**-0.1**
TUL1	**Tulsa**	**145.91**	**37**	⇓P		**PKPbc**		**04 20 57.1**	**+0.2**
	baz=146								
Y34A	**Reagan Ranch,**	**145.96**	**41**	⇑P		**PKPab**		**04 20 57.9**	**+0.2**
	baz=146								
133A	**Hamilton Ranch**	**145.99**	**44**	⇑P		**PKPab**		**04 20 58.2**	**+0.3**
	baz=146,SNR=12								
332A	**Millersview**	**146.10**	**47**	⇓P		**PKPab**		**04 20 58.4**	**0.0**
	baz=146,SNR=21								
531A	**Rocksprings**	**146.15**	**49**	⇓P		**PKPab**		**04 20 58.4**	**-0.2**
	baz=146,SNR=22								
Z34A	**Collier Ranch,**	**146.22**	**42**	⇑P		**PKPbc**		**04 20 58.4**	**+0.4**
	baz=146								
432A	**Menard**	**146.33**	**48**	⇓P		**PKPbc**		**04 20 58.7**	**+0.3**
	baz=146								
233A	**Rising Star**	**146.34**	**45**	⇑P		**PKPab**		**04 20 59.1**	**-0.1**
	baz=146,SNR=5.5								
631A	**Perdido Creek**	**146.50**	**51**	⇓P		**PKPab**		**04 20 59.5**	**-0.4**
	baz=146,SNR=6.6								
JCT	**Junction City**	**146.53**	**48**	*e*PKP2		**PKPbc**		**04 20 59.5**	**+0.4**
JCT	**Junction City**	**146.53**	**48**	*e*PKPbc		**PKPbc**		**04 20 59.5**	**+0.4**
JCT	**Junction City**	**146.53**	**48**	⇑P		**PKPab**		**04 20 59.7**	**-0.4**
	baz=146,SNR=7.5								
134A	**White-Moore Ra**	**146.59**	**44**	⇑P		**PKPab**		**04 20 59.9**	**-0.2**
	baz=146								
SFIN	**Scholer Farm**	**146.60**	**22**	⇑P		**PKPbc**		**04 20 59.1**	**+0.2**
	baz=146								
532A	**Rocksprings**	**146.64**	**49**	⇑P		**PKPbc**		**04 20 59.9**	**+0.5**
	baz=146,SNR=5.9								
333A	**Richland Sprin**	**146.67**	**46**	⇑P		**PKPbc**		**04 20 59.8**	**+0.4**
	baz=146,SNR=14								
Z35A	**Perchaven, San**	**146.68**	**42**	⇓P		**PKPbc**		**04 20 59.8**	**+0.5**
	baz=146								
234A	**Clairette**	**146.88**	**44**	⇑P		**PKPbc**		**04 21 00.5**	**+0.6**
	baz=147,SNR=5.6								
433A	**Art**	**146.91**	**47**	⇓P		**PKPbc**		**04 21 00.2**	**+0.1**
	baz=147,SNR=12								
632A	**Uvalde**	**147.05**	**50**	⇑P		**PKPbc**		**04 21 01.1**	**+0.5**
	baz=147,SNR=6.9								
135A	**Vickery Place,**	**147.05**	**43**	⇑P		**PKPbc**		**04 21 01.1**	**+0.6**
	baz=147								
334A	**Lometa**	**147.20**	**46**	⇑P		**PKPbc**		**04 21 01.3**	**+0.4**
	baz=147								
732A	**Laxson Ranch,**	**147.29**	**51**	⇑P		**PKPbc**		**04 21 01.7**	**+0.5**
	baz=147,SNR=6.5								
533A	**Kerrville**	**147.31**	**48**	⇑P		**PKPbc**		**04 21 01.6**	**+0.3**
	baz=147								
WHTX	**Lake Whitney**	**147.36**	**44**	*e*PKPbc		**PKPbc**		**04 21 00.8**	**-0.5**
WHTX	**Lake Whitney**	**147.36**	**44**	⇑P		**PKPbc**		**04 21 01.6**	**+0.3**
	baz=147								
434A	**Burnet**	**147.47**	**46**	⇑P		**PKPbc**		**04 21 01.9**	**+0.2**
	baz=147								
832A	**Faith Ranch, C**	**147.50**	**52**	⇑P		**PKPbc**		**04 21 02.1**	**+0.3**
	baz=147								
633A	**Saathoff Ranch**	**147.53**	**49**	⇓P		**PKPbc**		**04 21 02.0**	**+0.1**
	baz=147								
534A	**Blanco**	**147.75**	**48**	⇑P		**PKPbc**		**04 21 02.6**	**+0.1**
	baz=148,SNR=5.6								
335A	**Moody**	**147.79**	**45**	⇓P		**PKPbc**		**04 21 02.5**	**0.0**
	baz=148								
733A	**Divot King Ran**	**147.81**	**51**	⇓P		**PKPbc**		**04 21 02.6**	**0.0**
	baz=148								
833A	**Chaparral WMA,**	**147.93**	**51**	⇓P		**PKPbc**		**04 21 03.8**	**+0.8**
	baz=148,SNR=6.1								
435B	**Jarrell**	**147.97**	**46**	⇑P		**PKPbc**		**04 21 03.2**	**+0.2**
	baz=148								
ACSO	**Alum Creek Sta**	**148.10**	**17**	*e*PKPbc		**PKPbc**		**04 21 03.5**	**+0.5**
MIAR	**Mount Ida**	**148.16**	**36**	*e*PKP2		**PKPbc**		**04 21 04.1**	**+0.7**
MIAR	**Mount Ida**	**148.16**	**36**	*e*PKPbc		**PKPbc**		**04 21 04.0**	**+0.7**
734A	**La Parita Cree**	**148.31**	**50**	⇑P		**PKPbc**		**04 21 03.6**	**-0.3**
	baz=148								
933A	**Laredo**	**148.37**	**52**	⇑P		**PKPbc**		**04 21 04.5**	**+0.3**
	baz=148								
535A	**Dale**	**148.40**	**47**	⇓P		**PKPbc**		**04 21 04.8**	**+0.6**
	baz=148								
635A	**Leesville**	**148.60**	**48**	⇓P		**PKPbc**		**04 21 05.7**	**+1.0**
	baz=148								
934A	**Benavides**	**148.96**	**52**	⇑P		**PKPbc**		**04 21 06.3**	**+0.7**
	baz=149								
034A	**Hebbronville**	**149.09**	**53**	⇓P		**PKPbc**		**04 21 07.1**	**+1.1**
	baz=149								
835A	**Beeville**	**149.14**	**50**	⇑P		**PKPbc**		**04 21 07.8**	**+1.8**
	baz=149								
HKT	**Hockley**	**149.68**	**45**	*e*PKP2		**PKPbc**		**04 21 07.6**	**+0.3**
HKT	**Hockley**	**149.68**	**45**	*e*PKPbc		**PKPbc**		**04 21 07.6**	**+0.3**
SWET	**Sewanee**	**151.53**	**26**	*e*PKPbc		**PKPbc**		**04 21 11.3**	**-0.3**
TKL	**Tuckaleechee C**	**152.00**	**22**	*e*PKPbc		**PKPbc**		**04 21 13.5**	**+0.8**
KMSC	**Kings Mountain**	**153.29**	**18**	⇓P		**PKPbc**		**04 21 15.4**	**-0.1**
	baz=153								

NIED ***28*** *04:05:00, 46.60N×152.90E, h32km, Mw4.6 Best double couple: M0 1.01000×10^16 NP1:φ=223.00000°, δ=51.00000°, λ=128.00000°. NP2:φ=352.00000°, δ=52.00000°, λ=52.00000°.*

JMA ***28*** *04:05:41.7±0.6, 46.61N×152.90E, h30km, M5.6*

BJI ***28*** *04:05:44.6, 46.80N×152.58E, h76km, mB5.1/30, mb5.0/50, Ms4.8/32, Ms7 4.6/23*

SKHL ***28*** *04:05:44.3±0.6, 45.09N×149.71E, h65km±4km, mb5.5/1, mbh5.2/1, Ms4.4/4, msh5.9/1*

ISCJB ***28*** *04:05:44.1±0.4, 46.71N±0.03×152.46E±0.02, h59km±3km, mb4.9/239, MS4.1/27, Error ellipse: s-maj=4.3km s-min=2.2km az=163.4*

MOS ***28*** *04:05:45.2±0.8, 46.74N×152.47E, h69km, mb5.3/73, Error ellipse: s-maj=6.5km s-min=4.5km az=95.6*

SZGRF ***28*** *04:05:46.3, 47.50N×152.19E, h33km, mb5.2, Kuril Islands, Russia*

IDC ***28*** *04:05:47.9±2.3, 46.81N×152.39E, h77km±20km, mb4.4/30, mb1 4.6/34, mb1mx4.6/39, mbtmp4.8/34, MS3.8/20, Ms1 3.8/20, ms1mx3.7/29, Error ellipse: s-maj=13.6km s-min=9.1km az=155.0*

NEIC ***28*** *04:05:48.3±0.4, 46.82N×152.37E, h79km±3km, mb4.9/150, Error ellipse: s-maj=4.1km s-min=2.0km az=162.0*

ISC 28 04:05:47.4±0.4, 46.69N±0.04×152.47E±0.04, h76km±3km, h75km:pP-P, n1027, σ0.92/1058, mb4.9/246, 276C-174D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.52**	**247**	⇓ *i* PN		**Pn**	**04 06 39.3**	**-0.4**
KUR					*e*S	**Sn**	**04 07 19.5**	**-0.7**
KUR					pmax	pmax		
	comp=N,150nm,0.7s							
KUR					pmax	pmax		
	comp=E,80nm,0.7s							
KUR					pmax	pmax		
	comp=Z,650nm,0.7s							
KUR					smax	smax		
	comp=N,11μm,2.4s							
KUR					smax	smax		
	comp=E,10μm,2.0s							
KUR					smax	smax		
	comp=N,4μm,0.6s							
KUR					smax	smax		
	comp=E,190nm,0.6s							
KUR	**Kuril'sk**	**3.52**	**247**	*e*P		**Pn**	**04 06 39.3**	**-0.4**
KUR					AMB	AMB	04 06 40.0	
	comp=E,170nm,0.7s							
KUR					AMB	AMB	04 06 40.0	
	comp=E,80nm,0.7s							
KUR					AMB	AMB	04 06 40.0	
	comp=E,650nm,0.7s							
KUR					*e*S	**Sn**	**04 07 20.0**	**-0.2**
KUR					A	A	04 07 23.6	
	comp=E,11μm,2.4s							
KUR					A	A	04 07 23.6	
	comp=E,10μm,2.4s							
KUR					A	A	04 07 28.0	
	comp=E,4μm,0.6s							
KUR					A	A	04 07 28.0	
	comp=E,2μm,0.6s							
SKR	**Severo-Kuril's**	**4.67**	**30**	*e*PN		Pn	04 06 50.7	-4.6
SKR					*e*S	**Sn**	**04 07 43.5**	**-4.7**
SKR					pmax	pmax		
	comp=N,150nm,0.5s							
SKR					pmax	pmax		
	comp=Z,290nm,0.5s							
SKR					pmax	pmax		
	comp=E,80nm,0.3s							
SKR					smax	smax		
	comp=N,310nm,0.5s							
SKR					smax	smax		
	comp=E,2μm,0.9s							
SKR	**Severo-Kuril's**	**4.67**	**30**	*e*P		Pn	04 06 51.7	-3.6
SKR					AMB	AMB	04 06 54.5	
	comp=E,150nm,0.5s							
SKR					AMB	AMB	04 06 54.5	
	comp=E,80nm,0.5s							
SKR					AMB	AMB	04 06 54.5	
	comp=E,290nm,0.5s							
SKR					*e*S	Sn	04 07 42.5	-5.7
SKR					A	A	04 08 06.5	
	comp=E,310nm,0.7s							
SKR					A	A	04 08 06.5	
	comp=E,2μm,0.7s							
SKR					A	A	04 08 06.5	
	comp=E,290nm,0.7s							
SHO	**Shikotan**	**4.88**	**237**	*e*P		**Pn**	**04 06 55.7**	**-2.5**
SHO					AMB	AMB	04 07 05.7	
	comp=E,510nm,0.5s							
SHO					*e*S	**Sn**	**04 07 49.5**	**-3.8**
SHO					A	A	04 08 19.9	
	comp=E,4μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.36**	**243**	*d i* PN		**Pn**	**04 07 04.2**	**-0.5**
YUK					*i* S	**Sn**	**04 08 06.6**	**+1.6**
YUK					pmax	pmax		
	comp=Z,1μm,0.3s							
YUK					pmax	pmax		
	comp=E,415nm,0.2s							
YUK					pmax	pmax		
	comp=N,270nm,0.2s							
YUK					smax	smax		
	comp=N,2μm,0.9s							
YUK					smax	smax		
	comp=E,380nm,0.9s							
YUK					MLR	MLR		
	comp=Z,2μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**5.36**	**243**	*e*P		**Pn**	**04 07 04.2**	**-0.5**
YUK					AMB	AMB	04 07 06.2	
	comp=Z,270nm,0.3s							
YUK					AMB	AMB	04 07 06.2	
	comp=Z,420nm,0.3s							
YUK					AMB	AMB	04 07 06.2	
	comp=Z,1μm,0.3s							
YUK					*e*S	**Sn**	**04 08 06.6**	**+1.6**
YUK					A	A	04 08 22.7	
	comp=Z,2μm,0.9s							
YUK					A	A	04 08 22.7	
	comp=Z,4μm,0.9s							
YUK					AMS	AMS	04 09 17.6	
	comp=Z,2μm,14.0s							
PAU	**Pauzhetka**	**5.57**	**29**	*e*P		**Pn**	**04 07 05.7**	**-1.9**
PAU					AMB	AMB	04 07 14.1	
	comp=Z,920nm,0.8s							
PAU					*e*S	**Sn**	**04 08 06.7**	**-3.4**
PAU					A	A	04 08 28.6	
	comp=Z,3μm,0.6s							
NEM2	**Nemuro 2**	**5.81**	**238**	P		**Pn**	**04 07 08.1**	**-2.8**
NEM2					*e*S	**Sn**	**04 08 11.8**	**-4.3**
JRA	**Rausu**	**5.86**	**245**	P		**Pn**	**04 07 11.9**	**+0.2**
JNK	**Nakash**	**6.30**	**243**	P		**Pn**	**04 07 16.9**	**-0.7**
JNK					*e*S	**Sn**	**04 08 27.5**	**-0.6**
JTKR	**Abashiri--Toko**	**6.62**	**249**	P		**Pn**	**04 07 22.2**	**+0.3**
JAK	**Akkeshi**	**6.64**	**239**	P		**Pn**	**04 07 19.8**	**-2.5**
JAK					*e*S	**Sn**	**04 08 31.9**	**-4.6**
YSS	**Yuzh-Sakhalins**	**6.67**	**276**	⇓ *i* PN		**Pn**	**04 07 24.0**	**+1.4**
YSS					*i* S	**Sn**	**04 08 38.7**	**+1.6**
YSS					pmax	pmax		
	comp=E,500nm,1.0s							
YSS					pmax	pmax		
	comp=Z,350nm,1.0s							
YSS					pmax	pmax		
	comp=N,90nm,0.4s							
YSS					smax	smax		
	comp=N,370nm,1.0s							
YSS					smax	smax		
	comp=E,170nm,0.6s							
YSS					MLR	MLR		
	comp=Z,2μm,17.0s							
YSS	**Yuzh-Sakhalins**	**6.67**	**276**	*e*Pn		**Pn**	**04 07 24.1**	**+1.5**
YSS					*e*S	**Sn**	**04 08 37.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**6.67**	**276**	*e*P		**Pn**	**04 07 24.0**	**+1.4**
YSS					AMB	AMB	04 07 27.0	
	comp=Z,90nm,0.8s							
YSS					AMB	AMB	04 07 27.0	
	comp=Z,500nm,0.8s							
YSS					AMB	AMB	04 07 27.0	
	comp=Z,350nm,0.8s							
YSS					*e*S	**Sn**	**04 08 38.7**	**+1.6**
YSS					A	A	04 08 42.0	
	comp=Z,370nm,0.8s							
YSS					A	A	04 08 42.0	
	comp=Z,170nm,0.8s							
YSS					AMS	AMS	04 09 43.0	
	comp=Z,2μm,17.0s							
JMP	**Maruseppu**	**6.95**	**251**	P		**Pn**	**04 07 27.9**	**+1.3**
JAR	**Ashorobuto**	**7.04**	**244**	P		**Pn**	**04 07 27.2**	**-0.5**
JAR					*e*S	**Sn**	**04 08 45.2**	**-0.9**
JSE	**Soyaes**	**7.12**	**260**	P		**Pn**	**04 07 30.3**	**+1.5**
JOB	**Onbets**	**7.21**	**241**	P		**Pn**	**04 07 28.5**	**-1.6**
JOB					*e*S	**Sn**	**04 08 46.9**	**-3.5**
PEA0B	**Petropavlovsk-**	**7.26**	**26**	*e*Pn		**Pn**	**04 07 29.7**	**-1.0**
PEA0B					*e*S	**Sn**	**04 08 52.3**	**+0.8**
PETK	**Petropavlovsk-**	**7.26**	**26**	PN		**Pn**	**04 07 30.0**	**-0.7**
PETK					S	Sn	04 09 01.7	+10
PETK	**Petropavlovsk-**	**7.26**	**26**	P		**Pn**	**04 07 30.0**	**-0.7**
PETK					S	Sn	04 09 01.7	+10
PETK	**Petropavlovsk-**	**7.26**	**26**	P		**Pn**	**04 07 30.0**	**-0.7**
	comp=Z,5.2nm,0.3s,baz=208,slow=11,SNR=26							
PETK					S	Sn	04 09 01.7	+10
	comp=Z,0.8nm,0.3s,baz=150,slow=15,SNR=2.1							
PETK					LR	LR	04 10 19.9	
	comp=Z,384nm,18.3s,baz=203,slow=38							
HRK	**Horoka**	**7.35**	**247**	*e*P		**Pn**	**04 07 32.2**	**+0.1**
UGL	**Uglegorsk**	**7.39**	**293**	*e*PN		**Pn**	**04 07 35.0**	**+2.6**
UGL					pmax	pmax		
	comp=E,276nm,0.7s							
UGL					MLR	MLR		
	comp=E,3μm,18.0s							
UGL					MLR	MLR		
	comp=Z,4μm,18.0s							
UGL					MLR	MLR		
	comp=N,1μm,16.0s							
UGL	**Uglegorsk**	**7.39**	**293**	*e*P		**Pn**	**04 07 34.5**	**+2.1**
UGL					AMB	AMB	04 07 35.5	
	comp=N,280nm,0.7s							
UGL					*e*rx	rx	04 08 35.5	
UGL					AMS	AMS	04 10 26.0	
	comp=N,1μm,17.0s							
UGL					AMS	AMS	04 10 26.0	
	comp=N,3μm,17.0s							
UGL					AMS	AMS	04 10 26.0	
	comp=N,4μm,17.0s							
JKA	**Kamikawa-asahi**	**7.41**	**253**	*e*P		**Pn**	**04 07 34.1**	**+1.4**
ASAJ	**Asahikawa**	**7.41**	**253**	P		**Pn**	**04 07 34.3**	**+1.6**
ASAJ	**Asahikawa**	**7.41**	**253**	*e*Pn		**Pn**	**04 07 34.4**	**+1.7**
ASAJ					*e*S	Sn	04 09 09.5	+14
ASAJ	**Asahikawa**	**7.41**	**253**	P		**Pn**	**04 07 34.1**	**+1.4**
	comp=N,14nm,0.3s,baz=79,slow=13,SNR=49							
ASAJ					S	Sn	04 09 10.0	+15
	comp=N,8.5nm,0.3s,baz=268,slow=12,SNR=5.5							
ASAJ					LR	LR	04 10 18.5	
	comp=N,844nm,20.6s,baz=84,slow=37							
JKK2	**Kamakawa 2**	**7.41**	**251**	P		**Pn**	**04 07 33.7**	**+0.9**
JWK2	**Keihoku**	**7.49**	**263**	P		Pn	04 07 37.7	+3.9
PET	**Petropavlovsk**	**7.49**	**30**	*e*PN		Pn	04 07 28.7	-5.1
PET					pmax	pmax		
	comp=Z,34nm,0.7s							
PET					MLR	MLR		
	comp=Z,300nm,17.0s							
PET	**Petropavlovsk**	**7.49**	**30**	*e*Pn		**Pn**	**04 07 33.7**	**-0.2**
PET					*e*S	**Sn**	**04 08 58.3**	**+1.2**
PET	**Petropavlovsk**	**7.49**	**30**	*e*P		Pn	04 07 28.7	-5.1
PET					AMB	AMB	04 07 40.5	
	comp=Z,34nm,0.7s							
JCH	**Churui**	**7.66**	**241**	P		**Pn**	**04 07 33.8**	**-2.4**
JCH					*e*S	**Sn**	**04 08 56.2**	**-5.2**
TYV	**Tymovskoe**	**7.71**	**306**	*e*P		**Pn**	**04 07 37.5**	**+0.7**
TYV					AMB	AMB	04 07 39.0	
	comp=Z,68nm,0.8s							
TYV					AMB	AMB	04 07 39.0	
	comp=Z,125nm,0.8s							
TYV					*e*S	**Sn**	**04 09 03.0**	**+0.5**
TYV					A	A	04 09 05.5	
	comp=Z,57nm,0.6s							
TYV					AMS	AMS	04 10 44.0	
	comp=Z,2μm,15.0s							
TYV					AMS	AMS	04 10 44.0	
	comp=Z,2μm,15.0s							
JFR	**Furan**	**7.84**	**247**	P		**Pn**	**04 07 38.4**	**-0.3**
MYR	**Moyori**	**7.90**	**239**	*e*P		**Pn**	**04 07 37.0**	**-2.5**
JHR	**Hokuryu**	**8.13**	**253**	P		Pn	04 07 46.3	+3.6
ERM	**Erimo**	**8.14**	**238**	*ce*Pn		**Pn**	**04 07 42.7**	**-0.1**
ERM					pmax	pmax		
	comp=Z,43nm,0.6s							
ERM	**Erimo**	**8.14**	**238**	*e*Pn		**Pn**	**04 07 41.6**	**-1.2**
ERM					*e*S	**Sn**	**04 09 11.9**	**-1.3**
ERM	**Erimo**	**8.14**	**238**	*e*P		**Pn**	**04 07

EKMR AMB AMB 04 09 09.0
comp=Z,36nm,0.5s
KLR Kul'dur 14.11 288 *e*P **Pn** **04 09 02.2 -1.2**
KLR *e* 04 11 28.4
KLR Kul'dur 14.11 288 *e*P **Pn** **04 09 02.2 -1.2**
USRK Ussuriysk Arra 14.59 268 P **Pn** **04 09 09.5 -0.2**
comp=Z,3.2nm,0.3s,baz=76,slow=12,SNR=34
USRK LR LR 04 14 32.2
comp=Z,462nm,21.1s,baz=58,slow=36
MJAR Matsushiro Arr 14.69 231 P Pn 04 09 07.1 -4.0
MJAR Matsushiro Arr 14.69 231 P Pn 04 09 07.1 -4.0
comp=Z,1.0nm,0.3s,baz=26,slow=12,SNR=15
MJAR LR LR 04 14 28.0
comp=Z,301nm,21.7s,baz=60,slow=35
MAJO Matsushiro 14.69 231 ⇓*i*P **Pn** **04 09 10.3 -0.8**
MAJO Matsushiro 14.69 231 *e*Pn Pn 04 09 07.5 -3.7
MAT Matsushiro 14.69 231 P Pn 04 09 06.9 -4.2
MAT S **Sn** **04 11 56.4 +3.6**
FX1 Attu Island--F 14.71 58 *e*Pn Pn 04 09 07.8 -3.4
FX1 *e*S Sn 04 11 38.9 -14
FX1 Attu Island--F 14.71 58 P Pn 04 09 07.7 -3.5
comp=Z,9.0nm,0.3s,baz=327,slow=3.3,SNR=16
FX1 S Sn 04 11 41.1 -12
comp=Z,2.9nm,0.3s,baz=73,slow=19,SNR=5.2
FX1 LR LR 04 14 01.1
comp=Z,203nm,21.7s,baz=260,slow=34
VLA Vladivostok 15.01 264 ⇑*i*P **Pn** **04 09 14.5 -0.6**
VLA S **Sn** **04 11 57.8 -2.5**
VLA pmax pmax
comp=Z,32nm,0.6s
VLA Vladivostok 15.01 264 *e*P **Pn** **04 09 14.5 -0.6**
MDJ Mudanjiang 16.12 271 P **Pn** **04 09 28.5 -0.7**
MDJ S **Sn** **04 12 25.3 -1.9**
MDJ PcP **PcP** **04 14 21.3 +1.0**
MDJ ScP **ScP** **04 17 49.3 +1.5**
MDJ PcS **PcS** **04 17 57.0 +1.2**
MDJ pmax pmax
comp=Z,28nm,1.0s
MDJ pmax pmax
comp=Z,150nm,3.7s
MDJ Mudanjiang 16.12 271 *e*Pn **Pn** **04 09 29.5 +0.3**
comp=Z,40nm,0.8s
SEY Seymchan 16.28 360 P **Pn** **04 09 31.0 0.0**
SEY Seymchan 16.28 360 P **Pn** **04 09 31.0 0.0**
SEY Seymchan 16.28 360 P **Pn** **04 09 31.0 0.0**
comp=Z,3.0nm,0.3s,baz=168,slow=9.9,SNR=20
BMKR Bomnak 16.92 307 *e*P **Pn** **04 09 36.4 -2.6**
BMKR AMB AMB 04 09 40.8
comp=Z,45nm,0.5s
ZEA Zeya 17.55 303 *e*P **P** **04 09 47.2 +0.4**
ZEA AMB AMB 04 09 50.4
comp=Z,21nm,0.8s
ZEA AMB AMB 04 09 50.4
comp=Z,22nm,0.8s
ZEA AMB AMB 04 09 50.4
comp=Z,36nm,0.8s
ZEA AMS AMS 04 16 40.0
comp=Z,400nm,16.0s
ZEA AMS AMS 04 16 40.0
comp=Z,700nm,16.0s
KROS Kirovskiy 17.88 305 *e*P **P** **04 09 47.3 -3.2**
KROS AMB AMB 04 09 50.0
comp=Z,30nm,0.9s
KROS AMB AMB 04 09 50.0
comp=Z,62nm,0.9s
KROS AMB AMB 04 09 50.0
comp=Z,82nm,0.9s
CN2 Changchun 19.21 271 *e*P **P** **04 10 03.5 -1.6**
CN2 *e*pP **pP** **04 10 17.5 -2.9**
CN2 *e*S S 04 13 28.3 -10
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 LR LR
comp=Z,610nm,20.0s
CN2 LR LR
comp=Z,740nm,20.0s
CLNS Chul'man 19.72 311 *e*P **Pn** **04 10 13.3 +0.6**
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,14nm,0.8s
YAK Yakutsk 20.13 328 *e*P **P** **04 10 15.2 +0.2**
YAK *e* 04 13 57.3
YAK pmax pmax
comp=E,32nm,0.9s
YAK pmax pmax
comp=Z,109nm,0.9s
YAK pmax pmax
comp=N,25nm,1.1s
YAK Yakutsk 20.13 328 *e*P **P** **04 10 13.9 -1.0**
comp=N,167nm,0.8s
KSRS Korea Array 20.35 252 P Pn 04 10 19.0 -1.2
comp=N,43nm,0.9s,baz=54,slow=11,SNR=44
KSRS PcP **PcP** **04 14 28.2 +0.8**
comp=N,3.4nm,0.7s,baz=349,slow=1.0,SNR=7.8
KSRS LR LR 04 17 07.0
comp=N,234nm,20.6s,baz=90,slow=33
KSAR Wonju Array Be 20.39 252 P Pn 04 10 19.0 -1.6
KSAR PcP **PcP** **04 14 28.2 +0.7**
INCN Inchon 21.19 254 *e*P **P** **04 10 27.4 +0.9**
comp=N,52nm,0.7s
SNY Shenyang 21.19 267 ⇑P **P** **04 10 26.3 -0.2**
SNY pmax pmax
comp=N,18nm,0.6s
SNY pmax pmax
comp=N,220nm,3.6s
SNY LR LR
comp=N,310nm,14.9s
SNY LR LR
comp=N,570nm,17.1s
JNU Nakatsue 21.31 238 *e*P **P** **04 10 28.1 +0.2**
comp=N,66nm,1.7s
JNU Nakatsue 21.31 238 P **P** **04 10 28.2 +0.3**
comp=N,47nm,0.9s,baz=303,slow=0.9,SNR=12
JNU LR LR 04 19 31.4
comp=N,118nm,19.2s,baz=46,slow=39
HIA Hailar 21.96 289 *e*P **P** **04 10 32.6 -2.2**
comp=N,28nm,0.9s
BILL Bilibino 22.55 14 ⇑*i*P **P** **04 10 39.4 -1.5**
BILL pmax pmax
comp=Z,19nm,0.9s
BILL Bilibino 22.55 14 *e*P **P** **04 10 39.2 -1.7**
comp=Z,33nm,1.2s
DL2 Dalian 23.81 262 P **P** **04 10 53.8 +0.6**
DL2 pmax pmax
comp=Z,61nm,0.8s
GAMB Gambell 26.13 36 *e*P **P** **04 11 14.6 +0.7**
comp=Z,4.7nm,0.6s
BJI Beijing 27.03 269 P **P** **04 11 22.0 -0.3**
BJI pP **pP** **04 11 38.8 -1.1**
BJI S **S** **04 15 54.3 0.0**
BJI pmax pmax
comp=Z,45nm,0.8s
BJI pmax pmax
comp=Z,170nm,3.9s
BJI LR LR
comp=Z,340nm,16.2s
BJI LR LR
comp=Z,420nm,20.5s
TIXI Tiksi 27.40 344 ⇓*i*P **P** **04 11 23.6 -1.7**
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TNA Tin City 28.33 34 *e*P **P** **04 11 33.4 -0.2**
comp=Z,11nm,1.2s
H11N2 WAKE ISLAND Hy 29.38 151 T T 04 43 04.6
baz=342,slow=76
H11N1 WAKE ISLAND Hy 29.39 151 T T 04 43 05.7
baz=342,slow=76
H11N3 WAKE ISLAND Hy 29.39 151 T T 04 43 06.0
baz=342,slow=76
NJ2 Nanjing 29.55 252 *e*P **P** **04 11 45.3 +0.5**
NJ2 pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 29.85 274 *e*P **P** **04 11 49.5 +2.0**
HHC S **S** **04 16 44.0 +5.0**
HHC sS **sS** **04 17 11.5 +1.9**
HHC SS **SnSn** **04 18 18.5 +1.9**
HHC pmax pmax
comp=Z,99nm,1.0s
HHC pmax pmax
comp=Z,460nm,3.7s
HHC LR LR
comp=Z,580nm,15.4s
HHC LR LR
comp=Z,560nm,14.9s
H11S1 WAKE ISLAND Hy 30.45 153 T T 04 44 23.2
baz=343,slow=77
H11S3 WAKE ISLAND Hy 30.46 153 T T 04 44 29.2
baz=343,slow=77
H11S2 WAKE ISLAND Hy 30.47 153 T T 04 44 24.6
baz=343,slow=77
SONM Songino Array 30.93 289 P **P** **04 11 57.9 +0.9**
SONM PcP **PcP** **04 14 51.8 +0.2**
SONM Songino Array 30.93 289 P **P** **04 11 57.9 +0.9**
comp=Z,3.0nm,0.6s,baz=77,slow=8.0,SNR=14
SONM PcP **PcP** **04 14 51.8 +0.2**
comp=Z,2.4nm,0.8s,baz=118,slow=2.3,SNR=4.2
SONM LR LR 04 25 28.6
comp=Z,424nm,19.0s,baz=94,slow=38
TLY Talaya 31.81 297 *e*P **P** **04 12 03.8 -0.7**
TLY pmax pmax
comp=Z,12nm,1.0s
TLY MLR MLR
comp=Z,300nm,15.0s
WHN Wuhan 33.48 255 ⇓P **P** **04 12 19.0 -0.3**
WHN pmax pmax
comp=Z,48nm,0.4s
WHN LR LR
comp=Z,950nm,12.6s
WHN LR LR
comp=Z,1μm,9.9s
WHN LR LR
comp=Z,2μm,12.8s
IM04 Indian Mountai 34.06 36 *e*P **P** **04 12 23.7 -0.3**
YULB Yu-li 34.16 238 *e*P **P** **04 12 25.8 +0.5**
comp=Z,4.1nm,0.4s
XAN Xi'an 35.07 265 P **P** **04 12 33.0 0.0**
XAN pmax pmax
comp=Z,9.0nm,0.9s
KTH Kantishna Hill 35.10 41 *e*P **P** **04 12 33.3 +0.3**
comp=Z,112nm,1.0s
TRF Thorofare Moun 35.38 41 *e*P **P** **04 12 35.5 0.0**
comp=Z,126nm,2.3s
COLD Coldfoot 35.63 34 *e*P **P** **04 12 37.5 +0.1**
comp=Z,10nm,1.0s
PMR Palmer 35.95 44 *e*P **P** **04 12 40.3 +0.1**
PMR pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 35.95 44 *e*P **P** **04 12 40.2 +0.1**
comp=Z,5.9nm,0.8s
MCK McKinley 35.98 40 *e*P **P** **04 12 40.6 0.0**
MCK pmax pmax
comp=Z,27nm,1.4s
MCK McKinley 35.98 40 *e*P **P** **04 12 40.6 0.0**
comp=Z,27nm,1.4s
COLA College 36.46 38 *e*P **P** **04 12 44.4 -0.1**
COLA pmax pmax
comp=Z,5.0nm,1.0s
COLA College 36.46 38 *e*P **P** **04 12 44.4 -0.1**
comp=Z,5.0nm,1.0s
ILAR Eielson Array 36.87 39 P **P** **04 12 47.5 -0.5**
ILAR Eielson Array 36.87 39 P **P** **04 12 47.5 -0.5**
comp=Z,2.9nm,0.5s,baz=261,slow=7.4,SNR=64
ILAR LR LR 04 31 25.7
comp=Z,72nm,18.1s,baz=320,slow=42
ENH Enshi 36.92 259 *e*P **P** **04 12 48.6 -0.2**
comp=Z,8.1nm,0.3s
LZH Lanzhou 37.44 271 *e*P **P** **04 12 54.5 +1.1**
LZH pP **pP** **04 13 13.0 +1.4**
LZH sP **sP** **04 13 21.8 +1.4**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.5s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,880nm,17.4s
LZH LR LR
comp=Z,490nm,18.9s
GTA Gaotai 38.54 279 *e*P **P** **04 13 02.8 +0.2**
GTA pP **pP** **04 13 21.0 +0.2**
GTA sP **sP** **04 13 30.3 +0.8**
GTA PP **PnPn** **04 14 36.0 +1.4**
GTA PcP **PcP** **04 15 15.3 +1.5**
GTA S **S** **04 18 52.0 -0.8**
GTA PcS **PcS** **04 19 04.8 +1.6**
GTA sS **sS** **04 19 23.8 -0.2**
GTA SS SS 04 21 35.0 -10
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,190nm,6.2s
GTA LR LR
comp=Z,310nm,16.6s
GTA LR LR
comp=Z,510nm,18.1s
GTA LR LR
comp=Z,460nm,18.0s
EGAK Eagle 39.32 38 *e*P **P** **04 13 08.1 -0.5**
comp=Z,21nm,1.1s
DAWY Dawson 40.17 39 *e*P **P** **04 13 15.8 +0.1**
GYA Guiyang 41.27 257 ⇑*i*P **P** **04 13 25.5 +0.2**
GYA pmax pmax
comp=Z,20nm,0.6s
INK Inuvik 41.94 32 *e*P **P** **04 13 30.7 +0.6**
comp=Z,12nm,0.6s
INK Inuvik 41.94 32 P **P** **04 13 30.7 +0.6**
comp=Z,9.6nm,0.5s,baz=301,slow=6.7,SNR=122
ZALV Zalesovo Beam 42.28 306 P **P** **04 13 31.1 -2.0**
ZALV 04 15 25.8
ZALV Zalesovo Beam 42.28 306 P **P** **04 13 31.1 -2.0**
ZALV PcP **PcP** **04 15 25.8 +0.3**
ZALV Zalesovo Beam 42.28 306 P **P** **04 13 31.1 -2.0**
comp=Z,4.2nm,0.5s,baz=62,slow=6.6,SNR=12
ZALV PcP **PcP** **04 15 25.8 +0.3**
comp=Z,13nm,0.8s,baz=64,slow=3.4,SNR=15
ZALV LR LR 04 32 19.1
comp=Z,521nm,19.3s,baz=71,slow=38
NVS Novosibirsk 42.87 307 *e*P P 04 13 34.5 -3.3
NVS *e* 04 15 26.3
NVS pmax pmax
comp=Z,16nm,1.4s
QIZ Qiongzhong 44.42 246 P **P** **04 13 51.8 +1.2**
QIZ S **S** **04 20 21.3 +1.5**
QIZ LR LR
comp=Z,450nm,11.9s
QIZ LR LR
comp=Z,360nm,11.4s
WMQ Urumqi 44.53 291 P **P** **04 13 52.8 +1.4**
WMQ pmax pmax
comp=Z,8.0nm,0.5s
WMQ pmax pmax
comp=Z,23nm,5.2s
WMQ LR LR
comp=Z,120nm,19.5s
WMQ LR LR
comp=Z,93nm,22.3s
WMQ LR LR
comp=Z,210nm,21.7s
KMI Kunming 44.79 259 P **P**
KMI pP **pP** **04 14 15.3 +2.8**
KMI S **S** **04 20 25.8 +0.1**
KMI sS **sS** **04 20 58.0 +0.6**
KMI SS **ScS** **04 23 38.3 -5.9**
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,130nm,6.2s
KMI LR LR
comp=Z,820nm,11.3s
KMI LR LR
comp=Z,780nm,14.5s
KMI LR LR
comp=Z,810nm,10.3s
MK31 Makanchi Array 46.57 297 *e*P **P** **04 14 06.6 -0.8**
MK31 Makanchi Array 46.57 297 *e*P **P** **04 14 06.6 -0.8**
MKAR Makanchi Array 46.57 297 P **P** **04 14 06.2 -1.3**
MKAR 04 15 40.7
MKAR Makanchi Array 46.57 297 P **P** **04 14 06.2 -1.3**
MKAR PcP **PcP** **04 15 40.6 +0.3**
MKAR Makanchi Array 46.57 297 P **P** **04 14 06.2 -1.3**
comp=Z,12nm,0.6s,baz=64,slow=7.1,SNR=45
MKAR PcP **PcP** **04 15 40.6 +0.3**
comp=Z,8.9nm,0.8s,baz=86,slow=2.3,SNR=9.1
SLVN Son La 46.60 254 *e*P **P** **04 14 08.8 +0.8**
comp=Z,11nm,0.8s
KURK Kurchatov 47.03 303 P **P** **04 14 10.0 -0.8**
KURK 04 15 42.4
KURK pmax pmax
comp=Z,11nm,0.5s
KURK Kurchatov 47.03 303 *e*P **P** **04 14 09.3 -1.5**
comp=Z,8.8nm,0.6s
KURK *e*PcP **PcP** **04 15 42.0 +0.2**
KURBB Kurchatov Arra 47.12 303 P **P** **04 14 10.0 -1.5**
comp=Z,11nm,0.5s,baz=68,slow=8.4,SNR=48
KURBB PcP **PcP** **04 15 42.4 +0.2**
comp=Z,4.1nm,0.7s,baz=69,slow=3.6,SNR=8.1
LSA Lhasa 49.83 273 P **P** **04 14 34.8 +1.6**
LSA pmax pmax
comp=Z,40nm,0.9s
LSA Lhasa 49.83 273 *e*P **P** **04 14 34.6 +1.4**
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 49.83 273 *e*P **P** **04 14 34.6 +1.4**
comp=Z,28nm,0.6s
UBPT Khong Chiam 49.98 247 P **P** **04 14 35.6 +1.7**
comp=Z,46nm,1.4s
VOSK Vostochnaya 50.38 309 *e*P **P** **04 14 35.4 -1.1**
VOSK pmax pmax
comp=Z,18nm,0.7s
VOSK Vostochnaya 50.38 309 *e*P **P** **04 14 35.4 -1.1**
comp=Z,18nm,0.7s
BVAR Borovoye Array 50.55 309 P **P** **04 14 37.1 -0.7**
BVAR 04 15 54.9
BVAR Borovoye Array 50.55 309 P **P** **04 14 37.1 -0.7**
BVAR PcP **PcP** **04 15 54.9 +0.3**
BVAR Borovoye Array 50.55 309 P **P** **04 14 37.1 -0.7**
comp=Z,7.0nm,0.5s,baz=40,slow=8.0,SNR=32
BVAR PcP **PcP** **04 15 54.9 +0.3**
comp=Z,8.4nm,0.3s,baz=87,slow=3.6,SNR=19
BRVK Borovoye 50.59 309 ⇓*i*P **P** **04 14 37.4 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 50.59 309 *e*P **P** **04 14 37.3 -0.7**
comp=Z,13nm,0.5s
CMAI Chiengmai2 50.82 257 P **P** **04 14 42.8 +2.4**
comp=Z,53nm,0.8s,comp=Z,2μm
RES Resolute Bay 51.03 18 *e*P **P** **04 14 40.6 -0.5**
comp=Z,7.3nm,0.8s
YKA Yellowknife Ar 51.24 36 P **P** **04 14 42.8 0.0**
YKA PcP **PcP** **04 15 57.1 +0.2**
YKA Yellowknife Ar 51.24 36 P **P** **04 14 42.8 0.0**
comp=Z,2.1nm,0.7s,baz=298,slow=7.1,SNR=33
YKA PcP **PcP** **04 15 57.1 +0.2**
comp=Z,1.9nm,0.5s,baz=303,slow=3.7,SNR=14
UTTA Uttaradit 51.36 254 P **P** **04 14 45.4 +1.1**
comp=Z,10.0nm,0.8s,comp=Z,81nm
LAMP Lampang 51.42 255 P **P** **04 14 46.2 +1.5**
comp=Z,12nm,0.9s,comp=Z,107nm
CHTO Chiang Mai 51.67 256 *e*P **P** **04 14 47.2 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 51.67 256 P **P** **04 14 47.5 +0.9**
comp=Z,136nm,0.9s
CHTO Chiang Mai 51.67 256 *e*P **P** **04 14 47.2 +0.6**
comp=Z,6.1nm,1.0s
CMAR Chiang Mai Arr 51.92 256 P **P** **04 14 49.7 +1.2**
CMAR PcP **PcP** **04 16 01.2 +1.1**
CMAR Chiang Mai Arr 51.92 256 P **P** **04 14 49.7 +1.2**
comp=Z,10nm,0.8s,baz=36,slow=7.4,SNR=50
CMAR PcP **PcP** **04 16 01.2 +1.1**
comp=Z,4.1nm,0.6s,baz=357,slow=4.2,SNR=7.2
CMAR LR LR 04 38 02.0
comp=Z,70nm,18.9s,baz=195,slow=37
PBKT Sadao Pong 51.93 252 P **P** **04 14 49.4 +0.9**
comp=Z,24nm,1.0s
TKM2 Tokmak 2 52.62 296 *e*P **P** **04 14 53.2 -0.5**
TKM2 *e* 04 16 03.2
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 52.62 296 *e*P **P** **04 14 53.2 -0.5**
comp=Z,5.3nm,0.6s
TKM2 *e*PcP **PcP** **04 16 03.2 +0.4**
MHMT Maesarieng 52.80 256 P **P** **04 14 56.7 +1.7**
comp=Z,12nm,1.0s,comp=Z,3μm
AAK Ala-Archa 53.46 296 ⇓*i*P **P** **04 14 59.8 0.0**
AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 53.46 296 *e*P **P** **04 14 59.2 -0.5**
comp=Z,9.3nm,0.8s
AAK Ala-Archa 53.46 296 P **P** **04 14 58.8 -1.0**
comp=Z,9.1nm,0.8s,baz=128,slow=4.6,SNR=17
SVE Sverdlovsk 53.57 317 *e*P **P** **04 14 59.2 -0.9**
UTHA Uthaitani 53.67 253 P **P** **04 15 02.9 +1.5**
comp=Z,8.4nm,0.8s,comp=Z,76nm
EKS2 Erkin-Say 53.89 296 *e*P **P** **04 15 02.7 -0.2**
EKS2 *e* 04 16 08.2
EKS2 pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 53.89 296 *e*P **P** **04 15 02.7 -0.2**
comp=Z,10.0nm,0.6s
EKS2 *e*PcP **PcP** **04 16 08.2 +0.8**
KSH Kashi 54.26 292 *e*P P 04 15 09.3 +3.7
KSH *e*PP PP 04 17 13.0 +5.2
KSH *e*PcS **PcS** **04 20 10.5 +1.9**
KSH *e*S **S** **04 22 39.0 +1.6**
KSH *e*sS sS 04 23 11.5 +1.5
KSH *e*SS **SS** **04 26 21.3 +1.5**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,130nm,2.1s
KSH LR LR
comp=Z,92nm,3.1s
KSH LR LR
comp=Z,170nm,4.3s
MBW Mount Baker 54.64 54 P **P** **04 15 08.3 +0.1**
CMW Cultus Mountai 54.71 54 P **P** **04 15 09.5 +0.8**
ARU Arti 54.76 317 *c i*P **P** **04 15 08.3 -0.4**
ARU 04 17 08.2
ARU S **S** **04 22 44.0 +0.8**
ARU SS **SS** **04 26 21.0 -5.5**
ARU pmax pmax
comp=Z,48nm,2.5s
ARU Arti 54.76 317 *e*P **P** **04 15 07.2 -1.5**
comp=Z,15nm,0.5s
ARU *e*PcP **PcP** **04 16 10.3 -0.1**
KHLT Khaolaem Dam 54.79 253 P **P** **04 15 11.2 +1.7**
comp=Z,8.2nm,0.8s,comp=Z,450nm
JCW Jim Creek 54.95 55 P **P** **04 15 10.9 +0.6**
RPW Rockport 55.04 54 P **P** **04 15 11.2 +0.1**
KK31 Karatay Array 55.64 299 P **P** **04 15 14.9 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 55.64 299 *e*P **P** **04 15 14.4 -0.9**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 55.64 299 *e*P **P** **04 15 14.4 -0.9**
comp=Z,2.3nm,0.4s
NLW Nelson Butte 55.90 54 P **P** **04 15 17.8 +0.5**
LTY Liberty 56.17 55 *e*P **P** **04 15 19.5 +0.4**
comp=Z,68nm,2.6s
TBM Table Mountain 56.26 55 P **P** **04 15 20.3 +0.5**
B08A Colville Reser 56.30 53 *e*P **P** **04 15 20.0 0.0**
comp=Z,15nm,1.3s
WTV Waterville 56.33 54 P **P** **04 15 20.3 +0.1**
EBG Ellensburg 56.42 55 P **P** **04 15 21.8 +0.9**
I03D Drain, OR 56.64 60 ⇓P **P** **04 15 23.8 +1.5**
baz=56
EDM Edmonton 56.68 46 *e*P **P** **04 15 22.6 0.0**
EDM Edmonton 56.68 46 *e*P **P** **04 15 22.6 0.0**
H04A Detroit Lake 56.76 58 *e*P **P** **04 15 24.4 +1.1**
comp=Z,11nm,1.0s
G05D Wamic, OR 56.95 57 ⇑P **P** **04 15 25.8 +1.2**
baz=57
E07A Sunnyside 57.03 55 *e*P **P** **04 15 25.8 +0.6**
comp=Z,5.8nm,0.8s
I04A Tendick Farm, 57.14 59 ⇓P **P** **04 15 27.2 +1.2**
baz=57
PRGR Permogore 57.17 327 P **P** **04 15 25.4 -0.5**
PRGR pmax pmax
comp=Z,10.0nm,0.4s
OD2 Odessa Site #2 57.19 54 P **P** **04 15 26.4 +0.1**
C09A Chrisman Ranch 57.20 53 *e*P **P** **04 15 26.6 +0.2**
comp=Z,7.6nm,0.8s
KEV Kevo 57.25 340 *e*P **P** **04 15 25.9 -0.4**
KEV Kevo 57.25 340 *e*p **P** **04 15 25.9 -0.4**
D08A Wollman Farm, 57.27 54 *e*P **P** **04 15 27.1 +0.3**
comp=Z,5.3nm,0.8s
D08A *e*ScP ScP 04 20 28.3 +15
I05D Terrebonne, OR 57.45 58 ⇓P **P** **04 15 29.2 +0.9**
baz=57
NEW Newport 57.56 52 *e*P **P** **04 15 29.0 0.0**
NEW PcP **PcP** **04 16 21.9 +0.4**

NEW **Newport** 57.56 52 P P 04 15 28.5 -0.4
comp=Z,2.7nm,0.5s,baz=301,slow=7.2,SNR=8.1
NEW PcP PcP 04 16 21.9 +0.4
comp=Z,0.6nm,0.3s,baz=308,slow=6.4,SNR=4.3
NEW **Newport** 57.56 52 ⇓P P 04 15 29.1 +0.1
baz=57,SNR=5.7
J04D **Umpqua Nationa** 57.64 60 ⇑P P 04 15 30.8 +1.0
baz=57
ARCES **ARCESS Array B** 57.76 341 P P 04 15 29.6 -0.3
ARCES PcP PcP 04 16 21.7 -0.2
ARCES **ARCESS Array B** 57.76 341 P P 04 15 29.6 -0.3
comp=Z,2.4nm,0.4s,baz=36,slow=7.0,SNR=22
ARCES PcP PcP 04 16 21.7 -0.2
comp=Z,7.3nm,0.7s,baz=23,slow=4.0,SNR=7.6
VIPM **Ingram Point** 57.77 58 P P 04 15 31.7 +1.0
VIPM **Ingram Point** 57.77 58 P P 04 15 31.7 +1.0
E09A **Wood Farm, Sta** 58.02 55 *e*P P 04 15 32.9 +0.8
comp=Z,12nm,0.9s
ABKAR **Akbulak array** 58.12 310 *e*P P 04 15 31.5 -1.3
comp=Z,8.1nm,0.4s
J05D **Fort Rock, OR** 58.13 59 ⇑P P 04 15 34.1 +1.0
baz=58
G08A **Pilot Rock** 58.27 56 *e*P P 04 15 34.6 +0.5
comp=Z,4.8nm,0.9s
M02C **Callahan** 58.28 62 ⇑P P 04 15 35.5 +1.4
baz=58
N02D **Trinity Center** 58.62 62 ⇑P P 04 15 37.5 +1.0
baz=58
M04C **Macdoel** 58.66 61 ⇑P P 04 15 37.8 +1.0
baz=58
K05A **Summer Lake** 58.66 59 *e*P P 04 15 38.5 +1.6
comp=Z,93nm,2.4s
WALA **Waterton Lakes** 58.82 50 *e*P P 04 15 38.2 +0.4
comp=Z,0.6nm,0.8s
F10A **Beach Ranch, E** 58.85 55 *e*P P 04 15 38.8 +0.7
comp=Z,10nm,1.3s
BSMT **Bassoo Peak** 59.07 52 *e*P P 04 15 40.3 +0.6
BLMT **Blacktail Moun** 59.21 51 *e*P P 04 15 41.3 +0.7
JTMT **Jette** 59.41 52 *e*P P 04 15 42.2 +0.3
BMO **Blue Mountains** 59.48 56 *e*P P 04 15 43.0 +0.7
comp=Z,4.6nm,0.9s
BMO *e*PcP PcP 04 16 29.6 +0.4
MOD **Modoc** 59.51 60 *e*P P 04 15 43.7 +1.1
comp=Z,4.1nm,0.8s
SWMT **Swartz Lake** 59.70 52 *e*P P 04 15 44.4 +0.5
KLMR **Klimovskoe** 59.93 329 *e*P P 04 15 42.9 -2.1
KLMR pmax pmax
comp=Z,38nm,1.4s
NDI **New Delhi** 59.98 281 *e*P P 04 15 44.0 -1.9
SLMT **Seeley Lake** 60.14 52 *e*P P 04 15 47.4 +0.5
MSO **Missoula** 60.15 52 *e*P P 04 15 47.5 +0.5
MSO **Missoula** 60.15 52 ⇓P P 04 15 47.3 +0.3
baz=60,SNR=14
WVOR **Wild Horse Val** 60.17 59 *e*P P 04 15 47.8 +0.6
comp=Z,5.3nm,0.9s
CHMT **Chamberlain Mo** 60.47 52 *e*P P 04 15 49.4 +0.1
KULM **Kulim** 60.65 244 *e*P P 04 15 51.9 +1.4
comp=Z,23nm,0.8s
SUMG **Summit** 60.79 4 *e*P P 04 15 51.2 -0.1
SUMG pmax pmax
comp=Z,57nm,0.9s
SUMG **Summit** 60.79 4 *i*P P 04 15 51.1 -0.1
comp=Z,44nm,0.8s
SUMG **Summit** 60.79 4 *e*P P 04 15 51.2 -0.1
comp=Z,57nm,0.9s
FFC **Flin Flon** 61.07 40 *e*P P 04 15 53.3 +0.3
FFC pmax pmax
comp=Z,4.0nm,0.6s
FFC **Flin Flon** 61.07 40 *e*P P 04 15 53.2 +0.3
comp=Z,4.1nm,0.6s
JOF **Joensuu** 61.19 333 *e*P P 04 15 53.8 +0.2
JOF pmax pmax
comp=Z,6.0nm,0.3s
JOF **Joensuu** 61.19 333 *e*p P 04 15 53.8 +0.2
comp=Z,6.4nm,0.3s
MFID **Camas Ranch** 61.20 56 *e*P P 04 15 54.6 +0.5
comp=Z,3.3nm,0.8s
STEI **Steigen** 61.27 343 *e*P P 04 15 53.4 -0.6
STEI IAmb IAmb 04 15 54.0
comp=Z,14nm,0.5s
A19A **Klindworth Far** 61.59 48 ⇓P P 04 15 56.7 +0.1
baz=61,SNR=12
LRM **Limekiln Ridge** 61.59 52 *e*P P 04 15 57.4 +0.5
EGMT **Eagleton** 61.64 49 *e*P P 04 15 57.4 +0.4
comp=Z,28nm,1.1s
EGMT **Eagleton** 61.64 49 ⇑P P 04 15 57.0 0.0
baz=61,SNR=10
B19A **Brinkman Farms** 61.78 48 ⇑P P 04 15 58.3 +0.4
baz=62,SNR=5.7
DLMT **Dillon** 61.79 53 *e*P P 04 15 59.4 +1.2
comp=Z,15nm,1.5s
HLID **Hailey** 61.91 55 *e*P P 04 15 59.7 +0.7
comp=Z,6.5nm,1.1s
HLID **Hailey** 61.91 55 ⇑P P 04 15 59.3 +0.3
baz=62,SNR=6.8
MCMT **McKenzie Canyo** 61.99 53 *e*P P 04 15 60.0 +0.3
comp=Z,2.1nm,0.8s
A20A **Cobblestone Ra** 62.03 47 ⇓P P 04 16 00.2 +0.6
baz=62,SNR=16
BOZ **Bozeman (W)** 62.14 52 *e*P P 04 16 01.3 +0.8
BOZ pmax pmax
comp=Z,13nm,0.6s
BOZ **Bozeman (W)** 62.14 52 *e*P P 04 16 01.3 +0.8
comp=Z,13nm,0.6s
C19A **Slack Wire Ran** 62.19 49 ⇑P P 04 16 01.2 +0.5
baz=62,SNR=18
BMN **Battle Mountai** 62.24 60 *e*P P 04 16 02.2 +0.9
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN **Battle Mountai** 62.24 60 *e*P P 04 16 02.2 +0.9
comp=Z,4.9nm,0.8s
B20A **Solberg Farm,** 62.27 48 ⇑P P 04 16 01.7 +0.5
baz=62,SNR=5.1
D19A **Cripps Ranch,** 62.64 49 ⇓P P 04 16 04.2 +0.5
baz=62,SNR=8.7
C20A **Veseth Ranch,** 62.74 49 ⇑P P 04 16 05.0 +0.7
baz=62,SNR=22
NVAR **Mina Array Bea** 62.85 62 P P 04 16 05.8 +0.4
NVAR **Mina Array Bea** 62.85 62 P P 04 16 05.8 +0.4
comp=Z,2.0nm,0.7s,baz=290,slow=7.5,SNR=19
KONS **Konsvik** 62.93 343 *e*P P 04 16 04.5 -0.6
MOR8 **Moi Rana** 62.94 342 *e*P P 04 16 03.6 -1.7
MOR8 IAmb IAmb 04 16 03.8
comp=Z,42nm,0.5s
A22A **Carney Farms,** 62.97 46 ⇑P P 04 16 06.2 +0.4
baz=63,SNR=36
FLOS **Flostrand** 63.02 343 *e*P P 04 16 05.1 -0.7
FLOS IAmb IAmb 04 16 06.2
comp=Z,24nm,0.7s
D20A **Manuel Ranch,** 63.08 49 ⇓P P 04 16 07.2 +0.7
baz=63,SNR=21
STOK **Stokkvaagen** 63.10 343 *e*P P 04 16 05.8 -0.4
YMR **Madison River** 63.13 53 *e*P P 04 16 08.4 +1.3
comp=Z,6.6nm,0.7s
C21A **Desert Coulee** 63.13 48 P P 04 16 07.6 +0.7
baz=63
E19A **Rath Farm, Rou** 63.14 50 ⇓P P 04 16 07.7 +0.7
baz=63,SNR=7.5
ELK **Elko** 63.21 58 P P 04 16 08.3 +0.5
ELK **Elko** 63.21 58 P P 04 16 08.3 +0.5
comp=Z,1.4nm,0.7s,baz=356,slow=4.3,SNR=6.8
KAF **Kangasniemi** 63.31 335 *e*P P 04 16 07.3 -0.4
KAF pmax pmax
comp=Z,9.0nm,0.3s
KAF **Kangasniemi** 63.31 335 *e*p P 04 16 07.3 -0.4
comp=Z,9.1nm,0.3s
B22A **Reddig Ranch S** 63.38 47 ⇓P P 04 16 09.1 +0.5
baz=63
F19A **Roth Farm, Mol** 63.45 51 ⇓P P 04 16 09.9 +0.8
baz=63,SNR=12
E20A **Meyer Farm, Mu** 63.46 50 ⇓P P 04 16 09.7 +0.6
baz=63,SNR=5.0
A23A **Redstone** 63.51 46 ⇓P P 04 16 10.0 +0.6
baz=63
H17A **Grant Village** 63.52 53 *e*P P 04 16 11.8 +2.0
comp=Z,14nm,1.1s
H17A **Grant Village** 63.52 53 ⇑P P 04 16 11.8 +2.0
baz=63,SNR=7.5
FLWY **Flagg Ranch** 63.65 53 *e*P P 04 16 12.4 +1.8
comp=Z,8.1nm,1.1s
D21A **La Casta Ranch** 63.68 49 ⇓P P 04 16 11.1 +0.5
baz=63,SNR=11
TPH **Tonopah** 63.74 62 *e*P P 04 16 12.2 +0.9
TPH pmax pmax
comp=Z,9.0nm,1.3s
TPH **Tonopah** 63.74 62 *e*P P 04 16 12.2 +0.9
comp=Z,9.1nm,1.3s

RLMT **Red Lodge** 63.76 51 *e*P P 04 16 11.9 +0.6
comp=Z,4.6nm,0.5s
B23A **Brockton** 63.78 46 ⇓P P 04 16 11.4 +0.3
baz=64,SNR=14
C22A **Vida** 63.80 47 ⇑P P 04 16 11.4 0.0
baz=64
I17A **Pilgrim Ck.** 63.83 53 ⇓P P 04 16 13.0 +1.2
baz=64,SNR=5.3
H18A **Shoshone NF, C** 63.83 52 ⇓P P 04 16 12.4 +0.5
baz=64,SNR=5.8
MOOW **Moose Ponds** 63.84 53 *e*P P 04 16 12.9 +1.0
comp=Z,4.1nm,0.7s
FIA1 **FINESS Array S** 63.90 334 *e*P P 04 16 11.2 -0.5
FINES **FINESS Array B** 63.90 334 P P 04 16 10.7 -1.0
FINES PcP PcP 04 16 46.1 -0.6
FINES **FINESS Array B** 63.90 334 P P 04 16 10.7 -1.0
comp=Z,31nm,0.4s,baz=36,slow=7.0,SNR=355
FINES PcP PcP 04 16 46.1 -0.6
comp=Z,5.6nm,0.6s,baz=64,slow=4.4,SNR=4.2
F20A **Billings** 63.91 50 ⇑P P 04 16 12.4 +0.3
baz=64
A24A **Westby** 63.96 46 ⇑P P 04 16 12.6 +0.2
baz=64,SNR=5.6
E21A **Keefer Ranch,** 63.99 49 P P 04 16 13.5 +0.9
baz=64
LOHW **Long Hollow** 64.01 53 *e*P P 04 16 14.0 +1.0
comp=Z,5.0nm,0.9s
REDW **Red Top Meadow** 64.03 54 *e*P P 04 16 14.3 +1.1
comp=Z,16nm,1.0s
D22A **Cohagen** 64.05 48 ⇑P P 04 16 13.1 +0.2
baz=64,SNR=5.5
C23A **Lambert** 64.12 47 ⇑P P 04 16 13.6 +0.1
baz=64,SNR=5.7
DGMT **Dagmar** 64.17 46 *e*P P 04 16 14.0 +0.2
comp=Z,24nm,0.7s
DGMT **Dagmar** 64.17 46 ⇑P P 04 16 13.8 +0.1
baz=64,SNR=7.4
H19A **Powell** 64.20 52 ⇑P P 04 16 14.7 +0.5
baz=64
G20A **Bridger** 64.26 51 ⇑P P 04 16 14.6 +0.1
baz=64
BKNI **Bangkinang** 64.32 240 *e*P P 04 16 17.3 +2.3
comp=Z,88nm,0.8s
LAO **LASA Array** 64.33 48 *e*P P 04 16 15.1 +0.3
comp=Z,27nm,1.0s
GRAC **Grapevine Rang** 64.34 63 ⇑P P 04 16 16.1 +1.0
baz=64
A25A **Svangstu Ranch** 64.39 45 ⇑P P 04 16 15.6 +0.5
baz=64
F21A **Absaloka Mine,** 64.44 50 ⇑P P 04 16 16.0 +0.4
baz=64
ISA **Isabella** 64.52 64 ⇓P P 04 16 15.9 -0.3
baz=64
D23A **Lindsay** 64.53 48 ⇓P P 04 16 16.3 +0.1
baz=64,SNR=5.3
R11A **Troy Canyon, C** 64.55 60 *e*P P 04 16 16.9 +0.3
comp=Z,3.7nm,0.9s
R11A **Troy Canyon, C** 64.55 60 ⇑P P 04 16 16.7 +0.1
baz=64,SNR=7.4
I19A **Meeteetse** 64.61 52 ⇑P P 04 16 17.6 +0.7
baz=64,SNR=5.0
E22A **Miles City** 64.64 49 ⇑P P 04 16 17.1 +0.3
baz=64,SNR=6.8
HWUT **Hardware Ranch** 64.78 56 *e*P P 04 16 18.7 +0.7
comp=Z,5.5nm,0.8s
B25A **Knox Farm, Ray** 64.81 46 P P 04 16 18.5 +0.5
baz=64
F22A **Rosebud** 64.92 49 ⇑P P 04 16 19.1 +0.4
baz=65,SNR=14
DUG **Dugway** 64.98 57 *e*P P 04 16 20.0 +0.7
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG **Dugway** 64.98 57 *e*P P 04 16 20.0 +0.7
comp=Z,10nm,1.1s
DUG **Dugway** 64.98 57 ⇓P P 04 16 19.9 +0.6
baz=65,SNR=8.3
FURC **Furnace Creek,** 64.99 63 ⇑P P 04 16 19.7 +0.5
baz=65,SNR=6.4
D24A **Glendive** 65.01 47 ⇑P P 04 16 20.0 +0.8
baz=65,SNR=14
J19A **Crowheart** 65.09 53 ⇑P P 04 16 20.4 +0.4
baz=65,SNR=7.4
OBN **Obninsk** 65.11 325⇑ *e*P P 04 16 18.9 -0.7
OBN *e**PP pP 04 16 39.7 +0.4
OBN *i* 04 16 50.9
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,192nm,15.0s
LRMC **Laurel Mountai** 65.13 64 ⇑P P 04 16 20.5 +0.3
baz=65
BW06 **Boulder Array** 65.14 53 *e*P P 04 16 20.6 +0.2
comp=Z,11nm,0.9s
I20A **Worland** 65.14 52 ⇓P P 04 16 20.9 +0.7
baz=65
PDAR **Pinedale Array** 65.14 53 P P 04 16 20.6 +0.2
PDAR **Pinedale Array** 65.14 53 P P 04 16 20.6 +0.2
comp=Z,7.3nm,0.8s,baz=300,slow=1.4,SNR=58
C25A **Freed Ranch, W** 65.15 46 ⇑P P 04 16 20.7 +0.6
baz=65
B26A **Jensen Ranch,** 65.20 45 ⇓P P 04 16 20.8 +0.4
baz=65
H21A **Big Horn, Sher** 65.27 51 ⇑P P 04 16 21.3 +0.3
baz=65,SNR=19
G22A **Birney** 65.27 50 ⇑P P 04 16 21.4 +0.4
baz=65
A27A **Ledoux Ranch,** 65.28 44 P P 04 16 21.5 +0.6
baz=65
EDW2 **Edwards Air Fo** 65.33 65 ⇑P P 04 16 22.1 +0.6
baz=65
E24A **Baker** 65.40 48 ⇑P P 04 16 21.9 +0.1
baz=65
F23A **Volborg** 65.40 49 ⇓P P 04 16 22.1 +0.3
baz=65,SNR=17
D25A **Fairfield** 65.50 47 ⇓P P 04 16 22.8 +0.4
baz=65
JLU **Jordanelle** 65.50 56 *e*P P 04 16 24.3 +1.5
comp=Z,40nm,2.4s
J20A **Shoshoni** 65.56 52 ⇓P P 04 16 23.4 +0.4
baz=65,SNR=7.0
NLU **North Lily Min** 65.57 57 *e*P P 04 16 24.1 +1.0
comp=Z,8.1nm,1.0s
C26A **Wahner Farm, P** 65.64 45 ⇓P P 04 16 23.5 +0.3
baz=65,SNR=5.3
B27A **Peters Farms,** 65.65 45 ⇑P P 04 16 23.7 +0.4
baz=65
GSI **Gunungsitoli** 65.66 244 *e*P P 04 16 24.7 +0.9
comp=Z,19nm,0.8s
H22A **Clearmont** 65.66 50 ⇑P P 04 16 23.7 +0.2
baz=65
I21A **Big Trails, Te** 65.68 51 ⇑P P 04 16 24.0 +0.3
baz=65,SNR=10
DAU **Daniels Canyon** 65.74 56 *e*P P 04 16 25.5 +1.2
DAU **Daniels Canyon** 65.74 56 *e*P P 04 16 25.5 +1.2
G23A **Biddle** 65.76 49 ⇓P P 04 16 24.2 0.0
baz=66
A28A **Rude Farm, Bot** 65.78 44 P P 04 16 24.6 +0.4
baz=66
MPU **Maple Canyon** 65.78 57 *e*P P 04 16 25.2 +0.7
comp=Z,8.6nm,1.0s
GSC **Goldstone** 65.79 64 *e*P P 04 16 25.0 +0.5
GSC pmax pmax
comp=Z,6.0nm,1.1s
GSC **Goldstone** 65.79 64 *e*P P 04 16 25.0 +0.5
comp=Z,5.7nm,1.1s
GSC **Goldstone** 65.79 64 ⇑P P 04 16 25.0 +0.5
baz=66
F24A **Ekalaka** 65.81 48 ⇓P P 04 16 24.7 +0.3
baz=66,SNR=5.2
E25A **Miller Ranch,** 65.90 47 ⇑P P 04 16 25.4 +0.4
baz=66,SNR=6.1
J21A **Lysite** 65.91 52 ⇓P P 04 16 25.4 +0.1
baz=66
C27A **Sayler Ranch,** 66.01 45 ⇑P P 04 16 26.1 +0.5
baz=66
D26A **Manning** 66.02 46 ⇑P P 04 16 26.0 +0.3
baz=66
B28A **Dugan Ranch, T** 66.05 44 ⇑P P 04 16 26.2 +0.4
baz=66
I22A **9 Mile Ranch,** 66.06 51 ⇑P P 04 16 26.6 +0.4
baz=66,SNR=7.3
G24A **Alzada** 66.18 49 P P 04 16 26.7 -0.2
baz=66
TUQ **Turquoise Moun** 66.24 63 ⇓P P 04 16 27.9 +0.4
baz=66
A29A **Manning Farm,** 66.26 43 ⇓P P 04 16 27.5 +0.3
baz=66,SNR=9.6
F25A **Bowman** 66.26 48 ⇑P P 04 16 27.9 +0.5
baz=66
J22A **Midwest** 66.39 51 ⇑P P 04 16 28.5 +0.2
baz=66
E26A **Carlson Angus** 66.39 47 ⇑P P 04 16 28.1 0.0
baz=66
HEC **Hector,Ludlow** 66.39 64 ⇓P P 04 16 29.1 +0.8
baz=66
CCUT **Cedar City** 66.40 60 *e*P P 04 16 29.5 +1.0
comp=Z,18nm,2.1s
K21A **Alcova** 66.50 52 ⇓P P 04 16 29.0 0.0
baz=66,SNR=9.0
H24A **Dirks Ranch, A** 66.50 49 ⇑P P 04 16 28.8 -0.1
baz=66,SNR=14
TMUT **Trail Mountain** 66.50 57 *e*P P 04 16 29.7 +0.4
comp=Z,8.1nm,1.1s
B29A **Wagenman Farm,** 66.52 44 ⇓P P 04 16 29.2 +0.4
baz=66
HYB **Hyderabad** 66.55 271 *i*P P 04 16 28.0 -1.5
A30A **Hoffart Farm,** 66.68 43 ⇓P P 04 16 30.0 +0.1
baz=66
F26A **Lodgepole** 66.71 47 ⇓P P 04 16 30.4 +0.2
baz=66,SNR=9.9
G25A **Newell** 66.78 48 ⇑P P 04 16 30.8 +0.2
baz=66
GMRC **Granite Mounta** 66.84 63 ⇑P P 04 16 31.8 +0.6
baz=67
ULM **Lac du Bonnet** 66.86 40 P P 04 16 30.4 -0.6
ULM **Lac du Bonnet** 66.86 40 P P 04 16 30.4 -0.6
comp=Z,5.8nm,0.8s,baz=318,slow=5.3,SNR=9.3
ULM LR LR 04 47 51.1
comp=Z,33nm,18.6s,baz=37,slow=38
E27A **Carson** 66.87 46 ⇑P P 04 16 31.3 +0.1
baz=67,SNR=5.8
VSR **Storozhevoye** 66.88 321 ⇓*i*P P 04 16 30.3 -0.7
VSR pmax pmax
comp=Z,10.0nm,0.9s
K22A **Casper** 66.88 52 *e*P P 04 16 31.4 -0.1
comp=Z,3.5nm,0.4s
K22A **Casper** 66.88 52 ⇓P P 04 16 31.5 0.0
baz=67,SNR=5.5
B30A **Myrvik Farm, E** 67.02 43 ⇓P P 04 16 32.4 +0.3
baz=67,SNR=12
SRU **San Rafael** 67.02 57 *e*P P 04 16 32.8 +0.4
SRU pmax pmax
comp=Z,13nm,1.0s
SRU **San Rafael** 67.02 57 *e*P P 04 16 32.8 +0.4
comp=Z,13nm,1.0s
F27A **Lemmon** 67.03 47 ⇑P P 04 16 32.2 0.0
baz=67
I24A **Kuemmerle Ranc** 67.07 50 ⇑P P 04 16 32.2 -0.4
baz=67
H25A **Fruitdale** 67.08 49 ⇑P P 04 16 32.4 -0.2
baz=67,SNR=5.1
G26A **Maurine** 67.13 48 ⇑P P 04 16 32.9 0.0
baz=67,SNR=17
N20A **Spence Gulch,** 67.15 54 ⇓P P 04 16 33.8 +0.5
baz=67,SNR=11
E28A **Huff** 67.20 46 ⇑P P 04 16 33.0 -0.2
baz=67
RSSD **Black Hills** 67.20 49 *e*P P 04 16 33.4 -0.1
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD **Black Hills** 67.20 49 *e*P P 04 16 33.4 -0.1
comp=Z,3.2nm,0.8s
K23A **Bowen Ranch, D** 67.29 51 ⇓P P 04 16 34.1 0.0
baz=67
L22A **Ellis Ranch, M** 67.35 52 ⇑P P 04 16 34.7 +0.2
baz=67
G27A **Dupree** 67.41 47 ⇓P P 04 16 34.7 0.0
baz=67,SNR=8.0
J24A **Dixon Ranch, L** 67.42 50 ⇓P P 04 16 34.4 -0.3
baz=67
I25A **Rochford** 67.43 49 P P 04 16 34.7 -0.3
baz=67
MOL **Molde** 67.54 343 *e*P P 04 16 35.4 +0.3
IRM **Iron Mountain** 67.56 64 ⇑P P 04 16 36.1 +0.4
baz=67
O20A **White River Ci** 67.64 55 *e*P P 04 16 36.7 +0.3
comp=Z,6.1nm,0.8s
O20A **White River Ci** 67.64 55 ⇑P P 04 16 36.4 +0.1
baz=67
F28A **McLaughlin** 67.65 46 ⇓P P 04 16 35.8 -0.3
baz=67
M22A **Cedar Creek Ra** 67.69 53 ⇑P P 04 16 36.9 +0.2
baz=67,SNR=6.1
L23A **Garrett** 67.69 52 ⇑P P 04 16 36.0 -0.7
baz=67
BC3 **Big Chuckawall** 67.71 64 ⇓P P 04 16 36.9 +0.2
baz=68
D30A **Buchanan** 67.77 44 ⇑P P 04 16 36.3 -0.4
baz=67
U15A **North Rim** 67.78 60 ⇑P P 04 16 38.3 +0.9
baz=68,SNR=6.0
J25A **Sunshine Ranch** 67.83 50 ⇑P P 04 16 37.0 -0.3
baz=68
H27A **Howes** 67.86 48 ⇑P P 04 16 37.5 +0.1
baz=68
I26A **New Underwood** 67.88 49 P P 04 16 37.9 +0.3
baz=68
AKN **Aaknes** 68.01 343 *e*P P 04 16 38.2 +0.2
E30A **Jud** 68.12 45 ⇓P P 04 16 38.6 -0.4
baz=68
M23A **Laramie** 68.12 52 ⇑P P 04 16 39.4 0.0
baz=68
G28A **Parade** 68.14 47 ⇓P P 04 16 39.0 -0.2
baz=68
NB2 **NORSAR Subarra** 68.14 341 P P 04 16 38.5 -0.4
comp=Z,20nm,0.5s,baz=26,slow=6.5
NB2 **NORSAR Subarra** 68.14 341 P P 04 16 38.5 -0.4
baz=26,slow=6.5
NOA **NORSAR Array B** 68.14 341 P P 04 16 38.3 -0.6
NOA **NORSAR Array B** 68.14 341 P P 04 16 38.3 -0.6
comp=Z,20nm,0.6s,baz=30,slow=6.6,SNR=178
NOA LR LR 04 50 27.8
comp=Z,91nm,18.1s,baz=35,slow=39
F29A **Eureka** 68.15 46 ⇓P P 04 16 39.1 -0.1
baz=68
N22A **Wattenberg Ran** 68.18 53 ⇑P P 04 16 40.0 +0.2
baz=68
Y12C **Blythe** 68.22 64 ⇓P P 04 16 40.2 +0.4
baz=68
J26A **Sides Ranch, S** 68.26 50 ⇑P P 04 16 40.0 0.0
baz=68
I27A **Quinn** 68.27 48 ⇑P P 04 16 40.0 0.0
baz=68,SNR=6.0
WRAB **Tennant Creek** 68.30 198 *e*P P 04 16 40.1 -0.2
WRAB **Tennant Creek** 68.30 198 *e*P P 04 16 40.1 -0.2
WRA **Warramunga Arr** 68.31 198 P P 04 16 40.0 -0.4
WRA **Warramunga Arr** 68.31 198 P P 04 16 40.0 -0.4
comp=Z,5.5nm,0.8s,baz=18,slow=6.8,SNR=19
WRA LR LR 04 44 47.5
comp=Z,28nm,21.7s,baz=300,slow=34
H28A **Mission Ridge** 68.37 47 ⇓P P 04 16 40.8 +0.2
baz=68,SNR=15
NAO01 **NORSAR Array S** 68.39 341 *e*P P 04 16 39.8 -0.6
comp=Z,6.5nm,0.4s
N23A **Red Feather La** 68.40 53 ⇑P P 04 16 41.6 +0.4
baz=68
PV04 **Paradox Valley** 68.44 57 *e*P P 04 16 42.1 +0.7
O22A **Kremmling** 68.57 54 ⇑P P 04 16 42.7 +0.4
baz=68
M24A **Cheyenne** 68.61 52 ⇑P P 04 16 41.8 -0.5
baz=68
K26A **Motz Farm, Whi** 68.64 50 ⇑P P 04 16 42.4 0.0
baz=68
I28A **Midland** 68.77 48 ⇑P P 04 16 42.8 -0.3
baz=68
H29A **Onida** 68.81 47 ⇓P P 04 16 43.0 -0.4
baz=68
P22A **Eagle** 68.84 54 ⇓P P 04 16 44.4 +0.5
baz=69,SNR=6.0
J27A **Elkhorn Farm,** 68.86 49 ⇓P P 04 16 44.0 +0.2
baz=69
O23A **Lake Granby, G** 68.88 54 ⇑P P 04 16 45.0 +0.8
baz=69,SNR=8.8
NACGM **Naroch** 68.89 330 *e* P 04 16 40.0 -3.6
WUAZ **Wupatki** 68.95 60 ⇑P P 04 16 45.2 +0.7
baz=69
G30A **Faulkton** 68.98 46 ⇓P P 04 16 44.1 -0.4
baz=69
SMCO **Snowmass** 69.00 55 *e*P P 04 16 45.4 +0.3
comp=Z,7.2nm,0.8s
POO **Poona** 69.02 275⇑ *i*x x 04 16 44.0
comp=Z,5.0nm,1.0s
Y14A **Wickenburg** 69.03 63 ⇓P P 04 16 45.6 +0.7
baz=69
M25A **Palm-Egli Farm** 69.05 52 ⇓P P 04 16 45.6 +0.5
baz=69

HYA Hoyanger 69.09 343 eP P 04 16 44.7 0.0
HYA IAmb IAmb 04 16 45.6
comp=Z,43nm,0.8s
J28A Allard Ranch, 69.14 48 ⇓P P 04 16 45.8 +0.3
baz=69,SNR=7.7
I29A Vivian Onida 69.19 47 ⇑P P 04 16 45.4 -0.4
baz=69
ISCO Idaho Springs 69.33 54 eP P 04 16 47.8 +0.7
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO Idaho Springs 69.33 54 eP P 04 16 47.8 +0.7
comp=Z,7.5nm,0.8s
ISCO Idaho Springs 69.33 54 ⇓P P 04 16 47.7 +0.7
baz=69,SNR=12
O24A Longmont 69.41 53 ⇓P P 04 16 48.1 +0.8
baz=69
MVCO Mesa Verde 69.48 57 eP P 04 16 48.5 +0.5
comp=Z,7.5nm,0.9s
MVCO Mesa Verde 69.48 57 ⇓P P 04 16 48.4 +0.5
baz=69
P23A Jefferson 69.50 54 ⇑P P 04 16 48.9 +0.8
baz=69
GOF Gofitskoye 69.55 314 eP P 04 16 48.5 +0.6
K28A Ten Mile Ranch 69.58 49 ⇓P P 04 16 48.3 +0.1
baz=69
J29A Okreek 69.62 48 ⇑P P 04 16 48.2 -0.2
baz=69,SNR=8.1
X16A Lo Mia Camp, P 69.65 61 ⇑P P 04 16 49.8 +0.8
baz=69,SNR=6.6
KONO Kongsberg 69.75 341 eP P 04 16 48.8 -0.1
KONO IAmb IAmb 04 16 49.7
comp=Z,20nm,0.7s
ASK Askoy 69.92 343 eP P 04 16 49.9 +0.1
N26A Koester Ranch, 69.92 52 ⇑P P 04 16 51.5 +1.1
baz=70
P24A Kohler Place, 69.92 53 ⇓P P 04 16 51.5 +0.9
baz=70
O25A Wiggins 69.94 53 ⇑P P 04 16 51.4 +0.9
baz=70
RUND Rundenannen 69.94 343 eP P 04 16 49.2 -0.9
BER Bergen 69.98 343 eP P 04 16 50.5 +0.3
S22A 4UR Ranch, Cre 70.07 56 ⇓P P 04 16 52.1 +0.5
baz=70,SNR=12
K29A Lazy Trails An 70.08 48 ⇑P P 04 16 51.2 0.0
baz=70,SNR=6.3
J30A Dallas 70.10 48 ⇓P P 04 16 51.0 -0.3
baz=70,SNR=5.3
ODD1 Odda 70.15 342 eP P 04 16 51.4 0.0
ODD1 IAmb IAmb 04 16 52.4
comp=Z,4.5nm,0.9s
O26A Horse Wrangler 70.29 52 ⇑P P 04 16 52.7 +0.1
baz=70
N27A Anderson Farm, 70.31 51 ⇓P P 04 16 53.0 +0.3
baz=70,SNR=9.3
P25A Willow Gulch B 70.33 53 ⇓P P 04 16 53.3 +0.3
baz=70,SNR=6.2
R23A Moffat 70.33 55 ⇑P P 04 16 54.0 +0.9
baz=70
NCK Nalchik 70.40 313⇓eP P 04 16 54.3 +1.2
X18A Snowflake 70.47 60 ⇓P P 04 16 54.5 +0.6
baz=70
OGNE Ogallala 70.48 51 ⇑P P 04 16 54.0 +0.3
baz=70
EYMN Ely 70.50 40 eP P 04 16 53.0 -0.6
comp=Z,9.8nm,0.8s
K30A Basset 70.51 48 ⇑P P 04 16 53.9 0.0
baz=70,SNR=5.4
M28A Bar X Bar Ranc 70.51 50 ⇑P P 04 16 54.0 +0.1
baz=70
KIV Kislovodsk 70.52 314 eP P 04 16 54.2 +0.2
KIV pmax pmax
comp=Z,25nm,0.9s
KIV MLR MLR
comp=Z,173nm,18.0s
KIV Kislovodsk 70.52 314 eP P 04 16 52.8 -1.2
comp=Z,23nm,0.7s
KBZ Khabaz 70.58 314 P P 04 16 54.8 +0.7
KBZ Khabaz 70.58 314 P P 04 16 54.8 +0.7
KBZ Khabaz 70.58 314 P P 04 16 54.8 +0.7
comp=Z,7.3nm,0.5s,baz=124,slow=2.7,SNR=36
BLS5 Blasjo 70.63 342 eP P 04 16 54.5 +0.2
Q25A Bedland, Calha 70.71 54 ⇑P P 04 16 55.4 +0.1
baz=70,SNR=6.9
R24A Sanders Place, 70.71 55 ⇓P P 04 16 55.6 +0.2
baz=70,SNR=5.8
P26A Davis Ranch, A 70.75 53 ⇑P P 04 16 56.0 +0.5
baz=70
O27A Beecher Island 70.78 52 ⇓P P 04 16 56.0 +0.4
baz=70
SUW Suwalki 70.83 331 eP P 04 16 54.6 -0.9
SUW Suwalki 70.83 331 eP P 04 16 54.6 -0.9
DUS Dusheti 70.85 311 P P 04 16 56.8 +0.9
N28A Pribbeno Ranch 70.92 51 ⇓P P 04 16 55.7 -0.8
baz=71
DGRG David-gareji 70.96 311 P P 04 16 57.7 +1.0
U22A Llaves 71.01 57 ⇓P P 04 16 57.9 +0.6
baz=71
T23A Casias Ranch, 71.02 56 ⇑P P 04 16 57.9 +0.6
baz=71
S24A Houchin Ranch, 71.06 55 ⇑P P 04 16 58.0 +0.4
baz=71,SNR=5.2
TBLG Delisi 71.09 311 P P 04 16 58.8 +1.5
Q26A Hugo 71.11 53 ⇓P P 04 16 57.8 +0.1
baz=71
ONI Oni 71.13 312 P P 04 16 59.3 +1.7
P27A Ficken Ranch, 71.17 52 ⇓P P 04 16 57.9 -0.1
baz=71
O28A Krutsinger Ran 71.20 51 ⇓P P 04 16 57.7 -0.5
baz=71,SNR=5.7
R25A Fountain Ranch 71.23 54 ⇓P P 04 16 58.6 +0.2
baz=71,SNR=6.3
ECSD EROS Data Cent 71.25 46 eP P 04 16 57.5 -0.7
comp=Z,20nm,1.0s
ECSD EROS Data Cent 71.25 46 ⇑P P 04 16 57.7 -0.6
baz=71,SNR=12
L31A Butterfield Fa 71.27 48 ⇑P P 04 16 58.2 -0.3
baz=71,SNR=6.1
V22A San Miguel Ran 71.30 57 ⇑P P 04 16 59.6 +0.5
baz=71
AKASG Malin Array Be 71.35 326ceP P 04 16 58.2 -0.5
AKASG pmax pmax
comp=Z,27nm,0.3s
AKASG Malin Array Be 71.35 326 P P 04 16 57.8 -0.9
AKASG Malin Array Be 71.35 326 P P 04 16 57.8 -0.9
comp=Z,25nm,0.3s,baz=34,slow=6.0,SNR=231
AKASG LR LR 04 50 30.4
comp=Z,190nm,18.4s,baz=50,slow=38
AKBB Malin Array Si 71.35 326 eP P 04 16 58.1 -0.6
AKBB Malin Array Si 71.35 326 eP P 04 16 58.1 -0.6
KIEV Kiev 71.36 326 eP P 04 16 58.2 -0.6
KIEV pmax pmax
comp=Z,26nm,0.6s
KIEV Kiev 71.36 326 eP P 04 16 58.2 -0.6
comp=Z,26nm,0.6s
AK01 Malin Array Si 71.36 326 eP P 04 16 58.1 -0.7
T24B San Luis 71.38 56 ⇓P P 04 17 00.4 +0.9
baz=71
AK02 Malin Array Si 71.39 326 eP P 04 16 58.4 -0.6
U23A El Rito 71.43 57 ⇓P P 04 17 00.5 +0.8
baz=71,SNR=5.7
SNART Snartemo 71.46 342 eP P 04 16 59.6 +0.4
SNART IAmb IAmb 04 17 00.3
comp=Z,49nm,0.6s
S25A Robets Cordova 71.49 55 ⇑P P 04 17 00.7 +0.6
baz=71
KSCO Kaye Shedlock' 71.53 53 eP P 04 17 01.8 +1.6
comp=Z,9.3nm,1.0s
KSCO Kaye Shedlock' 71.53 53 ⇑P P 04 17 00.4 +0.1
baz=71
R26A Arlington 71.59 54 ⇓P P 04 17 00.4 -0.1
baz=71,SNR=8.6
P28A Saint Francis 71.61 52 P P 04 17 00.2 -0.5
baz=71
O29A 4D Ranch, Culb 71.72 51 P P 04 17 00.8 -0.4
baz=71
CHVG Ch'k'valeri 71.72 313 P P 04 16 58.8 -2.3
V23A Ortiz Mt. (NFS 71.84 57 ⇑P P 04 17 02.9 +0.7
baz=72
T25A Trinidad 71.87 55 ⇑P P 04 17 02.4 0.0
baz=72,SNR=7.4
Q28A Sharon Springs 71.93 52 ⇓P P 04 17 02.3 -0.2
baz=72
R27A Eads 71.95 53 ⇑P P 04 17 02.4 -0.3
baz=72,SNR=6.7
SPMN St. Paul 71.96 42 P P 04 17 02.1 -0.5
baz=72
AKH Akhalkalaki 71.96 312 P P 04 17 03.0 +0.2

ASAR Alice Springs 72.01 198 P P 04 17 03.7 +0.8
ASAR Alice Springs 72.01 198 P P 04 17 03.7 +0.8
comp=Z,5.5nm,0.7s,baz=12,slow=6.0,SNR=40
S26A Kim 72.06 54 ⇑P P 04 17 02.9 -0.4
baz=72
O30A MW Ranch, Wils 72.08 50 ⇓P P 04 17 03.0 -0.3
baz=72
LAZ Ladron 72.23 59 eP P 04 17 05.3 +0.8
comp=Z,2.3nm,1.0s
GNI Garni 72.23 310 eP P 04 17 04.3 -0.1
comp=Z,18nm,1.1s
GNI Garni 72.23 310 LR LR 04 52 40.3
comp=Z,149nm,18.7s,baz=100,slow=39
ANMO Albuquerque 72.24 58 eP P 04 17 05.2 +0.5
comp=Z,81nm,2.9s
T26A Comanche Natio 72.31 54 ⇓P P 04 17 04.6 -0.4
baz=72,SNR=9.9
V24A Rampart Ranch, 72.38 57 ⇓P P 04 17 06.5 +1.0
baz=72
U25A Circle Dot Ran 72.40 56 ⇓P P 04 17 05.9 +0.4
baz=72
P30A Selden 72.44 51 ⇑P P 04 17 04.9 -0.6
baz=72,SNR=5.5
R28A Tribune 72.46 53 ⇓P P 04 17 05.3 -0.4
baz=72
O31A Woolen Ranch, 72.48 50 ⇑P P 04 17 04.8 -1.0
baz=72
Q29A Oakley 72.51 52 ⇓P P 04 17 05.4 -0.6
baz=72,SNR=7.4
W24A Lazy 6 Ranch, 72.67 57 ⇑P P 04 17 08.1 +0.9
baz=72,SNR=5.0
V25A Rancho No Teng 72.68 56 ⇑P P 04 17 07.2 0.0
baz=72
R29A Marienthal 72.76 52 ⇓P P 04 17 07.1 -0.4
baz=72,SNR=7.6
U26A Atchley Ranch, 72.78 55 ⇓P P 04 17 07.8 0.0
baz=72
Q30A Quinter 72.86 51 ⇓P P 04 17 07.5 -0.5
baz=73,SNR=6.2
T27A Campo 72.87 54 ⇓P P 04 17 08.2 -0.1
baz=73
P31A Stockton 72.91 50 ⇓P P 04 17 07.6 -0.7
baz=73,SNR=8.6
S28A Manter 72.95 53 ⇑P P 04 17 08.4 -0.3
baz=73,SNR=5.6
319A Douglas 73.06 62 ⇓P P 04 17 10.3 +0.8
baz=73
X24A Lazy VL Ranch, 73.11 57 ⇑P P 04 17 10.6 +0.8
baz=73
Z22A Elephant Butte 73.14 59 ⇓P P 04 17 10.3 +0.4
baz=73
121A Cookes Peak, D 73.16 60 ⇑P P 04 17 10.7 +0.6
baz=73
T28A Walsh 73.17 54 ⇑P P 04 17 09.6 -0.3
baz=73
V26A Tequesquite Ra 73.18 56 ⇑P P 04 17 10.2 +0.1
baz=73
Y23A Lovelace Mesa, 73.19 58 ⇓P P 04 17 10.8 +0.5
baz=73,SNR=5.9
W25A X Bar L Ranch, 73.21 56 ⇑P P 04 17 10.8 +0.5
baz=73,SNR=6.0
P32A Huiting Farm, 73.25 50 ⇓P P 04 17 09.2 -1.0
baz=73,SNR=7.3
U27A Thompson Grove 73.27 55 ⇑P P 04 17 10.2 -0.4
baz=73,SNR=5.6
R30A Dighton 73.33 52 ⇓P P 04 17 10.3 -0.5
baz=73,SNR=5.4
GKP Gorka Klasztor 73.36 334 eP P 04 17 10.5 -0.1
GKP Gorka Klasztor 73.36 334 eP P 04 17 10.4 -0.1
CLDR Caldiran 73.40 310 eP P 04 17 10.3 -1.1
BEL Belsk 73.45 331 eP P 04 17 11.6 +0.4
BEL Belsk 73.45 331 eP P 04 17 11.6 +0.4
SCHQ Schefferville 73.53 22 P P 04 17 11.0 -0.7
SCHQ Schefferville 73.53 22 P P 04 17 11.0 -0.7
comp=Z,4.4nm,0.5s,baz=336,slow=5.9,SNR=24
SCHQ LR LR 04 52 22.3
comp=Z,39nm,20.1s,baz=348,slow=38
Y24A Capitan 73.56 58 ⇓P P 04 17 12.8 +0.4
baz=73,SNR=8.3
AGRB Hanur-Agry 73.57 311 eP P 04 17 12.7 +0.3
X25A Clemmons Ranch 73.58 57 ⇑P P 04 17 13.1 +0.6
baz=73
T29A Hugoton 73.59 53 ⇓P P 04 17 12.0 -0.4
baz=73
W26A Owens Ranch, T 73.70 56 ⇓P P 04 17 13.6 +0.5
baz=73
S30A Montezuma 73.70 52 ⇓P P 04 17 12.5 -0.5
baz=73
R31A Burdett 73.73 51 ⇑P P 04 17 12.5 -0.6
baz=73
Q32A Meitler Ranch, 73.73 50 ⇑P P 04 17 12.2 -0.9
baz=73
P33A Williams Farm, 73.86 49 ⇑P P 04 17 13.3 -0.5
baz=74
Y25A Mesa, Roswell 74.00 58 ⇓P P 04 17 15.1 +0.2
baz=74,SNR=6.1
LVV L'vov 74.01 328 eP P 04 17 16.6 +2.1
Z24A Sheeppen Canyo 74.03 58 ⇓P P 04 17 15.4 +0.3
baz=74,SNR=5.7
X26A CR and CF Fran 74.06 57 ⇓P P 04 17 15.8 +0.5
baz=74
Q33A Connelly Farm, 74.11 50 ⇓P P 04 17 14.1 -1.2
baz=74,SNR=9.6
EZM Erzurum 74.17 312 eP P 04 17 13.8 -2.1
SCIA State Center 74.27 45 eP P 04 17 16.3 +0.1
comp=Z,41nm,0.7s
X27A F and S Farms, 74.39 56 ⇓P P 04 17 17.7 +0.5
baz=74
BAYT Ayd¨–ntepe-Bay 74.42 313 eP P 04 17 15.0 -2.3
Z25A Roswell 74.44 58 ⇑P P 04 17 17.8 +0.4
baz=74
Y26A Elida 74.50 57 ⇑P P 04 17 17.6 -0.2
baz=74
T31A Randall Ranch, 74.52 52 ⇑P P 04 17 17.2 -0.6
baz=74
R33A Olander Ranch, 74.54 50 ⇑P P 04 17 17.1 -0.8
baz=74
KWP Kalwaria Pacla 74.64 329 eP P 04 17 19.0 +0.8
KWP Kalwaria Pacla 74.64 329 eP P 04 17 18.9 +0.7
BSEG Bad Segeberg 74.72 338 eP P 04 17 18.5 0.0
comp=Z,14nm,0.9s
T32A Huddler Ranch, 74.87 52 ⇓P P 04 17 19.4 -0.4
baz=75
Z26A Caprock 74.88 58 ⇓P P 04 17 20.5 +0.5
baz=75,SNR=17
Y27A Causey 74.91 57 ⇓P P 04 17 20.6 +0.4
baz=75,SNR=13
125A Gardner Draw, 74.92 58 ⇓P P 04 17 20.6 +0.4
baz=75,SNR=7.5
CUKT Cukurca 74.95 309 eP P 04 17 21.9 +1.5
U31A Nine Bar Ranch 74.96 53 ⇑P P 04 17 20.4 0.0
baz=75
X28A Dimmitt 75.00 56 ⇑P P 04 17 20.7 +0.1
baz=75
AMTX Amarillo 75.03 55 eP P 04 17 21.4 +0.6
comp=Z,20nm,0.8s
AMTX Amarillo 75.03 55 ⇓P P 04 17 21.0 +0.2
baz=75
MSTX Muleshoe 75.07 56 eP P 04 17 20.7 -0.4
comp=Z,9.6nm,0.8s
MSTX Muleshoe 75.07 56 ⇓P P 04 17 21.3 +0.2
baz=75,SNR=5.9
OJC Ojcow 75.16 331 eP P 04 17 21.1 0.0
OJC Ojcow 75.16 331 eP P 04 17 21.1 0.0
225A Deer Hill, Car 75.22 59 ⇑P P 04 17 22.4 +0.3
baz=75
ERZN Erzincan 75.24 313 eP P 04 17 21.3 -0.7
Z27A Tatum 75.29 57 ⇑P P 04 17 22.5 +0.1
baz=75,SNR=7.5
126A Clayton Basin, 75.30 58 ⇓P P 04 17 22.3 -0.1
baz=75
T33A Patterson Ranc 75.31 51 ⇑P P 04 17 22.1 -0.2
baz=75
X29A Tulia 75.33 55 ⇓P P 04 17 22.9 +0.3
baz=75,SNR=8.6
STHS Stebnicka Huta 75.34 329 eP P 04 17 23.1 +0.8
STHS pmax pmax
comp=Z,20nm,0.8s
STHS Stebnicka Huta 75.34 329 eP P 04 17 23.1 +0.8
BUR08 Bucovina Ar. S 75.37 326 eP P 04 17 22.6 0.0
KOLS Kolonicke sedl 75.39 329 eP P 04 17 22.4 -0.1
KOLS pmax pmax
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 75.39 329 eP P 04 17 22.4 -0.1
BURAR Bucovina Array 75.39 326⇑iP P 04 17 22.7 0.0
V31A Spring Creek L 75.40 53 ⇑P P 04 17 23.3 +0.4
baz=75,SNR=5.0

226B Tecolote Peak, 75.63 58 ⇑P P 04 17 24.6 +0.3
baz=75,SNR=7.3
UZH Uzhgorod 75.63 328 eP P 04 17 23.4 -0.5
UZH e 04 17 36.6
UZH e 04 17 43.2
NIE Niedzica 75.66 330 eP P 04 17 24.7 +0.6
NIE Niedzica 75.66 330 eP P 04 17 24.7 +0.6
127A Arkansas Junct 75.67 58 ⇑P P 04 17 24.3 -0.2
baz=75
CRVS Cervenica-Dubn 75.70 329 eP P 04 17 24.4 +0.1
CRVS pmax pmax
comp=Z,11nm,0.8s
CRVS Cervenica-Dubn 75.70 329 eP P 04 17 24.4 +0.1
TESR Tescani 75.74 325⇑iP P 04 17 24.6 +0.1
KSP Ksiaz 75.75 333⇑eP P 04 17 24.5 -0.1
KSP Ksiaz 75.75 333 eP P 04 17 24.7 +0.1
W31A Holland Ranch, 75.78 54 ⇓P P 04 17 25.1 +0.1
baz=76
Y29A Porterfield Fa 75.78 56 ⇑P P 04 17 25.2 +0.1
baz=76
Z28A Tucker Farm, M 75.78 57 ⇓P P 04 17 25.2 0.0
baz=76
X30A Coker Ranch, T 75.80 55 ⇑P P 04 17 24.8 -0.4
baz=76
U33A Lingo Farm, Me 75.86 52 ⇓P P 04 17 25.0 -0.4
baz=76
V32A Arapaho 75.88 53 ⇑P P 04 17 25.5 -0.1
baz=76
PTK Pertek 75.94 312 eP P 04 17 26.4 +0.3
TRPA Tarpa 75.96 328 eP P 04 17 26.4 +0.6
BMR Baia Mare 75.99 327⇑iP P 04 17 26.4 +0.4
OKC Ostrava-Krasne 76.03 331⇑eP P 04 17 26.2 +0.1
OKC ex x 04 17 31.1
425A Indio Mountain 76.07 60 ⇑P P 04 17 27.2 +0.3
baz=76,SNR=7.4
NRDL Niedersach Rie 76.07 337 eP P 04 17 26.1 -0.1
comp=Z,14nm,0.8s
UPC Upice 76.14 333⇑eP P 04 17 26.8 +0.1
PETR Petresti 76.15 324⇑iP P 04 17 27.9 +1.1
X31A McDonald Ranch 76.17 54 ⇑P P 04 17 27.6 +0.4
baz=76
U34A Anderson Ranch 76.17 51 ⇑P P 04 17 27.4 +0.2
baz=76
DPC Dobruska-Polom 76.17 333 eP P 04 17 27.4 +0.4
DPC Dobruska-Polom 76.17 333 eP P 04 17 27.3 +0.3
DPC ex x 04 17 29.6
DPC Dobruska-Polom 76.17 333 eP P 04 17 27.4 +0.4
Z29A Hungry Hill Ra 76.19 56 ⇑P P 04 17 27.9 +0.4
baz=76,SNR=9.1
Y30A Stafford Cattl 76.20 55 ⇓P P 04 17 27.6 +0.1
baz=76
W32A Sentinel 76.21 53 ⇑P P 04 17 27.7 +0.2
baz=76
128A Castleberry Fa 76.21 57 ⇓P P 04 17 27.6 0.0
baz=76,SNR=7.6
V33A Lossen Ranch, 76.22 52 ⇓P P 04 17 27.1 -0.4
baz=76
CFR Carcaliu 76.22 323⇓iP P 04 17 27.5 +0.2
PLOR Plostina 76.28 324⇑iP P 04 17 27.8 +0.1
326A Caldwell Ranch 76.29 59 ⇓P P 04 17 28.0 0.0
baz=76,SNR=7.5
CLL Collm 76.33 335⇑iP P 04 17 27.3 -0.5
CLL e*PP pP 04 17 45.0 -3.0
CLL pmax pmax
comp=Z,31nm,0.8s
CLL Collm 76.33 335 eP P 04 17 27.5 -0.3
comp=Z,31nm,0.8s
CLL Collm 76.33 335⇑iP P 04 17 27.3 -0.5
comp=Z,31nm,0.8s
CLL e 04 17 45.0
CLL esP sP 04 17 58.0 +1.7
KECS Kecovo 76.40 329 eP P 04 17 28.1 -0.2
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 76.40 329 eP P 04 17 28.1 -0.2
BRG Berggiesshubel 76.44 334 iP P 04 17 28.3 -0.2
comp=Z,8.2nm,0.7s
BRG Berggiesshubel 76.44 334 iP P 04 17 28.3 -0.2
BRG pmax pmax
comp=Z,8.0nm,0.7s
MAZI Mazidag 76.47 311 eP P 04 17 27.6 -1.4
Y31A Rekieta Farm, 76.50 55 ⇑P P 04 17 29.3 +0.1
baz=76
Z30A Sanderson Ranc 76.50 56 ⇑P P 04 17 29.1 -0.1
baz=76,SNR=10
228A UT Block 9, Go 76.52 57 ⇑P P 04 17 29.7 +0.4
baz=76
GRER 76.53 324⇓iP P 04 17 30.0 +0.9
PVCC Panska Ves 76.56 334⇑eP P 04 17 29.2 +0.1
129A Stewart Farms, 76.56 57 ⇑P P 04 17 29.3 -0.2
baz=76
CLZ Clausthal 76.59 337 eP P 04 17 29.7 +0.4
comp=Z,27nm,0.9s
HARR Harsova 76.70 323⇓iP P 04 17 30.5 +0.5
X32A Elmer 76.71 54 ⇓P P 04 17 30.2 -0.1
baz=76,SNR=5.2
426A McDonald Obser 76.72 59 ⇓P P 04 17 30.5 -0.2
baz=76,SNR=5.3
TLB Topalu 76.74 323⇑iP P 04 17 30.9 +0.7
ARMA Armidale 76.75 181 eP P 04 17 32.1 +1.7
comp=Z,7.2nm,0.9s
CJR Cluj-Napoca 76.76 327⇑iP P 04 17 30.1 -0.3
IBBN Ibbenburen 76.85 339 eP P 04 17 30.8 +0.1
comp=Z,39nm,1.2s
MLR Muntele Rosu 76.86 325⇑iP P 04 17 31.6 +0.5
ISR Istrita 76.92 324⇑iP P 04 17 32.2 +0.9
328A Wristen Ranch, 76.92 58 ⇓P P 04 17 31.7 +0.1
baz=77,SNR=17
Y32A R-V Farms, Ver 76.93 54 ⇑P P 04 17 31.3 -0.2
baz=77,SNR=5.5
427A Hayter Ranch, 76.96 59 ⇓P P 04 17 32.1 +0.2
baz=77,SNR=5.2
DRGR 77.02 327⇑iP P 04 17 31.8 -0.1
Z31A Sharp Cattle R 77.04 55 ⇓P P 04 17 32.2 0.0
baz=77,SNR=8.5
PRU Pruhonice 77.04 334⇑eP P 04 17 31.9 0.0
PRU ex x 04 17 35.0
229A Bryant Ranch, 77.08 57 ⇑P P 04 17 32.9 +0.4
baz=77,SNR=5.8
PSZ Piszkesteto 77.09 329 eP P 04 17 32.4 +0.1
PSZ pmax pmax
comp=Z,14nm,0.9s
PSZ Piszkesteto 77.09 329⇑iP P 04 17 32.4 +0.2
PSZ Piszkesteto 77.09 329 eP P 04 17 32.4 +0.1
comp=Z,14nm,0.9s
PSZ Piszkesteto 77.09 329 eP P 04 17 32.8 +0.6
130A Snyder 77.10 56 ⇑P P 04 17 32.9 +0.3
baz=77
526A Mary Lane Ranc 77.13 60 ⇓P P 04 17 33.3 +0.4
baz=77,SNR=6.5
MOX Moxa 77.32 336 eP P 04 17 33.4 0.0
comp=Z,11nm,0.8s
329A Wagon Wheel Ra 77.33 58 ⇑P P 04 17 34.2 +0.3
baz=77,SNR=12
527A Woodward Ranch 77.35 60 ⇑P P 04 17 34.0 -0.1
baz=77,SNR=6.0
TREC Trest 77.36 333⇑eP P 04 17 33.7 0.0
X34A Smith Ranch, M 77.37 53 ⇑P P 04 17 34.9 +0.9
baz=77
131A Roby 77.38 56 ⇑P P 04 17 34.0 -0.1
baz=77,SNR=5.8
Y33A Hilltop Ranch, 77.38 54 ⇑P P 04 17 33.8 -0.2
baz=77,SNR=6.7
WTSB Winterswijk 77.40 339 eP P 04 17 33.7 -0.1
comp=Z,24nm,0.6s
SMOL Smolenice 77.42 331 eP P 04 17 34.7 +0.7
SMOL Smolenice 77.42 331 eP P 04 17 34.6 +0.6
Z32A Haskell 77.42 55 ⇓P P 04 17 34.0 -0.3
baz=77,SNR=7.2
626A Big Bend Ranch 77.47 60 ⇑P P 04 17 34.9 +0.1
baz=77,SNR=7.4
428A Kincaid Ranch, 77.48 59 ⇑P P 04 17 35.3 +0.6
baz=77,SNR=6.0
TUL1 Tulsa 77.49 51 eP P 04 17 34.6 0.0
comp=Z,55nm,1.9s
TUL1 Tulsa 77.49 51 ⇓P P 04 17 34.4 -0.2
baz=77
230A Sterling City 77.54 57 ⇓P P 04 17 35.0 -0.1
baz=77
BNN Bunyan 77.74 314 eP P 04 17 34.2 -1.9
BUG Bochum--Univer 77.76 339 eP P 04 17 36.0 +0.2
comp=Z,44nm,1.2s
528A Cox Ranch, San 77.83 59 ⇑P P 04 17 37.3 +0.6
baz=78
ABTX Abilene, Hawle 77.83 55 eP P 04 17 36.5 -0.2
ABTX Abilene, Hawle 77.83 55 ⇑P P 04 17 36.9 +0.3

baz=78
Z33A Whitaker Ranch 77.84 54 ⇓P P 04 17 36.4 -0.2
baz=78
330A Mertzon 77.86 57 ⇓P P 04 17 36.5 -0.3
baz=78,SNR=7.3
Y34A Reagan Ranch, 77.90 53 ⇑P P 04 17 36.8 -0.1
baz=78
TXAR Lajitas Array 77.91 60 P P 04 17 37.6 +0.5
TXAR Lajitas Array 77.91 60 P P 04 17 37.6 +0.5
comp=Z,7.0nm,0.6s,baz=297,slow=4.2,SNR=65
ROTZ Rotzenmuhle 77.94 335 *e*P P 04 17 37.0 +0.1
comp=Z,11nm,0.8s
231A Bronte 77.96 56 ⇑P P 04 17 37.0 -0.3
baz=78,SNR=5.2
PKSN Nyarlorinc 77.97 329⇓*e*P P 04 17 38.1 +1.1
627A Terlingua Ranc 77.99 60 ⇑P P 04 17 37.7 +0.1
baz=78
429A Davenport Ranc 78.01 58 ⇑P P 04 17 37.8 +0.1
baz=78
PKSG 78.06 330 *e*P P 04 17 38.1 +0.5
PKS7 Kunszentmiklos 78.09 329⇓*e*P P 04 17 38.5 +0.8
KHC Kasperske Hory 78.10 334 *e*P P 04 17 38.1 +0.3
KHC pmax pmax
comp=Z,20nm,0.7s
KHC Kasperske Hory 78.10 334⇑*i*P P 04 17 38.0 +0.3
KHC *ex* x 04 17 42.6
KHC Kasperske Hory 78.10 334 *e*P P 04 17 38.1 +0.3
comp=Z,20nm,0.7s
BR131 Keskin Array S 78.13 316 *e*P P 04 17 38.4 +0.1
comp=Z,12nm,0.8s
BRTR Keskin Array B 78.13 316 P P 04 17 38.7 +0.4
BRTR Keskin Array B 78.13 316 P P 04 17 38.7 +0.4
comp=Z,11nm,0.8s,baz=73,slow=4.0,SNR=36
CSKK Cs̈akako 78.13 330⇓*e*P P 04 17 38.5 +0.5
529A Stev Forest Ra 78.19 59 ⇑P P 04 17 39.3 +0.6
baz=78
Z34A Collier Ranch, 78.25 54 ⇑P P 04 17 38.8 -0.1
baz=78
133A Hamilton Ranch 78.26 55 ⇓P P 04 17 39.1 +0.2
baz=78
KMRS Kahramanmaras 78.26 313 *e*P P 04 17 37.4 -1.5
628A Black Gap, Mar 78.26 59 ⇓P P 04 17 39.2 +0.2
baz=78
430A Baggett Ranch, 78.28 58 ⇓P P 04 17 39.1 0.0
baz=78,SNR=11
GRF Grafenberg Arr 78.29 335 *e*P P 04 17 39.1 +0.3
comp=Z,32nm,0.7s
WET Wettzell 78.30 334 *e*P P 04 17 39.2 +0.3
comp=Z,20nm,1.0s
PKST T¨s 78.30 330 *e*P P 04 17 39.1 +0.2
GEC2 GERESS Array S 78.31 334 *e*P P 04 17 38.9 -0.2
GEC2 GERESS Array S 78.31 334 *e*P P 04 17 38.8 -0.3
comp=Z,8.0nm,0.6s
GEC2 GERESS Array S 78.31 334 *e*P P 04 17 38.9 -0.2
GERES GERESS Array B 78.31 334 P P 04 17 38.5 -0.5
GERES GERESS Array B 78.31 334 P P 04 17 38.5 -0.5
comp=Z,6.3nm,0.6s,baz=38,slow=5.1,SNR=22
GERES LR LR 04 54 35.2
comp=Z,125nm,21.7s,baz=348,slow=37
331A San Angelo 78.36 57 ⇑P P 04 17 39.3 -0.3
baz=78,SNR=6.0
SFIN Scholer Farm 78.36 42 ⇓P P 04 17 39.1 -0.3
baz=78
232A Coleman 78.38 56 ⇓P P 04 17 39.5 -0.2
baz=78,SNR=16
ANTO Ankara 78.41 317 *e*P P 04 17 39.7 0.0
ANTO pmax pmax
comp=Z,22nm,0.9s
ANTO Ankara 78.41 317⇑*i*P P 04 17 40.7 +0.9
ANTO Ankara 78.41 317 *e*P P 04 17 39.7 0.0
comp=Z,22nm,0.9s
BZS Buzias 78.42 327⇑*i*P P 04 17 39.3 -0.3
SOP Sopron 78.42 331⇓*e*P P 04 17 40.5 +0.9
CONA Conrad Observa 78.44 332 *i* P P 04 17 40.4 +0.6
comp=Z,19nm,0.6s,SNR=5.6
TNS Taunus Mts 78.57 337 *e*P P 04 17 40.4 0.0
comp=Z,22nm,0.9s
AFSR Af ar-Bala (A 78.61 317 *e*P P 04 17 41.3 +0.4
Z35A Perchaven, San 78.64 53 ⇑P P 04 17 40.8 -0.2
baz=78
530A J-C Ranch, Com 78.69 58 ⇑P P 04 17 41.9 +0.5
baz=78
332A Millersview 78.70 56 ⇑P P 04 17 41.5 +0.1
baz=78,SNR=8.4
233A Rising Star 78.70 55 ⇓P P 04 17 41.5 +0.1
baz=78
431A Sonora 78.72 57 ⇓P P 04 17 41.5 0.0
baz=78,SNR=7.7
HGN Heimansgroeve 78.72 339 *e*P P 04 17 41.0 -0.1
comp=Z,16nm,0.7s
BEBN Eben Emael 78.75 339 P P 04 17 41.5 +0.2
comp=Z,10nm,1.1s
PKS9 Tamasi 78.80 330⇓*e*P P 04 17 41.4 -0.2
KOZT Kozan 78.82 314 *e*P P 04 17 40.5 -1.4
STKA Stephens Creek 78.82 189 LR LR 04 54 30.3
comp=Z,20nm,19.2s,baz=19,slow=37
MEM Membach 78.84 339 P P 04 17 42.0 +0.2
comp=Z,19nm,1.1s
MEM Membach 78.84 339 *e*P P 04 17 42.5 +0.7
MEM pmax pmax
comp=Z,27nm,0.9s
MEM Membach 78.84 339 *e*P P 04 17 42.5 +0.7
comp=Z,27nm,0.9s
PKSM Moragy 78.99 329⇑*i*P P 04 17 42.2 -0.5
PKSM Moragy 78.99 329⇑*e* P 04 17 41.9 -0.8
MOA Molln 79.02 333⇓*i*P P 04 17 43.0 +0.1
comp=Z,16nm,0.8s
432A Menard 79.05 57 ⇓P P 04 17 43.4 +0.1
baz=79,SNR=7.6
531A Rocksprings 79.14 57 ⇓P P 04 17 44.0 +0.1
baz=79,SNR=8.3
ARSA Arzberg 79.14 332⇓*i*P P 04 17 43.9 +0.3
comp=Z,5.8nm,0.6s
234A Clairette 79.14 55 ⇓P P 04 17 43.6 -0.2
baz=79
333A Richland Sprin 79.17 56 ⇓P P 04 17 44.0 0.0
baz=79,SNR=7.5
BCLA Clavier 79.19 339 P P 04 17 43.6 -0.1
comp=Z,20nm,1.4s
JCT Junction City 79.33 57 *e*P P 04 17 44.8 -0.1
JCT pmax pmax
comp=Z,33nm,1.6s
JCT Junction City 79.33 57 *e*P P 04 17 44.8 -0.1
comp=Z,33nm,1.6s
JCT Junction City 79.33 57 ⇓P P 04 17 44.9 -0.1
baz=79
SVRH Sivrihisar-ESK 79.34 317 *e*P P 04 17 44.1 -0.8
SNF Seneffe 79.35 340 P P 04 17 44.0 -0.6
KARA Karaisali 79.37 314 *e*P P 04 17 44.0 -1.0
SULT Sultanhani-AKS 79.39 315 *e*P P 04 17 45.6 +0.5
SIUC Southern Illin 79.46 45 *e*P P 04 17 45.4 0.0
comp=Z,21nm,0.8s
532A Rocksprings 79.53 57 ⇓P P 04 17 46.0 0.0
baz=79,SNR=9.1
WHTX Lake Whitney 79.54 54 ⇓P P 04 17 45.8 -0.2
baz=79
433A Art 79.54 56 ⇓P P 04 17 45.9 -0.1
baz=79,SNR=5.6
RJOB Jochberg 79.58 334 *e*P P 04 17 46.3 +0.4
comp=Z,15nm,0.9s
334A Lometa 79.59 55 ⇓P P 04 17 46.2 0.0
baz=79,SNR=8.5
PBMO Poplar Bluff 79.59 47 *e*P P 04 17 46.1 0.0
comp=Z,11nm,0.7s
GIVF Givet 79.60 339⇑*i*P P 04 17 45.9 -0.1
comp=Z,22nm,0.9s
GIVF Givet 79.60 339⇑*i*P P 04 17 45.9 -0.1
GIVF pmax pmax
comp=Z,22nm,0.9s
GIVF Givet 79.60 339⇑*i*P P 04 17 45.9 -0.1
comp=Z,22nm,0.9s
KIZT Kizilcal 79.63 317 *e*P P 04 17 45.6 -0.8
DOU Dourbes 79.66 340 P P 04 17 45.8 -0.5
631A Perdido Creek 79.68 58 ⇑P P 04 17 47.1 +0.3
baz=79,SNR=22
WLF Walferdange 79.68 339 P P 04 17 45.8 -0.6
STU Stuttgart 79.69 336 *e*P P 04 17 46.6 +0.1
comp=Z,24nm,0.9s
BAIF Baives 79.79 340⇑*i*P P 04 17 46.9 -0.1
BAIF Baives 79.79 340⇑*i*P P 04 17 46.9 -0.1
BAIF Baives 79.79 340⇑*i*P P 04 17 46.9 -0.1
SOKA Soboth 79.81 332⇑*i*P P 04 17 47.3 0.0
comp=Z,19nm,0.9s,SNR=5.3
PERS Pernice 79.82 332 *i* P P 04 17 47.2 -0.1
LANF Langenberg 79.88 337⇑*e*P P 04 17 47.3 -0.2
LADK Ladik-KONYA 79.94 316 *e*P P 04 17 47.2 -0.9
MERS Mersin 79.94 314 *e*P P 04 17 44.1 -4.1
434A Burnet 79.96 56 ⇓P P 04 17 48.0 -0.3
baz=80
KBA Koelnbreinsper 79.99 333⇑*i*P P 04 17 49.1 +0.7
comp=Z,26nm,0.6s,SNR=11
USIN University of 80.01 44 *e*P P 04 17 48.6 +0.2
comp=Z,22nm,0.8s
PARMO Parma 80.02 46 *e*P P 04 17 48.7 +0.2
632A Uvalde 80.06 57 ⇑P P 04 17 49.0 +0.2
baz=80,SNR=5.5
533A Kerrville 80.08 57 ⇑P P 04 17 49.2 +0.2
baz=80,SNR=5.7
OBKA Obir 80.11 332⇓*i*P P 04 17 48.9 -0.1
comp=Z,7.9nm,0.6s
KONT Konya--Tatoy 80.14 316 *e*P P 04 17 48.8 -0.4
WATA Walderalm 80.30 334⇑*i*P P 04 17 50.3 +0.3
comp=Z,15nm,0.5s,SNR=13
BFO Black Forest 80.33 337*ce*P P 04 17 50.2 +0.2
BFO Black Forest 80.33 337 *e*P P 04 17 49.9 -0.1
comp=Z,22nm,1.0s
BFO Black Forest 80.33 337 *e*P P 04 17 49.9 -0.1
comp=Z,22nm,1.0s
ACSO Alum Creek Sta 80.34 40 *e*P P 04 17 49.5 -0.6
comp=Z,17nm,0.6s
WTTA Wattenberg 80.35 334⇑*i*P P 04 17 50.8 +0.5
comp=Z,32nm,0.5s,SNR=9.3
RETA Reutte 80.41 335⇑*i*P P 04 17 50.7 +0.2
comp=Z,13nm,0.8s
534A Blanco 80.43 56 ⇓P P 04 17 50.8 0.0
baz=80,SNR=5.5
MOTA Moosalm 80.44 334⇓*i*P P 04 17 50.9 +0.2
comp=Z,30nm,0.9s,SNR=12
633A Saathoff Ranch 80.45 57 ⇑P P 04 17 51.4 +0.4
baz=80
WCI Wyandotte Cave 80.45 43 *e*P P 04 17 50.7 -0.1
WCI pmax pmax
comp=Z,18nm,0.8s
WCI Wyandotte Cave 80.45 43 *e*P P 04 17 50.7 -0.1
comp=Z,18nm,0.8s
732A Laxson Ranch, 80.54 58 ⇓P P 04 17 52.0 +0.6
baz=80,SNR=8.9
CDF Champ du Feu 80.54 337⇑*i*P P 04 17 51.1 -0.1
comp=Z,46nm,1.0s
CDF Champ du Feu 80.54 337⇑*i*P P 04 17 51.1 -0.1
CDF pmax pmax
comp=Z,46nm,1.0s
CDF Champ du Feu 80.54 337⇑*i*P P 04 17 51.1 -0.1
comp=Z,46nm,1.0s
VISS Visnje 80.64 331 *i* P P 04 17 50.9 -0.7
ECH Echery 80.75 337 *e*P P 04 17 52.1 -0.1
ECH pmax pmax
comp=Z,17nm,0.8s
ECH Echery 80.75 337⇑*e*P P 04 17 51.7 -0.5
ECH Echery 80.75 337 *e*P P 04 17 52.1 -0.1
comp=Z,17nm,0.8s
BOJS Bojanci 80.77 331 *i* P P 04 17 52.0 -0.3
PAGF Fort de Pagny 80.81 338⇑*i*P P 04 17 52.9 +0.4
comp=Z,31nm,1.0s
PAGF Fort de Pagny 80.81 338⇑*i*P P 04 17 52.9 +0.4
comp=Z,31nm,1.0s
JAVS Javornik 80.82 332 *i* P P 04 17 51.7 -1.0
FETA Feichten 80.84 335⇓*i*P P 04 17 53.2 +0.3
comp=Z,12nm,0.9s
DAVA Damuels 80.85 335⇑*i*P P 04 17 53.0 +0.1
comp=Z,17nm,0.8s
832A Faith Ranch, C 80.86 58 ⇑P P 04 17 53.7 +0.6
baz=81
733A Divot King Ran 80.94 58 ⇑P P 04 17 54.8 +1.3
baz=81
H06E1 SOCORRO T-PHAS 80.96 72 T T 05 47 47.6
SNR=6.9
634A China Grove, S 80.99 57 ⇑P P 04 17 54.1 +0.3
baz=81
MMB Musomiste 80.99 324⇑*i*P P 04 17 54.0 +0.4
MEZF Maizieres J'vi 81.03 339⇑*i*P P 04 17 53.9 +0.3
MEZF Maizieres J'vi 81.03 339⇑*i*P P 04 17 53.9 +0.3
THEF They Montfort 81.05 338⇓*e*P P 04 17 53.9 +0.1
MOF Molkenrain 81.09 337⇓*e*P P 04 17 53.7 -0.4
HAU Haudompre 81.16 338⇑*i*P P 04 17 54.2 -0.2
comp=Z,23nm,0.8s
HAU *e*R
comp=Z,131nm,17.0s
HAU Haudompre 81.16 338⇑*i*P P 04 17 54.2 -0.2
HAU pmax pmax
comp=Z,23nm,0.8s
HAU Haudompre 81.16 338⇑*i*P P 04 17 54.2 -0.2
comp=Z,23nm,0.8s
SUTC Sutluce-Ispart 81.17 317 *e*P P 04 17 51.9 -2.8
HINF Hinteralfeld 81.20 337⇑*i*P P 04 17 54.2 -0.4
comp=Z,21nm,0.9s
HINF Hinteralfeld 81.20 337⇑*i*P P 04 17 54.2 -0.4
HINF pmax pmax
comp=Z,21nm,0.9s
HINF Hinteralfeld 81.20 337⇑*i*P P 04 17 54.2 -0.4
comp=Z,21nm,0.9s
734A La Parita Cree 81.27 57 ⇑P P 04 17 55.5 +0.2
baz=81
SFTF Sexfontaines 81.31 339⇑*i*P P 04 17 55.1 -0.1
comp=Z,44nm,0.4s
SFTF Sexfontaines 81.31 339⇑*i*P P 04 17 55.1 -0.1
comp=Z,44nm,0.4s
FUORN Ofenpass-Fuorn 81.34 335 *e*P P 04 17 56.5 +0.8
comp=Z,19nm,1.0s
WVT Waverly 81.39 45 *e*P P 04 17 55.4 -0.4
WVT pmax pmax
comp=Z,13nm,0.9s
WVT Waverly 81.39 45 *e*P P 04 17 55.4 -0.4
comp=Z,14nm,0.9s
PMOR Pomariorio Ree 81.39 123 *e*T T 05 47 43.5
comp=Z,57nm,0.2s
LFK Lefkose 81.69 314 *e*P P 04 17 56.2 -1.2
735A Kenedy 81.69 57 ⇑P P 04 17 58.7 +1.2
baz=82,SNR=5.1
TUE Stuetta 81.74 335 *e*P P 04 17 57.4 -0.4
comp=Z,19nm,0.8s
933A Laredo 81.78 58 ⇑P P 04 17 59.1 +1.1
baz=82
834A Tilden 81.81 58 ⇑P P 04 17 59.5 +1.3
baz=82
CSS Prodhromos 82.04 314 *e*P P 04 17 58.5 -0.8
CSS Prodhromos 82.04 314 *e*P P 04 17 59.5 +0.2
comp=Z,2.1nm,0.7s
FLN La Foliniere 82.06 342 *e*P P 04 17 59.0 0.0
comp=Z,15nm,0.6s
FLN *e*R
comp=Z,155nm,20.8s
FLN La Foliniere 82.06 342 *e*P P 04 17 59.0 0.0
FLN pmax pmax
comp=Z,15nm,0.6s
FLN La Foliniere 82.06 342 *e*P P 04 17 59.0 0.0
comp=Z,15nm,0.6s
835A Beeville 82.11 57 ⇑P P 04 18 01.6 +2.0
baz=82
LEF Lefka 82.13 314 *e*P P 04 17 60.0 +0.3
LDF La Druitiere 82.14 342 *e*P P 04 17 59.4 -0.1
comp=Z,8.5nm,0.5s
LDF La Druitiere 82.14 342 *e*P P 04 17 59.4 -0.1
LDF pmax pmax
comp=Z,9.0nm,0.5s
LDF La Druitiere 82.14 342 *e*P P 04 17 59.4 -0.1
comp=Z,8.5nm,0.5s
MCWV Mont Chateau 82.17 38 *e*PP PP 04 21 16.2 +8.0
STON Ston 82.22 328 P P 04 17 58.5 -1.5
934A Benavides 82.23 58 ⇑P P 04 18 01.5 +1.2
baz=82
LOR Lormes 82.47 339⇑*i*P P 04 18 01.2 -0.1
comp=Z,45nm,0.9s
LOR *e*R
comp=Z,178nm,22.5s
LOR Lormes 82.47 339⇑*i*P P 04 18 01.2 -0.1
comp=Z,45nm,0.9s
PPT Papeete 82.48 125 LR LR 04 49 33.4
comp=Z,91nm,20.8s,baz=300,slow=32
GRR Gorron 82.49 342 *e*P P 04 18 01.5 +0.2
comp=Z,88nm,1.2s
GRR Gorron 82.49 342 *e*P P 04 18 01.5 +0.2
GRR pmax pmax
comp=Z,88nm,1.2s
GRR Gorron 82.49 342 *e*P P 04 18 01.5 +0.2
comp=Z,88nm,1.2s
PPT2 Papeete2 82.50 125 *e*LR LR 04 44 02.6
comp=Z,217nm,24.2s,baz=329
PPT2 Papeete2 82.50 125 *e*T T 05 49 06.4
comp=Z,4.0nm,0.2s
CABF La Chapelle 82.51 337 *e*P P 04 18 01.8 +0.2
comp=Z,44nm,1.2s
CABF La Chapelle 82.51 337 *e*P P 04 18 01.8 +0.2
CABF pmax pmax
comp=Z,44nm,1.2s
CABF La Chapelle 82.51 337 *e*P P 04 18 01.8 +0.2
comp=Z,44nm,1.2s
034A Hebbronville 82.53 58 ⇓P P 04 18 03.0 +1.1
baz=82
PAE Paea 82.56 125 *e*T T 05 49 10.1
comp=Z,0.9nm,0.2s
TIAR Tiarei 82.61 125 *e*T T 05 49 13.8
comp=Z,3.4nm,0.3s
SSF Saint Saulge 82.75 339⇑*i*P P 04 18 02.7 0.0
comp=Z,30nm,0.8s
SSF Saint Saulge 82.75 339⇑*i*P P 04 18 02.7 0.0
SSF pmax pmax
comp=Z,30nm,0.8s
SSF Saint Saulge 82.75 339⇑*i*P P 04 18 02.7 0.0
comp=Z,30nm,0.8s
SGMF Saint Gilles 82.96 343⇑*i*P P 04 18 03.9 +0.1
comp=Z,29nm,0.6s
SGMF Saint Gilles 82.96 343⇑*i*P P 04 18 03.9 +0.1
SGMF pmax pmax
comp=Z,29nm,0.6s
SGMF Saint Gilles 82.96 343⇑*i*P P 04 18 03.9 +0.1
comp=Z,29nm,0.6s
ROSF Rostrenen 83.02 344 *e*P P 04 18 04.1 0.0
comp=Z,77nm,1.1s
ROSF Rostrenen 83.02 344 *e*P P 04 18 04.1 0.0
ROSF pmax pmax
comp=Z,77nm,1.1s
ROSF Rostrenen 83.02 344 *e*P P 04 18 04.1 0.0
comp=Z,77nm,1.1s
SWET Sewanee 83.05 45 *e*P P 04 18 03.8 -0.7
comp=Z,22nm,0.8s
SMF Signal de Mont 83.06 339⇑*i*P P 04 18 04.6 +0.3
comp=Z,66nm,1.1s
SMF Signal de Mont 83.06 339⇑*i*P P 04 18 04.6 +0.3
SMF pmax pmax
comp=Z,66nm,1.1s
SMF Signal de Mont 83.06 339⇑*i*P P 04 18 04.6 +0.3
comp=Z,66nm,1.1s
TZTN Tazewell 83.10 42 *e*P P 04 18 03.7 -1.0
comp=Z,7.5nm,0.7s
LPL La Plagne 83.35 337⇑*i*P P 04 18 06.7 +0.6
comp=Z,21nm,0.8s
LPL La Plagne 83.35 337⇑*i*P P 04 18 06.7 +0.6
LPL pmax pmax
comp=Z,21nm,0.8s
LPL La Plagne 83.35 337⇑*i*P P 04 18 06.7 +0.6
comp=Z,21nm,0.8s
LPG La Plagne 83.36 336⇑*i*P P 04 18 06.9 +0.6
comp=Z,27nm,0.8s
LPG La Plagne 83.36 336⇑*i*P P 04 18 06.9 +0.6
LPG pmax pmax
comp=Z,27nm,0.8s
LPG La Plagne 83.36 336⇑*i*P P 04 18 06.9 +0.6
comp=Z,27nm,0.8s
BGF Bois d'Agland 83.39 339 *e*P P 04 18 06.2 +0.2
comp=Z,9.6nm,0.5s
BGF Bois d'Agland 83.39 339 *e*P P 04 18 06.2 +0.2
BGF pmax pmax
comp=Z,10.0nm,0.5s
BGF Bois d'Agland 83.39 339 *e*P P 04 18 06.2 +0.2
comp=Z,9.6nm,0.5s
QUIF Quistinic 83.40 344 *e*P P 04 18 05.8 -0.2
comp=Z,31nm,1.0s
QUIF Quistinic 83.40 344 *e*P P 04 18 05.8 -0.2
QUIF pmax pmax
comp=Z,31nm,1.0s
QUIF Quistinic 83.40 344 *e*P P 04 18 05.8 -0.2
comp=Z,31nm,1.0s
CPCT Cooper Cave 83.53 44 *e*P P 04 18 07.9 +1.0
CPCT *e*PP PP 04 21 14.5 -5.0
TKL Tuckaleechee C 83.72 43 *e*P P 04 18 07.4 -0.5
PLDF La Plantade 83.75 339⇓*e*P P 04 18 09.5 +1.5
AGO Saint Agoulin 83.79 339⇓*e*P P 04 18 09.4 +1.3
TCF Toulx Ste Croi 83.79 340⇑*i*P P 04 18 08.4 +0.3
comp=Z,33nm,0.9s
TCF Toulx Ste Croi 83.79 340⇑*i*P P 04 18 08.4 +0.3
TCF pmax pmax
comp=Z,33nm,0.9s
TCF Toulx Ste Croi 83.79 340⇑*i*P P 04 18 08.4 +0.3
comp=Z,33nm,0.9s
BLA Blacksburg 83.96 40 *e*P P 04 18 08.9 -0.3
comp=Z,15nm,0.8s
BLA pmax pmax
BLA Blacksburg 83.96 40 *e*P P 04 18 08.9 -0.3
comp=Z,15nm,0.8s
MFF Saint Martin d 84.03 341 *e*P P 04 18 09.1 -0.2
comp=Z,15nm,0.6s
MFF Saint Martin d 84.03 341 *e*P P 04 18 09.1 -0.2
MFF pmax pmax
comp=Z,15nm,0.6s
MFF Saint Martin d 84.03 341 *e*P P 04 18 09.1 -0.2
comp=Z,15nm,0.6s
MBDF Montbardon 84.07 336⇑*i*P P 04 18 09.8 +0.1
comp=Z,11nm,0.6s
MBDF Montbardon 84.07 336⇑*i*P P 04 18 09.8 +0.1
MBDF pmax pmax
comp=Z,11nm,0.6s
MBDF Montbardon 84.07 336⇑*i*P P 04 18 09.8 +0.1
comp=Z,11nm,0.6s
PYM Petit Puy Mans 84.10 339 *e*P P 04 18 11.3 +1.5
ORIF Oris-en-Rattie 84.13 337⇑*i*P P 04 18 10.6 +0.6
comp=Z,35nm,0.8s
ORIF *e*R
comp=Z,214nm,19.2s
ORIF Oris-en-Rattie 84.13 337⇑*i*P P 04 18 10.6 +0.6
ORIF pmax pmax
comp=Z,35nm,0.8s
ORIF Oris-en-Rattie 84.13 337⇑*i*P P 04 18 10.6 +0.6
comp=Z,35nm,0.8s
LRAL Lakeview Retre 84.28 47 *e*P P 04 18 10.1 -0.7
comp=Z,26nm,1.7s
LRAL *e*PP PP 04 21 17.4 -8.1
VIVF Saint-Julien-l 84.51 338⇑*i*P P 04 18 12.5 +0.7
comp=Z,32nm,0.8s
VIVF Saint-Julien-l 84.51 338⇑*i*P P 04 18 12.5 +0.7
VIVF pmax pmax
comp=Z,32nm,0.8s
VIVF Saint-Julien-l 84.51 338⇑*i*P P 04 18 12.5 +0.7
comp=Z,32nm,0.8s
SBF Sospel 84.67 335 *e*P P 04 18 12.3 -0.4
comp=Z,41nm,0.8s
SBF Sospel 84.67 335 *e*P P 04 18 12.3 -0.4
SBF pmax pmax
comp=Z,41nm,0.8s
SBF Sospel 84.67 335 *e*P P 04 18 12.3 -0.4
comp=Z,41nm,0.8s
CAF Calviac 85.11 339 *e*P P 04 18 15.0 +0.2
comp=Z,8.7nm,0.6s
CAF Calviac 85.11 339 *e*P P 04 18 15.0 +0.2
CAF pmax pmax
comp=Z,9.0nm,0.6s
CAF Calviac 85.11 339 *e*P P 04 18 15.0 +0.2
comp=Z,8.7nm,0.6s
KMSC Kings Mountain 85.27 42 *e*P P 04 18 15.2 -0.6
comp=Z,7.9nm,0.6s
KMSC Kinge Mountain 85.27 42 ⇑P P 04 18 15.4 -0.4
baz=85
LFF La Frestale 85.41 340 *e*P P 04 18 16.1 -0.1
comp=Z,16nm,0.7s
LFF La Frestale 85.41 340 *e*P P 04 18 16.1 -0.1
LFF pmax pmax
comp=Z,16nm,0.7s
LFF La Frestale 85.41 340 *e*P P 04 18 16.1 -0.1
comp=Z,16nm,0.7s
PGF Pioggiola 85.41 334 *e*P P 04 18 16.6 +0.1
comp=Z,24nm,0.7s
PGF Pioggiola 85.41 334 *e*P P 04 18 16.6 +0.1
PGF pmax pmax
comp=Z,24nm,0.7s
PGF Pioggiola 85.41 334 *e*P P 04 18 16.6 +0.1
comp=Z,24nm,0.7s
LMR La Mourre 85.42 336 *e*P P 04 18 16.4 +0.1
comp=Z,43nm,0.9s
LMR La Mourre 85.42 336 *e*P P 04 18 16.4 +0.1
LMR pmax pmax
comp=Z,43nm,0.9s
LMR La Mourre 85.42 336 *e*P P 04 18 16.4 +0.1
comp=Z,43nm,0.9s
GOGA Godfrey 85.70 44 *e*P P 04 18 17.6 -0.3
GOGA pmax pmax
comp=Z,6.0nm,0.8s
GOGA Godfrey 85.70 44 *e*P P 04 18 17.6 -0.3
comp=Z,5.7nm,0.8s
MTLF Montolieu 86.56 339 *e*P P 04 18 21.8 -0.2
MTLF Montolieu 86.56 339 *e*P P 04 18 21.8 -0.2

MTLF	**Montolieu**	**86.56**	**339**	*e*P	**P**	**04 18 21.8**	**-0.2**
TBI	**Tubuai**	**87.21**	**129**	*e*LR	LR	04 45 45.7	
	comp=Z,154nm,32.2s						
TBI	**Tubuai**	**87.21**	**129**	*e*T	T	05 54 57.7	
	comp=Z,41nm,0.2s						
TIGA	**Tifton**	**87.25**	**45**	⇓P	**P**	**04 18 25.9**	**+0.4**
	baz=87						
EPF	**Esparros**	**87.31**	**340**	*e*P	**P**	**04 18 24.6**	**-1.1**
	comp=Z,4.4nm,0.6s						
EPF	**Esparros**	**87.31**	**340**	*e*P	**P**	**04 18 24.6**	**-1.1**
EPF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
EPF	**Esparros**	**87.31**	**340**	*e*P	**P**	**04 18 24.6**	**-1.1**
	comp=Z,4.4nm,0.6s						
ETSF	**Etsaut**	**87.64**	**341**	*e*P	**P**	**04 18 26.8**	**-0.5**
ETSF	**Etsaut**	**87.64**	**341**	*e*P	**P**	**04 18 26.8**	**-0.5**
ETSF	**Etsaut**	**87.64**	**341**	*e*P	**P**	**04 18 26.8**	**-0.5**
ESDC	**Sonseca Array**	**91.47**	**342**	P	**P**	**04 18 44.9**	**-0.4**
ESDC	**Sonseca Array**	**91.47**	**342**	P	**P**	**04 18 44.9**	**-0.4**
	comp=Z,7.7nm,0.8s,baz=10.0,slow=4.3,SNR=12						
KEST	**Kesra**	**91.51**	**331**	P	**P**	**04 18 44.9**	**-0.7**
KEST	**Kesra**	**91.51**	**331**	P	**P**	**04 18 44.9**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=316,slow=1.3,SNR=8.2						
RKT	**Rikitea**	**95.35**	**118**	*e*LR	LR	04 49 04.1	
	comp=Z,124nm,33.5s						
TORD	**Torodi Ar. Bea**	**114.91**	**328**	PKP	PKPdf	04 24 18.8	-1.0
TORD				PKKPbc	**PKKPbc**	**04 34 55.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**114.91**	**328**	PKP	PKPdf	04 24 18.8	-1.0
	comp=Z,1.3nm,0.5s,baz=18,slow=1.6,SNR=44						
TORD				PKKPbc	**PKKPbc**	**04 34 55.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=194,slow=3.4,SNR=8.5						
QSPA	**South Pole Qui**	**136.43**	**180**	*e*PKPdf	**PKPdf**	**04 25 00.2**	**+1.1**
H03N2	**Juan Fernandez**	**139.20**	**90**	T	T	07 00 34.4	
	baz=305,slow=75,SNR=424						
H03N1	**Juan Fernandez**	**139.21**	**90**	T	T	07 00 33.8	
	baz=305,slow=75,SNR=756						
H03N3	**Juan Fernandez**	**139.21**	**90**	T	T	07 00 34.4	
	baz=305,slow=75,SNR=671						
BDFB	**Brasilia**	**144.65**	**36**	PKP	**PKPab**	**04 25 14.0**	**-0.4**
BDFB	**Brasilia**	**144.65**	**36**	PKP	**PKPab**	**04 25 14.0**	**-0.4**
	comp=Z,9.7nm,0.7s,baz=296,slow=3.5,SNR=16						
PLCA	**Paso Flores**	**148.65**	**95**	PKPbc	**PKPbc**	**04 25 26.1**	**+0.7**
PLCA	**Paso Flores**	**148.65**	**95**	PKPbc	**PKPbc**	**04 25 26.1**	**+0.7**
	comp=Z,11nm,0.8s,baz=288,slow=2.8,SNR=22						
CPUP	**Villa Florida**	**148.88**	**60**	PKPbc	**PKPbc**	**04 25 26.3**	**+0.1**
CPUP	**Villa Florida**	**148.88**	**60**	PKPbc	**PKPbc**	**04 25 26.3**	**+0.1**
	comp=Z,4.9nm,0.5s,baz=300,slow=2.0,SNR=16						
NVL	**N'lazarevskaya**	**149.40**	**204**	*e*PKP2	**PKPab**	**04 25 29.1**	**-2.2**
NVL				pmax	pmax		
	comp=Z,22nm,1.0s						
SNAA	**Sanae**	**152.37**	**197**	*e*PKPbc	**PKPbc**	**04 25 32.9**	**-0.3**

IDC 28 04:20:45.8±5.1, 0°49S×131°65E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/29, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=336.1km s-min=28.3km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.52**	**172**	P	Pn	04 25 16.1	0.0
	0.1nm,0.3s,baz=353,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**23.15**	**175**	P	P	04 25 53.2	-0.8
	0.6nm,0.6s,baz=357,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**63.81**	**324**	P	P	04 31 20.1	0.0
	0.3nm,0.6s,baz=108,slow=7.8,SNR=3.8						

IDC 28 04:21:39.7±80.0, 20°20S×177°02W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/25, mbtmp4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/25, Error ellipse: s-maj=1480.0km s-min=189.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**24.68**	**292**	LR	LR	04 36 29.2	
	comp=Z,128nm,18.7s,baz=316,slow=36						
STKA	**Stephens Creek**	**38.75**	**244**	P	P	04 29 05.6	-0.4
	1.8nm,0.6s,baz=99,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**45.48**	**256**	P	P	04 30 01.1	-0.1
	2.0nm,0.8s,baz=91,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**45.56**	**262**	P	P	04 30 01.7	0.0
	0.7nm,0.3s,baz=96,slow=7.3,SNR=5.9						

*ISCJB **28** 04:36:00.6±0.7, 8°08S±0°06×74°37W±0°04, h163km±7km, mb4.1/30, Error ellipse: s-maj=10.6km s-min=6.1km az=16.5*

*IDC **28** 04:36:00.6±0.6, 7°99S×74°46W, h148km±4km, mb3.7/12, mb1 4.0/15, mb1mx3.8/34, mbtmp4.2/15, Error ellipse: s-maj=20.7km s-min=9.8km az=26.0*

*NEIC **28** 04:36:01.5±0.8, 8°00S×74°35W, h150km±9km, mb4.5/22, Error ellipse: s-maj=10.0km s-min=7.5km az=60.0*

ISC 28 04:36:00.6±0.5, 8°06S±0°06×74°40W±0°06, h147km±4km, h147km:pP-P, n304, o0°79/320, mb4.4/31, 129C-118D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.07**	**283**	P	**Pn**	**04 37 00.9**	**-1.1**
	58nm,0.3s,baz=49,slow=11,SNR=514						
ATAH				S	**Sn**	**04 37 47.9**	**-1.8**
	59nm,0.3s,baz=42,slow=22,SNR=13						
NNA	**Nana**	**4.59**	**211**	*e*Pn	**Pn**	**04 37 09.6**	**+1.0**
NNA				*e*S	**Sn**	**04 37 58.7**	**-2.9**
OTAV	**Otavalo**	**9.18**	**334**	*e*Pn	**Pn**	**04 38 11.0**	**+0.8**
LPAZ	**La Paz**	**10.22**	**144**	*e*Pn	**Pn**	**04 38 24.6**	**+0.5**
	7.8nm,0.5s						
LPAZ	**La Paz**	**10.22**	**144**	P	**Pn**	**04 38 24.4**	**+0.3**
	1.6nm,0.3s,baz=320,slow=7.8,SNR=41						
SAML	**Samuel**	**11.12**	**95**	*e*Pn	**Pn**	**04 38 34.6**	**-1.0**
SAML				*e*S	**Sn**	**04 40 36.8**	**-1.8**
SIV	**San Ignacio**	**15.22**	**122**	P	**Pn**	**04 39 28.3**	**+0.2**
	0.9nm,0.3s,baz=314,slow=12,SNR=24						
LVC	**Limon Verde**	**15.41**	**161**	*e*Pn	**P**	**04 39 34.7**	**+2.9**
PTGA	**Pitinga**	**16.11**	**64**	*e*Pn	**P**	**04 39 39.6**	**+0.1**
	1.6nm,0.6s						
PTGA				*e*S	S	04 42 31.6	-7.1
PTGA	**Pitinga**	**16.11**	**64**	P	**P**	**04 39 40.1**	**+0.6**
	2.4nm,0.3s,baz=264,slow=16,SNR=17						
SDV	**Santo Domingo**	**17.24**	**13**	*e*Pn	**Pn**	**04 39 53.8**	**+0.9**
	27nm,1.7s						
CPUP	**Villa Florida**	**24.36**	**140**	*e*P	**P**	**04 41 05.2**	**+0.1**
	0.3nm,0.6s						
CPUP	**Villa Florida**	**24.36**	**140**	P	**P**	**04 41 05.2**	**+0.1**
	1.6nm,0.4s,baz=314,slow=7.2,SNR=6.9						
BDFB	**Brasilia**	**26.88**	**109**	P	**P**	**04 41 30.1**	**+2.1**
	2.6nm,0.5s,baz=276,slow=8.2,SNR=5.2						
035A	**Encino**	**41.69**	**327**	⇑P	**P**	**04 43 35.9**	**+0.9**
	baz=42						
034A	**Hebbronville**	**42.11**	**327**	⇓P	**P**	**04 43 39.8**	**+1.5**
	baz=42						
934A	**Benavides**	**42.45**	**327**	⇓P	**P**	**04 43 43.1**	**+2.0**
	baz=43						
835A	**Beeville**	**42.64**	**329**	⇑P	**P**	**04 43 44.7**	**+2.0**
	baz=43						
834A	**Tilden**	**42.88**	**328**	⇑P	**P**	**04 43 46.2**	**+1.6**
	baz=43						
735A	**Kenedy**	**43.09**	**329**	⇑P	**P**	**04 43 47.5**	**+1.3**
	baz=43						
833A	**Chaparral WMA,**	**43.49**	**327**	⇑P	**P**	**04 43 50.8**	**+1.4**
	baz=44						
635A	**Leesville**	**43.51**	**330**	⇑P	**P**	**04 43 50.7**	**+1.1**
	baz=44						
536A	**Bastrop**	**43.73**	**331**	⇓P	**P**	**04 43 52.6**	**+1.2**
	baz=44						
832A	**Faith Ranch, C**	**43.77**	**327**	⇑P	**P**	**04 43 53.0**	**+1.2**
	baz=44						
732A	**Laxson Ranch,**	**44.12**	**327**	⇓P	**P**	**04 43 55.1**	**+0.6**
	baz=44						
633A	**Saathoff Ranch**	**44.28**	**328**	⇑P	**P**	**04 43 57.2**	**+1.4**
	baz=44,SNR=6.9						
534A	**Blanco**	**44.38**	**330**	⇑P	**P**	**04 43 57.0**	**+0.4**
	baz=44						
632A	**Uvalde**	**44.63**	**328**	⇑P	**P**	**04 43 59.6**	**+1.0**
	baz=45,SNR=13						
533A	**Kerrville**	**44.70**	**329**	⇑P	**P**	**04 43 59.8**	**+0.6**
	baz=45						
434A	**Burnet**	**44.92**	**330**	⇓P	**P**	**04 44 01.3**	**+0.4**
	baz=45						
631A	**Perdido Creek**	**44.98**	**327**	⇓P	**P**	**04 44 02.1**	**+0.7**
	baz=45,SNR=11						
532A	**Rocksprings**	**45.19**	**328**	⇑P	**P**	**04 44 03.9**	**+0.8**
	baz=45						
433A	**Art**	**45.28**	**330**	⇓P	**P**	**04 44 04.0**	**+0.3**
	baz=45,SNR=6.2						
334A	**Lometa**	**45.33**	**331**	⇑P	**P**	**04 44 04.7**	**+0.6**
	baz=46						
WHTX	**Lake Whitney**	**45.51**	**332**	⇑P	**P**	**04 44 06.0**	**+0.5**
	baz=46						
531A	**Rocksprings**	**45.55**	**328**	⇑P	**P**	**04 44 06.8**	**+0.8**
	baz=46						
333A	**Richland Sprin**	**45.69**	**330**	⇑P	**P**	**04 44 07.3**	**+0.4**
	baz=46						
432A	**Menard**	**45.73**	**329**	⇑P	**P**	**04 44 07.7**	**+0.4**
	baz=46						
234A	**Clairette**	**45.84**	**332**	⇓P	**P**	**04 44 08.7**	**+0.6**
	baz=46						
530A	**J-C Ranch, Com**	**45.97**	**327**	⇑P	**P**	**04 44 10.2**	**+1.1**
	baz=46						
431A	**Sonora**	**46.00**	**328**	⇓P	**P**	**04 44 10.2**	**+0.8**
	baz=46						
332A	**Millersview**	**46.11**	**329**	⇓P	**P**	**04 44 10.9**	**+0.7**
	baz=46,SNR=5.7						
233A	**Rising Star**	**46.21**	**331**	⇑P	**P**	**04 44 11.5**	**+0.4**
	baz=46						
134A	**White-Moore Ra**	**46.28**	**332**	⇓P	**P**	**04 44 12.3**	**+0.8**
	baz=46						
628A	**Black Gap, Mar**	**46.32**	**325**	⇑P	**P**	**04 44 12.9**	**+1.0**
	baz=46						
331A	**San Angelo**	**46.40**	**329**	⇑P	**P**	**04 44 13.0**	**+0.5**
	baz=47,SNR=6.9						
430A	**Baggett Ranch,**	**46.41**	**328**	⇑P	**P**	**04 44 13.2**	**+0.6**
	baz=47,SNR=5.5						
232A	**Coleman**	**46.47**	**330**	⇓P	**P**	**04 44 13.6**	**+0.5**
	baz=47,SNR=7.6						
627A	**Terlingua Ranc**	**46.58**	**324**	⇑P	**P**	**04 44 14.7**	**+0.7**
	baz=47						
429A	**Davenport Ranc**	**46.64**	**327**	⇓P	**P**	**04 44 15.2**	**+0.8**
	baz=47						
TXAR	**Lajitas Array**	**46.65**	**324**	P	**P**	**04 44 15.0**	**+0.4**
	1.2nm,0.7s,baz=151,slow=9.2,SNR=10						
133A	**Hamilton Ranch**	**46.70**	**331**	⇑P	**P**	**04 44 15.9**	**+1.1**
	baz=47						
528A	**Cox Ranch, San**	**46.77**	**326**	⇑P	**P**	**04 44 15.9**	**+0.3**
	baz=47						
231A	**Bronte**	**46.84**	**329**	⇑P	**P**	**04 44 16.4**	**+0.4**
	baz=47						
330A	**Mertzon**	**46.87**	**328**	⇓P	**P**	**04 44 16.4**	**+0.2**
	baz=47						
ABTX	**Abilene, Hawle**	**47.07**	**331**	*e*P	**P**	**04 44 18.1**	**+0.4**
ABTX	**Abilene, Hawle**	**47.07**	**331**	⇑P	**P**	**04 44 18.4**	**+0.7**
	baz=47,SNR=5.7						
626A	**Big Bend Ranch**	**47.09**	**324**	⇑P	**P**	**04 44 18.9**	**+0.9**
	baz=47,SNR=9.3						
428A	**Kincaid Ranch,**	**47.15**	**326**	⇓P	**P**	**04 44 19.4**	**+1.0**
	baz=47						
Z33A	**Whitaker Ranch**	**47.19**	**332**	⇑P	**P**	**04 44 19.6**	**+1.0**
	baz=47,SNR=5.9						
230A	**Sterling City**	**47.21**	**329**	⇓P	**P**	**04 44 19.3**	**+0.5**
	baz=47						
527A	**Woodward Ranch**	**47.23**	**325**	⇑P	**P**	**04 44 19.8**	**+0.7**
	baz=47,SNR=6.8						
Y34A	**Reagan Ranch,**	**47.30**	**333**	⇓P	**P**	**04 44 20.1**	**+0.7**
	baz=48						
329A	**Wagon Wheel Ra**	**47.35**	**327**	⇑P	**P**	**04 44 20.5**	**+0.6**
	baz=48						
526A	**Mary Lane Ranc**	**47.44**	**324**	⇓P	**P**	**04 44 21.4**	**+0.6**
	baz=48						
131A	**Roby**	**47.48**	**330**	⇓P	**P**	**04 44 21.6**	**+0.8**
	baz=48						
Z32A	**Haskell**	**47.55**	**331**	⇓P	**P**	**04 44 22.1**	**+0.7**
	baz=48						
229A	**Bryant Ranch,**	**47.64**	**328**	⇑P	**P**	**04 44 22.5**	**+0.3**
	baz=48						
427A	**Hayter Ranch,**	**47.64**	**326**	⇓P	**P**	**04 44 22.9**	**+0.7**
	baz=48						
130A	**Snyder**	**47.70**	**329**	⇑P	**P**	**04 44 23.2**	**+0.6**
	baz=48						
328A	**Wristen Ranch,**	**47.72**	**327**	⇑P	**P**	**04 44 23.6**	**+0.8**
	baz=48						
Y33A	**Hilltop Ranch,**	**47.73**	**333**	⇓P	**P**	**04 44 23.8**	**+1.0**
	baz=48						
426A	**McDonald Obser**	**47.86**	**325**	⇓P	**P**	**04 44 24.5**	**+0.5**
	baz=48						
X34A	**Smith Ranch, M**	**47.87**	**334**	⇑P	**P**	**04 44 24.8**	**+0.9**
	baz=48						
Z31A	**Sharp Cattle R**	**47.88**	**331**	⇑P	**P**	**04 44 24.7**	**+0.8**
	baz=48						
Y32A	**R-V Farms, Ver**	**48.10**	**332**	⇑P	**P**	**04 44 26.4**	**+0.8**
	baz=48,SNR=5.1						
X33A	**Lawton**	**48.12**	**333**	⇓P	**P**	**04 44 26.4**	**+0.7**
	baz=48						
TUL1	**Tulsa**	**48.15**	**337**	⇓P	**P**	**04 44 26.0**	**+0.1**
	baz=48						
228A	**UT-Block 9, Go**	**48.17**	**327**	⇑P	**P**	**04 44 26.7**	**+0.4**
	baz=48						
129A	**Stewart Farms,**	**48.19**	**329**	⇑P	**P**	**04 44 27.0**	**+0.6**
	baz=48						
326A	**Caldwell Ranch**	**48.31**	**326**	⇓P	**P**	**04 44 27.9**	**+0.5**
	baz=48						
Z30A	**Sanderson Ranc**	**48.34**	**330**	⇓P	**P**	**04 44 28.0**	**+0.5**
	baz=48,SNR=13						
X32A	**Elmer**	**48.38**	**332**	⇑P	**P**	**04 44 28.3**	**+0.6**
	baz=48						
Y31A	**Rekieta Farm,**	**48.46**	**331**	⇓P	**P**	**04 44 29.2**	**+0.8**
	baz=49						
227A	**Bennet, Jal**	**48.47**	**327**	⇑P	**P**	**04 44 29.3**	**+0.8**
	baz=49						
425A	**Indio Mountain**	**48.49**	**324**	⇓P	**P**	**04 44 29.1**	**+0.3**
	baz=49						
128A	**Castleberry Fa**	**48.51**	**328**	⇑P	**P**	**04 44 29.1**	**+0.3**
	baz=49						
Z29A	**Hungry Hill Ra**	**48.60**	**329**	⇑P	**P**	**04 44 29.8**	**+0.2**
	baz=49						
W33A	**Caddo, Fort Co**	**48.62**	**334**	⇓P	**P**	**04 44 30.1**	**+0.6**
	baz=49						
Y30A	**Stafford Cattl**	**48.70**	**330**	⇓P	**P**	**04 44 30.8**	**+0.5**
	baz=49						
V34A	**Guthrie**	**48.78**	**335**	⇑P	**P**	**04 44 30.5**	**-0.3**
	baz=49						
X31A	**McDonald Ranch**	**48.87**	**332**	⇑P	**P**	**04 44 31.6**	**+0.1**
	baz=49						
W32A	**Sentinel**	**48.94**	**333**	⇓P	**P**	**04 44 32.2**	**+0.2**
	baz=49						
Z28A	**Tucker Farm, M**	**48.98**	**329**	⇓P	**P**	**04 44 32.6**	**+0.2**
	baz=49						
226B	**Tecolote Peak,**	**48.99**	**326**	⇓P	**P**	**04 44 33.6**	**+1.0**
	baz=49						
127A	**Arkansas Junct**	**49.01**	**327**	⇓P	**P**	**04 44 32.9**	**+0.2**
	baz=49						
Y29A	**Porterfield Fa**	**49.06**	**330**	⇑P	**P**	**04 44 33.3**	**+0.2**
	baz=49						
X30A	**Coker Ranch, T**	**49.14**	**331**	⇓P	**P**	**04 44 33.9**	**+0.3**
	baz=49						
126A	**Clayton Basin,**	**49.34**	**327**	⇑P	**P**	**04 44 36.3**	**+1.0**
	baz=50						
V32A	**Arapaho**	**49.35**	**333**	⇓P	**P**	**04 44 35.4**	**+0.3**
	baz=50						
225A	**Deer Hill, Car**	**49.38**	**326**	⇓P	**P**	**04 44 36.3**	**+0.6**
	baz=50						
Y28A	**McKinney Farm,**	**49.39**	**329**	⇑P	**P**	**04 44 36.4**	**+0.8**
	baz=50						
U33A	**Lingo Farm, Me**	**49.55**	**335**	⇑P	**P**	**04 44 37.4**	**+0.8**
	baz=50						
X29A	**Tulia**	**49.55**	**330**	⇑P	**P**	**04 44 36.9**	**+0.1**
	baz=50						
125A	**Gardner Draw,**	**49.70**	**326**	⇑P	**P**	**04 44 38.3**	**+0.4**
	baz=50,SNR=5.6						
MSTX	**Muleshoe**	**49.71**	**329**	⇑P	**P**	**04 44 37.9**	**0.0**
	baz=50						
V31A	**Spring Creek L**	**49.75**	**333**	⇓P	**P**	**04 44 38.7**	**+0.5**
	baz=50						
Z26A	**Caprock**	**49.80**	**327**	⇓P	**P**	**04 44 39.6**	**+0.9**
	baz=50						
Y27A	**Causey**	**49.84**	**328**	⇓P	**P**	**04 44 39.2**	**+0.2**
	baz=50						
X28A	**Dimmitt**	**49.85**	**330**	⇓P	**P**	**04 44 38.9**	**-0.1**
	baz=50						
Z25A	**Roswell**	**50.21**	**327**	⇓P	**P**	**04 44 42.1**	**+0.4**
	baz=50,SNR=6.8						
X27A	**F and S Farms,**	**50.41**	**329**	⇑P	**P**	**04 44 43.6**	**+0.3**
	baz=51						
T32A	**Huddler Ranch,**	**50.52**	**335**	⇓P	**P**	**04 44 44.6**	**+0.7**
	baz=51						
Z24A	**Sheeppen Canyo**	**50.60**	**326**	⇑P	**P**	**04 44 45.2**	**+0.4**
	baz=51,SNR=6.9						
V29A	**Stinnett**	**50.61**	**331**	⇓P	**P**	**04 44 45.5**	**+0.8**
	baz=51						
Y25A	**Mesa, Roswell**	**50.68**	**327**	⇑P	**P**	**04 44 45.8**	**+0.5**
	baz=51						
X26A	**CR and CF Fran**	**50.70**	**328**	⇑P	**P**	**04 44 45.9**	**+0.4**
	baz=51						
W27A	**Bowe Ranch, En**	**50.72**	**329**	⇓P	**P**	**04 44 46.0**	**+0.5**
	baz=51						
S32A	**Newby Ranch, P**	**50.97**	**335**	⇓P	**P**	**04 44 48.4**	**+1.1**
	baz=51						
Y24A	**Capitan**	**51.09**	**327**	⇓P	**P**	**04 44 49.2**	**+0.8**
	baz=51						
X25A	**Clemmons Ranch**	**51.13**	**328**	⇑P	**P**	**04 44 49.7**	**+1.0**
	baz=51						
S31A	**Mullinville**	**51.13**	**334**	⇓P	**P**	**04 44 49.3**	**+0.8**
	baz=51						
121A	**Cookes Peak, D**	**51.40**	**323**	⇑P	**P**	**04 44 51.5**	**+0.7**
	baz=52						
Y23A	**Lovelace Mesa,**	**51.43**	**326**	⇑P	**P**	**04 44 51.5**	**+0.5**
	baz=52						
Z22A	**Elephant Butte**	**51.44**	**325**	⇑P	**P**	**04 44 51.7**	**+0.7**
	baz=52						
R32A	**Long Quarter,**	**51.49**	**336**	⇓P	**P**	**04 44 51.4**	**+0.2**
	baz=52						
319A	**Douglas**	**51.49**	**321**	⇓P	**P**	**04 44 52.1**	**+0.7**
	baz=52						
T29A	**Hugoton**	**51.55**	**333**	⇑P	**P**	**04 44 52.3**	**+0.6**
	baz=52						
W25A	**X Bar L Ranch,**	**51.55**	**328**	⇓P	**P**	**04 44 51.9**	**0.0**
	baz=52						
Q33A	**Connelly Farm,**	**51.63**	**337**	⇓P	**P**	**04 44 52.9**	**+0.8**
	baz=52						
V26A	**Tequesquite Ra**	**51.66**	**329**	⇑P	**P**	**04 44 53.0**	**+0.4**
	baz=52						
U27A	**Thompson Grove**	**51.68**	**331**	⇓P	**P**	**04 44 53.2**	**+0.5**
	baz=52						
R31A	**Burdett**	**51.71**	**335**	⇓P	**P**	**04 44 53.5**	**+0.7**
	baz=52						
S29A	**Ulysses**	**51.85**	**333**	⇓P	**P**	**04 44 54.6**	**+0.7**
	baz=52						
T28A	**Walsh**	**51.90**	**332**	⇑P	**P**	**04 44 54.7**	**+0.4**
	baz=52						
Q32A	**Meitler Ranch,**	**51.91**	**336**	⇑P	**P**	**04 44 54.9**	**+0.6**
	baz=52						
X23A	**Hourglass Bar**	**51.99**	**327**	⇑P	**P**	**04 44 55.3**	**+0.2**
	baz=52						
R30A	**Dighton**	**52.03**	**334**	⇓P	**P**	**04 44 56.0**	**+0.8**
	baz=52						
W24A	**Lazy 6 Ranch,**	**52.04**	**328**	⇓P	**P**	**04 44 55.5**	**-0.1**
	baz=52						
U26A	**Atchley Ranch,**	**52.10**	**330**	⇓P	**P**	**04 44 56.1**	**+0.1**
	baz=52						
V25A	**Rancho No Teng**	**52.11**	**329**	⇓P	**P**	**04 44 56.5**	**+0.5**
	baz=52,SNR=5.7						
T27A	**Campo**	**52.14**	**331**	⇓P	**P**	**04 44 56.6**	**+0.5**
	baz=52						
S28A	**Manter**	**52.18**	**332**	⇓P	**P**	**04 44 56.9**	**+0.6**
	baz=52						
V24A	**Rampart Ranch,**	**52.36**	**328**	⇓P	**P**	**04 44 58.4**	**+0.4**
	baz=52,SNR=6.0						
ANMO	**Albuquerque**	**52.41**	**327**	*e*P	**P**	**04 44 58.8**	**+0.5**
	4.1nm,1.1s						
U25A	**Circle Dot Ran**	**52.44**	**329**	⇓P	**P**	**04 44 58.7**	**+0.3**
	baz=53						
R29A	**Marienthal**	**52.52**	**334**	⇑P	**P**	**04 44 59.5**	**+0.6**
	baz=53						
Q30A	**Quinter**	**52.59**	**335**	⇑P	**P**	**04 44 59.7**	**+0.4**
	baz=53						
T26A	**Comanche Natio**	**52.65**	**331**	⇓P	**P**	**04 45 00.9**	**+0.9**
	baz=53						
P31A	**Stockton**	**52.70**	**336**	⇓P	**P**	**04 45 00.2**	**+0.1**
	baz=53						
R28A	**Tribune**	**52.75**	**333**	⇓P	**P**	**04 45 01.1**	**+0.5**
	baz=53						
S26A	**Kim**	**52.94**	**331**	⇓P	**P**	**04 45 02.5**	**+0.5**
	baz=53,SNR=5.1						
T25A	**Trinidad**	**53.02**	**330**	⇓P	**P**	**04 45 03.3**	**+0.6**
	baz=53						
R27A	**Eads**	**53.16**	**332**	⇑P	**P**	**04 45 04.1**	**+0.6**
	baz=53						
U23A	**El Rito**	**53.31**	**328**	⇓P	**P**	**04 45 05.9**	**+1.0**
	baz=54						
S25A	**Robets Cordova**	**53.44**	**330**	⇑P	**P**	**04 45 06.5**	**+0.8**
	baz=54						
T24B	**San Luis**	**53.45**	**329**	⇓P	**P**	**04 45 06.3**	**+0.4**
	baz=54						
R26A	**Arlington**	**53.47**	**332**	⇓P	**P**	**04 45 06.5**	**+0.6**
	baz=54						
KSCO	**Kaye Shedlock'**	**53.67**	**333**	⇑P	**P**	**04 45 07.8**	**+0.5**
	baz=54						
U22A	**Llaves**	**53.69**	**327**	⇑P	**P**	**04 45 08.4**	**+0.8**
	baz=54						
P28A	**Saint Francis**	**53.74**	**334**	⇑P	**P**	**04 45 08.5**	**+0.7**
	baz=54						
T23A	**Casias Ranch,**	**53.76**	**329**	⇑P	**P**	**04 45 08.7**	**+0.5**
	baz=54						
S24A	**Houchin Ranch,**	**53.81**	**330**	⇑P	**P**	**04 45 09.5**	**+0.9**
	baz=54						
X18A	**Snowflake**	**54.08**	**324**	⇑P	**P**	**04 45 11.1**	**+0.6**
	baz=54						
214A	**Organ Pipe Nat**	**54.11**	**319**	⇑P	**P**	**04 45 11.2**	**+0.7**
	baz=54						
O28A	**Krutsinger Ran**	**54.20**	**334**	⇑P	**P**	**04 45 11.4**	**+0.3**
	baz=54						
N29A	**Votaw Ranch, W**	**54.30**	**336**	⇓P	**P**	**04 45 12.0**	**+0.2**
	baz=54						
Q25A	**Bedland, Calha**	**54.34**	**331**	⇓P	**P**	**04 45 12.6**	**+0.3**
	baz=54						
R23A	**Moffat**	**54.54**	**330**	⇓P	**P**	**04 45 14.5**	**+0.7**
	baz=55						
O27A	**

GMRC	Granite Mounta	57.75	320	⇑P	P	04 45 37.1	+0.6
	baz=58						
N20A	Spence Gulch,	57.78	330	⇑P	P	04 45 37.2	+0.5
	baz=58						
L22A	Ellis Ranch, M	57.82	332	⇓P	P	04 45 37.9	+0.9
	baz=58						
I26A	New Underwood	57.89	336	⇑P	P	04 45 38.1	+0.8
	baz=58						
K22A	Casper	58.35	333	eP	P	04 45 41.0	+0.5
	4.0nm,0.8s						
K22A	Casper	58.35	333	⇑P	P	04 45 41.1	+0.5
	baz=58						
K21A	Alcova	58.67	332	⇑P	P	04 45 43.4	+0.6
	baz=59						
J22A	Midwest	58.93	333	⇑P	P	04 45 44.6	0.0
	baz=59						
D30A	Buchanan	59.03	341	⇓P	P	04 45 44.9	-0.1
	baz=59						
F27A	Lemmon	59.11	338	⇓P	P	04 45 45.9	+0.3
	baz=59						
H24A	Dirks Ranch, A	59.17	335	⇑P	P	04 45 46.3	+0.2
	baz=59						
E28A	Huff	59.23	339	⇑P	P	04 45 46.7	+0.3
	baz=59						
JLU	Jordanelle	59.24	328	eP	P	04 45 47.2	+0.4
	5.1nm,1.1s						
I22A	9 Mile Ranch,	59.31	333	⇑P	P	04 45 47.2	+0.1
	baz=60,SNR=5.9						
F26A	Lodgepole	59.34	337	⇑P	P	04 45 47.4	+0.3
	baz=60						
FURC	Furnace Creek,	59.57	321	⇓P	P	04 45 49.4	+0.6
	baz=60						
I21A	Big Trails, Te	59.61	333	⇓P	P	04 45 49.0	-0.2
	baz=60						
J20A	Shoshoni	59.62	332	⇑P	P	04 45 49.8	+0.5
	baz=60						
DUG	Dugway	59.68	327	eP	P	04 45 50.4	+0.6
	3.8nm,0.8s						
DUG	Dugway	59.68	327	⇑P	P	04 45 50.3	+0.5
	baz=60,SNR=6.2						
H22A	Clearmont	59.81	334	⇓P	P	04 45 50.6	+0.1
	baz=60						
PDAR	Pinedale Array	59.87	331	P	P	04 45 50.0	-1.1
	1.1nm,0.7s,baz=124,slow=7.4,SNR=8.5						
PDAR				PcP	PcP	04 46 35.2	-0.8
	0.6nm,0.5s,baz=126,slow=6.1,SNR=3.0						
G23A	Biddle	59.89	335	⇑P	P	04 45 51.3	+0.3
	baz=60						
J19A	Crowheart	60.00	331	⇓P	P	04 45 52.4	+0.5
	baz=60						
R11A	Troy Canyon, C	60.01	323	⇓P	P	04 45 52.8	+0.7
	baz=60						
HWUT	Hardware Ranch	60.02	328	eP	P	04 45 51.7	-0.4
	6.0nm,0.6s						
F24A	Ekalaka	60.02	336	⇓P	P	04 45 52.2	+0.3
	baz=60						
I20A	Worland	60.10	332	⇑P	P	04 45 52.6	+0.1
	baz=60						
ISA	Isabella	60.10	319	⇑P	P	04 45 53.3	+0.6
	baz=60						
H21A	Big Horn, Sher	60.14	334	⇑P	P	04 45 52.6	-0.2
	baz=60						
GRAC	Grapevine Rang	60.22	321	⇓P	P	04 45 54.0	+0.6
	baz=60						
G22A	Birney	60.28	335	⇓P	P	04 45 54.0	+0.3
	baz=60						
F23A	Volborg	60.31	335	⇑P	P	04 45 53.8	-0.1
	baz=60						
H20A	Greybull	60.45	333	⇓P	P	04 45 54.7	-0.2
	baz=61,SNR=6.3						
E24A	Baker	60.56	337	⇓P	P	04 45 56.1	+0.6
	baz=61						
I19A	Meeteetse	60.56	332	⇑P	P	04 45 56.0	+0.2
	baz=61						
D25A	Fairfield	60.67	338	⇑P	P	04 45 56.9	+0.6
	baz=61						
F22A	Rosebud	60.72	335	⇓P	P	04 45 56.7	+0.1
	baz=61						
ULM	Lac du Bonnet	61.00	344	P	P	04 45 56.7	-1.6
	3.2nm,0.5s,baz=160,slow=6.6,SNR=8.4						
LOHW	Long Hollow	61.01	331	eP	P	04 45 58.7	-0.1
	2.2nm,0.8s						
G20A	Bridger	61.12	333	⇑P	P	04 45 59.0	-0.4
	baz=61,SNR=5.4						
MOOW	Moose Ponds	61.18	331	eP	P	04 45 60.0	0.0
	26nm,2.3s						
I17A	Pilgrim Ck.	61.22	331	⇓P	P	04 46 00.5	+0.3
	baz=61						
B26A	Jensen Ranch,	61.31	339	⇓P	P	04 46 00.9	+0.4
	baz=62						
H18A	Shoshone NF, C	61.36	332	⇑P	P	04 46 01.5	+0.3
	baz=62						
FLWY	Flagg Ranch	61.41	331	eP	P	04 46 01.9	+0.5
	6.8nm,0.8s						
D23A	Lindsay	61.41	337	⇑P	P	04 46 01.9	+0.6
	baz=62						
NVAR	Mina Array Bea	61.70	322	P	P	04 46 03.4	-0.1
	1.2nm,0.7s,baz=128,slow=8.3,SNR=11						
D22A	Cohagen	61.78	336	⇓P	P	04 46 04.3	+0.6
	baz=62,SNR=9.9						
C23A	Lambert	61.92	337	⇑P	P	04 46 04.8	+0.1
	baz=62						
F19A	Roth Farm, Mol	61.93	333	⇓P	P	04 46 05.2	+0.3
	baz=62,SNR=5.8						
D21A	La Casta Ranch	62.05	335	⇓P	P	04 46 06.2	+0.7
	baz=62,SNR=6.4						
E20A	Meyer Farm, Mu	62.08	334	⇑P	P	04 46 06.2	+0.4
	baz=62,SNR=8.4						
C22A	Vida	62.15	337	⇑P	P	04 46 06.9	+0.8
	baz=62						
E19A	Rath Farm, Rou	62.34	334	⇓P	P	04 46 07.9	+0.4
	baz=62						
B23A	Brockton	62.39	338	⇓P	P	04 46 08.6	+0.9
	baz=63,SNR=6.7						
A24A	Westby	62.40	338	⇑P	P	04 46 08.7	+0.9
	baz=63						
D20A	Manuel Ranch,	62.55	335	⇑P	P	04 46 08.9	+0.1
	baz=63,SNR=5.2						
HLID	Hailey	62.89	328	eP	P	04 46 11.5	+0.2
	4.1nm,1.1s						
HLID	Hailey	62.89	328	⇓P	P	04 46 12.0	+0.6
	baz=63						
D19A	Cripps Ranch,	62.92	334	⇓P	P	04 46 11.7	+0.4
	baz=63						
SCHQ	Schefferville	62.97	5	P	P	04 46 10.5	-0.9
	2.3nm,0.7s,baz=176,slow=0.9,SNR=5.0						
SCHQ				pP	pP	04 46 46.3	-0.1
	6.1nm,1.1s,baz=186,slow=10,SNR=2.9						
C20A	Veseth Ranch,	62.98	335	⇑P	P	04 46 11.7	0.0
	baz=63						
BOZ	Bozeman (W)	63.01	332	eP	P	04 46 12.0	0.0
	4.1nm,0.8s						
C19A	Slack Wire Ran	63.44	335	⇓P	P	04 46 15.0	+0.3
	baz=64,SNR=7.2						
MFID	Camas Ranch	63.53	327	eP	P	04 46 16.0	+0.5
	8.4nm,0.9s						
B20A	Solberg Farm,	63.56	336	⇓P	P	04 46 16.0	+0.5
	baz=64						
EGMT	Eagleton	63.96	334	eP	P	04 46 18.2	+0.1
	2.9nm,0.5s						
EGMT	Eagleton	63.96	334	⇑P	P	04 46 18.4	+0.3
	baz=64						
A19A	Klindworth Far	64.24	336	⇑P	P	04 46 20.5	+0.6
	baz=64						
MSO	Missoula	64.97	331	eP	P	04 46 24.9	+0.1
	7.3nm,0.8s						
MSO	Missoula	64.97	331	⇓P	P	04 46 25.1	+0.3
	baz=65,SNR=6.1						
JTMT	Jette	65.79	332	eP	P	04 46 30.8	+0.8
M04C	Macdoel	65.89	323	⇑P	P	04 46 30.9	0.0
	baz=66						
N02D	Trinity Center	65.94	322	⇓P	P	04 46 31.3	+0.2
	baz=66						
I07A	Izee	65.97	326	eP	P	04 46 31.8	+0.5
	4.3nm,0.6s						
F10A	Beach Ranch, E	66.00	329	eP	P	04 46 32.2	+0.8
	4.1nm,0.8s						
J05D	Fort Rock, OR	66.45	324	⇓P	P	04 46 35.2	+0.8
	baz=67						
WALA	Waterton Lakes	66.57	333	eP	P	04 46 34.7	-0.3
	3.3nm,2.7s						
J04D	Umpqua Nationa	66.93	324	⇑P	P	04 46 37.8	+0.3
	baz=67						
L02D	Cave Junction,	67.17	322	⇑P	P	04 46 39.0	+0.2
	baz=67						
I04A	Tendick Farm,	67.44	324	⇑P	P	04 46 40.2	-0.3
	baz=68						
NEW	Newport	67.51	331	⇑P	P	04 46 40.9	+0.1
	baz=68						
G05D	Wamic, OR	67.71	326	⇑P	P	04 46 43.1	+1.0
	baz=68						
I03D	Drain, OR	67.92	324	⇓P	P	04 46 44.2	+0.7
	baz=68						
B08A	Colville Reser	68.67	330	eP	P	04 46 48.1	+0.1
	15nm,1.6s						
EDM	Edmonton	69.40	336	eP	P	04 46 52.2	-0.3
YKA	Yellowknife Ar	76.83	342	P	P	04 47 35.1	-0.7
	0.8nm,0.5s,baz=141,slow=6.1,SNR=25						
YKA				pP	pP	04 48 12.1	0.0
	0.6nm,0.7s,baz=141,slow=6.3,SNR=4.7						
TORD	Torodi Ar. Bea	78.44	75	P	P	04 47 45.2	-0.6
	1.3nm,0.6s,baz=261,slow=5.2,SNR=15						
TORD				pP	pP	04 48 21.1	-1.1
	0.8nm,0.6s,baz=289,slow=5.7,SNR=3.1						
RES	Resolute Bay	83.55	355	P	P	04 48 11.1	-0.5
	1.4nm,1.0s,baz=175,slow=5.0,SNR=4.4						
INK	Inuvik	86.58	341	P	P	04 48 25.9	-0.9
	1.8nm,0.8s,baz=107,slow=5.6,SNR=7.4						
ILAR	Eielson Array	89.89	336	P	P	04 48 42.1	-0.5
	0.6nm,0.4s,baz=163,slow=4.1,SNR=5.1						
ILAR				pP	pP	04 49 19.8	0.0
	0.9nm,0.9s,baz=142,slow=3.7,SNR=4.8						
BVAR	Borovoye Array	126.84	26	PKP	PKPdf	04 54 47.4	+0.5
	0.3nm,0.4s,baz=333,slow=0.6,SNR=3.0						
ZALV	Zalesovo Beam	131.26	16	PKP	PKPdf	04 54 55.4	+0.1
	0.6nm,0.4s,baz=270,slow=1.5,SNR=5.2						
ZALV				pPKP	pPKPdf	04 55 35.0	+0.8
	1.3nm,0.7s,baz=264,slow=2.7,SNR=2.5						
KURBB	Kurchatov Arra	131.99	23	PKP	PKPdf	04 54 55.8	-0.9
	0.4nm,0.6s,baz=315,slow=2.9,SNR=4.2						
KURBB				pPKP	pPKPdf	04 55 36.5	+0.9
	1.1nm,1.0s,baz=307,slow=2.5,SNR=4.4						
MKAR	Makanchi Array	136.55	23	PKP	PKPdf	04 55 04.9	-0.6
	0.5nm,0.7s,baz=5.0,slow=2.8,SNR=5.2						
MKAR				pPKP	pPKPdf	04 55 45.1	+0.7
	0.4nm,0.8s,baz=6.8,slow=2.8,SNR=3.8						
ASAR	Alice Springs	138.06	221	PKP	PKPdf	04 55 09.1	+0.1
	1.1nm,0.6s,baz=118,slow=2.1,SNR=11						
WRA	Warramunga Arr	140.33	225	PKP	PKPdf	04 55 14.8	+1.7
	1.5nm,0.5s,baz=128,slow=1.8,SNR=7.1						
WRA				pPKP	pPKPdf	04 55 52.3	+0.2
	0.7nm,0.5s,baz=132,slow=1.9,SNR=1.4						
WMQ	Urumqi	141.09	21	ePKP	PKPdf	04 55 13.5	-0.4
WMQ				LR	LR		
	comp=N,12nm,18.0s						
WMQ				LR	LR		
	comp=E,13nm,18.2s						
WMQ				LR	LR		
	comp=Z,11nm,18.4s						
HHC	Hu-ho-hao-te	146.91	352	ePKPbc	PKPdf	04 55 22.5	-1.7
HHC				pPKP	pPKPdf	04 56 05.5	+2.3
HHC				PP	PP	04 58 53.5	+3.1
HHC				SKKS		05 05 27.5	
HHC				SS	SS	05 17 37.0	-0.8
HHC				AMB	AMB		
	comp=Z,260nm,8.7s						
HHC				LR	LR		
	comp=N,610nm,14.9s						
HHC				LR	LR		
	comp=E,630nm,16.2s						
HHC				LR	LR		
	comp=Z,320nm,16.2s						
GTA	Gaotai	148.35	9	ePKPbc	PKPbc	04 55 30.8	+0.6
GTA				PKPab	PKPab	04 55 39.8	+6.1
LZH	Lanzhou	152.05	3	ePKPbc	PKPdf	04 55 30.3	-2.2
LZH				pPKP	pPKPdf	04 56 10.5	-1.1
LZH				sPKP		04 56 28.5	
KMI	Kunming	162.81	9	PKP	PKPdf	04 55 43.0	-3.3

*ISK **28** 04:36:11.4, 40°.93N×34°.22E, h16km, MD2.9*
*DDA **28** 04:36:13.9, 40°.73N×34°.12E, h7km, MD2.9*
*ISCJB **28** 04:36:14.4±0.6, 40°.75N±0°.03×34°.12E±0°.04, h3km±7km, Error ellipse: s-maj=4.9km s-min=4.3km az=38.0*
*CSEM **28** 04:36:14.4±0.2, 40°.75N×34°.12E, h8km, MD2.9, Error ellipse: s-maj=4.0km s-min=3.9km az=116.0*
ISC 28 04:36:14.3±1.1**, 40°.74N**±0°.03×**34°.13E**±0°.02**, h7**km±10km**, n27,** σ**0s.78**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	Cankiri	0.41	250	ePG	Pb	04 36 22.8	-1.2
ILGA	Ilgaz	0.44	315	i P	Pg	04 36 23.0	+0.1
ILGA				i S	Sg	04 36 29.1	+0.5
ILGA	Ilgaz	0.44	315	i P	Pg	04 36 23.0	+0.1
ILGA				i S	Sg	04 36 29.1	+0.5
CTKT	Corum	0.52	103	i P	Pg	04 36 23.7	-0.7
CTKT				i S	Sg	04 36 31.9	+0.7
CTKT	Corum	0.52	103	i P	Pg	04 36 23.7	-0.7
CTKT				i S	Sg	04 36 31.9	+0.7
CORM	Corum	0.68	146	ePG	Pb	04 36 28.3	-0.4
CORM				eSG	Sb	04 36 39.1	+0.7
CORM	Corum	0.68	146	ePg	Pb	04 36 28.3	-0.4
CORM				eSg	Sb	04 36 39.1	+0.7
KAST	KASTAMONU	0.76	349	i P	Pg	04 36 28.6	-0.4
KAST				i S	Sb	04 36 40.6	0.0
KAST	KASTAMONU	0.76	349	i P	Pg	04 36 28.6	-0.4
KAST				i S	Sb	04 36 40.6	0.0
BOYT	Boyabat	0.90	41	i P	Pg	04 36 31.3	-0.3
BOYT				i S	Sb	04 36 44.5	0.0
BOYT	Boyabat	0.90	41	i P	Pg	04 36 31.3	-0.3
BOYT				i S	Sb	04 36 44.5	0.0
CDAG	Cicekdag	1.14	170	i P	Pn	04 36 36.2	-0.6
CDAG				i S	Sg	04 36 51.0	+0.2
CDAG	Cicekdag	1.14	170	i P	Pn	04 36 36.2	-0.6
CDAG				i S	Sg	04 36 51.0	+0.2
HAVZ	Havza	1.25	74	i P	Pg	04 36 38.4	0.0
HAVZ				i S	Sn	04 36 56.5	+1.0
HAVZ	Havza	1.25	74	i P	Pg	04 36 38.4	0.0
HAVZ				i S	Sn	04 36 56.5	+1.0
ANTO	Ankara	1.34	230	ePN	Pn	04 36 38.8	-0.8
ANTO	Ankara	1.34	230	ePn	Pn	04 36 38.8	-0.8
LOD	Lodumlu	1.35	231	ePN	Pn	04 36 38.7	-0.9
LOD	Lodumlu	1.35	231	ePn	Pn	04 36 38.7	-0.9
BBAL	Bala	1.42	213	i P	Pb	04 36 40.8	-0.5
BBAL				i S	Sg	04 37 01.5	+1.4
BBAL	Bala	1.42	213	i P	Pb	04 36 40.8	-0.5
BBAL				i S	Sg	04 37 01.5	+1.4
KVT	Kavak	1.50	76	ePN	Pn	04 36 36.5	-5.2
KVT	Kavak	1.50	76	ePn	Pn	04 36 36.5	-5.2
AFSR	Af¯ar-Bala (A	1.53	212	ePN	Pn	04 36 42.0	-0.2
AFSR	Af¯ar-Bala (A	1.53	212	ePn	Pn	04 36 42.0	-0.2
BCAM	Yenicaga	1.56	273	i P	Pg	04 36 43.8	-0.6
BCAM				i S	Sg	04 37 07.2	+2.5
BCAM	Yenicaga	1.56	273	i P	Pg	04 36 43.8	-0.6

*IDC **28** 04:43:59.8±3.2, 34°.26N×73°.72E, h0km, mb3.6/2, mb1 3.5/7, mb1mx3.3/46, mbtmp3.5/7, ML3.3/5, Error ellipse: s-maj=72.9km s-min=24.5km az=123.0*
*ISCJB **28** 04:44:03.3±0.7, 34°.44N±0°.05×73°.4E±0°.1, h22km, mb3.6/2, Error ellipse: s-maj=14.4km s-min=4.8km az=155.8*
*NDI **28** 04:44:06.2±1.4, 34°.33N×73°.41E, h10km, ML3.5*
*NNC **28** 04:44:11.3±6.2, 34°.56N×73°.03E, h40km±72km, mb3.6, mpv4.0, Error ellipse: s-maj=74.1km s-min=39.5km az=63.0*
ISC 28 04:44:04.9±0.8**, 34°.33N**±0°.07×**73°.28E**±0°.10**, h22**km**, n16,** σ**1s.76**/21**, 3C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.87	128	eP	Pn	04 44 52.0	+2.5
DLH				ex	Sb	04 45 30.0	-0.2
DHRM	DHARAMSHALA	3.27	129	eP	Pn	04 44 57.2	+2.2
DHRM				eS	Sn	04 45 34.0	+0.6
DHRM				AML	AML	04 45 35.6	
	comp=N,152nm,0.3s						
DHRM				AML	AML	04 45 38.0	
	comp=E,250nm,0.2s						
SMLA	Simla	4.57	133	eP	Pn	04 45 13.5	+0.8
SMLA				eS	Sn	04 46 03.7	-1.5
SMLA				AML	AML	04 46 26.7	
	comp=N,98nm,0.4s						
SMLA				AML	AML	04 46 26.8	
	comp=E,123nm,0.5s						
KHET	Khetri	6.60	160	eP	Pn	04 45 41.8	+1.2
KHET				eS	Sn	04 46 53.1	-2.1
KHET				AML	AML	04 46 54.4	
	comp=E,92nm,0.1s						
KHET				AML	AML	04 46 54.4	
	comp=N,135nm,0.1s						
KUDL	Kundal	6.75	155	eP	Pn	04 45 44.6	+1.9
KUDL				eS	Sn	04 46 56.2	-2.7
AAK	Ala-Archa	8.35	6	Pn	Pn	04 46 06.1	+1.4
	comp=N,0.2nm,0.3s,baz=124,slow=3.6,SNR=3.6						
AAK				Sn	Sn	04 47 39.0	+0.7
	comp=N,0.2nm,0.3s,baz=270,slow=20,SNR=4.7						
KK31	Karatay Array	9.03	347	P	Pn	04 46 15.1	+1.2
	comp=N,2.2nm,0.3s,baz=156,slow=11,SNR=54						
KK31				⇑S	Sn	04 47 53.5	-1.3
	comp=N,2.2nm,0.5s,baz=138,slow=21,SNR=12						
MK31	Makanchi Array	14.20	26	⇑P	P	04 47 28.4	-3.5
	comp=N,0.5nm,0.6s,baz=204,slow=12,SNR=6.4						
MKAR	Makanchi Array	14.20	26	Pn	Pn	04 47 20.6	-4.0
	comp=N,0.0nm,0.3s,baz=213,slow=13,SNR=2.6						
KURBB	Kurchatov Arra	16.73	12	Pn	Pn	04 47 54.8	-3.0
	comp=N,0.2nm,0.3s,baz=199,slow=12,SNR=4.2						
AB31	Akbulak array	17.89	331	⇓P	P	04 48 13.9	+1.2
	comp=N,0.8nm,0.7s,baz=141,slow=13,SNR=7.7						
BVAR	Borovoye Array	18.80	355	P	P	04 48 22.3	-0.5
	comp=N,0.2nm,0.3s,baz=158,slow=8.4,SNR=3.9						
AKTO	Aktyubinsk	19.59	330	⇑P	Pn	04 48 32.4	-0.4
	comp=N,1.7nm,0.7s						
AKTO	Aktyubinsk	19.59	330	P	P	04 48 31.4	0.0
	comp=N,0.2nm,0.3s,baz=140,slow=12,SNR=6.4						
ZALV	Zalesovo Beam	21.24	19	P	P	04 48 46.3	-2.9
	comp=N,1.6nm,0.5s,baz=209,slow=8.8,SNR=7.5						
TORD	Torodi Ar. Bea	67.57	271	P	P	04 55 00.8	+0.7
	comp=N,0.4nm,0.6s,baz=42,slow=6.2,SNR=8.3						

*ISCJB **28** 04:46:39.0±0.5, 25°.1S±0°.1×13°.72W±0°.09, h14km, mb4.3/14, MS3.8/11, Error ellipse: s-maj=14.9km s-min=11.7km az=155.6*
*IDC **28** 04:46:38.3±0.6, 25°.07S×13°.74W, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.1/31, mbtmp4.3/10, MS3.8/11, Ms1 3.8/11, ms1mx3.6/23, Error ellipse: s-maj=24.6km s-min=17.1km az=159.0*
*NEIC **28** 04:46:40.0±0.3, 25°.03S×13°.72W, h10km, mb4.6/4, Error ellipse: s-maj=12.2km s-min=8.7km az=155.0*
ISC 28 04:46:40.5±0.5**, 25°.1S**±0°.1×**13°.7W**±0°.1**, h14**km**, n45,** σ**0s.67**/35**, mb4.3**/14**, MS3.8**/11**, 1D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	16.03	357	T	T	05 06 48.0	
	baz=177,slow=75,SNR=33						
H10S3	ASCENSION HYDR	16.04	357	T	T	05 06 47.0	
	baz=177,slow=75,SNR=25						
H10S1	ASCENSION HYDR	16.05	357	T	T	05 06 47.8	
	baz=177,slow=75,SNR=33						
RCBR	Riachuelo	28.58	308	LR	LR	05 01 12.1	
	comp=Z,84nm,20.0s,baz=122,slow=31						
TSUM	Tsumeb	29.55	85	LR	LR	05 02 29.8	
	comp=Z,183nm,18.2s,baz=244,slow=32						
BDFB	Brasilia	33.40	280	P	P	04 53 18.9	-0.1
BDFB	Brasilia	33.40	280	P	P	04 53 18.9	-0.1
	2.3nm,0.8s,baz=114,slow=10,SNR=3.4						
BDFB				LR	LR	05 05 16.1	
	comp=Z,229nm,18.7s,baz=88,slow=34						
BOSA	Boshof	34.87	105	P	P	04 53 31.4	-0.3
BOSA	Boshof	34.87	105	P	P	04 53 31.4	-0.3
	12nm,1.0s,baz=213,slow=5.5,SNR=6.3						
BOSA				LR	LR	05 05 33.4	
	comp=Z,170nm,18.4s,baz=260,slow=33						
LBTB	Lobatse	35.55	98	eP	P	04 53 37.1	-0.5
	11nm,0.9s						
LBTB	Lobatse	35.55	98	P	P	04 53 37.1	-0.5
	7.8nm,0.7s,baz=274,slow=9.4,SNR=9.4						
CPUP	Villa Florida	39.17	258	LR	LR	05 07 08.4	
	comp=Z,136nm,21.7s,baz=98,slow=31						
TOA0	Torodi Ar. Sit	40.84	23	eP	P	04 54 22.1	0.0
TORD	Torodi Ar. Bea	40.84	23	P	P	04 54 21.6	-0.4
TORD	Torodi Ar. Bea	40.84	23	P	P	04 54 21.6	-0.4
	5.6nm,1.0s,baz=202,slow=8.7,SNR=20						
TRQA	Tornquist	42.66	240	eP	P	04 54 37.5	+0.6
	3.7nm,0.8s						
SNAA	Sanae	47.06	175	P	P	04 55 11.7	+0.2
SNAA	Sanae	47.06	175	P	P	04 55 11.7	+0.2
	1.2nm,0.9s,baz=268,slow=4.9,SNR=4.0						
CFAA	Coronel Fontan	48.01	249	P	P	04 55 18.6	-0.8
CFAA	Coronel Fontan	48.01	249	P	P	04 55 18.6	-0.8
	0.3nm,0.7s,baz=79,slow=7.8,SNR=5.5						
PLCA	Paso Flores	49.38	237	P	P	04 55 30.1	+0.2
PLCA	Paso Flores	49.38	237	P	P	04 55 30.1	+0.2
	3.5nm,0.9s,baz=106,slow=8.6,SNR=6.2						
PLCA				LR	LR	05 15 15.7	
	comp=Z,135nm,18.2s,baz=100,slow=35						
SAML	Samuel	49.63	280	eP	P	04 55 33.0	+1.0
	3.9nm,0.9s						
LPAZ	La Paz	51.35	269	P	P	04 55 45.3	-0.5
LPAZ	La Paz	51.35	269	P	P	04 55 45.3	-0.5
	1.8nm,0.8s,baz=183,slow=4.9,SNR=6.0						
LPAZ				LR	LR	05 15 39.4	
	comp=Z,138nm,21.7s,baz=126,slow=34						
SYO	Syowa Base	53.98	159	⇓eP	P	04 56 03.3	-0.3
KMBO	Kilima Mbogo	54.62	72	LR	LR	05 17 54.9	
	comp=Z,93nm,19.3s,baz=268,slow=34						
KEST	Kesra	64.28	21	LR	LR	05 23 14.2	
	comp=Z,42nm,18.2s,baz=328,slow=34						
QSPA	South Pole Qui	65.16	180	eP	P	04 57 22.4	+1.4
	12nm,1.0s						
ROSC	El Rosal	65.90	288	LR	LR	05 24 42.5	
	comp=Z,114nm,20.1s,baz=0.0,slow=35						
VNDA	Vanda	77.62	179	LR	LR	05 28 26.5	
	comp=Z,43nm,20.0s,baz=204,slow=32						
BRTR	Keskin Array B	78.13	35	P	P	04 58 40.1	+0.7
BRTR	Keskin Array B	78.13	35	P	P	04 58 40.1	+0.7
	1.0nm,1.0s,baz=208,slow=4.9,SNR=3.3						
AKASG	Malin Array Be	84.43	26	P	P	04 59 11.6	-0.7
AKASG	Malin Array Be	84.43	26	P	P	04 59 11.6	-0.7
	2.0nm,0.8s,baz=222,slow=4.7,SNR=12						
FINES	FINESS Array B	91.98	18	P	P	04 59 49.6	+1.4
FINES	FINESS Array B	91.98	18	P	P	04 59 49.6	+1.4
	3.2nm,0.9s,baz=199,slow=3.8,SNR=3.1						
ASAR	Alice Springs	122.30	145	PKP	PKPdf	05 05 35.3	-0.6
ASAR	Alice Springs	122.30	145	PKP	PKPdf	05 05 35.3	-0.6
	0.4nm,0.6s,baz=194,slow=3.4,SNR=4.3						
SONM	Songino Array	128.17	48	PKP	PKPdf	05 05 45.7	-0.7
SONM	Songino Array	128.17	48	PKP	PKPdf	05 05 45.7	-0.7
	1.6nm,1.1s,baz=224,slow=2.3,SNR=4.7						
ILAR	Eielson Array	130.27	336	PKP	PKPdf	05 05 50.1	+0.4
ILAR	Eielson Array	130.27	336	PKP	PKPdf	05 05 50.1	+0.4
	0.5nm,0.8s,baz=340,slow=1.6,SNR=6.9						
KSAR	Wonju Array Be	145.17	60	PKPbc	PKPdf	05 06 17.4	-0.4
KSRS	Korea Array	145.20	60	PKPbc	PKPdf	05 06 17.4	-0.4
	5.7nm,0.8s,baz=277,slow=3.2,SNR=10						

*NIED **28** 05:20:00, 44°.90N×149°.70E, h35km, Mw3.9 Best double couple: $M_0$7.95000×10^{14} NP1:ϕ_s208.00000°, δ23.00000°, λ104.00000°. NP2:ϕ_s13.00000°, δ68.00000°, λ84.00000°.*
*JMA **28** 05:20:42.0±0.9, 44°.91N×149°.71E, h30km, M4.5*
*SKHL **28** 05:20:42.6±0.4, 44°.59N×149°.80E, h41km±4km, mb5.2/2*
*ISCJB **28** 05:20:44.6±1.1, 44°.61N±0°.07×149°.5E±0°.1, h61km±9km, mb3.8/14, Error ellipse: s-maj=15.7km s-min=7.8km az=135.6*
*MOS **28** 05:20:45.6±1.2, 44°.78N×149°.41E, h66km, mb4.2/11, Error ellipse: s-maj=16.3km s-min=14.3km az=71.9*
*IDC **28** 05:20:48.5±2.8, 44°.74N×149°.50E, h77km±24km, mb3.5/14, mb1 3.7/17, mb1mx3.6/33, mbtmp3.8/17, MS3.5/3, Ms1 3.5/3, ms1mx2.9/32, Error ellipse: s-maj=24.5km s-min=15.2km az=157.0*
ISC 28 05:20:45.7±1.5**, 44°.62N**±0°.08×**149°.54E**±0°.09**, h54**km±13km**, n50,** σ**1s.46**/52**, mb3.8**/14**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.34	298	⇓iPN	Pn	05 21 05.6	-2.4
KUR				S	Sn	05 21 22.5	-2.1
KUR				pmax	pmax		
	comp=N,380nm,0.5s						
KUR				pmax	pmax		
	comp=E,300nm,0.5s						
KUR				pmax	pmax		
	comp=Z,720nm,0.5s						
KUR				smax	smax		
	comp=N,4μm,2.0s						
KUR				smax	smax		
	comp=E,4μm,2.0s						
KUR				smax	smax		
	comp=N,2μm,0.3s						

KUR					smax	smax		
	comp=E,2μm,0.3s							
KUR	**Kuril'sk**	**1.34**	**298**	*eP*	**Pn**		**05 21 05.6**	**-2.4**
KUR					AMB	AMB	05 21 11.5	
	comp=E,380nm,0.5s							
KUR					AMB	AMB	05 21 11.5	
	comp=E,300nm,0.5s							
KUR					AMB	AMB	05 21 11.5	
	comp=E,720nm,0.5s							
KUR					*eS*	**Sn**	**05 21 22.6**	**-2.1**
KUR					A	A	05 21 23.0	
	comp=E,4μm,2.0s							
KUR					A	A	05 21 26.0	
	comp=E,2μm,0.3s							
KUR					A	A	05 21 26.0	
	comp=E,630nm,0.3s							
SHO	**Shikotan**	**2.09**	**250**	*eP*	**Pn**		**05 21 17.0**	**-1.2**
SHO					*eS*	**Sn**	**05 21 40.9**	**-2.1**
SHO					A	A	05 21 56.3	
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.70**	**259**	*c* iPN	**Pn**		**05 21 27.2**	**+0.6**
YUK				*i* S	**Sn**		**05 22 00.9**	**+2.8**
YUK					pmax	pmax		
	comp=N,137nm,0.2s							
YUK					pmax	pmax		
	comp=E,49nm,0.2s							
YUK					pmax	pmax		
	comp=Z,303nm,0.2s							
YUK					smax	smax		
	comp=N,358nm,0.7s							
YUK					smax	smax		
	comp=E,920nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**2.70**	**259**	*eP*	**Pn**		**05 21 27.2**	**+0.6**
YUK					AMB	AMB	05 21 38.2	
	comp=E,138nm,0.2s							
YUK					AMB	AMB	05 21 38.2	
	comp=E,49nm,0.2s							
YUK					AMB	AMB	05 21 38.2	
	comp=E,300nm,0.2s							
YUK					*eS*	**Sn**	**05 22 00.9**	**+2.8**
YUK					A	A	05 22 07.3	
	comp=E,360nm,0.7s							
YUK					A	A	05 22 07.3	
	comp=E,920nm,0.7s							
NEM2	**Nemuro 2**	**3.02**	**247**	P	**Pn**		**05 21 29.9**	**-1.0**
NEM2				*eS*	**Sn**		**05 22 05.8**	**+0.1**
JRA	**Rausu**	**3.25**	**259**	P	**Pn**		**05 21 34.3**	**+0.3**
JNK	**Nakash**	**3.62**	**255**	P	**Pn**		**05 21 39.4**	**+0.1**
JAK	**Akkeshi**	**3.86**	**247**	P	**Pn**		**05 21 41.9**	**-0.6**
JAK				*eS*	**Sn**		**05 22 25.3**	**-1.3**
JTKR	**Abashiri--Toko**	**4.09**	**263**	P	**Pn**		**05 21 47.3**	**+1.6**
JAR	**Ashorobuto**	**4.37**	**254**	P	**Pn**		**05 21 50.4**	**+0.9**
JOB	**Onbets**	**4.47**	**249**	P	**Pn**		**05 21 51.3**	**+0.4**
JCH	**Churui**	**4.91**	**248**	P	**Pn**		**05 21 57.0**	**+0.1**
JCH				*eS*	**Sn**		**05 22 52.4**	**0.0**
JKK2	**Kamakawa 2**	**4.94**	**264**	P	**Pn**		**05 21 59.6**	**+2.3**
ASAJ	**Asahikawa**	**5.00**	**267**	P	**Pn**		**05 22 00.6**	**+2.4**
	comp=E,3.2nm,0.3s,baz=75,slow=20,SNR=6.2							
ASAJ				LR	LR		05 24 07.8	
	comp=E,215nm,19.3s,baz=360,slow=40							
JFR	**Furan**	**5.23**	**256**	P	**Pn**		**05 22 03.7**	**+2.5**
JNBK	**Urakawa-nobuka**	**5.47**	**247**	P	**Pn**		**05 22 03.8**	**-0.7**
JNBK				*eS*	**Sn**		**05 23 04.2**	**-1.8**
JBT2	**Biratori 2**	**5.52**	**253**	P	**Pn**		**05 22 05.6**	**+0.4**
JNB	**Noboribetsu**	**6.54**	**254**	P	**Pn**		**05 22 19.9**	**+0.7**
JKB	**Kayabe**	**6.79**	**249**	P	**Pn**		**05 22 20.4**	**-2.2**
JYM2	**Yakumo 2**	**7.14**	**253**	P	**Pn**		**05 22 28.1**	**+0.7**
JANG	**Nango**	**7.29**	**237**	P	**Pn**		**05 22 27.1**	**-2.4**
JTM	**Tenmabayashi**	**7.32**	**241**	P	**Pn**		**05 22 28.6**	**-1.3**
PETK	**Petropavlovsk-**	**10.04**	**29**	PN	**Pn**		**05 23 09.1**	**+2.0**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**10.04**	**29**	P	**Pn**		**05 23 09.1**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=206,slow=16,SNR=2.8							
USRK	**Ussuriysk Arra**	**12.56**	**274**	P	**Pn**		**05 23 43.0**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=82,slow=14,SNR=5.8							
H11N2	**WAKE ISLAND Hy**	**28.72**	**144**	T	T		05 57 21.7	
	baz=337,slow=76,SNR=331							
H11N1	**WAKE ISLAND Hy**	**28.73**	**144**	T	T		05 57 32.6	
	baz=337,slow=76,SNR=228							
H11N3	**WAKE ISLAND Hy**	**28.74**	**144**	T	T		05 57 21.8	
	baz=337,slow=76,SNR=222							
SONM	**Songino Array**	**29.73**	**292**	P	**P**		**05 26 46.8**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=92,slow=8.3,SNR=4.8							
SONM				LR	LR		05 39 52.5	
	comp=Z,120nm,18.7s,baz=84,slow=39							
H11S1	**WAKE ISLAND Hy**	**29.73**	**146**	T	T		05 58 42.9	
	baz=338,slow=77,SNR=341							
H11S3	**WAKE ISLAND Hy**	**29.74**	**146**	T	T		05 58 42.5	
	baz=338,slow=77,SNR=259							
H11S2	**WAKE ISLAND Hy**	**29.75**	**146**	T	T		05 58 44.2	
	baz=338,slow=77,SNR=218							
ILAR	**Eielson Array**	**39.76**	**37**	P	**P**		**05 28 12.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=264,slow=7.6,SNR=18							
ZALV	**Zalesovo Beam**	**41.85**	**307**	LR	LR		05 46 09.6	
	comp=Z,74nm,18.0s,baz=66,slow=36							
INK	**Inuvik**	**44.78**	**31**	P	**P**		**05 28 53.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=327,slow=5.6,SNR=7.8							
MKAR	**Makanchi Array**	**45.70**	**298**	P	**P**		**05 29 00.9**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**45.70**	**298**	P	**P**		**05 29 00.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=77,slow=7.9,SNR=16							
YKA	**Yellowknife Ar**	**54.11**	**35**	P	**P**		**05 30 04.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=297,slow=6.9,SNR=4.6							
FINES	**FINESS Array B**	**64.87**	**334**	P	**P**		**05 31 16.8**	**-1.8**
	comp=Z,2.6nm,0.9s,baz=356,slow=7.6,SNR=3.5							
WRA	**Warramunga Arr**	**65.74**	**196**	P	**P**		**05 31 25.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=15,slow=6.9,SNR=5.2							
PDAR	**Pinedale Array**	**68.03**	**51**	P	**P**		**05 31 39.1**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=357,slow=2.0,SNR=3.5							
NOA	**NORSAR Array B**	**69.39**	**340**	P	**P**		**05 31 45.9**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=29,slow=6.5,SNR=3.0							
KBZ	**Khabaz**	**70.49**	**313**	P	**P**		**05 31 55.1**	**+0.8**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**70.49**	**313**	P	**P**		**05 31 55.1**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=54,slow=6.3,SNR=8.1							
AKASG	**Malin Array Be**	**71.88**	**325**	P	**P**		**05 32 02.2**	**-0.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.88**	**325**	P	**P**		**05 32 02.2**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=37,slow=6.1,SNR=5.8							
BRTR	**Keskin Array B**	**78.17**	**315**	P	**P**		**05 32 39.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=133,slow=3.0,SNR=4.1							
GERES	**GERESS Array B**	**79.21**	**332**	P	**P**		**05 32 44.4**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=39,slow=6.6,SNR=2.2							
TXAR	**Lajitas Array**	**80.73**	**58**	P	**P**		**05 32 53.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=291,slow=3.4,SNR=3.7							

DJA 28 05:51:27.0±1.1, 0°N±6°×12°5E±°, h22km±15km, M3.8/6, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.12**	**299**	P	Pn	05 51 46.5	-0.9
KMSI				S	Sb	05 52 01.3	-0.5
GTOI	**Gorontalo**	**2.04**	**287**	P	Pn	05 52 01.4	+1.4
SANI	**Sanana**	**2.31**	**154**	P	Pn	05 52 03.9	+0.2
SANI				S	Sn	05 52 32.0	+0.5
LBMI	**Labuha**	**2.63**	**105**	P	Pn	05 52 09.5	+1.4
LBMI				S	Sn	05 52 40.5	+1.1
MRSI	**Marisa**	**3.05**	**278**	P	Pn	05 52 14.4	+0.4
APSI	**Ampana**	**3.44**	**254**	P	Pn	05 52 21.3	+2.0

MAN 28 06:04:36, 10°33N×126°28E, h26km, mb4.4, ML3.2, MS3.1, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.95**	**235**	*i* P	Pn	06 04 53.3	-0.3
SCPH				*i* S	Sb	06 05 05.5	-0.4
MSLP	**Maasin**	**1.41**	**262**	*eP*	Pn	06 05 00.7	+0.8
MSLP				*eS*	Sn	06 05 10.4	-7.3
BUTP	**Butuan**	**1.50**	**206**	*eP*	Pn	06 05 01.7	+0.5
BUTP				*eS*	Sn	06 05 15.8	-4.1
BUTP	**Butuan**	**1.50**	**206**	*eP*	Pb	06 05 02.4	-0.8
BUTP				*eS*	Sb	06 05 21.7	0.0
PLP	**Palo**	**1.52**	**303**	*ie*P	Pn	06 05 02.4	+0.8
PLP				*i* S	Sb	06 05 21.6	-0.9
BIPH	**Bislig**	**2.13**	**178**	*ie*P	Pb	06 05 12.6	-1.4
BIPH				*i* S	Sn	06 05 37.1	+1.6
LLP	**Lapu-Lapu**	**2.27**	**270**	*eP*	Pn	06 05 14.0	+2.1
LLP				*eS*	Sn	06 05 35.4	-3.7
CGP	**Cagayan de Oro**	**2.43**	**220**	*i* P	Pn	06 05 16.5	+2.4
CGP				*i* S	Sn	06 05 45.7	+2.8
BUKP	**Musuan**	**2.71**	**206**	*eP*	Pb	06 05 21.4	-2.5
BUKP				*eS*	Sn	06 05 51.9	+1.8
PAGZ	**Pagadian**	**3.77**	**229**	*eP*	Pn	06 05 35.6	+3.1

MAN 28 06:17:05, 9.64N×121.90E, h14km, mb3.9, ML2.7, MS2.3, 1C, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.19**	**35**	*eP*	Pn	06 17 26.3	-1.0
GUIM				*eS*	Sb	06 17 41.3	-1.4
CUYO	**Cuyo Island**	**1.48**	**324**	*eP*	Pn	06 17 31.8	+0.5
RCP	**Roxas**	**2.08**	**24**	*e*P	Pg	06 17 44.6	-0.4
RCP				*eS*	Sn	06 18 06.2	+0.9
PAGZ	**Pagadian**	**2.31**	**140**	*eP*	Pn	06 17 43.8	+1.1
ENPP	**El Nido**	**2.88**	**303**	*eP*	Pn	06 17 51.9	+1.3
MSLP	**Maasin**	**2.96**	**80**	*eP*	Pn	06 17 53.8	+2.2

*ATH **28** 06:43:02.2, 41.62N×23.83E, h22km, MD3.3/24*
*SOF **28** 06:43:02.0, 41.69N×23.83E, h3km, MD2.7*
*CSEM **28** 06:43:02.6±0.1, 41.62N×23.80E, h5km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.8km az=117.0*
*THE **28** 06:43:02.6, 41.63N×23.82E, h6km±1km, ML3.1/7, Error ellipse: s-maj=1.2km s-min=0.6km az=314.0*
*SKO **28** 06:43:03.3, 41.67N×23.76E, h2km*
*BEO **28** 06:43:03.8±0.5, 41.64N×23.78E, h9km±3km, ML2.9/8*

ISC 28 06:43:02.9±0.8, 41.64N±0.01×23.82E±0.01, h12km±4km, n181,σ0s97/272, 16C-9D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMB	**Musomiste**	**0.08**	**236**	P	**Pg**	**06 43 05.2**	**-0.4**
MMB				S	**Sg**	**06 43 07.6**	**0.0**
MMB	**Musomiste**	**0.08**	**236**	*i* P	**Pg**	**06 43 05.2**	**-0.4**
MMB				S	**Sg**	**06 43 07.2**	**-0.4**
MMB	**Musomiste**	**0.08**	**236**	P	**Pg**	**06 43 05.2**	**-0.4**
MMB				S	**Sg**	**06 43 07.6**	**0.0**
NVR	**Nevrokopi**	**0.29**	**174**	P	**Pg**	**06 43 08.1**	**-0.7**
NVR				S	**Sg**	**06 43 12.5**	**-0.3**
NVR	**Nevrokopi**	**0.29**	**174**	*e*PB	**Pg**	**06 43 08.3**	**-0.5**
NVR				*e*SB	**Sg**	**06 43 12.3**	**-0.5**
NVR	**Nevrokopi**	**0.29**	**174**	P	**Pg**	**06 43 08.1**	**-0.7**
NVR				S	**Sg**	**06 43 12.5**	**-0.3**
SRS	**Serrai**	**0.55**	**198**	P	**Pg**	**06 43 13.2**	**-0.4**
SRS				S	**Sg**	**06 43 20.7**	**-0.1**
SRS	**Serrai**	**0.55**	**198**	*e*PN	**Pg**	**06 43 13.4**	**-0.2**
SRS				*e*SN	**Sg**	**06 43 19.9**	**-0.9**
SRS	**Serrai**	**0.55**	**198**	P	**Pg**	**06 43 13.2**	**-0.4**
SRS				*e*Sn	**Sg**	**06 43 19.9**	**-0.9**
SRS				S	**Sg**	**06 43 20.7**	**-0.1**
KKB	**Krupnik**	**0.60**	**293**	P	**Pg**	**06 43 13.1**	**-1.4**
KKB				S	**Sg**	**06 43 20.5**	**-2.0**
KKB	**Krupnik**	**0.60**	**293**	P	**Pg**	**06 43 13.1**	**-1.4**
KKB				S	**Sg**	**06 43 20.5**	**-2.0**
RZN	**Rozhen**	**0.67**	**85**	P	**Pg**	**06 43 15.4**	**-0.6**
RZN				S	**Sg**	**06 43 25.3**	**+0.4**
RZN	**Rozhen**	**0.67**	**85**	P	**Pg**	**06 43 15.4**	**-0.6**
RZN				S	**Sg**	**06 43 25.3**	**+0.4**
PLD	**Plovdiv**	**0.81**	**54**	P	**Pg**	**06 43 18.0**	**-0.5**
PLD				S	**Sg**	**06 43 29.3**	**+0.2**
PLD	**Plovdiv**	**0.81**	**54**	*i* Pg	**Pg**	**06 43 18.2**	**-0.3**
PLD	**Plovdiv**	**0.81**	**54**	*i* Pg	**Pg**	**06 43 18.2**	**-0.3**
PLD				S	**Sg**	**06 43 29.3**	**+0.2**
KAVA	**Kavala**	**0.82**	**141**	P	**Pg**	**06 43 17.9**	**-0.9**
KAVA				S	**Sg**	**06 43 29.8**	**+0.2**
KAVA	**Kavala**	**0.82**	**141**	*e*PN	**Pg**	**06 43 18.3**	**-0.5**
KAVA				*e*SN	**Sg**	**06 43 29.0**	**-0.6**
KAVA	**Kavala**	**0.82**	**141**	P	**Pg**	**06 43 17.9**	**-0.9**
KAVA	**Kavala**	**0.82**	**141**	*e*Pn	**Pg**	**06 43 18.3**	**-0.5**
KAVA				*e*Sn	**Sg**	**06 43 29.0**	**-0.6**
KNT	**Kendrikon**	**0.84**	**236**	P	**Pg**	**06 43 18.2**	**-0.9**
KNT	**Kendrikon**	**0.84**	**236**	*e*PN	**Pg**	**06 43 18.3**	**-0.9**
KNT				*e*SN	**Sg**	**06 43 29.8**	**-0.3**
KNT	**Kendrikon**	**0.84**	**236**	P	**Pg**	**06 43 18.2**	**-0.9**
KNT				*e*Sn	**Sg**	**06 43 29.8**	**-0.3**
SOH	**Sokhos**	**0.89**	**204**	P	**Pg**	**06 43 19.3**	**-0.7**
SOH				S	**Sg**	**06 43 31.5**	**-0.1**
SOH	**Sokhos**	**0.89**	**204**	*e*PN	**Pg**	**06 43 19.4**	**-0.6**
SOH				*e*SN	**Sg**	**06 43 31.3**	**-0.3**
SOH	**Sokhos**	**0.89**	**204**	P	**Pg**	**06 43 19.3**	**-0.7**
SOH				S	**Sg**	**06 43 31.5**	**-0.1**
PGB	**Panagyurishte**	**0.95**	**16**	P	**Pg**	**06 43 19.5**	**-1.7**
PGB	**Panagyurishte**	**0.95**	**16**	P	**Pg**	**06 43 19.5**	**-1.7**
VAY	**Valandovo**	**0.99**	**252**	P	**Pg**	**06 43 21.1**	**-0.9**
VAY				S	**Sb**	**06 43 35.8**	**+0.9**
VAY	**Valandovo**	**0.99**	**252**	*e*Pg	**Pb**	**06 43 21.9**	**0.0**
VAY				*e*Sg	**Sb**	**06 43 35.0**	**+0.1**
VAY	**Valandovo**	**0.99**	**252**	P	**Pg**	**06 43 21.3**	**-0.7**
VAY				S	**Sg**	**06 43 34.0**	**-0.9**
VAY	**Valandovo**	**0.99**	**252**	*e*Pg	**Pg**	**06 43 21.5**	**-0.5**
VAY				*e*Sg	**Sg**	**06 43 34.5**	**-0.4**
VAY	**Valandovo**	**0.99**	**252**	P	**Pg**	**06 43 21.3**	**-0.7**
VAY	**Valandovo**	**0.99**	**252**	*e*Pg	**Pb**	**06 43 21.9**	**0.0**
VAY				S	**Sg**	**06 43 34.0**	**-0.9**
VAY				*e*Sg	**Sb**	**06 43 35.0**	**+0.1**
VTS	**Vitosha**	**1.06**	**335**	P	**Pg**	**06 43 21.8**	**-1.5**
VTS	**Vitosha**	**1.06**	**335**	PG	**Pg**	**06 43 22.5**	**-0.8**
VTS				SG	**Sb**	**06 43 37.5**	**+0.4**
VTS	**Vitosha**	**1.06**	**335**	*e*Pg	**Pg**	**06 43 21.8**	**-1.5**
VTS				*e*Sg	**Sb**	**06 43 37.6**	**+0.6**
VTS	**Vitosha**	**1.06**	**335**	P	**Pg**	**06 43 21.9**	**-1.4**
VTS				S	**Sg**	**06 43 37.2**	**+0.1**
VTS	**Vitosha**	**1.06**	**335**	*i* P	**Pg**	**06 43 21.9**	**-1.4**
VTS	**Vitosha**	**1.06**	**335**	P	**Pg**	**06 43 21.9**	**-1.4**
VTS				S	**Sg**	**06 43 37.2**	**+0.1**
HORT	**Hortiatis**	**1.17**	**208**	P	**Pg**	**06 43 24.6**	**-0.8**
HORT	**Hortiatis**	**1.17**	**208**	*e*PN	**Pg**	**06 43 24.6**	**-0.8**
HORT				*e*SN	**Sb**	**06 43 40.9**	**+0.7**
HORT	**Hortiatis**	**1.17**	**208**	P	**Pg**	**06 43 24.6**	**-0.8**
HORT				*e*Sn	**Sb**	**06 43 40.9**	**+0.7**
THE	**Thessaloniki**	**1.19**	**213**	P	**Pg**	**06 43 24.9**	**-0.9**
THE				S	**Sb**	**06 43 41.4**	**+0.7**
THE	**Thessaloniki**	**1.19**	**213**	*e*PN	**Pg**	**06 43 24.9**	**-0.9**
THE				*e*SN	**Sg**	**06 43 41.0**	**-0.3**
THE	**Thessaloniki**	**1.19**	**213**	P	**Pg**	**06 43 24.9**	**-0.9**
THE				*e*Sn	**Sg**	**06 43 41.0**	**-0.3**
KDZ	**Kurdzhali**	**1.20**	**89**	P	**Pg**	**06 43 23.8**	**-2.1**
KDZ				S	**Sg**	**06 43 39.2**	**-2.3**
KDZ				*e*Sg	**Sn**	**06 43 42.1**	**+0.5**
KDZ	**Kurdzhali**	**1.20**	**89**	*i* P	**Pg**	**06 43 24.0**	**-1.9**
KDZ	**Kurdzhali**	**1.20**	**89**	S	**Sg**	**06 43 40.6**	**-0.9**
KDZ	**Kurdzhali**	**1.20**	**89**	P	**Pg**	**06 43 23.8**	**-2.1**
KDZ				S	**Sg**	**06 43 39.2**	**-2.3**
KDZ				*e*Sg	**Sn**	**06 43 42.1**	**+0.5**
GRG	**Griva**	**1.27**	**238**	P	**Pn**	**06 43 26.2**	**-0.2**
GRG	**Griva**	**1.27**	**238**	*e*PN	**Pn**	**06 43 26.2**	**-0.2**
GRG				*e*SN	**Sb**	**06 43 43.6**	**+0.7**
GRG	**Griva**	**1.27**	**238**	P	**Pn**	**06 43 26.2**	**-0.2**
GRG				*e*Sn	**Sb**	**06 43 43.6**	**+0.7**
PLG	**Polygyros**	**1.29**	**193**	P	**Pn**	**06 43 27.0**	**+0.2**
PLG				S	**Sg**	**06 43 43.8**	**-0.7**
PLG	**Polygyros**	**1.29**	**193**	*e*PN	**Pn**	**06 43 26.9**	**+0.2**
PLG				*e*SN	**Sg**	**06 43 43.6**	**-0.9**
PLG	**Polygyros**	**1.29**	**193**	*e*Pn	**Pn**	**06 43 26.9**	**+0.2**
PLG				S	**Sg**	**06 43 43.8**	**-0.7**
OUR	**Ouranopolis**	**1.31**	**175**	P	**Pn**	**06 43 26.9**	**0.0**
OUR				S	**Sg**	**06 43 44.8**	**-0.2**
OUR	**Ouranopolis**	**1.31**	**175**	*e*PN	**Pn**	**06 43 26.9**	**0.0**
OUR				*e*SN	**Sb**	**06 43 44.0**	**0.0**
OUR	**Ouranopolis**	**1.31**	**175**	*e*PN	**Pn**	**06 43 26.8**	**-0.1**
OUR				*e*SN	**Sn**	**06 43 45.1**	**+0.9**
OUR	**Ouranopolis**	**1.31**	**175**	P	**Pn**	**06 43 26.9**	**0.0**
OUR				S	**Sg**	**06 43 44.8**	**-0.2**
OUR				*e*Sn	**Sn**	**06 43 45.1**	**+0.9**
RDO	**Rodhopi**	**1.38**	**110**	P	**Pn**	**06 43 28.1**	**+0.2**
RDO	**Rodhopi**	**1.38**	**110**	*e*PN	**Pn**	**06 43 28.1**	**+0.2**
RDO				*e*SN	**Sg**	**06 43 47.4**	**0.0**
RDO	**Rodhopi**	**1.38**	**110**	P	**Pn**	**06 43 28.1**	**+0.2**
RDO				*e*Sn	**Sg**	**06 43 47.4**	**0.0**
PAIG	**Paliouri**	**1.71**	**184**	P	**Pn**	**06 43 32.4**	**0.0**
PAIG				S	**Sn**	**06 43 54.3**	**+0.1**
PAIG	**Paliouri**	**1.71**	**184**	*e*PN	**Pn**	**06 43 32.2**	**-0.2**
PAIG				*e*SN	**Sn**	**06 43 54.3**	**+0.1**
PAIG	**Paliouri**	**1.71**	**184**	P	**Pn**	**06 43 32.4**	**0.0**
PAIG				S	**Sn**	**06 43 54.3**	**+0.1**
MPEP	**Malo Peshtene**	**1.72**	**358**	P	**Pn**	**06 43 33.4**	**+0.8**
MPEP				Pg	**Pb**	**06 43 35.0**	**+0.6**
MPEP				S	**Sg**	**06 43 57.5**	**-0.7**
MPEP	**Malo Peshtene**	**1.72**	**358**	P	**Pn**	**06 43 33.4**	**+0.8**
SMTH	**Samothraki Isl**	**1.74**	**131**	*e*PN	**Pn**	**06 43 32.8**	**-0.1**
SMTH				*e*SN	**Sn**	**06 43 56.1**	**+1.1**
SMTH	**Samothraki Isl**	**1.74**	**131**	*e*Pn	**Pn**	**06 43 32.8**	**-0.1**
SMTH				*e*Sn	**Sn**	**06 43 56.1**	**+1.1**
ALN	**Alexandroupoli**	**1.83**	**113**	P	**Pn**	**06 43 34.4**	**+0.3**
ALN	**Alexandroupoli**	**1.83**	**113**	*e*PN	**Pn**	**06 43 34.9**	**+0.8**
ALN	**Alexandroupoli**	**1.83**	**113**	*e*PN	**Pn**	**06 43 34.5**	**+0.3**
ALN				*e*SN	**Sn**	**06 43 57.7**	**+0.5**
ALN	**Alexandroupoli**	**1.83**	**113**	P	**Pn**	**06 43 34.4**	**+0.3**
ALN				*e*Sn	**Sn**	**06 43 57.7**	**+0.5**
LIT	**Litokhoron**	**1.84**	**214**	*e*PN	**Pn**	**06 43 34.3**	**+0.1**
LIT				*e*SN	**Sn**	**06 43 58.1**	**+0.8**
LIT	**Litokhoron**	**1.84**	**214**	*e*Pn	**Pn**	**06 43 34.3**	**+0.1**
LIT				*e*Sn	**Sn**	**06 43 58.1**	**+0.8**
ZAPS	**Zavoj**	**1.86**	**332**	*e*Pn	**Pn**	**06 43 35.7**	**+1.2**
ZAPS				*e*Sg	**Sg**	**06 44 03.2**	**+0.6**
ENEZ	**Enez**	**1.98**	**116**	*e*PN	**Pn**	**06 43 37.1**	**+1.1**
ENEZ	**Enez**	**1.98**	**116**	*e*Pn	**Pn**	**06 43 37.2**	**+1.1**
LIA	**Limnos Island**	**2.02**	**149**	*e*PB	**Pn**	**06 43 36.5**	**-0.2**
LIA				*e*SN	**Sn**	**06 44 01.8**	**0.0**
LIA	**Limnos Island**	**2.02**	**149**	*e*Pb	**Pn**	**06 43 36.5**	**-0.2**
LIA				*e*Sn	**Sn**	**06 44 01.8**	**0.0**
FNA	**Florina**	**2.03**	**246**	*e*PN	**Pn**	**06 43 37.5**	**+0.6**
FNA	**Florina**	**2.03**	**246**	*e*Pn	**Pn**	**06 43 37.5**	**+0.6**
KZN	**Kozani**	**2.04**	**230**	*e*PN	**Pn**	**06 43 37.5**	**+0.4**
KZN	**Kozani**	**2.04**	**230**	*e*Pn	**Pn**	**06 43 37.5**	**+0.4**
EDRB	**Edirne**	**2.20**	**84**	*e*PN	**Pn**	**06 43 39.4**	**+0.2**
EDRB	**Edirne**	**2.20**	**84**	*e*Pn	**Pn**	**06 43 39.4**	**+0.2**
JMB	**Yambol**	**2.22**	**67**	*e*Pn	**Pn**	**06 43 41.5**	**+2.1**
JMB				*e*Sn	**Sb**	**06 44 10.1**	**-0.2**
JMB	**Yambol**	**2.22**	**67**	*i* P	**Pb**	**06 43 42.0**	**-0.9**
JMB	**Yambol**	**2.22**	**67**	S	**Sb**	**06 44 10.1**	**-0.2**
JMB	**Yambol**	**2.22**	**67**	*e*Pn	**Pn**	**06 43 41.5**	**+2.1**
JMB	**Yambol**	**2.22**	**67**	*i* P	**Pb**	**06 43 42.0**	**-0.9**
JMB				*e*Sn	**Sb**	**06 44 10.1**	**-0.2**
ERIK	**Erikli-Kesan**	**2.25**	**114**	*e*PN	**Pn**	**06 43 41.6**	**+1.8**
ERIK	**Erikli-Kesan**	**2.25**	**114**	*e*Pn	**Pn**	**06 43 41.6**	**+1.8**
SZH	**Strazhica**	**2.26**	**43**	P	**Pb**	**06 43 43.8**	**+0.2**
SZH				Pg	**Pg**	**06 43 45.1**	**-1.1**
XOR	**Xorichti**	**2.32**	**192**	*e*PN	**Pn**	**06 43 41.2**	**+0.4**
XOR				*e*SN	**Sn**	**06 44 09.8**	**+0.6**
XOR	**Xorichti**	**2.32**	**192**	*e*Pn	**Pn**	**06 43 41.2**	**+0.4**
XOR				*e*Sn	**Sn**	**06 44 09.8**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.36**	**121**	*e*PN	**Pn**	**06 43 41.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.36**	**121**	*e*Pn	**Pn**	**06 43 41.7**	**+0.4**
NEST	**Nestorio**	**2.43**	**241**	*e*PN	**Pn**	**06 43 42.1**	**-0.3**
NEST	**Nestorio**	**2.43**	**241**	*e*Pn	**Pn**	**06 43 42.1**	**-0.3**
AOS	**Alonnisos**	**2.46**	**179**	*e*PN	**Pn**	**06 43 42.6**	**+0.4**
AOS	**Alonnisos**	**2.46**	**179**	*e*PN	**Pn**	**06 43 42.6**	**-0.2**
AOS				*e*SB	**Sn**	**06 44 12.3**	**-0.5**
AOS	**Alonnisos**	**2.46**	**179**	*e*Pn	**P

1.5nm,0.7s,baz=37,slow=10,SNR=2.8
WRA Warramunga Arr 31.74 250 P P 06 51 04.8 +0.3
0.6nm,0.6s,baz=82,slow=9.3,SNR=3.7
ASAR Alice Springs 33.03 243 P P 06 51 16.1 +0.2
0.5nm,0.7s,baz=68,slow=10,SNR=3.5
ILAR Eielson Array 83.47 18 P P 06 57 07.6 0.0
0.3nm,0.6s,baz=228,slow=4.7,SNR=6.2

DJA 28 06:59:04.7±2.7,4°N±22°×12°7E±1°1,h10km,M4.3/2, mb4.4/2,mB5.0/1,MLv4.2/1,Mw(mB)4.3/1,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.12**	**264**	P		Pb	06 59 24.2	-2.1
SGSI				S		Sb	06 59 39.7	-1.3
GTOI	**Gorontalo**	**4.81**	**229**	P		Pn	07 00 16.1	-1.1
SANI	**Sanana**	**5.85**	**187**	P		Pn	07 00 30.0	-1.5
	18nm,1.2s,1μm							
APSI	**Ampana**	**6.85**	**227**	P		Pn	07 00 47.9	+2.6

DHMR ***28*** *07:09:32.5±1.3,11°.70N×42°.97E,h13km±11km,ML3.9*
ISCJB ***28*** *07:09:37.3±0.5,11°.76N±0°.06×43°.11E±0°.05,h15km±5km, Error ellipse: s-maj=11.9km s-min=4.8km az=143.3*
ARO ***28*** *07:09:38.2,11°.8N±0°.3×43°.1E±0°.3,h8km±1km,ML3.8*
ISC 28 07:09:37.2±1.1,11°.76N±0°.04×43°.10E±0°.04,h18km±6km, n15,σ1§14/22,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MCAD	**Moucha**	**0.11**	**103**	*eP*		**Pg**	**07 09 40.9**	**0.0**
TDD	**Tadjoura Ara**	**0.20**	**284**	*i* P		**Pg**	**07 09 42.4**	**+0.4**
OBO	**Obock**	**0.29**	**39**	*i* P		**Pg**	**07 09 43.8**	**+0.2**
ATA	**Atar**	**0.32**	**161**	*i* P		**Pb**	**07 09 44.5**	**+0.2**
ATD	**Arta Tunnel**	**0.34**	**228**	*i* P		**Pb**	**07 09 44.9**	**+0.1**
ATD				S		**Sb**	**07 09 50.0**	**+0.2**
SGH	**Sud-Ghoubbet**	**0.56**	**236**	*eP*		**Pg**	**07 09 48.5**	**+0.1**
LARD	**Lac Aux requin**	**0.61**	**253**	*eP*		**Pg**	**07 09 49.1**	**-0.1**
LARD				*eS*		**Sg**	**07 09 57.7**	**+0.2**
LDLD	**Lac de Lave**	**0.62**	**254**	*eP*		**Pg**	**07 09 49.2**	**-0.2**
GBR	**Grand-Bara**	**0.87**	**226**	*i* P		**Pg**	**07 09 53.4**	**-0.8**
MAOD	**Malaho**	**0.92**	**292**	*eP*		**Pb**	**07 09 54.1**	**-0.6**
TRBA	**At Turbah**	**1.77**	**34**	*i* P		**Pn**	**07 10 06.0**	**-1.2**
TRBA				*i* S		**Sb**	**07 10 31.0**	**-0.2**
TRBA					AML	AML	07 10 36.1	
	comp=N,932nm,0.6s							
UDYN	**Al 'Udayn**	**2.35**	**21**	*i* P		**Pn**	**07 10 14.7**	**-0.4**
UDYN				*i* S		**Sb**	**07 10 48.7**	**+0.6**
LBOS		**2.97**	**45**	*i* P		**Pn**	**07 10 24.3**	**+0.6**
LBOS				*i* S		**Sb**	**07 11 04.1**	**-1.7**
BDHA	**Al Bayda'**	**3.26**	**47**	*i* P		**Pn**	**07 10 28.4**	**+0.7**
BDHA				*i* S		**Sb**	**07 11 11.9**	**-2.4**
BDHA					AML	AML	07 11 26.2	
	comp=N,467nm,0.5s							
HAJJ	**Hajjah**	**3.95**	**7**	*i* P		**Pn**	**07 10 36.0**	**-1.2**
HAJJ				*i* S		**Sn**	**07 11 26.2**	**+3.0**
HAJJ					AML	AML	07 11 50.0	
	comp=Z,615nm,0.6s							

IDC 28 07:41:19.3±2.4,54°.12N×86°.43E,h0km,mb1 3.2/2, mb1mx3.0/28,mbtmp3.2/2,ML3.2/2,Error ellipse: s-maj=20.3km s-min=12.8km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**260**	*i*			07 47 07.5	
	baz=80,slow=353,SNR=15							
ZALV	**Zalesovo Beam**	**0.96**	**260**	Pg		Pg	07 41 36.3	-1.5
	1.3nm,0.3s,baz=78,slow=16,SNR=12							
ZALV				Lg		Lg	07 41 51.2	
	1.7nm,0.3s,baz=82,slow=26,SNR=14							
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn		Pn	07 42 50.0	+1.1
	0.5nm,0.3s,baz=54,slow=13,SNR=16							
KURBB				Lg		Lg	07 44 32.4	
	0.1nm,0.3s,baz=332,slow=33,SNR=4.1							
MKAR	**Makanchi Array**	**7.80**	**201**	Pn		Pn	07 43 14.8	+0.7
	0.3nm,0.3s,baz=28,slow=14,SNR=16							
MKAR				Lg		Lg	07 45 29.2	
	0.0nm,0.3s,baz=32,slow=31,SNR=3.7							

BJI ***28*** *08:04:07.3,22°.88S×67°.22W,h152km,mB5.6/53*
SJA ***28*** *08:04:08.8±0.7,23°.47S×66°.92W,h225km±19km,ML4.1, MW5.4*
ISCJB ***28*** *08:04:09.3±0.3,23°.41S±0°.02×66°.77W±0°.02,h177km±2km, mb5.7/336,Error ellipse: s-maj=4.1km s-min=2.8km az=137.6*
MOS ***28*** *08:04:09.3±1.9,23°.55S×66°.84W,h189km,mb6.0/79, MS5.0/4,Error ellipse: s-maj=9.3km s-min=6.1km az=93.0*
GUC ***28*** *08:04:11.6±0.5,23°.36S×67°.55W,h247km±10km,ML6.4*
IDC ***28*** *08:04:11.2±0.9,23°.43S×66°.69W,h181km±7km,mb5.4/24, mb1 5.6/30,mb1mx5.6/32,mbtmp5.9/30,MS4.5/12, Ms1 4.5/12,ms1mx4.2/36,Error ellipse: s-maj=9.9km s-min=7.9km az=76.0*
NEIC ***28*** *08:04:14.2±0.1,23°.36S×66°.71W,mb5.8/254,ME6.4, MW5.9,Error ellipse: s-maj=4.5km s-min=3.1km az=49.0, Moment Tensor Solution. s44 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.16; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$5.15; $M_{r\theta}$4.89; $M_{\theta\phi}$-0.73; $M_{\phi r}$-5.14; Best double couple: M$_o$8.60000×10^{17} NP1: ϕ_s324.00000°,δ75.00000°,λ-109.00000°. NP2: ϕ_s198.00000°,δ24.00000°,λ-39.00000°. Principal axes: T 8.3000, Plg27.0000°, Azm69.0000°; N 0.5000, Plg18.0000°, Azm329.0000°; P -8.8000, Plg55.0000°, Azm209.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s179.00000°,δ18.00000°,λ-57.00000°. NP2: ϕ_s325.00000°,δ75.00000°,λ-100.00000°. Principal axes: T Plg29.0000°, Azm63.0000°; N Plg0.0000°, Azm0.0000°; P Plg59.0000°, Azm221.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II] at Antofagasta and Taltal, Chile. Also felt at Copiapo.
GCMT ***28*** *08:04:14.2±0.1,23°.64S×66°.96W,h204km,MW5.9/123, Moment Tensor Solution. s105,c195; s123,c340; Duration: 2§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.31±.06; $M_{\theta\theta}$-1.94±.08; $M_{\phi\phi}$5.25±.09; $M_{r\theta}$4.24±.05; $M_{\theta\phi}$-1.32±.08; $M_{\phi r}$-5.63±.06; Best double couple: M$_o$8.47600×10^{17} NP1:ϕ_s325.00000°,δ76.00000°, λ-110.00000°. NP2:ϕ_s202.00000°,δ24.00000°, λ-35.00000°. Principal axes: T 8.9620, Plg29.0000°, Azm71.0000°; N -0.9720, Plg19.0000°, Azm330.0000°; P -7.9900, Plg54.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 28 08:04:11.7±0.3,23°.51S±0°.03×66°.85W±0°.03,h190km±2km, h189km;pP-P,n1484,σ1§20/1729,mb5.8/325,398C-265D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.72**	**135**	*i* P		**Pn**	**08 04 48.4**	**+1.6**
SLA					IAML		08 04 50.9	
	comp=Z,23μm,0.6s							
AZAP	**Zapla**	**1.78**	**114**	*i* P		**Pn**	**08 04 48.5**	**+1.0**
AZAP					AML	AML	08 05 25.8	
	comp=Z,1μm,0.7s							
YJA	**Yavi**	**1.81**	**43**	*i* P		**Pn**	**08 04 49.1**	**+1.1**
YJA					AML	AML	08 05 27.4	
	comp=Z,109nm,0.6s							
LVC	**Limon Verde**	**2.10**	**295**	*i* iPn		**Pn**	**08 04 50.0**	**-0.8**
LVC				*e*Sn		**Sn**	**08 05 20.2**	**-0.9**
LVC	**Limon Verde**	**2.10**	**295**	*i* P		**Pn**	**08 04 50.2**	**-0.6**
ASTB	**Santa Barbara**	**2.21**	**102**	*i* P		**Pn**	**08 04 53.0**	**+1.1**
PB06	**Plate Boundary**	**2.63**	**287**	*e*P		**Pn**	**08 04 55.2**	**-1.4**
PB06				*e*S		**Sn**	**08 05 28.8**	**-2.8**
PB06					AML	AML	08 05 33.4	
	comp=N,89μm,0.5s							
PB06	**Plate Boundary**	**2.63**	**287**	*e*P		**Pn**	**08 04 55.2**	**-1.4**
PB06				*e*S		**Sn**	**08 05 28.8**	**-2.8**
ALOL	**LOMAS DE OLMED**	**2.66**	**97**	*i*P		**Pn**	**08 04 57.3**	**+0.5**
PB04	**Plate Boundary**	**2.73**	**296**	*e*P		Pn	08 05 02.3	+4.7
PB04				*e*S		Sn	08 05 40.7	+7.3
PB04					AML	AML	08 05 53.2	
	comp=N,64μm,0.6s							
PB04	**Plate Boundary**	**2.73**	**296**	*e*P		Pn	08 05 02.3	+4.7
PB04				*e*S		Sn	08 05 40.7	+7.3
PB09	**Plate Boundary**	**2.79**	**307**	*e*P		**Pn**	**08 04 58.0**	**-0.6**
PB09				*e*S		**Sn**	**08 05 32.8**	**-2.2**
PB09	**Plate Boundary**	**2.79**	**307**	*e*P		**Pn**	**08 04 58.0**	**-0.6**
PB09				*e*S		**Sn**	**08 05 32.8**	**-2.2**
MACH	**Maria Elena**	**2.98**	**295**	*e*P		**Pn**	**08 04 59.5**	**-1.5**
MACH				*e*S		**Sn**	**08 05 35.7**	**-3.5**
MACH	**Maria Elena**	**2.98**	**295**	*e*P		**Pn**	**08 04 59.5**	**-1.5**
MACH				*e*S		**Sn**	**08 05 35.7**	**-3.5**
CEN1	**Los Morros**	**3.08**	**271**	*e*P		**Pn**	**08 05 01.7**	**-0.3**
CEN1				*e*S		**Sn**	**08 05 39.1**	**-2.0**
CEN1	**Los Morros**	**3.08**	**271**	*e*P		**Pn**	**08 05 01.7**	**-0.3**
CEN1				*e*S		**Sn**	**08 05 39.1**	**-2.0**
ANCH	**Antofagasta**	**3.27**	**266**	*i*P		Pn	08 05 00.3	-3.8
ANCH				*e*S		Sn	08 05 38.3	-6.7
ANCH	**Antofagasta**	**3.27**	**266**	*i*P		Pn	08 05 00.3	-3.8
ANCH				*e*S		Sn	08 05 38.3	-6.7
PB07	**Plate Boundary**	**3.32**	**302**	*e*P		**Pn**	**08 05 03.2**	**-1.7**
PB07				*e*S		**Sn**	**08 05 42.2**	**-4.2**
PB07	**Plate Boundary**	**3.32**	**302**	*e*P		**Pn**	**08 05 03.2**	**-1.7**
PB07				*e*S		**Sn**	**08 05 42.2**	**-4.2**
PB10	**Plate Boundary**	**3.40**	**269**	*e*P		**Pn**	**08 05 03.5**	**-2.2**
PB10				*e*S		**Sn**	**08 05 42.7**	**-5.3**
PB10					AML	AML	08 05 53.9	
	comp=E,54μm,0.7s							
PB01	**Plate Boundary**	**3.46**	**315**	*e*P		**Pn**	**08 05 05.0**	**-1.5**
PB01				*e*S		**Sn**	**08 05 46.1**	**-3.3**
PB01	**Plate Boundary**	**3.46**	**315**	*e*P		**Pn**	**08 05 05.0**	**-1.5**
PB01				*e*S		**Sn**	**08 05 46.1**	**-3.3**
AHML	**Horco Molle**	**3.54**	**158**	*i* P		**Pn**	**08 05 06.9**	**-0.5**
AHML					AML	AML	08 05 51.1	
	comp=Z,3.1nm,0.2s							
AHML					AML	AML	08 05 53.4	
	comp=Z,934nm,0.8s							
PATCX	**Punta Patache**	**4.07**	**310**	*e*P		**Pn**	**08 05 11.6**	**-2.5**
HMBC	**Humberstone**	**4.28**	**318**	*e*P		**Pn**	**08 05 14.1**	**-2.7**
HMBC	**Humberstone**	**4.28**	**318**	P		**Pn**	**08 05 14.1**	**-2.7**
PSGC	**Pisagua**	**4.94**	**321**	*e*P		**Pn**	**08 05 22.1**	**-3.1**
PSGC	**Pisagua**	**4.94**	**321**	P		**Pn**	**08 05 22.1**	**-3.1**
CPCH	**Copiapo**	**4.98**	**219**	*i*P		Pn	08 05 20.6	-5.0
CPCH	**Copiapo**	**4.98**	**219**	P		Pn	08 05 20.6	-5.0
CYA	**Choya**	**5.01**	**169**	*i* P		**Pn**	**08 05 25.4**	**-0.6**
CYA					IAML		08 05 28.1	
	comp=Z,391nm,0.6s							
MNMC	**Minimini**	**5.05**	**329**	*e*P		**Pn**	**08 05 25.1**	**-1.8**
MNMC	**Minimini**	**5.05**	**329**	P		**Pn**	**08 05 25.1**	**-1.8**
CDCH	**Caldera**	**5.05**	**225**	*e*P		Pn	08 05 22.2	-4.3
CDCH	**Caldera**	**5.05**	**225**	P		Pn	08 05 22.2	-4.3
VACH	**Vallenar**	**6.15**	**214**	*e*P		Pn	08 05 36.2	-4.7
VACH	**Vallenar**	**6.15**	**214**	P		Pn	08 05 36.2	-4.7
LCO	**Las Campanas**	**6.48**	**211**	*e*P		Pn	08 05 40.5	-4.9
LCO	**Las Campanas**	**6.48**	**211**	*e*Pn		Pn	08 05 40.5	-4.9
LPAZ	**La Paz**	**7.28**	**350**	*i*iPn		**Pn**	**08 05 56.1**	**-0.1**
LPAZ				*e*Sn		**Sn**	**08 07 18.4**	**-0.5**
LPAZ	**La Paz**	**7.28**	**350**	P		**Pn**	**08 05 56.1**	**-0.1**
	comp=Z,147nm,0.3s,baz=164,slow=8.3,SNR=972							
LPAZ				S		**Sn**	**08 07 16.8**	**-2.1**
	comp=Z,9.3nm,0.3s,baz=46,slow=23,SNR=2.8							
CFAA	**Coronel Fontan**	**8.16**	**188**	P		**Pn**	**08 06 04.1**	**-3.0**
CFAA				S		Sn	08 07 30.6	-8.2
CFAA	**Coronel Fontan**	**8.16**	**188**	P		**Pn**	**08 06 04.1**	**-3.0**
	comp=Z,8.5nm,0.3s,baz=18,slow=2.2,SNR=300							
CFAA				S		Sn	08 07 30.6	-8.2
	comp=Z,16nm,0.3s,baz=277,slow=22,SNR=11							
CFAA				LR		LR	08 10 03.8	
	comp=Z,398nm,20.9s,baz=12,slow=43							
ARE	**Arequipa**	**8.25**	**327**	*i*iP		Pn	08 06 05.0	-3.7
ARE	**Arequipa**	**8.25**	**327**	*i*iP		Pn	08 06 05.0	-3.7
CMCH	**Combarbala**	**8.48**	**205**	*i*eP		Pn	08 06 05.2	-6.2
CMCH	**Combarbala**	**8.48**	**205**	P		Pn	08 06 05.2	-6.2
CPUP	**Villa Florida**	**9.09**	**110**	*e*Pn		**Pn**	**08 06 17.5**	**-1.7**
	comp=Z,87nm,0.8s							
CPUP				*e*Sn		Sn	08 07 44.9	-16
CPUP	**Villa Florida**	**9.09**	**110**	P		**Pn**	**08 06 17.4**	**-1.7**
	comp=Z,17nm,0.3s,baz=274,slow=12,SNR=567							
CPUP				S		**Sn**	**08 07 58.4**	**-2.4**
	comp=Z,12nm,0.3s,baz=289,slow=4.7,SNR=1.4							
SIV	**San Ignacio**	**9.24**	**37**	P		**Pn**	**08 06 19.3**	**-2.1**
SIV				S		Sn	08 07 52.6	-12
SIV	**San Ignacio**	**9.24**	**37**	P		**Pn**	**08 06 19.3**	**-2.1**
	comp=Z,68nm,0.3s,baz=229,slow=12,SNR=2154							
SIV				S		Sn	08 07 52.6	-12
	baz=227,slow=17,SNR=4.5							
ROCH	**El Roble**	**10.12**	**200**	*e*P		Pn	08 06 27.4	-5.4
PEL	**Peldehue**	**10.18**	**199**	*e*P		Pn	08 06 29.2	-4.2
FCH	**Farellones**	**10.24**	**196**	*e*P		P	08 06 47.7	+5.0
IHA	**Instituto Hidr**	**10.38**	**203**	*e*P		Pn	08 06 28.9	-7.1
IHA	**Instituto Hidr**	**10.38**	**203**	P		Pn	08 06 28.9	-7.1
LACH	**Col Las Americ**	**10.43**	**197**	*e*P		**Pn**	**08 06 34.9**	**-1.7**
LACH	**Col Las Americ**	**10.43**	**197**	P		**Pn**	**08 06 34.9**	**-1.7**
ANTU	**Antumapu**	**10.56**	**198**	*e*P		Pn	08 06 34.9	-3.5
ANTU	**Antumapu**	**10.56**	**198**	P		Pn	08 06 34.9	-3.5
CHCH	**Chadas Angostu**	**10.91**	**197**	*e*P		**Pn**	**08 06 40.5**	**-2.5**
CHCH	**Chadas Angostu**	**10.91**	**197**	P		**Pn**	**08 06 40.5**	**-2.5**
LNV	**Longovilo**	**11.15**	**200**	*e*P		Pn	08 06 40.7	-5.3
LNV	**Longovilo**	**11.15**	**200**	P		Pn	08 06 40.7	-5.3
TALC	**Talca**	**12.56**	**198**	*e*P		**Pn**	**08 07 01.6**	**-2.3**
TALC	**Talca**	**12.56**	**198**	P		**Pn**	**08 07 01.6**	**-2.3**
LPA	**La Plata**	**13.77**	**148**	*d*iP		**Pn**	**08 07 18.0**	**-1.0**
LPA				S		**Sn**	**08 09 49.0**	**-3.5**
LPA				PCP		**PcP**	**08 12 28.0**	**+0.2**
LPA				SCS		**ScS**	**08 19 22.0**	**+1.5**
NNA	**Nana**	**14.88**	**319**	*e*Pn		**Pn**	**08 07 32.6**	**-0.5**
NNA				*e*Sn		**Sn**	**08 10 15.4**	**-4.2**
NNA				*e*PcP		**PcP**	**08 12 30.6**	**+0.8**
NNA				*e*ScP		**ScP**	**08 15 46.1**	**+0.3**
SAML	**Samuel**	**14.89**	**14**	*e*Pn		**Pn**	**08 07 31.8**	**-1.4**
SAML				*e*Sn		**Sn**	**08 10 14.9**	**-4.9**
TRQA	**Tornquist**	**15.09**	**165**	*e*Pn		**Pn**	**08 07 31.4**	**-4.1**
	comp=Z,921nm,1.0s							
TRQA				*e*Sn		**S**	**08 10 21.3**	**-2.7**
BB16B	**Bebedouro**	**17.08**	**85**	*i*P		**P**	**08 07 58.0**	**-0.3**
BB16B				*i*			08 08 03.9	
BB16B				*i*			08 08 11.8	
VLCH	**Valdivia**	**17.13**	**197**	*e*P		**P**	**08 07 58.1**	**-0.5**
VLCH	**Valdivia**	**17.13**	**197**	P		**P**	**08 07 58.1**	**-0.5**
PLCA	**Paso Flores**	**17.46**	**189**	*e*P		**P**	**08 08 01.3**	**-1.0**
	comp=Z,1μm,0.8s							
PLCA				*e*S		**Sn**	**08 11 18.0**	**-2.3**
PLCA				PcP		**PcP**	**08 12 34.0**	**+0.7**
PLCA				ScP		**ScP**	**08 15 50.6**	**+0.2**
PLCA	**Paso Flores**	**17.46**	**189**	P		**P**	**08 08 01.6**	**-0.7**
	comp=Z,9.5nm,0.3s,baz=14,slow=12,SNR=458							
PLCA				PcP		**PcP**	**08 12 34.0**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=65,slow=1.9,SNR=4.8							
PLCA				ScP		**ScP**	**08 15 50.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=14,slow=1.7,SNR=3.5							
PMCH	**Puerto Montt**	**18.64**	**194**	*e*P		**P**	**08 08 14.0**	**-1.0**
PMCH	**Puerto Montt**	**18.64**	**194**	P		**P**	**08 08 14.0**	**-1.0**
HOCH	**HornopirØn**	**18.93**	**193**	*e*P		**P**	**08 08 17.6**	**-0.6**
HOCH	**HornopirØn**	**18.93**	**193**	P		**P**	**08 08 17.6**	**-0.6**
BDFB	**Brasilia**	**19.38**	**70**	P		**P**	**08 08 23.0**	**-0.4**
BDFB	**Brasilia**	**19.38**	**70**	P		**P**	**08 08 23.0**	**-0.4**
	comp=Z,184nm,0.3s,baz=244,slow=11,SNR=1673							
ATAH	**Atahualpa**	**19.70**	**324**	P		**P**	**08 08 29.0**	**+1.8**
ATAH	**Atahualpa**	**19.70**	**324**	P		**P**	**08 08 29.0**	**+1.8**
	comp=Z,5.3nm,0.3s,baz=153,slow=6.5,SNR=58							
FUTA	**Futaleufœ**	**20.06**	**191**	*e*P		**P**	**08 08 29.6**	**-0.8**
FUTA	**Futaleufœ**	**20.06**	**191**	P		**P**	**08 08 29.6**	**-0.8**
COYC	**Coyhaique**	**22.42**	**190**	‖*e*P		**P**	**08 08 52.8**	**-1.8**
COYC					AMB	AMB	08 08 55.1	
	comp=Z,3μm,1.3s							
COYC	**Coyhaique**	**22.42**	**190**	P		**P**	**08 08 52.8**	**-1.8**
PTGA	**Pitinga**	**23.60**	**17**	*e*P		**P**	**08 09 04.1**	**-1.4**
	comp=Z,2μm,1.1s							
PTGA				*e*S		**S**	**08 13 06.1**	**+0.1**
PTGA	**Pitinga**	**23.60**	**17**	P		**P**	**08 09 04.3**	**-1.2**
	comp=Z,2μm,0.9s,baz=201,slow=11,SNR=1429							
PTGA				S		**S**	**08 13 03.9**	**-2.1**
	comp=Z,364nm,1.1s,baz=188,slow=12,SNR=7.1							
CHRN	**Cochrane**	**24.06**	**190**	‖*e*P		**P**	**08 09 09.0**	**-0.5**
CHRN					AMB	AMB	08 09 12.4	
	comp=Z,646nm,1.0s							
OTAV	**Otavalo**	**26.16**	**333**	*e*P		**P**	**08 09 29.0**	**-0.2**
	comp=Z,163nm,1.4s							
OTAV				*e*PcP		**PcP**	**08 12 52.9**	**+1.4**
OTAV				*e*ScP		**ScP**	**08 16 14.6**	**+1.3**
ROSC	**El Rosal**	**29.12**	**345**	*e*P		**P**	**08 09 55.6**	**+0.1**
ROSC				*e*S		**S**	**08 14 38.0**	**+4.3**
ROSC				ScP		**ScP**	**08 16 22.0**	**-0.2**
ROSC	**El Rosal**	**29.12**	**345**	P		**P**	**08 09 55.3**	**-0.1**
	comp=Z,44nm,0.5s,baz=128,slow=3.2,SNR=26							
ROSC				S		**S**	**08 14 36.7**	**+3.0**
	comp=Z,11nm,0.8s,baz=77,slow=23,SNR=2.1							
ROSC				ScP		**ScP**	**08 16 22.0**	**-0.2**
	comp=Z,79nm,0.8s,baz=123,slow=4.8,SNR=10							
ROSC				LR		LR	08 23 42.1	
	comp=Z,2μm,19.3s,baz=186,slow=40							
PAYG	**Puerto Ayora**	**32.13**	**312**	*e*P		**P**	**08 10 23.6**	**+2.1**
	comp=Z,214nm,1.3s							
PAYG				*e*PcP		**PcP**	**08 13 07.5**	**+1.4**
SDV	**Santo Domingo**	**32.40**	**353**	*e*P		**P**	**08 10 22.2**	**-1.9**
	comp=Z,361nm,1.1s							
SDV				*e*S		**S**	**08 15 28.5**	**+4.0**
TPP	**Pointe-a-Pierr**	**34.03**	**10**	*e*		**P**	**08 10 39.0**	**+1.1**
TBH	**Brigand Hill**	**34.25**	**10**	*e*		**P**	**08 10 40.7**	**+0.9**
TRN	**Trinidad (W)**	**34.36**	**10**	*e*		**P**	**08 10 40.5**	**-0.2**
RCBR	**Riachuelo**	**34.58**	**64**	*e*P		**P**	**08 10 40.5**	**-2.2**
	comp=Z,107nm,0.8s							
RCBR				*e*PP		**PP**	**08 12 02.9**	**-2.4**
RCBR				*e*S		**S**	**08 15 57.9**	**-0.1**
RCBR				*e*ScP		**ScP**	**08 16 41.0**	**+0.6**
RCBR	**Riachuelo**	**34.58**	**64**	P		**P**	**08 10 41.7**	**-1.1**
	comp=Z,337nm,0.6s,baz=218,slow=9.4,SNR=227							
BCIP	**Isla Barro Col**	**34.87**	**337**	*e*P		**P**	**08 10 46.4**	**+1.3**
	comp=Z,290nm,0.8s							
BCIP				*e*PP		**PnPn**	**08 12 10.8**	**+1.7**
BCIP				*e*PcP		**PcP**	**08 13 14.9**	**+1.1**
BOT	**Bacolet**	**34.98**	**11**	*e*		**P**	**08 10 46.3**	**+0.3**
TPR	**Prospect**	**34.98**	**10**	*e*		**P**	**08 10 46.0**	**-0.1**
ACR	**Cerro Adams**	**35.72**	**332**	*e*P		**P**	**08 10 54.0**	**+1.6**
GRGR	**Grenville**	**35.78**	**9**	*e*P		**P**	**08 10 52.1**	**-0.8**
	comp=Z,3μm,1.0s							
GRW	**Mount Saint Ca**	**35.81**	**9**	*e*		**P**	**08 10 51.8**	**-1.4**
GRHS	**Sauteurs**	**35.87**	**9**	*e*		**P**	**08 10 53.5**	**-0.2**
GRSS	**Sisters**	**35.95**	**9**	*e*		**P**	**08 10 54.2**	**-0.1**
BUS	**Buena Vista**	**36.79**	**331**	*e*P		**P**	**08 11 03.6**	**+1.7**
QCR	**Quepos**	**36.85**	**331**	*e*P		**P**	**08 11 03.4**	**+1.4**
BBGH	**Gun Hill**	**37.11**	**12**	*e*P		**P**	**08 11 06.1**	**+1.9**
	comp=Z,1μm,1.1s							
JTS	**JuntasAbangare**	**37.97**	**330**	*e*P		**P**	**08 11 13.2**	**+1.8**
	comp=Z,31nm,1.2s							
JTS				*e*PcP		**PcP**	**08 13 24.4**	**+1.3**
JTS	**JuntasAbangare**	**37.97**	**330**	LR		LR	08 28 41.5	
	comp=Z,1μm,19.9s,baz=151,slow=39							
HOPE	**Hope Point**	**38.21**	**151**	*e*P		**P**	**08 11 13.3**	**+0.4**
	comp=Z,228nm,0.9s							
FDF	**Fort de France**	**38.41**	**9**	*e*P		**P**	**08 11 13.4**	**-1.6**
FDF					pmax	pmax		
	comp=Z,1μm,0.8s							
FDF	**Fort de France**	**38.41**	**9**	*e*P		**P**	**08 11 13.4**	**-1.6**
	comp=Z,1μm,0.8s							
BBL	**Barber's Block**	**39.15**	**8**	*e*P		**P**	**08 11 19.1**	**-2.0**
TBG	**Guadaloupe-3**	**39.45**	**8**	*e*P		**P**	**08 11 21.4**	**-2.1**
MGG	**Marie-Galante**	**39.55**	**8**	*e*P		**P**	**08 11 24.2**	**-0.2**
HMG	**Houelmont**	**39.57**	**8**	*e*P		**P**	**08 11 22.4**	**-2.3**
PHG	**Guadaloupe-2**	**39.60**	**8**	*e*P		**P**	**08 11 23.0**	**-2.1**
SCG	**Saint Claude**	**39.62**	**8**	*e*P		**P**	**08 11 24.6**	**-0.5**
ECG	**Echelle**	**39.63**	**8**	*e*P		**P**	**08 11 24.2**	**-1.1**
FNG	**Fond-Bernard**	**39.65**	**8**	*e*P		**P**	**08 11 23.3**	**-2.0**
BCG	**Bois Riant Cap**	**39.68**	**8**	*e*P		**P**	**08 11 23.0**	**-2.5**
DEG	**La Desirade**	**39.98**	**9**	*e*P		**P**	**08 11 25.2**	**-2.8**
SEG	**Port Louis**	**40.01**	**8**	*e*P		**P**	**08 11 26.1**	**-2.0**
CDVI	**St. Croix**	**41.05**	**3**	*e*P		**P**	**08 11 34.7**	**-2.1**
	comp=Z,199nm,0.8s							
CDVI				*e*pP		**pP**	**08 12 21.3**	**+3.9**
ANWB	**Willy Bob**	**41.22**	**7**	*e*P		P	08 11 34.8	-3.3
	comp=Z,1μm,0.6s							
CRPR	**Cabo

comp=Z,134nm,1.0s
LRAL eScP ScP 08 18 23.1 +0.5
LRAL eS S 08 21 46.9 -1.4
835A Beeville 59.53 328 ⇑P P 08 13 56.4 +1.2
baz=60,SNR=13
933A Laredo 59.69 327 ⇓P P 08 13 56.8 +0.5
baz=60,SNR=65
834A Tilden 59.75 327 ⇓P P 08 13 57.6 +0.9
baz=60,SNR=69
SNAA Sanae 59.77 161 P P 08 13 56.5 +0.1
SNAA Sanae 59.77 161 ⇓*i*P P 08 13 56.5 +0.1
SNAA Sanae 59.77 161 *e*P P 08 13 56.1 -0.3
comp=Z,1μm,1.3s
SNAA ePcP PcP 08 14 41.3 +0.2
SNAA eScP ScP 08 18 25.3 +1.4
SNAA Sanae 59.77 161 S S 08 21 52.9 +0.8
VBMS Vicksburg 59.85 337 *e*P P 08 13 57.1 -0.2
comp=Z,645nm,1.9s
KMSC Kings Mountain 59.92 346 *e*P P 08 13 57.6 -0.2
KMSC eScP ScP 08 18 24.9 +0.1
KMSC Kings Mountain 59.92 346 ⇑P P 08 13 57.8 +0.1
baz=60,SNR=49
KMSC ⇓S S 08 21 53.9 -0.8
baz=60
735A Kenedy 59.99 329 ⇑P P 08 13 59.2 +0.9
baz=60,SNR=39
HKT Hockley 60.00 331 *e*P P 08 13 58.7 +0.4
HKT pmax pmax
comp=Z,128nm,1.2s
HKT Hockley 60.00 331 *e*P P 08 13 58.7 +0.4
comp=Z,128nm,1.2s
636A Smothers Creek 60.16 330 P P 08 14 00.5 +1.0
baz=60
833A Chaparral WMA, 60.33 327 ⇑P P 08 14 01.1 +0.5
baz=61,SNR=224
734A La Parita Cree 60.35 328 ⇑P P 08 14 01.2 +0.4
baz=61,SNR=73
635A Leesville 60.42 329 ⇑P P 08 14 01.1 -0.2
baz=61,SNR=41
832A Faith Ranch, C 60.59 326 ⇑P P 08 14 02.5 +0.1
baz=61,SNR=156
733A Divot King Ran 60.60 327 ⇓P P 08 14 02.7 +0.2
baz=61,SNR=40
536A Bastrop 60.67 330 ⇓P P 08 14 03.2 +0.3
baz=61,SNR=21
634A China Grove, S 60.69 328 ⇓P P 08 14 02.9 -0.1
baz=61
535A Dale 60.86 330 ⇓P P 08 14 04.3 +0.1
baz=61,SNR=32
732A Laxson Ranch, 60.95 327 ⇑P P 08 14 05.1 +0.2
baz=61,SNR=80
CPCT Cooper Cave 60.98 344 *e*P P 08 14 05.0 +0.2
CPCT ePP PP 08 16 21.6 -0.3
CPCT eScP ScP 08 18 30.2 +0.6
TKL Tuckaleechee C 60.98 344 *e*P P 08 14 04.0 -0.9
TKL eScP ScP 08 18 28.8 -0.7
TKL eS S 08 22 06.5 -1.7
NATX Nacogdoches 61.06 333 *e*P P 08 14 06.4 +0.9
comp=Z,189nm,0.8s
436A Wall Ranch, Ga 61.13 331 P P 08 14 06.8 +0.7
baz=62
SWET Sewanee 61.14 342 *e*P P 08 14 05.1 -0.9
comp=Z,299nm,0.8s
SWET eScP ScP 08 18 30.2 -0.1
633A Saathoff Ranch 61.15 328 ⇓P P 08 14 06.3 +0.1
baz=62,SNR=65
534A Blanco 61.29 329 ⇓P P 08 14 06.7 -0.4
baz=62,SNR=34
632A Uvalde 61.49 327 ⇓P P 08 14 09.0 +0.5
baz=62,SNR=60
435B Jarrell 61.50 330 ⇓P P 08 14 08.7 +0.2
baz=62,SNR=20
OXF Oxford 61.55 339 *e*P P 08 14 07.2 -1.5
OXF pmax pmax
comp=Z,429nm,1.0s
OXF Oxford 61.55 339 *e*P P 08 14 07.2 -1.5
comp=Z,429nm,1.0s
533A Kerrville 61.59 328 ⇓P P 08 14 09.2 0.0
baz=62,SNR=77
VWCC Virginia Weste 61.68 348 *e*P P 08 14 09.7 +0.2
BLA Blacksburg 61.73 348 *e*P P 08 14 10.0 +0.1
BLA pmax pmax
comp=Z,432nm,1.4s
BLA Blacksburg 61.73 348 *e*P P 08 14 10.0 +0.1
comp=Z,432nm,1.4s
JSRW J. Sargeant Re 61.75 350 *e*P P 08 14 09.5 -0.5
TZTN Tazewell 61.77 345 *e*P P 08 14 09.4 -0.8
comp=Z,66nm,1.0s
631A Perdido Creek 61.81 327 ⇓P P 08 14 10.5 -0.2
baz=62,SNR=102
434A Burnet 61.85 329 ⇑P P 08 14 10.5 -0.4
baz=62,SNR=42
335A Moody 61.85 330 ⇑P P 08 14 11.0 +0.2
baz=62,SNR=68
RKT Rikitea 61.98 255 ⇓*i*P P 08 14 13.4 +1.4
comp=Z,191nm,1.1s
RKT *e*S S 08 22 18.1 -3.4
comp=Z,2μm,29.8s
RKT *e*LQ LQ 08 29 58.9
comp=Z,2μm,33.0s
532A Rocksprings 62.06 328 ⇑P P 08 14 12.8 +0.4
baz=62,SNR=133
BBTS Babate 62.12 57 P P 08 14 12.1 -0.8
BBTS PP PP 08 16 23.7 -8.4
BBTS ScP ScP 08 18 36.5 +1.4
BBTS Babate 62.12 57 P P 08 14 12.1 -0.8
comp=Z,299nm,0.9s,baz=244,slow=1.9,SNR=38
BBTS PP PP 08 16 23.7 -8.4
comp=Z,97nm,1.1s,baz=209,slow=2.4,SNR=5.9
BBTS ScP ScP 08 18 36.5 +1.4
comp=Z,13nm,0.3s,baz=116,slow=1.6,SNR=5.3
CBN Corbin 62.17 351 *e*P P 08 14 12.5 -0.3
comp=Z,131nm,0.9s
433A Art 62.19 329 ⇑P P 08 14 12.9 -0.2
baz=62,SNR=191
334A Lometa 62.27 330 ⇑P P 08 14 13.6 0.0
baz=63,SNR=55
JCT Junction City 62.30 328 *e*P P 08 14 13.5 -0.4
JCT pmax pmax
comp=Z,225nm,0.8s
JCT Junction City 62.30 328 *e*P P 08 14 13.5 -0.4
comp=Z,225nm,0.8s
JCT eScP ScP 08 18 35.8 +0.1
JCT Junction City 62.30 328 ⇑P P 08 14 13.9 0.0
baz=63,SNR=123
531A Rocksprings 62.41 327 ⇓P P 08 14 15.0 +0.4
baz=63,SNR=145
WHTX Lake Whitney 62.47 331 *e*P P 08 14 14.7 -0.2
WHTX ePcP PcP 08 14 53.5 +1.1
WHTX Lake Whitney 62.47 331 ⇑P P 08 14 15.0 +0.1
baz=63,SNR=62
WVT Waverly 62.54 341 *e*P P 08 14 14.0 -1.3
WVT pmax pmax
comp=Z,262nm,0.7s
WVT Waverly 62.54 341 *e*P P 08 14 14.0 -1.3
comp=Z,262nm,0.7s
333A Richland Sprin 62.61 329 ⇓P P 08 14 15.7 -0.2
baz=63,SNR=102
432A Menard 62.62 328 ⇑P P 08 14 15.9 -0.2
baz=63,SNR=206
234A Clairette 62.78 330 ⇑P P 08 14 17.0 0.0
baz=63,SNR=223
530A J-C Ranch, Com 62.79 327 ⇑P P 08 14 17.3 +0.2
baz=63,SNR=113
UALR University of 62.81 337 *e*P P 08 14 16.3 -0.8
comp=Z,172nm,1.4s
431A Sonora 62.86 327 ⇓P P 08 14 17.5 -0.1
baz=63,SNR=105
HBAR Harrisburg 62.92 338 *e*P P 08 14 17.5 -0.3
135A Vickery Place, 62.93 331 ⇑P P 08 14 17.8 -0.2
baz=63,SNR=27
332A Millersview 63.02 329 ⇓P P 08 14 18.3 -0.3
baz=63,SNR=156
UTMT University of 63.05 340 *e*P P 08 14 18.2 -0.5
comp=Z,622nm,0.9s
628A Black Gap, Mar 63.06 325 ⇑P P 08 14 19.6 +0.6
baz=63,SNR=163
MIAR Mount Ida 63.07 335 *e*P P 08 14 18.2 -0.6
MIAR pmax pmax
comp=Z,83nm,0.8s
MIAR Mount Ida 63.07 335 *e*P P 08 14 18.1 -0.6
comp=Z,84nm,0.8s
MIAR eScP 08 18 38.8
GNAR Gosnell 63.08 339 *e*P P 08 14 18.6 -0.3
comp=Z,3μm,0.9s
GLAT Glass 63.12 340 *e*P P 08 14 18.3 -0.8
233A Rising Star 63.15 330 ⇑P P 08 14 19.1 -0.3
baz=64,SNR=112
529A Stev Forest Ra 63.23 326 ⇓P P 08 14 20.3 +0.3
baz=64,SNR=256
134A White-Moore Ra 63.24 331 ⇑P P 08 14 19.6 -0.4
baz=64,SNR=30
430A Baggett Ranch, 63.26 327 ⇑P P 08 14 20.0 -0.3
baz=64,SNR=129
SDMD Soldier's Deli 63.28 351 *e*P P 08 14 20.1 -0.1
comp=Z,97nm,0.9s
331A San Angelo 63.28 328 ⇓P P 08 14 20.0 -0.4
baz=64,SNR=163
627A Terlingua Ranc 63.30 324 ⇑P P 08 14 20.7 0.0
baz=64,SNR=125
TXAR Lajitas Array 63.36 324 P P 08 14 20.9 -0.1
TXAR ScP 08 18 40.8
TXAR P'P' 08 43 16.2
TXAR Lajitas Array 63.36 324 P P 08 14 20.9 -0.1
comp=Z,22nm,0.8s,baz=149,slow=8.2,SNR=190
TXAR ScP 08 18 40.8
TXAR PKPPKP **P'P'df** 08 43 16.2 +0.9
comp=Z,2.8nm,0.9s,baz=304,slow=1.3,SNR=10.0
PVMO Portageville 63.38 339 *e*P P 08 14 20.4 -0.4
comp=Z,2μm,1.0s
232A Coleman 63.39 329 ⇑P P 08 14 20.9 -0.1
baz=64,SNR=193
LPIG La Paz 63.39 315 LR LR 08 36 50.8
comp=Z,167nm,18.9s,baz=128,slow=31
429A Davenport Ranc 63.46 326 ⇑P P 08 14 21.7 +0.1
baz=64,SNR=144
Z35A Perchaven, San 63.52 332 ⇓P P 08 14 21.8 0.0
baz=64,SNR=83
528A Cox Ranch, San 63.55 325 ⇑P P 08 14 22.1 -0.1
baz=64,SNR=110
PARMO Parma 63.63 340 *e*P P 08 14 22.3 -0.1
133A Hamilton Ranch 63.65 330 ⇓P P 08 14 22.5 -0.2
baz=64,SNR=76
330A Mertzon 63.73 327 ⇑P P 08 14 22.9 -0.5
baz=64,SNR=65
231A Bronte 63.75 328 ⇑P P 08 14 22.9 -0.5
baz=64,SNR=35
626A Big Bend Ranch 63.78 324 ⇑P P 08 14 24.4 +0.6
baz=64,SNR=372
MVL Millersville 63.79 352 *e*P P 08 14 23.6 +0.2
comp=Z,133nm,1.1s
Z34A Collier Ranch, 63.84 331 ⇑P P 08 14 23.9 -0.1
baz=64,SNR=83
428A Kincaid Ranch, 63.95 326 ⇓P P 08 14 25.2 +0.5
baz=64,SNR=55
PBMO Poplar Bluff 63.95 339 *e*P P 08 14 23.6 -1.0
comp=Z,319nm,0.6s
527A Woodward Ranch 63.97 325 ⇓P P 08 14 25.0 0.0
baz=64,SNR=88
ABTX Abilene, Hawle 64.00 329 *e*P P 08 14 24.6 -0.4
comp=Z,84nm,0.7s
ABTX ePcP PcP 08 14 59.6 +0.9
ABTX Abilene, Hawle 64.00 329 ⇓P P 08 14 24.8 -0.2
baz=64,SNR=46
WCI Wyandotte Cave 64.06 343 *e*P P 08 14 23.8 -1.5
WCI pmax pmax
comp=Z,169nm,0.6s
WCI Wyandotte Cave 64.06 343 *e*P P 08 14 23.8 -1.5
comp=Z,168nm,0.6s
230A Sterling City 64.09 328 ⇓P P 08 14 25.4 -0.3
baz=64,SNR=45
Z33A Whitaker Ranch 64.15 331 ⇑P P 08 14 25.9 -0.1
baz=64,SNR=121
526A Mary Lane Ranc 64.16 324 ⇓P P 08 14 26.6 +0.4
baz=64,SNR=266
329A Wagon Wheel Ra 64.20 327 ⇑P P 08 14 26.1 -0.3
baz=64,SNR=174
USIN University of 64.20 342 *e*P P 08 14 24.6 -1.5
comp=Z,370nm,1.4s
BRNJ Basking Ridge 64.26 353 *e*P P 08 14 27.0 +0.5
comp=Z,230nm,1.2s
Y34A Reagan Ranch, 64.27 332 ⇓P P 08 14 26.3 -0.4
baz=65,SNR=78
NVL N'lazarevskaya 64.29 159 *d**i*P P 08 14 30.1 +3.8
NVL *e* 08 15 17.3
NVL *i*S S 08 22 46.2 -2.3
NVL pmax pmax
comp=Z,400nm,0.9s
CPNY Central Park 64.31 354 *e*P P 08 14 27.0 +0.2
comp=Z,147nm,1.1s
131A Roby 64.39 329 ⇑P P 08 14 27.3 -0.3
baz=65,SNR=70
427A Hayter Ranch, 64.42 325 ⇑P P 08 14 28.0 +0.1
baz=65,SNR=97
SIUC Southern Illin 64.43 340 *e*P P 08 14 26.6 -1.0
comp=Z,130nm,0.8s
Z32A Haskell 64.49 330 ⇑P P 08 14 27.9 -0.2
baz=65,SNR=45
229A Bryant Ranch, 64.50 327 ⇑P P 08 14 28.2 -0.2
baz=65,SNR=48
PAL Palisades 64.51 354 *e*P P 08 14 27.8 -0.3
PAL pmax pmax
comp=Z,114nm,0.8s
PAL Palisades 64.51 354 *e*P P 08 14 27.8 -0.3
comp=Z,114nm,0.8s
328A Wristen Ranch, 64.53 326 ⇓P P 08 14 28.5 0.0
baz=65,SNR=156
130A Snyder 64.60 328 ⇓P P 08 14 28.7 -0.3
baz=65,SNR=101
426A McDonald Obser 64.60 325 ⇑P P 08 14 29.4 +0.2
baz=65,SNR=190
ODNJ Ogdensburg 64.66 354 *e*P P 08 14 29.2 +0.1
comp=Z,131nm,1.1s
Y33A Hilltop Ranch, 64.69 331 ⇓P P 08 14 29.4 -0.1
baz=65,SNR=37
YLE Yale 64.74 355 *e*P P 08 14 29.9 +0.4
comp=Z,445nm,1.0s
Z31A Sharp Cattle R 64.81 329 ⇓P P 08 14 30.1 -0.2
baz=65,SNR=123
X34A Smith Ranch, M 64.85 332 ⇓P P 08 14 30.3 -0.2
baz=65,SNR=35
327A Balmorhea Ranc 64.87 326 ⇑P P 08 14 31.5 +0.7
baz=65,SNR=7.5
BLO Bloomington 65.01 343 *e*P P 08 14 29.9 -1.5
BLO *e* 08 15 02.8
BLO pmax pmax
comp=Z,181nm,0.6s
BLO Bloomington 65.01 343 *e*P P 08 14 29.9 -1.5
comp=Z,181nm,0.6s
BLO ePcP PcP 08 15 02.8 +0.1
228A UT Block 9, Go 65.01 327 ⇓P P 08 14 31.3 -0.4
baz=65,SNR=49
OLIL Olney 65.04 342 *e*P P 08 14 30.0 -1.6
comp=Z,69nm,0.8s
Y32A R-V Farms, Ver 65.06 330 ⇓P P 08 14 31.6 -0.2
baz=65,SNR=93
129A Stewart Farms, 65.07 328 ⇑P P 08 14 31.7 -0.3
baz=65,SNR=18
326A Caldwell Ranch 65.08 325 ⇑P P 08 14 32.5 +0.3
baz=65,SNR=127
X33A Lawton 65.09 331 ⇓P P 08 14 31.4 -0.6
baz=65,SNR=15
TUL1 Tulsa 65.13 334 *e*P P 08 14 31.9 -0.3
comp=Z,42nm,0.5s
TUL1 Tulsa 65.13 334 ⇑P P 08 14 31.7 -0.5
baz=66,SNR=32
ACSO Alum Creek Sta 65.17 346 *e*P P 08 14 31.5 -0.9
425A Indio Mountain 65.20 324 ⇓P P 08 14 33.2 +0.2
baz=66,SNR=275
Z30A Sanderson Ranc 65.25 329 ⇑P P 08 14 32.8 -0.3
baz=66,SNR=132
KSPA Keystone Colle 65.26 353 *e*P P 08 14 33.3 +0.4
227A Bennet, Jal 65.28 326 ⇑P P 08 14 33.7 +0.3
baz=66,SNR=100
X32A Elmer 65.33 331 ⇑P P 08 14 33.2 -0.4
baz=66,SNR=18
W34A Bridge Creek, 65.36 332 ⇓P P 08 14 33.5 -0.3
baz=66,SNR=14
128A Castleberry Fa 65.36 327 ⇓P P 08 14 33.4 -0.5
baz=66,SNR=76
WMOK Wichita Mounta 65.38 331 *e*P P 08 14 33.4 -0.5
WMOK pmax pmax
comp=Z,240nm,1.8s
WMOK Wichita Mounta 65.38 331 *e*P P 08 14 33.4 -0.5
comp=Z,240nm,1.8s
Y31A Rekieta Farm, 65.39 330 ⇓P P 08 14 34.0 -0.1
baz=66,SNR=118
Z29A Hungry Hill Ra 65.50 328 ⇓P P 08 14 34.3 -0.5
baz=66,SNR=85
SLM Saint Louis 65.59 340 *e*P P 08 14 34.2 -0.9
SLM pmax pmax
comp=Z,57nm,0.7s
SLM Saint Louis 65.59 340 *e*P P 08 14 34.2 -0.9
comp=Z,57nm,0.7s
W33A Caddo, Fort Co 65.59 332 ⇑P P 08 14 35.3 +0.1
baz=66,SNR=66
Y30A Stafford Cattl 65.62 329 ⇑P P 08 14 35.3 -0.3
baz=66,SNR=16
V34A Guthrie 65.77 333 ⇑P P 08 14 35.7 -0.7
baz=66,SNR=23
226B Tecolote Peak, 65.78 326 ⇑P P 08 14 37.2 +0.5
baz=66,SNR=163
CLNB Carlsbad 65.78 326 *e*P P 08 14 37.3 +0.7
comp=Z,20nm,1.0s
CLNB ePcP PcP 08 15 07.8 +1.6
X31A McDonald Ranch 65.82 330 ⇓P P 08 14 36.4 -0.3
baz=66,SNR=64
HRV Adam Dziewonsk 65.82 356 *e*P P 08 14 36.3 -0.2
HRV pmax pmax
comp=Z,297nm,0.9s
HRV Adam Dziewonsk 65.82 356 *e*P P 08 14 36.3 -0.2
comp=Z,297nm,0.9s
127A Arkansas Junct 65.85 327 ⇑P P 08 14 36.8 -0.3
baz=66,SNR=68
Z28A Tucker Farm, M 65.86 328 ⇓P P 08 14 36.4 -0.7
baz=66,SNR=105
W32A Sentinel 65.91 331 ⇑P P 08 14 37.0 -0.2
baz=66,SNR=87
BINY Binghamton 65.92 353 *e*P P 08 14 37.6 +0.4
comp=Z,444nm,1.0s
Y29A Porterfield Fa 65.97 329 ⇑P P 08 14 37.2 -0.6
baz=66,SNR=78
GDL2 Guadalupe Moun 65.98 326 *e*P P 08 14 38.8 +0.8
ALLY Alegheny Colle 65.98 349 *e*P P 08 14 37.4 -0.2
comp=Z,245nm,1.0s
V33A Lossen Ranch, 66.08 332 ⇑P P 08 14 38.1 -0.2
baz=66,SNR=76
X30A Coker Ranch, T 66.08 330 ⇑P P 08 14 38.0 -0.5
baz=66,SNR=97
MNTX Cornudas Mount 66.13 324 *e*P P 08 14 37.9 -0.8
comp=Z,31nm,1.3s
225A Deer Hill, Car 66.15 325 ⇑P P 08 14 39.0 -0.1
baz=66,SNR=208
126A Clayton Basin, 66.16 326 ⇓P P 08 14 39.0 0.0
baz=66,SNR=145
TRY Troy 66.20 355 *e*P P 08 14 39.7 +0.8
comp=Z,404nm,0.8s
W31A Holland Ranch, 66.27 331 ⇑P P 08 14 39.0 -0.6
baz=67,SNR=24
Z27A Tatum 66.28 327 ⇓P P 08 14 39.2 -0.6
baz=67,SNR=150
U34A Anderson Ranch 66.29 333 ⇓P P 08 14 39.2 -0.5
baz=67,SNR=59
Y28A McKinney Farm, 66.29 328 ⇑P P 08 14 39.3 -0.6
baz=67,SNR=43
SFIN Scholer Farm 66.30 343 *e*P P 08 14 38.0 -1.6
SFIN Scholer Farm 66.30 343 ⇓P P 08 14 37.9 -1.6
baz=67,SNR=19
V32A Arapaho 66.32 332 ⇑P P 08 14 40.1 +0.2
baz=67,SNR=23
CPRX Cap Rock 66.39 326 *e*P P 08 14 41.0 +0.5
comp=Z,9.3nm,0.7s
ERPA Erie 66.41 349 *e*P P 08 14 40.2 -0.1
comp=Z,301nm,0.8s
X29A Tulia 66.47 329 ⇑P P 08 14 40.5 -0.5
baz=67,SNR=44
125A Gardner Draw, 66.50 326 ⇓P P 08 14 40.7 -0.5
baz=67,SNR=142
U33A Lingo Farm, Me 66.53 333 ⇓P P 08 14 40.6 -0.5
baz=67,SNR=35
W30A Crocket Farms 66.55 330 ⇓P P 08 14 41.1 -0.3
baz=67,SNR=7.3
MSTX Muleshoe 66.59 328 ⇓P P 08 14 41.5 -0.3
baz=67,SNR=170
Z26A Caprock 66.64 327 ⇑P P 08 14 42.0 0.0
baz=67,SNR=240
MMNY Mt. Morris Dam 66.69 351 *e*P P 08 14 42.0 0.0
comp=Z,664nm,1.1s
V31A Spring Creek L 66.72 331 ⇓P P 08 14 42.9 +0.4
baz=67,SNR=29
Y27A Causey 66.72 328 ⇑P P 08 14 42.4 -0.2
baz=67,SNR=118
X28A Dimmitt 66.76 329 ⇑P P 08 14 42.6 -0.2
baz=67,SNR=36
AMTX Amarillo 66.82 329 *e*P P 08 14 42.9 -0.2
comp=Z,135nm,1.1s
AMTX Amarillo 66.82 329 ⇓P P 08 14 42.9 -0.2
baz=67
ACCN Adirondack Com 66.85 355 *e*P P 08 14 43.2 +0.2
comp=Z,254nm,1.7s
U32A Winter Ranch, 66.86 332 ⇓P P 08 14 43.3 0.0
baz=67,SNR=35
W29A Amraillo 67.00 329 ⇑P P 08 14 44.0 -0.2
baz=67,SNR=34
Z25A Roswell 67.02 326 ⇑P P 08 14 44.4 -0.1
baz=67,SNR=168
HNH Hanover 67.06 356 *e*P P 08 14 45.0 +0.6
comp=Z,257nm,1.0s
Y26A Elida 67.08 327 ⇓P P 08 14 44.5 -0.3
baz=67,SNR=26
V30A Spur Ranch, Mi 67.08 331 ⇓P P 08 14 45.4 +0.6
baz=67,SNR=46
T33A Patterson Ranc 67.14 333 ⇓P P 08 14 45.1 +0.1
baz=68,SNR=18
LIC Lamto 67.15 72 *e*P P 08 14 44.2 -1.4
comp=Z,296nm,0.7s
U31A Nine Bar Ranch 67.22 332 ⇓P P 08 14 45.6 0.0
baz=68,SNR=8.6
AAM Ann Arbor 67.29 347 *e*P P 08 14 45.2 -0.6
AAM pmax pmax
comp=Z,71nm,0.8s
AAM Ann Arbor 67.29 347 *e*P P 08 14 45.2 -0.6
comp=Z,70nm,0.8s
X27A F and S Farms, 67.30 328 ⇑P P 08 14 46.0 -0.3
baz=68,SNR=21
TIC Tounodi 67.36 72 *e*P P 08 14 45.5 -1.4
comp=Z,250nm,0.8s
W28A Vega 67.37 329 ⇑P P 08 14 46.7 +0.1
baz=68,SNR=12
Z24A Sheeppen Canyo 67.39 326 ⇑P P 08 14 47.1 +0.2
baz=68,SNR=290
MDV Middlebury 67.42 355 *e*P P 08 14 46.8 +0.2
KIC Kosan Boka 67.47 72 *e*P P 08 14 46.3 -1.3
comp=Z,389nm,0.7s
S33A Kaszmaul Farm, 67.47 334 ⇑P P 08 14 46.9 -0.2
baz=68,SNR=8.1
NCB Newcomb 67.48 354 *e*P P 08 14 46.8 -0.2
comp=Z,106nm,0.9s
T32A Huddler Ranch, 67.50 333 ⇓P P 08 14 47.4 +0.1
baz=68,SNR=28
Y25A Mesa, Roswell 67.51 326 ⇑P P 08 14 47.2 -0.4
baz=68,SNR=124
V29A Stinnett 67.56 330 ⇓P P 08 14 47.7 -0.1
baz=68,SNR=9.9
X26A CR and CF Fran 67.57 328 ⇓P P 08 14 48.0 0.0
baz=68,SNR=58
LBNH Lisbon 67.57 356 *e*P P 08 14 48.1 +0.5
LBNH pmax pmax
comp=Z,155nm,1.0s
LBNH Lisbon 67.57 356 *e*P P 08 14 48.1 +0.5
comp=Z,155nm,1.0s
W27A Bowe Ranch, En 67.62 328 ⇑P P 08 14 48.1 -0.1
baz=68,SNR=58
U30A WK&E Inc. Balk 67.70 331 ⇑P P 08 14 48.7 +0.1
baz=68,SNR=34
T31A Randall Ranch, 67.75 332 ⇓P P 08 14 49.0 +0.1
baz=68,SNR=28
V28A Channing 67.78 329 ⇓P P 08 14 49.4 +0.2
baz=68,SNR=26
WVL Waterville 67.78 358 *e*P P 08 14 49.2 +0.4
comp=Z,149nm,1.0s
Y24A Capitan 67.89 326 ⇓P P 08 14 50.0 -0.1
baz=68,SNR=43
U29A Oasis Ranch, S 67.92 331 ⇑P P 08 14 50.3 +0.3
baz=68,SNR=20
S32A Newby Ranch, P 67.95 333 ⇓P P 08 14 50.5 +0.4
baz=68,SNR=15
X25A Clemmons Ranch 67.97 327 ⇓P P 08 14 50.4 -0.1
baz=68,SNR=23
W26A Owens Ranch, T 67.98 328 ⇓P P 08 14 50.8 +0.4
baz=68,SNR=106
319A Douglas 68.03 322 ⇑P P 08 14 52.0 +1.2
baz=68,SNR=144
121A Cookes Peak, D 68.07 323 *e*P P 08 14 52.1 +1.0
comp=Z,281nm,1.0s
121A Cookes Peak, D 68.07 323 ⇑P P 08 14 52.4 +1.2
baz=68,SNR=211
V27A Dan Oppiter Fa 68.07 329 ⇑P P 08 14 51.3 +0.3
baz=68,SNR=13
R33A Olander Ranch, 68.08 334 ⇑P P 08 14 50.5 -0.3
baz=68,SNR=23
T30A Plains 68.09 331 ⇓P P 08 14 51.5 +0.5

baz=68,SNR=6.9
S31A Mullinville 68.11 333 ⇑P P 08 14 51.8 +0.6
baz=68,SNR=40
PTN Potsdam (NY) 68.15 354 *eP* P 08 14 51.2 +0.1
PTN pmax pmax
comp=Z,296nm,1.1s
PTN Potsdam (NY) 68.15 354 *eP* P 08 14 51.2 +0.1
comp=Z,296nm,1.1s
LONY Lake Ozonia 68.16 354 *eP* P 08 14 51.4 +0.1
comp=Z,176nm,1.0s
Z22A Elephant Butte 68.17 324 ⇓P P 08 14 53.0 +1.2
baz=68,SNR=711
Y23A Lovelace Mesa, 68.22 326 ⇑P P 08 14 52.5 +0.5
baz=68,SNR=96
KSU1 Kansas State U 68.22 335 *eP* P 08 14 51.4 -0.3
comp=Z,153nm,0.9s
KSU1 Kansas State U 68.22 335 ⇓P P 08 14 51.3 -0.5
baz=69,SNR=12
FRNY Flat Rock 68.29 355 *eP* P 08 14 52.0 +0.1
comp=Z,21nm,1.3s
U28A Mallet 68.29 330 ⇓P P 08 14 52.2 -0.2
baz=69,SNR=60
X24A Lazy VL Ranch, 68.39 326 ⇑P P 08 14 53.3 +0.1
baz=69,SNR=63
W25A X Bar L Ranch, 68.42 327 ⇓P P 08 14 53.3 0.0
baz=69,SNR=123
R32A Long Quarter, 68.47 334 ⇓P P 08 14 53.4 0.0
baz=69,SNR=76
T29A Hugoton 68.51 331 ⇓P P 08 14 54.0 +0.3
baz=69,SNR=31
S30A Montezuma 68.55 332 ⇓P P 08 14 54.4 +0.5
baz=69,SNR=28
V26A Tequesquite Ra 68.56 328 ⇑P P 08 14 54.3 +0.2
baz=69,SNR=138
U27A Thompson Grove 68.61 329 ⇑P P 08 14 54.5 +0.2
baz=69,SNR=47
Q33A Connelly Farm, 68.61 334 ⇓P P 08 14 54.2 +0.1
baz=69,SNR=21
BNM Barren Site 68.69 325 *eP* P 08 14 55.5 +0.5
comp=Z,228nm,1.4s
R31A Burdett 68.69 333 ⇓P P 08 14 54.9 +0.1
baz=69,SNR=38
Y22D IRIS PASSCAL I 68.78 325 ⇓P P 08 14 56.7 +1.2
baz=69,SNR=11
X23A Hourglass Bar 68.79 326 ⇑P P 08 14 56.7 +1.1
baz=69,SNR=16
LPM Los Pinos Moun 68.81 325 *eP* P 08 14 56.3 +0.5
S29A Ulysses 68.82 331 ⇑P P 08 14 56.0 +0.4
baz=69,SNR=59
T28A Walsh 68.85 330 ⇓P P 08 14 55.7 -0.1
baz=69,SNR=48
LENM Lemitar 68.88 325 *eP* P 08 14 57.0 +0.9
W24A Lazy 6 Ranch, 68.89 327 ⇓P P 08 14 56.3 +0.1
baz=69,SNR=92
Q32A Meitler Ranch, 68.89 334 ⇑P P 08 14 55.7 -0.2
baz=69,SNR=76
P33A Williams Farm, 68.93 335 ⇓P P 08 14 56.1 0.0
baz=69
V25A Rancho No Teng 68.99 328 ⇑P P 08 14 57.1 +0.2
baz=69,SNR=161
R30A Dighton 69.01 332 ⇓P P 08 14 57.1 +0.4
baz=69,SNR=12
U26A Atchley Ranch, 69.02 329 ⇓P P 08 14 57.3 +0.3
baz=69,SNR=251
T27A Campo 69.08 330 ⇓P P 08 14 57.3 +0.1
baz=69,SNR=135
S28A Manter 69.14 331 ⇓P P 08 14 57.8 +0.3
baz=70,SNR=132
LAZ Ladron 69.15 325 *eP* P 08 14 58.6 +0.8
comp=Z,127nm,1.3s
ANMO Albuquerque 69.22 326 *eP* P 08 14 58.9 +0.6
comp=Z,228nm,1.0s
W23A Werner Place, 69.23 326 ⇓P P 08 14 59.0 +0.7
baz=70,SNR=79
V24A Rampart Ranch, 69.23 327 ⇓P P 08 14 58.8 +0.4
baz=70,SNR=138
Q31A Ellis 69.25 333 ⇓P P 08 14 58.4 +0.3
baz=70,SNR=26
U25A Circle Dot Ran 69.34 328 ⇓P P 08 14 59.3 +0.4
baz=70,SNR=164
P32A Huiting Farm, 69.45 334 ⇓P P 08 14 59.4 +0.1
baz=70,SNR=53
R29A Marienthal 69.50 332 ⇑P P 08 14 60.0 +0.3
baz=70,SNR=54
SCIA State Center 69.51 339 *eP* P 08 14 59.1 -0.5
comp=Z,287nm,1.0s
Q30A Quinter 69.57 333 ⇓P P 08 15 00.5 +0.4
baz=70,SNR=109
T26A Comanche Natio 69.58 329 ⇓P P 08 15 01.0 +0.6
baz=70,SNR=156
TUC Tucson 69.58 321 *eP* P 08 15 01.1 +0.7
TUC pmax pmax
comp=Z,248nm,1.2s
TUC Tucson 69.58 321 *eP* P 08 15 01.1 +0.7
comp=Z,248nm,1.2s
S27A Las Animas 69.67 330 ⇑P P 08 15 01.2 +0.3
baz=70,SNR=9.1
P31A Stockton 69.68 334 ⇑P P 08 15 01.1 +0.4
baz=70,SNR=84
V23A Ortiz Mt. (NFS 69.70 327 ⇑P P 08 15 02.2 +1.0
baz=70,SNR=118
R28A Tribune 69.72 331 ⇑P P 08 15 01.5 +0.4
baz=70,SNR=35
U24A Moreno Valley 69.77 328 ⇑P P 08 15 02.9 +1.2
baz=70,SNR=41
Q29A Oakley 69.82 332 ⇑P P 08 15 01.5 -0.2
baz=70,SNR=60
O32A Brockman Farm, 69.87 335 ⇑P P 08 15 01.7 -0.2
baz=70,SNR=36
S26A Kim 69.88 330 ⇓P P 08 15 03.0 +0.8
baz=70,SNR=278
T25A Trinidad 69.93 329 ⇓P P 08 15 03.3 +0.7
baz=70,SNR=147
P30A Selden 70.06 333 ⇑P P 08 15 03.1 +0.1
baz=70,SNR=27
R27A Eads 70.12 331 ⇓P P 08 15 03.7 +0.1
baz=70,SNR=38
U23A El Rito 70.16 327 ⇑P P 08 15 05.1 +1.1
baz=70,SNR=111
O31A Woolen Ranch, 70.19 334 ⇓P P 08 15 03.9 +0.1
baz=70,SNR=26
V22A San Miguel Ran 70.20 326 ⇓P P 08 15 05.6 +1.3
baz=70,SNR=58
N32A Stulken Farm, 70.31 335 ⇑P P 08 15 04.5 0.0
baz=71,SNR=11
Q28A Sharon Springs 70.33 332 ⇑P P 08 15 05.2 +0.4
baz=71,SNR=35
T24B San Luis 70.34 328 ⇑P P 08 15 06.4 +1.2
baz=71,SNR=151
S25A Robets Cordova 70.36 329 ⇑P P 08 15 05.9 +0.8
baz=71,SNR=237
P29A Atwood 70.39 333 ⇓P P 08 15 05.6 +0.5
baz=71,SNR=39
R26A Arlington 70.42 330 ⇓P P 08 15 05.9 +0.5
baz=71,SNR=165
O30A MW Ranch, Wils 70.51 334 ⇑P P 08 15 06.1 +0.3
baz=71,SNR=26
214A Organ Pipe Nat 70.52 320 *eP* P 08 15 06.9 +0.9
comp=Z,232nm,1.1s
214A Organ Pipe Nat 70.52 320 ⇑P P 08 15 07.2 +1.1
baz=71,SNR=149
U22A Llaves 70.53 327 ⇓P P 08 15 07.7 +1.4
baz=71,SNR=109
N31A Bailey Ranch, 70.62 335 ⇓P P 08 15 06.7 +0.2
baz=71,SNR=19
KSCO Kaye Shedlock' 70.63 331 *eP* P 08 15 07.3 +0.6
KSCO Kaye Shedlock' 70.63 331 ⇓P P 08 15 07.5 +0.8
baz=71,SNR=51
T23A Casias Ranch, 70.64 328 ⇑P P 08 15 07.8 +0.9
baz=71,SNR=70
R25A Fountain Ranch 70.69 329 ⇓P P 08 15 07.6 +0.6
baz=71,SNR=95
P28A Saint Francis 70.72 332 ⇓P P 08 15 07.8 +0.6
baz=71,SNR=34
S24A Houchin Ranch, 70.72 329 ⇑P P 08 15 08.7 +1.2
baz=71,SNR=173
X18A Snowflake 70.75 323 ⇓P P 08 15 08.6 +1.0
baz=71,SNR=117
O29A 4D Ranch, Culb 70.77 333 ⇑P P 08 15 07.7 +0.3
baz=71,SNR=23
BGNE Belgrade 70.81 336 *eP* P 08 15 07.5 -0.1
BGNE Belgrade 70.81 336 ⇓P P 08 15 07.6 +0.1
baz=71,SNR=122
SDCO Great Sand Dun 70.94 328 *eP* P 08 15 09.3 +0.5
comp=Z,243nm,1.1s
Q26A Hugo 70.96 330 ⇑P P 08 15 09.4 +0.7
baz=71,SNR=122
N30A Hueftle Ranch, 71.05 334 ⇑P P 08 15 10.0 +0.9
baz=71,SNR=6.4
P27A Ficken Ranch, 71.06 331 ⇑P P 08 15 09.8 +0.6
baz=71,SNR=45
M31A Lambtecht Ranc 71.07 335 ⇑P P 08 15 09.6 +0.4
baz=71,SNR=54
W18A Petrified Fore 71.08 324 *eP* P 08 15 09.6 +0.1
comp=Z,185nm,0.8s
W18A Petrified Fore 71.08 324 ⇑P P 08 15 10.5 +0.9
baz=71,SNR=96
R24A Sanders Place, 71.14 329 ⇑P P 08 15 10.8 +0.9
baz=72,SNR=100
S23A Nye Farm, Mont 71.15 328 ⇓P P 08 15 11.0 +1.0
baz=72,SNR=32
O28A Krutsinger Ran 71.18 332 ⇓P P 08 15 10.6 +0.7
baz=72,SNR=27
TAOE Nuku Hiva Isla 71.26 268 *eP* P 08 15 12.6 +1.6
comp=Z,985nm,1.2s
TAOE Nuku Hiva Isla 71.26 268 *eP* P 08 15 12.4 +1.4
comp=Z,143nm,0.9s
N29A Votaw Ranch, W 71.28 334 ⇓P P 08 15 11.1 +0.7
baz=72,SNR=24
Q25A Bedland, Calha 71.29 330 ⇑P P 08 15 11.4 +0.7
baz=72,SNR=44
P26A Davis Ranch, A 71.40 331 ⇑P P 08 15 12.2 +0.8
baz=72,SNR=35
R23A Moffat 71.45 328 ⇑P P 08 15 12.8 +1.0
baz=72,SNR=119
X16A Lo Mia Camp, P 71.50 322 ⇓P P 08 15 13.3 +1.3
baz=72,SNR=325
O27A Beecher Island 71.54 332 ⇑P P 08 15 12.9 +0.8
baz=72,SNR=68
N28A Pribbeno Ranch 71.55 333 ⇑P P 08 15 12.5 +0.4
baz=72,SNR=30
S22A 4UR Ranch, Cre 71.59 328 ⇓P P 08 15 13.4 +0.8
baz=72,SNR=100
M30A Dale-Ortello V 71.59 334 ⇑P P 08 15 12.8 +0.6
baz=72,SNR=6.1
Z14A Wintersburg 71.60 321 ⇑P P 08 15 13.7 +1.3
baz=72,SNR=25
113A Mohawk Valley, 71.66 320 ⇓P P 08 15 13.8 +1.0
baz=72,SNR=16
L31A Butterfield Fa 71.73 335 ⇓P P 08 15 13.5 +0.4
baz=72,SNR=74
P25A Willow Gulch B 71.73 330 ⇑P P 08 15 14.9 +1.6
baz=72,SNR=83
Q24A Divide 71.74 329 ⇑P P 08 15 14.3 +0.7
baz=72,SNR=150
M29A Burnside Ranch 71.84 334 ⇓P P 08 15 14.2 +0.5
baz=72,SNR=25
L30A Spencer Herefo 71.88 335 ⇑P P 08 15 14.4 +0.4
baz=72,SNR=19
O26A Horse Wrangler 71.95 331 ⇓P P 08 15 15.4 +0.9
baz=72,SNR=30
OGNE Ogallala 71.97 333 *eP* P 08 15 15.6 +0.9
comp=Z,178nm,1.1s
OGNE Ogallala 71.97 333 ⇑P P 08 15 15.3 +0.7
baz=72,SNR=14
MVCO Mesa Verde 72.01 326 *eP* P 08 15 16.0 +0.9
comp=Z,764nm,1.6s
MVCO Mesa Verde 72.01 326 ⇓P P 08 15 16.0 +0.9
baz=72,SNR=175
Q23A Hartsel 72.02 329 ⇑P P 08 15 15.9 +0.7
baz=72
Y14A Wickenburg 72.05 321 ⇓P P 08 15 16.2 +1.0
baz=72,SNR=122
N27A Anderson Farm, 72.07 332 ⇓P P 08 15 16.0 +0.7
baz=72,SNR=20
P24A Kohler Place, 72.07 330 ⇑P P 08 15 16.5 +1.2
baz=72,SNR=46
M28A Bar X Bar Ranc 72.07 333 ⇓P P 08 15 16.2 +0.9
baz=72,SNR=40
O25A Wiggins 72.20 331 ⇑P P 08 15 17.3 +1.3
baz=72,SNR=15
WUAZ Wupatki 72.27 323 *eP* P 08 15 17.9 +1.3
comp=Z,299nm,1.0s
WUAZ Wupatki 72.27 323 ⇑P P 08 15 17.9 +1.3
baz=73,SNR=234
ECSD EROS Data Cent 72.28 338 *eP* P 08 15 15.6 -0.6
comp=Z,194nm,1.0s
ECSD EROS Data Cent 72.28 338 ⇑P P 08 15 15.7 -0.5
baz=73,SNR=95
L29A Marsberg Ranch 72.28 334 ⇓P P 08 15 16.8 +0.4
baz=73,SNR=37
SPMN St. Paul 72.38 341 *eP* P 08 15 14.4 -2.4
comp=Z,103nm,0.6s
SPMN St. Paul 72.38 341 ⇓P P 08 15 15.8 -1.0
baz=73,SNR=43
N26A Koester Ranch, 72.39 332 ⇓P P 08 15 18.3 +1.2
baz=73,SNR=24
P23A Jefferson 72.39 329 ⇓P P 08 15 18.3 +0.9
baz=73,SNR=45
K30A Basset 72.45 335 ⇑P P 08 15 17.5 +0.1
baz=73,SNR=74
GLA Glamis 72.49 319 ⇑P P 08 15 18.9 +1.0
baz=73,SNR=32
M27A Reverse DX Ran 72.61 333 ⇓P P 08 15 19.3 +1.0
baz=73,SNR=14
ISCO Idaho Springs 72.63 330 *eP* P 08 15 19.6 +0.8
ISCO pmax pmax
comp=Z,214nm,1.4s
ISCO Idaho Springs 72.63 330 *eP* P 08 15 19.6 +0.8
comp=Z,214nm,1.4s
ISCO Idaho Springs 72.63 330 ⇓P P 08 15 19.6 +0.8
baz=73,SNR=135
O24A Longmont 72.64 330 ⇓P P 08 15 19.7 +1.0
baz=73,SNR=21
L28A Connealy Angus 72.65 334 ⇓P P 08 15 19.5 +0.9
baz=73,SNR=9.3
N25A Grover 72.75 331 ⇓P P 08 15 20.5 +1.1
baz=73,SNR=26
PV01 Paradox Valley 72.76 327 *eP* P 08 15 20.5 +1.0
comp=Z,10μm,0.7s
SMCO Snowmass 72.78 328 *eP* P 08 15 20.8 +0.9
comp=Z,186nm,1.0s
Y12C Blythe 72.80 320 ⇑P P 08 15 20.7 +1.1
baz=73,SNR=147
K29A Lazy Trails An 72.80 335 ⇑P P 08 15 19.8 +0.4
baz=73,SNR=133
M26A McRoberts Ranc 72.88 332 ⇑P P 08 15 20.9 +0.9
baz=73
PDMCI Parker Dam,Lak 72.96 320 ⇓P P 08 15 21.5 +1.1
baz=73,SNR=14
J30A Dallas 72.96 336 ⇓P P 08 15 20.5 +0.2
baz=73,SNR=94
SWSC Sam W. Stewart 73.00 318 ⇓P P 08 15 22.0 +1.2
baz=73,SNR=35
P22A Eagle 73.00 329 ⇓P P 08 15 22.0 +1.1
baz=73,SNR=130
L27A T5 Ranch, Ells 73.04 333 ⇓P P 08 15 22.2 +1.3
baz=73,SNR=7.3
O23A Lake Granby, G 73.10 330 ⇑P P 08 15 22.4 +0.9
baz=73,SNR=103
N24A Carr 73.12 331 P P 08 15 22.8 +1.3
baz=74
PV04 Paradox Valley 73.12 327 *eP* P 08 15 22.5 +0.9
K28A Ten Mile Ranch 73.18 334 ⇓P P 08 15 22.6 +1.0
baz=74,SNR=31
PV10 Paradox Valley 73.18 327 *eP* P 08 15 22.4 +0.4
comp=Z,2μm,0.9s
M25A Palm-Egli Farm 73.24 332 ⇓P P 08 15 23.1 +0.9
baz=74,SNR=13
BC3 Big Chuckawall 73.29 319 ⇓P P 08 15 23.5 +0.9
baz=74,SNR=133
L26A Underwood Farm 73.32 333 P P 08 15 24.0 +1.4
baz=74
MONP Monument Peak 73.35 318 ⇓P P 08 15 24.0 +1.0
baz=74,SNR=52
O22A Kremmling 73.35 329 ⇓P P 08 15 23.6 +0.5
baz=74,SNR=111
J29A Okreek 73.35 335 ⇓P P 08 15 22.9 +0.2
baz=74,SNR=109
PMOZ Porto Moniz, M 73.35 42 *eP* P 08 15 28.0 +5.1
comp=Z,471nm,1.1s
BAR Barrett 73.36 318 *eP* P 08 15 23.9 +1.0
comp=Z,1μm,1.1s
W13A Hualapai Mount 73.38 321 ⇓P P 08 15 24.4 +1.2
baz=74,SNR=55
U15A North Rim 73.44 323 ⇑P P 08 15 24.9 +1.3
baz=74,SNR=252
IRM Iron Mountain 73.46 320 ⇓P P 08 15 24.3 +0.9
baz=74,SNR=144
K27A Flueckinger Fa 73.52 334 ⇑P P 08 15 24.7 +1.0
baz=74,SNR=86
NEE2 Needles Airpor 73.57 321 ⇑P P 08 15 25.0 +0.9
baz=74,SNR=26
M24A Cheyenne 73.61 331 ⇓P P 08 15 25.4 +1.0
baz=74,SNR=104
N23A Red Feather La 73.65 330 ⇓P P 08 15 25.5 +0.8
baz=74,SNR=75
J28A Allard Ranch, 73.72 335 ⇓P P 08 15 25.1 +0.3
baz=74,SNR=134
BRSD Miller 73.72 337 *eP* P 08 15 24.6 -0.1
BRSD Miller 73.72 337 ⇑P P 08 15 24.4 -0.4
baz=74,SNR=10
PHWY Pilot Hill 73.76 331 *eP* P 08 15 25.9 +0.6
comp=Z,131nm,1.1s
109C Camp Elliot, M 73.77 318 ⇑P P 08 15 26.1 +0.9
baz=74,SNR=10
L25A Engebretsen Ra 73.79 332 ⇓P P 08 15 26.6 +1.3
baz=74,SNR=5.3
N22A Wattenberg Ran 73.81 330 ⇓P P 08 15 26.7 +1.0
baz=74,SNR=92
BELC Belle Mtn. Jos 73.85 319 ⇑P P 08 15 26.9 +1.0
baz=74,SNR=74
PFO Pinyon Flat Ob 73.86 319 *eP* P 08 15 27.2 +1.2
PFO Pinyon Flat Ob 73.86 319 LR LR 08 45 55.5
comp=Z,310nm,19.5s,baz=350,slow=34
PFO Pinyon Flat Ob 73.86 319 ⇓P P 08 15 26.9 +1.0
baz=74,SNR=6.4
I29A Vivian Onida 73.87 336 ⇓P P 08 15 25.3 -0.3
baz=74,SNR=30
J27A Elkhorn Farm, 73.88 334 ⇑P P 08 15 26.8 +1.0
baz=74,SNR=178
K26A Motz Farm, Whi 73.91 333 ⇑P P 08 15 26.8 +0.8
baz=74,SNR=12
SYO Syowa Base 73.96 159 ⇑*i*P P 08 15 24.5 -1.3
M23A Laramie 74.01 331 ⇓P P 08 15 27.4 +0.7
baz=74,SNR=82
KOMG Komaggas 74.04 116 ⇑*i*P P 08 15 27.2 +0.1
KOMG AMB AMB 08 15 27.9
comp=Z,104nm,2.9s
KOMG Komaggas 74.04 116 P P 08 15 27.2 +0.1
comp=Z,104nm,2.9s
LDFC Landfair 74.08 320 *eP* P 08 15 29.4 +2.2
comp=Z,283nm,1.1s
L24A Wheatland 74.12 331 ⇓P P 08 15 28.2 +0.9
baz=74,SNR=12
K25A Mack Ranch, Ha 74.12 332 ⇓P P 08 15 28.3 +1.0
baz=74,SNR=16
O20A White River Ci 74.14 328 *eP* P 08 15 28.4 +0.9
comp=Z,192nm,0.8s
O20A White River Ci 74.14 328 ⇑P P 08 15 28.4 +0.9
baz=74,SNR=188
I28A Midland 74.18 335 ⇓P P 08 15 27.5 0.0
baz=74,SNR=50
GMRC Granite Mounta 74.19 320 ⇑P P 08 15 29.1 +1.3
baz=74,SNR=188
SBA Scott Base 74.20 190 *eP* P 08 15 28.7 +1.6
SBA pmax pmax
comp=Z,285nm,1.2s
SBA Scott Base 74.20 190 *eP* P 08 15 28.7 +1.6
comp=Z,285nm,1.2s
MURC Murrieta 74.31 318 ⇑P P 08 15 29.4 +1.0
baz=75,SNR=62
H29A Onida 74.35 336 ⇓P P 08 15 28.2 -0.1
baz=75,SNR=34
M22A Cedar Creek Ra 74.36 330 ⇓P P 08 15 30.0 +1.2
baz=75,SNR=51
J26A Sides Ranch, S 74.37 333 ⇓P P 08 15 30.0 +1.4
baz=75,SNR=71
G30A Faulkton 74.38 337 ⇑P P 08 15 28.4 -0.2
baz=75,SNR=16
SRU San Rafael 74.49 326 *eP* P 08 15 30.3 +0.8
SRU pmax pmax
comp=Z,202nm,0.7s
SRU San Rafael 74.49 326 *eP* P 08 15 30.3 +0.8
comp=Z,202nm,0.7s
EYMN Ely 74.49 343 *eP* P 08 15 28.7 -0.4
comp=Z,218nm,1.4s
L23A Garrett 74.52 331 ⇓P P 08 15 30.4 +0.8
baz=75,SNR=35
I27A Quinn 74.58 334 ⇑P P 08 15 30.2 +0.4
baz=75,SNR=75
K24A Anderson Ranch 74.62 332 ⇑P P 08 15 31.3 +1.1
baz=75,SNR=44
HEC Hector,Ludlow 74.62 320 ⇑P P 08 15 31.6 +1.4
baz=75,SNR=132
TBI Tubuai 74.65 251 ⇓*i*P P 08 15 32.5 +1.9
TBI *e*S S 08 24 49.0 -2.1
comp=Z,928nm,1.1s
TBI Tubuai 74.65 251 *e*LQ LQ 08 35 19.6
comp=Z,640nm,28.2s
N20A Spence Gulch, 74.69 329 ⇑P P 08 15 31.4 +0.7
comp=Z,985nm,30.8s
H28A Mission Ridge 74.69 335 ⇓P P 08 15 30.8 +0.4
baz=75,SNR=76
G29A Hoven 74.72 336 ⇓P P 08 15 30.6 +0.1
baz=75,SNR=108
SCI San Clemente I 74.73 317 ⇑P P 08 15 32.0 +1.2
baz=75,SNR=18
J25A Sunshine Ranch 74.73 333 ⇑P P 08 15 31.9 +1.2
baz=75,SNR=10
L22A Ellis Ranch, M 74.78 331 ⇑P P 08 15 32.6 +1.5
baz=75,SNR=91
TUQ Turquoise Moun 74.80 320 ⇑P P 08 15 32.5 +1.2
baz=75,SNR=17
CCUT Cedar City 74.85 323 *eP* P 08 15 33.1 +1.5
baz=75,SNR=27
I26A New Underwood 74.88 334 ⇓P P 08 15 32.3 +0.8
comp=Z,304nm,0.9s
MVU Marysvale 74.92 325 *eP* P 08 15 33.3 +1.2
baz=75,SNR=42
CIS Catalina Islan 74.92 317 ⇓P P 08 15 33.1 +1.1
comp=Z,191nm,0.9s
F30A Leola 74.95 337 ⇑P P 08 15 32.0 +0.2
baz=75,SNR=19
TMUT Trail Mountain 74.98 326 *eP* P 08 15 33.6 +1.1
baz=75,SNR=18
G28A Parade 74.99 336 ⇓P P 08 15 32.6 +0.5
comp=Z,68nm,0.8s
K23A Bowen Ranch, D 75.00 331 ⇓P P 08 15 33.4 +1.1
baz=75,SNR=83
BFSC Mount Baldy Ra 75.02 318 ⇓P P 08 15 33.7 +1.1
baz=75,SNR=102
J24A Dixon Ranch, L 75.05 332 ⇑P P 08 15 34.0 +1.4
baz=75,SNR=60
FMP Fort Macarthur 75.06 318 ⇓P P 08 15 33.8 +1.2
baz=75,SNR=43
RRX Edison Barstow 75.06 319 ⇓P P 08 15 34.3 +1.6
baz=75,SNR=6.7
ARUT Antelope Range 75.06 323 *eP* P 08 15 34.2 +1.4
baz=75,SNR=20
ARUT Antelope Range 75.06 323 *eP* P 08 15 34.2 +1.4
comp=Z,6μm,1.1s
H27A Howes 75.06 335 ⇓P P 08 15 32.9 +0.3
baz=75,SNR=144
SHPR Sheep Range 75.11 321 *eP* P 08 15 34.2 +1.1
VNDA Vanda 75.21 190 ⇓*i*P P 08 15 34.5 +1.6
comp=Z,254nm,1.2s
VNDA Vanda 75.21 190 P P 08 15 34.2 +1.3
comp=Z,125nm,1.0s,baz=134,slow=5.2,SNR=68
I25A Rochford 75.22 333 P P 08 15 34.7 +1.1
baz=76
GSC Goldstone 75.23 320 *eP* P 08 15 34.9 +1.2
GSC pmax pmax
comp=Z,84nm,1.4s
GSC Goldstone 75.23 320 *eP* P 08 15 34.9 +1.2
comp=Z,84nm,1.4s
GSC Goldstone 75.23 320 ⇑P P 08 15 35.0 +1.3
baz=76,SNR=101
F29A Eureka 75.23 337 ⇑P P 08 15 33.5 +0.1
baz=76,SNR=41
MWC Mount Wilson 75.26 318 *eP* P 08 15 35.1 +1.1
MWC pmax pmax
comp=Z,876nm,2.0s
MWC Mount Wilson 75.26 318 *eP* P 08 15 35.1 +1.1
comp=Z,876nm,2.0s
MEH Mehetia 75.26 257 ⇓*i*P P 08 15 35.9 +1.6
comp=Z,77nm,1.0s
PASC Pasadena Art C 75.30 318 *eP* P 08 15 35.0 +0.9
comp=Z,301nm,1.4s
K22A Casper 75.31 331 *eP* P 08 15 35.2 +1.0
K22A Casper 75.31 331 ⇓P P 08 15 35.1 +1.0
baz=76,SNR=26
H26A Fairpoint 75.33 334 ⇓P P 08 15 34.4 +0.4
baz=76,SNR=27
SHOC Shoshone 75.33 320 ⇑P P 08 15 35.2 +1.0
baz=76,SNR=8.0
RSSD Black Hills 75.43 333 *eP* P 08 15 34.8 0.0
RSSD pmax pmax
comp=Z,28nm,1.0s
RSSD Black Hills 75.43 333 *eP* P 08 15 34.8 0.0
comp=Z,28nm,1.0s
DECC Green Verdugo 75.44 318 ⇓P P 08 15 36.2 +1.3
baz=76,SNR=24
I24A Kuemmerle Ranc 75.46 333 ⇑P P 08 15 35.8 +0.9

baz=76,SNR=16
E30A **Jud** 75.48 338 ⇑P P 08 15 34.9 +0.1
baz=76,SNR=33
J23A **Dilts Ranch, B** 75.49 332 ⇓P P 08 15 36.1 +1.0
baz=76,SNR=5.7
F28A **McLaughlin** 75.60 336 ⇑P P 08 15 36.1 +0.5
baz=76,SNR=62
K21A **Alcova** 75.63 330 ⇑P P 08 15 37.2 +1.2
baz=76,SNR=212
G27A **Dupree** 75.63 335 ⇓P P 08 15 36.1 +0.3
baz=76,SNR=108
EDW2 **Edwards Air Fo** 75.66 319 ⇓P P 08 15 36.9 +0.8
baz=76,SNR=76
H25A **Fruitdale** 75.66 334 ⇑P P 08 15 36.5 +0.6
baz=76,SNR=59
MPU **Maple Canyon** 75.74 326 *e*P P 08 15 37.1 +0.5
comp=Z,224nm,1.2s
VAH **Vaihoa** 75.79 259 ⇓*i*P P 08 15 39.2 +2.0
comp=Z,828nm,1.1s
E29A **Napoleon** 75.80 337 ⇓P P 08 15 36.6 0.0
baz=76,SNR=32
G26A **Maurine** 75.82 335 ⇓P P 08 15 36.7 -0.1
baz=76,SNR=98
DAU **Daniels Canyon** 75.84 327 *e*P P 08 15 38.5 +1.1
DAU **Daniels Canyon** 75.84 327 *e*P P 08 15 38.5 +1.1
LRMC **Laurel Mountai** 75.88 319 ⇑P P 08 15 38.6 +1.1
baz=76,SNR=9.4
I23A **Meade Ranch, G** 75.90 332 ⇑P P 08 15 38.0 +0.6
baz=76
J22A **Midwest** 75.90 331 ⇑P P 08 15 38.0 +0.6
baz=76
NLU **North Lily Min** 75.92 326 *e*P P 08 15 38.7 +1.0
comp=Z,290nm,1.6s
OSI **Osito Adit** 75.93 318 *e*P P 08 15 37.9 +0.2
comp=Z,213nm,1.1s
OSI **Osito Adit** 75.93 318 ⇓P P 08 15 38.4 +0.8
baz=76,SNR=11
SUR **Sutherland** 75.93 119 *e*P P 08 15 39.0 +0.9
comp=Z,262nm,1.6s
D30A **Buchanan** 75.96 338 ⇑P P 08 15 37.8 +0.4
baz=76,SNR=172
G25A **Newell** 76.06 334 ⇑P P 08 15 38.8 +0.6
baz=76,SNR=66
AGMN **Agassiz Nation** 76.06 341 *e*P P 08 15 37.4 -0.6
comp=Z,130nm,0.8s
AGMN **Agassiz Nation** 76.06 341 ⇑P P 08 15 37.7 -0.3
baz=76,SNR=62
FURC **Furnace Creek,** 76.06 320 ⇓P P 08 15 39.6 +1.4
baz=76,SNR=207
BSC **Santa Cruz Isl** 76.08 317 ⇑P P 08 15 39.4 +0.9
baz=76,SNR=27
JLU **Jordanelle** 76.08 327 *e*P P 08 15 39.6 +1.0
comp=Z,546nm,1.6s
F27A **Lemmon** 76.08 336 ⇑P P 08 15 38.8 +0.5
baz=76,SNR=114
PMOR **Pomariorio Ree** 76.11 260 ⇓*i*P P 08 15 41.1 +2.0
comp=Z,864nm,1.1s
H24A **Dirks Ranch, A** 76.15 333 ⇓P P 08 15 39.3 +0.5
baz=76,SNR=117
MPMC **Manual Prospec** 76.16 320 P P 08 15 58.2 +19
baz=76
E28A **Huff** 76.18 337 ⇑P P 08 15 39.3 +0.6
baz=76,SNR=76
D29A **Pettibone, Tap** 76.20 338 ⇓P P 08 15 39.1 +0.2
baz=76,SNR=13
TOA0 **Torodi Ar. Sit** 76.26 69 *e*P P 08 15 38.7 -1.2
TORD **Torodi Ar. Bea** 76.26 69 P P 08 15 38.8 -1.1
TORD PKKPbc **PKKPbc** 08 34 52.5 +0.6
TORD P'P' 08 42 55.0
TORD **Torodi Ar. Bea** 76.26 69 P P 08 15 38.8 -1.1
comp=Z,231nm,0.7s,baz=258,slow=5.2,SNR=671
TORD PKKPbc **PKKPbc** 08 34 52.5 +0.6
comp=Z,1.3nm,0.8s,baz=56,slow=2.2,SNR=6.8
TORD PKPPKP **P'P'df** 08 42 55.0 -0.3
comp=Z,2.6nm,1.1s,baz=44,slow=2.0,SNR=4.1
J21A **Lysite** 76.28 331 ⇓P P 08 15 40.4 +0.8
baz=77,SNR=72
I22A **9 Mile Ranch,** 76.28 332 ⇑P P 08 15 40.3 +0.8
baz=77,SNR=130
CTU **Camp Tracy** 76.30 326 *e*P P 08 15 40.1 +0.3
comp=Z,122nm,1.4s
F26A **Lodgepole** 76.31 335 ⇓P P 08 15 40.2 +0.6
baz=77,SNR=199
ARVC **Arvin** 76.33 318 ⇓P P 08 15 41.1 +1.2
baz=77,SNR=16
TVO **Taravao** 76.35 256 ⇓*i*P P 08 15 42.4 +1.9
comp=Z,129nm,1.2s
H23A **Clabaugh Cattl** 76.36 333 ⇑P P 08 15 40.3 +0.4
baz=77,SNR=19
DAC **Darwin (Calif)** 76.36 320 *e*P P 08 15 39.8 -0.5
DAC pmax pmax
comp=Z,207nm,1.0s
DAC **Darwin (Calif)** 76.36 320 *e*P P 08 15 39.8 -0.5
comp=Z,207nm,1.0s
C30A **Mose, Pekin** 76.38 339 ⇓P P 08 15 40.4 +0.5
baz=77,SNR=79
E27A **Carson** 76.38 336 ⇓P P 08 15 40.4 +0.5
baz=77,SNR=41
SBC **Santa Barbara** 76.42 317 ⇓P P 08 15 41.4 +1.1
baz=77
TCUT **Toone Canyon** 76.44 327 *e*P P 08 15 41.2 +0.6
comp=Z,88nm,0.7s
ISA **Isabella** 76.47 319 *e*P P 08 15 41.9 +1.2
ISA pmax pmax
comp=Z,163nm,0.9s
ISA **Isabella** 76.47 319 *e*P P 08 15 41.9 +1.2
comp=Z,163nm,0.9s
ISA **Isabella** 76.47 319 ⇑P P 08 15 42.2 +1.4
baz=77
DUG **Dugway** 76.48 326 *e*P P 08 15 41.2 +0.4
DUG pmax pmax
comp=Z,137nm,1.0s
DUG **Dugway** 76.48 326 *e*P P 08 15 41.2 +0.4
comp=Z,137nm,1.0s
DUG **Dugway** 76.48 326 ⇑P P 08 15 42.0 +1.2
baz=77,SNR=121
TIAR **Tiarei** 76.51 257 ⇓*i*P P 08 15 42.9 +1.5
comp=Z,44nm,1.1s
J20A **Shoshoni** 76.57 330 ⇑P P 08 15 42.3 +1.1
baz=77,SNR=78
G24A **Alzada** 76.57 334 ⇑P P 08 15 41.7 +0.6
baz=77,SNR=76
I21A **Big Trails, Te** 76.58 331 ⇑P P 08 15 41.8 +0.6
baz=77,SNR=214
R11A **Troy Canyon, C** 76.64 323 *e*P P 08 15 43.0 +1.2
comp=Z,133nm,0.9s
R11A **Troy Canyon, C** 76.64 323 ⇑P P 08 15 43.0 +1.2
baz=77,SNR=229
D28A **Regan** 76.66 337 ⇓P P 08 15 41.9 +0.5
baz=77,SNR=38
F25A **Bowman** 76.68 335 ⇓P P 08 15 42.3 +0.7
baz=77,SNR=57
PAE **Paea** 76.69 256 ⇓*i*P P 08 15 44.1 +1.8
comp=Z,115nm,1.1s
PPT2 **Papeete2** 76.71 256 ⇓*i*P P 08 15 44.4 +1.9
comp=Z,531nm,1.3s
PPT2 *e*S S 08 25 11.5 -2.5
comp=Z,850nm,27.8s
PPT2 **Papeete2** 76.71 256 *e*LQ LQ 08 36 11.2
comp=Z,2µm,26.2s
PPT **Papeete** 76.71 256 P P 08 15 44.7 +2.2
PPT **Papeete** 76.71 256 P P 08 15 44.7 +2.2
comp=Z,304nm,1.0s,baz=159,slow=3.0,SNR=23
PPT LR LR 08 43 04.8
comp=Z,348nm,19.6s,baz=106,slow=30
GRAC **Grapevine Rang** 76.73 321 ⇓P P 08 15 43.4 +1.3
baz=77,SNR=33
E26A **Carlson Angus** 76.75 336 ⇑P P 08 15 42.3 +0.3
baz=77,SNR=41
CWC **Cottonwood Cre** 76.76 320 ⇓P P 08 15 43.6 +1.2
baz=77
H22A **Clearmont** 76.79 332 ⇑P P 08 15 42.7 +0.4
baz=77,SNR=80
BW06 **Boulder Array** 76.80 329 *e*P P 08 15 42.0 -0.6
comp=Z,62nm,1.0s
PDAR **Pinedale Array** 76.80 329 P P 08 15 42.8 +0.2
PDAR PKKPbc **PKKPbc** 08 34 49.6 -3.4
PDAR P'P' 08 42 48.2
PDAR **Pinedale Array** 76.80 329 P P 08 15 42.8 +0.2
comp=Z,21nm,0.5s,baz=134,slow=7.6,SNR=210
PDAR PKKPbc **PKKPbc** 08 34 49.6 -3.4
comp=Z,0.8nm,0.9s,baz=352,slow=1.8,SNR=4.4
PDAR PKPPKP **P'P'df** 08 42 48.2 -3.8
comp=Z,0.5nm,0.8s,baz=318,slow=2.0,SNR=4.2
PDAR LR LR 08 53 02.8
comp=Z,161nm,19.5s,baz=142,slow=38
G23A **Biddle** 76.87 333 ⇓P P 08 15 43.2 +0.4
baz=77,SNR=132

D27A **Center** 76.94 336 ⇑P P 08 15 43.6 +0.6
baz=77,SNR=28
J19A **Crowheart** 76.94 330 ⇑P P 08 15 44.0 +0.7
baz=77,SNR=241
VES **Vestal, Richgr** 76.96 319 ⇓P P 08 15 44.3 +0.9
baz=77,SNR=114
B30A **Myrvik Farm, E** 76.98 339 ⇑P P 08 15 43.3 +0.1
baz=77,SNR=59
F24A **Ekalaka** 77.01 334 ⇓P P 08 15 43.9 +0.4
baz=77,SNR=58
C28A **Hausauer Farms** 77.04 337 ⇑P P 08 15 43.9 +0.4
baz=77,SNR=22
I20A **Worland** 77.06 331 ⇑P P 08 15 44.5 +0.7
baz=77,SNR=53
H21A **Big Horn, Sher** 77.11 332 ⇓P P 08 15 44.4 +0.2
baz=77,SNR=88
SPUT **South Promonto** 77.11 326 *e*P P 08 15 45.1 +0.8
comp=Z,301nm,1.1s
BGU **Big Grassy Mou** 77.12 326 *e*P P 08 15 45.2 +0.8
comp=Z,102nm,1.3s
E25A **Miller Ranch,** 77.14 335 ⇓P P 08 15 44.7 +0.6
baz=78,SNR=68
SMMC **Simmler** 77.17 318 ⇓P P 08 15 46.2 +1.6
baz=78,SNR=34
D26A **Manning** 77.21 336 ⇑P P 08 15 45.3 +0.8
baz=78,SNR=64
G22A **Birney** 77.26 333 ⇓P P 08 15 45.2 +0.2
baz=78,SNR=36
TIN **Tinemaha** 77.27 320 ⇑P P 08 15 46.6 +1.4
baz=78,SNR=12
F23A **Volborg** 77.30 333 ⇑P P 08 15 45.6 +0.5
baz=78,SNR=152
B29A **Wagenman Farm,** 77.33 338 ⇑P P 08 15 45.6 +0.4
baz=78,SNR=74
RCTC **Rector, Farmer** 77.37 319 ⇓P P 08 15 45.7 +0.1
baz=78,SNR=60
TPH **Tonopah** 77.38 321 *e*P P 08 15 46.9 +1.0
TPH pmax pmax
comp=Z,268nm,1.3s
TPH **Tonopah** 77.38 321 *e*P P 08 15 46.9 +1.0
comp=Z,268nm,1.3s
A30A **Hoffart Farm,** 77.40 339 ⇓P P 08 15 45.5 +0.1
baz=78,SNR=52
H20A **Greybull** 77.42 331 ⇓P P 08 15 46.2 +0.4
baz=78,SNR=192
C27A **Sayler Ranch,** 77.44 337 ⇓P P 08 15 46.6 +0.9
baz=78,SNR=44
I19A **Meeteetse** 77.52 330 ⇑P P 08 15 47.5 +1.0
baz=78,SNR=131
PTRM **Twissleman Ran** 77.53 318 *e*P P 08 15 47.7 +1.1
AHID **Auburn Hatcher** 77.53 328 *e*P P 08 15 47.2 +0.6
comp=Z,288nm,0.9s
E24A **Baker** 77.54 335 ⇑P P 08 15 47.4 +0.9
baz=78,SNR=136
HVU **Hansel Valley** 77.62 327 *e*P P 08 15 47.5 +0.4
HVU pmax pmax
comp=Z,222nm,1.2s
HVU **Hansel Valley** 77.62 327 *e*P P 08 15 47.5 +0.4
comp=Z,222nm,1.2s
D25A **Fairfield** 77.64 335 ⇑P P 08 15 48.0 +1.1
baz=78,SNR=144
TSUM **Tsumeb** 77.65 106 *e*P P 08 15 47.2 -0.7
comp=Z,141nm,0.8s
G21A **Lodge Grass** 77.66 332 ⇑P P 08 15 47.6 +0.4
baz=78,SNR=74
B28A **Dugan Ranch, T** 77.66 338 ⇓P P 08 15 47.3 +0.3
baz=78,SNR=107
MTUM **Tungsten Hills** 77.67 320 *e*P P 08 15 48.4 +0.9
A29A **Manning Farm,** 77.69 339 ⇑P P 08 15 47.1 0.0
baz=78,SNR=132
F22A **Rosebud** 77.70 333 ⇑P P 08 15 47.6 +0.3
baz=78,SNR=116
C26A **Wahner Farm, P** 77.75 337 ⇑P P 08 15 48.1 +0.6
baz=78,SNR=89
ULM **Lac du Bonnet** 77.81 341 *e*P P 08 15 47.1 -0.6
comp=Z,151nm,0.6s
ULM PKKPbc **PKKPbc** 08 34 48.0 -3.0
ULM **Lac du Bonnet** 77.81 341 P P 08 15 47.1 -0.6
comp=Z,161nm,0.7s,baz=154,slow=6.1,SNR=338
ULM PKKPbc **PKKPbc** 08 34 48.0 -3.0
comp=Z,5.0nm,0.9s,baz=359,slow=5.2,SNR=5.2
ULM LR LR 08 54 19.1
comp=Z,318nm,18.2s,baz=151,slow=39
REDW **Red Top Meadow** 77.86 329 *e*P P 08 15 49.2 +0.7
comp=Z,155nm,1.1s
LOHW **Long Hollow** 77.94 329 *e*P P 08 15 49.6 +0.8
comp=Z,468nm,1.7s
B27A **Peters Farms,** 77.94 337 ⇑P P 08 15 49.1 +0.6
baz=78,SNR=29
D24A **Glendive** 78.00 335 ⇓P P 08 15 49.8 +0.9
baz=78,SNR=53
H19A **Powell** 78.00 331 ⇓P P 08 15 49.8 +0.6
baz=78,SNR=86
MLAC **Mammoth Lakes** 78.01 320 ⇓P P 08 15 50.7 +1.2
baz=78,SNR=12
SCHQ **Schefferville** 78.02 0 *e*P P 08 15 48.6 -0.2
SCHQ **Schefferville** 78.02 0 P P 08 15 48.1 -0.6
comp=Z,131nm,0.8s,baz=187,slow=4.1,SNR=165
A28A **Rude Farm, Bot** 78.02 338 ⇑P P 08 15 49.2 +0.2
baz=78,SNR=36
C25A **Freed Ranch, W** 78.08 336 ⇑P P 08 15 50.2 +0.8
baz=78,SNR=84
G20A **Bridger** 78.09 331 ⇑P P 08 15 49.9 +0.3
baz=78,SNR=145
F21A **Absaloka Mine,** 78.10 332 ⇑P P 08 15 50.1 +0.5
baz=78,SNR=24
E22A **Miles City** 78.10 334 ⇓P P 08 15 49.6 +0.1
baz=78,SNR=46
MOOW **Moose Ponds** 78.11 329 *e*P P 08 15 50.3 +0.5
comp=Z,430nm,2.0s
ELK **Elko** 78.15 325 *e*P P 08 15 50.8 +0.7
comp=Z,102nm,1.0s
ELK PKKPbc **PKKPbc** 08 34 49.2 -0.6
ELK **Elko** 78.15 325 PKKPbc PKKPbc 08 34 49.2 -0.6
comp=Z,0.9nm,0.8s,baz=258,slow=0.6,SNR=4.2
I17A **Pilgrim Ck.** 78.16 329 ⇑P P 08 15 51.5 +1.5
baz=78,SNR=169
NV11 **Mina Array Sit** 78.16 321 *e*P P 08 15 50.8 +0.7
NVAR **Mina Array Bea** 78.24 321 P P 08 15 51.4 +0.7
NVAR PKKPbc **PKKPbc** 08 34 48.5 -1.0
NVAR P'P' 08 42 49.7
NVAR **Mina Array Bea** 78.24 321 P P 08 15 51.4 +0.7
comp=Z,45nm,0.8s,baz=148,slow=5.2,SNR=251
NVAR PKKPbc **PKKPbc** 08 34 48.5 -1.0
comp=Z,1.4nm,0.7s,baz=298,slow=2.1,SNR=7.7
NVAR PKPPKP **P'P'df** 08 42 49.7 -0.2
comp=Z,1.4nm,1.1s,baz=289,slow=4.5,SNR=4.2
B26A **Jensen Ranch,** 78.26 337 ⇑P P 08 15 51.0 +0.6
baz=79,SNR=37
H18A **Shoshone NF, C** 78.31 330 ⇑P P 08 15 51.5 +0.5
baz=79,SNR=153
FLWY **Flagg Ranch** 78.34 329 *e*P P 08 15 52.2 +1.1
comp=Z,191nm,0.9s
C24A **Savage** 78.38 335 ⇑P P 08 15 51.9 +0.9
baz=79,SNR=157
D23A **Lindsay** 78.40 334 ⇓P P 08 15 52.1 +0.9
baz=79,SNR=118
A27A **Ledoux Ranch,** 78.40 338 ⇓P P 08 15 51.6 +0.6
baz=79
LAO **LASA Array** 78.41 334 *e*P P 08 15 51.5 +0.3
comp=Z,265nm,1.0s
BUFB **Buffelsbos** 78.43 122 *e*P P 08 15 52.1 +0.4
BUFB AMB AMB 08 15 53.7
comp=Z,9.6nm,11.0s
BUFB **Buffelsbos** 78.43 122 P P 08 15 52.1 +0.4
RLMT **Red Lodge** 78.48 331 *e*P P 08 15 52.4 +0.5
comp=Z,69nm,0.6s
B25A **Knox Farm, Ray** 78.52 336 ⇑P P 08 15 52.6 +0.9
baz=79,SNR=97
F20A **Billings** 78.52 332 ⇑P P 08 15 52.2 +0.3
baz=79,SNR=39
H17A **Grant Village** 78.52 330 ⇓P P 08 15 53.8 +1.7
baz=79,SNR=40
A26A **Wade Farm, Ken** 78.63 337 ⇓P P 08 15 52.6 +0.3
baz=79,SNR=48
E21A **Keefer Ranch,** 78.65 333 ⇓P P 08 15 52.8 +0.3
baz=79,SNR=23
D22A **Cohagen** 78.77 334 ⇑P P 08 15 53.8 +0.7
baz=79,SNR=103
C23A **Lambert** 78.90 335 ⇓P P 08 15 54.6 +0.7
baz=79,SNR=65
F19A **Roth Farm, Mol** 78.91 331 ⇓P P 08 15 54.6 +0.6
baz=79,SNR=156
YMR **Madison River** 78.91 330 *e*P P 08 15 55.4 +1.3
comp=Z,290nm,1.1s
BMN **Battle Mountai** 79.01 323 *e*P P 08 15 55.1 +0.4
BMN pmax pmax
comp=Z,66nm,1.1s

BMN **Battle Mountai** 79.01 323 *e*P P 08 15 55.1 +0.4
comp=Z,66nm,1.1s
SAO **San Andreas Ge** 79.01 318 *e*P P 08 15 55.6 +1.0
SAO pmax pmax
comp=Z,73nm,1.0s
SAO **San Andreas Ge** 79.01 318 *e*P P 08 15 55.5 +1.0
comp=Z,73nm,1.0s
D21A **La Casta Ranch** 79.03 333 ⇓P P 08 15 55.2 +0.6
baz=79,SNR=249
A25A **Svangstu Ranch** 79.05 337 ⇑P P 08 15 55.3 +0.7
baz=79,SNR=62
E20A **Meyer Farm, Mu** 79.06 332 ⇑P P 08 15 55.6 +0.8
baz=79,SNR=225
DGMT **Dagmar** 79.07 336 *e*P P 08 15 55.5 +0.7
comp=Z,464nm,0.9s
DGMT **Dagmar** 79.07 336 ⇑P P 08 15 55.6 +0.9
baz=79,SNR=152
C22A **Vida** 79.13 334 ⇑P P 08 15 55.6 +0.6
baz=80,SNR=72
CMB **Columbia Colle** 79.20 320 *e*P P 08 15 56.1 +0.4
CMB pmax pmax
comp=Z,663nm,2.7s
CMB **Columbia Colle** 79.20 320 *e*P P 08 15 56.1 +0.4
comp=Z,663nm,2.7s
E19A **Rath Farm, Rou** 79.31 332 ⇓P P 08 15 56.9 +0.8
baz=80,SNR=177
B23A **Brockton** 79.36 335 ⇑P P 08 15 57.2 +0.8
baz=80,SNR=96
A24A **Westby** 79.37 336 ⇓P P 08 15 57.2 +0.9
baz=80,SNR=84
D20A **Manuel Ranch,** 79.53 333 ⇑P P 08 15 57.7 +0.5
baz=80,SNR=176
B22A **Reddig Ranch S** 79.62 335 ⇓P P 08 15 58.2 +0.5
baz=80,SNR=32
C21A **Desert Coulee** 79.68 334 P P 08 15 58.3 +0.2
baz=80
A23A **Redstone** 79.73 336 ⇑P P 08 15 59.0 +0.8
baz=80,SNR=37
HLID **Hailey** 79.75 327 *e*P P 08 15 59.9 +1.2
comp=Z,302nm,1.1s
HLID **Hailey** 79.75 327 ⇑P P 08 16 00.1 +1.4
baz=80,SNR=318
D19A **Cripps Ranch,** 79.90 332 ⇑P P 08 15 59.6 +0.3
baz=80,SNR=148
MCMT **McKenzie Canyo** 79.91 329 P P 08 16 00.8 +1.2
BOZ **Bozeman (W)** 79.95 330 *e*P P 08 15 59.8 +0.1
BOZ pmax pmax
comp=Z,205nm,1.5s
BOZ **Bozeman (W)** 79.95 330 *e*P P 08 15 59.8 +0.1
comp=Z,205nm,1.5s
C20A **Veseth Ranch,** 79.96 333 ⇓P P 08 15 59.7 +0.1
baz=80,SNR=87
GRM **Grahamstown** 80.11 122 ⇑*i*P P 08 16 01.1 +0.2
GRM AMB AMB 08 16 01.9
comp=Z,225nm,1.1s
GRM **Grahamstown** 80.11 122 P P 08 16 01.1 +0.2
GRM pmax pmax
comp=Z,225nm,1.1s
GRM **Grahamstown** 80.11 122 P P 08 16 01.1 +0.2
comp=Z,225nm,1.1s
SAC **San Andreas** 80.12 318 *e*P P 08 16 01.8 +1.2
SAC pmax pmax
comp=Z,96nm,0.9s
SAC **San Andreas** 80.12 318 *e*P P 08 16 01.8 +1.2
comp=Z,96nm,0.9s
B21A **Ellsworth Farm** 80.13 334 ⇓P P 08 16 01.0 +0.6
baz=80,SNR=153
A22A **Carney Farms,** 80.15 335 ⇑P P 08 16 01.2 +0.7
baz=80,SNR=215
DLMT **Dillon** 80.19 329 *e*P P 08 16 01.7 +0.7
comp=Z,238nm,1.4s
HVD **Gariep Dam** 80.30 119 ⇑*i*P P 08 16 02.1 0.0
HVD AMB AMB 08 16 03.1
comp=Z,222nm,1.0s
HVD **Gariep Dam** 80.30 119 P P 08 16 02.1 0.0
HVD pmax pmax
comp=Z,223nm,1.0s
HVD **Gariep Dam** 80.30 119 P P 08 16 02.1 0.0
comp=Z,222nm,1.0s
C19A **Slack Wire Ran** 80.42 333 ⇓P P 08 16 02.5 +0.4
baz=81,SNR=80
LRM **Limekiln Ridge** 80.47 330 *e*P P 08 16 03.0 +0.5
B20A **Solberg Farm,** 80.54 334 ⇑P P 08 16 03.2 +0.5
baz=81,SNR=9.4
OHCM **Honcut** 80.70 320 *e*P P 08 16 04.2 +0.6
RTC **Rabat Centre** 80.75 47 *e*P P 08 16 04.8 +0.8
comp=Z,296nm,0.8s
MCCM **Marconi Confer** 80.77 319 *e*P P 08 16 05.0 +1.0
comp=Z,227nm,1.1s
BOSA **Boshof** 80.83 117 ⇑*i*P P 08 16 04.4 -0.5
BOSA AMB AMB 08 16 05.0
comp=Z,150nm,1.1s
BOSA **Boshof** 80.83 117 *e*P P 08 16 04.0 -0.9
comp=Z,120nm,0.8s
BOSA **Boshof** 80.83 117 P P 08 16 04.2 -0.8
comp=Z,129nm,0.8s,baz=253,slow=4.7,SNR=120
BOSA PKKPbc **PKKPbc** 08 34 41.5 -0.1
comp=Z,2.6nm,0.6s,baz=103,slow=1.3,SNR=8.4
A20A **Cobblestone Ra** 80.86 334 ⇓P P 08 16 04.7 +0.4
baz=81,SNR=216
B19A **Brinkman Farms** 80.94 333 ⇑P P 08 16 05.3 +0.5
baz=81,SNR=122
EGMT **Eagleton** 80.94 332 *e*P P 08 16 04.3 -0.5
comp=Z,223nm,1.0s
EGMT **Eagleton** 80.94 332 ⇑P P 08 16 05.0 +0.2
baz=81,SNR=102
WVOR **Wild Horse Val** 81.16 324 *e*P P 08 16 06.6 +0.4
WVOR pmax pmax
comp=Z,65nm,1.3s
WVOR **Wild Horse Val** 81.16 324 *e*P P 08 16 06.6 +0.4
comp=Z,65nm,1.3s
A19A **Klindworth Far** 81.22 334 ⇑P P 08 16 06.4 +0.1
baz=82,SNR=125
HOPS **Hopland** 81.42 319 *e*P P 08 16 08.9 +1.4
comp=Z,526nm,2.0s
SWZ **Schweizer** 81.42 116 *e*P P 08 16 07.1 -1.0
SWZ AMB AMB 08 16 08.1
comp=Z,183nm,1.0s
SWZ **Schweizer** 81.42 116 P P 08 16 07.1 -1.0
comp=Z,183nm,1.0s
MORF **Marmelete** 81.58 43 *e*P P 08 16 09.3 +0.9
comp=Z,319nm,1.4s
MORF **Marmelete** 81.58 43 *e*P P 08 16 07.8 -0.6
MORF *e*S S 08 26 06.4 +1.9
CHMT **Chamberlain Mo** 81.65 330 *e*P P 08 16 09.2 +0.5
PTEO **Sao Teotonio** 81.68 43 *e*P P 08 16 11.1 +2.3
comp=Z,625nm,1.3s
MOD **Modoc** 81.71 323 *e*P P 08 16 09.2 0.0
comp=Z,47nm,1.1s
MAW **Mawson** 81.86 163 P P 08 16 09.9 +0.6
comp=Z,340nm,0.9s,baz=215,slow=6.2,SNR=41
MAW LR LR 08 50 38.7
comp=Z,243nm,21.6s,baz=226,slow=34
MSO **Missoula** 81.91 329 *e*P P 08 16 10.6 +0.7
comp=Z,112nm,1.3s
MSO **Missoula** 81.91 329 ⇓P P 08 16 10.8 +0.9
baz=82,SNR=51
PBDV **Barranco-do-Ve** 82.00 44 *e*P P 08 16 11.7 +1.2
comp=Z,331nm,1.3s
SLMT **Seeley Lake** 82.00 330 *e*P P 08 16 10.8 +0.3
WDC **Whiskeytown Da** 82.12 321 *e*P P 08 16 10.0 -1.1
WDC pmax pmax
comp=Z,87nm,1.0s
WDC **Whiskeytown Da** 82.12 321 *e*P P 08 16 10.0 -1.1
comp=Z,87nm,1.0s
BMO **Blue Mountains** 82.13 326 *e*P P 08 16 11.6 +0.4
comp=Z,442nm,1.8s
LIS **Lisbon** 82.14 42 *e*P P 08 16 10.7 -0.5
LIS AMb AMB 08 16 15.0
comp=Z,205nm,0.9s
LIS *e*S S 08 26 12.1 +2.0
LIS **Lisbon** 82.14 42 *e*P P 08 16 10.7 -0.5
comp=Z,205nm,0.9s
LIS **Lisbon** 82.14 42 *e*P P 08 16 10.7 -0.5
LIS *e*S S 08 26 12.1 +2.0
PNCL **Nicolau / Gran** 82.15 43 *e*P P 08 16 12.2 +0.9
comp=Z,174nm,1.5s
KCPM **Cahto Peak** 82.17 319 *e*P P 08 16 12.7 +1.2
comp=Z,97nm,1.2s
MESJ **Messejana** 82.18 43 *e*P P 08 16 10.8 -0.6
MESJ AMb AMB 08 16 15.1
comp=Z,179nm,1.4s
MESJ *e*S S 08 26 12.5 +2.0
MESJ **Messejana** 82.18 43 *e*P P 08 16 10.8 -0.6
comp=Z,179nm,1.4s
MESJ **Messejana** 82.18 43 *e*P P 08 16 10.8 -0.6
MESJ *e*S S 08 26 12.5 +2.0

KIPM **Iron Peak** 82.18 320 *e*P P 08 16 12.9 +1.4
comp=Z,152nm,1.1s
PMAFR **Mafra** 82.21 42 *e*P P 08 16 12.8 +1.2
comp=Z,250nm,1.3s
PVAQ **Vaqueiros** 82.23 44 *e*P P 08 16 12.7 +1.0
comp=Z,164nm,1.5s
PVAQ **Vaqueiros** 82.23 44 *e*S S 08 26 14.6 +3.6
SWMT **Swartz Lake** 82.43 330 *e*P P 08 16 12.7 0.0
LBTB **Lobatse** 82.46 114⇑*i*P P 08 16 13.0 -0.5
LBTB AMB AMB 08 16 14.0
comp=Z,148nm,1.1s
LBTB **Lobatse** 82.46 114 *e*P P 08 16 12.8 -0.7
comp=Z,83nm,0.7s
N02D **Trinity Center** 82.47 321 ⇑P P 08 16 12.9 -0.1
baz=83
M04C **Macdoel** 82.49 322 ⇑P P 08 16 13.8 +0.6
baz=83
PBEJ **Beja** 82.51 43 *e*P P 08 16 14.0 +0.8
comp=Z,69nm,2.0s
KMRM **Mail Ridge** 82.58 320 *e*P P 08 16 15.2 +1.6
comp=Z,299nm,1.3s
K05A **Summer Lake** 82.58 323 *e*P P 08 16 14.7 +1.0
comp=Z,357nm,1.1s
EVOP **Sao Brissos** 82.66 43 *e*P P 08 16 14.3 +0.4
EVOP pmax pmax
comp=Z,199nm,1.1s
EVOP **Sao Brissos** 82.66 43 *e*P P 08 16 14.3 +0.4
comp=Z,198nm,1.1s
YBMT **Yellow Bay** 82.70 330 *e*P P 08 16 14.6 +0.5
EVO **Evora** 82.73 43 *e*P P 08 16 14.3 0.0
comp=Z,198nm,1.1s
EVO **Evora** 82.73 43 *e*P P 08 16 14.8 +0.5
comp=Z,130nm,1.7s
JTMT **Jette** 82.74 330 *e*P P 08 16 14.8 +0.5
I07A **Izee** 82.74 325 *e*P P 08 16 15.3 +1.0
comp=Z,487nm,2.0s
BFSD **Buffelsfontein** 82.75 116 *e*P P 08 16 14.8 -0.2
BFSD **Buffelsfontein** 82.75 116 P P 08 16 14.8 -0.2
M02C **Callahan** 82.82 321 ⇓P P 08 16 15.1 +0.3
baz=83
F10A **Beach Ranch, E** 82.88 327 *e*P P 08 16 15.2 +0.2
comp=Z,266nm,1.4s
PMTG **Montargil** 82.92 42 *e*P P 08 16 15.8 +0.5
comp=Z,299nm,1.4s
YBH **Yreka Blue Hor** 82.96 321 *e*P P 08 16 14.7 -0.8
comp=Z,41nm,0.9s
BLMT **Blacktail Moun** 82.97 330 *e*P P 08 16 14.9 -0.7
K04D **Chiloquin, OR** 83.00 323 ⇑P P 08 16 16.5 +0.8
baz=83
BSMT **Bassoo Peak** 83.05 330 *e*P P 08 16 16.2 +0.3
J05D **Fort Rock, OR** 83.14 323 ⇑P P 08 16 17.4 +0.9
baz=84
PTOM **Tomar** 83.15 42 *e*P P 08 16 16.8 +0.4
comp=Z,469nm,1.1s
PESTR **Estremoz** 83.19 43 *e*P P 08 16 17.1 +0.4
comp=Z,264nm,1.3s
PRYS **Parys** 83.19 116⇑*i*P P 08 16 15.2 -2.1
PRYS AMB AMB 08 16 17.5
comp=Z,110nm,1.1s
PRYS **Parys** 83.19 116 P P 08 16 15.2 -2.1
comp=Z,110nm,1.1s
G08A **Pilot Rock** 83.28 326 *e*P P 08 16 17.4 +0.3
comp=Z,206nm,1.8s
PINOR **Pine Mountain** 83.29 324 *e*P P 08 16 18.1 +1.1
comp=Z,216nm,1.1s
PCAS **Casmilo, Conde** 83.36 41 *e*P P 08 16 18.0 +0.5
comp=Z,250nm,1.9s
WDLM **Western Deep L** 83.44 116 *e*P P 08 16 18.3 -0.3
WDLM AMB AMB 08 16 19.1
comp=Z,120nm,1.0s
KSD **Kokstad** 83.45 120 *e*P P 08 16 19.5 +1.0
KSD AMB AMB 08 16 20.7
comp=Z,61nm,3.6s
KSD **Kokstad** 83.45 120 P P 08 16 19.5 +1.0
comp=Z,61nm,3.6s
WALA **Waterton Lakes** 83.53 331 *e*P P 08 16 18.3 0.0
FFC **Flin Flon** 83.54 340 *e*P P 08 16 17.6 -0.4
FFC pmax pmax
comp=Z,47nm,1.1s
FFC **Flin Flon** 83.54 340 *e*P P 08 16 17.6 -0.4
comp=Z,47nm,1.1s
J04D **Umpqua Nationa** 83.59 323 ⇑P P 08 16 19.7 +0.8
baz=84
KLOF **Kloof** 83.62 116 *e*P P 08 16 19.7 +0.2
KLOF AMB AMB 08 16 20.5
comp=Z,197nm,0.8s
KLOF **Kloof** 83.62 116 P P 08 16 19.7 +0.2
comp=Z,197nm,0.8s
PMRV **Marv??o** 83.66 42 *e*P P 08 16 18.7 -0.3
comp=Z,155nm,1.4s
PMRV **Marv??o** 83.66 42 *e*S S 08 26 25.2 -0.2
HUMO **Hull Mountain** 83.66 322 *e*P P 08 16 18.5 -0.5
comp=Z,41nm,1.0s
E09A **Wood Farm, Sta** 83.71 327 *e*P P 08 16 19.4 +0.4
comp=Z,168nm,1.7s
L02D **Cave Junction,** 83.74 321 ⇑P P 08 16 20.4 +1.0
baz=84
PCBR **Castelo Branco** 83.85 42 *e*P P 08 16 20.4 +0.4
comp=Z,162nm,1.1s
PTO **Porto** 83.97 40 *e*P P 08 16 21.5 +1.0
comp=Z,312nm,1.4s
TAM **Tamanrasset** 84.04 62 *e*P P 08 16 21.8 +0.3
TAM pmax pmax
comp=Z,346nm,1.3s
TAM **Tamanrasset** 84.04 62 *e*P P 08 16 21.8 +0.3
comp=Z,346nm,1.3s
OBSV **Observatory** 84.07 116 *e*P P 08 16 21.8 0.0
OBSV AMB AMB 08 16 22.2
comp=Z,178nm,1.0s
G06A **Carlson Farm,** 84.11 325 *e*P P 08 16 22.5 +1.3
I04A **Tendick Farm,** 84.12 323 ⇑P P 08 16 21.6 +0.3
baz=84
PVIS **Viseu** 84.13 41 *e*P P 08 16 21.6 +0.1
comp=Z,153nm,1.6s
KBO **Bosley Butte** 84.14 321 *e*P P 08 16 22.4 +0.9
comp=Z,341nm,1.4s
ERPM **east rand prop** 84.15 116 *e*P P 08 16 22.1 -0.1
ERPM AMB AMB 08 16 22.8
comp=Z,151nm,1.1s
ERPM **east rand prop** 84.15 116 P P 08 16 22.1 -0.1
comp=Z,151nm,1.1s
MTE **Manteigas** 84.15 41 *e*P P 08 16 21.6 0.0
comp=Z,149nm,1.7s
MTE **Manteigas** 84.15 41 *e*S S 08 26 28.3 -2.1
MTE **Manteigas** 84.15 41 *e*P P 08 16 20.8 -0.8
comp=Z,124nm,1.0s
HAWA **Hanford** 84.32 326 *e*P P 08 16 22.6 +0.4
comp=Z,112nm,0.9s
RAR **Rarotonga** 84.32 249 *e*P P 08 16 23.4 +0.5
comp=Z,389nm,1.4s
RAR **Rarotonga** 84.32 249 P P 08 16 23.6 +0.8
comp=Z,160nm,1.2s,baz=165,slow=23,SNR=7.4
WRD **Warden** 84.41 327 P P 08 16 24.4 +1.8
SLR **Silverton** 84.42 115⇑*i*P P 08 16 23.1 -0.4
SLR AMB AMB 08 16 23.9
comp=Z,236nm,1.0s
SLR **Silverton** 84.42 115 P P 08 16 23.1 -0.4
SLR pmax pmax
comp=Z,236nm,1.0s
SLR **Silverton** 84.42 115 P P 08 16 23.1 -0.4
comp=Z,236nm,1.0s
NEW **Newport** 84.44 329 *e*P P 08 16 22.0 -0.8
comp=Z,36nm,0.8s
NEW PKKPbc **PKKPbc** 08 34 34.0 -1.4
NEW **Newport** 84.44 329 PKKPbc PKKPbc 08 34 34.0 -1.4
comp=Z,1.7nm,0.7s,baz=326,slow=1.2,SNR=5.1
NEW **Newport** 84.44 329 ⇓P P 08 16 22.7 -0.1
baz=85,SNR=42
D08A **Wollman Farm,** 84.47 327 *e*P P 08 16 23.3 +0.4
comp=Z,193nm,1.3s
G05D **Wamic, OR** 84.48 325 ⇓P P 08 16 24.0 +0.9
baz=85
H04A **Detroit Lake** 84.58 324 *e*P P 08 16 23.2 -0.4
comp=Z,140nm,1.4s
I03D **Drain, OR** 84.58 323 ⇓P P 08 16 24.2 +0.7
baz=85
PVRL **Vila Real** 84.58 41 *e*P P 08 16 24.1 +0.4
comp=Z,218nm,1.3s
OD2 **Odessa Site #2** 84.59 328 P P 08 16 23.8 +0.2
POLO **Lamas de Olo** 84.60 40 *e*P P 08 16 24.3 +0.5
comp=Z,85nm,1.4s
E07A **Sunnyside** 84.60 326 *e*P P 08 16 24.4 +0.8
comp=Z,177nm,1.6s
KEBM **Edson Butte** 84.61 321 *e*P P 08 16 25.2 +1.3
comp=Z,341nm,1.2s
C09A **Chrisman Ranch** 84.66 328 *e*P P 08 16 24.2 +0.3
comp=Z,331nm,1.1s

PCAB **Cabril** 84.67 40 *e*P P 08 16 24.4 +0.3
comp=Z,160nm,1.4s
TRW **Toppenish Ridg** 84.77 326 P P 08 16 25.4 +0.9
VLL **Laurance Lake** 84.81 325 P P 08 16 26.0 +1.2
MVO **Moncorvo** 84.93 41 *e*P P 08 16 25.6 +0.1
comp=Z,246nm,1.2s
MVO **Moncorvo** 84.93 41 *e*S S 08 26 37.5 -0.6
FCC **Fort Churchill** 85.02 346 *e*P P 08 16 25.3 0.0
FCC **Fort Churchill** 85.02 346 *e*P P 08 16 25.3 0.0
comp=Z,5.9nm,0.8s
COR **Corvallis** 85.12 323 *e*P P 08 16 27.4 +1.2
COR pmax pmax
comp=Z,49nm,1.2s
COR **Corvallis** 85.12 323 *e*P P 08 16 27.4 +1.2
comp=Z,49nm,1.2s
SAW **Saint Andrews** 85.15 327 P P 08 16 26.8 +0.5
WTV **Waterville** 85.42 327 P P 08 16 27.9 +0.2
LTY **Liberty** 85.48 327 *e*P P 08 16 28.0 -0.1
comp=Z,328nm,1.6s
PBRG **Braganca** 85.49 41 *e*P P 08 16 28.6 +0.4
comp=Z,149nm,1.6s
G03D **McMinnville, O** 85.50 324 ⇓P P 08 16 28.9 +0.8
baz=86
ETW **Entiat** 85.55 327 P P 08 16 28.6 +0.2
B08A **Colville Reser** 85.56 328 *e*P P 08 16 28.3 -0.1
comp=Z,118nm,1.3s
PAB **San Pablo** 85.62 43 *e*P P 08 16 29.3 +0.3
PAB pmax pmax
comp=Z,23nm,0.9s
PAB **San Pablo** 85.62 43 *e*P P 08 16 29.2 +0.3
comp=Z,23nm,0.9s
LON **Longmire** 85.73 326 *e*P P 08 16 28.8 -0.5
LON pmax pmax
comp=Z,309nm,2.1s
LON **Longmire** 85.73 326 *e*P P 08 16 28.8 -0.5
comp=Z,309nm,2.1s
NLW **Nelson Butte** 85.87 327 P P 08 16 29.8 -0.2
F04D **Rainier, OR** 85.93 325 ⇑P P 08 16 30.8 +0.7
baz=86
ESLA **Sonseca Array** 85.94 44 *e*P P 08 16 30.7 +0.2
comp=Z,40nm,1.1s
ESDC **Sonseca Array** 85.94 44 P P 08 16 30.8 +0.3
ESDC **Sonseca Array** 85.94 44 P P 08 16 30.8 +0.3
comp=Z,85nm,0.9s,baz=248,slow=4.4,SNR=103
ESDC LR LR 08 53 33.0
comp=Z,292nm,19.4s,baz=250,slow=34
D05A **Enumclaw** 86.11 326 *e*P P 08 16 31.4 +0.3
comp=Z,140nm,1.0s
POGA **Pongola** 86.49 118 *e*P P 08 16 36.1 +2.5
POGA **Pongola** 86.49 118 P P 08 16 36.1 +2.5
E03A **Lebam** 86.52 325 *e*P P 08 16 33.1 +0.1
comp=Z,238nm,1.1s
RPW **Rockport** 86.70 327 P P 08 16 33.3 -0.7
B06A **Marblemount** 86.73 327 *e*P P 08 16 33.5 -0.4
comp=Z,223nm,1.3s
NLWA **Neilton Lookou** 87.22 325 *e*P P 08 16 37.4 +1.0
comp=Z,130nm,1.1s
NLWA *e*pP **pP** 08 17 24.7 +1.4
MSNA **Messina** 87.23 113⇑*i*P P 08 16 38.0 +0.7
MSNA AMB AMB 08 16 38.9
comp=Z,162nm,1.3s
MSNA **Messina** 87.23 113 P P 08 16 38.0 +0.7
comp=Z,162nm,1.3s
A05A **Maple Falls** 87.35 327 *e*P P 08 16 36.7 -0.3
comp=Z,342nm,1.3s
PGC **Sidney** 87.81 326 *e*P P 08 16 39.8 +0.7
comp=Z,14nm,1.2s
LSZ **Lusaka** 88.51 106 *e*P P 08 16 45.0 +1.5
comp=Z,434nm,1.4s
SJPF **Ste Jean** 89.58 42⇑*i*P P 08 16 48.1 +0.5
comp=Z,139nm,1.0s
SJPF **Ste Jean** 89.58 42⇑*i*P P 08 16 48.1 +0.5
SJPF pmax pmax
comp=Z,139nm,1.0s
SJPF **Ste Jean** 89.58 42⇑*i*P P 08 16 48.1 +0.5
comp=Z,139nm,1.0s
ETSF **Etsaut** 89.87 42⇑*i*P P 08 16 49.5 +0.4
comp=Z,149nm,1.1s
ETSF **Etsaut** 89.87 42⇑*i*P P 08 16 49.5 +0.4
ETSF pmax pmax
comp=Z,149nm,1.1s
ETSF **Etsaut** 89.87 42⇑*i*P P 08 16 49.5 +0.4
comp=Z,149nm,1.1s
VIEF **Viey** 90.22 43⇑*e*P P 08 16 49.2 -1.5
CASY **Casey** 90.48 179 *e*P P 08 16 52.2 +0.7
comp=Z,462nm,0.9s
CASY *e*pP **pP** 08 17 43.2 +4.7
EPF **Esparros** 90.50 43⇑*i*P P 08 16 52.2 +0.2
comp=Z,44nm,0.7s
EPF **Esparros** 90.50 43⇑*i*P P 08 16 52.2 +0.2
EPF pmax pmax
comp=Z,44nm,0.7s
EPF **Esparros** 90.50 43⇑*i*P P 08 16 52.2 +0.2
comp=Z,44nm,0.7s
MELF **Melles** 90.67 43⇑*e*P P 08 16 53.7 +0.9
MLS **Moulis** 90.93 43⇑*e*P P 08 16 54.3 +0.4
SFJD **Kangerlussuaq** 91.05 6 *i*P P 08 16 53.5 -0.3
comp=Z,24nm,0.8s
SFJD **Kangerlussuaq** 91.05 6 P P 08 16 53.5 -0.3
comp=Z,29nm,0.9s,baz=196,slow=6.4,SNR=7.7
QUIF **Quistinic** 91.13 37⇑*i*P P 08 16 53.9 -0.8
comp=Z,112nm,1.0s
QUIF **Quistinic** 91.13 37⇑*i*P P 08 16 53.9 -0.8
QUIF pmax pmax
comp=Z,113nm,1.0s
QUIF **Quistinic** 91.13 37⇑*i*P P 08 16 53.9 -0.8
comp=Z,112nm,1.0s
ROSF **Rostrenen** 91.31 37 *e*P P 08 16 54.8 -0.7
comp=Z,191nm,1.1s
ROSF **Rostrenen** 91.31 37 *e*P P 08 16 54.8 -0.7
ROSF pmax pmax
comp=Z,191nm,1.1s
ROSF **Rostrenen** 91.31 37 *e*P P 08 16 54.8 -0.7
comp=Z,191nm,1.1s
SGMF **Saint Gilles** 91.65 37⇑*i*P P 08 16 56.2 -0.9
comp=Z,67nm,1.1s
SGMF **Saint Gilles** 91.65 37⇑*i*P P 08 16 56.2 -0.9
SGMF pmax pmax
comp=Z,67nm,1.1s
SGMF **Saint Gilles** 91.65 37⇑*i*P P 08 16 56.2 -0.9
comp=Z,67nm,1.1s
LFF **La Frestale** 91.75 41⇑*i*P P 08 16 57.5 -0.2
comp=Z,144nm,1.0s
LFF **La Frestale** 91.75 41⇑*i*P P 08 16 57.5 -0.2
LFF pmax pmax
comp=Z,144nm,1.0s
LFF **La Frestale** 91.75 41⇑*i*P P 08 16 57.5 -0.2
comp=Z,144nm,1.0s
LCHF **La Chataignera** 91.81 39⇑*e*P P 08 16 58.4 +0.6
MTLF **Montolieu** 91.83 43⇑*i*P P 08 16 57.6 -0.5
comp=Z,93nm,1.0s
MTLF **Montolieu** 91.83 43⇑*i*P P 08 16 57.6 -0.5
MTLF pmax pmax
comp=Z,93nm,1.0s
MTLF **Montolieu** 91.83 43⇑*i*P P 08 16 57.6 -0.5
comp=Z,93nm,1.0s
MFF **Saint Martin d** 92.11 39⇑*i*P P 08 16 58.9 -0.4
comp=Z,182nm,1.0s
MFF **Saint Martin d** 92.11 39⇑*i*P P 08 16 58.9 -0.4
MFF pmax pmax
comp=Z,182nm,1.0s
MFF **Saint Martin d** 92.11 39⇑*i*P P 08 16 58.9 -0.4
comp=Z,182nm,1.0s
RJF **Les Rejaudoux** 92.41 41⇑*i*P P 08 17 00.2 -0.5
comp=Z,109nm,1.3s
RJF **Les Rejaudoux** 92.41 41⇑*i*P P 08 17 00.2 -0.5
RJF pmax pmax
comp=Z,109nm,1.3s
RJF **Les Rejaudoux** 92.41 41⇑*i*P P 08 17 00.2 -0.5
comp=Z,109nm,1.3s
CAF **Calviac** 92.55 42⇑*i*P P 08 17 01.1 -0.3
comp=Z,50nm,0.9s
CAF **Calviac** 92.55 42⇑*i*P P 08 17 01.1 -0.3
CAF pmax pmax
comp=Z,50nm,0.9s
CAF **Calviac** 92.55 42⇑*i*P P 08 17 01.1 -0.3
comp=Z,50nm,0.9s
KEST **Kesra** 93.00 52 *e*P P 08 17 04.0 +0.3
KEST **Kesra** 93.00 52 P P 08 17 04.2 +0.4
comp=Z,12nm,0.8s,baz=232,slow=1.7,SNR=23
KEST PKKP **PKKPbc** 08 34 14.0 +0.5
comp=Z,4.6nm,0.9s,baz=156,slow=0.9,SNR=7.1
KEST LR LR 09 00 41.7
comp=Z,294nm,20.2s,baz=198,slow=36
FLN **La Foliniere** 93.08 37⇑*i*P P 08 17 02.9 -0.8
comp=Z,130nm,1.3s

FLN **La Foliniere** 93.08 37⇑*i*P P 08 17 02.9 -0.8
FLN pmax pmax
comp=Z,131nm,1.3s
FLN **La Foliniere** 93.08 37⇑*i*P P 08 17 02.9 -0.8
comp=Z,130nm,1.3s
ILULI **Ilulissat** 93.15 6 *i*P P 08 17 03.7 +0.2
ILULI pmax pmax
comp=Z,31nm,0.9s
ILULI **Ilulissat** 93.15 6 *i*P P 08 17 03.7 +0.2
comp=Z,31nm,0.9s
LDF **La Druitiere** 93.20 38⇑*i*P P 08 17 03.4 -0.8
comp=Z,67nm,0.8s
LDF **La Druitiere** 93.20 38⇑*i*P P 08 17 03.4 -0.8
LDF pmax pmax
comp=Z,67nm,0.8s
LDF **La Druitiere** 93.20 38⇑*i*P P 08 17 03.4 -0.8
comp=Z,67nm,0.8s
LASF **Ste Croix** 93.22 43⇑*i*P P 08 17 04.5 0.0
comp=Z,80nm,1.3s
LASF **Ste Croix** 93.22 43⇑*i*P P 08 17 04.5 0.0
comp=Z,80nm,1.3s
TCF **Toulx Ste Croi** 93.34 40⇑*i*P P 08 17 04.3 -0.7
comp=Z,49nm,1.0s
TCF **Toulx Ste Croi** 93.34 40⇑*i*P P 08 17 04.3 -0.7
TCF pmax pmax
comp=Z,49nm,1.0s
TCF **Toulx Ste Croi** 93.34 40⇑*i*P P 08 17 04.3 -0.7
comp=Z,49nm,1.0s
BFZ **Birch Farm** 93.35 223 *e*P P 08 17 07.4 +2.1
comp=Z,83nm,1.4s
LBL **Lubilhac** 93.43 42⇑*e*P P 08 17 06.0 +0.5
PYM **Petit Puy Mans** 93.54 41⇑*e*P P 08 17 06.3 +0.3
YKA **Yellowknife Ar** 93.71 340 P P 08 17 05.9 -0.3
YKA PKKP **PKKPdf** 08 34 10.1 -1.5
YKA P'P' 08 42 19.8
YKA **Yellowknife Ar** 93.71 340 P P 08 17 05.9 -0.3
comp=Z,48nm,0.6s,baz=134,slow=4.6,SNR=1230
YKA PKKP **PKKPdf** 08 34 10.1 -1.5
comp=Z,1.4nm,0.7s,baz=326,slow=3.1,SNR=12
YKA PKPPKP **P'P'df** 08 42 19.7 -0.1
comp=Z,0.9nm,1.0s,baz=313,slow=2.7,SNR=6.5
AGO **Saint Agoulin** 93.77 41⇑*e*P P 08 17 07.0 0.0
BGF **Bois d'Agland** 93.85 40⇑*i*P P 08 17 06.8 -0.5
comp=Z,98nm,1.1s
BGF **Bois d'Agland** 93.85 40⇑*i*P P 08 17 06.8 -0.5
BGF pmax pmax
comp=Z,98nm,1.1s
BGF **Bois d'Agland** 93.85 40⇑*i*P P 08 17 06.8 -0.5
comp=Z,98nm,1.1s
KHZ **Kahutara** 93.98 220 *e*P P 08 17 09.8 +1.6
comp=Z,105nm,1.3s
ODZ **Otahua Downs** 94.02 217 *e*P P 08 17 09.7 +1.3
PLDF **La Plantade** 94.02 41⇑*e*P P 08 17 08.4 +0.2
BKZ **Black Stump Fm** 94.06 224 *e*P P 08 17 11.1 +2.4
HYF **Humbligny** 94.09 40 *e*P P 08 17 07.9 -0.5
HYF **Humbligny** 94.09 40 *e*P P 08 17 07.9 -0.5
VIVF **Saint-Julien-l** 94.12 43⇑*i*P P 08 17 08.7 +0.1
comp=Z,43nm,0.9s
VIVF **Saint-Julien-l** 94.12 43⇑*i*P P 08 17 08.7 +0.1
VIVF pmax pmax
comp=Z,43nm,0.9s
VIVF **Saint-Julien-l** 94.12 43⇑*i*P P 08 17 08.7 +0.1
comp=Z,43nm,0.9s
URZ **Urewera** 94.17 225 P P 08 17 10.2 +1.1
comp=Z,18nm,0.8s,baz=91,slow=1.0,SNR=8.2
SSB **Saint Sauveur** 94.24 42⇑*e*P P 08 17 09.6 +0.4
SMRF **Simiane la Rot** 94.26 44⇑*i*P P 08 17 09.9 +0.6
comp=Z,143nm,1.2s
SMRF **Simiane la Rot** 94.26 44⇑*i*P P 08 17 09.9 +0.6
comp=Z,143nm,1.2s
SMF **Signal de Mont** 94.49 41⇑*i*P P 08 17 09.8 -0.5
comp=Z,134nm,1.2s
SMF **Signal de Mont** 94.49 41⇑*i*P P 08 17 09.8 -0.5
SMF pmax pmax
comp=Z,134nm,1.2s
SMF **Signal de Mont** 94.49 41⇑*i*P P 08 17 09.8 -0.5
comp=Z,134nm,1.2s
SSF **Saint Saulge** 94.50 40⇑*i*P P 08 17 09.3 -1.0
comp=Z,56nm,1.1s
SSF **Saint Saulge** 94.50 40⇑*i*P P 08 17 09.3 -1.0
SSF pmax pmax
comp=Z,56nm,1.1s
SSF **Saint Saulge** 94.50 40⇑*i*P P 08 17 09.3 -1.0
comp=Z,56nm,1.1s
LMR **La Mourre** 94.55 45⇑*i*P P 08 17 10.7 +0.1
comp=Z,150nm,1.3s
LMR **La Mourre** 94.55 45⇑*i*P P 08 17 10.7 +0.1
LMR pmax pmax
comp=Z,150nm,1.3s
LMR **La Mourre** 94.55 45⇑*i*P P 08 17 10.7 +0.1
comp=Z,150nm,1.3s
RPZ **Rata Peaks** 94.62 218 *e*P P 08 17 11.7 +0.5
comp=Z,60nm,0.9s
RPZ *e*pP **pP** 08 18 02.6 +4.3
BORG **Borgarnes** 94.72 18 P P 08 17 11.2 +0.4
comp=Z,38nm,1.1s,baz=194,slow=3.7,SNR=6.0
LOR **Lormes** 94.81 40⇑*i*P P 08 17 10.8 -0.9
comp=Z,67nm,1.1s
LOR **Lormes** 94.81 40⇑*i*P P 08 17 10.8 -0.9
comp=Z,67nm,1.1s
ORIF **Oris-en-Rattie** 94.90 43⇑*i*P P 08 17 12.8 +0.5
comp=Z,108nm,1.0s
ORIF **Oris-en-Rattie** 94.90 43⇑*i*P P 08 17 12.8 +0.5
ORIF pmax pmax
comp=Z,108nm,1.0s
ORIF **Oris-en-Rattie** 94.90 43⇑*i*P P 08 17 12.8 +0.5
comp=Z,108nm,1.0s
WHZ **Wether Hill Ro** 94.92 215 *e*P P 08 17 13.3 +0.8
CALN **Calern** 94.99 44⇑*e*P P 08 17 13.2 +0.4
MVIF **Mont Vial** 95.23 44 *e*P P 08 17 13.7 -0.2
REVF **Revere** 95.29 44⇑*e*P P 08 17 14.8 +0.8
ESK **Eskdalemuir** 95.30 31 *e*P P 08 17 15.5 +1.8
ESK pmax pmax
comp=Z,11nm,0.9s
ESK **Eskdalemuir** 95.30 31 *e*P P 08 17 15.5 +1.8
comp=Z,11nm,0.9s
EKA **Eskdalemuir Ar** 95.33 31 P P 08 17 12.8 -1.0
EKA **Eskdalemuir Ar** 95.33 31 P P 08 17 12.8 -1.0
comp=Z,15nm,0.9s,baz=216,slow=4.1,SNR=11
TOUF **Mont Tournerai** 95.34 44 *e*P P 08 17 14.9 +0.5
MBDF **Montbardon** 95.37 43⇑*i*P P 08 17 14.8 +0.3
comp=Z,93nm,1.2s
MBDF **Montbardon** 95.37 43⇑*i*P P 08 17 14.8 +0.3
MBDF pmax pmax
comp=Z,93nm,1.2s
MBDF **Montbardon** 95.37 43⇑*i*P P 08 17 14.8 +0.3
comp=Z,93nm,1.2s
SBF **Sospel** 95.39 44⇑*i*P P 08 17 14.6 +0.1
comp=Z,208nm,1.2s
SBF **Sospel** 95.39 44⇑*i*P P 08 17 14.6 +0.1
SBF pmax pmax
comp=Z,208nm,1.2s
SBF **Sospel** 95.39 44⇑*i*P P 08 17 14.6 +0.1
comp=Z,208nm,1.2s
BNI **Bardonecchia** 95.46 43 *e*P P 08 17 15.8 +0.9
BNI pmax pmax
comp=Z,32nm,1.1s
BNI **Bardonecchia** 95.46 43 *e*P P 08 17 15.8 +0.9
comp=Z,32nm,1.1s
SAOF **Saorge** 95.53 44⇑*e*P P 08 17 13.5 -1.6
DCZ **Deep Cove** 95.61 215 *e*P P 08 17 15.5 -0.1
LPL **La Plagne** 95.71 43⇑*i*P P 08 17 16.6 +0.5
comp=Z,100nm,1.1s
LPL **La Plagne** 95.71 43⇑*i*P P 08 17 16.6 +0.5
LPL pmax pmax
comp=Z,100nm,1.1s
LPL **La Plagne** 95.71 43⇑*i*P P 08 17 16.6 +0.5
comp=Z,100nm,1.1s
LPG **La Plagne** 95.72 43⇑*i*P P 08 17 16.8 +0.6
comp=Z,132nm,1.1s
LPG **La Plagne** 95.72 43⇑*i*P P 08 17 16.8 +0.6
LPG pmax pmax
comp=Z,132nm,1.1s
LPG **La Plagne** 95.72 43⇑*i*P P 08 17 16.8 +0.6
comp=Z,132nm,1.1s
CABF **La Chapelle** 95.83 41⇑*i*P P 08 17 16.2 -0.3
comp=Z,40nm,0.9s
CABF **La Chapelle** 95.83 41⇑*i*P P 08 17 16.2 -0.3
CABF pmax pmax
comp=Z,40nm,0.9s
CABF **La Chapelle** 95.83 41⇑*i*P P 08 17 16.2 -0.3
comp=Z,40nm,0.9s
SFTF **Sexfontaines** 95.96 40⇑*i*P P 08 17 16.0 -0.9
SFTF **Sexfontaines** 95.96 40⇑*i*P P 08 17 16.0 -0.9
MEZF **Maizieres J'vi** 96.11 39 *e*P P 08 17 16.9 -0.7
MEZF **Maizieres J'vi** 96.11 39 *e*P P 08 17 16.9 -0.7

BAIF	Baives	96.38	38	eP		P	08 17 18.0	-0.7	
BAIF	Baives	96.38	38	eP		P	08 17 18.0	-0.7	
BAIF	Baives	96.38	38	eP		P	08 17 18.0	-0.7	
SENIN	Lac Senin/Sane	96.45	42	eP		P	08 17 20.1	+0.6	
THEF	They Montfort	96.53	40⇑	eP		P	08 17 19.1	-0.4	
PAGF	Fort de Pagny	96.53	40⇑	iP		P	08 17 18.9	-0.6	
	comp=Z,26nm,1.2s								
PAGF	Fort de Pagny	96.53	40⇑	iP		P	08 17 18.9	-0.6	
	comp=Z,26nm,1.2s								
DOU	Dourbes	96.62	38	P		P	08 17 19.1	-0.7	
	comp=Z,17nm,1.5s								
LOMF	Lomont	96.62	41⇑	eP		P	08 17 19.7	-0.3	
HAU	Haudompre	96.64	40⇑	iP		P	08 17 19.2	-0.8	
	comp=Z,34nm,1.0s								
HAU	Haudompre	96.64	40⇑	iP		P	08 17 19.2	-0.8	
HAU					pmax	pmax			
	comp=Z,34nm,1.0s								
HAU	Haudompre	96.64	40⇑	iP		P	08 17 19.2	-0.8	
	comp=Z,34nm,1.0s								
SNF	Seneffe	96.64	37	P		P	08 17 18.9	-1.0	
GIVF	Givet	96.75	38⇑	iP		P	08 17 19.7	-0.7	
	comp=Z,101nm,1.1s								
GIVF	Givet	96.75	38⇑	iP		P	08 17 19.7	-0.7	
GIVF					pmax	pmax			
	comp=Z,101nm,1.1s								
GIVF	Givet	96.75	38⇑	iP		P	08 17 19.7	-0.7	
	comp=Z,101nm,1.1s								
HINF	Hinteralfeld	96.85	41⇑	iP		P	08 17 20.1	-0.9	
	comp=Z,26nm,0.9s								
HINF	Hinteralfeld	96.85	41⇑	iP		P	08 17 20.1	-0.9	
HINF					pmax	pmax			
	comp=Z,26nm,0.9s								
HINF	Hinteralfeld	96.85	41⇑	iP		P	08 17 20.1	-0.9	
	comp=Z,26nm,0.9s								
DLBC	Dease Lake	96.86	332	eP		P	08 17 21.3	+0.5	
DLBC	Dease Lake	96.86	332	LR		LR	09 06 53.8		
	comp=Z,437nm,19.1s,baz=136,slow=39								
MOF	Molkenrain	97.04	41⇑	eP		P	08 17 21.4	-0.5	
BCLA	Clavier	97.17	38	P		P	08 17 21.3	-1.0	
	comp=Z,16nm,1.7s								
ECH	Echery	97.22	40	eP		P	08 17 22.2	-0.4	
ECH				e*PP		pP	08 18 13.3	+3.4	
ECH					pmax	pmax			
	comp=Z,11nm,0.9s								
ECH	Echery	97.22	40⇑	eP		P	08 17 22.3	-0.4	
ECH	Echery	97.22	40	eP		P	08 17 22.2	-0.4	
	comp=Z,11nm,0.9s								
ECH				epP		pP	08 18 13.3	+3.4	
WLF	Walferdange	97.30	39	P		P	08 17 22.6	-0.3	
	comp=Z,37nm,1.4s								
WLF	Walferdange	97.30	39	eP		Pdif	08 17 23.0	0.0	
WLF					pmax	pmax			
	comp=Z,22nm,0.8s								
WLF	Walferdange	97.30	39	ePdiff		P	08 17 22.8	-0.1	
	comp=Z,65nm,1.1s								
WLF					ePKKP	PKKPdf	08 34 32.7	+28	
WLF	Walferdange	97.30	39	eP		Pdif	08 17 23.0	0.0	
	comp=Z,22nm,0.8s								
CDF	Champ du Feu	97.38	40⇑	iP		P	08 17 22.6	-0.8	
	comp=Z,46nm,1.1s								
CDF	Champ du Feu	97.38	40⇑	iP		P	08 17 22.6	-0.8	
CDF					pmax	pmax			
	comp=Z,47nm,1.1s								
CDF	Champ du Feu	97.38	40⇑	iP		P	08 17 22.6	-0.8	
	comp=Z,46nm,1.1s								
MEM	Membach	97.66	38	P		P	08 17 23.8	-0.6	
	comp=Z,12nm,1.1s								
SUMG	Summit	97.75	8	iP		Pdif	08 17 25.1	+0.1	
SUMG					pmax	pmax			
	comp=Z,21nm,0.9s								
SUMG	Summit	97.75	8	iP		Pdif	08 17 25.1	+0.1	
	comp=Z,21nm,0.9s								
SUMG	Summit	97.75	8	eP		P	08 17 24.5	-0.4	
	comp=Z,38nm,1.1s								
TUE	Stuetta	97.77	43	eP		P	08 17 25.2	-0.2	
	comp=Z,387nm,0.6s								
LANF	Langenberg	97.95	40	eP		P	08 17 25.5	-0.4	
BFO	Black Forest	97.97	41	iP		P	08 17 25.8	-0.2	
BFO	Black Forest	97.97	41	ePdiff		P	08 17 24.6	-1.4	
	comp=Z,19nm,1.1s								
BFO	Black Forest	97.97	41	eP		P	08 17 25.5	-0.5	
	comp=Z,15nm,1.0s								
DAVOX	Davos/Dischmat	98.23	43	P		P	08 17 27.1	-0.3	
DAVOX	Davos/Dischmat	98.23	43	P		P	08 17 27.1	-0.3	
	comp=Z,31nm,0.9s,baz=234,slow=4.0,SNR=29								
FUORN	Ofenpass-Fuorn	98.41	43	eP		Pdif	08 17 28.7	+0.4	
	comp=Z,34nm,0.9s								
DAVA	Damuels	98.45	42⇑	iPdiff		Pdif	08 17 28.6	+0.2	
	comp=Z,40nm,0.9s,SNR=10								
STU	Stuttgart	98.68	41	eP		P	08 17 28.5	-0.6	
STU	Stuttgart	98.68	41	ePdiff		P	08 17 28.8	-0.3	
	comp=Z,44nm,1.0s								
STU					ePKKP	PKKPbc	08 33 57.5	-1.1	
STU	Stuttgart	98.68	41	eP		P	08 17 28.5	-0.6	
BUG	Bochum--Univer	98.75	38	ePdiff		P	08 17 28.4	-0.9	
	comp=Z,80nm,1.5s								
FETA	Feichten	98.86	43⇑	iPdiff		Pdif	08 17 30.2	0.0	
	comp=Z,47nm,1.1s,SNR=15								
FETA				⇑iPKKPdf		PKKPbc	08 33 57.6	-0.5	
	comp=Z,18nm,1.2s								
TNS	Taunus Mts	98.87	39	epPdiff		pP	08 18 19.5	+2.2	
RETA	Reute	99.08	42⇑	iPdiff		Pdif	08 17 31.1	+0.1	
	comp=Z,44nm,1.1s,SNR=9.6								
MOTA	Moosalm	99.23	42⇑	iPdiff		Pdif	08 17 31.7	-0.2	
	comp=Z,30nm,0.9s,SNR=15								
KIP	Kipapa	99.29	289⇓	iP		Pdif	08 17 33.8	+1.3	
KIP					pmax	pmax			
	comp=Z,289nm,1.7s								
IBBN	Ibbenburen	99.40	37	ePdiff		Pdif	08 17 32.2	0.0	
	comp=Z,67nm,1.1s								
IBBN					ePKKP	PKKPdf	08 34 23.0	+22	
WATA	Walderalm	99.52	43⇑	iPdiff		Pdif	08 17 33.1	0.0	
	comp=Z,31nm,0.9s,SNR=8.4								
WTTA	Wattenberg	99.53	43⇑	iPdiff		Pdif	08 17 33.3	+0.2	
	comp=Z,72nm,0.9s,SNR=14								
RES	Resolute Bay	99.61	353	P		Pdif	08 17 32.6	-0.1	
RES					PKKPbc	PKKPbc	08 33 54.3	-2.5	
RES	Resolute Bay	99.61	353	P		Pdif	08 17 32.6	-0.1	
	comp=Z,2.3nm,0.6s,baz=166,slow=4.2,SNR=4.0								
RES					PKKPbc	PKKPbc	08 33 54.3	-2.5	
	comp=Z,9.9nm,0.8s,baz=324,slow=2.6,SNR=22								
FUR	Furstenfeldbru	99.68	42	ePdiff		Pdif	08 17 33.4	-0.2	
	comp=Z,2µm,4.8s								
FUR				epPdiff		pP	08 18 23.2	+2.3	
FUR				ePKKP		PKKPbc	08 33 55.0	-0.7	
ABTA	Abfaltersbach	99.87	43⇑	iPdiff		Pdif	08 17 34.4	-0.2	
	comp=Z,22nm,1.1s,SNR=7.8								
ABTA				⇓iPKKPbc		PKKPbc	08 33 52.9	-2.3	
	comp=Z,14nm,1.4s								
UBBA	Unterbreizbach	100.03	39	ePdiff		Pdif	08 17 34.8	-0.1	
	comp=Z,19nm,1.7s								
UBBA				epPdiff		pP	08 18 25.1	+2.9	
GRFO	Grafenberg	100.27	40	eP		Pdif	08 17 36.6	+0.4	
GRFO	Grafenberg	100.27	40	ePdif		Pdif	08 17 36.6	+0.4	
GRF	Grafenberg Arr	100.27	40	ePdiff		Pdif	08 17 36.3	+0.1	
	comp=Z,57nm,1.8s								
GRF				epPdiff		pP	08 18 25.9	+2.4	
GRF				ePKKP		PKKPbc	08 33 52.9	-1.2	
RJOB	Jochberg	100.44	42	ePKKP		PKKPbc	08 33 52.7	-0.9	
KBA	Koelnbreinsper	100.52	43⇓	iPdiff		Pdif	08 17 37.3	-0.3	
	comp=Z,22nm,1.3s								
MYKA	Terra Mystica	100.53	44⇓	iPdiff		Pdif	08 17 38.1	+0.6	
	comp=Z,17nm,0.9s								
CLZ	Clausthal	100.66	38	ePdiff		Pdif	08 17 38.1	+0.2	
	comp=Z,22nm,1.5s								
CLZ				ePKKP2			08 34 17.4		
NRDL	Niedersach Rie	100.78	37	ePKKP2		PKKPdf	08 34 17.1	+19	
ROTZ	Rotzenmuhle	100.89	40	ePdiff		Pdif	08 17 38.8	-0.1	
	comp=Z,9.0nm,1.1s								
ROTZ				ePKKP		PKKPbc	08 33 51.5	-0.8	
MOX	Moxa	100.89	39	ePKKP2		PKKPdf	08 34 16.8	+19	
WET	Wettzell	101.04	41	ePdiff		Pdif	08 17 39.8	+0.1	
	comp=Z,25nm,1.4s								
WET				ePKKP		PKKPbc	08 33 51.2	-0.6	
OBKA	Obir	101.07	44⇑	iPdiff		Pdif	08 17 40.1	+0.2	
	comp=Z,21nm,1.4s								
TANN	Tannenbergstha	101.29	40	ePKKP		PKKPbc	08 33 50.1	-1.1	
TANN				ePKKP2		PKKPdf	08 34 14.0	+17	
MOA	Molln	101.40	43⇑	iPdiff		Pdif	08 17 41.3	+0.1	
	comp=Z,21nm,1.2s								
GEC2	GERESS Array S	101.43	42	ePdiff		Pdif	08 17 41.2	-0.3	
	comp=Z,80nm,2.2s								
GEC2				ePKKP		PKKPbc	08 33 50.4	-0.4	
GEC2				ePKKP2			08 34 13.4		
GERES	GERESS Array B	101.43	42	P		Pdif	08 17 40.6	-0.9	
GERES					PKKPbc	PKKPbc	08 33 50.2	-0.6	
GERES					P'P'		08 42 06.5		
GERES	GERESS Array B	101.43	42	P		Pdif	08 17 40.6	-0.9	
	comp=Z,2.9nm,0.7s,baz=226,slow=3.5,SNR=12								
GERES					PKKPbc	PKKPbc	08 33 50.2	-0.6	
	comp=Z,4.2nm,0.7s,baz=90,slow=2.0,SNR=15								
GERES					PKPPKP	P'P'df	08 42 06.5	-0.2	
	comp=Z,0.9nm,0.8s,baz=119,slow=1.2,SNR=3.7								
SOKA	Soboth	101.44	44⇓	iPdiff		Pdif	08 17 41.4	-0.2	
	comp=Z,7.9nm,1.2s								
SOKA				⇑iPKKPbc		PKKPbc	08 33 49.9	-0.7	
	comp=Z,9.0nm,0.8s								
KHC	Kasperske Hory	101.46	41	ePDIFF		Pdif	08 17 41.6	0.0	
KHC				ex		x	08 17 46.7		
KHC				ex		x	08 18 19.9		
KHC				epP		pP	08 18 30.7	+1.8	
KHC				ex		x	08 21 01.2		
KHC				ePP		PP	08 21 57.4	+3.3	
KHC				eSP		SP	08 30 37.7	-0.5	
BSEG	Bad Segeberg	101.49	36	ePKKP2		PKKPdf	08 34 12.6	+16	
CLL	Collm	101.96	39⇑	iP		Pdif	08 17 43.8	+0.2	
CLL				e			08 21 52.0		
CLL				e			08 28 05.0		
CLL				eS		Sdif	08 29 11.0	+2.1	
CLL					pmax	pmax			
	comp=Z,12nm,1.0s								
CLL	Collm	101.96	39	ePdiff		Pdif	08 17 43.5	-0.1	
	comp=Z,12nm,1.0s								
CLL	Collm	101.96	39⇑	iPdif		Pdif	08 17 43.8	+0.2	
	comp=Z,12nm,1.0s								
CLL				i			08 17 49.3		
CLL				e			08 20 43.0		
CLL				ePP		PP	08 21 52.0	-5.7	
CLL				e			08 24 30.0		
CLL				ePPPP			08 25 54.0		
CLL				eSKSac		SKSac	08 28 05.0	+0.5	
CLL				eSdif		Sdif	08 29 11.0	+2.1	
CLL				eSP		SP	08 30 42.0	-1.2	
CLL				ePPS		PPS	08 31 54.0		
CLL				e			08 34 11.0		
CLL				eSS		SS	08 36 18.0	0.0	
CLL				esSS			08 37 48.0		
CLL				esSSS			08 41 36.0		
CLL				LmV			09 02 00.0		
	comp=Z,700nm,19.2s								
ARSA	Arzberg	101.96	44⇓	iPdiff		Pdif	08 17 44.2	+0.4	
	comp=Z,18nm,1.6s								
PRA	Prague	102.33	41	PDIFF		Pdif	08 17 46.0	+0.7	
PRA				pP			08 18 37.0		
BRG	Berggiesshubel	102.34	40	PDIFF		Pdif	08 17 44.5	-0.8	
	comp=Z,5.8nm,0.9s								
BRG					PP	PP	08 21 55.5	-5.1	
	comp=Z,38nm,2.0s								
BRG				e			08 28 10.0		
BRG	Berggiesshubel	102.34	40	⇑PKKPB		PKKPbc	08 33 47.5	-0.5	
	comp=Z,17nm,1.2s								
BRG					PKKPDF	PKKPdf	08 34 09.9	+15	
	comp=Z,22nm,1.3s								
BRG					P'P'P'		09 06 38.7		
	comp=Z,7.9nm,1.3s								
BRG	Berggiesshubel	102.34	40	P		Pdif	08 17 44.5	-0.8	
BRG							08 21 55.5		
BRG				e			08 28 10.0		
BRG					pmax	pmax			
	comp=Z,6.0nm,0.9s								
BRG					pmax	pmax			
	comp=Z,38nm,2.0s								
BRG	Berggiesshubel	102.34	40	ePKKP		PKKPbc	08 33 47.6	-0.5	
BRG				ePKKP2		PKKPdf	08 34 10.1	+15	
PRU	Pruhonice	102.37	41	ePDIFF		Pdif	08 17 45.8	+0.3	
PRU				ex		x	08 17 51.6		
PRU				epP			08 18 36.6		
PRU				ex		x	08 21 06.8		
PRU				eSP		SP	08 30 46.1	-1.5	
CONA	Conrad Observa	102.42	43⇑	iPKKPbc		PKKPbc	08 33 47.4	-0.4	
	comp=Z,17nm,1.7s								
TREC	Trest	102.69	42	ePDIFF		Pdif	08 17 46.7	-0.3	
TREC				ex		x	08 17 52.9		
VRAC	Vranov	103.37	42	Pdif		Pdif	08 17 49.4	-0.6	
VRAC				PP		PKiKP	08 22 04.5	-3.5	
VRAC	Vranov	103.37	42	Pdiff		Pdif	08 17 49.4	-0.6	
	comp=Z,3.1nm,0.5s,baz=84,slow=14,SNR=3.9								
VRAC					PP	PKiKP	08 22 04.5	-3.5	
	comp=Z,2.8nm,0.5s,baz=246,slow=9.0,SNR=4.0								
UPC	Upice	103.44	41	ePDIFF		Pdif	08 17 50.6	+0.4	
INK	Inuvik	103.47	339	PKKPbc		PKKPbc	08 33 43.4	-1.9	
INK	Inuvik	103.47	339	Pdiff		Pdif	08 17 50.0	+0.1	
	baz=82,slow=3.6								
INK					PKKPbc	PKKPbc	08 33 43.4	-1.9	
	comp=Z,12nm,0.9s,baz=331,slow=1.9,SNR=22								
DPC	Dobruska-Polom	103.57	41	ePDIFF		Pdif	08 17 51.6	+0.7	
DPC				ex		x	08 17 57.3		
DPC				epP			08 18 41.5		
DPC				ex		x	08 21 12.6		
DPC				ePP		PP	08 22 10.5	+0.7	
DPC				eSP		SP	08 31 00.4	+0.1	
DAWY	Dawson	103.60	334	ePdif		Pdif	08 17 50.7	0.0	
PKSM	Moragy	103.61	45⇑	iP		PKKPbc	08 33 47.9	-0.2	
KSP	Ksiaz	103.72	40	eP		Pdif	08 17 52.7	+1.2	
KRLC	Kraliky	103.75	41	ePDIFF		Pdif	08 17 52.3	+0.6	
KRLC				ex		x	08 17 58.3		
OKC	Ostrava-Krasne	104.50	42	ePDIFF		Pdif	08 17 56.4	+1.4	
OKC				eSP		SP	08 31 09.4	-0.5	
NB2	NORSAR Subarra	104.72	29	PP		PP	08 22 14.9	-3.1	
	comp=Z,75nm,1.7s,baz=248,slow=7.4								
NB2	NORSAR Subarra	104.72	29	PP		PP	08 22 14.9	-3.1	
	baz=248,slow=7.4								
NOA	NORSAR Array B	104.72	29	PKKP		PKKPab	08 33 57.2	+0.8	
	comp=Z,9.7nm,0.9s,baz=69,slow=4.6,SNR=15								
BZS	Buzias	105.38	47⇑	iP		PKKPbc	08 33 38.2	-0.5	
HFS	Hagfors	105.53	31	PP		PP	08 22 19.9	-4.1	
HFS				PKKP		PKKPab	08 33 53.0	+0.3	
HFS	Hagfors	105.53	31	PP		PP	08 22 19.9	-4.1	
	comp=Z,8.1nm,0.8s,baz=201,slow=7.9,SNR=5.0								
HFS				PKKP		PKKPab	08 33 53.0	+0.3	
	comp=Z,17nm,0.9s,baz=104,slow=6.3,SNR=11								
VTS	Vitosha	105.55	50⇑	iP		PKKPab	08 33 56.3	+2.8	
MMB	Musomiste	105.61	51⇓	iP		PKKPab	08 33 55.0	+1.9	
DRGR		106.46	46⇓	iP		PKKPab	08 33 51.9	+2.7	
ILAR	Eielson Array	106.87	334	Pdif		Pdif	08 18 05.0	-0.3	
ILAR				PKiKP		PKiKP	08 22 15.0	+1.0	
ILAR				e			08 25 29.9		
ILAR				PKKPbc		PKKPbc	08 33 31.9	-2.9	
ILAR	Eielson Array	106.87	334	Pdiff		Pdif	08 18 05.0	-0.3	
	comp=Z,2.1nm,0.8s,baz=132,slow=2.5,SNR=26								
ILAR				PKiKP		PKiKP	08 22 15.0	+1.0	
	comp=Z,2.9nm,0.9s,baz=121,slow=3.1,SNR=6.7								
ILAR				SKiKP		SKiKP	08 25 29.9	-1.3	
	comp=Z,3.8nm,1.1s,baz=112,slow=1.1,SNR=4.4								
ILAR				PKKPbc		PKKPbc	08 33 31.9	-2.9	
	comp=Z,2.7nm,0.8s,baz=280,slow=3.1,SNR=16								
COLA	College	107.30	334	eP		Pdif	08 18 07.3	+0.3	
COLA					pmax	pmax			
	comp=Z,15nm,0.9s								
COLA	College	107.30	334	ePdif		Pdif	08 18 07.3	+0.3	
	comp=Z,15nm,0.9s								
MLR	Muntele Rosu	108.26	48⇓	iP		PKKPdf	08 33 43.7	-0.5	
MLR	Muntele Rosu	108.26	48	Pdif		Pdif	08 18 12.5	+0.5	
MLR				PKKPbc		PKKPbc	08 33 29.6	-0.3	
MLR				PKKP		PKKPdf	08 33 44.0	-0.1	
MLR	Muntele Rosu	108.26	48	Pdiff		Pdif	08 18 12.5	+0.5	
	comp=Z,0.4nm,0.7s,baz=270,slow=10,SNR=2.3								
MLR				PKKPbc		PKKPbc	08 33 29.6	-0.3	
	comp=Z,0.5nm,0.6s,baz=158,slow=14,SNR=4.2								
MLR				PKKP		PKKPdf	08 33 44.0	-0.1	
	comp=Z,1.6nm,0.6s,baz=117,slow=2.3,SNR=9.3								
BURAR	Bucovina Array	108.32	45⇓	iP		PKKPab	08 33 43.7	+2.7	
PLOR	Plostina	108.83	47⇑	iP		PKKPab	08 33 41.4	+2.7	
VRI	Vrincioaia	108.89	47⇑	iP		PKKPab	08 33 41.3	+2.9	
TESR	Tescani	108.99	47⇓	iP		PKKPab	08 33 40.0	+2.1	
TLB	Topalu	109.47	49⇑	iP		PKKPab	08 33 38.1	+2.3	
CFR	Carcaliu	109.68	48⇑	iP		PKKPab	08 33 37.2	+2.3	
EIL	Elat	111.02	66	PKKPab		PKKPab	08 33 30.9	+1.2	
EIL	Elat	111.02	66	PKKPab		PKKPab	08 33 30.9	+1.2	
	comp=Z,13nm,0.9s,baz=359,slow=4.6,SNR=9.1								
SPITS	Spitsbergen Ar	111.45	13	PKKPbc		PKKPbc	08 33 17.7	-2.7	
SPITS				PKKPab		PKKPab	08 33 27.0	+1.0	
SPITS	Spitsbergen Ar	111.45	13	PKKPbc		PKKPbc	08 33 17.7	-2.7	
	comp=Z,7.2nm,0.7s,baz=112,slow=9.1,SNR=7.4								
SPITS				PKKPab		PKKPab	08 33 27.0	+1.0	
	comp=Z,34nm,0.9s,baz=120,slow=5.0,SNR=6.2								
AK02	Malin Array Si	111.56	43	ePKPdf		PKiKP	08 22 22.4	-0.8	
AK02				eSKPdf		SKPdf	08 25 40.4	-0.3	
KIEV	Kiev	111.57	43	ePKIKP		PKiKP	08 22 22.1	-1.1	
KIEV	Kiev	111.57	43	ePKPdf		PKiKP	08 22 22.1	-1.1	
AK01	Malin Array Si	111.57	43	ePKPdf		PKiKP	08 22 22.2	-1.0	
AKASG	Malin Array Be	111.58	43	PKIKP		PKiKP	08 22 22.3	-0.9	
AKASG				e			08 25 40.1		
AKASG							08 33 27.6		
AKASG	Malin Array Be	111.58	43	PKiKP		PKiKP	08 22 22.3	-0.9	
AKASG				PP		PP	08 23 02.2	-5.9	
AKASG				e			08 25 40.1		
AKASG				PKKPbc		PKKPbc	08 33 18.1	-1.1	
AKASG				PKKPab		PKKPab	08 33 27.6	+1.3	
AKASG	Malin Array Be	111.58	43	PKiKP		PKiKP	08 22 22.3	-0.9	
	comp=Z,6.2nm,0.7s,baz=263,slow=2.7,SNR=26								
AKASG				PP		PP	08 23 02.2	-5.9	
	comp=Z,14nm,1.1s,baz=254,slow=8.2,SNR=10								
AKASG				SKiKP		SKiKP	08 25 40.1	-0.6	
	comp=Z,1.5nm,0.7s,baz=259,slow=3.1,SNR=5.6								
AKASG				PKKPbc		PKKPbc	08 33 18.1	-1.1	
	comp=Z,7.5nm,0.6s,baz=65,slow=4.0,SNR=24								
AKASG				PKKPab		PKKPab	08 33 27.6	+1.3	
	comp=Z,16nm,0.9s,baz=65,slow=4.0,SNR=22								
AKBB	Malin Array Si	111.58	43	ePKIKP		PKiKP	08 22 21.2	-2.0	
AKBB	Malin Array Si	111.58	43	ePKPdf		PKiKP	08 22 21.2	-2.0	
MMAI	Mount Meron Ar	112.25	63	PKKPbc		PKKPbc	08 33 16.9	+0.4	
MMAI				PKKPab		PKKPab	08 33 26.9	+2.6	
MMAI	Mount Meron Ar	112.25	63	PKKPbc		PKKPbc	08 33 16.9	+0.4	
	comp=Z,5.3nm,0.6s,baz=70,slow=5.4,SNR=4.7								
MMAI				PKKPab		PKKPab	08 33 26.9	+2.6	
	comp=Z,14nm,0.9s,baz=81,slow=8.9,SNR=6.7								
BR131	Keskin Array S	112.41	55	ePKPdf		PKiKP	08 22 25.5	+0.1	
BR131				eSKPdf		SKiKP	08 25 44.0	+1.1	
BRTR	Keskin Array B	112.41	55	PKiKP		PKiKP	08 22 25.3	-0.1	
BRTR				PP		PP	08 23 10.0	-4.6	
BRTR				PKKPbc		PKKPbc	08 33 15.8	-0.5	
BRTR				PKKPab		PKKPab	08 33 24.6	+1.3	
BRTR	Keskin Array B	112.41	55	PKiKP		PKiKP	08 22 25.3	-0.1	
	comp=Z,4.5nm,0.8s,baz=176,slow=2.6,SNR=14								
BRTR				PP		PP	08 23 10.0	-4.6	
	comp=Z,5.7nm,0.9s,baz=234,slow=7.5,SNR=5.6								
BRTR				PKKPbc		PKKPbc	08 33 15.8	-0.5	
	comp=Z,0.8nm,0.5s,baz=129,slow=3.7,SNR=5.5								
BRTR				PKKPab		PKKPab	08 33 24.6	+1.3	
	comp=Z,13nm,0.7s,baz=108,slow=4.3,SNR=39								
ARCES	ARCESS Array B	112.61	22	PP		PP	08 23 13.7	-1.2	
ARCES				PKKPbc		PKKPbc	08 33 14.3	-2.0	
ARCES				PKKPab		PKKPab	08 33 22.5	+1.4	
ARCES	ARCESS Array B	112.61	22	PP		PP	08 23 13.7	-1.2	
	comp=Z,12nm,0.9s,baz=262,slow=3.7,SNR=5.5								
ARCES				PKKPbc		PKKPbc	08 33 14.3	-2.0	
	comp=Z,6.7nm,0.6s,baz=83,slow=4.2,SNR=18								
ARCES				PKKPab		PKKPab	08 33 22.5	+1.4	
	comp=Z,17nm,0.9s,baz=79,slow=6.3,SNR=10								
ASF	Jabal al Asfar	113.27	64	PKKPab		PKKPab	08 33 22.0	+2.2	
ASF	Jabal al Asfar	113.27	64	PKKPab		PKKPab	08 33 22.0	+2.2	
	comp=Z,8.2nm,0.8s,baz=98,slow=0.9,SNR=8.6								
OBN	Obninsk	116.55	39⇓	iPKIKP		PKPdf	08 22 32.5	-0.1	
OBN				i			08 23 39.1		
OBN				i			08 23 46.4		
OBN				ePS		PKKPab	08 33 09.5	+5.3	
OBN				eSS		SS	08 39 35.1	+1.9	
OBN				pmax		pmax			
	comp=Z,63nm,1.4s								
MOS	Moscow	117.18	38	iPKIKP		PKPdf	08 22 31.2	-2.6	
MOS				e			08 23 23.2		
MOS				e			08 23 42.7		
MOS				e			08 29 06.9		
MOS				pmax		pmax			
	comp=

ASAR SKKPbc **SKKPbc** 08 35 48.1 +0.8
comp=Z,3.5nm,0.8s,baz=328,slow=3.2,SNR=4.6
SVE Sverdlovsk 129.67 35 *e*PKIKP **PKPdf** 08 22 58.9 +1.2
SVE pmax pmax
comp=Z,40nm,1.6s
AKTO Aktyubinsk 129.83 43 PKIKP **PKPdf** 08 22 59.1 +0.9
AKTO 08 25 11.6
AKTO Aktyubinsk 129.83 43 PKP **PKPdf** 08 22 59.1 +0.9
AKTO PP **PP** 08 25 11.6 -0.7
AKTO SKPbc SKPbc 08 26 03.8 +1.0
AKTO Aktyubinsk 129.83 43 PKP **PKPdf** 08 22 59.1 +0.9
comp=Z,20nm,0.8s,baz=178,slow=0.5,SNR=53
AKTO PP **PP** 08 25 11.6 -0.7
comp=Z,8.2nm,1.0s,baz=285,slow=2.9,SNR=6.2
AKTO SKPbc SKPbc 08 26 03.8 +1.0
comp=Z,167nm,1.1s,baz=288,slow=3.4,SNR=64
AB31 Akbulak array 131.28 44 *i* PKIKP **PKPdf** 08 23 01.2 +0.2
AB31 pmax pmax
comp=Z,77nm,1.0s
ABKAR Akbulak array 131.28 44 *e*PKPdf **PKPdf** 08 23 00.9 -0.1
ABKAR *e*SKPbc **SKPab** 08 26 09.1 +0.2
WRA Warramunga Arr 132.13 207 PKPpre PKPpre 08 22 44.3
WRA PKP **PKPdf** 08 23 03.5 -0.1
WRA PP **PP** 08 25 23.3 -3.0
WRA SKPbc **SKPbc** 08 26 11.6 -0.7
WRA SKKPbc **SKKPbc** 08 35 38.0 +2.0
WRA Warramunga Arr 132.13 207 PKhKP PKPpre 08 22 44.3
comp=Z,8.9nm,0.8s,baz=133,slow=2.7,SNR=8.1
WRA PKP **PKPdf** 08 23 03.5 -0.1
comp=Z,41nm,0.6s,baz=167,slow=1.6,SNR=53
WRA PP **PP** 08 25 23.3 -3.0
comp=Z,19nm,1.1s,baz=151,slow=5.3,SNR=13
WRA SKPbc **SKPbc** 08 26 11.6 -0.7
comp=Z,84nm,0.9s,baz=153,slow=3.9,SNR=31
WRA SKKPbc **SKKPbc** 08 35 38.0 +2.0
comp=Z,4.4nm,1.0s,baz=336,slow=4.3,SNR=5.2
WRAB Tennant Creek 132.13 207 *c i*PKIKP **PKPdf** 08 23 02.6 -1.0
WRAB pmax pmax
comp=Z,471nm,1.7s
COEN Coen 132.58 221 *e*PKPdf **PKPdf** 08 23 05.4 +0.8
SEY Seymchan 132.68 337 PKHKP PKPpre 08 22 47.2
SEY 08 23 04.4
SEY Seymchan 132.68 337 PKPpre PKPpre 08 22 47.2
SEY PKP **PKiKP** 08 23 04.3 -0.1
SEY SKPbc **SKPbc** 08 26 13.4 +0.7
SEY SKP 08 26 22.1
SEY SKKPbc **SKKPbc** 08 35 37.0 -1.2
SEY Seymchan 132.68 337 PKHKP PKPpre 08 22 47.2
comp=Z,3.4nm,0.7s,baz=243,slow=6.8,SNR=5.2
SEY PKP **PKiKP** 08 23 04.3 -0.1
comp=Z,45nm,0.7s,baz=110,slow=1.8,SNR=46
SEY SKPbc **SKPbc** 08 26 13.4 +0.7
comp=Z,46nm,1.0s,baz=43,slow=1.4,SNR=18
SEY SKP 08 26 22.1
comp=Z,52nm,1.0s,baz=55,slow=4.0,SNR=6.9
SEY SKKPbc **SKKPbc** 08 35 37.0 -1.2
comp=Z,6.9nm,1.1s,baz=204,slow=1.8,SNR=4.9
PET Petropavlovsk 134.81 323 *i* PKIKP **PKPdf** 08 23 07.7 +0.2
PET *e* 08 25 50.4
PET *e*SPP SPP 08 37 32.7
PET pmax pmax
comp=Z,40nm,0.6s
PET MLR MLR
comp=Z,200nm,20.0s
PEA0B Petropavlovsk- 135.30 323 *e*PKPdf **PKPdf** 08 23 09.3 +0.8
PETK Petropavlovsk- 135.30 323 PKPpre PKPpre 08 23 01.0
PETK PKP **PKPdf** 08 23 09.1 +0.6
PETK SKPbc **SKPbc** 08 26 21.9 +0.3
PETK Petropavlovsk- 135.30 323 PKhKP PKPpre 08 23 01.0
comp=Z,8.9nm,0.7s,baz=96,slow=0.6,SNR=8.5
PETK PKP **PKPdf** 08 23 09.1 +0.6
comp=Z,17nm,0.6s,baz=89,slow=2.5,SNR=16
PETK SKPbc **SKPbc** 08 26 21.9 +0.3
comp=Z,116nm,0.9s,baz=104,slow=6.3,SNR=43
BRVK Borovoye 136.24 36 *d i*PKIKP **PKPdf** 08 23 10.6 +0.4
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK Borovoye 136.24 36 *e*PKPdf **PKPdf** 08 23 10.8 +0.6
BVA0 Borovoye Array 136.31 36 PKIKP **PKPdf** 08 23 11.0 +0.6
BVA0 pmax pmax
comp=Z,18nm,0.8s
BVAR Borovoye Array 136.31 36 PKPpre PKPpre 08 23 02.9
BVAR PKP **PKPdf** 08 23 10.9 +0.5
BVAR PP **PP** 08 25 54.7 +1.4
BVAR SKPbc **SKPbc** 08 26 26.0 +1.3
BVAR SKKPbc **SKKPbc** 08 35 29.2 +5.0
BVAR Borovoye Array 136.31 36 PKhKP PKPpre 08 23 02.9
comp=Z,1.0nm,0.6s,baz=318,slow=2.0,SNR=5.7
BVAR PKP **PKPdf** 08 23 10.9 +0.5
comp=Z,13nm,0.6s,baz=288,slow=2.5,SNR=37
BVAR PP **PP** 08 25 54.7 +1.4
comp=Z,9.1nm,1.1s,baz=284,slow=6.0,SNR=3.6
BVAR SKPbc **SKPbc** 08 26 26.0 +1.3
comp=Z,29nm,0.9s,baz=291,slow=4.1,SNR=15
BVAR SKKPbc **SKKPbc** 08 35 29.2 +5.0
comp=Z,3.6nm,0.9s,baz=104,slow=3.7,SNR=3.2
SKR Severo-Kuril's 137.17 320 *e*PKIKP **PKPdf** 08 23 09.0 -3.0
SKR pmax pmax
comp=Z,180nm,1.0s
KK31 Karatay Array 139.87 50 *i* PKIKP **PKPdf** 08 23 16.8 -0.5
KK31 pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 139.87 50 *e*PKIKP **PKPdf** 08 23 17.5 +0.2
KKAR Karatay Array 139.87 50 *e*PKPdf **PKPdf** 08 23 17.5 +0.2
YAK Yakutsk 139.88 348 *i* PKHKP PKPpre 08 23 07.3
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,17nm,1.4s
KBL Kabul 140.17 64 *e*PKIKP **PKPdf** 08 23 15.8 -2.6
KBL Kabul 140.17 64 *e*PKPdf **PKPdf** 08 23 15.8 -2.6
BHJ Bhuj 140.19 81 *e*P **PKPdf** 08 23 17.1 -1.3
NVS Novosibirsk 141.60 28 *e*PKHKP PKPpre 08 23 13.7
NVS pmax pmax
comp=Z,89nm,1.5s
NVS pmax pmax
comp=E,34nm,1.4s
KURK Kurchatov 141.90 36 PKPpre PKPpre 08 23 16.2
KURK PP **PP** 08 26 25.9 -1.7
KURK SKPbc **SKPbc** 08 26 38.5 -1.7
KURK SKKPbc **SKKPab** 08 34 58.7 -2.7
KURBB Kurchatov Arra 141.90 36 PKhKP PKPpre 08 23 16.2
comp=E,7.1nm,0.6s,baz=301,slow=3.3,SNR=57
KURBB PP **PP** 08 26 25.9 -1.7
comp=E,7.4nm,1.1s,baz=295,slow=8.1,SNR=5.7
KURBB SKPbc **SKPbc** 08 26 38.5 -1.7
comp=E,30nm,0.9s,baz=304,slow=3.2,SNR=10
KURBB SKKPbc **SKKPab** 08 34 58.7 -2.6
comp=E,3.8nm,1.1s,baz=126,slow=4.9,SNR=4.7
TRD Trivandrum 142.29 107 *eP* **PKPdf** 08 23 20.8 -1.6
TRD ⇑ *ex* x 08 24 01.9
EKS2 Erkin-Say 142.30 50 *e*PKIKP PKPpre 08 23 17.6
EKS2 Erkin-Say 142.30 50 P PKPpre 08 23 17.9
SNR=13
EKS2 Erkin-Say 142.30 50 *e*PKPdf PKPpre 08 23 17.6
EKS2 *e*SKPbc **SKiKP** 08 26 43.5 +0.5
AML Almayashu 142.40 51 P PKPpre 08 23 18.6
SNR=11
USP Ospenovka 142.61 49 P PKPpre 08 23 18.8
SNR=21
JAY Jayapura 142.73 230 SKPbc **SKiKP** 08 26 44.6 -0.2
JAY Jayapura 142.73 230 SKPbc **SKiKP** 08 26 44.6 -0.2
comp=E,21nm,1.0s,baz=288,slow=4.7,SNR=5.2
AAK Ala-Archa 142.81 50 *i* PKIKP **PKPdf** 08 23 24.1 +1.3
AAK Ala-Archa 142.81 50 P PKPpre 08 23 20.2
SNR=23
AAK Ala-Archa 142.81 50 PKPpre PKPpre 08 23 20.2
AAK SKPbc **SKiKP** 08 26 44.6 +0.4
AAK Ala-Archa 142.81 50 PKhKP PKPpre 08 23 20.2
comp=E,18nm,0.7s,baz=232,slow=1.5,SNR=52
AAK SKPbc **SKiKP** 08 26 44.6 +0.4
comp=E,38nm,0.8s,baz=357,slow=1.1,SNR=9.9
FRU Bishkek 142.83 49 *e*PKIKP **PKPdf** 08 23 20.0 -2.6
FRU *i* 08 26 32.0
FRU pmax pmax
comp=Z,120nm,2.0s
CHMS Chumysh 142.87 49 P **PKPdf** 08 23 20.1 -2.6
SNR=11
ZAA0 Zalesovo Array 142.89 28 *e*PKPdf PKPpre 08 23 18.7
ZAA0 *e*SKPdf **SKPdf** 08 26 40.1 +1.2
ZAA0 *e*SKPbc **SKiKP** 08 26 43.6 -0.1
ZALV Zalesovo Beam 142.89 28 PKPpre PKPpre 08 23 18.9
ZALV SKPbc **SKPbc** 08 26 42.9 +0.3
ZALV SKKPbc **SKKPab** 08 34 54.1 -2.7
ZALV Zalesovo Beam 142.89 28 PKhKP PKPpre 08 23 18.9
comp=Z,49nm,0.8s,baz=304,slow=4.4,SNR=129
ZALV SKPbc **SKPbc** 08 26 42.9 +0.3
comp=Z,121nm,0.9s,baz=298,slow=3.2,SNR=19
ZALV SKKPbc **SKKPab** 08 34 54.1 -2.7
comp=Z,9.7nm,1.0s,baz=117,slow=0.6,SNR=7.4
UCH Uchtor 142.95 50 P **PKPdf** 08 23 20.9 -2.5
SNR=24
POO Poona 143.06 90 *e*P PKPbc 08 23 21.6 +0.5
KBK Karagaybulak 143.12 49 P PKPbc 08 23 21.1 +0.3
SNR=38
TKM2 Tokmak 2 143.48 49 *e*PKIKP PKPbc 08 23 21.7 -0.1
TKM2 *e* 08 26 46.1
TKM2 Tokmak 2 143.48 49 P PKPbc 08 23 21.9 +0.1
SNR=54
TKM2 Tokmak 2 143.48 49 *e*PKPdf PKPbc 08 23 21.7 -0.2
TKM2 *e*SKPbc **SKiKP** 08 26 46.1 +0.5
KZA Kyzart 143.52 50 P PKPbc 08 23 23.0 +0.8
SNR=43
ULHL Ulahol 144.16 50 P **PKPdf** 08 23 25.0 -0.2
SNR=8.3
KSH Kashi 144.80 54 PKP PKPbc 08 23 25.5 -0.3
KSH *e*SKKS 08 33 19.0
KSH AMB AMB
comp=Z,160nm,4.0s
KSH LR LR
comp=Z,240nm,6.3s
KSH LR LR
comp=Z,250nm,5.4s
KSH LR LR
comp=Z,340nm,5.1s
PALK Pallekele 144.92 112 *e*PKPbc **PKPdf** 08 23 27.2 +0.1
PALK *e*SKPbc **SKiKP** 08 26 49.6 +0.3
BATI Baumata 144.95 198 PKPbc **PKPdf** 08 23 27.6 +0.5
BATI Baumata 144.95 198 PKPbc **PKPdf** 08 23 27.6 +0.5
baz=144,slow=2.2
SOEI Soe 145.20 199 *e*PKPbc **PKPab** 08 23 28.1 +0.3
XMIS Christmas Isla 145.44 167 *e*PKPdf **PKPdf** 08 23 28.0 +0.1
CLNS Chul'man 145.62 349 *e*PKP2 **PKPbc** 08 23 27.8 +0.2
CLNS pmax pmax
comp=Z,67nm,0.9s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.1s
MK31 Makanchi Array 146.05 39 *i* PKP2 **PKPdf** 08 23 28.1 0.0
MK31 pmax pmax
comp=Z,141nm,0.8s
MK31 Makanchi Array 146.05 39 *e*PKPbc **PKPdf** 08 23 28.0 0.0
MK31 *e*SKPbc **SKiKP** 08 26 50.6 0.0
MKAR Makanchi Array 146.05 39 PKP2 **PKPdf** 08 23 28.3 +0.2
MKAR 08 26 50.6
MKAR Makanchi Array 146.05 39 PKPbc **PKPdf** 08 23 28.2 +0.2
MKAR SKPbc **SKiKP** 08 26 50.6 +0.1
MKAR SKKPbc **SKKPab** 08 34 43.1 +0.2
MKAR Makanchi Array 146.05 39 PKPbc **PKPdf** 08 23 28.2 +0.2
comp=Z,115nm,0.7s,baz=321,slow=2.0,SNR=314
MKAR SKPbc **SKiKP** 08 26 50.6 +0.1
comp=Z,41nm,0.9s,baz=336,slow=2.7,SNR=9.2
MKAR SKKPbc **SKKPab** 08 34 43.1 +0.2
comp=Z,13nm,1.2s,baz=114,slow=4.5,SNR=5.9
DLH Dalhousie 146.10 66 *eP* **PKPdf** 08 23 29.0 +0.2
PONG Pong 146.14 67 *eP* **PKPdf** 08 23 27.2 -1.4
YUK Yuzh-Kuril'sk 146.29 315 *d*PKHKP PKPpre 08 23 22.9
YUK *i* 08 30 14.0
YUK *i* SS SS 08 45 28.4 -6.6
YUK MLR MLR
comp=Z,631nm,19.0s
DHRM DHARAMSHALA 146.41 67 *eP* **PKPdf** 08 23 28.4 -1.0
BHK Bhakra 146.58 68 *eP* **PKPdf** 08 23 28.6 -0.8
YSS Yuzh-Sakhalins 146.69 322 ⇓ PKP2 **PKPdf** 08 23 29.6 +0.6
YSS *e* 08 26 51.7
YSS pmax pmax
comp=Z,70nm,0.8s
YSS MLR MLR
comp=Z,500nm,21.0s
YSS Yuzh-Sakhalins 146.69 322 *e*PKPbc **PKPdf** 08 23 29.7 +0.7
MMRI Maumere 146.84 197 *e*PKPdf **PKPdf** 08 23 29.9 -0.4
MMRI *e*PKPbc **PKPbc** 08 23 32.3 -0.1
SDNR Sundarnagar 147.05 68 *eP* **PKPdf** 08 23 30.6 +0.4
HYB Hyderabad 147.08 94 *i* PKP **PKPdf** 08 23 31.0 +0.4
HYB *ep*PKP **pPKPdf** 08 24 24.0 +3.9
HYB *e*PP PP 08 26 53.0 -6.8
HYB *e*SKKS 08 38 28.0
SMLA Simla 147.25 69 *eP* **PKPdf** 08 23 29.6 -0.8
BHPL Bhopal 147.25 83 *eP* **PKPdf** 08 23 31.0 +0.2
FAKI Fak Fak 147.81 218 *e*PKPdf **PKPdf** 08 23 33.1 +1.1
FAKI *e*PKPbc **PKPbc** 08 23 35.6 +0.5
FAKI *e*PKPab **PKPab** 08 23 39.0 +1.0
FAKI *e*SKPdf **SKPdf** 08 26 51.3 +3.3
DDI Dehra Dun 148.07 70 *eP* **PKPdf** 08 23 30.9 -1.1
JAGI Jajag, Banyuwa 148.21 182 *e*PKPdf **PKPdf** 08 23 32.1 -0.6
JAGI *e*PKPbc **PKPbc** 08 23 35.8 -0.3
JAGI *e*PKPab **PKPab** 08 23 40.2 +0.7
ASAJ Asahikawa 148.31 318 *e*PKPdf **PKPdf** 08 23 33.0 +1.1
ASAJ *e*PKPbc **PKPbc** 08 23 35.9 +0.4
ASAJ PKPbc **PKPbc** 08 23 36.0 +0.6
ASAJ *e*PKPab **PKPab** 08 23 40.4 +1.3
ASAJ *e*SKPbc **SKPbc** 08 26 54.4 -0.8
ASAJ Asahikawa 148.31 318 PKPbc **PKPbc** 08 23 36.0 +0.6
comp=Z,187nm,1.0s,baz=277,slow=1.9,SNR=14
GUMO Guam 148.42 257 *e*PKPbc **PKPbc** 08 23 36.5 0.0
CISI Cisompet, Garu 148.69 170 *e*PKPdf **PKPdf** 08 23 33.7 +0.2
CISI *e*PKPbc **PKPbc** 08 23 37.6 +0.2
CISI *e*PKPab **PKPab** 08 23 41.2 -0.3
ERM Erimo 148.97 314 *c i*PKP2 **PKPbc** 08 23 37.8 +0.6
ERM pmax pmax
comp=Z,446nm,1.7s
ERM Erimo 148.97 314 *e*PKPbc **PKPbc** 08 23 38.7 +1.5
ERM *e*PKPab **PKPab** 08 23 43.5 +1.6
SMRI Semarang 149.52 175 *e*PKPdf **PKPdf** 08 23 35.8 +1.0
SMRI *e*PKPbc **PKiKP** 08 23 40.3 -0.1
SMRI *e*PKPab **PKPab** 08 23 45.0 +0.3
HABR Khabarovsk 149.64 331 *e*PKHKP **PKPdf** 08 23 32.6 -1.2
HABR *e* 08 23 43.3
HABR *e* 08 27 12.7
HABR *e* 08 30 23.3
HABR *e*PPP PPP 08 30 35.1
HABR *e*SS SS 08 46 13.7 +2.1
HABR *e*SSS SSS 08 51 55.1
HABR pmax pmax
comp=N,31nm,1.3s
HABR pmax pmax
comp=Z,226nm,1.3s
HABR pmax pmax
comp=E,48nm,1.6s
HABR MLR MLR
comp=Z,298nm,23.0s
LGTI Lohaghat 150.02 71 *ex* **PKPab** 08 23 44.4 -2.2
MOY Mondy 150.36 15 *e*PKIKP **PKPdf** 08 23 37.0 +2.0
MOY pmax pmax
comp=Z,259nm,1.7s
KLR Kul'dur 150.44 335 *e*PKIKP **PKPdf** 08 23 31.4 -3.7
KLR *e* 08 23 37.0
KLR pmax pmax
comp=Z,74nm,1.6s
IRK Irkutsk 150.51 11 *e*PKIKP **PKPdf** 08 23 34.0 -1.1
IRK *e* 08 24 22.5
IRK pmax pmax
comp=Z,250nm,1.9s
MNAI Manna 150.57 159 *e*PKPbc **PKPbc** 08 23 42.2 +0.3
WMQ Urumqi 150.88 40 PKPbc **PKPdf** 08 23 37.0 +1.0
WMQ pPKP pPKP 08 24 04.0
WMQ sPKP 08 24 14.5
WMQ PKS **PKSdf** 08 27 10.5 -0.2
WMQ PP **PP** 08 27 23.3 +2.7
WMQ SKS SKSdf 08 30 33.3 +7.5
WMQ Urumqi 150.88 40 PKPbc **PKPdf** 08 23 35.3 -0.7
WMQ PKS **PKSdf** 08 27 08.5 -2.2
WMQ PP **PP** 08 27 22.3 +1.7
WMQ AMB AMB
comp=Z,64nm,10.4s
WMQ LR LR
comp=Z,300nm,24.2s
WMQ LR LR
comp=Z,290nm,23.5s
WMQ LR LR
comp=Z,270nm,24.6s
TLY Talaya 150.93 12 *e*PKIKP **PKPdf** 08 23 37.6 +1.8
TLY *e* 08 24 42.8
TLY pmax pmax
comp=Z,119nm,1.0s
KAPI Kappang 150.93 194 *e*PKPdf **PKPdf** 08 23 37.1 +0.2
KAPI *e*PKPbc **PKiKP** 08 23 43.2 -0.1
KAPI *e*PKPab **PKPab** 08 23 51.0 +0.4
CIT Chita 151.53 359 *e*PKIKP **PKPdf** 08 23 37.1 +0.4
CIT *e* 08 23 48.7
CIT pmax pmax
comp=Z,199nm,1.5s
VIS Vishakhapatnam 151.53 96 *eP* **PKPdf** 08 23 36.6 -1.1
VIS AMS AMS 08 52 40.1
comp=Z,855nm,10.5s
ZAK Zakamensk 152.09 14 *e*PKIKP **PKPdf** 08 23 38.8 +1.1
ZAK *e* 08 27 26.6
ZAK pmax pmax
comp=Z,36nm,1.1s
KOLN Koldanda 153.05 75 *eP* **PKPdf** 08 23 40.1 +0.1
DANN Dangsing 153.16 73 *eP* **PKPdf** 08 23 40.3 +0.1
GSI Gunungsitoli 153.25 143 *e*PKPdf **PKPdf** 08 23 41.2 +0.8
GSI *e*PKPbc **PKiKP** 08 23 48.5 +0.3
GSI *e*PKPab **PKPab** 08 24 02.2 +1.8
TNTI Ternate 153.53 213 *e*PKPbc **PKPbc** 08 23 49.1 +0.5
TNTI *e*PKPab **PKPab** 08 24 01.9 +0.3
HIA Hailar 153.77 350 *e*PKPdf **PKPdf** 08 23 40.2 +0.1
HIA *e*PKPbc **PKPbc** 08 23 47.8 -0.3
HIA *e*PKPab **PKPab** 08 24 02.0 +0.3
LUWI Luwuk 153.87 202 *e*PKPdf **PKPdf** 08 23 42.3 +1.1
LUWI *e*PKPbc **PKiKP** 08 23 50.2 +0.8
LUWI *e*PKPab **PKPab** 08 24 04.2 +1.2
GKN Gorkha 153.96 74 *eP* **PKPdf** 08 23 41.2 0.0
BKNI Bangkinang 154.13 151 *e*PKPbc **PKPbc** 08 23 49.2 -0.7
BKNI *e*PKPab **PKPab** 08 24 04.5 +0.4
USRK Ussuriysk Arra 154.22 328 PKP **PKPdf** 08 23 41.4 +0.6
comp=Z,16nm,0.9s,baz=243,slow=2.1,SNR=28
USRK PKPbc **PKiKP** 08 23 49.4 +0.2
comp=Z,26nm,0.7s,baz=12,slow=1.1,SNR=38
DMN Daman 154.39 75 *eP* **PKPdf** 08 23 42.0 +0.1
KKN Kakani 154.54 74 *eP* **PKPdf** 08 23 42.3 +0.2
PKIN Phulchoki 154.65 75 *eP* **PKPdf** 08 23 42.3 0.0
PKI Pulchoki 154.66 75 *eP* **PKPdf** 08 23 42.1 -0.3
MJAR Matsushiro Arr 154.80 307 PKP **PKPdf** 08 23 42.1 +0.2
MJAR PKPbc **PKiKP** 08 23 50.7 0.0
MJAR PKPab **PKPab** 08 24 06.9 +0.3
MJAR Matsushiro Arr 154.80 307 PKP **PKPdf** 08 23 42.1 +0.2
comp=Z,8.6nm,0.9s,baz=243,slow=2.1,SNR=12
MJAR PKPbc **PKiKP** 08 23 50.7 0.0
comp=Z,25nm,0.7s,baz=129,slow=1.1,SNR=15
MJAR PKPab **PKPab** 08 24 06.9 +0.3
comp=Z,32nm,0.9s,baz=63,slow=1.6,SNR=6.9
MAJO Matsushiro 154.80 307 *e*PKIKP **PKPdf** 08 23 42.2 +0.3
MAJO *e* 08 24 07.0
MAJO Matsushiro 154.80 307 *e*PKPdf **PKPdf** 08 23 42.2 +0.3
MAJO *e*PKPbc **PKiKP** 08 23 50.8 +0.1
MAJO *e*PKPab **PKPab** 08 24 07.0 +0.4
MAT Matsushiro 154.80 307 PKP **PKPdf** 08 23 42.1 +0.2
MDJ Mudanjiang 155.01 331 PKPbc **PKPdf** 08 23 42.5 +0.6
MDJ PP **PP** 08 27 43.8 +0.4
MDJ AMB AMB
comp=Z,230nm,4.2s
MDJ LR LR
comp=Z,180nm,32.5s
MDJ LR LR
comp=Z,220nm,51.7s
MDJ LR LR
comp=Z,230nm,30.0s
MDJ Mudanjiang 155.01 331 *e*PKPdf **PKPdf** 08 23 42.1 +0.2
MDJ *e*PKPbc PKPbc 08 23 51.5
MDJ *e*SKPdf **SKPdf** 08 26 57.4 +0.5
BOK Bokaro 155.03 84 *eP* **PKPdf** 08 23 40.8 -1.8
GUN Gumba 155.06 74 *eP* **PKPdf** 08 23 42.7 -0.3
SONM Songino Array 155.13 11 PKP **PKPdf** 08 23 43.0 +0.9
SONM PKPab **PKPab** 08 24 08.3 +0.7
SONM Songino Array 155.13 11 PKP **PKPdf** 08 23 43.0 +0.9
comp=Z,17nm,0.8s,baz=303,slow=1.0,SNR=129
SONM PKPab **PKPab** 08 24 08.3 +0.7
comp=Z,36nm,0.7s,baz=325,slow=4.0,SNR=18
ULN Ulaanbaatar 155.21 10 *e*PKPdf **PKPdf** 08 23 43.2 +0.9
ULN *e*PKPab **PKPab** 08 24 09.1 +1.0
PSI Prapat 155.24 144 PKP **PKPdf** 08 23 43.1 -0.2
PSI PKPab **PKPab** 08 24 09.6 +0.5
PSI Prapat 155.24 144 PKP **PKPdf** 08 23 43.1 -0.2
comp=Z,18nm,0.8s,baz=202,slow=5.5,SNR=17
PSI PKPab **PKPab** 08 24 09.6 +0.5
comp=Z,72nm,0.8s,baz=224,slow=2.5,SNR=21
JIRN Jiri 155.35 75 *eP* **PKPdf** 08 23 43.2 -0.2
RAMN Ramite 155.75 76 *eP* **PKPdf** 08 23 43.9 +0.1
ODAN Odare 156.46 76 *eP* **PKPdf** 08 23 44.8 +0.1
KGM Kluang 156.61 155 ⇓ P **PKPdf** 08 23 46.0 +1.0
TAPN Taplejung 156.72 75 *eP* **PKPdf** 08 23 44.9 -0.2
CN2 Changchun 157.37 336 *e*PKP **PKPdf** 08 23 45.0 0.0
CN2 PKPab **PKPab** 08 24 18.8 +1.6
CN2 PP **PP** 08 27 58.3 +2.0
IPM Ipoh 157.76 146 *e*PKPdf **PKPdf** 08 23 46.7 +0.2
KSM Kuching 157.93 172 *e*PKPdf **PKPdf** 08 23 47.2 +0.5
KSM *e*PKPab **PKPab** 08 24 21.2 +0.9
KULM Kulim 158.25 144 *e*PKPdf **PKPdf** 08 23 47.4 +0.4
KULM *e*PKPdif x 08 23 58.8
KULM *e*PKPab **PKPab** 08 24 21.8 -0.1
KULM *e*PP **PP** 08 28 03.4 +2.0
DGPR DIGLIPUR 158.26 115 *eP* **PKPdf** 08 23 45.8 -1.1
DGPR AMS AMS 08 54 26.6
comp=Z,867nm,16.4s
LSA Lhasa 159.40 68 PKP **PKPdf** 08 23 49.5 +1.0
LSA Lhasa 159.40 68 *e*PKIKP **PKPdf** 08 23 49.6 +1.0
LSA *e* 08 24 27.1
LSA Lhasa 159.40 68 *e*PKPdf **PKPdf** 08 23 49.5 +1.0
LSA *e*PKPab **PKPab** 08 24 27.1 -0.2
GTA Gaotai 160.52 32 ⇓ PKP **PKPdf** 08 23 50.0 +1.0
GTA pPKP **PKPab** 08 24 31.8 +0.5
GTA sPKP 08 24 49.3
GTA PP **PP** 08 28 16.8 +3.0
GTA SKS **SKSdf** 08 30 37.0 +0.6
GTA SKKS **SKKSac** 08 34 44.0 -0.3
GTA SS **SS** 08 48 12.0 +2.4
GTA AMB AMB
comp=Z,210nm,5.9s
GTA LR LR
comp=Z,280nm,21.4s
GTA LR LR
comp=Z,310nm,21.8s
GTA LR LR
comp=Z,550nm,23.8s
SHL Shillong 160.54 80 *eP* **PKPdf** 08 23 49.0 -0.5
SHL *ex* x 08 28 15.0
SHL AMS AMS 08 50 55.1
comp=Z,824nm,15.3s
KSRS Korea Array 161.18 321 PKP **PKPdf** 08 23 50.5 +0.9
comp=Z,28nm,0.9s,baz=75,slow=1.0,SNR=61
KSRS PKPab **PKPab** 08 24 35.1 +1.1
comp=Z,30nm,1.1s,baz=39,slow=3.6,SNR=15
KSRS PP **PP** 08 28 20.9 +3.4
comp=Z,13nm,1.2s,baz=32,slow=5.2,SNR=5.8
KSAR Wonju Array Be 161.21 321 PKP **PKPdf** 08 23 50.5 +0.8
KSAR PKPab **PKPab** 08 24 35.1 +0.9
KSAR PP **PP** 08 28 20.9 +3.3
HHC Hu-ho-hao-te 162.65 4 *e*PKP **PKPdf** 08 23 52.3 +1.1
HHC PP **PP** 08 28 22.5 -2.0
HHC SKKS 08 34 56.5
HHC LR LR
comp=Z,670nm,19.9s
HHC LR LR
comp=Z,650nm,21.1s
HHC LR LR
comp=Z,650nm,22.4s
DL2 Dalian 163.04 337 PKP **PKPdf** 08 23 51.5 +0.1
DL2 PKPab **PKPab** 08 24 42.5 +0.4
DL2 PP **PP** 08 28 26.3 -0.4
DL2 AMB AMB
comp=Z,220nm,5.7s
BJI Beijing 163.32 352 PKP **PKPdf** 08 23 51.0 -0.6
BJI pPKP pPKPdf 08 24 33.8 -7.5
BJI PP **PP** 08 28 28.5 +0.6
BJI SS SS 08 48 37.0 -0.2
BJI LR LR
comp=Z,450nm,21.1s
BJI LR LR
comp=Z,630nm,18.5s
BJI LR LR
comp=Z,220nm,26.3s
LZH Lanzhou 165.09 31 PKP **PKPdf** 08 23 55.0 +1.4
LZH PP **PP** 08 28 34.3 -3.7
LZH SKKS 08 35 04.3
LZH SS **SS** 08 48 59.0 +2.2
LZH AMB AMB

	comp=Z,470nm,6.3s							
CMAR	**Chiang Mai Arr**	**165.81**	**108**	PKP	**PKPdf**	**08 23 55.1**	**+0.6**
CMAR				PKPab	**PKPab**	**08 24 55.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**165.81**	**108**	PKP	**PKPdf**	**08 23 55.1**	**+0.6**
	comp=Z,15nm,1.0s,baz=266,slow=2.1,SNR=64							
CMAR				PKPab	**PKPab**	**08 24 55.7**	**+0.6**
	comp=Z,23nm,0.7s,baz=249,slow=5.5,SNR=29							
CHTO	**Chiang Mai**	**165.95**	**107**	*e*PKIKP	**PKPdf**	**08 23 55.1**	**+0.5**
CHTO				*e*		08 28 45.5		
CHTO	**Chiang Mai**	**165.95**	**107**	*e*PKPdf	**PKPdf**	**08 23 55.1**	**+0.5**
CHTO				*e*PP	**PP**	**08 28 45.5**	**+1.9**
CD2	**Chengdu**	**168.85**	**47**	*e*PKP	**PKPdf**	**08 23 57.0**	**+0.6**
CD2				PKPab	**PKPab**	**08 25 05.0**	**-3.2**
CD2				PP	**PP**	**08 28 59.3**	**+1.7**
CD2				SKS	**SKSdf**	**08 30 42.8**	**+0.4**
CD2				SKKS	**SKKSac**	**08 35 24.5**	**-2.1**
CD2				SS	**SS**	**08 49 36.5**	**+1.1**
CD2				AMB	AMB			
	comp=Z,570nm,8.2s							
CD2				LR	LR			
	comp=Z,440nm,19.0s							
CD2				LR	LR			
	comp=Z,650nm,21.4s							
CD2				LR	LR			
	comp=Z,780nm,22.6s							
XAN	**Xi'an**	**168.87**	**19**	PKP	**PKPdf**	**08 23 57.0**	**+0.7**
XAN				SS	SS	08 49 27.3	-6.5
XAN				AMB	AMB			
	comp=Z,69nm,9.4s							
SSE	**Sheshan**	**169.60**	**318**	*e*PKP	**PKPdf**	**08 23 57.0**	**+0.2**
SSE				PP	**PP**	**08 29 02.8**	**+1.7**
SSE				AMB	AMB			
	comp=Z,240nm,6.1s							
SSE				LR	LR			
	comp=Z,230nm,22.6s							
SSE				LR	LR			
	comp=Z,96nm,22.7s							
SSE				LR	LR			
	comp=Z,260nm,24.4s							
NJ2	**Nanjing**	**170.10**	**331**	*e*PKP	**PKPdf**	**08 23 57.8**	**+0.8**
NJ2				PP	**PP**	**08 29 02.5**	**-0.7**
NJ2				AMB	AMB			
	comp=Z,240nm,10.0s							
NJ2				LR	LR			
	comp=Z,380nm,31.0s							
NJ2				LR	LR			
	comp=Z,500nm,30.0s							
NJ2				LR	LR			
	comp=Z,330nm,29.2s							
KMI	**Kunming**	**170.37**	**78**	PKP	**PKPdf**	**08 23 56.5**	**-1.2**
KMI				PKPab	**PKPab**	**08 25 15.3**	**-0.1**
KMI				PKS	**PKSdf**	**08 27 28.8**	**-1.6**
KMI				PP	**PP**	**08 29 07.3**	**+0.9**
KMI				SS	SS	08 49 56.0	+3.4
KMI				AMB	AMB			
	comp=Z,680nm,5.8s							
KMI				LR	LR			
	comp=Z,310nm,22.4s							
KMI				LR	LR			
	comp=Z,410nm,17.1s							
KMI				LR	LR			
	comp=Z,610nm,27.6s							
SZP	**Santa**	**170.95**	**230**	*e*PKPdf	**PKPdf**	**08 23 59.7**	**+1.8**
SLVN	**Son La**	**171.18**	**102**	*e*PKPdf	**PKPdf**	**08 23 58.6**	**+0.6**
ENH	**Enshi**	**172.51**	**25**	*e*PKPdf	**PKPdf**	**08 23 58.5**	**+0.2**
YULB	**Yu-li**	**172.52**	**271**	*e*PKPdf	**PKPdf**	**08 23 59.9**	**+1.4**
SSLB	**Suanglung**	**172.84**	**274**	*e*PKPdf	**PKPdf**	**08 23 59.5**	**+0.9**
SSLB				*e*PKPab	**PKPab**	**08 25 26.3**	**+0.1**
WHN	**Wuhan**	**172.91**	**352**	PKP	**PKPdf**	**08 23 56.3**	**-2.1**
WHN				PP	**PP**	**08 29 17.0**	**+0.5**
WHN				LR	LR			
	comp=Z,920nm,9.1s							
WHN				LR	LR			
	comp=Z,450nm,11.5s							
WHN				LR	LR			
	comp=Z,1μm,23.1s							
TPUB	**Ta-pu**	**173.13**	**270**	*e*PKPdf	**PKPdf**	**08 24 00.3**	**+1.5**
TPUB				*e*PKPab	**PKPab**	**08 25 28.0**	**+0.5**
GYA	**Guiyang**	**173.42**	**62**	*i* PKP	**PKPdf**	**08 23 59.0**	**+0.1**
GYA				pPKP	**pPKPdf**	**08 24 42.5**	**-6.2**
GYA				sPKP		08 24 58.8		
GYA				PKPab	**PKPab**	**08 25 27.0**	**-1.8**
GYA				PKS	**PKSdf**	**08 27 29.3**	**-2.1**
GYA				PP	**PP**	**08 29 21.5**	**+0.6**
GYA				SKKS		08 35 50.5		
GYA				SS	**SS**	**08 50 18.8**	**-2.6**
GYA				AMB	AMB			
	comp=Z,240nm,8.2s							
GYA				LR	LR			
	comp=Z,3μm,25.2s							
GYA				LR	LR			
	comp=Z,2μm,24.8s							
GYA				LR	LR			
	comp=Z,3μm,25.0s							
QIZ	**Qiongzhong**	**174.58**	**145**	PKP	**PKPdf**	**08 24 00.0**	**+0.6**
QIZ				pPKP	pPKPdf	08 24 41.5	-7.6
QIZ				AMB	AMB			
	comp=Z,280nm,7.9s							
QIZ				LR	LR			
	comp=Z,180nm,15.9s							
QIZ				LR	LR			
	comp=Z,270nm,19.0s							
QIZ	**Qiongzhong**	**174.58**	**145**	*e*PKPdf	**PKPdf**	**08 24 00.5**	**+1.2**
QIZ				*e*PKPab	**PKPab**	**08 25 34.1**	**+0.4**
QZH	**Quanzhou**	**174.83**	**287**	PKP	**PKPdf**	**08 24 00.0**	**+0.7**
QZH				PKPab	**PKPab**	**08 25 37.0**	**+2.1**
QZH				PP	**PP**	**08 29 27.3**	**-0.6**
QZH				SKS	**SKSdf**	**08 30 40.0**	**-4.6**
QZH				AMB	AMB			
	comp=Z,2μm,4.7s							
QZH				LR	LR			
	comp=Z,7μm,29.7s							

*ISCJB **28** 08:16:22.3±1.3,23°.4S±0°.3×180°.0E±0°.2,h532km,mb4.2/4, Error ellipse: s-maj=45.1km s-min=20.2km az=150.7*
*IDC **28** 08:16:26.5±9.2,23°.57S×179°.95E,h572km±109km, mb3.6/4,mb1 3.9/4,mb1mx3.2/41,mbtmp4.6/4, Error ellipse: s-maj=130.4km s-min=44.2km az=171.0*

ISC 28 08:16:22.6±1.3,23°.4S±0°.4×179°.9W±0°.2,h532km,n23, σ1ˢ04/21,mb4.4/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**26.25**	**248**	P	**P**	**08 21 16.8**	**+1.3**
	baz=27,SNR=10						
EIDS	**Eidsvold**	**26.44**	**260**	P	**P**	**08 21 18.0**	**+0.9**
	baz=26,SNR=9.7						
MGCD	**Mangrove Creek**	**27.22**	**243**	P	**P**	**08 21 24.9**	**+1.0**
	baz=28,SNR=13						
RMQ	**Roma**	**28.51**	**257**	P	**P**	**08 21 37.1**	**+1.9**
	baz=30,SNR=7.4						
CNB	**Canberra Magne**	**29.15**	**239**	P	**P**	**08 21 41.4**	**+0.7**
	baz=30,SNR=7.3						
CMSA	**Cobar Meteorol**	**31.45**	**247**	P	**P**	**08 22 00.7**	**+0.2**
	baz=32,SNR=20						
QLP	**Quilpie**	**32.56**	**257**	P	**P**	**08 22 10.5**	**+0.5**
	baz=34,SNR=3.3						
TOO	**Toolangi**	**32.76**	**236**	P	**P**	**08 22 11.5**	**-0.2**
	baz=34,SNR=10.0						
STKA	**Stephens Creek**	**34.96**	**247**	P	**P**	**08 22 30.2**	**+0.1**
	4.1nm,0.5s,baz=89,slow=11,SNR=9.7						
ARPS	**Mount Arapiles**	**35.41**	**239**	P	**P**	**08 22 33.6**	**-0.3**
	baz=36,SNR=5.6						
HTT	**Hallett**	**37.32**	**245**	P	**P**	**08 22 49.6**	**-0.1**
	baz=38,SNR=5.3						
QIS	**Mount Isa**	**37.53**	**266**	P	P	08 22 58.1	+6.5
	baz=39,SNR=23						
BBOO	**Buckleboo**	**39.69**	**246**	P	**P**	**08 23 08.1**	**-0.8**
	baz=41,SNR=8.2						
ASAR	**Alice Springs**	**42.17**	**260**	P	**P**	**08 23 29.2**	**+0.4**
	13nm,0.8s,baz=97,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**08 23 31.3**	**-0.1**
	7.7nm,0.3s,baz=103,slow=8.2,SNR=24						
FORT	**Forrest**	**46.53**	**249**	P	**P**	**08 24 01.7**	**-0.6**
	baz=47,SNR=12						
MORW	**Morawa**	**57.09**	**250**	P	**P**	**08 25 18.1**	**-0.4**
	baz=58,SNR=6.6						
LUWI	**Luwuk**	**59.77**	**283**	P	**P**	**08 25 36.5**	**-0.2**
	baz=61,SNR=3.8						
PSI	**Prapat**	**82.98**	**276**	P	P	08 27 48.0	-4.6
	baz=84,SNR=3.4						
TXAR	**Lajitas Array**	**90.13**	**58**	P	**P**	**08 28 27.6**	**+1.3**
	0.5nm,0.7s,baz=202,slow=6.3,SNR=5.5						
HFS	**Hagfors**	**142.07**	**349**	PKP	**PKPdf**	**08 34 50.7**	**-2.9**
	1.2nm,0.4s,baz=29,slow=3.4,SNR=8.5						
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	**PKPdf**	**08 34 58.5**	**+0.2**
	0.9nm,0.6s,baz=46,slow=4.1,SNR=5.2						
BRTR	**Keskin Array B**	**147.32**	**308**	PKPbc	**PKPbc**	**08 35 06.8**	**+0.1**
	0.5nm,0.4s,baz=107,slow=4.6,SNR=3.2						

NEIC 28 08:19:08.4,51°.49N×176°.79W,h34km,ML2.9(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.44**	**33**	P	Pb	08 19 18.2	0.0
ETKA				S	Sn	08 19 25.5	+0.4
KIRH	**Kanaga Island**	**0.45**	**335**	P	Pn	08 19 18.9	+0.3
KIKV	**Kanaga Island**	**0.46**	**329**	P	Pn	08 19 18.7	0.0
ADAG	**Mount Adagdak**	**0.50**	**13**	P	Pn	08 19 19.9	+0.7
GSCK	**Great Sitkin C**	**0.65**	**37**	P	Pn	08 19 21.1	-0.1
GSTD	**Great Sitkin T**	**0.69**	**35**	P	Pn	08 19 21.8	-0.1
GSTD				S	Sn	08 19 31.3	-0.2
GSMY	**Great Sitkin M**	**0.71**	**39**	P	Pn	08 19 22.0	-0.1
TAFL	**Tanaga Flats**	**0.74**	**291**	P	Pn	08 19 22.0	-0.4
TAFP	**Tanaga Falls P**	**0.85**	**299**	P	Pn	08 19 23.7	-0.3
TAFP				S	Sb	08 19 35.8	-0.3
TASE	**Tanaga Southea**	**0.85**	**294**	P	Pn	08 19 24.0	0.0
GAEA	**Gareloi East**	**1.25**	**284**	P	Pn	08 19 29.8	+0.3
GAEA				S	Sn	08 19 45.8	+0.6
GALAA	**Gareloi Lava P**	**1.27**	**283**	P	Pn	08 19 30.6	+1.0
GANE	**Gareloi Northe**	**1.28**	**286**	P	Pn	08 19 30.4	+0.5
KOWE	**Korovin West**	**1.80**	**60**	P	Pn	08 19 38.4	+1.3
KOKL	**Mount Kliuchef**	**1.81**	**62**	P	Pn	08 19 38.1	+0.9
KOFP	**Korovin Flat P**	**1.84**	**64**	P	Pn	08 19 38.7	+1.0
KOFP				S	Sn	08 20 01.6	+1.8
CERAA	**Semis' Rag'd T**	**2.23**	**282**	P	Pn	08 19 43.3	+0.3
CESW	**Semis' Southwe**	**2.31**	**282**	P	Pn	08 19 44.0	+0.1
AMKA	**Amchitka**	**2.45**	**269**	P	Pn	08 19 46.5	+0.6

CASC 28 08:28:22.3±2.1,9°.76N×85°.09W,h26km±5km,MD4.0,2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**0.09**	**346**	*i* P	Pb	08 28 26.2	-1.0
JCR				*e*S	Sb	08 28 32.6	+2.2
A494	**Palo Verde**	**0.64**	**336**	*i* P	Pb	08 28 34.9	-0.1
A494				*i* S	Sn	08 28 44.4	-0.6
A492	**Arado**	**0.68**	**312**	*i* P	Pb	08 28 35.4	-0.1
A495	**El Viejo**	**0.73**	**330**	*i* P	Pb	08 28 36.2	-0.2
A495				*i* S	Sn	08 28 47.2	0.0
CASO	**Castillo**	**0.76**	**27**	*i* P	Pb	08 28 36.2	-0.7
CASO				*i* S	Sb	08 28 46.6	-0.4
BANL	**Banca Lucia**	**0.80**	**18**	*i* S	Sb	08 28 48.4	+0.2
AMAS	**Alto Masis**	**0.85**	**6**	*i* S	Sb	08 28 49.0	-0.8
COLC	**Colonia**	**0.91**	**353**	*i* S	Sb	08 28 51.5	+0.2
LIM1	**Limonal**	**0.95**	**350**	*i* P	Pn	08 28 39.7	-0.3
LIM1				*i* S	Sn	08 28 52.8	0.0
QCR	**Quepos**	**0.97**	**110**	*e*P	Pn	08 28 39.2	-1.0
QCR				*e*S	Sn	08 28 53.2	+0.1
MESS	**Mesas**	**0.98**	**354**	*i* P	Pn	08 28 40.4	-0.1
MESS				*i* S	Sn	08 28 54.1	+0.4
SJS	**Escuela Geolog**	**1.03**	**80**	*e*P	Pn	08 28 40.2	-1.2
SJS				*e*S	Sn	08 28 57.7	+2.6
LAPC	**Finca la Perla**	**1.06**	**341**	*i* P	Pn	08 28 41.5	-0.1
LAPC				*i* S	Sb	08 28 55.5	0.0
BUEV	**Buena Vista**	**1.08**	**343**	*i* P	Pn	08 28 42.0	0.0
GBS3	**Finca Las Im¯¡**	**1.08**	**340**	*i* P	Pn	08 28 41.8	0.0
GBS3				*i* S	Sn	08 28 56.1	+0.1
GBS2	**Las Lilas**	**1.13**	**342**	*i* P	Pn	08 28 42.6	+0.1
BUS	**Buena Vista**	**1.33**	**99**	*e*P	Pn	08 28 45.0	-0.7
BUS				*e*S	Sb	08 29 04.5	+0.3
ACR	**Cerro Adams**	**2.19**	**120**	*e*P	Pn	08 28 57.1	0.0
ACR				*e*S	Sn	08 29 23.8	+0.4

*IDC **28** 08:35:24.0±1.7,40°.11N×48°.70E,h0km,mb3.6/4, mb1 3.6/7,mb1mx3.4/46,mbtmp3.5/7,ML1.0/1, Error ellipse: s-maj=36.5km s-min=10.9km az=160.0*
*AZER **28** 08:35:28.0±0.0,39°.89N×48°.64E,h38km, Error ellipse: s-maj=1.4km s-min=0.7km az=246.0*
*ISCJB **28** 08:35:29.0±0.4,39°.88N±0°.03×48°.67E±0°.04,h60km±4km, mb3.4/4, Error ellipse: s-maj=4.6km s-min=4.2km az=4.8*
*CSEM **28** 08:35:28.0,39°.89N×48°.64E,h38km, After AZER*

ISC 28 08:35:29.3±0.9,39°.89N±0°.02×48°.64E±0°.03,h44km±8km, n43,σ1ˢ32/74,mb3.5/4,21C-14D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIB	**Äli-Bayra**	**0.29**	**76**	↑P	**Pn**	**08 35 37.4**	**-0.3**
	SNR=510						
ALIB				↓S	**Sn**	**08 35 44.6**	**+0.9**
ALIB	**Äli-Bayra**	**0.29**	**76**	P	**Pn**	**08 35 37.4**	**-0.3**
	SNR=510						
ALIB				S	**Sn**	**08 35 44.6**	**+0.9**
KDMR	**Kurdemir**	**0.60**	**324**	↓P	**Pn**	**08 35 40.5**	**-1.1**
	SNR=7.9						
KDMR				↓S	**Sn**	**08 35 51.3**	**+1.0**
GLBA	**Clilabad**	**0.67**	**197**	↑P	**Pn**	**08 35 42.3**	**-0.2**
	SNR=43						
GLBA				↑S	**Sn**	**08 35 53.5**	**+1.6**
GLBA	**Clilabad**	**0.67**	**197**	P	**Pn**	**08 35 42.3**	**-0.2**
	SNR=43						
GLBA				S	**Sn**	**08 35 53.5**	**+1.6**
PQL	**Pirkuli**	**0.90**	**358**	↓P	**Pn**	**08 35 45.5**	**-0.3**
	SNR=11						
PQL				↑S	**Sn**	**08 35 59.6**	**+1.9**
PQL	**Pirkuli**	**0.90**	**358**	P	**Pn**	**08 35 45.5**	**-0.3**
	SNR=11						
PQL				S	**Sn**	**08 35 59.6**	**+1.9**
IML	**Ismayilli**	**0.97**	**339**	↑P	**Pn**	**08 35 46.0**	**-0.6**
	SNR=31						
IML				↑S	**Sn**	**08 36 00.2**	**+0.9**
IML	**Ismayilli**	**0.97**	**339**	P	**Pn**	**08 35 46.0**	**-0.6**
	SNR=31						
IML				S	**Sn**	**08 36 00.2**	**+0.9**
GOBA	**Gobu**	**0.98**	**58**	↑P	**Pn**	**08 35 48.0**	**+1.4**
	SNR=4.7						
GOBA				↓S	**Sn**	**08 36 00.4**	**+1.0**
GOBA	**Gobu**	**0.98**	**58**	P	**Pn**	**08 35 48.0**	**+1.4**
	SNR=4.7						
GOBA				S	**Sn**	**08 36 00.4**	**+1.0**
ATGJ	**Altiaghaj**	**1.00**	**13**	↑P	**Pn**	**08 35 48.0**	**+1.0**
	SNR=17						
ATGJ				↓S	**Sn**	**08 36 02.0**	**+2.0**
ATGJ	**Altiaghaj**	**1.00**	**13**	P	**Pn**	**08 35 48.0**	**+1.0**
	SNR=17						
ATGJ				S	**Sn**	**08 36 02.0**	**+2.0**
LKRN	**Lenkeran, Azer**	**1.18**	**175**	↑P	**Pn**	**08 35 49.6**	**+0.2**
LKRN				↑S	**Sn**	**08 36 06.3**	**+2.1**
LKRN	**Lenkeran, Azer**	**1.18**	**175**	P	**Pn**	**08 35 49.6**	**+0.2**
LKRN				S	**Sn**	**08 36 06.3**	**+2.1**
BRDA	**Brd**	**1.19**	**289**	↑P	**Pn**	**08 35 50.2**	**+0.8**
BRDA	**Brd**	**1.19**	**289**	P	**Pn**	**08 35 50.2**	**+0.8**
SIZA	**Siyzn**	**1.20**	**9**	↓P	**Pn**	**08 35 50.7**	**+0.9**
	SNR=24						
SIZA	**Siyzn**	**1.20**	**9**	P	**Pn**	**08 35 50.7**	**+0.9**
	SNR=24						
NDR	**Nardaran**	**1.24**	**56**	↑P	**Pn**	**08 35 50.8**	**+0.6**
NDR				↑S	**Sn**	**08 36 07.4**	**+1.7**
NDR	**Nardaran**	**1.24**	**56**	P	**Pn**	**08 35 50.8**	**+0.6**
NDR				S	**Sn**	**08 36 07.4**	**+1.7**
LRK	**Lerik**	**1.26**	**191**	P	**Pn**	**08 35 50.4**	**-0.3**
	SNR=16						
LRK				↑S	**Sn**	**08 36 08.6**	**+2.0**
LRK	**Lerik**	**1.26**	**191**	P	**Pn**	**08 35 50.4**	**-0.3**
	SNR=16						
LRK				S	**Sn**	**08 36 08.6**	**+2.0**
QUBA	**Quba, Azerbaij**	**1.47**	**356**	↑Pn	**Pn**	**08 35 54.3**	**+0.9**
QUBA				↓Sn	**Sn**	**08 36 13.5**	**+2.0**
QUBA	**Quba, Azerbaij**	**1.47**	**356**	Pn	**Pn**	**08 35 54.3**	**+0.9**
QUBA				Sn	**Sn**	**08 36 13.5**	**+2.0**
MNGR	**Mingechevir, A**	**1.48**	**307**	↑Pn	**Pn**	**08 35 54.0**	**+0.4**
MNGR				↓Sn	**Sn**	**08 36 14.0**	**+2.3**
MNGR	**Mingechevir, A**	**1.48**	**307**	Pn	**Pn**	**08 35 54.0**	**+0.4**
MNGR				Sn	**Sn**	**08 36 14.0**	**+2.3**
SEKA	**Sheki**	**1.72**	**321**	↓Pn	**Pn**	**08 35 56.5**	**-0.4**
	SNR=43						
SEKA				↑Sn	**Sn**	**08 36 19.5**	**+1.9**
SEKA	**Sheki**	**1.72**	**321**	Pn	**Pn**	**08 35 56.5**	**-0.4**
	SNR=43						
SEKA				Sn	**Sn**	**08 36 19.5**	**+1.9**
GANJ	**Ganja**	**1.93**	**294**	↑Pn	**Pn**	**08 35 59.3**	**-0.4**
GANJ				↑Sn	**Sn**	**08 36 22.9**	**+0.1**
GANJ	**Ganja**	**1.93**	**294**	Pn	**Pn**	**08 35 59.3**	**-0.4**
GANJ				Sn	**Sn**	**08 36 22.9**	**+0.1**
ZKTA	**Zakatala**	**2.33**	**319**	↓Pn	**Pn**	**08 36 05.8**	**+0.7**
	SNR=56						
ZKTA				↓Sn	**Sn**	**08 36 34.5**	**+2.0**
NAX	**Nakhchivan**	**2.54**	**255**	↑Pn	**Pn**	**08 36 08.4**	**+0.3**
NAX				↓Sn	**Sn**	**08 36 40.1**	**+2.3**
NAX	**Nakhchivan**	**2.54**	**255**	Pn	**Pn**	**08 36 08.4**	**+0.3**
NAX				Sn	**Sn**	**08 36 40.1**	**+2.3**
QZX	**Qazax, Azerbai**	**2.76**	**296**	↓Pn	**Pn**	**08 36 11.1**	**+0.1**
QZX				↑Sn	**Sn**	**08 36 44.7**	**+1.6**
QZX	**Qazax, Azerbai**	**2.76**	**296**	Pn	**Pn**	**08 36 11.1**	**+0.1**
QZX				Sn	**Sn**	**08 36 44.7**	**+1.6**
GNI	**Garni**	**3.01**	**276**	Pn	**Pn**	**08 36 16.6**	**+2.0**
	4.8nm,0.3s,baz=180,slow=10,SNR=7.0						
GNI				Sn	Sn	08 36 55.9	+6.4
	9.9nm,0.3s,baz=11,slow=4.9,SNR=5.9						
AKTO	**Aktyubinsk**	**12.44**	**29**	Pn	Pn	08 38 18.9	-4.7
	0.1nm,0.3s,baz=198,slow=13,SNR=2.6						
AKTO				Sn	Sn	08 40 30.7	-10
	0.1nm,0.3s,baz=234,slow=19,SNR=3.0						
BVAR	**Borovoye Array**	**19.82**	**41**	P	**P**	**08 39 54.4**	**-1.8**
	0.3nm,0.3s,baz=232,slow=7.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**23.46**	**53**	P	**P**	**08 40 34.6**	**-0.1**
	1.1nm,0.7s,baz=261,slow=9.4,SNR=8.1						
MKAR	**Makanchi Array**	**25.29**	**63**	P	**P**	**08 40 50.9**	**-0.6**
	0.7nm,0.5s,baz=257,slow=9.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**28.07**	**48**	P	**P**	**08 41 14.8**	**-1.7**
	0.5nm,0.4s,baz=256,slow=10,SNR=3.4						
YKA	**Yellowknife Ar**	**77.08**	**352**	P	**P**	**08 47 15.9**	**-1.6**
	0.1nm,0.5s,baz=6.9,slow=5.3,SNR=4.2						

IDC 28 08:39:46.5±2.4,21°.88S×63°.84W,h533km±20km,mb3.4/1, mb1 3.1/4,mb1mx3.0/18,mbtmp3.9/4,Error ellipse: s-maj=67.6km s-min=24.5km az=48.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**6.42**	**25**	P	P	08 41 28.7	+0.2
	0.7nm,0.3s,baz=215,slow=11,SNR=8.9						
LPAZ	**La Paz**	**6.89**	**323**	P	P	08 41 35.0	+1.3
	1.1nm,0.3s,baz=126,slow=7.6,SNR=24						
LPAZ				S	S	08 42 59.6	-1.6
	0.1nm,0.3s,baz=41,slow=20,SNR=3.9						
CPUP	**Villa Florida**	**7.41**	**128**	P	P	08 41 37.5	-0.4
	1.5nm,0.3s,baz=300,slow=12,SNR=12						
TXAR	**Lajitas Array**	**63.75**	**321**	pP	pP	08 51 18.1	+4.1
	0.8nm,0.8s,baz=150,slow=7.3,SNR=8.4						
TORD	**Torodi Ar. Bea**	**73.08**	**68**	P	P	08 50 23.1	0.0
	1.2nm,0.4s,baz=254,slow=5.2,SNR=27						
TORD				pP	pP	08 52 15.4	+0.8
	2.1nm,1.1s,baz=253,slow=3.9,SNR=6.8						

*IDC **28** 08:46:13.8±0.9,44°.61N×110°.82W,h0km,mb3.4/1, mb1 3.5/6,mb1mx3.4/29,mbtmp3.2/6,ML3.2/5,Error ellipse: s-maj=11.9km s-min=8.8km az=67.0*
*NEIC **28** 08:46:15.0,44°.57N×110°.97W,h10km,ML3.2(SLC),After SLC.*
NEIC Felt [II] in Yellowstone National Park.

ISC 28 08:46:15.7±0.8,44°.59N±0°.02×110°.91W±0°.02,h13km±5km, n74,σ1ˢ53/143,18C-21D,Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YMR	**Madison River**	**0.09**	**336**	*e*Pg	**Pg**	**08 46 18.5**	**-0.5**
YMR				*e*Sg	**Sg**	**08 46 20.4**	**-0.7**
H17A	**Grant Village**	**0.31**	**128**	*e*Pg	**Pg**	**08 46 22.6**	**+0.4**
H17A				*e*Sg	**Sg**	**08 46 26.1**	**-0.4**
H17A	**Grant Village**	**0.31**	**128**	P	**Pg**	**08 46 22.6**	**+0.4**
	baz=0.3,SNR=925						
H17A				↓S	**Sg**	**08 46 27.2**	**+0.7**
	baz=0.3						
I17A	**Pilgrim Ck.**	**0.71**	**160**	↓P	**Pg**	**08 46 29.6**	**+0.1**
	baz=0.7						
I17A				↓S	**Sb**	**08 46 40.1**	**+0.4**
	baz=0.7						
H18A	**Shoshone NF, C**	**0.90**	**84**	P	**Pg**	**08 46 32.6**	**-0.5**
	baz=0.9,SNR=233						
H18A				↓S	**Sn**	**08 46 46.7**	**-0.4**
	baz=0.9						
BOZ	**Bozeman (W)**	**1.18**	**335**	*e*Pg	**Pb**	**08 46 36.5**	**-1.5**
BOZ				*e*Sg	**Sb**	**08 46 52.5**	**-0.6**
RLMT	**Red Lodge**	**1.29**	**65**	*e*Pn	**Pn**	**08 46 39.7**	**+0.1**
RLMT				*e*Sg	**Sg**	**08 47 00.1**	**+2.8**
H19A	**Powell**	**1.38**	**86**	↓P	**Pb**	**08 46 41.2**	**-0.1**
	baz=1.4,SNR=26						
H19A				↓S	**Sg**	**08 47 01.6**	**+1.5**
	baz=1.4						
MCMT	**McKenzie Canyo**	**1.40**	**281**	*e*Pn	**Pn**	**08 46 41.1**	**0.0**
MCMT				*e*Sg	**Sb**	**08 47 00.5**	**+0.8**
I19A	**Meeteetse**	**1.48**	**111**	P	**Pb**	**08 46 43.3**	**+0.1**
	baz=1.5,SNR=110						
I19A				↓S	**Sg**	**08 47 04.4**	**+0.9**
	baz=1.5						
LRM	**Limekiln Ridge**	**1.65**	**319**	*e*Pn	**Pn**	**08 46 45.2**	**+0.6**
LRM				*e*Sn	**Sn**	**08 47 04.8**	**-0.8**
AHID	**Auburn Hatcher**	**1.82**	**184**	*e*Pn	**Pb**	**08 46 47.8**	**+0.9**
AHID				*e*Sn	**Sn**	**08 47 10.2**	**+0.2**
F19A	**Roth Farm, Mol**	**1.88**	**47**	↓P	**Pb**	**08 46 50.0**	**0.0**
	baz=1.9						
F19A				↓Sb	**Sg**	**08 47 16.8**	**+0.5**
	baz=1.9						
**J

MSO	**Missoula**	**3.09**	**318**	⇑P	**Pn**	**08 47 05.0**	**+0.8**
	baz=3.1							
D20A	**Manuel Ranch,**	**3.17**	**37**	⇓P	**Pn**	**08 47 07.3**	**+2.1**
	baz=3.2,SNR=6.7							
SLMT	**Seeley Lake**	**3.21**	**327**	*e*Pn	**Pn**	**08 47 06.6**	**+0.7**
SLMT				*e*Pg	**Pb**	**08 47 14.6**	**+2.0**
SLMT				*e*Sn	**Sn**	**08 47 43.5**	**-0.5**
SLMT				*e*Sg	**Sg**	**08 47 59.9**	**+1.1**
K21A	**Alcova**	**3.30**	**125**	⇓Sb	**Sg**	**08 47 59.4**	**-2.3**
	baz=3.3							
C19A	**Slack Wire Ran**	**3.41**	**22**	⇓P	**Pn**	**08 47 11.0**	**+2.5**
	baz=3.4							
J22A	**Midwest**	**3.41**	**109**	⇑P	Pn	08 47 12.1	+3.5
	baz=3.4							
TCUT	**Toone Canyon**	**3.48**	**186**	*e*Pg	**Pg**	**08 47 24.3**	**+1.8**
TCUT				*e*Sg	**Sg**	**08 48 07.6**	**0.0**
EGMT	**Eagleton**	**3.53**	**13**	*e*Pn	**Pn**	**08 47 11.8**	**+1.6**
EGMT				*e*Sg	**Sb**	**08 48 04.3**	**+3.4**
EGMT	**Eagleton**	**3.53**	**13**	⇑P	**Pn**	**08 47 12.2**	**+1.9**
	baz=3.6							
SWMT	**Swartz Lake**	**3.63**	**325**	*e*Pn	**Pn**	**08 47 12.4**	**+0.8**
SWMT				*e*Pg	**Pb**	**08 47 22.2**	**+2.5**
SWMT				*e*Sg	**Sg**	**08 48 08.5**	**-3.7**
K22A	**Casper**	**3.73**	**120**	*e*Pg	**Pg**	**08 47 26.4**	**-0.6**
K22A				*e*Sg	**Sg**	**08 48 16.3**	**+0.9**
MFID	**Camas Ranch**	**3.73**	**253**	*e*Pn	**Pn**	**08 47 14.3**	**+1.2**
MFID				*e*Sg	**Sb**	**08 48 10.2**	**+3.5**
YBMT	**Yellow Bay**	**3.92**	**328**	*e*Pn	**Pn**	**08 47 17.5**	**+1.8**
YBMT				*e*Sn	**Sn**	**08 48 00.6**	**-0.9**
YBMT				*e*Sg	**Sg**	**08 48 22.1**	**+0.6**
JTMT	**Jette**	**3.93**	**325**	*e*Pn	**Pn**	**08 47 17.1**	**+1.3**
JTMT				*e*Pg	**Pg**	**08 47 30.2**	**-0.8**
JTMT				*e*Sn	**Sn**	**08 48 01.5**	**-0.4**
JTMT				*e*Sg	**Sg**	**08 48 22.5**	**+0.5**
CTU	**Camp Tracy**	**3.94**	**189**	*e*Pn	**Pn**	**08 47 16.1**	**+0.2**
CTU				*e*Sg	**Sg**	**08 48 20.3**	**-1.9**
BGU	**Big Grassy Mou**	**3.98**	**204**	*e*Pn	**Pn**	**08 47 18.2**	**+1.8**
BGU				*e*Pg	**Pb**	**08 47 28.0**	**+2.3**
BGU				*e*Sg	**Sg**	**08 48 21.6**	**-1.8**
JLU	**Jordanelle**	**4.00**	**186**	*e*Pg	**Pg**	**08 47 29.6**	**-2.7**
JLU				*e*Sg	**Sg**	**08 48 23.7**	**-0.4**
BLMT	**Blacktail Moun**	**4.18**	**326**	*e*Pn	**Pn**	**08 47 20.7**	**+1.4**
BLMT				*e*Pg	**Pg**	**08 47 34.4**	**-1.3**
BLMT				*e*Sn	**Sn**	**08 48 07.3**	**-0.8**
BLMT				*e*Sg	**Sg**	**08 48 27.4**	**-2.4**
DAU	**Daniels Canyon**	**4.18**	**184**	*e*Pn	**Pn**	**08 47 17.7**	**-1.7**
DAU				*e*Pg	**Pg**	**08 47 36.6**	**+0.9**
DAU				*e*Sg	**Sg**	**08 48 28.0**	**-1.8**
BSMT	**Bassoo Peak**	**4.23**	**322**	*e*Pn	**Pn**	**08 47 21.5**	**+1.6**
BSMT				*e*Pg	**Pg**	**08 47 36.0**	**-0.7**
BSMT				*e*Sg	**Sg**	**08 48 30.5**	**-1.0**
H24A	**Dirks Ranch, A**	**4.54**	**86**	⇑P	**Pn**	**08 47 26.2**	**+2.1**
	baz=4.6							
BMO	**Blue Mountains**	**4.56**	**276**	*e*Pn	**Pn**	**08 47 23.0**	**-1.4**
BMO				*e*Pg	**Pg**	**08 47 41.4**	**-1.7**
BMO				*e*Sg	**Sg**	**08 48 39.6**	**-2.6**
MPU	**Maple Canyon**	**4.60**	**187**	*e*Pn	**Pn**	**08 47 24.4**	**-0.6**
MPU				*e*Pg	**Pg**	**08 47 42.4**	**-1.3**
MPU				*e*Sg	**Sg**	**08 48 42.2**	**-1.1**
DUG	**Dugway**	**4.61**	**198**	*e*Pn	**Pn**	**08 47 27.5**	**+2.4**
DUG				*e*Pg	**Pg**	**08 47 43.8**	**-0.1**
DUG				*e*Sg	**Sg**	**08 48 42.8**	**-0.7**
NLU	**North Lily Min**	**4.71**	**191**	*e*Pn	**Pn**	**08 47 24.8**	**-1.8**
NLU				*e*Sn	**Sn**	**08 48 18.5**	**-2.6**
NLU				*e*Sg	**Sg**	**08 48 45.7**	**-1.1**
O20A	**White River Ci**	**4.87**	**155**	*e*Pn	**Pn**	**08 47 28.6**	**-0.1**
O20A				*e*Pg	**Pg**	**08 47 47.0**	**-1.9**
O20A				*e*Sg	**Sg**	**08 48 51.9**	**0.0**
WALA	**Waterton Lakes**	**4.93**	**336**	*e*Pn	**Pn**	**08 47 31.1**	**+1.6**
WALA				*e*Pg	**Pg**	**08 47 49.6**	**-0.3**
WALA				*e*Sg	**Sg**	**08 48 50.9**	**-2.8**
ELK	**Elko**	**4.99**	**221**	Pn	**Pn**	**08 47 32.4**	**+1.9**
ELK				Lg	Lg	08 48 50.8		
ELK	**Elko**	**4.99**	**221**	Pn	**Pn**	**08 47 32.4**	**+1.9**
	0.3nm,0.3s,baz=359,slow=13,SNR=7.4							
ELK				Lg	Lg	08 48 50.8		
	0.8nm,0.3s,baz=179,slow=17,SNR=6.4							
SRU	**San Rafael**	**5.48**	**177**	*e*Pn	**Pn**	**08 47 38.8**	**+1.7**
	16nm,0.7s							
SRU				*e*Sg	**Sg**	**08 49 14.2**	**+2.7**
NEW	**Newport**	**5.65**	**313**	Pn	**Pn**	**08 47 40.5**	**+1.1**
NEW				Lg	Lg	08 49 10.5		
NEW	**Newport**	**5.65**	**313**	Pn	**Pn**	**08 47 40.5**	**+1.1**
	0.7nm,0.3s,baz=130,slow=14,SNR=18							
NEW				Lg	Lg	08 49 10.5		
	0.7nm,0.3s,baz=116,slow=5.9,SNR=3.6							
HAWA	**Hanford**	**6.32**	**290**	*e*Pn	**Pn**	**08 47 50.0**	**+1.5**
	4.0nm,0.4s							
HAWA				*e*Pg	**Pg**	**08 48 15.7**	**-1.0**
HAWA				*e*Sn	**Sn**	**08 49 00.7**	**+0.2**
HAWA				*e*Sg	**Sg**	**08 49 37.5**	**-1.0**
PV04	**Paradox Valley**	**6.37**	**166**	*e*Pn	Pn	08 47 52.5	+3.2
PV04				*e*Pg	**Pg**	**08 48 18.7**	**+1.1**
PV04				*e*Sg	**Sg**	**08 49 39.1**	**-0.9**
SDCO	**Great Sand Dun**	**7.96**	**147**	*e*Pn	**Pn**	**08 48 09.1**	**-2.2**
	6.2nm,1.0s							
SDCO				*e*Sn	**Sn**	**08 49 37.5**	**-3.7**
NVAR	**Mina Array Bea**	**8.28**	**225**	Pn	Pn	08 48 20.0	+4.4
NVAR				Pg	**Pb**	**08 48 39.0**	**0.0**
NVAR				Lg	Lg	08 50 37.7		
NVAR	**Mina Array Bea**	**8.28**	**225**	Pn	Pn	08 48 20.0	+4.4
	0.1nm,0.3s,baz=42,slow=11,SNR=3.1							
NVAR				Pg	**Pb**	**08 48 39.0**	**0.0**
	0.2nm,0.3s,baz=37,slow=15,SNR=7.1							
NVAR				Lg	Lg	08 50 37.7		
	0.1nm,0.3s,baz=39,slow=30,SNR=4.4							
ULM	**Lac du Bonnet**	**11.65**	**56**	Pg	Pn	08 49 46.5	+45	
	0.2nm,0.3s,baz=240,slow=17,SNR=3.2							
ULM				Lg	Lg	08 52 11.5		
	0.2nm,0.3s,baz=157,slow=17,SNR=2.6							
YKA	**Yellowknife Ar**	**18.07**	**354**	P	**Pn**	**08 50 24.9**	**-1.2**
YKA	**Yellowknife Ar**	**18.07**	**354**	P	**Pn**	**08 50 24.9**	**-1.2**
	0.0nm,0.3s,baz=171,slow=12,SNR=6.3							
ILAR	**Eielson Array**	**28.37**	**328**	P	**P**	**08 52 11.1**	**+1.9**
ILAR	**Eielson Array**	**28.37**	**328**	P	**P**	**08 52 11.1**	**+1.9**
	0.4nm,0.9s,baz=123,slow=7.7,SNR=4.9							

DJA ***28*** *09:11:37.7±3.5, 11°N±33°×12°5E±1°3, h10km, M5.1/8, mb5.2/8, mB5.5/4, Mw(mB)5.0/4*

MOS ***28*** *09:11:40.9±1.0, 9.86N×125.95E, h74km, mb5.3/40, Error ellipse: s-maj=11.0km s-min=5.0km az=119.4*

ISCJB ***28*** *09:11:41.7±0.4, 9.90N±0.02×126.08E±0.03, h80km±3km, mb4.9/117, Error ellipse: s-maj=5.6km s-min=3.0km az=160.6*

MAN ***28*** *09:11:41, 9.87N×126.12E, h35km, mb5.5, ML4.5, MS4.9*

MAN INTENSITY IV - SURIGAO CITY; GENERAL LUNA SURIGAO DEL NORTE.

IDC ***28*** *09:11:41.4±2.4, 9.86N×125.89E, h60km±22km, mb4.6/38, mb1 4.7/39, mb1mx4.6/50, mbtmp4.9/39, ML4.7/1, MS4.0/20, Ms1 4.0/20, ms1mx3.8/35, Error ellipse: s-maj=14.3km s-min=8.3km az=72.0*

BJI ***28*** *09:11:43.1, 9.73N×125.99E, h109km, mB5.0/42, mb4.9/56*

NEIC ***28*** *09:11:45.6±0.6, 9.85N×125.98E, h102km±5km, mb4.9/42, Error ellipse: s-maj=5.8km s-min=3.3km az=70.0*

NEIC Felt [IV PIVS] at General Luna and Surigao, [III PIVS] at Socorro and [II PIVS] at Mainit. Also felt at Butuan.

KLM ***28*** *09:11:46.6, 9.74N×126.11E, h120km, mb4.9, MS5.8*

ISC 28 09:11:42.2±0.7, 9.86N±0.03×126.06E±0.05, h70km±6km, n386, σ1§25/404, mb5.0/116, 22C-24D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.57**	**262**	⇓*i*P		**Pn**	**09 11 53.2**	**-2.4**
SCPH				*i* S		**Sn**	**09 12 02.1**	**-3.5**
BUTP	**Butuan**	**0.99**	**206**	*e*P		**Pn**	**09 11 58.8**	**-1.7**
BUTP				*e*S		**Sn**	**09 12 13.8**	**-0.4**
MSLP	**Maasin**	**1.22**	**283**	*e*P		**Pn**	**09 12 03.1**	**-0.3**
PLP	**Palo**	**1.68**	**321**	⇑*e*P		**Pn**	**09 12 08.2**	**-1.3**
PLP				*e*S		**Sn**	**09 12 30.0**	**-0.2**
BIPH	**Bislig**	**1.69**	**170**	⇓*e*P		**Pn**	**09 12 08.2**	**-1.5**
BIPH				*e*S		**Sn**	**09 12 27.0**	**-3.6**
OCLP	**Ormoc**	**1.85**	**310**	*e*P		**Pn**	**09 12 12.6**	**+0.7**
CGP	**Cagayan de Oro**	**1.94**	**224**	⇓*i*P		**Pn**	**09 12 11.9**	**-1.1**
CGP				*i* S		**Sn**	**09 12 34.5**	**-2.1**
LLP	**Lapu-Lapu**	**2.11**	**283**	⇓*i*P		**Pn**	**09 12 15.7**	**+0.3**
LLP				*i* S		**Sn**	**09 12 42.6**	**+1.9**
TBP	**Tagbilaran**	**2.17**	**266**	*e*P		**Pn**	**09 12 16.3**	**+0.1**
TBP				*e*S		**Sn**	**09 12 37.5**	**-4.6**
BUKP	**Musuan**	**2.20**	**207**	*e*P		**Pn**	**09 12 17.2**	**+0.6**

DAV	**Davao City (W)**	**2.81**	**190**	*e*Pn		**Pn**	09 12 27.3	+2.4
DAV				*e*Sn		Sn	09 13 02.4	+4.7
DMPH	**Davao City--Mi**	**2.81**	**191**	⇑*e*P		Pn	09 12 27.8	+2.9
DMPH				*e*S		Sn	09 13 04.8	+7.1
MATI	**Mati**	**2.90**	**176**	*e*P		Pn	09 12 27.5	+1.4
CNP	**Catarman**	**2.97**	**333**	*e*P		**Pn**	**09 12 27.2**	**+0.2**
KCP	**Kidapawan**	**2.99**	**199**	⇓*e*P		**Pn**	**09 12 28.6**	**+1.2**
KCP				*i* S		**Sn**	**09 13 05.0**	**+2.8**
CTBH	**Cotabato--PC H**	**3.18**	**215**	⇑*i*P		**Pn**	**09 12 30.2**	**+0.4**
CTBH				*i* S		**Sn**	**09 13 08.5**	**+1.9**
PAGZ	**Pagadian**	**3.32**	**233**	*e*P		**Pn**	**09 12 32.2**	**+0.4**
GUIM	**Jordan**	**3.50**	**283**	*e*P		**Pn**	**09 12 34.6**	**+0.4**
RCP	**Roxas**	**3.67**	**298**	⇓*e*P		**Pn**	**09 12 37.7**	**+1.1**
GSPH	**General Santos**	**3.91**	**196**	⇓*i*P		Pn	09 12 43.2	+3.2
IPIL	**Ipil**	**4.02**	**239**	*e*P		Pn	09 12 44.0	+2.7
PVCP	**Virac**	**4.16**	**333**	⇓*e*P		**Pn**	**09 12 43.2**	**0.0**
PVCP				*i* S		Sn	09 13 45.2	+15
AUQP	**San Andres**	**4.78**	**316**	*e*P		Pn	09 12 54.2	+2.5
GQP	**Guinayangan**	**5.35**	**319**	⇓*e*P		Pn	09 13 05.2	+5.7
BOAC	**Boac**	**5.46**	**311**	*e*P		Pn	09 13 04.0	+3.0
LQP	**Lukban**	**6.12**	**314**	⇑*e*P		**Pn**	**09 13 10.4**	**+0.3**
TGY	**Tagaytay City**	**6.55**	**311**	P		**Pn**	**09 13 16.6**	**+0.6**
TGY	**Tagaytay City**	**6.55**	**311**	P		**Pn**	**09 13 16.6**	**+0.6**
	50nm,0.3s,baz=274,slow=3.5,SNR=8.1							
ARP	**Angono**	**6.68**	**315**	⇓*e*P		**Pn**	**09 13 15.2**	**-2.5**
MYLDM	**Lahad Datu**	**8.82**	**239**	*e*Pn		Pn	09 13 53.2	+6.2
MYLDM	**Lahad Datu**	**8.82**	**239**	⇓P		Pn	09 13 51.6	+4.6
TNTI	**Ternate**	**9.12**	**172**	Pn		Pn	09 13 53.8	+2.7
	216nm,1.0s							
GTOI	**Gorontalo**	**9.65**	**199**	P		**Pn**	**09 13 57.9**	**-0.5**
SDKM	**Sandakan**	**9.73**	**245**	⇑P		**Pn**	**09 13 59.9**	**+0.4**
TSM	**Tawau**	**9.83**	**236**	⇓P		Pn	09 14 04.1	+3.3
MRSI	**Marisa**	**10.18**	**204**	P		**Pn**	**09 14 06.8**	**+1.2**
	56nm,0.9s							
KKM	**Kota Kinabalu**	**10.46**	**249**	*e*Pn		Pn	09 14 12.3	+2.8
KKM	**Kota Kinabalu**	**10.46**	**249**	⇑P		Pn	09 14 12.9	+3.4
LUWI	**Luwuk**	**11.32**	**197**	P		Pn	09 14 25.6	+4.5
	187nm,0.8s,4μm							
LUWI	**Luwuk**	**11.32**	**197**	*e*Pn		Pn	09 14 25.1	+4.0
APSI	**Ampana**	**11.57**	**203**	P		Pn	09 14 28.7	+4.2
	122nm,1.0s,1μm							
SANI	**Sanana**	**11.83**	**180**	P		**Pn**	**09 14 26.8**	**-1.3**
FAKI	**Fak Fak**	**14.11**	**154**	*e*Pn		Pn	09 15 01.2	+2.3
YULB	**Yu-li**	**14.21**	**342**	*e*Pn		**Pn**	**09 15 01.6**	**+1.6**
	22nm,0.8s							
TTSI	**Tana Toraja**	**14.25**	**206**	P		**P**	**09 15 05.2**	**-0.6**
	118nm,0.7s,2μm							
TPUB	**Ta-pu**	**14.34**	**339**	*e*Pn		**P**	**09 15 05.5**	**-1.3**
	46nm,0.7s							
SSLB	**Suanglung**	**14.68**	**341**	*e*Pn		**P**	**09 15 09.7**	**-1.0**
SPSI	**Sidrap Palu**	**15.10**	**205**	P		**P**	**09 15 18.9**	**+3.6**
	44nm,0.8s							
BNSI	**Bone**	**15.36**	**203**	P		**P**	**09 15 21.5**	**+3.3**
	77nm,1.6s,1μm							
SBUM	**Sibu**	**15.60**	**243**	*e*Pn		**P**	**09 15 21.6**	**+0.7**
	112nm,1.1s							
SBUM	**Sibu**	**15.60**	**243**	⇓P		**P**	**09 15 21.4**	**+0.6**
DLV	**T Lat**	**17.38**	**278**	*e*P		**P**	**09 15 43.1**	**+2.3**
KSM	**Kuching**	**17.74**	**243**	⇓P		**P**	**09 15 47.3**	**+2.7**
QIZ	**Qiongzhong**	**18.14**	**302**	P		**P**	**09 15 49.8**	**+0.8**
QIZ				pP		pP	09 16 09.8	+6.5
QIZ				sP		sP	09 16 22.5	+10
QIZ				S		**Sn**	**09 19 13.3**	**+1.7**
QIZ				pmax		pmax		
	comp=Z,22nm,1.1s							
QIZ				pmax		pmax		
	comp=Z,270nm,6.4s							
QIZ				LR		LR		
	comp=E,250nm,21.2s							
QIZ				LR		LR		
	comp=Z,830nm,19.5s							
QIZ	**Qiongzhong**	**18.14**	**302**	*e*P		**P**	**09 15 49.3**	**+0.3**
	19nm,0.8s							
GENI	**Genyem**	**18.72**	**131**	P		Pn	09 16 07.5	+11
JAY	**Jayapura**	**19.08**	**129**	P		**Pn**	**09 16 01.0**	**+0.2**
JAY	**Jayapura**	**19.08**	**129**	P		**Pn**	**09 16 01.0**	**+0.2**
	2.3nm,0.3s,baz=288,slow=11,SNR=6.7							
JAY				LR		LR	09 23 14.7	
	comp=Z,538nm,19.6s,baz=346,slow=36							
SOEI	**Soe**	**19.57**	**185**	*e*P		**P**	**09 16 05.3**	**+0.6**
	89nm,0.9s							
BATI	**Baumata**	**20.08**	**187**	P		**P**	**09 16 11.3**	**+1.2**
BATI	**Baumata**	**20.08**	**187**	P		**P**	**09 16 11.3**	**+1.2**
	67nm,0.5s,baz=90,slow=8.1,SNR=8.5							
BATI				LR		LR	09 25 06.8	
	comp=Z,308nm,21.9s,baz=316,slow=40							
UBPT	**Khong Chiam**	**20.80**	**287**	P		**P**	**09 16 19.6**	**+1.7**
	35nm,0.8s							
SSE	**Sheshan**	**21.61**	**349**	P		**P**	**09 16 27.3**	**+0.9**
SSE				pmax		pmax		
	comp=Z,29nm,1.3s							
SSE				pmax		pmax		
	comp=Z,140nm,3.5s							
NJ2	**Nanjing**	**23.07**	**344**	*e*P		**P**	**09 16 41.0**	**-0.9**
NJ2				pP		pP	09 17 03.3	+6.5
NJ2				sP		sP	09 17 16.0	+10
NJ2				S		**S**	**09 20 44.5**	**-2.9**
NJ2				sS		sS	09 21 23.0	+8.3
NJ2				pmax		pmax		
	comp=Z,50nm,1.1s							
NJ2				pmax		pmax		
	comp=Z,260nm,4.4s							
NJ2				LR		LR		
	comp=N,560nm,24.2s							
NJ2				LR		LR		
	comp=E,290nm,24.8s							
NJ2				LR		LR		
	comp=Z,390nm,23.2s							
MTN	**Manton Dam**	**23.11**	**167**	P		**P**	**09 16 41.7**	**-0.7**
	baz=23,SNR=32							
MTN	**Manton Dam**	**23.11**	**167**	P		**P**	**09 16 42.2**	**-0.2**
	baz=3.9,SNR=11							
KTGM	**Kuala Trenggan**	**23.16**	**260**	⇓P		**P**	**09 16 44.8**	**+1.9**
KDU	**Kakadu**	**23.29**	**164**	P		**P**	**09 16 43.6**	**-0.4**
	baz=24,SNR=41							
KDU	**Kakadu**	**23.29**	**164**	P		**P**	**09 16 43.5**	**-0.6**
	baz=3.8,SNR=23							
WHN	**Wuhan**	**23.29**	**334**	P		**P**	**09 16 43.5**	**-0.5**
WHN				pmax		pmax		
	comp=Z,120nm,1.0s							
CHBT	**CHBT**	**23.44**	**279**	P		**P**	**09 16 47.0**	**+1.4**
	25nm,1.2s							
JNU	**Nakatsue**	**23.57**	**10**	P		**P**	**09 16 46.4**	**-0.2**
JNU	**Nakatsue**	**23.57**	**10**	P		**P**	**09 16 46.4**	**-0.2**
	14nm,0.8s,baz=147,slow=4.9,SNR=6.3							
JNU				LR		LR	09 25 43.4	
	comp=Z,206nm,19.1s,baz=145,slow=36							
KGM	**Kluang**	**23.91**	**252**	⇑P		**P**	**09 16 50.7**	**+0.9**
SLVN	**Son La**	**24.16**	**301**	*e*P		**P**	**09 16 52.2**	**+0.2**
GYA	**Guiyang**	**24.68**	**315**	*e*P		**P**	**09 16 58.0**	**+1.2**
GYA				pP		pP	09 17 22.5	+9.1
GYA				sP		sP	09 17 35.0	+13
GYA				PP		PnPn	09 17 41.3	+9.0
GYA				PcP		**PcP**	**09 20 33.5**	**+0.8**
GYA				S		**S**	**09 21 10.5**	**-3.4**
GYA				sS		sS	09 21 51.3	+9.1
GYA				ScP		ScP	09 24 01.0	-4.6
GYA				PcS		**PcS**	**09 24 11.5**	**-1.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PBKT	**Sadao Pong**	**25.30**	**288**	P		**P**	**09 17 03.1**	**+0.7**
	32nm,1.0s,1μm							
IPM	**Ipoh**	**25.40**	**260**	*e*P		**P**	**09 17 04.2**	**+0.9**
	36nm,0.7s							
IPM	**Ipoh**	**25.40**	**260**	⇓P		**P**	**09 17 04.7**	**+1.3**
KNRA	**Kununurra**	**25.52**	**174**	P		**P**	**09 17 04.9**	**+0.6**
	baz=26,SNR=23							
ENH	**Enshi**	**25.52**	**325**	*e*P		**P**	**09 17 03.3**	**-1.0**
	22nm,0.9s							
KULM	**Kulim**	**25.59**	**262**	*e*P		P	09 17 12.7	+7.6
	34nm,1.2s							
UTTA	**Uttaradit**	**25.96**	**290**	P		**P**	**09 17 09.7**	**+1.4**
	9.9nm,0.8s,66nm							
NANT	**Nan**	**26.10**	**293**	P		**P**	**09 17 09.2**	**-0.5**
	137nm,0.9s							
SUKH	**Sukhothai**	**26.75**	**289**	P		**P**	**09 17 16.9**	**+1.4**
	7.8nm,0.9s,66nm							
KMI	**Kunming**	**26.86**	**307**	P		**P**	**09 17 18.0**	**+1.3**
KMI				S		**S**	**09 21 45.5**	**-3.0**
KMI				pmax		pmax		
	comp=Z,16nm,0.5s							
KMI				LR		LR		
	comp=N,250nm,18.1s							
KMI				LR		LR		
	comp=E,240nm,18.8s							

KMI				LR		LR		
	comp=Z,310nm,21.0s							
LAMP	**Lampang**	**27.00**	**292**	P		**P**	**09 17 20.2**	**+2.4**
	8.9nm,0.7s,122nm							
UMPA	**Umpang Tak**	**27.22**	**286**	P		**P**	**09 17 23.4**	**+3.6**
	19nm,0.8s,2μm							
KHLT	**Khaolaem Dam**	**27.27**	**283**	P		P	09 17 25.3	+5.1
	6.2nm,1.8s							
KSAR	**Wonju Array Be**	**27.51**	**3**	P		**P**	**09 17 23.1**	**+1.0**
KSRS	**Korea Array**	**27.52**	**3**	P		**P**	**09 17 23.1**	**+0.9**
	8.5nm,0.8s,baz=184,slow=9.9,SNR=21							
KSRS				LR		LR	09 27 11.8	
	comp=Z,194nm,21.3s,baz=95,slow=34							
CM31	**Chiang Mai Arr**	**27.62**	**291**	*e*P		**P**	**09 17 22.9**	**-0.4**
	17nm,0.6s							
CMAR	**Chiang Mai Arr**	**27.62**	**291**	P		**P**	**09 17 23.4**	**+0.1**
CMAR				PcP		**PcP**	**09 20 40.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**27.62**	**291**	P		**P**	**09 17 23.4**	**+0.1**
	11nm,0.8s,baz=101,slow=7.2,SNR=33							
CMAR				PcP		**PcP**	**09 20 40.7**	**+1.2**
	4.6nm,0.6s,baz=61,slow=1.0,SNR=17							
CMAR				LR		LR	09 28 56.0	
	comp=Z,383nm,20.2s,baz=156,slow=38							
CHTO	**Chiang Mai**	**27.70**	**292**	*e*P		**P**	**09 17 24.4**	**+0.3**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.8s							
CHTO	**Chiang Mai**	**27.70**	**292**	P		**P**	**09 17 25.1**	**+1.0**
	comp=Z,86nm,0.9s							
CHTO	**Chiang Mai**	**27.70**	**292**	*e*P		**P**	**09 17 24.4**	**+0.3**
	comp=Z,3.2nm,0.8s							
PSI	**Prapat**	**27.85**	**257**	P		**P**	**09 17 25.9**	**+0.4**
PSI				PcP		**PcP**	**09 20 39.7**	**-0.6**
PSI	**Prapat**	**27.85**	**257**	P		**P**	**09 17 25.9**	**+0.4**
	comp=Z,12nm,1.0s,baz=65,slow=7.4,SNR=9.4							
PSI				PcP		**PcP**	**09 20 39.7**	**-0.6**
	comp=Z,5.4nm,0.6s,baz=162,slow=3.9,SNR=3.7							
CMAI	**Chiengmai2**	**27.92**	**294**	P		**P**	**09 17 26.4**	**+0.2**
	comp=Z,56nm,1.0s,comp=Z,4μm							
PMG	**Port Moresby**	**28.41**	**132**	*e*P		P	09 17 34.8	+4.4
	comp=Z,49nm,1.3s							
XAN	**Xi'an**	**28.75**	**329**	P		**P**	**09 17 31.8**	**-1.4**
XAN				pP		pP	09 17 55.5	+5.6
XAN				pmax		pmax		
	comp=Z,12nm,0.8s							
MJAR	**Matsushiro Arr**	**28.75**	**21**	P		**P**	**09 17 33.1**	**-0.1**
MJAR	**Matsushiro Arr**	**28.75**	**21**	P		**P**	**09 17 33.1**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=200,slow=9.6,SNR=7.7							
MJAR				LR		LR	09 29 00.6	
	comp=Z,165nm,19.3s,baz=125,slow=36							
DL2	**Dalian**	**29.19**	**353**	P		**P**	**09 17 37.8**	**+0.8**
DL2				pmax		pmax		
	comp=Z,57nm,0.7s							
CD2	**Chengdu**	**29.48**	**318**	*e*P		**P**	**09 17 41.0**	**+1.3**
CD2				sP		sP	09 18 18.3	+14
CD2				PP		**PnPn**	**09 18 41.5**	**+4.5**
CD2				S		**S**	**09 22 28.0**	**-1.3**
CD2				SS		**SnSn**	**09 24 08.5**	**+5.3**
CD2				pmax		pmax		
	comp=Z,40nm,0.6s							
CD2				pmax		pmax		
	comp=Z,210nm,8.3s							
GSI	**Gunungsitoli**	**29.57**	**255**	*e*P		**P**	**09 17 39.6**	**-1.1**
	comp=Z,25nm,0.8s							
WRAB	**Tennant Creek**	**30.71**	**165**	*e*P		**P**	**09 17 49.9**	**-0.8**
WRAB	**Tennant Creek**	**30.71**	**165**	*e*P		**P**	**09 17 49.9**	**-0.8**
WRA	**Warramunga Arr**	**30.72**	**165**	P		**P**	**09 17 49.4**	**-1.4**
WRA				PcP		**PcP**	**09 20 47.5**	**+0.3**
WRA				S		S	09 22 42.0	-6.8
WRA	**Warramunga Arr**	**30.72**	**165**	P		**P**	**09 17 49.4**	**-1.4

comp=Z,21nm,1.1s
LSA Lhasa 38.10 306 *e*P P **09 18 55.5 +0.5**
comp=Z,21nm,1.1s
HABR Khabarovsk 39.22 9 *e*P P **09 19 03.6 +0.1**
HABR *e* 09 20 34.3
HABR *e* 09 21 09.2
HABR *e*S S **09 24 55.7 -3.1**
HABR pmax pmax
comp=Z,40nm,1.1s
HABR MLR MLR
comp=Z,275nm,21.0s
KLR Kul'dur 39.53 6 *e*P P 09 19 02.8 -3.3
HIA Hailar 39.63 354 *e*P P **09 19 06.5 -0.5**
comp=Z,13nm,0.8s
MORW Morawa 39.89 194 P P **09 19 10.5 +1.1**
baz=41,SNR=6.7
TAPN Taplejung 40.08 301 *e*P P **09 19 11.1 -0.3**
comp=Z,20nm,0.5s
ODAN Odare 40.20 300 *e*P P **09 19 12.2 -0.1**
comp=Z,80nm,0.7s
H11S3 WAKE ISLAND Hy 40.23 73 T T 10 02 03.0
baz=263,slow=72,SNR=362
H11S1 WAKE ISLAND Hy 40.25 73 T T 10 02 05.5
baz=263,slow=72,SNR=240
H11S2 WAKE ISLAND Hy 40.25 73 T T 10 02 04.9
baz=263,slow=72,SNR=149
QLP Quilpie 40.30 154 P P **09 19 12.1 -0.6**
baz=40,SNR=3.6
QLP Quilpie 40.30 154 P P **09 19 11.9 -0.8**
baz=15,SNR=5.2
FORT Forrest 40.45 177 *e*P P **09 19 14.1 +0.2**
comp=Z,154nm,0.6s
FORT Forrest 40.45 177 P P **09 19 14.9 +1.0**
baz=41,SNR=14
FORT Forrest 40.45 177 P P **09 19 14.4 +0.5**
baz=15,SNR=83
H11N1 WAKE ISLAND Hy 40.58 71 T T 10 02 35.9
baz=267,slow=75,SNR=401
H11N2 WAKE ISLAND Hy 40.59 71 T T 10 02 36.3
baz=267,slow=75,SNR=270
H11N3 WAKE ISLAND Hy 40.60 71 T T 10 02 34.3
baz=267,slow=75,SNR=389
RAMN Ramite 40.90 300 *e*P P **09 19 18.0 -0.1**
comp=Z,49nm,0.6s
ULN Ulaanbaatar 41.14 341 *e*P P **09 19 19.9 +0.3**
comp=Z,14nm,0.8s
SONM Songino Array 41.33 340 P P **09 19 21.1 -0.1**
SONM PcP PcP **09 21 18.5 0.0**
SONM ScP ScP **09 25 04.5 +2.0**
SONM Songino Array 41.33 340 P P **09 19 21.1 -0.1**
comp=Z,5.7nm,0.7s,baz=157,slow=8.3,SNR=31
SONM PcP PcP **09 21 18.5 0.0**
comp=Z,3.0nm,0.8s,baz=164,slow=2.9,SNR=4.1
SONM ScP ScP **09 25 04.5 +2.0**
comp=Z,0.9nm,0.7s,baz=162,slow=5.5,SNR=4.8
SONM LR LR 09 38 54.5
comp=Z,213nm,18.6s,baz=42,slow=40
JIRN Jiri 41.46 301 *e*P P **09 19 22.7 -0.1**
comp=Z,58nm,0.5s
GUN Gumba 41.80 301 *e*P P **09 19 25.2 -0.4**
comp=Z,43nm,0.6s
PKI Pulchoki 42.10 300 *e*P P **09 19 27.2 -0.8**
comp=Z,16nm,0.6s
PKIN Phulchoki 42.11 300 *e*P P **09 19 27.3 -0.7**
KKN Kakani 42.27 301 *e*P P **09 19 28.6 -0.7**
comp=Z,26nm,0.7s
DMN Daman 42.37 300 *e*P P **09 19 29.4 -0.7**
comp=Z,32nm,0.8s
GKN Gorkha 42.88 301 *e*P P **09 19 33.2 -0.9**
comp=Z,20nm,0.4s
NWAO Narrogin (SRO) 43.37 191 P P **09 19 37.6 -0.1**
NWAO Narrogin (SRO) 43.37 191 P P **09 19 37.6 -0.1**
comp=Z,28nm,0.8s,baz=23,slow=8.1,SNR=9.8
BBOO Buckleboo 43.49 168 *e*P P **09 19 38.9 +0.2**
comp=Z,899nm,0.6s
BBOO Buckleboo 43.49 168 P P **09 19 39.4 +0.7**
baz=44,SNR=8.5
BBOO Buckleboo 43.49 168 P P **09 19 39.1 +0.4**
baz=17,SNR=88
KOLN Koldanda 43.69 300 *e*P P **09 19 40.2 -0.6**
comp=Z,49nm,0.7s
DANN Dangsing 43.72 301 *e*P P **09 19 40.3 -0.7**
comp=Z,43nm,0.6s
STKA Stephens Creek 44.08 161 P P **09 19 43.9 +0.4**
STKA Stephens Creek 44.08 161 P P **09 19 43.9 +0.4**
comp=Z,10.0nm,0.4s,baz=344,slow=7.2,SNR=87
STKA LR LR 09 41 09.3
comp=Z,84nm,18.7s,baz=1.2,slow=40
ZAK Zakamensk 44.57 339 *e*P P **09 19 45.7 -1.6**
ZAK *e* 09 21 29.4
HTT Hallett 44.76 165 P P **09 19 49.9 +1.0**
baz=45,SNR=16
HTT Hallett 44.76 165 P P **09 19 49.8 +0.9**
baz=18,SNR=9.9
RKGY Rocky Gully 45.06 191 P P **09 19 53.0 +1.9**
baz=46,SNR=6.3
CMSA Cobar Meteorol 45.26 156 P P **09 19 53.4 +0.6**
baz=46,SNR=11
TLY Talaya 45.55 341 *e*P P **09 19 55.4 +0.5**
TLY *e* 09 20 09.9
TLY *e*S S 09 26 51.7 +20
TLY pmax pmax
comp=Z,8.0nm,0.6s
TLY Talaya 45.55 341 *e*P P **09 19 54.5 -0.4**
comp=Z,8.8nm,0.7s
MOY Mondy 46.45 339 *e*P P **09 20 02.4 +0.3**
HYB Hyderabad 46.68 285 *i*P P **09 20 03.3 +0.7**
HYB *e*pP pP 09 20 29.0 +7.1
CLNS Chul'man 46.87 359 *e*P P **09 20 06.2 +1.0**
CLNS pmax pmax
comp=Z,24nm,0.9s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
WMQ Urumqi 47.42 322 P P **09 20 11.0 +1.2**
WMQ pP pP 09 20 36.8 +9.5
WMQ sP sP 09 20 49.5 +14
WMQ PcP PcP **09 21 40.3 +1.0**
WMQ PP PP **09 22 03.3 +1.7**
WMQ ScP ScP 09 25 22.5 -4.9
WMQ S S 09 26 55.5 -3.5
WMQ sS sS 09 27 40.8 +12
WMQ ScS ScS 09 29 50.5 -6.7
WMQ SS SS 09 30 18.8 -8.7
WMQ LR LR
comp=E,420nm,28.4s
WMQ LR LR
comp=E,220nm,20.3s
WMQ LR LR
comp=E,280nm,24.4s
ARPS Mount Arapiles 48.70 163 P P **09 20 20.5 +0.9**
baz=49,SNR=7.9
CAN Canberra 49.90 155 *e*P P **09 20 30.0 +1.2**
CAN pmax pmax
comp=Z,46nm,1.3s
CAN Canberra 49.90 155 *e*P P **09 20 30.0 +1.2**
comp=Z,46nm,1.3s
CNB Canberra Magne 50.04 155 P P **09 20 31.5 +1.6**
baz=50,SNR=7.0
PETK Petropavlovsk- 50.09 24 P P **09 20 31.9 +1.9**
PETK 09 21 48.8
PETK Petropavlovsk- 50.09 24 P P **09 20 31.9 +1.9**
PETK PcP PcP **09 21 48.8 0.0**
PETK Petropavlovsk- 50.09 24 P P **09 20 31.9 +1.9**
comp=Z,13nm,0.8s,baz=197,slow=7.3,SNR=12
PETK PcP PcP **09 21 48.7 0.0**
comp=Z,3.3nm,0.6s,baz=193,slow=5.9,SNR=3.4
PETK LR LR 09 39 57.4
comp=Z,102nm,21.6s,baz=227,slow=34
TOO Toolangi 50.57 160 P P **09 20 35.3 +1.4**
baz=51,SNR=12
DZM Mont Dzumac 50.75 129 P P **09 20 37.2 +1.7**
DZM Mont Dzumac 50.75 129 P P **09 20 37.2 +1.7**
comp=Z,7.7nm,0.6s,baz=274,slow=9.5,SNR=12
YAK Yakutsk 52.14 2 *e*P P **09 20 44.3 -0.9**
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,52nm,0.9s
MK31 Makanchi Array 52.23 323 *e*P P **09 20 45.4 -0.7**
MK31 pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 52.23 323 P P **09 20 45.7 -0.5**
MKAR 09 21 56.8
MKAR Makanchi Array 52.23 323 P P **09 20 45.7 -0.5**
MKAR PcP PcP **09 21 56.8 0.0**
MKAR Makanchi Array 52.23 323 P P **09 20 45.7 -0.5**
comp=Z,21nm,0.7s,baz=122,slow=8.2,SNR=190
MKAR PcP PcP **09 21 56.8 0.0**
comp=Z,8.9nm,0.8s,baz=116,slow=5.5,SNR=6.0
KSH Kashi 53.35 312 *e*P P **09 20 56.0 +1.3**
KSH *e*PP PP **09 22 59.5 +3.9**
KSH *e*PcS PcS **09 26 00.0 -0.5**
KSH *e*S S 09 28 16.8 -4.8
KSH *e*sS sS 09 29 02.0 +10
KSH *e*SS SS 09 31 57.0 -5.4
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,340nm,5.6s
KSH LR LR
comp=Z,90nm,3.9s
KSH LR LR
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,210nm,5.1s
ULHL Ulahol 54.12 316 *i*P P **09 21 00.1 -0.3**
ULHL Ulahol 54.12 316 P P **09 21 00.2 -0.3**
SNR=8.5
KZA Kyzart 54.75 315 *i*P P **09 21 05.5 +0.3**
KZA Kyzart 54.75 315 P P **09 21 05.5 +0.3**
SNR=15
TKM2 Tokmak 2 54.81 316 P P **09 21 05.2 -0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 54.81 316 P P **09 21 04.7 -0.7**
SNR=12
TKM2 Tokmak 2 54.81 316 *e*P P **09 21 04.7 -0.7**
comp=Z,6.4nm,0.8s
ZAA0 Zalesovo Array 54.88 332 *e*P P **09 21 04.2 -1.2**
ZALV Zalesovo Beam 54.88 332 P P **09 21 04.2 -1.2**
ZALV 09 22 05.7
ZALV Zalesovo Beam 54.88 332 P P **09 21 04.2 -1.2**
ZALV PcP PcP **09 22 05.7 -1.1**
ZALV Zalesovo Beam 54.88 332 P P **09 21 04.2 -1.2**
comp=Z,13nm,0.7s,baz=118,slow=6.8,SNR=55
ZALV PcP PcP **09 22 05.7 -1.1**
comp=Z,6.0nm,0.8s,baz=129,slow=4.2,SNR=4.6
KBK Karagaybulak 55.16 316 P P **09 21 08.2 +0.3**
SNR=7.9
UCH Uchtor 55.31 315 *i*P P **09 21 09.6 +0.3**
UCH Uchtor 55.31 315 P P **09 21 09.6 +0.3**
SNR=22
AAK Ala-Archa 55.47 315 *i*P P **09 21 10.3 +0.2**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 55.47 315 P P **09 21 09.1 -1.0**
AAK Ala-Archa 55.47 315 P P **09 21 09.1 -1.0**
comp=Z,1.5nm,0.3s,baz=128,slow=8.5,SNR=6.6
USP Ospenovka 55.69 316 *i*P P **09 21 10.9 -0.6**
USP Ospenovka 55.69 316 P P **09 21 10.9 -0.6**
SNR=12
AML Almayashu 55.85 315 P P **09 21 13.2 +0.1**
SNR=16
EKS2 Erkin-Say 55.98 315 *i*P P **09 21 13.4 -0.2**
EKS2 Erkin-Say 55.98 315 P P **09 21 13.5 -0.2**
SNR=7.2
EKS2 Erkin-Say 55.98 315 *e*P P **09 21 13.1 -0.6**
comp=Z,8.0nm,0.8s
NVS Novosibirsk 56.16 332 *i*P P 09 21 12.2 -2.3
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=Z,16nm,0.8s
NVS pmax pmax
comp=E,12nm,0.9s
SEY Seymchan 56.26 14 P P **09 21 16.5 +1.3**
SEY 09 22 12.6
SEY Seymchan 56.26 14 P P **09 21 16.5 +1.3**
SEY PcP PcP **09 22 12.6 +0.7**
SEY Seymchan 56.26 14 P P **09 21 16.5 +1.3**
comp=E,5.0nm,0.6s,baz=209,slow=6.4,SNR=20
SEY PcP PcP **09 22 12.6 +0.7**
comp=E,5.3nm,0.7s,baz=210,slow=4.9,SNR=5.1
KURK Kurchatov 56.29 326 *e*P P **09 21 14.6 -0.9**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 56.29 326 *e*P P **09 21 14.6 -0.9**
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 56.29 326 P P **09 21 14.9 -0.6**
comp=Z,11nm,0.5s,baz=128,slow=6.6,SNR=88
FX1 Attu Island--F 57.19 32 P P **09 21 22.4 +0.5**
KBL Kabul 57.39 305 *e*P P **09 21 23.3 -0.7**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 57.39 305 *e*P P **09 21 23.3 -0.7**
comp=Z,10.0nm,0.8s
KK31 Karatay Array 58.39 315 *i*P P **09 21 29.6 -0.9**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 58.39 315 *e*P P **09 21 29.7 -0.8**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 58.39 315 *e*P P **09 21 29.7 -0.8**
comp=Z,2.3nm,0.5s
TIXI Tiksi 61.76 1 *e*P P **09 21 53.0 0.0**
TIXI pmax pmax
comp=Z,46nm,0.8s
TIXI Tiksi 61.76 1 *e*P P **09 21 53.0 0.0**
comp=Z,46nm,0.8s
BVA0 Borovoye Array 61.88 326 P P **09 21 53.0 -1.2**
BVA0 pmax pmax
comp=Z,17nm,1.3s
BVAR Borovoye Array 61.88 326 P P **09 21 53.7 -0.5**
BVAR 09 22 34.2
BVAR Borovoye Array 61.88 326 P P **09 21 53.7 -0.5**
BVAR PcP PcP **09 22 34.2 -0.3**
BVAR Borovoye Array 61.88 326 P P **09 21 53.7 -0.5**
comp=Z,7.2nm,0.8s,baz=125,slow=7.4,SNR=29
BVAR PcP PcP **09 22 34.2 -0.3**
comp=Z,6.6nm,0.7s,baz=108,slow=4.8,SNR=7.9
BRVK Borovoye 61.95 326*c i*P P **09 21 54.0 -0.7**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 61.95 326 *e*P P **09 21 53.8 -0.9**
comp=Z,15nm,0.8s
BILL Bilibino 63.85 16⇑ *e*P P **09 22 07.9 +0.9**
BILL *e**PP PcP 09 22 35.5 -6.7
BILL pmax pmax
comp=Z,41nm,1.6s
BILL Bilibino 63.85 16 *e*P P **09 22 07.7 +0.7**
comp=Z,12nm,0.8s
AB31 Akbulak array 67.05 319 P P **09 22 27.1 -0.9**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 67.05 319 *e*P P **09 22 26.9 -1.1**
comp=Z,11nm,0.8s
RPZ Rata Peaks 67.16 146 *e*P P **09 22 29.0 +0.2**
comp=Z,13nm,0.6s
KHZ Kahutara 67.74 144 *e*P P **09 22 32.2 -0.1**
SVE Sverdlovsk 68.44 327 *e*P P **09 22 36.0 -0.6**
SVE pmax pmax
comp=Z,28nm,0.9s
AKTO Aktyubinsk 68.50 320 P P **09 22 36.3 -0.8**
AKTO Aktyubinsk 68.50 320 P P **09 22 36.3 -0.8**
AKTO Aktyubinsk 68.50 320 P P **09 22 36.3 -0.8**
comp=Z,9.0nm,0.8s,baz=85,slow=7.8,SNR=38
AKTO LR LR 09 54 41.8
comp=Z,159nm,18.2s,slow=38
ARU Arti 69.45 327 *e*P P **09 22 41.6 -1.3**
ARU pmax pmax
comp=Z,32nm,0.7s
ARU Arti 69.45 327 *e*P P **09 22 41.6 -1.3**
comp=Z,32nm,0.7s
TNA Tin City 71.25 24 *e*P P **09 22 54.7 +1.0**
comp=Z,5.3nm,0.7s
CASY Casey 76.79 186 P P **09 23 25.8 0.0**
comp=Z,20nm,0.8s
PRGR Permogore 76.84 331 *e*P P **09 23 24.6 -1.7**
PRGR pmax pmax
comp=Z,33nm,0.8s
IM04 Indian Mountai 77.04 24 *e*P P **09 23 28.5 +1.0**
GNI Garni 77.10 309 LR LR 10 01 39.2
comp=Z,117nm,19.7s,baz=88,slow=39
RAYN Ar Rayn 77.53 292 *e*P P **09 23 30.4 -0.7**
comp=Z,33nm,0.8s
NCK Nalchik 77.83 312 *e*P P **09 23 32.0 -0.3**
KBZ Khabaz 78.33 313 P P **09 23 34.5 -0.5**
KBZ Khabaz 78.33 313 P P **09 23 34.5 -0.5**
comp=Z,12nm,0.9s,baz=108,slow=3.5,SNR=18
KBZ LR LR 10 02 29.5
comp=Z,125nm,19.3s,baz=69,slow=39
TRF Thorofare Moun 78.41 27 *e*P P **09 23 36.0 +0.7**
comp=Z,10nm,0.8s
KIV Kislovodsk 78.47 313 *e*P P **09 23 36.0 +0.1**
KIV pmax pmax
comp=Z,37nm,0.9s
KIV MLR MLR
comp=Z,126nm,18.0s
KIV Kislovodsk 78.47 313 *e*P P **09 23 35.4 -0.5**
comp=Z,32nm,0.8s
COLD Coldfoot 78.55 23 *e*P P **09 23 37.1 +1.4**
comp=Z,10nm,0.9s
VRHR Novokhopersk 78.91 320 *e*P P 09 23 35.7 -2.3
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,40nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
MCK McKinley 79.01 27 *e*P P **09 23 38.8 +0.4**
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 79.01 27 *e*P P **09 23 38.8 +0.4**
comp=Z,26nm,1.0s
DAGI Agillar 79.20 310 *i*P P **09 23 40.3 +0.3**
DDEM Demirkent 79.34 310 *i*P P **09 23 41.0 +0.3**
DBAD Bademkaya 79.37 310 *i*P P **09 23 41.0 0.0**
COLA College 79.48 26⇑ *i*P P **09 23 41.3 +0.5**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 79.48 26 *e*P P **09 23 40.7 -0.1**
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 79.78 330 *e*P P 09 23 39.3 -3.2
KLMR pmax pmax
comp=Z,20nm,0.5s
ILAR Eielson Array 79.89 26 P P **09 23 42.9 -0.2**
ILAR PKKPbc **PKKPbc 09 42 28.2 -2.8**
ILAR Eielson Array 79.89 26 P P **09 23 42.9 -0.2**
comp=Z,3.5nm,0.8s,baz=243,slow=5.0,SNR=43
ILAR PKKPbc **PKKPbc 09 42 28.2 -2.8**
comp=Z,0.2nm,0.6s,baz=128,slow=4.0,SNR=4.2
ILAR LR LR 09 58 09.6
comp=Z,44nm,21.9s,baz=282,slow=35
VORD Divnogorie 80.39 320 *e*P P 09 23 43.6 -2.4
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,50nm,0.8s
VSR Storozhevoye 80.45 320 *e*P P 09 23 44.3 -2.1
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.9s
KELT Kelkit 81.29 309 *i*P P **09 23 51.3 -0.1**
MENT Mentasta 81.40 28 *e*P P **09 23 51.6 +0.4**
OBN Obninsk 81.70 325⇓ *e*P P **09 23 51.6 -1.3**
OBN PPP PPP 09 28 57.0
OBN pmax pmax
comp=Z,91nm,2.5s
OBN MLR MLR
comp=Z,233nm,16.0s
KEMA Kemaliye 81.97 308 *i*P P **09 23 55.3 +0.5**
SUSE Susehri 82.09 309 *i*P P **09 23 55.6 +0.1**
GZT Gaziantep 82.91 307 *i*P P **09 24 00.7 +0.9**
JOF Joensuu 83.46 333 *e*P P **09 24 01.9 0.0**
JOF Joensuu 83.46 333 *e*p P **09 24 01.9 0.0**
KEV Kevo 83.94 340 *e*P P **09 24 04.1 -0.1**
KEV Kevo 83.94 340 *e*p P **09 24 04.1 -0.1**
SPITS Spitsbergen Ar 84.37 349 P P **09 24 06.6 +0.2**
SPITS Spitsbergen Ar 84.37 349 P P **09 24 06.6 +0.2**
comp=Z,30nm,0.8s,baz=83,slow=6.9,SNR=25
BOYT Boyabat 84.42 311 *i*P P **09 24 07.3 -0.1**
SIM Simferopol' 84.49 315 *e*P P **09 24 07.0 -0.6**
SIM pmax pmax
comp=Z,30nm,0.8s
ARCES ARCESS Array B 84.50 340 P P **09 24 07.1 -0.1**
ARCES ARCESS Array B 84.50 340 P P **09 24 07.1 -0.1**
comp=Z,19nm,0.7s,baz=81,slow=5.9,SNR=68
HYT Haines Junctio 84.59 29 *e*P P **09 24 08.2 +0.3**
CDAG Cicekdag 85.09 309 *i*P P **09 24 10.2 -0.7**
GULE Gulek 85.12 307 *i*P P **09 24 11.2 +0.1**
MMAI Mount Meron Ar 85.25 303 P P **09 24 11.3 -0.4**
MMAI Mount Meron Ar 85.25 303 P P **09 24 11.3 -0.4**
comp=Z,6.2nm,0.7s,baz=56,slow=6.2,SNR=5.9
BR131 Keskin Array S 85.63 309 *e*P P **09 24 12.3 -1.2**
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 85.63 309 P P **09 24 12.3 -1.2**
BRTR Keskin Array B 85.63 309 P P **09 24 12.3 -1.2**
comp=Z,6.8nm,0.8s,baz=98,slow=4.5,SNR=35
BRTR LR LR 10 08 10.2
comp=Z,61nm,18.8s,baz=95,slow=40
KAF Kangasniemi 85.89 332 *e*P P **09 24 13.8 -0.4**
KAF Kangasniemi 85.89 332 *e*p P **09 24 13.8 -0.4**
VSU Vasula 86.51 329⇑ *i*P P **09 24 17.3 0.0**
VSU pmax pmax
comp=Z,77nm,0.9s
AKASG Malin Array Be 86.75 321 *i*P P **09 24 17.3 -1.3**
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG Malin Array Be 86.75 321 P P **09 24 17.4 -1.2**
AKASG Malin Array Be 86.75 321 P P **09 24 17.4 -1.2**
comp=Z,11nm,0.6s,baz=68,slow=4.4,SNR=61
AKASG LR LR 10 07 39.3
comp=Z,86nm,18.7s,baz=95,slow=39
AKBB Malin Array Si 86.75 321 *e*P P **09 24 16.9 -1.7**
AKBB Malin Array Si 86.75 321 *e*P P **09 24 16.9 -1.7**
AK01 Malin Array Si 86.76 321 *e*P P **09 24 17.2 -1.4**
KIEV Kiev 86.76 321 *e*P P **09 24 17.1 -1.6**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 86.76 321 *e*P P **09 24 17.1 -1.6**
comp=Z,15nm,0.8s
AK02 Malin Array Si 86.77 321 *e*P P **09 24 17.6 -1.1**
CFR Carcaliu 88.61 316⇑ *i*P P **09 24 26.7 -1.0**
CFR Carcaliu 88.61 316⇑ *i*P P **09 24 26.7 -1.0**
TLB Topalu 88.81 315⇓ *i*P P 09 24 26.7 -1.9
TLB Topalu 88.81 315⇓ *i*P P 09 24 26.7 -1.9
KMBO Kilima Mbogo 89.02 269 *e*P P **09 24 29.7 -0.8**
comp=Z,4.8nm,1.0s
KMBO Kilima Mbogo 89.02 269 P P **09 24 29.9 -0.6**
comp=Z,4.0nm,0.9s,baz=57,slow=4.4,SNR=7.5
KMBO LR LR 10 04 49.2
comp=Z,61nm,18.9s,baz=80,slow=36
TESR Tescani 89.33 317⇓ *i*P P **09 24 30.5 -0.5**
VRI Vrincioaia 89.42 316⇑ *i*P P **09 24 32.1 +0.6**
VRI Vrincioaia 89.42 316⇑ *i*P P **09 24 32.1 +0.6**
VNDA Vanda 89.55 173 P P **09 24 31.6 +0.2**
VNDA Vanda 89.55 173 P P **09 24 31.6 +0.2**
comp=Z,5.6nm,0.8s,baz=319,slow=7.6,SNR=7.4
VNDA LR LR 10 04 28.1
comp=Z,197nm,19.8s,baz=335,slow=35
BURAR Bucovina Array 90.01 318⇑ *i*P P **09 24 34.0 -0.3**
BURAR Bucovina Array 90.01 318⇑ *i*P P **09 24 34.0 -0.3**
BUR08 Bucovina Ar. S 90.01 318 *e*P P **09 24 33.6 -0.7**
MLR Muntele Rosu 90.05 316⇑ *i*P P **09 24 34.4 -0.1**
MLR Muntele Rosu 90.05 316 P P **09 24 34.4 -0.1**
MLR Muntele Rosu 90.05 316 P P **09 24 34.4 -0.1**
comp=Z,1.1nm,0.7s,baz=98,slow=6.0,SNR=7.4
KWP Kalwaria Pacla 91.07 321 *e*P P **09 24 38.8 -0.3**
KWP Kalwaria Pacla 91.07 321 *e*P P **09 24 38.8 -0.3**
KWP Kalwaria Pacla 91.07 321 *e*P P **09 24 38.7 -0.3**
comp=Z,37nm,1.0s
KOLS Kolonicke sedl 91.55 320 *e*P P **09 24 40.9 -0.4**
KOLS Kolonicke sedl 91.55 320 *e*P P **09 24 40.9 -0.4**
UZH Uzhgorod 91.62 320*d i*P P **09 24 41.3 -0.3**
UZH *e* 09 24 59.5
DRGR 91.87 318⇓ *i*P P **09 24 42.7 -0.3**
DRGR 91.87 318⇓ *i*P P **09 24 42.7 -0.3**
STHS Stebnicka Huta 92.05 321 *e*P P **09 24 44.5 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 92.05 321 *e*P P **09 24 44.5 +0.9**
CRVS Cervenica-Dubn 92.07 320 *e*P P **09 24 43.7 0.0**
CRVS pmax pmax
comp=Z,15nm,0.9s
CRVS Cervenica-Dubn 92.07 320 *e*P P **09 24 43.7 0.0**

KECS	Kecovo	92.81	320	*e*P		P	09 24 46.5	-0.6
KECS	comp=Z,3.0nm,1.0s			pmax		pmax		
KECS	Kecovo	92.81	320	*e*P		P	09 24 46.5	-0.6
NB2	NORSAR Subarra	93.03	334	P		P	09 24 46.4	-1.5
NB2	comp=Z,11nm,0.8s,baz=66,slow=4.6 NORSAR Subarra	93.03	334	P		P	09 24 46.4	-1.5
NOA	baz=66,slow=4.6 NORSAR Array B	93.03	334	P		P	09 24 46.5	-1.5
NOA	NORSAR Array B	93.03	334	P		P	09 24 46.5	-1.5
NOA	comp=Z,8.2nm,0.7s,baz=65,slow=4.6,SNR=21			LR		LR	10 09 46.8	
YKA	comp=Z,100nm,18.1s,baz=65,slow=38 Yellowknife Ar	94.21	24	P		P	09 24 54.0	+0.8
YKA				PKKPbc		PKKPdf	09 41 52.9	-1.7
YKA	Yellowknife Ar	94.21	24	P		P	09 24 54.0	+0.8
YKA	comp=Z,4.6nm,0.8s,baz=300,slow=4.7,SNR=84			PKKPbc		PKKPdf	09 41 52.8	-1.7
DPC	comp=Z,0.8nm,0.6s,baz=122,slow=2.7,SNR=18 Dobruska-Polom	94.74	323	*e*P		P	09 24 55.9	-0.1
DPC				*ex*		x	09 25 03.1	
UPC	Upice	94.86	323	*e*P		P	09 24 54.3	-2.2
VRAC	Vranov	94.95	322	⇓*i*P		P	09 24 57.3	+0.3
VRAC	Vranov	94.95	322	P		P	09 24 56.8	-0.2
VRAC	Vranov	94.95	322	P		P	09 24 56.8	-0.2
KHC	comp=Z,9.9nm,0.9s,baz=61,slow=5.9,SNR=7.5 Kasperske Hory	96.85	322	*e*P		P	09 25 05.3	-0.3
GERES	GERESS Array B	96.89	322	P		P	09 25 05.7	-0.3
GERES	GERESS Array B	96.89	322	P		P	09 25 05.7	-0.3
MOA	comp=Z,4.1nm,0.8s,baz=69,slow=4.6,SNR=21 Molln	96.93	321	⇓*i*PcP		P	09 25 05.8	-0.3
FETA	comp=Z,10nm,0.9s Feichten	99.46	321	⇑*i*Pdiff		Pdif	09 25 17.5	-0.1
QSPA	comp=Z,8.5nm,1.1s South Pole Qui	99.73	180	P		Pdif	09 25 18.8	+0.6
QSPA	South Pole Qui	99.73	180	P		Pdif	09 25 18.7	+0.6
DAVOX	comp=Z,1.5nm,0.7s,baz=266,slow=5.1,SNR=3.7 Davos/Dischmat	100.09	321	P		Pdif	09 25 20.3	-0.1
DAVOX	Davos/Dischmat	100.09	321	P		Pdif	09 25 20.3	-0.1
NVAR	comp=Z,2.7nm,0.7s,baz=57,slow=5.8,SNR=3.7 Mina Array Bea	103.27	47	Pdif		Pdif	09 25 35.6	+0.8
NVAR	Mina Array Bea	103.27	47	Pdiff		Pdif	09 25 35.6	+0.8
PDAR	comp=Z,0.7nm,0.8s,baz=262,slow=5.8,SNR=6.4 Pinedale Array	107.14	39	PKKPbc		PKKPbc	09 41 29.9	+11
PDAR	Pinedale Array	107.14	39	PKKPbc		PKKPbc	09 41 29.9	+11
TXAR	comp=Z,0.3nm,0.6s,baz=124,slow=5.1,SNR=4.0 Lajitas Array	118.25	49	PKP		PKPdf	09 30 23.1	+0.8
TXAR	Lajitas Array	118.25	49	PKP		PKPdf	09 30 23.1	+0.8
TORD	comp=Z,0.5nm,0.7s,baz=218,slow=1.8,SNR=8.8 Torodi Ar. Bea	120.22	291	PKP		PKPdf	09 30 25.3	-0.9
TORD	Torodi Ar. Bea	120.22	291	PKP		PKPdf	09 30 25.3	-0.9
JCT	comp=Z,5.0nm,0.8s,baz=47,slow=1.5,SNR=28 Junction City	120.43	46	*e*PKiKP		PKPdf	09 30 26.1	-0.2
JCT	Junction City	120.43	46	*e*PKPdf		PKPdf	09 30 26.1	-0.2
KIC	Kosan Boka	128.41	286	*e*PKP1		PKPdf	09 30 41.8	-0.2
TIC	comp=Z,92nm,1.7s Toumodi	128.59	287	*e*PKP1		PKPdf	09 30 42.3	-0.1
LIC	comp=Z,6.1nm,0.2s Lamto	128.72	286	*e*PKP1		PKPdf	09 30 42.5	-0.1
PLCA	comp=Z,22nm,0.8s Paso Flores	145.91	157	*e*PKPdf		PKPbc	09 31 15.1	+0.9
PLCA				PKPbc		PKPbc	09 31 15.5	+1.3
PLCA	Paso Flores	145.91	157	PKPbc		PKPbc	09 31 15.5	+1.3
TRQA	comp=Z,9.6nm,0.7s,baz=193,slow=2.6,SNR=21 Tornquist	151.01	167	*e*PKPbc		PKPbc	09 31 27.4	-0.1
CPUP	Villa Florida	163.31	169	PKPab		PKPab	09 32 28.4	+0.3
CPUP	Villa Florida	163.31	169	PKPab		PKPab	09 32 28.4	+0.3
LPAZ	comp=Z,1.8nm,0.6s,baz=155,slow=5.6,SNR=3.4 La Paz	164.78	116	PKP		PKPdf	09 31 39.0	-0.9
LPAZ				PKPab		PKPab	09 32 37.7	+1.8
LPAZ	La Paz	164.78	116	PKP		PKPdf	09 31 39.0	-0.9
LPAZ	comp=Z,2.2nm,0.8s,baz=28,slow=0.5,SNR=8.7			PKPab		PKPab	09 32 37.7	+1.8
SAML	comp=Z,1.9nm,1.0s,baz=45,slow=1.4,SNR=2.5 Samuel	170.83	85	*e*PKPdf		PKPdf	09 31 42.6	-0.8

*ISCJB **28** 09:14:30.4±0.4,39.22S±0.03×175.07E±0.04, h142km±5km, mb4.1/3, Error ellipse: s-maj=6.0km s-min=3.9km az=34.6*
*NEIC **28** 09:14:32.9,39.18S×175.16E, h125km, MG4.7(WEL), After WEL.*
*WEL **28** 09:14:32.8±0.2,39.19S×175.16E, h126km±1km, ML4.7/22, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
WEL Felt from Taupo to Wellington, maximum reported intensity MM 4.
*IDC **28** 09:14:33.6±1.8, 39.00S×175.39E, h140km±22km, mb3.9/3, mb1 4.1/3, mb1mx3.6/28, mbtmp4.3/3, Error ellipse: s-maj=35.3km s-min=22.2km az=43.0*

ISC 28 09:14:32.3±0.7, 39.20S±0.03×175.13E±0.04, h131km±4km, n217, σ0.85/208, mb4.3/3, 39C-37D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKVZ	**Pokaka**	0.19	118	⇓PN	**Pn**	09 14 50.0	-0.3
PKVZ				SN	**Sn**	09 15 02.9	-1.0
PKVZ	**Pokaka**	0.19	118	Pn	**Pn**	09 14 50.0	-0.3
PKVZ				Sn	**Sn**	09 15 02.9	-1.0
TWVZ	**Taurewa**	0.27	61	⇓PN	**Pn**	09 14 50.2	-0.4
TWVZ				SN	**Sn**	09 15 02.9	-1.4
TWVZ	**Taurewa**	0.27	61	Pn	**Pn**	09 14 50.2	-0.4
TWVZ				Sn	**Sn**	09 15 02.9	-1.4
VRZ	**Vera Road**	0.30	285	PN	**Pn**	09 14 49.9	-0.6
VRZ	**Vera Road**	0.30	285	Pn	**Pn**	09 14 49.9	-0.6
COVZ	**Chateau Observ**	0.32	90	PN	**Pn**	09 14 50.0	-0.7
MTVZ	**Mangateitei**	0.32	125	⇓PN	**Pn**	09 14 50.4	-0.2
MTVZ	**Mangateitei**	0.32	125	Pn	**Pn**	09 14 50.5	-0.2
WPVZ	**Whakapapa**	0.32	91	PN	**Pn**	09 14 50.1	-0.7
WPVZ	**Whakapapa**	0.32	91	Pn	**Pn**	09 14 50.1	-0.7
FWVZ	**Far West T-bar**	0.33	99	PN	**Pn**	09 14 50.6	-0.3
FWVZ	**Far West T-bar**	0.33	99	Pn	**Pn**	09 14 49.9	-1.0
TRVZ	**Turoa**	0.34	107	Pn	**Pn**	09 14 50.0	-1.0
DRZ	**Dome Shelter**	0.34	102	⇑PN	**Pn**	09 14 50.8	-0.3
DRZ	**Dome Shelter**	0.34	102	Pn	**Pn**	09 14 50.8	-0.3
NGZ	**Ngauruhoe**	0.36	86	⇓PN	**Pn**	09 14 50.6	-0.4
NGZ	**Ngauruhoe**	0.36	86	Pn	**Pn**	09 14 50.6	-0.4
WTVZ	**West Tongariro**	0.36	77	⇓PN	**Pn**	09 14 50.6	-0.4
WTVZ	**West Tongariro**	0.36	77	Pn	**Pn**	09 14 50.6	-0.4
WNVZ	**Wahianoa**	0.38	109	⇓PN	**Pn**	09 14 50.7	-0.3
WNVZ	**Wahianoa**	0.38	109	Pn	**Pn**	09 14 50.7	-0.3
KRVZ	**Karewarewa**	0.41	75	⇓PN	**Pn**	09 14 50.6	-0.5
KRVZ	**Karewarewa**	0.41	75	Pn	**Pn**	09 14 50.6	-0.5
TUVZ	**Tukino**	0.41	99	⇓PN	**Pn**	09 14 51.0	-0.2
TUVZ	**Tukino**	0.41	99	Pn	**Pn**	09 14 51.0	-0.2
OTVZ	**Oturere**	0.41	85	⇓PN	**Pn**	09 14 50.7	-0.5
OTVZ	**Oturere**	0.41	85	Pn	**Pn**	09 14 50.7	-0.5
KATZ	**Kakaramea**	0.49	63	⇓PN	**Pn**	09 14 51.1	-0.4
KATZ	**Kakaramea**	0.49	63	Pn	**Pn**	09 14 51.1	-0.4
MOVZ	**Moawhango**	0.52	113	⇓PN	**Pn**	09 14 51.2	-0.5
MOVZ	**Moawhango**	0.52	113	Pn	**Pn**	09 14 51.2	-0.5
WAZ	**Wanganui**	0.56	192	PN	**Pn**	09 14 51.8	-0.1
WAZ	**Wanganui**	0.56	192	Pn	**Pn**	09 14 51.8	-0.1
RATZ	**Rangitukua**	0.60	56	PN	**Pn**	09 14 51.7	-0.4
RATZ	**Rangitukua**	0.60	56	Pn	**Pn**	09 14 51.7	-0.4
RITZ	**Rihia Road**	0.61	69	⇓PN	**Pn**	09 14 51.9	-0.2
RITZ	**Rihia Road**	0.61	69	Pn	**Pn**	09 14 51.9	-0.2
MHEZ	**Mangahewa**	0.64	281	⇑PN	**Pn**	09 14 52.5	+0.2
MHEZ	**Mangahewa**	0.64	281	Pn	**Pn**	09 14 52.5	+0.2
WATZ	**Wairara**	0.68	44	⇓PN	**Pn**	09 14 52.6	-0.1
WATZ	**Wairara**	0.68	44	Pn	**Pn**	09 14 52.6	-0.1
HIZ	**Hauiti**	0.72	342	⇓PN	**Pn**	09 14 52.5	-0.4
HIZ	**Hauiti**	0.72	342	Pn	**Pn**	09 14 52.5	-0.4
DREZ	**Durham Road**	0.72	271	⇑PN	**Pn**	09 14 53.1	+0.2
DREZ	**Durham Road**	0.72	271	Pn	**Pn**	09 14 53.1	+0.2
BHHZ	**Black Hill Sta**	0.78	112	⇓PN	**Pn**	09 14 52.9	-0.5
BHHZ	**Black Hill Sta**	0.78	112	Pn	**Pn**	09 14 52.9	-0.5
NEZ	**North Egmont**	0.81	265	⇓PN	**Pn**	09 14 54.1	+0.5
NEZ	**North Egmont**	0.81	265	Pn	**Pn**	09 14 54.1	+0.5
HATZ	**Hinemaiaia**	0.81	68	⇓PN	**Pn**	09 14 53.0	-0.6
HATZ	**Hinemaiaia**	0.81	68	Pn	**Pn**	09 14 53.0	-0.6
WHTZ	**Whakaora**	0.84	51	⇓PN	**Pn**	09 14 53.8	-0.1
WHTZ	**Whakaora**	0.84	51	Pn	**Pn**	09 14 53.8	-0.1
KHEZ	**Kahui Hut**	0.87	264	⇑PN	**Pn**	09 14 54.4	+0.2
PKE	**Pukeiti**	0.89	270	⇑PN	**Pn**	09 14 54.4	+0.1
PKE	**Pukeiti**	0.89	270	Pn	**Pn**	09 14 54.4	+0.1
TLZ	**Tolley Road**	0.93	20	PN	**Pn**	09 14 54.2	-0.5
NWEZ	**Newall Road**	0.99	265	⇑PN	**Pn**	09 14 55.2	+0.2
NWEZ	**Newall Road**	0.99	265	Pn	**Pn**	09 14 55.2	+0.2
NMEZ	**Namu Road**	1.00	257	⇑PN	**Pn**	09 14 55.5	+0.3
BKZ	**Black Stump Fm**	1.06	89	⇓PN	**Pn**	09 14 55.3	-0.5
BKZ				AML	AML	09 15 12.7	
BKZ				AML	AML	09 15 14.9	
BKZ	**Black Stump Fm**	1.06	89	Pn	**Pn**	09 14 55.0	-0.9
TSZ	**Takapari Road**	1.07	144	⇓PN	**Pn**	09 14 56.2	+0.3
TSZ				AML	AML	09 15 14.6	
TSZ				AML	AML	09 15 15.9	
PNHZ	**Pukenui**	1.09	131	⇓PN	**Pn**	09 14 56.3	+0.1
PNHZ	**Pukenui**	1.09	131	Pn	**Pn**	09 14 56.3	+0.1
ALRZ	**Allen Road**	1.14	56	Pn	**Pn**	09 14 55.4	-1.2
PRRZ	**Plateau Road**	1.21	55	⇓PN	**Pn**	09 14 56.7	-0.6
PRRZ	**Plateau Road**	1.21	55	Pn	**Pn**	09 14 56.7	-0.6
HRRZ	**Handcock Road**	1.21	48	⇓PN	**Pn**	09 14 57.2	-0.2
HRRZ	**Handcock Road**	1.21	48	Pn	**Pn**	09 14 57.2	-0.2
MCHZ	**McNeill Hill**	1.24	102	PN	**Pn**	09 14 58.0	+0.5
MCHZ	**McNeill Hill**	1.24	102	Pn	**Pn**	09 14 58.0	+0.5
POWZ	**Post Office Ro**	1.29	158	PN	**Pn**	09 14 58.2	+0.1
POWZ	**Post Office Ro**	1.29	158	Pn	**Pn**	09 14 58.2	+0.1
NMHZ	**Naumai**	1.30	86	⇓PN	**Pn**	09 14 58.6	+0.2
NMHZ	**Naumai**	1.30	86	Pn	**Pn**	09 14 58.6	+0.2
WPHZ	**Waipukurau**	1.33	131	⇓PN	**Pn**	09 14 58.8	+0.3
WPHZ	**Waipukurau**	1.33	131	Pn	**Pn**	09 14 58.8	+0.3
DVHZ	**Dannevirke**	1.35	144	⇓PN	**Pn**	09 14 58.9	0.0
DVHZ	**Dannevirke**	1.35	144	Pn	**Pn**	09 14 58.9	0.0
RRRZ	**Republican Roa**	1.38	52	⇑PN	**Pn**	09 14 58.8	-0.4
RRRZ	**Republican Roa**	1.38	52	Pn	**Pn**	09 14 58.8	-0.4
TARZ	**Mount Tarawera**	1.45	48	⇓PN	**Pn**	09 14 59.7	-0.2
TARZ	**Mount Tarawera**	1.45	48	Pn	**Pn**	09 14 59.7	-0.2
OMRZ	**Omania**	1.46	42	⇑PN	**Pn**	09 14 60.0	0.0
OMRZ	**Omania**	1.46	42	Pn	**Pn**	09 15 00.0	0.0
KAHZ	**Kahuranaki**	1.47	114	⇓PN	**Pn**	09 15 00.5	+0.4
KAHZ	**Kahuranaki**	1.47	114	Pn	**Pn**	09 15 00.5	+0.4
MRZ	**Mangatainoka R**	1.50	167	⇑PN	**Pn**	09 15 00.3	0.0
MRZ				AML	AML	09 15 20.2	
MRZ				AML	AML	09 15 21.3	
PRWZ	**Pori Road**	1.50	155	⇑PN	**Pn**	09 15 00.8	+0.4
TOZ	**Tahuroa Road**	1.50	11	⇑PN	**Pn**	09 15 00.0	-0.3
TOZ	**Tahuroa Road**	1.50	11	Pn	**Pn**	09 14 59.6	-0.7
RAHZ	**Arahi**	1.55	80	⇓PN	**Pn**	09 15 00.9	0.0
RAHZ	**Arahi**	1.55	80	Pn	**Pn**	09 15 00.9	0.0
PXZ	**Pawanui**	1.57	122	PN	**Pn**	09 15 01.3	+0.1
PXZ				AML	AML	09 15 24.2	
PXZ				AML	AML	09 15 24.2	
PXZ				AML	AML	09 15 26.1	
PXZ				AML	AML	09 15 26.1	
PXZ	**Pawanui**	1.57	122	Pn	**Pn**	09 15 01.1	-0.1
PRHZ	**Porangahau**	1.57	133	⇓PN	**Pn**	09 15 01.5	+0.3
PRHZ	**Porangahau**	1.57	133	Pn	**Pn**	09 15 01.6	+0.3
CKHZ	**Cape Kidnapper**	1.57	107	⇓PN	**Pn**	09 15 01.7	+0.5
CKHZ	**Cape Kidnapper**	1.57	107	Pn	**Pn**	09 15 01.7	+0.5
OGWZ	**Otaki Gorge**	1.61	179	⇑PN	**Pn**	09 15 01.9	+0.2
OGWZ	**Otaki Gorge**	1.61	179	Pn	**Pn**	09 15 01.9	+0.2
ANWZ	**Angora Road**	1.63	141	⇓PN	**Pn**	09 15 02.3	+0.4
WHHZ	**Waihua**	1.64	86	PN	**Pn**	09 15 02.2	+0.3
EDRZ	**Edgecumbe**	1.67	49	PN	**Pn**	09 15 03.0	+0.6
EDRZ	**Edgecumbe**	1.67	49	Pn	**Pn**	09 15 03.0	+0.6
KIW	**Kapiti Island**	1.67	186	⇑PN	**Pn**	09 15 02.0	-0.3
KIW				AML	AML	09 15 23.7	
KIW				AML	AML	09 15 23.8	
KIW	**Kapiti Island**	1.67	186	Pn	**Pn**	09 15 02.0	-0.3
TIWZ	**Tintock**	1.68	160	AML	AML	09 15 25.1	
TIWZ				AML	AML	09 15 26.9	
BFZ	**Birch Farm**	1.71	150	PN	**Pn**	09 15 02.7	-0.1
BFZ	**Birch Farm**	1.71	150	Pn	**Pn**	09 15 02.7	-0.1
TGRZ	**Tauranga**	1.72	31	⇑PN	**Pn**	09 15 02.9	0.0
TGRZ	**Tauranga**	1.72	31	Pn	**Pn**	09 15 02.9	0.0
HOWZ	**Holdsworth Sta**	1.72	170	⇑PN	**Pn**	09 15 02.8	-0.2
HOWZ	**Holdsworth Sta**	1.72	170	Pn	**Pn**	09 15 02.8	-0.2
OPRZ	**Ohinepanea**	1.75	40	⇑PN	**Pn**	09 15 03.1	-0.3
OPRZ	**Ohinepanea**	1.75	40	Pn	**Pn**	09 15 03.1	-0.3
SNGZ	**Shannon Static**	1.77	77	⇑PN	**Pn**	09 15 03.4	-0.1
URZ	**Urewera**	1.81	59	PN	**Pn**	09 15 02.8	-1.1
URZ				SN	**Sn**	09 15 25.2	-3.0
URZ				AML	AML	09 15 25.7	
URZ	**Urewera**	1.81	59	Pn	**Pn**	09 15 02.8	-1.1
URZ				S	**Sn**	09 15 25.1	-3.2
URZ	**Urewera**	1.81	59	P	**Pn**	09 15 03.0	-0.9
URZ	28nm,0.3s,baz=246,slow=6.5,SNR=178			S	**Sn**	09 15 25.1	-3.2
DUWZ	204nm,0.3s,baz=71,slow=18,SNR=91 **D'Urville Isla**	1.85	210	⇑PN	**Pn**	09 15 04.2	-0.3
DUWZ	**D'Urville Isla**	1.85	210	Pn	**Pn**	09 15 04.2	-0.3
CPWZ	**Castlepoint**	1.89	155	PN	**Pn**	09 15 05.3	+0.4
CAW	**Cannon Point**	1.90	181	⇑PN	**Pn**	09 15 04.8	-0.3
CAW				AML	AML	09 15 30.2	
CAW				AML	AML	09 15 31.4	
CAW	**Cannon Point**	1.90	181	Pn	**Pn**	09 15 04.8	-0.3
MTW	**Mount Morrison**	1.98	172	⇑PN	**Pn**	09 15 05.4	-0.5
MTW				AML	AML	09 15 30.3	
MTW				AML	AML	09 15 33.6	
MTW	**Mount Morrison**	1.98	172	Pn	**Pn**	09 15 05.5	-0.5
KNZ	**Kokohu**	1.98	86	⇓PN	**Pn**	09 15 05.6	-0.4
KNZ	**Kokohu**	1.98	86	Pn	**Pn**	09 15 05.3	-0.7
TMWZ	**Te Maipa**	1.99	163	⇑PN	**Pn**	09 15 05.8	-0.3
TMWZ	**Te Maipa**	1.99	163	Pn	**Pn**	09 15 05.8	-0.3
MWZ	**Matawai**	2.06	66	⇓PN	**Pn**	09 15 06.3	-0.8
MWZ				AML	AML	09 15 31.6	
MWZ				AML	AML	09 15 31.6	
MWZ				AML	AML	09 15 41.7	
MWZ				AML	AML	09 15 41.8	
MWZ	**Matawai**	2.06	66	Pn	**Pn**	09 15 06.3	-0.8
MKAZ	**Moumakai**	2.09	1	PN	**Pn**	09 15 06.5	-0.5
MKAZ	**Moumakai**	2.09	1	Pn	**Pn**	09 15 06.9	-0.5
WEL	**Wellington**	2.10	188	⇑PN	**Pn**	09 15 06.9	-0.5
WEL	**Wellington**	2.10	188	Pn	**Pn**	09 15 06.9	-0.5
RIGZ	**Rimuhau**	2.11	77	PN	**Pn**	09 15 07.4	-0.2
TCW	**Tory Channel**	2.11	198	⇑PN	**Pn**	09 15 07.2	-0.4
TCW				AML	AML	09 15 35.1	
TCW				AML	AML	09 15 35.3	
TCW	**Tory Channel**	2.11	198	Pn	**Pn**	09 15 07.2	-0.4
SNZO	**South Karori**	2.13	189	PN	**Pn**	09 15 06.9	-0.9
SNZO				AML	AML	09 15 34.6	
SNZO				AML	AML	09 15 34.7	
SNZO	**South Karori**	2.13	189	Pn	**Pn**	09 15 06.9	-0.9
MHGZ	**Mahia Peninsul**	2.16	90	⇓PN	**Pn**	09 15 07.9	-0.3
MHGZ	**Mahia Peninsul**	2.16	90	Pn	**Pn**	09 15 07.9	-0.3
PAWZ	**Paruwai Farm**	2.19	174	⇑PN	**Pn**	09 15 07.9	-0.6
PAWZ				AML	AML	09 15 32.9	
PAWZ				AML	AML	09 15 35.3	
PAWZ	**Paruwai Farm**	2.19	174	Pn	**Pn**	09 15 08.0	-0.6
MSWZ	**Moikau Station**	2.21	178	⇑PN	**Pn**	09 15 08.3	-0.6
MSWZ				AML	AML	09 15 33.2	
MSWZ				AML	AML	09 15 36.0	
MSWZ	**Moikau Station**	2.21	178	Pn	**Pn**	09 15 08.3	-0.6
BHW	**Baring Head**	2.21	185	⇑PN	**Pn**	09 15 08.2	-0.6
BHW				AML	AML	09 15 35.9	
BHW				AML	AML	09 15 36.3	
BHW	**Baring Head**	2.21	185	Pn	**Pn**	09 15 08.2	-0.6
TRWZ	**Traveller**	2.23	169	⇑PN	**Pn**	09 15 08.5	-0.7
TRWZ				AML	AML	09 15 35.5	
TRWZ				AML	AML	09 15 36.1	
TRWZ	**Traveller**	2.23	169	Pn	**Pn**	09 15 08.5	-0.7
PLWZ	**Palliser**	2.37	178	⇑PN	**Pn**	09 15 09.9	-0.9
PLWZ	**Palliser**	2.37	178	Pn	**Pn**	09 15 09.9	-0.9
TUWZ	**Tuamarina**	2.40	202	⇑PN	**Pn**	09 15 10.3	-1.0
TUWZ				AML	AML	09 15 41.3	
TUWZ				AML	AML	09 15 42.8	
TUWZ	**Tuamarina**	2.40	202	Pn	**Pn**	09 15 10.3	-1.0
NNZ	**Nelson**	2.42	213	⇑PN	**Pn**	09 15 10.6	-0.8
KUZ	**Kuaotunu**	2.50	11	⇑PN	**Pn**	09 15 12.3	-0.1
KUZ	**Kuaotunu**	2.50	11	Pn	**Pn**	09 15 11.9	-0.5
CNGZ	**Carnagh Static**	2.50	74	PN	**Pn**	09 15 11.9	-0.6
CNGZ	**Carnagh Static**	2.50	74	Pn	**Pn**	09 15 11.9	-0.6
HAZ	**Te Kaha**	2.53	56	⇑PN	**Pn**	09 15 11.5	-1.4
QRZ	**Quartz Range**	2.58	230	PN	**Pn**	09 15 12.1	-1.3
QRZ	**Quartz Range**	2.58	230	Pn	**Pn**	09 15 12.1	-1.3
CMWZ	**Cape Campbell**	2.64	195	⇑PN	**Pn**	09 15 14.0	-0.2
CMWZ				AML	AML	09 15 47.1	
CMWZ				AML	AML	09 15 52.6	
CMWZ	**Cape Campbell**	2.64	195	Pn	**Pn**	09 15 14.0	-0.2
BSWZ	**Blackbirch Sta**	2.69	201	AML	AML	09 15 49.0	
BSWZ				AML	AML	09 15 51.0	
BSWZ	**Blackbirch Sta**	2.69	201	Pn	**Pn**	09 15 14.0	-0.8
PUZ	**Puketiti**	2.69	66	⇓PN	**Pn**	09 15 13.7	-1.3
PUZ				AML	AML	09 15 46.6	
PUZ				AML	AML	09 15 46.8	
PUZ	**Puketiti**	2.69	66	Pn	**Pn**	09 15 13.7	-1.3
MXZ	**Matakaoa Point**	2.98	58	⇑PN	**Pn**	09 15 17.9	-0.8
MXZ				AML	AML	09 15 54.9	
MXZ				AML	AML	09 15 55.0	
MXZ				AML	AML	09 15 59.7	
MXZ				AML	AML	09 15 59.8	
MXZ	**Matakaoa Point**	2.98	58	Pn	**Pn**	09 15 17.9	-0.8
THZ	**Tophouse**	3.07	213	⇑PN	**Pn**	09 15 18.5	-1.3
THZ	**Tophouse**	3.07	213	Pn	**Pn**	09 15 18.5	-1.3
KHZ	**Kahutara**	3.43	200	⇑PN	**Pn**	09 15 23.3	-1.1
KHZ				AML	AML	09 15 24.1	
KHZ				AML	AML	09 16 05.0	
DSZ	**Denniston Nort**	3.59	224	⇑PN	**Pn**	09 15 24.8	-1.8
DSZ	**Denniston Nort**	3.59	224	Pn	**Pn**	09 15 24.8	-1.8
OUZ	**Omahuta**	4.16	342	PN	**Pn**	09 15 34.8	+0.7
OUZ	**Omahuta**	4.16	342	Pn	**Pn**	09 15 34.9	+0.7
LTZ	**Lake Taylor**	4.18	210	PN	**Pn**	09 15 31.9	-2.6
OXZ	**Oxford**	4.73	209	PN	**Pn**	09 15 38.0	-3.7
CRLZ	**Canterbury Las**	4.76	203	PN	**Pn**	09 15 38.8	-3.2
CRLZ	**Canterbury Las**	4.76	203	Pn	**Pn**	09 15 38.9	-3.2
MOZ	**McQueen's Vall**	4.87	202	PN	**Pn**	09 15 39.8	-3.7
WVZ	**Waitaha Valley**	5.10	219	PN	**Pn**	09 15 43.1	-3.5
RPZ	**Rata Peaks**	5.45	213	PN	**Pn**	09 15 47.9	-3.5
FOZ	**Fox Glacier**	5.98	221	PN	**Pn**	09 15 53.1	-5.3
FOZ	**Fox Glacier**	5.98	221	Pn	**Pn**	09 15 53.2	-5.2
LBZ	**Lake Benmore**	6.36	214	PN	**Pn**	09 15 58.7	-4.9
ODZ	**Otahua Downs**	6.72	208	⇑PN	**Pn**	09 16 05.1	-3.3
ODZ	**Otahua Downs**	6.72	208	Pn	**Pn**	09 16 05.1	-3.3
JCZ	**Jackson Bay**	6.82	222	⇓PN	**Pn**	09 16 05.3	-4.5
JCZ	**Jackson Bay**	6.82	222	Pn	**Pn**	09 16 05.3	-4.5
WKZ	**Wanaka**	7.23	217	*e*PN	**Pn**	09 16 10.1	-5.2
EAZ	**Earnscleugh**	7.41	214	*e*PN	**Pn**	09 16 12.8	-4.9
EAZ	**Earnscleugh**	7.41	214	Pn	**Pn**	09 16 12.8	-4.9
HHSZ	**Highcliff Hill**	7.47	205	PN	**Pn**	09 16 15.7	-2.8
CTZ	**Chatham Island**	7.67	129	PN	**Pn**	09 16 19.9	-1

JAGI	Jajag, Banyuwa	68.12	272	P		P	09 48 16.1	-1.5	
	baz=68,SNR=14								
PMSA	Palmer Station	73.58	156	LR		LR	10 14 46.7		
	comp=Z,296nm,19.5s,baz=248,slow=30								
MAW	Mawson	74.87	200	P		P	09 48 59.2	+1.9	
MAW	Mawson	74.87	200	P		P	09 48 59.2	+1.9	
	26nm,0.9s,baz=117,slow=2.3,SNR=4.1								
SBUM	Sibu	75.01	281	*e*P		P	09 48 58.1	-0.9	
	25nm,1.5s								
USHA	Ushuaia	76.82	146	LR		LR	10 15 16.0		
	comp=Z,155nm,18.7s,baz=212,slow=30								
MJAR	Matsushiro Arr	77.39	324	P		P	09 49 10.7	-1.3	
MJAR	Matsushiro Arr	77.39	324	P		P	09 49 10.7	-1.3	
	4.5nm,0.8s,baz=167,slow=5.8,SNR=8.0								
SYO	Syowa Base	79.56	192⇑	*e*P		P	09 49 23.0	-0.6	
SNAA	Sanae	80.26	178	*e*P		P	09 49 27.2	-0.2	
SNAA	Sanae	80.26	178	P		P	09 49 28.1	+0.6	
	4.9nm,1.0s,baz=193,slow=7.1,SNR=8.7								
PLCA	Paso Flores	82.82	132	P		P	09 49 43.1	+1.5	
PLCA	Paso Flores	82.82	132	P		P	09 49 43.1	+1.5	
	7.7nm,1.1s,baz=265,slow=6.5,SNR=5.8								
MONP	Monument Peak	83.16	47	P		P	09 49 43.9	+0.5	
	baz=84								
VES	Vestal, Richgr	83.41	43	P		P	09 49 44.6	+0.2	
	baz=84								
EDW2	Edwards Air Fo	83.45	45	P		P	09 49 44.2	-0.4	
	baz=84								
ISA	Isabella	83.66	44	P		P	09 49 46.5	+0.8	
	baz=84								
KSRS	Korea Array	83.74	318	P		P	09 49 44.5	-1.5	
	3.2nm,0.9s,baz=140,slow=5.9,SNR=6.5								
KSAR	Wonju Array Be	83.76	318	P		P	09 49 44.5	-1.6	
CMB	Columbia Colle	84.11	41	*e*P		P	09 49 49.0	+1.0	
	5.0nm,1.0s								
PETK	Petropavlovsk-	84.13	345	P		P	09 49 46.4	-1.2	
PETK	Petropavlovsk-	84.13	345	P		P	09 49 46.4	-1.2	
	2.0nm,0.7s,baz=151,slow=6.6,SNR=4.3								
BC3	Big Chuckawall	84.27	47	P		P	09 49 50.2	+1.3	
	baz=85								
HEC	Hector,Ludlow	84.45	46	P		P	09 49 50.8	+0.9	
	baz=85								
WDC	Whiskeytown Da	84.65	38	*e*P		P	09 49 51.5	+1.0	
	6.1nm,0.9s								
IRM	Iron Mountain	84.78	47	P		P	09 49 51.9	+0.4	
	baz=85								
N02D	Trinity Center	84.84	38	P		P	09 49 52.6	+1.0	
	baz=85								
GMRC	Granite Mounta	84.84	46	P		P	09 49 52.7	+0.9	
	baz=85								
Y12C	Blythe	84.93	47	P		P	09 49 53.0	+0.9	
	baz=85								
214A	Organ Pipe Nat	84.95	50	P		P	09 49 53.5	+1.1	
	baz=85								
WAKR	Walker	84.98	41	*e*P		P	09 49 53.8	+1.3	
M02C	Callahan	85.05	37	P		P	09 49 53.8	+1.1	
	baz=86								
FURC	Furnace Creek,	85.18	44	P		P	09 49 54.0	+0.7	
	baz=86								
YBH	Yreka Blue Hor	85.37	37	*e*P		P	09 49 55.7	+1.4	
	7.6nm,1.2s								
QIZ	Qiongzhong	85.51	294	P		P	09 50 04.5	+9.1	
QIZ				SKS		S	10 00 29.5	+4.1	
QIZ				S		ScS	10 00 41.5	+6.2	
QIZ				LR		LR			
	comp=Z,210nm,18.1s								
NVAR	Mina Array Bea	85.59	42	P		P	09 49 56.1	+0.5	
NVAR	Mina Array Bea	85.59	42	P		P	09 49 56.1	+0.5	
	4.1nm,0.9s,baz=222,slow=8.2,SNR=24								
Z14A	Wintersburg	85.72	49	P		P	09 49 57.2	+1.1	
	baz=86								
HUMO	Hull Mountain	85.86	36	*e*P		P	09 49 58.1	+1.5	
	35nm,2.3s								
M04C	Macdoel	85.87	38	P		P	09 49 57.7	+0.9	
	baz=86								
TPH	Tonopah	86.00	43	*e*P		P	09 49 58.0	+0.3	
	6.6nm,1.1s								
Y14A	Wickenburg	86.03	48	P		P	09 49 58.5	+0.7	
	baz=86								
NJ2	Nanjing	86.05	310	*e*P		P	09 50 07.0	+9.3	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
W13A	Hualapai Mount	86.18	47	P		P	09 49 59.6	+1.0	
	baz=87								
USRK	Ussuriysk Arra	86.25	325	P		P	09 49 57.2	-1.2	
	2.6nm,0.7s,baz=138,slow=5.4,SNR=7.3								
TUC	Tucson	86.54	50	*e*P		P	09 50 01.2	+0.9	
	7.8nm,1.1s								
PSI	Prapat	86.79	275	P		P	09 50 00.0	-2.0	
PSI	Prapat	86.79	275	P		P	09 50 00.0	-2.0	
	2.2nm,0.4s,baz=140,slow=5.7,SNR=5.0								
319A	Douglas	87.03	52	P		P	09 50 03.3	+0.6	
	baz=87								
K05A	Summer Lake	87.03	37	*e*P		P	09 50 02.9	+0.3	
	88nm,2.5s								
R11A	Troy Canyon, C	87.16	43	P		P	09 50 04.1	+0.8	
	baz=88								
J05D	Fort Rock, OR	87.23	37	P		P	09 50 03.8	+0.3	
	baz=88								
X16A	Lo Mia Camp, P	87.36	48	P		P	09 50 05.1	+0.7	
	baz=88								
BMN	Battle Mountai	87.54	41	*e*P		P	09 50 05.5	+0.5	
	3.6nm,1.0s								
U15A	North Rim	88.02	46	P		P	09 50 08.8	+1.2	
	baz=88								
CCUT	Cedar City	88.03	45	*e*P		P	09 50 09.3	+1.7	
	4.5nm,1.0s								
WUAZ	Wupatki	88.06	48	*e*P		P	09 50 09.3	+1.6	
	3.8nm,1.0s								
WUAZ	Wupatki	88.06	48	P		P	09 50 08.3	+0.6	
	baz=88								
WVOR	Wild Horse Val	88.06	39	*e*P		P	09 50 08.2	+0.8	
	88nm,3.0s								
WHN	Wuhan	88.32	306	P		P	09 50 09.3	+0.5	
X18A	Snowflake	88.41	49	P		P	09 50 10.9	+1.5	
	baz=89								
121A	Cookes Peak, D	88.73	52	P		P	09 50 12.1	+1.1	
	baz=89								
ELK	Elko	88.89	42	P		P	09 50 10.8	-0.7	
ELK	Elko	88.89	42	P		P	09 50 10.8	-0.7	
	1.5nm,1.0s,baz=255,slow=11,SNR=6.6								
W18A	Petrified Fore	88.90	49	P		P	09 50 14.0	+2.3	
	baz=89								
D05A	Enumclaw	89.56	34	*e*P		P	09 50 16.3	+2.1	
	22nm,1.1s								
626A	Big Bend Ranch	89.68	56	P		P	09 50 15.9	+0.6	
	baz=90								
Z22A	Elephant Butte	89.71	52	P		P	09 50 16.6	+1.2	
	baz=90								
425A	Indio Mountain	89.73	55	P		P	09 50 15.8	+0.1	
	baz=90								
G08A	Pilot Rock	89.80	36	*e*P		P	09 50 16.5	+1.0	
TXAR	Lajitas Array	89.90	56	P		P	09 50 16.1	-0.3	
TXAR	Lajitas Array	89.90	56	P		P	09 50 16.1	-0.3	
	2.2nm,1.0s,baz=210,slow=6.8,SNR=11								
526A	Mary Lane Ranc	89.98	56	P		P	09 50 17.2	+0.4	
	baz=90								
627A	Terlingua Ranc	90.17	56	P		P	09 50 17.9	+0.2	
	baz=91								
E07A	Sunnyside	90.19	35	*e*P		P	09 50 17.8	+0.6	
	9.5nm,1.0s								
HAWA	Hanford	90.24	35	*e*P		P	09 50 18.3	+0.9	
	118nm,3.0s								
426A	McDonald Obser	90.36	55	P		P	09 50 18.7	0.0	
	baz=91								
527A	Woodward Ranch	90.38	56	P		P	09 50 18.7	+0.1	
	baz=91								
TMUT	Trail Mountain	90.43	45	*e*P		P	09 50 20.4	+1.5	
	6.7nm,1.0s								
LPM	Los Pinos Moun	90.53	51	*e*P		P	09 50 20.8	+1.5	
628A	Black Gap, Mar	90.56	57	P		P	09 50 20.1	+0.7	
	baz=91								
225A	Deer Hill, Car	90.57	54	P		P	09 50 20.2	+0.6	
	baz=91								
Y23A	Lovelace Mesa,	90.71	51	P		P	09 50 21.0	+0.8	
	baz=91								
SRU	San Rafael	90.75	45	*e*P		P	09 50 21.8	+1.6	
	40nm,2.6s								
Z24A	Sheeppen Canyo	90.86	52	P		P	09 50 20.9	0.0	
	baz=91								
427A	Hayter Ranch,	90.91	55	P		P	09 50 21.6	+0.6	
	baz=91								
125A	Gardner Draw,	90.99	53	P		P	09 50 22.3	+0.9	
	baz=91								
528A	Cox Ranch, San	90.99	56	P		P	09 50 21.8	+0.4	
	baz=91								
D08A	Wollman Farm,	91.00	35	*e*P		P	09 50 21.4	+0.4	
	8.6nm,0.9s								
ANMO	Albuquerque	91.00	50	*e*P		P	09 50 22.4	+0.8	
	4.7nm,1.1s								
ANMO	Albuquerque	91.00	50	P		P	09 50 21.9	+0.4	
	2.3nm,0.8s,baz=197,slow=6.3,SNR=3.5								
226B	Tecolote Peak,	91.02	54	P		P	09 50 23.4	+1.8	
	baz=91								
E09A	Wood Farm, Sta	91.03	36	*e*P		P	09 50 21.7	+0.6	
	1.2s								
Y24A	Capitan	91.14	52	P		P	09 50 22.8	+0.7	
	baz=92								
HLID	Hailey	91.15	40	*e*P		P	09 50 23.5	+1.5	
	5.4nm,1.3s								
HLID	Hailey	91.15	40	P		P	09 50 23.0	+1.0	
	baz=92								
F10A	Beach Ranch, E	91.16	37	*e*P		P	09 50 21.4	-0.4	
	11nm,1.0s								
Z25A	Roswell	91.28	53	P		P	09 50 24.1	+1.3	
	baz=92								
428A	Kincaid Ranch,	91.36	56	P		P	09 50 24.3	+1.1	
	baz=92								
Y25A	Mesa, Roswell	91.65	52	P		P	09 50 25.8	+1.3	
	baz=92								
ENH	Enshi	91.69	304	*e*P		P	09 50 24.0	-0.6	
	12nm,0.7s								
Z26A	Caprock	91.80	53	P		P	09 50 26.0	+0.9	
	baz=92								
GYA	Guiyang	91.85	299	*e*P		P	09 50 34.8	+9.2	
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
W24A	Lazy 6 Ranch,	91.87	51	P		P	09 50 26.3	+0.8	
	baz=92								
429A	Davenport Ranc	91.89	56	P		P	09 50 25.2	-0.4	
	baz=92								
127A	Arkansas Junct	91.92	54	P		P	09 50 25.8	0.0	
	baz=92								
530A	J-C Ranch, Com	92.05	57	P		P	09 50 27.3	+1.0	
	baz=92								
631A	Perdido Creek	92.23	58	P		P	09 50 27.0	-0.1	
	baz=93								
329A	Wagon Wheel Ra	92.28	55	P		P	09 50 27.2	-0.1	
	baz=93								
933A	Laredo	92.29	60	P		P	09 50 29.0	+1.6	
	baz=93								
S22A	4UR Ranch, Cre	92.33	48	P		P	09 50 28.3	+0.6	
	baz=93								
034A	Hebbronville	92.47	61	P		P	09 50 29.4	+1.2	
	baz=93								
AHID	Auburn Hatcher	92.58	42	*e*P		P	09 50 28.8	+0.2	
	7.6nm,1.0s								
531A	Rocksprings	92.64	57	P		P	09 50 29.8	+0.8	
	baz=93								
Y27A	Causey	92.70	53	P		P	09 50 29.5	+0.2	
	baz=93								
V25A	Rancho No Teng	92.75	51	P		P	09 50 29.6	0.0	
	baz=93								
632A	Uvalde	92.87	58	P		P	09 50 30.9	+0.8	
	baz=93								
T24B	San Luis	92.90	49	P		P	09 50 32.1	+1.7	
	baz=93								
MSTX	Muleshoe	93.02	53	*e*P		P	09 50 30.0	-0.8	
	12nm,1.3s								
SMCO	Snowmass	93.04	47	*e*P		P	09 50 31.5	+0.4	
	43nm,2.5s								
REDW	Red Top Meadow	93.08	42	*e*P		P	09 50 31.8	+0.9	
532A	Rocksprings	93.10	57	P		P	09 50 31.5	+0.4	
	baz=94								
N20A	Spence Gulch,	93.16	45	P		P	09 50 32.2	+0.8	
	baz=94								
U25A	Circle Dot Ran	93.20	50	P		P	09 50 32.7	+1.1	
	baz=94								
R23A	Moffat	93.23	48	P		P	09 50 32.8	+0.9	
	baz=94								
S24A	Hamlin Ranch,	93.33	49	P		P	09 50 33.2	+0.9	
	baz=94								
JCT	Junction City	93.36	57	P		P	09 50 32.2	-0.1	
	baz=94								
LOHW	Long Hollow	93.37	42	*e*P		P	09 50 33.4	+1.1	
PDAR	Pinedale Array	93.49	43	P		P	09 50 33.0	+0.1	
PDAR	Pinedale Array	93.49	43	P		P	09 50 33.0	+0.1	
	1.3nm,0.9s,baz=205,slow=3.7,SNR=10								
432A	Menard	93.56	57	P		P	09 50 33.1	-0.1	
	baz=94								
I17A	Pilgrim Ck.	93.57	41	P		P	09 50 34.6	+1.4	
	baz=94								
FLWY	Flagg Ranch	93.59	41	*e*P		P	09 50 34.2	+0.9	
	5.9nm,1.0s								
X28A	Dimmitt	93.72	53	P		P	09 50 34.8	+0.8	
	baz=94								
BOZ	Bozeman (W)	94.00	39	*e*P		P	09 50 35.5	+0.5	
	3.4nm,0.8s								
433A	Art	94.02	57	P		P	09 50 36.0	+0.7	
	baz=94								
X29A	Tulia	94.03	53	P		P	09 50 36.1	+0.7	
	baz=94								
J19A	Crowheart	94.08	42	P		P	09 50 34.9	-0.6	
	baz=94								
CMAR	Chiang Mai Arr	94.18	289	P		P	09 50 35.8	-0.5	
CMAR	Chiang Mai Arr	94.18	289	P		P	09 50 35.8	-0.5	
	0.8nm,0.3s,baz=108,slow=2.9,SNR=4.0								
232A	Coleman	94.19	56	P		P	09 50 36.7	+0.6	
	baz=95								
KMI	Kunming	94.26	296	P		P	09 50 45.3	+8.5	
KMI				pP		pP	09 50 57.0	+11	
KMI				PP		PP	09 54 36.8	+13	
KMI				S		S	10 01 58.0	+11	
KMI				SS		SS	10 08 32.0	+23	
KMI				pmax		pmax			
	comp=Z,7.0nm,1.2s								
KMI				LR		LR			
	comp=N,550nm,14.9s								
KMI				LR		LR			
	comp=E,570nm,17.8s								
KMI				LR		LR			
	comp=Z,1μm,22.5s								
N22A	Wattenberg Ran	94.28	46	P		P	09 50 37.0	+0.4	
	baz=95								
M22A	Cedar Creek Ra	94.52	45	P		P	09 50 39.1	+1.4	
	baz=95								
H18A	Shoshone NF, C	94.54	41	P		P	09 50 38.4	+0.7	
	baz=95								
I19A	Meeteetse	94.56	42	P		P	09 50 37.8	0.0	
	baz=95								
J20A	Shoshoni	94.71	43	P		P	09 50 38.2	-0.2	
	baz=95								
Y31A	Rekieta Farm,	94.80	54	P		P	09 50 39.1	+0.2	
	baz=95								
K21A	Alcova	94.81	44	P		P	09 50 38.9	0.0	
	baz=95								
H19A	Powell	94.94	41	P		P	09 50 40.3	+0.9	
	baz=95								
M23A	Laramie	95.11	45	P		P	09 50 39.8	-0.5	
	baz=96								
R27A	Eads	95.29	49	P		P	09 50 41.6	+0.5	
	baz=96								
V30A	Spur Ranch, Mi	95.42	52	P		P	09 50 43.4	+1.7	
	baz=96								
I21A	Big Trails, Te	95.45	43	P		P	09 50 41.6	-0.1	
	baz=96								
L23A	Garrett	95.47	45	P		P	09 50 41.5	-0.5	
	baz=96								
ILAR	Eielson Array	95.48	12	P		P	09 50 39.8	-1.4	
ILAR	Eielson Array	95.48	12	P		P	09 50 39.8	-1.4	
	0.5nm,0.7s,baz=220,slow=5.6,SNR=8.5								
J22A	Midwest	95.71	43	P		P	09 50 43.1	+0.2	
	baz=96								
HHC	Hu-ho-hao-te	95.87	313	*e*P		P	09 50 53.5	+10	
HHC				pP		pP	09 51 03.5	+11	
HHC				S		S	10 02 12.5	+13	
HHC				sS		sS	10 02 30.0	+15	
HHC				pmax		pmax			
	comp=Z,25nm,1.2s								
HHC				pmax		pmax			
	comp=Z,200nm,6.2s								
HHC				LR		LR			
	comp=N,1μm,23.6s								
HHC				LR		LR			
	comp=E,980nm,22.4s								
HHC				LR		LR			
	comp=Z,2μm,28.6s								
K23A	Bowen Ranch, D	95.87	44	P		P	09 50 44.2	+0.5	
	baz=96								
I22A	9 Mile Ranch,	95.98	43	P		P	09 50 44.7	+0.6	
	baz=96								
CD2	Chengdu	96.27	302	*e*P		P	09 50 55.0	+9.3	
CD2				pmax		pmax			
	comp=Z,10.0nm,1.4s								
D20A	Manuel Ranch,	96.81	40	P		P	09 50 49.0	+1.3	
	baz=97								
J25A	Sunshine Ranch	97.34	44	P		P	09 50 50.8	+0.5	
	baz=98								
RSSD	Black Hills	97.58	44	*e*P		P	09 50 51.5	0.0	
	1.7nm,1.1s								
H24A	Dirks Ranch, A	97.60	43	P		P	09 50 49.8	-1.6	
	baz=98								
I25A	Rochford	97.72	44	P		P	09 50 52.3	+0.3	
	baz=98								
H25A	Fruitdale	98.11	44	P		P	09 50 54.6	+0.9	
	baz=98								
LZH	Lanzhou	98.70	306	*e*P		Pdif	09 51 07.3	+11	
LZH				pP		pP	09 51 12.0	+6.3	
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
LZH				pmax		pmax			
	comp=Z,68nm,4.3s								
LZH				LR		LR			
	comp=N,790nm,18.4s								
LZH				LR		LR			
	comp=E,470nm,16.3s								
LZH				LR		LR			
	comp=Z,270nm,18.6s								
SONM	Songino Array	102.59	318	P		Pdif	09 51 13.4	-0.2	
SONM	Songino Array	102.59	318	P		Pdif	09 51 13.4	-0.2	
	0.1nm,0.4s,baz=95,slow=3.2,SNR=2.5								
WMQ	Urumqi	113.11	309	PKP		PKiKP	09 55 58.8	+4.5	
WMQ				PP		PP	09 57 00.5	+16	
WMQ				PKS		PKSdf	09 59 34.0	+3.1	
WMQ				SKS		SKSdf	10 03 06.0	+1.5	
WMQ				SKKS		SKSSac	10 03 49.0	+4.9	
WMQ				SS		SS	10 12 46.5	+19	
WMQ				AMB		AMB			
	comp=Z,12nm,9.8s								
WMQ				LR		LR			
	comp=N,30nm,28.1s								
WMQ				LR		LR			
	comp=E,49nm,28.5s								
ZALV	Zalesovo Beam	117.45	319	PKP		PKPdf	09 56 00.3	-1.8	
ZALV	Zalesovo Beam	117.45	319	PKP		PKPdf	09 56 00.3	-1.8	
	0.9nm,0.6s,baz=164,slow=1.0,SNR=4.0								
MKAR	Makanchi Array	117.57	311	PKP		PKPdf	09 56 00.0	-2.7	
MKAR	Makanchi Array	117.57	311	PKP		PKPdf	09 56 00.0	-2.7	
	0.7nm,0.6s,baz=36,slow=1.2,SNR=7.2								
KSH	Kashi	120.47	301	*e*PKP		PKPdf	09 56 13.5	+4.8	
KSH				*es*PKP			09 56 28.0		
KSH				*e*SKS		SKSdf	10 03 20.8	+1.9	
KSH				AMB		AMB			
	comp=Z,77nm,6.0s								
KSH				LR		LR			
	comp=N,110nm,6.7s								
KSH				LR		LR			
	comp=E,34nm,4.4s								
KSH				LR		LR			
	comp=Z,83nm,3.0s								
KURK	Kurchatov	120.67	314	PKP		PKPdf	09 56 06.3	-2.1	
KURBB	Kurchatov Arra	120.71	314	PKP		PKPdf	09 56 06.3	-2.2	
	1.2nm,0.8s,baz=104,slow=1.9,SNR=9.5								
FRB	Frobisher Bay	122.72	30	PKP		PKPdf	09 56 09.1	-2.9	
FRB	Frobisher Bay	122.72	30	PKP		PKPdf	09 56 09.1	-2.9	
	1.7nm,0.7s,baz=213,slow=4.5,SNR=3.6								
AKTO	Aktyubinsk	133.76	314	PKP		PKPdf	09 56 32.4	-1.1	
AKTO	Aktyubinsk	133.76	314	PKP		PKPdf	09 56 32.4	-1.1	
	1.3nm,0.7s,baz=303,slow=3.9,SNR=5.3								
ARCES	ARCESS Array B	136.79	349	PKP		PKPdf	09 56 37.9	-0.7	
ARCES	ARCESS Array B	136.79	349	PKP		PKPdf	09 56 37.9	-0.7	
	5.0nm,1.0s,baz=16,slow=1.3,SNR=2.2								
KBZ	Khabaz	145.13	307	PKP		PKPbc	09 56 53.0	-0.9	
KBZ	Khabaz	145.13	307	PKP		PKPbc	09 56 53.0	-0.9	
	4.2nm,0.8s,baz=139,slow=5.0,SNR=7.2								
NB2	NORSAR Subarra	146.82	353	PKP		PKPdf	09 56 57.0	+0.3	
	comp=Z,2.0nm,0.6s,baz=9.1,slow=2.9								
NOA	NORSAR Array B	146.82	353	PKPbc		PKPdf	09 56 57.4	+0.6	
NOA	NORSAR Array B	146.82	353	PKPbc		PKPdf	09 56 57.4	+0.6	
	comp=Z,2.6nm,0.7s,baz=14,slow=4.4,SNR=6.0								
AKASG	Malin Array Be	150.45	326	PKPbc		PKPdf	09 57 06.4	+3.6	
AKASG	Malin Array Be	150.45	326	PKPbc		PKPdf	09 57 06.4	+3.6	
	comp=Z,4.3nm,0.6s,baz=43,slow=3.3,SNR=26								
AKBB	Malin Array Si	150.45	326	*e*PKPbc		PKPbc	09 57 06.7	-1.5	
KIEV	Kiev	150.46	326	*e*PKPdf		PKPdf	09 57 03.2	+0.3	
AK02	Malin Array Si	150.49	326	*e*PKPdf		PKPdf	09 57 02.3	-0.6	
ASF	Jabal al Asfar	151.18	286	PKPbc		PKPbc	09 57 10.1	-0.6	
ASF	Jabal al Asfar	151.18	286	PKPbc		PKPbc	09 57 10.1	-0.6	
	comp=Z,4.6nm,0.7s,baz=276,slow=2.4,SNR=6.2								
MMAI	Mount Meron Ar	152.44	288	PKPbc		PKPbc	09 57 13.3	-0.2	
MMAI	Mount Meron Ar	152.44	288	PKPbc		PKPbc	09 57 13.3	-0.2	
	comp=Z,1.4nm,0.4s,baz=45,slow=6.3,SNR=3.6								
EIL	Elat	152.73	281	PKPbc		PKPbc	09 57 12.7	-1.5	
EIL				PKPab		PKPab	09 57 23.9	-1.1	
EIL	Elat	152.73	281	PKPbc		PKPbc	09 57 12.7	-1.5	
	comp=Z,3.8nm,0.7s,baz=336,slow=2.3,SNR=4.0								
EIL				PKPab		PKPab	09 57 23.9	-1.1	
	comp=Z,6.8nm,0.7s,baz=302,slow=5.6,SNR=5.1								
BR131	Keskin Array S	152.85	303	*e*PKPbc		PKPbc	09 57 12.9	-1.4	
BRTR	Keskin Array B	152.85	303	PKPbc		PKPbc	09 57 13.2	-1.1	
BRTR				PKPab		PKPab	09 57 24.1	-1.2	
BRTR	Keskin Array B	152.85	303	PKPbc		PKPbc	09 57 13.2	-1.1	
	comp=Z,1.5nm,0.7s,baz=137,slow=3.6,SNR=7.6								
BRTR				PKPab		PKPab	09 57 24.1	-1.2	
	comp=Z,3.0nm,0.8s,baz=101,slow=3.0,SNR=9.7								
KOLS	Kolonicke sedl	154.91	330	*e*PKP		PKPdf	09 57 12.6	+3.1	
STHS	Stebnicka Huta	154.97	332	*e*PKP		PKPdf	09 57 12.3	+2.7	
STHS				*e*			09 57 36.1		
ABTA	Abfaltersbach	160.29	342⇑	*i*PKPab		PKPab	09 57 55.7	-1.2	
	comp=Z,12nm,1.8s								
DAVA	Damuels	160.39	348⇓	*i*PKPab		PKPab	09 57 58.1	+0.7	
	comp=Z,6.0nm,0.7s								
TORD	Torodi Ar. Bea	164.86	172	PKP		PKPdf	09 57 21.1	-0.7	
TORD				PKPab		PKPab	09 58 18.7	+1.1	
TORD	Torodi Ar. Bea	164.86	172	PKP		PKPdf	09 57 21.1	-0.7	

λ89.00000°. NP2:φ₈192.00000°,δ28.00000°,λ92.00000°. Principal axes: T 1.1340, Plg72.0000°, Azm277.0000°; N 0.1190, Plg1.0000°, Azm10.0000°; P -1.2530, Plg18.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 28 09:55:24.4±0.3,**3.03N**±0.03×**126.56E**±0.04,**h76**km±2km, **h76**km:**pP-P,n654,**σ1⅘**58**/701,**mb5.2**/131,**140C-138D,**
Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.22**	**302**	P	**Pn**	**09 55 43.0**	**-3.0**
TNTI	**Ternate**	**2.39**	**160**	P	**Pn**	**09 56 00.0**	**-1.5**
TNTI	**Ternate**	**2.39**	**160**	*e*Pn	**Pn**	**09 55 59.6**	**-1.9**
GSPH	**General Santos**	**3.43**	**332**	⇑*e*P	**Pn**	**09 56 14.1**	**-1.6**
KMSI	**Cibinong**	**3.55**	**227**	P	**Pn**	**09 56 17.5**	**+0.3**
LBMI	**Labuha**	**3.77**	**165**	P	**Pn**	**09 56 20.0**	**-0.2**
MATI	**Mati**	**3.90**	**356**	*e*P	**Pn**	**09 56 21.5**	**-0.5**
MATI				*e*S	Sn	09 56 53.9	-13
DAV	**Davao City (W)**	**4.13**	**346**	*e*Pn	**Pn**	**09 56 25.5**	**+0.3**
DMPH	**Davao City--Mi**	**4.16**	**345**	⇑*e*P	**Pn**	**09 56 25.8**	**+0.2**
DMPH				*e*S	**Sn**	**09 57 17.1**	**+4.1**
GTOI	**Gorontalo**	**4.27**	**236**	P	**Pn**	**09 56 26.5**	**-0.6**
CTBH	**Cotabato--PC H**	**4.76**	**331**	⇑*e*P	**Pn**	**09 56 33.1**	**-0.6**
BUKP	**Musuan**	**5.04**	**343**	*e*P	**Pn**	**09 56 37.9**	**+0.3**
SANI	**Sanana** 182nm,0.9s,6μm1.4nm	**5.08**	**186**	P	**Pn**	**09 56 35.4**	**-2.7**
BIPH	**Bislig**	**5.12**	**358**	⇑*i*P	**Pn**	**09 56 39.6**	**+0.9**
BIPH				*i* S	Sn	09 57 11.0	-25
MRSI	**Marisa** 3μm,0.5s,39μm13nm	**5.27**	**241**	P	**Pn**	**09 56 41.1**	**+0.4**
LUWI	**Luwuk** 1μm,1.1s,15μm9.8nm	**5.54**	**223**	P	**Pn**	**09 56 46.7**	**+2.3**
LUWI	**Luwuk**	**5.54**	**223**	*e*Pn	**Pn**	**09 56 45.6**	**+1.2**
CGP	**Cagayan de Oro**	**5.70**	**341**	⇓*e*P	**Pn**	**09 56 47.6**	**+1.1**
PAGZ	**Pagadian**	**5.73**	**327**	*e*P	**Pn**	**09 56 45.8**	**-1.3**
BUTP	**Butuan**	**5.97**	**351**	*e*P	**Pn**	**09 56 51.3**	**+1.0**
TOLI	**Toli-Toli** 2μm,0.5s,27μm8.6nm	**6.07**	**252**	P	x	09 56 50.1	
TOLI	**Toli-Toli** 1μm,0.4s	**6.07**	**252**	*e*Pn	**Pn**	**09 56 50.1**	**-1.5**
NLAI	**Namlea** 211nm,0.5s,8μm2.3nm	**6.25**	**175**	P	**Pn**	**09 56 53.6**	**-0.5**
APSI	**Ampana** 3μm,0.6s,22μm10nm	**6.28**	**231**	P	**Pn**	**09 56 56.9**	**+2.4**
MSAI	**Masohi** 40nm,0.8s,651nm0.2nm	**6.76**	**159**	P	**Pn**	**09 57 04.2**	**+3.1**
SCPH	**Surigao**	**6.79**	**351**	*e*P	**Pn**	**09 57 02.2**	**+0.7**
FAKI	**Fak Fak** 182nm,0.5s,2μm	**8.20**	**136**	P	**Pn**	**09 57 20.2**	**-0.6**
FAKI	**Fak Fak**	**8.20**	**136**	*e*Pn	**Pn**	**09 57 20.0**	**-0.8**
MYLDM	**Lahad Datu**	**8.32**	**285**	*e*Pn	**Pn**	**09 57 23.4**	**+1.1**
MYLDM	**Lahad Datu**	**8.32**	**285**	⇑P	**Pn**	**09 57 22.8**	**+0.5**
MWPI	**Manokwari, Pap**	**8.45**	**118**	P	x	09 57 28.9	
KKSI	**Kolaka, Sulawe**	**8.68**	**214**	P	x	09 57 19.2	
TSM	**Tawau**	**8.76**	**278**	⇓P	**Pn**	**09 57 27.0**	**-1.4**
PALU	**Palau** baz=9.0,SNR=12	**8.97**	**61**	⇓P	**Pn**	**09 57 28.5**	**-2.8**
TTSI	**Tana Toraja** 335nm,1.2s,4μm	**9.04**	**228**	P	**Pn**	**09 57 34.5**	**+2.2**
MMSI	**Mamuju**	**9.53**	**233**	P	x	09 57 52.4	
SDKM	**Sandakan**	**9.69**	**286**	⇓P	**Pn**	**09 57 40.9**	**-0.3**
SPSI	**Sidrap Palu** 133nm,1.0s	**9.71**	**224**	P	**Pn**	**09 57 43.9**	**+2.5**
BNSI	**Bone** 148nm,1.2s,2μm	**9.80**	**221**	P	**Pn**	**09 57 45.3**	**+2.7**
BAKI	**Biak** 404nm,1.1s,8μm	**10.43**	**114**	P	**Pn**	**09 57 53.0**	**+1.8**
KAPI	**Kappang**	**10.49**	**220**	*e*Pn	**Pn**	**09 57 54.9**	**+2.8**
KKM	**Kota Kinabalu** 166nm,0.5s,2μm	**10.74**	**287**	P	x	09 57 58.2	
KKM	**Kota Kinabalu**	**10.74**	**287**	*e*Pn	**Pn**	**09 57 57.0**	**+1.5**
KKM	**Kota Kinabalu**	**10.74**	**287**	⇓P	**Pn**	**09 57 57.0**	**+1.5**
KBKI	**Kotabaru**	**12.14**	**239**	P	**P**	**09 58 33.1**	**-1.2**
MTKI	**Muara Teweh, K**	**12.31**	**251**	P	P	09 58 22.0	-4.1
TGY	**Tagaytay City** comp=Z,97nm,21.0s,baz=124,slow=38	**12.32**	**334**	LR	LR	10 03 05.0	
SOEI	**Soe**	**12.91**	**190**	*e*Pn	**P**	**09 58 32.5**	**-0.3**
SMPI	**Sarmi**	**13.13**	**112**	P	**P**	**09 58 33.4**	**-1.9**
LBFI	**Labuhan Bajo,**	**13.23**	**210**	P	x	09 58 40.4	
BBKI	**Banjar Baru**	**13.37**	**241**	P	**P**	**09 58 38.7**	**+0.8**
BATI	**Baumata**	**13.46**	**192**	P	**P**	**09 58 37.1**	**-1.9**
BATI	**Baumata**	**13.46**	**192**	Pn	**Pn**	**09 58 34.0**	**+1.6**
BATI	**Baumata** 9.8nm,0.3s,baz=289,slow=2.8,SNR=13	**13.46**	**192**	Pn	**Pn**	**09 58 34.0**	**+1.6**
SBUM	**Sibu** 83nm,1.8s,2μm	**14.33**	**268**	P	x	09 58 45.6	
SBUM	**Sibu**	**14.33**	**268**	*e*Pn	**Pn**	**09 58 45.3**	**+1.5**
SBUM	**Sibu**	**14.33**	**268**	⇑P	**P**	**09 58 46.2**	**-2.5**
GENI	**Genyem**	**14.71**	**112**	P	**P**	**09 58 51.7**	**-1.1**
JAY	**Jayapura**	**15.18**	**111**	Pn	**Pn**	**09 58 52.0**	**-2.7**
JAY	**Jayapura** 1.4nm,0.3s,baz=67,slow=21,SNR=17	**15.18**	**111**	Pn	**Pn**	**09 58 52.0**	**-2.7**
STKI	**Sintang**	**15.36**	**259**	P	**P**	**09 59 02.6**	**+2.5**
MTNI	**Mataram** 144nm,0.9s,1μm	**15.54**	**222**	P	x	09 59 01.4	
SZP	**Santa**	**15.62**	**338**	*e*Pn	**Pn**	**09 58 59.7**	**-0.5**
SRBI	**Singaraja** 214nm,1.1s,2μm	**15.81**	**226**	P	**P**	**09 59 05.8**	**+0.7**
KSM	**Kuching** 83nm,1.1s,2μm	**16.31**	**265**	P	x	09 59 11.7	
KSM	**Kuching** 111nm,1.1s	**16.31**	**265**	*e*P	**P**	**09 59 11.6**	**+1.0**
KSM	**Kuching**	**16.31**	**265**	⇓P	**P**	**09 59 11.8**	**+1.2**
IGBI	**Denpasar** 158nm,1.2s,3μm	**16.37**	**224**	P	**P**	**09 59 12.9**	**+1.6**
MTN	**Manton Dam** baz=16,SNR=66	**16.41**	**164**	⇑P	**Pn**	**09 59 06.3**	**-3.9**
BYJI	**Banyuwangi** 295nm,1.7s	**16.52**	**227**	P	x	09 59 15.4	
KDU	**Kakadu** baz=17,SNR=48	**16.68**	**159**	⇓P	**Pn**	**09 59 09.3**	**-4.3**
JAGI	**Jajag, Banyuwa** 133nm,1.3s,2μm	**16.84**	**227**	P	**P**	**09 59 17.9**	**+1.4**
JAGI	**Jajag, Banyuwa** 78nm,0.8s	**16.84**	**227**	*e*Pn	**P**	**09 59 15.9**	**-0.6**
GMJI	**Gumukmas** 108nm,1.0s,2μm	**17.24**	**229**	P	**P**	**09 59 23.5**	**+2.6**
KRKI	**Karangkates** 202nm,0.8s,15μm	**17.93**	**232**	P	x	09 59 29.9	
NGJI	**Ngawi** 75nm,0.9s	**18.27**	**236**	P	**Pn**	**09 59 32.5**	**-0.5**
PWJI	**Pagerwojo**	**18.36**	**233**	P	**P**	**09 59 32.0**	**-1.3**
KNRA	**Kununurra** baz=19,SNR=7.6	**18.72**	**173**	⇑P	**P**	**09 59 35.9**	**-1.2**
PCJI	**Pacitan** 154nm,0.4s,2μm	**18.97**	**234**	P	**Pn**	**09 59 40.5**	**-0.8**
UGM	**Wanagama** baz=19,SNR=8.0	**19.34**	**236**	⇑P	**P**	**09 59 42.2**	**-1.8**
BJII	**Banjamegara** 49nm,0.9s,2μm	**19.72**	**238**	P	x	09 59 47.8	
TPI	**Tanjungpandan** 54nm,1.2s,1μm	**19.75**	**253**	P	**Pn**	**09 59 49.7**	**-0.9**
DLV	**T Lat**	**19.97**	**297**	*e*P	**P**	**09 59 51.6**	**+0.6**
TPUB	**Ta-pu** 74nm,0.8s	**20.95**	**345**	*e*P	**P**	**09 59 57.9**	**-3.5**
FITZ	**Fitzroy Crossi** baz=21	**21.02**	**182**	⇓P	**P**	**10 00 01.1**	**-1.0**
LEM	**Lembang** 139nm,0.8s	**21.29**	**243**	P	**P**	**10 00 08.6**	**+3.3**
SSLB	**Suanglung** 43nm,0.7s	**21.33**	**346**	*e*P	**P**	**10 00 01.8**	**-3.7**
CISI	**Cisompet, Garu** 162nm,0.7s,9μm	**21.46**	**241**	P	**P**	**10 00 08.6**	**+1.7**
CISI	**Cisompet, Garu** 110nm,0.5s	**21.46**	**241**	*e*P	**P**	**10 00 08.6**	**+1.7**
CBJI	**Citeko** 478nm,1.1s	**21.80**	**244**	P	**P**	**10 00 14.0**	**+3.5**
CNJI	**Cibinong** 128nm,1.2s,1μm	**21.94**	**242**	P	**P**	**10 00 13.2**	**+1.2**
DBJI	**Dramaga** 183nm,1.3s,16μm	**21.95**	**244**	P	**P**	**10 00 14.3**	**+2.2**
YHNB	**Yeheng** 74nm,0.9s	**22.09**	**347**	*e*P	**P**	**10 00 11.1**	**-2.4**
SBJI	**Serang** 196nm,1.6s	**22.33**	**246**	P	**P**	**10 00 19.2**	**+3.0**
MYKOM	**Kota Tinggi** 53nm,1.0s	**22.72**	**267**	P	x	10 00 20.7	
MYKOM	**Kota Tinggi** 40nm,0.8s	**22.72**	**267**	*e*P	**P**	**10 00 19.8**	**-0.6**
MYKOM	**Kota Tinggi**	**22.72**	**267**	⇓P	**P**	**10 00 21.5**	**+1.1**
QIZ	**Qiongzhong**	**22.80**	**315**	P	**P**	**10 00 20.8**	**-0.4**
QIZ				pP	**pP**	**10 00 36.5**	**-0.4**
QIZ				sP	**sP**	**10 00 45.5**	**-0.8**
QIZ				S	**S**	**10 04 26.5**	**+1.8**
QIZ				pmax	pmax		
	comp=Z,29nm,1.1s						
QIZ	**Qiongzhong** 27nm,0.8s	**22.80**	**315**	*e*P	**P**	**10 00 19.6**	**-1.6**
CGJI	**Cibinong** 256nm,0.5s,3μm	**22.93**	**245**	P	**P**	**10 00 22.2**	**-0.3**
KLI	**Kotabumi** 109nm,0.8s,4μm	**23.06**	**250**	P	**P**	**10 00 25.7**	**+1.9**
KGM	**Kluang**	**23.24**	**268**	⇑P	**P**	**10 00 26.7**	**+1.2**
KTGM	**Kuala Trenggan**	**23.47**	**276**	⇓P	**P**	**10 00 29.3**	**+1.7**
MDSI	**Maura Dua** 62nm,1.6s	**23.58**	**252**	P	**P**	**10 00 29.0**	**+0.4**
COEN	**Coen** 506nm,1.4s	**23.59**	**136**	*e*P	**P**	**10 00 26.9**	**-1.7**
COEN	**Coen** baz=24,SNR=5.8	**23.59**	**136**	P	**P**	**10 00 27.0**	**-1.7**
KASI	**Kota Agung** 104nm,1.2s,1μm	**23.62**	**249**	P	**P**	**10 00 29.3**	**+0.4**
JOW	**Kunigami** 30nm,1.0s	**23.72**	**4**	*e*P	P	10 00 25.1	-4.7
LWLI	**Liwa**	**23.86**	**250**	P	P	10 00 37.1	+5.9
PMG	**Port Moresby** 53nm,0.8s	**23.96**	**121**	P	x	10 00 29.5	
PMG	**Port Moresby** comp=Z,655nm,19.2s,baz=290,slow=43	**23.96**	**121**	LR	LR	10 12 26.8	
WRAB	**Tennant Creek** 666nm,0.8s	**24.07**	**162**	P	**P**	**10 00 31.0**	**-1.9**
WRAB	**Tennant Creek**	**24.07**	**162**	*d i*P	**P**	**10 00 31.6**	**-1.4**
WRAB	comp=Z,161nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,129nm,0.6s	**24.07**	**162**	*e*P	**P**	**10 00 31.5**	**-1.4**
WRA	**Warramunga Arr**	**24.08**	**162**	P	**P**	**10 00 30.5**	**-2.5**
WRA				S	**S**	**10 04 45.4**	**+0.1**
WRA	**Warramunga Arr** comp=Z,38nm,0.5s,baz=342,slow=9.9,SNR=70	**24.08**	**162**	P	**P**	**10 00 30.5**	**-2.5**
WRA	comp=Z,23nm,0.8s,baz=346,slow=17,SNR=8.1			S	**S**	**10 04 45.4**	**+0.1**
UBPT	**Khong Chiam** comp=Z,98nm,0.9s	**24.08**	**302**	P	**P**	**10 00 31.7**	**-1.3**
MNAI	**Manna** baz=25,SNR=4.0	**24.70**	**253**	⇑P	**P**	**10 00 38.8**	**+0.1**
XMI	**Christmas Isla** baz=25,SNR=4.3	**24.72**	**237**	P	**P**	**10 00 39.4**	**+0.5**
XMIS	**Christmas Isla** comp=Z,136nm,0.6s	**24.77**	**237**	*e*P	**P**	**10 00 37.2**	**-2.2**
XMIS	**Christmas Isla** baz=25	**24.77**	**237**	⇑P	**P**	**10 00 38.6**	**-0.8**
IPM	**Ipoh** comp=Z,25nm,1.5s	**25.52**	**274**	P	x	10 00 48.9	
IPM	**Ipoh** comp=Z,80nm,1.4s	**25.52**	**274**	*e*P	**P**	**10 00 47.5**	**+1.2**
IPM	**Ipoh**	**25.52**	**274**	⇓P	**P**	**10 00 48.7**	**+2.5**
KULM	**Kulim** comp=Z,34nm,1.0s	**25.93**	**276**	*e*P	P	10 00 54.8	+4.8
KULM	**Kulim**	**25.93**	**276**	⇓P	**P**	**10 00 52.9**	**+3.0**
QIS	**Mount Isa** baz=27,SNR=84	**26.71**	**152**	P	**P**	**10 00 56.4**	**-0.5**
MNSI	**Mandailing Nat** comp=Z,38nm,1.0s,comp=Z,9μm	**27.05**	**266**	P	**P**	**10 01 03.1**	**+3.1**
MTSU	**Mount Surprise** baz=28	**27.36**	**141**	⇑P	**P**	**10 01 03.3**	**+0.6**
AS31	**Alice Springs**	**27.48**	**165**	*e*P	**P**	**10 01 03.3**	**-0.5**
ASAR	**Alice Springs**	**27.48**	**165**	P	**P**	**10 01 02.8**	**-1.1**
ASAR				S	**S**	**10 05 39.5**	**+0.2**
ASAR	**Alice Springs** comp=Z,13nm,0.6s,baz=341,slow=7.5,SNR=89	**27.48**	**165**	P	**P**	**10 01 02.8**	**-1.1**
ASAR	comp=Z,5.4nm,0.9s,baz=352,slow=18,SNR=5.1			S	**S**	**10 05 39.5**	**+0.2**
PSI	**Prapat** comp=Z,15nm,1.4s	**27.60**	**270**	P	x	10 01 04.8	
PSI	**Prapat**	**27.60**	**270**	P	**P**	**10 01 02.2**	**-2.9**
PSI	**Prapat** comp=Z,4.4nm,0.5s,baz=91,slow=11,SNR=7.4	**27.60**	**270**	P	**P**	**10 01 02.2**	**-2.9**
PSI	comp=Z,742nm,19.0s,baz=113,slow=41			LR	LR	10 13 54.5	
PSI	**Prapat**	**27.60**	**270**	⇑P	**P**	**10 01 04.3**	**-0.8**
WRKA	**Warakurna** baz=28,SNR=3.8	**27.95**	**177**	P	**P**	**10 01 07.9**	**-0.1**
SLVN	**Son La**	**28.57**	**311**	*e*P	**P**	**10 01 13.1**	**-0.5**
GSI	**Gunungsitoli** comp=Z,21nm,0.6s	**29.01**	**267**	*e*P	**P**	**10 01 15.3**	**-2.2**
GSI	**Gunungsitoli** baz=29	**29.01**	**267**	⇓P	**P**	**10 01 15.6**	**-1.9**
UTTA	**Uttaradit** comp=Z,5.5nm,1.2s,comp=Z,56nm	**29.39**	**302**	P	**P**	**10 01 20.9**	**+0.1**
UTHA	**Uthai** comp=Z,13nm,0.6s,comp=Z,131nm	**29.46**	**297**	P	**P**	**10 01 20.8**	**-0.6**
WHN	**Wuhan**	**29.70**	**338**	P	**P**	**10 01 24.5**	**+1.1**
WHN	comp=Z,910nm,9.8s			LR	LR		
WHN	comp=Z,520nm,9.9s			LR	LR		
WHN	comp=Z,5μm,34.6s			LR	LR		
NJ2	**Nanjing**	**29.76**	**347**	*e*P	**P**	**10 01 23.5**	**-0.4**
NJ2				pP	**pP**	**10 01 40.3**	**-1.4**
NJ2				sP	**sP**	**10 01 48.0**	**-2.6**
NJ2				S	S	10 06 22.0	+7.1
NJ2				sS	**sS**	**10 06 42.0**	**-3.5**
NJ2	comp=Z,20nm,0.7s			pmax	pmax		
NJ2	comp=Z,330nm,6.1s			pmax	pmax		
NJ2	comp=Z,760nm,27.2s			LR	LR		
NJ2	comp=Z,940nm,20.4s			LR	LR		
KHLT	**Khaolaem Dam** comp=Z,15nm,0.5s	**29.95**	**295**	P	**P**	**10 01 25.5**	**-0.3**
CTA	**Charters Tower**	**30.03**	**141**	P	**P**	**10 01 26.5**	**+0.1**
CTA	**Charters Tower** comp=Z,12nm,0.9s,baz=325,slow=17	**30.03**	**141**	P	**P**	**10 01 26.5**	**+0.1**
CTA	comp=Z,476nm,18.9s,baz=320,slow=41			LR	LR	10 15 39.8	
CTAO	**Charters Tower**	**30.03**	**141**	*e*P	**P**	**10 01 26.2**	**-0.3**
CTAO	comp=Z,46nm,1.4s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,46nm,1.4s	**30.03**	**141**	*e*P	**P**	**10 01 26.2**	**-0.3**
SUKH	**Sukhothai** comp=Z,6.3nm,0.8s,comp=Z,56nm	**30.07**	**300**	P	**P**	**10 01 27.3**	**+0.5**
GYA	**Guiyang**	**30.11**	**323**	P	**P**	**10 01 26.5**	**-0.7**
GYA				pP	**pP**	**10 01 46.8**	**+1.8**
GYA				sP	**sP**	**10 01 56.0**	**+2.1**
GYA				PP	**PnPn**	**10 02 29.5**	**+2.0**
GYA				PcP	**PcP**	**10 04 28.5**	**+1.2**
GYA				S	**S**	**10 06 21.0**	**+0.3**
GYA				sS	**sS**	**10 06 53.3**	**+1.9**
GYA				ScP	**ScP**	**10 08 01.3**	**-1.8**
GYA				SS	**SnSn**	**10 08 04.5**	**+3.5**
GYA				ScS	**ScS**	**10 11 56.8**	**-2.2**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,4.9s			pmax	pmax		
GYA	comp=Z,620nm,17.2s			LR	LR		
GYA	comp=Z,570nm,18.4s			LR	LR		
JNU	**Nakatsue** comp=Z,18nm,0.9s	**30.21**	**7**	*e*P	**P**	**10 01 28.4**	**+0.5**
MEEK	**Meekatharra** baz=31,SNR=26	**30.48**	**194**	P	**P**	**10 01 30.0**	**-0.3**
LAMP	**Lampang** comp=Z,7.2nm,0.9s,comp=Z,81nm	**30.53**	**302**	P	**P**	**10 01 32.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**31.08**	**302**	P	**P**	**10 01 34.9**	**-0.9**
CMAR	**Chiang Mai Arr** comp=Z,4.5nm,0.5s,baz=122,slow=7.4,SNR=28	**31.08**	**302**	P	**P**	**10 01 34.9**	**-0.9**
CMAR	comp=Z,284nm,21.2s,baz=129,slow=38			LR	LR	10 14 34.6	
CHTO	**Chiang Mai**	**31.24**	**302**	*e*P	**P**	**10 01 36.4**	**-0.8**
CHTO	**Chiang Mai** comp=Z,123nm,1.3s,comp=Z,2μm	**31.24**	**302**	P	**P**	**10 01 36.8**	**-0.3**
CHTO	**Chiang Mai**	**31.24**	**302**	*e*P	**P**	**10 01 36.4**	**-0.8**
KMI	**Kunming**	**31.75**	**316**	P	**P**	**10 01 44.0**	**+2.2**
KMI				pP	**pP**	**10 02 02.0**	**+2.3**
KMI				S	**S**	**10 06 48.5**	**+1.8**
KMI				sS	**sS**	**10 07 19.5**	**+2.1**
KMI				SS	**SnSn**	**10 08 43.5**	**+2.4**
KMI				pmax	pmax		
KMI	comp=Z,16nm,1.2s			pmax	pmax		
KMI	comp=Z,160nm,6.4s			LR	LR		
KMI	comp=Z,320nm,16.7s			LR	LR		
CMBY	**CAMPBELL BAY** comp=Z,370nm,16.0s	**32.74**	**278**	*e*P	**P**	**10 01 51.6**	**+1.3**
CMBY				AMB	AMB	10 02 02.5	
MORW	**Morawa** baz=34,SNR=7.3	**33.48**	**197**	⇑P	**P**	**10 01 56.4**	**-0.2**
FORT	**Forrest** comp=Z,107nm,0.8s	**33.65**	**178**	*e*P	**P**	**10 01 57.6**	**-0.4**
FORT	**Forrest** baz=34,SNR=22	**33.65**	**178**	P	**P**	**10 01 57.6**	**-0.4**
QLP	**Quilpie** baz=34,SNR=18	**34.04**	**151**	P	**P**	**10 02 00.7**	**-0.8**
KSAR	**Wonju Array Be**	**34.27**	**2**	P	**P**	**10 02 03.8**	**+0.5**
KSAR				PcP	**PcP**	**10 04 39.4**	**+1.1**
KSRS	**Korea Array** comp=Z,6.4nm,0.4s,baz=179,slow=9.8,SNR=36	**34.28**	**2**	P	**P**	**10 02 03.8**	**+0.4**
KSRS	comp=Z,5.4nm,1.1s,baz=179,slow=3.8,SNR=4.8			PcP	**PcP**	**10 04 39.4**	**+1.1**
DGPR	**DIGLIPUR**	**34.74**	**289**	*e*P	**P**	**10 02 05.9**	**-1.8**
DGPR	comp=Z,36nm,2.7s			AMB	AMB	10 02 22.4	
BLDU	**Ballidu** baz=35,SNR=14	**34.76**	**195**	⇓P	**P**	**10 02 07.1**	**-0.6**
XAN	**Xi'an**	**34.96**	**334**	P	**P**	**10 02 07.3**	**-2.1**
XAN				pP	**pP**	**10 02 31.0**	**+3.5**
XAN	comp=Z,5.0nm,1.4s			pmax	pmax		
MJAR	**Matsushiro Arr**	**35.03**	**16**	P	**P**	**10 02 09.2**	**-0.8**
MJAR	**Matsushiro Arr** comp=Z,10nm,0.8s,baz=191,slow=10,SNR=22	**35.03**	**16**	P	**P**	**10 02 09.2**	**-0.8**
MAJO	**Matsushiro**	**35.04**	**16**	*i* P	**P**	**10 02 08.8**	**-1.2**
MAJO	comp=Z,159nm,1.0s			pmax	pmax		
MAJO	**Matsushiro**	**35.04**	**16**	*e*P	**P**	**10 02 09.8**	**-0.2**
MAT	**Matsushiro**	**35.04**	**16**	P	**P**	**10 02 07.2**	**-2.8**
MAT				S	**S**	**10 07 34.6**	**-2.3**
CD2	**Chengdu**	**35.10**	**325**	⇑*i*P	**P**	**10 02 09.5**	**-1.2**
CD2				pP	**pP**	**10 02 29.8**	**+1.0**
CD2				sP	**sP**	**10 02 39.5**	**+1.9**
CD2				PP	**PnPn**	**10 03 27.0**	**-3.6**
CD2				PcP	**PcP**	**10 04 38.3**	**-2.7**
CD2				S	**S**	**10 07 36.5**	**-1.7**
CD2				sS	**sS**	**10 08 10.8**	**+1.7**
CD2				SS	**SnSn**	**10 09 58.8**	**-3.1**
CD2	comp=Z,50nm,1.1s			pmax	pmax		
CD2	comp=Z,230nm,8.2s			LR	LR		
CD2	comp=Z,650nm,20.2s			LR	LR		
CD2	comp=Z,580nm,19.0s			LR	LR		
DL2	**Dalian**	**35.99**	**353**	⇑P	**P**	**10 02 18.8**	**+0.7**
DL2				*e*S	**S**	**10 07 49.5**	**-1.8**
DL2	comp=Z,150nm,1.1s			pmax	pmax		
DL2	comp=Z,260nm,5.6s			pmax	pmax		
DL2	comp=Z,360nm,19.3s			LR	LR		
DL2	comp=Z,380nm,18.4s			LR	LR		
RMQ	**Roma** baz=36,SNR=7.5	**36.36**	**145**	P	**P**	**10 02 21.0**	**-0.4**
BBOO	**Buckleboo** comp=Z,509nm,0.8s	**36.77**	**167**	*e*P	**P**	**10 02 24.6**	**-0.3**
BBOO	**Buckleboo** baz=37,SNR=13	**36.77**	**167**	P	**P**	**10 02 24.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**36.84**	**193**	P	**P**	**10 02 23.7**	**-1.7**
NWAO	**Narrogin (SRO)** comp=Z,3.6nm,0.4s,baz=11,slow=6.5,SNR=9.5	**36.84**	**193**	P	**P**	**10 02 23.7**	**-1.7**
NWAO	comp=Z,187nm,18.7s,baz=14,slow=43			LR	LR	10 21 24.6	
EIDS	**Eidsvold** comp=Z,34nm,0.8s	**36.91**	**141**	*e*P	**P**	**10 02 25.2**	**-0.9**
EIDS	**Eidsvold** baz=37,SNR=18	**36.91**	**141**	P	**P**	**10 02 25.6**	**-0.5**
STKA	**Stephens Creek**	**37.54**	**159**	*e*P	**P**	**10 02 30.9**	**-0.5**
STKA	**Stephens Creek** comp=Z,35nm,0.6s,baz=335,slow=9.1,SNR=60	**37.54**	**159**	P	**P**	**10 02 31.0**	**-0.4**
STKA	comp=Z,252nm,18.1s,baz=335,slow=42			LR	LR	10 21 13.1	
BJT	**Baijiatuao** comp=Z,42nm,0.6s	**38.00**	**347**	*e*P	**P**	**10 02 34.9**	**-0.3**
HTT	**Hallett** baz=38,SNR=7.0	**38.10**	**163**	P	**P**	**10 02 37.6**	**+1.4**
RKGY	**Rocky Gully** baz=39,SNR=12	**38.51**	**193**	P	**P**	**10 02 40.5**	**+1.1**
SNY	**Shenyang**	**38.72**	**356**	⇑P	**P**	**10 02 41.8**	**+0.7**
SNY				S	**S**	**10 08 35.8**	**+3.2**
SNY	comp=Z,49nm,1.7s			pmax	pmax		
SNY	comp=Z,450nm,3.3s			pmax	pmax		
SNY	comp=Z,400nm,26.3s			LR	LR		
SNY	comp=Z,520nm,16.6s			LR	LR		
CMSA	**Cobar Meteorol** baz=39,SNR=46	**38.90**	**154**	P	**P**	**10 02 42.9**	**+0.1**
LZH	**Lanzhou**	**39.02**	**330**	*e*P	**P**	**10 02 43.3**	**-0.6**
LZH				pP	**pP**	**10 03 00.5**	**-1.7**
LZH				sP	**sP**	**10 03 10.5**	**-0.5**
LZH	comp=Z,250nm,1.7s			pmax	pmax		
LZH	comp=Z,170nm,6.2s			pmax	pmax		
LZH	comp=Z,2μm,13.4s			LR	LR		
LZH	comp=Z,1μm,12.0s			LR	LR		
LZH	comp=Z,2μm,17.4s			LR	LR		
HHC	**Hu-ho-hao-te**	**40.00**	**342**	*e*P	**P**	**10 02 52.3**	**+0.3**
HHC				pP	**pP**	**10 03 10.5**	**+0.2**
HHC				PcP	**PcP**	**10 04 57.5**	**+1.7**
HHC				S	**S**	**10 08 55.0**	**+2.7**
HHC				sS	**sS**	**10 09 26.3**	**+2.7**
HHC				SS	**SS**	**10 11 46.8**	**-5.3**
HHC				ScS	**ScS**	**10 12 47.5**	**-4.3**
HHC	comp=Z,22nm,0.9s			pmax	pmax		
HHC	comp=Z,400nm,6.2s			pmax	pmax		
HHC	comp=Z,980nm,21.8s			LR	LR		
HHC	comp=Z,730nm,18.8s			LR	LR		
HHC	comp=Z,2μm,28.6s			LR	LR		
SHL	**Shillong**	**40.15**	**307**	*e*P	**P**	**10 02 52.3**	**-1.3**
SHL	comp=Z,51nm,0.6s			AMB	AMB	10 02 53.4	
CN2	**Changchun**	**40.61**	**359**	*e*P	**P**	**10 02 57.0**	**+0.2**
CN2				*e*S	**S**	**10 09 01.5**	**+0.6**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
CN2	comp=Z,770nm,16.0s			LR	LR		
CN2	comp=Z,410nm,16.0s			LR	LR		
ARMA	**Armidale**	**40.98**	**146**	*e*P	**P**	**10 03 00.5**	**+0.3**
ARMA	**Armidale** baz=41,SNR=20	**40.98**	**146**	⇑P	**P**	**10 03 00.5**	**+0.3**
USRK	**Ussuriysk Arra** comp=Z,58nm,0.8s,baz=190,slow=7.5,SNR=85	**41.28**	**6**	P	**P**	**10 03 02.5**	**+0.3**
**

baz=43,SNR=10
LSA Lhasa 42.77 312 P P 10 03 14.8 -0.5
LSA Lhasa 42.77 312 eP P 10 03 14.9 -0.4
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 42.77 312 eP P 10 03 14.9 -0.4
comp=Z,14nm,0.6s
MGCD Mangrove Creek 42.87 149 ⇑P P 10 03 16.8 +1.3
baz=43
ASAJ Asahikawa 43.30 17 eP P 10 03 19.6 +0.8
comp=Z,24nm,1.1s
CAN Canberra 43.57 153 eP P 10 03 21.4 +0.3
CAN pmax pmax
comp=Z,30nm,0.7s
CAN Canberra 43.57 153 eP P 10 03 21.4 +0.3
comp=Z,30nm,0.7s
CAN Canberra 43.57 153 ⇑P P 10 03 22.1 +1.0
baz=44
GTA Gaotai 43.61 330 ⇑P P 10 03 20.8 -0.7
GTA pP **pP 10 03 39.3 -0.7**
GTA sP **sP 10 03 48.3 -0.4**
GTA PcP **PcP 10 05 08.0 +0.2**
GTA S **S 10 09 44.0 -1.5**
GTA sS **sS 10 10 16.0 -1.2**
GTA SS SS 10 12 55.3 -7.9
GTA pmax pmax
comp=Z,21nm,1.6s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=Z,790nm,19.5s
GTA LR LR
comp=Z,560nm,19.5s
GTA LR LR
comp=Z,1μm,21.9s
CNB Canberra Magne 43.73 153 ⇓P P 10 03 23.8 +1.3
baz=44,SNR=6.7
TOO Toolangi 44.06 158 ⇑P P 10 03 26.3 +1.4
baz=44,SNR=6.2
TAPN Taplejung 44.29 307 eP P 10 03 26.2 -1.2
comp=Z,45nm,0.4s
ODAN Odare 44.34 306 eP P 10 03 26.5 -1.1
comp=Z,46nm,0.4s
VIS Vishakhapatnam 44.81 292 eP P 10 03 29.9 -1.3
VIS AMB AMB 10 03 32.9
comp=Z,20nm,1.5s
RAMN Ramite 45.01 306 eP P 10 03 32.2 -0.8
comp=Z,74nm,0.5s
JIRN Jiri 45.64 307 eP P 10 03 37.1 -1.1
comp=Z,93nm,0.5s
HABR Khabarovsk 45.85 8 eP P 10 03 37.3 -1.7
HABR e*PP pP 10 03 46.3 -11
HABR e*SP sP 10 03 50.6 -16
HABR e 10 05 13.3
HABR eS **S 10 10 19.1 +1.6**
HABR e*SS sS 10 10 35.9 -13
HABR e 10 13 29.4
HABR eSSS SSS 10 14 36.4
HABR pmax pmax
comp=E,121nm,2.2s
HABR pmax pmax
comp=N,75nm,1.4s
HABR pmax pmax
comp=Z,232nm,1.4s
HABR MLR MLR
comp=Z,413nm,21.0s
YSS Yuzh-Sakhalins 45.96 15 eP P 10 03 42.4 +2.6
YSS Yuzh-Sakhalins 45.96 15 eP P 10 03 40.0 +0.2
GUN Gumba 46.00 307 eP P 10 03 39.8 -1.1
comp=Z,150nm,0.5s
PKI Pulchoki 46.23 306 eP P 10 03 41.1 -1.7
comp=Z,48nm,0.6s
KLR Kul'dur 46.24 5 eP P 10 03 38.0 -4.0
KLR pmax pmax
comp=Z,80nm,1.2s
PKIN Phulchoki 46.25 306 eP P 10 03 41.3 -1.5
DZM Mont Dzumac 46.28 125 eP P 10 03 43.3 +0.4
comp=Z,39nm,1.2s
DZM eS **S 10 10 22.5 -2.1**
comp=Z,510nm,39.2s
DZM eLR LR 10 16 33.0
comp=Z,1μm,33.4s
KKN Kakani 46.43 306 eP P 10 03 42.9 -1.3
comp=Z,78nm,0.5s
HIA Hailar 46.43 354 eP P 10 03 43.8 +0.2
comp=Z,50nm,1.1s
DMN Daman 46.49 306 eP P 10 03 43.6 -1.1
comp=Z,40nm,0.5s
GKN Gorkha 47.03 306 eP P 10 03 47.3 -1.5
comp=Z,71nm,0.5s
ULN Ulaanbaatar 47.73 342 eP P 10 03 53.4 -0.5
comp=Z,29nm,1.0s
KOLN Koldanda 47.78 305 eP P 10 03 53.6 -1.1
comp=Z,157nm,0.6s
DANN Dangsing 47.88 306 eP P 10 03 54.3 -1.3
comp=Z,237nm,0.5s
SONM Songino Array 47.90 342 P P 10 03 54.6 -0.5
SONM PcP **PcP 10 05 23.5 +0.9**
SONM PP **PP 10 05 43.6 -4.2**
SONM Songino Array 47.90 342 P P 10 03 54.6 -0.5
comp=Z,46nm,1.3s,baz=161,slow=7.6,SNR=49
SONM PcP **PcP 10 05 23.5 +0.9**
comp=Z,2.7nm,0.6s,baz=166,slow=4.5,SNR=7.8
SONM PP **PP 10 05 43.6 -4.2**
comp=Z,4.2nm,0.8s,baz=142,slow=3.8,SNR=3.7
HYB Hyderabad 49.19 290 iP P 10 04 03.5 -2.0
HYB esP **sP 10 04 33.0 +0.1**
HYB Hyderabad 49.19 290 eP P 10 04 05.0 -0.4
HYB AMB AMB 10 04 06.2
comp=Z,74nm,1.7s
TRD Trivandrum 49.62 279 eP P 10 04 07.4 -1.3
TRD AMB AMB 10 04 09.2
comp=Z,65nm,2.4s
ZAK Zakamensk 51.12 341 ⇑iP P 10 04 18.9 -0.7
ZAK e 10 05 34.0
BHPL Bhopal 51.57 297 eP P 10 04 21.5 -1.8
BHPL AMB AMB 10 04 22.5
comp=Z,47nm,0.6s
TLY Talaya 52.13 342 P **P 10 04 27.9 +0.9**
comp=Z,109nm,0.9s,SNR=16
TLY Talaya 52.13 342 eP P 10 04 27.5 +0.5
TLY eSS **SS 10 15 26.9 +3.0**
TLY pmax pmax
comp=Z,26nm,1.3s
TLY Talaya 52.13 342 eP P 10 04 26.8 -0.2
comp=Z,20nm,1.0s
MOY Mondy 52.98 340 eP P 10 04 33.4 0.0
MOY pmax pmax
comp=Z,57nm,2.3s
WMQ Urumqi 53.20 325 P **P 10 04 35.8 +0.7**
WMQ pP **pP 10 04 54.8 +0.6**
WMQ sP **sP 10 05 03.5 +0.8**
WMQ PcP **PcP 10 05 42.8 +0.6**
WMQ PP **PP 10 06 38.3 +2.5**
WMQ ScP **ScP 10 09 32.0 -1.3**
WMQ S **S 10 11 59.3 -1.1**
WMQ ScS **ScS 10 14 14.5 -3.2**
WMQ SS **SS 10 15 39.0 -2.1**
WMQ pmax pmax
comp=Z,15nm,0.5s
WMQ pmax pmax
comp=Z,66nm,5.2s
WMQ LR LR
comp=Z,490nm,28.9s
WMQ LR LR
comp=Z,350nm,29.0s
WMQ LR LR
comp=Z,570nm,29.9s
DDI Dehra Dun 53.24 306 eP P 10 04 33.8 -1.8
DDI AMB AMB 10 04 35.2
comp=Z,73nm,0.5s
NDI New Delhi 53.36 304 eP P 10 04 34.0 -2.5
CLNS Chul'man 53.66 359 eP P 10 04 39.1 +0.9
CLNS e 10 05 45.5
CLNS e 10 06 39.7
CLNS ePPP PPP 10 07 46.3
CLNS eS **S 10 12 02.5 -3.8**
CLNS e 10 14 19.3
CLNS eSS **SS 10 15 50.6 +2.7**
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=E,2.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS smax smax
comp=N,183nm,13.8s
CLNS smax smax
comp=E,383nm,14.3s
POO Poona 53.80 291 eP P 10 04 37.6 -2.3
POO AMB AMB 10 04 39.2
comp=Z,44nm,1.6s
SMLA Simla 54.24 307 eP P 10 04 41.9 -0.9
DHRM DHARAMSHALA 55.33 308 eP P 10 04 49.9 -1.1
DHRM AMB AMB 10 04 51.3
comp=Z,148nm,0.9s
DLH Dalhousie 55.70 308 eP P 10 04 52.0 -1.6
PETK Petropavlovsk- 56.14 22 P P 10 04 56.9 +0.8
PETK Petropavlovsk- 56.14 22 P P 10 04 56.9 +0.8
PETK Petropavlovsk- 56.14 22 P P 10 04 56.9 +0.8
comp=Z,14nm,0.7s,baz=184,slow=3.4,SNR=12
PET Petropavlovsk 56.43 23 eP P 10 05 01.5 +3.4
PET eS **S 10 12 49.0 +5.7**
PET pmax pmax
comp=Z,12nm,0.6s
MK31 Makanchi Array 58.03 326 eP P 10 05 08.6 -1.0
MK31 pmax pmax
comp=Z,11nm,0.4s
MKAR Makanchi Array 58.03 326 iP P 10 05 08.8 -0.8
MKAR pmax pmax
comp=Z,19nm,0.4s
MKAR Makanchi Array 58.03 326 P **P 10 05 08.9 -0.7**
MKAR PcP **PcP 10 06 02.1 +1.3**
MKAR Makanchi Array 58.03 326 P P 10 05 08.9 -0.7
comp=Z,19nm,0.4s,baz=121,slow=7.3,SNR=176
MKAR PcP **PcP 10 06 02.1 +1.3**
comp=Z,8.9nm,0.5s,baz=115,slow=4.3,SNR=7.9
MKAR Makanchi Array 58.03 326 ⇓P P 10 05 09.1 -0.5
baz=58
KSH Kashi 58.41 315 P P 10 05 13.3 +0.7
KSH ePP **PP 10 07 24.3 +1.7**
KSH ePcS **PcS 10 10 04.0 -0.4**
KSH eS **S 10 13 05.8 -4.3**
KSH esS **sS 10 13 39.0 -4.1**
KSH pmax pmax
comp=Z,18nm,1.0s
KSH pmax pmax
comp=Z,130nm,5.0s
KSH LR LR
comp=Z,300nm,5.9s
KSH LR LR
comp=Z,280nm,6.3s
KSH LR LR
comp=Z,200nm,5.3s
YAK Yakutsk 58.91 2 eP P 10 05 15.4 +0.1
YAK pmax pmax
comp=Z,54nm,0.9s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.0s
ULHL Ulahol 59.42 318 iP P 10 05 19.2 -0.4
ULHL Ulahol 59.42 318 P P 10 05 19.2 -0.4
SNR=20
KZA Kyzart 60.01 318 iP P 10 05 23.9 0.0
KZA Kyzart 60.01 318 P P 10 05 23.9 0.0
SNR=32
TKM2 Tokmak 2 60.15 319 iP P 10 05 23.6 -1.0
TKM2 Tokmak 2 60.15 319 P P 10 05 23.7 -1.0
SNR=27
TKM2 Tokmak 2 60.15 319 eP P 10 05 24.1 -0.5
comp=E,16nm,0.7s
UCH Uchtor 60.57 318 iP P 10 05 27.7 0.0
UCH Uchtor 60.57 318 P P 10 05 27.8 0.0
SNR=44
CHMS Chumysh 60.74 319 iP P 10 05 28.0 -0.4
CHMS Chumysh 60.74 319 P P 10 05 28.0 -0.4
SNR=8.3
AAK Ala-Archa 60.76 318 P P 10 05 28.4 -0.3
comp=E,80nm,0.8s,SNR=11
AAK Ala-Archa 60.76 318 P P 10 05 27.9 -0.8
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 60.76 318 eP P 10 05 28.9 +0.2
SNR=12
AAK Ala-Archa 60.76 318 eP P 10 05 27.8 -0.9
comp=Z,21nm,1.1s
USP Ospenovka 61.03 319 iP P 10 05 29.7 -0.6
USP Ospenovka 61.03 319 P P 10 05 29.7 -0.6
SNR=31
AML Almayashu 61.08 317 P P 10 05 30.8 -0.3
SNR=44
ZAA0 Zalesovo Array 61.13 333 eP P 10 05 29.1 -1.6
ZALV Zalesovo Beam 61.13 333 P P 10 05 29.3 -1.4
ZALV Zalesovo Beam 61.13 333 P P 10 05 29.3 -1.4
ZALV Zalesovo Beam 61.13 333 P P 10 05 29.3 -1.4
comp=Z,18nm,0.8s,baz=125,slow=6.2,SNR=45
ZALV LR LR 10 34 16.0
comp=Z,164nm,18.5s,baz=80,slow=38
EKS2 Erkin-Say 61.25 318 iP P 10 05 31.7 -0.2
EKS2 Erkin-Say 61.25 318 P P 10 05 31.8 -0.2
SNR=26
EKS2 Erkin-Say 61.25 318 eP P 10 05 31.7 -0.2
comp=Z,44nm,1.2s
RPZ Rata Peaks 61.30 145 eP P 10 05 32.1 0.0
comp=Z,19nm,0.7s
KBL Kabul 61.81 308 eP P 10 05 35.0 -1.0
KBL pmax pmax
comp=Z,18nm,0.7s
KBL Kabul 61.81 308 eP P 10 05 35.0 -1.0
comp=Z,18nm,0.7s
KBL Kabul 61.81 308 P P 10 05 35.2 -0.8
baz=62,SNR=9.2
KHZ Kahutara 62.02 142 eP P 10 05 36.7 -0.2
comp=Z,9.5nm,0.5s
KURK Kurchatov 62.23 328 P P 10 05 37.6 -0.6
comp=Z,284nm,0.4s
KURK Kurchatov 62.23 328 eP P 10 05 37.3 -0.9
KURK pmax pmax
comp=Z,20nm,0.4s
KURK Kurchatov 62.23 328 eP P 10 05 37.3 -0.9
comp=Z,20nm,0.4s
NVS Novosibirsk 62.41 333 eP P 10 05 36.7 -2.6
NVS pmax pmax
comp=E,11nm,0.9s
NVS pmax pmax
comp=Z,23nm,0.9s
NVS pmax pmax
comp=N,12nm,0.8s
KK31 Karatay Array 63.62 317 iP P 10 05 46.9 -0.7
KK31 pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 63.62 317 eP P 10 05 46.6 -1.1
KKAR pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 63.62 317 eP P 10 05 46.6 -1.1
comp=Z,12nm,0.7s
BRVK Borovoye 67.88 327 P **P 10 06 14.7 -0.1**
comp=Z,169nm,1.2s,SNR=9.7
BRVK Borovoye 67.88 327 ⇑iP P 10 06 14.2 -0.6
BRVK pmax pmax
comp=Z,29nm,1.0s
BRVK Borovoye 67.88 327 eP P 10 06 12.6 -2.2
comp=Z,36nm,1.1s
TIXI Tiksi 68.54 1 ⇑iP P 10 06 18.3 -0.2
TIXI pmax pmax
comp=Z,37nm,1.2s
TIXI Tiksi 68.54 1 eP P 10 06 18.5 0.0
comp=Z,13nm,0.4s
BILL Bilibino 70.27 15 ⇓iP P 10 06 30.0 +0.7
BILL pmax pmax
comp=Z,14nm,1.4s
AB31 Akbulak array 72.58 321 iP P 10 06 42.8 -0.8
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 72.58 321 eP P 10 06 42.7 -0.9
comp=Z,4.8nm,0.4s
ABKAR Akbulak array 72.58 321 ⇓P P 10 06 42.8 -0.7
baz=73
AKTO Aktyubinsk 74.10 322 P **P 10 06 51.9 -0.6**
AKTO pmax pmax
comp=Z,17nm,0.8s
SVE Sverdlovsk 74.46 329 ⇑iP P 10 06 54.6 +0.1
SVE pmax pmax
comp=Z,56nm,1.2s
ARU Arti 75.43 328 P **P 10 06 59.3 -0.7**
comp=Z,167nm,0.7s,SNR=8.9
ARU Arti 75.43 328 *d* iP **P 10 06 58.6 -1.4**
ARU S **S 10 16 37.1 +3.0**
ARU pmax pmax
comp=Z,27nm,1.0s
ARU Arti 75.43 328 eP P 10 06 59.0 -1.1
comp=Z,21nm,0.8s
RAYN Ar Rayn 80.60 293 eP P 10 07 28.3 -1.2
comp=Z,19nm,0.6s
ABPO Ambohimpanom 80.92 250 eP P 10 07 31.1 -0.2
ABPO pmax pmax
comp=Z,21nm,0.8s
ABPO Ambohimpanom 80.92 250 eP P 10 07 31.1 -0.2
comp=Z,21nm,0.8s
VNDA Vanda 82.76 173 P **P 10 07 40.5 +0.9**
VNDA Vanda 82.76 173 P **P 10 07 40.5 +0.9**
comp=Z,6.4nm,0.9s,baz=325,slow=6.9,SNR=6.4
VNDA LR LR 10 44 46.0
comp=Z,45nm,19.3s,baz=328,slow=36
IM04 Indian Mountai 83.03 24 eP P 10 07 42.4 +1.1
PRGR Permogore 83.03 332 ⇑iP P 10 07 41.4 +0.1
PRGR pmax pmax
comp=Z,39nm,0.6s
KBZ Khabaz 83.33 313 P **P 10 07 43.0 -0.2**
KBZ Khabaz 83.33 313 P **P 10 07 43.0 -0.2**
KBZ Khabaz 83.33 313 P **P 10 07 43.0 -0.2**
comp=Z,2.3nm,0.4s,baz=277,slow=1.1,SNR=14
KBZ LR LR 10 49 37.6
comp=Z,86nm,20.6s,baz=72,slow=39
KIV Kislovodsk 83.49 314 eP P 10 07 43.5 -0.8
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,196nm,19.0s
RC01 Rabbit Creek A 84.31 29 eP P 10 07 48.6 +0.7
comp=Z,37nm,1.0s
VRHR Novokhopersk 84.47 321 eP P 10 07 47.1 -1.8
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.9s
COLD Coldfoot 84.60 23 eP P 10 07 50.3 +1.0
comp=E,40nm,1.3s
PMR Palmer 84.64 29 eP P 10 07 50.3 +0.8
PMR pmax pmax
comp=Z,35nm,1.0s
PMR Palmer 84.64 29 eP P 10 07 50.3 +0.8
comp=Z,35nm,1.0s
PPT Papeete 85.06 108 LR LR 10 43 39.5
comp=Z,65nm,19.9s,baz=272,slow=34
PPT2 Papeete2 85.07 108 eS S 10 18 12.0 -4.7
comp=Z,176nm,26.5s
PPT2 Papeete2 85.07 108 eLR LR 10 34 21.0
comp=Z,844nm,31.2s
SOC Sochi 85.64 313 eP P 10 07 52.8 -2.1
SOC *e* 10 11 18.7
SOC *e* 10 18 13.7
SOC eS S 10 18 28.9 +7.7
SOC pmax pmax
comp=Z,46nm,1.0s
TBI Tubuai 85.67 114 eS S 10 18 21.4 -0.8
comp=Z,471nm,29.5s
TBI Tubuai 85.67 114 eLR LR 10 34 42.7
comp=Z,693nm,36.0s
ILAR Eielson Array 85.80 25 P **P 10 07 55.7 +0.4**
ILAR Eielson Array 85.80 25 P **P 10 07 55.7 +0.4**
comp=Z,0.9nm,0.6s,baz=247,slow=5.5,SNR=16
KLMR Klimovskoe 85.92 331 eP P 10 07 54.2 -1.8
KLMR pmax pmax
comp=Z,137nm,1.5s
VOR Voronezh 86.00 321 eP P 10 07 55.0 -1.5
VOR pmax pmax
comp=Z,300nm,1.4s
VSR Storozhevoye 86.02 321 eP P 10 07 54.7 -1.9
VSR pmax pmax
comp=Z,80nm,1.2s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,70nm,1.1s
DIV Divide 86.24 29 eP P 10 07 58.5 +0.9
comp=E,42nm,1.4s
MOS Moscow 86.91 326 eP P 10 07 59.9 -1.0
MOS eS S 10 18 24.0 -9.1
MOS pmax pmax
comp=Z,72nm,0.8s
OBN Obninsk 87.53 325 ⇓eP P 10 08 03.1 -0.8
OBN pmax pmax
comp=Z,77nm,1.5s
OBN MLR MLR
comp=Z,186nm,18.0s
OBN Obninsk 87.53 325 eP P 10 08 03.4 -0.5
comp=Z,48nm,0.4s
KMBO Kilima Mbogo 89.37 269 eP P 10 08 14.2 +0.4
comp=Z,38nm,1.3s
KMBO Kilima Mbogo 89.37 269 P **P 10 08 14.7 +0.9**
comp=Z,9.2nm,0.6s,baz=66,slow=5.7,SNR=18
KMBO LR LR 10 45 03.7
comp=Z,124nm,21.6s,baz=92,slow=34
KMBO Kilima Mbogo 89.37 269 ⇓P P 10 08 14.7 +0.9
baz=89,SNR=3.3
JOF Joensuu 89.72 333 eP P 10 08 13.7 -0.3
JOF Joensuu 89.72 333 ep P 10 08 13.7 -0.3
EIL Elat 89.91 300 ⇓P P 10 08 16.3 +0.5
baz=90,SNR=3.9
BR131 Keskin Array S 90.33 310 eP P 10 08 16.7 -1.0
comp=Z,7.3nm,1.0s
BRTR Keskin Array B 90.33 310 P **P 10 08 16.7 -1.0**
BRTR Keskin Array B 90.33 310 P **P 10 08 16.7 -1.0**
comp=Z,7.0nm,1.0s,baz=119,slow=5.3,SNR=16
BRTR LR LR 10 54 40.9
comp=Z,37nm,21.5s,baz=76,slow=40
KEV Kevo 90.48 340 eP P 10 08 16.6 -0.9
KEV Kevo 90.48 340 ep P 10 08 16.6 -0.9
ARCES ARCESS Array B 91.04 340 P **P 10 08 19.6 -0.5**
ARCES PKiKP **PKiKP 10 13 13.2 +0.4**
ARCES ARCESS Array B 91.04 340 P **P 10 08 19.6 -0.5**
comp=Z,6.9nm,0.5s,baz=80,slow=6.0,SNR=28
ARCES PKiKP **PKiKP 10 13 13.2 +0.4**
comp=Z,4.1nm,0.9s,baz=99,slow=2.8,SNR=5.7
SYO Syowa Base 91.72 201 ⇑eP P 10 08 23.4 +0.2
KAF Kangasniemi 92.13 332 eP P 10 08 24.4 -0.9
KAF Kangasniemi 92.13 332 ep P 10 08 24.4 -0.9
AKASG Malin Array Be 92.32 321 P **P 10 08 25.4 -1.0**
AKASG Malin Array Be 92.32 321 P **P 10 08 25.4 -1.0**
AKASG Malin Array Be 92.32 321 P **P 10 08 25.4 -1.0**
comp=Z,6.0nm,0.6s,baz=68,slow=4.8,SNR=40
AKASG LR LR 10 53 52.4
comp=Z,106nm,20.8s,baz=55,slow=38
AK01 Malin Array Si 92.33 321 eP P 10 08 25.4 -1.1
AK02 Malin Array Si 92.34 321 eP P 10 08 25.3 -1.2
QSPA South Pole Qui 92.94 180 P **P 10 08 29.8 +0.7**
QSPA South Pole Qui 92.94 180 P **P 10 08 29.8 +0.7**
comp=Z,6.7nm,0.9s,baz=9.4,slow=1.8,SNR=9.4
TIRR Tirgusor 93.71 315 ⇑P P 10 08 32.2 -0.7
TIRR Tirgusor 93.71 315 ⇑iP P 10 08 32.2 -0.7
CFR Carcaliu 93.80 315 ⇑P P 10 08 32.5 -0.9
CFR Carcaliu 93.80 315 ⇑iP P 10 08 32.5 -0.9
TLB Topalu 93.95 315 ⇑P P 10 08 33.1 -1.0
TLB Topalu 93.95 315 ⇑iP P 10 08 33.1 -1.0
TESR Tescani 94.63 317 ⇓iP P 10 08 37.0 -0.2
VRI Vrincioaia 94.68 316 ⇑P P 10 08 37.7 +0.3
VRI Vrincioaia 94.68 316 ⇑iP P 10 08 37.7 +0.3
PLOR Plostina 94.73 316 ⇑P P 10 08 37.9 +0.2
PLOR Plostina 94.73 316 ⇑iP P 10 08 37.9 +0.2
MLR Muntele Rosu 95.28 316 ⇑iP P 10 08 40.3 0.0
BURAR Bucovina Array 95.40 318 ⇑P P 10 08 41.0 +0.2
BURAR Bucovina Array 95.40 318 ⇑iP P 10 08 41.0 +0.2
BUR08 Bucovina Ar. S 95.41 318 eP P 10 08 40.8 -0.1
VOIR 95.91 316 ⇑P P 10 08 42.6 -0.5
VOIR 95.91 316 ⇑iP P 10 08 42.6 -0.5
KOLS Kolonicke sedl 97.06 320 eP Pdif 10 08 49.2 +0.9
KOLS Kolonicke sedl 97.06 320 eP Pdif 10 08 49.2 +0.9
KOLS *e* 10 19 47.8
UZH Uzhgorod 97.12 320 *d* iP **P 10 08 48.1 -0.3**
DRGR 97.24 318 ⇑P Pdif 10 08 49.2 0.0
DRGR 97.24 318 ⇑iP Pdif 10 08 49.2 0.0
GZR Gura Zlata 97.49 316 ⇑iP P 10 08 50.1 -0.2
MMB Musomiste 97.56 312 ⇑P P 10 08 49.4 -1.3
MMB Musomiste 97.56 312 ⇑iP P 10 08 49.4 -1.3
CRVS Cervenica-Dubn 97.59 320 eP Pdif 10 08 50.8 +0.2
CRVS pmax pmax

comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 97.59 320 eP Pdif 10 08 50.8 +0.2
CRVS e 10 19 56.7
STHS Stebnicka Huta 97.61 321 eP Pdif 10 08 50.9 +0.2
STHS Stebnicka Huta 97.61 321 eP Pdif 10 08 50.9 +0.2
KECS Kecovo 98.32 320 eP P 10 08 53.4 -0.4
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 98.32 320 eP P 10 08 53.4 -0.4
LSZ Lusaka 98.86 255 P P 10 08 56.5 -0.6
LSZ Lusaka 98.86 255 P P 10 08 56.5 -0.6
comp=Z,1.9nm,0.4s,baz=46,slow=7.3,SNR=5.6
RKT Rikitea 98.97 113 eLR LR 10 40 51.8
comp=Z,416nm,36.0s
NB2 NORSAR Subarra 99.33 334 P Pdif 10 08 56.4 -1.7
comp=Z,3.1nm,0.6s,baz=66,slow=4.4
NB2 NORSAR Subarra 99.33 334 P Pdif 10 08 56.4 -1.7
baz=66,slow=4.4
NOA NORSAR Array B 99.33 334 P Pdif 10 08 56.5 -1.7
NOA NORSAR Array B 99.33 334 P Pdif 10 08 56.5 -1.7
comp=Z,2.6nm,0.6s,baz=74,slow=6.6,SNR=6.7
NOA LR LR 10 57 59.3
comp=Z,131nm,18.2s,baz=65,slow=38
OKC Ostrava-Krasne 99.45 321 ePDIFF Pdif 10 08 58.6 -0.2
OKC epP pP 10 09 21.7 +2.1
YKA Yellowknife Ar 100.20 24 P Pdif 10 09 01.9 +0.1
YKA PKiKP PKiKP 10 13 31.0 +2.1
YKA PKKPbc PKKPbc 10 25 19.2 -2.5
YKA Yellowknife Ar 100.20 24 P Pdif 10 09 01.9 +0.1
comp=Z,0.7nm,0.9s,baz=297,slow=4.7,SNR=7.1
YKA PKiKP PKiKP 10 13 31.0 +2.1
comp=Z,0.1nm,0.5s,baz=302,slow=1.9,SNR=4.1
YKA PKKPbc PKKPbc 10 25 19.2 -2.5
comp=Z,0.2nm,0.6s,baz=122,slow=2.6,SNR=3.9
DPC Dobruska-Polom 100.42 322 ePDIFF Pdif 10 09 04.0 +0.7
DPC epP pP 10 09 26.5 +2.4
PRU Pruhonice 101.62 322 ePDIFF Pdif 10 09 06.2 -2.3
PRU epP pP 10 09 32.5 +3.0
BRG Berggiesshubel 101.69 323 eP pP 10 09 31.2 +1.5
comp=Z,20nm,1.6s
GERES GERESS Array B 102.52 321 P Pdif 10 09 12.1 -0.6
GERES GERESS Array B 102.52 321 P Pdif 10 09 12.1 -0.6
comp=Z,0.5nm,0.5s,baz=47,slow=2.5,SNR=3.9
I04A Tendick Farm, 102.90 44 ⇓P PKiKP 10 09 16.0 +1.6
baz=103
G05D Wamic, OR 103.21 42 ⇓P Pdif 10 09 16.7 +1.0
baz=103
NVAR Mina Array Bea 107.50 48 PKKPbc PKKPbc 10 25 01.8 +2.3
NVAR Mina Array Bea 107.50 48 PKKPbc PKKPbc 10 25 01.8 +2.3
comp=Z,0.2nm,0.6s,baz=136,slow=1.8,SNR=3.8
HLID Hailey 108.43 42 ⇓P PKiKP 10 13 46.5 +1.6
baz=108
EDW2 Edwards Air Fo 108.84 52 ⇓P PKiKP 10 13 47.0 +1.3
baz=109
R11A Troy Canyon, C 109.54 48 ⇑P PKiKP 10 13 48.3 +1.3
baz=109
C20A Veseth Ranch, 110.63 36 ⇑P PKiKP 10 13 50.2 +1.5
baz=110
DUG Dugway 110.85 45 ⇓P PKiKP 10 13 50.3 +0.8
baz=111
W13A Hualapai Mount 111.95 50 ⇓P PKiKP 10 13 53.3 +1.5
baz=112
D22A Cohagen 111.98 36 ⇓P PKiKP 10 13 53.3 +2.0
baz=112
PDAR Pinedale Array 111.99 41 PKiKP PKiKP 10 13 53.5 +1.8
PDAR PKKPbc PKKPbc 10 24 46.2 +1.1
PDAR Pinedale Array 111.99 41 PKiKP PKiKP 10 13 53.5 +1.8
comp=Z,0.3nm,0.4s,baz=96,slow=1.4,SNR=9.0
PDAR PKKPbc PKKPbc 10 24 46.2 +1.1
comp=Z,0.3nm,0.7s,baz=124,slow=2.7,SNR=3.5
J19A Crowheart 112.09 41 ⇑P PKiKP 10 13 53.1 +1.4
baz=112
D23A Lindsay 112.53 35 ⇓P PKiKP 10 13 54.1 +1.7
baz=112
H21A Big Horn, Sher 112.73 39 ⇓P PKiKP 10 13 53.9 +1.1
baz=113
I21A Big Trails, Te 112.97 39 ⇑P PKiKP 10 13 54.2 +0.8
baz=113
H22A Clearmont 113.17 38 ⇑P PKiKP 10 13 54.7 +1.0
baz=113
F23A Volborg 113.18 37 ⇓P PKiKP 10 13 54.5 +0.9
baz=113
E24A Baker 113.38 36 ⇑P PKiKP 10 13 55.4 +1.5
baz=113
I22A 9 Mile Ranch, 113.44 39 ⇑P PKiKP 10 13 55.8 +1.6
baz=113
G23A Biddle 113.45 37 ⇓P PKiKP 10 13 55.3 +1.1
baz=113
K21A Alcova 113.56 41 ⇑P PKiKP 10 13 56.2 +1.6
baz=113
D25A Fairfield 113.63 35 ⇓P PKiKP 10 13 56.8 +2.4
baz=114
K22A Casper 114.02 40 ⇓P PKiKP 10 13 56.5 +1.1
baz=114
O20A White River Ci 114.05 43 ⇓P PKPdf 10 13 56.9 +1.2
baz=114
X16A Lo Mia Camp, P 114.07 50 ⇑P PKPdf 10 13 57.6 +1.8
baz=114
D26A Manning 114.20 34 ⇓P PKPdf 10 13 57.0 +1.5
baz=114
H24A Dirks Ranch, A 114.20 37 ⇑P PKPdf 10 13 57.0 +1.4
baz=114
F25A Bowman 114.22 36 ⇑P PKPdf 10 13 57.4 +1.8
baz=114
E26A Carlson Angus 114.50 35 ⇑P PKPdf 10 13 57.7 +1.6
baz=114
B28A Dugan Ranch, T 114.51 32 ⇓P PKPdf 10 13 57.9 +1.9
baz=114
M22A Cedar Creek Ra 114.57 41 ⇓P PKPdf 10 13 58.2 +1.6
baz=114
I24A Kuemmerle Ranc 114.61 38 ⇓P PKPdf 10 13 57.7 +1.2
baz=114
A29A Manning Farm, 114.82 31 ⇓P PKPdf 10 13 57.3 +0.7
baz=115
E27A Carson 115.03 35 ⇓P PKPdf 10 13 59.0 +1.8
baz=115
G26A Maurine 115.07 36 ⇓P PKPdf 10 13 58.8 +1.5
baz=115
N23A Red Feather La 115.25 42 ⇑P PKPdf 10 13 59.4 +1.4
baz=115
G27A Dupree 115.42 36 ⇓P PKPdf 10 13 59.3 +1.4
baz=115
O23A Lake Granby, G 115.59 42 ⇑P PKPdf 10 14 00.4 +1.7
baz=116
H27A Howes 115.75 37 ⇑P PKPdf 10 13 59.6 +1.0
baz=116
ISCO Idaho Springs 116.00 43 ⇓P PKPdf 10 14 00.8 +1.3
baz=116
P23A Jefferson 116.05 43 ⇑P PKPdf 10 14 00.7 +1.0
baz=116
I27A Quinn 116.07 37 ⇓P PKPdf 10 14 00.5 +1.2
baz=116
K26A Motz Farm, Whi 116.12 39 ⇓P PKPdf 10 14 00.4 +1.0
baz=116
G28A Parade 116.18 36 ⇓P PKPdf 10 14 00.5 +1.2
baz=116
J27A Elkhorn Farm, 116.55 38 ⇓P PKPdf 10 14 01.4 +1.2
baz=116
I28A Midland 116.64 37 ⇑P PKPdf 10 14 01.4 +1.1
baz=116
U22A Llaves 116.70 46 ⇑P PKPdf 10 14 03.3 +2.4
baz=117
V22A San Miguel Ran 116.86 47 ⇓P PKPdf 10 14 01.8 +0.6
baz=117
J28A Allard Ranch, 116.92 37 ⇑P PKPdf 10 14 02.2 +1.3
baz=117
T23A Casias Ranch, 116.99 46 ⇑P PKPdf 10 14 03.5 +2.0
baz=117
G30A Faulkton 117.17 35 ⇑P PKPdf 10 14 02.7 +1.4
baz=117
Q25A Bedland, Calha 117.35 43 ⇑P PKPdf 10 14 03.2 +1.1
baz=117
T24B San Luis 117.45 45 ⇑P PKPdf 10 14 03.7 +1.4
baz=117
N27A Anderson Farm, 117.53 40 ⇑P PKPdf 10 14 03.5 +1.3
baz=117
P26A Davis Ranch, A 117.64 42 ⇑P PKPdf 10 14 04.2 +1.7
baz=118
R25A Fountain Ranch 117.70 44 ⇓P PKPdf 10 14 04.0 +1.3
baz=118
Z22A Elephant Butte 117.95 50 ⇓P PKPdf 10 14 05.4 +2.1
baz=118
J30A Dallas 118.03 37 ⇓P PKPdf 10 14 04.1 +1.1
baz=118
T25A Trinidad 118.10 45 ⇓P PKPdf 10 14 05.5 +2.0
baz=118
V24A Rampart Ranch, 118.14 47 ⇓P PKPdf 10 14 05.8 +2.1
baz=118,SNR=5.4
P27A Ficken Ranch, 118.15 42 ⇑P PKPdf 10 14 05.2 +1.8
baz=118
R26A Arlington 118.20 43 ⇓P PKPdf 10 14 05.4 +1.9
baz=118
N28A Pribbeno Ranch 118.23 40 ⇑P PKPdf 10 14 05.3 +1.8
baz=118
W24A Lazy 6 Ranch, 118.27 47 ⇓P PKPdf 10 14 05.5 +1.6
baz=118
K30A Basset 118.33 37 ⇓P PKPdf 10 14 05.5 +1.9
baz=118
KSCO Kaye Shedlock' 118.40 42 ⇓P PKPdf 10 14 05.8 +1.9
baz=118
U25A Circle Dot Ran 118.45 45 ⇑P PKPdf 10 14 06.7 +2.5
baz=118
S26A Kim 118.52 44 ⇓P PKPdf 10 14 05.8 +1.6
baz=118
V25A Rancho No Teng 118.56 46 ⇓P PKPdf 10 14 06.5 +2.1
baz=118,SNR=5.4
R27A Eads 118.65 43 ⇓P PKPdf 10 14 06.0 +1.6
baz=118
T26A Comanche Natio 118.65 44 ⇑P PKPdf 10 14 06.0 +1.5
baz=118
P28A Saint Francis 118.68 41 ⇑P PKPdf 10 14 06.1 +1.7
baz=118
N29A Votaw Ranch, W 118.74 39 ⇓P PKPdf 10 14 05.9 +1.5
baz=119
Y24A Capitan 118.82 48 ⇓P PKPdf 10 14 06.8 +1.8
baz=119
U26A Atchley Ranch, 118.92 45 ⇑P PKPdf 10 14 06.8 +1.7
baz=119
W25A X Bar L Ranch, 118.96 47 ⇓P PKPdf 10 14 07.0 +1.9
baz=119
O29A 4D Ranch, Culb 119.01 40 ⇑P PKPdf 10 14 06.5 +1.5
baz=119
Z24A Sheeppen Canyo 119.14 49 ⇑P PKPdf 10 14 07.5 +1.9
baz=119
V26A Tequesquite Ra 119.18 46 ⇑P PKPdf 10 14 07.3 +1.8
baz=119
P29A Atwood 119.21 41 ⇑P PKPdf 10 14 07.1 +1.7
baz=119
R28A Tribune 119.29 42 ⇓P PKPdf 10 14 07.4 +1.7
baz=119
T27A Campo 119.31 44 ⇑P PKPdf 10 14 07.4 +1.7
baz=119
Y25A Mesa, Roswell 119.38 48 ⇓P PKPdf 10 14 07.4 +1.5
baz=119
ECSD EROS Data Cent 119.45 35 ePKPdf PKPdf 10 14 06.0 +0.4
ECSD EROS Data Cent 119.45 35 ⇑P PKPdf 10 14 06.9 +1.2
baz=119
O30A MW Ranch, Wils 119.46 40 ⇓P PKPdf 10 14 06.9 +1.1
baz=119
M31A Lambtecht Ranc 119.48 38 ⇑P PKPdf 10 14 06.8 +1.0
baz=119
W26A Owens Ranch, T 119.52 46 ⇓P PKPdf 10 14 07.5 +1.3
baz=119
Q29A Oakley 119.56 41 ⇑P PKPdf 10 14 07.6 +1.5
baz=119
U27A Thompson Grove 119.56 45 ⇑P PKPdf 10 14 07.5 +1.3
baz=119
S28A Manter 119.61 43 ⇑P PKPdf 10 14 07.9 +1.6
baz=120
Z25A Roswell 119.64 49 ⇓P PKPdf 10 14 08.1 +1.6
baz=120
P30A Selden 119.68 40 ⇓P PKPdf 10 14 08.1 +1.8
baz=120
R29A Marienthal 119.70 42 ⇓P PKPdf 10 14 08.0 +1.6
baz=120
T28A Walsh 119.70 44 ⇓P PKPdf 10 14 07.9 +1.5
baz=120
MNTX Cornudas Mount 119.82 51 ePKPdf PKPdf 10 14 08.2 +1.5
V27A Dan Oppiter Fa 119.87 45 ⇑P PKPdf 10 14 08.6 +1.8
baz=120
O31A Woolen Ranch, 119.94 39 ⇑P PKPdf 10 14 08.3 +1.6
baz=120
BGNE Belgrade 119.95 38 ePKPdf PKPdf 10 14 07.4 +0.7
BGNE Belgrade 119.95 38 ⇓P PKPdf 10 14 08.1 +1.4
baz=120
125A Gardner Draw, 119.96 49 ⇓P PKPdf 10 14 08.6 +1.5
baz=120
U28A Mallet 120.00 45 ⇓P PKPdf 10 14 09.0 +1.9
baz=120
Q30A Quinter 120.01 41 ⇓P PKPdf 10 14 08.5 +1.6
baz=120
225A Deer Hill, Car 120.08 50 ⇓P PKPdf 10 14 09.9 +2.5
baz=120
T29A Hugoton 120.25 43 ⇓P PKPdf 10 14 09.5 +2.0
baz=120
P31A Stockton 120.26 40 ⇑P PKPdf 10 14 09.2 +1.8
baz=120
R30A Dighton 120.34 42 ⇑P PKPdf 10 14 09.4 +1.8
baz=120
126A Clayton Basin, 120.45 49 ⇑P PKPdf 10 14 09.8 +1.7
baz=120
425A Indio Mountain 120.51 51 ⇑P PKPdf 10 14 10.0 +1.8
baz=120
Y27A Causey 120.53 47 ⇓P PKPdf 10 14 09.4 +1.5
baz=120,SNR=5.2
O32A Brockman Farm, 120.54 39 ⇓P PKPdf 10 14 09.4 +1.5
baz=120
S30A Montezuma 120.56 42 ⇓P PKPdf 10 14 10.4 +2.4
baz=120
226B Tecolote Peak, 120.59 50 ⇓P PKPdf 10 14 09.9 +1.6
baz=120
P32A Huiting Farm, 120.70 40 ⇓P PKPdf 10 14 09.9 +1.7
baz=120
Z27A Tatum 120.75 48 ⇑P PKPdf 10 14 10.3 +1.7
baz=121,SNR=6.6
MSTX Muleshoe 120.77 47 ⇑P PKPdf 10 14 10.4 +1.7
baz=121
R31A Burdett 120.84 41 ⇓P PKPdf 10 14 10.4 +1.9
baz=121
X28A Dimmitt 120.93 46 ⇓P PKPdf 10 14 10.4 +1.5
baz=121
127A Arkansas Junct 120.94 49 ⇑P PKPdf 10 14 10.8 +1.8
baz=121
U30A WK&E Inc. Balk 121.02 44 ⇓P PKPdf 10 14 10.9 +2.0
baz=121
326A Caldwell Ranch 121.07 50 ⇓P PKPdf 10 14 10.9 +1.7
baz=121
Q32A Meitler Ranch, 121.08 40 ⇑P PKPdf 10 14 10.7 +1.7
baz=121
AMTX Amarillo 121.12 46 ⇓P PKPdf 10 14 10.8 +1.5
baz=121
S31A Mullinville 121.23 42 ⇑P PKPdf 10 14 10.9 +1.6
baz=121
SCHQ Schefferville 121.28 9 PKP PKPdf 10 14 10.0 +1.2
SCHQ Schefferville 121.28 9 PKP PKPdf 10 14 10.0 +1.2
comp=Z,2.1nm,0.4s,baz=16,slow=2.1,SNR=19
R32A Long Quarter, 121.30 41 ⇑P PKPdf 10 14 11.0 +1.6
baz=121
X29A Tulia 121.32 46 ⇓P PKPdf 10 14 11.3 +1.6
baz=121
526A Mary Lane Ranc 121.52 52 ⇓P PKPdf 10 14 11.8 +1.6
baz=121
Q33A Connelly Farm, 121.54 40 ⇑P PKPdf 10 14 11.3 +1.5
baz=121
S32A Newby Ranch, P 121.55 42 ⇓P PKPdf 10 14 11.8 +1.9
baz=121
128A Castleberry Fa 121.61 48 ⇑P PKPdf 10 14 11.7 +1.5
baz=122
Y29A Porterfield Fa 121.63 47 ⇓P PKPdf 10 14 12.0 +1.7
baz=122
626A Big Bend Ranch 121.70 52 ⇓P PKPdf 10 14 12.3 +1.8
baz=122
R33A Olander Ranch, 121.84 41 ⇑P PKPdf 10 14 11.8 +1.4
baz=122
T32A Huddler Ranch, 121.84 42 ⇑P PKPdf 10 14 12.2 +1.8
baz=122
527A Woodward Ranch 121.86 52 ⇓P PKPdf 10 14 12.5 +1.6
baz=122
Z29A Hungry Hill Ra 121.89 47 ⇓P PKPdf 10 14 12.4 +1.6
baz=122,SNR=5.4
X30A Coker Ranch, T 121.92 46 ⇑P PKPdf 10 14 12.4 +1.7
baz=122
328A Wristen Ranch, 121.93 50 ⇓P PKPdf 10 14 12.5 +1.6
baz=122,SNR=8.6
129A Stewart Farms, 122.07 48 ⇓P PKPdf 10 14 12.8 +1.7
baz=122
TXAR Lajitas Array 122.16 52 PKP PKPdf 10 14 13.1 +1.7
TXAR PKKPbc PKKPab 10 24 11.1 +2.1
TXAR Lajitas Array 122.16 52 PKP PKPdf 10 14 13.1 +1.7
comp=Z,0.5nm,0.5s,baz=215,slow=1.6,SNR=16
TXAR PKKPbc PKKPab 10 24 11.1 +2.1
comp=Z,0.2nm,0.7s,baz=119,slow=6.4,SNR=5.2
W31A Holland Ranch, 122.20 45 ⇓P PKPdf 10 14 12.8 +1.6
baz=122
U32A Winter Ranch, 122.22 43 ⇑P PKPdf 10 14 12.6 +1.4
baz=122
KSU1 Kansas State U 122.26 39 ⇑P PKPdf 10 14 12.4 +1.2
baz=122
Z30A Sanderson Ranc 122.30 47 ⇓P PKPdf 10 14 12.8 +1.3
baz=122
428A Kincaid Ranch, 122.32 51 ⇑P PKPdf 10 14 13.5 +1.8
baz=122
627A Terlingua Ranc 122.33 52 ⇑P PKPdf 10 14 13.4 +1.6
baz=122
T33A Patterson Ranc 122.35 42 ⇑P PKPdf 10 14 13.2 +1.8
baz=122
229A Bryant Ranch, 122.42 49 ⇑P PKPdf 10 14 13.4 +1.6
baz=122
X31A McDonald Ranch 122.46 45 ⇓P PKPdf 10 14 13.4 +1.7
baz=122
528A Cox Ranch, San 122.49 51 ⇓P PKPdf 10 14 13.4 +1.4
baz=122
329A Wagon Wheel Ra 122.52 49 ⇓P PKPdf 10 14 13.6 +1.6
baz=122
V32A Arapaho 122.55 44 ⇓P PKPdf 10 14 13.6 +1.7
baz=122
Y31A Rekieta Farm, 122.60 46 ⇓P PKPdf 10 14 13.6 +1.6
baz=122
628A Black Gap, Mar 122.71 52 ⇓P PKPdf 10 14 14.0 +1.6
baz=123
W32A Sentinel 122.72 44 ⇓P PKPdf 10 14 13.8 +1.6
baz=123
130A Snyder 122.76 48 ⇑P PKPdf 10 14 14.0 +1.6
baz=123
529A Stev Forest Ra 122.95 51 ⇓P PKPdf 10 14 14.5 +1.7
baz=123,SNR=6.7
TOA0 Torodi Ar. Sit 122.97 288 ePKPdf PKPdf 10 14 13.4 +0.3
TORD Torodi Ar. Bea 122.97 288 PKP PKPdf 10 14 13.3 +0.2
TORD PKKPbc PKKPab 10 24 07.9 +2.6
TORD Torodi Ar. Bea 122.97 288 PKP PKPdf 10 14 13.3 +0.2
comp=Z,4.8nm,0.8s,baz=82,slow=1.4,SNR=32
TORD PKKPbc PKKPab 10 24 07.9 +2.6
comp=Z,1.3nm,1.0s,baz=342,slow=1.9,SNR=4.1
429A Davenport Ranc 122.98 50 ⇑P PKPdf 10 14 14.5 +1.6
baz=123,SNR=7.4
230A Sterling City 122.98 49 ⇓P PKPdf 10 14 14.8 +2.0
baz=123
Z31A Sharp Cattle R 123.00 47 ⇓P PKPdf 10 14 14.5 +1.7
baz=123
V33A Lossen Ranch, 123.01 43 ⇓P PKPdf 10 14 14.6 +1.9
baz=123
131A Roby 123.14 47 ⇓P PKPdf 10 14 14.6 +1.5
baz=123
Y32A R-V Farms, Ver 123.16 46 ⇓P PKPdf 10 14 14.7 +1.6
baz=123
330A Mertzon 123.16 49 ⇑P PKPdf 10 14 14.8 +1.6
baz=123
U34A Anderson Ranch 123.18 42 ⇑P PKPdf 10 14 14.7 +1.6
baz=123
430A Baggett Ranch, 123.41 50 ⇓P PKPdf 10 14 15.5 +1.8
baz=123,SNR=6.5
Z32A Haskell 123.49 46 ⇑P PKPdf 10 14 15.4 +1.7
baz=123
231A Bronte 123.56 48 ⇑P PKPdf 10 14 15.3 +1.4
baz=123
530A J-C Ranch, Com 123.62 51 ⇓P PKPdf 10 14 15.9 +1.8
baz=124,SNR=6.1
W34A Bridge Creek, 123.68 43 ⇓P PKPdf 10 14 15.9 +1.8
baz=124
Y33A Hilltop Ranch, 123.74 45 ⇑P PKPdf 10 14 15.6 +1.5
baz=124
331A San Angelo 123.78 49 ⇓P PKPdf 10 14 15.8 +1.5
baz=124,SNR=7.4
431A Sonora 123.93 50 ⇓P PKPdf 10 14 16.3 +1.6
baz=124
X34A Smith Ranch, M 123.98 44 ⇓P PKPdf 10 14 16.3 +1.7
baz=124
Z33A Whitaker Ranch 124.02 46 ⇑P PKPdf 10 14 16.5 +1.8
baz=124
232A Coleman 124.08 48 ⇑P PKPdf 10 14 16.8 +1.8
baz=124
531A Rocksprings 124.22 50 ⇓P PKPdf 10 14 16.8 +1.6
baz=124,SNR=6.8
332A Millersview 124.25 48 ⇑P PKPdf 10 14 16.9 +1.6
baz=124
133A Hamilton Ranch 124.25 47 ⇓P PKPdf 10 14 16.9 +1.6
baz=124
Y34A Reagan Ranch, 124.38 45 ⇓P PKPdf 10 14 17.0 +1.6
baz=124
432A Menard 124.46 49 ⇑P PKPdf 10 14 17.5 +1.8
baz=124
631A Perdido Creek 124.55 51 ⇓P PKPdf 10 14 17.2 +1.3
baz=124,SNR=5.4
233A Rising Star 124.56 47 ⇓P PKPdf 10 14 17.6 +1.7
baz=124
JCT Junction City 124.64 49 ePKIKP PKPdf 10 14 17.6 +1.5
JCT Junction City 124.64 49 ePKPdf PKPdf 10 14 17.6 +1.5
JCT Junction City 124.64 49 ⇑P PKPdf 10 14 17.7 +1.7
baz=124
TUL1 Tulsa 124.64 42 ⇑P PKPdf 10 14 17.6 +1.7
baz=124
532A Rocksprings 124.73 50 ⇓P PKPdf 10 14 17.9 +1.7
baz=125
333A Richland Sprin 124.84 48 ⇑P PKPdf 10 14 17.8 +1.4
baz=125
134A White-Moore Ra 124.88 46 ⇓P PKPdf 10 14 18.2 +1.8
baz=125
433A Art 125.05 49 ⇑P PKPdf 10 14 18.3 +1.5
baz=125
Z35A Perchaven, San 125.07 45 ⇑P PKPdf 10 14 18.8 +2.0
baz=125
632A Uvalde 125.11 50 ⇓P PKPdf 10 14 18.9 +1.9
baz=125,SNR=6.2
234A Clairette 125.13 47 ⇓P PKPdf 10 14 18.7 +1.8
baz=125
732A Laxson Ranch, 125.33 51 ⇑P PKPdf 10 14 19.4 +2.1
baz=125,SNR=5.6
135A Vickery Place, 125.37 46 ⇑P PKPdf 10 14 19.5 +2.1
baz=125
334A Lometa 125.39 48 ⇓P PKPdf 10 14 19.5 +2.1
baz=125
533A Kerrville 125.42 49 ⇑P PKPdf 10 14 19.3 +1.8
baz=125
832A Faith Ranch, C 125.53 52 ⇓P PKPdf 10 14 19.7 +1.9
baz=125,SNR=7.5
633A Saathoff Ranch 125.60 50 ⇑P PKPdf 10 14 19.9 +2.1
baz=126
WHTX Lake Whitney 125.63 47 ⇑P PKPdf 10 14 20.1 +2.3
baz=126
434A Burnet 125.63 48 ⇓P PKPdf 10 14 19.6 +1.7
baz=126
733A Divot King Ran 125.86 51 ⇓P PKPdf 10 14 20.3 +2.0
baz=126
534A Blanco 125.86 49 ⇑P PKPdf 10 14 20.2 +1.8
baz=126
833A Chaparral WMA, 125.97 52 ⇑P PKPdf 10 14 20.6 +2.1
baz=126,SNR=6.6
335A Moody 126.02 47 ⇓P PKPdf 10 14 20.7 +2.1
baz=126
734A La Parita Cree 126.37 51 ⇑P PKPdf 10 14 21.4 +2.1
baz=126
535A Dale 126.54 49 ⇑P PKPdf 10 14 21.9 +2.2
baz=126
635A Leesville 126.71 50 ⇓P PKPdf 10 14 22.3 +2.3
baz=127
536A Bastrop 126.90 48 ⇓P PKPdf 10 14 22.8 +2.5
baz=127
MIAR Mount Ida 126.91 42 ePKIKP PKPdf 10 14 22.2 +2.0
MIAR Mount Ida 126.91 42 ePKPdf PKPdf 10 14 22.1 +2.0
OLIL Olney 127.57 34 ePKPdf PKPdf 10 14 22.4 +1.0
WVT Waverly 129.52 36 ePKIKP PKPdf 10 14 26.4 +1.3
WVT Waverly 129.52 36 ePKPdf PKPdf 10 14 26.4 +1.3
KIC Kosan Boka 130.49 281 ePKP1 PKPdf 10 14 29.0 +1.4
comp=Z,31nm,1.3s
DBIC Dimbokro 130.55 281 PKP PKPdf 10 14 28.4 +0.7
DBIC Dimbokro 130.55 281 PKP PKPdf 10 14 28.4 +0.7
comp=Z,22nm,1.4s,baz=62,slow=1.7
TIC Toumodi 130.72 281 ePKP1 PKPdf 10 14 30.3 +2.3
comp=Z,4.8nm,0.2s
LIC Lamto 130.79 281 ePKP1 PKPdf 10 14 29.5 +1.4
comp=Z,35nm,1.1s
LRAL Lakeview Retre 132.11 39 ePKPdf PKPdf 10 14 31.3 +1.2
KMSC Kings Mountain 133.89 32 ⇑P PKPdf 10 14 35.4 +2.0
baz=134
PLCA Paso Flores 139.41 160 PKP PKPdf 10 14 46.0 +2.4
PLCA Paso Flores 139.41 160 PKP PKPdf 10 14 46.0 +2.4
comp=Z,1.5nm,0.8s,baz=239,slow=5.9,SNR=3.3
SACV Santiago Islan 145.46 302 ePKPdf PKPbc 10 14 55.1 +0.1
LCO Las Campanas 149.39 149 ePKPbc PKPbc 10 15 06.9 +1.0
CPUP Villa Florida 156.54 171 PKPab PKPab 10 15 40.3 0.0
CPUP Villa Florida 156.54 171 PKPab PKPab 10 15 40.3 0.0
comp=Z,2.2nm,0.5s,baz=174,slow=4.9,SNR=6.4
LPAZ La Paz 160.45 133 PKP PKPdf 10 15 18.4 +1.2

LPAZ			PKPab	**PKPab**	**10 16 00.7**	**+2.2**
LPAZ	**La Paz**	**160.45 133**	PKP	**PKPdf**	**10 15 18.4**	**+1.2**
	comp=Z,6.2nm,1.3s,baz=336,slow=2.0,SNR=6.3					
LPAZ			PKPab	**PKPab**	**10 16 00.7**	**+2.2**
	comp=Z,2.6nm,0.7s,baz=216,slow=5.5,SNR=5.8					
BDFB	**Brasilia**	**166.38 203**	PKPab	**PKPab**	**10 16 24.8**	**+1.1**
BDFB	**Brasilia**	**166.38 203**	PKPab	**PKPab**	**10 16 24.8**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=169,slow=8.5,SNR=3.0					

NNC 28 10:08:14.1±1.8, 53°46N×87°60E, h26km±13km, mb3.8, mpv3.5, 4C-3D, Error ellipse: s-maj=20.0km s-min=11.9km az=168.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.18**	**247**	⇓Pn	Pn	10 09 43.4	-0.1
	2.2nm,0.6s						
KURK				⇓Sn	Sn	10 10 53.8	+0.5
	3.0nm,0.7s						
KURK				⇑Lg	Lg	10 11 28.5	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**6.27**	**247**	⇑Pn	Pn	10 09 44.7	-0.2
	7.7nm,0.5s						
KURBB				⇑Sn	Sn	10 10 56.4	+0.8
	12nm,0.5s						
KURBB				⇓Lg	Lg	10 11 35.6	
	26nm,0.7s						
MK31	**Makanchi Array**	**7.49**	**209**	Pn	Pn	10 10 01.5	-0.1
	0.2nm,0.2s,baz=28,slow=13,SNR=25						
VOSK	**Vostochnaya**	**10.03**	**272**	⇑Pn	Pn	10 10 36.2	-0.1
	1.0nm,0.5s						

*IDC **28** 10:18:02.4±1.1, 20°.18S×66°.27E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.0/38, mbtmp4.2/13, MS3.7/1, Ms1 3.7/1, ms1mx3.1/26, Error ellipse: s-maj=37.1km s-min=20.5km az=33.0*

*ISCJB **28** 10:18:03.1±1.2, 20°.2S±0°.2×66°.3E±0°.2, h16km, mb4.2/13, MS3.6/1, Error ellipse: s-maj=35.9km s-min=20.2km az=31.9*

ISC 28 10:18:05.2±1.3, 20°.2S±0°.3×66°.3E±0°.2, h16km, n22, σ0.51/15, mb4.3/13, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.82**	**27**	T	T	10 35 23.2	
	baz=205,slow=75,SNR=22						
H08S2	**Diego Garcia H**	**13.83**	**27**	T	T	10 35 20.2	
	baz=205,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**13.84**	**27**	T	T	10 35 25.0	
	baz=205,slow=75,SNR=35						
H08N3	**Diego Garcia H**	**14.48**	**19**	T	T	10 36 25.4	
	baz=197,slow=76,SNR=18						
H08N1	**Diego Garcia H**	**14.49**	**19**	T	T	10 36 23.8	
	baz=197,slow=76,SNR=14						
H08N2	**Diego Garcia H**	**14.51**	**19**	T	T	10 36 27.4	
	baz=197,slow=76,SNR=21						
LSZ	**Lusaka**	**36.55**	**271**	LR	LR	10 37 59.1	
	comp=Z,116nm,21.7s,baz=112,slow=33						
CMAR	**Chiang Mai Arr**	**50.00**	**42**	P	**P**	**10 26 59.0**	**-0.1**
	0.9nm,0.2s,baz=237,slow=8.7,SNR=5.9						
ASAR	**Alice Springs**	**62.31**	**107**	P	**P**	**10 28 26.9**	**-0.3**
	2.3nm,0.9s,baz=255,slow=2.2,SNR=14						
AAK	**Ala-Archa**	**62.95**	**7**	P	**P**	**10 28 30.7**	**-0.3**
	0.9nm,0.5s,baz=192,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**63.48**	**103**	P	**P**	**10 28 34.9**	**-0.2**
	4.0nm,1.0s,baz=258,slow=5.7,SNR=11						
BRTR	**Keskin Array B**	**66.93**	**333**	P	**P**	**10 28 57.9**	**+0.8**
	2.1nm,0.8s,baz=156,slow=6.7,SNR=11						
MKAR	**Makanchi Array**	**68.20**	**12**	P	**P**	**10 29 03.9**	**-0.9**
	1.7nm,0.9s,baz=198,slow=6.4,SNR=8.9						
AKTO	**Aktyubinsk**	**70.67**	**354**	P	**P**	**10 29 20.1**	**+0.2**
	1.0nm,0.4s,baz=189,slow=6.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**71.62**	**292**	P	**P**	**10 29 26.2**	**-0.3**
	0.9nm,1.1s,baz=98,slow=8.0,SNR=2.6						
BVAR	**Borovoye Array**	**72.97**	**3**	P	**P**	**10 29 33.7**	**0.0**
	1.8nm,0.8s,baz=152,slow=6.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**75.52**	**11**	P	**P**	**10 29 48.4**	**-0.1**
	3.0nm,0.8s,baz=204,slow=3.3,SNR=9.1						
SONM	**Songino Array**	**76.66**	**26**	P	**P**	**10 29 55.5**	**+0.2**
	1.5nm,0.9s,baz=214,slow=5.4,SNR=9.7						
AKASG	**Malin Array Be**	**77.75**	**337**	P	**P**	**10 30 00.6**	**-0.6**
	1.7nm,0.9s,baz=136,slow=4.8,SNR=11						
MJAR	**Matsushiro Arr**	**88.20**	**50**	P	**P**	**10 30 56.4**	**+0.7**
	2.0nm,0.8s,baz=263,slow=2.4,SNR=3.9						
YKA	**Yellowknife Ar**	**137.71**	**1**	PKP	**PKPdf**	**10 37 28.1**	**-0.1**
	0.2nm,0.8s,baz=3.2,slow=2.5,SNR=4.3						
ULM	**Lac du Bonnet**	**146.81**	**339**	PKPbc	**PKPdf**	**10 37 45.4**	**+0.6**
	3.1nm,0.7s,baz=39,slow=8.3,SNR=6.0						

*IDC **28** 10:24:57.6±1.0, 20°.16S×66°.78E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/34, mbtmp4.0/9, MS4.1/9, Ms1 4.1/9, ms1mx3.8/27, Error ellipse: s-maj=35.7km s-min=23.0km az=60.0*

*ISCJB **28** 10:24:58.2±1.0, 20°.1S±0°.2×66°.8E±0°.2, h15km, mb4.0/9, MS4.2/9, Error ellipse: s-maj=32.5km s-min=21.1km az=154.6*

ISC 28 10:25:00.5±1.0, 20°.1S±0°.2×66°.7E±0°.3, h15km, n24, σ1.917/17, mb4.1/9, MS4.1/9, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.57**	**25**	T	T	10 42 24.9	
	baz=205,slow=75,SNR=26						
H08S2	**Diego Garcia H**	**13.57**	**25**	T	T	10 42 39.1	
	baz=205,slow=75,SNR=23						
H08S3	**Diego Garcia H**	**13.59**	**25**	T	T	10 42 20.5	
	baz=205,slow=75,SNR=41						
H08N3	**Diego Garcia H**	**14.28**	**18**	T	T	10 43 20.7	
	baz=197,slow=76,SNR=16						
H08N1	**Diego Garcia H**	**14.28**	**18**	T	T	10 43 22.6	
	baz=197,slow=76,SNR=18						
H08N2	**Diego Garcia H**	**14.30**	**18**	T	T	10 43 20.2	
	baz=197,slow=76,SNR=24						
BOSA	**Boshof**	**38.56**	**249**	LR	LR	10 46 54.9	
	comp=Z,234nm,19.4s,baz=113,slow=34						
CMAR	**Chiang Mai Arr**	**49.66**	**42**	P	**P**	**10 33 52.8**	**+0.9**
	0.7nm,0.3s,baz=231,slow=6.6,SNR=3.1						
CMAR				LR	LR	10 51 34.6	
	comp=Z,203nm,21.7s,baz=218,slow=32						
ASAR	**Alice Springs**	**61.94**	**107**	P	P	10 35 17.4	-2.7
	0.8nm,0.8s,baz=264,slow=6.4,SNR=5.3						
ASAR				LR	LR	10 58 34.3	
	comp=Z,229nm,21.6s,baz=283,slow=33						
WRA	**Warramunga Arr**	**63.11**	**103**	P	**P**	**10 35 26.3**	**-1.7**
	2.2nm,1.1s,baz=257,slow=6.6,SNR=7.3						
WRA				LR	LR	10 59 32.6	
	comp=Z,131nm,20.4s,baz=255,slow=33						
BRTR	**Keskin Array B**	**67.04**	**333**	P	**P**	**10 35 53.1**	**-0.1**
	1.6nm,0.8s,baz=165,slow=8.6,SNR=8.3						
STKA	**Stephens Creek**	**67.17**	**117**	LR	LR	11 00 52.0	
	comp=Z,117nm,21.0s,baz=212,slow=32						
MKAR	**Makanchi Array**	**68.03**	**11**	P	**P**	**10 35 58.7**	**-0.5**
	0.8nm,0.8s,baz=193,slow=5.0,SNR=7.5						
QSPA	**South Pole Qui**	**70.03**	**180**	P	**P**	**10 36 12.3**	**+0.7**
	2.2nm,0.9s,baz=336,slow=2.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**71.97**	**292**	LR	LR	11 06 37.3	
	comp=Z,142nm,20.0s,baz=60,slow=35						
ZALV	**Zalesovo Beam**	**75.36**	**11**	P	**P**	**10 36 43.0**	**0.0**
	2.3nm,0.7s,baz=198,slow=4.2,SNR=7.5						
SONM	**Songino Array**	**76.40**	**26**	P	**P**	**10 36 50.2**	**+0.9**
	0.7nm,0.7s,baz=220,slow=5.3,SNR=7.1						
AKASG	**Malin Array Be**	**77.83**	**337**	P	**P**	**10 36 55.3**	**-1.8**
	0.7nm,0.6s,baz=142,slow=4.7,SNR=4.8						
KSRS	**Korea Array**	**81.17**	**45**	LR	LR	11 13 16.3	
	comp=Z,100nm,19.6s,baz=198,slow=36						
USRK	**Ussuriysk Arra**	**87.39**	**41**	LR	LR	11 18 35.3	
	comp=Z,74nm,18.8s,baz=179,slow=37						
MJAR	**Matsushiro Arr**	**87.83**	**50**	LR	LR	11 15 30.0	
	comp=Z,122nm,21.1s,baz=205,slow=34						
YKA	**Yellowknife Ar**	**137.62**	**1**	PKP	**PKPdf**	**10 44 24.5**	**+1.1**
	0.2nm,0.7s,baz=356,slow=2.6,SNR=4.7						
ULM	**Lac du Bonnet**	**146.88**	**339**	PKPbc	**PKPdf**	**10 44 40.2**	**-0.1**
	2.0nm,0.7s,baz=331,slow=22,SNR=4.3						
NVAR	**Mina Array Bea**	**161.21**	**12**	PKPab	**PKPab**	**10 45 45.6**	**+1.2**
	0.3nm,0.6s,baz=343,slow=2.8,SNR=3.5						

*NEIC **28** 10:37:46.3, 38°.25S×175°.80E, h207km, MG4.1(WEL), After WEL.*
NEIC Felt at Palmerston North.
WEL 28 10:37:46.8±0.5, 38°.27S×175°.82E, h203km±4km, ML4.1/19, 13C-27D, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.23**	**254**	⇓PN	Pn	10 38 13.6	+0.1
TLZ				SN	S	10 38 33.7	-0.6
GRRZ	**Galatos Road**	**0.24**	**110**	PN	Pn	10 38 13.6	+0.1
WHTZ	**Whakaora**	**0.41**	**165**	PN	Pn	10 38 14.2	+0.3
WHTZ	**Whakaora**	**0.41**	**165**	Pn	Pn	10 38 14.2	+0.3
KARZ	**Kaharoa**	**0.42**	**54**	⇓PN	Pn	10 38 13.8	-0.1
KARZ	**Kaharoa**	**0.42**	**54**	Pn	Pn	10 38 13.8	-0.1
WATZ	**Wairara**	**0.45**	**189**	PN	Pn	10 38 13.6	-0.4
WATZ	**Wairara**	**0.45**	**189**	Pn	Pn	10 38 13.6	-0.4
PRRZ	**Plateau Road**	**0.51**	**117**	PN	Pn	10 38 13.9	-0.3
PRRZ	**Plateau Road**	**0.51**	**117**	Pn	Pn	10 38 13.9	-0.3
TARZ	**Mount Tarawera**	**0.54**	**87**	PN	Pn	10 38 14.4	0.0
TARZ	**Mount Tarawera**	**0.54**	**87**	Pn	Pn	10 38 14.4	0.0
RRRZ	**Republican Roa**	**0.55**	**98**	PN	Pn	10 38 14.2	-0.2
RRRZ	**Republican Roa**	**0.55**	**98**	Pn	Pn	10 38 14.2	-0.2
TOZ	**Tahuroa Road**	**0.59**	**335**	PN	Pn	10 38 14.6	+0.1
TOZ	**Tahuroa Road**	**0.59**	**335**	Pn	Pn	10 38 14.6	+0.1
RATZ	**Rangitukua**	**0.60**	**183**	⇓PN	Pn	10 38 14.4	-0.2
RATZ	**Rangitukua**	**0.60**	**183**	Pn	Pn	10 38 14.4	-0.2
HATZ	**Hinemaiaia**	**0.66**	**161**	PN	Pn	10 38 14.6	-0.3
HATZ	**Hinemaiaia**	**0.66**	**161**	Pn	Pn	10 38 14.6	-0.3
RITZ	**Rihia Road**	**0.71**	**177**	PN	Pn	10 38 15.3	+0.2
RITZ	**Rihia Road**	**0.71**	**177**	Pn	Pn	10 38 15.3	+0.2
KATZ	**Kakaramea**	**0.71**	**188**	PN	Pn	10 38 15.1	-0.1
KATZ	**Kakaramea**	**0.71**	**188**	Pn	Pn	10 38 15.2	-0.1
OPRZ	**Ohinepanea**	**0.72**	**54**	⇓PN	Pn	10 38 14.9	-0.2
OPRZ	**Ohinepanea**	**0.72**	**54**	Pn	Pn	10 38 14.9	-0.2
MARZ	**Manawahe**	**0.73**	**68**	⇓PN	Pn	10 38 15.3	0.0
MARZ	**Manawahe**	**0.73**	**68**	Pn	Pn	10 38 15.3	0.0
EDRZ	**Edgecumbe**	**0.74**	**78**	⇓PN	Pn	10 38 15.1	-0.3
EDRZ	**Edgecumbe**	**0.74**	**78**	Pn	Pn	10 38 15.1	-0.3
HIZ	**Hauiti**	**0.80**	**252**	⇑PN	Pn	10 38 15.6	+0.1
HIZ	**Hauiti**	**0.80**	**252**	Pn	Pn	10 38 15.6	+0.1
KRVZ	**Karewarewa**	**0.84**	**189**	PN	Pn	10 38 15.3	-0.6
KRVZ	**Karewarewa**	**0.84**	**189**	Pn	Pn	10 38 15.3	-0.6
TWVZ	**Taurewa**	**0.86**	**200**	PN	Pn	10 38 15.8	-0.2
TWVZ	**Taurewa**	**0.86**	**200**	Pn	Pn	10 38 15.8	-0.2
WTVZ	**West Tongariro**	**0.87**	**192**	⇑PN	Pn	10 38 16.0	0.0
WTVZ	**West Tongariro**	**0.87**	**192**	Pn	Pn	10 38 16.1	0.0
OTVZ	**Oturere**	**0.90**	**188**	PN	Pn	10 38 16.4	0.0
OTVZ	**Oturere**	**0.90**	**188**	Pn	Pn	10 38 16.4	0.0
NGZ	**Ngauruhoe**	**0.92**	**190**	⇑PN	Pn	10 38 16.5	0.0
NGZ	**Ngauruhoe**	**0.92**	**190**	Pn	Pn	10 38 16.5	0.0
COVZ	**Chateau Observ**	**0.96**	**193**	⇓PN	Pn	10 38 16.5	-0.1
WPVZ	**Whakapapa**	**0.96**	**193**	PN	Pn	10 38 16.6	0.0
WPVZ	**Whakapapa**	**0.96**	**193**	Pn	Pn	10 38 16.6	0.0
FWVZ	**Far West T-bar**	**1.01**	**192**	PN	Pn	10 38 17.1	-0.1
FWVZ	**Far West T-bar**	**1.01**	**192**	Pn	Pn	10 38 17.1	-0.1
TUVZ	**Tukino**	**1.01**	**187**	⇓PN	Pn	10 38 16.9	-0.1
TUVZ	**Tukino**	**1.01**	**187**	Pn	Pn	10 38 16.9	-0.1
URZ	**Urewera**	**1.02**	**90**	⇑PN	Pn	10 38 16.2	-0.7
URZ				AML	AML	10 38 16.9	
URZ				AML	AML	10 38 17.0	
URZ	**Urewera**	**1.02**	**90**	Pn	Pn	10 38 16.2	-0.7
WHVZ	**Whangaehu Hut**	**1.03**	**190**	PN	Pn	10 38 17.2	-0.1
BKZ	**Black Stump Fm**	**1.04**	**150**	⇓PN	Pn	10 38 16.9	-0.3
BKZ				AML	AML	10 38 40.5	
BKZ				AML	AML	10 38 40.8	
BKZ	**Black Stump Fm**	**1.04**	**150**	Pn	Pn	10 38 16.9	-0.2
TRVZ	**Turoa**	**1.05**	**191**	PN	Pn	10 38 17.3	-0.2
TRVZ	**Turoa**	**1.05**	**191**	Pn	Pn	10 38 17.3	-0.2
WNVZ	**Wahianoa**	**1.07**	**189**	PN	Pn	10 38 17.3	-0.1
WNVZ	**Wahianoa**	**1.07**	**189**	Pn	Pn	10 38 17.4	-0.1
PKVZ	**Pokaka**	**1.09**	**200**	PN	Pn	10 38 17.2	-0.2
PKVZ	**Pokaka**	**1.09**	**200**	Pn	Pn	10 38 17.2	-0.2
NMHZ	**Naumai**	**1.14**	**137**	⇓PN	Pn	10 38 18.5	+0.7
NMHZ	**Naumai**	**1.14**	**137**	Pn	Pn	10 38 18.5	+0.7
MOVZ	**Moawhango**	**1.14**	**183**	PN	Pn	10 38 17.3	-0.5
MOVZ	**Moawhango**	**1.14**	**183**	Pn	Pn	10 38 17.4	-0.5
MTVZ	**Mangateitei**	**1.15**	**194**	PN	Pn	10 38 17.7	-0.2
MTVZ	**Mangateitei**	**1.15**	**194**	Pn	Pn	10 38 17.7	-0.2
RAHZ	**Arahi**	**1.19**	**124**	⇓PN	Pn	10 38 18.5	+0.4
RAHZ	**Arahi**	**1.19**	**124**	Pn	Pn	10 38 18.5	+0.4
VRZ	**Vera Road**	**1.19**	**224**	PN	Pn	10 38 18.1	0.0
VRZ	**Vera Road**	**1.19**	**224**	Pn	Pn	10 38 18.1	0.0
BHHZ	**Black Hill Sta**	**1.23**	**171**	⇓PN	Pn	10 38 18.1	-0.4
BHHZ	**Black Hill Sta**	**1.23**	**171**	Pn	Pn	10 38 18.1	-0.4
MKAZ	**Moumakai**	**1.26**	**336**	⇓PN	Pn	10 38 18.9	+0.2
MKAZ	**Moumakai**	**1.26**	**336**	Pn	Pn	10 38 18.9	+0.2
SNGZ	**Shannon Statio**	**1.30**	**114**	⇓PN	Pn	10 38 19.3	+0.3
MWZ	**Matawai**	**1.35**	**93**	PN	Pn	10 38 18.9	-0.6
MWZ				AML	AML	10 38 42.9	
MWZ				AML	AML	10 38 44.5	
MWZ	**Matawai**	**1.35**	**93**	Pn	Pn	10 38 18.9	-0.6
MCHZ	**McNeill Hill**	**1.36**	**150**	⇓PN	Pn	10 38 20.1	+0.6
MCHZ	**McNeill Hill**	**1.36**	**150**	Pn	Pn	10 38 20.1	+0.6
WHHZ	**Waihua**	**1.37**	**127**	PN	Pn	10 38 19.7	+0.1
RIGZ	**Rimuhau**	**1.59**	**107**	⇓PN	Pn	10 38 21.7	+0.2
HAZ	**Te Kaha**	**1.63**	**72**	⇓PN	Pn	10 38 20.9	-1.0
KNZ	**Kokohu**	**1.64**	**118**	PN	Pn	10 38 21.9	+0.1
KNZ	**Kokohu**	**1.64**	**118**	Pn	Pn	10 38 21.9	+0.1
PNHZ	**Pukenui**	**1.67**	**170**	⇓PN	Pn	10 38 21.8	-0.4
PNHZ	**Pukenui**	**1.67**	**170**	Pn	Pn	10 38 21.9	-0.4
NEZ	**North Egmont**	**1.68**	**233**	PN	Pn	10 38 22.7	+0.3
NEZ	**North Egmont**	**1.68**	**233**	Pn	Pn	10 38 22.7	+0.3
PKE	**Pukeiti**	**1.71**	**237**	PN	Pn	10 38 22.8	+0.3
KAHZ	**Kahuranaki**	**1.73**	**152**	⇓PN	Pn	10 38 23.1	+0.3
KAHZ	**Kahuranaki**	**1.73**	**152**	Pn	Pn	10 38 23.1	+0.3
KHEZ	**Kahui Hut**	**1.74**	**233**	PN	Pn	10 38 23.2	+0.2
PRGZ	**Paritu Road**	**1.75**	**113**	PN	Pn	10 38 23.1	+0.1
PRGZ	**Paritu Road**	**1.75**	**113**	Pn	Pn	10 38 23.1	+0.1
TSZ	**Takapari Road**	**1.79**	**176**	⇑PN	Pn	10 38 22.9	-0.5
TSZ				AML	AML	10 38 52.1	
TSZ				AML	AML	10 38 53.0	
TSZ	**Takapari Road**	**1.79**	**176**	Pn	Pn	10 38 22.9	-0.5
NWEZ	**Newall Road**	**1.83**	**236**	PN	Pn	10 38 23.8	+0.1
NWEZ	**Newall Road**	**1.83**	**236**	Pn	Pn	10 38 23.8	+0.1
MHGZ	**Mahia Peninsul**	**1.86**	**119**	⇓PN	Pn	10 38 24.4	+0.4
MHGZ	**Mahia Peninsul**	**1.86**	**119**	Pn	Pn	10 38 24.4	+0.4
WPHZ	**Waipukurau**	**1.86**	**165**	⇓PN	Pn	10 38 23.7	-0.3
WPHZ	**Waipukurau**	**1.86**	**165**	Pn	Pn	10 38 23.7	-0.3
CNGZ	**Carnagh Statio**	**1.89**	**97**	PN	Pn	10 38 24.9	+0.5
CNGZ	**Carnagh Statio**	**1.89**	**97**	Pn	Pn	10 38 24.9	+0.5
NMEZ	**Namu Road**	**1.90**	**232**	PN	Pn	10 38 24.4	+0.1
PUZ	**Puketiti**	**1.93**	**85**	⇓PN	Pn	10 38 24.3	-0.6
PUZ				AML	AML	10 38 53.9	
PUZ				AML	AML	10 38 53.9	
PUZ	**Puketiti**	**1.93**	**85**	Pn	Pn	10 38 24.2	-0.6
PXZ	**Pawanui**	**1.94**	**156**	⇓PN	Pn	10 38 24.5	-0.3
PXZ				AML	AML	10 38 55.0	
PXZ				AML	AML	10 38 55.1	
PXZ				AML	AML	10 38 58.4	
PXZ				AML	AML	10 38 58.5	
PXZ	**Pawanui**	**1.94**	**156**	Pn	Pn	10 38 24.5	-0.3
DVHZ	**Dannevirke**	**2.05**	**173**	PN	Pn	10 38 25.1	-0.8
DVHZ	**Dannevirke**	**2.05**	**173**	Pn	Pn	10 38 25.1	-0.8
MXZ	**Matakaoa Point**	**2.09**	**71**	PN	Pn	10 38 26.3	-0.1
MXZ				AML	AML	10 38 56.7	
MXZ				AML	AML	10 38 58.5	
MXZ	**Matakaoa Point**	**2.09**	**71**	Pn	Pn	10 38 26.3	-0.1
PRHZ	**Porangahau**	**2.10**	**163**	⇓PN	Pn	10 38 25.9	-0.5
PRHZ	**Porangahau**	**2.10**	**163**	Pn	Pn	10 38 25.9	-0.5
POWZ	**Post Office Ro**	**2.12**	**181**	PN	Pn	10 38 25.7	-1.0
POWZ	**Post Office Ro**	**2.12**	**181**	Pn	Pn	10 38 25.7	-1.0
ANWZ	**Angora Road**	**2.25**	**167**	PN	Pn	10 38 27.5	-0.5
PRWZ	**Pori Road**	**2.29**	**177**	PN	Pn	10 38 27.7	-0.8
MRZ	**Mangatainoka R**	**2.40**	**184**	⇑PN	Pn	10 38 28.3	-1.4
MRZ				SN	S	10 38 59.3	-3.4
MRZ				AML	AML	10 39 01.8	
MRZ	**Mangatainoka R**	**2.40**	**184**	Pn	Pn	10 38 28.3	-1.4
BFZ	**Birch Farm**	**2.43**	**172**	PN	Pn	10 38 28.9	-1.2
BFZ	**Birch Farm**	**2.43**	**172**	Pn	Pn	10 38 28.9	-1.2
TIWZ	**Tintock**	**2.51**	**179**	AML	AML	10 39 03.6	
TIWZ				AML	AML	10 39 05.0	
TIWZ	**Tintock**	**2.51**	**179**	Pn	Pn	10 38 27.3	-3.6
OGWZ	**Otaki Gorge**	**2.60**	**191**	PN	Pn	10 38 30.6	-1.2
OGWZ	**Otaki Gorge**	**2.60**	**191**	Pn	Pn	10 38 30.6	-1.2
HOWZ	**Holdsworth Sta**	**2.64**	**185**	⇑PN	Pn	10 38 30.7	-1.7
HOWZ	**Holdsworth Sta**	**2.64**	**185**	Pn	Pn	10 38 30.7	-1.7
CPWZ	**Castlepoint**	**2.66**	**174**	PN	Pn	10 38 31.7	-0.8
KIW	**Kapiti Island**	**2.69**	**195**	⇑PN	Pn	10 38 31.1	-1.7
KIW				AML	AML	10 39 06.7	
KIW				AML	AML	10 39 07.4	
KIW	**Kapiti Island**	**2.69**	**195**	Pn	Pn	10 38 31.1	-1.7
TMWZ	**Te Maipa**	**2.84**	**179**	PN	Pn	10 38 33.2	-1.4
TMWZ	**Te Maipa**	**2.84**	**179**	Pn	Pn	10 38 33.2	-1.4
CAW	**Cannon Point**	**2.90**	**191**	PN	Pn	10 38 33.6	-1.6
CAW				AML	AML	10 39 10.6	
CAW				AML	AML	10 39 12.3	
CAW	**Cannon Point**	**2.90**	**191**	Pn	Pn	10 38 33.6	-1.6
MTW	**Mount Morrison**	**2.90**	**185**	⇑PN	Pn	10 38 33.3	-2.0
MTW				AML	AML	10 39 10.2	
MTW				AML	AML	10 39 11.3	
MTW	**Mount Morrison**	**2.90**	**185**	Pn	Pn	10 38 33.3	-2.0
DUWZ	**D'Urville Isla**	**2.93**	**209**	PN	Pn	10 38 33.6	-2.1
DUWZ	**D'Urville Isla**	**2.93**	**209**	Pn	Pn	10 38 33.6	-2.1
WEL	**Wellington**	**3.12**	**195**	PN	Pn	10 38 36.1	-1.8
WEL	**Wellington**	**3.12**	**195**	Pn	Pn	10 38 36.1	-1.8
PAWZ	**Paruwai Farm**	**3.13**	**185**	PN	Pn	10 38 35.8	-2.1
PAWZ				AML	AML	10 39 14.6	
PAWZ				AML	AML	10 39 16.3	
PAWZ	**Paruwai Farm**	**3.13**	**185**	Pn	Pn	10 38 35.8	-2.1
TRWZ	**Traveller**	**3.13**	**182**	PN	Pn	10 38 36.1	-2.0
TRWZ				AML	AML	10 39 16.1	
TRWZ				AML	AML	10 39 17.3	
TRWZ	**Traveller**	**3.13**	**182**	Pn	Pn	10 38 36.1	-1.9
SNZO	**South Karori**	**3.16**	**195**	⇑PN	Pn	10 38 36.2	-2.1
SNZO				AML	AML	10 39 16.8	
SNZO				AML	AML	10 39 17.1	
SNZO	**South Karori**	**3.16**	**195**	Pn	Pn	10 38 36.2	-2.1
TCW	**Tory Channel**	**3.17**	**202**	PN	Pn	10 38 36.5	-2.0
TCW				AML	AML	10 39 16.1	
TCW				AML	AML	10 39 17.7	
TCW	**Tory Channel**	**3.17**	**202**	Pn	Pn	10 38 36.5	-2.0
MSWZ	**Moikau Station**	**3.17**	**188**	⇑PN	Pn	10 38 36.4	-2.2
MSWZ				AML	AML	10 39 16.9	
MSWZ				AML	AML	10 39 17.1	
MSWZ	**Moikau Station**	**3.17**	**188**	Pn	Pn	10 38 36.4	-2.2
BHW	**Baring Head**	**3.22**	**193**	PN	Pn	10 38 36.9	-2.1
BHW				AML	AML	10 39 17.5	
BHW				AML	AML	10 39 18.3	
BHW	**Baring Head**	**3.22**	**193**	Pn	Pn	10 38 36.9	-2.1
PLWZ	**Palliser**	**3.33**	**187**	PN	Pn	10 38 38.0	-2.4
PLWZ	**Palliser**	**3.33**	**187**	Pn	Pn	10 38 38.0	-2.4
TUWZ	**Tuamarina**	**3.47**	**204**	PN	Pn	10 38 39.7	-2.4
TUWZ				AML	AML	10 38 40.5	
TUWZ				AML	AML	10 39 22.6	
TUWZ	**Tuamarina**	**3.47**	**204**	Pn	Pn	10 38 39.7	-2.4
NNZ	**Nelson**	**3.50**	**212**	PN	Pn	10 38 39.6	-2.7
NNZ	**Nelson**	**3.50**	**212**	Pn	Pn	10 38 39.6	-2.7
QRZ	**Quartz Range**	**3.60**	**224**	PN	Pn	10 38 40.6	-3.1
QRZ	**Quartz Range**	**3.60**	**224**	Pn	Pn	10 38 40.6	-3.1
BSWZ	**Blackbirch Sta**	**3.75**	**203**	PN	Pn	10 38 43.3	-2.2
BSWZ	**Blackbirch

0.3nm,0.4s,baz=338,slow=10,SNR=11
ASAR Alice Springs 27.30 163 P P 11 23 21.6 +1.0
0.4nm,1.0s,baz=345,slow=11,SNR=2.8
MKAR Makanchi Array 57.87 326 P P 11 27 27.4 -0.3
0.3nm,0.6s,baz=123,slow=8.8,SNR=3.7

*ISCJB **28** 11:20:15.4±1.3, 3.83S±0.05×141.88E±0.09, h37km±12km, mb4.0/9, MS3.6/5, Error ellipse: s-maj=14.6km s-min=7.0km az=166.5*
*IDC **28** 11:20:15.7±0.8, 3.78S×142.10E, h32km±5km, mb3.7/8, mb1 4.1/11, mb1mx3.9/31, mbtmp4.1/11, ML4.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/25, Error ellipse: s-maj=24.9km s-min=14.5km az=88.0*
ISC 28 11:20:15.8±0.8, 3.77S±0.06×142.0E±0.1, h31km±6km, n28, σ1§26/29, mb3.9/9, MS3.5/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.78**	**314**	**Pn**	**Pn**	**11 20 43.4**	**-1.0**
	74nm,0.3s,baz=167,slow=8.7,SNR=150						
JAY				Sn	**Sn**	**11 21 06.2**	**+0.2**
	129nm,0.3s,baz=38,slow=23,SNR=18						
JAY				LR	LR	11 21 27.1	
	comp=Z,334nm,19.6s,baz=102,slow=38						
PMG	**Port Moresby**	**7.61**	**138**	**Pn**	**Pn**	**11 22 04.2**	**-0.3**
	0.4nm,0.3s,baz=288,slow=20,SNR=2.3						
FAKI	**Fak Fak**	**9.74**	**275**	P	Pn	11 22 40.5	+6.6
	baz=9.4,SNR=4.4						
COEN	**Coen**	**10.19**	**173**	P	Pn	11 22 42.6	+2.6
	baz=9.7,SNR=8.6						
KDU	**Kakadu**	**12.91**	**226**	P	**Pn**	**11 23 16.7**	**-0.5**
	baz=12,SNR=75						
MTN	**Manton Dam**	**14.00**	**229**	P	**Pn**	**11 23 31.8**	**-0.3**
	baz=13,SNR=13						
MTN				S	Sn	11 26 01.7	-5.0
	baz=13,SNR=5.3						
QIS	**Mount Isa**	**16.85**	**188**	P	**P**	**11 24 10.5**	**-0.7**
	baz=16,SNR=11						
QIS				S	**Sn**	**11 27 13.2**	**-2.6**
	baz=16,SNR=3.2						
KNRA	**Kununurra**	**17.58**	**227**	P	**P**	**11 24 20.9**	**+1.5**
	baz=17,SNR=4.1						
KNRA				S	Sn	11 27 25.8	-7.6
	baz=17,SNR=4.5						
WRA	**Warramunga Arr**	**17.72**	**204**	P	**Pn**	**11 24 19.3**	**-1.0**
	1.5nm,0.3s,baz=28,slow=13,SNR=37						
WRA				Lg	Lg	11 29 41.2	
	0.1nm,0.3s,baz=32,slow=26,SNR=7.3						
BATI	**Baumata**	**19.26**	**250**	P	**Pn**	**11 24 39.0**	**0.0**
	8.7nm,0.3s,baz=92,slow=4.3,SNR=5.7						
ASAR	**Alice Springs**	**21.26**	**201**	P	**P**	**11 24 59.0**	**-0.6**
	9.0nm,0.6s,baz=29,slow=11,SNR=47						
ASAR				Lg	Lg	11 31 34.5	
	5.8nm,1.1s,baz=23,slow=29,SNR=3.0						
EIDS	**Eidsvold**	**23.19**	**159**	P	**P**	**11 25 21.8**	**+1.7**
	baz=23,SNR=8.6						
RMQ	**Roma**	**23.51**	**165**	P	**P**	**11 25 25.0**	**+1.9**
	baz=23,SNR=15						
WRKA	**Warakurna**	**24.91**	**211**	P	**P**	**11 25 35.8**	**-0.4**
	baz=24,SNR=10.0						
STKA	**Stephens Creek**	**27.96**	**181**	P	**P**	**11 26 03.7**	**+0.1**
	1.1nm,0.4s,baz=331,slow=19,SNR=2.9						
STKA				LR	LR	11 38 59.6	
	comp=Z,106nm,19.2s,baz=27,slow=40						
FORT	**Forrest**	**29.90**	**205**	P	**P**	**11 26 21.8**	**+0.9**
	baz=29,SNR=7.4						
MEEK	**Meekatharra**	**31.89**	**222**	P	**P**	**11 26 38.4**	**-0.1**
	baz=31,SNR=5.1						
MORW	**Morawa**	**35.20**	**222**	P	**P**	**11 27 07.4**	**+0.1**
	baz=34,SNR=6.0						
BLDU	**Ballidu**	**35.80**	**219**	P	**P**	**11 27 12.4**	**0.0**
	baz=35,SNR=9.4						
KSRS	**Korea Array**	**43.05**	**344**	LR	LR	11 43 14.5	
	comp=Z,52nm,21.5s,baz=162,slow=32						
CMAR	**Chiang Mai Arr**	**47.79**	**299**	P	**P**	**11 28 49.9**	**-0.7**
	0.6nm,0.5s,baz=114,slow=5.9,SNR=3.3						
USRK	**Ussuriysk Arra**	**48.59**	**350**	P	**P**	**11 28 56.9**	**+0.6**
	0.8nm,0.6s,baz=134,slow=20,SNR=2.6						
USRK				pP	**pP**	**11 29 06.6**	**+0.8**
	3.2nm,0.8s,baz=178,slow=8.7,SNR=4.6						
USRK				LR	LR	11 46 01.4	
	comp=Z,57nm,21.2s,baz=180,slow=32						
GTA	**Gaotai**	**57.88**	**322**	*eP*	P	11 30 09.0	+4.1
GTA				pP	pP	11 30 14.0	-0.6
GTA				sP	sP	11 30 16.5	-1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**60.09**	**333**	P	**P**	**11 30 22.1**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=152,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**72.62**	**322**	P	**P**	**11 31 40.9**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=108,slow=6.9,SNR=13						
MKAR				pP	**pP**	**11 31 51.0**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=106,slow=7.7,SNR=4.7						
MKAR				LR	LR	12 02 17.4	
	comp=Z,46nm,21.9s,baz=179,slow=35						
ZALV	**Zalesovo Beam**	**74.50**	**329**	P	**P**	**11 31 51.7**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=115,slow=6.5,SNR=3.6						
ZALV				pP	**PcP**	**11 32 03.0**	**-2.5**
	comp=Z,0.7nm,0.6s,baz=104,slow=6.3,SNR=2.8						
ILAR	**Eielson Array**	**85.45**	**24**	P	**P**	**11 32 48.0**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=259,slow=4.1,SNR=14						
ILAR				pP	**pP**	**11 32 58.6**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=257,slow=4.6,SNR=9.2						
QSPA	**South Pole Qui**	**86.18**	**180**	LR	LR	12 13 12.0	
	comp=Z,42nm,19.4s,baz=115,slow=37						

PRE 28 11:26:56.8±3.3, 21.04S×34.05E, h10km, ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.96**	**250**	*eP*	Pn	11 28 00.9	+3.1
MSNA				*eS*	Sn	11 28 45.4	+1.0
MSNA				AML	AML	11 28 57.0	
	comp=Z,107nm,0.5s						
POGA	**Pongola**	**6.68**	**199**	*eP*	Pn	11 28 34.6	-0.4
POGA				*eS*	Sn	11 29 48.3	-3.0
POGA				AML	AML	11 30 31.2	
	comp=Z,27nm,0.6s						
LBTB	**Lobatse**	**8.73**	**241**	*eP*	Pn	11 29 04.3	+1.0
LBTB				*eS*	Sn	11 30 35.4	-6.5
LBTB				AML	AML	11 31 31.1	
	comp=Z,21nm,0.7s						
BOSA	**Boshof**	**10.98**	**225**	*eP*	Pn	11 29 33.5	-0.6

*IDC **28** 11:49:07.1±1.0, 31.62S×178.02W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/27, mbtmp4.1/6, ML4.4/1, Error ellipse: s-maj=28.5km s-min=22.8km az=97.0*
ISC 28 11:49:10.3±1.0, 31.75S±0.07×178.0W±0.2, h24km, n18, σ1§46/24, mb4.0/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.49**	**3**	Pn	**Pn**	**11 49 47.6**	**-1.7**
	88nm,0.3s,baz=90,slow=20,SNR=5.4						
RAO				Sn	**Sn**	**11 50 17.7**	**-1.3**
	181nm,0.3s,baz=139,slow=20,SNR=3.2						
HAZ	**Te Kaha**	**6.91**	**209**	PN	**Pn**	**11 50 48.9**	**-1.1**
HAZ				*e*SN	**Sn**	**11 52 08.4**	**+0.6**
PUZ	**Puketiti**	**7.00**	**205**	*e*PN	**Pn**	**11 50 49.3**	**-2.1**
PUZ				*e*SN	**Sn**	**11 52 08.6**	**-1.6**
MWZ	**Matawai**	**7.51**	**208**	*e*PN	**Pn**	**11 50 56.0**	**-2.3**
MWZ				*e*SN	**Sn**	**11 52 22.2**	**-0.5**
URZ	**Urewera**	**7.62**	**210**	Pn	**Pn**	**11 50 57.0**	**-2.7**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=5.5						
URZ				Sn	**Sn**	**11 52 25.3**	**+0.1**
	2.7nm,0.3s,baz=332,slow=23,SNR=12						
KNZ	**Kokohu**	**8.05**	**205**	*e*PN	**Pn**	**11 51 04.4**	**-1.3**
KNZ				*e*SN	**Sn**	**11 52 34.0**	**-2.0**
MRZ	**Mangatainoka R**	**10.28**	**208**	*e*PN	Pn	11 51 31.7	-4.5
MRZ				*e*SN	Sn	11 53 22.6	-8.0
CTA	**Charters Tower**	**34.00**	**281**	P	**P**	**11 55 53.8**	**+1.4**
	3.0nm,0.6s,baz=103,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**34.16**	**259**	P	**P**	**11 55 54.6**	**+1.0**
	1.1nm,0.7s,baz=117,slow=18,SNR=2.3						
ASAR	**Alice Springs**	**43.02**	**268**	P	**P**	**11 57 08.6**	**+0.4**
	1.4nm,0.8s,baz=104,slow=7.7,SNR=8.0						
WRA	**Warramunga Arr**	**44.13**	**274**	P	**P**	**11 57 16.6**	**-0.5**
	2.3nm,0.5s,baz=112,slow=8.1,SNR=34						
QSPA	**South Pole Qui**	**58.37**	**180**	P	**P**	**11 59 05.5**	**+2.1**
	0.9nm,0.7s,baz=36,slow=1.5,SNR=6.0						
MKAR	**Makanchi Array**	**118.60**	**310**	PKP	**PKPdf**	**12 07 55.5**	**-0.4**
	0.2nm,0.5s,baz=73,slow=4.8,SNR=3.5						
HFS	**Hagfors**	**150.55**	**348**	PKPbc	**PKPbc**	**12 09 00.5**	**+1.2**
	4.5nm,1.0s,baz=87,slow=3.0,SNR=2.7						
MMAI	**Mount Meron Ar**	**151.79**	**282**	PKPbc	**PKPbc**	**12 09 03.9**	**+0.7**
	2.7nm,0.6s,baz=64,slow=6.7,SNR=3.5						
AKASG	**Malin Array Be**	**152.34**	**321**	PKPbc	**PKPbc**	**12 09 03.4**	**-0.3**
	0.7nm,0.5s,baz=58,slow=2.6,SNR=5.1						
BRTR	**Keskin Array B**	**153.18**	**296**	PKPbc	**PKPbc**	**12 09 05.4**	**-0.8**
	0.6nm,0.5s,baz=95,slow=1.5,SNR=3.6						
BRTR				PKPab	**PKPab**	**12 09 19.4**	**+1.5**
	0.8nm,0.8s,baz=132,slow=5.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**161.49**	**179**	PKPab	**PKPab**	**12 09 54.6**	**+0.7**
	0.3nm,0.5s,baz=199,slow=3.5,SNR=4.4						

*IDC **28** 11:59:37.7±0.9, 31.48S×178.06W, h49km±6km, mb4.0/6, mb1 4.2/7, mb1mx3.8/32, mbtmp4.3/7, MS3.7/2, Ms1 3.7/2, ms1mx3.0/27, Error ellipse: s-maj=23.9km s-min=10.9km az=107.0*
ISC 28 11:59:35.6±0.7, 31.72S±0.07×178.0W±0.2, h35km, n38, σ1§92/35, mb4.2/6, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.46**	**2**	P	**Pn**	**12 00 10.8**	**-2.5**
	146nm,0.3s,baz=143,slow=20,SNR=5.3						
RAO				S	**Sn**	**12 00 39.0**	**-3.1**
	119nm,0.3s,baz=270,slow=20,SNR=4.4						
HAZ	**Te Kaha**	**6.94**	**209**	PN	**Pn**	**12 01 12.7**	**-2.0**
HAZ				*e*SN	**Sn**	**12 02 34.3**	**+2.0**
PUZ	**Puketiti**	**7.03**	**205**	*e*PN	Pn	12 01 12.6	-3.4
PUZ				*e*SN	**Sn**	**12 02 32.3**	**-2.4**
CNGZ	**Carnagh Statio**	**7.42**	**204**	*e*PN	**Pn**	**12 01 18.5**	**-2.9**
MWZ	**Matawai**	**7.54**	**208**	*e*PN	Pn	12 01 19.2	-3.8
MWZ				*e*SN	**Sn**	**12 02 45.0**	**-2.2**
URZ	**Urewera**	**7.64**	**210**	P	Pn	12 01 21.5	-2.9
	1.5nm,0.3s,baz=274,slow=3.3,SNR=11						
URZ				S	**Sn**	**12 02 48.6**	**-1.2**
	5.7nm,0.3s,baz=324,slow=22,SNR=13						
URZ	**Urewera**	**7.64**	**210**	*e*PN	**Pn**	**12 01 21.6**	**-2.8**
URZ				*e*SN	**Sn**	**12 02 48.3**	**-1.5**
RIGZ	**Rimuhau**	**7.77**	**205**	*e*PN	Pn	12 01 22.7	-3.5
KNZ	**Kokohu**	**8.08**	**205**	*e*PN	Pn	12 01 26.2	-4.2
KNZ				*e*SN	**Sn**	**12 02 57.3**	**-3.3**
BKZ	**Black Stump Fm**	**8.67**	**210**	*e*PN	Pn	12 01 34.8	-3.7
PXZ	**Pawanui**	**9.27**	**205**	*e*PN	Pn	12 01 41.2	-5.5
PXZ				*e*SN	Sn	12 03 23.6	-6.1
TCW	**Tory Channel**	**11.31**	**211**	*e*SN	Sn	12 04 10.7	-9.0
NNZ	**Nelson**	**11.73**	**214**	*e*SN	Sn	12 04 22.5	-7.4
CTZ	**Chatham Island**	**12.05**	**175**	*e*SN	Sn	12 04 24.3	-13
LTZ	**Lake Taylor**	**13.46**	**212**	*e*SN	Sn	12 04 59.6	-13
OXZ	**Oxford**	**14.00**	**211**	*e*SN	Sn	12 05 09.4	-16
STKA	**Stephens Creek**	**34.18**	**259**	P	**P**	**12 06 18.1**	**+0.5**
	2.8nm,0.7s,baz=100,slow=14,SNR=4.8						
ASAR	**Alice Springs**	**43.03**	**268**	P	**P**	**12 07 32.1**	**+0.1**
	2.0nm,0.6s,baz=106,slow=7.8,SNR=16						
ASAR				pP	**pP**	**12 07 45.9**	**+3.5**
	9.5nm,0.6s,baz=107,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**44.14**	**274**	P	**P**	**12 07 41.4**	**+0.4**
	9.1nm,0.7s,baz=111,slow=8.1,SNR=67						
WRA				pP	**pP**	**12 07 54.7**	**+3.4**
	22nm,0.6s,baz=114,slow=7.7,SNR=32						
BATI	**Baumata**	**57.80**	**278**	LR	LR	12 34 31.9	
	comp=Z,117nm,19.1s,baz=86,slow=36						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**12 09 29.0**	**+1.7**
	1.2nm,0.6s,baz=62,slow=1.8,SNR=9.8						
SYO	**Syowa Base**	**75.83**	**193**	*eP*	**P**	**12 11 17.5**	**-0.1**
PETK	**Petropavlovsk-**	**87.08**	**346**	P	**P**	**12 12 16.4**	**-0.7**
	3.0nm,0.8s,baz=128,slow=6.9,SNR=4.6						
YBH	**Yreka Blue Hor**	**89.08**	**38**	LR	LR	12 49 46.9	
	comp=Z,19nm,18.2s,baz=324,slow=34						
NVAR	**Mina Array Bea**	**89.22**	**43**	P	**P**	**12 12 28.4**	**+0.4**
	0.4nm,0.8s,baz=223,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**118.60**	**310**	PKP	**PKPdf**	**12 18 18.4**	**-1.0**
	0.6nm,0.7s,baz=152,slow=1.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**119.00**	**318**	PKP	**PKPdf**	**12 18 19.6**	**-0.3**
	0.3nm,0.3s,baz=122,slow=1.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**121.97**	**313**	PKP	**PKPdf**	**12 18 25.6**	**-0.2**
	0.8nm,0.2s,baz=107,slow=2.0,SNR=12						
AAK	**Ala-Archa**	**122.82**	**303**	PKP	**PKPdf**	**12 18 28.0**	**+0.1**
	baz=256,slow=12						
BVAR	**Borovoye Array**	**127.33**	**315**	PKP	**PKPdf**	**12 18 36.5**	**+0.6**
	0.8nm,0.6s,baz=187,slow=2.3,SNR=4.4						
BVAR				pPKP	**pPKPdf**	**12 18 50.5**	**+3.1**
	1.2nm,0.7s,baz=44,slow=6.8,SNR=4.1						
AKTO	**Aktyubinsk**	**134.96**	**311**	PKP	**PKPdf**	**12 18 51.2**	**+0.7**
	1.8nm,0.8s,baz=40,slow=5.0,SNR=4.1						
KAF	**Kangasniemi**	**145.78**	**340**	ep	**PKPdf**	**12 19 09.5**	**-0.1**
OBN	**Obninsk**	**146.23**	**324**	PKPbc	**PKPbc**	**12 19 11.4**	**-0.3**
	7.9nm,0.5s,baz=311,slow=17,SNR=3.3						
NB2	**NORSAR Subarra**	**150.05**	**351**	PKP	**PKPbc**	**12 19 22.3**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=20,slow=3.0						
MMAI	**Mount Meron Ar**	**151.80**	**282**	PKPbc	**PKPbc**	**12 19 27.7**	**+0.9**
	comp=Z,6.8nm,0.6s,baz=80,slow=6.0,SNR=7.8						
AKASG	**Malin Array Be**	**152.32**	**321**	PKPbc	**PKPbc**	**12 19 27.0**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=54,slow=2.7,SNR=12						
AKASG				pPKPbc	**pPKPbc**	**12 19 42.0**	**+3.2**
	comp=Z,1.5nm,0.5s,baz=48,slow=2.6,SNR=5.0						
BRTR	**Keskin Array B**	**153.18**	**296**	PKPbc	**PKPbc**	**12 19 29.9**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=134,slow=3.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**161.51**	**179**	PKPab	**PKPab**	**12 20 18.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=177,slow=4.2,SNR=5.4						

*ISCJB **28** 11:59:39.0±1.1, 20.0S±0.2×66.4E±0.2, h16km, mb4.2/17, MS3.9/9, Error ellipse: s-maj=33.3km s-min=18.6km az=33.2*
*IDC **28** 11:59:38.5±1.1, 20.01S×66.4E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.0/53, mbtmp4.1/15, MS3.9/9, Ms1 3.8/9, ms1mx3.5/29, Error ellipse: s-maj=35.0km s-min=21.1km az=33.0*
*NEIC **28** 11:59:40.1±0.7, 20.01S×66.45E, h10km, mb4.8/2, Error ellipse: s-maj=21.9km s-min=14.7km az=214.0*
ISC 28 11:59:41.2±1.0, 20.0S±0.2×66.5E±0.2, h16km, n52, σ0§69/42, mb4.2/17, MS3.9/9, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**13.62**	**26**	T	T	12 17 09.4	
	baz=205,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**13.63**	**26**	T	T	12 17 05.9	
	baz=205,slow=75,SNR=9.3						
H08S3	**Diego Garcia H**	**13.64**	**26**	T	T	12 17 06.8	
	baz=205,slow=75,SNR=21						
H08N3	**Diego Garcia H**	**14.30**	**19**	T	T	12 18 02.6	
	baz=197,slow=76,SNR=10						
H08N1	**Diego Garcia H**	**14.31**	**19**	T	T	12 18 05.9	
	baz=197,slow=76,SNR=12						
H08N2	**Diego Garcia H**	**14.32**	**19**	T	T	12 18 05.3	
	baz=197,slow=76,SNR=9.2						
BOSA	**Boshof**	**38.35**	**249**	LR	LR	12 19 03.1	
	comp=Z,149nm,19.4s,baz=122,slow=30						
MAW	**Mawson**	**47.62**	**182**	LR	LR	12 23 55.8	
	comp=Z,111nm,18.6s,baz=34,slow=31						
CMAR	**Chiang Mai Arr**	**49.79**	**42**	P	**P**	**12 08 34.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**49.79**	**42**	P	**P**	**12 08 34.9**	**+1.4**
	0.6nm,0.3s,baz=242,slow=6.9,SNR=6.8						
CMAR				LR	LR	12 26 35.9	
	comp=Z,116nm,20.9s,baz=219,slow=32						
ASAR	**Alice Springs**	**62.19**	**107**	P	**P**	**12 10 01.8**	**-0.7**
ASAR	**Alice Springs**	**62.19**	**107**	P	**P**	**12 10 01.8**	**-0.7**
	2.5nm,0.8s,baz=261,slow=6.5,SNR=11						
AAK	**Ala-Archa**	**62.79**	**7**	P	**P**	**12 10 06.7**	**+0.6**
AAK	**Ala-Archa**	**62.79**	**7**	P	**P**	**12 10 06.7**	**+0.6**
	1.0nm,0.5s,baz=181,slow=7.6,SNR=6.1						
WRA	**Warramunga Arr**	**63.36**	**103**	P	**P**	**12 10 10.0**	**-0.2**
WRA	**Warramunga Arr**	**63.36**	**103**	P	**P**	**12 10 10.0**	**-0.2**
	3.8nm,1.0s,baz=262,slow=6.2,SNR=6.8						
BRTR	**Keskin Array B**	**66.88**	**333**	P	**P**	**12 10 32.8**	**0.0**
BRTR	**Keskin Array B**	**66.88**	**333**	P	**P**	**12 10 32.8**	**0.0**
	2.2nm,1.0s,baz=140,slow=7.9,SNR=6.7						
STKA	**Stephens Creek**	**67.42**	**117**	LR	LR	12 36 13.9	
	comp=Z,50nm,18.5s,baz=210,slow=33						
MK31	**Makanchi Array**	**68.03**	**12**	*eP*	**P**	**12 10 39.5**	**-0.3**
MKAR	**Makanchi Array**	**68.03**	**12**	P	**P**	**12 10 38.9**	**-0.8**
MKAR	**Makanchi Array**	**68.03**	**12**	P	**P**	**12 10 38.9**	**-0.8**
	1.3nm,0.8s,baz=191,slow=5.8,SNR=12						
ABKAR	**Akbulak array**	**69.22**	**355**	*eP*	**P**	**12 10 46.9**	**-0.2**
	3.7nm,0.9s						
AKTO	**Aktyubinsk**	**70.55**	**354**	P	**P**	**12 10 54.6**	**-0.6**
AKTO	**Aktyubinsk**	**70.55**	**354**	P	**P**	**12 10 54.6**	**-0.6**
	2.1nm,0.9s,baz=171,slow=4.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**71.15**	**8**	P	**P**	**12 10 57.9**	**-0.9**
	1.9nm,1.1s,baz=202,slow=6.0,SNR=9.9						
KURK	**Kurchatov**	**71.25**	**8**	P	**P**	**12 10 57.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**71.72**	**292**	P	**P**	**12 11 03.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**71.72**	**292**	P	**P**	**12 11 03.4**	**+0.3**
	1.3nm,1.1s,baz=126,slow=7.5,SNR=4.4						
TORD				LR	LR	12 41 37.1	
	comp=Z,43nm,18.2s,baz=345,slow=35						
BVAR	**Borovoye Array**	**72.83**	**2**	P	**P**	**12 11 08.6**	**-0.2**
BVAR	**Borovoye Array**	**72.83**	**2**	P	**P**	**12 11 08.6**	**-0.2**
	1.5nm,0.9s,baz=179,slow=7.4,SNR=7.5						
DBIC	**Dimbokro**	**74.93**	**283**	LR	LR	12 42 26.8	
	comp=Z,64nm,19.4s,baz=108,slow=34						
ZALV	**Zalesovo Beam**	**75.36**	**11**	P	**P**	**12 11 22.2**	**-1.4**
ZALV	**Zalesovo Beam**	**75.36**	**11**	P	**P**	**12 11 22.2**	**-1.4**
	2.5nm,0.8s,baz=193,slow=5.8,SNR=9.5						
SONM	**Songino Array**	**76.46**	**26**	P	**P**	**12 11 30.1**	**-0.2**
SONM	**Songino Array**	**76.46**	**26**	P	**P**	**12 11 30.1**	**-0.2**
	1.4nm,0.9s,baz=215,slow=5.3,SNR=8.1						
AKASG	**Malin Array Be**	**77.69**	**337**	P	**P**	**12 11 36.5**	**-0.4**
AKASG	**Malin Array Be**	**77.69**	**337**	P	**P**	**12 11 36.5**	**-0.4**
	0.9nm,0.6s,baz=148,slow=4.6,SNR=8.4						
PMG	**Port Moresby**	**78.16**	**96**	LR	LR	12 42 15.6	
	comp=Z,100nm,21.3s,baz=272,slow=33						
KSAR	**Wonju Array Be**	**81.27**	**45**	P	**P**	**12 11 56.2**	**-0.5**
KSRS	**Korea Array**	**81.30**	**45**	P	**P**	**12 11 56.2**	**-0.6**
	0.7nm,0.7s,baz=223,slow=8.3,SNR=3.0						
KSRS				LR	LR	12 47 56.6	
	comp=Z,47nm,19.3s,baz=150,slow=36						
KHC	**Kasperske Hory**	**83.34**	**328**	*eP*	P	12 12 00.7	-6.7
	5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**87.98**	**50**	P	**P**	**12 12 30.6**	**-0.2**
MJAR	**Matsushiro Arr**	**87.98**	**50**	P	**P**	**12 12 30.6**	**-0.2**
	2.9nm,0.9s,baz=224,slow=7.0,SNR=6.0						
MJAR				LR	LR	12 48 42.3	
	comp=Z,116nm,21.8s,baz=235,slow=34						
YKA	**Yellowknife Ar**	**137.57**	**1**	PKP	**PKPdf**	**12 19 04.7**	**+0.7**
YKA	**Yellowknife Ar**	**137.57**	**1**	PKP	**PKPdf**	**12 19 04.6**	**+0.7**
	0.3nm,0.7s,baz=1.8,slow=2.4,SNR=5.4						
ULM	**Lac du Bonnet**	**146.74**	**339**	PKPbc	**PKPdf**	**12 19 20.8**	**+0.2**
ULM	**Lac du Bonnet**	**146.74**	**339**	PKPbc	**PKPdf**	**12 19 20.8**	**+0.2**
	3.3nm,0.8s,baz=60,slow=2.0,SNR=6.2						
NVAR	**Mina Array Bea**	**161.21**	**12**	PKPab	**PKPab**	**12 20 25.3**	**+0.3**
NVAR	**Mina Array Bea**	**161.21**	**12**	PKPab	**PKPab**	**12 20 25.3**	**+0.3**
	0.4nm,0.8s,baz=10,slow=5.5,SNR=3.3						
TXAR	**Lajitas Array**	**167.11**	**318**	PKP	**PKPdf**	**12 19 47.6**	**+0.6**
TXAR				PKPab	**PKPab**	**12 20 50.8**	**-0.3**
TXAR	**Lajitas Array**	**167.11**	**318**	PKP	**PKPdf**	**12 19 47.6**	**+0.6**
	0.2nm,0.5s,baz=219,slow=1.6,SNR=3.7						
TXAR				PKPab	**PKPab**	**12 20 50.8**	**-0.3**
	0.4nm,0.9s,baz=91,slow=5.0,SNR=3.4						

JMA 28 12:30:16.1±0.1, 28.49N×128.21E, h113km±5km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.89**	**106**	P	Pn	12 30 36.5	+0.1
JAMN				*e*S	Sn	12 30 52.0	+0.3
JTK	**Tokunoshima**	**0.96**	**137**	P	Pn	12 30 37.2	+0.1
JTK				S	Sn	12 30 53.3	+0.3
JAM	**Amami Oshima**	**1.23**	**93**	P	Pn	12 30 39.7	-0.3
JAM				S	Sn	12 30 58.1	+0.1
JIH	**Iheya**	**1.47**	**189**	P	Pn	12 30 43.3	+0.6
JIH				S	Sn	12 31 03.2	+0.4
JZK	**Kikaishima**	**1.56**	**96**	P	Pn	12 30 44.7	+0.9
JZK				S	Sn	12 31 05.8	+0.9
JOW	**Kunigami**	**1.65**	**178**	P	Pn	12 30 44.9	-0.1
JOW				S	Sn	12 31 05.9	-1.0
JNN	**Nakanoshima**	**1.98**	**47**	P	Pn	12 30 49

KALE Kalithea 0.17 92 P Pg 13 05 06.5 -0.2
KALE S Sg 13 05 08.6 -0.5
KALE Kalithea 0.17 92 ePG Pg 13 05 06.6 -0.2
KALE eSG Sg 13 05 09.8 +0.7
KALE Kalithea 0.17 92 ePg Pg 13 05 06.6 -0.2
KALE S Sg 13 05 08.6 -0.5
KALE eSg Sg 13 05 09.8 +0.5
KLV Kalavryta, Ach 0.40 152 P Pg 13 05 10.3 -0.7
KLV S Sg 13 05 16.4 +0.3
KLV Kalavryta, Ach 0.40 152 ePG Pg 13 05 10.2 -0.7
KLV eSB Sg 13 05 17.3 +1.2
KLV Kalavryta, Ach 0.40 152 P Pg 13 05 10.3 -0.7
KLV S Sg 13 05 16.4 +0.3
KLV eSb Sg 13 05 17.3 +1.2
DRO Drossia 0.47 200 P Pg 13 05 11.7 -0.6
DRO S Sg 13 05 18.9 +0.4
DRO Drossia 0.47 200 ePB Pg 13 05 11.8 -0.6
DRO eSB Sg 13 05 19.5 +1.0
DRO Drossia 0.47 200 ePb Pg 13 05 11.8 -0.6
DRO S Sg 13 05 18.9 +0.4
DRO eSb Sg 13 05 19.5 +1.0
DSF Desfina 0.48 88 P Pg 13 05 11.7 -0.8
DSF S Sg 13 05 18.6 -0.2
DSF Desfina 0.48 88 ePB Pg 13 05 12.4 -0.1
DSF eSB Sg 13 05 19.4 +0.6
DSF Desfina 0.48 88 P Pg 13 05 11.7 -0.8
DSF Desfina 0.48 88 ePb Pg 13 05 12.4 -0.1
DSF S Sg 13 05 18.6 -0.2
DSF eSb Sg 13 05 19.4 +0.6
RLS Riolos of Patr 0.49 227 P Pg 13 05 12.2 -0.5
RLS Riolos of Patr 0.49 227 ePB Pg 13 05 12.1 -0.6
RLS eSB Sg 13 05 18.8 -0.2
RLS Riolos of Patr 0.49 227 P Pg 13 05 12.2 -0.5
RLS eSb Sg 13 05 18.8 -0.2
EVR Evrytania 0.53 351 P Pg 13 05 12.8 -0.6
EVR S Sg 13 05 20.9 +0.6
EVR Evrytania 0.53 351 ePB Pg 13 05 12.9 -0.5
EVR eSB Sg 13 05 21.1 +0.8
EVR Evrytania 0.53 351 ePb Pg 13 05 12.9 -0.5
EVR S Sg 13 05 20.9 +0.6
GUR Goura 0.57 144 P Pg 13 05 13.2 -0.9
GUR S Sg 13 05 21.5 -0.1
GUR Goura 0.57 144 ePB Pg 13 05 13.3 -0.9
GUR eSB Sg 13 05 22.0 +0.4
GUR Goura 0.57 144 ePb Pg 13 05 13.3 -0.9
GUR S Sg 13 05 21.5 -0.1
GUR eSb Sg 13 05 22.0 +0.4
PDO Prodromos 0.61 290 P Pg 13 05 15.1 +0.1
PDO S Sb 13 05 24.2 -1.0
PDO Prodromos 0.61 290 ePB Pg 13 05 14.4 -0.6
PDO eSB Sg 13 05 23.7 +0.8
PDO Prodromos 0.61 290 ePb Pg 13 05 14.4 -0.6
PDO Prodromos 0.61 290 P Pg 13 05 15.1 +0.1
PDO eSb Sg 13 05 23.7 +0.8
PDO S Sb 13 05 24.2 -1.0
MAKR Makrakomi, Fth 0.64 15 P Pg 13 05 15.2 -0.3
MAKR S Sg 13 05 24.7 +0.9
MAKR Makrakomi, Fth 0.64 15 ePG Pg 13 05 15.4 -0.1
MAKR eSB Sg 13 05 24.8 +0.9
MAKR Makrakomi, Fth 0.64 15 ePg Pg 13 05 15.4 -0.1
MAKR S Sg 13 05 24.7 +0.9
AXAR Agios Charalam 0.69 57 P Pg 13 05 15.7 -0.8
AXAR eSB Sb 13 05 26.9 -0.6
AXAR Agios Charalam 0.69 57 ePb Pg 13 05 15.7 -0.8
AXAR eSb Sb 13 05 26.9 -0.6
AGG Agios Georgios 0.70 27 P Pg 13 05 15.7 -1.1
AGG S Sg 13 05 26.9 +1.0
AGG Agios Georgios 0.70 27 ePB Pg 13 05 17.0 +0.2
AGG eSB Sb 13 05 27.3 -0.7
AGG Agios Georgios 0.70 27 P Pg 13 05 15.7 -1.1
AGG Agios Georgios 0.70 27 ePb Pg 13 05 17.0 +0.2
AGG S Sg 13 05 26.9 +1.0
AGG eSb Sb 13 05 27.3 -0.7
AMT Artemida-Makis 0.88 191 ePB Pg 13 05 19.8 -0.3
AMT eSB Sb 13 05 32.5 -0.4
AMT Artemida-Makis 0.88 191 ePb Pg 13 05 19.8 -0.3
AMT eSb Sb 13 05 32.5 -0.4
LKR Lokris 0.89 73 P Pg 13 05 19.5 -0.7
LKR Lokris 0.89 73 ePB Pb 13 05 21.0 -0.1
LKR eSB Sb 13 05 33.3 +0.1
LKR Lokris 0.89 73 P Pg 13 05 19.5 -0.7
LKR Lokris 0.89 73 ePb Pb 13 05 21.0 -0.1
LKR eSb Sb 13 05 33.3 +0.1
LTK Loutraki 0.91 114 ePB Pg 13 05 20.6 0.0
LTK Loutraki 0.91 114 ePb Pg 13 05 20.6 0.0
THL Klokotos Trika 1.17 4 ePB Pg 13 05 25.3 -0.4
THL eSB Sg 13 05 40.6 -0.2
THL Klokotos Trika 1.17 4 ePb Pg 13 05 25.3 -0.4
THL eSb Sg 13 05 40.6 -0.2
ITM Ithomi 1.21 180 ePB Pn 13 05 27.0 +0.2
ITM Ithomi 1.21 180 ePb Pn 13 05 27.0 +0.2
DID Didima 1.37 130 ePB Pg 13 05 29.6 +0.1
DID eSB Sn 13 05 48.3 +0.8
DID Didima 1.37 130 ePb Pg 13 05 29.6 +0.1
DID eSb Sn 13 05 48.3 +0.8

ISCJB 28 13:05:19.6±0.5, 34.90N±0.02×25.59E±0.02, h11km±3km, mb4.0/17, MS3.2/4, Error ellipse: s-maj=4.1km s-min=2.4km az=0.9
CSEM 28 13:05:19.4±0.2, 34.85N×25.57E, h2km, MD3.8, Error ellipse: s-maj=5.0km s-min=2.9km az=1.0
IDC 28 13:05:19.3±0.8, 34.85N×25.57E, h0km, mb3.9/13, mb1 4.0/21, mb1mx3.9/39, mbtmp3.8/21, ML3.6/7, MS3.3/6, Ms1 3.3/6, ms1mx2.9/44, Error ellipse: s-maj=18.9km s-min=8.0km az=24.0
THE 28 13:05:19.7, 34.92N×25.60E, h2km±1km, ML3.9/11, Error ellipse: s-maj=1.4km s-min=0.6km az=170.0
ATH 28 13:05:20.8, 35.00N×25.56E, h19km, MD3.8/33, ML3.7
ISK 28 13:05:22.6, 35.04N×25.69E, h19km, MD4.1
HLW 28 13:05:23.2, 34.70N×25.81E, h31km±23km, Md3.6, Ml3.3
DDA 28 13:05:25.2, 34.94N×25.75E, h18km, MD4.0
ISC 28 13:05:20.0±1.1, 34.92N±0.03×25.59E±0.01, h5km±7km, n291, σ1.34/356, mb4.1/17, MS3.2/4, Crete

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

LAST Lasithi 0.26 340 P Pg 13 05 24.8 -0.3
LAST S Sg 13 05 29.3 +0.7
LAST Lasithi 0.26 340 ePB Pg 13 05 25.5 +0.4
LAST eSB Sg 13 05 29.3 +0.7
LAST Lasithi 0.26 340 P Pg 13 05 24.8 -0.3
LAST Lasithi 0.26 340 ePb Pg 13 05 25.5 +0.4
LAST S Sg 13 05 29.3 +0.7
NPS Neapolis 0.34 4 P Pg 13 05 26.9 +0.1
NPS S Sg 13 05 32.0 +0.7
NPS Neapolis 0.34 4 ePB Pg 13 05 27.2 +0.4
NPS eSB Sg 13 05 30.9 -0.4
NPS Neapolis 0.34 4 P Pg 13 05 26.9 +0.1
NPS Neapolis 0.34 4 ePb Pg 13 05 27.2 +0.4
NPS eSb Sg 13 05 30.9 -0.4
NPS S Sg 13 05 32.0 +0.7
ZKR Zakros 0.55 69 P Pg 13 05 30.2 -0.5
ZKR S Sg 13 05 38.2 +0.3
ZKR Zakros 0.55 69 ePG Pb 13 05 31.8 -0.4
ZKR eSG Sg 13 05 38.9 +1.0
ZKR Zakros 0.55 69 ePN Pg 13 05 30.9 +0.2
ZKR eSN Sb 13 05 39.6 -0.9
ZKR Zakros 0.55 69 P Pg 13 05 30.2 -0.5
ZKR Zakros 0.55 69 ePn Pg 13 05 30.9 +0.2
ZKR Zakros 0.55 69 ePb Pb 13 05 31.8 -0.4
ZKR S Sg 13 05 38.2 +0.3
ZKR eSn Sb 13 05 39.6 -0.9
SIVA Sivas 0.65 279 P Pg 13 05 32.2 -0.2
SIVA S Sb 13 05 42.9 -0.2
SIVA Sivas 0.65 279 ePB Pg 13 05 32.8 +0.4
SIVA eSN Sb 13 05 42.7 -0.4
SIVA Sivas 0.65 279 P Pg 13 05 32.2 -0.2
SIVA Sivas 0.65 279 ePb Pg 13 05 32.8 +0.4
SIVA eSn Sb 13 05 42.7 -0.4
IDI Anoyia 0.68 303 Pg Pg 13 05 31.7 -1.5
88nm,0.3s,baz=125,slow=17,SNR=247
IDI Lg Lg 13 05 42.7
634nm,0.3s,baz=27,slow=18,SNR=51
IDI LR LR 13 06 06.1
comp=Z,2µm,18.1s,baz=38,slow=66
GVD Gavdhos 1.23 267 P Pg 13 05 43.4 -0.3
GVD S Sg 13 05 59.6 -0.1
GVD Gavdhos 1.23 267 ePN Pb 13 05 43.9 +0.1
GVD eSN Sn 13 06 01.3 +0.3
GVD Gavdhos 1.23 267 P Pg 13 05 43.4 -0.3
GVD Gavdhos 1.23 267 ePn Pb 13 05 43.9 +0.1
GVD S Sg 13 05 59.6 -0.1
GVD eSn Sn 13 06 01.3 +0.3
VAM Vamos 1.24 294 P Pg 13 05 41.5 -2.3
VAM S Sb 13 06 00.3 +0.2
VAM Vamos 1.24 294 ePB Pg 13 05 42.3 -1.5
VAM eSN Sg 13 05 59.8 0.0
VAM Vamos 1.24 294 P Pg 13 05 41.5 -2.3
VAM Vamos 1.24 294 ePb Pg 13 05 42.3 -1.5
VAM eSn Sg 13 05 59.8 0.0
VAM S Sb 13 06 00.3 +0.2
KARP Karpathos 1.43 64 P Pn 13 05 45.1 -1.6
KARP S Sb 13 06 04.9 -0.9
KARP Karpathos 1.43 64 ePN Pg 13 05 47.6 +0.1
KARP eSN Sg 13 06 07.5 +1.4
KARP Karpathos 1.43 64 P Pn 13 05 45.1 -1.6
KARP Karpathos 1.43 64 ePn Pg 13 05 47.6 +0.1
KARP S Sb 13 06 04.9 -0.9
KARP eSn Sg 13 06 07.5 +1.4
SANT Santorini 1.45 356 P Pn 13 05 45.8 -1.2
SANT S Sb 13 06 05.1 -1.3
SANT Santorini 1.45 356 ePN Pn 13 05 47.3 +0.3
SANT eSN Sb 13 06 04.6 -1.8
SANT Santorini 1.45 356 ePn Pn 13 05 46.0 -1.0
SANT eSN Sb 13 06 05.8 -0.6
SANT Santorini 1.45 356 P Pn 13 05 45.8 -1.2
SANT Santorini 1.45 356 ePn Pn 13 05 47.3 +0.3
SANT S Sb 13 06 05.1 -1.3
ANKY Antikythira Is 2.09 298 P Pn 13 05 54.7 -1.1
ANKY S Sn 13 06 22.1 -0.1
ANKY Antikythira Is 2.09 298 ePB Pn 13 05 55.9 +0.1
ANKY eSN Sn 13 06 23.1 +0.9
ANKY Antikythira Is 2.09 298 P Pn 13 05 54.7 -1.1
ANKY eSn Sn 13 06 23.1 +0.9
ANKY Antikythira Is 2.09 298 S Sn 13 06 22.1 -0.1
NIS1 Nisyros Isl. 2.12 37 P Pn 13 05 54.6 -1.6
NIS1 S Sn 13 06 22.1 -0.8
NIS1 Nisyros Isl. 2.12 37 ePN Pn 13 05 55.6 -0.6
NIS1 Nisyros Isl. 2.12 37 P Pn 13 05 54.6 -1.6
NIS1 Nisyros Isl. 2.12 37 ePn Pn 13 05 55.6 -0.6
NIS1 S Sn 13 06 22.1 -0.8
APE Apeiranthos 2.15 359 P Pn 13 05 55.1 -1.5
APE S Sn 13 06 22.5 -1.1
APE Apeiranthos 2.15 359 ePN Pn 13 05 56.9 +0.4
APE Apeiranthos 2.15 359 ePB Pn 13 05 55.8 -0.8
APE eSN Sn 13 06 22.3 -1.3
APE Apeiranthos 2.15 359 ePn Pn 13 05 56.9 +0.4
APE S Sn 13 06 22.5 -1.1
APE Apeiranthos 2.15 359 P Pn 13 05 55.1 -1.5
ARG Arkhangelos 2.44 57 P Pn 13 05 59.2 -1.4
ARG Arkhangelos 2.44 57 ePB Pn 13 06 02.4 +1.8
ARG eSN Sn 13 06 32.3 +1.5
ARG Arkhangelos 2.44 57 P Pn 13 05 59.2 -1.4
ARG eSn Sn 13 06 32.3 +1.5
KYTH Kithira 2.48 304 P Pn 13 06 00.0 -1.2
KYTH Kithira 2.48 304 ePN Pn 13 06 01.6 +0.4
KYTH Kithira 2.48 304 P Pn 13 06 00.0 -1.2
KYTH Kithira 2.48 304 ePn Pn 13 06 01.6 +0.4
BDRM Kayabasi 2.62 35 iP Pb 13 06 05.9 -1.5
BDRM iS Sn 13 06 33.4 -1.8
BDRM Kayabasi 2.62 35 iP Pb 13 06 05.9 -1.5
BDRM iS Sn 13 06 33.4 -1.8
VLI Veliai 2.80 311 P Pn 13 06 04.3 -1.2
VLI S Sn 13 06 38.5 -1.2
VLI Veliai 2.80 311 ePN Pn 13 06 05.8 +0.3
VLI eSN Sn 13 06 38.7 -1.0
VLI Veliai 2.80 311 P Pn 13 06 04.3 -1.2
VLI Veliai 2.80 311 ePn Pn 13 06 05.8 +0.3
VLI eSn Sn 13 06 38.7 -1.0
SMG Samos 2.96 20 P Pn 13 06 06.9 -0.8
SMG Samos 2.96 20 ePN Pn 13 06 08.1 +0.4
SMG Samos 2.96 20 ePn Pn 13 06 08.1 +0.4
SMG Samos 2.96 20 P Pn 13 06 06.9 -0.8
YER Yerkesik 3.11 44 ePN Pn 13 06 10.2 +0.4
YER Yerkesik 3.11 44 ePn Pn 13 06 10.2 +0.4
DALY Dalyan (Mu˜la 3.13 52 ePN Pn 13 06 10.9 +0.9
DALY Dalyan (Mu˜la 3.13 52 ePn Pn 13 06 10.9 +0.9
TURN Turunc 3.13 51 iP Pn 13 06 06.7 -3.3
TURN iS Sn 13 06 42.2 -5.6
TURN Turunc 3.13 51 iP Pn 13 06 06.7 -3.3
TURN iS Sn 13 06 42.2 -5.6
DID Didima 3.21 324 P Pn 13 06 10.5 -0.6
DID S Sn 13 06 50.1 +0.4
DID Didima 3.21 324 ePN Pn 13 06 11.5 +0.4
DID eSN Sn 13 06 49.0 -0.7
DID Didima 3.21 324 P Pn 13 06 10.5 -0.6
DID Didima 3.21 324 ePn Pn 13 06 11.5 +0.4
DID eSn Sn 13 06 49.0 -0.7
DID S Sn 13 06 50.1 +0.4
NAIG Nisos Aigina 3.30 330 ePN Pn 13 06 13.7 +1.3
NAIG Nisos Aigina 3.30 330 ePn Pn 13 06 13.7 +1.3
ATH Athens Observa 3.40 334 ePN Pn 13 06 14.8 +1.1
ATH Athens Observa 3.40 334 ePn Pn 13 06 14.8 +1.1
PTL Penteli 3.42 337 P Pn 13 06 13.6 -0.4
PTL Penteli 3.42 337 ePB Pn 13 06 16.3 +2.3
PTL Penteli 3.42 337 P Pn 13 06 13.6 -0.4
SLUM 3.43 185 AMP 13 06 00.0
comp=N,80µm,0.6s,logA/T=5.2,baz=190
CHOS Chios island 3.48 6 P Pn 13 06 13.2 -1.7
CHOS S Sg 13 07 19.9 +8.0
CHOS Chios island 3.48 6 ePN Pn 13 06 16.0 +1.1
CHOS Chios island 3.48 6 ePN Pn 13 06 15.3 +0.4
CHOS Chios island 3.48 6 P Pn 13 06 13.2 -1.7
CHOS Chios island 3.48 6 ePn Pn 13 06 15.3 +0.4
AKAS Kas 3.53 67 iP Pn 13 06 17.0 +1.4
AKAS iS Sb 13 07 03.0 -3.2
AKAS Kas 3.53 67 iP Pn 13 06 17.0 +1.4
AKAS iS Sb 13 07 03.0 -3.2
AYDB Zeytinkoy-Aydi 3.55 31 ePN Pn 13 06 16.1 +0.2
AYDB Zeytinkoy-Aydi 3.55 31 ePn Pn 13 06 16.1 +0.2
VLX Vlachokerasia 3.57 314 P Pn 13 06 15.6 -0.5
VLX S Sn 13 06 59.0 +0.3
VLX Vlachokerasia 3.57 314 ePN Pn 13 06 17.6 +1.5
VLX eSN Sn 13 06 58.6 -0.1
VLX Vlachokerasia 3.57 314 P Pn 13 06 15.6 -0.5
VLX Vlachokerasia 3.57 314 ePn Pn 13 06 17.6 +1.5
VLX eSn Sn 13 06 58.6 -0.1
VLX S Sn 13 06 59.0 +0.3
BLCB Balcova 3.65 18 ePN Pn 13 06 17.3 +0.1
BLCB Balcova 3.65 18 ePn Pn 13 06 17.3 +0.1
PYL PYLOS 3.69 303 ePN Pn 13 06 18.3 +0.6
PYL PYLOS 3.69 303 ePn Pn 13 06 18.3 +0.6
ITM Ithomi 3.73 308 ePN Pn 13 06 19.7 +1.5
ITM Ithomi 3.73 308 ePn Pn 13 06 19.7 +1.5
LTK Loutraki 3.75 326 P Pn 13 06 18.0 -0.6
LTK Loutraki 3.75 326 ePN Pn 13 06 19.8 +1.2
LTK Loutraki 3.75 326 P Pn 13 06 18.0 -0.6
LTK Loutraki 3.75 326 ePn Pn 13 06 19.8 +1.2
ERET Eretria 3.80 338 P Pn 13 06 19.0 -0.3
ERET Eretria 3.80 338 P Pn 13 06 19.0 -0.3
DNZL Cakiroluk 3.93 44 iP Pn 13 06 23.0 +1.8
DNZL Cakiroluk 3.93 44 iP Pn 13 06 23.0 +1.8
ELL Elmali 3.96 61 ePN Pn 13 06 22.3 +0.8
ELL Elmali 3.96 61 ePn Pn 13 06 22.3 +0.8
GOLH Golhisar 3.96 53 iP Pn 13 06 24.4 +2.8
GOLH iS Sb 13 07 14.2 -4.5
GOLH Golhisar 3.96 53 iP Pn 13 06 24.4 +2.8
GOLH iS Sb 13 07 14.2 -4.5
GUR Goura 3.99 320 P Pn 13 06 21.1 -0.8
GUR S Sn 13 07 08.6 -0.5
GUR Goura 3.99 320 ePN Pn 13 06 22.9 +1.0
GUR eSN Sn 13 07 08.8 -0.3
GUR Goura 3.99 320 P Pn 13 06 21.1 -0.8
GUR Goura 3.99 320 ePn Pn 13 06 22.9 +1.0
GUR eSn Sn 13 07 08.8 -0.3
AMT Artemida-Makis 4.08 311 P Pn 13 06 21.8 -1.3
AMT Artemida-Makis 4.08 311 ePN Pn 13 06 24.7 +1.6
AMT Artemida-Makis 4.08 311 P Pn 13 06 21.8 -1.3
AMT Artemida-Makis 4.08 311 ePn Pn 13 06 24.7 +1.6
MRKA Markates 4.11 338 ePN Pn 13 06 24.5 +1.0
MRKA Markates 4.11 338 ePn Pn 13 06 24.5 +1.0
KLV Kalavryta, Ach 4.17 319 P Pn 13 06 23.9 -0.5
KLV S Sn 13 07 13.2 -0.3
KLV Kalavryta, Ach 4.17 319 ePN Pn 13 06 25.5 +1.1
KLV Kalavryta, Ach 4.17 319 P Pn 13 06 23.9 -0.5
KLV Kalavryta, Ach 4.17 319 ePn Pn 13 06 25.5 +1.1
KLV S Sn 13 07 13.2 -0.3
LKR Lokris 4.26 332 P Pn 13 06 25.2 -0.4
LKR Lokris 4.26 332 ePN Pn 13 06 26.9 +1.3
LKR Lokris 4.26 332 P Pn 13 06 25.2 -0.4
LKR Lokris 4.26 332 ePn Pn 13 06 26.9 +1.3
DSF Desfina 4.27 326 P Pn 13 06 24.8 -0.9
DSF Desfina 4.27 326 ePN Pn 13 06 26.4 +0.7
DSF Desfina 4.27 326 P Pn 13 06 24.8 -0.9
DSF Desfina 4.27 326 ePn Pn 13 06 26.4 +0.7
SIGR SIGRI 4.29 3 P Pn 13 06 25.3 -0.7
SIGR S Sn 13 07 16.3 -0.1
SIGR SIGRI 4.29 3 ePN Pn 13 06 26.2 +0.3
SIGR SIGRI 4.29 3 ePN Pn 13 06 26.4 +0.4
SIGR eSN Sn 13 07 15.8 -0.6
SIGR SIGRI 4.29 3 P Pn 13 06 25.3 -0.7
SIGR SIGRI 4.29 3 ePn Pn 13 06 26.4 +0.4
SIGR eSn Sn 13 07 15.8 -0.6
SIGR S Sn 13 07 16.3 -0.1
DRO Drossia 4.35 315 ePN Pn 13 06 27.5 +0.7
DRO Drossia 4.35 315 ePn Pn 13 06 27.5 +0.7
PRK Paraskevi 4.36 7 ePN Pn 13 06 27.8 +1.0
PRK Paraskevi 4.36 7 ePn Pn 13 06 27.8 +1.0
KORT Korkueli 4.39 60 iP Pn 13 06 30.9 +3.5
KORT iS Sn 13 07 21.7 +2.7
KORT Korkueli 4.39 60 iP Pn 13 06 30.9 +3.5
KORT iS Sn 13 07 21.7 +2.7
LAKA Lakka 4.41 320 ePN Pn 13 06 29.2 +1.6
LAKA Lakka 4.41 320 ePn Pn 13 06 29.2 +1.6
KALE Kalithea 4.44 322 P Pn 13 06 27.7 -0.4
KALE Kalithea 4.44 322 ePN Pn 13 06 28.8 +0.7
KALE eSN Sn 13 07 18.9 -1.2
KALE Kalithea 4.44 322 P Pn 13 06 27.7 -0.4
KALE Kalithea 4.44 322 ePn Pn 13 06 28.8 +0.7
KALE eSn Sn 13 07 18.9 -1.2
AOS Alonnisos 4.46 343 ePN Pn 13 06 29.7 +1.4
AOS Alonnisos 4.46 343 ePn Pn 13 06 29.7 +1.4
AXAR Agios Charalam 4.50 329 P Pn 13 06 27.2 -1.7
AXAR Agios Charalam 4.50 329 ePN Pn 13 06 30.4 +1.5
AXAR Agios Charalam 4.50 329 P Pn 13 06 27.2 -1.7
AXAR Agios Charalam 4.50 329 ePn Pn 13 06 30.4 +1.5
RLS Riolos of Patr 4.56 315 ePN Pn 13 06 31.5 +1.8
RLS Riolos of Patr 4.56 315 ePn Pn 13 06 31.5 +1.8
SKIA Skiathos 4.57 339 ePN Pn 13 06 30.6 +0.8
SKIA Skiathos 4.57 339 ePn Pn 13 06 30.6 +0.8
EFP Efpalio 4.58 321 P Pn 13 06 29.9 -0.1
EFP Efpalio 4.58 321 ePN Pn 13 06 31.4 +1.4
EFP Efpalio 4.58 321 P Pn 13 06 29.9 -0.1
EFP Efpalio 4.58 321 ePn Pn 13 06 31.4 +1.4
KHL Karahalli 4.64 42 ePG Pb 13 06 44.8 +2.8
KHL Karahalli 4.64 42 ePg Pb 13 06 44.8 +2.8
NEO Neokhori 4.77 337 ePN Pn 13 06 34.2 +1.6
NEO Neokhori 4.77 337 ePn Pn 13 06 34.2 +1.6
BCK Bucak 4.78 56 ePN Pn 13 06 34.0 +1.3
BCK Bucak 4.78 56 ePn Pn 13 06 34.0 +1.3
XOR Xorichti 4.83 337 P Pn 13 06 33.1 -0.4
XOR Xorichti 4.83 337 ePN Pn 13 06 34.4 +0.9
XOR Xorichti 4.83 337 P Pn 13 06 33.1 -0.4
XOR Xorichti 4.83 337 ePn Pn 13 06 34.4 +0.9
AGG Agios Georgios 4.86 328 P Pn 13 06 32.5 -1.3
AGG Agios Georgios 4.86 328 ePN Pn 13 06 35.7 +1.9
AGG Agios Georgios 4.86 328 P Pn 13 06 32.5 -1.3
AGG Agios Georgios 4.86 328 ePn Pn 13 06 35.7 +1.9
MAKR Makrakomi, Fth 4.94 327 ePN Pn 13 06 36.5 +1.6
MAKR Makrakomi, Fth 4.94 327 ePn Pn 13 06 36.5 +1.6
EVR Evrytania 5.01 324 ePN Pn 13 06 37.9 +2.0
EVR Evrytania 5.01 324 ePn Pn 13 06 37.9 +2.0
SUTC Sutluce-Ispart 5.07 58 ePN Pn 13 06 38.2 +1.4
SUTC Sutluce-Ispart 5.07 58 ePn Pn 13 06 38.2 +1.4
PDO Prodromos 5.10 317 ePN Pn 13 06 37.8 +0.7
PDO Prodromos 5.10 317 ePn Pn 13 06 37.8 +0.7
VLS Valsamata 5.17 310 ePN Pn 13 06 40.2 +2.1
VLS Valsamata 5.17 310 ePn Pn 13 06 40.2 +2.1
PAIG Paliouri 5.23 344 ePN Pn 13 06 39.3 +0.5
PAIG Paliouri 5.23 344 ePn Pn 13 06 39.3 +0.5
GONE Gonen-Balikesi 5.38 17 ePN Pn 13 06 42.5 +1.5
GONE Gonen-Balikesi 5.38 17 ePn Pn 13 06 42.5 +1.5
THL Klokotos Trika 5.44 329 ePN Pn 13 06 43.5 +1.7
THL Klokotos Trika 5.44 329 ePn Pn 13 06 43.5 +1.7
TVSB Tavsanli 5.48 33 ePN Pn 13 06 43.9 +1.5
TVSB Tavsanli 5.48 33 ePn Pn 13 06 43.9 +1.5
ALT Altintas 5.49 40 ePN Pn 13 06 43.8 +1.2
ALT Altintas 5.49 40 ePn Pn 13 06 43.8 +1.2
GELI Tayfur-Gelibol 5.52 7 ePN Pn 13 06 44.8 +2.0
GELI Tayfur-Gelibol 5.52 7 ePn Pn 13 06 44.8 +2.0
LKD2 Lefkada island 5.53 316 ePN Pn 13 06 44.1 +1.1
LKD2 Lefkada island 5.53 316 ePn Pn 13 06 44.1 +1.1
OUR Ouranopolis 5.55 347 ePN Pn 13 06 44.3 +1.0
OUR Ouranopolis 5.55 347 ePn Pn 13 06 44.3 +1.0
SWA2 5.66 181 P Pn 13 06 42.7 -2.1
baz=184
SWA2 S Sn 13 07 42.8 -7.4
baz=184
SWA2 AMP 13 08 00.0
comp=E,70µm,0.9s,logA/T=4.9,baz=184
SWA2 5.66 181 P Pn 13 06 42.7 -2.1
SWA2 S Sn 13 07 42.8 -7.4
PLG Polygyros 5.71 343 ePN Pn 13 06 47.1 +1.7
PLG Polygyros 5.71 343 ePn Pn 13 06 47.1 +1.7
LIT Litokhoron 5.73 335 ePN Pn 13 06 48.1 +2.3
LIT Litokhoron 5.73 335 ePn Pn 13 06 48.1 +2.3
ALN Alexandroupoli 5.98 3 ePN Pn 13 06 50.8 +1.6
ALN Alexandroupoli 5.98 3 ePn Pn 13 06 50.8 +1.6
HORT Hortiatis 6.00 342 ePN Pn 13 06 50.4 +0.8
HORT Hortiatis 6.00 342 ePn Pn 13 06 50.4 +0.8
JAN Janina 6.05 323 ePN Pn 13 06 51.2 +1.0
JAN Janina 6.05 323 ePn Pn 13 06 51.2 +1.0
KZN Kozani 6.17 332 ePN Pn 13 06 52.8 +0.9
KZN Kozani 6.17 332 ePn Pn 13 06 52.8 +0.9
KONT Konya--Tatoy 6.24 59 ePN Pn 13 06 55.0 +2.2
KONT Konya--Tatoy 6.24 59 ePn Pn 13 06 55.0 +2.2
SRS Serrai 6.39 346 ePN Pn 13 06 56.7 +1.9
SRS Serrai 6.39 346 ePn Pn 13 06 56.7 +1.9
KIZT Kizilcal 6.41 50 ePN Pn 13 06 56.7 +1.5
KIZT Kizilcal 6.41 50 ePn Pn 13 06 56.7 +1.5
GRG Griva 6.53 338 ePN Pn 13 06 58.3 +1.5
GRG Griva 6.53 338 ePn Pn 13 06 58.3 +1.5
NVR Nevrokopi 6.56 349 ePN Pn 13 06 58.7 +1.5
NVR Nevrokopi 6.56 349 ePn Pn 13 06 58.7 +1.5
KNT Kendrikon 6.58 342 ePN Pn 13 06 59.2 +1.7
KNT Kendrikon 6.58 342 ePn Pn 13 06 59.2 +1.7
FNA Florina 6.74 332 ePN Pn 13 07 02.1 +2.5
FNA Florina 6.74 332 ePn Pn 13 07 02.1 +2.5
GLL Jalalah 7.43 134 P Pn 13 07 06.6 -2.6
baz=134
GLL Jalalah 7.43 134 P Pn 13 07 06.6 -2.6
RSH 7.89 118 P Pn 13 07 13.0 -2.5
baz=117
RSH 7.89 118 P Pn 13 07 13.0 -2.5
BRTR Keskin Array B 8.01 51 Pn Pn 13 07 18.4 +1.3
comp=E,0.2nm,0.3s,baz=237,slow=16,SNR=7.4
BRTR LR LR 13 10 24.1
comp=E,70nm,21.7s,baz=238,slow=38
HFRF Wahat Farafira 8.09 162 P Pn 13 07 15.2 -2.9
baz=163
HFRF Wahat Farafira 8.09 162 P Pn 13 07 15.2 -2.9
MMAI Mount Meron Ar 8.37 100 Pn Pn 13 07 20.3 -1.8
comp=E,3.4nm,0.3s,baz=274,slow=12,SNR=6.1
MMAI Sn Sn 13 08 57.2 +0.1
comp=E,2.1nm,0.3s,baz=341,slow=30,SNR=3.3
EIL Elat 9.49 121 Pn Pn 13 07 35.7 -1.7
comp=E,1.2nm,0.3s,baz=326,slow=8.2,SNR=6.3
EIL Sn Sn 13 09 21.7 -2.8
comp=E,1.5nm,0.3s,baz=121,slow=19,SNR=4.5
ASF Jabal al Asfar 9.83 103 Pn Pn 13 07 41.8 -0.3
comp=E,0.3nm,0.3s,baz=273,slow=19,SNR=2.4
MLR Muntele Rosu 10.56 1 Pn Pn 13 07 54.5 +2.4
comp=E,0.1nm,0.3s,baz=287,slow=19,SNR=2.4
AKASG Malin Array Be 15.99 8 Pn Pn 13 09 07.1 +1.5
comp=E,2.4nm,0.3s,baz=202,slow=11,SNR=12
KBZ Khabaz 16.00 51 Pn P 13 09 09.2 -0.1
comp=E,0.1nm,0.3s,baz=194,slow=4.2,SNR=4.6
GNI Garni 16.06 65 LR LR 13 16 27.4
comp=E,161nm,19.7s,baz=244,slow=42
GERES GERESS Array B 16.46 331 Pn P 13 09 13.6 -0.9
baz=153,slow=12,SNR=5.2
SBF Sospel 16.61 308 eP Pn 13 09 10.8 -2.8
LPG La Plagne 17.81 312 eP P 13 09 30.0 +0.4
LPG La Plagne 17.81 312 eP P 13 09 30.0 +0.4
LPL La Plagne 17.83 312 eP P 13 09 29.9 +0.1
LPL La Plagne 17.83 312 eP P 13 09 29.9 +0.1
CABF La Chapelle 18.77 314 eP P 13 09 38.7 -1.4
comp=E,16nm,1.0s

CABF	**La Chapelle**	**18.77**	**314**	*e*P	**P**	**13 09 38.7**	**-1.4**
	comp=E,16nm,1.0s						
HAU	**Haudompre**	**19.39**	**318**	*e*P	**Pn**	**13 09 49.5**	**+1.6**
HAU	**Haudompre**	**19.39**	**318**	*e*P	**Pn**	**13 09 49.5**	**+1.6**
SMF	**Signal de Mont**	**20.14**	**312**	*e*P	**P**	**13 09 55.4**	**+0.5**
SMF	**Signal de Mont**	**20.14**	**312**	*e*P	**P**	**13 09 55.4**	**+0.5**
LOR	**Lormes**	**20.42**	**314**	*e*P	**P**	**13 09 59.0**	**+1.0**
	comp=E,26nm,1.1s						
LOR	**Lormes**	**20.42**	**314**	*e*P	**P**	**13 09 59.0**	**+1.0**
	comp=E,25nm,1.1s						
SSF	**Saint Saulge**	**20.54**	**313**	*e*P	**P**	**13 10 00.0**	**+0.8**
	comp=E,14nm,0.9s						
SSF	**Saint Saulge**	**20.54**	**313**	*e*P	**P**	**13 10 00.0**	**+0.8**
	comp=E,14nm,0.9s						
BGF	**Bois d'Agland**	**20.71**	**311**	*e*P	**P**	**13 10 01.6**	**+0.5**
BGF	**Bois d'Agland**	**20.71**	**311**	*e*P	**P**	**13 10 01.6**	**+0.5**
GIVF	**Givet**	**21.45**	**321**	*e*P	**P**	**13 10 08.3**	**-0.7**
	comp=E,18nm,0.7s						
GIVF	**Givet**	**21.45**	**321**	*e*P	**P**	**13 10 08.3**	**-0.7**
	comp=E,18nm,0.7s						
OBN	**Obninsk**	**21.59**	**17**	LR	LR	13 18 17.0	
	comp=E,43nm,20.4s,baz=86,slow=36						
BAIF	**Baives**	**21.74**	**321**	*e*P	**P**	**13 10 11.5**	**-0.6**
	comp=E,24nm,0.8s						
BAIF	**Baives**	**21.74**	**321**	*e*P	**P**	**13 10 11.5**	**-0.6**
	comp=E,24nm,0.8s						
FLN	**La Foliniere**	**23.70**	**314**	*e*P	**P**	**13 10 33.6**	**+1.0**
	comp=E,68nm,1.1s						
FLN	**La Foliniere**	**23.70**	**314**	*e*P	**P**	**13 10 33.6**	**+1.0**
	comp=E,68nm,1.1s						
ESDC	**Sonseca Array**	**23.93**	**290**	P	**P**	**13 10 35.8**	**+0.8**
	comp=E,0.4nm,0.5s,baz=82,slow=9.7,SNR=5.4						
MDT	**Midelt**	**25.12**	**274**	LR	LR	13 22 02.2	
	comp=E,57nm,19.3s,baz=96,slow=40						
HFS	**Hagfors**	**26.39**	**347**	LR	LR	13 23 13.6	
	comp=E,200nm,20.5s,baz=52,slow=41						
AKTO	**Aktyubinsk**	**28.16**	**47**	P	**P**	**13 11 15.2**	**+2.1**
	comp=E,1.0nm,0.3s,baz=229,slow=9.8,SNR=4.5						
EKA	**Eskdalemuir Ar**	**28.44**	**325**	P	**P**	**13 11 17.9**	**+2.4**
	comp=E,3.4nm,0.8s,baz=121,slow=9.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**30.61**	**231**	P	**P**	**13 11 34.9**	**-0.2**
	comp=E,2.6nm,0.7s,baz=34,slow=8.5,SNR=18						
TORD				LR	LR	13 26 45.4	
	comp=E,52nm,18.1s,baz=45,slow=42						
LIC	**Lamto**	**40.14**	**232**	*e*P	**P**	**13 12 56.3**	**-0.8**
	comp=E,6.6nm,0.7s						
MKAR	**Makanchi Array**	**43.62**	**56**	P	**P**	**13 13 25.6**	**+0.4**
	comp=E,0.9nm,0.5s,baz=286,slow=5.8,SNR=16						
ZALV	**Zalesovo Beam**	**44.92**	**46**	P	**P**	**13 13 34.7**	**-0.8**
	comp=E,1.5nm,0.4s,baz=277,slow=6.8,SNR=7.4						
SONM	**Songino Array**	**59.37**	**51**	P	**P**	**13 15 23.4**	**+0.1**
	comp=E,0.5nm,0.6s,baz=310,slow=11,SNR=5.5						
SCHQ	**Schefferville**	**63.60**	**320**	P	**P**	**13 15 52.3**	**+0.7**
	comp=E,2.6nm,0.4s,baz=76,slow=3.5,SNR=16						
CMAR	**Chiang Mai Arr**	**66.25**	**83**	P	**P**	**13 16 09.4**	**0.0**
	comp=E,0.6nm,0.4s,baz=307,slow=7.6,SNR=3.4						
USRK	**Ussuriysk Arra**	**76.76**	**45**	P	**P**	**13 17 12.1**	**-0.3**
	comp=E,1.3nm,0.6s,baz=270,slow=8.6,SNR=3.5						
YKA	**Yellowknife Ar**	**77.78**	**342**	P	**P**	**13 17 18.0**	**+0.1**
	comp=E,0.1nm,0.5s,baz=31,slow=5.6,SNR=3.3						
KSRS	**Korea Array**	**78.15**	**53**	P	**P**	**13 17 21.2**	**+0.9**
	comp=E,1.7nm,0.9s,baz=306,slow=5.9,SNR=3.1						
ILAR	**Eielson Array**	**80.46**	**357**	P	**P**	**13 17 34.4**	**+1.8**
	comp=E,0.3nm,0.6s,baz=340,slow=4.3,SNR=5.7						

CSEM ***28*** *13:06:17.5±0.9, 37.84N×29.36E, h15km, MD2.7, Error ellipse: s-maj=23.1km s-min=12.0km az=134.0*
ISK ***28*** *13:06:24.9, 38.75N×28.27E, h28km, MD2.4*

DDA 28 13:06:18.0, 37.95N×29.24E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.30**	**210**	*i* P		Pg	13 06 23.9	-0.3
DNZL				*i* S		Sb	13 06 39.2	+7.9
DNZL	**Cakiroluk**	**0.30**	**210**	*i* P		Pg	13 06 23.9	-0.3
DNZL				*i* S		Sb	13 06 39.2	+7.9
KHAL	**Karahalli**	**0.47**	**26**	*i* P		Pn	13 06 35.1	+3.8
KHAL				*i* S		Sb	13 06 47.1	+11
KHAL	**Karahalli**	**0.47**	**26**	*i* P		Pn	13 06 35.1	+3.8
KHAL				*i* S		Sb	13 06 47.1	+11
KULA	**Kula-Manisa**	**0.72**	**321**	*e*PG		Pn	13 06 34.5	-0.3
KULA				*e*SG		Sg	13 06 40.6	-1.0
KULA	**Kula-Manisa**	**0.72**	**321**	*e*Pg		Pn	13 06 34.5	-0.3
KULA				*e*Sg		Sg	13 06 40.6	-1.0
MANT	**Manisa**	**0.76**	**316**	*i* P		Pg	13 06 29.1	-3.9
MANT				*i* S		Sg	13 06 41.4	-1.7
MANT	**Manisa**	**0.76**	**316**	*i* P		Pg	13 06 29.1	-3.9
MANT				*i* S		Sg	13 06 41.4	-1.7
AYDB	**Zeytinkoy-Aydi**	**1.06**	**270**	*e*PG		Pn	13 06 41.5	+1.9
AYDB				*e*SG		Sg	13 06 52.8	+0.2
AYDB	**Zeytinkoy-Aydi**	**1.06**	**270**	*e*Pg		Pn	13 06 41.5	+2.0
AYDB				*e*Sg		Sg	13 06 52.8	+0.2
GDZ	**Gediz**	**1.15**	**10**	*i* P		Pn	13 06 40.7	-0.1
GDZ				*i* S		Sn	13 06 56.7	-0.3
GDZ	**Gediz**	**1.15**	**10**	*i* P		Pn	13 06 40.7	-0.1
GDZ				*i* S		Sn	13 06 56.7	-0.3
DEMI	**Demirci**	**1.17**	**340**	*i* P		Pg	13 06 36.5	-4.1
DEMI	**Demirci**	**1.17**	**340**	*i* P		Pg	13 06 36.5	-4.1
ALT	**Altintas**	**1.30**	**32**	*e*PN		Pg	13 06 49.7	+6.6
ALT	**Altintas**	**1.30**	**32**	*e*Pn		Pg	13 06 49.7	+6.6
TVSB	**Tavsanli**	**1.51**	**7**	*e*PN		Pn	13 06 45.2	-0.4
TVSB	**Tavsanli**	**1.51**	**7**	*e*Pn		Pn	13 06 45.3	-0.3

ISK ***28*** *13:28:02.5, 34.37N×28.52E, h5km, MD3.8*
HLW ***28*** *13:28:03.1, 34.38N×28.74E, h14km±5km, Md3.2, Ml3.2*
ATH ***28*** *13:28:05.4, 34.54N×28.50E, h17km±2km, MD3.6/11*
CSEM ***28*** *13:28:05.4±0.1, 34.23N×28.61E, h20km, ML3.7, Error ellipse: s-maj=3.7km s-min=3.0km az=49.0*
DDA ***28*** *13:28:08.8, 34.75N×28.41E, h3km, MD3.8*
THE ***28*** *13:28:11.9, 34.45N×28.31E, h28km±51km, ML3.7/6, Error ellipse: s-maj=52.0km s-min=2.2km az=133.0*

ISC 28 13:28:03.3±2.8, 34.27N±0.04×28.57E±0.03, h12km±21km, n188, σ1§78/229, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**1.72**	**318**	P		**Pb**	**13 28 34.8**	**0.0**
KARP				S		**Sn**	**13 28 53.2**	**-1.8**
KARP	**Karpathos**	**1.72**	**318**	*e*PN		**Pn**	**13 28 33.4**	**+0.3**
KARP				*e*SN		**Sn**	**13 28 54.2**	**-0.8**
KARP	**Karpathos**	**1.72**	**318**	*e*Pn		**Pn**	**13 28 33.4**	**+0.3**
KARP	**Karpathos**	**1.72**	**318**	P		**Pb**	**13 28 34.8**	**0.0**
KARP				*e*Sn		**Sn**	**13 28 54.2**	**-0.8**
ARG	**Arkhangelos**	**1.97**	**349**	P		**Pb**	**13 28 39.3**	**+0.2**
ARG				S		**Sn**	**13 29 00.8**	**-0.3**
ARG	**Arkhangelos**	**1.97**	**349**	*e*PN		**Pn**	**13 28 36.8**	**+0.3**
ARG				*e*SN		**Sn**	**13 28 59.3**	**-1.8**
ARG	**Arkhangelos**	**1.97**	**349**	*e*Pn		**Pn**	**13 28 36.8**	**+0.3**
ARG	**Arkhangelos**	**1.97**	**349**	P		**Pb**	**13 28 39.3**	**+0.2**
ARG				*e*Sn		**Sn**	**13 28 59.3**	**-1.8**
ARG				S		**Sn**	**13 29 00.8**	**-0.3**
KSL	**Kastellorizon**	**2.05**	**24**	*e*PN		**Pn**	**13 28 38.3**	**+0.8**
ZKR	**Zakros**	**2.12**	**294**	P		**Pb**	**13 28 40.9**	**-0.6**
ZKR				S		**Sn**	**13 29 02.0**	**-2.6**
ZKR	**Zakros**	**2.12**	**294**	*e*PN		**Pn**	**13 28 40.6**	**+2.2**
ZKR				*e*SN		**Sn**	**13 29 05.1**	**+0.5**
ZKR	**Zakros**	**2.12**	**294**	*e*Pn		**Pn**	**13 28 40.6**	**+2.2**
ZKR	**Zakros**	**2.12**	**294**	P		**Pb**	**13 28 40.9**	**-0.6**
ZKR				*e*Sn		**Sn**	**13 29 05.1**	**+0.5**
AKAS	**Kas**	**2.13**	**23**	*i* P		**Pb**	**13 28 42.2**	**+0.3**
AKAS				*i* S		**Sb**	**13 29 07.3**	**-1.0**
AKAS	**Kas**	**2.13**	**23**	*i* P		**Pb**	**13 28 42.2**	**+0.3**
AKAS				*i* S		**Sb**	**13 29 07.3**	**-1.0**
DALY	**Dalyan (Mu¨la**	**2.54**	**1**	*e*PN		**Pn**	**13 28 44.5**	**+0.2**
DALY				*e*SN		**Sn**	**13 29 15.7**	**+0.7**
DALY	**Dalyan (Mu¨la**	**2.54**	**1**	*e*Pn		**Pn**	**13 28 44.5**	**+0.2**
DALY				*e*Sn		**Sn**	**13 29 15.7**	**+0.7**
TURN	**Turunc**	**2.59**	**1**	*i* P		**Pn**	**13 28 46.8**	**+1.8**
TURN				*i* S		**Sn**	**13 29 16.3**	**-0.1**
TURN	**Turunc**	**2.59**	**1**	*i* P		**Pn**	**13 28 46.8**	**+1.8**
TURN				*i* S		**Sn**	**13 29 16.3**	**-0.1**
NPS	**Neapolis**	**2.63**	**293**	P		**Pn**	**13 28 47.9**	**+2.4**
NPS				S		**Sn**	**13 29 15.9**	**-1.4**
NPS	**Neapolis**	**2.63**	**293**	*e*PN		**Pn**	**13 28 46.9**	**+1.4**
NPS				*e*SN		**Sn**	**13 29 17.2**	**-0.1**
NPS	**Neapolis**	**2.63**	**293**	*e*Pn		**Pn**	**13 28 46.9**	**+1.4**
NPS	**Neapolis**	**2.63**	**293**	P		**Pn**	**13 28 47.9**	**+2.4**
NPS				*e*Sn		**Sn**	**13 29 17.2**	**-0.1**
LAST	**Lasithi**	**2.70**	**290**	P		**Pn**	**13 28 48.7**	**+2.2**
LAST				S		**Sn**	**13 29 17.5**	**-1.6**
LAST	**Lasithi**	**2.70**	**290**	*e*PN		**Pn**	**13 28 48.5**	**+2.0**
LAST				*e*SN		**Sn**	**13 29 20.0**	**+0.9**
LAST	**Lasithi**	**2.70**	**290**	*e*Pn		**Pn**	**13 28 48.5**	**+2.0**
LAST				*e*Sn		**Sn**	**13 29 20.0**	**+0.9**
ELL	**Elmali**	**2.70**	**23**	*e*PN		**Pn**	**13 28 47.9**	**+1.3**
ELL				*e*SN		**Sn**	**13 29 20.4**	**+1.2**
ELL	**Elmali**	**2.70**	**23**	*e*Pn		**Pn**	**13 28 47.9**	**+1.3**
ELL				*e*Sn		**Sn**	**13 29 20.4**	**+1.2**
YER	**Yerkesik**	**2.87**	**355**	*e*PN		**Pn**	**13 28 49.4**	**+0.6**
YER				*e*SN		**Sn**	**13 29 24.0**	**+0.8**
YER	**Yerkesik**	**2.87**	**355**	*e*Pn		**Pn**	**13 28 49.4**	**+0.6**
YER				*e*Sn		**Sn**	**13 29 24.0**	**+0.8**
BDRM	**Kayabasi**	**2.93**	**342**	*i* P		**Pn**	**13 28 52.5**	**+2.8**
BDRM				*i* S		**Sn**	**13 29 32.3**	**-0.3**
BDRM	**Kayabasi**	**2.93**	**342**	*i* P		**Pn**	**13 28 52.5**	**+2.8**
BDRM				*i* S		**Sn**	**13 29 32.3**	**+3.6**
GOLH	**Golhisar**	**3.06**	**15**	*i* P		**Pb**	**13 28 55.7**	**-2.1**
GOLH				*i* S		**Sn**	**13 29 31.4**	**+3.2**
GOLH	**Golhisar**	**3.06**	**15**	*i* P		**Pb**	**13 28 55.7**	**-2.1**
GOLH				*i* S		**Sn**	**13 29 31.4**	**+3.2**
KORT	**Korkueli**	**3.08**	**27**	*i* P		**Pb**	**13 28 55.3**	**-2.8**
KORT				*i* S		**Sn**	**13 29 32.3**	**+3.6**
KORT	**Korkueli**	**3.08**	**27**	*i* P		**Pb**	**13 28 55.3**	**-2.8**
KORT				*i* S		**Sn**	**13 29 32.3**	**+3.6**
SIVA	**Sivas**	**3.19**	**285**	P		**Pn**	**13 28 56.2**	**+3.0**
SIVA				S		**Sn**	**13 29 29.5**	**-1.6**
SIVA	**Sivas**	**3.19**	**285**	*e*PN		**Pn**	**13 28 56.1**	**+2.9**
SIVA				*e*SN		**Sn**	**13 29 32.7**	**+1.6**
SIVA	**Sivas**	**3.19**	**285**	*e*Pn		**Pn**	**13 28 56.1**	**+2.9**
SIVA				*e*Sn		**Sn**	**13 29 32.7**	**+1.6**
SANT	**Santorini**	**3.30**	**310**	P		**Pn**	**13 28 56.5**	**+1.8**
SANT				S		**Sn**	**13 29 31.9**	**-1.9**
SANT	**Santorini**	**3.30**	**310**	*e*PN		**Pn**	**13 28 56.2**	**+1.5**
SANT	**Santorini**	**3.30**	**310**	*e*PB		**Pn**	**13 28 56.6**	**+1.8**
SANT				*e*SN		**Sn**	**13 29 33.0**	**-0.8**
SANT	**Santorini**	**3.30**	**310**	P		**Pn**	**13 28 56.5**	**+1.8**
SANT				*e*Sn		**Sn**	**13 29 33.0**	**-0.8**
HMAT	**Matruh**	**3.41**	**202**	AMP			13 29 00.0	
	comp=E,110μm,0.4s,logA/T=5.5,baz=205							
DNZL	**Cakiroluk**	**3.43**	**6**	*i* P		Pn	13 29 00.6	+3.9
DNZL				*i* S		**Sn**	**13 29 38.7**	**+1.3**
DNZL	**Cakiroluk**	**3.43**	**6**	*i* P		Pn	13 29 00.6	+3.9
DNZL				*i* S		**Sn**	**13 29 38.7**	**+1.3**
BCK	**Bucak**	**3.58**	**27**	*e*PN		**Pn**	**13 29 01.1**	**+2.5**
BCK	**Bucak**	**3.58**	**27**	*e*Pn		**Pn**	**13 29 01.1**	**+2.5**
GCAM	**G?zelcaml?**	**3.59**	**343**	*i* P		**Pn**	**13 29 00.9**	**+2.2**
GCAM				*i* S		**Sn**	**13 29 40.7**	**-0.3**
GCAM	**G?zelcaml?**	**3.59**	**343**	*i* P		**Pn**	**13 29 00.9**	**+2.2**
GCAM				*i* S		**Sn**	**13 29 40.7**	**-0.3**
GAZI	**Gazipasa**	**3.63**	**56**	*i* P		**Pn**	**13 29 01.0**	**+1.7**
GAZI				*i* S		**Sn**	**13 29 41.0**	**-1.1**
GAZI	**Gazipasa**	**3.63**	**56**	*i* P		**Pn**	**13 29 01.0**	**+1.7**
GAZI				*i* S		**Sn**	**13 29 41.0**	**-1.1**
LEF	**Lefka**	**3.66**	**75**	*e*PN		Pn	13 29 02.0	+2.4
LEF	**Lefka**	**3.66**	**75**	*e*Pn		Pn	13 29 02.0	+2.4
SMG	**Samos**	**3.71**	**338**	*e*PN		**Pn**	**13 29 00.5**	**+0.2**
SMG	**Samos**	**3.71**	**338**	*e*Pn		**Pn**	**13 29 00.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**3.71**	**352**	*e*PN		**Pn**	**13 29 01.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.71**	**352**	*e*Pn		**Pn**	**13 29 01.1**	**+0.6**
APE	**Apeiranthos**	**3.73**	**319**	P		**Pn**	**13 29 02.8**	**+2.1**
APE				S		**Sn**	**13 29 42.0**	**-2.6**
APE	**Apeiranthos**	**3.73**	**319**	*e*PN		**Pn**	**13 29 01.1**	**+0.4**
APE	**Apeiranthos**	**3.73**	**319**	*e*PN		**Pn**	**13 29 01.8**	**+1.1**
APE	**Apeiranthos**	**3.73**	**319**	*e*Pn		**Pn**	**13 29 01.8**	**+1.1**
APE	**Apeiranthos**	**3.73**	**319**	P		**Pn**	**13 29 02.8**	**+2.1**
GVD	**Gavdhos**	**3.75**	**280**	P		**Pn**	**13 29 03.7**	**+2.9**
GVD				S		**Sn**	**13 29 43.4**	**-1.4**
GVD	**Gavdhos**	**3.75**	**280**	*e*PN		**Pn**	**13 29 03.7**	**+2.9**
GVD	**Gavdhos**	**3.75**	**280**	P		**Pn**	**13 29 03.7**	**+2.9**
SUTC	**Sutluce-Ispart**	**3.75**	**31**	*e*PN		**Pn**	**13 29 02.7**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.75**	**31**	*e*Pn		**Pn**	**13 29 02.7**	**+1.6**
VAM	**Vamos**	**3.77**	**289**	P		Pn	13 29 04.3	+3.1
VAM				S		**Sn**	**13 29 44.6**	**-0.9**
VAM	**Vamos**	**3.77**	**289**	*e*PN		**Pn**	**13 29 03.9**	**+2.7**
VAM	**Vamos**	**3.77**	**289**	*e*Pn		**Pn**	**13 29 03.9**	**+2.7**
VAM	**Vamos**	**3.77**	**289**	P		Pn	13 29 04.3	+3.1
HBRG	**Burj al 'Arab**	**3.84**	**163**	P		**Pn**	**13 29 02.8**	**+0.6**
	baz=165							
HBRG	**Burj al 'Arab**	**3.84**	**163**	P		**Pn**	**13 29 02.8**	**+0.6**
	baz=165							
HBRG	**Burj al 'Arab**	**3.84**	**163**	P		**Pn**	**13 29 02.8**	**+0.6**
SLUM		**3.96**	**226**	P		**Pn**	**13 29 05.7**	**+1.9**
	baz=227							
SLUM		**3.96**	**226**	P		**Pn**	**13 29 05.7**	**+1.9**
	baz=228							
SLUM		**3.96**	**226**	P		**Pn**	**13 29 05.7**	**+1.9**
CSS	**Prodhromos**	**3.98**	**79**	*e*PN		Pn	13 29 06.8	+2.7
CSS	**Prodhromos**	**3.98**	**79**	*e*Pn		Pn	13 29 06.8	+2.7
KHL	**Karahalli**	**4.11**	**10**	*e*PN		**Pn**	**13 29 07.3**	**+1.3**
KHL	**Karahalli**	**4.11**	**10**	*e*Pn		**Pn**	**13 29 07.3**	**+1.3**
KHAL	**Karahalli**	**4.16**	**10**	*i* P		**Pn**	**13 29 09.1**	**+2.5**
KHAL				*i* S		**Sn**	**13 29 54.5**	**-0.6**
KHAL	**Karahalli**	**4.16**	**10**	*i* P		**Pn**	**13 29 09.1**	**+2.5**
KHAL				*i* S		**Sn**	**13 29 54.5**	**-0.6**
MANT	**Manisa**	**4.21**	**360**	*i* P		Pn	13 29 03.1	-4.3
MANT				*i* S		**Sn**	**13 29 53.8**	**-2.8**
KULA	**Kula-Manisa**	**4.23**	**1**	*e*PN		**Pn**	**13 29 09.0**	**+1.4**
KULA	**Kula-Manisa**	**4.23**	**1**	*e*Pn		**Pn**	**13 29 09.0**	**+1.4**
BLCB	**Balcova**	**4.29**	**344**	*e*PN		**Pn**	**13 29 09.8**	**+1.6**
BLCB	**Balcova**	**4.29**	**344**	*e*Pn		**Pn**	**13 29 09.8**	**+1.6**
CHOS	**Chios island**	**4.58**	**334**	*e*PN		**Pn**	**13 29 13.8**	**+1.4**
CHOS	**Chios island**	**4.58**	**334**	*e*PN		**Pn**	**13 29 12.8**	**+0.4**
CHOS	**Chios island**	**4.58**	**334**	*e*Pn		**Pn**	**13 29 13.8**	**+1.4**
ANKY	**Antikythira Is**	**4.61**	**292**	P		**Pn**	**13 29 14.8**	**+2.1**
ANKY	**Antikythira Is**	**4.61**	**292**	*e*PN		**Pn**	**13 29 14.6**	**+1.9**
ANKY	**Antikythira Is**	**4.61**	**292**	*e*Pn		**Pn**	**13 29 14.6**	**+1.9**
KONT	**Konya--Tatoy**	**4.78**	**39**	*e*PN		**Pn**	**13 29 17.4**	**+2.3**
KONT	**Konya--Tatoy**	**4.78**	**39**	*e*Pn		**Pn**	**13 29 17.4**	**+2.3**
KYTH	**Kithira**	**4.95**	**295**	P		**Pn**	**13 29 18.7**	**+1.2**
KYTH	**Kithira**	**4.95**	**295**	*e*PN		**Pn**	**13 29 18.6**	**+1.1**
KYTH	**Kithira**	**4.95**	**295**	P		**Pn**	**13 29 18.7**	**+1.2**
VLI	**Veliai**	**5.21**	**300**	P		**Pn**	**13 29 21.8**	**+0.9**
VLI				S		**Sn**	**13 30 16.2**	**-4.6**
VLI	**Veliai**	**5.21**	**300**	*e*PN		**Pn**	**13 29 22.0**	**+1.1**
VLI	**Veliai**	**5.21**	**300**	*e*Pn		**Pn**	**13 29 22.0**	**+1.1**
TVSB	**Tavsanli**	**5.21**	**8**	*e*PN		**Pn**	**13 29 23.2**	**+2.0**
TVSB	**Tavsanli**	**5.21**	**8**	*e*Pn		**Pn**	**13 29 23.2**	**+2.0**
HHAG	**Hagoal**	**5.24**	**144**	S		**Sn**	**13 30 18.0**	**-3.9**
	baz=146							
HHAG	**Hagoal**	**5.24**	**144**	S		**Sn**	**13 30 18.0**	**-3.9**
	baz=145							
HHAG	**Hagoal**	**5.24**	**144**	S		**Sn**	**13 30 18.0**	**-3.9**
HSAF	**As Saff**	**5.29**	**151**	P		**Pn**	**13 29 22.1**	**0.0**
	baz=152							
HSAF	**As Saff**	**5.29**	**151**	P		**Pn**	**13 29 22.1**	**0.0**
	baz=152							
HSAF	**As Saff**	**5.29**	**151**	P		**Pn**	**13 29 22.1**	**0.0**
AMAG	**Maghara**	**5.33**	**131**	P		**Pn**	**13 29 21.7**	**-1.0**
	baz=133							
AMAG	**Maghara**	**5.33**	**131**	P		**Pn**	**13 29 21.7**	**-1.0**
	baz=132							
AMAG	**Maghara**	**5.33**	**131**	P		**Pn**	**13 29 21.7**	**-1.0**
SIGR	**SIGRI**	**5.39**	**337**	*e*PN		**Pn**	**13 29 24.8**	**+1.4**
SIGR	**SIGRI**	**5.39**	**337**	*e*Pn		**Pn**	**13 29 24.8**	**+1.4**
NAIG	**Nisos Aigina**	**5.39**	**312**	*e*PN		**Pn**	**13 29 26.0**	**+2.5**
NAIG	**Nisos Aigina**	**5.39**	**312**	*e*Pn		**Pn**	**13 29 26.0**	**+2.5**
DID	**Didima**	**5.40**	**308**	P		**Pn**	**13 29 25.6**	**+2.0**
DID				S		**Sn**	**13 30 23.9**	**-1.8**
DID	**Didima**	**5.40**	**308**	*e*PN		**Pn**	**13 29 25.6**	**+2.0**
DID	**Didima**	**5.40**	**308**	P		**Pn**	**13 29 25.6**	**+2.0**
RSH		**5.46**	**126**	P		**Pn**	**13 29 23.5**	**-0.9**
	baz=127							
RSH		**5.46**	**126**	P		**Pn**	**13 29 23.5**	**-0.9**
	baz=127							
RSH		**5.46**	**126**	P		**Pn**	**13 29 23.5**	**-0.9**
BALY	**Balya**	**5.51**	**352**	*i* P		**Pn**	**13 29 27.4**	**+2.2**
BALY	**Balya**	**5.51**	**352**	*i* P		**Pn**	**13 29 27.4**	**+2.2**
SWA2		**5.67**	**209**	P		**Pn**	**13 29 29.3**	**+1.9**
	baz=210							
SWA2		**5.67**	**209**	P		**Pn**	**13 29 29.3**	**+1.9**
	baz=211							
SWA2		**5.67**	**209**	P		**Pn**	**13 29 29.3**	**+1.9**
SUZ		**5.71**	**140**	P		**Pn**	**13 29 27.1**	**-0.8**
	baz=141							
SUZ		**5.71**	**140**	P		**Pn**	**13 29 27.1**	**-0.8**
	baz=140							
SUZ		**5.71**	**140**	P		**Pn**	**13 29 27.1**	**-0.8**
LTK	**Loutraki**	**5.88**	**311**	P		**Pn**	**13 29 32.8**	**+2.6**
LTK	**Loutraki**	**5.88**	**311**	*e*PN		**Pn**	**13 29 31.9**	**+1.7**
LTK	**Loutraki**	**5.88**	**311**	*e*Pn		**Pn**	**13 29 31.9**	**+1.7**
LTK	**Loutraki**	**5.88**	**311**	P		**Pn**	**13 29 32.8**	**+2.6**
AWBH		**5.94**	**177**	P		**Pn**	**13 29 31.9**	**+0.9**
	baz=178							
AWBH		**5.94**	**177**	P		**Pn**	**13 29 31.9**	**+0.9**
	baz=178							
AWBH		**5.94**	**177**	P		**Pn**	**13 29 31.9**	**+0.9**
ZAF		**6.02**	**145**	P		**Pn**	**13 29 32.2**	**+0.1**
	baz=146							
ZAF		**6.02**	**145**	P		**Pn**	**13 29 32.2**	**+0.1**
	baz=146							
ZAF		**6.02**	**145**	P		**Pn**	**13 29 32.2**	**+0.1**
ZNM		**6.10**	**142**	P		**Pn**	**13 29 32.7**	**-0.5**
	baz=143							
ZNM		**6.10**	**142**	P		**Pn**	**13 29 32.7**	**-0.5**
	baz=143							
ZNM		**6.10**	**142**	P		**Pn**	**13 29 32.7**	**-0.5**
GUR	**Goura**	**6.23**	**308**	P		**Pn**	**13 29 36.6**	**+1.5**
GUR				S		**Sn**	**13 30 44.4**	**-1.8**
GUR	**Goura**	**6.23**	**308**	*e*PN		**Pn**	**13 29 37.6**	**+2.5**
GUR	**Goura**	**6.23**	**308**	P		**Pn**	**13 29 36.6**	**+1.5**
GUR	**Goura**	**6.23**	**308**	*e*Pn		**Pn**	**13 29 37.6**	**+2.5**
LKR	**Lokris**	**6.26**	**316**	*e*PN		**Pn**	**13 29 37.5**	**+2.0**
LKR	**Lokris**	**6.26**	**316**	*e*Pn		**Pn**	**13 29 37.5**	**+2.0**
SMIA	**Simia**	**6.30**	**318**	*e*PN		**Pn**	**13 29 38.0**	**+2.0**
SMIA	**Simia**	**6.30**	**318**	*e*Pn		**Pn**	**13 29 38.0**	**+2.0**
SKIA	**Skiathos**	**6.38**	**321**	*e*PN		**Pn**	**13 29 39.5**	**+2.5**
SKIA	**Skiathos**	**6.38**	**321**	*e*Pn		**Pn**	**13 29 39.5**	**+2.5**
DSF	**Desfina**	**6.39**	**312**	*e*PN		**Pn**	**13 29 39.8**	**+2.5**
DSF	**Desfina**	**6.39**	**312**	*e*Pn		**Pn**	**13 29 39.8**	**+2.5**
KLV	**Kalavryta, Ach**	**6.41**	**308**	*e*PN		**Pn**	**13 29 39.3**	**+1.7**
KLV	**Kalavryta, Ach**	**6.41**	**308**	*e*Pn		**Pn**	**13 29 39.3**	**+1.

*ISCJB **28** 13:42:40.7±0.7,25°.27S×70°.1E±0°.2,h21km,mb4.2/16, MS4.0/6,Error ellipse: s-maj=24.6km s-min=17.8km az=148.9*

*NEIC **28** 13:42:40.8±0.5,25°.27S×70°.03E,h10km,mb4.8/4,Error ellipse: s-maj=16.7km s-min=12.1km az=59.0*

ISC 28 13:42:42.6±0.8,25°.3S±0°.2×70°.0E±0°.2,h21km,n37, σ0§50/28,mb4.2/16,MS4.0/6,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.68**	**8**	T	T	14 05 05.8	
	baz=189,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**17.69**	**8**	T	T	14 04 59.6	
	baz=189,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**17.70**	**8**	T	T	14 04 59.9	
	baz=189,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**39.09**	**115**	T	T	14 32 04.3	
	baz=272						
H01W3	**Cape Leeuwin H**	**39.09**	**115**	T	T	14 32 03.0	
	baz=272						
H01W1	**Cape Leeuwin H**	**39.10**	**115**	T	T	14 32 05.6	
	baz=272						
BOSA	**Boshof**	**39.88**	**255**	LR	LR	14 05 23.1	
	comp=Z,336nm,18.7s,baz=144,slow=34						
MAW	**Mawson**	**42.57**	**184**	LR	LR	14 04 05.5	
	comp=Z,224nm,19.6s,baz=348,slow=30						
CMAR	**Chiang Mai Arr**	**51.78**	**36**	P	**P**	**13 51 49.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**51.78**	**36**	P	**P**	**13 51 49.4**	**+0.4**
	2.6nm,0.6s,baz=226,slow=7.1,SNR=21						
CMAR				LR	LR	14 11 53.9	
	comp=Z,60nm,19.2s,baz=225,slow=34						
ASAR	**Alice Springs**	**57.65**	**103**	P	**P**	**13 52 31.9**	**+0.1**
ASAR	**Alice Springs**	**57.65**	**103**	P	**P**	**13 52 31.9**	**+0.1**
	1.3nm,0.9s,baz=252,slow=5.7,SNR=8.3						
ASAR				LR	LR	14 15 38.3	
	comp=Z,103nm,18.7s,baz=270,slow=34						
WRA	**Warramunga Arr**	**59.12**	**99**	P	**P**	**13 52 42.0**	**0.0**
WRA	**Warramunga Arr**	**59.12**	**99**	P	**P**	**13 52 42.0**	**0.0**
	3.8nm,1.1s,baz=255,slow=6.5,SNR=6.5						
WRA				LR	LR	14 15 51.9	
	comp=Z,151nm,18.9s,baz=265,slow=34						
KBL	**Kabul**	**59.49**	**359**	*e*P	**P**	**13 52 43.8**	**-0.6**
	12nm,1.4s						
QSPA	**South Pole Qui**	**64.86**	**180**	P	**P**	**13 53 19.9**	**0.0**
QSPA	**South Pole Qui**	**64.86**	**180**	P	**P**	**13 53 19.9**	**0.0**
	2.2nm,0.9s,baz=177,slow=2.8,SNR=4.9						
AAK	**Ala-Archa**	**67.69**	**4**	P	**P**	**13 53 38.9**	**+0.6**
AAK	**Ala-Archa**	**67.69**	**4**	P	**P**	**13 53 38.9**	**+0.6**
	0.3nm,0.3s,baz=190,slow=14,SNR=3.0						
KKAR	**Karatay Array**	**68.04**	**0**	*e*P	**P**	**13 53 40.5**	**+0.2**
	9.4nm,1.4s						
MKAR	**Makanchi Array**	**72.58**	**9**	P	**P**	**13 54 08.3**	**+0.3**
MKAR	**Makanchi Array**	**72.58**	**9**	P	**P**	**13 54 08.3**	**+0.3**
	1.4nm,0.7s,baz=197,slow=5.7,SNR=16						
BRTR	**Keskin Array B**	**73.03**	**331**	P	**P**	**13 54 11.8**	**+0.8**
BRTR	**Keskin Array B**	**73.03**	**331**	P	**P**	**13 54 11.8**	**+0.8**
	1.6nm,0.9s,baz=161,slow=7.9,SNR=7.5						
ABKAR	**Akbulak array**	**74.73**	**353**	*e*P	**P**	**13 54 21.0**	**+0.5**
	5.7nm,1.0s						
AKTO	**Aktyubinsk**	**76.12**	**352**	P	**P**	**13 54 27.9**	**-0.6**
AKTO	**Aktyubinsk**	**76.12**	**352**	P	**P**	**13 54 27.9**	**-0.6**
	1.7nm,0.8s,baz=160,slow=3.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.72**	**292**	P	**P**	**13 54 33.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.72**	**292**	P	**P**	**13 54 33.0**	**+0.2**
	1.4nm,1.0s,baz=116,slow=3.4,SNR=6.0						
SONM	**Songino Array**	**79.78**	**24**	P	**P**	**13 54 48.7**	**-0.4**
SONM	**Songino Array**	**79.78**	**24**	P	**P**	**13 54 48.7**	**-0.4**
	1.9nm,1.0s,baz=211,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**79.92**	**9**	P	**P**	**13 54 49.0**	**-0.5**
ZALV	**Zalesovo Beam**	**79.92**	**9**	P	**P**	**13 54 49.0**	**-0.5**
	1.2nm,0.6s,baz=192,slow=4.5,SNR=7.5						
ULN	**Ulaanbaatar**	**80.05**	**24**	*e*P	**P**	**13 54 50.4**	**-0.1**
	15nm,1.4s						
AKASG	**Malin Array Be**	**83.79**	**335**	P	**P**	**13 55 09.1**	**-0.8**
AKASG	**Malin Array Be**	**83.79**	**335**	P	**P**	**13 55 09.1**	**-0.8**
	1.5nm,0.5s,baz=146,slow=4.1,SNR=3.8						
ESDC	**Sonseca Array**	**94.43**	**312**	LR	LR	14 39 29.5	
	comp=Z,30nm,18.2s,baz=75,slow=36						

*IDC **28** 13:44:56.9±0.9,25°.27S×69°.97E,h0km,mb4.0/10, mb1 4.1/10,mb1mx3.9/35,mbtmp4.0/10,Error ellipse: s-maj=30.7km s-min=23.4km az=46.0*

*ISCJB **28** 13:44:58.5±0.8,25°.3S±0°.2×70°.0E±0°.2,h21km,mb3.9/10, Error ellipse: s-maj=27.2km s-min=21.5km az=141.7*

ISC 28 13:45:00.5±0.9,25°.3S±0°.2×70°.0E±0°.2,h21km,n10, σ0§93/10,mb3.9/10,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**51.80**	**36**	P	**P**	**13 54 08.2**	**+1.2**
	2.3nm,0.9s,baz=227,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**57.70**	**103**	P	**P**	**13 54 50.2**	**+0.3**
	1.1nm,0.7s,baz=255,slow=5.8,SNR=6.6						
WRA	**Warramunga Arr**	**59.17**	**99**	P	**P**	**13 54 58.8**	**-1.4**
	2.6nm,1.1s,baz=254,slow=6.6,SNR=4.3						
QSPA	**South Pole Qui**	**64.86**	**180**	P	**P**	**13 55 38.1**	**+0.3**
	0.7nm,0.2s,baz=34,slow=2.6,SNR=3.6						
MKAR	**Makanchi Array**	**72.58**	**9**	P	**P**	**13 56 25.0**	**-0.9**
	0.9nm,0.7s,baz=195,slow=6.7,SNR=6.7						
BRTR	**Keskin Array B**	**73.00**	**331**	P	**P**	**13 56 27.6**	**-1.1**
	1.2nm,0.9s,baz=152,slow=6.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**76.68**	**292**	P	**P**	**13 56 50.6**	**+0.3**
	1.1nm,0.8s,baz=113,slow=3.5,SNR=4.7						
SONM	**Songino Array**	**79.79**	**24**	P	**P**	**13 57 07.1**	**+0.1**
	0.9nm,0.3s,baz=203,slow=6.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**79.92**	**9**	P	**P**	**13 57 07.2**	**-0.1**
	0.7nm,0.6s,baz=166,slow=3.1,SNR=4.2						
AKASG	**Malin Array Be**	**83.77**	**335**	P	**P**	**13 57 28.4**	**+0.7**
	0.4nm,0.5s,baz=138,slow=4.1,SNR=6.0						

KRNET 28 13:59:03.9±0.1,40°.47N×77°.20E,h3km,mb3.4,11C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.33**	**317**	*e*P	Pn	13 59 28.4	-1.4
	baz=316						
NRN				*e*S	Sn	13 59 48.4	+0.1
	baz=316						
ULHL	**Ulahol**	**1.92**	**338**	⇑*i*S	Sg	14 00 07.6	+1.5
	baz=338						
KZA	**Kyzart**	**2.18**	**318**	⇑*i*S	Sg	14 00 14.6	-0.4
	baz=318						
BOOM	**Boomskoye usch**	**2.23**	**335**	*i* P	Pb	13 59 46.0	+0.9
	baz=335						
BOOM				*e*S	Sg	14 00 18.4	+2.3
	baz=335						
ANVS	**Anan'yevo**	**2.34**	**8**	⇓*i*P	Pb	13 59 47.5	+0.5
	baz=8.0						
ANVS				⇓*e*S	Sg	14 00 21.0	+1.4
	baz=8.0						
UCH	**Uchtor**	**2.68**	**312**	⇑*i*S	Sg	14 00 30.8	-0.3
	baz=312						
TKM2	**Tokmak 2**	**2.73**	**334**	⇑*i*S	Sg	14 00 32.4	+0.2
	baz=334						
KBK	**Karagaybulak**	**2.77**	**323**	⇑*i*S	Sg	14 00 33.2	0.0
	baz=323						
SFK	**Sufi-Kurgan**	**2.87**	**262**	*e*P	Pb	13 59 55.0	-1.0
	baz=262						
AAK	**Ala-Archa**	**2.97**	**318**	⇑*i*S	Sg	14 00 39.5	-0.2
	baz=318						
AML	**Almayashu**	**3.12**	**303**	⇑*i*S	Sg	14 00 42.8	-2.3
	baz=303						
CHMS	**Chumysh**	**3.13**	**325**	⇑*i*S	Sg	14 00 44.2	-0.2
	baz=325						
EKS2	**Erkin-Say**	**3.38**	**312**	⇑*i*P	Pb	14 00 01.2	-3.4
	baz=312						
EKS2				⇑*i*S	Sg	14 00 51.6	-1.2
	baz=312						
USP	**Ospenovka**	**3.45**	**325**	⇑*i*S	Sg	14 00 53.9	-1.0
	baz=325						

*NNC **28** 13:59:08.1±1.0,40°.46N×76°.96E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=11.2km s-min=8.5km az=50.0*

ISC 28 13:59:33.3±1.6,42°.0N±0°.1×75°.84E±0°.05,h10km,n22, σ0§92/19,12C-1D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.37**	**53**	P	**Pg**	**13 59 40.3**	**-0.5**
	SNR=43						
ULHL	**Ulahol**	**0.37**	**53**	⇑*i*P	**Pg**	**13 59 39.8**	**-1.0**
	baz=338						
KZA	**Kyzart**	**0.45**	**278**	P	**Pb**	**13 59 44.1**	**+0.6**
	SNR=96						
KZA	**Kyzart**	**0.45**	**278**	⇑*i*P	**Pb**	**13 59 44.2**	**+0.7**
	baz=318						
KBK	**Karagaybulak**	**0.92**	**314**	P	**Pn**	**13 59 52.8**	**+0.3**
	SNR=36						
KBK	**Karagaybulak**	**0.92**	**314**	⇑*i*P	**Pn**	**13 59 52.8**	**+0.3**
	baz=323						
TKM2	**Tokmak 2**	**0.92**	**349**	⇑Pn	**Pn**	**13 59 52.4**	**-0.1**
	5.4nm,0.5s						
TKM2	**Tokmak 2**	**0.92**	**349**	P	**Pn**	**13 59 52.8**	**+0.3**
	SNR=16						
TKM2	**Tokmak 2**	**0.92**	**349**	⇑*i*P	**Pb**	**13 59 51.9**	**+0.5**
	baz=334						
UCH	**Uchtor**	**1.01**	**282**	P	**Pg**	**13 59 51.3**	**-1.5**
	SNR=18						
UCH	**Uchtor**	**1.01**	**282**	⇑*i*P	**Pg**	**13 59 51.1**	**-1.7**
	baz=312						
AAK	**Ala-Archa**	**1.17**	**302**	Pn	**Pb**	**13 59 55.3**	**-0.4**
	15nm,0.6s						
AAK	**Ala-Archa**	**1.17**	**302**	P	**Pb**	**13 59 55.4**	**-0.4**
	SNR=18						
AAK	**Ala-Archa**	**1.17**	**302**	⇑*i*P	**Pb**	**13 59 55.5**	**-0.2**
	baz=318						
CHMS	**Chumysh**	**1.27**	**321**	P	**Pg**	**13 59 57.6**	**0.0**
	SNR=23						
CHMS	**Chumysh**	**1.27**	**321**	⇑*i*P	**Pg**	**13 59 57.6**	**0.0**
	baz=325						
USP	**Ospenovka**	**1.59**	**322**	P	**Pb**	**14 00 02.2**	**-0.6**
	SNR=5.4						
USP	**Ospenovka**	**1.59**	**322**	⇑*i*P	**Pn**	**14 00 01.9**	**+0.3**
	baz=325						
AML	**Almayashu**	**1.60**	**275**	P	Pn	13 59 57.0	-5.0
	SNR=6.8						
AML	**Almayashu**	**1.60**	**275**	⇑*i*P	Pn	13 59 56.8	-5.2
	baz=303						
KK31	**Karatay Array**	**4.08**	**287**	⇑Pg	**Pb**	**14 00 47.5**	**+2.3**
	1.5nm,0.7s,baz=127,slow=16,SNR=13						
KK31				⇓Lg	Lg	14 02 03.3	
	2.0nm,0.6s,baz=115,slow=26,SNR=5.2						
MK31	**Makanchi Array**	**6.64**	**42**	⇑Lg	Lg	14 03 04.3	
	2.6nm,0.9s						

*NIED **28** 14:14:00,44°.90N×147°.40E,h140km,Mw4.0 Best double couple: M0 1.22000×10^15 NP1:φ§138.00000°, δ45.00000°,λ,12.00000°. NP2:φ§39.00000°,δ§2.00000°, λ,134.00000°.*

*MOS **28** 14:14:30.8±1.0,45°.13N×147°.33E,h153km,mb3.8/5,Error ellipse: s-maj=20.4km s-min=10.0km az=60.0*

*ISCJB **28** 14:14:30.4±0.4,45°.02N±0°.04×147°.42E±0°.06, h151km±4km,mb3.5/10,Error ellipse: s-maj=8.2km s-min=5.3km az=142.3*

*SKHL **28** 14:14:31.7±0.7,45°.04N×147°.36E,h142km±7km,mb4.7/4, msh5.3/3*

*JMA **28** 14:14:32.7±0.7,44°.88N×147°.42E,h142km,M3.9*

*IDC **28** 14:14:32.7±2.0,45°.16N×147°.17E,h159km±20km, mb3.3/10,mb1 3.5/16,mb1mx3.3/43,mbtmp3.8/16,Error ellipse: s-maj=21.7km s-min=12.0km az=125.0*

ISC 28 14:14:31.3±0.7,45°.02N±0°.05×147°.42E±0°.05,h148km±6km, n53,σ1§02/60,mb3.6/10,2C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.38**	**56**	⇑*i*PN	**Pn**	**14 14 52.2**	**+0.4**
KUR				*e*S	**Sn**	**14 15 07.5**	**+0.1**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,90nm,0.6s						
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax	smax		
	comp=N,480nm,0.8s						
KUR				smax	smax		
	comp=E,940nm,1.0s						
KUR	**Kuril'sk**	**0.38**	**56**	*e*P	**Pn**	**14 14 52.2**	**+0.4**
KUR				AMB	AMB	14 14 53.0	
	comp=E,80nm,0.6s						
KUR				AMB	AMB	14 14 53.0	
	comp=E,90nm,0.6s						
KUR				AMB	AMB	14 14 53.0	
	comp=E,230nm,0.6s						
KUR				*e*S	**Sn**	**14 15 07.5**	**+0.1**
KUR				A	A	14 15 08.2	
	comp=E,480nm,0.9s						
KUR				A	A	14 15 08.2	
	comp=E,940nm,0.9s						
SHO	**Shikotan**	**1.23**	**200**	*e*P	**Pn**	**14 14 57.7**	**-0.2**
SHO				AMB	AMB	14 14 58.5	
	comp=E,655nm,0.7s						
SHO				*e*S	**Sn**	**14 15 16.7**	**-1.5**
SHO				A	A	14 15 19.6	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.49**	**229**	*c i*PN	**Pn**	**14 15 01.2**	**+0.7**
YUK				*i* S	**Sn**	**14 15 23.8**	**+1.0**
YUK				pmax	pmax		
	comp=N,128nm,0.2s						
YUK				pmax	pmax		
	comp=E,139nm,0.2s						
YUK				pmax	pmax		
	comp=Z,410nm,0.2s						
YUK				smax	smax		
	comp=N,415nm,0.7s						
YUK				smax	smax		
	comp=E,1μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.49**	**229**	*e*P	**Pn**	**14 15 01.2**	**+0.7**
YUK				AMB	AMB	14 15 03.6	
	comp=E,140nm,0.1s						
YUK				AMB	AMB	14 15 03.6	
	comp=E,410nm,0.1s						
YUK				*e*S	**Sn**	**14 15 23.8**	**+1.0**
YUK				A	A	14 15 27.6	
	comp=E,415nm,0.7s						
YUK				A	A	14 15 27.6	
	comp=E,1μm,0.7s						
JRA	**Rausu**	**1.97**	**237**	P	**Pn**	**14 15 06.0**	**+0.1**
NEM2	**Nemuro 2**	**2.05**	**217**	P	**Pn**	**14 15 06.5**	**-0.3**
NEM2				*e*S	**Sn**	**14 15 32.3**	**-1.8**
JNK	**Nakash**	**2.41**	**234**	P	**Pn**	**14 15 11.8**	**+0.6**
JTKR	**Abashiri--Toko**	**2.72**	**249**	P	**Pn**	**14 15 15.5**	**+0.5**
JTKR				*e*S	**Sn**	**14 15 49.5**	**+0.8**
JAK	**Akkeshi**	**2.82**	**225**	P	**Pn**	**14 15 16.4**	**+0.1**
JAK				*e*S	**Sn**	**14 15 49.6**	**-1.4**
JAR	**Ashorobuto**	**3.14**	**238**	P	**Pn**	**14 15 21.8**	**+1.4**
JSE	**Soyaes**	**3.43**	**271**	P	**Pn**	**14 15 24.6**	**+0.6**
JKK2	**Kamakawa 2**	**3.54**	**253**	P	**Pn**	**14 15 26.4**	**+1.0**
JKK2				*e*S	**Sn**	**14 16 08.7**	**+1.3**
JKA	**Kamikawa-asahi**	**3.56**	**257**	*e*P	**Pn**	**14 15 27.0**	**+1.3**
ASAJ	**Asahikawa**	**3.56**	**257**	P	**Pn**	**14 15 27.0**	**+1.2**
	comp=E,4.7nm,0.3s,baz=111,slow=6.3,SNR=62						
YSS	**Yuzh-Sakhalins**	**3.78**	**302**	⇓*e*PN	**Pn**	**14 15 28.1**	**-0.4**
YSS				*i* S	**Sn**	**14 16 12.2**	**-0.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,1.0s						
YSS				smax	smax		
	comp=E,40nm,1.1s						
YSS	**Yuzh-Sakhalins**	**3.78**	**302**	*e*P	**Pn**	**14 15 28.1**	**-0.4**
YSS				AMB	AMB	14 15 29.2	
	comp=E,30nm,0.7s						
YSS				*e*S	**Sn**	**14 16 12.2**	**-0.8**
YSS				A	A	14 16 13.5	
	comp=E,20nm,1.0s						
YSS				A	A	14 16 13.5	
	comp=E,40nm,1.0s						
JCH	**Churui**	**3.80**	**232**	P	**Pn**	**14 15 29.0**	**+0.2**
JCH				*e*S	**Sn**	**14 16 12.4**	**-1.0**
JWK2	**Keihoku**	**3.92**	**276**	P	**Pn**	**14 15 32.0**	**+1.7**
JWK2				*e*S	**Sn**	**14 16 16.1**	**0.0**
ERM	**Erimo**	**4.32**	**227**	*d i*PN	**Pn**	**14 15 36.4**	**+0.8**
ERM	**Erimo**	**4.32**	**227**	*e*P	**Pn**	**14 15 36.4**	**+0.8**
JNBK	**Urakawa-nobuka**	**4.36**	**233**	P	**Pn**	**14 15 35.6**	**-0.5**
JEW	**Eniwo**	**4.83**	**245**	P	**Pn**	**14 15 44.2**	**+1.8**
JKB	**Kayabe**	**5.61**	**238**	P	**Pn**	**14 15 52.0**	**-0.7**
JANG	**Nango**	**6.36**	**225**	P	**Pn**	**14 16 00.1**	**-2.7**
JOSM	**Okushiri--Mats**	**6.48**	**246**	P	**Pn**	**14 16 04.2**	**-0.1**
SKR	**Severo-Kuril's**	**8.14**	**43**	*e*PN	**Pn**	**14 16 26.2**	**-0.2**
SKR	**Severo-Kuril's**	**8.14**	**43**	*e*P	**Pn**	**14 16 26.2**	**-0.2**
PETK	**Petropavlovsk-**	**10.52**	**36**	PN	**Pn**	**14 16 58.7**	**+0.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.52**	**36**	P	**Pn**	**14 16 58.7**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=184,slow=13,SNR=33						
PET	**Petropavlovsk**	**10.88**	**39**	*e*P	**Pn**	**14 17 02.6**	**-0.1**
MJAR	**Matsushiro Arr**	**10.97**	**223**	P	**Pn**	**14 17 03.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=21,slow=10,SNR=3.7						
USRK	**Ussuriysk Arra**	**11.04**	**271**	P	**Pn**	**14 17 03.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=111,slow=10,SNR=5.0						
KSRS	**Korea Array**	**16.48**	**249**	P	**Pn**	**14 18 13.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=50,slow=10,SNR=4.2						
SEY	**Seymchan**	**18.17**	**7**	P	**P**	**14 18 31.7**	**-0.5**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**18.17**	**7**	P	**P**	**14 18 31.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=11,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**29.95**	**141**	T	T	14 51 50.8	
	baz=335,slow=76,SNR=49						
H11N1	**WAKE ISLAND Hy**	**29.97**	**141**	T	T	14 51 49.7	
	baz=335,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**29.97**	**141**	T	T	14 51 47.7	
	baz=335,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**30.94**	**142**	T	T	14 53 04.0	
	baz=333,slow=78,SNR=96						
H11S3	**WAKE ISLAND Hy**	**30.95**	**142**	T	T	14 53 00.6	
	baz=333,slow=78,SNR=66						
H11S2	**WAKE ISLAND Hy**	**30.96**	**142**	T	T	14 52 59.2	
	baz=333,slow=78,SNR=48						
ILAR	**Eielson Array**	**40.35**	**37**	P	**P**	**14 21 53.6**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=275,slow=9.5,SNR=17						
MKAR	**Makanchi Array**	**44.18**	**297**	P	**P**	**14 22 24.7**	**-0.5**
MKAR	**Makanchi Array**	**44.18**	**297**	P	**P**	**14 22 24.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=76,slow=12,SNR=3.3						
INK	**Inuvik**	**45.21**	**31**	P	**P**	**14 22 32.5**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=299,slow=9.5,SNR=13						
YKA	**Yellowknife Ar**	**54.64**	**34**	P	**P**	**14 23 45.0**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=303,slow=7.2,SNR=15						
FINES	**FINESS Array B**	**63.83**	**333**	P	**P**	**14 24 44.6**	**-2.7**
	comp=Z,1.0nm,0.7s,baz=328,slow=6.8,SNR=5.5						
WRA	**Warramunga Arr**	**65.74**	**194**	P	**P**	**14 25 00.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=8.9,slow=6.8,SNR=6.8						
PDAR	**Pinedale Array**	**68.94**	**50**	P	**P**	**14 25 21.8**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.4,SNR=3.6						
DZM	**Mont Dzumac**	**68.99**	**161**	P	**P**	**14 25 22.0**	**+1.3**
	comp=Z,6.8nm,1.1s,baz=330,slow=6.2,SNR=3.3						
ASAR	**Alice Springs**	**69.46**	**193**	P	**P**	**14 25 25.0**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=6.2,slow=6.8,SNR=4.4						
TXAR	**Lajitas Array**	**81.78**	**57**	P	**P**	**14 26 34.8**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=297,slow=6.0,SNR=2.7						

*IDC **28** 14:33:54.7±1.4,13°.70N×125°.49E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.4/38,mbtmp3.5/5,Error ellipse: s-maj=61.6km s-min=19.8km az=64.0*

*MAN **28** 14:34:03,13°.42N×124°.61E,h74km,mb4.8,ML3.8,MS3.8*

ISC 28 14:34:00.3±1.2,13°.51N±0°.09×125°.09E±0°.10,h33km,n9, σ1§52/10,mb3.4/5,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.91**	**276**	*e*P	**Pb**	**14 34 19.4**	**+1.8**
PVCP				*e*S	**Sb**	**14 34 29.4**	**-0.2**
CNP	**Catarman**	**1.07**	**203**	*e*P	**Pb**	**14 34 22.2**	**+1.8**
RCP	**Roxas**	**3.00**	**230**	*e*P	**Pb**	**14 34 52.4**	**-0.5**
OTRP	**Odiongan**	**3.20**	**250**	*e*P	**Pn**	**14 34 46.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**25.60**	**285**	P	**P**	**14 39 28.9**	**+2.1**
	0.8nm,0.8s,baz=95,slow=7.8,SNR=7.2						
WRA	**Warramunga Arr**	**34.46**	**164**	P	**P**	**14 40 45.4**	**+0.2**
	0.7nm,1.0s,baz=345,slow=9.0,SNR=3.5						
SONM	**Songino Array**	**37.60**	**339**	P	**P**	**14 41 10.4**	**-1.6**
	0.3nm,0.6s,baz=141,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**37.94**	**167**	P	**P**	**14 41 14.6**	**-0.4**
	0.2nm,0.5s,baz=348,slow=7.2,SNR=9.6						
MKAR	**Makanchi Array**	**48.77**	**322**	P	**P**	**14 42 42.5**	**+0.3**
	0.5nm,0.6s,baz=104,slow=8.6,SNR=7.7						

*ISCJB **28** 14:37:31.0±0.7,1°.37N±0°.08×97°.15E±0°.07,h28km, mb3.9/9,MS3.7/1,Error ellipse: s-maj=12.1km s-min=8.8km az=36.2*

*DJA **28** 14:37:34.9±0.7,2°.N±6°×9°.7E±°,h10km,M3.9/4,mb4.2/2, mB5.0/1,MLv3.8/4,Mw(mB)4.4/1*

*IDC **28** 14:37:39.8±3.7,1°.66N×97°.68E,h81km±28km,mb3.6/9, mb1 3.7/10,mb1mx3.5/39,mbtmp3.9/10,MS3.6/2, Ms1 3.7/2,ms1mx2.9/33,Error ellipse: s-maj=39.0km s-min=18.6km az=54.0*

ISC 28 14:37:33.3±0.9,1°.57N±0°.08×97°.24E±0°.08,h28km,n33, σ1§38/29,mb4.2/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.24**	**312**	P	**Pn**	**14 37 54.0**	**-0.8**
TPTI		**1.68**	**358**	P	**Pn**	**14 38 00.9**	**0.0**
TPTI				S	Sn	14 38 11.6	-10
KCSI	**Kotacane, Aceh**	**2.01**	**15**	P	**Pb**	**14 38 07.9**	**-1.4**
KCSI				S	**Sb**	**14 38 35.4**	**+1.4**
PSI	**Prapat**	**2.08**	**54**	P	**Pn**	**14 38 06.6**	**+0.1**
	4.2nm,0.3s,baz=222,slow=4.4,SNR=24						
TSI	**Tuntungan**	**2.33**	**34**	P	**Pb**	**14 38 14.1**	**-0.6**
MNSI	**Mandailing Nat**	**2.46**	**108**	P	**Pn**	**14 38 12.8**	**+1.2**
KULM	**Kulim**	**5.03**	**43**	P	x	14 38 49.8	
	29nm,1.1s						
MDSI	**Maura Dua**	**9.17**	**131**	P	Pn	14 39 49.1	+5.2
CMAR	**Chiang Mai Arr**	**16.87**	**6**	P	**Pn**	**14 41

NIED ***28*** *15:07:00,28.70N×141.90E,h50km,Mw4.1 Best double couple: Mo1.85000×10^15 NP1:φ=257.00000°,δ47.00000°, λ-153.00000°. NP2:φ=149.00000°,δ71.00000°, λ-46.00000°.*

BJI ***28*** *15:07:17.5,28.52N×141.90E,h61km,mB4.9/21,mb4.6/36, Ms4.5/10,Ms7 4.2/12*

MOS ***28*** *15:07:18.2±1.0,28.60N×141.66E,h46km,mb4.7/24,Error ellipse: s-maj=12.0km s-min=5.8km az=111.5*

ISCJB ***28*** *15:07:19.7±0.4,28.64N±0.02×141.67E±0.04,h58km±4km, mb4.5/65,MS3.9/6,Error ellipse: s-maj=6.5km s-min=3.7km az=169.4*

JMA ***28*** *15:07:20.1,28.65N×141.90E,h46km,M4.8*

IDC ***28*** *15:07:20.9±1.0,28.55N×141.58E,h52km±10km,mb4.1/24, mb1 4.2/29,mb1mx4.2/43,mbtmp4.3/29,MS3.5/6, Ms1 3.5/6,ms1mx3.1/38,Error ellipse: s-maj=13.7km s-min=7.1km az=69.0*

NEIC ***28*** *15:07:21.4±0.7,28.60N×141.66E,h58km±6km,mb4.6/26, MW4.1(NIED),Error ellipse: s-maj=6.6km s-min=5.4km az=116.0*

ISC 28 15:07:21.2±0.5,28.60N±0.04×141.70E±0.05,h58km±3km, h57km:pP-P,n184,σ1s28/226,mb4.5/65,MS4.0/6,2C-3D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.56**	**164**	P	**Pn**	**15 07 46.2**	**-0.4**
CBIJ				S	**Sn**	**15 08 05.1**	**-0.6**
CBIJ	**Chichi jima**	**1.56**	**164**	*e*Pn	**Pn**	**15 07 46.0**	**-0.6**
CBIJ				*e*Sn	**Sn**	**15 08 03.1**	**-2.7**
CBIJ				S	**Sn**	**15 08 04.8**	**-0.9**
JCJ	**Chichijima**	**1.56**	**164**	P	**Pn**	**15 07 46.7**	**+0.1**
	253nm,0.3s,baz=292,slow=23,SNR=220						
JCJ				S	**Sn**	**15 08 04.8**	**-0.9**
	1μm,0.3s,baz=300,slow=20,SNR=18						
JCJ				LR	LR	15 08 30.2	
	comp=Z,211nm,19.0s,baz=35,slow=45						
JHHJ	**Haha-jima-NKT**	**2.00**	**168**	P	**Pn**	**15 07 52.8**	**+0.1**
JHHJ				S	**Sn**	**15 08 17.2**	**+0.5**
JHJ2	**Mitsune**	**4.78**	**341**	P	**Pn**	**15 08 31.3**	**+0.6**
JHJ2	**Mitsune**	**4.78**	**341**	*e*Pn	**Pn**	**15 08 30.8**	**+0.1**
JHJ2				*e*Sn	**Sn**	**15 09 23.0**	**-1.8**
BSO1	**Boso 1**	**6.07**	**354**	P	**Pn**	**15 08 49.1**	**+1.3**
BSO1				S	**Sn**	**15 09 53.0**	**-2.6**
BSO3	**Boso 3**	**6.27**	**351**	P	**Pn**	**15 08 51.5**	**+0.7**
BSO4	**Boso 4**	**6.48**	**350**	P	**Pn**	**15 08 54.9**	**+1.1**
BSO4				S	**Sn**	**15 10 07.6**	**+1.3**
JOD2	**Odawara 2**	**7.01**	**342**	P	**Pn**	**15 09 02.0**	**+0.8**
JWZ	**Kozaga**	**7.11**	**315**	P	**Pn**	**15 09 05.0**	**+2.4**
JIE	**Ise**	**7.18**	**325**	P	Pn	15 09 06.8	+3.3
JRY	**Ryogami san**	**7.77**	**343**	P	**Pn**	**15 09 12.7**	**+1.1**
JHO	**Hitachi**	**8.05**	**353**	P	**Pn**	**15 09 13.7**	**-1.7**
MJAR	**Matsushiro Arr**	**8.45**	**341**	P	**Pn**	**15 09 20.8**	**-0.2**
MJAR				S	**Sn**	**15 10 53.3**	**-1.7**
MJAR	**Matsushiro Arr**	**8.45**	**341**	P	**Pn**	**15 09 20.7**	**-0.2**
	4.1nm,0.3s,baz=162,slow=12,SNR=28						
MJAR				S	**Sn**	**15 10 53.3**	**-1.7**
	1.4nm,0.3s,baz=131,slow=18,SNR=4.6						
MAJO	**Matsushiro**	**8.45**	**340**	*e*P	**Pn**	**15 09 21.3**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,16nm,0.3s						
MAJO	**Matsushiro**	**8.45**	**340**	*e*Pn	**Pn**	**15 09 21.3**	**+0.3**
	comp=Z,16nm,0.3s						
MAT	**Matsushiro**	**8.45**	**340**	P	**Pn**	**15 09 21.5**	**+0.5**
MAT				S	**Sn**	**15 10 53.3**	**-1.6**
JTO	**Tosashimizu**	**8.76**	**301**	P	Pn	15 09 28.8	+3.6
JMZ	**Minamidaito 2**	**9.73**	**256**	P	Pn	15 09 42.3	+3.8
JNU	**Nakatsue**	**10.34**	**299**	Pn	**Pn**	**15 09 46.4**	**-0.4**
	comp=Z,29nm,1.5s						
JNU	**Nakatsue**	**10.34**	**299**	P	**Pn**	**15 09 47.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=129,slow=13,SNR=2.2						
JNU				LR	LR	15 13 00.0	
	comp=Z,160nm,21.9s,baz=116,slow=33						
ERM	**Erimo**	**13.44**	**5**	*e*P	**Pn**	**15 10 26.0**	**-3.0**
KSRS	**Korea Array**	**14.53**	**311**	P	**Pn**	**15 10 44.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=115,slow=11,SNR=2.9						
KSRS				LR	LR	15 15 45.7	
	comp=Z,110nm,21.0s,baz=147,slow=35						
KSAR	**Wonju Array Be**	**14.55**	**311**	P	**Pn**	**15 10 44.7**	**+0.8**
INCN	**Inchon**	**15.42**	**309**	Pn	**Pn**	**15 10 55.9**	**+0.8**
ASAJ	**Asahikawa**	**15.51**	**2**	P	**Pn**	**15 10 55.4**	**-0.8**
ASAJ	**Asahikawa**	**15.51**	**2**	P	**Pn**	**15 10 55.4**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=188,slow=27,SNR=13						
ASAJ				LR	LR	15 18 11.7	
	comp=Z,61nm,19.5s,baz=1.0,slow=42						
YUK	**Yuzh-Kuril'sk**	**15.76**	**11**	*e*P	Pn	15 10 51.6	-7.8
VLA	**Vladivostok**	**16.51**	**334**	||| *e*P	**Pn**	**15 11 06.5**	**-2.4**
VLA				*e*S	**Sn**	**15 14 05.1**	**-6.2**
VLA				pmax	pmax		
	comp=Z,53nm,1.5s						
USRK	**Ussuriysk Arra**	**17.40**	**336**	P	**Pn**	**15 11 18.8**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=146,slow=11,SNR=9.7						
YSS	**Yuzh-Sakhalins**	**18.34**	**2**	||| *e*P	Pn	15 11 37.0	+5.6
TATO	**Taipei**	**18.40**	**263**	*e*P	**Pn**	**15 11 33.4**	**+1.2**
	comp=Z,161nm,1.1s						
NACB	**Ninganchiao**	**18.54**	**261**	*e*P	**Pn**	**15 11 33.9**	**-0.1**
	comp=Z,58nm,1.1s						
YHNB	**Yeheng**	**18.58**	**263**	*e*Pn	**Pn**	**15 11 35.7**	**+1.1**
	comp=Z,45nm,0.6s						
MDJ	**Mudanjiang**	**18.68**	**332**	P	**Pn**	**15 11 35.3**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.4s						
MDJ	**Mudanjiang**	**18.68**	**332**	*e*P	**P**	**15 11 33.8**	**-0.8**
	comp=Z,5.8nm,0.6s						
YULB	**Yu-li**	**19.05**	**259**	*e*Pn	**Pn**	**15 11 40.5**	**+0.3**
	comp=Z,85nm,1.4s						
SSLB	**Suanglung**	**19.22**	**260**	*e*P	**Pn**	**15 11 42.5**	**+0.4**
	comp=Z,42nm,0.7s						
TPUB	**Ta-pu**	**19.66**	**259**	P	**P**	**15 11 43.3**	**-2.2**
	comp=Z,32nm,0.9s						
NJ2	**Nanjing**	**20.01**	**286**	*e*P	**P**	**15 11 49.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
KLR	**Kul'dur**	**21.97**	**342**	*e*P	**P**	**15 12 05.8**	**-4.3**
WHN	**Wuhan**	**23.85**	**281**	P	**P**	**15 12 29.3**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**24.58**	**105**	T	T	15 38 13.5	
	baz=299,slow=76,SNR=181						
H11N1	**WAKE ISLAND Hy**	**24.59**	**105**	T	T	15 38 09.7	
	baz=299,slow=76,SNR=124						
H11N3	**WAKE ISLAND Hy**	**24.60**	**105**	T	T	15 38 13.7	
	baz=299,slow=76,SNR=127						
H11S3	**WAKE ISLAND Hy**	**24.97**	**108**	T	T	15 38 24.4	
	baz=300,slow=73,SNR=15						
H11S1	**WAKE ISLAND Hy**	**24.97**	**108**	T	T	15 38 43.1	
	baz=300,slow=73,SNR=12						
H11S2	**WAKE ISLAND Hy**	**24.99**	**108**	T	T	15 38 27.7	
	baz=300,slow=73,SNR=7.9						
HIA	**Hailar**	**26.62**	**327**	P	**P**	**15 12 53.9**	**-0.3**
	comp=Z,5.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**27.48**	**304**	*e*P	**P**	**15 13 02.8**	**+0.7**
HHC				pP	**pP**	**15 13 17.0**	**+0.6**
HHC				S	**S**	**15 17 41.8**	**+2.9**
HHC				ScP	**ScP**	**15 19 55.0**	**+0.1**
HHC				ScS	**ScS**	**15 23 45.0**	**-1.7**
HHC				pmax	pmax		
	comp=Z,34nm,1.3s						
HHC				pmax	pmax		
	comp=Z,170nm,7.5s						
HHC				LR	LR		
	comp=Z,330nm,14.9s						
HHC				LR	LR		
	comp=Z,420nm,14.9s						
HHC				LR	LR		
	comp=Z,270nm,13.7s						
ENH	**Enshi**	**28.06**	**281**	*e*P	P	15 13 04.1	-3.2
	comp=Z,7.2nm,0.5s						
QIZ	**Qiongzhong**	**30.58**	**259**	P	**P**	**15 13 30.0**	**+0.3**
QIZ				pP	**pP**	**15 13 43.0**	**-1.1**
QIZ				sP	**sP**	**15 13 48.8**	**-2.1**
QIZ				S	**S**	**15 18 28.8**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,5.0nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,93nm,4.0s						
QIZ				LR	LR		
	comp=Z,120nm,5.1s						
GYA	**Guiyang**	**31.08**	**274**	*e*P	**P**	**15 13 35.0**	**+0.8**
GYA				pP	**pP**	**15 13 49.8**	**+1.2**
GYA				sP	**sP**	**15 13 57.5**	**+2.1**
GYA				PP	**PnPn**	**15 14 37.8**	**+0.4**
GYA				S	**S**	**15 18 33.3**	**-2.4**
GYA				sS	**sS**	**15 19 01.0**	**+0.9**
GYA				ScP	**ScP**	**15 20 05.5**	**-1.2**
GYA				ScS	**ScS**	**15 24 01.5**	**-2.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**32.69**	**293**	*e*P	**P**	**15 13 49.5**	**+1.2**
LZH				pP	**pP**	**15 14 03.5**	**+0.8**
LZH				sP	**sP**	**15 14 11.5**	**+2.0**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=Z,240nm,5.6s						
LZH				LR	LR		
	comp=Z,340nm,4.6s						
LZH				LR	LR		
	comp=Z,320nm,5.5s						
CD2	**Chengdu**	**32.92**	**283**	*e*P	**P**	**15 13 49.5**	**-0.7**
CD2				sP	**sP**	**15 14 11.0**	**-0.4**
CD2				PP	**PnPn**	**15 15 01.0**	**+0.2**
CD2				S	**S**	**15 19 01.3**	**-2.9**
CD2				SS	**SnSn**	**15 21 03.3**	**-2.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,100nm,6.0s						
CD2				LR	LR		
	comp=Z,170nm,10.7s						
CD2				LR	LR		
	comp=Z,130nm,15.5s						
KKM	**Kota Kinabalu**	**32.94**	**232**	*e*P	**P**	**15 13 51.9**	**+1.3**
	comp=Z,36nm,1.2s						
ULN	**Ulaanbaatar**	**32.95**	**315**	*e*P	**P**	**15 13 49.6**	**-0.8**
SONM	**Songino Array**	**33.35**	**315**	P	**P**	**15 13 52.6**	**-1.3**
SONM				PcP	**PcP**	**15 16 36.0**	**+1.5**
SONM				ScP	**ScP**	**15 20 13.8**	**-0.3**
SONM	**Songino Array**	**33.35**	**315**	P	**P**	**15 13 52.6**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=126,slow=8.7,SNR=9.8						
SONM				PcP	**PcP**	**15 16 36.0**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=132,slow=2.1,SNR=4.7						
SONM				ScP	**ScP**	**15 20 13.8**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=125,slow=2.9,SNR=5.9						
KMI	**Kunming**	**34.83**	**274**	P	**P**	**15 14 08.0**	**+0.9**
KMI				PP	**PP**	**15 15 26.3**	**-0.5**
KMI				S	**S**	**15 19 31.8**	**-2.3**
KMI				SS	**SnSn**	**15 21 52.0**	**-0.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SEY	**Seymchan**	**35.04**	**8**	P	**P**	**15 14 09.3**	**+1.1**
SEY	**Seymchan**	**35.04**	**8**	P	**P**	**15 14 09.3**	**+1.1**
SEY	**Seymchan**	**35.04**	**8**	P	**P**	**15 14 09.3**	**+1.1**
	comp=Z,5.6nm,0.6s,baz=197,slow=8.3,SNR=36						
GTA	**Gaotai**	**36.08**	**299**	*e*P	**P**	**15 14 16.0**	**-1.5**
GTA				pP	**pP**	**15 14 31.0**	**-1.1**
GTA				sP	**sP**	**15 14 38.3**	**-0.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAK	**Zakamensk**	**36.21**	**318**	*e*P	**P**	**15 14 19.3**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CHTO	**Chiang Mai**	**40.16**	**266**	*e*P	**P**	**15 14 51.6**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**40.16**	**266**	*e*P	**P**	**15 14 51.6**	**-0.4**
	comp=Z,2.7nm,0.8s						
CM31	**Chiang Mai Arr**	**40.30**	**265**	*e*P	**P**	**15 14 53.1**	**0.0**
	comp=Z,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.30**	**265**	P	**P**	**15 14 52.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.30**	**265**	P	**P**	**15 14 52.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=61,slow=7.5,SNR=16						
CMAR				LR	LR	15 32 41.1	
	comp=Z,37nm,19.7s,baz=66,slow=38						
BILL	**Bilibino**	**42.10**	**13**	||| *e*P	**P**	**15 15 06.9**	**-0.3**
BILL				*e**PP	**pP**	**15 15 21.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**42.10**	**13**	*e*P	**P**	**15 15 07.5**	**+0.3**
	comp=Z,3.5nm,0.8s						
TIXI	**Tiksi**	**43.68**	**354**	*e*P	**P**	**15 15 19.5**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KULM	**Kulim**	**45.25**	**247**	P	**P**	**15 15 33.4**	**+0.2**
	comp=Z,13nm,1.0s						
WMQ	**Urumqi**	**45.36**	**305**	P	**P**	**15 15 34.5**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TAPN	**Taplejung**	**47.36**	**282**	*e*P	**P**	**15 15 49.3**	**-0.7**
	comp=Z,5.2nm,0.4s						
ODAN	**Odare**	**47.76**	**281**	*e*P	**P**	**15 15 52.3**	**-0.8**
	comp=Z,7.9nm,0.4s						
ZALV	**Zalesovo Beam**	**48.08**	**318**	P	**P**	**15 15 54.2**	**-0.7**
ZALV						15 17 22.2	
ZALV	**Zalesovo Beam**	**48.08**	**318**	P	**P**	**15 15 54.1**	**-0.7**
ZALV				PcP	**PcP**	**15 17 22.2**	**+0.4**
ZALV				ScP	**ScP**	**15 21 10.8**	**-0.6**
ZALV	**Zalesovo Beam**	**48.08**	**318**	P	**P**	**15 15 54.1**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=97,slow=8.5,SNR=14						
ZALV				PcP	**PcP**	**15 17 22.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=95,slow=3.5,SNR=3.6						
ZALV				ScP	**ScP**	**15 21 10.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=104,slow=3.8,SNR=3.7						
PSI	**Prapat**	**48.10**	**246**	P	**P**	**15 15 56.0**	**+0.3**
PSI	**Prapat**	**48.10**	**246**	P	**P**	**15 15 56.0**	**+0.3**
	comp=Z,9.1nm,0.7s,baz=44,slow=4.0,SNR=7.1						
RAMN	**Ramite**	**48.41**	**282**	*e*P	**P**	**15 15 56.6**	**-1.5**
	comp=Z,9.0nm,0.5s						
JIRN	**Jiri**	**48.58**	**283**	*e*P	**P**	**15 15 59.1**	**-0.5**
	comp=Z,13nm,0.4s						
WRAB	**Tennant Creek**	**48.77**	**189**	*e*P	P	15 16 04.6	+4.2
WRAB				pmax	pmax		
	comp=Z,128nm,2.5s						
WRA	**Warramunga Arr**	**48.78**	**189**	P	**P**	**15 16 00.2**	**-0.3**
WRA	**Warramunga Arr**	**48.78**	**189**	P	**P**	**15 16 00.2**	**-0.3**
	comp=Z,6.4nm,0.5s,baz=8.2,slow=8.1,SNR=43						
GUN	**Gumba**	**48.78**	**283**	*e*P	**P**	**15 16 00.6**	**-0.5**
	comp=Z,17nm,0.6s						
NVS	**Novosibirsk**	**49.12**	**319**	*e*P	**P**	**15 16 01.0**	**-1.8**
NVS				*e*		15 16 22.3	
NVS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MKAR	**Makanchi Array**	**49.20**	**309**	P	**P**	**15 16 02.4**	**-1.2**
MKAR	**Makanchi Array**	**49.20**	**309**	P	**P**	**15 16 02.4**	**-1.2**
MKAR				ScP	**ScP**	**15 21 15.0**	**-1.4**
MKAR	**Makanchi Array**	**49.20**	**309**	P	**P**	**15 16 02.4**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=83,slow=9.2,SNR=29						
MKAR				ScP	**ScP**	**15 21 15.0**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=67,slow=5.7,SNR=10						
KKN	**Kakani**	**49.33**	**283**	*e*P	**P**	**15 16 04.4**	**-0.7**
DMN	**Daman**	**49.52**	**283**	*e*P	**P**	**15 16 05.7**	**-0.9**
	comp=Z,7.4nm,0.6s						
GKN	**Gorkha**	**49.82**	**284**	*e*P	**P**	**15 16 08.2**	**-0.6**
	comp=Z,3.8nm,0.3s						
DANN	**Dangsing**	**50.48**	**284**	*e*P	**P**	**15 16 13.5**	**-0.4**
	comp=Z,19nm,0.8s						
KOLN	**Koldanda**	**50.77**	**284**	*e*P	**P**	**15 16 15.3**	**-0.7**
	comp=Z,5.2nm,0.5s						
AS31	**Alice Springs**	**52.50**	**189**	*e*P	**P**	**15 16 28.3**	**-0.3**
ASAR	**Alice Springs**	**52.50**	**189**	P	**P**	**15 16 28.2**	**-0.3**
ASAR	**Alice Springs**	**52.50**	**189**	P	**P**	**15 16 28.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=11,slow=6.8,SNR=14						
TKM2	**Tokmak 2**	**54.22**	**304**	P	**P**	**15 16 40.4**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TKM2	**Tokmak 2**	**54.22**	**304**	*e*P	**P**	**15 16 40.2**	**-1.1**
	comp=Z,1.8nm,0.4s						
KSH	**Kashi**	**54.45**	**300**	*e*P	**P**	**15 16 45.3**	**+2.3**
KSH				*e*PP	**PP**	**15 18 49.5**	**+4.1**
KSH				*e*PcS	**PcS**	**15 21 45.5**	**-0.2**
KSH				*e*S	**S**	**15 24 17.8**	**+0.2**
KSH				*e*sS	**sS**	**15 24 45.5**	**+2.1**
KSH				*e*SS	**SS**	**15 28 01.5**	**+1.1**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,58nm,3.6s						
KSH				LR	LR		
	comp=Z,76nm,4.1s						
KSH				LR	LR		
	comp=Z,58nm,4.8s						
PMR	**Palmer**	**55.41**	**33**	P	**P**	**15 16 49.1**	**-0.2**
PMR				pmax	pmax		
	comp=Z,12nm,1.0s						
PMR	**Palmer**	**55.41**	**33**	P	**P**	**15 16 49.1**	**-0.2**
	comp=Z,12nm,1.0s						
MCK	**McKinley**	**55.64**	**30**	*e*P	**P**	**15 16 51.5**	**+0.4**
MCK				pmax	pmax		
	comp=Z,17nm,1.0s						
MCK	**McKinley**	**55.64**	**30**	*e*P	**P**	**15 16 51.5**	**+0.4**
	comp=Z,17nm,1.0s						
VOSK	**Vostochnaya**	**56.32**	**316**	P	**P**	**15 16 54.7**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**56.61**	**29**	P	**P**	**15 16 58.1**	**+0.3**
ILAR	**Eielson Array**	**56.61**	**29**	P	**P**	**15 16 58.1**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=260,slow=6.0,SNR=48						
BVA0	**Borovoye Array**	**56.66**	**317**	P	**P**	**15 16 57.4**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**56.66**	**317**	P	**P**	**15 16 58.2**	**-0.2**
BVAR	**Borovoye Array**	**56.66**	**317**	P	**P**	**15 16 58.2**	**-0.2**
BVAR	**Borovoye Array**	**56.66**	**317**	P	**P**	**15 16 58.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=98,slow=8.0,SNR=21						
BRVK	**Borovoye**	**56.72**	**317**	*e*P	**P**	**15 16 58.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KK31	**Karatay Array**	**57.87**	**305**	*e*P	**P**	**15 17 06.3**	**-0.8**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**57.87**	**305**	*e*P	**P**	**15 17 05.7**	**-1.5**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**57.87**	**305**	*e*P	**P**	**15 17 05.7**	**-1.5**
	comp=Z,2.5nm,0.4s						
STKA	**Stephens Creek**	**60.14**	**180**	P	**P**	**15 17 21.6**	**-1.2**
	comp=Z,2.3nm,1.5s						
STKA	**Stephens Creek**	**60.14**	**180**	P	**P**	**15 17 21.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=5.7,slow=10,SNR=2.4						
AFI	**Afiamalu**	**61.72**	**127**	LR	LR	15 38 05.5	
	comp=Z,330nm,19.8s,baz=280,slow=30						
SVE	**Sverdlovsk**	**61.78**	**322**	||| *i*P	**P**	**15 17 34.5**	**+0.8**
SVE				pmax	pmax		
	comp=Z,15nm,1.1s						
INK	**Inuvik**	**61.85**	**25**	*e*P	**P**	**15 17 34.6**	**+0.6**
	comp=Z,3.5nm,0.5s						
INK	**Inuvik**	**61.85**	**25**	P	**P**	**15 17 35.0**	**+1.1**
	comp=Z,2.9nm,0.4s,baz=280,slow=5.0,SNR=34						
ARU	**Arti**	**62.98**	**322**	*d*	*i*P	**P**	**15 17 42.0**	**+0.3**
ARU							15 19 57.3	
ARU				S	**S**	**15 26 10.0**	**+2.5**
ARU				SS	**SS**	**15 30 18.8**	**+5.6**
ARU				pmax	pmax		
	comp=Z,26nm,1.0s						
AB31	**Akbulak array**	**63.75**	**314**	*i*	P	**P**	**15 17 46.5**	**-0.4**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**63.75**	**314**	*e*P	**P**	**15 17 46.3**	**-0.6**
	comp=Z,2.2nm,0.4s						
AKTO	**Aktyubinsk**	**64.66**	**315**	P	**P**	**15 17 52.6**	**-0.3**
AKTO	**Aktyubinsk**	**64.66**	**315**	P	**P**	**15 17 52.6**	**-0.3**
AKTO	**Aktyubinsk**	**64.66**	**315**	P	**P**	**15 17 52.6**	**-0.3**
	comp=Z,6.6nm,0.7s,baz=92,slow=9.2,SNR=18						
RES	**Resolute Bay**	**70.71**	**14**	P	**P**	**15 18 30.4**	**-0.2**
	comp=Z,1.8nm,0.9s						
YKA	**Yellowknife Ar**	**71.03**	**28**	P	**P**	**15 18 33.1**	**+0.4**
YKA	**Yellowknife Ar**	**71.03**	**28**	P	**P**	**15 18 33.1**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=294,slow=6.1,SNR=34						
ARCES	**ARCESS Array B**	**71.99**	**341**	P	**P**	**15 18 39.2**	**+0.8**
ARCES	**ARCESS Array B**	**71.99**	**341**	P	**P**	**15 18 39.2**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=55,slow=7.8,SNR=8.0						
JOF	**Joensuu**	**73.55**	**333**	*e*P	**P**	**15 18 48.3**	**+0.6**
JOF	**Joensuu**	**73.55**	**333**	*e*p	**P**	**15 18 48.3**	**+0.6**
VRHR	**Novokhopersk**	**74.18**	**320**	*e*P	**P**	**15 18 50.8**	**-0.8**
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,6.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
URZ	**Urewera**	**74.30**	**152**	LR	LR	15 47 45.8	
	comp=E,33nm,21.6s,baz=350,slow=33						
OBN	**Obninsk**	**75.06**	**325**	P	**P**	**15 18 58.0**	**+1.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,65nm,10.0s						
VSR	**Storozhevoye**	**75.51**	**321**	*e*P	**P**	**15 18 58.9**	**-0.4**
VSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
VORD	**Divnogorie**	**75.56**	**320**	*e*P	**P**	**15 18 58.4**	**-1.2**
VORD				pmax	pmax		
	comp=N,8.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,8.0nm,0.6s						
KAF	**Kangasniemi**	**75.94**	**334**	*e*P	**P**	**15 19 02.1**	**+0.6**
KAF	**Kangasniemi**	**75.94**	**334**	*e*p	**P**	**15 19 02.1**	**+0.6**
FINES	**FINESS Array B**	**76.42**	**334**	P	**P**	**15 19 04.7**	**+0.5**
FINES	**FINESS Array B**	**76.42**	**334**	P	**P**	**15 19 04.7**	**+0.5**
	comp=E,4.6nm,0.4s,baz=73,slow=5.1,SNR=39						
KBZ	**Khabaz**	**76.68**	**313**	P	**P**	**15 19 06.8**	**+0.7**
KBZ	**Khabaz**	**76.68**	**313**	P	**P**	**15 19 06.8**	**+0.7**
KBZ	**Khabaz**	**76.68**	**313**	P	**P**	**15 19 06.8**	**+0.7**
	comp=E,7.3nm,1.0s,baz=93,slow=5.1,SNR=13						
**

Ms1 3.1/1,ms1mx2.6/27,Error ellipse: s-maj=18.7km s-min=14.7km az=34.0
*NEIC **28** 15:25:00,38˚.70N×142˚.30E,h41km,Mw4.4 Best double couple: M₀4.61000×10¹⁵ NP1:φ₀220.00000°,δ19.00000°, λ103.00000°. NP2:φ₀26.00000°,δ72.00000°,λ85.00000°.*
*BJI **28** 15:25:04.8,38˚.41N×142˚.46E,h63km,mB4.7/10,mb4.6/24, Ms4.5/5*
*ISCJB **28** 15:25:05.6±0.7,38˚.70N±0˚.03×142˚.28E±0˚.05,h48km±4km, mb4.3/47,MS3.8/7,Error ellipse: s-maj=7.9km s-min=4.7km az=32.7*
*JMA **28** 15:25:06.0±0.1,38˚.69N×142˚.27E,h38km±2km,M4.3 JMA Felt II J1.*
*MOS **28** 15:25:06.3±1.0,38˚.78N×142˚.24E,h53km,mb4.7/21,Error ellipse: s-maj=9.0km s-min=6.4km az=105.2*
*IDC **28** 15:25:07.5±2.1,38˚.73N×142˚.20E,h45km±18km,mb3.8/21, mb1 4.0/24,mb1mx4.0/40,mbtmp4.1/24,ML3.6/3,MS3.5/6, Ms1 3.5/6,ms1mx3.0/45,Error ellipse: s-maj=18.2km s-min=12.2km az=132.0*
*NEIC **28** 15:25:08.9±0.9,38˚.67N×142˚.21E,h64km±7km,mb4.4/17, Error ellipse: s-maj=11.1km s-min=7.2km az=135.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.

ISC 28 15:25:06.4±0.7,38˚.69N±0˚.05×142˚.28E±0˚.06,h40km±6km, n149,σ0⁹98/149,mb4.3/47,MS3.8/7,7C-11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61**	**310**	⇓P		**Pn**	**Sn**	**15 25 18.3**	**-0.4**
OFUJ				S		**Sn**	**Sn**	**15 25 27.0**	**-0.5**
JIO	**Ouri**	**0.76**	**253**	⇓P		**Pn**	**Sn**	**15 25 20.2**	**-0.5**
JIO				S		**Sn**	**Sn**	**15 25 29.9**	**-1.1**
JMK	**Ichinoseki**	**0.86**	**288**	⇓P		**Pn**	**Sn**	**15 25 21.9**	**-0.2**
JMK				S		**Sn**	**Sn**	**15 25 33.3**	**-0.3**
JOM	**Ohasama**	**1.09**	**316**	⇓P		**Pn**	**Sn**	**15 25 25.4**	**+0.1**
JOM				S		**Sn**	**Sn**	**15 25 39.4**	**+0.2**
JTH	**Tanohata**	**1.29**	**346**	⇓P		**Pn**	**Sn**	**15 25 27.8**	**-0.2**
JOU	**Okura**	**1.30**	**256**	⇓P		**Pn**	**Sn**	**15 25 28.3**	**+0.1**
JOU				S		**Sn**	**Sn**	**15 25 44.8**	**+0.4**
JMM	**Marumori**	**1.43**	**235**	⇑P		**Pn**	**Sn**	**15 25 29.5**	**-0.3**
JMM				*e*S		**Sn**	**Sn**	**15 25 46.7**	**-0.6**
JRG	**Rokugo**	**1.46**	**300**	⇓P		**Pn**	**Sn**	**15 25 30.7**	**+0.4**
JYK	**Kaneyama**	**1.51**	**279**	⇓P		**Pn**	**Sn**	**15 25 31.3**	**+0.3**
ERM	**Erimo**	**3.39**	**11**	*e*P		**Pn**	**Sn**	**15 25 57.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.87**	**238**	P		**Pn**	**Sn**	**15 26 05.2**	**+1.7**
MJAR				S		Sn	Sn	15 26 55.5	+7.8
MJAR	**Matsushiro Arr**	**3.87**	**238**	P		**Pn**	**Sn**	**15 26 05.2**	**+1.7**
	6.5nm,0.3s,baz=37,slow=12,SNR=60								
MJAR				S		Sn	Sn	15 26 55.5	+7.8
	5.7nm,0.3s,baz=22,slow=24,SNR=5.4								
MAJO	**Matsushiro**	**3.88**	**238**	*e*P		**Pn**	**Sn**	**15 26 05.2**	**+1.7**
MAJO	**Matsushiro**	**3.88**	**238**	*e*Pn		**Pn**	**Sn**	**15 26 05.2**	**+1.7**
MAT	**Matsushiro**	**3.88**	**238**	P		**Pn**	**Sn**	**15 26 05.3**	**+1.8**
MAT				S		**Sn**	**Sn**	**15 26 48.2**	**+0.4**
ASAJ	**Asahikawa**	**5.43**	**2**	*e*Pn		**Pn**	**Sn**	**15 26 25.4**	**+0.6**
ASAJ				S		**Sn**	**Sn**	**15 27 25.6**	**-0.3**
ASAJ	**Asahikawa**	**5.43**	**2**	P		**Pn**	**Sn**	**15 26 25.6**	**+0.8**
	2.1nm,0.3s,baz=213,slow=15,SNR=39								
ASAJ				S		**Sn**	**Sn**	**15 27 25.6**	**-0.3**
	1.5nm,0.3s,baz=280,slow=19,SNR=2.5								
YUK	**Yuzh-Kuril'sk**	**5.99**	**26**	*d*/P		**Pn**	**Sn**	**15 26 31.8**	**-0.6**
YUK				*i* S		**Sn**	**Sn**	**15 27 35.4**	**-4.2**
YUK				pmax	pmax				
	comp=N,42nm,0.2s								
YUK				pmax	pmax				
	comp=E,39nm,0.2s								
YUK				pmax	pmax				
	comp=Z,88nm,0.2s								
YUK				smax	smax				
	comp=N,165nm,0.7s								
YUK				smax	smax				
	comp=E,186nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.27**	**2**	⇓*e*P		**Pn**		**15 27 05.0**	**+1.3**
YSS				pmax	pmax				
	comp=Z,20nm,0.8s								
VLA	**Vladivostok**	**9.03**	**303**	⇓*e*P		**Pn**		**15 27 14.3**	**+0.2**
VLA				S		**Sn**		**15 28 57.8**	**+3.4**
VLA				pmax	pmax				
	comp=Z,49nm,1.5s								
USRK	**Ussuriysk Arra**	**9.48**	**309**	P		Pn		15 27 24.3	+3.9
	comp=Z,0.8nm,0.3s,baz=116,slow=14,SNR=29								
JNU	**Nakatsue**	**10.78**	**242**	P		**Pn**		**15 27 38.5**	**+0.2**
JNU	**Nakatsue**	**10.78**	**242**	P		**Pn**		**15 27 38.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=17,slow=11,SNR=3.1								
MDJ	**Mudanjiang**	**11.18**	**306**	P		**Pn**		**15 27 45.8**	**+2.2**
MDJ				S		**Sn**		**15 29 50.0**	**+2.8**
MDJ				pmax	pmax				
	comp=Z,7.0nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,170nm,3.4s								
MDJ	**Mudanjiang**	**11.18**	**306**	*e*Pn		Pn		15 27 48.2	+4.6
	comp=Z,16nm,0.9s								
KSRS	**Korea Array**	**11.38**	**268**	P		Pn		15 27 50.2	+3.8
	comp=Z,3.9nm,0.3s,baz=82,slow=14,SNR=12								
KSAR	**Wonju Array Be**	**11.41**	**268**	P		Pn		15 27 50.2	+3.3
PETK	**Petropavlovsk-**	**17.92**	**31**	LR		LR		15 36 17.1	
	comp=Z,51nm,20.4s,baz=223,slow=37								
HIA	**Hailar**	**19.29**	**311**	P		**P**		**15 29 27.2**	**-0.5**
CLNS	**Chul'man**	**21.48**	**333**	*e*P		**P**		**15 29 52.0**	**+0.6**
CLNS				pmax	pmax				
	comp=Z,13nm,0.9s								
CLNS				pmax	pmax				
	comp=N,8.0nm,1.0s								
CLNS				pmax	pmax				
	comp=E,3.0nm,0.9s								
WHN	**Wuhan**	**24.31**	**259**	P		**P**		**15 30 17.5**	**-2.6**
YAK	**Yakutsk**	**24.62**	**346**	*e*P		**P**		**15 30 20.6**	**-2.1**
YAK				pmax	pmax				
	comp=Z,11nm,0.9s								
SEY	**Seymchan**	**25.04**	**11**	P		**P**		**15 30 27.5**	**+1.0**
SEY	**Seymchan**	**25.04**	**11**	P		**P**		**15 30 27.5**	**+1.0**
SEY	**Seymchan**	**25.04**	**11**	P		**P**		**15 30 27.5**	**+1.0**
	comp=Z,9.3nm,0.9s,baz=206,slow=6.5,SNR=21								
ULN	**Ulaanbaatar**	**27.03**	**301**	*e*P		**P**		**15 30 43.7**	**-1.2**
	comp=Z,1.9nm,0.8s								
SONM	**Songino Array**	**27.47**	**301**	P		**P**		**15 30 48.8**	**+0.1**
SONM	**Songino Array**	**27.47**	**301**	P		**P**		**15 30 48.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=99,slow=8.6,SNR=7.4								
ENH	**Enshi**	**28.19**	**263**	*e*P		**P**		**15 30 54.6**	**-0.6**
	comp=Z,10.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.46**	**125**	T		T		16 01 22.5	
	baz=319,slow=76,SNR=887								
H11N1	**WAKE ISLAND Hy**	**28.47**	**125**	T		T		16 01 21.0	
	baz=319,slow=76,SNR=816								
H11N3	**WAKE ISLAND Hy**	**28.48**	**125**	T		T		16 01 24.0	
	baz=319,slow=76,SNR=518								
H11S1	**WAKE ISLAND Hy**	**29.24**	**127**	T		T		16 02 17.0	
	baz=321,slow=76,SNR=70								
H11S3	**WAKE ISLAND Hy**	**29.24**	**127**	T		T		16 02 17.1	
	baz=321,slow=76,SNR=51								
H11S2	**WAKE ISLAND Hy**	**29.26**	**127**	T		T		16 02 19.0	
	baz=321,slow=76,SNR=44								
TLY	**Talaya**	**29.80**	**309**	*e*P		**P**		**15 31 10.4**	**+1.1**
TLY				pmax	pmax				
	comp=Z,5.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,180nm,17.0s								
ZAK	**Zakamensk**	**29.82**	**306**	⇑*i*P		**P**		**15 31 09.9**	**+0.3**
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
GYA	**Guiyang**	**32.20**	**258**	*e*P		**P**		**15 31 31.8**	**+1.0**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
BILL	**Bilibino**	**32.25**	**17**	⇑*e*P		**P**		**15 31 31.6**	**+0.9**
BILL				*e*				15 31 45.3	
BILL				*i*				15 31 49.6	
BILL				pmax	pmax				
	comp=Z,19nm,2.7s								
BILL	**Bilibino**	**32.25**	**17**	*e*P		**P**		**15 31 30.5**	**-0.2**
	comp=Z,3.3nm,0.9s								
CD2	**Chengdu**	**32.38**	**268**	*e*P		**P**		**15 31 31.5**	**-0.8**
CD2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
GTA	**Gaotai**	**32.76**	**285**	*e*P		**P**		**15 31 35.0**	**-0.7**
GTA				pmax	pmax				
	comp=Z,3.0nm,1.3s								
WMQ	**Urumqi**	**40.73**	**295**	*e*P		**P**		**15 32 44.0**	**+0.7**
WMQ				pmax	pmax				
	comp=Z,5.0nm,0.5s								
WMQ				pmax	pmax				
	comp=Z,12nm,4.5s								
ZAA0	**Zalesovo Array**	**41.33**	**311**	*e*P		**P**		**15 32 47.6**	**-0.3**
ZALV	**Zalesovo Beam**	**41.33**	**311**	P		**P**		**15 32 48.2**	**+0.2**
ZALV								15 34 45.3	
ZALV	**Zalesovo Beam**	**41.33**	**311**	P		**P**		**15 32 48.2**	**+0.2**
ZALV				PcP		**PcP**		**15 34 45.3**	**-0.4**
ZALV	**Zalesovo Beam**	**41.33**	**311**	P		**P**		**15 32 48.2**	**+0.2**
	comp=Z,5.3nm,0.6s,baz=85,slow=7.3,SNR=26								
ZALV				PcP		**PcP**		**15 34 45.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=147,slow=2.9,SNR=3.6								
NVS	**Novosibirsk**	**42.21**	**312**	*e*P		**P**		**15 32 53.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**42.59**	**254**	P		**P**		**15 32 58.9**	**+0.2**
CMAR				PcP		**PcP**		**15 34 50.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.59**	**254**	P		**P**		**15 32 58.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=47,slow=9.3,SNR=5.0								
CMAR				PcP		**PcP**		**15 34 50.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=48,slow=2.7,SNR=3.1								
LSA	**Lhasa**	**42.76**	**274**	*e*P		**P**		**15 33 01.7**	**+1.2**
LSA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
LSA	**Lhasa**	**42.76**	**274**	*e*P		**P**		**15 33 01.7**	**+1.2**
	comp=Z,2.6nm,0.7s								
MKAR	**Makanchi Array**	**43.84**	**301**	*ce*P		**P**		**15 33 08.6**	**+0.2**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**43.84**	**301**	P		**P**		**15 33 08.7**	**+0.2**
MKAR	**Makanchi Array**	**43.84**	**301**	P		**P**		**15 33 08.7**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=80,slow=9.6,SNR=24								
KURK	**Kurchatov**	**45.47**	**307**	*e*P		**P**		**15 33 20.9**	**-0.5**
KURK								15 35 00.4	
KURK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**45.47**	**307**	*e*P		**P**		**15 33 20.9**	**-0.5**
	comp=Z,9.6nm,0.8s								
KURK				PcP		**PcP**		**15 35 00.4**	**+0.7**
KURBB	**Kurchatov Arra**	**45.54**	**307**	P		**P**		**15 33 21.9**	**-0.1**
	comp=Z,12nm,0.7s,baz=82,slow=8.2,SNR=129								
KURBB				PcP		**PcP**		**15 35 00.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=76,slow=4.1,SNR=3.3								
TAPN	**Taplejung**	**46.52**	**273**	*e*P		**P**		**15 33 30.8**	**+0.5**
ODAN	**Odare**	**47.01**	**272**	*e*P		**P**		**15 33 34.1**	**0.0**
	comp=Z,8.1nm,0.8s								
JIRN	**Jiri**	**47.56**	**274**	*e*P		**P**		**15 33 39.0**	**+0.5**
	comp=Z,7.0nm,0.5s								
RAMN	**Ramite**	**47.58**	**273**	*e*P		**P**		**15 33 38.8**	**+0.2**
	comp=Z,20nm,0.9s								
GUN	**Gumba**	**47.69**	**275**	*e*P		**P**		**15 33 39.8**	**+0.3**
	comp=Z,24nm,0.9s								
ILAR	**Eielson Array**	**47.74**	**33**	P		**P**		**15 33 39.8**	**+0.8**
ILAR	**Eielson Array**	**47.74**	**33**	P		**P**		**15 33 39.8**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=268,slow=6.6,SNR=8.1								
KKN	**Kakani**	**48.21**	**275**	*e*P		**P**		**15 33 43.4**	**0.0**
	comp=Z,11nm,0.7s								
PKI	**Pulchoki**	**48.21**	**274**	*e*P		**P**		**15 33 43.2**	**-0.3**
GKN	**Gorkha**	**48.61**	**275**	*e*P		**P**		**15 33 46.4**	**0.0**
DANN	**Dangsing**	**49.13**	**276**	*e*P		**P**		**15 33 50.9**	**+0.4**
	comp=Z,32nm,0.8s								
TKM2	**Tokmak 2**	**49.46**	**297**	*e*P		**P**		**15 33 52.6**	**-0.2**
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**49.46**	**297**	*e*P		**P**		**15 33 52.6**	**-0.2**
	comp=Z,3.2nm,0.8s								
KOLN	**Koldanda**	**49.53**	**276**	*e*P		**P**		**15 33 53.7**	**+0.2**
	comp=Z,24nm,1.2s								
BVAR	**Borovoye Array**	**49.98**	**311**	P		**P**		**15 33 56.4**	**+0.1**
BVAR								15 35 15.2	
BVAR	**Borovoye Array**	**49.98**	**311**	P		**P**		**15 33 56.4**	**+0.1**
BVAR				PcP		**PcP**		**15 35 15.2**	**-0.6**
BVAR	**Borovoye Array**	**49.98**	**311**	P		**P**		**15 33 56.4**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=71,slow=7.3,SNR=13								
BVAR				PcP		**PcP**		**15 35 15.2**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=58,slow=3.6,SNR=2.8								
BRVK	**Borovoye**	**50.03**	**311**	*e*P		**P**		**15 33 56.4**	**-0.3**
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BRVK	**Borovoye**	**50.03**	**311**	*e*P		**P**		**15 33 56.3**	**-0.3**
	comp=Z,3.4nm,0.8s								
KULM	**Kulim**	**50.24**	**239**	P		**P**		**15 33 56.7**	**-2.0**
	comp=Z,46nm,1.7s								
AAK	**Ala-Archa**	**50.32**	**297**	*e*P		**P**		**15 33 58.2**	**-1.1**
AAK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**50.32**	**297**	*e*P		**P**		**15 33 57.8**	**-1.5**
	comp=Z,2.3nm,0.9s								
EKS2	**Erkin-Say**	**50.81**	**298**	*e*P		**P**		**15 34 02.5**	**-0.4**
EKS2	**Erkin-Say**	**50.81**	**298**	*e*P		**P**		**15 34 02.5**	**-0.4**
INK	**Inuvik**	**52.61**	**28**	*e*P		**P**		**15 34 16.2**	**+0.5**
	comp=Z,3.6nm,1.1s								
INK	**Inuvik**	**52.61**	**28**	P		**P**		**15 34 16.5**	**+0.8**
	comp=Z,2.7nm,1.1s,baz=276,slow=2.7,SNR=4.3								
KKAR	**Karatay Array**	**52.90**	**299**	*e*P		**P**		**15 34 17.9**	**-0.4**
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	**52.90**	**299**	*e*P		**P**		**15 34 17.9**	**-0.4**
	comp=Z,2.5nm,0.8s								
SVE	**Sverdlovsk**	**54.37**	**318**	⇑*e*P		**P**		**15 34 29.8**	**+1.0**
SVE				pmax	pmax				
	comp=Z,12nm,0.9s								
ARU	**Arti**	**55.58**	**318**	*c i*P		**P**		**15 34 37.1**	**-0.4**
ARU								15 36 39.1	
ARU				S		**S**		**15 42 21.1**	**+0.9**
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
ARU	**Arti**	**55.58**	**318**	*e*P		**P**		**15 34 37.2**	**-0.4**
	comp=Z,3.0nm,0.8s								
ABKAR	**Akbulak array**	**57.41**	**310**	*e*P		**P**		**15 34 50.1**	**-0.5**
	comp=Z,2.8nm,0.6s								
WRA	**Warramunga Arr**	**58.79**	**189**	P		**P**		**15 35 00.2**	**-0.4**
WRA	**Warramunga Arr**	**58.79**	**189**	P		**P**		**15 35 00.2**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=6.9,slow=7.2,SNR=8.0								
PRGR	**Permogore**	**59.76**	**327**	P		**P**		**15 35 03.9**	**-2.9**
PRGR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
RES	**Resolute Bay**	**60.83**	**15**	*e*P		**P**		**15 35 13.6**	**-0.4**
	comp=Z,2.1nm,0.9s								
RES	**Resolute Bay**	**60.83**	**15**	P		**P**		**15 35 13.8**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=311,slow=6.0,SNR=5.4								
YKA	**Yellowknife Ar**	**62.04**	**31**	P		**P**		**15 35 22.2**	**-0.1**
YKA	**Yellowknife Ar**	**62.04**	**31**	P		**P**		**15 35 22.2**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=300,slow=7.0,SNR=5.2								
ARCES	**ARCESS Array B**	**62.69**	**339**	LR		LR		16 05 33.6	
	comp=Z,91nm,18.5s,baz=14,slow=39								
DZM	**Mont Dzumac**	**64.55**	**155**	*e*LR		LR		15 54 59.3	
	comp=Z,160nm,24.7s								
FINES	**FINESS Array B**	**67.67**	**332**	P		**P**		**15 35 58.7**	**-0.2**
FINES	**FINESS Array B**	**67.67**	**332**	P		**P**		**15 35 58.7**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=28,slow=8.6,SNR=9.6								
VSR	**Storozhevoye**	**68.14**	**319**	*e*P		**P**		**15 36 01.7**	**-0.4**
VSR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
STKA	**Stephens Creek**	**70.21**	**181**	LR		LR		16 14 27.0	
	comp=Z,25nm,18.0s,baz=18,slow=42								
KIV	**Kislovodsk**	**70.34**	**311**	*e*P		**P**		**15 36 15.6**	**-0.4**
KIV				pmax	pmax				
	comp=Z,14nm,0.9s								
KIV				MLR	MLR				
	comp=Z,56nm,18.0s								
KIV	**Kislovodsk**	**70.34**	**311**	*e*P		**P**		**15 36 16.4**	**+0.4**
	comp=Z,16nm,0.8s								
KBZ	**Khabaz**	**70.34**	**311**	P		**P**		**15 36 16.9**	**+1.0**
KBZ	**Khabaz**	**70.34**	**311**	P		**P**		**15 36 16.9**	**+1.0**
KBZ	**Khabaz**	**70.34**	**311**	P		**P**		**15 36 16.9**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=22,slow=4.2,SNR=7.7								
KBZ				LR		LR		16 07 51.9	
	comp=Z,30nm,18.1s,baz=74,slow=36								
NB2	**NORSAR Subarra**	**72.92**	**337**	P		**P**		**15 36 31.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**72.92**	**337**	P		**P**		**15 36 31.0**	**-0.1**
NOA	**NORSAR Array B**	**72.92**	**337**	P		**P**		**15 36 31.0**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=39,slow=5.9,SNR=4.5								
AKASG	**Malin Array Be**	**73.41**	**322**	*ce*P		**P**		**15 36 34.2**	**+0.1**
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.8s								
AKASG	**Malin Array Be**	**73.41**	**322**	P		**P**		**15 36 33.7**	**-0.4**
AKASG	**Malin Array Be**	**73.41**	**322**	P		**P**		**15 36 33.7**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=46,slow=6.0,SNR=25								
AK01	**Malin Array Si**	**73.42**	**322**	*e*P		**P**		**15 36 33.5**	**-0.7**
AK02	**Malin Array Si**	**73.44**	**322**	*e*P		**P**		**15 36 33.8**	**-0.5**
NVAR	**Mina Array Bea**	**73.46**	**54**	P		**P**		**15 36 36.9**	**+1.9**
NVAR	**Mina Array Bea**	**73.46**	**54**	P		**P**		**15 36 36.9**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=288,slow=7.1,SNR=4.9								
PDAR	**Pinedale Array**	**76.03**	**46**	P		**P**		**15 36 50.7**	**+0.9**
PDAR	**Pinedale Array**	**76.03**	**46**	P		**P**		**15 36 50.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=266,slow=2.7,SNR=7.1								
BRTR	**Keskin Array B**	**78.26**	**312**	P		**P**		**15 37 02.8**	**+0.6**
BRTR	**Keskin Array B**	**78.26**	**312**	P		**P**		**15 37 02.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=65,slow=3.6,SNR=4.1								
MORC	**Moravsky Berou**	**79.34**	**327**	P		**P**		**15 37 06.3**	**-1.6**
MORC				pmax	pmax				
	comp=Z,20nm,1.6s								
MORC	**Moravsky Berou**	**79.34**	**327**	P		**P**		**15 37 06.3**	**-1.6**
	comp=Z,20nm,1.6s								
DPC	**Dobruska-Polom**	**79.42**	**328**	*e*P		**P**		**15 37 08.8**	**+0.5**
PSZ	**Piszkesteto**	**79.71**	**325**	P		**P**		**15 37 10.3**	**+0.4**
PSZ				pmax	pmax				
	comp=Z,6.0nm,0.9s								
PSZ	**Piszkesteto**	**79.71**	**325**	P		**P**		**15 37 10.2**	**+0.4**
	comp=Z,5.6nm,0.9s								
KHC	**Kasperske Hory**	**81.49**	**329**	*e*P		**P**		**15 37 20.2**	**+0.8**
GERES	**GERESS Array B**	**81.66**	**329**	P		**P**		**15 37 19.8**	**-0.6**
GERES	**GERESS Array B**	**81.66**	**329**	P		**P**		**15 37 19.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=7.9,SNR=5.3								
GERES				LR		LR		16 16 01.9	
	comp=Z,73nm,18.3s,baz=356,slow=37								
PMOR	**Pomariorio Ree**	**84.22**	**114**	*e*T		T		17 10 23.4	
	comp=Z,13nm,0.2s								
PPT2	**Papeete2**	**84.79**	**117**	*e*LR		LR		16 04 21.3	
	comp=Z,82nm,24.5s								
TXAR	**Lajitas Array**	**88.58**	**53**	P		**P**		**15 37 56.4**	**+1.1**
TXAR	**Lajitas Array**	**88.58**	**53**	P		**P**		**15 37 56.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=316,slow=6.3,SNR=4.6								
TBI	**Tubuai**	**88.79**	**121**	*e*T		T		17 16 03.9	
	comp=Z,34nm,0.3s								
ESDC	**Sonseca Array**	**96.10**	**334**	LR		LR		16 25 02.6	
	comp=Z,16nm,18.5s,baz=50,slow=37								
H03N2	**Juan Fernandez**	**146.49**	**94**	T		T		18 29 23.4	
	baz=288,slow=75,SNR=4.6								
H03N3	**Juan Fernandez**	**146.50**	**94**	T		T		18 29 21.2	
	baz=288,slow=75,SNR=6.1								
H03N1	**Juan Fernandez**	**146.50**	**94**	T		T		18 29 26.3	
	baz=288,slow=75,SNR=6.4								

JMA 28 15:28:40.2±0.1,38˚.69N×142˚.27E,h36km±2km,M1.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61**	**310**	P		Pn	Sn	15 28 52.3	-0.2
OFUJ				S		Sn	Sn	15 29 00.9	-0.1
JIO	**Ouri**	**0.76**	**252**	P		Pn	Sn	15 28 54.2	-0.1
JIO				S		Sn	Sn	15 29 03.9	-0.7
JMK	**Ichinoseki**	**0.86**	**288**	P		Pn	Sn	15 28 55.9	+0.1
JMK				S		Sn	Sn	15 29 07.3	+0.1
JOM	**Ohasama**	**1.09**	**316**	P		Pn	Sn	15 28 59.4	+0.5
JOM				S		Sn	Sn	15 29 13.3	+0.5
JOU	**Okura**	**1.30**	**256**	P		Pn	Sn	15 29 02.8	+1.0
JOU				*e*S		Sn	Sn	15 29 19.4	+1.4

*NIED **28** 15:29:00,38˚.70N×142˚.30E,h38km,Mw4.4 Best double couple: M₀4.90000×10¹⁵ NP1:φ₀189.00000°,δ19.00000°, λ68.00000°. NP2:φ₀32.00000°,δ73.00000°,λ97.00000°.*
*BJI **28** 15:29:17.0,38˚.70N×143˚.08E,h64km,mB4.6/3,mb4.6/21, Ms4.3/6,Ms7 4.0/1*
*ISCJB **28** 15:29:21.0±0.7,38˚.71N±0˚.03×142˚.28E±0˚.06,h46km±4km, mb4.2/44,MS3.8/7,Error ellipse: s-maj=8.0km s-min=4.3km az=29.4*
*MOS **28** 15:29:21.1±1.0,38˚.81N×142˚.19E,h42km,mb4.4/18,Error ellipse: s-maj=8.5km s-min=6.1km az=101.7*
*JMA **28** 15:29:21.4±0.1,38˚.69N×142˚.28E,h38km±1km,M4.3 JMA Felt II J1.*
*IDC **28** 15:29:23.2±0.7,38˚.72N×142˚.22E,h46km±5km,mb3.8/23,*

mb1 4.0/27,mb1mx4.0/43,mbtmp4.1/27,ML3.7/4,MS3.8/8, Ms1 3.8/8,ms1mx3.3/44,Error ellipse: s-maj=14.3km s-min=9.1km az=135.0

NEIC ***28*** *15:29:23.0±0.3,38.77N×142.22E,mb4.3/15,Error ellipse: s-maj=8.1km s-min=5.1km az=140.0*

NEIC Recorded [2 JMA] in Iwate and [1 JMA] in Miyagi.

ISC 28 15:29:22.8±0.6,38.74N±0.04×142.21E±0.05,h45km±4km, n137,σ1§01/160,mb4.3/44,MS3.8/7,8C-9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**309**	⇓P			**Pn**	**15 29 33.7**	**-0.6**
OFUJ				S			**Sn**	**15 29 42.3**	**-0.1**
JIO	**Ouri**	**0.73**	**247**	⇓P			**Pn**	**15 29 35.6**	**-1.2**
JIO				eS			**Sn**	**15 29 45.7**	**-1.2**
JMK	**Ichinoseki**	**0.80**	**285**	⇓P			**Pn**	**15 29 37.3**	**-0.4**
JMK				S			**Sn**	**15 29 49.0**	**+0.5**
JOM	**Ohasama**	**1.02**	**316**	⇓P			**Pn**	**15 29 40.8**	**+0.1**
JOM				S			**Sn**	**15 29 54.8**	**+0.9**
JTH	**Tanohata**	**1.23**	**347**	P			**Pn**	**15 29 43.0**	**-0.5**
JTH				S			**Sn**	**15 29 58.9**	**+0.1**
JOU	**Okura**	**1.27**	**253**	⇓P			**Pn**	**15 29 43.7**	**-0.4**
JOU				eS			**Sn**	**15 29 59.9**	**-0.1**
JRG	**Rokugo**	**1.39**	**299**	P			**Pn**	**15 29 46.3**	**+0.6**
JMM	**Marumori**	**1.42**	**232**	⇓P			**Pn**	**15 29 45.2**	**-0.9**
JMM				eS			**Sn**	**15 30 02.5**	**-1.0**
JYK	**Kaneyama**	**1.46**	**277**	⇓P			**Pn**	**15 29 46.8**	**+0.2**
ERM	**Erimo**	**3.35**	**12**	eP			**Pn**	**15 30 12.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.86**	**237**	P			**Pn**	**15 30 20.8**	**+1.1**
MJAR				S			**Sn**	**15 31 04.3**	**+0.6**
MJAR	**Matsushiro Arr**	**3.86**	**237**	P			**Pn**	**15 30 20.7**	**+1.1**
	12nm,0.3s,baz=38,slow=12,SNR=32								
MJAR				S			**Sn**	**15 31 04.3**	**+0.6**
	5.5nm,0.3s,baz=91,slow=25,SNR=4.7								
MAJO	**Matsushiro**	**3.86**	**237**	eP			**Pn**	**15 30 21.1**	**+1.4**
MAJO	**Matsushiro**	**3.86**	**237**	ePn			**Pn**	**15 30 21.1**	**+1.4**
MAT	**Matsushiro**	**3.86**	**237**	P			**Pn**	**15 30 20.4**	**+0.7**
MAT				S			**Sn**	**15 31 04.5**	**+0.7**
ASAJ	**Asahikawa**	**5.38**	**3**	P			**Pn**	**15 30 40.5**	**+0.1**
ASAJ				S			**Sn**	**15 31 41.8**	**+0.8**
ASAJ				eSn			Sn	15 31 47.5	+6.5
ASAJ	**Asahikawa**	**5.38**	**3**	P			**Pn**	**15 30 40.5**	**+0.1**
	4.3nm,0.3s,baz=220,slow=10,SNR=23								
ASAJ				S			**Sn**	**15 31 41.8**	**+0.8**
	3.5nm,0.3s,baz=234,slow=19,SNR=2.6								
YUK	**Yuzh-Kuril'sk**	**5.96**	**26**	*d* iP			**Pn**	**15 30 46.9**	**-1.4**
YUK				*i* S			**Sn**	**15 31 50.4**	**-4.8**
YUK				pmax		pmax			
	comp=N,63nm,0.5s								
YUK				pmax		pmax			
	comp=E,60nm,0.5s								
YUK				pmax		pmax			
	comp=Z,149nm,0.5s								
YUK				smax		smax			
	comp=N,460nm,0.6s								
YUK				smax		smax			
	comp=E,139nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.22**	**3**	⇑eP			**Pn**	**15 31 20.0**	**+0.7**
YSS				pmax		pmax			
	comp=N,30nm,0.8s								
YSS				pmax		pmax			
	comp=Z,40nm,0.8s								
VLA	**Vladivostok**	**8.95**	**303**	eP			**Pn**	**15 31 28.8**	**-0.6**
VLA				pmax		pmax			
	comp=Z,34nm,1.0s								
USRK	**Ussuriysk Arra**	**9.41**	**309**	P			**Pn**	**15 31 37.1**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=116,slow=14,SNR=39								
USRK				LR		LR		15 35 06.0	
	comp=Z,465nm,19.4s,baz=134,slow=36								
HABR	**Khabarovsk**	**11.02**	**334**	eP			**Pn**	**15 31 56.0**	**-1.6**
HABR				eS			**Sn**	**15 34 01.9**	**+2.5**
HABR				pmax		pmax			
	comp=Z,19nm,1.6s								
HABR				MLR		MLR			
	comp=Z,214nm,16.0s								
MDJ	**Mudanjiang**	**11.11**	**306**	P			Pn	15 32 02.0	+3.1
MDJ				S			Sn	15 34 07.8	+6.2
MDJ				pmax		pmax			
	comp=Z,12nm,0.8s								
MDJ	**Mudanjiang**	**11.11**	**306**	eP			Pn	15 32 04.9	+6.0
	comp=Z,16nm,0.8s								
KSRS	**Korea Array**	**11.34**	**268**	P			**Pn**	**15 32 03.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=82,slow=14,SNR=6.4								
KSRS				LR		LR		15 36 02.8	
	comp=Z,258nm,20.0s,baz=139,slow=35								
KSAR	**Wonju Array Be**	**11.37**	**268**	P			**Pn**	**15 32 03.5**	**+1.0**
HIA	**Hailar**	**19.21**	**310**	P			**P**	**15 33 41.4**	**-1.5**
	comp=Z,6.6nm,0.7s								
YAK	**Yakutsk**	**24.56**	**346**	eP			**P**	**15 34 36.8**	**-1.2**
YAK				pmax		pmax			
	comp=N,5.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,12nm,0.9s								
SEY	**Seymchan**	**25.00**	**11**	P			**P**	**15 34 43.2**	**+1.2**
SEY	**Seymchan**	**25.00**	**11**	P			**P**	**15 34 43.1**	**+1.2**
SEY	**Seymchan**	**25.00**	**11**	P			**P**	**15 34 43.1**	**+1.2**
	comp=Z,13nm,0.9s,baz=200,slow=6.7,SNR=23								
ULN	**Ulaanbaatar**	**26.96**	**301**	eP			**P**	**15 35 00.9**	**+0.8**
	comp=Z,2.3nm,0.9s								
SONM	**Songino Array**	**27.40**	**301**	P			**P**	**15 35 04.9**	**+0.9**
SONM	**Songino Array**	**27.40**	**301**	P			**P**	**15 35 04.9**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=93,slow=9.0,SNR=7.9								
SONM				LR		LR		15 46 15.7	
	comp=Z,128nm,18.0s,baz=27,slow=37								
ENH	**Enshi**	**28.14**	**263**	eP			**P**	**15 35 10.5**	**-0.3**
	comp=Z,6.6nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.54**	**125**	T			T	16 05 34.6	
	baz=319,slow=76,SNR=19								
H11N1	**WAKE ISLAND Hy**	**28.55**	**125**	T			T	16 05 41.4	
	baz=319,slow=76,SNR=25								
H11N3	**WAKE ISLAND Hy**	**28.55**	**125**	T			T	16 05 37.7	
	baz=319,slow=76,SNR=20								
H11S1	**WAKE ISLAND Hy**	**29.31**	**127**	T			T	16 06 39.8	
	baz=322,slow=76,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**29.31**	**127**	T			T	16 06 43.2	
	baz=322,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**29.33**	**127**	T			T	16 06 37.8	
	baz=322,slow=76,SNR=17								
TLY	**Talaya**	**29.73**	**308**	eP			**P**	**15 35 25.6**	**+1.1**
TLY				pmax		pmax			
	comp=Z,8.0nm,1.5s								
TLY				MLR		MLR			
	comp=Z,192nm,17.0s								
TLY	**Talaya**	**29.73**	**308**	eP			**P**	**15 35 24.5**	**0.0**
	comp=Z,3.3nm,0.9s								
ZAK	**Zakamensk**	**29.74**	**306**	⇑*i* P			**P**	**15 35 25.1**	**+0.3**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BILL	**Bilibino**	**32.21**	**17**	⇑*i* P			**P**	**15 35 46.1**	**-0.1**
BILL				*i*				15 35 59.5	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BILL	**Bilibino**	**32.21**	**17**	eP			**P**	**15 35 45.4**	**-0.9**
	comp=Z,268nm,3.1s								
CD2	**Chengdu**	**32.34**	**268**	eP			**P**	**15 35 47.3**	**-0.5**
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
GTA	**Gaotai**	**32.70**	**285**	eP			**P**	**15 35 51.5**	**+0.5**
WMQ	**Urumqi**	**40.66**	**295**	eP			**P**	**15 36 59.8**	**+1.2**
WMQ				pP		pP		15 37 15.0	+4.2
WMQ				sP		sP		15 37 22.3	+6.2
WMQ				PP		**PnPn**		**15 38 38.0**	**+1.0**
WMQ				PcP		**PcP**		**15 39 00.5**	**+0.9**
WMQ				ScP		**ScP**		**15 42 43.5**	**-1.9**
WMQ				S		**S**		**15 43 06.0**	**+0.6**
WMQ				sS		sS		15 43 32.3	+6.5
WMQ				SS		**SS**		**15 46 04.5**	**-2.1**
WMQ				ScS		**ScS**		**15 46 57.0**	**-3.0**
ZAAO	**Zalesovo Array**	**41.25**	**311**	eP			**P**	**15 37 02.8**	**-0.4**
ZALV	**Zalesovo Beam**	**41.25**	**311**	P			**P**	**15 37 03.6**	**+0.4**
ZALV	**Zalesovo Beam**	**41.25**	**311**	P			**P**	**15 37 03.5**	**+0.4**
ZALV	**Zalesovo Beam**	**41.25**	**311**	P			**P**	**15 37 03.5**	**+0.4**
	comp=Z,4.8nm,0.5s,baz=90,slow=8.0,SNR=26								
ZALV				LR		LR		15 54 47.3	
	comp=Z,132nm,19.6s,baz=69,slow=37								
NVS	**Novosibirsk**	**42.14**	**312**	eP			**P**	**15 37 08.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**42.55**	**254**	P			**P**	**15 37 15.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**42.55**	**254**	P			**P**	**15 37 15.1**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=46,slow=8.0,SNR=4.3								
CMAR				LR		LR		15 55 13.9	
	comp=Z,53nm,18.0s,baz=22,slow=36								
LSA	**Lhasa**	**42.70**	**274**	P			**P**	**15 37 16.5**	**+0.5**
LSA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
LSA	**Lhasa**	**42.70**	**274**	P			**P**	**15 37 16.4**	**+0.5**
	comp=Z,3.3nm,0.8s								
MKAR	**Makanchi Array**	**43.77**	**301**	*c*eP			**P**	**15 37 24.3**	**+0.5**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.4s								
MKAR	**Makanchi Array**	**43.77**	**301**	P			**P**	**15 37 24.4**	**+0.5**
MKAR	**Makanchi Array**	**43.77**	**301**	P			**P**	**15 37 24.4**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=72,slow=12,SNR=20								
KURK	**Kurchatov**	**45.40**	**307**	P			**P**	**15 37 37.7**	**+1.0**
KURK	**Kurchatov**	**45.40**	**307**	P			**P**	**15 37 37.6**	**+1.0**
KURBB	**Kurchatov Arra**	**45.47**	**307**	P			**P**	**15 37 37.6**	**+0.4**
	comp=Z,11nm,0.7s,baz=82,slow=8.2,SNR=65								
TAPN	**Taplejung**	**46.47**	**273**	eP			**P**	**15 37 46.2**	**+0.4**
	comp=Z,13nm,1.1s								
ODAN	**Odare**	**46.95**	**272**	eP			**P**	**15 37 49.9**	**+0.4**
	comp=Z,14nm,1.0s								
JIRN	**Jiri**	**47.51**	**274**	eP			**P**	**15 37 54.3**	**+0.3**
RAMN	**Ramite**	**47.53**	**273**	eP			**P**	**15 37 54.1**	**+0.1**
	comp=Z,13nm,0.8s								
GUN	**Gumba**	**47.63**	**275**	eP			**P**	**15 37 55.2**	**+0.3**
ILAR	**Eielson Array**	**47.72**	**33**	P			**P**	**15 37 55.1**	**+0.5**
ILAR				pP			**pP**	**15 38 07.5**	**+0.3**
ILAR	**Eielson Array**	**47.72**	**33**	P			**P**	**15 37 55.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=265,slow=6.2,SNR=15								
ILAR				pP			**pP**	**15 38 07.5**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=265,slow=6.0,SNR=9.2								
KKN	**Kakani**	**48.16**	**275**	eP			**P**	**15 37 59.1**	**+0.3**
	comp=Z,9.6nm,0.7s								
PKI	**Pulchoki**	**48.16**	**274**	eP			**P**	**15 37 58.8**	**-0.2**
	comp=Z,4.1nm,0.5s								
DMN	**Daman**	**48.38**	**275**	eP			**P**	**15 38 01.2**	**+0.6**
GKN	**Gorkha**	**48.56**	**275**	eP			**P**	**15 38 02.0**	**+0.2**
DANN	**Dangsing**	**49.08**	**276**	eP			**P**	**15 38 06.5**	**+0.5**
	comp=Z,17nm,0.6s								
TKM2	**Tokmak 2**	**49.39**	**297**	eP			**P**	**15 38 08.2**	**+0.1**
TKM2				pmax		pmax			
	comp=Z,3.0nm,0.6s								
TKM2	**Tokmak 2**	**49.39**	**297**	eP			**P**	**15 38 08.2**	**+0.1**
	comp=Z,2.7nm,0.6s								
KOLN	**Kolanda**	**49.48**	**276**	eP			**P**	**15 38 09.0**	**+0.1**
	comp=Z,2.8nm,0.3s								
BVAR	**Borovoye Array**	**49.91**	**311**	P			**P**	**15 38 12.1**	**+0.5**
BVAR								15 39 32.1	
BVAR	**Borovoye Array**	**49.91**	**311**	P			**P**	**15 38 12.1**	**+0.5**
BVAR				PcP			**PcP**	**15 39 32.1**	**+0.7**
BVAR	**Borovoye Array**	**49.91**	**311**	P			**P**	**15 38 12.1**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=74,slow=7.9,SNR=12								
BVAR				PcP			**PcP**	**15 39 32.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=92,slow=4.3,SNR=3.5								
BRVK	**Borovoye**	**49.96**	**311**	⇓*i* P			**P**	**15 38 12.5**	**+0.5**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BRVK	**Borovoye**	**49.96**	**311**	eP			**P**	**15 38 12.3**	**+0.3**
	comp=Z,4.3nm,0.8s								
AAK	**Ala-Archa**	**50.25**	**297**	P			**P**	**15 38 14.2**	**-0.4**
AAK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AAK	**Ala-Archa**	**50.25**	**297**	P			**P**	**15 38 14.2**	**-0.4**
	comp=Z,1.6nm,0.8s								
EKS2	**Erkin-Say**	**50.74**	**298**	P			**P**	**15 38 18.2**	**0.0**
EKS2				pmax		pmax			
	comp=Z,2.0nm,0.8s								
EKS2	**Erkin-Say**	**50.74**	**298**	P			**P**	**15 38 18.2**	**0.0**
	comp=Z,1.7nm,0.8s								
INK	**Inuvik**	**52.58**	**28**	eP			**P**	**15 38 31.6**	**+0.2**
	comp=Z,4.5nm,1.0s								
INK	**Inuvik**	**52.58**	**28**	P			**P**	**15 38 32.2**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=313,slow=7.4,SNR=5.1								
KKAR	**Karatay Array**	**52.83**	**299**	eP			**P**	**15 38 33.3**	**-0.4**
KKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KKAR	**Karatay Array**	**52.83**	**299**	eP			**P**	**15 38 33.3**	**-0.4**
	comp=Z,1.7nm,0.7s								
SVE	**Sverdlovsk**	**54.30**	**318**	eP			**P**	**15 38 45.0**	**+0.9**
SVE				pmax		pmax			
	comp=Z,14nm,1.0s								
ARU	**Arti**	**55.51**	**318**	*c* iP			**P**	**15 38 52.9**	**0.0**
ARU								15 40 59.9	
ARU				S			**S**	**15 46 37.8**	**+3.1**
ARU				SS			**SS**	**15 50 15.9**	**-3.5**
ARU				pmax		pmax			
	comp=Z,20nm,1.7s								
ARU	**Arti**	**55.51**	**318**	eP			**P**	**15 38 52.4**	**-0.5**
	comp=Z,3.5nm,0.8s								
ABKAR	**Akbulak array**	**57.33**	**310**	eP			**P**	**15 39 05.5**	**-0.5**
	comp=Z,2.7nm,0.6s								
WRAB	**Tennant Creek**	**58.83**	**189**	*i* P			P	15 39 11.5	-5.2
WRAB				pmax		pmax			
	comp=Z,13nm,0.9s								
WRAB	**Tennant Creek**	**58.83**	**189**	P			P	15 39 11.5	-5.2
	comp=Z,6.0nm,0.9s								
WRA	**Warramunga Ar**	**58.84**	**189**	P			**P**	**15 39 16.1**	**-0.7**
WRA	**Warramunga Arr**	**58.84**	**189**	P			**P**	**15 39 16.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=6.9,slow=7.0,SNR=7.8								
PRGR	**Permogore**	**59.68**	**327**	eP			**P**	**15 39 22.0**	**-0.1**
PRGR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
RES	**Resolute Bay**	**60.79**	**15**	eP			**P**	**15 39 29.1**	**-0.4**
	comp=Z,2.2nm,0.7s								
RES	**Resolute Bay**	**60.79**	**15**	P			**P**	**15 39 30.1**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=309,slow=9.9,SNR=6.5								
YKA	**Yellowknife Ar**	**62.02**	**31**	P			**P**	**15 39 38.3**	**+0.3**
YKA				pP			**pP**	**15 39 51.6**	**+0.8**
YKA	**Yellowknife Ar**	**62.02**	**31**	P			**P**	**15 39 38.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=305,slow=6.6,SNR=4.9								
YKA				pP			**pP**	**15 39 51.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=302,slow=6.2,SNR=4.6								
ASAR	**Alice Springs**	**62.57**	**189**	P			**P**	**15 39 41.6**	**-0.5**
ASAR	**Alice Springs**	**62.57**	**189**	P			**P**	**15 39 41.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=10,slow=5.9,SNR=5.7								
ARCES	**ARCESS Array B**	**62.62**	**339**	P			**P**	**15 39 42.4**	**+0.4**
ARCES	**ARCESS Array B**	**62.62**	**339**	P			**P**	**15 39 42.4**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=57,slow=7.4,SNR=4.7								
FINES	**FINESS Array B**	**67.60**	**332**	P			**P**	**15 40 14.7**	**+0.3**
FINES				pP			**pP**	**15 40 27.6**	**+0.4**
FINES	**FINESS Array B**	**67.60**	**332**	P			**P**	**15 40 14.7**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=63,slow=8.8,SNR=10								
FINES				pP			**pP**	**15 40 27.6**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=42,slow=7.6,SNR=2.3								
FINES				LR		LR		16 11 16.1	
	comp=Z,130nm,18.4s,baz=271,slow=37								
VSR	**Storozhevoye**	**68.07**	**319**	eP			**P**	**15 40 17.2**	**-0.2**
VSR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KIV	**Kislovodsk**	**70.27**	**311**	eP			**P**	**15 40 31.0**	**-0.4**
KIV				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KBZ	**Khabaz**	**70.27**	**311**	P			**P**	**15 40 31.3**	**+0.1**
KBZ	**Khabaz**	**70.27**	**311**	P			**P**	**15 40 31.3**	**+0.1**
KBZ	**Khabaz**	**70.27**	**311**	P			**P**	**15 40 31.3**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=70,slow=3.9,SNR=9.1								
NB2	**NORSAR Subarra**	**72.86**	**337**	P			**P**	**15 40 46.4**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=38,slow=6.2								
NOA	**NORSAR Array B**	**72.86**	**337**	P			**P**	**15 40 45.6**	**-1.0**
NOA	**NORSAR Array B**	**72.86**	**337**	P			**P**	**15 40 45.6**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=39,slow=5.9,SNR=6.3								
NOA				LR		LR		16 15 14.0	
	comp=Z,70nm,21.4s,baz=10.0,slow=38								
AKASG	**Malin Array Be**	**73.33**	**322**	*c*eP			**P**	**15 40 49.7**	**+0.2**
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.6s								
AKASG	**Malin Array Be**	**73.33**	**322**	P			**P**	**15 40 49.7**	**+0.2**
AKASG	**Malin Array Be**	**73.33**	**322**	P			**P**	**15 40 49.7**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=44,slow=5.8,SNR=15								
AKASG				LR		LR		16 16 09.3	
	comp=Z,63nm,20.2s,baz=325,slow=38								
NVAR	**Mina Array Bea**	**73.47**	**54**	P			**P**	**15 40 52.2**	**+1.4**
NVAR				pP			**PcP**	**15 41 04.5**	**-2.3**
NVAR	**Mina Array Bea**	**73.47**	**54**	P			**P**	**15 40 52.2**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=279,slow=7.7,SNR=3.7								
NVAR				pP			**PcP**	**15 41 04.5**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=287,slow=5.3,SNR=3.5								
PDAR	**Pinedale Array**	**76.02**	**46**	P			**P**	**15 41 05.9**	**+0.4**
PDAR	**Pinedale Array**	**76.02**	**46**	P			**P**	**15 41 05.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=258,slow=2.0,SNR=7.9								
BRTR	**Keskin Array B**	**78.19**	**312**	P			**P**	**15 41 17.8**	**+0.2**
BRTR	**Keskin Array B**	**78.19**	**312**	P			**P**	**15 41 17.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=91,slow=3.3,SNR=5.6								
DPC	**Dobruska-Polom**	**79.35**	**328**	eP			**P**	**15 41 25.0**	**+1.3**
UPC	**Upice**	**79.35**	**328**	eP			**P**	**15 41 24.9**	**+1.2**
CLL	**Collm**	**79.93**	**330**	⇑*i* P			**P**	**15 41 26.8**	**+0.1**
CLL				*i*				15 41 37.2	
CLL				pmax		pmax			
	comp=Z,7.0nm,0.7s								
CLL	**Collm**	**79.93**	**330**	⇑*i* P			**P**	**15 41 26.8**	**+0.1**
	comp=Z,7.0nm,0.7s								
KHC	**Kasperske Hory**	**81.42**	**329**	*e*P			**P**	**15 41 35.7**	**+0.9**
KHC				*ep*P			**pP**	**15 41 46.0**	**-2.1**
GERES	**GERESS Array B**	**81.59**	**328**	P			**P**	**15 41 36.3**	**+0.5**
GERES	**GERESS Array B**	**81.59**	**328**	P			**P**	**15 41 36.3**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=18,slow=6.2,SNR=4.4								
TXAR	**Lajitas Array**	**88.58**	**53**	P			**P**	**15 42 11.8**	**+0.6**
TXAR	**Lajitas Array**	**88.58**	**53**	P			**P**	**15 42 11.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=306,slow=3.2,SNR=5.5								

MEX 28 15:36:13.3±0.4,17.12N×100.33W,h20km±8km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**1.16**	**359**	eP			Pn	15 36 30.8	-3.6
ARIG				eS			Sb	15 36 45.0	-4.3
ZIIG	**Zihuatanejo**	**1.19**	**294**	eP			Pn	15 36 31.7	-3.1
ZIIG				*i* S			Sb	15 36 45.5	-4.7
PLIG	**Platanillo**	**1.49**	**32**	eP			Pn	15 36 35.8	-3.3
PLIG				*i* S			Sn	15 36 54.0	-4.1
YAIG	**Yautepec**	**2.11**	**35**	*i* P			Pn	15 36 45.4	-2.3
YAIG				*i* S			Sn	15 37 09.9	-3.6
PNIG	**Pinotepa**	**2.23**	**109**	*i* P			Pn	15 36 46.8	-2.4
PNIG				eS			Sn	15 37 12.4	-3.8

SJA 28 15:36:42.4±1.1,28.85S×69.18W,h116km±9km,ML2.8, MW4.5,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.88**	**137**	*i* P				15 37 03.8	
AGUA				eS				15 37 19.4	
ACLC	**CERRO LA CRUZ**	**2.03**	**107**	*i* P				15 37 17.6	
ACLC				eS				15 37 43.9	
AMOG	**MOGNA**	**2.17**	**164**	*i* P				15 37 18.9	
AVFE	**Valle Fertil**	**2.35**	**141**	*i* P				15 37 21.3	
AVFE				eS				15 37 49.7	
AVFE				AML				15 37 52.1	
	comp=Z,59nm,0.7s								
RTLL	**Cerro Villicun**	**2.55**	**166**	*i* P				15 37 23.9	
RTLL				eS				15 37 54.5	
CFAA	**Coronel Fontan**	**2.87**	**164**	*i* P				15 37 28.1	
CFAA				eS				15 38 02.9	
RTLS	**Leoncito**	**2.94**	**182**	*i* P				15 37 29.6	
RTLS				eS				15 38 03.9	
CYA	**Choya**	**3.00**	**83**	*i* P				15 37 29.8	
CYA				eS				15 38 03.9	
CYA				AML				15 38 06.5	
	comp=Z,14nm,0.8s								
ACHE	**Chepes**	**3.18**	**137**	*i* P				15 37 32.6	
ACHE				eS				15 38 09.2	
AUSP	**Uspallata**	**3.37**	**183**	*i* P				15 37 35.4	
AUSP				eS				15 38 14.8	
ASAL	**Salagasta**	**3.75**	**176**	*i* P				15 37 40.3	
ASAL				eS				15 38 22.1	

IDC ***28*** *16:01:12.6±2.0,7.61S×81.03W,h0km,mb3.7/5,mb1 3.9/7, mb1mx3.7/32,mbtmp3.8/7,ML3.4/2,MS3.4/8,Ms1 3.4/8, ms1mx3.2/32,Error ellipse: s-maj=56.5km s-min=22.5km az=23.0*

ISCJB ***28*** *16:01:14.9±1.0,7.8S±0.1×81.13W±0.08,h33km,mb3.8/6, MS3.3/6,Error ellipse: s-maj=21.2km s-min=11.8km az=6.5*

ISC 28 16:01:17.1±1.4,7.8S±0.2×81.1W±0.1,h35km,n23,σ1§23/8, mb3.7/6,MS3.3/6,Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.72**	**77**	P			**Pn**	**16 01 59.1**	**+0.4**
	3.7nm,0.3s,baz=290,slow=16,SN

MJAR				S	**S**	**16 17 51.5**	**-3.5**
MJAR	**Matsushiro Arr**	**15.53**	**344**	P	**P**	**16 15 03.9**	**-0.1**
	2.5nm,0.3s,baz=172,slow=6.7,SNR=22						
MJAR				S	**S**	**16 17 51.5**	**-3.5**
	0.3nm,0.3s,baz=186,slow=24,SNR=3.5						
MAJO	**Matsushiro**	**15.53**	**344**	*e*P	**Pn**	**16 15 04.8**	**-0.1**
	20nm,0.5s						
MAT	**Matsushiro**	**15.53**	**344**	P	**Pn**	**16 15 05.1**	**+0.1**
MAT				S	**S**	**16 17 50.7**	**-4.3**
JNU	**Nakatsue**	**15.94**	**319**	*e*P	**Pn**	**16 15 11.3**	**+1.4**
	29nm,1.2s						
JNU	**Nakatsue**	**15.94**	**319**	P	**Pn**	**16 15 11.4**	**+1.6**
	2.4nm,0.3s,baz=126,slow=7.1,SNR=25						
JHS	**Saijyo**	**16.08**	**328**	P	**Pn**	**16 15 13.5**	**+1.9**
KSRS	**Korea Array**	**20.68**	**323**	P	**P**	**16 15 58.5**	**-1.2**
	6.5nm,0.7s,baz=144,slow=9.0,SNR=24						
KSAR	**Wonju Array Be**	**20.70**	**323**	P	**P**	**16 15 58.5**	**-1.4**
KKM	**Kota Kinabalu**	**30.51**	**243**	P	P	16 17 23.2	-5.7
	baz=19,SNR=8.7						
PMG	**Port Moresby**	**31.06**	**173**	P	**P**	**16 17 31.9**	**-1.7**
BATI	**Baumata**	**37.09**	**213**	P	**P**	**16 18 24.6**	**-0.7**
BATI	**Baumata**	**37.09**	**213**	P	**P**	**16 18 24.6**	**-0.7**
	12nm,0.4s,baz=345,slow=0.6,SNR=7.2						
SONM	**Songino Array**	**39.51**	**320**	P	**P**	**16 18 45.9**	**+0.6**
SONM				PcP	**PcP**	**16 20 47.2**	**-0.2**
SONM	**Songino Array**	**39.51**	**320**	P	**P**	**16 18 45.9**	**+0.6**
	0.7nm,0.5s,baz=125,slow=5.4,SNR=5.6						
SONM				PcP	**PcP**	**16 20 47.2**	**-0.2**
	0.9nm,0.6s,baz=104,slow=2.8,SNR=4.5						
CTAO	**Charters Tower**	**41.55**	**176**	*e*P	**P**	**16 19 02.4**	**+0.4**
	3.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.77**	**274**	P	**P**	**16 19 04.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**41.77**	**274**	P	**P**	**16 19 04.2**	**+0.4**
	0.4nm,0.5s,baz=100,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**42.25**	**193**	P	**P**	**16 19 07.9**	**+0.2**
WRA	**Warramunga Arr**	**42.25**	**193**	P	**P**	**16 19 07.9**	**+0.2**
	4.0nm,0.3s,baz=16,slow=9.4,SNR=76						
KULM	**Kulim**	**44.43**	**255**	P	**P**	**16 19 26.1**	**+1.0**
	7.7nm,0.7s						
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**16 19 36.6**	**-0.3**
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**16 19 36.6**	**-0.3**
	1.6nm,0.6s,baz=9.8,slow=8.2,SNR=46						
BILL	**Bilibino**	**48.55**	**11**	*e*P	**P**	**16 19 57.0**	**+0.8**
	4.8nm,0.6s						
STKA	**Stephens Creek**	**53.23**	**182**	P	**P**	**16 20 31.5**	**0.0**
STKA	**Stephens Creek**	**53.23**	**182**	P	**P**	**16 20 31.5**	**0.0**
	1.6nm,0.4s,baz=360,slow=9.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**54.38**	**322**	P	**P**	**16 20 39.5**	**0.0**
ZALV	**Zalesovo Beam**	**54.38**	**322**	P	**P**	**16 20 39.5**	**0.0**
	2.3nm,0.6s,baz=114,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**54.88**	**313**	P	**P**	**16 20 43.7**	**+0.3**
MKAR	**Makanchi Array**	**54.88**	**313**	P	**P**	**16 20 43.7**	**+0.3**
	0.5nm,0.6s,baz=76,slow=9.0,SNR=7.4						
KURK	**Kurchatov**	**57.65**	**317**	P	**P**	**16 21 03.0**	**+0.3**
KURBB	**Kurchatov Arra**	**57.70**	**317**	P	**P**	**16 21 03.0**	**-0.1**
	2.0nm,0.5s,baz=92,slow=7.6,SNR=23						
PMR	**Palmer**	**60.52**	**30**	P	**P**	**16 21 21.8**	**-0.3**
	7.2nm,0.8s						
MCK	**McKinley**	**60.96**	**28**	*e*P	**P**	**16 21 25.1**	**0.0**
	8.9nm,1.0s						
COLD	**Coldfoot**	**61.16**	**24**	*e*P	**P**	**16 21 27.0**	**+0.7**
	3.7nm,0.8s						
ILAR	**Eielson Array**	**62.02**	**27**	P	**P**	**16 21 31.6**	**-0.6**
ILAR	**Eielson Array**	**62.02**	**27**	P	**P**	**16 21 31.6**	**-0.6**
	4.6nm,0.7s,baz=260,slow=5.3,SNR=67						
TRD	**Trivandrum**	**65.04**	**269**↑	*e*P	P	16 21 49.9	-2.8
KBL	**Kabul**	**65.53**	**299**	P	**P**	**16 21 54.9**	**-0.9**
	3.1nm,0.8s						
INK	**Inuvik**	**67.56**	**24**	*e*P	**P**	**16 22 07.7**	**0.0**
	1.5nm,0.5s						
AKTO	**Aktyubinsk**	**70.75**	**318**	P	**P**	**16 22 26.0**	**-1.5**
AKTO	**Aktyubinsk**	**70.75**	**318**	P	**P**	**16 22 26.0**	**-1.5**
	1.2nm,0.5s,baz=90,slow=8.7,SNR=4.3						
SPITS	**Spitsbergen Ar**	**75.93**	**350**	P	**P**	**16 22 57.0**	**-0.3**
SPITS	**Spitsbergen Ar**	**75.93**	**350**	P	**P**	**16 22 57.0**	**-0.3**
	11nm,0.9s,baz=100,slow=8.6,SNR=5.1						
YKA	**Yellowknife Ar**	**76.43**	**28**	P	**P**	**16 23 00.5**	**+0.2**
YKA	**Yellowknife Ar**	**76.43**	**28**	P	**P**	**16 23 00.4**	**+0.2**
	3.8nm,0.4s,baz=291,slow=5.6,SNR=53						
KEV	**Kevo**	**78.48**	**341**	*e*p	**P**	**16 23 11.1**	**-0.4**
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**16 23 14.2**	**-0.4**
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**16 23 14.2**	**-0.4**
	2.5nm,0.4s,baz=79,slow=8.9,SNR=25						
NEW	**Newport**	**80.21**	**42**	P	**P**	**16 23 21.2**	**-0.1**
	3.1nm,0.8s						
JOF	**Joensuu**	**80.46**	**335**	*e*p	**P**	**16 23 21.6**	**-0.6**
	9.3nm,0.4s						
WALA	**Waterton Lakes**	**81.87**	**40**	*e*P	**P**	**16 23 30.9**	**+0.7**
	0.1nm,0.7s						
KBZ	**Khabaz**	**82.55**	**314**	P	**P**	**16 23 33.7**	**+0.2**
KBZ	**Khabaz**	**82.55**	**314**	P	**P**	**16 23 33.7**	**+0.2**
	6.6nm,0.8s,baz=63,slow=5.3,SNR=8.3						
KAF	**Kangasniemi**	**82.86**	**335**	*e*p	**P**	**16 23 33.9**	**-0.9**
NVAR	**Mina Array Bea**	**83.04**	**52**	P	**P**	**16 23 37.5**	**+1.0**
NVAR	**Mina Array Bea**	**83.04**	**52**	P	**P**	**16 23 37.5**	**+1.0**
	3.7nm,0.7s,baz=280,slow=5.5,SNR=36						
FINES	**FINESS Array B**	**83.32**	**335**	P	**P**	**16 23 36.1**	**-1.1**
FINES	**FINESS Array B**	**83.32**	**335**	P	**P**	**16 23 36.1**	**-1.1**
	8.3nm,0.4s,baz=66,slow=4.8,SNR=91						
HRY	**Holter Researc**	**84.12**	**42**	*e*P	**P**	**16 23 42.2**	**+0.5**
	4.0nm,0.5s						
FFC	**Flin Flon**	**85.79**	**32**	*e*P	**P**	**16 23 49.7**	**+0.1**
	3.8nm,0.6s						
SUMG	**Summit**	**86.03**	**1**	*e*P	**P**	**16 23 51.0**	**0.0**
	3.5nm,0.5s						
DUG	**Dugway**	**86.24**	**48**	*e*P	**P**	**16 23 52.0**	**-0.3**
	2.4nm,0.9s						
FCC	**Fort Churchill**	**87.02**	**26**	*e*P	**P**	**16 23 54.5**	**-1.0**
PDAR	**Pinedale Array**	**87.31**	**45**	P	**P**	**16 23 57.5**	**0.0**
PDAR	**Pinedale Array**	**87.31**	**45**	P	**P**	**16 23 57.5**	**0.0**
	0.3nm,0.4s,baz=294,slow=0.9,SNR=4.8						
AKASG	**Malin Array Be**	**87.67**	**325**	P	**P**	**16 23 57.4**	**-1.4**
AKASG	**Malin Array Be**	**87.67**	**325**	P	**P**	**16 23 57.4**	**-1.4**
	0.6nm,0.4s,baz=46,slow=5.5,SNR=4.7						
HFS	**Hagfors**	**88.86**	**337**	P	**P**	**16 24 02.5**	**-1.6**
HFS	**Hagfors**	**88.86**	**337**	P	**P**	**16 24 02.5**	**-1.6**
	4.7nm,0.5s,baz=84,slow=4.5,SNR=22						
NB2	**NORSAR Subarra**	**89.08**	**339**	P	**P**	**16 24 03.6**	**-1.6**
	comp=Z,3.8nm,0.9s,baz=47,slow=4.3						
NB2	**NORSAR Subarra**	**89.08**	**339**	P	**P**	**16 24 03.6**	**-1.6**
	baz=47,slow=4.3						
NOA	**NORSAR Array B**	**89.08**	**339**	P	**P**	**16 24 04.0**	**-1.2**
NOA	**NORSAR Array B**	**89.08**	**339**	P	**P**	**16 24 04.0**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=51,slow=4.2,SNR=4.5						
PV10	**Paradox Valley**	**89.67**	**49**	P	**P**	**16 24 09.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**128.93**	**309**	PKP	**PKPdf**	**16 30 16.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**128.93**	**309**	PKP	**PKPdf**	**16 30 16.6**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=29,slow=1.0,SNR=23						
DBIC	**Dimbokro**	**138.03**	**309**	PKP	**PKPdf**	**16 30 35.3**	**+0.9**
DBIC	**Dimbokro**	**138.03**	**309**	PKP	**PKPdf**	**16 30 35.3**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=72,slow=3.2,SNR=3.3						
PLCA	**Paso Flores**	**145.57**	**131**	PKPbc	**PKPdf**	**16 30 48.4**	**+1.2**
PLCA	**Paso Flores**	**145.57**	**131**	PKPbc	**PKPdf**	**16 30 48.4**	**+1.2**
	comp=Z,12nm,0.5s,baz=241,slow=3.9,SNR=38						
LPAZ	**La Paz**	**149.76**	**85**	*e*PKPdf	**PKPbc**	**16 31 00.6**	**+0.3**
LPAZ				PKPbc	**PKPbc**	**16 31 00.8**	**+0.5**
LPAZ				*e*PKPab	**PKPab**	**16 31 07.5**	**+0.9**
LPAZ				PKPab	**PKPab**	**16 31 07.8**	**+1.2**
LPAZ	**La Paz**	**149.76**	**85**	PKPbc	**PKPbc**	**16 31 00.8**	**+0.5**
	comp=Z,7.0nm,0.5s,baz=340,slow=2.1,SNR=26						
LPAZ				PKPab	**PKPab**	**16 31 07.8**	**+1.2**
	comp=Z,4.3nm,0.6s,baz=269,slow=2.2,SNR=8.4						
LVC	**Limon Verde**	**150.10**	**98**	*e*PKPbc	**PKPbc**	**16 31 00.7**	**+0.1**
SAML	**Samuel**	**151.50**	**68**	*e*PKPdf	**PKPdf**	**16 30 57.8**	**+0.4**
SAML				*e*PKPbc	**PKPbc**	**16 31 03.2**	**-0.6**
SAML				*e*PKPab	**PKPab**	**16 31 11.3**	**-1.8**

*BJI **28** 16:12:49.9,4.˚43N×96.˚70E,h15km,mB4.8/25,mb4.6/42, Ms4.6/40,Ms7 4.4/19*

*IDC **28** 16:12:50.8±0.5,4.˚62N×96.˚74E,h0km,mb4.4/24, mb1 4.5/26,mb1mx4.4/48,mbtmp4.4/26,ML3.8/2,MS3.9/20, Ms1 3.9/20,ms1mx3.7/48,Error ellipse: s-maj=17.7km s-min=10.0km az=50.0*

*ISCJB **28** 16:12:50.1±0.9,4.˚66N±0.˚02×96.˚79E±0.˚03,h6km±5km, mb4.6/59,MS4.1/27,Error ellipse: s-maj=5.5km s-min=3.0km az=150.5*

*NEIC **28** 16:12:51.7±1.6,4.˚64N×96.˚83E,h8km±10km,mb4.8/21, Error ellipse: s-maj=7.9km s-min=4.9km az=56.0*

NEIC Felt [VI] at Takengon.

*DJA **28** 16:12:53.4±0.6,5.˚N±3.˚×9.˚7E±.˚,h13km±5km,M4.9/22, mb4.9/22,mB5.3/9,MLv5.1/12,Mw(mB)4.7/9*

*KLM **28** 16:12:54.0,4.˚73N×96.˚92E,h9km,mb4.7,ML4.7,MS5.9*

ISC 28 16:12:53.1±0.5,4.˚66N±0.˚03×96.˚74E±0.˚04,h14km±2km, h13km:pP-P,n207,σ1§87/237,mb4.7/59,MS4.0/27,12C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.60**	**21**	P		**Pg**	**16 13 02.6**	**-2.3**
LHMI				S		**Sg**	**16 13 12.9**	**+0.1**
LHMI	**Lhok Sumawe**	**0.60**	**21**	*e*Pn		**Pg**	**16 13 02.5**	**-2.3**
LHMI	**Lhok Sumawe**	**0.60**	**21**	S		**Pg**	**16 13 02.5**	**-2.3**
	baz=0.5,SNR=397							
LHMI				P		**Pg**	**16 13 02.6**	**-2.3**
	baz=0.5,SNR=1000							
LASI	**Langsa, Aceh**	**1.25**	**99**	P		x	16 13 15.0	
LASI				S		x	16 13 36.6	
TPTI		**1.46**	**162**	P		**Pn**	**16 13 18.4**	**-0.7**
TPTI				S		**Sn**	**16 13 35.4**	**-2.7**
KCSI	**Kotacane, Aceh**	**1.53**	**138**	P		**Pn**	**16 13 19.4**	**-0.7**
KCSI				S		**Sn**	**16 13 39.1**	**-0.8**
TSI	**Tuntungan**	**2.16**	**122**	P		**Pn**	**16 13 27.5**	**-1.2**
SNSI	**Sinabang, Aceh**	**2.28**	**190**	P		**Pn**	**16 13 31.0**	**+0.7**
PSI	**Prapat**	**2.86**	**130**	P		x	16 13 38.9	
PSI	**Prapat**	**2.86**	**130**	Pn		**Pn**	**16 13 39.2**	**+0.7**
PSI				Sn		**Sn**	**16 14 15.2**	**+2.3**
PSI				Lg		Lg	16 14 25.3	
PSI	**Prapat**	**2.86**	**130**	Pn		**Pn**	**16 13 39.2**	**+0.7**
	22nm,0.3s,baz=323,slow=12,SNR=105							
PSI				Sn		**Sn**	**16 14 15.2**	**+2.3**
	47nm,0.3s,baz=108,slow=21,SNR=6.7							
PSI				Lg		Lg	16 14 25.3	
	95nm,0.3s,baz=337,slow=23,SNR=7.0							
PSI				LR		LR	16 14 34.2	
	comp=Z,624nm,19.7s,baz=222,slow=36							
PSI	**Prapat**	**2.86**	**130**	P		**Pn**	**16 13 39.0**	**+0.5**
	baz=2.9,SNR=86							
GSI	**Gunungsitoli**	**3.44**	**166**	*e*Pn		**Pn**	**16 13 46.0**	**-0.4**
PKDT	**Phuket**	**3.58**	**26**	P		**Pn**	**16 13 46.9**	**-1.3**
CMBY	**CAMPBELL BAY**	**3.64**	**310**	*e*P		**Pn**	**16 13 49.7**	**+0.6**
CMBY				AMB		AMB	16 14 00.9	
	comp=Z,410nm,0.7s							
KULM	**Kulim**	**3.95**	**81**	P		x	16 13 50.9	
KULM	**Kulim**	**3.95**	**81**	*e*Pn		**Pn**	**16 13 50.8**	**-2.6**
KULM	**Kulim**	**3.95**	**81**	↓P		**Pn**	**16 13 51.3**	**-2.1**
IPM	**Ipoh**	**4.28**	**92**	P		x	16 13 55.2	
IPM	**Ipoh**	**4.28**	**92**	*e*Pn		Pn	16 13 54.7	-3.2
IPM	**Ipoh**	**4.28**	**92**	↑P		**Pn**	**16 13 55.1**	**-2.8**
SURT	**Suratani**	**4.73**	**25**	P		**Pn**	**16 14 04.3**	**+0.2**
MNSI	**Mandailing Nat**	**4.78**	**143**	P		**Pn**	**16 14 04.9**	**+0.2**
FRIM	**Kepong**	**5.08**	**106**	↑P		**Pn**	**16 14 06.5**	**-2.4**
BKNI	**Bangkinang**	**6.09**	**135**	P		**Pn**	**16 14 24.2**	**+1.5**
	comp=Z,320nm,0.9s,comp=Z,4µmcomp=Z,2.7nm							
KTGM	**Kuala Trenggan**	**6.41**	**84**	↑P		**Pn**	**16 14 25.3**	**-1.8**
KGM	**Kluang**	**7.08**	**112**	↑P		**Pn**	**16 14 33.9**	**-2.5**
MYKOM	**Kota Tinggi**	**7.66**	**112**	P		x	16 14 41.8	
	comp=Z,62nm,0.6s,comp=Z,0.8nm							
MYKOM	**Kota Tinggi**	**7.75**	**115**	↓P		**Pn**	**16 14 42.8**	**-1.5**
BTDF	**Bukit Timah Da**	**7.75**	**115**	S		**Sn**	**16 16 12.2**	**-1.1**
	baz=7.7,SNR=6.4							
TPRI	**Tanjung Pinang**	**8.62**	**115**	P		**Pn**	**16 14 57.1**	**-0.5**
	comp=Z,43nm,0.9s,comp=Z,3µm							
DGPR	**DIGLIPUR**	**9.26**	**336**	*e*P		**Pn**	**16 15 05.9**	**-0.3**
DGPR				AMB		AMB	16 19 08.8	
	comp=Z,782nm,0.4s							
CHBT	**CHBT**	**9.75**	**34**	P		x	16 15 12.0	
	comp=Z,30nm,0.8s,comp=Z,777nm							
CHBT	**CHBT**	**9.75**	**34**	P		**Pn**	**16 15 14.0**	**+0.9**
	comp=Z,30nm,0.8s,comp=Z,781nm							
SRDT	**SRDT**	**9.91**	**14**	P		**Pn**	**16 15 17.8**	**+2.6**
	comp=Z,34nm,0.6s							
KHLT	**Khaolaem Dam**	**10.23**	**10**	P		**Pn**	**16 15 21.0**	**+1.3**
	comp=Z,5.8nm,1.1s							
LHSI	**Lahat**	**10.82**	**141**	P		**Pn**	**16 15 27.6**	**-0.1**
	comp=Z,86nm,0.9s,comp=Z,836nm							
MNAI	**Manna**	**10.91**	**145**	P		**Pn**	**16 15 29.1**	**+0.2**
	comp=Z,136nm,1.2s							
MNAI	**Manna**	**10.91**	**145**	P		**Pn**	**16 15 26.7**	**-2.2**
	baz=11,SNR=9.0							
UTHA	**Uthaitani**	**11.15**	**14**	P		**Pn**	**16 15 32.7**	**+0.5**
	comp=Z,11nm,1.1s,comp=Z,106nm							
MDSI	**Maura Dua**	**11.74**	**141**	P		**Pn**	**16 15 39.1**	**-1.2**
	comp=Z,47nm,0.9s							
LWLI	**Liwa**	**12.08**	**143**	P		**Pn**	**16 15 45.1**	**0.0**
	comp=Z,52nm,0.7s,comp=Z,5µm							
PBKT	**Sadao Pong**	**12.54**	**19**	P		**Pn**	**16 15 50.9**	**-0.3**
	comp=Z,53nm,0.7s,comp=Z,592nm							
KASI	**Kota Agung**	**12.75**	**142**	P		**Pn**	**16 15 52.3**	**-1.8**
	comp=Z,36nm,1.0s							
SUKH	**Sukhothai**	**13.05**	**12**	P		Pn	16 16 02.6	+4.4
TPI	**Tanjungpandan**	**13.16**	**124**	P		**Pn**	**16 16 00.0**	**+0.2**
	comp=Z,26nm,1.6s							
MHMT	**Maesarieng**	**13.48**	**5**	P		**Pn**	**16 16 04.6**	**+0.5**
	comp=Z,13nm,0.9s,comp=Z,207nm							
UTTA	**Uttaradit**	**13.53**	**16**	P		**Pn**	**16 16 06.3**	**+1.6**
	comp=Z,4.3nm,0.7s,comp=Z,56nm							
CM31	**Chiang Mai Arr**	**13.88**	**9**	*e*Pn		**Pn**	**16 16 09.3**	**-0.2**
	comp=Z,12nm,0.8s							
CMAR	**Chiang Mai Arr**	**13.88**	**9**	Pn		**Pn**	**16 16 09.5**	**0.0**
CMAR	**Chiang Mai Arr**	**13.88**	**9**	Pn		**Pn**	**16 16 09.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=21							
CMAR				LR		LR	16 21 26.1	
	comp=Z,423nm,21.4s,baz=195,slow=37							
KSM	**Kuching**	**13.92**	**103**	P		x	16 16 09.2	
	comp=Z,22nm,1.0s							
KSM	**Kuching**	**13.92**	**103**	*e*Pn		**Pn**	**16 16 09.0**	**-1.1**
KSM	**Kuching**	**13.92**	**103**	↑P		**Pn**	**16 16 07.9**	**-2.2**
LAMP	**Lampang**	**14.06**	**11**	P		P	16 16 27.0	+7.2
CHTO	**Chiang Mai**	**14.23**	**9**	P		**P**	**16 16 19.4**	**-2.3**
CHTO	**Chiang Mai**	**14.23**	**9**	*e*Pn		**Pn**	**16 16 13.8**	**-0.6**
	comp=Z,15nm,1.1s							
CGJI	**Cibinong**	**14.33**	**141**	P		**Pn**	**16 16 15.2**	**-0.6**
	comp=Z,20nm,1.2s							
CMAI	**Chiengmai2**	**15.34**	**8**	P		**Pn**	**16 16 30.0**	**+0.5**
	comp=Z,75nm,1.2s,comp=Z,7µm							
SBUM	**Sibu**	**15.61**	**98**	P		x	16 16 30.5	
	comp=Z,30nm,1.2s							
SBUM	**Sibu**	**15.61**	**98**	↓P		**Pn**	**16 16 33.4**	**+0.5**
BTM	**Bintulu**	**16.37**	**94**	↑P		**Pn**	**16 16 40.7**	**-2.0**
XMI	**Christmas Isla**	**17.46**	**149**	P		**P**	**16 17 00.4**	**+2.7**
	baz=18,SNR=3.6							
SLVN	**Son La**	**17.97**	**22**	*e*Pn		**Pn**	**16 17 03.0**	**+0.2**
	comp=Z,30nm,1.4s							
VIS	**Vishakhapatnam**	**18.46**	**316**	*e*P		**Pn**	**16 17 09.8**	**+1.1**
VIS				AMB		AMB	16 17 14.3	
	comp=Z,28nm,0.8s							
NGJI	**Ngawi**	**18.94**	**129**	P		**Pn**	**16 17 15.3**	**+0.7**
	comp=Z,50nm,0.9s							
QIZ	**Qiongzhong**	**19.17**	**41**	P		**P**	**16 17 15.5**	**-0.9**
QIZ				S		**S**	**16 20 53.5**	**-0.1**
QIZ				pmax		pmax		
	comp=Z,59nm,4.4s							
QIZ				LR		LR		
	comp=Z,850nm,19.1s							
QIZ				LR		LR		
	comp=Z,370nm,16.8s							
QIZ	**Qiongzhong**	**19.17**	**41**	P		**P**	**16 17 15.0**	**-1.5**
KKM	**Kota Kinabalu**	**19.44**	**85**	P		x	16 17 19.0	
	comp=Z,96nm,1.0s,comp=Z,1µm							
KKM	**Kota Kinabalu**	**19.44**	**85**	*e*P		**P**	**16 17 19.3**	**-0.3**
	comp=Z,75nm,0.9s							
PWJI	**Pagerwojo**	**19.61**	**130**	P		**Pn**	**16 17 22.8**	**+0.1**
	comp=Z,16nm,0.9s							
SDKM	**Sandakan**	**20.40**	**86**	↑P		Pn	16 17 32.0	-0.1
KMMI	**Kalianget**	**20.76**	**124**	P		**P**	**16 17 33.5**	**-0.3**
	comp=Z,82nm,1.0s							
TSM	**Tawau**	**21.07**	**90**	↑P		**P**	**16 17 38.8**	**+1.5**
KMI	**Kunming**	**21.14**	**15**	P		**P**	**16 17 39.5**	**+1.4**
KMI				sP		**sP**	**16 17 44.5**	**+0.7**
KMI				PP		**PnPn**	**16 18 04.3**	**+6.8**
KMI				S		**S**	**16 21 32.3**	**-1.0**
KMI				SS		SnSn	16 22 06.5	+11
KMI				pmax		pmax		
	comp=Z,15nm,1.3s							
KMI				pmax		pmax		
	comp=Z,91nm,3.1s							
KMI				LR		LR		
	comp=Z,500nm,11.3s							
KMI				LR		LR		
	comp=Z,550nm,11.3s							
KMI				LR		LR		
	comp=Z,500nm,11.8s							
SHL	**Shillong**	**21.30**	**348**	*e*P		**P**	**16 17 38.8**	**-0.9**
SHL				AMB		AMB	16 17 41.9	
	comp=Z,117nm,2.1s							
MYLDM	**Lahad Datu**	**21.69**	**88**	↑P		**P**	**16 17 45.7**	**+1.8**
BOK	**Bokaro**	**21.71**	**332**	*ex*		**P**	**16 17 42.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**21.72**	**127**	P		**P**	**16 17 41.3**	**-2.9**
	comp=Z,40nm,0.8s							
JAGI	**Jajag, Banyuwa**	**21.72**	**127**	*e*P		**P**	**16 17 41.9**	**-2.3**
	comp=Z,29nm,0.8s							
JAGI	**Jajag, Banyuwa**	**21.72**	**127**	P		**P**	**16 17 43.0**	**-1.2**
	baz=22,SNR=4.3							
HYB	**Hyderabad**	**21.86**	**307**	*i* P		**P**	**16 17 46.0**	**+0.4**
HYB				*e*S		**S**	**16 21 44.0**	**-3.1**
HYB	**Hyderabad**	**21.86**	**307**	*e*P		**P**	**16 17 46.7**	**+1.1**
HYB				AMB		AMB	16 17 48.8	
	comp=Z,32nm,1.2s							
SRBI	**Singaraja**	**22.36**	**124**	P		**P**	**16 17 49.6**	**-1.4**
	comp=Z,54nm,0.9s,comp=Z,621nm							
GYA	**Guiyang**	**23.66**	**23**↑	*i*P		**P**	**16 18 06.3**	**+1.8**
GYA				PP		**PnPn**	**16 18 37.5**	**+5.6**
GYA				PcP		**PcP**	**16 21 50.5**	**+1.5**
GYA				S		**S**	**16 22 17.0**	**-2.1**
GYA				SS		**SnSn**	**16 23 05.3**	**+8.5**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=Z,560nm,16.8s							
GYA				LR		LR		
	comp=Z,490nm,17.4s							
ODAN	**Odare**	**23.81**	**339**	*e*P		**P**	**16 18 04.0**	**-2.0**
	comp=Z,27nm,0.9s							
TAPN	**Taplejung**	**24.15**	**340**	*e*P		**P**	**16 18 07.4**	**-1.9**
	comp=Z,45nm,0.9s							
RAMN	**Ramite**	**24.18**	**337**	*e*P		**P**	**16 18 08.2**	**-1.3**
JIRN	**Jiri**	**24.98**	**337**	*e*P		**P**	**16 18 15.4**	**-1.5**
	comp=Z,26nm,1.0s							
GUN	**Gumba**	**25.32**	**337**	*e*P		**P**	**16 18 17.9**	**-2.1**
	comp=Z,22nm,0.7s							
BKSI	**Bulukumba**	**25.38**	**113**	P		**P**	**16 18 19.4**	**-0.8**
	comp=Z,44nm,0.8s							
KKN	**Kakani**	**25.45**	**336**	*e*P		**P**	**16 18 19.4**	**-1.6**
	comp=Z,24nm,1.1s							
LSA	**Lhasa**	**25.46**	**349**	*e*P		**P**	**16 18 21.5**	**+0.2**
	comp=Z,43nm,0.7s							
APSI	**Ampana**	**25.50**	**102**	P		**P**	**16 18 20.6**	**-0.7**
	comp=Z,104nm,1.1s,comp=Z,871nm							
MRSI	**Marisa**	**25.52**	**99**	P		**P**	**16 18 21.0**	**-0.5**
MRSI	**Marisa**	**25.52**	**99**	P		**P**	**16 18 21.5**	**0.0**
GKN	**Gorkha**	**25.91**	**335**	*e*P		**P**	**16 18 23.5**	**-1.6**
	comp=Z,30nm,1.0s							
KOLN	**Koldanda**	**26.16**	**333**	*e*P		**P**	**16 18 25.9**	**-1.6**
	comp=Z,34nm,0.7s							
POO	**Poona**	**26.26**	**304**	*e*P		**P**	**16 18 28.7**	**+0.4**
POO				*e*P		**pP**	**16 18 30.0**	**-2.4**
LBFI	**Labuhan Bajo,**	**26.53**	**119**	P		x	16 18 34.5	
DANN	**Dangsing**	**26.59**	**334**	*e*P		**P**	**16 18 29.7**	**-1.7**
	comp=Z,47nm,1.2s							
LUWI	**Luwuk**	**26.62**	**102**	*e*P		**P**	**16 18 28.

WMQ				SS	SS	16 29 18.0	-8.2
WMQ				ScS	ScS	16 30 30.3	-3.2
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,88nm,7.2s						
NWAO	Narrogin (SRO)	42.14	154	P	P	16 20 44.6	-0.6
NWAO	Narrogin (SRO)	42.14	154	P	P	16 20 44.6	-0.6
	comp=Z,23nm,1.1s,baz=337,slow=11,SNR=3.8						
TKM2	Tokmak 2	42.46	337	*eP*	P	16 20 47.2	-0.8
	comp=Z,2.4nm,0.8s						
JNU	Nakatsue	42.59	44	P	P	16 20 48.3	-0.7
JNU	Nakatsue	42.59	44	P	P	16 20 48.3	-0.7
	comp=Z,11nm,0.9s,baz=152,slow=8.7,SNR=3.6						
AAK	Ala-Archa	42.66	336	P	P	16 20 49.4	-0.2
AAK	Ala-Archa	42.66	336	P	P	16 20 49.4	-0.2
	comp=Z,1.5nm,0.8s,baz=126,slow=7.6,SNR=5.9						
EKS2	Erkin-Say	42.99	335	*eP*	P	16 20 52.2	0.0
	comp=Z,4.3nm,0.9s						
KSAR	Wonju Array Be	43.29	37	P	P	16 20 53.8	-0.7
KSRS	Korea Array	43.32	37	P	P	16 20 53.8	-1.0
	comp=Z,3.5nm,0.7s,baz=218,slow=8.7,SNR=9.8						
KSRS				LR	LR	16 41 42.4	
	comp=Z,131nm,18.2s,baz=228,slow=40						
MKAR	Makanchi Array	43.79	346	P	P	16 20 59.0	+0.5
MKAR	Makanchi Array	43.79	346	P	P	16 20 59.0	+0.5
	comp=Z,5.4nm,0.6s,baz=160,slow=7.5,SNR=17						
SONM	Songino Array	43.80	9	P	P	16 20 58.3	-0.4
SONM				PcP	PcP	16 22 46.8	+1.7
SONM	Songino Array	43.80	9	P	P	16 20 58.3	-0.4
	comp=Z,2.5nm,0.7s,baz=190,slow=9.5,SNR=10						
SONM				PcP	PcP	16 22 46.8	+1.7
	comp=Z,0.7nm,0.5s,baz=196,slow=4.1,SNR=3.8						
ULN	Ulaanbaatar	43.94	10	P	P	16 20 58.8	-1.1
	comp=Z,3.7nm,1.0s						
WRA	Warramunga Arr	44.31	125	P	P	16 21 01.0	-2.1
WRA				PcP	PcP	16 22 48.5	+1.2
WRA	Warramunga Arr	44.31	125	P	P	16 21 01.0	-2.1
	comp=Z,14nm,0.5s,baz=304,slow=9.1,SNR=6.1						
WRA				PcP	PcP	16 22 48.5	+1.2
	comp=Z,3.2nm,0.7s,baz=316,slow=2.6,SNR=6.2						
WRA				LR	LR	16 39 42.5	
	comp=Z,154nm,21.7s,baz=330,slow=36						
KKAR	Karatay Array	44.78	333	*eP*	P	16 21 04.6	-1.8
	comp=Z,3.4nm,0.8s						
ASAR	Alice Springs	45.89	130	P	P	16 21 13.6	-2.0
ASAR				PcP	PcP	16 22 54.1	+1.4
ASAR				ScP	ScP	16 26 46.4	+0.7
ASAR	Alice Springs	45.89	130	P	P	16 21 13.6	-2.0
	comp=Z,15nm,0.6s,baz=300,slow=8.0,SNR=7.7						
ASAR				PcP	PcP	16 22 54.1	+1.4
	comp=Z,4.3nm,0.9s,baz=315,slow=3.2,SNR=6.7						
ASAR				ScP	ScP	16 26 46.4	+0.7
	comp=Z,0.6nm,0.8s,baz=301,slow=4.0,SNR=3.7						
ASAR				LR	LR	16 42 19.9	
	comp=Z,113nm,20.4s,baz=302,slow=39						
AS31	Alice Springs	45.89	130	*eP*	P	16 21 13.0	-2.6
CN2	Changchun	46.48	29	*eP*	P	16 21 21.3	+1.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KURBB	Kurchatov Arra	48.29	345	P	P	16 21 34.3	+0.5
	comp=Z,1.6nm,0.7s,baz=163,slow=6.8,SNR=12						
KURK	Kurchatov	48.35	345	P	P	16 21 34.3	+0.1
QIS	Mount Isa	48.98	122	P	P	16 21 39.8	+0.2
	baz=49,SNR=8.4						
MDJ	Mudanjiang	49.12	31	P	P	16 21 41.8	+1.5
MDJ				PP	PP	16 23 38.3	+4.2
MDJ				S	S	16 28 47.0	+1.9
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.8s						
MDJ				LR	LR		
	comp=Z,200nm,20.1s						
MDJ				LR	LR		
	comp=Z,130nm,21.1s						
MDJ	Mudanjiang	49.12	31	P	P	16 21 40.5	+0.2
MAJO	Matsushiro	49.51	45	P	P	16 21 44.1	+0.6
	comp=Z,21nm,1.2s						
MJAR	Matsushiro Arr	49.51	45	LR	LR	16 43 39.1	
	comp=Z,98nm,20.2s,baz=235,slow=37						
COEN	Coen	49.65	113	P	P	16 21 43.1	-1.7
	baz=50,SNR=22						
ZAA0	Zalesovo Array	50.09	351	*eP*	P	16 21 48.4	+0.9
ZALV	Zalesovo Beam	50.09	351	P	P	16 21 48.8	+1.3
ZALV	Zalesovo Beam	50.09	351	P	P	16 21 48.8	+1.3
	comp=Z,2.1nm,0.5s,baz=181,slow=6.9,SNR=8.4						
ZALV				LR	LR	16 47 12.4	
	comp=Z,71nm,18.4s,baz=78,slow=41						
USRK	Ussuriysk Arra	50.09	33	P	P	16 21 48.8	+1.0
	comp=Z,3.7nm,0.8s,baz=213,slow=9.0,SNR=5.7						
PMG	Port Moresby	52.16	106	*eP*	P	16 22 01.2	-2.5
	comp=Z,1.8nm,0.8s						
ABKAR	Akbulak array	54.27	331	*eP*	P	16 22 15.6	-3.1
	comp=Z,3.6nm,0.5s						
CTAO	Charters Tower	54.51	119	P	P	16 22 15.6	-5.4
QLP	Quilpie	55.45	127	P	P	16 22 26.0	-1.7
	baz=56,SNR=12						
AKTO	Aktyubinsk	55.98	331	LR	LR	16 49 44.3	
	comp=Z,110nm,18.5s,baz=141,slow=40						
STKA	Stephens Creek	56.04	134	*eP*	P	16 22 31.5	-0.3
	comp=Z,3.4nm,1.1s						
STKA	Stephens Creek	56.04	134	P	P	16 22 31.5	-0.3
	comp=Z,6.9nm,0.7s,baz=293,slow=6.6,SNR=14						
STKA				LR	LR	16 48 32.0	
	comp=Z,132nm,19.0s,baz=303,slow=38						
RABL	Rabaul	56.07	98	P	P	16 22 33.3	+0.9
	baz=56,SNR=3.5						
GNI	Garni	58.51	315	LR	LR	16 50 41.8	
	comp=Z,62nm,19.7s,baz=100,slow=39						
CMSA	Cobar Meteorol	58.88	131	P	P	16 22 50.2	-1.6
	baz=59,SNR=18						
RMQ	Roma	59.08	125	P	P	16 22 54.6	+1.3
	baz=59,SNR=7.1						
KMBO	Kilima Mbogo	59.70	266	*eP*	P	16 22 59.4	+1.2
	comp=Z,5.0nm,0.9s						
KMBO	Kilima Mbogo	59.70	266	P	P	16 23 00.0	+1.8
	comp=Z,4.4nm,0.8s,baz=53,slow=11,SNR=9.5						
KMBO				LR	LR	16 47 26.4	
	comp=Z,82nm,19.3s,baz=100,slow=35						
KBZ	Khabaz	61.18	318	P	P	16 23 09.0	+1.5
KBZ	Khabaz	61.18	318	P	P	16 23 09.0	+1.5
	comp=Z,1.3nm,0.6s,baz=72,slow=6.4,SNR=3.7						
EIL	Elat	63.26	301	P	P	16 23 22.6	+0.9
	baz=63,SNR=4.0						
BR131	Keskin Array S	66.47	311	*eP*	P	16 23 40.1	-2.5
	comp=Z,2.1nm,0.7s						
BRTR	Keskin Array B	66.47	311	P	P	16 23 41.1	-1.5
BRTR	Keskin Array B	66.47	311	P	P	16 23 41.1	-1.5
	comp=Z,2.3nm,0.8s,baz=134,slow=7.0,SNR=8.4						
BRTR				LR	LR	16 55 35.6	
	comp=Z,35nm,18.1s,baz=106,slow=39						
PETK	Petropavlovsk-	69.14	34	LR	LR	16 57 41.0	
	comp=Z,41nm,19.1s,baz=230,slow=39						
LSZ	Lusaka	70.69	252	P	P	16 24 10.5	+1.1
	comp=Z,8.9nm,1.1s						
AKASG	Malin Array Be	72.26	322	P	P	16 24 18.2	+0.2
AKASG	Malin Array Be	72.26	322	P	P	16 24 18.2	+0.2
	comp=Z,0.4nm,0.5s,baz=90,slow=5.7,SNR=3.1						
AKASG				LR	LR	16 58 11.9	
	comp=Z,63nm,20.8s,baz=145,slow=38						
IDI	Anoyia	72.51	305	P	P	16 24 19.6	-0.4
IDI	Anoyia	72.51	305	P	P	16 24 19.6	-0.4
	comp=Z,5.9nm,0.6s,baz=78,slow=9.5,SNR=10						
MLR	Muntele Rosu	73.26	316	P	P	16 24 24.8	+0.5
MLR	Muntele Rosu	73.26	316	P	P	16 24 24.8	+0.5
	comp=Z,0.8nm,0.6s,baz=129,slow=5.4,SNR=4.5						
LBTB	Lobatse	75.03	243	*eP*	P	16 24 35.3	+0.3
	comp=Z,15nm,0.9s						
BOSA	Boshof	76.12	239	P	P	16 24 40.2	-1.0
BOSA	Boshof	76.12	239	P	P	16 24 40.2	-1.0
	comp=Z,8.9nm,0.8s,baz=86,slow=6.2,SNR=5.0						
FINES	FINESS Array B	76.73	332	LR	LR	17 01 13.5	
	comp=Z,70nm,19.6s,baz=89,slow=38						
CRVS	Cervenica-Dubn	76.83	319	*e*	P	16 24 52.6	+7.9
CRVS				*e*		16 25 05.9	
STHS	Stebnicka Huta	77.04	320	*eP*	P	16 24 46.7	+0.8
KECS	Kecovo	77.41	319	*e*	P	16 24 52.5	+4.6
ARCES	ARCESS Array B	79.14	340	P	P	16 24 56.5	-0.6
ARCES	ARCESS Array B	79.14	340	P	P	16 24 56.5	-0.6
	comp=Z,7.6nm,1.0s,baz=102,slow=8.4,SNR=4.0						
ARCES				LR	LR	17 03 08.5	
	comp=Z,221nm,19.9s,baz=98,slow=38						
SOKA	Soboth	80.93	316	⇑*iP*	P	16 25 07.2	-0.2
	comp=Z,5.9nm,1.5s						
TSUM	Tsumeb	81.32	250	P	P	16 25 11.4	+1.4
GERES	GERESS Array B	81.92	319	P	P	16 25 11.7	-0.8
GERES	GERESS Array B	81.92	319	P	P	16 25 11.7	-0.8
	comp=Z,0.8nm,0.5s,baz=116,slow=6.1,SNR=5.9						
GERES				LR	LR	17 05 45.4	
	comp=Z,61nm,21.1s,baz=316,slow=39						
SPITS	Spitsbergen Ar	83.49	348	LR	LR	17 07 40.8	
	comp=Z,135nm,21.4s,baz=235,slow=39						
NOA	NORSAR Array B	83.78	331	P	P	16 25 21.9	+0.1
NOA	NORSAR Array B	83.78	331	P	P	16 25 21.9	+0.1
	comp=Z,1.5nm,0.9s,baz=91,slow=4.1,SNR=2.8						
NOA				LR	LR	17 06 18.2	
	comp=Z,128nm,19.7s,baz=100,slow=38						
FETA	Feichten	83.89	317	⇑*iP*	P	16 25 20.7	-2.2
	comp=Z,4.3nm,1.0s						
LPG	La Plagne	86.70	315	*eP*	P	16 25 37.3	+0.2
	comp=Z,22nm,1.1s						
LPG	La Plagne	86.70	315	*eP*	P	16 25 37.3	+0.2
	comp=Z,22nm,1.1s						
LPL	La Plagne	86.71	315	*eP*	P	16 25 37.4	+0.3
	comp=Z,20nm,1.1s						
LPL	La Plagne	86.71	315	*eP*	P	16 25 37.4	+0.3
	comp=Z,20nm,1.1s						
VNDA	Vanda	89.29	169	P	P	16 25 46.6	-1.8
VNDA	Vanda	89.29	169	P	P	16 25 48.3	-0.1
	comp=Z,4.5nm,1.1s,baz=275,slow=6.1,SNR=3.0						
TAM	Tamanrasset	89.33	293	P	P	16 25 50.2	+0.2
TOA0	Torodi Ar. Sit	93.84	283	*eP*	P	16 26 09.8	-1.0
TORD	Torodi Ar. Bea	93.84	283	P	P	16 26 10.3	-0.6
TORD	Torodi Ar. Bea	93.84	283	P	P	16 26 10.3	-0.6
	comp=Z,3.1nm,0.9s,baz=83,slow=4.0,SNR=12						
QSPA	South Pole Qui	94.58	180	*eP*	P	16 26 13.6	+0.3
	comp=Z,30nm,1.9s						
ILAR	Eielson Array	96.71	23	LR	LR	17 14 51.7	
	comp=Z,80nm,19.9s,baz=136,slow=38						

DJA 28 16:17:18.2±0.3,5°S±4°×12°4E±°, h10km, M4.0/15, mb4.3/4, MLv3.8/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	Kolaka, Sulawe	2.17	282	P	x	16 17 54.0	
KKSI				S	x	16 18 25.3	
SANI	Sanana	3.37	41	P	Pb	16 18 15.9	-2.2
SANI				S	Sn	16 18 54.9	+3.8
NLAI	Namlea	3.58	68	P	Pn	16 18 15.3	+1.4
NLAI				S	Sn	16 18 56.6	+0.3
BNSI	Bone	3.67	273	P	Pn	16 18 14.6	-0.4
BNSI				S	Sg	16 19 18.9	+2.8
LUWI	Luwuk	3.69	344	P	Pn	16 18 13.7	-1.7
LUWI				S	Sg	16 19 18.9	+1.9
LUWI	Luwuk	3.69	344	P	Pg	16 18 29.0	0.0
	baz=27,SNR=5.3						
BKSI	Bulukumba	3.71	259	P	Pn	16 18 16.2	+0.6
BKSI				S	Sn	16 19 01.8	+2.4
SPSI	Sidrap Palu	4.05	279	P	Pb	16 18 28.5	-1.2
TTSI	Tana Toraja	4.25	291	P	Pn	16 18 20.8	-2.2
APSI	Ampana	4.25	330	P	Pn	16 18 22.1	-1.0
MMRI	Maumere	4.27	201	P	Pn	16 18 26.4	+3.0
MJSI	Majene	4.90	282	P	x	16 18 25.5	
SOEI	Soe	5.12	175	P	Pb	16 18 51.5	+3.3
	baz=31,SNR=4.1						
KMSI	Cibinong	5.16	2	P	Pn	16 18 34.8	-0.8
	98nm,1.3s,0.4nm						
MMSI	Mamuju	5.22	291	P	x	16 18 35.8	
	33nm,1.1s,0.1nm						
PCI	Palu	5.40	313	P	Pn	16 18 29.9	-8.9
LBMI	Labuha	5.43	43	P	Pn	16 18 34.8	-4.5
	22nm,2.0s,0.1nm						

*ISK **28** 16:44:05.8, 42°.21N×26°.39E, h9km, MD3.2*
*CSEM **28** 16:44:06.1±0.2, 42°.16N×26°.32E, h2km, ML2.5, Error ellipse: s-maj=5.1km s-min=4.9km az=114.0*
*THE **28** 16:44:06.0, 42°.26N×26°.41E, h24km±19km, ML2.5/3, Error ellipse: s-maj=24.2km s-min=0.6km az=31.0*
*DDA **28** 16:44:07.5, 42°.06N×26°.34E, h11km, MD3.0*

ISC 28 16:44:05.1±1.1, 42°.23N±0°.02×26°.26E±0°.03, h6km±10km, n75, σ0°81/90, 6C-5D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	Yambol	0.34	45	P	Pg	16 44 11.6	-0.1
JMB				S	Sg	16 44 16.6	+0.5
JMB	Yambol	0.34	45	⇓*iP*	Pg	16 44 11.9	+0.2
JMB				S	Sg	16 44 16.9	+0.8
JMB	Yambol	0.34	45	P	Pg	16 44 11.6	-0.1
JMB				S	Sg	16 44 16.6	+0.5
EDRB	Edirne	0.53	137	*e*PG	Pg	16 44 15.2	0.0
EDRB				*e*SG	Sg	16 44 21.9	-0.1
EDRB	Edirne	0.53	137	*e*Pg	Pg	16 44 15.2	0.0
EDRB				*e*Sg	Sg	16 44 22.0	-0.1
PHSR	Pinarhisar	1.12	122	*e*PG	Pb	16 44 25.8	-1.0
PHSR	Pinarhisar	1.12	122	*e*Pg	Pb	16 44 25.8	-1.0
RDO	Rodhopi	1.21	207	P	Pn	16 44 28.2	-0.5
RDO				S	Sb	16 44 44.4	+0.1
RDO	Rodhopi	1.21	207	*eP*	Pn	16 44 28.2	-0.3
RDO	Rodhopi	1.21	207	P	Pn	16 44 28.0	-0.5
RDO				S	Sb	16 44 44.4	+0.1
ALN	Alexandroupoli	1.34	187	P	Pn	16 44 29.9	-0.4
ALN				S	Sb	16 44 47.4	-0.6
ALN	Alexandroupoli	1.34	187	*e*PN	Pb	16 44 31.0	+0.4
ALN				*e*SN	Sg	16 44 50.0	+1.8
ALN	Alexandroupoli	1.34	187	*eP*	Pn	16 44 30.0	-0.4
ALN	Alexandroupoli	1.34	187	P	Pn	16 44 29.9	-0.4
ALN	Alexandroupoli	1.34	187	*e*Pn	Pb	16 44 31.0	+0.4
ALN				S	Sb	16 44 47.4	-0.6
ALN				*e*Sn	Sg	16 44 50.0	+1.8
ENEZ	Enez	1.50	183	*e*PN	Pb	16 44 33.5	+0.3
ENEZ	Enez	1.50	183	*e*Pn	Pb	16 44 33.5	+0.3
CRLT	Corlu	1.56	134	*e*PN	Pn	16 44 33.2	-0.1
CRLT	Corlu	1.56	134	*e*Pn	Pn	16 44 33.2	-0.1
ERIK	Erikli-Kesan	1.57	173	*e*PN	Pn	16 44 33.3	-0.1
ERIK	Erikli-Kesan	1.57	173	*e*Pn	Pn	16 44 33.3	-0.1
SART	Tekirdag	1.69	156	*i* P	Pb	16 44 35.7	-0.9
SART				*i* S	Sg	16 44 58.5	-0.9
SART	Tekirdag	1.69	156	*i* P	Pb	16 44 35.7	-0.9
SART				*i* S	Sg	16 44 58.5	-0.9
RKY	Sarkoy-Tekirda	1.69	156	*e*PN	Pb	16 44 35.8	-0.8
RKY	Sarkoy-Tekirda	1.69	156	*e*Pn	Pb	16 44 35.8	-0.8
CTYL	Yal??k??y-??at	1.69	116	*e*PN	Pb	16 44 35.4	-1.2
CTYL	Yal??k??y-??at	1.69	116	*e*Pn	Pb	16 44 35.4	-1.2
SLVT	Silivri	1.77	124	*e*PN	Pn	16 44 36.2	0.0
SLVT	Silivri	1.77	124	*e*Pn	Pn	16 44 36.2	0.0
KAVA	Kavala	1.80	227	P	Pn	16 44 36.2	-0.4
KAVA				S	Sn	16 45 00.3	+0.6
KAVA	Kavala	1.80	227	*eP*	Pn	16 44 36.3	-0.4
KAVA	Kavala	1.80	227	P	Pn	16 44 36.2	-0.4
KAVA				S	Sn	16 45 00.3	+0.6
GELI	Tayfur-Gelibol	1.84	175	*e*PN	Pb	16 44 38.1	-1.0
GELI	Tayfur-Gelibol	1.84	175	*e*Pn	Pb	16 44 38.1	-1.0
SMTH	Samothraki Isl	1.84	198	*eP*	Pn	16 44 36.9	-0.3
LPK	Lapseki	1.89	168	*e*PN	Pn	16 44 38.5	+0.6
LPK	Lapseki	1.89	168	*e*Pn	Pn	16 44 38.5	+0.6
CTKS	Kestanelik-??a	1.95	120	*e*PN	Pn	16 44 38.9	+0.2
CTKS	Kestanelik-??a	1.95	120	*e*Pn	Pn	16 44 38.9	+0.2
KRBG	Karabiga-Canak	2.00	157	*e*PN	Pn	16 44 39.3	0.0
KRBG	Karabiga-Canak	2.00	157	*e*Pn	Pn	16 44 39.3	0.0
MMB	Musomiste	2.00	252	⇑*iP*	Pb	16 44 41.9	+0.1
MMB	Musomiste	2.00	252	S	Sb	16 45 09.3	+2.4
MMB	Musomiste	2.00	252	⇑*iP*	Pb	16 44 41.9	+0.1
NVR	Nevrokopi	2.00	245	*eP*	Pb	16 44 41.9	0.0
BGKT	Bogazkoy	2.15	118	*e*PN	Pn	16 44 41.7	+0.2
BGKT	Bogazkoy	2.15	118	*e*Pn	Pn	16 44 41.7	+0.2
SRS	Serrai	2.29	242	*eP*	Pn	16 44 42.6	-0.8
VTS	Vitosha	2.29	280	*e*PN	Pb	16 44 46.2	-0.7
VTS	Vitosha	2.29	280	⇓*iP*	Pn	16 44 43.3	-0.2
VTS	Vitosha	2.29	280	S	Sn	16 45 11.9	-0.2
VTS	Vitosha	2.29	280	⇓*iP*	Pn	16 44 43.3	-0.2
VTS	Vitosha	2.29	280	*e*Pn	Pb	16 44 46.2	-0.7
KLYT	Kilyos	2.30	114	*e*PN	Pn	16 44 43.5	0.0
KLYT	Kilyos	2.30	114	*e*Pn	Pn	16 44 43.5	0.0
ISK	Istanbul-Kandi	2.40	118	*e*PN	Pn	16 44 45.5	+0.6
ISK	Istanbul-Kandi	2.40	118	*e*Pn	Pn	16 44 45.5	+0.6
EZN	Ezine	2.40	179	*e*PN	Pn	16 44 45.9	+1.0
EZN	Ezine	2.40	179	*e*Pn	Pn	16 44 45.9	+1.0
GONE	Gonen-Balikesi	2.43	153	*e*PN	Pn	16 44 45.5	+0.2
GONE	Gonen-Balikesi	2.43	153	*e*Pn	Pn	16 44 45.5	+0.2
HUMR	Humele	2.48	338	S	Sb	16 45 21.2	+0.4
HUMR	Humele	2.48	338	S	Sb	16 45 21.2	+0.4
OUR	Ouranopolis	2.56	223	*e*PN	Pb	16 44 49.8	-1.5
OUR	Ouranopolis	2.56	223	*e*Pn	Pb	16 44 49.8	-1.5
TLB	Topalu	2.69	28	⇑*iP*	Pb	16 44 52.9	-0.7
TLB	Topalu	2.69	28	⇑*iP*	Pb	16 44 52.9	-0.7
KNT	Kendrikon	2.74	248	*eP*	Pn	16 44 48.8	-0.7
SILT	Sile	2.75	112	*e*PN	Pn	16 44 50.1	+0.4
SILT	Sile	2.75	112	*e*Pn	Pn	16 44 50.1	+0.4
CFR	Carcaliu	3.25	24	⇑*iP*	Pb	16 45 05.0	+1.9
MLR	Muntele Rosu	3.27	356	⇓*iP*	Pb	16 45 02.2	-1.3
MLR	Muntele Rosu	3.27	356	⇓*iP*	Pb	16 45 02.2	-1.3
VOIR		3.32	345	⇑*iP*	Pg	16 45 09.8	+1.0
GZR	Gura Zlata	4.04	323	S	Sg	16 46 12.1	-2.8

*CSEM **28** 16:47:29.6±0.2, 37°.41N×20°.83E, h10km, ML3.8, Error ellipse: s-maj=5.3km s-min=2.8km az=53.0*
*ATH **28** 16:47:29.0, 37°.42N×20°.79E, h18km±1km, MD3.5/32, ML3.7*
*ISCJB **28** 16:47:29.3±0.5, 37°.39N±0°.02×20°.76E±0°.03, h23km±3km, mb3.6/11, Error ellipse: s-maj=4.1km s-min=2.7km az=142.1*
*THE **28** 16:47:30.5, 37°.41N×20°.84E, h17km±1km, ML3.8/18, Error ellipse: s-maj=2.2km s-min=0.7km az=226.0*
*IDC **28** 16:47:35.0±1.7, 37°.51N×20°.91E, h59km±18km, mb3.4/11, mb1 3.5/17, mb1mx3.4/46, mbtmp3.6/17, MS2.9/1, Ms1 2.9/1, ms1mx2.3/31, Error ellipse: s-maj=17.5km s-min=11.8km az=30.0*
*TIR **28** 16:47:40.3±0.3, 38°.99N×22°.01E, h47km*

ISC 28 16:47:29.8±0.8, 37°.41N±0°.02×20°.79E±0°.03, h18km±2km, n261, σ1°18/319, mb3.7/11, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	Strofades	0.24	132	P	Pg	16 47 34.9	-0.5
SFD				S	Sb	16 47 39.2	+0.1
SFD	Strofades	0.24	132	*e*PB	Pg	16 47 35.0	-0.5
SFD				*e*SB	Sb	16 47 39.6	+0.5
SFD	Strofades	0.24	132	P	Pg	16 47 34.9	-0.5
SFD				S	Sb	16 47 39.2	+0.1
VTN	Vitineika	0.59	32	P	Pb	16 47 41.1	-0.4
VTN	Vitineika	0.59	32	P	Pg	16 47 41.6	0.0
KFL	Anninata	0.69	360	P	Pb	16 47 42.4	-0.9
KFL				S	Sg	16 47 53.9	+1.1
KFL	Anninata	0.69	360	P	Pb	16 47 42.4	-0.9
KFL				S	Sg	16 47 53.9	+1.1
AMT	Artemida-Makis	0.74	80	P	Pb	16 47 43.3	-0.8
AMT				S	Sg	16 47 54.3	+0.1
AMT	Artemida-Makis	0.74	80	*e*PN	Pb	16 47 43.3	-0.8
AMT				*e*SN	Sg	16 47 54.7	+0.5
AMT	Artemida-Makis	0.74	80	P	Pb	16 47 43.3	-0.8
AMT				S	Sg	16 47 54.3	+0.1
VLS	Valsamata	0.78	348	P	Pb	16 47 43.9	-0.9
VLS				S	Sg	16 47 56.0	+0.6
VLS	Valsamata	0.78	348	*e*PN	Pb	16 47 44.0	-0.9
VLS				*e*SN	Sg	16 47 56.1	+0.6
VLS	Valsamata	0.78	348	P	Pb	16 47 43.9	-0.9
VLS				S	Sg	16 47 56.2	+0.8
RLS	Riolos of Patr	0.84	40	P	Pb	16 47 44.8	-1.0
RLS				S	Sg	16 47 57.2	-0.1
RLS	Riolos of Patr	0.84	40	*e*PN	Pb	16 47 44.7	-1.0
RLS				*e*SN	Sb	16 47 56.7	0.0
RLS	Riolos of Patr	0.84	40	P	Pb	16 47 44.8	-1.0
RLS				*e*Sn	Sb	16 47 56.7	0.0
RLS				S	Sg	16 47 57.2	-0.1
DRO	Drossia	0.91	53	P	Pb	16 47 45.9	-1.1
DRO				S	Sb	16 47 59.0	+0.3
DRO	Drossia	0.91	53	*e*PN	Pb	16 47 46.2	-0.8
DRO	Drossia	0.91	53	P	Pb	16 47 46.1	-0.9
DRO				S	Sb	16 47 59.0	+0.3
PYL	PYLOS	0.92	124	P	Pb	16 47 45.9	-1.3
PYL				S	Sg	16 47 59.4	-0.4
PYL	PYLOS	0.92	124	*e*PB	Pb	16 47 45.8	-1.4
PYL				*e*SN	Sn	16 48 00.1	-0.4
PYL	PYLOS	0.92	124	P	Pb	16 47 45.9	-1.3
PYL				S	Sb	16 47 58.7	-0.3
PYL				*e*Sn	Sn	16 48 00.1	-0.4
ITM	Ithomi	0.94	104	P	Pb	16 47 46.3	-1.2
ITM				S	Sg	16 48 00.2	-0.2
ITM	Ithomi	0.94	104	*e*PN	Pb	16 47 46.9	-0.6
ITM				*e*SN	Sg	16 48 00.1	-0.3
ITM	Ithomi	0.94	104	P	Pb	16 47 46.5	-1.0
ITM	Ithomi	0.94	104	*e*Pn	Pb	16 47 46.9	-0.6

DID				S	Sn	16 48 26.2	+0.2
AXAR	Agios Charalam	2.00	47	P	Pn	16 48 03.5	+0.9
AXAR	Agios Charalam	2.00	47	*e*PN	Pb	16 48 05.2	-0.4
AXAR	Agios Charalam	2.00	47	P	Pn	16 48 03.5	+0.9
AXAR	Agios Charalam	2.00	47	*e*Pn	Pb	16 48 05.2	-0.4
AGG	Agios Georgios	2.01	37	P	Pn	16 48 01.7	-1.1
AGG	Agios Georgios	2.01	37	*e*PN	Pb	16 48 05.7	-0.1
AGG	Agios Georgios	2.01	37	P	Pn	16 48 01.7	-1.1
AGG	Agios Georgios	2.01	37	*e*Pn	Pb	16 48 05.7	-0.1
KYTH	Kithira	2.13	121	P	Pn	16 48 04.0	-0.4
KYTH	Kithira	2.13	121	*e*PN	Pb	16 48 06.4	-1.4
KYTH	Kithira	2.13	121	P	Pn	16 48 04.0	-0.4
KYTH	Kithira	2.13	121	*e*Pn	Pb	16 48 06.4	-1.4
LKR	Lokris	2.14	54	P	Pn	16 48 05.1	+0.6
LKR				S	Sn	16 48 30.8	+0.2
LKR	Lokris	2.14	54	*e*PN	Pb	16 48 06.7	-1.2
LKR	Lokris	2.14	54	P	Pn	16 48 05.1	+0.6
LKR	Lokris	2.14	54	*e*Pn	Pb	16 48 06.7	-1.2
LKR				S	Sn	16 48 30.8	+0.2
IGT	Igoumenitsa	2.15	351	P	Pn	16 48 05.7	+1.1
IGT				S	Sn	16 48 30.6	-0.2
IGT	Igoumenitsa	2.15	351	*e*PN	Pn	16 48 06.4	+1.8
IGT	Igoumenitsa	2.15	351	P	Pn	16 48 05.7	+1.1
IGT	Igoumenitsa	2.15	351	*e*Pn	Pn	16 48 06.4	+1.8
IGT				S	Sn	16 48 30.6	-0.2
NAIG	Nisos Aigina	2.17	80	*e*PB	Pn	16 48 06.1	+1.1
NAIG	Nisos Aigina	2.17	80	*e*Pb	Pn	16 48 06.1	+1.1
JAN	Janina	2.24	1	P	Pn	16 48 07.1	+1.1
JAN	Janina	2.24	1	*e*PN	Pb	16 48 08.5	-1.2
JAN	Janina	2.24	1	P	Pn	16 48 07.1	+1.1
JAN	Janina	2.24	1	*e*Pn	Pb	16 48 08.5	-1.2
THL	Klokotos Trika	2.35	24	P	Pn	16 48 07.9	+0.8
THL				S	Sn	16 48 37.2	+1.3
THL	Klokotos Trika	2.35	24	*e*PN	Pb	16 48 10.0	-1.6
THL	Klokotos Trika	2.35	24	P	Pn	16 48 07.9	+0.4
THL	Klokotos Trika	2.35	24	*e*Pn	Pb	16 48 10.0	-1.6
THL				S	Sn	16 48 37.2	+1.3
ATH	Athens Observa	2.39	76	P	Pn	16 48 09.1	+1.2
ATH	Athens Observa	2.39	76	*e*PB	Pb	16 48 10.3	-1.9
ATH	Athens Observa	2.39	76	P	Pn	16 48 09.1	+1.2
ATH	Athens Observa	2.39	76	*e*Pb	Pb	16 48 10.3	-1.9
MEV	Metsovon	2.39	8	P	Pn	16 48 09.0	+0.8
MEV	Metsovon	2.39	8	P	Pn	16 48 09.0	+0.8
SMIA	Simia	2.40	52	P	Pn	16 48 09.5	+1.3
SMIA	Simia	2.40	52	*e*PB	Pn	16 48 10.2	+2.0
SMIA	Simia	2.40	52	P	Pn	16 48 09.5	+1.3
SMIA	Simia	2.40	52	*e*Pb	Pn	16 48 10.2	+2.0
KEK	Kerkira	2.42	342	P	Pn	16 48 08.8	+0.3
KEK	Kerkira	2.42	342	P	Pn	16 48 08.8	+0.3
PTL	Penteli	2.52	74	P	Pn	16 48 09.0	-0.8
PTL	Penteli	2.52	74	*e*PN	Pn	16 48 11.2	+1.4
PTL	Penteli	2.52	74	P	Pn	16 48 09.0	-0.8
PTL	Penteli	2.52	74	*e*Pn	Pn	16 48 11.2	+1.4
ANKY	Antikythira Is	2.54	127	P	Pn	16 48 10.2	+0.1
ANKY	Antikythira Is	2.54	127	*e*PN	Pn	16 48 11.5	+1.4
ANKY	Antikythira Is	2.54	127	P	Pn	16 48 10.2	+0.1
ANKY	Antikythira Is	2.54	127	*e*Pn	Pn	16 48 11.5	+1.4
MRKA	Markates	2.56	59	P	Pn	16 48 11.2	+0.9
MRKA	Markates	2.56	59	*e*PN	Pn	16 48 12.0	+1.7
MRKA	Markates	2.56	59	P	Pn	16 48 11.2	+0.9
MRKA	Markates	2.56	59	*e*Pn	Pn	16 48 12.0	+1.7
ERET	Eretria	2.60	66	P	Pn	16 48 11.2	+0.3
ERET	Eretria	2.60	66	P	Pn	16 48 11.2	+0.3
FYTO	Fytoko, Volos	2.61	40	P	Pn	16 48 11.5	+0.5
FYTO				S	Sn	16 48 43.2	+1.0
FYTO	Fytoko, Volos	2.61	40	P	Pn	16 48 11.5	+0.5
FYTO				S	Sn	16 48 43.2	+1.0
XOR	Xorichti	2.71	43	P	Pn	16 48 13.2	+0.7
XOR				S	Sn	16 48 44.5	-0.3
XOR	Xorichti	2.71	43	*e*PN	Pn	16 48 14.1	+1.6
XOR	Xorichti	2.71	43	P	Pn	16 48 13.2	+0.7
XOR	Xorichti	2.71	43	*e*Pn	Pn	16 48 14.1	+1.6
XOR				S	Sn	16 48 44.5	-0.3
SKIA	Skiathos	2.74	49	P	Pn	16 48 13.7	+0.9
SKIA				S	Sn	16 48 45.3	-0.1
SKIA	Skiathos	2.74	49	*e*PN	Pn	16 48 14.6	+1.8
SKIA	Skiathos	2.74	49	P	Pn	16 48 13.7	+0.9
SKIA	Skiathos	2.74	49	*e*Pn	Pn	16 48 14.6	+1.8
SKIA				S	Sn	16 48 45.3	-0.1
MRMA	Marmari	2.92	76	P	Pn	16 48 14.9	-0.3
MRMA	Marmari	2.92	76	P	Pn	16 48 14.9	-0.3
KZN	Kozani	2.99	15	P	Pn	16 48 16.9	+0.6
KZN	Kozani	2.99	15	*e*PN	Pn	16 48 18.6	+2.3
KZN	Kozani	2.99	15	P	Pn	16 48 16.9	+0.6
KZN	Kozani	2.99	15	*e*Pn	Pn	16 48 18.6	+2.3
LIT	Litokhoron	3.00	26	P	Pn	16 48 16.9	+0.6
LIT	Litokhoron	3.00	26	*e*PN	Pn	16 48 17.4	+1.1
LIT	Litokhoron	3.00	26	P	Pn	16 48 16.9	+0.6
LIT	Litokhoron	3.00	26	*e*Pn	Pn	16 48 17.4	+1.1
AOS	Alonnisos	3.00	53	P	Pn	16 48 17.8	+1.4
AOS	Alonnisos	3.00	53	*e*P	Pn	16 48 19.0	+2.7
AOS	Alonnisos	3.00	53	*e*PN	Pn	16 48 17.7	+1.4
AOS	Alonnisos	3.00	53	*e*Pn	Pn	16 48 17.7	+1.4
NEST	Nestorio	3.00	4	P	Pn	16 48 17.7	+1.2
NEST	Nestorio	3.00	4	*e*PB	Pn	16 48 19.5	+3.0
NEST	Nestorio	3.00	4	P	Pn	16 48 17.7	+1.2
NEST	Nestorio	3.00	4	*e*Pb	Pn	16 48 19.5	+3.0
KBN	Korca	3.21	360	*i* PN	Pn	16 48 14.8	-4.5
KBN				*i* SN	Sn	16 48 42.8	-14
PAIG	Paliouri	3.38	41	P	Pn	16 48 22.4	+0.8
PAIG				S	Sn	16 49 03.7	+2.5
PAIG	Paliouri	3.38	41	*e*PN	Pn	16 48 22.4	+0.8
PAIG	Paliouri	3.38	41	P	Pn	16 48 22.4	+0.8
PAIG				S	Sn	16 49 03.7	+2.5
FNA	Florina	3.40	8	P	Pn	16 48 23.7	+1.9
	220nm,0.5s						
FNA				S	Sn	16 49 02.2	+0.5
FNA	Florina	3.40	8	*e*PN	Pn	16 48 23.8	+1.9
FNA	Florina	3.40	8	P	Pn	16 48 23.7	+1.9
	220nm,0.5s						
FNA				S	Sn	16 49 02.2	+0.5
VAM	Vamos	3.40	125	*e*PN	Pn	16 48 22.7	+0.8
VAM	Vamos	3.40	125	*e*Pn	Pn	16 48 22.7	+0.8
PLG	Polygyros	3.61	34	P	Pn	16 48 25.8	+0.9
PLG	Polygyros	3.61	34	*e*PN	Pn	16 48 25.7	+0.9
PLG	Polygyros	3.61	34	*e*Pn	Pn	16 48 25.8	+0.9
BIA	Bitola	3.62	6	P	Pn	16 48 26.8	+1.8
BIA	Bitola	3.62	6	P	Pn	16 48 26.8	+1.8
THE	Thessaloniki	3.63	27	*e*PN	Pn	16 48 26.1	+1.1
THE	Thessaloniki	3.63	27	*e*Pn	Pn	16 48 26.1	+1.1
GVD	Gavdhos	3.71	133	*e*P	Pb	16 48 37.0	+2.3
GRG	Griva	3.75	19	P	Pn	16 48 28.1	+1.3
GRG	Griva	3.75	19	*e*PN	Pn	16 48 28.1	+1.3
GRG	Griva	3.75	19	P	Pn	16 48 28.1	+1.3
APE	Apeiranthos	3.80	94	*e*P	Pn	16 48 25.8	-1.6
APE	Apeiranthos	3.80	94	*e*P	Pn	16 48 25.8	-1.6
OUR	Ouranopolis	3.84	40	*e*PN	Pn	16 48 29.1	+1.3
OUR	Ouranopolis	3.84	40	*e*Pn	Pn	16 48 29.1	+1.3
SANT	Santorini	3.88	104	*e*P	Pn	16 48 29.0	+0.4
SANT	Santorini	3.88	104	*e*PN	Pn	16 48 29.4	+0.8
SANT	Santorini	3.88	104	*e*P	Pn	16 48 29.0	+0.4
SANT	Santorini	3.88	104	*e*Pn	Pn	16 48 29.4	+0.8
IDI	Anoyia	3.93	121	P	Pn	16 48 32.0	+2.8
	1.7nm,0.3s,baz=305,slow=16,SNR=11						
IDI				S	Sn	16 49 17.8	+2.9
	5.0nm,0.3s,baz=311,slow=19,SNR=8.3						
SOH	Sokhos	3.94	30	P	Pn	16 48 31.1	+1.7
SOH	Sokhos	3.94	30	*e*PN	Pn	16 48 31.2	+1.8
SOH	Sokhos	3.94	30	P	Pn	16 48 31.1	+1.7
SIVA	Sivas	4.04	125	*e*P	Pb	16 48 38.4	-1.9
VAY	Valandovo	4.14	19	*e*Pn	Pn	16 48 33.3	+1.3
VAY	Valandovo	4.14	19	*e*Pn	Pn	16 48 33.3	+1.3
PHP	Peshkopia	4.27	356	P	Pn	16 48 35.9	+2.0
PHP	Peshkopia	4.27	356	P	Pn	16 48 35.9	+2.0
CHOS	Chios island	4.28	75	P	Pn	16 48 34.6	+0.6
CHOS	Chios island	4.28	75	*e*P	Pn	16 48 33.1	-0.8
CHOS	Chios island	4.28	75	*e*PN	Pn	16 48 34.9	+0.9
CHOS	Chios island	4.28	75	P	Pn	16 48 34.6	+0.6
CHOS	Chios island	4.28	75	*e*Pn	Pn	16 48 34.9	+0.9
SRS	Serrai	4.29	30	P	Pn	16 48 35.8	+1.7
SRS	Serrai	4.29	30	P	Pn	16 48 35.8	+1.7
SIGR	SIGRI	4.37	64	*e*P	Pn	16 48 34.6	-0.5
SIGR	SIGRI	4.37	64	*e*PN	Pn	16 48 38.7	+3.5
SIGR	SIGRI	4.37	64	*e*P	Pn	16 48 34.7	-0.5
SIGR	SIGRI	4.37	64	*e*Pn	Pn	16 48 38.7	+3.5
LAST	Lasithi	4.40	119	*e*PN	Pn	16 48 36.3	+0.5
LAST	Lasithi	4.40	119	*e*Pn	Pn	16 48 36.3	+0.5
NVR	Nevrokopi	4.60	30	P	Pn	16 48 40.1	+1.8
NVR	Nevrokopi	4.60	30	P	Pn	16 48 40.1	+1.8
ZKR	Zakros	4.95	116	*e*P	Pn	16 48 47.0	+3.8
ZKR	Zakros	4.95	116	*e*P	Pn	16 48 47.0	+3.8
NIS1	Nisyros Isl.	5.18	97	*e*P	Pn	16 48 47.0	+0.7
NIS1	Nisyros Isl.	5.18	97	*e*P	Pn	16 48 47.0	+0.7
STON	Ston	5.94	338	*i* Pn	Pn	16 48 57.3	+0.5
STON				Sn	Sn	16 49 59.5	-4.9
STON	Ston	5.94	338	*i* Pn	Pn	16 48 57.3	+0.5
DALY	Dalyan (Mu˘la	6.31	93	*e*P	Pn	16 49 01.2	-0.7
DALY	Dalyan (Mu˘la	6.31	93	*e*P	Pn	16 49 01.2	-0.7
ELL	Elmali	7.32	92	*e*P	Pn	16 49 16.1	+0.2
ELL	Elmali	7.32	92	*e*P	Pn	16 49 16.1	+0.2
UDBI	Udbina	8.06	333	*i* Pn	Pn	16 49 24.3	-1.6
NVLJ	Novalja	8.43	330	Sn	Sn	16 51 00.0	-5.4
BOJS	Bojanci	9.09	335	*i* Pn	Pn	16 49 41.1	+1.2
BOJS				*i* Sn	Sn	16 51 19.4	-2.2
BOJS	Bojanci	9.09	335	*i* Pn	Pn	16 49 41.1	+1.2
CRES	Cresnjev	9.30	336	*e*PN	Pn	16 49 41.8	-1.1
CRES	Cresnjev	9.30	336	*e*Pn	Pn	16 49 41.8	-1.1
KEST	Kesra	9.36	263	P	Pn	16 49 48.6	+4.9
	0.1nm,0.3s,baz=56,slow=7.3,SNR=4.1						
VISS	Visnje	9.49	334	*i* Pn	Pn	16 49 46.7	+1.3
VISS				*i* Sn	Sn	16 51 27.2	-4.4
VISS	Visnje	9.49	334	*i* Pn	Pn	16 49 46.7	+1.3
OBKA	Obir	10.20	335	⇑*i* Pn	Pn	16 49 56.6	+1.3
OBKA	Obir	10.20	335	Pn	Pn	16 49 56.6	+1.3
BRTR	Keskin Array B	10.32	73	P	Pn	16 50 00.2	+3.2
	0.1nm,0.3s,baz=242,slow=15,SNR=4.1						
KECS	Kecovo	11.07	359	*e*PN	Pn	16 50 05.7	-1.3
KECS	Kecovo	11.07	359	*e*Pn	Pn	16 50 05.7	-1.3
STHS	Stebnicka Huta	12.00	1	*e*PN	Pn	16 50 14.2	-5.6
GERES	GERESS Array B	12.54	338	P	Pn	16 50 30.2	+3.0
	0.1nm,0.3s,baz=158,slow=16,SNR=3.1						
MMAI	Mount Meron Ar	12.73	106	LR	LR	16 57 32.6	
	comp=Z,53nm,18.6s,baz=40,slow=47						
AKASG	Malin Array Be	14.59	22	P	Pn	16 50 54.6	-0.5
	0.5nm,0.3s,baz=209,slow=11,SNR=2.1						
ESDC	Sonseca Array	19.48	284	P	Pn	16 51 58.9	+2.0
	baz=81,slow=9.2,SNR=4.6						
HFS	Hagfors	23.19	351	P	P	16 52 35.2	0.0
	2.5nm,0.5s,baz=152,slow=13,SNR=10						
EKA	Eskdalemuir Ar	24.18	326	P	P	16 52 46.0	+1.2
	2.0nm,0.6s,baz=128,slow=8.1,SNR=4.1						
FINES	FINESS Array B	24.28	6	P	P	16 52 44.8	-0.9
	1.2nm,0.5s,baz=165,slow=10,SNR=7.0						
NB2	NORSAR Subarra	24.41	349	P	P	16 52 46.5	-0.4
	comp=Z,2.4nm,0.8s,baz=160,slow=9.3						
NB2	NORSAR Subarra	24.41	349	P	P	16 52 46.5	-0.4
	comp=Z,2.4nm,0.8s,SNR=4.0						
NOA	NORSAR Array B	24.41	349	P	P	16 52 47.3	+0.4
	comp=Z,1.3nm,0.8s,baz=156,slow=8.8,SNR=4.2						
TORD	Torodi Ar. Bea	29.58	220	P	P	16 53 34.1	+0.4
	comp=Z,0.8nm,0.6s,baz=33,slow=9.2,SNR=5.5						
BVAR	Borovoye Array	37.45	49	P	P	16 54 41.4	-0.4
	comp=Z,0.5nm,0.5s,baz=262,slow=4.1,SNR=2.6						
KURBB	Kurchatov Arra	42.52	53	P	P	16 55 22.2	-1.7
	comp=Z,0.7nm,0.5s,baz=278,slow=8.8,SNR=13						
MKAR	Makanchi Array	45.52	58	P	P	16 55 46.9	-1.3
	comp=Z,0.5nm,0.5s,baz=270,slow=7.6,SNR=16						
ZALV	Zalesovo Beam	46.05	48	P	P	16 55 50.1	-2.0
	comp=Z,0.8nm,0.4s,baz=285,slow=9.2,SNR=3.8						
CMAR	Chiang Mai Arr	69.78	82	P	P	16 58 40.1	+0.9
	comp=Z,0.4nm,0.6s,baz=297,slow=6.0,SNR=4.8						
YKA	Yellowknife Ar	74.18	340	P	P	16 59 04.9	+0.1
	comp=Z,0.1nm,0.3s,baz=35,slow=5.2,SNR=4.5						
ASAR	Alice Springs	121.88	97	PKP	PKPdf	17 06 22.7	-0.4
	comp=Z,0.3nm,0.8s,baz=303,slow=1.8,SNR=3.9						

*ISK **28** 16:47:41.6,42°.26N×26°.05E,h7km,MD3.4*
*CSEM **28** 16:47:43.5±0.1,42°.22N×26°.15E,h5km,MD3.4, Error ellipse: s-maj=4.4km s-min=2.7km az=29.0*
*DDA **28** 16:47:45.1,42°.07N×26°.33E,h5km,MD3.1*
*BEO **28** 16:47:49.7±0.8,42°.54N×25°.70E,h0km,ML1.8/3*

ISC 28 16:47:44.1±1.1,42°.22N±0°.02×26°.15E±0°.02,h6km±10km, n91,σ1°45°/100,6C-9D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMB	Yambol	0.40	53	⇓*i* P		Pg	16 47 50.1	-1.8
JMB				S		Sg	16 47 54.9	-2.3
JMB	Yambol	0.40	53	⇓*i* P		Pg	16 47 50.1	-1.8
EDRB	Edirne	0.58	130	*e*PG		Pg	16 47 54.8	-0.5
EDRB	Edirne	0.58	130	*e*Pg		Pg	16 47 54.8	-0.5
KDZ	Kurdzhali	0.79	224	S		Sn	16 48 13.3	+1.3
PLD	Plovdiv	1.08	264	*e*Pg		Pg	16 48 04.7	-0.2
PLD				*e*Sg		Sg	16 48 17.7	-1.2
PLD	Plovdiv	1.08	264	*e*Pg		Pg	16 48 04.7	-0.2
PLD				*e*Sg		Sg	16 48 17.7	-1.2
PHSR	Pinarhisar	1.18	120	*e*PN		Pg	16 48 06.3	-0.5
PHSR	Pinarhisar	1.18	120	*e*Pn		Pg	16 48 06.3	-0.5
ALN	Alexandroupoli	1.33	183	*e*PN		Pn	16 48 08.6	-0.6
ALN				*e*SN		Sb	16 48 26.7	0.0
ALN	Alexandroupoli	1.33	183	*e*Pn		Pn	16 48 08.6	-0.6
ALN				*e*Sn		Sb	16 48 26.7	0.0
ENEZ	Enez	1.49	180	*e*PN		Pn	16 48 09.9	-1.5
ENEZ				*e*SN		Sn	16 48 31.0	-0.1
ENEZ	Enez	1.49	180	*e*Pn		Pn	16 48 09.9	-1.5
ENEZ				*e*Sn		Sn	16 48 31.0	-0.1
ERIK	Erikli-Kesan	1.58	170	*e*PN		Pn	16 48 11.1	-1.5
ERIK	Erikli-Kesan	1.58	170	*e*Pn		Pn	16 48 11.1	-1.5
CRLT	Corlu	1.61	132	*e*PN		Pn	16 48 12.3	-0.7
CRLT	Corlu	1.61	132	*e*Pn		Pn	16 48 12.4	-0.7
SART	Tekirdag	1.72	153	*i* P		Pn	16 48 14.3	-0.3
SART				*i* S		Sn	16 48 36.2	-0.7
SART	Tekirdag	1.72	153	*i* P		Pn	16 48 14.3	-0.3
SART				*i* S		Sn	16 48 36.2	-0.7
RKY	Sarkoy-Tekirda	1.72	153	*e*PN		Pn	16 48 13.5	-1.1
RKY	Sarkoy-Tekirda	1.72	153	*e*Pn		Pn	16 48 13.5	-1.1
CTYL	Yal??k??y-??at	1.76	114	*e*PN		Pn	16 48 14.7	-0.5
CTYL	Yal??k??y-??at	1.76	114	*e*Pn		Pn	16 48 14.7	-0.5
SLVT	Silivri	1.83	122	*e*PN		Pn	16 48 15.5	-0.6
SLVT	Silivri	1.83	122	*e*Pn		Pn	16 48 15.5	-0.6
GELI	Tayfur-Gelibol	1.84	172	*e*PN		Pn	16 48 15.5	-0.7
GELI	Tayfur-Gelibol	1.84	172	*e*Pn		Pn	16 48 15.5	-0.7
LPK	Lapseki	1.91	166	*e*PN		Pn	16 48 15.9	-1.2
LPK	Lapseki	1.91	166	*e*Pn		Pn	16 48 15.9	-1.2
MMB	Musomiste	1.92	251	⇑*i* P		Pb	16 48 20.5	+1.0
MMB	Musomiste	1.92	251	S		Sn	16 48 41.9	+0.1
MMB	Musomiste	1.92	251	⇑*i* P		Pb	16 48 20.5	+1.0
ELBA	Catalca	2.02	121	*i* P		Pb	16 48 23.1	+1.9
ELBA				*i* S		Sn	16 48 46.4	+2.1
ELBA	Catalca	2.02	121	*i* P		Pb	16 48 23.1	+1.9
ELBA				*i* S		Sn	16 48 46.4	+2.1
CTKS	Kestanelik-??a	2.02	118	*e*PN		Pn	16 48 18.2	-0.5
CTKS	Kestanelik-??a	2.02	118	*e*Pn		Pn	16 48 18.2	-0.5
KRBG	Karabiga-Canak	2.02	154	*e*PN		Pn	16 48 18.2	-0.4
KRBG	Karabiga-Canak	2.02	154	*e*Pn		Pn	16 48 18.3	-0.4
VTS	Vitosha	2.21	281	*e*PN		Pn	16 48 18.8	-2.7
VTS	Vitosha	2.21	281	*e*Pn		Pn	16 48 22.2	+0.7
VTS				*e*Sg		Sn	16 48 47.4	-1.8
VTS	Vitosha	2.21	281	⇓*i* P		Pn	16 48 21.2	-0.3
VTS	Vitosha	2.21	281	S		Sn	16 48 49.9	+0.7
VTS	Vitosha	2.21	281	⇓*i* P		Pn	16 48 21.2	-0.3
VTS	Vitosha	2.21	281	*e*Pn		Pn	16 48 22.2	+0.7
VTS				*e*Sg		Sn	16 48 47.4	-1.8
BGKT	Bogazkoy	2.22	117	*e*PN		Pn	16 48 21.0	-0.5
BGKT	Bogazkoy	2.22	117	*e*Pn		Pn	16 48 21.0	-0.5
EDC	Edincik	2.28	145	*e*PN		Pn	16 48 21.8	-0.4
EDC	Edincik	2.28	145	*e*Pn		Pn	16 48 21.8	-0.4
KLYT	Kilyos	2.37	113	*e*PN		Pn	16 48 23.3	-0.2
KLYT	Kilyos	2.37	113	*e*Pn		Pn	16 48 23.3	-0.2
HUMR	Humele	2.46	340	⇑*i* P		Pg	16 48 30.5	-0.6
GONE	Gonen-Balikesi	2.47	151	*e*PN		Pn	16 48 24.1	-0.7
GONE	Gonen-Balikesi	2.47	151	*e*Pn		Pn	16 48 24.1	-0.7
ISK	Istanbul-Kandi	2.47	117	*e*PN		Pn	16 48 24.6	-0.2
ISK	Istanbul-Kandi	2.47	117	*e*Pn		Pn	16 48 24.6	-0.2
OUR	Ouranopolis	2.50	222	*e*PN		Pn	16 48 23.4	-1.9
OUR	Ouranopolis	2.50	222	*e*Pn		Pn	16 48 23.4	-1.9
ARMT	Armutlu	2.63	128	*e*PN		Pn	16 48 26.7	-0.4
ARMT	Armutlu	2.63	128	*e*Pn		Pn	16 48 26.7	-0.4
TLB	Topalu	2.73	30	⇑*i* P		Pb	16 48 33.3	-0.1
TIRR	Tirgusor	2.78	36	*e*PN		Pn	16 48 28.5	-0.6
TIRR	Tirgusor	2.78	36	*e*Pn		Pn	16 48 28.5	-0.6
HARR	Harsova	2.79	27	⇓*i* P		Pb	16 48 36.0	+1.8
ZAPS	Zavoj	2.79	293	*e*Pn		Pn	16 48 30.7	+1.3
ZAPS				*e*Sn		Sn	16 49 00.0	-3.4
HRT	Hereke	2.99	117	*e*PN		Pn	16 48 31.8	-0.3
HRT	Hereke	2.99	117	*e*Pn		Pn	16 48 31.8	-0.3
SIGR	SIGRI	3.02	184	*e*PN		Pn	16 48 32.3	-0.1
SIGR	SIGRI	3.02	184	*e*Pn		Pn	16 48 32.3	-0.1
MLR	Muntele Rosu	3.27	357	⇑*i* P		Pn	16 48 35.0	-1.0
MLR	Muntele Rosu	3.27	357	S		Sg	16 49 34.4	+5.3
MLR	Muntele Rosu	3.27	357	⇑*i* P		Pn	16 48 35.0	-1.0
CFR	Carcaliu	3.29	25	⇓*i* P		Pb	16 48 43.5	+0.7
VOIR		3.31	346	⇓*i* P		Pb	16 48 45.6	+2.4
VOIR		3.31	346	S		Sg	16 49 32.3	+1.9
SKO	Skopje	3.52	267	*e*PN		Pn	16 48 37.0	-2.2
SKO	Skopje	3.52	267	*e*Pn		Pn	16 48 37.0	-2.2
PLOR	Plostina	3.64	5	⇓*i* P		Pn	16 48 43.9	+2.8
PLOR	Plostina	3.64	5	⇓*i* P		Pn	16 48 43.9	+2.8
TVSB	Tavsanli	3.74	137	*e*PN		Pn	16 48 43.0	+0.5
TVSB	Tavsanli	3.74	137	*e*Pn		Pn	16 48 43.0	+0.5
SELS	Selova	3.84	287	*e*PN		Pn	16 48 43.9	+0.2
SELS	Selova	3.84	287	*e*Pn		Pn	16 48 43.9	+0.2
GZR	Gura Zlata	4.00	324	S		Sn	16 49 27.9	-5.3
GZR	Gura Zlata	4.00	324	S		Sn	16 49 27.9	-5.3
GRUS	Gruza	4.32	294	*e*PN		Pn	16 48 50.6	+0.3
GRUS	Gruza	4.32	294	*e*Pn		Pn	16 48 50.6	+0.3
DIVS	Divibare	4.88	295	*e*PN		Pn	16 48 58.4	+0.3
DIVS	Divibare	4.88	295	*e*Pn		Pn	16 48 58.4	+0.3
TEKS	Tekeris	5.36	298	*e*PN		Pn	16 49 03.8	-0.8
TEKS	Tekeris	5.36	298	*e*Pn		Pn	16 49 03.8	-0.8
CRES	Cresnjev	8.50	299	*i* Sn		Sn	16 51 22.7	-1.3

WEL 28 17:00:34.1±0.5,36°.09S×178°.39E,h171km±4km,ML3.5/6, 2C,Error ellipse: s-maj=8.8km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.48	183	PN		Pn	17 01 05.0	0.0
HAZ	Te Kaha	1.73	196	⇑PN		Pn	17 01 08.0	+0.4
HAZ				*e*SN		Sn	17 01 33.6	-0.2
PUZ	Puketiti	1.98	183	⇑PN		Pn	17 01 10.6	+0.2
PUZ				SN		Sn	17 01 37.6	-1.0
MWZ	Matawai	2.35

n18,σ0$46/26,mb3.3/3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.12**	**158**	P	**Pn**	**19 02 36.7**	**-0.3**
JNS				S	**Sn**	**19 02 52.7**	**-0.6**
JAW	**Awa shima**	**0.52**	**359**	P	**Pn**	**19 02 38.3**	**+0.1**
JAW				S	**Sn**	**19 02 55.6**	**0.0**
JIZZ	**Izumozaki**	**0.59**	**228**	P	**Pn**	**19 02 39.1**	**+0.6**
JIZZ				S	**Sn**	**19 02 57.1**	**+1.0**
JFY	**Yanaizu**	**0.63**	**146**	P	**Pn**	**19 02 38.8**	**0.0**
JYS	**Shirataka**	**0.70**	**65**	P	**Pn**	**19 02 39.5**	**+0.3**
JYS				S	**Sn**	**19 02 57.6**	**+0.3**
JHK	**Hiroka**	**0.71**	**196**	P	**Pn**	**19 02 39.2**	**-0.1**
JHK				S	**Sn**	**19 02 56.8**	**-0.6**
JYA	**Atsumi**	**0.75**	**28**	P	**Pn**	**19 02 40.0**	**+0.5**
JYA				S	**Sn**	**19 02 57.7**	**-0.2**
JSD	**Sado**	**0.80**	**278**	P	**Pn**	**19 02 39.7**	**-0.1**
JFT	**Otama**	**0.95**	**115**	P	**Pn**	**19 02 41.1**	**+0.2**
JFT				S	**Sn**	**19 03 00.2**	**-0.1**
JAG	**Ashikaga**	**1.51**	**174**	P	**Pn**	**19 02 46.4**	**+0.3**
JSZ	**Suzu**	**1.58**	**253**	P	**Pn**	**19 02 47.0**	**+0.3**
MAT	**Matsushiro**	**1.62**	**212**	P	**Pn**	**19 02 47.5**	**+0.3**
MAT	**Matsushiro**	**1.62**	**212**	P	**Pn**	**19 02 47.5**	**+0.3**
MAT				S	**Sn**	**19 03 10.9**	**-0.6**
MJAR	**Matsushiro Arr**	**1.62**	**211**	Pn	**Pn**	**19 02 47.6**	**+0.4**
	13nm,0.3s,baz=16,slow=11,SNR=183						
JRY	**Ryogami san**	**1.93**	**189**	P	**Pn**	**19 02 51.2**	**+0.6**
SONM	**Songino Array**	**25.86**	**303**	P	**P**	**19 07 32.8**	**+0.5**
	0.4nm,0.5s,baz=95,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**42.19**	**301**	P	**P**	**19 09 51.8**	**-0.6**
	0.1nm,0.3s,baz=78,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**57.75**	**185**	P	**P**	**19 11 49.6**	**-0.1**
	0.6nm,0.9s,baz=2.6,slow=7.4,SNR=4.8						

*ISCJB **28** 19:10:28.9±0.4, 10.°15N±0.°08×84.°14W±0.°07, h89^{km}±4^{km}, mb3.8/8, Error ellipse: s-maj=16.8km s-min=4.9km az=40.7*

*IDC **28** 19:10:28.4±2.3, 10.°39N×84.°00W, h68^{km}±24^{km}, mb3.5/8, mb1 3.8/8, mb1mx3.6/22, mbtmp3.8/8, MS3.1/6, Ms1 3.1/6, ms1mx2.9/23, Error ellipse: s-maj=37.8km s-min=18.6km az=56.0*

*CASC **28** 19:10:31.0±3.5, 10.°14N×84.°20W, h71^{km}±16^{km}, MD4.4*

ISC 28 19:10:29.4±0.7, 10.°18N±0.°08×84.°14W±0.°08, h85^{km}±6^{km}, n41,σ1$29/42, mb3.9/8, 4C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.26**	**160**	⇑*iP*	**Pn**	**19 10 42.1**	**-0.1**
SJS				*e*S	**Sn**	**19 10 51.6**	**-0.1**
CGA2	**Cerro Gallo 2**	**0.36**	**243**	*e*S	**Sn**	**19 10 51.8**	**-0.8**
CEDE	**Laguna Cede˜–o**	**0.63**	**299**	*i* P	**Pn**	**19 10 45.5**	**+0.6**
CASO	**Castillo**	**0.63**	**293**	*i* P	**Pn**	**19 10 45.4**	**+0.5**
CASO				*i* S	**Sn**	**19 10 56.8**	**+0.4**
BUS	**Buena Vista**	**0.73**	**149**	⇑*iP*	**Pn**	**19 10 46.3**	**0.0**
BUS				*e*S	**Sn**	**19 10 58.9**	**+0.1**
QCR	**Quepos**	**0.75**	**182**	⇑*iP*	**Pn**	**19 10 45.6**	**-0.4**
BANL	**Banca Lucia**	**0.76**	**296**	*i* P	**Pn**	**19 10 46.5**	**+0.4**
JTS	**JuntasAbangare**	**0.80**	**278**	P	**Pn**	**19 10 46.4**	**-0.1**
	682nm,0.3s,baz=78,slow=3.8,SNR=1742						
JTS				S	**Sn**	**19 10 59.7**	**+0.4**
	566nm,0.3s,baz=325,slow=19,SNR=28						
JCR	**Jicaral**	**1.01**	**251**	⇓*iP*	**Pn**	**19 10 48.5**	**-0.4**
JCR				*e*S	**Sn**	**19 11 03.4**	**-0.1**
COLC	**Colonia**	**1.15**	**295**	*i* P	**Pn**	**19 10 51.1**	**+0.6**
COLC				*i* S	**Sn**	**19 11 07.5**	**+1.1**
MESS	**Mesas**	**1.17**	**298**	*i* P	**Pn**	**19 10 51.4**	**+0.5**
LIM1	**Limonal**	**1.21**	**295**	*i* P	**Pn**	**19 10 51.7**	**+0.4**
BUEV	**Buena Vista**	**1.39**	**296**	*i* P	**Pn**	**19 10 53.9**	**+0.4**
GB1A	**Borinquen Arri**	**1.39**	**297**	*i* P	**Pn**	**19 10 54.2**	**+0.6**
LAPC	**Finca la Perla**	**1.40**	**295**	*i* P	**Pn**	**19 10 53.9**	**+0.2**
GBS3	**Finca Las Im˜¡**	**1.42**	**295**	*i* P	**Pn**	**19 10 54.2**	**+0.2**
GBS2	**Las Lilas**	**1.44**	**297**	*i* P	**Pn**	**19 10 54.8**	**+0.5**
ACR	**Cerro Adams**	**1.80**	**148**	⇑*iP*	**Pn**	**19 10 58.6**	**-0.3**
ACR				*e*S	**Sn**	**19 11 19.1**	**-2.2**
VSM	**San Miguel**	**5.17**	**309**	*e*P	Pn	19 11 50.0	+5.4
VSM				*e*S	**Sn**	**19 12 43.8**	**+0.7**
LFRS	**El Faro**	**5.90**	**306**	*e*P	Pn	19 11 58.2	+3.7
LFRS				*e*S	**Sn**	**19 13 00.1**	**-0.7**
BOQS	**Boqueron**	**6.14**	**306**	*e*P	Pn	19 12 01.4	+3.6
BOQS				*e*S	**Sn**	**19 13 05.4**	**-1.4**
SBLS	**San Blas**	**6.48**	**305**	*e*P	Pn	19 12 06.0	+3.6
SNJE	**San Jose**	**6.48**	**305**	*e*P	Pn	19 12 05.8	+3.4
IXG	**Ixpaco**	**7.33**	**303**	*e*P	**Pn**	**19 12 16.6**	**+2.6**
IXG				*e*S	**Sn**	**19 13 30.4**	**-5.5**
TEIG	**Tepich**	**10.75**	**339**	LR	LR	19 16 51.2	
	comp=Z,82nm,18.7s,baz=188,slow=36						
ROSC	**El Rosal**	**11.07**	**118**	LR	LR	19 18 10.3	
	comp=Z,66nm,19.6s,baz=346,slow=42						
ATAH	**Atahualpa**	**18.13**	**161**	LR	LR	19 20 40.5	
	comp=Z,74nm,19.8s,baz=343,slow=34						
TKL	**Tuckaleechee C**	**25.36**	**1**	LR	LR	19 24 30.7	
	comp=Z,35nm,19.2s,baz=342,slow=34						
PTGA	**Pitinga**	**26.39**	**113**	LR	LR	19 28 05.8	
	comp=Z,36nm,19.3s,baz=42,slow=40						
LPAZ	**La Paz**	**30.70**	**149**	LR	LR	19 29 54.0	
	comp=Z,40nm,20.1s,baz=20,slow=38						
PDAR	**Pinedale Array**	**39.32**	**330**	P	**P**	**19 17 50.6**	**+0.1**
	0.4nm,0.7s,baz=137,slow=9.9,SNR=4.0						
NVAR	**Mina Array Bea**	**41.54**	**318**	P	**P**	**19 18 10.8**	**+1.9**
	0.4nm,0.5s,baz=138,slow=8.2,SNR=4.3						
BDFB	**Brasilia**	**44.03**	**125**	P	**P**	**19 18 30.5**	**+1.4**
	4.8nm,0.8s,baz=229,slow=4.0,SNR=4.8						
SCHQ	**Schefferville**	**46.61**	**14**	P	**P**	**19 18 47.4**	**-1.4**
	2.6nm,0.8s,baz=198,slow=9.6,SNR=3.2						
PLCA	**Paso Flores**	**52.19**	**167**	P	**P**	**19 19 33.0**	**+1.4**
	2.6nm,1.0s,baz=332,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**56.66**	**344**	P	**P**	**19 20 03.0**	**-0.6**
	0.9nm,0.7s,baz=138,slow=7.0,SNR=18						
ILAR	**Eielson Array**	**69.40**	**336**	P	**P**	**19 21 27.6**	**-0.3**
	0.7nm,0.6s,baz=108,slow=4.3,SNR=12						
TORD	**Torodi Ar. Bea**	**83.73**	**78**	P	**P**	**19 22 49.9**	**+0.2**
	0.3nm,0.9s,baz=284,slow=5.9,SNR=2.9						
ASAR	**Alice Springs**	**141.34**	**245**	PKhKP	PKPpre	19 29 46.4	
	0.9nm,0.7s,baz=107,slow=3.3,SNR=9.2						
ASAR				PKP	**PKiKP**	**19 29 53.5**	**-0.6**
	0.9nm,0.8s,baz=119,slow=2.3,SNR=5.3						
WRA	**Warramunga Arr**	**141.68**	**251**	PKhKP	PKPpre	19 29 47.8	
	0.6nm,0.6s,baz=101,slow=3.2,SNR=7.5						
WRA				PKP	**PKiKP**	**19 29 53.5**	**-1.3**
	0.9nm,0.6s,baz=93,slow=2.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**151.38**	**354**	PKPbc	**PKPbc**	**19 30 14.4**	**+0.1**
	0.7nm,0.8s,baz=343,slow=2.8,SNR=5.5						
CMAR				PKPab	**PKPab**	**19 30 21.5**	**-1.0**
	0.3nm,0.7s,baz=346,slow=3.9,SNR=4.2						

*ISCJB **28** 19:13:44.5±0.3, 20.°19S±0.°05×177.°70W±0.°05, h350^{km}, mb4.4/30, Error ellipse: s-maj=7.9km s-min=5.7km az=151.0*

*IDC **28** 19:13:44.7±1.9, 20.°09S×177.°69W, h339^{km}±19^{km}, mb3.8/13, mb1 4.1/15, mb1mx3.9/25, mbtmp4.5/15, Error ellipse: s-maj=20.2km s-min=11.9km az=136.0*

*NEIC **28** 19:13:45.1±1.3, 20.°15S×177.°60W, h346^{km}±13^{km}, mb4.7/16, Error ellipse: s-maj=14.1km s-min=8.7km az=136.0*

ISC 28 19:13:45.2±0.4, 20.°28S±0.°07×177.°65W±0.°06, h350^{km}, n106,σ1$47/112, mb4.4/30, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.37**	**82**	P	**Pn**	**19 15 33.8**	**+1.9**
	baz=7.0,SNR=14						
NIUE				S	**S**	**19 16 57.9**	**-1.0**
	baz=7.0,SNR=4.9						
AFI	**Afiamalu**	**8.46**	**42**	P	**Pn**	**19 15 42.8**	**-2.2**
AFI				S	S	19 17 11.1	-12
AFI	**Afiamalu**	**8.46**	**42**	P	**Pn**	**19 15 42.8**	**-2.2**
	22nm,0.3s,baz=211,slow=17,SNR=12						
AFI				S	S	19 17 11.1	-12
	34nm,0.3s,baz=53,slow=20,SNR=10						
DZM	**Mont Dzumac**	**14.95**	**260**	*e*P	**Pn**	**19 17 02.8**	**+1.2**
	146nm,0.7s						
DZM	**Mont Dzumac**	**14.95**	**260**	P	**Pn**	**19 17 03.5**	**+1.9**
	11nm,0.3s,baz=84,slow=20,SNR=113						
DZM	**Mont Dzumac**	**14.95**	**260**	*e*P	**Pn**	**19 17 02.8**	**+1.2**
NOUC	**Port Laguerre**	**15.08**	**260**	*e*P	**Pn**	**19 17 03.8**	**+0.8**
PUZ	**Puketiti**	**18.09**	**190**	*e*PN	**P**	**19 17 34.5**	**+1.5**
PUZ				*e*SN	**S**	**19 20 36.5**	**-5.4**
URZ	**Urewera**	**18.49**	**193**	P	**P**	**19 17 37.5**	**+0.3**
URZ				S	**S**	**19 20 46.2**	**-3.4**
URZ	**Urewera**	**18.49**	**193**	P	**P**	**19 17 37.5**	**+0.3**
	5.0nm,0.3s,baz=266,slow=3.7,SNR=23						
URZ				S	**S**	**19 20 46.3**	**-3.4**
	2.7nm,0.3s,baz=108,slow=20,SNR=9.2						
URZ	**Urewera**	**18.49**	**193**	PN	**P**	**19 17 38.0**	**+0.8**
URZ				*e*SN	**S**	**19 20 46.0**	**-3.7**
BKZ	**Black Stump Fm**	**19.49**	**194**	*e*PN	**P**	**19 17 48.1**	**+0.2**
KHZ	**Kahutara**	**23.29**	**197**	*e*P	**P**	**19 18 22.5**	**-0.5**
	13nm,0.7s						
RPZ	**Rata Peaks**	**25.21**	**199**	*e*P	**P**	**19 18 42.0**	**+1.7**
	8.4nm,0.5s						
EIDS	**Eidsvold**	**29.22**	**254**	*e*P	**P**	**19 19 17.0**	**+1.0**
	13nm,0.6s						
EIDS	**Eidsvold**	**29.22**	**254**	P	**P**	**19 19 17.2**	**+1.2**
	baz=30,SNR=12						
ARMA	**Armidale**	**29.46**	**244**	*e*P	**P**	**19 19 20.3**	**+2.1**
	52nm,0.9s						
ARMA	**Armidale**	**29.46**	**244**	P	**P**	**19 19 20.4**	**+2.2**
	baz=30,SNR=30						
MGCD	**Mangrove Creek**	**30.60**	**239**	P	**P**	**19 19 30.4**	**+2.5**
	baz=31,SNR=15						
RMQ	**Roma**	**31.39**	**252**	P	**P**	**19 19 37.2**	**+2.3**
	baz=32,SNR=17						
RMQ				S	S	19 24 35.9	+20
	baz=32,SNR=5.7						
CNB	**Canberra Magne**	**32.62**	**236**	P	**P**	**19 19 47.6**	**+2.1**
	baz=33,SNR=14						
CAN	**Canberra**	**32.91**	**236**	*e*P	**P**	**19 19 49.1**	**+1.1**
	28nm,0.9s						
CTAO	**Charters Tower**	**33.84**	**264**	*e*P	**P**	**19 19 57.3**	**+1.2**
	62nm,0.8s						
CMSA	**Cobar Meteorol**	**34.68**	**244**	P	**P**	**19 20 04.5**	**+1.4**
	baz=35,SNR=94						
QLP	**Quilpie**	**35.44**	**252**	P	**P**	**19 20 10.6**	**+1.0**
	baz=36,SNR=36						
PMG	**Port Moresby**	**35.61**	**282**	*e*P	**P**	**19 20 11.3**	**+0.2**
	22nm,0.8s						
TOO	**Toolangi**	**36.29**	**234**	P	**P**	**19 20 18.1**	**+1.4**
	baz=37,SNR=10.0						
COEN	**Coen**	**37.90**	**273**	P	**P**	**19 20 31.0**	**+0.7**
	baz=38,SNR=15						
STKA	**Stephens Creek**	**38.18**	**244**	*e*P	**P**	**19 20 33.6**	**+1.2**
STKA	**Stephens Creek**	**38.18**	**244**	P	**P**	**19 20 33.9**	**+1.4**
	20nm,0.5s,baz=94,slow=10,SNR=86						
QIS	**Mount Isa**	**39.98**	**262**	P	**P**	**19 20 47.5**	**+0.2**
	baz=40,SNR=5.3						
HTT	**Hallett**	**40.62**	**242**	P	**P**	**19 20 53.3**	**+0.9**
	baz=41,SNR=15						
BBOO	**Buckleboo**	**42.94**	**243**	*e*P	**P**	**19 21 11.4**	**+0.4**
	404nm,0.6s						
BBOO	**Buckleboo**	**42.94**	**243**	P	**P**	**19 21 11.6**	**+0.6**
	baz=43,SNR=53						
AS31	**Alice Springs**	**44.89**	**256**	*e*P	**P**	**19 21 26.7**	**+0.2**
ASAR	**Alice Springs**	**44.89**	**256**	P	**P**	**19 21 26.9**	**+0.4**
ASAR				ScP	**ScP**	**19 26 19.9**	**+0.1**
ASAR				S	**S**	**19 27 33.6**	**-4.0**
	0.9nm,0.7s,baz=93,slow=15,SNR=5.4						
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**19 21 26.7**	**-0.4**
WRA				S	**S**	**19 27 36.5**	**-2.0**
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**19 21 26.7**	**-0.4**
	8.9nm,0.3s,baz=96,slow=7.6,SNR=244						
WRA				S	**S**	**19 27 36.5**	**-2.0**
	1.1nm,0.8s,baz=104,slow=12,SNR=3.1						
KDU	**Kakadu**	**48.27**	**271**	P	**P**	**19 21 52.3**	**-0.2**
	baz=49,SNR=12						
KDU				S	S	19 28 44.6	+19
	baz=49,SNR=3.3						
MTN	**Manton Dam**	**49.49**	**270**	P	**P**	**19 22 01.4**	**-0.3**
	baz=50,SNR=14						
FORT	**Forrest**	**49.68**	**246**	*e*P	**P**	**19 22 02.6**	**-0.3**
	62nm,0.6s						
FORT	**Forrest**	**49.68**	**246**	P	**P**	**19 22 02.9**	**-0.1**
	baz=50,SNR=22						
WRKA	**Warakurna**	**49.84**	**254**	P	**P**	**19 22 04.7**	**+0.4**
	baz=50,SNR=167						
KNRA	**Kununurra**	**51.00**	**266**	P	**P**	**19 22 13.1**	**+0.2**
	baz=51,SNR=27						
FAKI	**Fak Fak**	**51.77**	**283**	P	**P**	**19 22 18.5**	**-0.1**
	baz=52,SNR=4.6						
SOEI	**Soe**	**56.82**	**271**	*e*P	**P**	**19 22 56.3**	**+1.5**
	56nm,0.8s						
SOEI	**Soe**	**56.82**	**271**	P	**P**	**19 22 56.6**	**+1.8**
	baz=57,SNR=9.0						
VNDA	**Vanda**	**58.16**	**185**	P	P	19 23 05.9	+3.0
VNDA	**Vanda**	**58.16**	**185**	P	P	19 23 05.9	+3.0
	3.6nm,0.8s,baz=8.3,slow=6.7,SNR=4.0						
MEEK	**Meekatharra**	**58.30**	**251**	P	**P**	**19 23 04.4**	**-0.4**
	baz=59,SNR=13						
BLDU	**Ballidu**	**59.44**	**246**	P	**P**	**19 23 12.4**	**-0.1**
	baz=60,SNR=21						
MORW	**Morawa**	**60.22**	**247**	P	**P**	**19 23 17.6**	**-0.1**
	baz=60,SNR=4.7						
GIRL	**Giralia**	**62.93**	**254**	P	**P**	**19 23 37.2**	**+1.5**
	baz=63,SNR=9.2						
JAGI	**Jajag, Banyuwa**	**66.71**	**269**	*e*P	**P**	**19 23 58.2**	**-1.9**
	36nm,0.9s						
JAGI	**Jajag, Banyuwa**	**66.71**	**269**	P	**P**	**19 23 59.1**	**-1.0**
	baz=67,SNR=9.5						
QSPA	**South Pole Qui**	**69.79**	**180**	*e*P	**P**	**19 24 20.4**	**+2.1**
	6.2nm,0.6s						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	**P**	**19 24 20.7**	**-0.5**
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	**P**	**19 24 20.7**	**-0.5**
	3.8nm,0.7s,baz=149,slow=6.0,SNR=11						
UGM	**Wanagama**	**70.30**	**269**	P	**P**	**19 24 22.1**	**0.0**
	baz=71,SNR=12						
CISI	**Cisompet, Garu**	**72.95**	**268**	P	**P**	**19 24 36.9**	**-0.9**
	baz=73,SNR=5.4						
KSM	**Kuching**	**73.71**	**278**	P	P	19 24 37.6	-4.6
	baz=74,SNR=4.0						
PETK	**Petropavlovsk-**	**76.14**	**345**	P	**P**	**19 24 54.6**	**-0.4**
PETK	**Petropavlovsk-**	**76.14**	**345**	P	**P**	**19 24 54.6**	**-0.4**
	3.9nm,0.7s,baz=157,slow=8.9,SNR=4.2						
MNAI	**Manna**	**78.56**	**270**	P	**P**	**19 25 09.8**	**+0.5**
	baz=79,SNR=3.4						
USRK	**Ussuriysk Arra**	**78.96**	**326**	P	**P**	**19 25 11.3**	**+0.6**
	1.7nm,0.6s,baz=134,slow=6.2,SNR=4.1						
NVAR	**Mina Array Bea**	**80.64**	**43**	P	**P**	**19 25 21.0**	**+0.9**
NVAR	**Mina Array Bea**	**80.64**	**43**	P	**P**	**19 25 21.0**	**+0.9**
	1.3nm,0.6s,baz=225,slow=8.3,SNR=11						
IPM	**Ipoh**	**83.43**	**277**	*e*P	**P**	**19 25 35.3**	**+0.5**
	14nm,0.6s						
ENH	**Enshi**	**86.19**	**304**	*e*P	**P**	**19 25 48.1**	**0.0**
	2.6nm,0.5s						
TXAR	**Lajitas Array**	**86.66**	**57**	P	**P**	**19 25 51.8**	**+1.4**
TXAR	**Lajitas Array**	**86.66**	**57**	P	**P**	**19 25 51.8**	**+1.4**
	1.1nm,0.7s,baz=225,slow=5.1,SNR=13						
SYO	**Syowa Base**	**87.02**	**193**	⇓*eP*	**P**	**19 25 50.2**	**-1.0**
ILAR	**Eielson Array**	**88.02**	**13**	P	**P**	**19 25 54.6**	**-1.3**
ILAR	**Eielson Array**	**88.02**	**13**	P	**P**	**19 25 54.6**	**-1.3**
	0.8nm,0.5s,baz=212,slow=5.2,SNR=20						
PDAR	**Pinedale Array**	**88.58**	**43**	P	**P**	**19 25 59.2**	**-0.1**
PDAR	**Pinedale Array**	**88.58**	**43**	P	**P**	**19 25 59.2**	**-0.1**
	0.6nm,0.6s,baz=202,slow=3.8,SNR=7.8						
CM31	**Chiang Mai Arr**	**90.35**	**289**	*e*P	**P**	**19 26 09.4**	**+1.6**
	5.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**90.35**	**289**	P	**P**	**19 26 09.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**90.35**	**289**	P	**P**	**19 26 09.2**	**+1.4**
	3.4nm,0.9s,baz=116,slow=2.8,SNR=27						
CHTO	**Chiang Mai**	**90.48**	**290**	*e*P	**P**	**19 26 09.3**	**+0.9**
	4.4nm,0.8s						
INK	**Inuvik**	**93.97**	**15**	P	**P**	**19 26 22.1**	**-1.3**
INK	**Inuvik**	**93.97**	**15**	P	**P**	**19 26 22.1**	**-1.3**
	0.6nm,0.6s,baz=203,slow=5.6,SNR=3.7						
YKA	**Yellowknife Ar**	**96.17**	**25**	P	**P**	**19 26 32.8**	**-0.7**
YKA	**Yellowknife Ar**	**96.17**	**25**	P	**P**	**19 26 32.8**	**-0.7**
	0.1nm,0.4s,baz=230,slow=4.8,SNR=3.7						
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**19 31 36.4**	**-1.4**
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**19 31 36.4**	**-1.4**
	0.3nm,0.6s,baz=80,slow=1.6,SNR=4.4						
BOSA	**Boshof**	**126.60**	**205**	PKP	**PKPdf**	**19 32 08.8**	**+0.8**
BOSA	**Boshof**	**126.60**	**205**	PKP	**PKPdf**	**19 32 08.8**	**+0.8**
	2.4nm,0.7s,baz=163,slow=4.4,SNR=4.4						
ARCES	**ARCESS Array B**	**128.76**	**350**	PKP	**PKPdf**	**19 32 09.7**	**-0.9**
ARCES	**ARCESS Array B**	**128.76**	**350**	PKP	**PKPdf**	**19 32 09.7**	**-0.9**
	8.0nm,1.1s,baz=48,slow=1.3,SNR=6.8						
FINES	**FINESS Array B**	**135.65**	**344**	PKP	**PKPdf**	**19 32 25.6**	**+1.9**
FINES	**FINESS Array B**	**135.65**	**344**	PKP	**PKPdf**	**19 32 25.6**	**+1.9**
	1.3nm,0.8s,baz=8.5,slow=2.8,SNR=7.1						
HFS	**Hagfors**	**139.37**	**351**	PKPpre	PKPpre	19 32 21.2	
HFS	**Hagfors**	**139.37**	**351**	PKhKP	PKPpre	19 32 21.2	
	11nm,1.2s,baz=93,slow=3.2,SNR=5.6						
AKASG	**Malin Array Be**	**142.97**	**331**	PKPpre	PKPpre	19 32 32.6	
AKASG	**Malin Array Be**	**142.97**	**331**	PKhKP	PKPpre	19 32 32.6	
	1.0nm,0.4s,baz=42,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**146.93**	**313**	PKPbc	**PKPbc**	**19 32 46.8**	**-0.5**
BRTR	**Keskin Array B**	**146.93**	**313**	PKPbc	**PKPbc**	**19 32 46.8**	**-0.5**
	1.7nm,0.7s,baz=147,slow=5.4,SNR=9.5						
CLL	**Collm**	**147.92**	**347**	*i* PKPbc	**PKPbc**	**19 32 48.7**	**-0.6**
	comp=Z,5.0nm,0.7s						
DPC	**Dobruska-Polom**	**148.01**	**343**	⇑*e*PKP	**PKPbc**	**19 32 49.8**	**+0.1**
DPC				*e*PKPAB	**PKPab**	**19 32 53.7**	**+0.2**
MLR	**Muntele Rosu**	**148.21**	**328**	PKPbc	**PKPbc**	**19 32 49.9**	**-0.6**
MLR	**Muntele Rosu**	**148.21**	**328**	PKPbc	**PKPbc**	**19 32 49.9**	**-0.6**
KHC	**Kasperske Hory**	**149.84**	**345**	⇑*e*PKP	**PKPbc**	**19 32 54.3**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**19 32 59.8**	**-1.2**
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	**PKPbc**	**19 32 54.3**	**-0.6**
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	**PKPbc**	**19 32 54.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=18,slow=3.4,SNR=5.5						

*BJI **28** 19:44:45.8, 41.°25N×74.°16E, h11^{km}, mB4.6/13, mb4.5/13, ML4.8/5, Ms4.3/11, Ms7 4.3/1*

*KRNET **28** 19:44:46.9±0.1, 40.°86N×74.°74E, h3^{km}, mb4.9*

*NNC **28** 19:44:51.9±2.9, 40.°73N×74.°85E, h33^{km}±20^{km}, mb4.9, mpv4.6, Error ellipse: s-maj=22.6km s-min=13.0km az=168.0*

*IDC **28** 19:44:55.2±0.6, 40.°86N×75.°02E, h0^{km}, mb4.3/21, mb1 4.4/25, mb1mx4.3/40, mbtmp4.3/25, ML3.5/4, MS3.7/21, Ms1 3.7/21, ms1mx3.6/31, Error ellipse: s-maj=12.4km s-min=9.4km az=60.0*

*MOS **28** 19:44:57.6±1.2, 41.°03N×75.°07E, h18^{km}, mb4.7/28, Error ellipse: s-maj=8.6km s-min=5.8km az=124.1*

*NEIC **28** 19:44:57.4±3.6, 41.°04N×75.°00E, h11^{km}±23^{km}, mb4.8/24, Error ellipse: s-maj=10.2km s-min=6.5km az=195.0*

*ISCJB **28** 19:44:58.8±0.2, 40.°86N±0.°02×75.°10E±0.°03, h33^{km}, mb4.4/59, MS3.7/20, Error ellipse: s-maj=3.6km s-min=3.1km az=159.3*

*SZGRF **28** 19:45:06.4, 41.°40N×73.°96E, h10^{km}, mb4.6, Kyrgyzstan*

ISC 28 19:44:59.1±0.6, 40.°92N±0.°03×75.°04E±0.°03, h24^{km}±4^{km}, h23^{km}:pP-P, n270,σ1$66/232, mb4.5/65, MS3.7/21, 31C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.89**	**54**	*e*P	Pb	19 45 08.8	-7.3
	baz=59						
NRN				*e*S	**Sb**	**19 45 24.8**	**-2.8**
	baz=59						
ARLS	**Aral**	**1.09**	**330**	⇓*iP*	Pn	19 45 06.4	-13
	baz=342						
ARLS				⇓*iS*	Sb	19 45 20.4	-13
	baz=342						
KZA	**Kyzart**	**1.17**	**8**	P	Pn	19 45 10.0	-10
	SNR=148						
UCH	**Uchtor**	**1.37**	**343**	P	Pn	19 45 12.8	-10
	SNR=238						
SFK	**Sufi-Kurgan**	**1.48**	**233**	*i* P	Pn	19 45 10.2	-14
	baz=229						
SFK				*e*S	Sn	19 45 27.2	-16
	baz=229						
KSH	**Kashi**	**1.57**	**153**	Pn	Pn	19 45 22.5	-3.1
KSH				Sn	Sb	19 45 55.5	+8.5
KSH				smax	smax		
	comp=N,5μm,0.6s						
KSH				smax	smax		
	comp=E,7μm,0.6s						
AML	**Almayashu**	**1.58**	**321**	P	Pn	19 45 15.7	-10
	SNR=125						
ULHL	**Ulahol**	**1.60**	**34**	P	Pn	19 45 18.5	-7.7
	SNR=107						
ARSB	**Arslanbob**	**1.61**	**285**	*e*P	Pn	19 45 16.5	-10
	baz=290						
ARSB				*e*S	Sn	19 45 36

MK31 ⇑Lg Lg 19 49 08.5
comp=E,165nm,0.8s,baz=221,slow=27,SNR=5.0
MK31 Makanchi Array 7.87 39 *e*P **Pn** **19 46 50.8 -1.3**
MK31 Makanchi Array 7.87 39 *e*Pn **Pn** **19 46 50.8 -1.3**
MKAR Makanchi Array 7.87 39 P Pn 19 46 46.6 -5.4
MKAR Makanchi Array 7.87 39 Pn Pn 19 46 46.6 -5.4
MKAR Sn Sb 19 48 40.0 -7.9
MKAR Lg Lg 19 49 03.3
MKAR Makanchi Array 7.87 39 Pn Pn 19 46 46.6 -5.4
comp=E,0.0nm,0.3s,baz=224,slow=12,SNR=3.0
MKAR Sn Sb 19 48 40.0 -7.9
comp=E,2.4nm,0.3s,baz=220,slow=24,SNR=3.5
MKAR Lg Lg 19 49 03.3
comp=E,5.5nm,0.3s,baz=230,slow=28,SNR=4.1
KBL Kabul 7.94 219 *e*P Pn 19 46 48.3 -5.0
KBL pmax pmax
comp=Z,74nm,0.9s
KBL Kabul 7.94 219 *e*Pn Pn 19 46 48.3 -5.0
comp=Z,74nm,0.9s
DLH Dalhousie 8.39 175 *e*P **Pn** **19 47 00.0 +0.5**
DLH *e*S **Sn** **19 48 35.0 +1.4**
DHRM DHARAMSHALA 8.71 173 *e*P **Pn** **19 47 03.6 -0.2**
DHRM *ex* **Sn** **19 48 40.0 -1.3**
DHRM AML AML 19 48 49.1
comp=N,510nm,0.8s
DHRM AML AML 19 48 49.9
comp=E,739nm,1.1s
PONG Pong 8.98 175 *ex* **Sn** **19 48 50.5 +2.9**
SDNR Sundarnagar 9.53 170 *e*P **Pn** **19 47 15.0 +0.2**
SDNR *ex* x 19 48 57.0
BHK Bhakra 9.55 173 *ex* **Sn** **19 49 04.5 +2.9**
SMLA Simla 9.92 169 *e*P **Pn** **19 47 20.4 +0.2**
SMLA *e*S **Sn** **19 49 08.9 -1.8**
KURBB Kurchatov Arra 10.01 13 ⇓Pn Pn 19 47 16.9 -4.4
comp=E,19nm,0.7s
KURBB ⇑Lg Lg 19 50 14.1
comp=E,270nm,0.8s
KURBB Kurchatov Arra 10.01 13 Pn **Pn** **19 47 19.5 -1.8**
comp=E,0.6nm,0.3s,baz=200,slow=12,SNR=21
KURBB Lg Lg 19 50 08.2
comp=E,4.3nm,0.3s,baz=199,slow=28,SNR=8.0
KURK Kurchatov 10.11 13 ⇓Pn Pn 19 47 18.4 -4.4
comp=E,7.5nm,0.8s
KURK ⇑Pg 19 47 60.0
comp=E,28nm,1.0s
KURK ⇓Lg Lg 19 50 19.0
comp=E,298nm,1.1s
KURK Kurchatov 10.11 13 P Pn 19 47 19.5 -3.2
KURK Kurchatov 10.11 13 Pn Pn 19 47 19.5 -3.2
KURK Lg Lg 19 50 08.2
DDI Dehra Dun 10.85 166 *e*P **Pn** **19 47 31.9 -1.1**
DDI *e*S **Sn** **19 49 31.4 -2.3**
DDI AML AML 19 49 39.5
comp=N,118nm,0.7s
DDI AML AML 19 49 41.7
comp=E,177nm,0.1s
VOSK Vostochnaya 12.13 348 ⇓Pn Pn 19 47 46.0 -4.3
comp=E,6.4nm,0.6s
VOSK ⇓Lg Lg 19 51 21.6
comp=E,196nm,1.5s
NDI New Delhi 12.34 171 *e*P Pn 19 47 47.0 -6.3
NDI *e*S Sn 19 50 02.5 -7.5
BVA0 Borovoye Array 12.52 347 ⇑Pn **Pn** **19 47 53.7 -1.9**
comp=E,9.0nm,0.7s
BVA0 ⇑Sn **Sn** **19 50 14.4 +0.1**
comp=E,57nm,1.4s
BVAR Borovoye Array 12.52 347 P **Pn** **19 47 53.6 -2.0**
BVAR 19 50 17.3
BVAR Borovoye Array 12.52 347 Pn **Pn** **19 47 53.6 -2.0**
BVAR Sn **Sn** **19 50 17.2 +3.0**
BVAR Lg Lg 19 51 27.2
BVAR Borovoye Array 12.52 347 Pn **Pn** **19 47 53.6 -2.0**
comp=E,0.3nm,0.3s,baz=156,slow=12,SNR=14
BVAR Sn **Sn** **19 50 17.3 +3.0**
comp=E,0.2nm,0.3s,baz=169,slow=24,SNR=3.0
BVAR Lg Lg 19 51 27.2
comp=E,1.6nm,0.3s,baz=157,slow=27,SNR=5.5
BVAR LR LR 19 52 52.1
comp=E,431nm,20.1s,baz=164,slow=38
BRVK Borovoye 12.57 347 ⇓Pn **Pn** **19 47 54.3 -2.1**
comp=E,31nm,0.9s
BRVK ⇑Sn **Sn** **19 50 16.8 +1.3**
comp=E,46nm,0.8s
BRVK ⇓Lg Lg 19 51 36.6
comp=E,389nm,1.3s
BRVK ⇑Lg Lg 19 51 37.4
comp=E,344nm,1.2s
AB31 Akbulak array 13.52 313 ⇑Pn Pn 19 48 02.9 -6.5
comp=E,8.5nm,0.6s,baz=129,slow=11,SNR=70
AB31 ⇓Lg Lg 19 52 01.8
comp=E,50nm,1.2s,baz=119,slow=28,SNR=3.9
ABKAR Akbulak array 13.52 313 *e*Pn Pn 19 48 00.1 -9.2
comp=E,15nm,0.7s
DANN Dangsing 14.43 148 *e*P Pn 19 48 10.7 -12
comp=E,37nm,0.4s
ZAA0 Zalesovo Array 14.60 23 P Pn 19 48 20.2 -3.8
ZALV Zalesovo Beam 14.60 23 P **Pn** **19 48 23.9 -0.1**
ZALV Zalesovo Beam 14.60 23 Pn **Pn** **19 48 23.9 -0.1**
ZALV Sn **S** **19 51 22.5 -1.2**
ZALV Lg Lg 19 52 38.0
ZALV Zalesovo Beam 14.60 23 Pn **Pn** **19 48 23.9 -0.1**
comp=E,0.4nm,0.3s,baz=207,slow=9.9,SNR=14
ZALV Sn **S** **19 51 22.5 -1.2**
comp=E,0.4nm,0.3s,baz=216,slow=20,SNR=5.8
ZALV Lg Lg 19 52 38.0
comp=E,0.1nm,0.3s,baz=204,slow=25,SNR=2.9
ZALV LR LR 19 54 08.4
comp=E,270nm,19.8s,baz=240,slow=38
KOLN Koldanda 14.89 149 *e*P Pn 19 48 17.1 -11
comp=E,96nm,0.8s
NVS Novosibirsk 14.96 19 *e*P **Pn** **19 48 29.5 +0.6**
GKN Gorkha 15.10 146 *e*P Pn 19 48 20.3 -11
comp=E,89nm,0.5s
AKTO Aktyubinsk 15.21 314 ⇑Pn Pn 19 48 26.8 -5.4
comp=E,29nm,1.1s
AKTO ⇑Lg Lg 19 52 55.0
comp=E,39nm,1.1s
AKTO Aktyubinsk 15.21 314 P **Pn** **19 48 29.7 -2.5**
AKTO Aktyubinsk 15.21 314 Pn **Pn** **19 48 29.7 -2.5**
AKTO Aktyubinsk 15.21 314 Pn **Pn** **19 48 29.7 -2.5**
comp=E,0.2nm,0.3s,baz=126,slow=16,SNR=13
AKTO LR LR 19 54 53.1
comp=E,237nm,20.0s,baz=131,slow=39
KKN Kakani 15.57 144 *e*P Pn 19 48 25.7 -12
comp=E,100nm,0.8s
DMN Daman 15.65 145 *e*P Pn 19 48 26.9 -12
comp=E,108nm,0.8s
GUN Gumba 15.74 142 *e*P Pn 19 48 28.6 -11
comp=E,112nm,0.8s
PKIN Phulchoki 15.80 144 *e*P Pn 19 48 29.0 -11
comp=E,69nm,0.6s
PKI Pulchoki 15.82 144 *e*P Pn 19 48 29.0 -12
comp=E,96nm,0.6s
JIRN Jiri 16.10 142 *e*P Pn 19 48 34.1 -10
comp=E,176nm,0.6s
RAMN Ramite 16.89 142 *e*P Pn 19 48 45.3 -8.9
comp=E,156nm,0.7s
TAPN Taplejung 17.09 138 *e*P Pn 19 48 47.7 -9.1
comp=E,71nm,0.7s
LSA Lhasa 17.24 125 P **P** **19 49 01.5 +1.4**
LSA Lhasa 17.24 125 *e*P **P** **19 49 01.5 +1.4**
LSA pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 17.24 125 *e*P **P** **19 49 01.5 +1.4**
comp=Z,16nm,1.0s
ODAN Odare 17.34 140 *e*P Pn 19 48 51.7 -8.1
comp=Z,199nm,0.8s
BHPL Bhopal 17.74 173 *e*P **Pn** **19 49 03.8 -0.7**
BHPL *ex* x 19 52 08.8
SVE Sverdlovsk 18.46 334 *e*P **Pn** **19 49 14.3 +1.2**
SVE pmax pmax
comp=Z,27nm,1.0s
ARU Arti 18.88 331 *c i*P **P** **19 49 16.5 -1.0**
ARU S **Sn** **19 52 44.6 -4.0**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 18.88 331 *e*P **P** **19 49 15.2 -2.3**
comp=Z,16nm,0.8s
GTA Gaotai 18.98 86 ⇑P **Pn** **19 49 21.0 +1.3**
GTA pP **pP** **19 49 24.8 -0.6**
GTA sP **sP** **19 49 27.3 -1.2**
GTA pmax pmax
comp=Z,17nm,1.4s
GTA pmax pmax
comp=Z,74nm,5.0s
GTA LR LR
comp=Z,380nm,14.0s
GTA LR LR
comp=Z,410nm,14.2s
KRAR Krasnoyarsk 19.09 32 *e*P **Pn** **19 49 20.5 -0.2**
KRAR pmax pmax
comp=Z,49nm,1.3s
BOK Bokaro 19.35 149 *e*P **P** **19 49 20.5 -2.4**
MAK Makhachkala 20.55 285 *e*P Pn 19 49 39.7 +1.5
MAK MLR MLR
comp=Z,457nm,7.0s
SHL Shillong 20.75 132 *e*P **P** **19 49 38.2 -0.1**
MOY Mondy 20.80 50 *e*P Pn 19 49 42.3 +1.2
ZAK Zakamensk 21.78 55 ⇑*i*P **P** **19 49 50.4 +1.3**
ZAK *e* 19 54 15.5
ZAK pmax pmax
comp=Z,7.0nm,1.0s
SOKR Solikamsk 21.90 335 ⇑*i*P P 19 49 54.7 +4.5
SOKR pmax pmax
comp=Z,10.0nm,0.9s
DGRG David-gareji 22.29 281 P **P** **19 49 57.6 +2.9**
POO Poona 22.34 183 *e*P **P** **19 49 55.0 -0.3**
TLY Talaya 22.36 52 *e*P **P** **19 49 59.5 +4.2**
TLY *e*S **S** **19 53 54.1 -5.6**
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY MLR MLR
comp=Z,124nm,8.0s
DUS Dusheti 22.70 283 P **P** **19 50 02.4 +3.4**
TBLG Delisi 22.72 282 P **P** **19 50 02.1 +2.8**
GUDG Gudauri 22.82 284 P **P** **19 50 03.2 +2.8**
IRK Irkutsk 22.90 50 *e*P **P** **19 50 02.4 +1.4**
IRK *e* 19 50 26.1
IRK pmax pmax
comp=Z,21nm,1.5s
GNI Garni 22.99 278 *e*P **P** **19 50 03.4 +1.1**
comp=Z,142nm,1.4s
GNI Garni 22.99 278 P **P** **19 50 01.1 -1.1**
comp=Z,12nm,0.9s,baz=83,slow=8.1,SNR=2.3
GNI LR LR 20 00 32.8
comp=Z,116nm,20.6s,baz=98,slow=41
LZH Lanzhou 23.00 93 *e*P **P** **19 50 03.8 +1.5**
LZH pP **pP** **19 50 09.0 +0.1**
LZH sP **sP** **19 50 12.5 +0.5**
LZH pmax pmax
comp=Z,59nm,1.8s
LZH pmax pmax
comp=Z,160nm,7.9s
LZH LR LR
comp=Z,310nm,8.5s
LZH LR LR
comp=Z,350nm,10.3s
SONM Songino Array 23.34 62 P **P** **19 50 06.5 +0.8**
SONM Songino Array 23.34 62 P **P** **19 50 06.5 +0.8**
comp=Z,4.2nm,0.9s,baz=269,slow=11,SNR=22
SONM LR LR 20 00 10.6
comp=Z,181nm,19.1s,baz=150,slow=39
NCK Nalchik 23.37 287 *e*P **P** **19 50 06.0 +0.2**
ONI Oni 23.56 285 P **P** **19 50 08.7 +0.9**
HYB Hyderabad 23.61 172 *i* P **P** **19 50 08.0 -0.4**
HYB *e*S **S** **19 54 20.0 -1.6**
ULN Ulaanbaatar 23.79 62 *e*P **P** **19 50 10.7 +0.7**
comp=Z,6.3nm,0.9s
KBZ Khabaz 23.85 287 P **P** **19 50 10.9 +0.5**
KBZ Khabaz 23.85 287 P **P** **19 50 10.9 +0.5**
KBZ Khabaz 23.85 287 P **P** **19 50 10.9 +0.5**
comp=Z,1.5nm,0.8s,baz=90,slow=9.1,SNR=3.5
KBZ LR LR 20 00 13.7
comp=Z,184nm,19.1s,baz=70,slow=38
KIV Kislovodsk 23.99 288 *e*P **P** **19 50 11.1 -0.8**
KIV *e*S **S** **19 54 24.2 -3.2**
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,130nm,15.0s
KIV Kislovodsk 23.99 288 *e*P **P** **19 50 10.0 -1.9**
comp=Z,12nm,0.6s
VORD Divnogorie 26.57 304 *e*P **P** **19 50 32.6 -2.5**
VORD pmax pmax
comp=Z,8.0nm,0.8s
VORD pmax pmax
comp=N,40nm,0.5s
VORD pmax pmax
comp=E,90nm,0.6s
VSR Storozhevoye 26.69 305 *e*P **P** **19 50 35.3 -0.9**
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.1s
OBN Obninsk 28.97 312 P **P** **19 50 58.0 +1.5**
OBN pmax pmax
comp=Z,21nm,1.4s
OBN Obninsk 28.97 312 LR LR 20 02 57.6
comp=Z,122nm,20.4s,baz=96,slow=37
CHTO Chiang Mai 30.07 130 *e*P **P** **19 51 07.0 +0.4**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 30.07 130 *e*P **P** **19 51 07.0 +0.4**
comp=Z,2.7nm,0.8s
RAYN Ar Rayn 30.22 244 *e*P **P** **19 51 07.5 -0.4**
comp=Z,10nm,0.7s
CMAR Chiang Mai Arr 30.35 130 P **P** **19 51 09.1 0.0**
CMAR PcP **PcP** **19 54 08.5 -0.3**
CMAR Chiang Mai Arr 30.35 130 P **P** **19 51 09.1 0.0**
comp=Z,0.7nm,0.6s,baz=329,slow=9.5,SNR=8.4
CMAR PcP **PcP** **19 54 08.5 -0.3**
comp=Z,0.8nm,0.7s,baz=308,slow=3.5,SNR=4.3
CMAR LR LR 20 05 12.9
comp=Z,73nm,19.2s,baz=233,slow=40
SLVN Son La 31.27 120 *e*P **P** **19 51 18.7 +1.5**
comp=Z,4.0nm,1.2s
BR131 Keskin Array S 31.38 282 *e*P **P** **19 51 20.4 +2.2**
comp=Z,2.3nm,0.7s
BRTR Keskin Array B 31.38 282 P **P** **19 51 19.3 +1.1**
BRTR Keskin Array B 31.38 282 P **P** **19 51 19.3 +1.1**
comp=Z,2.4nm,0.8s,baz=85,slow=7.9,SNR=16
BRTR LR LR 20 04 53.8
comp=Z,63nm,18.7s,baz=42,slow=38
AKASG Malin Array Be 32.92 303 *i* P **P** **19 51 31.7 +0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 32.92 303 P **P** **19 51 31.1 -0.3**
AKASG Malin Array Be 32.92 303 P **P** **19 51 31.1 -0.3**
comp=Z,2.7nm,0.8s,baz=77,slow=8.3,SNR=18
AKASG LR LR 20 05 32.5
comp=Z,106nm,18.8s,baz=80,slow=38
AK01 Malin Array Si 32.93 303 *e*P **P** **19 51 30.4 -1.0**
AK02 Malin Array Si 32.94 303 *e*P **P** **19 51 30.6 -0.9**
WHN Wuhan 33.30 95 P **P** **19 51 33.0 -1.9**
NACGM Naroch 34.51 310 *e* **P** **19 51 42.0 -3.2**
PRAR RASCA 35.14 297 ⇑*i*P **P** **19 51 52.2 +1.5**
MLR Muntele Rosu 35.63 294 ⇑*i*P P 19 51 57.9 +2.8
FIA1 FINESS Array S 35.78 322 *e*P **P** 19 51 52.5 -3.5
FINES FINESS Array B 35.78 322 P **P** **19 51 56.1 +0.1**
FINES FINESS Array B 35.78 322 P **P** **19 51 56.1 +0.1**
comp=Z,2.4nm,0.5s,baz=114,slow=9.5,SNR=14
FINES LR LR 20 06 55.9
comp=Z,179nm,19.1s,baz=268,slow=37
BURAR Bucovina Array 35.78 298 ⇓*i*P **P** **19 51 55.1 -1.3**
BUR08 Bucovina Ar. S 35.79 298 *e*P **P** **19 51 56.9 +0.4**
DOPR Dopca 35.93 295 ⇓*i*P **P** **19 51 59.7 +2.2**
LVV L'vov 36.30 302 *e*P **P** **19 52 02.2 +1.6**
KOLS Kolonicke sedl 37.55 301 *e*P **P** **19 52 11.2 -0.1**
KOLS Kolonicke sedl 37.55 301 *e*P **P** **19 52 11.2 -0.1**
DRGR 37.60 297 ⇑*i*P **P** **19 52 13.2 +1.4**
CRVS Cervenica-Dubn 38.08 301 *e*P **P** **19 52 17.0 +1.2**
CRVS Cervenica-Dubn 38.08 301 *e*P **P** **19 52 17.0 +1.2**
STHS Stebnicka Huta 38.15 301 *e*P **P** **19 52 16.7 +0.4**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 38.15 301 *e*P **P** **19 52 16.7 +0.4**
ARCES ARCESS Array B 38.40 334 P **P** **19 52 17.9 -0.2**
ARCES ARCESS Array B 38.40 334 P **P** **19 52 17.9 -0.2**
comp=Z,4.2nm,0.7s,baz=99,slow=7.5,SNR=9.6
ARCES LR LR 20 08 30.5
comp=Z,127nm,20.9s,baz=122,slow=37
BZS Buzias 38.58 295 ⇓*i*P **P** **19 52 20.0 0.0**
KECS Kecovo 38.79 300 *e*P **P** **19 52 23.4 +1.7**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 38.79 300 *e*P **P** **19 52 23.4 +1.7**
MORC Moravsky Berou 40.47 303 ⇓*i*P **P** **19 52 35.9 +0.2**
PKSM Moragy 40.47 297 ⇑*i*P **P** **19 52 34.4 -1.3**
TIXI Tiksi 40.49 23 ⇓*i*P **P** **19 52 36.0 +0.5**
TIXI pmax pmax
comp=Z,1nm,1.2s
TIXI Tiksi 40.49 23 *e*P **P** **19 52 35.8 +0.3**
comp=Z,24nm,0.9s
KSAR Wonju Array Be 40.60 77 P **P** **19 52 37.6 +0.8**
KSRS Korea Array 40.62 77 P **P** **19 52 37.6 +0.6**
comp=Z,2.6nm,0.7s,baz=287,slow=7.9,SNR=6.8
KSRS LR LR 20 10 27.0
comp=Z,130nm,19.7s,baz=292,slow=38
DPC Dobruska-Polom 41.14 304 *e*P **P** **19 52 43.3 +2.0**
UPC Upice 41.31 304 *e*P **P** **19 52 44.6 +2.0**
USRK Ussuriysk Arra 41.36 66 LR LR 20 11 21.9
comp=Z,106nm,19.4s,baz=275,slow=38
CONA Conrad Observa 41.93 300 ⇑*i*pP **P** **19 52 49.7 +1.9**
comp=Z,8.8nm,0.9s
ARSA Arzberg 42.31 299 ⇑*i*pP **P** **19 52 52.3 +1.5**
comp=Z,6.9nm,1.1s
PRU Pruhonice 42.34 303 *e*P **P** **19 52 52.9 +1.9**
BRG Berggiesshubel 42.54 305 *i* P **P** **19 52 54.2 +1.6**
comp=Z,7.2nm,0.9s
BRG Berggiesshubel 42.54 305 *i* P **P** **19 52 54.2 +1.6**
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 42.54 305 *e*P **P** **19 52 54.1 +1.5**
comp=Z,7.0nm,0.9s
SOKA Soboth 42.78 299 ⇑*i*pP **P** **19 52 54.7 0.0**
comp=Z,9.8nm,1.2s
NB2 NORSAR Subarra 42.89 320 P **P** **19 52 54.6 -0.7**
comp=Z,9.6nm,0.9s,baz=89,slow=8.6
NOA NORSAR Array B 42.89 320 P **P** **19 52 54.7 -0.7**
NOA NORSAR Array B 42.89 320 P **P** **19 52 54.7 -0.7**
comp=Z,5.8nm,0.8s,baz=90,slow=8.1,SNR=18
NOA LR LR 20 10 32.8
comp=Z,77nm,19.5s,baz=300,slow=36
CLL Collm 43.03 306 *i* P **P** **19 52 57.7 +1.1**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 43.03 306 *e*P **P** **19 52 57.6 +1.0**
comp=Z,10.0nm,1.0s
CLL Collm 43.03 306 *i* P **P** **19 52 57.7 +1.1**
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 43.12 302 *e*P **P** **19 52 59.3 +1.8**
comp=Z,14nm,0.9s
GERES GERESS Array B 43.12 302 P **P** **19 52 59.1 +1.6**
GERES GERESS Array B 43.12 302 P **P** **19 52 59.1 +1.6**
comp=Z,7.2nm,0.7s,baz=72,slow=7.4,SNR=30
GERES LR LR 20 13 31.3
comp=Z,110nm,20.6s,baz=114,slow=40
KHC Kasperske Hory 43.13 302 *e*P **P** **19 52 59.4 +1.9**
KHC *ex* x 19 53 12.1
OBKA Obir 43.14 298 ⇑*i*pP **P** **19 52 58.0 +0.3**
comp=Z,7.5nm,0.9s
TANN Tannenbergstha 43.55 304 *e*P **P** **19 53 02.7 +1.8**
comp=Z,4.0nm,0.9s
WET Wettzell 43.58 303 *e*P **P** **19 53 02.8 +1.7**
comp=Z,11nm,1.1s
MOX Moxa 44.03 305 *e*P **P** **19 53 06.3 +1.6**
comp=Z,114nm,2.7s
GRF Grafenberg Arr 44.50 304 *e*P **P** **19 53 10.8 +2.4**
comp=Z,26nm,1.2s
FUR Furstenfeldbru 44.85 302 *e*P **P** **19 53 13.5 +2.2**
comp=Z,24nm,0.8s
AQU L'Aquila 45.19 293 *e*P **P** **19 53 15.5 +1.4**
comp=Z,16nm,0.9s
MOTA Moosalm 45.19 301 ⇓*i*pP **P** **19 53 15.1 +0.9**
comp=Z,6.2nm,0.9s
DAVA Damuels 46.00 301 ⇑*i*pP **P** **19 53 21.8 +1.2**
comp=Z,16nm,0.8s
UGL Uglegorsk 46.68 56 P P 19 53 21.3 -4.3
BFO Black Forest 46.70 303 *e*P **P** **19 53 27.0 +1.1**
comp=Z,7.0nm,1.1s
CDF Champ du Feu 47.34 303 *e*P **P** **19 53 32.8 +1.8**
CDF Champ du Feu 47.34 303 *e*P **P** **19 53 32.8 +1.8**
CDF Champ du Feu 47.34 303 *e*P **P** **19 53 32.8 +1.8**
HINF Hinteralfeld 47.80 302 *e*P **P** **19 53 35.3 +0.8**
HINF Hinteralfeld 47.80 302 *e*P **P** **19 53 35.3 +0.8**
HINF Hinteralfeld 47.80 302 *e*P **P** **19 53 35.3 +0.8**
HAU Haudompre 48.06 303 *e*P **P** **19 53 37.6 +1.1**
comp=Z,9.2nm,0.7s
HAU Haudompre 48.06 303 *e*P **P** **19 53 37.6 +1.1**
HAU pmax pmax
comp=Z,9.0nm,0.7s
HAU Haudompre 48.06 303 *e*P **P** **19 53 37.6 +1.1**
comp=Z,9.2nm,0.7s
MJAR Matsushiro Arr 48.53 74 P **P** **19 53 40.6 +0.4**
MJAR Matsushiro Arr 48.53 74 P **P** **19 53 40.6 +0.4**
comp=Z,6.7nm,0.9s,baz=288,slow=7.2,SNR=12
MJAR LR LR 20 15 09.1
comp=Z,67nm,18.6s,baz=25,slow=37
LPG La Plagne 48.63 299 *e*P **P** **19 53 42.3 +1.1**
comp=Z,16nm,0.9s
LPG La Plagne 48.63 299 *e*P **P** **19 53 42.3 +1.1**
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 48.63 299 *e*P **P** **19 53 42.3 +1.1**
comp=Z,16nm,0.9s
LPL La Plagne 48.63 299 *e*P **P** **19 53 42.4 +1.2**
comp=Z,12nm,0.8s
LPL La Plagne 48.63 299 *e*P **P** **19 53 42.4 +1.2**
LPL pmax pmax
comp=Z,12nm,0.8s
LPL La Plagne 48.63 299 *e*P **P** **19 53 42.4 +1.2**
comp=Z,12nm,0.8s
MBDF Montbardon 48.88 298 *e*P **P** **19 53 44.9 +1.9**
comp=Z,23nm,0.8s
MBDF Montbardon 48.88 298 *e*P **P** **19 53 44.9 +1.9**
MBDF pmax pmax
comp=Z,23nm,0.8s
MBDF Montbardon 48.88 298 *e*P **P** **19 53 44.9 +1.9**
comp=Z,23nm,0.8s
VIVF Saint-Julien-l 50.23 299 *e*P **P** **19 53 54.3 +1.2**
comp=Z,10nm,0.8s
VIVF Saint-Julien-l 50.23 299 *e*P **P** **19 53 54.3 +1.2**
VIVF pmax pmax
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 50.23 299 *e*P **P** **19 53 54.3 +1.2**
comp=Z,10nm,0.8s
BGF Bois d'Agland 50.79 302 *e*P **P** **19 53 59.6 +2.3**
comp=Z,6.8nm,0.7s
BGF Bois d'Agland 50.79 302 *e*P **P** **19 53 59.6 +2.3**
BGF pmax pmax
comp=Z,7.0nm,0.7s
BGF Bois d'Agland 50.79 302 *e*P **P** **19 53 59.6 +2.3**
comp=Z,6.8nm,0.7s
CAF Calviac 51.92 300 *e*P **P** **19 54 07.3 +1.5**
CAF Calviac 51.92 300 *e*P **P** **19 54 07.3 +1.5**
CAF Calviac 51.92 300 *e*P **P** **19 54 07.3 +1.5**
LDF La Druitiere 51.92 305 *e*P **P** **19 54 07.5 +1.8**
comp=Z,7.6nm,0.7s
LDF La Druitiere 51.92 305 *e*P **P** **19 54 07.5 +1.8**
LDF pmax pmax
comp=Z,8.0nm,0.7s
LDF La Druitiere 51.92 305 *e*P **P** **19 54 07.5 +1.8**
comp=Z,7.6nm,0.7s
LFF La Frestale 52.77 301 *e*P **P** **19 54 14.1 +2.0**
comp=Z,5.7nm,0.5s
LFF La Frestale 52.77 301 *e*P **P** **19 54 14.1 +2.0**
LFF pmax pmax
comp=Z,6.0nm,0.5s
LFF La Frestale 52.77 301 *e*P **P** **19 54 14.1 +2.0**
comp=Z,5.7nm,0.5s
BILL Bilibino 53.24 28 ⇑*e*P **P** **19 54 16.4 +1.2**
BILL *i* 19 54 20.8
BILL *e**PP **pP** **19 54 26.3 +3.7**
BILL 19 55 27.0
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,114nm,19.0s
BILL Bilibino 53.24 28 *e*P **P** **19 54 16.2 +1.0**
comp=Z,9.2nm,0.9s
ROSF Rostrenen 53.96 306 *e*P **P** **19 54 22.6 +1.8**
ROSF Rostrenen 53.96 306 *e*P **P** **19 54 22.6 +1.8**
ROSF Rostrenen 53.96 306 *e*P **P** **19 54 22.6 +1.8**
PETK Petropavlovsk- 54.62 47 LR LR 20 18 48.5
comp=Z,97nm,18.8s,baz=320,slow=37
ESDC Sonseca Array 58.23 297 P **P** **19 54 50.3 -1.3**
ESDC Sonseca Array 58.23 297 P **P** **19 54 50.3 -1.3**
comp=Z,2.7nm,0.8s,baz=54,slow=6.8,SNR=14
COLD Coldfoot 66.84 17 *e*P **P** **19 55 48.6 +0.1**
comp=Z,8.9nm,0.9s
TOA0 Torodi Ar. Sit 68.96 269 *e*P **P** **19 56 00.8 -1.8**
TORD Torodi Ar. Bea 68.96 269 P **P** **19 56 01.1 -1.5**
TORD Torodi Ar. Bea 68.96 269 P **P** **19 56 01.1 -1.5**
comp=Z,4.5nm,0.7s,baz=47,slow=5.7,SNR=27
INK Inuvik 69.01 11 *e*P **P** **19 56 02.4 +0.4**

	comp=Z,8.8nm,0.9s							
INK	**Inuvik**	**69.01**	**11**	P		**P**	**19 56 02.1**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=341,slow=5.2,SNR=23							
ILAR	**Eielson Array**	**69.64**	**18**	P		**P**	**19 56 05.7**	**-0.4**
ILAR	**Eielson Array**	**69.64**	**18**	P		**P**	**19 56 05.7**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=320,slow=4.9,SNR=20							
ILAR				LR		LR	20 28 51.1	
	comp=Z,76nm,21.6s,baz=166,slow=38							
HYT	**Haines Junctio**	**75.18**	**16**	*eP*		**P**	**19 56 40.2**	**+0.9**
YKA	**Yellowknife Ar**	**76.64**	**5**	P		**P**	**19 56 47.3**	**-0.1**
YKA	**Yellowknife Ar**	**76.64**	**5**	P		**P**	**19 56 47.3**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=348,slow=5.7,SNR=38							
DBIC	**Dimbokro**	**78.03**	**268**	P		P	19 56 52.7	-3.3
DBIC	**Dimbokro**	**78.03**	**268**	P		P	19 56 52.7	-3.3
	comp=Z,2.9nm,0.8s,baz=21,slow=5.7,SNR=5.2							
SCHQ	**Schefferville**	**79.21**	**339**	P		**P**	**19 57 03.4**	**+1.5**
SCHQ	**Schefferville**	**79.21**	**339**	P		**P**	**19 57 03.4**	**+1.5**
	comp=Z,4.0nm,0.8s,baz=21,slow=7.6,SNR=6.1							
WRA	**Warramunga Arr**	**81.79**	**125**	P		**P**	**19 57 15.4**	**-0.8**
WRA	**Warramunga Ar**	**81.79**	**125**	P		**P**	**19 57 15.4**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=328,slow=4.9,SNR=13							
ASAR	**Alice Springs**	**84.33**	**128**	P		**P**	**19 57 28.3**	**-0.9**
ASAR	**Alice Springs**	**84.33**	**128**	P		**P**	**19 57 28.3**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=318,slow=5.0,SNR=9.2							
EDM	**Edmonton**	**85.96**	**5**	*eP*		**P**	**19 57 36.4**	**-0.7**
EDM	**Edmonton**	**85.96**	**5**	*eP*		**P**	**19 57 36.4**	**-0.7**
ULM	**Lac du Bonnet**	**88.86**	**354**	LR		LR	20 39 57.6	
	comp=Z,95nm,18.1s,baz=16,slow=37							
BSMT	**Bassoo Peak**	**91.18**	**7**	*eP*		**P**	**19 58 02.6**	**+0.4**
	comp=Z,4.6nm,0.9s							
RLMT	**Red Lodge**	**94.26**	**3**	*eP*		**P**	**19 58 15.7**	**-0.8**
	comp=Z,3.2nm,1.1s							
PDAR	**Pinedale Array**	**96.59**	**3**	P		**P**	**19 58 29.3**	**+2.1**
PDAR	**Pinedale Array**	**96.59**	**3**	P		**P**	**19 58 29.3**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=56,slow=3.4,SNR=5.7							
PDAR				LR		LR	20 45 23.1	
	comp=Z,53nm,20.2s,baz=323,slow=38							

MOS 28 19:52:34.9±1.0, 50.51N×157.20E, h109km, mb4.2/1, 1D, Error ellipse: s-maj=62.8km s-min=7.8km az=79.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.71**	**285**	*i* P↓	Pn	19 52 52.5	-0.7
SKR				*i* S	Sn	19 53 06.0	-1.0
SKR				pmax	pmax		
	comp=Z,390nm,0.5s						
SKR				pmax	pmax		
	comp=N,330nm,0.2s						
SKR				pmax	pmax		
	comp=E,210nm,0.2s						
SKR				smax	smax		
	comp=N,570nm,0.4s						
SKR				smax	smax		
	comp=E,900nm,0.4s						
ASAK	**Asacha**	**1.93**	**13**	PN	Pn	19 53 08.5	+1.5
MTVR	**Mutnovka**	**2.07**	**17**	PN	Pn	19 53 10.3	+1.4
MTVR				S	Sn	19 53 35.4	+0.6
RUS	**Russkaya**	**2.09**	**23**	PN	Pn	19 53 10.0	+1.0
RUS				S	Sn	19 53 34.8	-0.2
APC	**Apacha**	**2.42**	**359**	PN	Pn	19 53 13.6	+0.5
PET	**Petropavlovsk**	**2.67**	**19**	PN	Pn	19 53 17.5	+1.0
AVH	**Avacha**	**2.92**	**18**	PN	Pn	19 53 21.8	+2.0
KOK	**Koryaka**	**2.92**	**17**	PN	Pn	19 53 21.9	+2.0
KOK				S	Sn	19 53 54.3	-0.4
SMAR	**Somma**	**2.93**	**19**	PN	Pn	19 53 21.7	+1.5
KRER	**Koryakskii**	**2.96**	**18**	PN	Pn	19 53 21.9	+1.4
SDLR	**Sedlovina**	**2.96**	**20**	PN	Pn	19 53 21.7	+1.2
GNL	**Ganaly**	**3.22**	**8**	PN	Pn	19 53 24.4	+0.5
KBTR	**Krutoberegovo**	**6.62**	**28**	PN	Pn	19 54 09.6	+0.1

MEX 28 19:55:01.9±0.6, 16.82N×96.70W, h60km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.25**	**352**	*eP*	Pn	19 55 10.4	-1.6
VHO				*eS*	Sn	19 55 17.8	-1.5
HUIG	**Huatulco**	**1.19**	**151**	*i* P	Pn	19 55 21.6	-0.8
HUIG				*i* S	Sn	19 55 35.5	-2.3
PNIG	**Pinotepa**	**1.44**	**253**	*eP*	Pn	19 55 24.3	-1.5
PNIG				*i* S	Sn	19 55 41.9	-1.8
CMIG	**Matias Romero**	**1.76**	**81**	*eP*	Pn	19 55 28.2	-1.9
CMIG				*i* S	Sn	19 55 49.9	-1.6

SJA 28 20:08:42.5±0.8, 31.37S×68.85W, h98km±5km, ML2.6, MW5.2, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.32**	**83**	*i* P		20 08 57.9	
RTLL				*eS*		20 09 09.2	
AMOG	**MOGNA**	**0.53**	**36**	*i* P		20 08 59.5	
AMOG				*eS*		20 09 10.7	
CFAA	**Coronel Fontan**	**0.57**	**115**	*i* P		20 08 59.8	
CFAA				*eS*		20 09 12.3	
RTLS	**Leoncito**	**0.58**	**221**	*i* P		20 09 00.2	
RTLS				*eS*		20 09 13.4	
AUSP	**Uspallata**	**0.97**	**208**	*i* P		20 09 04.0	
AUSP				*eS*		20 09 19.6	
AVFE	**Valle Fertil**	**1.39**	**60**	*i* P		20 09 08.1	
AVFE				*eS*		20 09 27.4	
AVFE				AML		20 09 28.2	
	comp=Z,68nm,0.2s						
AGUA	**GUANDACOL**	**1.90**	**9**	*i* P		20 09 15.1	
AGUA				*eS*		20 09 39.4	

*IDC **28** 20:09:38.5±1.6, 38.89S×15.87W, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/26, mbtmp3.6/6, MS3.9/17, Ms1 3.9/17, ms1mx3.8/22, Error ellipse: s-maj=66.3km s-min=24.9km az=162.0*

*ISCJB **28** 20:09:39.1±1.5, 38.8S±0.4×15.9W±0.2, h10km, mb3.5/6, MS3.9/17, Error ellipse: s-maj=59.6km s-min=19.2km az=162.0*

ISC 28 20:09:40.1±1.4, 38.9S±0.4×15.9W±0.2, h10km, n25, σ0.9 89/9, mb3.6/6, MS4.0/17, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**29.83**	**2**	T	T	20 47 05.0	
	baz=182,slow=75,SNR=24						
H10S3	**ASCENSION HYDR**	**29.83**	**2**	T	T	20 47 06.0	
	baz=182,slow=75,SNR=28						
H10S1	**ASCENSION HYDR**	**29.84**	**2**	T	T	20 47 06.4	
	baz=182,slow=75,SNR=27						
BOSA	**Boshof**	**35.44**	**86**	LR	LR	20 27 50.7	
	comp=Z,265nm,21.7s,baz=224,slow=31						
BDFB	**Brasilia**	**36.47**	**300**	LR	LR	20 28 47.3	
	comp=Z,193nm,19.1s,baz=142,slow=32						
CPUP	**Villa Florida**	**36.80**	**277**	LR	LR	20 29 27.9	
	comp=Z,300nm,19.8s,baz=123,slow=32						
PLCA	**Paso Flores**	**41.47**	**249**	LR	LR	20 32 14.5	
	comp=Z,269nm,20.0s,baz=94,slow=33						
CFAA	**Coronel Fontan**	**42.89**	**263**	P	**P**	**20 17 39.2**	**+0.3**
	0.2nm,0.6s,baz=123,slow=7.8,SNR=3.6						
CFAA				LR	LR	20 35 04.3	
	comp=Z,22nm,18.1s,baz=116,slow=36						
LSZ	**Lusaka**	**45.17**	**71**	P	**P**	**20 17 57.1**	**-0.4**
	0.5nm,0.4s,baz=236,slow=11,SNR=2.3						
DBIC	**Dimbokro**	**46.47**	**15**	LR	LR	20 32 57.0	
	comp=Z,62nm,20.0s,baz=134,slow=30						
MAW	**Mawson**	**50.51**	**151**	LR	LR	20 35 26.3	
	comp=Z,85nm,21.1s,baz=244,slow=31						
LPAZ	**La Paz**	**50.73**	**281**	P	**P**	**20 18 40.7**	**-0.3**
	0.6nm,0.6s,baz=103,slow=3.8,SNR=4.3						
LPAZ				LR	LR	20 40 07.6	
	comp=Z,116nm,19.4s,baz=126,slow=36						
TORD	**Torodi Ar. Bea**	**54.31**	**21**	P	**P**	**20 19 06.1**	**-0.6**
	0.5nm,0.8s,baz=203,slow=8.0,SNR=3.2						
TORD				LR	LR	20 37 11.9	
	comp=Z,106nm,21.5s,baz=170,slow=30						
PTGA	**Pitinga**	**55.37**	**302**	LR	LR	20 40 08.1	
	comp=Z,160nm,19.1s,baz=155,slow=33						
KMBO	**Kilima Mbogo**	**61.29**	**66**	LR	LR	20 44 28.9	
	comp=Z,276nm,18.3s,baz=276,slow=34						
VNDA	**Vanda**	**63.85**	**179**	LR	LR	20 44 54.1	
	comp=Z,90nm,19.4s,baz=166,slow=33						
ROSC	**El Rosal**	**69.26**	**295**	LR	LR	20 50 05.1	
	comp=Z,248nm,18.6s,baz=138,slow=35						
KEST	**Kesra**	**77.83**	**21**	LR	LR	20 52 58.9	
	comp=Z,45nm,19.1s,baz=253,slow=33						
ESDC	**Sonseca Array**	**78.95**	**9**	P	**P**	**20 21 44.1**	**+0.4**
	0.2nm,0.5s,baz=165,slow=5.3,SNR=3.4						
JTS	**JuntasAbangare**	**80.61**	**291**	LR	LR	20 56 49.1	
	comp=Z,109nm,19.3s,baz=98,slow=35						
BRTR	**Keskin Array B**	**90.42**	**36**	P	**P**	**20 22 43.0**	**+1.3**
	0.7nm,0.9s,baz=190,slow=4.4,SNR=3.7						
BRTR				LR	LR	21 03 16.6	
	comp=Z,22nm,19.4s,baz=210,slow=36						
GERES	**GERESS Array B**	**91.21**	**19**	LR	LR	20 59 31.7	
	comp=Z,75nm,21.8s,baz=296,slow=33						
YKA	**Yellowknife Ar**	**127.51**	**325**	PKP	**PKPdf**	**20 28 42.9**	**-1.4**
	0.2nm,0.7s,baz=115,slow=2.8,SNR=2.7						
SONM	**Songino Array**	**137.97**	**58**	PKP	**PKPdf**	**20 29 04.6**	**-0.1**
	0.3nm,0.5s,baz=215,slow=4.8,SNR=3.2						
ILAR	**Eielson Array**	**141.67**	**329**	PKP	**PKPdf**	**20 29 11.1**	**+0.4**
	1.6nm,1.0s,baz=61,slow=2.3,SNR=9.4						

*ISCJB **28** 20:20:18.7±1.4, 24.0S±0.1×67.0W±0.1, h181km, mb3.4/2, Error ellipse: s-maj=22.9km s-min=10.7km az=36.8*

*SJA **28** 20:20:18.3±0.5, 24.21S×66.93W, h202km±25km, ML2.7, MW5.4*

*IDC **28** 20:20:26.5±4.1, 23.55S×66.72W, h244km±28km, mb3.2/2, mb1 3.2/5, mb1mx3.1/19, mbtmp3.6/5, Error ellipse: s-maj=58.3km s-min=27.4km az=42.0*

ISC 28 20:20:18.8±1.3, 24.1S±0.1×67.0W±0.1, h181km, n12, σ1.9 06/13, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.52**	**115**	*i* P	**Pn**	**20 20 52.3**	**+1.1**
SLA				*eS*	**Sn**	**20 21 16.8**	**+0.5**
SLA				AML	AML	20 21 19.0	
	comp=Z,101nm,0.8s						
AZAP	**Zapla**	**1.79**	**95**	*i* P	**Pn**	**20 20 54.7**	**+0.7**
AZAP				*i* S	**Sn**	**20 21 22.4**	**+1.2**
AZAP				AML	AML	20 21 23.6	
	comp=Z,13nm,0.6s						
ASTB	**Santa Barbara**	**2.33**	**87**	*i* P	**Pn**	**20 21 00.7**	**+1.0**
ASTB				*eS*	**Sn**	**20 21 32.1**	**+0.7**
ALOL	**LOMAS DE OLMED**	**2.81**	**85**	*i* P	**Pn**	**20 21 05.4**	**+0.3**
LPAZ	**La Paz**	**7.83**	**352**	P	**Pn**	**20 22 11.9**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=182,slow=2.9,SNR=6.5						
CPUP	**Villa Florida**	**9.06**	**106**	P	Pn	20 22 32.9	+7.0
	comp=Z,0.8nm,0.3s,baz=277,slow=14,SNR=4.0						
SIV	**San Ignacio**	**9.80**	**96**	P	**Pn**	**20 22 34.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=234,slow=14,SNR=6.4						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**20 31 48.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=252,slow=5.1,SNR=8.4						
YKA	**Yellowknife Ar**	**94.20**	**340**	P	**P**	**20 33 16.7**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=134,slow=4.8,SNR=7.4						
WRA	**Warramunga Arr**	**131.54**	**207**	PKP	**PKPdf**	**20 39 09.9**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=151,slow=1.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**143.48**	**28**	PKP	PKPbc	20 39 28.7	-0.5
	comp=Z,0.7nm,0.5s,baz=329,slow=5.5,SNR=4.2						
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	**PKPdf**	**20 39 36.8**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=309,slow=2.8,SNR=14						

WEL 28 20:25:07.6±0.2, 36.89S×176.90E, h229km±1km, ML3.7/14, 4C-1D, Error ellipse: s-maj=3.8km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.11**	**141**	PN	Pn	20 25 41.3	+0.3
HAZ				SN	S	20 26 07.2	0.0
MXZ	**Matakaoa Point**	**1.31**	**121**	PN	Pn	20 25 42.4	0.0
URZ	**Urewera**	**1.38**	**173**	↑PN	Pn	20 25 43.0	+0.1
URZ				SN	S	20 26 10.4	-0.1
MWZ	**Matawai**	**1.52**	**161**	PN	Pn	20 25 44.2	+0.1
PUZ	**Puketiti**	**1.60**	**138**	↑PN	Pn	20 25 44.7	0.0
CNGZ	**Carnagh Statio**	**1.90**	**147**	PN	Pn	20 25 47.6	+0.3
SNGZ	**Shannon Statio**	**1.92**	**170**	PN	Pn	20 25 47.5	0.0
RIGZ	**Rimuhau**	**1.94**	**160**	↑PN	Pn	20 25 47.7	0.0
RAHZ	**Arahi**	**2.03**	**176**	PN	Pn	20 25 48.3	-0.3
WHHZ	**Waihua**	**2.20**	**173**	PN	Pn	20 25 49.9	-0.2
NMHZ	**Naumai**	**2.21**	**182**	↓PN	Pn	20 25 50.6	+0.3
KNZ	**Kokohu**	**2.21**	**164**	PN	Pn	20 25 49.5	-0.8
BKZ	**Black Stump Fm**	**2.29**	**188**	↑PN	Pn	20 25 50.4	-0.9
BKZ				AML	AML	20 26 26.9	
BKZ				AML	AML	20 26 26.9	
WNVZ	**Wahianoa**	**2.64**	**203**	PN	Pn	20 25 54.5	-0.5
BHHZ	**Black Hill Sta**	**2.68**	**194**	PN	Pn	20 25 54.1	-1.1
CKHZ	**Cape Kidnapper**	**2.77**	**177**	PN	Pn	20 25 55.1	-1.0
KAHZ	**Kahuranaki**	**2.90**	**180**	PN	Pn	20 25 56.5	-1.2
PXZ	**Pawanui**	**3.14**	**181**	PN	Pn	20 25 58.4	-1.8
TSZ	**Takapari Road**	**3.25**	**193**	PN	Pn	20 25 59.7	-1.8
PRHZ	**Porangahau**	**3.38**	**183**	PN	Pn	20 26 01.0	-2.0
BFZ	**Birch Farm**	**3.82**	**188**	PN	Pn	20 26 05.6	-2.6
MRZ	**Mangatainoka R**	**3.91**	**195**	PN	Pn	20 26 06.9	-2.3
MRZ				SN	S	20 26 53.8	-4.2
HOWZ	**Holdsworth Sta**	**4.15**	**195**	PN	Pn	20 26 09.8	-2.3
OGWZ	**Otaki Gorge**	**4.15**	**198**	PN	Pn	20 26 09.1	-3.0
KIW	**Kapiti Island**	**4.26**	**201**	PN	Pn	20 26 10.8	-2.7
PAWZ	**Paruwai Farm**	**4.63**	**194**	AML	AML	20 27 10.8	
MSWZ	**Moikau Station**	**4.70**	**195**	AML	AML	20 27 13.0	
TCW	**Tory Channel**	**4.78**	**205**	AML	AML	20 27 15.7	
PLWZ	**Palliser**	**4.84**	**195**	PN	Pn	20 26 17.6	-3.2
TUWZ	**Tuamarina**	**5.08**	**206**	AML	AML	20 27 23.7	
QRZ	**Quartz Range**	**5.21**	**220**	PN	Pn	20 26 21.4	-3.8
QRZ				SN	S	20 27 22.5	-4.3
THZ	**Tophouse**	**5.77**	**211**	PN	Pn	20 26 29.4	-3.0
KHZ	**Kahutara**	**6.10**	**204**	PN	Pn	20 26 32.9	-3.5

*SJA **28** 20:31:41.0±0.7, 20.48S×67.59W, h228km±35km, ML2.6, MW4.9*

*ISCJB **28** 20:31:42.1±0.8, 20.58S±0.05×67.8W±0.1, h180km±9km, mb3.6/4, Error ellipse: s-maj=18.6km s-min=6.9km az=160.5*

*IDC **28** 20:31:42.3±1.9, 20.55S×67.80W, h165km±15km, mb3.4/4, mb1 3.8/8, mb1mx3.5/26, mbtmp4.1/8, Error ellipse: s-maj=24.7km s-min=14.6km az=55.0*

ISC 28 20:31:42.9±1.2, 20.5S±0.07×67.8W±0.1, h174km±11km, n16, σ1.9 28/22, mb3.6/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**2.64**	**128**	*i* P	**Pn**	**20 32 28.8**	**+1.5**
YJA				*eS*	**Sn**	**20 33 04.5**	**+2.7**
YJA				AML	AML	20 33 06.1	
	comp=Z,1.8nm,0.5s						
LPAZ	**La Paz**	**4.25**	**355**	P	**Pn**	**20 32 48.0**	**+0.2**
	comp=Z,7.0nm,0.3s,baz=198,slow=2.9,SNR=92						
LPAZ				S	**Sn**	**20 33 37.1**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=72,slow=20,SNR=7.7						
AZAP	**Zapla**	**4.42**	**146**	*i* P	**Pn**	**20 32 49.6**	**+0.1**
AZAP				*eS*	**Sn**	**20 33 40.8**	**-0.8**
AZAP				AML	AML	20 33 43.7	
	comp=Z,11nm,0.4s						
ASTB	**Santa Barbara**	**4.54**	**139**	*i* P9	**Pn**	**20 32 51.4**	**+0.5**
ASTB				*eS*	**Sn**	**20 33 42.7**	**-1.5**
SLA	**San Lorenzo**	**4.64**	**154**	*i* P	**Pn**	**20 32 53.2**	**+1.0**
SLA				*eS*	**Sn**	**20 33 45.5**	**-1.1**
SLA				AML	AML	20 33 55.4	
	comp=Z,17nm,0.8s						
ALOL	**LOMAS DE OLMED**	**4.78**	**134**	*i* P9	**Pn**	**20 32 53.6**	**-0.3**
ALOL				*eS*	**Sn**	**20 33 47.4**	**-2.1**
SIV	**San Ignacio**	**7.79**	**56**	P	**Pn**	**20 33 32.1**	**-1.4**
	comp=Z,6.5nm,0.3s,baz=259,slow=11,SNR=54						
CFAA	**Coronel Fontan**	**11.02**	**182**	P	**Pn**	**20 34 14.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=11,slow=16,SNR=5.5						
CFAA				S	Sn	20 36 06.9	-11
	comp=Z,0.1nm,0.3s,baz=131,slow=19,SNR=6.7						
CPUP	**Villa Florida**	**11.16**	**123**	P	**Pn**	**20 34 19.1**	**+1.5**
	comp=Z,2.6nm,0.3s,baz=287,slow=10,SNR=13						
BDFB	**Brasilia**	**19.38**	**79**	P	**Pn**	**20 35 57.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=249,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**60.49**	**324**	P	**P**	**20 41 34.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=148,slow=8.6,SNR=3.6						
PDAR	**Pinedale Array**	**73.84**	**329**	P	**P**	**20 42 59.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=117,slow=7.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.01**	**70**	P	**P**	**20 43 11.4**	**0.0**
	comp=Z,1.3nm,0.3s,baz=253,slow=5.4,SNR=29						
YKA	**Yellowknife Ar**	**90.66**	**340**	P	**P**	**20 44 25.6**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=133,slow=4.5,SNR=9.2						
MKAR	**Makanchi Array**	**144.23**	**36**	PKP	**PKPdf**	**20 50 57.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=338,slow=3.2,SNR=4.6						
SONM	**Songino Array**	**152.37**	**9**	PKPbc	**PKPbc**	**20 51 19.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=318,slow=1.9,SNR=2.9						

*ISK **28** 20:58:19.2, 34.44N×35.94E, h32km, ML3.2*

*ISCJB **28** 20:58:24.6±0.6, 35.14N±0.03×36.66E±0.06, h13km±4km, Error ellipse: s-maj=8.3km s-min=4.0km az=23.2*

*CSEM **28** 20:58:24.2±0.3, 35.13N×36.67E, h5km, ML3.0, Error ellipse: s-maj=13.1km s-min=4.7km az=103.0*

*GRAL **28** 20:58:27.7±0.3, 35.02N×36.60E, h1km±3km, MD3.2*

*DDA **28** 20:58:28.0, 35.54N×36.93E, h12km, MD3.5*

ISC 28 20:58:24.3±0.9, 35.17N±0.02×36.60E±0.04, h13km±7km, n29, σ1.9 13/40, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KFRA	**Kufra**	**0.17**	**74**	*eP*	**Pg**	**20 58 28.6**	**+0.3**
	SNR=104						
KFRA				*eS*	**Sg**	**20 58 31.1**	**+0.1**
	3μm,0.2s,SNR=59						
BIDA	**Albida**	**0.28**	**237**	*eP*	**Pg**	**20 58 30.6**	**+0.5**
	SNR=75						
BIDA				*eS*	**Sg**	**20 58 35.0**	**+1.0**
	2μm,0.3s,SNR=59						
BTCH	**Batrach**	**0.88**	**352**	*eP*	**Pg**	**20 58 40.8**	**-0.5**
	SNR=67						
BTCH				*eS*	**Sg**	**20 58 51.5**	**-1.3**
	471nm,0.4s,SNR=59						
FKH	**Fakeheh**	**0.93**	**190**	*eP*	**Pg**	**20 58 41.9**	**-0.5**
FKH				*eS*	**Sg**	**20 58 52.2**	**-2.3**
FKH	**Fakeheh**	**0.93**	**190**	*eP*	**Pg**	**20 58 41.8**	**-0.5**
FKH				*eS*	**Sg**	**20 58 52.2**	**-2.3**
HWQ	**Hawqa**	**1.04**	**212**	*eP*	**Pg**	**20 58 44.1**	**-0.1**
HWQ	**Hawqa**	**1.04**	**212**	*eP*	**Pg**	**20 58 44.2**	**-0.1**
BHL	**Bhannes**	**1.48**	**212**	*eP*	**Pn**	**20 58 51.6**	**+0.9**
BHL	**Bhannes**	**1.48**	**212**	*eP*	**Pn**	**20 58 51.6**	**+0.9**
KUZU	**Kuzuini**	**1.65**	**13**	*i* P	**Pn**	**20 58 52.8**	**-0.2**
KUZU				*i* S	**Sb**	**20 59 16.1**	**+0.8**
KUZU	**Kuzuini**	**1.65**	**13**	*i* P	**Pn**	**20 58 52.8**	**-0.2**
KUZU				*i* S	**Sb**	**20 59 16.1**	**+0.8**
RCY	**Rachaya**	**1.78**	**201**	*eP*	**Pb**	**20 58 56.5**	**-0.4**
RCY				*eS*	**Sn**	**20 59 17.7**	**+0.3**
CEYT	**Ceyhan**	**1.97**	**340**	*ePN*	**Pb**	**20 58 59.5**	**-0.4**
CEYT	**Ceyhan**	**1.97**	**340**	*ePn*	**Pb**	**20 58 59.5**	**-0.4**
GZT	**Gaziantep**	**2.32**	**19**	*i* P	**Pn**	**20 59 02.7**	**+0.4**
GZT				*i* S	**Sb**	**20 59 36.9**	**+2.2**
KMRS	**Kahramanmaras**	**2.35**	**6**	*ePN*	**Pg**	**20 59 08.4**	**-0.9**
KMRS	**Kahramanmaras**	**2.35**	**6**	*ePn*	**Pg**	**20 59 08.4**	**-0.9**
KOZT	**Kozan**	**2.39**	**345**	*ePN*	**Pb**	**20 59 06.9**	**-0.4**
KOZT	**Kozan**	**2.39**	**345**	*ePn*	**Pb**	**20 59 06.9**	**-0.4**
MERS	**Mersin**	**2.39**	**316**	*ePN*	Pn	20 59 00.7	-2.6
MERS	**Mersin**	**2.39**	**316**	*ePn*	Pn	20 59 00.7	-2.6
KARA	**Karaisali**	**2.44**	**330**	*ePN*	**Pn**	**20 59 05.3**	**+1.5**
KARA				*eSN*	**Sb**	**20 59 37.3**	**-0.6**
KARA	**Karaisali**	**2.44**	**330**	*ePn*	**Pn**	**20 59 05.3**	**+1.5**
KARA				*eSn*	**Sb**	**20 59 37.3**	**-0.6**
URFA	**Urfa**	**2.89**	**38**	*ePN*	**Pb**	**20 59 16.9**	**+1.1**
AKCD	**Akcadag**	**3.30**	**18**	*i* P	**Pn**	**20 59 16.2**	**+0.4**
AKCD				*i* S	**Sn**	**20 59 56.1**	**+1.2**
AKCD	**Akcadag**	**3.30**	**18**	*i* P	**Pn**	**20 59 16.2**	**+0.4**
AKCD				*i* S	**Sn**	**20 59 56.1**	**+1.2**
DARE	**Darende-Malaty**	**3.47**	**11**	*ePN*	**Pb**	**20 59 24.2**	**-1.5**
PTK	**Pertek**	**4.34**	**30**	*ePN*	**Pb**	**20 59 37.7**	**-2.8**
BEST	**Besiri**	**4.64**	**53**	*i* P	**Pn**	**20 59 35.6**	**+1.4**

*ISCJB **28** 21:14:48.3±0.4, 6.53S±0.04×127.39E±0.05, h408km, mb3.6/10, Error ellipse: s-maj=6.9km s-min=5.7km az=2.7*

*IDC **28** 21:14:49.1±1.6, 6.55S×127.30E, h398km±25km, mb3.3/10, mb1 3.4/14, mb1mx3.3/28, mbtmp4.2/14, Error ellipse: s-maj=22.6km s-min=13.1km az=37.0*

ISC 28 21:14:49.3±0.6, 6.64S±0.06×127.34E±0.07, h408km, n25, σ1.9 16/30, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.34**	**224**	P	**P**	**21 16 05.9**	**+0.8**
	baz=4.4,SNR=30						
SOEI				S	**S**	**21 17 05.6**	**-1.3**
	baz=4.4,SNR=5.6						
BATI	**Baumata**	**5.08**	**226**	P	**P**	**21 16 13.7**	**+1.4**
	34nm,0.3s,baz=62,slow=1.3,SNR=30						
BATI				S	**S**	**21 17 19.6**	**-0.6**
	39nm,0.3s,ba

PLIG	**Platanillo**	**1.73**	**16**	*i* P	Pn	21 42 42.2	-3.3
PLIG				*i* S	Sn	21 43 02.9	-5.3
PNIG	**Pinotepa**	**1.83**	**100**	*eP*	Pn	21 42 43.7	-3.1
PNIG				*i* S	Sn	21 43 06.4	-3.9

IDC 28 21:47:30.6±37.0, 27°10′N×66°09′E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/34, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/38, Error ellipse: s-maj=701.0km s-min=54.6km az=170.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.45**	**29**	P	P	21 52 41.7	+0.1
	0.8nm,0.7s,baz=213,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**30.17**	**22**	P	P	21 53 42.1	-0.2
	0.7nm,0.4s,baz=227,slow=13,SNR=5.3						
FINES	**FINESS Array B**	**43.49**	**333**	P	P	21 55 35.3	-0.1
	1.9nm,0.9s,baz=138,slow=9.1,SNR=4.6						
KEST	**Kesra**	**48.60**	**295**	LR	LR	22 22 59.7	
	comp=Z,25nm,18.2s,baz=276,slow=44						

*ISCJB **28** 21:59:18.8±0.7, 11°69S±0°07′×166°4E±0°1, h59km, mb4.2/13, MS3.7/9, Error ellipse: s-maj=17.1km s-min=9.8km az=172.9*
*IDC **28** 21:59:19.1±1.2, 11°54S×166°39E, h46km±5km, mb4.0/9, mb1 4.2/10, mb1mx3.9/37, mbtmp4.3/10, MS3.7/11, Ms1 3.7/11, ms1mx3.4/31, Error ellipse: s-maj=37.2km s-min=16.9km az=123.0*
*NEIC **28** 21:59:19.9±0.7, 11°60S×166°43E, h58km±7km, mb4.3/5, Error ellipse: s-maj=17.1km s-min=9.9km az=104.0*
ISC 28 21:59:19.1±0.7, 11°60S±0°07′×166°5E±0°1, h59km, n56, σ1§51/54, mb4.2/13, MS3.6/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.81**	**288**	*eP*	**Pn**	**22 00 57.0**	**+0.6**
DZM	**Mont Dzumac**	**10.41**	**180**	*ePn*	**Pn**	**22 01 48.1**	**+2.3**
	6.3nm,0.3s						
DZM				*eSn*	Sn	22 03 33.3	-7.7
	2.8nm,0.3s						
DZM				*eLR*	LR	22 04 05.2	
	613nm,23.9s						
DZM	**Mont Dzumac**	**10.41**	**180**	*ePn*	**Pn**	**22 01 47.5**	**+1.6**
DZM				*eSn*	**Sn**	22 03 40.0	-1.1
DZM	**Mont Dzumac**	**10.41**	**180**	P	**Pn**	**22 01 47.8**	**+2.0**
	1.0nm,0.3s,baz=353,slow=19,SNR=8.8						
DZM				S	**Sn**	**22 03 37.5**	**-3.6**
	0.9nm,0.3s,baz=323,slow=20,SNR=3.2						
DZM				LR	LR	22 05 25.3	
	comp=Z,401nm,21.7s,baz=28,slow=35						
PMG	**Port Moresby**	**19.16**	**275**	LR	LR	22 10 29.4	
	comp=Z,195nm,21.6s,baz=130,slow=35						
CTA	**Charters Tower**	**21.22**	**244**	P	**P**	**22 04 01.3**	**+1.1**
CTA	**Charters Tower**	**21.22**	**244**	P	**P**	**22 04 01.3**	**+1.1**
	10nm,0.9s,baz=82,slow=9.9,SNR=5.0						
CTA				LR	LR	22 10 29.9	
	comp=Z,275nm,18.7s,baz=70,slow=32						
AFI	**Afiamalu**	**21.30**	**99**	LR	LR	22 11 08.5	
	comp=Z,974nm,21.2s,baz=257,slow=33						
ARMA	**Armidale**	**23.27**	**214**	*eP*	**P**	**22 04 22.6**	**+0.8**
	42nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**29.90**	**0**	T	T	22 36 10.4	
	baz=183,slow=78,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**29.91**	**0**	T	T	22 36 07.9	
	baz=183,slow=78,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**29.92**	**0**	T	T	22 36 10.3	
	baz=183,slow=78,SNR=3.8						
STKA	**Stephens Creek**	**30.57**	**225**	*eP*	**P**	**22 05 28.3**	**+1.0**
	1.5nm,0.7s						
STKA	**Stephens Creek**	**30.57**	**225**	P	**P**	**22 05 28.3**	**+1.0**
	7.1nm,0.8s,baz=45,slow=8.7,SNR=12						
STKA				LR	LR	22 16 59.2	
	comp=Z,141nm,20.2s,baz=32,slow=35						
H11N1	**WAKE ISLAND Hy**	**31.12**	**1**	T	T	22 37 33.2	
	baz=187						
H11N3	**WAKE ISLAND Hy**	**31.12**	**1**	T	T	22 37 31.9	
	baz=187						
H11N2	**WAKE ISLAND Hy**	**31.14**	**1**	T	T	22 37 36.7	
	baz=187						
WRAB	**Tennant Creek**	**32.00**	**251**	*eP*	**P**	**22 05 39.3**	**-0.7**
WRA	**Warramunga Arr**	**32.01**	**251**	P	**P**	**22 05 39.6**	**-0.6**
WRA				pP	**pP**	**22 05 53.5**	**-1.4**
WRA	**Warramunga Arr**	**32.01**	**251**	P	**P**	**22 05 39.6**	**-0.6**
	4.8nm,0.9s,baz=82,slow=9.4,SNR=11						
WRA				pP	**pP**	**22 05 53.5**	**-1.4**
	3.1nm,0.9s,baz=82,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**33.23**	**244**	P	**P**	**22 05 50.1**	**-0.7**
ASAR				pP	**pP**	**22 06 03.6**	**-2.0**
ASAR				PcP	**PcP**	**22 08 32.8**	**+0.4**
ASAR	**Alice Springs**	**33.23**	**244**	P	**P**	**22 05 50.1**	**-0.7**
	3.0nm,0.8s,baz=70,slow=9.7,SNR=24						
ASAR				pP	**pP**	**22 06 03.6**	**-2.0**
	2.7nm,0.6s,baz=69,slow=9.4,SNR=8.3						
ASAR				PcP	**PcP**	**22 08 32.8**	**+0.4**
	1.9nm,1.0s,baz=88,slow=4.3,SNR=4.8						
ASAR				LR	LR	22 17 32.5	
	comp=Z,129nm,21.0s,baz=87,slow=33						
PPT	**Papeete**	**42.83**	**103**	LR	LR	22 21 44.9	
	comp=Z,53nm,19.2s,baz=243,slow=31						
PPT2	**Papeete2**	**42.83**	**103**	*eLR*	LR	22 19 33.8	
	255nm,31.2s						
RKT	**Rikitea**	**56.69**	**110**	*eLR*	LR	22 26 02.8	
	197nm,30.2s						
USRK	**Ussuriysk Arra**	**63.78**	**333**	pP	pP	22 09 58.9	-2.0
	2.4nm,0.9s,baz=106,slow=4.7,SNR=3.3						
PETK	**Petropavlovsk-**	**64.89**	**354**	LR	LR	22 31 41.7	
	comp=Z,320nm,20.8s,baz=149,slow=30						
VNDA	**Vanda**	**65.95**	**181**	*eP*	**P**	**22 09 59.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**73.02**	**293**	P	**P**	**22 10 44.8**	**+1.5**
CMAR				pP	**pP**	**22 10 57.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**73.02**	**293**	P	**P**	**22 10 44.8**	**+1.5**
	4.5nm,0.8s,baz=123,slow=4.6,SNR=34						
CMAR				pP	**pP**	**22 10 57.9**	**-1.7**
	4.9nm,0.9s,baz=124,slow=2.4,SNR=6.9						
CHTO	**Chiang Mai**	**73.14**	**294**	*eP*	**P**	**22 10 44.8**	**+0.8**
	2.6nm,0.9s						
QSPA	**South Pole Qui**	**78.41**	**180**	*eP*	**P**	**22 11 12.7**	**-0.7**
	7.2nm,1.0s						
ULN	**Ulaanbaatar**	**79.19**	**324**	*eP*	**P**	**22 11 19.1**	**+1.1**
	2.7nm,1.0s						
SONM	**Songino Array**	**79.56**	**324**	P	**P**	**22 11 20.9**	**+1.0**
SONM				pP	**pP**	**22 11 34.8**	**-1.6**
SONM	**Songino Array**	**79.56**	**324**	P	**P**	**22 11 20.9**	**+1.0**
	0.7nm,0.6s,baz=117,slow=4.2,SNR=7.6						
SONM				pP	**pP**	**22 11 34.8**	**-1.6**
	1.0nm,0.7s,baz=143,slow=6.1,SNR=6.1						
ILAR	**Eielson Array**	**83.80**	**18**	P	**P**	**22 11 43.6**	**+1.9**
ILAR				pP	**pP**	**22 11 56.2**	**-2.1**
ILAR	**Eielson Array**	**83.80**	**18**	P	**P**	**22 11 43.6**	**+1.9**
	0.4nm,0.5s,baz=242,slow=4.7,SNR=11						
ILAR				pP	**pP**	**22 11 56.2**	**-2.1**
	0.7nm,0.7s,baz=254,slow=5.1,SNR=3.8						
TAPN	**Taplejung**	**85.53**	**299**	*eP*	**P**	**22 11 52.9**	**+1.3**
	13nm,1.1s						
ODAN	**Odare**	**85.68**	**298**	*eP*	**P**	**22 11 53.3**	**+1.0**
PFO	**Pinyon Flat Ob**	**85.79**	**55**	LR	LR	22 40 18.6	
	comp=Z,56nm,21.9s,baz=306,slow=29						
NVAR	**Mina Array Bea**	**85.81**	**50**	pP	pP	22 12 09.9	+0.5
NVAR	**Mina Array Bea**	**85.81**	**50**	pP	pP	22 12 09.9	+0.5
	1.2nm,0.9s,baz=236,slow=8.3,SNR=5.0						
GUN	**Gumba**	**87.24**	**299**	*eP*	**P**	**22 12 00.7**	**+0.6**
	28nm,1.2s						
PKI	**Pulchoki**	**87.56**	**299**	*eP*	**P**	**22 12 02.1**	**+0.5**
	26nm,1.2s						
DMN	**Daman**	**87.83**	**299**	*eP*	**P**	**22 12 03.5**	**+0.7**
	43nm,1.2s						
GKN	**Gorkha**	**88.33**	**299**	*eP*	**P**	**22 12 05.2**	**+0.1**
LPIG	**La Paz**	**88.56**	**65**	LR	LR	22 44 12.2	
	comp=Z,8.9nm,19.3s,baz=12,slow=30						
DANN	**Dangsing**	**89.17**	**299**	*eP*	**P**	**22 12 09.0**	**-0.2**
	28nm,1.2s						
NEW	**Newport**	**89.67**	**40**	LR	LR	22 46 07.0	
	comp=Z,63nm,19.3s,baz=246,slow=31						
MK31	**Makanchi Array**	**94.44**	**317**	*eP*	**P**	**22 12 33.0**	**+0.2**
MKAR	**Makanchi Array**	**94.44**	**317**	P	**P**	**22 12 33.6**	**+0.8**
MKAR	**Makanchi Array**	**94.44**	**317**	P	**P**	**22 12 33.6**	**+0.8**
	1.5nm,0.7s,baz=82,slow=6.4,SNR=20						
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**22 12 32.7**	**+0.1**
ZALV				pP	**pP**	**22 12 45.5**	**-3.9**
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**22 12 32.7**	**+0.1**
	0.3nm,0.4s,baz=75,slow=7.6,SNR=2.8						
ZALV				pP	**pP**	**22 12 45.5**	**-3.9**
	1.7nm,0.9s,baz=107,slow=1.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**165.09**	**278**	PKPab	**PKPab**	**22 20 15.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.09**	**278**	PKPab	**PKPab**	**22 20 15.0**	**+0.1**
	1.2nm,1.0s,baz=70,slow=2.8,SNR=4.4						

MAN 28 22:02:32, 18°00N×120°76E, h32km, mb3.7, ML2.4, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.35**	**337**	*i* P	Pn	22 02 40.9	0.0
PIP				*eS*	Sn	22 02 48.9	+2.2
ABRA	**Dolores**	**0.35**	**187**	*eP*	Pn	22 02 42.0	+1.1
ABRA				*eS*	Sn	22 02 48.0	+1.1
APYP	**Conner**	**0.48**	**107**	*eP*	Pn	22 02 43.6	+0.9
APYP				*eS*	Sn	22 02 51.1	+1.1

*IDC **28** 22:28:52.9±3.0, 34°67S×179°29W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/34, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=73.7km s-min=44.8km az=128.0*
*ISCJB **28** 22:28:55.8±1.6, 35°6S±0°1×178°34W±0°10, h50km, mb3.4/2, Error ellipse: s-maj=15.1km s-min=11.6km az=2.2*
ISC 28 22:28:55.2±1.7, 35°4S±0°1×178°4W±0°1, h50km, n21, σ1§84/28, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.40**	**230**	PN	**Pn**	**22 29 46.6**	**+0.9**
MXZ				*eSN*	**Sn**	**22 30 24.4**	**-0.4**
PUZ	**Puketiti**	**3.76**	**225**	PN	**Pn**	**22 29 52.9**	**+2.2**
PUZ				SN	**Sn**	**22 30 36.1**	**+2.4**
HAZ	**Te Kaha**	**3.85**	**232**	PN	**Pn**	**22 29 53.8**	**+2.0**
HAZ				*eSN*	**Sn**	**22 30 38.5**	**+2.8**
CNGZ	**Carnagh Statio**	**4.08**	**221**	*ePN*	**Pn**	**22 29 57.3**	**+2.2**
MWZ	**Matawai**	**4.36**	**227**	PN	**Pn**	**22 30 00.6**	**+1.6**
RIGZ	**Rimuhau**	**4.48**	**222**	*ePN*	**Pn**	**22 30 02.2**	**+1.6**
URZ	**Urewera**	**4.57**	**231**	Pn	**Pn**	**22 30 03.0**	**+1.2**
	4.4nm,0.3s,baz=274,slow=4.1,SNR=36						
URZ				Sn	**Sn**	**22 30 53.0**	**-0.7**
	3.6nm,0.3s,baz=154,slow=22,SNR=6.9						
URZ	**Urewera**	**4.57**	**231**	PN	**Pn**	**22 30 01.9**	**+0.1**
URZ				*eSN*	**Sn**	**22 30 52.9**	**-0.7**
PRGZ	**Paritu Road**	**4.58**	**219**	*ePN*	**Pn**	**22 30 04.2**	**+2.3**
KNZ	**Kokohu**	**4.76**	**220**	PN	**Pn**	**22 30 05.8**	**+1.5**
SNGZ	**Shannon Statio**	**4.77**	**224**	*ePN*	**Pn**	**22 30 06.7**	**+2.1**
NMHZ	**Naumai**	**5.29**	**225**	*ePN*	**Pn**	**22 30 13.6**	**+1.9**
BKZ	**Black Stump Fm**	**5.52**	**226**	*ePN*	**Pn**	**22 30 15.8**	**+0.9**
BKZ				*eSN*	**Sn**	**22 31 16.6**	**-0.4**
KAHZ	**Kahuranaki**	**5.75**	**219**	*ePN*	**Pn**	**22 30 18.9**	**+1.0**
PXZ	**Pawanui**	**5.93**	**218**	*ePN*	**Pn**	**22 30 19.3**	**-1.1**
BFZ	**Birch Farm**	**6.73**	**217**	*ePN*	**Pn**	**22 30 30.7**	**-0.7**
MRZ	**Mangatainoka R**	**7.06**	**220**	*ePN*	**Pn**	**22 30 35.4**	**-0.5**
MRZ				*eSN*	**Sn**	**22 31 50.7**	**-4.0**
CTZ	**Chatham Island**	**8.41**	**171**	*ePN*	Pn	22 31 00.4	+6.1
CTZ				*eSN*	**Sn**	**22 32 27.6**	**-0.1**
ASAR	**Alice Springs**	**42.75**	**273**	P	**P**	**22 36 45.2**	**-2.6**
	0.3nm,0.5s,baz=113,slow=7.6,SNR=7.0						
WRA	**Warramunga Arr**	**44.18**	**278**	P	**P**	**22 36 57.9**	**-1.5**
	0.8nm,0.7s,baz=116,slow=7.6,SNR=6.6						
FINES	**FINESS Array B**	**149.69**	**337**	PKPbc	**PKPbc**	**22 48 40.6**	**+2.2**
	1.2nm,0.7s,baz=48,slow=2.8,SNR=7.3						

*ISCJB **28** 22:32:17.2±0.2, 28°44S±0°05×176°44W±0°07, h29km, mb5.0/40, MS4.2/6, Error ellipse: s-maj=10.1km s-min=4.4km az=37.0*
*BJI **28** 22:32:18.2, 28°92S×176°28W, h50km, mb5.0/10, Ms5.2/1, Ms7 4.8/1*
*NEIC **28** 22:32:21.0±1.6, 28°33S×176°38W, h49km±15km, mb5.1/25, Error ellipse: s-maj=13.4km s-min=10.1km az=159.0*
*IDC **28** 22:32:23.9±3.0, 28°01S×176°45W, h67km±27km, mb4.0/12, mb1 4.2/14, mb1mx4.2/20, mbtmp4.3/14, ML3.8/2, MS4.1/8, Ms1 4.1/8, ms1mx3.6/28, Error ellipse: s-maj=28.3km s-min=20.7km az=170.0*
ISC 28 22:32:18.5±0.4, 28°36S±0°07′×176°25W±0°08, h29km, n130, σ1§43/124, mb5.1/40, MS4.2/6, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.72**	**238**	*ePn*	**Pb**	**22 32 48.2**	**-1.2**
RAO				S	**Sb**	**22 33 15.1**	**+4.5**
RAO	**Raoul Island**	**1.72**	**238**	P	**Pb**	**22 32 50.5**	**+1.2**
	128nm,0.3s,baz=60,slow=22,SNR=3.5						
RAO				S	**Sb**	**22 33 15.1**	**+4.5**
	535nm,0.3s,baz=80,slow=22,SNR=11						
RAO				LR	LR	22 33 18.8	
	comp=Z,1000nm,18.8s,baz=56,slow=31						
URZ	**Urewera**	**11.33**	**208**	*ePn*	Pn	22 35 03.7	+5.4
URZ				*eSn*	**Sn**	**22 37 04.1**	**+0.2**
URZ	**Urewera**	**11.33**	**208**	P	Pn	22 35 04.0	+5.7
	0.7nm,0.3s,baz=131,slow=9.3,SNR=4.4						
BKZ	**Black Stump Fm**	**12.35**	**207**	*ePn*	**Pn**	**22 35 10.9**	**-1.5**
BKZ				*eSn*	**Sn**	**22 37 28.1**	**-1.1**
BFZ	**Birch Farm**	**13.76**	**205**	*ePn*	Pn	22 35 27.7	-3.8
BFZ				*eSn*	**Sn**	**22 37 58.3**	**-5.0**
SNZO	**South Karori**	**14.89**	**207**	*ePn*	**Pn**	**22 35 48.4**	**+1.5**
SNZO				*eSn*	**Sn**	**22 38 27.4**	**-3.6**
KHZ	**Kahutara**	**16.30**	**208**	*ePn*	Pn	22 36 00.4	-4.8
	27nm,1.0s						
KHZ				*eSn*	Sn	22 38 53.4	-12
RAR	**Rarotonga**	**16.56**	**68**	LR	LR	22 41 24.1	
	comp=Z,672nm,19.4s,baz=46,slow=33						
DZM	**Mont Dzumac**	**16.86**	**288**	*eP*	**P**	**22 36 16.7**	**+2.3**
	106nm,1.6s						
DZM				*eLR*	LR	22 40 17.0	
	614nm,27.4s						
DZM	**Mont Dzumac**	**16.86**	**288**	P	**P**	**22 36 13.6**	**-0.9**
DZM	**Mont Dzumac**	**16.86**	**288**	P	**P**	**22 36 13.5**	**-0.9**
	0.3nm,0.3s,baz=123,slow=8.9,SNR=8.2						
DZM				LR	LR	22 41 41.5	
	comp=Z,343nm,18.3s,baz=180,slow=34						
RPZ	**Rata Peaks**	**18.41**	**210**	*eP*	**P**	**22 36 30.1**	**-1.3**
	207nm,3.0s						
ODZ	**Otahua Downs**	**19.65**	**209**	*eP*	**Pn**	**22 36 46.2**	**-0.2**
	62nm,1.9s						
TBI	**Tubuai**	**24.59**	**84**	*eLR*	LR	22 44 15.6	
	388nm,22.0s						
PPT2	**Papeete2**	**26.73**	**72**	*eLR*	LR	22 45 07.5	
	314nm,21.5s						
PPT	**Papeete**	**26.74**	**72**	LR	LR	22 46 16.8	
	comp=Z,371nm,18.7s,baz=230,slow=31						
ARMA	**Armidale**	**28.02**	**258**	*eP*	**P**	**22 38 06.8**	**-0.5**
	23nm,1.5s						
CTA	**Charters Tower**	**35.06**	**275**	P	**P**	**22 39 08.6**	**-0.5**
CTA	**Charters Tower**	**35.06**	**275**	P	**P**	**22 39 08.6**	**-0.5**
	2.2nm,0.4s,baz=110,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**36.47**	**254**	P	**P**	**22 39 23.1**	**+2.0**
STKA	**Stephens Creek**	**36.47**	**254**	P	**P**	**22 39 23.1**	**+2.0**
	0.9nm,0.5s,baz=90,slow=15,SNR=3.3						
STKA				LR	LR	22 53 01.3	
	comp=Z,140nm,20.4s,baz=93,slow=34						
RKT	**Rikitea**	**37.41**	**92**	*eLR*	LR	22 50 14.6	
	262nm,30.0s						
COEN	**Coen**	**40.26**	**282**	*eP*	**P**	**22 39 51.0**	**-2.1**
	770nm,1.7s						
AS01	**Alice Springs**	**44.75**	**264**	*eP*	**P**	**22 40 29.2**	**-0.5**
ASAR	**Alice Springs**	**44.79**	**264**	P	**P**	**22 40 29.1**	**-0.8**
ASAR	**Alice Springs**	**44.79**	**264**	P	**P**	**22 40 29.1**	**-0.8**
	2.6nm,0.7s,baz=95,slow=7.4,SNR=25						
WRA	**Warramunga Arr**	**45.60**	**269**	P	**P**	**22 40 34.7**	**-1.7**
WRA	**Warramunga Arr**	**45.60**	**269**	P	**P**	**22 40 34.7**	**-1.7**
	3.6nm,0.7s,baz=107,slow=7.8,SNR=17						
FORT	**Forrest**	**48.08**	**253**	*eP*	**P**	**22 40 53.8**	**-1.9**
	92nm,1.6s						
CASY	**Casey**	**57.65**	**207**	*eP*	**P**	**22 42 06.5**	**+0.8**
	19nm,1.0s						
BATI	**Baumata**	**58.95**	**275**	LR	LR	23 08 54.7	
	comp=Z,330nm,18.9s,baz=118,slow=37						
QSPA	**South Pole Qui**	**61.75**	**180**	*eP*	**P**	**22 42 36.7**	**+2.6**
	15nm,0.9s						
MJAR	**Matsushiro Arr**	**77.47**	**324**	P	**P**	**22 44 09.5**	**-1.7**
MJAR	**Matsushiro Arr**	**77.47**	**324**	P	**P**	**22 44 09.5**	**-1.7**
	1.3nm,0.6s,baz=168,slow=7.1,SNR=5.6						
SYO	**Syowa Base**	**79.44**	**192**	*eP*	**P**	**22 44 19.0**	**-2.6**
SYO	**Syowa Base**	**79.44**	**192**	*eP*	**PcP**	**22 44 28.2**	**-1.4**
PLCA	**Paso Flores**	**82.77**	**132**	LR	LR	23 14 18.2	
	comp=Z,151nm,19.2s,baz=266,slow=30						
VES	**Vestal, Richgr**	**83.52**	**43**	P	**P**	**22 44 44.9**	**+1.3**
	baz=84						
ISA	**Isabella**	**83.77**	**44**	*eP*	**P**	**22 44 46.0**	**+1.0**
	6.6nm,1.3s						
ISA	**Isabella**	**83.77**	**44**	P	**P**	**22 44 47.1**	**+2.0**
	baz=84						
KSRS	**Korea Array**	**83.81**	**319**	P	**P**	**22 44 45.2**	**+0.1**
	2.8nm,0.9s,baz=144,slow=5.2,SNR=4.8						
KSAR	**Wonju Array Be**	**83.82**	**318**	P	**P**	**22 44 45.2**	**0.0**
LRMC	**Laurel Mountai**	**84.13**	**44**	P	**P**	**22 44 48.5**	**+1.6**
	baz=84						
GLA	**Glamis**	**84.40**	**48**	*eP*	**P**	**22 44 51.0**	**+2.7**
	58nm,0.5s						
CWC	**Cottonwood Cre**	**84.53**	**43**	P	**P**	**22 44 49.7**	**+0.8**
	baz=85						
N02D	**Trinity Center**	**84.96**	**38**	P	**P**	**22 44 52.4**	**+1.5**
	baz=85						
GRAC	**Grapevine Rang**	**85.32**	**43**	P	**P**	**22 44 54.2**	**+1.4**
	baz=86						
NVAR	**Mina Array Bea**	**85.70**	**42**	P	**P**	**22 44 55.1**	**+0.2**
NVAR	**Mina Array Bea**	**85.70**	**42**	P	**P**	**22 44 55.1**	**+0.2**
	2.8nm,0.9s,baz=222,slow=8.6,SNR=15						
TPH	**Tonopah**	**86.11**	**43**	*eP*	**P**	**22 44 57.6**	**+0.7**
	8.7nm,1.3s						
USRK	**Ussuriysk Arra**	**86.33**	**326**	P	**P**	**22 44 56.8**	**-0.8**
	1.2nm,0.7s,baz=163,slow=5.3,SNR=3.6						
TUC	**Tucson**	**86.64**	**51**	*eP*	**P**	**22 44 59.0**	**-0.5**
	7.7nm,1.1s						
MDJ	**Mudanjiang**	**87.83**	**325**	P	**P**	**22 45 03.8**	**-1.0**
MDJ				pmax	pmax		
	comp=Z,12nm,2.4s						
KNB	**Kanab**	**88.15**	**46**	*eP*	**P**	**22 45 06.3**	**-0.5**
	43nm,2.0s						
CN2	**Changchun**	**89.46**	**322**	*eP*	P	22 45 02.8	-10
626A	**Big Bend Ranch**	**89.77**	**56**	P	**P**	**22 45 15.5**	**+0.9**
	baz=90						
G08A	**Pilot Rock**	**89.91**	**36**	*eP*	**P**	**22 45 14.5**	**-0.3**
	23nm,1.9s						
TXAR	**Lajitas Array**	**90.00**	**56**	P	**P**	**22 45 16.6**	**+1.0**
TXAR	**Lajitas Array**	**90.00**	**56**	P	**P**	**22 45 16.6**	**+1.0**
	0.6nm,0.8s,baz=208,slow=7.1,SNR=5.8						
526A	**Mary Lane Ranc**	**90.08**	**56**	P	**P**	**22 45 17.1**	**+1.1**
	baz=90						
426A	**McDonald Obser**	**90.45**	**55**	P	**P**	**22 45 19.0**	**+1.2**
	baz=91						
527A	**Woodward Ranch**	**90.47**	**56**	P	**P**	**22 45 19.5**	**+1.6**
	baz=91						
628A	**Black Gap, Mar**	**90.65**	**57**	P	**P**	**22 45 19.6**	**+1.1**
	baz=91						
528A	**Cox Ranch, San**	**91.08**	**56**	P	**P**	**22 45 22.1**	**+1.5**
	baz=91						
D08A	**Wollman Farm,**	**91.12**	**35**	*eP*	**P**	**22 45 19.8**	**-0.4**
	78nm,2.4s						
E09A	**Wood Farm, Sta**	**91.15**	**36**	*eP*	**P**	**22 45 20.1**	**-0.3**
	14nm,1.4s						
Y24A	**Capitan**	**91.24**	**52**	P	**P**	**22 45 22.9**	**+1.5**
	baz=92						
HLID	**Hailey**	**91.26**	**40**	*eP*	**P**	**22 45 21.1**	**-0.1**
	5.3nm,0.8s						
ENH	**Enshi**	**91.73**	**304**	*eP*	**P**	**22 45 23.3**	**-0.2**
	8.2nm,0.8s						
GYA	**Guiyang**	**91.88**	**299**	*eP*	**P**	**22 45 24.0**	**-0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
Z26A	**Caprock**	**91.90**	**53**	P	**P**	**22 45 25.6**	**+1.3**
	baz=92						
W24A	**Lazy 6 Ranch,**	**91.97**	**51**	P	**P**	**22 45 26.0**	**+1.2**
	baz=92						
429A	**Davenport Ranc**	**91.98**	**56**	P	**P**	**22 45 25.8**	**+1.0**
	baz=92						
RAGM	**Ragged Mountai**	**92.13**	**15**	*eP*	**P**	**22 45 24.0**	**-0.7**
	88nm,0.7s						
631A	**Perdido Creek**	**92.32**	**58**	P	**P**	**22 45 27.0**	**+0.7**
	baz=93						
S22A	**4UR Ranch, Cre**	**92.43**	**48**	P	**P**	**22 45 27.0**	**+0.1**
	baz=93						
W25A	**X Bar L Ranch,**	**92.62**	**51**	P	**P**	**22 45 29.1**	**+1.4**
	baz=93						
O20A	**White River Ci**	**92.88**	**45**	*eP*	**P**	**22 45 29.6**	**+0.8**
REDW	**Red Top Meadow**	**93.19**	**42**	*eP*	**P**	**22 45 31.7**	**+1.5**
	11nm,0.9s						
532A	**Rocksprings**	**93.19**	**57**	P	**P**	**22 45 31.5**	**+1.2**
	baz=94						
FXWY	**Fox Creek**	**93.25**	**41**	*eP*	**P**	**22 45 30.8**	**+0.3**
	28nm,1.8s						
IMW	**Indian Meadow**	**93.46**	**41**	*eP*	**P**	**22 45 31.2**	**-0.3**
	8.1nm,0.7s						
MOOW	**Moose Ponds**	**93.48**	**41**	*eP*	**P**	**22 45 33.9**	**+2.4**
	7.7nm,0.8s						
LOHW	**Long Hollow**	**93.48**	**42**	*eP*	**P**	**22 45 31.1**	**-0.4**
	5.1nm,0.7s						
Z29A	**Hungry Hill Ra**	**93.50**	**54**	P	**P**	**22 45 33.2**	**+1.4**
	baz=94					

TORD PKPab **PKPab** **22 53 17.9 +2.1**
TORD Torodi Ar. Bea 164.75 172 PKP **PKPdf** **22 52 20.4 0.0**
comp=Z,1.3nm,0.9s,baz=102,slow=0.4,SNR=5.4
TORD PKPab **PKPab** **22 53 17.9 +2.1**
comp=Z,7.4nm,0.9s,baz=187,slow=3.7,SNR=24

IDC 28 22:55:19.9±8.7, 1.69N×125.09E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/34, mbtmp3.4/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/14, Error ellipse: s-maj=183.2km s-min=136.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.33**	**158**	P	P	23 00 31.9	+2.0
	0.1nm,0.3s,baz=336,slow=11,SNR=7.4						
PMG	**Port Moresby**	**24.59**	**117**	LR	LR	23 13 14.7	
	comp=Z,113nm,20.0s,baz=158,slow=44						
ASAR	**Alice Springs**	**26.62**	**162**	P	P	23 00 59.5	-0.9
	0.4nm,0.6s,baz=354,slow=8.5,SNR=2.9						
STKA	**Stephens Creek**	**36.87**	**156**	P	P	23 02 29.5	-0.7
	1.2nm,0.8s,baz=319,slow=11,SNR=2.2						
SONM	**Songino Array**	**48.74**	**343**	LR	LR	23 27 45.2	
	comp=Z,41nm,18.3s,baz=76,slow=40						

IDC 28 23:05:30.7±2.3, 2.78N×126.48E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/30, mbtmp3.6/3, Error ellipse: s-maj=206.2km s-min=25.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.86**	**161**	P	P	23 10 45.9	-0.1
	2.0nm,0.5s,baz=341,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.26**	**165**	P	P	23 11 17.2	+0.3
	0.4nm,0.4s,baz=342,slow=7.8,SNR=7.6						
MKAR	**Makanchi Array**	**58.19**	**326**	P	P	23 15 26.4	-0.3
	0.2nm,0.4s,baz=119,slow=8.5,SNR=6.1						

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*BUL **28** 23:52:22.0±18.0, 1.08S×28.71E, h0km±404km, MD4.3*
*MOS **28** 23:52:29.3±0.9, 0.83S×29.16E, h10km, mb5.3/50, Error ellipse: s-maj=8.7km s-min=4.1km az=92.3*
*ISCJB **28** 23:52:29.3±0.2, 0.85S±0.03×29.15E±0.03, h10km, mb4.9/155, MS4.4/43, Error ellipse: s-maj=4.5km s-min=3.8km az=43.4*
*IDC **28** 23:52:29.1±0.6, 0.95S×29.15E, h0km, mb4.6/21, mb1 4.6/23, mb1mx4.5/32, mbtmp4.6/23, ML4.4/2, MS3.9/23, Ms1 3.9/23, ms1mx3.9/33, Error ellipse: s-maj=17.6km s-min=14.7km az=114.0*
*GCMT **28** 23:52:30.5±0.3, 0.82S×29.23E, h19km±1km, MW4.9/69, Moment Tensor Solution. s26,c29; s69,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.84±.17; Mθθ0.01±.11; Mφφ2.83±.12; Mrθ-0.29±.26; Mφθ0.45±.09; Mrφ0.33±.20; Best double couple: M0 2.90300×10^16 NP1:φs182.00000°, δ48.00000°, λ-99.00000°. NP2: φs15.00000°, δ43.00000°, λ-80.00000°. Principal axes: T 2.9130, Plg3.0000°, Azm278.0000°; N -0.0200, Plg7.0000°, Azm188.0000°; P -2.8930, Plg83.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 23:52:30.5±0.2, 0.90S×29.20E, h10km, mb5.2/62, MS4.7/18 Error ellipse: s-maj=5.6km s-min=4.1km az=86.0*
NEIC Felt [II] at Kigali, Rwanda. Also felt at Gitarama and Ruhengeri. Felt at Kanungu, Uganda.
*BJI **28** 23:52:31.9, 0.51S×29.44E, h10km, mB5.2/17, mb4.7/28, Ms5.1/11, Ms7 4.7/10*
*SZGRF **28** 23:52:48.2, 1.76N×29.35E, h33km, mb4.6, MS4.1, Zaire*
ISC 28 23:52:32.0±0.4, 0.95S±0.04×29.20E±0.05, h16km±1km, h16km:pP-P, n423, σ1§28/439, mb5.0/155, MS4.2/44, 15C-13D, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWI	**Lwiro**	**1.35**	**197**	⇑*e*P	**Pn**	**23 52 55.5**	**-0.8**
LWI	**Lwiro**	**1.35**	**197**	⇑*e*P	**Pn**	**23 52 55.5**	**-0.8**
LWI				*e*S	Sg	23 53 29.5	+13
MBAR	**Mbarara**	**1.58**	**78**	Pn	**Pn**	**23 52 57.0**	**-2.4**
	31μm,0.8s						
MBAR	**Mbarara**	**1.58**	**78**	*i* P	**Pn**	**23 52 57.7**	**-1.7**
I32KE	**NAIROBI INFRAS**	**7.63**	**92**	*i*		00 41 40.0	
	baz=273,slow=323,SNR=0.4						
MAUS	**Longido**	**7.71**	**103**	*i* S	**Sn**	**23 55 54.8**	**+3.9**
KMBO	**Kilima Mbogo**	**8.05**	**91**	*e*Pn	**Pn**	**23 54 27.3**	**-1.3**
KMBO				*e*Sn	**Sn**	**23 55 55.6**	**-4.0**
KMBO				Lg	Lg	23 56 37.4	
KMBO	**Kilima Mbogo**	**8.05**	**91**	Pn	**Pn**	**23 54 27.2**	**-1.4**
	1.8nm,0.3s,baz=253,slow=13,SNR=42						
KMBO				Lg	Lg	23 56 37.4	
	24nm,0.3s,baz=183,slow=20,SNR=8.0						
KMBO	**Kilima Mbogo**	**8.05**	**91**	*i* P	**Pn**	**23 54 27.9**	**-0.7**
KMBO				*i* S	**Sn**	**23 56 01.5**	**+1.9**
DODT	**Dodoma, Tanzan**	**8.36**	**129**	*i* P	Pn	23 54 28.8	-3.9
DODT				*i* S	Sn	23 55 56.1	-11
FURI	**Furi**	**13.59**	**44**	*e*Pn	**Pn**	**23 55 42.8**	**-1.8**
FURI				*e*Sn	Sn	23 58 06.9	-8.7
LSZ	**Lusaka**	**14.28**	**184**	*e*Pn	**Pn**	**23 55 51.4**	**-2.3**
LSZ				*e*Sn	**Sn**	**23 58 27.1**	**-4.9**
LSZ				Lg	Lg	23 59 49.9	
LSZ	**Lusaka**	**14.28**	**184**	Pn	**Pn**	**23 55 51.8**	**-1.9**
	1.1nm,0.3s,baz=21,slow=10,SNR=46						
LSZ				Lg	Lg	23 59 49.9	
	1.8nm,0.3s,baz=92,slow=9.8,SNR=3.6						
LSZ				LR	LR	00 01 35.4	
	comp=Z,626nm,19.6s,baz=317,slow=38						
LSZ	**Lusaka**	**14.28**	**184**	*i* P	**Pn**	**23 55 52.3**	**-1.5**
RUDU	**RUNDU**	**19.26**	**208**	*e*P	**Pn**	**23 56 59.8**	**+2.7**
RUDU				AMB	AMB	23 57 00.6	
	comp=Z,30nm,1.2s						
RUDU	**RUNDU**	**19.26**	**208**	*e*P	**Pn**	**23 56 59.8**	**+2.7**
MSNA	**Messina**	**21.29**	**178**	*e*P	**P**	**23 57 21.2**	**+3.2**
MSNA				AMB	AMB	23 58 05.2	
	comp=Z,23nm,1.8s						
MSNA	**Messina**	**21.29**	**178**	*e*P	**P**	**23 57 21.2**	**+3.2**
TSUM	**Tsumeb**	**21.42**	**211**	*e*P	**P**	**23 57 21.0**	**+1.4**
	comp=Z,16nm,0.9s						
TSUM				*e*S	**S**	**00 01 18.6**	**+1.6**
DAMY	**Dhamar**	**21.54**	**44**	*e*P	**P**	**23 57 21.8**	**+0.8**
	comp=Z,43nm,1.2s						
DAMY				LR	LR		
	comp=Z,1μm,18.0s						
LBTB	**Lobatse**	**24.18**	**188**	*e*P	**P**	**23 57 47.1**	**-0.7**
LBTB				AMB	AMB	23 57 58.1	
	comp=Z,30nm,3.6s						
LBTB	**Lobatse**	**24.18**	**188**	*e*P	**P**	**23 57 49.5**	**+1.6**
	comp=Z,83nm,1.9s						
LBTB				Lg	Lg	00 05 06.8	
LBTB	**Lobatse**	**24.18**	**188**	P	**P**	**23 57 47.3**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=12,slow=9.3,SNR=9.0						
LBTB				Lg	Lg	00 05 06.8	
	comp=Z,9.8nm,0.8s,baz=253,slow=19,SNR=2.7						
LBTB				LR	LR	00 07 40.4	
	comp=Z,591nm,19.6s,baz=33,slow=38						
WIN	**Windhoek**	**24.50**	**208**	*e*P	**P**	**23 57 53.3**	**+2.3**
WIN				AMB	AMB	23 58 19.7	
	comp=Z,10nm,4.3s						
WIN	**Windhoek**	**24.50**	**208**	*e*P	**P**	**23 57 53.3**	**+2.3**
WIN	**Windhoek**	**24.50**	**208**	*e*P	**P**	**23 57 53.3**	**+2.3**
SLR	**Silverton**	**24.66**	**182**	*e*P	**P**	**23 57 56.0**	**+3.7**
SLR				AMB	AMB	23 58 02.2	
	comp=Z,77nm,2.6s						
SLR	**Silverton**	**24.66**	**182**	*e*P	**P**	**23 57 56.0**	**+3.7**
SLR	**Silverton**	**24.66**	**182**	*e*P	**P**	**23 57 56.0**	**+3.7**
OBSV	**Observatory**	**25.12**	**182**	*e*P	**P**	**23 57 57.4**	**+0.9**
OBSV				AMB	AMB	23 58 01.8	
	comp=Z,24nm,4.6s						
OBSV	**Observatory**	**25.12**	**182**	*e*P	**P**	**23 57 57.4**	**+0.9**
ABPO	**Ambohimpanom**	**25.20**	**137**	*e*P	**P**	**23 57 58.1**	**+0.8**
ABPO				pmax	pmax		
	comp=Z,12nm,1.0s						
ABPO	**Ambohimpanom**	**25.20**	**137**	*e*P	**P**	**23 57 58.1**	**+0.8**
	comp=Z,12nm,1.0s						
ERPM	**east rand prop**	**25.27**	**182**	*e*P	**P**	**23 57 56.8**	**-1.1**
ERPM				AMB	AMB	23 58 21.6	
	comp=Z,38nm,4.4s						
ERPM	**east rand prop**	**25.27**	**182**	*e*P	**P**	**23 57 56.8**	**-1.1**
KLOF	**Kloof**	**25.30**	**183**	*e*P	**P**	**23 57 56.5**	**-1.7**
KLOF				AMB	AMB	23 58 09.2	
	comp=Z,21nm,1.2s						
KLOF	**Kloof**	**25.30**	**183**	*e*P	**P**	**23 57 56.5**	**-1.7**
PRYS	**Parys**	**25.89**	**184**	*e*P	**P**	**23 58 02.3**	**-1.2**
PRYS				AMB	AMB	23 58 10.4	
	comp=Z,27nm,2.2s						
PRYS	**Parys**	**25.89**	**184**	*e*P	**P**	**23 58 02.3**	**-1.2**
SWZ	**Schweizer**	**26.35**	**188**	*e*P	**P**	**23 58 08.0**	**+0.4**
SWZ				AMB	AMB	23 58 40.6	
	comp=Z,28nm,2.5s						
SWZ	**Schweizer**	**26.35**	**188**	*e*P	**P**	**23 58 08.0**	**+0.4**
BOSA	**Boshof**	**27.77**	**187**	*e*P	**P**	**23 58 20.1**	**-0.2**
	comp=Z,122nm,2.4s						
BOSA	**Boshof**	**27.77**	**187**	P	**P**	**23 58 20.5**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=14,slow=6.8,SNR=5.1						
BOSA				LR	LR	00 09 41.2	
	comp=Z,663nm,19.8s,baz=32,slow=37						
TOA0	**Torodi Ar. Sit**	**30.66**	**298**	*e*P	**P**	**23 58 45.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**30.66**	**298**	P	**P**	**23 58 45.6**	**-0.4**
TORD				Lg	Lg	00 08 26.8	
TORD	**Torodi Ar. Bea**	**30.66**	**298**	P	**P**	**23 58 45.6**	**-0.4**
	comp=Z,8.2nm,0.6s,baz=104,slow=6.9,SNR=57						
TORD				Lg	Lg	00 08 26.8	
	comp=Z,24nm,1.1s,baz=110,slow=14,SNR=8.7						
TORD				LR	LR	00 10 34.3	
	comp=Z,304nm,21.5s,baz=165,slow=35						
KIC	**Kosan Boka**	**34.65**	**283**	*e*P	**P**	**23 59 21.0**	**0.0**
	comp=Z,13nm,0.6s						
DBIC	**Dimbokro**	**34.82**	**283**	*e*P	**P**	**23 59 22.2**	**-0.3**
	comp=Z,11nm,0.8s						
DBIC				Lg	Lg	00 10 59.6	
DBIC	**Dimbokro**	**34.82**	**283**	P	**P**	**23 59 22.2**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=98,slow=7.7,SNR=12						
DBIC				Lg	Lg	00 10 59.6	
	comp=Z,2.8nm,1.0s,baz=336,slow=20,SNR=2.6						
DBIC				LR	LR	00 15 29.4	
	comp=Z,95nm,18.3s,baz=73,slow=40						
LIC	**Lamto**	**34.90**	**282**	*e*P	**P**	**23 59 23.1**	**-0.1**
	comp=Z,8.6nm,0.4s,baz=98						
LIC				*e*R			
	comp=Z,316nm,21.2s						
LIC	**Lamto**	**34.90**	**282**	*e*P	**P**	**23 59 23.1**	**-0.1**
	comp=Z,30nm,0.7s						
LIC	**Lamto**	**34.90**	**282**	*e*P	**P**	**23 59 23.1**	**-0.1**
	comp=Z,8.6nm,0.4s						
TIC	**Toumodi**	**34.97**	**283**	*e*P	**P**	**23 59 23.9**	**+0.1**
	comp=Z,17nm,0.5s						
IDI	**Anoyia**	**36.27**	**354**	P	**P**	**23 59 35.2**	**+0.5**
IDI	**Anoyia**	**36.27**	**354**	P	**P**	**23 59 35.2**	**+0.5**
	comp=Z,14nm,1.0s,baz=214,slow=5.2,SNR=5.0						
IPAR	**Pars**	**38.15**	**35**	*e*P	**P**	**23 59 51.7**	**+0.6**
IDHR	**Dehrash**	**38.95**	**23**	*e*P	**P**	**23 59 58.1**	**+0.5**
IPIR	**Pirpir**	**39.23**	**30**	*e*P	**P**	**00 00 00.3**	**+0.2**
IKLH	**Kolahrood**	**40.08**	**30**	*e*P	**P**	**00 00 07.6**	**+0.5**
IZEF	**Zefreh**	**40.12**	**31**	*e*P	**P**	**00 00 07.9**	**+0.5**
QAM	**Ghamsar**	**40.36**	**29**	*e*P	**P**	**00 00 12.5**	**+3.1**
BRTR	**Keskin Array B**	**40.68**	**5**	P	**P**	**00 00 12.0**	**+0.2**
BRTR				PcP	**PcP**	**00 02 12.6**	**-0.8**
BRTR	**Keskin Array B**	**40.68**	**5**	P	**P**	**00 00 12.0**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=194,slow=9.0,SNR=31						
BRTR				PcP	**PcP**	**00 02 12.6**	**-0.8**
	comp=Z,5.0nm,1.0s,baz=182,slow=5.3,SNR=6.3						
BRTR				LR	LR	00 19 24.4	
	comp=Z,82nm,18.0s,baz=212,slow=40						
ICHK	**Chekchek**	**40.72**	**34**	*e*P	**P**	**00 00 13.2**	**+0.8**
BR231	**Keskin MP Arra**	**40.72**	**4**	*e*P	**P**	**00 00 11.9**	**-0.2**
BR231				*e*PcP	**PcP**	**00 02 14.2**	**+0.6**
IBAF	**Bafgh**	**40.89**	**35**	*e*P	**P**	**00 00 14.9**	**+1.2**
KEST	**Kesra**	**40.92**	**335**	LR	LR	00 18 09.1	
	comp=Z,110nm,20.1s,baz=176,slow=38						
IVRN	**Varamin**	**41.51**	**28**	*e*P	**P**	**00 00 20.0**	**+1.4**
TIP	**Timpagrande**	**41.53**	**345**	PFAKE		00 00 30.0	+11
TIP				LR	LR		
	comp=Z,200nm,19.0s						
IANJ	**Anjilo**	**42.95**	**30**	*e*P	**P**	**00 00 31.6**	**+1.0**
GNI	**Garni**	**43.29**	**17**	*e*P	**P**	**00 00 33.9**	**+0.6**
	comp=Z,168nm,1.6s						
ZEI	**Tsey**	**45.50**	**15**	*e*P	**P**	**00 00 50.5**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,34nm,1.8s						
CFR	**Carcaliu**	**45.93**	**359**	⇑P	P	00 01 01.1	+7.1
KBZ	**Khabaz**	**46.14**	**14**	P	**P**	**00 00 55.6**	**0.0**
KBZ						00 02 31.2	
KBZ	**Khabaz**	**46.14**	**14**	P	**P**	**00 00 55.5**	**0.0**
KBZ				PcP	**PcP**	**00 02 31.2**	**-0.3**
KBZ	**Khabaz**	**46.14**	**14**	P	**P**	**00 00 55.5**	**0.0**
	comp=Z,3.6nm,0.8s,baz=161,slow=4.9,SNR=6.6						
KBZ				PcP	**PcP**	**00 02 31.2**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=156,slow=6.0,SNR=4.4						
KIV	**Kislovodsk**	**46.30**	**13**	⇑*i*P	**P**	**00 00 57.2**	**+0.1**
KIV				pmax	pmax		
	comp=Z,26nm,1.8s						
MDT	**Midelt**	**46.31**	**320**	LR	LR	00 22 33.8	
	comp=Z,120nm,19.1s,slow=39						
VOIR		**46.33**	**356**	⇓P	**P**	**00 00 56.6**	**-0.6**
IKRD	**Kardeh**	**46.35**	**33**	*e*P	P	00 01 03.7	+5.9
GZR	**Gura Zlata**	**46.49**	**354**	⇓P	**P**	**00 00 58.9**	**+0.4**
PLOR	**Plostina**	**46.65**	**358**	⇓P	**P**	**00 01 00.2**	**+0.5**
BZS	**Buzias**	**46.85**	**353**	⇑P	**P**	**00 01 01.6**	**+0.4**
PGF	**Pioggiola**	**46.97**	**340**	*e*P	**P**	**00 01 01.1**	**-1.2**
PGF	**Pioggiola**	**46.97**	**340**	*e*P	**P**	**00 01 01.1**	**-1.2**
PGF	**Pioggiola**	**46.97**	**340**	*e*P	**P**	**00 01 01.1**	**-1.2**
CJR	**Cluj-Napoca**	**47.72**	**355**	⇓P	**P**	**00 01 09.3**	**+1.3**
BBTS	**Babate**	**47.83**	**291**	LR	LR	00 22 15.2	
	comp=Z,326nm,20.4s,baz=126,slow=37						
BOJS	**Bojanci**	**47.87**	**347**	*i* P	**P**	**00 01 09.4**	**+0.3**
DRGR		**47.88**	**354**	⇓P	**P**	**00 01 10.3**	**+1.0**
TRI	**Trieste**	**48.42**	**346**	*e*P	P	00 01 09.8	-3.6
TRI				pmax	pmax		
	comp=Z,14nm,0.7s						
TRI	**Trieste**	**48.42**	**346**	*e*P	P	00 01 09.8	-3.6
	comp=Z,14nm,0.7s						
BURAR	**Bucovina Array**	**48.49**	**356**	⇑P	**P**	**00 01 15.5**	**+1.5**
BUR04	**Bucovina Ar. S**	**48.49**	**356**	*e*P	**P**	**00 01 12.5**	**-1.6**
LJU	**Ljubljana**	**48.55**	**346**	*e*P	**P**	**00 01 14.3**	**-0.2**
KOGS	**Kog**	**48.55**	**348**	*i* P	**P**	**00 01 14.9**	**+0.5**
LMR	**La Mourre**	**48.55**	**338**	*e*P	**P**	**00 01 13.7**	**-0.8**
LMR	**La Mourre**	**48.55**	**338**	*e*P	**P**	**00 01 13.7**	**-0.8**
LMR	**La Mourre**	**48.55**	**338**	*e*P	**P**	**00 01 13.7**	**-0.8**
SBF	**Sospel**	**48.67**	**339**	*e*P	**P**	**00 01 14.5**	**-1.0**
	comp=Z,46nm,0.9s						
SBF	**Sospel**	**48.67**	**339**	*e*P	**P**	**00 01 14.5**	**-1.0**
SBF				pmax	pmax		
	comp=Z,46nm,0.9s						
SBF	**Sospel**	**48.67**	**339**	*e*P	**P**	**00 01 14.5**	**-1.0**
	comp=Z,46nm,0.9s						
BMR	**Baia Mare**	**48.68**	**355**	⇑P	**P**	**00 01 16.6**	**+1.3**
OBKA	**Obir**	**48.98**	**347**	⇑*i*P	**P**	**00 01 18.1**	**+0.2**
	comp=Z,8.7nm,0.9s						
SOKA	**Soboth**	**49.03**	**347**	⇓*i*P	**P**	**00 01 18.7**	**+0.5**
	comp=Z,8.8nm,1.2s						
PSZ	**Piszkesteto**	**49.34**	**352**	⇓P	**P**	**00 01 20.8**	**+0.3**
PSZ	**Piszkesteto**	**49.34**	**352**	*e*P	**P**	**00 01 19.1**	**-1.4**
	comp=Z,16nm,0.9s						
SMRF	**Simiane la Rot**	**49.46**	**338**	*e*P	**P**	**00 01 21.2**	**-0.2**
	comp=Z,21nm,0.9s						
SMRF	**Simiane la Rot**	**49.46**	**338**	*e*P	**P**	**00 01 21.2**	**-0.2**
	comp=Z,21nm,0.9s						
ARSA	**Arzberg**	**49.47**	**348**	*i* P	**P**	**00 01 21.8**	**+0.4**
	comp=Z,14nm,1.0s,SNR=7.1						
MBDF	**Montbardon**	**49.66**	**339**	*e*P	**P**	**00 01 22.7**	**-0.4**
	comp=Z,34nm,0.8s						
MBDF	**Montbardon**	**49.66**	**339**	*e*P	**P**	**00 01 22.7**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,34nm,0.8s						
MBDF	**Montbardon**	**49.66**	**339**	*e*P	**P**	**00 01 22.7**	**-0.4**
	comp=Z,34nm,0.8s						
ABTA	**Abfaltersbach**	**49.71**	**345**	⇓*i*P	**P**	**00 01 23.8**	**+0.4**
	comp=Z,12nm,1.5s						
UZH	**Uzhgorod**	**49.74**	**354**	*d*iP	**P**	**00 01 23.8**	**+0.4**
UZH				*i*		00 01 27.4	
KBA	**Koelnbreinsper**	**49.80**	**346**	*i* P	**P**	**00 01 23.9**	**-0.3**
	comp=Z,18nm,1.2s,SNR=6.8						
BNI	**Bardonecchia**	**49.97**	**339**	*e*P	**P**	**00 01 24.5**	**-1.0**
BNI				pmax	pmax		
	comp=Z,18nm,1.0s						
BNI	**Bardonecchia**	**49.97**	**339**	*e*P	**P**	**00 01 24.5**	**-1.0**
	comp=Z,18nm,1.0s						
KOLS	**Kolonicke sedl**	**50.04**	**354**	*e*P	**P**	**00 01 26.8**	**+1.0**
KOLS				pmax	pmax		
	comp=Z,26nm,1.6s						
CONA	**Conrad Observa**	**50.05**	**348**	⇑*i*P	**P**	**00 01 26.2**	**+0.3**
	comp=Z,8.5nm,0.9s						
CRVS	**Cervenica-Dubn**	**50.10**	**353**	*e*P	**P**	**00 01 26.7**	**+0.5**
CRVS				pmax	pmax		
	comp=Z,20nm,1.4s						
ORIF	**Oris-en-Rattie**	**50.15**	**339**	*e*P	**P**	**00 01 26.0**	**-0.8**
	comp=Z,19nm,1.0s						
ORIF				*e*R			
	comp=Z,187nm,17.2s						
ORIF	**Oris-en-Rattie**	**50.15**	**339**	*e*P	**P**	**00 01 26.0**	**-0.8**
ORIF				pmax	pmax		
	comp=Z,19nm,1.0s						
ORIF	**Oris-en-Rattie**	**50.15**	**339**	*e*P	**P**	**00 01 26.0**	**-0.8**
	comp=Z,19nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**50.21**	**343**	*e*P	**P**	**00 01 26.4**	**-1.0**
	comp=Z,13nm,0.9s						
LASF	**Ste Croix**	**50.21**	**336**	*e*P	**P**	**00 01 27.0**	**-0.2**
	comp=Z,133nm,1.9s						
LASF	**Ste Croix**	**50.21**	**336**	*e*P	**P**	**00 01 27.0**	**-0.2**
	comp=Z,133nm,1.9s						
MOA	**Molln**	**50.31**	**347**	*i* P	**P**	**00 01 27.8**	**0.0**
	comp=Z,23nm,0.9s,SNR=7.4						
LPG	**La Plagne**	**50.33**	**340**	*e*P	**P**	**00 01 26.9**	**-1.5**
	comp=Z,27nm,0.9s						
LPG	**La Plagne**	**50.33**	**340**	*e*P	**P**	**00 01 26.9**	**-1.5**
LPG				pmax	pmax		
	comp=Z,27nm,0.9s						
LPG	**La Plagne**	**50.33**	**340**	*e*P	**P**	**00 01 26.9**	**-1.5**
	comp=Z,27nm,0.9s						
TUE	**Stuetta**	**50.35**	**342**	*e*P	**P**	**00 01 27.7**	**-0.7**
	comp=Z,444nm,0.5s						
LPL	**La Plagne**	**50.36**	**340**	*e*P	**P**	**00 01 27.3**	**-1.2**
	comp=Z,20nm,0.9s						
LPL	**La Plagne**	**50.36**	**340**	*e*P	**P**	**00 01 27.3**	**-1.2**
LPL				pmax	pmax		
	comp=Z,20nm,0.9s						
LPL	**La Plagne**	**50.36**	**340**	*e*P	**P**	**00 01 27.3**	**-1.2**
	comp=Z,20nm,0.9s						
WTTA	**Wattenberg**	**50.41**	**345**	*i* P	**P**	**00 01 28.7**	**-0.1**
	comp=Z,23nm,1.2s,SNR=6.0						
FETA	**Feichten**	**50.44**	**344**	⇓*i*P	**P**	**00 01 28.8**	**-0.2**
	comp=Z,11nm,1.0s						
ES19	**SONSECA Array**	**50.52**	**327**	*e*P	**P**	**00 01 26.9**	**-2.7**
ESDC	**Sonseca Array**	**50.54**	**327**	P	**P**	**00 01 29.8**	**+0.1**
ESDC	**Sonseca Array**	**50.54**	**327**	P	**P**	**00 01 29.8**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=134,slow=7.4,SNR=16						
VIVF	**Saint-Julien-l**	**50.55**	**338**	*e*P	**P**	**00 01 29.4**	**-0.3**
VIVF	**Saint-Julien-l**	**50.55**	**338**	*e*P	**P**	**00 01 29.4**	**-0.3**
VIVF	**Saint-Julien-l**	**50.55**	**338**	*e*P	**P**	**00 01 29.4**	**-0.3**
RJOB	**Jochberg**	**50.55**	**346**	*e*P	**P**	**00 01 29.0**	**-0.7**
	comp=Z,4.0nm,0.8s						
MOTA	**Moosalm**	**50.63**	**344**	⇓*i*P	**P**	**00 01 29.5**	**-1.0**
	comp=Z,13nm,0.9s,SNR=7.4						
PAB	**San Pablo**	**50.66**	**326**	PFAKE		00 01 40.0	+9.3
PAB				LR	LR		
	comp=Z,300nm,19.7s						
KWP	**Kalwaria Pacla**	**50.69**	**355**	*e*P	**P**	**00 01 30.5**	**-0.2**
KWP	**Kalwaria Pacla**	**50.69**	**355**	*e*P	**P**	**00 01 30.4**	**-0.2**
RETA	**Reutte**	**50.85**	**344**	*i* P	**P**	**00 01 31.5**	**-0.6**
	comp=Z,18nm,1.0s,SNR=7.1						
EPF	**Esparros**	**50.88**	**333**	*e*P	**P**	**00 01 32.1**	**-0.2**
	comp=Z,45nm,1.2s						
EPF	**Esparros**	**50.88**	**333**	*e*P	**P**	**00 01 32.1**	**-0.2**
EPF				pmax	pmax		
	comp=Z,45nm,1.2s						
EPF	**Esparros**	**50.88**	**333**	*e*P	**P**	**00 01 32.1**	**-0.2**
	comp=Z,45nm,1.2s						
SENIN	**Lac Senin/Sane**	**50.90**	**341**	*e*P	**P**	**00 01 31.1**	**-1.5**
DAVA	**Damuels**	**50.92**	**343**	*i* P	**P**	**00 01 32.1**	**-0.6**
	comp=Z,21nm,0.7s,SNR=8.4						
ETSF	**Etsaut**	**51.19**	**332**	*e*P	**P**	**00 01 34.5**	**-0.1**
	comp=Z,66nm,1.2s						
ETSF	**Etsaut**	**51.19**	**332**	*e*P	**P**	**00 01 34.5**	**-0.1**
ETSF				pmax	pmax		
	comp=Z,66nm,1.2s						
ETSF	**Etsaut**	**51.19**	**332**	*e*P	**P**	**00 01 34.5**	**-0.1**
	comp=Z,66nm,1.2s						
FUR	**Furstenfeldbru**	**51.34**	**345**	*e*P	**P**	**00 01 34.5**	**-1.1**
	comp=Z,16nm,0.8s						
KBL	**Kabul**	**51.36**	**43**	*e*P	**P**	**00 01 35.8**	**-0.4**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBL	**Kabul**	**51.36**	**43**	*e*P	**P**	**00 01 35.8**	**-0.4**
	comp=Z,9.1nm,0.9s						
GEC2	**GERESS Array S**	**51.38**	**347**	*e*P	**P**	**00 01 35.5**	**-0.5**
GEC2	**GERESS Array S**	**51.38**	**347**	*e*P	**P**	**00 01 35.3**	**-0.7**
	comp=Z,6.0nm,0.8s						
GEC2	**GERESS Array S**	**51.38**	**347**	*e*P	**P**	**00 01 35.5**	**-0.5**
GERES	**GERESS Array B**	**51.38**	**347**	P	**P**	**00 01 35.7**	**-0.2**
GERES	**GERESS Array B**	**51.38**	**347**	P	**P**	**00 01 35.7**	**-0.2**
	comp=Z,6.1nm,0.

DPC **Dobruska-Polom** 52.28 350 *e*P **P** 00 01 42.1 -0.5
DPC *ex* x 00 01 50.0
DPC Dobruska-Polom 52.28 350 *e*P **P** **00 01 41.5 -1.0**
comp=Z,133nm,1.1s
PMRV Marv??o 52.31 324 *e*P **P** **00 01 43.5 +0.5**
comp=Z,42nm,1.4s
BFO Black Forest 52.32 343 *i* P **P** **00 01 42.6 -0.3**
BFO Black Forest 52.32 343 *e*P **P** **00 01 42.2 -0.7**
comp=Z,5.0nm,0.9s
BFO Black Forest 52.32 343 *e*P **P** **00 01 41.0 -1.9**
comp=Z,15nm,1.1s
HINF Hinteralfeld 52.33 341 *e*P **P** **00 01 42.0 -1.0**
HINF Hinteralfeld 52.33 341 *e*P **P** **00 01 42.0 -1.0**
HINF Hinteralfeld 52.33 341 *e*P **P** **00 01 42.0 -1.0**
SMF Signal de Mont 52.37 338 *e*P **P** **00 01 42.5 -0.8**
comp=Z,24nm,1.0s
SMF Signal de Mont 52.37 338 *e*P **P** **00 01 42.5 -0.8**
SMF pmax pmax
comp=Z,24nm,1.0s
SMF Signal de Mont 52.37 338 *e*P **P** **00 01 42.5 -0.8**
comp=Z,24nm,1.0s
VORD Divnogorie 52.43 8 *e*P **P** **00 01 42.3 -1.3**
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
UPC Upice 52.48 349 *e*P **P** **00 01 44.2 +0.1**
UPC *ex* x 00 01 50.0
PMTG Montargil 52.57 323 *e*P **P** **00 01 45.3 +0.4**
comp=Z,46nm,2.0s
PCBR Castelo Branco 52.63 325 *e*P **P** **00 01 45.9 +0.6**
comp=Z,13nm,1.4s
VSR Storozhevoye 52.65 8 *e*P **P** **00 01 44.3 -1.0**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
HAU Haudompre 52.66 341 *e*P **P** **00 01 44.5 -0.9**
comp=Z,30nm,1.3s
HAU *e*R
comp=Z,125nm,19.2s
HAU Haudompre 52.66 341 *e*P **P** **00 01 44.5 -0.9**
HAU pmax pmax
comp=Z,30nm,1.3s
HAU Haudompre 52.66 341 *e*P **P** **00 01 44.5 -0.9**
comp=Z,30nm,1.3s
BGF Bois d'Agland 52.67 337 *e*P **P** **00 01 43.5 -2.0**
BGF Bois d'Agland 52.67 337 *e*P **P** **00 01 43.5 -2.0**
BGF Bois d'Agland 52.67 337 *e*P **P** **00 01 43.5 -2.0**
TCF Toulx Ste Croi 52.70 337 *e*P **P** **00 01 45.8 0.0**
comp=Z,60nm,1.3s
TCF Toulx Ste Croi 52.70 337 *e*P **P** **00 01 45.8 0.0**
TCF pmax pmax
comp=Z,60nm,1.3s
TCF Toulx Ste Croi 52.70 337 *e*P **P** **00 01 45.8 0.0**
comp=Z,60nm,1.3s
CDF Champ du Feu 52.72 342 *e*P **P** **00 01 44.6 -1.3**
comp=Z,36nm,1.1s
CDF Champ du Feu 52.72 342 *e*P **P** **00 01 44.6 -1.3**
CDF pmax pmax
comp=Z,36nm,1.1s
CDF Champ du Feu 52.72 342 *e*P **P** **00 01 44.6 -1.3**
comp=Z,36nm,1.1s
GRF Grafenberg Arr 52.76 345 *e*P **P** **00 01 45.3 -0.8**
comp=Z,13nm,0.9s
GRF *e*L L 00 26 10.5
comp=Z,138nm,18.2s
SSF Saint Saulge 52.84 338 *e*P **P** **00 01 45.7 -1.1**
comp=Z,14nm,0.9s
SSF Saint Saulge 52.84 338 *e*P **P** **00 01 45.7 -1.1**
SSF pmax pmax
comp=Z,14nm,0.9s
SSF Saint Saulge 52.84 338 *e*P **P** **00 01 45.7 -1.1**
comp=Z,14nm,0.9s
LOR Lormes 52.88 339 *e*P **P** **00 01 46.1 -1.0**
comp=Z,26nm,1.1s,baz=143
LOR *e*R
comp=Z,176nm,19.8s
LOR Lormes 52.88 339 *e*P **P** **00 01 46.1 -1.0**
comp=Z,26nm,1.0s
VRHR Novokhopersk 52.91 10 *e*P **P** **00 01 46.9 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,5.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
TANN Tannenbergstha 53.13 347 *e*P **P** **00 01 49.0 +0.1**
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 53.24 348 *e*P **P** **00 01 48.6 -1.0**
comp=Z,14nm,1.4s
BRG *e* 00 01 53.8
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 53.24 348 *e*P **P** **00 01 48.6 -1.0**
BRG *e* 00 01 53.8
BRG pmax pmax
comp=Z,15nm,1.4s
BRG Berggiesshubel 53.24 348 *e*P **P** **00 01 48.8 -0.8**
comp=Z,3.0nm,0.9s
SFTF Sexfontaines 53.27 340 *e*P **P** **00 01 49.3 -0.6**
comp=Z,84nm,1.1s,baz=142
SFTF Sexfontaines 53.27 340 *e*P **P** **00 01 49.3 -0.6**
comp=Z,84nm,1.1s
PAGF Fort de Pagny 53.34 341 *e*P **P** **00 01 49.8 -0.6**
comp=Z,13nm,1.3s
PAGF Fort de Pagny 53.34 341 *e*P **P** **00 01 49.8 -0.6**
comp=Z,13nm,1.3s
MEZF Maizieres J'vi 53.52 340 *e*P **P** **00 01 51.6 -0.1**
comp=Z,48nm,1.0s
MEZF Maizieres J'vi 53.52 340 *e*P **P** **00 01 51.6 -0.1**
comp=Z,48nm,1.0s
PBRG Braganca 53.53 327 *e*P **P** **00 01 52.5 +0.5**
comp=Z,16nm,1.6s
MOX Moxa 53.54 346 *e*P **P** **00 01 51.1 -0.8**
comp=Z,5.0nm,1.0s
MOX *e*L L 00 26 47.6
comp=Z,162nm,18.1s
POLO Lamas de Olo 53.83 326 *e*P **P** **00 01 55.1 +0.9**
comp=Z,21nm,1.6s
CLL Collm 53.85 347 *i* P **P** **00 01 52.9 -1.1**
CLL *i* 00 01 57.1
CLL pmax pmax
comp=Z,17nm,1.5s
CLL Collm 53.85 347 *e*P **P** **00 01 53.0 -1.1**
comp=Z,4.0nm,1.0s
CLL Collm 53.85 347 *i* P **P** **00 01 52.9 -1.1**
comp=Z,17nm,1.5s
CLL *i* sP **sP** **00 01 57.1 -4.1**
MFF Saint Martin d 53.91 335 *e*P **P** **00 01 54.3 -0.3**
comp=Z,23nm,1.0s
MFF Saint Martin d 53.91 335 *e*P **P** **00 01 54.3 -0.3**
MFF pmax pmax
comp=Z,23nm,1.0s
MFF Saint Martin d 53.91 335 *e*P **P** **00 01 54.3 -0.3**
comp=Z,23nm,1.0s
TNS Taunus Mts 53.98 344 *e*P **P** **00 01 55.1 -0.1**
comp=Z,14nm,0.9s
UBBA Unterbreizbach 54.10 345 *e*P **P** **00 01 55.9 +0.1**
comp=Z,2.0nm,0.8s
PCAB Cabril 54.18 326 *e*P **P** **00 01 57.2 +0.4**
comp=Z,38nm,1.9s
RUE Ruedersdorf 54.79 349 *e*P **P** **00 01 59.1 -1.8**
comp=Z,19nm,0.9s
GIVF Givet 54.97 341 *e*P **P** **00 02 01.3 -1.0**
comp=Z,36nm,1.0s
GIVF Givet 54.97 341 *e*P **P** **00 02 01.3 -1.0**
GIVF pmax pmax
comp=Z,37nm,1.0s
GIVF Givet 54.97 341 *e*P **P** **00 02 01.3 -1.0**
comp=Z,36nm,1.0s
SUW Suwalki 55.00 356 *e*P **P** **00 02 02.0 -0.4**
SUW Suwalki 55.00 356 *e*P **P** **00 02 01.9 -0.4**
SUW Suwalki 55.00 356 *e*P **P** **00 02 01.0 -1.4**
comp=Z,40nm,1.0s
BAIF Baives 55.14 341 *e*P **P** **00 02 02.3 -1.2**
comp=Z,42nm,1.3s
BAIF Baives 55.14 341 *e*P **P** **00 02 02.3 -1.2**
BAIF pmax pmax
comp=Z,42nm,1.3s
BAIF Baives 55.14 341 *e*P **P** **00 02 02.3 -1.2**
comp=Z,42nm,1.3s
BUG Bochum--Univer 55.41 344 *e*P **P** **00 02 05.9 +0.5**
comp=Z,21nm,1.2s

LDF La Druitiere 55.49 337 *e*P **P** **00 02 05.4 -0.7**
LDF La Druitiere 55.49 337 *e*P **P** **00 02 05.4 -0.7**
LDF La Druitiere 55.49 337 *e*P **P** **00 02 05.4 -0.7**
NRDL Niedersach Rie 55.62 346 *e*P **P** **00 02 07.3 +0.5**
comp=Z,23nm,1.1s
NACGM **Naroch 55.69 358** *e* P 00 02 04.0 -3.4
OBN Obninsk 56.20 5*ce*P **P** **00 02 09.2 -1.8**
OBN pmax pmax
comp=Z,84nm,2.5s
SGMF Saint Gilles 56.22 335 *e*P **P** **00 02 11.1 -0.2**
SGMF Saint Gilles 56.22 335 *e*P **P** **00 02 11.1 -0.2**
SGMF Saint Gilles 56.22 335 *e*P **P** **00 02 11.1 -0.2**
QUIF Quistinic 56.22 334 *e*P **P** **00 02 10.9 -0.4**
QUIF Quistinic 56.22 334 *e*P **P** **00 02 10.9 -0.4**
QUIF Quistinic 56.22 334 *e*P **P** **00 02 10.9 -0.4**
ABKAR **Akbulak array 56.59 24** *e*P **P** **00 02 13.0 -0.9**
AKTO Aktyubinsk 56.80 22 P **P** **00 02 15.6 +0.2**
AKTO Aktyubinsk 56.80 22 P **P** **00 02 15.6 +0.2**
AKTO Aktyubinsk 56.80 22 P **P** **00 02 15.6 +0.2**
comp=Z,23nm,0.9s,baz=217,slow=7.3,SNR=62
BSEG Bad Segeberg 56.90 347 *e*P **P** **00 02 15.9 -0.1**
comp=Z,10.0nm,1.2s
MOS Moscow 56.92 6 *e*P **P** **00 02 12.9 -3.2**
MOS pmax pmax
comp=Z,53nm,1.3s
KKAR Karatay Array 57.39 35 *e*P **P** **00 02 20.1 +0.3**
KKAR Karatay Array 57.39 35 *e*P **P** **00 02 20.1 +0.3**
KKAR *e*ScP **ScP** **00 07 11.8 -1.2**
AML Almayashu 58.70 38 P **P** **00 02 30.0 +0.6**
SNR=14
KSH Kashi 58.71 41 P **P** **00 02 26.3 -2.9**
KSH *e*PP **PP** **00 04 37.3 -1.9**
KSH *e*PcS **PcS** **00 07 17.0 -3.9**
KSH *e*S S 00 10 26.3 -7.4
KSH *e*sS sS 00 10 34.8 -7.4
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,61nm,3.5s
KSH LR LR
comp=Z,140nm,4.4s
KSH LR LR
comp=Z,190nm,5.7s
KSH LR LR
comp=Z,120nm,4.5s
EKS2 Erkin-Say 59.05 37 *i* P **P** **00 02 32.1 +0.6**
EKS2 Erkin-Say 59.05 37 P **P** **00 02 32.2 +0.6**
SNR=10
EKS2 Erkin-Say 59.05 37 *e*P **P** **00 02 31.5 0.0**
comp=Z,63nm,2.0s
PYUN Piuthan 59.06 56 *e*P **P** **00 02 31.9 -0.1**
comp=Z,55nm,1.2s
UCH Uchtor 59.25 38 *i* P **P** **00 02 34.1 +0.8**
UCH Uchtor 59.25 38 P **P** **00 02 34.1 +0.8**
SNR=16
KOLN Koldanda 59.46 57 *e*P **P** **00 02 34.6 -0.1**
comp=Z,79nm,1.7s
AAK Ala-Archa 59.47 38 P **P** **00 02 35.9 +1.4**
comp=Z,54nm,1.4s,SNR=8.7
AAK Ala-Archa 59.47 38 *i* P **P** **00 02 35.7 +1.2**
AAK Ala-Archa 59.47 38 P **P** **00 02 35.7 +1.2**
SNR=9.3
AAK Ala-Archa 59.47 38 *e*P **P** **00 02 34.8 +0.3**
comp=Z,30nm,1.5s
KZA Kyzart 59.62 38 *i* P **P** **00 02 36.9 +1.0**
KZA Kyzart 59.62 38 P **P** **00 02 36.9 +1.0**
SNR=11
FRU Bishkek 59.66 37 *e*P **P** **00 02 36.0 +0.4**
FRU pmax pmax
comp=Z,70nm,2.0s
KBK Karagaybulak 59.76 38 P **P** **00 02 37.5 +1.0**
SNR=14
DANN Dangsing 59.78 56 *e*P **P** **00 02 36.6 -0.5**
comp=Z,41nm,1.3s
CHMS Chumysh 59.83 37 *i* P **P** **00 02 37.2 +0.4**
CHMS Chumysh 59.83 37 P **P** **00 02 37.3 +0.4**
SNR=9.8
USP Ospenovka 59.83 37 *i* P **P** **00 02 37.2 +0.4**
USP Ospenovka 59.83 37 P **P** **00 02 37.2 +0.4**
SNR=12
TKM2 Tokmak 2 60.30 38 *i* P **P** **00 02 40.7 +0.4**
TKM2 Tokmak 2 60.30 38 P **P** **00 02 40.7 +0.4**
SNR=10
TKM2 Tokmak 2 60.30 38 *e*P **P** **00 02 39.9 -0.4**
comp=Z,37nm,1.6s
ULHL Ulahol 60.33 39 *i* P **P** **00 02 41.8 +1.3**
ULHL Ulahol 60.33 39 P **P** **00 02 41.8 +1.3**
SNR=5.6
GKN Gorkha 60.40 57 *e*P **P** **00 02 40.8 -0.4**
comp=Z,62nm,1.3s
DMN Daman 60.67 57 *e*P **P** **00 02 43.2 +0.1**
KKN Kakani 60.88 57 *e*P **P** **00 02 44.3 -0.2**
comp=Z,75nm,1.3s
PKIN Phulchoki 60.91 58 *e*P **P** **00 02 44.2 -0.5**
comp=Z,66nm,1.8s
PKI Pulchoki 60.92 58 *e*P **P** **00 02 44.4 -0.5**
comp=Z,65nm,1.6s
GUN Gumba 61.42 57 *e*P **P** **00 02 48.1 -0.2**
comp=Z,108nm,1.2s
JIRN Jiri 61.60 58 *e*P **P** **00 02 49.3 -0.3**
comp=Z,33nm,1.0s
RAMN Ramite 61.74 59 *e*P **P** **00 02 50.1 -0.3**
comp=Z,32nm,1.2s
ARU Arti 61.93 18 P **P** **00 02 50.9 +0.1**
comp=Z,110nm,0.8s,SNR=6.1
ARU Arti 61.93 18*d i*P **P** **00 02 50.3 -0.5**
ARU 00 05 05.3
ARU S **S** **00 11 15.1 +1.0**
ARU SS **SS** **00 15 21.6 +5.0**
ARU pmax pmax
comp=Z,36nm,1.7s
ARU Arti 61.93 18 *e*P **P** **00 02 49.9 -0.8**
comp=Z,77nm,1.8s
KLMR Klimovskoe 62.14 6 *e*P **P** **00 02 50.1 -2.0**
KLMR pmax pmax
comp=Z,43nm,1.5s
FINES FINESS Array B 62.27 358 P **P** **00 02 52.5 -0.4**
FINES FINESS Array B 62.27 358 P **P** **00 02 52.5 -0.4**
comp=Z,4.5nm,1.0s,baz=204,slow=4.2,SNR=7.8
FINES LR LR 00 35 04.3
comp=Z,56nm,18.3s,baz=172,slow=41
ODAN Odare 62.39 59 *e*P **P** **00 02 54.6 -0.1**
comp=Z,52nm,1.6s
TAPN Taplejung 62.80 59 *e*P **P** **00 02 57.6 0.0**
comp=Z,47nm,1.1s
SVE Sverdlovsk 62.92 19⇑ *e*P **P** **00 02 57.1 -0.2**
SVE pmax pmax
comp=Z,29nm,1.5s
NB2 NORSAR Subarra 63.35 350 P **P** **00 02 59.3 -0.9**
comp=Z,12nm,1.1s,baz=161,slow=6.9
NOA NORSAR Array B 63.35 350 P **P** **00 02 59.0 -1.2**
NOA NORSAR Array B 63.35 350 P **P** **00 02 58.9 -1.2**
comp=Z,2.6nm,0.8s,baz=160,slow=6.6,SNR=6.8
NOA LR LR 00 36 38.0
comp=Z,28nm,20.0s,baz=5.0,slow=42
PRGR Permogore 63.67 9 *e*P **P** **00 02 59.4 -2.8**
PRGR 00 03 35.5
BRVK Borovoye 63.78 26 P **P** **00 03 02.5 -0.6**
comp=Z,39nm,1.5s,SNR=5.8
BRVK Borovoye 63.78 26 *e*P **P** **00 03 01.8 -1.3**
BRVK pmax pmax
comp=Z,26nm,1.7s
BRVK Borovoye 63.78 26 *e*P **P** **00 03 01.8 -1.3**
comp=Z,26nm,1.7s
BVAR Borovoye Array 63.80 26 P **P** **00 03 02.8 -0.5**
BVAR Borovoye Array 63.80 26 P **P** **00 03 02.8 -0.5**
BVAR Borovoye Array 63.80 26 P **P** **00 03 02.8 -0.5**
comp=Z,4.4nm,0.7s,baz=219,slow=6.3,SNR=33
VOSK Vostochnaya 63.86 27 *e*P **P** **00 03 02.5 -1.2**
VOSK pmax pmax
comp=Z,14nm,1.3s
VOSK Vostochnaya 63.86 27 *e*P **P** **00 03 02.5 -1.2**
comp=Z,14nm,1.3s
KURBB **Kurchatov Arra 66.27 32** P **P** **00 03 19.5 +0.1**
comp=Z,8.1nm,0.9s,baz=240,slow=6.6,SNR=32
LSA Lhasa 66.36 57 P **P** **00 03 21.8 +0.8**
LSA Lhasa 66.36 57 *e*P **P** **00 03 21.1 +0.1**
LSA pmax pmax
comp=Z,18nm,1.1s
LSA MLR MLR
comp=Z,100nm,21.0s
LSA Lhasa 66.36 57 *e*P **P** **00 03 21.1 +0.1**
comp=Z,18nm,1.1s
LSA LR LR
comp=Z,100nm,21.0s
KURK Kurchatov 66.37 32 *e*P **P** **00 03 19.3 -0.7**

KURK pmax pmax
comp=Z,16nm,1.4s
KURK Kurchatov 66.37 32 *e*P **P** **00 03 19.2 -0.7**
comp=Z,16nm,1.4s
MK01 Makanchi Array 66.38 37 *e*P **P** **00 03 20.0 -0.2**
MKAR Makanchi Array 66.38 37*ce*P **P** **00 03 20.3 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 66.38 37 *e*P **P** **00 03 20.3 +0.1**
MKAR Makanchi Array 66.38 37 P **P** **00 03 20.4 +0.1**
comp=Z,7.3nm,0.7s,baz=242,slow=5.5,SNR=81
MKAR LR LR 00 35 16.8
comp=Z,120nm,18.5s,baz=320,slow=39
LHMI Lhok Sumawe 67.94 84 *e*P **P** **00 03 27.9 -2.8**
comp=Z,37nm,0.8s
SYO Syowa Base 68.31 176⇑ *e*P **P** **00 03 33.2 +1.3**
WMQ Urumqi 68.48 42 P **P** **00 03 34.3 +0.7**
WMQ pP **pP** **00 03 39.0 +0.1**
WMQ sP **sP** **00 03 41.3 +0.5**
WMQ PcP **PcP** **00 03 59.8 +1.0**
WMQ PP **PP** **00 06 07.3 +2.4**
WMQ ScP 00 08 01.5
WMQ S **S** **00 12 33.8 -1.3**
WMQ ScS **SKiKP** **00 13 29.5 +2.4**
WMQ SS **SS** **00 16 58.8 -0.4**
WMQ pmax pmax
comp=Z,13nm,1.6s
WMQ pmax pmax
comp=Z,74nm,7.2s
WMQ LR LR
comp=Z,62nm,29.8s
WMQ LR LR
comp=Z,280nm,24.0s
PSI Prapat 69.80 87 LR LR 00 29 58.9
comp=Z,59nm,19.4s,baz=277,slow=32
KHLT Khaolaem Dam 70.35 74 P **P** **00 03 47.2 +1.6**
comp=Z,14nm,1.3s
ARA0 ARCESS Array S 70.39 359 *e*P **P** **00 03 42.3 -2.6**
ARCES **ARCESS Array B 70.39 359** P **P** **00 03 44.8 -0.1**
ARCES **ARCESS Array B 70.39 359** P **P** **00 03 44.8 -0.1**
comp=Z,8.6nm,0.8s,baz=173,slow=4.9,SNR=17
SRDT SRDT 70.81 75 P **P** **00 03 49.7 +1.2**
comp=Z,5µmcomp=Z,75nm,1.1s
NVS Novosibirsk 70.95 30 *i* P **P** **00 03 47.4 -1.1**
NVS pmax pmax
comp=Z,51nm,2.0s
NVS pmax pmax
comp=N,12nm,1.6s
CMAR Chiang Mai Arr 71.13 70 P **P** **00 03 51.2 +0.9**
CMAR Chiang Mai Arr 71.13 70 P **P** **00 03 51.2 +0.9**
comp=N,9.3nm,0.9s,baz=261,slow=7.0,SNR=62
CMAR LR LR 00 34 45.2
comp=N,50nm,18.7s,baz=146,slow=36
CM01 Chiang Mai Arr 71.14 70 *e*P **P** **00 03 50.2 -0.2**
CHTO Chiang Mai 71.18 70 *e*P **P** **00 03 50.3 -0.3**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 71.18 70 P **P** **00 03 51.2 +0.6**
comp=Z,63nm,1.2s
CHTO Chiang Mai 71.18 70 *e*P **P** **00 03 50.3 -0.3**
comp=Z,4.0nm,1.1s
UTHA Uthaitani 71.26 73 P **P** **00 03 52.4 +1.3**
comp=Z,121nmcomp=Z,9.6nm,1.0s
ZAA0 Zalesovo Array 71.31 31 *e*P **P** **00 03 49.5 -1.2**
ZALV Zalesovo Beam 71.31 31 P **P** **00 03 49.8 -0.9**
ZALV 00 06 30.7
ZALV Zalesovo Beam 71.31 31 P **P** **00 03 49.8 -0.9**
ZALV PP **PP** **00 06 30.7 +1.7**
ZALV Zalesovo Beam 71.31 31 P **P** **00 03 49.8 -0.9**
comp=Z,7.5nm,0.9s,baz=255,slow=4.5,SNR=28
ZALV PP **PP** **00 06 30.7 +1.7**
comp=Z,3.5nm,1.0s,baz=248,slow=7.8,SNR=4.1
ZALV LR LR 00 37 08.7
comp=Z,93nm,18.1s,baz=246,slow=38
CMAI Chiengmai2 71.42 69 P **P** **00 03 53.5 +1.2**
comp=Z,14µmcomp=Z,43nm,0.8s
KULM Kulim 71.62 84 PFAKE 00 04 00.0 +6.6
KULM LR LR
comp=Z,100nm,20.0s
SUKH Sukhothai 71.66 71 P **P** **00 03 54.7 +1.2**
comp=Z,101nmcomp=Z,11nm,0.9s
LAMP Lampang 71.79 70 P **P** **00 03 55.5 +1.2**
comp=Z,91nmcomp=Z,8.9nm,1.0s
BKNI Bangkinang 71.85 89 *e*P **P** **00 03 53.5 -1.3**
IPM Ipoh 71.96 85 *e*P **P** **00 03 55.8 +0.3**
comp=Z,34nm,0.9s
PHIT Phitsanulok 72.37 72 P **P** **00 04 00.1 +2.3**
comp=Z,30nm,1.1s
UTTA Uttaradit 72.56 71 P **P** **00 03 59.8 +0.9**
comp=Z,112nmcomp=Z,14nm,0.9s
PBKT Sadao Pong 72.82 72 P **P** **00 04 01.3 +0.8**
comp=Z,2µmcomp=Z,32nm,1.1s
CHBT CHBT 73.77 77 P **P** **00 04 07.4 +1.3**
comp=Z,2µmcomp=Z,56nm,1.0s
MYKOM **Kota Tinggi 74.69 88** *e*P **P** **00 04 08.9 -2.6**
comp=Z,28nm,0.8s
MYKOM LR LR
comp=Z,100nm,20.7s
KMI Kunming 75.53 64 P **P** **00 04 18.0 +1.5**
KMI pP **pP** **00 04 23.0 +1.2**
KMI sP **sP** **00 04 25.0 +1.3**
KMI pmax pmax
comp=Z,11nm,1.3s
GTA Gaotai 75.72 49 *e*P **P** **00 04 18.0 +0.8**
GTA pP **pP** **00 04 22.8 +0.3**
GTA sP **sP** **00 04 25.5 +1.1**
GTA S **S** **00 14 00.8 +2.3**
GTA sS **sS** **00 14 08.3 +1.0**
GTA SKS **SKSac** **00 14 24.0 -3.2**
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,180nm,4.3s
SLVN Son La 76.12 68 *e*P **P** **00 04 18.8 -1.0**
comp=Z,14nm,1.3s
UBPT Khong Chiam 77.01 74 P **P** **00 04 25.5 +0.7**
comp=Z,19nm,1.1s
CD2 Chengdu 77.27 58 *e*P **P** **00 04 26.5 +0.5**
CD2 sP **sP** **00 04 34.8 +1.5**
CD2 PP **PP** **00 07 24.8 +4.6**
CD2 S **S** **00 14 18.8 +3.1**
CD2 sS **sS** **00 14 24.5 +0.1**
CD2 SS **SS** **00 19 15.3 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,1.1s
CD2 pmax pmax
comp=Z,150nm,4.8s
BDFB Brasilia 77.43 254 P **P** **00 04 25.9 -1.4**
BDFB Brasilia 77.43 254 P **P** **00 04 25.9 -1.4**
comp=Z,2.7nm,0.6s,baz=127,slow=4.9,SNR=4.6
BDFB LR LR 00 34 53.4
comp=Z,126nm,20.0s,baz=60,slow=33
GYA Guiyang 79.21 63⇑ *i*P **P** **00 04 37.8 +0.8**
GYA PP **PP** **00 07 38.5 +1.8**
GYA S **S** **00 14 35.0 -1.8**
GYA SKS **SKSac** **00 14 47.3 -5.7**
GYA SS **SS** **00 19 43.8 +0.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,580nm,20.8s
GYA LR LR
comp=Z,510nm,21.4s
GYA LR LR
comp=Z,570nm,19.6s
ZAK Zakamensk 80.62 39 *e*P **P** **00 04 44.1 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.8s
TLY Talaya 81.13 37 *e*P **P** **00 04 49.3 +2.6**
TLY pmax pmax
comp=Z,6.0nm,1.5s
KSM Kuching 81.14 88 PFAKE 00 05 00.0 +13
KSM LR LR
comp=Z,100nm,21.0s
QIZ Qiongzhong 81.46 71 P **P** **00 04 47.8 -1.3**
QIZ S **S** **00 14 58.8 -1.7**
QIZ pmax pmax
comp=Z,7.0nm,1.5s
QIZ LR LR
comp=Z,140nm,9.9s
SONM Songino Array 82.11 42 P **P** **00 04 53.7 +1.6**
SONM Songino Array 82.11 42 P **P** **00 04 53.7 +1.6**
comp=Z,1.4nm,0.7s,baz=251,slow=5.1,SNR=9.7

SONA1	**Songino Array**	**82.12**	**42**	*e*P		**P**	**00 04 51.2**	**-1.0**
ULN	**Ulaanbaatar**	**82.56**	**42**	*e*P		**P**	**00 04 52.7**	**-1.8**
	comp=Z,32nm,2.3s							
SUMG	**Summit**	**84.32**	**344**	*i* P		**P**	**00 05 04.7**	**+1.4**
	comp=Z,7.8nm,1.0s							
SUMG	**Summit**	**84.32**	**344**	*e*P		**P**	**00 05 00.5**	**-2.8**
	comp=Z,220nm,3.0s							
HHC	**Hu-ho-hao-te**	**84.83**	**49**	*e*P		**P**	**00 05 07.0**	**+0.8**
HHC				sP		**sP**	**00 05 14.0**	**+0.5**
HHC				PP		**PP**	**00 08 25.5**	**+2.8**
HHC				S		**S**	**00 15 34.5**	**+0.3**
HHC				sS		**sS**	**00 15 40.8**	**-2.3**
HHC				SS		**SS**	**00 21 06.5**	**-0.1**
HHC				pmax	pmax			
	comp=Z,18nm,1.0s							
HHC				pmax	pmax			
	comp=Z,270nm,5.0s							
HHC				LR	LR			
	comp=Z,360nm,11.2s							
HHC				LR	LR			
	comp=Z,410nm,12.4s							
HHC				LR	LR			
	comp=Z,200nm,13.7s							
CPUP	**Villa Florida**	**86.47**	**244**	LR	LR		00 41 35.7	
	comp=Z,89nm,18.1s,baz=104,slow=34							
KKM	**Kota Kinabalu**	**87.13**	**84**	PFAKE			00 05 30.0	+12
KKM				LR	LR			
	comp=Z,200nm,20.0s							
NWAO	**Narrogin (SRO)**	**87.84**	**123**	LR	LR		00 40 14.1	
	comp=Z,60nm,18.5s,slow=33							
QSPA	**South Pole Qui**	**89.09**	**180**	*e*P		**P**	**00 05 27.2**	**+0.8**
	comp=Z,23nm,1.4s							
SABA	**Saba**	**92.61**	**287**	PFAKE			00 05 50.0	+6.4
SABA				LR	LR			
	comp=Z,300nm,19.6s							
LPAZ	**La Paz**	**96.77**	**254**	LR	LR		00 46 49.2	
	comp=Z,68nm,21.3s,baz=76,slow=34							
PLCA	**Paso Flores**	**96.78**	**229**	LR	LR		00 41 52.7	
	comp=Z,85nm,20.0s,baz=88,slow=31							
VNDA	**Vanda**	**97.55**	**171**	LR	LR		00 51 01.8	
	comp=Z,140nm,18.0s,baz=285,slow=36							
WES	**Weston**	**98.41**	**313**	PFAKE			00 06 20.0	+10
WES				LR	LR			
	comp=Z,1μm,22.0s							
FRNY	**Flat Rock**	**99.73**	**315**	PFAKE			00 06 30.0	+15
FRNY				LR	LR			
	comp=Z,400nm,20.1s							
CAST	**Castle Rocks**	**117.67**	**1**	PFAKE			00 11 30.0	+13
CAST				LR	LR			
	comp=Z,800nm,20.3s							
RWWY	**Rawlins**	**123.59**	**322**	PFAKE			00 11 40.0	+10
RWWY				LR	LR			
	comp=Z,500nm,20.3s							
YMR	**Madison River**	**124.01**	**327**	PFAKE			00 11 40.0	+10
YMR				LR	LR			
	comp=Z,1μm,18.8s							
DLMT	**Dillon**	**124.44**	**328**	PFAKE			00 11 40.0	+9.1
DLMT				LR	LR			
	comp=Z,500nm,18.2s							
SPUT	**South Promonto**	**126.98**	**324**	PFAKE			00 11 50.0	+14
SPUT				LR	LR			
	comp=Z,300nm,19.5s							
MPU	**Maple Canyon**	**127.29**	**322**	PFAKE			00 11 50.0	+13
MPU				LR	LR			
	comp=Z,1μm,21.4s							
HNR	**Honiara**	**129.89**	**103**	PFAKE			00 11 50.0	+8.1
HNR				LR	LR			
	comp=Z,300nm,19.0s							
TARA	**Tarawa**	**143.73**	**89**	PFAKE			00 12 20.0	+13
TARA				LR	LR			
	comp=Z,3μm,19.0s							

ISCJB ***28*** *23:57:21.7±2.0,0.7°S±0.4°×29.3°E±0.2,h10km,mb4.0/7, Error ellipse: s-maj=53.4km s-min=13.9km az=18.9*

IDC ***28*** *23:57:22.9±2.5,0.54°S×29.28°E,h0km,mb4.1/7,mb1 4.3/8, mb1mx4.0/28,mbtmp4.1/8,ML4.0/1, Error ellipse: s-maj=63.9km s-min=25.5km az=16.0*

ISC 28 23:57:24.0±2.2,0.6°S±0.4°×29.3°E±0.2,h10km,n9,σ0°79/9, mb4.1/7,Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MBAR	**Mbarara**	**1.42**	**90**	*i* P		**Pn**	**23 57 49.4**	**-0.6**
KMBO	**Kilima Mbogo**	**7.95**	**94**	Pn		**Pn**	**23 59 19.4**	**-0.6**
	2.2nm,0.3s,baz=238,slow=19,SNR=2.6							
KMBO				Lg		Lg	00 01 30.9	
	7.0nm,0.3s,baz=72,slow=20,SNR=7.0							
TORD	**Torodi Ar. Bea**	**30.60**	**297**	P		**P**	**00 03 38.2**	**-0.3**
	2.3nm,0.7s,baz=111,slow=7.5,SNR=3.5							
TORD				Lg		Lg	00 13 30.8	
	8.1nm,1.1s,baz=121,slow=24,SNR=3.9							
BRTR	**Keskin Array B**	**40.32**	**5**	P		**P**	**00 05 01.2**	**-0.7**
	1.6nm,0.9s,baz=178,slow=8.7,SNR=2.9							
GERES	**GERESS Array B**	**51.07**	**347**	P		**P**	**00 06 26.2**	**-0.4**
	0.7nm,0.8s,baz=167,slow=6.0,SNR=2.7							
MKAR	**Makanchi Array**	**66.03**	**37**	P		**P**	**00 08 12.2**	**+1.1**
	1.3nm,0.7s,baz=241,slow=6.2,SNR=4.8							
ARCES	**ARCESS Array B**	**70.05**	**359**	P		**P**	**00 08 36.3**	**+0.5**
	4.0nm,0.9s,baz=186,slow=7.2,SNR=3.4							
CMAR	**Chiang Mai Arr**	**70.90**	**70**	P		**P**	**00 08 42.8**	**+0.8**
	1.3nm,0.3s,baz=260,slow=6.9,SNR=7.1							
ZALV	**Zalesovo Beam**	**70.95**	**31**	P		**P**	**00 08 41.7**	**+0.2**
	1.1nm,0.7s,baz=257,slow=5.8,SNR=2.9							

RSPR 29 00:22:18.0,18°.25N×68°.59W,h75km±2km,MD3.5/12, 10C-4D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCDR	**Punta Cana, DR**	**0.34**	**37**↑	*e*P		Pn	00 22 28.9	-1.1
PCDR	**Punta Cana, DR**	**0.34**	**37**	*e*S		Sn	00 22 38.4	-0.4
IMO	**Isla Mona**	**0.67**	**102**↓	*e*P		Pn	00 22 31.8	-1.0
IMO				*e*S		Sn	00 22 44.1	+0.2
DR12	**Loma Pena Alta**	**0.92**	**306**↑	*e*P		Pn	00 22 34.7	-1.2
DR12				*e*S		Sn	00 22 47.9	-1.4
IDE	**Isla Desecheo**	**1.07**	**82**↑	*e*P		Pn	00 22 36.3	-1.4
IDE	**Isla Desecheo**	**1.07**	**82**	*e*S		Sn	00 22 50.8	-1.6
AGPR	**Aguadilla, PR**	**1.43**	**81**↑	*e*P		Pn	00 22 41.4	-0.8
AGPR	**Aguadilla, PR**	**1.43**	**81**	*e*S		Sn	00 22 59.3	-1.1
CRPR	**Cabo Rojo, PR**	**1.43**	**99**↑	*e*P		Pn	00 22 42.1	-0.1
CRPR	**Cabo Rojo, PR**	**1.43**	**99**	*e*S		Sn	00 23 01.0	+0.5
LSP	**Las Mesas**	**1.44**	**93**	*e*S		Sn	00 23 00.2	-0.5
GBPR	**Guanica, Bosqu**	**1.65**	**99**↑	*e*P		Pn	00 22 44.6	-0.5
GBPR	**Guanica, Bosqu**	**1.65**	**99**	*e*S		Sn	00 23 05.2	-0.5
LRS	**Lares**	**1.66**	**88**↑	*e*P		Pn	00 22 45.0	-0.3
LRS				*e*S		Sn	00 23 05.6	-0.5
AOPR	**Arecibo Observ**	**1.75**	**86**↓	*e*P		Pn	00 22 45.8	-0.7
AOPR	**Arecibo Observ**	**1.75**	**86**	*e*S		Sn	00 23 07.9	-0.2
OBIP	**Obispado Ponce**	**1.90**	**96**↑	*e*P		Pn	00 22 47.6	-0.9
OBIP	**Obispado Ponce**	**1.90**	**96**	*e*S		Sn	00 23 11.0	-0.6
CELP	**Cerrillos**	**1.92**	**95**↑	*e*P		Pn	00 22 49.1	+0.3
CELP				*e*S		Sn	00 23 11.4	-0.8
SJG	**San Juan**	**2.33**	**93**↓	*e*P		Pn	00 22 53.5	-0.7
SJG				*e*S		Sn	00 23 21.6	-0.2
CBYP	**Canovanas**	**2.60**	**89**↓	*e*P		Pn	00 22 56.4	-1.6
CBYP	**Canovanas**	**2.60**	**89**	*e*S		Sn	00 23 27.8	-0.9
HUMP	**Col San Antoni**	**2.61**	**92**↑	*e*P		Pn	00 22 57.0	-1.0
HUMP	**Col San Antoni**	**2.61**	**92**	*e*S		Sn	00 23 27.7	-1.1

BJI ***29*** *00:27:19.4, 1°.57N×125°.28E,h167km,mB4.9/16,mb4.6/24*

ISCJB ***29*** *00:27:24.8±0.3,2°.08N±0°.02×125°.32E±0°.03,h187km±3km, mb4.6/53, Error ellipse: s-maj=5.0km s-min=4.0km az=171.9*

NEIC ***29*** *00:27:26.2±0.6,2°.04N×125°.14E,h188km±6km,mb4.9/20, Error ellipse: s-maj=7.8km s-min=5.0km az=80.0*

IDC ***29*** *00:27:28.1±1.7,2°.00N×125°.13E,h204km±15km,mb3.9/22, mb1 4.0/23,mb1mx3.9/36,mbtmp4.5/23, Error ellipse: s-maj=16.6km s-min=6.7km az=73.0*

DJA ***29*** *00:27:28.4±0.3,2°.N±3°×12°.5E±°,h136km±4km,M4.8/25, mb5.0/25,mB5.2/18,MLv5.2/14,Mw(mB)4.6/18*

ISC 29 00:27:25.0±0.4,2°.08N±0°.04×125°.31E±0°.04,h175km±3km, n157,σ1°44/194,mb4.6/54,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SGSI	**Sangihe**	**1.61**	**8**	P		**Pn**	**00 27 59.3**	**+1.7**
SGSI				S		**Sn**	**00 28 25.5**	**+2.6**
KMSI	**Cibinong**	**2.00**	**222**	P		**Pn**	**00 28 02.5**	**+0.8**
KMSI				S		**Sn**	**00 28 31.7**	**+1.5**
TNTI	**Ternate**	**2.43**	**122**	P		**Pn**	**00 28 07.1**	**+0.5**
TNTI				S		**Sn**	**00 28 38.3**	**-0.7**
TNTI	**Ternate**	**2.43**	**122**	*e*Pn		**Pn**	**00 28 07.2**	**+0.6**
TNTI				*e*Sn		**Sn**	**00 28 38.6**	**-0.4**
LBMI	**Labuha**	**3.48**	**141**	P		**Pn**	**00 28 20.1**	**+0.7**
LBMI				S		**Sn**	**00 29 00.3**	**-1.5**
MRSI	**Marisa**	**3.73**	**245**	P		**Pn**	**00 28 23.7**	**+1.2**
MRSI				S		**Sn**	**00 29 08.5**	**+1.2**
LUWI	**Luwuk**	**4.01**	**219**	P		**Pn**	**00 28 26.8**	**+0.7**
LUWI	**Luwuk**	**4.01**	**219**	*e*Pn		**Pn**	**00 28 25.9**	**-0.2**
LUWI				*e*Sn		**Sn**	**00 29 14.9**	**+1.1**
SANI	**Sanana**	**4.16**	**171**	P		**Pn**	**00 28 26.0**	**-2.0**
TOLI	**Toli-Toli**	**4.61**	**258**	P		x	00 28 36.6	
TOLI	**Toli-Toli**	**4.61**	**258**	*e*Pn		**Pn**	**00 28 34.5**	**+0.6**
TOLI				*e*Sn		**Sn**	**00 29 25.9**	**-1.8**
APSI	**Ampana**	**4.71**	**231**	P		**Pn**	**00 28 36.0**	**+0.8**
DAV	**Davao City (W)**	**4.96**	**3**	*e*Pn		Pn	00 28 42.8	+4.3
NLAI	**Namlea**	**5.58**	**161**	P		**Pn**	**00 28 46.5**	**0.0**
	216nm,0.6s,44μm11nm							
MSAI	**Masohi**	**6.49**	**146**	P		**Pn**	**00 28 59.7**	**+1.2**
	36nm,0.6s,972nm0.5nm							
TTSI	**Tana Toraja**	**7.49**	**227**	P		**Pn**	**00 29 12.0**	**+0.4**
	175nm,1.0s,2μm0.5nm							
MMSI	**Mamuju**	**7.96**	**233**	P		x	00 29 18.4	
	144nm,1.0s,2μm0.6nm							
BBSI	**Bau Bau**	**8.00**	**200**	P		**Pn**	**00 29 20.2**	**+1.8**
	98nm,0.7s,1μm0.5nm							
SPSI	**Sidrap Palu**	**8.17**	**223**	P		**Pn**	**00 29 20.7**	**+0.1**
	123nm,0.8s,1μm							
BNSI	**Bone**	**8.28**	**219**	P		**Pn**	**00 29 22.1**	**+0.1**
	70nm,0.7s							
MJSI	**Majene**	**8.44**	**229**	P		x	00 29 26.4	
	162nm,0.8s,1μm							
FAKI	**Fak Fak**	**8.53**	**126**	P		**Pn**	**00 29 28.2**	**+2.8**
	baz=8.6,SNR=3.8							
KAPI	**Kappang**	**8.97**	**218**	*e*Pn		Pn	00 29 23.5	-7.7
BKSI	**Bulukumba**	**8.99**	**215**	P		**Pn**	**00 29 31.7**	**+0.2**
	30nm,0.8s,393nm							
BKB	**Balikpapan**	**9.04**	**249**	P		**Pn**	**00 29 34.9**	**+2.8**
	129nm,1.2s							
MMRI	**Maumere**	**11.08**	**196**	P		P	00 30 13.3	+7.2
MMRI	**Maumere**	**11.08**	**196**	*e*Pn		**Pn**	**00 29 58.2**	**-0.6**
LBFI	**Labuhan Bajo,**	**11.80**	**207**	P		x	00 30 09.0	
	358nm,0.6s,3μm							
SOEI	**Soe**	**11.80**	**185**	P		**P**	**00 30 15.9**	**+1.6**
	90nm,1.0s							
SOEI	**Soe**	**11.80**	**185**	*e*Pn		**Pn**	**00 30 08.2**	**0.0**
BATI	**Baumata**	**12.32**	**188**	P		**Pn**	**00 30 16.9**	**+2.1**
	114nm,0.8s,1μm							
BATI	**Baumata**	**12.32**	**188**	P		**Pn**	**00 30 16.3**	**+1.5**
BATI	**Baumata**	**12.32**	**188**	P		**Pn**	**00 30 16.3**	**+1.5**
	16nm,0.3s,baz=139,slow=2.1,SNR=13							
BMNI	**Bima**	**12.44**	**212**	P		x	00 30 20.1	
	32nm,1.1s,1μm							
SBUM	**Sibu**	**13.08**	**272**	P		x	00 30 31.5	
	44nm,0.9s							
SBUM	**Sibu**	**13.08**	**272**	*e*P		**P**	**00 30 26.8**	**-1.6**
MTNI	**Mataram**	**14.01**	**220**	P		x	00 30 36.8	
	182nm,0.7s,2μm							
SRBI	**Singaraja**	**14.26**	**225**	P		**P**	**00 30 42.6**	**+1.2**
	154nm,0.8s,2μm							
DNP	**Denpasar**	**14.68**	**223**	P		**P**	**00 30 48.8**	**+2.7**
	345nm,0.7s							
IGBI	**Denpasar**	**14.83**	**223**	P		**P**	**00 30 48.9**	**+1.2**
	239nm,0.7s,4μm							
BYJI	**Banyuwangi**	**14.96**	**227**	P		x	00 30 52.3	
	203nm,0.8s,12μm							
JAGI	**Jajag, Banyuwa**	**15.28**	**227**	*e*Pn		**Pn**	**00 30 51.3**	**-0.7**
JAGI	**Jajag, Banyuwa**	**15.28**	**227**	P		**P**	**00 30 54.6**	**+1.7**
	baz=15,SNR=11							
GMJI	**Gumukmas**	**15.68**	**229**	P		**P**	**00 31 00.3**	**+3.1**
	66nm,1.0s,941nm							
MTN	**Manton Dam**	**15.91**	**159**	P		**Pn**	**00 30 59.3**	**-0.3**
	baz=16,SNR=4.1							
KDU	**Kakadu**	**16.30**	**154**	P		**P**	**00 31 03.1**	**-0.9**
	baz=18,SNR=6.0							
NGJI	**Ngawi**	**16.70**	**236**	P		**Pn**	**00 31 11.0**	**+1.8**
	45nm,0.8s							
PCJI	**Pacitan**	**17.40**	**234**	P		**P**	**00 31 16.5**	**+0.4**
	59nm,0.6s,1μm							
UGM	**Wanagama**	**17.78**	**236**	*e*P		**P**	**00 31 18.4**	**-1.9**
	138nm,1.5s							
UGM	**Wanagama**	**17.78**	**236**	P		**P**	**00 31 19.8**	**-0.5**
	baz=18,SNR=5.7							
KNRA	**Kununurra**	**17.97**	**169**	P		**P**	**00 31 22.7**	**+0.4**
	baz=18,SNR=18							
BJII	**Banjamegara**	**18.16**	**239**	P		x	00 31 29.8	
YULB	**Yu-li**	**21.54**	**350**	*e*P		**P**	**00 31 59.1**	**-1.6**
	40nm,1.4s							
TPUB	**Ta-pu**	**21.58**	**348**	*e*P		**P**	**00 31 59.8**	**-1.3**
	153nm,2.0s							
QIZ	**Qiongzhong**	**22.65**	**319**	P		**P**	**00 32 10.5**	**-1.1**
QIZ				pP		**pP**	**00 32 42.5**	**-0.7**
QIZ				S		**S**	**00 36 06.0**	**-0.4**
QIZ				pmax	pmax			
	comp=Z,8.0nm,1.5s							
XMIS	**Christmas Isla**	**23.20**	**237**	*e*P		**P**	**00 32 13.5**	**-3.1**
	1μm,2.7s							
WRA	**Warramunga Arr**	**23.61**	**158**	P		**P**	**00 32 20.4**	**+0.1**
WRA				S		**S**	**00 36 17.4**	**-4.6**
WRA	**Warramunga Arr**	**23.61**	**158**	P		**P**	**00 32 20.4**	**+0.1**
	6.5nm,0.5s,baz=331,slow=11,SNR=22							
WRA				S		**S**	**00 36 17.4**	**-4.6**
	3.8nm,1.1s,baz=336,slow=16,SNR=4.9							
COEN	**Coen**	**23.82**	**132**	*e*P		**P**	**00 32 22.8**	**+0.5**
	239nm,1.1s							
COEN	**Coen**	**23.82**	**132**	P		**P**	**00 32 22.8**	**+0.5**
	baz=24,SNR=9.4							
PMG	**Port Moresby**	**24.58**	**118**	*e*P		**P**	**00 32 30.5**	**+1.4**
	19nm,0.8s							
PMG	**Port Moresby**	**24.58**	**118**	P		**P**	**00 32 30.7**	**+1.5**
	16nm,0.7s,baz=334,slow=6.7,SNR=10							
JOW	**Kunigami**	**24.77**	**6**	*e*P		**P**	**00 32 32.2**	**+1.5**
	36nm,0.6s							
QIS	**Mount Isa**	**26.51**	**149**	P		**P**	**00 32 48.1**	**+1.6**
	baz=27,SNR=5.0							
GIRL	**Giralia**	**26.84**	**203**	P		**P**	**00 32 50.6**	**+1.2**
	baz=27,SNR=3.9							
ASAR	**Alice Springs**	**26.93**	**162**	P		**P**	**00 32 50.5**	**+0.3**
ASAR				PcP		**PcP**	**00 36 08.4**	**+0.6**
ASAR				S		**S**	**00 37 13.2**	**-1.1**
ASAR	**Alice Springs**	**26.93**	**162**	P		**P**	**00 32 50.5**	**+0.3**
	1.6nm,0.5s,baz=342,slow=6.8,SNR=23							
ASAR				PcP		**PcP**	**00 36 08.4**	**+0.6**
	1.6nm,0.4s,baz=344,slow=1.9,SNR=7.4							
ASAR				S		**S**	**00 37 13.2**	**-1.1**
	1.2nm,0.7s,baz=344,slow=20,SNR=4.9							
AS01	**Alice Springs**	**26.94**	**162**	*e*P		**P**	**00 32 50.9**	**+0.6**
WRKA	**Warakurna**	**27.11**	**174**	P		**P**	**00 32 52.2**	**+0.4**
	baz=27,SNR=9.4							
MEEK	**Meekatharra**	**29.27**	**192**	P		**P**	**00 33 10.8**	**-0.2**
	baz=30,SNR=18							
CTA	**Charters Tower**	**30.13**	**138**	P		**P**	**00 33 19.1**	**+0.5**
CTA	**Charters Tower**	**30.13**	**138**	P		**P**	**00 33 19.1**	**+0.5**
	5.9nm,0.9s,baz=13,slow=15,SNR=4.0							
GYA	**Guiyang**	**30.14**	**325**	P		**P**	**00 33 20.8**	**+2.0**
GYA				pP		**pP**	**00 33 56.5**	**+1.5**
GYA				sP		**sP**	**00 34 17.0**	**+1.8**
GYA				PP		**PnPn**	**00 34 27.3**	**+2.7**
GYA				PcP		**PcP**	**00 36 16.8**	**+0.9**
GYA				S		**S**	**00 38 05.5**	**+0.6**
GYA				sS		**sS**	**00 39 09.8**	**+0.7**
GYA				ScP		**ScP**	**00 39 42.0**	**+0.1**
GYA				PcS		**PcS**	**00 40 01.3**	**+1.4**
GYA				ScS		**ScS**	**00 43 37.5**	**-0.6**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,110nm,4.8s							
NJ2	**Nanjing**	**30.43**	**349**	*e*P		**P**	**00 33 19.5**	**-1.5**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KMI	**Kunming**	**31.60**	**318**	P		**P**	**00 33 33.5**	**+1.8**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MORW	**Morawa**	**32.22**	**195**	P		**P**	**00 33 37.0**	**+0.1**
	baz=32,SNR=7.6							
FORT	**Forrest**	**32.78**	**176**	*e*P		**P**	**00 33 41.6**	**-0.1**
	115nm,1.9s							
FORT	**Forrest**	**32.78**	**176**	P		**P**	**00 33 42.0**	**+0.3**
	baz=33,SNR=13							
BLDU	**Ballidu**	**33.53**	**193**	P		**P**	**00 33 48.0**	**-0.2**
	baz=34,SNR=11							
CD2	**Chengdu**	**35.18**	**327**	*e*P		**P**	**00 34 03.0**	**+0.5**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KSAR	**Wonju Array Be**	**35.27**	**4**	P		**P**	**00 34 04.5**	**+1.5**
KSRS	**Korea Array**	**35.28**	**4**	P		**P**	**00 34 04.5**	**+1.4**
	5.3nm,0.7s,baz=180,slow=10,SNR=14							
XAN	**Xi'an**	**35.29**	**336**	P		**P**	**00 34 03.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.65**	**192**	P		**P**	**00 34 06.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**35.65**	**192**	P		**P**	**00 34 06.8**	**+0.5**
	5.3nm,0.4s,baz=24,slow=8.5,SNR=12							
BBOO	**Buckleboo**	**36.16**	**165**	*e*P		**P**	**00 34 10.3**	**-0.4**
	756nm,2.1s							
MJAR	**Matsushiro Arr**	**36.30**	**18**	P		**P**	**00 34 12.0**	**+0.1**
MJAR	**Matsushiro Arr**	**36.30**	**18**	P		**P**	**00 34 12.0**	**+0.1**
	9.0nm,0.7s,baz=197,slow=9.6,SNR=19							
MAJO	**Matsushiro**	**36.31**	**18**	*e*P		**P**	**00 34 12.4**	**+0.5**
	106nm,2.0s							
MAT	**Matsushiro**	**36.31**	**18**	P		**P**	**00 34 12.2**	**+0.3**
STKA	**Stephens Creek**	**37.14**	**157**	*e*P		**P**	**00 34 18.0**	**-1.0**
	18nm,2.6s							
STKA				pP		pP	00 35 04.3	+8.1
STKA	**Stephens Creek**	**37.14**	**157**	P		**P**	**00 34 19.1**	**+0.1**
	1.5nm,0.3s,baz=325,slow=7.5,SNR=6.7							
STKA				pP		pP	00 35 04.3	+8.1
	4.3nm,0.8s,baz=310,slow=7.7,SNR=4.8							
STKA	**Stephens Creek**	**37.14**	**157**	P		**P**	**00 34 20.0**	**+1.0**
	baz=37,SNR=4.9							
RKGY	**Rocky Gully**	**37.33**	**191**	P		**P**	**00 34 22.2**	**+1.7**
	baz=38,SNR=9.0							
CMSA	**Cobar Meteorol**	**38.64**	**152**	P		**P**	**00 34 33.4**	**+1.8**
	baz=39,SNR=8.2							
BJI	**Beijing**	**38.68**	**349**	P		**P**	**00 34 33.5**	**+1.7**
BJI				S		**S**	**00 40 19.0**	**+3.5**
BJI				pmax	pmax			
	comp=Z,4.0nm,1.1s							
BJI				pmax	pmax			
	comp=Z,150nm,5.3s							
BJI				LR	LR			
	comp=N,260nm,17.6s							
BJI				LR	LR			
	comp=E,330nm,14.8s							
BJI				LR	LR			
	comp=Z,48nm,20.8s							
LZH	**Lanzhou**	**39.24**	**332**	*e*P		**P**	**00 34 38.0**	**+1.3**
LZH				pP		**pP**	**00 35 13.5**	**-0.7**
LZH				sP		**sP**	**00 35 31.3**	**-2.8**
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
HHC	**Hu-ho-hao-te**	**40.55**	**344**	*e*P		**P**	**00 34 47.0**	**-0.3**
HHC				pP		**pP**	**00 35 23.0**	**-2.0**
HHC				sP		**sP**	**00 35 40.5**	**-4.3**
HHC				PcP		**PcP**	**00 36 47.5**	**+1.2**
HHC				PcS		**PcS**	**00 40 36.3**	**-0.9**
HHC				S		**S**	**00 40 44.8**	**+1.3**
HHC				pmax	pmax			
	comp=Z,58nm,0.7s							
HHC				pmax	pmax			
	comp=Z,350nm,7.8s							
HHC				LR	LR			
	comp=N,380nm,14.3s							
HHC				LR	LR			
	comp=E,360nm,13.3s							
HHC				LR	LR			
	comp=Z,210nm,13.9s							
ARMA	**Armidale**	**40.92**	**144**	*e*P		**P**	**00 34 52.1**	**+1.5**
	74nm,2.3s							
CN2	**Changchun**	**41.54**	**0**	*e*P		**P**	**00 34 57.5**	**+2.2**
USRK	**Ussuriysk Arra**	**42.36**	**7**	P		**P**	**00 35 03.4**	**+1.5**
	4.2nm,0.5s,baz=190,slow=6.7,SNR=11							
GTA	**Gaotai**	**43.81**	**331**	*e*P		**P**	**00 35 15.3**	**+1.5**
GTA				pP		**pP**	**00 35 50.8**	**-1.2**
GTA				sP		**sP**	**00 36 09.0**	**-2.7**
GTA				PcP		**PP**	**00 36 58.5**	**-1.0**
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ASAJ	**Asahikawa**	**44.58**	**18**	P		**P**	**00 35 21.6**	**+2.0**
ASAJ	**Asahikawa**	**44.58**	**18**	P		**P**	**00 35 21.6**	**+2.0**
	8.1nm,0.4s,baz=253,slow=8.0,SNR=4.7							
SONM	**Songino Array**	**48.42**	**343**	P		**P**	**00 35 49.6**	**-0.1**
SONM				pP		pP	00 36 37.8	+9.2
SONM				PcP		**PcP**	**00 37 11.1**	**-2.2**
SONM				ScP		**ScP**	**00 40 50.2**	**-1.3**
SONM	**Songino Array**	**48.42**	**343**	P		**P**	**00 35 49.6**	**-0.1**
	0.7nm,0.5s,baz=160,slow=9.2,SNR=7.6							
SONM				pP		pP	00 36 37.8	+9.2
	0.4nm,0.5s,baz=159,slow=10,SNR=4.1							
SONM				PcP		**PcP**	**00 37 11.1**	**-2.2**
	1.2nm,0.7s,baz=157,slow=4.3,SNR=5.9							
SONM				ScP		**ScP**	**00 40 50.2**	**-1.3**
	0.3nm,0.4s,baz=160,slow=4.7,SNR=4.5							
SONA1	**Songino Array**	**48.43**	**343**	*e*P		**P**	**00 35 49.2**	**-0.6**
WMQ	**Urumqi**	**53.28**	**327**	P		**P**	**00 36 27.0**	**+1.0**
WMQ				pmax	pmax			

ILAR	Eielson Array	87.19	25	P	P	00 39 50.2	-2.0	
ILAR	Eielson Array	87.19	25	P	P	00 39 50.2	-1.0	
	0.7nm,0.6s,baz=248,slow=4.8,SNR=15							
JOF	Joensuu	89.99	333	*ep*	P	00 40 02.6	-1.8	
	1.4nm,0.6s							
ARCES	ARCESS Array B	91.49	340	P	P	00 40 10.2	-1.1	
ARCES	ARCESS Array B	91.49	340	P	P	00 40 10.2	-1.1	
	6.8nm,1.1s,baz=75,slow=6.4,SNR=3.9							
AKASG	Malin Array Be	92.27	321	P	P	00 40 13.6	-1.6	
AKASG	Malin Array Be	92.27	321	P	P	00 40 13.6	-1.6	
	0.5nm,0.5s,baz=66,slow=4.2,SNR=5.0							
KAF	Kangasniemi	92.39	332	*ep*	P	00 40 14.1	-1.4	
	1.3nm,0.6s							
FINES	FINESS Array B	92.60	332	P	P	00 40 15.1	-1.5	
FINES	FINESS Array B	92.60	332	P	P	00 40 15.1	-1.5	
	1.2nm,0.5s,baz=55,slow=4.8,SNR=8.9							
YKA	Yellowknife Ar	101.58	24	P	Pdif	00 40 58.0	+1.0	
YKA	Yellowknife Ar	101.58	24	P	Pdif	00 40 58.0	+1.0	
	0.3nm,0.7s,baz=295,slow=4.2,SNR=5.7							
TORD	Torodi Ar. Bea	122.06	287	PKP	PKPdf	00 45 59.5	-0.3	
TORD	Torodi Ar. Bea	122.06	287	PKP	PKPdf	00 45 59.5	-0.3	
	1.0nm,0.7s,baz=82,slow=1.8,SNR=8.8							
SCHQ	Schefferville	122.40	8	PKP	PKPdf	00 45 59.6	+0.1	
SCHQ	Schefferville	122.40	8	PKP	PKPdf	00 45 59.6	+0.1	
	2.5nm,0.6s,baz=286,slow=2.0,SNR=7.3							
TXAR	Lajitas Array	123.72	52	PKP	PKPdf	00 46 03.6	+0.8	
TXAR	Lajitas Array	123.72	52	PKP	PKPdf	00 46 03.6	+0.8	
	0.3nm,0.7s,baz=222,slow=1.7,SNR=4.1							
JTS	JuntasAbangare	147.47	67	PKPbc	PKPbc	00 46 50.5	+0.9	
JTS	JuntasAbangare	147.47	67	PKPbc	PKPbc	00 46 50.5	+0.9	
	7.1nm,0.8s,baz=296,slow=8.0,SNR=4.6							

WEL 29 00:31:34.7±0.4, 38°57S×175°69E, h169km±3km, ML3.6/19, 13C-6D, Error ellipse: s-maj=2.8km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVZ	Karewarewa	0.53	184	Op PN		Pn	00 31 58.5	0.0
KRVZ				SN		Sn	00 32 15.5	-1.4
TWVZ	Taurewa	0.54	202	PN		Pn	00 31 58.5	0.0
TWVZ				SN		Sn	00 32 16.2	-0.7
WTVZ	West Tongariro	0.56	188	↑PN		Pn	00 31 58.6	0.0
WTVZ				SN		Sn	00 32 16.9	-0.2
OTVZ	Oturere	0.60	182	PN		Pn	00 31 58.8	0.0
OTVZ				SN		Sn	00 32 16.6	-0.9
NGZ	Ngauruhoe	0.61	187	PN		Pn	00 31 58.9	0.0
COVZ	Chateau Observ	0.64	190	↑PN		Pn	00 31 59.0	0.0
WPVZ	Whakapapa	0.65	190	PN		Pn	00 31 59.2	+0.1
FWVZ	Far West T-bar	0.70	189	PN		Pn	00 31 59.4	-0.1
TRVZ	Turoa	0.74	189	PN		Pn	00 31 59.7	0.0
WNVZ	Wahianoa	0.76	186	↑PN		Pn	00 31 59.8	0.0
PKVZ	Pokaka	0.77	200	PN		Pn	00 31 59.7	0.0
MTVZ	Mangateitei	0.84	192	PN		Pn	00 32 00.3	+0.1
MOVZ	Moawhango	0.84	177	PN		Pn	00 31 59.9	-0.3
BKZ	Black Stump Fm	0.86	134	↑PN		Pn	00 32 00.1	-0.2
BKZ				AML		AML	00 32 17.9	
BKZ				AML		AML	00 32 19.5	
BHHZ	Black Hill Sta	0.96	163	↑PN		Pn	00 32 00.8	-0.3
NMHZ	Naumai	1.02	122	PN		Pn	00 32 02.2	+0.7
RAHZ	Arahi	1.14	108	PN		Pn	00 32 02.9	+0.4
URZ	Urewera	1.15	75	PN		Pn	00 32 02.0	-0.5
URZ				AML		AML	00 32 23.1	
MCHZ	McNeill Hill	1.17	139	PN		Pn	00 32 03.4	+0.7
MCHZ				SN		Sn	00 32 22.5	-1.9
PNHZ	Pukenui	1.40	164	PN		Pn	00 32 04.6	-0.2
MWZ	Matawai	1.46	81	PN		Pn	00 32 05.3	-0.1
TSZ	Takapari Road	1.51	172	↑PN		Pn	00 32 05.6	-0.2
CKHZ	Cape Kidnapper	1.53	136	PN		Pn	00 32 06.4	+0.4
KAHZ	Kahuranaki	1.53	144	PN		Pn	00 32 06.3	+0.2
WPHZ	Waipukurau	1.60	159	↑PN		Pn	00 32 06.6	-0.2
KNZ	Kokohu	1.61	107	PN		Pn	00 32 06.8	+0.1
RIGZ	Rimuhau	1.63	96	PN		Pn	00 32 07.2	+0.1
PXZ	Pawanui	1.72	149	↑PN		Pn	00 32 07.8	-0.1
PXZ				AML		AML	00 32 32.4	
DVHZ	Dannevirke	1.77	168	PN		Pn	00 32 07.8	-0.7
MHGZ	Mahia Peninsul	1.82	109	PN		Pn	00 32 09.4	+0.3
POWZ	Post Office Ro	1.82	178	PN		Pn	00 32 08.4	-0.7
HAZ	Te Kaha	1.83	64	PN		Pn	00 32 08.4	-0.8
PRHZ	Porangahau	1.85	157	↑PN		Pn	00 32 09.0	-0.3
PRWZ	Pori Road	2.00	174	PN		Pn	00 32 10.5	-0.4
PUZ	Puketiti	2.08	77	⇓PN		Pn	00 32 11.4	-0.4
MRZ	Mangatainoka R	2.10	182	↑PN		Pn	00 32 11.0	-1.0
MRZ				AML		AML	00 32 39.6	
BFZ	Birch Farm	2.15	169	PN		Pn	00 32 11.9	-0.8
OGWZ	Otaki Gorge	2.28	190	PN		Pn	00 32 13.3	-0.9
MXZ	Matakaoa Point	2.29	65	PN		Pn	00 32 14.4	+0.1
HOWZ	Holdsworth Sta	2.33	183	PN		Pn	00 32 13.4	-1.3
KIW	Kapiti Island	2.37	195	PN		Pn	00 32 13.9	-1.3
CPWZ	Castlepoint	2.37	171	⇓PN		Pn	00 32 14.7	-0.5
TMWZ	Te Maipa	2.54	177	⇓PN		Pn	00 32 16.0	-1.3
CAW	Cannon Point	2.58	191	PN		Pn	00 32 16.5	-1.3
MTW	Mount Morrison	2.59	183	PN		Pn	00 32 16.2	-1.6
DUWZ	D'Urville Isla	2.62	211	⇓PN		Pn	00 32 16.9	-1.3
PAWZ	Paruwai Farm	2.82	184	PN		Pn	00 32 18.8	-1.8
SNZO	South Karori	2.84	195	PN		Pn	00 32 19.0	-1.8
TCW	Tory Channel	2.86	202	⇓PN		Pn	00 32 19.5	-1.5
MSWZ	Moikau Station	2.87	187	↑PN		Pn	00 32 19.3	-1.8
BHW	Baring Head	2.91	192	PN		Pn	00 32 19.7	-1.9
PLWZ	Palliser	3.02	186	↑PN		Pn	00 32 20.9	-2.1
TUWZ	Tuamarina	3.16	205	PN		Pn	00 32 23.1	-1.7
NNZ	Nelson	3.19	213	⇓PN		Pn	00 32 23.3	-1.8
QRZ	Quartz Range	3.33	226	PN		Pn	00 32 24.8	-2.0
BSWZ	Blackbirch Sta	3.44	203	PN		Pn	00 32 26.7	-1.6
THZ	Tophouse	3.84	213	PN		Pn	00 32 31.8	-1.7
KHZ	Kahutara	4.18	202	↑PN		Pn	00 32 35.7	-1.9
DSZ	Denniston Nort	4.36	222	PN		Pn	00 32 37.4	-2.7
LTZ	Lake Taylor	4.95	211	PN		Pn	00 32 45.0	-2.7

*ISCJB **29** 00:48:09.4±0.2, 6°75N±0°02×72°95W±0°02, h161km±2km, mb4.6/80, Error ellipse: s-maj=4.3km s-min=3.4km az=137.5*

*IDC **29** 00:48:10.3±0.5, 6°77N×72°90W, h153km±5km, mb3.8/18, mb1 3.9/22, mb1mx3.7/44, mbtmp4.2/22, Error ellipse: s-maj=10.9km s-min=8.8km az=80.0*

*FUNV **29** 00:48:10.7, 6°79N×73°11W, h164km, MW4.4*

*NEIC **29** 00:48:10.4±0.3, 6°71N×72°98W, h158km±3km, mb4.7/65, Error ellipse: s-maj=4.5km s-min=3.9km az=70.0*

NEIC Felt at Bucaramanga and Cucuta.

ISC 29 00:48:10.1±0.4, 6.76N±0°03×72°99W±0°04, h156km±3km, h156km:pP-P,n413,σ1913/459, mb4.6/81, 113C-122D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUSC	La Rusia	0.83	186	*i* P		Pn	00 48 34.9	+0.2
RUSC				*e*S		Sn	00 48 53.3	-0.2
CAPV	Capacho	1.29	31	⇓*i*P		Pn	00 48 39.4	+1.1
CAPV				*e*S		Sn	00 49 00.2	+0.3
OCAC	Ocana	1.50	348	*i* P		Pn	00 48 39.8	-0.6
OCAC				*e*S		Sn	00 49 01.9	-1.8
CHIC	Chingaza	2.24	199	*i* P		Pn	00 48 49.0	+0.2
CHIC				*e*S		Sn	00 49 18.4	-0.3
ROSC	El Rosal	2.31	215	*e*Pn		Pn	00 48 51.1	+1.3
ROSC				*e*Sn		Sn	00 49 19.1	-1.1
ROSC	El Rosal	2.31	215	P		Pn	00 48 51.2	+1.5
	140nm,0.3s,baz=288,slow=14,SNR=556							
ROSC				S		Sn	00 49 21.8	+1.6
	334nm,0.3s,baz=106,slow=22,SNR=15							
HELC	Santa Helena	2.59	259	*e*P		Pn	00 48 51.8	-1.3
HELC				*e*S		Sn	00 49 22.3	-3.9
SOCV	Socops	2.60	54	⇓*i*P		Pn	00 48 53.5	+0.7
SOCV				*e*S		Sn	00 49 24.8	-1.0
SDV	Santo Domingo	3.15	48	*e*Pn		Pn	00 49 01.0	+1.2
SDV				*e*Sn		Sn	00 49 38.1	-0.3
ELOV	Elorza	3.49	86	⇓*i*P		Pn	00 49 05.5	+1.5
ELOV				*e*S		Sn	00 49 45.6	-0.2
PRAC	Prado	3.59	212	*e*P		Pn	00 49 04.7	-0.7
PRAC				*e*S		Sn	00 49 46.4	-1.8
VIRV	Villa del Rosa	3.76	9	*e*P		Pn	00 49 06.3	-1.2
VIRV				*e*S		Sn	00 49 47.7	-4.4
QARV	Quebrada Arrib	4.21	35	⇓*i*P		Pn	00 49 13.8	+0.5
QARV				*e*S		Sn	00 50 00.1	-2.4
SANV	Sanarito	4.37	51	⇓*e*P		Pn	00 49 15.6	+0.1
CURV	Curarigua	4.41	43	⇓*e*P		Pn	00 49 16.2	+0.3
DABV	Dabajuro	4.75	29	⇓*e*P		Pn	00 49 20.6	+0.3
TEPV	Terepaima	4.93	49	⇓*i*P		Pn	00 49 23.0	+0.3
SIQV	Siquisique	4.98	39	⇓*e*P		Pn	00 49 23.3	-0.2
BAUV	El Baul	5.36	66	⇓*i*P		Pn	00 49 27.6	-0.8
MAPV	Macapo	5.43	55	⇓*i*P		Pn	00 49 29.6	+0.2
JACV	Jacura	5.95	43	*e*P		Pn	00 49 36.3	+0.1
MONV	Montecano	5.96	30	*e*P		Pn	00 49 35.4	-1.0
TURV	Turiamo	6.28	54	*e*P		Pn	00 49 40.4	-0.2
FUNV	FUNVISIS	7.14	58	⇓*e*P		Pn	00 49 51.5	-0.6
BCIP	Isla Barro Col	7.19	290	*e*Pn		Pn	00 49 49.5	-3.3
CUPV	Cepira	7.84	65	⇓*e*P		Pn	00 50 00.7	-0.8
OTAV	Otavalo	8.46	220	*e*Pn		Pn	00 50 10.7	+0.5
OTAV				*e*Sn		Sn	00 51 42.8	-2.0
PRGV	PARIAGUAN	8.51	76	*e*P		Pn	00 50 09.5	-0.8
PCRV	Puerto La Cruz	8.93	67	*e*P		Pn	00 50 14.8	-1.2
RIOV	Rio Grande	11.16	83	*e*P		Pn	00 50 43.3	-2.1
MTDJ	Mount Denham	12.23	339	*e*Pn		Pn	00 51 01.0	+1.7
MTDJ				*e*Sn		Sn	00 53 11.6	-3.2
SDDR	Presa de Saban	12.26	8	*e*Pn		P	00 51 03.1	-2.5
JTS	JuntasAbangare	12.34	287	*e*Pn		Pn	00 51 01.9	+1.2
JTS	JuntasAbangare	12.34	287	P		Pn	00 51 02.6	+1.9
	0.6nm,0.3s,baz=258,slow=20,SNR=2.9							
GRGR	Grenville	12.39	64	*e*Pn		Pn	00 51 00.6	-0.8
CRPR	Cabo Rojo, PR	12.56	27	*e*Pn		P	00 51 07.0	-2.0
GTBY	Guantanamo Bay	13.25	351	*e*Pn		Pn	00 51 12.0	-0.4
CBYP	Canovanas	13.39	31	*e*Pn		Pn	00 51 13.1	-1.1
CDVI	St. Croix	13.56	36	*e*Pn		Pn	00 51 17.4	+1.2
ATAH	Atahualpa	14.82	201	P		P	00 51 34.3	-0.2
ATAH	Atahualpa	14.82	201	P		P	00 51 34.3	-0.2
	0.2nm,0.3s,baz=70,slow=12,SNR=2.3							
PTGA	Pitinga	14.98	119	*e*Pn		Pn	00 51 34.5	+0.4
PTGA				*e*Sn		Sn	00 54 14.5	-6.3
PTGA	Pitinga	14.98	119	P		Pn	00 51 34.0	-0.1
	0.5nm,0.3s,baz=302,slow=12,SNR=5.2							
PTGA				S		Sn	00 54 17.9	-2.9
	0.7nm,0.3s,baz=91,slow=8.0,SNR=4.7							
SAML	Samuel	18.41	148	*e*P		P	00 52 14.3	+0.7
	1.9nm,0.6s							
SAML				*e*S		Sn	00 55 40.2	-2.8
PAYG	Puerto Ayora	18.77	247	*e*P		P	00 52 17.5	-0.1
	57nm,1.0s							
TEIG	Tepich	19.98	314	*e*P		P	00 52 31.9	+1.4
	161nm,2.0s							
TEIG	Tepich	19.98	314	P		P	00 52 31.9	+1.4
	12nm,0.5s,baz=45,slow=4.3,SNR=11							
LPAZ	La Paz	23.40	168	*e*P		P	00 53 05.8	0.0
	9.1nm,1.0s							
LPAZ					pP	pP	00 53 36.3	+0.7
LPAZ	La Paz	23.40	168	P		P	00 53 06.1	+0.2
	0.9nm,0.3s,baz=46,slow=2.2,SNR=4.8							
LPAZ					pP	pP	00 53 36.3	+0.7
	6.4nm,0.8s,baz=342,slow=13,SNR=8.1							
SIV	San Ignacio	25.50	153	P		P	00 53 24.4	+0.1
SIV					pP	pP	00 53 56.7	0.0
SIV	San Ignacio	25.50	153	P		P	00 53 24.4	+0.1
	1.0nm,0.6s,baz=330,slow=12,SNR=3.2							
SIV					pP	pP	00 53 56.7	0.0
	1.9nm,0.7s,baz=328,slow=13,SNR=3.7							
NHSC	New Hope	27.05	347	*e*P		P	00 53 38.1	+0.1
	120nm,1.8s							
GOGA	Godfrey	28.25	341	*e*P		P	00 53 48.1	-0.5
	24nm,1.8s							
KMSC	Kings Mountain	29.27	346	↑P		P	00 53 58.9	+1.2
	baz=29							
WVT	Waverly	32.24	337	*e*P		P	00 54 25.0	+1.2
	11nm,0.4s							
833A	Chaparral WMA,	32.92	314	⇓P		P	00 54 30.3	+0.5
	baz=33							
BDFB	Brasilia	33.28	132	P		P	00 54 32.7	-0.5
BDFB	Brasilia	33.28	132	P		P	00 54 32.7	-0.5
	1.8nm,0.5s,baz=21,slow=5.8,SNR=4.5							
534A	Blanco	33.31	317	⇓P		P	00 54 33.4	+0.2
	baz=33							
WCI	Wyandotte Cave	33.57	341	*e*P		P	00 54 36.4	+1.0
	11nm,0.6s							
434A	Burnet	33.67	319	⇓P		P	00 54 36.5	+0.1
	baz=34							
334A	Lometa	33.99	319	↑P		P	00 54 39.3	+0.3
	baz=34							
433A	Art	34.18	318	⇓P		P	00 54 40.8	+0.1
	baz=34,SNR=7.2							
532A	Rocksprings	34.35	316	↑P		P	00 54 42.6	+0.4
	baz=34							
333A	Richland Sprin	34.47	318	⇓P		P	00 54 43.6	+0.4
	baz=35							
134A	White-Moore Ra	34.71	321	↑P		P	00 54 45.8	+0.6
	baz=35							
531A	Rocksprings	34.81	315	⇓P		P	00 54 46.7	+0.5
	baz=35							
233A	Rising Star	34.86	320	↑P		P	00 54 47.2	+0.6
	baz=35							
332A	Millersview	35.01	318	⇓P		P	00 54 48.3	+0.5
	baz=35							
133A	Hamilton Ranch	35.26	320	↑P		P	00 54 50.9	+0.9
	baz=35							
232A	Coleman	35.26	319	⇓P		P	00 54 50.8	+0.7
	baz=35							
530A	J-C Ranch, Com	35.36	315	⇓P		P	00 54 51.7	+0.8
	baz=36							
BINY	Binghamton	35.39	356	*e*P		P	00 54 52.2	+1.2
	198nm,2.2s							
Y34A	Reagan Ranch,	35.45	323	↑P		P	00 54 52.7	+1.1
	baz=36							
Z33A	Whitaker Ranch	35.61	321	⇓P		P	00 54 54.1	+1.1
	baz=36							
ABTX	Abilene, Hawle	35.73	320	*e*P		P	00 54 53.9	-0.2
	26nm,1.9s							
ABTX	Abilene, Hawle	35.73	320	↑P		P	00 54 54.7	+0.6
	baz=36							
TUL1	Tulsa	35.76	327	*e*P		P	00 54 54.2	0.0
	7.2nm,0.8s							
TUL1	Tulsa	35.76	327	↑P		P	00 54 54.5	+0.3
	baz=36							
SFIN	Scholer Farm	35.78	341	↑P		P	00 54 55.5	+1.3
	baz=36							
X34A	Smith Ranch, M	35.95	324	⇓P		P	00 54 57.0	+1.2
	baz=36							
Y33A	Hilltop Ranch,	36.01	322	↑P		P	00 54 57.3	+0.9
	baz=36							
429A	Davenport Ranc	36.03	315	↑P		P	00 54 57.3	+0.7
	baz=36							
Z32A	Haskell	36.07	321	⇓P		P	00 54 57.8	+0.9
	baz=36							
X33A	Lawton	36.30	323	↑P		P	00 54 59.1	+0.3
	baz=36							
W34A	Bridge Creek,	36.36	325	↑P		P	00 54 59.8	+0.5
	baz=36							
528A	Cox Ranch, San	36.40	314	↑P		P	00 55 00.1	+0.2
	baz=36							
627A	Terlingua Ranc	36.46	312	⇓P		P	00 55 00.8	+0.5
	baz=37,SNR=5.0							
Y32A	R-V Farms, Ver	36.51	322	↑P		P	00 55 01.6	+1.0
	baz=37							
329A	Wagon Wheel Ra	36.59	316	↑P		P	00 55 02.0	+0.6
	baz=37							
TXAR	Lajitas Array	36.60	312	P		P	00 55 02.2	+0.7
TXAR					PcP	PcP	00 57 23.1	+1.6
TXAR	Lajitas Array	36.60	312	P		P	00 55 02.2	+0.7
	0.9nm,0.4s,baz=126,slow=9.1,SNR=19							
TXAR					PcP	PcP	00 57 23.1	+1.6
	0.8nm,0.6s,baz=133,slow=5.4,SNR=8.4							
TX31	Lajitas Ar. Si	36.60	312	*e*P		P	00 55 01.9	+0.4
428A	Kincaid Ranch,	36.64	314	⇓P		P	00 55 03.2	+1.4
	baz=37							
X32A	Elmer	36.69	322	↑P		P	00 55 03.1	+1.0
	baz=37							
229A	Bryant Ranch,	36.76	317	⇓P		P	00 55 03.9	+1.1
	baz=37							
527A	Woodward Ranch	36.99	313	⇓P		P	00 55 06.0	+1.1
	baz=37							
Y31A	Rekieta Farm,	36.99	321	↑P		P	00 55 05.9	+1.2
	baz=37,SNR=6.5							
626A	Big Bend Ranch	37.06	312	⇓P		P	00 55 06.8	+1.4
	baz=37							
V33A	Lossen Ranch,	37.07	325	↑P		P	00 55 05.8	+0.5
	baz=37							
U34A	Anderson Ranch	37.09	326	⇓P		P	00 55 05.9	+0.4
	baz=37							
328A	Wristen Ranch,	37.10	315	↑P		P	00 55 06.3	+0.6
	baz=37							
Z30A	Sanderson Ranc	37.11	319	↑P		P	00 55 06.6	+0.8
	baz=37							
W32A	Sentinel	37.15	323	↑P		P	00 55 06.8	+0.8
	baz=37							
427A	Hayter Ranch,	37.22	314	↑P		P	00 55 07.4	+0.6
	baz=37							
X31A	McDonald Ranch	37.26	322	↑P		P	00 55 07.4	+0.5
	baz=37							
526A	Mary Lane Ranc	37.30	312	⇓P		P	00 55 08.4	+1.0
	baz=37							
Y30A	Stafford Cattl	37.34	320	⇓P		P	00 55 08.0	+0.4
	baz=38							
Z29A	Hungry Hill Ra	37.48	319	↑P		P	00 55 09.1	+0.3
	baz=38,SNR=5.5							
426A	McDonald Obser	37.58	313	⇓P		P	00 55 10.8	+0.9
	baz=38,SNR=5.2							
128A	Castleberry Fa	37.61	317	⇓P		P	00 55 10.8	+0.8
	baz=38,SNR=6.8							
W31A	Holland Ranch,	37.61	323	⇓P		P	00 55 10.0	+0.1
	baz=38,SNR=5.1							
X30A	Coker Ranch, T	37.69	321	↑P		P	00 55 11.6	+1.0
	baz=38							
Y29A	Porterfield Fa	37.83	319	⇓P		P	00 55 12.7	+0.9
	baz=38							
U32A	Winter Ranch,	37.88	325	↑P		P	00 55 12.4	+0.3
	baz=38							
EMMW	East Machias	38.11	6	*e*P		P	00 55 15.3	+1.5
	81nm,1.4s							
X29A	Tulia	38.22	320	↑P		P	00 55 16.1	+1.1
	baz=38							
Y28A	McKinney Farm,	38.23	319	↑P		P	00 55 16.0	+0.8
	baz=38							
425A	Indio Mountain	38.33	313	⇓P		P	00 55 16.9	+0.7
	baz=38							
AMTX	Amarillo	38.48	321	↑P		P	00 55 18.4	+1.1
	baz=39							
PKME	Peaks-Kenny Pk	38.49	4	*e*P		P	00 55 15.4	-1.6
	196nm,2.3s							
Z27A	Tatum	38.51	317	⇓P		P	00 55 17.9	+0.3
	baz=39,SNR=5.8							
KSU1	Kansas State U	38.60	330	↑P		P	00 55 18.6	+0.5
	baz=39							
MSTX	Muleshoe	38.61	319	⇓P		P	00 55 19.1	+0.7
	baz=39							
Y27A	Causey	38.82	318	⇓P		P	00 55 20.8	+0.7
	baz=39							
Z26A	Caprock	39.00	317	↑P		P	00 55 22.3	+0.7
	baz=39,SNR=7.8							
V29A	Stinnett	39.02	322	↑P		P	00 55 23.2	+1.4
	baz=39							
JFWS	Jewell Farm	39.10	340	*e*P		P	00 55 21.9	-0.2
	25nm,0.6s							
MNTX	Cornudas Mount	39.11	314	*e*P		P	00 55 23.1	+0.7
	2.3nm,0.6s							
125A	Gardner Draw,	39.12	315	↑P		P	00 55 23.6	+1.0
	baz=39							
Q33A	Connelly Farm,	39.14	329	⇓P		P	00 55 23.7	+1.1
	baz=39							
X27A	F and S Farms,	39.24	319	↑P		P	00 55 24.5	+0.9
	baz=39							
Y26A	Elida	39.28	318	↑P		P	00 55 24.9	+0.9
	baz=39							
SCIA	State Center	39.34	336	*e*P		P	00 55 24.3	+0.1
	18nm,0.6s							
W27A	Bowe Ranch, En	39.47	320	↑P		P	00 55 26.4	+0.9
	baz=40							
Z25A	Roswell	39.51	316	⇓P		P	00 55 27.3	+1.4
	baz=40							
Q32A	Meitler Ranch,	39.52	328	⇓P		P	00 55 25.9	+0.2
	baz=40							
R31A	Burdett	39.53	326	⇓P		P	00 55 26.3	+0.5
	baz=40							
X26A	CR and CF Fran	39.65	318	⇓P		P	00 55 28.1	+1.1
	baz=40							
V27A	Dan Oppiter Fa	39.77	321	↑P		P	00 55 28.9	+0.9
	baz=40							
U28A	Mallet	39.79	322	⇓P		P	00 55 29.0	+0.9
	baz=40							
Y25A	Mesa, Roswell	39.87	317	↑P		P	00 55 29.8	+1.0
	baz=40							
R30A	Dighton	39.94	326	⇓P		P	00 55 29.8	+0.6
	baz=40							
W26A	Owens Ranch, T	39.94	319	⇓P		P	00 55 30.5	+1.1
	baz=40							
S29A	Ulysses	39.95	324	↑P		P	00 55 30.4	+1.0
	baz=40							
Z24A	Sheeppen Canyo	39.99	316	⇓P		P	00 55 30.9	+1.0
	baz=40							
U27A	Thompson Grove	40.18	322	⇓P		P	00 55 32.6	+1.2
	baz=40							
X25A	Clemmons Ranch	40.20	318	↑P		P	00 55 32.7	+1.1
	baz=40							
T28A	Walsh	40.20	323	↑P		P	00 55 32.7	+1.1
	baz=40							
Y24A	Capitan	40.37	316	↑P		P	00 55 34.2	+1.2
	baz=40,SNR=5.3							
S28A	Manter	40.39	324	⇓P		P	00 55 33.7	+0.7
	baz=40,SNR=5.4

PV01	Paradox Valley	44.86	319	*e*P	P	00 56 10.7	+1.4
F30A	Leola	44.97	334	⇑P	P	00 56 09.7	0.0
	baz=45,SNR=5.3						
H28A	Mission Ridge	44.98	332	⇓P	P	00 56 09.8	0.0
	baz=45						
I27A	Quinn	45.02	330	⇑P	P	00 56 10.6	+0.3
	baz=45						
PV05	Paradox Valley	45.17	319	*e*P	P	00 56 12.1	+0.4
PV04	Paradox Valley	45.22	320	*e*P	P	00 56 12.6	+0.5
G28A	Parade	45.23	332	⇓P	P	00 56 12.1	+0.3
	baz=45						
PV09	Paradox Valley	45.43	319	*e*P	P	00 56 15.4	+1.6
E30A	Jud	45.45	335	⇓P	P	00 56 14.0	+0.5
	baz=46						
AGMN	Agassiz Nation	45.73	339	*e*P	P	00 56 15.7	+0.1
	9.0nm,0.6s						
AGMN	Agassiz Nation	45.73	339	⇑P	P	00 56 16.1	+0.5
	baz=46,SNR=7.2						
TRQA	Tornquist	45.75	168	*e*P	P	00 56 13.8	-2.2
	52nm,2.8s						
F28A	McLaughlin	45.76	333	⇑P	P	00 56 16.7	+0.7
	baz=46						
Y14A	Wickenburg	45.78	312	⇑P	P	00 56 17.4	+1.0
	baz=46						
E29A	Napoleon	45.81	334	⇑P	P	00 56 16.8	+0.5
	baz=46						
D30A	Buchanan	45.87	336	⇓P	P	00 56 16.9	+0.2
	baz=46						
G27A	Dupree	45.93	332	⇓P	P	00 56 17.6	+0.2
	baz=46						
K23A	Bowen Ranch, D	45.97	326	⇑P	P	00 56 19.1	+1.3
	baz=46						
RSSD	Black Hills	46.06	329	*e*P	P	00 56 19.5	+0.9
	11nm,1.6s						
D29A	Pettibone, Tap	46.18	335	⇑P	P	00 56 19.7	+0.5
	baz=46						
I24A	Kuemmerle Ranc	46.18	328	⇓P	P	00 56 20.3	+0.9
	baz=46						
G26A	Maurine	46.19	331	⇓P	P	00 56 19.2	-0.2
	baz=46						
H25A	Fruitdale	46.19	330	⇑P	P	00 56 19.8	+0.4
	baz=46						
C30A	Mose, Pekin	46.23	336	⇑P	P	00 56 20.0	+0.4
	baz=46,SNR=5.9						
N20A	Spence Gulch,	46.26	323	⇑P	P	00 56 22.0	+1.8
	baz=46						
E28A	Huff	46.27	334	⇓P	P	00 56 20.8	+0.8
	baz=46						
F27A	Lemmon	46.34	332	⇓P	P	00 56 21.2	+0.6
	baz=46,SNR=5.9						
U15A	North Rim	46.45	315	⇓P	P	00 56 23.7	+1.8
	baz=47						
E27A	Carson	46.55	333	⇓P	P	00 56 23.3	+1.1
	baz=47,SNR=5.7						
F26A	Lodgepole	46.63	332	⇑P	P	00 56 23.1	+0.3
	baz=47						
SRU	San Rafael	46.67	319	*e*P	P	00 56 24.6	+1.2
	32nm,2.4s						
D28A	Regan	46.70	334	⇑P	P	00 56 24.0	+0.7
	baz=47						
B30A	Myrvik Farm, E	46.78	337	⇑P	P	00 56 24.8	+0.9
	baz=47						
K21A	Alcova	46.79	325	⇓P	P	00 56 25.5	+1.2
	baz=47,SNR=5.8						
J22A	Midwest	46.87	327	⇑P	P	00 56 25.5	+0.7
	baz=47						
E26A	Carlson Angus	46.99	332	⇑P	P	00 56 26.1	+0.5
	baz=47						
D27A	Center	47.05	334	⇑P	P	00 56 27.3	+1.3
	baz=47						
KNB	Kanab	47.12	316	*e*P	P	00 56 27.8	+0.9
	31nm,2.3s						
A30A	Hoffart Farm,	47.17	337	⇑P	P	00 56 27.0	+0.2
	baz=47,SNR=5.5						
I22A	9 Mile Ranch,	47.19	327	⇑P	P	00 56 28.1	+0.8
	baz=47						
B29A	Wagenman Farm,	47.19	336	⇑P	P	00 56 27.8	+0.8
	baz=47,SNR=10						
J21A	Lysite	47.36	326	⇓P	P	00 56 29.5	+0.8
	baz=48						
ULM	Lac du Bonnet	47.39	340	*e*P	P	00 56 28.2	-0.2
	8.9nm,0.7s						
ULM	Lac du Bonnet	47.39	340	P	P	00 56 28.3	-0.2
	10nm,0.4s,baz=144,slow=7.1,SNR=34						
D26A	Manning	47.40	333	⇑P	P	00 56 29.2	+0.5
	baz=48,SNR=5.4						
E25A	Miller Ranch,	47.45	332	⇑P	P	00 56 29.7	+0.6
	baz=48						
MVU	Marysvale	47.46	318	*e*P	P	00 56 30.8	+1.2
	50nm,2.6s						
SWSC	Sam W. Stewart	47.47	309	⇑P	P	00 56 29.8	+0.4
	baz=48						
F24A	Ekalaka	47.48	330	⇑P	P	00 56 29.8	+0.4
	baz=48						
IRM	Iron Mountain	47.48	311	⇓P	P	00 56 29.0	-0.6
	baz=48						
BC3	Big Chuckawall	47.50	310	⇑P	P	00 56 29.8	0.0
	baz=48						
C27A	Sayler Ranch,	47.50	334	⇓P	P	00 56 30.6	+1.1
	baz=48						
A29A	Manning Farm,	47.51	337	⇓P	P	00 56 29.9	+0.4
	baz=48						
I21A	Big Trails, Te	47.58	326	⇑P	P	00 56 31.3	+1.0
	baz=48						
B28A	Dugan Ranch, T	47.59	336	⇓P	P	00 56 31.1	+1.0
	baz=48						
J20A	Shoshoni	47.72	325	⇓P	P	00 56 32.7	+1.3
	baz=48,SNR=5.5						
C26A	Wahner Farm, P	47.85	334	⇓P	P	00 56 33.4	+1.3
	baz=48,SNR=5.1						
DAU	Daniels Canyon	47.86	320	*e*P	P	00 56 33.9	+1.1
D25A	Fairfield	47.89	332	⇓P	P	00 56 33.6	+1.1
	baz=48						
H21A	Big Horn, Sher	47.98	327	⇑P	P	00 56 34.1	+0.7
	baz=48						
G22A	Birney	47.98	329	⇓P	P	00 56 34.3	+1.0
	baz=48						
I20A	Worland	48.13	326	⇓P	P	00 56 35.2	+0.7
	baz=48,SNR=5.1						
SCHQ	Schefferville	48.19	5	*e*P	P	00 56 35.7	+1.1
SCHQ	Schefferville	48.19	5	P	P	00 56 35.9	+1.2
	16nm,0.7s,baz=198,slow=8.6,SNR=39						
BW06	Boulder Array	48.20	324	*e*P	P	00 56 35.7	+0.5
	6.2nm,1.4s						
PDAR	Pinedale Array	48.20	324	P	P	00 56 35.6	+0.4
PDAR				PcP	PcP	00 57 60.0	-0.1
PDAR	Pinedale Array	48.20	324	P	P	00 56 35.6	+0.4
	1.7nm,0.5s,baz=126,slow=9.4,SNR=24						
PDAR				PcP	PcP	00 57 60.0	-0.1
	0.6nm,0.6s,baz=129,slow=4.4,SNR=3.5						
J19A	Crowheart	48.22	325	⇓P	P	00 56 36.1	+0.8
	baz=48						
D24A	Glendive	48.34	332	⇓P	P	00 56 36.9	+1.0
	baz=48,SNR=7.2						
F22A	Rosebud	48.34	329	⇓P	P	00 56 36.8	+0.7
	baz=48,SNR=5.1						
TCUT	Toone Canyon	48.35	321	*e*P	P	00 56 37.2	+0.8
	178nm,0.4s						
H20A	Greybull	48.40	327	⇓P	P	00 56 36.9	+0.3
	baz=48,SNR=5.5						
G21A	Lodge Grass	48.46	328	⇑P	P	00 56 37.3	+0.3
	baz=49						
A26A	Wade Farm, Ken	48.64	335	⇓P	P	00 56 39.3	+1.1
	baz=49						
E22A	Miles City	48.64	330	⇓P	P	00 56 38.6	+0.3
	baz=49						
B25A	Knox Farm, Ray	48.65	333	⇓P	P	00 56 40.3	+2.0
	baz=49						
I19A	Meeteetse	48.66	326	⇑P	P	00 56 39.6	+0.9
	baz=49						
C24A	Savage	48.68	332	⇓P	P	00 56 40.0	+1.5
	baz=49						
DUG	Dugway	48.74	319	*e*P	P	00 56 40.4	+1.1
	28nm,2.3s						
DUG	Dugway	48.74	319	⇑P	P	00 56 41.3	+2.0
	baz=49						
D23A	Lindsay	48.80	331	⇑P	P	00 56 40.8	+1.3
	baz=49						
F21A	Absaloka Mine,	48.82	329	⇑P	P	00 56 40.6	+0.9
	baz=49						
LAO	LASA Array	48.95	330	*e*P	P	00 56 39.7	-1.0
	63nm,2.3s						
G20A	Bridger	48.99	327	⇑P	P	00 56 41.2	+0.1
	baz=49,SNR=5.1						
H19A	Powell	49.06	326	⇑P	P	00 56 42.5	+0.9
	baz=49						
A25A	Svangstu Ranch	49.13	334	⇑P	P	00 56 43.4	+1.4
	baz=49						
GSC	Goldstone	49.20	312	⇑P	P	00 56 43.5	+0.7
	baz=49						
C23A	Lambert	49.23	332	⇓P	P	00 56 44.0	+1.2
	baz=49,SNR=5.0						
D22A	Cohagen	49.25	330	⇑P	P	00 56 44.3	+1.4
	baz=49,SNR=6.4						
DGMT	Dagmar	49.26	333	*e*P	P	00 56 43.9	+0.9
	29nm,0.6s						
DGMT	Dagmar	49.26	333	⇓P	P	00 56 44.5	+1.5
	baz=49,SNR=12						
BGU	Big Grassy Mou	49.27	320	*e*P	P	00 56 44.0	+0.7
	2.6nm,0.6s						
E21A	Keefer Ranch,	49.28	329	⇓P	P	00 56 44.1	+1.0
	baz=49						
REDW	Red Top Meadow	49.32	324	*e*P	P	00 56 44.7	+0.9
	6.1nm,0.5s						
LOHW	Long Hollow	49.32	324	*e*P	P	00 56 44.9	+1.1
	3.4nm,0.6s						
F20A	Billings	49.34	328	⇓P	P	00 56 44.7	+1.0
	baz=50,SNR=9.8						
BFSC	Mount Baldy Ra	49.41	310	⇓P	P	00 56 44.8	+0.3
	baz=50						
H18A	Shoshone NF, C	49.44	326	⇓P	P	00 56 45.0	+0.4
	baz=50						
MOOW	Moose Ponds	49.49	324	*e*P	P	00 56 45.5	+0.5
	26nm,2.3s						
RLMT	Red Lodge	49.50	327	*e*P	P	00 56 45.8	+0.7
	51nm,2.6s						
A24A	Westby	49.51	333	⇑P	P	00 56 46.7	+1.9
	baz=50,SNR=5.1						
C22A	Vida	49.53	331	⇑P	P	00 56 46.3	+1.3
	baz=50,SNR=6.9						
HVU	Hansel Valley	49.58	321	*e*P	P	00 56 46.0	+0.4
	22nm,2.1s						
FXWY	Fox Creek	49.59	324	*e*P	P	00 56 46.2	+0.4
	38nm,3.0s						
D21A	La Casta Ranch	49.60	330	⇓P	P	00 56 47.0	+1.5
	baz=50,SNR=5.3						
B23A	Brockton	49.62	332	⇓P	P	00 56 47.7	+2.0
	baz=50,SNR=8.1						
R11A	Troy Canyon, C	49.68	316	*e*P	P	00 56 47.5	+1.1
	13nm,2.0s						
R11A	Troy Canyon, C	49.68	316	⇓P	P	00 56 47.8	+1.3
	baz=50						
IMW	Indian Meadow	49.69	324	*e*P	P	00 56 47.3	+0.7
	3.6nm,0.6s						
E20A	Meyer Farm, Mu	49.79	329	⇓P	P	00 56 48.4	+1.3
	baz=50,SNR=12						
F19A	Roth Farm, Mol	49.80	328	⇓P	P	00 56 48.0	+0.9
	baz=50						
EDW2	Edwards Air Fo	49.91	311	⇑P	P	00 56 48.9	+0.7
	baz=50						
A23A	Redstone	49.93	333	⇓P	P	00 56 50.0	+2.0
	baz=50,SNR=9.0						
B22A	Reddig Ranch S	49.97	332	⇑P	P	00 56 49.9	+1.6
	baz=50						
E19A	Rath Farm, Rou	50.11	328	⇑P	P	00 56 50.5	+1.0
	baz=50						
C21A	Desert Coulee	50.17	331	⇓P	P	00 56 51.4	+1.5
	baz=50						
D20A	Manuel Ranch,	50.19	329	⇑P	P	00 56 51.2	+1.2
	baz=50,SNR=6.9						
A22A	Carney Farms,	50.43	332	⇓P	P	00 56 53.6	+1.8
	baz=51,SNR=17						
QLMT	Earthquake Lak	50.53	325	*e*P	P	00 56 53.0	+0.2
C20A	Veseth Ranch,	50.54	330	⇑P	P	00 56 54.1	+1.5
	baz=51						
B21A	Ellsworth Farm	50.55	331	⇑P	P	00 56 54.6	+1.9
	baz=51						
D19A	Cripps Ranch,	50.62	329	⇑P	P	00 56 54.4	+1.2
	baz=51						
B20A	Solberg Farm,	51.04	331	⇓P	P	00 56 58.0	+1.6
	baz=51,SNR=13						
C19A	Slack Wire Ran	51.08	329	⇓P	P	00 56 58.0	+1.3
	baz=51						
A20A	Cobblestone Ra	51.30	331	⇓P	P	00 56 59.8	+1.5
	baz=51,SNR=8.4						
MCMT	McKenzie Canyo	51.34	324	*e*P	P	00 57 00.0	+1.1
HLID	Hailey	51.56	322	*e*P	P	00 57 01.5	+1.0
	24nm,2.3s						
HLID	Hailey	51.56	322	⇓P	P	00 57 01.6	+1.0
	baz=52						
NV01	Mina Array Sit	51.62	315	*e*P	P	00 57 00.8	-0.2
NVAR	Mina Array Bea	51.62	315	P	P	00 57 02.1	+1.1
NVAR				PcP	PcP	00 58 14.1	+1.4
NVAR	Mina Array Bea	51.62	315	P	P	00 57 02.1	+1.1
	0.8nm,0.5s,baz=127,slow=7.4,SNR=7.6						
NVAR				PcP	PcP	00 58 14.1	+1.4
	0.7nm,0.4s,baz=130,slow=5.0,SNR=7.0						
EGMT	Eagleton	51.63	329	*e*P	P	00 57 01.6	+0.9
	13nm,1.4s						
EGMT	Eagleton	51.63	329	⇑P	P	00 57 02.1	+1.3
	baz=52						
MLAC	Mammoth Lakes	51.66	313	⇓P	P	00 57 01.8	+0.4
	baz=52						
LRM	Limekiln Ridge	51.70	326	*e*P	P	00 57 02.2	+0.6
A19A	Klindworth Far	51.72	331	⇑P	P	00 57 03.0	+1.5
	baz=52						
HRY	Holter Researc	51.89	327	*e*P	P	00 57 03.6	+0.8
MFID	Camas Ranch	52.36	321	*e*P	P	00 57 07.2	+0.9
	3.7nm,0.7s						
SLMT	Seeley Lake	53.12	326	*e*P	P	00 57 11.5	-0.4
MSO	Missoula	53.13	326	⇓P	P	00 57 13.4	+1.5
	baz=53						
FFC	Flin Flon	53.19	339	*e*P	P	00 57 11.9	-0.1
	2.0nm,0.4s						
WVOR	Wild Horse Val	53.66	319	*e*P	P	00 57 16.4	+0.6
	26nm,2.0s						
YBMT	Yellow Bay	53.77	327	*e*P	P	00 57 17.0	+0.4
JTMT	Jette	53.85	327	*e*P	P	00 57 18.6	+1.4
BMO	Blue Mountains	54.01	322	*e*P	P	00 57 18.2	-0.1
	15nm,2.0s						
BLMT	Blacktail Moun	54.05	327	*e*P	P	00 57 20.0	+1.3
BSMT	Bassoo Peak	54.19	326	*e*P	P	00 57 20.9	+1.2
FCC	Fort Churchill	54.36	347	*e*P	P	00 57 20.4	-0.1
WALA	Waterton Lakes	54.43	328	*e*P	P	00 57 21.1	-0.2
MOD	Modoc	54.52	318	*e*P	P	00 57 21.5	-0.7
	47nm,2.7s						
F10A	Beach Ranch, E	54.55	323	*e*P	P	00 57 22.1	-0.1
	82nm,2.5s						
I07A	Izee	55.00	320	*e*P	P	00 57 26.1	+0.6
	68nm,2.8s						
G08A	Pilot Rock	55.24	322	*e*P	P	00 57 27.8	+0.5
	6.3nm,0.6s						
K05A	Summer Lake	55.27	318	*e*P	P	00 57 28.4	+0.8
	97nm,2.5s						
M04C	Macdoel	55.50	317	⇓P	P	00 57 30.1	+0.9
	baz=56						
NEW	Newport	55.72	326	⇓P	P	00 57 30.7	+0.2
	baz=56						
J05D	Fort Rock, OR	55.75	319	⇑P	P	00 57 32.1	+1.2
	baz=56						
YBH	Yreka Blue Hor	56.07	317	*e*P	P	00 57 32.1	-1.1
	55nm,2.3s						
KMRM	Mail Ridge	56.17	314	*e*P	P	00 57 33.7	-0.2
	124nm,2.2s						
G06A	Carlson Farm,	56.25	321	*e*P	P	00 57 35.7	+1.3
	60nm,2.2s						
J04D	Umpqua Nationa	56.30	318	⇓P	P	00 57 36.0	+1.1
	baz=56						
HUMO	Hull Mountain	56.60	317	*e*P	P	00 57 35.9	-0.9
	56nm,2.3s						
EDM	Edmonton	56.74	332	*e*P	P	00 57 37.5	-0.1
I04A	Tendick Farm,	56.74	319	⇑P	P	00 57 38.1	+0.3
	baz=57						
H04A	Detroit Lake	56.98	320	*e*P	P	00 57 40.0	+0.5
	61nm,2.3s						
B08A	Colville Reser	57.02	325	*e*P	P	00 57 39.5	-0.2
	34nm,2.0s						
LTY	Liberty	57.24	323	*e*P	P	00 57 42.2	+0.9
	7.2nm,1.0s						
KBO	Bosley Butte	57.30	317	*e*P	P	00 57 43.1	+1.3
I03D	Drain, OR	57.31	318	⇓P	P	00 57 42.6	+0.9
	baz=57						
KEBM	Edson Butte	57.63	317	*e*P	P	00 57 45.8	+1.7
	126nm,1.5s						
LON	Longmire	57.69	322	*e*P	P	00 57 45.0	+0.5
	4.9nm,1.0s						
G03D	McMinnville, O	57.90	320	⇑P	P	00 57 47.4	+1.6
	baz=58						
YKA	Yellowknife Ar	63.37	340	P	P	00 58 22.8	+0.3
YKA				pP	pP	00 59 00.3	+0.9
YKA	Yellowknife Ar	63.37	340	P	P	00 58 22.8	+0.3
	7.3nm,0.6s,baz=132,slow=6.7,SNR=182						
YKA				pP	pP	00 59 00.3	+0.9
	0.9nm,0.5s,baz=130,slow=7.1,SNR=2.4						
DLBC	Dease Lake	67.44	331	*e*P	P	00 58 49.8	+0.9
TIC	Toumodi	67.45	86	*e*P	P	00 58 49.3	-0.4
	2.5nm,0.2s						
LIC	Lamto	67.48	86	*e*P	P	00 58 49.7	-0.2
	14nm,0.6s						
DBIC	Dimbokro	67.61	86	*e*P	P	00 58 49.5	-1.2
	30nm,1.8s						
DBIC	Dimbokro	67.61	86	P	P	00 58 50.6	-0.1
	3.4nm,0.7s,baz=242,slow=5.7,SNR=11						
KIC	Kosan Boka	67.75	86	*e*P	P	00 58 51.5	-0.1
	17nm,0.8s						
SUMG	Summit	69.02	11	⇑*i*P	P	00 58 59.6	+0.7
	18nm,0.8s						
SUMG	Summit	69.02	11	*e*P	P	00 58 59.8	+0.9
	22nm,0.7s						
RES	Resolute Bay	69.05	354	*e*P	P	00 58 57.2	-1.2
	29nm,2.3s						
RES	Resolute Bay	69.05	354	P	P	00 58 58.1	-0.4
	0.5nm,0.4s,baz=170,slow=7.9,SNR=3.7						
INK	Inuvik	73.13	340	*e*P	P	00 59 23.6	+0.4
	74nm,2.9s						
TORD	Torodi Ar. Bea	73.62	78	P	P	00 59 26.4	-0.7
TORD	Torodi Ar. Bea	73.62	78	P	P	00 59 26.4	-0.7
	0.3nm,0.3s,baz=283,slow=6.6,SNR=14						
ILAR	Eielson Array	77.07	335	P	P	00 59 46.2	+0.4
ILAR				pP	pP	01 00 24.9	+0.7
ILAR	Eielson Array	77.07	335	P	P	00 59 46.2	+0.4
	0.7nm,0.6s,baz=108,slow=4.5,SNR=16						
ILAR				pP	pP	01 00 24.9	+0.7
	0.5nm,0.8s,baz=128,slow=3.7,SNR=2.9						
NOA	NORSAR Array B	81.32	29	P	P	01 00 10.2	+1.2
NOA	NORSAR Array B	81.32	29	P	P	01 00 10.2	+1.2
	0.7nm,0.5s,baz=268,slow=5.4,SNR=3.3						
GERES	GERESS Array B	82.78	42	P	P	01 00 17.4	+0.4
GERES	GERESS Array B	82.78	42	P	P	01 00 17.4	+0.4
	0.4nm,0.5s,baz=249,slow=8.3,SNR=3.0						
ARCES	ARCESS Array B	86.68	20	P	P	01 00 36.2	+0.3
ARCES	ARCESS Array B	86.68	20	P	P	01 00 36.2	+0.3
	1.5nm,0.6s,baz=268,slow=4.5,SNR=5.4						
MSKU	Masuku	86.82	92	*e*P	P	01 00 37.1	-0.7
	264nm,0.7s						
FINES	FINESS Array B	88.43	28	P	P	01 00 44.8	+0.4
FINES	FINESS Array B	88.43	28	P	P	01 00 44.8	+0.4
	1.6nm,0.8s,baz=290,slow=13,SNR=3.3						
ZALV	Zalesovo Beam	116.70	14	PKP	PKPdf	01 06 35.7	-0.1
ZALV	Zalesovo Beam	116.70	14	PKP	PKPdf	01 06 35.7	-0.1
	1.3nm,0.4s,baz=303,slow=1.5,SNR=10.0						
MKAR	Makanchi Array	122.33	20	PKP	PKPdf	01 06 47.0	+0.1
MKAR	Makanchi Array	122.33	20	PKP	PKPdf	01 06 47.0	+0.1
	0.9nm,0.4s,baz=293,slow=2.9,SNR=33						
AAK	Ala-Archa	122.62	28	PKP	PKPdf	01 06 48.3	+0.5
AAK	Ala-Archa	122.62	28	PKP	PKPdf	01 06 48.3	+0.5
	0.4nm,0.3s,baz=210,slow=8.1,SNR=3.5						
SONM	Songino Array	125.64	1	PKP	PKPdf	01 06 54.1	+0.7
SONM	Songino Array	125.64	1	PKP	PKPdf	01 06 54.1	+0.7
	0.7nm,0.6s,baz=303,slow=0.6,SNR=7.5						
KSH	Kashi	125.74	29	*e*PKP	PKPdf	01 06 57.0	+3.2
KSH				AMB	AMB		
	comp=Z,36nm,6.9s						
KSH				LR	LR		
	comp=N,41nm,5.1s						
KSH				LR	LR		
	comp=E,34nm,3.4s						
KSH				LR	LR		
	comp=Z,41nm,3.2s						
WMQ	Urumqi	126.71	17	PKP	PKPdf	01 06 56.0	+0.5
WMQ				LR	LR		
	comp=N,12nm,18.0s						
WMQ				LR	LR		
	comp=E,13nm,18.2s						
WMQ				LR	LR		
	comp=Z,11nm,18.4s						
CN2	Changchun	126.98	343	*e*PKP	PKPdf	01 06 54.5	-1.4
HHC	Hu-ho-hao-te	132.44	355	*e*PKP	PKPdf	01 07 04.5	-2.0
HHC				sPKP		01 08 03.0	
HHC				PP	PP	01 09 30.5	+0.5
HHC				PKS	PKSdf	01 10 40.8	-2.2
HHC				SKS	SKSdf	01 13 59.5	-4.1
HHC				SKKS	SKKSac	01 16 05.3	-6.9
HHC				AMB	AMB		
	comp=Z,150nm,7.5s						
GTA	Gaotai	133.58	8	*e*PKP	PKPdf	01 07 09.5	+0.8
GTA				sPKP		01 08 06.5	
LZH	Lanzhou	137.28	4	*e*PKP	PKPdf	01 07 14.3	-1.5
LZH				sPKP		01 08 11.5	
XAN	Xi'an	139.38	358	PKP	PKPdf	01 07 23.3	+3.8
NJ2	Nanjing	139.78	344	*e*PKP	PKPdf	01 07 21.0	+0.8
GYA	Guiyang	146.98	1	*e*PKPbc	PKPdf	01 07 30.8	-2.4
GYA				pPKP	pPKPdf	01 08 12.3	-2.2
GYA				sPKP		01 08 29.0	
GYA				PP	PP	01 11 01.5	+2.3
GYA				AMB	AMB		
	comp=Z,90nm,7.5s						
ASAR	Alice Springs	149.18	234	PKP	PKPdf	01 07 37.1	+0.4
ASAR				PKPbc	PKPbc	01 07 40.8	-0.3
ASAR				pPKPbc	pPKPbc	01 08 20.9	-1.2
ASAR	Alice Springs	149.18	234	PKP	PKPdf	01 07 37.1	+0.4
	3.4nm,0.5s,baz=118,slow=3.6,SNR=27						
ASAR				PKPbc	PKPbc	01 07 40.8	-0.3
	3.4nm,0.5s,baz=119,slow=3.6,SNR=10						
ASAR				pPKPbc	pPKPbc	01 08 20.9	-1.2
	1.2nm,0.8s,baz=123,slow=3.0,SNR=2.6						
WRA	Warramunga Arr	150.42	241	PKP	PKPdf	01 07 39.5	+0.7
WRA				PKPbc	PKPbc	01 07 44.1	0.0
WRA				pPKPbc	pPKPbc	01 08 24.1	-1.1
WRA	Warramunga Arr	150.42	241	PKP	PKPdf	01 07 39.5	+0.7
	3.8nm,0.4s,baz=106,slow=3.0,SNR=6.2						
WRA				PKPbc	PKPbc	01 07 44.1	0.0
	3.9nm,0.4s,baz=107,slow=2.6,SNR=7.2						
WRA				pPKPbc	pPKPbc	01 08 24.1	-1.1
	2.1nm,0.6s,baz=108,slow=2.2,SNR=3.7						
CMAR	Chiang Mai Arr	153.71	18	PKP	PKPdf	01 07 45.3	+1.6
CMAR				PKPbc	PKiKP	01 07 52.5	+0.8
CMAR	Chiang Mai Arr	153.71	18	PKP	PKPdf	01 07 45.3	+1.6
	0.3nm,0.2s,baz=304,slow=1.0,SNR=4.4						
CMAR				PKPbc	PKiKP	01 07 52.5	+0.8
	3.1nm,0.6s,baz=325,slow=3.8,SNR=12						

MEX 29 00:58:32.5±0.5, 18°.00N×99°.49W, h52km±7km, MD3.6, Guerrero

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

ZALV	**Zalesovo Beam**	**49.81**	**352**	P		P	01 16 24.2	-0.9
	0.7nm,0.6s,baz=184,slow=9.6,SNR=4.4							
BVAR	**Borovoye Array**	**52.30**	**341**	P		P	01 16 43.4	-0.3
	1.2nm,0.6s,baz=144,slow=8.8,SNR=15							
BRTR	**Keskin Array B**	**65.27**	**312**	P		P	01 18 13.0	-0.7
	0.4nm,0.7s,baz=134,slow=6.0,SNR=5.2							
FINES	**FINESS Array B**	**75.97**	**332**	P		P	01 19 18.0	+0.2
	4.4nm,1.1s,baz=116,slow=4.4,SNR=7.5							
ARCES	**ARCESS Array B**	**78.57**	**340**	P		P	01 19 33.0	+0.7
	3.8nm,0.8s,baz=74,slow=5.2,SNR=4.9							

*THR **29** 01:19:18.7±0.9,28.02N×55.89E,h15km±11km,ML3.6*
*IDC **29** 01:19:18.4±1.8,28.14N×55.64E,h0km,mb3.8/18,*
mb1 3.9/20,mb1mx3.9/45,mbtmp3.9/20,ML4.1/2,MS3.8/2,
Ms1 3.8/2,ms1mx2.8/47,Error ellipse: s-maj=39.1km
s-min=15.2km az=166.0
*ISCJB **29** 01:19:20.8±0.4,28.16N±0.05×55.54E±0.05,h22km,*
mb4.0/31,MS3.9/2,Error ellipse: s-maj=7.4km
s-min=5.6km az=140.6
*TEH **29** 01:19:21.7,28.23N×55.67E,h21km,ML3.6*
*CSEM **29** 01:19:22.8±0.4,28.17N×55.59E,h20km,mb4.6/12,Error*
ellipse: s-maj=13.0km s-min=11.0km az=104.0

ISC 29 01:19:22.3±0.6, 28.19N±0.04×55.60E±0.04, h22km, n93, σ1$24/91, mb4.1/31, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**1.11**	**131**	*e*Pg	**Pn**	**01 19 43.6**	**+0.9**
IBND				*e*Sg	**Sn**	**01 19 59.7**	**+2.4**
IBND				*e*		01 20 11.0	
	comp=Z,35μm,0.2s						
IBND	**Bandar-abas**	**1.11**	**131**	*e*Pg	**Pn**	**01 19 43.6**	**+0.9**
IBND				*e*Sg	**Sn**	**01 19 59.7**	**+2.4**
KRBR	**Kerman**	**2.06**	**29**	*e*Pg	**Pn**	**01 19 56.9**	**+1.0**
KRBR				*e*Sg	**Sb**	**01 20 25.3**	**+0.9**
	comp=Z,394nm,0.4s						
KRBR	**Kerman**	**2.06**	**29**	*e*Pg	**Pn**	**01 19 56.9**	**+1.0**
KRBR				*e*Sg	**Sb**	**01 20 25.3**	**+0.9**
KRBR				AML	AML	01 20 27.9	
	comp=N,706nm,0.5s						
KRBR				AML	AML	01 20 29.7	
	comp=E,394nm,0.4s						
GHIR	**Ghir-Karzin**	**2.30**	**273**	*e*Pn	**Pb**	**01 20 02.2**	**-1.1**
GHIR	**Ghir-Karzin**	**2.30**	**273**	*e*Pn	**Pb**	**01 20 02.2**	**-1.1**
GHIR				*e*Sg	Sb	01 20 39.5	+8.1
GHIR				AML	AML	01 20 57.1	
	comp=N,284nm,0.5s						
GHIR				AML	AML	01 21 01.0	
	comp=E,230nm,0.6s						
IPAR	**Pars**	**2.77**	**307**	*e*		01 20 59.2	
	comp=Z,3μm,0.4s						
IPAR				*e*Pn	**Pb**	**01 20 08.9**	**-2.5**
IMEH	**Mehriz**	**3.30**	**345**	*e*Pn	**Pn**	**01 20 15.4**	**+2.4**
IMEH				*e*		01 21 13.6	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**3.30**	**345**	*e*Pn	**Pn**	**01 20 15.4**	**+2.4**
IBAF	**Bafgh**	**3.39**	**360**	*e*Pn	**Pn**	**01 20 16.0**	**+1.9**
IBAF				*e*		01 21 13.8	
	comp=Z,1μm,0.3s						
IBAF	**Bafgh**	**3.39**	**360**	*e*Pn	**Pn**	**01 20 16.0**	**+1.9**
ISAD	**Sadrabad**	**4.06**	**336**	*e*Pn	Pn	01 20 26.1	+2.6
ISAD				*e*		01 21 35.7	
	comp=Z,1μm,0.4s						
ISAD	**Sadrabad**	**4.06**	**336**	*e*Pn	Pn	01 20 26.1	+2.6
ICHK	**Chekchek**	**4.17**	**346**	*e*Pn	**Pn**	**01 20 27.2**	**+2.3**
ICHK				*e*		01 21 43.4	
	comp=Z,598nm,0.3s						
ICHK	**Chekchek**	**4.17**	**346**	*e*Pn	**Pn**	**01 20 27.2**	**+2.3**
IKOO	**Kooshah**	**5.15**	**34**	*e*Pn	**Pn**	**01 20 39.8**	**+1.4**
IKOO				*e*		01 22 09.3	
	comp=Z,325nm,0.3s						
IKOO	**Kooshah**	**5.15**	**34**	*e*Pn	**Pn**	**01 20 39.8**	**+1.4**
NASN	**Na'in**	**5.19**	**333**	*e*Pn	**Pn**	**01 20 41.4**	**+2.5**
NASN	**Na'in**	**5.19**	**333**	*e*Pn	**Pn**	**01 20 41.4**	**+2.5**
IZEF	**Zefreh**	**5.47**	**330**	*e*Pn	**Pn**	**01 20 43.9**	**+1.1**
IZEF				*e*		01 22 45.8	
	comp=Z,144nm,0.5s						
IZEF	**Zefreh**	**5.47**	**330**	*e*Pn	**Pn**	**01 20 43.9**	**+1.1**
SLWS		**5.58**	**234**	P	Pn	01 20 47.5	+3.5
	baz=231						
SLWS		**5.58**	**234**	P	Pn	01 20 47.0	+3.0
TABS	**Tabas**	**5.60**	**13**	*e*Pn	**Pn**	**01 20 45.8**	**+1.4**
TABS	**Tabas**	**5.60**	**13**	*e*Pn	**Pn**	**01 20 45.8**	**+1.4**
BTHS		**5.94**	**227**	S	**Sn**	**01 21 57.3**	**+1.0**
	baz=224						
BTHS		**5.94**	**227**	P	**Pn**	**01 20 50.5**	**+1.6**
	baz=224						
BTHS		**5.94**	**227**	P	**Pn**	**01 20 51.0**	**+2.0**
BTHS				S	**Sn**	**01 21 57.0**	**+0.7**
IPIR	**Pirpir**	**6.05**	**319**	*e*Pn	**Pn**	**01 20 53.0**	**+2.3**
IPIR				*e*		01 20 54.8	
	comp=Z,252nm,0.1s						
IPIR	**Pirpir**	**6.05**	**319**	*e*Pn	**Pn**	**01 20 53.0**	**+2.3**
IKLH	**Kolahrood**	**6.17**	**327**	*e*Pn	**Pn**	**01 20 55.0**	**+2.6**
IKLH				*e*		01 21 00.2	
	comp=Z,200nm,0.1s						
IKLH	**Kolahrood**	**6.17**	**327**	*e*Pn	**Pn**	**01 20 55.0**	**+2.6**
ASYS		**9.98**	**269**	S	Sn	01 23 29.4	-6.6
	baz=267						
ASYS		**9.98**	**269**	P	**Pn**	**01 21 43.2**	**-1.4**
	baz=267						
ASF	**Jabal al Asfar**	**16.65**	**288**	Pn	**Pn**	**01 23 12.8**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=290,slow=3.0,SNR=8.9						
ASF				Sn	Sn	01 26 10.8	-7.9
	comp=Z,0.1nm,0.3s,baz=45,slow=1.4,SNR=2.2						
MMAI	**Mount Meron Ar**	**18.03**	**290**	P	**P**	**01 23 32.5**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=85,slow=16,SNR=6.2						
AAK	**Ala-Archa**	**21.03**	**42**	P	**P**	**01 24 05.1**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=232,slow=2.7,SNR=10						
BRTR	**Keskin Array B**	**21.48**	**308**	P	**P**	**01 24 10.9**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=130,slow=14,SNR=25						
AKTO	**Aktyubinsk**	**22.29**	**4**	P	**P**	**01 24 17.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=157,slow=13,SNR=5.3						
BVAR	**Borovoye Array**	**27.12**	**20**	P	**P**	**01 25 02.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=210,slow=6.3,SNR=7.8						
MKAR	**Makanchi Array**	**27.96**	**41**	P	**P**	**01 25 10.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=229,slow=8.6,SNR=17						
KURBB	**Kurchatov Arra**	**28.35**	**32**	P	**P**	**01 25 14.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=231,slow=8.7,SNR=12						
AKASG	**Malin Array Be**	**30.05**	**326**	P	**P**	**01 25 28.5**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=135,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**33.45**	**32**	P	**P**	**01 25 58.7**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=238,slow=8.2,SNR=14						
GERES	**GERESS Array B**	**38.11**	**314**	P	**P**	**01 26 39.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=128,slow=8.8,SNR=5.3						
FINES	**FINESS Array B**	**38.63**	**338**	P	**P**	**01 26 43.6**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=96,slow=3.8,SNR=4.4						
FETA	**Feichten**	**39.58**	**311**	*i*P	**P**	**01 26 51.8**	**-0.3**
	comp=Z,3.5nm,0.5s						
FETA	**Feichten**	**39.58**	**311**	P	**P**	**01 26 51.8**	**-0.3**
	comp=Z,3.5nm,0.5s						
DAVOX	**Davos/Dischmat**	**40.10**	**310**	P	**P**	**01 26 56.3**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=144,slow=19,SNR=8.8						
DAVA	**Damuels**	**40.20**	**311**	*i*P	**P**	**01 26 56.5**	**-0.8**
	comp=Z,12nm,0.4s						
DAVA	**Damuels**	**40.20**	**311**	P	**P**	**01 26 56.5**	**-0.8**
	comp=Z,12nm,0.4s						
MBDF	**Montbardon**	**41.94**	**307**	*e*P	**P**	**01 27 11.0**	**-0.6**
LPG	**La Plagne**	**42.04**	**308**	*e*P	**P**	**01 27 12.1**	**-0.5**
	comp=Z,5.8nm,0.6s						
LPG	**La Plagne**	**42.04**	**308**	*e*P	**P**	**01 27 12.1**	**-0.5**
	comp=Z,5.0nm,0.6s						
LPL	**La Plagne**	**42.06**	**308**	*e*P	**P**	**01 27 11.7**	**-1.0**
	comp=Z,4.1nm,0.6s						
LPL	**La Plagne**	**42.06**	**308**	*e*P	**P**	**01 27 11.7**	**-1.0**
	comp=Z,4.0nm,0.6s						
HINF	**Hinteralfeld**	**42.31**	**311**	*e*P	**P**	**01 27 14.1**	**-0.4**
	comp=Z,2.4nm,0.4s						
HINF	**Hinteralfeld**	**42.31**	**311**	*e*P	**P**	**01 27 14.1**	**-0.4**
	comp=Z,2.0nm,0.4s						
CABF	**La Chapelle**	**42.65**	**309**	*e*P	**P**	**01 27 16.7**	**-0.6**
	comp=Z,7.2nm,0.7s						
CABF	**La Chapelle**	**42.65**	**309**	*e*P	**P**	**01 27 16.7**	**-0.6**
	comp=Z,7.0nm,0.7s						
PAGF	**Fort de Pagny**	**43.18**	**312**	*e*P	**P**	**01 27 21.4**	**0.0**
	comp=Z,0.7nm,0.5s						
PAGF	**Fort de Pagny**	**43.18**	**312**	*e*P	**P**	**01 27 21.4**	**0.0**
SFTF	**Sexfontaines**	**43.58**	**311**	*e*P	**P**	**01 27 24.3**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=118						
SFTF	**Sexfontaines**	**43.58**	**311**	*e*P	**P**	**01 27 24.3**	**-0.4**
	comp=Z,4.0nm,0.4s						
MEZF	**Maizieres J'vi**	**43.61**	**312**	*e*P	**P**	**01 27 24.5**	**-0.4**
	comp=Z,5.8nm,0.5s,baz=113						
MEZF	**Maizieres J'vi**	**43.61**	**312**	*e*P	**P**	**01 27 24.5**	**-0.4**
	comp=Z,5.0nm,0.5s						
SONM	**Songino Array**	**43.69**	**49**	P	**P**	**01 27 25.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=263,slow=10.0,SNR=2.2						
NOA	**NORSAR Array B**	**44.15**	**331**	P	**P**	**01 27 28.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=122,slow=7.4,SNR=3.1						
SMF	**Signal de Mont**	**44.19**	**309**	*e*P	**P**	**01 27 28.7**	**-0.9**
	comp=Z,4.2nm,0.5s						
SMF	**Signal de Mont**	**44.19**	**309**	*e*P	**P**	**01 27 28.7**	**-0.9**
	comp=Z,4.0nm,0.5s						
LOR	**Lormes**	**44.24**	**310**	*e*P	**P**	**01 27 29.1**	**-0.9**
LOR	**Lormes**	**44.24**	**310**	*e*P	**P**	**01 27 29.1**	**-0.9**
BAIF	**Baives**	**44.41**	**314**	*e*P	**P**	**01 27 31.7**	**+0.4**
BAIF	**Baives**	**44.41**	**314**	*e*P	**P**	**01 27 31.7**	**+0.4**
SSF	**Saint Saulge**	**44.46**	**310**	*e*P	**P**	**01 27 31.7**	**-0.1**
SSF	**Saint Saulge**	**44.46**	**310**	*e*P	**P**	**01 27 31.7**	**-0.1**
ARCES	**ARCESS Array B**	**44.88**	**346**	P	**P**	**01 27 35.2**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=142,slow=10,SNR=3.9						
HYF	**Humbligny**	**45.07**	**310**	*e*P	**P**	**01 27 36.8**	**+0.2**
HYF	**Humbligny**	**45.07**	**310**	*e*P	**P**	**01 27 36.8**	**+0.2**
TCF	**Toulx Ste Croi**	**45.28**	**308**	*e*P	**P**	**01 27 37.9**	**-0.4**
	comp=Z,3.5nm,0.5s						
TCF	**Toulx Ste Croi**	**45.28**	**308**	*e*P	**P**	**01 27 37.9**	**-0.4**
	comp=Z,3.0nm,0.5s						
LFF	**La Frestale**	**46.23**	**306**	*e*P	**P**	**01 27 46.1**	**+0.3**
	comp=Z,5.6nm,0.5s						
LFF	**La Frestale**	**46.23**	**306**	*e*P	**P**	**01 27 46.1**	**+0.3**
	comp=Z,5.0nm,0.5s						
LDF	**La Druitiere**	**47.04**	**311**	*e*P	**P**	**01 27 50.8**	**-1.3**
	comp=Z,7.0nm,0.4s						
LDF	**La Druitiere**	**47.04**	**311**	*e*P	**P**	**01 27 50.8**	**-1.3**
	comp=Z,7.0nm,0.4s						
FLN	**La Foliniere**	**47.29**	**312**	*e*P	**P**	**01 27 53.2**	**-0.8**
FLN	**La Foliniere**	**47.29**	**312**	*e*P	**P**	**01 27 53.2**	**-0.8**
ESDC	**Sonseca Array**	**49.91**	**300**	P	**P**	**01 28 14.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=73,slow=7.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**52.21**	**265**	P	**P**	**01 28 31.6**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=62,slow=7.4,SNR=24						
JMIC	**Jan Mayen**	**55.23**	**339**	LR	LR	01 55 28.5	
	comp=Z,126nm,18.1s,baz=66,slow=39						
BORG	**Borgarnes**	**59.32**	**331**	LR	LR	01 57 19.8	
	comp=Z,56nm,18.0s,baz=4.6,slow=38						
ILAR	**Eielson Array**	**85.70**	**9**	P	**P**	**01 31 58.4**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=336,slow=2.0,SNR=3.5						
YKA	**Yellowknife Ar**	**89.29**	**355**	P	**P**	**01 32 16.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=3.9,slow=5.2,SNR=14						

*CSEM **29** 01:24:33.5±0.3,42.26N×19.31E,h20km,ML1.6,Error*
ellipse: s-maj=5.8km s-min=4.5km az=136.0

PDG 29 01:24:33.7±0.1, 42.28N×19.30E, h21km, MD1.6/1, ML1.6/10, 12C-8D, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRME	**Dracevica, Mon**	**0.13**	**222**	↑*i*Pg	Pb	01 24 38.0	-2.0
DRME				*e*Sg	Sb	01 24 41.9	-2.6
DRME	**Dracevica, Mon**	**0.13**	**222**	↑*i*Pg	Pb	01 24 38.0	-2.0
DRME				*e*Sg	Sb	01 24 41.9	-2.6
PDG	**Podgorica**	**0.15**	**348**	↓*i*Pg	Pb	01 24 37.8	-1.9
PDG				*e*Sg	Sb	01 24 41.7	-2.3
TTG	**Podgorica**	**0.15**	**348**	↓*i*Pg	Pb	01 24 37.8	-1.9
TTG				*e*Sg	Sb	01 24 41.7	-2.3
BUM	**Brajici-Budva**	**0.30**	**274**	↑*i*Pg	Pb	01 24 40.2	-0.3
BUM				*e*Sg	Sb	01 24 45.9	+0.7
BUM	**Brajici-Budva**	**0.30**	**274**	↑*i*Pg	Pb	01 24 40.2	-0.3
BUM				*e*Sg	Sb	01 24 45.9	+0.7
ULC	**Ulcinj**	**0.32**	**187**	↑*i*Pg	Pb	01 24 40.5	-0.2
ULC				*e*Sg	Sb	01 24 46.4	+0.9
ULC	**Ulcinj**	**0.32**	**187**	↑*i*Pg	Pb	01 24 40.5	-0.2
ULC				*e*Sg	Sb	01 24 46.4	+0.9
NKME	**Niksic**	**0.55**	**332**	↑*i*Pg	Pb	01 24 44.1	-0.7
NKME				*e*Sg	Sb	01 24 53.2	+0.9
NKME	**Niksic**	**0.55**	**332**	↑*i*Pg	Pb	01 24 44.1	-0.7
NKME				*e*Sg	Sb	01 24 53.2	+0.9
PVY	**Plav**	**0.58**	**57**	↑*i*Pg	Pb	01 24 44.9	-0.5
PVY				*e*Sg	Sn	01 24 54.8	-1.1
PVY	**Plav**	**0.58**	**57**	↑*i*Pg	Pb	01 24 44.9	-0.5
PVY				*e*Sg	Sn	01 24 54.8	-1.1
HCY	**Herceg Novi**	**0.62**	**286**	↓*i*Pg	Pb	01 24 45.2	-0.7
HCY				*e*Sg	Sn	01 24 55.6	-1.0
HCY	**Herceg Novi**	**0.62**	**286**	↓*i*Pg	Pb	01 24 45.2	-0.7
HCY				*e*Sg	Sn	01 24 55.6	-1.0
BEY	**Berane**	**0.73**	**36**	*e*Pg	Pb	01 24 47.7	-0.2
BEY				*e*Sg	Sn	01 24 59.5	-0.1
IVA	**Berane**	**0.73**	**36**	*e*Pg	Pb	01 24 47.7	-0.2
IVA				*e*Sg	Sn	01 24 59.5	-0.1
BRY	**Bratogost**	**0.84**	**318**	↓*i*Pg	Pb	01 24 49.5	-0.2
BRY				*e*Sg	Sn	01 25 03.1	+0.9
BRY	**Bratogost**	**0.84**	**318**	↓*i*Pg	Pb	01 24 49.5	-0.2
BRY				*e*Sg	Sn	01 25 03.1	+0.9
UPM	**Unac-Piva**	**0.96**	**343**	↑*i*Pg	Pb	01 24 51.9	-0.1
UPM				*e*Sg	Sn	01 25 07.3	+1.8
UPM	**Unac-Piva**	**0.96**	**343**	↑*i*Pg	Pb	01 24 51.9	-0.1
UPM				*e*Sg	Sn	01 25 07.3	+1.8
PLE	**Pljevlja**	**1.05**	**4**	↓*i*Pg	Pn	01 24 53.7	+0.4
PLE				*e*Sg	Sn	01 25 10.4	+3.0
PLE	**Pljevlja**	**1.05**	**4**	↓*i*Pg	Pn	01 24 53.7	+0.4
PLE				*e*Sg	Sn	01 25 10.4	+3.0
STON	**Ston**	**1.32**	**297**	*e*Pg	Pn	01 24 57.0	+0.2
STON				Sg	Sb	01 25 16.4	+2.3
STON	**Ston**	**1.32**	**297**	*e*Pg	Pn	01 24 57.0	+0.2
STON				Sg	Sb	01 25 16.4	+2.2

*IDC **29** 01:26:02.4±4.2,24.41N×92.62E,h0km,mb3.5/4,*
mb1 3.7/4,mb1mx3.3/52,mbtmp3.5/4,Error ellipse:
s-maj=329.0km s-min=22.0km az=61.0
*ISCJB **29** 01:26:08.8±0.8,25.10N±0.2×93.57E±0.09,h33km,mb3.4/4,*
Error ellipse: s-maj=26.3km s-min=6.6km az=21.0

ISC 29 01:26:09.9±1.3, 24.9N±0.2×93.7E±0.1, h35km, n17, σ1$87/30, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**5.85**	**296**	*e*Pn	**Pn**	**01 27 37.0**	**+2.5**
TAPN				*e*Sn	**Sn**	**01 28 42.6**	**+2.0**
	73nm,0.4s						
ODAN	**Odare**	**5.95**	**290**	*e*Pn	**Pn**	**01 27 38.6**	**+2.8**
ODAN				*e*Sn	**Sn**	**01 28 43.8**	**+0.8**
	238nm,0.4s						
RAMN	**Ramite**	**6.66**	**289**	*e*Pn	**Pn**	**01 27 48.1**	**+2.6**
RAMN				*e*Sn	**Sn**	**01 28 59.0**	**-1.3**
	108nm,0.5s						
JIRN	**Jiri**	**7.22**	**294**	*e*Pn	**Pn**	**01 27 55.8**	**+2.4**
JIRN				*e*Sn	**Sn**	**01 29 14.1**	**-0.3**
	68nm,0.3s						
GUN	**Gumba**	**7.57**	**295**	*e*Pn	**Pn**	**01 28 00.3**	**+2.2**
GUN				*e*Sn	**Sn**	**01 29 22.9**	**0.0**
	93nm,0.5s						
PKI	**Pulchoki**	**7.85**	**291**	*e*Pn	**Pn**	**01 28 03.9**	**+1.9**
PKI				*e*Sn	**Sn**	**01 29 29.5**	**-0.3**
	44nm,0.6s						
PKIN	**Phulchoki**	**7.86**	**291**	*e*Pn	**Pn**	**01 28 04.0**	**+1.9**
PKIN				*e*Sn	**Sn**	**01 29 28.9**	**-1.1**
	30nm,0.3s						
KKN	**Kakani**	**8.03**	**293**	*e*Pn	**Pn**	**01 28 06.3**	**+2.0**
KKN				*e*Sn	**Sn**	**01 29 32.3**	**-1.7**
	34nm,0.3s						
DMN	**Daman**	**8.12**	**291**	*e*Pn	**Pn**	**01 28 07.4**	**+1.8**
DMN				*e*Sn	**Sn**	**01 29 35.4**	**-0.9**
	26nm,0.4s						
GKN	**Gorkha**	**8.63**	**293**	*e*Pn	**Pn**	**01 28 14.4**	**+1.8**
GKN				*e*Sn	**Sn**	**01 29 47.0**	**-1.8**
	73nm,0.4s						
KOLN	**Koldanda**	**9.44**	**290**	*e*Pn	**Pn**	**01 28 24.3**	**+0.6**
KOLN				*e*Sn	**Sn**	**01 30 05.8**	**-3.0**
	38nm,0.4s						
DANN	**Dangsing**	**9.48**	**293**	*e*Pn	**Pn**	**01 28 24.6**	**+0.3**
DANN				*e*Sn	**Sn**	**01 30 07.1**	**-2.6**
	20nm,0.3s						
PYUN	**Piuthan**	**10.05**	**291**	*e*Pn	**Pn**	**01 28 32.8**	**+0.7**
PYUN				*e*Sn	**Sn**	**01 30 20.4**	**-3.3**
	97nm,0.5s						
MKAR	**Makanchi Array**	**23.62**	**340**	P	**P**	**01 31 16.5**	**-1.3**
	0.5nm,0.4s,baz=165,slow=8.4,SNR=16						
KURBB	**Kurchatov Arra**	**28.18**	**339**	P	**P**	**01 31 58.4**	**-0.6**
	0.3nm,0.7s,baz=151,slow=9.8,SNR=3.1						
WRA	**Warramunga Arr**	**59.64**	**135**	P	**P**	**01 36 10.4**	**-0.5**
	0.2nm,0.4s,baz=321,slow=7.6,SNR=6.3						
ASAR	**Alice Springs**	**62.10**	**138**	P	**P**	**01 36 27.3**	**-0.2**
	0.5nm,0.6s,baz=315,slow=6.9,SNR=5.2						

*ATH **29** 01:26:15.8,37.59N×19.61E,h19km±2km,MD3.6/17*
*ISCJB **29** 01:26:16.3±1.4,37.67N±0.07×19.6E±0.1,h12km,Error*
ellipse: s-maj=14.4km s-min=7.8km az=145.8

ISC 29 01:26:14.0±1.8, 37.59N±0.07×19.45E±0.08, h12km, n29, σ1$88/30, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**1.07**	**56**	*e*PN	**Pn**	**01 26 35.1**	**+0.2**
VLS				*e*SN	**Sb**	**01 26 48.0**	**-0.5**
LKD2	**Lefkada island**	**1.53**	**38**	*e*PN	**Pg**	**01 26 43.3**	**0.0**
LKD2				*e*SN	**Sg**	**01 27 03.5**	**+0.3**
RLS	**Riolos of Patr**	**1.66**	**73**	*e*PN	**Pb**	**01 26 44.6**	**+0.1**
PDO	**Prodromos**	**1.70**	**53**	*e*PN	**Pb**	**01 26 45.7**	**+0.6**
AMT	**Artemida-Makis**	**1.79**	**91**	*e*PN	**Pn**	**01 26 45.5**	**+0.7**
DRO	**Drossia**	**1.82**	**78**	*e*PN	**Pb**	**01 26 46.9**	**-0.4**
PYL	**PYLOS**	**1.95**	**110**	*e*PN	**Pn**	**01 26 48.8**	**+1.9**
ITM	**Ithomi**	**2.01**	**101**	*e*PN	**Pb**	**01 26 49.9**	**-0.6**
IGT	**Igoumenitsa**	**2.06**	**19**	*e*PB	**Pn**	**01 26 50.5**	**+2.1**
LAKA	**Lakka**	**2.10**	**71**	*e*PN	**Pn**	**01 26 50.3**	**+1.3**
KEK	**Kerkira**	**2.14**	**7**	*e*PB	**Pn**	**01 26 51.9**	**+2.4**
KLV	**Kalavryta, Ach**	**2.18**	**77**	*e*PN	**Pn**	**01 26 51.8**	**+1.6**
EVR	**Evrytania**	**2.28**	**54**	*e*PN	**Pb**	**01 26 54.2**	**-0.9**
GUR	**Goura**	**2.32**	**80**	*e*PB	**Pn**	**01 26 53.3**	**+1.3**
JAN	**Janina**	**2.34**	**27**	*e*PB	**Pb**	**01 26 55.0**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.54**	**55**	*e*PB	**Pb**	**01 26 57.7**	**-1.9**
DSF	**Desfina**	**2.56**	**70**	*e*PN	**Pn**	**01 26 56.5**	**+1.1**
AGG	**Agios Georgios**	**2.68**	**57**	*e*PB	**Pn**	**01 26 59.3**	**+2.4**
THL	**Klokotos Trika**	**2.81**	**45**	*e*PB	**Pn**	**01 27 01.7**	**+2.9**
NEST	**Nestorio**	**3.08**	**23**	*e*PN	Pn	01 27 06.1	+3.5
KZN	**Kozani**	**3.26**	**33**	*e*PN	Pn	01 27 08.2	+3.2
LIT	**Litokhoron**	**3.45**	**42**	*e*PN	**Pn**	**01 27 10.1**	**+2.5**
FNA	**Florina**	**3.52**	**24**	*e*PN	**Pn**	**01 27 11.5**	**+2.9**
GRG	**Griva**	**4.07**	**33**	*e*PN	**Pn**	**01 27 18.2**	**+2.2**
SOH	**Sokhos**	**4.43**	**42**	*e*PN	**Pn**	**01 27 23.5**	**+2.5**
KNT	**Kendrikon**	**4.46**	**36**	*e*PN	**Pn**	**01 27 23.4**	**+2.0**
SRS	**Serrai**	**4.76**	**41**	*e*PN	**Pn**	**01 27 27.4**	**+1.8**
STON	**Ston**	**5.45**	**346**	*e*Pn	**Pn**	**01 27 37.0**	**+2.1**
STON				Sn	**Sn**	**01 28 35.2**	**-2.2**
NVLJ	**Novalja**	**7.78**	**335**	Sn	**Sn**	**01 29 31.6**	**-3.3**

MEX 29 01:30:24.5±0.8, 16.52N×99.67W, h18km±999km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.48**	**45**	*i*P	Pn	01 30 47.7	-2.7
TLIG				*e*S	Sn	01 31 04.6	-4.8
PNIG	**Pinotepa**	**1.49**	**95**	*i*P	Pn	01 30 46.4	-4.0
PNIG				*i*S	Sn	01 31 04.9	-4.6
ARIG	**Puente Sto Nin**	**1.86**	**340**	*e*P	Pn	01 30 53.1	-2.4
ARIG				*e*S	Sn	01 31 13.9	-4.8
PLIG	**Platanillo**	**1.86**	**5**	*e*P	Pn	01 30 52.6	-3.1
PLIG				*i*S	Sn	01 31 14.3	-4.6

*ISCJB **29** 01:38:17.3±0.5,22.30N±0.04×142.9E±0.1,h200km,*
mb3.8/18,Error ellipse: s-maj=15.3km s-min=5.7km
az=170.7
*JMA **29** 01:38:18.6±0.2,22.53N×143.61E,h222km,M5.2*
*IDC **29** 01:38:18.0±1.8,22.29N×143.01E,h192km±16km,*
mb3.7/18,mb1 3.8/22,mb1mx3.6/58,mbtmp4.2/22,MS3.5/2,
Ms1 3.5/2,ms1mx2.8/37,Error ellipse: s-maj=15.7km
s-min=9.8km az=40.0

ISC 29 01:38:18.9±0.7, 22.35N±0.07×143.0E±0.1, h200km, n36, σ1$07/39, mb3.8/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**

BNGL				*i* S	**Sg**	**01 43 45.1**	**-1.2**
DDEM	**Demirkent**	**1.03**	**14**	*i* P	**Pg**	**01 43 34.7**	**-0.6**
DDEM				*i* S	**Sb**	**01 43 50.4**	**+0.5**
DDEM	**Demirkent**	**1.03**	**14**	*i* P	**Pg**	**01 43 34.7**	**-0.6**
DDEM				*i* S	**Sb**	**01 43 50.4**	**+0.5**
DBAD	**Bademkaya**	**1.15**	**11**	*i* P	**Pg**	**01 43 36.3**	**-1.2**
DBAD				*i* S	**Sb**	**01 43 53.8**	**+0.7**
DBAD	**Bademkaya**	**1.15**	**11**	*i* P	**Pg**	**01 43 36.3**	**-1.2**
DBAD				*i* S	**Sb**	**01 43 53.8**	**+0.7**
TUTA	**Tutak**	**1.19**	**114**	*i* P	**Pg**	**01 43 36.5**	**-1.8**
TUTA				*i* S	**Sn**	**01 43 55.5**	**-0.1**
TUTA	**Tutak**	**1.19**	**114**	*i* P	**Pg**	**01 43 36.5**	**-1.8**
TUTA				*i* S	**Sn**	**01 43 55.5**	**-0.1**
DAGI	**Agillar**	**1.25**	**18**	*i* P	**Pn**	**01 43 38.6**	**-1.1**
DAGI				*i* S	**Sn**	**01 43 57.4**	**+0.5**
AGRB	**Hanur-Agry**	**1.26**	**104**	*e*PN	**Pn**	**01 43 39.6**	**-0.3**
AGRB	**Hanur-Agry**	**1.26**	**104**	*e*Pn	**Pn**	**01 43 39.6**	**-0.3**
EUZM	**Uzumlu**	**1.33**	**263**	*i* P	**Pn**	**01 43 38.3**	**-2.6**
EUZM				*i* S	**Sn**	**01 43 59.9**	**+0.8**
EUZM	**Uzumlu**	**1.33**	**263**	*i* P	**Pn**	**01 43 38.3**	**-2.6**
EUZM				*i* S	**Sn**	**01 43 59.9**	**+0.8**
ERZN	**Erzincan**	**1.34**	**257**	*e*PN	**Pn**	**01 43 39.5**	**-1.4**
DBOC	**Borcka**	**1.47**	**8**	*i* P	**Pn**	**01 43 41.9**	**-0.8**
DBOC				*i* S	**Sb**	**01 44 02.3**	**0.0**
DBOC	**Borcka**	**1.47**	**8**	*i* P	**Pn**	**01 43 41.9**	**-0.8**
DBOC				*i* S	**Sb**	**01 44 02.3**	**0.0**
KARS	**Kars**	**1.47**	**59**	*e*PN	**Pn**	**01 43 42.9**	**+0.1**
KARS	**Kars**	**1.47**	**59**	*e*Pn	**Pn**	**01 43 42.9**	**+0.1**
BCA	**Borcka**	**1.56**	**6**	*e*PN	**Pn**	**01 43 43.8**	**-0.2**
BCA	**Borcka**	**1.56**	**6**	*e*Pn	**Pn**	**01 43 43.8**	**-0.2**
GUMT	**Gumushane**	**1.59**	**292**	*e*PN	**Pn**	**01 43 43.6**	**-0.8**
GUMT	**Gumushane**	**1.59**	**292**	*e*Pn	**Pn**	**01 43 43.6**	**-0.8**
KELT	**Kelkit**	**1.68**	**280**	*i* P	**Pn**	**01 43 45.0**	**-0.7**
KELT				*i* S	**Sg**	**01 44 14.6**	**+5.2**
KELT	**Kelkit**	**1.68**	**280**	*i* P	**Pn**	**01 43 45.0**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.75**	**186**	*e*PN	**Pn**	**01 43 46.5**	**0.0**
PTK	**Pertek**	**1.86**	**238**	*e*PN	**Pn**	**01 43 47.7**	**-0.4**
PTK	**Pertek**	**1.86**	**238**	*e*Pn	**Pn**	**01 43 47.7**	**-0.4**
BEST	**Besiri**	**2.00**	**183**	*i* P	**Pb**	**01 43 51.7**	**-0.7**
BEST				*i* S	**Sg**	**01 44 20.9**	**+1.1**
GEVA	**Gevas**	**2.03**	**140**	*i* P	**Pb**	**01 43 51.7**	**-1.3**
GEVA				*i* S	**Sg**	**01 44 24.7**	**+3.9**
GEVA	**Gevas**	**2.03**	**140**	*i* P	**Pb**	**01 43 51.7**	**-1.3**
CLDR	**Caldiran**	**2.08**	**110**	*e*PN	**Pn**	**01 43 51.7**	**+0.5**
CLDR	**Caldiran**	**2.08**	**110**	*e*Pn	**Pn**	**01 43 51.7**	**+0.5**
DYBB	**Diyarbakir**	**2.17**	**208**	*e*PN	**Pn**	**01 43 52.5**	**+0.1**
DIY	**Diyarbakir**	**2.20**	**205**	*e*Pn	**Pn**	**01 43 52.5**	**-0.2**
SIRT	**Sirnak**	**2.52**	**161**	*e*PN	**Pn**	**01 43 57.7**	**+0.5**
SIRT	**Sirnak**	**2.52**	**161**	*e*Pn	**Pn**	**01 43 57.7**	**+0.5**
MAZI	**Mazidag**	**2.54**	**198**	*e*PN	**Pn**	**01 43 56.9**	**-0.6**
MAZI	**Mazidag**	**2.54**	**198**	*e*Pn	**Pn**	**01 43 56.9**	**-0.6**
CUKT	**Cukurca**	**3.15**	**146**	*e*PN	**Pn**	**01 44 07.0**	**+1.1**
CUKT	**Cukurca**	**3.15**	**146**	*e*Pn	**Pn**	**01 44 07.0**	**+1.1**
RSDY	**Resadiye-TOKAT**	**3.17**	**280**	*e*PN	**Pn**	**01 44 06.4**	**+0.3**
RSDY	**Resadiye-TOKAT**	**3.17**	**280**	*e*Pn	**Pn**	**01 44 06.4**	**+0.3**
DARE	**Darende-Malaty**	**3.32**	**248**	*e*PN	**Pn**	**01 44 08.7**	**+0.5**
DARE	**Darende-Malaty**	**3.32**	**248**	*e*Pn	**Pn**	**01 44 08.7**	**+0.5**

CSEM ***29*** *01:47:01.8±0.2, 42.°28N×19.°33E, h19km, ML1.6, Error ellipse: s-maj=5.5km s-min=4.2km az=149.0*

PDG 29 01:47:02.1±0.2, 42.°31N×19.°31E, h20km±1km, MD1.7/2, ML1.6/11, 10C-8D, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.13**	**341**	⇑*i*Pg	Pb	01 47 06.4	-0.8
PDG				*e*Sg	Sb	01 47 09.9	-0.8
TTG	**Podgorica**	**0.13**	**341**	⇑*i*Pg	Pb	01 47 06.4	-0.8
TTG				*e*Sg	Sb	01 47 09.9	-0.8
DRME	**Dracevica, Mon**	**0.15**	**218**	⇑*i*Pg	Pb	01 47 06.3	-1.0
DRME				*e*Sg	Sb	01 47 10.1	-0.7
DRME	**Dracevica, Mon**	**0.15**	**218**	⇑*i*Pg	Pb	01 47 06.3	-1.0
DRME				*e*Sg	Sb	01 47 10.1	-0.7
BUM	**Brajici-Budva**	**0.31**	**269**	⇑*i*Pg	Pb	01 47 08.8	-0.3
BUM				*e*Sg	Sb	01 47 14.4	+0.6
BUM	**Brajici-Budva**	**0.31**	**269**	⇑*i*Pg	Pb	01 47 08.8	-0.3
BUM				*e*Sg	Sb	01 47 14.4	+0.6
ULC	**Ulcinj**	**0.35**	**188**	⇑*i*Pg	Pb	01 47 08.7	-0.9
ULC				*e*Sg	Sb	01 47 14.9	+0.2
ULC	**Ulcinj**	**0.35**	**188**	⇑*i*Pg	Pb	01 47 08.7	-0.9
ULC				*e*Sg	Sb	01 47 14.9	+0.2
NKME	**Niksic**	**0.53**	**330**	⇑*i*Pg	Pb	01 47 12.1	-0.8
NKME				*e*Sg	Sb	01 47 20.9	+0.7
NKME	**Niksic**	**0.53**	**330**	⇑*i*Pg	Pb	01 47 12.1	-0.8
NKME				*e*Sg	Sb	01 47 20.9	+0.7
PVY	**Plav**	**0.56**	**59**	⇓*i*Pg	Pb	01 47 13.5	0.0
PVY				*e*Sg	Sb	01 47 22.4	+1.2
PVY	**Plav**	**0.56**	**59**	⇓*i*Pg	Pb	01 47 13.5	0.0
PVY				*e*Sg	Sb	01 47 22.4	+1.2
HCY	**Herceg Novi**	**0.62**	**283**	⇓*i*Pg	Pb	01 47 13.8	-0.6
HCY				*e*Sg	Sn	01 47 24.0	-1.2
HCY	**Herceg Novi**	**0.62**	**283**	⇓*i*Pg	Pb	01 47 13.8	-0.6
HCY				*e*Sg	Sn	01 47 24.0	-1.2
BEY	**Berane**	**0.71**	**37**	*e*Pg	Pb	01 47 15.9	-0.1
BEY				*e*Sg	Sn	01 47 27.0	-0.6
IVA	**Berane**	**0.71**	**37**	*e*Pg	Pb	01 47 15.9	-0.1
IVA				*e*Sg	Sn	01 47 27.0	-0.6
BRY	**Bratogost**	**0.82**	**316**	⇓*i*Pg	Pb	01 47 17.4	-0.6
BRY				*e*Sg	Sn	01 47 31.0	+0.5
BRY	**Bratogost**	**0.82**	**316**	⇓*i*Pg	Pb	01 47 17.4	-0.6
BRY				*e*Sg	Sn	01 47 31.0	+0.5
UPM	**Unac-Piva**	**0.94**	**342**	⇓*i*Pg	Pb	01 47 19.9	-0.2
UPM				*e*Sg	Sn	01 47 34.6	+1.0
UPM	**Unac-Piva**	**0.94**	**342**	⇓*i*Pg	Pb	01 47 19.9	-0.2
UPM				*e*Sg	Sn	01 47 34.6	+1.0
PLE	**Pljevlja**	**1.02**	**3**	*e*Pg	Pn	01 47 21.7	+0.2
PLE				*e*Sg	Sn	01 47 37.7	+2.3
PLE	**Pljevlja**	**1.02**	**3**	*e*Pg	Pn	01 47 21.7	+0.2
PLE				*e*Sg	Sn	01 47 37.7	+2.3
STON	**Ston**	**1.32**	**296**	*e*Pg	Pn	01 47 25.4	+0.1
STON				Sg	Sb	01 47 45.0	+2.4
STON	**Ston**	**1.32**	**296**	Sg	Sb	01 47 44.9	+2.3
NVLJ	**Novalja**	**3.94**	**306**	*i* Pn	Pb	01 48 11.4	+0.6
NVLJ				Sn	Sn	01 48 50.4	+3.4

IDC ***29*** *02:01:07.6±5.0, 31.°32S×179.°89W, h385km±46km, mb2.9/2, mb1 3.3/3, mb1mx3.0/23, mbtmp3.9/3, Error ellipse: s-maj=52.8km s-min=28.9km az=35.0*

ISC 29 02:01:06.1±1.6, 31.°2S±0.°1×179.°9E±0.°3, h350km, n19, σ1§47/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**6.82**	**194**	PN	Pn	02 02 50.7	+4.5
HAZ				SN	**S**	**02 04 08.6**	**+1.0**
MWZ	**Matawai**	**7.43**	**194**	PN	Pn	02 02 58.0	+4.6
MWZ				SN	**S**	**02 04 21.5**	**+0.6**
CNGZ	**Carnagh Statio**	**7.45**	**190**	PN	Pn	02 02 58.3	+4.8
URZ	**Urewera**	**7.45**	**197**	P	**Pn**	**02 02 55.9**	**+2.2**
	3.4nm,0.3s,baz=276,slow=4.8,SNR=53						
URZ				S	**S**	**02 04 20.5**	**-0.7**
	3.5nm,0.3s,baz=243,slow=23,SNR=18						
URZ	**Urewera**	**7.45**	**197**	PN	Pn	02 02 57.2	+3.6
URZ				SN	**S**	**02 04 20.5**	**-0.7**
RIGZ	**Rimuhau**	**7.74**	**192**	PN	Pn	02 03 01.2	+4.2
RIGZ				SN	**S**	**02 04 26.9**	**-0.6**
KNZ	**Kokohu**	**8.06**	**192**	PN	**P**	**02 03 04.1**	**+0.3**
NMHZ	**Naumai**	**8.32**	**197**	PN	**P**	**02 03 07.4**	**+0.6**
BKZ	**Black Stump Fm**	**8.47**	**198**	PN	**P**	**02 03 07.7**	**-0.7**
KAHZ	**Kahuranaki**	**8.97**	**195**	PN	**P**	**02 03 14.3**	**+0.3**
PRHZ	**Porangahau**	**9.47**	**195**	PN	**P**	**02 03 19.5**	**0.0**
MRZ	**Mangatainoka R**	**10.11**	**199**	PN	**Pn**	**02 03 25.0**	**-0.2**
KIW	**Kapiti Island**	**10.49**	**201**	PN	**Pn**	**02 03 29.5**	**-0.3**
TUWZ	**Tuamarina**	**11.32**	**203**	PN	**Pn**	**02 03 38.8**	**-0.8**
ASAR	**Alice Springs**	**41.26**	**269**	P	**P**	**02 08 18.8**	**+0.2**
	0.4nm,0.4s,baz=108,slow=7.2,SNR=6.9						
WRA	**Warramunga Arr**	**42.32**	**274**	P	**P**	**02 08 27.1**	**+0.1**
	0.5nm,0.3s,baz=111,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**145.19**	**338**	PKPbc	**PKPdf**	**02 19 59.4**	**-2.1**
	1.7nm,0.5s,baz=43,slow=3.2,SNR=21						
BRTR	**Keskin Array B**	**151.33**	**297**	PKPbc	**PKPdf**	**02 20 16.1**	**+3.6**
	0.3nm,0.5s,baz=119,slow=3.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**162.01**	**186**	PKPab	**PKPab**	**02 21 11.9**	**-2.7**
	0.3nm,0.8s,baz=168,slow=5.7,SNR=3.4						

KRSC 29 02:13:10.7±0.8, 55.°91N×164.°60E, h23km±17km, ML3.5,

Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.04**	**287**	*e*P	Pn	02 13 29.9	0.0
KBTR				*e*S	Sn	02 13 43.8	0.0
BKI	**Bering**	**1.05**	**132**	*e*P	Pb	02 13 30.8	+0.6
BKI				*e*S	Sn	02 13 44.9	+0.9
KBG	**Krutoberegovo**	**1.12**	**289**	*e*P	Pb	02 13 31.1	-0.2
KBG				*e*S	Sn	02 13 45.9	+0.4
SMKR	**Semkarok**	**1.87**	**292**	*e*P	Pb	02 13 42.9	-1.4
SMKR				*e*S	Sb	02 14 07.3	0.0
BDR	**Baidarnaya**	**2.00**	**290**	*e*S	Sb	02 14 10.8	-0.3
SRKR	**Sorokina**	**2.05**	**293**	*e*P	Pn	02 13 45.5	+1.6
SRKR				*e*S	Sn	02 14 10.1	+1.2
MKZ	**Mys Kozlova**	**2.13**	**232**	*e*S	Sb	02 14 14.3	-0.3
SDLR	**Sedlovina**	**4.25**	**234**	*e*P	Pn	02 14 17.3	+3.2
SDLR				*e*S	Sn	02 15 06.8	+3.8
KRER	**Koryakskii**	**4.29**	**235**	*e*P	Pn	02 14 17.5	+2.7
KRER				*e*S	Sn	02 15 08.7	+4.4
KRX	**Arik**	**4.30**	**236**	*e*P	Pn	02 14 19.2	+4.3
AVH	**Avacha**	**4.32**	**235**	*e*P	Pn	02 14 19.0	+3.9
AVH				*e*S	Sn	02 15 10.8	+6.0
KOK	**Koryaka**	**4.35**	**235**	*e*S	Sn	02 15 10.9	+5.3

MAN ***29*** *03:08:35.6˝22N×124.°87E, h30km, mb4.8, ML3.8, MS3.8*
MAN INTENSITY III - STO NINO SURALLAH SOUTH COTABATO; INTENSITY II - GENERAL SANTOS CITY.
IDC ***29*** *03:08:36.5±2.1, 5.°30N×123.°04E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/15, Error ellipse: s-maj=249.8km s-min=27.4km az=63.0*
ISCJB ***29*** *03:08:37.5±0.7, 6.°28N±0.°05×124.°75E±0.°07, h44km±8km, mb3.5/3, MS3.7/1, Error ellipse: s-maj=11.2km s-min=7.2km az=165.4*

ISC 29 03:08:38.1±1.3, 6.°35N±0.°05×124.°79E±0.°07, h26km±11km, n12, σ1§34/16, mb3.6/3, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.30**	**149**	⇑*i*P	**Pb**	**03 08 45.3**	**-0.1**
GSPH				*i* S	**Sn**	**03 08 52.8**	**+0.1**
KCP	**Kidapawan**	**0.72**	**24**	⇑*e*P	**Pb**	**03 08 50.8**	**-1.3**
KCP				*e*S	**Sn**	**03 09 04.3**	**+1.4**
DMPH	**Davao City--Mi**	**1.02**	**44**	⇑*e*P	**Pn**	**03 08 56.3**	**-0.4**
DMPH				*e*S	**Sb**	**03 09 11.8**	**+1.6**
CTBH	**Cotabato--PC H**	**1.02**	**328**	*e*P	**Pn**	**03 08 54.4**	**-2.4**
CTBH				*i* S	**Sn**	**03 09 10.0**	**-0.3**
BUKP	**Musuan**	**1.54**	**10**	*e*P	**Pn**	**03 09 03.8**	**-0.2**
BUKP				*e*S	Sn	03 09 12.2	-11
PAGZ	**Pagadian**	**2.04**	**317**	*e*P	**Pn**	**03 09 11.5**	**+0.7**
PAGZ				*e*S	Sn	03 09 26.1	-9.4
CGP	**Cagayan de Oro**	**2.10**	**357**	*e*P	**Pn**	**03 09 10.1**	**-1.4**
CGP				*i* S	**Sn**	**03 09 38.0**	**+1.3**
IPIL	**Ipil**	**2.63**	**303**	*e*P	**Pn**	**03 09 19.6**	**+0.8**
WRA	**Warramunga Arr**	**27.76**	**160**	P	**P**	**03 14 23.9**	**-1.0**
	1.8nm,1.0s,baz=334,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**31.13**	**164**	P	**P**	**03 14 53.6**	**-1.2**
	0.3nm,0.6s,baz=344,slow=6.7,SNR=3.5						
NWAO	**Narrogin (SRO)**	**39.71**	**190**	LR	LR	03 32 48.9	
	comp=Z,96nm,18.7s,baz=3.0,slow=38						
MKAR	**Makanchi Array**	**54.32**	**325**	P	**P**	**03 18 03.8**	**+1.5**
	0.6nm,0.9s,baz=122,slow=7.1,SNR=4.5						

MOS ***29*** *03:15:55.0±0.9, 8.°00S×107.°48E, h58km, mb5.0/31, Error ellipse: s-maj=13.4km s-min=7.0km az=117.3*
BJI ***29*** *03:15:56.5, 8.°20S×107.°30E, h91km, mB5.2/10, mb4.9/25*
IDC ***29*** *03:15:58.6±3.4, 8.°02S×107.°50E, h75km±31km, mb4.3/20, mb1 4.4/20, mb1mx4.3/35, mbtmp4.6/20, MS3.4/3, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=18.7km s-min=11.7km az=68.0*
NEIC ***29*** *03:15:59.9±0.5, 8.°11S×107.°39E, h89km±4km, mb4.7/37, Error ellipse: s-maj=6.0km s-min=4.5km az=47.0*
ISCJB ***29*** *03:16:00.1±0.3, 8.°16S±0.°03×107.°40E±0.°02, h105km±2km, mb4.6/64, Error ellipse: s-maj=6.2km s-min=3.0km az=26.7*
DJA ***29*** *03:16:00.6±0.3, 8.°S±3.°×10.°7E±.°, h73km±3km, M4.9/33, mb5.0/25, mB5.3/16, MLv5.1/33, Mw(mB)4.8/16*
KLM ***29*** *03:16:00.9, 8.°31S×107.°39E, h98km, mb4.9, ML4.6, MS6.3*

ISC 29 03:16:00.2±0.5, 8.°28S±0.°03×107.°35E±0.°03, h91km±4km, n254, σ1§43/255, mb4.6/63, 7C-7D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.86**	**33**	P	**Pn**	**03 16 17.4**	**-1.1**
CISI				S	**Sn**	**03 16 30.5**	**-1.6**
CISI	**Cisompet, Garu**	**0.86**	**33**	*e*Pn	**Pn**	**03 16 17.2**	**-1.2**
CISI				*e*Sn	**Sn**	**03 16 29.3**	**-2.8**
CISI	**Cisompet, Garu**	**0.86**	**33**	P	**Pn**	**03 16 17.2**	**-1.2**
	baz=0.9,SNR=123						
CISI				S	**Sn**	**03 16 30.4**	**-1.7**
	baz=0.9,SNR=6.7						
CNJI	**Cibinong**	**0.99**	**347**	P	**Pn**	**03 16 19.5**	**-0.4**
CNJI				S	**Sn**	**03 16 34.2**	**-0.4**
CMJI	**Cimerak**	**1.20**	**66**	P	**Pn**	**03 16 21.3**	**-0.9**
CMJI				S	**Sn**	**03 16 37.2**	**-1.6**
LEM	**Lembang**	**1.47**	**10**	P	**Pn**	**03 16 26.4**	**+0.6**
LEM				S	**Sn**	**03 16 47.7**	**+2.6**
LEM	**Lembang**	**1.47**	**10**	P	**Pn**	**03 16 25.9**	**+0.2**
	baz=1.6,SNR=179						
SKJI	**Sukabumi**	**1.49**	**328**	P	**Pn**	**03 16 26.5**	**+0.6**
SKJI				S	**Sn**	**03 16 46.2**	**+0.9**
DBJI	**Dramaga**	**1.82**	**341**	P	**Pn**	**03 16 30.4**	**+0.3**
DBJI				S	**Sn**	**03 16 54.6**	**+1.8**
TNG	**Tangerang**	**2.21**	**342**	P	Pn	03 16 45.7	+11
TNG				S	**Sn**	**03 17 03.8**	**+1.9**
TNG	**Tangerang**	**2.21**	**342**	P	**Pn**	**03 16 36.3**	**+1.1**
CGJI	**Cibinong**	**2.33**	**315**	P	**Pn**	**03 16 36.8**	**0.0**
CGJI				S	**Sn**	**03 17 04.1**	**-0.8**
SBJI	**Serang**	**2.46**	**331**	P	**Pn**	**03 16 39.5**	**+0.9**
BJII	**Banjamegara**	**2.52**	**68**	P	x	03 16 39.2	
BJII				S	x	03 17 11.0	
XMI	**Christmas Isla**	**2.71**	**217**	⇓P	**Pn**	**03 16 41.3**	**-0.5**
	baz=2.7,SNR=568						
XMI				S	**Sn**	**03 17 11.0**	**-2.8**
	baz=2.7,SNR=7.7						
XMIS	**Christmas Isla**	**2.75**	**217**	*e*Pn	**Pn**	**03 16 41.6**	**-0.8**
XMIS				*e*Sn	**Sn**	**03 17 11.0**	**-4.0**
XMIS	**Christmas Isla**	**2.75**	**217**	P	**Pn**	**03 16 41.8**	**-0.7**
	baz=2.7,SNR=774						
XMIS				S	**Sn**	**03 17 11.5**	**-3.5**
	baz=2.7,SNR=20						
UGM	**Wanagama**	**3.16**	**84**	P	**Pn**	**03 16 47.2**	**-0.8**
UGM	**Wanagama**	**3.16**	**84**	P	**Pn**	**03 16 47.0**	**-1.0**
	baz=3.2,SNR=144						
SMRI	**Semarang**	**3.30**	**68**	P	**Pn**	**03 16 50.8**	**+1.0**
SMRI				S	**Sn**	**03 17 29.8**	**+1.7**
SMRI	**Semarang**	**3.30**	**68**	*e*Pn	**Pn**	**03 16 49.8**	**0.0**
SMRI				*e*Sn	Sn	03 17 21.9	-6.3
SMRI	**Semarang**	**3.30**	**68**	P	**Pn**	**03 16 50.4**	**+0.6**
	baz=3.3,SNR=35						
SMRI				S	**Sn**	**03 17 29.4**	**+1.2**
	baz=3.3,SNR=7.6						
BLSI	**Bandar Lampung**	**3.57**	**324**	P	**Pn**	**03 16 54.2**	**+0.8**
PCJI	**Pacitan**	**3.79**	**89**	P	**Pn**	**03 16 55.7**	**-0.7**
PCJI				S	**Sn**	**03 17 36.2**	**-3.8**
KASI	**Kota Agung**	**3.94**	**314**	P	**Pn**	**03 16 58.8**	**+0.4**
KASI				S	**Sn**	**03 17 43.5**	**-0.1**
NGJI	**Ngawi**	**4.17**	**78**	P	**Pn**	**03 17 03.2**	**+1.6**
KLJI	**Kotabumi**	**4.20**	**324**	P	Pn	03 17 05.6	+3.6
PWJI	**Pagerwojo**	**4.42**	**87**	P	**Pn**	**03 17 02.4**	**-0.5**
PWJI				S	**Sn**	**03 17 53.9**	**-1.3**
LWLI	**Liwa**	**4.60**	**315**	P	**Pn**	**03 17 08.5**	**+0.9**
TBJI	**Tambak Boyo**	**4.69**	**72**	P	**Pn**	**03 17 09.1**	**+0.5**
MDSI	**Maura Dua**	**4.91**	**320**	P	**Pn**	**03 17 12.4**	**+0.7**
KRKI	**Karangkates**	**5.05**	**89**	P	x	03 17 14.7	
	646nm,0.9s,5.3nm						
GRJI	**Gresik**	**5.26**	**75**	P	**Pn**	**03 17 16.7**	**+0.3**
	204nm,0.6s,3μm1.0nm						
TPI	**Tanjungpandan**	**5.50**	**3**	P	Pn	03 17 22.6	+3.0
	47nm,0.9s,797nm0.6nm						
LHSI	**Lahat**	**5.83**	**319**	P	**Pn**	**03 17 25.1**	**+0.9**
	135nm,1.1s,0.5nm						
MNAI	**Manna**	**5.85**	**311**	*e*Pn	**Pn**	**03 17 24.2**	**-0.3**
	235nm,0.8s						
MNAI				*e*Sn	**Sn**	**03 18 26.2**	**-4.0**
MNAI	**Manna**	**5.85**	**311**	P	**Pn**	**03 17 24.4**	**0.0**
	baz=5.9,SNR=12						
GMJI	**Gumukmas**	**6.03**	**90**	P	**Pn**	**03 17 26.8**	**-0.1**
	126nm,1.3s,2μm0.5nm						
JAGI	**Jajag, Banyuwa**	**6.73**	**92**	*e*Pn	**Pn**	**03 17 35.5**	**-0.9**
	92nm,0.6s						
JAGI				*e*Sn	Sn	03 18 45.0	-6.7
JAGI	**Jajag, Banyuwa**	**6.73**	**92**	P	**Pn**	**03 17 35.9**	**-0.6**
	baz=6.7,SNR=24						
ABJI	**Asem Bagus**	**6.83**	**86**	P	**Pn**	**03 17 39.5**	**+1.7**
	370nm,0.8s,4μm1.6nm						
BYJI	**Banyuwangi**	**6.94**	**90**	P	x	03 17 40.4	
	150nm,0.7s,1.1nm						
IGBI	**Denpasar**	**7.73**	**95**	P	**Pn**	**03 17 50.3**	**+0.3**
	233nm,1.0s,5μm1.3nm						
SRBI	**Singaraja**	**7.79**	**89**	P	**Pn**	**03 17 50.6**	**-0.2**
	128nm,0.8s,2μm0.6nm						
PDSI	**Padang**	**10.03**	**317**	P	**Pn**	**03 18 22.8**	**+1.3**
	23nm,0.7s,11μm						
KSM	**Kuching**	**10.13**	**17**	⇑P	**Pn**	**03 18 24.7**	**+1.9**
MYKOM	**Kota Tinggi**	**10.60**	**341**	⇑P	**Pn**	**03 18 30.9**	**+1.8**
KGM	**Kluang**	**10.99**	**338**	⇑P	**Pn**	**03 18 36.2**	**+1.7**
BMNI	**Bima**	**11.23**	**92**	P	x	03 18 31.1	
SBUM	**Sibu**	**11.71**	**25**	P	x	03 18 45.7	
	34nm,1.3s						
SBUM	**Sibu**	**11.71**	**25**	⇓P	**Pn**	**03 18 45.7**	**+1.4**
KAPI	**Kappang**	**12.74**	**76**	*e*Pn	**Pn**	**03 18 57.0**	**-1.0**
KAPI				*e*Sn	Sn	03 21 11.0	-7.1
BKSI	**Bulukumba**	**13.02**	**78**	P	**Pn**	**03 19 01.6**	**-0.1**
	38nm,1.0s,445nm						
SPSI	**Sidrap Palu**	**13.07**	**72**	P	**Pn**	**03 19 01.5**	**-0.9**
	26nm,1.2s						
BNSI	**Bone**	**13.25**	**74**	P	**Pn**	**03 19 07.2**	**+2.4**
TTSI	**Tana Toraja**	**13.45**	**68**	P	**Pn**	**03 19 08.7**	**+1.3**
	27nm,1.6s,1μm						
PSI	**Prapat**	**13.85**	**322**	LR	LR	03 25 37.6	
	comp=Z,177nm,20.0s,baz=140,slow=42						
IPM	**Ipoh**	**14.16**	**333**	⇑P	Pn	03 19 09.1	-7.5
KULM	**Kulim**	**15.05**	**333**	*e*Pn	**Pn**	**03 19 25.7**	**-2.3**
GIRL	**Giralia**	**15.74**	**156**	P	**Pn**	**03 19 36.7**	**0.0**
	baz=16,SNR=7.1						
APSI	**Ampana**	**16.02**	**64**	P	**P**	**03 19 42.2**	**+0.3**
	163nm,1.0s,1μm						
KKM	**Kota Kinabalu**	**16.75**	**32**	*e*P	**Pn**	**03 19 47.5**	**-1.9**
	24nm,0.7s						
SOEI	**Soe**	**16.77**	**96**	P	**P**	**03 19 50.8**	**+0.3**
	90nm,1.1s						
SOEI	**Soe**	**16.77**	**96**	*e*Pn	**Pn**	**03 19 48.4**	**-1.4**
	73nm,0.9s						
SOEI				*e*Sn	**Sn**	**03 22 54.2**	**-1.8**
SOEI	**Soe**	**16.77**	**96**	⇓P	**Pn**	**03 19 49.1**	**-0.7**
	baz=17,SNR=4.7						
MRSI	**Marisa**	**16.95**	**60**	P	**P**	**03 19 51.7**	**-0.5**
	173nm,0.7s,2μm						
SDKM	**Sandakan**	**16.96**	**36**	⇓P	**Pn**	**03 19 50.8**	**-1.1**
GTOI	**Gorontalo**	**17.95**	**61**	P	**P**	**03 20 00.6**	**-2.7**
	231nm,1.5s,3μm						
SANI	**Sanana**	**19.56**	**73**	P	**P**	**03 20 19.6**	**-1.3**
	106nm,0.8s,919nm						
DLV	**T Lat**	**20.12**	**3**	*e*P	**P**	**03 20 25.8**	**-1.3**
	47nm,0.9s						
NLAI	**Namlea**	**20.27**	**77**	P

comp=Z,24nm,0.7s
CMSA Cobar Meteorol 42.50 128 P **P** 03 23 48.4 +1.7
baz=42,SNR=34
KOLN Koldanda 42.57 328 *e*P **P** 03 23 46.6 -0.9
comp=Z,50nm,0.7s
DANN Dangsing 42.96 329 *e*P **P** 03 23 49.7 -1.0
comp=Z,53nm,0.6s
PYUN Piuthan 43.16 328 *e*P **P** 03 23 51.3 -0.9
comp=Z,34nm,0.5s
YNG Young 45.72 131 P **P** 03 24 14.2 +1.9
baz=46,SNR=8.5
ARMA Armidale 46.83 124 *e*P **P** 03 24 23.1 +1.8
comp=Z,6.3nm,1.1s
NDI New Delhi 46.86 323 *e*P **P** 03 24 19.5 -1.8
GTA Gaotai 47.96 352 *e*P **P** 03 24 29.0 -0.8
GTA pmax pmax
comp=Z,9.0nm,1.2s
BJT Baijiatuau 48.74 9 *e*P **P** 03 24 34.1 -1.5
comp=Z,16nm,0.6s
KSAR Wonju Array Be 49.38 22 P **P** 03 24 39.0 -1.5
KSRS Korea Array 49.40 22 P **P** 03 24 39.0 -1.7
comp=Z,6.7nm,0.9s,baz=209,slow=9.6,SNR=11
MJAR Matsushiro Arr 53.17 31 P P 03 25 05.4 -3.6
MJAR Matsushiro Arr 53.17 31 P P 03 25 05.4 -3.6
comp=Z,5.2nm,1.0s,baz=211,slow=8.6,SNR=9.9
KSH Kashi 55.74 331 *i*P **P** 03 25 25.5 -2.2
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,130nm,4.2s
KSH LR LR
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,95nm,4.3s
SONM Songino Array 55.88 359 P **P** 03 25 27.7 -0.8
SONM PcP **PcP** 03 26 25.5 -0.7
SONM ScP **ScP** 03 30 16.1 -1.1
SONM Songino Array 55.88 359 P **P** 03 25 27.7 -0.8
comp=Z,13nm,0.7s,baz=175,slow=8.2,SNR=83
SONM PcP **PcP** 03 26 25.5 -0.7
comp=Z,1.1nm,0.4s,baz=187,slow=4.9,SNR=3.5
SONM ScP **ScP** 03 30 16.1 -1.1
comp=Z,0.7nm,0.8s,baz=173,slow=1.5,SNR=4.1
ULN Ulaanbaatar 55.90 360 *e*P **P** 03 25 27.2 -1.5
comp=Z,27nm,0.9s
KBL Kabul 55.92 322 *e*P **P** 03 25 27.7 -1.5
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 55.92 322 *e*P **P** 03 25 27.7 -1.5
comp=Z,3.6nm,0.6s
USRK Ussuriysk Arra 56.80 21 P **P** 03 25 32.6 -2.3
comp=Z,4.1nm,0.5s,baz=187,slow=6.7,SNR=16
KZA Kyzart 58.09 332 *i*P **P** 03 25 43.7 -0.8
KZA Kyzart 58.09 332 P **P** 03 25 43.8 -0.8
SNR=10
TKM2 Tokmak 2 58.59 333 *i*P **P** 03 25 46.9 -0.9
TKM2 Tokmak 2 58.59 333 P **P** 03 25 46.9 -0.9
SNR=21
TKM2 Tokmak 2 58.59 333 *e*P **P** 03 25 46.7 -1.1
comp=Z,27nm,0.9s
KBK Karagaybulak 58.68 332 P **P** 03 25 48.0 -0.4
SNR=10.0
AAK Ala-Archa 58.87 332 *e*P **P** 03 25 48.6 -1.1
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 58.87 332 *e*P **P** 03 25 48.6 -1.1
comp=Z,5.9nm,1.1s
MK31 Makanchi Array 59.20 340 *e*P **P** 03 25 50.4 -1.3
MK31 Makanchi Array 59.20 340 *e*P **P** 03 25 50.4 -1.3
MKAR Makanchi Array 59.20 340 P **P** 03 25 50.7 -1.0
MKAR Makanchi Array 59.20 340 P **P** 03 25 50.7 -1.0
MKAR Makanchi Array 59.20 340 P **P** 03 25 50.7 -1.0
comp=Z,7.6nm,0.6s,baz=144,slow=7.5,SNR=99
EKS2 Erkin-Say 59.23 332 *i*P **P** 03 25 51.6 -0.5
EKS2 Erkin-Say 59.23 332 P **P** 03 25 51.6 -0.5
SNR=7.8
EKS2 Erkin-Say 59.23 332 *e*P **P** 03 25 51.2 -0.9
comp=Z,16nm,1.0s
USP Ospenovka 59.36 333 *i*P **P** 03 25 51.7 -1.2
USP Ospenovka 59.36 333 P **P** 03 25 51.7 -1.2
SNR=5.1
TLY Talaya 59.80 357 *e*P **P** 03 25 56.0 +0.2
TLY pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 61.13 18 *e*P P 03 25 58.4 -6.4
KKAR Karatay Array 61.14 330 *e*P **P** 03 26 03.5 -1.5
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 61.14 330 *e*P **P** 03 26 03.5 -1.5
comp=Z,1.1nm,0.4s
YSS Yuzh-Sakhalins 63.36 26 *e*P **P** 03 26 17.7 -2.0
YSS pmax pmax
comp=Z,19nm,0.8s
YSS Yuzh-Sakhalins 63.36 26 *e*P **P** 03 26 17.7 -2.0
comp=Z,19nm,0.8s
KURK Kurchatov 63.81 340 P **P** 03 26 21.2 -1.4
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 63.81 340 *e*P **P** 03 26 21.1 -1.5
comp=Z,16nm,0.9s
ZAA0 Zalesovo Array 64.85 346 *e*P **P** 03 26 27.2 -2.2
ZALV Zalesovo Beam 64.85 346 P **P** 03 26 27.7 -1.6
ZALV Zalesovo Beam 64.85 346 P **P** 03 26 27.7 -1.6
ZALV Zalesovo Beam 64.85 346 P **P** 03 26 27.7 -1.6
comp=Z,7.5nm,0.3s,baz=158,slow=6.7,SNR=63
NVS Novosibirsk 66.06 345 *e*P P 03 26 33.5 -3.6
NVS pmax pmax
comp=Z,16nm,1.6s
NVS pmax pmax
comp=E,7.0nm,1.1s
BVA0 Borovoye Array 68.67 337 P **P** 03 26 52.3 -1.4
BVA0 pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 68.74 337 *e*P **P** 03 26 52.7 -1.4
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 68.74 337 *e*P **P** 03 26 52.7 -1.4
comp=Z,8.7nm,1.1s
KMBO Kilima Mbogo 70.14 272 *e*P **P** 03 27 04.6 +0.7
comp=Z,2.8nm,0.9s
KMBO Kilima Mbogo 70.14 272 P **P** 03 27 04.5 +0.7
comp=Z,1.5nm,0.6s,baz=36,slow=21,SNR=4.0
AB31 Akbulak array 70.68 329 *i*P **P** 03 27 05.1 -1.0
AB31 pmax pmax
comp=Z,8.0nm,0.4s
ABKAR Akbulak array 70.68 329 *e*P **P** 03 27 05.0 -1.0
comp=Z,18nm,0.6s
AKTO Aktyubinsk 72.39 329 P **P** 03 27 15.2 -1.2
AKTO Aktyubinsk 72.39 329 P **P** 03 27 15.2 -1.2
AKTO Aktyubinsk 72.39 329 P **P** 03 27 15.2 -1.2
comp=Z,2.1nm,0.5s,baz=199,slow=1.6,SNR=10
PETK Petropavlovsk- 74.54 29 P **P** 03 27 27.5 -1.4
PETK Petropavlovsk- 74.54 29 P **P** 03 27 27.5 -1.4
PETK Petropavlovsk- 74.54 29 P **P** 03 27 27.5 -1.4
comp=Z,2.5nm,0.5s,baz=169,slow=8.4,SNR=3.3
VNDA Vanda 74.65 169 *e*P **P** 03 27 29.6 +0.5
comp=Z,4.3nm,1.0s
VNDA Vanda 74.65 169 P **P** 03 27 30.2 +1.0
comp=Z,2.9nm,0.9s,baz=307,slow=8.0,SNR=6.2
SVE Sverdlovsk 75.31 336 *e*P **P** 03 27 32.6 -0.6
SVE pmax pmax
comp=Z,21nm,1.0s
ARU Arti 75.92 334 *d i*P **P** 03 27 36.1 -0.6
ARU 03 30 22.5
ARU S **S** 03 37 17.5 +5.5
ARU SS **SS** 03 42 04.4 -2.1
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 75.92 334 *e*P **P** 03 27 35.8 -0.9
comp=Z,11nm,1.0s
LSZ Lusaka 77.46 256 *e*P **P** 03 27 47.5 +1.1
comp=Z,10nm,0.9s
KBZ Khabaz 77.83 318 P **P** 03 27 47.7 0.0
KBZ Khabaz 77.83 318 P **P** 03 27 47.7 0.0
KBZ Khabaz 77.83 318 P **P** 03 27 47.7 0.0
comp=Z,3.7nm,0.9s,baz=166,slow=4.0,SNR=4.1
KIV Kislovodsk 78.06 318 *e*P **P** 03 27 49.3 +0.2
KIV pmax pmax
comp=Z,15nm,1.4s
KIV Kislovodsk 78.06 318 *e*P **P** 03 27 47.8 -1.4
comp=Z,10nm,1.0s
ASF Jabal al Asfar 78.17 305 P **P** 03 27 53.1 +3.1
ASF Jabal al Asfar 78.17 305 P **P** 03 27 53.1 +3.1
comp=Z,2.5nm,0.7s,baz=49,slow=11,SNR=3.7

LBTB Lobatse 79.11 246 *e*P **P** 03 27 56.5 +1.1
comp=Z,4.7nm,0.7s
BOSA Boshof 79.17 242 *e*P **P** 03 27 56.6 +0.9
comp=Z,2.9nm,0.5s
BOSA Boshof 79.17 242 P **P** 03 27 57.4 +1.7
comp=Z,1.8nm,0.5s,baz=122,slow=5.1,SNR=7.9
TIXI Tiksi 81.03 7 *ce*P **P** 03 28 02.0 -2.5
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 81.03 7 *e*P **P** 03 28 01.8 -2.7
comp=Z,6.8nm,0.8s
VRHR Novokhopersk 81.63 324 *e*P **P** 03 28 06.5 -1.6
VRHR pmax pmax
comp=N,4.0nm,0.9s
VRHR pmax pmax
comp=E,9.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
QSPA South Pole Qui 81.72 180 *e*P **P** 03 28 09.2 +0.6
comp=Z,9.8nm,1.2s
BR131 Keskin Array S 82.93 312 *e*P **P** 03 28 15.0 -0.4
comp=Z,4.5nm,1.1s
BRTR Keskin Array B 82.93 312 P **P** 03 28 15.0 -0.4
BRTR Keskin Array B 82.93 312 P **P** 03 28 15.0 -0.4
comp=Z,2.5nm,0.8s,baz=131,slow=5.4,SNR=5.9
VORD Divnogorie 82.93 324 *e*P **P** 03 28 16.1 +1.2
VORD pmax pmax
comp=N,9.0nm,0.7s
VORD pmax pmax
comp=E,70nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 83.10 324 *e*P **P** 03 28 15.2 -0.6
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 85.98 327 *i*P **P** 03 28 30.5 +0.3
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 85.98 327 P **P** 03 28 30.1 -0.1
OBN Obninsk 85.98 327 P **P** 03 28 30.1 -0.1
comp=Z,7.6nm,0.5s,baz=161,slow=18,SNR=4.8
BILL Bilibino 86.58 19 *i*P **P** 03 28 31.9 -1.0
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL Bilibino 86.58 19 *e*P **P** 03 28 31.0 -1.9
comp=Z,3.1nm,0.7s
KLMR Klimovskoe 86.67 333 *i*P **P** 03 28 33.7 +0.3
TSUM Tsumeb 87.10 251 *e*P **P** 03 28 38.3 +1.6
comp=Z,6.7nm,0.9s
SNAA Sanae 88.41 197 P **P** 03 28 43.8 +2.0
SNAA Sanae 88.41 197 *e*P **P** 03 28 43.6 +1.7
comp=Z,17nm,1.0s
AKASG Malin Array Be 88.91 322 P **P** 03 28 46.9 +2.6
AKASG Malin Array Be 88.91 322 P **P** 03 28 46.9 +2.6
AKASG Malin Array Be 88.91 322 P **P** 03 28 46.9 +2.6
comp=Z,2.5nm,0.7s,baz=85,slow=4.5,SNR=12
AKBB Malin Array Si 88.91 322 *e*P **P** 03 28 45.1 +0.8
AKBB Malin Array Si 88.91 322 *e*P **P** 03 28 45.1 +0.8
KIEV Kiev 88.91 321 *e*P **P** 03 28 43.9 -0.5
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 88.91 321 *e*P **P** 03 28 43.9 -0.5
comp=Z,4.0nm,0.8s
VNA2 Neumayer--Watz 90.06 197 P **P** 03 28 51.4 +2.0
baz=142,slow=7.0
VNA1 Neumayer--Stat 90.44 197 P **P** 03 28 53.9 +2.7
BUR08 Bucovina Ar. S 90.80 318 *e*P **P** 03 28 54.1 +0.7
FINES FINESS Array B 93.06 332 P **P** 03 29 04.8 +1.4
FINES FINESS Array B 93.06 332 P **P** 03 29 04.8 +1.4
comp=Z,2.5nm,0.8s,baz=29,slow=4.4,SNR=4.9
KECS Kecovo 94.06 318 *e*P **P** 03 29 11.3 +3.0
KECS Kecovo 94.06 318 *e*P P 03 29 11.3 +3.0
AQU L'Aquila 98.43 312 *e*P Pdif 03 29 28.6 +0.2
comp=Z,16nm,1.1s
YKA Yellowknife Ar 117.93 21 PKP **PKPdf** 03 34 35.0 -0.8
YKA Yellowknife Ar 117.93 21 PKP **PKPdf** 03 34 35.0 -0.8
comp=Z,0.1nm,0.6s,baz=336,slow=1.8,SNR=3.0
ULM Lac du Bonnet 133.91 21 PKP **PKPdf** 03 35 06.8 0.0
ULM Lac du Bonnet 133.91 21 PKP **PKPdf** 03 35 06.8 0.0
comp=Z,1.3nm,0.7s,baz=225,slow=2.9,SNR=3.1
CPUP Villa Florida 142.51 203 PKPpre PKPpre 03 35 20.0
CPUP Villa Florida 142.51 203 PKhKP PKPpre 03 35 20.0
comp=Z,1.4nm,0.6s,baz=162,slow=3.1,SNR=3.4
WMOK Wichita Mounta 144.38 39 *e*PKIKP PKPbc 03 35 24.7 -0.2
WMOK Wichita Mounta 144.38 39 *e*PKPdf PKPbc 03 35 24.7 -0.3
BDFB Brasilia 145.93 226 PKPbc **PKPab** 03 35 32.1 +1.1
BDFB Brasilia 145.93 226 PKPbc **PKPab** 03 35 32.1 +1.1
comp=Z,6.7nm,0.7s,baz=187,slow=2.3,SNR=12
JCT Junction City 146.35 45 *e*PKP2 **PKPab** 03 35 32.2 0.0
JCT Junction City 146.35 45 *e*PKPbc **PKPab** 03 35 32.2 0.0
MIAR Mount Ida 147.55 33 *e*PKP2 **PKPbc** 03 35 34.2 -0.2
MIAR Mount Ida 147.55 33 *e*PKPbc **PKPbc** 03 35 34.2 -0.2
WVT Waverly 149.01 24 *e*PKP2 **PKPbc** 03 35 37.6 -0.6
WVT Waverly 149.01 24 *e*PKPbc **PKPbc** 03 35 37.5 -0.6
LVC Limon Verde 149.08 187 *e*PKPbc **PKPbc** 03 35 40.7 +1.6
LVC *e*PKPab **PKPab** 03 35 45.2 +1.8
SAML Samuel 160.46 209 *e*PKPab **PKPab** 03 36 32.3 +0.7
JTS JuntasAbangare 167.70 80 *e*PKPdf **PKPdf** 03 35 57.1 +0.2

IDC **29** *03:24:08.9±1.2,36.29N×21.71E,h0km,mb3.5/6,*
mb1 3.5/8,mb1mx3.4/36,mbtmp3.5/8,ML3.0/1,Error
ellipse: s-maj=23.3km s-min=22.9km az=129.0
CSEM **29** *03:24:11.1±0.4,36.07N×21.49E,h10km,ML3.9,Error*
ellipse: s-maj=10.4km s-min=4.9km az=44.0
ATH **29** *03:24:12.1,36.09N×21.59E,h34km±2km,ML3.7*
THE **29** *03:24:14.0,36.16N×21.65E,h8km±1km,ML3.9/3,Error*
ellipse: s-maj=2.0km s-min=0.8km az=47.0
BEO **29** *03:24:15.6±0.8,36.52N×21.41E,h0km,ML3.9/5*
ISC 29 03:24:14.0±1.1,36.12N±0.05×21.57E±0.05,h48km±12km,
n232,σ1°35/245,mb3.5/6,1C-4D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.79**	**10**	P		**Pn**		03 24 28.0	-0.8
PYL				S		Sn		03 24 39.3	-0.3
PYL	**PYLOS**	**0.79**	**10**	*e*PN		**Pn**		03 24 28.0	-0.8
PYL				*e*SN		**Sn**		03 24 39.7	+0.1
PYL	**PYLOS**	**0.79**	**10**	P		**Pn**		03 24 28.0	-0.8
PYL				S		**Sn**		03 24 39.3	-0.3
ITM	**Ithomi**	**1.09**	**15**	P		**Pn**		03 24 33.0	0.0
ITM				S		**Sn**		03 24 48.4	+1.4
ITM	**Ithomi**	**1.09**	**15**	*e*PN		**Pn**		03 24 32.5	-0.5
ITM				*e*SN		**Sn**		03 24 47.8	+0.8
ITM	**Ithomi**	**1.09**	**15**	*e*Pn		**Pn**		03 24 32.5	-0.5
ITM	**Ithomi**	**1.09**	**15**	P		**Pn**		03 24 33.0	0.0
ITM				*e*Sn		**Sn**		03 24 47.8	+0.8
ITM				S		**Sn**		03 24 48.4	+1.4
KYTH	**Kithira**	**1.20**	**82**	P		**Pn**		03 24 35.5	+1.2
KYTH	**Kithira**	**1.20**	**82**	*e*PN		**Pn**		03 24 34.3	0.0
KYTH	**Kithira**	**1.20**	**82**	*e*Pn		**Pn**		03 24 34.3	0.0
KYTH	**Kithira**	**1.20**	**82**	P		**Pn**		03 24 35.5	+1.2
VLI	**Veliai**	**1.25**	**61**	P		**Pn**		03 24 35.5	+0.4
VLI	**Veliai**	**1.25**	**61**	*e*PN		**Pn**		03 24 35.5	+0.4
VLI				*e*SN		**Sn**		03 24 52.1	+1.3
VLI	**Veliai**	**1.25**	**61**	P		**Pn**		03 24 35.5	+0.4
VLI				*e*Sn		**Sn**		03 24 52.1	+1.3
VLX	**Vlachokerasia**	**1.41**	**27**	P		**Pn**		03 24 38.0	+0.7
VLX				S		**Sn**		03 24 56.7	+2.0
VLX	**Vlachokerasia**	**1.41**	**27**	*e*PN		**Pn**		03 24 37.9	+0.7
VLX				*e*SN		**Sn**		03 24 56.1	+1.4
VLX	**Vlachokerasia**	**1.41**	**27**	*e*Pn		**Pn**		03 24 37.9	+0.7
VLX				*e*Sn		**Sn**		03 24 56.1	+1.4
AMT	**Artemida-Makis**	**1.41**	**4**	P		**Pn**		03 24 38.8	+1.5
AMT	**Artemida-Makis**	**1.41**	**4**	*e*PN		**Pn**		03 24 37.7	+0.4
AMT				*e*SN		**Sn**		03 24 56.8	+2.0
AMT	**Artemida-Makis**	**1.41**	**4**	*e*Pn		**Pn**		03 24 37.7	+0.4
AMT	**Artemida-Makis**	**1.41**	**4**	P		**Pn**		03 24 38.8	+1.5
AMT				*e*Sn		**Sn**		03 24 56.8	+2.0
ANKY	**Antikythira Is**	**1.43**	**100**	P		**Pn**		03 24 38.5	+1.1
ANKY				S		**Sn**		03 24 58.1	+3.1
ANKY	**Antikythira Is**	**1.43**	**100**	*e*PN		**Pn**		03 24 37.6	+0.2
ANKY				*e*SN		**Sn**		03 24 55.3	+0.3
ANKY	**Antikythira Is**	**1.43**	**100**	*e*Pn		**Pn**		03 24 37.6	+0.2
ANKY	**Antikythira Is**	**1.43**	**100**	P		**Pn**		03 24 38.5	+1.1
ANKY				*e*Sn		**Sn**		03 24 55.3	+0.3
ANKY				S		**Sn**		03 24 58.1	+3.1
DRO	**Drossia**	**1.83**	**3**	P		**Pn**		03 24 44.7	+1.7
DRO	**Drossia**	**1.83**	**3**	*e*PN		**Pn**		03 24 43.2	+0.2
DRO				*e*SN		**Sn**		03 25 06.0	+1.0
DRO	**Drossia**	**1.83**	**3**	*e*Pn		**Pn**		03 24 43.2	+0.2
DRO	**Drossia**	**1.83**	**3**	P		**Pn**		03 24 44.7	+1.7
DRO				*e*Sn		**Sn**		03 25 06.0	+1.0
GUR	**Goura**	**1.92**	**19**	P		**Pn**		03 24 45.1	+0.9
GUR	**Goura**	**1.92**	**19**	P		**Pn**		03 24 45.1	+0.9
DID	**Didima**	**1.92**	**44**	P		**Pn**		03 24 45.4	+1.1
DID	**Didima**	**1.92**	**44**	*e*PN		**Pn**		03 24 44.2	-0.1
DID				*e*SN		**Sn**		03 25 07.9	+0.6
DID	**Didima**	**1.92**	**44**	*e*Pn		**Pn**		03 24 44.2	-0.1
DID	**Didima**	**1.92**	**44**	P		**Pn**		03 24 45.4	+1.1
DID				*e*Sn		**Sn**		03 25 07.9	+0.6
RLS	**Riolos of Patr**	**1.94**	**358**	P		**Pn**		03 24 45.7	+1.3
RLS	**Riolos of Patr**	**1.94**	**358**	*e*PB		**Pn**		03 24 45.6	+1.2
RLS				*e*SN		**Sn**		03 25 09.3	+1.8
RLS	**Riolos of Patr**	**1.94**	**358**	P		**Pn**		03 24 45.7	+1.3
RLS				*e*Sn		**Sn**		03 25 09.3	+1.8
KLV	**Kalavryta, Ach**	**1.98**	**13**	P		**Pn**		03 24 46.0	+1.0
KLV	**Kalavryta, Ach**	**1.98**	**13**	*e*PN		**Pn**		03 24 45.8	+0.8
KLV				*e*SN		**Sn**		03 25 10.1	+1.5
KLV	**Kalavryta, Ach**	**1.98**	**13**	*e*Pn		**Pn**		03 24 45.8	+0.8
KLV				*e*Sn		**Sn**		03 25 10.1	+1.5
LAKA	**Lakka**	**2.14**	**9**	P		**Pn**		03 24 48.9	+1.6
LAKA	**Lakka**	**2.14**	**9**	*e*PN		**Pn**		03 24 48.0	+0.7
LAKA	**Lakka**	**2.14**	**9**	*e*Pn		**Pn**		03 24 48.0	+0.7
LAKA	**Lakka**	**2.14**	**9**	P		**Pn**		03 24 48.9	+1.6
VLS	**Valsamata**	**2.20**	**339**	*e*PN		**Pn**		03 24 48.6	+0.6
VLS	**Valsamata**	**2.20**	**339**	*e*Pn		**Pn**		03 24 48.6	+0.6
LTK	**Loutraki**	**2.20**	**30**	P		**Pn**		03 24 49.4	+1.3
LTK	**Loutraki**	**2.20**	**30**	*e*PN		**Pn**		03 24 47.9	-0.2
LTK	**Loutraki**	**2.20**	**30**	*e*Pn		**Pn**		03 24 47.9	-0.2
LTK	**Loutraki**	**2.20**	**30**	P		**Pn**		03 24 49.4	+1.3
NAIG	**Nisos Aigina**	**2.24**	**43**	*e*PN		**Pn**		03 24 48.9	+0.3
NAIG	**Nisos Aigina**	**2.24**	**43**	*e*Pn		**Pn**		03 24 48.9	+0.3
VAM	**Vamos**	**2.25**	**108**	P		**Pn**		03 24 49.7	+0.9
VAM	**Vamos**	**2.25**	**108**	*e*PN		**Pn**		03 24 48.1	-0.7
VAM	**Vamos**	**2.25**	**108**	*e*Pn		**Pn**		03 24 48.1	-0.7
VAM	**Vamos**	**2.25**	**108**	P		**Pn**		03 24 49.7	+0.9
KALE	**Kalithea**	**2.31**	**11**	P		**Pn**		03 24 51.3	+1.7
KALE	**Kalithea**	**2.31**	**11**	*e*PB		**Pn**		03 24 51.1	+1.5
KALE	**Kalithea**	**2.31**	**11**	P		**Pn**		03 24 51.3	+1.7
EFP	**Efpalio**	**2.32**	**7**	P		**Pn**		03 24 51.2	+1.6
EFP	**Efpalio**	**2.32**	**7**	*e*PB		**Pn**		03 24 51.2	+1.6
EFP	**Efpalio**	**2.32**	**7**	P		**Pn**		03 24 51.2	+1.6
DSF	**Desfina**	**2.41**	**18**	P		**Pn**		03 24 52.8	+1.8
DSF	**Desfina**	**2.41**	**18**	*e*PN		**Pn**		03 24 50.7	-0.3
DSF	**Desfina**	**2.41**	**18**	*e*Pn		**Pn**		03 24 50.7	-0.3
DSF	**Desfina**	**2.41**	**18**	P		**Pn**		03 24 52.8	+1.8
GVD	**Gavdos**	**2.42**	**121**	*e*P		Pn		03 25 00.3	+9.2
PVO	**Paravola**	**2.49**	**359**	P		Pn		03 24 55.0	+3.0
PVO	**Paravola**	**2.49**	**359**	P		Pn		03 24 55.0	+3.0
PDO	**Prodromos**	**2.49**	**353**	P		**Pn**		03 24 54.3	+2.3
PDO	**Prodromos**	**2.49**	**353**	*e*PN		**Pn**		03 24 52.7	+0.7
PDO	**Prodromos**	**2.49**	**353**	*e*Pn		**Pn**		03 24 52.7	+0.7
PDO	**Prodromos**	**2.49**	**353**	P		**Pn**		03 24 54.3	+2.3
ATH	**Athens Observa**	**2.52**	**42**	*e*PN		**Pn**		03 24 53.1	+0.7
ATH	**Athens Observa**	**2.52**	**42**	*e*Pn		**Pn**		03 24 53.1	+0.7
PTL	**Penteli**	**2.66**	**43**	P		**Pn**		03 24 54.9	+0.5
PTL	**Penteli**	**2.66**	**43**	*e*PN		**Pn**		03 24 54.7	+0.3
PTL	**Penteli**	**2.66**	**43**	P		**Pn**		03 24 54.9	+0.5
LKD2	**Lefkada island**	**2.76**	**345**	*e*PN		**Pn**		03 24 56.9	+1.1
LKD2	**Lefkada island**	**2.76**	**345**	*e*Pn		**Pn**		03 24 56.9	+1.1
LKR	**Lokris**	**2.77**	**24**	P		**Pn**		03 24 57.0	+1.2
LKR	**Lokris**	**2.77**	**24**	*e*PN		**Pn**		03 24 57.0	+1.2
LKR	**Lokris**	**2.77**	**24**	P		**Pn**		03 24 57.0	+1.2
AXAR	**Agios Charalam**	**2.78**	**18**	P		Pn		03 24 59.1	+3.1
AXAR	**Agios Charalam**	**2.78**	**18**	*e*PN		**Pn**		03 24 56.5	+0.5
AXAR	**Agios Charalam**	**2.78**	**18**	*e*Pn		**Pn**		03 24 56.5	+0.5
AXAR	**Agios Charalam**	**2.78**	**18**	P		Pn		03 24 59.1	+3.1
EVR	**Evrytania**	**2.80**	**4**	P		Pn		03 24 59.7	+3.4
EVR	**Evrytania**	**2.80**	**4**	*e*PN		**Pn**		03 24 57.3	+1.0
EVR	**Evrytania**	**2.80**	**4**	*e*Pn		**Pn**		03 24 57.3	+1.0
EVR	**Evrytania**	**2.80**	**4**	P		Pn		03 24 59.7	+3.4
IDI	**Anoyia**	**2.83**	**106**	Pn		**Pn**		03 24 56.0	-0.7
IDI	2.5nm,0.3s,baz=250,slow=11,SNR=60			Sn		**Sn**		03 25 29.6	0.0
MAKR	**Makrakomi, Fth**	**2.92**	**9**	P		**Pn**		03 25 00.4	+2.4
MAKR	**Makrakomi, Fth**	**2.92**	**9**	*e*PN		**Pn**		03 24 59.6	+1.6
MAKR	**Makrakomi, Fth**	**2.92**	**9**	*e*Pn		**Pn**		03 24 59.6	+1.6
MAKR	**Makrakomi, Fth**	**2.92**	**9**	P		**Pn**		03 25 00.4	+2.4
AGG	**Agios Georgios**	**2.96**	**12**	P		**Pn**		03 24 59.7	+1.2
AGG	**Agios Georgios**	**2.96**	**12**	*e*PN		**Pn**		03 24 59.3	+0.8
AGG	**Agios Georgios**	**2.96**	**12**	*e*Pn		**Pn**		03 24 59.3	+0.8
AGG	**Agios Georgios**	**2.96**	**12**	P		**Pn**		03 24 59.7	+1.2
MRKA	**Markates**	**3.04**	**31**	P		**Pn**		03 24 59.5	-0.1
MRKA	**Markates**	**3.04**	**31**	*e*PN		**Pn**		03 25 01.3	+1.7
MRKA	**Markates**	**3.04**	**31**	P		**Pn**		03 24 59.5	-0.1
MRKA	**Markates**	**3.04**	**31**	*e*Pn		**Pn**		03 25 01.3	+1.7
SMIA	**Simia**	**3.05**	**25**	*e*PN		**Pn**		03 25 00.0	+0.3
SMIA	**Simia**	**3.05**	**25**	*e*Pn		**Pn**		03 25 00.0	+0.3
SANT	**Santorini**	**3.15**	**84**	*e*P		**Pn**		03 25 01.2	0.0
LAST	**Lasithi**	**3.32**	**106**	P		**Pn**		03 25 03.9	+0.4
LAST	**Lasithi**	**3.32**	**106**	P		**Pn**		03 25 03.9	+0.4
APE	**Apeiranthos**	**3.33**	**72**	*e*P		**Pn**		03 25 01.3	-2.2
SKIA	**Skiathos**	**3.39**	**26**	*e*PN		**Pn**		03 25 06.1	+1.7
SKIA	**Skiathos**	**3.39**	**26**	*e*Pn		**Pn**		03 25 06.1	+1.7
NPS	**Neapolis**	**3.40**	**103**	*e*PN		**Pn**		03 25 04.9	+0.4
NPS	**Neapolis**	**3.40**	**103**	*e*Pn		**Pn**		03 25 04.9	+0.4
NEO	**Neokhori**	**3.44**	**22**	*e*PN		**Pn**		03 25 06.2	+1.1
NEO	**Neokhori**	**3.44**	**22**	*e*Pn		**Pn**		03 25 06.2	+1.1
THL	**Klokotos Trika**	**3.46**	**6**	P		**Pn**		03 25 06.1	+0.9
THL	**Klokotos Trika**	**3.46**	**6**	*e*PN		**Pn**		03 25 06.1	+0.9
THL	**Klokotos Trika**	**3.46**	**6**	P		**Pn**		03 25 06.1	+0.9
XOR	**Xorichti**	**3.49**	**21**	P		**Pn**		03 25 07.0	+1.2
XOR	**Xorichti**	**3.49**	**21**	*e*PN		**Pn**		03 25 06.9	+1.2
XOR	**Xorichti**	**3.49**	**21**

KNT	Kendrikon	5.14	11	P	Pn	03 25 28.9	+0.5
KNT	Kendrikon	5.14	11	*e*Pn	Pn	03 25 29.8	+1.4
SRS	Serrai	5.23	17	P	Pn	03 25 29.9	+0.2
SRS	Serrai	5.23	17	P	Pn	03 25 29.9	+0.2
VAY	Valandovo	5.25	8	*e*Pn	Pn	03 25 29.1	-0.8
VAY	Valandovo	5.25	8	*i* Pn	Pn	03 25 29.6	-0.3
VAY				*e*Sg	Sn	03 26 23.9	-5.2
VAY	Valandovo	5.25	8	*e*Pn	Pn	03 25 29.1	-0.8
AYDB	Zeytinkoy-Aydi	5.38	68	*e*P	Pn	03 25 30.1	-1.6
NVR	Nevrokopi	5.52	18	*e*PN	Pn	03 25 35.2	+1.6
NVR	Nevrokopi	5.52	18	*e*Pn	Pn	03 25 35.2	+1.6
MMB	Musomiste	5.71	16	ǁ *i*P	Pn	03 25 36.0	-0.3
GELI	Tayfur-Gelibol	5.75	41	*e*P	Pn	03 25 32.9	-3.9
SKO	Skopje	5.84	359	*e*P	Pn	03 25 37.1	-0.9
SKO	Skopje	5.84	359	*i* Pn	Pn	03 25 37.3	-0.7
SKO				*e*Sg	Sn	03 26 39.4	-4.3
LPK	Lapseki	5.89	42	*e*P	Pn	03 25 34.3	-4.3
ALN	Alexandroupoli	5.92	35	*e*P	Pn	03 25 35.0	-4.0
KRBG	Karabiga-Canak	6.21	45	*e*P	Pn	03 25 38.9	-4.1
KDZ	Kurdzhali	6.28	27	ǁ *i*P	Pn	03 25 41.7	-2.3
PDG	Podgorica	6.55	345	*e*Pn	Pn	03 25 46.4	-1.3
PDG				*e*Sn	Sn	03 26 53.5	-7.5
PDG	Podgorica	6.55	345	*e*Pn	Pn	03 25 46.4	-1.3
PDG				*e*Sn	Sn	03 26 53.5	-7.5
VTS	Vitosha	6.59	11	*e*Pn	Pn	03 25 45.7	-2.6
VTS	Vitosha	6.59	11	ǁ *i*P	Pn	03 25 48.7	+0.4
VTS	Vitosha	6.59	11	*e*Pn	Pn	03 25 45.7	-2.6
ELL	Elmali	6.75	82	*e*P	Pn	03 25 50.7	+0.1
EDRB	Edirne	6.99	34	*e*P	Pn	03 25 49.7	-4.1
TREB	Trebinje	7.04	340	*e*Pn	Pn	03 25 52.2	-2.2
TREB				*e*Sn	Sn	03 27 04.3	-8.8
TREB	Trebinje	7.04	340	*e*Pn	Pn	03 25 52.2	-2.2
TREB				*e*Sn	Sn	03 27 04.3	-8.8
ZAPS	Zavoj	7.19	6	*e*Pn	Pn	03 25 54.8	-1.7
STON	Ston	7.38	337	*e*Pn	Pn	03 25 56.5	-2.4
STON				Sn	Sn	03 27 12.8	-8.5
STON	Ston	7.38	337	*e*Pn	Pn	03 25 56.3	-2.7
STON				*e*Sn	Sn	03 27 12.7	-8.5
STON	Ston	7.38	337	*e*Pn	Pn	03 25 56.3	-2.7
STON				*e*Sn	Sn	03 27 12.7	-8.5
GRUS	Gruza	7.79	355	*e*Pn	Pn	03 26 03.0	-1.6
GRUS				*e*Sn	Sn	03 27 23.0	-8.4
GRUS	Gruza	7.79	355	*e*Pn	Pn	03 26 03.0	-1.6
GRUS				*e*Sn	Sn	03 27 23.0	-8.4
BBLS	Lazići	7.91	349	*e*Pn	Pn	03 26 04.4	-2.0
BBLS				*e*Sn	Sn	03 27 26.0	-8.6
BBLS	Lazići	7.91	349	*e*Pn	Pn	03 26 04.4	-2.0
BBLS				*e*Sn	Sn	03 27 26.0	-8.6
DIVS	Divibare	8.06	352	*e*Pn	Pn	03 26 06.4	-2.0
DIVS				*e*Sn	Sn	03 27 29.7	-8.5
DIVS	Divibare	8.06	352	*e*Pn	Pn	03 26 06.4	-2.0
DIVS				*e*Sn	Sn	03 27 29.7	-8.5
TRUS	Trudelj	8.14	354	*e*Pn	Pn	03 26 07.0	-2.5
TRUS	Trudelj	8.14	354	*e*Pn	Pn	03 26 07.0	-2.5
FGSL	Fruska Gora	9.13	352	*e*Pn	Pn	03 26 20.1	-2.9
FGSL				*e*Sn	Sn	03 27 55.8	-8.5
FRGS	Fruska Gora	9.13	352	*e*Pn	Pn	03 26 20.1	-2.9
FRGS				*e*Sn	Sn	03 27 55.8	-8.5
GZR	Gura Zlata	9.31	5	ǁ *i*P	Pn	03 26 25.0	-0.5
UDBI	Udbina	9.49	334	*e*Pn	Pn	03 26 28.3	+0.3
UDBI				Sn	Sn	03 28 05.3	-8.0
VOIR		9.67	15	ǁ *i*P	Pn	03 26 30.3	-0.2
NVLJ	Novalja	9.86	331	*e*Pn	Pn	03 26 32.1	-0.9
NVLJ				Sn	Sn	03 28 12.2	-10
BRTR	Keskin Array B 0.1nm,0.3s,baz=259,slow=13,SNR=5.1	10.19	66	Pn	Pn	03 26 38.6	+1.0
BOJS	Bojanci	10.52	335	*i* Pn	Pn	03 26 40.9	-1.1
BOJS				*i* Sn	Sn	03 28 30.1	-8.3
VISS	Visnje	10.93	334	*i* Pn	Pn	03 26 47.3	-0.2
VISS				*i* Sn	Sn	03 28 38.5	-10
JAVS	Javornik	11.28	332	*i* Pn	Pn	03 26 52.7	+0.1
JAVS				*e*Sn	Sn	03 28 48.0	-9.2
PERS	Pernice	11.56	337	*i* Pn	Pn	03 26 54.7	-1.6
PERS				*i* Sn	Sn	03 28 53.2	-11
SOKA	Soboth	11.63	337	Pn	Pn	03 26 55.3	-2.0
OBKA	Obir	11.64	335	Pn	Pn	03 26 55.7	-1.7
AKASG	Malin Array Be baz=208,slow=12,SNR=2.1	15.59	18	Pn	Pn	03 27 47.0	-3.3
HFS	Hagfors 2.2nm,0.8s,baz=140,slow=12,SNR=7.3	24.56	351	P	P	03 29 28.7	-0.4
FINES	FINESS Array B 1.4nm,0.9s,baz=177,slow=11,SNR=5.6	25.50	5	P	P	03 29 36.8	-0.7
TORD	Torodi Ar. Bea 0.3nm,0.8s,baz=34,slow=9.2,SNR=3.3	29.03	223	P	P	03 30 12.3	+2.8
MKAR	Makanchi Array 0.3nm,0.4s,baz=271,slow=7.4,SNR=11	45.69	57	P	P	03 32 29.5	-0.5
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=289,slow=4.4,SNR=3.2	46.46	47	P	P	03 32 34.8	-1.2
YKA	Yellowknife Ar 0.1nm,0.6s,baz=30,slow=6.4,SNR=2.5	75.61	341	P	P	03 35 55.2	+1.9

IDC 29 03:29:09.2±6.0,19°27S×179°58W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/18,mbtmp3.9/3,Error ellipse: s-maj=1086.0km s-min=163.6km az=80.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 2.0nm,0.8s,baz=80,slow=12,SNR=2.9	37.01	242	P	P	03 36 21.0	+0.2
WRA	Warramunga Arr 0.3nm,0.3s,baz=96,slow=7.6,SNR=10.0	43.31	261	P	P	03 37 13.3	+0.1
ASAR	Alice Springs 1.2nm,0.7s,baz=96,slow=7.7,SNR=15	43.37	256	P	P	03 37 13.2	-0.5

*MAN **29** 04:14:26, 15°.76N×119°.06E, h20km, mb4.9, ML3.8, MS3.8*
*NEIC **29** 04:14:31.5±0.8, 15°.72N×119°.26E, h56km±8km, mb4.5/24, Error ellipse: s-maj=7.9km s-min=5.9km az=84.0*
*IDC **29** 04:14:33.3±1.8, 15°.71N×119°.28E, h71km±18km, mb3.8/20, mb1 4.0/22, mb1mx3.9/43, mbtmp4.1/22, MS3.3/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=19.2km s-min=11.2km az=61.0*

ISC 29 04:14:26.4±1.9,15°.72N±0°.04×119°.18E±0°.06,h14km±12km, n93,σ0°99/96,mb4.3/42,MS3.4/4,5C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.71	85	*e*P	Pb	04 14 41.0	+0.5
BOLP	Bolinao	0.96	47	*e*P	Pg	04 14 45.4	+0.3
BOLP				*e*S	Sn	04 15 04.7	+5.7
NBP	Mount Natib	1.54	129	ǁ *e*P	Pg	04 15 02.2	+6.2
PCPH	Palayan	1.85	95	ǁ *e*P	Pn	04 14 58.8	+1.0
PCPH				*e*S	Sb	04 15 23.2	+0.1
SZP	Santa	2.19	34	*e*Pn	Pn	04 15 03.1	+0.7
SZP				*e*Sn	Sn	04 15 30.0	+0.6
ARP	Angono	2.24	121	ǁ *i*P	Pn	04 15 01.0	-2.1
BALP	Baler	2.31	89	*e*P	Pb	04 15 07.0	-0.9
TGY	Tagaytay City	2.34	133	P	Pb	04 15 08.5	+0.1
TGY				S	Sb	04 15 36.5	-0.7
TGY	Tagaytay City 59nm,0.3s,baz=310,slow=3.2,SNR=3.9	2.34	133	P	Pb	04 15 08.5	+0.1
TGY				S	Sb	04 15 36.5	-0.7
	34nm,0.3s,baz=257,slow=15,SNR=4.2						
SIPP	Brgy, Tapao	2.51	29	ǁ *i*P	Pn	04 15 05.8	-0.9
SIPP				*e*S	Sn	04 15 38.0	+0.8
CAUP	Cauayan	2.82	64	*e*P	Pb	04 15 15.4	-1.1
APYP	Conner	2.91	43	*e*P	Pb	04 15 17.8	-0.3
PIP	Pasuquin	2.93	28	ǁ *i*P	Pn	04 15 12.2	-0.4
PIP				*e*S	Sn	04 15 46.9	-0.7
BUSP	Coron	3.83	165	*e*P	Pn	04 15 26.3	+1.4
KKM	Kota Kinabalu	10.05	197	*e*Pn	Pn	04 16 53.2	+2.7
CMAR	Chiang Mai Arr	19.53	281	P	Pn	04 18 57.9	+2.9
CMAR	Chiang Mai Arr baz=92,slow=8.0,SNR=22	19.53	281	P	Pn	04 18 57.9	+2.9
CMAR				LR	LR	04 26 16.7	
	comp=Z,70nm,19.2s,baz=98,slow=36						
KAPI	Kappang 45nm,0.7s	20.61	178	*e*P	P	04 19 05.0	-0.3
KULM	Kulim 9.0nm,0.9s	20.94	242	*e*P	Pn	04 19 10.8	-0.8
IPM	Ipoh 8.6nm,0.8s	21.05	240	*e*P	P	04 19 11.4	+1.2
KSAR	Wonju Array Be	22.97	18	P	P	04 19 30.9	+0.4
KSRS	Korea Array 3.3nm,0.8s,baz=201,slow=10,SNR=6.8	22.99	18	P	P	04 19 30.9	+0.2
KSRS				LR	LR	04 28 30.6	
	comp=Z,30nm,19.3s,baz=205,slow=36						
PSI	Prapat	23.72	239	P	P	04 19 39.5	+1.2
PSI	Prapat 2.4nm,0.4s,baz=76,slow=12,SNR=5.0	23.72	239	P	P	04 19 39.5	+1.2
ULN	Ulaanbaatar 2.1nm,0.6s	33.58	345	*e*P	P	04 21 09.3	+3.1
SONM	Songino Array	33.72	344	P	P	04 21 08.2	+0.9
SONM				PcP	PcP	04 23 45.5	-1.4
SONM	Songino Array 4.6nm,0.9s,baz=165,slow=10.0,SNR=13	33.72	344	P	P	04 21 08.2	+0.9
SONM				PcP	PcP	04 23 45.5	-1.4
	0.4nm,0.6s,baz=158,slow=4.2,SNR=2.6						
WRAB	Tennant Creek 12nm,1.1s	38.44	157	*e*P	P	04 21 47.8	-0.1
WRA	Warramunga Arr	38.45	157	P	P	04 21 46.9	-1.1
WRA	Warramunga Arr 1.7nm,0.6s,baz=338,slow=9.3,SNR=9.4	38.45	157	P	P	04 21 46.9	-1.1
AS31	Alice Springs	41.71	159	*e*P	P	04 22 14.5	-0.5
ASAR	Alice Springs	41.71	159	P	P	04 22 14.7	-0.4
ASAR				PcP	PcP	04 24 12.1	+0.5
ASAR	Alice Springs 1.5nm,0.5s,baz=337,slow=7.1,SNR=28	41.71	159	P	P	04 22 14.7	-0.4
ASAR				PcP	PcP	04 24 12.1	+0.5
	1.5nm,0.8s,baz=334,slow=2.6,SNR=6.6						
MK31	Makanchi Array	43.54	323	*e*P	P	04 22 30.4	+0.7
MKAR	Makanchi Array	43.54	323	P	P	04 22 30.8	+1.0
MKAR				PcP	PcP	04 24 17.1	-0.3
MKAR	Makanchi Array 1.9nm,0.8s,baz=132,slow=9.5,SNR=21	43.54	323	P	P	04 22 30.8	+1.0
MKAR				PcP	PcP	04 24 17.1	-0.3
	0.2nm,0.5s,baz=132,slow=1.8,SNR=3.6						
CTA	Charters Tower	44.44	142	P	P	04 22 36.0	-1.1
CTA	Charters Tower 4.0nm,0.9s,baz=348,slow=9.3,SNR=2.0	44.44	142	P	P	04 22 36.0	-1.1
TKM2	Tokmak 2 2.3nm,0.9s	45.96	315	*e*P	P	04 22 48.0	-1.3
ZALV	Zalesovo Beam	46.60	333	P	P	04 22 53.7	-0.1
ZALV	Zalesovo Beam 1.1nm,0.5s,baz=123,slow=5.5,SNR=8.1	46.60	333	P	P	04 22 53.7	-0.1
ZALV				LR	LR	04 43 16.1	
	comp=Z,24nm,18.0s,baz=68,slow=37						
AAK	Ala-Archa 4.9nm,1.2s	46.60	314	*e*P	P	04 22 52.1	-2.2
AAK	Ala-Archa comp=Z,64nm,21.3s,baz=66,slow=38	46.60	314	LR	LR	04 43 48.4	
EKS2	Erkin-Say 8.1nm,1.3s	47.11	314	*e*P	P	04 22 58.5	+0.3
KURK	Kurchatov 4.9nm,1.0s	47.70	326	*e*P	P	04 23 02.8	+0.3
PETK	Petropavlovsk-	48.00	30	P	P	04 23 06.0	+1.1
PETK	Petropavlovsk- 6.9nm,0.8s,baz=193,slow=6.1,SNR=4.4	48.00	30	P	P	04 23 06.0	+1.1
KBL	Kabul	48.58	302	*e*P	P	04 23 09.8	0.0
KKAR	Karatay Array 2.3nm,0.8s	49.52	314	*e*P	P	04 23 17.1	+0.4
STKA	Stephens Creek	51.98	156	P	P	04 23 36.0	+0.7
STKA	Stephens Creek 0.6nm,0.3s,baz=320,slow=10,SNR=3.9	51.98	156	P	P	04 23 36.0	+0.7
BRVK	Borovoye 2.3nm,0.6s	53.35	325	*e*P	P	04 23 45.5	+0.3
TIXI	Tiksi 3.8nm,0.8s	56.21	4	*e*P	P	04 24 04.2	-1.4
ABKAR	Akbulak array 1.1nm,0.4s	58.25	319	*e*P	P	04 24 20.5	+0.1
AKTO	Aktyubinsk	59.73	320	P	P	04 24 31.3	+0.7
AKTO	Aktyubinsk 2.0nm,0.7s,baz=99,slow=12	59.73	320	P	P	04 24 31.3	+0.7
BILL	Bilibino 2.1nm,0.6s	60.26	19	*e*P	P	04 24 34.0	+0.1
ARU	Arti 3.9nm,0.6s	60.90	326	*e*P	P	04 24 37.9	-0.6
RAYN	Ar Rayn 14nm,1.0s	69.19	290	*e*P	P	04 25 33.3	+0.2
KBZ	Khabaz	69.45	311	P	P	04 25 34.9	+0.6
KBZ	Khabaz 4.5nm,0.9s,baz=181,slow=4.0,SNR=5.3	69.45	311	P	P	04 25 34.9	+0.6
KIV	Kislovodsk 12nm,0.7s	69.59	311	*e*P	P	04 25 35.6	+0.3
JOF	Joensuu 1.1nm,0.5s	75.18	332	*e*p	P	04 26 07.9	-0.2
ARCES	ARCESS Array B	76.68	339	P	P	04 26 15.8	-0.8
ARCES	ARCESS Array B 4.2nm,0.9s,baz=27,slow=5.6,SNR=6.9	76.68	339	P	P	04 26 15.8	-0.8
BR131	Keskin Array S 0.7nm,0.6s	76.75	308	*e*P	P	04 26 17.1	-0.7
BRTR	Keskin Array B	76.75	308	P	P	04 26 17.6	-0.2
BRTR	Keskin Array B 0.8nm,0.8s,baz=127,slow=7.9,SNR=6.7	76.75	308	P	P	04 26 17.6	-0.2
MCK	McKinley 10nm,1.2s	76.88	27	*e*P	P	04 26 17.4	-0.5
ILAR	Eielson Array	77.59	26	P	P	04 26 20.8	-1.0
ILAR	Eielson Array 0.7nm,1.0s,baz=276,slow=5.7,SNR=5.5	77.59	26	P	P	04 26 20.8	-1.0
KAF	Kangasniemi 0.8nm,0.4s	77.59	331	*e*p	P	04 26 20.8	-1.0
FINES	FINESS Array B	77.81	331	P	P	04 26 22.7	-0.3
FINES	FINESS Array B 1.2nm,0.5s,baz=55,slow=6.5,SNR=14	77.81	331	P	P	04 26 22.7	-0.3
AKASG	Malin Array Be	77.98	319	P	P	04 26 23.5	-0.7
AKASG	Malin Array Be 1.7nm,0.7s,baz=70,slow=4.9,SNR=6.5	77.98	319	P	P	04 26 23.5	-0.7
AK01	Malin Array Si	77.98	319	*e*P	P	04 26 23.4	-0.9
KIEV	Kiev 13nm,1.4s	77.99	319	*e*P	P	04 26 23.6	-0.6
AK02	Malin Array Si	78.00	319	*e*P	P	04 26 23.2	-1.1
VRI	Vrhovaia	80.57	315	ǁ *i*P	P	04 26 38.1	-0.4
PLOR	Plostina	80.62	315	ǁ *i*P	P	04 26 41.7	+2.8
BUR08	Bucovina Ar. S	81.19	317	*e*P	P	04 26 41.7	-0.2
INK	Inuvik 5.7nm,1.3s	81.75	21	*e*P	P	04 26 43.9	-0.4
KMBO	Kilima Mbogo 9.2nm,1.5s	82.53	267	*e*P	P	04 26 50.4	+0.6
KMBO	Kilima Mbogo 1.3nm,0.6s,baz=68,slow=19,SNR=4.3	82.53	267	P	P	04 26 51.1	+1.3
PSZ	Piszkesteto 6.9nm,0.9s	84.56	318	*e*P	P	04 26 59.2	-0.2
NOA	NORSAR Array B comp=Z,23nm,18.4s,baz=335,slow=38	84.80	332	LR	LR	05 08 35.0	
VRAC	Vranov	86.20	320	P	P	04 27 07.0	-0.4
VRAC	Vranov 3.2nm,0.8s,baz=124,slow=7.3,SNR=2.5	86.20	320	P	P	04 27 07.0	-0.4
RES	Resolute Bay 8.1nm,1.4s	87.27	9	*e*P	P	04 27 11.6	-0.6
AQU	L'Aquila	90.76	314	*e*P	P	04 27 29.0	-0.4
YKA	Yellowknife Ar	91.47	22	P	P	04 27 32.6	+0.5
YKA	Yellowknife Ar 0.4nm,0.6s,baz=312,slow=4.0,SNR=9.6	91.47	22	P	P	04 27 32.6	+0.5

*IDC **29** 04:23:55.4±1.2, 36°.21N×21°.90E, h0km, mb3.7/10, mb1 3.7/11, mb1mx3.6/44, mbtmp3.6/11, ML3.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/31, Error ellipse: s-maj=28.0km s-min=22.3km az=132.0*
*CSEM **29** 04:23:57.8±0.5, 36°.12N×21°.50E, h10km, ML4.0, Ms4.1, Error ellipse: s-maj=10.5km s-min=5.3km az=41.0*
*ATH **29** 04:23:59.4, 36°.16N×21°.61E, h34km±4km, ML3.9*
*BEO **29** 04:24:03.8±0.8, 36°.69N×21°.16E, h0km, ML3.9/7*

ISC 29 04:24:00.1±1.2,36°.22N±0°.04×21°.64E±0°.04,h33km±4km, n226,σ1°63/230,mb3.7/10,7C-5D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.68	7	*e*PN	Pn	04 24 14.1	+0.6
PYL				*e*SN	Sn	04 24 24.8	+1.8
PYL	PYLOS	0.68	7	P	Pn	04 24 14.1	+0.6
PYL				S	Sn	04 24 24.5	+1.5
ITM	Ithomi	0.99	14	*e*PN	Pb	04 24 18.9	0.0
ITM				*e*SB	Sn	04 24 32.7	+2.1
ITM	Ithomi	0.99	14	*e*Pn	Pb	04 24 18.9	0.0
ITM	Ithomi	0.99	14	P	Pb	04 24 19.3	+0.4
ITM				*e*Sb	Sn	04 24 32.7	+2.1
ITM				S	Sb	04 24 33.9	+2.3
KYTH	Kithira	1.13	86	*e*PN	Pb	04 24 21.5	+0.2
KYTH	Kithira	1.13	86	*e*Pn	Pb	04 24 21.5	+0.2
SFD	Strofades	1.15	335	*e*PN	Pb	04 24 21.3	-0.2
SFD				*e*SB	Sb	04 24 36.7	+0.7
SFD	Strofades	1.15	335	*e*Pn	Pb	04 24 21.3	-0.2
SFD	Strofades	1.15	335	P	Pb	04 24 23.6	+2.1
SFD				*e*Sb	Sb	04 24 36.7	+0.7
SFD				S	Sn	04 24 37.7	+3.3
VLI	Veliai	1.16	64	*e*PN	Pb	04 24 21.9	+0.2
VLI	Veliai	1.16	64	*e*Pn	Pb	04 24 21.9	+0.2
VLI				S	Sb	04 24 37.9	+1.4
VLX	Vlachokerasia	1.30	27	*e*PN	Pb	04 24 23.7	-0.4
VLX	Vlachokerasia	1.30	27	*e*Pn	Pb	04 24 23.7	-0.4
VLX	Vlachokerasia	1.30	27	P	Pb	04 24 24.1	0.0
VLX				S	Sb	04 24 41.1	+0.6
AMT	Artemida-Makis	1.32	3	*e*PN	Pb	04 24 24.8	+0.5
AMT	Artemida-Makis	1.32	3	*e*Pn	Pb	04 24 24.8	+0.5
AMT	Artemida-Makis	1.32	3	P	Pb	04 24 25.1	+0.8
ANKY	Antikythira Is	1.39	104	*e*PN	Pb	04 24 25.2	-0.4
ANKY	Antikythira Is	1.39	104	P	Pb	04 24 25.1	-0.5
ANKY				S	Sb	04 24 43.4	+0.3
DRO	Drossia	1.73	2	*e*PB	Pb	04 24 30.6	-0.8
DRO	Drossia	1.73	2	P	Pb	04 24 30.4	-1.0
GUR	Goura	1.81	18	*e*PB	Pb	04 24 31.6	-1.1
GUR	Goura	1.81	18	*e*Pb	Pb	04 24 31.6	-1.1
GUR	Goura	1.81	18	P	Pb	04 24 31.9	-0.8
DID	Didima	1.82	44	*e*PN	Pn	04 24 30.9	+1.7
DID	Didima	1.82	44	P	Pn	04 24 30.1	+0.9
DID	Didima	1.82	44	*e*Pn	Pn	04 24 30.9	+1.7
RLS	Riolos of Patr	1.84	356	*e*PB	Pb	04 24 32.2	-1.0
RLS	Riolos of Patr	1.84	356	*e*Pb	Pb	04 24 32.2	-1.0
RLS	Riolos of Patr	1.84	356	P	Pb	04 24 32.7	-0.5
KLV	Kalavryta, Ach	1.87	13	*e*PB	Pb	04 24 32.3	-1.4
KLV	Kalavryta, Ach	1.87	13	P	Pb	04 24 32.3	-1.4
LAKA	Lakka	2.04	8	*e*PB	Pb	04 24 35.1	-1.5
LAKA	Lakka	2.04	8	*e*Pb	Pb	04 24 35.1	-1.5
LAKA	Lakka	2.04	8	P	Pb	04 24 35.6	-1.0
LTK	Loutraki	2.10	30	*e*PB	Pb	04 24 35.8	-1.7
LTK	Loutraki	2.10	30	P	Pb	04 24 35.9	-1.6
VLS	Valsamata	2.13	337	*e*PN	Pn	04 24 34.9	+1.5
VLS	Valsamata	2.13	337	*e*Pn	Pn	04 24 34.9	+1.5
NAIG	Nisos Aigina	2.14	43	*e*PB	Pb	04 24 36.5	-1.7
NAIG	Nisos Aigina	2.14	43	*e*Pb	Pb	04 24 36.5	-1.7
KALE	Kalithea	2.21	10	*e*PB	Pb	04 24 37.5	-2.0
KALE	Kalithea	2.21	10	P	Pb	04 24 37.4	-2.0
EFP	Efpalio	2.22	5	*e*PB	Pb	04 24 37.9	-1.7
EFP	Efpalio	2.22	5	*e*Pb	Pb	04 24 37.9	-1.7
EFP	Efpalio	2.22	5	P	Pb	04 24 38.3	-1.3
VAM	Vamos	2.23	110	*e*PN	Pn	04 24 35.6	+0.8
VAM	Vamos	2.23	110	P	Pn	04 24 35.7	+0.9
DSF	Desfina	2.30	18	*e*PN	Pn	04 24 36.9	+1.1
DSF	Desfina	2.30	18	*e*Pn	Pn	04 24 36.9	+1.1
DSF	Desfina	2.30	18	P	Pn	04 24 37.5	+1.6
PDO	Prodromos	2.41	352	*e*PB	Pb	04 24 40.5	-2.2
PDO	Prodromos	2.41	352	P	Pb	04 24 40.6	-2.2
ATH	Athens Observa	2.42	43	*e*PN	Pn	04 24 39.9	+2.6
ATH	Athens Observa	2.42	43	*e*Pn	Pn	04 24 39.9	+2.6
GVD	Gavdhos	2.43	124	*e*P	Pb	04 24 41.4	-1.7
PTL	Penteli	2.55	44	*e*PN	Pn	04 24 41.8	+2.5
PTL	Penteli	2.55	44	P	Pn	04 24 41.2	+1.9
PTL	Penteli	2.55	44	*e*Pn	Pn	04 24 41.8	+2.5
LKR	Lokris	2.66	24	*e*PN	Pn	04 24 42.0	+1.3
LKR	Lokris	2.66	24	*e*Pn	Pn	04 24 42.0	+1.3
LKR	Lokris	2.66	24	P	Pn	04 24 43.6	+2.9
AXAR	Agios Charalam	2.67	17	*e*PB	Pb	04 24 44.7	-2.6
AXAR	Agios Charalam	2.67	17	*e*Pb	Pb	04 24 44.7	-2.6
LKD2	Lefkada island	2.68	343	*e*PN	Pb	04 24 43.9	-3.6
LKD2	Lefkada island	2.68	343	*e*Pn	Pb	04 24 43.9	-3.6
EVR	Evrytania	2.70	3	*e*PB	Pb	04 24 45.5	-2.3
EVR	Evrytania	2.70	3	P	Pb	04 24 45.5	-2.3
IDI	Anoyia 2.2nm,0.3s,baz=284,slow=6.5,SNR=32	2.80	108	Pn	Pn	04 24 43.4	+0.7
IDI				Sn	Sn	04 25 16.6	+1.2
	11nm,0.3s,baz=220,slow=22,SNR=4.5						
MAKR	Makrakomi, Fth	2.82	8	*e*PN	Pn	04 24 46.0	+3.1
MAKR	Makrakomi, Fth	2.82	8	*e*Pn	Pn	04 24 46.0	+3.1
MAKR	Makrakomi, Fth	2.82	8	P	Pb	04 24 47.0	-2.8
SIVA	Sivas	2.85	114	*e*PN	Pn	04 24 45.6	+2.3
SIVA	Sivas	2.85	114	*e*Pn	Pn	04 24 45.6	+2.3
AGG	Agios Georgios	2.86	11	*e*PN	Pn	04 24 45.5	+2.1
AGG	Agios Georgios	2.86	11	*e*Pn	Pn	04 24 45.5	+2.1
AGG	Agios Georgios	2.86	11	P	Pn	04 24 46.0	+2.6
MRKA	Markates	2.93	31	*e*PN	Pn	04 24 45.7	+1.3
MRKA	Markates	2.93	31	*e*Pn	Pn	04 24 45.7	+1.3
MRKA	Markates	2.93	31	P	Pn	04 24 47.5	+3.1
SMIA	Simia	2.94	25	*e*PN	Pn	04 24 46.7	+2.2
SMIA	Simia	2.94	25	*e*Pn	Pn	04 24 46.7	+2.2
SANT	Santorini	3.09	86	*e*P	Pn	04 24 48.2	+1.6
SANT				*e*S	Sn	04 25 21.5	-1.

ALN	**Alexandroupoli**	**5.81**	**35**	*e*Pn	**Pn**	**04 25 26.9**	**+2.9**
KRBG	**Karabiga-Canak**	**6.10**	**45**	*e*P	**Pn**	**04 25 30.5**	**+2.6**
GONE	**Gonen-Balikesi**	**6.11**	**49**	*e*P	Pn	04 25 31.2	+3.1
KDZ	**Kurdzhali**	**6.17**	**27**	⇓*i*P	**Pn**	**04 25 29.9**	**+0.9**
RKY	**Sarkoy-Tekirda**	**6.23**	**43**	*e*P	Pn	04 25 33.4	+3.6
PDG	**Podgorica**	**6.47**	**344**	*e*Pn	**Pn**	**04 25 32.6**	**-0.5**
PDG				*e*Sn	Sn	04 26 38.4	-7.3
PDG	**Podgorica**	**6.47**	**344**	*e*Pn	**Pn**	**04 25 32.6**	**-0.5**
PDG				*e*Sn	Sn	04 26 38.4	-7.3
VTS	**Vitosha**	**6.48**	**10**	*e*Pn	**Pn**	**04 25 34.8**	**+1.5**
VTS				*e*Sn	**Sn**	**04 26 44.0**	**-2.2**
VTS	**Vitosha**	**6.48**	**10**	⇓*i*P	**Pn**	**04 25 35.4**	**+2.1**
VTS	**Vitosha**	**6.48**	**10**	*e*Pn	**Pn**	**04 25 34.8**	**+1.5**
VTS				*e*Sn	**Sn**	**04 26 44.0**	**-2.2**
ELL	**Elmali**	**6.69**	**83**	*e*P	Pn	04 25 39.5	+3.4
CRLT	**Corlu**	**6.84**	**42**	*e*P	Pn	04 25 41.7	+3.6
TREB	**Trebinje**	**6.97**	**340**	*e*Pn	**Pn**	**04 25 38.9**	**-1.0**
TREB	**Trebinje**	**6.97**	**340**	*e*Pn	**Pn**	**04 25 38.9**	**-1.0**
SELS	**Selova**	**7.01**	**357**	*e*Pn	**Pn**	**04 25 39.2**	**-1.2**
SELS				*e*Sn	Sn	04 26 53.4	-5.5
ZAPS	**Zavoj**	**7.09**	**6**	*e*Pn	**Pn**	**04 25 41.6**	**0.0**
ALT	**Altintas**	**7.30**	**65**	*e*P	**Pn**	**04 25 47.1**	**+2.6**
STON	**Ston**	**7.31**	**337**	*e*Pn	**Pn**	**04 25 43.7**	**-0.8**
STON				Sn	Sn	04 26 58.7	-7.6
STON	**Ston**	**7.31**	**337**	*e*Pn	**Pn**	**04 25 44.1**	**-0.4**
STON				*e*Sn	Sn	04 26 57.9	-8.4
STON	**Ston**	**7.31**	**337**	*e*Pn	**Pn**	**04 25 44.1**	**-0.4**
STON				*e*Sn	Sn	04 26 57.9	-8.4
GRUS	**Gruza**	**7.70**	**355**	*e*Pn	**Pn**	**04 25 49.1**	**-0.7**
GRUS				*e*Sn	Sn	04 27 07.7	-8.1
GRUS	**Gruza**	**7.70**	**355**	*e*Pn	**Pn**	**04 25 49.1**	**-0.7**
GRUS				*e*Sn	Sn	04 27 07.7	-8.1
BBLS	**Lazići**	**7.83**	**348**	*e*Pn	**Pn**	**04 25 50.9**	**-0.8**
BBLS				*e*Sn	Sn	04 27 09.9	-9.3
BBLS	**Lazići**	**7.83**	**348**	*e*Pn	**Pn**	**04 25 50.9**	**-0.8**
BBLS				*e*Sn	Sn	04 27 09.9	-9.3
DIVS	**Divibare**	**7.97**	**351**	*e*Pn	**Pn**	**04 25 52.9**	**-0.8**
DIVS				*e*Sn	Sn	04 27 15.1	-7.7
DIVS	**Divibare**	**7.97**	**351**	*e*Pn	**Pn**	**04 25 52.9**	**-0.8**
DIVS				*e*Sn	Sn	04 27 15.1	-7.7
TRUS	**Trudelj**	**8.05**	**354**	*e*Pn	**Pn**	**04 25 53.1**	**-1.7**
TRUS				*e*Sn	Sn	04 27 17.0	-7.6
TRUS	**Trudelj**	**8.05**	**354**	*e*Pn	**Pn**	**04 25 53.1**	**-1.7**
TRUS				*e*Sn	Sn	04 27 17.0	-7.6
TEKS	**Tekeris**	**8.48**	**350**	*e*Pn	**Pn**	**04 25 59.6**	**-1.0**
TEKS	**Tekeris**	**8.48**	**350**	*e*Pn	**Pn**	**04 25 59.6**	**-1.0**
FGSL	**Fruska Gora**	**9.04**	**352**	*e*Pn	**Pn**	**04 26 07.0**	**-1.3**
FGSL				*e*Sn	Sn	04 27 39.6	-9.3
FRGS	**Fruska Gora**	**9.04**	**352**	*e*Pn	**Pn**	**04 26 07.0**	**-1.3**
FRGS				*e*Sn	Sn	04 27 39.6	-9.3
GZR	**Gura Zlata**	**9.21**	**5**	⇓*i*P	**Pn**	**04 26 10.8**	**+0.2**
UDBI	**Udbina**	**9.43**	**333**	*e*Pn	**Pn**	**04 26 14.5**	**+0.8**
UDBI				Sn	Sn	04 27 52.3	-6.2
VOIR		**9.57**	**15**	⇑*i*P	**Pn**	**04 26 16.6**	**+1.0**
NVLJ	**Novalja**	**9.80**	**330**	*e*Pn	**Pn**	**04 26 18.9**	**+0.2**
NVLJ				Sn	Sn	04 27 59.9	-7.6
MLR	**Muntele Rosu**	**9.82**	**18**	Pn	Pn	04 26 22.7	+3.6
	0.1nm,0.3s,baz=194,slow=12,SNR=3.6						
MLR				LR	LR	04 30 22.9	
	comp=Z,30nm,19.4s,baz=220,slow=40						
BOJS	**Bojanci**	**10.46**	**334**	*i* Pn	**Pn**	**04 26 28.4**	**+0.8**
BOJS				*i* Sn	Sn	04 28 16.4	-7.2
CRES	**Cresnjev**	**10.67**	**336**	*i* Pn	**Pn**	**04 26 30.8**	**+0.2**
CRES				*i* Sn	Sn	04 28 19.1	-10
TESR	**Tescani**	**10.95**	**19**	⇑*i*P	Pn	04 26 37.8	+3.4
PERS	**Pernice**	**11.50**	**337**	*i* Pn	**Pn**	**04 26 41.3**	**-0.6**
PERS				*i* Sn	Sn	04 28 39.3	-10
SOKA	**Soboth**	**11.56**	**337**	⇓*i*Pn	**Pn**	**04 26 42.1**	**-0.7**
SOKA				⇓*i*Sn	Sn	04 28 42.3	-8.5
SOKA	**Soboth**	**11.56**	**337**	Pn	**Pn**	**04 26 42.1**	**-0.7**
SOKA				Sn	Sn	04 28 42.3	-8.5
OBKA	**Obir**	**11.57**	**335**	⇑*i*Pn	**Pn**	**04 26 42.6**	**-0.5**
OBKA				⇑*i*Sn	Sn	04 28 43.0	-8.1
OBKA	**Obir**	**11.57**	**335**	Pn	**Pn**	**04 26 42.6**	**-0.5**
OBKA				Sn	Sn	04 28 43.0	-8.1
BURAR	**Bucovina Array**	**11.70**	**12**	⇑*i*P	Pn	04 26 42.1	-2.6
KECS	**Kecovo**	**12.29**	**356**	*e*PN	**Pn**	**04 26 51.5**	**-1.2**
CRVS	**Cervenica-Dubn**	**12.68**	**359**	*e*Pn	**Pn**	**04 26 56.7**	**-1.4**
CRVS				*e*		05 00 21.8	
MOA	**Molln**	**12.84**	**337**	⇑*i*Pn	**Pn**	**04 27 00.5**	**+0.2**
MOA				⇑*i*Sn	Sn	04 29 15.2	-6.8
MOA	**Molln**	**12.84**	**337**	Pn	**Pn**	**04 27 00.5**	**+0.2**
MOA				Sn	Sn	04 29 15.2	-6.8
STHS	**Stebnicka Huta**	**13.20**	**359**	*e*PN	Pn	04 27 01.9	-3.2
AKASG	**Malin Array Be**	**15.48**	**18**	Pn	**Pn**	**04 27 33.1**	**-2.7**
	0.4nm,0.3s,baz=205,slow=12,SNR=3.0						
HFS	**Hagfors**	**24.48**	**350**	P	**P**	**04 29 15.5**	**-0.4**
	2.2nm,0.7s,baz=155,slow=11,SNR=5.7						
FINES	**FINESS Array B**	**25.41**	**5**	P	**P**	**04 29 23.6**	**-0.7**
	1.1nm,0.7s,baz=170,slow=12,SNR=4.9						
EKA	**Eskdalemuir Ar**	**25.55**	**326**	P	**P**	**04 29 27.9**	**+2.3**
	0.6nm,0.5s,baz=128,slow=8.1,SNR=2.9						
NB2	**NORSAR Subarra**	**25.71**	**348**	P	**P**	**04 29 27.3**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=156,slow=10						
NB2	**NORSAR Subarra**	**25.71**	**348**	P	**P**	**04 29 27.3**	**+0.1**
	comp=Z,2.7nm,0.9s,SNR=4.0						
NOA	**NORSAR Array B**	**25.71**	**348**	P	**P**	**04 29 28.8**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=142,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.13**	**223**	P	**P**	**04 29 59.5**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=34,slow=9.3,SNR=3.3						
ARCES	**ARCESS Array B**	**33.44**	**2**	P	**P**	**04 30 35.0**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=174,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**45.60**	**57**	P	**P**	**04 32 15.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=272,slow=8.1,SNR=18						
ZALV	**Zalesovo Beam**	**46.36**	**47**	P	**P**	**04 32 21.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=265,slow=7.4,SNR=5.4						
SONM	**Songino Array**	**61.02**	**50**	P	**P**	**04 34 10.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=266,slow=8.5,SNR=1.9						
YKA	**Yellowknife Ar**	**75.53**	**341**	P	**P**	**04 35 41.0**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=31,slow=5.1,SNR=3.1						

BEO 29 04:45:10.9±1.2, 41°.20N×19°.81E, h0km, ML2.6/3, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDG	**Podgorica**	**1.30**	**342**	*e*Pg	Pg	04 45 33.5	-2.3
PDG				*e*Sg	Sg	04 45 51.5	-1.1
PDG	**Podgorica**	**1.30**	**342**	⇓*i*Pg	Pg	04 45 33.5	-2.3
PDG				*e*Sg	Sg	04 45 51.5	-1.1
TREB	**Trebinje**	**1.87**	**325**	*e*Pg	Pn	04 45 44.9	+0.8
TREB				*e*Sg	Sb	04 46 09.8	0.0
TREB	**Trebinje**	**1.87**	**325**	*e*Pg	Pn	04 45 44.9	+0.8
TREB				*e*Sg	Sb	04 46 09.8	0.0
STON	**Ston**	**2.29**	**317**	*e*Pn	Pg	04 46 04.2	+9.4
STON				Sg	Sg	04 46 24.5	-0.1
STON	**Ston**	**2.29**	**317**	*e*Sg	Sg	04 46 24.6	0.0
STON	**Ston**	**2.29**	**317**	*e*Sg	Sg	04 46 24.6	0.0
BBLS	**Lazići**	**2.68**	**354**	*e*Pg	Pb	04 45 58.6	-1.3
BBLS	**Lazići**	**2.68**	**354**	*e*Pg	Pb	04 45 58.6	-1.3
DIVS	**Divibare**	**2.90**	**3**	*e*Pn	Pn	04 45 58.8	+0.3
DIVS	**Divibare**	**2.90**	**3**	*e*Pn	Pn	04 45 58.8	+0.3
TEKS	**Tekeris**	**3.35**	**357**	*e*Sg	Sg	04 46 58.3	-0.5
TEKS	**Tekeris**	**3.35**	**357**	*e*Sg	Sg	04 46 58.3	-0.5

*CSEM **29** 04:45:28.9±0.2, 42°.31N×19°.32E, h19km, ML1.5, Error ellipse: s-maj=4.8km s-min=4.0km az=145.0*

PDG 29 04:45:29.0±0.2, 42°.31N×19°.31E, h22km±1km, MD1.6/2, ML1.5/11, 2C-11D, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTG	**Podgorica**	**0.13**	**344**	⇓*i*Pg	Pb	04 45 33.5	-0.5
TTG				*e*Sg	Sb	04 45 37.1	-0.3
DRME	**Dracevica, Mon**	**0.15**	**217**	⇓*i*Pg	Pb	04 45 33.6	-0.5
DRME				*e*Sg	Sb	04 45 37.4	-0.2
DRME	**Dracevica, Mon**	**0.15**	**217**	⇓*i*Pg	Pb	04 45 33.6	-0.5
DRME				*e*Sg	Sb	04 45 37.4	-0.2
BUM	**Brajici-Budva**	**0.30**	**269**	⇓*i*Pg	Pb	04 45 35.7	-0.3
BUM				*e*Sg	Sb	04 45 41.8	+1.0
BUM	**Brajici-Budva**	**0.30**	**269**	⇓*i*Pg	Pb	04 45 35.7	-0.3
BUM				*e*Sg	Sb	04 45 41.8	+1.0
ULC	**Ulcinj**	**0.34**	**188**	*e*Pg	Pb	04 45 36.3	-0.2
ULC				*e*Sg	Sb	04 45 42.0	+0.3
ULC	**Ulcinj**	**0.34**	**188**	*e*Pg	Pb	04 45 36.3	-0.2
ULC				*e*Sg	Sb	04 45 42.0	+0.3
NKME	**Niksic**	**0.53**	**331**	⇓*i*Pg	Pb	04 45 39.3	-0.5
NKME				*e*Sg	Sb	04 45 48.2	+1.1
NKME	**Niksic**	**0.53**	**331**	⇓*i*Pg	Pb	04 45 39.3	-0.5
NKME				*e*Sg	Sb	04 45 48.2	+1.1
PVY	**Plav**	**0.56**	**59**	⇓*i*Pg	Pb	04 45 40.5	0.0
PVY				*e*Sg	Sb	04 45 49.3	+1.1
PVY	**Plav**	**0.56**	**59**	⇓*i*Pg	Pb	04 45 40.5	0.0
PVY				*e*Sg	Sb	04 45 49.3	+1.1
HCY	**Herceg Novi**	**0.62**	**284**	⇑*i*Pg	Pb	04 45 40.9	-0.3
HCY				*e*Sg	Sn	04 45 51.1	-0.6
HCY	**Herceg Novi**	**0.62**	**284**	⇑*i*Pg	Pb	04 45 40.9	-0.3
HCY				*e*Sg	Sn	04 45 51.1	-0.6
BEY	**Berane**	**0.71**	**37**	*e*Pg	Pb	04 45 42.6	-0.3
BEY				*e*Sg	Sn	04 45 54.1	-0.2
IVA	**Berane**	**0.71**	**37**	*e*Pg	Pb	04 45 42.6	-0.3
IVA				*e*Sg	Sn	04 45 54.1	-0.2
BRY	**Bratogost**	**0.82**	**317**	⇓*i*Pg	Pb	04 45 44.6	-0.2
BRY				*e*Sg	Sn	04 45 57.8	+0.7
BRY	**Bratogost**	**0.82**	**317**	⇓*i*Pg	Pb	04 45 44.6	-0.2
BRY				*e*Sg	Sn	04 45 57.8	+0.7
UPM	**Unac-Piva**	**0.94**	**342**	*e*Pg	Pb	04 45 46.6	-0.4
UPM				*e*Sg	Sn	04 46 01.1	+0.9
UPM	**Unac-Piva**	**0.94**	**342**	*e*Pg	Pb	04 45 46.6	-0.4
UPM				*e*Sg	Sn	04 46 01.1	+0.9
PLE	**Pljevlja**	**1.03**	**3**	*e*Pg	Pb	04 45 50.2	+1.9
PLE				*e*Sg	Sn	04 46 05.3	+3.2
PLE	**Pljevlja**	**1.03**	**3**	*e*Pg	Pb	04 45 50.2	+1.9

*ISCJB **29** 04:58:56.3±0.5, 51°.52N±0°.03×16°.15E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.5km az=15.9*
*CSEM **29** 04:58:58.3±0.2, 51°.49N×16°.12E, h2km, ML3.5/8, Error ellipse: s-maj=4.5km s-min=2.8km az=16.0*
*IDC **29** 04:58:59.9±1.0, 51°.43N×16°.13E, h0km, mb1 3.5/5, mb1mx3.2/38, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=16.5km s-min=8.8km az=118.0*
*PRU **29** 04:58:59.3, 51°.46N×16°.10E, h0km*
*BGR **29** 04:58:59.3±0.5, 51°.50N×16°.14E, h1km, ML3.0/7, Error ellipse: s-maj=5.6km s-min=3.3km az=19.0*
*VIE **29** 04:59:01.0±0.5, 51°.24N×16°.15E, h0km, mb2.4/4, ML2.8/6, Error ellipse: s-maj=3.0km s-min=2.6km az=179.0 62 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 04:58:57.3±0.7, 51°.55N±0°.03×16°.13E±0°.02, h0km, n69, σ1s 09/113, 5C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**04 59 11.7**	**+0.7**
KSP				*e*Sg	**Sg**	**04 59 20.4**	**+0.1**
KSP	**Ksiaz**	**0.72**	**172**	⇓*i*Pg	**Pg**	**04 59 11.7**	**+0.7**
KSP				*e*Sg	**Sg**	**04 59 20.2**	**+0.1**
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pg**	**04 59 17.8**	**+0.4**
UPC				*e*SG	**Sg**	**04 59 29.5**	**-1.4**
	comp=Z,38nm,0.2s						
UPC	**Upice**	**1.05**	**184**	Pg	**Pg**	**04 59 17.8**	**+0.4**
UPC				Sg	**Sg**	**04 59 29.5**	**-1.4**
	38nm,0.2s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*Pg	**Pg**	**04 59 20.6**	**+0.1**
DPC				*e*Sg	**Sg**	**04 59 36.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**04 59 20.6**	**+0.1**
DPC				*e*SG	**Sg**	**04 59 34.5**	**-1.6**
DPC	**Dobruska-Polom**	**1.21**	**174**	Pg	**Pg**	**04 59 20.6**	**+0.1**
DPC				Sg	**Sg**	**04 59 34.5**	**-1.6**
BRG	**Berggiesshubel**	**1.53**	**245**	PN	**Pn**	**04 59 25.6**	**-0.3**
BRG				PG	**Pg**	**04 59 27.1**	**+0.5**
BRG				SG	**Sn**	**04 59 47.3**	**+0.8**
	165nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pn	**Pn**	**04 59 26.4**	**+0.5**
BRG				*e*Pg	**Pb**	**04 59 27.3**	**+0.7**
BRG				*e*Sg	**Sn**	**04 59 47.6**	**+1.1**
BRG	**Berggiesshubel**	**1.53**	**245**	Pn	**Pn**	**04 59 26.4**	**+0.5**
FBE	**Freiberg**	**1.85**	**251**	*e*Pn	**Pb**	**04 59 32.3**	**+0.3**
FBE				*e*Pg	**Pg**	**04 59 33.6**	**+0.8**
FBE				*e*Sg	**Sg**	**04 59 57.3**	**+0.5**
FBE	**Freiberg**	**1.85**	**251**	Pn	**Pb**	**04 59 32.3**	**+0.3**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**04 59 31.1**	**+0.7**
PRU				*e*PG	**Pb**	**04 59 32.5**	**+0.4**
PRU				*e*SG	**Sb**	**04 59 56.3**	**+0.4**
	comp=Z,61nm,0.3s						
PRU	**Pruhonice**	**1.86**	**213**	Pn	**Pn**	**04 59 31.1**	**+0.7**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**04 59 31.8**	**-0.1**
CLL				*e*Sg	**Sg**	**05 00 01.7**	**+1.1**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**04 59 32.0**	**+0.1**
CLL				*e*Pg	**Pb**	**04 59 35.0**	**+1.0**
CLL				*e*		04 59 37.0	
CLL				*e*		04 59 39.0	
CLL				*e*Sg	**Sg**	**05 00 01.0**	**+0.4**
	comp=Z,75nm,0.8s						
CLL	**Collm**	**1.97**	**264**	Pn	**Pn**	**04 59 31.8**	**-0.1**
CLL				Sg	**Sg**	**05 00 01.7**	**+1.1**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**04 59 32.0**	**-0.3**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**04 59 32.0**	**-0.3**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pn	**Pn**	**04 59 34.2**	**-0.1**
OKC				*e*Sg	**Sg**	**05 00 05.7**	**-0.4**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG	**Pb**	**04 59 37.9**	**+0.9**
OKC				*e*SG	**Sb**	**05 00 04.3**	**+0.2**
	comp=Z,35nm,0.4s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pn	**Pn**	**04 59 34.2**	**-0.1**
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pg	**Pb**	**04 59 37.9**	**+0.9**
OKC				Sg	**Sb**	**05 00 04.3**	**+0.2**
	comp=Z,35nm,0.4s						
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**04 59 36.5**	**+0.5**
	comp=Z,2.1nm,0.3s,baz=330,slow=14,SNR=14						
VRAC				Lg	Lg	05 00 08.1	
	comp=Z,8.6nm,0.3s,baz=256,slow=23,SNR=10						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**04 59 36.7**	**+0.7**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**04 59 39.9**	**+0.7**
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**04 59 40.9**	**+0.5**
TANN	**Tannenbergstha**	**2.58**	**245**	Pn	**Pn**	**04 59 40.9**	**+0.5**
WERD	**Werda**	**2.66**	**247**	*e*Pn	**Pn**	**04 59 42.2**	**+0.8**
WERD				*e*Sg	**Sg**	**05 00 23.8**	**+1.3**
WERD	**Werda**	**2.66**	**247**	Pn	**Pn**	**04 59 42.2**	**+0.8**
WERD				Sg	**Sg**	**05 00 23.8**	**+1.3**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**04 59 48.5**	**-0.1**
OJC				*e*Sg	**Sg**	**05 00 23.1**	**-0.3**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**04 59 48.5**	**-0.1**
OJC				*e*Sg	**Sg**	**05 00 23.1**	**-0.3**
JAVC	**Velka Javorina**	**2.87**	**159**	*e*Pn	**Pn**	**04 59 45.8**	**+1.4**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**04 59 45.2**	**+0.2**
KHC				*e*PG	**Pb**	**04 59 51.3**	**+1.0**
KHC				*e*SG	**Sb**	**05 00 28.7**	**+2.2**
	comp=Z,20nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**215**	Pn	**Pn**	**04 59 45.2**	**+0.2**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**04 59 46.6**	**+0.7**
MOX				*e*Pg	**Pg**	**04 59 54.7**	**+0.2**
MOX				*e*Sg	**Sg**	**05 00 34.2**	**+1.0**
MOX	**Moxa**	**2.98**	**254**	Pn	**Pn**	**04 59 46.6**	**+0.7**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**04 59 49.1**	**+1.2**
GEC2	**GERESS Array S**	**3.12**	**211**	Pn	**Pn**	**04 59 49.1**	**+1.2**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**04 59 49.1**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=31,slow=13,SNR=28						
GERES				Pg	**Pb**	**04 59 55.5**	**+1.7**
	comp=Z,2.3nm,0.3s,baz=29,slow=18,SNR=28						
GERES				Lg	Lg	05 00 34.4	
	comp=Z,5.5nm,0.3s,baz=27,slow=27,SNR=14						
SMOL	**Smolenice**	**3.15**	**164**	*e*SG	**Sg**	**05 00 39.7**	**+1.1**
SMOL	**Smolenice**	**3.15**	**164**	*e*Sg	**Sg**	**05 00 39.7**	**+1.1**
WET	**Wettzell**	**3.18**	**222**	*e*Pn	**Pn**	**04 59 49.3**	**+0.7**
WET				*e*Sg	**Sg**	**05 00 38.2**	**-1.3**
WET	**Wettzell**	**3.18**	**222**	Pn	**Pn**	**04 59 49.3**	**+0.7**
WET				Sg	**Sg**	**05 00 38.2**	**-1.3**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**04 59 55.5**	**+1.3**
CLZ	**Clausthal**	**3.59**	**277**	Pn	**Pn**	**04 59 55.5**	**+1.3**
CONA	**Conrad Observa**	**3.63**	**183**	⇑*i*Pn	**Pn**	**04 59 54.1**	**-0.7**
CONA				⇑*i*Sg	**Sg**	**05 00 51.7**	**-2.2**
	comp=Z,19nm,0.4s						
CONA	**Conrad Observa**	**3.63**	**183**	Pn	**Pn**	**04 59 54.1**	**-0.7**
CONA				Sg	**Sg**	**05 00 51.7**	**-2.2**
	comp=Z,19nm,0.4s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**04 59 54.5**	**-0.4**
BSD				*i* S	**Sn**	**05 00 34.9**	**-3.6**
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**04 59 54.5**	**-0.4**
MOA	**Molln**	**3.90**	**199**	⇑*i*Pn	**Pn**	**04 59 59.1**	**+0.7**
MOA				⇓*i*Sg	**Sg**	**05 01 00.3**	**-2.2**
	comp=Z,15nm,0.5s						
MOA	**Molln**	**3.90**	**199**	Pn	**Pn**	**04 59 59.1**	**+0.7**
MOA				Sg	**Sg**	**05 01 00.3**	**-2.2**
	comp=Z,15nm,0.5s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**05 00 00.3**	**+1.8**
STHS				*e*		05 00 12.8	
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*SG	**Sg**	**05 01 03.8**	**+1.1**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*Pn	**Pn**	**05 00 00.3**	**+1.8**
STHS				*e*Sg	**Sg**	**05 01 03.8**	**+1.1**
KECS	**Kecovo**	**4.16**	**136**	*e*PN	**Pn**	**05 00 02.1**	**0.0**
KECS				*e*		05 00 18.1	
KECS	**Kecovo**	**4.16**	**136**	*e*SG	**Sg**	**05 01 09.8**	**-1.2**
KECS	**Kecovo**	**4.16**	**136**	*e*Pn	**Pn**	**05 00 02.1**	**0.0**
KECS				*e*Sg	**Sg**	**05 01 09.8**	**-1.2**
ARSA	**Arzberg**	**4.32**	**185**	⇑*i*Pn	**Pn**	**05 00 04.3**	**0.0**
ARSA				⇓*i*Sg	**Sg**	**05 01 14.5**	**-1.6**
	comp=Z,17nm,0.7s						
ARSA	**Arzberg**	**4.32**	**185**	Pn	**Pn**	**05 00 04.3**	**0.0**
ARSA				Sg	**Sg**	**05 01 14.5**	**-1.6**
	comp=Z,17nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*SG	**Sg**	**05 01 19.1**	**+2.7**
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*Sg	**Sg**	**05 01 19.1**	**+2.7**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**05 00 10.6**	**+0.7**
KOLS				*e*		05 00 28.4	
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*Pn	**Pn**	**05 00 10.6**	**+0.7**
KBA	**Koelnbreinsper**	**4.83**	**203**	⇑*i*Pn	**Pn**	**05 00 11.5**	**+0.1**
KBA				⇓*i*Sg	**Sg**	**05 01 30.9**	**-1.6**
	comp=Z,8.9nm,0.6s						
KBA	**Koelnbreinsper**	**4.83**	**203**	Pn	**Pn**	**05 00 11.5**	**+0.1**
KBA				Sg	**Sg**	**05 01 30.9**	**-1.6**
	comp=Z,8.9nm,0.6s						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**05 00 57.0**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=279,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**05 01 39.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn	**P**	**05 03 15.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=3.9						

IDC 29 05:11:12.3±1.2, 0°.27N×121°.82E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, Error ellipse: s-maj=167.8km s-min=19.0km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.53**	**149**	P	P	05 16 24.1	-0.3
	2.0nm,0.6s,baz=324,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.53**	**155**	P	P	05 16 52.5	+0.6
	0.8nm,0.5

CIMO				*e*Sg		**Sg**	**05 15 45.0**	**+0.5**
ABTA	**Abfaltersbach**	**1.52**	**310**	⇓*i*Pn		**Pb**	**05 15 28.6**	**-0.6**
ABTA				⇓*i*Pg		**Pg**	**05 15 30.5**	**-0.1**
ABTA				⇓*i*Sg		**Sg**	**05 15 51.8**	**+1.5**
	comp=Z,1.8nm,0.2s							
ABTA	**Abfaltersbach**	**1.52**	**310**	Pn		**Pb**	**05 15 28.6**	**-0.6**
UDBI	**Udbina**	**1.67**	**138**	*e*Pn		**Pn**	**05 15 30.6**	**+0.5**
UDBI				Sn		**Sg**	**05 15 56.2**	**+1.0**
UDBI	**Udbina**	**1.67**	**138**	*e*Pn		**Pn**	**05 15 30.5**	**+0.5**

FUNV 29 05:24:47.3, 10°.13N×71°.69W, h8km, MW3.6, 1D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.80**	**298**	⇓*i*P	Pg	05 25 01.9	-0.8
VIRV				*e*S	Sg	05 25 13.2	0.0
QARV	**Quebrada Arrib**	**1.15**	**86**	*e*P	Pg	05 25 07.8	-1.7
QARV				*e*S	Sg	05 25 24.4	-0.2
DABV	**Dabajuro**	**1.30**	**53**	*e*P	Pn	05 25 10.7	-1.1
DABV				*e*S	Sb	05 25 29.0	0.0
CURV	**Curarigua**	**1.71**	**94**	*e*P	Pn	05 25 16.9	-0.5
CURV				*e*S	Sn	05 25 38.9	-0.6
SIQV	**Siquisique**	**1.92**	**74**	*e*P	Pn	05 25 19.6	-0.8
SIQV				*e*S	Sn	05 25 43.5	-1.3
SOCV	**Socops**	**2.01**	**156**	*e*P	Pn	05 25 20.4	-1.2
SOCV				*e*S	Sn	05 25 45.9	-1.0
SANV	**Sanarito**	**2.21**	**106**	*e*P	Pn	05 25 24.1	-0.3
SANV				*e*S	Sn	05 25 50.2	-1.9
CAPV	**Capacho**	**2.33**	**195**	*e*P	Pn	05 25 25.6	-0.6
CAPV				*e*S	Sn	05 25 53.8	-1.5
TEPV	**Terepaima**	**2.46**	**94**	*e*P	Pn	05 25 28.0	+0.1
TEPV				*e*S	Sn	05 25 55.9	-2.3
MAPV	**Macapo**	**3.20**	**95**	*e*P	Pn	05 25 37.1	-0.8
BAUV	**El Baul**	**3.79**	**108**	*e*P	Pn	05 25 43.8	-2.2
TURV	**Turiamo**	**3.80**	**85**	*e*P	Pn	05 25 45.4	-0.8

IDC 29 05:25:42.2±4.9, 19°.72S×177°.39W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/21, mbtmp4.0/3, Error ellipse: s-maj=189.6km s-min=56.2km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.65**	**243**	P	P	05 33 07.2	-0.4
	0.8nm,0.5s,baz=102,slow=6.5,SNR=3.8						
ASAR	**Alice Springs**	**45.26**	**256**	P		05 34 01.6	-0.2
	1.4nm,0.6s,baz=98,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**45.28**	**261**	P	P	05 34 02.2	+0.1
	0.6nm,0.3s,baz=96,slow=7.4,SNR=25						
BRTR	**Keskin Array B**	**146.73**	**314**	PKPbc	PKPbc	05 45 25.7	-0.8
	0.4nm,0.7s,baz=72,slow=4.7,SNR=2.8						

*IDC **29** 05:40:34.8±1.1, 35°.78N×70°.07E, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.8/43, mbtmp4.0/12, ML4.1/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/28, Error ellipse: s-maj=27.8km s-min=19.2km az=137.0*

*ISCJB **29** 05:40:46.1±0.3, 35°.97N±0°.02×70°.57E±0°.04, h110km, mb3.8/18, Error ellipse: s-maj=4.9km s-min=3.1km az=155.1*

*MOS **29** 05:40:47.5±1.0, 36°.14N×70°.29E, h105km, mb4.2/10, Error ellipse: s-maj=12.2km s-min=5.3km az=80.8*

*NEIC **29** 05:40:48.3±0.8, 36°.10N×70°.24E, h102km±8km, mb4.2/6, Error ellipse: s-maj=9.9km s-min=7.7km az=129.0*

*NNC **29** 05:40:52.9±4.3, 36°.50N×70°.02E, h133km±49km, mb3.9, mpv4.5, Error ellipse: s-maj=32.7km s-min=22.8km az=19.0*

*BJI **29** 05:40:53.2, 36°.72N×70°.33E, h130km, mb4.4/8*

ISC 29 05:40:47.8±0.5, 36°.01N±0°.05×70°.40E±0°.05, h110km, n121, σ1§66/126, mb3.9/18, 8C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.84**	**217**	*e*PN	**Pn**	**05 41 19.3**	**+0.2**
KBL				*e*		05 41 43.2	
KBL	**Kabul**	**1.84**	**217**	*e*Pn	**Pn**	**05 41 19.3**	**+0.2**
KBL				*e*Sn	**Sn**	**05 41 43.2**	**+0.4**
CEP	**Cherat**	**2.51**	**150**	P	**Pn**	**05 41 28.6**	**+1.0**
CEP				S	**Sn**	**05 42 00.0**	**+2.0**
CHCP	**Chirah Chowk**	**3.33**	**134**	P	**Pn**	**05 41 39.3**	**+1.1**
KSH	**Kashi**	**5.63**	**50**	P	Pn	05 42 06.3	-2.9
KSH				S	Sn	05 43 02.8	-10
KSH				smax	smax		
	comp=N,630nm,0.4s						
KSH				smax	smax		
	comp=E,560nm,0.5s						
DLH	**Dalhousie**	**5.76**	**125**	*e*P	**Pn**	**05 42 10.0**	**-1.2**
DLH				*e*S	**Sn**	**05 43 13.0**	**-3.1**
AML	**Almayashu**	**6.62**	**22**	P	**Pn**	**05 42 22.6**	**-0.3**
	SNR=52						
UCH	**Uchtor**	**6.98**	**26**	*i* PN	**Pn**	**05 42 28.0**	**+0.2**
UCH	**Uchtor**	**6.98**	**26**	P	**Pn**	**05 42 28.0**	**+0.2**
	SNR=19						
KK31	**Karatay Array**	**7.08**	**1**	P	**Pn**	**05 42 27.8**	**-1.0**
	17nm,0.3s,baz=193,slow=13,SNR=467						
KK31				⇓S	**Sn**	**05 43 44.0**	**-3.7**
	21nm,0.4s,baz=190,slow=22,SNR=5.7						
KK31	**Karatay Array**	**7.08**	**1**	PN	**Pn**	**05 42 27.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,25nm,0.3s						
KKAR	**Karatay Array**	**7.08**	**1**	*e*PN	**Pn**	**05 42 27.7**	**-1.1**
KKAR	**Karatay Array**	**7.08**	**1**	*e*Pn	**Pn**	**05 42 27.6**	**-1.1**
KKAR				*e*Sn	**Sn**	**05 43 43.8**	**-3.9**
SDNR	**Sundarnagar**	**7.08**	**128**	*e*P	**Pn**	**05 42 28.0**	**-0.9**
SDNR				*e*S	**Sn**	**05 43 42.0**	**-5.9**
KZA	**Kyzart**	**7.13**	**30**	*i* PN	**Pn**	**05 42 29.6**	**-0.2**
KZA	**Kyzart**	**7.13**	**30**	P	**Pn**	**05 42 29.6**	**-0.2**
	SNR=11						
EKS2	**Erkin-Say**	**7.13**	**20**	*e*PN	**Pn**	**05 42 29.2**	**-0.4**
EKS2	**Erkin-Say**	**7.13**	**20**	P	**Pn**	**05 42 29.5**	**-0.1**
	SNR=19						
EKS2	**Erkin-Say**	**7.13**	**20**	*e*Pn	**Pn**	**05 42 29.2**	**-0.4**
EKS2				*e*Sn	**Sn**	**05 43 45.6**	**-3.5**
AAK	**Ala-Archa**	**7.33**	**24**	⇑P	**Pn**	**05 42 33.4**	**+1.1**
	comp=Z,20nm,0.6s						
AAK				⇑S	**Sn**	**05 43 53.3**	**-0.6**
	comp=Z,61nm,0.5s						
AAK	**Ala-Archa**	**7.33**	**24**	*i* PN	**Pn**	**05 42 33.2**	**+0.9**
AAK	**Ala-Archa**	**7.33**	**24**	P	**Pn**	**05 42 33.3**	**+0.9**
	SNR=35						
AAK	**Ala-Archa**	**7.33**	**24**	*e*Pn	**Pn**	**05 42 33.0**	**+0.7**
AAK				*e*Sn	**Sn**	**05 43 54.2**	**+0.3**
AAK	**Ala-Archa**	**7.33**	**24**	Pn	**Pn**	**05 42 30.7**	**-1.6**
	comp=Z,6.3nm,0.3s,baz=178,slow=5.6,SNR=45						
AAK				Sn	**Sn**	**05 43 51.7**	**-2.2**
	comp=Z,10.0nm,0.3s,baz=326,slow=21,SNR=25						
SMLA	**Simla**	**7.46**	**129**	*e*P	**Pn**	**05 42 33.0**	**-0.9**
SMLA				*e*S	**Sn**	**05 43 53.0**	**-3.9**
KBK	**Karagaybulak**	**7.51**	**27**	P	**Pn**	**05 42 36.0**	**+1.3**
	SNR=18						
ULHL	**Ulahol**	**7.70**	**34**	*i* PN	**Pn**	**05 42 39.7**	**+2.4**
ULHL	**Ulahol**	**7.70**	**34**	P	**Pn**	**05 42 39.7**	**+2.4**
	SNR=6.1						
CHMS	**Chumysh**	**7.74**	**24**	*i* PN	**Pn**	**05 42 38.0**	**+0.3**
CHMS	**Chumysh**	**7.74**	**24**	P	**Pn**	**05 42 38.1**	**+0.3**
	SNR=19						
USP	**Ospenovka**	**7.90**	**22**	*i* PN	**Pn**	**05 42 39.6**	**-0.3**
USP	**Ospenovka**	**7.90**	**22**	P	**Pn**	**05 42 39.6**	**-0.3**
	SNR=17						
TKM2	**Tokmak 2**	**7.98**	**29**	⇑P	**Pn**	**05 42 41.6**	**+0.5**
	comp=Z,14nm,0.5s						
TKM2				⇑S	**Sn**	**05 44 08.0**	**-1.8**
	comp=Z,34nm,0.6s						
TKM2	**Tokmak 2**	**7.98**	**29**	*i* PN	**Pn**	**05 42 40.6**	**-0.5**
TKM2	**Tokmak 2**	**7.98**	**29**	P	**Pn**	**05 42 40.7**	**-0.5**
	SNR=36						
TKM2	**Tokmak 2**	**7.98**	**29**	*e*Pn	**Pn**	**05 42 40.9**	**-0.2**
KHET	**Khetri**	**9.15**	**148**	*e*P	Pn	05 42 53.8	-3.1
KHET				*e*S	Sn	05 44 28.4	-10
KHET				AML	AML	05 44 33.0	
	comp=N,310nm,0.2s						
KHET				AML	AML	05 44 35.0	
	comp=E,304nm,0.3s						
NDI	**New Delhi**	**9.31**	**140**	*e*P	**Pn**	**05 42 57.0**	**-2.0**
NDI				*e*S	Sn	05 44 34.0	-7.9
KUDL	**Kundal**	**9.39**	**145**	*e*P	**Pn**	**05 42 58.0**	**-2.2**
KUDL				*e*S	Sn	05 44 34.5	-9.4
KUDL				AML	AML	05 44 40.4	
	comp=N,27nm,0.5s						
KUDL				AML	AML	05 44 41.1	
	comp=E,29nm,0.3s						
PYUN	**Piuthan**	**13.27**	**123**	*e*P	Pn	05 43 48.4	-3.7
	comp=E,175nm,0.5s						
DANN	**Dangsing**	**13.64**	**120**	*e*P	Pn	05 43 53.7	-3.3
	comp=E,77nm,0.4s						
KOLN	**Koldanda**	**13.89**	**123**	*e*P	Pn	05 43 56.8	-3.4
	comp=E,34nm,0.4s						
MK31	**Makanchi Array**	**13.97**	**36**	⇑P	**Pn**	**05 44 01.3**	**+0.4**
	comp=E,3.1nm,0.5s,baz=221,slow=11,SNR=52						
MK31	**Makanchi Array**	**13.97**	**36**	*e*P	**Pn**	**05 44 01.2**	**+0.4**
MK31	**Makanchi Array**	**13.97**	**36**	*e*Pn	**Pn**	**05 44 01.2**	**+0.4**
MKAR	**Makanchi Array**	**13.97**	**36**	P	**Pn**	**05 44 01.1**	**+0.3**
MKAR	**Makanchi Array**	**13.97**	**36**	Pn	**Pn**	**05 44 01.1**	**+0.3**
MKAR	**Makanchi Array**	**13.97**	**36**	Pn	**Pn**	**05 44 01.1**	**+0.3**
	comp=E,0.3nm,0.3s,baz=225,slow=16,SNR=24						
GKN	**Gorkha**	**14.47**	**120**	*e*P	Pn	05 44 04.2	-3.3
	comp=E,40nm,0.3s						
DMN	**Daman**	**15.04**	**120**	*e*P	**Pn**	**05 44 11.8**	**-3.0**
	comp=E,42nm,0.5s						
KKN	**Kakani**	**15.05**	**119**	*e*P	**Pn**	**05 44 11.8**	**-3.1**
	comp=E,44nm,0.5s						
PKIN	**Phulchoki**	**15.26**	**119**	*e*P	**Pn**	**05 44 13.9**	**-3.7**
	comp=E,56nm,0.5s						
PKI	**Pulchoki**	**15.27**	**119**	*e*P	**Pn**	**05 44 14.1**	**-3.8**
	comp=E,41nm,0.4s						
AB31	**Akbulak array**	**15.29**	**333**	⇓P	**Pn**	**05 44 15.6**	**-1.9**
	comp=E,14nm,0.5s,baz=151,slow=12,SNR=249						
AB31				S	Sn	05 46 52.4	-14
	comp=E,5.5nm,0.5s,baz=153,slow=23,SNR=10						
AB31	**Akbulak array**	**15.29**	**333**	*i* P	**Pn**	**05 44 15.4**	**-2.1**
AB31				S	Sn	05 46 52.3	-14
AB31				pmax	pmax		
	comp=Z,27nm,0.5s						
AB31				smax	smax		
	comp=Z,13nm,0.6s						
ABKAR	**Akbulak array**	**15.29**	**333**	*e*P	**Pn**	**05 44 15.6**	**-1.9**
	comp=Z,27nm,0.6s						
GUN	**Gumba**	**15.41**	**117**	*e*P	**Pn**	**05 44 16.8**	**-2.8**
	comp=E,30nm,0.4s						
KURBB	**Kurchatov Arra**	**15.74**	**19**	⇑P	**Pn**	**05 44 21.5**	**-1.6**
	comp=E,7.6nm,0.6s						
KURBB	**Kurchatov Arra**	**15.74**	**19**	Pn	**Pn**	**05 44 21.7**	**-1.4**
	comp=E,0.6nm,0.3s,baz=210,slow=10,SNR=32						
JIRN	**Jiri**	**15.78**	**117**	*e*P	**Pn**	**05 44 21.1**	**-3.1**
	comp=Z,74nm,0.3s						
KURK	**Kurchatov**	**15.85**	**19**	⇓P	**Pn**	**05 44 22.5**	**-2.0**
	comp=Z,4.4nm,0.9s						
KURK	**Kurchatov**	**15.85**	**19**	*e*P	**P**	**05 44 27.4**	**+1.4**
KURK				pmax	pmax		
	comp=E,6.0nm,1.0s						
KURK	**Kurchatov**	**15.85**	**19**	*e*P	**P**	**05 44 27.4**	**+1.4**
	comp=E,6.4nm,1.0s						
RAMN	**Ramite**	**16.49**	**119**	*e*P	**Pn**	**05 44 30.5**	**-2.4**
	comp=Z,27nm,0.3s						
VOSK	**Vostochnaya**	**16.71**	**1**	⇑P	**Pn**	**05 44 34.4**	**-0.7**
	comp=Z,7.6nm,0.6s						
AKTO	**Aktyubinsk**	**16.97**	**332**	⇓P	**Pn**	**05 44 38.4**	**+0.1**
	comp=Z,16nm,0.8s						
AKTO				⇓S	Sn	05 47 34.3	-13
	comp=Z,8.0nm,0.7s						
AKTO	**Aktyubinsk**	**16.97**	**332**	P	**Pn**	**05 44 38.3**	**0.0**
AKTO				S	Sn	05 47 32.7	-14
AKTO	**Aktyubinsk**	**16.97**	**332**	P	**Pn**	**05 44 38.3**	**0.0**
AKTO				S	Sn	05 47 32.6	-14
AKTO	**Aktyubinsk**	**16.97**	**332**	P	**Pn**	**05 44 38.3**	**0.0**
	comp=Z,1.1nm,0.3s,baz=136,slow=13,SNR=33						
AKTO				S	Sn	05 47 32.6	-14
	comp=Z,0.4nm,0.3s,baz=121,slow=18,SNR=4.4						
BVA0	**Borovoye Array**	**17.01**	**360**	⇓P	**Pn**	**05 44 38.7**	**-0.1**
	comp=Z,8.8nm,0.8s,baz=172,slow=13,SNR=15						
BVAR	**Borovoye Array**	**17.01**	**360**	P	**Pn**	**05 44 38.7**	**-0.1**
BVAR	**Borovoye Array**	**17.01**	**360**	P	**Pn**	**05 44 38.7**	**-0.1**
BVAR	**Borovoye Array**	**17.01**	**360**	P	**Pn**	**05 44 38.7**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=179,slow=12,SNR=16						
BRVK	**Borovoye**	**17.04**	**360**	*e*P	**Pn**	**05 44 38.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BRVK	**Borovoye**	**17.04**	**360**	*e*P	**Pn**	**05 44 38.9**	**-0.2**
	comp=Z,3.3nm,0.6s						
TAPN	**Taplejung**	**17.06**	**116**	*e*P	**Pn**	**05 44 38.1**	**-1.8**
	comp=Z,54nm,0.5s						
ODAN	**Odare**	**17.11**	**117**	*e*P	**Pn**	**05 44 38.0**	**-2.5**
	comp=Z,28nm,0.4s						
LSA	**Lhasa**	**18.52**	**104**	P	**Pn**	**05 44 59.5**	**+1.9**
LSA	**Lhasa**	**18.52**	**104**	*e*P	**Pn**	**05 44 59.5**	**+1.9**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**18.52**	**104**	*e*P	**Pn**	**05 44 59.5**	**+1.9**
	comp=Z,12nm,0.6s						
ZAA0	**Zalesovo Array**	**20.56**	**25**	*e*P	**P**	**05 45 18.1**	**+0.6**
ZALV	**Zalesovo Beam**	**20.56**	**25**	*i* P	**P**	**05 45 18.2**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,38nm,0.5s						
ZALV	**Zalesovo Beam**	**20.56**	**25**	P	**P**	**05 45 18.3**	**+0.9**
ZALV	**Zalesovo Beam**	**20.56**	**25**	P	**P**	**05 45 18.3**	**+0.9**
	comp=Z,38nm,0.5s,baz=219,slow=10,SNR=134						
NVS	**Novosibirsk**	**20.81**	**21**	*e*P	**P**	**05 45 20.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,12nm,0.6s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
ZEI	**Tsey**	**21.51**	**296**	*e*P	**P**	**05 45 30.2**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
ARU	**Arti**	**21.94**	**342**	*d* iP	**P**	**05 45 33.1**	**+0.9**
ARU						05 46 01.6	
ARU				S	**S**	**05 49 24.1**	**-3.3**
ARU				SS	**SnSn**	**05 50 02.8**	**-1.2**
ARU				pmax	pmax		
	comp=Z,26nm,1.7s						
ARU	**Arti**	**21.94**	**342**	*e*P	**P**	**05 45 32.9**	**+0.7**
	comp=Z,7.7nm,0.6s						
KBZ	**Khabaz**	**22.40**	**299**	P	**P**	**05 45 38.4**	**+1.3**
KBZ	**Khabaz**	**22.40**	**299**	P	**P**	**05 45 38.4**	**+1.3**
KBZ	**Khabaz**	**22.40**	**299**	P	**P**	**05 45 38.4**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=96,slow=9.2,SNR=4.4						
GTA	**Gaotai**	**23.47**	**73**	*e*P	**P**	**05 45 50.8**	**+3.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BRTR	**Keskin Array B**	**29.12**	**288**	P	**P**	**05 46 39.7**	**+1.3**
BRTR	**Keskin Array B**	**29.12**	**288**	P	**P**	**05 46 39.7**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=96,slow=9.9,SNR=5.2						
OBN	**Obninsk**	**30.00**	**320**	*e*P	**P**	**05 46 46.7**	**+1.0**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AKASG	**Malin Array Be**	**32.88**	**310**	*ce*P	**P**	**05 47 11.1**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**32.88**	**310**	P	**P**	**05 47 09.9**	**-1.2**
AKASG	**Malin Array Be**	**32.88**	**310**	P	**P**	**05 47 09.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=89,slow=6.8,SNR=4.8						
JOF	**Joensuu**	**36.05**	**331**	*e*P	**P**	**05 47 39.5**	**+1.3**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	**Joensuu**	**36.05**	**331**	*e*p	**P**	**05 47 39.5**	**+1.3**
	comp=Z,1.7nm,0.5s						
FINES	**FINESS Array B**	**37.62**	**327**	P	**P**	**05 47 51.0**	**-0.5**
FINES	**FINESS Array B**	**37.62**	**327**	P	**P**	**05 47 51.0**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=115,slow=7.0,SNR=12						
KEV	**Kevo**	**41.08**	**339**	*e*P	P	05 48 16.8	-3.3
KEV	**Kevo**	**41.08**	**339**	*e*p	P	05 48 16.8	-3.3
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**41.41**	**338**	P	**P**	**05 48 24.1**	**+1.1**
ARCES	**ARCESS Array B**	**41.41**	**338**	P	**P**	**05 48 24.1**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=110,slow=7.9,SNR=13						
NB2	**NORSAR Subarra**	**44.48**	**323**	P	**P**	**05 48 47.4**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**05 48 48.1**	**+0.3**
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**05 48 48.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=99,slow=8.0,SNR=7.6						
KSRS	**Korea Array**	**45.50**	**70**	LR	LR	06 09 26.1	
	comp=Z,126nm,18.4s,baz=160,slow=38						
TIXI	**Tiksi**	**46.40**	**22**	⇓*i*P	**P**	**05 49 04.0**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,57nm,17.0s						
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**05 51 16.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**05 51 16.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=52,slow=5.8,SNR=13						
DBIC	**Dimbokro**	**74.19**	**267**	P	**P**	**05 52 12.0**	**-0.8**
DBIC	**Dimbokro**	**74.19**	**267**	P	**P**	**05 52 12.0**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=90,slow=4.0,SNR=2.9						
INK	**Inuvik**	**74.46**	**9**	*e*P	**P**	**05 52 14.8**	**+1.3**
	comp=Z,2.1nm,0.9s						
INK	**Inuvik**	**74.46**	**9**	P	**P**	**05 52 14.4**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=355,slow=4.9,SNR=4.8						
YKA	**Yellowknife Ar**	**81.75**	**2**	P	**P**	**05 52 54.4**	**+0.5**
YKA	**Yellowknife Ar**	**81.75**	**2**	P	**P**	**05 52 54.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=352,slow=5.4,SNR=9.8						
ASAR	**Alice Springs**	**84.38**	**124**	P	**P**	**05 53 10.4**	**+2.5**
ASAR	**Alice Springs**	**84.38**	**124**	P	**P**	**05 53 10.4**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=304,slow=5.4,SNR=5.3						

*IDC **29** 05:47:17.0±3.4, 55°.52N×153°.00W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/33, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=69.1km s-min=28.8km az=152.0*

*ISCJB **29** 05:47:21.6±1.5, 56°.24N±0°.06×152°.7W±0°.1, h25km±11km, mb3.7/3, Error ellipse: s-maj=12.5km s-min=8.5km az=136.0*

*NEIC **29** 05:47:24.2, 56°.23N×152°.86W, h25km, ML3.1(AEIC), After AEIC.*

ISC 29 05:47:22.6±3.7, 56°.3N±0°.1×152°.83W±0°.07, h15km±24km, n28, σ0§67/32, mb3.7/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.81**	**292**	P	**Pb**	**05 47 38.1**	**-0.3**
SII				S	**Sb**	**05 47 49.3**	**+0.2**
OHAK	**Old Harbor**	**1.00**	**345**	P	**Pb**	**05 47 41.3**	**-0.2**
KDAK	**Kodiak Island**	**1.53**	**5**	P	**Pn**	**05 47 49.2**	**-0.1**
KDAK				S	**Sn**	**05 48 07.3**	**-1.6**
KABR	**Katmai Barrier**	**2.21**	**329**	P	**Pn**	**05 47 58.1**	**-0.6**
PLK4	**Peulik 4**	**2.37**	**307**	P	**Pn**	**05 48 00.1**	**-0.9**
KVTA	**Katmai Vly 10**	**2.51**	**329**	P	**Pn**	**05 48 03.4**	**+0.5**
PLK1	**Peulik 1**	**2.58**	**308**	P	**Pn**	**05 48 04.0**	**+0.2**
KAHC	**Katmai Hardscr**	**2.67**	**335**	P	**Pn**	**05 48 04.7**	**-0.4**
MCNL	**McNeil River**	**3.04**	**345**	P	**Pn**	**05 48 11.1**	**+1.0**
BRLK	**Bradley Lake**	**3.66**	**16**	P	**Pn**	**05 48 18.4**	**-0.2**
BRLK				S	**Sn**	**05 49 00.4**	**-1.1**
ILIM	**Iliamna**	**3.83**	**359**	P	**Pn**	**05 48 21.8**	**+0.8**
RSO	**Redoubt South**	**4.21**	**0**	*e*Pn	**Pn**	**05 48 26.9**	**+0.6**
RSO				*e*Sn	**Sn**	**05 49 16.6**	**+1.2**
RDWB	**Redoubt West**	**4.24**	**360**	P	**Pn**	**05 48 26.7**	**0.0**
RDWB				S	**Sn**	**05 49 15.3**	**-0.6**
DFR	**Drift River**	**4.35**	**1**	P	**Pn**	**05 48 27.8**	**-0.3**
CKL	**Chakachamna La**	**4.96**	**3**	P	**Pn**	**05 48 36.3**	**-0.2**
PWL	**Port Wells**	**5.18**	**25**	P	**Pn**	**05 48 39.0**	**-0.4**
STLK	**Strandline Lak**	**5.28**	**5**	P	**Pn**	**05 48 41.0**	**+0.1**
SUA	**Susitna One**	**5.33**	**11**	P	**Pn**	**05 48 41.2**	**-0.5**
DTNA	**Dutton South F**	**5.45**	**262**	P	**Pn**	**05 48 43.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.69**	**38**	P	**Pn**	**05 48 46.1**	**-0.3**
SCM	**Sheep Creek Mo**	**6.27**	**25**	P	**Pn**	**05 48 53.8**	**-0.6**
TT01	**Tatalina**	**6.86**	**348**	P	**Pn**	**05 49 02.1**	**-0.3**
ILAR	**Eielson Array**	**9.02**	**16**	Pn	**Pn**	**05 49 33.1**	**+1.0**
	0.2nm,0.3s,baz=203,slow=14,SNR=17						
ILAR				Sn	Sn	05 51 05.4	-7.8
	0.1nm,0.3s,baz=211,slow=22,SNR=2.9						
INK	**Inuvik**	**14.95**	**28**	Pn	**P**	**05 50 59.1**	**+0.6**
	0.1nm,0.3s,baz=221,slow=14,SNR=6.8						
YKA	**Yellowknife Ar**	**20.20**	**56**	P	Pn	05 51 58.4	+0.1
	0.4nm,0.7s,baz=269,slow=11,SNR=6.0						
SONM	**Songino Array**	**57.12**	**308**	P	**P**	**05 57 08.7**	**+0.6**
	0.5nm,0.6s,baz=60,slow=8.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**60.47**	**325**	P	**P**	**05 57 30.9**	**-0.3**
	0.9nm,0.6s,baz=39,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	**67.44**	**322**	P	**P**	**05 58 17.1**	**0.0**
	0.2nm,0.5s,baz=31,slow=7.2,SNR=3.7						

IDC 29 06:15:09.9±1.2, 7°.70N×75°.94W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.5/4, ML2.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=142.0km s-min=17.6km az=61.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.24**	**150**	Pn	Pn	06 16 04.7	+2.1
	6.3nm,0.3s,baz=297,slow=5.6,SNR=12						
ROSC				Lg	Lg	06 16 51.4	
	1.8nm,0.3s,baz=265,slow=17,SNR=5.5				

Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.84**	**161**	Pn	Pn	06 40 57.4	-0.3
	0.2nm,0.3s,baz=341,slow=9.8,SNR=14						
WRA				Sn	Sn	06 43 19.8	-13
	0.8nm,0.3s,baz=328,slow=24,SNR=9.5						
ASAR	**Alice Springs**	**17.27**	**167**	P	Pn	06 41 43.0	+0.2
	0.2nm,0.3s,baz=340,slow=9.1,SNR=10						
ASAR				S	Sn	06 44 41.5	-14
	0.1nm,0.3s,baz=342,slow=24,SNR=4.0						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	06 48 40.6	+0.4
	0.7nm,0.4s,baz=116,slow=7.7,SNR=18						
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	P	06 49 06.0	-0.5
	0.3nm,0.4s,baz=130,slow=4.7,SNR=5.5						

IDC 29 06:51:22.1±2.4, 4°.20N×126°.70E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=211.7km s-min=26.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.14**	**163**	P	P	06 56 49.0	0.0
	0.8nm,0.7s,baz=341,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**28.57**	**166**	P	P	06 57 19.9	-0.1
	0.5nm,0.7s,baz=349,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	07 01 10.7	0.0
	0.1nm,0.5s,baz=112,slow=7.9,SNR=3.2						

*NNC **29** 06:59:31.4±5.3, 39°.58N×70°.35E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=40.6km s-min=23.6km az=6.0*

ISC 29 06:59:33.8±2.7, 39°.8N±0°.2×70°.0E±0°.1, h17km, n13, σ1°29°/16, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.33**	**6**	⇓P	**Pn**	**07 00 26.6**	**+1.5**
	9.5nm,0.3s,baz=176,slow=15,SNR=390						
KK31				⇑S	**Sb**	**07 01 11.2**	**-1.4**
	4.7nm,0.2s,baz=180,slow=28,SNR=7.0						
AML	**Almayashu**	**3.63**	**49**	P	**Pn**	**07 00 29.1**	**-0.5**
	SNR=62						
EKS2	**Erkin-Say**	**4.03**	**43**	P	**Pn**	**07 00 35.0**	**+0.1**
	SNR=22						
UCH	**Uchtor**	**4.18**	**53**	P	**Pn**	**07 00 37.1**	**-0.1**
	SNR=26						
AAK	**Ala-Archa**	**4.41**	**49**	⇑Pn	**Pn**	**07 00 40.4**	**+0.2**
	1.3nm,0.3s						
AAK				⇑Sn	**Sn**	**07 01 34.8**	**+3.6**
	5.0nm,0.3s						
AAK				⇓Lg	Lg	07 01 47.0	
	7.5nm,0.4s						
AAK	**Ala-Archa**	**4.41**	**49**	P	**Pn**	**07 00 40.2**	**+0.1**
	SNR=8.4						
KZA	**Kyzart**	**4.57**	**58**	P	**Pn**	**07 00 43.3**	**+0.7**
	SNR=9.9						
KBK	**Karagaybulak**	**4.69**	**51**	P	**Pn**	**07 00 44.6**	**+0.6**
	SNR=29						
CHMS	**Chumysh**	**4.79**	**46**	P	**Pn**	**07 00 45.4**	**+0.2**
	SNR=6.9						
USP	**Ospenovka**	**4.83**	**43**	P	**Pn**	**07 00 45.6**	**-0.3**
	SNR=10						
TKM2	**Tokmak 2**	**5.23**	**52**	⇑Pn	**Pn**	**07 00 51.4**	**-0.1**
	2.1nm,0.3s						
TKM2				⇑Sn	**Sn**	**07 01 49.8**	**-1.7**
	7.4nm,0.6s						
TKM2				⇑Lg	Lg	07 02 11.7	
	5.6nm,0.5s						
TKM2	**Tokmak 2**	**5.23**	**52**	P	**Pn**	**07 00 51.4**	**-0.1**
	SNR=8.8						
AB31	**Akbulak array**	**11.87**	**326**	⇓Pn	**Pn**	**07 02 21.7**	**-0.5**
	1.0nm,0.8s,baz=135,slow=12,SNR=11						

KRNET 29 07:00:32.5±0.1, 39°.87N×70°.25E, h3km, mb3.9, 2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.47**	**67**	⇓*i*P	Pg	07 00 41.8	0.0
	baz=67						
BTK				⇓*e*S	Sg	07 00 48.8	+0.7
	baz=67						
OHH	**Osh**	**2.05**	**71**	*e*P	Pb	07 01 11.0	+0.5
	baz=71						
OHH				*e*S	Sg	07 01 38.8	+0.2
	baz=71						
ARK	**Arkit**	**2.32**	**34**	*e*P	Pb	07 01 15.4	+0.2
	baz=34						
ARK				*e*S	Sg	07 01 47.0	-0.4
	baz=34						
SFK	**Sufi-Kurgan**	**2.51**	**86**	*e*P	Pb	07 01 19.1	+0.6
	baz=86						
SFK				*e*S	Sg	07 01 53.2	-0.4
	baz=86						
ARSB	**Arslanbob**	**2.54**	**54**	*e*P	Pb	07 01 19.4	+0.5
	baz=54						
ARSB				*e*S	Sg	07 01 53.6	-0.8
	baz=54						

*KNET **29** 07:04:09.3±0.3, 42°.65N×74°.97E, h19km±1km, ml1.8, Error ellipse: s-maj=2.3km s-min=1.7km az=156.0*
*ISCJB **29** 07:04:10.5±0.5, 42°.68N±0°.03×74°.98E±0°.03, h13km±3km, Error ellipse: s-maj=4.9km s-min=4.3km az=178.7*
*NNC **29** 07:04:10.3±1.0, 42°.67N×74°.98E, h0km, mb2.5, mpv2.1, Error ellipse: s-maj=23.9km s-min=1.5km az=162.0*
*KRNET **29** 07:04:10.5±0.1, 42°.66N×74°.97E, h15km, mb2.5*

ISC 29 07:04:10.5±0.9, 42°.66N±0°.02×74°.96E±0°.02, h17km±5km, n24, σ0°66/46, 33C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.01**	**247**	⇑P	**Pg**	**07 04 13.5**	**-0.2**
	418nm,0.1s,SNR=1676						
KBK				⇓S	**Sg**	**07 04 15.9**	**-0.1**
	1μm,0.1s						
KBK	**Karagaybulak**	**0.01**	**247**	⇑*i*P	**Pg**	**07 04 13.5**	**-0.2**
	baz=247						
KBK				⇑*i*S	**Sg**	**07 04 15.6**	**-0.3**
	baz=247						
AAK	**Ala-Archa**	**0.35**	**266**	⇑P	**Pg**	**07 04 17.4**	**-0.5**
	0.7nm,0.2s						
AAK				⇑S	**Sg**	**07 04 22.5**	**-0.4**
	32nm,0.4s						
AAK	**Ala-Archa**	**0.35**	**266**	⇑P	**Pg**	**07 04 17.4**	**-0.5**
	4.5nm,0.2s,SNR=20						
AAK				⇑S	**Sg**	**07 04 22.5**	**-0.4**
	27nm,0.2s						
AAK	**Ala-Archa**	**0.35**	**266**	⇑*i*P	**Pg**	**07 04 17.3**	**-0.5**
	baz=265						
AAK				⇑*i*S	**Sg**	**07 04 22.3**	**-0.6**
	baz=265						
CHMS	**Chumysh**	**0.37**	**335**	⇓P	**Pg**	**07 04 18.0**	**-0.2**
	12nm,0.1s,SNR=65						
CHMS				⇑S	**Sg**	**07 04 23.6**	**+0.1**
	213nm,0.1s						
CHMS	**Chumysh**	**0.37**	**335**	⇑*i*P	**Pg**	**07 04 17.9**	**-0.3**
	baz=334						
CHMS				⇑*i*S	**Sg**	**07 04 23.4**	**-0.1**
	baz=334						
TKM2	**Tokmak 2**	**0.53**	**61**	⇑P	**Pg**	**07 04 20.5**	**-0.6**
	4.6nm,0.2s						
TKM2				⇑S	**Sg**	**07 04 28.0**	**-0.4**
	14nm,0.2s						
TKM2	**Tokmak 2**	**0.53**	**61**	⇑P	**Pg**	**07 04 20.7**	**-0.6**
	17nm,0.1s,SNR=183						
TKM2				⇓S	**Sg**	**07 04 28.1**	**-0.4**
	88nm,0.1s						
TKM2	**Tokmak 2**	**0.53**	**61**	⇑*i*P	**Pg**	**07 04 20.6**	**-0.6**
	baz=61						
TKM2				⇑*i*S	**Sg**	**07 04 28.0**	**-0.4**
	baz=61						
UCH	**Uchtor**	**0.55**	**218**	⇑P	**Pg**	**07 04 20.9**	**-0.6**
	5.5nm,0.1s,SNR=30						
UCH				⇓S	**Sg**	**07 04 28.3**	**-0.7**
	45nm,0.2s						
UCH	**Uchtor**	**0.55**	**218**	⇑*i*P	**Pg**	**07 04 20.8**	**-0.8**
	baz=218						
UCH				⇑*i*S	**Sg**	**07 04 28.2**	**-0.8**
	baz=218						
KZA	**Kyzart**	**0.62**	**160**	⇓P	**Pg**	**07 04 22.4**	**-0.5**
	10.0nm,0.1s,SNR=12						
KZA				⇓S	**Sg**	**07 04 31.2**	**-0.1**
	29nm,0.2s						
KZA	**Kyzart**	**0.62**	**160**	⇑*i*P	**Pg**	**07 04 22.3**	**-0.6**
	baz=160						
KZA				⇑*i*S	**Sg**	**07 04 30.9**	**-0.3**
	baz=160						
USP	**Ospenovka**	**0.69**	**331**	⇓P	**Pg**	**07 04 23.5**	**-0.6**
	6.8nm,0.1s,SNR=56						
USP				⇓S	**Sg**	**07 04 33.0**	**-0.4**
	37nm,0.1s						
USP	**Ospenovka**	**0.69**	**331**	⇑*i*P	**Pg**	**07 04 23.4**	**-0.8**
	baz=330						
USP				⇑*i*S	**Sg**	**07 04 32.9**	**-0.5**
	baz=330						
EKS2	**Erkin-Say**	**0.88**	**270**	⇓P	**Pb**	**07 04 27.2**	**-0.1**
	2.5nm,0.1s,SNR=25						
EKS2				⇓S	**Sg**	**07 04 39.2**	**+0.1**
	9.5nm,0.1s						
EKS2	**Erkin-Say**	**0.88**	**270**	⇑*i*P	**Pb**	**07 04 27.2**	**-0.1**
	baz=270						
EKS2				⇑*i*S	**Sb**	**07 04 39.0**	**+0.2**
	baz=270						
ARLS	**Aral**	**0.93**	**211**	⇓*i*P	**Pn**	**07 04 31.1**	**+2.2**
	baz=211						
ULHL	**Ulahol**	**1.03**	**113**	⇑*i*P	**Pb**	**07 04 29.4**	**-0.7**
	baz=113						
ULHL				⇑*i*S	**Sb**	**07 04 43.2**	**-0.2**
	baz=113						
AML	**Almayashu**	**1.08**	**241**	⇑P	**Pb**	**07 04 30.6**	**-0.4**
	3.3nm,0.1s,SNR=11						
AML				⇓S	**Sb**	**07 04 44.9**	**-0.1**
	20nm,0.4s						
AML	**Almayashu**	**1.08**	**241**	⇑*i*P	**Pb**	**07 04 30.4**	**-0.5**
	baz=241						
AML				⇑*i*S	**Sb**	**07 04 44.8**	**-0.1**
	baz=241						
ARSB	**Arslanbob**	**1.99**	**229**	*e*P	**Pb**	**07 04 47.2**	**+0.8**
	baz=229						
ARSB				*e*S	**Sg**	**07 05 13.5**	**-1.1**
	baz=229						
KK31	**Karatay Array**	**3.30**	**279**	⇑Pg	**Pg**	**07 05 12.0**	**-1.7**
	0.3nm,0.3s,baz=91,slow=15						
KK31				⇑Lg	Lg	07 05 52.0	
	0.6nm,0.2s,baz=98,slow=28						

*CSEM **29** 07:07:58.2, 35°.59N×22°.24E, h15km, MD3.5, After ATH*

ATH 29 07:07:58.2, 35°.59N×22°.24E, h15km±3km, MD3.5/12, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.91**	**72**	*e*PB	Pb	07 08 14.8	-0.8
ANKY				*e*SB	Sg	07 08 28.3	+0.6
ANKY	**Antikythira Is**	**0.91**	**72**	*e*Pb	Pb	07 08 14.8	-0.8
ANKY				*e*Sb	Sg	07 08 28.3	+0.6
KYTH	**Kithira**	**0.94**	**43**	*e*PN	Pb	07 08 16.4	0.0
KYTH	**Kithira**	**0.94**	**43**	*e*Pn	Pb	07 08 16.4	0.0
VLI	**Veliai**	**1.26**	**26**	*e*PN	Pg	07 08 22.5	0.0
VLI				*e*SB	Sg	07 08 38.9	-0.1
VLI	**Veliai**	**1.26**	**26**	*e*Pn	Pg	07 08 22.5	0.0
VLI				*e*Sb	Sg	07 08 38.9	-0.1
PYL	**PYLOS**	**1.36**	**343**	*e*PN	Pb	07 08 23.9	+0.4
PYL	**PYLOS**	**1.36**	**343**	*e*Pn	Pb	07 08 23.9	+0.4
ITM	**Ithomi**	**1.61**	**351**	*e*PN	Pb	07 08 27.7	+0.1
ITM	**Ithomi**	**1.61**	**351**	*e*Pn	Pb	07 08 27.7	+0.1
VAM	**Vamos**	**1.61**	**96**	*e*PN	Pb	07 08 28.3	+0.7
VAM	**Vamos**	**1.61**	**96**	*e*Pn	Pb	07 08 28.3	+0.7
DID	**Didima**	**2.07**	**22**	*e*PN	Pb	07 08 34.4	-1.2
DID	**Didima**	**2.07**	**22**	*e*Pn	Pb	07 08 34.4	-1.2
GUR	**Goura**	**2.34**	**2**	*e*PN	Pn	07 08 38.3	+2.0
GUR	**Goura**	**2.34**	**2**	*e*Pn	Pn	07 08 38.3	+2.0
DRO	**Drossia**	**2.40**	**350**	*e*PN	Pb	07 08 40.4	-0.7
DRO	**Drossia**	**2.40**	**350**	*e*Pn	Pb	07 08 40.4	-0.7
KLV	**Kalavryta, Ach**	**2.45**	**358**	*e*PN	Pb	07 08 41.2	-0.9
KLV	**Kalavryta, Ach**	**2.45**	**358**	*e*Pn	Pb	07 08 41.2	-0.9
PDO	**Prodromos**	**3.12**	**345**	*e*PN	Pn	07 08 49.6	+2.7
PDO	**Prodromos**	**3.12**	**345**	*e*Pn	Pn	07 08 49.6	+2.7
MRKA	**Markates**	**3.29**	**19**	*e*PN	Pn	07 08 52.2	+2.9
MRKA	**Markates**	**3.29**	**19**	*e*Pn	Pn	07 08 52.2	+2.9
MAKR	**Makrakomi, Fth**	**3.42**	**359**	*e*PN	Pn	07 08 54.1	+3.1
MAKR	**Makrakomi, Fth**	**3.42**	**359**	*e*Pn	Pn	07 08 54.1	+3.1
AGG	**Agios Georgios**	**3.43**	**1**	*e*PN	Pn	07 08 53.1	+2.0
AGG	**Agios Georgios**	**3.43**	**1**	*e*Pn	Pn	07 08 53.1	+2.0
LKD2	**Lefkada island**	**3.43**	**339**	*e*PN	Pn	07 08 53.7	+2.5
LKD2	**Lefkada island**	**3.43**	**339**	*e*Pn	Pn	07 08 53.7	+2.5
SKIA	**Skiathos**	**3.70**	**15**	*e*PN	Pn	07 08 56.8	+1.9
SKIA	**Skiathos**	**3.70**	**15**	*e*Pn	Pn	07 08 56.8	+1.9
AOS	**Alonnisos**	**3.81**	**20**	*e*PN	Pn	07 08 57.8	+1.5
AOS	**Alonnisos**	**3.81**	**20**	*e*Pn	Pn	07 08 57.8	+1.5

CASC 29 07:17:43.5±1.0, 13°.23N×90°.36W, h20km±4km, MD3.7, ML3.4, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.94**	**50**	*e*P	Pb	07 18 00.8	-0.6
SBLS				*e*S	Sg	07 18 14.8	0.0
RTR	**El Retiro**	**0.96**	**46**	⇑*e*P	Pb	07 18 01.5	-0.3
RTR				*e*S	Sg	07 18 14.8	-0.6
SNJE	**San Jose**	**0.97**	**49**	*e*P	Pb	07 18 01.5	-0.5
SNJE				*e*S	Sb	07 18 14.8	+0.3
RBDL	**Robledal**	**1.09**	**37**	⇓*e*P	Pn	07 18 03.4	-0.6
BOQS	**Boqueron**	**1.17**	**65**	*e*P	Pn	07 18 04.6	-0.4
SNET	**Serv Nac Est T**	**1.19**	**68**	*e*P	Pn	07 18 05.0	-0.2
SNET				AML	AML	07 18 26.8	
	comp=Z,796nm,0.2s						
LFU	**La Fuente**	**1.32**	**67**	⇑*e*P	Pn	07 18 07.1	+0.2
LFU				*e*S	Sb	07 18 25.2	+0.9
LFRS	**El Faro**	**1.32**	**73**	*e*P	Pn	07 18 06.4	-0.7
LFRS				*e*S	Sn	07 18 24.2	0.0
NBG	**Las Nubes**	**1.35**	**1**	*e*P	Pb	07 18 08.1	-0.4
LBRS	**Las Brisas**	**1.38**	**68**	*e*P	Pn	07 18 07.7	0.0
LBRS				*e*S	Sb	07 18 26.7	+0.7
SNVI	**San Vicente**	**1.53**	**76**	*e*P	Pn	07 18 10.1	+0.2
JAT	**Jato**	**1.64**	**311**	*e*P	Pn	07 18 10.3	-0.9
MRL	**Marmol**	**1.94**	**20**	⇑*e*P	Pn	07 18 15.9	+0.4

IDC 29 07:38:31.5±2.4, 54°.01N×86°.44E, h0km, mb1 3.0/2, mb1mx2.8/30, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=20.4km s-min=12.8km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**267**	*i*		07 46 30.0	
	baz=86,slow=337						
ZALV	**Zalesovo Beam**	**0.96**	**267**	Pg	Pg	07 38 48.4	-1.5
	0.7nm,0.3s,baz=85,slow=17,SNR=14						
ZALV				Lg	Lg	07 39 03.9	
	2.3nm,0.3s,baz=90,slow=28,SNR=14						
ZALV				Rg	Rg	07 39 09.0	
	4.5nm,0.4s,baz=81,slow=28,SNR=22						
KURBB	**Kurchatov Arra**	**5.92**	**238**	Pn	Pn	07 40 01.3	+0.9
	0.4nm,0.3s,baz=56,slow=14,SNR=9.7						
KURBB				Lg	Lg	07 41 41.4	
	0.2nm,0.3s,baz=52,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**7.70**	**202**	Pn	Pn	07 40 25.9	+1.1
	0.2nm,0.3s,baz=25,slow=14,SNR=13						

*IDC **29** 07:44:03.6±2.6, 38°.50N×21°.98E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/30, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=141.0km s-min=27.7km az=146.0*
*ISCJB **29** 07:44:04.1±0.3, 38°.39N±0°.02×22°.01E±0°.02, h8km±2km, mb3.1/2, Error ellipse: s-maj=2.9km s-min=2.6km az=23.9*
*THE **29** 07:44:04.5, 38°.39N×22°.01E, h6km±1km, ML3.3/7, Error ellipse: s-maj=1.7km s-min=0.4km az=270.0*
*ATH **29** 07:44:04.4, 38°.39N×22°.00E, h7km±1km, MD3.0/19, ML2.7*
*CSEM **29** 07:44:04.3±0.1, 38°.39N×22°.01E, h2km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.2km az=93.0*

ISC 29 07:44:04.6±0.8, 38°.39N±0°.01×22°.01E±0°.02, h5km±6km, n95, σ0°64/128, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.09**	**295**	P	**Pg**	**07 44 06.0**	**-0.5**
EFP				S	**Sg**	**07 44 07.9**	**0.0**
EFP	**Efpalio**	**0.09**	**295**	*e*PG	**Pg**	**07 44 06.1**	**-0.5**
EFP				*e*SG	**Sg**	**07 44 07.8**	**-0.1**
EFP	**Efpalio**	**0.09**	**295**	*e*Pg	**Pg**	**07 44 06.1**	**-0.5**
EFP				S	**Sg**	**07 44 07.6**	**-0.3**
KALE	**Kalithea**	**0.10**	**89**	P	**Pg**	**07 44 07.0**	**+0.1**
KALE				S	**Sg**	**07 44 08.8**	**+0.4**
KALE	**Kalithea**	**0.10**	**89**	*e*PG	**Pg**	**07 44 07.1**	**+0.1**
KALE				*e*SG	**Sg**	**07 44 08.9**	**+0.5**
KALE	**Kalithea**	**0.10**	**89**	P	**Pg**	**07 44 06.9**	**+0.1**
KALE				S	**Sg**	**07 44 08.6**	**+0.2**
LAKA	**Lakka**	**0.15**	**188**	P	**Pg**	**07 44 07.9**	**+0.3**
LAKA	**Lakka**	**0.15**	**188**	*e*PG	**Pg**	**07 44 08.0**	**+0.3**
LAKA	**Lakka**	**0.15**	**188**	P	**Pg**	**07 44 07.8**	**+0.1**
UPR	**University Cam**	**0.20**	**238**	P	**Pg**	**07 44 09.3**	**+0.7**
UPR	**University Cam**	**0.20**	**238**	P	**Pg**	**07 44 08.9**	**+0.3**
KLV	**Kalavryta, Ach**	**0.36**	**162**	P	**Pg**	**07 44 11.4**	**-0.3**
KLV				S	**Sg**	**07 44 16.4**	**-0.1**
KLV	**Kalavryta, Ach**	**0.36**	**162**	*e*PG	**Pg**	**07 44 11.4**	**-0.3**
KLV				*e*SB	**Sg**	**07 44 16.4**	**-0.1**
KLV	**Kalavryta, Ach**	**0.36**	**162**	P	**Pg**	**07 44 11.4**	**-0.3**
KLV				S	**Sg**	**07 44 16.4**	**-0.1**
DSF	**Desfina**	**0.41**	**87**	P	**Pg**	**07 44 12.0**	**-0.6**
DSF				S	**Sg**	**07 44 18.4**	**+0.5**
DSF	**Desfina**	**0.41**	**87**	*e*PG	**Pg**	**07 44 11.9**	**-0.6**
DSF				*e*SB	**Sg**	**07 44 18.5**	**+0.5**
DSF	**Desfina**	**0.41**	**87**	P	**Pg**	**07 44 12.0**	**-0.6**
DSF				S	**Sg**	**07 44 18.3**	**+0.3**
PVO	**Paravola**	**0.44**	**301**	P	**Pg**	**07 44 12.4**	**-0.7**
PVO				S	**Sb**	**07 44 20.4**	**-1.4**
DRO	**Drossia**	**0.49**	**208**	P	**Pg**	**07 44 14.0**	**-0.2**
DRO	**Drossia**	**0.49**	**208**	*e*PB	**Pg**	**07 44 14.0**	**-0.2**
DRO				*e*SB	**Sg**	**07 44 21.2**	**+0.6**
DRO	**Drossia**	**0.49**	**208**	P	**Pg**	**07 44 14.0**	**-0.2**
DRO				S	**Sg**	**07 44 20.8**	**+0.2**
DRO				*e*Sb	**Sg**	**07 44 21.2**	**+0.6**
GUR	**Goura**	**0.53**	**150**	P	**Pg**	**07 44 14.3**	**-0.5**
GUR	**Goura**	**0.53**	**150**	*e*PB	**Pg**	**07 44 14.3**	**-0.5**
GUR				*e*SB	**Sg**	**07 44 22.1**	**+0.5**
GUR	**Goura**	**0.53**	**150**	P	**Pg**	**07 44 14.3**	**-0.5**
GUR				*e*Sb	**Sg**	**07 44 22.1**	**+0.5**
RLS	**Riolos of Patr**	**0.54**	**232**	P	**Pg**	**07 44 14.9**	**-0.1**
RLS	**Riolos of Patr**	**0.54**	**232**	*e*PB	**Pg**	**07 44 14.9**	**-0.1**
RLS				*e*SB	**Sg**	**07 44 23.0**	**+1.0**
RLS	**Riolos of Patr**	**0.54**	**232**	*e*Pb	**Pg**	**07 44 14.9**	**-0.1**
RLS				S	**Sg**	**07 44 22.5**	**+0.5**
RLS				*e*Sb	**Sg**	**07 44 23.0**	**+1.0**
EVR	**Evrytania**	**0.55**	**344**	P	**Pg**	**07 44 14.8**	**-0.4**
EVR				S	**Sg**	**07 44 23.0**	**+0.6**
EVR	**Evrytania**	**0.55**	**344**	*e*PG	**Pg**	**07 44 14.8**	**-0.4**
EVR				*e*SB	**Sg**	**07 44 23.4**	**+1.0**
EVR	**Evrytania**	**0.55**	**344**	P	**Pg**	**07 44 14.8**	**-0.4**
EVR				S	**Sg**	**07 44 22.8**	**+0.4**
EVR				*e*Sb	**Sg**	**07 44 23.4**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.63**	**9**	P	**Pg**	**07 44 16.7**	**-0.1**
MAKR				S	**Sg**	**07 44 26.0**	**+1.0**
MAKR	**Makrakomi, Fth**	**0.63**	**9**	*e*PB	**Pg**	**07 44 17.0**	**+0.2**
MAKR				*e*SB	**Sg**	**07 44 25.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**9**	P	**Pg**	**07 44 16.7**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.63**	**9**	*e*Pb	**Pg**	**07 44 17.0**	**+0.2**
MAKR				*e*Sb	**Sg**	**07 44 25.3**	**+0.3**
MAKR				S	**Sg**	**07 44 26.0**	**+1.0**
AXAR	**Agios Charalam**	**0.64**	**54**	P	**Pg**	**07 44 16.3**	**-0.6**
AXAR				S	**Sg**	**07 44 26.1**	**+0.9**
AXAR	**Agios Charalam**	**0.64**	**54**	*e*PG	**Pg**	**07 44 16.4**	**-0.5**
AXAR				*e*SB	**Sg**	**07 44 26.0**	**+0.9**
AXAR	**Agios Charalam**	**0.64**	**54**	P	**Pg**	**07 44 16.3**	**-0.6**
AXAR				S	**Sg**	**07 44 25.8**	**+0.7**
PDO	**Prodromos**	**0.68**	**288**	P	**Pg**	**07 44 17.4**	**-0.3**
PDO	**Prodromos**	**0.68**	**288**	*e*PB	**Pg**	**07 44 17.4**	**-0.3**
PDO	**Prodromos**	**0.68**	**288**	P	**Pg**	**07 44 17.4**	**-0.3**
PDO				S	**Sb**	**07 44 29.3**	**+0.7**
AGG	**Agios Georgios**	**0.68**	**22**	P	**Pg**	**07 44 17.0**	**-0.8**
AGG	**Agios Georgios**	**0.68**	**22**	*e*PB	**Pg**	**07 44 16.9**	**-0.8**
AGG	**Agios Georgios**	**0.68**	**22**	P	**Pg**	**07 44 17.0**	**-0.8**
LKR	**Lokris**	**0.82**	**71**	P	**Pg**	**07 44 19.5**	**-0.9**
LKR	**Lokris**	**0.82**	**71**	*e*PG	**Pg**	**07 44 19.9**	**-0.5**
LKR	**Lokris**	**0.82**	**71**	P	**Pg**	**07 44 19.5**	**-0.9**
LKR	**Lokris**	**0.82**	**71**	*e*Pg	**Pg**	**07 44 19.9**	**-0.5**
LTK	**Loutraki**	**0.84**	**116**	P	**Pg**	**07 44 20.1**	**-0.7**
LTK	**Loutraki**	**0.84**	**116**	*e*PB	**Pb**	**07 44 22.2**	**+0.5**
LTK	**Loutraki**	**0.84**	**116**	P	**Pg**	**07 44 20.1**	**-0.7**
LTK	**Loutraki**	**0.84**	**116**	*e*Pb	**Pb**	**07 44 22.2**	**+0.5**
VLX	**Vlachokerasia**	**1.06**	**164**	*e*PB	**Pg**	**07 44 24.6**	**-0.4**
VLX	**Vlachokerasia**	**1.06**	**164**	*e*Pb	**Pg**	**07 44 24.6**	**-0.4**
LKD2	**Lefkada island**	**1.13**	**291**	*e*PN	**Pg**	**07 44 25.8**	**-0.5**
LKD2	**Lefkada island**	**1.13**	**291**	*e*Pn	**Pg**	**07 44 25.8**	**-0.5**
VLS	**Valsamata**	**1.14**	**260**	*e*PG	**Pg**	**07 44 24.9**	**-1.5**
VLS	**Valsamata**	**1.14**	**260**	*e*Pg	**Pg**	**07 44 24.9**	**-1.5**
THL	**Klokotos Trika**	**1.17**	**0**	P	**Pg**	**07 44 26.7**	**-0.5**
THL	**Klokotos Trika**	**1.17**	**0**	*e*PB	**Pg**	**07 44 26.7**	**-0.5**
THL	**Klokotos Trika**	**1.17**	**0**	P	**Pg**	**07 44 26.7**	**-0.5**
ITM	**Ithomi**	**1.21**	**183**	*e*PG	**Pg**	**07 44 27.2**	**-0.6**
ITM	**Ithomi**	**1.21**	**183**	*e*Pg	**Pg**	**07 44 27.2**	**-0.6**
MRKA	**Markates**	**1.28**

COVZ	Chateau Observ	0.71	195	⇑PN	Pn	08 08 57.6	0.0		
WPVZ	Whakapapa	0.72	195	⇑PN	Pn	08 08 57.7	+0.1		
TUVZ	Tukino	0.76	188	⇑PN	Pn	08 08 58.0	0.0		
FWVZ	Far West T-bar	0.77	194	PN	Pn	08 08 57.8	-0.3		
DRZ	Dome Shelter	0.78	193	PN	Pn	08 08 58.2	-0.1		
WHVZ	Whangaehu Hut	0.79	191	⇑PN	Pn	08 08 58.2	0.0		
TRVZ	Turoa	0.81	193	PN	Pn	08 08 58.3	-0.1		
WNVZ	Wahianoa	0.83	190	⇑PN	Pn	08 08 58.4	0.0		
BKZ	Black Stump Fm	0.86	140	PN	Pn	08 08 58.2	-0.3		
BKZ				SN	Sn	08 09 14.7	-3.0		
BKZ				AML	AML	08 09 17.2			
MOVZ	Moawhango	0.90	182	⇑PN	Pn	08 08 58.4	-0.4		
MTVZ	Mangateitei	0.91	196	PN	Pn	08 08 58.9	0.0		
NMHZ	Naumai	0.99	127	PN	Pn	08 09 00.3	+0.7		
BHHZ	Black Hill Sta	1.00	168	⇑PN	Pn	08 08 59.2	-0.4		
BHHZ				SN	Sn	08 09 16.5	-3.2		
URZ	Urewera	1.07	77	⇓PN	Pn	08 08 59.7	-0.4		
URZ				AML	AML	08 09 18.4			
URZ				AML	AML	08 09 18.5			
RAHZ	Arahi	1.10	112	PN	Pn	08 09 00.4	+0.1		
MCHZ	McNeill Hill	1.17	143	PN	Pn	08 09 01.7	+0.7		
MWZ	Matawai	1.38	83	⇓PN	Pn	08 09 02.8	-0.2		
MWZ				AML	AML	08 09 24.3			
MWZ				AML	AML	08 09 24.3			
PNHZ	Pukenui	1.44	167	PN	Pn	08 09 03.1	-0.4		
CKHZ	Cape Kidnapper	1.53	139	⇓PN	Pn	08 09 04.7	+0.4		
KAHZ	Kahuranaki	1.54	147	PN	Pn	08 09 04.7	+0.2		
TSZ	Takapari Road	1.55	175	PN	Pn	08 09 03.6	-1.1		
KNZ	Kokohu	1.56	110	⇓PN	Pn	08 09 04.6	-0.1		
RIGZ	Rimuhau	1.56	98	PN	Pn	08 09 05.0	+0.2		
WPHZ	Waipukurau	1.63	162	⇑PN	Pn	08 09 05.1	-0.3		
PRGZ	Paritu Road	1.69	105	PN	Pn	08 09 06.1	0.0		
PXZ	Pawanui	1.73	151	⇑PN	Pn	08 09 06.2	-0.3		
HAZ	Te Kaha	1.75	65	⇓PN	Pn	08 09 06.0	-0.6		
MHGZ	Mahia Peninsul	1.78	112	PN	Pn	08 09 07.2	+0.3		
DVHZ	Dannevirke	1.81	171	⇑PN	Pn	08 09 06.6	-0.8		
PRHZ	Porangahau	1.87	160	⇑PN	Pn	08 09 07.6	-0.4		
POWZ	Post Office Ro	1.88	180	⇑PN	Pn	08 09 07.3	-0.8		
CNGZ	Carnagh Station	1.90	90	PN	Pn	08 09 08.8	+0.5		
PUZ	Puketiti	1.99	78	PN	Pn	08 09 09.1	-0.3		
ANWZ	Angora Road	2.02	165	⇑PN	Pn	08 09 09.2	-0.5		
PRWZ	Pori Road	2.05	176	PN	Pn	08 09 09.4	-0.6		
MRZ	Mangatainoka R	2.15	184	⇑PN	Pn	08 09 10.0	-1.2		
MRZ				AML	AML	08 09 38.7			
MRZ				AML	AML	08 09 38.8			
BFZ	Birch Farm	2.20	171	PN	Pn	08 09 10.6	-1.0		
MXZ	Matakaoa Point	2.21	65	⇓PN	Pn	08 09 12.0	+0.3		
TIWZ	Tintock	2.27	178	PN	Pn	08 09 11.4	-1.1		
TIWZ				AML	AML	08 09 41.0			
TIWZ				AML	AML	08 09 45.9			
OGWZ	Otaki Gorge	2.35	191	PN	Pn	08 09 12.3	-1.1		
HOWZ	Holdsworth Sta	2.39	185	PN	Pn	08 09 12.4	-1.6		
CPWZ	Castlepoint	2.42	172	PN	Pn	08 09 13.6	-0.7		
KIW	Kapiti Island	2.44	196	PN	Pn	08 09 13.1	-1.5		
TMWZ	Te Maipa	2.59	178	PN	Pn	08 09 14.9	-1.6		
CAW	Cannon Point	2.65	192	PN	Pn	08 09 15.4	-1.7		
CAW				AML	AML	08 09 48.6			
CAW				AML	AML	08 09 48.6			
MTW	Mount Morrison	2.65	185	PN	Pn	08 09 15.3	-1.8		
DUWZ	D'Urville Isla	2.70	212	PN	Pn	08 09 16.3	-1.4		
PAWZ	Paruwai Farm	2.88	185	PN	Pn	08 09 18.0	-1.9		
TRWZ	Traveller	2.89	181	PN	Pn	08 09 18.1	-1.9		
SNZO	South Karori	2.92	196	PN	Pn	08 09 18.2	-2.0		
MSWZ	Moikau Station	2.93	188	PN	Pn	08 09 18.4	-2.1		
MSWZ				AML	AML	08 09 52.3			
TCW	Tory Channel	2.94	203	PN	Pn	08 09 18.8	-1.8		
TCW				AML	AML	08 09 54.4			
TCW				AML	AML	08 09 54.4			
BHW	Baring Head	2.98	193	PN	Pn	08 09 19.9	-2.1		
PLWZ	Palliser	3.08	187	PN	Pn	08 09 20.1	-2.3		
TUWZ	Tuamarina	3.24	205	PN	Pn	08 09 22.4	-2.0		
TUWZ				AML	AML	08 10 01.0			
NNZ	Nelson	3.28	214	PN	Pn	08 09 22.7	-2.1		
QRZ	Quartz Range	3.42	226	PN	Pn	08 09 24.3	-2.3		
KHZ	Kahutara	4.26	203	PN	Pn	08 09 34.9	-2.5		
DSZ	Denniston Nort	4.45	222	PN	Pn	08 09 36.9	-3.0		
MQZ	McQueen's Vall	5.71	203	PN	Pn	08 09 52.3	-4.1		

IDC ***29*** *08:15:23.2±0.7, 19°.07S×169°.63E, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/23, mbtmp4.6/19, ML4.4/1, MS4.4/27, Ms1 4.4/27, ms1mx4.3/33, Error ellipse: s-maj=20.7km s-min=15.1km az=117.0*

SZGRF ***29*** *08:15:23.9, 19°.69S×171°.15E, h33km, Vanuatu Islands region*

ISCJB ***29*** *08:15:27.9±1.5, 19°.06S±0°.06×169°.54E±0°.05, h35km±13km, mb4.9/66, MS4.4/31, Error ellipse: s-maj=9.5km s-min=7.7km az=161.8*

NEIC ***29*** *08:15:27.1±0.4, 19°.11S×169°.35E, h10km, mb5.1/32, Error ellipse: s-maj=10.1km s-min=9.4km az=138.0*

GCMT ***29*** *08:15:27.1±0.2, 18°.77S×169°.60E, h18km, MW5.2/98, Moment Tensor Solution. s55,c78; s98,c159; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.46±.23; Mθθ=0.66±.19; Mφφ=2.80±.21; Mrθ=3.11±.46; Mrφ=-7.92±.15; Mθφ=1.96±.44; Best double couple: Mo=9.25400×10¹⁶ NP1:φs=279.00000°, δ=64.00000°, λ=-24.00000°. Principal axes: T 9.7470, Plg3.0000°, Azm48.0000°; N -0.9900, Plg55.0000°, Azm314.0000°; P -8.7600, Plg35.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***29*** *08:15:28.8±1.8, 19°.02S×169°.30E, h33km, mb5.2/20 Error ellipse: s-maj=11.1km s-min=10.1km az=6.7*

BJI ***29*** *08:15:29.5, 19°.20S×169°.30E, h35km, mB5.1/25, mb4.9/36, Ms5.1/17, MS7 4.6/20*

ISC 29 08:15:29.6±0.5, 19°.08S±0°.05×169°.56E±0°.06, h35km±2km, n222, σ1§65/214, mb4.9/66, MS4.5/31, 22C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.96**	**219**	***e*P**	**Pn**	**08 16 26.3**	**-1.6**
BAYA				***e*S**	**Sn**	**08 17 13.9**	**+0.8**
DZM	**Mont Dzumac**	**4.17**	**224**	***e*Pn**	**Pn**	**08 16 30.0**	**-0.9**
	156nm,0.2s						
DZM				***e*Sn**	**Sn**	**08 17 19.2**	**+0.7**
	304nm,0.3s						
DZM				***e*LR**	LR	08 17 31.0	
	21µm,25.6s						
DZM	**Mont Dzumac**	**4.17**	**224**	***e*Pn**	**Pn**	**08 16 29.8**	**-1.2**
DZM				***e*Sn**	**Sn**	**08 17 22.4**	**+3.9**
DZM	**Mont Dzumac**	**4.17**	**224**	Pn	**Pn**	**08 16 29.8**	**-1.2**
	21nm,0.3s,baz=55,slow=9.8,SNR=135						
DZM				Sn	**Sn**	**08 17 19.6**	**+1.1**
	79nm,0.3s,baz=69,slow=8.6,SNR=6.9						
DZM				LR	LR	08 17 59.7	
	comp=Z,12µm,19.1s,baz=54,slow=37						
NOUC	**Port Laguerre**	**4.29**	**225**	***e*P**	**Pn**	**08 16 31.6**	**-0.8**
NOUC				***e*S**	**Sn**	**08 17 22.1**	**+0.9**
NFK	**Norfolk Island**	**10.03**	**188**	⇓P	Pn	08 17 57.3	+6.0
	baz=10,SNR=4.2						
HNR	**Honiara**	**13.37**	**315**	LR	LR	08 23 02.6	
	comp=Z,1µm,21.9s,baz=147,slow=34						
HNR	**Honiara**	**13.37**	**315**	P	Pn	08 18 31.0	-6.0
RAO	**Raoul Island**	**15.25**	**134**	LR	LR	08 23 33.0	
	comp=Z,1µm,20.0s,baz=347,slow=32						
OUZ	**Omahuta**	**16.47**	**168**	***e*P**	**Pn**	**08 19 19.4**	**+1.4**
	706nm,2.7s						
EIDS	**Eidsvold**	**18.21**	**247**	***e*P**	**P**	**08 19 41.1**	**+1.4**
	134nm,1.5s						
EIDS				***e*S**	S	08 23 14.1	+7.6
EIDS	**Eidsvold**	**18.21**	**247**	⇑P	**P**	**08 19 41.0**	**+1.3**
	baz=18,SNR=6.5						
AFI	**Afiamalu**	**18.61**	**77**	***e*P**	**Pn**	**08 19 47.9**	**+3.2**
	31nm,0.8s						
AFI	**Afiamalu**	**18.61**	**77**	P	**Pn**	**08 19 46.2**	**+1.5**
	1.5nm,0.3s,baz=235,slow=24,SNR=4.4						
AFI				LR	LR	08 25 20.9	
	comp=Z,2µm,22.0s,baz=253,slow=32						
ARMA	**Armidale**	**19.79**	**232**	***e*P**	**Pn**	**08 19 58.8**	**0.0**
	183nm,1.3s						
ARMA	**Armidale**	**19.79**	**232**	⇑P	**Pn**	**08 19 58.8**	**0.0**
	baz=20,SNR=9.9						
URZ	**Urewera**	**20.21**	**163**	***e*P**	Pn	08 20 04.4	+0.8
	436nm,2.1s						
URZ	**Urewera**	**20.21**	**163**	P	Pn	08 20 04.3	+0.7
	26nm,0.9s,baz=326,slow=7.0,SNR=7.8						
URZ				LR	LR	08 26 19.4	
	comp=Z,1µm,21.8s,baz=349,slow=32						
RMQ	**Roma**	**20.53**	**245**	⇑P	Pn	08 20 06.9	-0.6
	baz=21,SNR=42						
BKZ	**Black Stump Fm**	**20.90**	**165**	***e*P**	**P**	**08 20 09.8**	**+0.8**
	86nm,1.3s						
CTA	**Charters Tower**	**21.98**	**263**	P	**P**	**08 20 21.1**	**+0.3**
CTA	**Charters Tower**	**21.98**	**263**	P	**P**	**08 20 21.1**	**+0.3**
	9.0nm,0.8s,baz=91,slow=12,SNR=15						
CTA				LR	LR	08 28 22.2	
	comp=Z,227nm,19.2s,baz=82,slow=35						
CTAO	**Charters Tower**	**21.98**	**263**	***e*P**	**P**	**08 20 21.5**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,35nm,0.9s						
CTAO	**Charters Tower**	**21.98**	**263**	***e*P**	**P**	**08 20 21.5**	**+0.7**
	comp=Z,35nm,0.9s						
PMG	**Port Moresby**	**23.72**	**291**	***e*P**	**P**	**08 20 38.0**	**-0.7**
	comp=Z,171nm,1.0s						
PMG	**Port Moresby**	**23.72**	**291**	P	**P**	**08 20 38.2**	**-0.5**
	comp=Z,40nm,1.1s,baz=105,slow=4.1,SNR=13						
PMG				LR	LR	08 29 17.2	
	comp=Z,1µm,18.1s,baz=109,slow=35						
PMG	**Port Moresby**	**23.72**	**291**	⇑P	**P**	**08 20 38.0**	**-0.7**
	baz=24,SNR=4.3						
CNB	**Canberra Magne**	**24.10**	**224**	⇓P	**P**	**08 20 42.7**	**+0.6**
	baz=24,SNR=8.7						
YNG	**Young**	**24.16**	**227**	⇑P	**P**	**08 20 43.4**	**+0.7**
	baz=24,SNR=6.3						
CAN	**Canberra**	**24.34**	**224**	***e*P**	**P**	**08 20 44.8**	**+0.5**
CAN				pmax	pmax		
	comp=Z,50nm,1.0s						
CAN	**Canberra**	**24.34**	**224**	***e*P**	**P**	**08 20 44.8**	**+0.5**
	comp=Z,50nm,1.0s						
QLP	**Quilpie**	**24.48**	**248**	⇑P	**P**	**08 20 45.3**	**-0.4**
	baz=24,SNR=5.9						
RPZ	**Rata Peaks**	**24.59**	**177**	***e*P**	**P**	**08 20 45.9**	**-0.6**
	comp=Z,65nm,1.1s						
CMSA	**Cobar Meteorol**	**24.83**	**235**	P	**P**	**08 20 48.6**	**-0.1**
	baz=25,SNR=26						
COEN	**Coen**	**25.79**	**277**	***e*P**	**P**	**08 20 58.3**	**+0.6**
	comp=Z,132nm,0.8s						
STKA	**Stephens Creek**	**28.19**	**238**	P	**P**	**08 21 19.2**	**+0.2**
STKA	**Stephens Creek**	**28.19**	**238**	P	**P**	**08 21 19.2**	**+0.2**
	comp=Z,12nm,0.6s,baz=65,slow=9.0,SNR=23						
STKA				LR	LR	08 32 06.7	
	comp=Z,1µm,19.9s,baz=62,slow=36						
STKA	**Stephens Creek**	**28.19**	**238**	P	**P**	**08 21 19.0**	**-0.1**
	baz=28,SNR=30						
HTT	**Hallett**	**30.84**	**236**	⇑P	**P**	**08 21 42.5**	**-0.1**
	baz=31,SNR=5.7						
BBOO	**Buckleboo**	**32.93**	**239**	***e*P**	**P**	**08 21 59.8**	**-1.2**
	comp=Z,551nm,0.8s						
BBOO	**Buckleboo**	**32.93**	**239**	⇑P	**P**	**08 21 59.1**	**-1.8**
	baz=33,SNR=7.5						
WRA	**Warramunga Arr**	**33.18**	**263**	P	**P**	**08 22 00.7**	**-2.6**
WRA				PcP	**PcP**	**08 24 45.2**	**-0.5**
WRA	**Warramunga Arr**	**33.18**	**263**	P	**P**	**08 22 00.7**	**-2.6**
	comp=Z,4.6nm,0.8s,baz=88,slow=8.5,SNR=27						
WRA				PcP	**PcP**	**08 24 45.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=90,slow=3.5,SNR=3.9						
WRA				LR	LR	08 35 01.5	
	comp=Z,830nm,18.6s,baz=105,slow=35						
AS31	**Alice Springs**	**33.46**	**256**	***e*P**	**P**	**08 22 04.1**	**-1.6**
ASAR	**Alice Springs**	**33.46**	**256**	P	**P**	**08 22 04.0**	**-1.7**
ASAR				PcP	**PcP**	**08 24 47.7**	**+1.2**
ASAR	**Alice Springs**	**33.46**	**256**	P	**P**	**08 22 04.0**	**-1.7**
	comp=Z,17nm,0.7s,baz=83,slow=8.7,SNR=287						
ASAR				PcP	**PcP**	**08 24 47.7**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=101,slow=2.0,SNR=2.9						
ASAR				LR	LR	08 34 32.4	
	comp=Z,1µm,21.9s,baz=88,slow=34						
H11S2	**WAKE ISLAND Hy**	**37.44**	**356**	T	T	09 02 16.6	
	baz=183,slow=79,SNR=14						
H11S3	**WAKE ISLAND Hy**	**37.45**	**356**	T	T	09 02 10.5	
	baz=183,slow=79,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**37.46**	**356**	T	T	09 02 12.0	
	baz=183,slow=79,SNR=11						
TBI	**Tubuai**	**38.34**	**104**	***e*S**	S	08 28 25.7	-14
	comp=Z,336nm,30.8s						
TBI				***e*LQ**	LQ	08 31 10.0	
	comp=Z,3µm,29.8s						
TBI				***e*LR**	LR	08 32 46.0	
	comp=Z,242nm,23.8s						
WRKA	**Warakurna**	**38.59**	**254**	P	**P**	**08 22 48.5**	**-1.1**
	baz=39,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**38.64**	**356**	T	T	09 03 41.4	
	baz=177,slow=77,SNR=15						
H11N3	**WAKE ISLAND Hy**	**38.65**	**356**	T	T	09 03 34.2	
	baz=177,slow=77,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**38.66**	**356**	T	T	09 03 39.0	
	baz=177,slow=77,SNR=12						
PPT2	**Papeete2**	**38.75**	**95**	***e*S**	S	08 28 32.1	-14
	comp=Z,106nm,28.8s						
PPT2				***e*LQ**	LQ	08 31 21.8	
	comp=Z,3µm,30.5s						
PPT2				***e*LR**	LR	08 32 58.6	
	comp=Z,602nm,27.0s						
PPT	**Papeete**	**38.76**	**95**	LR	LR	08 34 33.8	
	comp=Z,321nm,21.6s,baz=258,slow=30						
KNRA	**Kununurra**	**39.03**	**268**	P	**P**	**08 22 51.6**	**-1.6**
	baz=39,SNR=14						
FORT	**Forrest**	**39.19**	**244**	***e*P**	**P**	**08 22 53.2**	**-1.3**
	comp=Z,101nm,0.8s						
FORT	**Forrest**	**39.19**	**244**	P	**P**	**08 22 53.7**	**-0.8**
	baz=39,SNR=9.1						
MEEK	**Meekatharra**	**47.30**	**251**	P	**P**	**08 23 59.0**	**-1.1**
	baz=47,SNR=23						
NWAO	**Narrogin (SRO)**	**48.56**	**243**	LR	LR	08 43 55.4	
	comp=Z,2µm,20.8s,slow=35						
RKGY	**Rocky Gully**	**48.88**	**240**	P	**P**	**08 24 11.8**	**-0.4**
	baz=49,SNR=6.0						
BLDU	**Ballidu**	**48.93**	**246**	P	**P**	**08 24 11.3**	**-1.3**
	baz=49,SNR=6.5						
MORW	**Morawa**	**49.52**	**248**	⇑P	**P**	**08 24 14.3**	**-2.8**
	baz=50,SNR=3.8						
GIRL	**Giralia**	**51.58**	**256**	⇓P	**P**	**08 24 33.2**	**+0.4**
	baz=52,SNR=3.0						
RKT	**Rikitea**	**51.65**	**105**	***e*S**	S	08 31 37.1	-15
	comp=Z,221nm,28.2s						
RKT				***e*LQ**	LQ	08 36 39.6	
	comp=Z,343nm,31.5s						
RKT				***e*LR**	LR	08 38 47.0	
	comp=Z,187nm,30.8s						
JAGI	**Jajag, Banyuwa**	**54.65**	**273**	***e*P**	**P**	**08 24 56.3**	**+0.8**
	comp=Z,36nm,1.0s						
VNDA	**Vanda**	**58.60**	**182**	***e*P**	**P**	**08 25 21.4**	**-1.2**
	comp=Z,32nm,1.6s						
VNDA	**Vanda**	**58.60**	**182**	P	**P**	**08 25 21.0**	**-1.6**
	comp=Z,6.6nm,1.2s,baz=351,slow=7.5,SNR=5.7						
VNDA				LR	LR	08 47 55.5	
	comp=Z,252nm,18.1s,baz=12,slow=33						
SBA	**Scott Base**	**58.83**	**181**	***e*P**	**P**	**08 25 26.0**	**+1.9**
SBA				pmax	pmax		
	comp=Z,36nm,1.0s						
SBA	**Scott Base**	**58.83**	**181**	***e*P**	**P**	**08 25 26.0**	**+1.9**
	comp=Z,36nm,1.0s						
CASY	**Casey**	**60.39**	**204**	***e*P**	**P**	**08 25 34.4**	**-0.7**
	comp=Z,36nm,1.0s						
MJAR	**Matsushiro Arr**	**62.76**	**332**	P	**P**	**08 25 49.0**	**-2.5**
MJAR	**Matsushiro Arr**	**62.76**	**332**	P	**P**	**08 25 49.0**	**-2.5**
	comp=Z,5.8nm,1.0s,baz=165,slow=6.4,SNR=8.2						
MJAR				LR	LR	08 50 53.1	
	comp=Z,90nm,21.9s,baz=80,slow=34						
MAJO	**Matsushiro**	**62.76**	**332**	⇑***e*P**	**P**	**08 25 52.0**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,313nm,2.2s						
JNU	**Nakatsue**	**63.72**	**324**	P	**P**	**08 25 57.4**	**-0.5**
JNU	**Nakatsue**	**63.72**	**324**	P	**P**	**08 25 57.4**	**-0.5**
	comp=Z,10nm,0.8s,baz=94,slow=9.9,SNR=4.4						
YUK	**Yuzh-Kuril'sk**	**66.45**	**342**	***e*** *i*P	**P**	**08 26 15.3**	**-0.1**
YUK				***e***		08 28 44.6	
YUK				***i*** PPP	PPP	08 30 21.0	
YUK				***i*** S	**S**	**08 35 01.9**	**-1.3**
YUK				***e*SS**	**SS**	**08 39 24.2**	**+3.2**
ASAJ	**Asahikawa**	**67.56**	**339**	***e*P**	**P**	**08 26 24.8**	**+2.4**
	comp=Z,12nm,1.0s						
ASAJ	**Asahikawa**	**67.56**	**339**	P	**P**	**08 26 22.1**	**-0.3**
	comp=Z,19nm,0.8s,baz=236,slow=7.9,SNR=7.8						
ASAJ				LR	LR	08 51 14.9	
	comp=Z,106nm,21.4s,baz=319,slow=32						
KSRS	**Korea Array**	**68.55**	**325**	P	**P**	**08 26 29.4**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=122,slow=8.7,SNR=4.1						
KSRS				LR	LR	08 56 11.2	
	comp=Z,79nm,18.7s,baz=135,slow=36						
KSAR	**Wonju Array Be**	**68.56**	**325**	P	**P**	**08 26 29.4**	**+0.6**
QIZ	**Qiongzhong**	**69.77**	**299**	P	**P**	**08 26 39.0**	**+2.3**
QIZ				S	**S**	**08 35 47.5**	**+3.6**
QIZ				pmax	pmax		
	comp=Z,41nm,2.8s						
QIZ				LR	LR		
	comp=Z,120nm,6.3s						
YSS	**Yuzh-Sakhalins**	**70.03**	**341**	***e*P**	**P**	**08 26 40.0**	**+2.3**
YSS				***e***		08 26 49.0	
NJ2	**Nanjing**	**70.31**	**316**	***e*P**	**P**	**08 26 41.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
NJ2				LR	LR		
	comp=Z,250nm,21.6s						
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**08 26 42.6**	**-0.9**
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**08 26 42.6**	**-0.9**
	comp=Z,9.1nm,0.9s,baz=25,slow=2.1,SNR=13						
FX1	**Attu Island--F**	**71.73**	**2**	LR	LR	08 50 09.1	
	comp=Z,173nm,20.6s,baz=194,slow=29						
USRK	**Ussuriysk Arra**	**71.74**	**332**	P	**P**	**08 26 47.5**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=145,slow=6.3,SNR=4.8						
PETK	**Petropavlovsk-**	**72.62**	**353**	P	P	08 26 57.3	+4.0
PETK	**Petropavlovsk-**	**72.62**	**353**	P	P	08 26 57.3	+4.0
PETK	**Petropavlovsk-**	**72.62**	**353**	P	P	08 26 57.3	+4.0
	comp=Z,7.0nm,1.0s,baz=168,slow=7.4,SNR=3.1						
PETK				LR	LR	08 53 03.8	
	comp=Z,216nm,21.2s,baz=158,slow=31						
MDJ	**Mudanjiang**	**73.13**	**331**	P	P	08 27 01.3	+4.8
MDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.1s						
CN2	**Changchun**	**74.48**	**328**	***e*P**	P	08 27 09.0	+4.6
CN2				***e*pP**	pP	08 27 17.0	+1.7
CN2				***e*S**	**S**	**08 36 39.5**	**+2.5**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
SLVN	**Son La**	**75.77**	**299**	***e*P**	**P**	**08 27 13.4**	**+1.0**
	comp=Z,9.0nm,0.8s						
ENH	**Enshi**	**75.81**	**309**	***e*P**	**P**	**08 27 14.0**	**+1.6**
	comp=Z,7.5nm,0.3s						
KLR	**Kul'dur**	**75.85**	**336**	***e*P**	P	08 27 07.2	-5.0
KLR				pmax	pmax		
	comp=Z,150nm,2.6s						
GYA	**Guiyang**	**75.98**	**305**	⇑***i*P**	P	08 27 17.0	+3.4
GYA				pP	**PcP**	**08 27 28.3**	**+2.4**
GYA				PP	**PP**	**08 30 09.5**	**+4.8**
GYA				S	**S**	**08 36 55.0**	**+0.4**
GYA				SKS	**SKSac**	**08 37 18.5**	**-3.6**
GYA				SS	**SS**	**08 41 51.3**	**+3.1**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.4s						
GYA				LR	LR		
	comp=Z,520nm,20.5s						
GYA				LR	LR		
	comp=Z,540nm,21.0s						
GYA				LR	LR		
	comp=Z,510nm,19.8s						
UTTA	**Uttaradit**	**77.03**	**294**	P	P	08 27 26.5	+7.0
	comp=Z,3.2nm,0.8s						
UTHA	**Uthaitani**	**77.09**	**292**	P	P	08 27 25.9	+6.0
	comp=Z,2.8nm,0.9s						
KHLT	**Khaolaem Dam**	**77.54**	**291**	P	P	08 27 28.4	+5.9
	comp=Z,6.1nm,1.9s						
LAMP	**Lampang**	**78.15**	**294**	P	P	08 27 31.3	+5.5
	comp=Z,7.5nm,0.8s						
XAN	**Xi'an**	**78.23**	**312**	P	**P**	**08 27 25.5**	**-0.5**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.5s						
KMI	**Kunming**	**78.45**	**302**	P	**P**	**08 27 28.3**	**+0.7**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
MAW	**Mawson**	**78.69**	**202**	LR	LR	08 57 29.7	
	comp=Z,572nm,21.5s,baz=98,slow=32						
CMAR	**Chiang Mai Arr**	**78.72**	**294**	P	**P**	**08 27 29.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**78.72**	**294**	P	**P**	**08 27 29.1**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=128,slow=4.3,SNR=18						
CHTO	**Chiang Mai**	**78.87**	**294**	***e*P**	**P**	**08 27 29.8**	**0.0**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CHTO	**Chiang Mai**	**78.87**	**294**	P	**P**	**08 27 32.4**	**+2.6**
	comp=Z,57nm,0.9s						
CHTO	**Chiang Mai**	**78.87**	**294**	***e*P**	**P**	**08 27 29.8**	**0.0**
	comp=Z,9.7nm,0.9s						
HHC	**Hu-ho-hao-te**	**80.30**	**319**	***e*P**	**P**	**08 27 40.3**	**+3.1**
HHC				pP	**pP**	**08 27 51.0**	**+2.8**
HHC				sP	**sP**	**08 27 53.5**	**+1.3**
HHC				PP	**PP**	**08 30 44.8**	**+4.3**
HHC				S	**S**	**08 37 42.0**	**+1.5**
HHC				SKS	**SKSac**	**08 37 51.0**	**-1.5**
HHC				sS	**ScS**	**08 37 57.5**	**-3.

ISA	**Isabella**	**87.14**	**51**	P	**P**	**08 28 10.8**	**-1.6**
	baz=88							
GTA	**Gaotai**	**87.24**	**313**	P	**P**	**08 28 12.5**	**-0.3**
GTA				pP	**pP**	**08 28 23.0**	**-0.8**
GTA				sP	**sP**	**08 28 27.0**	**-0.8**
GTA				SKS	**SKSac**	**08 38 35.5**	**-2.4**
GTA				S	**SKKSac**	**08 38 47.5**	**+0.6**
GTA				sS	**sS**	**08 39 06.5**	**-2.3**
GTA				SS	**SS**	**08 44 35.5**	**-0.1**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,79nm,4.7s							
GTA				LR	LR			
	comp=Z,110nm,17.1s							
GTA				LR	LR			
	comp=Z,96nm,19.0s							
GTA				LR	LR			
	comp=Z,180nm,20.4s							
SONM	**Songino Array**	**87.28**	**323**	P	**P**	**08 28 10.8**	**-1.9**
SONM	**Songino Array**	**87.28**	**323**	P	**P**	**08 28 10.8**	**-1.9**
	comp=Z,5.1nm,1.0s,baz=136,slow=5.1,SNR=21							
SONM				LR	LR	09 04 36.4		
	comp=Z,74nm,21.3s,baz=143,slow=34							
MONP	**Monument Peak**	**87.51**	**54**	P	P	08 28 10.8	-3.5	
	baz=88							
WAKR	**Walker**	**87.70**	**48**	*e*P	P	08 28 19.0	+3.9	
	comp=Z,7.7nm,1.1s							
BELC	**Belle Mtn. Jos**	**88.28**	**53**	P	**P**	**08 28 17.1**	**-0.9**	
	baz=89							
NVAR	**Mina Array Bea**	**88.47**	**48**	P	**P**	**08 28 18.8**	**0.0**	
NVAR	**Mina Array Bea**	**88.47**	**48**	P	**P**	**08 28 18.8**	**0.0**	
	comp=Z,0.7nm,0.8s,baz=223,slow=6.0,SNR=5.9							
NVAR				LR	LR	08 59 10.9		
	comp=Z,523nm,21.7s,baz=98,slow=30							
BC3	**Big Chuckawall**	**88.56**	**54**	P	**P**	**08 28 18.4**	**-0.8**	
	baz=89							
TUQ	**Turquoise Moun**	**88.93**	**52**	P	**P**	**08 28 21.2**	**+0.3**	
	baz=89							
IRM	**Iron Mountain**	**88.99**	**53**	P	**P**	**08 28 20.1**	**-1.0**	
	baz=89							
NVL	**N'lazarevskaya**	**89.05**	**187**	*e*P	P	08 28 28.2	+7.5	
NVL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
TPH	**Tonopah**	**89.08**	**49**	*e*P	P	08 28 25.1	+3.4	
TPH				pmax	pmax			
	comp=Z,24nm,1.9s							
TPH	**Tonopah**	**89.08**	**49**	*e*P	P	08 28 25.1	+3.4	
	comp=Z,24nm,1.9s							
BBB	**Bella Bella**	**89.17**	**33**	LR	LR	08 58 21.5		
	comp=Z,206nm,21.3s,baz=254,slow=29							
Y12C	**Blythe**	**89.31**	**54**	P	**P**	**08 28 21.3**	**-1.2**	
	baz=90							
SNAA	**Sanae**	**89.33**	**182**	P	P	08 28 26.5	+4.3	
SNAA	**Sanae**	**89.33**	**182**	*e*P	**P**	**08 28 24.8**	**+2.6**	
	comp=Z,7.5nm,0.8s							
G05D	**Wamic, OR**	**89.53**	**41**	P	**P**	**08 28 22.3**	**-1.1**	
	baz=90							
COLA	**College**	**89.80**	**17**⇑	*e*P	P	08 28 30.3	+6.2	
COLA				pmax	pmax			
	comp=Z,42nm,1.5s							
SHPR	**Sheep Range**	**89.93**	**51**	*e*P	P	08 28 30.1	+4.4	
	comp=Z,5.3nm,1.3s							
WVOR	**Wild Horse Val**	**89.99**	**45**	*e*P	P	08 28 29.9	+4.2	
WVOR				pmax	pmax			
	comp=Z,13nm,1.3s							
WVOR	**Wild Horse Val**	**89.99**	**45**	*e*P	P	08 28 29.9	+4.2	
	comp=Z,13nm,1.3s							
ILAR	**Eielson Array**	**89.99**	**17**	P	**P**	**08 28 22.7**	**-2.3**	
ILAR	**Eielson Array**	**89.99**	**17**	P	**P**	**08 28 22.7**	**-2.3**	
	comp=Z,0.8nm,1.0s,baz=238,slow=5.0,SNR=6.5							
ILAR				LR	LR	09 01 34.7		
	comp=Z,316nm,20.6s,baz=217,slow=31							
VNA2	**Neumayer--Watz**	**90.21**	**181**	P	P	08 28 31.2	+5.0	
ZAK	**Zakamensk**	**90.35**	**324**	*e*P	**P**	**08 28 24.8**	**-2.4**	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s							
R11A	**Troy Canyon, C**	**90.37**	**49**	P	**P**	**08 28 26.3**	**-1.4**	
	baz=91							
VNA1	**Neumayer--Stat**	**90.50**	**181**	P	P	08 28 34.1	+6.6	
TLY	**Talaya**	**90.80**	**325**	*e*P	**P**	**08 28 29.1**	**0.0**	
TLY				*e*S	**SKSac**	**08 38 57.9**	**-0.2**	
TLY				*e*		08 40 59.0		
TLY				pmax	pmax			
	comp=Z,5.0nm,0.7s							
TLY				MLR	MLR			
	comp=Z,66nm,12.0s							
TUC	**Tucson**	**91.66**	**56**	*e*P	P	08 28 37.6	+3.9	
TUC				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TUC	**Tucson**	**91.66**	**56**	*e*P	P	08 28 37.5	+3.9	
	comp=Z,3.5nm,1.0s							
DLBC	**Dease Lake**	**91.76**	**27**	LR	LR	09 01 28.6		
	comp=Z,343nm,20.8s,baz=246,slow=30							
X16A	**Lo Mia Camp, P**	**91.92**	**54**	P	**P**	**08 28 34.2**	**-0.7**	
	baz=92							
U15A	**North Rim**	**92.03**	**52**	P	**P**	**08 28 34.7**	**-0.8**	
	baz=92							
WUAZ	**Wupatki**	**92.38**	**53**	*e*P	**P**	**08 28 40.1**	**+3.0**	
	comp=Z,4.6nm,0.9s							
WUAZ	**Wupatki**	**92.38**	**53**	P	**P**	**08 28 36.1**	**-1.0**	
	baz=93							
X18A	**Snowflake**	**93.11**	**55**	P	**P**	**08 28 40.0**	**-0.5**	
	baz=93							
HVS	**Khovu-Aksy**	**96.13**	**322**	*e*P	**P**	**08 28 53.1**	**-0.7**	
PDAR	**Pinedale Array**	**96.28**	**47**	LR	LR	09 07 12.0		
	comp=Z,137nm,19.3s,baz=275,slow=32							
INK	**Inuvik**	**96.30**	**18**	P	**P**	**08 28 54.4**	**+0.5**	
INK	**Inuvik**	**96.30**	**18**	P	**P**	**08 28 54.4**	**+0.5**	
	comp=Z,0.7nm,1.0s,baz=177,slow=4.0,SNR=2.4							
TXAR	**Lajitas Array**	**96.42**	**61**	PKKP	**PKKPdf**	**08 45 46.8**	**+4.2**	
	comp=Z,0.4nm,0.8s,baz=49,slow=1.7,SNR=5.8							
TXAR				LR	LR	09 03 49.0		
	comp=Z,310nm,20.6s,baz=0.0,slow=30							
426A	**McDonald Obser**	**96.54**	**60**	P	**P**	**08 28 55.7**	**-0.6**	
	baz=97							
WMQ	**Urumqi**	**97.32**	**314**	P	Pdif	08 29 02.0	+2.6	
WMQ				pP	pP	08 29 12.5	+2.1	
WMQ				sP	sP	08 29 16.5	+2.1	
WMQ				SKS	**SKSac**	**08 39 35.0**	**+1.0**	
WMQ				S	**S**	**08 40 18.8**	**-2.1**	
WMQ				sS	sS	08 40 36.5	-2.9	
WMQ				SS	**SS**	**08 46 59.5**	**-0.5**	
WMQ				pmax	pmax			
	comp=Z,21nm,1.8s							
WMQ				pmax	pmax			
	comp=Z,34nm,9.2s							
WMQ				LR	LR			
	comp=Z,120nm,23.2s							
WMQ				LR	LR			
	comp=Z,100nm,24.5s							
WMQ				LR	LR			
	comp=Z,130nm,22.3s							
PLCA	**Paso Flores**	**98.45**	**138**	LR	LR	09 07 17.5		
	comp=Z,71nm,18.1s,baz=274,slow=32							
YKA	**Yellowknife Ar**	**100.39**	**27**	P	**Pdif**	**08 29 11.2**	**-1.3**	
YKA	**Yellowknife Ar**	**100.39**	**27**	P	**Pdif**	**08 29 11.2**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=254,slow=4.5,SNR=5.1							
MKAR	**Makanchi Array**	**101.84**	**315**	P	**Pdif**	**08 29 18.4**	**-1.0**	
MKAR	**Makanchi Array**	**101.84**	**315**	P	**Pdif**	**08 29 18.4**	**-1.0**	
MKAR	**Makanchi Array**	**101.84**	**315**	P	**Pdif**	**08 29 18.4**	**-1.0**	
	comp=Z,0.4nm,0.7s,baz=111,slow=3.4,SNR=3.2							
KURK	**Kurchatov**	**105.11**	**319**	PP	PP	08 33 51.3	-3.8	
KURBB	**Kurchatov Arra**	**105.15**	**319**	PP	PP	08 33 51.3	-4.0	
	comp=Z,0.4nm,0.2s,baz=90,slow=4.8,SNR=4.3							
ARU	**Arti**	**117.29**	**324**	*i* PKIKP	**PKPdf**	**08 34 13.0**	**+2.0**	
ARU						08 35 24.4		
ARU						08 41 02.2		
ARU				SS	SS	08 51 25.4	-4.3	
AKTO	**Aktyubinsk**	**118.16**	**318**	PKIKP	**PKPdf**	**08 34 10.8**	**-2.1**	
AKTO	**Aktyubinsk**	**118.16**	**318**	PKP	**PKPdf**	**08 34 10.8**	**-2.1**	
AKTO	**Aktyubinsk**	**118.16**	**318**	PKP	**PKPdf**	**08 34 10.8**	**-2.1**	
	comp=Z,0.7nm,0.6s,baz=90,slow=1.0,SNR=1.9							
NOA	**NORSAR Array B**	**135.37**	**345**	PKP	**PKPdf**	**08 34 46.0**	**+0.6**	
NOA	**NORSAR Array B**	**135.37**	**345**	PKP	**PKPdf**	**08 34 46.0**	**+0.6**	
	comp=Z,0.9nm,0.9s,baz=16,slow=3.2,SNR=2.9							
AKASG	**Malin Array Be**	**135.54**	**325**	PKIKP	**PKPdf**	**08 34 46.2**	**+0.2**	
AKASG	**Malin Array Be**	**135.54**	**325**	PKP	**PKPdf**	**08 34 46.2**	**+0.2**	
AKASG	**Malin Array Be**	**135.54**	**325**	PKP	**PKPdf**	**08 34 46.2**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=49,slow=2.8,SNR=3.7							
BRTR	**Keskin Array B**	**136.96**	**308**	PKP	**PKPdf**	**08 34 47.9**	**-1.3**	
BRTR	**Keskin Array B**	**136.96**	**308**	PKP	**PKPdf**	**08 34 47.9**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=143,slow=3.1,SNR=3.6							
BRG	**Berggiesshubel**	**142.86**	**334**	*e*P	**PKPdf**	**08 34 56.6**	**-2.8**	
	comp=Z,2.0nm,0.9s							
BRG	**Berggiesshubel**	**142.86**	**334**	*e*PKIKP	**PKPdf**	**08 34 56.6**	**-2.8**	
BRG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CLL	**Collm**	**142.90**	**336**	*e*PKPdf	**PKPdf**	**08 35 00.0**	**+0.6**	
CONA	**Conrad Observa**	**144.16**	**329**⇑	*i*PKPdf	PKPbc	08 35 00.7	+0.7	
	comp=Z,17nm,1.1s							
KHC	**Kasperske Hory**	**144.34**	**333**	*e*PKIKP	**PKPab**	**08 35 00.0**	**-0.1**	
KHC	**Kasperske Hory**	**144.34**	**333**	*e*PKP	**PKPab**	**08 35 00.0**	**-0.1**	
KHC				*ex*	x	08 35 06.5		
KHC	**Kasperske Hory**	**144.34**	**333**	*e*PKPdf	**PKPab**	**08 34 60.0**	**-0.1**	
GERES	**GERESS Array B**	**144.50**	**332**	PKP	**PKPab**	**08 35 00.4**	**-0.4**	
GERES	**GERESS Array B**	**144.50**	**332**	PKP	**PKPab**	**08 35 00.4**	**-0.4**	
	comp=Z,2.3nm,0.8s,baz=48,slow=4.0,SNR=8.9							
ARSA	**Arzberg**	**144.80**	**329**⇓	*i*PKPbc	**PKPab**	**08 34 59.8**	**-2.1**	
	comp=Z,20nm,1.1s							
GRF	**Grafenberg Arr**	**144.88**	**335**	*e*PKPbc	**PKPdf**	**08 35 02.9**	**-0.1**	
MOA	**Molln**	**144.97**	**331**⇑	*i*PKPbc	**PKPab**	**08 35 00.7**	**-1.8**	
	comp=Z,30nm,0.9s							
KOGS	**Kog**	**144.99**	**327**	*e*PKPdf	**PKPab**	**08 35 00.7**	**-1.9**	
SOKA	**Soboth**	**145.44**	**329**⇑	*i*PKPbc	**PKPbc**	**08 35 01.9**	**-2.3**	
	comp=Z,38nm,1.4s							
CRES	**Cresnjev**	**145.81**	**327**	*e*PKPdf	**PKPdf**	**08 35 03.6**	**-1.1**	
KBA	**Koelnbreinsper**	**145.96**	**331**⇑	*i*PKPbc	**PKPbc**	**08 35 05.7**	**-0.1**	
	comp=Z,17nm,1.1s							
LJU	**Ljubljana**	**146.13**	**328**	*e*PKPdf	**PKPdf**	**08 35 04.9**	**-0.3**	
ABTA	**Abfaltersbach**	**146.59**	**331**⇑	*i*PKPdf	**PKPdf**	**08 35 05.3**	**-0.7**	
	comp=Z,26nm,1.0s							
MOTA	**Moosalm**	**146.77**	**333**⇑	*i*PKPdf	**PKPdf**	**08 35 07.4**	**+0.9**	
	comp=Z,14nm,0.9s							
RETA	**Reutte**	**146.80**	**333**⇑	*i*PKPdf	**PKPdf**	**08 35 07.0**	**+0.6**	
	comp=Z,15nm,0.9s							
BFO	**Black Forest**	**147.09**	**337**	*i* PKP2	**PKPab**	**08 35 12.2**	**+1.7**	
FETA	**Feichten**	**147.18**	**333**⇑	*i*PKPdf	**PKPdf**	**08 35 07.9**	**+0.7**	
	comp=Z,18nm,0.8s							
TUE	**Stuetta**	**148.20**	**334**	*e*PKPbc	**PKPbc**	**08 35 13.5**	**+1.3**	
ESDC	**Sonseca Array**	**158.73**	**346**	PKPab	**PKPab**	**08 35 57.5**	**-1.9**	
ESDC	**Sonseca Array**	**158.73**	**346**	PKPab	**PKPab**	**08 35 57.5**	**-1.9**	
	comp=Z,0.2nm,0.3s,baz=8.4,slow=4.3,SNR=3.5							
TOA0	**Torodi Ar. Sit**	**166.94**	**245**	*e*PKPdf	**PKPdf**	**08 35 31.8**	**-0.8**	
TOA0				*e*PKPab	**PKPab**	**08 36 39.9**	**+3.7**	
TORD	**Torodi Ar. Bea**	**166.94**	**245**	PKP	**PKPdf**	**08 35 31.0**	**-1.6**	
TORD				PKPab	**PKPab**	**08 36 34.7**	**-1.5**	
TORD	**Torodi Ar. Bea**	**166.94**	**245**	PKP	**PKPdf**	**08 35 31.0**	**-1.6**	
	comp=Z,1.9nm,1.0s,baz=138,slow=1.3,SNR=6.9							
TORD				PKPab	**PKPab**	**08 36 34.7**	**-1.5**	
	comp=Z,1.6nm,1.1s,baz=103,slow=4.6,SNR=2.7							

IDC 29 08:19:10.8±4.2, 18°.71S×168°.23E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/18, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=94.1km s-min=33.6km az=105.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.74**	**206**	Pn	Pn	08 20 07.8	-2.2
	2.7nm,0.3s,baz=114,slow=19,SNR=14						
DZM				Sn	Sn	08 20 57.6	+2.7
	30nm,0.3s,baz=125,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**31.98**	**262**	P	P	08 25 39.1	+0.1
	0.7nm,0.8s,baz=89,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**32.34**	**255**	P	P	08 25 42.2	+0.1
	1.0nm,0.6s,baz=82,slow=8.6,SNR=9.8						
SONM	**Songino Array**	**86.23**	**323**	P	P	08 31 54.7	+0.3
	1.3nm,0.9s,baz=141,slow=5.8,SNR=3.8						

IDC 29 08:24:49.8±3.9, 18°.87S×169°.56E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.0/30, mbtmp4.2/6, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/26, Error ellipse: s-maj=100.1km s-min=26.8km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.32**	**222**	Pn	Pn	08 25 57.1	+0.2
	2.7nm,0.3s,baz=53,slow=20,SNR=46						
DZM				Sn	Sn	08 26 46.1	-1.9
	13nm,0.3s,baz=108,slow=19,SNR=13						
NOUC	**Port Laguerre**	**4.43**	**223**	*e*P	Pn	08 25 59.4	+1.2
NOUC				*e*S	Sn	08 26 49.8	-0.8
STKA	**Stephens Creek**	**28.29**	**237**	P	P	08 30 45.4	+0.3
	2.3nm,0.6s,baz=60,slow=7.5,SNR=6.2						
WRA	**Warramunga Arr**	**33.20**	**262**	P	P	08 31 28.3	-0.3
	0.7nm,0.9s,baz=88,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**33.51**	**255**	P	P	08 31 31.4	+0.2
	2.9nm,0.6s,baz=83,slow=8.7,SNR=48						
H11S2	**WAKE ISLAND Hy**	**37.23**	**356**	T	T	09 11 31.4	
	baz=182						
H11S3	**WAKE ISLAND Hy**	**37.24**	**355**	T	T	09 11 30.7	
	baz=182						
H11S1	**WAKE ISLAND Hy**	**37.25**	**356**	T	T	09 11 31.5	
	baz=182						
PPT	**Papeete**	**38.78**	**95**	LR	LR	08 48 06.2	
	comp=Z,78nm,18.1s,baz=277,slow=36						
MJAR	**Matsushiro Arr**	**52.57**	**332**	P	P	08 35 15.0	-0.7
	4.2nm,1.1s,baz=126,slow=8.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**78.63**	**294**	P	P	08 36 54.8	+0.8
	1.4nm,0.3s,baz=149,slow=3.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**167.02**	**246**	PKPab	PKPab	08 46 01.6	-0.7
	0.4nm,0.8s,baz=123,slow=2.4,SNR=2.7						

*NNC **29** 08:28:16.7±4.1, 54°.53N×86°.62E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=35.0km s-min=27.5km az=164.0*
*IDC **29** 08:28:16.8±2.9, 54°.57N×86°.51E, h0km, mb1 3.3/2, mb1mx3.1/43, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=24.8km s-min=14.4km az=51.0*

ISC 29 08:28:17.3±4.7, 54°.8N±0°.2×86°.8E±0°.2, h35km, n7, σ1§24/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**235**	*i*		08 35 10.0	
	baz=59,slow=342,SNR=29						
ZALV	**Zalesovo Beam**	**1.40**	**235**	Pg	**Pn**	**08 28 38.0**	**-2.2**
	3.4nm,0.3s,baz=56,slow=17,SNR=33						
ZALV				Lg	Lg	08 28 55.1	
	2.3nm,0.3s,baz=54,slow=29,SNR=5.6						
KURK	**Kurchatov**	**6.39**	**234**	⇓Pn	**Pn**	**08 29 49.8**	**+1.0**
	0.6nm,0.3s						
KURK				⇑Sn	**Sn**	**08 31 01.5**	**+1.0**
	1.0nm,0.5s						
KURK				⇓Lg	Lg	08 31 37.7	
	2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.49**	**234**	⇑Pn	**Pn**	**08 29 50.7**	**+0.4**
	2.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 31 03.2**	**+0.1**
	4.2nm,0.4s						
KURBB				⇓Lg	Lg	08 31 40.8	
	4.8nm,0.6s						
KURBB	**Kurchatov Arra**	**6.49**	**234**	Pn	**Pn**	**08 29 51.5**	**+1.2**
	1.1nm,0.3s,baz=52,slow=14,SNR=17						
KURBB				Lg	Lg	08 31 37.4	
	0.3nm,0.3s,baz=41,slow=30,SNR=4.2						
MK31	**Makanchi Array**	**8.46**	**201**	⇑Pn	**Pn**	**08 30 17.6**	**+0.3**
	0.3nm,0.5s,baz=26,slow=13,SNR=26						
MK31				⇓Sn	**Sn**	**08 31 51.4**	**0.0**
	0.5nm,0.7s,baz=27,slow=28,SNR=5.4						
MK31				⇑Lg	Lg	08 32 41.9	
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**8.46**	**201**	Pn	**Pn**	**08 30 18.1**	**+0.8**
	0.3nm,0.3s,baz=23,slow=13,SNR=13						
MKAR				Sn	**Sn**	**08 31 50.2**	**-1.2**
	0.2nm,0.3s,baz=22,slow=26,SNR=6.8						
MKAR				Lg	Lg	08 32 33.5	
	0.0nm,0.3s,baz=22,slow=31,SNR=1.9						

*IDC **29** 08:32:37.2±1.1, 4°.84N×124°.51E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/40, mbtmp3.8/6, MS3.8/2, Ms1 3.8/2, ms1mx3.0/38, Error ellipse: s-maj=169.5km s-min=17.0km az=67.0*
*MAN **29** 08:32:42, 5°.47N×126°.66E, h52km, mb4.9, ML3.9, MS4.0*
*ISCJB **29** 08:32:44.2±1.2, 5°.46N±0°.08×126°.4E±0°.1, h73km±14km, mb3.7/6, Error ellipse: s-maj=17.3km s-min=12.3km az=21.4*

ISC 29 08:32:44.9±1.7, 5°.44N±0°.09×126°.4E±0°.1, h68km±17km, n16, σ1§91/19, mb3.8/6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.51**	**355**	*e*P	**Pn**	**08 33 08.9**	**-1.1**
MATI				*e*S	**Sn**	**08 33 27.4**	**-1.4**
GSPH	**General Santos**	**1.58**	**294**⇑	*i*P	**Pn**	**08 33 10.3**	**-0.7**
GSPH				*i* S	**Sn**	**08 33 28.7**	**-2.0**
DMPH	**Davao City--Mi**	**1.86**	**332**⇑	*e*P	**Pn**	**08 33 14.2**	**-0.4**
DMPH				*e*S	**Sn**	**08 33 40.9**	**+3.6**
BIPH	**Bislig**	**2.73**	**359**⇓	*e*P	**Pn**	**08 33 27.6**	**+1.1**
BIPH				*e*S	**Sn**	**08 33 57.6**	**-0.9**
BUKP	**Musuan**	**2.77**	**332**	*e*P	**Pn**	**08 33 26.8**	**-0.2**
CGP	**Cagayan de Oro**	**3.44**	**331**	*e*P	**Pn**	**08 33 36.5**	**+0.3**
CGP				*i* S	**Sn**	**08 34 19.0**	**+3.2**
PAGZ	**Pagadian**	**3.83**	**309**	*e*P	**Pn**	**08 33 43.2**	**+1.7**
WRA	**Warramunga Arr**	**26.40**	**163**	P	**P**	**08 38 15.8**	**+0.6**
	1.0nm,0.4s,baz=342,slow=10,SNR=18						
JNU	**Nakatsue**	**27.86**	**8**	LR	LR	08 50 13.2	
	comp=Z,109nm,20.4s,baz=122,slow=37						
ASAR	**Alice Springs**	**29.84**	**166**	P	**P**	**08 38 47.0**	**+1.1**
	1.1nm,0.5s,baz=345,slow=7.0,SNR=19						
STKA	**Stephens Creek**	**39.83**	**160**	P	**P**	**08 40 13.1**	**+1.3**
	1.6nm,0.5s,baz=347,slow=8.4,SNR=5.5						
SONM	**Songino Array**	**45.59**	**341**	P	**P**	**08 40 58.7**	**+0.3**
	0.3nm,0.5s,baz=159,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**55.98**	**325**	P	**P**	**08 42 13.5**	**-2.9**
	0.3nm,0.4s,baz=118,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**58.93**	**333**	P	**P**	**08 42 36.9**	**-0.1**
	0.6nm,0.3s,baz=125,slow=7.8,SNR=3.9						
FINES	**FINESS Array B**	**90.18**	**332**	LR	LR	09 29 04.5	
	comp=Z,92nm,21.4s,baz=89,slow=38						
TORD	**Torodi Ar. Bea**	**122.06**	**289**	PKP	**PKPdf**	**08 51 30.3**	**-2.5**
	0.2nm,0.4s,baz=60,slow=1.5,SNR=3.3						

*ISCJB **29** 08:39:17.3±1.6, 51°.1N±0°.1×178°.4W±0°.1, h27km±12km, mb3.3/5, Error ellipse: s-maj=18.2km s-min=9.8km az=159.2*
*NEIC **29** 08:39:18.8, 51°.22N×178°.38W, h26km, ML3.7(AEIC), After AEIC.*
*IDC **29** 08:39:46.2±2.2, 51°.78N×171°.91W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/46, mbtmp3.4/6, ML3.6/1, Error ellipse: s-maj=60.3km s-min=29.1km az=10.0*

ISC 29 08:39:18.8±2.9, 51°.4N±0°.1×178°.39W±0°.06, h16km±15km, n23, σ1§25/28, mb3.4/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.48**	**330**	P	**Pn**	**08 39 30.7**	**-0.3**
GAEA	**Gareloi East**	**0.49**	**333**	P	**Pn**	**08 39 30.9**	**-0.3**
TAFL	**Tanaga Flats**	**0.51**	**36**	P	**Pn**	**08 39 31.0**	**-0.5**
TAFL				S	**Sn**	**08 39 40.9**	**+1.0**
GANE	**Gareloi Northe**	**0.53**	**333**	P	**Pn**	**08 39 31.3**	**-0.5**
TASE	**Tanaga Southea**	**0.54**	**24**	P	**Pn**	**08 39 31.7**	**-0.2**
TANO	**Tanaga North**	**0.59**	**16**	P	**Pn**	**08 39 32.7**	**+0.1**
TAFP	**Tanaga Falls P**	**0.61**	**24**	P	**Pn**	**08 39 32.5**	**-0.3**
TAFP				S	**Sn**	**08 39 43.1**	**+0.7**
KIKV	**Kanaga Island**	**0.93**	**54**	P	**Pb**	**08 39 36.6**	**+0.1**
KIRH	**Kanaga Island**	**0.98**	**55**	P	**Pb**	**08 39 37.5**	**+0.1**
KIRH				S	**Sg**	**08 39 50.9**	**+0.4**
ETKA	**Kagalaska Isla**	**1.34**	**67**	P	**Pn**	**08 39 42.0**	**-0.9**
ETKA				S	**Sn**	**08 39 59.7**	**-0.6**
GSCK	**Great Sitkin C**	**1.54**	**63**	P	**Pn**	**08 39 45.4**	**-0.1**
GSTD	**Great Sitkin T**	**1.57**	**62**	P	**Pn**	**08 39 45.9**	**-0.1**
GSTD				S	**Sb**	**08 40 07.0**	**0.0**
GSMY	**Great Sitkin M**	**1.61**	**63**	P	**Pn**	**08 39 46.4**	**-0.2**
KOWE	**Korovin West**	**2.76**	**67**	P	**Pn**	**08 40 03.7**	**+1.3**
KOKL	**Mount Kliuchef**	**2.78**	**68**	P	**Pn**	**08 40 02.7**	**0.0**
KOFP	**Korovin Flat P**	**2.82**	**69**	P	**Pn**	**08 40 04.4**	**+1.2**
NIKH	**Nikolski High**	**6.09**	**71**	P	**Pn**	**08 40 48.6**	**+0.6**
ILAR	**Eielson Array**	**21.11**	**38**	P	**P**	**08 44 01.0**	**-1.3**
	0.1nm,0.3s,baz=232,slow=8.9,SNR=10						
YKA	**Yellowknife Ar**	**35.07**	**46**	P	**P**	**08 46 11.4**	**+0.8**
	0.2nm,0.4s,baz=278,slow=9.3,SNR=2.7						
NEW	**Newport**	**38.65**	**70**	P	**P**	**08 46 38.5**	**-2.8**
	1.0nm,0.6s,baz=309,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**46.07**	**72**	P	**P**	**08 47 39.7**	**-2.3**
	0.7nm,0.5s,baz=310,slow=3.6,SNR=11						
TXAR	**Lajitas Array**	**58.40**	**81**	P	**P**	**08 49 13.9**	**+0.3**
	0.1nm,0.4s,baz=311,slow=

32nm,1.1s

STKA	**Stephens Creek**	**28.50 238**	*e*P	**P**	**09 13 18.0**	**+1.2**
STKA	**Stephens Creek**	**28.50 238**	P	**P**	**09 13 17.7**	**+0.9**
	3.1nm,0.6s,baz=65,slow=11,SNR=13					
WRA	**Warramunga Arr**	**33.57 263**	P	**P**	**09 14 00.1**	**-1.4**
WRA	**Warramunga Arr**	**33.57 263**	P	**P**	**09 14 00.1**	**-1.4**
	1.3nm,0.9s,baz=80,slow=6.2,SNR=8.7					
AS31	**Alice Springs**	**33.84 256**	*e*P	**P**	**09 14 03.0**	**-0.9**
ASAR	**Alice Springs**	**33.84 256**	P	**P**	**09 14 03.0**	**-1.0**
ASAR	**Alice Springs**	**33.84 256**	P	**P**	**09 14 03.0**	**-1.0**
	3.1nm,0.7s,baz=84,slow=8.7,SNR=54					
H11S2	**WAKE ISLAND Hy**	**37.52 355**	T	T	09 54 26.8	
	baz=183					
H11S3	**WAKE ISLAND Hy**	**37.52 355**	T	T	09 54 24.2	
	baz=183					
H11S1	**WAKE ISLAND Hy**	**37.53 355**	T	T	09 54 24.8	
	baz=183					
H11N1	**WAKE ISLAND Hy**	**38.71 355**	T	T	09 55 46.7	
	baz=181					
H11N3	**WAKE ISLAND Hy**	**38.72 355**	T	T	09 55 46.0	
	baz=181					
H11N2	**WAKE ISLAND Hy**	**38.73 355**	T	T	09 55 47.1	
	baz=181					
VNDA	**Vanda**	**58.57 182**	*e*P	**P**	**09 17 16.6**	**-0.8**
	2.6nm,0.9s					
QSPA	**South Pole Qui**	**70.93 180**	*e*P	**P**	**09 18 40.5**	**+2.3**
QSPA	**South Pole Qui**	**70.93 180**	P	**P**	**09 18 39.5**	**+1.3**
	0.8nm,0.4s,baz=56,slow=2.7,SNR=7.2					
CMAR	**Chiang Mai Arr**	**79.10 294**	P	**P**	**09 19 26.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**79.10 294**	P	**P**	**09 19 26.9**	**+1.0**
	0.8nm,0.3s,baz=131,slow=3.6,SNR=6.0					
SONM	**Songino Array**	**87.55 323**	P	**P**	**09 20 09.1**	**+0.1**
SONM	**Songino Array**	**87.55 323**	P	**P**	**09 20 09.1**	**+0.1**
	1.8nm,0.9s,baz=153,slow=6.6,SNR=10					
GERES	**GERESS Array B**	**144.71 333**	PKP	PKPbc	09 26 56.9	+0.2
GERES	**GERESS Array B**	**144.71 333**	PKP	PKPbc	09 26 56.9	+0.2
	0.8nm,0.8s,baz=49,slow=6.1,SNR=4.9					
TORD	**Torodi Ar. Bea**	**167.28 244**	PKP	**PKPdf**	**09 27 27.8**	**+0.1**
TORD			PKPab	**PKPab**	**09 28 32.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**167.28 244**	PKP	**PKPdf**	**09 27 27.8**	**+0.1**
	1.0nm,0.9s,baz=96,slow=1.4,SNR=4.9					
TORD			PKPab	**PKPab**	**09 28 32.8**	**+0.2**
	0.6nm,1.0s,baz=134,slow=4.2,SNR=2.3					

*NEIC **29** 09:19:20.6, 40˚.26S×173˚.45E, h218km, MG4.1(WEL), After WEL.*
WEL 29 09:19:21.2±0.3, 40˚.27S×173˚.44E, h212km±2km, ML4.0/20, 39C-5D, Error ellipse: s-maj=2.1km s-min=0.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.65**	**145**	⇑PN	Pn	09 19 50.4	+0.1
DUWZ				SN	S	09 20 12.7	-0.4
DUWZ	**D'Urville Isla**	**0.65**	**145**	Pn	Pn	09 19 50.4	+0.1
DUWZ				Sn	S	09 20 12.7	-0.4
QRZ	**Quartz Range**	**0.89**	**231**	⇑PN	Pn	09 19 51.3	-0.2
QRZ				SN	S	09 20 12.9	-2.2
QRZ	**Quartz Range**	**0.89**	**231**	Pn	Pn	09 19 51.3	-0.2
NMEZ	**Namu Road**	**0.92**	**22**	PN	Pn	09 19 51.6	-0.1
NMEZ				SN	S	09 20 15.0	-0.4
NNZ	**Nelson**	**0.95**	**183**	PN	Pn	09 19 51.7	-0.1
NNZ				SN	S	09 20 14.0	-1.9
NNZ	**Nelson**	**0.95**	**183**	Pn	Pn	09 19 51.7	-0.1
NNZ				Sn	S	09 20 14.0	-1.9
NWEZ	**Newall Road**	**1.05**	**19**	PN	Pn	09 19 52.5	0.0
NWEZ	**Newall Road**	**1.05**	**19**	Pn	Pn	09 19 52.5	0.0
KHEZ	**Kahui Hut**	**1.07**	**25**	⇑PN	Pn	09 19 52.7	-0.1
DFE	**Dawson Falls**	**1.07**	**29**	PN	Pn	09 19 52.7	-0.1
DFE	**Dawson Falls**	**1.07**	**29**	Pn	Pn	09 19 52.8	-0.1
NEZ	**North Egmont**	**1.12**	**27**	⇓PN	Pn	09 19 52.9	-0.3
NEZ	**North Egmont**	**1.12**	**27**	Pn	Pn	09 19 52.9	-0.3
TCW	**Tory Channel**	**1.14**	**146**	PN	Pn	09 19 53.4	+0.3
TCW				AML	AML	09 19 54.3	
TCW				AML	AML	09 19 54.4	
TCW	**Tory Channel**	**1.14**	**146**	Pn	Pn	09 19 53.4	+0.3
PKE	**Pukeiti**	**1.15**	**22**	PN	Pn	09 19 53.2	-0.1
PKE	**Pukeiti**	**1.15**	**22**	Pn	Pn	09 19 53.2	-0.1
TUWZ	**Tuamarina**	**1.22**	**162**	⇑PN	Pn	09 19 53.7	0.0
TUWZ				AML	AML	09 19 54.6	
TUWZ				AML	AML	09 19 54.6	
TUWZ	**Tuamarina**	**1.22**	**162**	Pn	Pn	09 19 53.7	0.0
RAEZ	**Rainy Point**	**1.23**	**37**	PN	Pn	09 19 52.8	-1.0
RAEZ	**Rainy Point**	**1.23**	**37**	Pn	Pn	09 19 52.8	-1.0
DREZ	**Durham Road**	**1.23**	**29**	⇑PN	Pn	09 19 53.8	-0.1
DREZ	**Durham Road**	**1.23**	**29**	Pn	Pn	09 19 53.8	-0.1
KIW	**Kapiti Island**	**1.27**	**118**	⇑PN	Pn	09 19 54.2	+0.1
KIW				AML	AML	09 20 19.5	
KIW				AML	AML	09 20 19.6	
KIW	**Kapiti Island**	**1.27**	**118**	Pn	Pn	09 19 54.2	+0.1
MHEZ	**Mangahewa**	**1.37**	**30**	PN	Pn	09 19 55.1	+0.2
MHEZ	**Mangahewa**	**1.37**	**30**	Pn	Pn	09 19 55.1	+0.2
SNZO	**South Karori**	**1.42**	**138**	⇓PN	Pn	09 19 55.1	-0.1
SNZO				AML	AML	09 19 55.9	
SNZO				AML	AML	09 19 55.9	
SNZO				AML	AML	09 19 56.3	
SNZO				AML	AML	09 19 56.3	
SNZO	**South Karori**	**1.42**	**138**	Pn	Pn	09 19 55.1	-0.1
OGWZ	**Otaki Gorge**	**1.43**	**113**	⇑PN	Pn	09 19 55.6	+0.2
OGWZ	**Otaki Gorge**	**1.43**	**113**	Pn	Pn	09 19 55.6	+0.2
WEL	**Wellington**	**1.43**	**136**	⇑PN	Pn	09 19 55.4	0.0
WEL	**Wellington**	**1.43**	**136**	Pn	Pn	09 19 55.4	0.0
BSWZ	**Blackbirch Sta**	**1.48**	**167**	⇑PN	Pn	09 19 55.9	+0.2
BSWZ				AML	AML	09 20 23.8	
BSWZ				AML	AML	09 20 23.8	
BSWZ	**Blackbirch Sta**	**1.48**	**167**	Pn	Pn	09 19 55.9	+0.2
CAW	**Cannon Point**	**1.50**	**125**	⇑PN	Pn	09 19 55.9	0.0
CAW				AML	AML	09 20 21.9	
CAW				AML	AML	09 20 23.2	
CAW	**Cannon Point**	**1.50**	**125**	Pn	Pn	09 19 55.9	0.0
VRZ	**Vera Road**	**1.53**	**42**	PN	Pn	09 19 55.6	-0.7
VRZ	**Vera Road**	**1.53**	**42**	Pn	Pn	09 19 55.5	-0.7
THZ	**Tophouse**	**1.55**	**195**	⇑PN	Pn	09 19 56.2	-0.2
THZ	**Tophouse**	**1.55**	**195**	Pn	Pn	09 19 56.2	-0.2
BHW	**Baring Head**	**1.58**	**137**	⇑PN	Pn	09 19 56.3	-0.2
BHW				AML	AML	09 20 23.3	
BHW				AML	AML	09 20 23.8	
BHW	**Baring Head**	**1.58**	**137**	Pn	Pn	09 19 56.3	-0.2
CMWZ	**Cape Campbell**	**1.59**	**159**	PN	Pn	09 19 57.1	+0.4
CMWZ				AML	AML	09 20 26.5	
CMWZ	**Cape Campbell**	**1.59**	**159**	Pn	Pn	09 19 57.1	+0.4
MRZ	**Mangatainoka R**	**1.68**	**104**	PN	Pn	09 19 57.4	-0.1
MRZ				AML	AML	09 20 24.5	
MRZ				AML	AML	09 20 26.8	
MRZ	**Mangatainoka R**	**1.68**	**104**	Pn	Pn	09 19 57.4	-0.1
HOWZ	**Holdsworth Sta**	**1.70**	**112**	⇑PN	Pn	09 19 57.6	-0.1
HOWZ	**Holdsworth Sta**	**1.70**	**112**	Pn	Pn	09 19 57.6	-0.1
PKVZ	**Pokaka**	**1.77**	**57**	⇑PN	Pn	09 19 58.0	-0.5
PKVZ	**Pokaka**	**1.77**	**57**	Pn	Pn	09 19 58.0	-0.5
POWZ	**Post Office Ro**	**1.79**	**95**	⇑PN	Pn	09 19 58.4	-0.1
POWZ	**Post Office Ro**	**1.79**	**95**	Pn	Pn	09 19 58.4	-0.1
MSWZ	**Moikau Station**	**1.79**	**130**	⇑PN	Pn	09 19 58.3	-0.3
MSWZ				AML	AML	09 20 27.5	
MSWZ				AML	AML	09 20 28.0	
MSWZ	**Moikau Station**	**1.79**	**130**	Pn	Pn	09 19 58.3	-0.3
MTVZ	**Mangateitei**	**1.80**	**61**	⇓PN	Pn	09 19 58.3	-0.4
MTVZ	**Mangateitei**	**1.80**	**61**	Pn	Pn	09 19 58.3	-0.4
MTW	**Mount Morrison**	**1.81**	**120**	⇑PN	Pn	09 19 58.4	-0.2
MTW				AML	AML	09 20 27.5	
MTW				AML	AML	09 20 28.4	
MTW	**Mount Morrison**	**1.81**	**120**	Pn	Pn	09 19 58.4	-0.2
PAWZ	**Paruwai Farm**	**1.88**	**127**	⇑PN	Pn	09 19 59.1	-0.2
PAWZ				AML	AML	09 20 28.0	
PAWZ				AML	AML	09 20 29.6	
PAWZ	**Paruwai Farm**	**1.88**	**127**	Pn	Pn	09 19 59.1	-0.2
TRVZ	**Turoa**	**1.89**	**60**	⇑PN	Pn	09 19 59.2	-0.7
TRVZ	**Turoa**	**1.89**	**60**	Pn	Pn	09 19 59.2	-0.6
PLWZ	**Palliser**	**1.90**	**134**	⇑PN	Pn	09 19 59.2	-0.3
PLWZ	**Palliser**	**1.90**	**134**	Pn	Pn	09 19 59.2	-0.3
WNVZ	**Wahianoa**	**1.91**	**61**	⇑PN	Pn	09 19 59.5	-0.5
WNVZ	**Wahianoa**	**1.91**	**61**	Pn	Pn	09 19 59.5	-0.5
DRZ	**Dome Shelter**	**1.92**	**60**	PN	Pn	09 19 59.8	-0.4
DRZ	**Dome Shelter**	**1.92**	**60**	Pn	Pn	09 19 59.8	-0.4
FWVZ	**Far West T-bar**	**1.92**	**59**	⇑PN	Pn	09 19 59.4	-0.7
FWVZ	**Far West T-bar**	**1.92**	**59**	Pn	Pn	09 19 59.4	-0.7
DSZ	**Denniston Nort**	**1.93**	**219**	⇑PN	Pn	09 19 59.5	-0.4
DSZ	**Denniston Nort**	**1.93**	**219**	Pn	Pn	09 19 59.5	-0.4
WHVZ	**Whangaehu Hut**	**1.93**	**60**	PN	Pn	09 19 59.8	-0.5
TIWZ	**Tintock**	**1.94**	**106**	⇑PN	Pn	09 19 59.9	-0.1
TIWZ				AML	AML	09 20 29.9	
TIWZ	**Tintock**	**1.94**	**106**	Pn	Pn	09 19 59.9	-0.1
WPVZ	**Whakapapa**	**1.94**	**58**	PN	Pn	09 19 59.6	-0.6
WPVZ	**Whakapapa**	**1.94**	**58**	Pn	Pn	09 19 59.6	-0.6
COVZ	**Chateau Observ**	**1.94**	**57**	⇑PN	Pn	09 19 59.5	-0.7
TSZ	**Takapari Road**	**1.95**	**85**	PN	Pn	09 19 59.7	-0.4
TSZ				AML	AML	09 20 30.6	
TSZ				AML	AML	09 20 32.7	
TSZ	**Takapari Road**	**1.95**	**85**	Pn	Pn	09 19 59.7	-0.4
PRWZ	**Pori Road**	**1.96**	**99**	PN	Pn	09 20 00.4	+0.3
TUVZ	**Tukino**	**1.98**	**60**	⇑PN	Pn	09 20 00.2	-0.4
TUVZ	**Tukino**	**1.98**	**60**	Pn	Pn	09 20 00.2	-0.4
MOVZ	**Moawhango**	**1.98**	**65**	⇑PN	Pn	09 19 59.7	-0.8
MOVZ	**Moawhango**	**1.98**	**65**	Pn	Pn	09 19 59.7	-0.8
NGZ	**Ngauruhoe**	**1.99**	**58**	⇑PN	Pn	09 20 00.1	-0.7
NGZ	**Ngauruhoe**	**1.99**	**58**	Pn	Pn	09 20 00.1	-0.7
WTVZ	**West Tongariro**	**2.02**	**56**	PN	Pn	09 20 00.3	-0.7
WTVZ	**West Tongariro**	**2.02**	**56**	Pn	Pn	09 20 00.3	-0.7
OTVZ	**Oturere**	**2.04**	**58**	⇑PN	Pn	09 20 00.8	-0.4
OTVZ	**Oturere**	**2.04**	**58**	Pn	Pn	09 20 00.8	-0.4
TMWZ	**Te Maipa**	**2.05**	**115**	⇑PN	Pn	09 20 00.9	-0.1
TMWZ	**Te Maipa**	**2.05**	**115**	Pn	Pn	09 20 00.9	-0.1
TRWZ	**Traveller**	**2.05**	**124**	PN	Pn	09 20 00.9	-0.2
TRWZ				AML	AML	09 20 31.9	
TRWZ				AML	AML	09 20 31.9	
TRWZ	**Traveller**	**2.05**	**124**	Pn	Pn	09 20 00.9	-0.2
KRVZ	**Karewarewa**	**2.06**	**56**	⇑PN	Pn	09 20 00.7	-0.7
KRVZ	**Karewarewa**	**2.06**	**56**	Pn	Pn	09 20 00.8	-0.7
HIZ	**Hauiti**	**2.07**	**33**	⇑PN	Pn	09 20 00.5	-0.8
HIZ	**Hauiti**	**2.07**	**33**	Pn	Pn	09 20 00.6	-0.8
DVHZ	**Dannevirke**	**2.09**	**92**	⇑PN	Pn	09 20 01.2	-0.3
DVHZ	**Dannevirke**	**2.09**	**92**	Pn	Pn	09 20 01.2	-0.3
KHZ	**Kahutara**	**2.15**	**178**	⇑PN	Pn	09 20 01.4	-0.6
KHZ				AML	AML	09 20 31.3	
KHZ				AML	AML	09 20 31.3	
KHZ	**Kahutara**	**2.15**	**178**	*e*Pn	Pn	09 20 01.4	-0.6
KHZ				*e*S	S	09 20 24.2	-10
PNHZ	**Pukenui**	**2.15**	**81**	PN	Pn	09 20 01.8	-0.4
PNHZ	**Pukenui**	**2.15**	**81**	Pn	Pn	09 20 01.8	-0.4
BHHZ	**Black Hill Sta**	**2.17**	**70**	⇑PN	Pn	09 20 01.4	-1.0
BHHZ	**Black Hill Sta**	**2.17**	**70**	Pn	Pn	09 20 01.4	-1.0
KATZ	**Kakaramea**	**2.17**	**54**	PN	Pn	09 20 02.0	-0.6
BFZ	**Birch Farm**	**2.18**	**102**	PN	Pn	09 20 02.3	-0.1
BFZ	**Birch Farm**	**2.18**	**102**	Pn	Pn	09 20 02.3	-0.1
CPWZ	**Castlepoint**	**2.20**	**108**	PN	Pn	09 20 03.0	+0.4
WPHZ	**Waipukurau**	**2.31**	**86**	⇑PN	Pn	09 20 03.6	-0.2
WPHZ	**Waipukurau**	**2.31**	**86**	Pn	Pn	09 20 03.6	-0.2
ANWZ	**Angora Road**	**2.33**	**96**	⇑PN	Pn	09 20 04.1	+0.1
PRHZ	**Porangahau**	**2.45**	**91**	⇓PN	Pn	09 20 05.4	+0.2
PRHZ	**Porangahau**	**2.45**	**91**	Pn	Pn	09 20 05.4	+0.2
TLZ	**Tolley Road**	**2.53**	**41**	PN	Pn	09 20 05.4	-1.9
BKZ	**Black Stump Fm**	**2.60**	**66**	⇑PN	Pn	09 20 06.0	-1.0
BKZ				AML	AML	09 20 41.7	
BKZ				AML	AML	09 20 43.1	
BKZ	**Black Stump Fm**	**2.60**	**66**	Pn	Pn	09 20 06.0	-1.0
PXZ	**Pawanui**	**2.64**	**86**	PN	Pn	09 20 07.1	-0.1
PXZ				AML	AML	09 20 44.4	
PXZ				AML	AML	09 20 44.4	
PXZ				AML	AML	09 20 44.7	
PXZ				AML	AML	09 20 44.8	
PXZ	**Pawanui**	**2.64**	**86**	Pn	Pn	09 20 07.2	-0.1
MCHZ	**McNeill Hill**	**2.64**	**73**	PN	Pn	09 20 07.4	0.0
MCHZ	**McNeill Hill**	**2.64**	**73**	Pn	Pn	09 20 07.4	0.0
LTZ	**Lake Taylor**	**2.66**	**199**	PN	Pn	09 20 07.0	-0.6
LTZ	**Lake Taylor**	**2.66**	**199**	Pn	Pn	09 20 07.0	-0.6
KAHZ	**Kahuranaki**	**2.68**	**81**	PN	Pn	09 20 07.9	0.0
KAHZ	**Kahuranaki**	**2.68**	**81**	Pn	Pn	09 20 07.9	0.0
NMHZ	**Naumai**	**2.85**	**67**	PN	Pn	09 20 09.9	+0.1
NMHZ	**Naumai**	**2.85**	**67**	Pn	Pn	09 20 09.9	+0.1
CKHZ	**Cape Kidnapper**	**2.86**	**79**	PN	Pn	09 20 10.3	+0.4
CKHZ	**Cape Kidnapper**	**2.86**	**79**	Pn	Pn	09 20 10.3	+0.4
RAHZ	**Arahi**	**3.13**	**66**	PN	Pn	09 20 12.3	-0.6
RAHZ	**Arahi**	**3.13**	**66**	Pn	Pn	09 20 12.3	-0.6
WHHZ	**Waihua**	**3.16**	**69**	⇓PN	Pn	09 20 13.1	-0.3
OXZ	**Oxford**	**3.23**	**198**	⇑PN	Pn	09 20 12.8	-1.2
CRLZ	**Canterbury Las**	**3.36**	**190**	PN	Pn	09 20 13.7	-1.9
CRLZ	**Canterbury Las**	**3.36**	**190**	Pn	Pn	09 20 13.7	-1.9
SNGZ	**Shannon Statio**	**3.36**	**65**	PN	Pn	09 20 15.2	-0.5
WVZ	**Waitaha Valley**	**3.46**	**215**	PN	Pn	09 20 15.7	-1.0
WVZ	**Waitaha Valley**	**3.46**	**215**	Pn	Pn	09 20 15.7	-1.0
MQZ	**McQueen's Vall**	**3.49**	**189**	PN	Pn	09 20 14.9	-2.1
MQZ	**McQueen's Vall**	**3.49**	**189**	Pn	Pn	09 20 14.9	-2.1
URZ	**Urewera**	**3.49**	**56**	PN	Pn	09 20 15.8	-1.4
URZ				AML	AML	09 20 57.9	
URZ	**Urewera**	**3.49**	**56**	Pn	Pn	09 20 15.8	-1.4
KNZ	**Kokohu**	**3.50**	**71**	PN	Pn	09 20 16.5	-0.8
KNZ	**Kokohu**	**3.50**	**71**	Pn	Pn	09 20 16.5	-0.8
MHGZ	**Mahia Peninsul**	**3.62**	**74**	PN	Pn	09 20 18.7	-0.1
MHGZ	**Mahia Peninsul**	**3.62**	**74**	Pn	Pn	09 20 18.7	-0.1
PRGZ	**Paritu Road**	**3.69**	**70**	PN	Pn	09 20 19.0	-0.6
PRGZ	**Paritu Road**	**3.69**	**70**	Pn	Pn	09 20 19.0	-0.6
RIGZ	**Rimuhau**	**3.69**	**66**	PN	Pn	09 20 18.9	-0.8
MWZ	**Matawai**	**3.71**	**60**	PN	Pn	09 20 18.0	-1.9
MWZ				AML	AML	09 21 08.2	
MWZ	**Matawai**	**3.71**	**60**	Pn	Pn	09 20 18.0	-1.9
RPZ	**Rata Peaks**	**3.88**	**206**	PN	Pn	09 20 20.6	-1.2
RPZ	**Rata Peaks**	**3.88**	**206**	*e*Pn	Pn	09 20 20.9	-0.9
RPZ				*e*S	S	09 20 59.6	-10
CNGZ	**Carnagh Statio**	**4.10**	**66**	Pn	Pn	09 20 23.0	-1.6
FOZ	**Fox Glacier**	**4.32**	**219**	PN	Pn	09 20 24.8	-2.4
FOZ	**Fox Glacier**	**4.32**	**219**	Pn	Pn	09 20 24.8	-2.4
PUZ	**Puketiti**	**4.34**	**61**	PN	Pn	09 20 26.2	-1.4
PUZ	**Puketiti**	**4.34**	**61**	Pn	Pn	09 20 26.2	-1.4
LBZ	**Lake Benmore**	**4.77**	**209**	PN	Pn	09 20 31.2	-1.7
LBZ	**Lake Benmore**	**4.77**	**209**	Pn	Pn	09 20 31.2	-1.7
JCZ	**Jackson Bay**	**5.15**	**221**	PN	Pn	09 20 36.4	-1.4
JCZ	**Jackson Bay**	**5.15**	**221**	Pn	Pn	09 20 36.4	-1.4
ODZ	**Otahua Downs**	**5.20**	**202**	PN	Pn	09 20 37.6	-0.7
ODZ	**Otahua Downs**	**5.20**	**202**	Pn	Pn	09 20 37.6	-0.7
WKZ	**Wanaka**	**5.60**	**214**	Pn	Pn	09 20 41.2	-2.3
EAZ	**Earnscleugh**	**5.82**	**210**	Pn	Pn	09 20 43.9	-2.2
WHZ	**Wether Hill Ro**	**6.91**	**214**	Pn	Pn	09 20 57.8	-2.4
APZ	**The Paps**	**7.66**	**209**	Pn	Pn	09 21 08.4	-1.5

*SZGRF **29** 09:19:51.7, 21˚.25S×170˚.10E, h105km, Southeast of Loyalty Islands*
*NOU **29** 09:19:52.1±1.5, 18˚.20S×169˚.34E, h30km, MD3.5, ML3.9*
*IDC **29** 09:19:52.1±0.4, 19˚.00S×169˚.77E, h0km, mb5.0/25, mb1 5.1/26, mb1mx5.1/28, mbtmp5.0/26, ML4.6/1, MS5.2/28, Ms1 5.2/28, ms1mx5.1/31, Error ellipse: s-maj=13.2km s-min=11.0km az=141.0*
*NEIC **29** 09:19:54.4±0.1, 18˚.95S×169˚.67E, h10km, mb5.6/94, MS5.5/155, MW5.8, Error ellipse: s-maj=5.5km s-min=4.9km az=136.0*
*GCMT **29** 09:19:54.4±0.1, 18˚.84S×169˚.70E, h12km, MW5.8/126, Moment Tensor Solution. s112,c201; s126,c370; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr-5.26±.04; Mθθ2.23±.05; Mϕϕ3.03±.05; Mrθ1.77±.13; Mθϕ-3.02±.04; Mϕr-0.13±.13; Best double couple: M◎5.75900×10^17 NP1:ϕs306.00000°, δ53.00000°, λ-106.00000°. NP2:ϕs152.00000°, δ40.00000°, λ-70.00000°. Principal axes: T 5.8250, Plg7.0000°, Azm47.0000°; N -0.1310, Plg13.0000°, Azm316.0000°; P -5.6940, Plg75.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **29** 09:19:56.8±1.2, 18˚.92S×169˚.62E, h33km, mb5.7/39, MS5.4/29 Error ellipse: s-maj=8.4km s-min=8.1km az=104.2*
*ISCJB **29** 09:19:56.4±0.1, 18˚.98S±0˚.02×169˚.62E±0˚.03, h32km, mb5.4/146, MS5.4/204, Error ellipse: s-maj=4.1km s-min=2.8km az=42.3*
*BJI **29** 09:19:59.6, 18˚.29S×169˚.41E, h35km, mB6.0/57, mb5.4/65, Ms5.4/70, Ms7 5.0/64*
*NEIC **29** 09:20:24.7±0.0, 18˚.34S×169˚.14E, h10km, Moment Tensor Solution. s129 Moment tensor: Scale 10^17 Nm; Mrr-4.42; Mθθ2.04; Mϕϕ2.38; Mrθ4.75; Mθϕ-2.87; Mϕr-2.10; Best double couple: M◎7.10000×10^17 NP1:ϕs300.00000°, δ69.00000°, λ-103.00000°. NP2:ϕs155.00000°, δ25.00000°, λ-56.00000°. Principal axes: T 7.1600, Plg23.0000°, Azm40.0000°; N -0.1900, Plg12.0000°, Azm304.0000°; P -6.9700, Plg62.0000°, Azm187.0000°;*
ISC 29 09:19:57.5±0.4, 18˚.98S±0˚.04×169˚.73E±0˚.04, h34km±1km,
h34km:pP-P, n784,σ1$41/710, mb5.6/147, MS5.5/204, 43C-32D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.13**	**220**	*e*P	**Pn**	**09 20 58.4**	**+0.2**
BAYA				*e*S	**Sn**	**09 21 46.1**	**+0.7**
BAYA				AMP		09 21 51.6	
	comp=Z,69nm,1.4s						
DZM	**Mont Dzumac**	**4.35**	**225**	*e*Pn	**Pn**	**09 21 00.3**	**-1.0**
	comp=Z,242nm,0.3s						
DZM				*e*Sn	**Sn**	**09 21 51.1**	**+0.1**
	comp=Z,930nm,0.3s						
DZM				*e*LR	LR	09 22 02.6	
	comp=Z,189μm,25.6s						
DZM	**Mont Dzumac**	**4.35**	**225**	*e*Pn	**Pn**	**09 21 00.1**	**-1.3**
DZM				*e*Sn	**Sn**	**09 21 53.2**	**+2.3**
DZM	**Mont Dzumac**	**4.35**	**225**	Pn	**Pn**	**09 21 00.4**	**-1.0**
	comp=Z,30nm,0.3s,baz=122,slow=11,SNR=148						
DZM				Sn	**Sn**	**09 21 51.3**	**+0.3**
	comp=Z,431nm,0.3s,baz=68,slow=11,SNR=14						
DZM				LR	LR	09 22 30.5	
	comp=Z,119μm,18.4s,baz=67,slow=36						
LASL	**Noumea**	**4.40**	**222**	*e*P	**Pn**	**09 21 00.8**	**-1.1**
LASL				*e*S	**Sn**	**09 21 52.7**	**+0.6**
LASL				AMP		09 21 55.7	
	comp=Z,1μm,3.8s						
NORM	**Noumea**	**4.44**	**223**	*e*P	**Pn**	**09 21 00.3**	**-2.1**
NORM				*e*S	**Sn**	**09 21 53.4**	**+0.5**
NORM				AMP		09 22 09.4	
	comp=Z,1μm,2.8s						
NOUC	**Port Laguerre**	**4.47**	**225**	*e*P	**Pn**	**09 21 02.8**	**-0.1**
NOUC				*e*S	**Sn**	**09 21 52.9**	**-0.7**
NOUC				AMP		09 21 57.8	
	comp=Z,486nm,8.8s						
NFK	**Norfolk Island**	**10.15**	**189**	⇑P	**Pn**	**09 22 22.1**	**+1.3**
	baz=10,SNR=9.4						
HNR	**Honiara**	**13.41**	**314**	LR	LR	09 27 42.3	
	comp=Z,7μm,20.1s,baz=144,slow=35						
HNR	**Honiara**	**13.41**	**314**	P	**P**	**09 23 15.0**	**+0.5**
RAO	**Raoul Island**	**15.21**	**135**	*e*Pn	**Pn**	**09 23 31.2**	**+1.4**
OUZ	**Omahuta**	**16.54**	**169**	*e*Pn	**Pn**	**09 23 47.6**	**+0.8**
	comp=Z,299nm,1.5s						
OUZ				*e*Sn	**Sn**	**09 26 46.7**	**-2.7**
EIDS	**Eidsvold**	**18.40**	**246**	*e*P	**Pn**	**09 24 12.0**	**+2.0**
	comp=Z,620nm,1.8s						
EIDS	**Eidsvold**	**18.40**	**246**	⇑P	**Pn**	**09 24 12.3**	**+2.3**
	baz=19						
AFI	**Afiamalu**	**18.43**	**77**	*e*P	**Pn**	**09 24 12.1**	**+1.5**
	comp=Z,1μm,2.2s						
AFI	**Afiamalu**	**18.43**	**77**	P	**Pn**	**09 24 11.5**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=300,slow=20,SNR=2.9						
ARMA	**Armidale**	**19.97**	**232**	*e*P	**P**	**09 24 26.9**	**-0.2**
	comp=Z,514nm,1.5s						
ARMA	**Armidale**	**19.97**	**232**	⇑P	**Pn**	**09 24 29.5**	**+0.5**
	baz=20,SNR=25						
URZ	**Urewera**	**20.26**	**163**	*e*P	**P**	**09 24 31.1**	**+1.1**
	comp=Z,349nm,1.4s		

HTT Hallett 31.02 236 ⇓P P 09 26 13.0 +0.7
baz=31,SNR=10.0
BBOO Buckleboo 33.12 239 *e*P P 09 26 31.0 +0.4
comp=Z,3μm,1.6s
BBOO Buckleboo 33.12 239 ⇑P P 09 26 30.7 +0.2
baz=33,SNR=38
WRAB Tennant Creek 33.34 262 ⇓*e*P P 09 26 31.4 -1.2
WRAB pmax pmax
comp=Z,299nm,2.5s
WRAB Tennant Creek 33.34 262 *e*P P 09 26 31.9 -0.8
comp=Z,46nm,1.0s
WRAB LR LR
comp=Z,5μm,19.0s
WRA Warramunga Arr 33.35 262 P P 09 26 31.1 -1.6
WRA PcP **PcP** 09 29 14.5 +0.3
WRA PKiKP **PKiKP** 09 36 38.5 -1.4
WRA Warramunga Arr 33.35 262 P P 09 26 31.1 -1.6
comp=Z,22nm,0.8s,baz=85,slow=8.4,SNR=29
WRA PcP **PcP** 09 29 14.5 +0.3
comp=Z,6.9nm,0.9s,baz=96,slow=2.9,SNR=6.2
WRA PKiKP **PKiKP** 09 36 38.5 -1.4
comp=Z,1.4nm,0.6s,baz=62,slow=0.5,SNR=11
WRA LR LR 09 39 32.7
comp=Z,4μm,20.2s,baz=95,slow=35
AS31 Alice Springs 33.64 256 *e*P P 09 26 34.8 -0.5
AS31 *e*PcP **PcP** 09 29 15.5 +0.5
ASAR Alice Springs 33.64 256 P P 09 26 34.5 -0.8
ASAR PcP **PcP** 09 29 14.8 -0.2
ASAR PKiKP **PKiKP** 09 36 38.8 -1.3
ASAR Alice Springs 33.64 256 P P 09 26 34.5 -0.8
comp=Z,49nm,0.6s,baz=84,slow=8.8,SNR=469
ASAR PcP **PcP** 09 29 14.8 -0.2
comp=Z,6.1nm,0.8s,baz=94,slow=3.6,SNR=5.2
ASAR PKiKP **PKiKP** 09 36 38.8 -1.3
comp=Z,0.9nm,0.6s,baz=81,slow=1.5,SNR=7.8
ASAR LR LR 09 39 48.0
comp=Z,11μm,19.6s,baz=90,slow=36
KDU Kakadu 36.34 274 ⇑P P 09 26 58.8 +0.3
baz=37,SNR=3.2
H11S2 WAKE ISLAND Hy 37.36 355 T T 10 06 26.6
baz=183,slow=80,SNR=48
H11S3 WAKE ISLAND Hy 37.36 355 T T 10 06 27.7
baz=183,slow=80,SNR=36
H11S1 WAKE ISLAND Hy 37.38 355 T T 10 06 26.5
baz=183,slow=80,SNR=25
MTN Manton Dam 37.56 274 ⇓P P 09 27 08.7 -0.3
baz=38,SNR=8.2
TBI Tubuai 38.21 104 *e*S S 09 33 12.1 +6.1
comp=Z,1μm,37.5s
TBI *e*LQ LQ 09 36 13.4
comp=Z,14μm,29.0s
TBI *e*LR LR 09 37 55.0
comp=Z,7μm,30.2s,baz=271
XMAS Kiritimati 38.44 61 PFAKE 09 27 30.0 +14
XMAS LR LR
comp=Z,11μm,21.0s
H11N1 WAKE ISLAND Hy 38.56 356 T T 10 07 59.0
baz=177,slow=77,SNR=32
H11N3 WAKE ISLAND Hy 38.56 356 T T 10 07 59.0
baz=177,slow=77,SNR=16
H11N2 WAKE ISLAND Hy 38.57 356 T T 10 07 59.0
baz=177,slow=77,SNR=19
PPT2 Papeete2 38.60 95 *e*P P 09 27 19.1 +1.3
comp=Z,90nm,1.4s
PPT2 *e*S S 09 33 17.4 +5.3
comp=Z,2μm,25.8s
PPT2 *e*LQ LQ 09 36 22.3
comp=Z,17μm,30.5s
PPT2 *e*LR LR 09 38 07.6
comp=Z,13μm,29.0s
PPT Papeete 38.61 95 LR LR 09 39 57.8
comp=Z,833nm,22.0s,baz=258,slow=31
WRKA Warakurna 38.77 253 P P 09 27 18.8 -0.3
baz=39,SNR=20
SAUI Saumlaki 38.85 281 *e*P P 09 27 26.7 +6.8
comp=Z,488nm,0.6s
KNRA Kununurra 39.19 268 ⇓P P 09 27 21.8 -0.8
baz=39,SNR=18
FORT Forrest 39.38 244 *e*P P 09 27 24.1 0.0
comp=Z,112nm,0.7s
FORT Forrest 39.38 244 ⇑P P 09 27 23.7 -0.4
baz=40,SNR=17
FAKI Fak Fak 39.98 289 *e*P P 09 27 28.5 -0.7
comp=Z,84nm,0.8s
GUMO Guam 40.59 321 PFAKE 09 27 50.0 +16
GUMO LR LR
comp=Z,3μm,21.0s
PMOR Pomariorio Ree 40.65 91 *e*P P 09 27 35.2 +0.5
comp=Z,133nm,1.2s
VAH Vaihoa 40.85 92 *e*P P 09 27 36.6 +0.2
comp=Z,102nm,1.4s
SOEI Soe 44.88 275 *e*P P 09 28 08.5 -0.8
comp=Z,51nm,0.8s
SOEI Soe 44.88 275 ⇓P P 09 28 08.8 -0.4
baz=45,SNR=5.2
BATI Baumata 45.32 274 P P 09 28 14.4 +1.8
BATI Baumata 45.32 274 P P 09 28 14.4 +1.8
comp=Z,125nm,0.8s,baz=139,slow=4.0
BATI LR LR 09 48 19.0
comp=Z,4μm,18.4s,slow=38
MEEK Meekatharra 47.48 251 ⇑P P 09 28 29.4 -0.1
baz=48,SNR=143
MIDW Midway 48.55 15 PFAKE 09 28 50.0 +12
MIDW LR LR
comp=Z,5μm,20.0s
NWAO Narrogin (SRO) 48.74 243 LR LR 09 48 26.8
comp=Z,15μm,21.1s,baz=92,slow=35
RKGY Rocky Gully 49.07 240 ⇓P P 09 28 41.8 +0.2
baz=49,SNR=7.0
BLDU Ballidu 49.12 246 ⇓P P 09 28 41.5 -0.6
baz=49,SNR=11
DAV Davao City (W) 50.63 297 PFAKE 09 29 10.0 +16
DAV LR LR
comp=Z,2μm,20.0s
KAPI Kappang 50.63 279 *e*P P 09 28 54.0 +0.2
comp=Z,3μm,2.5s
KAPI LR LR
comp=Z,1μm,20.0s
KIP Kipapa 51.08 40 PFAKE 09 29 10.0 +13
KIP LR LR
comp=Z,7μm,19.0s
POHA Pohakuloa 51.41 43 PFAKE 09 29 10.0 +10
POHA LR LR
comp=Z,6μm,20.0s
RKT Rikitea 51.52 105 *e*S S 09 36 23.4 +4.7
comp=Z,1μm,27.5s
RKT *e*LQ LQ 09 41 56.3
comp=Z,2μm,28.0s
RKT *e*LR LR 09 44 03.4
comp=Z,4μm,30.5s,baz=263
GIRL Giralia 51.76 256 ⇓P P 09 29 02.2 +0.1
baz=52,SNR=4.6
JCJ Chichijima 53.02 329 LR LR 09 47 23.7
comp=Z,874nm,21.4s,baz=144,slow=31
JAGI Jajag, Banyuwa 54.80 273 *e*P P 09 29 23.5 -1.1
comp=Z,79nm,1.1s
RCP Roxas 55.37 299 ⇑*e*P P 09 29 29.2 +0.6
PTCN Pitcairn Islan 55.73 108 PFAKE 09 29 40.0 +8.8
PTCN LR LR
comp=Z,2μm,20.0s
TGY Tagaytay City 58.23 301 P P 09 29 50.0 +1.0
TGY Tagaytay City 58.23 301 P P 09 29 50.0 +1.0
comp=Z,154nm,0.2s,baz=166,slow=8.3,SNR=5.0
KKM Kota Kinabalu 58.28 290 *e*P P 09 29 50.0 +0.5
comp=Z,343nm,1.9s
UGM Wanagama 58.39 272 ⇑P P 09 29 50.1 -0.1
baz=59,SNR=4.5
VNDA Vanda 58.70 182 *e*P P 09 29 51.9 +0.6
comp=Z,385nm,2.5s
VNDA Vanda 58.70 182 P P 09 29 51.5 +0.2
comp=Z,4.3nm,0.9s,baz=346,slow=7.8,SNR=14
VNDA LR LR 09 50 57.9
comp=Z,3μm,21.6s,baz=18,slow=32
SBA Scott Base 58.92 181 *e*P P 09 29 54.3 +1.5
SBA pmax pmax
comp=Z,1μm,2.5s
SBA MLR MLR
comp=Z,2μm,20.0s
SBA Scott Base 58.92 181 *e*P P 09 29 54.3 +1.5
comp=Z,1μm,2.5s
SBA LR LR
comp=Z,2μm,20.0s
CASY Casey 60.55 204 *e*P P 09 30 03.9 -0.3
comp=Z,158nm,1.5s
CASY LR LR
comp=Z,4μm,20.0s
JOW Kunigami 60.76 317 *e*P P 09 30 06.8 +0.6
comp=Z,256nm,2.3s
CISI Cisompet, Garu 61.06 272 *e*P P 09 30 08.5 -0.1
comp=Z,20nm,0.3s
KSM Kuching 61.77 282 *e*P P 09 30 13.2 -0.1
comp=Z,381nm,2.9s
KSM LR LR
comp=Z,835nm,20.0s
KSM Kuching 61.77 282 ⇑P P 09 30 13.6 +0.2
baz=62,SNR=6.8
MJAR Matsushiro Arr 62.75 332 P P 09 30 19.1 -0.3
MJAR Matsushiro Arr 62.75 332 P P 09 30 19.1 -0.3
comp=Z,21nm,0.9s,baz=165,slow=7.1,SNR=27
MJAR LR LR 10 00 03.7
comp=Z,396nm,18.2s,baz=135,slow=38
MAJO Matsushiro 62.75 332 ⇑*i*P P 09 30 19.7 +0.3
MAJO pmax pmax
comp=Z,748nm,2.3s
MAJO MLR MLR
comp=Z,4μm,18.0s
MAJO Matsushiro 62.75 332 *e*P P 09 30 19.7 +0.3
comp=Z,11nm,1.1s
MAJO LR LR
comp=Z,896nm,20.0s
MAT Matsushiro 62.75 332 P P 09 30 19.2 -0.2
MAT S S 09 38 49.0 +3.0
NACB Ninganchiao 63.57 311 *e*P P 09 30 24.9 -0.2
comp=Z,86nm,1.3s
JNU Nakatsue 63.73 324 *e*P P 09 30 26.3 +0.3
comp=Z,25nm,1.0s
JNU Nakatsue 63.73 324 P P 09 30 26.6 +0.6
comp=Z,36nm,0.8s,baz=99,slow=4.7,SNR=12
JNU LR LR 09 55 37.0
comp=Z,471nm,18.9s,baz=126,slow=34
TPUB Ta-pu 63.74 309 *e*P P 09 30 25.4 -0.9
comp=Z,51nm,0.8s
SSLB Suanglung 63.80 310 *e*P P 09 30 25.9 -0.7
comp=Z,40nm,0.8s
YHNB Yeheng 64.03 311 *e*P P 09 30 27.9 -0.3
comp=Z,88nm,1.0s
YHNB LR LR
comp=Z,1μm,20.0s
TATO Taipei 64.14 311 *e*P P 09 30 29.2 +0.4
comp=Z,79nm,1.0s
TATO LR LR
comp=Z,1μm,21.0s
ERM Erimo 65.48 339 PFAKE 09 30 50.0 +13
ERM LR LR
comp=Z,2μm,22.0s
QZH Quanzhou 66.21 309 ⇓*i*P P 09 30 42.5 +0.3
QZH LR LR
comp=Z,2μm,25.6s
YUK Yuzh-Kuril'sk 66.41 341 *c i*P P 09 30 39.3 -3.8
YUK *e* 09 31 11.1
YUK *i* PPP PPP 09 34 41.1
YUK *i* S S 09 39 25.1 -5.7
YUK pmax pmax
comp=Z,1μm,3.0s
MIR Mirnyy 67.46 205 ⇓*i*P P 09 30 51.0 +1.4
MIR *e* 09 30 59.0
MIR *e* 09 33 27.0
MIR *e*S SKiKP 09 40 22.0 -23
MIR pmax pmax
comp=Z,84nm,1.0s
MIR pmax pmax
comp=Z,1μm,4.0s
ASAJ Asahikawa 67.53 339 *e*P P 09 30 51.6 +1.4
comp=Z,231nm,2.2s
ASAJ Asahikawa 67.53 339 P P 09 30 50.9 +0.6
comp=Z,22nm,0.8s,baz=227,slow=11,SNR=8.9
ASAJ LR LR 09 55 23.3
comp=Z,1μm,21.6s,baz=164,slow=32
DLV T Lat 67.73 292 *e*P P 09 30 53.6 +1.2
comp=Z,91nm,1.5s
SSE Sheshan 68.21 316 P P 09 30 55.0 +0.2
SSE S S 09 39 50.8 -2.2
SSE pmax pmax
comp=Z,27nm,0.7s
SSE pmax pmax
comp=Z,360nm,4.1s
SSE LR LR
comp=Z,470nm,22.0s
SSE LR LR
comp=Z,300nm,22.2s
SSE LR LR
comp=Z,500nm,28.7s
KSRS Korea Array 68.56 325 P P 09 30 56.8 0.0
comp=Z,7.8nm,0.8s,baz=137,slow=6.4,SNR=17
KSRS LR LR 10 00 31.0
comp=Z,448nm,18.8s,baz=131,slow=36
KSAR Wonju Array Be 68.57 325 P P 09 30 56.8 -0.1
INCN Inchon 69.28 324 *e*P P 09 31 03.3 +1.9
comp=Z,142nm,1.4s
INCN LR LR
comp=Z,751nm,21.0s
QIZ Qiongzhong 69.86 299 PFAKE 09 31 20.0 +15
QIZ LR LR
comp=Z,521nm,21.0s
YSS Yuzh-Sakhalins 69.99 341 *e*P P 09 31 06.0 +0.5
YSS *e*S S 09 40 19.0 +5.6
YSS *e*PS PnS 09 40 32.0 -11
YSS pmax pmax
comp=Z,260nm,2.0s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS Yuzh-Sakhalins 69.99 341 *e*P P 09 31 07.1 +1.6
comp=N,101nm,1.3s
YSS LR LR
comp=Z,549nm,21.0s
COCO West Island 70.13 264 PFAKE 09 31 20.0 +13
COCO LR LR
comp=Z,2μm,20.0s
NJ2 Nanjing 70.35 316 *e*P P 09 31 08.5 +0.5
NJ2 pP **pP** 09 31 18.3 -0.3
NJ2 sP **sP** 09 31 22.8 +0.3
NJ2 S S 09 40 17.0 -1.2
NJ2 pmax pmax
comp=Z,50nm,1.1s
NJ2 pmax pmax
comp=Z,830nm,5.1s
NJ2 LR LR
comp=Z,650nm,24.8s
NJ2 LR LR
comp=Z,1μm,27.2s
NJ2 LR LR
comp=Z,780nm,23.4s
VLA Vladivostok 70.92 332 *c i*P P 09 31 11.3 +0.1
VLA 09 31 31.0
VLA *e* 09 33 47.3
VLA *e*S S 09 40 23.4 -1.0
VLA pmax pmax
comp=Z,31nm,0.6s
QSPA South Pole Qui 71.07 180 *e*P P 09 31 12.2 0.0
comp=Z,146nm,1.5s
QSPA LR LR
comp=Z,3μm,20.0s
IPM Ipoh 71.49 282 *e*P P 09 31 15.6 +0.2
comp=Z,136nm,2.1s
USRK Usuriysk Arra 71.72 332 P P 09 31 16.6 +0.5
comp=Z,18nm,0.8s,baz=134,slow=4.7,SNR=26
USRK LR LR 09 58 28.5
comp=Z,588nm,21.6s,baz=133,slow=32
KULM Kulim 72.13 282 *e*P P 09 31 18.2 -1.1
KULM LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 72.34 353 *e*P P 09 31 19.3 -0.3
PET *e*S S 09 40 44.9 +4.5
PET *e*PS PnS 09 41 19.0 +4.7
PET pmax pmax
comp=Z,300nm,11.7s
PET Petropavlovsk 72.34 353 PFAKE 09 31 30.0 +10
PET LR LR
comp=Z,4μm,19.0s
WHN Wuhan 72.52 312 ⇑P P 09 31 21.8 +0.6
WHN S S 09 40 46.5 +3.1
WHN pmax pmax
comp=Z,110nm,1.1s
WHN LR LR
comp=Z,2μm,19.3s
WHN LR LR
comp=Z,720nm,10.6s
WHN LR LR
comp=Z,2μm,21.8s
PETK Petropavlovsk- 72.54 352 P P 09 31 21.5 +0.7
PETK Petropavlovsk- 72.54 352 P P 09 31 21.5 +0.7
PETK Petropavlovsk- 72.54 352 P P 09 31 21.5 +0.7
comp=Z,9.0nm,0.9s,baz=154,slow=6.9,SNR=7.5
PETK LR LR 09 57 22.8
comp=Z,2μm,21.5s,baz=158,slow=31
PSI Prapat 72.84 279 P P 09 31 23.0 -0.7
PSI Prapat 72.84 279 P P 09 31 23.0 -0.7
comp=Z,13nm,1.0s,baz=137,slow=3.2,SNR=9.4
PSI LR LR 10 05 59.2
comp=Z,1μm,19.6s,baz=132,slow=38
PSI Prapat 72.84 279 P P 09 31 23.0 -0.7
baz=73,SNR=3.9
DL2 Dalian 73.09 323 ⇓P P 09 31 25.5 +1.1
DL2 S S 09 40 51.5 +1.9
DL2 pmax pmax
comp=Z,140nm,1.0s
DL2 pmax pmax
comp=Z,860nm,4.3s
DL2 LR LR
comp=Z,450nm,18.3s
DL2 LR LR
comp=Z,530nm,19.2s
DL2 LR LR
comp=Z,600nm,23.8s
MDJ Mudanjiang 73.12 331 P P 09 31 25.0 +0.6
MDJ pP **pP** 09 31 33.5 -1.5
MDJ sP **sP** 09 31 36.5 -2.5
MDJ PcP **PcP** 09 31 40.8 -0.2
MDJ PP **PP** 09 34 06.5 -1.4
MDJ sS **sS** 09 41 06.8 -0.4
MDJ pmax pmax
comp=Z,45nm,1.1s
MDJ pmax pmax
comp=Z,790nm,5.0s
MDJ LR LR
comp=Z,320nm,12.4s
MDJ LR LR
comp=Z,970nm,19.2s
MDJ LR LR
comp=Z,1μm,17.9s
MDJ Mudanjiang 73.12 331 *e*P P 09 31 25.2 +0.8
comp=Z,244nm,1.8s
MDJ LR LR
comp=Z,1μm,20.0s
GSI Gunungsitoli 73.59 277 *e*P P 09 31 28.1 +0.2
comp=Z,114nm,1.5s
HABR Khabarovsk 73.95 337 *e*P P 09 31 28.8 -0.4
HABR *e**PP **pP** 09 31 38.4 -1.4
HABR *e* 09 31 43.5
HABR *e*PPP PPP 09 35 58.2
HABR *e*S S 09 40 58.2 -0.6
HABR *e* 09 41 35.2
HABR *e*SS SS 09 45 43.3 -1.0
HABR pmax pmax
comp=E,38nm,2.3s
HABR pmax pmax
comp=N,50nm,2.3s
HABR pmax pmax
comp=Z,245nm,2.3s
HABR MLR MLR
comp=Z,440nm,20.0s
SNY Shenyang 74.03 326 ⇓P P 09 31 29.5 -0.3
SNY pmax pmax
comp=Z,1μm,4.0s
SNY LR LR
comp=Z,690nm,19.4s
SNY LR LR
comp=Z,610nm,25.5s
SNY LR LR
comp=Z,950nm,20.1s
TIA Tai'an 74.06 318 ⇓P P 09 31 30.0 -0.2
TIA sP **sP** 09 31 44.0 -0.7
TIA S S 09 41 03.3 +2.6
TIA ScS **ScS** 09 41 36.8 -1.2
TIA pmax pmax
comp=Z,60nm,1.0s
TIA pmax pmax
comp=Z,1μm,6.2s
TIA LR LR
comp=Z,490nm,21.4s
TIA LR LR
comp=Z,1μm,23.1s
TIA LR LR
comp=Z,840nm,16.0s
CN2 Changchun 74.48 328 ⇓*i*P P 09 31 33.0 +0.6
CN2 *e*S S 09 41 02.0 -3.1
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,2μm,4.0s
CN2 LR LR
comp=Z,870nm,22.0s
CN2 LR LR
comp=Z,910nm,22.0s
CN2 LR LR
comp=Z,1μm,24.0s
PATY Pattaya 74.88 290 P P 09 31 37.3 +1.9
comp=Z,11nm,1.0s
SURT Suratani 75.21 285 P P 09 31 38.9 +1.6
comp=Z,44nm,2.1s,comp=Z,698nm
KLR Kul'dur 75.83 335 *e*P P 09 31 36.3 -3.8
KLR *e*S S 09 41 18.5 -1.3
KLR pmax pmax
comp=E,700nm,3.6s
KLR pmax pmax
comp=Z,2μm,3.6s
SLVN Son La 75.86 299 *e*P P 09 31 41.8 +0.8
comp=Z,4.9nm,0.6s
ENH Enshi 75.87 309 PFAKE 09 31 50.0 +9.2
ENH LR LR
comp=Z,37nm,22.0s
GYA Guiyang 76.06 305 ⇑*i*P P 09 31 42.0 -0.1
GYA pP **PcP** 09 31 55.0 +0.8
GYA PP **PP** 09 34 37.3 +4.0
GYA S S 09 41 23.5 0.0
GYA sS **sS** 09 41 42.0 +0.9
GYA SKS **SKSac** 09 41 47.5 -3.3
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,520nm,4.7s
GYA LR LR
comp=Z,4μm,23.3s
GYA LR LR
comp=Z,3μm,24.9s
GYA LR LR
comp=Z,5μm,19.9s
PBKT Sadao Pong 76.29 293 P P 09 31 44.4 +1.1
comp=Z,36nm,2.8s,comp=Z,3μm
BJT Baijiatuan 77.03 321 *e*P P 09 31 47.7 +0.6
comp=Z,62nm,0.7s
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 77.03 321 P P 09 31 47.8 +0.7
BJI pmax pmax
comp=Z,76nm,0.8s
BJI pmax pmax
comp=Z,1μm,4.3s
BJI LR LR
comp=Z,1μm,25.1s
BJI LR LR
comp=Z,830nm,28.7s
BJI LR LR
comp=Z,2μm,28.7s
UTTA Uttaradit 77.14 294 P P 09 31 49.4 +1.3
comp=Z,8.4nm,0.9s,comp=Z,81nm
UTHA Uthaitani 77.21 291 P P 09 31 50.0 +1.4
comp=Z,9.4nm,1.1s,comp=Z,172nm
KHLT Khaolaem Dam 77.66 290 P P 09 31 52.5 +1.4
comp=Z,48nm,2.8s,comp=Z,718nm
SUKH Sukhothai 77.83 293 P P 09 31 53.5 +1.5
comp=Z,10nm,0.8s,comp=Z,117nm
TIY Taiyuan 77.97 317 P P 09 31 53.3 +0.8
TIY pmax pmax
comp=Z,1μm,4.8s
LAMP Lampang 78.26 294 P P 09 31 56.1 +1.7
comp=Z,20nm,0.9s,comp=Z,188nm
XAN Xi'an 78.28 312 P P 09 31 54.8 +0.5
XAN pP **pP** 09 32 06.8 +1.8
XAN S S 09 41 51.3 +4.0
XAN pmax pmax
comp=Z,15nm,1.0s
XAN LR LR
comp=Z,420nm,22.1s
XAN LR LR

XAN LR LR
comp=Z,210nm,20.1s
KMI Kunming 78.54 302 P **P** **09 31 57.5 +1.4**
KMI PcP **PcP** **09 32 04.8 -0.3**
KMI pP **pP** **09 32 07.5 +0.7**
KMI sP **sP** **09 32 13.0 +2.3**
KMI pmax pmax
comp=Z,61nm,0.9s
KMI pmax pmax
comp=Z,1µm,4.2s
KMI LR LR
comp=Z,440nm,24.5s
KMI LR LR
comp=Z,240nm,25.7s
KMI LR LR
comp=Z,630nm,27.3s
CM31 Chiang Mai Arr 78.83 294 *e*P **P** **09 31 59.6 +2.1**
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 78.83 294 P **P** **09 31 58.8 +1.2**
CMAR Chiang Mai Arr 78.83 294 P **P** **09 31 58.8 +1.2**
comp=Z,21nm,0.8s,baz=131,slow=4.3,SNR=92
MAW Mawson 78.85 202 *e*P **P** **09 31 58.2 +1.4**
comp=Z,47nm,1.5s
MAW Mawson 78.85 202 P **P** **09 31 56.1 -0.7**
comp=Z,18nm,1.0s,baz=177,slow=3.1,SNR=4.9
MAW LR LR 10 02 11.8
comp=Z,5µm,21.3s,baz=92,slow=32
CHTO Chiang Mai 78.97 294 *e*P **P** **09 31 59.4 +1.0**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO MLR MLR
comp=Z,666nm,19.0s
CHTO Chiang Mai 78.97 294 P **P** **09 31 59.4 +1.0**
comp=Z,202nm,1.1s,comp=Z,7µm
CHTO Chiang Mai 78.97 294 *e*P **P** **09 31 59.4 +1.0**
comp=Z,7.3nm,0.9s
CHTO LR LR
comp=Z,666nm,19.0s
CMAI Chiengmai2 79.35 295 P **P** **09 32 01.8 +1.2**
comp=Z,40nm,1.5s,comp=Z,1µm
MHMT Maesarieng 79.59 293 P **P** **09 32 03.3 +1.6**
comp=Z,51nm,2.0s,comp=Z,715nm
HHC Hu-ho-hao-te 80.33 319 *e*P **P** **09 32 06.3 +0.9**
HHC PP **PP** **09 35 11.3 +2.5**
HHC S **S** **09 42 03.5 -5.4**
HHC SKS SKSac 09 42 11.5 -9.3
HHC pmax pmax
comp=Z,58nm,0.8s
HHC pmax pmax
comp=Z,1µm,7.2s
HHC LR LR
comp=Z,750nm,15.5s
HHC LR LR
comp=Z,830nm,15.5s
HHC LR LR
comp=Z,1µm,15.1s
CD2 Chengdu 80.45 307 P **P** **09 32 07.0 +0.8**
CD2 PP **PP** **09 35 14.0 +4.1**
CD2 S **S** **09 42 11.8 +1.4**
CD2 SS **SS** **09 47 21.3 -2.0**
CD2 pmax pmax
comp=Z,50nm,1.3s
CD2 pmax pmax
comp=Z,1µm,5.9s
CD2 LR LR
comp=Z,660nm,17.8s
CD2 LR LR
comp=Z,740nm,21.4s
CD2 LR LR
comp=Z,810nm,22.6s
HIA Hailar 81.13 329 *e*P **P** **09 32 09.9 +0.6**
comp=Z,116nm,1.8s
HIA LR LR
comp=Z,847nm,22.0s
PAF Port-aux-Franc 81.82 221 PFAKE 09 32 20.0 +6.9
PAF LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 82.64 19 PFAKE 09 32 30.0 +13
KDAK LR LR
comp=Z,4µm,20.0s
SEY Seymchan 82.78 352 P **P** **09 32 17.5 -0.1**
SEY Seymchan 82.78 352 P **P** **09 32 17.5 -0.1**
SEY Seymchan 82.78 352 P **P** **09 32 17.5 -0.1**
comp=Z,9.1nm,0.9s,baz=158,slow=5.8,SNR=16
LZH Lanzhou 82.91 312 ⇑P **P** **09 32 21.0 +1.8**
LZH pP **pP** **09 32 31.5 +1.6**
LZH sP **sP** **09 32 35.8 +2.0**
LZH S **S** **09 42 36.0 +0.2**
LZH pmax pmax
comp=Z,60nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.0s
LZH LR LR
comp=Z,300nm,17.2s
LZH LR LR
comp=Z,290nm,18.2s
LZH LR LR
comp=Z,610nm,19.0s
GAMB Gambell 83.75 8 *e*P **P** **09 32 23.7 +1.1**
comp=Z,46nm,1.3s
CLNS Chul'man 84.34 337 *e*P **P** **09 32 25.6 -0.3**
CLNS *e* 09 32 33.1
CLNS *e* 09 35 38.9
CLNS *e*PPP PPP 09 37 31.9
CLNS *e*S S 09 42 37.0 -12
CLNS *e**SS 09 44 07.2
CLNS *e*SSS SSS 09 51 41.5
CLNS pmax pmax
comp=Z,54nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,1.3s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS smax smax
comp=N,432nm,11.7s
CLNS smax smax
comp=E,471nm,12.4s
MCCM Marconi Confer 84.95 47 *e*P **P** **09 32 29.0 -0.3**
SAO San Andreas Ge 85.30 49 *e*P P 09 32 39.4 +8.2
SAO pmax pmax
comp=Z,70nm,1.8s
SAO San Andreas Ge 85.30 49 *e*P P 09 32 39.4 +8.2
comp=Z,70nm,1.8s
SYO Syowa Base 85.31 196 ⇑ *i*P **P** **09 32 29.0 -1.6**
TNA Tin City 85.98 9 *e*P **P** **09 32 34.7 +0.9**
comp=Z,118nm,1.5s
WDC Whiskeytown Da 86.35 45 *e*P **P** **09 32 35.7 -0.5**
WDC pmax pmax
comp=Z,79nm,1.8s
WDC Whiskeytown Da 86.35 45 *e*P **P** **09 32 35.7 -0.5**
comp=Z,79nm,1.8s
OHCM Honcut 86.48 46 *e*P **P** **09 32 38.1 +1.2**
CMB Columbia Colle 86.64 48 *e*P **P** **09 32 38.6 +0.8**
CMB pmax pmax
comp=Z,52nm,1.8s
CMB Columbia Colle 86.64 48 *e*P **P** **09 32 38.6 +0.8**
comp=Z,52nm,1.8s
MWC Mount Wilson 86.64 52 *e*P **P** **09 32 39.9 +1.8**
MWC pmax pmax
comp=Z,21nm,1.3s
MWC Mount Wilson 86.64 52 *e*P **P** **09 32 39.9 +1.8**
comp=Z,20nm,1.3s
PMR Palmer 86.74 18 *e*P **P** **09 32 38.7 +1.1**
PMR Palmer 86.74 18 *e*P **P** **09 32 38.7 +1.1**
comp=Z,2.5nm,0.8s
YAK Yakutsk 86.77 342 *e*P **P** **09 32 37.4 -0.3**
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,74nm,0.9s
YAK Yakutsk 86.77 342 *e*P **P** **09 32 37.9 +0.1**
comp=Z,112nm,0.9s
YAK LR LR
comp=Z,1µm,22.0s
YBH Yreka Blue Hor 86.79 44 P **P** **09 32 38.1 -0.4**
YBH Yreka Blue Hor 86.79 44 P **P** **09 32 38.1 -0.4**
comp=Z,7.6nm,1.2s,baz=278,slow=3.6,SNR=6.7

BILL Bilibino 86.81 359 *de*P **P** **09 32 37.8 0.0**
BILL *i* S S 09 43 20.7 +7.9
BILL pmax pmax
comp=Z,57nm,2.5s
BILL Bilibino 86.81 359 *e*P **P** **09 32 37.5 -0.3**
comp=Z,88nm,1.4s
ULN Ulaanbaatar 86.94 323 *e*P **P** **09 32 39.7 +0.5**
comp=Z,57nm,1.0s
ULN LR LR
comp=Z,552nm,22.0s
BFSC Mount Baldy Ra 86.95 52 P **P** **09 32 40.3 +0.8**
baz=87
ISA Isabella 86.96 51 *e*P **P** **09 32 40.6 +1.1**
ISA pmax pmax
comp=Z,73nm,2.0s
ISA Isabella 86.96 51 *e*P **P** **09 32 40.5 +1.1**
comp=Z,73nm,2.0s
ISA Isabella 86.96 51 P **P** **09 32 40.1 +0.6**
baz=87
EDW2 Edwards Air Fo 86.97 52 P **P** **09 32 40.7 +1.2**
baz=87
PMSA Palmer Station 86.99 160 *e*P **P** **09 32 39.6 +0.6**
comp=Z,42nm,1.1s
PMSA LR LR
comp=Z,1µm,21.0s
HUMO Hull Mountain 87.05 43 *e*P **P** **09 32 41.5 +1.9**
GTA Gaotai 87.29 313 ⇓P **P** **09 32 41.8 +0.8**
GTA pP **pP** **09 32 52.3 +0.5**
GTA sP **sP** **09 32 56.3 +0.6**
GTA PP **PP** **09 36 10.3 +4.5**
GTA SKS **SKSac** **09 43 04.0 -2.3**
GTA S **S** **09 43 19.0 0.0**
GTA sS **sS** **09 43 37.0 +0.1**
GTA pmax pmax
comp=Z,38nm,1.1s
GTA pmax pmax
comp=Z,710nm,7.4s
GTA LR LR
comp=Z,460nm,22.8s
GTA LR LR
comp=Z,410nm,19.0s
GTA LR LR
comp=Z,560nm,23.3s
SONM Songino Array 87.30 323 P **P** **09 32 41.0 +0.2**
SONM PKKPbc **PKKPbc** **09 50 31.6 -1.8**
SONM Songino Array 87.30 323 P **P** **09 32 41.1 +0.2**
comp=Z,30nm,0.9s,baz=139,slow=5.3,SNR=92
SONM PKKPbc **PKKPbc** **09 50 31.6 -1.8**
comp=Z,0.4nm,0.6s,baz=279,slow=2.7,SNR=4.0
SONM LR LR 10 10 04.9
comp=Z,415nm,20.5s,baz=127,slow=34
MONP Monument Peak 87.32 54 P **P** **09 32 42.2 +0.7**
baz=88
I03D Drain, OR 87.33 42 P **P** **09 32 43.0 +2.0**
baz=88
LRMC Laurel Mountai 87.45 51 P **P** **09 32 43.0 +1.1**
baz=88
WAKR Walker 87.52 48 *e*P **P** **09 32 42.7 +0.4**
PFO Pinyon Flat Ob 87.59 53 *e*P **P** **09 32 43.5 +0.9**
comp=Z,3.5nm,1.1s
PFO LR LR
comp=Z,3µm,21.0s
MTUM Tungsten Hills 87.63 49 *e*P **P** **09 32 44.5 +1.7**
SHL Shillong 87.64 298 *e*P P 09 32 40.0 -3.1
SHL *e*SKS **SKSac** **09 43 12.0 +2.9**
SWSC Sam W. Stewart 87.82 54 P **P** **09 32 44.7 +1.2**
baz=88
GSC Goldstone 88.03 52 *e*P **P** **09 32 46.8 +2.1**
GSC pmax pmax
comp=Z,19nm,2.3s
GSC Goldstone 88.03 52 *e*P **P** **09 32 46.8 +2.1**
comp=Z,20nm,2.3s
GSC Goldstone 88.03 52 P **P** **09 32 45.5 +0.8**
baz=88
BELC Belle Mtn. Jos 88.10 53 P **P** **09 32 46.0 +1.0**
baz=88
HEC Hector,Ludlow 88.19 52 P **P** **09 32 45.5 +0.1**
baz=88
NVAR Mina Array Bea 88.28 48 P **P** **09 32 46.2 +0.2**
NVAR Mina Array Bea 88.28 48 P **P** **09 32 46.2 +0.2**
comp=Z,1.6nm,1.0s,baz=228,slow=8.3,SNR=12
NVAR LR LR 10 03 41.8
comp=Z,4µm,21.7s,baz=96,slow=30
BC3 Big Chuckawall 88.37 54 P **P** **09 32 46.8 +0.4**
baz=89
NV11 Mina Array Sit 88.39 48 *e*P **P** **09 32 47.1 +0.7**
K05A Summer Lake 88.45 44 *e*P **P** **09 32 48.3 +1.7**
comp=Z,243nm,2.3s
MOD Modoc 88.46 45 *e*P **P** **09 32 47.7 +1.1**
comp=Z,24nm,2.0s
MCK McKinley 88.47 17 *e*P **P** **09 32 47.7 +1.7**
MCK pmax pmax
comp=Z,3.0nm,0.8s
MCK McKinley 88.47 17 *e*P **P** **09 32 47.7 +1.7**
comp=Z,3.1nm,0.8s
FURC Furnace Creek, 88.48 51 P **P** **09 32 47.9 +1.3**
baz=89
J05D Fort Rock, OR 88.49 43 P **P** **09 32 47.8 +1.1**
baz=89
H04A Detroit Lake 88.54 41 *e*P **P** **09 32 47.7 +0.9**
comp=Z,166nm,2.2s
SHOC Shoshone 88.67 51 P **P** **09 32 48.8 +1.2**
baz=89
GMRC Granite Mounta 88.67 53 P **P** **09 32 48.8 +1.0**
baz=89
TUQ Turquoise Moun 88.74 52 P **P** **09 32 48.9 +0.9**
baz=89
IRM Iron Mountain 88.81 53 P **P** **09 32 49.4 +1.1**
baz=89
NLWA Neilton Lookou 88.84 39 PFAKE 09 33 00.0 +12
NLWA LR LR
comp=Z,3µm,20.0s
TPH Tonopah 88.90 49 *e*P **P** **09 32 50.9 +2.1**
TPH pmax pmax
comp=Z,42nm,1.7s
TPH Tonopah 88.90 49 *e*P **P** **09 32 50.9 +2.1**
comp=Z,42nm,1.7s
I05D Terrebonne, OR 88.91 42 P **P** **09 32 49.6 +1.0**
baz=89
Y12C Blythe 89.12 54 P **P** **09 32 50.7 +1.0**
baz=89
NVL N'lazarevskaya 89.17 187 *e*P **P** **09 32 48.5 -0.8**
NVL *e**PP **pP** **09 32 56.4 -3.7**
NVL *i* 09 38 20.1
NVL *e* 09 43 22.5
NVL pmax pmax
comp=Z,46nm,1.4s
113A Mohawk Valley, 89.32 55 P **P** **09 32 51.6 +1.0**
baz=90
WRAK Wrangell Islan 89.40 28 PFAKE 09 33 00.0 +10
WRAK LR LR
comp=Z,4µm,22.0s
SNAA Sanae 89.44 182 P **P** **09 32 49.5 -1.1**
SNAA Sanae 89.44 182 *e*P **P** **09 32 49.7 -1.0**
comp=Z,80nm,1.6s
PDMCI Parker Dam,Lak 89.63 53 P **P** **09 32 53.5 +1.4**
baz=90
COLA College 89.66 17 *e*P **P** **09 32 51.7 +0.3**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA MLR MLR
comp=Z,4µm,19.0s
COLA College 89.66 17 *e*P **P** **09 32 52.6 +1.2**
comp=Z,4.7nm,0.8s
COLA LR LR
comp=Z,2µm,22.0s
SHPR Sheep Range 89.75 51 *e*P **P** **09 32 54.3 +1.5**
214A Organ Pipe Nat 89.75 56 *e*P **P** **09 32 54.1 +1.4**
comp=Z,71nm,2.0s
214A Organ Pipe Nat 89.75 56 P **P** **09 32 53.4 +0.7**
baz=90
G06A Carlson Farm, 89.78 41 *e*P **P** **09 32 54.8 +2.3**
comp=Z,201nm,2.5s
LSA Lhasa 89.79 301 P **P** **09 32 53.5 0.0**
LSA Lhasa 89.79 301 *e*P **P** **09 32 54.3 +0.7**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA MLR MLR
comp=Z,544nm,22.0s
LSA Lhasa 89.79 301 *e*P **P** **09 32 54.2 +0.7**
comp=Z,12nm,0.7s
LSA LR LR
comp=Z,544nm,22.0s
WVOR Wild Horse Val 89.80 45 *e*P **P** **09 32 53.8 +0.9**
WVOR pmax pmax
comp=Z,28nm,1.4s

WVOR MLR MLR
comp=Z,3µm,20.0s
WVOR Wild Horse Val 89.80 45 *e*P **P** **09 32 53.8 +0.9**
comp=Z,28nm,1.4s
WVOR LR LR
comp=Z,3µm,20.0s
ILAR Eielson Array 89.85 17 P **P** **09 32 50.9 -1.5**
ILAR Eielson Array 89.85 17 P **P** **09 32 50.9 -1.5**
comp=Z,2.3nm,0.7s,baz=235,slow=4.7,SNR=17
ILAR LR LR 10 11 45.1
comp=Z,2µm,18.0s,baz=238,slow=35
D05A Enumclaw 89.86 39 *e*P P 09 32 56.6 +3.8
comp=Z,69nm,1.3s
D05A *e*pP pP 09 33 19.9 +16
I07A Izee 89.97 43 *e*P **P** **09 32 54.3 +0.7**
comp=Z,35nm,1.4s
W13A Hualapai Mount 90.14 53 P **P** **09 32 55.4 +0.7**
baz=90
R11A Troy Canyon, C 90.18 49 *e*P **P** **09 32 55.7 +0.9**
comp=Z,55nm,2.5s
R11A Troy Canyon, C 90.18 49 P **P** **09 32 55.4 +0.6**
baz=90
VNA2 Neumayer--Watz 90.31 181 P **P** **09 32 53.2 -1.4**
Y14A Wickenburg 90.36 54 P **P** **09 32 56.4 +0.9**
baz=91
VNA1 Neumayer--Stat 90.60 181 P **P** **09 32 55.9 0.0**
LTY Liberty 90.69 40 *e*P **P** **09 32 58.6 +1.8**
comp=Z,155nm,2.6s
IRK Irkutsk 90.76 326 *e*P **P** **09 32 56.1 -0.8**
IRK pmax pmax
comp=Z,85nm,4.0s
TLY Talaya 90.81 325 *e*P **P** **09 32 57.7 +0.5**
TLY *e*S **SKSac** **09 43 27.1 +0.8**
TLY *e*PS **PS** **09 44 59.0 -4.4**
TLY *e*SS SS 09 49 47.3 -7.5
TLY pmax pmax
comp=Z,20nm,0.8s
G08A Pilot Rock 90.86 42 *e*P **P** **09 32 58.8 +1.1**
comp=Z,238nm,3.0s
E07A Sunnyside 90.86 41 *e*P **P** **09 32 58.2 +0.7**
comp=Z,36nm,1.4s
HAWA Hanford 90.99 41 *e*P **P** **09 32 58.8 +0.7**
comp=Z,45nm,1.4s
HAWA LR LR
comp=Z,3µm,20.0s
TUC Tucson 91.47 56 *e*P **P** **09 33 02.5 +1.7**
TUC pmax pmax
comp=Z,36nm,1.8s
TUC MLR MLR
comp=Z,1µm,20.0s
TUC Tucson 91.47 56 *e*P **P** **09 33 02.5 +1.7**
comp=Z,36nm,1.8s
TUC LR LR
comp=Z,1µm,20.0s
CCUT Cedar City 91.48 51 *e*P **P** **09 33 02.7 +1.8**
comp=Z,63nm,2.2s
ARUT Antelope Range 91.51 51 *e*P **P** **09 33 02.2 +1.2**
ARUT Antelope Range 91.51 51 *e*P **P** **09 33 02.2 +1.2**
comp=Z,686nm,1.8s
EGAK Eagle 91.53 19 *e*P **P** **09 33 00.4 +0.2**
comp=Z,38nm,1.8s
EGAK LR LR
comp=Z,2µm,20.0s
D08A Wollman Farm, 91.66 40 *e*P **P** **09 33 03.8 +2.5**
comp=Z,39nm,1.6s
BMO Blue Mountains 91.72 43 *e*P **P** **09 33 02.6 +0.9**
BMO pmax pmax
comp=Z,54nm,2.2s
BMO MLR MLR
comp=Z,5µm,21.0s
BMO Blue Mountains 91.72 43 *e*P **P** **09 33 02.6 +0.9**
comp=Z,54nm,2.2s
BMO LR LR
comp=Z,5µm,21.0s
X16A Lo Mia Camp, P 91.74 54 P **P** **09 33 03.2 +1.1**
baz=92
TAPN Taplejung 91.77 298 *e*P **P** **09 33 02.3 -0.3**
U15A North Rim 91.84 52 P **P** **09 33 04.2 +1.5**
baz=92
ODAN Odare 91.87 298 *e*P **P** **09 33 02.7 -0.3**
comp=Z,44nm,1.0s
E09A Wood Farm, Sta 91.90 41 *e*P **P** **09 33 03.3 +1.0**
comp=Z,51nm,2.0s
B08A Colville Reser 91.99 39 *e*P **P** **09 33 04.5 +1.7**
comp=Z,24nm,1.6s
WUAZ Wupatki 92.19 53 *e*P **P** **09 33 05.4 +1.2**
comp=Z,60nm,2.0s
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 92.19 53 P **P** **09 33 05.5 +1.3**
baz=92
MOY Mondy 92.25 324 *e*P **P** **09 33 04.2 +0.2**
MOY pmax pmax
comp=Z,136nm,3.6s
319A Douglas 92.33 58 P **P** **09 33 06.2 +1.4**
baz=92
RAMN Ramite 92.56 297 *e*P **P** **09 33 05.8 -0.4**
comp=Z,24nm,1.0s
MVU Marysvale 92.68 50 *e*P **P** **09 33 08.3 +1.8**
comp=Z,30nm,2.1s
DUG Dugway 92.89 48 PFAKE 09 33 20.0 +13
DUG LR LR
comp=Z,4µm,20.0s
X18A Snowflake 92.92 55 P **P** **09 33 08.8 +1.2**
baz=93
HLID Hailey 93.09 45 *e*P P 09 33 11.3 +3.2
comp=Z,33nm,2.3s
HLID LR LR
comp=Z,4µm,20.0s
JIRN Jiri 93.15 298 *e*P **P** **09 33 08.6 -0.4**
comp=Z,13nm,0.7s
NEW Newport 93.28 40 PFAKE 09 33 20.0 +11
NEW LR LR
comp=Z,2µm,20.0s
GUN Gumba 93.49 298 *e*P **P** **09 33 10.2 -0.4**
HVU Hansel Valley 93.52 47 *e*P **P** **09 33 12.2 +2.0**
HVU pmax pmax
comp=Z,70nm,2.5s
HVU Hansel Valley 93.52 47 *e*P **P** **09 33 12.2 +2.0**
comp=Z,70nm,2.5s
PKI Pulchoki 93.77 298 *e*P **P** **09 33 11.2 -0.7**
comp=Z,41nm,1.0s
PKIN Phulchoki 93.78 298 *e*P **P** **09 33 11.0 -0.8**
comp=Z,24nm,0.9s
KKN Kakani 93.95 298 *e*P **P** **09 33 12.0 -0.5**
DMN Daman 94.04 298 *e*P **P** **09 33 12.6 -0.4**
comp=Z,46nm,1.0s
DGAR Diego Garcia 94.44 261 PFAKE 09 33 30.0 +15
DGAR LR LR
comp=Z,4µm,21.0s
GKN Gorkha 94.56 298 *e*P **P** **09 33 14.3 -1.0**
TIXI Tiksi 94.59 348 ⇑ *e*P **P** **09 33 13.6 -0.5**
TIXI pmax pmax
comp=Z,21nm,2.5s
TIXI MLR MLR
comp=Z,743nm,19.0s
TIXI Tiksi 94.59 348 PFAKE 09 33 30.0 +16
TIXI LR LR
comp=Z,758nm,20.0s
MVCO Mesa Verde 94.96 52 PFAKE 09 33 30.0 +13
MVCO LR LR
comp=Z,2µm,20.0s
AHID Auburn Hatcher 95.03 47 PFAKE 09 33 30.0 +13
AHID LR LR
comp=Z,1µm,21.0s
PV01 Paradox Valley 95.22 52 *e*P **P** **09 33 19.6 +1.4**
KOLN Koldanda 95.35 297 *e*P **P** **09 33 17.7 -1.3**
comp=Z,15nm,0.9s
DANN Dangsing 95.40 298 *e*P **P** **09 33 18.1 -1.2**
comp=Z,18nm,0.8s
MNTX Cornudas Mount 95.58 59 PFAKE 09 33 30.0 +10
MNTX LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 95.72 44 PFAKE 09 33 30.0 +10
BOZ LR LR
comp=Z,5µm,20.0s
ANMO Albuquerque 95.77 55 *e*P P 09 33 24.0 +3.3
comp=Z,1.7nm,0.9s
ANMO LR LR
comp=Z,1µm,20.0s
PYUN Piuthan 95.97 298 *e*P **P** **09 33 20.6 -1.2**
comp=Z,29nm,0.9s
BW06 Boulder Array 96.10 47 PFAKE 09 33 30.0 +7.9
BW06 LR LR
comp=Z,2µm,19.0s
PDAR Pinedale Array 96.10 47 P **P** **09 33 22.2 +0.2**
PDAR PP **PP** **09 37 14.3 -1.1**

PDAR PKKPbc **PKKPbc** **09 50 08.8 -1.8**
PDAR Pinedale Array 96.10 47 P **P** **09 33 22.2 +0.2**
comp=Z,0.6nm,1.1s,baz=224,slow=3.8,SNR=2.7
PDAR PP **PP** **09 37 14.3 -1.1**
comp=Z,0.7nm,1.1s,baz=224,slow=6.2,SNR=3.9
PDAR PKKPbc **PKKPbc** **09 50 08.8 -1.8**
comp=Z,0.6nm,1.0s,baz=96,slow=4.5,SNR=4.4
PDAR LR LR 10 12 30.7
comp=Z,1μm,19.0s,baz=264,slow=33
HVS Khovu-Aksy 96.15 322 *c iP* **P** **09 33 22.5 +0.6**
HVS pmax pmax
comp=Z,114nm,1.0s
INK Inuvik 96.16 18 *e*P **P** **09 33 21.7 +0.4**
comp=Z,13nm,1.4s
INK PP **PP** **09 37 12.9 -1.9**
INK Inuvik 96.16 18 P **P** **09 33 20.9 -0.4**
comp=Z,1.4nm,0.8s,baz=253,slow=4.3,SNR=7.4
INK PP **PP** **09 37 12.9 -1.9**
comp=Z,1.4nm,0.9s,baz=257,slow=14,SNR=3.9
TXAR Lajitas Array 96.23 61 P **P** **09 33 22.7 -0.1**
TXAR PKKPbc **PKKPbc** **09 50 09.5 0.0**
TXAR Lajitas Array 96.23 61 P **P** **09 33 22.7 -0.1**
comp=Z,0.7nm,0.9s,baz=235,slow=5.8,SNR=4.8
TXAR PKKPbc **PKKPbc** **09 50 09.5 0.0**
comp=Z,1.0nm,0.8s,baz=97,slow=4.1,SNR=11
TXAR LR LR 10 08 20.2
comp=Z,3μm,20.6s,baz=0.0,slow=30
Y24A Capitan 96.24 56 P **P** **09 33 22.5 -0.4**
baz=96
HYB Hyderabad 96.59 286 *i* P **P** **09 33 24.0 -0.6**
HYB *e* 09 43 58.0
HYB *e*ScS **S** **09 44 44.0 +0.2**
RLMT Red Lodge 97.10 45 PFAKE 09 33 40.0 +13
RLMT LR LR
comp=Z,5μm,22.0s
T24B San Luis 97.27 53 P Pdif 09 33 28.5 +0.8
baz=98
WMQ Urumqi 97.37 314 P P 09 33 23.5 -4.0
WMQ pP pP 09 33 44.3 +5.9
WMQ sP sP 09 33 52.5 +10
WMQ PP **PP** **09 37 23.0 -1.9**
WMQ Urumqi 97.37 314 S S 09 44 37.5 -12
WMQ Urumqi 97.37 314 sS sS 09 45 13.0 +5.5
WMQ Urumqi 97.37 314 SS SS 09 51 20.0 -8.8
WMQ pmax pmax
comp=Z,37nm,1.6s
WMQ pmax pmax
comp=Z,600nm,4.8s
WMQ LR LR
comp=N,590nm,13.5s
WMQ LR LR
comp=E,550nm,21.0s
WMQ LR LR
comp=Z,640nm,24.1s
WMQ Urumqi 97.37 314 P Pdif 09 33 28.8 +1.2
WMQ pP pP 09 33 39.5 +1.1
WMQ sP sP 09 33 43.3 +1.0
WMQ PP **PP** **09 37 28.0 +3.1**
WMQ SKS **SKSac** **09 44 02.0 -0.4**
WMQ S **S** **09 44 46.5 -2.9**
WMQ sS sS 09 45 04.3 -3.2
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,310nm,27.5s
WMQ LR LR
comp=Z,340nm,28.3s
WMQ LR LR
comp=Z,520nm,28.3s
SDCO Great Sand Dun 97.39 53 PFAKE 09 33 40.0 +12
SDCO LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 97.75 42 PFAKE 09 33 40.0 +11
EGMT LR LR
comp=Z,2μm,22.0s
ISCO Idaho Springs 97.94 51 PFAKE 09 33 40.0 +9.4
ISCO LR LR
comp=Z,1μm,20.0s
PLCA Paso Flores 98.41 138 *e*P Pdif 09 33 33.4 +0.8
comp=Z,11nm,1.4s
PLCA Paso Flores 98.41 138 LR LR 10 07 54.1
comp=Z,300nm,21.6s,baz=260,slow=29
LAO LASA Array 99.61 44 PFAKE 09 33 50.0 +12
LAO LR LR
comp=Z,4μm,20.0s
JCT Junction City 99.78 61 PFAKE 09 33 50.0 +11
JCT LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 100.23 27 P **Pdif** **09 33 40.6 +0.8**
YKA PP PP 09 37 40.0 -6.1
YKA Yellowknife Ar 100.23 27 P **Pdif** **09 33 40.6 +0.8**
comp=Z,1.4nm,0.8s,baz=254,slow=4.7,SNR=25
YKA PP PP 09 37 40.0 -6.1
comp=Z,0.3nm,0.9s,baz=261,slow=8.1,SNR=4.0
KVTX Kingsville 100.58 64 PFAKE 09 33 50.0 +7.8
KVTX LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 101.43 43 PFAKE 09 34 00.0 +14
DGMT LR LR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 101.75 57 PFAKE 09 34 00.0 +13
WMOK LR LR
comp=Z,2μm,20.0s
MKAR Makanchi Array 101.88 315 *i* P **Pdif** **09 33 49.2 +1.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 101.88 315 P **Pdif** **09 33 48.0 +0.5**
MKAR PP **PP** **09 37 55.8 -3.4**
MKAR PKiKP **PKiKP** **09 38 08.8 -1.7**
MKAR Makanchi Array 101.88 315 P **Pdif** **09 33 48.0 +0.5**
comp=Z,3.0nm,0.6s,baz=95,slow=6.3,SNR=21
MKAR PP **PP** **09 37 55.8 -3.4**
comp=Z,1.0nm,0.9s,baz=101,slow=4.6,SNR=4.1
MKAR PKiKP **PKiKP** **09 38 08.8 -1.7**
comp=Z,0.6nm,0.7s,baz=87,slow=3.7,SNR=3.1
ZAA0 Zalesovo Array 102.19 323 *e*Pdif **Pdif** **09 33 48.3 -0.4**
ZALV Zalesovo Beam 102.19 323 P **Pdif** **09 33 48.4 -0.3**
ZALV 09 37 58.5
ZALV Zalesovo Beam 102.19 323 P **Pdif** **09 33 48.4 -0.3**
ZALV PP **PP** **09 37 58.5 -2.7**
ZALV Zalesovo Beam 102.19 323 P **Pdif** **09 33 48.4 -0.3**
comp=Z,2.1nm,0.7s,baz=101,slow=4.7,SNR=7.5
ZALV PP **PP** **09 37 58.5 -2.7**
comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=3.3
NVS Novosibirsk 103.31 324 *e*P **Pdif** **09 33 52.3 -1.4**
NVS *e* 09 38 05.4
NVS pmax pmax
comp=Z,82nm,3.6s
NVS pmax pmax
comp=E,13nm,1.7s
FFC Flin Flon 104.30 37 PFAKE 09 34 10.0 +12
FFC LR LR
comp=Z,3μm,19.0s
NATX Nacogdoches 104.36 61 PFAKE 09 34 10.0 +11
NATX LR LR
comp=Z,3μm,19.0s
KSU1 Kansas State U 104.48 53 PFAKE 09 34 10.0 +11
KSU1 LR LR
comp=Z,2μm,21.0s
CFAA Coronel Fontan 105.05 131 PP PP 09 38 18.9 -3.6
CFAA Coronel Fontan 105.05 131 PP PP 09 38 18.9 -3.6
comp=Z,0.1nm,0.3s,baz=145,slow=0.7,SNR=5.2
KURK Kurchatov 105.14 319 P **Pdif** **09 34 02.8 +0.9**
KURK 09 38 21.0
KURK MLR MLR
comp=Z,410nm,21.0s
KURK Kurchatov 105.14 319 Pdif **Pdif** **09 34 02.8 +0.9**
KURK PP **PP** **09 38 21.0 -2.3**
KURK PKKPbc **PKKPbc** **09 49 41.6 -2.8**
KURK LR LR
comp=Z,410nm,21.0s
KURBB Kurchatov Arra 105.18 319 Pdiff **Pdif** **09 34 02.8 +0.7**
comp=Z,0.4nm,0.3s,baz=90,slow=4.6,SNR=4.5
KURBB PP **PP** **09 38 21.0 -2.6**
comp=Z,0.7nm,0.5s,baz=95,slow=1.1,SNR=6.1
KURBB PKKPbc **PKKPbc** **09 49 41.6 -2.7**
comp=Z,0.3nm,0.9s,baz=281,slow=3.7,SNR=5.8
TRQA Tornquist 105.33 140 PFAKE 09 38 30.0
TRQA LR LR
comp=Z,640nm,19.0s
ECSD EROS Data Cent 105.45 49 PFAKE 09 38 30.0
ECSD LR LR
comp=Z,3μm,22.0s
TKM2 Tokmak 2 105.64 310 PFAKE 09 38 30.0
TKM2 LR LR
comp=Z,559nm,21.0s
MIAR Mount Ida 105.88 58 PFAKE 09 38 30.0
MIAR LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 106.38 310 PFAKE 09 38 30.0
AAK LR LR
comp=Z,665nm,22.0s
TGUH Tegucigalpa,Un 106.53 81 PFAKE 09 38 30.0
TGUH LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 106.81 44 PFAKE 09 38 30.0
AGMN LR LR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 106.90 310 PFAKE 09 38 30.0
EKS2 LR LR
comp=Z,641nm,20.0s
TEIG Tepich 107.20 74 PFAKE 09 38 30.0
TEIG LR LR
comp=Z,1μm,20.0s
NNA Nana 107.54 110 PFAKE 09 38 30.0
NNA LR LR
comp=Z,606nm,19.0s
SCIA State Center 107.57 51 PFAKE 09 38 30.0
SCIA LR LR
comp=Z,2μm,19.0s
JTS JuntasAbangare 107.66 85 PFAKE 09 38 30.0
JTS LR LR
comp=Z,2μm,20.0s
EYMN Ely 109.66 45 PFAKE 09 38 40.0
EYMN LR LR
comp=Z,4μm,22.0s
JFWS Jewell Farm 109.89 50 PFAKE 09 38 40.0
JFWS LR LR
comp=Z,3μm,22.0s
BVAR Borovoye Array 110.52 320 P **Pdif** **09 34 24.8 -1.0**
BVAR *i* 09 38 25.9
BVAR 09 39 00.2
BVAR Borovoye Array 110.52 320 Pdif **Pdif** **09 34 24.8 -1.0**
BVAR PKiKP **PKiKP** **09 38 25.9 -0.3**
BVAR PP **PP** **09 39 00.2 -2.4**
BVAR Borovoye Array 110.52 320 Pdiff **Pdif** **09 34 24.8 -1.0**
comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=3.1
BVAR PKiKP **PKiKP** **09 38 25.9 -0.3**
comp=Z,0.7nm,0.5s,baz=103,slow=1.7,SNR=5.4
BVAR PP **PP** **09 39 00.2 -2.4**
comp=Z,1.7nm,0.9s,baz=99,slow=9.8,SNR=5.3
BRAL Brewton 110.58 63 PFAKE 09 38 40.0
BRAL LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 110.58 321 PFAKE 09 38 40.0
BRVK LR LR
comp=Z,784nm,22.0s
OTAV Otavalo 110.67 97 PFAKE 09 38 40.0
OTAV LR LR
comp=Z,651nm,20.0s
MSEY Mahe Island 111.18 257 PFAKE 09 38 40.0
MSEY LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 112.11 239 PFAKE 09 38 40.0
ABPO LR LR
comp=Z,3μm,20.0s
BCIP Isla Barro Col 112.17 88 PFAKE 09 38 40.0
BCIP LR LR
comp=Z,1μm,21.0s
GOGA Godfrey 113.95 61 PFAKE 09 38 50.0
GOGA LR LR
comp=Z,2μm,21.0s
AAM Ann Arbor 114.68 51 PFAKE 09 38 50.0 +16
AAM LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 115.04 54 PFAKE 09 38 50.0 +15
ACSO LR LR
comp=Z,1μm,19.0s
MTDJ Mount Denham 116.62 79 PFAKE 09 38 50.0 +11
MTDJ LR LR
comp=Z,1μm,20.0s
NHSC New Hope 116.65 62 PFAKE 09 38 50.0 +11
NHSC LR LR
comp=Z,2μm,21.0s
BLA Blacksburg 116.82 57 PFAKE 09 38 50.0 +11
BLA LR LR
comp=Z,1μm,20.0s
ARU Arti 117.30 324 *i* PKIKP **PKPdf** **09 38 38.4 -0.7**
ARU 09 39 48.7
ARU 09 45 30.3
ARU SS SS 09 55 58.1 +0.1
ARU Arti 117.30 324 PFAKE 09 38 50.0 +11
ARU LR LR
comp=Z,925nm,21.0s
ERPA Erie 117.39 52 PFAKE 09 38 50.0 +10
ERPA LR LR
comp=Z,2μm,20.0s
MCWV Mont Chateau 117.41 55 PFAKE 09 38 50.0 +10
MCWV LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 118.72 60 PFAKE 09 38 50.0 +7.6
CNNC LR LR
comp=Z,3μm,19.0s
KBS Kingsbay 119.12 355 PFAKE 09 38 50.0 +8.0
KBS LR LR
comp=Z,851nm,22.0s
SIV San Ignacio 119.12 121 PKP **PKPdf** **09 38 42.9 -0.9**
SIV San Ignacio 119.12 121 PKP **PKPdf** **09 38 42.9 -0.9**
comp=Z,1.0nm,0.6s,baz=252,slow=5.1,SNR=3.5
GTBY Guantanamo Bay 119.21 77 PFAKE 09 39 00.0 +16
GTBY LR LR
comp=Z,911nm,21.0s
CBN Corbin 119.28 56 PFAKE 09 39 00.0 +17
CBN LR LR
comp=Z,2μm,20.0s
BINY Binghamton 120.37 52 PFAKE 09 39 00.0 +15
BINY LR LR
comp=Z,2μm,20.0s
SDV Santo Domingo 120.80 91 PFAKE 09 39 00.0 +13
SDV LR LR
comp=Z,815nm,20.0s
SUR Sutherland 120.89 211 PFAKE 09 39 00.0 +13
SUR LR LR
comp=Z,2μm,22.0s
SAML Samuel 120.92 113 PFAKE 09 39 00.0 +13
SAML LR LR
comp=Z,533nm,20.0s
LONY Lake Ozonia 121.28 49 PFAKE 09 39 00.0 +13
LONY LR LR
comp=Z,3μm,21.0s
BOSA Boshof 121.54 217 PKP **PKPdf** **09 38 47.7 -0.7**
BOSA Boshof 121.54 217 PKP **PKPdf** **09 38 47.7 -0.7**
comp=Z,1.2nm,0.6s,baz=216,slow=1.1,SNR=4.2
NCB Newcomb 121.58 50 PFAKE 09 39 00.0 +12
NCB LR LR
comp=Z,3μm,19.0s
SDDR Presa de Saban 122.57 79 PFAKE 09 39 00.0 +10
SDDR LR LR
comp=Z,3μm,20.0s
GRTK Grand Turk 123.15 76 PFAKE 09 39 00.0 +8.7
GRTK LR LR
comp=Z,1μm,20.0s
LBNH Lisbon 123.21 49 PFAKE 09 39 00.0 +9.2
LBNH LR LR
comp=Z,3μm,21.0s
SUMG Summit 124.03 10 *i* PKIKP **PKPdf** **09 38 51.9 -0.2**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 124.03 10 *i* P **PKPdf** **09 38 51.9 -0.2**
comp=Z,4.0nm,0.9s
LBTB Lobatse 124.04 220 PKP **PKPdf** **09 38 53.3 +0.1**
LBTB Lobatse 124.04 220 PKP **PKPdf** **09 38 53.3 +0.1**
comp=Z,3.0nm,0.8s,baz=144,slow=2.7,SNR=5.1
APA Apatity 124.14 341 *i* PKIKP **PKPdf** **09 38 56.0 +4.1**
APA *i* 09 45 46.0
KEV Kevo 124.42 345 PFAKE 09 39 00.0 +7.7
KEV LR LR
comp=Z,1μm,21.0s
SCHQ Schefferville 124.43 36 PKP **PKPdf** **09 38 51.4 -1.4**
SCHQ Schefferville 124.43 36 PKP **PKPdf** **09 38 51.4 -1.4**
comp=Z,2.8nm,0.7s,baz=257,slow=1.7,SNR=6.8
ARCES ARCESS Array B 124.94 345 PKP **PKPdf** **09 38 52.7 -0.7**
ARCES ARCESS Array B 124.94 345 PKP **PKPdf** **09 38 52.7 -0.7**
comp=Z,4.3nm,0.6s,baz=80,slow=1.4,SNR=15
PKME Peaks-Kenny Pk 124.95 48 PFAKE 09 39 10.0 +16
PKME LR LR
comp=Z,3μm,20.0s
SFJD Kangerlussuaq 125.50 18 PFAKE 09 39 10.0 +16
SFJD LR LR
comp=Z,2μm,21.0s
KLMR Klimovskoe 125.52 333 *e*PKIKP **PKPdf** **09 38 51.9 -2.8**
KLMR pmax pmax
comp=Z,36nm,1.7s
PTGA Pitinga 127.44 106 *e*PKPdf **PKPdf** **09 38 59.6 -0.2**
PTGA LR LR
comp=Z,651nm,22.0s
DAMY Dhamar 127.65 274 *e*PKPdf **PKPdf** **09 39 02.4 +1.8**
RAYN Ar Rayn 128.09 285 *e*PKPdf **PKPdf** **09 39 01.4 +0.6**
GNI Garni 128.58 307 PFAKE 09 39 10.0 +8.5
GNI LR LR
comp=Z,548nm,20.0s
ZEI Tsey 128.80 310 *i* PKIKP **PKPdf** **09 39 01.2 -0.6**
ZEI pmax pmax
comp=Z,21nm,2.1s
LSZ Lusaka 129.09 231 PKP **PKPdf** **09 39 02.2 -0.9**
LSZ *e*PKPdf **PKiKP** **09 39 03.7 -0.1**
LSZ LR LR
comp=Z,2μm,22.0s
LSZ Lusaka 129.09 231 PKP **PKPdf** **09 39 02.2 -0.9**
comp=Z,1.5nm,0.5s,baz=47,slow=13,SNR=4.9
KMBO Kilima Mbogo 129.24 252 PKP **PKPdf** **09 39 04.4 +0.8**
KMBO LR LR
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 129.24 252 PKP **PKPdf** **09 39 04.4 +0.8**
comp=Z,4.8nm,0.2s,baz=163,slow=1.1,SNR=7.9
BDFB Brasilia 129.37 130 PKP **PKPdf** **09 39 02.7 -0.9**
BDFB Brasilia 129.37 130 PKP **PKPdf** **09 39 02.7 -0.9**
comp=Z,3.5nm,0.8s,baz=258,slow=11,SNR=4.5
KIV Kislovodsk 129.45 312 *i* PKIKP **PKPdf** **09 39 03.5 +0.6**
KIV pmax pmax
comp=Z,21nm,1.9s
KIV Kislovodsk 129.45 312 PFAKE 09 39 20.0 +17
KIV LR LR
comp=Z,644nm,20.0s
OBN Obninsk 129.53 327 ||*i* PKIKP **PKPdf** **09 39 02.4 -0.1**
OBN *e*SS SS 09 58 34.5 +2.0
OBN pmax pmax
comp=Z,71nm,2.6s
OBN MLR MLR
comp=Z,640nm,23.0s
OBN Obninsk 129.53 327 PFAKE 09 39 10.0 +7.5
OBN LR LR
comp=Z,788nm,22.0s
BBSR BB Station 129.65 63 PFAKE 09 39 20.0 +17
BBSR LR LR
comp=Z,907nm,19.0s
GRGR Grenville 130.17 90 PFAKE 09 39 20.0 +15
GRGR LR LR
comp=Z,800nm,22.0s
FINES FINESS Array B 130.53 338 PKP **PKPdf** **09 39 04.1 -0.1**
FINES FINESS Array B 130.53 338 PKP **PKPdf** **09 39 04.1 -0.1**
comp=Z,2.9nm,1.0s,baz=126,slow=3.3,SNR=4.6
ANWB Willy Bob 131.22 83 PFAKE 09 39 20.0 +13
ANWB LR LR
comp=Z,860nm,22.0s
FDF Fort de France 131.25 87 PFAKE 09 39 20.0 +13
FDF LR LR
comp=Z,800nm,21.0s
BBGH Gun Hill 132.40 89 PFAKE 09 39 20.0 +11
BBGH LR LR
comp=Z,892nm,19.0s
TSUM Tsumeb 133.24 217 PFAKE 09 39 20.0 +9.1
TSUM LR LR
comp=Z,2μm,20.0s
NOA NORSAR Array B 135.32 345 PKP **PKPdf** **09 39 13.9 +0.6**
NOA NORSAR Array B 135.32 345 PKP **PKPdf** **09 39 13.9 +0.6**
comp=Z,0.8nm,0.7s,baz=62,slow=1.9,SNR=2.9
AKASG Malin Array Be 135.55 325 *c iP* PKIKP **PKPdf** **09 39 15.1 +1.1**
AKASG Malin Array Be 135.55 325 PKP **PKPdf** **09 39 14.1 0.0**
AKASG PP **PP** **09 41 49.1 -2.2**
AKASG Malin Array Be 135.55 325 PKP **PKPdf** **09 39 14.1 0.0**
comp=Z,0.4nm,0.4s,baz=47,slow=2.4,SNR=4.6
AKASG PP **PP** **09 41 49.1 -2.2**
comp=Z,0.1nm,0.3s,baz=42,slow=7.2,SNR=5.6
KIEV Kiev 135.57 325 PFAKE 09 39 30.0 +16
KIEV LR LR
comp=Z,1μm,20.0s
KONO Kongsberg 136.93 345 PFAKE 09 39 30.0 +14
KONO LR LR
comp=Z,981nm,19.0s
BRTR Keskin Array B 137.02 308 PKPpre PKPpre 09 39 12.0
BRTR PP **PP** **09 41 59.1 -2.2**
BRTR Keskin Array B 137.02 308 PKhKP PKPpre 09 39 12.0
comp=Z,0.7nm,0.6s,baz=119,slow=3.4,SNR=3.3
BRTR PP **PP** **09 41 59.1 -2.2**
comp=Z,1.8nm,1.0s,baz=69,slow=6.9,SNR=4.8
KIS Kishinev 137.60 320 *e*PKIKP PKPdf 09 39 23.0 +5.0
KIS *e* 09 39 32.0
KIS MLR MLR
comp=Z,800nm,20.0s
KIS MLR MLR
comp=Z,700nm,22.0s
KIS Kishinev 137.60 320 *e*PKP PKPdf 09 39 23.0 +5.0
KIS LRM MLR 10 39 06.0
comp=Z,700nm,22.0s
ANTO Ankara 137.61 309 PFAKE 09 39 30.0 +12
ANTO LR LR
comp=Z,625nm,22.0s
EIL Elat 137.68 293 PKP **PKPdf** **09 39 19.2 +0.6**
EIL Elat 137.68 293 PKP **PKPdf** **09 39 19.2 +0.6**
comp=Z,4.0nm,0.7s,baz=61,slow=2.3,SNR=5.0
CSS Prodhromos 138.36 302 PFAKE 09 39 30.0 +10
CSS LR LR
comp=Z,275nm,20.0s
LVV L'vov 138.82 326 *e*PKIKP PKPdf 09 39 26.0 +5.9
KWP Kalwaria Pacla 139.62 327 PFAKE 09 39 30.0 +8.4
KWP LR LR
comp=Z,1μm,22.0s
ISP Isparta 139.89 307 PFAKE 09 39 40.0 +17
ISP LR LR
comp=Z,895nm,22.0s
UZH Uzhgorod 140.45 326 *e*PKHKP PKPpre 09 39 16.6
SZH Strazhica 141.13 317 *i* P **PKPdf** **09 39 25.7 +1.2**
KSP Ksiaz 141.88 333 *e*PKP **PKPdf** **09 39 20.7 -4.9**
PSZ Piszkesteto 142.15 327 PFAKE 09 39 40.0 +14
PSZ LR LR
comp=Z,891nm,21.0s
KDZ Kurdzhali 142.19 315 *i* P **PKPdf** **09 39 23.8 -2.7**
KRLC Kraliky 142.21 331 *e*PKPpre PKPpre 09 39 21.6
DPC Dobruska-Polom 142.22 332 *e*PKPpre PKPpre 09 39 19.4
DPC AMS AMS 10 37 20.0
UPC Upice 142.24 333 *e*PKPpre PKPpre 09 39 22.0
RDO Rodhopi 142.33 314 *e*P **PKPdf** **09 39 22.3 -4.4**
PRK Paraskevi 142.57 310 *e*P **PKPdf** **09 39 23.1 -4.1**
RZN Rozhen 142.65 315 *i* P **PKPdf** **09 39 25.9 -1.6**
BRG Berggiesshubel 142.84 335 *e*PKP **PKPdf** **09 39 23.5 -3.8**
comp=Z,15nm,1.4s
BRG *e* 09 39 37.0
comp=Z,20nm,1.3s
BRG
comp=N,636nm,17.8s
BRG
comp=E,276nm,17.2s
BRG
comp=Z,1μm,28.0s
BRG Berggiesshubel 142.84 335 *e*PKIKP **PKPdf** **09 39 23.5 -3.8**
BRG *e* 09 39 37.0
BRG pmax pmax
comp=Z,15nm,1.4s
BRG MLR MLR
comp=N,636nm,17.8s
BRG MLR MLR
comp=E,276nm,17.2s
BRG MLR MLR
comp=Z,1μm,18.0s
BRG Berggiesshubel 142.84 335 *e*PKPbc **PKPdf** **09 39 23.8 -3.5**
CLL Collm 142.88 336 *e*PKHKP **PKPdf** **09 39 23.0 -4.4**
CLL MLR MLR
comp=Z,600nm,20.5s
CLL Collm 142.88 336 *e*PKPbc **PKPdf** **09 39 24.0 -3.4**
CLL Collm 142.88 336 *e*PKPdf **PKPdf** **09 39 24.0 -3.4**
CLL *e* 09 41 03.0
CLL *e*PP **PP** **09 42 34.0 -2.1**
CLL *e*PSKS 09 53 06.0
CLL *e*SKKSdf SKKSdf 09 55 54.0 +0.8
CLL *e*SS **SS** **10 01 06.0 -5.3**
CLL *e*SSS SSS 10 06 48.0
CLL LV 11 02 00.0
comp=Z,600nm,20.5s
SIGR SIGRI 142.88 311 *e*P **PKPdf** **09 39 28.2 +0.4**
PKS7 Kunszentmiklos 143.08 326 *e* PKPbc 09 39 26.4 +1.2
KAVA Kavala 143.09 314 *e*P PKPbc 09 39 26.4 +1.4
LIA Limnos Island 143.09 312 *e*P PKPbc 09 39 25.0 0.0
PKS6 Bocsa 143.15 325 ||*e* **PKPdf** **09 39 28.9 +0.9**

VTS	Vitosha	143.22 317	*i* P		PKPbc	09 39 25.4	-0.4	-0.1
PRU	Pruhonice	143.26 333	*e*PKPpre		PKPbc	09 39 24.7	-0.5	
PRU			AMS		AMS	10 40 40.0		
	comp=Z,900nm,24.2s							
PKSG		143.26 327⇑	*e*		PKPbc	09 39 25.3	+0.1	
CSKK	Cs˙‡kako	143.35 327⇓	*e*		PKPbc	09 39 26.7	+1.2	
MMB	Musomiste	143.35 315	*i* P		PKPab	09 39 25.0	+0.4	
NVR	Nevrokopi	143.37 315	*e*P		PKPbc	09 39 25.9	+0.1	
PKS2	Kecel	143.41 325⇑	*e*		PKPbc	09 39 26.8	+1.1	
CLZ	Clausthal	143.41 338	*e*PKPbc		PKPbc	09 39 26.1	+0.5	
PKST	T˜s	143.54 327⇑	*e*		PKPbc	09 39 26.1	0.0	
KKB	Krupnik	143.65 316	*i* P		PKPbc	09 39 26.2	-0.4	
SRS	Serrai	143.66 315	P		PKPab	09 39 24.8	-1.0	
SRS	Serrai	143.66 315		PKHKP	PKPab	09 39 24.8	-1.0	
SRS	Serrai	143.66 315	*e*P		PKPbc	09 39 26.4	-0.2	
SRS	Serrai	143.66 315	P		PKPab	09 39 24.8	-1.0	
OUR	Ouranopolis	143.74 313	*e*P		PKPbc	09 39 26.9	+0.1	
TANN	Tannenbergstha	143.79 335	*e*PKPbc		PKPbc	09 39 26.9	+0.1	
PKS9	Tamasi	143.84 326⇑	*e*		PKPbc	09 39 27.4	+0.4	
IBBN	Ibbenburen	143.87 341	*e*PKPbc		PKPbc	09 39 27.9	+1.1	
PKSM	Moragy	143.89 325	*e*		PKPbc	09 39 26.9	-0.2	
MOX	Moxa	143.94 336	*e*PKPbc		PKPbc	09 39 27.4	+0.3	
ZKR	Zakros	143.99 304	*e*P		PKPbc	09 39 28.0	+0.2	
PLG	Polygyros	144.09 314	*e*P		**PKPab**	**09 39 27.6**	**+0.1**	
KNT	Kendrikon	144.10 315	P		**PKPab**	**09 39 26.6**	**-0.9**	
KNT	Kendrikon	144.10 315		PKIKP	**PKPab**	**09 39 26.6**	**-0.9**	
KNT	Kendrikon	144.10 315	*e*P		PKPbc	09 39 28.0	0.0	
KNT	Kendrikon	144.10 315	P		**PKPab**	**09 39 26.6**	**-0.9**	
CONA	Conrad Observa	144.16 330⇑	*i*PKPdf		PKPbc	09 39 28.1	+0.1	
	comp=Z,1µm,3.8s,SNR=16							
SANT	Santorini	144.19 306	*e*PKPdf		**PKPab**	**09 39 28.0**	**0.0**	
SANT			LR		LR			
	comp=Z,557nm,21.0s							
HORT	Hortiatis	144.23 314	*e*P		**PKPab**	**09 39 28.1**	**0.0**	
VAY	Valandovo	144.25 316	P		**PKPab**	**09 39 26.8**	**-1.2**	
VAY	Valandovo	144.25 316		PKIKP	**PKPab**	**09 39 26.8**	**-1.2**	
VAY	Valandovo	144.25 316	*i* P		**PKPab**	**09 39 27.2**	**-0.8**	
VAY	Valandovo	144.25 316	P		**PKPab**	**09 39 26.8**	**-1.2**	
AOS	Alonnisos	144.31 312	*e*P		**PKPab**	**09 39 27.5**	**-0.8**	
KHC	Kasperske Hory	144.32 333	*e*PKIKP		PKPbc	09 39 28.3	-0.1	
KHC	Kasperske Hory	144.32 333	*e*PKPdf		PKPbc	09 39 28.3	-0.1	
KHC			*ex*		x	09 39 38.0		
KHC			AMS		AMS	10 45 40.0		
	comp=Z,800nm,20.8s							
KHC	Kasperske Hory	144.32 333	*e*PKPdf		PKPbc	09 39 28.3	-0.1	
UBBA	Unterbreizbach	144.39 338	*e*PKPbc		PKPbc	09 39 29.1	+0.7	
DIVS	Divibare	144.40 321	P		**PKPab**	**09 39 28.7**	**+0.1**	
ROTZ	Rotzenmuhle	144.40 335	*e*PKPbc		**PKPdf**	**09 39 29.6**	**-0.5**	
NPS	Neapolis	144.42 304	*e*P		PKPbc	09 39 29.8	+0.7	
WTSB	Winterswijk	144.46 342	*e*PKP		**PKPdf**	**09 39 30.2**	**+0.1**	
	comp=Z,462nm,2.8s							
GEC2	GERESS Array S	144.48 332	*e*PKPbc		PKPbc	09 39 29.4	+0.4	
GERES	GERESS Array B	144.48 332	PKP		PKPbc	09 39 29.1	+0.1	
GERES	GERESS Array B	144.48 332	PKP		PKPbc	09 39 29.1	+0.1	
	comp=Z,13nm,0.8s,baz=46,slow=3.9,SNR=64							
GRG	Griva	144.53 315	P		**PKPab**	**09 39 28.1**	**-1.0**	
GRG	Griva	144.53 315		PKIKP	**PKPab**	**09 39 28.1**	**-1.0**	
GRG	Griva	144.53 315	*e*P		**PKPab**	**09 39 28.6**	**-0.5**	
GRG	Griva	144.53 315	P		**PKPab**	**09 39 28.1**	**-1.0**	
LAST	Lasithi	144.55 304	*e*P		**PKPdf**	**09 39 30.5**	**-0.5**	
SKIA	Skiathos	144.60 312	*e*P		**PKPab**	**09 39 28.5**	**-0.9**	
WET	Wettzell	144.61 334	*e*PKPbc		PKPbc	09 39 29.3	0.0	
WET			*e*PKP		**PKPab**	**09 39 29.7**	**+0.6**	
SKO	Skopje	144.66 317	P		**PKPab**	**09 39 29.4**	**-0.1**	
SKO	Skopje	144.66 317		PKIKP	**PKPab**	**09 39 29.4**	**-0.1**	
SKO	Skopje	144.66 317	P		**PKPab**	**09 39 29.4**	**-0.1**	
BEHE	Becsehely	144.71 327⇓	*e*		**PKPdf**	**09 39 30.3**	**-0.5**	
RCBR	Riachuelo	144.71 132	*e*PKPdf		**PKPab**	**09 39 30.4**	**-0.1**	
RCBR			LR		LR			
	comp=Z,871nm,20.0s							
MRKA	Markates	144.71 311	*e*P		**PKPab**	**09 39 29.2**	**-0.6**	
XOR	Xorichti	144.71 312	P		**PKPab**	**09 39 28.5**	**-1.3**	
XOR	Xorichti	144.71 312	*e*P		**PKPab**	**09 39 29.1**	**-0.7**	
XOR	Xorichti	144.71 312	P		**PKPab**	**09 39 28.5**	**-1.3**	
PTL	Penteli	144.77 310	*e*P		**PKPab**	**09 39 29.6**	**-0.5**	
BUG	Bochum--Univer	144.78 341	*e*PKPbc		PKPbc	09 39 29.9	+0.2	
ARSA	Arzberg	144.80 329⇓	*i*PKPab		PKPbc	09 39 30.0	0.0	
	comp=Z,1µm,3.7s,SNR=16							
GRF	Grafenberg Arr	144.85 336	*e*PKPbc		PKPbc	09 39 30.3	+0.2	
FYTO	Fytoko, Volos	144.87 312	P		**PKPab**	**09 39 29.5**	**-0.9**	
FYTO	Fytoko, Volos	144.87 312	P		**PKPab**	**09 39 29.5**	**-0.9**	
LIT	Litokhoron	144.87 314	P		**PKPab**	**09 39 29.5**	**-0.9**	
LIT	Litokhoron	144.87 314		PKIKP	**PKPab**	**09 39 29.5**	**-0.9**	
LIT	Litokhoron	144.87 314	*e*P		**PKPab**	**09 39 29.8**	**-0.6**	
LIT	Litokhoron	144.87 314	P		**PKPab**	**09 39 29.5**	**-0.9**	
LHO	Holmfirth	144.89 351	*e*P		**PKPab**	**09 39 29.9**	**-0.1**	
SMIA	Simia	144.90 312	*e*P		**PKPab**	**09 39 29.7**	**-0.8**	
ATH	Athens Observa	144.91 316	*e*P		**PKPab**	**09 39 30.3**	**-0.2**	
MOA	Molln	144.97 331⇓	*i*PKPdf		PKPbc	09 39 30.8	+0.3	
	comp=Z,1µm,3.0s,SNR=24							
KOGS	Kog	144.99 327	*e*PKPdf		**PKPab**	**09 39 30.5**	**-0.1**	
SHEL	Horse Pasture	145.00 188	*i* PKIKP		**PKPdf**	**09 39 33.4**	**+1.2**	
SHEL	Horse Pasture	145.00 188	PFAKE			09 39 40.0	+7.8	
SHEL			LR		LR			
	comp=Z,2µm,22.0s							
SIVA	Sivas	145.12 304	*e*P		**PKPdf**	**09 39 32.3**	**+0.5**	
KBI1	Birley Grange	145.13 351	*e*P		**PKPab**	**09 39 31.0**	**+0.1**	
IVA	Berane	145.15 320⇑	*i*PKP		**PKPdf**	**09 39 31.9**	**+0.1**	
PLE	Pljevlja	145.20 321⇑	*i*PKP		**PKPdf**	**09 39 31.9**	**0.0**	
KZN	Kozani	145.26 315	*e*P		**PKPbc**	**09 39 30.8**	**-1.0**	
PVY	Plav	145.26 319⇑	*i*PKP		**PKPdf**	**09 39 32.3**	**+0.3**	
FNA	Florina	145.30 316	P		**PKPbc**	**09 39 30.4**	**-1.4**	
FNA	Florina	145.30 316	PKP2		**PKPbc**	**09 39 30.4**	**-1.4**	
FNA	Florina	145.30 316	*e*P		**PKPbc**	**09 39 31.2**	**-0.6**	
FNA	Florina	145.30 316	P		**PKPbc**	**09 39 30.4**	**-1.4**	
AXAR	Agios Charalam	145.34 312	*e*P		**PKPbc**	**09 39 31.6**	**-0.4**	
WME	Myndd Eilian	145.34 354	*e*P		**PKPbc**	**09 39 31.0**	**-0.4**	
PERS	Pernice	145.43 329	*e*PKPdf		**PKPbc**	**09 39 31.9**	**-0.2**	
LTK	Loutraki	145.43 310	P		**PKPbc**	**09 39 30.6**	**-1.7**	
LTK	Loutraki	145.43 310	*e*P		**PKPbc**	**09 39 31.2**	**-1.1**	
LTK	Loutraki	145.43 310	P		**PKPbc**	**09 39 30.6**	**-1.7**	
WPM1	Penmaenmawr	145.44 353	*e*P		**PKPbc**	**09 39 31.6**	**-0.2**	
TNS	Taunus Mts	145.44 339	*e*PKPbc		**PKPab**	**09 39 32.8**	**+0.6**	
DID	Didima	145.44 309	P		**PKPbc**	**09 39 29.7**	**-2.7**	
DID	Didima	145.44 309	*e*P		**PKPbc**	**09 39 31.3**	**-1.1**	
DID	Didima	145.44 309	P		**PKPbc**	**09 39 29.7**	**-2.7**	
SOKA	Soboth	145.44 329⇓	*i*PKPdf		**PKPbc**	**09 39 32.0**	**-0.1**	
	comp=Z,1µm,3.4s,SNR=18							
THL	Klokotos Trika	145.44 313	*e*P		**PKPbc**	**09 39 30.7**	**-1.5**	
WLF1	Llynfaes	145.46 354	*e*P		**PKPdf**	**09 39 31.8**	**0.0**	
AGG	Agios Georgios	145.46 312	P		**PKPdf**	**09 39 31.0**	**-1.3**	
AGG	Agios Georgios	145.46 312	PKP2		**PKPdf**	**09 39 31.0**	**-1.3**	
AGG	Agios Georgios	145.46 312	*e*P		**PKPdf**	**09 39 31.3**	**-1.0**	
AGG	Agios Georgios	145.46 312	P		**PKPdf**	**09 39 31.0**	**-1.3**	
VAM	Vamos	145.47 305	*e*P		**PKPab**	**09 39 33.3**	**+0.6**	
UPM	Unac-Piva	145.56 321⇑	*i*PKP		**PKPdf**	**09 39 32.3**	**-0.3**	
DSF	Desfina	145.59 311	P		**PKPdf**	**09 39 31.4**	**-1.2**	
DSF	Desfina	145.59 311	*e*P		**PKPdf**	**09 39 31.4**	**-1.2**	
DSF	Desfina	145.59 311	P		**PKPdf**	**09 39 31.4**	**-1.2**	
MAKR	Makrakomi, Fth	145.60 312	P		**PKPdf**	**09 39 31.1**	**-1.5**	
MAKR	Makrakomi, Fth	145.60 312	*e*P		**PKPbc**	**09 39 32.7**	**-0.1**	
MAKR	Makrakomi, Fth	145.60 312	P		**PKPdf**	**09 39 31.1**	**-1.5**	
NEST	Nestorio	145.69 315	P		**PKPdf**	**09 39 32.3**	**-0.5**	
NEST	Nestorio	145.69 315	*e*P		**PKPab**	**09 39 33.7**	**+0.2**	
FOEL	Foel Wylfa	145.71 352	*e*P		**PKPdf**	**09 39 31.9**	**-0.5**	
RJOB	Jochberg	145.72 332	*e*PKPbc		**PKPab**	**09 39 33.6**	**+0.3**	
NKY	Niksic	145.73 320⇑	*i*PKP		**PKPbc**	**09 39 33.0**	**-0.2**	
GVD	Gavdhos	145.74 304	*e*PKPdf		**PKPdf**	**09 39 32.6**	**-0.3**	
HGN	Heimansgroeve	145.78 342	*e*PKP		**PKPab**	**09 39 33.1**	**-0.2**	
	comp=Z,1µm,2.9s							
TTG	Podgorica	145.79 320⇑	*i*PKP		**PKPbc**	**09 39 33.3**	**+0.1**	
OBKA	Obir	145.79 329⇓	*i*PKPab		**PKPdf**	**09 39 32.9**	**+0.1**	
	comp=Z,1µm,3.8s,SNR=11							
BEBN	Eben Emael	145.82 342	PKP		**PKPab**	**09 39 33.3**	**-0.1**	
KALE	Kalithea	145.87 311	P		**PKPdf**	**09 39 33.3**	**+0.2**	
KALE	Kalithea	145.87 311	*e*P		**PKPbc**	**09 39 33.8**	**+0.1**	
KALE	Kalithea	145.87 311	P		**PKPdf**	**09 39 33.3**	**+0.2**	
EVR	Evrytania	145.87 312	P		**PKPdf**	**09 39 33.2**	**+0.1**	
EVR	Evrytania	145.87 312	*e*P		**PKPbc**	**09 39 33.6**	**-0.2**	
EVR	Evrytania	145.87 312	P		**PKPdf**	**09 39 33.2**	**+0.1**	
MEM	Membach	145.89 341	PKP		**PKPbc**	**09 39 33.1**	**-0.1**	
GUR	Goura	145.92 311	P		**PKPdf**	**09 39 33.3**	**+0.1**	
GUR	Goura	145.92 311	*e*P		**PKPdf**	**09 39 33.5**	**+0.2**	
GUR	Goura	145.92 311	P		**PKPdf**	**09 39 33.3**	**+0.1**	
BRY	Bratogost	145.95 321⇑	*i*PKP		**PKPbc**	**09 39 33.6**	**-0.3**	
KBA	Koelnbreinsper	145.96 331	*i* PKPbc		**PKPdf**	**09 39 33.3**	**+0.2**	
	comp=Z,835nm,3.3s,SNR=12							
VLI	Velíai	145.96 308	*e*P		**PKPdf**	**09 39 33.0**	**-0.2**	
ANKY	Antikythira Is	146.00 307	*e*P		**PKPab**	**09 39 34.9**	**+0.2**	
KLV	Kalavryta, Ach	146.01 311	P		**PKPdf**	**09 39 32.7**	**-0.6**	
KLV	Kalavryta, Ach	146.01 311	*e*P		**PKPbc**	**09 39 34.0**	**-0.2**	
KLV	Kalavryta, Ach	146.01 311	P		**PKPdf**	**09 39 32.7**	**-0.6**	
EFP	Efpalio	146.02 312	P		**PKPab**	**09 39 35.1**	**+0.4**	
EFP	Efpalio	146.02 312	*e*P		**PKPab**	**09 39 34.6**	**-0.1**	
HLM1	Long Mynd	146.04 352	*e*P		**PKPdf**	**09 39 33.3**	**+0.4**	
FUR	Furstenfeldbru	146.04 334	*e*PKPbc		**PKPab**	**09 39 34.8**	**+0.3**	
LAKA	Lakka	146.05 311	P		**PKPbc**	**09 39 34.3**	**+0.1**	
LAKA	Lakka	146.05 311	*e*P		**PKPbc**	**09 39 35.0**	**+0.2**	
LAKA	Lakka	146.05 311	P		**PKPbc**	**09 39 34.3**	**+0.1**	
ULC	Ulcinj	146.05 319⇑	*i*PKP		**PKPbc**	**09 39 33.7**	**-0.4**	
BUM	Brajici-Budva	146.08 320⇑	*i*PKP		**PKPdf**	**09 39 33.7**	**+0.4**	
VLX	Vlachokerasia	146.12 310	*e*P		**PKPab**	**09 39 35.0**	**-0.2**	
LJU	Ljubljana	146.13 328	*i* PKPdf		**PKPab**	**09 39 34.1**	**-0.1**	
MYKA	Terra Mystica	146.15 330⇓	*i*PKPbc		**PKPdf**	**09 39 33.5**	**+0.2**	
	comp=Z,716nm,3.1s,SNR=16							
JAN	Janina	146.19 314	*e*P		**PKPab**	**09 39 35.8**	**+0.5**	
HCY	Herceg Novi	146.24 320⇑	*i*PKP		**PKPdf**	**09 39 33.7**	**+0.2**	
BCLA	Clavier	146.27 342	PKPbc		**PKPab**	**09 39 34.8**	**-0.3**	
DRO	Drossia	146.36 311	P		**PKPab**	**09 39 37.0**	**+1.0**	
DRO	Drossia	146.36 311	*e*P		**PKPab**	**09 39 37.0**	**+1.0**	
STU	Stuttgart	146.38 337	*e*PKP2		**PKPab**	**09 39 35.4**	**-0.3**	
STU	Stuttgart	146.38 337	*e*PKPbc		**PKPab**	**09 39 35.7**	**0.0**	
STU	Stuttgart	146.38 337	*e*PKPbc		**PKPab**	**09 39 35.4**	**-0.3**	
PDO	Prodromos	146.45 312	P		**PKPbc**	**09 39 35.6**	**+0.2**	
PDO	Prodromos	146.45 312	*e*P		**PKPab**	**09 39 36.1**	**-0.2**	
SNF	Seneffe	146.48 343	PKPbc		**PKPab**	**09 39 35.8**	**-0.2**	
RLS	Riolos of Patr	146.49 311	P		**PKPab**	**09 39 37.0**	**+0.5**	
RLS	Riolos of Patr	146.49 311	P		**PKPab**	**09 39 37.0**	**+0.5**	
AMT	Artemida-Makis	146.54 310	*e*P		PKPab	09 39 42.4	+5.7	
MCH1	Michaelchurch	146.56 352	*e*P		**PKPbc**	**09 39 35.6**	**+0.4**	
LPW	Lampeter	146.58 353	*e*P		**PKPdf**	**09 39 34.0**	**+0.2**	
ABTA	Abfaltersbach	146.59 331⇓	*i*PKPbc		**PKPdf**	**09 39 34.6**	**+0.5**	
	comp=Z,742nm,3.4s,SNR=21							
STRD	Stroud	146.66 351	*e*P		**PKPbc**	**09 39 35.7**	**+0.2**	
WLF	Walferdange	146.68 340	PKPbc		**PKPab**	**09 39 36.2**	**-0.5**	
WLF	Walferdange	146.68 340	*e*PKP2		**PKPab**	**09 39 36.4**	**-0.4**	
WLF			MLR		MLR			
	comp=Z,1µm,21.0s							
WLF	Walferdange	146.68 340	*e*PKPbc		**PKPab**	**09 39 36.9**	**+0.1**	
WLF	Walferdange	146.68 340	*e*PKPbc		**PKPab**	**09 39 36.4**	**-0.4**	
WLF			LR		LR			
	comp=Z,1µm,21.0s							
MONM	Monmouth	146.69 352	*e*P		**PKPbc**	**09 39 35.3**	**-0.3**	
LANF	Langenberg	146.71 338	PKP		**PKPbc**	**09 39 35.4**	**-0.4**	
MOTA	Mooslm	146.75 333⇓	*i*PKPbc		**PKPdf**	**09 39 35.2**	**+0.8**	
	comp=Z,2µm,4.0s,SNR=8.7							
DOU	Dourbes	146.76 342	PKPbc		**PKPbc**	**09 39 36.0**	**+0.1**	
PYL	PYLOS	146.78 309	*e*P		**PKPab**	**09 39 37.3**	**-0.3**	
RETA	Reutte	146.79 334⇓	*i*PKPbc		**PKPbc**	**09 39 36.1**	**0.0**	
	comp=Z,2µm,4.4s							
WOL	Wolverton	146.96 350	*e*P		**PKPbc**	**09 39 36.7**	**+0.3**	
VLS	Valsamata	147.06 312	*e*P		**PKPbc**	**09 39 37.3**	**+0.1**	
BFO	Black Forest	147.07 337	*e*PKP2		**PKPbc**	**09 39 36.9**	**+0.1**	
BFO			MLR		MLR			
	comp=Z,803nm,21.0s							
BFO	Black Forest	147.07 337	*e*PKPbc		**PKPbc**	**09 39 37.5**	**+0.6**	
BFO	Black Forest	147.07 337	*e*PKPbc		**PKPbc**	**09 39 36.9**	**+0.1**	
BFO			LR		LR			
	comp=Z,803nm,21.0s							
FETA	Feichten	147.17 333	*i* PKPbc		**PKPbc**	**09 39 37.4**	**+0.1**	
	comp=Z,2µm,4.7s,SNR=14							
DAVA	Damuels	147.31 334⇓	*i*pPKPdf		**PKPbc**	**09 39 37.8**	**0.0**	
	comp=Z,2µm,4.7s,SNR=5.6							
WLS	Welschbruch	147.35 338	PKP		**PKPbc**	**09 39 37.5**	**-0.2**	
ECH	Echery	147.59 338	*e*PKP2		**PKPbc**	**09 39 37.3**	**-1.0**	
ECH			MLR		MLR			
	comp=Z,827nm,19.0s							
ECH	Echery	147.59 338	PKP		**PKPbc**	**09 39 37.1**	**-1.2**	
ECH	Echery	147.59 338	*e*PKPdf		**PKPbc**	**09 39 37.3**	**-1.0**	
ECH			*e*PKPbc		**PKiKP**	**09 39 38.8**	**-1.6**	
ECH			*e*PKPab		**PKPab**	**09 39 41.4**	**+0.9**	
ECH			LR		LR			
	comp=Z,827nm,19.0s							
MOF	Molkenrain	147.91 338	PKP		**PKPdf**	**09 39 36.6**	**+0.3**	
THEF	They Montfort	147.98 339	PKP		**PKPdf**	**09 39 37.7**	**+1.4**	
TUE	Stuetta	148.18 334	*e*PKPdf		**PKPdf**	**09 39 38.0**	**+1.1**	
TUE			*e*PKPbc		**PKPbc**	**09 39 40.0**	**-0.2**	
TUE			*e*PKPab		**PKPab**	**09 39 44.6**	**+1.4**	
TUE			LR		LR			
	comp=Z,992nm,20.0s							
LOMF	Lomont	148.44 338	PKP		**PKPbc**	**09 39 40.5**	**-0.2**	
TIP	Timpagrande	149.16 316	*e*PKPdf		**PKPbc**	**09 39 40.7**	**-2.1**	
TIP			*e*PKPbc		**PKiKP**	**09 39 43.2**	**-0.8**	
TIP			*e*PKPab		**PKPab**	**09 39 48.0**	**+0.8**	
TIP			LR		LR			
	comp=Z,549nm,20.0s							
AQU	L'Aquila	149.25 324	*e*PKPbc		**PKPbc**	**09 39 43.3**	**+0.4**	
AQU			*e*PKPab		**PKPab**	**09 39 48.0**	**+0.6**	
AQU			LR		LR			
	comp=Z,1µm,22.0s							
CUC	Castrocucco	149.31 319	PFAKE			09 39 50.0	+2.3	
CUC			LR		LR			
	comp=Z,667nm,20.0s							
OG01	Vacheresse	149.35 337	PKP		**PKPbc**	**09 39 43.8**	**+0.8**	
VLC	Villacollemand	149.52 330	PFAKE			09 39 50.0	+1.6	
VLC			LR		LR			
	comp=Z,1µm,21.0s							
RSL	Roselend	149.91 336	PKP		**PKPbc**	**09 39 44.1**	**-0.4**	
CEL	Celeste	150.23 316	PFAKE			09 39 50.0	-1.5	
CEL			LR		LR			
	comp=Z,810nm,22.0s							
BNI	Bardonecchia	150.42 335	*e*PKIKP		**PKPbc**	**09 39 45.8**	**+0.1**	
BNI			*e*			09 39 52.1		
BNI			MLR		MLR			
	comp=Z,2µm,19.0s							
BNI	Bardonecchia	150.42 335	*e*PKPbc		**PKPbc**	**09 39 45.8**	**+0.1**	
BNI			*e*PKPab		**PKPab**	**09 39 52.1**	**-0.1**	
BNI			LR		LR			
	comp=Z,2µm,19.0s							
PLDF	La Plantade	150.74 340	PKP		**PKPbc**	**09 39 44.5**	**-1.9**	
AGO	Saint Agoulin	150.82 341	PKP		**PKPbc**	**09 39 46.7**	**+0.2**	
SAOF	Saorge	150.93 333	PKP		**PKPbc**	**09 39 45.7**	**-1.1**	
AUTN	L'Aution	150.98 333	PKP		**PKPbc**	**09 39 45.6**	**-1.6**	
SSB	Saint Sauveur	151.03 338	PFAKE			09 39 50.0	+2.9	
SSB			LR		LR			
	comp=Z,514nm,19.0s							
TOUF	Mont Tournerai	151.04 333	PKP		**PKPdf**	**09 39 44.1**	**+2.6**	
PYM	Petit Puy Mans	151.13 341	PKP		**PKPbc**	**09 39 46.7**	**-0.6**	
LBL	Lubilhac	151.51 340	PKP		**PKPbc**	**09 39 48.1**	**-0.1**	
WDD	Wield Dalam	152.42 313	PFAKE			09 40 00.0	-0.6	
WDD			LR		LR			
	comp=Z,1µm,19.0s							
ASCN	Ascension	152.95 171	PFAKE			09 40 00.0	-3.3	
ASCN			LR		LR			
	comp=Z,1µm,20.0s							
VSL	Villasalto	153.43 324	PFAKE			09 40 00.0	-4.8	
VSL			LR		LR			
	comp=Z,805nm,19.0s							
ROSA	Rosais	154.90 35	*e*PKP		PKPdf	09 39 37.2	-10	
PICO	Pico	154.95 35	*e*PKP		**PKPdf**	**09 39 45.2**	**-2.0**	
ADH	Angra Heroismo	155.47 33	*e*PKP		PKPdf	09 39 38.4	-9.4	
KEST	Kesra	155.95 318	*e*PKPdf		**PKPdf**	**09 39 51.4**	**+2.7**	
KEST			PKPab		**PKPab**	**09 40 16.1**	**+0.3**	
KEST			*e*PKPab		PKPab	09 40 17.5	+1.7	
KEST	Kesra	155.95 318	PKPab		**PKPab**	**09 40 16.1**	**+0.3**	
	comp=Z,8.7nm,0.9s,baz=334,slow=5.2,SNR=11							
PSET	Sete Cidades	156.88 33	*e*PKP		PKPdf	09 39 44.6	-5.1	
PBRG	Braganca	157.05 353	*e*PKPab		**PKPab**	**09 40 21.1**	**+1.0**	
POLO	Lamas de Olo	157.58 355	*e*PKPab		**PKPab**	**09 40 25.2**	**+2.7**	
PVRL	Vila Real	157.67 355	*e*PKPab		**PKPab**	**09 40 24.0**	**+1.2**	
MVO	Moncorvo	157.72 354	*e*PKPab		**PKPab**	**09 40 24.1**	**+1.0**	
MVO	Moncorvo	157.72 354	*e*LR		LR	10 38 13.8		
	comp=Z,984nm,20.0s							
PVIS	Viseu	158.24 355	*e*PKPab		**PKPab**	**09 40 25.9**	**+0.6**	
MTE	Manteigas	158.53 354	*e*PKPab		**PKPab**	**09 40 27.7**	**+1.1**	
MTE	Manteigas	158.53 354	*e*LQ		LQ	10 31 26.0		
MTE			*e*LR		LR	10 37 33.6		
	comp=Z,923nm,22.0s							
MTE	Manteigas	158.53 354	PFAKE			09 40 00.0	+8.2	
MTE			LR		LR			
	comp=Z,954nm,20.0s							
ESDC	Sonseca Array	158.67 347	PKPab		**PKPab**	**09 40 27.7**	**+0.5**	
ESDC	Sonseca Array	158.67 347	PKPab		**PKPab**	**09 40 27.7**	**+0.5**	
	comp=Z,3.4nm,0.7s,baz=13,slow=3.1,SNR=12							
PAB	San Pablo	158.88 347	PFAKE			09 40 00.0	+7.8	
PAB			LR		LR			
	comp=Z,1µm,19.0s							
PCBR	Castelo Branco	159.07 354	*e*PKPab		**PKPab**	**09 40 29.4**	**+0.6**	
PTOM	Tomar	159.37 356	*e*PKPab		**PKPab**	**09 40 33.7**	**+3.5**	
PMRV	Marv??o	159.47 354	*e*LR		LR	10 35 31.2		
	comp=Z,840nm,18.0s							
PMTG	Montargil	159.91 355	*e*PKPab		**PKPab**	**09 40 33.0**	**+0.5**	
PESTR	Estremoz	160.05 354	*e*PKPab		**PKPab**	**09 40 32.5**	**-0.7**	
LIS	Lisbon	160.31 357	*e*P		**PKPdf**	**09 39 54.0**	**+0.3**	
LIS			AMS		AMS	10 47 34.6		
	comp=Z,1µm,21.1s							
LIS	Lisbon	160.31 357	*e*P		**PKPdf**	**09 39 54.0**	**+0.3**	
LIS	Lisbon	160.31 357	A		A	10 47 34.6		
	comp=Z,1µm,21.1s							
LIS	Lisbon	160.31 357	*e*PKIKP		**PKPdf**	**09 39 54.0**	**+0.3**	
PNCL	Nicolau / Gran	160.88 356	*e*PKPab		**PKPab**	**09 40 39.3**	**+2.6**	
PBEJ	Beja	160.91 354	*e*PKPab		**PKPab**	**09 40 38.5**	**+1.6**	
MESJ	Messejana	161.12 355	*e*P		**PKPdf**	**09 39 55.0**	**+0.3**	
MESJ			*e*PP		**PP**	**09 44 22.0**	**+2.2**	
MESJ			AMS		AMS	10 49 59.3		
	comp=Z,1µm,21.2s							
MESJ	Messejana	161.12 355	*e*P		**PKPdf**	**09 39 55.0**	**+0.3**	
MESJ	Messejana	161.12 355	A		A	10 49 59.3		
	comp=Z,1µm,21.2s							
MESJ	Messejana	161.12 355	*e*PKIKP		**PKPdf**	**09 39 55.0**	**+0.3**	
MESJ			*e*			09 44 22.0		
PVAQ	Vaqueiros	161.51 354	*e*PKPab		**PKPab**	**09 40 42.1**	**+2.6**	
PVAQ	Vaqueiros	161.51 354	*e*LQ		LQ	10 24 46.2		
PVAQ	Vaqueiros	161.51 354	*e*LR		LR	10 36 17.6		
	comp=Z,1µm,20.0s							
MORF	Marmelete	161.69 356	*e*PKPab		**PKPab**	**09 40 41.2**	**+0.8**	
MORF	Marmelete	161.69 356	*e*PKIKP		**PKPdf**	**09 39 55.6**	**+0.2**	
PBDV	Barranco-do-Ve	161.69 354	*e*PKPab		**PKPab**	**09 40 42.1**	**+1.7**	
RTC	Rabat Centre	164.75 349	PFAKE			09 40 10.0	+12

ISC 29 09:38:37.2±4.0, 53.6N±0.1×87.7E±0.2, h10km, n6, σ0§56/9, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**283**	*i*		09 51 20.0	
	baz=101,slow=340,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.74**	**283**	Pn	**Pn**	**09 39 07.2**	**-0.3**
	1.9nm,0.3s,baz=105,slow=15,SNR=15						
ZALV				Sn	**Sb**	**09 39 31.9**	**+0.8**
	3.8nm,0.3s,baz=104,slow=24,SNR=13						
KURBB	**Kurchatov Arra**	**6.38**	**246**	⇓Pn	**Pn**	**09 40 11.1**	**0.0**
	1.6nm,0.4s						
KURBB				⇑Sn	**Sn**	**09 41 23.0**	**-1.0**
	2.3nm,0.8s						
KURBB				⇓Lg	Lg	09 41 56.2	
	6.1nm,1.0s						
KURBB	**Kurchatov Arra**	**6.38**	**246**	Pn	**Pn**	**09 40 11.6**	**+0.4**
	0.6nm,0.3s,baz=62,slow=14,SNR=9.5						
KURBB				Lg	Lg	09 41 59.6	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.0						
MK31	**Makanchi Array**	**7.64**	**209**	⇑Pn	**Pn**	**09 40 28.5**	**0.0**
	0.1nm,0.2s,baz=28,slow=13,SNR=17						
MK31				⇑Sn	**Sn**	**09 41 55.2**	**+0.1**
	0.5nm,0.7s,baz=30,slow=23,SNR=5.0						
MK31				⇑Lg	Lg	09 42 35.7	
	1.0nm,0.7s,baz=31,slow=32,SNR=4.2						
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	**Pn**	**09 40 28.5**	**0.0**
	0.3nm,0.3s,baz=28,slow=15,SNR=17						
MKAR				Sn	**Sn**	**09 41 55.0**	**-0.1**
	0.1nm,0.3s,baz=27,slow=26,SNR=5.0						
MKAR				Lg	Lg	09 42 36.1	
	0.0nm,0.3s,baz=27,slow=30,SNR=5.4						

*ISCJB **29** 09:45:35.2±0.4, 1.41N±0.04×127.22E±0.05, h128km, mb4.2/14, Error ellipse: s-maj=7.5km s-min=6.2km az=12.5*
*NEIC **29** 09:45:35.0±0.8, 1.44N×127.30E, h108km±7km, mb4.3/4, Error ellipse: s-maj=15.7km s-min=6.4km az=70.0*
*IDC **29** 09:45:35.3±7.8, 1.41N×127.23E, h110km±77km, mb4.0/10, mb1 4.1/10, mb1mx3.8/23, mbtmp4.3/10, Error ellipse: s-maj=61.8km s-min=13.6km az=75.0*
*DJA **29** 09:45:38.7±1.0, 1.1N±6×12.7E±*, h68km±14km, M4.3/3, mb5.0/3, mB5.1/1, MLv3.9/2, Mw(mB)4.5/1*

ISC 29 09:45:36.8±0.6, 1.37N±0.06×127.25E±0.07, h128km, n41, σ1§17/42, mb4.2/14, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.60**	**169**	P	Pn	09 45 52.7	-3.6
TNTI	**Ternate**	**0.60**	**169**	*e*Pn	Pn	09 45 52.7	-3.6
TNTI				*e*Sn	**Sn**	**09 46 06.5**	**-4.5**
LBMI	**Labuha**	**2.01**	**173**	P	**Pn**	**09 46 10.8**	**+0.1**
KMSI	**Cibinong**	**3.36**	**256**	P	**Pn**	**09 46 26.7**	**-1.3**
KMSI				S	**Sn**	**09 47 07.8**	**+0.2**
SANI	**Sanana**	**3.62**	**200**	P	**Pn**	**09 46 30.2**	**-1.3**
SANI				S	**Sn**	**09 47 11.1**	**-2.7**
GTOI	**Gorontalo**	**4.30**	**260**	P	**Pn**	**09 46 40.5**	**0.0**
NLAI	**Namlea**	**4.58**	**182**	P	**Pn**	**09 46 44.9**	**+0.7**
LUWI	**Luwuk**	**5.07**	**242**	P	**Sn**	**09 47 50.3**	**+1.8**
	baz=4.6,SNR=6.0						
MRSI	**Marisa**	**5.38**	**261**	P	**Pn**	**09 46 53.4**	**-1.5**
	146nm,0.6s,2μm						
DMPH	**Davao City--Mi**	**5.94**	**343**	⇑*e*P	Sn	09 48 02.6	-6.8
TTSI	**Tana Toraja**	**8.62**	**239**	P	**Pn**	**09 47 37.6**	**-1.1**
	64nm,0.7s						
SPSI	**Sidrap Palu**	**9.16**	**235**	P	**Pn**	**09 47 46.1**	**+0.2**
KAPI	**Kappang**	**9.81**	**230**	*e*Pn	**Pn**	**09 47 54.7**	**+0.1**
KAPI				*e*Sn	**Sn**	**09 49 42.5**	**-0.6**
WRAB	**Tennant Creek**	**22.28**	**162**	*e*P	**P**	**09 50 24.4**	**+0.6**
	7.0nm,0.3s						
WRA	**Warramunga Arr**	**22.29**	**162**	P	**P**	**09 50 24.4**	**+0.6**
WRA	**Warramunga Arr**	**22.29**	**162**	P	**P**	**09 50 24.4**	**+0.6**
	8.2nm,0.7s,baz=343,slow=10,SNR=46						
QIZ	**Qiongzhong**	**24.48**	**317**	*e*P	**P**	**09 50 44.2**	**+0.1**
	7.6nm,0.3s						
AS31	**Alice Springs**	**25.71**	**166**	*e*P	**P**	**09 50 56.3**	**+1.0**
ASAR	**Alice Springs**	**25.71**	**166**	P	**P**	**09 50 56.4**	**+1.0**
ASAR	**Alice Springs**	**25.71**	**166**	P	**P**	**09 50 56.4**	**+1.0**
	4.3nm,0.5s,baz=350,slow=7.3,SNR=78						
NWAO	**Narrogin (SRO)**	**35.40**	**195**	P	**P**	**09 52 20.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**35.40**	**195**	P	**P**	**09 52 20.4**	**+0.1**
	3.3nm,0.6s,baz=54,slow=8.7,SNR=3.9						
STKA	**Stephens Creek**	**35.75**	**159**	*e*P	**P**	**09 52 24.8**	**+1.4**
STKA	**Stephens Creek**	**35.75**	**159**	P	**P**	**09 52 24.4**	**+1.0**
	11nm,0.6s,baz=331,slow=7.5,SNR=19						
KSAR	**Wonju Array Be**	**35.91**	**1**	P	**P**	**09 52 23.9**	**-0.7**
KSRS	**Korea Array**	**35.92**	**1**	P	**P**	**09 52 23.9**	**-0.8**
	0.9nm,0.5s,baz=176,slow=10.0,SNR=3.2						
SONM	**Songino Array**	**49.69**	**342**	P	**P**	**09 54 15.3**	**-0.5**
SONM	**Songino Array**	**49.69**	**342**	P	**P**	**09 54 15.3**	**-0.5**
	0.9nm,0.6s,baz=156,slow=8.1,SNR=7.4						
MK31	**Makanchi Array**	**59.78**	**326**	*e*P	**P**	**09 55 28.8**	**+0.4**
MKAR	**Makanchi Array**	**59.78**	**326**	P	**P**	**09 55 29.0**	**+0.5**
MKAR	**Makanchi Array**	**59.78**	**326**	P	**P**	**09 55 29.0**	**+0.5**
	4.1nm,0.5s,baz=119,slow=7.7,SNR=75						
ZALV	**Zalesovo Beam**	**62.92**	**333**	P	**P**	**09 55 50.8**	**+1.4**
ZALV	**Zalesovo Beam**	**62.92**	**333**	P	**P**	**09 55 50.8**	**+1.4**
	1.1nm,0.5s,baz=122,slow=7.2,SNR=4.8						
KURBB	**Kurchatov Arra**	**64.00**	**328**	P	**P**	**09 55 56.4**	**-0.2**
	3.1nm,0.6s,baz=126,slow=6.3,SNR=32						
KURK	**Kurchatov**	**64.00**	**328**	*e*P	**P**	**09 55 56.6**	**+0.1**
KKAR	**Karatay Array**	**65.31**	**318**	*e*P	**P**	**09 56 05.1**	**-0.1**
	2.2nm,0.8s						
ABKAR	**Akbulak array**	**74.30**	**321**	*e*P	**P**	**09 56 59.8**	**-0.3**
	1.4nm,0.6s						
VNDA	**Vanda**	**81.03**	**173**	P	**P**	**09 57 37.0**	**0.0**
VNDA	**Vanda**	**81.03**	**173**	P	**P**	**09 57 37.0**	**0.0**
	1.6nm,0.8s,baz=326,slow=7.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**124.12**	**287**	PKP	**PKPdf**	**10 04 22.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**124.12**	**287**	PKP	**PKPdf**	**10 04 22.2**	**+1.0**
	0.4nm,0.7s,baz=55,slow=1.0,SNR=3.6						

CASC 29 09:48:36.9±1.0, 13.24N×89.90W, h25km±5km, MD3.5, ML2.9, 4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.66**	**24**	⇓*i*P	Pb	09 48 49.8	-0.4
SBLS				*e*S	Sn	09 49 00.3	-0.5
SNJE	**San Jose**	**0.69**	**24**	*e*P	Pb	09 48 50.2	-0.5
SNJE				*e*S	Sb	09 49 00.4	+0.4
RTR	**El Retiro**	**0.70**	**20**	⇓*i*P	Pb	09 48 50.5	-0.2
SNET	**Serv Nac Est T**	**0.79**	**55**	*e*P	Pb	09 48 51.5	-0.7
SNET				AML	AML	09 49 12.6	
	comp=Z,316nm,0.3s						
RBDL	**Robledal**	**0.90**	**13**	⇓*i*P	Pb	09 48 53.4	-0.7
RBDL				*e*S	Sn	09 49 06.7	+0.1
LFRS	**El Faro**	**0.90**	**65**	*e*P	Pb	09 48 53.2	-0.9
LFU	**La Fuente**	**0.92**	**56**	*e*P	Pb	09 48 53.4	-0.9
LBRS	**Las Brisas**	**0.97**	**59**	*e*P	Pn	09 48 54.1	-1.0
LBRS				*e*S	Sn	09 49 08.2	0.0
SNVI	**San Vicente**	**1.10**	**70**	*e*P	Pn	09 48 56.4	-0.5
NBG	**Las Nubes**	**1.41**	**342**	⇓*e*P	Pn	09 49 02.2	+0.8
NBG				*e*S	Sb	09 49 20.3	-0.6

*ISCJB **29** 09:53:25.8±2.2, 35.9N±0.1×137.65E±0.10, h10km, Error ellipse: s-maj=18.8km s-min=9.6km az=23.0*
*JMA **29** 09:53:26.1, 35.86N×137.65E, h8km, M3.2 Broadband fault plane solution: P waves. NP1:φ=357.00000°, δ87.00000°, λ34.00000°. NP2:φ=265.00000°, δ56.00000°, λ176.00000°. Principal axes: T Plg26.0000°, Azm227.0000°; N Plg55.0000°, Azm2.0000°; P Plg21.0000°, Azm126.0000°;*
JMA Felt II J1.

ISC 29 09:53:26.3±2.4, 35.9N±0.1×137.66E±0.07, h10km, n3, σ0§23/5, 2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.39**	**91**	⇓P	**Pg**	**09 53 33.9**	**-0.1**
JNT				S	**Sg**	**09 53 39.2**	**+0.1**
JGN	**Niukaw**	**0.44**	**321**	⇓P	**Pg**	**09 53 34.9**	**0.0**
MAT	**Matsushiro**	**0.79**	**34**	P	**Pg**	**09 53 41.4**	**-0.2**
MAT				S	**Sg**	**09 53 52.2**	**+0.2**

WEL 29 10:13:27.1±0.1, 40.87S×175.36E, h26km±1km, ML3.5/33, 13C-19D, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.12**	**104**	⇑P*	Pb	10 13 32.2	+0.2
HOWZ				S*	Sb	10 13 36.4	+1.0
OGWZ	**Otaki Gorge**	**0.15**	**290**	⇓P*	Pb	10 13 31.9	-0.4
OGWZ				S*	Sb	10 13 36.1	+0.2
MRZ	**Mangatainoka R**	**0.27**	**39**	⇑P*	Pb	10 13 33.3	-0.4
MRZ				S*	Sb	10 13 38.6	+0.4
MRZ				AML	AML	10 13 39.3	
MTW	**Mount Morrison**	**0.31**	**160**	⇑P*	Pb	10 13 34.7	+0.4
MTW				AML	AML	10 13 41.3	
MTW				AML	AML	10 13 41.9	
CAW	**Cannon Point**	**0.33**	**223**	⇓P*	Pb	10 13 34.4	-0.1
CAW				S*	Sb	10 13 39.8	+0.1
CAW				AML	AML	10 13 41.1	
KIW	**Kapiti Island**	**0.34**	**271**	⇓P*	Pb	10 13 34.4	-0.4
KIW				S*	Sb	10 13 39.8	-0.3
KIW				AML	AML	10 13 40.5	
TIWZ	**Tintook**	**0.41**	**77**	⇑P*	Pb	10 13 36.0	+0.1
TIWZ				AML	AML	10 13 43.6	
TIWZ				AML	AML	10 13 43.8	
TMWZ	**Te Maipa**	**0.47**	**121**	⇑P*	Pb	10 13 37.4	+0.6
PAWZ	**Paruwai Farm**	**0.51**	**174**	⇑P*	Pb	10 13 37.9	+0.3
PAWZ				AML	AML	10 13 47.4	
PAWZ				AML	AML	10 13 47.6	
MSWZ	**Moikau Station**	**0.55**	**189**	⇑P*	Pb	10 13 38.4	+0.1
MSWZ				AML	AML	10 13 48.0	
MSWZ				AML	AML	10 13 48.1	
PRWZ	**Pori Road**	**0.56**	**56**	⇑P*	Pb	10 13 38.5	+0.1
POWZ	**Post Office Ro**	**0.57**	**33**	P*	Pb	10 13 38.0	-0.5
TRWZ	**Traveller**	**0.58**	**155**	P*	Pb	10 13 38.8	0.0
TRWZ				AML	AML	10 13 50.2	
TRWZ				AML	AML	10 13 52.5	
WEL	**Wellington**	**0.61**	**227**	P*	Pb	10 13 38.9	-0.3
CPWZ	**Castlepoint**	**0.64**	**94**	P*	Pn	10 13 40.2	-0.3
BHW	**Baring Head**	**0.65**	**214**	⇑P*	Pb	10 13 39.5	-0.4
BHW				AML	AML	10 13 50.8	
BHW				AML	AML	10 13 51.0	
SNZO	**South Karori**	**0.66**	**228**	⇓P*	Pb	10 13 39.6	-0.4
SNZO				AML	AML	10 13 50.5	
SNZO				AML	AML	10 13 50.5	
SNZO				AML	AML	10 13 51.2	
SNZO				AML	AML	10 13 51.2	
BFZ	**Birch Farm**	**0.70**	**75**	P*	Pb	10 13 40.2	-0.4
PLWZ	**Palliser**	**0.70**	**186**	P*	Pb	10 13 40.3	-0.6
DVHZ	**Dannevirke**	**0.84**	**47**	⇓P*	Pb	10 13 42.1	-1.0
TCW	**Tory Channel**	**0.89**	**247**	⇑P*	Pb	10 13 43.1	-0.7
TCW				AML	AML	10 13 56.3	
TCW				AML	AML	10 13 56.4	
TSZ	**Takapari Road**	**0.93**	**30**	P*	Pn	10 13 43.7	-0.8
TSZ				AML	AML	10 13 57.7	
TSZ				AML	AML	10 13 58.3	
ANWZ	**Angora Road**	**0.94**	**65**	⇓P*	Pn	10 13 43.5	-1.1
DUWZ	**D'Urville Isla**	**1.09**	**273**	P*	Pn	10 13 46.2	-0.5
DUWZ				AML	AML	10 14 02.0	
DUWZ				AML	AML	10 14 02.6	
PRHZ	**Porangahau**	**1.14**	**59**	⇓P*	Pn	10 13 46.0	-1.4
PNHZ	**Pukenui**	**1.15**	**34**	⇓P*	Pn	10 13 46.6	-0.9
WPHZ	**Waipukurau**	**1.15**	**46**	P*	Pn	10 13 46.6	-1.0
TUWZ	**Tuamarina**	**1.21**	**242**	⇓P*	Pn	10 13 47.2	-1.1
TUWZ				AML	AML	10 14 06.3	
TUWZ				AML	AML	10 14 06.3	
BSWZ	**Blackbirch Sta**	**1.40**	**232**	PN	Pn	10 13 50.0	-1.0
PXZ	**Pawanui**	**1.42**	**54**	PN	Pn	10 13 49.5	-1.7
BHHZ	**Black Hill Sta**	**1.48**	**22**	PN	Pn	10 13 51.5	-0.6
MTVZ	**Mangateitei**	**1.48**	**3**	PN	Pn	10 13 52.4	+0.2
MTVZ				AML	AML	10 14 16.5	
MTVZ				AML	AML	10 14 19.5	
MOVZ	**Moawhango**	**1.49**	**12**	⇓PN	Pn	10 13 51.9	-0.4
MOVZ				AML	AML	10 14 12.9	
MOVZ				AML	AML	10 14 16.4	
NNZ	**Nelson**	**1.54**	**256**	⇓PN	Pn	10 13 52.4	-0.5
NNZ				AML	AML	10 14 16.0	
NNZ				AML	AML	10 14 16.4	
WNVZ	**Wahianoa**	**1.55**	**7**	⇓PN	Pn	10 13 53.2	-0.1
WNVZ				AML	AML	10 14 19.7	
WNVZ				AML	AML	10 14 26.0	
TRVZ	**Turoa**	**1.57**	**5**	PN	Pn	10 13 53.6	-0.1
TRVZ				AML	AML	10 14 18.6	
TRVZ				AML	AML	10 14 19.7	
PKVZ	**Pokaka**	**1.58**	**360**	PN	Pn	10 13 53.7	+0.2
PKVZ				AML	AML	10 14 18.5	
PKVZ				AML	AML	10 14 19.8	
KAHZ	**Kahuranaki**	**1.58**	**48**	PN	Pn	10 13 52.0	-1.5
WHKZ	**Whangaehu Hut**	**1.60**	**6**	PN	Pn	10 13 54.2	0.0
DRZ	**Dome Shelter**	**1.60**	**6**	PN	Pn	10 13 54.2	0.0
DRZ				AML	AML	10 14 22.1	
DRZ				AML	AML	10 14 23.7	
TUVZ	**Tukino**	**1.62**	**8**	PN	Pn	10 13 54.2	+0.1
TUVZ				AML	AML	10 14 20.5	
TUVZ				AML	AML	10 14 21.5	
FWVZ	**Far West T-bar**	**1.62**	**5**	⇓PN	Pn	10 13 54.4	+0.1
FWVZ				AML	AML	10 14 20.4	
FWVZ				AML	AML	10 14 21.2	
WPVZ	**Whakapapa**	**1.67**	**5**	⇓PN	Pn	10 13 55.1	+0.2
WPVZ				AML	AML	10 14 22.4	
WPVZ				AML	AML	10 14 23.9	
COVZ	**Chateau Observ**	**1.68**	**5**	⇓PN	Pn	10 13 55.1	+0.2
NGZ	**Ngauruhoe**	**1.70**	**6**	⇑PN	Pn	10 13 55.5	+0.2
NGZ				AML	AML	10 14 24.1	
NGZ				AML	AML	10 14 41.9	
OTVZ	**Oturere**	**1.72**	**8**	PN	Pn	10 13 55.6	0.0
OTVZ				AML	AML	10 14 19.8	
OTVZ				AML	AML	10 14 25.6	
RAEZ	**Rainy Point**	**1.75**	**335**	PN	Pb	10 13 57.2	-1.3
MCHZ	**McNeill Hill**	**1.75**	**36**	PN	Pn	10 13 54.6	-1.3
WTVZ	**West Tongariro**	**1.76**	**6**	PN	Pn	10 13 56.2	+0.1
WTVZ				AML	AML	10 14 26.8	
WTVZ				AML	AML	10 14 29.5	
KRVZ	**Karewarewa**	**1.79**	**7**	PN	Pn	10 13 56.5	+0.1
KRVZ				AML	AML	10 14 23.1	
KRVZ				AML	AML	10 14 24.1	
VRZ	**Vera Road**	**1.80**	**345**	PN	Pn	10 13 57.2	+0.7
VRZ				AML	AML	10 14 29.2	
VRZ				AML	AML	10 14 31.6	
DFE	**Dawson Falls**	**1.82**	**328**	⇑PN	Pn	10 13 58.0	+1.2
NMEZ	**Namu Road**	**1.85**	**322**	PN	Pn	10 13 58.3	+1.2
KHEZ	**Kahui Hut**	**1.88**	**326**	PN	Pn	10 13 58.7	+1.0
DREZ	**Durham Road**	**1.90**	**332**	⇓PN	Pn	10 13 59.2	+1.4
KAZ	**Kakaramea**	**1.91**	**8**	AML	AML	10 14 33.5	
KATZ				AML	AML	10 14 38.2	
BKZ	**Black Stump Fm**	**1.91**	**27**	⇓PN	Pn	10 13 56.5	-1.6
BKZ				AML	AML	10 14 41.0	
BKZ				AML	AML	10 14 41.9	
MHEZ	**Mangahewa**	**1.96**	**336**	⇑PN	Pn	10 14 00.3	+1.7
NWEZ	**Newall Road**	**1.96**	**324**	PN	Pn	10 14 00.1	+1.4
PKE	**Pukeiti**	**1.98**	**327**	PN	Pn	10 14 00.0	+1.1
THZ	**Tophouse**	**2.05**	**243**	⇓PN	Pn	10 13 58.6	-1.4
THZ				AML	AML	10 14 34.3	
THZ				AML	AML	10 14 37.2	
QRZ	**Quartz Range**	**2.15**	**270**	PN	Pn	10 14 00.1	-1.1
HIZ	**Hauiti**	**2.38**	**350**	⇓PN	Pn	10 14 04.6	+0.1
HIZ				AML	AML	10 14 51.1	
HIZ				AML	AML	10 14 53.6	
TLZ	**Tolley Road**	**2.54**	**3**	PN	Pn	10 14 06.1	-0.6
KNZ	**Kokohu**	**2.56**	**45**	PN	Pn	10 14 04.1	-2.8
LTZ	**Lake Taylor**	**3.00**	**229**	PN	Pn	10 14 10.6	-2.4
MQZ	**McQueen's Vall**	**3.47**	**214**	PN	Pn	10 14 16.2	-3.1
OXZ	**Oxford**	**3.48**	**224**	PN	Pn	10 14 16.2	-3.4
ODZ	**Otahua Downs**	**5.42**	**218**	PN	Pn	10 14 43.5	-2.7
CTZ	**Chatham Island**	**6.60**	**118**	PN	Pn	10 15 00.9	-1.5

IDC 29 10:42:58.5±2.5, 53.37N×87.04E, h0km, mb1 2.8/2, mb1mx2.8/31, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.2km s-min=14.7km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**295**	*i*		10 54 24.0	
	baz=111,slow=335,SNR=7.0						
ZALV	**Zalesovo Beam**	**1.44**	**294**	Pg	Pn	10 43 24.4	-1.5
	0.4nm,0.3s,baz=116,slow=16,SNR=7.0						
ZALV				Lg	Lg	10 43 44.2	
	0.6nm,0.3s,baz=116,slow=30,SNR=5.1						
KURBB	**Kurchatov Arra**	**5.93**	**246**	Pn	Pn	10 44 28.6	+1.0
	0.1nm,0.3s,baz=60,slow=14,SNR=4.9						
KURBB				Lg	Lg	10 46 07.2	
	0.0nm,0.3s,baz=65,slow=34,SNR=2.4						
MKAR	**Makanchi Array**	**7.26**	**207**	Pn	Pn	10 44 47.1	+1.3
	0.1nm,0.3s,baz=27,slow=13,SNR=11						
MKAR				Lg	Lg	10 46 47.3	
	0.0nm,0.3s,baz=23,slow=30,SNR=2.7						

*ISCJB **29** 10:50:48.6±1.3, 67.54N±0.05×34.1E±0.2, h0km, Error ellipse: s-maj=9.5km s-min=6.4km az=23.2*
*CSEM **29** 10:50:50.8±1.0, 67.57N×33.95E, h1km, ML2.7, Error ellipse: s-maj=20.2km s-min=9.4km az=110.0, Mining explosion.*
*NAO **29** 10:50:51.6±1.6, 67.54N×33.98E, ML2.7*
*KOLA **29** 10:50:52.2, 67.65N×33.97E, h0km*
*HEL **29** 10:50:55.3±0.5, 67.75N×33.46E, h0km, ML2.0, Explosion*

ISC 29 10:50:49.4±1.8, 67.61N±0.05×34.38E±0.09, h0km, n27, σ1§71/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.38**	**264**	P	**Pg**	**10 50 56.3**	**-0.2**
APA				S	**Sg**	**10 50 59.3**	**-2.1**
APA0	**Apatity Array**	**0.53**	**270**	Pg	**Pg**	**10 50 58.7**	**-0.8**
	baz=98,slow=16						
APA0				Lg	Lg	10 51 04.3	
	baz=84,slow=37						
APA0				Rg	Rg	10 51 06.9	
	baz=103,slow=37						
APA0	**Apatity Array**	**0.53**	**270**	Pg	**Pg**	**10 50 58.7**	**-0.8**
	baz=98,slow=16						
APA0				Lg	Lg	10 51 04.3	
	baz=84,slow=37						
APA0				Rg	Rg	10 51 06.9	
	baz=103,slow=37						
APA0	**Apatity Array**	**0.53**	**270**	P	**Pg**	**10 50 58.9**	**-0.6**
APA0				S	**Sg**	**10 51 03.8**	**-2.6**
APA0	**Apatity Array**	**0.53**	**270**	Pg	**Pg**	**10 50 58.7**	**-0.8**
	SNR=90						
APA0				Lg	Lg	10 51 04.3	
	SNR=55						
VRF	**Varrio**	**1.83**	**277**	PG	**Pn**	**10 51 21.6**	**-0.4**
VRF				SN	**Sn**	**10 51 43.9**	**-1.9**
VRF				MSG		10 51 43.9	
	comp=Z,22nm,0.3s						
VRF	**Varrio**	**1.83**	**277**	Pg	**Pn**	**10 51 21.6**	**-0.4**
VRF				Sn	**Sn**	**10 51 43.9**	**-1.9**
KU6	**Riekki**	**2.38**	**230**	PB	**Pn**	**10 51 31.6**	**+2.0**
KU6				SG	**Sb**	**10 52 04.1**	**+1.1**
KU6	**Riekki**	**2.38**	**230**	Pb	**Pn**	**10 51 31.6**	**+2.0**
KU6				Sg	**Sb**	**10 52 04.1**	**+1.1**
MSF	**Maaselka**	**2.72**	**234**	PG	**Pb**	**10 51 39.0**	**+0.2**
MSF				SG	**Sb**	**10 52 13.9**	**+1.3**
MSF				MSG		10 52 13.9	
	comp=Z,4.5nm,0.2s						
MSF	**Maaselka**	**2.72**	**234**	Pg	**Pb**	**10 51 39.0**	**+0.2**
MSF				Sg	**Sb**	**10 52 13.9**	**+1.3**
SGF	**Sodankyl**	**3.02**	**270**	PB	**Pn**	**10 51 41.4**	**+3.0**
SGF				SG	**Sn**	**10 52 17.2**	**+2.0**
SGF				MSG		10 52 17.2	
	comp=Z,4.8nm,0.3s						
SGF	**Sodankyl**	**3.02**	**270**	Pb	**Pn**	**10 51 41.4**	**+3.0**
SGF				Sg	**Sn**	**10 52 17.2**	**+2.0**
RNF	**Rovaniemi**	**3.42**	**257**	PN	**Pn**	**10 51 44.7**	**+0.8**
RNF				SB	**Sn**	**10 52 27.5**	**+2.5**
RNF				MSG		10 52 27.5	
	comp=Z,8.1nm,0.3s						
RNF	**Rovaniemi**	**3.42**	**257**	Pn	**Pn**	**10 51 44.7**	**+0.8**
RNF				Sb	**Sn**	**10 52 27.5**	**+2.5**
KEV	**Kevo**	**3.45**	**312**	PN	**Pn**	**10 51 45.6**	**+1.3**
KEV				SB	**Sn**	**10 52 27.2**	**+1.5**
KEV				MSG		10 52 27.2	
	comp=Z,6.0nm,0.2s						
KEV	**Kevo**	**3.45**	**312**	Pn	**Pn**	**10 51 45.5**	**+1.3**
KEV				Sb	**Sn**	**10 52 27.2**	**+1.5**
ARA0	**ARCESS Array S**	**3.79**	**305**	Pn	**Pn**	**10 51 49.3**	**+0.4**
	baz=127,slow=16						
ARA0				Sn	**Sn**	**10 52 32.5**	**-1.6**
	baz=125,slow=22						
ARA0				Lg	Lg	10 52 44.8	
	baz=119,slow=37						
ARA0	**ARCESS Array S**	**3.79**	**305**	Pn	**Pn**	**10 51 49.3**	**+0.4**
	baz=127,slow=16						
ARA0				Sn	**Sn**	**10 52 32.5**	**-1.6**
	baz=125,slow=22						
ARA0				Lg	Lg	10 52 44.8	
	baz=119,slow=37						
ARA0	**ARCESS Array S**	**3.79**	**305**	Pn	**Pn**	**10 51 49.3**	**+0.4**
	SNR=400						
ARA0				Sn	**Sn**	**10 52 32.5**	**-1.6**
	SNR=7.3						
ARA0				Lg	Lg	10 52 44.8	
	SNR=50						
HEF	**Hetta**	**4.11**	**286**	PN	**Pn**	**10 51 53.7**	**+0.4**
	baz=98						
HEF				SB	**Sn**	**10 52 42.3**	**+0.2**
HEF				MSG		10 52 42.3	
	comp=Z,1.9nm,0.2s						
HEF	**Hetta**	**4.11**	**286**	Pn	**Pn**	**10 51 53.7**	**+0.4**
FIA0	**FINESS Array S**	**7.14**	**214**	Sn	**Sn**	**10 53 52.7**	**-4.0**
	baz=36,slow=22						
FIA0				Lg	Lg	10 54 29.9	
	baz=16,slow=28						
FIA0	**FINESS Array S**	**7.14**	**214**	Sn	**Sn**	**10 53 52.7**	**

KU6	**Riekki**	**2.31 228**	PG	**Pb**	**11 16 15.4**	**-0.3**
KU6			SG	**Sb**	**11 16 46.2**	**+1.4**
KU6	**Riekki**	**2.31 228**	Pg	**Pb**	**11 16 15.4**	**-0.3**
KU6			Sg	**Sb**	**11 16 46.1**	**+1.4**
MSF	**Maaselka**	**2.64 232**	PG	**Pb**	**11 16 21.2**	**-0.2**
	baz=52					
MSF			SG	**Sb**	**11 16 54.2**	**-0.1**
MSF			MSG		11 16 54.2	
	comp=Z,4.8nm,0.3s					
MSF	**Maaselka**	**2.64 232**	Pg	**Pb**	**11 16 21.2**	**-0.2**
MSF			Sg	**Sb**	**11 16 54.2**	**-0.1**
SGF	**Sodankyl**	**2.91 270**	PN	**Pn**	**11 16 21.9**	**+1.1**
SGF			SN	**Sn**	**11 16 58.9**	**+2.5**
SGF			MSG		11 16 58.9	
	comp=Z,12nm,0.3s					
SGF	**Sodankyl**	**2.91 270**	Pn	**Pn**	**11 16 21.9**	**+1.1**
RNF	**Rovaniemi**	**3.32 256**	PN	**Pn**	**11 16 27.5**	**+1.2**
	baz=72					
RNF			SN	**Sn**	**11 17 08.6**	**+2.2**
RNF			MSG		11 17 08.6	
	comp=Z,2.9nm,0.3s					
RNF	**Rovaniemi**	**3.32 256**	Pn	**Pn**	**11 16 27.5**	**+1.2**
RNF			Sn	**Sn**	**11 17 08.6**	**+2.2**
KEV	**Kevo**	**3.36 313**	PN	**Pn**	**11 16 28.7**	**+1.8**
KEV			SN	**Sn**	**11 17 07.9**	**+0.4**
KEV			MSG		11 17 07.9	
	comp=Z,9.6nm,0.2s					
KEV	**Kevo**	**3.36 313**	Pn	**Pn**	**11 16 28.7**	**+1.8**
KEV			Sn	**Sn**	**11 17 07.8**	**+0.4**
ARA0	**ARCESS Array S**	**3.69 305**	Pn	**Pn**	**11 16 32.5**	**+1.0**
	baz=122,slow=16					
ARA0			Sn	**Sn**	**11 17 14.1**	**-1.5**
	baz=125,slow=28					
ARA0			Lg	Lg	11 17 24.9	
	baz=127,slow=37					
ARA0	**ARCESS Array S**	**3.69 305**	Pn	**Pn**	**11 16 32.5**	**+1.0**
	baz=122,slow=16					
ARA0			Sn	**Sn**	**11 17 14.1**	**-1.5**
	baz=125,slow=28					
ARA0			Lg	Lg	11 17 24.9	
	baz=127,slow=37					
ARA0	**ARCESS Array S**	**3.69 305**	PN	**Pn**	**11 16 32.0**	**+0.5**
ARA0			SN	**Sn**	**11 17 15.1**	**-0.5**
ARA0			MSG		11 17 15.1	
	comp=Z,4.6nm,0.2s					
ARA0	**ARCESS Array S**	**3.69 305**	Pn	**Pn**	**11 16 32.5**	**+1.0**
	SNR=50					
ARA0			Sn	**Sn**	**11 17 15.1**	**-0.5**
ARA0			Lg	Lg	11 17 24.9	
	SNR=50					
HEF	**Hetta**	**4.00 286**	PN	**Pn**	**11 16 38.1**	**+2.3**
HEF			SN	**Sn**	**11 17 23.3**	**-0.1**
HEF			MSG		11 17 23.3	
	comp=Z,1.6nm,0.2s					
HEF	**Hetta**	**4.00 286**	Pn	**Pn**	**11 16 38.1**	**+2.3**
HEF			Sn	**Sn**	**11 17 23.2**	**-0.1**
OUL	**Oulu**	**4.17 236**	SG	**Sg**	**11 17 44.0**	**-3.0**
OUL			MSG		11 17 44.0	
	comp=Z,2.2nm,0.3s					
OUL	**Oulu**	**4.17 236**	Sg	**Sg**	**11 17 44.0**	**-3.0**
FIA0	**FINESS Array S**	**7.09 213**	Lg	Lg	11 19 07.0	
	baz=28,slow=28					
FIA0	**FINESS Array S**	**7.09 213**	Lg	Lg	11 19 07.0	
	baz=28,slow=28					
FIA0	**FINESS Array S**	**7.09 213**	Lg	Lg	11 19 07.1	

*IDC **29** 11:17:49.0±1.4, 19.00S×169.78E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/20, mbtmp4.4/10, ML4.0/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/29, Error ellipse: s-maj=42.2km s-min=20.1km az=134.0*

*NEIC **29** 11:17:49.9±0.6, 19.05S×169.87E, h10km, mb4.5/6, Error ellipse: s-maj=15.9km s-min=9.8km az=129.0*

*ISCJB **29** 11:17:51.6±2.8, 19.01S±0.10×169.8E±0.2, h15km±18km, mb4.4/12, MS3.8/7, Error ellipse: s-maj=27.5km s-min=8.4km az=31.4*

ISC 29 11:17:48.9±2.7, 19.0S±0.1×169.8E±0.2, h1km±15km, n60, σ0s80/51, mb4.6/12, MS3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**4.37**	**226**	*e*Pn		**Pn**	**11 18 57.2**	**+0.6**
	55nn,0.3s							
DZM				*e*Sn		Sn	11 19 40.2	-8.0
	135nn,0.3s							
DZM	**Mont Dzumac**	**4.37**	**226**	*e*Pn		**Pn**	**11 18 56.8**	**+0.2**
DZM				*e*Pg		**Pg**	**11 19 12.2**	**-0.5**
DZM				*e*Sn		**Sn**	**11 19 49.1**	**+0.8**
DZM	**Mont Dzumac**	**4.37**	**226**	Pn		**Pn**	**11 18 57.1**	**+0.5**
	8.0nm,0.3s,baz=86,slow=10,SNR=85							
DZM				Sn		**Sn**	**11 19 47.2**	**-1.0**
	45nn,0.3s,baz=338,slow=23,SNR=11							
DZM				LR		LR	11 20 26.3	
	comp=Z,3μm,18.2s,baz=64,slow=36							
NORM	**Noumea**	**4.45**	**224**	*e*P		**Pn**	**11 18 58.7**	**+1.1**
NORM				*e*S		**Sn**	**11 19 49.5**	**-0.5**
NOUC	**Port Laguerre**	**4.49**	**227**	*e*P		**Pn**	**11 18 59.6**	**+1.5**
NOUC				*e*S		**Sn**	**11 19 49.3**	**-1.7**
HNR	**Honiara**	**13.51**	**314**	LR		LR	11 25 36.1	
	comp=Z,310nm,18.6s,baz=134,slow=35							
ARMA	**Armidale**	**20.00**	**232**	*e*P		**P**	**11 22 23.2**	**0.0**
	13nm,1.0s							
ARMA	**Armidale**	**20.00**	**232**	P		Pn	11 22 27.1	+2.2
	baz=19,SNR=4.5							
URZ	**Urewera**	**20.18**	**163**	LR		LR	11 28 51.7	
	comp=Z,206nm,20.1s,baz=349,slow=33							
RMQ	**Roma**	**20.77**	**245**	P		Pn	11 22 34.8	+1.0
	baz=19,SNR=7.8							
CTA	**Charters Tower**	**22.23**	**263**	P		**P**	**11 22 47.9**	**+0.7**
CTA	**Charters Tower**	**22.23**	**263**	P		**P**	**11 22 47.9**	**+0.7**
	1.5nm,0.5s,baz=80,slow=13,SNR=4.8							
CTAO	**Charters Tower**	**22.23**	**263**	*e*P		**P**	**11 22 48.3**	**+1.2**
	1.7nm,0.4s							
PMG	**Port Moresby**	**23.93**	**290**	P		**P**	**11 23 05.0**	**+0.3**
PMG	**Port Moresby**	**23.93**	**290**	P		**P**	**11 23 05.0**	**+0.3**
	38nm,1.0s,baz=148,slow=4.9,SNR=13							
PMG				LR		LR	11 31 43.7	
	comp=Z,237nm,18.4s,baz=118,slow=35							
PMG	**Port Moresby**	**23.93**	**290**	P		**P**	**11 23 05.0**	**+0.3**
	baz=23,SNR=6.4							
QLP	**Quilpie**	**24.72**	**248**	P		P	11 23 06.7	-5.2
	baz=23,SNR=3.3							
CMSA	**Cobar Meteorol**	**25.05**	**236**	P		**P**	**11 23 16.4**	**+1.6**
	baz=24,SNR=4.8							
STKA	**Stephens Creek**	**28.41**	**238**	*e*P		**P**	**11 23 45.7**	**+0.5**
	1.0nm,0.8s							
STKA	**Stephens Creek**	**28.41**	**238**	P		**P**	**11 23 46.2**	**+1.1**
	3.9nm,0.7s,baz=70,slow=9.5,SNR=13							
STKA				LR		LR	11 34 35.0	
	comp=Z,491nm,21.9s,baz=35,slow=35							
STKA	**Stephens Creek**	**28.41**	**238**	P		**P**	**11 23 46.5**	**+1.3**
	baz=27,SNR=7.5							
RAR	**Rarotonga**	**28.62**	**100**	LR		LR	11 32 57.5	
	comp=Z,108nm,19.7s,baz=46,slow=32							
WRAB	**Tennant Creek**	**33.41**	**262**	*e*P		**P**	**11 24 29.0**	**-0.4**
	16nm,1.1s							
WRA	**Warramunga Arr**	**33.42**	**262**	P		**P**	**11 24 28.1**	**-1.3**
WRA	**Warramunga Arr**	**33.42**	**262**	P		**P**	**11 24 28.1**	**-1.3**
	5.4nm,1.1s,baz=88,slow=8.5,SNR=10.0							
WRA				LR		LR	11 38 26.5	
	comp=Z,147nm,18.1s,baz=80,slow=37							
AS31	**Alice Springs**	**33.70**	**256**	*e*P		**P**	**11 24 31.4**	**-0.6**
ASAR	**Alice Springs**	**33.70**	**256**	P		**P**	**11 24 31.4**	**-0.5**
ASAR	**Alice Springs**	**33.70**	**256**	P		**P**	**11 24 31.4**	**-0.5**
	8.7nm,0.8s,baz=85,slow=8.8,SNR=89							
H11S2	**WAKE ISLAND Hy**	**37.42**	**355**	T		T	12 04 21.9	
	baz=177,slow=74,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**37.42**	**355**	T		T	12 04 21.9	
	baz=177,slow=74,SNR=3.1							
H11S1	**WAKE ISLAND Hy**	**37.43**	**355**	T		T	12 04 22.4	
	baz=177							
TBI	**Tubuai**	**38.12**	**104**	*e*LR		LR	11 35 55.4	
	233nm,27.2s							
PPT2	**Papeete2**	**38.52**	**95**	*e*LR		LR	11 36 06.0	
	373nm,27.5s							
PPT	**Papeete**	**38.52**	**95**	LR		LR	11 37 52.3	
	comp=Z,113nm,21.3s,baz=250,slow=31							
H11N1	**WAKE ISLAND Hy**	**38.61**	**356**	T		T	12 05 51.8	
	baz=185							
H11N3	**WAKE ISLAND Hy**	**38.62**	**356**	T		T	12 05 52.4	
	baz=185							
H11N2	**WAKE ISLAND Hy**	**38.63**	**356**	T		T	12 05 51.2	
	baz=185							
WRKA	**Warakurna**	**38.84**	**254**	P		**P**	**11 25 16.0**	**+0.2**
	baz=37,SNR=3.6							
KNRA	**Kununurra**	**39.26**	**268**	P		**P**	**11 25 18.7**	**-0.8**
	baz=38,SNR=5.7							
MEEK	**Meekatharra**	**47.54**	**251**	P		**P**	**11 26 26.2**	**0.0**
	baz=46,SNR=12							
MJAR	**Matsushiro Arr**	**62.83**	**332**	P		**P**	**11 28 15.7**	**-0.7**
MJAR	**Matsushiro Arr**	**62.83**	**332**	P		**P**	**11 28 15.7**	**-0.7**
	3.8nm,0.9s,baz=160,slow=8.4,SNR=5.9							
TWG	**Pinlang**	**63.22**	**309**	*e*P		**P**	**11 28 18.9**	**-0.3**
QSPA	**South Pole Qui**	**71.02**	**180**	*e*P		**P**	**11 29 08.1**	**-0.2**
	13nm,1.3s							
PETK	**Petropavlovsk-**	**72.60**	**352**	LR		LR	11 53 22.0	
	comp=Z,152nm,21.3s,baz=20,slow=29							
CMAR	**Chiang Mai Arr**	**78.92**	**294**	P		**P**	**11 29 55.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**78.92**	**294**	P		**P**	**11 29 55.6**	**+1.0**
	2.3nm,0.8s,baz=132,slow=4.1,SNR=17							
ULN	**Ulaanbaatar**	**87.03**	**323**	*e*P		**P**	**11 30 36.2**	**0.0**
	11nm,1.3s							
SONM	**Songino Array**	**87.39**	**323**	P		**P**	**11 30 37.4**	**-0.5**
SONM	**Songino Array**	**87.39**	**323**	P		**P**	**11 30 37.4**	**-0.5**
	3.3nm,0.9s,baz=129,slow=4.6,SNR=22							
ILAR	**Eielson Array**	**89.88**	**17**	P		**P**	**11 30 49.0**	**-0.1**
ILAR	**Eielson Array**	**89.88**	**17**	P		**P**	**11 30 49.0**	**-0.1**
	0.6nm,1.1s,baz=226,slow=6.1,SNR=5.5							
YKA	**Yellowknife Ar**	**100.24**	**27**	P		**Pdif**	**11 31 37.6**	**+1.2**
YKA	**Yellowknife Ar**	**100.24**	**27**	P		**Pdif**	**11 31 37.6**	**+1.2**
	0.2nm,0.7s,baz=270,slow=4.9,SNR=4.1							
ZALV	**Zalesovo Beam**	**102.28**	**323**	P		**Pdif**	**11 31 45.4**	**-0.3**
ZALV	**Zalesovo Beam**	**102.28**	**323**	P		**Pdif**	**11 31 45.4**	**-0.3**
	0.2nm,0.3s,baz=90,slow=5.8,SNR=2.6							
GERES	**GERESS Array B**	**144.56**	**333**	PKP		**PKPab**	**11 37 25.8**	**0.0**
GERES	**GERESS Array B**	**144.56**	**333**	PKP		**PKPab**	**11 37 25.8**	**0.0**
	2.1nm,0.9s,baz=69,slow=3.3,SNR=8.3							
TORD	**Torodi Ar. Bea**	**167.17**	**245**	PKP		**PKPdf**	**11 37 57.1**	**-0.5**
TORD				PKPab		**PKPab**	**11 39 01.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**167.17**	**245**	PKP		**PKPdf**	**11 37 57.1**	**-0.5**
	1.3nm,1.0s,baz=101,slow=1.5,SNR=6.3							
TORD				PKPab		**PKPab**	**11 39 01.7**	**-0.2**
	1.6nm,1.1s,baz=136,slow=4.7,SNR=5.1							

*IDC **29** 11:19:29.7±2.1, 19.03S×169.73E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/27, mbtmp4.2/8, ML3.8/1, Error ellipse: s-maj=54.7km s-min=25.1km az=122.0*

*NEIC **29** 11:19:30.9±0.7, 19.03S×169.79E, h10km, mb4.6/4, Error ellipse: s-maj=15.5km s-min=12.8km az=84.0*

*ISCJB **29** 11:19:32.5±0.9, 19.11S±0.09×169.8E±0.1, h33km, mb4.3/10, Error ellipse: s-maj=18.2km s-min=10.8km az=28.8*

ISC 29 11:19:34.8±1.0, 19.1S±0.1×169.8E±0.1, h35km, n31, σ0s84/25, mb4.3/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**4.33**	**225**	*e*Pn		**Pn**	**11 20 37.9**	**-0.3**
DZM				*e*Sn		**Sn**	**11 21 28.1**	**+0.6**
DZM	**Mont Dzumac**	**4.33**	**225**	Pn		**Pn**	**11 20 37.5**	**-0.8**
	5.5nm,0.3s,baz=94,slow=13,SNR=4.3							
DZM				Sn		**Sn**	**11 21 28.2**	**+0.6**
	20nm,0.3s,baz=121,slow=19,SNR=5.7							
URZ	**Urewera**	**20.18**	**163**	*e*P		**P**	**11 24 04.7**	**-1.6**
	3.9nm,1.0s							
PMG	**Port Moresby**	**23.89**	**291**	P		**P**	**11 24 45.3**	**-0.2**
PMG	**Port Moresby**	**23.89**	**291**	P		**P**	**11 24 45.3**	**-0.2**
	20nm,1.1s,baz=104,slow=4.2,SNR=3.2							
STKA	**Stephens Creek**	**28.37**	**238**	*e*P		**P**	**11 25 26.5**	**+0.7**
STKA	**Stephens Creek**	**28.37**	**238**	P		**P**	**11 25 26.2**	**+0.4**
	2.9nm,0.7s,baz=65,slow=9.9,SNR=5.5							
WRAB	**Tennant Creek**	**33.36**	**263**	*e*P		**P**	**11 26 09.4**	**-0.7**
	3.6nm,0.8s							
WRA	**Warramunga Arr**	**33.37**	**262**	P		**P**	**11 26 08.8**	**-1.4**
WRA	**Warramunga Arr**	**33.37**	**262**	P		**P**	**11 26 08.8**	**-1.4**
	0.8nm,0.7s,baz=89,slow=8.4,SNR=5.8							
AS31	**Alice Springs**	**33.66**	**256**	*e*P		**P**	**11 26 11.9**	**-0.7**
ASAR	**Alice Springs**	**33.66**	**256**	P		**P**	**11 26 11.8**	**-0.8**
ASAR	**Alice Springs**	**33.66**	**256**	P		**P**	**11 26 11.8**	**-0.8**
	3.3nm,0.6s,baz=84,slow=8.6,SNR=7.0							
H11S2	**WAKE ISLAND Hy**	**37.43**	**355**	T		T	12 06 14.0	
	baz=170							
H11S3	**WAKE ISLAND Hy**	**37.44**	**355**	T		T	12 06 13.9	
	baz=170							
H11S1	**WAKE ISLAND Hy**	**37.45**	**355**	T		T	12 06 12.3	
	baz=170							
H11N1	**WAKE ISLAND Hy**	**38.63**	**356**	T		T	12 07 41.6	
	baz=181							
H11N3	**WAKE ISLAND Hy**	**38.63**	**356**	T		T	12 07 39.3	
	baz=181							
H11N2	**WAKE ISLAND Hy**	**38.65**	**356**	T		T	12 07 40.5	
	baz=181							
MJAR	**Matsushiro Arr**	**62.83**	**332**	P		**P**	**11 29 56.8**	**-0.3**
MJAR	**Matsushiro Arr**	**62.83**	**332**	P		**P**	**11 29 56.8**	**-0.3**
	1.7nm,0.9s,baz=134,slow=8.6,SNR=4.1							
QSPA	**South Pole Qui**	**71.00**	**180**	*e*P		**P**	**11 30 50.5**	**+1.6**
	1.9s							
CMAR	**Chiang Mai Arr**	**78.89**	**294**	P		**P**	**11 31 35.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**78.89**	**294**	P		**P**	**11 31 35.5**	**+0.4**
	0.7nm,0.4s,baz=136,slow=4.0,SNR=4.6							
ULN	**Ulaanbaatar**	**87.02**	**323**	*e*P		**P**	**11 32 17.3**	**+0.6**
	10nm,1.3s							
SONM	**Songino Array**	**87.37**	**323**	P		**P**	**11 32 19.2**	**+0.7**
SONM	**Songino Array**	**87.37**	**323**	P		**P**	**11 32 19.2**	**+0.7**
	1.7nm,0.9s,baz=148,slow=5.8,SNR=5.7							
GERES	**GERESS Array B**	**144.56**	**332**	PKP		PKPbc	11 39 06.9	+0.5
GERES	**GERESS Array B**	**144.56**	**332**	PKP		PKPbc	11 39 06.9	+0.5
	1.2nm,0.8s,baz=56,slow=3.4,SNR=4.7							
TORD	**Torodi Ar. Bea**	**167.12**	**245**	PKP		**PKPdf**	**11 39 37.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**167.12**	**245**	PKP		**PKPdf**	**11 39 37.6**	**-0.3**
	1.1nm,0.9s,baz=104,slow=0.5,SNR=3.2							

WEL 29 11:24:25.6±0.4, 37.24S×176.68E, h164km±3km, ML3.5/18, 1D, Error ellipse: s-maj=5.5km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HAZ	**Te Kaha**	**1.02**	**121**	PN		Pn	11 24 51.8	+0.1
HAZ				SN		Sn	11 25 12.3	+0.4
URZ	**Urewera**	**1.07**	**162**	↓PN		Pn	11 24 52.2	0.0
URZ				SN		Sn	11 25 13.0	+0.2
MWZ	**Matawai**	**1.28**	**149**	PN		Pn	11 24 54.0	-0.1
MWZ				SN		Sn	11 25 15.3	-0.9
MXZ	**Matakaoa Point**	**1.34**	**104**	AML		AML	11 24 52.9	
PUZ	**Puketiti**	**1.50**	**124**	PN		Pn	11 24 56.0	-0.2
SNGZ	**Shannon Statio**	**1.62**	**161**	PN		Pn	11 24 57.7	+0.2
RIGZ	**Rimuhau**	**1.69**	**150**	PN		Pn	11 24 58.1	-0.1
RAHZ	**Arahi**	**1.70**	**169**	PN		Pn	11 24 58.3	0.0
CNGZ	**Carnagh Statio**	**1.73**	**136**	PN		Pn	11 24 59.2	+0.6
NMHZ	**Naumai**	**1.86**	**177**	PN		Pn	11 25 00.2	+0.2
BKZ	**Black Stump Fm**	**1.93**	**184**	PN		Pn	11 24 59.9	-0.9
PRGZ	**Paritu Road**	**1.93**	**151**	PN		Pn	11 25 00.4	-0.4
KNZ	**Kokohu**	**1.94**	**156**	PN		Pn	11 25 00.2	-0.6
MHGZ	**Mahia Peninsul**	**2.14**	**153**	PN		Pn	11 25 02.6	-0.5
TUVZ	**Tukino**	**2.18**	**201**	PN		Pn	11 25 03.8	+0.1
MCHZ	**McNeill Hill**	**2.20**	**180**	PN		Pn	11 25 03.7	-0.1
TRVZ	**Turoa**	**2.24**	**203**	PN		Pn	11 25 04.5	0.0
WNVZ	**Wahianoa**	**2.25**	**202**	PN		Pn	11 25 04.4	-0.2
BHHZ	**Black Hill Sta**	**2.29**	**192**	PN		Pn	11 25 03.8	-1.1
BHHZ				SN		Sn	11 25 33.7	-1.9
CKHZ	**Cape Kidnapper**	**2.43**	**173**	PN		Pn	11 25 05.6	-0.9
KAHZ	**Kahuranaki**	**2.55**	**177**	PN		Pn	11 25 06.9	-1.1
PNHZ	**Pukenui**	**2.69**	**188**	PN		Pn	11 25 08.1	-1.6
PXZ	**Pawanui**	**2.79**	**177**	PN		Pn	11 25 09.0	-1.8
WPHZ	**Waipukurau**	**2.83**	**184**	PN		Pn	11 25 09.8	-1.5
TSZ	**Takapari Road**	**2.87**	**191**	PN		Pn	11 25 10.2	-1.7
PRHZ	**Porangahau**	**3.02**	**181**	PN		Pn	11 25 11.7	-2.0
DVHZ	**Dannevirke**	**3.08**	**187**	PN		Pn	11 25 12.1	-2.3
ANWZ	**Angora Road**	**3.22**	**183**	PN		Pn	11 25 14.0	-2.1
POWZ	**Post Office Ro**	**3.23**	**192**	PN		Pn	11 25 14.3	-1.9
PRWZ	**Pori Road**	**3.35**	**189**	PN		Pn	11 25 16.0	-1.9
BFZ	**Birch Farm**	**3.45**	**185**	PN		Pn	11 25 16.4	-2.7
MRZ	**Mangatainoka R**	**3.52**	**194**	PN		Pn	11 25 17.2	-2.8
TIWZ	**Tintock**	**3.58**	**190**	PN		Pn	11 25 18.1	-2.8
OGWZ	**Otaki Gorge**	**3.76**	**198**	PN		Pn	11 25 20.3	-2.7
HOWZ	**Holdsworth Sta**	**3.76**	**194**	PN		Pn	11 25 19.8	-3.2
KIW	**Kapiti Island**	**3.87**	**200**	PN		Pn	11 25 21.2	-3.3
MTW	**Mount Morrison**	**4.02**	**193**	PN		Pn	11 25 22.7	-3.7
CAW	**Cannon Point**	**4.06**	**197**	PN		Pn	11 25 23.4	-3.4
WEL	**Wellington**	**4.30**	**200**	PN		Pn	11 25 26.5	-3.5
MSWZ	**Moikau Station**	**4.31**	**194**	PN		Pn	11 25 26.3	-3.9
SNZO	**South Karori**	**4.34**	**200**	PN		Pn	11 25 26.6	-3.9
TCW	**Tory Channel**	**4.38**	**204**	PN		Pn	11 25 27.5	-3.5
TCW				SN		Sn	11 26 16.5	-5.7
BHW	**Baring Head**	**4.39**	**198**	PN		Pn	11 25 27.1	-4.1
TUWZ	**Tuamarina**	**4.69**	**206**	PN		Pn	11 25 31.2	-3.9
NNZ	**Nelson**	**4.72**	**212**	PN		Pn	11 25 32.0	-3.5
THZ	**Tophouse**	**5.38**	**212**	PN		Pn	11 25 41.0	-3.1
KHZ	**Kahutara**	**5.71**	**204**	PN		Pn	11 25 44.0	-4.4

*IDC **29** 11:31:15.8±2.2, 19.16S×169.82E, h0km, mb4.2/5, mb1 4.3/6, mb1mx3.9/26, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=58.9km s-min=31.2km az=133.0*

*NEIC **29** 11:31:16.8±0.9, 19.09S×169.87E, h10km, mb4.4/2, Error ellipse: s-maj=23.7km s-min=15.7km az=22.0*

*ISCJB **29** 11:31:18.1±0.9, 19.2S±0.1×169.92E±0.10, h33km, mb4.2/7, Error ellipse: s-maj=15.5km s-min=12.1km az=144.7*

ISC 29 11:31:20.2±0.9, 19.2S±0.1×169.9E±0.1, h35km, n21, σ1s04/22, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**4.35**	**228**	Pn		**Pn**	**11 32 24.3**	**+0.4**
DZM				Sn		Sn	**11 33 13.8**	**+0.5**
DZM	**Mont Dzumac**	**4.35**	**228**	Pn		**Pn**	**11 32 24.3**	**+0.4**
	1.4nm,0.3s,baz=60,slow=20,SNR=3.0							
DZM				Sn		**Sn**	**11 33 13.8**	**+0.5**
	11nm,0.3s,baz=127,slow=20,SNR=7.3							
RAO	**Raoul Island**	**14.92**	**134**	*e*Pn		**Pn**	**11 34 48.1**	**-0.5**
CTAO	**Charters Tower**	**22.32**	**264**	*e*P		**P**	**11 36 13.6**	**-1.3**
	6.8nm,1.1s							
PMG	**Port Moresby**	**24.09**	**291**	*e*P		**P**	**11 36 32.4**	**-0.3**
PMG	**Port Moresby**	**24.09**	**291**	P		**P**	**11 36 32.2**	**-0.5**
	13nm,0.9s,baz=94,slow=19,SNR=5.2							
WRAB	**Tennant Creek**	**33.50**	**263**	*e*P		**P**	**11 37 54.2**	**-2.4**
	16nm,1.3s							
WRA	**Warramunga Arr**	**33.51**	**263**	P		**P**	**11 37 55.0**	**-1.6**
WRA	**Warramunga Arr**	**33.51**	**263**	P		**P**	**11 37 55.1**	**-1.6**
	0.7nm,0.9s,baz=88,slow=9.3,SNR=3.2							
AS31	**Alice Springs**	**33.78**	**256**	*e*P		**P**	**11 37 58.6**	**-0.4**
ASAR	**Alice Springs**	**33.78**	**256**	P		**P**	**11 37 58.7**	**-0.3**
ASAR	**Alice Springs**	**33.78**	**256**	P		**P**	**11 37 58.7**	**-0.3**
	2.2nm,0.6s,baz=85,slow=8.7,SNR=21							
QSPA	**South Pole Qui**	**70.86**	**180**	*e*P		P	11 42 37.1	+3.8
CMAR	**Chiang Mai Arr**	**79.09**	**294**	P		**P**	**11 43 23.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**79.09**	**294**	P		**P**	**11 43 23.1**	**+1.6**
	0.8nm,0.4s,baz=125,slow=4.5,SNR=7.9							
SONM	**Songino Array**	**87.58**	**323**	P		**P**	**11 44 05.4**	**+0.7**
SONM	**Songino Array**	**87.58**	**323**	P		**P**	**11 44 05.4**	**+0.7**
	1.3nm,0.9s,baz=130,slow=5.3,SNR=6.8							
GERES	**GERESS Array B**	**144.76**	**333**	PKP		**PKPdf**	**11 50 53.0**	**-0.4**
GERES	**GERESS Array B**	**144.76**	**333**	PKP		**PKPdf**	**11 50 53.0**	**-0.4**
	0.8nm,0.8s,baz=22,slow=3.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**167.21**	**244**	PKP		**PKPdf**	**11 51 23.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**167.21**	**244**	PKP		**PKPdf**	**11 51 23.6**	**+0.3**
	0.5nm,0.9s,baz=124,slow=0.2,SNR=2.6							

IDC 29 11:33:16.2±3.5, 18.88S×169.54E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/29, mbtmp4.1/7, Error ellipse: s-maj=77.2km s-min=30.1km az=115.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**4.30**	**222**	Pn		Pn	11 34 23.8	+0.8
	baz=37,slow=20,SNR=2.0							
DZM				Sn		Sn	11 35 12.3	-1.5
	1.1nm,0.3s,baz=49,slow=9.3,SNR=4.0							
PMG	**Port Moresby**	**23.63**	**290**	P		P	11 38 29.8	+0.6
	14nm,0.9s,baz=100,slow=6.1,SNR=6.5							
STKA	**Stephens Creek**	**28.27**

TORD				PKPab	**PKPab**	**11 58 41.6**	**-3.1**
TORD	**Torodi Ar. Bea**	**167.14**	**245**	PKP	**PKPdf**	**11 57 40.1**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=140,slow=6.6,SNR=4.5						
TORD				PKPab	**PKPab**	**11 58 41.6**	**-3.1**
	comp=Z,1.1nm,1.1s,baz=134,slow=4.2,SNR=3.1						

*ISCJB **29** 11:55:10.8±0.6, 1.°56N±0.°09×90.°8W±0.°1, h10km, mb4.1/14, MS3.9/17, Error ellipse: s-maj=20.7km s-min=8.9km az=147.5*

*IDC **29** 11:55:10.5±0.9, 1.°56N×90.°83W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.0/39, mbtmp4.1/11, ML3.7/1, MS3.9/21, Ms1 3.9/21, ms1mx3.7/33, Error ellipse: s-maj=50.8km s-min=14.4km az=50.0*

*NEIC **29** 11:55:12.1±0.6, 1.°51N×90.°89W, h10km, mb4.4/4, Error ellipse: s-maj=22.8km s-min=9.8km az=55.0*

ISC 29 11:55:11.9±0.6, 1.°5N±0.°1×90.°9W±0.°2, h10km, n61, σ1s08/37, mb4.1/14, MS3.9/17, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**2.25**	**164**	*e*Pn	**Pn**	**11 55 47.8**	**-1.4**
JTS	**JuntasAbangare**	**10.54**	**34**	LR	LR	12 00 46.1	
	comp=Z,2μm,19.7s,baz=209,slow=32						
ATAH	**Atahualpa**	**15.15**	**125**	Pn	**Pn**	**11 58 47.2**	**+0.7**
ATAH	**Atahualpa**	**15.15**	**125**	Pn	**Pn**	**11 58 47.2**	**+0.7**
	0.3nm,0.3s,baz=307,slow=17,SNR=6.4						
ATAH				LR	LR	12 03 40.1	
	comp=Z,700nm,18.6s,baz=308,slow=34						
ROSC	**El Rosal**	**16.88**	**78**	LR	LR	12 04 42.6	
	comp=Z,248nm,21.3s,baz=206,slow=34						
TEIG	**Tepich**	**18.78**	**8**	LR	LR	12 05 55.6	
	comp=Z,221nm,18.8s,baz=104,slow=34						
SDV	**Santo Domingo**	**21.46**	**69**	*e*P	**P**	**12 00 00.3**	**-0.6**
	18nm,0.9s						
H06E1	**SOCORRO T-PHAS**	**26.08**	**312**	T	T	12 27 54.2	
	SNR=12						
LPAZ	**La Paz**	**28.61**	**129**	*e*P	**P**	**12 01 10.2**	**+0.8**
LPAZ	**La Paz**	**28.61**	**129**	P	**P**	**12 01 10.2**	**+0.8**
	7.0nm,1.1s,baz=332,slow=8.5,SNR=13						
LPAZ				LR	LR	12 12 05.4	
	comp=Z,197nm,21.6s,baz=324,slow=36						
LPIG	**La Paz**	**29.28**	**322**	LR	LR	12 10 00.8	
	comp=Z,146nm,20.4s,baz=160,slow=30						
SAML	**Samuel**	**29.51**	**111**	*e*P	**P**	**12 01 15.8**	**-0.9**
	3.1nm,1.0s						
PTGA	**Pitinga**	**31.02**	**94**	*e*P	**P**	**12 01 29.8**	**-0.3**
PTGA	**Pitinga**	**31.02**	**94**	P	**P**	**12 01 29.6**	**-0.5**
	8.5nm,0.9s,baz=271,slow=7.4,SNR=11						
LVC	**Limon Verde**	**32.16**	**139**	*e*P	**P**	**12 01 42.7**	**+2.4**
	7.2nm,1.1s						
SIV	**San Ignacio**	**34.22**	**122**	P	**P**	**12 01 58.0**	**-0.1**
SIV	**San Ignacio**	**34.22**	**122**	P	**P**	**12 01 58.0**	**-0.1**
	1.5nm,0.6s,baz=301,slow=11,SNR=9.3						
SIV				LR	LR	12 15 25.9	
	comp=Z,206nm,20.3s,baz=317,slow=36						
ISCO	**Idaho Springs**	**40.40**	**342**	*e*P	**P**	**12 02 52.0**	**+1.4**
	7.6nm,1.2s						
CPUP	**Villa Florida**	**42.62**	**133**	P	**P**	**12 03 08.0**	**-0.6**
CPUP	**Villa Florida**	**42.62**	**133**	P	**P**	**12 03 08.0**	**-0.6**
	3.4nm,0.8s,baz=322,slow=10.0,SNR=3.4						
CPUP				LR	LR	12 21 36.3	
	comp=Z,85nm,21.2s,baz=306,slow=37						
PDAR	**Pinedale Array**	**44.34**	**340**	P	**P**	**12 03 23.5**	**+0.9**
PDAR	**Pinedale Array**	**44.34**	**340**	P	**P**	**12 03 23.5**	**+0.9**
	1.1nm,1.1s,baz=151,slow=6.8,SNR=4.6						
PDAR				LR	LR	12 21 37.9	
	comp=Z,97nm,18.3s,baz=164,slow=36						
NVAR	**Mina Array Bea**	**44.50**	**329**	P	**P**	**12 03 25.6**	**+1.6**
NVAR				PcP	**PcP**	**12 05 07.1**	**-0.2**
NVAR	**Mina Array Bea**	**44.50**	**329**	P	**P**	**12 03 25.6**	**+1.6**
	0.7nm,0.7s,baz=152,slow=8.4,SNR=8.8						
NVAR				PcP	**PcP**	**12 05 07.1**	**-0.2**
	1.0nm,0.8s,baz=134,slow=3.8,SNR=5.6						
BDFB	**Brasilia**	**45.68**	**114**	LR	LR	12 23 11.3	
	comp=Z,143nm,18.3s,baz=286,slow=37						
PLCA	**Paso Flores**	**45.95**	**158**	*e*P	**P**	**12 03 36.5**	**+1.3**
PLCA	**Paso Flores**	**45.95**	**158**	P	**P**	**12 03 36.0**	**+0.7**
	3.5nm,0.9s,baz=295,slow=8.1,SNR=4.0						
ULM	**Lac du Bonnet**	**48.73**	**356**	LR	LR	12 27 11.8	
	comp=Z,109nm,18.1s,baz=201,slow=40						
RKT	**Rikitea**	**49.38**	**238**	*e*LR	LR	12 18 33.0	
	263nm,31.2s						
RKT	**Rikitea**	**49.38**	**238**	*e*T	T	12 57 03.3	
	0.5nm,0.2s						
SCHQ	**Schefferville**	**56.68**	**16**	LR	LR	12 29 06.4	
	comp=Z,171nm,18.6s,baz=240,slow=36						
PPT	**Papeete**	**60.79**	**249**	LR	LR	12 25 59.1	
	comp=Z,93nm,20.8s,baz=38,slow=30						
PPT2	**Papeete2**	**60.80**	**249**	*e*LR	LR	12 23 40.4	
	215nm,26.2s						
TBI	**Tubuai**	**62.03**	**243**	*e*LR	LR	12 24 19.3	
	322nm,26.8s						
TBI	**Tubuai**	**62.03**	**243**	*e*T	T	13 12 47.3	
	2.5nm,0.2s						
YKA	**Yellowknife Ar**	**63.38**	**348**	P	**P**	**12 05 40.6**	**-0.6**
YKA	**Yellowknife Ar**	**63.38**	**348**	P	**P**	**12 05 40.6**	**-0.6**
	1.0nm,1.0s,baz=146,slow=6.4,SNR=9.2						
INK	**Inuvik**	**72.68**	**345**	P	**P**	**12 06 40.0**	**+0.4**
INK	**Inuvik**	**72.68**	**345**	P	**P**	**12 06 40.0**	**+0.4**
	1.8nm,1.1s,baz=153,slow=2.3,SNR=2.8						
ILAR	**Eielson Array**	**74.73**	**338**	P	**P**	**12 06 51.5**	**-0.2**
ILAR	**Eielson Array**	**74.73**	**338**	P	**P**	**12 06 51.5**	**-0.2**
	1.3nm,1.0s,baz=135,slow=4.2,SNR=8.2						
AFI	**Afiamalu**	**81.50**	**256**	LR	LR	12 34 37.5	
	comp=Z,111nm,21.3s,baz=225,slow=29						
ESDC	**Sonseca Array**	**86.69**	**51**	LR	LR	12 41 35.2	
	comp=Z,31nm,20.0s,baz=340,slow=32						
QSPA	**South Pole Qui**	**91.54**	**180**	LR	LR	12 44 28.1	
	comp=Z,89nm,18.2s,baz=120,slow=32						
TORD	**Torodi Ar. Bea**	**92.19**	**77**	LR	LR	12 49 50.4	
	comp=Z,24nm,19.2s,baz=235,slow=36						
NOA	**NORSAR Array B**	**94.55**	**29**	LR	LR	12 47 51.0	
	comp=Z,24nm,20.2s,baz=230,slow=34						
DAVOX	**Davos/Dischmat**	**96.29**	**43**	LR	LR	12 45 57.2	
	comp=Z,66nm,20.9s,baz=308,slow=32						
ARCES	**ARCESS Array B**	**97.58**	**19**	LR	LR	12 51 18.3	
	comp=Z,36nm,19.2s,baz=339,slow=34						
GERES	**GERESS Array B**	**98.45**	**40**	LR	LR	12 48 06.4	
	comp=Z,81nm,20.2s,baz=292,slow=32						
H11N3	**WAKE ISLAND Hyl**	**100.95**	**290**	T	T	14 01 37.7	
	baz=83						
H11N2	**WAKE ISLAND Hyl**	**100.97**	**290**	T	T	14 01 37.4	
	baz=83						
H11N1	**WAKE ISLAND Hyl**	**100.97**	**290**	T	T	14 01 36.3	
	baz=83						
H11S2	**WAKE ISLAND Hyl**	**101.26**	**289**	T	T	14 01 58.8	
	baz=87,slow=72,SNR=31						
H11S1	**WAKE ISLAND Hyl**	**101.27**	**289**	T	T	14 01 58.7	
	baz=87,slow=72,SNR=21						
H11S3	**WAKE ISLAND Hyl**	**101.28**	**289**	T	T	14 01 59.3	
	baz=87,slow=72,SNR=22						
ZALV	**Zalesovo Beam**	**124.62**	**3**	PKP	**PKPdf**	**12 14 09.2**	**-2.5**
ZALV	**Zalesovo Beam**	**124.62**	**3**	PKP	**PKPdf**	**12 14 09.2**	**-2.5**
	0.4nm,0.6s,baz=29,slow=3.3,SNR=3.2						
SONM	**Songino Array**	**128.59**	**345**	PKP	**PKPdf**	**12 14 18.6**	**-1.0**
SONM	**Songino Array**	**128.59**	**345**	PKP	**PKPdf**	**12 14 18.6**	**-1.0**
	0.2nm,0.4s,baz=64,slow=3.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**157.92**	**334**	PKP	**PKPdf**	**12 15 10.6**	**+0.5**
CMAR				PKPab	**PKPab**	**12 15 42.8**	**0.0**
CMAR	**Chiang Mai Arr**	**157.92**	**334**	PKP	**PKPdf**	**12 15 10.6**	**+0.5**
	0.3nm,0.3s,baz=27,slow=1.0,SNR=4.5						
CMAR				PKPab	**PKPab**	**12 15 42.8**	**0.0**
	0.4nm,0.4s,baz=2.4,slow=4.2,SNR=5.1						

IDC 29 12:05:44.4±4.2, 30.°04S×177.°71W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/25, mbtmp3.8/3, Error ellipse: s-maj=159.7km s-min=48.4km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.80**	**256**	P	P	12 12 36.2	-0.7
	2.1nm,0.7s,baz=108,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**43.38**	**266**	P	P	12 13 49.7	+0.8
	0.3nm,0.5s,baz=55,slow=7.5,SNR=4.4						
WRA	**Warramunga Arr**	**44.33**	**272**	P	P	12 13 55.9	-0.6
	0.8nm,0.7s,baz=112,slow=7.7,SNR=6.1						
FINES	**FINESS Array B**	**144.89**	**340**	PKP	PKPab	12 25 21.2	-0.6
	1.5nm,0.8s,baz=38,slow=5.3,SNR=3.5						
AKASG	**Malin Array Be**	**151.16**	**323**	PKPab	PKPab	12 25 47.2	+0.2
	0.2nm,0.4s,baz=48,slow=4.1,SNR=3.0						

*CSEM **29** 12:09:07.3, 39.°22N×21.°42E, h15km, MD2.7, After ATH*

ATH 29 12:09:07.3, 39.°22N×21.°42E, h15km±14km, MD2.7/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.43**	**135**	*e*PB	Pg	12 09 15.8	-0.3
EVR				*e*SB	Sg	12 09 22.0	0.0
EVR	**Evrytania**	**0.43**	**135**	*e*Pb	Pg	12 09 15.8	-0.3
EVR				*e*Sb	Sg	12 09 22.0	0.0
THL	**Klokotos Trika**	**0.57**	**53**	*e*PN	Pg	12 09 18.5	-0.1
THL	**Klokotos Trika**	**0.57**	**53**	*e*Pn	Pg	12 09 18.5	-0.1
MAKR	**Makrakomi, Fth**	**0.59**	**110**	*e*PN	Pg	12 09 19.2	+0.2
MAKR	**Makrakomi, Fth**	**0.59**	**110**	*e*Pn	Pg	12 09 19.2	+0.2
AGG	**Agios Georgios**	**0.73**	**105**	*e*PN	Pg	12 09 21.1	-0.6
AGG	**Agios Georgios**	**0.73**	**105**	*e*Pn	Pg	12 09 21.1	-0.6

MAN 29 12:09:23, 18.°36N×120.°64E, h19km, mb3.7, ML2.5, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.04**	**219**	*i*P	Pg	12 09 27.2	+0.8
PIP				*e*S	Sg	12 09 31.5	+2.8
ABRA	**Dolores**	**0.70**	**175**	*e*P	Pg	12 09 36.8	-0.1
APYP	**Conner**	**0.75**	**131**	*e*P	Pb	12 09 36.8	-0.7
APYP				*e*S	Sb	12 09 46.4	-1.0
CAUP	**Cauayan**	**1.80**	**141**	*e*P	Pn	12 09 54.1	+1.1

*ISCJB **29** 12:11:51.5±1.1, 7.°2S±0.°1×127.°06E±0.°09, h400km, mb3.3/2, Error ellipse: s-maj=16.5km s-min=11.5km az=21.2*

*IDC **29** 12:11:53.4±5.9, 7.°23S×126.°74E, h408km±76km, mb3.0/2, mb1 2.9/4, mb1mx2.6/19, mbtmp3.7/4, Error ellipse: s-maj=116.6km s-min=23.3km az=51.0*

ISC 29 12:11:53.0±1.4, 7.°3S±0.°1×126.°9E±0.°1, h400km, n12, σ2s33/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.59**	**226**	P	**Pn**	**12 13 01.5**	**0.0**
	baz=4.3,SNR=21						
SOEI				S	**S**	**12 13 52.2**	**-4.7**
	baz=4.3,SNR=5.9						
BATI	**Baumata**	**4.33**	**227**	P	**Pn**	**12 13 09.7**	**+1.3**
	35nm,0.3s,baz=50,slow=4.7,SNR=42						
BATI				S	**S**	**12 14 08.8**	**-0.7**
	27nm,0.3s,baz=55,slow=16,SNR=7.4						
MTN	**Manton Dam**	**6.93**	**143**	P	Pn	12 13 34.2	-1.8
	baz=7.4,SNR=4.6						
KNRA	**Kununurra**	**8.55**	**168**	P	**Pn**	**12 13 54.8**	**+0.4**
	baz=9.2,SNR=4.8						
FITZ	**Fitzroy Crossi**	**10.84**	**186**	P	**Pn**	**12 14 22.2**	**+1.4**
	baz=12,SNR=4.3						
WRA	**Warramunga Arr**	**14.52**	**151**	P	**P**	**12 15 00.2**	**-0.2**
	0.4nm,0.3s,baz=328,slow=12,SNR=21						
WRA				S	**S**	**12 17 32.3**	**-3.2**
	0.1nm,0.3s,baz=320,slow=18,SNR=4.5						
ASAR	**Alice Springs**	**17.64**	**158**	P	**P**	**12 15 35.1**	**+1.3**
	0.1nm,0.3s,baz=340,slow=11,SNR=9.1						
WRKA	**Warakurna**	**17.72**	**176**	P	**P**	**12 15 37.0**	**+2.4**
	baz=18,SNR=3.8						
QIS	**Mount Isa**	**18.05**	**138**	P	**P**	**12 15 37.4**	**-0.9**
	baz=18,SNR=3.2						
MEEK	**Meekatharra**	**20.82**	**201**	P	**P**	**12 16 08.6**	**+3.6**
	baz=22,SNR=6.8						
STKA	**Stephens Creek**	**28.06**	**153**	P	**P**	**12 17 10.8**	**+1.1**
	1.4nm,0.9s,baz=350,slow=6.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**70.50**	**335**	P	**P**	**12 22 24.4**	**-1.1**
	0.6nm,0.7s,baz=121,slow=5.4,SNR=2.7						

BUC 29 12:12:03.8±0.1, 46.°28N×22.°49E, h5km, MD2.5/3, 4C-2D, Error ellipse: s-maj=2.1km s-min=1.0km az=115.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRGR		**0.53**	**17**	*i*P	Pg	12 12 14.8	+0.6
DRGR		**0.53**	**17**	*s*	Sg	12 12 22.5	+1.2
DRGR		**0.53**	**17**	*i*P	Pg	12 12 14.8	+0.6
DRGR				*i* S	Sg	12 12 22.5	+1.2
BZS	**Buzias**	**0.90**	**223**	*i*P	Pb	12 12 22.0	+0.1
BZS	**Buzias**	**0.90**	**223**	*i*P	Pb	12 12 22.0	+0.1
BZS				*i* S	Sb	12 12 33.6	-0.6
GZR	**Gura Zlata**	**0.91**	**167**	*i*P	Pb	12 12 22.3	+0.1
GZR	**Gura Zlata**	**0.91**	**167**	*i*P	Pb	12 12 22.3	+0.1
GZR				*i* S	Sn	12 12 36.1	-0.8

WEL 29 12:19:54.0±0.3, 38.°59S×178.°77E, h37km±10km, ML3.5/7, 6C-9D, Error ellipse: s-maj=4.0km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.45**	**283**	↑P	Pn	12 20 03.4	-0.4
CNGZ					Sn	12 20 11.5	+0.7
PUZ	**Puketiti**	**0.65**	**322**	↑P	Pn	12 20 05.6	-1.3
PUZ					AML	12 20 14.4	
PUZ					Sn	12 20 14.6	-1.4
PRGZ	**Paritu Road**	**0.77**	**244**	Pn	Pn	12 20 07.9	-0.5
PRGZ					Sn	12 20 19.4	+0.8
RIGZ	**Rimuhau**	**0.79**	**261**	↑P	Pn	12 20 08.3	-0.5
RIGZ					Sn	12 20 20.0	+0.5
MHGZ	**Mahia Peninsul**	**0.88**	**230**	Pn	Pn	12 20 09.5	-0.3
KNZ	**Kokohu**	**0.95**	**243**	↑P	Pn	12 20 10.2	-0.6
MWZ	**Matawai**	**1.00**	**284**	Pn	Pn	12 20 10.4	-1.2
MWZ					Sn	12 20 22.9	-1.6
MWZ					AML	12 20 25.5	
MWZ					AML	12 20 25.6	
MXZ	**Matakaoa Point**	**1.09**	**340**	↓P	Pn	12 20 12.8	+0.2
MXZ					Sn	12 20 26.8	+0.3
MXZ					AML	12 20 27.2	
SNGZ	**Shannon Statio**	**1.13**	**260**	Pn	Pn	12 20 12.8	-0.5
HAZ	**Te Kaha**	**1.14**	**317**	↑P	Pn	12 20 12.5	-0.8
WHHZ	**Waihua**	**1.29**	**247**	Pn	Pn	12 20 15.2	-0.3
WHHZ					Sn	12 20 31.7	+0.2
URZ	**Urewera**	**1.34**	**284**	↑P	Pn	12 20 15.6	-0.5
URZ					AML	12 20 24.5	
URZ					AML	12 20 35.1	
RAHZ	**Arahi**	**1.35**	**255**	↓P	Pn	12 20 16.0	-0.4
NMHZ	**Naumai**	**1.61**	**251**	Pn	Pn	12 20 19.7	-0.3
EDRZ	**Edgecumbe**	**1.67**	**286**	Pn	Pn	12 20 21.0	+0.3
CKHZ	**Cape Kidnapper**	**1.69**	**230**	Pn	Pn	12 20 20.4	-0.6
RRRZ	**Republican Roa**	**1.78**	**277**	Pn	Pn	12 20 22.5	+0.2
TARZ	**Mount Tarawera**	**1.81**	**281**	Pn	Pn	12 20 23.0	+0.2
MCHZ	**McNeill Hill**	**1.82**	**241**	Pn	Pn	12 20 22.9	+0.1
PRRZ	**Plateau Road**	**1.86**	**272**	Pn	Pn	12 20 23.4	0.0
BKZ	**Black Stump Fm**	**1.86**	**251**	↓P	Pn	12 20 22.9	-0.6
BKZ					AML	12 22 32.1	
BKZ					AML	12 22 32.3	
OPRZ	**Ohinepanea**	**1.89**	**292**	Pn	Pn	12 20 23.0	-0.8
KAHZ	**Kahuranaki**	**1.90**	**230**	Pn	Pn	12 20 23.2	-0.7
ALRZ	**Allen Road**	**1.90**	**270**	Pn	Pn	12 20 24.2	+0.3
PXZ	**Pawanui**	**2.06**	**225**	Pn	Pn	12 20 24.5	-1.6
BHHZ	**Black Hill Sta**	**2.29**	**246**	Pn	Pn	12 20 28.6	-0.6
WPHZ	**Waipukurau**	**2.33**	**230**	Pn	Pn	12 20 28.7	-1.1
PRHZ	**Porangahau**	**2.35**	**224**	Pn	Pn	12 20 28.2	-1.9
PNHZ	**Pukenui**	**2.39**	**236**	Pn	Pn	12 20 29.5	-1.2
MOVZ	**Moawhango**	**2.48**	**250**	↓P	Pn	12 20 31.8	-0.2
OTVZ	**Oturere**	**2.49**	**256**	Pn	Pn	12 20 31.9	-0.2
KRVZ	**Karewarewa**	**2.49**	**257**	Pn	Pn	12 20 31.9	-0.3
TUVZ	**Tukino**	**2.52**	**253**	↓P	Pn	12 20 32.5	0.0
WTVZ	**West Tongariro**	**2.53**	**257**	Pn	Pn	12 20 32.6	-0.1
NGZ	**Ngauruhoe**	**2.54**	**256**	↓P	Pn	12 20 32.7	-0.1
TLZ	**Tolley Road**	**2.55**	**275**	Pn	Pn	12 20 32.4	-0.4
ANWZ	**Angora Road**	**2.58**	**223**	Pn	Pn	12 20 31.3	-1.8
WNVZ	**Wahianoa**	**2.58**	**252**	Pn	Pn	12 20 33.1	-0.3
WPVZ	**Whakapapa**	**2.59**	**255**	Pn	Pn	12 20 33.3	-0.1
COVZ	**Chateau Observ**	**2.59**	**255**	Pn	Pn	12 20 33.3	-0.2
FWVZ	**Far West T-bar**	**2.59**	**254**	Pn	Pn	12 20 33.2	-0.5
TRVZ	**Turoa**	**2.61**	**253**	Pn	Pn	12 20 33.5	-0.4
TSZ	**Takapari Road**	**2.62**	**235**	Pn	Pn	12 20 32.3	-1.6
DVHZ	**Dannevirke**	**2.64**	**229**	↓P	Pn	12 20 32.5	-1.5
PKVZ	**Pokaka**	**2.76**	**254**	Pn	Pn	12 20 35.7	-0.1
BFZ	**Birch Farm**	**2.85**	**222**	Pn	Pn	12 20 34.3	-2.7
PRWZ	**Pori Road**	**2.92**	**227**	Pn	Pn	12 20 36.6	-1.3
POWZ	**Post Office Ro**	**2.94**	**231**	Pn	Pn	12 20 36.6	-1.5
HIZ	**Hauiti**	**3.07**	**270**	↓P	Pn	12 20 40.6	+0.7
TIWZ	**Tintock**	**3.12**	**225**	Pn	Pn	12 20 38.5	-2.1
TIWZ					AML	12 21 15.9	
TIWZ					AML	12 21 17.5	
VRZ	**Vera Road**	**3.17**	**259**	PN	Pn	12 20 41.7	+0.3
MRZ	**Mangatainoka R**	**3.21**	**229**	↓PN	Pn	12 20 40.0	-2.0
MRZ					AML	12 21 17.0	
MRZ					AML	12 21 17.2	
TMWZ	**Te Maipa**	**3.35**	**220**	PN	Pn	12 20 41.1	-2.7
HOWZ	**Holdsworth Sta**	**3.41**	**226**	PN	Pn	12 20 42.0	-2.6
OGWZ	**Otaki Gorge**	**3.56**	**230**	PN	Pn	12 20 44.3	-2.3
MTW	**Mount Morrison**	**3.59**	**223**	PN	Pn	12 20 43.7	-3.4
TRWZ	**Traveller**	**3.67**	**219**	PN	Pn	12 20 44.9	-3.3
NEZ	**North Egmont**	**3.70**	**258**	PN	Pn	12 20 50.3	+1.5
KIW	**Kapiti Island**	**3.74**	**231**	PN	Pn	12 20 46.9	-2.3
KHHZ	**Kahui Hut**	**3.77**	**258**	PN	Pn	12 20 50.8	+1.1
PKE	**Pukeiti**	**3.78**	**259**	PN	Pn	12 20 50.4	+0.7
PAWZ	**Paruwai Farm**	**3.79**	**222**	PN	Pn	12 20 46.5	-3.3
CAW	**Cannon Point**	**3.80**	**227**	PN	Pn	12 20 47.2	-2.8
MSWZ	**Moikau Station**	**3.91**	**223**	PN	Pn	12 20 47.7	-3.8
SNZO	**South Karori**	**4.14**	**228**	PN	Pn	12 20 51.4	-3.2
TCW	**Tory Channel**	**4.33**	**231**	PN	Pn	12 20 54.0	-3.3
TUWZ	**Tuamarina**	**4.66**	**231**	PN	Pn	12 20 58.1	-3.8
NNZ	**Nelson**	**4.90**	**236**	PN	Pn	12 21 02.3	-2.8
THZ	**Tophouse**	**5.50**	**233**	PN	Pn	12 21 09.4	-4.0
CTZ	**Chatham Island**	**6.21**	**147**	PN	Pn	12 21 24.9	+1.9
MQZ	**McQueen's Vall**	**6.88**	**220**	PN	Pn	12 21 28.0	-4.2

IDC 29 12:22:53.2±4.0, 48.°71S×120.°92E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, ML2.2/1, Error ellipse: s-maj=73.9km s-min=68.3km az=72.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**14.69**	**338**	T	T	12 41 29.8	
	baz=161,slow=74,SNR=44						
H01W2	**Cape Leeuwin H**	**14.69**	**337**	T	T	12 41 29.1	
	baz=161,slow=74,SNR=38						
H01W3	**Cape Leeuwin H**	**14.71**	**337**	T	T	12 41 29.3	
	baz=161,slow=74,SNR=31						
NWAO	**Narrogin (SRO)**	**16.01**	**349**	Pn	Pn	12 26 41.5	+1.8
	0.5nm,0.3s,baz=168,slow=9.9,SNR=3.3						
STKA	**Stephens Creek**	**22.93**	**50**	P	P	12 27 59.4	+0.6
	1.6nm,0.6s,baz=225,slow=2.9,SNR=6.2						
ASAR	**Alice Springs**	**27.02**	**27**	P	P	12 28 36.7	-0.3
	1.2nm,1.0s,baz=207,slow=8.4,SNR=7.2						
WRA	**Warramunga Arr**	**30.67**	**25**	P	P	12 29 08.6	-0.8
	0.4nm,0.6s,baz=193,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**146.89**	**44**	PKPbc	PKPbc	12 42 35.5	-0.7
	0.1nm,0.5s,baz=278,slow=3.0,SNR=3.3						

*ISCJB **29** 12:25:41.6±1.0, 34.°93N±0.°04×26.°88E±0.°03, h11km±6km, mb3.7/4, Error ellipse: s-maj=7.0km s-min=3.9km az=175.6*

*IDC **29** 12:25:41.5±1.1, 34.°94N×26.°94E, h0km, mb3.8/4, mb1 3.5/8, mb1mx3.4/27, mbtmp3.5/8, ML3.4/4, Error ellipse: s-maj=25.8km s-min=15.8km az=178.0*

*CSEM **29** 12:25:42.8±0.5, 35.°03N×26.°82E, h2km, ML3.5, Error ellipse: s-maj=12.4km s-min=3.6km az=163.0*

*ATH **29** 12:25:42.8, 35.°04N×26.°82E, h12km±1km, MD3.1/5*

*THE **29** 12:25:43.0, 35.°08N×26.°79E, h7km±2km, ML3.5/1, Error ellipse: s-maj=3.1km s-min=0.6km az=152.0*

*ISK **29** 12:25:47.8, 35.°47N×26.°92E, h9km, MD3.6*

*DDA **29** 12:25:48.3, 35.°24N×26.°99E, h21km, MD3.5*

ISC 29 12:25:42.9±1.1, 35.°08N±0.°04×26.°84E±0.°02, h14km±8km, n60, σ1s34/87, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.51**	**274**	P	**Pg**	**12 25 52.2**	**-0.7**
ZKR				S	**Sg**	**12 25 59.8**	**+0.1**
ZKR	**Zakros**	**0.51**	**274**	*e*PG	**Pg**	**12 25 52.3**	**-0.7**
ZKR				*e*SB	**Sg**	**12 25 59.5**	**-0.2**
ZKR	**Zakros**	**0.51**	**274**	*e*Pg	**Pg**	**12 25 52.3**	**-0.7**
ZKR				*e*Sb	**Sg**	**12 25 59.5**	**-0.2**
KARP	**Karpathos**	**0.54**	**30**	P	**Pg**	**12 25 53.7**	**+0.3**
KARP				S	**Sb**	**12 26 02.6**	**+0.8**
KARP

0.5nm,0.3s,baz=359,slow=18,SNR=4.9
AKASG **Malin Array Be 15.71 6** Pn **P 12 29 26.2 -1.4**
0.2nm,0.3s,baz=194,slow=12,SNR=2.0
TORD **Torodi Ar. Bea 31.51 232** P **P 12 32 04.7 +0.1**
0.5nm,0.5s,baz=35,slow=8.4,SNR=5.1
MKAR **Makanchi Array 42.67 57** P **P 12 33 40.2 +1.1**
1.1nm,0.6s,baz=284,slow=6.9,SNR=16
ZALV **Zalesovo Beam 44.07 46** P **P 12 33 50.3 +0.1**
1.6nm,0.5s,baz=269,slow=7.9,SNR=8.8
SONM **Songino Array 58.47 51** P **P 12 35 39.5 +1.0**
0.2nm,0.5s,baz=277,slow=6.9,SNR=3.0

IDC 29 12:30:46.7±3.3, 30°46S×177°39W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.6/18, mbtmp3.4/3, Error ellipse: s-maj=65.4km s-min=26.4km az=97.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.29**	**339**	Pn	Pn	12 31 12.2	+0.3
	112nm,0.3s,baz=90,slow=20,SNR=4.7						
RAO				Sn	Sn	12 31 30.5	+0.7
	219nm,0.3s,baz=197,slow=19,SNR=5.6						
STKA	**Stephens Creek**	**34.98**	**257**	P	P	12 37 41.0	+0.3
	1.3nm,0.8s,baz=95,slow=10.0,SNR=3.6						
ASAR	**Alice Springs**	**43.63**	**267**	P	P	12 38 53.2	0.0
	0.1nm,0.4s,baz=106,slow=7.3,SNR=3.9						
WRA	**Warramunga Arr**	**44.62**	**272**	P	P	12 39 00.5	-0.7
	0.7nm,0.9s,baz=111,slow=8.1,SNR=9.3						
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc	PKPbc	12 50 24.8	-0.9
	1.1nm,0.8s,baz=22,slow=0.7,SNR=3.0						

NNC 29 12:31:48.1±13.0, 41°16N×69°23E, h0km, mb3.6, mpv3.1, 3C-3D, Error ellipse: s-maj=102.2km s-min=59.1km az=39.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.17**	**26**	⇑Pn	Pn	12 32 23.2	-2.3
	3.4nm,0.3s,baz=200,slow=16,SNR=58						
KK31				⇓Sn	Sn	12 32 53.3	+0.1
	56nm,0.7s,baz=196,slow=25,SNR=25						
AAK	**Ala-Archa**	**4.20**	**68**	⇓Pn	Pn	12 32 54.5	+0.9
	3.6nm,0.7s						
AAK				⇑Sn	Sn	12 33 45.8	+2.2
	9.0nm,0.7s						
TKM2	**Tokmak 2**	**5.06**	**67**	⇓Pn	Pn	12 33 05.0	-0.6
	2.3nm,0.6s						
TKM2				⇑Sn	Sb	12 34 12.3	-7.1
	13nm,0.8s						

IDC 29 12:46:17.3±3.6, 5°26S×150°49E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=134.6km s-min=44.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.28**	**218**	Pn	Pn	12 47 35.6	-1.9
	0.6nm,0.3s,baz=49,slow=20,SNR=2.9						
PMG				Sn	Sn	12 48 28.5	-11
	0.9nm,0.3s,baz=337,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**21.45**	**226**	P	P	12 51 06.7	-0.7
	0.4nm,0.5s,baz=52,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**24.30**	**219**	P	P	12 51 38.3	+1.6
	0.2nm,0.4s,baz=54,slow=9.4,SNR=11						
TORD	**Torodi Ar. Bea**	**148.24**	**286**	PKPbc	PKPbc	13 06 05.2	-1.3
	0.2nm,0.4s,baz=64,slow=2.6,SNR=4.9						

*ISCJB **29** 12:47:42.1±0.7, 38°13N±0°04×19°66E±0°04, h23km±5km, mb3.4/3, MS2.8/1, Error ellipse: s-maj=7.3km s-min=3.8km az=29.6*
*CSEM **29** 12:47:42.8±0.2, 38°11N×19°74E, h15km, MD3.3, Error ellipse: s-maj=4.6km s-min=2.6km az=33.0*
*IDC **29** 12:47:42.5±4.1, 38°63N×20°21E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/35, mbtmp3.4/5, ML3.6/2, MS2.7/2, Ms1 2.8/2, ms1mx2.4/28, Error ellipse: s-maj=85.5km s-min=24.0km az=47.0*
*ATH **29** 12:47:43.7, 38°17N×19°84E, h28km±1km, MD3.3/14*
*THE **29** 12:47:43.9, 38°14N×19°78E, h16km±1km, ML3.4/4, Error ellipse: s-maj=1.5km s-min=0.9km az=325.0*
ISC 29 12:47:43.2±1.2, 38°16N±0°04×19°71E±0°03, h31km±10km, n112, σ1§34/142, mb3.3/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.69**	**88**	P	**Pb**	**12 47 56.4**	**-0.5**
VLS				S	**Sb**	**12 48 05.5**	**-0.6**
VLS	**Valsamata**	**0.69**	**88**	*e*Pn	**Pb**	**12 47 56.4**	**-0.5**
VLS				*e*Sn	**Sb**	**12 48 05.2**	**-0.9**
VLS	**Valsamata**	**0.69**	**88**	P	**Pb**	**12 47 56.4**	**-0.5**
VLS				S	**Sb**	**12 48 05.5**	**-0.6**
KFL	**Anninata**	**0.85**	**93**	P	**Pn**	**12 47 58.8**	**-0.2**
KFL				S	**Sn**	**12 48 10.3**	**-0.1**
KFL	**Anninata**	**0.85**	**93**	P	**Pn**	**12 47 58.8**	**-0.2**
KFL				S	**Sn**	**12 48 10.3**	**-0.1**
LKD2	**Lefkada island**	**0.97**	**49**	P	**Pn**	**12 48 01.4**	**+0.7**
LKD2				S	**Sb**	**12 48 14.8**	**+0.7**
LKD2	**Lefkada island**	**0.97**	**49**	*e*Pn	**Pn**	**12 48 01.5**	**+0.7**
LKD2				*e*Sn	**Sn**	**12 48 13.4**	**-0.1**
LKD2	**Lefkada island**	**0.97**	**49**	P	**Pn**	**12 48 01.4**	**+0.7**
LKD2				*e*Sn	**Sn**	**12 48 13.4**	**-0.1**
LKD2				S	**Sb**	**12 48 14.8**	**+0.7**
VTN	**Vitineika**	**1.19**	**101**	P	**Pn**	**12 48 04.5**	**+0.8**
VTN				S	**Sb**	**12 48 20.7**	**+0.5**
VTN	**Vitineika**	**1.19**	**101**	P	**Pn**	**12 48 04.5**	**+0.8**
VTN				S	**Sb**	**12 48 20.7**	**+0.5**
PDO	**Prodromos**	**1.24**	**69**	P	**Pn**	**12 48 05.2**	**+0.9**
PDO				S	**Sb**	**12 48 22.2**	**+0.6**
PDO	**Prodromos**	**1.24**	**69**	*e*PN	**Pn**	**12 48 05.7**	**+1.4**
PDO				*e*SN	**Sn**	**12 48 21.5**	**+1.5**
PDO	**Prodromos**	**1.24**	**69**	P	**Pn**	**12 48 05.2**	**+0.9**
PDO	**Prodromos**	**1.24**	**69**	*e*Pn	**Pn**	**12 48 05.7**	**+1.4**
PDO				*e*Sn	**Sn**	**12 48 21.5**	**+1.5**
PDO				S	**Sb**	**12 48 22.2**	**+0.6**
RLS	**Riolos of Patr**	**1.39**	**94**	P	**Pn**	**12 48 07.0**	**+0.6**
RLS				S	**Sn**	**12 48 25.1**	**+1.4**
RLS	**Riolos of Patr**	**1.39**	**94**	*e*PN	**Pn**	**12 48 07.3**	**+0.9**
RLS				*e*SN	**Sb**	**12 48 26.1**	**+0.3**
RLS	**Riolos of Patr**	**1.39**	**94**	P	**Pn**	**12 48 07.0**	**+0.6**
RLS	**Riolos of Patr**	**1.39**	**94**	*e*Pn	**Pn**	**12 48 07.3**	**+0.9**
RLS				S	**Sn**	**12 48 25.1**	**+1.4**
RLS				*e*Sn	**Sb**	**12 48 26.1**	**+0.3**
IGT	**Igoumenitsa**	**1.45**	**19**	*e*PN	**Pb**	**12 48 09.6**	**-0.1**
IGT	**Igoumenitsa**	**1.45**	**19**	*e*Pn	**Pb**	**12 48 09.6**	**-0.1**
PVO	**Paravola**	**1.50**	**72**	P	**Pn**	**12 48 09.2**	**+1.3**
PVO	**Paravola**	**1.50**	**72**	P	**Pn**	**12 48 09.2**	**+1.3**
KEK	**Kerkira**	**1.55**	**2**	P	**Pn**	**12 48 10.3**	**+1.6**
KEK	**Kerkira**	**1.55**	**2**	*e*PN	**Pb**	**12 48 11.0**	**-0.4**
KEK	**Kerkira**	**1.55**	**2**	P	**Pn**	**12 48 10.3**	**+1.6**
KEK	**Kerkira**	**1.55**	**2**	*e*Pn	**Pb**	**12 48 11.0**	**-0.4**
DRO	**Drossia**	**1.59**	**97**	P	**Pn**	**12 48 10.1**	**+0.9**
DRO				S	**Sb**	**12 48 31.0**	**-0.7**
DRO	**Drossia**	**1.59**	**97**	*e*PN	**Pn**	**12 48 10.3**	**+1.1**
DRO	**Drossia**	**1.59**	**97**	*e*Pn	**Pn**	**12 48 10.3**	**+1.1**
DRO				S	**Sb**	**12 48 31.0**	**-0.7**
AMT	**Artemida-Makis**	**1.70**	**111**	P	**Pn**	**12 48 10.9**	**+0.2**
AMT				S	**Sn**	**12 48 32.7**	**+1.3**
AMT	**Artemida-Makis**	**1.70**	**111**	*e*PN	**Pn**	**12 48 12.1**	**+1.4**
AMT	**Artemida-Makis**	**1.70**	**111**	P	**Pn**	**12 48 10.9**	**+0.2**
AMT	**Artemida-Makis**	**1.70**	**111**	*e*Pn	**Pn**	**12 48 12.1**	**+1.4**
AMT				S	**Sn**	**12 48 32.7**	**+1.3**
JAN	**Janina**	**1.74**	**30**	*e*PN	**Pn**	**12 48 13.4**	**+2.1**
JAN	**Janina**	**1.74**	**30**	*e*Pn	**Pn**	**12 48 13.4**	**+2.1**
EFP	**Efpalio**	**1.75**	**81**	P	**Pn**	**12 48 12.4**	**+1.1**
EFP	**Efpalio**	**1.75**	**81**	P	**Pn**	**12 48 12.4**	**+1.1**
LAKA	**Lakka**	**1.79**	**87**	P	**Pn**	**12 48 12.9**	**+0.9**
LAKA	**Lakka**	**1.79**	**87**	*e*PB	**Pn**	**12 48 13.1**	**+1.1**
LAKA	**Lakka**	**1.79**	**87**	*e*Pb	**Pn**	**12 48 13.1**	**+1.1**
EVR	**Evrytania**	**1.81**	**65**	P	**Pn**	**12 48 13.8**	**+1.5**
EVR	**Evrytania**	**1.81**	**65**	*e*PB	**Pn**	**12 48 13.6**	**+1.3**
EVR	**Evrytania**	**1.81**	**65**	P	**Pn**	**12 48 13.8**	**+1.5**
KALE	**Kalithea**	**1.92**	**82**	P	**Pn**	**12 48 14.9**	**+1.0**
KALE				S	**Sn**	**12 48 38.1**	**+1.1**
KALE	**Kalithea**	**1.92**	**82**	*e*PN	**Pn**	**12 48 15.5**	**+1.6**
KALE	**Kalithea**	**1.92**	**82**	P	**Pn**	**12 48 14.9**	**+1.0**
KALE	**Kalithea**	**1.92**	**82**	*e*Pn	**Pn**	**12 48 15.5**	**+1.6**
KALE				S	**Sn**	**12 48 38.1**	**+1.1**
KLV	**Kalavryta, Ach**	**1.93**	**93**	P	**Pn**	**12 48 14.8**	**+0.9**
KLV	**Kalavryta, Ach**	**1.93**	**93**	*e*PB	**Pn**	**12 48 15.0**	**+1.1**
KLV	**Kalavryta, Ach**	**1.93**	**93**	P	**Pn**	**12 48 14.8**	**+0.9**
MEV	**Metsovon**	**2.01**	**36**	P	**Pn**	**12 48 16.7**	**+1.6**
MEV	**Metsovon**	**2.01**	**36**	P	**Pn**	**12 48 16.7**	**+1.6**
ITM	**Ithomi**	**2.01**	**118**	*e*PB	**Pn**	**12 48 17.0**	**+2.0**
ITM	**Ithomi**	**2.01**	**118**	*e*Pb	**Pn**	**12 48 17.0**	**+2.0**
PYL	**PYLOS**	**2.05**	**127**	P	**Pn**	**12 48 16.1**	**+0.6**
PYL	**PYLOS**	**2.05**	**127**	P	**Pn**	**12 48 16.1**	**+0.6**
GUR	**Goura**	**2.09**	**95**	P	**Pn**	**12 48 17.3**	**+1.1**
GUR				S	**Sn**	**12 48 42.3**	**+1.2**
GUR	**Goura**	**2.09**	**95**	*e*PB	**Pn**	**12 48 17.9**	**+1.7**
GUR	**Goura**	**2.09**	**95**	P	**Pn**	**12 48 17.3**	**+1.1**
GUR	**Goura**	**2.09**	**95**	*e*Pb	**Pn**	**12 48 17.9**	**+1.7**
GUR				S	**Sn**	**12 48 42.3**	**+1.2**
AGG	**Agios Georgios**	**2.22**	**66**	P	**Pn**	**12 48 19.8**	**+1.8**
AGG	**Agios Georgios**	**2.22**	**66**	*e*PN	**Pn**	**12 48 19.5**	**+1.5**
AGG	**Agios Georgios**	**2.22**	**66**	*e*Pn	**Pn**	**12 48 19.5**	**+1.5**
AGG	**Agios Georgios**	**2.22**	**66**	P	**Pn**	**12 48 19.8**	**+1.8**
DSF	**Desfina**	**2.23**	**83**	P	**Pn**	**12 48 18.8**	**+0.7**
DSF	**Desfina**	**2.23**	**83**	*e*PN	**Pn**	**12 48 18.9**	**+0.8**
DSF	**Desfina**	**2.23**	**83**	*e*Pn	**Pn**	**12 48 18.9**	**+0.8**
THL	**Klokotos Trika**	**2.28**	**51**	P	**Pn**	**12 48 20.5**	**+1.8**
THL	**Klokotos Trika**	**2.28**	**51**	*e*PN	**Pn**	**12 48 20.5**	**+1.8**
THL	**Klokotos Trika**	**2.28**	**51**	P	**Pn**	**12 48 20.5**	**+1.8**
NEST	**Nestorio**	**2.48**	**24**	P	**Pn**	**12 48 24.0**	**+2.4**
NEST	**Nestorio**	**2.48**	**24**	*e*PN	**Pn**	**12 48 24.4**	**+2.8**
NEST	**Nestorio**	**2.48**	**24**	P	**Pn**	**12 48 24.0**	**+2.4**
NEST	**Nestorio**	**2.48**	**24**	*e*Pn	**Pn**	**12 48 24.4**	**+2.8**
TIP	**Timpagrande**	**2.53**	**295**	P	**Pn**	**12 48 24.4**	**+2.2**
TIP	**Timpagrande**	**2.53**	**295**	P	**Pn**	**12 48 24.4**	**+2.2**
LKR	**Lokris**	**2.63**	**78**	P	**Pn**	**12 48 24.0**	**+0.5**
LKR	**Lokris**	**2.63**	**78**	*e*PN	**Pn**	**12 48 25.0**	**+1.5**
LKR	**Lokris**	**2.63**	**78**	P	**Pn**	**12 48 24.0**	**+0.5**
LKR	**Lokris**	**2.63**	**78**	*e*Pn	**Pn**	**12 48 25.0**	**+1.5**
FYTO	**Fytoko, Volos**	**2.81**	**63**	P	**Pn**	**12 48 26.9**	**+0.9**
FYTO	**Fytoko, Volos**	**2.81**	**63**	P	**Pn**	**12 48 26.9**	**+0.9**
LIT	**Litokhoron**	**2.90**	**47**	P	**Pn**	**12 48 29.4**	**+2.1**
LIT	**Litokhoron**	**2.90**	**47**	P	**Pn**	**12 48 29.4**	**+2.1**
FNA	**Florina**	**2.92**	**26**	P	**Pn**	**12 48 29.3**	**+1.7**
FNA	**Florina**	**2.92**	**26**	P	**Pn**	**12 48 29.3**	**+1.7**
VLI	**Veliai**	**2.94**	**118**	P	**Pn**	**12 48 29.8**	**+2.0**
VLI	**Veliai**	**2.94**	**118**	P	**Pn**	**12 48 29.8**	**+2.0**
NEO	**Neokhori**	**2.97**	**66**	P	**Pn**	**12 48 29.3**	**+1.0**
NEO	**Neokhori**	**2.97**	**66**	P	**Pn**	**12 48 29.3**	**+1.0**
XOR	**Xorichti**	**2.97**	**65**	P	**Pn**	**12 48 29.0**	**+0.7**
XOR	**Xorichti**	**2.97**	**65**	P	**Pn**	**12 48 29.0**	**+0.7**
TAR1	**Taranto**	**3.02**	**322**	*e*Pn	**Pn**	**12 48 30.4**	**+1.5**
TAR1				*e*Sn	**Sn**	**12 49 03.9**	**-0.1**
PE1	**Pezze di Greco**	**3.18**	**327**	*e*Pn	**Pn**	**12 48 33.4**	**+2.3**
KYTH	**Kithira**	**3.25**	**124**	P	**Pn**	**12 48 33.0**	**+1.0**
KYTH	**Kithira**	**3.25**	**124**	P	**Pn**	**12 48 33.0**	**+1.0**
AOS	**Alonnisos**	**3.41**	**72**	P	**Pn**	**12 48 35.5**	**+1.2**
AOS	**Alonnisos**	**3.41**	**72**	P	**Pn**	**12 48 35.5**	**+1.2**
SOH	**Sokhos**	**3.87**	**46**	P	**Pn**	**12 48 41.7**	**+1.0**
SOH	**Sokhos**	**3.87**	**46**	P	**Pn**	**12 48 41.7**	**+1.0**
CDT	**Castel del Mon**	**3.95**	**319**	*e*Pn	**Pn**	**12 48 42.5**	**+0.9**
CDT				*e*Sn	**Sn**	**12 49 25.8**	**-1.1**
OUR	**Ouranopolis**	**3.96**	**55**	P	**Pn**	**12 48 43.0**	**+1.2**
OUR	**Ouranopolis**	**3.96**	**55**	P	**Pn**	**12 48 43.0**	**+1.2**
STON	**Ston**	**4.95**	**343**	*i* Pn	**Pn**	**12 48 55.9**	**+0.5**
STON				Sn	**Sn**	**12 49 48.2**	**-3.4**
IDI	**Anoyia**	**5.05**	**123**	Pn	**Pn**	**12 48 59.5**	**+2.6**
	0.5nm,0.3s,baz=312,slow=16,SNR=5.0						
IDI				Sn	**Sn**	**12 49 52.9**	**-1.3**
	2.7nm,0.3s,baz=313,slow=23,SNR=12						
NVLJ	**Novalja**	**7.36**	**332**	*e*Pn	**Pn**	**12 49 30.0**	**+1.6**
NVLJ				Sn	**Sn**	**12 50 47.9**	**-3.0**
GERES	**GERESS Array B**	**11.53**	**340**	Pn	**Pn**	**12 50 25.1**	**-0.6**
	0.4nm,0.3s,baz=158,slow=15,SNR=8.0						
MMAI	**Mount Meron Ar**	**13.76**	**107**	LR	LR	12 57 34.9	
	comp=Z,22nm,18.8s,baz=270,slow=44						
NOA	**NORSAR Array B**	**23.52**	**350**	LR	LR	13 02 24.4	
	comp=Z,28nm,18.5s,baz=85,slow=38						
FINES	**FINESS Array B**	**23.64**	**8**	P	**P**	**12 52 51.1**	**-0.3**
	0.8nm,0.8s,baz=165,slow=9.8,SNR=3.9						
MKAR	**Makanchi Array**	**45.85**	**58**	P	**P**	**12 56 01.0**	**-1.4**
	0.1nm,0.3s,baz=277,slow=8.2,SNR=5.5						
ZALV	**Zalesovo Beam**	**46.18**	**48**	P	**P**	**12 56 03.7**	**-1.1**
	0.5nm,0.5s,baz=279,slow=9.0,SNR=3.2						

*ISCJB **29** 12:55:27.3±0.7, 1°7N±0°1×90°7W±0°2, h10km, mb3.8/8, MS3.7/4, Error ellipse: s-maj=27.3km s-min=10.2km az=148.0*
*IDC **29** 12:55:27.1±2.3, 1°60N×90°69W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.9/22, mbtmp3.8/7, ML3.3/1, MS3.8/7, Ms1 3.9/7, ms1mx3.5/32, Error ellipse: s-maj=149.2km s-min=18.5km az=50.0*
*NEIC **29** 12:55:28.8±0.7, 1°62N×90°74W, h10km, mb4.2/2, Error ellipse: s-maj=30.1km s-min=11.3km az=56.0*
ISC 29 12:55:28.8±0.7, 1°6N±0°1×90°7W±0°2, h10km, n36, σ1§20/24, mb3.9/8, MS3.7/4, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**2.30**	**169**	*e*Pn	**Pn**	**12 56 06.7**	**-0.2**
JTS	**JuntasAbangare**	**10.36**	**33**	LR	LR	13 01 01.2	
	comp=Z,1μm,19.4s,baz=256,slow=32						
ATAH	**Atahualpa**	**15.06**	**125**	Pn	**Pn**	**12 59 03.5**	**+1.4**
ATAH	**Atahualpa**	**15.06**	**125**	Pn	**Pn**	**12 59 03.5**	**+1.4**
	0.1nm,0.3s,baz=312,slow=14,SNR=4.9						
ATAH				LR	LR	13 03 54.7	
	comp=Z,851nm,18.5s,baz=321,slow=34						
ROSC	**El Rosal**	**16.68**	**78**	LR	LR	13 04 04.6	
	comp=Z,71nm,21.9s,baz=292,slow=31						
H06E1	**SOCORRO T-PHAS**	**26.15**	**312**	T	T	13 28 12.8	
LPAZ	**La Paz**	**28.53**	**129**	P	**P**	**13 01 25.1**	**-0.5**
LPAZ	**La Paz**	**28.53**	**129**	P	**P**	**13 01 25.1**	**-0.5**
	3.7nm,1.0s,baz=327,slow=9.4,SNR=8.4						
LPAZ				LR	LR	13 12 19.4	
	comp=Z,292nm,20.4s,baz=314,slow=36						
LPIG	**La Paz**	**29.32**	**321**	LR	LR	13 10 26.2	
	comp=Z,106nm,20.3s,baz=203,slow=31						
PTGA	**Pitinga**	**30.84**	**94**	*e*P	**P**	**13 01 45.0**	**-0.4**
	2.3nm,0.8s						
PTGA	**Pitinga**	**30.84**	**94**	LR	LR	13 13 22.4	
	comp=Z,141nm,20.1s,baz=60,slow=35						
LVC	**Limon Verde**	**32.12**	**140**	*e*P	**P**	**13 01 57.3**	**+0.4**
	3.3nm,0.7s						
SIV	**San Ignacio**	**34.11**	**122**	P	**P**	**13 02 13.8**	**-0.4**
SIV	**San Ignacio**	**34.11**	**122**	P	**P**	**13 02 13.8**	**-0.4**
	baz=318,slow=12						
SIV				LR	LR	13 15 49.6	
	comp=Z,258nm,18.1s,baz=280,slow=36						
PDAR	**Pinedale Array**	**44.32**	**340**	P	**P**	**13 03 40.1**	**+0.8**
PDAR	**Pinedale Array**	**44.32**	**340**	P	**P**	**13 03 40.1**	**+0.8**
	0.7nm,1.1s,baz=161,slow=8.6,SNR=2.9						
NVAR	**Mina Array Bea**	**44.52**	**329**	P	**P**	**13 03 41.2**	**+0.2**
NVAR				PcP	**PP**	**13 05 26.1**	**+1.1**
NVAR	**Mina Array Bea**	**44.52**	**329**	P	**P**	**13 03 41.2**	**+0.2**
	0.6nm,0.7s,baz=159,slow=8.7,SNR=5.7						
NVAR				PcP	**PP**	**13 05 26.1**	**+1.1**
	0.2nm,0.5s,baz=122,slow=4.7,SNR=2.4						
RKT	**Rikitea**	**49.58**	**238**	*e*LR	LR	13 18 39.2	
PPT2	**Papeete2**	**61.00**	**249**	*e*LR	LR	13 23 58.8	
	116nm,26.0s						
TBI	**Tubuai**	**62.24**	**243**	*e*LR	LR	13 24 32.0	
	182nm,26.8s						
YKA	**Yellowknife Ar**	**63.32**	**348**	P	**P**	**13 05 56.9**	**-0.9**
YKA	**Yellowknife Ar**	**63.32**	**348**	P	**P**	**13 05 56.8**	**-0.9**
	0.4nm,0.9s,baz=147,slow=6.4,SNR=4.7						
INK	**Inuvik**	**72.63**	**345**	P	**P**	**13 06 57.5**	**+1.3**
INK	**Inuvik**	**72.63**	**345**	P	**P**	**13 06 57.5**	**+1.3**
	1.2nm,0.9s,baz=130,slow=4.2,SNR=2.3						
ILAR	**Eielson Array**	**74.71**	**338**	P	**P**	**13 07 07.3**	**-1.2**
ILAR	**Eielson Array**	**74.71**	**338**	P	**P**	**13 07 07.3**	**-1.2**
	0.9nm,1.0s,baz=150,slow=4.5,SNR=5.6						
H11N3	**WAKE ISLAND Hyd**	**101.09**	**290**	T	T	15 01 54.8	
	baz=88,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hyd**	**101.10**	**290**	T	T	15 01 53.6	
	baz=88,slow=75,SNR=4.4						
H11N1	**WAKE ISLAND Hyd**	**101.11**	**290**	T	T	15 01 56.1	
	baz=88,slow=75,SNR=5.1						
H11S2	**WAKE ISLAND Hyd**	**101.41**	**289**	T	T	15 02 19.0	
	baz=87,slow=72,SNR=21						
H11S1	**WAKE ISLAND Hyd**	**101.41**	**289**	T	T	15 02 19.0	
	baz=87,slow=72,SNR=14						
H11S3	**WAKE ISLAND Hyd**	**101.42**	**289**	T	T	15 02 17.1	
	baz=87,slow=72,SNR=11						
ZALV	**Zalesovo Beam**	**124.52**	**3**	PKP	**PKPdf**	**13 14 26.1**	**-2.3**
ZALV	**Zalesovo Beam**	**124.52**	**3**	PKP	**PKPdf**	**13 14 26.1**	**-2.3**
	0.6nm,0.5s,baz=335,slow=2.4,SNR=3.5						
WRAB	**Tennant Creek**	**132.34**	**244**	*e*PKPdf	**PKPdf**	**13 14 46.1**	**+1.8**

IDC 29 13:02:04.5±1.8, 45°56S×74°05W, h0km, mb4.2/2, mb1 4.2/3, mb1mx3.9/17, mbtmp4.1/3, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/27, Error ellipse: s-maj=115.5km s-min=24.2km az=113.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.46**	**29**	Pn	Pn	13 03 29.0	+1.9
	0.5nm,0.3s,baz=209,slow=15,SNR=5.5						
PLCA				Pg	Pb	13 03 44.2	+3.4
	0.6nm,0.3s,baz=204,slow=17,SNR=4.9						
PLCA				Lg	Lg	13 04 56.5	
	0.4nm,0.3s,baz=172,slow=15,SNR=1.5						
PLCA				LR	LR	13 04 58.7	
	comp=Z,99nm,21.4s,baz=286,slow=32						
LPAZ	**La Paz**	**29.60**	**12**	P	P	13 08 11.6	-0.5
	2.3nm,0.9s,baz=201,slow=8.6,SNR=3.8						
SIV	**San Ignacio**	**31.43**	**24**	P	P	13 08 27.5	0.0
	3.6nm,0.8s,baz=217,slow=12,SNR=7.3						
CMAR	**Chiang Mai Arr**	**152.35**	**166**	PKPbc	PKPbc	13 22 02.3	-0.2
	1.7nm,0.9s,baz=225,slow=3.6,SNR=8.5						

IDC 29 13:07:12.3±5.7, 18°07S×168°56E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/28, mbtmp4.0/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/30, Error ellipse: s-maj=149.7km s-min=47.3km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.95**	**235**	P	P	13 13 02.8	-1.8
	1.7nm,0.9s,baz=53,slow=10,SNR=3.0						
STKA				LR	LR	13 23 48.9	
	comp=Z,66nm,18.1s,baz=217,slow=36						
WRA	**Warramunga Arr**	**32.37**	**261**	P	P	13 13 44.3	+0.3
	0.4nm,0.3s,baz=85,slow=8.5,SNR=2.6						
ASAR	**Alice Springs**	**32.80**	**254**	P	P	13 13 48.2	+0.6
	2.3nm,0.5s,baz=83,slow=8.6,SNR=50						
ASAR				LR	LR	13 24 50.6	
	comp=Z,54nm,20.9s,baz=130,slow=32						
SONM	**Songino Array**	**85.90**	**323**	P	P	13 19 54.5	+0.3
	0.6nm,0.7s,baz=134,slow=5.3,SNR=4.7						

*IDC **29** 13:15:12.3±2.9, 2°48N×89°82W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/24, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=196.5km s-min=19.2km az=51.0*
ISC 29 13:15:13.1±2.7, 2°2N±0°8×90°2W±0°9, h10km, n7, σ0§69/7, mb3.7/6, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**14.98**	**128**	Pn	**Pn**	**13 18 46.2**	**+0.7**
	0.2nm,0.3s,baz=317,slow=14,SNR=3.6						
LPAZ	**La Paz**	**28.50**	**131**	P	**P**	**13 21 09.0**	**-0.6**
	2.9nm,0.9s,baz=327,slow=11,SNR=6.9						
SIV	**San Ignacio**	**33.98**	**123**	P	**P**	**13 21 56.5**	**-0.7**
	1.9nm,0.8s,baz=307,slow=10,SNR=4.8						
NVAR	**Mina Array Bea**	**44.28**	**328**	P	**P**	**13 23 23.8**	**+0.3**
	1.1nm,0.8s,baz=161,slow=8.4,SNR=5.1						
YKA	**Yellowknife Ar**	**62.84**	**348**	P	**P**	**13 25 38.5**	**-0.4**
	0.3nm,0.9s,baz=147,slow=6.1,SNR=4.8						
INK	**Inuvik**	**72.19**	**344**	P	**P**	**13 26 38.2**	**+0.4**
	0.6nm,0.8s,baz=148,slow=6.8,SNR=2.4						
ILAR	**Eielson Array**	**74.35**	**338**	P	**P**	**13 26 50.8**	**0.0**
	0.3nm,0.6s,baz=141,slow=5.8,SNR=4.3						

*IDC **29** 13:16:23.6±0.6, 1°66N×90°70W, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.4/29, mbtmp4.2/22, ML3.3/2, MS5.0/32, Ms1 5.0/32, ms1mx5.0/35, Error ellipse: s-maj=28.4km s-min=11.2km az=57.0*
*ISCJB **29** 13:16:25.1±0.2, 1°78N±0°04×90°22W±0°05, h10km, mb4.8/107, MS5.0/128, Error ellipse: s-maj=7.5km s-min=4.2km az=149.9*
*GCMT **

034A **Hebbronville** 26.54 343 ⇑P P 13 22 04.9 +0.8
baz=27
KVTX **Kingsville** 26.78 345 PFAKE 13 22 20.0 +14
KVTX LR LR
comp=Z,2µm,19.0s
934A **Benavides** 27.00 344 ⇓P P 13 22 09.6 +1.3
baz=27
933A **Laredo** 27.23 343 ⇓P P 13 22 12.3 +2.0
baz=27
GRTK **Grand Turk** 27.28 42 PFAKE 13 22 20.0 +9.2
GRTK LR LR
comp=Z,3µm,20.0s
835A **Beeville** 27.47 346 ⇓P P 13 22 14.2 +1.7
baz=28
834A **Tilden** 27.50 344 ⇓P P 13 22 13.7 +0.9
baz=28
833A **Chaparral WMA,** 27.93 343 ⇓P P 13 22 17.3 +0.7
baz=28
735A **Kenedy** 28.01 346 ⇓P P 13 22 17.4 +0.1
baz=28
832A **Faith Ranch, C** 28.07 342 ⇓P P 13 22 17.3 -0.5
baz=28
734A **La Parita Cree** 28.19 345 ⇓P P 13 22 19.3 +0.4
baz=28
733A **Divot King Ran** 28.27 343 ⇑P P 13 22 19.3 -0.3
baz=28
LPAZ **La Paz** 28.28 130 eP P 13 22 20.3 -0.3
comp=Z,16nm,1.1s
LPAZ **La Paz** 28.28 130 P P 13 22 23.1 +2.5
comp=Z,5.6nm,0.9s,baz=336,slow=10,SNR=12
LPAZ LR LR 13 33 18.4
comp=Z,5µm,21.2s,baz=319,slow=36
732A **Laxson Ranch,** 28.48 342 ⇑P P 13 22 21.3 -0.2
baz=29,SNR=6.6
635A **Leesville** 28.51 346 ⇑P P 13 22 21.2 -0.6
baz=29
HKT **Hockley** 28.66 350 eP P 13 22 22.6 -0.4
comp=Z,192nm,2.5s
633A **Saathoff Ranch** 28.94 344 ⇓P P 13 22 25.4 -0.2
baz=29
536A **Bastrop** 29.02 348 ⇑P P 13 22 26.7 +0.4
baz=29
SAML **Samuel** 29.07 112 eP P 13 22 27.2 +0.2
comp=Z,5.6nm,1.4s
632A **Uvalde** 29.16 343 ⇓P P 13 22 27.3 -0.2
baz=29
534A **Blanco** 29.30 346 ⇑P P 13 22 29.1 +0.3
baz=29
631A **Perdido Creek** 29.31 342 ⇑P P 13 22 29.5 +0.6
baz=30
BRAL **Brewton** 29.42 6 PFAKE 13 22 40.0 +10
BRAL LR LR
comp=Z,1µm,20.0s
533A **Kerrville** 29.48 345 ⇑P P 13 22 29.8 -0.6
baz=30
LPIG **La Paz** 29.52 321 LR LR 13 31 23.2
comp=Z,2µm,19.1s,baz=137,slow=31
532A **Rocksprings** 29.77 343 ⇑P P 13 22 33.1 0.0
baz=30,SNR=6.3
435B **Jarrell** 29.81 347 ⇓P P 13 22 33.6 +0.2
baz=30
434A **Burnet** 30.00 346 ⇓P P 13 22 34.9 -0.1
baz=30
531A **Rocksprings** 30.00 342 ⇓P P 13 22 35.2 +0.2
baz=30
JCT **Junction City** 30.08 344 eP P 13 22 35.1 -0.6
comp=Z,62nm,1.8s
JCT LR LR
comp=Z,582nm,20.0s
JCT **Junction City** 30.08 344 ⇑P P 13 22 35.4 -0.4
baz=30
433A **Art** 30.14 345 ⇑P P 13 22 36.5 +0.2
baz=30,SNR=8.8
628A **Black Gap, Mar** 30.17 338 ⇑P P 13 22 37.0 +0.4
baz=30,SNR=9.4
530A **J-C Ranch, Com** 30.23 341 ⇑P P 13 22 37.3 +0.2
baz=30
335A **Moody** 30.26 348 ⇓P P 13 22 37.4 +0.1
baz=30
627A **Terlingua Ranc** 30.34 337 ⇑P P 13 22 38.1 0.0
baz=30
TXAR **Lajitas Array** 30.34 337 P P 13 22 35.8 -2.3
TXAR **Lajitas Array** 30.34 337 P P 13 22 35.8 -2.3
comp=Z,0.9nm,0.8s,baz=158,slow=7.8,SNR=8.4
TXAR LR LR 13 33 44.2
comp=Z,3µm,18.4s,baz=0.0,slow=34
GRGR **Grenville** 30.36 69 PFAKE 13 22 50.0 +12
GRGR LR LR
comp=Z,2µm,22.0s
432A **Menard** 30.45 344 ⇑P P 13 22 38.3 -0.7
baz=31
334A **Lometa** 30.49 347 ⇓P P 13 22 39.3 0.0
baz=31,SNR=6.4
431A **Sonora** 30.50 342 ⇓P P 13 22 40.0 +0.5
baz=31,SNR=7.2
529A **Stev Forest Ra** 30.51 340 ⇓P P 13 22 39.0 -0.6
baz=31
PTGA **Pitinga** 30.52 94 eP P 13 22 38.8 -1.0
comp=Z,5.6nm,1.2s
PTGA **Pitinga** 30.52 94 P P 13 22 42.0 +2.2
comp=Z,3.3nm,0.6s,baz=273,slow=6.7,SNR=9.5
PTGA LR LR 13 34 22.7
comp=Z,3µm,18.1s,baz=274,slow=35
333A **Richland Sprin** 30.66 345 ⇑P P 13 22 40.3 -0.6
baz=31
626A **Big Bend Ranch** 30.72 336 ⇓P P 13 22 42.2 +0.7
baz=31,SNR=9.9
528A **Cox Ranch, San** 30.75 339 ⇓P P 13 22 42.1 +0.4
baz=31
430A **Baggett Ranch,** 30.79 342 ⇑P P 13 22 42.0 -0.1
baz=31
429A **Davenport Ranc** 30.86 340 ⇓P P 13 22 42.6 -0.1
baz=31
332A **Millersview** 30.91 344 ⇓P P 13 22 42.9 -0.2
baz=31,SNR=5.1
WHTX **Lake Whitney** 30.95 348 eP P 13 22 43.0 -0.4
comp=Z,178nm,1.5s
WHTX **Lake Whitney** 30.95 348 ⇓P P 13 22 43.3 -0.1
baz=31
331A **San Angelo** 31.03 343 ⇓P P 13 22 43.9 -0.3
baz=31
527A **Woodward Ranch** 31.04 337 ⇓P P 13 22 44.2 -0.1
baz=31
234A **Clairette** 31.11 347 ⇓P P 13 22 44.4 -0.5
baz=31
526A **Mary Lane Ranc** 31.15 337 ⇑P P 13 22 44.7 -0.6
baz=31
428A **Kincaid Ranch,** 31.22 339 ⇑P P 13 22 45.3 -0.6
baz=31
233A **Rising Star** 31.30 346 ⇑P P 13 22 46.1 -0.4
baz=32
330A **Mertzon** 31.35 342 ⇑P P 13 22 46.6 -0.4
baz=32
232A **Coleman** 31.37 345 ⇑P P 13 22 46.5 -0.6
baz=32
135A **Vickery Place,** 31.49 349 ⇑P P 13 22 47.1 -1.1
baz=32
231A **Bronte** 31.59 344 ⇑P P 13 22 48.2 -0.9
baz=32
427A **Hayter Ranch,** 31.59 338 ⇑P P 13 22 48.6 -0.6
baz=32
134A **White-Moore Ra** 31.65 348 ⇓P P 13 22 48.9 -0.6
baz=32
426A **McDonald Obser** 31.67 337 ⇓P P 13 22 49.4 -0.6
baz=32
329A **Wagon Wheel Ra** 31.68 341 ⇓P P 13 22 50.0 +0.1
baz=32,SNR=5.6
FDF **Fort de France** 31.69 64 PFAKE 13 23 00.0 +10
FDF LR LR
comp=Z,2µm,19.0s
230A **Sterling City** 31.78 343 ⇑P P 13 22 50.4 -0.3
baz=32
328A **Wristen Ranch,** 31.86 340 ⇓P P 13 22 51.2 -0.3
baz=32
133A **Hamilton Ranch** 31.87 346 ⇑P P 13 22 51.0 -0.5
baz=32
LVC **Limon Verde** 31.91 140 eP P 13 22 52.0 -0.2
comp=Z,12nm,0.9s
LVC LR LR
comp=Z,2µm,19.0s
ABTX **Abilene, Hawle** 32.06 345 eP P 13 22 52.8 -0.5
ABTX **Abilene, Hawle** 32.06 345 ⇑P P 13 22 52.6 -0.6
baz=32
229A **Bryant Ranch,** 32.07 342 ⇑P P 13 22 52.7 -0.6
baz=32
327A **Balmorhea Ranc** 32.09 339 ⇑P P 13 22 53.1 -0.4
baz=32

425A **Indio Mountain** 32.15 336 ⇓P P 13 22 53.3 -0.8
baz=32
Z35A **Perchaven, San** 32.21 349 ⇓P P 13 22 54.6 +0.1
baz=32
326A **Caldwell Ranch** 32.23 338 ⇓P P 13 22 54.8 +0.1
baz=32
GOGA **Godfrey** 32.31 11 eP P 13 22 55.9 +0.6
comp=Z,19nm,1.3s
GOGA LR LR
comp=Z,854nm,20.0s
131A **Roby** 32.31 344 ⇑P P 13 22 54.8 -0.6
baz=32
ANWB **Willy Bob** 32.33 59 PFAKE 13 23 10.0 +14
ANWB LR LR
comp=Z,2µm,19.0s
Z34A **Collier Ranch,** 32.38 348 ⇓P P 13 22 55.1 -0.9
baz=32
130A **Snyder** 32.40 343 ⇓P P 13 22 56.0 -0.2
baz=33,SNR=5.4
228A **UT Block 9, Go** 32.46 340 ⇓P P 13 22 55.9 -0.9
baz=33
Z33A **Whitaker Ranch** 32.48 347 ⇓P P 13 22 56.3 -0.6
baz=33
227A **Bennet, Jal** 32.60 339 ⇑P P 13 22 57.2 -0.9
baz=33
BBGH **Gun Hill** 32.61 68 PFAKE 13 23 10.0 +12
BBGH LR LR
comp=Z,2µm,19.0s
Z32A **Haskell** 32.67 346 ⇑P P 13 22 59.1 +0.6
baz=33,SNR=5.4
129A **Stewart Farms,** 32.70 342 ⇑P P 13 22 58.0 -0.8
baz=33
NHSC **New Hope** 32.78 16 PFAKE 13 23 10.0 +11
NHSC LR LR
comp=Z,1µm,20.0s
Z31A **Sharp Cattle R** 32.85 345 ⇑P P 13 22 59.7 -0.4
baz=33
128A **Castleberry Fa** 32.89 341 ⇓P P 13 22 60.0 -0.6
baz=33
MIAR **Mount Ida** 32.91 355 eP P 13 23 01.1 +0.5
comp=Z,26nm,1.1s
Y34A **Reagan Ranch,** 32.92 349 ⇓P P 13 23 00.1 -0.6
baz=33
226B **Tecolote Peak,** 32.98 338 ⇑P P 13 23 01.2 -0.1
baz=33,SNR=32
UALR **University of** 33.06 357 eP P 13 23 02.6 +0.8
comp=Z,53nm,1.4s
Z30A **Sanderson Ranc** 33.09 343 ⇓P P 13 23 01.4 -0.9
baz=33
MNTX **Cornudas Mount** 33.11 336 eP P 13 23 00.3 -2.1
comp=Z,5.2nm,1.0s
MNTX LR LR
comp=Z,3µm,19.0s
Y33A **Hilltop Ranch,** 33.15 347 ⇓P P 13 23 02.1 -0.5
baz=33
127A **Arkansas Junct** 33.23 340 ⇓P P 13 23 02.9 -0.6
baz=33
Z29A **Hungry Hill Ra** 33.23 343 ⇓P P 13 23 02.8 -0.8
baz=33,SNR=15
225A **Deer Hill, Car** 33.26 337 ⇑P P 13 23 03.1 -0.8
baz=33
Y32A **R-V Farms, Ver** 33.33 346 ⇓P P 13 23 03.9 -0.4
baz=34,SNR=6.9
126A **Clayton Basin,** 33.44 339 ⇑P P 13 23 04.5 -0.8
baz=34
Z28A **Tucker Farm, M** 33.47 342 ⇑P P 13 23 05.3 -0.3
baz=34
Y31A **Rekieta Farm,** 33.49 345 ⇓P P 13 23 06.1 +0.4
baz=34,SNR=5.2
X34A **Smith Ranch, M** 33.56 349 ⇓P P 13 23 05.8 -0.4
baz=34,SNR=6.2
Y30A **Stafford Cattl** 33.58 344 ⇓P P 13 23 06.3 -0.2
baz=34,SNR=18
X33A **Lawton** 33.63 348 ⇑P P 13 23 06.3 -0.6
baz=34
125A **Gardner Draw,** 33.68 338 ⇓P P 13 23 07.7 +0.3
baz=34,SNR=6.3
X32A **Elmer** 33.69 347 ⇑P P 13 23 07.6 +0.2
baz=34,SNR=23
SWET **Sewanee** 33.70 7 eP P 13 23 07.9 +0.3
comp=Z,28nm,1.2s
Z27A **Tatum** 33.76 340 ⇓P P 13 23 08.0 -0.2
baz=34,SNR=6.4
Y29A **Porterfield Fa** 33.78 343 ⇓P P 13 23 07.9 -0.5
baz=34
SIV **San Ignacio** 33.84 122 P P 13 23 10.6 +1.6
SIV **San Ignacio** 33.84 122 P P 13 23 10.6 +1.6
comp=Z,4.2nm,0.8s,baz=304,slow=11,SNR=9.8
WMOK **Wichita Mounta** 33.88 348 eP P 13 23 08.8 -0.3
comp=Z,58nm,1.3s
Z26A **Caprock** 33.99 339 ⇓P P 13 23 10.8 +0.7
baz=34,SNR=5.0
Y28A **McKinney Farm,** 34.00 342 ⇑P P 13 23 10.5 +0.3
baz=34,SNR=5.4
X31A **McDonald Ranch** 34.06 346 ⇑P P 13 23 11.1 +0.4
baz=34,SNR=6.0
X30A **Coker Ranch, T** 34.11 344 ⇑P P 13 23 10.8 -0.3
baz=34,SNR=5.8
CPCT **Cooper Cave** 34.12 9 eP P 13 23 13.0 +1.9
W34A **Bridge Creek,** 34.16 349 ⇑P P 13 23 10.7 -0.8
baz=34
W33A **Caddo, Fort Co** 34.22 348 ⇓P P 13 23 11.3 -0.7
baz=34
MSTX **Muleshoe** 34.22 342 ⇓P P 13 23 11.4 -0.8
baz=34
Z25A **Roswell** 34.26 338 ⇑P P 13 23 11.9 -0.6
baz=34
Y27A **Causey** 34.27 341 ⇑P P 13 23 12.6 0.0
baz=34,SNR=5.5
X29A **Tulia** 34.34 343 ⇑P P 13 23 12.7 -0.4
baz=34
W32A **Sentinel** 34.36 347 ⇑P P 13 23 12.6 -0.7
baz=34
KMSC **Kings Mountain** 34.42 13 eP P 13 23 14.6 +0.9
KMSC **Kings Mountain** 34.42 13 ⇑P P 13 23 12.2 -1.5
baz=34
WVT **Waverly** 34.44 4 eP P 13 23 09.2 -4.7
TKL **Tuckaleechee C** 34.44 10 eP P 13 23 14.2 +0.3
TKL **Tuckaleechee C** 34.44 10 P P 13 23 13.6 -0.3
comp=Z,5.2nm,0.8s,baz=170,slow=11,SNR=5.2
TKL LR LR 13 36 55.0
comp=Z,794nm,20.1s,baz=170,slow=36
TUL1 **Tulsa** 34.50 352 eP P 13 23 14.0 -0.5
TUL1 **Tulsa** 34.50 352 ⇑P P 13 23 13.6 -0.9
baz=35
Y26A **Elida** 34.52 340 ⇑P P 13 23 15.0 +0.2
baz=35,SNR=11
Z24A **Sheeppen Canyo** 34.55 338 ⇑P P 13 23 14.8 -0.3
baz=35,SNR=5.2
X28A **Dimmitt** 34.55 343 ⇓P P 13 23 14.4 -0.6
baz=35
W31A **Holland Ranch,** 34.58 346 ⇑P P 13 23 14.5 -0.7
baz=35
319A **Douglas** 34.58 331 ⇑P P 13 23 15.1 -0.2
baz=35
V34A **Guthrie** 34.70 350 ⇓P P 13 23 15.7 -0.5
baz=35
W30A **Crocket Farms** 34.73 345 ⇓P P 13 23 16.2 -0.3
baz=35
AMTX **Amarillo** 34.74 344 eP P 13 23 16.8 +0.1
comp=Z,81nm,1.4s
AMTX **Amarillo** 34.74 344 ⇓P P 13 23 16.5 -0.1
baz=35
V33A **Lossen Ranch,** 34.83 349 ⇓P P 13 23 16.6 -0.7
baz=35
Y25A **Mesa, Roswell** 34.83 339 ⇑P P 13 23 18.0 +0.6
baz=35,SNR=7.4
121A **Cookes Peak, D** 34.85 334 eP P 13 23 17.5 -0.2
comp=Z,84nm,1.8s
121A **Cookes Peak, D** 34.85 334 ⇓P P 13 23 18.8 +1.1
baz=35,SNR=6.3
V32A **Arapaho** 34.89 348 ⇑P P 13 23 17.8 0.0
baz=35
X27A **F and S Farms,** 34.95 342 ⇑P P 13 23 18.9 +0.4
baz=35
W29A **Amraillo** 34.96 344 ⇑P P 13 23 18.6 +0.1
baz=35
X26A **CR and CF Fran** 35.09 341 ⇓P P 13 23 20.1 +0.4
baz=35
Y24A **Capitan** 35.10 338 ⇑P P 13 23 20.4 +0.5
baz=35,SNR=19
V31A **Spring Creek L** 35.12 347 ⇓P P 13 23 19.8 0.0
baz=35
Z22A **Elephant Butte** 35.12 335 ⇓P P 13 23 20.2 +0.2
baz=35,SNR=6.0
W28A **Vega** 35.24 343 ⇑P P 13 23 20.7 -0.3
baz=35
U34A **Anderson Ranch** 35.29 350 ⇓P P 13 23 21.4 +0.2
baz=35

W27A **Bowe Ranch, En** 35.32 342 ⇑P P 13 23 21.8 +0.1
baz=36
Y23A **Lovelace Mesa,** 35.34 337 ⇑P P 13 23 22.7 +0.7
baz=36,SNR=15
X25A **Clemmons Ranch** 35.36 339 ⇑P P 13 23 22.3 +0.2
baz=36
U33A **Lingo Farm, Me** 35.39 349 ⇓P P 13 23 22.3 +0.2
baz=36
CNNC **Cliffs of the** 35.44 18 PFAKE 13 23 30.0 +7.5
CNNC LR LR
comp=Z,1µm,21.0s
U32A **Winter Ranch,** 35.51 348 ⇓P P 13 23 23.3 +0.1
baz=36
W26A **Owens Ranch, T** 35.57 341 ⇓P P 13 23 24.3 +0.5
baz=36
V29A **Stinnett** 35.63 344 ⇑P P 13 23 24.3 0.0
baz=36
X24A **Lazy VL Ranch,** 35.67 338 ⇓P P 13 23 25.2 +0.4
baz=36
U31A **Nine Bar Ranch** 35.69 347 ⇑P P 13 23 24.6 -0.1
baz=36
V28A **Channing** 35.71 343 ⇓P P 13 23 25.0 0.0
baz=36
BNM **Barren Site** 35.76 337 eP P 13 23 24.8 -0.8
comp=Z,34nm,1.4s
LCO **Las Campanas** 35.81 150 PFAKE 13 23 40.0 +14
LCO LR LR
comp=Z,3µm,21.0s
V27A **Dan Oppiter Fa** 35.90 343 ⇓P P 13 23 26.8 +0.3
baz=36,SNR=7.3
LPM **Los Pinos Moun** 35.91 337 eP P 13 23 28.6 +1.8
LENM **Lemitar** 35.91 336 eP P 13 23 27.3 +0.4
W25A **X Bar L Ranch,** 35.92 340 ⇓P P 13 23 26.6 -0.2
baz=36,SNR=29
X23A **Hourglass Bar** 35.97 338 ⇑P P 13 23 27.4 0.0
baz=36
U30A **WK&E Inc. Balk** 36.03 346 ⇓P P 13 23 27.5 -0.2
baz=36
T33A **Patterson Ranc** 36.04 349 ⇓P P 13 23 27.0 -0.7
baz=36,SNR=6.0
TUC **Tucson** 36.08 330 eP P 13 23 29.1 +0.9
comp=Z,79nm,2.5s
U29A **Oasis Ranch, S** 36.11 345 ⇑P P 13 23 28.6 +0.2
baz=36
LAZ **Ladron** 36.19 336 eP P 13 23 28.3 -0.9
comp=Z,18nm,1.6s
V26A **Tequesquite Ra** 36.22 341 ⇑P P 13 23 29.3 -0.1
baz=36,SNR=16
W24A **Lazy 6 Ranch,** 36.24 339 ⇑P P 13 23 29.3 -0.4
baz=36,SNR=19
T32A **Huddler Ranch,** 36.27 348 ⇑P P 13 23 29.3 -0.3
baz=36
U28A **Mallet** 36.30 344 ⇑P P 13 23 29.8 -0.2
baz=36,SNR=18
T31A **Randall Ranch,** 36.35 347 ⇑P P 13 23 30.3 0.0
baz=36
ANMO **Albuquerque** 36.40 337 eP P 13 23 32.4 +1.4
comp=Z,13nm,1.2s
ANMO LR LR
comp=Z,2µm,19.0s
ANMO **Albuquerque** 36.40 337 P P 13 23 30.3 -0.6
comp=Z,5.7nm,1.0s,baz=144,slow=9.3,SNR=10
ANMO LR LR 13 37 33.5
comp=Z,3µm,19.3s,baz=161,slow=35
W23A **Werner Place,** 36.47 338 ⇑P P 13 23 31.8 +0.2
baz=37
T30A **Plains** 36.50 346 ⇓P P 13 23 31.5 -0.1
baz=37
U27A **Thompson Grove** 36.51 343 ⇓P P 13 23 32.2 +0.4
baz=37
V25A **Rancho No Teng** 36.53 340 ⇑P P 13 23 31.6 -0.6
baz=37,SNR=26
BLA **Blacksburg** 36.61 13 eP P 13 23 31.3 -1.3
comp=Z,58nm,1.3s
BLA LR LR
comp=Z,1µm,19.0s
WCI **Wyandotte Cave** 36.65 5 eP P 13 23 33.2 +0.4
comp=Z,90nm,1.6s
V24A **Rampart Ranch,** 36.66 340 ⇑P P 13 23 33.1 -0.1
baz=37
U26A **Atchley Ranch,** 36.76 342 ⇑P P 13 23 34.7 +0.6
baz=37,SNR=7.2
S32A **Newby Ranch, P** 36.77 349 ⇑P P 13 23 33.9 0.0
baz=37
T29A **Hugoton** 36.78 345 ⇑P P 13 23 34.4 +0.3
baz=37
S31A **Mullinville** 36.81 348 ⇑P P 13 23 34.5 +0.2
baz=37
214A **Organ Pipe Nat** 36.86 327 eP P 13 23 33.9 -0.9
comp=Z,39nm,1.7s
214A **Organ Pipe Nat** 36.86 327 ⇓P P 13 23 35.0 +0.3
baz=37
T28A **Walsh** 36.96 344 ⇓P P 13 23 35.7 +0.1
baz=37
U25A **Circle Dot Ran** 36.98 341 ⇑P P 13 23 36.0 +0.1
baz=37
V23A **Ortiz Mt. (NFS** 37.00 338 ⇑P P 13 23 36.3 +0.1
baz=37
OLIL **Olney** 37.02 3 eP P 13 23 35.0 -0.9
comp=Z,113nm,1.1s
T27A **Campo** 37.08 344 ⇓P P 13 23 36.9 +0.2
baz=37
S29A **Ulysses** 37.18 346 ⇓P P 13 23 37.2 -0.2
baz=37
R33A **Olander Ranch,** 37.19 350 ⇑P P 13 23 37.4 0.0
baz=37
S28A **Manter** 37.35 345 ⇓P P 13 23 38.5 -0.5
baz=38
V22A **San Miguel Ran** 37.42 338 ⇓P P 13 23 40.2 +0.5
baz=38,SNR=5.9
R32A **Long Quarter,** 37.43 349 ⇑P P 13 23 39.4 -0.1
baz=38
T26A **Comanche Natio** 37.44 343 ⇓P P 13 23 39.7 -0.1
baz=38
R31A **Burdett** 37.46 348 ⇑P P 13 23 40.2 +0.3
baz=38
X18A **Snowflake** 37.50 333 ⇓P P 13 23 41.1 +0.7
baz=38
U23A **El Rito** 37.52 339 ⇑P P 13 23 41.0 +0.4
baz=38,SNR=11
R30A **Dighton** 37.62 347 ⇓P P 13 23 42.2 +1.0
baz=38,SNR=17
T25A **Trinidad** 37.65 342 ⇓P P 13 23 42.3 +0.6
baz=38,SNR=14
S27A **Las Animas** 37.71 344 ⇑P P 13 23 42.1 +0.1
baz=38
KSU1 **Kansas State U** 37.75 352 eP P 13 23 42.3 +0.1
comp=Z,75nm,1.3s
KSU1 LR LR
comp=Z,639nm,20.0s
KSU1 **Kansas State U** 37.75 352 ⇑P P 13 23 42.1 -0.1
baz=38
U22A **Llaves** 37.81 338 ⇓P P 13 23 43.2 +0.1
baz=38
S26A **Kim** 37.81 343 ⇑P P 13 23 43.0 +0.1
baz=38
Q33A **Connelly Farm,** 37.84 351 ⇓P P 13 23 42.9 0.0
baz=38
W18A **Petrified Fore** 37.90 334 eP P 13 23 44.6 +0.8
W18A **Petrified Fore** 37.90 334 ⇑P P 13 23 44.1 +0.3
baz=38
T24B **San Luis** 37.90 340 ⇑P P 13 23 44.0 +0.1
baz=38
R29A **Marienthal** 37.95 346 ⇓P P 13 23 44.3 +0.3
baz=38,SNR=5.2
Q32A **Meitler Ranch,** 37.95 350 ⇑P P 13 23 43.9 -0.1
baz=38
113A **Mohawk Valley,** 38.00 327 ⇑P P 13 23 44.4 +0.1
baz=38
Z14A **Wintersburg** 38.02 329 ⇑P P 13 23 45.0 +0.4
baz=38
R28A **Tribune** 38.04 345 ⇑P P 13 23 45.3 +0.5
baz=38
T23A **Casias Ranch,** 38.10 340 ⇑P P 13 23 45.4 -0.1
baz=38
X16A **Lo Mia Camp, P** 38.10 331 ⇑P P 13 23 46.1 +0.6
baz=38
Q31A **Ellis** 38.13 349 ⇓P P 13 23 45.4 -0.1
baz=38
S25A **Robets Cordova** 38.14 342 ⇑P P 13 23 45.8 +0.1
baz=38
R27A **Eads** 38.24 344 ⇑P P 13 23 46.6 +0.1
baz=38,SNR=12
P33A **Williams Farm,** 38.24 351 ⇑P P 13 23 46.0 -0.3
baz=38
Q30A **Quinter** 38.27 348 ⇓P P 13 23 46.7 +0.1
baz=38,SNR=5.9

CBN **Corbin** 38.34 17 PFAKE 13 24 00.0 +13
CBN LR LR
comp=Z,1µm,21.0s
Q29A Oakley 38.35 347 ⇑P P 13 23 47.4 0.0
baz=38,SNR=22
S24A Houchin Ranch, 38.37 341 ⇓P P 13 23 48.0 +0.2
baz=38
R26A Arlington 38.44 343 ⇓P P 13 23 48.5 +0.3
baz=39,SNR=29
Y14A Wickenburg 38.50 329 ⇓P P 13 23 49.1 +0.5
baz=39
R25A Fountain Ranch 38.54 342 ⇓P P 13 23 50.0 +0.9
baz=39,SNR=6.7
SDCO Great Sand Dun 38.56 341 eP P 13 23 47.6 -1.8
comp=Z,34nm,1.4s
P32A Huiting Farm, 38.58 350 ⇓P P 13 23 49.4 +0.2
baz=39
P31A Stockton 38.62 349 ⇓P P 13 23 49.9 +0.3
baz=39
S23A Nye Farm, Mont 38.69 340 ⇓P P 13 23 50.1 -0.4
baz=39
SFIN Scholer Farm 38.72 4 eP P 13 23 49.9 -0.4
SFIN Scholer Farm 38.72 4 ⇑P P 13 23 49.9 -0.4
baz=39
Q28A Sharon Springs 38.72 346 ⇑P P 13 23 50.2 -0.3
baz=39
GLA Glamis 38.79 326 ⇑P P 13 23 51.4 +0.2
baz=39
P30A Selden 38.82 348 ⇑P P 13 23 51.1 -0.1
baz=39,SNR=11
R24A Sanders Place, 38.88 341 ⇑P P 13 23 51.6 -0.4
baz=39
KSCO Kaye Shedlock' 38.88 345 eP P 13 23 50.5 -1.3
comp=Z,112nm,1.7s
KSCO Kaye Shedlock' 38.88 345 ⇑P P 13 23 51.9 0.0
baz=39
WUAZ Wupatki 38.97 332 ⇓P P 13 23 53.0 +0.3
baz=39,SNR=14
BBSR BB Station 39.02 36 PFAKE 13 24 00.0 +7.1
BBSR LR LR
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 39.02 339 ⇓P P 13 23 53.3 +0.1
baz=39,SNR=21
P29A Atwood 39.02 347 ⇓P P 13 23 53.1 +0.1
baz=39
Q26A Hugo 39.04 344 ⇑P P 13 23 53.3 0.0
baz=39,SNR=17
ACSO Alum Creek Sta 39.04 9 eP P 13 23 52.9 -0.1
comp=Z,42nm,1.2s
ACSO LR LR
comp=Z,1µm,19.0s
R23A Moffat 39.07 341 ⇑P P 13 23 53.7 0.0
baz=39
O32A Brockman Farm, 39.14 350 ⇓P P 13 23 53.8 -0.2
baz=39
CFAA Coronel Fontan 39.15 149 P P 13 23 55.1 +1.0
CFAA Coronel Fontan 39.15 149 P P 13 23 55.1 +1.0
comp=Z,0.7nm,0.9s,baz=330,slow=9.5,SNR=6.6
Y12C Blythe 39.15 327 ⇓P P 13 23 54.4 +0.3
baz=39
MVCO Mesa Verde 39.17 337 eP P 13 23 54.2 -0.2
comp=Z,28nm,1.3s
MVCO Mesa Verde 39.17 337 ⇑P P 13 23 54.6 +0.1
baz=39
P28A Saint Francis 39.19 346 ⇑P P 13 23 53.8 -0.6
baz=39
O31A Woolen Ranch, 39.22 349 ⇑P P 13 23 54.1 -0.5
baz=39
Q25A Bedland, Calha 39.24 343 ⇓P P 13 23 54.8 -0.1
baz=39
SWSC Sam W. Stewart 39.26 325 ⇓P P 13 23 54.9 0.0
baz=39
PDMCI Parker Dam,Lak 39.37 328 ⇓P P 13 23 55.0 -0.9
baz=40
P27A Ficken Ranch, 39.38 345 ⇑P P 13 23 56.1 +0.1
baz=40
O30A MW Ranch, Wils 39.39 348 ⇑P P 13 23 55.9 -0.1
baz=40
O29A 4D Ranch, Culb 39.49 347 ⇑P P 13 23 56.6 -0.3
baz=40
Q24A Divide 39.56 342 ⇓P P 13 23 57.5 -0.3
baz=40
BAR Barrett 39.57 324 eP P 13 24 00.1 +2.5
comp=Z,584nm,2.8s
MONP Monument Peak 39.58 325 ⇓P P 13 23 57.4 -0.5
baz=40
P26A Davis Ranch, A 39.58 344 ⇓P P 13 23 57.4 -0.4
baz=40
BC3 Big Chuckawall 39.59 326 ⇑P P 13 23 57.9 0.0
baz=40
O28A Krutsinger Ran 39.72 346 ⇑P P 13 23 59.0 +0.2
baz=40
P25A Willow Gulch B 39.77 343 ⇑P P 13 24 00.0 +0.7
baz=40
IRM Iron Mountain 39.80 327 ⇓P P 13 24 00.5 +1.0
baz=40
N31A Bailey Ranch, 39.81 350 ⇓P P 13 24 00.1 +0.6
baz=40
W13A Hualapai Mount 39.86 329 ⇑P P 13 24 00.8 +0.6
baz=40
O27A Beecher Island 39.95 346 ⇑P P 13 24 01.3 +0.5
baz=40
109C Camp Elliot, M 39.98 324 ⇑P P 13 24 01.4 +0.4
baz=40
PV01 Paradox Valley 40.00 338 eP P 13 24 02.2 +0.8
comp=Z,2µm,1.4s
PFO Pinyon Flat Ob 40.12 325 eP P 13 24 03.1 +0.8
PFO LR LR
comp=Z,1µm,21.0s
PFO Pinyon Flat Ob 40.12 325 P P 13 24 02.0 -0.3
comp=Z,1.0nm,0.6s,baz=143,slow=11,SNR=4.9
PFO LR LR 13 37 36.0
comp=Z,1µm,20.3s,baz=136,slow=32
PFO Pinyon Flat Ob 40.12 325 ⇓P P 13 24 03.0 +0.7
baz=40
N29A Votaw Ranch, W 40.12 348 ⇓P P 13 24 01.8 -0.3
baz=40
U15A North Rim 40.14 332 ⇑P P 13 24 02.7 0.0
baz=40
BELC Belle Mtn. Jos 40.15 326 ⇓P P 13 24 02.7 +0.2
baz=40
P23A Jefferson 40.15 341 ⇓P P 13 24 02.7 0.0
baz=40,SNR=5.6
N28A Pribbeno Ranch 40.20 347 ⇓P P 13 24 02.3 -0.5
baz=40
SCIA State Center 40.21 357 eP P 13 24 04.3 +1.6
comp=Z,127nm,1.8s
O26A Horse Wrangler 40.21 345 ⇑P P 13 24 02.5 -0.5
baz=40
BGNE Belgrade 40.24 351 ⇑P P 13 24 02.4 -0.7
baz=40
O25A Wiggins 40.31 344 ⇑P P 13 24 03.1 -0.7
baz=40
M31A Lambtecht Ranc 40.32 350 ⇓P P 13 24 03.0 -0.7
baz=40
SMCO Snowmass 40.35 340 eP P 13 24 04.7 +0.3
comp=Z,81nm,2.3s
PV04 Paradox Valley 40.36 337 eP P 13 24 05.7 +1.4
ISCO Idaho Springs 40.47 342 eP P 13 24 05.1 -0.2
comp=Z,46nm,1.4s
ISCO LR LR
comp=Z,1µm,22.0s
ISCO Idaho Springs 40.47 342 ⇑P P 13 24 05.2 -0.1
baz=41,SNR=21
GMRC Granite Mounta 40.55 327 ⇑P P 13 24 05.3 -0.5
baz=41
N27A Anderson Farm, 40.55 346 ⇑P P 13 24 05.3 -0.4
baz=41
O24A Longmont 40.60 343 ⇑P P 13 24 05.5 -0.7
baz=41
P22A Eagle 40.65 340 ⇓P P 13 24 05.7 -1.0
baz=41
M30A Dale-Ortello V 40.67 349 ⇑P P 13 24 05.1 -1.6
baz=41
M29A Burnside Ranch 40.74 348 ⇓P P 13 24 06.2 -1.0
baz=41
N26A Koester Ranch, 40.74 345 ⇓P P 13 24 07.0 -0.3
baz=41
M28A Bar X Bar Ranc 40.84 347 ⇑P P 13 24 06.9 -1.1
baz=41
O23A Lake Granby, G 40.94 342 ⇑P P 13 24 09.0 -0.2
baz=41,SNR=6.9
HEC Hector,Ludlow 40.95 327 ⇑P P 13 24 07.9 -1.2
baz=41
AAM Ann Arbor 40.97 8 PFAKE 13 24 20.0 +11
AAM LR LR
comp=Z,1µm,19.0s
L30A Spencer Herefo 41.04 349 ⇑P P 13 24 09.5 -0.1
baz=41
O22A Kremmling 41.09 341 ⇑P P 13 24 10.5 +0.1
baz=41,SNR=18
L31A Butterfield Fa 41.10 350 ⇑P P 13 24 09.4 -0.8
baz=41
JFWS Jewell Farm 41.13 0 eP P 13 24 09.9 -0.4
comp=Z,27nm,1.0s
JFWS LR LR
comp=Z,1µm,22.0s
TUQ Turquoise Moun 41.18 328 ⇑P P 13 24 10.8 -0.3
baz=41
BFSC Mount Baldy Ra 41.26 325 ⇑P P 13 24 12.0 +0.2
baz=41
ERPA Erie 41.41 12 PFAKE 13 24 20.0 +7.3
ERPA LR LR
comp=Z,870nm,20.0s
L28A Connealy Angus 41.45 347 ⇓P P 13 24 13.5 +0.4
baz=42
CCUT Cedar City 41.55 332 eP P 13 24 16.0 +1.8
comp=Z,81nm,2.5s
GSC Goldstone 41.56 327 eP P 13 24 15.7 +1.6
comp=Z,56nm,2.1s
GSC Goldstone 41.56 327 ⇑P P 13 24 14.7 +0.6
baz=42
N23A Red Feather La 41.57 342 ⇓P P 13 24 15.2 +0.9
baz=42
SHPR Sheep Range 41.60 329 eP P 13 24 15.2 +0.7
SHPR ePcP PcP 13 26 16.5 +4.8
SRU San Rafael 41.61 336 eP P 13 24 15.6 +0.9
comp=Z,79nm,2.4s
O20A White River Ci 41.64 339 eP P 13 24 15.0 +0.1
O20A White River Ci 41.64 339 ⇑P P 13 24 15.0 +0.1
baz=42
N22A Wattenberg Ran 41.64 342 ⇓P P 13 24 14.8 -0.1
baz=42,SNR=6.3
L27A T5 Ranch, Ells 41.70 347 ⇑P P 13 24 15.6 +0.4
baz=42
K30A Basset 41.72 350 ⇑P P 13 24 15.4 +0.2
baz=42
SHOC Shoshone 41.72 328 ⇑P P 13 24 16.6 +1.3
baz=42
M24A Cheyenne 41.77 344 ⇓P P 13 24 16.6 +0.8
baz=42
ARUT Antelope Range 41.78 332 eP P 13 24 15.8 -0.2
comp=Z,896nm,1.5s
PHWY Pilot Hill 41.80 343 eP P 13 24 17.4 +1.1
comp=Z,40nm,1.8s
MVU Marysvale 41.81 334 eP P 13 24 17.9 +1.5
comp=Z,49nm,2.3s
MVU ePcP PcP 13 26 17.5 +5.1
EDW2 Edwards Air Fo 41.91 325 ⇓P P 13 24 17.8 +0.8
baz=42
K29A Lazy Trails An 41.93 349 ⇑P P 13 24 17.6 +0.5
baz=42
TMUT Trail Mountain 42.05 336 eP P 13 24 18.4 +0.1
comp=Z,12nm,1.0s
K28A Ten Mile Ranch 42.10 348 ⇓P P 13 24 18.4 +0.1
baz=42
L25A Engebretsen Ra 42.18 345 ⇑P P 13 24 19.5 +0.4
baz=42
LRMC Laurel Mountai 42.18 326 ⇓P P 13 24 19.2 0.0
baz=42
M22A Cedar Creek Ra 42.23 342 ⇓P P 13 24 19.6 -0.2
baz=42
N20A Spence Gulch, 42.27 340 ⇓P P 13 24 19.8 -0.2
baz=42
CPUP Villa Florida 42.31 133 P P 13 24 20.8 +0.5
CPUP Villa Florida 42.31 133 P P 13 24 20.8 +0.5
comp=Z,2.8nm,0.8s,baz=290,slow=9.3,SNR=4.0
CPUP LR LR 13 42 38.1
comp=Z,2µm,21.4s,baz=310,slow=37
ECSD EROS Data Cent 42.32 353 eP P 13 24 18.9 -1.1
comp=Z,29nm,1.0s
ECSD LR LR
comp=Z,1µm,22.0s
ECSD EROS Data Cent 42.32 353 ⇓P P 13 24 19.0 -1.1
baz=42,SNR=16
J30A Dallas 42.33 350 ⇓P P 13 24 20.0 -0.2
baz=42
L24A Wheatland 42.33 344 ⇓P P 13 24 20.7 +0.3
baz=42
BINY Binghamton 42.44 16 PFAKE 13 24 30.0 +8.8
BINY LR LR
comp=Z,2µm,21.0s
FURC Furnace Creek, 42.46 328 ⇓P P 13 24 22.4 +1.1
baz=43,SNR=6.1
K26A Motz Farm, Whi 42.49 346 ⇑P P 13 24 21.6 0.0
baz=43
J29A Okreek 42.56 349 ⇓P P 13 24 22.2 +0.1
baz=43
ARVC Arvin 42.57 325 ⇓P P 13 24 22.4 +0.1
baz=43
K25A Mack Ranch, Ha 42.58 345 ⇓P P 13 24 22.6 +0.2
baz=43
L23A Garrett 42.62 343 ⇑P P 13 24 22.3 -0.5
baz=43,SNR=5.6
DAC Darwin (Calif) 42.71 327 eP P 13 24 24.7 +1.0
comp=Z,11nm,1.1s
J27A Elkhorn Farm, 42.75 347 ⇑P P 13 24 23.7 0.0
baz=43
ISA Isabella 42.75 326 eP P 13 24 25.1 +1.3
comp=Z,210nm,2.1s
ISA ePcP PcP 13 26 20.0 +4.6
ISA Isabella 42.75 326 ⇑P P 13 24 23.5 -0.4
baz=43
J28A Allard Ranch, 42.75 348 ⇑P P 13 24 23.5 -0.1
baz=43
L22A Ellis Ranch, M 42.76 342 ⇓P P 13 24 23.7 -0.2
baz=43
MPU Maple Canyon 42.83 336 eP P 13 24 25.4 +0.8
comp=Z,50nm,2.2s
K24A Anderson Ranch 42.93 344 ⇓P P 13 24 24.8 -0.5
baz=43
NLU North Lily Min 42.97 335 eP P 13 24 27.7 +2.0
comp=Z,17nm,1.3s
DAU Daniels Canyon 43.02 337 eP P 13 24 27.6 +1.4
J26A Sides Ranch, S 43.05 346 ⇓P P 13 24 26.1 0.0
baz=43
CWC Cottonwood Cre 43.10 327 ⇑P P 13 24 26.9 +0.2
baz=43
GRAC Grapevine Rang 43.13 328 ⇑P P 13 24 27.4 +0.5
baz=43
I29A Vivian Onida 43.15 350 ⇓P P 13 24 26.6 -0.2
baz=43
K23A Bowen Ranch, D 43.18 344 ⇑P P 13 24 27.3 0.0
baz=43
VES Vestal, Richgr 43.23 325 ⇑P P 13 24 27.4 -0.2
baz=43
R11A Troy Canyon, C 43.25 331 eP P 13 24 27.7 -0.2
comp=Z,30nm,1.9s
R11A Troy Canyon, C 43.25 331 ⇓P P 13 24 27.8 -0.2
baz=43
JLU Jordanelle 43.26 336 eP P 13 24 29.9 +1.9
comp=Z,31nm,1.7s
I28A Midland 43.29 349 ⇓P P 13 24 27.9 -0.1
baz=44
J25A Sunshine Ranch 43.29 346 ⇓P P 13 24 28.1 0.0
baz=44
BRSD Miller 43.33 351 eP P 13 24 27.8 -0.5
BRSD Miller 43.33 351 ⇓P P 13 24 28.1 -0.2
baz=44
K22A Casper 43.35 343 eP P 13 24 30.4 +1.8
K22A ePcP PcP 13 26 21.6 +4.2
K22A Casper 43.35 343 ⇓P P 13 24 28.6 -0.1
baz=44
SMMC Simmler 43.38 324 ⇓P P 13 24 28.9 0.0
baz=44
CTU Camp Tracy 43.45 336 eP P 13 24 31.2 +1.7
comp=Z,14nm,1.1s
J24A Dixon Ranch, L 43.46 345 ⇓P P 13 24 29.4 0.0
baz=44
DUG Dugway 43.48 335 eP P 13 24 30.6 +0.9
comp=Z,22nm,1.4s
DUG LR LR
comp=Z,3µm,20.0s
DUG Dugway 43.48 335 ⇓P P 13 24 29.5 -0.2
baz=44,SNR=5.6
SPMN St. Paul 43.49 358 ⇓P P 13 24 28.7 -0.9
baz=44
I27A Quinn 43.54 348 ⇑P P 13 24 29.7 -0.3
baz=44,SNR=17
K21A Alcova 43.55 342 ⇑P P 13 24 30.2 -0.2
baz=44
TIN Tinemaha 43.63 327 ⇑P P 13 24 31.1 +0.2
baz=44
I26A New Underwood 43.68 347 ⇑P P 13 24 30.6 -0.6
baz=44
TCUT Toone Canyon 43.68 337 eP P 13 24 30.6 -0.9
comp=Z,99nm,1.3s
H29A Onida 43.72 350 ⇓P P 13 24 30.9 -0.6
baz=44
TPH Tonopah 43.86 329 eP P 13 24 33.9 +1.0
comp=Z,30nm,1.8s
TPH ePcP PcP 13 26 23.8 +4.6
I25A Rochford 43.87 346 ⇑P P 13 24 32.6 -0.3
baz=44
H28A Mission Ridge 43.91 349 ⇑P P 13 24 32.5 -0.6
baz=44
I24A Kuemmerle Ranc 43.94 345 ⇑P P 13 24 32.9 -0.5
baz=44
J22A Midwest 44.03 343 ⇓P P 13 24 33.4 -0.7
baz=44
RSSD Black Hills 44.04 346 eP P 13 24 35.2 +0.9
comp=Z,15nm,2.0s
H27A Howes 44.08 348 ⇓P P 13 24 34.1 -0.2
baz=44
SADO Sadowa 44.13 12 LR LR 13 43 13.8
comp=Z,1µm,19.6s,baz=192,slow=36
BGU Big Grassy Mou 44.17 335 eP P 13 24 36.0 +0.7
comp=Z,10.0nm,1.2s
H26A Fairpoint 44.22 347 ⇓P P 13 24 35.1 -0.4
baz=44
G29A Hoven 44.22 350 ⇑P P 13 24 34.8 -0.7
baz=44
I23A Meade Ranch, G 44.26 344 ⇑P P 13 24 35.9 0.0
baz=44
SPUT South Promonto 44.26 336 eP P 13 24 35.4 -0.6
comp=Z,14nm,1.1s
J21A Lysite 44.26 342 ⇓P P 13 24 36.2 +0.1
baz=44,SNR=6.7
G28A Parade 44.28 349 ⇓P P 13 24 35.6 -0.4
baz=44
H25A Fruitdale 44.41 347 ⇑P P 13 24 36.9 -0.2
baz=45,SNR=18
BW06 Boulder Array 44.43 340 eP P 13 24 35.1 -2.3
comp=Z,22nm,1.4s
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 44.43 340 P P 13 24 35.4 -2.1
PDAR Pinedale Array 44.43 340 P P 13 24 35.4 -2.1
comp=Z,2.2nm,1.0s,baz=138,slow=8.3,SNR=8.7
PDAR LR LR 13 42 51.6
comp=Z,2µm,18.5s,baz=170,slow=36
J20A Shoshoni 44.47 342 ⇑P P 13 24 37.8 +0.2
baz=45
I22A 9 Mile Ranch, 44.48 343 ⇓P P 13 24 37.2 -0.5
baz=45
NCB Newcomb 44.57 17 PFAKE 13 24 50.0 +12
NCB LR LR
comp=Z,2µm,20.0s
NV11 Mina Array Sit 44.61 329 eP P 13 24 38.5 -0.4
I21A Big Trails, Te 44.64 343 ⇑P P 13 24 38.2 -0.8
baz=45,SNR=5.6
NVAR Mina Array Bea 44.69 328 P P 13 24 38.8 -0.8
NVAR PcP PcP 13 26 20.6 -1.5
NVAR Mina Array Bea 44.69 328 P P 13 24 38.8 -0.8
comp=Z,3.7nm,0.9s,baz=161,slow=9.5,SNR=13
NVAR PcP PcP 13 26 20.6 -1.5
comp=Z,0.8nm,0.7s,baz=147,slow=3.8,SNR=2.7
F30A Leola 44.70 351 ⇓P P 13 24 38.3 -1.0
baz=45
J19A Crowheart 44.70 341 ⇓P P 13 24 39.3 -0.2
baz=45
H24A Dirks Ranch, A 44.75 346 ⇓P P 13 24 39.8 -0.1
baz=45
G27A Dupree 44.77 348 ⇓P P 13 24 39.0 -0.9
baz=45,SNR=20
HVU Hansel Valley 44.78 336 eP P 13 24 39.6 -0.6
comp=Z,64nm,1.6s
H23A Clabaugh Cattl 44.80 345 ⇑P P 13 24 39.5 -0.7
baz=45
G26A Maurine 44.82 348 ⇓P P 13 24 39.3 -1.0
baz=45,SNR=17
F29A Eureka 44.83 351 ⇓P P 13 24 39.5 -0.8
baz=45
G25A Newell 44.91 347 ⇑P P 13 24 40.4 -0.6
baz=45
AHID Auburn Hatcher 44.98 338 PFAKE 13 24 50.0 +8.2
AHID LR LR
comp=Z,1µm,21.0s
ELK Elko 44.99 333 eP P 13 24 43.8 +1.9
comp=Z,57nm,1.9s
F28A McLaughlin 45.01 350 ⇑P P 13 24 40.8 -1.0
baz=45
I20A Worland 45.02 342 ⇑P P 13 24 41.4 -0.6
baz=45
LONY Lake Ozonia 45.07 16 PFAKE 13 24 50.0 +7.8
LONY LR LR
comp=Z,2µm,20.0s
H22A Clearmont 45.08 344 ⇓P P 13 24 41.7 -0.8
baz=45
BDFB Brasilia 45.26 114 P P 13 24 45.4 +1.1
BDFB Brasilia 45.26 114 P P 13 24 45.4 +1.1
comp=Z,1.7nm,0.4s,baz=300,slow=16,SNR=2.9
BDFB LR LR 13 44 42.7
comp=Z,2µm,18.5s,baz=288,slow=37
F27A Lemmon 45.26 349 ⇓P P 13 24 42.9 -0.8
baz=45
G24A Alzada 45.27 346 ⇑P P 13 24 43.4 -0.5
baz=45
H21A Big Horn, Sher 45.31 343 ⇑P P 13 24 43.1 -1.2
baz=46
E30A Jud 45.34 352 ⇓P P 13 24 43.2 -1.1
baz=46
WAKR Walker 45.34 328 eP P 13 24 47.8 +3.1
F26A Lodgepole 45.37 348 ⇑P P 13 24 44.1 -0.6
baz=46,SNR=14
I19A Meeteetse 45.37 341 ⇓P P 13 24 44.8 -0.1
baz=46,SNR=5.7
G23A Biddle 45.39 345 ⇓P P 13 24 43.9 -1.0
baz=46
REDW Red Top Meadow 45.41 339 eP P 13 24 45.7 +0.5
comp=Z,49nm,1.3s
H20A Greybull 45.46 342 ⇓P P 13 24 44.6 -0.9
baz=46
E29A Napoleon 45.51 351 ⇓P P 13 24 44.2 -1.5
baz=46
LBNH Lisbon 45.51 19 PFAKE 13 25 00.0 +14
LBNH LR LR
comp=Z,2µm,22.0s
CMB Columbia Colle 45.52 326 eP P 13 24 48.2 +2.2
comp=Z,96nm,2.6s
LOHW Long Hollow 45.54 339 eP P 13 24 45.3 -1.0
comp=Z,34nm,1.4s
F25A Bowman 45.61 347 ⇓P P 13 24 45.6 -1.0
baz=46
G22A Birney 45.64 344 ⇑P P 13 24 45.4 -1.5
baz=46
E28A Huff 45.69 350 ⇓P P 13 24 46.2 -1.0
baz=46
E27A Carson 45.70 349 ⇑P P 13 24 46.4 -0.9
baz=46
MOOW Moose Ponds 45.71 339 eP P 13 24 48.0 +0.4
comp=Z,13nm,1.3s
FXWY Fox Creek 45.71 339 eP P 13 24 46.4 -1.2
comp=Z,17nm,1.1s
F24A Ekalaka 45.76 346 ⇑P P 13 24 46.8 -1.0
baz=46
I17A Pilgrim Ck. 45.80 340 ⇓P P 13 24 47.4 -0.9
baz=46
PLCA Paso Flores 45.85 159 eP P 13 24 45.9 -2.7
comp=Z,23nm,1.2s
PLCA Paso Flores 45.85 159 P P 13 24 48.8 +0.2
comp=Z,12nm,1.0s,baz=322,slow=7.7,SNR=6.2
PLCA LR LR 13 40 54.3
comp=Z,1µm,18.0s,baz=337,slow=32
F23A Volborg 45.88 345 ⇑P P 13 24 48.0 -0.7
baz=46,SNR=6.0
G21A Lodge Grass 45.90 343 ⇓P P 13 24 47.8 -1.1
baz=46
IMW Indian Meadow 45.91 339 eP P 13 24 47.8 -1.4
comp=Z,16nm,1.4s
D30A Buchanan 45.91 352 ⇓P P 13 24 47.5 -1.3
baz=46
E26A Carlson Angus 45.92 348 ⇑P P 13 24 47.8 -1.2
baz=46
H19A Powell 45.94 342 ⇑P P 13 24 48.6 -0.6
baz=46,SNR=7.1
FLWY Flagg Ranch 45.98 340 eP P 13 24 48.9 -0.8
comp=Z,29nm,1.5s
D29A Pettibone, Tap 45.98 351 ⇓P P 13 24 47.6 -1.8
baz=46
E25A Miller Ranch, 46.14 348 ⇓P P 13 24 49.7 -1.0
baz=46
F22A Rosebud 46.15 345 ⇓P P 13 24 49.1 -1.8
baz=46

H18A Shoshone NF, C 46.16 341 ⇓P **P 13 24 49.1 -2.0**
baz=46
EYMN Ely 46.18 359 PFAKE 13 25 00.0 +9.1
EYMN LR LR
comp=Z,1μm,19.0s
G20A Bridger 46.19 343 ⇓P **P 13 24 49.7 -1.6**
baz=46,SNR=6.3
H17A Grant Village 46.22 340 ⇑P **P 13 24 50.7 -0.9**
baz=46
D28A Regan 46.27 350 ⇓P **P 13 24 50.6 -1.1**
baz=46
D27A Center 46.35 350 ⇓P **P 13 24 51.1 -1.3**
baz=46
E24A Baker 46.40 347 ⇑P **P 13 24 51.5 -1.3**
baz=47
F21A Absaloka Mine, 46.43 344 ⇓P **P 13 24 52.2 -0.8**
baz=47
RLMT Red Lodge 46.43 342 PFAKE 13 25 10.0 +17
RLMT LR LR
comp=Z,1μm,19.0s
D26A Manning 46.45 349 ⇓P **P 13 24 52.0 -1.1**
baz=47
C30A Mose, Pekin 46.45 352 ⇓P **P 13 24 51.6 -1.6**
baz=47
YMR Madison River 46.59 340 *e*P **P 13 24 54.3 -0.2**
comp=Z,23nm,1.2s
E22A Miles City 46.68 345 ⇓P **P 13 24 54.1 -0.9**
baz=47
F20A Billings 46.70 343 ⇓P **P 13 24 54.0 -1.2**
baz=47
D25A Fairfield 46.74 348 ⇑P **P 13 24 54.1 -1.4**
baz=47
C28A Hausauer Farms 46.75 351 ⇓P **P 13 24 54.4 -1.0**
baz=47
AGMN Agassiz Nation 46.76 355 *e*P **P 13 24 54.6 -0.9**
comp=Z,113nm,1.8s
AGMN LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 46.76 355 ⇑P **P 13 24 53.7 -1.8**
baz=47
QLMT Earthquake Lak 46.89 340 *e*P **P 13 24 58.5 +1.6**
D24A Glendive 46.93 347 ⇓P **P 13 24 55.3 -1.6**
baz=47,SNR=6.2
C27A Sayler Ranch, 46.93 350 ⇓P **P 13 24 55.9 -1.0**
baz=47
HLID Hailey 46.94 336 *e*P **P 13 24 56.2 -1.0**
comp=Z,27nm,1.3s
HLID LR LR
comp=Z,2μm,19.0s
HLID Hailey 46.94 336 ⇓P **P 13 24 55.7 -1.5**
baz=47,SNR=26
F19A Roth Farm, Mol 46.99 342 ⇓P **P 13 24 55.8 -1.6**
baz=47
LAO LASA Array 46.99 345 *e*P **P 13 24 56.5 -0.9**
comp=Z,57nm,1.6s
LAO LR LR
comp=Z,969nm,21.0s
OHCM Honcut 47.05 327 *e*P **P 13 24 59.4 +1.5**
E21A Keefer Ranch, 47.08 344 ⇑P **P 13 24 56.8 -1.3**
baz=47,SNR=13
C26A Wahner Farm, P 47.15 349 ⇑P **P 13 24 57.1 -1.5**
baz=47
B30A Myrvik Farm, E 47.17 353 ⇓P **P 13 24 56.9 -1.8**
baz=47
D23A Lindsay 47.19 346 ⇑P **P 13 24 57.8 -1.2**
baz=47
B29A Wagenman Farm, 47.32 352 ⇑P **P 13 24 58.6 -1.3**
baz=48
E20A Meyer Farm, Mu 47.33 343 ⇓P **P 13 24 59.3 -0.8**
baz=48
C24A Savage 47.34 347 ⇑P **P 13 24 59.0 -1.1**
baz=48
MCMT McKenzie Canyo 47.40 338 *e*P **P 13 25 00.6 -0.3**
comp=Z,7.0nm,1.4s
MFID Camas Ranch 47.40 335 *e*P **P 13 25 01.0 +0.2**
comp=Z,38nm,1.8s
D22A Cohagen 47.40 345 ⇓P **P 13 24 59.3 -1.3**
baz=48
B28A Dugan Ranch, T 47.45 351 ⇓P **P 13 24 59.6 -1.3**
baz=48
E19A Rath Farm, Rou 47.49 343 ⇓P **P 13 24 59.9 -1.4**
baz=48,SNR=23
D21A La Casta Ranch 47.54 345 ⇑P **P 13 25 00.5 -1.2**
baz=48
B27A Peters Farms, 47.56 350 ⇑P **P 13 25 00.7 -1.1**
baz=48
A30A Hoffart Farm, 47.65 353 ⇑P **P 13 25 01.1 -1.4**
baz=48,SNR=13
BOZ Bozeman (W) 47.67 340 *e*P **P 13 25 01.8 -1.1**
comp=Z,13nm,1.2s
BOZ LR LR
comp=Z,1μm,19.0s
A29A Manning Farm, 47.75 352 ⇓P **P 13 25 01.5 -1.7**
baz=48,SNR=10
DLMT Dillon 47.77 339 *e*P **P 13 25 04.7 +1.1**
comp=Z,13nm,1.5s
C23A Lambert 47.77 347 ⇑P **P 13 25 01.8 -1.7**
baz=48
D20A Manuel Ranch, 47.87 344 ⇑P **P 13 25 03.0 -1.2**
baz=48,SNR=5.3
C22A Vida 47.89 346 ⇓P **P 13 25 03.6 -0.8**
baz=48,SNR=12
WVOR Wild Horse Val 47.89 332 *e*P **P 13 25 05.4 +0.8**
comp=Z,33nm,1.5s
WVOR *e*PcP PcP 13 26 39.0 +5.9
A28A Rude Farm, Bot 47.89 351 ⇓P **P 13 25 03.7 -0.7**
baz=48
LRM Limekiln Ridge 48.11 339 *e*P **P 13 25 06.4 +0.1**
D19A Cripps Ranch, 48.15 343 ⇑P **P 13 25 05.6 -0.9**
baz=48,SNR=17
A26A Wade Farm, Ken 48.17 350 ⇑P **P 13 25 05.4 -1.1**
baz=48
DGMT Dagmar 48.18 348 ⇓P **P 13 25 05.9 -0.8**
baz=48
C21A Desert Coulee 48.27 345 ⇑P **P 13 25 06.5 -0.8**
baz=48,SNR=13
MOD Modoc 48.29 330 *e*P **P 13 25 08.2 +0.5**
comp=Z,5.6nm,1.3s
B23A Brockton 48.35 347 ⇓P **P 13 25 06.8 -1.2**
baz=48
C20A Veseth Ranch, 48.40 344 ⇑P **P 13 25 07.4 -0.9**
baz=49
A25A Svangstu Ranch 48.41 349 ⇑P **P 13 25 07.8 -0.5**
baz=49
A24A Westby 48.57 348 ⇑P **P 13 25 08.7 -1.0**
baz=49
HRY Holter Researc 48.67 340 *e*P **P 13 25 11.0 +0.5**
ULM Lac du Bonnet 48.70 355 *e*P **P 13 25 09.0 -1.4**
comp=Z,58nm,1.5s
ULM Lac du Bonnet 48.70 355 P **P 13 25 09.1 -1.4**
comp=Z,11nm,1.2s,baz=182,slow=7.5,SNR=6.3
C19A Slack Wire Ran 48.72 343 ⇓P **P 13 25 09.7 -1.1**
baz=49
A23A Redstone 48.79 347 ⇑P **P 13 25 10.2 -1.1**
baz=49
N02D Trinity Center 48.87 328 ⇓P **P 13 25 11.2 -0.9**
baz=49
M04C Macdoel 48.98 329 ⇓P **P 13 25 12.2 -0.8**
baz=49
A22A Carney Farms, 49.06 347 ⇑P **P 13 25 12.3 -1.1**
baz=49
EGMT Eagleton 49.18 343 PFAKE 13 25 30.0 +16
EGMT LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 49.18 343 ⇑P **P 13 25 13.1 -1.3**
baz=49
BMO Blue Mountains 49.19 335 *e*P **P 13 25 17.4 +2.9**
comp=Z,12nm,1.4s
BMO LR LR
comp=Z,2μm,21.0s
K05A Summer Lake 49.20 330 *e*P **P 13 25 15.9 +1.2**
comp=Z,160nm,2.2s
CHMT Chamberlain Mo 49.33 339 *e*P **P 13 25 15.9 +0.1**
B19A Brinkman Farms 49.34 344 ⇑P **P 13 25 15.4 -0.2**
baz=50,SNR=6.6
YBH Yreka Blue Hor 49.40 328 P **P 13 25 13.1 -3.1**
YBH Yreka Blue Hor 49.40 328 P **P 13 25 13.1 -3.1**
comp=Z,3.0nm,1.0s,baz=135,slow=8.6,SNR=2.8
A20A Cobblestone Ra 49.45 345 ⇓P **P 13 25 16.2 -0.2**
baz=50,SNR=5.5
MSO Missoula 49.51 339 *e*P **P 13 25 19.8 +2.8**
comp=Z,25nm,1.5s
MSO Missoula 49.51 339 ⇑P **P 13 25 16.4 -0.5**
baz=50,SNR=5.3
A19A Klindworth Far 49.72 344 ⇓P **P 13 25 18.0 -0.4**
baz=50,SNR=6.9
J05D Fort Rock, OR 49.78 331 ⇑P **P 13 25 18.5 -0.6**
baz=50

RKT Rikitea 49.85 238 *e*S **S 13 32 25.7 -4.3**
comp=Z,668nm,23.3s
RKT *e*LR LR 13 39 48.4
comp=Z,3μm,30.2s,baz=65
RKT Rikitea 49.85 238 *e*T T 14 18 18.1
comp=Z,2.0nm,0.2s
SWMT Swartz Lake 50.10 339 *e*P **P 13 25 23.5 +2.1**
G08A Pilot Rock 50.25 334 *e*P **P 13 25 23.6 +0.9**
comp=Z,27nm,1.8s
JTMT Jette 50.41 339 *e*P **P 13 25 22.2 -1.6**
YBMT Yellow Bay 50.41 340 *e*P **P 13 25 26.3 +2.5**
BLMT Blacktail Moun 50.66 339 *e*P P 13 25 29.2 +3.4
BSMT Bassoo Peak 50.68 339 *e*P P 13 25 29.3 +3.4
E09A Wood Farm, Sta 50.88 336 *e*P **P 13 25 26.8 -0.3**
comp=Z,23nm,1.1s
G06A Carlson Farm, 50.96 333 *e*P P 13 25 32.0 +4.1
HAWA Hanford 51.37 334 *e*P **P 13 25 33.8 +2.9**
comp=Z,184nm,3.0s
HAWA LR LR
comp=Z,2μm,19.0s
WALA Waterton Lakes 51.40 340 *e*P **P 13 25 33.7 +2.5**
comp=Z,0.8nm,1.4s
E07A Sunnyside 51.63 334 *e*P **P 13 25 34.2 +1.3**
comp=Z,39nm,1.3s
NEW Newport 51.89 338 *e*P P 13 25 39.2 +4.4
NEW Newport 51.89 338 LR LR 13 47 22.5
comp=Z,2μm,18.4s,baz=141,slow=36
LTY Liberty 52.53 334 *e*P P 13 25 43.5 +3.9
B08A Colville Reser 52.83 336 *e*P **P 13 25 42.1 +0.3**
comp=Z,23nm,1.4s
FFC Flin Flon 53.80 352 *e*P **P 13 25 49.0 +0.3**
comp=Z,39nm,2.1s
FFC LR LR
comp=Z,913nm,20.0s
SCHQ Schefferville 56.45 16 P **P 13 26 05.5 -2.3**
SCHQ Schefferville 56.45 16 P **P 13 26 05.5 -2.3**
comp=Z,7.3nm,1.0s,baz=99,slow=2.8,SNR=4.3
SCHQ LR LR 13 50 08.3
comp=Z,1μm,20.6s,baz=208,slow=36
FCC Fort Churchill 57.08 358 *e*P **P 13 26 11.1 -1.1**
comp=Z,1.1nm,1.5s
PPT Papeete 61.30 249 LR LR 13 46 20.5
comp=Z,1μm,19.9s,baz=74,slow=29
PPT2 Papeete2 61.30 249 *e*S **S 13 35 00.9 -2.3**
comp=Z,2μm,26.0s
PPT2 *e*LQ LQ 13 42 25.3
comp=Z,2μm,39.5s
PPT2 *e*LR LR 13 44 57.1
comp=Z,4μm,25.8s,baz=70
TBI Tubuai 62.52 243 *e*S **S 13 35 17.2 -1.2**
comp=Z,2μm,28.5s
TBI *e*LQ LQ 13 42 56.2
comp=Z,1μm,43.5s
TBI *e*LR LR 13 45 37.8
comp=Z,4μm,27.8s,baz=73
TBI Tubuai 62.52 243 *e*T T 14 34 05.6
comp=Z,13nm,0.2s
YKA Yellowknife Ar 63.39 348 P **P 13 26 53.0 -2.4**
YKA Yellowknife Ar 63.39 348 P **P 13 26 53.0 -2.4**
comp=Z,2.1nm,1.0s,baz=147,slow=6.4,SNR=13
DLBC Dease Lake 64.62 338 LR LR 13 55 21.8
comp=Z,2μm,18.5s,baz=141,slow=36
SACV Santiago Islan 67.18 75 PFAKE 13 27 30.0 +9.1
SACV LR LR
comp=Z,602nm,19.0s
HOPE Hope Point 71.17 150 PFAKE 13 28 00.0 +15
HOPE LR LR
comp=Z,6.0nm,22.0s
RAR Rarotonga 71.42 247 LR LR 13 52 03.3
comp=Z,617nm,18.9s,baz=226,slow=30
INK Inuvik 72.72 345 *e*P **P 13 27 53.3 -0.7**
INK Inuvik 72.72 345 P **P 13 27 51.9 -2.1**
comp=Z,5.3nm,1.0s,baz=130,slow=4.9,SNR=8.6
INK LR LR 14 00 37.7
comp=Z,524nm,18.5s,baz=143,slow=37
EGAK Eagle 72.78 340 *e*P P 13 27 58.5 +4.1
RES Resolute Bay 73.05 359 LR LR 14 02 23.9
comp=Z,847nm,19.0s,baz=170,slow=38
KDAK Kodiak Island 74.14 330 PFAKE 13 28 10.0 +7.5
KDAK LR LR
comp=Z,766nm,20.0s
ILAR Eielson Array 74.84 338 P **P 13 28 04.0 -2.5**
ILAR Eielson Array 74.84 338 P **P 13 28 04.0 -2.5**
comp=Z,2.6nm,0.9s,baz=135,slow=4.3,SNR=15
ILAR LR LR 14 01 48.0
comp=Z,1μm,18.4s,baz=127,slow=36
MCK McKinley 75.11 337 *e*P P 13 28 12.7 +4.6
COLA College 75.25 338 PFAKE 13 28 20.0 +11
COLA LR LR
comp=Z,873nm,20.0s
TRF Thorofare Moun 75.52 336 *e*P **P 13 28 09.1 -1.5**
PPLA Purkeypile 76.05 335 *e*P P 13 28 18.0 +4.3
ASCN Ascension 76.40 99 PFAKE 13 28 30.0 +14
ASCN LR LR
comp=Z,711nm,22.0s
COLD Coldfoot 77.22 340 *e*P **P 13 28 21.7 +1.7**
SUMG Summit 77.76 14 *i* P **P 13 28 25.3 +1.9**
comp=Z,3.3nm,1.1s
IM04 Indian Mountai 77.96 338 *e*P P 13 28 19.6 -4.6
AFI Afiamalu 82.02 256 LR LR 13 57 24.8
comp=Z,886nm,18.4s,baz=90,slow=30
TNA Tin City 83.39 336 *e*P P 13 28 58.0 +4.8
MTE Manteigas 83.52 50 PFAKE 13 29 10.0 +15
MTE LR LR
comp=Z,736nm,20.0s
RTC Rabat Centre 83.75 56 PFAKE 13 29 10.0 +14
RTC LR LR
comp=Z,508nm,20.0s
LIC Lamto 85.23 84 *e*P **P 13 29 01.8 -1.9**
comp=Z,34nm,1.0s
TIC Toumodi 85.23 84 *e*P **P 13 29 04.0 +0.3**
comp=Z,39nm,1.4s
DBIC Dimbokro 85.39 83 P **P 13 29 05.0 +0.5**
DBIC Dimbokro 85.39 83 P **P 13 29 05.0 +0.5**
comp=Z,1.4nm,0.5s,baz=254,slow=11,SNR=3.5
KIC Kosan Boka 85.51 84 *e*P **P 13 29 05.6 +0.5**
comp=Z,26nm,1.2s
ESDC Sonseca Array 86.24 51 P **P 13 29 08.5 +0.2**
ESDC Sonseca Array 86.24 51 P **P 13 29 08.5 +0.2**
comp=Z,0.1nm,0.3s,baz=296,slow=4.6,SNR=4.2
ESDC LR LR 14 02 29.6
comp=Z,528nm,20.4s,baz=270,slow=32
RAO Raoul Island 88.61 241 LR LR 13 59 14.4
comp=Z,645nm,21.4s,baz=86,slow=29
KBS Kingsbay 90.81 11 PFAKE 13 29 40.0 +11
KBS LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 91.68 77 LR LR 14 07 33.0
comp=Z,604nm,21.7s,baz=260,slow=33
URZ Urewera 92.94 232 LR LR 14 02 59.4
comp=Z,726nm,19.8s,baz=186,slow=30
BILL Bilibino 93.50 338 PFAKE 13 29 50.0 +8.3
BILL LR LR
comp=Z,489nm,22.0s
KONO Kongsberg 93.68 30 PFAKE 13 29 50.0 +7.3
KONO LR LR
comp=Z,1μm,20.0s
ECH Echery 93.86 42 PFAKE 13 29 50.0 +6.1
ECH LR LR
comp=Z,899nm,20.0s
BNI Bardonecchia 93.88 45 PFAKE 13 30 00.0 +16
BNI LR LR
comp=Z,1μm,22.0s
BFO Black Forest 94.62 41 PFAKE 13 30 00.0 +13
BFO LR LR
comp=Z,1μm,19.0s
VNDA Vanda 95.36 192 LR LR 14 03 08.0
comp=Z,492nm,22.0s,baz=114,slow=29
HFS Hagfors 95.61 29 LR LR 14 12 02.6
comp=Z,474nm,19.0s,baz=280,slow=35
CLL Collm 97.11 38 *e*PS PS 13 42 42.0 -2.4
CLL *e*PPS PPS 13 43 24.0
CLL *e*SS SS 13 48 03.0 +4.5
CLL *e*SSS SSS 13 51 51.0
CLL Lm MLR 14 10 00.0
comp=N,200nm,20.2s
CLL Lm MLR 14 10 00.0
comp=E,500nm,21.6s
CLL Lm MLR 14 10 00.0
comp=Z,600nm,20.7s
GERES GERESS Array B 98.05 40 LR LR 14 09 40.5
comp=Z,1μm,20.1s,baz=270,slow=33
AQU L'Aquila 99.10 47 PFAKE 13 30 20.0 +12
AQU LR LR
comp=Z,540nm,21.0s
CUC Castrocucco 101.34 49 PFAKE 13 30 30.0 +12

CUC LR LR
comp=Z,493nm,20.0s
H11N3 WAKE ISLAND Hyl01.40 290 T T 15 22 45.3
baz=88,slow=75,SNR=40
H11N2 WAKE ISLAND Hyl01.41 290 T T 15 22 47.2
baz=88,slow=75,SNR=23
H11N1 WAKE ISLAND Hyl01.42 290 T T 15 22 46.6
baz=88,slow=75,SNR=34
H11S2 WAKE ISLAND Hyl01.71 289 T T 15 23 14.9
baz=87,slow=72,SNR=121
H11S1 WAKE ISLAND Hyl01.71 289 T T 15 23 09.8
baz=87,slow=72,SNR=27
H11S3 WAKE ISLAND Hyl01.73 289 T T 15 23 12.3
baz=87,slow=72,SNR=71
CEL Celeste 101.75 51 PFAKE 13 30 30.0 +10
CEL LR LR
comp=Z,511nm,19.0s
PSZ Piszkesteto 102.28 40 PFAKE 13 30 30.0 +8.1
PSZ LR LR
comp=Z,910nm,22.0s
DZM Mont Dzumac 102.79 248 *e*SP SP 13 43 43.9 -1.5
comp=Z,170nm,30.6s
DZM *e*SS **SS 13 49 25.3 +5.6**
comp=Z,178nm,28.8s
DZM Mont Dzumac 102.79 248 *e*LR LR 14 04 17.6
comp=Z,580nm,24.5s
KIEV Kiev 107.02 35 PFAKE 13 35 00.0
KIEV LR LR
comp=Z,866nm,20.0s
OBN Obninsk 108.83 29 PFAKE 13 35 10.0
OBN LR LR
comp=Z,739nm,22.0s
SANT Santorini 109.60 50 PFAKE 13 35 10.0
SANT LR LR
comp=Z,429nm,21.0s
HNR Honiara 109.65 261 PFAKE 13 35 10.0
HNR LR LR
comp=Z,930nm,19.0s
ISP Isparta 112.94 48 PFAKE 13 35 20.0
ISP LR LR
comp=Z,352nm,20.0s
CASY Casey 113.77 189 PFAKE 13 35 20.0
CASY LR LR
comp=Z,752nm,21.0s
ANTO Ankara 113.80 45 PFAKE 13 35 20.0
ANTO LR LR
comp=Z,248nm,21.0s
ERM Erimo 115.09 319 PFAKE 13 35 20.0 +12
ERM LR LR
comp=Z,553nm,20.0s
CAN Canberra 115.60 231 PFAKE 13 35 20.0 +11
CAN LR LR
comp=Z,387nm,20.0s
CSS Prodhromos 116.11 50 PFAKE 13 35 20.0 +10
CSS LR LR
comp=Z,120nm,19.0s
ARU Arti 116.92 19 PFAKE 13 35 20.0 +9.0
ARU LR LR
comp=Z,854nm,22.0s
LSZ Lusaka 117.96 106 PFAKE 13 35 30.0 +16
LSZ LR LR
comp=Z,588nm,20.0s
KIV Kislovodsk 118.29 37 PFAKE 13 35 30.0 +16
KIV LR LR
comp=Z,321nm,20.0s
MAJO Matsushiro 121.06 315 PFAKE 13 35 30.0 +10
MAJO LR LR
comp=Z,624nm,22.0s
GNI Garni 121.69 39 PFAKE 13 35 30.0 +9.1
GNI LR LR
comp=Z,388nm,20.0s
CTAO Charters Tower 121.73 247 PFAKE 13 35 30.0 +8.7
CTAO LR LR
comp=Z,474nm,19.0s
HIA Hailar 123.05 337 PFAKE 13 35 30.0 +7.0
HIA LR LR
comp=Z,397nm,19.0s
BRVK Borovoye 123.18 14 PFAKE 13 35 30.0 +6.9
BRVK LR LR
comp=Z,516nm,21.0s
BVAR Borovoye Array 123.24 14 PKP **PKPdf 13 35 21.3 -1.9**
BVAR Borovoye Array 123.24 14 PKP **PKPdf 13 35 21.3 -1.9**
comp=Z,0.2nm,0.6s,baz=270,slow=4.3,SNR=2.0
ZALV Zalesovo Beam 124.50 3 PKP **PKPdf 13 35 24.5 -1.1**
ZALV Zalesovo Beam 124.50 3 PKP **PKPdf 13 35 24.5 -1.1**
comp=Z,1.0nm,0.7s,baz=27,slow=0.6,SNR=5.8
CN2 Changchun 124.58 329 *e*PKP **PKPdf 13 35 24.5 -1.6**
KURK Kurchatov 127.05 9 PKP **PKPdf 13 35 30.1 -0.5**
KURK LR LR
comp=Z,282nm,20.0s
KURBB Kurchatov Arra 127.12 9 PKP **PKPdf 13 35 30.1 -0.7**
comp=Z,2.5nm,1.1s,baz=343,slow=2.1,SNR=4.7
KMBO Kilima Mbogo 127.67 90 PFAKE 13 35 40.0 +6.9
KMBO LR LR
comp=Z,573nm,22.0s
INCN Inchon 128.17 322 PFAKE 13 35 40.0 +6.8
INCN LR LR
comp=Z,302nm,20.0s
SONM Songino Array 128.63 346 PKP **PKPdf 13 35 31.8 -2.2**
SONM Songino Array 128.63 346 PKP **PKPdf 13 35 31.7 -2.2**
comp=Z,0.5nm,0.8s,baz=85,slow=3.5,SNR=3.4
ASAR Alice Springs 131.84 239 PKP **PKPdf 13 35 39.5 -1.1**
ASAR Alice Springs 131.84 239 PKP **PKPdf 13 35 39.5 -1.1**
comp=Z,0.3nm,0.8s,baz=122,slow=2.2,SNR=3.4
BJI Beijing 131.96 332 PKP **PKPdf 13 35 41.5 +1.3**
BJI SS SS 13 55 36.0 -0.2
BJI LR LR
comp=Z,190nm,16.1s
BJI LR LR
comp=Z,310nm,17.5s
BJI LR LR
comp=Z,240nm,27.0s
BJT Baijiatuan 131.98 332 PFAKE 13 35 50.0 +10
BJT LR LR
comp=Z,566nm,21.0s
HHC Hu-ho-hao-te 133.25 337 *e*PKP **PKPdf 13 35 46.3 +3.5**
HHC PP PP 13 38 14.0 +5.4
HHC PKS **PKSdf 13 39 18.8 -0.5**
HHC SKS **SKSdf 13 42 58.0 +3.4**
HHC SKKS **SKKSac 13 45 05.5 -0.4**
HHC SS **SS 13 55 53.0 +1.1**
HHC AMB AMB
comp=Z,110nm,7.3s
HHC LR LR
comp=Z,210nm,19.0s
HHC LR LR
comp=Z,280nm,21.8s
HHC LR LR
comp=Z,280nm,20.4s
EKS2 Erkin-Say 133.68 16 PFAKE 13 36 00.0 +16
EKS2 LR LR
comp=Z,508nm,20.0s
AAK Ala-Archa 133.91 15 PKP **PKPdf 13 35 44.2 +0.1**
AAK LR LR
comp=Z,444nm,21.0s
AAK Ala-Archa 133.91 15 PKP **PKPdf 13 35 44.2 +0.1**
comp=Z,0.6nm,0.6s,baz=238,slow=13,SNR=2.3
WMQ Urumqi 134.75 2 PKP **PKPdf 13 35 47.8 +2.3**
WMQ sPKP 13 35 53.0
WMQ PP PP 13 38 23.8 +6.1
WMQ PKS **PKSdf 13 39 22.5 +0.6**
WMQ SKS **SKSdf 13 42 57.3 +0.3**
WMQ SKKS **SKKSac 13 45 14.8 +0.1**
WMQ SS **SS 13 56 12.3 +3.0**
WMQ AMB AMB
comp=Z,34nm,10.7s
WMQ LR LR
comp=Z,210nm,28.8s
WMQ LR LR
comp=Z,510nm,29.8s
WMQ LR LR
comp=Z,420nm,29.9s
ABPO Ambohimpanom 135.04 116 PFAKE 13 36 00.0 +13
ABPO LR LR
comp=Z,797nm,22.0s
NJ2 Nanjing 136.55 323 *e*PKP **PKPdf 13 35 47.0 -2.1**
KSH Kashi 137.21 16 *e*PKP **PKPdf 13 35 48.0 -2.3**
KSH *es*PKP 13 36 02.5
KSH LR LR
comp=Z,50nm,4.2s
KSH LR LR
comp=Z,48nm,4.9s
KSH LR LR
comp=Z,39nm,8.2s
GTA Gaotai 138.12 348 PKP **PKPdf 13 35 56.5 +4.5**

GTA				sPKP			13 36 03.8	
XAN	**Xi'an**	**140.16**	**335**	PKP	**PKPdf**	**13 35 52.3**		**-3.5**
LZH	**Lanzhou**	**140.22**	**342**	*e*PKP	**PKPdf**	**13 35 53.5**		**-2.5**
LZH				sPKP		13 35 59.8		
LZH				PP	**PP**	**13 38 55.0**		**+2.9**
LZH				AMB	AMB			
	comp=Z,130nm,4.4s							
LZH				LR	LR			
	comp=Z,190nm,12.4s							
LZH				LR	LR			
	comp=Z,340nm,16.8s							
LZH				LR	LR			
	comp=Z,430nm,20.6s							
ENH	**Enshi**	**143.06**	**331**	PFAKE		13 36 10.0		+9.0
ENH				LR	LR			
	comp=Z,20nm,21.0s							
DAV	**Davao City (W)**	**143.08**	**284**	PFAKE		13 36 10.0		+8.6
DAV				LR	LR			
	comp=Z,1μm,20.0s							
CD2	**Chengdu**	**144.97**	**339**	*e*PKP	**PKPdf**	**13 36 06.3**		**+1.9**
CD2				PP	PP	13 39 29.5		+8.7
CD2				SKKS		13 46 15.5		
CD2				SS	**SS**	**13 58 10.5**		**+0.7**
CD2				AMB	AMB			
	comp=Z,100nm,8.2s							
CD2				LR	LR			
	comp=Z,330nm,23.8s							
CD2				LR	LR			
	comp=Z,350nm,19.0s							
CD2				LR	LR			
	comp=Z,450nm,26.2s							
MSEY	**Mahe Island**	**145.80**	**96**	PFAKE		13 36 20.0		+13
MSEY				LR	LR			
	comp=Z,321nm,21.0s							
GYA	**Guiyang**	**147.60**	**331**	PKPbc	**PKPbc**	**13 36 11.5**		**-0.2**
GYA				PP	**PP**	**13 39 41.0**		**+4.2**
GYA				SKKS		13 46 28.8		
GYA				SS	**SS**	**13 58 39.5**		**-0.9**
GYA				AMB	AMB			
	comp=Z,120nm,7.8s							
GYA				LR	LR			
	comp=Z,130nm,22.3s							
GYA				LR	LR			
	comp=Z,110nm,23.9s							
GYA				LR	LR			
	comp=Z,140nm,22.9s							
NDI	**New Delhi**	**147.63**	**21**	*e*P	**PKPab**	**13 36 14.0**		**+0.4**
LSA	**Lhasa**	**148.84**	**357**	PFAKE		13 36 20.0		+1.0
LSA				LR	LR			
	comp=Z,334nm,20.0s							
KAPI	**Kappang**	**149.71**	**263**	PFAKE		13 36 20.0		-2.6
KAPI				LR	LR			
	comp=Z,275nm,20.0s							
KMI	**Kunming**	**150.54**	**335**	PKPbc	**PKPbc**	**13 36 18.3**		**-1.0**
KMI				sPKP		13 36 23.5		
KMI				PP	PP	13 39 59.3		+5.5
KMI				SS	SS	13 59 13.5		+0.3
KMI				AMB	AMB			
	comp=Z,87nm,7.0s							
KMI				LR	LR			
	comp=Z,230nm,17.9s							
KMI				LR	LR			
	comp=Z,120nm,19.8s							
KMI				LR	LR			
	comp=Z,290nm,20.4s							
QIZ	**Qiongzhong**	**151.43**	**317**	PKPbc	**PKPdf**	**13 36 16.0**		**+0.8**
QIZ				PP	**PP**	**13 40 01.0**		**+1.6**
QIZ				SS	SS	13 59 24.8		+0.8
QIZ				AMB	AMB			
	comp=Z,29nm,4.1s							
QIZ				LR	LR			
	comp=Z,190nm,16.8s							
KKM	**Kota Kinabalu**	**152.36**	**286**	PFAKE		13 36 30.0		-3.7
KKM				LR	LR			
	comp=Z,243nm,20.0s							
CHTO	**Chiang Mai**	**157.73**	**336**	PFAKE		13 36 40.0		-16
CHTO				LR	LR			
	comp=Z,256nm,21.0s							
CMAR	**Chiang Mai Arr**	**158.05**	**336**	PKP	**PKPdf**	**13 36 23.7**		**-0.6**
CMAR				PKPab	**PKPab**	**13 36 54.0**		**-3.4**
CMAR	**Chiang Mai Arr**	**158.05**	**336**	PKP	**PKPdf**	**13 36 23.7**		**-0.6**
	comp=Z,0.5nm,0.3s,baz=318,slow=1.2,SNR=3.6							
CMAR				PKPab	**PKPab**	**13 36 54.0**		**-3.4**
	comp=Z,0.9nm,0.6s,baz=355,slow=2.0,SNR=3.5							
KSM	**Kuching**	**159.07**	**278**	PFAKE		13 36 40.0		+14
KSM				LR	LR			
	comp=Z,334nm,20.0s							
DGAR	**Diego Garcia**	**161.96**	**109**	PFAKE		13 36 40.0		+11
DGAR				LR	LR			
	comp=Z,743nm,21.0s							
KULM	**Kulim**	**167.01**	**302**	PFAKE		13 36 40.0		+6.7
KULM				LR	LR			
	comp=Z,312nm,22.0s							
COCO	**West Island**	**167.27**	**214**	PFAKE		13 36 40.0		+6.6
COCO				LR	LR			
	comp=Z,405nm,21.0s							

MEX 29 13:22:21.1±0.6, 17°41N×101°39W, h20km±9km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.21**	**339**	*i* P	Pb	13 22 25.0	-1.3
ZIIG				*i* S	Sb	13 22 29.3	-0.7
ARIG	**Puente Sto Nin**	**1.31**	**49**	*e*P	Pn	13 22 40.9	-3.5
ARIG				*i* S	Sn	13 22 56.6	-4.8
ACP2	**Acapulco**	**1.53**	**110**	*i* P	Pn	13 22 44.6	-2.7
ACP2				*i* S	Sn	13 23 03.0	-3.7
ACX	**Acapulco**	**1.56**	**110**	*e*P	Pn	13 22 43.0	-4.7
ACX				*i* S	Sn	13 23 02.5	-4.9
PLIG	**Platanillo**	**2.04**	**61**	*e*P	Pn	13 22 52.5	-1.9
PLIG				*i* S	Sn	13 23 16.4	-3.0
MMIG	**Aquila**	**2.06**	**295**	*e*P	Pn	13 22 51.9	-2.7
MMIG				*i* S	Sn	13 23 16.4	-3.3
MOIG	**Morelia**	**2.26**	**5**	*i* P	Pn	13 22 54.3	-3.4
MOIG				*i* S	Sn	13 23 21.8	-3.4
MAVM	**Malinalco, Edo**	**2.36**	**49**	*e*P	Pn	13 22 57.1	-2.0
MAVM				*e*S	Sn	13 23 22.0	-5.8
TOVM	**TOLUCA**	**2.47**	**41**	*i* P	Pn	13 22 59.2	-1.5
TOVM				*e*S	Sn	13 23 24.3	-6.3
YAIG	**Yautepec**	**2.63**	**56**	*e*P	Pn	13 23 00.6	-2.1
YAIG				*i* S	Sn	13 23 30.1	-4.2
TLIG	**Tlapa**	**2.69**	**86**	*e*P	Pn	13 23 01.3	-2.3
TLIG				*i* S	Sn	13 23 31.4	-4.3
MZVM		**2.71**	**49**	*i* P	Pn	13 23 02.0	-1.4
MZVM				*i* S	Sn	13 23 32.9	-2.7
EZ5V		**2.94**	**315**	*i* P	Pn	13 23 05.2	-1.8
EZ5V				*i* S	Sn	13 23 39.2	-2.8
R15V		**3.02**	**306**	*e*P	Pn	13 23 06.2	-1.8
R15V				*i* S	Sn	13 23 39.9	-3.8
PPM	**Popocatepetl**	**3.10**	**57**	*e*P	Pn	13 23 06.2	-3.3
PPM				*i* S	Sn	13 23 42.6	-3.8
PNIG	**Pinotepa**	**3.28**	**108**	*e*P	Pn	13 23 09.0	-2.5
PNIG				*i* S	Sn	13 23 47.1	-2.9
SFJM	**Santa Fe**	**3.43**	**333**	*i* P	Pn	13 23 12.2	-1.5
SFJM				*i* S	Sn	13 23 51.1	-2.9
VHO	**Vista Hermosa**	**4.46**	**94**	*e*P	Pn	13 23 25.7	-2.2

IDC 29 13:33:57.3±8.7, 1.72N×89.56W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/34, mbtmp3.5/4, MS4.1/2, Ms1 4.2/2, ms1mx3.6/22, Error ellipse: s-maj=246.4km s-min=133.8km az=33.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**26.94**	**310**	T	T	14 06 42.3	
	SNR=17						
LPAZ	**La Paz**	**27.72**	**131**	LR	LR	13 48 59.9	
	comp=Z,397nm,18.8s,baz=340,slow=33						
LPIG	**La Paz**	**29.97**	**320**	LR	LR	13 48 58.7	
	comp=Z,346nm,18.2s,baz=80,slow=30						
TXAR	**Lajitas Array**	**30.57**	**335**	P	P	13 40 12.8	-0.2
	0.4nm,0.9s,baz=163,slow=6.6,SNR=3.4						
PDAR	**Pinedale Array**	**44.61**	**339**	P	P	13 42 18.1	+6.3
	0.5nm,0.8s,baz=124,slow=9.1,SNR=3.8						
NVAR	**Mina Array Bea**	**45.02**	**328**	P	P	13 42 14.8	-0.3
	0.8nm,0.8s,baz=156,slow=6.9,SNR=5.1						
YKA	**Yellowknife Ar**	**63.46**	**347**	P	P	13 44 29.1	+0.4
	0.4nm,0.8s,baz=147,slow=6.6,SNR=5.4						
ILAR	**Eielson Array**	**75.03**	**338**	P	P	13 45 40.4	-0.1
	0.4nm,0.7s,baz=136,slow=4.1,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**102.14**	**290**	T	T	15 40 21.2	
	baz=88,slow=75,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**102.15**	**290**	T	T	15 40 24.7	
	baz=88,slow=75,SNR=2.4						
H11N1	**WAKE ISLAND Hy**	**102.16**	**290**	T	T	15 40 22.4	
	baz=88,slow=75,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**102.46**	**289**	T	T	15 40 46.6	
	baz=87,slow=73,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**102.46**	**289**	T	T	15 40 45.5	
	baz=87,slow=73,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**102.48**	**289**	T	T	15 40 46.0	
	baz=87,slow=73,SNR=6.9						

*ISCJB **29** 13:45:11.9±0.5, 13°.15N±0°.06×144°.9E±0°.1, h50km, mb4.0/17, MS3.8/4, Error ellipse: s-maj=18.4km s-min=7.9km az=173.3*

*IDC **29** 13:45:12.4±3.4, 13°.29N×145°.09E, h40km±29km, mb3.8/16, mb1 4.0/16, mb1mx3.9/28, mbtmp4.0/16, MS3.7/5, Ms1 3.7/5, ms1mx3.3/29, Error ellipse: s-maj=21.6km s-min=13.3km az=82.0*

*NEIC **29** 13:45:13.4±1.1, 13°.22N×145°.03E, h53km±9km, mb4.3/1, Error ellipse: s-maj=17.1km s-min=9.2km az=87.0*

NEIC Felt at Barrigada and Yigo.

ISC 29 13:45:13.3±0.5, 13°.27N±0°.09×145°.1E±0°.1, h50km, n53, σ0.99/52, mb4.1/17, MS3.9/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.40**	**324**	*e*Pn	**Pn**	**13 45 23.6**	**+0.2**
GUMO				*e*Sn	**Sn**	**13 45 30.9**	**+0.3**
JCJ	**Chichijima**	**14.03**	**349**	LR	LR	13 52 52.9	
	comp=Z,172nm,20.8s,baz=84,slow=33						
H11S3	**WAKE ISLAND Hy**	**21.39**	**73**	T	T	14 12 37.8	
	baz=260,slow=73,SNR=45						
H11S1	**WAKE ISLAND Hy**	**21.40**	**73**	T	T	14 12 35.5	
	baz=260,slow=73,SNR=20						
H11S2	**WAKE ISLAND Hy**	**21.40**	**73**	T	T	14 12 36.0	
	baz=260,slow=73,SNR=16						
H11N1	**WAKE ISLAND Hy**	**21.84**	**70**	T	T	14 12 52.6	
	baz=259,slow=75,SNR=77						
H11N2	**WAKE ISLAND Hy**	**21.84**	**70**	T	T	14 12 52.7	
	baz=259,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**21.85**	**70**	T	T	14 12 54.0	
	baz=259,slow=75,SNR=126						
PMG	**Port Moresby**	**22.62**	**175**	LR	LR	13 58 07.2	
	comp=Z,115nm,19.4s,baz=322,slow=34						
JNU	**Nakatsue**	**23.65**	**329**	P	**P**	**13 50 20.8**	**+0.6**
JNU	**Nakatsue**	**23.65**	**329**	P	**P**	**13 50 20.8**	**+0.6**
	10.0nm,0.7s,baz=120,slow=4.4,SNR=7.3						
MJAR	**Matsushiro Arr**	**23.99**	**346**	P	**P**	**13 50 22.7**	**-0.6**
MJAR	**Matsushiro Arr**	**23.99**	**346**	P	**P**	**13 50 22.7**	**-0.6**
	1.3nm,1.0s,baz=120,slow=12,SNR=3.0						
KSRS	**Korea Array**	**28.56**	**331**	P	**P**	**13 51 05.2**	**+0.7**
	2.4nm,0.7s,baz=138,slow=9.9,SNR=6.3						
KSAR	**Wonju Array Be**	**28.57**	**330**	P	**P**	**13 51 05.2**	**+0.6**
WRAB	**Tennant Creek**	**34.65**	**198**	*e*P	**P**	**13 51 56.1**	**-2.0**
	3.8nm,0.8s						
WRA	**Warramunga Arr**	**34.66**	**198**	P	**P**	**13 51 57.7**	**-0.5**
WRA				PcP	**PcP**	**13 54 33.2**	**+1.6**
WRA	**Warramunga Arr**	**34.66**	**198**	P	**P**	**13 51 57.7**	**-0.5**
	5.0nm,0.8s,baz=19,slow=9.6,SNR=13						
WRA				PcP	**PcP**	**13 54 33.2**	**+1.6**
	2.4nm,0.8s,baz=11,slow=3.7,SNR=8.3						
AS31	**Alice Springs**	**38.31**	**197**	*e*P	**P**	**13 52 28.5**	**-0.7**
ASAR	**Alice Springs**	**38.31**	**197**	P	**P**	**13 52 29.2**	**-0.1**
ASAR				PcP	**PcP**	**13 54 44.0**	**+1.4**
ASAR	**Alice Springs**	**38.31**	**197**	P	**P**	**13 52 29.2**	**-0.1**
	1.7nm,0.6s,baz=18,slow=11,SNR=28						
ASAR				PcP	**PcP**	**13 54 44.0**	**+1.4**
	1.9nm,0.8s,baz=27,slow=2.7,SNR=11						
DZM	**Mont Dzumac**	**40.88**	**149**	P	**P**	**13 52 50.9**	**+0.1**
DZM	**Mont Dzumac**	**40.88**	**149**	P	**P**	**13 52 50.9**	**+0.1**
	7.3nm,0.9s,baz=287,slow=17,SNR=3.7						
DZM				LR	LR	14 07 35.3	
	comp=Z,232nm,18.5s,baz=96,slow=33						
PETK	**Petropavlovsk-**	**40.99**	**12**	LR	LR	14 06 58.1	
	comp=Z,206nm,21.4s,baz=65,slow=32						
CMAR	**Chiang Mai Arr**	**44.62**	**283**	P	**P**	**13 53 20.9**	**-0.2**
CMAR				PcP	**PcP**	**13 55 03.4**	**0.0**
CMAR	**Chiang Mai Arr**	**44.62**	**283**	P	**P**	**13 53 20.9**	**-0.2**
	2.4nm,0.8s,baz=81,slow=6.2,SNR=14						
CMAR				PcP	**PcP**	**13 55 03.4**	**0.0**
	0.8nm,0.5s,baz=95,slow=1.3,SNR=4.3						
STKA	**Stephens Creek**	**45.01**	**184**	P	**P**	**13 53 23.5**	**-0.4**
STKA				PcP	**PcP**	**13 55 05.5**	**+1.1**
STKA	**Stephens Creek**	**45.01**	**184**	P	**P**	**13 53 23.5**	**-0.4**
	4.3nm,1.2s,baz=358,slow=8.6,SNR=3.6						
STKA				PcP	**PcP**	**13 55 05.5**	**+1.1**
	1.4nm,0.6s,baz=0.0,slow=1.0,SNR=2.9						
SONM	**Songino Array**	**47.13**	**325**	P	**P**	**13 53 40.7**	**0.0**
SONM				PcP	**PcP**	**13 55 12.6**	**+0.8**
SONM				ScP	**ScP**	**13 59 01.8**	**+0.1**
SONM	**Songino Array**	**47.13**	**325**	P	**P**	**13 53 40.7**	**0.0**
	0.9nm,0.7s,baz=142,slow=8.6,SNR=9.0						
SONM				PcP	**PcP**	**13 55 12.6**	**+0.8**
	0.7nm,0.8s,baz=145,slow=1.9,SNR=3.1						
SONM				ScP	**ScP**	**13 59 01.8**	**+0.1**
	0.4nm,0.8s,baz=150,slow=4.6,SNR=3.7						
MKAR	**Makanchi Array**	**61.88**	**316**	P	**P**	**13 55 27.4**	**-0.3**
MKAR	**Makanchi Array**	**61.88**	**316**	P	**P**	**13 55 27.4**	**-0.3**
	1.2nm,0.7s,baz=87,slow=8.4,SNR=18						
ILAR	**Eielson Array**	**68.76**	**25**	P	**P**	**13 56 10.6**	**-1.1**
ILAR	**Eielson Array**	**68.76**	**25**	P	**P**	**13 56 10.6**	**-1.1**
	0.7nm,0.6s,baz=252,slow=6.0,SNR=14						
YKA	**Yellowknife Ar**	**83.03**	**27**	P	**P**	**13 57 32.9**	**-0.2**
YKA	**Yellowknife Ar**	**83.03**	**27**	P	**P**	**13 57 32.9**	**-0.2**
	0.4nm,0.5s,baz=284,slow=5.1,SNR=4.3						
NVAR	**Mina Array Bea**	**86.94**	**51**	P	**P**	**13 57 55.4**	**+1.8**
NVAR	**Mina Array Bea**	**86.94**	**51**	P	**P**	**13 57 55.4**	**+1.8**
	0.8nm,0.8s,baz=261,slow=5.3,SNR=6.7						
ELK	**Elko**	**88.61**	**49**	P	**P**	**13 58 03.5**	**+1.9**
ELK	**Elko**	**88.61**	**49**	P	**P**	**13 58 03.5**	**+1.9**
	1.2nm,0.6s,baz=330,slow=1.0,SNR=7.1						
FINES	**FINESS Array B**	**91.55**	**335**	P	**P**	**13 58 12.7**	**-1.7**
FINES	**FINESS Array B**	**91.55**	**335**	P	**P**	**13 58 12.7**	**-1.7**
	0.9nm,0.7s,baz=64,slow=4.4,SNR=3.6						
PDAR	**Pinedale Array**	**92.02**	**45**	P	**P**	**13 58 17.6**	**+0.2**
PDAR	**Pinedale Array**	**92.02**	**45**	P	**P**	**13 58 17.6**	**+0.2**
	0.3nm,0.8s,baz=299,slow=4.0,SNR=2.4						
PDAR				LR	LR	14 39 20.5	
	comp=Z,35nm,19.1s,baz=346,slow=35						
TORD	**Torodi Ar. Bea**	**135.24**	**304**	PKP	**PKPdf**	**14 04 28.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**135.24**	**304**	PKP	**PKPdf**	**14 04 28.7**	**+0.3**
	1.9nm,0.6s,baz=28,slow=2.7,SNR=12						
DBIC	**Dimbokro**	**144.19**	**302**	PKP	PKPbc	14 04 42.8	-0.1
DBIC	**Dimbokro**	**144.19**	**302**	PKP	PKPbc	14 04 42.8	-0.1
	6.7nm,0.6s,baz=48,slow=3.8,SNR=13						
KIC	**Kosan Boka**	**144.26**	**301**	*e*PKP1	PKPbc	14 04 43.1	0.0
	12nm,0.6s						
TIC	**Toumodi**	**144.34**	**302**	*e*PKP1	PKPbc	14 04 43.2	-0.2
	11nm,0.4s						
LIC	**Lamto**	**144.58**	**301**	*e*PKP1	PKPbc	14 04 44.0	-0.1
	51nm,0.6s						
LPAZ	**La Paz**	**147.74**	**100**	PKPbc	**PKPbc**	**14 04 52.9**	**-1.3**
LPAZ	**La Paz**	**147.74**	**100**	PKPbc	**PKPbc**	**14 04 52.9**	**-1.3**
	1.1nm,0.4s,baz=294,slow=0.5,SNR=6.1						

*BJI **29** 14:24:32.5, 24°.00S×66°.40W, h146km, mB5.1/9*

*ISCJB **29** 14:24:34.3±0.3, 24°.07S±0°.03×66°.85W±0°.03, h190km±2km, mb4.8/135, Error ellipse: s-maj=5.6km s-min=3.5km az=144.1*

*NEIC **29** 14:24:34.2±0.6, 24°.06S×66°.70W, h178km±5km, mb4.9/113, Error ellipse: s-maj=7.1km s-min=4.4km az=61.0*

*SJA **29** 14:24:34.4±0.9, 24°.09S×66°.91W, h206km±8km, ML3.8, MW4.9*

*MOS **29** 14:24:35.8±1.4, 23°.85S×66°.68W, h197km, mb5.0/20, Error ellipse: s-maj=15.6km s-min=6.7km az=119.0*

*GUC **29** 14:24:35.5±0.6, 23°.94S×67°.37W, h235km±6km, ML5.5*

*GCMT **29** 14:24:37.3±0.4, 24°.28S×67°.07W, h207km±3km, MW5.0/69, Moment Tensor Solution. s25,c28; s69,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.06±.16; $M_{\theta\theta}$=0.18±.19; $M_{\phi\phi}$=4.24±.23; $M_{r\theta}$=0.17±.14; $M_{r\phi}$=0.40±.22; $M_{\theta\phi}$=1.88±.18; Best double couple: M_0=4.57500×10^{16} NP1:ϕs=355.00000°, δ57.00000°, λ-90.00000°. NP2: ϕs=175.00000°, δ33.00000°, λ-90.00000°. Principal axes: T 4.6830, Plg12.0000°, Azm85.0000°; N -0.2140, Plg0.0000°, Azm175.0000°; P -4.4670, Plg78.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **29** 14:24:37.4±0.7, 24°.02S×66°.69W, h204km±6km, mb4.5/21, mb1 4.6/26, mb1mx4.6/27, mbtmp5.0/26 Error ellipse: s-maj=8.9km s-min=7.6km az=84.0*

ISC 29 14:24:34.9±0.5, 24°.05S±0°.03×66°.86W±0°.04, h186km±3km, n828, σ1.9/27/891, mb4.9/135, 239C-211D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.41**	**119**	*i* P	Pn	14 25 09.1	+2.4
SLA				*e*S	**Sn**	**14 25 34.2**	**+2.8**
SLA				AML	AML	14 25 36.9	
	comp=Z,3μm,0.8s						
AZAP	**Zapla**	**1.65**	**96**	*i* P	Pn	14 25 11.2	+2.1
AZAP				AML	AML	14 25 40.1	
	comp=Z,477nm,0.8s						
SPCH	**San Pedro de A**	**1.67**	**312**	*i* P	Pn	14 25 12.2	+2.8
SPCH				*i* S	**Sn**	**14 25 40.7**	**+4.6**
ASTB	**Santa Barbara**	**2.18**	**88**	*i* P	Pn	14 25 16.8	+2.3
ASTB				*e*S	**Sn**	**14 25 47.7**	**+2.4**
YJA	**Yavi**	**2.24**	**34**	*i* P	Pn	14 25 18.1	+2.6
YJA				*e*S	**Sn**	**14 25 50.1**	**+3.1**
YJA				AML	AML	14 25 54.5	
	comp=Z,16nm,0.8s						
LVC	**Limon Verde**	**2.36**	**307**	*e*Pn	**Pn**	**14 25 18.2**	**+1.5**
LVC				*e*Sn	**Sn**	**14 25 50.9**	**+1.7**
LVC	**Limon Verde**	**2.36**	**307**	*i* P	**Pn**	**14 25 18.2**	**+1.5**
LVC				*e*S	**Sn**	**14 25 50.1**	**+1.0**
ALOL	**LOMAS DE OLMED**	**2.66**	**86**	*i* P	Pn	14 25 21.8	+2.1
PB06	**Plate Boundary**	**2.83**	**298**	*e*P	**Pn**	**14 25 22.9**	**+0.9**
PB06				*i* S	**Sn**	**14 25 57.5**	**-1.1**
PB06				AML	AML	14 26 00.8	
	comp=E,12μm,0.3s						
CEN1	**Los Morros**	**3.13**	**281**	⇓*i* P	**Pn**	**14 25 26.3**	**+0.8**
CEN1				*i* S	**Sn**	**14 26 04.8**	**-0.1**
CEN1				AML	AML	14 26 10.1	
	comp=E,5μm,0.6s						
ANCH	**Antofagasta**	**3.27**	**276**	*e*P	**Pn**	**14 25 25.4**	**-1.7**
ANCH				*i* S	**Sn**	**14 26 04.4**	**-3.4**
ANCH				AML	AML	14 26 08.8	
	comp=E,6μm,0.9s						
PB07	**Plate Boundary**	**3.62**	**309**	*e*P	**Pn**	**14 25 32.0**	**+0.3**
PB07				*i* S	**Sn**	**14 26 14.8**	**-1.3**
PB01	**Plate Boundary**	**3.85**	**320**	⇑*i* P	**Pn**	**14 25 34.8**	**+0.3**
CYA	**Choya**	**4.48**	**168**	*i* P	**Pn**	**14 25 42.5**	**+0.3**
CYA				*e*S	**Sn**	**14 26 33.8**	**-1.5**
CYA				AML	AML	14 26 41.7	
	comp=Z,67nm,0.7s						
HMBC	**Humberstone**	**4.68**	**323**	⇑*i* P	**Pn**	**14 25 44.0**	**-1.1**
HMBC				*i* S	**Sn**	**14 26 37.8**	**-2.4**
ACLC	**CERRO LA CRUZ**	**5.36**	**181**	*i* P	**Pn**	**14 25 53.1**	**-0.6**
ACLC				*e*S	**Sn**	**14 26 52.5**	**-3.4**
LCO	**Las Campanas**	**6.02**	**214**	*e*Pn	Pn	14 25 58.3	-4.1
LCO				*e*Sn	Sn	14 27 01.6	-10
AVFE	**Valle Fertil**	**6.61**	**184**	*i* P	**Pn**	**14 26 08.2**	**-1.8**
AVFE				*e*S	**Sn**	**14 27 20.9**	**-4.2**
AVFE				AML	AML	14 27 25.6	
	comp=Z,76nm,0.7s						
CFAA	**Coronel Fontan**	**7.62**	**189**	P	**Pn**	**14 26 21.5**	**-1.8**
CFAA				S	Sn	14 27 41.0	-8.2
CFAA	**Coronel Fontan**	**7.62**	**189**	P	**Pn**	**14 26 21.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=47,slow=9.6,SNR=38						
CFAA				S	Sn	14 27 41.0	-8.2
	comp=Z,3.2nm,0.3s,baz=214,slow=19,SNR=13						
LPAZ	**La Paz**	**7.81**	**351**	*e*Pn	**Pn**	**14 26 26.6**	**+0.3**
LPAZ				*e*Sn	**Sn**	**14 27 53.0**	**-1.6**
LPAZ	**La Paz**	**7.81**	**351**	P	**Pn**	**14 26 27.4**	**+1.1**
	comp=Z,12nm,0.3s,baz=165,slow=7.5,SNR=105						
LPAZ				S	**Sn**	**14 27 53.8**	**-0.9**
	comp=Z,2.1nm,0.3s,baz=25,slow=19,SNR=4.4						
ARE	**Arequipa**	**8.71**	**329**	*e*P	**Pn**	**14 26 36.0**	**-1.8**
ARE				*e*S	Sn	14 28 08.0	-7.5
ARE	**Arequipa**	**8.71**	**329**	*e*P	**Pn**	**14 26 36.0**	**-1.8**
ARE				*e*S	Sn	14 28 08.0	-7.5
CPUP	**Villa Florida**	**8.93**	**107**	P	**Pn**	**14 26 39.4**	**-0.9**
CPUP	**Villa Florida**	**8.93**	**107**	P	**Pn**	**14 26 39.4**	**-0.9**
	comp=Z,6.1nm,0.3s,baz=260,slow=11,SNR=30						
SIV	**San Ignacio**	**9.69**	**35**	P	**Pn**	**14 26 50.1**	**-0.2**
SIV				S	Sn	14 28 26.8	-12
SIV	**San Ignacio**	**9.69**	**35**	P	**Pn**	**14 26 50.1**	**-0.2**
	comp=Z,9.8nm,0.3s,baz=225,slow=14,SNR=214						
SIV				S	Sn	14 28 26.8	-12
	comp=Z,0.8nm,0.3s,baz=248,slow=15,SNR=3.9						
TRQA	**Tornquist**	**14.57**	**165**	*e*Pn	Pn	14 27 48.8	-3.6
NNA	**Nana**	**15.29**	**320**	*e*P	**P**	**14 28 02.4**	**+0.4**
	comp=Z,40nm,1.0s						
SAML	**Samuel**	**15.42**	**14**	*e*P	**P**	**14 28 02.8**	**-0.6**
	comp=Z,6.1nm,0.7s						
PLCA	**Paso Flores**	**16.92**	**190**	*e*P	**P**	**14 28 19.4**	**-0.4**
	comp=Z,42nm,0.7s						
PLCA				ScP	**ScP**	**14 36 13.2**	**0.0**
PLCA	**Paso Flores**	**16.92**	**190**	P	**P**	**14 28 19.8**	**0.0**
	comp=Z,1.4nm,0.3s,baz=13,slow=13,SNR=27						
PLCA				S	**Sn**	**14 31 37.4**	**+6.3**
	comp=Z,0.2nm,0.3s,baz=178,slow=5.8,SNR=3.2						
PLCA				ScP	**ScP**	**14 36 13.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=22,slow=5.4,SNR

034A	Hebbronville baz=60	59.38	327	⇑P		P	14 34 18.9	+1.1
934A	Benavides baz=60	59.74	327	⇑P		P	14 34 21.8	+1.6
LRAL	Lakeview Retre comp=Z,21nm,0.8s	59.92	340	*eP*		P	14 34 20.6	-0.7
835A	Beeville baz=60	59.98	328	⇓P		P	14 34 23.4	+1.7
933A	Laredo baz=60	60.13	327	⇓P		P	14 34 23.8	+1.0
834A	Tilden baz=60,SNR=9.3	60.20	328	⇓P		P	14 34 24.4	+1.2
KMSC	Kings Mountain	60.45	346	*eP*		P	14 34 23.6	-1.2
KMSC	Kings Mountain baz=61,SNR=5.6	60.45	346	⇑P		P	14 34 24.9	+0.1
735A	Kenedy baz=61	60.45	329	⇓P		P	14 34 26.0	+1.1
636A	Smothers Creek baz=61	60.62	330	P		P	14 34 27.2	+1.1
833A	Chaparral WMA, baz=61,SNR=35	60.77	327	⇓P		P	14 34 27.9	+0.7
734A	La Parita Cree baz=61,SNR=12	60.80	328	⇑P		P	14 34 28.2	+0.9
635A	Leesville baz=61	60.88	329	⇑P		P	14 34 28.3	+0.5
832A	Faith Ranch, C baz=61,SNR=13	61.03	327	⇑P		P	14 34 29.2	+0.3
733A	Divot King Ran baz=61,SNR=5.1	61.05	327	⇑P		P	14 34 29.6	+0.6
536A	Bastrop baz=62	61.13	330	⇑P		P	14 34 30.3	+0.8
634A	China Grove, S baz=62	61.14	329	⇓P		P	14 34 30.2	+0.6
535A	Dale baz=62,SNR=5.2	61.32	330	⇓P		P	14 34 31.0	+0.2
732A	Laxson Ranch, baz=62,SNR=20	61.39	327	⇓P		P	14 34 31.7	+0.4
CPCT	Cooper Cave	61.49	344	*eP*		P	14 34 32.2	+0.3
CPCT				*e*PcP		PcP	14 35 12.0	+0.2
TKL	Tuckaleechee C	61.50	344	*eP*		P	14 34 31.2	-0.7
TKL				*e*PcP		PcP	14 35 11.0	-0.9
633A	Saathoff Ranch baz=62,SNR=9.9	61.60	328	⇓P		P	14 34 33.4	+0.6
SWET	Sewanee comp=Z,60nm,0.8s	61.65	342	*eP*		P	14 34 32.9	0.0
SWET				*e*PcP		PcP	14 35 12.7	+0.1
534A	Blanco baz=62,SNR=9.5	61.74	329	⇓P		P	14 34 33.4	-0.2
632A	Uvalde baz=62	61.94	328	⇑P		P	14 34 35.4	+0.4
435B	Jarrell baz=62	61.97	330	⇓P		P	14 34 35.7	+0.6
533A	Kerrville baz=62,SNR=6.6	62.05	328	⇓P		P	14 34 36.0	+0.3
OXF	Oxford	62.05	339	*eP*		P	14 34 32.6	-2.9
OXF	comp=Z,65nm,0.8s			pmax		pmax		
OXF	Oxford comp=Z,65nm,0.8s	62.05	339	*eP*		P	14 34 32.6	-2.9
631A	Perdido Creek baz=63,SNR=6.5	62.26	327	⇓P		P	14 34 37.3	+0.2
434A	Burnet baz=63,SNR=7.3	62.31	330	⇑P		P	14 34 37.4	0.0
335A	Moody baz=63,SNR=10	62.32	331	⇑P		P	14 34 37.6	+0.1
BBTS	Babate	62.42	57	P		P	14 34 40.0	+1.6
BBTS	Babate comp=Z,31nm,0.9s,baz=267,slow=4.5,SNR=6.5	62.42	57	P		P	14 34 40.0	+1.6
532A	Rocksprings baz=63	62.51	328	⇑P		P	14 34 39.3	+0.5
433A	Art baz=63,SNR=41	62.64	329	⇑P		P	14 34 40.0	+0.4
334A	Lometa baz=63,SNR=8.3	62.73	330	⇓P		P	14 34 40.2	+0.1
JCT	Junction City	62.75	328	*eP*		P	14 34 40.5	+0.1
JCT				*e*			14 35 16.9	
JCT	comp=Z,56nm,0.7s			pmax		pmax		
JCT	Junction City comp=Z,56nm,0.7s	62.75	328	*eP*		P	14 34 40.5	+0.1
JCT				*e*PcP		PcP	14 35 16.9	-0.3
JCT	Junction City baz=63,SNR=35	62.75	328	⇑P		P	14 34 40.9	+0.5
531A	Rocksprings baz=63,SNR=29	62.86	327	⇑P		P	14 34 42.0	+0.9
WHTX	Lake Whitney	62.93	331	*eP*		P	14 34 41.8	+0.3
WHTX				*e*PcP		PcP	14 35 18.1	+0.2
WHTX	Lake Whitney baz=63	62.93	331	⇓P		P	14 34 42.0	+0.5
WVT	Waverly	63.05	341	*eP*		P	14 34 41.5	-0.6
WVT				*e*			14 35 17.6	
WVT	comp=Z,81nm,0.7s			pmax		pmax		
WVT	Waverly comp=Z,81nm,0.7s	63.05	341	*eP*		P	14 34 41.5	-0.6
WVT				*e*PcP		PcP	14 35 17.6	-0.6
333A	Richland Sprin baz=63,SNR=25	63.07	329	⇓P		P	14 34 42.7	+0.3
432A	Menard baz=63,SNR=19	63.08	328	⇑P		P	14 34 42.9	+0.3
530A	J-C Ranch, Com baz=64,SNR=19	63.24	327	⇑P		P	14 34 44.4	+0.8
234A	Clairette baz=64,SNR=26	63.25	330	⇓P		P	14 34 44.0	+0.4
431A	Sonora baz=64,SNR=16	63.31	328	⇑P		P	14 34 44.4	+0.3
135A	Vickery Place, baz=64	63.39	331	⇓P		P	14 34 44.9	+0.4
332A	Millersview baz=64,SNR=30	63.47	329	⇑P		P	14 34 45.4	+0.3
628A	Black Gap, Mar baz=64,SNR=41	63.50	325	⇑P		P	14 34 46.6	+1.2
MIAR	Mount Ida	63.55	336	*eP*		P	14 34 44.3	-1.2
MIAR	comp=Z,20nm,0.8s			pmax		pmax		
MIAR	Mount Ida comp=Z,20nm,0.8s	63.55	336	*eP*		P	14 34 44.3	-1.2
233A	Rising Star baz=64,SNR=13	63.61	330	⇑P		P	14 34 46.4	+0.5
529A	Stev Forest Ra baz=64,SNR=39	63.66	326	⇑P		P	14 34 47.4	+1.0
134A	White-Moore Ra baz=64,SNR=7.0	63.70	331	⇑P		P	14 34 46.9	+0.3
430A	Baggett Ranch, baz=64,SNR=21	63.70	327	⇑P		P	14 34 47.2	+0.5
627A	Terlingua Ranc baz=64,SNR=33	63.74	325	⇑P		P	14 34 47.9	+1.0
331A	San Angelo baz=64,SNR=27	63.74	328	⇓P		P	14 34 47.2	+0.4
NVL	N'lazarevskaya	63.79	159	⇓*i*P		P	14 34 47.0	+0.4
NVL	comp=Z,48nm,1.5s			pmax		pmax		
TXAR	Lajitas Array	63.79	324	P		P	14 34 48.0	+0.7
TXAR	Lajitas Array comp=Z,6.8nm,0.7s,baz=152,slow=8.3,SNR=70	63.79	324	P		P	14 34 48.0	+0.7
232A	Coleman baz=64,SNR=38	63.85	329	⇑P		P	14 34 48.1	+0.5
429A	Davenport Ranc baz=64,SNR=28	63.90	327	⇑P		P	14 34 48.8	+0.8
Z35A	Perchaven, San baz=64,SNR=8.3	63.98	332	⇓P		P	14 34 49.0	+0.6
528A	Cox Ranch, San baz=64,SNR=26	63.99	326	⇑P		P	14 34 49.2	+0.6
133A	Hamilton Ranch baz=64,SNR=15	64.11	330	⇑P		P	14 34 49.6	+0.4
PARMO	Parma	64.13	340	*eP*		P	14 34 48.6	-0.6
PARMO				*e*PcP		PcP	14 35 23.3	+0.6
330A	Mertzon baz=64,SNR=9.2	64.18	328	⇑P		P	14 34 50.0	+0.2
231A	Bronte baz=65,SNR=16	64.20	329	⇓P		P	14 34 50.0	+0.1
626A	Big Bend Ranch baz=65,SNR=92	64.21	324	⇑P		P	14 34 51.5	+1.4
Z34A	Collier Ranch, baz=65,SNR=17	64.31	331	⇑P		P	14 34 51.1	+0.6
428A	Kincaid Ranch, baz=65,SNR=14	64.39	326	⇓P		P	14 34 52.1	+1.0
527A	Woodward Ranch baz=65,SNR=41	64.40	325	⇑P		P	14 34 52.0	+0.7
PBMO	Poplar Bluff comp=Z,65nm,0.7s	64.46	339	*eP*		P	14 34 51.3	0.0
ABTX	Abilene, Hawle	64.46	330	*eP*		P	14 34 51.3	-0.2
ABTX	Abilene, Hawle baz=65,SNR=10	64.46	330	⇓P		P	14 34 51.7	+0.2
MCWV	Mont Chateau comp=Z,186nm,2.1s	64.53	349	*eP*		P	14 34 50.8	-1.0
MCWV				*e*PcP		PcP	14 35 24.4	+0.2
230A	Sterling City baz=65,SNR=7.0	64.55	328	⇑P		P	14 34 52.4	+0.3
WCI	Wyandotte Cave	64.58	343	*eP*		P	14 34 51.4	-0.8
WCI	comp=Z,50nm,0.6s			pmax		pmax		
WCI	Wyandotte Cave comp=Z,50nm,0.6s	64.58	343	*eP*		P	14 34 51.4	-0.8
526A	Mary Lane Ranc baz=65,SNR=60	64.59	325	⇑P		P	14 34 53.8	+1.2
Z33A	Whitaker Ranch baz=65,SNR=30	64.61	331	⇓P		P	14 34 53.1	+0.6
329A	Wagon Wheel Ra baz=65,SNR=24	64.64	327	⇑P		P	14 34 53.1	+0.3
Y34A	Reagan Ranch, baz=65,SNR=15	64.74	332	⇑P		P	14 34 53.6	+0.3
131A	Roby baz=65,SNR=25	64.85	329	⇓P		P	14 34 54.5	+0.5
427A	Hayter Ranch, baz=65,SNR=26	64.85	326	⇑P		P	14 34 55.0	+0.8
SIUC	Southern Illin comp=Z,57nm,1.4s	64.93	341	*eP*		P	14 34 54.2	-0.2
229A	Bryant Ranch, baz=65,SNR=6.6	64.95	327	⇑P		P	14 34 55.2	+0.4
Z32A	Haskell baz=65,SNR=13	64.95	330	⇑P		P	14 34 55.1	+0.4
328A	Wristen Ranch, baz=65,SNR=6	64.97	326	⇓P		P	14 34 55.6	+0.6
426A	McDonald Obser baz=65,SNR=53	65.04	325	⇓P		P	14 34 56.5	+1.0
130A	Snyder baz=65,SNR=24	65.06	329	⇓P		P	14 34 55.8	+0.4
Y33A	Hilltop Ranch, baz=66,SNR=7.0	65.16	331	⇑P		P	14 34 56.2	+0.3
Z31A	Sharp Cattle R baz=66,SNR=39	65.27	330	⇑P		P	14 34 57.2	+0.5
327A	Balmorhea Ranc baz=66	65.31	326	⇓P		P	14 34 57.9	+0.8
X34A	Smith Ranch, M baz=66,SNR=8.3	65.32	332	⇑P		P	14 34 57.5	+0.5
228A	UT Block 9, Go baz=66,SNR=16	65.46	327	⇑P		P	14 34 58.3	+0.3
129A	Stewart Farms, baz=66,SNR=15	65.52	328	⇓P		P	14 34 58.8	+0.4
Y32A	R-V Farms, Ver baz=66,SNR=9.3	65.52	331	⇑P		P	14 34 58.8	+0.5
326A	Caldwell Ranch baz=66,SNR=12	65.52	325	⇓P		P	14 34 59.3	+0.9
BLO	Bloomington	65.53	343	*eP*		P	14 34 57.2	-1.0
BLO	comp=Z,54nm,0.6s			pmax		pmax		
BLO	Bloomington comp=Z,54nm,0.6s	65.53	343	*eP*		P	14 34 57.2	-1.0
OLIL	Olney comp=Z,19nm,0.6s	65.55	342	*eP*		P	14 34 57.4	-1.0
X33A	Lawton baz=66	65.56	332	⇑P		P	14 34 58.2	-0.3
TUL1	Tulsa	65.61	334	*eP*		P	14 34 59.1	+0.3
TUL1	Tulsa baz=66,SNR=5.5	65.61	334	⇑P		P	14 34 59.1	+0.3
425A	Indio Mountain baz=66,SNR=42	65.64	324	⇓P		P	14 35 00.2	+0.9
ACSO	Alum Creek Sta comp=Z,26nm,0.9s	65.69	347	*eP*		P	14 34 58.8	-0.4
Z30A	Sanderson Ranc baz=66,SNR=22	65.70	329	⇑P		P	14 34 59.7	+0.2
227A	Bennet, Jal baz=66,SNR=17	65.72	326	⇓P		P	14 35 00.8	+1.1
X32A	Elmer baz=66	65.80	331	⇓P		P	14 35 00.4	+0.3
128A	Castleberry Fa baz=66,SNR=22	65.81	327	⇓P		P	14 35 00.6	+0.3
W34A	Bridge Creek, baz=66	65.84	333	⇑P		P	14 35 00.6	+0.3
Y31A	Rekieta Farm, baz=66,SNR=27	65.86	330	⇑P		P	14 35 00.9	+0.4
Z29A	Hungry Hill Ra baz=66,SNR=18	65.95	328	⇓P		P	14 35 01.1	-0.1
W33A	Caddo, Fort Co baz=66,SNR=25	66.06	332	⇑P		P	14 35 02.5	+0.8
Y30A	Stafford Cattl baz=66,SNR=9.7	66.08	329	⇑P		P	14 35 02.3	+0.3
QSPA	South Pole Qui comp=Z,34nm,0.6s	66.16	180	*eP*		P	14 35 02.1	0.0
226B	Tesnote Peak, baz=67,SNR=26	66.22	326	⇓P		P	14 35 04.3	+1.3
V34A	Guthrie baz=67,SNR=6.2	66.24	333	⇓P		P	14 35 02.9	0.0
X31A	McDonald Ranch baz=67,SNR=35	66.29	331	⇓P		P	14 35 03.5	+0.3
127A	Arkansas Junct baz=67,SNR=7.4	66.29	327	⇓P		P	14 35 03.9	+0.5
Z28A	Tucker Farm, M baz=67,SNR=15	66.31	328	⇑P		P	14 35 03.5	+0.1
W32A	Sentinel baz=67,SNR=18	66.37	331	⇓P		P	14 35 04.1	+0.3
GDL2	Guadalupe Moun	66.42	326	*eP*		P	14 35 04.3	+0.1
Y29A	Porterfield Fa baz=67,SNR=37	66.43	329	⇑P		P	14 35 04.5	+0.3
X30A	Coker Ranch, T baz=67,SNR=22	66.54	330	⇑P		P	14 35 05.0	+0.2
V33A	Lossen Ranch, baz=67,SNR=11	66.55	332	⇑P		P	14 35 05.3	+0.5
MNTX	Cornudas Mount comp=Z,16nm,0.8s	66.56	325	*eP*		P	14 35 04.8	-0.2
MNTX				*e*PcP		PcP	14 35 31.5	-1.3
225A	Deer Hill, Car baz=67	66.59	325	⇓P		P	14 35 06.2	+0.8
126A	Clayton Basin, baz=67,SNR=29	66.60	326	⇑P		P	14 35 06.2	+0.9
Z27A	Tatum baz=67,SNR=30	66.73	327	⇑P		P	14 35 06.4	+0.2
W31A	Holland Ranch, baz=67,SNR=5.5	66.73	331	⇑P		P	14 35 06.1	+0.1
Y28A	McKinney Farm, baz=67,SNR=6.0	66.74	328	⇑P		P	14 35 06.4	+0.2
U34A	Anderson Ranch baz=67,SNR=6.7	66.77	333	⇑P		P	14 35 06.5	+0.4
V32A	Arapaho baz=67,SNR=7.4	66.79	332	⇓P		P	14 35 07.0	+0.6
SFIN	Scholer Farm comp=Z,30nm,0.6s	66.81	343	*eP*		P	14 35 05.4	-0.9
SFIN	Scholer Farm baz=67,SNR=7.8	66.81	343	⇓P		P	14 35 05.2	-1.2
X29A	Tulia baz=67,SNR=24	66.92	329	⇑P		P	14 35 07.6	+0.3
125A	Gardner Draw, baz=67,SNR=25	66.94	326	⇑P		P	14 35 07.7	+0.3
ERPA	Erie comp=Z,33nm,0.6s	66.94	349	*eP*		P	14 35 04.5	-2.6
U33A	Lingo Farm, Me baz=67	67.00	333	⇓P		P	14 35 07.8	+0.1
MSTX	Muleshoe	67.05	328	*eP*		P	14 35 08.3	+0.1
MSTX	Muleshoe baz=67,SNR=17	67.05	328	⇑P		P	14 35 08.5	+0.4
Z26A	Caprock baz=67,SNR=34	67.08	327	⇓P		P	14 35 09.1	+0.7
Y27A	Causey baz=68,SNR=22	67.17	328	⇑P		P	14 35 09.2	+0.3
V31A	Spring Creek L baz=68,SNR=8.3	67.18	331	⇑P		P	14 35 09.9	+1.0
X28A	Dimmitt baz=68	67.22	329	⇓P		P	14 35 09.6	+0.4
AMTX	Amarillo comp=Z,17nm,0.6s	67.27	329	*eP*		P	14 35 09.1	-0.4
AMTX	Amarillo baz=68	67.27	329	⇓P		P	14 35 09.8	+0.3
U32A	Winter Ranch, baz=68,SNR=6.1	67.33	332	⇓P		P	14 35 10.2	+0.5
LIC	Lamto comp=Z,15nm,0.4s	67.33	72	*eP*		P	14 35 08.8	-1.4
W29A	Amraillo baz=68,SNR=12	67.45	330	⇓P		P	14 35 10.7	0.0
Z25A	Roswell baz=68,SNR=20	67.46	326	⇓P		P	14 35 11.1	+0.4
Y26A	Elida baz=68,SNR=31	67.52	327	⇓P		P	14 35 11.3	+0.1
TIC	Toumodi comp=Z,67nm,0.3s	67.54	71	*eP*		P	14 35 10.7	-0.9
V30A	Spur Ranch, Mi baz=68,SNR=7.8	67.55	331	⇑P		P	14 35 12.2	+1.0
T33A	Patterson Ranc baz=68	67.61	333	⇑P		P	14 35 12.0	+0.5
KIC	Kosan Boka comp=Z,20nm,0.5s	67.65	72	*eP*		P	14 35 11.1	-1.1
U31A	Nine Bar Ranch baz=68	67.69	332	⇑P		P	14 35 12.6	+0.6
DBIC	Dimbokro comp=Z,6.7nm,0.8s	67.70	71	P		P	14 35 11.7	-0.8
DBIC						pP	pP	14 35 59.8	+3.4
DBIC	Dimbokro comp=Z,7.1nm,0.5s,baz=216,slow=7.7,SNR=16	67.70	71	P		P	14 35 11.7	-0.8
DBIC	comp=Z,5.6nm,0.9s,baz=205,slow=8.8,SNR=2.1			pP		pP	14 35 59.8	+3.4
X27A	F and S Farms, baz=68	67.75	328	⇑P		P	14 35 13.5	+0.9
W28A	Vega baz=68,SNR=10	67.83	329	⇑P		P	14 35 13.6	+0.6
Z24A	Sheeppen Canyo baz=68,SNR=58	67.83	326	⇓P		P	14 35 13.9	+0.7
S33A	Kaszmaul Farm, baz=68	67.95	334	⇓P		P	14 35 14.0	+0.4
Y25A	Mesa, Roswell baz=68,SNR=20	67.96	327	⇓P		P	14 35 14.2	+0.3
T32A	Huddler Ranch, baz=68	67.98	333	⇓P		P	14 35 14.6	+0.8
V29A	Stinnett baz=68	68.02	330	⇓P		P	14 35 14.6	+0.5
X26A	CR and CF Fran baz=68,SNR=44	68.02	328	⇓P		P	14 35 15.0	+0.8
W27A	Bowe Ranch, En baz=68,SNR=22	68.07	329	⇑P		P	14 35 15.1	+0.6
U30A	WK&E Inc. Balk baz=68	68.17	331	⇓P		P	14 35 15.8	+0.8
T31A	Randall Ranch, baz=69,SNR=6.2	68.23	332	⇓P		P	14 35 16.0	+0.7
V28A	Channing baz=69,SNR=10	68.24	330	⇑P		P	14 35 16.3	+0.7
Y24A	Capitan baz=69,SNR=10	68.33	326	⇓P		P	14 35 16.9	+0.6
U29A	Oasis Ranch, S baz=69,SNR=5.8	68.38	331	⇓P		P	14 35 17.4	+1.0
X25A	Clemmons Ranch baz=69	68.42	327	⇓P		P	14 35 17.2	+0.4
S32A	Newby Ranch, P baz=69	68.43	333	⇓P		P	14 35 17.2	+0.6
W26A	Owens Ranch, T baz=69,SNR=24	68.43	328	⇓P		P	14 35 17.7	+0.9
319A	Douglas baz=69,SNR=24	68.45	322	⇓P		P	14 35 18.8	+1.8
121A	Cookes Peak, D comp=Z,35nm,0.8s	68.49	324	*eP*		P	14 35 18.4	+1.1
121A				*e*PcP		PcP	14 35 41.6	+0.4
121A	Cookes Peak, D baz=69,SNR=24	68.49	324	⇓P		P	14 35 19.3	+2.0
V27A	Dan Oppiter Fa baz=69,SNR=14	68.53	329	⇑P		P	14 35 18.3	+0.9
T30A	Plains baz=69	68.56	332	⇑P		P	14 35 18.2	+0.7
R33A	Olander Ranch, baz=69	68.56	334	⇑P		P	14 35 17.6	+0.2
S31A	Mullinville baz=69	68.59	333	⇑P		P	14 35 18.2	+0.6
Z22A	Elephant Butte baz=69,SNR=108	68.61	325	⇑P		P	14 35 19.8	+1.9
Y23A	Lovelace Mesa, baz=69,SNR=19	68.66	326	⇑P		P	14 35 19.6	+1.3
KSU1	Kansas State U comp=Z,20nm,0.6s	68.71	336	*eP*		P	14 35 17.4	-0.8
KSU1	Kansas State U baz=69	68.71	336	⇑P		P	14 35 18.4	+0.2
U28A	Mallet baz=69,SNR=30	68.75	330	⇑P		P	14 35 19.4	+0.6
X24A	Lazy VL Ranch, baz=69,SNR=9.0	68.84	327	⇑P		P	14 35 20.3	+0.9
W25A	X Bar L Ranch, baz=69,SNR=35	68.87	328	⇑P		P	14 35 20.2	+0.7
R32A	Long Quarter, baz=69	68.95	334	⇑P		P	14 35 20.6	+0.8
T29A	Hugoton baz=69,SNR=5.6	68.98	331	⇑P		P	14 35 21.0	+0.9
V26A	Tequesquite Ra baz=69,SNR=23	69.01	328	⇓P		P	14 35 21.1	+0.8
S30A	Montezuma baz=69	69.02	332	⇑P		P	14 35 21.2	+0.9
U27A	Thompson Grove baz=69,SNR=6.1	69.07	330	⇑P		P	14 35 21.4	+0.7
Q33A	Connelly Farm, baz=70	69.09	335	⇓P		P	14 35 21.0	+0.4
BNM	Barren Site comp=Z,29nm,1.3s	69.12	325	*eP*		P	14 35 22.7	+1.5
R31A	Burdett baz=70,SNR=5.2	69.17	333	⇓P		P	14 35 21.7	+0.5
X23A	Hourglass Bar baz=70,SNR=12	69.23	326	⇑P		P	14 35 23.4	+1.6
LPM	Los Pinos Moun	69.25	326	*eP*		P	14 35 22.6	+0.7
S29A	Ulysses baz=70,SNR=13	69.29	331	⇑P		P	14 35 22.9	+1.0
T28A	Walsh baz=70	69.31	330	⇑P		P	14 35 22.7	+0.6
LENM	Lemitar	69.32	325	*eP*		P	14 35 23.2	+0.9
W24A	Lazy 6 Ranch, baz=70,SNR=22	69.33	327	⇑P		P	14 35 23.3	+0.8
Q32A	Meitler Ranch, baz=70,SNR=6.3	69.38	334	⇓P		P	14 35 22.8	+0.4
P33A	Williams Farm, baz=70	69.42	335	⇑P		P	14 35 23.0	+0.4
V25A	Rancho No Teng baz=70,SNR=19	69.44	328	⇑P		P	14 35 24.0	+0.9
U26A	Atchley Ranch, baz=70,SNR=32	69.47	329	⇑P		P	14 35 24.1	+0.8
R30A	Dighton baz=70	69.48	332	⇓P		P	14 35 23.9	+0.8
T27A	Campo baz=70,SNR=36	69.54	330	⇑P		P	14 35 24.4	+0.8
LAZ	Ladron comp=Z,6.2nm,0.7s	69.58	325	*eP*		P	14 35 23.6	-0.4
S28A	Manter baz=70,SNR=7.3	69.61	331	⇓P		P	14 35 24.8	+0.9
ANMO	Albuquerque comp=Z,23nm,0.8s	69.66	326	*eP*		P	14 35 25.3	+0.9
W23A	Werner Place, baz=70,SNR=14	69.67	326	⇓P		P	14 35 26.0	+1.5
V24A	Rampart Ranch, baz=70,SNR=19	69.68	327	⇑P		P	14 35 25.6	+1.0
Q31A	Ellis baz=70,SNR=6.2	69.72	333	⇓P		P	14 35 25.4	+0.8
U25A	Circle Dot Ran baz=70,SNR=24	69.80	328	⇓P		P	14 35 26.4	+1.2
P32A	Huiting Farm, baz=70	69.93	334	⇓P		P	14 35 26.1	+0.3
R29A	Marienthal baz=70,SNR=7.3	69.97	332	⇓P		P	14 35 27.0	+0.9
TUC	Tucson	70.00	321	*eP*		P	14 35 25.0	-1.4
TUC	Tucson	70.00	321	*eP*		P	14 35 25.0	-1.4
SCIA	State Center comp=Z,36nm,0.7s	70.01	339	*eP*		P	14 35 24.5	-1.7
JFWS	Jewell Farm	70.03	342	*eP*		P	14 35 24.6	-1.7
JFWS	comp=Z,93nm,0.6s			pmax		pmax		
JFWS	Jewell Farm comp=Z,93nm,0.6s	70.03	342	*eP*		P	14 35 24.6	-1.7
T26A	Comanche Natio baz=70,SNR=28	70.04	329	⇓P		P	14 35 27.8	+1.1
Q30A	Quinter baz=70,SNR=10	70.04	333	⇓P		P	14 35 27.7	+1.1
S27A	Las Animas baz=70,SNR=6.9	70.13	330	⇑P		P	14 35 28.0	+0.8
V23A	Ortiz Mt. (NFS baz=70,SNR=17	70.14	327	⇑P		P	14 35 29.2	+1.8
P31A	Stockton baz=70,SNR=5.6	70.16	334	⇓P		P	14 35 27.8	+0.7
R28A	Tribune baz=71,SNR=8.1	70.19	331	⇓P		P	14 35 28.2	+0.7
Q29A	Oakley baz=71,SNR=13	70.29	332	⇑P		P	14 35 28.8	+0.8
S26A	Kim baz=71,SNR=31	70.34	330	⇑P		P	14 35 29.8	+1.4
O32A	Brockman Farm, baz=71	70.36	335	⇑P		P	14 35 28.8	+0.4
T25A	Trinidad baz=71,SNR=24	70.39	329	⇓P		P	14 35 30.4	+1.5
P30A	Selden baz=71	70.53	333	⇓P		P	14 35 30.4	+0.9
R27A	Eads baz=71,SNR=7.8	70.58	331	⇓P		P	14 35 30.6	+0.8
U23A	El Rito baz=71,SNR=14	70.61	327	⇓P		P	14 35 31.9	+1.7
V22A	San Miguel Ran baz=71,SNR=30	70.64	326	⇓P		P	14 35 32.5	+2.0
T24B	San Luis baz=71,SNR=31	70.79	328	⇓P		P	14 35 33.4	+2.0
Q28A	Sharon Springs baz=71	70.80	332	⇓P		P	14 35 32.1	+1.0
S25A	Robets Cordova baz=71,SNR=51	70.82	329	⇑P		P	14 35 32.8	+1.4
P29A	Atwood	70.86	333	⇑P		P	14 35 32.6	+1.1

baz=71
R26A **Arlington** 70.89 330 ⇑P P 14 35 32.8 +1.1
baz=71,SNR=21
214A **Organ Pipe Nat** 70.92 320 eP P 14 35 31.9 0.0
comp=Z,40nm,1.2s
214A **Organ Pipe Nat** 70.92 320 ⇑P P 14 35 33.9 +2.0
baz=71,SNR=17
U22A **Llaves** 70.98 327 ⇑P P 14 35 34.6 +2.1
baz=71,SNR=5.4
O30A **MW Ranch, Wils** 70.99 334 ⇑P P 14 35 33.1 +0.9
baz=71,SNR=6.3
T23A **Casias Ranch,** 71.09 328 ⇑P P 14 35 34.7 +1.5
baz=72,SNR=5.9
KSCO **Kaye Shedlock'** 71.10 331 eP P 14 35 34.4 +1.4
KSCO **Kaye Shedlock'** 71.10 331 ⇓P P 14 35 34.3 +1.2
baz=72
N31A **Bailey Ranch,** 71.10 335 ⇑P P 14 35 33.5 +0.7
baz=72
R25A **Fountain Ranch** 71.14 330 ⇑P P 14 35 34.4 +1.1
baz=72,SNR=8.7
S24A **Houchin Ranch,** 71.17 329 ⇑P P 14 35 35.5 +1.8
baz=72,SNR=29
X18A **Snowflake** 71.18 323 ⇓P P 14 35 35.4 +1.8
baz=72,SNR=10
P28A **Saint Francis** 71.19 332 ⇓P P 14 35 34.5 +1.0
baz=72
O29A **4D Ranch, Culb** 71.25 333 ⇓P P 14 35 34.7 +1.0
baz=72
BGNE **Belgrade** 71.30 336 eP P 14 35 33.2 -0.8
BGNE **Belgrade** 71.30 336 ⇑P P 14 35 34.7 +0.7
baz=72,SNR=20
SDCO **Great Sand Dun** 71.39 329 eP P 14 35 35.8 +0.8
comp=Z,12nm,0.6s
SDCO ePcP PcP 14 35 53.4 -0.1
Q26A **Hugo** 71.43 331 ⇑P P 14 35 36.5 +1.5
baz=72,SNR=5.3
W18A **Petrified Fore** 71.51 324 eP P 14 35 36.1 +0.5
W18A **Petrified Fore** 71.51 324 ⇑P P 14 35 37.3 +1.7
baz=72,SNR=14
P27A **Ficken Ranch,** 71.53 332 ⇓P P 14 35 36.9 +1.3
baz=72
N30A **Hueftle Ranch,** 71.53 334 ⇓P P 14 35 36.5 +1.0
baz=72
M31A **Lambtecht Ranc** 71.56 335 ⇑P P 14 35 36.6 +1.0
baz=72
R24A **Sanders Place,** 71.60 329 ⇑P P 14 35 37.7 +1.7
baz=72,SNR=20
S23A **Nye Farm, Mont** 71.60 328 ⇑P P 14 35 37.8 +1.6
baz=72
O28A **Krutsinger Ran** 71.66 332 ⇑P P 14 35 37.5 +1.2
baz=72
Q25A **Bedland, Calha** 71.75 330 ⇓P P 14 35 37.9 +0.9
baz=72,SNR=7.3
N29A **Votaw Ranch, W** 71.76 334 ⇓P P 14 35 37.9 +1.0
baz=72
P26A **Davis Ranch, A** 71.87 331 ⇑P P 14 35 38.8 +1.2
baz=72,SNR=8.7
R23A **Moffat** 71.90 329 ⇑P P 14 35 39.5 +1.5
baz=72,SNR=14
X16A **Lo Mia Camp, P** 71.92 322 ⇓P P 14 35 39.9 +1.8
baz=72,SNR=23
Z14A **Wintersburg** 72.01 321 ⇑P P 14 35 40.0 +1.6
baz=72
O27A **Beecher Island** 72.01 332 ⇓P P 14 35 39.8 +1.4
baz=72
N28A **Pribbeno Ranch** 72.03 333 ⇓P P 14 35 39.5 +1.0
baz=72
S22A **4UR Ranch, Cre** 72.04 328 ⇑P P 14 35 40.2 +1.4
baz=72,SNR=22
113A **Mohawk Valley,** 72.06 320 ⇑P P 14 35 40.0 +1.3
baz=72,SNR=5.3
M30A **Dale-Ortello V** 72.07 335 ⇑P P 14 35 39.4 +0.8
baz=72
P25A **Willow Gulch B** 72.20 331 ⇑P P 14 35 41.2 +1.6
baz=73,SNR=11
Q24A **Divide** 72.20 330 ⇑P P 14 35 41.3 +1.5
baz=73,SNR=21
L31A **Butterfield Fa** 72.22 336 ⇓P P 14 35 40.2 +0.7
baz=73,SNR=9.4
M29A **Burnside Ranch** 72.32 334 ⇓P P 14 35 41.2 +1.1
baz=73
L30A **Spencer Herefo** 72.36 335 ⇑P P 14 35 41.3 +1.0
baz=73
O26A **Horse Wrangler** 72.41 332 ⇑P P 14 35 42.4 +1.6
baz=73,SNR=6.2
MVCO **Mesa Verde** 72.45 326 eP P 14 35 41.6 +0.3
comp=Z,18nm,0.8s
MVCO **Mesa Verde** 72.45 326 ⇑P P 14 35 42.8 +1.5
baz=73,SNR=15
Y14A **Wickenburg** 72.46 321 ⇑P P 14 35 42.8 +1.7
baz=73,SNR=8.5
P24A **Kohler Place,** 72.53 330 ⇓P P 14 35 43.0 +1.4
baz=73
N27A **Anderson Farm,** 72.55 332 ⇑P P 14 35 42.8 +1.2
baz=73,SNR=7.3
M28A **Bar X Bar Ranc** 72.55 333 ⇑P P 14 35 43.0 +1.5
baz=73
O25A **Wiggins** 72.66 331 ⇑P P 14 35 44.1 +1.8
baz=73
WUAZ **Wupatki** 72.69 323 eP P 14 35 44.7 +2.1
comp=Z,31nm,0.8s
WUAZ **Wupatki** 72.69 323 ⇑P P 14 35 44.5 +1.9
baz=73,SNR=26
ECSD **EROS Data Cent** 72.77 338 eP P 14 35 42.4 -0.3
comp=Z,48nm,1.1s
ECSD **EROS Data Cent** 72.77 338 ⇑P P 14 35 42.8 +0.1
baz=73,SNR=30
P23A **Jefferson** 72.85 329 ⇑P P 14 35 45.1 +1.4
baz=73
N26A **Koester Ranch,** 72.86 332 ⇓P P 14 35 44.9 +1.5
baz=73
SPMN **St. Paul** 72.89 341 eP P 14 35 43.2 -0.1
SPMN **St. Paul** 72.89 341 ⇑P P 14 35 42.9 -0.4
baz=73,SNR=6.5
GLA **Glamis** 72.89 319 eP P 14 35 45.5 +1.8
GLA pmax pmax
comp=Z,20nm,0.8s
GLA **Glamis** 72.89 319 eP P 14 35 45.5 +1.8
comp=Z,20nm,0.8s
GLA **Glamis** 72.89 319 ⇑P P 14 35 45.3 +1.6
baz=73,SNR=8.3
K30A **Basset** 72.94 335 ⇑P P 14 35 44.3 +0.5
baz=73,SNR=8.8
M27A **Reverse DX Ran** 73.08 333 ⇑P P 14 35 45.9 +1.2
baz=74
ISCO **Idaho Springs** 73.09 330 eP P 14 35 46.5 +1.5
ISCO pmax pmax
comp=Z,12nm,0.8s
ISCO **Idaho Springs** 73.09 330 eP P 14 35 46.5 +1.5
comp=Z,12nm,0.8s
ISCO **Idaho Springs** 73.09 330 ⇓P P 14 35 46.4 +1.4
baz=74,SNR=17
O24A **Longmont** 73.10 330 ⇓P P 14 35 46.0 +1.2
baz=74
L28A **Connealy Angus** 73.12 334 ⇑P P 14 35 46.2 +1.3
baz=74
Y12C **Blythe** 73.21 320 ⇓P P 14 35 47.4 +2.0
baz=74,SNR=19
N25A **Grover** 73.22 331 ⇑P P 14 35 47.3 +1.7
baz=74
SMCO **Snowmass** 73.23 328 eP P 14 35 47.8 +1.8
comp=Z,19nm,0.6s
K29A **Lazy Trails An** 73.29 335 ⇑P P 14 35 46.8 +1.0
baz=74,SNR=14
M26A **McRoberts Ranc** 73.35 332 ⇓P P 14 35 47.6 +1.4
baz=74
PDMCI **Parker Dam,Lak** 73.37 321 ⇓P P 14 35 48.2 +1.8
baz=74
SWSC **Sam W. Stewart** 73.40 319 ⇓P P 14 35 48.4 +1.8
baz=74
J30A **Dallas** 73.45 336 ⇓P P 14 35 47.2 +0.5
baz=74,SNR=6.1
P22A **Eagle** 73.46 329 ⇑P P 14 35 48.7 +1.6
baz=74,SNR=16
SYO **Syowa Base** 73.46 159⇑ eP P 14 35 45.6 -0.8
L27A **T5 Ranch, Ells** 73.51 333 ⇑P P 14 35 48.2 +1.0
baz=74
O23A **Lake Granby, G** 73.56 330 ⇓P P 14 35 49.4 +1.7
baz=74,SNR=14
PV04 **Paradox Valley** 73.57 327 eP P 14 35 49.6 +1.9
N24A **Carr** 73.58 331 ⇑P P 14 35 49.6 +1.9
baz=74
K28A **Ten Mile Ranch** 73.66 334 ⇑P P 14 35 49.7 +1.7
baz=74
BC3 **Big Chuckawall** 73.69 319 ⇑P P 14 35 50.1 +1.7
baz=74,SNR=32
M25A **Palm-Egli Farm** 73.71 332 ⇑P P 14 35 49.7 +1.2
baz=74
MONP **Monument Peak** 73.74 318 ⇑P P 14 35 50.8 +1.9
baz=74,SNR=16
BAR **Barrett** 73.75 318 eP P 14 35 50.4 +1.7
comp=Z,102nm,0.8s
L26A **Underwood Farm** 73.79 333 ⇑P P 14 35 50.5 +1.6
baz=74
W13A **Hualapai Mount** 73.80 321 ⇓P P 14 35 51.1 +2.0
baz=74,SNR=21
O22A **Kremmling** 73.81 329 ⇑P P 14 35 50.6 +1.4
baz=74,SNR=17
J29A **Okreek** 73.84 335 ⇓P P 14 35 49.7 +0.7
baz=74,SNR=6.1
IRM **Iron Mountain** 73.86 320 ⇑P P 14 35 50.9 +1.6
baz=74,SNR=23
U15A **North Rim** 73.87 323 ⇓P P 14 35 51.7 +2.1
baz=74,SNR=33
K27A **Flueckinger Fa** 74.00 334 ⇑P P 14 35 51.3 +1.4
baz=74
M24A **Cheyenne** 74.08 331 ⇓P P 14 35 52.5 +1.9
baz=74,SNR=19
N23A **Red Feather La** 74.11 330 ⇑P P 14 35 52.5 +1.5
baz=74,SNR=16
J28A **Allard Ranch,** 74.20 335 ⇓P P 14 35 52.2 +1.0
baz=75,SNR=7.9
BRSD **Miller** 74.22 337 eP P 14 35 51.7 +0.6
comp=Z,45nm,0.7s
BRSD **Miller** 74.22 337 ⇓P P 14 35 51.3 +0.2
baz=75
PHWY **Pilot Hill** 74.22 331 eP P 14 35 53.0 +1.5
comp=Z,9.7nm,0.6s
BELC **Belle Mtn. Jos** 74.25 319 ⇑P P 14 35 53.4 +1.7
baz=75,SNR=13
PFO **Pinyon Flat Ob** 74.26 319 P P 14 35 53.0 +1.3
comp=Z,127nm,0.7s,SNR=9.8
PFO **Pinyon Flat Ob** 74.26 319 eP P 14 35 53.7 +1.9
L25A **Engebretsen Ra** 74.26 332 ⇓P P 14 35 53.1 +1.5
baz=75
N22A **Wattenberg Ran** 74.27 330 ⇑P P 14 35 53.8 +1.9
baz=75,SNR=19
I29A **Vivian Onida** 74.35 336 ⇓P P 14 35 52.4 +0.5
baz=75,SNR=7.4
J27A **Elkhorn Farm,** 74.36 334 ⇑P P 14 35 53.8 +1.7
baz=75,SNR=28
K26A **Motz Farm, Whi** 74.38 333 ⇑P P 14 35 53.6 +1.4
baz=75
M23A **Laramie** 74.47 331 ⇓P P 14 35 54.3 +1.4
baz=75
O20A **White River Ci** 74.59 328 eP P 14 35 55.1 +1.5
O20A **White River Ci** 74.59 328 ⇑P P 14 35 55.3 +1.7
baz=75,SNR=25
L24A **Wheatland** 74.59 332 ⇑P P 14 35 54.9 +1.4
baz=75
GMRC **Granite Mounta** 74.60 320 ⇓P P 14 35 55.6 +1.9
baz=75,SNR=44
K25A **Mack Ranch, Ha** 74.60 333 ⇓P P 14 35 55.4 +1.9
baz=75
I28A **Midland** 74.66 335 ⇑P P 14 35 54.4 +0.7
baz=75,SNR=7.0
VNDA **Vanda** 74.67 190 P P 14 35 55.0 +1.6
VNDA **Vanda** 74.67 190 P P 14 35 55.0 +1.6
comp=Z,5.7nm,0.8s,baz=110,slow=5.8,SNR=9.7
MURC **Murrieta** 74.70 318 ⇑P P 14 35 55.9 +1.7
baz=75,SNR=5.9
M22A **Cedar Creek Ra** 74.82 330 ⇓P P 14 35 56.3 +1.4
baz=75,SNR=12
H29A **Onida** 74.83 336 ⇓P P 14 35 55.2 +0.5
baz=75,SNR=14
J26A **Sides Ranch, S** 74.85 333 ⇓P P 14 35 56.4 +1.6
baz=75,SNR=10
G30A **Faulkton** 74.88 337 ⇓P P 14 35 56.4 +1.6
baz=75
SRU **San Rafael** 74.93 326 eP P 14 35 57.1 +1.5
SRU pmax pmax
comp=Z,26nm,0.8s
SRU **San Rafael** 74.93 326 eP P 14 35 57.1 +1.5
comp=Z,26nm,0.8s
L23A **Garrett** 74.98 331 ⇑P P 14 35 57.2 +1.3
baz=75,SNR=7.1
HEC **Hector,Ludlow** 75.03 320 ⇑P P 14 35 58.0 +2.0
baz=75,SNR=23
I27A **Quinn** 75.07 335 ⇓P P 14 35 57.1 +1.1
baz=75
K24A **Anderson Ranch** 75.09 332 ⇑P P 14 35 58.2 +1.8
baz=76,SNR=11
N20A **Spence Gulch,** 75.14 329 ⇓P P 14 35 58.1 +1.3
baz=76
H28A **Mission Ridge** 75.18 336 ⇓P P 14 35 57.4 +0.8
baz=76,SNR=17
J25A **Sunshine Ranch** 75.21 333 ⇑P P 14 35 58.5 +1.5
baz=76,SNR=15
TUQ **Turquoise Moun** 75.21 320 ⇓P P 14 35 59.0 +1.8
baz=76,SNR=15
L22A **Ellis Ranch, M** 75.24 331 ⇑P P 14 35 58.9 +1.6
baz=76
CCUT **Cedar City** 75.27 323 eP P 14 36 00.0 +2.4
comp=Z,34nm,0.8s
CIS **Catalina Islan** 75.31 317 ⇓P P 14 35 59.3 +1.7
baz=76
MVU **Marysvale** 75.35 325 eP P 14 35 59.9 +1.8
comp=Z,21nm,0.8s
I26A **New Underwood** 75.36 334 ⇓P P 14 35 58.6 +0.8
baz=76
BFSC **Mount Baldy Ra** 75.42 318 ⇓P P 14 35 59.9 +1.5
baz=76,SNR=6.2
TMUT **Trail Mountain** 75.42 326 eP P 14 36 00.4 +1.9
comp=Z,9.7nm,0.9s
F30A **Leola** 75.44 337 ⇓P P 14 35 58.5 +0.3
baz=76
RRX **Edison Barstow** 75.46 319 ⇓P P 14 36 00.6 +2.1
baz=76
K23A **Bowen Ranch, D** 75.47 332 ⇓P P 14 35 59.8 +1.3
baz=76,SNR=16
G28A **Parade** 75.48 336 ⇓P P 14 35 59.0 +0.7
baz=76,SNR=19
ARUT **Antelope Range** 75.49 324 eP P 14 35 59.3 +0.6
ARUT **Antelope Range** 75.49 324 eP P 14 35 59.3 +0.6
comp=Z,474nm,1.0s
J24A **Dixon Ranch, L** 75.52 332 ⇓P P 14 36 00.7 +2.0
baz=76,SNR=8.4
SHPR **Sheep Range** 75.52 322 eP P 14 36 00.8 +1.8
H27A **Howes** 75.55 335 ⇑P P 14 35 59.5 +0.8
baz=76
GSC **Goldstone** 75.64 320 eP P 14 36 01.5 +2.0
GSC **Goldstone** 75.64 320 eP P 14 36 01.5 +2.0
comp=Z,3.0nm,0.8s
GSC **Goldstone** 75.64 320 ⇓P P 14 36 01.3 +1.7
baz=76,SNR=13
MWC **Mount Wilson** 75.65 318 eP P 14 36 01.5 +1.7
MWC pmax pmax
comp=Z,15nm,0.6s
MWC **Mount Wilson** 75.65 318 eP P 14 36 01.5 +1.7
comp=Z,14nm,0.6s
I25A **Rochford** 75.70 333 ⇑P P 14 36 01.4 +1.5
baz=76
F29A **Eureka** 75.73 337 ⇓P P 14 36 00.3 +0.6
baz=76
SHOC **Shoshone** 75.74 320 ⇑P P 14 36 01.6 +1.5
baz=76
K22A **Casper** 75.78 331 eP P 14 36 01.8 +1.5
K22A **Casper** 75.78 331 ⇑P P 14 36 01.6 +1.3
baz=76,SNR=6.7
H26A **Fairpoint** 75.81 334 ⇑P P 14 36 01.8 +1.5
baz=76
RSSD **Black Hills** 75.91 333 eP P 14 36 02.2 +1.2
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD **Black Hills** 75.91 333 eP P 14 36 02.2 +1.2
comp=Z,3.6nm,0.9s
I24A **Kuemmerle Ranc** 75.94 333 ⇓P P 14 36 02.3 +1.3
baz=76,SNR=5.2
E30A **Jud** 75.98 338 ⇑P P 14 36 01.6 +0.4
baz=76
EDW2 **Edwards Air Fo** 76.05 319 ⇑P P 14 36 03.2 +1.3
baz=76,SNR=9.3
K21A **Alcova** 76.09 330 ⇓P P 14 36 03.7 +1.6
baz=76,SNR=50
F28A **McLaughlin** 76.09 336 ⇑P P 14 36 02.5 +0.7
baz=76
G27A **Dupree** 76.12 335 ⇓P P 14 36 02.5 +0.5
baz=76,SNR=7.4
H25A **Fruitdale** 76.14 334 ⇑P P 14 36 02.9 +0.8
baz=76,SNR=6.1
MPU **Maple Canyon** 76.18 326 eP P 14 36 04.6 +2.0
comp=Z,21nm,1.2s
LRMC **Laurel Mountai** 76.28 319 ⇑P P 14 36 04.7 +1.5
baz=77,SNR=12
DAU **Daniels Canyon** 76.28 327 eP P 14 36 05.1 +1.7
DAU **Daniels Canyon** 76.28 327 eP P 14 36 05.1 +1.7
E29A **Napoleon** 76.29 337 ⇑P P 14 36 03.4 +0.5
baz=77,SNR=6.6
G26A **Maurine** 76.31 335 ⇑P P 14 36 03.5 +0.5
baz=77,SNR=21
NLU **North Lily Min** 76.36 326 eP P 14 36 05.8 +2.1
comp=Z,7.3nm,0.8s
J22A **Midwest** 76.37 331 ⇓P P 14 36 04.7 +1.2
baz=77
I23A **Meade Ranch, G** 76.37 332 ⇑P P 14 36 04.4 +0.9
baz=77
D30A **Buchanan** 76.45 338 ⇓P P 14 36 04.4 +0.6
baz=77,SNR=23
BSC **Santa Cruz Isl** 76.47 317 ⇑P P 14 36 05.5 +1.3
baz=77
TOA0 **Torodi Ar. Sit** 76.47 69 eP P 14 36 03.9 -0.7
TORD **Torodi Ar. Bea** 76.47 69 P P 14 36 04.0 -0.5
TORD S S 14 45 29.5 -5.5
TORD **Torodi Ar. Bea** 76.47 69 P P 14 36 04.0 -0.5
comp=Z,12nm,0.5s,baz=256,slow=5.6,SNR=185
TORD S S 14 45 29.5 -5.5
comp=Z,1.1nm,0.9s,baz=240,slow=11,SNR=4.9
FURC **Furnace Creek,** 76.47 321 ⇓P P 14 36 06.3 +2.2
baz=77
JLU **Jordanelle** 76.52 327 eP P 14 36 06.3 +1.7
comp=Z,14nm,0.6s
G25A **Newell** 76.54 334 ⇑P P 14 36 05.3 +0.9
baz=77,SNR=16
F27A **Lemmon** 76.57 336 ⇓P P 14 36 05.3 +0.8
baz=77,SNR=19
AGMN **Agassiz Nation** 76.57 341 eP P 14 36 03.5 -0.9
comp=Z,24nm,0.8s
AGMN **Agassiz Nation** 76.57 341 ⇓P P 14 36 04.6 +0.2
baz=77,SNR=14
H24A **Dirks Ranch, A** 76.63 333 ⇓P P 14 36 05.7 +0.8
baz=77,SNR=22
E28A **Huff** 76.67 337 ⇑P P 14 36 06.0 +1.0
baz=77,SNR=9.3
D29A **Pettibone, Tap** 76.70 338 ⇑P P 14 36 05.6 +0.4
baz=77
ARVC **Arvin** 76.73 318 ⇓P P 14 36 07.2 +1.7
baz=77
J21A **Lysite** 76.74 331 ⇑P P 14 36 07.0 +1.2
baz=77,SNR=5.2
I22A **9 Mile Ranch,** 76.75 332 ⇑P P 14 36 06.9 +1.2
baz=77,SNR=22
DAC **Darwin (Calif)** 76.77 320 eP P 14 36 06.5 +0.4
DAC pmax pmax
comp=Z,21nm,0.9s
DAC **Darwin (Calif)** 76.77 320 eP P 14 36 06.5 +0.4
comp=Z,21nm,0.9s
F26A **Lodgepole** 76.80 335 ⇓P P 14 36 06.8 +1.0
baz=77,SNR=22
H23A **Clabaugh Cattl** 76.83 333 ⇓P P 14 36 06.8 +0.7
baz=77
E27A **Carson** 76.87 336 ⇓P P 14 36 06.6 +0.5
baz=77
ISA **Isabella** 76.87 319 eP P 14 36 08.4 +1.9
ISA pmax pmax
comp=Z,19nm,0.8s
ISA **Isabella** 76.87 319 eP P 14 36 08.4 +1.9
comp=Z,19nm,0.8s
ISA **Isabella** 76.87 319 ⇓P P 14 36 08.4 +1.9
baz=77,SNR=22
C30A **Mose, Pekin** 76.88 339 ⇓P P 14 36 06.7 +0.6
baz=77,SNR=17
TCUT **Toone Canyon** 76.89 327 eP P 14 36 06.1 -0.6
comp=Z,14nm,0.7s
DUG **Dugway** 76.92 326 eP P 14 36 08.4 +1.7
DUG pmax pmax
comp=Z,16nm,1.1s
DUG **Dugway** 76.92 326 eP P 14 36 08.4 +1.7
comp=Z,16nm,1.1s
DUG **Dugway** 76.92 326 ⇑P P 14 36 08.4 +1.7
baz=77,SNR=15
J20A **Shoshoni** 77.03 330 ⇑P P 14 36 08.8 +1.5
baz=77
I21A **Big Trails, Te** 77.04 331 ⇓P P 14 36 08.4 +1.0
baz=77,SNR=41
G24A **Alzada** 77.05 334 ⇓P P 14 36 08.1 +0.8
baz=77,SNR=19
R11A **Troy Canyon, C** 77.07 323 eP P 14 36 09.6 +2.0
R11A **Troy Canyon, C** 77.07 323 ⇓P P 14 36 09.7 +2.0
baz=77,SNR=28
GRAC **Grapevine Rang** 77.14 321 ⇓P P 14 36 09.6 +1.8
baz=78
D28A **Regan** 77.16 337 ⇑P P 14 36 08.5 +0.8
baz=78,SNR=5.6
F25A **Bowman** 77.17 335 ⇑P P 14 36 08.9 +1.0
baz=78,SNR=7.1
CWC **Cottonwood Cre** 77.17 320 ⇑P P 14 36 09.9 +1.7
baz=78,SNR=5.9
E26A **Carlson Angus** 77.24 336 ⇓P P 14 36 08.9 +0.7
baz=78
BW06 **Boulder Array** 77.25 329 eP P 14 36 08.0 -0.6
comp=Z,5.4nm,0.6s
PDAR **Pinedale Array** 77.25 329 P P 14 36 09.4 +0.8
PDAR **Pinedale Array** 77.25 329 P P 14 36 09.4 +0.8
comp=Z,6.0nm,0.6s,baz=132,slow=8.1,SNR=68
H22A **Clearmont** 77.26 332 ⇓P P 14 36 09.4 +0.9
baz=78,SNR=8.8
G23A **Biddle** 77.35 333 ⇓P P 14 36 09.7 +0.8
baz=78,SNR=24
VES **Vestal, Richgr** 77.36 319 ⇑P P 14 36 10.6 +1.5
baz=78,SNR=13
J19A **Crowheart** 77.41 330 ⇓P P 14 36 10.7 +1.3
baz=78,SNR=25
D27A **Center** 77.43 337 ⇑P P 14 36 10.4 +1.2
baz=78
B30A **Myrvik Farm, E** 77.48 339 ⇑P P 14 36 09.7 +0.2
baz=78,SNR=20
F24A **Ekalaka** 77.49 334 ⇑P P 14 36 10.5 +0.8
baz=78,SNR=9.8
TSUM **Tsumeb** 77.52 106 eP P 14 36 08.4 -2.2
comp=Z,9.4nm,0.7s
I20A **Worland** 77.52 331 ⇑P P 14 36 11.2 +1.3
baz=78,SNR=16
SPUT **South Promonto** 77.55 327 eP P 14 36 09.9 -0.3
comp=Z,11nm,0.6s
SMMC **Simmler** 77.56 318 ⇓P P 14 36 12.2 +1.9
baz=78
BGU **Big Grassy Mou** 77.57 326 eP P 14 36 11.6 +1.2
comp=Z,14nm,1.5s
H21A **Big Horn, Sher** 77.58 332 ⇓P P 14 36 10.8 +0.5
baz=78,SNR=22
E25A **Miller Ranch,** 77.62 335 ⇑P P 14 36 11.3 +0.9
baz=78,SNR=7.9
TIN **Tinemaha** 77.67 320 ⇓P P 14 36 13.0 +2.0
baz=78
D26A **Manning** 77.70 336 ⇓P P 14 36 11.6 +0.8
baz=78,SNR=9.7
G22A **Birney** 77.74 333 ⇓P P 14 36 11.8 +0.7
baz=78,SNR=8.3
F23A **Volborg** 77.78 333 ⇑P P 14 36 12.0 +0.8
baz=78,SNR=20
TPH **Tonopah** 77.79 322 eP P 14 36 13.4 +1.7
TPH pmax pmax
comp=Z,24nm,1.2s
TPH **Tonopah** 77.79 322 eP P 14 36 13.3 +1.7
comp=Z,24nm,1.2s
B29A **Wagenman Farm,** 77.83 339 ⇓P P 14 36 12.2 +0.8
baz=78,SNR=6.8
H20A **Greybull** 77.89 331 ⇑P P 14 36 12.7 +0.8
baz=78,SNR=10
A30A **Hoffart Farm,** 77.90 339 ⇓P P 14 36 12.0 +0.2
baz=78,SNR=9.2
PTRM **Twissleman Ran** 77.92 318 eP P 14 36 13.9 +1.6
C27A **Sayler Ranch,** 77.93 337 ⇑P P 14 36 12.9 +0.9
baz=78
I19A **Meeteetse** 77.98 330 ⇓P P 14 36 13.8 +1.2
baz=78,SNR=20
E24A **Baker** 78.02 335 ⇓P P 14 36 13.9 +1.3
baz=78,SNR=16
HVU **Hansel Valley** 78.07 327 eP P 14 36 14.2 +1.1
HVU pmax pmax
comp=Z,16nm,0.7s
HVU **Hansel Valley** 78.07 327 eP P 14 36 14.2 +1.1
comp=Z,16nm,0.7s
MTUM **Tungsten Hills** 78.07 320 eP P 14 36 15.1 +1.8
G21A **Lodge Grass** 78.13 332 ⇓P P 14 36 14.1 +0.8
baz=78,SNR=16
D25A **Fairfield** 78.13 336 ⇓P P 14 36 14.6 +1.5
baz=78,SNR=27
B28A **Dugan Ranch, T** 78.16 338 ⇓P P 14 36 14.1 +0.9
baz=78,SNR=6.0
F22A **Rosebud** 78.17 333 ⇓P P 14 36 14.3 +0.9
baz=78,SNR=23
A29A **Manning Farm,** 78.19 339 ⇑P P 14 36 13.6 +0.3
baz=79,SNR=25

C26A **Wahner Farm, P** 78.24 337 ⇑P P 14 36 14.9 +1.2
baz=79,SNR=12
ULM **Lac du Bonnet** 78.31 341 *eP* P 14 36 13.2 -0.8
ULM **Lac du Bonnet** 78.31 341 P P 14 36 14.1 +0.1
comp=Z,32nm,0.6s,baz=157,slow=6.2,SNR=83
REDW **Red Top Meadow** 78.32 329 *eP* P 14 36 15.8 +1.3
comp=Z,17nm,0.8s
LOHW **Long Hollow** 78.39 329 *eP* P 14 36 16.3 +1.4
comp=Z,16nm,0.6s
MLAC **Mammoth Lakes** 78.42 320 ⇓P P 14 36 17.0 +1.8
baz=79,SNR=9.6
B27A **Peters Farms,** 78.43 337 ⇑P P 14 36 15.7 +1.0
baz=79
H19A **Powell** 78.47 331 ⇓P P 14 36 16.3 +1.1
baz=79,SNR=12
D24A **Glendive** 78.49 335 ⇑P P 14 36 16.4 +1.3
baz=79,SNR=7.5
A28A **Rude Farm, Bot** 78.52 338 ⇓P P 14 36 15.7 +0.4
baz=79,SNR=6.6
SCHQ **Schefferville** 78.56 0 *eP* P 14 36 15.4 +0.2
comp=Z,8.9nm,0.6s
SCHQ **Schefferville** 78.56 0 P P 14 36 15.4 +0.2
comp=Z,8.0nm,0.6s,baz=178,slow=5.2,SNR=26
G20A **Bridger** 78.56 332 ⇑P P 14 36 16.3 +0.7
baz=79,SNR=44
MOOW **Moose Ponds** 78.56 329 *eP* P 14 36 17.0 +1.2
comp=Z,8.6nm,0.8s
F21A **Absaloka Mine,** 78.57 333 ⇑P P 14 36 16.3 +0.7
baz=79
NV11 **Mina Array Sit** 78.57 321 *eP* P 14 36 16.6 +0.6
C25A **Freed Ranch, W** 78.57 336 ⇑P P 14 36 16.9 +1.3
baz=79,SNR=8.4
E22A **Miles City** 78.58 334 ⇑P P 14 36 16.1 +0.5
baz=79
ELK **Elko** 78.58 325 *eP* P 14 36 17.3 +1.3
comp=Z,12nm,0.9s
FXWY **Fox Creek** 78.61 329 *eP* P 14 36 17.4 +1.3
comp=Z,7.7nm,0.8s
I17A **Pilgrim Ck.** 78.61 329 ⇑P P 14 36 17.9 +1.8
baz=79,SNR=26
NVAR **Mina Array Bea** 78.65 321 P P 14 36 17.9 +1.4
NVAR **Mina Array Bea** 78.65 321 P P 14 36 17.9 +1.4
comp=Z,5.1nm,0.7s,baz=148,slow=5.8,SNR=42
B26A **Jensen Ranch,** 78.75 337 ⇑P P 14 36 17.6 +1.1
baz=79
IMW **Indian Meadow** 78.77 329 *eP* P 14 36 18.6 +1.5
comp=Z,21nm,0.8s
H18A **Shoshone NF, C** 78.78 330 ⇓P P 14 36 18.2 +1.2
baz=79,SNR=38
FLWY **Flagg Ranch** 78.80 329 *eP* P 14 36 18.9 +1.8
comp=Z,21nm,0.8s
C24A **Savage** 78.87 335 ⇓P P 14 36 18.5 +1.3
baz=79,SNR=6.8
D23A **Lindsay** 78.88 334 ⇑P P 14 36 18.6 +1.3
baz=79,SNR=12
LAO **LASA Array** 78.89 334 *eP* P 14 36 18.4 +1.0
comp=Z,37nm,0.8s
A27A **Ledoux Ranch,** 78.89 338 ⇓P P 14 36 18.4 +1.1
baz=79
RLMT **Red Lodge** 78.95 331 *eP* P 14 36 17.6 -0.3
comp=Z,20nm,0.6s
H17A **Grant Village** 78.98 330 *eP* P 14 36 20.0 +1.9
H17A **Grant Village** 78.98 330 ⇑P P 14 36 20.3 +2.1
baz=79,SNR=9.3
F20A **Billings** 78.99 332 ⇑P P 14 36 18.9 +1.0
baz=79
B25A **Knox Farm, Ray** 79.00 336 ⇑P P 14 36 19.3 +1.4
baz=79,SNR=7.4
E21A **Keefer Ranch,** 79.12 333 ⇑P P 14 36 19.7 +1.1
baz=80,SNR=19
A26A **Wade Farm, Ken** 79.12 337 ⇓P P 14 36 19.3 +0.8
baz=80,SNR=12
D22A **Cohagen** 79.25 334 ⇑P P 14 36 20.7 +1.4
baz=80,SNR=11
WAKR **Walker** 79.36 321 *eP* P 14 36 22.2 +1.9
YMR **Madison River** 79.37 330 *eP* P 14 36 22.6 +2.4
comp=Z,32nm,0.8s
F19A **Roth Farm, Mol** 79.37 332 ⇓P P 14 36 21.0 +1.0
baz=80,SNR=19
C23A **Lambert** 79.38 335 ⇑P P 14 36 21.2 +1.2
baz=80
BMN **Battle Mountai** 79.43 323 *eP* P 14 36 21.3 +0.8
BMN **Battle Mountai** 79.43 323 *eP* P 14 36 21.3 +0.8
D21A **La Casta Ranch** 79.51 333 ⇓P P 14 36 21.9 +1.2
baz=80,SNR=38
E20A **Meyer Farm, Mu** 79.54 332 ⇓P P 14 36 22.0 +1.2
baz=80,SNR=44
A25A **Svangstu Ranch** 79.54 337 ⇓P P 14 36 21.9 +1.2
baz=80,SNR=13
DGMT **Dagmar** 79.55 336 *eP* P 14 36 22.4 +1.6
comp=Z,76nm,0.8s
DGMT **Dagmar** 79.55 336 ⇓P P 14 36 22.3 +1.4
baz=80,SNR=24
CMB **Columbia Colle** 79.60 320 *eP* P 14 36 22.5 +1.1
CMB pmax pmax
comp=Z,7.0nm,0.9s
CMB **Columbia Colle** 79.60 320 *eP* P 14 36 22.5 +1.1
comp=Z,6.6nm,0.9s
C22A **Vida** 79.61 334 ⇓P P 14 36 22.1 +0.9
baz=80
QLMT **Earthquake Lak** 79.70 330 *eP* P 14 36 24.3 +2.3
E19A **Rath Farm, Rou** 79.78 332 ⇓P P 14 36 23.3 +1.1
baz=80,SNR=32
B23A **Brockton** 79.85 335 ⇓P P 14 36 23.7 +1.3
baz=80,SNR=16
A24A **Westby** 79.86 336 ⇓P P 14 36 23.9 +1.4
baz=80,SNR=9.2
D20A **Manuel Ranch,** 80.00 333 ⇓P P 14 36 24.3 +1.0
baz=80,SNR=28
B22A **Reddig Ranch S** 80.11 335 ⇑P P 14 36 24.9 +1.0
baz=80
C21A **Desert Coulee** 80.16 334 ⇓P P 14 36 25.0 +0.9
baz=80,SNR=28
HLID **Hailey** 80.20 327 *eP* P 14 36 26.5 +1.8
comp=Z,33nm,0.8s
HLID **Hailey** 80.20 327 ⇓P P 14 36 26.6 +2.0
baz=81,SNR=64
A23A **Redstone** 80.21 336 ⇑P P 14 36 25.4 +1.0
baz=81,SNR=8.2
MCMT **McKenzie Canyo** 80.37 329 *eP* P 14 36 26.1 +0.5
comp=Z,14nm,0.7s
D19A **Cripps Ranch,** 80.37 332 ⇓P P 14 36 26.2 +0.8
baz=81,SNR=19
BOZ **Bozeman (W)** 80.42 330 *eP* P 14 36 26.7 +1.0
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ **Bozeman (W)** 80.42 330 *eP* P 14 36 26.7 +1.0
comp=Z,8.8nm,0.8s
C20A **Veseth Ranch,** 80.44 333 ⇑P P 14 36 26.2 +0.6
baz=81,SNR=23
BOSA **Boshof** 80.60 117 P P 14 36 26.3 -0.9
BOSA **Boshof** 80.60 117 P P 14 36 26.3 -0.9
comp=Z,10nm,0.7s,baz=261,slow=2.8,SNR=10.0
B21A **Ellsworth Farm** 80.61 334 ⇑P P 14 36 27.6 +1.1
baz=81,SNR=9.9
MSKU **Masuku** 80.63 88 P P 14 36 28.7 +1.2
MSKU **Masuku** 80.63 88 P P 14 36 28.7 +1.2
comp=Z,150nm,0.4s,baz=96,slow=0.1,SNR=2.0
A22A **Carney Farms,** 80.64 335 ⇑P P 14 36 27.7 +1.1
baz=81,SNR=12
DLMT **Dillon** 80.65 329 *eP* P 14 36 28.5 +1.6
comp=Z,46nm,1.4s
MFID **Camas Ranch** 80.80 326 *eP* P 14 36 29.3 +1.5
comp=Z,12nm,0.9s
C19A **Slack Wire Ran** 80.89 333 ⇓P P 14 36 28.9 +0.8
baz=81,SNR=21
LRM **Limekiln Ridge** 80.93 330 *eP* P 14 36 29.8 +1.2
B20A **Solberg Farm,** 81.02 334 ⇑P P 14 36 29.4 +0.7
baz=81,SNR=12
OHCM **Honcut** 81.10 320 *eP* P 14 36 30.8 +1.5
HRY **Holter Researc** 81.31 331 *eP* P 14 36 31.8 +1.4
A20A **Cobblestone Ra** 81.33 334 ⇓P P 14 36 31.1 +0.7
baz=82,SNR=69
MAW **Mawson** 81.35 163 P P 14 36 30.3 +0.1
MAW **Mawson** 81.35 163 P P 14 36 30.3 +0.1
comp=Z,24nm,0.6s,baz=212,slow=6.7,SNR=24
B19A **Brinkman Farms** 81.41 333 ⇑P P 14 36 31.5 +0.7
baz=82,SNR=26
EGMT **Eagleton** 81.42 332 *eP* P 14 36 31.4 +0.6
comp=Z,31nm,0.9s
EGMT **Eagleton** 81.42 332 ⇓P P 14 36 31.3 +0.5
baz=82,SNR=18
WVOR **Wild Horse Val** 81.58 324 *eP* P 14 36 33.3 +1.4
WVOR pmax pmax
comp=Z,61nm,2.5s
WVOR **Wild Horse Val** 81.58 324 *eP* P 14 36 33.2 +1.4
comp=Z,61nm,2.5s

A19A **Klindworth Far** 81.70 334 ⇓P P 14 36 32.8 +0.5
baz=82,SNR=18
CHMT **Chamberlain Mo** 82.11 330 *eP* P 14 36 35.8 +1.1
MOD **Modoc** 82.13 323 *eP* P 14 36 36.1 +1.3
comp=Z,5.3nm,1.1s
LBTB **Lobatse** 82.25 114 *eP* P 14 36 35.9 0.0
LBTB **Lobatse** 82.25 114 P P 14 36 35.8 -0.1
comp=Z,5.7nm,0.4s,baz=251,slow=7.2,SNR=15
MSO **Missoula** 82.36 330 *eP* P 14 36 37.2 +1.4
comp=Z,7.7nm,0.6s
MSO **Missoula** 82.36 330 ⇑P P 14 36 37.2 +1.4
baz=83,SNR=8.4
SLMT **Seeley Lake** 82.46 330 *eP* P 14 36 37.5 +1.1
WDC **Whiskeytown Da** 82.53 321 *eP* P 14 36 36.4 -0.3
WDC **Whiskeytown Da** 82.53 321 *eP* P 14 36 36.4 -0.3
BMO **Blue Mountains** 82.57 326 *eP* P 14 36 38.0 +1.0
comp=Z,8.0nm,0.7s
N02D **Trinity Center** 82.88 321 ⇓P P 14 36 38.8 +0.2
baz=83
SWMT **Swartz Lake** 82.89 330 *eP* P 14 36 40.0 +1.4
M04C **Macdoel** 82.91 322 ⇑P P 14 36 39.8 +1.0
baz=83
K05A **Summer Lake** 83.01 323 *eP* P 14 36 41.0 +1.7
comp=Z,38nm,0.8s
HOG **Hogback Mounta** 83.14 322 P P 14 36 41.4 +1.3
YBMT **Yellow Bay** 83.16 330 *eP* P 14 36 41.1 +1.1
I07A **Izee** 83.17 325 *eP* P 14 36 41.5 +1.3
comp=Z,8.2nm,0.8s
JTMT **Jette** 83.20 330 *eP* P 14 36 40.8 +0.6
M02C **Callahan** 83.23 321 ⇑P P 14 36 41.4 +1.0
baz=84
BLMT **Blacktail Moun** 83.43 330 *eP* P 14 36 42.6 +1.2
BSMT **Bassoo Peak** 83.51 330 *eP* P 14 36 42.8 +1.0
J05D **Fort Rock, OR** 83.57 323 ⇓P P 14 36 43.3 +1.1
baz=84
G08A **Pilot Rock** 83.72 326 *eP* P 14 36 43.8 +0.9
comp=Z,7.1nm,0.6s
WALA **Waterton Lakes** 84.00 331 *eP* P 14 36 44.0 -0.2
comp=Z,0.3nm,0.8s
J04D **Umpqua Nationa** 84.02 323 ⇑P P 14 36 45.6 +1.1
baz=84
FFC **Flin Flon** 84.05 340 *eP* P 14 36 44.2 +0.1
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC **Flin Flon** 84.05 340 *eP* P 14 36 44.2 +0.1
comp=Z,3.8nm,0.8s
VIPM **Ingram Point** 84.05 325 P P 14 36 46.3 +1.7
VIPM **Ingram Point** 84.05 325 P P 14 36 46.3 +1.7
HUMO **Hull Mountain** 84.08 322 *eP* P 14 36 45.1 +0.5
comp=Z,72nm,2.1s
E09A **Wood Farm, Sta** 84.16 327 *eP* P 14 36 45.3 +0.4
comp=Z,56nm,2.5s
L02D **Cave Junction,** 84.16 321 ⇓P P 14 36 46.4 +1.4
baz=84
TAM **Tamanrasset** 84.31 62 *eP* P 14 36 44.4 -2.0
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM **Tamanrasset** 84.31 62 *eP* P 14 36 44.4 -2.0
comp=Z,8.4nm,0.9s
I05D **Terrebonne, OR** 84.32 324 ⇑P P 14 36 47.2 +1.3
baz=85
I04A **Tendick Farm,** 84.55 323 ⇑P P 14 36 47.3 +0.3
baz=85
HAWA **Hanford** 84.77 326 *eP* P 14 36 49.2 +1.3
comp=Z,19nm,0.9s
BROR **Big Rock Looko** 84.88 323 P P 14 36 49.1 +0.6
NEW **Newport** 84.89 329 *eP* P 14 36 48.3 -0.3
comp=Z,5.7nm,0.7s
NEW **Newport** 84.89 329 ⇑P P 14 36 49.0 +0.4
baz=85
G05D **Wamic, OR** 84.91 325 ⇓P P 14 36 50.3 +1.6
baz=85
D08A **Wollman Farm,** 84.92 327 *eP* P 14 36 50.0 +1.3
comp=Z,16nm,0.9s
I03D **Drain, OR** 85.00 323 ⇑P P 14 36 50.6 +1.5
baz=85
E07A **Sunnyside** 85.04 326 *eP* P 14 36 50.5 +1.2
comp=Z,8.4nm,0.9s
OD2 **Odessa Site #2** 85.04 328 P P 14 36 50.4 +1.0
C09A **Chrisman Ranch** 85.12 328 *eP* P 14 36 50.7 +1.0
comp=Z,66nm,0.7s
TRW **Toppenish Ridg** 85.21 326 P P 14 36 51.8 +1.6
FCC **Fort Churchill** 85.54 346 *eP* P 14 36 51.8 +0.4
FCC **Fort Churchill** 85.54 346 *eP* P 14 36 51.8 +0.4
comp=Z,1.2nm,0.7s
SAW **Saint Andrews** 85.60 327 P P 14 36 52.9 +0.8
MPOR **Mary's Peak** 85.63 323 P P 14 36 54.1 +1.7
WTV **Waterville** 85.87 327 P P 14 36 54.0 +0.5
LTY **Liberty** 85.93 327 *eP* P 14 36 51.8 -2.0
comp=Z,12nm,0.7s
G03D **McMinnville, O** 85.93 324 ⇓P P 14 36 56.5 +2.8
baz=86
ETW **Entiat** 85.99 327 P P 14 36 54.9 +0.8
B08A **Colville Reser** 86.01 328 *eP* P 14 36 54.4 +0.2
comp=Z,32nm,1.6s
PAB **San Pablo** 86.03 43 *eP* P 14 36 55.7 +1.2
PAB pmax pmax
comp=Z,9.0nm,1.7s
PAB **San Pablo** 86.03 43 *eP* P 14 36 55.7 +1.2
comp=Z,8.8nm,1.7s
ESDC **Sonseca Array** 86.34 44 P P 14 36 55.9 -0.1
ESDC **Sonseca Array** 86.34 44 P P 14 36 55.9 -0.1
comp=Z,2.0nm,0.7s,baz=241,slow=4.8,SNR=9.4
D05A **Enumclaw** 86.55 326 *eP* P 14 36 57.6 +0.9
comp=Z,20nm,0.8s
B06A **Marblemount** 87.18 327 *eP* P 14 37 00.1 +0.5
comp=Z,27nm,0.6s
A05A **Maple Falls** 87.79 327 *eP* P 14 37 03.4 +0.8
comp=Z,31nm,0.8s
LSZ **Lusaka** 88.37 106 *eP* P 14 37 05.2 -1.2
comp=Z,31nm,1.3s
LSZ **Lusaka** 88.37 106 P P 14 37 08.4 +2.0
comp=Z,12nm,1.0s,baz=212,slow=5.2,SNR=14
CASY **Casey** 89.94 179 *eP* P 14 37 13.8 +1.2
comp=Z,26nm,0.7s
KEST **Kesra** 93.34 52 P P 14 37 32.4 +3.5
comp=Z,4.8nm,1.2s,baz=326,slow=3.6,SNR=3.9
YKA **Yellowknife Ar** 94.21 340 P P 14 37 32.4 +0.3
YKA pP pP 14 38 23.9 +5.5
YKA PKKPbc **PKKPdf** 14 54 31.9 -2.3
YKA **Yellowknife Ar** 94.21 340 P P 14 37 32.4 +0.3
comp=Z,10.0nm,0.5s,baz=133,slow=4.5,SNR=287
YKA pP pP 14 38 23.9 +5.5
comp=Z,0.8nm,0.8s,baz=142,slow=4.8,SNR=1.2
YKA PKKPbc **PKKPdf** 14 54 31.9 -2.3
comp=Z,0.1nm,0.6s,baz=330,slow=3.0,SNR=3.8
ILAR **Eielson Array** 107.35 334 Pdif **Pdif** 14 38 31.2 +0.4
ILAR **Eielson Array** 107.35 334 Pdiff **Pdif** 14 38 31.2 +0.4
comp=Z,0.5nm,0.8s,baz=136,slow=3.0,SNR=3.5
ILAR pP PKiKP 14 42 47.9 +9.5
comp=Z,0.3nm,0.6s,baz=99,slow=8.3,SNR=5.2
KIEV **Kiev** 111.97 43 ⇑*i* PKIKP **PKiKP** 14 42 46.7 -0.8
AKASG **Malin Array Be** 111.99 43 PKIKP **PKiKP** 14 42 47.4 -0.2
AKASG 14 53 49.6
AKASG **Malin Array Be** 111.99 43 PKiKP **PKiKP** 14 42 47.4 -0.2
AKASG PKKPbc **PKKPbc** 14 53 40.8 -0.6
AKASG PKKPab **PKKPab** 14 53 49.6 +1.7
AKASG **Malin Array Be** 111.99 43 PKiKP **PKiKP** 14 42 47.4 -0.2
comp=Z,0.6nm,0.3s,baz=264,slow=2.9,SNR=8.9
AKASG PKKPbc **PKKPbc** 14 53 40.8 -0.6
comp=Z,0.5nm,0.5s,baz=63,slow=3.6,SNR=3.1
AKASG PKKPab **PKKPab** 14 53 49.6 +1.7
comp=Z,0.1nm,0.3s,baz=64,slow=4.8,SNR=5.0
BRTR **Keskin Array B** 112.73 55 PKiKP **PKiKP** 14 42 50.0 +0.5
BRTR PKKPab **PKKPab** 14 53 46.7 +1.3
BRTR **Keskin Array B** 112.73 55 PKiKP **PKiKP** 14 42 50.0 +0.5
comp=Z,0.7nm,0.9s,baz=192,slow=4.3,SNR=3.8
BRTR PKKPab **PKKPab** 14 53 46.7 +1.3
comp=Z,0.8nm,0.7s,baz=99,slow=4.4,SNR=4.4
ARCES **ARCESS Array B** 113.12 22 PKKPbc PKKPbc 14 53 35.7 -2.5
ARCES PKKPab **PKKPab** 14 53 42.1 -0.2
ARCES **ARCESS Array B** 113.12 22 PKKPbc PKKPbc 14 53 35.7 -2.5
comp=Z,1.5nm,0.7s,baz=62,slow=2.9,SNR=5.2
ARCES PKKPab **PKKPab** 14 53 42.1 -0.2
comp=Z,5.2nm,1.0s,baz=57,slow=3.3,SNR=4.2
OBN **Obninsk** 116.98 39 *i* PKIKP **PKPdf** 14 42 57.3 +0.3
OBN pmax pmax
comp=Z,8.0nm,1.4s
STKA **Stephens Creek** 118.09 207 PKKPbc PKKPbc 14 53 19.5 -0.7
STKA **Stephens Creek** 118.09 207 PKKPbc PKKPbc 14 53 19.5 -0.7
comp=Z,2.4nm,1.0s,baz=346,slow=3.2,SNR=4.5
VSR **Storozhevoye** 118.28 43 *i* PKIKP **PKPdf** 14 42 59.6 0.0
KLMR **Klimovskoe** 118.66 32 *e*PKIKP PKPdf 14 42 54.3 -5.7
KLMR pmax pmax
comp=Z,22nm,1.8s
KBZ **Khabaz** 120.21 52 PKIKP **PKPdf** 14 43 04.1 +0.5

KBZ **Khabaz** 120.21 52 PKP **PKPdf** 14 43 04.1 +0.5
KBZ **Khabaz** 120.21 52 PKP **PKPdf** 14 43 04.1 +0.5
comp=Z,2.4nm,0.8s,baz=217,slow=4.5,SNR=5.3
NWAO **Narrogin (SRO)** 123.21 184 PKP **PKPdf** 14 43 09.8 -0.1
NWAO **Narrogin (SRO)** 123.21 184 PKP **PKPdf** 14 43 09.8 -0.1
comp=Z,7.3nm,0.9s,baz=105,slow=6.1,SNR=3.1
CTA **Charters Tower** 125.54 219 PKP **PKPdf** 14 43 14.4 -0.2
CTA **Charters Tower** 125.54 219 PKP **PKPdf** 14 43 14.4 -0.2
comp=Z,4.7nm,0.6s,baz=91,slow=3.3,SNR=5.9
BILL **Bilibino** 125.58 338 ⇓*i* PKIKP **PKPdf** 14 43 13.3 +0.1
BILL pmax pmax
comp=Z,3.0nm,0.8s
ASAR **Alice Springs** 128.46 205 PKP **PKPdf** 14 43 19.8 -0.4
ASAR SKPbc SKiKP 14 46 22.0 -17
ASAR PKKP **PKKPdf** 14 53 27.9 +0.1
ASAR **Alice Springs** 128.46 205 PKP **PKPdf** 14 43 19.8 -0.4
comp=Z,9.7nm,0.6s,baz=137,slow=1.9,SNR=98
ASAR SKPbc SKiKP 14 46 22.0 -17
comp=Z,0.5nm,0.5s,baz=150,slow=3.3,SNR=4.9
ASAR PKKP **PKKPdf** 14 53 27.9 +0.1
comp=Z,0.4nm,0.7s,baz=354,slow=1.7,SNR=5.4
AS31 **Alice Springs** 128.47 205 *e*PKPdf **PKPdf** 14 43 19.6 -0.6
ARU **Arti** 129.15 36 *i* PKIKP **PKPdf** 14 43 21.3 +1.0
ARU 14 45 30.0
ARU 14 50 12.0
ARU SS SS 15 02 31.6 -4.5
TIXI **Tiksi** 131.54 353 ⇓*i* PKIKP **PKPdf** 14 43 24.7 +0.3
TIXI pmax pmax
comp=Z,5.0nm,1.3s
WRA **Warramunga Arr** 131.64 207 PKP **PKPdf** 14 43 26.4 +0.1
WRA SKPbc **SKPbc** 14 46 33.3 -1.1
WRA **Warramunga Arr** 131.64 207 PKP **PKPdf** 14 43 26.4 +0.1
comp=Z,7.3nm,0.5s,baz=158,slow=1.7,SNR=71
WRA SKPbc **SKPbc** 14 46 33.3 -1.1
comp=Z,3.2nm,0.7s,baz=148,slow=3.3,SNR=9.7
ABKAR **Akbulak array** 131.68 45 *e*PKPdf **PKPdf** 14 43 25.9 +0.6
PMG **Port Moresby** 132.99 229 PKP **PKPdf** 14 43 29.6 +0.7
PMG **Port Moresby** 132.99 229 PKP **PKPdf** 14 43 29.6 +0.7
comp=Z,4.2nm,0.7s,baz=218,slow=12,SNR=2.4
SEY **Seymchan** 133.18 337 PKIKP **PKPdf** 14 43 28.9 +1.2
SEY **Seymchan** 133.18 337 PKP **PKPdf** 14 43 28.9 +1.2
SEY **Seymchan** 133.18 337 PKP **PKPdf** 14 43 28.9 +1.2
comp=Z,6.6nm,0.6s,baz=74,slow=7.4,SNR=8.1
PETK **Petropavlovsk-** 135.73 323 PKIKP **PKPdf** 14 43 33.9 +1.1
PETK **Petropavlovsk-** 135.73 323 PKP **PKPdf** 14 43 33.9 +1.1
PETK **Petropavlovsk-** 135.73 323 PKP **PKPdf** 14 43 33.9 +1.1
comp=Z,2.9nm,0.5s,baz=124,slow=2.7,SNR=12
BRVK **Borovoye** 136.69 37 *e*PKIKP **PKPdf** 14 43 35.9 +1.3
BRVK **Borovoye** 136.69 37 *e*PKPdf **PKPdf** 14 43 35.9 +1.3
NVS **Novosibirsk** 142.09 28 ⇑*i* PKHKP PKPpre 14 43 39.2
NVS pmax pmax
comp=Z,14nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.5s
AAK **Ala-Archa** 143.17 50 *i* PKIKP PKPbc 14 43 45.3 +0.8
AAK pmax pmax
comp=Z,23nm,1.7s
AAK **Ala-Archa** 143.17 50 PKPpre PKPpre 14 43 44.3
AAK *e*PKPdf PKPbc 14 43 45.2 +0.7
AAK **Ala-Archa** 143.17 50 PKhKP PKPpre 14 43 44.3
comp=Z,4.0nm,0.6s,baz=174,slow=2.4,SNR=9.6
ZAA0 **Zalesovo Array** 143.38 28 *e*PKPdf PKPbc 14 43 44.9 +0.5
ZALV **Zalesovo Beam** 143.38 28 PKIKP PKPbc 14 43 44.8 +0.4
ZALV 14 47 06.7
ZALV **Zalesovo Beam** 143.38 28 PKPpre PKPpre 14 43 44.8
ZALV SKPbc **SKPbc** 14 47 06.7 -0.8
ZALV **Zalesovo Beam** 143.38 28 PKhKP PKPpre 14 43 44.8
comp=Z,23nm,0.6s,baz=302,slow=3.9,SNR=112
ZALV SKPbc **SKPbc** 14 47 06.7 -0.8
comp=Z,1.7nm,0.6s,baz=320,slow=3.9,SNR=4.4
TKM2 **Tokmak 2** 143.85 49 *e*PKIKP PKPbc 14 43 47.2 +0.8
TKM2 **Tokmak 2** 143.85 49 *e*PKPdf PKPbc 14 43 47.2 +0.8
SOEI **Soe** 144.69 199 *e*PKPdf **PKPdf** 14 43 50.9 +0.5
KSH **Kashi** 145.12 55 PKP **PKPab** 14 43 50.5 -0.1
KSH *es*PKP 14 44 50.0
KSH *e*SKS **SKSdf** 14 50 44.0 +1.9
KSH AMB AMB
comp=Z,48nm,3.4s
KSH LR LR
comp=Z,56nm,4.9s
KSH LR LR
comp=Z,42nm,4.4s
KSH LR LR
comp=Z,76nm,3.8s
MKAR **Makanchi Array** 146.48 40 PKP2 **PKPdf** 14 43 53.1 +0.7
MKAR **Makanchi Array** 146.48 40 PKPbc **PKPdf** 14 43 53.0 +0.7
MKAR **Makanchi Array** 146.48 40 PKPbc **PKPdf** 14 43 53.0 +0.7
comp=Z,27nm,0.5s,baz=289,slow=1.4,SNR=214
HYB **Hyderabad** 147.05 95 *i* PKP **PKPbc** 14 43 56.5 0.0
YSS **Yuzh-Sakhalins** 147.10 321 *e*PKIKP **PKPdf** 14 43 53.2 -0.1
YSS pmax pmax
comp=Z,40nm,0.8s
YSS **Yuzh-Sakhalins** 147.10 321 *e*PKPdf **PKPdf** 14 43 51.2 -2.1
YSS *e*PKPbc **PKPbc** 14 43 53.8 -1.9
CISI **Cisompet, Garu** 148.16 170 *e*PKPbc **PKPbc** 14 43 59.5 -0.1
ASAJ **Asahikawa** 148.70 317 PKP **PKPdf** 14 43 57.1 +1.1
ASAJ PKPbc **PKiKP** 14 44 00.9 -0.4
ASAJ **Asahikawa** 148.70 317 PKP **PKPdf** 14 43 57.1 +1.1
comp=Z,9.8nm,0.6s,baz=162,slow=5.4,SNR=11
ASAJ PKPbc **PKiKP** 14 44 00.9 -0.4
comp=Z,22nm,0.7s,baz=98,slow=8.5,SNR=8.9
HVS **Khovu-Aksy** 149.08 24 *i* PKIKP **PKPdf** 14 43 57.4 +0.9
HABR **Khabarovsk** 150.10 330 *e*PKIKP **PKPbc** 14 44 03.2 -0.1
HABR *e* 14 44 09.7
HABR *e* 14 44 52.7
HABR *e* 14 47 39.9
HABR *e* 14 50 49.3
HABR *e*SS SS 15 06 44.4 +3.8
HABR SSS SSS 15 12 26.8
HABR pmax pmax
comp=N,4.0nm,1.0s
HABR pmax pmax
comp=E,19nm,1.0s
HABR pmax pmax
comp=Z,38nm,1.0s
MOY **Mondy** 150.89 16 *e*PKIKP **PKPbc** 14 44 06.5 +1.3
MOY pmax pmax
comp=Z,41nm,2.5s
KLR **Kul'dur** 150.92 334 *e*PKIKP **PKPdf** 14 44 01.7 +2.3
KLR *e* 14 44 54.2
WMQ **Urumqi** 151.30 40 PKPbc **PKPdf** 14 43 59.5 -0.7
WMQ pPKP **pPKPdf** 14 44 42.3 -6.6
WMQ sPKP 14 44 59.0
WMQ PKS **PKSdf** 14 47 33.0 -1.8
WMQ PP **PP** 14 47 48.0 +1.4
WMQ SKS **SKSdf** 14 50 49.5 -0.7
WMQ SKKS **SKKSac** 14 54 19.3 +0.3
WMQ SS **SS** 15 06 54.0 -0.8
WMQ LR LR
comp=Z,97nm,18.4s
WMQ LR LR
comp=Z,67nm,19.2s
WMQ LR LR
comp=Z,73nm,18.6s
TLY **Talaya** 151.46 12 *e*PKIKP **PKPdf** 14 44 01.9 +1.7
TLY pmax pmax
comp=Z,4.0nm,0.5s
TLY **Talaya** 151.46 12 *e*PKPbc **PKPbc** 14 44 06.5 +0.1
TLY *e*PKPab **PKPab** 14 44 14.7 -0.7
ZAK **Zakamensk** 152.62 14 *e*PKIKP **PKPdf** 14 44 02.8 +0.8
ZAK pmax pmax
comp=Z,2.0nm,1.3s
PYUN **Piuthan** 152.66 75 *e*P **PKPdf** 14 44 03.2 +0.3
KOLN **Koldanda** 153.21 76 *e*P **PKPdf** 14 44 03.5 -0.2
DANN **Dangsing** 153.33 74 *e*P **PKPdf** 14 44 04.9 +0.9
comp=Z,30nm,0.6s
GKN **Gorkha** 154.12 75 *e*P **PKPdf** 14 44 05.1 +0.2
DMN **Daman** 154.54 76 *e*P **PKPdf** 14 44 05.6 -0.1
USRK **Ussuriysk Arra** 154.66 327 PKPbc **PKPbc** 14 44 14.2 +0.5
comp=Z,3.1nm,0.6s,baz=34,slow=2.3,SNR=8.7
KKN **Kakani** 154.69 76 *e*P **PKPdf** 14 44 05.9 +0.1
PKIN **Phulchoki** 154.80 76 *e*P **PKPdf** 14 44 06.0 -0.1
PKI **Pulchoki** 154.81 76 *e*P **PKPdf** 14 44 06.0 -0.1
MJAR **Matsushiro Arr** 155.11 306 PKPab **PKPab** 14 44 32.1 +0.6
MJAR **Matsushiro Arr** 155.11 306 PKPbc PKPbc 14 44 15.1
comp=Z,3.3nm,0.7s,baz=94,slow=1.6,SNR=7.1
MJAR PKPab **PKPab** 14 44 32.1 +0.6
comp=Z,10nm,0.9s,baz=80,slow=2.1,SNR=15
GUN **Gumba** 155.22 75 *e*P **PKPdf** 14 44 06.9 +0.2
comp=Z,14nm,0.9s
JIRN **Jiri** 155.50 76 *e*P **PKPdf** 14 44 07.1 0.0
SONM **Songino Array** 155.66 11 PKP **PKPdf** 14 44 07.5 +1.1
SONM PKPab **PKPab** 14 44 33.8 +0.3
SONM **Songino Array** 155.66 11 PKP **PKPdf** 14 44 07.5 +1.1

	comp=Z,1.9nm,0.8s,baz=267,slow=0.8,SNR=12								
SONM					PKPab	**PKPab**	**14 44 33.8**	**+0.3**	
	comp=Z,4.2nm,0.6s,baz=323,slow=4.1,SNR=16								
RAMN	**Ramite**	**155.89**	**77**	*e*P	**PKPdf**		**14 44 08.1**	**+0.6**	
	comp=Z,18nm,0.6s								
ODAN	**Odare**	**156.60**	**78**	*e*P	**PKPdf**		**14 44 08.8**	**+0.4**	
	comp=Z,17nm,0.7s								
TAPN	**Taplejung**	**156.87**	**76**	*e*P	**PKPdf**		**14 44 09.0**	**+0.2**	
	comp=Z,12nm,0.9s								
CN2	**Changchun**	**157.85**	**336**	*e*PKP	**PKPdf**		**14 44 11.3**	**+2.2**	
GTA	**Gaotai**	**160.98**	**33**	*e*PKP	**PKPdf**		**14 44 13.3**	**+0.2**	
GTA				pPKP	**PKPab**		**14 44 55.8**	**-1.1**	
GTA				PKPab	PKPab		14 44 57.8	+0.9	
GTA				sPKP			14 45 12.5		
KSRS	**Korea Array**	**161.59**	**320**	PKP	**PKPdf**		**14 44 14.2**	**+0.7**	
	comp=Z,0.9nm,0.5s,baz=65,slow=1.0,SNR=4.2								
KSRS				PKPab	**PKPab**		**14 45 00.3**	**+1.0**	
	comp=Z,1.9nm,0.7s,baz=46,slow=4.1,SNR=6.2								
KSAR	**Wonju Array Be**	**161.62**	**320**	PKP	**PKPdf**		**14 44 14.2**	**+0.6**	
KSAR				PKPab	**PKPab**		**14 45 00.3**	**+0.8**	
HHC	**Hu-ho-hao-te**	**163.19**	**4**	*e*PKP	**PKPdf**		**14 44 14.5**	**-0.7**	
HHC				pPKP	pPKP		14 44 57.8		
HHC				sPKP			14 45 13.5		
HHC				PKS	**PKSdf**		**14 47 46.5**	**-1.8**	
HHC				PP	**PP**		**14 48 53.8**	**+2.9**	
HHC				SKS	**SKSdf**		**14 51 00.3**	**-2.1**	
HHC				SKKS	**SKKSac**		**14 55 23.3**	**+1.7**	
HHC				SS	**SS**		**15 09 01.5**	**+1.5**	
HHC				AMB	AMB				
	comp=Z,140nm,7.3s								
BJI	**Beijing**	**163.85**	**352**	PKP	**PKPdf**		**14 44 16.3**	**+0.6**	
BJI				SS	SS		15 09 12.0	+5.5	
BJI				LR	LR				
	comp=Z,160nm,24.8s								
BJI				LR	LR				
	comp=Z,150nm,25.9s								
BJI				LR	LR				
	comp=Z,81nm,25.8s								
LZH	**Lanzhou**	**165.57**	**32**	*e*PKP	**PKPdf**		**14 44 17.3**	**-0.3**	
LZH				pPKP	**pPKPdf**		**14 45 02.3**	**-4.2**	
LZH				sPKP			14 45 18.8		
LZH				PKPab	**PKPab**		**14 45 20.3**	**+3.2**	
CMAR	**Chiang Mai Arr**	**165.65**	**110**	PKP	**PKPdf**		**14 44 18.6**	**+0.7**	
CMAR				PKPab	**PKPab**		**14 45 17.6**	**-0.3**	
CMAR	**Chiang Mai Arr**	**165.65**	**110**	PKP	**PKPdf**		**14 44 18.6**	**+0.7**	
	comp=Z,0.5nm,0.4s,baz=251,slow=1.8,SNR=12								
CMAR				PKPab	**PKPab**		**14 45 17.6**	**-0.3**	
	comp=Z,3.6nm,0.8s,baz=256,slow=5.0,SNR=23								
CD2	**Chengdu**	**169.23**	**49**	*e*PKP	**PKPdf**		**14 44 20.5**	**+0.3**	
CD2				sPKP			14 45 19.5		
CD2				PP	**PP**		**14 49 23.8**	**+0.7**	
CD2				SKKS			14 55 55.8		
CD2				SS	**SS**		**15 10 00.5**	**-2.6**	
CD2				AMB	AMB				
	comp=Z,350nm,11.2s								
CD2				LR	LR				
	comp=Z,170nm,11.8s								
CD2				LR	LR				
	comp=Z,230nm,15.2s								
KMI	**Kunming**	**170.48**	**81**	PKP	**PKPdf**		**14 44 19.3**	**-2.0**	
NJ2	**Nanjing**	**170.56**	**329**	*e*PKP	**PKPdf**		**14 44 21.0**	**+0.2**	
GYA	**Guiyang**	**173.67**	**66**	PKP	**PKPdf**		**14 44 21.3**	**-1.3**	
GYA				pPKP	**pPKPdf**		**14 45 05.8**	**-5.8**	
GYA				sPKP			14 45 23.0		
GYA				PKPab	**PKPab**		**14 45 52.3**	**-1.1**	
GYA				PKS	**PKSdf**		**14 47 52.0**	**-3.0**	
GYA				PP	**PP**		**14 49 44.5**	**-1.3**	
GYA				AMB	AMB				
	comp=Z,130nm,8.2s								
QIZ	**Qiongzhong**	**174.14**	**148**	PKP	**PKPdf**		**14 44 22.0**	**-0.8**	
QIZ				sPKP			14 45 21.3		
QIZ				PP	**PP**		**14 49 46.0**	**-0.6**	
QIZ				SS	SS		15 10 53.0	+3.3	
QIZ				AMB	AMB				
	comp=Z,74nm,7.3s								
QIZ				LR	LR				
	comp=Z,290nm,18.6s								

*IDC **29** 14:36:51.0±1.1, 19°.05S×169°.61E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/22, mbtmp4.2/10, ML4.0/1, MS3.9/8, Ms1 3.9/8, ms1mx3.5/28, Error ellipse: s-maj=31.0km s-min=22.0km az=130.0*

*ISCJB **29** 14:36:54.4±0.9, 19°.11S±0°.10×169°.7E±0°.1, h33km, mb4.2/8, MS3.8/4, Error ellipse: s-maj=19.0km s-min=11.1km az=33.5*

ISC 29 14:36:54.7±1.6, 19°.1S±0°.2×169°.8E±0°.3, h35km, n26, σ1§01/14, mb4.1/8, MS3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.32**	**226**	*e*Pn		**Pn**	**14 37 57.5**	**-0.6**
	52nm,0.3s							
DZM				*e*Sn		**Sn**	**14 38 47.8**	**+0.4**
	156nm,0.3s							
DZM				*e*LR	LR		14 38 59.0	
	4µm,25.7s							
DZM	**Mont Dzumac**	**4.32**	**226**	Pn		**Pn**	**14 37 57.5**	**-0.6**
	9.0nm,0.3s,baz=74,slow=9.3,SNR=116							
DZM				Sn		**Sn**	**14 38 47.8**	**+0.4**
	47nm,0.3s,baz=103,slow=21,SNR=13							
DZM				LR	LR		14 39 27.2	
	comp=Z,2µm,18.8s,baz=58,slow=37							
HNR	**Honiara**	**13.52**	**314**	LR	LR		14 44 29.1	
	comp=Z,232nm,21.9s,baz=154,slow=34							
RAO	**Raoul Island**	**15.10**	**134**	LR	LR		14 45 01.9	
	comp=Z,276nm,21.4s,baz=48,slow=32							
AFI	**Afiamalu**	**18.40**	**77**	LR	LR		14 46 37.1	
	comp=Z,572nm,21.1s,baz=266,slow=32							
ARMA	**Armidale**	**19.96**	**232**	P	Pn		14 41 34.4	+8.5
	baz=39,SNR=5.5							
URZ	**Urewera**	**20.15**	**163**	P	Pn		14 41 28.2	+0.2
	5.5nm,0.6s,baz=31,slow=5.9,SNR=2.1							
URZ				LR	LR		14 47 47.8	
	comp=Z,254nm,20.7s,baz=354,slow=32							
RMQ	**Roma**	**20.73**	**245**	P	Pn		14 41 39.1	+4.2
	baz=40,SNR=7.0							
CTA	**Charters Tower**	**22.20**	**263**	P	**P**		**14 41 49.2**	**+1.1**
	4.6nm,0.8s,baz=89,slow=13,SNR=4.5							
PMG	**Port Moresby**	**23.92**	**291**	P	**P**		**14 42 05.1**	**-0.6**
	11nm,0.8s,baz=136,slow=9.9,SNR=6.3							
QLP	**Quilpie**	**24.68**	**248**	P	**P**		**14 42 12.9**	**+0.3**
	baz=44,SNR=4.4							
CMSA	**Cobar Meteorol**	**25.01**	**236**	P	**P**		**14 42 16.2**	**+0.8**
	baz=44,SNR=6.1							
STKA	**Stephens Creek**	**28.37**	**238**	P	P		14 42 46.2	+0.5
	3.6nm,0.6s,baz=69,slow=8.6,SNR=20							
STKA				LR	LR		14 53 23.7	
	comp=Z,303nm,19.9s,baz=54,slow=35							
STKA	**Stephens Creek**	**28.37**	**238**	P	P		14 42 46.5	+0.7
	baz=48,SNR=10.0							
WRA	**Warramunga Arr**	**33.39**	**263**	LR	LR		14 56 12.3	
	comp=Z,160nm,19.5s,baz=245,slow=35							
ASAR	**Alice Springs**	**33.67**	**256**	P	**P**		**14 43 31.6**	**-1.0**
	4.2nm,0.5s,baz=83,slow=8.7,SNR=80							
ASAR				LR	LR		14 57 46.1	
	comp=Z,261nm,18.5s,baz=92,slow=38							
TBI	**Tubuai**	**38.14**	**104**	*e*LQ	LQ		14 52 55.7	
	570nm,29.8s							
TBI				*e*LR	LR		14 54 52.6	
	140nm,30.8s							
PPT2	**Papeete2**	**38.54**	**95**	*e*LQ	LQ		14 53 21.1	
	716nm,28.5s							
PPT2				*e*LR	LR		14 55 06.9	
	180nm,25.8s							
NWAO	**Narrogin (SRO)**	**48.75**	**243**	P	P		14 45 36.3	+0.1
	8.9nm,0.9s,baz=180,slow=3.0,SNR=3.2							
CMAR	**Chiang Mai Arr**	**78.91**	**294**	P	P		14 48 56.3	+1.2
	0.5nm,0.3s,baz=136,slow=4.5,SNR=6.0							
SONM	**Songino Array**	**87.40**	**323**	P	P		14 49 38.9	+0.4
	0.7nm,0.7s,baz=141,slow=5.0,SNR=4.4							
ILAR	**Eielson Array**	**89.92**	**17**	P	P		14 49 53.3	+3.5
	0.3nm,0.8s,baz=252,slow=4.6,SNR=3.6							
YKA	**Yellowknife Ar**	**100.29**	**27**	P		**Pdif**	**14 50 39.1**	**+2.0**
	0.2nm,0.7s,baz=242,slow=4.9,SNR=3.3							
MKAR	**Makanchi Array**	**101.99**	**315**	P		**Pdif**	**14 50 46.7**	**+1.6**
	0.3nm,0.8s,baz=105,slow=3.3,SNR=2.2							
GERES	**GERESS Array B**	**144.59**	**332**	PKP		**PKPdf**	**14 56 27.1**	**-0.6**
	0.6nm,0.8s,baz=292,slow=0.5,SNR=2.6							
TORD	**Torodi Ar. Bea**	**167.13**	**244**	PKP		**PKPdf**	**14 56 57.6**	**-0.2**
	0.8nm,1.0s,baz=5.7,slow=1.4,SNR=2.8							
TORD				PKPab		**PKPab**	**14 58 02.5**	**+0.3**
	1.1nm,1.1s,baz=155,slow=2.8,SNR=4.1							

*IDC **29** 14:55:33.0±1.6, 19°.02S×169°.80E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/20, mbtmp4.3/10, ML3.7/1, MS4.0/13, Ms1 4.0/13, ms1mx3.8/23, Error ellipse: s-maj=45.2km s-min=23.3km az=132.0*

*ISCJB **29** 14:55:35.9±1.5, 19°.2S±0°.2×169°.8E±0°.2, h33km, mb4.2/9, MS4.1/10, Error ellipse: s-maj=37.9km s-min=8.6km az=34.5*

ISC 29 14:55:38.2±1.5, 19°.1S±0°.2×169°.8E±0°.2, h35km, n31, σ1§03/19, mb4.2/9, MS4.1/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.29**	**226**	*e*Pn		**Pn**	**14 56 40.9**	**-0.1**
	39nm,0.3s							
DZM				*e*Sn		**Sn**	**14 57 27.5**	**-2.4**
	36nm,0.3s							
DZM				*e*LR	LR		14 57 40.5	
	5µm,25.4s							
DZM	**Mont Dzumac**	**4.29**	**226**	Pn		**Pn**	**14 56 41.1**	**0.0**
	3.9nm,0.3s,baz=48,slow=19,SNR=31							
DZM				Sn		**Sn**	**14 57 30.7**	**+0.8**
	19nm,0.3s,baz=134,slow=21,SNR=6.2							
DZM				LR	LR		14 58 09.7	
	comp=Z,3µm,18.5s,baz=105,slow=36							
NOUC	**Port Laguerre**	**4.41**	**227**	*e*P		**Pn**	**14 56 41.0**	**-1.5**
NOUC				*e*S		**Sn**	**14 57 34.2**	**+1.5**
HNR	**Honiara**	**13.53**	**314**	LR	LR		15 03 20.4	
	comp=Z,243nm,18.4s,baz=136,slow=35							
RAO	**Raoul Island**	**15.10**	**134**	LR	LR		15 03 19.0	
	comp=Z,276nm,21.3s,baz=14,slow=31							
CTA	**Charters Tower**	**22.17**	**264**	P		**P**	**15 00 31.0**	**-0.4**
	7.0nm,1.1s,baz=84,slow=14,SNR=7.0							
PMG	**Port Moresby**	**23.91**	**291**	P		**P**	**15 00 48.9**	**-0.1**
	22nm,1.0s,baz=114,slow=7.0,SNR=8.3							
STKA	**Stephens Creek**	**28.34**	**238**	P		**P**	**15 01 30.3**	**+1.4**
	2.2nm,0.6s,baz=73,slow=9.2,SNR=9.0							
STKA				LR	LR		15 12 26.9	
	comp=Z,317nm,18.5s,baz=39,slow=36							
WRA	**Warramunga Arr**	**33.37**	**263**	P		**P**	**15 02 13.0**	**-0.4**
	3.2nm,1.1s,baz=81,slow=6.3,SNR=6.5							
ASAR	**Alice Springs**	**33.65**	**256**	P		**P**	**15 02 15.1**	**-0.8**
	7.2nm,0.6s,baz=84,slow=8.8,SNR=85							
ASAR				LR	LR		15 16 00.5	
	comp=Z,229nm,19.1s,baz=61,slow=36							
H11S2	**WAKE ISLAND Hy**	**37.48**	**355**	T	T		15 42 22.7	
	baz=170							
H11S3	**WAKE ISLAND Hy**	**37.49**	**355**	T	T		15 42 25.2	
	baz=170							
H11S1	**WAKE ISLAND Hy**	**37.50**	**355**	T	T		15 42 29.8	
	baz=170							
TBI	**Tubuai**	**38.15**	**104**	*e*LR	LR		15 13 35.6	
	197nm,27.5s							
PPT2	**Papeete2**	**38.56**	**94**	*e*LR	LR		15 13 45.4	
	280nm,29.0s							
H11N1	**WAKE ISLAND Hy**	**38.68**	**356**	T	T		15 43 54.5	
	baz=180							
H11N3	**WAKE ISLAND Hy**	**38.69**	**356**	T	T		15 43 56.9	
	baz=180							
H11N2	**WAKE ISLAND Hy**	**38.70**	**356**	T	T		15 43 53.9	
	baz=180							
RKT	**Rikitea**	**51.45**	**105**	*e*LR	LR		15 19 14.5	
	133nm,28.5s							
VNDA	**Vanda**	**58.58**	**182**	LR	LR		15 28 17.2	
	comp=Z,152nm,18.2s,baz=338,slow=34							
MJAR	**Matsushiro Arr**	**62.87**	**332**	P		**P**	**15 06 00.9**	**+0.2**
	4.5nm,1.0s,baz=164,slow=7.9,SNR=5.7							
MJAR				LR	LR		15 30 03.5	
	comp=Z,57nm,20.9s,baz=200,slow=33							
PETK	**Petropavlovsk-**	**72.67**	**352**	LR	LR		15 31 45.5	
	comp=Z,103nm,20.5s,baz=215,slow=30							
MAW	**Mawson**	**78.74**	**202**	LR	LR		15 37 51.3	
	comp=Z,183nm,21.3s,baz=100,slow=32							
CMAR	**Chiang Mai Arr**	**78.91**	**294**	P		**P**	**15 07 39.0**	**+0.6**
	0.7nm,0.3s,baz=130,slow=4.2,SNR=11							
SONM	**Songino Array**	**87.42**	**323**	P		**P**	**15 08 22.1**	**+0.1**
	2.3nm,0.8s,baz=150,slow=5.5,SNR=12							
SONM				LR	LR		15 46 57.1	
	comp=Z,54nm,20.2s,baz=174,slow=35							
NVAR	**Mina Array Bea**	**88.34**	**48**	LR	LR		15 40 32.1	
	comp=Z,148nm,19.6s,baz=86,slow=30							
ILAR	**Eielson Array**	**89.96**	**17**	P		**P**	**15 08 32.8**	**-0.6**
	0.2nm,0.8s,baz=201,slow=6.7,SNR=3.0							
ILAR				LR	LR		15 45 54.4	
	comp=Z,89nm,19.2s,baz=238,slow=34							
TXAR	**Lajitas Array**	**96.26**	**61**	LR	LR		15 43 48.1	
	comp=Z,91nm,21.1s,baz=0.0,slow=30							
MKAR	**Makanchi Array**	**102.00**	**315**	P		**Pdif**	**15 09 28.5**	**0.0**
	0.3nm,0.8s,baz=108,slow=4.7,SNR=3.7							
GERES	**GERESS Array B**	**144.61**	**332**	PKP		**PKPab**	**15 15 08.9**	**-0.8**
	0.8nm,0.7s,baz=55,slow=3.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**167.10**	**244**	PKP		**PKPdf**	**15 15 41.0**	**-0.2**
	0.7nm,0.9s,baz=90,slow=1.4,SNR=3.6							
TORD				PKPab		**PKPab**	**15 16 46.6**	**+1.2**
	1.2nm,1.1s,baz=145,slow=5.3,SNR=3.2							

*ISCJB **29** 15:01:08.2±0.6, 9°.96N±0°.03×72°.43W±0°.04, h48km±8km, mb3.4/4, Error ellipse: s-maj=6.9km s-min=5.5km az=25.8*

*FUNV **29** 15:01:08.2, 9°.91N×72°.48W, h20km, MW3.8*

*IDC **29** 15:01:18.7±4.0, 9°.75N×73°.65W, h107km±38km, mb3.1/4, mb1 3.4/5, mb1mx3.2/23, mbtmp3.5/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/12, Error ellipse: s-maj=38.3km s-min=27.3km az=54.0*

ISC 29 15:01:08.1±1.3, 9°.94N±0°.05×72°.45W±0°.06, h32km±10km, n24, σ1§35/32, mb3.6/4, 2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.56**	**4**	↓*i*P		**Pb**	**15 01 19.3**	**-0.3**
VIRV				*e*S		**Sb**	**15 01 27.2**	**-0.3**
QARV	**Quebrada Arrib**	**1.91**	**82**	↓*e*P		**Pn**	**15 01 40.1**	**+1.6**
QARV				*e*S		**Sn**	**15 02 03.3**	**+1.8**
DABV	**Dabajuro**	**2.03**	**61**	*e*P		**Pn**	**15 01 40.8**	**+0.7**
DABV				*e*S		**Sn**	**15 02 06.7**	**+2.3**
CAPV	**Capacho**	**2.06**	**176**	*e*P		**Pn**	**15 01 41.0**	**+0.2**
CAPV				*e*S		**Sn**	**15 02 06.0**	**+0.5**
SOCV	**Socops**	**2.27**	**136**	*e*P		**Pn**	**15 01 43.4**	**-0.1**
SOCV				*e*S		**Sn**	**15 02 09.9**	**-0.4**
CURV	**Curarigua**	**2.45**	**88**	*e*P		**Pn**	**15 01 47.3**	**+1.4**
CURV				*e*S		**Sn**	**15 02 15.2**	**+0.4**
SIQV	**Siquisique**	**2.69**	**75**	*e*P		**Pn**	**15 01 50.5**	**+1.3**
SIQV				*e*S		**Sn**	**15 02 21.6**	**+0.9**
SANV	**Sanarito**	**2.90**	**98**	*e*P		**Pn**	**15 01 53.5**	**+1.4**
SANV				*e*S		**Sn**	**15 02 25.5**	**-0.6**
MONV	**Montecano**	**3.15**	**50**	*e*P		**Pn**	**15 01 56.4**	**+0.9**
MONV				*e*S		**Sn**	**15 02 31.7**	**-0.3**
TEPV	**Terepaima**	**3.21**	**89**	*e*P		**Pn**	**15 01 57.8**	**+1.6**
JACV	**Jacura**	**3.73**	**72**	*e*P		**Pn**	**15 02 05.1**	**+1.5**
MAPV	**Macapo**	**3.93**	**91**	*e*P		**Pn**	**15 02 07.7**	**+1.4**
ELOV	**Elorza**	**4.13**	**135**	*e*P		**Pn**	**15 02 09.5**	**+0.5**
BAUV	**El Baul**	**4.46**	**102**	*e*P		**Pn**	**15 02 14.0**	**+0.5**
TURV	**Turiamo**	**4.56**	**83**	*e*P		**Pn**	**15 02 15.3**	**+0.4**
TURV				*e*S		**Sn**	**15 03 05.0**	**-1.9**
ROSC	**El Rosal**	**5.38**	**200**	P		Pn	15 02 30.4	+3.8
	3.1nm,0.3s,baz=108,slow=20,SNR=3.6							
ROSC				S		**Sn**	**15 03 31.5**	**+3.8**
	1.2nm,0.3s,baz=90,slow=20,SNR=3.2							
CUPV	**Cœpira**	**6.56**	**88**	*e*P		**Pn**	**15 02 42.9**	**+0.5**
ATAH	**Atahualpa**	**17.97**	**199**	LR	LR		15 13 36.7	
	comp=Z,47nm,20.8s,baz=358,slow=42							
PDAR	**Pinedale Array**	**46.01**	**322**	P		**P**	**15 09 29.1**	**+0.2**
	0.6nm,0.8s,baz=122,slow=8.6,SNR=4.2							
YKA	**Yellowknife Ar**	**60.60**	**339**	P		**P**	**15 11 15.1**	**-0.3**
	0.4nm,0.7s,baz=126,slow=7.0,SNR=7.7							
TORD	**Torodi Ar. Bea**	**72.48**	**79**	P		P	15 12 41.9	+10
	0.6nm,0.9s,baz=288,slow=6.7,SNR=3.2							
ILAR	**Eielson Array**	**74.44**	**335**	P		**P**	**15 12 42.5**	**-0.4**
	0.1nm,0.5s,baz=122,slow=5.1,SNR=4.5							
ASAR	**Alice Springs**	**151.39**	**238**	PKPbc		**PKPbc**	**15 20 58.0**	**-1.6**
	0.5nm,0.6s,baz=110,slow=2.7,SNR=6.3							
WRA	**Warramunga Arr**	**152.32**	**246**	PKPbc		**PKPbc**	**15 21 00.1**	**-1.6**
	1.4nm,0.8s,baz=105,slow=3.0,SNR=5.5							

*IDC **29** 15:02:27.9±0.8, 10°.25N×126°.15E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.9/24, mbtmp3.8/12, MS3.7/4, Ms1 3.7/4, ms1mx3.2/34, Error ellipse: s-maj=33.2km s-min=17.3km az=69.0*

*MAN **29** 15:02:32, 10°.35N×126°.33E, h24km, mb5.0, ML4.0, MS4.1*

ISC 29 15:02:31.5±0.6, 10°.31N±0°.04×126°.33E±0°.07, h21km±5km, n35, σ1§47/38, mb3.9/12, MS3.6/4, 3C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.98**	**238**	↓*i*P		**Pn**	**15 02 49.4**	**-0.7**
SCPH				*i* S		**Sb**	**15 03 01.7**	**-0.7**
MSLP	**Maasin**	**1.46**	**263**	*e*P		**Pn**	**15 02 56.6**	**-0.1**
MSLP				*e*S		**Sn**	**15 03 14.0**	**-1.2**
BUTP	**Butuan**	**1.51**	**208**	*e*P		**Pn**	**15 02 58.4**	**+1.0**
BUTP				*e*S		**Sn**	**15 03 17.7**	**+1.3**
PLP	**Palo**	**1.57**	**303**	↑*e*P		**Pn**	**15 02 58.1**	**-0.2**
PLP				*i* S		**Sn**	**15 03 18.3**	**+0.3**
OCLP	**Ormoc**	**1.84**	**294**	*e*P		**Pb**	**15 03 04.1**	**-0.4**
BIPH	**Bislig**	**2.12**	**179**	‖*e*P		**Pb**	**15 03 08.9**	**-0.3**
BIPH				*e*S		**Sn**	**15 03 31.2**	**-0.2**
LLP	**Lapu-Lapu**	**2.33**	**270**	‖*e*P		**Pn**	**15 03 09.8**	**+1.1**
LLP				*e*S		**Sn**	**15 03 38.8**	**+2.2**
CGP	**Cagayan de Oro**	**2.45**	**221**	*e*P		**Pn**	**15 03 11.5**	**+1.1**
CGP				*i* S		**Sn**	**15 03 40.9**	**+1.2**
TBP	**Tagbilaran**	**2.51**	**256**	*e*P		**Pn**	**15 03 13.4**	**+2.2**
TBP				*e*S		**Sn**	**15 03 41.6**	**+0.4**
BUKP	**Musuan**	**2.72**	**207**	*e*P		**Pn**	**15 03 16.6**	**+2.4**
CNP	**Catarman**	**2.73**	**323**	*e*P		**Pn**	**15 03 15.7**	**+1.5**
MATI	**Mati**	**3.35**	**181**	*e*P		**Pb**	**15 03 29.9**	**-0.3**
GUIM	**Jordan**	**3.69**	**275**	*e*P		**Pn**	**15 03 28.8**	**+1.4**
RCP	**Roxas**	**3.73**	**290**	‖*e*P		**Pn**	**15 03 30.6**	**+2.6**
PAGZ	**Pagadian**	**3.80**	**230**	*e*P		**Pn**	**15 03 31.7**	**+2.7**
PVCP	**Virac**	**3.90**	**327**	*e*P		**Pn**	**15 03 31.7**	**+1.5**
PVCP				*e*S		**Sn**	**15 04 16.9**	**+1.6**
IPIL	**Ipil**	**4.48**	**236**	*e*P		**Pn**	**15 03 40.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**27.71**	**290**	P		**P**	**15 08 17.9**	**-0.7**
	3.2nm,0.7s,baz=103,slow=7.1,SNR=19							
CMAR				LR	LR		15 18 41.5	
	comp=Z,108nm,18.4s,baz=177,slow=35							
WRA	**Warramunga Arr**	**31.08**	**165**	P		**P**	**15 08 47.7**	**-0.9**
	0.5nm,0.7s,baz=344,slow=9.4,SNR=4.0							
ASAR	**Alice Springs**	**34.57**	**168**	P		**P**	**15 09 18.6**	**-0.5**
	0.7nm,0.8s,baz=354,slow=6.9,SNR=9.5							
CTA	**Charters Tower**	**36.02**	**147**	LR	LR		15 26 14.6	
	comp=Z,115nm,18.2s,baz=204,slow=40							
HNR	**Honiara**	**38.78**	**119**	LR	LR		15 22 50.7	
	comp=Z,73nm,20.1s,baz=230,slow=31							
H11N1	**WAKE ISLAND Hy**	**40.19**	**72**	T	T		15 53 23.8	
	baz=267,slow=74,SNR=59							
H11N2	**WAKE ISLAND Hy**	**40.19**	**72**	T	T		15 53 24.4	
	baz=267,slow=74,SNR=35							
H11N3	**WAKE ISLAND Hy**	**40.20**	**72**	T	T		15 53 25.3	
	baz=267,slow=74,SNR=47							
SONM	**Songino Array**	**41.00**	**340**	P		**P**	**15 10 13.8**	**+0.6**
	0.4nm,0.6s,baz=158,slow=9.6,SNR=3.1							
STKA	**Stephens Creek**	**44.42**	**161**	P		**P**	**15 10 40.7**	**-0.3**
	1.9nm,0.9s,baz=354,slow=9.2,SNR=2.5							
PETK	**Petropavlovsk-**	**49.57**	**24**	P		**P**	**15 11 23.4**	**+2.4**
	3.9nm,0.8s,baz=215,slow=12,SNR=3.1							
MKAR	**Makanchi Array**	**52.03**	**323**	P		**P**	**15 11 38.8**	**-0.9**
	1.4nm,0.8s,baz=116,slow=8.2,SNR=15							
ZALV	**Zalesovo Beam**	**54.62**	**331**	P		**P**	**15 11 56.8**	**-1.8**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=3.6							
ILAR	**Eielson Array**	**79.38**	**26**	P		**P**	**15 14 34.8**	**-1.0**
	0.2nm,0.8s,baz=245,slow=8.5,SNR=3.9							
ARCES	**ARCESS Array B**	**84.17**	**340**	P		**P**	**15 15 01.6**	**+0.6**
	1.6nm,0.7s,baz=70,slow=5.3,SNR=3.1							
BRTR	**Keskin Array B**	**85.55**	**309**	P		**P**	**15 15 06.1**	**-2.6**
	0.6nm,0.8s,baz=80,slow=3.4,SNR=3.0							
PPT	**Papeete**	**87.52**	**108**	LR	LR		15 47 06.6	
	comp=Z,57nm,19.6s,baz=356,slow=31							
YKA	**Yellowknife Ar**	**93.69**	**24**	P		**P**	**15 15 47.1**	**+0.7**
	0.3nm,0.7s,baz=302,slow=4.6,SNR=8.3							

IDC 29 15:13:09.7±2.2, 7°.67S×127°.53E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=274.6km s-min=32.1km az=64.0, Banda Sea

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

ASAR				PcP	PcP	15 37 49.0	0.0	
	0.7nm,0.6s,baz=343,slow=2.7,SNR=5.7							
WRKA	**Warakurna**	**35.21**	**177**	P	**P**	15 35 20.5	+0.1	
	baz=35,SNR=8.5							
TAPN	**Taplejung**	**39.93**	**300**	*eP*	**P**	15 35 59.7	-1.0	
	9.5nm,0.4s							
ODAN	**Odare**	**40.06**	**300**	*eP*	**P**	15 36 00.6	-1.1	
	11nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**40.34**	**72**	T	T	16 19 18.6		
	baz=267,slow=75,SNR=61							
H11N2	**WAKE ISLAND Hy**	**40.34**	**72**	T	T	16 19 19.1		
	baz=267,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**40.36**	**72**	T	T	16 19 19.9		
	baz=267,slow=75,SNR=53							
RAMN	**Ramite**	**40.76**	**299**	*eP*	**P**	15 36 06.7	-0.8	
	6.7nm,0.4s							
SONM	**Songino Array**	**40.93**	**340**	P	**P**	15 36 09.0	+0.6	
	2.0nm,0.8s,baz=158,slow=9.1,SNR=15							
SONM				PcP	PcP	15 38 08.5	+0.4	
	1.2nm,0.8s,baz=149,slow=3.3,SNR=6.6							
JIRN	**Jiri**	**41.31**	**300**	*eP*	**P**	15 36 11.1	-1.1	
	15nm,0.4s							
GUN	**Gumba**	**41.65**	**301**	*eP*	**P**	15 36 12.9	-2.0	
	8.1nm,0.4s							
PKIN	**Phulchoki**	**41.96**	**300**	*eP*	**P**	15 36 15.4	-2.0	
	3.7nm,0.4s							
DMN	**Daman**	**42.22**	**300**	*eP*	**P**	15 36 19.2	-0.3	
	3.4nm,0.4s							
GKN	**Gorkha**	**42.73**	**300**	*eP*	**P**	15 36 23.1	-0.4	
	5.1nm,0.4s							
DANN	**Dangsing**	**43.57**	**300**	*eP*	**P**	15 36 28.9	-1.5	
	7.9nm,0.5s							
BBOO	**Buckleboo**	**43.92**	**168**	P	**P**	15 36 32.7	0.0	
	baz=44,SNR=6.6							
PYUN	**Piuthan**	**44.16**	**300**	*eP*	**P**	15 36 33.9	-1.1	
	22nm,0.7s							
STKA	**Stephens Creek**	**44.49**	**161**	P	**P**	15 36 36.2	-1.1	
	2.2nm,0.7s,baz=340,slow=10.0,SNR=6.5							
STKA				LR	LR	15 58 00.6		
	comp=Z,64nm,19.4s,baz=208,slow=40							
STKA	**Stephens Creek**	**44.49**	**161**	P	**P**	15 36 37.5	+0.2	
	baz=44,SNR=5.3							
PETK	**Petropavlovsk-**	**49.63**	**24**	P	**P**	15 37 19.5	+2.4	
	1.6nm,0.6s,baz=191,slow=7.0,SNR=3.4							
MKAR	**Makanchi Array**	**51.32**	**323**	P	**P**	15 37 34.1	-0.4	
	2.4nm,0.5s,baz=116,slow=8.2,SNR=40							
MKAR				PcP	PcP	15 38 46.5	-0.1	
	2.0nm,0.7s,baz=118,slow=4.6,SNR=4.8							
ZALV	**Zalesovo Beam**	**54.52**	**331**	P	**P**	15 37 52.7	-0.7	
	1.6nm,0.4s,baz=120,slow=6.6,SNR=12							
SEY	**Seymchan**	**55.79**	**14**	P	**P**	15 38 04.4	+2.0	
	1.2nm,0.7s,baz=245,slow=19,SNR=5.0							
ILAR	**Eielson Array**	**79.43**	**26**	P	**P**	15 40 31.6	+0.1	
	0.6nm,0.8s,baz=238,slow=5.4,SNR=8.4							
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	15 40 56.0	0.0	
	2.3nm,0.9s,baz=76,slow=6.3,SNR=9.3							
BRTR	**Keskin Array B**	**85.41**	**309**	P	**P**	15 41 01.8	-1.6	
	1.0nm,0.8s,baz=85,slow=4.2,SNR=5.1							
FINES	**FINESS Array B**	**85.79**	**332**	P	**P**	15 41 04.0	-0.5	
	1.5nm,0.7s,baz=88,slow=4.0,SNR=9.4							
AKASG	**Malin Array Be**	**86.45**	**321**	P	**P**	15 41 06.6	-1.5	
	1.0nm,0.7s,baz=62,slow=5.2,SNR=1.2							
PPT	**Papeete**	**87.68**	**108**	LR	LR	16 13 01.1		
	comp=Z,35nm,20.9s,baz=300,slow=30							
NOA	**NORSAR Array B**	**92.66**	**334**	P	**P**	15 41 35.6	-1.5	
	0.6nm,0.7s,baz=30,slow=4.7,SNR=2.3							
YKA	**Yellowknife Ar**	**93.75**	**24**	P	**P**	15 41 42.4	+0.4	
	0.7nm,0.7s,baz=300,slow=4.5,SNR=15							
TXAR	**Lajitas Array**	**117.87**	**49**	PKP	**PKPdf**	15 47 13.6	+1.1	
	0.3nm,0.8s,baz=176,slow=3.4,SNR=3.1							
TORD	**Torodi Ar. Bea**	**120.15**	**292**	PKP	**PKPdf**	15 47 16.1	-1.0	
	0.9nm,0.6s,baz=92,slow=2.5,SNR=10							
PLCA	**Paso Flores**	**146.30**	**157**	PKPbc	**PKPab**	15 48 06.9	-0.2	
	1.3nm,0.4s,baz=238,slow=5.9,SNR=3.3							

*IDC **29** 15:31:41.8±0.9, 10.31N×126.18E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/23, mbtmp3.6/8, Error ellipse: s-maj=42.0km s-min=19.6km az=67.0*
*MAN **29** 15:31:48, 10.32N×126.14E, h24km, mb5.0, ML3.9, MS4.0*
ISC 29 15:31:45.7±0.7, 10.36N±0.05×126.26E±0.07, h21km±4km, n30, σ1.64/32, mb3.7/9, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
SCPH	**Surigao**	**0.95**	**233**	⇓*iP*		**Pb**	**15 32 03.0**	**-0.5**
SCPH				*i*	S	**Sn**	**15 32 15.4**	**-1.4**
MSLP	**Maasin**	**1.40**	**261**	*eP*		**Pn**	**15 32 10.4**	**+0.4**
MSLP					*eS*	**Sn**	**15 32 26.5**	**-1.3**
PLP	**Palo**	**1.49**	**303**	⇑*eP*		**Pn**	**15 32 11.7**	**+0.4**
PLP					*eS*	**Sb**	**15 32 31.7**	**+0.4**
BUTP	**Butuan**	**1.52**	**205**	*eP*		**Pn**	**15 32 12.2**	**+0.5**
BUTP					*eS*	**Sn**	**15 32 31.3**	**+0.5**
OCLP	**Ormoc**	**1.76**	**293**	*eP*		**Pb**	**15 32 17.2**	**-0.1**
BIPH	**Bislig**	**2.16**	**177**	⇑*eP*		**Pn**	**15 32 23.0**	**+2.5**
BIPH					*eS*	**Sn**	**15 32 48.5**	**+1.9**
LLP	**Lapu-Lapu**	**2.26**	**269**	*eP*		**Pn**	**15 32 23.6**	**+1.8**
LLP					*eS*	**Sb**	**15 32 53.1**	**-0.2**
CGP	**Cagayan de Oro**	**2.44**	**219**	*eP*		**Pn**	**15 32 25.2**	**+0.9**
CGP				*i*	S	**Sn**	**15 32 54.3**	**+0.7**
TBP	**Tagbilaran**	**2.45**	**255**	*eP*		**Pn**	**15 32 26.8**	**+2.2**
TBP					*eS*	**Sn**	**15 32 55.0**	**+1.1**
CNP	**Catarman**	**2.65**	**324**	*eP*		**Pn**	**15 32 29.7**	**+2.4**
BUKP	**Musuan**	**2.73**	**206**	*eP*		**Pn**	**15 32 31.1**	**+2.7**
MATI	**Mati**	**3.39**	**180**	*eP*		**Pb**	**15 32 43.8**	**-1.3**
GUIM	**Jordan**	**3.62**	**275**	*eP*		**Pn**	**15 32 42.1**	**+1.6**
RCP	**Roxas**	**3.65**	**289**	⇑*eP*		**Pn**	**15 32 43.6**	**+2.5**
PAGZ	**Pagadian**	**3.78**	**229**	*eP*		**Pn**	**15 32 45.3**	**+2.5**
PVCP	**Virac**	**3.82**	**328**	*eP*		Pn	15 32 47.7	+4.4
IPIL	**Ipil**	**4.45**	**235**	*eP*		Pn	15 32 55.4	+3.4
CMAR	**Chiang Mai Arr**	**27.63**	**290**	P		**P**	**15 37 32.1**	**+0.1**
	1.2nm,0.8s,baz=106,slow=7.3,SNR=7.8							
WRA	**Warramunga Arr**	**31.14**	**165**	P		P	15 38 01.5	-1.7
	0.6nm,0.8s,baz=345,slow=9.4,SNR=3.1							
ASAR	**Alice Springs**	**34.63**	**168**	P		**P**	**15 38 32.9**	**-0.9**
	0.6nm,0.4s,baz=351,slow=7.0,SNR=6.3							
H11N1	**WAKE ISLAND Hy**	**40.24**	**72**	T		T	16 22 43.1	
	baz=267,slow=74,SNR=19							
H11N2	**WAKE ISLAND Hy**	**40.24**	**72**	T		T	16 22 42.5	
	baz=267,slow=74,SNR=24							
H11N3	**WAKE ISLAND Hy**	**40.26**	**72**	T		T	16 22 44.2	
	baz=267,slow=74,SNR=22							
SONM	**Songino Array**	**40.94**	**340**	P		**P**	**15 39 25.5**	**-1.3**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.5							
STKA	**Stephens Creek**	**44.49**	**161**	P		**P**	**15 39 55.3**	**-0.4**
	0.7nm,0.5s,baz=342,slow=20,SNR=2.4							
MKAR	**Makanchi Array**	**51.95**	**323**	P		**P**	**15 40 51.8**	**-1.4**
	0.5nm,0.6s,baz=114,slow=7.6,SNR=4.1							
ILAR	**Eielson Array**	**79.37**	**26**	P		**P**	**15 43 50.4**	**+0.5**
	0.2nm,0.7s,baz=232,slow=5.6,SNR=3.3							
FINES	**FINESS Array B**	**85.81**	**332**	P		**P**	**15 44 26.4**	**+3.0**
	0.8nm,0.4s,baz=92,slow=4.7,SNR=5.4							
YKA	**Yellowknife Ar**	**93.68**	**24**	P		**P**	**15 45 01.6**	**+1.1**
	0.2nm,0.8s,baz=297,slow=3.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**120.23**	**292**	PKP		**PKPdf**	**15 50 33.9**	**-2.4**
	0.2nm,0.4s,baz=125,slow=1.0,SNR=4.4							

MAN 29 15:57:17, 10.20N×125.89E, h17km, mb3.9, ML2.7, MS2.3, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
SCPH	**Surigao**	**0.57**	**224**	*eP*		Pb	15 57 28.7	+0.1
SCPH					*eS*	Sn	15 57 40.8	+1.4
BUTP	**Butuan**	**1.25**	**192**	*eP*		Pg	15 57 40.8	-0.4
BUTP					*eS*	Sn	15 57 56.7	+0.5
BUKP	**Musuan**	**2.44**	**200**	*eP*		Pn	15 57 56.5	+0.2
BUKP					*eS*	Sn	15 58 27.9	+2.0
PAGZ	**Pagadian**	**3.40**	**227**	*eP*		Pn	15 58 10.9	+1.6

*ISK **29** 16:38:08.8, 39.50N×28.91E, h5km, MD3.1*
*DDA **29** 16:38:08.9, 39.51N×28.85E, h7km, MD3.3*
*CSEM **29** 16:38:10.0±0.1, 39.50N×28.90E, h2km, MD3.1, Error ellipse: s-maj=2.7km s-min=2.5km az=178.0*
ISC 29 16:38:09.0±1.1, 39.51N±0.02×28.89E±0.02, h3km±10km, n78, σ0.77/94, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
DURS	**Dursunbey**	**0.33**	**285**	*i*	Pg	**Pg**	**16 38 15.3**	**-0.2**
DURS				*i*	Sg	**Sg**	**16 38 19.4**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**98**	*e*	Pg	**Pb**	**16 38 18.5**	**-1.1**
TVSB				*e*	SG	**Sb**	**16 38 25.0**	**-1.7**
TVSB	**Tavsanli**	**0.45**	**98**	*e*	Pg	**Pb**	**16 38 18.5**	**-1.1**
TVSB				*e*	Sg	**Sb**	**16 38 25.0**	**-1.7**
DEMI	**Demirci**	**0.49**	**196**	*i*	Pg	**Pg**	**16 38 19.0**	**+0.6**
DEMI				*i*	Sg	**Sg**	**16 38 25.0**	**+0.3**
GDZ	**Gediz**	**0.62**	**133**	*i*	P	**Pb**	**16 38 21.8**	**-0.8**
GDZ				*i*	S	**Sg**	**16 38 30.1**	**+1.0**
GDZ	**Gediz**	**0.62**	**133**	*i*	P	**Pb**	**16 38 21.8**	**-0.8**
GDZ				*i*	S	**Sg**	**16 38 30.1**	**+1.0**
ULDT	**Uludag**	**0.66**	**17**	*i*	P	**Pg**	**16 38 21.8**	**+0.1**
ULDT				*i*	S	**Sg**	**16 38 29.0**	**-1.2**
ULDT	**Uludag**	**0.66**	**17**	*i*	P	**Pg**	**16 38 21.8**	**+0.1**
ULDT				*i*	S	**Sg**	**16 38 29.0**	**-1.2**
BALB	**Balikesir**	**0.79**	**280**	*e*	PG	**Pb**	**16 38 25.7**	**+0.3**
BALB				*e*	SG	**Sn**	**16 38 37.8**	**-1.5**
BALB	**Balikesir**	**0.79**	**280**	*e*	Pg	**Pb**	**16 38 25.7**	**+0.3**
BALB				*e*	Sg	**Sn**	**16 38 37.8**	**-1.5**
MDNY	**Mudanya-Bursa**	**0.85**	**360**	*e*	PG	**Pb**	**16 38 26.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.85**	**360**	*e*	Pg	**Pb**	**16 38 26.8**	**+0.3**
GEMT	**Gemlik**	**0.95**	**14**	*e*	PG	**Pb**	**16 38 28.4**	**+0.3**
GEMT	**Gemlik**	**0.95**	**14**	*e*	Pg	**Pb**	**16 38 28.4**	**+0.3**
CAVI	**Cavuskoy**	**1.01**	**47**	*e*	PG	**Pb**	**16 38 29.2**	**+0.1**
CAVI	**Cavuskoy**	**1.01**	**47**	*e*	Pg	**Pb**	**16 38 29.2**	**+0.1**
BALY	**Balya**	**1.01**	**283**	*e*	P	**Pg**	**16 38 28.1**	**-0.2**
BALY				*e*	S	**Sg**	**16 38 40.5**	**-0.9**
BALY	**Balya**	**1.01**	**283**	*e*	P	**Pg**	**16 38 28.1**	**-0.2**
BALY				*e*	S	**Sg**	**16 38 40.5**	**-0.9**
KULA	**Kula-Manisa**	**1.01**	**190**	*e*	PG	**Pb**	**16 38 28.8**	**-0.4**
KULA	**Kula-Manisa**	**1.01**	**190**	*e*	Pg	**Pb**	**16 38 28.8**	**-0.4**
AKHS	**Akhisar**	**1.05**	**233**	*e*	P	**Pg**	**16 38 29.3**	**+0.1**
AKHS				*e*	S	**Sg**	**16 38 43.0**	**+0.3**
AKHS	**Akhisar**	**1.05**	**233**	*e*	P	**Pg**	**16 38 29.3**	**+0.1**
AKHS				*e*	S	**Sg**	**16 38 43.0**	**+0.3**
AKS	**Akhisar**	**1.05**	**233**	*e*	PG	**Pb**	**16 38 29.4**	**-0.4**
AKS	**Akhisar**	**1.05**	**233**	*e*	Pg	**Pb**	**16 38 29.4**	**-0.4**
ALT	**Altintas**	**1.05**	**115**	*e*	PG	**Pb**	**16 38 29.9**	**0.0**
ALT	**Altintas**	**1.05**	**115**	*e*	Pg	**Pb**	**16 38 29.9**	**0.0**
ARMT	**Armutlu**	**1.05**	**359**	*e*	PG	**Pb**	**16 38 30.0**	**+0.2**
ARMT	**Armutlu**	**1.05**	**359**	*e*	Pg	**Pb**	**16 38 30.0**	**+0.2**
GONE	**Gonen-Balikesi**	**1.07**	**300**	*e*	PN	**Pb**	**16 38 30.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.07**	**300**	*e*	Pn	**Pb**	**16 38 30.3**	**+0.1**
EDC	**Edincik**	**1.15**	**317**	*e*	PN	**Pn**	**16 38 32.5**	**+0.6**
EDC	**Edincik**	**1.15**	**317**	*e*	Pn	**Pn**	**16 38 32.5**	**+0.6**
BORA	**Eskisehir**	**1.26**	**73**	*e*	P	**Pn**	**16 38 33.9**	**+0.3**
BORA				*e*	S	**Sn**	**16 38 52.0**	**+0.9**
BORA	**Eskisehir**	**1.26**	**73**	*e*	P	**Pn**	**16 38 33.9**	**+0.3**
BORA				*e*	S	**Sn**	**16 38 52.0**	**+0.9**
KHL	**Karahalli**	**1.29**	**157**	*e*	PN	**Pb**	**16 38 34.5**	**+0.6**
KHL	**Karahalli**	**1.29**	**157**	*e*	Pn	**Pb**	**16 38 34.5**	**+0.6**
HRT	**Hereke**	**1.44**	**24**	*e*	PN	**Pg**	**16 38 37.1**	**+0.6**
HRT	**Hereke**	**1.44**	**24**	*e*	Pn	**Pg**	**16 38 37.2**	**+0.6**
MRMT	**Marmara Adasi**	**1.47**	**318**	*e*	PN	**Pg**	**16 38 38.0**	**+0.7**
MRMT	**Marmara Adasi**	**1.47**	**318**	*e*	Pn	**Pg**	**16 38 38.0**	**+0.7**
KRBG	**Karabiga-Canak**	**1.51**	**306**	*e*	PN	**Pg**	**16 38 38.5**	**+0.7**
KRBG	**Karabiga-Canak**	**1.51**	**306**	*e*	Pn	**Pg**	**16 38 38.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.56**	**5**	*e*	PN	**Pg**	**16 38 38.8**	**0.0**
ISK	**Istanbul-Kandi**	**1.56**	**5**	*e*	Pn	**Pg**	**16 38 38.8**	**0.0**
SHUT	**Suhut-Afyon**	**1.61**	**126**	*e*	PN	**Pb**	**16 38 39.3**	**-0.1**
SHUT	**Suhut-Afyon**	**1.61**	**126**	*e*	Pn	**Pb**	**16 38 39.3**	**-0.1**
BGKT	**Bogazkoy**	**1.67**	**357**	*e*	PN	**Pb**	**16 38 40.6**	**+0.3**
BGKT	**Bogazkoy**	**1.67**	**357**	*e*	Pn	**Pb**	**16 38 40.6**	**+0.3**
IZM	**Izmir**	**1.69**	**229**	*e*	PN	**Pg**	**16 38 41.3**	**-0.1**
IZM	**Izmir**	**1.69**	**229**	*e*	Pn	**Pg**	**16 38 41.3**	**-0.1**
KLYT	**Kilyos**	**1.74**	**4**	*e*	PN	**Pb**	**16 38 41.7**	**+0.1**
KLYT	**Kilyos**	**1.74**	**4**	*e*	Pn	**Pb**	**16 38 41.7**	**+0.1**
CTKS	**Kestanelik-??a**	**1.75**	**350**	*e*	PN	**Pb**	**16 38 41.7**	**0.0**
CTKS	**Kestanelik-??a**	**1.75**	**350**	*e*	Pn	**Pb**	**16 38 41.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**207**	*e*	PN	**Pg**	**16 38 42.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**207**	*e*	Pn	**Pg**	**16 38 42.1**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.76**	**312**	*e*	PN	**Pb**	**16 38 42.0**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.76**	**312**	*e*	Pn	**Pb**	**16 38 42.1**	**+0.1**
SLVT	**Silivri**	**1.79**	**343**	*e*	PN	**Pb**	**16 38 42.4**	**0.0**
SLVT	**Silivri**	**1.79**	**343**	*e*	Pn	**Pb**	**16 38 42.4**	**0.0**
BLCB	**Balcova**	**1.83**	**233**	*e*	PN	**Pb**	**16 38 42.8**	**-0.3**
BLCB	**Balcova**	**1.83**	**233**	*e*	Pn	**Pb**	**16 38 42.8**	**-0.3**
CRLT	**Corlu**	**1.84**	**332**	*e*	PN	**Pb**	**16 38 42.8**	**-0.5**
CRLT	**Corlu**	**1.84**	**332**	*e*	Pn	**Pb**	**16 38 42.8**	**-0.5**
EZN	**Ezine**	**2.00**	**280**	*e*	PN	**Pb**	**16 38 45.4**	**-0.7**
EZN	**Ezine**	**2.00**	**280**	*e*	Pn	**Pb**	**16 38 45.4**	**-0.7**
MDUB	**Mudurnu**	**2.01**	**61**	*e*	PN	**Pb**	**16 38 45.6**	**-0.7**
MDUB	**Mudurnu**	**2.01**	**61**	*e*	Pn	**Pb**	**16 38 45.6**	**-0.7**
SVRH	**Sivrihisar-ESK**	**2.04**	**91**	*e*	PN	**Pb**	**16 38 45.6**	**-1.1**
SVRH	**Sivrihisar-ESK**	**2.04**	**91**	*e*	Pn	**Pb**	**16 38 45.6**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.06**	**296**	*e*	PN	**Pb**	**16 38 46.3**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.06**	**296**	*e*	Pn	**Pb**	**16 38 46.3**	**-0.6**
ERIK	**Erikli-Kesan**	**2.16**	**303**	*e*	PN	**Pb**	**16 38 47.9**	**-0.8**
ERIK	**Erikli-Kesan**	**2.16**	**303**	*e*	Pn	**Pb**	**16 38 47.9**	**-0.8**
DALY	**Dalyan (Mu¨la**	**2.70**	**184**	*e*	PN	**Pn**	**16 38 54.9**	**+1.7**
DALY	**Dalyan (Mu¨la**	**2.70**	**184**	*e*	Pn	**Pn**	**16 38 54.9**	**+1.7**
EDRB	**Edirne**	**2.85**	**326**	*e*	PN	**Pn**	**16 38 57.6**	**+2.3**
EDRB	**Edirne**	**2.85**	**326**	*e*	Pn	**Pn**	**16 38 57.6**	**+2.3**

*NIED **29** 16:39:00, 20.10N×122.10E, h35km, Mw3.9 Best double couple: M0 6.76000×10^14 NP1:φ1=86.00000°, δ53.00000°, λ168.00000°. NP2:φ2=183.00000°, δ80.00000°, λ37.00000°.*
*IDC **29** 16:39:27.1±2.6, 19.87N×122.97E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/26, mbtmp3.3/5, Error ellipse: s-maj=223.1km s-min=21.6km az=64.0*
*JMA **29** 16:39:34.1±0.9, 20.11N×122.10E, h8km, M4.2*
*MAN **29** 16:39:38, 19.26N×121.73E, h14km, mb5.0, ML3.9, MS4.0*
ISC 29 16:39:31.3±2.0, 19.67N±0.06×122.1E±0.1, h23km±18km, n21, σ2.03/23, mb3.3/5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
SGCP	**Mt. Cagua**	**1.42**	**182**	*eP*		**Pb**	**16 39 57.5**	**+0.4**
SGCP					*eS*	**Sn**	**16 40 13.9**	**+0.2**
PIP	**Pasuquin**	**1.94**	**227**	⇑*eP*		**Pn**	**16 40 02.6**	**-0.2**
PIP					*eS*	**Sn**	**16 40 25.6**	**-0.9**
APYP	**Conner**	**1.97**	**205**	*eP*		**Pn**	**16 40 04.4**	**+1.1**
APYP					*eS*	**Sn**	**16 40 21.9**	**-5.4**
ABRA	**Dolores**	**2.40**	**214**	*eP*		**Pn**	**16 40 09.9**	**+0.7**
PALP	**Palanan**	**2.61**	**173**	*eP*		**Pb**	**16 40 16.1**	**-1.3**
CAUP	**Cauayan**	**2.72**	**186**	*eP*		**Pb**	**16 40 19.2**	**-0.1**
HATJ	**Hateruma jima**	**4.64**	**20**	P		**Pn**	**16 40 40.7**	**+0.6**
YOJ	**Yonaguni jima**	**4.85**	**10**	P		**Pn**	**16 40 43.9**	**+1.1**
JKRS	**Kuro-shima**	**4.88**	**21**	P		**Pn**	**16 40 44.9**	**+1.6**
JKRS					S	**Sn**	**16 41 37.0**	**-2.1**
IRIF	**Iriomote-Funau**	**4.88**	**18**	P		**Pn**	**16 40 43.5**	**+0.1**
IRIF					S	**Sn**	**16 41 36.5**	**-2.7**
JIJ	**Ishigaki jima**	**5.04**	**22**	P		**Pn**	**16 40 46.4**	**+0.9**
JIJ					S	**Sn**	**16 41 39.5**	**-3.6**
JTJ	**Tarama**	**5.50**	**25**	P		**Pn**	**16 40 52.9**	**+1.0**
JTJ					S	**Sn**	**16 41 51.8**	**-2.7**
JOGS	**Gusukube**	**5.92**	**31**	P		**Pn**	**16 40 59.0**	**+1.4**
WRA	**Warramunga Arr**	**41.15**	**162**	P		P	16 47 11.1	-2.9
	0.6nm,0.7s,baz=344,slow=9.3,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**42.06**	**84**	T		T	17 32 56.4	
	baz=282,slow=72,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**42.07**	**84**	T		T	17 32 29.9	
	baz=282,slow=72,SNR=14							
H11S2	**WAKE ISLAND Hy**	**42.08**	**84**	T		T	17 32 28.6	
	baz=282,slow=72,SNR=9.0							
MKAR	**Makanchi Array**	**42.23**	**319**	P		**P**	**16 47 24.5**	**+1.8**
	0.2nm,0.6s,baz=118,slow=9.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**44.52**	**329**	P		**P**	**16 47 42.2**	**+1.2**
	0.6nm,0.5s,baz=118,slow=8.6,SNR=2.9							
ASAR	**Alice Springs**	**44.58**	**165**	P		**P**	**16 47 42.2**	**+0.4**
	0.2nm,0.5s,baz=347,slow=7.3,SNR=7.2							
KURBB	**Kurchatov Arra**	**46.15**	**322**	P		P	16 47 56.4	+2.4
	0.1nm,0.4s,baz=124,slow=7.6,SNR=3.1							

*ATH **29** 16:40:33.2, 38.06N×20.17E, h15km±1km, MD3.2/19*
*ISCJB **29** 16:40:34.2±1.1, 38.12N±0.04×20.27E±0.06, h8km±5km, Error ellipse: s-maj=8.4km s-min=6.2km az=159.6*
*THE **29** 16:40:34.4, 38.09N×20.31E, h12km±1km, ML2.5/1, Error ellipse: s-maj=1.8km s-min=0.9km az=44.0*
*CSEM **29** 16:40:34.0±0.4, 38.11N×20.28E, h2km, ML2.5, Error ellipse: s-maj=8.2km s-min=5.0km az=50.0*
ISC 29 16:40:35.2±1.4, 38.13N±0.04×20.34E±0.05, h11km±7km, n68, σ0.81/82, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
VLS	**Valsamata**	**0.21**	**77**	P		**Pg**	**16 40 39.2**	**-0.4**
VLS					S	**Sg**	**16 40 43.4**	**+0.7**
VLS	**Valsamata**	**0.21**	**77**	*e*	PB	**Pg**	**16 40 39.3**	**-0.4**
VLS	**Valsamata**	**0.21**	**77**	*e*	Pb	**Pg**	**16 40 39.3**	**-0.4**
VLS					S	**Sg**	**16 40 43.4**	**+0.7**
KFL	**Anninata**	**0.36**	**94**	P		**Pg**	**16 40 41.8**	**-0.6**
KFL					S	**Sg**	**16 40 48.0**	**+0.8**
KFL	**Anninata**	**0.36**	**94**	P		**Pg**	**16 40 41.8**	**-0.6**
KFL					S	**Sg**	**16 40 48.0**	**+0.8**
LKD2	**Lefkada island**	**0.70**	**21**	P		**Pg**	**16 40 48.5**	**-0.4**
LKD2					S	**Sb**	**16 41 00.2**	**+1.0**
LKD2	**Lefkada island**	**0.70**	**21**	*e*	PN	**Pb**	**16 40 49.1**	**-0.4**
LKD2				*e*	SN	**Sb**	**16 41 00.4**	**+1.2**
LKD2	**Lefkada island**	**0.70**	**21**	P		**Pg**	**16 40 48.5**	**-0.4**
LKD2	**Lefkada island**	**0.70**	**21**	*e*	Pn	**Pb**	**16 40 49.1**	**-0.4**
LKD2	**Lefkada island**	**0.70**	**21**	*e*	Sn	**Sb**	**16 41 00.4**	**+1.2**
PDO	**Prodromos**	**0.81**	**55**	P		**Pg**	**16 40 50.0**	**-1.0**
PDO					S	**Sb**	**16 41 02.7**	**+0.3**
PDO	**Prodromos**	**0.81**	**55**	*e*	PB	**Pn**	**16 40 50.4**	**-0.6**
PDO				*e*	SN	**Sn**	**16 41 05.0**	**+0.3**
PDO	**Prodromos**	**0.81**	**55**	P		**Pg**	**16 40 50.0**	**-1.0**
PDO	**Prodromos**	**0.81**	**55**	*e*	Pb	**Pg**	**16 40 50.4**	**-0.6**
PDO					S	**Sb**	**16 41 02.7**	**+0.3**
PDO				*e*	Sn	**Sn**	**16 41 05.0**	**+0.3**
RLS	**Riolos of Patr**	**0.90**	**94**	P		**Pg**	**16 40 51.0**	**-1.5**
RLS	**Riolos of Patr**	**0.90**	**94**	*e*	PN	**Pn**	**16 40 53.1**	**-0.7**
RLS	**Riolos of Patr**	**0.90**	**94**	P		**Pg**	**16 40 51.0**	**-1.5**
RLS	**Riolos of Patr**	**0.90**	**94**	*e*	Pn	**Pn**	**16 40 53.1**	**-0.7**
PVO	**Paravola**	**1.05**	**62**	P		**Pb**	**16 40 54.6**	**-0.9**
PVO					S	**Sg**	**16 41 10.3**	**+1.1**
PVO	**Paravola**	**1.05**	**62**	P		**Pb**	**16 40 54.6**	**-0.9**
PVO					S	**Sg**	**16 41 10.3**	**+1.1**
DRO	**Drossia**	**1.10**	**99**	P		**Pb**	**16 40 55.1**	**-1.2**

ILAR	Eielson Array	48.40	33	P	P	16 52 28.8	+0.2
	3.8nm,0.6s,baz=267,slow=6.0,SNR=70						
BVAR	Borovoye Array	49.36	311	P	P	16 52 35.6	-0.5
	1.3nm,0.5s,baz=75,slow=7.2,SNR=12						
INK	Inuvik	53.20	28	P	P	16 53 04.9	+0.3
	2.7nm,0.5s,baz=300,slow=6.7,SNR=18						
DLBC	Dease Lake	57.64	39	P	P	16 53 38.0	+1.3
	3.4nm,0.9s,baz=262,slow=9.2,SNR=4.6						
WRA	Warramunga Arr	58.50	187	P	P	16 53 42.4	-0.7
	3.5nm,0.5s,baz=4.6,slow=6.8,SNR=51						
RES	Resolute Bay	61.23	15	P	P	16 54 00.7	-0.5
	3.8nm,0.6s,baz=300,slow=5.9,SNR=16						
ASAR	Alice Springs	62.22	187	P	P	16 54 08.2	-0.4
	2.6nm,0.7s,baz=7.9,slow=5.4,SNR=42						
ARCES	ARCESS Array B	62.50	339	P	P	16 54 09.6	-0.3
	2.2nm,0.9s,baz=33,slow=5.4,SNR=3.9						
YKA	Yellowknife Ar	62.67	30	P	P	16 54 11.0	0.0
	0.7nm,0.7s,baz=302,slow=6.5,SNR=13						
JOF	Joensuu	64.52	331	*ep*	P	16 54 22.5	-0.8
	0.2nm,0.3s						
FINES	FINESS Array B	67.36	332	P	P	16 54 41.1	-0.5
	2.5nm,0.7s,baz=24,slow=14,SNR=3.4						
KBZ	Khabaz	69.72	310	P	P	16 54 55.6	-1.0
	1.5nm,0.8s,baz=27,slow=6.8,SNR=2.2						
STKA	Stephens Creek	70.04	180	P	P	16 54 58.6	+0.1
	1.4nm,0.7s,baz=336,slow=6.8,SNR=3.4						
NOA	NORSAR Array B	72.70	337	P	P	16 55 13.9	-0.6
	1.1nm,0.8s,baz=37,slow=6.2,SNR=3.0						
AKASG	Malin Array Be	72.95	322	P	P	16 55 15.1	-0.9
	1.0nm,0.5s,baz=45,slow=5.9,SNR=9.5						
NVAR	Mina Array Bea	74.33	53	P	P	16 55 25.7	+1.0
	1.5nm,0.8s,baz=299,slow=5.6,SNR=7.9						
PDAR	Pinedale Array	76.83	46	P	P	16 55 39.4	+0.4
	0.9nm,0.9s,baz=298,slow=3.2,SNR=4.7						
ULM	Lac du Bonnet	78.42	33	P	P	16 55 46.5	-0.8
	1.4nm,0.6s,baz=268,slow=6.3,SNR=3.5						
SCHQ	Schefferville	83.99	16	P	P	16 56 17.4	+0.5
	2.1nm,0.7s,baz=298,slow=4.9,SNR=3.6						
TXAR	Lajitas Array	89.44	52	P	P	16 56 44.6	+0.5
	0.9nm,0.7s,baz=294,slow=3.3,SNR=9.8						
LPAZ	La Paz	146.16	57	PKPbc	PKPbc	17 03 28.4	+0.1
	2.3nm,0.7s,baz=332,slow=5.5,SNR=8.1						

*ISCJB **29** 16:50:05.0±0.6,51.7°N±0.2°×177.61°E±0.05°,h43km, mb3.7/11, Error ellipse: s-maj=17.4km s-min=4.2km az=6.8*
*IDC **29** 16:50:07.1±4.0,51.7°N×177.67°E,h57km±30km, mb3.5/11, mb1 3.6/12,mb1mx3.4/30,mbtmp3.8/12,ML3.4/1, Error ellipse: s-maj=30.8km s-min=17.8km az=154.0*
*NEIC **29** 16:50:07.1,52.43°N×177.85°E,h20km,ML3.5(AEIC), After AEIC.*

ISC 29 16:50:06.1±0.9,51.7°N±0.2°×177.65°E±0.05°,h43km,n35, σ1§39/36,mb3.9/11,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	2.23	86	P		P	Pn	16 50 42.5	+1.9
GAEA	Gareloi East	2.25	86	P		P	Pn	16 50 42.6	+1.9
SMY	Shemya	2.42	297	P		P	Pn	16 50 44.6	+1.4
SMY				S		S	Sn	16 51 14.0	+2.4
TASE	Tanaga Southea	2.69	85	P		P	Pn	16 50 48.6	+1.8
TAFP	Tanaga Falls P	2.72	84	P		P	Pn	16 50 48.8	+1.5
TAFP				S		S	Sn	16 51 19.9	+0.9
FX1	Attu Island--F	3.01	295	P		P	Pn	16 50 52.4	+1.2
FX1				S		S	Sn	16 51 27.4	+1.5
FX1	Attu Island--F	3.01	295	P		P	Pn	16 50 52.4	+1.2
	18nm,0.3s,baz=117,slow=9.0,SNR=65								
FX1				S		S	Sn	16 51 26.9	+1.0
	23nm,0.3s,baz=234,slow=22,SNR=6.2								
KIKV	Kanaga Island	3.23	84	P		P	Pn	16 50 56.0	+1.7
KIKV				S		S	Sn	16 51 33.5	+2.2
KIRH	Kanaga Island	3.27	84	P		P	Pn	16 50 56.6	+1.7
GSCK	Great Sitkin C	3.85	83	P		P	Pn	16 51 04.5	+1.6
GSMY	Great Sitkin M	3.92	82	P		P	Pn	16 51 05.2	+1.4
KOWE	Korovin West	5.05	79	P		P	Pn	16 51 20.9	+1.6
KOKL	Mount Kliuchef	5.08	79	P		P	Pn	16 51 19.9	+0.2
KOFP	Korovin Flat P	5.14	80	P		P	Pn	16 51 21.3	+0.8
NIKH	Nikolski High	8.38	76	P		P	Pn	16 52 05.3	+0.5
SPIA	Saint Paul Isl	8.95	47	P		P	Pn	16 52 09.7	-2.9
OKFG	Magazine Ridge	8.97	73	P		P	Pn	16 52 13.2	+0.2
MSW	Makushin Switc	9.70	71	P		P	Pn	16 52 25.1	+2.3
MREP	Makushin Rep't	9.71	71	P		P	Pn	16 52 21.9	-1.2
UNV	Unalaska Valle	9.85	71	P		P	Pn	16 52 23.9	-1.1
ILAR	Eielson Array	22.43	41	P		P	P	16 55 00.2	-0.6
	0.4nm,0.7s,baz=244,slow=7.2,SNR=5.0								
INK	Inuvik	28.50	36	P		P	P	16 55 57.0	+0.2
	0.5nm,0.5s,baz=259,slow=4.7,SNR=4.0								
H11N2	WAKE ISLAND Hy	32.98	199	T		T	T	17 31 49.9	
	baz=15								
H11N3	WAKE ISLAND Hy	32.99	199	T		T	T	17 32 04.6	
	baz=15								
H11N1	WAKE ISLAND Hy	33.00	199	T		T	T	17 31 55.3	
	baz=15								
SONM	Songino Array	44.52	294	P		P	P	16 58 13.9	+0.7
	1.7nm,0.5s,baz=67,slow=7.6,SNR=28								
ARCES	ARCESS Array B	57.39	349	P		P	P	16 59 48.2	-1.3
	3.4nm,0.9s,baz=26,slow=8.5,SNR=9.0								
MKAR	Makanchi Array	58.09	306	P		P	P	16 59 53.9	-0.8
	0.7nm,0.5s,baz=52,slow=6.2,SNR=17								
FINES	FINESS Array B	64.97	345	P		P	P	17 00 39.6	-1.2
	1.5nm,0.8s,baz=28,slow=8.6,SNR=5.0								
NB2	NORSAR Subarra	67.11	353	P		P	P	17 00 53.7	-1.0
	comp=Z,0.6nm,0.5s,baz=8.3,slow=6.2								
NOA	NORSAR Array B	67.11	353	P		P	P	17 00 53.4	-1.3
	comp=Z,0.8nm,0.6s,baz=350,slow=4.9,SNR=6.4								
CMAR	Chiang Mai Arr	68.78	273	P		P	P	17 01 06.1	+0.4
	comp=Z,0.2nm,0.6s,baz=44,slow=7.9,SNR=3.2								
AKASG	Malin Array Be	74.54	340	P		P	P	17 01 39.3	-0.6
	comp=Z,0.5nm,0.3s,baz=20,slow=6.6,SNR=5.7								
WRA	Warramunga Arr	80.74	221	P		P	P	17 02 13.7	-1.0
	comp=Z,0.4nm,0.6s,baz=52,slow=5.8,SNR=3.4								
ASAR	Alice Springs	84.25	220	P		P	P	17 02 32.2	-0.8
	comp=Z,0.4nm,0.9s,baz=27,slow=6.0,SNR=2.9								

IDC 29 16:58:23.4±51.0,17.81°S×176.97°W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/25,mbtmp3.8/3,Error ellipse: s-maj=951.9km s-min=161.3km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.88	241	P		P	P	17 05 59.8	+0.7
	0.9nm,1.0s,baz=78,slow=10,SNR=3.9								
WRA	Warramunga Arr	46.00	259	P		P	P	17 06 48.5	-0.4
	0.5nm,0.4s,baz=98,slow=7.5,SNR=31								
ASAR	Alice Springs	46.13	254	P		P	P	17 06 49.6	-0.4
	0.6nm,0.5s,baz=88,slow=8.2,SNR=24								

IDC 29 17:07:50.8±6.7,19.05°S×169.54°E,h0km,mb3.8/3, mb1 3.9/4,mb1mx3.6/30,mbtmp3.7/4,ML3.1/1,MS2.9/3, Ms1 2.9/3,ms1mx2.6/26,Error ellipse: s-maj=183.5km s-min=33.1km az=121.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.18	223	Pn		Pn	Pn	17 08 56.3	+0.3
	1.1nm,0.3s,baz=43,slow=19,SNR=8.0								
DZM				Sn		Sn	Sn	17 09 46.3	+0.6
	8.8nm,0.3s,baz=340,slow=20,SNR=8.9								
DZM				LR		LR	LR	17 09 47.8	
	comp=Z,63nm,21.1s,baz=69,slow=28								
AFI	Afiamalu	18.62	77	LR		LR	LR	17 18 21.9	
	comp=Z,74nm,21.7s,baz=108,slow=34								
JAY	Jayapura	32.65	297	LR		LR	LR	17 27 32.4	
	comp=Z,30nm,18.2s,baz=326,slow=36								
ASAR	Alice Springs	33.45	256	P		P	P	17 14 31.1	-0.8
	0.7nm,0.5s,baz=82,slow=8.4,SNR=13								
CMAR	Chiang Mai Arr	78.69	294	P		P	P	17 19 57.2	+1.7
	0.4nm,0.8s,baz=108,slow=5.8,SNR=4.7								
SONM	Songino Array	87.24	323	P		P	P	17 20 38.3	-1.0
	0.4nm,0.4s,baz=127,slow=3.8,SNR=4.1								

*JMA **29** 17:08:25.8±0.2,33.47°N×140.91°E,h11km,M3.1*
*IDC **29** 17:08:26.0±1.7,32.84°N×137.60°E,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.3/26,mbtmp3.7/2,ML2.8/1,Error ellipse: s-maj=300.3km s-min=24.9km az=97.0*

ISC 29 17:08:25.5±1.9,33.47°N±0.06°×140.82°E±0.09°,h8km±11km, n20,σ1§43/30,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.91	247	P		Pn	Pn	17 08 44.4	-0.2
JHJ2				S		Sn	Sn	17 08 58.0	0.0
JHCJ	Hachijojimakas	0.94	245	P		Pg	Pg	17 08 44.5	+0.9
JHCJ				S		Sn	Sn	17 08 59.5	+0.8
BSO1	Boso 1	1.19	6	P		Pg	Pg	17 08 48.1	-0.1
BSO1				*eS*		Sn	Sn	17 09 03.3	-0.7
BSO2	Boso 2	1.28	358	*eS*		Sg	Sg	17 09 09.4	+2.8
BSO3	Boso 3	1.35	349	S		Sg	Sg	17 09 09.0	+0.1
BSO4	Boso 4	1.57	345	S		Sg	Sg	17 09 15.9	0.0
JIM2	Oshima 3	1.69	318	P		Pn	Pn	17 08 56.2	+0.8
JIM2				*eS*		Sn	Sn	17 09 17.4	+0.1
JIZS	Izushimoda	2.03	308	P		Pn	Pn	17 09 00.0	-0.1
JIZS				S		Sb	Sb	17 09 27.9	-0.3
JOD2	Odawara 2	2.29	322	P		Pn	Pn	17 09 04.5	+0.9
JOD2				S		Sn	Sn	17 09 32.3	+0.3
JHU	Hanno	2.69	332	P		Pn	Pn	17 09 09.0	-0.1
JHU				*eS*		Sn	Sn	17 09 41.7	-0.2
JYN	Shimob	2.76	318	P		Pb	Pb	17 09 12.9	-2.2
JYN				*eS*		Sb	Sb	17 09 47.6	-1.5
JRY	Ryogami san	2.99	329	P		Pb	Pb	17 09 17.3	-1.7
JRY				*eS*		Sn	Sn	17 09 50.4	+1.1
JNY	Yasuok	3.08	308	P		Pb	Pb	17 09 18.0	-2.7
JNY				*eS*		Sb	Sb	17 09 57.8	-0.7
JHO	Hitachi	3.14	356	P		Pn	Pn	17 09 16.5	+1.2
JHO				*eS*		Sn	Sn	17 09 54.2	+1.2
JIE	Ise	3.54	286	P		Pn	Pn	17 09 22.4	+1.6
MJAR	Matsushiro Arr	3.74	326	Pn		Pn	Pn	17 09 24.9	+1.4
	0.7nm,0.3s,baz=155,slow=12,SNR=11								
MJAR				Sn		Sn	Sn	17 10 09.7	+1.9
	0.7nm,0.3s,baz=292,slow=4.8,SNR=2.7								
MAT	Matsushiro	3.74	326	P		Pn		17 09 27.5	+3.9
MAT				*eS*		Sn		17 10 10.6	+2.8
JKN2	Miekihoku	3.86	283	P		Pn		17 09 27.0	+1.8
WRA	Warramunga Arr	53.47	188	P		P		17 17 41.4	-5.0
	0.7nm,0.5s,baz=2.4,slow=7.7,SNR=11								
ASAR	Alice Springs	57.20	188	P		P		17 18 08.4	-4.8
	0.2nm,0.3s,baz=3.6,slow=6.7,SNR=14								

*JMA **29** 17:14:08.5±0.5,33.26°N×138.26°E,h347km±5km,M3.0*
*ISCJB **29** 17:14:10.2±0.7,33.32°N±0.09°×138.24°E±0.09°, h332km±7km,mb2.6/3,Error ellipse: s-maj=15.7km s-min=11.2km az=154.8*
*IDC **29** 17:14:11.1±1.5,33.32°N×138.19°E,h320km±34km,mb2.6/3, mb1 2.7/5,mb1mx2.6/28,mbtmp3.2/5,Error ellipse: s-maj=66.2km s-min=25.5km az=55.0*

ISC 29 17:14:11.1±1.0,33.4°N±0.1°×138.16°E±0.08°,h330km±9km, n22,σ0§99/27,mb2.8/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.64	328	P		P	Pn	17 14 53.7	+0.6
TTO5	TONANKAI O.B.S	0.92	336	P		P	Pn	17 14 54.9	+0.8
TTO2	TONANKAI O.B.S	1.00	289	P		P	Pn	17 14 55.0	+0.7
TK04	Tokai 4	1.00	346	P		P	Pn	17 14 55.5	+1.0
TTO1	TONANKAI O.B.S	1.17	281	P		P	Pn	17 14 55.3	+0.2
JHMK	Hamakita	1.45	347	P		P	Pn	17 14 57.1	+0.4
HMMJ	Hamamatsu 2	1.49	346	P		P	Pn	17 14 57.6	+0.5
JIE	Ise	1.56	309	P		P	Pn	17 14 57.7	+0.2
JOD2	Odawara 2	2.00	22	P		P	Pn	17 15 01.1	+0.6
JOD2				*eS*		S		17 15 41.3	+1.2
JWZ	Kozaga	2.05	274	P		P	Pn	17 15 00.1	-0.8
JWY	Kouya	2.29	291	P		P	Pn	17 15 02.9	+0.1
BSO1	Boso 1	2.65	61	P		P	Pn	17 15 04.3	-0.8
BSO1				*eS*		S		17 15 47.7	-0.8
JRY	Ryogami san	2.67	13	P		P	Pn	17 15 07.2	+1.2
JRY				*eS*		S		17 15 50.3	+0.3
JWT	Wachi	2.95	310	P		P	Pn	17 15 08.7	+0.2
JAI	Aioi	3.12	278	P		P	Pn	17 15 09.7	-0.4
MJAR	Matsushiro Arr	3.13	1	P		P	Pn	17 15 10.7	+0.6
	0.3nm,0.3s,baz=179,slow=9.8,SNR=6.1								
MJAR				S		S		17 15 57.5	0.0
	0.3nm,0.3s,baz=296,slow=24,SNR=1.9								
JAG	Ashikaga	3.19	19	P		P	Pn	17 15 10.5	-0.2
JAG				*eS*		S		17 15 54.5	-3.2
JMN	Monobe	3.59	276	P		P	Pn	17 15 14.8	0.0
KSRS	Korea Array	9.28	299	P		P		17 16 21.9	-1.3
	0.1nm,0.3s,baz=109,slow=13,SNR=3.1								
MKAR	Makanchi Array	43.90	305	P		P		17 21 47.2	+1.3
	0.1nm,0.5s,baz=79,slow=9.6,SNR=3.5								
WRA	Warramunga Arr	53.18	184	P		P		17 22 56.2	+0.1
	0.3nm,0.4s,baz=1.0,slow=7.8,SNR=11								
ASAR	Alice Springs	56.90	185	P		P		17 23 23.1	+0.5
	0.3nm,0.8s,baz=0.5,slow=6.9,SNR=5.6								

IDC 29 17:17:27.9±6.9,18.96°S×169.73°E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.6/18,mbtmp3.6/4,ML2.9/1,Error ellipse: s-maj=185.5km s-min=34.7km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.36	224	Pn		Pn	Pn	17 18 36.1	+0.5
	0.6nm,0.3s,baz=52,slow=19,SNR=7.2								
DZM				Sn		Sn	Sn	17 19 26.4	-0.9
	4.1nm,0.3s,baz=295,slow=22,SNR=2.7								
ASAR	Alice Springs	33.64	256	P		P	P	17 24 10.6	0.0
	0.9nm,0.5s,baz=83,slow=8.7,SNR=46								
CMAR	Chiang Mai Arr	78.81	294	P		P	P	17 29 33.2	0.0
	0.6nm,1.0s,baz=116,slow=4.1,SNR=3.5								
SONM	Songino Array	87.27	323	P		P	P	17 30 16.5	0.0
	0.5nm,0.9s,baz=117,slow=5.0,SNR=3.5								

*IDC **29** 17:28:28.6±2.2,19.09°S×169.78°E,h0km,mb4.2/6, mb1 4.3/7,mb1mx4.1/19,mbtmp4.2/7,ML3.5/1,MS4.0/2, Ms1 4.0/2,ms1mx3.2/17,Error ellipse: s-maj=57.7km s-min=28.3km az=126.0*

ISC 29 17:28:34.2±2.2,19.05°S±0.2°×169.7E±0.3°,h35km,n12, σ1§00/11,mb4.2/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.31	225	*e*Pn		Pn	Pn	17 29 38.2	+0.8
	37nm,0.3s								
DZM				*e*Sn		Sn	Sn	17 30 27.7	+1.2
	48nm,0.3s								
DZM				*e*LR		LR	LR	17 30 35.3	
	4µm,25.7s								
DZM	Mont Dzumac	4.31	225	Pn		Pn	Pn	17 29 36.7	-0.7
	2.7nm,0.3s,baz=120,slow=14,SNR=12								
DZM				Sn		Sn	Sn	17 30 25.8	-0.7
	21nm,0.3s,baz=293,slow=24,SNR=9.3								
DZM				LR		LR	LR	17 31 05.2	
	comp=Z,2µm,18.6s,baz=89,slow=36								
PMG	Port Moresby	23.86	291	P		P	P	17 33 44.1	-0.5
	13nm,0.9s,baz=70,slow=5.0,SNR=6.4								
STKA	Stephens Creek	28.34	239	P		P	P	17 34 25.3	+0.3
	2.0nm,0.7s,baz=78,slow=9.1,SNR=4.5								
WRA	Warramunga Arr	33.34	262	P		P	P	17 35 08.2	-1.0
	1.7nm,1.1s,baz=82,slow=6.8,SNR=4.7								
ASAR	Alice Springs	33.63	256	P		P	P	17 35 10.9	-0.8
	2.9nm,0.6s,baz=83,slow=8.6,SNR=20								
PPT2	Papeete2	38.60	95	*e*LR		LR	LR	17 46 40.3	
	181nm,29.2s								
QSPA	South Pole Qui	71.01	180	LR		LR	LR	18 07 44.9	
	comp=Z,74nm,19.7s,baz=12,slow=33								
CMAR	Chiang Mai Arr	78.85	294	P		P	P	17 40 35.4	+1.2
	1.3nm,0.8s,baz=134,slow=4.1,SNR=11								
SONM	Songino Array	87.35	323	P		P	P	17 41 18.2	+0.5
	1.7nm,0.8s,baz=142,slow=5.6,SNR=12								
GERES	GERESS Array B	144.54	332	PKP		PKPbc		17 48 05.3	-0.5
	1.1nm,0.8s,baz=2.9,slow=2.7,SNR=5.1								
TORD	Torodi Ar. Bea	167.10	245	PKP		PKPdf		17 48 36.1	-1.1
	0.6nm,0.8s,baz=138,slow=0.7,SNR=3.7								

*ISCJB **29** 17:35:03.6±1.1,3.1°N±0.1°×124.0E±0.2°,h250km,mb3.5/4, Error ellipse: s-maj=32.0km s-min=10.7km az=149.4*
*IDC **29** 17:35:06.5±9.9,2.96°N×123.70E,h265km±102km,mb3.1/4, mb1 3.3/4,mb1mx2.9/23,mbtmp3.8/4,Error ellipse: s-maj=177.5km s-min=19.8km az=62.0*
*DJA **29** 17:35:11.4±1.6,3°N±8°×12°4E±1°5,h168km±58km,M4.2/3, mb4.0/1,mB4.5/1,MLv4.4/3,Mw(mB)3.7/1*

ISC 29 17:35:05.0±1.2,3.1°N±0.2°×124.0E±0.2°,h250km,n8, σ1§17/10,mb3.5/4,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	4.06	125	P		Pn	Pn	17 36 10.0	+0.5
LBMI	Labuha	5.09	137	P		Pn	Pn	17 36 23.0	+1.1
LBMI				S		S	S	17 37 20.7	-2.6
SANI	Sanana	5.49	159	P		Pn	Pn	17 36 28.2	+1.4
SANI				S		S	S	17 37 30.2	-2.0
NLAI	Namlea	7.02	154	S		S	S	17 38 06.3	-0.6
WRA	Warramunga Arr	25.05	157	P		P	P	17 40 06.4	-0.4
	1.0nm,0.4s,baz=333,slow=11,SNR=26								
ASAR	Alice Springs	28.30	161	P		P	P	17 40 36.1	+0.4
	0.4nm,0.4s,baz=343,slow=7.2,SNR=23								
ASAR				PcP		PcP	PcP	17 43 41.2	-1.0
	0.3nm,0.7s,baz=351,slow=2.4,SNR=2.4								
STKA	Stephens Creek	38.60	156	P		P	P	17 42 04.8	+0.6
	0.8nm,0.5s,baz=319,slow=9.3,SNR=4.7								
MKAR	Makanchi Array	56.56	327	P		P	P	17 44 21.4	-0.3
	0.3nm,0.4s,baz=126,slow=7.7,SNR=12								

*SZGRF **29** 17:52:10.8,4.99°N×75.54°W,h33km,mb4.9,Colombia*
*MOS **29** 17:52:21.5±0.9,4.86°N×75.99°W,h123km,mb5.0/60,Error ellipse: s-maj=7.3km s-min=5.5km az=92.7*
*IDC **29** 17:52:23.0±0.5,4.71°N×76.16°W,h131km±3km,mb4.5/30, mb1 4.6/33,mb1mx4.6/34,mbtmp4.9/33,MS3.7/6, Ms1 3.6/6,ms1mx3.3/26,Error ellipse: s-maj=8.6km s-min=7.4km az=37.0*
*ISCJB **29** 17:52:22.4±0.3,4.78°N±0.03°×76.00°W±0.02°,h134km±3km, mb4.7/190,Error ellipse: s-maj=5.2km s-min=3.0km az=31.5*
*NEIC **29** 17:52:23.0±0.1,4.73°N×75.97°W,mb4.9/139,Error ellipse: s-maj=4.3km s-min=3.1km az=49.0*
NEIC Felt [II] at Cali and Pereira. Also felt at Armenia, Bolivar, Buga, Calarca, Cartago, Dos Quebradas, Filandia, Ibague, La Union, Manizales, Pijao, Roldanillo, Sevilla, Tulua and Yumbo.
*GCMT **29** 17:52:23.0±0.3,4.83°N×76.07°W,h128km±3km,MW5.0/79, Moment Tensor Solution. s23,c25; s79,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.71±.09; Mθθ=0.98±.11; Mϕϕ=3.69±.13; Mrθ=0.35±.08; Mrϕ=0.25±.12; Mθϕ=-0.61±.12; Best double couple: Mo=3.30100×10^16^ NP1:ϕs=352.00000°,δ51.00000°,λ=-105.00000°. NP2: ϕs=195.00000°,δ41.00000°,λ=-72.00000°. Principal axes: T 3.7580, Plg5.0000°, Azm93.0000°; N -0.9120, Plg12.0000°, Azm2.0000°; P -2.8450, Plg77.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 17:52:23.0±0.3,4.73°N±0.03°×76.04°W±0.04°,h133km±2km, h133km:pP-P,n892,σ1§15/1054,mb4.9/191,212C-222D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOLC	Tolima	0.71	101	*e*P		P	Pn	17 52 44.3	+0.2
TOLC				*e*S		Sn	Sn	17 53 00.1	0.0
PRAC	Prado	1.53	132	*i* P		P	Pn	17 52 51.8	+0.1
HELC	Santa Helena	1.57	18	*i* P		P	Pn	17 52 51.4	-1.1
HELC				*e*S		Sn	Sn	17 53 12.9	-2.1
ROSC	El Rosal	1.70	86	⇑*i* P		n	Pn	17 52 55.6	+1.6
ROSC				*e*Sn		Sn	Sn	17 53 18.5	+0.8
ROSC				S		Sn	Sn	17 53 21.8	+4.1
ROSC	El Rosal	1.70	86	P		P	Pn	17 52 55.7	+1.6
	baz=346,slow=4.2								
ROSC				S		Sn	Sn	17 53 21.8	+4.1
	135nm,0.3s,baz=292,slow=22,SNR=9.0								
ROSC				LR		LR	LR	17 53 47.3	
	comp=Z,6µm,18.2s,baz=191,slow=46								
SOLC	Bahia Solano	2.16	319	*e*P		Pn	Pn	17 52 56.5	-2.5
SOLC				*e*S		Sn	Sn	17 53 20.4	-6.4
RUSC	La Rusia	3.18	68	*i* P		Pn	Pn	17 53 12.5	+0.1
OTAV	Otavalo	5.07	208	*e*Pn		Pn	Pn	17 53 35.9	-1.7
	160nm,0.4s								
OTAV				*e*Sn		Sn	Sn	17 54 32.8	-2.8
SDV	Santo Domingo	6.77	52	⇑*i* Pn		Pn	Pn	17 53 59.1	-1.0
	168nm,0.4s								
SDV				*e*Sn		Sn	Sn	17 55 12.1	-3.8
JTS	JuntasAbangare	10.42	303	P		P	Pn	17 54 49.2	+0.2
JTS				S		Sn	Sn	17 56 50.0	+5.9
JTS	JuntasAbangare	10.42	303	P		P	Pn	17 54 49.2	+0.2
	0.5nm,0.3s,baz=104,slow=10.0,SNR=10								
JTS				S		Sn	Sn	17 56 50.0	+5.9
	0.7nm,0.3s,baz=287,slow=23,SNR=1.3								
JTS				LR		LR	LR	17 58 51.4	
	comp=Z,945nm,21.9s,baz=120,slow=38								
ATAH	Atahualpa	12.02	191	P		Pn	Pn	17 55 11.6	+1.1
ATAH	Atahualpa	12.02	191	P		Pn	Pn	17 55 11.6	+1.1
	2.0nm,0.3s,baz=25,slow=9.2,SNR=10								
MTDJ	Mount Denham	13.49	354	*e*Pn		P	P	17

baz=34,SNR=18
631A **Perdido Creek** 33.79 319 ⇑P P 17 58 52.8 +0.5
baz=34,SNR=6.2
MIAR **Mount Ida** 33.83 333 *e*P P 17 58 51.5 -1.1
MIAR *e* 18 01 29.4
MIAR pmax pmax
comp=Z,10.0nm,1.2s
MIAR **Mount Ida** 33.83 333 *e*P P 17 58 51.5 -1.1
comp=Z,9.8nm,1.2s
MIAR *e*PcP PcP 18 01 29.4 +0.7
532A **Rocksprings** 33.85 321 ⇑P P 17 58 53.8 +1.0
baz=34,SNR=18
LCO **Las Campanas** 33.94 172 *e*P P 17 58 54.8 +0.9
comp=Z,46nm,0.9s
LCO *e*PcP PcP 18 01 29.3 -0.1
JCT **Junction City** 34.03 322 ⇑P P 17 58 55.2 +0.8
baz=34
333A **Richland Sprin** 34.13 324 ⇑P P 17 58 55.3 0.0
baz=34,SNR=9.3
234A **Clairette** 34.13 325 ⇓P P 17 58 55.5 +0.3
baz=34
135A **Vickery Place,** 34.14 327 ⇓P P 17 58 55.5 +0.1
baz=34
PARMO **Parma** 34.19 340 *e*P P 17 58 56.4 +0.8
PARMO *e*PcP PcP 18 01 28.4 -1.2
531A **Rocksprings** 34.28 320 ⇓P P 17 58 57.4 +0.8
baz=34,SNR=9.3
432A **Menard** 34.30 322 ⇓P P 17 58 56.8 +0.1
baz=34
BDFB **Brasilia** 34.34 127 P P 17 58 57.3 -0.1
BDFB **Brasilia** 34.34 127 P P 17 58 57.3 -0.1
comp=Z,8.7nm,0.7s,baz=284,slow=9.3,SNR=9.9
BDFB LR LR 18 14 13.5
comp=Z,106nm,18.8s,baz=310,slow=38
134A **White-Moore Ra** 34.52 326 ⇑P P 17 58 59.1 +0.5
baz=35
233A **Rising Star** 34.58 324 ⇑P P 17 58 59.7 +0.5
baz=35,SNR=11
332A **Millersview** 34.62 323 ⇓P P 17 58 59.8 +0.3
baz=35
WCI **Wyandotte Cave** 34.63 346 *e*P P 17 59 00.0 +0.5
WCI *e* 18 01 30.7
WCI pmax pmax
comp=Z,29nm,0.9s
WCI **Wyandotte Cave** 34.63 346 *e*P P 17 58 60.0 +0.5
comp=Z,29nm,0.9s
WCI *e*PcP PcP 18 01 30.7 -0.2
Z35A **Perchaven, San** 34.65 328 ⇓P P 17 59 00.2 +0.5
baz=35
431A **Sonora** 34.67 321 ⇑P P 17 59 00.5 +0.6
baz=35,SNR=7.5
USIN **University of** 34.74 344 *e*P P 17 59 01.0 +0.6
comp=Z,147nm,1.4s
530A **J-C Ranch, Com** 34.78 320 ⇑P P 17 59 02.0 +1.1
baz=35,SNR=12
232A **Coleman** 34.92 323 ⇓P P 17 59 02.5 +0.3
baz=35,SNR=7.2
331A **San Angelo** 34.99 322 ⇑P P 17 59 03.0 +0.3
baz=35,SNR=6.3
133A **Hamilton Ranch** 35.02 325 ⇓P P 17 59 03.4 +0.5
baz=35,SNR=7.4
Z34A **Collier Ranch,** 35.04 327 ⇓P P 17 59 03.6 +0.6
baz=35
430A **Baggett Ranch,** 35.14 320 ⇓P P 17 59 04.8 +0.9
baz=35
529A **Stev Forest Ra** 35.34 319 ⇑P P 17 59 06.7 +1.0
baz=36,SNR=15
231A **Bronte** 35.36 323 ⇑P P 17 59 06.2 +0.4
baz=36
628A **Black Gap, Mar** 35.38 317 ⇓P P 17 59 07.4 +1.4
baz=36,SNR=14
Y34A **Reagan Ranch,** 35.40 328 ⇓P P 17 59 06.7 +0.6
baz=36,SNR=5.8
Z33A **Whitaker Ranch** 35.44 326 ⇓P P 17 59 07.2 +0.7
baz=36
429A **Davenport Ranc** 35.45 320 ⇑P P 17 59 07.3 +0.6
baz=36,SNR=7.9
ABTX **Abilene, Hawle** 35.45 324 *e*P P 17 59 06.5 -0.2
comp=Z,43nm,1.2s
ABTX *e*PcP PcP 18 01 34.1 +0.7
ABTX **Abilene, Hawle** 35.45 324 ⇓P P 17 59 07.4 +0.8
baz=36,SNR=8.7
330A **Mertzon** 35.52 321 ⇓P P 17 59 07.5 +0.3
baz=36,SNR=5.1
BLO **Bloomington** 35.58 346 *e*P P 17 59 08.3 +0.8
BLO pmax pmax
comp=Z,58nm,0.7s
BLO **Bloomington** 35.58 346 *e*P P 17 59 08.3 +0.8
comp=Z,58nm,0.7s
OLIL **Olney** 35.58 344 *e*P P 17 59 07.8 +0.3
comp=Z,48nm,1.1s
OLIL *e*PcP PcP 18 01 33.6 0.0
627A **Terlingua Ranc** 35.70 317 ⇓P P 17 59 10.5 +1.6
baz=36,SNR=21
528A **Cox Ranch, San** 35.74 318 ⇓P P 17 59 10.1 +0.9
baz=36,SNR=7.7
CPUP **Villa Florida** 35.80 151 *e*P P 17 59 06.1 -3.5
comp=Z,2.6nm,0.7s
CPUP *e*PcP PcP 18 01 33.9 -0.6
CPUP PcP PcP 18 01 34.2 -0.2
CPUP **Villa Florida** 35.80 151 P P 17 59 06.9 -2.7
comp=Z,10nm,0.4s,baz=320,slow=8.1,SNR=30
CPUP PcP PcP 18 01 34.2 -0.2
comp=Z,3.5nm,0.5s,baz=258,slow=5.9,SNR=3.1
230A **Sterling City** 35.81 322 ⇓P P 17 59 09.9 +0.1
baz=36
TXAR **Lajitas Array** 35.81 316 P P 17 59 10.6 +0.7
TXAR PcP PcP 18 01 36.4 +1.7
TXAR ScP ScP 18 05 08.8 +0.2
TXAR **Lajitas Array** 35.81 316 P P 17 59 10.6 +0.7
comp=Z,3.8nm,0.8s,baz=132,slow=9.0,SNR=37
TXAR PcP PcP 18 01 36.3 +1.7
comp=Z,12nm,0.7s,baz=141,slow=6.0,SNR=42
TXAR ScP ScP 18 05 08.7 +0.2
comp=Z,0.4nm,0.8s,baz=134,slow=3.9,SNR=3.2
TXAR LR LR 18 16 24.0
comp=Z,96nm,19.9s,baz=0.0,slow=40
Z32A **Haskell** 35.85 325 ⇓P P 17 59 10.8 +0.7
baz=36,SNR=10
Y33A **Hilltop Ranch,** 35.91 327 ⇑P P 17 59 11.3 +0.8
baz=36,SNR=10
131A **Roby** 35.92 324 ⇓P P 17 59 11.1 +0.4
baz=36,SNR=7.3
X34A **Smith Ranch, M** 35.94 329 ⇓P P 17 59 11.7 +1.0
baz=36,SNR=6.9
TUL1 **Tulsa** 35.97 332 *e*P P 17 59 11.0 +0.1
comp=Z,69nm,1.0s
TUL1 *e*PcP PcP 18 01 35.2 +0.3
TUL1 **Tulsa** 35.97 332 ⇑P P 17 59 11.3 +0.3
baz=36,SNR=16
428A **Kincaid Ranch,** 36.03 319 ⇓P P 17 59 13.0 +1.4
baz=36,SNR=7.8
329A **Wagon Wheel Ra** 36.08 321 ⇑P P 17 59 12.4 +0.3
baz=36,SNR=6.0
130A **Snyder** 36.21 323 ⇑P P 17 59 13.6 +0.5
baz=36
X33A **Lawton** 36.24 328 ⇑P P 17 59 13.6 +0.3
baz=36,SNR=11
Z31A **Sharp Cattle R** 36.24 325 ⇓P P 17 59 13.8 +0.4
baz=36
626A **Big Bend Ranch** 36.27 316 ⇑P P 17 59 14.7 +1.0
baz=36
527A **Woodward Ranch** 36.28 317 ⇓P P 17 59 15.2 +1.3
baz=36,SNR=11
229A **Bryant Ranch,** 36.30 321 ⇑P P 17 59 14.2 +0.4
baz=36,SNR=7.8
Y32A **R-V Farms, Ver** 36.35 326 ⇑P P 17 59 15.0 +0.7
baz=36
W34A **Bridge Creek,** 36.40 329 ⇓P P 17 59 15.1 +0.5
baz=37,SNR=8.5
328A **Wristen Ranch,** 36.54 320 ⇓P P 17 59 16.5 +0.6
baz=37,SNR=11
WMOK **Wichita Mounta** 36.54 328 *e*P P 17 59 15.8 -0.1
WMOK *e* 18 01 37.0
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 36.54 328 *e*P P 17 59 15.8 -0.1
comp=Z,16nm,0.9s
WMOK *e*PcP PcP 18 01 37.0 +0.4
526A **Mary Lane Ranc** 36.55 317 ⇓P P 17 59 17.3 +1.2
baz=37,SNR=6.5
X32A **Elmer** 36.58 327 ⇓P P 17 59 16.7 +0.6
baz=37,SNR=10
427A **Hayter Ranch,** 36.58 318 ⇑P P 17 59 17.7 +1.3
baz=37,SNR=12
W33A **Caddo, Fort Co** 36.69 328 ⇑P P 17 59 18.0 +0.8
baz=37,SNR=6.2
V34A **Guthrie** 36.74 330 ⇓P P 17 59 17.9 +0.4
baz=37,SNR=16
Y31A **Rekieta Farm,** 36.78 325 ⇓P P 17 59 19.3 +1.4
baz=37
129A **Stewart Farms,** 36.78 322 ⇓P P 17 59 18.8 +0.8
baz=37,SNR=9.2
Z30A **Sanderson Ranc** 36.80 324 ⇓P P 17 59 18.9 +0.8
baz=37,SNR=14
SFIN **Scholer Farm** 36.86 346 *e*P P 17 59 17.8 -0.7
comp=Z,9.3nm,0.5s
SFIN *e*PcP PcP 18 01 37.0 -0.4
SFIN **Scholer Farm** 36.86 346 ⇑P P 17 59 18.8 +0.4
baz=37
426A **McDonald Obser** 36.89 318 ⇓P P 17 59 20.3 +1.2
baz=37,SNR=18
228A **UT Block 9, Go** 36.89 321 ⇓P P 17 59 19.5 +0.6
baz=37
CFAA **Coronel Fontan** 36.89 169 P P 17 59 19.8 +0.9
CFAA **Coronel Fontan** 36.89 169 P P 17 59 19.8 +0.9
comp=Z,0.8nm,0.4s,baz=340,slow=8.9,SNR=27
Y30A **Stafford Cattl** 37.08 325 ⇑P P 17 59 21.1 +0.6
baz=37
W32A **Sentinel** 37.08 328 ⇑P P 17 59 21.0 +0.6
baz=37,SNR=24
X31A **McDonald Ranch** 37.11 326 ⇑P P 17 59 21.2 +0.5
baz=37,SNR=9.0
V33A **Lossen Ranch,** 37.12 329 ⇑P P 17 59 21.1 +0.4
baz=37,SNR=13
Z29A **Hungry Hill Ra** 37.12 323 ⇑P P 17 59 21.4 +0.6
baz=37,SNR=13
128A **Castleberry Fa** 37.16 322 ⇑P P 17 59 21.9 +0.7
baz=37
U34A **Anderson Ranch** 37.23 331 ⇑P P 17 59 21.9 +0.3
baz=37,SNR=15
326A **Caldwell Ranch** 37.26 319 ⇓P P 17 59 23.0 +0.9
baz=37
227A **Bennt, Jal** 37.26 320 ⇑P P 17 59 22.8 +0.7
baz=37
V32A **Arapaho** 37.43 328 ⇓P P 17 59 24.1 +0.7
baz=38,SNR=6.0
X30A **Coker Ranch, T** 37.48 325 ⇑P P 17 59 24.9 +1.1
baz=38,SNR=8.5
W31A **Holland Ranch,** 37.51 327 ⇓P P 17 59 24.3 +0.3
baz=38,SNR=7.9
U33A **Lingo Farm, Me** 37.51 330 ⇓P P 17 59 24.1 +0.1
baz=38,SNR=17
Y29A **Porterfield Fa** 37.52 324 ⇓P P 17 59 25.2 +1.0
baz=38,SNR=14
Z28A **Tucker Farm, M** 37.55 322 ⇑P P 17 59 25.5 +1.0
baz=38
425A **Indio Mountain** 37.60 317 ⇑P P 17 59 26.4 +1.4
baz=38,SNR=9.7
127A **Arkansas Junct** 37.74 321 ⇑P P 17 59 26.9 +0.7
baz=38
226B **Telote Peak,** 37.87 319 ⇑P P 17 59 28.4 +1.2
baz=38,SNR=12
V31A **Spring Creek L** 37.89 328 ⇓P P 17 59 28.1 +0.8
baz=38,SNR=7.1
Y28A **McKinney Farm,** 37.90 323 ⇓P P 17 59 27.9 +0.5
baz=38,SNR=5.6
U32A **Winter Ranch,** 37.91 329 ⇑P P 17 59 27.7 +0.2
baz=38,SNR=12
Z27A **Tatum** 38.08 322 ⇓P P 17 59 29.5 +0.5
baz=38,SNR=7.1
T33A **Patterson Ranc** 38.09 331 ⇑P P 17 59 29.5 +0.7
baz=38,SNR=8.9
126A **Clayton Basin,** 38.14 320 ⇑P P 17 59 30.2 +0.7
baz=38
AMTX **Amarillo** 38.25 325 ⇓P P 17 59 30.8 +0.4
baz=38
MSTX **Muleshoe** 38.25 323 *e*P P 17 59 30.6 +0.2
comp=Z,52nm,1.1s
MSTX *e* 18 00 12.4
MSTX *e*PcP PcP 18 01 42.2 +0.2
MSTX **Muleshoe** 38.25 323 ⇑P P 17 59 31.3 +0.9
baz=38,SNR=16
225A **Deer Hill, Car** 38.32 319 ⇑P P 17 59 32.6 +1.5
baz=38
V30A **Spur Ranch, Mi** 38.34 327 ⇓P P 17 59 33.2 +2.1
baz=38
U31A **Nine Bar Ranch** 38.35 328 ⇑P P 17 59 31.9 +0.8
baz=38
S33A **Kaszmaul Farm,** 38.38 331 ⇓P P 17 59 31.8 +0.6
baz=38
W29A **Amraillo** 38.41 325 ⇓P P 17 59 32.3 +0.7
baz=38,SNR=8.9
Y27A **Causey** 38.43 322 ⇑P P 17 59 32.6 +0.7
baz=39,SNR=16
MNTX **Cornudas Mount** 38.43 318 *e*P P 17 59 32.4 +0.5
comp=Z,17nm,1.1s
MNTX *e*PcP PcP 18 01 42.5 0.0
T32A **Huddler Ranch,** 38.50 330 ⇑P P 17 59 33.2 +0.9
baz=39,SNR=6.3
Z26A **Caprock** 38.53 321 ⇑P P 17 59 34.0 +1.3
baz=39,SNR=11
125A **Gardner Draw,** 38.56 320 ⇑P P 17 59 34.2 +1.2
baz=39,SNR=7.7
T31A **Randall Ranch,** 38.81 329 ⇓P P 17 59 35.5 +0.6
baz=39,SNR=5.8
W28A **Vega** 38.82 325 ⇓P P 17 59 35.9 +0.8
baz=39
Y26A **Elida** 38.86 322 ⇓P P 17 59 36.4 +0.8
baz=39,SNR=28
V29A **Stinnett** 38.88 326 ⇑P P 17 59 37.3 +1.8
baz=39
U30A **WK&E Inc. Balk** 38.89 328 ⇑P P 17 59 36.7 +1.0
baz=39,SNR=7.5
S32A **Newby Ranch, P** 38.91 331 ⇓P P 17 59 36.8 +1.0
baz=39
X27A **F and S Farms,** 38.91 323 ⇑P P 17 59 37.4 +1.5
baz=39
R33A **Olander Ranch,** 38.94 332 ⇑P P 17 59 36.2 +0.3
baz=39
KSU1 **Kansas State U** 38.97 334 *e*P P 17 59 35.7 -0.5
comp=Z,48nm,1.3s
KSU1 *e*PcP PcP 18 01 44.4 +0.4
KSU1 **Kansas State U** 38.97 334 ⇓P P 17 59 36.2 0.0
baz=39
Z25A **Roswell** 39.00 320 ⇑P P 17 59 38.2 +1.5
baz=39,SNR=15
S31A **Mullinville** 39.12 330 ⇑P P 17 59 38.6 +1.1
baz=39,SNR=17
U29A **Oasis Ranch, S** 39.16 327 ⇓P P 17 59 39.0 +1.0
baz=39
W27A **Bowe Ranch, En** 39.18 324 ⇑P P 17 59 39.0 +0.8
baz=39,SNR=17
T30A **Plains** 39.22 328 ⇑P P 17 59 39.5 +1.2
baz=39,SNR=5.8
X26A **CR and CF Fran** 39.28 323 ⇑P P 17 59 40.1 +1.2
baz=39,SNR=9.9
Y25A **Mea, Roswell** 39.40 321 ⇑P P 17 59 41.3 +1.3
baz=40,SNR=12
Q33A **Connelly Farm,** 39.43 333 ⇓P P 17 59 40.6 +0.6
baz=40,SNR=9.7
Z24A **Sheeppen Canyo** 39.44 320 ⇓P P 17 59 42.0 +1.5
baz=40,SNR=6.5
W26A **Owens Ranch, T** 39.62 323 ⇓P P 17 59 42.5 +0.7
baz=40
S30A **Montezuma** 39.63 329 ⇓P P 17 59 42.5 +0.7
baz=40
R31A **Burdett** 39.66 331 ⇑P P 17 59 42.6 +0.7
baz=40,SNR=7.0
T29A **Hugoton** 39.70 328 ⇓P P 17 59 43.4 +1.0
baz=40,SNR=5.2
P33A **Williams Farm,** 39.72 333 ⇓P P 17 59 42.7 +0.3
baz=40
Q32A **Meitler Ranch,** 39.76 332 ⇓P P 17 59 42.8 0.0
baz=40,SNR=7.7
X25A **Clemmons Ranch** 39.78 322 ⇑P P 17 59 44.5 +1.3
baz=40
Y24A **Capitan** 39.87 320 ⇓P P 17 59 45.4 +1.4
baz=40,SNR=18
S29A **Ulysses** 39.95 328 ⇑P P 17 59 46.0 +1.5
baz=40,SNR=9.2
U27A **Thompson Grove** 40.00 326 ⇑P P 17 59 46.1 +1.1
baz=40,SNR=8.7
R30A **Dighton** 40.03 330 ⇑P P 17 59 46.2 +1.1
baz=40,SNR=26
SCIA **State Center** 40.07 340 *e*P P 17 59 44.3 -0.9
comp=Z,26nm,0.9s
T28A **Walsh** 40.12 327 ⇓P P 17 59 46.7 +0.9
baz=40
V26A **Tequesquite Ra** 40.12 324 ⇑P P 17 59 47.2 +1.3
baz=40,SNR=26
W25A **X Bar L Ranch,** 40.12 323 ⇑P P 17 59 47.2 +1.3
baz=40,SNR=16
Q31A **Ellis** 40.16 331 ⇑P P 17 59 46.6 +0.5
baz=40,SNR=5.6
Y23A **Lovelace Mesa,** 40.27 320 ⇑P P 17 59 48.8 +1.5
baz=40,SNR=7.3
P32A **Huiting Farm,** 40.28 333 ⇑P P 17 59 47.3 +0.2
baz=40
S28A **Manter** 40.34 328 ⇓P P 17 59 48.7 +1.0
baz=40,SNR=16
T27A **Campo** 40.41 326 ⇓P P 17 59 48.9 +0.6
baz=41,SNR=10
Z22A **Elephant Butte** 40.44 318 ⇓P P 17 59 50.5 +1.9
baz=41,SNR=8.4
U26A **Atchley Ranch,** 40.51 325 ⇓P P 17 59 50.8 +1.6
baz=41,SNR=24
Q30A **Quinter** 40.54 331 ⇓P P 17 59 50.0 +0.8
baz=41,SNR=11
121A **Cookes Peak, D** 40.56 317 *e*P P 17 59 52.1 +2.4
comp=Z,42nm,0.8s
121A *e*PcP PcP 18 01 50.7 +1.2
121A **Cookes Peak, D** 40.56 317 ⇑P P 17 59 52.5 +2.8
baz=41,SNR=46
P31A **Stockton** 40.56 332 ⇑P P 17 59 49.8 +0.4
baz=41,SNR=5.0
R29A **Marienthal** 40.57 329 ⇓P P 17 59 50.6 +1.1
baz=41,SNR=20
V25A **Rancho No Teng** 40.63 323 ⇓P P 17 59 52.0 +1.8
baz=41,SNR=21
O32A **Brockman Farm,** 40.65 334 ⇑P P 17 59 50.2 0.0
baz=41,SNR=8.9
W24A **Lazy 6 Ranch,** 40.69 322 ⇓P P 17 59 52.4 +1.6
baz=41,SNR=6.2
BNM **Barren Site** 40.78 320 *e*P P 17 59 51.8 +0.4
comp=Z,6.5nm,0.7s
BNM *e*PcP PcP 18 01 50.1 -0.1
Q29A **Oakley** 40.85 330 ⇓P P 17 59 52.9 +1.1
baz=41,SNR=12
R28A **Tribune** 40.86 328 ⇓P P 17 59 53.5 +1.5
baz=41,SNR=37
LPM **Los Pinos Moun** 40.88 320 *e*P P 17 59 52.1 -0.2
comp=Z,3.6nm,0.7s
U25A **Circle Dot Ran** 40.90 324 ⇑P P 17 59 54.0 +1.6
baz=41,SNR=14
319A **Douglas** 40.94 314 ⇓P P 17 59 55.4 +2.7
baz=41,SNR=9.1
S27A **Las Animas** 40.95 327 ⇓P P 17 59 53.6 +0.9
baz=41
V24A **Rampart Ranch,** 40.95 323 ⇑P P 17 59 54.8 +1.9
baz=41,SNR=12
T26A **Comanche Natio** 40.97 326 ⇓P P 17 59 54.1 +1.1
baz=41
P30A **Selden** 40.99 331 ⇑P P 17 59 53.5 +0.6
baz=41,SNR=5.7
LENM **Lemitar** 41.01 319 *e*P P 17 59 54.7 +1.4
comp=Z,4.6nm,0.8s
LENM *e*PcP PcP 18 01 52.1 +1.1
O31A **Woolen Ranch,** 41.04 333 ⇑P P 17 59 53.4 +0.1
baz=41
N32A **Stulken Farm,** 41.07 334 ⇓P P 17 59 53.9 +0.3
baz=41
W23A **Werner Place,** 41.12 321 ⇑P P 17 59 55.7 +1.5
baz=41
ANMO **Albuquerque** 41.17 321 *e*P P 17 59 56.0 +1.4
comp=Z,32nm,1.2s
ANMO *e*PcP PcP 18 01 51.7 +0.3
S26A **Kim** 41.22 326 ⇓P P 17 59 57.0 +2.0
baz=41
LAZ **Ladron** 41.26 320 *e*P P 17 59 57.2 +1.8
comp=Z,21nm,1.0s
LAZ *e*PcP PcP 18 01 53.3 +1.5
R27A **Eads** 41.34 328 ⇑P P 17 59 56.9 +1.0
baz=42,SNR=25
P29A **Atwood** 41.37 331 ⇓P P 17 59 57.0 +0.9
baz=42
O30A **MW Ranch, Wils** 41.40 332 ⇓P P 17 59 56.5 +0.3
baz=42
Q28A **Sharon Springs** 41.41 329 ⇑P P 17 59 57.5 +1.1
baz=42,SNR=16
T25A **Trinidad** 41.41 325 ⇑P P 17 59 58.5 +2.0
baz=42,SNR=8.2
U24A **Moreno Valley** 41.41 323 ⇑P P 17 59 59.3 +2.6
baz=42
V23A **Ortiz Mt. (NFS** 41.52 322 ⇓P P 18 00 00.0 +2.5
baz=42,SNR=18
BGNE **Belgrade** 41.54 335 ⇑P P 17 59 57.2 -0.2
baz=42
R26A **Arlington** 41.70 327 ⇑P P 18 00 00.1 +1.3
baz=42,SNR=13
O29A **4D Ranch, Culb** 41.71 331 ⇓P P 17 59 59.0 +0.2
baz=42
P28A **Saint Francis** 41.76 330 ⇑P P 18 00 00.5 +1.2
baz=42,SNR=14
S25A **Robets Cordova** 41.79 325 ⇓P P 18 00 01.5 +1.8
baz=42
M31A **Lambtecht Ranc** 41.84 334 ⇓P P 18 00 00.3 +0.5
baz=42
N30A **Hueftle Ranch,** 41.91 332 ⇑P P 18 00 00.8 +0.4
baz=42
U23A **El Rito** 41.91 323 ⇑P P 18 00 03.4 +2.7
baz=42,SNR=6.7
T24B **San Luis** 41.92 324 ⇑P P 18 00 03.1 +2.3
baz=42,SNR=11
R25A **Fountain Ranch** 42.05 326 ⇓P P 18 00 03.5 +1.8
baz=42,SNR=14
V22A **San Miguel Ran** 42.08 322 ⇑P P 18 00 04.4 +2.3
baz=42,SNR=21
P27A **Ficken Ranch,** 42.16 329 ⇑P P 18 00 03.7 +1.2
baz=42,SNR=14
N29A **Votaw Ranch, W** 42.17 332 ⇓P P 18 00 03.2 +0.7
baz=42
O28A **Krutsinger Ran** 42.19 330 ⇑P P 18 00 03.6 +0.9
baz=42,SNR=5.8
Q26A **Hugo** 42.19 328 ⇓P P 18 00 04.5 +1.6
baz=42
S24A **Houchin Ranch,** 42.22 325 ⇑P P 18 00 05.4 +2.1
baz=42,SNR=12
T23A **Casias Ranch,** 42.29 324 ⇑P P 18 00 06.0 +2.2
baz=42,SNR=9.5
U22A **Llaves** 42.34 322 ⇑P P 18 00 06.4 +2.1
baz=42,SNR=15
M30A **Dale-Ortello V** 42.40 333 ⇓P P 18 00 04.1 -0.2
baz=43
SDCO **Great Sand Dun** 42.46 325 *e*P P 18 00 06.7 +1.5
comp=Z,17nm,0.8s
SDCO *e*pP pP 18 00 36.9 +1.7
SDCO *es*P sP 18 00 49.3 -0.9
SDCO *e*PcP PcP 18 01 56.6 +0.8
L31A **Butterfield Fa** 42.46 335 ⇓P P 18 00 04.8 0.0
baz=43,SNR=9.7
TUC **Tucson** 42.52 314 *e*P P 18 00 06.8 +1.3
TUC *e**PP pP 18 00 37.6 +2.1
TUC *e* 18 01 55.9
TUC pmax pmax
comp=Z,6.0nm,0.7s
TUC **Tucson** 42.52 314 *e*P P 18 00 06.8 +1.3
comp=Z,5.6nm,0.7s
TUC *e*pP pP 18 00 37.6 +2.1
TUC *e*PcP PcP 18 01 55.9 +0.1
P26A **Davis Ranch, A** 42.56 328 ⇑P P 18 00 07.5 +1.7
baz=43,SNR=5.1
R24A **Sanders Place,** 42.57 326 ⇑P P 18 00 08.1 +2.1
baz=43,SNR=17
Q25A **Bedland, Calha** 42.57 327 ⇑P P 18 00 07.0 +1.0
baz=43,SNR=6.8
O27A **Beecher Island** 42.59 330 ⇓P P 18 00 07.2 +1.2
baz=43,SNR=9.2
L30A **Spencer Herefo** 42.66 334 ⇑P P 18 00 06.7 +0.2
baz=43,SNR=7.4
M29A **Burnside Ranch** 42.69 332 ⇓P P 18 00 07.3 +0.6
baz=43
S23A **Nye Farm, Mont** 42.72 324 ⇓P P 18 00 09.4 +2.1
baz=43
COWI **Conover** 42.76 347 *e*P P 18 00 06.5 -0.6
comp=Z,23nm,0.9s
COWI *e*PcP PcP 18 01 56.6 +0.4
ECSD **EROS Data Cent** 42.88 338 *e*P P 18 00 06.8 -1.3
comp=Z,86nm,1.6s
ECSD *e*PcP PcP 18 01 55.6 -1.1
ECSD **EROS Data Cent** 42.88 338 ⇑P P 18 00 07.4 -0.8
baz=43,SNR=14
SPMN **St. Paul** 42.92 343 *e*P P 18 00 07.0 -1.4
comp=Z,16nm,0.8s
SPMN *e*PcP PcP 18 01 56.2 -0.5
SPMN **St. Paul** 42.92 343 ⇑P P 18 00 07.9 -0.5
baz=43
R23A **Moffat** 42.95 325 ⇓P P 18 00 10.9 +1.8
baz=43,SNR=10.0
P25A **Willow Gulch B** 42.96 328 ⇓P P 18 00 11.0 +1.9
baz=43,SNR=24
M28A **Bar X Bar Ranc** 42.97 332 ⇑P P 18 00 09.7 +0.6
baz=43

O26A	**Horse Wrangler**	**43.05**	**329**	⇑P	**P**	**18 00 11.1**	**+1.3**
	baz=43,SNR=6.0						
N27A	**Anderson Farm,**	**43.08**	**330**	⇓P	**P**	**18 00 10.7**	**+0.8**
	baz=43,SNR=5.5						
L29A	**Maesberg Ranch**	**43.09**	**333**	⇑P	**P**	**18 00 10.0**	**0.0**
	baz=43						
Q24A	**Divide**	**43.10**	**326**	⇓P	**P**	**18 00 11.4**	**+1.0**
	baz=43						
X18A	**Snowflake**	**43.19**	**318**	⇑P	**P**	**18 00 13.3**	**+2.2**
	baz=43,SNR=19						
K30A	**Basset**	**43.20**	**334**	⇑P	**P**	**18 00 10.9**	**+0.1**
	baz=43,SNR=26						
S22A	**4UR Ranch, Cre**	**43.23**	**324**	⇑P	**P**	**18 00 13.0**	**+1.6**
	baz=43,SNR=21						
W18A	**Petrified Fore**	**43.40**	**319**	*e*P	**P**	**18 00 14.8**	**+2.2**
	comp=Z,53nm,1.0s						
W18A	**Petrified Fore**	**43.40**	**319**	⇑P	**P**	**18 00 15.0**	**+2.4**
	baz=44,SNR=12						
N26A	**Koester Ranch,**	**43.44**	**330**	⇑P	**P**	**18 00 14.0**	**+1.1**
	baz=44						
L28A	**Connealy Angus**	**43.52**	**332**	⇑P	**P**	**18 00 14.3**	**+0.8**
	baz=44						
M27A	**Reverse DX Ran**	**43.56**	**331**	⇓P	**P**	**18 00 14.6**	**+0.9**
	baz=44						
K29A	**Lazy Trails An**	**43.58**	**334**	⇓P	**P**	**18 00 13.7**	**-0.1**
	baz=44						
J30A	**Dallas**	**43.68**	**335**	⇓P	**P**	**18 00 14.2**	**-0.4**
	baz=44						
P23A	**Jefferson**	**43.77**	**326**	⇓P	**P**	**18 00 17.7**	**+1.9**
	baz=44						
214A	**Organ Pipe Nat**	**43.80**	**313**	*e*P	**P**	**18 00 17.6**	**+1.8**
	comp=Z,44nm,1.2s						
214A				*e*pP	**pP**	**18 00 48.8**	**+2.9**
214A				*e*PcP	**PP**	**18 02 01.3**	**+0.8**
214A	**Organ Pipe Nat**	**43.80**	**313**	⇓P	**P**	**18 00 17.9**	**+2.2**
	baz=44,SNR=25						
M26A	**McRoberts Ranc**	**43.88**	**330**	⇑P	**P**	**18 00 16.8**	**+0.4**
	baz=44						
O24A	**Longmont**	**43.88**	**328**	⇓P	**P**	**18 00 18.4**	**+2.0**
	baz=44						
MVCO	**Mesa Verde**	**43.89**	**322**	*e*P	**P**	**18 00 17.6**	**+1.0**
	comp=Z,47nm,1.4s						
MVCO				*e*PcP	**PP**	**18 02 01.6**	**+0.1**
MVCO	**Mesa Verde**	**43.89**	**322**	⇑P	**P**	**18 00 18.0**	**+1.3**
	baz=44,SNR=8.6						
ISCO	**Idaho Springs**	**43.95**	**327**	*e*P	**P**	**18 00 18.4**	**+1.3**
ISCO				*e*		18 02 01.3	
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ISCO	**Idaho Springs**	**43.95**	**327**	*e*P	**P**	**18 00 18.4**	**+1.3**
	comp=Z,8.3nm,0.7s						
ISCO				*e*PcP	**PcP**	**18 02 01.3**	**+0.5**
ISCO				*e*ScP	**ScP**	**18 05 38.6**	**-1.7**
ISCO	**Idaho Springs**	**43.95**	**327**	⇓P	**P**	**18 00 18.7**	**+1.5**
	baz=44,SNR=15						
K28A	**Ten Mile Ranch**	**44.00**	**333**	⇓P	**P**	**18 00 17.6**	**+0.3**
	baz=44						
J29A	**Okreek**	**44.10**	**334**	⇑P	**P**	**18 00 17.7**	**-0.2**
	baz=44,SNR=19						
X16A	**Lo Mia Camp, P**	**44.14**	**317**	⇓P	**P**	**18 00 20.7**	**+2.1**
	baz=44,SNR=19						
N24A	**Carr**	**44.29**	**328**	⇑P	**P**	**18 00 21.3**	**+1.6**
	baz=44,SNR=14						
BRSD	**Miller**	**44.38**	**336**	⇑P	**P**	**18 00 19.7**	**-0.5**
	baz=44						
K27A	**Flueckinger Fa**	**44.40**	**332**	⇑P	**P**	**18 00 20.5**	**+0.1**
	baz=44						
O23A	**Lake Granby, G**	**44.40**	**327**	⇑P	**P**	**18 00 22.2**	**+1.4**
	baz=44,SNR=13						
P22A	**Eagle**	**44.44**	**326**	⇓P	**P**	**18 00 22.4**	**+1.4**
	baz=45,SNR=8.6						
J28A	**Allard Ranch,**	**44.51**	**334**	⇓P	**P**	**18 00 21.1**	**-0.2**
	baz=45,SNR=8.1						
PV01	**Paradox Valley**	**44.52**	**323**	*e*P	**P**	**18 00 23.4**	**+1.7**
	comp=Z,2um,1.0s						
TRQA	**Tornquist**	**44.53**	**164**	*e*P	**P**	**18 00 21.1**	**-0.3**
	comp=Z,16nm,0.5s						
TRQA				*e*PcP	**PcP**	**18 02 02.4**	**0.0**
I29A	**Vivian Onida**	**44.59**	**335**	⇑P	**P**	**18 00 21.3**	**-0.5**
	baz=45						
Z14A	**Wintersburg**	**44.62**	**314**	⇓P	**P**	**18 00 24.4**	**+2.1**
	baz=45						
O22A	**Kremmling**	**44.71**	**326**	⇑P	**P**	**18 00 24.2**	**+0.9**
	baz=45,SNR=19						
WUAZ	**Wupatki**	**44.72**	**318**	*e*P	**P**	**18 00 24.7**	**+1.6**
	comp=Z,38nm,0.9s						
WUAZ				pP	**pP**	**18 00 54.9**	**+1.6**
WUAZ				*e*PcP	**PcP**	**18 02 04.7**	**+1.3**
WUAZ	**Wupatki**	**44.72**	**318**	⇓P	**P**	**18 00 25.1**	**+1.9**
	baz=45,SNR=31						
J27A	**Elkhorn Farm,**	**44.72**	**333**	⇓P	**P**	**18 00 23.7**	**+0.7**
	baz=45						
M24A	**Cheyenne**	**44.73**	**329**	⇓P	**P**	**18 00 24.9**	**+1.7**
	baz=45,SNR=5.6						
L25A	**Engebretsen Ra**	**44.80**	**330**	⇑P	**P**	**18 00 24.9**	**+1.2**
	baz=45,SNR=5.9						
K26A	**Motz Farm, Whi**	**44.84**	**332**	⇑P	**P**	**18 00 24.9**	**+1.0**
	baz=45						
PV04	**Paradox Valley**	**44.89**	**323**	*e*P	**P**	**18 00 25.8**	**+1.3**
N23A	**Red Feather La**	**44.90**	**328**	⇓P	**P**	**18 00 26.5**	**+1.9**
	baz=45,SNR=14						
113A	**Mohawk Valley,**	**44.91**	**313**	⇑P	**P**	**18 00 26.3**	**+1.8**
	baz=45						
I28A	**Midland**	**44.94**	**334**	⇓P	**P**	**18 00 24.4**	**-0.2**
	baz=45,SNR=8.0						
Y14A	**Wickenburg**	**44.97**	**315**	⇑P	**P**	**18 00 26.6**	**+1.6**
	baz=45,SNR=12						
G30A	**Faulkton**	**45.03**	**337**	⇓P	**P**	**18 00 24.9**	**-0.4**
	baz=45						
EYMN	**Ely**	**45.05**	**345**	*e*P	**P**	**18 00 24.7**	**-0.7**
	comp=Z,24nm,1.0s						
EYMN				*e*PcP	**PcP**	**18 02 03.8**	**-0.2**
K25A	**Mack Ranch, Ha**	**45.10**	**331**	⇑P	**P**	**18 00 26.8**	**+0.8**
	baz=45						
N22A	**Wattenberg Ran**	**45.11**	**327**	⇓P	**P**	**18 00 28.1**	**+1.7**
	baz=45,SNR=8.6						
M23A	**Laramie**	**45.19**	**328**	⇑P	**P**	**18 00 28.0**	**+1.1**
	baz=45,SNR=5.9						
L24A	**Wheatland**	**45.20**	**330**	⇑P	**P**	**18 00 28.0**	**+1.1**
	baz=45						
J26A	**Sides Ranch, S**	**45.26**	**332**	⇑P	**P**	**18 00 27.9**	**+0.7**
	baz=45,SNR=16						
I27A	**Quinn**	**45.38**	**334**	⇓P	**P**	**18 00 28.1**	**0.0**
	baz=46,SNR=6.1						
G29A	**Hoven**	**45.39**	**336**	⇓P	**P**	**18 00 27.5**	**-0.7**
	baz=46						
PLCA	**Paso Flores**	**45.52**	**174**	*e*P	**P**	**18 00 29.9**	**+0.6**
	comp=Z,60nm,0.8s						
PLCA				*e*pP	**pP**	**18 00 58.8**	**-0.8**
PLCA				*e*PcP	**PcP**	**18 02 05.9**	**+0.1**
PLCA	**Paso Flores**	**45.52**	**174**	P	**P**	**18 00 30.3**	**+1.0**
	comp=Z,44nm,0.7s,baz=353,slow=9.8,SNR=37						
PLCA				PcP	**PcP**	**18 02 06.0**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=336,slow=3.9,SNR=3.4						
F30A	**Leola**	**45.57**	**338**	⇓P	**P**	**18 00 29.3**	**-0.3**
	baz=46						
M22A	**Cedar Creek Ra**	**45.61**	**328**	⇑P	**P**	**18 00 31.8**	**+1.5**
	baz=46,SNR=9.5						
O20A	**White River Ci**	**45.64**	**325**	⇓P	**P**	**18 00 31.7**	**+1.3**
	baz=46,SNR=6.6						
L23A	**Garrett**	**45.65**	**329**	⇑P	**P**	**18 00 31.8**	**+1.4**
	baz=46,SNR=18						
J25A	**Sunshine Ranch**	**45.66**	**332**	⇓P	**P**	**18 00 31.3**	**+0.9**
	baz=46						
I26A	**New Underwood**	**45.71**	**333**	⇑P	**P**	**18 00 31.2**	**+0.4**
	baz=46						
GLA	**Glamis**	**45.82**	**313**	⇓P	**P**	**18 00 34.0**	**+2.2**
	baz=46						
H27A	**Howes**	**45.84**	**334**	⇓P	**P**	**18 00 31.6**	**-0.1**
	baz=46						
U15A	**North Rim**	**45.84**	**318**	⇓P	**P**	**18 00 34.1**	**+1.9**
	baz=46,SNR=13						
Y12C	**Blythe**	**45.95**	**314**	⇓P	**P**	**18 00 34.4**	**+1.7**
	baz=46						
PDMCI	**Parker Dam,Lak**	**45.96**	**315**	⇑P	**P**	**18 00 34.1**	**+1.4**
	baz=46						
L22A	**Ellis Ranch, M**	**45.97**	**328**	⇓P	**P**	**18 00 35.0**	**+2.0**
	baz=46,SNR=5.9						
J24A	**Dixon Ranch, L**	**46.02**	**331**	⇑P	**P**	**18 00 34.1**	**+0.8**
	baz=46						
K23A	**Bowen Ranch, D**	**46.07**	**330**	⇓P	**P**	**18 00 34.7**	**+1.0**
	baz=46,SNR=8.0						
I25A	**Rochford**	**46.10**	**332**	⇓P	**P**	**18 00 35.0**	**+1.0**
	baz=46,SNR=15						
N20A	**Spence Gulch,**	**46.12**	**326**	⇓P	**P**	**18 00 35.4**	**+1.1**
	baz=46,SNR=9.5						
H26A	**Fairpoint**	**46.13**	**334**	⇓P	**P**	**18 00 33.6**	**-0.4**
	baz=46,SNR=5.1						
W13A	**Hualapai Mount**	**46.20**	**316**	⇓P	**P**	**18 00 37.3**	**+2.4**
	baz=46,SNR=10						
F28A	**McLaughlin**	**46.28**	**336**	⇑P	**P**	**18 00 34.7**	**-0.4**
	baz=46						
RSSD	**Black Hills**	**46.32**	**332**	*e*P	**P**	**18 00 36.5**	**+0.8**
RSSD				*e*		18 02 08.4	
RSSD				pmax	pmax		
	comp=Z,34nm,1.0s						
RSSD	**Black Hills**	**46.32**	**332**	*e*P	**P**	**18 00 36.5**	**+0.8**
	comp=Z,34nm,1.0s						
RSSD				*e*PcP	**PcP**	**18 02 08.4**	**-0.4**
SRU	**San Rafael**	**46.33**	**322**	*e*P	**P**	**18 00 36.9**	**+1.1**
SRU				*e*		18 02 08.9	
SRU				pmax	pmax		
	comp=Z,28nm,1.1s						
SRU	**San Rafael**	**46.33**	**322**	*e*P	**P**	**18 00 36.9**	**+1.1**
	comp=Z,28nm,1.1s						
SRU				*e*PcP	**PcP**	**18 02 08.9**	**0.0**
G27A	**Dupree**	**46.37**	**335**	⇑P	**P**	**18 00 35.5**	**-0.3**
	baz=46,SNR=5.4						
I24A	**Kuemmerle Ranc**	**46.40**	**331**	⇑P	**P**	**18 00 37.5**	**+1.3**
	baz=47						
E29A	**Napoleon**	**46.42**	**338**	⇓P	**P**	**18 00 35.9**	**-0.3**
	baz=47						
K22A	**Casper**	**46.46**	**329**	*e*P	**P**	**18 00 37.7**	**+1.0**
	comp=Z,9.0nm,0.6s						
K22A	**Casper**	**46.46**	**329**	⇑P	**P**	**18 00 38.0**	**+1.2**
	baz=47						
SWSC	**Sam W. Stewart**	**46.48**	**312**	⇓P	**P**	**18 00 38.9**	**+2.1**
	baz=47						
H25A	**Fruitdale**	**46.51**	**333**	⇓P	**P**	**18 00 37.3**	**+0.3**
	baz=47						
J23A	**Dilts Ranch, B**	**46.51**	**330**	⇑P	**P**	**18 00 38.7**	**+1.6**
	baz=47						
D30A	**Buchanan**	**46.55**	**339**	⇓P	**P**	**18 00 36.8**	**-0.4**
	baz=47,SNR=5.0						
BC3	**Big Chuckawall**	**46.58**	**313**	⇓P	**P**	**18 00 39.5**	**+1.8**
	baz=47,SNR=7.1						
G26A	**Maurine**	**46.59**	**334**	⇑P	**P**	**18 00 37.0**	**-0.5**
	baz=47,SNR=5.2						
AGMN	**Agassiz Nation**	**46.60**	**342**	*e*P	**P**	**18 00 37.2**	**-0.3**
	comp=Z,34nm,1.3s						
AGMN				*e*PcP	**PcP**	**18 02 09.1**	**-0.3**
AGMN	**Agassiz Nation**	**46.60**	**342**	⇓P	**P**	**18 00 37.4**	**-0.1**
	baz=47,SNR=6.9						
IRM	**Iron Mountain**	**46.61**	**314**	⇑P	**P**	**18 00 39.8**	**+1.9**
	baz=47,SNR=16						
F27A	**Lemmon**	**46.80**	**335**	⇑P	**P**	**18 00 39.4**	**+0.2**
	baz=47,SNR=11						
D29A	**Pettibone, Tap**	**46.81**	**338**	⇓P	**P**	**18 00 39.0**	**-0.2**
	baz=47						
K21A	**Alcova**	**46.82**	**328**	⇓P	**P**	**18 00 40.6**	**+0.9**
	baz=47,SNR=28						
E28A	**Huff**	**46.83**	**337**	⇓P	**P**	**18 00 39.2**	**-0.2**
	baz=47,SNR=6.0						
MONP	**Monument Peak**	**46.92**	**312**	⇑P	**P**	**18 00 42.4**	**+1.8**
	baz=47						
C30A	**Mose, Pekin**	**46.95**	**339**	⇑P	**P**	**18 00 40.2**	**-0.1**
	baz=47,SNR=8.0						
MVU	**Marysvale**	**47.00**	**321**	*e*P	**P**	**18 00 42.7**	**+1.6**
	comp=Z,17nm,1.0s						
MVU				*e*PcP	**PcP**	**18 02 12.5**	**+1.1**
H24A	**Dirks Ranch, A**	**47.04**	**332**	⇓P	**P**	**18 00 41.0**	**-0.1**
	baz=47,SNR=13						
F26A	**Lodgepole**	**47.06**	**335**	⇑P	**P**	**18 00 41.0**	**-0.2**
	baz=47						
E27A	**Carson**	**47.06**	**336**	⇓P	**P**	**18 00 41.4**	**+0.2**
	baz=47,SNR=5.2						
BELC	**Belle Mtn. Jos**	**47.14**	**313**	⇑P	**P**	**18 00 43.9**	**+1.8**
	baz=47,SNR=14						
GMRC	**Granite Mounta**	**47.28**	**314**	⇓P	**P**	**18 00 44.8**	**+1.6**
	baz=47,SNR=7.0						
I22A	**9 Mile Ranch,**	**47.33**	**330**	⇑P	**P**	**18 00 44.1**	**+0.6**
	baz=48,SNR=17						
ARUT	**Antelope Range**	**47.37**	**319**	*e*P	**P**	**18 00 45.7**	**+1.8**
ARUT	**Antelope Range**	**47.37**	**319**	*e*P	**P**	**18 00 45.7**	**+1.8**
	comp=Z,188nm,0.5s						
J21A	**Lysite**	**47.42**	**329**	⇓P	**P**	**18 00 45.3**	**+1.0**
	baz=48,SNR=8.6						
F25A	**Bowman**	**47.46**	**334**	⇑P	**P**	**18 00 44.1**	**-0.2**
	baz=48						
B30A	**Myrvik Farm, E**	**47.54**	**340**	⇓P	**P**	**18 00 44.4**	**-0.5**
	baz=48,SNR=6.7						
MPU	**Maple Canyon**	**47.56**	**323**	*e*P	**P**	**18 00 46.2**	**+0.8**
	comp=Z,23nm,1.0s						
MPU				*e*PcP	**PcP**	**18 02 13.1**	**-0.2**
DAU	**Daniels Canyon**	**47.58**	**323**	*e*P	**P**	**18 00 46.9**	**+1.2**
DAU				*e*		18 02 14.2	
DAU				pmax	pmax		
	comp=Z,31nm,0.9s						
DAU	**Daniels Canyon**	**47.58**	**323**	*e*P	**P**	**18 00 46.9**	**+1.2**
	comp=Z,31nm,0.9s						
DAU				*e*PcP	**PcP**	**18 02 14.2**	**+0.8**
D27A	**Center**	**47.60**	**337**	⇓P	**P**	**18 00 45.8**	**+0.4**
	baz=48						
C28A	**Hausauer Farms**	**47.66**	**338**	⇓P	**P**	**18 00 46.1**	**+0.3**
	baz=48						
I21A	**Big Trails, Te**	**47.68**	**329**	⇓P	**P**	**18 00 46.8**	**+0.6**
	baz=48,SNR=15						
J20A	**Shoshoni**	**47.76**	**328**	⇑P	**P**	**18 00 48.3**	**+1.5**
	baz=48,SNR=14						
G23A	**Biddle**	**47.77**	**332**	⇓P	**P**	**18 00 47.2**	**+0.4**
	baz=48,SNR=7.3						
H22A	**Clearmont**	**47.78**	**331**	⇑P	**P**	**18 00 47.5**	**+0.6**
	baz=48,SNR=9.1						
HEC	**Hector Ludlow**	**47.78**	**314**	⇓P	**P**	**18 00 49.3**	**+2.2**
	baz=48,SNR=10						
TUQ	**Turquoise Moun**	**47.80**	**315**	⇓P	**P**	**18 00 48.7**	**+1.5**
	baz=48,SNR=7.6						
JLU	**Jordanelle**	**47.81**	**323**	*e*P	**P**	**18 00 48.5**	**+1.1**
	comp=Z,12nm,0.8s						
JLU				*e*pP	**pP**	**18 01 19.5**	**+1.5**
SHPR	**Sheep Range**	**47.82**	**317**	*e*P	**P**	**18 00 48.6**	**+1.1**
	comp=Z,12nm,1.4s						
F24A	**Ekalaka**	**47.83**	**333**	⇑P	**P**	**18 00 47.3**	**0.0**
	baz=48						
MURC	**Murrieta**	**47.83**	**312**	⇓P	**P**	**18 00 49.1**	**+1.8**
	baz=48						
E25A	**Miller Ranch,**	**47.88**	**335**	⇑P	**P**	**18 00 47.6**	**0.0**
	baz=48						
D26A	**Manning**	**47.90**	**336**	⇑P	**P**	**18 00 47.6**	**-0.1**
	baz=48,SNR=5.6						
B29A	**Wagenman Farm,**	**47.91**	**339**	⇓P	**P**	**18 00 48.0**	**+0.3**
	baz=48,SNR=17						
A30A	**Hoffart Farm,**	**47.95**	**340**	⇓P	**P**	**18 00 47.8**	**-0.2**
	baz=48,SNR=10.0						
C27A	**Sayler Ranch,**	**48.08**	**337**	⇓P	**P**	**18 00 49.3**	**+0.2**
	baz=48						
TCUT	**Toone Canyon**	**48.11**	**324**	*e*P	**P**	**18 00 50.6**	**+0.9**
	comp=Z,39nm,0.7s						
TCUT				*e*PcP	**PcP**	**18 02 16.1**	**+0.8**
H21A	**Big Horn, Sher**	**48.14**	**330**	⇑P	**P**	**18 00 50.0**	**+0.3**
	baz=48						
BW06	**Boulder Array**	**48.14**	**327**	*e*P	**P**	**18 00 50.3**	**+0.4**
	comp=Z,11nm,0.8s						
PDAR	**Pinedale Array**	**48.14**	**327**	P	**P**	**18 00 50.1**	**+0.2**
PDAR				PcP	**PcP**	**18 02 15.3**	**-0.1**
PDAR				ScP	**ScP**	**18 05 58.8**	**+1.2**
PDAR	**Pinedale Array**	**48.14**	**327**	P	**P**	**18 00 50.1**	**+0.2**
	comp=Z,11nm,0.8s,baz=129,slow=9.2,SNR=64						
PDAR				PcP	**PcP**	**18 02 15.3**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=128,slow=5.8,SNR=3.7						
PDAR				ScP	**ScP**	**18 05 58.8**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=106,slow=5.3,SNR=5.2						
F23A	**Volborg**	**48.17**	**333**	⇑P	**P**	**18 00 50.2**	**+0.4**
	baz=48,SNR=14						
I20A	**Worland**	**48.20**	**329**	⇑P	**P**	**18 00 51.1**	**+0.9**
	baz=48,SNR=13						
G22A	**Birney**	**48.21**	**331**	⇓P	**P**	**18 00 50.9**	**+0.7**
	baz=48,SNR=30						
J19A	**Crowheart**	**48.21**	**328**	⇓P	**P**	**18 00 51.3**	**+0.9**
	baz=48,SNR=30						
A29A	**Manning Farm,**	**48.26**	**340**	⇑P	**P**	**18 00 50.8**	**+0.4**
	baz=48,SNR=30						
E24A	**Baker**	**48.32**	**334**	⇓P	**P**	**18 00 51.5**	**+0.6**
	baz=48						
ULM	**Lac du Bonnet**	**48.34**	**343**	*e*P	**P**	**18 00 49.8**	**-1.1**
	comp=Z,12nm,0.9s						
ULM				*e*pP	**pP**	**18 01 20.1**	**-1.5**
ULM				*e*PcP	**PcP**	**18 02 14.6**	**-0.9**
ULM				PcP	**PcP**	**18 02 14.9**	**-0.6**
ULM	**Lac du Bonnet**	**48.34**	**343**	P	**P**	**18 00 50.1**	**-0.9**
	comp=Z,8.4nm,0.5s,baz=148,slow=8.9,SNR=23						
ULM				PcP	**PcP**	**18 02 14.9**	**-0.6**
	comp=Z,11nm,0.6s,baz=147,slow=2.5,SNR=7.7						
ULM				LR	LR	18 22 09.0	
	comp=Z,60nm,18.7s,baz=69,slow=37						
GSC	**Goldstone**	**48.36**	**314**	*e*P	**P**	**18 00 52.9**	**+1.4**
GSC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GSC	**Goldstone**	**48.36**	**314**	*e*P	**P**	**18 00 52.9**	**+1.4**
	comp=Z,9.3nm,0.8s						
GSC	**Goldstone**	**48.36**	**314**	⇑P	**P**	**18 00 53.4**	**+1.9**
	baz=48,SNR=8.8						
D25A	**Fairfield**	**48.36**	**335**	⇑P	**P**	**18 00 52.1**	**+0.8**
	baz=48						
DUG	**Dugway**	**48.38**	**322**	*e*P	**P**	**18 00 52.9**	**+1.3**
DUG				*PP	**pP**	**18 01 23.9**	**+1.6**
DUG				*e*		18 02 15.5	
DUG				pmax	pmax		
	comp=Z,19nm,0.8s						
DUG	**Dugway**	**48.38**	**322**	*e*P	**P**	**18 00 52.9**	**+1.3**
	comp=Z,19nm,0.8s						
DUG				pP	**pP**	**18 01 23.9**	**+1.6**
DUG				*e*PcP	**PcP**	**18 02 15.4**	**-0.7**
DUG	**Dugway**	**48.38**	**322**	⇑P	**P**	**18 00 53.0**	**+1.3**
	baz=48,SNR=23						
C26A	**Wahner Farm, P**	**48.41**	**337**	⇑P	**P**	**18 00 51.8**	**+0.3**
	baz=49,SNR=5.9						
H20A	**Greybull**	**48.52**	**330**	⇑P	**P**	**18 00 53.1**	**+0.6**
	baz=49,SNR=7.1						
F22A	**Rosebud**	**48.61**	**332**	⇓P	**P**	**18 00 53.8**	**+0.7**
	baz=49						
A28A	**Rude Farm, Bot**	**48.61**	**339**	⇓P	**P**	**18 00 53.9**	**+0.8**
	baz=49						
CIS	**Catalina Islan**	**48.64**	**311**	⇓P	**P**	**18 00 55.5**	**+2.0**
	baz=49						
G21A	**Lodge Grass**	**48.65**	**331**	⇑P	**P**	**18 00 54.0**	**+0.4**
	baz=49,SNR=5.1						
I19A	**Meeteetse**	**48.71**	**329**	⇓P	**P**	**18 00 55.2**	**+1.1**
	baz=49,SNR=20						
D24A	**Glendive**	**48.76**	**335**	⇑P	**P**	**18 00 55.2**	**+0.9**
	baz=49,SNR=7.9						
C25A	**Freed Ranch, W**	**48.78**	**336**	⇓P	**P**	**18 00 55.2**	**+0.8**
	baz=49						
SPUT	**South Promonto**	**48.84**	**324**	*e*P	**P**	**18 00 56.0**	**+0.8**
	comp=Z,20nm,1.0s						
E22A	**Miles City**	**48.96**	**333**	⇓P	**P**	**18 00 56.2**	**+0.4**
	baz=49,SNR=8.0						
FURC	**Furnace Creek,**	**48.97**	**316**	⇓P	**P**	**18 00 57.6**	**+1.6**
	baz=49,SNR=5.5						
A27A	**Ledoux Ranch,**	**49.00**	**338**	⇑P	**P**	**18 00 57.3**	**+1.2**
	baz=49						
EDW2	**Edwards Air Fo**	**49.01**	**313**	⇓P	**P**	**18 00 57.8**	**+1.4**
	baz=49,SNR=12						
F21A	**Absaloka Mine,**	**49.05**	**331**	⇑P	**P**	**18 00 56.7**	**+0.1**
	baz=49						
LRMC	**Laurel Mountai**	**49.07**	**314**	⇓P	**P**	**18 00 58.5**	**+1.6**
	baz=49						
R11A	**Troy Canyon, C**	**49.09**	**319**	*e*P	**P**	**18 00 58.3**	**+1.1**
	comp=Z,5.4nm,0.9s						
R11A				*e*pP	**pP**	**18 01 30.2**	**+2.3**
R11A				*e*PcP	**PcP**	**18 02 19.0**	**+0.2**
R11A	**Troy Canyon, C**	**49.09**	**319**	⇑P	**P**	**18 00 58.7**	**+1.6**
	baz=49,SNR=15						
C24A	**Savage**	**49.12**	**335**	⇓P	**P**	**18 00 57.7**	**+0.6**
	baz=49,SNR=6.1						
G20A	**Bridger**	**49.15**	**330**	⇓P	**P**	**18 00 57.4**	**0.0**
	baz=49,SNR=23						
H19A	**Powell**	**49.15**	**329**	⇓P	**P**	**18 00 58.0**	**+0.6**
	baz=49						
D23A	**Lindsay**	**49.19**	**334**	⇓P	**P**	**18 00 58.3**	**+0.7**
	baz=49,SNR=6.6						
B25A	**Knox Farm, Ray**	**49.19**	**336**	⇑P	**P**	**18 00 58.6**	**+1.0**
	baz=49,SNR=7.5						
LAO	**LASA Array**	**49.27**	**333**	*e*P	**P**	**18 00 58.2**	**0.0**
	comp=Z,7.7nm,0.7s						
HVU	**Hansel Valley**	**49.33**	**324**	*e*P	**P**	**18 00 58.8**	**0.0**
HVU				*e*		18 02 19.1	
HVU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HVU	**Hansel Valley**	**49.33**	**324**	*e*P	**P**	**18 00 58.8**	**0.0**
	comp=Z,10.0nm,0.9s						
HVU				*e*PcP	**PcP**	**18 02 19.1**	**-0.5**
I17A	**Pilgrim Ck.**	**49.47**	**327**	⇓P	**P**	**18 01 01.4**	**+1.5**
	baz=50,SNR=13						
H18A	**Shoshone NF, C**	**49.50**	**329**	⇑P	**P**	**18 01 00.4**	**+0.2**
	baz=50,SNR=14						
F20A	**Billings**	**49.53**	**331**	⇓P	**P**	**18 01 00.6**	**+0.4**
	baz=50,SNR=13						
GRAC	**Grapevine Rang**	**49.59**	**316**	⇓P	**P**	**18 01 02.7**	**+1.8**
	baz=50						
D22A	**Cohagen**	**49.60**	**333**	⇑P	**P**	**18 01 01.9**	**+1.2**
	baz=50,SNR=22						
RLMT	**Red Lodge**	**49.60**	**329**	*e*P	**P**	**18 01 01.1**	**+0.1**
	comp=Z,22nm,1.1s						
RLMT				*e*PcP	**PcP**	**18 02 20.4**	**-0.1**
RLMT				*e*ScP	**ScP**	**18 06 05.2**	**+1.4**
C23A	**Lambert**	**49.66**	**334**	⇓P	**P**	**18 01 02.0**	**+0.9**
	baz=50,

NVAR ScP **ScP** 18 06 11.9 +2.2
NVAR Mina Array Bea 50.95 317 P **P** 18 01 12.6 +1.3
comp=Z,16nm,0.7s,baz=123,slow=6.5,SNR=137
NVAR PcP **PcP** 18 02 26.9 +1.2
comp=Z,4.2nm,0.5s,baz=137,slow=4.5,SNR=29
NVAR ScP **ScP** 18 06 11.9 +2.2
comp=Z,0.6nm,0.7s,baz=147,slow=5.4,SNR=4.2
BOZ Bozeman (W) 51.18 328 *eP* **P** 18 01 13.3 +0.6
BOZ *e*PP **pP** 18 01 44.0 +0.3
BOZ pmax pmax
comp=Z,21nm,0.8s
BOZ Bozeman (W) 51.18 328 *eP* **P** 18 01 13.2 +0.6
comp=Z,21nm,0.8s
BOZ *ep*P **pP** 18 01 44.0 +0.3
BMN Battle Mountai 51.28 320 *eP* **P** 18 01 14.6 +1.0
BMN pmax pmax
comp=Z,25nm,1.2s
BMN Battle Mountai 51.28 320 *eP* **P** 18 01 14.6 +1.0
comp=Z,25nm,1.2s
MCMT McKenzie Canyo 51.29 327 *eP* **P** 18 01 15.1 +1.4
comp=Z,8.2nm,1.2s
MCMT *ep*P **pP** 18 01 46.4 +1.8
MCMT ScP **ScP** 18 06 14.0 +2.9
C19A Slack Wire Ran 51.35 332 ⇑P **P** 18 01 14.6 +0.7
baz=52,SNR=19
HLID Hailey 51.38 325 *eP* **P** 18 01 14.8 +0.5
comp=Z,13nm,0.9s
HLID *e*PcP **PcP** 18 02 25.9 -1.3
HLID Hailey 51.38 325 ⇑P **P** 18 01 15.3 +1.0
baz=52,SNR=21
B20A Solberg Farm, 51.39 333 ⇑P **P** 18 01 15.0 +0.9
baz=52,SNR=19
A20A Cobblestone Ra 51.67 334 ⇓P **P** 18 01 16.9 +0.7
baz=52,SNR=11
LRM Limekiln Ridge 51.73 328 *eP* **P** 18 01 17.4 +0.5
comp=Z,122nm,0.7s
LRM *e*PcP **PcP** 18 02 29.2 +0.7
WAKR Walker 51.76 317 *eP* **P** 18 01 18.6 +1.3
comp=Z,32nm,1.5s
WAKR *e*PcP **PcP** 18 02 29.7 +1.0
B19A Brinkman Farms 51.82 333 ⇓P **P** 18 01 18.3 +1.0
baz=52,SNR=7.8
EGMT Eagleton 51.89 332 *eP* **P** 18 01 17.7 -0.1
comp=Z,4.8nm,0.6s
EGMT *e*PcP **PcP** 18 02 28.8 0.0
EGMT Eagleton 51.89 332 ⇓P **P** 18 01 18.5 +0.6
baz=52,SNR=6.6
HRY Holter Researc 52.00 329 *eP* **P** 18 01 19.5 +0.8
comp=Z,17nm,0.7s
HRY *ep*P **pP** 18 01 49.9 +0.1
HRY *es*P **sP** 18 02 03.5 -1.1
HRY *e*PcP **PcP** 18 02 29.4 +0.1
A19A Klindworth Far 52.07 333 ⇑P **P** 18 01 20.0 +0.8
baz=52,SNR=7.7
MFID Camas Ranch 52.11 324 *eP* **P** 18 01 20.4 +0.8
comp=Z,20nm,0.8s
MFID *e*PcP **PcP** 18 02 30.4 +0.6
CHMT Chamberlain Mo 52.86 329 *eP* **P** 18 01 25.5 +0.3
comp=Z,6.5nm,1.5s
MSO Missoula 53.17 328 ⇓P **P** 18 01 27.8 +0.5
baz=53,SNR=6.9
WVOR Wild Horse Val 53.26 321 *eP* **P** 18 01 29.1 +1.0
WVOR *e**PP **pP** 18 01 59.0 -0.3
WVOR *e* 18 02 35.0
WVOR pmax pmax
comp=Z,50nm,1.1s
WVOR Wild Horse Val 53.26 321 *eP* **P** 18 01 29.1 +1.0
comp=Z,50nm,1.1s
WVOR *ep*P **pP** 18 01 59.0 -0.3
WVOR *e*PcP **PcP** 18 02 35.0 +0.8
BMO Blue Mountains 53.81 324 *eP* **P** 18 01 31.6 -0.5
comp=Z,7.1nm,0.9s
BMO *e*PcP **PcP** 18 02 36.7 +0.5
YBMT Yellow Bay 53.87 329 *eP* **P** 18 01 33.6 +1.1
comp=Z,8.5nm,0.7s
YBMT *ep*P **pP** 18 02 04.3 +0.6
YBMT *e*PcP **PcP** 18 02 36.7 +0.3
JTMT Jette 53.94 329 *eP* **P** 18 01 33.5 +0.5
comp=Z,13nm,1.1s
JTMT *ep*P **pP** 18 02 04.7 +0.5
JTMT *e*PcP **PcP** 18 02 36.5 -0.2
BLMT Blacktail Moun 54.15 329 *eP* **P** 18 01 35.1 +0.5
comp=Z,6.3nm,0.5s
BSMT Bassoo Peak 54.26 329 *eP* **P** 18 01 36.1 +0.7
comp=Z,18nm,1.3s
BSMT *ep*P **pP** 18 02 07.8 +1.1
BSMT *es*P **sP** 18 02 20.6 -0.8
LNOR Lincton Mounta 54.97 325 P **P** 18 01 41.4 +1.0
LNOR Lincton Mounta 54.97 325 P **P** 18 01 41.4 +1.0
M04C Macdoel 54.97 319 ⇓P **P** 18 01 41.9 +1.3
baz=55
KIPM Iron Peak 55.15 316 *eP* **P** 18 01 43.4 +1.6
K04D Chiloquin, OR 55.33 320 ⇑P **P** 18 01 44.4 +1.3
baz=55
J05D Fort Rock, OR 55.33 321 ⇑P **P** 18 01 44.8 +1.6
baz=56
PINOR Pine Mountain 55.38 322 *eP* **P** 18 01 44.8 +1.6
comp=Z,35nm,1.0s
PINOR *ep*P **pP** 18 02 16.3 +1.7
PINOR *e*PcP **PcP** 18 02 43.1 +1.1
FCC Fort Churchill 55.68 349 *eP* **P** 18 01 44.2 -0.9
FCC *e**PP **pP** 18 02 15.4 -1.1
FCC *e* 18 02 42.4
FCC Fort Churchill 55.68 349 *eP* **P** 18 01 44.2 -0.9
comp=Z,1.0nm,1.0s
FCC *ep*P **pP** 18 02 15.4 -1.1
FCC *e*PcP **PcP** 18 02 42.4 -0.5
NEW Newport 55.74 328 ⇑P **P** 18 01 46.2 +0.3
baz=56
J04D Umpqua Nationa 55.86 321 ⇓P **P** 18 01 48.0 +1.0
baz=56
I05D Terrebonne, OR 55.94 322 ⇓P **P** 18 01 49.1 +1.7
baz=56
DPW Davenport 56.09 327 P **P** 18 01 49.4 +1.1
DPW Davenport 56.09 327 P **P** 18 01 49.4 +1.1
I04A Tendick Farm, 56.33 321 ⇑P **P** 18 01 51.0 +0.9
baz=56
G05D Wamic, OR 56.40 323 ⇑P **P** 18 01 52.7 +2.2
baz=56
TRW Toppenish Ridg 56.50 324 P **P** 18 01 52.8 +1.5
VLL Laurance Lake 56.73 323 P **P** 18 01 55.3 +2.3
I03D Drain, OR 56.87 320 ⇑P **P** 18 01 55.1 +1.2
baz=57
TBM Table Mountain 57.02 325 P **P** 18 01 56.6 +1.6
NLW Nelson Butte 57.38 326 P **P** 18 01 58.5 +1.0
LON Longmire 57.49 324 *eP* **P** 18 01 59.1 +0.8
LON *e* 18 02 56.9
LON pmax pmax
comp=Z,17nm,0.9s
LON Longmire 57.49 324 *eP* **P** 18 01 59.1 +0.8
comp=Z,17nm,0.9s
LON *e*PcP PcP 18 02 56.9 +6.5
NLWA Neilton Lookou 59.02 324 *eP* **P** 18 02 09.8 +1.0
comp=Z,26nm,1.0s
USHA Ushuaia 59.69 175 P **P** 18 02 14.2 +1.1
USHA Ushuaia 59.69 175 P **P** 18 02 14.2 +1.1
comp=Z,27nm,0.6s,baz=350,slow=6.0,SNR=20
YKA Yellowknife Ar 64.26 341 P **P** 18 02 42.9 -0.7
YKA pP **pP** 18 03 15.1 -0.7
YKA Yellowknife Ar 64.26 341 P **P** 18 02 42.9 -0.7
comp=Z,13nm,0.6s,baz=134,slow=6.5,SNR=296
YKA pP **pP** 18 03 15.1 -0.7
comp=Z,6.2nm,0.8s,baz=134,slow=5.8,SNR=6.9
ILULI Ilulissat 66.47 9 ⇓*i*P **P** 18 02 58.0 +0.3
ILULI pmax pmax
comp=Z,38nm,0.8s
ILULI Ilulissat 66.47 9 ⇓*i*P **P** 18 02 58.0 +0.3
comp=Z,38nm,0.8s
PTEO Sao Teotonio 69.19 52 *eP* **P** 18 03 16.7 +1.3
comp=Z,61nm,1.5s
PNCL Nicolau / Gran 69.44 51 *eP* **P** 18 03 18.5 +1.6
comp=Z,38nm,1.9s
EVOP Sao Brissos 69.83 51 ⇓*i*P **P** 18 03 19.7 +0.4
EVOP pmax pmax
comp=Z,15nm,0.8s
EVOP Sao Brissos 69.83 51 ⇓*i*P **P** 18 03 19.7 +0.4
comp=Z,15nm,0.8s
PMTG Montargil 69.85 50 *eP* **P** 18 03 20.4 +1.0
comp=Z,27nm,1.4s
PMSA Palmer Station 69.89 175 *eP* **P** 18 03 19.5 +0.4
PMSA Palmer Station 69.89 175 P **P** 18 03 19.6 +0.5
comp=Z,17nm,0.8s,baz=9.2,slow=7.5,SNR=5.9
EVO Evora 69.92 51 ⇓*i*P **P** 18 03 19.7 -0.2
comp=Z,15nm,0.8s
PESTR Estremoz 70.30 50 *eP* **P** 18 03 23.4 +1.2
comp=Z,16nm,1.4s
PVIS Viseu 70.41 48 *eP* **P** 18 03 23.7 +0.8
comp=Z,26nm,1.4s
PCBR Castelo Branco 70.56 49 *eP* **P** 18 03 23.5 -0.2
comp=Z,24nm,2.1s
POLO Lamas de Olo 70.61 48 *eP* **P** 18 03 24.9 +0.8
comp=Z,17nm,1.4s
TIC Toumodi 70.64 85 *eP* **P** 18 03 23.7 -1.0
comp=Z,4.3nm,0.2s
LIC Lamto 70.65 85 *eP* **P** 18 03 24.2 -0.6
comp=Z,28nm,0.9s
DBIC Dimbokro 70.80 85 *eP* **P** 18 03 24.6 -1.1
comp=Z,6.7nm,0.7s
DBIC *ep*P **pP** 18 03 55.4 -3.1
DBIC Dimbokro 70.80 85 P **P** 18 03 25.0 -0.7
comp=Z,8.8nm,0.8s,baz=265,slow=7.0,SNR=12
KIC Kosan Boka 70.93 85 *eP* **P** 18 03 25.8 -0.7
comp=Z,29nm,1.0s
MVO Moncorvo 71.14 48 *eP* **P** 18 03 28.0 +0.7
comp=Z,36nm,2.0s
BORG Borgarnes 71.28 22 P **P** 18 03 29.6 +2.0
BORG Borgarnes 71.28 22 P **P** 18 03 29.6 +2.0
comp=Z,8.4nm,0.7s,baz=263,slow=3.2,SNR=3.7
SUMG Summit 71.57 11 *i* P **P** 18 03 30.5 +0.8
SUMG *i* *PP **pP** 18 04 01.8 -0.8
SUMG pmax pmax
comp=Z,55nm,0.8s
SUMG Summit 71.57 11 *i* P **P** 18 03 30.5 +0.8
comp=Z,55nm,0.8s
SUMG *i* pP **pP** 18 04 01.8 -0.8
SUMG Summit 71.57 11 *eP* **P** 18 03 30.3 +0.6
comp=Z,67nm,0.8s
SUMG *ep*P **pP** 18 04 01.8 -0.8
ESDC Sonseca Array 73.21 50 P **P** 18 03 40.5 +0.9
ESDC Sonseca Array 73.21 50 P **P** 18 03 40.5 +0.9
comp=Z,6.3nm,0.9s,baz=260,slow=6.2,SNR=16
INK Inuvik 74.03 341 *eP* **P** 18 03 43.4 -0.3
comp=Z,13nm,0.9s
INK *ep*P **pP** 18 04 16.2 -0.6
EGAK Eagle 75.31 336 *eP* **P** 18 03 51.3 +0.1
comp=Z,40nm,1.3s
SGMF Saint Gilles 75.50 41 *eP* **P** 18 03 53.1 +0.5
SGMF Saint Gilles 75.50 41 *eP* **P** 18 03 53.1 +0.5
SGMF Saint Gilles 75.50 41 *eP* **P** 18 03 53.1 +0.5
BMRM Bremner River 75.57 332 *eP* **P** 18 03 53.9 +1.0
comp=Z,18nm,0.6s
SJPF Ste Jean 75.70 47 *eP* **P** 18 03 54.9 +1.0
comp=Z,38nm,0.7s
SJPF Ste Jean 75.70 47 *eP* **P** 18 03 54.9 +1.0
SJPF pmax pmax
comp=Z,38nm,0.7s
SJPF Ste Jean 75.70 47 *eP* **P** 18 03 54.9 +1.0
comp=Z,38nm,0.7s
MENT Mentasta 75.76 334 P **P** 18 03 54.4 +0.5
DOT Dot Lake 76.13 335 *eP* **P** 18 03 56.9 +0.9
comp=Z,42nm,0.8s
DOT *ep*P **pP** 18 04 28.6 -0.5
ETSF Etsaut 76.16 47 *eP* **P** 18 03 57.4 +0.8
comp=Z,15nm,0.9s
ETSF Etsaut 76.16 47 *eP* **P** 18 03 57.4 +0.8
ETSF pmax pmax
comp=Z,15nm,0.9s
ETSF Etsaut 76.16 47 *eP* **P** 18 03 57.4 +0.8
comp=Z,15nm,0.9s
ESK Eskdalemuir 76.38 34 *eP* **P** 18 03 57.8 +0.3
ESK pmax pmax
comp=Z,26nm,1.0s
ESK Eskdalemuir 76.38 34 *eP* **P** 18 03 57.8 +0.3
comp=Z,26nm,1.0s
EKA Eskdalemuir Ar 76.41 34 P **P** 18 03 58.2 +0.6
EKA Eskdalemuir Ar 76.41 34 P **P** 18 03 58.2 +0.6
comp=Z,7.0nm,0.7s,baz=252,slow=4.5,SNR=18
PAX Paxson 76.54 334 *eP* **P** 18 03 58.4 0.0
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 76.54 334 *eP* **P** 18 03 58.4 0.0
comp=Z,12nm,1.0s
GRR Gorron 76.64 41 *eP* **P** 18 03 59.5 +0.4
comp=Z,39nm,0.7s
GRR Gorron 76.64 41 *eP* **P** 18 03 59.5 +0.4
GRR pmax pmax
comp=Z,39nm,0.7s
GRR Gorron 76.64 41 *eP* **P** 18 03 59.5 +0.4
comp=Z,39nm,0.7s
EPF Esparros 76.83 47 *eP* **P** 18 04 01.1 +0.7
comp=Z,18nm,0.7s
EPF Esparros 76.83 47 *eP* **P** 18 04 01.1 +0.7
EPF pmax pmax
comp=Z,18nm,0.7s
EPF Esparros 76.83 47 *eP* **P** 18 04 01.1 +0.7
comp=Z,18nm,0.7s
MFF Saint Martin d 76.89 43 *eP* **P** 18 04 01.1 +0.6
comp=Z,37nm,0.7s
MFF Saint Martin d 76.89 43 *eP* **P** 18 04 01.1 +0.6
MFF pmax pmax
comp=Z,37nm,0.7s
MFF Saint Martin d 76.89 43 *eP* **P** 18 04 01.1 +0.6
comp=Z,37nm,0.7s
FLN La Foliniere 76.94 41 *eP* **P** 18 04 01.4 +0.6
comp=Z,39nm,0.8s,baz=242
FLN *e*R
comp=Z,68nm,17.0s
FLN La Foliniere 76.94 41 *eP* **P** 18 04 01.4 +0.6
FLN pmax pmax
comp=Z,39nm,0.8s
FLN La Foliniere 76.94 41 *eP* **P** 18 04 01.4 +0.6
comp=Z,39nm,0.8s
TOA0 Torodi Ar. Sit 77.01 78 *eP* **P** 18 04 01.0 -0.8
TORD Torodi Ar. Bea 77.01 78 P **P** 18 04 01.4 -0.4
TORD PKKPbc **PKKPbc** 18 23 08.7 0.0
TORD Torodi Ar. Bea 77.01 78 P **P** 18 04 01.4 -0.4
comp=Z,2.3nm,0.5s,baz=281,slow=5.7,SNR=26
TORD PKKPbc **PKKPbc** 18 23 08.7 0.0
comp=Z,0.3nm,0.6s,baz=46,slow=1.9,SNR=4.5
LDF La Druitiere 77.16 41 *eP* **P** 18 04 02.4 +0.4
comp=Z,45nm,1.0s
LDF La Druitiere 77.16 41 *eP* **P** 18 04 02.4 +0.4
LDF pmax pmax
comp=Z,45nm,1.0s
LDF La Druitiere 77.16 41 *eP* **P** 18 04 02.4 +0.4
comp=Z,45nm,1.0s
LFF La Frestale 77.31 45 *eP* **P** 18 04 02.5 -0.4
comp=Z,30nm,0.8s
LFF La Frestale 77.31 45 *eP* **P** 18 04 02.5 -0.4
LFF pmax pmax
comp=Z,30nm,0.8s
LFF La Frestale 77.31 45 *eP* **P** 18 04 02.5 -0.4
comp=Z,30nm,0.8s
ILAR Eielson Array 77.64 336 P **P** 18 04 04.1 -0.2
ILAR pP **pP** 18 04 36.4 -1.2
ILAR PP **PP** 18 06 57.8 -3.3
ILAR Eielson Array 77.64 336 P **P** 18 04 04.1 -0.2
comp=Z,11nm,0.7s,baz=118,slow=4.1,SNR=215
ILAR pP **pP** 18 04 36.4 -1.2
comp=Z,2.0nm,0.8s,baz=108,slow=4.3,SNR=2.8
ILAR PP **PP** 18 06 57.8 -3.3
comp=Z,1.3nm,1.1s,baz=120,slow=5.3,SNR=3.8
RJF Les Rejaudoux 77.90 45 *eP* **P** 18 04 05.7 -0.5
comp=Z,25nm,0.9s
RJF *e*R
comp=Z,105nm,18.5s
RJF Les Rejaudoux 77.90 45 *eP* **P** 18 04 05.7 -0.5
RJF pmax pmax
comp=Z,25nm,0.9s
RJF Les Rejaudoux 77.90 45 *eP* **P** 18 04 05.7 -0.5
comp=Z,25nm,0.9s
COLA College 78.06 336 ⇓*eP* **P** 18 04 06.8 +0.2
COLA pmax pmax
comp=Z,75nm,0.9s
MTLF Montolieu 78.22 47 *eP* **P** 18 04 08.4 +0.3
comp=Z,37nm,1.2s
MTLF Montolieu 78.22 47 *eP* **P** 18 04 08.4 +0.3
MTLF pmax pmax
comp=Z,37nm,1.2s
MTLF Montolieu 78.22 47 *eP* **P** 18 04 08.4 +0.3
comp=Z,37nm,1.2s
MCK McKinley 78.24 334 *eP* **P** 18 04 07.7 -0.1
MCK pmax pmax
comp=Z,21nm,0.9s
MCK McKinley 78.24 334 *eP* **P** 18 04 07.7 -0.1
comp=Z,21nm,0.9s
CAF Calviac 78.25 45 *eP* **P** 18 04 08.6 +0.4
CAF Calviac 78.25 45 *eP* **P** 18 04 08.6 +0.4
CAF Calviac 78.25 45 *eP* **P** 18 04 08.6 +0.4
TCF Toulx Ste Croi 78.47 44 *eP* **P** 18 04 09.5 +0.1
TCF Toulx Ste Croi 78.47 44 *eP* **P** 18 04 09.5 +0.1
TCF Toulx Ste Croi 78.47 44 *eP* **P** 18 04 09.5 +0.1
TRF Thorofare Moun 78.77 334 *eP* **P** 18 04 10.8 0.0
comp=Z,16nm,1.0s
BGF Bois d'Agland 78.94 44 *eP* **P** 18 04 12.1 +0.2
comp=Z,16nm,0.7s
BGF Bois d'Agland 78.94 44 *eP* **P** 18 04 12.1 +0.2
BGF pmax pmax
comp=Z,16nm,0.7s
BGF Bois d'Agland 78.94 44 *eP* **P** 18 04 12.1 +0.2
comp=Z,16nm,0.7s
RSO Redoubt South 79.36 331 *eP* **P** 18 04 13.9 -0.2
comp=Z,30nm,0.7s
SSF Saint Saulge 79.43 43 *eP* **P** 18 04 14.5 0.0
comp=Z,26nm,1.0s
SSF Saint Saulge 79.43 43 *eP* **P** 18 04 14.5 0.0
SSF pmax pmax
comp=Z,27nm,1.0s
SSF Saint Saulge 79.43 43 *eP* **P** 18 04 14.5 0.0
comp=Z,26nm,1.0s
LASF Ste Croix 79.46 46 *eP* **P** 18 04 15.0 +0.2
comp=Z,16nm,0.9s
LASF Ste Croix 79.46 46 *eP* **P** 18 04 15.0 +0.2
comp=Z,16nm,0.9s
PPLA Purkeypile 79.51 333 *eP* **P** 18 04 14.6 -0.3
comp=Z,16nm,0.6s
COLD Coldfoot 79.55 338 *eP* **P** 18 04 15.7 +0.9
comp=Z,19nm,0.8s
COLD *ep*P **pP** 18 04 47.8 -0.5
SMF Signal de Mont 79.63 44 *eP* **P** 18 04 15.7 +0.1
comp=Z,26nm,0.9s
SMF Signal de Mont 79.63 44 *eP* **P** 18 04 15.7 +0.1
SMF pmax pmax
comp=Z,26nm,0.9s
SMF Signal de Mont 79.63 44 *eP* **P** 18 04 15.7 +0.1
comp=Z,26nm,0.9s
LOR Lormes 79.68 43 *eP* **P** 18 04 15.9 0.0
comp=Z,22nm,1.0s,baz=252
LOR *e*R
comp=Z,62nm,18.5s
LOR Lormes 79.68 43 *eP* **P** 18 04 15.9 0.0
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 80.09 45 *eP* **P** 18 04 18.5 +0.3
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 80.09 45 *eP* **P** 18 04 18.5 +0.3
VIVF pmax pmax
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 80.09 45 *eP* **P** 18 04 18.5 +0.3
comp=Z,14nm,0.8s
BAIF Baives 80.12 40 *eP* **P** 18 04 18.2 0.0
BAIF Baives 80.12 40 *eP* **P** 18 04 18.2 0.0
BAIF Baives 80.12 40 *eP* **P** 18 04 18.2 0.0
DOU Dourbes 80.38 40 P **P** 18 04 20.4 +0.8
TAM Tamanrasset 80.41 68 *eP* **P** 18 04 22.3 +1.8
TAM pmax pmax
comp=Z,19nm,1.1s
TAM Tamanrasset 80.41 68 *eP* **P** 18 04 22.2 +1.8
comp=Z,19nm,1.1s
GIVF Givet 80.52 40 *eP* **P** 18 04 20.8 +0.4
GIVF Givet 80.52 40 *eP* **P** 18 04 20.8 +0.4
GIVF Givet 80.52 40 *eP* **P** 18 04 20.8 +0.4
SFTF Sexfontaines 80.54 42 *eP* **P** 18 04 21.4 +0.9
comp=Z,26nm,0.7s
SFTF Sexfontaines 80.54 42 *eP* **P** 18 04 21.4 +0.9
comp=Z,26nm,0.7s
MEZF Maizieres J'vi 80.57 42 *eP* **P** 18 04 21.1 +0.5
comp=Z,44nm,1.0s,baz=245
MEZF Maizieres J'vi 80.57 42 *eP* **P** 18 04 21.1 +0.5
comp=Z,44nm,1.0s
SMRF Simiane la Rot 80.70 46 *eP* **P** 18 04 22.0 +0.5
SMRF Simiane la Rot 80.70 46 *eP* **P** 18 04 22.0 +0.5
IM04 Indian Mountai 80.72 336 *eP* **P** 18 04 20.8 -0.3
ORIF Oris-en-Rattie 80.95 45 *eP* **P** 18 04 23.2 +0.3
comp=Z,24nm,0.9s
ORIF *e*R
comp=Z,79nm,18.2s
ORIF Oris-en-Rattie 80.95 45 *eP* **P** 18 04 23.2 +0.3
ORIF pmax pmax
comp=Z,24nm,0.9s
ORIF Oris-en-Rattie 80.95 45 *eP* **P** 18 04 23.2 +0.3
comp=Z,24nm,0.9s
PAGF Fort de Pagny 81.02 42 *eP* **P** 18 04 23.4 +0.4
comp=Z,8.8nm,1.0s
PAGF Fort de Pagny 81.02 42 *eP* **P** 18 04 23.4 +0.4
comp=Z,8.8nm,1.0s
CABF La Chapelle 81.17 44 *eP* **P** 18 04 23.4 -0.6
comp=Z,35nm,1.1s
CABF La Chapelle 81.17 44 *eP* **P** 18 04 23.4 -0.6
CABF pmax pmax
comp=Z,35nm,1.1s
CABF La Chapelle 81.17 44 *eP* **P** 18 04 23.4 -0.6
comp=Z,35nm,1.1s
LMR La Mourre 81.35 47 *eP* **P** 18 04 25.3 +0.4
LMR La Mourre 81.35 47 *eP* **P** 18 04 25.3 +0.4
WLF Walferdange 81.36 41 P **P** 18 04 26.0 +1.2
HAU Haudompre 81.41 42 *eP* **P** 18 04 25.3 +0.2
HAU *e*R
comp=Z,65nm,20.5s
HAU Haudompre 81.41 42 *eP* **P** 18 04 25.3 +0.2
HAU Haudompre 81.41 42 *eP* **P** 18 04 25.3 +0.2
FRF La Foret Royal 81.46 47 *eP* **P** 18 04 25.8 +0.3
comp=Z,36nm,1.1s
FRF La Foret Royal 81.46 47 *eP* **P** 18 04 25.8 +0.3
FRF pmax pmax
comp=Z,36nm,1.1s
FRF La Foret Royal 81.46 47 *eP* **P** 18 04 25.8 +0.3
comp=Z,36nm,1.1s
LPL La Plagne 81.58 45 *eP* **P** 18 04 26.4 +0.1
comp=Z,24nm,1.1s
LPL La Plagne 81.58 45 *eP* **P** 18 04 26.4 +0.1
LPL pmax pmax
comp=Z,24nm,1.1s
LPL La Plagne 81.58 45 *eP* **P** 18 04 26.4 +0.1
comp=Z,24nm,1.1s
MBDF Montbardon 81.58 46 *eP* **P** 18 04 27.1 +0.8
comp=Z,16nm,0.9s
MBDF Montbardon 81.58 46 *eP* **P** 18 04 27.1 +0.8
MBDF pmax pmax
comp=Z,16nm,0.9s
MBDF Montbardon 81.58 46 *eP* **P** 18 04 27.1 +0.8
comp=Z,16nm,0.9s
LPG La Plagne 81.59 45 *eP* **P** 18 04 26.7 +0.2
comp=Z,16nm,0.9s
LPG La Plagne 81.59 45 *eP* **P** 18 04 26.7 +0.2
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 81.59 45 *eP* **P** 18 04 26.7 +0.2
comp=Z,16nm,0.9s
HINF Hinteralfeld 81.74 43 *eP* **P** 18 04 26.8 -0.1
comp=Z,7.0nm,0.7s
HINF Hinteralfeld 81.74 43 *eP* **P** 18 04 26.8 -0.1
HINF pmax pmax
comp=Z,7.0nm,0.7s
HINF Hinteralfeld 81.74 43 *eP* **P** 18 04 26.8 -0.1
comp=Z,7.0nm,0.7s
SBF Sospel 82.04 47 *eP* **P** 18 04 28.9 +0.3
comp=Z,24nm,0.8s
SBF Sospel 82.04 47 *eP* **P** 18 04 28.9 +0.3
SBF pmax pmax
comp=Z,24nm,0.8s
SBF Sospel 82.04 47 *eP* **P** 18 04 28.9 +0.3
comp=Z,24nm,0.8s
CDF Champ du Feu 82.04 42 *eP* **P** 18 04 28.6 +0.1
comp=Z,8.6nm,0.7s
CDF Champ du Feu 82.04 42 *eP* **P** 18 04 28.6 +0.1
CDF pmax pmax
comp=Z,9.0nm,0.7s
CDF Champ du Feu 82.04 42 *eP* **P** 18 04 28.6 +0.1
comp=Z,8.6nm,0.7s
BUG Bochum--Univer 82.15 39 *eP* **P** 18 04 29.9 +1.0
comp=Z,6.0nm,0.8s
BFO Black Forest 82.74 42 *i* P **P** 18 04 34.5 +2.4
BFO Black Forest 82.74 42 *eP* **P** 18 04 32.5 +0.4
comp=Z,3.0nm,0.8s
TNS Taunus Mts 82.86 40 *eP* **P** 18 04 33.7 +1.0
comp=Z,19nm,1.4s
PGF Pioggiola 83.17 48 *eP* **P** 18 04 33.2 -1.3
PGF Pioggiola 83.17 48 *eP* **P** 18 04 33.2 -1.3
PGF Pioggiola 83.17 48 *eP* **P** 18 04 33.2 -1.3
TUE Stuetta 83.42 44 *eP* **P** 18 04 36.6 +0.7
comp=Z,7.2nm,0.7s
MUD Monsted U'grnd 83.43 34 *i* P **P** 18 04 36.8 +1.4
MUD pmax pmax
comp=Z,19nm,0.9s
MUD Monsted U'grnd 83.43 34 *i* P **P** 18 04 36.8 +1.4
comp=Z,19nm,0.9s
KEST Kesra 83.52 55 P **P** 18 04 38.0 +1.6

KEST	**Kesra**	**83.52**	**55**	P		**P**	**18 04 38.0**	**+1.6**
	comp=Z,3.5nm,0.8s,baz=291,slow=2.6,SNR=8.3							
DAVA	**Damuels**	**83.78**	**43**⇓	*i*P		**P**	**18 04 38.7**	**+1.1**
	comp=Z,14nm,1.0s							
DAVOX	**Davos/Dischmat**	**83.78**	**44**	P		**P**	**18 04 39.0**	**+1.3**
DAVOX	**Davos/Dischmat**	**83.78**	**44**	P		**P**	**18 04 39.0**	**+1.3**
	comp=Z,6.5nm,0.6s,baz=332,slow=22,SNR=10							
NRDL	**Niedersach Rie**	**83.92**	**38**	*e*P		**P**	**18 04 39.2**	**+1.3**
	comp=Z,7.0nm,0.9s							
BSEG	**Bad Segeberg**	**84.06**	**36**	*e*P		**P**	**18 04 39.7**	**+1.1**
	comp=Z,10.0nm,0.9s							
CLZ	**Clausthal**	**84.09**	**38**	*e*P		**P**	**18 04 40.2**	**+1.3**
	comp=Z,7.0nm,0.8s							
FETA	**Feichten**	**84.36**	**43**⇑	*i*PcP		**P**	**18 04 41.8**	**+1.2**
	comp=Z,9.4nm,1.1s							
NB2	**NORSAR Subarra**	**84.56**	**29**	P		**P**	**18 04 41.8**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=271,slow=4.8							
NOA	**NORSAR Array B**	**84.56**	**29**	P		**P**	**18 04 42.4**	**+1.3**
NOA				pP		**pP**	**18 05 15.8**	**+0.8**
NOA	**NORSAR Array B**	**84.56**	**29**	P		**P**	**18 04 42.4**	**+1.3**
	comp=Z,6.3nm,0.7s,baz=273,slow=4.9,SNR=20							
NOA				pP		**pP**	**18 05 15.8**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=270,slow=4.9,SNR=3.3							
MOX	**Moxa**	**84.88**	**40**	*e*P		**P**	**18 04 44.1**	**+1.2**
	comp=Z,8.0nm,1.2s							
ROTZ	**Rotzenmuhle**	**85.28**	**41**	*e*P		**P**	**18 04 46.5**	**+1.6**
	comp=Z,5.0nm,1.3s							
TANN	**Tannenbergstha**	**85.43**	**40**	*e*P		**P**	**18 04 47.1**	**+1.4**
	comp=Z,14nm,1.1s							
CLL	**Collm**	**85.74**	**39**⇑	*i*P		**P**	**18 04 48.6**	**+1.5**
CLL				*e**PP		**pP**	**18 05 22.0**	**+1.0**
CLL				pmax		pmax		
	comp=Z,20nm,0.9s							
CLL	**Collm**	**85.74**	**39**⇑	*i*P		**P**	**18 04 48.6**	**+1.5**
	comp=Z,20nm,0.9s							
CLL				*e*pP		**pP**	**18 05 22.0**	**+1.0**
WET	**Wettzell**	**85.75**	**41**	*e*P		**P**	**18 04 48.6**	**+1.3**
	comp=Z,7.0nm,1.0s							
RJOB	**Jochberg**	**85.75**	**43**	*e*P		**P**	**18 04 48.3**	**+1.0**
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**85.80**	**30**	P		**P**	**18 04 47.8**	**+0.6**
HFS	**Hagfors**	**85.80**	**30**	P		**P**	**18 04 47.8**	**+0.6**
	comp=Z,8.7nm,0.6s,baz=242,slow=2.9,SNR=26							
SPITS	**Spitsbergen Ar**	**85.90**	**12**	P		**P**	**18 04 48.1**	**+0.7**
SPITS	**Spitsbergen Ar**	**85.90**	**12**	P		**P**	**18 04 48.1**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=321,slow=1.8,SNR=8.0							
KHC	**Kasperske Hory**	**86.20**	**41**⇓	*e*P		**P**	**18 04 50.9**	**+1.4**
KHC				epP		**pP**	**18 05 24.5**	**+1.0**
GEC2	**GERESS Array S**	**86.30**	**41**	*e*P		**P**	**18 04 51.0**	**+0.9**
	comp=Z,7.0nm,0.9s							
GERES	**GERESS Array B**	**86.30**	**41**	P		**P**	**18 04 50.8**	**+0.7**
GERES	**GERESS Array B**	**86.30**	**41**	P		**P**	**18 04 50.8**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=270,slow=4.0,SNR=25							
BRG	**Berggiesshubel**	**86.35**	**39**	*e*P		**P**	**18 04 51.7**	**+1.5**
	comp=Z,29nm,1.0s							
BRG	**Berggiesshubel**	**86.35**	**39**	*e*P		**P**	**18 04 51.7**	**+1.5**
BRG				pmax		pmax		
	comp=Z,29nm,1.0s							
BRG	**Berggiesshubel**	**86.35**	**39**	*e*P		**P**	**18 04 51.5**	**+1.4**
	comp=Z,13nm,0.9s							
TNA	**Tin City**	**86.51**	**335**	*e*P		**P**	**18 04 51.1**	**+0.5**
	comp=Z,25nm,1.2s							
TNA				epP		**pP**	**18 05 24.2**	**-0.3**
JAVS	**Javornik**	**86.71**	**44**	*i*P		**P**	**18 04 53.2**	**+1.1**
PRU	**Pruhonice**	**86.78**	**40**⇓	*i*P		**P**	**18 04 53.4**	**+1.1**
PRU				epP		**pP**	**18 05 26.8**	**+0.6**
VNDS	**Vrh nad Dolski**	**87.14**	**44**	*i*P		**P**	**18 04 55.3**	**+1.2**
VNA1	**Neumayer--Stat**	**87.22**	**162**	P		**P**	**18 04 54.6**	**+0.8**
TREC	**Trest**	**87.44**	**41**⇓	*i*P		**P**	**18 04 56.7**	**+1.2**
VNA2	**Neumayer--Watz**	**87.59**	**162**	P		**P**	**18 04 56.1**	**+0.4**
ARSA	**Arzberg**	**87.62**	**43**⇑	*i*PcP		**PcP**	**18 04 57.4**	**-0.8**
	comp=Z,9.4nm,0.8s							
UPC	**Upice**	**87.69**	**40**⇓	*e*P		**P**	**18 04 58.4**	**+1.8**
CONA	**Conrad Observa**	**87.80**	**42**⇑	*i*PcP		**PcP**	**18 04 58.6**	**-0.5**
	comp=Z,11nm,0.9s							
KSP	**Ksiaz**	**87.84**	**39**	*e*P		**P**	**18 04 59.2**	**+1.9**
DPC	**Dobruska-Polom**	**87.90**	**40**⇓	*i*P		**P**	**18 04 58.9**	**+1.2**
DPC				epP		**pP**	**18 05 33.1**	**+1.3**
VRAC	**Vranov**	**88.17**	**41**⇑	*i*P		**P**	**18 05 00.5**	**+1.5**
VRAC	**Vranov**	**88.17**	**41**	P		**P**	**18 05 00.4**	**+1.5**
VRAC	**Vranov**	**88.17**	**41**	P		**P**	**18 05 00.4**	**+1.5**
	comp=Z,11nm,0.9s,baz=287,slow=6.6,SNR=9.6							
KRLC	**Kraliky**	**88.22**	**40**⇓	*e*P		**P**	**18 05 00.9**	**+1.7**
KRLC				epP		**pP**	**18 05 34.4**	**+1.1**
MORC	**Moravsky Berou**	**88.74**	**40**	*e*P		**P**	**18 05 02.8**	**+1.2**
MORC				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MORC	**Moravsky Berou**	**88.74**	**40**⇑	*i*P		**P**	**18 05 03.6**	**+2.0**
MORC	**Moravsky Berou**	**88.74**	**40**	*e*P		**P**	**18 05 02.8**	**+1.2**
	comp=Z,5.2nm,0.8s							
OKC	**Ostrava-Krasne**	**89.12**	**40**⇓	*e*P		**P**	**18 05 05.4**	**+2.0**
OKC				epP		**pP**	**18 05 39.2**	**+1.7**
SNAA	**Sanae**	**89.23**	**162**	P		**P**	**18 05 03.8**	**+0.3**
SNAA	**Sanae**	**89.23**	**162**	*e*P		**P**	**18 05 03.5**	**0.0**
	comp=Z,21nm,1.1s							
SNAA	**Sanae**	**89.23**	**162**	P		**P**	**18 05 03.7**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=269,slow=6.6,SNR=28							
ARCES	**ARCESS Array B**	**89.62**	**20**	P		**P**	**18 05 05.8**	**+0.4**
ARCES	**ARCESS Array B**	**89.62**	**20**	P		**P**	**18 05 05.8**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=289,slow=4.5,SNR=9.2							
PKSM	**Moragy**	**89.86**	**44**	⇓P		**P**	**18 05 08.2**	**+1.3**
PKSM	**Moragy**	**89.86**	**44**⇓	*i*P		**P**	**18 05 08.2**	**+1.3**
KECS	**Kecovo**	**90.81**	**41**	*e*P		**P**	**18 05 12.1**	**+0.8**
KECS	**Kecovo**	**90.81**	**41**	*e*P		**P**	**18 05 12.1**	**+0.8**
STHS	**Stebnicka Huta**	**91.17**	**40**	*e*P		**P**	**18 05 14.8**	**+1.8**
STHS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
STHS	**Stebnicka Huta**	**91.17**	**40**	*e*P		**P**	**18 05 14.8**	**+1.8**
CRVS	**Cervenica-Dubn**	**91.39**	**41**	*e*P		**P**	**18 05 14.9**	**+0.9**
CRVS				pmax		pmax		
	comp=Z,140nm,3.5s							
CRVS	**Cervenica-Dubn**	**91.39**	**41**	*e*P		**P**	**18 05 14.9**	**+0.9**
SUW	**Suwalki**	**91.61**	**36**	*e*P		**P**	**18 05 15.6**	**+0.8**
SUW	**Suwalki**	**91.61**	**36**	*e*P		**P**	**18 05 15.6**	**+0.8**
FINES	**FINESS Array B**	**91.64**	**28**	P		**P**	**18 05 15.0**	**+0.2**
FINES	**FINESS Array B**	**91.64**	**28**	P		**P**	**18 05 15.0**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=282,slow=1.8,SNR=9.6							
FINES				LR		LR	18 42 59.7	
	comp=Z,37nm,21.5s,baz=271,slow=33							
BZS	**Buzias**	**91.99**	**44**⇑	P		**P**	**18 05 18.5**	**+1.7**
BZS	**Buzias**	**91.99**	**44**⇑	*i*P		**P**	**18 05 18.5**	**+1.7**
KWP	**Kalwaria Pacla**	**92.08**	**40**	⇑P		P	18 05 20.9	+3.8
KWP	**Kalwaria Pacla**	**92.08**	**40**⇑	*i*P		P	18 05 20.9	+3.8
TRPA	**Tarpa**	**92.22**	**42**⇓	*i*P		**P**	**18 05 19.4**	**+1.6**
VSU	**Vasula**	**92.64**	**31**	P		**P**	**18 05 20.0**	**+0.5**
VSU				pmax		pmax		
	comp=Z,30nm,0.8s							
GZR	**Gura Zlata**	**92.83**	**44**⇑	*i*P		**P**	**18 05 22.5**	**+1.7**
GZR	**Gura Zlata**	**92.83**	**44**⇑	*i*P		**P**	**18 05 22.5**	**+1.7**
BURAR	**Bucovina Array**	**94.08**	**42**	⇑P		**P**	**18 05 28.5**	**+1.9**
BURAR	**Bucovina Array**	**94.08**	**42**⇑	*i*P		**P**	**18 05 28.5**	**+1.9**
MMB	**Musomiste**	**94.16**	**48**	⇓P		**P**	**18 05 27.9**	**+0.9**
MMB	**Musomiste**	**94.16**	**48**⇓	*i*P		**P**	**18 05 27.9**	**+0.9**
VOIR		**94.40**	**44**	⇓P		P	18 05 31.9	+3.9
VOIR		**94.40**	**44**⇓	*i*P		P	18 05 31.9	+3.9
QSPA	**South Pole Qui**	**94.75**	**180**	*e*P		**P**	**18 05 29.6**	**+0.5**
	comp=Z,26nm,0.9s							
QSPA				epP		**pP**	**18 06 02.4**	**-1.0**
QSPA	**South Pole Qui**	**94.75**	**180**	P		**P**	**18 05 30.2**	**+1.0**
	comp=Z,24nm,0.8s,baz=162,slow=1.7,SNR=66							
MLR	**Muntele Rosu**	**95.01**	**44**⇑	*i*P		**P**	**18 05 32.2**	**+1.4**
MLR	**Muntele Rosu**	**95.01**	**44**	P		**P**	**18 05 32.2**	**+1.4**
MLR	**Muntele Rosu**	**95.01**	**44**	P		**P**	**18 05 32.2**	**+1.4**
	comp=Z,1.8nm,1.0s,baz=30,slow=5.6,SNR=8.3							
VRI	**Vrincioaia**	**95.47**	**43**⇑	P		**P**	**18 05 35.2**	**+2.4**
VRI	**Vrincioaia**	**95.47**	**43**⇑	*i*P		**P**	**18 05 35.2**	**+2.4**
BILL	**Bilibino**	**95.64**	**340**⇓	*e*P		**P**	**18 05 33.1**	**0.0**
BILL				*e*			18 09 29.8	
BILL				pmax		pmax		
	comp=Z,10.0nm,1.7s							
KIEV	**Kiev**	**95.94**	**38**	*e*P		**P**	**18 05 35.2**	**+0.4**
AKASG	**Malin Array Be**	**95.94**	**38**	*i*P		**P**	**18 05 35.2**	**+0.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**95.94**	**38**	P		**P**	**18 05 34.7**	**-0.1**
AKASG				PKKPbc		**PKKPbc**	**18 22 22.2**	**-2.4**
AKASG	**Malin Array Be**	**95.94**	**38**	P		**P**	**18 05 34.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=279,slow=4.1,SNR=8.1							
AKASG				PKKPbc		**PKKPbc**	**18 22 22.2**	**-2.4**
	comp=Z,0.1nm,0.2s,baz=82,slow=2.6,SNR=5.4							
AKASG				LR		LR	18 47 37.8	
	comp=Z,21nm,21.3s,baz=335,slow=34							
TIXI	**Tiksi**	**102.04**	**352**	P		**Pdif**	**18 06 00.0**	**-1.6**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BVAR	**Borovoye Array**	**115.87**	**22**	PKIKP		**PKPdf**	**18 10 49.4**	**-0.5**
BVAR	**Borovoye Array**	**115.87**	**22**	PKP		**PKPdf**	**18 10 49.4**	**-0.5**
BVAR	**Borovoye Array**	**115.87**	**22**	PKP		**PKPdf**	**18 10 49.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=214,slow=2.1,SNR=5.0							
ZAA0	**Zalesovo Array**	**119.37**	**13**	*e*PKPdf		**PKPdf**	**18 10 55.7**	**-0.9**
ZALV	**Zalesovo Beam**	**119.37**	**13**	PKIKP		**PKPdf**	**18 10 55.8**	**-0.8**
ZALV	**Zalesovo Beam**	**119.37**	**13**	PKP		**PKPdf**	**18 10 55.8**	**-0.8**
ZALV	**Zalesovo Beam**	**119.37**	**13**	PKP		**PKPdf**	**18 10 55.8**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=270,slow=2.4,SNR=12							
USRK	**Ussuriysk Arra**	**125.16**	**336**	PKP		**PKPdf**	**18 11 08.0**	**0.0**
	comp=Z,11nm,0.8s,baz=309,slow=0.6,SNR=20							
MK31	**Makanchi Array**	**125.23**	**18**	*e*PKIKP		**PKPdf**	**18 11 07.0**	**-1.1**
MK31	**Makanchi Array**	**125.23**	**18**	*e*PKPdf		**PKPdf**	**18 11 07.0**	**-1.1**
MKAR	**Makanchi Array**	**125.23**	**18**	PKIKP		**PKPdf**	**18 11 06.9**	**-1.2**
MKAR							18 12 54.8	
MKAR	**Makanchi Array**	**125.23**	**18**	PKP		**PKPdf**	**18 11 06.8**	**-1.2**
MKAR				PP		**PP**	**18 12 54.8**	**-3.6**
MKAR	**Makanchi Array**	**125.23**	**18**	PKP		**PKPdf**	**18 11 06.8**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=300,slow=2.4,SNR=40							
MKAR				PP		**PP**	**18 12 54.8**	**-3.6**
	comp=Z,0.5nm,0.9s,baz=344,slow=4.7,SNR=2.4							
EKS2	**Erkin-Say**	**125.46**	**27**	*e*PKIKP		**PKPdf**	**18 11 08.1**	**-0.7**
EKS2	**Erkin-Say**	**125.46**	**27**	*e*PKPdf		**PKPdf**	**18 11 08.1**	**-0.7**
AAK	**Ala-Archa**	**125.81**	**27**	*e*PKIKP		**PKPdf**	**18 11 08.0**	**-1.5**
AAK	**Ala-Archa**	**125.81**	**27**	*e*PKPdf		**PKPdf**	**18 11 08.0**	**-1.5**
ULN	**Ulaanbaatar**	**127.56**	**357**	*e*PKPdf		**PKPdf**	**18 11 12.7**	**0.0**
SONM	**Songino Array**	**127.61**	**358**	PKP		**PKPdf**	**18 11 12.6**	**-0.2**
SONM	**Songino Array**	**127.61**	**358**	PKP		**PKPdf**	**18 11 12.6**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=337,slow=1.2,SNR=23							
MJAR	**Matsushiro Arr**	**127.95**	**325**	PKP		**PKPdf**	**18 11 13.4**	**-0.2**
MJAR	**Matsushiro Arr**	**127.95**	**325**	PKP		**PKPdf**	**18 11 13.4**	**-0.2**
	comp=Z,6.6nm,0.9s,baz=96,slow=1.6,SNR=12							
MAJO	**Matsushiro**	**127.95**	**325**⇑	*i*PKIKP		**PKPdf**	**18 11 13.5**	**-0.1**
MAT	**Matsushiro**	**127.95**	**325**	PKP		**PKPdf**	**18 11 12.9**	**-0.7**
CN2	**Changchun**	**127.95**	**340**	*e*PKP		**PKPdf**	**18 11 09.5**	**-3.8**
KSH	**Kashi**	**128.96**	**28**	*e*PKP		**PKPdf**	**18 11 16.0**	**+0.4**
KSH				*e*SKS		**SKSdf**	**18 18 12.5**	**-2.7**
KSH				AMB		AMB		
	comp=Z,33nm,4.7s							
KSH				LR		LR		
	comp=Z,28nm,4.5s							
KSH				LR		LR		
	comp=Z,23nm,6.3s							
KSH				LR		LR		
	comp=Z,21nm,2.0s							
WMQ	**Urumqi**	**129.49**	**15**	PKP		**PKPdf**	**18 11 15.5**	**-0.9**
WMQ				LR		LR		
	comp=Z,12nm,18.0s							
WMQ				LR		LR		
	comp=Z,13nm,18.2s							
WMQ				LR		LR		
	comp=Z,17nm,18.4s							
KSRS	**Korea Array**	**132.47**	**334**	PKP		**PKPdf**	**18 11 22.6**	**+0.5**
	comp=Z,8.8nm,0.7s,baz=17,slow=2.0,SNR=36							
KSRS				pPKP		**pPKPdf**	**18 11 56.9**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=22,slow=1.7,SNR=2.4							
KSAR	**Wonju Array Be**	**132.50**	**334**	PKP		**PKPdf**	**18 11 22.6**	**+0.5**
KSAR				pPKP		**pPKPdf**	**18 11 56.9**	**-1.0**
HHC	**Hu-ho-hao-te**	**134.11**	**352**	*e*PKP		**PKPdf**	**18 11 21.3**	**-4.0**
HHC				PP		**PP**	**18 13 57.0**	**+1.0**
HHC				PKS		PKSdf	18 14 56.3	-5.4
HHC				AMB		AMB		
	comp=Z,39nm,7.7s							
STKA	**Stephens Creek**	**135.61**	**228**	PKP		**PKPdf**	**18 11 28.5**	**+0.4**
STKA	**Stephens Creek**	**135.61**	**228**	PKP		**PKPdf**	**18 11 28.5**	**+0.4**
	comp=Z,7.6nm,0.8s,baz=122,slow=4.1,SNR=13							
GTA	**Gaotai**	**135.91**	**5**	*e*PKP		**PKPdf**	**18 11 29.3**	**+0.6**
GTA				sPKP			18 12 20.3	
CTA	**Charters Tower**	**136.13**	**246**	PKP		**PKPdf**	**18 11 29.3**	**-0.1**
CTA	**Charters Tower**	**136.13**	**246**	PKP		**PKPdf**	**18 11 29.3**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=217,slow=5.1,SNR=4.4							
LZH	**Lanzhou**	**139.40**	**0**	*e*PKP		**PKPdf**	**18 11 38.3**	**+3.0**
LZH				sPKP			18 12 28.3	
NJ2	**Nanjing**	**140.77**	**340**	*e*PKP		**PKPdf**	**18 11 37.3**	**-0.3**
PYUN	**Piuthan**	**141.60**	**31**	*e*P		PKPdf	18 11 33.3	-6.2
	comp=Z,9.9nm,0.5s							
DANN	**Dangsing**	**141.78**	**29**	*e*P		PKPdf	18 11 34.2	-5.8
	comp=Z,19nm,0.9s							
GKN	**Gorkha**	**142.50**	**29**	*e*P		**PKPdf**	**18 11 36.6**	**-4.5**
	comp=Z,20nm,0.8s							
KKN	**Kakani**	**142.98**	**28**	*e*P		**PKPdf**	**18 11 37.8**	**-4.2**
	comp=Z,26nm,0.8s							
DMN	**Daman**	**143.05**	**29**	*e*P		PKPab	18 11 38.3	+0.6
	comp=Z,48nm,0.6s							
GUN	**Gumba**	**143.16**	**27**	*e*P		PKPab	18 11 38.9	+0.7
	comp=Z,79nm,0.8s							
PKIN	**Phulchoki**	**143.22**	**28**	*e*P		PKPab	18 11 38.4	0.0
	comp=Z,29nm,0.6s							
PKI	**Pulchoki**	**143.23**	**28**	*e*P		PKPab	18 11 38.5	0.0
	comp=Z,36nm,0.7s							
JIRN	**Jiri**	**143.51**	**27**	*e*P		PKPab	18 11 39.7	0.0
	comp=Z,24nm,0.6s							
RAMN	**Ramite**	**144.31**	**27**	*e*P		**PKPab**	**18 11 41.9**	**-0.7**
	comp=Z,25nm,0.6s							
TAPN	**Taplejung**	**144.45**	**25**	*e*P		**PKPab**	**18 11 42.9**	**-0.3**
	comp=Z,62nm,0.6s							
CD2	**Chengdu**	**144.56**	**0**	*e*PKP		**PKPab**	**18 11 43.0**	**-0.1**
CD2				pPKP		**pPKPdf**	**18 12 19.8**	**-0.4**
CD2				PP		PP	18 15 06.3	+6.2
CD2				SKS		SKSdf	18 18 33.8	-8.0
CD2				SKKS		**SKKSac**	**18 21 38.0**	**-3.5**
CD2				SS		**SS**	**18 33 36.0**	**+0.3**
CD2				AMB		AMB		
	comp=Z,120nm,10.7s							
CD2				LR		LR		
	comp=Z,120nm,20.2s							
CD2				LR		LR		
	comp=Z,170nm,11.9s							
ODAN	**Odare**	**144.74**	**26**	*e*P		**PKPab**	**18 11 43.4**	**-0.8**
	comp=Z,62nm,1.1s							
AS31	**Alice Springs**	**145.54**	**234**	*e*PKPdf		**PKPdf**	**18 11 46.0**	**-0.4**
ASAR	**Alice Springs**	**145.54**	**234**	PKPbc		**PKPdf**	**18 11 45.6**	**-0.7**
ASAR				pPKPbc		pPKPbc	18 12 19.2	-2.7
ASAR	**Alice Springs**	**145.54**	**234**	PKPbc		**PKPdf**	**18 11 45.6**	**-0.7**
	comp=Z,54nm,0.7s,baz=120,slow=3.9,SNR=635							
ASAR				pPKPbc		pPKPbc	18 12 19.2	-2.7
	comp=Z,4.6nm,0.8s,baz=109,slow=3.5,SNR=1.7							
NACB	**Ninganchiao**	**146.53**	**330**	*e*PKPbc		**PKPbc**	**18 11 49.5**	**0.0**
HYB	**Hyderabad**	**146.62**	**48**	*i* PKP		**PKPbc**	**18 11 50.0**	**0.0**
HYB				*e*			18 12 24.0	
HYB				epPKP		pPKPdf	18 12 39.0	+15
WRAB	**Tennant Creek**	**146.79**	**240**	*e*PKIKP		**PKPdf**	**18 11 48.2**	**-0.2**
WRAB	**Tennant Creek**	**146.79**	**240**	*e*PKPdf		**PKPdf**	**18 11 48.2**	**-0.2**
WRAB				*e*PKPbc		**PKPbc**	**18 11 49.9**	**-0.5**
WRA	**Warramunga Arr**	**146.79**	**240**	PKPbc		**PKPdf**	**18 11 48.3**	**-0.2**
WRA				pPKPbc		pPKPbc	18 12 22.3	-3.4
WRA				SKPbc		**SKPbc**	**18 15 17.0**	**+0.2**
WRA	**Warramunga Arr**	**146.79**	**240**	PKPbc		**PKPdf**	**18 11 48.3**	**-0.2**
	comp=Z,30nm,0.7s,baz=107,slow=3.2,SNR=64							
WRA				pPKPbc		pPKPbc	18 12 22.3	-3.4
	comp=Z,8.6nm,1.0s,baz=107,slow=3.4,SNR=2.3							
WRA				SKPbc		**SKPbc**	**18 15 17.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=119,slow=1.9,SNR=3.2							
SSLB	**Suanglung**	**147.17**	**330**	*e*PKPdf		**PKPdf**	**18 11 48.8**	**-0.2**
SSLB				*e*PKPbc		**PKPbc**	**18 11 51.2**	**-0.2**
TPUB	**Ta-pu**	**147.74**	**330**	*e*PKPdf		**PKPdf**	**18 11 50.5**	**+0.5**
TPUB				*e*PKPbc		**PKPbc**	**18 11 53.0**	**+0.1**
GYA	**Guiyang**	**148.88**	**355**⇑	*i*PKPbc		**PKPdf**	**18 11 49.5**	**-2.4**
GYA				pPKP		**pPKPdf**	**18 12 27.3**	**-0.4**
GYA				sPKP			18 12 41.0	
GYA				PKS		**PP**	**18 15 23.3**	**-2.4**
GYA				PP		PP	18 15 27.8	+2.1
GYA				AMB		AMB		
	comp=Z,110nm,8.0s							
NWAO	**Narrogin (SRO)**	**149.33**	**202**	PKP		**PKPdf**	**18 11 52.8**	**+0.5**
NWAO				PKPbc		**PKPbc**	**18 11 56.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**149.33**	**202**	PKP		**PKPdf**	**18 11 52.8**	**+0.5**
	comp=Z,23nm,0.6s,baz=184,slow=4.1,SNR=4.2							
NWAO				PKPbc		**PKPbc**	**18 11 56.6**	**-0.1**
	comp=Z,23nm,0.6s,baz=173,slow=4.7,SNR=21							
KMI	**Kunming**	**150.30**	**2**	PKPbc		**PKPbc**	**18 11 59.0**	**-0.6**
SZP	**Santa**	**152.52**	**324**	*e*PKPdf		**PKPdf**	**18 11 55.8**	**-1.7**
SZP				*e*PKPbc		**PKiKP**	**18 12 05.2**	**+0.5**
SLVN	**Son La**	**154.10**	**0**	*e*PKPdf		**PKPdf**	**18 12 00.1**	**+0.3**
SLVN				*e*PKPbc		**PKiKP**	**18 12 08.5**	**+0.5**
CHTO	**Chiang Mai**	**156.09**	**12**	*e*PKIKP		**PKPdf**	**18 12 02.0**	**-0.5**
CHTO				*e*			18 12 29.2	
CHTO	**Chiang Mai**	**156.09**	**12**	*e*PKPdf		**PKPdf**	**18 12 02.0**	**-0.5**
CHTO				*e*PKPab		**PKPab**	**18 12 29.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**156.43**	**12**	PKP		**PKPdf**	**18 12 03.3**	**+0.3**
CMAR				PKPab		**PKPab**	**18 12 31.5**	**-0.4**
CMAR				pPKPab		**pPKPab**	**18 13 05.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**156.43**	**12**	PKP		**PKPdf**	**18 12 03.3**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=307,slow=2.2,SNR=18							
CMAR				PKPab		**PKPab**	**18 12 31.5**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=329,slow=5.5,SNR=19							
CMAR				pPKPab		**pPKPab**	**18 13 05.7**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=326,slow=5.1,SNR=8.6							
PSI	**Prapat**	**170.98**	**34**	PKP		**PKPdf**	**18 12 15.6**	**-1.1**
PSI				PKPab		**PKPab**	**18 13 35.7**	**-0.2**
PSI	**Prapat**	**170.98**	**34**	PKP		**PKPdf**	**18 12 15.5**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=270,slow=10,SNR=3.7							
PSI				PKPab		**PKPab**	**18 13 35.7**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=346,slow=7.2,SNR=4.1							

IDC 29 17:55:26.7±7.9, 21.42S×175.33W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/29, mbtmp3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=335.9km s-min=58.4km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.00**	**200**	LR		18 06 15.8	
	comp=Z,60nm,18.9s,baz=221,slow=36						
ASAR	**Alice Springs**	**46.74**	**257**	P		18 03 57.2	-0.8
	0.6nm,0.6s,baz=96,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**46.95**	**262**	P		18 03 59.4	-0.3
	1.0nm,0.7s,baz=92,slow=8.5,SNR=19						
AKASG	**Malin Array Be**	**145.00**	**333**	PKPbc	PKPab	18 15 05.4	+0.3
	0.1nm,0.3s,baz=35,slow=3.2,SNR=5.3						

*ISCJB **29** 18:04:35.9±0.4, 67.07N±0.02×20.8E±0.1, h0km, Error ellipse: s-maj=6.0km s-min=3.3km az=12.5*
*UPP **29** 18:04:36.7, 67.08N×20.97E, h0km, ML2.4, Mining explosion.*
*HEL **29** 18:04:37.6±0.1, 67.07N×20.93E, h0km, ML2.1, ML2.4(UPP), Explosion*
*CSEM **29** 18:04:37.1±0.2, 67.08N×20.84E, h2km, ML2.1, Error ellipse: s-maj=5.6km s-min=3.5km az=97.0, Mining explosion.*
*NAO **29** 18:04:37.7±0.9, 67.05N×21.17E, ML2.4*
*IDC **29** 18:04:38.2±0.8, 67.01N×21.30E, h0km, mb1 3.2/5, mb1mx3.1/30, mbtmp3.2/5, ML2.4/5, Error ellipse: s-maj=16.2

baz=26,slow=14
NB2 NORSAR Subarra 7.39 220 Pn **Pn** **18 06 25.7 0.0**
SNR=50
NOA NORSAR Array B 7.39 220 Pn **Pn** **18 06 25.6 0.0**
comp=Z,0.1nm,0.3s,baz=137,slow=21,SNR=2.5
NOA Sn **Sn** **18 07 48.0 -2.1**
comp=Z,0.1nm,0.3s,baz=197,slow=13,SNR=2.2
HFS Hagfors 7.67 208 Pn **Pn** **18 06 28.8 -0.6**
baz=33,slow=14
HFS Hagfors 7.67 208 Pn **Pn** **18 06 28.8 -0.6**
baz=33,slow=14
HFS Hagfors 7.67 208 Pn **Pn** **18 06 29.4 +0.1**
comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=5.7
HFS Sn **Sn** **18 07 56.2 -0.6**
comp=Z,0.1nm,0.3s,baz=68,slow=19,SNR=1.3
HFS Hagfors 7.67 208 Pn **Pn** **18 06 28.8 -0.6**
SNR=50
SPA0 Spitsbergen Ar 11.25 355 Pn **Pn** **18 07 17.9 -0.4**
baz=153,slow=18
SPA0 Spitsbergen Ar 11.25 355 Pn **Pn** **18 07 17.9 -0.4**
baz=153,slow=18
SPA0 Spitsbergen Ar 11.25 355 Pn **Pn** **18 07 18.0 -0.4**
SNR=50
SPITS Spitsbergen Ar 11.25 355 Pn **Pn** **18 07 19.5 +1.2**
baz=152,slow=19,SNR=2.1

IDC 29 18:06:51.3±1.3, 0.°94S×127.°38E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=131.0km s-min=22.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.08**	**161**	P	P	18 11 26.8	+0.2
	0.8nm,0.5s,baz=340,slow=11,SNR=7.3						
STKA	**Stephens Creek**	**33.58**	**158**	P	P	18 13 33.0	-0.2
	3.1nm,0.7s,baz=353,slow=7.3,SNR=4.6						
SONM	**Songino Array**	**51.90**	**342**	P	P	18 16 02.0	+0.1
	0.3nm,0.6s,baz=160,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**61.76**	**326**	P	P	18 17 11.4	-0.3
	0.9nm,0.5s,baz=116,slow=8.0,SNR=25						
BVAR	**Borovoye Array**	**71.57**	**328**	P	P	18 18 14.7	+0.3
	0.4nm,0.6s,baz=134,slow=10,SNR=3.3						

*ISCJB **29** 18:43:09.3±0.8, 4.°86S±0.°04×133.°6E±0.°1, h21km, mb3.3/1, MS3.4/1, Error ellipse: s-maj=19.5km s-min=6.3km az=176.4*

*IDC **29** 18:43:13.1±4.0, 5.°43S×131.°80E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, ML3.7/2, MS3.5/1, Ms1 3.4/1, ms1mx2.8/13, Error ellipse: s-maj=258.5km s-min=32.4km az=74.0*

*DJA **29** 18:43:13.5±1.8, 5.°5S±0.°10×13.°3E±.°, h10km, M3.4/2, MLv3.4/2*

ISC 29 18:43:11.4±1.0, 4.°72S±0.°07×133.°4E±0.°1, h21km, n8, σ1s71/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.09**	**16**	P	**Pn**	**18 43 31.0**	**-0.5**
KMPI				S	**Sn**	**18 43 45.9**	**-0.1**
FAKI	**Fak Fak**	**2.12**	**327**	P	**Pb**	**18 43 48.3**	**-0.9**
FAKI				S	**Sb**	**18 44 14.3**	**-0.8**
KDU	**Kakadu**	**7.97**	**187**	P	**Pn**	**18 45 05.8**	**-0.3**
	baz=5.5,SNR=20						
MTN	**Manton Dam**	**8.38**	**195**	P	**Pn**	**18 45 11.8**	**+0.1**
	baz=6.0,SNR=26						
WRA	**Warramunga Arr**	**15.16**	**177**	Pn	Pn	18 46 39.5	-5.0
	0.3nm,0.3s,baz=351,slow=13,SNR=14						
WRA				Sn	Sn	18 49 19.1	-13
	0.2nm,0.3s,baz=357,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**18.84**	**179**	P	**P**	**18 47 28.6**	**-1.7**
	0.3nm,0.3s,baz=356,slow=9.7,SNR=22						
ASAR				S	Sn	18 50 45.2	-16
	0.1nm,0.3s,baz=2.2,slow=27,SNR=3.8						
STKA	**Stephens Creek**	**28.09**	**165**	LR	LR	19 01 58.5	
	comp=Z,88nm,19.2s,baz=206,slow=40						
MKAR	**Makanchi Array**	**68.25**	**325**	P	**P**	**18 54 13.9**	**+3.2**
	0.2nm,0.6s,baz=115,slow=6.8,SNR=3.3						

DJA 29 18:45:02.2±1.0, 0.°S±10.°×13.°5E±.°, h10km, M3.9/5, MLv3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**0.95**	**137**	P	Pg	18 45 19.0	-1.5
BAKI				S	Sg	18 45 32.3	-0.7
BAKI	**Biak**	**0.95**	**137**	P	Pg	18 45 18.7	-1.8
MWPI	**Manokwari, Pap**	**1.49**	**253**	P	x	18 45 27.8	
MWPI				S	x	18 45 47.7	
MWPI	**Manokwari, Pap**	**1.49**	**253**	P	x	18 45 27.6	
SRPI	**Serui, Papua**	**1.58**	**150**	P	Pn	18 45 30.2	-0.1
SRPI	**Serui, Papua**	**1.58**	**150**	P	Pn	18 45 30.0	-0.3
SMPI	**Sarmi**	**3.57**	**115**	P	Pn	18 45 57.3	-0.4
FAKI	**Fak Fak**	**4.01**	**233**	P	Pn	18 46 03.7	-0.1

*IDC **29** 18:49:47.5±2.5, 1.°52N×90.°74W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.9/22, mbtmp3.8/7, ML3.3/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/31, Error ellipse: s-maj=168.7km s-min=24.4km az=51.0*

ISC 29 18:49:49.4±2.2, 1.°6N±0.°6×90.°6W±0.°7, h10km, n17, σ1s24/9, mb3.8/6, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**10.30**	**33**	LR	LR	18 55 13.0	
	comp=Z,288nm,20.8s,baz=174,slow=31						
ATAH	**Atahualpa**	**14.97**	**126**	Pn	**Pn**	**18 53 21.1**	**-0.5**
	0.1nm,0.3s,baz=278,slow=14,SNR=2.5						
ROSC	**El Rosal**	**16.57**	**78**	LR	LR	18 59 19.8	
	comp=Z,111nm,19.2s,baz=188,slow=34						
H06E1	**SOCORRO T-PHAS**	**26.22**	**312**	T	T	19 22 37.3	
	SNR=183						
LPAZ	**La Paz**	**28.45**	**130**	P	**P**	**18 55 46.5**	**+1.1**
	1.1nm,0.6s,baz=27,slow=5.0,SNR=3.9						
PDAR	**Pinedale Array**	**44.35**	**340**	P	**P**	**18 58 01.3**	**+1.2**
	0.4nm,0.9s,baz=159,slow=8.4,SNR=3.4						
NVAR	**Mina Array Bea**	**44.56**	**329**	P	**P**	**18 58 03.3**	**+1.4**
	1.2nm,0.9s,baz=167,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**63.34**	**348**	P	**P**	**19 00 18.4**	**0.0**
	0.9nm,0.8s,baz=149,slow=6.7,SNR=8.2						
INK	**Inuvik**	**72.65**	**345**	P	**P**	**19 01 16.3**	**-0.6**
	0.4nm,0.4s,baz=145,slow=8.6,SNR=3.1						
ILAR	**Eielson Array**	**74.75**	**338**	P	**P**	**19 01 28.6**	**-0.7**
	0.9nm,0.8s,baz=149,slow=4.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**91.89**	**77**	LR	LR	19 43 44.0	
	comp=Z,14nm,18.2s,baz=290,slow=35						
GERES	**GERESS Array B**	**98.18**	**40**	LR	LR	19 49 02.6	
	comp=Z,23nm,18.5s,baz=281,slow=36						
H11S2	**WAKE ISLAND Hyl**	**101.50**	**289**	T	T	20 56 35.1	
	baz=86,slow=72,SNR=24						
H11S1	**WAKE ISLAND Hyl**	**101.51**	**289**	T	T	20 56 35.5	
	baz=86,slow=72,SNR=18						
H11S3	**WAKE ISLAND Hyl**	**101.52**	**289**	T	T	20 56 39.3	
	baz=86,slow=72,SNR=12						
ZALV	**Zalesovo Beam**	**124.50**	**3**	PKP	**PKPdf**	**19 08 47.3**	**-1.6**
	0.3nm,0.5s,baz=28,slow=3.4,SNR=2.5						
CMAR	**Chiang Mai Arr**	**157.95**	**335**	PKPab	**PKPab**	**19 10 19.4**	**-1.0**
	0.7nm,0.8s,baz=9.9,slow=5.8,SNR=4.6						

IDC 29 19:01:41.4±5.5, 21.°86S×175.°75W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.8/3, Error ellipse: s-maj=203.9km s-min=55.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.12**	**246**	P	P	19 09 09.6	-1.2
	0.7nm,0.4s,baz=117,slow=4.5,SNR=4.9						
ASAR	**Alice Springs**	**46.26**	**258**	P	P	19 10 08.8	-0.2
	0.8nm,0.8s,baz=98,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**46.50**	**263**	P	P	19 10 11.6	+0.7
	0.8nm,0.3s,baz=96,slow=8.2,SNR=21						
AKASG	**Malin Array Be**	**145.20**	**332**	PKPbc	PKPbc	19 21 19.6	-0.9
	0.1nm,0.3s,baz=25,slow=2.7,SNR=4.1						

*ISCJB **29** 19:01:54.1±1.1, 7.°70N±0.°04×127.°37E±0.°08, h64km±10km, mb3.9/10, Error ellipse: s-maj=13.5km s-min=6.1km az=164.1*

*IDC **29** 19:01:54.6±0.8, 7.°70N×127.°34E, h52km±6km, mb3.7/10, mb1 3.9/11, mb1mx3.7/37, mbtmp4.0/11, Error ellipse: s-maj=34.7km s-min=13.3km az=71.0*

*MAN **29** 19:01:55, 7.°77N×127.°18E, h15km, mb5.0, ML3.9, MS4.1*

ISC 29 19:01:54.6±0.8, 7.°77N±0.°05×127.°44E±0.°08, h52km±7km, n36, σ1s28/46, mb4.0/10, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.15**	**291**	*i* P	**Pn**	**19 02 13.7**	**-0.7**
BIPH				*i* S	**Sn**	**19 02 28.1**	**-1.0**
MATI	**Mati**	**1.43**	**235**	*e* P	**Pn**	**19 02 16.4**	**-1.8**
MATI				*e* S	**Sn**	**19 02 34.6**	**-1.3**
DAV	**Davao City (W)**	**1.97**	**250**	P	x	19 02 26.9	
DMPH	**Davao City--Mi**	**2.03**	**251**	*e* P	**Pn**	**19 02 27.7**	**+1.2**
DMPH				*e* S	**Sn**	**19 02 54.2**	**+3.5**
BUTP	**Butuan**	**2.16**	**304**	*e* P	**Pn**	**19 02 26.6**	**-1.6**
BUTP				*e* S	**Sn**	**19 02 55.8**	**+2.0**
BUKP	**Musuan**	**2.36**	**273**	*e* P	**Pn**	**19 02 31.1**	**+0.1**
SCPH	**Surigao**	**2.78**	**316**	*e* P	Pn	19 02 30.0	-6.6
SCPH				*e* S	**Sn**	**19 03 09.1**	**+0.1**
GSPH	**General Santos**	**2.98**	**236**	*i* P	**Pn**	**19 02 37.6**	**-2.0**
GSPH				*i* S	**Sn**	**19 03 11.4**	**-2.8**
CTBH	**Cotabato--PC H**	**3.21**	**260**	*e* P	**Pn**	**19 02 42.3**	**-0.3**
CTBH				*i* S	**Sn**	**19 03 19.1**	**-0.6**
MSLP	**Maasin**	**3.47**	**313**	*e* P	**Pn**	**19 02 48.1**	**+2.0**
PAGZ	**Pagadian**	**4.02**	**271**	*e* P	**Pn**	**19 02 54.5**	**+0.8**
SGSI	**Sangihe**	**4.48**	**205**	S	**Sn**	**19 03 54.8**	**+4.0**
TNTI	**Ternate**	**6.95**	**181**	P	**Pn**	**19 03 35.0**	**+1.1**
LBMI	**Labuha**	**8.35**	**180**	P	**Pn**	**19 03 53.6**	**+0.5**
BATI	**Baumata**	**18.25**	**192**	P	**Pn**	**19 06 04.7**	**+0.4**
	3.3nm,0.3s,baz=19,slow=1.7,SNR=5.7						
MTN	**Manton Dam**	**20.80**	**170**	P	**P**	**19 06 31.3**	**-0.4**
	baz=21,SNR=6.5						
KDU	**Kakadu**	**20.93**	**166**	P	**P**	**19 06 32.5**	**-0.5**
	baz=21,SNR=6.3						
KNRA	**Kununurra**	**23.33**	**177**	P	**P**	**19 06 58.0**	**-0.4**
	baz=24,SNR=8.3						
WRA	**Warramunga Arr**	**28.36**	**166**	P	**P**	**19 07 43.0**	**-1.0**
	3.8nm,0.7s,baz=341,slow=11,SNR=17						
CMAR	**Chiang Mai Arr**	**29.67**	**294**	P	**P**	**19 07 54.9**	**-0.8**
	0.2nm,0.6s,baz=122,slow=8.6,SNR=4.5						
QIS	**Mount Isa**	**30.58**	**157**	P	**P**	**19 08 04.0**	**+0.3**
	baz=31,SNR=5.9						
PATS	**Pohnpei**	**30.63**	**90**	P	P	19 07 56.4	-7.9
	baz=30,SNR=3.3						
ASAR	**Alice Springs**	**31.87**	**169**	P	**P**	**19 08 14.1**	**-0.9**
	0.9nm,0.8s,baz=352,slow=7.6,SNR=9.5						
ASAR				PcP	**PcP**	**19 11 05.4**	**+0.5**
	1.2nm,0.5s,baz=348,slow=2.5,SNR=12						
ASAR				pPcP		19 11 18.8	
	0.7nm,0.5s,baz=347,slow=2.4,SNR=6.9						
WRKA	**Warakurna**	**32.62**	**179**	P	**P**	**19 08 21.2**	**-0.3**
	baz=33,SNR=8.2						
MEEK	**Meekatharra**	**35.26**	**194**	P	**P**	**19 08 44.0**	**-0.5**
	baz=36,SNR=3.9						
STKA	**Stephens Creek**	**41.68**	**162**	P	**P**	**19 09 38.2**	**-0.1**
	8.3nm,0.9s,baz=338,slow=7.3,SNR=16						
STKA	**Stephens Creek**	**41.68**	**162**	P	**P**	**19 09 38.3**	**+0.1**
	baz=42,SNR=8.0						
CMSA	**Cobar Meteorol**	**42.80**	**157**	P	**P**	**19 09 47.8**	**+0.4**
	baz=43,SNR=6.2						
SONM	**Songino Array**	**43.75**	**340**	P	**P**	**19 09 55.8**	**+0.7**
	2.7nm,0.9s,baz=150,slow=8.7,SNR=20						
SONM				pP	**pP**	**19 10 09.9**	**+1.1**
	1.8nm,0.8s,baz=164,slow=5.6,SNR=6.2						
ARPS	**Mount Arapiles**	**46.32**	**164**	P	**P**	**19 10 16.0**	**+0.7**
	baz=47,SNR=5.9						
MKAR	**Makanchi Array**	**54.71**	**323**	P	**P**	**19 11 18.4**	**-0.3**
	2.0nm,0.7s,baz=120,slow=8.1,SNR=27						
MKAR				pP	**pP**	**19 11 32.5**	**-0.4**
	2.0nm,0.7s,baz=123,slow=8.4,SNR=9.7						
MKAR				PcP	**PcP**	**19 12 20.9**	**+0.1**
	0.8nm,0.8s,baz=108,slow=5.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**57.36**	**332**	P	**P**	**19 11 37.3**	**-0.2**
	0.8nm,0.6s,baz=140,slow=7.1,SNR=5.7						
ZALV				pP	**pP**	**19 11 51.1**	**-0.6**
	0.5nm,0.4s,baz=120,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**81.18**	**26**	P	**P**	**19 14 05.0**	**+0.5**
	0.9nm,1.1s,baz=250,slow=5.3,SNR=7.8						
FINES	**FINESS Array B**	**88.63**	**332**	P	**P**	**19 14 41.1**	**-0.8**
	2.1nm,1.0s,baz=48,slow=2.8,SNR=3.5						
YKA	**Yellowknife Ar**	**95.55**	**24**	P	**P**	**19 15 14.5**	**+0.6**
	0.3nm,0.8s,baz=299,slow=4.6,SNR=5.9						
YKA				pP	**pP**	**19 15 28.9**	**-0.1**
	0.2nm,0.7s,baz=284,slow=4.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**122.25**	**291**	PKP	**PKPdf**	**19 20 44.3**	**-0.5**
	0.3nm,0.7s,baz=258,slow=1.0,SNR=4.0						

DJA 29 19:04:43.2±0.7, 1.°5S±4.°×12.°3E±.°, h56km±11km, M3.5/7, MLv3.5/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.61**	**209**	P	Pn	19 04 57.9	+1.8
LUWI				S	Sn	19 05 08.0	+2.5
GTOI	**Gorontalo**	**1.14**	**357**	P	Pn	19 05 03.9	+0.9
KMSI	**Cibinong**	**1.41**	**40**	P	Pn	19 05 08.6	+2.0
APSI	**Ampana**	**1.48**	**254**	P	Pn	19 05 08.2	+0.7
MRSI	**Marisa**	**1.50**	**311**	P	Pn	19 05 07.2	-0.6
MRSI				S	Sn	19 05 26.5	-0.2
TOLI	**Toli-Toli**	**2.79**	**305**	P	x	19 05 26.6	
SANI	**Sanana**	**3.29**	**118**	P	Pn	19 05 30.7	-1.6

*IDC **29** 19:09:20.7±2.2, 6.°88S×130.°29E, h0km, mb3.1/1, mb1 3.7/3, mb1mx3.3/31, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=129.4km s-min=31.6km az=70.0*

*ISCJB **29** 19:09:27.8±0.9, 6.°99S±0.°06×130.°4E±0.°1, h78km, mb2.9/1, Error ellipse: s-maj=20.6km s-min=8.4km az=5.1*

ISC 29 19:09:29.1±1.1, 6.°98S±0.°08×130.°4E±0.°2, h78km, n10, σ1s65/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.43**	**24**	P	**Pn**	**19 10 33.0**	**-0.9**
	baz=4.4,SNR=24						
MTN	**Manton Dam**	**5.87**	**173**	P	**Pn**	**19 10 55.4**	**+1.8**
	baz=5.9,SNR=16						
MTN				S	**Sn**	**19 11 59.8**	**+0.3**
	baz=5.9,SNR=5.6						
KDU	**Kakadu**	**6.02**	**160**	P	**Pn**	**19 10 56.7**	**+1.0**
	baz=6.0,SNR=46						
KNRA	**Kununurra**	**8.80**	**190**	P	**Pn**	**19 11 34.8**	**+1.2**
	baz=8.9,SNR=12						
KNRA				S	**Sn**	**19 13 09.3**	**-1.8**
	baz=8.9,SNR=5.4						
WSI	**Waingapu**	**10.36**	**254**	S	Sn	19 13 38.4	-11
	baz=10,SNR=3.2						
WRA	**Warramunga Arr**	**13.44**	**164**	Pn	**Pn**	**19 12 33.5**	**-3.1**
	0.4nm,0.3s,baz=346,slow=13,SNR=14						
WRA				Sn	Sn	19 14 54.5	-10
	0.6nm,0.3s,baz=336,slow=22,SNR=9.7						
COEN	**Coen**	**14.33**	**120**	P	**Pn**	**19 12 48.5**	**+0.2**
	baz=14,SNR=4.7						
ASAR	**Alice Springs**	**16.93**	**169**	Pn	**Pn**	**19 13 21.6**	**+0.4**
	0.3nm,0.3s,baz=356,slow=13,SNR=17						
ASAR				Sn	Sn	19 16 20.5	-8.5
	0.2nm,0.3s,baz=343,slow=25,SNR=4.8						
WRKA	**Warakurna**	**18.07**	**186**	P	**Pn**	**19 13 36.3**	**+1.2**
	baz=18,SNR=4.7						
MKAR	**Makanchi Array**	**68.43**	**327**	P	**P**	**19 20 23.6**	**+0.8**
	0.1nm,0.6s,baz=122,slow=8.0,SNR=2.8						

IDC 29 19:28:16.7±2.3, 3.°60N×126.°77E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/38, mbtmp3.3/3, Error ellipse: s-maj=192.9km s-min=26.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**163**	P	P	19 33 36.8	-1.7
	1.0nm,0.9s,baz=341,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**27.98**	**166**	P	P	19 34 11.2	+1.8
	0.1nm,0.4s,baz=346,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	19 38 08.9	-0.2
	0.3nm,0.8s,baz=133,slow=6.9,SNR=4.8						

IDC 29 19:32:51.1±2.9, 6.°07S×127.°49E, h434km±31km, mb2.4/1, mb1 2.8/4, mb1mx2.6/32, mbtmp3.6/4, Error ellipse: s-maj=47.6km s-min=14.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.59**	**222**	P	P	19 34 21.5	+0.8
	2.9nm,0.3s,baz=87,slow=5.8,SNR=6.7						
BATI				S	S	19 35 34.6	+0.8
	5.4nm,0.3s,baz=104,slow=19,SNR=8.6						
WRA	**Warramunga Arr**	**15.32**	**155**	P	P	19 36 05.1	-1.0
	0.4nm,0.3s,baz=328,slow=11,SNR=22						
WRA				S	S	19 38 43.7	-3.5
	0.2nm,0.3s,baz=328,slow=21,SNR=9.1						
ASAR	**Alice Springs**	**18.56**	**161**	P	P	19 36 39.5	-0.6
	0.3nm,0.3s,baz=347,slow=12,SNR=13						
ASAR				S		19 39 49.3	+1.6
	0.1nm,0.3s,baz=335,slow=20,SNR=6.0						
MKAR	**Makanchi Array**	**66.10**	**328**	P	P	19 42 53.7	0.0
	0.1nm,0.5s,baz=127,slow=8.9,SNR=3.9						

IDC 29 20:09:47.1±2.0, 8.°87S×127.°11E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, ML3.5/3, Error ellipse: s-maj=48.6km s-min=32.6km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.65**	**248**	Pn	Pn	20 10 46.0	+1.1
	4.1nm,0.3s,baz=88,slow=4.5,SNR=7.5						
BATI				Sn	Sn	20 11 26.3	-2.4
	6.0nm,0.3s,baz=143,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**13.04**	**148**	Pn	Pn	20 12 53.8	-0.1
	0.2nm,0.3s,baz=317,slow=13,SNR=13						
WRA				Sn	Sn	20 15 13.3	-6.5
	0.3nm,0.3s,baz=320,slow=25,SNR=7.1						
ASAR	**Alice Springs**	**16.09**	**157**	Pn	Pn	20 13 34.6	-0.3
	0.2nm,0.3s,baz=332,slow=12,SNR=17						
ASAR				Sn	Sn	20 16 25.9	-8.2
	0.1nm,0.3s,baz=314,slow=22,SNR=4.0						
MKAR	**Makanchi Array**	**68.26**	**329**	P	P	20 20 49.6	-0.2
	0.1nm,0.5s,baz=132,slow=7.5,SNR=4.3						

SJA 29 20:36:10.6±1.4, 33.°49S×72.°31W, h50km±25km, ML2.6, MW5.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**2.76**	**64**	*i* P		20 36 56.1	
AUSP				*e* S		20 37 27.7	
RTLS	**Leoncito**	**3.05**	**57**	*i* P		20 36 59.3	
RTLS				*e* S4		20 37 31.7	
RTLL	**Cerro Villicun**	**3.89**	**57**	*i* P		20 37 09.6	
RTLL				*e* S		20 37 55.6	
CFAA	**Coronel Fontan**	**3.92**	**62**	*i* P		20 37 11.0	
CFAA				*e* S4		20 37 57.5	
AMOG	**MOGNA**	**4.11**	**53**	*i* P4		20 37 11.6	
AVFE	**Valle Fertil**	**4.99**	**57**	*i* P		20 37 25.6	
AVFE				*e* S		20 38 21.5	
AVFE				AML		20 38 27.1	
	comp=Z,4.1nm,0.2s						

MAN 29 20:37:27, 9.°00N×122.°26E, h32km, mb4.0, ML2.7, MS2.4, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.02**	**70**	*i* P	Pn	20 37 28.3	-17
SNPH				*i* S	Sn	20 37 41.0	-18
IPIL	**Ipil**	**1.24**	**166**	*e* P	Pn	20 37 49.0	+0.9
IPIL				*e* S	Sn	20 38 03.9	0.0
PAGZ	**Pagadian**	**1.59**	**136**	*e* P	Pb	20 37 54.5	-1.4
GUIM	**Jordan**	**1.65**	**11**	*e* P	Pn	20 37 54.1	+0.4
CUYO	**Cuyo Island**	**2.21**	**326**	*e* P	Pn	20 38 02.9	+1.4
ENPP	**El Nido**	**3.55**	**308**	*e* P	Pn	20 38 21.7	+1.8

*ISCJB **29** 20:38:07.3±0.4, 1.°60N±0.°05×90.°57W±0.°07, h10km, mb4.3/27, MS4.4/9, Error ellipse: s-maj=10.5km s-min=7.0km az=152.7*

*IDC **29** 20:38:07.0±0.9, 1.°55N×90.°68W, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/24, mbtmp4.0/14, MS4.4/10, Ms1 4.4/10, ms1mx4.1/39, Error ellipse: s-maj=37.4km s-min=14.3km az=58.0*

*GCMT **29** 20:38:08.4±0.3, 1.°56N×90.°83W, h12km, MW5.2/98, Moment Tensor Solution. s55,c71; s98,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.16; $M_{\theta\theta}$3.39±.17; $M_{\phi\phi}$-2.20±.19; $M_{r\theta}$-1.83±.41; $M_{r\phi}$-5.97±.14; $M_{\theta\phi}$-0.22±.44; Best double couple: $M_0$6.84900×10^{16} NP1:ϕ_s78.00000°, δ87.00000°, λ-164.00000°. NP2: ϕ_s347.00000°, δ74.00000°, λ-3.00000°. Principal axes: T 7.4260, Plg10.0000°, Azm212.0000°; N -1.1530, Plg74.0000°, Azm87.0000°; P -6.2730, Plg13.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 20:38:08.4±0.4, 1.°51N×90.°71W, h10km, mb4.6/13 Error ellipse: s-maj=12.0km s-min=7.0km az=58.0*

ISC 29 20:38:08.9±0.5, 1.°59N±0.°07×90.°67W±0.°08, h10km, n69, σ1s33/59, mb4.3/27, MS4.5/9, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**2.28**	**170**	*e* Pn	**Pn**	**20 38 44.4**	**-2.2**
JTS	**JuntasAbangare**	**10.34**	**33**	P	**Pn**	**20 40 38.1**	**+0.6**
OTAV	**Otavalo**	**12.29**	**96**	*e* Pn	**Pn**	**20 41 06.8**	**+2.2**
	69nm,1.9s						
BCIP	**Isla Barro Col**	**13.14**	**55**	*e* Pn	**Pn**	**20 41 15.2**	**-0.6**
ATAH	**Atahualpa**	**15.01**	**125**	Pn	**P**	**20 41 46.6**	**-0.5**
ATAH	**Atahualpa**	**15.01**	**125**	Pn	**P**	**20 41 46.6**	**-0.5**
	0.4nm,0.3s,baz=311,slow=16,SNR=8.7						
ATAH				LR	LR	20 46 24.4	
	comp=Z,5μm,21.8s,baz=294,slow=33						
ROSC	**El Rosal**	**16.63**	**78**	*e* Pn	**P**	**20 42 07.8**	**+2.6**
SDV	**Santo Domingo**	**21.22**	**69**	*e* P	**P**	**20 42 56.2**	**+0.9**
	46nm,1.3s						
H06S1	**SOCORRO T**	**26.19**	**312**	T	T	21 10 51.9	
H06E1	**SOCORRO T-PHAS**	**26.19**	**312**	T	T	21 10 56.0	
	SNR=98						
**S

2.4nm,1.0s,baz=155,slow=8.7,SNR=13
PLCA Paso Flores 45.95 159 P P 20 46 31.0 -1.2
PLCA Paso Flores 45.95 159 P P 20 46 31.0 -1.2
4.9nm,0.8s,baz=347,slow=11,SNR=5.8
TRQA Tornquist 47.52 149 P P 20 46 43.8 -0.7
6.3nm,1.0s
ULM Lac du Bonnet 48.68 356 P P 20 46 52.8 -0.5
ULM Lac du Bonnet 48.68 356 P P 20 46 52.8 -0.5
0.7nm,0.5s,baz=182,slow=8.3,SNR=2.0
RKT Rikitea 49.62 238 *eS* **S 20 54 11.8 +2.2**
140nm,42.2s
RKT *eLR* LR 21 01 13.5
1µm,29.5s
SCHQ Schefferville 56.53 16 P P 20 47 50.4 -1.0
SCHQ Schefferville 56.53 16 P P 20 47 50.4 -1.0
2.3nm,0.7s,baz=197,slow=11,SNR=3.2
PPT2 Papeete2 61.05 249 *eS* **S 20 56 44.8 +2.0**
159nm,26.5s
PPT2 *eLQ* LQ 21 03 44.5
958nm,29.5s
PPT2 *eLR* LR 21 06 28.8
1µm,26.0s
TBI Tubuai 62.28 243 *eS* **S 20 57 02.2 +4.1**
201nm,30.8s
TBI *eLQ* LQ 21 04 17.9
705nm,34.5s
TBI *eLR* LR 21 07 03.5
1µm,25.0s
YKA Yellowknife Ar 63.34 348 P P 20 48 37.3 -0.7
YKA Yellowknife Ar 63.34 348 P P 20 48 37.3 -0.7
0.7nm,0.8s,baz=146,slow=6.4,SNR=12
FRB Frobisher Bay 64.12 11 LR LR 21 14 56.5
comp=Z,536nm,21.6s,baz=204,slow=34
INK Inuvik 72.66 345 *eP* **P 20 49 36.7 +0.2**
17nm,1.6s
RC01 Rabbit Creek A 74.11 334 P P 20 49 43.0 -2.2
60nm,1.7s
ILAR Eielson Array 74.74 338 P P 20 49 47.5 -1.3
ILAR Eielson Array 74.74 338 P P 20 49 47.5 -1.3
1.6nm,0.9s,baz=137,slow=4.1,SNR=20
AFI Afiamalu 81.75 256 LR LR 21 19 25.8
comp=Z,252nm,20.5s,baz=78,slow=30
ESDC Sonseca Array 86.45 51 P P 20 50 51.5 -0.7
ESDC Sonseca Array 86.45 51 P P 20 50 51.5 -0.7
0.1nm,0.3s,baz=265,slow=5.6,SNR=3.3
RAO Raoul Island 88.36 241 LR LR 21 20 43.0
comp=Z,184nm,19.9s,baz=119,slow=29
URZ Urewera 92.72 232 LR LR 21 24 49.4
comp=Z,217nm,18.7s,baz=195,slow=30
H11N3 WAKE ISLAND Hy 101.14 290 T T 22 44 35.4
baz=88,slow=75,SNR=11
H11N2 WAKE ISLAND Hy 101.16 290 T T 22 44 34.8
baz=88,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 101.16 290 T T 22 44 36.7
baz=88,slow=75,SNR=9.3
H11S2 WAKE ISLAND Hy 101.46 289 T T 22 45 08.0
baz=87,slow=73,SNR=94
H11S1 WAKE ISLAND Hy 101.46 289 T T 22 44 56.3
baz=87,slow=73,SNR=121
H11S3 WAKE ISLAND Hy 101.47 289 T T 22 44 58.0
baz=87,slow=73,SNR=94
KURK Kurchatov 127.09 9 PKP PKPdf 20 57 12.3 -1.2
KURBB Kurchatov Arra 127.17 9 PKP PKPdf 20 57 12.3 -1.4
0.5nm,0.5s,baz=351,slow=2.0,SNR=4.3
LSA Lhasa 148.84 357 *e*PKPbc **PKPbc 20 57 58.0 -0.2**
CMAR Chiang Mai Arr 157.95 335 PKP PKPdf 20 58 05.2 -1.8
CMAR PKPab **PKPab 20 58 38.8 -1.1**
CMAR Chiang Mai Arr 157.95 335 PKP PKPdf 20 58 05.2 -1.8
0.3nm,0.5s,baz=316,slow=2.5,SNR=3.6
CMAR PKPab **PKPab 20 58 38.8 -1.1**
0.7nm,0.8s,baz=3.2,slow=5.6,SNR=6.7

IDC ***29*** *20:43:19.8±6.9, 11.˚61N×88.˚20W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/45, mbtmp3.3/4, ML3.1/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/17, Error ellipse: s-maj=262.5km s-min=31.0km az=36.0*

ISCJB ***29*** *20:43:42.2±1.2, 13.˚2N±0.˚2×88.˚63W±0.˚06, h95km±5km, mb3.4/3, Error ellipse: s-maj=28.2km s-min=7.4km az=13.5*

CASC ***29*** *20:43:44.2±1.4, 13.˚08N×88.˚69W, h66km±10km, MD3.8, ML3.8*

ISC 29 20:43:41.2±1.9**, 13.˚0N**±0.˚2×**88.˚68W**±0.˚06**, h83**km±9km**, n21**, σ1°18**/28, mb3.5**/3**, 1C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.61**	**40**	*eP*	**Pn**	**20 43 57.9**	**+1.3**
VSM				*eS*	**Sn**	**20 44 07.9**	**-0.1**
BLLM	**Bellamira**	**0.65**	**41**	*eP*	**Pn**	**20 43 57.0**	**+0.3**
SNVI	**San Vicente**	**0.67**	**346**	*eP*	**Pn**	**20 43 57.8**	**+0.7**
SNVI				*eS*	**Sn**	**20 44 08.1**	**-0.7**
LFRS	**El Faro**	**0.76**	**331**	*eP*	**Pn**	**20 43 58.3**	**+0.4**
LBRS	**Las Brisas**	**0.86**	**335**	*eP*	**Pn**	**20 43 59.7**	**+0.8**
CNCH	**Conchagua**	**0.88**	**69**	*eP*	**Pn**	**20 44 00.5**	**+1.3**
CNCH				*eS*	**Sn**	**20 44 13.5**	**+0.8**
LFU	**La Fuente**	**0.90**	**332**	*eP*	**Pn**	**20 43 59.9**	**+0.5**
LFU				*eS*	**Sn**	**20 44 12.0**	**-0.9**
SNET	**Serv Nac Est T**	**0.91**	**324**	*eP*	**Pn**	**20 44 00.1**	**+0.6**
SNET				*eS*	**Sn**	**20 44 12.0**	**-1.1**
SNET				AML	AML	20 44 15.6	
	comp=Z,3µm,0.2s						
CAHU	**Cacaouatique**	**0.93**	**29**	*eP*	**Pn**	**20 44 00.6**	**+0.7**
CAHU				*eS*	**Sn**	**20 44 13.2**	**-0.5**
BOQS	**Boqueron**	**0.97**	**323**	*eP*	**Pn**	**20 44 01.1**	**+0.7**
BOQS				*eS*	**Sn**	**20 44 13.9**	**-0.8**
SBLS	**San Blas**	**1.27**	**314**	*eP*	**Pn**	**20 44 05.0**	**+1.0**
RTR	**El Retiro**	**1.33**	**315**	*eP*	**Pn**	**20 44 05.8**	**+1.1**
RTR				*eS*	**Sn**	**20 44 23.6**	**+1.3**
RBDL	**Robledal**	**1.51**	**320**	*eP*	**Pn**	**20 44 07.6**	**+0.6**
IXG	**Ixpaco**	**2.11**	**305**	*eP*	**Pn**	**20 44 15.7**	**+0.8**
NBG	**Las Nubes**	**2.29**	**315**	*eP*	**Pn**	**20 44 20.0**	**+2.6**
MRL	**Marmol**	**2.32**	**335**	*eP*	**Pn**	**20 44 19.1**	**+1.5**
MRL				⇑*eP*	**Pn**	**20 44 20.0**	**+2.4**
JTS	**JuntasAbangare**	**4.51**	**126**	Sn	Pn	20 44 50.6	+3.4
	comp=Z,3.1nm,0.3s,baz=58,slow=22,SNR=7.8						
TEIG	**Tepich**	**7.24**	**3**	LR	LR	20 48 43.8	
	comp=Z,2µm,20.1s,baz=144,slow=38						
TXAR	**Lajitas Array**	**21.43**	**322**	P	**P**	**20 48 23.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=138,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**52.82**	**345**	P	**P**	**20 52 46.7**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=148,slow=7.1,SNR=8.8						
ILAR	**Eielson Array**	**65.08**	**336**	P	**P**	**20 54 11.6**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=171,slow=4.7,SNR=6.5						

ISCJB ***29*** *20:47:52.5±0.2, 1.˚64N±0.˚04×90.˚57W±0.˚04, h10km, mb4.9/109, MS5.0/179, Error ellipse: s-maj=7.6km s-min=3.6km az=143.3*

IDC ***29*** *20:47:52.0±0.6, 1.˚63N×90.˚67W, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.6/28, mbtmp4.6/21, ML3.3/2, MS5.0/25, Ms1 5.0/25, ms1mx4.9/30, Error ellipse: s-maj=27.2km s-min=12.0km az=54.0*

MOS ***29*** *20:47:52.8±1.1, 1.˚83N×90.˚41W, h10km, mb5.2/31, MS4.8/17, Error ellipse: s-maj=17.3km s-min=6.0km az=106.1*

GCMT ***29*** *20:47:53.2±0.1, 1.˚56N×90.˚78W, h15km, MW5.6/114, Moment Tensor Solution. s87,c141; s114,c301; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-0.56±.03; Mθθ 1.81±.04; Mφφ-1.25±.04; Mrθ-0.19±.07; Mθφ-2.63±.03; Mφr 0.02±.07; Best double couple: M03.04800×10^17 NP1:φs255.00000°, δ90.00000°, λ177.00000°. NP2:φs345.00000°, δ87.00000°, λ0.00000°. Principal axes: T 3.3310, Plg3.0000°, Azm210.0000°; N -0.5710, Plg87.0000°, Azm67.0000°; P -2.7650, Plg2.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***29*** *20:47:53.2±0.3, 1.˚59N×90.˚60W, h10km, mb5.0/87, MS5.1/142 Error ellipse: s-maj=8.9km s-min=4.6km az=56.0*

ISC 29 20:47:53.1±0.3**, 1.˚49N**±0.˚06×**90.˚67W**±0.˚07**, h10**km**, n717,** σ1°**08**/592**, mb5.0**/109**, MS5.1**/180**, 164C-152D, Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**2.18**	**170**	*eP*	**Pn**	**20 48 27.0**	**-2.5**
JTS	**JuntasAbangare**	**10.43**	**33**	*eP*	Pn	20 50 18.8	-4.1
	54nm,1.3s						
JTS	**JuntasAbangare**	**10.43**	**33**	Pn	Pn	20 50 26.6	+3.7
	0.4nm,0.3s,baz=221,slow=15,SNR=4.9						
JTS				LR	LR	20 53 29.6	
	comp=Z,32µm,19.7s,baz=248,slow=33						
OTAV	**Otavalo**	**12.28**	**96**	*e*Pn	**Pn**	**20 50 47.5**	**-1.1**
	217nm,1.8s						
TGUH	**Tegucigalpa,Un**	**12.94**	**15**	*e*Pn	**Pn**	**20 50 59.1**	**+2.0**
ATAH	**Atahualpa**	**14.94**	**125**	Pn	**P**	**20 51 29.9**	**-0.8**
ATAH	**Atahualpa**	**14.94**	**125**	Pn	**P**	**20 51 29.9**	**-0.8**
	0.4nm,0.3s,baz=306,slow=14,SNR=36						
ATAH				LR	LR	20 56 09.2	
	comp=Z,21µm,21.6s,baz=320,slow=33						
ROSC	**El Rosal**	**16.65**	**78**	Pn	**P**	**20 51 49.0**	**-0.7**
ROSC	**El Rosal**	**16.65**	**78**	Pn	**P**	**20 51 49.0**	**-0.7**
	0.9nm,0.3s,baz=270,slow=14,SNR=2.7						
TEIG	**Tepich**	**18.77**	**7**	*eP*	**P**	**20 52 12.1**	**-0.5**
	313nm,1.8s						
TEIG	**Tepich**	**18.77**	**7**	P	**P**	**20 52 12.6**	**0.0**
	0.5nm,0.3s,baz=167,slow=10,SNR=5.6						
TEIG				LR	LR	20 58 39.3	
	comp=Z,6µm,18.7s,baz=186,slow=35						
NNA	**Nana**	**19.18**	**135**	Pn	**Pn**	**20 52 20.0**	**+1.9**
	297nm,1.8s,SNR=7.7						
NNA	**Nana**	**19.18**	**135**	*eP*	**Pn**	**20 52 18.9**	**+0.9**
	334nm,1.8s						
MTDJ	**Mount Denham**	**21.05**	**37**	PFAKE		20 52 50.0	+12
MTDJ				LR	LR		
	comp=Z,12µm,20.0s						
SDV	**Santo Domingo**	**21.25**	**69**	*eP*	**P**	**20 52 40.9**	**+1.0**
	comp=Z,243nm,1.3s						
SDV				LR	LR		
	comp=Z,5µm,19.0s						
GTBY	**Guantanamo Bay**	**23.82**	**39**	PFAKE		20 53 20.0	+14
GTBY				LR	LR		
	comp=Z,7µm,20.0s						
SDDR	**Presa de Saban**	**25.75**	**46**	P	**P**	**20 53 23.0**	**-1.2**
	comp=Z,30nm,1.1s						
SDDR				LR	LR		
	comp=Z,5µm,19.0s						
H06S1	**SOCORRO T**	**26.26**	**312**	T	T	21 20 43.5	
	SNR=24						
H06E1	**SOCORRO T-PHAS**	**26.27**	**312**	T	T	21 20 39.7	
	SNR=204						
034A	**Hebbronville**	**26.57**	**344**	⇓P	**P**	**20 53 31.6**	**+0.1**
	baz=27						
KVTX	**Kingsville**	**26.82**	**346**	PFAKE		20 53 40.0	+6.3
KVTX				LR	LR		
	comp=Z,3µm,22.0s						
GRTK	**Grand Turk**	**27.54**	**42**	PFAKE		20 53 50.0	+10
GRTK				LR	LR		
	comp=Z,5µm,19.0s						
834A	**Tilden**	**27.54**	**345**	⇑P	**P**	**20 53 40.7**	**+0.5**
	baz=28						
833A	**Chaparral WMA,**	**27.96**	**343**	⇑P	**P**	**20 53 44.3**	**+0.4**
	baz=28						
832A	**Faith Ranch, C**	**28.10**	**342**	⇑P	**P**	**20 53 45.7**	**+0.5**
	baz=28						
734A	**La Jarita Cree**	**28.23**	**345**	⇓P	**P**	**20 53 48.3**	**+1.9**
	baz=28						
733A	**Divot King Ran**	**28.31**	**344**	⇓P	**P**	**20 53 48.8**	**+1.8**
	baz=28						
732A	**Laxson Ranch,**	**28.51**	**343**	⇑P	**P**	**20 53 50.2**	**+1.3**
	baz=29						
MNMC	**Minimini**	**29.13**	**136**	*i* P	**P**	**20 53 57.4**	**+2.6**
632A	**Uvalde**	**29.19**	**344**	⇓P	**P**	**20 53 54.9**	**-0.1**
	baz=29,SNR=8.8						
SAML	**Samuel**	**29.28**	**111**	*eP*	**P**	**20 53 56.1**	**+0.1**
	comp=Z,73nm,1.5s						
SAML				LR	LR		
	comp=Z,9µm,22.0s						
631A	**Perdido Creek**	**29.33**	**342**	⇑P	**P**	**20 53 56.4**	**+0.2**
	baz=29						
534A	**Blanco**	**29.34**	**346**	⇑P	**P**	**20 53 56.8**	**+0.5**
	baz=29						
LPIG	**La Paz**	**29.44**	**321**	LR	LR	21 02 44.9	
	comp=Z,3µm,21.8s,baz=132,slow=30						
PB11	**Plate Boundary**	**29.51**	**137**	*i* P	**P**	**20 54 00.5**	**+2.4**
BRAL	**Brewton**	**29.57**	**6**	PFAKE		20 54 10.0	+12
BRAL				LR	LR		
	comp=Z,2µm,22.0s						
532A	**Rocksprings**	**29.81**	**344**	⇑P	**P**	**20 54 01.0**	**+0.6**
	baz=30						
531A	**Rocksprings**	**30.03**	**343**	⇓P	**P**	**20 54 03.2**	**+0.8**
	baz=30						
434A	**Burnet**	**30.05**	**347**	⇑P	**P**	**20 54 03.5**	**+1.0**
	baz=30						
JCT	**Junction City**	**30.11**	**344**	*eP*	**P**	**20 54 00.4**	**-2.7**
JCT				pmax	pmax		
	comp=Z,49nm,1.6s						
JCT				MLR	MLR		
	comp=Z,1µm,20.0s						
JCT	**Junction City**	**30.11**	**344**	*eP*	**P**	**20 54 00.4**	**-2.7**
	comp=Z,49nm,1.6s						
JCT				LR	LR		
	comp=Z,1µm,20.0s						
JCT	**Junction City**	**30.11**	**344**	⇑P	**P**	**20 54 03.6**	**+0.5**
	baz=30						
628A	**Black Gap, Mar**	**30.18**	**338**	⇓P	**P**	**20 54 04.3**	**+0.6**
	baz=30						
433A	**Art**	**30.19**	**345**	⇓P	**P**	**20 54 04.4**	**+0.6**
	baz=30						
530A	**J-C Ranch, Com**	**30.26**	**341**	⇓P	**P**	**20 54 04.6**	**+0.2**
	baz=30,SNR=6.5						
627A	**Terlingua Ranc**	**30.34**	**338**	⇓P	**P**	**20 54 06.1**	**+0.9**
	baz=30						
TXAR	**Lajitas Array**	**30.34**	**337**	P	**P**	**20 54 05.9**	**+0.7**
TXAR	**Lajitas Array**	**30.34**	**337**	P	**P**	**20 54 05.9**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=158,slow=10,SNR=15						
TXAR				LR	LR	21 05 07.7	
	comp=Z,2µm,19.4s,baz=0.0,slow=34						
432A	**Menard**	**30.48**	**344**	⇑P	**P**	**20 54 06.8**	**+0.4**
	baz=31						
PB01	**Plate Boundary**	**30.51**	**138**	*i* P	**P**	**20 54 09.5**	**+2.7**
529A	**Stev Forest Ra**	**30.52**	**340**	⇑P	**P**	**20 54 06.8**	**0.0**
	baz=31						
431A	**Sonora**	**30.53**	**343**	⇑P	**P**	**20 54 06.5**	**-0.4**
	baz=31						
334A	**Lometa**	**30.54**	**347**	⇑P	**P**	**20 54 07.6**	**+0.7**
	baz=31,SNR=15						
GRGR	**Grenville**	**30.65**	**69**	PFAKE		20 54 20.0	+12
GRGR				LR	LR		
	comp=Z,2µm,21.0s						
333A	**Richland Sprin**	**30.70**	**346**	⇓P	**P**	**20 54 08.4**	**0.0**
	baz=31						
626A	**Big Bend Ranch**	**30.72**	**337**	⇑P	**P**	**20 54 09.0**	**+0.5**
	baz=31,SNR=7.0						
PB07	**Plate Boundary**	**30.73**	**140**	*i* P	**P**	**20 54 08.5**	**-0.4**
528A	**Cox Ranch, San**	**30.76**	**339**	⇓P	**P**	**20 54 09.2**	**+0.2**
	baz=31						
PTGA	**Pitinga**	**30.78**	**94**	P	**P**	**20 54 11.4**	**+2.2**
PTGA				LR	LR		
	comp=Z,2µm,19.0s						
PTGA	**Pitinga**	**30.78**	**94**	P	**P**	**20 54 11.4**	**+2.2**
	comp=Z,11nm,1.0s,baz=268,slow=10,SNR=9.6						
430A	**Baggett Ranch,**	**30.82**	**342**	⇑P	**P**	**20 54 09.7**	**+0.3**
	baz=31						
429A	**Davenport Ranc**	**30.88**	**341**	⇑P	**P**	**20 54 10.3**	**+0.4**
	baz=31						
332A	**Millersview**	**30.95**	**345**	⇑P	**P**	**20 54 10.5**	**0.0**
	baz=31,SNR=11						
WHTX	**Lake Whitney**	**31.01**	**349**	P	**P**	**20 54 11.1**	**+0.1**
	comp=Z,37nm,1.0s						
WHTX	**Lake Whitney**	**31.01**	**349**	⇓P	**P**	**20 54 11.4**	**+0.4**
	baz=31						
527A	**Woodward Ranch**	**31.04**	**338**	⇓P	**P**	**20 54 11.8**	**+0.3**
	baz=31						
526A	**Mary Lane Ranc**	**31.15**	**337**	⇑P	**P**	**20 54 12.9**	**+0.5**
	baz=31						
234A	**Clairette**	**31.16**	**348**	⇓P	**P**	**20 54 13.8**	**+1.5**
	baz=31,SNR=9.4						
PB09	**Plate Boundary**	**31.20**	**139**	*i* P	**P**	**20 54 15.8**	**+2.8**
233A	**Rising Star**	**31.35**	**346**	⇓P	**P**	**20 54 14.5**	**+0.5**
	baz=31,SNR=11						
330A	**Mertzon**	**31.38**	**343**	⇓P	**P**	**20 54 14.2**	**-0.1**
	baz=31						
PB04	**Plate Boundary**	**31.38**	**140**	*i* P	P	20 54 18.6	+4.3
232A	**Coleman**	**31.41**	**345**	⇑P	**P**	**20 54 14.5**	**-0.1**
	baz=32						
135A	**Vickery Place,**	**31.55**	**349**	⇑P	**P**	**20 54 15.8**	**+0.1**
	baz=32						
LRAL	**Lakeview Retre**	**31.57**	**6**	*eP*	P	20 54 12.2	-3.7
	comp=Z,25nm,1.2s						
427A	**Hayter Ranch,**	**31.60**	**339**	⇑P	**P**	**20 54 16.5**	**+0.1**
	baz=32						
231A	**Bronte**	**31.63**	**344**	⇓P	**P**	**20 54 16.7**	**+0.2**
	baz=32						
PB06	**Plate Boundary**	**31.64**	**141**	⇑*i*P	**P**	**20 54 19.6**	**+2.8**
426A	**McDonald Obser**	**31.67**	**338**	⇓P	**P**	**20 54 17.3**	**+0.2**
	baz=32						
329A	**Wagon Wheel Ra**	**31.70**	**341**	⇓P	**P**	**20 54 16.8**	**-0.4**
	baz=32						
134A	**White-Moore Ra**	**31.70**	**348**	⇑P	**P**	**20 54 17.4**	**+0.3**
	baz=32						
230A	**Sterling City**	**31.81**	**343**	⇓P	**P**	**20 54 18.3**	**+0.2**
	baz=32						
328A	**Wristen Ranch,**	**31.88**	**340**	⇓P	**P**	**20 54 19.3**	**+0.6**
	baz=32						
133A	**Hamilton Ranch**	**31.92**	**347**	⇓P	**P**	**20 54 19.2**	**+0.2**
	baz=32						
FDF	**Fort de France**	**31.99**	**64**	PFAKE		20 54 30.0	+10
FDF				LR	LR		
	comp=Z,2µm,19.0s						
LVC	**Limon Verde**	**32.00**	**140**	*e*P	**P**	**20 54 22.7**	**+2.6**
	comp=Z,163nm,1.4s						
LVC				LR	LR		
	comp=Z,3µm,20.0s						
229A	**Bryant Ranch,**	**32.09**	**342**	⇓P	**P**	**20 54 20.8**	**+0.2**
	baz=32						
ABTX	**Abilene, Hawle**	**32.11**	**346**	⇑P	**P**	**20 54 21.4**	**+0.7**
	baz=32						
425A	**Indio Mountain**	**32.15**	**336**	⇓P	**P**	**20 54 21.9**	**+0.7**
	baz=32						
Z35A	**Perchaven, San**	**32.28**	**350**	⇓P	**P**	**20 54 22.6**	**+0.4**
	baz=32						
131A	**Roby**	**32.34**	**345**	⇓P	**P**	**20 54 23.2**	**+0.4**
	baz=32						
Z34A	**Collier Ranch,**	**32.44**	**349**	⇑P	**P**	**20 54 24.3**	**+0.7**
	baz=32						
GOGA	**Godfrey**	**32.47**	**11**	PFAKE		20 54 40.0	+16
GOGA				LR	LR		
	comp=Z,1µm,20.0s						
228A	**UT Block 9, Go**	**32.48**	**341**	⇑P	**P**	**20 54 24.3**	**+0.3**
	baz=33						
Z33A	**Whitaker Ranch**	**32.54**	**347**	⇓P	**P**	**20 54 25.2**	**+0.8**
	baz=33						
ANWB	**Willy Bob**	**32.62**	**59**	PFAKE		20 54 40.0	+15
ANWB				LR	LR		
	comp=Z,2µm,20.0s						
227A	**Bennet, Jal**	**32.62**	**340**	⇑P	**P**	**20 54 25.6**	**+0.4**
	baz=33						
Z32A	**Haskell**	**32.72**	**346**	⇓P	**P**	**20 54 26.5**	**+0.4**
	baz=33						
129A	**Stewart Farms,**	**32.73**	**342**	⇓P	**P**	**20 54 26.3**	**+0.1**
	baz=33						
OXF	**Oxford**	**32.88**	**2**	P	**P**	**20 54 26.8**	**-0.6**
OXF				pmax	pmax		
	comp=Z,94nm,1.1s						
OXF	**Oxford**	**32.88**	**2**	P	**P**	**20 54 26.8**	**-0.6**
	comp=Z,94nm,1.1s						
Z31A	**Sharp Cattle R**	**32.89**	**345**	⇑P	**P**	**20 54 28.3**	**+0.7**
	baz=33,SNR=12						
BBGH	**Gun Hill**	**32.90**	**68**	PFAKE		20 54 40.0	+12
BBGH				LR	LR		
	comp=Z,3µm,20.0s						
128A	**Castleberry Fa**	**32.91**	**341**	⇓P	**P**	**20 54 28.0**	**+0.2**
	baz=33,SNR=12						
NHSC	**New Hope**	**32.96**	**16**	PFAKE		20 54 40.0	+12
NHSC				LR	LR		
	comp=Z,1µm,21.0s						
Y34A	**Reagan Ranch,**	**32.98**	**349**	⇓P	**P**	**20 54 28.5**	**+0.2**
	baz=33						
226B	**Tecolote Peak,**	**32.99**	**339**	⇑P	**P**	**20 54 29.1**	**+0.7**
	baz=33,SNR=23						
MIAR	**Mount Ida**	**33.00**	**356**	*eP*	**P**	**20 54 27.0**	**-1.5**
MIAR				pmax	pmax		
	comp=Z,37nm,1.3s						
MIAR				MLR	MLR		
	comp=Z,936nm,20.0s						
MIAR	**Mount Ida**	**33.00**	**356**	*eP*	**P**	**20 54 27.0**	**-1.5**
	comp=Z,38nm,1.3s						
MIAR				LR	LR		
	comp=Z,936nm,20.0s						
MNTX	**Cornudas Mount**	**33.11**	**337**	*eP*	**P**	**20 54 29.3**	**-0.2**
	comp=Z,3.9nm,0.8s						
MNTX				LR	LR		
	comp=Z,2µm,19.0s						
Z30A	**Sanderson Ranc**	**33.12**	**344**	⇓P	**P**	**20 54 29.7**	**0.0**
	baz=33						
UALR	**University of**	**33.16**	**357**	*eP*	**P**	**20 54 29.7**	**-0.1**
	comp=Z,36nm,1.3s						
Y33A	**Hilltop Ranch,**	**33.20**	**348**	⇓P	**P**	**20 54 30.7**	**+0.4**
	baz=33						
225A	**Deer Hill, Car**	**33.26**	**338**	⇓P	**P**	**20 54 31.2**	**+0.2**
	baz=33,SNR=9.3						
Z29A	**Hungry Hill Ra**	**33.26**	**343**	⇓P	**P**	**20 54 30.6**	**-0.2**
	baz=33,SNR=13						
126A	**Clayton Basin,**	**33.45**	**339**	⇑P	**P**	**20 54 32.8**	**+0.3**
	baz=34						
Z28A	**Tucker Farm, M**	**33.49**	**342**	⇓P	**P**	**20 54 33.0**	**+0.1**
	baz=34						
Y31A	**Rekieta Farm,**	**33.53**	**345**	⇑P	**P**	**20 54 33.4**	**+0.2**
	baz=34						
Y30A	**Stafford Cattl**	**33.62**	**345**	⇑P	**P**	**20 54 34.2**	**+0.3**
	baz=34,SNR=9.3						
X34A	**Smith Ranch, M**	**33.62**	**349**	⇑P	**P**	**20 54 33.9**	**+0.1**
	baz=34						
125A	**Gardner Draw,**	**33.69**	**338**	⇑P	**P**	**20 54 34.7**	**0.0**
	baz=34,SNR=10.0						
X33A	**Lawton**	**33.69**	**348**	⇓P	**P**	**20 54 34.7**	**+0.2**
	baz=34						
X32A	**Elmer**	**33.74**	**347**	⇑P	**P**	**20 54 35.5**	**+0.6**
	baz=34						
Z27A	**Tatum**	**33.78**	**341**	⇑P	**P**	**20 54 35.3**	**-0.1**
	baz=34						
Y29A	**Porterfield Fa**	**33.82**	**343**	⇑P	**P**	**20 54 35.7**	**0.0**
	baz=34						
SWET	**Sewanee**	**33.85**	**7**	*eP*	**P**	**20 54 33.6**	**-2.3**
	comp=Z,39nm,1.3s						
WMOK	**Wichita Mounta**	**33.94**	**348**	P	**P**	**20 54 37.0**	**+0.3**
WMOK				MLR	MLR		
	comp=Z,723nm,20.0s						
WMOK	**Wichita Mounta**	**33.94**	**348**	P	**P**	**20 54 37.0**	**+0.3**
WMOK				LR	LR		
	comp=Z,723nm,20.0s						
Z26A	**Caprock**	**34.00**	**340**	⇓P	**P**	**20 54 37.8**	**+0.5**
	baz=34,SNR=9.9						
SIV	**San Ignacio**	**34.01**	**122**	P	**P**	**20 54 39.1**	**+1.6**
SIV	**San Ignacio**	**34.01**	**122**	P	**P**	**20 54 39.1**	**+1.6**
	comp=Z,8.6nm,0.9s,baz=310,slow=9.1,SNR=27						
Y28A	**McKinney Farm,**	**34.03**	**343**	⇑P	**P**	**20 54 37.5**	**0.0**
	baz=34						
X31A	**McDonald Ranch**	**34.10**	**346**	⇓P	**P**	**20 54 38.8**	**+0.7**
	baz=34						
X30A	**Coker Ranch, T**	**34.15**	**345**	⇑P	**P**	**20 54 39.1**	**+0.6**
	baz=34						
W34A	**Bridge Creek,**	**34.23**	**350**	⇑P	**P**	**20 54 39.2**	**0.0**
	baz=34						
MSTX	**Muleshoe**	**34.24**	**342**	*eP*	**P**	**20 54 39.5**	**0.0**
	comp=Z,45nm,1.1s						
MSTX	**Muleshoe**	**34.24**	**342**	⇓P	**P**	**20 54 40.3**	**+0.8**
	baz=34,SNR=6.1						
Z25A	**Roswell**	**34.27**	**339**	⇑P	**P**	**20 54

baz=35
Y25A Mesa, Roswell 34.84 339 ⇑P P 20 54 45.4 +0.8
baz=35
V33A Lossen Ranch, 34.89 349 ⇓P P 20 54 44.8 0.0
baz=35
V32A Arapaho 34.94 348 ⇓P P 20 54 46.3 +1.0
baz=35
X27A F and S Farms, 34.97 342 ⇓P P 20 54 46.1 +0.3
baz=35
W29A Amraillo 34.99 344 ⇓P P 20 54 46.6 +0.7
baz=35
PARMO Parma 35.02 1 P P 20 54 41.3 -4.6
Y24A Capitan 35.11 338 ⇓P P 20 54 47.5 +0.5
baz=35,SNR=20
X26A CR and CF Fran 35.11 341 ⇓P P 20 54 47.3 +0.3
baz=35
Z22A Elephant Butte 35.11 336 ⇑P P 20 54 47.8 +0.8
baz=35,SNR=7.4
V31A Spring Creek L 35.16 347 ⇑P P 20 54 48.0 +0.7
baz=35
Y23A Lovelace Mesa, 35.35 338 ⇓P P 20 54 49.8 +0.7
baz=35,SNR=12
W27A Bowe Ranch, En 35.35 342 ⇑P P 20 54 48.8 -0.2
baz=35
U34A Anderson Ranch 35.35 350 ⇑P P 20 54 49.6 +0.7
baz=35
X25A Clemmons Ranch 35.38 340 ⇑P P 20 54 49.7 +0.4
baz=36
U33A Lingo Farm, Me 35.45 350 ⇑P P 20 54 50.0 +0.3
baz=36
W26A Owens Ranch, T 35.59 341 ⇓P P 20 54 51.5 +0.5
baz=36
CNNC Cliffs of the 35.63 18 PFAKE 20 55 00.0 +8.8
CNNC LR LR
comp=Z,2µm,20.0s
V28A Channing 35.74 344 ⇓P P 20 54 53.2 +0.9
baz=36
BNM Barren Site 35.76 337 *e*P P 20 54 53.2 +0.5
comp=Z,24nm,1.1s
LCO Las Campanas 35.85 149 *e*P P 20 54 52.9 -0.7
comp=Z,249nm,1.9s
LCO LR LR
comp=Z,3µm,20.0s
LPM Los Pinos Moun 35.91 337 *e*P P 20 54 55.0 +1.1
comp=Z,14nm,1.2s
LENM Lemitar 35.91 337 *e*P P 20 54 54.2 +0.3
comp=Z,9.7nm,1.0s
W25A X Bar L Ranch, 35.94 341 ⇑P P 20 54 54.6 +0.5
baz=36,SNR=13
TUC Tucson 36.05 330 PFAKE 20 55 10.0 +15
TUC LR LR
comp=Z,2µm,22.0s
U30A WK&E Inc. Balk 36.08 346 ⇑P P 20 54 55.7 +0.5
baz=36
SIUC Southern Illin 36.08 2 *e*P P 20 54 53.8 -1.2
T33A Patterson Ranc 36.11 350 ⇑P P 20 54 55.8 +0.4
baz=36
LAZ Ladron 36.18 337 *e*P P 20 54 57.8 +1.5
comp=Z,24nm,1.8s
V26A Tequesquite Ra 36.25 342 ⇓P P 20 54 57.0 +0.3
baz=36,SNR=24
W24A Lazy 6 Ranch, 36.25 339 ⇑P P 20 54 57.5 +0.7
baz=36,SNR=10
T32A Huddler Ranch, 36.33 349 ⇓P P 20 54 57.7 +0.4
baz=36
U28A Mallet 36.33 344 ⇑P P 20 54 58.4 +1.0
baz=36
ANMO Albuquerque 36.40 338 *e*P P 20 54 58.5 +0.4
comp=Z,10nm,1.0s
ANMO LR LR
comp=Z,3µm,22.0s
ANMO Albuquerque 36.40 338 P P 20 54 58.5 +0.4
comp=Z,4.0nm,0.9s,baz=140,slow=9.5,SNR=8.5
T31A Randall Ranch, 36.40 348 ⇓P P 20 54 58.3 +0.5
baz=36
W23A Werner Place, 36.48 338 ⇑P P 20 54 59.3 +0.5
baz=37
U27A Thompson Grove 36.54 343 ⇑P P 20 55 00.4 +1.2
baz=37
V25A Rancho No Teng 36.55 341 ⇓P P 20 54 59.7 +0.4
baz=37,SNR=17
V24A Rampart Ranch, 36.67 340 ⇑P P 20 55 00.9 +0.4
baz=37
BLA Blacksburg 36.79 14 *e*P P 20 55 00.1 -1.1
BLA pmax pmax
comp=Z,55nm,1.3s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA Blacksburg 36.79 14 *e*P P 20 55 00.1 -1.1
comp=Z,55nm,1.3s
BLA LR LR
comp=Z,2µm,20.0s
U26A Atchley Ranch, 36.79 342 ⇑P P 20 55 02.5 +1.1
baz=37
WCI Wyandotte Cave 36.79 6 *e*P P 20 55 00.3 -0.8
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 36.79 6 *e*P P 20 55 00.3 -0.8
comp=Z,14nm,0.8s
214A Organ Pipe Nat 36.81 328 ⇑P P 20 55 02.4 +0.9
baz=37
S32A Newby Ranch, P 36.83 349 ⇑P P 20 55 02.6 +1.0
baz=37
S31A Mullinville 36.86 348 ⇑P P 20 55 02.6 +0.8
baz=37
U25A Circle Dot Ran 37.00 341 ⇓P P 20 55 03.3 +0.1
baz=37
T28A Walsh 37.00 345 ⇓P P 20 55 03.3 +0.2
baz=37
V23A Ortiz Mt. (NFS 37.01 339 ⇓P P 20 55 03.9 +0.6
baz=37
S30A Montezuma 37.09 347 ⇓P P 20 55 04.3 +0.5
baz=37
T27A Campo 37.11 344 ⇓P P 20 55 04.3 +0.2
baz=37
OLIL Olney 37.15 3 *e*P P 20 55 03.6 -0.5
comp=Z,164nm,1.3s
S29A Ulysses 37.23 346 ⇑P P 20 55 05.5 +0.5
baz=37
R33A Olander Ranch, 37.26 350 ⇓P P 20 55 05.9 +0.8
baz=37
S28A Manter 37.39 345 ⇓P P 20 55 07.1 +0.8
baz=38
V22A San Miguel Ran 37.43 338 ⇓P P 20 55 07.5 +0.6
baz=38
T26A Comanche Natio 37.46 343 ⇑P P 20 55 07.4 +0.3
baz=38
X18A Snowflake 37.48 333 ⇓P P 20 55 08.0 +0.7
baz=38
R32A Long Quarter, 37.49 350 ⇓P P 20 55 07.1 -0.1
baz=38
R31A Burdett 37.52 349 ⇓P P 20 55 08.4 +1.0
baz=38
U23A El Rito 37.53 339 ⇑P P 20 55 08.3 +0.5
baz=38,SNR=12
R30A Dighton 37.67 348 ⇑P P 20 55 09.4 +0.8
baz=38,SNR=11
T25A Trinidad 37.68 342 ⇑P P 20 55 09.8 +0.9
baz=38,SNR=11
BLO Bloomington 37.70 5 *e*P P 20 55 08.0 -0.8
BLO pmax pmax
comp=Z,32nm,0.7s
BLO Bloomington 37.70 5 *e*P P 20 55 08.0 -0.8
comp=Z,32nm,0.7s
U22A Llaves 37.82 338 ⇓P P 20 55 10.7 +0.6
baz=38
KSU1 Kansas State U 37.83 352 *e*P P 20 55 09.5 -0.4
comp=Z,60nm,1.1s
KSU1 LR LR
comp=Z,1µm,19.0s
KSU1 Kansas State U 37.83 352 ⇓P P 20 55 10.3 +0.3
baz=38
S26A Kim 37.84 343 ⇑P P 20 55 11.1 +0.8
baz=38
Q33A Connelly Farm, 37.91 351 ⇓P P 20 55 11.2 +0.6
baz=38
T24B San Luis 37.92 341 ⇑P P 20 55 11.6 +0.5
baz=38
113A Mohawk Valley, 37.95 327 ⇑P P 20 55 11.9 +0.9
baz=38
Z14A Wintersburg 37.98 329 ⇑P P 20 55 12.2 +0.9
baz=38
R29A Marienthal 38.00 347 ⇑P P 20 55 12.0 +0.5
baz=38
Q32A Meitler Ranch, 38.02 350 ⇓P P 20 55 12.4 +0.8
baz=38
X16A Lo Mia Camp, P 38.08 332 ⇑P P 20 55 12.4 0.0
baz=38
R28A Tribune 38.08 346 ⇓P P 20 55 12.1 -0.1
baz=38
S25A Robets Cordova 38.17 342 ⇑P P 20 55 13.8 +0.8
baz=38
Q31A Ellis 38.19 349 ⇑P P 20 55 13.3 +0.3
baz=38
R27A Eads 38.28 345 ⇓P P 20 55 14.2 +0.3
baz=38,SNR=6.3
P33A Williams Farm, 38.31 351 ⇓P P 20 55 14.2 +0.2
baz=38
Q30A Quinter 38.32 348 ⇑P P 20 55 14.4 +0.2
baz=38
S24A Houchin Ranch, 38.39 341 ⇑P P 20 55 15.1 +0.1
baz=38,SNR=6.7
Q29A Oakley 38.41 347 ⇓P P 20 55 15.1 +0.2
baz=38
Y14A Wickenburg 38.46 329 ⇑P P 20 55 15.9 +0.4
baz=38
R26A Arlington 38.47 344 ⇓P P 20 55 15.8 +0.2
baz=39,SNR=21
CBN Corbin 38.53 17 PFAKE 20 55 30.0 +14
CBN LR LR
comp=Z,2µm,22.0s
R25A Fountain Ranch 38.57 343 ⇑P P 20 55 17.0 +0.6
baz=39,SNR=9.3
SDCO Great Sand Dun 38.58 341⇑*e*P P 20 55 17.0 +0.3
comp=Z,20nm,1.1s
SDCO LR LR
comp=Z,1µm,22.0s
P31A Stockton 38.68 349 ⇑P P 20 55 17.6 +0.4
baz=39
SFIN Scholer Farm 38.85 4⇑*i*P P 20 55 17.2 -1.3
comp=Z,58nm,1.2s
SFIN Scholer Farm 38.85 4 ⇓P P 20 55 18.1 -0.4
baz=39
P30A Selden 38.88 348 ⇑P P 20 55 19.1 +0.3
baz=39,SNR=12
R24A Sanders Place, 38.90 342 ⇓P P 20 55 19.6 +0.4
baz=39
KSCO Kaye Shedlock' 38.92 345 P P 20 55 19.0 -0.3
WUAZ Wupatki 38.95 333 *e*P P 20 55 20.1 +0.5
comp=Z,36nm,1.3s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 38.95 333 ⇓P P 20 55 20.3 +0.7
baz=39,SNR=11
S22A 4UR Ranch, Cre 39.03 339 ⇑P P 20 55 21.4 +0.9
baz=39,SNR=10.0
Q26A Hugo 39.07 344 ⇓P P 20 55 21.5 +0.9
baz=39
P29A Atwood 39.08 347 ⇑P P 20 55 21.3 +0.7
baz=39
Y12C Blythe 39.11 328 ⇓P P 20 55 21.6 +0.9
baz=39
MVCO Mesa Verde 39.17 337 *e*P P 20 55 21.8 +0.2
comp=Z,30nm,1.3s
MVCO LR LR
comp=Z,3µm,21.0s
MVCO Mesa Verde 39.17 337 ⇓P P 20 55 22.2 +0.7
baz=39,SNR=10
ACSO Alum Creek Sta 39.20 9 *e*P P 20 55 20.5 -0.9
comp=Z,56nm,1.3s
ACSO LR LR
comp=Z,1µm,19.0s
O32A Brockman Farm, 39.21 351 ⇓P P 20 55 22.3 +0.7
baz=39
P28A Saint Francis 39.23 346 ⇓P P 20 55 22.3 +0.4
baz=39
MCWV Mont Chateau 39.25 13 PFAKE 20 55 30.0 +8.1
MCWV LR LR
comp=Z,2µm,21.0s
BBSR BB Station 39.27 36 PFAKE 20 55 30.0 +7.9
BBSR LR LR
comp=Z,2µm,19.0s
Q25A Bedland, Calha 39.27 343 ⇓P P 20 55 22.6 +0.2
baz=39
PDMCI Parker Dam,Lak 39.33 329 ⇑P P 20 55 23.5 +0.9
baz=39
P27A Ficken Ranch, 39.42 345 ⇑P P 20 55 24.3 +0.8
baz=40
BC3 Big Chuckawall 39.54 327 ⇓P P 20 55 24.7 +0.2
baz=40
O29A 4D Ranch, Culb 39.55 348 ⇑P P 20 55 25.2 +0.8
baz=40
P26A Davis Ranch, A 39.62 345 ⇑P P 20 55 25.4 +0.2
baz=40
IRM Iron Mountain 39.75 327 ⇑P P 20 55 26.9 +0.6
baz=40
O28A Krutsinger Ran 39.77 347 ⇓P P 20 55 26.7 +0.4
baz=40
P25A Willow Gulch B 39.80 344 ⇓P P 20 55 27.0 +0.3
baz=40
W13A Hualapai Mount 39.82 330 ⇑P P 20 55 27.7 +0.7
baz=40
PV01 Paradox Valley 40.01 338 *e*P P 20 55 27.9 -0.6
comp=Z,1µm,1.2s
PFO Pinyon Flat Ob 40.06 326 *e*P P 20 55 30.1 +1.2
comp=Z,5.2nm,0.9s
PFO Pinyon Flat Ob 40.06 326 LR LR 21 09 07.5
comp=Z,1µm,20.7s,baz=163,slow=32
BELC Belle Mtn. Jos 40.10 327 ⇑P P 20 55 29.9 +0.7
baz=40
U15A North Rim 40.12 333 ⇓P P 20 55 30.5 +1.0
baz=40,SNR=10
P23A Jefferson 40.17 342 ⇑P P 20 55 31.0 +1.0
baz=40
O26A Horse Wrangler 40.25 345 ⇓P P 20 55 30.4 0.0
baz=40
SCIA State Center 40.31 357 PFAKE 20 55 40.0 +9.4
SCIA LR LR
comp=Z,2µm,20.0s
PV04 Paradox Valley 40.36 338 *e*P P 20 55 31.8 +0.4
M31A Lambtecht Ranc 40.38 350 ⇑P P 20 55 32.0 +0.7
baz=40
PV10 Paradox Valley 40.40 338 *e*P P 20 55 31.5 -0.3
comp=Z,220nm,1.0s
ISCO Idaho Springs 40.49 342 *e*P P 20 55 32.8 +0.2
ISCO pmax pmax
comp=Z,27nm,1.1s
ISCO MLR MLR
comp=Z,1µm,22.0s
ISCO Idaho Springs 40.49 342 *e*P P 20 55 32.8 +0.2
comp=Z,27nm,1.1s
ISCO LR LR
comp=Z,1µm,22.0s
ISCO Idaho Springs 40.49 342 ⇓P P 20 55 33.1 +0.5
baz=41,SNR=14
GMRC Granite Mounta 40.50 328 ⇑P P 20 55 33.2 +0.7
baz=41
N27A Anderson Farm, 40.59 346 ⇑P P 20 55 33.6 +0.4
baz=41,SNR=9.6
OGNE Ogallala 40.60 347 *e*P P 20 55 33.7 +0.5
comp=Z,25nm,0.8s
OGNE LR LR
comp=Z,2µm,22.0s
OGNE Ogallala 40.60 347 ⇑P P 20 55 33.1 -0.1
baz=41
P22A Eagle 40.67 341 ⇑P P 20 55 34.3 +0.4
baz=41
O23A Lake Granby, G 40.96 342 ⇑P P 20 55 36.9 +0.4
baz=41
L30A Spencer Herefo 41.10 350 ⇑P P 20 55 37.8 +0.5
baz=41
O22A Kremmling 41.11 341 ⇑P P 20 55 38.1 +0.4
baz=41,SNR=12
AAM Ann Arbor 41.12 8 P P 20 55 35.9 -1.5
AAM MLR MLR
comp=Z,1µm,19.0s
AAM Ann Arbor 41.12 8 P P 20 55 35.9 -1.5
AAM LR LR
comp=Z,1µm,19.0s
TUQ Turquoise Moun 41.14 328 ⇓P P 20 55 38.2 +0.4
baz=41
L31A Butterfield Fa 41.17 351 ⇓P P 20 55 38.5 +0.6
baz=41,SNR=8.4
N24A Carr 41.22 344 ⇓P P 20 55 39.0 +0.6
baz=41
JFWS Jewell Farm 41.25 0⇑*e*P P 20 55 37.5 -0.9
JFWS pmax pmax
comp=Z,18nm,0.6s
JFWS MLR MLR
comp=Z,2µm,22.0s
JFWS Jewell Farm 41.25 0⇑*e*P P 20 55 37.5 -0.9
comp=Z,18nm,0.6s
JFWS LR LR
comp=Z,2µm,22.0s
GSC Goldstone 41.51 327 *e*P P 20 55 41.8 +1.0
GSC pmax pmax
comp=Z,19nm,1.3s
GSC Goldstone 41.51 327 *e*P P 20 55 41.8 +1.0
comp=Z,19nm,1.3s
GSC Goldstone 41.51 327 ⇓P P 20 55 41.4 +0.6
baz=42
SHPR Sheep Range 41.56 330 *e*P P 20 55 41.7 +0.4
comp=Z,21nm,1.5s
ERPA Erie 41.58 12 PFAKE 20 55 50.0 +8.9
ERPA LR LR
comp=Z,1µm,22.0s
N23A Red Feather La 41.60 342 ⇑P P 20 55 42.2 +0.6
baz=42
O20A White River Ci 41.66 340 ⇑P P 20 55 42.5 +0.5
baz=42,SNR=9.8
N22A Wattenberg Ran 41.67 342 ⇓P P 20 55 42.7 +0.5
baz=42,SNR=9.1
ARUT Antelope Range 41.76 333 *e*P P 20 55 44.0 +1.1
ARUT Antelope Range 41.76 333 *e*P P 20 55 44.0 +1.1
comp=Z,346nm,1.0s
K30A Basset 41.78 350 ⇓P P 20 55 43.5 +0.7
baz=42
M24A Cheyenne 41.80 344 ⇓P P 20 55 43.2 0.0
baz=42
EDW2 Edwards Air Fo 41.85 326 ⇑P P 20 55 44.2 +0.6
baz=42,SNR=6.7
M23A Laramie 42.06 343 ⇑P P 20 55 45.3 0.0
baz=42
LRMC Laurel Mountai 42.12 326 ⇑P P 20 55 46.9 +1.1
baz=42,SNR=8.2
K28A Ten Mile Ranch 42.15 348 ⇓P P 20 55 46.7 +0.8
baz=42
M22A Cedar Creek Ra 42.26 342 ⇑P P 20 55 47.6 +0.6
baz=42
N20A Spence Gulch, 42.28 340 ⇑P P 20 55 47.5 +0.2
baz=42,SNR=14
J30A Dallas 42.40 350 ⇓P P 20 55 48.2 +0.3
baz=42
ECSD EROS Data Cent 42.40 354 *e*P P 20 55 46.5 -1.4
comp=Z,20nm,0.9s
ECSD LR LR
comp=Z,2µm,19.0s
ECSD EROS Data Cent 42.40 354 ⇓P P 20 55 46.9 -0.9
baz=42,SNR=17
CPUP Villa Florida 42.43 133 *e*P P 20 55 49.5 +1.2
comp=Z,9.4nm,1.4s
CPUP Villa Florida 42.43 133 P P 20 55 50.0 +1.7
comp=Z,3.6nm,0.7s,baz=295,slow=5.4,SNR=5.9
CPUP LR LR 21 14 14.1
comp=Z,3µm,21.8s,baz=302,slow=37
BINY Binghamton 42.63 16 PFAKE 20 56 00.0 +10
BINY LR LR
comp=Z,3µm,20.0s
L23A Garrett 42.65 343 ⇓P P 20 55 50.6 +0.5
baz=43
ISA Isabella 42.69 326 *e*P P 20 55 51.4 +1.0
ISA pmax pmax
comp=Z,36nm,1.8s
ISA Isabella 42.69 326 *e*P P 20 55 51.4 +1.0
comp=Z,36nm,1.8s
ISA Isabella 42.69 326 ⇑P P 20 55 50.8 +0.4
baz=43
L22A Ellis Ranch, M 42.78 343 ⇓P P 20 55 52.0 +0.8
baz=43
J28A Allard Ranch, 42.81 349 ⇑P P 20 55 51.8 +0.5
baz=43
DAU Daniels Canyon 43.02 337 *e*P P 20 55 52.7 -0.6
DAU pmax pmax
comp=Z,22nm,1.4s
DAU Daniels Canyon 43.02 337 *e*P P 20 55 52.7 -0.6
comp=Z,22nm,1.4s
J26A Sides Ranch, S 43.09 347 ⇑P P 20 55 54.2 +0.6
baz=43,SNR=10
VES Vestal, Richgr 43.17 326 ⇓P P 20 55 55.1 +1.0
baz=43
I29A Vivian Onida 43.21 350 ⇓P P 20 55 54.3 -0.2
baz=43
K23A Bowen Ranch, D 43.22 344 ⇑P P 20 55 54.8 +0.1
baz=43
R11A Troy Canyon, C 43.22 331 ⇑P P 20 55 55.3 +0.5
baz=43,SNR=6.4
J25A Sunshine Ranch 43.34 346 ⇑P P 20 55 55.6 0.0
baz=43
I28A Midland 43.35 349 ⇓P P 20 55 55.4 -0.2
baz=43
K22A Casper 43.38 343 *e*P P 20 55 56.0 0.0
comp=Z,13nm,1.1s
K22A Casper 43.38 343 ⇓P P 20 55 56.1 0.0
baz=44
DUG Dugway 43.47 335 *e*P P 20 55 55.9 -0.8
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway 43.47 335 *e*P P 20 55 55.9 -0.8
comp=Z,6.1nm,0.9s
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway 43.47 335 ⇑P P 20 55 57.3 +0.6
baz=44
J24A Dixon Ranch, L 43.50 345 ⇓P P 20 55 57.5 +0.6
baz=44
K21A Alcova 43.58 342 ⇓P P 20 55 57.8 +0.1
baz=44
I27A Quinn 43.59 348 ⇑P P 20 55 57.1 -0.5
baz=44
SPMN St. Paul 43.60 358 ⇑P P 20 55 57.2 -0.3
baz=44
TCUT Toone Canyon 43.68 337 *e*P P 20 55 59.0 +0.5
comp=Z,77nm,1.2s
I26A New Underwood 43.73 347 ⇑P P 20 55 59.2 +0.5
baz=44
H29A Onida 43.78 350 ⇑P P 20 55 58.7 -0.3
baz=44,SNR=11
I25A Rochford 43.92 346 ⇓P P 20 56 00.7 +0.4
baz=44
I24A Kuemmerle Ranc 43.98 345 ⇓P P 20 56 01.1 +0.4
baz=44
J22A Midwest 44.06 343 ⇓P P 20 56 01.4 0.0
baz=44
RSSD Black Hills 44.09 346 *e*P P 20 56 01.7 0.0
RSSD pmax pmax
comp=Z,15nm,1.1s
RSSD Black Hills 44.09 346 *e*P P 20 56 01.7 0.0
comp=Z,15nm,1.1s
G30A Faulkton 44.10 351 ⇓P P 20 56 00.9 -0.6
baz=44
H27A Howes 44.14 348 ⇑P P 20 56 02.2 +0.3
baz=44
BGU Big Grassy Mou 44.17 336 *e*P P 20 56 02.2 -0.1
comp=Z,11nm,1.4s
J21A Lysite 44.29 342 ⇑P P 20 56 03.6 +0.3
baz=44,SNR=8.7
SADO Sadowa 44.29 12 P P 20 56 02.3 -0.8
SADO Sadowa 44.29 12 P P 20 56 02.3 -0.8
comp=Z,30nm,1.0s,baz=261,slow=7.0,SNR=11
BW06 Boulder Array 44.45 340 *e*P P 20 56 03.7 -1.0
comp=Z,16nm,1.3s
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 44.45 340 P P 20 56 04.1 -0.6
PDAR PcP PcP 20 57 48.1 -0.1
PDAR Pinedale Array 44.45 340 P P 20 56 04.1 -0.6
comp=Z,2.6nm,0.9s,baz=148,slow=8.6,SNR=15
PDAR PcP PcP 20 57 48.1 -0.1
comp=Z,1.1nm,1.0s,baz=111,slow=4.9,SNR=2.0
PDAR LR LR 21 14 04.5
comp=Z,2µm,20.4s,baz=164,slow=36
COWI Conover 44.45 2 PFAKE 20 56 20.0 +16
COWI LR LR
comp=Z,1µm,19.0s
H25A Fruitdale 44.45 347 ⇓P P 20 56 05.0 +0.5
baz=44
J20A Shoshoni 44.49 342 ⇑P P 20 56 05.1 +0.2
baz=45
I22A 9 Mile Ranch, 44.51 344 ⇓P P 20 56 05.0 0.0
baz=45
NV11 Mina Array Sit 44.57 329 *e*P P 20 56 06.1 +0.5
NV11 *e*PcP PcP 20 57 48.7 0.0
NVAR Mina Array Bea 44.64 329 P P 20 56 07.1 +0.8
NVAR PcP PcP 20 57 49.2 +0.2
NVAR Mina Array Bea 44.64 329 P P 20 56 07.1 +0.8
comp=Z,5.4nm,0.8s,baz=138,slow=7.6,SNR=31
NVAR PcP PcP 20 57 49.2 +0.2
comp=Z,3.2nm,0.8s,baz=142,slow=4.6,SNR=4.5
NVAR LR LR 21 12 36.0
comp=Z,809nm,18.7s,baz=228,slow=33
I21A Big Trails, Te 44.67 343 ⇑P P 20 56 06.4 +0.1
baz=45,SNR=9.8

J19A Crowheart 44.72 341 ⇑P P 20 56 06.7 -0.1
baz=45
NCB Newcomb 44.76 17 PFAKE 20 56 20.0 +13
NCB LR LR
comp=Z,3μm,22.0s
HVU Hansel Valley 44.78 336 eP P 20 56 06.7 -0.6
HVU pmax pmax
comp=Z,79nm,1.9s
HVU Hansel Valley 44.78 336 eP P 20 56 06.7 -0.6
comp=Z,79nm,1.9s
H24A Dirks Ranch, A 44.80 346 ⇓P P 20 56 06.9 -0.3
baz=45,SNR=7.8
G27A Dupree 44.83 349 ⇑P P 20 56 07.6 +0.2
baz=45
G26A Maurine 44.88 348 ⇑P P 20 56 07.6 -0.2
baz=45,SNR=8.3
F29A Eureka 44.90 351 ⇑P P 20 56 07.8 -0.2
baz=45
G25A Newell 44.96 347 ⇑P P 20 56 08.8 +0.4
baz=45
AHID Auburn Hatcher 44.99 339 PFAKE 20 56 20.0 +11
AHID LR LR
comp=Z,1μm,21.0s
I20A Worland 45.04 342 ⇓P P 20 56 09.2 -0.1
baz=45,SNR=11
F28A McLaughlin 45.07 350 ⇓P P 20 56 09.0 -0.3
baz=45
H22A Clearmont 45.12 344 ⇑P P 20 56 10.0 +0.1
baz=45
LONY Lake Ozonia 45.25 16 PFAKE 20 56 20.0 +9.2
LONY LR LR
comp=Z,3μm,20.0s
F27A Lemmon 45.32 349 ⇓P P 20 56 10.9 -0.4
baz=45
H21A Big Horn, Sher 45.34 344 ⇑P P 20 56 11.6 0.0
baz=45
I19A Meeteetse 45.39 341 ⇓P P 20 56 12.4 +0.3
baz=46
F26A Lodgepole 45.43 348 ⇓P P 20 56 12.0 -0.2
baz=46,SNR=8.2
G23A Biddle 45.43 345 ⇑P P 20 56 12.1 -0.2
baz=46
BDFB Brasilia 45.46 114 P P 20 56 13.6 +0.7
BDFB Brasilia 45.46 114 P P 20 56 13.6 +0.7
comp=Z,2.7nm,0.5s,baz=306,slow=8.7,SNR=4.2
BDFB LR LR 21 15 58.4
comp=Z,4μm,18.9s,baz=291,slow=37
CMB Columbia Colle 45.47 327 eP P 20 56 13.1 +0.5
CMB pmax pmax
comp=Z,15nm,1.3s
CMB Columbia Colle 45.47 327 eP P 20 56 13.1 +0.5
comp=Z,15nm,1.3s
H20A Greybull 45.49 343 ⇑P P 20 56 12.8 0.0
baz=46
BMN Battle Mountai 45.64 331 eP P 20 56 14.1 0.0
BMN pmax pmax
comp=Z,25nm,1.4s
BMN Battle Mountai 45.64 331 eP P 20 56 14.1 0.0
comp=Z,25nm,1.4s
F25A Bowman 45.66 348 ⇑P P 20 56 14.3 +0.3
baz=46
G22A Birney 45.68 345 ⇓P P 20 56 14.2 -0.1
baz=46
LBNH Lisbon 45.71 19 PFAKE 20 56 30.0 +16
LBNH LR LR
comp=Z,3μm,21.0s
E28A Huff 45.76 350 ⇑P P 20 56 14.7 0.0
baz=46,SNR=9.1
I17A Pilgrim Ck. 45.81 340 ⇓P P 20 56 15.5 0.0
baz=46
PLCA Paso Flores 45.84 159 eP P 20 56 16.9 +1.3
comp=Z,161nm,1.2s
PLCA Paso Flores 45.84 159 P P 20 56 17.4 +1.8
comp=Z,70nm,1.2s,baz=332,slow=9.3,SNR=13
PLCA LR LR 21 11 45.7
comp=Z,2μm,20.3s,baz=338,slow=31
F23A Volborg 45.92 346 ⇑P P 20 56 15.3 -0.8
baz=46,SNR=8.0
G21A Lodge Grass 45.94 344 ⇓P P 20 56 16.1 -0.2
baz=46,SNR=7.2
H19A Powell 45.96 342 ⇑P P 20 56 16.8 +0.2
baz=46,SNR=8.8
D30A Buchanan 45.98 352 ⇓P P 20 56 16.4 -0.2
baz=46
H18A Shoshone NF, C 46.18 341 ⇓P P 20 56 17.5 -0.9
baz=46
F22A Rosebud 46.19 345 ⇓P P 20 56 18.1 -0.2
baz=46
E25A Miller Ranch, 46.20 348 ⇓P P 20 56 18.1 -0.2
baz=46
G20A Bridger 46.22 343 ⇓P P 20 56 17.6 -1.0
baz=46,SNR=6.9
H17A Grant Village 46.23 340 eP P 20 56 18.7 -0.2
comp=Z,34nm,1.6s
H17A Grant Village 46.23 340 ⇓P P 20 56 18.9 +0.1
baz=46
EYMN Ely 46.29 359 PFAKE 20 56 30.0 +11
EYMN LR LR
comp=Z,1μm,21.0s
D28A Regan 46.34 351 ⇑P P 20 56 19.3 0.0
baz=46
PTCN Pitcairn Islan 46.42 233 PFAKE 20 56 30.0 +10
PTCN LR LR
comp=Z,875nm,19.0s
E24A Baker 46.45 347 ⇓P P 20 56 20.3 +0.1
baz=46
RLMT Red Lodge 46.45 342 PFAKE 20 56 30.0 +9.5
RLMT LR LR
comp=Z,849nm,19.0s
F21A Absaloka Mine, 46.46 344 ⇓P P 20 56 20.2 -0.2
baz=47
D26A Manning 46.51 349 ⇓P P 20 56 20.8 +0.1
baz=47
C30A Mose, Pekin 46.53 353 ⇓P P 20 56 20.8 0.0
baz=47
E22A Miles City 46.73 346 ⇑P P 20 56 22.1 -0.3
baz=47
F20A Billings 46.73 343 ⇓P P 20 56 22.2 -0.3
baz=47
AGMN Agassiz Nation 46.85 355 PFAKE 20 56 30.0 +6.7
AGMN LR LR
comp=Z,2μm,20.0s
QLMT Earthquake Lak 46.91 340 eP P 20 56 23.8 -0.3
comp=Z,2.1nm,1.0s
HLID Hailey 46.93 336 eP P 20 56 23.8 -0.5
comp=Z,33nm,1.5s
HLID LR LR
comp=Z,1μm,20.0s
HLID Hailey 46.93 336 ⇑P P 20 56 24.1 -0.1
baz=47,SNR=13
D24A Glendive 46.98 347 ⇑P P 20 56 24.5 +0.1
baz=47,SNR=6.6
C27A Sayler Ranch, 47.00 350 ⇑P P 20 56 24.2 -0.3
baz=47
F19A Roth Farm, Mol 47.01 343 ⇓P P 20 56 24.1 -0.6
baz=47,SNR=7.7
LAO LASA Array 47.03 345 PFAKE 20 56 40.0 +15
LAO LR LR
comp=Z,1μm,21.0s
E21A Keefer Ranch, 47.11 345 ⇓P P 20 56 25.0 -0.4
baz=47,SNR=7.0
GCMT Greycliff 47.18 342 eP P 20 56 25.2 -0.9
comp=Z,5.6nm,0.7s
B30A Myrvik Farm, E 47.25 353 ⇓P P 20 56 25.9 -0.5
baz=47
E20A Meyer Farm, Mu 47.37 344 ⇑P P 20 56 27.3 -0.2
baz=48
MFID Camas Ranch 47.39 335 eP P 20 56 28.1 +0.3
comp=Z,17nm,1.2s
B29A Wagenman Farm, 47.40 352 ⇓P P 20 56 27.5 -0.1
baz=48
MCMT McKenzie Canyo 47.41 339 eP P 20 56 28.2 +0.2
TRQA Tornquist 47.43 149 PFAKE 20 56 40.0 +12
TRQA LR LR
comp=Z,3μm,19.0s
D22A Cohagen 47.45 346 ⇑P P 20 56 28.1 +0.1
baz=48,SNR=7.6
PKME Peaks-Kenny Pk 47.50 20 PFAKE 20 56 40.0 +12
PKME LR LR
comp=Z,2μm,20.0s
E19A Rath Farm, Rou 47.52 343 ⇓P P 20 56 28.6 -0.1
baz=48,SNR=11
B28A Dugan Ranch, T 47.53 351 ⇑P P 20 56 28.7 +0.1
baz=48
BOZ Bozeman (W) 47.69 340 PFAKE 20 56 40.0 +10
BOZ LR LR
comp=Z,994nm,20.0s

A30A Hoffart Farm, 47.73 353 ⇑P P 20 56 29.7 -0.5
baz=48,SNR=7.2
C23A Lambert 47.82 347 ⇓P P 20 56 30.9 0.0
baz=48
A29A Manning Farm, 47.83 352 ⇑P P 20 56 30.6 -0.3
baz=48
WVOR Wild Horse Val 47.86 332 eP P 20 56 30.2 -1.2
WVOR pmax pmax
comp=Z,14nm,1.3s
WVOR MLR MLR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 47.86 332 eP P 20 56 30.2 -1.2
comp=Z,14nm,1.3s
WVOR LR LR
comp=Z,1μm,22.0s
D20A Manuel Ranch, 47.91 344 ⇓P P 20 56 31.6 -0.1
baz=48
C22A Vida 47.93 346 ⇑P P 20 56 32.3 +0.6
baz=48,SNR=8.4
A28A Rude Farm, Bot 47.96 351 ⇑P P 20 56 31.8 -0.2
baz=48
LRM Limekiln Ridge 48.12 340 eP P 20 56 32.6 -0.9
D19A Cripps Ranch, 48.18 343 ⇓P P 20 56 33.1 -0.7
baz=48,SNR=12
A26A Wade Farm, Ken 48.23 350 ⇑P P 20 56 35.3 +1.2
baz=48
DGMT Dagmar 48.24 348 eP P 20 56 34.1 0.0
DGMT comp=Z,13nm,0.8s
DGMT LR LR
comp=Z,868nm,22.0s
DGMT Dagmar 48.24 348 ⇑P P 20 56 34.0 -0.1
baz=48
MOD Modoc 48.26 330 eP P 20 56 33.9 -0.7
comp=Z,24nm,1.3s
C21A Desert Coulee 48.31 345 ⇓P P 20 56 34.5 -0.2
baz=48,SNR=7.1
B23A Brockton 48.40 347 ⇓P P 20 56 35.5 +0.1
baz=48
C20A Veseth Ranch, 48.44 344 ⇓P P 20 56 35.6 -0.2
baz=48
A24A Westby 48.63 348 ⇑P P 20 56 37.0 -0.1
baz=49,SNR=6.4
C19A Slack Wire Ran 48.75 344 ⇑P P 20 56 37.7 -0.4
baz=49,SNR=13
ULM Lac du Bonnet 48.79 356 eP P 20 56 36.6 -1.7
comp=Z,27nm,1.3s
ULM Lac du Bonnet 48.79 356 P P 20 56 37.0 -1.3
comp=Z,16nm,1.1s,baz=180,slow=9.0,SNR=10
ULM LR LR 21 17 38.6
comp=Z,2μm,21.9s,baz=174,slow=37
M04C Macdoel 48.95 329 ⇑P P 20 56 39.6 -0.2
baz=49
A22A Carney Farms, 49.11 347 ⇑P P 20 56 40.9 0.0
baz=49
B20A Solberg Farm, 49.11 345 ⇑P P 20 56 40.4 -0.5
baz=49
BMO Blue Mountains 49.18 335 PFAKE 20 56 50.0 +8.4
BMO LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 49.21 343 PFAKE 20 56 50.0 +8.3
EGMT LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 49.21 343 ⇑P P 20 56 41.6 -0.1
baz=49
CHMT Chamberlain Mo 49.35 340 eP P 20 56 42.3 -0.6
comp=Z,3.0nm,0.9s
YBH Yreka Blue Hor 49.36 328 LR LR 21 15 14.1
comp=Z,724nm,18.7s,baz=149,slow=33
B19A Brinkman Farms 49.37 344 ⇓P P 20 56 42.4 -0.5
baz=50,SNR=5.3
A20A Cobblestone Ra 49.49 345 ⇑P P 20 56 43.4 -0.4
baz=50
MSO Missoula 49.52 339 ⇑P P 20 56 42.9 -1.2
baz=50
RKT Rikitea 49.57 238 eS S 21 03 55.0 +2.0
comp=Z,810nm,28.0s
RKT eLR LR 21 10 54.1
comp=Z,4μm,29.5s,baz=63
RKT Rikitea 49.57 238 eT T 21 49 32.7
comp=Z,2.0nm,0.2s
J05D Fort Rock, OR 49.75 331 ⇓P P 20 56 46.4 +0.4
baz=50
A19A Klindworth Far 49.75 344 ⇓P P 20 56 45.3 -0.4
baz=50
SWMT Swartz Lake 50.12 340 eP P 20 56 48.3 -0.4
comp=Z,43nm,2.0s
TAOE Nuku Hiva Isla 50.36 257 eT T 21 50 19.5
comp=Z,165nm,0.2s
JTMT Jette 50.42 339 P P 20 56 50.2 -0.8
comp=Z,13nm,1.4s
YBMT Yellow Bay 50.43 340 eP P 20 56 50.8 -0.2
comp=Z,15nm,1.4s
BLMT Blacktail Moun 50.67 340 eP P 20 56 53.3 +0.4
comp=Z,16nm,1.3s
BSMT Bassoo Peak 50.69 339 eP P 20 56 52.0 -1.0
comp=Z,9.5nm,1.4s
HAWA Hanford 51.35 335 PFAKE 20 57 10.0 +12
HAWA LR LR
comp=Z,2μm,19.0s
WALA Waterton Lakes 51.42 341 eP P 20 56 58.1 -0.3
comp=Z,0.4nm,1.2s
NEW Newport 51.89 338 eP P 20 56 58.7 -3.2
comp=Z,8.5nm,1.2s
NEW PcP PcP 20 58 14.7 +0.1
NEW Newport 51.89 338 PcP PcP 20 58 14.7 +0.1
comp=Z,3.2nm,0.8s,baz=149,slow=5.9,SNR=3.5
NEW LR LR 21 18 54.0
comp=Z,2μm,18.6s,baz=155,slow=36
FFC Flin Flon 53.87 352 eP P 20 57 15.1 -1.3
FFC pmax pmax
comp=Z,39nm,1.8s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 53.87 352 eP P 20 57 15.1 -1.3
comp=Z,39nm,1.8s
FFC LR LR
comp=Z,1μm,20.0s
NLWA Neilton Lookou 54.04 333 PFAKE 20 57 30.0 +12
NLWA LR LR
comp=Z,2μm,20.0s
EDM Edmonton 54.89 344 eP P 20 57 22.3 -1.5
EDM Edmonton 54.89 344 eP P 20 57 22.3 -1.5
RCBR Riachuelo 55.17 98 PFAKE 20 57 40.0 +13
RCBR LR LR
comp=Z,2μm,20.0s
SCHQ Schefferville 56.63 16 LR LR 21 21 39.2
comp=Z,2μm,20.7s,baz=214,slow=36
FCC Fort Churchill 57.18 358 eP P 20 57 38.0 -2.0
FCC Fort Churchill 57.18 358 eP P 20 57 38.0 -2.0
comp=Z,1.0nm,1.5s
PPT Papeete 61.01 249 LR LR 21 17 47.5
comp=Z,1μm,18.7s,baz=72,slow=29
PPT2 Papeete2 61.01 249 eS S 21 06 26.5 -0.1
comp=Z,2μm,27.0s
PPT2 eLQ LQ 21 13 26.6
comp=Z,5μm,32.5s
PPT2 eLR LR 21 16 12.9
comp=Z,3μm,25.5s,baz=68
TBI Tubuai 62.23 243 eS S 21 06 43.0 +1.2
comp=Z,2μm,29.2s
TBI eLQ LQ 21 14 03.4
comp=Z,3μm,34.2s
TBI eLR LR 21 16 49.9
comp=Z,4μm,27.5s,baz=67
TBI Tubuai 62.23 243 eT T 22 05 23.0
comp=Z,14nm,0.3s
YKA Yellowknife Ar 63.45 348 P P 20 58 21.6 -1.3
YKA Yellowknife Ar 63.45 348 P P 20 58 21.6 -1.3
comp=Z,4.4nm,0.9s,baz=147,slow=6.4,SNR=54
WRAK Wrangell Islan 64.13 336 PFAKE 20 58 40.0 +12
WRAK LR LR
comp=Z,1μm,22.0s
FRB Frobisher Bay 64.22 11 P P 20 58 26.4 -1.5
FRB Frobisher Bay 64.22 11 P P 20 58 26.4 -1.5
comp=Z,7.4nm,0.9s,baz=194,slow=9.0,SNR=8.2
DLBC Dease Lake 64.63 338 eP P 20 58 31.0 +0.2
DLBC Dease Lake 64.63 338 P P 20 58 31.4 +0.5
baz=150,slow=6.1
SACV Santiago Islan 67.47 74 PFAKE 20 59 00.0 +10
SACV LR LR
comp=Z,575nm,21.0s
HYT Haines Junctio 69.05 338 eP P 20 58 59.1 0.0
SFJD Kangerlussuaq 71.07 16 PFAKE 20 59 20.0 +8.9
SFJD LR LR
comp=Z,2μm,22.0s
HOPE Hope Point 71.20 150 PFAKE 20 59 20.0 +7.8
HOPE LR LR

comp=Z,1.0nm,20.0s
BMRM Bremner River 71.97 336 eP P 20 59 16.4 -0.4
comp=Z,45nm,1.3s
MENT Mentasta 72.68 337 eP P 20 59 20.2 -0.8
INK Inuvik 72.76 345 eP P 20 59 20.4 -0.9
comp=Z,52nm,1.4s
INK Inuvik 72.76 345 P P 20 59 21.1 -0.1
comp=Z,9.4nm,1.0s,baz=132,slow=5.1,SNR=18
EGAK Eagle 72.80 340 eP P 20 59 21.1 -0.5
comp=Z,20nm,1.1s
EGAK LR LR
comp=Z,639nm,19.0s
RES Resolute Bay 73.16 359 P P 20 59 24.2 +0.7
RES Resolute Bay 73.16 359 P P 20 59 24.2 +0.7
comp=Z,2.2nm,0.8s,baz=207,slow=6.8,SNR=5.6
KDAK Kodiak Island 74.11 331 PFAKE 20 59 40.0 +11
KDAK LR LR
comp=Z,935nm,20.0s
PMR Palmer 74.18 335 P P 20 59 32.4 +2.7
PMR Palmer 74.18 335 P P 20 59 32.4 +2.7
RC01 Rabbit Creek A 74.21 334 eP P 20 59 26.6 -3.4
comp=Z,38nm,1.3s
ILAR Eielson Array 74.84 338 P P 20 59 32.5 -1.2
ILAR Eielson Array 74.84 338 P P 20 59 32.5 -1.2
comp=Z,6.1nm,0.7s,baz=146,slow=3.9,SNR=53
MCK McKinley 75.11 337 eP P 20 59 34.1 -1.1
MCK pmax pmax
comp=Z,26nm,1.4s
MCK McKinley 75.11 337 eP P 20 59 34.0 -1.1
comp=Z,26nm,1.4s
COLA College 75.25 338 eP P 20 59 37.9 +2.0
COLA pmax pmax
comp=Z,35nm,1.6s
COLA MLR MLR
comp=Z,2μm,14.0s
COLA College 75.25 338 P P 20 59 36.1 +0.2
comp=Z,8.6nm,1.0s
COLA LR LR
comp=Z,820nm,21.0s
RSO Redoubt South 75.27 333 eP P 20 59 34.3 -2.1
comp=Z,25nm,0.7s
TRF Thorofare Moun 75.51 336 eP P 20 59 36.5 -1.2
comp=Z,12nm,1.1s
KTH Kantishna Hill 75.81 336 eP P 20 59 37.7 -1.6
comp=Z,17nm,1.2s
ASCN Ascension 76.65 98 PFAKE 21 00 00.0 +15
ASCN LR LR
comp=Z,1μm,20.0s
COLD Coldfoot 77.23 340 eP P 20 59 46.7 -0.5
comp=Z,30nm,1.2s
SUMG Summit 77.93 14 iP P 20 59 51.1 -0.4
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 77.93 14 iP P 20 59 51.1 -0.4
comp=Z,5.6nm,1.0s
SUMG Summit 77.93 14 eP P 20 59 50.8 -0.6
comp=Z,22nm,1.3s
IM04 Indian Mountai 77.96 338 eP P 20 59 50.0 -1.3
UNV Unalaska Valle 80.46 324 P P 21 00 05.3 +0.1
PCAS Casmilo, Conde 83.05 50 eP P 21 00 19.9 +0.7
comp=Z,76nm,1.4s
EVO Evora 83.33 52 eP P 21 00 21.3 +0.7
comp=Z,26nm,1.9s
PVAQ Vaqueiros 83.50 53 eLR LR 21 27 09.1
comp=Z,1μm,22.0s
MTE Manteigas 83.80 50 eP P 21 00 24.5 +1.4
comp=Z,48nm,1.3s
MTE Manteigas 83.80 50 eLR LR 21 27 21.2
comp=Z,831nm,20.0s
MTE Manteigas 83.80 50 PFAKE 21 00 30.0 +6.9
MTE LR LR
comp=Z,861nm,19.0s
PMRV Marv??o 83.86 51 eLR LR 21 26 55.4
comp=Z,790nm,20.0s
MVO Moncorvo 84.23 49 eLR LR 21 27 50.5
comp=Z,526nm,18.0s
LIC Lamto 85.51 84 eP P 21 00 33.2 +1.0
comp=Z,68nm,1.4s
TIC Toumodi 85.51 83 eP P 21 00 32.3 +0.1
comp=Z,18nm,1.0s
SHEL Horse Pasture 85.52 106 PFAKE 21 00 40.0 +7.8
SHEL LR LR
comp=Z,587nm,21.0s
DBIC Dimbokro 85.67 83 eP P 21 00 31.8 -1.2
comp=Z,24nm,1.3s
DBIC Dimbokro 85.67 83 P P 21 00 33.3 +0.3
comp=Z,7.0nm,1.1s,baz=242,slow=7.3,SNR=4.6
DBIC LR LR 21 36 50.3
comp=Z,275nm,19.0s,baz=248,slow=34
KIC Kosan Boka 85.79 84 eP P 21 00 34.7 +1.1
comp=Z,76nm,1.4s
PAB San Pablo 86.22 51 PFAKE 21 00 50.0 +15
PAB LR LR
comp=Z,1μm,20.0s
ESDC Sonseca Array 86.52 51 P P 21 00 36.5 -0.3
ESDC Sonseca Array 86.52 51 P P 21 00 36.5 -0.3
comp=Z,6.0nm,1.0s,baz=279,slow=4.1,SNR=12
ESDC LR LR 21 34 09.9
comp=Z,611nm,20.2s,baz=265,slow=32
ESK Eskdalemuir 87.34 35 PFAKE 21 00 50.0 +10
ESK LR LR
comp=Z,2μm,22.0s
SNAA Sanae 90.71 162 eP P 21 00 57.5 +1.5
comp=Z,9.4nm,0.9s
KBS Kingsbay 90.97 11 PFAKE 21 01 10.0 +13
KBS LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 91.52 180 PFAKE 21 01 10.0 +10
QSPA LR LR
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 91.97 77 P P 21 01 01.5 -1.4
TORD Torodi Ar. Bea 91.97 77 P P 21 01 01.5 -1.4
comp=Z,1.1nm,1.1s,baz=267,slow=5.5,SNR=3.2
TORD LR LR 21 39 42.1
comp=Z,717nm,20.3s,baz=275,slow=34
SSB Saint Sauveur 92.63 45 PFAKE 21 01 20.0 +15
SSB LR LR
comp=Z,1μm,21.0s
BILL Bilibino 93.50 338⇓eP P 21 01 08.6 -0.3
BILL eSS SS 21 18 39.2 +5.7
BILL pmax pmax
comp=Z,12nm,1.5s
BILL MLR MLR
comp=Z,2μm,18.0s
BILL Bilibino 93.50 338 eP P 21 01 08.1 -0.7
comp=Z,22nm,1.3s
KONO Kongsberg 93.92 30 PFAKE 21 01 20.0 +9.1
KONO LR LR
comp=Z,2μm,20.0s
SBA Scott Base 94.09 192 PFAKE 21 01 20.0 +8.7
SBA LR LR
comp=Z,897nm,19.0s
ECH Echery 94.12 42 PFAKE 21 01 20.0 +7.8
ECH LR LR
comp=Z,1μm,20.0s
BNI Bardonecchia 94.16 45 PFAKE 21 01 20.0 +7.4
BNI LR LR
comp=Z,1μm,22.0s
SNZO South Karori 94.45 229 PFAKE 21 01 30.0 +16
SNZO LR LR
comp=Z,825nm,20.0s
NOA NORSAR Array B 94.46 29 LR LR 21 40 45.6
comp=Z,262nm,20.5s,baz=280,slow=34
BFO Black Forest 94.89 41 PFAKE 21 01 30.0 +14
BFO LR LR
comp=Z,1μm,22.0s
TAM Tamanrasset 95.14 67 eP P 21 01 17.0 -0.5
TAM pmax pmax
comp=Z,9.0nm,1.4s
TAM MLR MLR
comp=Z,819nm,20.0s
TAM Tamanrasset 95.14 67 eP P 21 01 17.0 -0.5
comp=Z,8.5nm,1.4s
TAM LR LR
comp=Z,819nm,20.0s
VNDA Vanda 95.19 192 LR LR 21 34 33.2
comp=Z,1μm,21.7s,baz=118,slow=29
TUE Stuetta 95.83 43 PFAKE 21 01 30.0 +10
TUE LR LR
comp=Z,1μm,19.0s
TARA Tarawa 96.37 272 PFAKE 21 01 30.0 +6.9
TARA LR LR
comp=Z,4μm,22.0s
VSL Villasalto 96.81 50 PFAKE 21 01 40.0 +15
VSL LR LR
comp=Z,782nm,20.0s
VLC Villacollemand 96.90 45 PFAKE 21 01 40.0 +15

VLC LR LR
comp=Z,779nm,22.0s
KEST Kesra 97.27 54 LR LR 21 41 09.5
comp=Z,164nm,20.1s,baz=230,slow=33
CLL Collm 97.37 38 *e*PS PS 21 14 11.0 -3.3
CLL *e*PPS PPS 21 14 54.0
CLL *e*SS SS 21 19 30.0 +0.8
CLL *e*SSS SSS 21 23 12.0
CLL *e* 21 24 46.0
CLL Lm MLR 21 41 00.0
comp=Z,800nm,20.0s
ARCES ARCESS Array B 97.53 19 LR LR 21 44 12.5
comp=Z,466nm,19.5s,baz=301,slow=35
GERES GERESS Array B 98.31 40 LR LR 21 40 50.4
comp=Z,1μm,20.4s,baz=270,slow=32
PRU Pruhonice 98.61 39 *e*SS SS 21 19 55.4 +8.8
PRU AMS AMS 21 40 10.0
comp=Z,1μm,20.5s
AQU L'Aquila 99.37 47 PFAKE 21 01 50.0 +14
AQU LR LR
comp=Z,637nm,21.0s
H11N3 WAKE ISLAND Hy 101.18 290 T T 22 54 21.3
baz=88,slow=75,SNR=22
H11N2 WAKE ISLAND Hy 101.19 290 T T 22 54 24.6
baz=88,slow=75,SNR=15
H11N1 WAKE ISLAND Hy 101.20 290 T T 22 54 23.7
baz=88,slow=75,SNR=22
WDD Wield Dalam 101.41 53 PFAKE 21 02 00.0 +15
WDD LR LR
comp=Z,582nm,21.0s
H11S2 WAKE ISLAND Hy 101.49 289 T T 22 54 48.3
baz=87,slow=73,SNR=113
H11S1 WAKE ISLAND Hy 101.50 289 T T 22 54 45.2
baz=87,slow=73,SNR=91
H11S3 WAKE ISLAND Hy 101.51 289 T T 22 54 45.3
baz=87,slow=73,SNR=89
CUC Castrocucco 101.62 49 PFAKE 21 02 00.0 +14
CUC LR LR
comp=Z,453nm,20.0s
CEL Celeste 102.03 50 PFAKE 21 02 00.0 +12
CEL LR LR
comp=Z,512nm,20.0s
DZM Mont Dzumac 102.50 248 *e*PS PS 21 15 13.2 +2.3
comp=Z,147nm,30.9s
DZM Mont Dzumac 102.50 248 *e*LR LR 21 35 21.7
comp=Z,636nm,24.5s
TIP Timpagrande 102.50 49 PFAKE 21 02 00.0 +10
TIP LR LR
comp=Z,439nm,21.0s
PSZ Piszkesteto 102.54 40 PFAKE 21 02 00.0 +10
PSZ LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 102.70 348 PFAKE 21 02 00.0 +10
TIXI LR LR
comp=Z,630nm,22.0s
KWP Kalwaria Pacla 103.79 38 PFAKE 21 02 10.0 +14
KWP LR LR
comp=Z,957nm,19.0s
MSKU Masuku 104.31 91 PFAKE 21 02 10.0 +11
MSKU LR LR
comp=Z,2.0nm,21.0s
KIEV Kiev 107.27 35 PFAKE 21 06 30.0
KIEV LR LR
comp=Z,1μm,19.0s
TSUM Tsumeb 107.72 110 PFAKE 21 06 30.0
TSUM LR LR
comp=Z,1μm,19.0s
SUR Sutherland 108.87 124 PFAKE 21 06 40.0
SUR LR LR
comp=Z,1μm,21.0s
OBN Obninsk 109.06 29 PFAKE 21 06 30.0
OBN LR LR
comp=Z,1μm,22.0s
HNR Honiara 109.36 261 PFAKE 21 06 40.0
HNR LR LR
comp=Z,210nm,21.0s
YAK Yakutsk 109.66 341 PFAKE 21 06 40.0
YAK LR LR
comp=Z,453nm,20.0s
SANT Santorini 109.88 50 PFAKE 21 06 40.0
SANT LR LR
comp=Z,480nm,20.0s
YSS Yuzh-Sakhalins 112.91 323 PFAKE 21 06 40.0
YSS LR LR
comp=Z,189nm,19.0s
ISP Isparta 113.22 47 PFAKE 21 06 40.0
ISP LR LR
comp=Z,410nm,20.0s
CASY Casey 113.61 189 PFAKE 21 06 40.0
CASY LR LR
comp=Z,1μm,21.0s
TAU Tasmania Unive 114.00 223 PFAKE 21 06 40.0 +7.2
TAU LR LR
comp=Z,2μm,20.0s
ANTO Ankara 114.07 45 PFAKE 21 06 40.0 +6.8
ANTO LR LR
comp=Z,330nm,20.0s
ERM Erimo 115.00 318 PFAKE 21 06 50.0 +15
ERM LR LR
comp=Z,646nm,22.0s
CAN Canberra 115.32 231 PFAKE 21 06 50.0 +14
CAN LR LR
comp=Z,526nm,21.0s
CSS Prodhromos 116.39 49 PFAKE 21 06 50.0 +12
CSS LR LR
comp=Z,124nm,22.0s
ARU Arti 117.11 19 PFAKE 21 06 50.0 +12
ARU LR LR
comp=Z,858nm,20.0s
LSZ Lusaka 118.19 106 PFAKE 21 06 50.0 +8.2
LSZ LR LR
comp=Z,825nm,19.0s
KIV Kislovodsk 118.54 37 *i* PKIKP **PKPdf 21 06 40.9 -0.8**
KIV *i* PS **PS 21 17 43.3 -2.3**
KIV pmax pmax
comp=Z,9.0nm,1.4s
KIV Kislovodsk 118.54 37 PFAKE 21 06 50.0 +8.3
KIV LR LR
comp=Z,430nm,20.0s
MAJO Matsushiro 120.95 315 PFAKE 21 07 00.0 +14
MAJO LR LR
comp=Z,586nm,19.0s
CTAO Charters Tower 121.44 247 PFAKE 21 07 00.0 +12
CTAO LR LR
comp=Z,553nm,19.0s
MDJ Mudanjiang 121.79 327 PKP **PKPdf 21 06 46.5 -1.3**
MDJ Mudanjiang 121.79 327 PFAKE 21 07 00.0 +12
MDJ LR LR
comp=Z,348nm,20.0s
GNI Garni 121.95 39 PFAKE 21 07 00.0 +12
GNI LR LR
comp=Z,518nm,21.0s
PMG Port Moresby 121.97 260 PFAKE 21 07 00.0 +11
PMG LR LR
comp=Z,533nm,19.0s
HIA Hailar 123.05 337 PFAKE 21 07 00.0 +10
HIA LR LR
comp=Z,506nm,21.0s
BRVK Borovoye 123.36 14 PFAKE 21 07 00.0 +9.5
BRVK LR LR
comp=Z,669nm,21.0s
BVAR Borovoye Array 123.41 14 PKIKP **PKPdf 21 06 50.0 -0.7**
BVAR Borovoye Array 123.41 14 PKP **PKPdf 21 06 50.0 -0.7**
BVAR Borovoye Array 123.41 14 PKP **PKPdf 21 06 50.0 -0.7**
comp=Z,0.7nm,0.6s,baz=338,slow=1.6,SNR=5.1
ABKAR Akbulak array 123.45 23 *e*PKPdf **PKPdf 21 06 49.8 -1.1**
CN2 Changchun 124.54 329 *e*PKP **PKPdf 21 06 53.0 -0.1**
ZAA0 Zalesovo Array 124.63 3 *e*PKPdf **PKPdf 21 06 51.5 -1.4**
ZALV Zalesovo Beam 124.63 3 PKIKP **PKPdf 21 06 52.5 -0.5**
ZALV Zalesovo Beam 124.63 3 PKP **PKPdf 21 06 52.5 -0.5**
ZALV Zalesovo Beam 124.63 3 PKP **PKPdf 21 06 52.5 -0.5**
comp=Z,1.2nm,0.6s,baz=336,slow=1.7,SNR=7.4
TLY Talaya 125.66 349 *e*PKIKP PKPdf 21 07 05.2 +10
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 125.66 349 PFAKE 21 07 10.0 +15
TLY LR LR
comp=Z,556nm,22.0s
ZAK Zakamensk 126.97 349 *e*PKIKP **PKPdf 21 06 57.3 -0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
KURK Kurchatov 127.20 9 *e*PKIKP **PKPdf 21 06 55.8 -2.2**
KURK 21 06 57.3
KURK MLR MLR
comp=Z,457nm,21.0s
KURK Kurchatov 127.20 9 *e*PKPdf **PKPdf 21 06 55.8 -2.2**
KURK PKP **PKiKP 21 06 57.3 -1.2**
KURK LR LR
comp=Z,457nm,21.0s
KURBB Kurchatov Arra 127.28 9 PKP **PKPdf 21 06 57.3 -0.8**
comp=Z,3.0nm,0.9s,baz=344,slow=2.1,SNR=28
KMBO Kilima Mbogo 127.93 90 PFAKE 21 07 10.0 +9.3
KMBO LR LR
comp=Z,561nm,19.0s
INCN Inchon 128.10 322 PFAKE 21 07 10.0 +10
INCN LR LR
comp=Z,457nm,21.0s
ULN Ulaanbaatar 128.47 345 PFAKE 21 07 10.0 +9.3
ULN LR LR
comp=Z,451nm,22.0s
SONM Songino Array 128.67 345 PKP **PKPdf 21 07 00.7 -0.4**
SONM Songino Array 128.67 345 PKP **PKPdf 21 07 00.7 -0.4**
comp=Z,1.1nm,1.0s,baz=48,slow=2.1,SNR=5.5
MK31 Makanchi Array 131.53 6 *e*PKIKP **PKPdf 21 07 04.7 -1.7**
MK31 Makanchi Array 131.53 6 *e*PKPdf **PKPdf 21 07 04.7 -1.7**
MKAR Makanchi Array 131.53 6 PKIKP **PKPdf 21 07 05.4 -1.0**
MKAR Makanchi Array 131.53 6 PKP **PKPdf 21 07 05.3 -1.0**
MKAR Makanchi Array 131.53 6 PKP **PKPdf 21 07 05.3 -1.0**
comp=Z,1.3nm,1.0s,baz=350,slow=1.8,SNR=7.7
ASAR Alice Springs 131.55 239 PKP **PKPdf 21 07 07.3 +0.3**
ASAR Alice Springs 131.55 239 PKP **PKPdf 21 07 07.3 +0.3**
comp=Z,1.7nm,1.1s,baz=116,slow=2.2,SNR=5.8
BJI Beijing 131.93 332 PKP **PKPdf 21 07 06.0 -1.3**
BJI SS SS 21 27 02.8 -0.2
BJI LR LR
comp=Z,540nm,25.7s
BJI LR LR
comp=Z,200nm,28.5s
BJI LR LR
comp=Z,610nm,24.2s
BJT Baijiatuan 131.96 332 PFAKE 21 07 20.0 +13
BJT LR LR
comp=Z,776nm,21.0s
WRAB Tennant Creek 132.34 244 PFAKE 21 07 20.0 +11
WRAB LR LR
comp=Z,594nm,20.0s
WRA Warramunga Arr 132.35 244 PKP **PKPdf 21 07 10.0 +1.4**
WRA Warramunga Arr 132.35 244 PKP **PKPdf 21 07 10.0 +1.4**
comp=Z,1.3nm,0.7s,baz=100,slow=2.2,SNR=8.2
HHC Hu-ho-hao-te 133.25 337 *e*PKP **PKPdf 21 07 09.3 -0.6**
HHC PP **PP 21 09 40.5 +4.9**
HHC PKS **PKSdf 21 10 43.8 -2.6**
HHC SKS **SKSdf 21 14 16.0 -5.7**
HHC SKKS SKKSac 21 16 25.3 -7.7
HHC SS **SS 21 27 19.5 +0.5**
HHC AMB AMB
comp=Z,74nm,8.4s
HHC LR LR
comp=Z,220nm,20.6s
HHC LR LR
comp=Z,290nm,21.3s
HHC LR LR
comp=Z,300nm,20.6s
EKS2 Erkin-Say 133.87 16 PFAKE 21 07 20.0 +8.9
EKS2 LR LR
comp=Z,647nm,19.0s
AAK Ala-Archa 134.09 15 PFAKE 21 07 20.0 +8.5
AAK LR LR
comp=Z,664nm,22.0s
TKM2 Tokmak 2 134.10 14 PFAKE 21 07 20.0 +8.4
TKM2 LR LR
comp=Z,699nm,21.0s
WMQ Urumqi 134.87 2 PKP **PKPdf 21 07 12.8 0.0**
WMQ sPKP 21 07 27.0
WMQ PP **PP 21 09 50.0 +4.5**
WMQ PKS **PKSdf 21 10 47.5 -1.7**
WMQ SKS **SKSdf 21 14 18.3 -6.0**
WMQ SKKS **SKKSac 21 16 37.0 -5.5**
WMQ Urumqi 134.87 2 SS SS 21 27 36.3 -1.6
WMQ AMB AMB
comp=Z,24nm,9.9s
WMQ LR LR
comp=N,460nm,28.9s
WMQ LR LR
comp=E,570nm,29.8s
WMQ LR LR
comp=Z,830nm,29.9s
WMQ Urumqi 134.87 2 PKP **PKPdf 21 07 12.5 -0.3**
WMQ sPKP 21 07 17.5
WMQ PP **PP 21 09 50.3 +4.8**
WMQ PKS **PKSdf 21 10 47.3 -1.9**
WMQ SKS **SKSdf 21 14 21.8 -2.5**
WMQ SKKS **SKKSac 21 16 41.3 -1.2**
WMQ SS **SS 21 27 41.0 +3.2**
WMQ AMB AMB
comp=Z,23nm,10.1s
WMQ LR LR
comp=Z,630nm,29.5s
WMQ LR LR
comp=Z,660nm,29.8s
WMQ LR LR
comp=Z,910nm,29.9s
ABPO Ambohimpanom 135.24 116 PFAKE 21 07 30.0 +16
ABPO LR LR
comp=Z,1μm,21.0s
NJ2 Nanjing 136.48 323 *e*PKP **PKPdf 21 07 14.8 -1.2**
NJ2 LR LR
comp=Z,3μm,23.4s
KSH Kashi 137.40 15 *e*PKP **PKPdf 21 07 16.0 -1.7**
KSH *e*SKS SKSdf 21 14 21.3 -7.7
KSH AMB AMB
comp=Z,100nm,5.2s
KSH LR LR
comp=Z,34nm,4.1s
KSH LR LR
comp=Z,44nm,3.9s
GTA Gaotai 138.18 348 *e*PKP **PKPdf 21 07 21.3 +2.1**
GTA sPKP 21 07 28.5
GTA PP PP 21 10 13.5 +7.1
GTA SKS **SKSdf 21 14 30.0 -0.3**
GTA SKKS **SKKSac 21 17 04.8 +2.2**
GTA SS **SS 21 28 22.8 +5.2**
GTA AMB AMB
comp=Z,74nm,6.2s
GTA LR LR
comp=Z,450nm,24.2s
GTA LR LR
comp=Z,350nm,21.4s
GTA LR LR
comp=Z,590nm,24.2s
NWAO Narrogin (SRO) 139.19 217 PFAKE 21 07 30.0 +9.0
NWAO LR LR
comp=Z,1.0nm,21.0s
KBL Kabul 139.42 26 *e*PKIKP **PKPdf 21 07 23.1 +1.4**
KBL Kabul 139.42 26 *e*PKPdf **PKPdf 21 07 23.1 +1.4**
YHNB Yeheng 139.49 312 PFAKE 21 07 30.0 +8.1
YHNB LR LR
comp=Z,388nm,20.0s
XAN Xi'an 140.15 334 PKP **PKPdf 21 07 22.8 0.0**
XAN LR LR
comp=Z,400nm,26.3s
XAN LR LR
comp=Z,99nm,24.1s
XAN LR LR
comp=Z,150nm,24.1s
LZH Lanzhou 140.25 341 *e*PKP **PKPdf 21 07 27.0 +3.9**
LZH LR LR
comp=Z,480nm,18.7s
LZH LR LR
comp=Z,850nm,19.8s
LZH LR LR
comp=Z,410nm,20.9s
ENH Enshi 143.03 330 *e*PKPdf **PKPdf 21 07 27.7 -0.4**
ENH LR LR
comp=Z,17nm,19.0s
MSEY Mahe Island 146.05 96 PFAKE 21 07 50.0 +15
MSEY LR LR
comp=Z,405nm,19.0s
GYA Guiyang 147.57 330 *i* PKPbc **PKPdf 21 07 36.0 -0.1**
GYA PP **PP 21 11 06.0 +2.3**
GYA PKS **PKSdf 21 11 07.5 -4.1**
GYA SKKS 21 17 53.3
GYA SS **SS 21 30 06.8 -0.3**
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=Z,140nm,22.9s
GYA LR LR
comp=Z,120nm,23.0s
GYA LR LR
comp=Z,130nm,22.4s
LSA Lhasa 148.94 357 PKPbc **PKPdf 21 07 39.0 +0.3**
LSA Lhasa 148.94 357 *e*PKIKP **PKPdf 21 07 38.7 0.0**
LSA MLR MLR
comp=Z,593nm,21.0s
LSA Lhasa 148.94 357 *e*PKPdf **PKPdf 21 07 38.7 0.0**
LSA LR LR
comp=Z,593nm,21.0s
KAPI Kappang 149.43 263 PFAKE 21 07 50.0 +1.5
KAPI LR LR
comp=Z,371nm,20.0s
DANN Dangsing 149.86 10 *e*P **PKPdf 21 07 39.2 -0.8**
comp=Z,91nm,1.0s
PYUN Piuthan 149.96 11 *e*P **PKPdf 21 07 39.4 -0.6**
GKN Gorkha 150.34 8 *e*P **PKPdf 21 07 39.8 -0.8**
comp=Z,204nm,1.6s
KOLN Koldanda 150.40 10 *e*P **PKPdf 21 07 39.4 -1.3**
KMI Kunming 150.53 335 PKPbc **PKPdf 21 07 43.0 +2.0**
KMI PP PP 21 11 27.3 +6.5
KMI SS SS 21 30 36.0 -4.2
KMI AMB AMB
comp=Z,160nm,6.9s
KMI LR LR
comp=Z,210nm,24.2s
KMI LR LR
comp=Z,330nm,21.9s
KMI LR LR
comp=Z,390nm,24.2s
GUN Gumba 150.59 6 *e*P **PKPdf 21 07 41.0 -0.2**
comp=Z,86nm,1.1s
KKN Kakani 150.63 7 *e*P **PKPdf 21 07 39.7 -1.4**
comp=Z,76nm,1.3s
DMN Daman 150.79 8 *e*P **PKPdf 21 07 40.4 -1.0**
comp=Z,81nm,1.3s
PKIN Phulchoki 150.86 7 *e*P **PKPdf 21 07 41.2 -0.3**
comp=Z,93nm,1.5s
JIRN Jiri 150.87 6 *e*P **PKPdf 21 07 41.6 -0.1**
comp=Z,81nm,1.4s
PKI Pulchoki 150.87 7 *e*P **PKPdf 21 07 40.4 -1.2**
comp=Z,102nm,1.5s
TAPN Taplejung 151.29 3 *e*P **PKPdf 21 07 42.6 +0.4**
comp=Z,78nm,1.3s
QIZ Qiongzhong 151.33 316 PKPbc **PKPdf 21 07 38.5 -3.6**
QIZ SS SS 21 30 49.8 -0.2
QIZ AMB AMB
comp=Z,66nm,7.2s
QIZ LR LR
comp=Z,310nm,19.0s
QIZ LR LR
comp=Z,410nm,22.3s
QIZ Qiongzhong 151.33 316 PFAKE 21 07 50.0 +1.9
QIZ LR LR
comp=Z,449nm,22.0s
RAMN Ramite 151.61 5 *e*P **PKPdf 21 07 41.9 -0.8**
comp=Z,41nm,1.0s
ODAN Odare 151.76 4 *e*P **PKPdf 21 07 42.9 0.0**
comp=Z,49nm,1.3s
KKM Kota Kinabalu 152.14 286 PFAKE 21 07 50.0 -0.2
KKM LR LR
comp=Z,345nm,22.0s
SLVN Son La 153.21 329 *e*PKPbc **PKPbc 21 07 52.8 +0.4**
CHTO Chiang Mai 157.72 335 PFAKE 21 08 00.0 +9.0
CHTO LR LR
comp=Z,360nm,20.0s
CMAR Chiang Mai Arr 158.04 335 PKP **PKPdf 21 07 51.3 -0.1**
CMAR PKPab **PKPab 21 08 23.8 -0.7**
CMAR Chiang Mai Arr 158.04 335 PKP **PKPdf 21 07 51.3 -0.1**
comp=Z,0.7nm,0.6s,baz=303,slow=2.3,SNR=8.1
CMAR PKPab **PKPab 21 08 23.8 -0.7**
comp=Z,4.5nm,1.0s,baz=2.7,slow=4.8,SNR=16
KSM Kuching 158.82 278 PFAKE 21 08 00.0 +7.5
KSM LR LR
comp=Z,388nm,21.0s
DGAR Diego Garcia 162.18 110 PFAKE 21 08 10.0 +14
DGAR LR LR
comp=Z,781nm,20.0s
KULM Kulim 166.84 301 PFAKE 21 08 10.0 +10
KULM LR LR
comp=Z,420nm,21.0s
COCO West Island 167.02 215 PFAKE 21 08 10.0 +10
COCO LR LR
comp=Z,491nm,19.0s

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*ISCJB **29** 20:50:15.3±0.9,27°.93N±0°.08×57°.95E±0°.06,h10km, mb3.6/13,Error ellipse: s-maj=13.3km s-min=5.9km az=152.3*
*IDC **29** 20:50:15.5±1.9,28°.04N×57°.63E,h0km,mb3.7/13, mb1 3.8/16,mb1mx3.7/35,mbtmp3.7/16,ML3.5/3,Error ellipse: s-maj=42.3km s-min=17.2km az=161.0*
*THR **29** 20:50:19.4±1.3,28°.07N×57°.62E,h15km,ML3.8*
*TEH **29** 20:50:19.9,28°.19N×57°.61E,h12km,ML3.8*
*CSEM **29** 20:50:21.6±0.2,28°.07N×57°.64E,h15km,ML3.8,Error ellipse: s-maj=6.4km s-min=5.3km az=150.0*

ISC 29 20:50:17.1±0.7,27°.96N±0°.06×57°.88E±0°.06,h10km,n43, σ1s45/42,mb3.6/13,2C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**1.29**	**247**	*e*Pg	**Pg**	**20 50 43.5**	**+1.6**
IBND				*e*		20 50 44.3	
	comp=Z,50μm,0.1s						
IBND				*e*Sg	**Sg**	**20 51 01.1**	**+2.3**
IBND	**Bandar-abas**	**1.29**	**247**	*e*Pg	**Pg**	**20 50 43.5**	**+1.6**
IBND				*e*Sg	**Sg**	**20 51 01.1**	**+2.3**
KRBR	**Kerman**	**2.24**	**334**	*e*Pn	**Pn**	**20 50 55.0**	**+0.4**
	comp=Z,730nm,0.5s						
KRBR	**Kerman**	**2.24**	**334**	*e*Pn	**Pn**	**20 50 55.0**	**+0.4**
KRBR				AML	AML	20 51 30.1	
	comp=N,783nm,0.3s						
KRBR				AML	AML	20 51 30.7	
	comp=E,730nm,0.5s						
ZHSF	**Zahedan**	**3.03**	**56**	*e*Pn	**Pb**	**20 51 11.5**	**+0.3**
ZHSF	**Zahedan**	**3.03**	**56**	*e*Pn	**Pb**	**20 51 11.5**	**+0.3**
CHBR	**Chabahar**	**3.31**	**135**	*e*Pn	**Pb**	**20 51 15.6**	**-0.3**
CHBR	**Chabahar**	**3.31**	**135**	*e*Pn	**Pb**	**20 51 15.6**	**-0.3**
IBAF	**Bafgh**	**4.14**	**331**	*e*Pn	**Pn**	**20 51 22.1**	**+1.5**
IBAF				*e*		20 52 39.6	
	comp=Z,2μm,0.4s						
IBAF	**Bafgh**	**4.14**	**331**	*e*Pn	**Pn**	**20 51 22.1**	**+1.5**
GHIR	**Ghir-Karzin**	**4.33**	**275**	*e*Pn	**Pn**	**20 51 24.3**	**+1.1**
	comp=Z,103nm,0.4s						
GHIR	**Ghir-Karzin**	**4.33**	**275**	*e*Pn	**Pn**	**20 51 24.3**	**+1.1**
GHIR				AML	AML	20 52 15.2	
	comp=N,103nm,0.4s						
IMEH	**Mehriz**	**4.45**	**321**	*e*Pn	**Pn**	**20 51 26.1**	**+1.2**
IMEH				*e*		20 52 40.2	
	comp=Z,1μm,0.5s						
IMEH	**Mehriz**	**4.45**	**321**	*e*Pn	**Pn**	**20 51 26.1**	**+1.2**
IKOO	**Kooshah**	**4.55**	**12**	*e*Pn	**Pn**	**20 51 29.4**	**+3.1**
IKOO				*e*		20 52 59.2	
	comp=Z,883nm,0.3s						
IKOO	**Kooshah**	**4.55**	**12**	*e*Pn	**Pn**	**20 51 29.4**	**+3.1**
IPAR	**Pars**	**4.63**	**295**	*e*Pn	**Pn**	**20 51 28.5**	**+1.1**
IPAR				*e*		20 52 59.4	
	comp=Z,742nm,0.4s						
IPAR	**Pars**	**4.63**	**295**	*e*Pn	**Pn**	**20 51 28.5**	**+1.1**
IDAH	**Dahanechah**	**5.06**	**19**	*e*Pn	Pn	20 51 37.5	+4.2
IDAH				*e*		20 52 06.3	
	comp=Z,414nm,0.3s						
IDAH	**Dahanechah**	**5.06**	**19**	*e*Pn	Pn	20 51 37.5	+4.2
ICHK	**Chekchek**	**5.22**	**326**	*e*Pn	**Pn**	**20 51 36.9**	**+1.4**
ICHK				*e*		20 53 11.7	
	comp=Z,565nm,0.3s						
ICHK	**Chekchek**	**5.22**	**326**	*e*Pn	**Pn**	**20 51 36.9**	**+1.4**
IZEF	**Zefreh**	**6.87**	**317**	*e*Pn	**Pn**	**20 51 58.5**	**+0.4**
IZEF				*e*		20 54 01.6	
	comp=Z,101nm,0.5s						
IZEF	**Zefreh**	**6.87**	**317**	*e*Pn	**Pn**	**20 51 58.5**	**+0.4**
IPIR	**Pirpir**	**7.66**	**310**	*e*	**Pn**	**20 52 11.1**	**+2.0**
	comp=Z,162nm,0.1s						
IPIR				*e*Pn	**Pn**	**20 52 09.1**	**0.0**
IRAZ	**Razeghan**	**10.04**	**320**	*e*Pn	**Pn**	**20 52 43.1**	**+1.5**
IRAZ	**Razeghan**	**10.04**	**320**	*e*Pn	**Pn**	**20 52 43.1**	**+1.5**
AAK	**Ala-Archa**	**19.90**	**38**	P	**Pn**	**20 54 50.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=248,slow=11,SNR=4.2						
MMAI	**Mount Meron Ar**	**20.00**	**290**	P	**P**	**20 54 49.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=93,slow=14,SNR=4.6						
EIL	**Elat**	**20.16**	**280**	P	**P**	**20 54 50.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=101,slow=10,SNR=3.5						
AKTO	**Aktyubinsk**	**22.45**	**0**	P	**P**	**20 55 15.6**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=180,slow=11,SNR=5.4						
BRTR	**Keskin Array B**	**23.23**	**307**	P	**P**	**20 55 22.4**	**-2.2**
	comp=Z,8.4nm,0.9s,baz=123,slow=8.8,SNR=26						

BVAR Borovoye Array 26.70 17 P **P** **20 55 56.8 +0.4**
comp=Z,0.6nm,0.8s,baz=222,slow=7.8,SNR=3.3
MKAR Makanchi Array 26.83 39 P **P** **20 55 58.9 +1.2**
comp=Z,0.1nm,0.5s,baz=242,slow=6.1,SNR=2.7
KURBB Kurchatov Array 27.53 29 P **P** **20 56 04.8 +1.0**
comp=Z,0.5nm,0.4s,baz=232,slow=8.1,SNR=5.4
AKASG Malin Array Be 31.40 324 P P 20 56 34.9 -3.2
comp=Z,0.2nm,0.5s,baz=126,slow=8.6,SNR=4.2
ZALV Zalesovo Beam 32.61 30 P **P** **20 56 48.3 -0.4**
comp=Z,0.4nm,0.3s,baz=238,slow=7.8,SNR=5.8
FINES FINESS Array B 39.62 337 P **P** **20 57 47.8 -0.8**
comp=Z,1.5nm,0.6s,baz=126,slow=7.1,SNR=9.7
SONM Songino Array 42.31 49 P **P** **20 58 11.7 +0.5**
comp=Z,0.4nm,0.8s,baz=263,slow=7.1,SNR=4.8
HFS Hagfors 43.84 330 P **P** **20 58 21.0 -2.2**
comp=Z,3.4nm,1.0s,baz=134,slow=8.3,SNR=5.6
NOA NORSAR Array B 45.34 330 P P 20 58 32.1 -3.1
comp=Z,1.0nm,0.7s,baz=117,slow=7.9,SNR=3.4
TORD Torodi Ar. Bea 54.20 266 P **P** **20 59 41.5 -1.7**
comp=Z,5.1nm,0.7s,baz=62,slow=7.2,SNR=78
YKA Yellowknife Ar 89.66 357 P **P** **21 03 13.8 -1.1**
comp=Z,0.2nm,0.7s,baz=0.9,slow=3.8,SNR=4.5

IDC ***29*** *21:08:11.8±2.1,6.°39S×128.°45E,h0km,mb3.3/1, mb1 3.6/3,mb1mx3.3/32,mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=127.1km s-min=31.1km az=67.0*
ISCJB ***29*** *21:08:24.4±1.0,6.°38S±0.°05×129.°9E±0.°1,h146km, mb3.0/1,Error ellipse: s-maj=19.9km s-min=6.2km az=5.3*
ISC 29 21:08:25.3±1.2,6.°42S±0.°06×129.°9E±0.°1,h146km,n7, σ2s44/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FAKI	**Fak Fak**	**4.19**	**34**	P	**Pn**		**21 09 29.1**	**+1.0**
	baz=4.2,SNR=4.3							
FAKI				S	**Sn**		**21 10 14.6**	**-2.3**
	baz=4.2,SNR=4.0							
MTN	**Manton Dam**	**6.50**	**169**	P	Pn		21 10 01.6	+2.9
	baz=6.5,SNR=9.4							
MTN				S	**Sn**		**21 11 11.9**	**+0.1**
	baz=6.5,SNR=5.6							
KDU	**Kakadu**	**6.72**	**158**	P	**Pn**		**21 10 04.7**	**+2.9**
	baz=6.7,SNR=14							
KDU				S	**Sn**		**21 11 17.2**	**0.0**
	baz=6.7,SNR=6.7							
KNRA	**Kununurra**	**9.27**	**187**	P	**Pn**		**21 10 36.5**	**+0.8**
	baz=9.3,SNR=7.5							
KNRA				S	**Sn**		**21 12 15.8**	**-2.7**
	baz=9.3,SNR=3.9							
WRA	**Warramunga Arr**	**14.12**	**163**	Pn	**Pn**		**21 11 38.3**	**-0.7**
	0.1nm,0.3s,baz=336,slow=12,SNR=5.1							
WRA				Sn	**Sn**		**21 14 11.2**	**-4.3**
	0.3nm,0.3s,baz=332,slow=25,SNR=6.5							
ASAR	**Alice Springs**	**17.57**	**168**	P	**Pn**		**21 12 24.1**	**+2.6**
	0.3nm,0.3s,baz=348,slow=10,SNR=18							
ASAR				S	**S**		**21 15 33.5**	**-2.2**
	0.1nm,0.3s,baz=349,slow=31,SNR=3.5							
MKAR	**Makanchi Array**	**67.69**	**327**	P	**P**		**21 19 06.0**	**-0.9**
	0.2nm,0.6s,baz=135,slow=5.1,SNR=5.6							

WEL 29 21:10:57.4±0.1,40.°09S×174.°35E,h102km±1km,ML3.5/14, 17C-12D,Error ellipse: s-maj=0.8km s-min=0.4km az=90.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WAZ	**Wanganui**	**0.59**	**56**	⇑PN	Pn		21 11 14.2	0.0
WAZ				SN	Sn		21 11 26.6	-0.1
NMEZ	**Namu Road**	**0.76**	**331**	⇓PN	Pn		21 11 15.2	-0.4
NMEZ				SN	Sn		21 11 28.9	-0.4
DUWZ	**D'Urville Isla**	**0.79**	**204**	⇓PN	Pn		21 11 15.8	-0.2
DUWZ				SN	Sn		21 11 28.9	-1.0
KHEZ	**Kahui Hut**	**0.83**	**342**	⇓PN	Pn		21 11 16.1	-0.3
KHEZ				SN	Sn		21 11 30.2	-0.5
NEZ	**North Egmont**	**0.83**	**346**	PN	Pn		21 11 16.1	-0.4
KIW	**Kapiti Island**	**0.89**	**151**	PN	Pn		21 11 16.7	-0.1
KIW				AML	AML		21 11 32.9	
KIW				AML	AML		21 11 33.0	
NWEZ	**Newall Road**	**0.89**	**335**	⇓PN	Pn		21 11 16.8	-0.1
DREZ	**Durham Road**	**0.90**	**353**	⇓PN	Pn		21 11 16.9	-0.1
DREZ				SN	Sn		21 11 31.1	-0.7
PKE	**Pukeiti**	**0.93**	**342**	PN	Pn		21 11 16.9	-0.4
OGWZ	**Otaki Gorge**	**0.96**	**140**	⇓PN	Pn		21 11 17.5	-0.2
MHEZ	**Mangahewa**	**1.01**	**359**	PN	Pn		21 11 18.3	+0.2
VRZ	**Vera Road**	**1.01**	**18**	⇑PN	Pn		21 11 18.0	-0.2
MRZ	**Mangatainoka R**	**1.10**	**122**	PN	Pn		21 11 18.8	-0.3
MRZ				AML	AML		21 11 37.4	
MRZ				AML	AML		21 11 37.7	
PKVZ	**Pokaka**	**1.10**	**44**	⇑PN	Pn		21 11 19.3	0.0
MTVZ	**Mangateitei**	**1.11**	**51**	PN	Pn		21 11 19.3	0.0
POWZ	**Post Office Ro**	**1.13**	**106**	PN	Pn		21 11 19.1	-0.4
TCW	**Tory Channel**	**1.13**	**183**	PN	Pn		21 11 19.4	0.0
TCW				AML	AML		21 11 39.4	
TCW				AML	AML		21 11 40.2	
CAW	**Cannon Point**	**1.16**	**152**	PN	Pn		21 11 19.9	+0.1
CAW				AML	AML		21 11 35.5	
CAW				AML	AML		21 11 36.1	
HOWZ	**Holdsworth Sta**	**1.20**	**133**	⇓PN	Pn		21 11 20.2	-0.2
TRVZ	**Turoa**	**1.21**	**50**	PN	Pn		21 11 20.3	-0.5
WNVZ	**Wahianoa**	**1.22**	**52**	⇑PN	Pn		21 11 20.6	-0.1
DRZ	**Dome Shelter**	**1.24**	**50**	PN	Pn		21 11 21.1	0.0
TSZ	**Takapari Road**	**1.24**	**89**	⇑PN	Pn		21 11 20.1	-0.6
TSZ				AML	AML		21 11 40.0	
TSZ				AML	AML		21 11 40.5	
FWVZ	**Far West T-bar**	**1.24**	**49**	PN	Pn		21 11 20.6	-0.4
WHVZ	**Whangaehu Hut**	**1.25**	**50**	⇑PN	Pn		21 11 20.9	-0.2
SNZO	**South Karori**	**1.25**	**168**	PN	Pn		21 11 20.9	+0.1
SNZO				AML	AML		21 11 37.8	
WPVZ	**Whakapapa**	**1.27**	**47**	PN	Pn		21 11 21.2	-0.1
MOVZ	**Moawhango**	**1.27**	**58**	⇑PN	Pn		21 11 20.8	-0.4
COVZ	**Chateau Observ**	**1.28**	**47**	PN	Pn		21 11 21.2	-0.1
TWVZ	**Taurewa**	**1.31**	**40**	PN	Pn		21 11 21.4	-0.3
NGZ	**Ngauruhoe**	**1.32**	**47**	PN	Pn		21 11 21.6	-0.3
PRWZ	**Pori Road**	**1.32**	**111**	PN	Pn		21 11 21.6	-0.1
NNZ	**Nelson**	**1.35**	**213**	PN	Pn		21 11 21.8	-0.2
WTVZ	**West Tongariro**	**1.36**	**45**	⇑PN	Pn		21 11 22.0	-0.3
TIWZ	**Tintock**	**1.36**	**121**	PN	Pn		21 11 21.9	-0.3
TIWZ				AML	AML		21 11 39.0	
TIWZ				AML	AML		21 11 39.1	
OTVZ	**Oturere**	**1.37**	**48**	⇑PN	Pn		21 11 22.3	-0.1
TUWZ	**Tuamarina**	**1.38**	**193**	PN	Pn		21 11 22.0	-0.3
TUWZ				AML	AML		21 11 41.0	
TUWZ				AML	AML		21 11 41.7	
BHW	**Baring Head**	**1.38**	**164**	PN	Pn		21 11 22.2	-0.1
MTW	**Mount Morrison**	**1.39**	**141**	PN	Pn		21 11 22.6	+0.2
MTW				AML	AML		21 11 39.4	
MTW				AML	AML		21 11 46.8	
KRVZ	**Karewarewa**	**1.40**	**46**	PN	Pn		21 11 22.5	-0.3
DVHZ	**Dannevirke**	**1.41**	**99**	PN	Pn		21 11 22.2	-0.6
PNHZ	**Pukenui**	**1.43**	**84**	PN	Pn		21 11 22.3	-0.7
BHHZ	**Black Hill Sta**	**1.45**	**66**	⇓PN	Pn		21 11 22.7	-0.6
MSWZ	**Moikau Station**	**1.50**	**153**	PN	Pn		21 11 23.8	+0.1
MSWZ				AML	AML		21 11 41.7	
MSWZ				AML	AML		21 11 41.9	
KATZ	**Kakaramea**	**1.52**	**44**	PN	Pn		21 11 24.1	-0.2
PAWZ	**Paruwai Farm**	**1.53**	**148**	⇓PN	Pn		21 11 24.3	0.0
PAWZ				AML	AML		21 11 44.8	
PAWZ				AML	AML		21 11 44.8	
TMWZ	**Te Maipa**	**1.56**	**132**	PN	Pn		21 11 24.4	-0.1
BFZ	**Birch Farm**	**1.56**	**113**	PN	Pn		21 11 24.0	-0.7
QRZ	**Quartz Range**	**1.58**	**241**	PN	Pn		21 11 23.6	-1.1
WPHZ	**Waipukurau**	**1.60**	**90**	PN	Pn		21 11 24.6	-0.5
RITZ	**Rihia Road**	**1.61**	**47**	PN	Pn		21 11 25.1	0.0
HIZ	**Hauiti**	**1.62**	**14**	⇑PN	Pn		21 11 25.0	-0.3
CPWZ	**Castlepoint**	**1.63**	**121**	PN	Pn		21 11 25.8	+0.3
PLWZ	**Palliser**	**1.64**	**156**	PN	Pn		21 11 25.2	-0.3
RATZ	**Rangitukua**	**1.64**	**43**	PN	Pn		21 11 25.8	+0.2
TRWZ	**Traveller**	**1.66**	**143**	PN	Pn		21 11 26.3	+0.5
TRWZ				AML	AML		21 11 45.4	
TRWZ				AML	AML		21 11 47.5	
BSWZ	**Blackbirch Sta**	**1.67**	**192**	PN	Pn		21 11 26.4	+0.5
BSWZ				AML	AML		21 11 47.4	
BSWZ				AML	AML		21 11 48.6	
WATZ	**Wairara**	**1.74**	**38**	⇓PN	Pn		21 11 27.1	+0.2
PRHZ	**Porangahau**	**1.76**	**97**	PN	Pn		21 11 26.6	-0.4
BKZ	**Black Stump Fm**	**1.89**	**62**	⇑PN	Pn		21 11 27.8	-1.0
BKZ				AML	AML		21 12 02.7	
BKZ				AML	AML		21 12 03.6	
MCHZ	**McNeill Hill**	**1.92**	**71**	⇓PN	Pn		21 11 28.6	-0.5
PXZ	**Pawanui**	**1.93**	**89**	PN	Pn		21 11 28.4	-0.7
KAHZ	**Kahuranaki**	**1.96**	**82**	PN	Pn		21 11 29.0	-0.7
TLZ	**Tolley Road**	**1.98**	**28**	PN	Pn		21 11 29.6	-0.3
THZ	**Tophouse**	**2.00**	**213**	⇑PN	Pn		21 11 30.0	-0.2
NMHZ	**Naumai**	**2.14**	**63**	⇓PN	Pn		21 11 31.5	-0.5
CKHZ	**Cape Kidnapper**	**2.14**	**79**	PN	Pn		21 11 31.3	-0.6
ALRZ	**Allen Road**	**2.17**	**46**	PN	Pn		21 11 31.6	-0.7
KHZ	**Kahutara**	**2.41**	**194**	⇑PN	Pn		21 11 35.2	-0.2
RAHZ	**Arahi**	**2.42**	**62**	PN	Pn		21 11 34.5	-1.1
TOZ	**Tahuroa Road**	**2.52**	**21**	⇑PN	Pn		21 11 36.5	-0.3
DSZ	**Dennistone Nort**	**2.55**	**228**	⇑PN	Pn		21 11 36.7	-0.6
KNZ	**Kokohu**	**2.78**	**69**	PN	Pn		21 11 38.2	-2.0
URZ	**Urewera**	**2.81**	**51**	PN	Pn		21 11 38.9	-1.9
MHGZ	**Mahia Peninsul**	**2.90**	**72**	PN	Pn		21 11 40.2	-1.7
PRGZ	**Paritu Road**	**2.97**	**68**	PN	Pn		21 11 40.8	-2.1
RIGZ	**Rimuhau**	**2.98**	**64**	PN	Pn		21 11 39.3	-3.7
MWZ	**Matawai**	**3.02**	**56**	⇑PN	Pn		21 11 41.3	-2.3
MKAZ	**Moumakai**	**3.04**	**12**	PN	Pn		21 11 43.6	-0.1
LTZ	**Lake Taylor**	**3.12**	**209**	PN	Pn		21 11 43.5	-1.4
CNGZ	**Carnagh Statio**	**3.39**	**63**	PN	Pn		21 11 46.5	-2.0
HAZ	**Te Kaha**	**3.54**	**50**	PN	Pn		21 11 47.8	-2.7
PUZ	**Puketiti**	**3.64**	**58**	PN	Pn		21 11 49.2	-2.7
OXZ	**Oxford**	**3.67**	**207**	PN	Pn		21 11 50.8	-1.4
MQZ	**McQueen's Vall**	**3.84**	**199**	PN	Pn		21 11 51.8	-2.6
WVZ	**Waitaha Valley**	**4.04**	**221**	PN	Pn		21 11 56.7	-0.4
ODZ	**Otahua Downs**	**5.66**	**208**	PN	Pn		21 12 17.5	-1.6
JCZ	**Jackson Bay**	**5.76**	**224**	PN	Pn		21 12 18.2	-2.4
CTZ	**Chatham Island**	**7.66**	**121**	⇑PN	Pn		21 12 45.3	-0.8

IDC ***29*** *21:52:14.4±1.6,46.°55N×151.°03E,h0km,mb3.7/8, mb1 4.0/8,mb1mx3.6/49,mbtmp3.7/8, Error ellipse: s-maj=48.7km s-min=23.0km az=163.0*
ISCJB ***29*** *21:52:19.5±0.8,46.°1N±0.°2×151.°5E±0.°2,h48km,mb3.7/8, Error ellipse: s-maj=26.9km s-min=6.1km az=143.2*
JMA ***29*** *21:52:23.3±0.6,46.°28N×151.°41E,h30km,M4.1*
SKHL ***29*** *21:52:25.7±1.0,46.°06N×151.°00E,h115km±4km,mb4.4/2, msh5.0/2*
MOS ***29*** *21:52:26.3±0.8,46.°72N×150.°88E,h107km,mb4.0/4,Error ellipse: s-maj=35.7km s-min=22.7km az=64.5*
ISC 29 21:52:20.1±1.0,46.°2N±0.°2×151.°6E±0.°1,h48km,n34, σ2s26/26,mb3.8/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**2.76**	**252**	*e*P	Pn		21 53 07.6	+5.8
KUR				*e*S	**Sn**		**21 53 38.7**	**+4.8**
KUR				pmax	pmax			
	comp=Z,80nm,0.5s							
KUR				smax	smax			
	comp=N,170nm,0.6s							
KUR				smax	smax			
	comp=E,170nm,0.5s							
KUR	**Kuril'sk**	**2.76**	**252**	*e*P	Pn		21 53 05.7	+3.9
KUR				AMB	AMB		21 53 08.0	
	comp=E,80nm,0.5s							
KUR				*e*S	**Sn**		**21 53 35.8**	**+1.9**
KUR				A	A		21 53 44.6	
	comp=E,170nm,0.6s							
SHO	**Shikotan**	**4.07**	**237**	*e*P	Pn		21 53 23.2	+3.4
SHO				*e*S	**Sn**		**21 54 05.6**	**-0.6**
SHO				A	A		21 54 17.0	
	comp=E,136nm,0.7s							
NEM2	**Nemuro 2**	**5.01**	**238**	P	**Pn**		**21 53 35.2**	**+2.6**
NEM2				*e*S	**Sn**		**21 54 28.4**	**-0.8**
JRA	**Rausu**	**5.08**	**246**	P	Pn		21 53 38.2	+4.5
JNK	**Nakash**	**5.51**	**245**	P	Pn		21 53 43.8	+4.2
JAK	**Akkeshi**	**5.84**	**240**	P	**Pn**		**21 53 46.6**	**+2.5**
JAK				*e*S	**Sn**		**21 54 48.4**	**-1.4**
JTKR	**Abashiri--Toko**	**5.86**	**251**	P	Pn		21 53 49.8	+5.5
JOB	**Onbets**	**6.42**	**242**	P	Pn		21 53 55.2	+3.2
JOB				*e*S	**Sn**		**21 55 03.0**	**-0.9**
JKK2	**Kamakawa 2**	**6.66**	**253**	P	Pn		21 54 01.3	+5.9
JCH	**Churui**	**6.87**	**242**	P	**Pn**		**21 54 00.9**	**+2.7**
JCH				*e*S	**Sn**		**21 55 13.6**	**-1.4**
MYR	**Moyori**	**7.10**	**240**	*e*P	**Pn**		**21 54 03.7**	**+2.3**
MYR				*e*S	**Sn**		**21 55 17.9**	**-2.8**
JNBK	**Urakawa-nobuka**	**7.43**	**242**	P	**Pn**		**21 54 08.1**	**+2.2**
JNBK				*e*S	**Sn**		**21 55 25.2**	**-3.6**
TYV	**Tymovskoe**	**7.56**	**312**	*e*P	Pn		21 54 12.2	+4.5
TYV				AMB	AMB		21 54 13.0	
	comp=E,7.0nm,0.8s							
TYV				AMB	AMB		21 54 13.0	
	comp=E,13nm,0.8s							
JYM2	**Yakumo 2**	**9.01**	**247**	P	**Pn**		**21 54 30.3**	**+2.7**
JTM	**Tenmabayashi**	**9.34**	**239**	P	**Pn**		**21 54 32.9**	**+0.9**
JANG	**Nango**	**9.34**	**235**	P	**Pn**		**21 54 31.5**	**-0.6**
JANG				*e*S	Sn		21 56 07.3	-8.4
H11N2	**WAKE ISLAND Hy**	**29.22**	**149**	T	T		22 29 52.9	
	baz=340,slow=76,SNR=229							
H11N1	**WAKE ISLAND Hy**	**29.23**	**149**	T	T		22 29 57.4	
	baz=340,slow=76,SNR=140							
H11N3	**WAKE ISLAND Hy**	**29.24**	**149**	T	T		22 30 01.1	
	baz=340,slow=76,SNR=166							
H11S1	**WAKE ISLAND Hy**	**30.28**	**151**	T	T		22 31 20.9	
	baz=342,slow=78,SNR=135							
H11S3	**WAKE ISLAND Hy**	**30.29**	**151**	T	T		22 31 20.5	
	baz=342,slow=78,SNR=139							
H11S2	**WAKE ISLAND Hy**	**30.30**	**151**	T	T		22 31 18.3	
	baz=342,slow=78,SNR=72							
ILAR	**Eielson Array**	**37.67**	**38**	P	**P**		**21 59 30.7**	**+0.5**
	comp=E,0.2nm,0.8s,baz=262,slow=8.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**42.09**	**306**	PcP	**PcP**		**22 01 59.1**	**-1.7**
	comp=E,0.4nm,0.4s,baz=90,slow=2.9,SNR=3.6							
MKAR	**Makanchi Array**	**46.27**	**297**	P	**P**		**22 00 37.9**	**-2.7**
MKAR							22 02 13.4	
MKAR	**Makanchi Array**	**46.27**	**297**	P	**P**		**22 00 37.9**	**-2.7**
	comp=E,0.2nm,0.6s,baz=67,slow=7.1,SNR=3.9							
MKAR				PcP	**PcP**		**22 02 13.4**	**-1.9**
	comp=E,0.3nm,0.6s,baz=64,slow=3.4,SNR=4.1							
CMAR	**Chiang Mai Arr**	**51.20**	**255**	P	**P**		**22 01 18.6**	**-0.1**
	comp=E,0.4nm,0.7s,baz=51,slow=6.0,SNR=5.2							
YKA	**Yellowknife Ar**	**52.03**	**36**	P	**P**		**22 01 25.2**	**+0.9**
	comp=E,1.1nm,0.7s,baz=298,slow=7.1,SNR=14							
ARCES	**ARCESS Array B**	**58.06**	**340**	P	**P**		**22 02 06.4**	**-1.3**
	comp=E,3.5nm,1.0s,baz=34,slow=6.7,SNR=2.7							
FINES	**FINESS Array B**	**64.11**	**334**	P	P		22 02 45.4	-3.4
	comp=E,1.1nm,0.8s,baz=46,slow=6.0,SNR=4.6							
AKASG	**Malin Array Be**	**71.44**	**325**	P	P		22 03 31.3	-3.8
AKASG	**Malin Array Be**	**71.44**	**325**	P	P		22 03 31.3	-3.8
	comp=E,0.4nm,0.5s,baz=37,slow=6.1,SNR=3.7							
TXAR	**Lajitas Array**	**78.71**	**59**	P	**P**		**22 04 18.8**	**+1.3**
	comp=E,0.6nm,0.5s,baz=304,slow=4.8,SNR=8.6							

ISCJB ***29*** *22:12:13.8±1.1,0.°27N±0.°09×97.°34E±0.°07,h29km, mb3.5/5,Error ellipse: s-maj=13.8km s-min=9.1km az=30.0*
DJA ***29*** *22:12:16.8±2.3,0.°N±19.°×9.°7E±.°,h56km±22km,M3.6/5, MLv3.6/5*
IDC ***29*** *22:12:17.1±1.8,0.°26N×97.°47E,h36km±8km,mb3.3/5, mb1 3.5/7,mb1mx3.4/24,mbtmp3.5/7,ML3.7/2,Error ellipse: s-maj=57.2km s-min=18.5km az=61.0*
ISC 29 22:12:16.3±1.2,0.°3N±0.°1×97.°37E±0.°10,h29km,n22, σ1s29/16,mb3.6/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GSI	**Gunungsitoli**	**1.00**	**12**	P	**Pn**		**22 12 33.9**	**-0.6**
MNSI	**Mandailing Nat**	**2.26**	**78**	P	**Pn**		**22 12 51.2**	**-0.5**
MNSI				S	**Sn**		**22 13 18.4**	**-0.2**
SNSI	**Sinabang, Aceh**	**2.33**	**333**	P	**Pn**		**22 12 51.6**	**-1.1**
PSI	**Prapat**	**2.92**	**32**	Pn	**Pn**		**22 12 59.9**	**-1.0**
	2.7nm,0.3s,baz=189,slow=13,SNR=6.2							
TPTI		**2.93**	**356**	P	**Pn**		**22 12 58.9**	**-2.1**
KCSI	**Kotacane, Aceh**	**3.21**	**7**	P	**Pn**		**22 13 03.9**	**-1.0**
IPM	**Ipoh**	**5.51**	**41**	P	x		22 13 36.9	
KULM	**Kulim**	**5.93**	**33**	P	x		22 13 42.0	
CMAR	**Chiang Mai Arr**	**18.09**	**5**	P	**P**		**22 16 25.9**	**0.0**
	0.2nm,0.3s,baz=195,slow=11,SNR=16							
H08S2	**Diego Garcia H**	**26.04**	**252**	T	T		22 45 04.1	
	baz=73,slow=75,SNR=58							
H08S3	**Diego Garcia H**	**26.04**	**252**	T	T		22 44 47.0	
	baz=73,slow=75,SNR=62							
H08S1	**Diego Garcia H**	**26.06**	**252**	T	T		22 44 55.4	
	baz=73,slow=75,SNR=53							
H01W3	**Cape Leeuwin H**	**38.37**	**158**	T	T		23 00 12.8	
	baz=333,slow=74							
H01W2	**Cape Leeuwin H**	**38.38**	**158**	T	T		23 00 13.5	
	baz=333,slow=74							
H01W1	**Cape Leeuwin H**	**38.38**	**158**	T	T		23 00 14.8	
	baz=333							
WRA	**Warramunga Arr**	**41.43**	**121**	P	**P**		**22 19 59.8**	**-0.9**
	0.6nm,0.6s,baz=301,slow=9.1,SNR=3.3							
WRA				pP	**pP**		**22 20 09.7**	**+0.3**
	0.5nm,0.6s,baz=302,slow=9.0,SNR=1.9							
ASAR	**Alice Springs**	**42.73**	**126**	P	**P**		**22 20 10.0**	**-1.3**
	0.3nm,0.8s,baz=297,slow=7.8,SNR=3.4							
SONM	**Songino Array**	**47.98**	**8**	P	**P**		**22 20 52.8**	**+0.2**
	0.4nm,0.5s,baz=191,slow=8.5,SNR=5.1							
SONM				pP	**pP**		**22 21 03.5**	**+2.0**
	0.3nm,0.7s,baz=193,slow=8.9,SNR=4.2							
MKAR	**Makanchi Array**	**48.14**	**346**	P	**P**		**22 20 54.0**	**+0.2**
	0.3nm,0.5s,baz=152,slow=8.3,SNR=9.7							
MKAR				pP	**pP**		**22 21 05.1**	**+2.5**
	0.9nm,0.7s,baz=153,slow=8.0,SNR=9.2							
ZALV	**Zalesovo Beam**	**54.45**	**351**	P	**P**		**22 21 40.8**	**-0.1**
	0.4nm,0.4s,baz=167,slow=6.8,SNR=3.2							
AKASG	**Malin Array Be**	**76.06**	**323**	pP	pP		22 24 10.9	+0.6
	0.3nm,0.4s,baz=92,slow=4.8,SNR=3.1							
FINES	**FINESS Array B**	**80.86**	**333**	pP	pP		22 24 37.6	+1.0
	1.5nm,0.9s,baz=114,slow=5.2,SNR=1.3							

IDC 29 22:14:34.4±2.2,3.°52S×130.°33E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.4/21,mbtmp3.4/3,ML3.2/1,Error ellipse: s-maj=106.9km s-min=30.3km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**16.79**	**167**	Pn	Pn		22 18 31.9	+0.8
	0.1nm,0.3s,baz=347,slow=11,SNR=6.8							
ASAR	**Alice Springs**	**20.32**	**171**	P	P		22 19 12.0	-0.4
	0.5nm,0.3s,baz=350,slow=10,SNR=9.5							
MKAR	**Makanchi Array**	**65.53**	**326**	P	P		22 25 19.8	0.0
	0.5nm,1.0s,baz=126,slow=7.3,SNR=3.7							

SZGRF ***29*** *22:25:28.5,51.°79N×175.°65E,h33km,mb4.7,Rat Islands, Aleutian Islands, United States*
MOS ***29*** *22:25:30.3±0.9,51.°75N×177.°76E,h40km,mb5.2/74,Error ellipse: s-maj=8.2km s-min=5.0km az=98.6*
BJI ***29*** *22:25:32.3,51.°83N×177.°59E,h65km,mB5.0/32,mb4.9/50, Ms4.7/23,Ms7 4.3/22*
ISCJB ***29*** *22:25:33.2±0.4,51.°59N±0.°04×177.°80E±0.°03,h72km±3km, mb4.8/181,Error ellipse: s-maj=6.4km s-min=2.6km az=4.8*
NEIC ***29*** *22:25:34.9±0.3,51.°67N×177.°75E,h73km±2km,mb5.0/104, Error ellipse: s-maj=5.6km s-min=2.5km az=184.0*
IDC ***29*** *22:25:34.2±1.4,51.°76N×177.°73E,h62km±10km,mb4.2/30, mb1 4.4/33,mb1mx4.4/37,mbtmp4.5/33,MS3.7/11, Ms1 3.7/11,ms1mx3.4/34,Error ellipse: s-maj=15.5km s-min=8.0km az=174.0*
ISC 29 22:25:34.2±0.4,51.°67N±0.°06×177.°73E±0.°03,h65km±2km, h65km:pP-P,n617,σ0s99/699,mb4.9/184,35C-19D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GALAA	**Gareloi Lava P**	**2.18**	**86**	P	**Pn**		**22 26 08.8**	**+0.7**
GAEA	**Gareloi East**	**2.20**	**86**	P	**Pn**		**22 26 08.7**	**+0.4**
SMY	**Shemya**	**2.47**	**297**	P	**Pn**		**22 26 12.0**	**-0.1**
SMY				S	**Sn**		**22 26 40.0**	**-1.1**
SMY	**Shemya**	**2.47**	**297**	P	**Pn**		**22 26 12.0**	**-0.1**
SMY				S	**Sn**		**22 26 40.0**	**-1.1**
TANO	**Tanaga North**	**2.59**	**83**	P	**Pn**		**22 26 14.2**	**+0.5**
TASE	**Tanaga Southea**	**2.64**	**85**	P	**Pn**		**22 26 14.6**	**+0.2**
TAFP	**Tanaga Falls P**	**2.67**	**83**	P	**Pn**		**22 26 14.8**	**0.0**
TAFP				S	**Sn**		**22 26 45.6**	**-0.6**
TAFL	**Tanaga Flats**	**2.72**	**87**	P	**Pn**		**22 26 15.9**	**+0.3**
FX1	**Attu Island--F**	**3.05**	**295**	P	**Pn**		**22 26 20.4**	**+0.4**
FX1				S	**Sn**		**22 26 56.5**	**+1.1**
**FX

COLA College 22.05 40⇑ eP P 22 30 24.0 +0.9
COLA pmax pmax
comp=Z,79nm,1.0s
COLA College 22.05 40 eP P 22 30 23.2 +0.2
comp=Z,8.6nm,1.0s
COLD Coldfoot 22.16 33 eP P 22 30 23.8 -0.4
comp=Z,10nm,1.0s
IL1 Eielson Array 22.40 41 eP P 22 30 24.9 -2.0
IL1 ePcP PcP 22 34 18.5 -0.6
IL1 eScP ScP 22 37 49.4 -1.3
ILAR Eielson Array 22.40 41 P P 22 30 25.7 -1.2
ILAR PcP PcP 22 34 18.7 -0.4
ILAR ScP ScP 22 37 49.2 -1.4
ILAR Eielson Array 22.40 41 P P 22 30 25.7 -1.2
comp=Z,2.6nm,0.5s,baz=245,slow=8.9,SNR=54
ILAR PcP PcP 22 34 18.7 -0.4
comp=Z,1.1nm,0.7s,baz=265,slow=3.5,SNR=5.8
ILAR ScP ScP 22 37 49.2 -1.4
comp=Z,2.8nm,1.0s,baz=288,slow=3.2,SNR=12
RAGM Ragged Mountai 22.46 52 eP P 22 30 27.2 -0.4
comp=Z,55nm,0.8s
PAX Paxson 22.51 46 eP P 22 30 28.1 -0.1
PAX pmax pmax
comp=Z,39nm,1.0s
PAX Paxson 22.51 46 eP P 22 30 28.1 -0.1
comp=Z,39nm,1.0s
BMRM Bremner River 22.56 51 eP P 22 30 28.2 -0.5
comp=Z,64nm,1.0s
YUK Yuzh-Kuril'sk 22.57 263 P P 22 30 28.3 -0.5
YUK i S S 22 34 32.3 +0.9
YUK MLR MLR
comp=Z,231nm,19.0s
YSS Yuzh-Sakhalins 23.14 272 eP P 22 30 35.0 +0.4
DOT Dot Lake 23.28 44 eP P 22 30 34.8 -1.2
comp=Z,20nm,0.8s
DOT ePcP PcP 22 34 22.1 +1.2
DOT eScP ScP 22 37 53.5 +0.5
MENT Mentasta 23.29 46 eP P 22 30 36.2 +0.3
ASAJ Asahikawa 24.55 266 P P 22 30 49.0 +1.5
ASAJ Asahikawa 24.55 266 P P 22 30 49.0 +1.5
comp=Z,12nm,0.8s,baz=84,slow=9.0,SNR=3.5
ASAJ LR LR 22 38 47.5
comp=Z,101nm,21.3s,baz=102,slow=32
EGAK Eagle 24.77 42 eP P 22 30 49.4 0.0
comp=Z,49nm,0.6s
DAWY Dawson 25.39 44 eP P 22 30 55.4 +0.3
DAWY eScP ScP 22 37 59.7 +0.9
HYT Haines Junctio 26.01 52 eP P 22 31 01.2 +0.4
HABR Khabarovsk 27.29 280 eP P 22 31 11.7 -0.5
HABR e*PP pP 22 31 26.4 -1.5
HABR e 22 31 58.1
HABR eS S 22 35 47.6 +0.8
HABR eSS SnSn 22 37 02.2 +1.4
HABR e 22 41 56.2
HABR pmax pmax
comp=Z,25nm,1.6s
HABR MLR MLR
comp=Z,111nm,18.0s
YAK Yakutsk 27.59 311 eP P 22 31 13.4 -1.4
YAK e*PP pP 22 31 27.3 -3.2
YAK e 22 31 59.8
YAK e 22 34 32.1
YAK eS S 22 35 49.1 -2.1
YAK eSS SnSn 22 37 05.5 -2.3
YAK e 22 41 57.9
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=Z,79nm,2.7s
YAK smax smax
comp=N,223nm,4.3s
YAK smax smax
comp=E,36nm,2.1s
YAK Yakutsk 27.59 311 eP P 22 31 13.6 -1.2
comp=E,55nm,0.9s
INK Inuvik 28.48 36 eP P 22 31 22.8 +0.2
comp=E,10nm,0.6s
INK ScP ScP 22 38 07.0 -0.8
INK Inuvik 28.48 36 P P 22 31 23.1 +0.5
comp=E,8.1nm,0.6s,baz=268,slow=8.3,SNR=53
INK ScP ScP 22 38 07.0 -0.8
comp=E,5.4nm,1.2s,baz=259,slow=4.1,SNR=5.6
KLR Kul'dur 29.01 284 eP P 22 31 24.1 -3.5
DLBC Dease Lake 30.00 56 eP P 22 31 35.4 -1.0
DLBC Dease Lake 30.00 56 P P 22 31 36.7 +0.3
comp=E,3.8nm,0.7s,baz=230,slow=9.4,SNR=5.9
USRK Ussuriysk Arra 31.11 274 P P 22 31 46.4 +0.3
comp=E,4.0nm,0.7s,baz=53,slow=8.3,SNR=15
USRK PcP PcP 22 34 40.6 +0.7
comp=E,1.6nm,0.8s,baz=48,slow=2.1,SNR=4.9
MJAR Matsushiro Arr 31.71 257 P P 22 31 52.6 +1.0
MJAR Matsushiro Arr 31.71 257 P P 22 31 52.6 +1.0
comp=E,1.3nm,0.7s,baz=339,slow=13,SNR=3.6
MJAR LR LR 22 43 01.2
comp=E,94nm,21.9s,baz=70,slow=33
VLA Vladivostok 31.73 273⇑ eP P 22 31 51.9 +0.3
VLA e 22 32 58.4
VLA e 22 34 41.1
VLA S S 22 36 57.0 +0.5
VLA pmax pmax
comp=Z,13nm,1.0s
MDJ Mudanjiang 32.38 277 P P 22 31 56.3 -1.0
MDJ pP pP 22 32 10.3 -2.9
MDJ sP sP 22 32 18.0 -2.8
MDJ PP PP 22 33 09.8 -1.6
MDJ PcP PcP 22 34 43.0 -0.4
MDJ S S 22 37 06.3 -0.4
MDJ sS sS 22 37 31.5 -2.2
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,110nm,5.7s
MDJ LR LR
comp=Z,160nm,5.7s
MDJ LR LR
comp=Z,57nm,6.4s
MDJ LR LR
comp=Z,180nm,7.1s
H11N2 WAKE ISLAND Hy 32.99 199 T T 23 07 27.6
baz=13,slow=76,SNR=276
H11N3 WAKE ISLAND Hy 33.00 199 T T 23 07 33.2
baz=13,slow=76,SNR=243
H11N1 WAKE ISLAND Hy 33.01 199 T T 23 07 24.2
baz=13,slow=76,SNR=247
H11S1 WAKE ISLAND Hy 34.22 199 T T 23 09 01.3
baz=12,slow=78,SNR=71
H11S3 WAKE ISLAND Hy 34.24 199 T T 23 09 02.6
baz=12,slow=78,SNR=54
H11S2 WAKE ISLAND Hy 34.24 199 T T 23 09 04.3
baz=12,slow=78,SNR=43
CN2 Changchun 35.36 278 eP P 22 32 24.3 +1.1
HIA Hailar 36.15 290 eP P 22 32 28.8 -1.1
comp=Z,12nm,0.7s
YKA Yellowknife Ar 36.60 46 P P 22 32 33.6 +0.1
YKA PcP PcP 22 34 55.2 0.0
YKA ScP ScP 22 38 34.8 -1.1
YKA Yellowknife Ar 36.60 46 P P 22 32 33.6 +0.1
comp=Z,1.4nm,0.5s,baz=283,slow=7.9,SNR=27
YKA PcP PcP 22 34 55.2 0.0
comp=Z,1.0nm,0.6s,baz=292,slow=3.4,SNR=5.9
YKA ScP ScP 22 38 34.7 -1.1
comp=Z,0.8nm,1.0s,baz=297,slow=3.2,SNR=4.6
YKB5 Yellowknife Ar 36.60 46 eP P 22 32 33.2 -0.2
YKB5 ePcP PcP 22 34 55.5 +0.3
KSRS Korea Array 37.47 268 P P 22 32 42.6 +1.4
comp=Z,0.6nm,0.3s,baz=53,slow=8.2,SNR=3.1
KSAR Wonju Array Be 37.50 268 P P 22 32 42.6 +1.1
B08A Colville Reser 39.47 69 eP P 22 32 57.1 -0.8
comp=Z,65nm,2.3s
C09A Chrisman Ranch 40.37 69 eP P 22 33 06.6 +1.3
comp=Z,74nm,2.3s
RES Resolute Bay 40.37 24 eP P 22 33 05.0 +0.1
RES ScP ScP 22 38 49.6 -0.5
RES Resolute Bay 40.37 24 P P 22 33 05.5 +0.5
comp=Z,11nm,1.0s,baz=271,slow=11,SNR=19
RES ScP ScP 22 38 49.6 -0.5
comp=Z,2.4nm,1.0s,baz=319,slow=4.8,SNR=4.0
EDM Edmonton 40.55 60 eP P 22 33 06.1 -0.7
EDM Edmonton 40.55 60 eP P 22 33 06.1 -0.7
NEW Newport 40.80 68 eP P 22 33 08.2 -0.8
comp=Z,76nm,2.5s
NEW Newport 40.80 68 P P 22 33 07.9 -1.0
comp=Z,2.9nm,0.5s,baz=310,slow=6.5,SNR=7.7
NEW Newport 40.80 68 P P 22 33 08.4 -0.6
baz=41
YBH Yreka Blue Hor 40.98 80 eP P 22 33 11.0 +0.5
comp=Z,146nm,2.5s
YBH Yreka Blue Hor 40.98 80 P P 22 33 10.1 -0.4
comp=Z,2.5nm,0.7s,baz=14,slow=7.3,SNR=6.2
M04C Macdoel 41.48 79 P P 22 33 14.1 -0.6
baz=41
K05A Summer Lake 41.52 77 eP P 22 33 15.7 +0.7
comp=Z,175nm,2.6s
I07A Izee 41.60 75 eP P 22 33 15.4 -0.2
comp=Z,63nm,2.3s
WALA Waterton Lakes 42.24 65 eP P 22 33 20.4 -0.4
BSMT Bassoo Peak 42.36 67 eP P 22 33 20.8 -1.0
BMO Blue Mountains 42.49 73 eP P 22 33 22.4 -0.5
comp=Z,3.7nm,0.8s
BLMT Blacktail Moun 42.52 67 eP P 22 33 22.7 -0.4
ALE Alert 42.70 10 P P 22 33 24.9 +0.9
comp=Z,66nm,1.0s,SNR=5.0
JTMT Jette 42.70 67 eP P 22 33 24.0 -0.6
YBMT Yellow Bay 42.80 67 eP P 22 33 24.4 -0.9
OHCM Honcut 43.14 82 eP P 22 33 29.1 +1.1
BJI Beijing 43.19 279 P P 22 33 27.5 -0.9
BJI S S 22 39 40.8 -9.3
BJI pmax pmax
comp=Z,5.0nm,0.4s
BJI pmax pmax
comp=Z,160nm,6.5s
BJI LR LR
comp=Z,190nm,17.3s
BJI LR LR
comp=Z,210nm,20.0s
BJI LR LR
comp=Z,130nm,24.6s
MSO Missoula 43.39 68 eP P 22 33 29.1 -0.9
comp=Z,4.8nm,0.7s
MSO Missoula 43.39 68 P P 22 33 28.9 -1.2
baz=43
CHMT Chamberlain Mo 43.74 68 eP P 22 33 31.6 -1.4
TLY Talaya 44.06 301 eP P 22 33 35.8 +0.5
TLY pmax pmax
comp=Z,11nm,0.8s
TLY MLR MLR
comp=Z,155nm,18.0s
ULN Ulaanbaatar 44.17 294 eP P 22 33 37.0 +0.6
comp=Z,18nm,0.7s
SONA1 Songino Array 44.55 295 eP P 22 33 39.9 +0.5
SONM Songino Array 44.56 295 P P 22 33 40.2 +0.8
SONM PcP PcP 22 35 21.9 +0.5
SONM Songino Array 44.56 295 P P 22 33 40.2 +0.8
comp=Z,17nm,0.5s,baz=66,slow=7.7,SNR=229
SONM PcP PcP 22 35 21.9 +0.5
comp=Z,1.1nm,0.5s,baz=47,slow=2.1,SNR=3.2
SONM LR LR 22 51 13.2
comp=Z,159nm,22.0s,baz=172,slow=35
HRY Holter Researc 44.67 67 eP P 22 33 39.1 -1.3
LRM Limekiln Ridge 44.80 69 eP P 22 33 41.5 -0.1
WAKR Walker 44.91 81 eP P 22 33 43.2 +0.7
ZAK Zakamensk 44.93 299⇓ iP P 22 33 42.6 +0.3
ZAK pmax pmax
comp=Z,10.0nm,1.3s
HLID Hailey 44.93 72 eP P 22 33 41.9 -0.7
comp=Z,86nm,3.0s
HLID Hailey 44.93 72 P P 22 33 41.7 -0.9
baz=45
BMN Battle Mountai 45.09 78 eP P 22 33 43.6 -0.2
BMN pmax pmax
comp=Z,23nm,1.7s
BMN Battle Mountai 45.09 78 eP P 22 33 43.6 -0.2
comp=Z,23nm,1.7s
EGMT Eagleton 45.13 65 eP P 22 33 42.4 -1.5
comp=Z,151nm,3.0s
EGMT Eagleton 45.13 65 P P 22 33 42.3 -1.7
baz=45
MCMT McKenzie Canyo 45.13 70 eP P 22 33 42.2 -2.0
A19A Klindworth Far 45.20 63 P P 22 33 43.0 -1.5
baz=45
BOZ Bozeman (W) 45.38 68 eP P 22 33 45.4 -0.6
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 45.38 68 eP P 22 33 45.4 -0.6
comp=Z,8.8nm,0.8s
MOY Mondy 45.48 302 eP P 22 33 47.1 +0.4
HHC Hu-ho-hao-te 45.52 283 eP P 22 33 46.3 -0.8
HHC sP sP 22 34 10.0 -1.0
HHC PcP PcP 22 35 25.8 +1.0
HHC PP PP 22 35 35.3 +0.9
HHC PcS PcS 22 39 17.8 -1.2
HHC S S 22 40 20.8 -3.3
HHC ScS ScS 22 43 38.0 +0.9
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,170nm,7.2s
HHC LR LR
comp=Z,250nm,15.7s
HHC LR LR
comp=Z,350nm,15.7s
HHC LR LR
comp=Z,260nm,15.5s
NV01 Mina Array Sit 45.66 81 eP P 22 33 48.8 +0.5
NVAR Mina Array Bea 45.66 81 P P 22 33 49.0 +0.6
NVAR PcP PcP 22 35 27.0 +1.5
NVAR ScP ScP 22 39 12.8 +0.4
NVAR Mina Array Bea 45.66 81 P P 22 33 49.0 +0.6
comp=Z,4.5nm,0.7s,baz=290,slow=8.2,SNR=20
NVAR PcP PcP 22 35 27.0 +1.5
comp=Z,1.1nm,0.7s,baz=307,slow=3.2,SNR=2.1
NVAR ScP ScP 22 39 12.8 +0.4
comp=Z,1.2nm,0.9s,baz=291,slow=3.8,SNR=5.9
NVAR LR LR 22 49 51.0
comp=Z,71nm,19.3s,baz=58,slow=32
C19A Slack Wire Ran 45.69 65 P P 22 33 47.3 -1.0
baz=46
QLMT Earthquake Lak 45.96 69 eP P 22 33 50.0 -0.7
ELK Elko 46.11 76 eP P 22 33 52.0 +0.1
comp=Z,3.4nm,0.7s
MTUM Tungsten Hills 46.17 82 eP P 22 33 54.2 +1.7
TPH Tonopah 46.54 80 eP P 22 33 55.2 -0.1
TPH pmax pmax
comp=Z,7.0nm,0.8s
TPH Tonopah 46.54 80 eP P 22 33 55.2 -0.1
comp=Z,6.7nm,0.8s
NJ2 Nanjing 46.64 269 eP P 22 33 55.5 -0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
H17A Grant Village 46.71 69 eP P 22 33 56.7 +0.1
HVU Hansel Valley 46.96 73 eP P 22 33 58.4 -0.1
HVU pmax pmax
comp=Z,7.0nm,0.7s
HVU Hansel Valley 46.96 73 eP P 22 33 58.4 -0.1
comp=Z,6.5nm,0.7s
TPAW Teton Pass 47.02 70 eP P 22 33 60.0 +0.9
comp=Z,281nm,0.5s
CWC Cottonwood Cre 47.05 83 P P 22 33 59.2 -0.1
baz=47
FCC Fort Churchill 47.31 45 eP P 22 34 00.2 -0.5
FCC Fort Churchill 47.31 45 eP P 22 34 00.1 -0.5
BGU Big Grassy Mou 47.33 75 eP P 22 34 01.4 0.0
comp=Z,1.8nm,0.8s
R11A Troy Canyon, C 47.37 79 eP P 22 34 01.7 -0.1
R11A Troy Canyon, C 47.37 79 P P 22 34 01.7 -0.1
baz=47
DAC Darwin (Calif) 47.46 82 eP P 22 34 00.1 -2.4
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC Darwin (Calif) 47.46 82 eP P 22 34 00.1 -2.4
comp=Z,2.8nm,0.8s
G20A Bridger 47.59 67 P P 22 34 02.3 -1.0
baz=47
C23A Lambert 47.80 63 P P 22 34 04.0 -0.8
baz=48
A24A Westby 47.81 61 P P 22 34 03.9 -0.9
baz=48
DUG Dugway 47.91 75 eP P 22 34 05.5 -0.3
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG Dugway 47.91 75 eP P 22 34 05.5 -0.3
comp=Z,7.1nm,0.9s
DUG Dugway 47.91 75 P P 22 34 05.2 -0.6
baz=48
LRMC Laurel Mountai 47.92 83 P P 22 34 05.8 -0.1
baz=48
BW06 Boulder Array 48.27 70 eP P 22 34 08.2 -0.6
comp=Z,4.8nm,0.9s
PD31 Pinedale Array 48.27 70 eP P 22 34 08.1 -0.6
PDAR Pinedale Array 48.27 70 P P 22 34 07.5 -1.2
PDAR ScP ScP 22 39 22.6 -0.8
PDAR Pinedale Array 48.27 70 P P 22 34 07.5 -1.2
comp=Z,4.3nm,0.7s,baz=295,slow=4.0,SNR=10
PDAR ScP ScP 22 39 22.6 -0.8
comp=Z,2.0nm,1.0s,baz=278,slow=2.5,SNR=7.3
PDAR LR LR 22 55 27.1
comp=Z,45nm,18.2s,baz=320,slow=37
I20A Worland 48.39 68 P P 22 34 08.5 -1.0
baz=48
GSC Goldstone 48.58 83 eP P 22 34 11.0 0.0
GSC pmax pmax
comp=Z,3.0nm,0.8s
GSC Goldstone 48.58 83 eP P 22 34 11.0 0.0
comp=Z,2.6nm,0.8s
GSC Goldstone 48.58 83 P P 22 34 11.2 +0.3
baz=48
DAU Daniels Canyon 48.70 74 eP P 22 34 12.1 -0.1
DAU Daniels Canyon 48.70 74 eP P 22 34 12.1 -0.1
BFSC Mount Baldy Ra 48.75 85 P P 22 34 12.7 +0.3
baz=49
TUQ Turquoise Moun 49.03 82 P P 22 34 14.8 +0.3
baz=49
HEC Hector,Ludlow 49.18 83 P P 22 34 15.5 -0.1
baz=49
CCUT Cedar City 49.24 78 eP P 22 34 16.4 +0.2
comp=Z,15nm,1.9s
MVU Marysvale 49.33 77 eP P 22 34 16.7 -0.2
comp=Z,8.1nm,1.4s
KBS Kingsbay 49.38 356 eP P 22 34 16.8 +0.4
KBS pmax pmax
comp=Z,251nm,2.0s
KBS Kingsbay 49.38 356 eP P 22 34 16.8 +0.4
comp=Z,251nm,2.0s
TMUT Trail Mountain 49.43 75 eP P 22 34 20.4 +2.7
comp=Z,13nm,1.0s
GMRC Granite Mounta 49.63 83 P P 22 34 19.0 -0.1
baz=50
LDFC Landfair 49.77 82 eP P 22 34 20.1 0.0
comp=Z,8.1nm,0.8s
KNB Kanab 49.91 78 eP P 22 34 21.3 +0.1
KNB pmax pmax
comp=Z,8.0nm,0.9s
KNB Kanab 49.91 78 eP P 22 34 21.3 +0.1
comp=Z,7.6nm,0.9s
BELC Belle Mtn. Jos 49.93 84 P P 22 34 21.1 -0.4
baz=50
SRU San Rafael 49.96 75 eP P 22 34 22.4 +0.8
SRU pmax pmax
comp=Z,35nm,1.9s
SRU San Rafael 49.96 75 eP P 22 34 22.4 +0.8
comp=Z,35nm,1.9s
IRM Iron Mountain 50.35 83 P P 22 34 23.8 -0.7
baz=50
BAR Barrett 50.40 85 eP P 22 34 24.9 +0.1
comp=Z,21nm,0.8s
BC3 Big Chuckawall 50.50 84 P P 22 34 24.8 -0.9
baz=50
U15A North Rim 50.62 79 P P 22 34 26.5 -0.2
baz=50
L23A Garrett 50.92 69 P P 22 34 27.6 -1.3
baz=51
PV09 Paradox Valley 51.19 75 eP P 22 34 30.1 -0.9
ULM Lac du Bonnet 51.31 55 P P 22 34 30.5 -0.9
ULM Lac du Bonnet 51.31 55 P P 22 34 30.5 -0.9
comp=Z,1.8nm,0.5s,baz=308,slow=9.8,SNR=4.6
ULM LR LR 22 57 23.8
comp=Z,159nm,19.2s,baz=320,slow=37
PV10 Paradox Valley 51.32 75 eP P 22 34 32.5 +0.6
I26A New Underwood 51.36 65 P P 22 34 31.0 -0.9
baz=51
PV04 Paradox Valley 51.39 74 eP P 22 34 33.4 +1.0
XAN Xi'an 51.47 278 P P 22 34 33.0 +0.2
XAN pmax pmax
comp=Z,2.0nm,1.2s
O23A Lake Granby, G 52.00 71 P P 22 34 36.4 -0.7
baz=52
ZAA0 Zalesovo Array 52.23 312 eP P 22 34 36.9 -1.3
ZALV Zalesovo Beam 52.23 312 P P 22 34 37.2 -1.0
ZALV Zalesovo Beam 52.23 312 P P 22 34 37.1 -1.0
ZALV Zalesovo Beam 52.23 312 P P 22 34 37.1 -1.0
comp=Z,3.8nm,0.6s,baz=50,slow=7.2,SNR=21
MVCO Mesa Verde 52.41 75 eP P 22 34 40.2 +0.2
comp=Z,11nm,1.3s
NVS Novosibirsk 52.41 313 iP P 22 34 38.0 -1.4
NVS e 22 34 51.9
NVS e 22 35 45.8
NVS e 22 36 36.7
NVS pmax pmax
comp=N,11nm,1.0s
NVS pmax pmax
comp=E,15nm,1.0s
NVS pmax pmax
comp=Z,34nm,1.0s
LZH Lanzhou 53.21 284 ⇓P P 22 34 47.0 +1.1
LZH pP pP 22 35 05.5 +2.8
LZH sP sP 22 35 10.5 +0.4
LZH S S 22 42 13.0 +1.0
LZH sS sS 22 42 38.3 -2.2
LZH SS SS 22 45 49.0 -2.8
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,150nm,7.4s
LZH LR LR
comp=Z,340nm,17.1s
LZH LR LR
comp=Z,220nm,18.3s
LZH LR LR
comp=Z,350nm,16.4s
214A Organ Pipe Nat 53.29 83 P P 22 34 45.7 -0.6
baz=53
GTA Gaotai 53.43 289 ⇓P P 22 34 48.0 +0.6
GTA pP pP 22 35 04.8 +0.6
GTA sP sP 22 35 13.3 +1.7
GTA S S 22 42 16.5 +1.7
GTA sS sS 22 42 45.5 +2.1
GTA pmax pmax
comp=Z,28nm,1.0s
GTA pmax pmax
comp=Z,92nm,5.7s
GTA LR LR
comp=Z,150nm,16.2s
GTA LR LR
comp=Z,140nm,16.6s
GTA LR LR
comp=Z,130nm,16.2s
P25A Willow Gulch B 53.48 70 P P 22 34 48.0 +0.1
baz=53
SUMG Summit 53.51 13 eP P 22 34 47.6 -0.2
SUMG pmax pmax
comp=Z,34nm,1.7s
SUMG Summit 53.51 13 iP P 22 34 47.1 -0.7
comp=Z,4.6nm,0.8s
SUMG Summit 53.51 13 eP P 22 34 47.6 -0.2
comp=Z,34nm,1.7s
OGNE Ogallala 53.79 68 P P 22 34 49.4 -0.5
baz=54
Q25A Bedland, Calha 53.82 71 P P 22 34 50.1 -0.3
baz=54
SDCO Great Sand Dun 53.85 73 eP P 22 34 50.6 -0.1
comp=Z,36nm,2.5s
U22A Llaves 53.95 75 P P 22 34 51.6 +0.3
baz=54
S24A Houchin Ranch, 54.09 73 P P 22 34 52.1 -0.3
baz=54
TUC Tucson 54.29 81 eP P 22 34 52.7 -1.0
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 54.29 81 eP P 22 34 52.6 -1.0
comp=Z,3.9nm,0.8s
R25A Fountain Ranch 54.31 72 P P 22 34 53.4 -0.4
baz=54
T24B San Luis 54.37 73 P P 22 34 54.8 +0.3
baz=54
R26A Arlington 54.70 71 P P 22 34 56.4 -0.3
baz=54
V23A Ortiz Mt. (NFS 54.77 75 P P 22 34 57.2 -0.1
baz=55
O29A 4D Ranch, Culb 55.04 68 P P 22 34 58.7 -0.2
baz=55
R27A Eads 55.09 71 P P 22 34 59.2 -0.2
baz=55
LAZ Ladron 55.10 77 eP P 22 35 01.1 +1.4

S26A	**Kim**	**55.13**	**72**	P		**P**	**22 34 59.2**	**-0.6**
	baz=55								
T26A	**Comanche Natio**	**55.36**	**72**	P		**P**	**22 35 01.4**	**-0.1**
	baz=55								
U26A	**Atchley Ranch,**	**55.80**	**73**	P		**P**	**22 35 04.4**	**-0.2**
	baz=56								
319A	**Douglas**	**55.86**	**81**	P		**P**	**22 35 04.9**	**-0.1**
	baz=56								
Y23A	**Lovelace Mesa,**	**56.08**	**77**	P		**P**	**22 35 05.8**	**-0.9**
	baz=56								
W25A	**X Bar L Ranch,**	**56.16**	**74**	P		**P**	**22 35 06.2**	**-1.0**
	baz=56								
Y24A	**Capitan**	**56.45**	**76**	P		**P**	**22 35 09.0**	**-0.3**
	baz=56								
R30A	**Dighton**	**56.56**	**69**	P		**P**	**22 35 09.1**	**-0.8**
	baz=56								
U28A	**Mallet**	**56.71**	**72**	P		**P**	**22 35 10.6**	**-0.4**
	baz=56								
CD2	**Chengdu**	**56.79**	**279**	P		**P**	**22 35 12.0**	**+0.4**
CD2				sP		**sP**	**22 35 38.3**	**+2.4**
CD2				S		**S**	**22 42 58.0**	**-1.7**
CD2				SS		**SS**	**22 46 47.8**	**-0.3**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CD2				pmax	pmax				
	comp=Z,150nm,7.1s								
CD2				LR	LR				
	comp=Z,170nm,16.6s								
CD2				LR	LR				
	comp=Z,130nm,16.2s								
KEV	**Kevo**	**57.01**	**348**	*e*P		**P**	**22 35 11.5**	**-1.0**
KEV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
KEV	**Kevo**	**57.01**	**348**	*e*p		**P**	**22 35 11.5**	**-1.0**
	comp=Z,1.5nm,0.3s								
KEV	**Kevo**	**57.01**	**348**	*e*P		**P**	**22 35 11.3**	**-1.2**
	comp=Z,335nm,2.5s								
Q32A	**Meitler Ranch,**	**57.08**	**67**	P		**P**	**22 35 12.1**	**-1.4**
	baz=57								
KURK	**Kurchatov**	**57.23**	**312**	*e*P		**P**	**22 35 14.4**	**+0.1**
KURK				pmax	pmax				
	comp=Z,40nm,1.0s								
KURK	**Kurchatov**	**57.23**	**312**	*e*P		**P**	**22 35 14.3**	**+0.1**
	comp=Z,40nm,1.0s								
WMQ	**Urumqi**	**57.34**	**301**	P		**P**	**22 35 18.0**	**+2.7**
WMQ				pP		**pP**	**22 35 34.0**	**+1.6**
WMQ				sP		**sP**	**22 35 41.0**	**+1.3**
WMQ				PcP		**PcP**	**22 36 11.8**	**+3.1**
WMQ				PP		**PP**	**22 37 27.0**	**+4.2**
WMQ				ScP		**ScP**	**22 40 04.8**	**+2.3**
WMQ				S		**S**	**22 43 07.3**	**+0.6**
WMQ				ScS		**ScS**	**22 44 58.0**	**-0.6**
WMQ				SS		**SS**	**22 46 58.3**	**+2.0**
WMQ				pmax	pmax				
	comp=Z,28nm,0.6s								
WMQ				pmax	pmax				
	comp=Z,110nm,4.6s								
WMQ				LR	LR				
	comp=Z,250nm,25.8s								
WMQ				LR	LR				
	comp=Z,230nm,29.9s								
WMQ				LR	LR				
	comp=Z,120nm,16.6s								
ARA0	**ARCESS Array S**	**57.41**	**349**	*e*P		**P**	**22 35 14.4**	**-0.9**
ARCES	**ARCESS Array B**	**57.41**	**349**	P		**P**	**22 35 14.6**	**-0.7**
ARCES	**ARCESS Array B**	**57.41**	**349**	P		**P**	**22 35 14.6**	**-0.7**
	comp=Z,9.1nm,0.6s,baz=27,slow=8.1,SNR=67								
ARCES				LR	LR		22 59 58.6		
	comp=Z,85nm,22.0s,baz=66,slow=36								
Y26A	**Elida**	**57.43**	**75**	P		**P**	**22 35 15.4**	**-0.8**
	baz=57								
Q33A	**Connelly Farm,**	**57.49**	**67**	P		**P**	**22 35 15.0**	**-1.4**
	baz=57								
125A	**Gardner Draw,**	**57.80**	**77**	P		**P**	**22 35 18.1**	**-0.7**
	baz=58								
Y27A	**Causey**	**57.85**	**75**	P		**P**	**22 35 18.4**	**-0.7**
	baz=58								
MNTX	**Cornudas Mount**	**58.03**	**78**	*e*P		**P**	**22 35 20.3**	**0.0**
	comp=Z,4.5nm,1.0s								
MSTX	**Muleshoe**	**58.03**	**74**	P		**P**	**22 35 19.7**	**-0.6**
	baz=58								
MKAR	**Makanchi Array**	**58.13**	**306**	P		**P**	**22 35 20.3**	**-0.5**
MKAR				pmax	pmax				
	comp=Z,12nm,0.8s								
MKAR	**Makanchi Array**	**58.13**	**306**	*e*P		**P**	**22 35 20.1**	**-0.7**
MKAR	**Makanchi Array**	**58.13**	**306**	P		**P**	**22 35 20.3**	**-0.5**
	comp=Z,12nm,0.8s,baz=48,slow=6.8,SNR=128								
GYA	**Guiyang**	**58.13**	**273**	*e*P		**P**	**22 35 21.3**	**+0.1**
GYA				pP		**pP**	**22 35 39.8**	**+1.6**
GYA				sP		**sP**	**22 35 47.5**	**+1.9**
GYA				PP		**PP**	**22 37 32.3**	**+2.0**
GYA				ScP		**ScP**	**22 40 04.0**	**-2.4**
GYA				S		**S**	**22 43 15.5**	**-2.1**
GYA				sS		**sS**	**22 43 45.8**	**-0.7**
GYA				SS		**SS**	**22 47 08.3**	**-1.3**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=Z,440nm,18.9s								
GYA				LR	LR				
	comp=Z,380nm,19.0s								
GYA				LR	LR				
	comp=Z,430nm,18.4s								
MK01	**Makanchi Array**	**58.14**	**306**	*e*P		**P**	**22 35 19.9**	**-0.9**
226B	**Tecolote Peak,**	**58.50**	**77**	P		**P**	**22 35 23.2**	**-0.5**
	baz=58								
U32A	**Winter Ranch,**	**58.60**	**70**	P		**P**	**22 35 23.2**	**-1.0**
	baz=58								
425A	**Indio Mountain**	**58.91**	**79**	P		**P**	**22 35 26.2**	**-0.4**
	baz=59								
128A	**Castleberry Fa**	**59.14**	**75**	P		**P**	**22 35 27.2**	**-0.9**
	baz=59								
326A	**Caldwell Ranch**	**59.15**	**77**	P		**P**	**22 35 28.0**	**-0.1**
	baz=59								
VOSK	**Vostochnaya**	**59.21**	**317**	*e*P		**P**	**22 35 27.8**	**-0.3**
VOSK				pmax	pmax				
	comp=Z,22nm,0.8s								
VOSK	**Vostochnaya**	**59.21**	**317**	*e*P		**P**	**22 35 27.8**	**-0.3**
	comp=Z,22nm,0.8s								
BRVK	**Borovoye**	**59.26**	**318**	*d i*P		**P**	**22 35 28.6**	**+0.2**
BRVK				pmax	pmax				
	comp=Z,43nm,0.8s								
BRVK	**Borovoye**	**59.26**	**318**	*e*P		**P**	**22 35 28.2**	**-0.2**
	comp=Z,36nm,0.7s								
SOKR	**Solikamsk**	**59.28**	**330** ⇑	*i*P		**P**	**22 35 29.4**	**+1.0**
SOKR				pmax	pmax				
	comp=Z,20nm,1.1s								
426A	**McDonald Obser**	**59.57**	**78**	P		**P**	**22 35 30.8**	**-0.5**
	baz=59								
328A	**Wristen Ranch,**	**59.81**	**77**	P		**P**	**22 35 32.2**	**-0.5**
	baz=60								
526A	**Mary Lane Ranc**	**59.97**	**79**	P		**P**	**22 35 33.2**	**-0.7**
	baz=60								
Y32A	**R-V Farms, Ver**	**59.99**	**72**	P		**P**	**22 35 33.2**	**-0.6**
	baz=60								
SVE	**Sverdlovsk**	**60.15**	**326** ⇑	*e*P		**P**	**22 35 35.5**	**+1.0**
SVE				pmax	pmax				
	comp=Z,21nm,0.8s								
626A	**Big Bend Ranch**	**60.30**	**79**	P		**P**	**22 35 36.1**	**0.0**
	baz=60								
428A	**Kincaid Ranch,**	**60.35**	**77**	P		**P**	**22 35 36.2**	**-0.2**
	baz=60								
131A	**Roby**	**60.36**	**74**	P		**P**	**22 35 35.9**	**-0.5**
	baz=60								
Z32A	**Haskell**	**60.46**	**73**	P		**P**	**22 35 36.8**	**-0.2**
	baz=60								
528A	**Cox Ranch, San**	**60.69**	**78**	P		**P**	**22 35 38.7**	**-0.1**
	baz=60								
TX31	**Lajitas Ar. Si**	**60.74**	**79**	*e*P		**P**	**22 35 38.7**	**-0.3**
TXAR	**Lajitas Array**	**60.74**	**79**	P		**P**	**22 35 39.1**	**+0.1**
TXAR				ScP		**ScP**	**22 40 17.6**	**-0.2**
TXAR	**Lajitas Array**	**60.74**	**79**	P		**P**	**22 35 39.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=302,slow=5.2,SNR=31								
TXAR				ScP		**ScP**	**22 40 17.6**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=292,slow=4.8,SNR=7.0								
PRGR	**Permogore**	**60.78**	**336**	*e*P		**P**	**22 35 37.8**	**-0.9**
PRGR				pmax	pmax				
	comp=Z,28nm,0.9s								
627A	**Terlingua Ranc**	**60.83**	**79**	P		**P**	**22 35 39.4**	**-0.3**
	baz=61								
529A	**Stev Forest Ra**	**61.06**	**77**	P		**P**	**22 35 40.5**	**-0.7**
	baz=61								
SCHQ	**Schefferville**	**61.09**	**37**	*e*P		**P**	**22 35 39.5**	**-1.5**
	comp=Z,234nm,2.5s								
SCHQ	**Schefferville**	**61.09**	**37**	P		**P**	**22 35 40.0**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=311,slow=7.1,SNR=7.2								
628A	**Black Gap, Mar**	**61.11**	**78**	P		**P**	**22 35 40.9**	**-0.6**
	baz=61								
ARU	**Arti**	**61.18**	**326**	P		**P**	**22 35 42.6**	**+1.1**
	comp=Z,249nm,0.7s,SNR=19								
ARU	**Arti**	**61.18**	**326**	*d i*P		**P**	**22 35 41.9**	**+0.4**
ARU							22 36 22.7		
ARU							22 37 55.2		
ARU					S	**S**	**22 43 58.6**	**+2.8**
ARU					SS	**SS**	**22 47 57.4**	**+1.7**
ARU					pmax	pmax			
	comp=Z,46nm,1.2s								
430A	**Baggett Ranch,**	**61.18**	**76**	P		**P**	**22 35 41.6**	**-0.4**
	baz=61								
133A	**Hamilton Ranch**	**61.29**	**73**	P		**P**	**22 35 42.1**	**-0.5**
	baz=61								
Z34A	**Collier Ranch,**	**61.34**	**72**	P		**P**	**22 35 42.3**	**-0.7**
	baz=61								
232A	**Coleman**	**61.36**	**74**	P		**P**	**22 35 42.5**	**-0.7**
	baz=61								
KMI	**Kunming**	**61.54**	**275**	P		**P**	**22 35 44.0**	**-0.7**
KMI				pP		**pP**	**22 36 01.3**	**-0.6**
KMI				pmax	pmax				
	comp=Z,6.0nm,0.9s								
530A	**J-C Ranch, Com**	**61.58**	**77**	P		**P**	**22 35 44.1**	**-0.6**
	baz=61								
431A	**Sonora**	**61.64**	**76**	P		**P**	**22 35 44.5**	**-0.6**
	baz=62								
332A	**Millersview**	**61.66**	**74**	P		**P**	**22 35 44.4**	**-0.8**
	baz=62								
532A	**Rocksprings**	**62.46**	**76**	P		**P**	**22 35 49.8**	**-0.8**
	baz=62								
334A	**Lometa**	**62.60**	**73**	P		**P**	**22 35 50.9**	**-0.6**
	baz=62								
JOF	**Joensuu**	**62.73**	**343**	*e*P		**P**	**22 35 50.7**	**-1.0**
JOF				pmax	pmax				
	comp=Z,14nm,0.6s								
JOF	**Joensuu**	**62.73**	**343**	*e*p		**P**	**22 35 50.7**	**-1.0**
	comp=Z,14nm,0.6s								
KLMR	**Klimovskoe**	**62.93**	**339**	*e*P		**P**	**22 35 51.3**	**-1.9**
KLMR				pmax	pmax				
	comp=Z,40nm,1.5s								
434A	**Burnet**	**62.95**	**74**	P		**P**	**22 35 53.3**	**-0.5**
	baz=63								
SLVN	**Son La**	**63.59**	**271**	*e*P		**P**	**22 35 59.3**	**+1.1**
832A	**Faith Ranch, C**	**63.74**	**77**	P		**P**	**22 35 58.4**	**-0.6**
	baz=64								
TKM2	**Tokmak 2**	**64.23**	**307**	*i*P		**P**	**22 36 02.8**	**+0.6**
TKM2	**Tokmak 2**	**64.23**	**307**	P		**P**	**22 36 02.9**	**+0.6**
	SNR=17								
TKM2	**Tokmak 2**	**64.23**	**307**	*e*P		**P**	**22 36 02.2**	**-0.1**
	comp=Z,18nm,0.9s								
KAF	**Kangasniemi**	**64.31**	**346**	*e*P		**P**	**22 36 01.2**	**-1.0**
KAF				pmax	pmax				
	comp=Z,14nm,0.7s								
KAF	**Kangasniemi**	**64.31**	**346**	*e*p		**P**	**22 36 01.2**	**-1.0**
	comp=Z,14nm,0.7s								
USP	**Ospenovka**	**64.51**	**308**	*i*P		**P**	**22 36 04.7**	**+0.8**
USP	**Ospenovka**	**64.51**	**308**	P		**P**	**22 36 04.8**	**+0.8**
	SNR=27								
CHMS	**Chumysh**	**64.59**	**308**	*i*P		**P**	**22 36 05.0**	**+0.6**
CHMS	**Chumysh**	**64.59**	**308**	P		**P**	**22 36 05.1**	**+0.6**
	SNR=13								
KBK	**Karagaybulak**	**64.74**	**307**	P		**P**	**22 36 06.3**	**+0.6**
	SNR=5.8								
FINES	**FINESS Array B**	**64.98**	**345**	P		**P**	**22 36 05.9**	**-0.7**
FINES	**FINESS Array B**	**64.98**	**345**	P		**P**	**22 36 05.9**	**-0.7**
	comp=Z,8.9nm,0.5s,baz=8.8,slow=7.2,SNR=66								
FINES				LR		LR	23 08 06.1		
	comp=Z,122nm,19.2s,baz=90,slow=39								
AAK	**Ala-Archa**	**64.99**	**308**	P		**P**	**22 36 07.0**	**-0.2**
	comp=Z,153nm,0.7s,SNR=16								
AAK	**Ala-Archa**	**64.99**	**308**	*d*P		**P**	**22 36 07.7**	**+0.5**
AAK				pmax	pmax				
	comp=Z,93nm,1.7s								
AAK	**Ala-Archa**	**64.99**	**308**	P		**P**	**22 36 07.8**	**+0.6**
	SNR=22								
AAK	**Ala-Archa**	**64.99**	**308**	*e*P		**P**	**22 36 07.6**	**+0.4**
	comp=Z,18nm,0.8s								
KZA	**Kyzart**	**65.02**	**307**	*i*P		**P**	**22 36 08.6**	**+0.9**
KZA	**Kyzart**	**65.02**	**307**	P		**P**	**22 36 08.7**	**+0.9**
	SNR=10								
UCH	**Uchtor**	**65.28**	**307**	*i*P		**P**	**22 36 10.1**	**+0.7**
UCH	**Uchtor**	**65.28**	**307**	P		**P**	**22 36 10.2**	**+0.7**
	SNR=7.9								
LSA	**Lhasa**	**65.29**	**287**	P		**P**	**22 36 10.5**	**+0.8**
LSA	**Lhasa**	**65.29**	**287**	*e*P		**P**	**22 36 09.2**	**-0.5**
LSA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
LSA	**Lhasa**	**65.29**	**287**	*e*P		**P**	**22 36 09.2**	**-0.5**
	comp=Z,9.9nm,0.8s								
EKS2	**Erkin-Say**	**65.32**	**308**	*i*P		**P**	**22 36 10.1**	**+0.9**
EKS2	**Erkin-Say**	**65.32**	**308**	P		**P**	**22 36 10.2**	**+0.9**
	SNR=20								
EKS2	**Erkin-Say**	**65.32**	**308**	*e*P		**P**	**22 36 09.8**	**+0.5**
	comp=Z,24nm,0.9s								
AML	**Almayashu**	**65.75**	**308**	P		**P**	**22 36 13.5**	**+1.1**
	SNR=20								
PUL	**Pulkovo**	**65.83**	**343** ⇑	*e*P		**P**	**22 36 12.3**	**+0.2**
PUL				pmax	pmax				
	comp=Z,45nm,0.9s								
AKTO	**Aktyubinsk**	**66.16**	**323**	LR		LR	23 06 42.7		
	comp=Z,115nm,19.5s,baz=57,slow=37								
ABKAR	**Akbulak array**	**66.36**	**321**	*e*P		**P**	**22 36 15.8**	**+0.1**
KKAR	**Karatay Array**	**66.56**	**310**	*e*P		**P**	**22 36 17.3**	**+0.2**
KKAR	**Karatay Array**	**66.56**	**310**	*e*P		**P**	**22 36 17.2**	**+0.2**
KSH	**Kashi**	**66.56**	**304** ⇓	*i*P		P	22 36 21.0	+3.7
KSH				*e*PP		PP	22 38 50.3	+6.3
KSH				*e*PcS			22 40 53.0		
KSH				*e*S		**S**	**22 45 05.3**	**+2.1**
KSH				*e*sS		sS	22 45 39.0	+6.4
KSH				*e*SS		**SS**	**22 49 25.0**	**+4.5**
KSH				pmax	pmax				
	comp=Z,18nm,0.6s								
KSH				pmax	pmax				
	comp=Z,36nm,3.5s								
KSH				LR	LR				
	comp=Z,110nm,5.5s								
KSH				LR	LR				
	comp=Z,130nm,4.2s								
KSH				LR	LR				
	comp=Z,100nm,5.5s								
SSPA	**Standing Stone**	**67.05**	**53**	*e*P		**P**	**22 36 18.9**	**-1.3**
	comp=Z,70nm,1.9s								
NB2	**NORSAR Subarra**	**67.12**	**353**	P		**P**	**22 36 20.0**	**-0.3**
	comp=Z,19nm,0.7s,baz=8.1,slow=6.5								
NB2	**NORSAR Subarra**	**67.12**	**353**	P		**P**	**22 36 20.0**	**-0.3**
	baz=8.1,slow=6.5								
NOA	**NORSAR Array B**	**67.12**	**353**	P		**P**	**22 36 20.1**	**-0.3**
NOA	**NORSAR Array B**	**67.12**	**353**	P		**P**	**22 36 20.1**	**-0.3**
	comp=Z,8.4nm,0.7s,baz=10.0,slow=6.6,SNR=68								
NBO02	**NORSAR Array S**	**67.14**	**353**	*e*P		**P**	**22 36 19.3**	**-1.2**
VSU	**Vasula**	**67.70**	**344** ⇑	*i*P		**P**	**22 36 24.0**	**0.0**
VSU				pmax	pmax				
	comp=Z,71nm,0.9s								
TKL	**Tuckaleechee C**	**67.72**	**61**	*e*P		**P**	**22 36 21.9**	**-2.6**
SHL	**Shillong**	**67.88**	**283**	*e*P		**P**	**22 36 27.0**	**+1.1**
MOS	**Moscow**	**67.97**	**337**	*e*P		**P**	**22 36 24.6**	**-1.1**
MOS				pmax	pmax				
	comp=Z,55nm,1.2s								
CHTO	**Chiang Mai**	**68.56**	**273**	*e*P		**P**	**22 36 29.7**	**-0.3**
CHTO	**Chiang Mai**	**68.56**	**273**	*e*P		**P**	**22 36 29.7**	**-0.3**
	comp=Z,0.9nm,0.9s								
KONO	**Kongsberg**	**68.62**	**354**	*e*P		**P**	**22 36 29.8**	**+0.1**
KONO				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KONO	**Kongsberg**	**68.62**	**354**	*e*P		**P**	**22 36 29.8**	**+0.1**
	comp=Z,8.3nm,0.9s								
OBN	**Obninsk**	**68.79**	**337** ⇑	*i*P		**P**	**22 36 31.1**	**+0.3**
OBN				*e*S		**S**	**22 45 31.5**	**+2.5**
OBN				pmax	pmax				
	comp=Z,64nm,2.5s								
OBN				MLR	MLR				
	comp=Z,100nm,18.0s								
OBN	**Obninsk**	**68.79**	**337**	*e*P		**P**	**22 36 31.0**	**+0.1**
	comp=Z,38nm,1.1s								
CMAR	**Chiang Mai Arr**	**68.83**	**273**	P		**P**	**22 36 31.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**68.83**	**273**	P		**P**	**22 36 31.2**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=27,slow=7.2,SNR=16								
CM01	**Chiang Mai Arr**	**68.84**	**273**	*e*P		**P**	**22 36 30.4**	**-1.4**
TAPN	**Taplejung**	**69.06**	**288**	*e*P		**P**	**22 36 33.9**	**+0.5**
	comp=Z,30nm,0.8s								
ODAN	**Odare**	**69.61**	**288**	*e*P		**P**	**22 36 37.2**	**+0.5**
	comp=Z,9.0nm,0.5s								
GUN	**Gumba**	**69.72**	**289**	*e*P		**P**	**22 36 38.4**	**+0.9**
	comp=Z,59nm,0.5s								
JIRN	**Jiri**	**69.73**	**289**	*e*P		**P**	**22 36 38.5**	**+0.9**
	comp=Z,51nm,0.6s								
RAMN	**Ramite**	**70.01**	**288**	*e*P		**P**	**22 36 39.9**	**+0.7**
	comp=Z,50nm,0.5s								
KKN	**Kakani**	**70.16**	**290**	*e*P		**P**	**22 36 40.8**	**+0.7**
	comp=Z,25nm,0.5s								
PKI	**Pulchoki**	**70.25**	**290**	*e*P		**P**	**22 36 41.3**	**+0.6**
	comp=Z,27nm,0.5s								
PKIN	**Phulchoki**	**70.25**	**290**	*e*P		**P**	**22 36 41.2**	**+0.5**
	comp=Z,23nm,0.5s								
GKN	**Gorkha**	**70.38**	**290**	*e*P		**P**	**22 36 41.7**	**+0.4**
	comp=Z,58nm,0.9s								
DMN	**Daman**	**70.40**	**290**	*e*P		**P**	**22 36 42.4**	**+0.8**
	comp=Z,9.4nm,0.4s								
DANN	**Dangsing**	**70.63**	**291**	*e*P		**P**	**22 36 43.8**	**+0.8**
	comp=Z,80nm,1.0s								
VRHR	**Novokhopersk**	**71.07**	**332**	*e*P		**P**	**22 36 43.1**	**-1.8**
VRHR				pmax	pmax				
	comp=N,30nm,0.8s								
VRHR				pmax	pmax				
	comp=E,20nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,20nm,0.8s								
KOLN	**Koldanda**	**71.16**	**291**	*e*P		**P**	**22 36 46.6**	**+0.5**
	comp=Z,22nm,0.6s								
CNNC	**Cliffs of the**	**71.17**	**57**	*e*P		P	22 36 52.2	+6.5
	comp=Z,32nm,0.5s								
PYUN	**Piuthan**	**71.27**	**292**	*e*P		**P**	**22 36 47.3**	**+0.5**
	comp=Z,79nm,0.8s								
VSR	**Storozhevoye**	**71.66**	**334**	*e*P		**P**	**22 36 47.5**	**-0.9**
VSR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VSR				pmax	pmax				
	comp=E,2.0nm,0.7s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MUD	**Monsted U'grnd**	**71.82**	**353**	*i*P		**P**	**22 36 49.6**	**+0.3**
MUD				pmax	pmax				
	comp=Z,18nm,0.9s								
MUD	**Monsted U'grnd**	**71.82**	**353**	*i*P		**P**	**22 36 49.6**	**+0.3**
	comp=Z,18nm,0.9s								
VORD	**Divnogorie**	**71.85**	**334**	*e*P		**P**	**22 36 49.2**	**-0.4**
VORD				pmax	pmax				
	comp=N,100nm,0.8s								
VORD				pmax	pmax				
	comp=E,110nm,0.8s								
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
SUW	**Suwalki**	**72.55**	**345**	*e*P		**P**	**22 36 53.2**	**-0.5**
SUW	**Suwalki**	**72.55**	**345**	*e*P		**P**	**22 36 53.2**	**-0.5**
SUW	**Suwalki**	**72.55**	**345**	*e*P		**P**	**22 36 52.6**	**-1.1**
	comp=Z,25nm,0.8s								
PMOR	**Pomariorio Ree**	**72.82**	**145**	*e*T		T	23 56 07.2		
	comp=Z,13nm,0.2s								
KBL	**Kabul**	**73.92**	**306**	*e*P		**P**	**22 37 02.0**	**-0.4**
KBL				pmax	pmax				
	comp=Z,29nm,0.8s								
KBL	**Kabul**	**73.92**	**306**	*e*P		**P**	**22 37 02.0**	**-0.4**
	comp=Z,29nm,0.8s								
DZM	**Mont Dzumac**	**74.09**	**191**	*e*LR		LR	22 59 59.1		
	comp=Z,300nm,24.8s								
BSEG	**Bad Segeberg**	**74.24**	**352**	*e*P		**P**	**22 37 04.4**	**+0.8**
	comp=Z,22nm,0.8s								
AKASG	**Malin Array Be**	**74.56**	**340**	P		**P**	**22 37 05.5**	**-0.1**
AKASG	**Malin Array Be**	**74.56**	**340**	P		**P**	**22 37 05.5**	**-0.1**
AKASG	**Malin Array Be**	**74.56**	**340**	P		**P**	**22 37 05.5**	**-0.1**
	comp=Z,6.3nm,0.3s,baz=16,slow=5.9,SNR=71								
KIEV	**Kiev**	**74.57**	**340**	*d i*P		**P**	**22 37 05.3**	**-0.3**
KIEV	**Kiev**	**74.57**	**340**	*e*P		**P**	**22 37 05.5**	**-0.2**
	comp=Z,30nm,0.9s								
AK11	**Malin Array Si**	**74.59**	**340**	*e*P		**P**	**22 37 05.2**	**-0.6**
PPT2	**Papeete2**	**74.64**	**148**	*e*LR		LR	23 00 00.0		
	comp=Z,110nm,21.8s								
NRDL	**Niedersach Rie**	**75.68**	**352**	*e*P		**P**	**22 37 12.2**	**+0.3**
	comp=Z,7.0nm,0.8s								
GOF	**Gofitskoye**	**76.02**	**329** ⇑	*i*P		**P**	**22 37 14.9**	**+0.8**
GOF				pmax	pmax				
	comp=Z,40nm,0.8s								
IBBN	**Ibbenburen**	**76.05**	**354**	*e*P		**P**	**22 37 14.8**	**+0.7**
	comp=Z,23nm,0.8s								
CLZ	**Clausthal**	**76.31**	**352**	*e*P		**P**	**22 37 16.3**	**+0.7**
	comp=Z,14nm,0.8s								
LVV	**L'vov**	**76.44**	**343**	*e*P		**P**	**22 37 16.5**	**+0.2**
IEMG	**Emamgholi**	**76.56**	**314**	*e*P		**P**	**22 37 18.8**	**+1.2**
CLL	**Collm**	**76.58**	**350** ⇓	*i*P		**P**	**22 37 16.5**	**-0.6**
CLL				pmax	pmax				
	comp=Z,5.0nm,0.6s								
CLL	**Collm**	**76.58**	**350**	*e*P		**P**	**22 37 16.5**	**-0.6**
	comp=Z,4.0nm,0.7s								
CLL	**Collm**	**76.58**	**350** ⇓	*i*P		**P**	**22 37 16.5**	**-0.6**
	comp=Z,5.0nm,0.6s								
KSP	**Ksiaz**	**76.65**	**348**	*e*P		**P**	**22 37 17.0**	**-0.6**
KSP	**Ksiaz**	**76.65**	**348**	*e*P		**P**	**22 37 17.6**	**0.0**
OJC	**Ojcow**	**76.76**	**346**	*e*P		**P**	**22 37 18.5**	**+0.3**
OJC				pmax	pmax				
	comp=Z,23nm,0.8s								
OJC	**Ojcow**	**76.76**	**346**	*e*P		**P**	**22 37 18.4**	**+0.3**
OJC	**Ojcow**	**76.76**	**346**	*e*P		**P**	**22 37 18.5**	**+0.3**
	comp=Z,23nm,

TNS Taunus Mts 78.07 353 *e*P **P 22 37 26.1 +0.5**
comp=Z,5.0nm,0.8s
BCLA Clavier 78.08 355 P **P 22 37 25.6 0.0**
VRAC Vranov 78.12 348⇑*i*P **P 22 37 26.4 +0.6**
ROTZ Rotzenmuhle 78.19 350 *e*P **P 22 37 26.8 +0.6**
comp=Z,3.0nm,0.9s
TREC Trest 78.28 348 *i* P **P 22 37 26.7 0.0**
BUR04 Bucovina Ar. S 78.32 341 *e*P **P 22 37 27.4 +0.4**
BURAR Bucovina Array 78.32 341⇓*i*P **P 22 37 27.6 +0.5**
TRPA Tarpa 78.33 343⇑*i*P **P 22 37 28.2 +1.3**
GRF Grafenberg Arr 78.36 351 *e*P **P 22 37 27.6 +0.5**
comp=Z,9.0nm,0.7s
BAIF Baives 78.50 356 *e*P **P 22 37 28.2 +0.4**
comp=Z,32nm,1.1s
BAIF Baives 78.50 356 *e*P **P 22 37 28.2 +0.4**
BAIF pmax pmax
comp=Z,32nm,1.1s
BAIF Baives 78.50 356 *e*P **P 22 37 28.2 +0.4**
comp=Z,32nm,1.1s
KHC Kasperske Hory 78.67 349 *e*P **P 22 37 27.4 -1.5**
KHC pmax pmax
comp=Z,9.0nm,0.9s
KHC Kasperske Hory 78.67 349 *i* P **P 22 37 29.5 +0.6**
KHC Kasperske Hory 78.67 349 *e*P **P 22 37 27.4 -1.5**
comp=Z,8.7nm,0.9s
WET Wettzell 78.73 350 *e*P **P 22 37 29.3 +0.1**
comp=Z,2.0nm,0.8s
GEC2 GERESS Array S 78.93 349 *e*P **P 22 37 30.0 -0.4**
GEC2 GERESS Array S 78.93 349 *e*P **P 22 37 30.4 0.0**
comp=Z,3.0nm,0.8s
GEC2 GERESS Array S 78.93 349 *e*P **P 22 37 30.0 -0.4**
GERES GERESS Array B 78.93 349 P **P 22 37 30.4 0.0**
GERES GERESS Array B 78.93 349 P **P 22 37 30.4 0.0**
comp=Z,2.4nm,0.6s,baz=24,slow=5.1,SNR=15
PSZ Piszkesteto 78.98 345 *e*P **P 22 37 30.6 -0.1**
PSZ pmax pmax
comp=Z,13nm,0.9s
PSZ Piszkesteto 78.98 345⇑*i*P **P 22 37 31.5 +0.8**
PSZ Piszkesteto 78.98 345 *e*P **P 22 37 30.6 -0.1**
comp=Z,13nm,0.9s
TESR Tescani 79.08 340⇑*i*P **P 22 37 31.4 +0.3**
IGLO Ghaloghah 79.42 317 *e*P **P 22 37 34.4 +1.0**
CONA Conrad Observa 79.57 348⇑*i*P **P 22 37 34.8 +0.9**
comp=Z,12nm,0.7s,SNR=5.9
DRGR 79.59 343⇓*i*P **P 22 37 34.7 +0.7**
VRI Vrincioaia 79.68 340⇑*i*P **P 22 37 35.4 +1.0**
PLOR Plostina 79.71 340⇑*i*P **P 22 37 35.3 +0.7**
GNI Garni 79.80 325 *e*P **P 22 37 36.0 +0.7**
comp=Z,51nm,1.3s
TLCR 79.86 338⇓*i*P **P 22 37 34.9 -0.4**
FUR Furstenfeldbru 79.86 351 *e*P **P 22 37 36.0 +0.6**
comp=Z,12nm,1.0s
IDAH Dahanechah 79.87 311 *e*P **P 22 37 36.6 +0.6**
PAGF Fort de Pagny 79.92 355 *e*P **P 22 37 36.2 +0.6**
comp=Z,15nm,0.9s
PAGF Fort de Pagny 79.92 355 *e*P **P 22 37 36.2 +0.6**
comp=Z,15nm,0.9s
CDF Champ du Feu 79.96 354 *e*P **P 22 37 35.9 -0.1**
comp=Z,14nm,0.7s
CDF Champ du Feu 79.96 354 *e*P **P 22 37 35.9 -0.1**
CDF pmax pmax
comp=Z,14nm,0.7s
CDF Champ du Feu 79.96 354 *e*P **P 22 37 35.9 -0.1**
comp=Z,14nm,0.7s
BFO Black Forest 79.96 353 *i* P **P 22 37 36.9 +1.0**
BFO Black Forest 79.96 353 *e*P **P 22 37 35.9 0.0**
comp=Z,5.0nm,0.7s
BFO Black Forest 79.96 353 *e*P **P 22 37 34.8 -1.1**
comp=Z,46nm,1.9s
MEZF Maizieres J'vi 80.01 355 *e*P **P 22 37 36.5 +0.4**
comp=Z,5.4nm,0.5s
MEZF Maizieres J'vi 80.01 355 *e*P **P 22 37 36.5 +0.4**
comp=Z,5.4nm,0.5s
CFR Carcaliu 80.02 339⇑*i*P **P 22 37 36.7 +0.5**
LDF La Druitiere 80.09 359 *e*P **P 22 37 36.5 -0.1**
LDF La Druitiere 80.09 359 *e*P **P 22 37 36.5 -0.1**
LDF La Druitiere 80.09 359 *e*P **P 22 37 36.5 -0.1**
RJOB Jochberg 80.13 350 *e*P **P 22 37 37.3 +0.4**
comp=Z,6.0nm,0.8s
LHMI Lhok Sumawe 80.20 266 *e*P **P 22 37 35.0 -2.6**
comp=Z,67nm,1.3s
MLR Muntele Rosu 80.20 340⇓*i*P **P 22 37 39.0 +1.6**
IANJ Anjilo 80.26 317 *e*P **P 22 37 39.2 +1.1**
ARSA Arzberg 80.28 348 *i* P **P 22 37 38.6 +1.0**
comp=Z,9.1nm,0.6s,SNR=5.6
SFTF Sexfontaines 80.30 355 *e*P **P 22 37 37.9 +0.2**
SFTF Sexfontaines 80.30 355 P **P 22 37 37.9 +0.2**
GRR Gorron 80.31 359 *e*P **P 22 37 37.9 +0.2**
comp=Z,12nm,0.7s
GRR Gorron 80.31 359 *e*P **P 22 37 37.9 +0.2**
GRR pmax pmax
comp=Z,12nm,0.7s
GRR Gorron 80.31 359 *e*P **P 22 37 37.9 +0.2**
comp=Z,12nm,0.7s
HAU Haudompre 80.43 354 *e*P **P 22 37 38.4 0.0**
comp=Z,10nm,0.6s
HAU Haudompre 80.43 354 *e*P **P 22 37 38.4 0.0**
HAU pmax pmax
comp=Z,11nm,0.6s
HAU Haudompre 80.43 354 *e*P **P 22 37 38.4 0.0**
comp=Z,10nm,0.6s
ISR Istrita 80.43 340⇑*i*P **P 22 37 39.7 +1.2**
VOIR 80.44 341⇑*i*P **P 22 37 40.0 +1.4**
HINF Hinteralfeld 80.58 354 *e*P **P 22 37 39.0 -0.3**
comp=Z,5.4nm,0.7s
HINF Hinteralfeld 80.58 354 *e*P **P 22 37 39.0 -0.3**
HINF pmax pmax
comp=Z,5.0nm,0.7s
HINF Hinteralfeld 80.58 354 *e*P **P 22 37 39.0 -0.3**
comp=Z,5.4nm,0.7s
RETA Reutte 80.59 351⇑*e*P **P 22 37 39.7 +0.4**
comp=Z,8.9nm,1.2s
ARR Arges 80.59 341⇑*i*P **P 22 37 40.9 +1.5**
TLB Topalu 80.60 339⇑*i*P **P 22 37 39.7 +0.4**
MTUR Matau 80.64 341⇓*i*P **P 22 37 41.6 +1.9**
TIRR Tirgusor 80.64 338 *e*P **P 22 37 39.8 +0.3**
TIRR pmax pmax
comp=Z,13nm,0.9s
TIRR Tirgusor 80.64 338⇑*i*P **P 22 37 40.1 +0.6**
TIRR Tirgusor 80.64 338 *e*P **P 22 37 39.8 +0.3**
comp=Z,13nm,0.9s
WATA Walderalm 80.66 351⇓*i*P **P 22 37 40.2 +0.4**
comp=Z,11nm,0.5s,SNR=9.0
MOTA Moosalm 80.69 351⇑*i*P **P 22 37 40.3 +0.3**
comp=Z,9.9nm,0.8s,SNR=7.5
KBA Koelnbreinsper 80.72 349 *i* PcP **P 22 37 41.5 +1.3**
comp=Z,66nm,1.0s,SNR=21
ILAS Lasjerd 80.74 317 *e*P **P 22 37 41.8 +1.2**
WRA Warramunga Arr 80.77 221 P **P 22 37 40.2 -0.2**
WRA Warramunga Arr 80.77 221 P **P 22 37 40.2 -0.2**
comp=Z,2.3nm,0.6s,baz=31,slow=5.8,SNR=22
PKSM Moragy 80.84 345⇑*i*P **P 22 37 40.7 +0.1**
SOKA Soboth 80.90 348⇑*i*P **P 22 37 41.9 +0.8**
comp=Z,35nm,1.1s,SNR=13
SULR 80.91 340⇑*i*P **P 22 37 41.6 +0.6**
BZS Buzias 80.92 343⇑*i*P **P 22 37 41.6 +0.5**
GZR Gura Zlata 80.93 342⇑*i*P **P 22 37 41.9 +0.7**
PERS Pernice 80.93 348 *i* P **P 22 37 42.2 +1.0**
FETA Feichten 81.05 351⇑*i*P **P 22 37 42.7 +0.7**
comp=Z,17nm,1.1s
MSAB Monastry St. A 81.12 339⇑*i*P **P 22 37 43.1 +1.0**
OBKA Obir 81.13 348⇑*i*P **P 22 37 43.0 +0.7**
comp=Z,33nm,0.9s,SNR=6.8
ABTA Abfaltersbach 81.14 350⇑*i*P **P 22 37 42.8 +0.5**
comp=Z,15nm,1.0s
LOR Lormes 81.30 356 *e*P **P 22 37 43.1 0.0**
LOR Lormes 81.30 356 *e*P **P 22 37 43.1 0.0**
PSN Preselentsi 81.43 338⇑*i*P **P 22 37 44.7 +1.0**
FUORN Ofenpass-Fuorn 81.49 351 *e*P **P 22 37 44.2 -0.2**
comp=Z,12nm,0.6s
SSF Saint Saulge 81.52 356 *e*P **P 22 37 44.4 +0.2**
comp=Z,12nm,0.8s
SSF Saint Saulge 81.52 356 *e*P **P 22 37 44.4 +0.2**
SSF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 81.52 356 *e*P **P 22 37 44.4 +0.2**
comp=Z,12nm,0.8s
LJU Ljubljana 81.59 348 *i* P **P 22 37 46.0 +1.4**
GCIS Gornji Cirnik 81.62 347 *i* P **P 22 37 45.3 +0.5**
TUE Stuetta 81.72 352 *e*P **P 22 37 45.8 +0.2**
comp=Z,221nm,0.5s
CABF La Chapelle 81.83 354 *e*P **P 22 37 46.3 +0.3**
CABF La Chapelle 81.83 354 *e*P **P 22 37 46.3 +0.3**
CABF La Chapelle 81.83 354 *e*P **P 22 37 46.3 +0.3**
SMF Signal de Mont 81.92 356 *e*P **P 22 37 46.4 +0.1**
comp=Z,13nm,0.7s
SMF Signal de Mont 81.92 356 *e*P **P 22 37 46.4 +0.1**
SMF pmax pmax
comp=Z,13nm,0.7s
SMF Signal de Mont 81.92 356 *e*P **P 22 37 46.4 +0.1**
comp=Z,13nm,0.7s
IRAZ Razeghan 81.98 319 *e*P **P 22 37 47.7 +0.6**
BOJS Bojanci 82.03 348 *i* P **P 22 37 47.4 +0.5**
MFF Saint Martin d 82.09 359 *e*P **P 22 37 47.8 +0.6**
MFF Saint Martin d 82.09 359 *e*P **P 22 37 47.8 +0.6**
MFF Saint Martin d 82.09 359 *e*P **P 22 37 47.8 +0.6**
TCF Toulx Ste Croi 82.34 357 *e*P **P 22 37 48.7 +0.1**
TCF Toulx Ste Croi 82.34 357 *e*P **P 22 37 48.7 +0.1**
TCF Toulx Ste Croi 82.34 357 *e*P **P 22 37 48.7 +0.1**
LPL La Plagne 82.88 354 *e*P **P 22 37 52.6 +1.0**
comp=Z,5.9nm,0.6s
LPL La Plagne 82.88 354 *e*P **P 22 37 52.6 +1.0**
LPL pmax pmax
comp=Z,6.0nm,0.6s
LPL La Plagne 82.88 354 *e*P **P 22 37 52.6 +1.0**
comp=Z,5.9nm,0.6s
LPG La Plagne 82.90 354 *e*P **P 22 37 52.7 +0.9**
comp=Z,37nm,1.1s
LPG La Plagne 82.90 354 *e*P **P 22 37 52.7 +0.9**
LPG pmax pmax
comp=Z,37nm,1.1s
LPG La Plagne 82.90 354 *e*P **P 22 37 52.7 +0.9**
comp=Z,37nm,1.1s
NVLJ Novalja 83.00 348 P **P 22 37 51.5 -0.4**
IKLH Kolahrood 83.09 317 *e*P **P 22 37 53.8 +0.8**
IZEF Zefreh 83.14 316 *e*P **P 22 37 53.8 +0.6**
BNI Bardonecchia 83.34 354 *e*P **P 22 37 54.3 +0.4**
BNI pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 83.34 354 *e*P **P 22 37 54.3 +0.4**
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 83.53 354 *e*P **P 22 37 55.9 +1.1**
comp=Z,14nm,0.9s
ORIF Oris-en-Rattie 83.53 354 *e*P **P 22 37 55.9 +1.1**
ORIF pmax pmax
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 83.53 354 *e*P **P 22 37 55.9 +1.1**
comp=Z,14nm,0.9s
MBDF Montbardon 83.66 354 *e*P **P 22 37 56.4 +0.8**
comp=Z,26nm,1.0s
MBDF Montbardon 83.66 354 *e*P **P 22 37 56.4 +0.8**
MBDF pmax pmax
comp=Z,26nm,1.0s
MBDF Montbardon 83.66 354 *e*P **P 22 37 56.4 +0.8**
comp=Z,26nm,1.0s
VIVF Saint-Julien-l 83.66 355 *e*P **P 22 37 56.0 +0.6**
comp=Z,8.7nm,0.7s
VIVF Saint-Julien-l 83.66 355 *e*P **P 22 37 56.0 +0.6**
VIVF pmax pmax
comp=Z,9.0nm,0.7s
VIVF Saint-Julien-l 83.66 355 *e*P **P 22 37 56.0 +0.6**
comp=Z,8.7nm,0.7s
BRTR Keskin Array B 83.73 333 P **P 22 37 56.5 +0.5**
BRTR Keskin Array B 83.73 333 P **P 22 37 56.5 +0.5**
comp=Z,8.6nm,0.8s,baz=48,slow=3.0,SNR=39
BR231 Keskin MP Arra 83.87 334 *e*P **P 22 37 56.6 -0.1**
VLC Villacollemand 83.92 351 *e*P **P 22 37 56.7 -0.1**
comp=Z,36nm,1.4s
AS01 Alice Springs 84.26 220 *e*P **P 22 37 58.5 -0.1**
ASAR Alice Springs 84.28 220 *e*P **P 22 37 59.4 +0.7**
ASAR Alice Springs 84.28 220 P **P 22 37 59.4 +0.7**
comp=Z,1.3nm,0.8s,baz=28,slow=5.5,SNR=12
SBF Sospel 84.47 353 *e*P **P 22 38 00.2 +0.6**
comp=Z,13nm,0.6s
SBF Sospel 84.47 353 *e*P **P 22 38 00.2 +0.6**
SBF pmax pmax
comp=Z,13nm,0.6s
SBF Sospel 84.47 353 *e*P **P 22 38 00.2 +0.6**
comp=Z,13nm,0.6s
MTLF Montolieu 85.28 357 *e*P **P 22 38 04.1 +0.5**
comp=Z,20nm,0.8s
MTLF Montolieu 85.28 357 *e*P **P 22 38 04.1 +0.5**
MTLF pmax pmax
comp=Z,20nm,0.8s
MTLF Montolieu 85.28 357 *e*P **P 22 38 04.1 +0.5**
comp=Z,20nm,0.8s
AQU L'Aquila 85.37 348 *e*P **P 22 38 04.5 +0.4**
comp=Z,30nm,1.2s
PGF Pioggiola 85.65 352 *e*P **P 22 38 05.9 +0.3**
comp=Z,42nm,0.8s
PGF Pioggiola 85.65 352 *e*P **P 22 38 05.9 +0.3**
PGF pmax pmax
comp=Z,42nm,0.8s
PGF Pioggiola 85.65 352 *e*P **P 22 38 05.9 +0.3**
comp=Z,42nm,0.8s
ESDC Sonseca Array 89.02 1 P **P 22 38 20.4 -1.4**
ESDC Sonseca Array 89.02 1 P **P 22 38 20.4 -1.4**
comp=Z,0.5nm,0.6s,baz=348,slow=3.9,SNR=3.8
TORD Torodi Ar. Bea 115.36 356 PKP **PKPdf 22 44 07.1 -1.4**
TORD PP PP 22 45 02.6 -6.5
TORD PKKP **PKKPdf 22 55 04.4 +0.9**
TORD Torodi Ar. Bea 115.36 356 PKP **PKPdf 22 44 07.1 -1.4**
comp=Z,0.9nm,0.6s,baz=4.0,slow=1.9,SNR=15
TORD PP PP 22 45 02.6 -6.5
comp=Z,0.5nm,0.7s,baz=10,slow=4.5,SNR=3.3
TORD PKKP **PKKPdf 22 55 04.4 +0.9**
comp=Z,0.3nm,0.6s,baz=186,slow=3.6,SNR=4.4
DBIC Dimbokro 121.85 3 PKP **PKPdf 22 44 20.4 -0.6**
DBIC Dimbokro 121.85 3 PKP **PKPdf 22 44 20.4 -0.6**
comp=Z,1.5nm,0.5s,baz=343,slow=2.3,SNR=8.7
PLCA Paso Flores 133.14 105 PKP **PKPdf 22 44 41.9 +0.2**
PLCA Paso Flores 133.14 105 PKP **PKPdf 22 44 41.9 +0.2**
comp=Z,1.7nm,0.7s,baz=326,slow=1.4,SNR=3.3
BOSA Boshof 149.12 308 PKPbc **PKPbc 22 45 15.0 0.0**
BOSA Boshof 149.12 308 PKPbc **PKPbc 22 45 15.0 0.0**
comp=Z,3.8nm,0.6s,baz=40,slow=3.3,SNR=13

GUC 29 22:43:29.2±0.3**, 34°.74S**×**70°.30W, h18**km±2km**, MD3.5, ML3.4, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.85**	**340**	⇓*i*P	Pb	22 43 45.1	-0.5
CHCH				*i* S	Sg	22 43 57.2	-0.2
PCH	**Pirque**	**1.13**	**351**	*i* S	Sg	22 44 05.9	-0.2
ANTU	**Antumapu**	**1.20**	**346**	*i* P	Pn	22 43 51.1	0.0
ANTU				*i* S	Sg	22 44 07.7	-0.6
ANTU				AML	AML	22 44 08.8	
comp=N,1μm,0.4s							
TACH	**Talagante**	**1.21**	**334**	*i* P	Pn	22 43 51.1	0.0
TACH				*i* S	Sn	22 44 07.5	+0.5
LNV	**Longovilo**	**1.21**	**310**	⇓*i*P	Pn	22 43 51.0	-0.1
LNV				*i* S	Sg	22 44 07.8	-0.6
SAN	**Santiago**	**1.32**	**347**	*i* S	Sg	22 44 11.1	-0.9
CLCH	**Cerro Calan**	**1.35**	**352**	*i* P	Pn	22 43 53.6	+0.3
CLCH				*e*S	Sg	22 44 12.4	-0.8
CLCH				AML	AML	22 44 14.1	
comp=E,1μm,0.6s							
PEL	**Peldehue**	**1.62**	**348**	⇑*i*P	Pb	22 43 58.2	-0.4
PEL				*e*S	Sb	22 44 20.2	+1.3
PEL				AML	AML	22 44 22.2	
comp=N,1μm,0.5s							
ROCH	**El Roble**	**1.86**	**341**	AML	AML	22 44 30.8	
comp=E,552nm,0.5s							

*ISCJB **29** 22:48:42.7±0.7, 13°.30N±0°.08×92°.56E±0°.07, h31km, mb3.9/15, Error ellipse: s-maj=11.2km s-min=9.0km az=19.8*
*IDC **29** 22:48:43.4±0.8, 13°.06N×92°.45E, h26km±4km, mb3.7/15, mb1 3.8/16, mb1mx3.7/28, mbtmp3.8/16, Error ellipse: s-maj=25.8km s-min=15.3km az=46.0*
ISC 29 22:48:44.0±0.8**, 13°.2N**±0°.1×**92°.50E**±0°.09**, h31**km**, n29,** σ1§**13/33, mb3.8**/15**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.12**	**49**	Pn	**Pn**	**22 50 40.9**	**+1.1**
baz=240,slow=15,SNR=7.9							
CMAR				Sn	**Sn**	**22 52 08.7**	**-1.9**
0.2nm,0.3s,baz=239,slow=26,SNR=4.6							
ODAN	**Odare**	**14.42**	**341**	*e*P	**Pn**	**22 52 05.0**	**-1.2**
8.7nm,0.3s							
RAMN	**Ramite**	**14.76**	**339**	*e*P	**Pn**	**22 52 10.1**	**-0.8**
14nm,0.4s							
TAPN	**Taplejung**	**14.78**	**343**	*e*P	**Pn**	**22 52 09.0**	**-2.2**
18nm,0.7s							
JIRN	**Jiri**	**15.56**	**339**	*e*P	**Pn**	**22 52 19.8**	**-1.7**
18nm,0.7s							
PKI Pulchoki 15.77 336 *e*P **Pn 22 52 23.3 -0.9**
9.2nm,0.4s
PKIN Phulchoki 15.78 336 *e*P **Pn 22 52 23.5 -0.8**
13nm,0.4s
DMN Daman 15.92 335 *e*P **Pn 22 52 25.5 -0.6**
8.7nm,0.4s
GKN Gorkha 16.46 335 *e*P **Pn 22 52 31.4 -1.5**
9.0nm,0.3s
KOLN Koldanda 16.72 332 *e*P **Pn 22 52 35.5 -0.7**
18nm,0.6s
PYUN Piuthan 17.29 331 *e*P **Pn 22 52 41.6 -1.7**
H08S3 Diego Garcia H 28.69 225 T T 23 24 33.6
baz=44,slow=76,SNR=41
H08S2 Diego Garcia H 28.69 225 T T 23 24 22.1
baz=44,slow=76,SNR=77
H08S1 Diego Garcia H 28.71 225 T T 23 24 26.5
baz=44,slow=76,SNR=30
MKAR Makanchi Array 34.58 348 P **P 22 55 31.2 +1.2**
1.7nm,0.8s,baz=162,slow=8.3,SNR=20
SONM Songino Array 36.44 16 P **P 22 55 47.6 +1.6**
1.2nm,0.7s,baz=202,slow=7.2,SNR=13
KURBB Kurchatov Arra 39.03 346 P **P 22 56 08.9 +1.2**
1.5nm,0.8s,baz=163,slow=7.9,SNR=16
KSRS Korea Array 39.75 46 P **P 22 56 14.6 +0.8**
0.9nm,0.5s,baz=246,slow=8.2,SNR=3.8
ZALV Zalesovo Beam 41.11 353 P **P 22 56 25.8 +0.9**
2.2nm,0.7s,baz=170,slow=9.0,SNR=11
WRA Warramunga Arr 52.72 128 P **P 22 57 56.0 -0.1**
0.3nm,0.3s,baz=310,slow=8.1,SNR=7.2
WRA pP **pP 22 58 03.7 -1.9**
1.0nm,0.9s,baz=306,slow=8.2,SNR=3.2
ASAR Alice Springs 54.60 132 P **P 22 58 09.5 -0.4**
0.3nm,0.3s,baz=313,slow=7.2,SNR=6.4
BRTR Keskin Array B 57.81 309 P **P 22 58 33.0 +0.2**
1.2nm,0.8s,baz=99,slow=5.4,SNR=6.4
BRTR pP **pP 22 58 41.5 -0.8**
1.0nm,0.8s,baz=120,slow=7.2,SNR=3.9
AKASG Malin Array Be 63.03 320 P **P 22 59 07.5 -0.6**
0.2nm,0.4s,baz=90,slow=4.6,SNR=2.7
AKASG pP **pP 22 59 16.4 -1.2**
0.1nm,0.3s,baz=86,slow=5.4,SNR=2.3
FINES FINESS Array B 67.29 331 P **P 22 59 35.8 +0.3**
1.7nm,0.7s,baz=93,slow=7.6,SNR=8.0
FINES pP **pP 22 59 44.6 -0.5**
1.3nm,0.7s,baz=94,slow=6.0,SNR=2.4
ARCES ARCESS Array B 69.75 340 P **P 22 59 51.6 +0.9**
6.5nm,1.1s,baz=106,slow=6.7,SNR=3.9
GERES GERESS Array B 72.83 317 P **P 23 00 10.6 +0.7**
0.5nm,0.6s,baz=77,slow=4.4,SNR=4.0
GERES pP **pP 23 00 19.3 -0.3**
1.1nm,0.8s,baz=39,slow=3.8,SNR=4.7
NOA NORSAR Array B 74.34 330 P **P 23 00 18.6 +0.1**
0.8nm,0.9s,baz=176,slow=19,SNR=3.0
NOA pP **pP 23 00 27.2 -1.0**
0.9nm,0.8s,baz=64,slow=9.7,SNR=1.8
TORD Torodi Ar. Bea 87.83 283 P **P 23 01 31.8 +0.8**
0.6nm,0.9s,baz=88,slow=3.5,SNR=5.8
ILAR Eielson Array 90.44 22 P **P 23 01 42.4 +0.1**
0.3nm,0.7s,baz=302,slow=3.3,SNR=5.2

*ISCJB **29** 23:15:07.6±0.5, 38°.65N±0°.02×43°.30E±0°.05, h8km±6km, Error ellipse: s-maj=6.8km s-min=4.2km az=178.0*
*DDA **29** 23:15:07.3, 38°.65N×43°.31E, h7km, MD3.1*
*ISK **29** 23:15:07.6, 38°.67N×43°.28E, h9km, MD3.0*
*CSEM **29** 23:15:07.5±0.2, 38°.64N×43°.31E, h10km, MD3.1, Error ellipse: s-maj=6.2km s-min=4.3km az=93.0*
ISC 29 23:15:07.6±0.9**, 38°.64N**±0°.02×**43°.32E**±0°.03**, h10**km±8km**, n22,** σ0§**55/35, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.13**	**148**	*i* Pg	**Pg**	**23 15 10.5**	**-0.4**
TVAN				*i* Sg	**Sg**	**23 15 13.4**	**+0.3**
GEVA	**Gevas**	**0.38**	**212**	*i* P	**Pg**	**23 15 15.0**	**-0.2**
GEVA				*i* S	**Sg**	**23 15 21.5**	**+1.2**
GEVA	**Gevas**	**0.38**	**212**	*i* P	**Pg**	**23 15 15.0**	**-0.2**
GEVA				*i* S	**Sg**	**23 15 21.5**	**+1.2**
CLDR	**Caldiran**	**0.69**	**43**	*e*PG	**Pg**	**23 15 21.5**	**+0.5**
CLDR				*e*SG	**Sb**	**23 15 31.6**	**+0.2**
CLDR	**Caldiran**	**0.69**	**43**	*e*Pg	**Pg**	**23 15 21.5**	**+0.5**
CLDR				*e*Sg	**Sb**	**23 15 31.6**	**+0.2**
TATV	**Tatvan**	**0.83**	**261**	*e*P	**Pg**	**23 15 23.4**	**-0.3**
TATV				*e*S	**Sg**	**23 15 34.7**	**+0.1**
TATV	**Tatvan**	**0.83**	**261**	*e*P	**Pg**	**23 15 23.4**	**-0.3**
TATV				*e*S	**Sg**	**23 15 34.7**	**+0.1**
TUTA	**Tutak**	**0.86**	**333**	*i* P	**Pg**	**23 15 23.9**	**-0.3**
TUTA				*i* S	**Sg**	**23 15 35.9**	**+0.5**
TUTA	**Tutak**	**0.86**	**333**	*i* P	**Pg**	**23 15 23.9**	**-0.3**
TUTA				*i* S	**Sg**	**23 15 35.9**	**+0.5**
AGRB	**Hanur-Agry**	**0.97**	**345**	*e*PG	**Pg**	**23 15 25.9**	**-0.4**
AGRB				*e*SG	**Sb**	**23 15 39.3**	**-0.2**
AGRB	**Hanur-Agry**	**0.97**	**345**	*e*Pg	**Pg**	**23 15 25.9**	**-0.4**
AGRB				*e*Sg	**Sb**	**23 15 39.3**	**-0.2**
HAKT	**HAKKARI**	**1.12**	**164**	*e*P	**Pb**	**23 15 27.9**	**-1.3**
HAKT				*e*S	**Sg**	**23 15 43.8**	**0.0**
HAKT	**HAKKARI**	**1.12**	**164**	*e*P	**Pb**	**23 15 27.9**	**-1.3**
HAKT				*e*S	**Sg**	**23 15 43.8**	**0.0**
SIRT	**Sirnak**	**1.33**	**212**	*e*PN	**Pg**	**23 15 33.4**	**+0.3**
SIRT	**Sirnak**	**1.33**	**212**	*e*Pn	**Pg**	**23 15 33.4**	**+0.3**
CUKT	**Cukurca**	**1.41**	**171**	*e*PN	**Pn**	**23 15 34.0**	**+0.6**
CUKT	**Cukurca**	**1.41**	**171**	*e*Pn	**Pn**	**23 15 34.0**	**+0.6**
BTMT	**Batman**	**1.50**	**253**	*e*PN	**Pb**	**23 15 35.6**	**0.0**
BTMT	**Batman**	**1.50**	**253**	*e*Pn	**Pb**	**23 15 35.6**	**0.0**
VRTB	**Varto-Mus**	**1.54**	**290**	*e*PN	**Pn**	**23 15 35.6**	**+0.3**
VRTB	**Varto-Mus**	**1.54**	**290**	*e*Pn	**Pn**	**23 15 35.6**	**+0.3**
EZM	**Erzurum**	**1.98**	**310**	*e*Pn	**Pn**	**23 15 41.0**	**-0.4**

*ISCJB **29** 23:22:50.6±1.0, 51°.9N±0°.2×177°.73E±0°.08, h70km±8km, mb3.5/10, Error ellipse: s-maj=38.8km s-min=4.9km az=9.4*
*NEIC **29** 23:22:52.5, 51°.84N×177°.74E, h48km, ML3.6(AEIC), After AEIC.*
*IDC **29** 23:22:55.4±3.4, 52°.54N×177°.46E, h62km±31km, mb3.2/10, mb1 3.5/11, mb1mx3.3/29, mbtmp3.6/11, ML3.4/1, MS3.4/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=53.1km s-min=19.3km az=0.0*
ISC 29 23:22:51.8±1.7**, 51°.9N**±0°.3×**177°.70E**±0°.06**, h61**km±13km**, n35,** σ0§**94/35, mb3.8**/10**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**2.19**	**92**	P	**Pn**	**23 23 25.7**	**-0.2**
GAEA	**Gareloi East**	**2.21**	**91**	P	**Pn**	**23 23 25.2**	**-0.9**
SMY	**Shemya**	**2.37**	**293**	P	**Pn**	**23 23 28.8**	**+0.6**
SMY				S	**Sn**	**23 23 57.0**	**+0.9**
TANO	**Tanaga North**	**2.59**	**87**	P	**Pn**	**23 23 31.7**	**-0.2**
TASE	**Tanaga Southea**	**2.65**	**89**	P	**Pn**	**23 23 31.7**	**-0.4**
TAFP	**Tanaga Falls P**	**2.68**	**88**	P	**Pn**	**23 23 31.8**	**+0.6**
TAFP				S	**Sn**	**23 24 03.0**	**-0.7**
TAFL	**Tanaga Flats**	**2.74**	**91**	P	**Pn**	**23 23 33.0**	**-0.3**
FX1	**Attu Island--F**	**2.96**	**292**	P	**Pn**	**23 23 36.4**	**+0.1**
FX1				S	**Sn**	**23 24 11.2**	**+0.7**
FX1	**Attu Island--F**	**2.96**	**292**	P	**Pn**	**23 23 35.8**	**-0.5**
23nm,0.3s,baz=95,slow=2.6,SNR=94							
FX1				S	**Sn**	**23 24 10.2**	**-0.3**
45nm,0.3s,baz=37,slow=20,SNR=12							
KIKV	**Kanaga Island**	**3.18**	**88**	P	**Pn**	**23 23 39.2**	**-0.1**
KIRH	**Kanaga Island**	**3.23**	**87**	P	**Pn**	**23 23 39.7**	**-0.3**
ADK	**Adak**	**3.48**	**88**	P	**Pn**	**23 23 43.1**	**-0.3**
ADK				S	**Sn**	**23 24 22.0**	**-0.7**
GSCK	**Great Sitkin C**	**3.80**	**86**	P	**Pn**	**23 23 48.4**	**+0.6**
GSMY	**Great Sitkin M**	**3.87**	**85**	P	**Pn**	**23 23 48.6**	**-0.1**
KOKL	**Mount Kliuchef**	**5.01**	**82**	P	**Pn**	**23 24 05.4**	**+1.0**
KOFP	**Korovin Flat P**	**5.08**	**82**	P	**Pn**	**23 24 05.8**	**+0.6**
MSOM	**Makushin Julie**	**9.49**	**72**	P	**Pn**	**23 25 06.7**	**+1.1**
MSW	**Makushin Switc**	**9.60**	**72**	P	**Pn**	**23 25 08.7**	**+1.6**
MREP	**Makushin Rep't**	**9.61**	**72**	P	**Pn**	**23 25 08.8**	**+1.5**
UNV	**Unalaska Valle**	**9.76**	**72**	P	**Pn**	**23 25 10.0**	**+0.8**
ILAR	**Eielson Array**	**22.26**	**41**	P	**P**	**23 27 41.7**	**-1.5**
0.2nm,0.7s,baz=254,slow=8.9,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**33.18**	**199**	T	T	00 04 47.3	
baz=13,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**33.19**	**199**	T	T	00 04 48.0	
baz=13,slow=76,SNR=29							
H11N1

comp=Z,43nm,18.7s,baz=352,slow=33
PDAR Pinedale Array 48.22 71 P P 23 31 29.2 +2.9
0.2nm,0.6s,baz=300,slow=2.9,SNR=3.8
ARCES ARCESS Array B 57.20 349 P P 23 32 30.8 -1.1
2.5nm,0.8s,baz=29,slow=8.1,SNR=7.1
MKAR Makanchi Array 58.00 306 P P 23 32 36.9 -0.9
0.4nm,0.5s,baz=50,slow=6.1,SNR=6.2
TXAR Lajitas Array 60.72 79 P P 23 33 00.7 +3.8
0.1nm,0.3s,baz=328,slow=8.5,SNR=2.4
FINES FINESS Array B 64.78 345 P P 23 33 22.6 -0.7
0.6nm,0.4s,baz=3.4,slow=9.5,SNR=5.7
NB2 NORSAR Subarra 66.92 353 P P 23 33 36.7 -0.4
comp=Z,0.6nm,0.6s,baz=6.8,slow=6.5
NOA NORSAR Array B 66.92 353 P P 23 33 37.2 +0.1
comp=Z,0.3nm,0.3s,baz=2.5,slow=5.7,SNR=4.9
AKASG Malin Array Be 74.37 340 P P 23 34 21.7 -0.8
comp=Z,0.4nm,0.3s,baz=20,slow=6.5,SNR=4.1

*IDC **29** 23:35:29.2±2.2, 10°.84N×92°.64E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=67.0km s-min=24.5km az=69.0*
*ISCJB **29** 23:35:36.7±1.1, 11°.0N±0°.1×93°.2E±0°.2, h54km, mb3.4/4, Error ellipse: s-maj=26.8km s-min=11.8km az=142.7*
ISC 29 23:35:38.0±1.5, 11°.0N±0°.2×93°.1E±0°.2, h54km, n15, σ1s08/12, mb3.5/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.37**	**37**	Pn	**Pn**	**23 37 51.4**	**+0.9**
	0.4nm,0.3s,baz=229,slow=15,SNR=21						
TAPN	**Taplejung**	**17.05**	**344**	*eP*	**Pn**	**23 39 32.6**	**-0.5**
	6.4nm,0.6s						
JIRN	**Jiri**	**17.81**	**340**	*eP*	**Pn**	**23 39 42.8**	**+0.2**
	5.8nm,0.4s						
PKI	**Pulchoki**	**18.01**	**338**	*eP*	**P**	**23 39 45.4**	**+0.5**
PKIN	**Phulchoki**	**18.02**	**338**	*eP*	**Pn**	**23 39 45.9**	**+0.9**
	3.8nm,0.4s						
GKN	**Gorkha**	**18.70**	**336**	*eP*	**Pn**	**23 39 53.9**	**+0.8**
	4.1nm,0.3s						
KOLN	**Koldanda**	**18.93**	**333**	*eP*	**Pn**	**23 39 57.6**	**+1.7**
	6.3nm,0.6s						
PYUN	**Piuthan**	**19.48**	**332**	*eP*	**Pn**	**23 40 03.5**	**+1.0**
	9.2nm,0.4s						
H08S3	**Diego Garcia H**	**27.58**	**229**	T	T	00 09 49.8	
	baz=45,slow=74,SNR=7.7						
H08S2	**Diego Garcia H**	**27.58**	**229**	T	T	00 09 54.9	
	baz=45,slow=74,SNR=14						
H08S1	**Diego Carcia H**	**27.60**	**229**	T	T	00 09 43.0	
	baz=45						
MKAR	**Makanchi Array**	**36.85**	**348**	P	**P**	**23 42 39.9**	**-1.3**
	0.2nm,0.5s,baz=163,slow=9.8,SNR=2.6						
SONM	**Songino Array**	**38.42**	**14**	P	**P**	**23 42 53.1**	**-1.4**
	0.1nm,0.3s,baz=199,slow=8.4,SNR=3.3						
WRA	**Warramunga Arr**	**50.94**	**127**	P	**P**	**23 44 34.7**	**+0.3**
	0.4nm,0.4s,baz=301,slow=9.9,SNR=8.0						
ASAR	**Alice Springs**	**52.73**	**131**	P	**P**	**23 44 48.0**	**+0.2**
	0.4nm,0.5s,baz=308,slow=7.3,SNR=6.1						

CASC 29 23:40:32.4±2.8, 8°.34N×82°.99W, h0km±8km, MD3.7, 1C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.35**	**330**	⇓*iP*	Pg	23 40 40.4	+1.1
ACR				⇓*iP*	Pb	23 40 40.5	-1.2
BRU2	**Volcan**	**0.54**	**33**	*iP*	Pb	23 40 44.6	-0.4
BRU2				*eS*	Sb	23 40 54.4	+1.0
CTCR	**Cotoan**	**0.59**	**23**	⇓*iP*	Pb	23 40 45.6	-0.4
BRU	**Baru**	**0.63**	**43**	⇓*iP*	Pb	23 40 46.5	-0.3
BUS	**Buena Vista**	**1.42**	**328**	*eP*	Pn	23 40 58.3	-1.8
BUS				*eS*	Sg	23 41 19.2	0.0
BUS				*eS*	Sn	23 41 19.9	-0.2
QCR	**Quepos**	**1.58**	**313**	*eP*	Pn	23 41 01.1	-0.7
QCR				*eS*	Sn	23 41 23.0	+0.1
CGA2	**Cerro Gallo 2**	**2.21**	**319**	*eP*	Pb	23 41 12.9	-0.6
CGA2				*eS*	Sb	23 41 42.5	+0.9
PTP	**Ponta Puerca**	**19.54**	**58**	⇑*iP*	x	23 40 36.7	

WEL 29 23:45:01.9±0.2, 37°.39S×177°.02E, h139km±2km, ML3.5/11, 5C-2D, Error ellipse: s-maj=3.0km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.71**	**121**	⇑PN	Pn	23 45 23.2	0.0
HAZ				SN	Sn	23 45 39.6	+0.1
URZ	**Urewera**	**0.87**	**175**	⇑PN	Pn	23 45 24.6	+0.1
URZ				SN	Sn	23 45 41.7	0.0
URZ				AML	AML	23 45 42.9	
MWZ	**Matawai**	**1.02**	**157**	⇑PN	Pn	23 45 25.7	-0.2
MWZ				SN	Sn	23 45 44.3	+0.2
MXZ	**Matakaoa Point**	**1.04**	**100**	⇑PN	Pn	23 45 26.1	+0.2
MXZ				AML	AML	23 45 52.7	
PUZ	**Puketiti**	**1.19**	**125**	⇑PN	Pn	23 45 27.2	-0.2
PUZ				SN	Sn	23 45 46.2	-0.8
SNGZ	**Shannon Statio**	**1.41**	**170**	PN	Pn	23 45 29.6	-0.1
RIGZ	**Rimuhau**	**1.44**	**156**	PN	Pn	23 45 29.8	-0.2
CNGZ	**Carnagh Statio**	**1.44**	**140**	PN	Pn	23 45 30.2	+0.3
RAHZ	**Arahi**	**1.52**	**178**	PN	Pn	23 45 31.1	+0.2
PRGZ	**Paritu Road**	**1.67**	**156**	PN	Pn	23 45 32.3	-0.2
WHHZ	**Waihua**	**1.69**	**174**	PN	Pn	23 45 32.7	0.0
WHHZ				SN	Sn	23 45 56.3	-0.1
KNZ	**Kokohu**	**1.71**	**163**	PN	Pn	23 45 32.2	-0.6
NMHZ	**Naumai**	**1.71**	**186**	PN	Pn	23 45 33.4	+0.3
BKZ	**Black Stump Fm**	**1.82**	**193**	PN	Pn	23 45 33.9	-0.4
MHGZ	**Mahia Peninsul**	**1.89**	**159**	PN	Pn	23 45 34.8	-0.2
MCHZ	**McNeill Hill**	**2.06**	**187**	PN	Pn	23 45 36.9	-0.2
WNVZ	**Wahianoa**	**2.23**	**210**	PN	Pn	23 45 40.3	+1.0
CKHZ	**Cape Kidnapper**	**2.27**	**179**	PN	Pn	23 45 38.8	-0.8
KAHZ	**Kahuranaki**	**2.40**	**183**	⇓PN	Pn	23 45 40.5	-0.8
PNHZ	**Pukenui**	**2.60**	**194**	PN	Pn	23 45 42.2	-1.5
PXZ	**Pawanui**	**2.64**	**183**	⇓PN	Pn	23 45 42.6	-1.5
TSZ	**Takapari Road**	**2.79**	**197**	AML	AML	23 46 21.9	
PRHZ	**Porangahau**	**2.89**	**186**	PN	Pn	23 45 45.6	-1.8
BFZ	**Birch Farm**	**3.34**	**190**	PN	Pn	23 45 50.5	-2.7
TIWZ	**Tintock**	**3.49**	**194**	PN	Pn	23 45 52.5	-2.7
KIW	**Kapiti Island**	**3.83**	**205**	AML	AML	23 46 22.9	
TCW	**Tory Channel**	**4.37**	**208**	AML	AML	23 46 14.3	

*NIED **30** 00:04:00, 36°.30N×142°.10E, h11km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1:φ0±199.00000°, δ26.00000°, λ91.00000°. NP2:φ0±18.00000°, δ64.00000°, λ90.00000°.*
*ISCJB **30** 00:04:17.3±1.1, 36°.29N±0°.06×142°.1E±0°.1, h19km, mb3.8/7, MS3.7/2, Error ellipse: s-maj=12.6km s-min=8.3km az=19.6*
*JMA **30** 00:04:17.4±0.3, 36°.27N×142°.11E, h75km, M3.6*
*IDC **30** 00:04:19.0±1.6, 36°.83N×141°.94E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/30, mbtmp3.8/8, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/40, Error ellipse: s-maj=49.3km s-min=21.7km az=68.0*
ISC 30 00:04:18.4±1.6, 36°.26N±0°.09×142°.0E±0°.1, h19km, n24, σ0s99/17, mb3.9/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.10**	**240**	P	**Pb**	**00 04 38.6**	**-0.2**
JHO	**Hitachi**	**1.23**	**287**	P	**Pn**	**00 04 39.6**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.30**	**311**	P	**Pn**	**00 04 40.6**	**-1.0**
JFK	**Kawauchi**	**1.44**	**320**	P	**Pn**	**00 04 42.9**	**-0.6**
BSO1	**Boso 1**	**1.82**	**209**	S	**Sb**	**00 05 11.6**	**-1.3**
JFT	**Otama**	**1.85**	**313**	P	**Pn**	**00 04 49.3**	**+0.2**
JMM	**Marumori**	**1.89**	**329**	P	**Pn**	**00 04 48.5**	**-1.0**
JAG	**Ashikaga**	**2.09**	**275**	P	**Pn**	**00 04 52.3**	**0.0**
MJAR	**Matsushiro Arr**	**3.10**	**276**	Pn	**Pn**	**00 05 06.7**	**+0.5**
	8.8nm,0.3s,baz=118,slow=9.2,SNR=34						
MJAR				Sn	**Sn**	**00 05 40.7**	**-2.0**
	5.1nm,0.3s,baz=318,slow=17,SNR=1.8						
MAT	**Matsushiro**	**3.10**	**276**	P	**Pn**	**00 05 07.3**	**+1.0**
MAT				S	**Sn**	**00 05 44.2**	**+1.4**
H11N2	**WAKE ISLAND Hy 27.33**	**120**		T	T	00 38 31.5	
	baz=315,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy 27.33**	**120**		T	T	00 38 35.4	
	baz=315,slow=76,SNR=8.2						
H11N3	**WAKE ISLAND Hy 27.34**	**120**		T	T	00 38 35.9	
	baz=315,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy 28.02**	**123**		T	T	00 39 35.0	
	SNR=6.1						
H11S3	**WAKE ISLAND Hy 28.02**	**123**		T	T	00 39 38.0	
	baz=255,slow=74,SNR=6.1						
H11S2	**WAKE ISLAND Hy 28.04**	**123**		T	T	00 39 31.2	
	baz=316,slow=74,SNR=4.3						
SONM	**Songino Array**	**28.63**	**305**	P	**P**	**00 10 14.3**	**+0.6**
	1.0nm,0.4s,baz=109,slow=8.9,SNR=15						
ZALV	**Zalesovo Beam**	**42.80**	**313**	P	**P**	**00 12 15.3**	**+0.7**
	0.8nm,0.5s,baz=111,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**44.95**	**303**	P	**P**	**00 12 32.6**	**+0.6**
	1.8nm,0.7s,baz=81,slow=8.5,SNR=24						
MKAR				LR	LR	00 30 42.7	
	comp=Z,34nm,18.2s,baz=94,slow=36						
WRA	**Warramunga Arr**	**56.37**	**189**	P	P	00 14 04.8	+6.5
	1.4nm,1.0s,baz=21,slow=7.2,SNR=8.9						
ASAR	**Alice Springs**	**60.09**	**189**	P	P	00 14 33.3	+8.9
	0.9nm,1.1s,baz=16,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**67.78**	**180**	LR	LR	00 47 30.0	
	comp=Z,82nm,18.1s,baz=207,slow=38						
FINES	**FINESS Array B**	**69.73**	**333**	P	**P**	**00 15 27.0**	**+0.3**
	2.1nm,1.0s,baz=106,slow=10,SNR=1.9						
AKASG	**Malin Array Be**	**75.21**	**323**	P	**P**	**00 15 59.2**	**-0.3**
	0.2nm,0.4s,baz=45,slow=5.2,SNR=4.6						

KRSC 30 00:14:44.0±1.2, 51°.04N×158°.01E, h41km±17km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.87**	**300**	*eP*	Pn	00 15 01.3	+1.5
PAU				*eS*	Sn	00 15 13.0	+1.8
SKR	**Severo-Kuril's**	**1.25**	**254**	*eS*	Sn	00 15 21.3	+0.7
ASAK	**Asacha**	**1.35**	**357**	*eP*	Pn	00 15 07.9	+1.4
ASAK				*eS*	Sn	00 15 24.0	+0.7
RUS	**Russkaya**	**1.44**	**12**	*eP*	Pn	00 15 08.8	+1.3
RUS				*eS*	Sn	00 15 25.3	+0.2
MTVR	**Mutnovka**	**1.45**	**4**	*eP*	Pn	00 15 09.4	+1.4
MTVR				*eS*	Sn	00 15 27.2	+1.2
MIPR	**Malaya Ipel'ka**	**1.47**	**328**	*eP*	Pn	00 15 01.0	-7.0
APC	**Apacha**	**1.96**	**345**	*eP*	Pn	00 15 17.0	+2.2
UGLR	**Uglovaya**	**2.23**	**13**	*eP*	Pn	00 15 21.0	+2.3
AVH	**Avacha**	**2.28**	**11**	*eP*	Pn	00 15 21.9	+2.7
AVH				*eS*	Sn	00 15 49.7	+3.6
SMAR	**Somma**	**2.28**	**12**	*eP*	Pn	00 15 22.1	+2.6
KOK	**Koryaka**	**2.29**	**9**	*eP*	Pn	00 15 22.2	+2.7
KOK				*eS*	Sn	00 15 50.1	+3.5
KRER	**Koryakskii**	**2.32**	**11**	*eP*	Pn	00 15 22.7	+2.8
KRER				*eS*	Sn	00 15 50.1	+2.7
KRX	**Arik**	**2.36**	**9**	*eP*	Pn	00 15 23.6	+3.1
KRX				*eS*	Sn	00 15 52.4	+4.1
GNL	**Ganaly**	**2.67**	**359**	*eP*	Pn	00 15 27.1	+2.5

*IDC **30** 00:26:29.9±1.0, 27°.86S×176°.42W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.9/33, mbtmp3.7/4, Error ellipse: s-maj=44.8km s-min=22.0km az=144.0*
ISC 30 00:26:35.3±0.9, 27°.8S±0°.2×176°.5W±0°.2, h37km, n9, σ1s55/10, mb3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.93**	**221**	Pn	**Pn**	**00 27 03.4**	**-2.1**
	86nm,0.3s,baz=248,slow=21,SNR=2.2						
RAO				Sn	**Sn**	**00 27 31.2**	**+2.6**
	133nm,0.3s,baz=92,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**44.66**	**264**	P	**P**	**00 34 44.6**	**0.0**
	0.8nm,0.7s,baz=99,slow=7.2,SNR=13						
WRA	**Warramunga Arr**	**45.42**	**269**	P	**P**	**00 34 50.6**	**-0.1**
	1.8nm,0.8s,baz=106,slow=7.8,SNR=7.5						
NVAR	**Mina Array Bea**	**85.42**	**42**	P	**P**	**00 39 09.5**	**+0.3**
	0.4nm,0.7s,baz=221,slow=8.8,SNR=3.6						
TXAR	**Lajitas Array**	**89.85**	**57**	P	**P**	**00 39 31.3**	**+0.7**
	0.6nm,1.1s,baz=176,slow=6.0,SNR=2.8						
NOA	**NORSAR Array B**	**146.36**	**353**	PKPbc	**PKPab**	**00 46 10.9**	**-1.5**
	0.8nm,0.7s,baz=1.0,slow=3.6,SNR=3.3						
AKASG	**Malin Array Be**	**149.96**	**327**	PKPbc	**PKPbc**	**00 46 21.9**	**+0.6**
	0.3nm,0.3s,baz=50,slow=3.4,SNR=4.9						
BRTR	**Keskin Array B**	**152.42**	**303**	PKPbc	**PKPbc**	**00 46 29.0**	**+1.3**
	0.6nm,0.8s,baz=174,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**165.33**	**173**	PKPab	**PKPab**	**00 47 33.2**	**-0.7**
	1.7nm,0.9s,baz=196,slow=3.6,SNR=8.4						

*IDC **30** 00:47:02.0±13.0, 23°.16S×179°.60E, h511km±147km, mb2.9/4, mb1 3.2/4, mb1mx3.0/22, mbtmp3.7/4, Error ellipse: s-maj=285.3km s-min=47.9km az=162.0*
*ISCJB **30** 00:47:04.4±3.7, 23°.5S±2°.×179°.5E±0°.8, h553km, mb3.3/4, Error ellipse: s-maj=284.7km s-min=23.3km az=161.1*
ISC 30 00:47:05.8±2.5, 23°.S±1°.×179°.5E±0°.4, h553km, n6, σ1s01/6, mb3.4/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.70**	**260**	P	**P**	**00 54 06.8**	**-0.2**
	1.2nm,1.0s,baz=106,slow=7.9,SNR=5.6						
WRA	**Warramunga Arr**	**42.00**	**265**	P	**P**	**00 54 08.9**	**-0.3**
	1.1nm,0.4s,baz=96,slow=8.4,SNR=26						
NVAR	**Mina Array Bea**	**84.55**	**44**	P	**P**	**00 58 41.0**	**-0.2**
	0.2nm,0.4s,baz=238,slow=1.7,SNR=2.0						
TXAR	**Lajitas Array**	**90.44**	**58**	P	**P**	**00 59 08.6**	**-0.4**
	0.3nm,0.8s,baz=216,slow=6.2,SNR=4.6						
FINES	**FINESS Array B**	**137.60**	**341**	PKP	**PKPdf**	**01 05 28.2**	**+1.6**
	1.4nm,1.0s,baz=70,slow=1.6,SNR=3.3						
AKASG	**Malin Array Be**	**144.10**	**327**	PKP	**PKPab**	**01 05 38.1**	**-0.2**
	0.2nm,0.4s,baz=45,slow=4.0,SNR=4.8						

IDC 30 01:17:28.8±1.6, 4°.62S×135°.47E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.6/24, mbtmp3.7/4, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=43.4km s-min=30.7km az=92.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.63**	**68**	Pn	Pn	01 18 54.1	+0.2
	1.2nm,0.3s,baz=240,slow=14,SNR=5.0						
WRA	**Warramunga Arr**	**15.27**	**184**	Pn	Pn	01 21 04.5	-1.5
	0.5nm,0.3s,baz=2.7,slow=20,SNR=32						
WRA				Sn	Sn	01 23 44.8	-11
	0.5nm,0.3s,baz=351,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**19.00**	**184**	P	Pn	01 21 52.9	0.0
	0.5nm,0.3s,baz=17,slow=13,SNR=18						
ASAR				S	Sn	01 25 10.9	-16
	0.1nm,0.3s,baz=4.1,slow=27,SNR=3.8						
ASAR				LR	LR	01 28 32.8	
	comp=Z,62nm,18.9s,baz=296,slow=35						
MKAR	**Makanchi Array**	**69.37**	**324**	P	P	01 28 38.5	-0.1
	0.2nm,0.5s,baz=121,slow=7.4,SNR=6.0						

*ISCJB **30** 01:28:54.4±0.8, 4°.95S±0°.05×133°.82E±0°.08, h28km, mb3.6/3, MS3.5/2, Error ellipse: s-maj=11.6km s-min=7.1km az=166.4*
*DJA **30** 01:28:57.4±1.2, 5°.S±.5°.×13°.4E±°, h24km±16km, M4.9/6, mb5.3/2, mB5.4/1, MLv4.7/6, Mw(mB)4.8/1*
*IDC **30** 01:29:02.0±2.7, 6°.03S×130°.13E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/24, mbtmp3.8/4, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/26, Error ellipse: s-maj=257.2km s-min=14.1km az=75.0*
ISC 30 01:28:55.9±1.0, 5°.01S±0°.07×133°.87E±0°.10, h28km, n13, σ2s46/12, mb3.8/3, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.35**	**353**	P	**Pn**	**01 29 16.7**	**-2.3**
FAKI	**Fak Fak**	**2.64**	**322**	P	**Pn**	**01 29 34.2**	**-2.5**
RKPI	**Ransiki, Papua**	**3.49**	**5**	P	**Pn**	**01 29 47.4**	**-1.0**
BNDI	**Bandanaira**	**3.98**	**277**	P	**Pn**	**01 29 55.1**	**-0.1**
BNDI				S	**Sn**	**01 30 40.1**	**-0.9**
SWI	**Sorong**	**4.88**	**328**	P	**Pn**	**01 30 06.2**	**-1.3**
WRA	**Warramunga Arr**	**14.85**	**178**	Pn	**Pn**	**01 32 24.7**	**+0.5**
	0.6nm,0.3s,baz=354,slow=14,SNR=8.7						
WRA				Sn	**Sn**	**01 35 04.9**	**-3.0**
	0.3nm,0.3s,baz=359,slow=23,SNR=5.8						
WRA				LR	LR	01 38 35.3	
	comp=Z,152nm,18.5s,baz=355,slow=40						
ASAR	**Alice Springs**	**18.55**	**180**	P	**Pn**	**01 33 13.3**	**+2.3**
	0.6nm,0.3s,baz=356,slow=14,SNR=14						
ASAR				S	**Sn**	**01 36 34.3**	**-3.3**
	0.1nm,0.3s,baz=6.1,slow=27,SNR=4.8						
ASAR				LR	LR	01 41 02.1	
	comp=Z,131nm,18.9s,baz=350,slow=40						
STKA	**Stephens Creek**	**27.69**	**166**	LR	LR	01 47 49.0	
	comp=Z,119nm,20.2s,baz=335,slow=40						
SONM	**Songino Array**	**57.90**	**338**	P	P	01 38 53.2	+7.6
	0.3nm,0.7s,baz=145,slow=8.8,SNR=2.6						
FX1	**Attu Island--F**	**66.53**	**25**	LR	LR	02 05 43.5	
	comp=Z,33nm,20.2s,baz=214,slow=32						
MKAR	**Makanchi Array**	**68.76**	**325**	P	**P**	**01 39 59.0**	**+1.6**
	0.6nm,0.8s,baz=115,slow=8.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**71.58**	**332**	P	P	01 40 21.6	+7.1
	1.5nm,0.9s,baz=123,slow=4.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**132.16**	**283**	PKP	**PKPdf**	**01 48 11.6**	**+3.4**
	0.5nm,1.0s,baz=87,slow=1.9,SNR=2.6						

DHMR 30 01:48:27.9±1.0, 11°.62N×42°.93E, h6km±16km, ML3.5, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.54**	**23**	⇓*iP*	Pb	01 49 12.4	-1.8
UDYN				*iS*	Sb	01 49 46.7	+0.8
UDYN				AML	AML	01 49 52.2	
	comp=E,322nm,0.5s						
LBOS		**3.18**	**45**	⇓*iP*	Pn	01 49 21.5	+2.6
LBOS				*iS*	Sb	01 50 03.0	-1.6
DHBB	**Dhamar BB**	**3.26**	**26**	*iP*	Pn	01 49 22.9	+2.9
DHBB				*iS*	Sb	01 50 05.0	-1.9
BDHA	**Al Bayda'**	**3.48**	**47**	*iP*	Pn	01 49 24.8	+1.9
BDHA				*iS*	Sb	01 50 10.8	-2.3
BDHA				AML	AML	01 50 23.6	
	comp=N,173nm,0.7s						

*IDC **30** 01:49:31.3±0.7, 12°.98N×124°.01E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/41, mbtmp4.1/12, MS3.6/13, Ms1 3.6/13, ms1mx3.4/35, Error ellipse: s-maj=25.6km s-min=14.3km az=66.0*
*ISCJB **30** 01:49:33.3±0.8, 13°.03N±0°.03×124°.07E±0°.04, h23km±6km, mb4.3/38, MS3.5/13, Error ellipse: s-maj=6.6km s-min=4.9km az=154.6*
*MAN **30** 01:49:34, 13°.12N×124°.03E, h20km, mb5.0, ML3.9, MS4.0*
*NEIC **30** 01:49:37.5±0.3, 12°.94N×123°.93E, h45km, mb4.5/19, Error ellipse: s-maj=8.4km s-min=6.1km az=63.0*
NEIC Felt [III PIVS] at Irosin, Legaspi and Sorsogon, Luzon.
*BKK **30** 01:49:37.5±1.6, 13°.N±.11°.×12°.4E±1°.9, h10km, M4.5/12, mB5.3/6, mb4.3/12, Mw(mB)4.7/6*
*DJA **30** 01:50:00.1±2.9, 13°.N±.13°.×12°.3E±.2°.0, h190km±21km, M4.2/14, mb4.2/14, mB4.9/5, Mw(mB)4.2/5*
ISC 30 01:49:33.4±1.4, 13°.07N±0°.04×124°.02E±0°.05, h10km±9km, n106, σ1s40/86, mb4.5/37, MS3.4/13, 6C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.54**	**14**	⇑*iP*	**Pg**	**01 49 44.7**	**+0.8**
MMPH	**Masbate**	**0.80**	**209**	⇑*eP*	Pg	01 49 46.5	-2.3
MMPH				*iS*	**Sg**	**01 49 57.1**	**-2.2**
CNP	**Catarman**	**0.83**	**131**	*eP*	**Pg**	**01 49 50.1**	**+0.6**
AUQP	**San Andres**	**1.34**	**281**	*eP*	**Pn**	**01 49 58.0**	**-0.1**
GQP	**Guinayangan**	**1.74**	**299**	⇑*eP*	**Pn**	**01 50 02.8**	**-1.0**
GQP				*eS*	**Sn**	**01 50 26.2**	**+0.1**
RCP	**Roxas**	**1.95**	**220**	⇑*eP*	**Pn**	**01 50 04.8**	**-1.7**
OTRP	**Odiongan**	**2.07**	**251**	*eP*	**Pn**	**01 50 07.2**	**-1.1**
PLP	**Palo**	**2.11**	**154**	⇑*iP*	**Pn**	**01 50 09.0**	**+0.2**
PLP				*iS*	**Sb**	**01 50 39.8**	**+1.8**
BOAC	**Boac**	**2.15**	**281**	*eP*	**Pn**	**01 50 09.7**	**+0.3**
LQP	**Lukban**	**2.63**	**294**	⇑*eP*	**Pn**	**01 50 14.7**	**-1.4**
LLP	**Lapu-Lapu**	**2.73**	**181**	⇓*eP*	**Pn**	**01 50 16.1**	**-1.2**
LLP				*eS*	**Sb**	**01 50 57.3**	**+1.3**
SJMP	**San Jose**	**2.89**	**258**	*eP*	**Pn**	**01 50 19.0**	**+0.3**
MSLP	**Maasin**	**3.03**	**164**	*eP*	**Pn**	**01 50 23.3**	**+1.9**
TGY	**Tagaytay City**	**3.17**	**289**	Pn	**Pn**	**01 50 23.0**	**-0.4**
TGY				Sn	**Sn**	**01 51 03.8**	**+2.3**
TGY	**Tagaytay City**	**3.17**	**289**	Pn	**Pn**	**01 50 23.0**	**-0.4**
	baz=12,slow=6.2,SNR=5.2						
TGY				Sn	**Sn**	**01 51 03.8**	**+2.3**
	42nm,0.3s,baz=306,slow=22,SNR=1.0						
TBP	**Tagbilaran**	**3.36**	**183**	*eP*	**Pn**	**01 50 25.0**	**-1.0**
TBP				*eS*	**Sn**	**01 51 05.0**	**-0.9**
SNPH	**Sibulan**	**3.78**	**192**	*eP*	**Pn**	**01 50 31.5**	**-0.3**
KKM	**Kota Kinabalu**	**10.39**	**229**	*ePn*	**Pn**	**01 52 00.2**	**-2.4**
SBUM	**Sibu**	**15.73**	**229**	P	x	01 53 21.2	
	24nm,1.2s						
TTSI	**Tana Toraja**	**16.54**	**195**	P	P	01 53 33.8	+5.6
	48nm,0.9s,535nm						
SPSI	**Sidrap Palu**	**17.44**	**194**	P	P	01 53 48.9	+11
	26nm,0.8s,441nm						
UBPT	**Khong Chiam**	**18.12**	**279**	P	x	01 53 48.7	
	21nm,2.1s						
UBPT	**Khong Chiam**	**18.12**	**279**	P	**P**	**01 53 48.7**	**+2.9**
	21nm,2.1s		

SONM LR LR 02 12 47.5
comp=Z,138nm,21.2s,baz=168,slow=37
AS31 Alice Springs 37.76 165 *eP* **P 01 56 48.9 -0.9**
ASAR Alice Springs 37.77 165 P **P 01 56 48.4 -1.5**
ASAR Alice Springs 37.77 165 P **P 01 56 48.4 -1.5**
6.8nm,0.9s,baz=341,slow=6.7,SNR=36
ASAR LR LR 02 13 27.4
comp=Z,64nm,19.0s,baz=358,slow=38
H11S3 WAKE ISLAND Hy 41.34 77 T T 02 41 20.0
baz=270,slow=73,SNR=27
H11S1 WAKE ISLAND Hy 41.35 77 T T 02 41 21.2
baz=270,slow=73,SNR=15
H11S2 WAKE ISLAND Hy 41.36 77 T T 02 41 26.2
baz=270,slow=73,SNR=15
H11N1 WAKE ISLAND Hy 41.57 75 T T 02 41 40.5
baz=270,slow=74,SNR=88
H11N2 WAKE ISLAND Hy 41.58 75 T T 02 41 36.9
baz=270,slow=74,SNR=61
H11N3 WAKE ISLAND Hy 41.59 75 T T 02 41 37.6
baz=270,slow=74,SNR=85
BBOO Buckleboo 47.05 166 *eP* **P 01 58 03.7 -1.6**
STKA Stephens Creek 47.76 160 P **P 01 58 08.9 -1.9**
STKA Stephens Creek 47.76 160 P **P 01 58 08.9 -1.9**
3.9nm,0.9s,baz=352,slow=9.7,SNR=6.8
PETK Petropavlovsk- 48.08 27 LR LR 02 17 55.7
comp=Z,41nm,20.3s,baz=222,slow=35
MK31 Makanchi Array 48.48 322 *eP* **P 01 58 16.1 -0.3**
MKAR Makanchi Array 48.48 322 P **P 01 58 16.6 +0.2**
MKAR Makanchi Array 48.48 322 P **P 01 58 16.6 +0.2**
6.3nm,0.9s,baz=116,slow=8.2,SNR=53
ZAA0 Zalesovo Array 51.13 331 *eP* **P 01 58 35.5 -0.8**
ZALV Zalesovo Beam 51.13 331 P **P 01 58 35.5 -0.8**
ZALV Zalesovo Beam 51.13 331 P **P 01 58 35.5 -0.8**
2.5nm,0.9s,baz=131,slow=6.3,SNR=12
ZALV LR LR 02 22 32.2
comp=Z,60nm,18.2s,baz=74,slow=39
TKM2 Tokmak 2 51.14 315 *eP* **P 01 58 36.2 -0.7**
1.5nm,0.7s
EKS2 Erkin-Say 52.31 314 *eP* **P 01 58 45.8 +0.2**
2.7nm,0.9s
KURK Kurchatov 52.53 325 *eP* **P 01 58 46.3 -0.6**
14nm,0.9s
KBL Kabul 53.95 303 *eP* **P 01 58 57.9 -0.1**
2.4nm,0.6s
KKAR Karatay Array 54.73 314 *eP* **P 01 59 02.5 -0.7**
0.8nm,0.6s
BRVK Borovoye 58.20 325 *eP* **P 01 59 27.7 0.0**
6.5nm,0.8s
BILL Bilibino 61.35 17 *eP* **P 01 59 49.0 -0.1**
5.2nm,0.9s
ABKAR Akbulak array 63.33 319 *eP* **P 02 00 01.8 -0.9**
4.1nm,1.1s
ARU Arti 65.69 326 *eP* **P 02 00 16.6 -1.4**
3.2nm,0.7s
RAYN Ar Rayn 74.50 291 *eP* **P 02 01 13.4 +0.6**
22nm,1.5s
MCK McKinley 77.08 27 *eP* **P 02 01 26.5 -0.3**
13nm,1.4s
ILAR Eielson Array 77.90 26 P **P 02 01 30.0 -1.3**
ILAR Eielson Array 77.90 26 P **P 02 01 30.0 -1.3**
0.4nm,0.8s,baz=253,slow=6.1,SNR=4.5
ILAR LR LR 02 37 25.2
comp=Z,29nm,18.1s,baz=326,slow=37
OPO Ambohidratompo 81.98 249 LR LR 02 34 11.9
comp=Z,70nm,21.2s,baz=60,slow=33
INK Inuvik 82.51 21 *eP* **P 02 01 56.1 +0.1**
9.4nm,1.4s
BUR08 Bucovina Ar. S 86.31 318 *eP* **P 02 02 16.8 +0.9**
YKA Yellowknife Ar 92.10 23 P **P 02 02 42.6 -0.1**
YKA Yellowknife Ar 92.10 23 P **P 02 02 42.6 -0.1**
0.3nm,0.7s,baz=301,slow=4.5,SNR=6.2
TORD Torodi Ar. Bea 117.18 292 PKP **PKPdf 02 08 18.2 -1.8**
TORD Torodi Ar. Bea 117.18 292 PKP **PKPdf 02 08 18.2 -1.8**
1.1nm,1.3s,baz=237,slow=5.1,SNR=3.5
TXAR Lajitas Array 117.60 47 PKP **PKPdf 02 08 20.7 +0.2**
TXAR Lajitas Array 117.60 47 PKP **PKPdf 02 08 20.7 +0.2**
0.3nm,0.8s,baz=318,slow=1.7,SNR=4.6
PLCA Paso Flores 149.62 158 PKPbc **PKPbc 02 09 24.9 +1.1**
PLCA Paso Flores 149.62 158 PKPbc **PKPbc 02 09 24.9 +1.1**
2.3nm,0.9s,baz=183,slow=2.7,SNR=3.3
NNA Nana 159.60 89 *e*PKPab **PKPab 02 10 10.5 -1.5**

*ISCJB **30** 01:51:25.7±0.6,37.3N±0.1×137.2E±0.2,h250km,mb3.5/6, Error ellipse: s-maj=21.6km s-min=9.4km az=142.6*
*JMA **30** 01:51:25.9±0.2,37.11N×137.23E,h262km±2km,M3.2*
*IDC **30** 01:51:25.8±0.6,37.15N×137.48E,h262km±8km,mb3.2/6, mb1 3.4/8,mb1mx3.0/43,mbtmp3.9/8,Error ellipse: s-maj=36.6km s-min=18.0km az=78.0*
ISC 30 01:51:26.0±0.8,37.24N±0.1×137.3E±0.1,h250km,n13, σ1§15/17,mb3.5/6,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.63**	**177**	P	**Pn**	**01 52 00.4**	**+1.0**
MAT	**Matsushiro**	**1.01**	**133**	P	**Pn**	**01 52 01.9**	**+0.8**
MAT				S	S	**01 52 29.8**	**+1.0**
MAT	**Matsushiro**	**1.01**	**133**	P	**Pn**	**01 52 02.0**	**+0.8**
MAT				S	**S**	**01 52 29.9**	**+1.1**
MJAR	**Matsushiro Arr**	**1.01**	**133**	P	**Pn**	**01 52 02.3**	**+1.1**
8.0nm,0.3s,baz=294,slow=5.6,SNR=50							
MJAR				S	**S**	**01 52 30.0**	**+1.2**
0.4nm,0.3s,baz=313,slow=9.8,SNR=6.2							
JNG	**Nsakai**	**1.05**	**142**	P	**Pn**	**01 52 02.3**	**+0.8**
JNG				S	**S**	**01 52 29.5**	**+0.1**
ASAJ	**Asahikawa**	**7.97**	**29**	P	**Pn**	**01 53 18.8**	**0.0**
4.2nm,0.3s,baz=251,slow=13,SNR=12							
USRK	**Ussuriysk Arra**	**8.03**	**332**	P	**Pn**	**01 53 21.8**	**+2.2**
0.2nm,0.3s,baz=150,slow=12,SNR=7.9							
SONM	**Songino Array**	**24.95**	**305**	P	**P**	**01 56 27.4**	**+0.7**
0.4nm,0.6s,baz=99,slow=9.2,SNR=4.5							
MKAR	**Makanchi Array**	**41.21**	**301**	P	**P**	**01 58 46.5**	**+0.1**
1.3nm,0.9s,baz=97,slow=8.6,SNR=1.2							
WRA	**Warramunga Arr**	**56.94**	**183**	P	**P**	**02 00 43.6**	**-1.8**
0.5nm,0.7s,baz=0.1,slow=7.5,SNR=5.3							
ARCES	**ARCESS Array B**	**62.62**	**338**	P	**P**	**02 01 23.4**	**-0.1**
4.0nm,1.0s,baz=44,slow=6.6,SNR=5.1							
FINES	**FINESS Array B**	**67.07**	**331**	P	**P**	**02 01 51.7**	**-0.4**
0.4nm,0.3s,baz=73,slow=6.6,SNR=8.9							
AKASG	**Malin Array Be**	**72.08**	**321**	P	**P**	**02 02 21.5**	**-1.4**
0.6nm,0.3s,baz=48,slow=5.5,SNR=6.5							

*CSEM **30** 02:25:26.0,45.77N×14.20E,h0km,ML1.2,After LJU*
LJU 30 02:25:26.0,45.78N×14.20E,h16km,ML1.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.15**	**322**	*i* Pg	Pg	02 25 29.8	-0.4
JAVS				*i* Sg	Sg	02 25 32.8	-0.1
JAVS	**Javornik**	**0.15**	**322**	*i* Pg	Pg	02 25 30.2	0.0
JAVS				*i* Sg	Sg	02 25 33.2	+0.3
JAVS							
comp=Z,31nm,0.1s							
JAVS	**Javornik**	**0.15**	**322**	*i* Pg	Pg	02 25 30.2	0.0
JAVS				*i* Sg	Sg	02 25 33.2	+0.3
comp=Z,31nm,0.1s							
CEY	**Cerknica**	**0.16**	**103**	*i* Pg	Pg	02 25 29.8	-0.4
CEY	**Cerknica**	**0.16**	**103**	*i* Pg	Pg	02 25 30.2	-0.1
CEY				*i* Sg	Sg	02 25 33.2	+0.2
CEY							
comp=Z,4.0nm,0.1s							
CEY	**Cerknica**	**0.16**	**103**	*i* Pg	Pg	02 25 30.2	0.0
CEY				*i* Sg	Sg	02 25 33.2	+0.2
comp=Z,4.0nm,0.1s							
SKDS	**Skadanscina**	**0.26**	**210**	*i* Pg	Pg	02 25 31.4	-0.4
SKDS	**Skadanscina**	**0.26**	**210**	*i* Pg	Pg	02 25 31.7	-0.1
SKDS				*i* Sg	Sb	02 25 36.3	-0.5
SKDS							
comp=Z,11nm,0.1s							
SKDS	**Skadanscina**	**0.26**	**210**	*i* Pg	Pg	02 25 31.7	-0.1
SKDS				*i* Sg	Sb	02 25 36.3	-0.5
comp=Z,11nm,0.1s							
KNDS	**Knezji Dol**	**0.28**	**153**	*i* Sg	Sg	02 25 36.3	0.0
KNDS	**Knezji Dol**	**0.28**	**153**	*i* Sg	Sg	02 25 36.6	+0.3
KNDS	**Knezji Dol**	**0.28**	**153**	*i* Sg	Sg	02 25 36.6	+0.3
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg	Pg	02 25 32.8	-0.4
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg	Pg	02 25 33.1	-0.1
VOJS	**Vojsko**	**0.34**	**319**	*i* Pg	Pg	02 25 33.1	-0.1
VISS	**Visnje**	**0.45**	**86**	*i* Pg	Pg	02 25 35.0	0.0
VISS	**Visnje**	**0.45**	**86**	*i* Pg	Pg	02 25 35.0	-0.1
VNDS	**Vrh nad Dolski**	**0.48**	**47**	*i* Pg	Pb	02 25 36.0	-0.2

*MOS **30** 02:26:41.3±1.1,19.00N×121.21E,h53km,mb4.9/35,Error ellipse: s-maj=9.6km s-min=5.7km az=108.7*
*ISCJB **30** 02:26:41.3±0.3,19.17N±0.02×121.18E±0.03,h45km±3km, mb4.5/84,MS4.4/38,Error ellipse: s-maj=5.2km s-min=2.8km az=1.6*
*NEIC **30** 02:26:41.5±0.5,19.02N×121.21E,h40km±4km,mb4.7/39, Error ellipse: s-maj=5.2km s-min=3.8km az=100.0*
NEIC Felt [III PIVS] at Pamplona and Sanchez Mira and [II PIVS] at Laoag and Pasuquin, Luzon.
*GCMT **30** 02:26:41.5±0.2,19.16N×120.95E,h40km,MW5.2/78, Moment Tensor Solution. s63,c92; s78,c139; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr6.28±.24; Mθθ-0.49±.15; Mϕϕ-5.79±.17; Mrθ-1.46±.12; Mrϕ-3.75±.10; Mθϕ-2.12±.15; Best double couple: M07.46700×10^16 NP1:ϕ211.00000°,δ55.00000°,λ94.00000°. NP2: ϕ24.00000°,δ35.00000°,λ84.00000°. Principal axes: T 6.7500, Plg79.0000°, Azm136.0000°; N 1.4320, Plg3.0000°, Azm28.0000°; P -8.1840, Plg10.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **30** 02:26:42.7,19.41N×120.91E,h20km,mB4.9/29,mb4.4/33, Ms4.6/43,Ms7 4.5/37*
*MAN **30** 02:26:42,19.06N×121.10E,h31km,mb5.5,ML4.5, MS4.8*
*IDC **30** 02:26:42.0±2.6,18.97N×121.26E,h44km±24km,mb4.0/27, mb1 4.1/29,mb1mx4.1/46,mbtmp4.2/29,ML4.2/2,MS4.3/28, Ms1 4.3/28,ms1mx4.2/40,Error ellipse: s-maj=15.1km s-min=11.9km az=77.0*
*BKK **30** 02:26:43.6±0.9,19°N±6°×12°1E±1°1,h10km,M4.5/14, mb5.2/7,mb4.4/14,Mw(mB)4.6/7*
*DJA **30** 02:26:43.1±0.5,19°N±5°×12°1E±°,h10km,M4.8/16, mb4.7/16,mB5.3/10,Mw(mB)4.8/10*
ISC 30 02:26:42.2±0.5,19.12N±0.03×121.10E±0.04,h40km±4km, n269,σ1§58/260,mb4.6/79,MS4.4/39,6C-9D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.92**	**210**	*i* P	Pn	02 26 52.2	-6.3
PIP				*e* S	Sn	02 27 03.4	-7.2
SGCP	**Mt. Cagua**	**1.25**	**134**	*e* P	**Pn**	**02 27 03.2**	**0.0**
SGCP				*e* S	**Sn**	**02 27 19.4**	**+0.5**
APYP	**Conner**	**1.26**	**174**	*e* P	**Pn**	**02 27 03.5**	**+0.2**
APYP				*e* S	**Sn**	**02 27 18.3**	**-0.7**
ABRA	**Dolores**	**1.51**	**194**	*e* P	**Pn**	**02 27 07.3**	**+0.5**
CVP	**Callao Caves**	**1.57**	**154**	*i* P	**Pn**	**02 27 08.2**	**+0.7**
CVP				*i* S	**Sn**	**02 27 27.9**	**+1.3**
SZP	**Santa**	**1.68**	**201**	*e* Pn	**Pn**	**02 27 09.2**	**+0.2**
SZP				*e* Sn	**Sn**	**02 27 28.0**	**-1.3**
CAUP	**Cauayan**	**2.27**	**162**	*e* P	**Pn**	**02 27 20.3**	**+3.1**
BCPH	**Baguio City Da**	**2.77**	**190**	*i* P	**Pn**	**02 27 26.3**	**+2.0**
BCPH				*i* S	**Sn**	**02 28 02.4**	**+5.8**
BOLP	**Bolinao**	**2.95**	**203**	*e* P	**Pn**	**02 27 27.8**	**+1.3**
BALP	**Baler**	**3.39**	**172**	*e* P	**Pn**	**02 27 34.6**	**+2.0**
SCZP	**Santa Cruz**	**3.52**	**199**	*e* P	**Pn**	**02 27 35.1**	**+0.8**
PCPH	**Palayan**	**3.54**	**180**	*i* P	**Pn**	**02 27 36.8**	**+2.1**
PCPH				*e* S	Sn	02 28 23.5	+8.2
TWG	**Pinlang**	**3.68**	**360**	*e* Pn	**Pn**	**02 27 36.0**	**-0.5**
TWG				*e* Sn	**Sn**	**02 28 16.1**	**-2.6**
TPUB	**Ta-pu**	**4.18**	**354**	*e* Pn	**Pn**	**02 27 42.6**	**-0.9**
TPUB				*e* Sn	**Sn**	**02 28 28.9**	**-2.2**
YULB	**Yu-li**	**4.25**	**2**	*e* Pn	**Pn**	**02 27 44.6**	**+0.2**
YULB				*e* Sn	**Sn**	**02 28 34.1**	**+1.2**
SSLB	**Suanglung**	**4.64**	**358**	*e* Pn	**Pn**	**02 27 49.9**	**+0.1**
SSLB				*e* Sn	**Sn**	**02 28 41.4**	**-1.1**
TGY	**Tagaytay City**	**5.00**	**182**	P	Pn	02 27 58.2	+3.5
TGY	**Tagaytay City**	**5.00**	**182**	P	Pn	02 27 58.2	+3.5
48nm,0.3s,baz=325,slow=4.1,SNR=1.7							
TGY				LR	LR	02 30 19.1	
comp=Z,290nm,18.6s,baz=41,slow=45							
TGY	**Tagaytay City**	**5.00**	**182**	*e* P	Pn	02 28 02.6	+7.9
LQP	**Lukban**	**5.00**	**175**	*e* P	Pn	02 28 07.0	+12
NACB	**Ninganchiao**	**5.05**	**5**	*e* Pn	**Pn**	**02 27 55.5**	**+0.1**
113nm,0.4s							
NACB				*e* Sn	**Sn**	**02 28 53.6**	**+1.2**
GQP	**Guinayangan**	**5.35**	**166**	*e* P	**Pn**	**02 28 01.4**	**+1.9**
GQP				*e* S	**Sn**	**02 28 59.2**	**-0.7**
YHNB	**Yeheng**	**5.53**	**3**	*e* Pn	**Pn**	**02 28 02.9**	**+0.9**
144nm,0.6s							
YHNB				*e* Sn	**Sn**	**02 29 03.4**	**-0.9**
YOJ	**Yonaguni jima**	**5.60**	**18**	*e* P	**Pn**	**02 28 04.6**	**+1.6**
YOJ				*e*		02 29 06.3	
YOJ				pmax	pmax		
comp=Z,97nm,0.9s							
YOJ	**Yonaguni jima**	**5.60**	**18**	*e* Pn	**Pn**	**02 28 04.6**	**+1.6**
comp=Z,96nm,0.9s							
YOJ				*e* Sn	**Sn**	**02 29 06.3**	**+0.2**
BOAC	**Boac**	**5.68**	**173**	*e* P	**Pn**	**02 28 07.0**	**+2.9**
TATO	**Taipei**	**5.83**	**3**	*e* Pn	**Pn**	**02 28 06.9**	**+0.7**
QZH	**Quanzhou**	**6.24**	**339**	*i* Pn	**Pn**	**02 28 11.0**	**-0.7**
QZH				Sn	**Sn**	**02 29 18.0**	**-3.8**
QZH				LR	LR		
comp=Z,2μm,10.2s							
QZH				LR	LR		
comp=Z,4μm,15.3s							
QZH				LR	LR		
comp=Z,8μm,23.3s							
BUSP	**Coron**	**7.13**	**187**	*e* P	**Pn**	**02 28 25.9**	**+1.9**
ENPP	**El Nido**	**8.04**	**192**	*e* P	**Pn**	**02 28 38.6**	**+2.2**
JOW	**Kunigami**	**10.12**	**39**	*e* Pn	**Pn**	**02 29 05.7**	**+0.7**
QIZ	**Qiongzhong**	**10.64**	**271**	P	**Pn**	**02 29 10.8**	**-1.4**
QIZ				S	**Sn**	**02 31 05.0**	**-5.1**
QIZ				pmax	pmax		
comp=Z,18nm,0.5s							
QIZ				LR	LR		
comp=Z,2μm,15.9s							
QIZ				LR	LR		
comp=Z,3μm,21.2s							
QIZ	**Qiongzhong**	**10.64**	**271**	*e* Pn	**Pn**	**02 29 10.2**	**-1.9**
QIZ				*e* Sn	Sn	02 31 03.9	-6.3
WHN	**Wuhan**	**12.91**	**333**	P	Pn	02 29 39.0	-4.1
WHN				S	Sn	02 31 59.0	-6.5
WHN				LR	LR		
comp=Z,3μm,12.5s							
WHN				LR	LR		
comp=Z,1μm,16.0s							
WHN				LR	LR		
comp=Z,6μm,19.6s							
KKM	**Kota Kinabalu**	**13.84**	**201**	*e* Pn	**Pn**	**02 29 54.8**	**-1.2**
GYA	**Guiyang**	**15.18**	**301**	*i* P	**Pn**	**02 30 13.8**	**-0.1**
GYA				pmax	pmax		
comp=Z,20nm,0.8s							
GYA				pmax	pmax		
comp=Z,250nm,7.7s							
GYA				LR	LR		
comp=Z,1μm,15.5s							
GYA				LR	LR		
comp=Z,2μm,14.5s							
GYA				LR	LR		
comp=Z,2μm,14.2s							
UBPT	**Khong Chiam**	**15.41**	**258**	P	x	02 30 17.8	
comp=Z,19nm,1.4s,comp=Z,1μm							
UBPT	**Khong Chiam**	**15.41**	**258**	P	**P**	**02 30 19.9**	**-1.0**
comp=Z,31nm,1.7s,comp=Z,1μm							
SLVN	**Son La**	**16.29**	**281**	*e* Pn	**Pn**	**02 30 29.2**	**+1.0**
comp=Z,9.5nm,0.8s							
JNU	**Nakatsue**	**16.46**	**30**	*e* Pn	**Pn**	**02 30 30.1**	**-0.2**
comp=Z,20nm,0.9s							
JNU	**Nakatsue**	**16.46**	**30**	P	**P**	**02 30 31.6**	**-0.9**
comp=Z,0.6nm,0.3s,baz=119,slow=2.5,SNR=5.3							
JNU				LR	LR	02 37 10.1	
comp=Z,455nm,21.4s,baz=190,slow=38							
TIA	**Tai'an**	**17.38**	**349**	P	**P**	**02 30 46.3**	**+3.7**
TIA				LR	LR		
comp=Z,1μm,16.1s							
TIA				LR	LR		
comp=Z,690nm,18.4s							
TIA				LR	LR		
comp=Z,880nm,27.9s							
KMI	**Kunming**	**18.02**	**293**	P	**P**	**02 30 51.5**	**+1.5**
KMI				pP	**pP**	**02 31 01.0**	**+1.1**
KMI				sP	**sP**	**02 31 04.5**	**-0.5**
KMI				pmax	pmax		
comp=Z,12nm,1.4s							
KMI				pmax	pmax		
comp=Z,540nm,6.7s							
KMI				LR	LR		
comp=Z,1μm,13.4s							
KMI				LR	LR		
comp=Z,2μm,15.1s							
KMI				LR	LR		
comp=Z,3μm,13.0s							
XAN	**Xi'an**	**18.40**	**326**	P	**Pn**	**02 30 56.3**	**+2.1**
XAN				pmax	pmax		
comp=Z,3.0nm,1.1s							
XAN				pmax	pmax		
comp=Z,160nm,8.6s							
XAN				LR	LR		
comp=Z,1μm,15.6s							
XAN				LR	LR		
comp=Z,210nm,14.6s							
XAN				LR	LR		
comp=Z,370nm,14.4s							
MRSI	**Marisa**	**18.55**	**177**	P	**Pn**	**02 31 00.1**	**+4.0**
comp=Z,32nm,0.6s,comp=Z,632nm							
SBUM	**Sibu**	**18.71**	**209**	P	x	02 30 59.0	
comp=Z,33nm,2.0s,comp=Z,646nm							
CHBT	**CHBT**	**19.12**	**253**	P	x	02 31 05.6	
comp=Z,19nm,1.0s,comp=Z,697nm							
CHBT	**CHBT**	**19.12**	**253**	P	Pn	02 31 17.3	+14
KSAR	**Wonju Array Be**	**19.19**	**17**	P	**P**	**02 31 03.0**	**+0.4**
KSRS	**Korea Array**	**19.21**	**17**	P	**P**	**02 31 03.0**	**+0.2**
comp=Z,0.9nm,0.3s,baz=199,slow=11,SNR=15							
KSRS				LR	LR	02 39 30.8	
comp=Z,769nm,20.2s,baz=199,slow=40							
PBKT	**Sadao Pong**	**19.33**	**266**	P	x	02 31 10.6	
comp=Z,13nm,1.4s,comp=Z,3μm							
PBKT	**Sadao Pong**	**19.33**	**266**	P	**Pn**	**02 31 09.3**	**+3.8**
comp=Z,13nm,1.4s,comp=Z,3μm							
UTTA	**Uttaradit**	**19.54**	**269**	P	Pn	02 31 13.7	+5.7
comp=Z,2.6nm,0.8s							
CD2	**Chengdu**	**19.58**	**310**	P	**Pn**	**02 31 08.8**	**+0.3**
CD2				sP	**sP**	**02 31 22.5**	**+0.6**
CD2				pmax	pmax		
comp=Z,30nm,1.3s							
CD2				pmax	pmax		
comp=Z,680nm,4.8s							
CD2				LR	LR		
comp=Z,2μm,16.7s							
CD2				LR	LR		
comp=Z,2μm,14.3s							
CD2				LR	LR		
comp=Z,2μm,15.5s							
TIY	**Taiyuan**	**20.01**	**340**	*e* P	Pn	02 31 16.5	+3.0
TIY				LR	LR		
comp=Z,2μm,19.5s							
TIY				LR	LR		
comp=Z,240nm,10.0s							
TIY				LR	LR		
comp=Z,2μm,16.7s							
SUKH	**Sukhothai**	**20.45**	**269**	P	Pn	02 31 22.0	+3.3
comp=Z,4.7nm,1.0s,comp=Z,61nm							
KSM	**Kuching**	**20.48**	**212**	P	x	02 31 23.5	
comp=Z,26nm,1.2s							
KSM	**Kuching**	**20.48**	**212**	*e* P	**P**	**02 31 16.5**	**-0.2**
comp=Z,18nm,0.6s							
CMAI	**Chiengmai2**	**20.80**	**276**	P	Pn	02 31 37.9	+15
JCJ	**Chichijima**	**20.93**	**64**	LR	LR	02 37 49.0	
comp=Z,573nm,21.0s,baz=270,slow=32							
CMMT	**Chiang Mai**	**20.95**	**273**	P	x	02 31 24.0	
comp=Z,28nm,1.2s,comp=Z,564nm							
CMMT	**Chiang Mai**	**20.95**	**273**	P	Pn	02 31 24.4	-0.2
comp=Z,28nm,1.2s,comp=Z,564nm							
CHTO	**Chiang Mai**	**20.96**	**273**	*e* P	**P**	**02 31 23.6**	**+1.7**
CHTO				pmax	pmax		
comp=Z,24nm,1.1s							
CHTO	**Chiang Mai**	**20.96**	**273**	P	x	02 31 23.7	
comp=Z,98nm,1.2s,comp=Z,1μm							
CHTO	**Chiang Mai**	**20.96**	**273**	P	Pn	02 31 24.5	-0.2
comp=Z,98nm,1.2s,comp=Z,1μm							
CHTO	**Chiang Mai**	**20.96**	**273**	*e* P	**P**	**02 31 23.6**	**+1.7**
comp=Z,24nm,1.1s							
UTHA	**Uthaitani**	**20.97**	**264**	P	Pn	02 31 24.7	-0.1
comp=Z,5.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**20.99**	**272**	P	**P**	**02 31 24.4**	**+2.1**
CMAR	**Chiang Mai Arr**	**20.99**	**272**	P	**P**	**02 31 24.4**	**+2.1**
comp=Z,4.3nm,0.6s,baz=74,slow=9.1,SNR=12							
CMAR				LR	LR	02 40 29.7	
comp=Z,1μm,18.1s,baz=67,slow=39							
BJT	**Baijiatuan**	**21.25**	**350**	*e* P	**P**	**02 31 26.1**	**+1.3**
comp=Z,54nm,1.0s							
SRDT	**SRDT**	**21.57**	**261**	P	x	02 31 31.0	
comp=Z,42nm,1.4s							
SRDT	**SRDT**	**21.57**	**261**	P	**P**	**02 31 32.9**	**+4.4**
comp=Z,42nm,1.4s							
SANI	**Sanana**	**21.58**	**167**	P	**P**	**02 31 29.6**	**+1.0**
comp=Z,37nm,0.6s							
MHMT	**Maesarieng**	**21.97**	**271**	P	P	02 31 42.5	+10
LZH	**Lanzhou**	**22.73**	**322**	P	**P**	**02 31 43.3**	**+2.4**
LZH				pP	**pP**	**02 31 47.5**	**-3.5**
LZH				sP	sP	02 31 50.0	-6.0
LZH				S	**S**	**02 35 43.0**	**-4.0**
LZH				sS	sS	02 35 50.3	-14
LZH				SS	**SnSn**	**02 36 23.8**	**+4.4**
LZH				pmax	pmax		
comp=Z,16nm,1.0s							
LZH				pmax	pmax		
comp=Z,72nm,4.0s							
LZH				LR	LR		
comp=Z,1μm,14.6s							
LZH				LR	LR		
comp=Z,640nm,12.7s							
LZH				LR	LR		
comp=Z,2μm,16.6s							
SNY	**Shenyang**	**22.73**	**5**	P	**P**	**02 31 41.5**	**+0.8**
SNY				S	**S**	**02 35 44.5**	**-2.0**
SNY				pmax	pmax		
comp=Z,15nm,1.6s							
SNY				pmax	pmax		
comp=Z,170nm,10.5s							
SNY				LR	LR		
comp=Z,430nm,15.9s							
SNY				LR	LR		
comp=Z,700nm,14.9s							
SNY				LR	LR		
comp=Z,580nm,21.6s							
MAJO	**Matsushiro**	**22.96**	**37**	*e* P	**P**	**02 31 42.9**	**-0.2**
MAJO				pmax	pmax		
comp=Z,364nm,3.2s							
MAJO	**Matsushiro**	**22.96**	**37**	*e* P	**P**	**02 31 43.5**	**+0.3**
comp=Z,13nm,0.8s							
MJAR	**Matsushiro Arr**	**22.96**	**37**	P	**P**	**02 31 43.5**	**+0.3**
MJAR	**Matsushiro Arr**	**22.96**	**37**	P	**P**	**02 31 43.5**	**+0.3**
comp=Z,3.0nm,0.6s,baz=218,slow=9.5,SNR=6.2							
MJAR				LR	LR	02 39 29.1	
comp=Z,212nm,20.5s,baz=250,slow=33							
KAPI	**Kappang**	**24.02**	**183**	*e* P	**P**	**02 31 52.1**	**-1.4**
comp=Z,94nm,1.0s							
KULM	**Kulim**	**24.22**	**238**	*e* P	**P**	**02 31 55.5**	**+0.1**
comp=Z,35nm,1.3s							
IPM	**Ipoh**	**24.41**	**236**	*e* P	**P**	**02 31 56.5**	**-0.5**
comp=Z,15nm,0.8s							
CN2	**Changchun**	**24.88**	**7**	*e* P	**P**	**02 31 59.8**	**-1.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=Z,700nm,17.0s							
CN2				LR	LR		
comp=Z,700nm,17.0s							
CN2				LR	LR		
comp=Z,800nm,18.0s							
USRK	**Ussuriysk Arra**	**26.61**	**18**	P	**P**	**02 32 17.2**	**+0.5**
comp=Z,4.3nm,0.8s,baz=196,slow=10,SNR=9.9							
USRK			

SONM	**Songino Array**	**31.04**	**341**	P		**P**		**02 32 57.4**	**+1.1**
	comp=Z,3.4nm,1.1s,baz=161,slow=9.0,SNR=14								
SONM				LR		LR		02 46 45.8	
	comp=Z,1μm,18.1s,baz=166,slow=38								
KLR	**Kul'dur**	**31.24**	**14**	*e*P		**P**		**02 32 54.8**	**-3.0**
HABR	**Khabarovsk**	**31.38**	**18**	*e*P		P		02 33 11.4	+12
HABR				*e*				02 34 01.3	
HABR				*e*S		**S**		**02 38 04.3**	**+0.5**
HABR				*e*SS		**SnSn**		**02 39 52.2**	**+2.2**
HABR				*e*				02 43 28.2	
HABR				pmax	pmax				
	comp=Z,24nm,1.9s								
HABR				MLR	MLR				
	comp=Z,300nm,18.0s								
TAPN	**Taplejung**	**31.68**	**291**	*e*P		**P**		**02 33 05.0**	**+2.6**
YUK	**Yuzh-Kuril'sk**	**32.35**	**34***d*	*i*P		**P**		**02 33 10.5**	**+2.8**
YUK				*i* S		**S**		**02 38 24.2**	**+5.3**
YUK				MLR	MLR				
	comp=Z,380nm,19.0s								
YUK				MLR	MLR				
	comp=N,683nm,20.0s								
RAMN	**Ramite**	**32.61**	**290**	*e*P		**P**		**02 33 12.4**	**+1.9**
	comp=N,25nm,0.8s								
JIRN	**Jiri**	**33.06**	**291**	*e*P		**P**		**02 33 16.4**	**+1.8**
GUN	**Gumba**	**33.36**	**292**	*e*P		**P**		**02 33 18.9**	**+1.7**
	comp=N,32nm,0.9s								
PKI	**Pulchoki**	**33.74**	**291**	*e*P		**P**		**02 33 21.4**	**+1.0**
KKN	**Kakani**	**33.88**	**292**	*e*P		**P**		**02 33 22.8**	**+1.3**
DMN	**Daman**	**34.01**	**291**	*e*P		**P**		**02 33 23.4**	**+0.7**
	comp=N,19nm,0.7s								
ZAK	**Zakamensk**	**34.27**	**340**	*e*P		**P**		**02 33 25.5**	**+1.0**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.4s								
GKN	**Gorkha**	**34.47**	**292**	*e*P		**P**		**02 33 27.3**	**+0.7**
DANN	**Dangsing**	**35.28**	**292**	*e*P		**P**		**02 33 34.5**	**+0.8**
	comp=Z,23nm,1.1s								
TLY	**Talaya**	**35.28**	**341**	*e*P		**P**		**02 33 35.6**	**+2.5**
TLY				pmax	pmax				
	comp=Z,16nm,1.4s								
TLY				MLR	MLR				
	comp=Z,652nm,17.0s								
TLY	**Talaya**	**35.28**	**341**	*e*P		**P**		**02 33 34.1**	**+1.1**
	comp=Z,12nm,1.0s								
KOLN	**Koldanda**	**35.35**	**291**	*e*P		**P**		**02 33 35.6**	**+1.3**
	comp=Z,18nm,0.8s								
PYUN	**Piuthan**	**35.92**	**292**	*e*P		**P**		**02 33 40.5**	**+1.3**
	comp=Z,21nm,0.7s								
MOY	**Mondy**	**36.12**	**339**	*e*P		P		02 33 43.7	+3.3
PMG	**Port Moresby**	**38.26**	**136**	*e*P		**P**		**02 33 57.8**	**-1.0**
	comp=Z,17nm,0.9s								
COEN	**Coen**	**39.41**	**145**	*e*P		**P**		**02 34 06.3**	**-2.1**
WRAB	**Tennant Creek**	**40.93**	**161**	P		**P**		**02 34 18.4**	**-2.6**
WRAB				pmax	pmax				
	comp=Z,9.0nm,0.6s								
WRAB				MLR	MLR				
	comp=Z,367nm,16.0s								
WRAB	**Tennant Creek**	**40.93**	**161**	*e*P		P		02 34 17.3	-3.6
	comp=Z,5.5nm,0.6s								
WRAB				*i* PcP		**PcP**		**02 36 21.0**	**0.0**
WRA	**Warramunga Arr**	**40.94**	**161**	P		P		02 34 17.7	-3.3
WRA				PcP		**PcP**		**02 36 20.7**	**-0.3**
WRA	**Warramunga Arr**	**40.94**	**161**	P		P		02 34 17.7	-3.3
	comp=Z,1.1nm,0.2s,baz=334,slow=11,SNR=59								
WRA				PcP		**PcP**		**02 36 20.7**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=343,slow=3.3,SNR=9.1								
MK31	**Makanchi Array**	**42.03**	**320**	*e*P		**P**		**02 34 31.4**	**+1.6**
MK31	**Makanchi Array**	**42.03**	**320**	*e*P		**P**		**02 34 31.4**	**+1.6**
MKAR	**Makanchi Array**	**42.03**	**320**	P		**P**		**02 34 31.7**	**+1.9**
MKAR	**Makanchi Array**	**42.03**	**320**	P		**P**		**02 34 31.7**	**+1.9**
MKAR	**Makanchi Array**	**42.03**	**320**	P		**P**		**02 34 31.7**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=113,slow=9.7,SNR=35								
MKAR				LR		LR		02 53 47.9	
	comp=Z,357nm,18.4s,baz=120,slow=38								
H11S3	**WAKE ISLAND Hy 43.06**		**83**	T		T		03 20 26.2	
	baz=280,slow=73,SNR=177								
H11S1	**WAKE ISLAND Hy 43.07**		**83**	T		T		03 20 24.2	
	baz=280,slow=73,SNR=139								
H11S2	**WAKE ISLAND Hy 43.08**		**83**	T		T		03 20 25.2	
	baz=280,slow=73,SNR=102								
H11N1	**WAKE ISLAND Hy 43.09**		**81**	T		T		03 20 38.9	
	baz=280,slow=75,SNR=485								
H11N2	**WAKE ISLAND Hy 43.09**		**81**	T		T		03 20 39.1	
	baz=280,slow=75,SNR=375								
H11N3	**WAKE ISLAND Hy 43.11**		**81**	T		T		03 20 40.2	
	baz=280,slow=75,SNR=295								
PETK	**Petropavlovsk-**	**44.16**	**31**	P		**P**		**02 34 46.7**	**-0.1**
PETK	**Petropavlovsk-**	**44.16**	**31**	P		**P**		**02 34 46.7**	**-0.1**
PETK	**Petropavlovsk-**	**44.16**	**31**	P		**P**		**02 34 46.7**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=213,slow=5.1,SNR=11								
PETK				LR		LR		02 53 23.9	
	comp=Z,172nm,21.4s,baz=226,slow=36								
AS31	**Alice Springs**	**44.33**	**163**	*e*P		**P**		**02 34 46.3**	**-2.2**
ASAR	**Alice Springs**	**44.33**	**163**	P		**P**		**02 34 46.1**	**-2.4**
ASAR				ScP		**ScP**		**02 40 20.1**	**-1.1**
ASAR	**Alice Springs**	**44.33**	**163**	P		**P**		**02 34 46.1**	**-2.4**
	comp=Z,3.6nm,0.5s,baz=341,slow=7.1,SNR=47								
ASAR				ScP		**ScP**		**02 40 20.1**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=353,slow=5.2,SNR=4.7								
ZAA0	**Zalesovo Array**	**44.51**	**330**	*e*P		**P**		**02 34 49.9**	**+0.4**
ZALV	**Zalesovo Beam**	**44.51**	**330**	P		**P**		**02 34 50.5**	**+0.9**
ZALV	**Zalesovo Beam**	**44.51**	**330**	P		**P**		**02 34 50.5**	**+0.9**
ZALV	**Zalesovo Beam**	**44.51**	**330**	P		**P**		**02 34 50.5**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=109,slow=8.0,SNR=13								
ZALV				LR		LR		02 54 34.8	
	comp=Z,707nm,19.1s,baz=92,slow=37								
TKM2	**Tokmak 2**	**44.95**	**312**	*e*P		**P**		**02 34 52.1**	**-1.5**
TKM2				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TKM2	**Tokmak 2**	**44.95**	**312**	*e*P		**P**		**02 34 52.1**	**-1.5**
	comp=Z,2.5nm,0.9s								
AAK	**Ala-Archa**	**45.64**	**311**	*e*P		**P**		**02 35 02.1**	**+3.0**
AAK	**Ala-Archa**	**45.64**	**311**	*e*P		**P**		**02 34 58.4**	**-0.7**
	comp=Z,2.9nm,0.9s								
AAK	**Ala-Archa**	**45.64**	**311**	P		P		02 35 03.7	+4.7
	comp=Z,0.7nm,0.6s,baz=108,slow=3.2,SNR=3.3								
NVS	**Novosibirsk**	**45.78**	**330**	*e*P		P		02 35 04.6	+4.9
KURK	**Kurchatov**	**46.00**	**323**	*e*P		**P**		**02 35 01.9**	**+0.4**
KURK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
KURK	**Kurchatov**	**46.00**	**323**	*e*P		**P**		**02 35 01.9**	**+0.4**
	comp=Z,5.1nm,0.8s								
KURBB	**Kurchatov Arra**	**46.01**	**323**	P		P		**02 35 02.0**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=121,slow=7.9,SNR=36								
CTAO	**Charters Tower**	**46.12**	**146**	*e*P		**P**		**02 35 02.1**	**-0.6**
CTAO				pmax	pmax				
	comp=Z,25nm,1.1s								
CTAO	**Charters Tower**	**46.12**	**146**	*e*P		**P**		**02 35 02.1**	**-0.6**
	comp=Z,25nm,1.1s								
EKS2	**Erkin-Say**	**46.16**	**311**	*e*P		**P**		**02 35 01.1**	**-2.0**
EKS2				pmax	pmax				
	comp=Z,4.0nm,1.1s								
EKS2	**Erkin-Say**	**46.16**	**311**	*e*P		**P**		**02 35 01.1**	**-2.0**
	comp=Z,4.1nm,1.1s								
KBL	**Kabul**	**48.42**	**300**	*e*P		**P**		**02 35 22.3**	**+1.4**
KBL				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KBL	**Kabul**	**48.42**	**300**	*e*P		**P**		**02 35 22.3**	**+1.4**
	comp=Z,6.7nm,0.8s								
KKAR	**Karatay Array**	**48.60**	**311**	*e*P		**P**		**02 35 23.3**	**+1.4**
KKAR				*e*				02 36 47.0	
KKAR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KKAR	**Karatay Array**	**48.60**	**311**	*e*P		**P**		**02 35 23.3**	**+1.4**
	comp=Z,8.4nm,0.9s								
KKAR				*e*PcP		**PcP**		**02 36 47.0**	**-0.1**
SEY	**Seymchan**	**48.76**	**18**	P		**P**		**02 35 23.4**	**+0.6**
SEY								02 36 47.0	
SEY	**Seymchan**	**48.76**	**18**	P		**P**		**02 35 23.4**	**+0.6**
SEY				PcP		**PcP**		**02 36 47.0**	**-0.2**
SEY	**Seymchan**	**48.76**	**18**	P		**P**		**02 35 23.4**	**+0.6**
	comp=Z,4.3nm,0.6s,baz=232,slow=5.4,SNR=9.7								
SEY				PcP		**PcP**		**02 36 47.0**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=199,slow=2.9,SNR=5.6								
FORT	**Forrest**	**50.06**	**172**	*e*P		**P**		**02 35 31.3**	**-1.7**
	comp=Z,24nm,0.8s								
BVAR	**Borovoye Array**	**51.60**	**323**	P		**P**		**02 35 46.0**	**+1.6**
BVAR								02 36 57.3	
BVAR	**Borovoye Array**	**51.60**	**323**	P		**P**		**02 35 46.0**	**+1.6**
BVAR				PcP		**PcP**		**02 36 57.3**	**-0.5**
BVAR	**Borovoye Array**	**51.60**	**323**	P		**P**		**02 35 46.0**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=118,slow=10,SNR=18								
BVAR				PcP		**PcP**		**02 36 57.3**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=121,slow=5.0,SNR=6.3								
BRVK	**Borovoye**	**51.67**	**323**↓	*i*P		**P**		**02 35 46.8**	**+1.8**
BRVK				pmax	pmax				
	comp=Z,14nm,1.7s								
BRVK				MLR	MLR				
	comp=Z,374nm,15.0s								
BRVK	**Borovoye**	**51.67**	**323**	*e*P		**P**		**02 35 46.2**	**+1.2**
	comp=Z,6.7nm,0.8s								
TIXI	**Tiksi**	**52.73**	**3**↑	*i*P		**P**		**02 35 52.0**	**-0.5**
TIXI				pmax	pmax				
	comp=Z,14nm,0.8s								
TIXI				MLR	MLR				
	comp=Z,329nm,18.0s								
TIXI	**Tiksi**	**52.73**	**3**	*e*P		**P**		**02 35 51.3**	**-1.2**
	comp=Z,12nm,0.8s								
BBOO	**Buckleboo**	**53.59**	**164**	*e*P		**P**		**02 35 57.7**	**-1.6**
STKA	**Stephens Creek**	**54.38**	**159**	*e*P		**P**		**02 36 03.1**	**-2.1**
STKA	**Stephens Creek**	**54.38**	**159**	P		**P**		**02 36 02.5**	**-2.6**
	comp=Z,2.2nm,0.5s,baz=341,slow=7.7,SNR=7.2								
STKA				LR		LR		03 00 54.1	
	comp=Z,191nm,20.3s,baz=352,slow=38								
BILL	**Bilibino**	**56.47**	**19**	*i*P		**P**		**02 36 18.7**	**-1.0**
BILL				*i*				02 37 20.4	
BILL				*i*				02 38 27.7	
BILL				pmax	pmax				
	comp=Z,5.0nm,0.7s								
BILL	**Bilibino**	**56.47**	**19**	*e*P		**P**		**02 36 19.4**	**-0.3**
BILL				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BILL	**Bilibino**	**56.47**	**19**	*e*P		**P**		**02 36 19.4**	**-0.3**
	comp=Z,5.5nm,0.6s								
ABKAR	**Akbulak array**	**56.98**	**317**	*e*P		**P**		**02 36 24.4**	**+0.7**
	comp=Z,6.0nm,0.8s								
SVE	**Sverdlovsk**	**58.11**	**326**↓	*i*P		**P**		**02 36 32.2**	**+0.7**
SVE				pmax	pmax				
	comp=Z,16nm,1.1s								
AKTO	**Aktyubinsk**	**58.40**	**318**	P		**P**		**02 36 34.4**	**+0.8**
AKTO	**Aktyubinsk**	**58.40**	**318**	P		**P**		**02 36 34.4**	**+0.8**
AKTO	**Aktyubinsk**	**58.40**	**318**	P		**P**		**02 36 34.4**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=92,slow=9.5,SNR=11								
AKTO				LR		LR		03 03 07.5	
	comp=Z,254nm,20.2s,slow=37								
ARU	**Arti**	**59.14**	**325***c*	*i*P		**P**		**02 36 39.0**	**+0.4**
ARU								02 38 48.5	
ARU				S		**S**		**02 44 47.8**	**+4.7**
ARU				SS		**SS**		**02 48 41.8**	**+4.4**
ARU				pmax	pmax				
	comp=Z,8.0nm,0.8s								
ARU				MLR	MLR				
	comp=Z,496nm,17.0s								
ARU	**Arti**	**59.14**	**325**	*e*P		**P**		**02 36 38.8**	**+0.2**
	comp=Z,6.9nm,0.4s								
DZM	**Mont Dzumac**	**60.35**	**131**	*e*S		**S**		**02 44 59.0**	**-0.7**
	comp=Z,164nm,25.1s								
DZM				*e*LR		LR		02 54 46.7	
	comp=Z,659nm,22.2s								
DZM	**Mont Dzumac**	**60.35**	**131**	*e*P		**P**		**02 36 44.7**	**-2.8**
	comp=Z,5.0nm,0.7s								
ZEI	**Tsey**	**68.00**	**309**	*e*P		**P**		**02 37 37.3**	**-0.4**
ZEI				pmax	pmax				
	comp=Z,11nm,1.4s								
KBZ	**Khabaz**	**68.63**	**310**	P		**P**		**02 37 42.0**	**+0.7**
KBZ	**Khabaz**	**68.63**	**310**	P		**P**		**02 37 42.0**	**+0.7**
KBZ	**Khabaz**	**68.63**	**310**	P		**P**		**02 37 42.0**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=72,slow=16,SNR=4.1								
KBZ				LR		LR		03 11 49.6	
	comp=Z,393nm,18.7s,baz=67,slow=39								
KIV	**Kislovodsk**	**68.75**	**311**	*e*P		**P**		**02 37 42.9**	**+0.7**
KIV				*i*				02 38 05.6	
KIV				*i* S		**S**		**02 46 43.2**	**+0.2**
KIV				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KIV				MLR	MLR				
	comp=Z,322nm,24.0s								
KIV	**Kislovodsk**	**68.75**	**311**	*e*P		**P**		**02 37 42.7**	**+0.5**
	comp=Z,8.4nm,0.8s								
VRHR	**Novokhopersk**	**68.80**	**318**	*e*P		**P**		**02 37 40.8**	**-1.4**
VRHR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.8s								
KLMR	**Klimovskoe**	**69.41**	**329**	*e*P		**P**		**02 37 45.0**	**-0.8**
KLMR				pmax	pmax				
	comp=Z,27nm,1.7s								
RAYN	**Ar Rayn**	**69.81**	**289**	*e*P		**P**		**02 37 48.9**	**-0.2**
	comp=Z,7.6nm,0.7s								
VORD	**Divnogorie**	**70.28**	**318**	*e*P		P		02 37 55.9	+4.6
VORD				pmax	pmax				
	comp=N,10.0nm,0.6s								
VORD				pmax	pmax				
	comp=E,10.0nm,0.6s								
VORD				pmax	pmax				
	comp=Z,5.0nm,0.6s								
VSR	**Storozhevoye**	**70.33**	**319**	*e*P		**P**		**02 37 50.0**	**-1.7**
VSR				pmax	pmax				
	comp=E,5.0nm,1.1s								
VSR				pmax	pmax				
	comp=Z,7.0nm,1.1s								
VSR				pmax	pmax				
	comp=N,5.0nm,0.9s								
OBN	**Obninsk**	**71.44**	**323**	*e*P		**P**		**02 37 57.6**	**-0.7**
OBN				*i*				02 38 21.4	
OBN				*i* S		**S**		**02 47 12.6**	**-1.2**
OBN				pmax	pmax				
	comp=Z,19nm,1.4s								
OBN				MLR	MLR				
	comp=Z,143nm,15.0s								
KTH	**Kantishna Hill**	**72.17**	**28**	*e*P		**P**		**02 38 02.3**	**-0.4**
	comp=Z,8.4nm,1.1s								
TRF	**Thorofare Moun**	**72.47**	**28**	*e*P		**P**		**02 38 05.1**	**+0.5**
	comp=Z,3.1nm,0.6s								
MCK	**McKinley**	**73.03**	**28**	*e*P		**P**		**02 38 07.4**	**-0.3**
MCK				pmax	pmax				
	comp=Z,29nm,1.4s								
MCK	**McKinley**	**73.03**	**28**	*e*P		**P**		**02 38 07.4**	**-0.3**
	comp=Z,29nm,1.4s								
COLA	**College**	**73.32**	**26**	*e*P		**P**		**02 38 09.1**	**-0.2**
COLA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
COLA	**College**	**73.32**	**26**	*e*P		**P**		**02 38 09.1**	**-0.2**
	comp=Z,4.5nm,0.8s								
ILAR	**Eielson Array**	**73.74**	**26**	P		**P**		**02 38 10.3**	**-1.6**
ILAR	**Eielson Array**	**73.74**	**26**	P		**P**		**02 38 10.3**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=266,slow=4.3,SNR=16								
ARCES	**ARCESS Array B**	**74.19**	**339**	P		**P**		**02 38 14.8**	**+0.4**
ARCES	**ARCESS Array B**	**74.19**	**339**	P		**P**		**02 38 14.8**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=73,slow=8.1,SNR=19								
ARCES				LR		LR		03 14 44.1	
	comp=Z,312nm,18.9s,baz=76,slow=39								
ASF	**Jabal al Asfar**	**75.31**	**299**	P		**P**		**02 38 22.5**	**+0.8**
ASF	**Jabal al Asfar**	**75.31**	**299**	P		**P**		**02 38 22.5**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=79,slow=5.2,SNR=3.4								
FINES	**FINESS Array B**	**75.77**	**330**	P		**P**		**02 38 23.3**	**-0.3**
FINES	**FINESS Array B**	**75.77**	**330**	P		**P**		**02 38 23.3**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=57,slow=7.0,SNR=11								
FINES				LR		LR		03 14 29.4	
	comp=Z,253nm,19.4s,baz=90,slow=38								
EGAK	**Eagle**	**76.13**	**26**	*e*P		**P**		**02 38 25.1**	**-0.6**
	comp=Z,6.0nm,0.9s								
BR131	**Keskin Array S**	**76.14**	**307**	*e*P		**P**		**02 38 25.7**	**-0.6**
BRTR	**Keskin Array B**	**76.14**	**307**	P		**P**		**02 38 26.0**	**-0.4**
BRTR	**Keskin Array B**	**76.14**	**307**	P		**P**		**02 38 26.0**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=123,slow=3.1,SNR=4.1								
VSU	**Vasula**	**76.16**	**327**	P		**P**		**02 38 27.6**	**+1.7**
VSU				pmax	pmax				
	comp=Z,126nm,3.8s								
VSU				MLR	MLR				
	comp=Z,2μm,19.0s								
AKASG	**Malin Array Be**	**76.61**	**319**	P		**P**		**02 38 28.2**	**-0.4**
AKASG	**Malin Array Be**	**76.61**	**319**	P		**P**		**02 38 28.2**	**-0.4**
AKASG	**Malin Array Be**	**76.61**	**319**	P		**P**		**02 38 28.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=63,slow=5.6,SNR=4.0								
AKASG				LR		LR		03 14 32.5	
	comp=Z,186nm,18.0s,baz=70,slow=37								
KIEV	**Kiev**	**76.62**	**319**	P		**P**		**02 38 27.9**	**-0.7**
DAWY	**Dawson**	**77.07**	**26**	*e*P		**P**		**02 38 30.6**	**-0.5**
INK	**Inuvik**	**77.93**	**22**	*e*P		**P**		**02 38 34.7**	**-0.9**
	comp=Z,4.1nm,0.8s								
BUR08	**Bucovina Ar. S**	**79.97**	**317**	*e*P		**P**		**02 38 47.0**	**-0.5**
MLR	**Muntele Rosu**	**80.11**	**315**	P		**P**		**02 38 47.8**	**-0.5**
MLR	**Muntele Rosu**	**80.11**	**315**	P		**P**		**02 38 47.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=162,slow=4.7,SNR=6.0								
MLR				LR		LR		03 18 18.3	
	comp=Z,95nm,21.8s,baz=70,slow=38								
DAG	**Danmarks Havn**	**81.33**	**351**	*i* P		**P**		**02 38 52.7**	**-1.3**
DAG				pmax	pmax				
	comp=Z,2.0nm,0.8s								
DAG	**Danmarks Havn**	**81.33**	**351**	*i* P		**P**		**02 38 52.7**	**-1.3**
	comp=Z,2.9nm,0.8s								
UZH	**Uzhgorod**	**81.51**	**318**	*e*P		P		02 38 50.5	-5.0
UZH				*e*				02 39 06.3	
NB2	**NORSAR Subarra**	**82.65**	**333**	P		**P**		**02 39 01.0**	**-0.3**
	comp=Z,9.7nm,1.1s,baz=64,slow=5.3								
NOA	**NORSAR Array B**	**82.65**	**333**	P		**P**		**02 39 00.7**	**-0.5**
NOA	**NORSAR Array B**	**82.65**	**333**	P		**P**		**02 39 00.7**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=64,slow=5.0,SNR=3.5								
NOA				LR		LR		03 18 57.1	
	comp=Z,655nm,19.0s,baz=55,slow=38								
KECS	**Kecovo**	**82.69**	**319**	*e*P		**P**		**02 39 01.4**	**-0.3**
KECS				pmax	pmax				
	comp=Z,1.0nm,1.1s								
KECS	**Kecovo**	**82.69**	**319**	*e*P		**P**		**02 39 01.4**	**-0.3**
NAO01	**NORSAR Array S**	**82.88**	**332**	*e*P		**P**		**02 39 03.0**	**+0.5**
	comp=Z,11nm,1.0s								
PSZ	**Piszkesteto**	**83.26**	**318**	*e*P		**P**		**02 39 04.4**	**-0.4**
PSZ				pmax	pmax				
	comp=Z,4.0nm,0.7s								
PSZ	**Piszkesteto**	**83.26**	**318**	*e*P		**P**		**02 39 04.4**	**-0.4**
	comp=Z,3.9nm,0.7s								
KSP	**Ksiaz**	**84.34**	**322**	*e*P		**P**		**02 39 10.9**	**+0.8**
KMBO	**Kilima Mbogo**	**84.55**	**267**	*e*P		**P**		**02 39 11.1**	**-1.1**
	comp=Z,4.2nm,1.0s								
KMBO	**Kilima Mbogo**	**84.55**	**267**	LR		LR		03 14 41.8	
	comp=Z,170nm,20.8s,baz=91,slow=34								
VRAC	**Vranov**	**84.77**	**320**	LR		LR		03 21 12.3	
	comp=Z,187nm,18.4s,baz=8.0,slow=38								
GERES	**GERESS Array B**	**86.69**	**321**	P		**P**		**02 39 22.4**	**+0.5**
GERES	**GERESS Array B**	**86.69**	**321**	P		**P**		**02 39 22.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=46,slow=5.7,SNR=3.2								
GERES				LR		LR		03 20 55.5	
	comp=Z,169nm,18.2s,baz=66,slow=37								
SUMG	**Summit**	**87.50**	**354**	*e*P		**P**		**02 39 26.7**	**+0.9**
SUMG				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SUMG	**Summit**	**87.50**	**354**	*i* P		**P**		**02 39 26.7**	**+0.9**
	comp=Z,3.5nm,0.9s								
YKA	**Yellowknife Ar**	**87.65**	**23**	P		**P**		**02 39 25.9**	**-0.2**
YKA	**Yellowknife Ar**	**87.65**	**23**	P		**P**		**02 39 25.9**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=311,slow=4.6,SNR=98								
DAVOX	**Davos/Dischmat**	**89.92**	**320**	LR		LR		03 23 11.6	
	comp=Z,254nm,18.7s,baz=78,slow=38								
PPT	**Papeete**	**94.99**	**107**	LR		LR		03 13 41.0	
	comp=Z,111nm,21.6s,baz=344,slow=30								
PPT2	**Papeete2**	**95.00**	**107**	*e*LR		LR		03 10 48.3	
	comp=Z,294nm,24.8s,baz=282								
NEW	**Newport**	**95.19**	**35**	*e*P		**P**		**02 40 01.3**	**-0.3**
	comp=Z,2.8nm,0.9s								
MAW	**Mawson**	**96.32**	**199**	LR		LR		03 19 19.8	
	comp=Z,58nm,18.0s,baz=78,slow=33								
TBI	**Tubuai**	**96.88**	**112**	*e*LR		LR		03 11 26.9	
	comp=Z,230nm,32.5s								
FCC	**Fort Churchill**	**97.17**	**18**	*e*P		**P**		**02 40 09.0**	**-1.3**
FCC	**Fort Churchill**	**97.17**	**18**	*e*P		**P**		**02 40 09.0**	**-1.3**
VNDA	**Vanda**	**99.33**	**172**	LR		LR		03 29 40.1	
	comp=Z,100nm,18.1s,baz=327,slow=38								
TUC	**Tucson**	**108.72**	**45**	*e*PKP		**PKiKP**		**02 45 07.1**	**-0.5**
RKT	**Rikitea**	**109.67**	**108**	*e*LR		LR		03 17 41.5	
	comp=Z,242nm,28.5s								
TOA0	**Torodi Ar. Sit**	**112.25**	**294**	*e*PKP		**PKiKP**		**02 45 14.2**	**-0.3**
TXAR	**Lajitas Array**	**115.31**	**43**	PKP		**PKPdf**		**02 45 19.8**	**-0.4**
TXAR	**Lajitas Array**	**115.31**	**43**	PKP		**PKPdf**		**02 45 19.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=252,slow=0.8,SNR=14								
DBIC	**Dimbokro**	**120.92**	**290**	*e*PKPdf		**

IDC ***30*** *03:55:23.8±1.4, 31°23S×68°72W, h100km±45km, mb3.2/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx3.0/7, Error ellipse: s-maj=245.9km s-min=35.7km az=21.0*

ISC 30 03:55:24.2±1.3, 31°1S±0°3×68°7W±0°4, h101km, n7, σ0°41/7, mb3.3/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.63**	**141**	P	**Pn**	**03 55 41.3**	**+0.1**
	12nm,0.3s,baz=349,slow=2.6,SNR=2033						
CFAA				S	**Sn**	**03 55 53.9**	**-0.1**
	30nm,0.3s,baz=161,slow=22,SNR=191						
SIV	**San Ignacio**	**16.59**	**27**	LR	LR	04 06 12.6	
	comp=Z,186nm,20.6s,baz=60,slow=39						
TXAR	**Lajitas Array**	**68.70**	**328**	P	**P**	**04 06 17.4**	**+0.4**
	0.2nm,0.6s,baz=151,slow=8.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**80.56**	**68**	P	**P**	**04 07 25.9**	**+0.2**
	0.5nm,0.8s,baz=253,slow=4.2,SNR=12						
PDAR	**Pinedale Array**	**82.54**	**331**	P	**P**	**04 07 35.6**	**-0.3**
	0.2nm,0.5s,baz=129,slow=8.3,SNR=1.8						
ZALV	**Zalesovo Beam**	**150.29**	**32**	PKPbc	**PKPbc**	**04 15 02.4**	**-0.6**
	1.2nm,0.3s,baz=291,slow=4.1,SNR=4.5						
MKAR	**Makanchi Array**	**152.74**	**47**	PKPab	**PKPab**	**04 15 20.2**	**0.0**
	0.2nm,0.8s,baz=281,slow=3.7,SNR=3.9						

ISCJB ***30*** *04:28:22.8±0.4, 55°99S±0°.06×27°.8W±0°.1, h121km, mb4.6/22, Error ellipse: s-maj=12.4km s-min=7.4km az=156.6*

IDC ***30*** *04:28:23.1±0.6, 56°.04S×27°.88W, h108km±5km, mb4.4/9, mb1 4.5/10, mb1mx4.0/28, mbtmp4.8/10, MS3.5/3, Ms1 3.5/3, ms1mx3.0/17, Error ellipse: s-maj=18.8km s-min=11.2km az=70.0*

NEIC ***30*** *04:28:24.0±1.8, 56°.04S×27°.86W, h118km±14km, mb4.5/14, Error ellipse: s-maj=8.3km s-min=5.9km az=225.0*

ISC 30 04:28:24.1±0.3, 56°02S±0°.08×27°87W±0°.10, h121km, n123, σ1s07/126, mb4.5/21, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.97**	**157**	P	**P**	**04 32 13.3**	**-0.3**
VNA2	**Neumayer--Watz**	**17.37**	**157**	P	**P**	**04 32 17.8**	**-0.2**
	baz=317,slow=13						
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**04 32 35.0**	**-0.1**
SNAA	**Sanae**	**18.93**	**156**	*e*P	**P**	**04 32 34.8**	**-0.4**
	89nm,0.5s						
SNAA				S	**S**	**04 36 02.5**	**-1.0**
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**04 32 35.0**	**-0.1**
	8.6nm,0.3s,baz=309,slow=10,SNR=731						
SNAA				S	**S**	**04 36 02.5**	**-1.0**
	0.1nm,0.3s,baz=150,slow=19,SNR=2.2						
PLCA	**Paso Flores**	**31.62**	**281**	LR	LR	04 46 57.9	
	comp=Z,60nm,18.4s,baz=252,slow=35						
SYO	**Syowa Base**	**31.85**	**141**	*e*P	**P**	**04 34 35.0**	**-1.9**
QSPA	**South Pole Qui**	**34.23**	**180**	*e*P	**P**	**04 34 59.0**	**+1.1**
	20nm,0.5s						
QSPA				*e*PcP	**PcP**	**04 37 31.4**	**0.0**
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**04 34 59.2**	**+1.3**
	22nm,0.6s,baz=209,slow=1.5,SNR=80						
CPUP	**Villa Florida**	**36.51**	**312**	P	**P**	**04 35 18.4**	**+0.9**
CPUP	**Villa Florida**	**36.51**	**312**	P	**P**	**04 35 18.4**	**+0.9**
	1.1nm,0.5s,baz=174,slow=10,SNR=1.9						
CFAA	**Coronel Fontan**	**37.20**	**294**	P	**P**	**04 35 22.0**	**-1.4**
CFAA	**Coronel Fontan**	**37.20**	**294**	P	**P**	**04 35 22.0**	**-1.4**
	0.5nm,0.6s,baz=154,slow=8.3,SNR=14						
MAW	**Mawson**	**40.40**	**144**	P	**P**	**04 35 49.7**	**+0.1**
MAW	**Mawson**	**40.40**	**144**	P	**P**	**04 35 49.7**	**+0.1**
	23nm,0.8s,baz=227,slow=8.0,SNR=6.5						
LCO	**Las Campanas**	**40.54**	**294**	*e*P	**P**	**04 35 52.4**	**+0.9**
	28nm,1.3s						
BDFB	**Brasilia**	**43.15**	**331**	LR	LR	04 54 60.0	
	comp=Z,54nm,18.5s,baz=134,slow=37						
LVC	**Limon Verde**	**44.95**	**301**	*e*P	**P**	**04 36 27.9**	**+0.7**
	5.3nm,0.6s						
VNDA	**Vanda**	**46.59**	**183**	*e*P	**P**	**04 36 40.2**	**+1.2**
	7.1nm,0.9s						
VNDA	**Vanda**	**46.59**	**183**	P	**P**	**04 36 40.6**	**+1.6**
	5.7nm,0.6s,baz=184,slow=6.5,SNR=35						
VNDA				LR	LR	04 54 28.7	
	comp=Z,81nm,18.6s,baz=304,slow=34						
H10S2	**ASCENSION HYDR**	**48.08**	**18**	T	T	05 28 43.5	
	baz=190,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**48.08**	**18**	T	T	05 28 43.0	
	baz=190,slow=74,SNR=10						
H10S1	**ASCENSION HYDR**	**48.10**	**18**	T	T	05 28 44.9	
	baz=190,slow=74,SNR=11						
H10N1	**ASCENSION HYDR**	**49.20**	**18**	T	T	05 30 14.5	
	baz=194						
H10N3	**ASCENSION HYDR**	**49.20**	**18**	T	T	05 30 19.3	
	baz=194,slow=74,SNR=5.1						
H10N2	**ASCENSION HYDR**	**49.22**	**18**	T	T	05 30 11.4	
	baz=194,slow=74,SNR=4.4						
LBTB	**Lobatse**	**49.36**	**74**	*e*P	**P**	**04 37 00.9**	**-0.3**
	6.9nm,0.8s						
LBTB	**Lobatse**	**49.36**	**74**	P	**P**	**04 37 01.0**	**-0.2**
	6.2nm,0.7s,baz=220,slow=8.5,SNR=8.7						
TSUM	**Tsumeb**	**50.00**	**62**	*e*P	**P**	**04 37 06.1**	**0.0**
	2.2nm,0.8s						
SAML	**Samuel**	**54.51**	**315**	*e*P	**P**	**04 37 39.1**	**-0.1**
	2.3nm,0.8s						
SAML				*e*pP	**pP**	**04 38 03.6**	**-4.2**
LSZ	**Lusaka**	**58.72**	**70**	*e*P	**P**	**04 38 08.9**	**-0.2**
	5.3nm,0.9s						
LIC	**Lamto**	**64.83**	**25**	*e*P	**P**	**04 38 50.0**	**+0.2**
	27nm,1.0s						
KIC	**Kosan Boka**	**65.03**	**26**	*e*P	**P**	**04 38 52.2**	**+1.1**
	10.0nm,0.8s						
TIC	**Toumodi**	**65.23**	**25**	*e*P	**P**	**04 38 53.4**	**+0.9**
	17nm,0.8s						
DBIC	**Dimbokro**	**65.30**	**25**	*e*P	**P**	**04 38 53.2**	**+0.4**
	4.6nm,0.7s						
DBIC	**Dimbokro**	**65.30**	**25**	P	**P**	**04 38 54.0**	**+1.2**
	4.3nm,0.7s,baz=163,slow=7.8,SNR=8.5						
OTAV	**Otavalo**	**69.32**	**304**	*e*P	**P**	**04 39 18.6**	**-0.3**
	5.4nm,1.2s						
TOA0	**Torodi Ar. Sit**	**73.22**	**30**	*e*P	**P**	**04 39 42.6**	**+1.0**
TOA0				*e*pP	**pP**	**04 40 09.3**	**-2.5**
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**04 39 42.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**04 39 42.8**	**+1.2**
	12nm,0.6s,baz=199,slow=6.4,SNR=298						
JTS	**JuntasAbangare**	**81.18**	**303**	*e*P	**P**	**04 40 26.6**	**+0.4**
	5.5nm,0.8s						
TAM	**Tamanrasset**	**83.46**	**31**	*e*P	**P**	**04 40 40.5**	**+2.5**
	1.2nm,1.0s						
FORT	**Forrest**	**91.14**	**159**	*e*P	**P**	**04 41 15.4**	**+0.4**
	13nm,0.6s						
STKA	**Stephens Creek**	**91.99**	**171**	P	**P**	**04 41 19.2**	**+0.3**
STKA	**Stephens Creek**	**91.99**	**171**	P	**P**	**04 41 19.2**	**+0.3**
	2.4nm,0.8s,baz=62,slow=1.8,SNR=5.9						
ASAR	**Alice Springs**	**99.13**	**163**	P	**Pdif**	**04 41 51.4**	**-0.2**
ASAR	**Alice Springs**	**99.13**	**163**	P	**Pdif**	**04 41 51.4**	**-0.2**
	2.8nm,0.8s,baz=185,slow=4.1,SNR=21						
AS31	**Alice Springs**	**99.13**	**163**	*e*P	**Pdif**	**04 41 51.0**	**-0.6**
WRA	**Warramunga Arr**	**102.85**	**163**	P	**Pdif**	**04 42 07.7**	**-0.5**
WRA	**Warramunga Arr**	**102.85**	**163**	P	**Pdif**	**04 42 07.7**	**-0.5**
	0.9nm,0.7s,baz=197,slow=4.3,SNR=3.7						
MORC	**Moravsky Berou**	**111.99**	**30**	*e*PKP	**PKiKP**	**04 46 44.2**	**+0.4**
TUC	**Tucson**	**112.43**	**295**	*e*PKP	**PKiKP**	**04 46 46.2**	**+0.9**
PMG	**Port Moresby**	**114.69**	**175**	*e*PKP	PKPdf	04 46 50.4	+0.2
RSSD	**Black Hills**	**118.52**	**307**	*e*PKPdf	**PKPdf**	**04 46 56.6**	**-0.1**
DUG	**Dugway**	**119.61**	**299**	*e*PKPdf	**PKPdf**	**04 46 59.3**	**+0.4**
ULM	**Lac du Bonnet**	**119.96**	**317**	PKP	**PKPdf**	**04 46 58.6**	**-0.4**
ULM	**Lac du Bonnet**	**119.96**	**317**	PKP	**PKPdf**	**04 46 58.6**	**-0.4**
	1.8nm,0.5s,baz=208,slow=1.6,SNR=5.1						
PDAR	**Pinedale Array**	**120.00**	**303**	PKP	**PKPdf**	**04 46 59.1**	**-0.6**
PDAR	**Pinedale Array**	**120.00**	**303**	PKP	**PKPdf**	**04 46 59.1**	**-0.6**
	0.3nm,0.5s,baz=137,slow=5.1,SNR=5.6						
NVAR	**Mina Array Bea**	**121.03**	**294**	PKP	**PKPdf**	**04 47 02.8**	**+0.9**
NVAR	**Mina Array Bea**	**121.03**	**294**	PKP	**PKPdf**	**04 47 02.8**	**+0.9**
	0.6nm,0.7s,baz=120,slow=3.2,SNR=5.5						
HLID	**Hailey**	**122.93**	**300**	*e*PKPdf	**PKPdf**	**04 47 05.9**	**+0.6**
WVOR	**Wild Horse Val**	**124.19**	**297**	*e*PKPdf	**PKPdf**	**04 47 08.8**	**+1.2**
FINES	**FINESS Array B**	**124.53**	**28**	PKP	**PKPdf**	**04 47 07.7**	**+0.2**
FINES	**FINESS Array B**	**124.53**	**28**	PKP	**PKPdf**	**04 47 07.7**	**+0.2**
	4.4nm,0.5s,baz=184,slow=1.2,SNR=37						
KAF	**Kangasniemi**	**125.15**	**28**	*e*P	**PKPdf**	**04 47 08.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**125.43**	**111**	PKP	**PKPdf**	**04 47 11.4**	**+0.8**
CMAR				pPKP	**pPKPdf**	**04 47 42.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**125.43**	**111**	PKP	**PKPdf**	**04 47 11.4**	**+0.8**
	2.2nm,0.5s,baz=219,slow=3.3,SNR=11						
CMAR				pPKP	**pPKPdf**	**04 47 42.1**	**-1.0**
	1.6nm,0.3s,baz=259,slow=2.3,SNR=1.7						
CHTO	**Chiang Mai**	**125.73**	**111**	*e*PKPdf	**PKPdf**	**04 47 11.3**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCC	**Fort Churchill**	**126.03**	**324**	*e*PKPdf	**PKPdf**	**04 47 09.9**	**-0.4**
JOF	**Joensuu**	**127.16**	**30**	*e*p	**PKPdf**	**04 47 12.8**	**+0.4**
AKTO	**Aktyubinsk**	**127.62**	**54**	PKP	**PKPdf**	**04 47 13.9**	**+0.2**
AKTO	**Aktyubinsk**	**127.62**	**54**	PKP	**PKPdf**	**04 47 13.9**	**+0.2**
	2.3nm,0.9s,baz=176,slow=7.7,SNR=7.3						
NEW	**Newport**	**127.64**	**302**	*e*PKPdf	**PKPdf**	**04 47 14.1**	**+0.2**
ABKAR	**Akbulak array**	**127.67**	**56**	*e*PKPdf	**PKPdf**	**04 47 13.8**	**0.0**
KKAR	**Karatay Array**	**128.56**	**68**	*e*PKPdf	**PKPdf**	**04 47 15.8**	**0.0**
EKS2	**Erkin-Say**	**129.96**	**70**	*e*PKPdf	**PKPdf**	**04 47 19.2**	**+0.6**
LSA	**Lhasa**	**130.16**	**95**	*e*PKPdf	**PKPdf**	**04 47 21.2**	**+1.3**
AAK	**Ala-Archa**	**130.32**	**71**	*e*PKPdf	**PKPdf**	**04 47 20.0**	**+0.7**
AAK	**Ala-Archa**	**130.32**	**71**	PKP	**PKPdf**	**04 47 19.9**	**+0.6**
	2.3nm,0.6s,baz=67,slow=2.0,SNR=9.5						
ARCES	**ARCESS Array B**	**131.05**	**22**	PKP	**PKPdf**	**04 47 20.1**	**+0.4**
ARCES	**ARCESS Array B**	**131.05**	**22**	PKP	**PKPdf**	**04 47 20.1**	**+0.4**
	3.9nm,0.6s,baz=190,slow=1.7,SNR=25						
TKM2	**Tokmak 2**	**131.11**	**71**	*e*PKPdf	**PKPdf**	**04 47 21.2**	**+0.3**
ARU	**Arti**	**131.96**	**48**	*e*PKPdf	**PKPdf**	**04 47 22.0**	**+0.3**
BRVK	**Borovoye**	**135.05**	**58**	*e*PKPdf	**PKPdf**	**04 47 28.2**	**+0.5**
BVAR	**Borovoye Array**	**135.08**	**58**	PKP	**PKPdf**	**04 47 28.1**	**+0.4**
BVAR	**Borovoye Array**	**135.08**	**58**	PKP	**PKPdf**	**04 47 28.1**	**+0.4**
	2.5nm,0.8s,baz=259,slow=1.5,SNR=12						
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	**PKPdf**	**04 47 29.3**	**+0.4**
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	**PKPdf**	**04 47 29.3**	**+0.4**
	2.3nm,0.6s,baz=127,slow=2.3,SNR=37						
YKW3	**Yellowknife Ar**	**135.94**	**318**	*e*PKPdf	**PKPdf**	**04 47 29.4**	**+0.4**
MK31	**Makanchi Array**	**137.24**	**72**	*e*PKPdf	**PKPdf**	**04 47 32.0**	**0.0**
MKAR	**Makanchi Array**	**137.24**	**72**	PKPpre	PKPpre	04 47 21.4	
MKAR				PKP	**PKiKP**	**04 47 33.3**	**-0.6**
MKAR	**Makanchi Array**	**137.24**	**72**	PKhKP	PKPpre	04 47 21.4	
	0.4nm,0.7s,baz=234,slow=1.9,SNR=5.6						
MKAR				PKP	**PKiKP**	**04 47 33.3**	**-0.6**
	1.3nm,0.7s,baz=241,slow=1.6,SNR=12						
KURBB	**Kurchatov Arra**	**137.63**	**65**	PKhKP	PKPpre	04 47 23.5	
	0.5nm,0.6s,baz=232,slow=3.9,SNR=7.4						
KURBB				PKP	**PKPdf**	**04 47 31.9**	**-0.7**
	1.0nm,0.6s,baz=238,slow=2.3,SNR=9.3						
KURK	**Kurchatov**	**137.73**	**65**	PKPpre	PKPpre	04 47 23.5	
KURK				*e*PKPdf	**PKiKP**	**04 47 34.1**	**-0.6**
ZAA0	**Zalesovo Array**	**142.70**	**64**	*e*PKPdf	PKPpre	04 47 37.9	
ZALV	**Zalesovo Beam**	**142.70**	**64**	PKPpre	PKPpre	04 47 37.9	
ZALV	**Zalesovo Beam**	**142.70**	**64**	PKhKP	PKPpre	04 47 37.9	
	1.7nm,0.4s,baz=241,slow=3.4,SNR=10.0						
INK	**Inuvik**	**145.54**	**321**	*e*PKPbc	**PKPab**	**04 47 47.0**	**0.0**
INK				pPKPbc	pPKPbc	04 48 15.7	-3.1
INK	**Inuvik**	**145.54**	**321**	PKPbc	**PKPab**	**04 47 47.5**	**+0.5**
	16nm,0.7s,baz=71,slow=3.1,SNR=90						
INK				pPKPbc	pPKPbc	04 48 15.7	-3.1
	3.3nm,0.6s,baz=145,slow=6.2,SNR=3.3						
DAWY	**Dawson**	**146.49**	**312**	*e*PKPbc	**PKPbc**	**04 47 50.0**	**+0.4**
DOT	**Dot Lake**	**148.33**	**310**	*e*PKPbc	**PKPbc**	**04 47 55.8**	**+1.1**
PAX	**Paxson**	**148.75**	**309**	*e*PKPbc	**PKPbc**	**04 47 56.2**	**+0.4**
ILAR	**Eielson Array**	**149.81**	**312**	PKP	**PKPdf**	**04 47 51.2**	**-2.0**
ILAR				PKPbc	**PKiKP**	**04 47 58.7**	**-0.4**
ILAR				pPKPbc	**pPKPbc**	**04 48 27.3**	**-3.3**
ILAR	**Eielson Array**	**149.81**	**312**	PKP	**PKPdf**	**04 47 51.2**	**-2.0**
	0.9nm,0.8s,baz=282,slow=1.0,SNR=14						
ILAR				PKPbc	**PKiKP**	**04 47 58.7**	**-0.4**
	18nm,0.8s,baz=54,slow=0.6,SNR=181						
ILAR				pPKPbc	**pPKPbc**	**04 48 27.3**	**-3.3**
	6.8nm,1.0s,baz=126,slow=1.7,SNR=4.6						
RC01	**Rabbit Creek A**	**150.14**	**304**	*e*PKPbc	**PKPbc**	**04 47 59.9**	**+0.8**
COLA	**College**	**150.24**	**312**	*e*PKPbc	**PKPbc**	**04 47 59.5**	**+0.4**
MCK	**McKinley**	**150.46**	**309**	*e*PKPbc	**PKPbc**	**04 48 00.7**	**+0.8**
TRF	**Thorofare Moun**	**150.99**	**309**	*e*PKPbc	**PKPbc**	**04 48 01.9**	**+0.7**
SONM	**Songino Array**	**151.10**	**87**	PKP	**PKPdf**	**04 47 56.0**	**0.0**
SONM				PKPbc	**PKPbc**	**04 48 02.2**	**+0.2**
SONM				pPKPbc	**pPKPbc**	**04 48 30.6**	**-3.8**
SONM	**Songino Array**	**151.10**	**87**	PKP	**PKPdf**	**04 47 56.0**	**0.0**
	0.7nm,0.8s,baz=130,slow=0.2,SNR=5.0						
SONM				PKPbc	**PKPbc**	**04 48 02.2**	**+0.2**
	24nm,0.6s,baz=221,slow=3.8,SNR=180						
SONM				pPKPbc	**pPKPbc**	**04 48 30.6**	**-3.8**
	2.3nm,0.7s,baz=231,slow=3.0,SNR=2.2						
KTH	**Kantishna Hill**	**151.28**	**309**	*e*PKPbc	**PKPbc**	**04 48 02.2**	**+0.4**
ULN	**Ulaanbaatar**	**151.49**	**87**	*e*PKPbc	**PKPbc**	**04 48 02.4**	**-0.5**
BJT	**Baijiatuan**	**151.52**	**109**	*e*PKPbc	**PKPbc**	**04 48 03.1**	**0.0**
COLD	**Coldfoot**	**151.53**	**316**	*e*PKPbc	**PKPbc**	**04 48 03.4**	**+1.2**
TLY	**Talaya**	**151.55**	**78**	*e*PKPbc	**PKPbc**	**04 48 03.3**	**+0.6**
PPLA	**Purkeypile**	**151.71**	**307**	*e*PKPbc	**PKPbc**	**04 48 03.5**	**+0.5**
JNU	**Nakatsue**	**152.77**	**138**	PKPbc	**PKPbc**	**04 48 06.1**	**0.0**
JNU	**Nakatsue**	**152.77**	**138**	PKPbc	**PKPbc**	**04 48 06.1**	**0.0**
	6.5nm,0.7s,baz=129,slow=5.0,SNR=4.6						
KSAR	**Wonju Array Be**	**155.29**	**129**	PKPab	**PKPab**	**04 48 27.2**	**-0.8**
KSRS	**Korea Array**	**155.32**	**129**	PKPab	**PKPab**	**04 48 27.2**	**-0.9**
	1.6nm,0.7s,baz=228,slow=4.8,SNR=4.9						
MJAR	**Matsushiro Arr**	**158.35**	**148**	PKPab	**PKPab**	**04 48 41.4**	**+0.1**
MJAR	**Matsushiro Arr**	**158.35**	**148**	PKPab	**PKPab**	**04 48 41.4**	**+0.1**
	2.7nm,0.7s,baz=187,slow=5.8,SNR=5.2						

NIED ***30*** *04:29:00, 38°.10N×140°.70E, h5km, Mw3.8 Best double couple: M0=5.51000×10^14 NP1:φs=204.00000°, δ37.00000°, λ91.00000°. NP2:φs23.00000°, δ53.00000°, λ89.00000°.*

ISCJB ***30*** *04:29:45.3±0.7, 38°.07N±0°.02×140°.70E±0°.04, h14km±5km, mb3.8/20, Error ellipse: s-maj=5.1km s-min=3.6km az=22.6*

JMA ***30*** *04:29:45.8, 38°.06N×140°.67E, h9km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs3.00000°, δ58.00000°, λ61.00000°. NP2:φs229.00000°, δ42.00000°, λ128.00000°. Principal axes: T Plg64.0000°, Azm222.0000°; N Plg24.0000°, Azm19.0000°; P Plg9.0000°, Azm113.0000°;*

JMA Felt IV J1.

IDC ***30*** *04:29:52.2±2.0, 38°.09N×140°.50E, h58km±19km, mb3.6/20, mb1 3.7/24, mb1mx3.7/44, mbtmp3.8/24, ML3.2/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/28 Error ellipse: s-maj=17.2km s-min=12.3km az=110.0*

ISC 30 04:29:45.5±1.0, 38°07N±0°.02×140°65E±0°.03, h7km±7km, n44, σ0s85/45, mb3.9/20, 2C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMM	**Marumori**	**0.23**	**150**	⇓P	**Pg**	**04 29 50.2**	**+0.2**
JMM				S	**Sg**	**04 29 53.4**	**+0.2**
JOU	**Okura**	**0.30**	**3**	⇓P	**Pb**	**04 29 52.1**	**-1.1**
JOU				*e*S	**Sg**	**04 29 56.4**	**+1.0**
JYS	**Shirataka**	**0.48**	**289**	⇓P	**Pb**	**04 29 55.6**	**-0.7**
JYS				S	**Sb**	**04 30 02.6**	**-1.0**
JFT	**Otama**	**0.60**	**204**	⇑P	**Pb**	**04 29 57.4**	**-0.9**
JFT				S	**Sg**	**04 30 05.3**	**+0.5**
JIO	**Ouri**	**0.68**	**55**	⇓P	**Pg**	**04 29 58.0**	**-0.5**
JIO				*e*S	**Sg**	**04 30 07.1**	**-0.2**
JFK	**Kawauchi**	**0.72**	**165**	P	**Pg**	**04 29 59.1**	**-0.2**
JFK				S	**Sg**	**04 30 08.6**	**-0.1**
JYK	**Kaneyama**	**0.88**	**345**	⇓P	**Pg**	**04 30 02.3**	**-0.1**
JYK				S	**Sg**	**04 30 13.8**	**0.0**
JYA	**Atsumi**	**0.90**	**306**	⇓P	**Pg**	**04 30 02.9**	**+0.1**
JYA				S	**Sg**	**04 30 15.1**	**+0.6**
JMK	**Ichinoseki**	**0.99**	**27**	P	**Pg**	**04 30 03.7**	**-0.8**
JMK				*e*S	**Sb**	**04 30 17.5**	**-0.7**
JFY	**Yanaizu**	**1.00**	**229**	⇑P	**Pb**	**04 30 04.7**	**-0.3**
JFY				S	**Sb**	**04 30 18.0**	**-0.3**
MAT	**Matsushiro**	**2.47**	**233**	P	**Pn**	**04 30 27.3**	**+1.2**
MAT				S	**Sb**	**04 30 58.5**	**-2.3**
MJAR	**Matsushiro Arr**	**2.47**	**233**	P	**Pn**	**04 30 27.7**	**+1.6**
	5.8nm,0.3s,baz=34,slow=12,SNR=28						
MJAR				S	**Sb**	**04 30 58.6**	**-2.1**
	5.8nm,0.3s,baz=6.0,slow=28,SNR=2.0						
MJAR				LR	LR	04 31 26.4	
	comp=Z,68nm,20.1s,baz=45,slow=40						
ASAJ	**Asahikawa**	**6.22**	**13**	P	Pn	04 31 20.6	+3.0
	0.9nm,0.3s,baz=284,slow=19,SNR=1.6						
USRK	**Ussuriysk Arra**	**8.95**	**316**	P	**Pn**	**04 31 56.0**	**+1.0**
	0.4nm,0.3s,baz=123,slow=14,SNR=8.3						
KSRS	**Korea Array**	**10.10**	**270**	P	Pn	04 32 14.2	+3.4
	0.7nm,0.3s,baz=78,slow=14,SNR=5.3						
KSRS				LR	LR	04 35 44.7	
	comp=Z,36nm,19.1s,baz=150,slow=35						
SONM	**Songino Array**	**26.71**	**302**	P	**P**	**04 35 24.6**	**-0.8**
	0.3nm,0.4s,baz=91,slow=10,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**29.20**	**121**	T	T	05 05 58.8	
	baz=318,slow=76,SNR=70						
H11N1	**WAKE ISLAND Hy**	**29.21**	**121**	T	T	05 06 05.4	
	baz=318,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**29.22**	**121**	T	T	05 06 06.8	
	baz=318,slow=76,SNR=73						
H11S1	**WAKE ISLAND Hy**	**29.93**	**123**	T	T	05 06 57.9	
	baz=320,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**29.93**	**123**	T	T	05 06 54.7	
	baz=320,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**29.95**	**123**	T	T	05 06 59.1	
	baz=320,slow=76,SNR=32						
ZALV	**Zalesovo Beam**	**40.77**	**312**	P	**P**	**04 37 26.1**	**-0.9**
	0.5nm,0.4s,baz=83,slow=15,SNR=1.7						
MKAR	**Makanchi Array**	**43.06**	**301**	P	**P**	**04 37 45.2**	**-0.6**
	0.7nm,0.8s,baz=88,slow=9.6,SNR=6.9						
KURBB	**Kurchatov Arra**	**44.89**	**307**	P	**P**	**04 38 00.1**	**-0.3**
	2.0nm,0.6s,baz=82,slow=8.3,SNR=18						
ILAR	**Eielson Array**	**48.95**	**33**	P	**P**	**04 38 32.5**	**+0.5**
	0.5nm,0.8s,baz=264,slow=5.5,SNR=7.1						
BVAR	**Borovoye Array**	**49.43**	**312**	P	**P**	**04 38 35.7**	**-0.1**
	0.3nm,0.3s,baz=48,slow=8.9,SNR=3.6						
INK	**Inuvik**	**53.75**	**27**	P	**P**	**04 39 08.5**	**+0.7**
	0.9nm,0.6s,baz=301,slow=7.5,SNR=7.6						
WRA	**Warramunga Arr**	**58.00**	**187**	P	**P**	**04 39 38.0**	**-0.9**
	2.8nm,0.8s,baz=3.2,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**61.73**	**187**	P	**P**	**04 40 04.3**	**-0.1**
	1.2nm,0.8s,baz=9.2,slow=6.3,SNR=11						
RES	**Resolute Bay**	**61.75**	**14**	P	**P**	**04 40 03.8**	**-0.2**
	0.7nm,0.4s,baz=316,slow=4.7,SNR=6.2						
ARCES	**ARCESS Array B**	**62.82**	**339**	P	**P**	**04 40 10.7**	**-0.6**
	2.3nm,0.8s,baz=231,slow=25,SNR=7.3						
YKA	**Yellowknife Ar**	**63.22**	**30**	P	**P**	**04 40 14.2**	**+0.2**
	0.3nm,0.6s,baz=303,slow=6.4,SNR=8.1						
FINES	**FINESS Array B**	**67.62**	**332**	P	**P**	**04 40 41.2**	**-1.3**
	0.9nm,0.7s,baz=15,slow=7.9,SNR=3.9						
NEW	**Newport**	**69.81**	**44**	P	**P**	**04 40 57.6**	**+1.1**
	1.1nm,0.7s,baz=327,slow=5.9,SNR=3.6						
NOA	**NORSAR Array B**	**73.00**	**337**	P	**P**	**04 41 15.1**	**-0.4**
	0.7nm,0.7s,baz=38,slow=5.9,SNR=3.0						
AKASG	**Malin Array Be**	**73.11**	**322**	P	**P**	**04 41 15.8**	**-0.5**
	0.2nm,0.4s,baz=47,slow=6.0,SNR=4.1						
NVAR	**Mina Array Bea**	**74.86**	**53**	P	**P**	**04 41 28.0**	**+1.0**
	0.4nm,0.5s,baz=355,slow=3.1,SNR=4.0						
PDAR	**Pinedale Array**	**77.38**	**45**	P	**P**	**04 41 41.9**	**+0.6**
	0.5nm,0.5s,baz=254,slow=3.4,SNR=5.9						
ULM	**Lac du Bonnet**	**78.97**	**33**	P

λ80.00000°. NP2:ϕ₈17.00000°,δ31.00000°,λ107.00000°. Principal axes: T 1.0280, Plg73.0000°, Azm63.0000°; N 0.1830, Plg9.0000°, Azm182.0000°; P -1.2070, Plg15.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISCJB **30** 05:50:09.8±0.3,28.12S±0.02×70.69W±0.04,h56km±3km, mb5.4/190,MS4.7/16 Error ellipse: s-maj=5.9km s-min=3.8km az=167.9

LDG **30** 05:50:10.2±0.7,27.41S×70.86W,h42km,Mb5.4/16, Ms4.6/11,Error ellipse: s-maj=43.6km s-min=28.7km az=50.0

IDC **30** 05:50:13.4±1.9,28.16S×70.69W,h75km±16km,mb4.8/22, mb1 4.9/25,mb1mx4.8/32,mbtmp5.1/25,MS4.6/14, Ms1 4.5/14,ms1mx4.4/18,Error ellipse: s-maj=16.1km s-min=9.4km az=77.0

ISC 30 05:50:10.0±0.2,28.16S±0.02×70.75W±0.05,h47km±1km, h47km:pP-P,n1013,σ1901/1256,mb5.4/188,MS4.7/16, 247C-225D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
VACH	**Vallenar**	**0.42**	**181**	*eP*		**Pn**	**05 50 20.0**	**-0.1**
VACH				*i*	S	**Sn**	**05 50 27.6**	**+0.3**
VACH	**Vallenar**	**0.42**	**181**	*eP*		**Pn**	**05 50 20.0**	**-0.1**
VACH				*i*	S	**Sn**	**05 50 27.6**	**+0.3**
LCO	**Las Campanas** comp=E,61μm,0.8s	**0.85**	**177**	AML		AML	05 50 38.4	
LCO	**Las Campanas**	**0.85**	**177**	↑*iP*		**Pn**	**05 50 25.6**	**-0.4**
LCO				*eS*		**Sn**	**05 50 37.2**	**-0.2**
LCO	**Las Campanas**	**0.85**	**177**	*iP*		**Pn**	**05 50 26.2**	**+0.3**
LCO				*i*	S	**Sn**	**05 50 37.8**	**+0.3**
CPCH	**Copiapo**	**0.87**	**24**	↓*iP*		**Pn**	**05 50 26.5**	**+0.6**
CPCH				*i*	S	**Sn**	**05 50 39.5**	**+2.0**
CPCH	**Copiapo**	**0.87**	**24**	↓*iP*		**Pn**	**05 50 26.5**	**+0.6**
CPCH				*i*	S	**Sn**	**05 50 39.5**	**+2.0**
CDCH	**Caldera**	**1.09**	**357**	*eP*		**Pn**	**05 50 29.3**	**+0.4**
CDCH				*i*	S	**Sn**	**05 50 44.0**	**+1.3**
CDCH	comp=E,44μm,0.4s			AML		AML	05 50 49.2	
CDCH	**Caldera**	**1.09**	**357**	*eP*		**Pn**	**05 50 29.3**	**+0.4**
CDCH				*i*	S	**Sn**	**05 50 45.1**	**+2.3**
RTLL	**Cerro Villicun**	**3.73**	**148**	*iP*		**Pn**	**05 51 07.3**	**+2.2**
RTLS	**Leoncito**	**3.84**	**161**	*iP*		Pn	05 51 10.1	+3.3
CFAA	**Coronel Fontan**	**4.07**	**148**	P		**Pn**	**05 51 12.3**	**+2.5**
CFAA				S		**Sn**	**05 52 01.0**	**+4.8**
CFAA	**Coronel Fontan** baz=325,slow=14	**4.07**	**148**	P		**Pn**	**05 51 12.3**	**+2.5**
CFAA				S		**Sn**	**05 52 01.0**	**+4.8**
	comp=E,72nm,0.3s,baz=234,slow=23,SNR=26							
CFAA	**Coronel Fontan**	**4.07**	**148**	*iP*		**Pn**	**05 51 12.3**	**+2.5**
RTCV	**Cerro Valdivia**	**4.16**	**153**	*iP*		**Pn**	**05 51 13.9**	**+2.9**
AUSP	**Uspallata**	**4.22**	**164**	*iP*		Pn	05 51 15.3	+3.3
PEL	**Peldehue**	**4.97**	**179**	*eP*		**Pn**	**05 51 22.6**	**+0.5**
ACAN	**Cantantal**	**5.13**	**144**	*iP*		**Pn**	**05 51 26.7**	**+2.4**
CLCH	**Cerro Calan**	**5.22**	**178**	*eP*		**Pn**	**05 51 26.6**	**+0.9**
LVC	**Limon Verde**	**5.77**	**17**	*ePn*		**Pn**	**05 51 32.6**	**-0.7**
LVC				*eSn*		Sn	05 52 51.8	+13
SLA	**San Lorenzo**	**5.82**	**55**	*iP*		**Pn**	**05 51 37.0**	**+3.1**
SLA	comp=Z,231nm,0.6s			IAML			05 51 54.0	
AZAP	**Zapla**	**6.44**	**54**	*i*	P	**Pn**	**05 51 45.4**	**+2.9**
AZAP	comp=Z,172nm,0.7s			IAML			05 51 50.3	
ASTB	**Santa Barbara**	**7.02**	**55**	*i*	P	**Pn**	**05 51 53.2**	**+2.8**
H03N1	**Juan Fernandez** baz=54,slow=74,SNR=2005	**8.77**	**231**	T		T	06 00 51.3	
H03N2	**Juan Fernandez** baz=54,slow=74,SNR=2339	**8.79**	**231**	T		T	06 00 48.9	
H03N3	**Juan Fernandez** baz=54,slow=74,SNR=2374	**8.79**	**231**	T		T	06 00 52.2	
ARE	**Arequipa**	**11.66**	**356**	*eP*		**Pn**	**05 52 51.0**	**-3.1**
ARE	**Arequipa**	**11.66**	**356**	*eP*		**Pn**	**05 52 51.0**	**-3.1**
ARE				*eS*		Sn	05 55 59.0	+56
LPAZ	**La Paz**	**12.06**	**12**	P		**Pn**	**05 52 58.1**	**-1.7**
LPAZ	**La Paz** comp=Z,1.3nm,0.3s,baz=188,slow=8.0,SNR=1.1	**12.06**	**12**	P		**Pn**	**05 52 58.1**	**-1.7**
CPUP	**Villa Florida** comp=Z,13nm,0.8s	**12.08**	**84**	*ePn*		**Pn**	**05 52 59.6**	**+0.1**
CPUP				S		Sn	05 55 24.5	+12
CPUP	**Villa Florida** comp=Z,4.9nm,0.3s,baz=234,slow=10,SNR=22	**12.08**	**84**	P		**Pn**	**05 53 00.5**	**+1.0**
CPUP	comp=Z,4.1nm,0.3s,baz=338,slow=19,SNR=1.2			S		Sn	05 55 24.5	+12
CPUP				LR		LR	05 58 11.9	
PLCA	**Paso Flores** comp=Z,65nm,1.3s	**12.55**	**179**	*ePn*		**Pn**	**05 53 04.9**	**-1.0**
PLCA				S		S	05 55 38.0	-11
PLCA	**Paso Flores** comp=Z,0.3nm,0.3s,baz=352,slow=14,SNR=8.3	**12.55**	**179**	P		**Pn**	**05 53 08.1**	**+2.3**
PLCA	comp=Z,0.1nm,0.3s,baz=76,slow=19,SNR=1.0			S		S	05 55 38.0	-11
PLCA				LR		LR	05 58 20.4	
SIV	**San Ignacio**	**15.06**	**38**	P		**Pn**	**05 53 37.9**	**-1.9**
SIV	**San Ignacio** comp=Z,0.9nm,0.3s,baz=251,slow=13,SNR=16	**15.06**	**38**	P		**Pn**	**05 53 37.9**	**-1.9**
NNA	**Nana** comp=Z,24nm,0.5s	**17.07**	**339**	Pn		**P**	**05 54 07.9**	**+1.3**
SAML	**Samuel** comp=Z,42nm,0.9s	**20.40**	**22**	*eP*		**P**	**05 54 43.4**	**+0.3**
SAML				*e*			05 55 00.5	
BB16B	**Bebedouro**	**21.35**	**76**	↑*iP*		**P**	**05 54 51.7**	**-1.6**
BB16B				*i*			05 54 52.6	
BB16B				*i*			05 54 57.7	
BB16B				*i*			05 55 05.4	
BB16B				*i*			05 55 20.1	
ATAH	**Atahualpa**	**22.13**	**339**	P		**P**	**05 55 03.8**	**+1.7**
ATAH	**Atahualpa** comp=Z,20nm,1.0s,baz=176,slow=10.0,SNR=16	**22.13**	**339**	P		**P**	**05 55 03.8**	**+1.7**
BDFB	**Brasilia**	**24.45**	**64**	P		**P**	**05 55 24.2**	**-0.4**
BDFB	**Brasilia** comp=Z,42nm,0.8s,baz=228,slow=9.9,SNR=41	**24.45**	**64**	P		**P**	**05 55 24.2**	**-0.4**
BDFB				LR		LR	06 06 12.0	
USHA	**Ushuaia**	**26.71**	**177**	P		**P**	**05 55 44.8**	**+0.2**
USHA	**Ushuaia** comp=Z,51nm,0.9s,baz=344,slow=5.7,SNR=11	**26.71**	**177**	P		**P**	**05 55 44.8**	**+0.2**
PTGA	**Pitinga** comp=Z,37nm,1.0s	**29.16**	**23**	*ePn*		**P**	**05 56 05.8**	**-1.1**
PTGA	**Pitinga** comp=Z,24nm,0.9s,baz=195,slow=9.4,SNR=23	**29.16**	**23**	P		**P**	**05 56 06.4**	**-0.5**
OTAV	**Otavalo** comp=Z,51nm,1.3s	**29.18**	**344**	*eP*		**P**	**05 56 08.9**	**+1.3**
OTAV				*e*			05 56 28.6	
ROSC	**El Rosal**	**33.00**	**353**	*eP*		**P**	**05 56 42.5**	**+1.3**
ROSC				*e*			05 57 02.1	
ROSC	**El Rosal** comp=Z,26nm,0.8s,baz=127,slow=2.3,SNR=17	**33.00**	**353**	P		**P**	**05 56 43.0**	**+1.8**
ROSC				LR		LR	06 10 19.8	
SDV	**Santo Domingo** comp=Z,115nm,0.9s	**36.83**	**0**	*eP*		**P**	**05 57 12.7**	**-1.2**
SDV				*e*			05 57 31.0	
PMSA	**Palmer Station** comp=Z,46nm,1.4s	**36.88**	**175**	*eP*		**P**	**05 57 13.4**	**-0.2**
PMSA				*epP*		**pP**	**05 57 26.8**	**+0.7**
PMSA	**Palmer Station** comp=Z,20nm,0.9s,baz=346,slow=5.1,SNR=5.7	**36.88**	**175**	P		**P**	**05 57 13.3**	**-0.2**
RCBR	**Riachuelo** comp=Z,36nm,1.3s	**39.80**	**63**	*eP*		**P**	**05 57 39.8**	**+0.9**
JTS	**JuntasAbangare** comp=Z,6.3nm,1.2s	**40.62**	**338**	*eP*		**P**	**05 57 47.1**	**+1.6**
JTS				*epP*		**pP**	**05 57 58.0**	**-0.2**
JTS				*esP*		**sP**	**05 58 05.8**	**+2.1**
GRGR	**Grenville** comp=Z,373nm,0.9s	**41.01**	**14**	*eP*		**P**	**05 57 47.6**	**-1.1**
GRGR				*epP*		**pP**	**05 58 01.6**	**+0.2**
FDF	**Fort de France**	**43.64**	**14**	*eP*		**P**	**05 58 10.6**	**+0.5**
FDF	comp=Z,160nm,1.1s			pmax		pmax		
FDF	**Fort de France** comp=Z,160nm,1.1s	**43.64**	**14**	*eP*		**P**	**05 58 10.6**	**+0.5**
CRPR	**Cabo Rojo, PR** comp=Z,95nm,0.8s	**46.03**	**5**	*eP*		**P**	**05 58 27.8**	**-1.2**
CRPR				*epP*		**pP**	**05 58 40.6**	**-1.2**
CRPR				*esP*		**sP**	**05 58 46.3**	**-1.0**
OBIP	**Obispado Ponce** comp=Z,69nm,0.9s	**46.10**	**5**	*eP*		**P**	**05 58 28.5**	**-1.1**
OBIP				*epP*		**pP**	**05 58 41.8**	**-0.7**
OBIP				*esP*		**sP**	**05 58 46.7**	**-1.2**
CELP	**Cerrillos**	**46.14**	**6**	*eP*		**P**	**05 58 28.6**	**-1.3**
CELP				*epP*		**pP**	**05 58 42.0**	**-0.7**
CELP				*esP*		**sP**	**05 58 47.1**	**-1.1**
LSP	**Las Mesas**	**46.20**	**5**	*eP*		**P**	**05 58 28.9**	**-1.5**
LRS	**Lares**	**46.33**	**5**	*eP*		**P**	**05 58 29.9**	**-1.5**
LRS				*epP*		**pP**	**05 58 43.3**	**-0.9**
CBYP	**Canovanas** comp=Z,91nm,1.0s	**46.40**	**6**	*eP*		**P**	**05 58 29.8**	**-2.2**
CBYP				*epP*		**pP**	**05 58 43.0**	**-1.9**
CBYP				*esP*		**sP**	**05 58 48.1**	**-2.3**
MTDJ	**Mount Denham** comp=Z,99nm,1.1s	**46.58**	**351**	*eP*		**P**	**05 58 33.2**	**-0.3**
SDDR	**Presa de Saban** comp=Z,50nm,0.8s	**46.87**	**359**	*eP*		**P**	**05 58 37.1**	**+1.5**
GTBY	**Guantanamo Bay** comp=Z,89nm,1.0s	**47.99**	**354**	*eP*		**P**	**05 58 43.7**	**-0.5**
GTBY				*e*			05 59 03.5	
TEIG	**Tepich** comp=Z,188nm,0.9s	**51.00**	**339**	*eP*		**P**	**05 59 07.2**	**0.0**
TEIG				*epP*		**pP**	**05 59 20.6**	**+0.3**
TEIG				*esP*		**sP**	**05 59 26.1**	**+0.5**
VNA1	**Neumayer--Stat**	**54.65**	**159**	P		**P**	**05 59 34.3**	**+0.7**
VNA2	**Neumayer--Watz** baz=293,slow=8.2	**55.01**	**159**	P		**P**	**05 59 36.3**	**+0.1**
SNAA	**Sanae**	**56.61**	**159**	P		**P**	**05 59 47.7**	**0.0**
SNAA	**Sanae** comp=Z,98nm,0.9s	**56.61**	**159**	*eP*		**P**	**05 59 47.6**	**-0.2**
SNAA				*epP*		**pP**	**06 00 02.1**	**+1.2**
RKT	**Rikitea** comp=Z,695nm,34.5s	**57.53**	**259**	*eS*		**S**	**06 07 52.9**	**+3.5**
RKT	comp=Z,476nm,33.8s			*eLQ*		LQ	06 14 24.1	
RKT	comp=Z,608nm,23.0s,baz=113			*eLR*		LR	06 16 52.3	
RKT	**Rikitea** comp=Z,4.9nm,0.2s	**57.53**	**259**	*eT*		T	07 01 21.9	
035Z	**Hargill** baz=61	**60.32**	**332**	↓*P*		**P**	**06 00 15.0**	**+1.0**
TIGA	**Tifton** comp=Z,61nm,0.9s	**60.52**	**347**	*eP*		**P**	**06 00 14.8**	**-0.4**
TIGA				*epP*		**pP**	**06 00 28.3**	**-0.2**
H06S1	**SOCORRO T** SNR=6.8	**60.71**	**315**	T		T	07 05 52.8	
H06E1	**SOCORRO T-PHAS** SNR=46	**60.73**	**316**	T		T	07 05 48.6	
035A	**Encino** baz=61	**60.75**	**332**	↑*P*		**P**	**06 00 18.1**	**+1.2**
936A	**North Padre Is** baz=61	**60.86**	**333**	↓*P*		**P**	**06 00 19.0**	**+1.4**
034A	**Hebbronville** baz=62,SNR=6.8	**61.11**	**332**	↓*P*		**P**	**06 00 20.8**	**+1.4**
KVTX	**Kingsville** comp=Z,314nm,1.5s	**61.20**	**332**	*eP*		**P**	**06 00 21.5**	**+1.6**
NVL	**N'lazarevskaya**	**61.27**	**158**	↓*iP*		**P**	**06 00 18.9**	**-1.0**
NVL	comp=Z,94nm,1.0s			pmax		pmax		
934A	**Benavides** baz=62	**61.51**	**332**	↑*P*		**P**	**06 00 23.7**	**+1.6**
NHSC	**New Hope** comp=Z,150nm,1.1s	**61.58**	**351**	*eP*		**P**	**06 00 22.6**	**+0.2**
NHSC				*epP*		**pP**	**06 00 35.8**	**0.0**
NHSC				*esP*		**sP**	**06 00 41.5**	**+0.4**
835A	**Beeville** baz=62	**61.83**	**333**	↓*P*		**P**	**06 00 25.8**	**+1.6**
933A	**Laredo** baz=62,SNR=14	**61.84**	**331**	↓*P*		**P**	**06 00 25.4**	**+1.1**
834A	**Tilden** baz=62,SNR=15	**61.98**	**332**	↑*P*		**P**	**06 00 26.8**	**+1.5**
QSPA	**South Pole Qui**	**62.06**	**180**	P		**P**	**06 00 25.6**	**+0.1**
QSPA	**South Pole Qui** comp=Z,58nm,0.9s,baz=158,slow=0.6,SNR=111	**62.06**	**180**	P		**P**	**06 00 25.6**	**+0.1**
735A	**Kenedy** baz=63,SNR=6.5	**62.33**	**333**	↓*P*		**P**	**06 00 28.8**	**+1.3**
GOGA	**Godfrey**	**62.41**	**348**	*eP*		**P**	**06 00 27.3**	**-0.7**
GOGA				*e*PP		**pP**	**06 00 40.6**	**-0.7**
GOGA	comp=Z,28nm,0.8s			pmax		pmax		
GOGA	**Godfrey** comp=Z,28nm,0.8s	**62.41**	**348**	*eP*		**P**	**06 00 27.2**	**-0.7**
GOGA				*epP*		**pP**	**06 00 40.6**	**-0.7**
GOGA				*esP*		**sP**	**06 00 46.2**	**-0.5**
833A	**Chaparral WMA,** baz=63,SNR=35	**62.51**	**332**	↑*P*		**P**	**06 00 29.7**	**+0.9**
HKT	**Hockley**	**62.56**	**336**	*eP*		**P**	**06 00 29.7**	**+0.8**
HKT				*e*PP		**pP**	**06 00 46.9**	**+4.6**
HKT	comp=Z,20nm,1.0s			pmax		pmax		
HKT	**Hockley** comp=Z,20nm,1.0s	**62.56**	**336**	*eP*		**P**	**06 00 29.7**	**+0.8**
HKT				*epP*		**pP**	**06 00 46.9**	**+4.6**
636A	**Smothers Creek** baz=63	**62.59**	**334**	P		**P**	**06 00 30.4**	**+1.1**
SACV	**Santiago Islan** comp=Z,21nm,0.9s	**62.62**	**53**	*eP*		**P**	**06 00 27.8**	**-2.0**
734A	**La Parita Cree** baz=63,SNR=14	**62.62**	**333**	↑*P*		**P**	**06 00 30.5**	**+0.9**
832A	**Faith Ranch, C** baz=63,SNR=42	**62.72**	**331**	↑*P*		**P**	**06 00 31.1**	**+0.9**
LRAL	**Lakeview Retre** comp=Z,35nm,1.1s	**62.78**	**345**	*eP*		**P**	**06 00 29.8**	**-0.7**
LRAL				*epP*		**pP**	**06 00 42.0**	**-1.8**
635A	**Leesville** baz=63,SNR=8.0	**62.79**	**334**	↓*P*		**P**	**06 00 31.0**	**+0.4**
733A	**Divot King Ran** baz=63,SNR=11	**62.81**	**332**	↑*P*		**P**	**06 00 31.5**	**+0.7**
JSC	**Jenkinsville**	**62.89**	**350**	*eP*		**P**	**06 00 31.0**	**-0.2**
JSC				*e*PP		**pP**	**06 00 44.4**	**-0.1**
JSC	**Jenkinsville**	**62.89**	**350**	*eP*		**P**	**06 00 31.0**	**-0.2**
JSC				*epP*		**pP**	**06 00 44.4**	**-0.1**
VBMS	**Vicksburg** comp=Z,120nm,1.0s	**62.92**	**341**	*eP*		**P**	**06 00 32.1**	**+0.7**
VBMS				*epP*		**pP**	**06 00 45.0**	**+0.3**
634A	**China Grove, S** baz=63	**63.01**	**333**	↑*P*		**P**	**06 00 33.0**	**+1.0**
732A	**Laxson Ranch,** baz=64,SNR=36	**63.11**	**331**	↓*P*		**P**	**06 00 33.6**	**+0.8**
536A	**Bastrop** baz=64,SNR=6.3	**63.13**	**334**	↑*P*		**P**	**06 00 33.6**	**+0.8**
535A	**Dale** baz=64,SNR=6.0	**63.28**	**334**	↓*P*		**P**	**06 00 34.3**	**+0.5**
633A	**Saathoff Ranch** baz=64,SNR=5.7	**63.42**	**332**	↑*P*		**P**	**06 00 35.6**	**+0.8**
CNNC	**Cliffs of the** comp=Z,58nm,0.8s	**63.42**	**353**	*eP*		**P**	**06 00 34.8**	**+0.2**
CNNC				*esP*		**sP**	**06 00 53.8**	**+0.4**
534A	**Blanco** baz=64,SNR=6.6	**63.63**	**333**	↓*P*		**P**	**06 00 37.0**	**+0.7**
632A	**Uvalde** baz=64,SNR=32	**63.71**	**332**	↓*P*		**P**	**06 00 37.8**	**+1.1**
KMSC	**Kings Mountain** comp=Z,36nm,1.1s	**63.75**	**350**	*eP*		**P**	**06 00 36.3**	**-0.5**
KMSC				*epP*		**pP**	**06 00 50.0**	**-0.2**
KMSC				*esP*		**sP**	**06 00 55.8**	**+0.2**
KMSC	**Kings Mountain** baz=64	**63.75**	**350**	P		**P**	**06 00 36.5**	**-0.3**
533A	**Kerrville** baz=64,SNR=6.9	**63.90**	**333**	↑*P*		**P**	**06 00 38.7**	**+0.7**
435B	**Jarrell** baz=64	**63.96**	**334**	↓*P*		**P**	**06 00 39.2**	**+0.9**
631A	**Perdido Creek** baz=64,SNR=22	**63.96**	**331**	↑*P*		**P**	**06 00 38.8**	**+0.4**
434A	**Burnet** baz=65,SNR=14	**64.25**	**334**	↓*P*		**P**	**06 00 40.6**	**+0.3**
532A	**Rocksprings** baz=65,SNR=29	**64.30**	**332**	↓*P*		**P**	**06 00 41.3**	**+0.7**
335A	**Moody** baz=65,SNR=8.1	**64.35**	**335**	↓*P*		**P**	**06 00 41.5**	**+0.7**
433A	**Art** baz=65,SNR=48	**64.52**	**333**	↓*P*		**P**	**06 00 42.6**	**+0.5**
JCT	**Junction City**	**64.57**	**332**	*eP*		**P**	**06 00 42.7**	**+0.3**
JCT				*e*			06 01 02.4	
JCT	comp=Z,80nm,0.8s			pmax		pmax		
JCT	**Junction City** comp=Z,80nm,0.8s	**64.57**	**332**	*eP*		**P**	**06 00 42.7**	**+0.3**
JCT				*e*			06 01 02.4	
JCT	**Junction City** baz=65,SNR=31	**64.57**	**332**	↑*P*		**P**	**06 00 42.9**	**+0.5**
CPCT	**Cooper Cave**	**64.59**	**348**	*eP*		**P**	**06 00 43.1**	**+0.7**
CPCT				*epP*		**pP**	**06 00 56.2**	**+0.4**
CPCT				*esP*		**sP**	**06 01 02.4**	**+1.3**
531A	**Rocksprings** baz=65,SNR=27	**64.60**	**332**	↓*P*		**P**	**06 00 43.5**	**+0.9**
SWET	**Sewanee** comp=Z,91nm,0.7s	**64.64**	**346**	*eP*		**P**	**06 00 42.0**	**-0.7**
SWET				*epP*		**pP**	**06 00 55.6**	**-0.6**
334A	**Lometa** baz=65,SNR=17	**64.70**	**334**	↑↑*P*		**P**	**06 00 43.6**	**+0.5**
OXF	**Oxford**	**64.78**	**343**	*eP*		**P**	**06 00 43.0**	**-0.6**
OXF				*e*PP		**pP**	**06 00 56.1**	**-0.9**
OXF	comp=Z,142nm,1.0s			pmax		pmax		
OXF	**Oxford** comp=Z,142nm,1.0s	**64.78**	**343**	*eP*		**P**	**06 00 43.0**	**-0.6**
OXF				*epP*		**pP**	**06 00 56.1**	**-0.9**
432A	**Menard** baz=65,SNR=22	**64.91**	**333**	↑↑*P*		**P**	**06 00 45.2**	**+0.6**
530A	**J-C Ranch, Com** baz=65,SNR=25	**64.92**	**331**	↓↓*P*		**P**	**06 00 45.6**	**+0.9**
333A	**Richland Sprin** baz=65,SNR=34	**64.98**	**333**	↑↑*P*		**P**	**06 00 45.3**	**+0.2**
WHTX	**Lake Whitney** comp=Z,58nm,1.2s	**64.99**	**335**	*eP*		**P**	**06 00 45.0**	**-0.1**
WHTX				*e*			06 01 04.6	
WHTX	**Lake Whitney** baz=65	**64.99**	**335**	↑↑*P*		**P**	**06 00 45.7**	**+0.6**
628A	**Black Gap, Mar** baz=65,SNR=23	**65.04**	**329**	↑↑*P*		**P**	**06 00 46.5**	**+1.0**
431A	**Sonora** baz=66,SNR=22	**65.08**	**332**	↓↓*P*		**P**	**06 00 46.6**	**+0.9**
627A	**Terlingua Ranc** baz=66,SNR=13	**65.24**	**329**	↓↓*P*		**P**	**06 00 47.8**	**+0.9**
234A	**Clairette** baz=66,SNR=30	**65.26**	**335**	↑↑*P*		**P**	**06 00 47.4**	**+0.6**
TXAR	**Lajitas Array**	**65.27**	**329**	P		**P**	**06 00 47.5**	**+0.4**
TXAR	**Lajitas Array** comp=Z,9.6nm,0.8s,baz=149,slow=7.7,SNR=117	**65.27**	**329**	P		**P**	**06 00 47.5**	**+0.4**
529A	**Stev Forest Ra** baz=66,SNR=49	**65.29**	**330**	↓↓*P*		**P**	**06 00 48.1**	**+1.0**
332A	**Millersview** baz=66,SNR=17	**65.34**	**333**	↑↑*P*		**P**	**06 00 47.6**	**+0.2**
430A	**Baggett Ranch,** baz=66,SNR=38	**65.43**	**331**	↓↓*P*		**P**	**06 00 48.3**	**+0.2**
135A	**Vickery Place,** baz=66	**65.48**	**335**	↑↑*P*		**P**	**06 00 48.5**	**+0.3**
331A	**San Angelo** baz=66,SNR=15	**65.55**	**332**	↑↑*P*		**P**	**06 00 48.9**	**+0.2**
233A	**Rising Star** baz=66,SNR=37	**65.56**	**334**	↓↓*P*		**P**	**06 00 49.4**	**+0.5**
528A	**Cox Ranch, San** baz=66,SNR=47	**65.57**	**330**	↑↑*P*		**P**	**06 00 49.4**	**+0.4**
429A	**Davenport Ranc** baz=66,SNR=27	**65.58**	**331**	↓↓*P*		**P**	**06 00 49.5**	**+0.5**
626A	**Big Bend Ranch** baz=66,SNR=104	**65.67**	**328**	↓↓*P*		**P**	**06 00 50.5**	**+0.9**
232A	**Coleman** baz=66,SNR=10	**65.74**	**333**	↑↑*P*		**P**	**06 00 50.6**	**+0.6**
134A	**White-Moore Ra** baz=66,SNR=5.6	**65.75**	**335**	↑↑*P*		**P**	**06 00 50.4**	**+0.5**
UALR	**University of** comp=Z,61nm,1.3s	**65.84**	**341**	*eP*		**P**	**06 00 50.4**	**0.0**
UALR				*epP*		**pP**	**06 01 03.5**	**-0.4**
UALR				*esP*		**sP**	**06 01 10.4**	**+1.2**
JSRW	**J. Sargeant Re**	**65.85**	**354**	*eP*		**P**	**06 00 50.6**	**+0.2**
JSRW				*epP*		**pP**	**06 01 04.5**	**+0.6**
527A	**Woodward Ranch** baz=66,SNR=35	**65.93**	**329**	↑↑*P*		**P**	**06 00 51.8**	**+0.5**
WVT	**Waverly**	**65.94**	**345**	*eP*		**P**	**06 00 49.7**	**-1.4**
WVT				*e*PP		**pP**	**06 01 03.3**	**-1.2**
WVT	comp=Z,46nm,0.9s			pmax		pmax		
WVT	**Waverly** comp=Z,46nm,0.9s	**65.94**	**345**	*eP*		**P**	**06 00 49.7**	**-1.4**
WVT				*epP*		**pP**	**06 01 03.3**	**-1.2**
WVT				*esP*		**sP**	**06 01 09.6**	**-0.3**
330A	**Mertzon** baz=66,SNR=32	**65.95**	**332**	↓↓*P*		**P**	**06 00 51.7**	**+0.4**
MIAR	**Mount Ida**	**66.00**	**339**	*eP*		**P**	**06 00 51.7**	**+0.2**
MIAR				*e*PP		**pP**	**06 01 04.8**	**-0.1**
MIAR	comp=Z,58nm,1.1s			pmax		pmax		
MIAR	**Mount Ida** comp=Z,58nm,1.1s	**66.00**	**339**	*eP*		**P**	**06 00 51.7**	**+0.2**
MIAR				*epP*		**pP**	**06 01 04.8**	**-0.1**
428A	**Kincaid Ranch,** baz=66,SNR=11	**66.01**	**330**	↑↑*P*		**P**	**06 00 52.3**	**+0.5**
231A	**Bronte** baz=66,SNR=15	**66.06**	**333**	↑↑*P*		**P**	**06 00 52.6**	**+0.6**
526A	**Mary Lane Ranc** baz=66,SNR=63	**66.08**	**329**	↑↑*P*		**P**	**06 00 53.6**	**+1.3**
133A	**Hamilton Ranch** baz=66,SNR=23	**66.09**	**334**	↑↑*P*		**P**	**06 00 52.9**	**+0.7**
HBAR	**Harrisburg**	**66.10**	**342**	*eP*		**P**	**06 00 50.7**	**-1.4**
HBAR				*epP*		**pP**	**06 01 05.5**	**-0.1**
Z35A	**Perchaven, San** baz=66,SNR=12	**66.12**	**336**	↓↓*P*		**P**	**06 00 52.8**	**+0.5**
230A	**Sterling City** baz=67,SNR=5.4	**66.34**	**332**	↑↑*P*		**P**	**06 00 54.4**	**+0.6**
329A	**Wagon Wheel Ra** baz=67,SNR=22	**66.36**	**331**	↓↓*P*		**P**	**06 00 54.8**	**+0.8**
UTMT	**University of** comp=Z,109nm,0.9s	**66.39**	**344**	*eP*		**P**	**06 00 54.0**	**+0.1**
UTMT				*epP*		**pP**	**06 01 07.5**	**+0.2**
ABTX	**Abilene, Hawle**	**66.39**	**334**	*eP*		**P**	**06 00 54.4**	**+0.3**
ABTX				*epP*		**pP**	**06 01 07.5**	**-0.1**
ABTX	**Abilene, Hawle** baz=67,SNR=27	**66.39**	**334**	↑↑*P*		**P**	**06 00 54.9**	**+0.7**
Z34A	**Collier Ranch,** baz=67,SNR=17	**66.40**	**335**	↓↓*P*		**P**	**06 00 54.8**	**+0.7**
427A	**Hayter Ranch,** baz=67,SNR=17	**66.43**	**330**	↓↓*P*		**P**	**06 00 55.3**	**+0.8**
426A	**McDonald Obser** baz=67,SNR=36	**66.56**	**329**	↓↓*P*		**P**	**06 00 56.2**	**+0.7**
328A	**Wristen Ranch,** baz=67,SNR=19	**66.62**	**330**	↑↑*P*		**P**	**06 00 56.5**	**+0.8**
Z33A	**Whitaker Ranch** baz=67,SNR=27	**66.64**	**335**	↑↑*P*		**P**	**06 00 56.0**	**+0.4**
PVMO	**Portageville** comp=Z,222nm,0.8s	**66.66**	**343**	*eP*		**P**	**06 00 56.1**	**+0.4**
PVMO				*epP*		**pP**	**06 01 09.2**	**+0.1**
229A	**Bryant Ranch,** baz=67,SNR=9.8	**66.70**	**331**	↑↑*P*		**P**	**06 00 56.6**	**+0.4**
131A	**Roby** baz=67,SNR=26	**66.73**	**333**	↑↑*P*		**P**	**06 00 56.6**	**+0.3**
Y34A	**Reagan Ranch,** baz=67,SNR=13	**66.87**	**336**	↑↑*P*		**P**	**06 00 57.4**	**+0.3**
130A	**Snyder** baz=67,SNR=11	**66.90**	**332**	↑↑*P*		**P**	**06 00 57.8**	**+0.4**
PARMO	**Parma**	**66.91**	**343**	*eP*		**

baz=68,SNR=18
Y31A Rekieta Farm, 67.81 334 ⇑P P 06 01 03.4 +0.3
baz=68,SNR=26
226B Tecolote Peak, 67.82 330 ⇑P P 06 01 04.5 +1.3
baz=68,SNR=20
X32A Elmer 67.84 335 ⇓P P 06 01 03.3 0.0
baz=68,SNR=5.4
WMOK Wichita Mounta 67.94 335 eP P 06 01 03.3 -0.6
WMOK e*PP pP 06 01 17.0 -0.3
WMOK pmax pmax
comp=Z,15nm,0.9s
WMOK Wichita Mounta 67.94 335 eP P 06 01 03.3 -0.6
comp=Z,15nm,0.9s
WMOK epP pP 06 01 17.0 -0.3
TUL1 Tulsa 67.96 338 eP P 06 01 03.7 -0.2
comp=Z,50nm,0.8s
TUL1 epP pP 06 01 17.4 0.0
TUL1 Tulsa 67.96 338 ⇑P P 06 01 03.5 -0.4
baz=68,SNR=24
127A Arkansas Junct 67.97 331 ⇓P P 06 01 04.5 +0.3
baz=68,SNR=11
Y30A Stafford Cattl 67.99 333 ⇑P P 06 01 04.1 -0.1
baz=68,SNR=8.6
MCWV Mont Chateau 68.00 352 eP P 06 01 04.3 +0.2
comp=Z,44nm,0.8s
MCWV epP pP 06 01 17.7 +0.1
MVL Millersville 68.01 355 eP P 06 01 05.0 +0.8
MVL epP pP 06 01 18.7 +1.1
GDL2 Guadalupe Moun 68.01 330 eP P 06 01 04.8 +0.3
W34A Bridge Creek, 68.02 336 ⇑P P 06 01 04.6 +0.2
baz=68,SNR=5.2
MNTX Cornudas Mount 68.05 329 eP P 06 01 03.8 -0.8
comp=Z,2μm,1.0s
MNTX epP pP 06 01 17.5 -0.6
Z28A Tucker Farm, M 68.08 332 ⇑P P 06 01 05.1 +0.2
baz=68
225A Deer Hill, Car 68.14 329 ⇑P P 06 01 05.7 +0.4
baz=68,SNR=8.5
W33A Caddo, Fort Co 68.19 336 ⇑P P 06 01 06.3 +0.8
baz=69,SNR=13
126A Clayton Basin, 68.23 330 ⇓P P 06 01 06.6 +0.7
baz=69,SNR=13
Y29A Porterfield Fa 68.29 333 ⇓P P 06 01 06.2 0.0
baz=69,SNR=35
X31A McDonald Ranch 68.29 334 ⇓P P 06 01 06.1 0.0
baz=69,SNR=25
W32A Sentinel 68.45 335 ⇑P P 06 01 07.1 0.0
baz=69,SNR=28
Z27A Tatum 68.46 331 ⇑P P 06 01 07.1 -0.1
baz=69,SNR=22
V34A Guthrie 68.47 337 ⇓P P 06 01 06.7 -0.5
baz=69,SNR=10
X30A Coker Ranch, T 68.48 334 ⇑P P 06 01 07.3 0.0
baz=69,SNR=11
OLIL Olney 68.49 345 eP P 06 01 06.3 -0.8
comp=Z,60nm,1.0s
OLIL epP pP 06 01 20.1 -0.6
125A Gardner Draw, 68.53 330 ⇑P P 06 01 07.6 -0.2
baz=69,SNR=31
Y28A McKinney Farm, 68.56 332 ⇓P P 06 01 08.1 +0.2
baz=69,SNR=10
BLO Bloomington 68.58 347 eP P 06 01 06.9 -0.8
BLO e*PP pP 06 01 19.8 -1.5
BLO pmax pmax
comp=Z,27nm,0.8s
BLO Bloomington 68.58 347 eP P 06 01 06.9 -0.8
comp=Z,27nm,0.8s
BLO epP pP 06 01 19.8 -1.5
V33A Lossen Ranch, 68.73 336 ⇑P P 06 01 08.8 0.0
baz=69,SNR=15
Z26A Caprock 68.75 330 ⇓P P 06 01 09.5 +0.4
baz=69,SNR=47
SSPA Standing Stone 68.76 354 eP P 06 01 09.1 +0.2
comp=Z,69nm,1.2s
SSPA epP pP 06 01 23.2 +0.8
W31A Holland Ranch, 68.77 335 ⇓P P 06 01 09.2 +0.1
baz=69
X29A Tulia 68.81 333 ⇓P P 06 01 09.3 -0.1
baz=69,SNR=22
MSTX Muleshoe 68.83 332 eP P 06 01 09.6 0.0
comp=Z,69nm,1.0s
MSTX epP pP 06 01 23.0 -0.1
MSTX esP sP 06 01 28.7 +0.2
MSTX Muleshoe 68.83 332 ⇓P P 06 01 09.7 +0.1
baz=69,SNR=28
SLM Saint Louis 68.90 344 eP P 06 01 09.4 -0.3
SLM e*PP pP 06 01 21.6 -1.7
SLM pmax pmax
comp=Z,93nm,1.1s
SLM Saint Louis 68.90 344 eP P 06 01 09.4 -0.3
comp=Z,93nm,1.1s
SLM epP pP 06 01 21.6 -1.7
V32A Arapaho 68.91 336 ⇑P P 06 01 10.2 +0.3
baz=69,SNR=9.3
Y27A Causey 68.92 331 ⇓P P 06 01 09.9 -0.2
baz=69,SNR=15
ODNJ Ogdensburg 68.98 357 eP P 06 01 10.3 +0.1
comp=Z,56nm,1.0s
ODNJ epP pP 06 01 24.3 +0.6
ACSO Alum Creek Sta 68.98 350 eP P 06 01 09.8 -0.4
comp=Z,104nm,0.8s
ACSO epP pP 06 01 23.4 -0.3
SBA Scott Base 69.00 191 eP P 06 01 10.7 +0.7
SBA pmax pmax
comp=Z,23nm,1.1s
SBA Scott Base 69.00 191 eP P 06 01 10.7 +0.7
comp=Z,23nm,1.1s
W30A Crocket Farms 69.01 334 ⇑P P 06 01 11.2 +0.6
baz=69
U34A Anderson Ranch 69.02 337 ⇑P P 06 01 10.6 0.0
baz=69,SNR=8.2
X28A Dimmitt 69.07 333 ⇑P P 06 01 11.6 +0.5
baz=70
Z25A Roswell 69.08 330 ⇑P P 06 01 11.6 +0.5
baz=70,SNR=27
YLE Yale 69.15 358 eP P 06 01 12.2 +1.0
YLE epP pP 06 01 26.4 +1.6
AMTX Amarillo 69.18 333 eP P 06 01 11.8 +0.1
AMTX Amarillo 69.18 333 ⇓P P 06 01 12.4 +0.7
baz=70
U33A Lingo Farm, Me 69.22 337 ⇓P P 06 01 12.5 +0.7
baz=70,SNR=5.4
Y26A Elida 69.24 331 ⇓P P 06 01 12.9 +0.8
baz=70,SNR=22
V31A Spring Creek L 69.25 335 ⇓P P 06 01 13.2 +1.1
baz=70,SNR=6.2
W29A Amraillo 69.38 333 ⇑P P 06 01 13.4 +0.5
baz=70,SNR=12
Z24A Sheeppen Canyo 69.41 329 ⇓P P 06 01 13.8 +0.4
baz=70,SNR=28
U32A Winter Ranch, 69.48 336 ⇑P P 06 01 13.8 +0.3
baz=70,SNR=6.4
KSPA Keystone Colle 69.52 356 eP P 06 01 14.4 +0.8
KSPA epP pP 06 01 28.1 +1.1
X27A F and S Farms, 69.55 332 ⇓P P 06 01 14.6 +0.5
baz=70
V30A Spur Ranch, Mi 69.56 334 ⇓P P 06 01 15.3 +1.2
baz=70,SNR=5.6
Y25A Mesa, Roswell 69.61 330 ⇓P P 06 01 14.9 +0.4
baz=70,SNR=9.5
319A Douglas 69.66 325 ⇑P P 06 01 15.5 +0.7
baz=70,SNR=12
W28A Vega 69.72 333 ⇓P P 06 01 15.8 +0.7
baz=70,SNR=6.9
X26A CR and CF Fran 69.77 331 ⇑P P 06 01 16.2 +0.8
baz=70,SNR=10
U31A Nine Bar Ranch 69.79 335 ⇑P P 06 01 16.3 +1.0
baz=70
T33A Patterson Ranc 69.85 337 ⇑P P 06 01 16.8 +1.2
baz=70
SFIN Scholer Farm 69.86 347 eP P 06 01 14.2 -1.4
SFIN epP pP 06 01 28.3 -0.8
SFIN Scholer Farm 69.86 347 ⇑P P 06 01 17.2 +1.6
baz=70
121A Cookes Peak, D 69.87 327 eP P 06 01 16.9 +0.8
comp=Z,29nm,0.9s
121A Cookes Peak, D 69.87 327 ⇑P P 06 01 16.9 +0.8
baz=70,SNR=16
TBI Tubuai 69.89 254 eS S 06 10 25.9 +3.0
comp=Z,233nm,29.2s
TBI Tubuai 69.89 254 eLR LR 06 22 33.8
comp=Z,598nm,29.8s
TBI Tubuai 69.89 254 eT T 07 16 48.0
comp=Z,7.7nm,0.2s
W27A Bowe Ranch, En 69.90 332 ⇑P P 06 01 16.4 +0.2
baz=70,SNR=8.2
Y24A Capitan 69.94 330 ⇑P P 06 01 17.4 +0.9
baz=70,SNR=6.2
V29A Stinnett 69.98 334 ⇑P P 06 01 16.7 +0.1
baz=70
VNDA Vanda 70.03 191 eP P 06 01 17.1 +0.8
comp=Z,12nm,1.1s
VNDA Vanda 70.03 191 P P 06 01 16.7 +0.4
comp=Z,5.8nm,0.9s,baz=143,slow=4.9,SNR=10
VNDA LR LR 06 30 34.4
comp=Z,162nm,18.1s,baz=140,slow=35
Z22A Elephant Butte 70.08 328 ⇓P P 06 01 18.4 +1.1
baz=70,SNR=21
X25A Clemmons Ranch 70.11 331 ⇑P P 06 01 18.1 +0.5
baz=70,SNR=6.3
V28A Channing 70.15 333 ⇓P P 06 01 18.2 +0.6
baz=70,SNR=26
BINY Binghamton 70.17 356 eP P 06 01 17.9 +0.4
comp=Z,121nm,1.1s
BINY epP pP 06 01 31.5 +0.4
T32A Huddler Ranch, 70.17 336 ⇑P P 06 01 18.2 +0.5
baz=71,SNR=11
W26A Owens Ranch, T 70.21 332 ⇑P P 06 01 18.5 +0.4
baz=71,SNR=25
S33A Kaszmaul Farm, 70.22 337 ⇑P P 06 01 17.8 -0.1
baz=71
U30A WK&E Inc. Balk 70.23 335 ⇓P P 06 01 18.6 +0.5
baz=71,SNR=7.6
Y23A Lovelace Mesa, 70.23 329 ⇑P P 06 01 19.4 +1.1
baz=71,SNR=21
HRV Adam Dziewonsk 70.32 359 eP P 06 01 19.2 +0.8
HRV e*PP pP 06 01 32.7 +0.8
HRV pmax pmax
comp=Z,85nm,0.9s
HRV Adam Dziewonsk 70.32 359 eP P 06 01 19.2 +0.8
comp=Z,85nm,0.9s
HRV epP pP 06 01 32.7 +0.8
T31A Randall Ranch, 70.37 336 ⇑P P 06 01 19.5 +0.6
baz=71,SNR=7.4
U29A Oasis Ranch, S 70.39 334 ⇑P P 06 01 19.9 +0.8
baz=71
V27A Dan Oppiter Fa 70.41 333 ⇑P P 06 01 19.7 +0.4
baz=71,SNR=5.6
ERPA Erie 70.44 353 eP P 06 01 18.6 -0.5
comp=Z,97nm,1.3s
ERPA epP pP 06 01 32.7 0.0
X24A Lazy VL Ranch, 70.48 330 ⇓P P 06 01 20.3 +0.4
baz=71
TRY Troy 70.59 358 eP P 06 01 21.5 +1.5
comp=Z,192nm,1.0s
TRY epP pP 06 01 35.2 +1.6
W25A X Bar L Ranch, 70.62 331 ⇑P P 06 01 21.1 +0.6
baz=71,SNR=15
T30A Plains 70.64 335 ⇑P P 06 01 21.5 +1.0
baz=71
S32A Newby Ranch, P 70.64 337 ⇓P P 06 01 20.8 +0.3
baz=71,SNR=8.5
BNM Barren Site 70.67 329 eP P 06 01 22.3 +1.3
comp=Z,9.6nm,0.9s
U28A Mallet 70.70 333 ⇑P P 06 01 21.2 +0.2
baz=71,SNR=11
Y22D IRIS PASSCAL I 70.74 329 ⇑P P 06 01 22.6 +1.2
baz=71
S31A Mullinville 70.76 336 ⇑P P 06 01 21.6 +0.3
baz=71
LPM Los Pinos Moun 70.81 329 eP P 06 01 22.8 +1.0
LPM epP pP 06 01 36.3 +0.9
V26A Tequesquite Ra 70.83 332 ⇑P P 06 01 22.8 +1.0
baz=71,SNR=11
X23A Hourglass Bar 70.83 330 ⇑P P 06 01 23.2 +1.3
baz=71,SNR=37
LENM Lemitar 70.84 329 eP P 06 01 23.1 +1.0
LENM epP PcP 06 01 39.2 -3.2
MMNY Mt. Morris Dam 70.85 354 eP P 06 01 21.4 -0.2
comp=Z,388nm,1.2s
MMNY epP pP 06 01 35.5 +0.3
MEH Mehetia 70.86 260 eT T 07 18 00.8
comp=Z,26nm,0.2s
R33A Olander Ranch, 70.86 338 ⇓P P 06 01 21.8 0.0
baz=71,SNR=6.6
SYO Syowa Base 70.89 159 ⇓iP P 06 01 19.8 -1.9
U27A Thompson Grove 70.97 333 ⇑P P 06 01 23.2 +0.5
baz=71,SNR=7.6
W24A Lazy 6 Ranch, 71.02 330 ⇓P P 06 01 23.6 +0.5
baz=71,SNR=11
T29A Hugoton 71.02 335 ⇑P P 06 01 23.8 +0.9
baz=71
LAZ Ladron 71.11 329 eP P 06 01 24.8 +1.1
comp=Z,11nm,1.0s
LAZ epP pP 06 01 38.4 +1.1
AAM Ann Arbor 71.11 350 eP P 06 01 22.6 -0.6
AAM e*PP pP 06 01 35.8 -1.0
AAM pmax pmax
comp=Z,108nm,1.4s
AAM Ann Arbor 71.11 350 eP P 06 01 22.6 -0.6
comp=Z,108nm,1.4s
AAM epP pP 06 01 35.8 -1.0
KSU1 Kansas State U 71.13 339 eP P 06 01 23.1 -0.3
comp=Z,27nm,0.8s
KSU1 epP pP 06 01 37.1 +0.1
KSU1 Kansas State U 71.13 339 ⇑P P 06 01 24.0 +0.6
baz=72
S30A Montezuma 71.14 335 ⇓P P 06 01 24.0 +0.4
baz=72
TUC Tucson 71.17 325 eP P 06 01 24.7 +0.8
TUC e*PP pP 06 01 37.7 +0.2
TUC e*SP sP 06 01 43.6 +0.8
TUC pmax pmax
comp=Z,21nm,1.1s
TUC Tucson 71.17 325 eP P 06 01 24.7 +0.8
comp=Z,21nm,1.1s
TUC epP pP 06 01 37.7 +0.2
TUC esP sP 06 01 43.6 +0.8
V25A Rancho No Teng 71.21 331 ⇓P P 06 01 24.6 +0.4
baz=72,SNR=21
R32A Long Quarter, 71.21 337 ⇓P P 06 01 24.2 +0.2
baz=72,SNR=8.6
ACCN Adirondack Com 71.24 358 eP P 06 01 24.6 +0.6
comp=Z,90nm,1.1s
ACCN epP pP 06 01 38.5 +0.9
ANMO Albuquerque 71.26 330 eP P 06 01 25.4 +0.9
comp=Z,12nm,0.9s
ANMO epP pP 06 01 39.2 +1.1
ANMO Albuquerque 71.26 330 P P 06 01 25.5 +0.9
comp=Z,5.3nm,0.7s,baz=149,slow=7.5,SNR=35
W23A Werner Place, 71.30 330 ⇑P P 06 01 25.8 +0.9
baz=72,SNR=26
T28A Walsh 71.30 334 ⇑P P 06 01 24.7 0.0
baz=72,SNR=7.5
U26A Atchley Ranch, 71.32 332 ⇓P P 06 01 25.5 +0.6
baz=72,SNR=13
S29A Ulysses 71.36 335 ⇓P P 06 01 25.6 +0.6
baz=72,SNR=8.6
R31A Burdett 71.38 336 ⇑P P 06 01 24.9 -0.1
baz=72,SNR=6.7
V24A Rampart Ranch, 71.39 331 ⇑P P 06 01 25.7 +0.3
baz=72,SNR=10
Q33A Connelly Farm, 71.44 338 ⇓P P 06 01 25.9 +0.6
baz=72,SNR=6.0
T27A Campo 71.49 333 ⇓P P 06 01 26.3 +0.5
baz=72,SNR=17
HNH Hanover 71.53 359 eP P 06 01 27.2 +1.5
comp=Z,107nm,0.9s
HNH epP pP 06 01 41.0 +1.7
U25A Circle Dot Ran 71.60 332 ⇑P P 06 01 27.3 +0.7
baz=72,SNR=12
S28A Manter 71.63 334 ⇓P P 06 01 26.9 +0.3
baz=72,SNR=27
R30A Dighton 71.64 336 ⇓P P 06 01 26.8 +0.2
baz=72,SNR=5.7
Q32A Meitler Ranch, 71.67 337 ⇓P P 06 01 26.9 +0.1
baz=72
P33A Williams Farm, 71.79 338 ⇓P P 06 01 28.6 +1.2
baz=72
V23A Ortiz Mt. (NFS 71.81 330 ⇑P P 06 01 29.0 +1.2
baz=72,SNR=12
MDV Middlebury 71.84 358 eP P 06 01 28.2 +0.7
MDV epP pP 06 01 42.1 +1.0
NCB Newcomb 71.85 357 eP P 06 01 27.4 -0.3
comp=Z,22nm,0.9s
NCB epP pP 06 01 41.3 +0.1
LIC Lamto 71.92 72 ⇑iP P 06 01 28.7 -0.1
comp=Z,77nm,1.0s,baz=246
LIC Lamto 71.92 72 eP P 06 01 28.6 -0.2
comp=Z,102nm,1.0s
LIC Lamto 71.92 72 ⇑iP P 06 01 28.7 -0.1
comp=Z,77nm,1.0s
T26A Comanche Natio 71.94 333 ⇑P P 06 01 29.1 +0.5
baz=72,SNR=11
214A Organ Pipe Nat 71.94 323 eP P 06 01 29.5 +1.0
comp=Z,68nm,1.1s
214A epP pP 06 01 42.1 0.0
214A e 06 01 48.4
214A Organ Pipe Nat 71.94 323 ⇓P P 06 01 29.8 +1.3
baz=72,SNR=32
Q31A Ellis 71.97 337 ⇑P P 06 01 29.3 +0.7
baz=72,SNR=7.4
U24A Moreno Valley 71.98 331 ⇑P P 06 01 29.4 +0.5
baz=72
R29A Marienthal 72.08 335 ⇑P P 06 01 29.8 +0.5
baz=72,SNR=7.0
S27A Las Animas 72.10 334 ⇓P P 06 01 30.0 +0.5
baz=72
TIAR Tiarei 72.10 259 eT T 07 19 33.6
comp=Z,3.4nm,0.2s
TIC Toumodi 72.15 72 eP P 06 01 30.0 -0.2
comp=Z,105nm,1.2s
KIC Kosan Boka 72.23 72 eP P 06 01 30.7 0.0
comp=Z,192nm,1.1s
Q30A Quinter 72.24 336 ⇓P P 06 01 30.9 +0.8
baz=73,SNR=18
T25A Trinidad 72.24 332 ⇑P P 06 01 31.3 +0.9
baz=73,SNR=19
P32A Huiting Farm, 72.25 338 ⇑P P 06 01 30.2 0.0
baz=73,SNR=5.1
R28A Tribune 72.26 335 ⇓P P 06 01 30.9 +0.6
baz=73,SNR=11
V22A San Miguel Ran 72.27 330 ⇑P P 06 01 32.0 +1.3
baz=73,SNR=19
S26A Kim 72.27 333 ⇓P P 06 01 31.3 +0.8
baz=73,SNR=21
PPT2 Papeete2 72.29 259 eS S 06 10 54.7 +3.6
comp=Z,458nm,32.8s
PPT2 Papeete2 72.29 259 eLR LR 06 23 36.9
comp=Z,920nm,23.2s,baz=107
PPT Papeete 72.30 259 LR LR 06 24 59.5
comp=Z,569nm,19.6s,baz=173,slow=29
DBIC Dimbokro 72.30 72 eP P 06 01 31.0 0.0
comp=Z,80nm,0.9s
DBIC Dimbokro 72.30 72 P P 06 01 31.2 +0.1
comp=Z,70nm,0.9s,baz=210,slow=6.6,SNR=61
DBIC LR LR 06 30 12.2
comp=Z,395nm,21.9s,baz=222,slow=33
U23A El Rito 72.30 331 ⇓P P 06 01 31.9 +1.1
baz=73,SNR=11
P31A Stockton 72.43 337 ⇓P P 06 01 31.4 +0.1
baz=73,SNR=18
Q29A Oakley 72.43 336 ⇓P P 06 01 31.6 +0.2
baz=73,SNR=16
PTN Potsdam (NY) 72.48 357 eP P 06 01 31.5 +0.1
PTN Potsdam (NY) 72.48 357 eP P 06 01 31.5 +0.1
LONY Lake Ozonia 72.51 357 eP P 06 01 32.1 +0.5
LONY epP pP 06 01 46.1 +0.9
X18A Snowflake 72.54 327 ⇑P P 06 01 33.2 +1.0
baz=73
T24B San Luis 72.58 332 ⇓P P 06 01 33.9 +1.4
baz=73,SNR=21
R27A Eads 72.58 334 ⇑P P 06 01 32.6 +0.3
baz=73,SNR=12
U22A Llaves 72.63 330 ⇓P P 06 01 34.1 +1.3
baz=73,SNR=22
S25A Robets Cordova 72.69 333 ⇓P P 06 01 34.1 +1.0
baz=73,SNR=13
O32A Brockman Farm, 72.72 338 ⇓P P 06 01 33.2 +0.2
baz=73
SCIA State Center 72.74 343 eP P 06 01 33.1 +0.1
comp=Z,44nm,1.0s
SCIA epP pP 06 01 46.5 -0.1
P30A Selden 72.75 337 ⇑P P 06 01 33.8 +0.6
baz=73,SNR=6.2
T23A Casias Ranch, 72.83 331 ⇑P P 06 01 35.0 +1.0
baz=73,SNR=5.5
R26A Arlington 72.85 334 ⇑P P 06 01 34.4 +0.5
baz=73,SNR=17
Q28A Sharon Springs 72.90 335 ⇑P P 06 01 34.6 +0.5
baz=73,SNR=7.9
W18A Petrified Fore 72.91 327 eP P 06 01 35.5 +1.1
comp=Z,53nm,1.2s
W18A Petrified Fore 72.91 327 ⇑P P 06 01 35.4 +0.9
baz=73,SNR=7.5
JFWS Jewell Farm 72.96 345 eP P 06 01 33.3 -1.0
JFWS e*PP pP 06 01 48.0 +0.1
JFWS pmax pmax
comp=Z,70nm,1.1s
JFWS Jewell Farm 72.96 345 eP P 06 01 33.3 -1.0
comp=Z,70nm,1.1s
JFWS epP pP 06 01 48.0 +0.1
O31A Woolen Ranch, 72.97 337 ⇑P P 06 01 34.6 +0.1
baz=73,SNR=6.1
S24A Houchin Ranch, 73.00 332 ⇓P P 06 01 36.3 +1.3
baz=73,SNR=37
P29A Atwood 73.04 336 ⇑P P 06 01 35.4 +0.4
baz=73,SNR=7.8
R25A Fountain Ranch 73.05 333 ⇑P P 06 01 35.5 +0.4
baz=73
113A Mohawk Valley, 73.08 323 ⇑P P 06 01 36.6 +1.4
baz=73,SNR=9.6
Z14A Wintersburg 73.11 324 ⇑P P 06 01 36.4 +1.0
baz=74
KSCO Kaye Shedlock' 73.15 335 eP P 06 01 36.3 +0.6
comp=Z,65nm,1.0s
KSCO epP pP 06 01 49.8 +0.5
KSCO Kaye Shedlock' 73.15 335 ⇑P P 06 01 36.3 +0.6
baz=74,SNR=7.0
X16A Lo Mia Camp, P 73.18 326 ⇑P P 06 01 37.1 +1.1
baz=74,SNR=38
N32A Stulken Farm, 73.18 338 ⇑P P 06 01 36.2 +0.5
baz=74
SDCO Great Sand Dun 73.20 332 eP P 06 01 36.8 +0.5
comp=Z,18nm,1.0s
SDCO epP pP 06 01 50.4 +0.5
O30A MW Ranch, Wils 73.25 337 ⇑P P 06 01 36.6 +0.5
baz=74,SNR=7.0
P28A Saint Francis 73.32 335 ⇓P P 06 01 37.2 +0.6
baz=74,SNR=7.6
S23A Nye Farm, Mont 73.38 331 ⇓P P 06 01 38.8 +1.5
baz=74,SNR=6.8
Q26A Hugo 73.42 334 ⇓P P 06 01 38.5 +1.2
baz=74
N31A Bailey Ranch, 73.45 338 ⇓P P 06 01 38.7 +1.4
baz=74
R24A Sanders Place, 73.46 332 ⇓P P 06 01 38.7 +1.1
baz=74,SNR=18
O29A 4D Ranch, Culb 73.46 336 ⇑P P 06 01 37.8 +0.4
baz=74
Y14A Wickenburg 73.59 324 ⇓P P 06 01 39.1 +0.8
baz=74,SNR=21
P27A Ficken Ranch, 73.61 335 ⇑P P 06 01 39.5 +1.2
baz=74,SNR=5.8
Q25A Bedland, Calha 73.69 333 ⇓P P 06 01 39.6 +0.6
baz=74
R23A Moffat 73.72 332 ⇓P P 06 01 40.5 +1.2
baz=74,SNR=13
BGNE Belgrade 73.72 339 eP P 06 01 38.5 -0.3
comp=Z,193nm,1.1s
BGNE epP pP 06 01 52.4 -0.1
BGNE Belgrade 73.72 339 ⇑P P 06 01 38.8 0.0
baz=74,SNR=10
S22A 4UR Ranch, Cre 73.77 331 ⇓P P 06 01 40.5 +1.0
baz=74,SNR=8.6
O28A Krutsinger Ran 73.81 336 ⇓P P 06 01 40.1 +0.6
baz=74
N30A Hueftle Ranch, 73.81 337 ⇑P P 06 01 40.5 +1.1
baz=74
GLA Glamis 73.86 323 eP P 06 01 40.8 +0.9
GLA pmax pmax
comp=Z,24nm,1.4s
GLA Glamis 73.86 323 eP P 06 01 40.8 +0.9
comp=Z,24nm,1.4s
GLA Glamis 73.86 323 ⇓P P 06 01 41.3 +1.4
baz=74
P26A Davis Ranch, A 73.90 334 ⇑P P 06 01 40.8 +0.7
baz=74,SNR=7.9
M31A Lambtecht Ranc 73.93 338 ⇑P P 06 01 40.4 +0.3
baz=74,SNR=7.4
N29A Votaw Ranch, W 74.01 337 ⇑P P 06 01 41.1 +0.4
baz=74,SNR=8.5
WUAZ Wupatki 74.03 326 eP P 06 01 42.3 +1.3
comp=Z,32nm,0.9s
WUAZ Wupatki 74.03 326 ⇓P P 06 01 42.1 +1.2
baz=74,SNR=29
MVCO Mesa Verde 74.05 329 eP P 06 01 42.0 +0.9
comp=Z,94nm,1.5s
MVCO Mesa Verde 74.05 329 ⇑P P 06 01 41.9 +0.7
baz=74,SNR=22
Q24A Divide 74.10 333 ⇓P P 06 01 42.3 +0.8
baz=74,SNR=24

O27A **Beecher Island** 74.12 335 ⇑P P 06 01 42.0 +0.7
baz=74,SNR=14
P25A **Willow Gulch B** 74.18 334 ⇓P P 06 01 42.9 +1.2
baz=75,SNR=18
N28A **Pribbeno Ranch** 74.22 336 ⇓P P 06 01 42.3 +0.4
baz=75,SNR=6.3
Y12C **Blythe** 74.24 323 ⇓P P 06 01 43.1 +1.1
baz=75,SNR=11
SWSC **Sam W. Stewart** 74.30 322 ⇑P P 06 01 43.9 +1.5
baz=75,SNR=7.5
PDMCI **Parker Dam,Lak** 74.46 324 ⇑P P 06 01 44.8 +1.5
baz=75
P24A **Kohler Place,** 74.47 333 ⇓P P 06 01 44.8 +1.4
baz=75
O26A **Horse Wrangler** 74.48 335 ⇓P P 06 01 44.8 +1.4
baz=75,SNR=7.7
BAR **Barrett** 74.59 321 eP P 06 01 44.8 +0.6
comp=Z,107nm,1.0s
M29A **Burnside Ranch** 74.59 337 ⇑P P 06 01 44.6 +0.6
baz=75
MONP **Monument Peak** 74.61 321 ⇑P P 06 01 45.4 +0.9
baz=75,SNR=9.2
OGNE **Ogallala** 74.62 336 ⇓P P 06 01 45.2 +1.0
baz=75
L31A **Butterfield Fa** 74.63 339 ⇓P P 06 01 45.0 +0.8
baz=75,SNR=16
BC3 **Big Chuckawall** 74.66 323 ⇑P P 06 01 45.5 +0.9
baz=75,SNR=20
O25A **Wiggins** 74.68 334 ⇓P P 06 01 45.5 +0.9
baz=75
N27A **Anderson Farm,** 74.69 336 ⇑P P 06 01 45.8 +1.2
baz=75
L30A **Spencer Herefo** 74.72 338 ⇓P P 06 01 45.2 +0.6
baz=75,SNR=10.0
P23A **Jefferson** 74.73 332 ⇓P P 06 01 45.9 +0.7
baz=75,SNR=6.1
M28A **Bar X Bar Ranc** 74.78 337 ⇓P P 06 01 46.0 +0.9
baz=75
PV01 **Paradox Valley** 74.85 330 eP P 06 01 46.7 +1.0
comp=Z,2μm,1.1s
IRM **Iron Mountain** 74.89 323 ⇓P P 06 01 46.9 +1.1
baz=75,SNR=15
W13A **Hualapai Mount** 74.95 325 ⇑P P 06 01 47.4 +1.0
baz=75,SNR=27
N26A **Koester Ranch,** 74.96 335 ⇑P P 06 01 47.6 +1.4
baz=75
109C **Camp Elliot, M** 74.99 321 ⇑P P 06 01 47.6 +1.3
baz=75
ISCO **Idaho Springs** 75.00 333 eP P 06 01 47.3 +0.6
ISCO e*PP pP 06 02 01.4 +1.1
ISCO pmax pmax
comp=Z,24nm,1.2s
ISCO **Idaho Springs** 75.00 333 eP P 06 01 47.3 +0.6
comp=Z,24nm,1.2s
ISCO epP pP 06 02 01.4 +1.1
ISCO **Idaho Springs** 75.00 333 ⇓P P 06 01 47.6 +0.9
baz=75,SNR=21
O24A **Longmont** 75.06 333 ⇑P P 06 01 48.0 +1.2
baz=75
L29A **Maesberg Ranch** 75.07 338 ⇑P P 06 01 47.1 +0.4
baz=76
NEE2 **Needles Airpor** 75.07 324 ⇑P P 06 01 48.7 +1.9
baz=75
PFO **Pinyon Flat Ob** 75.17 322 eP P 06 01 48.7 +1.1
comp=Z,20nm,1.1s
PFO epP pP 06 02 02.3 +1.0
PFO esP sP 06 02 07.8 +1.3
PFO **Pinyon Flat Ob** 75.17 322 ⇑P P 06 01 48.9 +1.4
baz=76
U15A **North Rim** 75.20 326 ⇑P P 06 01 49.2 +1.3
baz=76,SNR=28
PV04 **Paradox Valley** 75.21 330 eP P 06 01 48.5 +0.7
BELC **Belle Mtn. Jos** 75.22 322 ⇑P P 06 01 48.9 +1.0
baz=76,SNR=8.7
PV10 **Paradox Valley** 75.26 330 eP P 06 01 48.4 +0.3
comp=Z,444nm,0.8s
M27A **Reverse DX Ran** 75.26 336 ⇑P P 06 01 49.0 +1.1
baz=76
N25A **Grover** 75.27 334 ⇓P P 06 01 49.7 +1.6
baz=76
P22A **Eagle** 75.29 332 ⇑P P 06 01 49.8 +1.5
baz=76,SNR=14
K30A **Basset** 75.33 338 ⇑P P 06 01 48.5 +0.3
baz=76,SNR=16
ECSD **EROS Data Cent** 75.37 341 eP P 06 01 47.6 -0.8
comp=Z,37nm,0.8s
ECSD epP pP 06 02 01.8 -0.3
ECSD esP sP 06 02 08.3 +1.0
ECSD **EROS Data Cent** 75.37 341 ⇑P P 06 01 48.4 0.0
baz=76,SNR=28
L28A **Connealy Angus** 75.38 337 ⇑P P 06 01 49.7 +1.1
baz=76
O23A **Lake Granby, G** 75.47 333 ⇓P P 06 01 50.6 +1.2
baz=76,SNR=16
M26A **McRoberts Ranc** 75.48 335 ⇑P P 06 01 49.9 +0.7
baz=76
LDFC **Landfair** 75.57 324 eP P 06 01 51.1 +1.3
comp=Z,26nm,0.9s
MURC **Murrieta** 75.57 321 ⇑P P 06 01 51.2 +1.4
baz=76,SNR=10
GMRC **Granite Mounta** 75.63 323 ⇓P P 06 01 51.4 +1.2
baz=76,SNR=20
K29A **Lazy Trails An** 75.64 338 ⇑P P 06 01 50.5 +0.5
baz=76,SNR=17
O22A **Kremmling** 75.68 332 ⇓P P 06 01 51.4 +0.8
baz=76,SNR=14
L27A **T5 Ranch, Ells** 75.72 336 ⇑P P 06 01 51.9 +1.3
baz=76
SPMN **St. Paul** 75.75 344 eP P 06 01 49.4 -1.0
comp=Z,65nm,0.9s
SPMN epP PcP 06 02 03.1 +0.2
SPMN esP sP 06 02 10.2 +0.7
SPMN **St. Paul** 75.75 344 ⇑P P 06 01 50.2 -0.3
baz=76,SNR=8.1
M25A **Palm-Egli Farm** 75.80 335 ⇓P P 06 01 52.0 +1.0
baz=76
SCI **San Clemente I** 75.86 320 ⇑P P 06 01 52.8 +1.4
baz=76
J30A **Dallas** 75.88 339 ⇓P P 06 01 51.6 +0.3
baz=76,SNR=15
BBRC **Big Bear Solar** 75.92 322 ⇑P P 06 01 53.9 +1.9
baz=76
K28A **Ten Mile Ranch** 75.95 337 ⇓P P 06 01 52.8 +1.0
baz=76,SNR=9.3
L26A **Underwood Farm** 75.96 336 ⇑P P 06 01 53.1 +1.2
baz=76
HEC **Hector,Ludlow** 76.03 323 ⇓P P 06 01 53.7 +1.3
baz=76,SNR=27
N23A **Red Feather La** 76.06 333 ⇑P P 06 01 53.7 +1.0
baz=76,SNR=8.4
CIS **Catalina Islan** 76.10 320 ⇓P P 06 01 53.7 +0.9
baz=76
M24A **Cheyenne** 76.11 334 ⇓P P 06 01 54.1 +1.2
baz=76,SNR=10.0
N22A **Wattenberg Ran** 76.19 333 ⇑P P 06 01 54.7 +1.2
baz=77,SNR=11
J29A **Okreek** 76.22 338 ⇑P P 06 01 53.4 +0.2
baz=77,SNR=39
K27A **Flueckinger Fa** 76.24 337 ⇓P P 06 01 54.4 +0.9
baz=77,SNR=8.3
TUQ **Turquoise Moun** 76.27 323 ⇓P P 06 01 54.8 +1.0
baz=77,SNR=13
BFSC **Mount Baldy Ra** 76.30 321 ⇑P P 06 01 54.9 +0.9
baz=77,SNR=15
O20A **White River Ci** 76.37 331 ⇑P P 06 01 55.5 +1.2
baz=77,SNR=25
L25A **Engebretsen Ra** 76.39 335 ⇑P P 06 01 55.6 +1.3
baz=77
RRX **Edison Barstow** 76.42 322 ⇓P P 06 01 56.0 +1.5
baz=77
M23A **Laramie** 76.46 334 ⇑P P 06 01 56.1 +1.2
baz=77
MWC **Mount Wilson** 76.51 321 eP P 06 01 56.1 +0.8
MWC pmax pmax
comp=Z,22nm,1.0s
MWC **Mount Wilson** 76.51 321 eP P 06 01 56.1 +0.8
comp=Z,22nm,1.0s
SRU **San Rafael** 76.52 329 eP P 06 01 55.8 +0.6
SRU e*PP pP 06 02 09.7 +0.7
SRU pmax pmax
comp=Z,31nm,0.9s
SRU **San Rafael** 76.52 329 eP P 06 01 55.8 +0.6
comp=Z,31nm,0.9s
SRU epP pP 06 02 09.7 +0.7
J28A **Allard Ranch,** 76.53 338 ⇓P P 06 01 55.7 +0.7
baz=77,SNR=33
PASC **Pasadena Art C** 76.54 321 eP P 06 01 56.7 +1.4
comp=Z,13nm,0.8s
K26A **Motz Farm, Whi** 76.57 336 ⇑P P 06 01 56.1 +0.8
baz=77
CCUT **Cedar City** 76.61 326 eP P 06 01 57.5 +1.6
comp=Z,42nm,1.0s
CCUT epP pP 06 02 11.2 +1.7
GSC **Goldstone** 76.64 323 eP P 06 01 56.8 +0.9
GSC pmax pmax
comp=Z,12nm,0.9s
GSC **Goldstone** 76.64 323 eP P 06 01 56.8 +0.9
comp=Z,12nm,0.9s
GSC **Goldstone** 76.64 323 ⇑P P 06 01 57.4 +1.5
baz=77,SNR=13
J27A **Elkhorn Farm,** 76.65 337 ⇓P P 06 01 57.1 +1.3
baz=77,SNR=25
L24A **Wheatland** 76.65 335 ⇓P P 06 01 56.8 +0.9
baz=77
DECC **Green Verdugo** 76.68 321 ⇓P P 06 01 57.4 +1.3
baz=77
SHPR **Sheep Range** 76.69 325 eP P 06 01 57.1 +0.9
comp=Z,36nm,1.1s
SHPR epP pP 06 02 10.7 +0.7
SUR **Sutherland** 76.71 120 eP P 06 01 57.3 +0.6
comp=Z,38nm,1.1s
BRSD **Miller** 76.72 340 eP P 06 01 55.9 -0.1
comp=Z,61nm,1.0s
BRSD epP pP 06 02 09.1 -0.6
BRSD **Miller** 76.72 340 ⇓P P 06 01 55.6 -0.4
baz=77
K25A **Mack Ranch, Ha** 76.75 336 ⇓P P 06 01 57.7 +1.4
baz=77
M22A **Cedar Creek Ra** 76.75 333 ⇓P P 06 01 57.8 +1.3
baz=77,SNR=7.8
I29A **Vivian Onida** 76.76 339 ⇓P P 06 01 56.6 +0.3
baz=77,SNR=11
SHOC **Shoshone** 76.81 323 ⇓P P 06 01 57.5 +0.8
baz=77,SNR=5.7
MVU **Marysvale** 76.81 328 eP P 06 01 57.7 +0.7
comp=Z,30nm,1.0s
MVU epP pP 06 02 11.8 +1.1
ARUT **Antelope Range** 76.83 327 eP P 06 01 58.2 +1.2
ARUT e*PP pP 06 02 11.9 +1.2
ARUT **Antelope Range** 76.83 327 eP P 06 01 58.2 +1.2
comp=Z,544nm,1.0s
ARUT epP pP 06 02 11.9 +1.2
N20A **Spence Gulch,** 76.96 332 ⇑P P 06 01 58.7 +0.9
baz=77,SNR=13
EDW2 **Edwards Air Fo** 76.96 322 ⇑P P 06 01 58.7 +1.0
baz=77,SNR=16
L23A **Garrett** 77.01 334 ⇑P P 06 01 58.7 +0.7
baz=77,SNR=6.5
I28A **Midland** 77.02 338 ⇓P P 06 01 58.6 +0.8
baz=77,SNR=10
J26A **Sides Ranch, S** 77.07 336 ⇓P P 06 01 59.6 +1.5
baz=78,SNR=12
OSI **Osito Adit** 77.17 321 ⇑P P 06 02 00.1 +1.3
baz=78
K24A **Anderson Ranch** 77.19 335 ⇑P P 06 02 00.2 +1.3
baz=78
L22A **Ellis Ranch, M** 77.22 334 ⇓P P 06 02 00.2 +1.0
baz=78,SNR=7.4
BSC **Santa Cruz Isl** 77.22 320 ⇑P P 06 02 00.5 +1.4
baz=78
LRMC **Laurel Mountai** 77.24 322 ⇑P P 06 02 00.1 +0.8
baz=78,SNR=13
H29A **Onida** 77.27 339 ⇑P P 06 01 59.1 0.0
baz=78,SNR=15
I27A **Quinn** 77.38 337 ⇑P P 06 02 00.7 +0.9
baz=78,SNR=11
G30A **Faulkton** 77.39 340 ⇓P P 06 01 59.2 -0.6
baz=78,SNR=7.5
J25A **Sunshine Ranch** 77.40 336 ⇓P P 06 02 00.9 +0.9
baz=78,SNR=7.2
K23A **Bowen Ranch, D** 77.53 334 ⇓P P 06 02 02.1 +1.3
baz=78,SNR=8.6
FURC **Furnace Creek,** 77.55 323 ⇓P P 06 02 02.2 +1.4
baz=78,SNR=10
H28A **Mission Ridge** 77.58 338 ⇓P P 06 02 01.1 +0.2
baz=78,SNR=16
I26A **New Underwood** 77.62 337 ⇓P P 06 02 01.8 +0.6
baz=78,SNR=9.2
J24A **Dixon Ranch, L** 77.66 335 ⇑P P 06 02 02.7 +1.3
baz=78,SNR=16
G29A **Hoven** 77.69 339 ⇓P P 06 02 01.3 -0.1
baz=78,SNR=8.6
MPU **Maple Canyon** 77.76 329 eP P 06 02 02.8 +0.6
comp=Z,65nm,1.2s
MPU epP pP 06 02 16.8 +0.9
K22A **Casper** 77.78 334 eP P 06 02 03.0 +0.8
comp=Z,58nm,1.0s
K22A epP pP 06 02 16.9 +1.0
K22A **Casper** 77.78 334 ⇑P P 06 02 03.4 +1.2
baz=78,SNR=16
DAC **Darwin (Calif)** 77.79 323 eP P 06 02 03.2 +0.8
DAC e*PP pP 06 02 16.8 +0.6
DAC pmax pmax
comp=Z,24nm,1.0s
DAC **Darwin (Calif)** 77.79 323 eP P 06 02 03.2 +0.8
comp=Z,24nm,1.0s
DAC epP pP 06 02 16.8 +0.6
ISA **Isabella** 77.81 322 eP P 06 02 03.3 +0.9
ISA e*PP pP 06 02 17.1 +1.0
ISA pmax pmax
comp=Z,51nm,1.4s
ISA **Isabella** 77.81 322 eP P 06 02 03.3 +0.9
comp=Z,51nm,1.4s
ISA epP pP 06 02 17.1 +1.0
ISA **Isabella** 77.81 322 ⇓P P 06 02 03.6 +1.2
baz=78,SNR=22
H27A **Howes** 77.89 338 ⇓P P 06 02 02.7 +0.1
baz=78
G28A **Parade** 77.90 339 ⇓P P 06 02 02.9 +0.3
baz=78,SNR=16
DAU **Daniels Canyon** 77.91 330 eP P 06 02 04.1 +0.9
DAU e*PP pP 06 02 18.1 +1.2
DAU pmax pmax
comp=Z,60nm,1.2s
DAU **Daniels Canyon** 77.91 330 eP P 06 02 04.1 +0.9
comp=Z,60nm,1.2s
DAU epP pP 06 02 18.1 +1.2
NLU **North Lily Min** 77.91 329 eP P 06 02 03.7 +0.6
comp=Z,62nm,1.4s
NLU epP pP 06 02 17.3 +0.5
I25A **Rochford** 77.92 336 ⇓P P 06 02 04.0 +1.0
baz=78,SNR=20
F30A **Leola** 78.00 340 ⇓P P 06 02 03.3 +0.2
baz=78,SNR=7.6
EYMN **Ely** 78.02 346 eP P 06 02 02.6 -0.6
comp=Z,28nm,0.8s
EYMN epP pP 06 02 16.1 -0.8
J23A **Dilts Ranch, B** 78.05 335 ⇑P P 06 02 04.3 +0.6
baz=78
K21A **Alcova** 78.05 333 ⇑P P 06 02 04.5 +0.7
baz=78,SNR=33
I24A **Kuemmerle Ranc** 78.10 336 ⇓P P 06 02 04.7 +0.8
baz=78,SNR=7.0
H26A **Fairpoint** 78.11 337 ⇑P P 06 02 05.7 +1.9
baz=78,SNR=5.1
RSSD **Black Hills** 78.12 336 eP P 06 02 04.4 +0.3
RSSD e*PP pP 06 02 18.0 +0.2
RSSD pmax pmax
comp=Z,29nm,1.1s
RSSD **Black Hills** 78.12 336 eP P 06 02 04.4 +0.3
comp=Z,29nm,1.1s
RSSD epP pP 06 02 18.0 +0.2
JLU **Jordanelle** 78.15 330 eP P 06 02 05.0 +0.6
comp=Z,28nm,0.8s
JLU epP pP 06 02 18.7 +0.5
CWC **Cottonwood Cre** 78.17 323 ⇑P P 06 02 05.0 +0.5
baz=78
GRAC **Grapevine Rang** 78.22 324 ⇓P P 06 02 05.7 +1.1
baz=79,SNR=5.5
F29A **Eureka** 78.24 340 ⇑P P 06 02 04.6 +0.1
baz=79,SNR=8.4
VES **Vestal, Richgr** 78.27 322 ⇓P P 06 02 05.7 +0.9
baz=79,SNR=14
R11A **Troy Canyon, C** 78.33 326 eP P 06 02 06.4 +1.0
comp=Z,41nm,1.4s
R11A epP pP 06 02 19.9 +0.8
R11A **Troy Canyon, C** 78.33 326 ⇓P P 06 02 06.6 +1.2
baz=79,SNR=27
CTU **Camp Tracy** 78.36 329 eP P 06 02 05.8 +0.3
comp=Z,23nm,1.0s
CTU epP pP 06 02 19.6 +0.4
SMMC **Simmler** 78.39 321 ⇓P P 06 02 06.7 +1.1
baz=79,SNR=7.5
H25A **Fruitdale** 78.40 337 ⇑P P 06 02 05.8 +0.4
baz=79,SNR=12
J22A **Midwest** 78.41 334 ⇓P P 06 02 05.7 0.0
baz=79
DUG **Dugway** 78.44 328 eP P 06 02 06.7 +0.8
DUG e*PP pP 06 02 20.5 +0.9
DUG pmax pmax
comp=Z,70nm,1.2s
DUG **Dugway** 78.44 328 eP P 06 02 06.7 +0.8
comp=Z,70nm,1.2s
DUG epP pP 06 02 20.5 +0.9
DUG **Dugway** 78.44 328 ⇓P P 06 02 06.8 +0.8
baz=79,SNR=35
MAW **Mawson** 78.45 164 eP P 06 02 05.0 -0.5
comp=Z,16nm,1.4s
MAW epP pP 06 02 19.0 -0.2
MAW **Mawson** 78.45 164 P P 06 02 05.0 -0.5
comp=Z,52nm,1.1s,baz=209,slow=5.0,SNR=5.2
MAW LR LR 06 37 17.3
comp=Z,374nm,20.2s,baz=228,slow=36
G27A **Dupree** 78.50 338 ⇓P P 06 02 06.1 +0.1
baz=79,SNR=17
TCUT **Toone Canyon** 78.55 330 eP P 06 02 07.0 +0.5
comp=Z,85nm,1.3s
TCUT epP pP 06 02 21.8 +1.4
F28A **McLaughlin** 78.55 339 ⇓P P 06 02 06.4 +0.2
baz=79,SNR=12
E30A **Jud** 78.56 341 ⇑P P 06 02 06.0 -0.2
baz=79,SNR=8.5
G26A **Maurine** 78.64 338 ⇓P P 06 02 06.8 0.0
baz=79,SNR=20
TIN **Tinemaha** 78.71 323 ⇑P P 06 02 09.0 +1.6
baz=79,SNR=6.8
J21A **Lysite** 78.73 334 ⇑P P 06 02 08.3 +0.8
baz=79,SNR=17
I22A **9 Mile Ranch,** 78.82 335 ⇓P P 06 02 08.2 +0.3
baz=79,SNR=25
G25A **Newell** 78.83 337 ⇑P P 06 02 08.4 +0.5
baz=79,SNR=23
E29A **Napoleon** 78.84 340 ⇓P P 06 02 07.5 -0.3
baz=79
H24A **Dirks Ranch, A** 78.84 336 ⇑P P 06 02 07.9 0.0
baz=79,SNR=23
TPH **Tonopah** 78.95 324 eP P 06 02 09.0 +0.2
TPH e*PP pP 06 02 23.5 +0.9
TPH **Tonopah** 78.95 324 eP P 06 02 09.0 +0.2
TPH epP pP 06 02 23.5 +0.9
F27A **Lemmon** 78.96 338 ⇑P P 06 02 08.8 +0.3
baz=79,SNR=28
J20A **Shoshoni** 78.99 333 ⇓P P 06 02 09.9 +1.1
baz=79,SNR=27
H23A **Clabaugh Cattl** 78.99 336 ⇓P P 06 02 09.6 +0.9
baz=79
I21A **Big Trails, Te** 79.06 334 ⇓P P 06 02 09.6 +0.3
baz=80,SNR=26
D30A **Buchanan** 79.07 341 ⇓P P 06 02 09.0 0.0
baz=80,SNR=24
BW06 **Boulder Array** 79.10 332 eP P 06 02 09.6 0.0
comp=Z,47nm,1.4s
BW06 epP pP 06 02 23.6 +0.2
PDAR **Pinedale Array** 79.10 332 P P 06 02 09.6 0.0
PDAR **Pinedale Array** 79.10 332 P P 06 02 09.6 0.0
comp=Z,10.0nm,0.9s,baz=127,slow=5.2,SNR=41
PDAR LR LR 06 34 14.2
comp=Z,128nm,21.1s,baz=170,slow=33
BGU **Big Grassy Mou** 79.12 329 eP P 06 02 09.7 0.0
comp=Z,25nm,1.4s
BGU epP pP 06 02 23.8 +0.4
F26A **Lodgepole** 79.16 338 ⇑P P 06 02 10.4 +0.9
baz=80,SNR=26
SPUT **South Promonto** 79.17 329 eP P 06 02 10.1 +0.2
comp=Z,82nm,1.2s
SPUT epP pP 06 02 24.4 +0.8
E28A **Huff** 79.17 339 ⇑P P 06 02 10.0 +0.4
baz=80
D29A **Pettibone, Tap** 79.27 340 ⇓P P 06 02 10.6 +0.5
baz=80,SNR=5.1
G24A **Alzada** 79.30 337 ⇓P P 06 02 10.9 +0.5
baz=80,SNR=10
J19A **Crowheart** 79.31 333 ⇑P P 06 02 11.5 +0.9
baz=80,SNR=45
E27A **Carson** 79.31 339 ⇓P P 06 02 11.5 +1.1
baz=80,SNR=7.8
H22A **Clearmont** 79.37 335 ⇓P P 06 02 11.6 +0.7
baz=80
AGMN **Agassiz Nation** 79.37 343 eP P 06 02 09.9 -0.7
comp=Z,43nm,1.0s
AGMN epP pP 06 02 24.2 -0.2
AGMN **Agassiz Nation** 79.37 343 ⇑P P 06 02 10.5 -0.1
baz=80,SNR=10.0
MLAC **Mammoth Lakes** 79.46 323 ⇓P P 06 02 12.8 +1.2
baz=80,SNR=7.6
F25A **Bowman** 79.49 337 ⇓P P 06 02 11.6 +0.3
baz=80,SNR=7.7
I20A **Worland** 79.51 334 ⇑P P 06 02 12.2 +0.6
baz=80,SNR=16
C30A **Mose, Pekin** 79.53 341 ⇓P P 06 02 11.8 +0.3
baz=80,SNR=29
G23A **Biddle** 79.54 336 ⇓P P 06 02 12.3 +0.6
baz=80,SNR=19
E26A **Carlson Angus** 79.64 338 ⇑P P 06 02 12.7 +0.6
baz=80,SNR=6.8
H21A **Big Horn, Sher** 79.66 335 ⇑P P 06 02 12.4 -0.1
baz=80,SNR=9.1
D28A **Regan** 79.68 340 ⇓P P 06 02 12.7 +0.3
baz=80,SNR=8.5
HVU **Hansel Valley** 79.69 329 eP P 06 02 12.5 -0.2
HVU e*PP pP 06 02 26.9 +0.4
HVU pmax pmax
comp=Z,35nm,0.9s
HVU **Hansel Valley** 79.69 329 eP P 06 02 12.5 -0.2
comp=Z,35nm,0.9s
HVU epP pP 06 02 26.9 +0.4
NV11 **Mina Array Sit** 79.70 324 eP P 06 02 13.1 +0.2
AHID **Auburn Hatcher** 79.75 331 eP P 06 02 13.3 +0.3
comp=Z,88nm,1.2s
AHID epP pP 06 02 27.3 +0.5
F24A **Ekalaka** 79.76 337 ⇓P P 06 02 13.6 +0.7
baz=80,SNR=10
NVAR **Mina Array Bea** 79.78 324 P P 06 02 14.0 +0.7
NVAR **Mina Array Bea** 79.78 324 P P 06 02 14.0 +0.7
comp=Z,6.5nm,0.9s,baz=152,slow=6.2,SNR=32
PMPST **Porto Santo, M** 79.84 44 eLQ LQ 06 28 01.3
G22A **Birney** 79.88 335 ⇑P P 06 02 14.1 +0.5
baz=80,SNR=6.5
D27A **Center** 79.90 339 ⇑P P 06 02 14.4 +0.9
baz=80
H20A **Greybull** 79.91 334 ⇑P P 06 02 13.6 -0.2
baz=80,SNR=30
I19A **Meeteetse** 79.92 333 ⇑P P 06 02 14.6 +0.7
baz=80,SNR=22
E25A **Miller Ranch,** 79.97 338 ⇑P P 06 02 14.7 +0.7
baz=80,SNR=15
F23A **Volborg** 79.99 336 ⇓P P 06 02 14.2 +0.1
baz=80,SNR=20
ELK **Elko** 80.02 327 P P 06 02 15.1 +0.5
ELK **Elko** 80.02 327 P P 06 02 15.1 +0.5
comp=Z,22nm,0.8s,baz=180,slow=2.2,SNR=92
C28A **Hausauer Farms** 80.09 340 ⇓P P 06 02 15.2 +0.6
baz=80
D26A **Manning** 80.12 339 ⇑P P 06 02 15.5 +0.8
baz=80,SNR=9.2
B30A **Myrvik Farm, E** 80.17 342 ⇑P P 06 02 15.0 +0.1
baz=81,SNR=29
G21A **Lodge Grass** 80.23 335 ⇓P P 06 02 15.8 +0.3
baz=81,SNR=18
E24A **Baker** 80.33 337 ⇑P P 06 02 16.7 +0.8
baz=81,SNR=19
F22A **Rosebud** 80.35 336 ⇑P P 06 02 16.3 +0.3
baz=81,SNR=37
WAKR **Walker** 80.43 323 eP P 06 02 18.0 +1.2
comp=Z,46nm,1.6s
WAKR epP pP 06 02 33.0 +2.4
C27A **Sayler Ranch,** 80.43 340 ⇓P P 06 02 17.3 +0.9
baz=81,SNR=9.2
H19A **Powell** 80.45 333 ⇑P P 06 02 17.4 +0.7
baz=81,SNR=14
B29A **Wagenman Farm,** 80.47 341 ⇓P P 06 02 16.9 +0.3
baz=81,SNR=17
I17A **Pilgrim Ck.** 80.47 332 ⇑P P 06 02 18.2 +1.2
baz=81,SNR=26
D25A **Fairfield** 80.52 338 ⇑P P 06 02 17.8 +0.9
baz=81,SNR=33
CMB **Columbia Colle** 80.59 322 eP P 06 02 17.9 +0.4
CMB pmax pmax
comp=Z,14nm,1.3s
CMB **Columbia Colle** 80.59 322 eP P 06 02 17.9 +0.4
comp=Z,14nm,1.3s
G20A **Bridger** 80.61 334 ⇓P P 06 02 18.1 +0.6

baz=81,SNR=43
A30A Hoffart Farm, 80.61 342 ⇓P P 06 02 17.6 +0.3
baz=81,SNR=8.9
F21A Absaloka Mine, 80.70 335 ⇓P P 06 02 18.8 +0.8
baz=81
C26A Wahner Farm, P 80.72 339 ⇓P P 06 02 18.5 +0.6
baz=81,SNR=8.9
H18A Shoshone NF, C 80.72 333 ⇓P P 06 02 18.8 +0.5
baz=81,SNR=60
B28A Dugan Ranch, T 80.75 341 ⇑P P 06 02 18.6 +0.6
baz=81,SNR=25
E22A Miles City 80.80 336 ⇑P P 06 02 18.7 +0.3
baz=81,SNR=17
D24A Glendive 80.82 338 ⇑P P 06 02 19.6 +1.1
baz=81,SNR=8.4
A29A Manning Farm, 80.85 341 ⇑P P 06 02 18.3 -0.2
baz=81,SNR=20
H17A Grant Village 80.86 332 *e*P P 06 02 20.1 +1.0
comp=Z,34nm,1.4s
H17A *e*pP **pP** 06 02 35.5 +2.7
H17A Grant Village 80.86 332 ⇓P P 06 02 19.7 +0.7
baz=81
RLMT Red Lodge 80.93 333 *e*P P 06 02 19.5 +0.1
comp=Z,78nm,1.4s
RLMT *e*pP **pP** 06 02 33.5 +0.3
B27A Peters Farms, 80.97 340 ⇑P P 06 02 19.8 +0.5
baz=81
C25A Freed Ranch, W 80.99 338 ⇑P P 06 02 20.3 +1.0
baz=81,SNR=10
F20A Billings 81.07 335 ⇑P P 06 02 20.6 +0.7
baz=82
LAO LASA Array 81.11 336 *e*P P 06 02 20.1 0.0
comp=Z,78nm,1.0s
LAO *e*pP **pP** 06 02 34.5 +0.6
A28A Rude Farm, Bot 81.13 341 ⇑P P 06 02 19.9 -0.2
baz=82,SNR=6.0
D23A Lindsay 81.17 337 ⇑P P 06 02 21.3 +0.9
baz=82,SNR=29
TOA0 Torodi Ar. Sit 81.18 70 *e*P P 06 02 20.8 -0.4
TORD Torodi Ar. Bea 81.18 70 P P 06 02 21.0 -0.1
TORD Torodi Ar. Bea 81.18 70 P P 06 02 21.0 -0.1
comp=Z,69nm,0.8s,baz=257,slow=5.0,SNR=329
TORD LR LR 06 36 46.1
comp=Z,360nm,20.6s,baz=230,slow=34
ULM Lac du Bonnet 81.18 344 *e*P P 06 02 19.6 -0.7
comp=Z,95nm,1.2s
ULM *e*pP **pP** 06 02 33.7 -0.4
ULM *es*P **sP** 06 02 39.9 +0.5
ULM Lac du Bonnet 81.18 344 P P 06 02 19.8 -0.5
comp=Z,29nm,0.9s,baz=152,slow=5.7,SNR=38
C24A Savage 81.21 338 ⇓P P 06 02 21.4 +0.8
baz=82,SNR=31
YMR Madison River 81.24 332 *e*P P 06 02 21.7 +0.7
comp=Z,83nm,1.1s
YMR *e*pP **pP** 06 02 35.9 +1.0
B26A Jensen Ranch, 81.25 339 ⇑P P 06 02 21.2 +0.5
baz=82
E21A Keefer Ranch, 81.29 336 ⇓P P 06 02 21.5 +0.5
baz=82,SNR=18
F19A Roth Farm, Mol 81.42 334 ⇓P P 06 02 22.3 +0.5
baz=82,SNR=6.9
B25A Knox Farm, Ray 81.45 339 ⇓P P 06 02 22.8 +0.9
baz=82,SNR=11
A27A Ledoux Ranch, 81.46 340 ⇓P P 06 02 22.7 +0.9
baz=82
D22A Cohagen 81.49 336 ⇑P P 06 02 23.2 +1.1
baz=82,SNR=9.7
QLMT Earthquake Lak 81.57 332 *e*P P 06 02 24.1 +1.4
comp=Z,2.7nm,1.2s
QLMT *e*pP **pP** 06 02 38.0 +1.5
A26A Wade Farm, Ken 81.65 340 ⇑P P 06 02 22.9 +0.1
baz=82,SNR=9.0
E20A Meyer Farm, Mu 81.65 335 ⇑P P 06 02 23.4 +0.4
baz=82,SNR=53
C23A Lambert 81.71 337 ⇑P P 06 02 23.7 +0.5
baz=82,SNR=14
D21A La Casta Ranch 81.71 336 ⇓P P 06 02 23.6 +0.4
baz=82,SNR=34
BOSA Boshof 81.81 118 P P 06 02 24.2 -0.3
BOSA Boshof 81.81 118 P P 06 02 24.2 -0.3
comp=Z,38nm,0.9s,baz=247,slow=5.7,SNR=31
BOSA LR LR 06 34 43.1
comp=Z,362nm,20.7s,baz=245,slow=33
HLID Hailey 81.84 330 *e*P P 06 02 24.8 +0.6
comp=Z,48nm,1.1s
HLID *e*pP **pP** 06 02 39.1 +1.1
HLID Hailey 81.84 330 ⇑P P 06 02 25.0 +0.9
baz=82,SNR=31
E19A Rath Farm, Rou 81.86 335 ⇓P P 06 02 24.4 +0.3
baz=82,SNR=41
C22A Vida 81.90 337 ⇑P P 06 02 24.7 +0.5
baz=82,SNR=9.5
DGMT Dagmar 81.96 338 *e*P P 06 02 24.6 +0.1
comp=Z,112nm,1.0s
DGMT *e*pP **pP** 06 02 38.9 +0.6
DGMT Dagmar 81.96 338 ⇑P P 06 02 24.9 +0.4
baz=82,SNR=14
A25A Svangstu Ranch 82.02 339 ⇑P P 06 02 25.5 +0.8
baz=82,SNR=8.6
D20A Manuel Ranch, 82.15 335 ⇑P P 06 02 26.0 +0.4
baz=82,SNR=24
MCMT McKenzie Canyo 82.16 331 *e*P P 06 02 27.1 +1.2
comp=Z,28nm,1.2s
MCMT *e*pP **pP** 06 02 40.9 +1.1
B23A Brockton 82.21 338 ⇑P P 06 02 26.7 +0.9
baz=83,SNR=7.3
A24A Westby 82.29 339 ⇓P P 06 02 27.0 +0.8
baz=83,SNR=10.0
BOZ Bozeman (W) 82.31 332 *e*P P 06 02 26.5 -0.1
BOZ *e**PP **pP** 06 02 40.3 -0.1
BOZ pmax pmax
comp=Z,6.0nm,1.3s
BOZ Bozeman (W) 82.31 332 *e*P P 06 02 26.5 -0.1
comp=Z,5.6nm,1.3s
BOZ *e*pP **pP** 06 02 40.3 -0.1
MFID Camas Ranch 82.36 329 *e*P P 06 02 27.5 +0.7
comp=Z,46nm,1.4s
MFID *e*pP **pP** 06 02 41.1 +0.4
C21A Desert Coulee 82.39 336 ⇓P P 06 02 26.8 +0.1
baz=83,SNR=16
B22A Reddig Ranch S 82.41 337 ⇓P P 06 02 27.3 +0.4
baz=83,SNR=13
D19A Cripps Ranch, 82.49 335 ⇑P P 06 02 27.5 +0.2
baz=83,SNR=26
A23A Redstone 82.61 338 ⇓P P 06 02 28.5 +0.6
baz=83
C20A Veseth Ranch, 82.62 336 ⇓P P 06 02 27.9 -0.1
baz=83,SNR=11
SCHQ Schefferville 82.72 2 *e*P P 06 02 27.6 -0.6
comp=Z,84nm,1.2s
SCHQ *e*pP **pP** 06 02 42.1 0.0
SCHQ Schefferville 82.72 2 P P 06 02 27.9 -0.4
comp=Z,19nm,1.0s,baz=157,slow=5.7,SNR=7.2
SCHQ LR LR 06 40 50.7
comp=Z,122nm,20.0s,baz=246,slow=37
LRM Limekiln Ridge 82.79 332 *e*P P 06 02 29.7 +0.5
comp=Z,246nm,1.1s
LRM *e*pP **pP** 06 02 43.7 +0.6
B21A Ellsworth Farm 82.88 337 ⇑P P 06 02 29.6 +0.4
baz=83,SNR=12
WVOR Wild Horse Val 82.95 326 *e*P P 06 02 30.0 +0.1
WVOR *e**PP **pP** 06 02 43.9 +0.1
WVOR pmax pmax
comp=Z,32nm,1.3s
WVOR Wild Horse Val 82.95 326 *e*P P 06 02 30.0 +0.1
comp=Z,32nm,1.3s
WVOR *e*pP **pP** 06 02 43.9 +0.1
A22A Carney Farms, 82.98 338 ⇓P P 06 02 30.1 +0.3
baz=83,SNR=21
C19A Slack Wire Ran 83.03 335 ⇓P P 06 02 30.1 0.0
baz=83,SNR=11
B20A Solberg Farm, 83.24 336 ⇑P P 06 02 31.3 +0.1
baz=84
HRY Holter Researc 83.26 333 *e*P P 06 02 32.3 +0.8
comp=Z,28nm,1.3s
HRY *e*pP **pP** 06 02 46.2 +1.0
MOD Modoc 83.38 325 *e*P P 06 02 32.7 +0.5
comp=Z,28nm,0.9s
MOD *e*pP **pP** 06 02 46.4 +0.4
EGMT Eagleton 83.53 335 *e*P P 06 02 32.2 -0.5
comp=Z,35nm,1.0s
EGMT *e*pP **pP** 06 02 46.7 +0.1
EGMT Eagleton 83.53 335 ⇓P P 06 02 32.4 -0.4
baz=84,SNR=9.2
A20A Cobblestone Ra 83.58 336 ⇓P P 06 02 32.8 -0.1
baz=84,SNR=14
WDC Whiskeytown Da 83.58 323 *e*P P 06 02 32.0 -1.1
WDC *e**PP **pP** 06 02 45.4 -1.5
WDC pmax pmax
comp=Z,16nm,1.1s
WDC Whiskeytown Da 83.58 323 *e*P P 06 02 32.0 -1.1
comp=Z,16nm,1.1s
WDC *e*pP **pP** 06 02 45.4 -1.5
B19A Brinkman Farms 83.59 336 ⇑P P 06 02 33.0 0.0
baz=84,SNR=10
LBTB Lobatse 83.75 115 *e*P P 06 02 34.2 -0.4
comp=Z,85nm,1.1s
A19A Klindworth Far 83.91 336 ⇓P P 06 02 34.8 +0.2
baz=84,SNR=7.6
N02D Trinity Center 83.95 323 ⇑P P 06 02 34.8 -0.2
baz=84
CHMT Chamberlain Mo 84.00 332 *e*P P 06 02 35.5 +0.2
comp=Z,24nm,1.7s
CHMT *e*pP **pP** 06 02 50.0 +0.8
M04C Macdoel 84.08 324 ⇓P P 06 02 36.2 +0.4
baz=84
BMO Blue Mountains 84.15 329 *e*P P 06 02 36.0 0.0
comp=Z,39nm,1.5s
BMO *e*pP **pP** 06 02 49.9 0.0
MSO Missoula 84.22 332 ⇑P P 06 02 37.3 +1.0
baz=85,SNR=7.3
M02C Callahan 84.33 323 ⇓P P 06 02 37.2 +0.3
baz=85
SLMT Seeley Lake 84.36 332 *e*P P 06 02 36.9 -0.2
comp=Z,17nm,1.1s
SLMT *e*pP **pP** 06 02 51.2 +0.3
K04D Chiloquin, OR 84.64 325 ⇓P P 06 02 39.1 +0.6
baz=85
SWMT Swartz Lake 84.78 332 *e*P P 06 02 39.1 -0.1
comp=Z,40nm,1.6s
SWMT *e*pP **pP** 06 02 53.6 +0.6
J05D Fort Rock, OR 84.86 326 ⇑P P 06 02 40.5 +0.8
baz=85
PINOR Pine Mountain 85.07 326 *e*P P 06 02 41.4 +1.0
comp=Z,17nm,1.0s
PINOR *e*pP **pP** 06 02 55.1 +0.8
YBMT Yellow Bay 85.07 332 *e*P P 06 02 40.5 -0.1
comp=Z,7.0nm,0.7s
YBMT *e*pP **pP** 06 02 54.9 +0.4
JTMT Jette 85.09 332 *e*P P 06 02 40.6 -0.1
comp=Z,5.7nm,0.6s
JTMT *e*pP **pP** 06 02 55.0 +0.4
L02D Cave Junction, 85.27 324 ⇑P P 06 02 42.0 +0.4
baz=86
J04D Umpqua Nationa 85.27 325 ⇓P P 06 02 42.3 +0.5
baz=86
BLMT Blacktail Moun 85.33 332 *e*P P 06 02 42.3 +0.3
comp=Z,53nm,1.4s
BLMT *e*pP **pP** 06 02 56.2 +0.3
BSMT Bassoo Peak 85.38 332 *e*P P 06 02 42.8 +0.6
comp=Z,33nm,1.3s
BSMT *e*pP **pP** 06 02 56.8 +0.7
I05D Terrebonne, OR 85.68 326 ⇓P P 06 02 44.4 +0.7
baz=86
I04A Tendick Farm, 85.82 325 P P 06 02 44.2 -0.2
baz=86
CASY Casey 85.86 181 *e*P P 06 02 44.7 +0.5
comp=Z,125nm,1.3s
WALA Waterton Lakes 85.98 333 *e*P P 06 02 45.0 -0.1
comp=Z,1.5nm,1.1s
WALA *e*pP **pP** 06 02 58.4 -0.6
BROR Big Rock Looko 86.18 326 P P 06 02 46.2 +0.2
I03D Drain, OR 86.22 325 ⇓P P 06 02 47.4 +1.1
baz=87
BLTW Bickleton 86.28 328 P P 06 02 47.5 +0.9
H2OWA Water 86.29 329 P P 06 02 47.1 +0.6
G05D Wamic, OR 86.33 327 ⇓P P 06 02 47.3 +0.5
baz=87
HAWA Hanford 86.34 329 *e*P P 06 02 46.8 0.0
comp=Z,34nm,1.4s
HAWA *e*pP **pP** 06 03 01.1 +0.4
VFP Flag Point 86.46 327 P P 06 02 48.0 +0.4
NEW Newport 86.69 331 *e*P P 06 02 47.4 -1.1
comp=Z,26nm,1.9s
NEW *e*pP **pP** 06 03 01.6 -0.8
NEW Newport 86.69 331 ⇓P P 06 02 48.4 -0.1
baz=87
TRW Toppenish Ridg 86.73 328 P P 06 02 48.8 +0.1
FFC Flin Flon 86.81 342 *e*P P 06 02 48.0 -0.9
FFC *e**PP **pP** 06 03 02.0 -0.8
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 86.81 342 *e*P P 06 02 48.0 -0.9
comp=Z,9.4nm,0.9s
FFC *e*pP **pP** 06 03 02.0 -0.8
FFC *es*P **sP** 06 03 09.2 +1.1
COR Corvallis 86.83 325 *e*P P 06 02 50.2 +1.0
COR *e**PP **pP** 06 03 04.2 +1.1
COR pmax pmax
comp=Z,218nm,1.8s
COR Corvallis 86.83 325 *e*P P 06 02 50.2 +1.0
comp=Z,218nm,1.8s
COR *e*pP **pP** 06 03 04.2 +1.1
SAW Saint Andrews 87.26 329 P P 06 02 51.2 -0.1
G03D McMinnville, O 87.26 326 ⇓P P 06 02 52.3 +1.0
baz=88
MORF Marmelete 87.36 45 *e*P P 06 02 53.3 +1.3
comp=Z,41nm,1.7s
PBDV Barranco-do-Ve 87.77 45 *e*P P 06 02 54.9 +0.9
comp=Z,50nm,1.9s
PNCL Nicolau / Gran 87.93 44 *e*P P 06 02 55.3 +0.6
comp=Z,24nm,1.2s
PVAQ Vaqueiros 88.00 45 *e*P P 06 02 55.2 +0.2
comp=Z,27nm,1.6s
PVAQ Vaqueiros 88.00 45 *e*LR LR 06 34 52.3
comp=Z,565nm,22.0s
KHZ Kahutara 88.17 222 *e*P P 06 02 56.8 +0.9
comp=Z,48nm,1.0s
KHZ *e*pP **pP** 06 03 10.8 +0.9
HTW Haystack Looko 88.41 328 P P 06 02 56.0 -0.8
EVOP Sao Brissos 88.44 44 *e*P P 06 02 56.2 -0.9
EVOP pmax pmax
comp=Z,25nm,0.9s
EVOP Sao Brissos 88.44 44 *e*P P 06 02 56.2 -0.9
comp=Z,25nm,0.9s
EVO Evora 88.51 44 *e*P P 06 02 56.2 -1.2
comp=Z,25nm,0.9s
EVO *e*R
comp=Z,819nm,21.2s
EVO Evora 88.51 44 *e*P P 06 02 57.8 +0.4
comp=Z,30nm,1.8s
PMTG Montargil 88.72 44 *e*P P 06 02 59.3 +1.0
comp=Z,25nm,1.8s
FCC Fort Churchill 88.75 348 *e*P P 06 02 57.8 -0.1
FCC *e**PP **pP** 06 03 12.4 +0.5
FCC Fort Churchill 88.75 348 *e*P P 06 02 57.8 -0.1
comp=Z,2.0nm,0.9s
FCC *e*pP **pP** 06 03 12.4 +0.5
FCC *es*P **sP** 06 03 17.6 +0.5
RPW Rockport 88.76 329 P P 06 02 57.8 -0.7
PESTR Estremoz 88.98 44 *e*P P 06 03 00.0 +0.4
comp=Z,32nm,1.8s
EDM Edmonton 89.10 336 *e*P P 06 02 58.3 -1.5
EDM *e**PP **pP** 06 03 12.4 -1.4
EDM Edmonton 89.10 336 *e*P P 06 02 58.3 -1.5
EDM *e*pP **pP** 06 03 12.4 -1.4
TAM Tamanrasset 89.28 64 *e*P P 06 03 01.7 +0.1
TAM pmax pmax
comp=Z,11nm,1.0s
TAM Tamanrasset 89.28 64 *e*P P 06 03 01.7 +0.1
comp=Z,11nm,1.0s
PMRV Marv??o 89.44 44 *e*LR LR 06 32 51.4
comp=Z,364nm,20.0s
MTE Manteigas 89.95 43 *e*P P 06 03 06.1 +1.9
comp=Z,34nm,1.4s
MTE Manteigas 89.95 43 *e*LR LR 06 37 36.7
comp=Z,418nm,22.0s
LSZ Lusaka 90.55 108 *e*P P 06 03 09.3 +1.6
comp=Z,51nm,1.5s
MVO Moncorvo 90.73 43 *e*LR LR 06 37 48.5
comp=Z,406nm,22.0s
ESDC Sonseca Array 91.72 45 P P 06 03 12.4 0.0
ESDC Sonseca Array 91.72 45 P P 06 03 12.4 0.0
comp=Z,2.9nm,0.9s,baz=257,slow=3.9,SNR=10.0
ESDC LR LR 06 41 49.0
comp=Z,381nm,20.8s,baz=225,slow=34
SJPF Ste Jean 95.37 44 *e*P P 06 03 30.1 +1.0
comp=Z,61nm,1.1s
SJPF Ste Jean 95.37 44 *e*P P 06 03 30.1 +1.0
SJPF pmax pmax
comp=Z,61nm,1.1s
SJPF Ste Jean 95.37 44 *e*P P 06 03 30.1 +1.0
comp=Z,61nm,1.1s
ETSF Etsaut 95.66 44 *e*P P 06 03 31.3 +0.8
comp=Z,19nm,1.0s
ETSF Etsaut 95.66 44 *e*P P 06 03 31.3 +0.8
ETSF pmax pmax
comp=Z,19nm,1.0s
ETSF Etsaut 95.66 44 *e*P P 06 03 31.3 +0.8
comp=Z,19nm,1.0s
EPF Esparros 96.28 44 *e*P P 06 03 33.9 +0.6
EPF Esparros 96.28 44 *e*P P 06 03 33.9 +0.6
EPF Esparros 96.28 44 *e*P P 06 03 33.9 +0.6
YKA Yellowknife Ar 96.90 341 P P 06 03 34.7 -0.8
YKA PP **PP** 06 07 30.3 -1.5
YKA PKKP **PKKPbc** 06 20 16.0 -3.2
YKA Yellowknife Ar 96.90 341 P P 06 03 34.7 -0.8
comp=Z,2.2nm,0.8s,baz=141,slow=4.3,SNR=46
YKA PP **PP** 06 07 30.3 -1.5
comp=Z,1.1nm,0.9s,baz=143,slow=7.7,SNR=5.6
YKA PKKP **PKKPbc** 06 20 16.0 -3.2
comp=Z,0.1nm,0.4s,baz=329,slow=2.6,SNR=3.5
LFF La Frestale 97.55 43 *e*P P 06 03 38.5 -0.4
LFF *e*pP **pP** 06 03 51.4 -1.5
LFF La Frestale 97.55 43 *e*P P 06 03 38.5 -0.4
LFF *e**PP **pP** 06 03 51.4 -1.5
LFF La Frestale 97.55 43 *e*P P 06 03 38.5 -0.4
LFF *e*pP **pP** 06 03 51.4 -1.5
MTLF Montolieu 97.61 45 *e*P P 06 03 38.7 -0.5
comp=Z,13nm,0.8s
MTLF Montolieu 97.61 45 *e*P P 06 03 38.7 -0.5
MTLF pmax pmax
comp=Z,13nm,0.8s
MTLF Montolieu 97.61 45 *e*P P 06 03 38.7 -0.5
comp=Z,13nm,0.8s
MFF Saint Martin d 97.92 41 *e*P P 06 03 39.8 -0.8
MFF *e*pP **pP** 06 03 52.8 -1.8
MFF Saint Martin d 97.92 41 *e*P P 06 03 39.8 -0.8
MFF *e**PP **pP** 06 03 52.8 -1.8
MFF Saint Martin d 97.92 41 *e*P P 06 03 39.8 -0.8
MFF *e*pP **pP** 06 03 52.8 -1.8
CAF Calviac 98.34 43 *e*P Pdif 06 03 42.9 +0.3
comp=Z,53nm,1.5s
CAF Calviac 98.34 43 *e*P Pdif 06 03 42.9 +0.3
CAF pmax pmax
comp=Z,53nm,1.5s
CAF Calviac 98.34 43 *e*P Pdif 06 03 42.9 +0.3
comp=Z,53nm,1.5s
KEST Kesra 98.59 54 LR LR 06 49 38.8
comp=Z,388nm,20.8s,baz=190,slow=36
DLBC Dease Lake 99.32 333 *e*P **Pdif** 06 03 46.8 +0.2
DLBC *e*pP **pP** 06 04 00.8 +0.1
DLBC Dease Lake 99.32 333 P **Pdif** 06 03 47.0 +0.4
comp=Z,6.8nm,0.9s,baz=122,slow=7.7,SNR=7.0
VIVF Saint-Julien-l 99.90 44 *e*P **Pdif** 06 03 49.6 +0.1
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 99.90 44 *e*P **Pdif** 06 03 49.6 +0.1
VIVF pmax pmax
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 99.90 44 *e*P **Pdif** 06 03 49.6 +0.1
comp=Z,28nm,1.2s
SMRF Simiane la Rot 100.03 45 *e*P **Pdif** 06 03 50.7 +0.6
comp=Z,38nm,1.2s
SMRF Simiane la Rot 100.03 45 *e*P **Pdif** 06 03 50.7 +0.6
comp=Z,38nm,1.2s
SMF Signal de Mont 100.29 42 *e*P **Pdif** 06 03 50.8 -0.4
comp=Z,32nm,1.3s
SMF Signal de Mont 100.29 42 *e*P **Pdif** 06 03 50.8 -0.4
SMF pmax pmax
comp=Z,32nm,1.3s
SMF Signal de Mont 100.29 42 *e*P **Pdif** 06 03 50.8 -0.4
comp=Z,32nm,1.3s
LMR La Mourre 100.31 46 *e*P **Pdif** 06 03 51.8 +0.5
LMR La Mourre 100.31 46 *e*P **Pdif** 06 03 51.8 +0.5
LMR La Mourre 100.31 46 *e*P **Pdif** 06 03 51.8 +0.5
ORIF Oris-en-Rattie 100.68 45 *e*P **Pdif** 06 03 53.5 +0.5
comp=Z,36nm,1.1s
ORIF *e*R
comp=Z,767nm,22.2s
ORIF Oris-en-Rattie 100.68 45 *e*P **Pdif** 06 03 53.5 +0.5
ORIF pmax pmax
comp=Z,37nm,1.1s
ORIF Oris-en-Rattie 100.68 45 *e*P **Pdif** 06 03 53.5 +0.5
comp=Z,36nm,1.1s
MBDF Montbardon 101.14 45 *e*P **Pdif** 06 03 55.5 +0.3
comp=Z,26nm,1.1s
MBDF *e*pP pP 06 04 07.4 -1.9
MBDF Montbardon 101.14 45 *e*P **Pdif** 06 03 55.5 +0.3
MBDF pmax pmax
comp=Z,26nm,1.1s
MBDF Montbardon 101.14 45 *e*P **Pdif** 06 03 55.5 +0.3
comp=Z,26nm,1.1s
MBDF *e*pP pP 06 04 07.4 -1.9
LPL La Plagne 101.50 44 *e*P **Pdif** 06 03 57.3 +0.5
comp=Z,27nm,1.1s
LPL La Plagne 101.50 44 *e*P **Pdif** 06 03 57.3 +0.5
LPL pmax pmax
comp=Z,27nm,1.1s
LPL La Plagne 101.50 44 *e*P **Pdif** 06 03 57.3 +0.5
comp=Z,27nm,1.1s
LPG La Plagne 101.50 44 *e*P **Pdif** 06 03 57.6 +0.7
comp=Z,31nm,1.3s
LPG La Plagne 101.50 44 *e*P **Pdif** 06 03 57.6 +0.7
LPG pmax pmax
comp=Z,31nm,1.3s
LPG La Plagne 101.50 44 *e*P **Pdif** 06 03 57.6 +0.7
comp=Z,31nm,1.3s
PGF Pioggiola 101.55 48 *e*P **Pdif** 06 03 57.2 +0.2
PGF Pioggiola 101.55 48 *e*P **Pdif** 06 03 57.2 +0.2
PGF Pioggiola 101.55 48 *e*P **Pdif** 06 03 57.2 +0.2
PAGF Fort de Pagny 102.34 41 *e*P **Pdif** 06 04 00.1 -0.1
comp=Z,14nm,1.3s
PAGF Fort de Pagny 102.34 41 *e*P **Pdif** 06 04 00.1 -0.1
comp=Z,14nm,1.3s
DZM Mont Dzumac 105.57 234 *e*LR LR 06 39 11.6
comp=Z,483nm,27.6s
INK Inuvik 106.59 340 Pdif **Pdif** 06 04 17.8 -0.8
INK Inuvik 106.59 340 Pdiff **Pdif** 06 04 17.8 -0.8
comp=Z,1.7nm,1.0s,baz=154,slow=3.4,SNR=3.3
ILAR Eielson Array 109.48 334 Pdif **Pdif** 06 04 31.6 0.0
ILAR PKiKP **PKiKP** 06 08 34.2 -0.3
ILAR Eielson Array 109.48 334 Pdiff **Pdif** 06 04 31.6 0.0
comp=Z,0.8nm,1.1s,baz=177,slow=5.4,SNR=3.6
ILAR PKiKP **PKiKP** 06 08 34.2 -0.3
comp=Z,0.6nm,0.8s,baz=195,slow=1.7,SNR=5.4
IM04 Indian Mountai 112.61 334 *e*PKPdf **PKiKP** 06 08 40.6 +0.2
AK02 Malin Array Si 117.34 45 *e*PKPdf **PKPdf** 06 08 48.7 -1.1
KIEV Kiev 117.35 45 ⇓ *i*PKIKP **PKPdf** 06 08 48.9 -1.0
AK01 Malin Array Si 117.35 45 *e*PKPdf **PKPdf** 06 08 48.3 -1.6
AKASG Malin Array Be 117.36 45*c i*PKIKP **PKPdf** 06 08 48.5 -1.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 117.36 45 PKP **PKPdf** 06 08 48.6 -1.3
AKASG PP **PP** 06 09 58.1 -3.9
AKASG Malin Array Be 117.36 45 PKP **PKPdf** 06 08 48.6 -1.3
comp=Z,1.6nm,0.5s,baz=265,slow=2.8,SNR=28
AKASG PP **PP** 06 09 58.1 -3.9
comp=Z,2.8nm,1.0s,baz=255,slow=7.2,SNR=6.6
VSU Vasula 117.38 36 *i* PKIKP **PKPdf** 06 08 49.3 -0.4
BR131 Keskin Array S 117.91 58 *e*PKPdf **PKPdf** 06 08 51.1 -0.4
BRTR Keskin Array B 117.91 58 PKP **PKPdf** 06 08 51.2 -0.4
BRTR PKKPbc **PKKPab** 06 19 14.8 +1.1
BRTR Keskin Array B 117.91 58 PKP **PKPdf** 06 08 51.2 -0.4
comp=Z,2.7nm,0.8s,baz=177,slow=2.8,SNR=14
BRTR PKKPbc **PKKPab** 06 19 14.8 +1.1
comp=Z,0.7nm,0.8s,baz=103,slow=5.5,SNR=3.6
ARCES ARCESS Array B 118.25 23 PKP **PKPdf** 06 08 50.9 -0.3
ARCES ARCESS Array B 118.25 23 PKP **PKPdf** 06 08 50.9 -0.3
comp=Z,2.7nm,0.8s,baz=31,slow=18,SNR=1.4
OBN Obninsk 122.36 40 *i* PKIKP **PKPdf** 06 08 58.3 -1.0
OBN *i* 06 10 32.9
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,209nm,20.0s
RAYN Ar Rayn 123.01 79 *e*PKPdf **PKPdf** 06 09 02.0 +0.3
AS31 Alice Springs 123.26 207 *e*PKPdf **PKPdf** 06 09 01.0 -1.3
ASAR Alice Springs 123.26 207 PKP **PKPdf** 06 09 01.1 -1.2
ASAR PKKPbc **PKKPbc** 06 18 52.0 -0.1
ASAR Alice Springs 123.26 207 PKP **PKPdf** 06 09 01.1 -1.2
comp=Z,9.2nm,0.8s,baz=136,slow=1.8,SNR=56
ASAR PKKPbc **PKKPbc** 06 18 52.0 -0.1
comp=Z,1.7nm,0.9s,baz=342,slow=3.9,SNR=10
VSR Storozhevoye 123.65 45 *e*PKIKP **PKPdf** 06 08 58.2 -3.8
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s

VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 123.71 46 *e*PKIKP **PKPdf 06 09 00.5 -1.6**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 123.99 34 *e*PKIKP **PKPdf 06 09 00.8 -1.5**
KLMR pmax pmax
comp=Z,35nm,1.1s
VRHR Novokhopersk 125.19 46 *e*PKIKP **PKPdf 06 09 03.8 -1.1**
VRHR pmax pmax
comp=N,4.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 125.33 54 *i* PKIKP **PKPdf 06 09 04.3 -1.3**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,204nm,22.0s
KBZ Khabaz 125.46 55 PKIKP **PKPdf 06 09 05.7 0.0**
KBZ Khabaz 125.46 55 PKP **PKPdf 06 09 05.7 0.0**
KBZ Khabaz 125.46 55 PKP **PKPdf 06 09 05.7 0.0**
comp=Z,9.3nm,1.0s,baz=232,slow=4.7,SNR=12
GOF Gofitskoye 125.71 53 *e*PKHKP PKPpre 06 08 54.1
NCK Nalchik 125.94 55 *i* PKIKP **PKPdf 06 09 06.2 -0.5**
ZEI Tsey 126.08 56 *i* PKIKP **PKPdf 06 09 06.4 -0.8**
ZEI pmax pmax
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 126.38 210 PKP **PKPdf 06 09 07.5 -0.8**
WRA Warramunga Arr 126.38 210 PKP **PKPdf 06 09 07.5 -0.8**
comp=Z,19nm,0.8s,baz=163,slow=1.6,SNR=77
WRAB Tennant Creek 126.38 210 ⇓*i* PKIKP **PKPdf 06 09 07.9 -0.4**
WRAB pmax pmax
comp=Z,38nm,0.8s
H11S2 WAKE ISLAND Hyd 126.78 273 T T 08 28 14.6
baz=115,slow=73,SNR=53
H11S1 WAKE ISLAND Hyd 126.79 273 T T 08 28 16.6
baz=115,slow=73,SNR=54
H11S3 WAKE ISLAND Hyd 126.80 273 T T 08 28 17.1
baz=115,slow=73,SNR=55
PRGR Permogore 126.86 32 *e*PKIKP **PKPdf 06 09 07.1 -0.7**
PRGR pmax pmax
comp=Z,37nm,1.0s
BILL Bilibino 128.01 336 *c i* PKIKP **PKPdf 06 09 09.9 +0.1**
BILL *i* 06 11 12.1
BILL pmax pmax
comp=Z,13nm,1.3s
BILL Bilibino 128.01 336 *e*PKPdf **PKPdf 06 09 09.5 -0.4**
ARU Arti 134.52 37 *i* PKIKP **PKPdf 06 09 23.0 +0.5**
ARU 06 11 51.9
ARU Arti 134.52 37 *e*PKPdf **PKPdf 06 09 23.3 +0.8**
TIXI Tiksi 135.13 351 ⇓*i* PKIKP **PKPdf 06 09 22.9 -0.3**
TIXI Tiksi 135.13 351 *e*PKPdf **PKPdf 06 09 19.1 -4.1**
SEY Seymchan 135.41 334 PKIKP **PKPdf 06 09 24.4 +0.4**
SEY Seymchan 135.41 334 PKP **PKPdf 06 09 24.4 +0.4**
SEY Seymchan 135.41 334 PKP **PKPdf 06 09 24.4 +0.4**
comp=Z,13nm,0.7s,baz=83,slow=2.7,SNR=32
SVE Sverdlovsk 135.49 36 *e*PKIKP **PKPdf 06 09 25.0 +0.7**
PETK Petropavlovsk- 136.69 319 PKIKP **PKPdf 06 09 27.5 +0.8**
PETK Petropavlovsk- 136.69 319 PKP **PKPdf 06 09 27.4 +0.8**
PETK Petropavlovsk- 136.69 319 PKP **PKPdf 06 09 27.4 +0.8**
comp=Z,11nm,0.9s,baz=106,slow=5.3,SNR=7.0
AB31 Akbulak array 137.04 47 *i* PKHKP PKPpre 06 09 14.5
AB31 pmax pmax
comp=Z,11nm,0.9s
ABKAR Akbulak array 137.04 47 *e*PKPdf **PKPdf 06 09 27.3 -0.1**
BRVK Borovoye 142.06 38 *e*PKHKP PKPpre 06 09 32.0
BRVK Borovoye 142.06 38 *e*PKPdf PKPpre 06 09 32.0
BVA0 Borovoye Array 142.13 38 *i* PKHKP PKPpre 06 09 30.8
BVA0 pmax pmax
comp=Z,11nm,1.1s
YAK Yakutsk 143.52 344 *e*PKHKP PKPab 06 09 34.9 -0.3
YAK pmax pmax
comp=Z,28nm,0.8s
YAK Yakutsk 143.52 344 *e*PKPdf PKPbc 06 09 35.9 -0.2
CISI Cisompet, Garu 144.47 178 *e*PKPdf **PKPab 06 09 40.0 -0.3**
SMRI Semarang 144.98 182 *e*PKPdf PKPbc 06 09 42.4 +0.3
KBL Kabul 145.25 69 *e*PKIKP **PKPbc 06 09 42.2 -0.5**
KBL Kabul 145.25 69 *e*PKPdf **PKPbc 06 09 42.2 -0.5**
KK31 Karatay Array 145.49 54 *i* PKP2 **PKPdf 06 09 42.1 -0.7**
KK31 pmax pmax
comp=Z,62nm,0.9s
KKAR Karatay Array 145.49 54 *e*PKIKP **PKPdf 06 09 42.7 -0.1**
KKAR Karatay Array 145.49 54 *e*PKPdf **PKPdf 06 09 42.7 -0.1**
KAPI Kappang 145.50 199 *e*PKPdf **PKPdf 06 09 43.7 -0.1**
PALK Pallekele 145.94 122 *e*PKPdf **PKPbc 06 09 44.9 -0.3**
POO Poona 146.22 99 ⇓*i* P **PKPdf 06 09 44.0 -0.8**
comp=Z,10.0nm,1.2s
NVS Novosibirsk 147.34 28 ⇑*i* PKIKP **PKPdf 06 09 44.9 -0.6**
NVS *i* 06 10 00.7
NVS pmax pmax
comp=Z,168nm,1.8s
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=E,31nm,1.4s
KURK Kurchatov 147.71 37 *e*PKIKP **PKPdf 06 09 46.6 +0.4**
KURK *e* 06 09 49.6
KURK Kurchatov 147.71 37 *e*PKPdf **PKPdf 06 09 46.6 +0.4**
KURK *e*PKPbc **PKPbc 06 09 49.6 +0.5**
YSS Yuzh-Sakhalins 147.82 315 *e*PKP2 **PKPbc 06 09 48.6 -0.9**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 147.82 315 *e*PKPbc **PKPbc 06 09 48.7 -0.8**
EKS2 Erkin-Say 147.93 54 *e*PKIKP **PKPdf 06 09 48.0 +0.9**
EKS2 *e* 06 09 51.0
EKS2 Erkin-Say 147.93 54 P **PKPdf 06 09 48.3 +1.2**
SNR=53
EKS2 Erkin-Say 147.93 54 *e*PKPdf **PKPdf 06 09 48.0 +0.9**
EKS2 *e*PKPbc **PKPbc 06 09 51.0 +0.8**
AML Almayashu 148.00 55 P **PKPdf 06 09 48.5 +0.9**
SNR=42
USP Ospenovka 148.27 52 P **PKPdf 06 09 48.4 +0.9**
SNR=26
AAK Ala-Archa 148.45 54 ⇑*i* PKIKP **PKPdf 06 09 48.1 +0.1**
AAK Ala-Archa 148.45 54 P **PKPdf 06 09 49.5 +1.5**
SNR=51
AAK Ala-Archa 148.45 54 *e*PKPdf **PKPdf 06 09 48.9 +0.9**
AAK *e*PKPbc **PKiKP 06 09 52.6 -0.5**
AAK *e*PKPab **PKPbc 06 09 56.2 +1.2**
FRU Bishkek 148.48 53 *e*PKIKP **PKPbc 06 09 50.0 -1.5**
FRU pmax pmax
comp=Z,200nm,1.8s
CHMS Chumysh 148.53 53 *i* PKP2 **PKPbc 06 09 52.4 +0.8**
CHMS Chumysh 148.53 53 P **PKPbc 06 09 52.4 +0.8**
SNR=19
UCH Uchtor 148.57 54 P **PKPdf 06 09 49.7 +1.2**
SNR=54
ZAA0 Zalesovo Array 148.63 28 *e*PKPdf **PKPdf 06 09 47.5 -0.1**
ZAA0 *e*PKPbc **PKPbc 06 09 51.2 -0.2**
ZALV Zalesovo Beam 148.63 28 PKIKP **PKPdf 06 09 47.5 -0.2**
ZALV 06 09 51.5
ZALV Zalesovo Beam 148.63 28 PKP **PKPdf 06 09 47.5 -0.2**
ZALV PKPbc **PKPbc 06 09 51.5 +0.1**
ZALV Zalesovo Beam 148.63 28 PKP **PKPdf 06 09 47.5 -0.2**
comp=Z,116nm,0.8s,baz=299,slow=3.1,SNR=69
ZALV PKPbc **PKPbc 06 09 51.5 +0.1**
comp=Z,130nm,0.9s,baz=302,slow=3.2,SNR=108
KBK Karagaybulak 148.76 53 P **PKPdf 06 09 49.3 +0.8**
SNR=28
KZA Kyzart 149.14 54 *i* PKP2 **PKPbc 06 09 54.5 +0.9**
KZA Kyzart 149.14 54 P **PKPbc 06 09 54.6 +0.9**
SNR=11
TKM2 Tokmak 2 149.14 53 *e*PKIKP **PKPdf 06 09 49.2 0.0**
TKM2 *e* 06 09 53.7
TKM2 *e* 06 09 58.7
TKM2 Tokmak 2 149.14 53 P **PKPdf 06 09 49.5 +0.4**
SNR=19
TKM2 Tokmak 2 149.14 53 *e*PKPdf **PKPdf 06 09 49.2 0.0**
TKM2 *e*PKPbc **PKPbc 06 09 53.7 +0.3**
TKM2 *e*PKPab **PKPab 06 09 58.7 +0.9**
CLNS Chul'man 149.26 343 *e*PKP2 **PKPbc 06 09 52.9 -0.1**
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=E,41nm,0.9s
CLNS pmax pmax
comp=N,14nm,0.8s
ULHL Ulahol 149.80 54 *i* PKP2 **PKPbc 06 09 56.1 +1.1**
ULHL Ulahol 149.80 54 P **PKPbc 06 09 56.2 +1.1**
SNR=19
HYB Hyderabad 149.83 104 *i* PKP **PKPdf 06 09 50.0 -0.8**
HYB *e*PKP pPKPdf 06 10 14.5 +9.3
HYB *es*PKP 06 10 38.0
KSH Kashi 150.29 59 PKPbc **PKPdf 06 09 52.3 +1.3**
KSH sPKP 06 10 06.5
KSH *e*SKS **SKSdf 06 16 55.3 +0.2**
KSH AMB AMB
comp=N,53nm,6.1s
KSH LR LR
comp=N,86nm,4.8s
KSH LR LR
comp=N,90nm,7.3s
KSH LR LR
comp=N,86nm,8.4s
BKNI Bangkinang 151.23 163 *e*PKPbc **PKPbc 06 09 58.3 -0.7**
HABR Khabarovsk 151.57 323 *e*PKIKP **PKPbc 06 09 58.1 -0.6**
HABR *e* 06 10 06.6
HABR *e* 06 10 12.0
HABR *e* 06 13 38.0
HABR *e* 06 16 54.9
HABR *e*PPP PPP 06 17 02.5
HABR *e*SS SS 06 33 01.2 +1.3
HABR *e*SSS SSS 06 38 46.1
HABR pmax pmax
comp=E,33nm,2.1s
HABR pmax pmax
comp=N,11nm,1.0s
HABR pmax pmax
comp=Z,86nm,1.0s
MK31 Makanchi Array 151.86 41 *e*PKIKP **PKPdf 06 09 52.7 -0.3**
MK31 *e* 06 09 59.2
MK31 Makanchi Array 151.86 41 *e*PKPdf **PKPdf 06 09 52.7 -0.3**
MK31 *e*PKPbc **PKPbc 06 09 59.2 -0.3**
MKAR Makanchi Array 151.86 41 PKIKP **PKPdf 06 09 52.7 -0.3**
MKAR 06 09 59.4
MKAR Makanchi Array 151.86 41 PKP **PKPdf 06 09 52.7 -0.3**
MKAR PKPbc **PKPbc 06 09 59.4 -0.1**
MKAR Makanchi Array 151.86 41 PKP **PKPdf 06 09 52.7 -0.3**
comp=Z,2.3nm,0.8s,baz=335,slow=1.0,SNR=24
MKAR PKPbc **PKPbc 06 09 59.4 -0.1**
comp=Z,48nm,0.8s,baz=318,slow=2.2,SNR=184
NDI New Delhi 151.87 81 *ex* **PKPdf 06 09 54.0 +0.4**
KLR Kul'dur 152.78 327 *e*PKIKP **PKPdf 06 09 50.0 -4.3**
KSM Kuching 153.45 182 *e*PKPab **PKPab 06 10 16.6 +0.5**
MJAR Matsushiro Arr 154.22 296 PKP **PKPdf 06 09 56.7 -0.1**
MJAR PKPbc **PKPbc 06 10 04.9 -0.1**
MJAR PKPab **PKPab 06 10 18.6 -0.4**
MJAR Matsushiro Arr 154.22 296 PKP **PKPdf 06 09 56.7 -0.1**
comp=Z,5.7nm,1.0s,baz=316,slow=0.5,SNR=9.1
MJAR PKPbc **PKPbc 06 10 04.9 -0.1**
comp=Z,4.1nm,0.9s,baz=114,slow=1.0,SNR=6.3
MJAR PKPab **PKPab 06 10 18.6 -0.4**
comp=Z,8.5nm,0.8s,baz=130,slow=2.9,SNR=10
MAJO Matsushiro 154.22 296 *e*PKP2 **PKPab 06 10 18.6 -0.4**
MAJO Matsushiro 154.22 296 *e*PKPab **PKPab 06 10 18.6 -0.4**
MOY Mondy 155.71 13 *e*PKIKP **PKPdf 06 10 00.3 +1.8**
MOY pmax pmax
comp=Z,48nm,3.6s
USRK Ussuriysk Arra 155.76 317 PKP **PKPdf 06 09 58.2 -0.4**
comp=Z,2.6nm,0.8s,baz=207,slow=1.3,SNR=8.1
TLY Talaya 156.13 9 *e*PKIKP **PKPdf 06 10 00.1 +1.2**
TLY pmax pmax
comp=Z,20nm,1.5s
TLY Talaya 156.13 9 *e*PKPdf **PKPdf 06 09 59.8 +0.9**
TLY *e*PKPab **PKPab 06 10 27.9 +1.3**
VLA Vladivostok 156.41 315 PKIKP **PKPdf 06 09 59.6 +0.1**
WMQ Urumqi 156.68 42 PKP **PKPdf 06 10 01.3 +1.4**
WMQ pPKP **pPKPdf 06 10 12.0 -2.4**
WMQ sPKP 06 10 15.5
WMQ PKPab **PKPab 06 10 32.8 +3.4**
WMQ PKS **PKSdf 06 13 33.8 0.0**
WMQ PP **PP 06 14 12.0 +4.5**
WMQ SKS **SKSdf 06 17 02.0 -0.2**
WMQ SKKS **SKKSac 06 20 55.5 +2.4**
WMQ SS **SS 06 33 58.0 +1.9**
WMQ AMB AMB
comp=Z,24nm,9.8s
WMQ LR LR
comp=Z,140nm,24.8s
WMQ LR LR
comp=Z,190nm,29.8s
WMQ LR LR
comp=Z,160nm,29.9s
PYUN Piuthan 156.85 84 *e*P **PKPdf 06 10 00.5 -0.3**
comp=Z,37nm,1.0s
MDJ Mudanjiang 156.90 321 PKP **PKPdf 06 09 59.5 -0.6**
MDJ Mudanjiang 156.90 321 *e*PKPdf **PKPdf 06 09 59.5 -0.6**
ZAK Zakamensk 157.34 10 *e*PKIKP **PKPdf 06 10 00.1 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
KOLN Koldanda 157.35 85 *e*P **PKPdf 06 10 01.0 -0.5**
DANN Dangsing 157.56 83 *e*P **PKPdf 06 10 01.8 0.0**
comp=Z,71nm,0.9s
GKN Gorkha 158.29 85 *e*P **PKPdf 06 10 02.2 -0.3**
DMN Daman 158.66 86 *e*P **PKPdf 06 10 02.8 -0.3**
KKN Kakani 158.83 85 *e*P **PKPdf 06 10 03.1 -0.2**
PKIN Phulchoki 158.91 86 *e*P **PKPdf 06 10 02.8 -0.6**
PKI Pulchoki 158.92 86 *e*P **PKPdf 06 10 02.8 -0.7**
GUN Gumba 159.37 85 *e*P **PKPdf 06 10 03.8 -0.3**
comp=Z,24nm,1.0s
JIRN Jiri 159.62 86 *e*P **PKPdf 06 10 04.0 -0.4**
CN2 Changchun 159.67 324 *e*PKP **PKPdf 06 10 03.5 +0.1**
CN2 *es*PKP 06 10 18.0
CN2 PP **PP 06 14 27.0 +3.4**
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
RAMN Ramite 159.88 88 *e*P **PKPdf 06 10 04.7 +0.1**
comp=Z,23nm,0.8s
SONM Songino Array 160.23 6 PKP **PKPdf 06 10 04.5 +0.4**
SONM PKPab **PKPab 06 10 45.1 +0.5**
SONM Songino Array 160.23 6 PKP **PKPdf 06 10 04.5 +0.4**
comp=Z,4.3nm,0.9s,baz=237,slow=0.6,SNR=32
SONM PKPab **PKPab 06 10 45.1 +0.5**
comp=Z,6.0nm,0.8s,baz=323,slow=4.4,SNR=14
ODAN Odare 160.57 89 *e*P **PKPdf 06 10 05.4 +0.1**
comp=Z,40nm,1.1s
TAPN Taplejung 160.92 87 *e*P **PKPdf 06 10 05.6 -0.2**
comp=Z,37nm,1.3s
KSRS Korea Array 161.79 305 PKP **PKPdf 06 10 06.0 +0.1**
comp=Z,7.6nm,1.0s,baz=92,slow=0.3,SNR=22
KSAR Wonju Array Be 161.83 305 PKP **PKPdf 06 10 06.0 0.0**
LSA Lhasa 164.08 80 *e*PKIKP **PKPdf 06 10 09.7 +0.7**
LSA *e* 06 11 03.2
LSA Lhasa 164.08 80 *e*PKPdf **PKPdf 06 10 09.7 +0.7**
LSA *e*PKPab **PKPab 06 11 03.1 +0.5**
SHL Shillong 164.29 95 ⇑*ix* **PKPdf 06 10 09.0 0.0**
SHL *ex* x 06 14 46.0
GTA Gaotai 166.32 32 PKP **PKPdf 06 10 10.5 +0.3**
GTA pPKP **pPKPdf 06 10 21.8 -2.9**
GTA sPKP 06 10 26.5
GTA PKS **PKSdf 06 13 42.5 -0.5**
GTA SKS **SKSdf 06 17 09.0 -1.5**
GTA SKKS **SKKSac 06 21 44.0 +1.1**
GTA AMB AMB
comp=Z,96nm,5.0s
GTA LR LR
comp=Z,140nm,16.9s
GTA LR LR
comp=Z,180nm,17.3s
GTA LR LR
comp=Z,130nm,16.9s
CM31 Chiang Mai Arr 166.49 133 *e*PKPdf **PKPdf 06 10 11.2 +0.5**
CM31 *e*PKPab **PKPab 06 11 12.6 -0.1**
CMAR Chiang Mai Arr 166.49 133 PKP **PKPdf 06 10 11.2 +0.4**
CMAR PKPab **PKPab 06 11 12.3 -0.4**
CMAR Chiang Mai Arr 166.49 133 PKP **PKPdf 06 10 11.2 +0.4**
comp=Z,1.1nm,0.3s,baz=259,slow=2.2,SNR=14
CMAR PKPab **PKPab 06 11 12.3 -0.4**
comp=Z,7.8nm,0.9s,baz=235,slow=4.2,SNR=17
CHTO Chiang Mai 166.75 132 *e*PKIKP **PKPdf 06 10 10.5 -0.5**
CHTO *e* 06 11 13.3
CHTO Chiang Mai 166.75 132 *e*PKPdf **PKPdf 06 10 10.5 -0.5**
CHTO *e*PKPab **PKPab 06 11 13.3 -0.5**
BJI Beijing 166.84 336 PKP **PKPdf 06 10 10.8 +0.5**
BJI PP **PP 06 15 04.5 +3.5**
BJI SS SS 06 35 39.5 -1.1
BJI LR LR
comp=Z,150nm,26.5s
BJI LR LR
comp=Z,130nm,26.5s
BJI LR LR
comp=Z,110nm,28.9s
HHC Hu-ho-hao-te 167.20 352 *e*PKP **PKPdf 06 10 10.3 -0.5**
HHC sPKP 06 10 25.5
HHC PP **PP 06 15 04.0 +1.3**
HHC SKS **SKSdf 06 17 06.0 -4.9**
HHC SKKS **SKKSac 06 21 48.0 +1.0**
HHC SS **SS 06 35 46.3 +2.3**
HHC AMB AMB
comp=Z,150nm,8.3s
HHC LR LR
comp=Z,270nm,19.0s
HHC LR LR
comp=Z,280nm,19.6s
HHC LR LR
comp=Z,340nm,19.8s
TIA Tai'an 169.56 322 ⇑PKP **PKPdf 06 10 12.3 -0.1**
NJ2 Nanjing 170.82 297 *e*PKP **PKPdf 06 10 13.0 -0.2**
LZH Lanzhou 170.87 29 *e*PKP **PKPdf 06 10 14.5 +1.2**
LZH pPKP **pPKPdf 06 10 27.0 -0.8**
LZH sPKP 06 10 31.5
LZH PKPab **PKPab 06 11 32.5 +0.7**
LZH LR LR
comp=Z,210nm,16.7s
LZH LR LR
comp=Z,140nm,18.4s
LZH LR LR
comp=Z,320nm,20.4s
QIZ Qiongzhong 170.90 184 PKP **PKPdf 06 10 12.5 -1.1**
QIZ pPKP **pPKPdf 06 10 25.3 -2.8**
QIZ PP **PP 06 15 22.3 +1.1**
QIZ SS SS 06 36 24.0 +3.5
QIZ AMB AMB
comp=Z,120nm,9.2s
QIZ LR LR
comp=Z,200nm,18.3s
KMI Kunming 173.44 116 PKP **PKPdf 06 10 14.8 -0.1**
XAN Xi'an 174.13 3 PKP **PKPdf 06 10 14.5 -0.1**
CD2 Chengdu 174.49 59 *e*PKP **PKPdf 06 10 15.0 +0.2**
CD2 sPKP 06 10 34.0
CD2 PKPab **PKPab 06 11 48.5 +0.4**
CD2 PKS **PKSdf 06 13 46.3 -0.8**
CD2 PP **PP 06 15 42.0 +1.5**
CD2 SKS **SKSdf 06 17 11.5 -2.8**
CD2 SKKS **SKKSac 06 22 23.0 -0.1**
CD2 SS **SS 06 36 59.0 +0.6**
CD2 AMB AMB
comp=Z,190nm,7.6s
CD2 LR LR
comp=Z,190nm,19.0s
CD2 LR LR
comp=Z,170nm,19.0s
CD2 LR LR
comp=Z,240nm,22.6s
WHN Wuhan 174.95 299 ⇑PKP **PKPdf 06 10 14.3 -0.6**
WHN PKPab **PKPab 06 11 51.3 +1.2**
WHN PP **PP 06 15 42.0 -0.7**
WHN LR LR
comp=Z,510nm,15.7s
GYA Guiyang 177.15 126 PKP **PKPdf 06 10 14.3 -1.4**
GYA pPKP **pPKPdf 06 10 29.5 -0.7**
GYA sPKP 06 10 34.8
GYA PKPab PKPab 06 12 01.3 +1.3
GYA PKS **PKSdf 06 13 45.0 -3.0**
GYA PP **PP 06 15 53.5 +0.4**
GYA SKKS 06 22 34.5
GYA SS **SS 06 37 19.0 -4.7**
GYA AMB AMB
comp=Z,140nm,8.5s
GYA LR LR
comp=Z,170nm,23.9s
GYA LR LR
comp=Z,140nm,24.0s
GYA LR LR
comp=Z,150nm,24.4s

NIED ***30*** *06:21:00,29˚.20N×142˚.40E,h50km,Mw4.7 Best double couple: M0 1.16000×10^16 NP1:φ=226.00000°,δ=35.00000°, λ=177.00000°. NP2:φ=319.00000°,δ=88.00000°,λ=55.00000°.*
BJI ***30*** *06:21:02.7,28˚.98N×142˚.60E,h10km,mB4.8/30,mb4.5/40, Ms4.3/28,Ms7 4.0/28*
MOS ***30*** *06:21:06.7±0.9,29˚.07N×142˚.59E,h33km,mb4.9/34, Error ellipse: s-maj=9.9km s-min=6.1km az=105.4*
ISCJB ***30*** *06:21:07.2±1.1,29˚.19N±0˚.02×142˚.51E±0˚.03,h31km±7km, mb4.7/109,MS3.8/16, Error ellipse: s-maj=4.9km s-min=3.5km az=177.6*
JMA ***30*** *06:21:08.5±0.2,29˚.20N×142˚.43E,h50km,M5.3*
IDC ***30*** *06:21:10.1±2.0,29˚.09N×142˚.54E,h49km±19km,mb4.1/25, mb1 4.3/29,mb1mx4.3/37,mbtmp4.4/29,ML4.7/3,MS3.6/6, Ms1 3.7/6,ms1mx3.3/36,Error ellipse: s-maj=14.6km s-min=10.3km az=93.0*
NEIC ***30*** *06:21:10.1±0.7,29˚.08N×142˚.56E,h44km±6km,mb4.7/67, MW4.7(NIED),Error ellipse: s-maj=4.6km s-min=3.5km az=122.0*

ISC 30 06:21:06.7±0.5,**29˚.13N**±0˚.03×**142˚.55E**±0˚.05,**h19**km±1km, **h19**km:**pP-P,n249,**σ1s**33**/271,**mb4.7**/109,**MS3.8**/17,**1C-7D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.05**	**189**	P	**Pb**	**06 21 42.6**	**-0.7**
CBIJ				*e*S	**Sb**	**06 22 07.0**	**-1.4**
CBIJ	**Chichi jima**	**2.05**	**189**	*e*Pn	**Pb**	**06 21 42.4**	**-0.9**
CBIJ				*e*Sn	**Sb**	**06 22 07.4**	**-1.0**
JCJ	**Chichijima**	**2.05**	**189**	P	**Pb**	**06 21 42.2**	**-1.1**
	230nm,0.3s,baz=82,slow=23,SNR=106						
JCJ				S	**Sn**	**06 22 05.0**	**-0.2**
	768nm,0.3s,baz=73,slow=19,SNR=39						
JHHJ	**Haha-jima-NKT**	**2.51**	**188**	P	**Pn**	**06 21 48.7**	**+2.2**
JHHJ				S	**Sn**	**06 22 18.5**	**+2.0**
JHCJ	**Hachijojimakas**	**4.59**	**330**	P	**Pn**	**06 22 15.5**	**+0.4**
JHCJ				S	**Sn**	**06 23 04.6**	**-3.3**
JHJ2	**Mitsune**	**4.61**	**330**	P	**Pn**	**06 22 16.0**	**+0.6**
JHJ2				S	**Sn**	**06 23 06.0**	**-2.5**
BSO1	**Boso 1**	**5.67**	**347**	P	**Pn**	**06 22 29.8**	**+0.3**
BSO1				S	**Sn**	**06 23 31.7**	**-2.1**
JKO	**Kozu shima**	**5.83**	**331**	P	**Pn**	**06 22 32.4**	**+0.3**
JKO				S	**Sn**	**06 23 37.8**	**-0.6**
BSO3	**Boso 3**	**5.92**	**343**	P	**Pn**	**06 22 33.8**	**+0.7**
BSO3				S	**Sn**	**06 23 37.2**	**-3.1**
BSO4	**Boso 4**	**6.14**	**343**	P	**Pn**	**06 22 37.4**	**+1.1**
BSO4				*e*S	**Sn**	**06 23 43.8**	**-2.2**
JOD2	**Odawara 2**	**6.79**	**335**	P	**Pn**	**06 22 47.0**	**+1.7**
JOD2				S	**Sn**	**06 23 58.3**	**-3.8**
JHU	**Hanno**	**7.25**	**338**	P	**Pn**	**06 22 53.4**	**+1.7**
JHU				S	Sn	06 24 07.5	-6.0
JYT	**Yasato**	**7.36**	**345**	P	**Pn**	**06 22 54.8**	**+1.7**
JRY	**Ryogami san**	**7.53**	**337**	P	**Pn**	**06 22 57.3**	**+1.8**
JRY				S	**Sn**	**06 24 17.5**	**-2.9**
MJAR	**Matsushiro Arr**	**8.25**	**335**	P	**Pn**	**06 23 07.2**	**+1.9**
MJAR				S	Sn	06 24 27.0	-11
MJAR	**Matsushiro Arr**	**8.25**	**335**	P	**Pn**	**06 23 07.2**	**+1.9**
	27nm,0.3s,baz=159,slow=12,SNR=199						
MJAR				S	Sn	06 24 27.0	-11
	5.7nm,0.3s,baz=142,slow=16,SNR=2.9						
MAJO	**Matsushiro**	**8.25**	**335**	⇓*i*P	**Pn**	**06 23 07.8**	**+2.4**
MAJO	**Matsushiro**	**8.25**	**335**	*e*Pn	**Pn**	**06 23 07.7**	**+2.3**
MAT	**Matsushiro**	**8.25**	**335**	P	**Pn**	**06 23 07.5**	**+2.1**
MAT				S	**Sn**	**06 24 35.2**	**-2.9**
JTO	**Tosashimizu**	**9.16**	**296**	P	Pn	06 23 21.7	+3.9
JNU	**Nakatsue**	**10.77**	**295**	*e*Pn	**Pn**	**06 23 41.6**	**+1.7**
JNU	**Nakatsue**	**10.77**	**295**	P	Pn	06 23 44.5	+4.6
	1.0nm,0.3s,baz=71,slow=6.9,SNR=14						
JNU				LR	LR	06 27 44.5	
	comp=Z,449nm,19.8s,baz=112,slow=37						
ERM	**Erimo**	**12.87**	**2**	⇓*i*P	Pn	06 24 05.1	-3.5
ERM	**Erimo**	**12.87**	**2**	*e*Pn	Pn	06 24 05.0	-3.6
	48nm,0.7s						
ERM				*e*Sn	Sn	06 26 20.7	-11
KSRS	**Korea Array**	**14.77**	**308**	P	**Pn**	**06 24 37.1**	**+2.5**
	1.2nm,0.3s,baz=117,slow=12,SNR=23						
KSAR	**Wonju Array Be**	**14.79**	**308**	P	**Pn**	**06 24 37.1**	**+2.2**
ASAJ	**Asahikawa**	**14.96**	**0**	*e*P	**Pn**	**06 24 34.5**	**-2.6**
ASAJ	**Asahikawa**	**14.96**	**0**	P	**Pn**	**06 24 34.3**	**-2.8**
	7.4nm,0.3s,baz=215,slow=9.7,SNR=23						
INCN	**Inchon**	**15.69**	**306**	*e*P	**P**	**06 24 51.1**	**+0.5**
	14nm,0.8s						
USRK	**Ussuriysk Arra**	**17.24**	**334**	P	**Pn**	**06 25 06.2**	**-0.2**

0.4nm,0.3s,baz=155,slow=11,SNR=9.7
YSS Yuzh-Sakhalins 17.80 0 ⇓ *e*P **Pn** **06 25 13.0 -0.3**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 17.80 0 *e*P **Pn** **06 25 13.5 +0.2**
comp=Z,88nm,1.0s
MDJ Mudanjiang 18.58 330 P **Pn** **06 25 23.0 +0.1**
MDJ pmax pmax
comp=Z,25nm,1.1s
MDJ pmax pmax
comp=Z,75nm,3.9s
MDJ Mudanjiang 18.58 330 *e*P **Pn** **06 25 23.1 +0.3**
comp=Z,23nm,0.8s
NACB Ninganchiao 19.36 260 *e*P **P** **06 25 31.7 +0.4**
comp=Z,14nm,0.5s
YHNB Yeheng 19.39 262 *e*P **Pn** **06 25 32.5 -0.5**
comp=Z,23nm,0.6s
YULB Yu-li 19.89 258 *e*P **Pn** **06 25 38.1 -0.7**
comp=Z,27nm,0.7s
SNY Shenyang 19.93 315 ⇓ P **P** **06 25 38.0 +0.6**
SNY S S 06 29 09.5 -11
SNY pmax pmax
comp=Z,10.0nm,0.7s
SNY pmax pmax
comp=Z,110nm,4.0s
SNY LR LR
comp=Z,190nm,15.0s
SNY LR LR
comp=Z,170nm,15.4s
SNY LR LR
comp=Z,190nm,5.9s
CN2 Changchun 20.04 322 *e*P Pn 06 25 41.3 +1.0
CN2 *e*pP pP 06 25 45.0 +1.1
CN2 PP **PnPn** **06 26 00.0 +5.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,20.0s
SSLB Suanglung 20.04 260 *e*P Pn 06 25 40.3 -0.3
comp=Z,33nm,0.7s
HABR Khabarovsk 20.16 345 *e*P **P** **06 25 39.4 -0.5**
HABR *e**SP **sP** **06 25 52.5 +4.8**
HABR *e* 06 25 56.5
HABR S **S** **06 29 25.6 +0.2**
HABR *e**SS sS 06 29 39.9 +5.9
HABR *e* 06 29 51.9
HABR *e*SSS SSS 06 29 59.1
HABR *e* 06 37 08.5
HABR pmax pmax
comp=Z,26nm,2.1s
HABR MLR MLR
comp=Z,128nm,19.0s
TWG Pinlang 20.29 257 *e*P Pn 06 25 43.0 -0.5
comp=Z,66nm,0.6s
TPUB Ta-pu 20.49 259 *e*P Pn 06 25 44.9 -1.0
comp=Z,44nm,1.0s
NJ2 Nanjing 20.60 284 *e*P **P** **06 25 45.0 +0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
SZP Santa 23.28 245 *e*P **P** **06 26 14.2 +0.8**
comp=Z,77nm,0.7s
H11N2 WAKE ISLAND Hy 24.02 107 T T 06 51 47.9
baz=300,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 24.02 107 T T 06 51 47.9
baz=300,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 24.04 107 T T 06 51 47.9
baz=300,slow=76,SNR=25
BJI Beijing 24.21 304 P **P** **06 26 22.5 +0.4**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI LR LR
comp=Z,250nm,18.7s
BJI LR LR
comp=Z,160nm,21.0s
BJI LR LR
comp=Z,150nm,21.6s
H11S3 WAKE ISLAND Hy 24.44 110 T T 06 52 17.7
baz=298
H11S1 WAKE ISLAND Hy 24.44 110 T T 06 52 31.7
baz=298
H11S2 WAKE ISLAND Hy 24.46 110 T T 06 52 28.5
baz=298
PETK Petropavlovsk- 26.43 21 P **P** **06 26 41.6 -0.5**
PETK Petropavlovsk- 26.43 21 P **P** **06 26 41.6 -0.5**
PETK Petropavlovsk- 26.43 21 P **P** **06 26 41.6 -0.5**
comp=Z,5.4nm,0.9s,baz=204,slow=9.5,SNR=3.1
PETK LR LR 06 37 55.9
comp=Z,89nm,20.1s,baz=196,slow=38
HIA Hailar 26.59 325 *e*P **P** **06 26 46.9 +3.2**
comp=Z,17nm,0.8s
HHC Hu-ho-hao-te 27.81 303 *e*P **P** **06 26 55.5 +0.7**
HHC sP **sP** **06 27 03.3 +0.3**
HHC PP **PnPn** **06 27 42.5 +1.4**
HHC S **S** **06 31 34.8 -2.2**
HHC SS **SnSn** **06 32 55.8 +5.7**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.3s
HHC LR LR
comp=Z,220nm,12.2s
HHC LR LR
comp=Z,630nm,13.9s
HHC LR LR
comp=Z,610nm,16.2s
XAN Xi'an 28.98 288 S **S** **06 31 56.3 +0.8**
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN LR LR
comp=N,71nm,10.5s
XAN LR LR
comp=E,44nm,11.2s
XAN LR LR
comp=Z,37nm,15.8s
QIZ Qiongzhong 31.41 259 P **P** **06 27 26.8 -0.1**
QIZ pP **pP** **06 27 30.0 -2.7**
QIZ S **S** **06 32 34.8 +1.1**
QIZ LR LR
comp=Z,210nm,12.3s
GYA Guiyang 31.78 274 *e*P **P** **06 27 32.0 +1.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 33.11 314 *e*P **P** **06 27 43.1 +1.5**
comp=Z,15nm,1.0s
LZH Lanzhou 33.17 292 *e*P **P** **06 27 42.3 -0.1**
LZH pP **pP** **06 27 47.5 -0.7**
LZH sP **sP** **06 27 50.0 -0.6**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,63nm,4.3s
LZH LR LR
comp=Z,170nm,15.9s
LZH LR LR
comp=Z,320nm,16.5s
LZH LR LR
comp=Z,220nm,20.4s
SONM Songino Array 33.51 314 P **P** **06 27 45.8 +0.7**
SONM Songino Array 33.51 314 P **P** **06 27 45.8 +0.7**
comp=Z,1.9nm,0.6s,baz=116,slow=7.9,SNR=20
CD2 Chengdu 33.52 283 *e*P **P** **06 27 45.0 -0.3**
CD2 sP **sP** **06 27 53.8 +0.3**
CD2 PP **PnPn** **06 28 56.3 -0.5**
CD2 S **S** **06 33 07.0 +0.5**
CD2 sS **sS** **06 33 13.0 -3.2**
CD2 SS **SnSn** **06 35 07.5 -1.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,120nm,7.1s
CD2 LR LR
comp=Z,210nm,15.5s
CD2 LR LR
comp=Z,210nm,16.7s
SEY Seymchan 34.42 8 P **P** **06 27 52.4 -0.2**
SEY Seymchan 34.42 8 P **P** **06 27 52.4 -0.2**
SEY Seymchan 34.42 8 P **P** **06 27 52.4 -0.2**
comp=Z,4.2nm,0.7s,baz=164,slow=19,SNR=6.6

KMI Kunming 35.54 273 P **P** **06 28 05.5 +2.5**
KMI sP **sP** **06 28 13.3 +2.0**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI LR LR
comp=Z,150nm,22.4s
KMI LR LR
comp=Z,250nm,22.7s
KMI LR LR
comp=Z,230nm,23.2s
SLVN Son La 35.69 266 *e*P **P** **06 28 04.2 0.0**
comp=Z,8.0nm,0.8s
ZAK Zakamensk 36.33 317 *e*P **P** **06 28 10.5 +1.1**
ZAK pmax pmax
comp=Z,11nm,1.2s
GTA Gaotai 36.48 298 *e*P **P** **06 28 10.0 -0.8**
GTA pP **pP** **06 28 14.8 -1.9**
GTA sP **sP** **06 28 17.5 -1.6**
GTA S **S** **06 33 50.5 -1.6**
GTA SS **SnSn** **06 36 14.8 -6.1**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,61nm,5.7s
GTA LR LR
comp=Z,210nm,15.2s
GTA LR LR
comp=Z,140nm,11.9s
GTA LR LR
comp=Z,120nm,12.1s
TLY Talaya 36.60 319 *e*P P 06 28 15.2 +3.7
TLY pmax pmax
comp=Z,10.0nm,1.0s
TLY MLR MLR
comp=Z,124nm,20.0s
TLY Talaya 36.60 319 *e*P **P** **06 28 14.3 +2.8**
comp=Z,10nm,1.1s
MOY Mondy 38.13 318 *e*P P 06 28 36.6 +12
CHTO Chiang Mai 40.95 265 *e*P **P** **06 28 47.9 -0.5**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 40.95 265 *e*P **P** **06 28 47.9 -0.5**
comp=Z,2.3nm,0.9s
CMAR Chiang Mai Arr 41.09 265 P **P** **06 28 49.1 -0.4**
CMAR Chiang Mai Arr 41.09 265 P **P** **06 28 49.1 -0.4**
comp=Z,1.4nm,0.3s,baz=104,slow=4.1,SNR=7.5
CMAR LR LR 06 47 11.2
comp=Z,130nm,18.7s,baz=94,slow=38
BILL Bilibino 41.41 13 *i* P **P** **06 28 51.0 -0.6**
BILL *i* 06 30 28.3
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 41.41 13 *e*P **P** **06 28 51.9 +0.3**
comp=Z,7.8nm,1.1s
COEN Coen 42.83 179 *e*P **P** **06 29 03.7 +0.1**
comp=Z,254nm,1.1s
TIXI Tiksi 43.23 354 ⇓ *e*P **P** **06 29 06.5 +0.2**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
WMQ Urumqi 45.68 304 P **P** **06 29 27.3 +0.9**
WMQ pP **pP** **06 29 31.8 -0.6**
WMQ sP **sP** **06 29 34.3 -0.4**
WMQ PcP **PcP** **06 31 06.0 +1.7**
WMQ PP **PP** **06 31 14.8 +1.5**
WMQ ScP **ScP** **06 34 56.3 0.0**
WMQ S **S** **06 36 09.0 +0.5**
WMQ ScS **ScS** **06 39 20.3 -1.5**
WMQ SS SS 06 39 25.0 -7.5
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,52nm,4.6s
WMQ LR LR
comp=Z,140nm,26.2s
WMQ LR LR
comp=Z,180nm,26.1s
WMQ LR LR
comp=Z,160nm,29.8s
KULM Kulim 46.15 247 *e*P **P** **06 29 30.3 0.0**
comp=Z,19nm,0.9s
TNA Tin City 47.42 25 *e*P **P** **06 29 39.9 +0.3**
comp=Z,25nm,1.9s
TAPN Taplejung 47.98 282 *e*P **P** **06 29 44.0 -0.9**
ZALV Zalesovo Beam 48.19 318 P **P** **06 29 46.4 +0.7**
ZALV Zalesovo Beam 48.19 318 P **P** **06 29 46.4 +0.7**
ZALV Zalesovo Beam 48.19 318 P **P** **06 29 46.4 +0.7**
comp=Z,0.7nm,0.3s,baz=93,slow=7.2,SNR=4.1
PSI Prapat 49.00 246 P **P** **06 29 51.6 -1.0**
PSI Prapat 49.00 246 P **P** **06 29 51.6 -1.0**
comp=Z,10nm,0.7s,baz=27,slow=3.5,SNR=13
RAMN Ramite 49.04 282 *e*P **P** **06 29 52.1 -0.9**
comp=Z,14nm,0.5s
CTA Charters Tower 49.06 175 P **P** **06 29 51.7 -1.0**
CTA Charters Tower 49.06 175 P **P** **06 29 51.7 -1.0**
comp=Z,8.7nm,0.6s,baz=1.3,slow=9.2,SNR=8.7
CTAO Charters Tower 49.06 175 *e*P **P** **06 29 52.8 +0.1**
CTAO pmax pmax
comp=Z,19nm,1.0s
CTAO Charters Tower 49.06 175 *e*P **P** **06 29 52.8 +0.1**
comp=Z,18nm,1.0s
JIRN Jiri 49.19 283 *e*P **P** **06 29 53.8 -0.5**
comp=Z,18nm,0.4s
NVS Novosibirsk 49.21 319 *e*P P 06 29 59.6 +6.0
GUN Gumba 49.39 283 *e*P **P** **06 29 55.1 -0.7**
WRAB Tennant Creek 49.41 190 *e*P **P** **06 29 54.9 -0.5**
WRAB pmax pmax
comp=Z,66nm,0.8s
WRAB Tennant Creek 49.41 190 *e*P **P** **06 29 54.9 -0.5**
comp=Z,66nm,0.8s
WRA Warramunga Arr 49.42 190 P **P** **06 29 54.9 -0.7**
WRA PcP **PcP** **06 31 17.6 -0.1**
WRA Warramunga Arr 49.42 190 P **P** **06 29 54.9 -0.7**
comp=Z,52nm,0.7s,baz=10,slow=8.1,SNR=161
WRA PcP **PcP** **06 31 17.6 -0.1**
comp=Z,5.8nm,0.7s,baz=6.9,slow=3.9,SNR=5.5
MK31 Makanchi Array 49.45 308 *e*P **P** **06 29 56.0 +0.4**
MK31 Makanchi Array 49.45 308 *e*P **P** **06 29 56.0 +0.4**
MKAR Makanchi Array 49.45 308 *e*P **P** **06 29 56.4 +0.7**
MKAR Makanchi Array 49.45 308 *e*P **P** **06 29 56.4 +0.7**
MKAR Makanchi Array 49.45 308 P **P** **06 29 56.0 +0.4**
comp=Z,0.7nm,0.5s,baz=90,slow=9.3,SNR=14
DANN Dangsing 51.07 284 *e*P **P** **06 30 08.1 -0.4**
KOLN Koldanda 51.37 284 *e*P **P** **06 30 10.0 -0.6**
PYUN Piuthan 51.79 284 *e*P **P** **06 30 13.0 -0.8**
comp=Z,80nm,0.5s
KURK Kurchatov 51.81 313 *e*P **P** **06 30 13.3 0.0**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 51.81 313 *e*P **P** **06 30 13.3 0.0**
comp=Z,9.3nm,0.9s
KURBB Kurchatov Arra 51.87 313 P **P** **06 30 13.0 -0.7**
comp=Z,2.1nm,0.6s,baz=92,slow=7.2,SNR=19
RSO Redoubt South 52.71 34 *e*P **P** **06 30 19.9 -0.2**
AS31 Alice Springs 53.14 190 *e*P **P** **06 30 22.5 -0.9**
ASAR Alice Springs 53.14 190 P **P** **06 30 22.2 -1.2**
ASAR Alice Springs 53.14 190 P **P** **06 30 22.2 -1.2**
comp=Z,5.1nm,0.5s,baz=6.0,slow=6.0,SNR=81
PPLA Purkeypile 53.26 31 *e*P **P** **06 30 25.1 +1.0**
comp=Z,34nm,1.6s
KTH Kantishna Hill 53.91 31 *e*P **P** **06 30 28.7 0.0**
comp=Z,4.1nm,0.5s
TRF Thorofare Moun 54.19 31 *e*P **P** **06 30 30.9 +0.1**
comp=Z,77nm,2.4s
TKM2 Tokmak 2 54.54 304 *e*P **P** **06 30 34.5 +0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 54.54 304 *e*P **P** **06 30 34.5 +0.7**
comp=Z,6.0nm,0.9s
PMR Palmer 54.56 33 *e*P **P** **06 30 32.4 -0.9**
PMR pmax pmax
comp=Z,12nm,0.9s
PMR Palmer 54.56 33 *e*P **P** **06 30 32.4 -0.9**
comp=Z,12nm,0.9s
COLD Coldfoot 54.71 26 *e*P **P** **06 30 35.5 +1.1**
comp=Z,6.1nm,0.9s
EIDS Eidsvold 54.80 171 *e*P **P** **06 30 35.6 +0.1**
comp=Z,13nm,0.7s
MCK McKinley 54.81 30 *e*P **P** **06 30 35.1 -0.1**
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 54.81 30 *e*P **P** **06 30 35.1 -0.1**
comp=Z,9.9nm,1.0s
KSH Kashi 54.84 300 *e*P **P** **06 30 38.0 +2.1**
KSH *e*PP **PP** **06 32 42.3 +3.7**
KSH *e*PcS **PcS** **06 35 38.5 +0.6**

KSH *e*S **S** **06 38 16.8 +0.6**
KSH pmax pmax
comp=Z,1.0nm,0.2s
KSH pmax pmax
comp=Z,84nm,3.5s
KSH LR LR
comp=Z,130nm,5.2s
KSH LR LR
comp=Z,72nm,4.2s
KSH LR LR
comp=Z,140nm,4.9s
COLA College 55.38 29 ⇓ *e*P **P** **06 30 39.7 +0.5**
COLA pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 55.38 304 ⇑ *i*P **P** **06 30 39.6 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 55.38 304 *e*P **P** **06 30 39.7 -0.2**
comp=Z,4.5nm,0.7s
AAK Ala-Archa 55.38 304 P **P** **06 30 39.9 +0.1**
comp=Z,1.6nm,0.6s,baz=74,slow=7.4,SNR=4.0
ILAR Eielson Array 55.79 29 P **P** **06 30 41.1 -1.0**
ILAR Eielson Array 55.79 29 P **P** **06 30 41.1 -1.0**
comp=Z,3.5nm,0.8s,baz=262,slow=5.9,SNR=44
BMRM Bremner River 56.73 34 *e*P **P** **06 30 49.6 +0.6**
comp=Z,13nm,0.9s
BVA0 Borovoye Array 56.78 317 *i* P **P** **06 30 51.6 +2.1**
BVA0 pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 56.84 317 *e*P **P** **06 30 52.4 +2.5**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 56.84 317 *e*P **P** **06 30 52.4 +2.5**
comp=Z,15nm,0.8s
KK31 Karatay Array 58.18 305 *i* P **P** **06 30 59.3 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 58.18 305 *e*P **P** **06 30 59.9 +0.4**
KKAR pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 58.18 305 *e*P **P** **06 30 59.9 +0.4**
comp=Z,12nm,0.7s
EGAK Eagle 58.24 29 *e*P **P** **06 30 59.1 -0.5**
comp=Z,47nm,1.9s
HYT Haines Junctio 60.20 34 *e*P **P** **06 31 14.1 +0.8**
STKA Stephens Creek 60.67 181 *e*P **P** **06 31 16.1 -0.5**
comp=Z,2.5nm,0.7s
STKA Stephens Creek 60.67 181 P **P** **06 31 16.0 -0.6**
comp=Z,12nm,0.7s,baz=345,slow=7.8,SNR=23
INK Inuvik 61.06 25 *e*P **P** **06 31 19.1 +0.2**
comp=Z,11nm,0.8s
INK Inuvik 61.06 25 P **P** **06 31 18.9 +0.1**
comp=Z,9.5nm,0.7s,baz=286,slow=5.7,SNR=44
FORT Forrest 61.15 194 *e*P **P** **06 31 19.4 -0.5**
comp=Z,74nm,0.6s
SVE Sverdlovsk 61.83 322 *e*P P 06 31 32.0 +7.7
SVE pmax pmax
comp=Z,17nm,0.9s
BBOO Buckleboo 61.90 186 *e*P **P** **06 31 24.6 -0.3**
comp=Z,344nm,1.0s
ARU Arti 63.03 322 *d i*P **P** **06 31 32.6 +0.3**
ARU 06 32 05.9
ARU 06 33 48.3
ARU S **S** **06 40 03.9 +2.2**
ARU SS **SS** **06 44 07.4 +0.5**
ARU pmax pmax
comp=Z,11nm,2.5s
ARU Arti 63.03 322 *e*P **P** **06 31 32.5 +0.3**
comp=Z,19nm,0.8s
AB31 Akbulak array 63.92 314 *i* P **P** **06 31 37.9 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 63.92 314 *e*P **P** **06 31 38.4 +0.1**
comp=Z,7.9nm,0.6s
DLBC Dease Lake 64.37 36 *e*P **P** **06 31 42.2 +0.9**
DLBC Dease Lake 64.37 36 P **P** **06 31 41.8 +0.6**
comp=Z,5.0nm,0.8s,baz=343,slow=9.0,SNR=6.7
SPITS Spitsbergen Ar 68.45 350 LR LR 07 03 29.7
comp=Z,51nm,20.0s,baz=210,slow=37
YKA Yellowknife Ar 70.21 29 P **P** **06 32 17.6 -0.5**
YKA Yellowknife Ar 70.21 29 P **P** **06 32 17.5 -0.5**
comp=Z,4.9nm,0.6s,baz=294,slow=6.3,SNR=69
ARCES ARCESS Array B 71.74 341 P **P** **06 32 27.1 -0.2**
ARCES ARCESS Array B 71.74 341 P **P** **06 32 27.1 -0.2**
comp=Z,3.5nm,0.9s,baz=68,slow=13,SNR=3.1
DAG Danmarks Havn 73.71 356 *e*P P 06 32 48.5 +10
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 73.71 356 *i* P P 06 32 48.5 +10
comp=Z,3.4nm,0.9s
B08A Colville Reser 73.83 43 *e*P **P** **06 32 39.9 -0.3**
comp=Z,4.9nm,0.8s
VRHR Novokhopersk 74.26 320 *e*P P 06 32 47.4 +4.9
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
E07A Sunnyside 74.30 45 *e*P **P** **06 32 43.6 +0.8**
comp=Z,10nm,1.0s
EDM Edmonton 75.00 37 *e*P **P** **06 32 46.8 0.0**
EDM Edmonton 75.00 37 *e*P **P** **06 32 46.8 0.0**
NEW Newport 75.20 43 *e*P **P** **06 32 48.0 -0.1**
K05A Summer Lake 75.30 49 *e*P **P** **06 32 50.0 +1.0**
comp=Z,230nm,2.9s
E09A Wood Farm, Sta 75.37 45 *e*P **P** **06 32 49.6 +0.6**
comp=Z,6.0nm,0.9s
G08A Pilot Rock 75.42 46 *e*P **P** **06 32 49.9 +0.5**
comp=Z,3.8nm,1.0s
VSR Storozhevoye 75.58 321 *e*P **P** **06 32 49.4 -0.7**
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 75.63 321 *e*P P 06 32 55.3 +5.0
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
MOD Modoc 76.06 50 *e*P **P** **06 32 53.3 +0.1**
comp=Z,3.7nm,1.1s
FINES FINESS Array B 76.28 334 P **P** **06 32 53.2 -0.7**
FINES FINESS Array B 76.28 334 P **P** **06 32 53.2 -0.7**
comp=Z,1.7nm,0.8s,baz=68,slow=5.1,SNR=4.2
ZEI Tsey 76.65 312 *e*P P 06 33 02.8 +6.2
ZEI pmax pmax
comp=Z,10.0nm,1.4s
BMO Blue Mountains 76.66 46 *e*P **P** **06 32 56.6 +0.1**
comp=Z,36nm,2.2s
WALA Waterton Lakes 76.70 41 *e*P **P** **06 32 57.2 +0.5**
comp=Z,0.3nm,1.0s
KBZ Khabaz 76.87 313 P **P** **06 32 57.8 +0.3**
KBZ Khabaz 76.87 313 P **P** **06 32 57.8 +0.3**
KBZ Khabaz 76.87 313 P **P** **06 32 57.8 +0.3**
comp=Z,4.8nm,0.8s,baz=118,slow=2.7,SNR=7.0
KIV Kislovodsk 76.90 313 *e*P **P** **06 32 58.8 +0.9**
KIV *i* 06 33 06.7
KIV pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 76.92 49 *e*P **P** **06 32 58.2 +0.1**
WVOR pmax pmax
comp=Z,4.0nm,1.4s
WVOR Wild Horse Val 76.92 49 *e*P **P** **06 32 58.2 +0.1**
comp=Z,4.2nm,1.4s
JTMT Jette 77.13 42 *e*P **P** **06 32 59.8 +0.6**
YBMT Yellow Bay 77.23 42 *e*P **P** **06 33 00.4 +0.7**
SWMT Swartz Lake 77.41 42 *e*P **P** **06 33 01.1 +0.4**
CMB Columbia Colle 77.75 53 *e*P **P** **06 33 02.6 -0.1**
CMB pmax pmax
comp=Z,9.0nm,1.0s
CMB Columbia Colle 77.75 53 *e*P **P** **06 33 02.6 -0.1**
comp=Z,9.4nm,1.0s
SLMT Seeley Lake 77.84 43 *e*P **P** **06 33 03.6 +0.4**
MFID Camas Ranch 78.28 47 *e*P **P** **06 33 05.9 +0.3**
comp=Z,5.7nm,1.0s
SUMG Summit 78.57 0 *i*P **P** **06 33 07.5 +0.5**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 78.57 0 *i*P **P** **06 33 07.5 +0.5**
comp=Z,5.0nm,0.8s
NVAR Mina Array Bea 79.02 52 P **P** **06 33 10.0 +0.1**

NVAR	**Mina Array Bea**	**79.02**	**52**	P		**P**	**06 33 10.0**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=288,slow=5.3,SNR=20							
HLID	**Hailey**	**79.10**	**46**	*e*P		**P**	**06 33 10.4**	**+0.2**
	comp=Z,3.5nm,0.9s							
LRM	**Limekiln Ridge**	**79.18**	**43**	*e*P		**P**	**06 33 11.1**	**+0.4**
FFC	**Flin Flon**	**79.85**	**32**	*e*P		**P**	**06 33 13.9**	**0.0**
FFC	pmax			pmax				
	comp=Z,7.0nm,0.8s							
FFC	**Flin Flon**	**79.85**	**32**	*e*P		**P**	**06 33 13.9**	**0.0**
	comp=Z,6.5nm,0.8s							
NACGM	**Naroch**	**79.89**	**328**	*e*		P	06 33 19.0	+5.0
TPH	**Tonopah**	**79.94**	**52**	*e*P		**P**	**06 33 14.7**	**-0.2**
TPH	pmax			pmax				
	comp=Z,9.0nm,1.4s							
TPH	**Tonopah**	**79.94**	**52**	*e*P		**P**	**06 33 14.7**	**-0.2**
	comp=Z,9.3nm,1.4s							
R11A	**Troy Canyon, C**	**80.92**	**51**	*e*P		**P**	**06 33 20.1**	**-0.2**
	comp=Z,10nm,1.5s							
HVU	**Hansel Valley**	**81.05**	**47**	*e*P		**P**	**06 33 21.0**	**+0.3**
HVU	pmax			pmax				
	comp=Z,2.0nm,0.6s							
HVU	**Hansel Valley**	**81.05**	**47**	*e*P		**P**	**06 33 21.0**	**+0.3**
	comp=Z,2.0nm,0.6s							
H17A	**Grant Village**	**81.05**	**44**	*e*P		**P**	**06 33 23.2**	**+2.3**
	comp=Z,11nm,1.3s							
IMW	**Indian Meadow**	**81.09**	**45**	*e*P		**P**	**06 33 21.9**	**+0.8**
	comp=Z,5.6nm,1.0s							
AKASG	**Malin Array Be**	**81.18**	**324**	*i* P		**P**	**06 33 19.7**	**-1.3**
AKASG	pmax			pmax				
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**81.18**	**324**	P		**P**	**06 33 19.8**	**-1.3**
AKASG	**Malin Array Be**	**81.18**	**324**	P		**P**	**06 33 19.8**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=53,slow=5.3,SNR=5.6							
FXWY	**Fox Creek**	**81.18**	**45**	*e*P		**P**	**06 33 22.5**	**+1.0**
	comp=Z,3.3nm,1.0s							
MOOW	**Moose Ponds**	**81.29**	**45**	*e*P		**P**	**06 33 23.0**	**+0.9**
	comp=Z,15nm,2.1s							
TPAW	**Teton Pass**	**81.30**	**45**	*e*P		**P**	**06 33 23.2**	**+1.0**
	comp=Z,27nm,2.0s							
DUG	**Dugway**	**81.84**	**48**	*e*P		**P**	**06 33 25.4**	**+0.4**
DUG	pmax			pmax				
	comp=Z,21nm,1.8s							
DUG	**Dugway**	**81.84**	**48**	*e*P		**P**	**06 33 25.4**	**+0.4**
	comp=Z,21nm,1.8s							
NB2	**NORSAR Subarra**	**81.85**	**338**	P		P	06 33 32.2	+7.7
	comp=Z,8.7nm,1.0s,baz=43,slow=5.6							
NOA	**NORSAR Array B**	**81.85**	**338**	P		**P**	**06 33 23.1**	**-1.3**
NOA	**NORSAR Array B**	**81.85**	**338**	P		**P**	**06 33 23.1**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=40,slow=5.1,SNR=2.8							
NOA				LR		LR	07 13 18.3	
	comp=Z,36nm,20.7s,baz=290,slow=38							
JLU	**Jordanelle**	**82.51**	**48**	*e*P		**P**	**06 33 28.8**	**+0.2**
	comp=Z,43nm,2.0s							
BW06	**Boulder Array**	**82.55**	**45**	*e*P		**P**	**06 33 28.3**	**-0.5**
	comp=Z,1.9nm,1.0s							
PDAR	**Pinedale Array**	**82.55**	**45**	P		**P**	**06 33 27.7**	**-1.1**
PDAR	**Pinedale Array**	**82.55**	**45**	P		**P**	**06 33 27.7**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=282,slow=3.3,SNR=10							
ARUT	**Antelope Range**	**82.67**	**51**	*e*P		**P**	**06 33 29.4**	**0.0**
ARUT	**Antelope Range**	**82.67**	**51**	*e*P		**P**	**06 33 29.4**	**0.0**
	comp=Z,66nm,0.9s							
PFO	**Pinyon Flat Ob**	**82.67**	**56**	*e*P		**P**	**06 33 29.1**	**-0.4**
	comp=Z,4.5nm,1.4s							
DAU	**Daniels Canyon**	**82.74**	**48**	*e*P		**P**	**06 33 30.1**	**+0.2**
DAU	pmax			pmax				
	comp=Z,3.0nm,0.9s							
DAU	**Daniels Canyon**	**82.74**	**48**	*e*P		**P**	**06 33 30.1**	**+0.2**
	comp=Z,2.9nm,0.9s							
CCUT	**Cedar City**	**82.84**	**51**	*e*P		**P**	**06 33 30.6**	**+0.3**
	comp=Z,5.2nm,1.1s							
RAYN	**Ar Rayn**	**84.63**	**294**	*e*P		**P**	**06 33 40.0**	**+0.4**
	comp=Z,35nm,0.9s							
BRTR	**Keskin Array B**	**84.86**	**313**	P		**P**	**06 33 40.4**	**-0.2**
BRTR	**Keskin Array B**	**84.86**	**313**	P		**P**	**06 33 40.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=98,slow=3.4,SNR=6.4							
PV10	**Paradox Valley**	**85.29**	**48**	*e*P		**P**	**06 33 43.4**	**+0.5**
	comp=Z,127nm,0.7s							
PV04	**Paradox Valley**	**85.36**	**48**	*e*P		**P**	**06 33 43.0**	**-0.1**
PV01	**Paradox Valley**	**85.73**	**48**	*e*P		**P**	**06 33 44.7**	**-0.3**
STHS	**Stebnicka Huta**	**86.00**	**326**	*e*P		**P**	**06 33 48.0**	**+2.1**
STHS	**Stebnicka Huta**	**86.00**	**326**	*e*P		**P**	**06 33 48.0**	**+2.1**
SMCO	**Snowmass**	**86.17**	**47**	*e*P		**P**	**06 33 46.9**	**-0.6**
	comp=Z,92nm,2.8s							
TXAR	**Lajitas Array**	**94.13**	**53**	P		**P**	**06 34 24.6**	**-0.1**
TXAR	**Lajitas Array**	**94.13**	**53**	P		**P**	**06 34 24.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=302,slow=2.9,SNR=16							
TXAR				LR		LR	07 09 38.2	
	comp=Z,23nm,21.9s,baz=0.0,slow=31							
TORD	**Torodi Ar. Bea**	**123.47**	**313**	PKP		**PKPdf**	**06 40 02.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**123.47**	**313**	PKP		**PKPdf**	**06 40 02.0**	**-1.5**
	comp=Z,4.4nm,0.5s,baz=42,slow=1.1,SNR=11							
SAML	**Samuel**	**148.60**	**55**	*e*PKPbc		**PKPbc**	**06 40 52.2**	**-0.9**
PLCA	**Paso Flores**	**150.66**	**122**	PKPbc		**PKPbc**	**06 40 58.1**	**+0.5**
PLCA	**Paso Flores**	**150.66**	**122**	PKPbc		**PKPbc**	**06 40 58.1**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=239,slow=5.9,SNR=3.2							

*IDC **30** 06:22:34.5±2.5, 16.36S×173.33W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/27, mbtmp4.0/5, MS4.1/2, Ms1 4.2/2, ms1mx3.3/23, Error ellipse: s-maj=143.8km s-min=25.1km az=144.0*

*ISCJB **30** 06:22:42.1±2.2, 16.3S±0.7×173.5W±0.6, h66km, mb3.8/5, Error ellipse: s-maj=124.3km s-min=21.9km az=143.7*

ISC 30 06:22:43.4±2.3, 16.3S±0.7×173.5W±0.5, h66km, n13, σ0s14/6, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	07 11 55.8	
	baz=152						
H11S3	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	07 11 49.8	
	baz=152						
H11S1	**WAKE ISLAND Hy**	**39.73**	**330**	T	T	07 12 19.5	
	baz=152						
H11N3	**WAKE ISLAND Hy**	**40.67**	**331**	T	T	07 13 46.2	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**40.67**	**331**	T	T	07 13 46.3	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**40.69**	**331**	T	T	07 13 44.1	
	baz=150						
STKA	**Stephens Creek**	**43.55**	**241**	P		**P**	**06 30 40.9**	**0.0**
	2.5nm,0.8s,baz=72,slow=9.1,SNR=5.2							
STKA				LR		LR	06 45 48.7	
	comp=Z,241nm,21.3s,baz=181,slow=32							
WRA	**Warramunga Arr**	**49.60**	**258**	P		**P**	**06 31 28.5**	**+0.1**
	0.9nm,0.6s,baz=95,slow=8.0,SNR=2.5							
ASAR	**Alice Springs**	**49.79**	**253**	P		**P**	**06 31 29.9**	**0.0**
	3.6nm,0.5s,baz=89,slow=8.1,SNR=18							
PDAR	**Pinedale Array**	**82.97**	**42**	P		**P**	**06 35 01.6**	**0.0**
	0.4nm,0.6s,baz=197,slow=2.8,SNR=2.4							
ILAR	**Eielson Array**	**83.33**	**11**	P		**P**	**06 35 02.8**	**+0.1**
	0.4nm,0.8s,baz=230,slow=5.9,SNR=5.1							
CMAR	**Chiang Mai Arr**	**92.85**	**288**	LR		LR	07 16 29.3	
	comp=Z,98nm,19.0s,baz=207,slow=35							
BRTR	**Keskin Array B**	**146.82**	**320**	PKPbc		**PKPab**	**06 42 19.7**	**-0.2**
	0.9nm,0.8s,baz=134,slow=2.6,SNR=4.4							

IDC 30 06:31:41.3±3.2, 6.62S×156.34E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, Error ellipse: s-maj=96.0km s-min=25.9km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.13**	**236**	P		P	06 37 08.9	+0.6
	1.3nm,0.4s,baz=63,slow=8.7,SNR=15							
H11S3	**WAKE ISLAND Hy**	**26.96**	**22**	T		T	07 06 09.6	
	baz=202,slow=77,SNR=5.8							
H11S2	**WAKE ISLAND Hy**	**26.96**	**22**	T		T	07 06 09.7	
	baz=202,slow=77,SNR=7.1							
H11S1	**WAKE ISLAND Hy**	**26.98**	**22**	T		T	07 06 05.6	
	baz=202,slow=77,SNR=4.5							
ASAR	**Alice Springs**	**27.43**	**229**	P		P	06 37 28.9	-0.2
	0.8nm,0.3s,baz=58,slow=9.9,SNR=16							
STKA	**Stephens Creek**	**28.66**	**207**	P		P	06 37 39.8	-0.2
	1.5nm,0.5s,baz=46,slow=12,SNR=8.4							
SONM	**Songino Array**	**69.75**	**327**	P		P	06 42 54.0	+0.5
	0.2nm,0.4s,baz=139,slow=4.3,SNR=3.1							
MKAR	**Makanchi Array**	**84.01**	**318**	P		P	06 44 13.0	-0.8
	0.1nm,0.6s,baz=94,slow=6.1,SNR=2.8							

*ISCJB **30** 06:56:56.8±0.6, 15.56N±0.03×61.1W±0.1, h119km±4km, mb3.3/4, Error ellipse: s-maj=20.1km s-min=4.3km az=169.4*

*IDC **30** 06:56:57.6±1.1, 15.57N×61.09W, h116km±14km, mb3.0/4, mb1 3.4/5, mb1mx3.1/36, mbtmp3.5/5, Error ellipse: s-maj=63.6km s-min=21.0km az=82.0*

*TRN **30** 06:56:57.9, 15.49N×61.22W, h102km, MD3.7, M3.3(FDF)*

ISC 30 06:56:57.5±0.9, 15.56N±0.04×61.1W±0.1, h111km±6km, n41, σ0s67/46, mb3.4/4, 7C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.25**	**206**	*e*P		**Pn**	**06 57 13.7**	**+0.4**
BBL	**Barber's Block**	**0.33**	**264**	*e*P		**Pn**	**06 57 14.1**	**+0.5**
MGG	**Marie-Galante**	**0.40**	**333**	↑*i*P		**Pn**	**06 57 14.6**	**+0.7**
TBG	**Guadaloupe-3**	**0.57**	**300**	↑*i*P		**Pn**	**06 57 15.3**	**+0.3**
DOG	**Dongo Capester**	**0.66**	**315**	↑*i*P		**Pn**	**06 57 16.2**	**+0.5**
PHG	**Guadaloupe-2**	**0.67**	**312**	↑*i*P		**Pn**	**06 57 16.4**	**+0.5**
HMG	**Houelmont**	**0.69**	**307**	↑*i*P		**Pn**	**06 57 16.5**	**+0.5**
BCG	**Bois Riant Cap**	**0.70**	**318**	*e*P		**Pn**	**06 57 16.5**	**+0.4**
TAG	**Tarade**	**0.70**	**313**	*e*P		**Pn**	**06 57 16.7**	**+0.5**
SCG	**Saint Claude**	**0.71**	**311**	↑*i*P		**Pn**	**06 57 16.7**	**+0.5**
SSG	**Sans Toucher**	**0.74**	**315**	*e*P		**Pn**	**06 57 16.9**	**+0.3**
DEG	**La Desirade**	**0.75**	**5**	*e*P		**Pn**	**06 57 17.2**	**+0.7**
H05N1	**Guadeloupe/Mar**	**0.75**	**5**	P		**Pn**	**06 57 17.4**	**+0.9**
H05N1				S		**Sn**	**06 57 30.5**	**-0.4**
	SNR=2254							
FDF	**Fort de France**	**0.82**	**181**	↓*e*P		**Pn**	**06 57 17.3**	**+0.1**
FDF				*e*S		**Sn**	**06 57 31.2**	**-0.7**
FDF				*e*S		**Sn**	**06 57 31.4**	**-0.5**
BVM	**Bellevue**	**0.82**	**176**	*e*P		**Pn**	**06 57 17.7**	**+0.5**
LZG	**Guadaloupe-1**	**0.85**	**313**	*e*P		**Pn**	**06 57 18.1**	**+0.7**
SEG	**Port Louis**	**0.91**	**337**	↑*i*P		**Pn**	**06 57 18.9**	**+1.0**
ZAM	**Aeronautique**	**0.99**	**174**	*e*P		**Pn**	**06 57 19.1**	**+0.4**
LPMF	**Morne Lapointe**	**0.99**	**171**	*e*P		**Pn**	**06 57 18.9**	**+0.2**
TRMF	**Trois Ilets**	**1.02**	**176**	*e*P		**Pn**	**06 57 19.6**	**+0.5**
MVM	**Montagne Vaucl**	**1.03**	**167**	↓*e*P		**Pn**	**06 57 19.8**	**+0.7**
BIM	**Bigot**	**1.04**	**177**	*e*P		**Pn**	**06 57 20.1**	**+0.9**
BIM				*e*S		**Sn**	**06 57 34.9**	**-0.9**
H05S1	**Guadeloupe/Mar**	**1.16**	**166**	P		**Pn**	**06 57 20.9**	**+0.3**
H05S1				S		**Sn**	**06 57 37.3**	**-0.7**
	SNR=2032							
SLB	**Belfond**	**1.73**	**177**	*e*P		**Pn**	**06 57 27.8**	**+0.5**
SLB				*e*S		**Sn**	**06 57 50.7**	**+0.9**
MCLT	**Moule a Chique**	**1.85**	**174**	*e*P		**Pn**	**06 57 29.4**	**+0.7**
MCLT				*e*S		**Sn**	**06 57 51.5**	**-1.0**
SSV	**Crater Summit**	**2.22**	**182**	*e*P		**Pn**	**06 57 33.6**	**+0.1**
SSV				*e*S		**Sn**	**06 58 01.9**	**+0.9**
SVV	**Soufriere Volc**	**2.23**	**182**	*e*P		**Pn**	**06 57 34.4**	**+0.8**
SVV				*e*S		**Sn**	**06 58 02.3**	**+1.2**
BHS	**Barnard House**	**2.25**	**180**	*e*P		**Pn**	**06 57 34.5**	**+0.7**
SVB	**Belmont**	**2.28**	**183**	*e*P		**Pn**	**06 57 34.3**	**+0.1**
SVB				*e*S		**Sn**	**06 58 03.7**	**+1.5**
FCV	**Fort Charlotte**	**2.39**	**183**	*e*P		**Pn**	**06 57 36.0**	**+0.4**
FCV				*e*S		**Sn**	**06 58 04.0**	**-0.9**
PTGA	**Pitinga**	**16.23**	**176**	P		**Pn**	**07 00 39.1**	**0.0**
	0.5nm,0.3s,baz=345,slow=20,SNR=6.2							
TXAR	**Lajitas Array**	**41.41**	**297**	P		**P**	**07 04 32.9**	**-0.4**
	0.1nm,0.5s,baz=116,slow=8.2,SNR=3.4							
PDAR	**Pinedale Array**	**49.36**	**313**	P		**P**	**07 05 36.1**	**+0.1**
	0.4nm,0.5s,baz=120,slow=10,SNR=5.9							
H10N3	**ASCENSION HYDR**	**51.71**	**113**	T		T	08 01 23.8	
	baz=296,slow=75,SNR=9.0							
H10N2	**ASCENSION HYDR**	**51.72**	**113**	T		T	08 01 23.8	
	baz=296,slow=75,SNR=9.4							
H10N1	**ASCENSION HYDR**	**51.73**	**113**	T		T	08 01 28.4	
	baz=296,slow=75,SNR=8.5							
H10S3	**ASCENSION HYDR**	**52.07**	**115**	T		T	08 01 54.8	
	baz=297,slow=75,SNR=3.9							
H10S1	**ASCENSION HYDR**	**52.08**	**115**	T		T	08 01 54.0	
	baz=297,slow=75,SNR=4.8							
H10S2	**ASCENSION HYDR**	**52.09**	**115**	T		T	08 01 56.7	
	baz=297,slow=75,SNR=3.7							
YKA	**Yellowknife Ar**	**59.84**	**334**	P		**P**	**07 06 50.8**	**-0.2**
	0.3nm,0.6s,baz=105,slow=7.6,SNR=7.8							
ILAR	**Eielson Array**	**74.25**	**334**	P		**P**	**07 08 21.7**	**-0.4**
	0.2nm,0.4s,baz=84,slow=5.4,SNR=7.0							

*ISCJB **30** 07:05:23.9±0.4, 4.41S±0.04×135.36E±0.05, h20km, mb4.0/6, Error ellipse: s-maj=6.6km s-min=5.2km az=16.3*

*IDC **30** 07:05:23.3±0.9, 4.21S×135.39E, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/32, mbtmp4.1/8, ML4.1/2, Error ellipse: s-maj=35.8km s-min=20.7km az=79.0*

*DJA **30** 07:05:27.2±1.4, 4.5±5.1×13.5±5.1, h12km±12km, M4.4/7, mb4.6/2, MLv4.3/7*

ISC 30 07:05:26.2±0.6, 4.32S±0.05×135.33E±0.05, h20km, n22, σ1s86/27, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**3.02**	**338**	P		**Pn**	**07 06 13.3**	**+0.4**
BAKI	**Biak**	**3.20**	**14**	P		**Pn**	**07 06 15.5**	**+0.1**
BAKI				S		**Sn**	**07 06 55.1**	**+2.1**
FAKI	**Fak Fak**	**3.37**	**294**	P		**Pn**	**07 06 19.1**	**+1.3**
FAKI				S		**Sn**	**07 06 58.8**	**+1.5**
FAKI	**Fak Fak**	**3.37**	**294**	P		**Pn**	**07 06 18.9**	**+1.1**
	baz=3.3,SNR=12							
FAKI				S		**Sn**	**07 06 58.1**	**+0.8**
	baz=3.3,SNR=5.1							
MWPI	**Manokwari, Pap**	**3.60**	**339**	P		x	07 06 22.5	
SMPI	**Sarmi**	**4.09**	**56**	P		**Pn**	**07 06 28.7**	**+1.1**
SWI	**Sorong**	**5.32**	**310**	P		**Pn**	**07 06 43.6**	**-1.0**
	23nm,0.8s,0.3nm							
SWI				S		**Sn**	**07 07 41.0**	**-4.3**
	23nm,0.8s,0.3nm							
JAY	**Jayapura**	**5.66**	**72**	Pn		**Pn**	**07 06 48.7**	**-0.6**
	1.9nm,0.3s,baz=237,slow=12,SNR=4.5							
JAY				Sn		**Sn**	**07 07 52.1**	**-1.5**
	0.6nm,0.3s,baz=186,slow=18,SNR=1.9							
MTN	**Manton Dam**	**9.43**	**206**	P		**Pn**	**07 07 42.8**	**+1.8**
	baz=9.4,SNR=14							
MTN				S		**Sn**	**07 09 25.1**	**-1.5**
	baz=9.4,SNR=5.0							
COEN	**Coen**	**12.31**	**142**	P		**Pn**	**07 08 22.4**	**+1.9**
	baz=12,SNR=4.4							
KNRA	**Kununurra**	**13.01**	**209**	P		**Pn**	**07 08 29.3**	**-0.7**
	baz=13,SNR=6.9							
KNRA				S		**Sn**	**07 10 49.6**	**-4.6**
	baz=13,SNR=3.5							
WRA	**Warramunga Arr**	**15.56**	**183**	Pn		**Pn**	**07 09 01.3**	**-3.3**
	0.3nm,0.3s,baz=6.7,slow=13,SNR=13							
WRA				Sn		Sn	07 11 46.3	-10
	0.6nm,0.3s,baz=1.6,slow=23,SNR=7.1							
ASAR	**Alice Springs**	**19.29**	**184**	P		**Pn**	**07 09 51.9**	**+0.9**
	1.4nm,0.3s,baz=6.4,slow=11,SNR=72							
ASAR				S		Sn	07 13 15.5	-11
	0.1nm,0.3s,baz=5.6,slow=28,SNR=3.5							
WRKA	**Warakurna**	**21.68**	**197**	P		P	07 10 21.3	+5.3
	baz=22,SNR=6.1							
QLP	**Quilpie**	**23.72**	**160**	P		**P**	**07 10 38.2**	**+1.2**
	baz=24,SNR=11							
STKA	**Stephens Creek**	**28.04**	**169**	P		**P**	**07 11 16.5**	**+0.3**
	1.5nm,0.7s,baz=342,slow=9.6,SNR=3.5							
SONM	**Songino Array**	**57.81**	**337**	P		**P**	**07 15 16.4**	**0.0**
	0.5nm,0.5s,baz=153,slow=8.9,SNR=4.6							
PETK	**Petropavlovsk-**	**60.24**	**15**	P		**P**	**07 15 32.8**	**-0.1**
	11nm,1.2s,baz=161,slow=3.6,SNR=5.7							
MKAR	**Makanchi Array**	**69.05**	**324**	P		**P**	**07 16 31.4**	**+0.7**
	1.3nm,0.7s,baz=110,slow=8.5,SNR=17							
ZALV	**Zalesovo Beam**	**71.67**	**331**	P		**P**	**07 16 45.8**	**-0.6**
	2.0nm,0.6s,baz=126,slow=6.0,SNR=9.6							
ILAR	**Eielson Array**	**88.69**	**25**	P		**P**	**07 18 16.3**	**-1.6**
	0.5nm,0.9s,baz=255,slow=6.4,SNR=3.0							
ATAH	**Atahualpa**	**144.47**	**109**	PKP		**PKPdf**	**07 25 04.3**	**+1.4**
	11nm,0.7s,baz=172,slow=7.1,SNR=8.1							

*IDC **30** 07:09:29.2±1.3, 39.45N×2.40E, h0km, mb3.4/2, mb1 3.6/7, mb1mx3.3/49, mbtmp3.5/7, ML3.8/5, Error ellipse: s-maj=26.0km s-min=21.4km az=124.0*

*SFS **30** 07:09:30.0, 39.43N×2.57E, h3km, ML3.0*

*CSEM **30** 07:09:31.7±0.1, 39.49N×2.41E, h10km, ML2.9, Error ellipse: s-maj=3.9km s-min=1.9km az=143.0*

*MDD **30** 07:09:31.7±0.9, 39.43N×2.56E, h12km±8km, mbLg2.9/45, Error ellipse: s-maj=6.8km s-min=3.6km az=139.0, PRXIMO*

MDD EMS: IV INTENSIDAD MAXIMA.

*INMG **30** 07:09:31.4±0.9, 39.40N×2.57E, h13km±4km, ML2.8, Error ellipse: s-maj=4.7km s-min=1.8km az=116.0*

*LDG **30** 07:09:32.2±0.2, 39.51N×2.40E, h30km, Md3.5/3, Ml3.4/13, Error ellipse: s-maj=5.0km s-min=2.9km az=144.0*

*STR **30** 07:09:39.4±0.3, 40.03N×2.62E, h10km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 30 07:09:30.9±1.3, 39.44N±0.04×2.52E±0.04, h16km±9km, n194, σ1s23/268, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**1.00**	**246**	P		**Pg**	**07 09 49.6**	**-0.7**
	62nm,0.2s,SNR=16							
EIBI				S		**Sg**	**07 10 03.7**	**+0.3**
	310nm,0.3s,SNR=13							
EIBI	**Ibiza**	**1.00**	**246**	P		**Pg**	**07 09 49.6**	**-0.7**
	62nm,0.2s,SNR=16							
EIBI				S		**Sg**	**07 10 03.7**	**+0.3**
	310nm,0.3s,SNR=13							
MAHO	**Mahon**	**1.42**	**71**	P		**Pn**	**07 09 54.9**	**-1.2**
MAHO				S		**Sb**	**07 10 12.4**	**-2.5**
MAHO	**Mahon**	**1.42**	**71**	*e*P		**Pn**	**07 09 54.9**	**-1.2**
MAHO				*i* S		**Sb**	**07 10 12.4**	**-2.5**
EPOB	**Poblet**	**2.21**	**331**	P		Pn	07 10 06.1	-0.9
	4.4nm,0.2s,SNR=21							
EPOB				S		**Sn**	**07 10 32.0**	**-2.0**
	70nm,0.3s,SNR=5.0							
EPOB	**Poblet**	**2.21**	**331**	P		Pn	07 10 06.1	-0.9
	4.4nm,0.2s,SNR=21							
EPOB				S		**Sn**	**07 10 32.0**	**-2.0**
	70nm,0.3s,SNR=5.0							
EBEN	**Beniarda**	**2.26**	**252**	P		**Pn**	**07 10 07.6**	**0.0**
	29nm,0.4s,SNR=66							
EBEN				S		**Sn**	**07 10 35.0**	**-0.2**
	16nm,0.3s,SNR=5.0							
EBEN	**Beniarda**	**2.26**	**252**	P		**Pn**	**07 10 07.6**	**0.0**
	29nm,0.4s,SNR=66							
EBEN				S		**Sn**	**07 10 35.0**	**-0.2**
	16nm,0.3s,SNR=5.0							
ERTA	**Horta de San J**	**2.26**	**313**	P		**Pn**	**07 10 07.5**	**-0.1**
	0.4nm,0.2s,SNR=7.9							
ERTA				S		**Sn**	**07 10 35.6**	**+0.4**
	22nm,0.4s,SNR=7.9							
ERTA	**Horta de San J**	**2.26**	**313**	P		**Pn**	**07 10 07.5**	**-0.1**
	0.4nm,0.2s,SNR=7.9							
ERTA				S		**Sn**	**07 10 35.6**	**+0.4**
	22nm,0.4s,SNR=7.9							
CFON	**Fontmartina**	**2.33**	**358**	P		**Pn**	**07 10 08.1**	**-0.5**
	8.8nm,0.3s,SNR=93							
CFON				S		**Sn**	**07 10 36.6**	**-0.2**
	64nm,0.4s,SNR=6.4							
CFON	**Fontmartina**	**2.33**	**358**	P		**Pn**	**07 10 08.1**	**-0.5**
	8.8nm,0.3s,SNR=93							
CFON				S		**Sn**	**07 10 36.6**	**-0.2**
	64nm,0.4s,SNR=6.4							
EMOS	**Mosqueruela**	**2.48**	**293**	P		**Pn**	**07 10 11.1**	**+0.3**
	7.8nm,0.1s,SNR=37							
EMOS				S		**Sn**	**07 10 41.3**	**+0.4**
	8.3nm,0.2s,SNR=7.2							
EMOS	**Mosqueruela**	**2.48**	**293**	P		**Pn**	**07 10 11.1**	**+0.3**
	7.8nm,0.1s,SNR=37							
EMOS				S		**Sn**	**07 10 41.3**	**+0.4**
	8.3nm,0.2s,SNR=7.2							
EMIR	**Miracle**	**2.59**	**343**	P		**Pn**	**07 10 12.9**	**+0.7**
	21nm,0.2s,SNR=36							
EMIR				S		**Sn**	**07 10 43.2**	**-0.2**
	80nm,0.4s,SNR=5.0							
EMIR	**Miracle**	**2.59**	**343**	P		**Pn**	**07 10 12.9**	**+0.7**
	21nm,0.2s,SNR=36							
EMIR				S		**Sn**	**07 10 43.2**	**-0.2**
	80nm,0.4s,SNR=5.0							
ECHE	**Chera**	**2.70**	**274**	P		**Pn**	**07 10 13.4**	**-0.3**
	31nm,0.2s,SNR=7.9							
ECHE				S		**Sn**	**07 10 45.3**	**-0.8**
	74nm,0.4s,SNR=7.9							
ECHE	**Chera**	**2.70**	**274**	P		**Pn**	**07 10 13.4**	**-0.3**
	31nm,0.2s,SNR=7.9							
ECHE				S		**Sn**	**07 10 45.3**	**-0.8**
	74nm,0.4s,SNR=7.9							
EJON	**La Jonquera**	**3.02**	**5**	P		**Pn**	**07 10 18.3**	**+0.2**
	25nm,0.2s,SNR=71							
EJON				S		**S

IEPA	**Eparoz**	**4.40**	**321**	P		**Pn**	**07 10 37.9**	**+0.9**
	1.0nm,0.3s,SNR=7.9							
IEPA				S		**Sn**	**07 11 27.5**	**-0.4**
	4.4nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**4.40**	**321**	P		**Pn**	**07 10 37.9**	**+0.9**
	1.0nm,0.3s,SNR=7.9							
IEPA				S		**Sn**	**07 11 27.5**	**-0.4**
	4.4nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**4.43**	**321**	P		**Pn**	**07 10 38.5**	**+1.0**
	0.2nm,0.3s,SNR=7.9							
IELO				S		**Sn**	**07 11 28.3**	**-0.5**
	5.5nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**4.43**	**321**	P		**Pn**	**07 10 38.5**	**+1.0**
	0.2nm,0.3s,SNR=7.9							
IELO				S		**Sn**	**07 11 28.3**	**-0.5**
	5.5nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**4.46**	**238**	P		**Pn**	**07 10 37.9**	**0.0**
	4.6nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**07 11 28.1**	**-1.4**
	6.8nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**4.46**	**238**	P		**Pn**	**07 10 37.9**	**0.0**
	4.6nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**07 11 28.1**	**-1.4**
	6.8nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**4.50**	**319**	P		**Pn**	**07 10 39.0**	**+0.6**
	1.5nm,0.2s,SNR=7.9							
IUNC				S		**Sn**	**07 11 30.1**	**-0.3**
	5.9nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**4.50**	**319**	P		**Pn**	**07 10 39.0**	**+0.6**
	1.5nm,0.2s,SNR=7.9							
IUNC				S		**Sn**	**07 11 30.1**	**-0.3**
	5.9nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**4.55**	**318**	P		**Pn**	**07 10 40.0**	**+0.9**
	2.4nm,0.1s,SNR=7.9							
EARA				S		**Sn**	**07 11 30.4**	**-1.2**
	14nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**4.55**	**318**	P		**Pn**	**07 10 40.0**	**+0.9**
	2.4nm,0.1s,SNR=7.9							
EARA				S		**Sn**	**07 11 30.5**	**-1.2**
	14nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**4.63**	**324**	*e*P		**Pn**	**07 10 41.0**	**+0.8**
SJPF				*e*Sn		Sn	07 11 25.7	-8.0
	31nm,0.6s							
SJPF	**Ste Jean**	**4.63**	**324**	P		**Pn**	**07 10 41.0**	**+0.8**
SJPF				S		Sn	07 11 25.7	-8.0
	15nm,0.6s							
SJPF	**Ste Jean**	**4.63**	**324**	P		**Pn**	**07 10 41.0**	**+0.8**
IUSE	**Utxeti**	**4.66**	**320**	P		**Pn**	**07 10 41.5**	**+0.8**
	1.5nm,0.1s,SNR=7.9							
IUSE				S		**Sn**	**07 11 34.7**	**+0.3**
	11nm,0.4s,SNR=7.9							
IUSE	**Utxeti**	**4.66**	**320**	P		**Pn**	**07 10 41.5**	**+0.8**
	1.5nm,0.1s,SNR=7.9							
IUSE				S		**Sn**	**07 11 34.7**	**+0.3**
	11nm,0.4s,SNR=7.9							
EQES	**Quesada**	**4.67**	**251**	P		**Pn**	**07 10 42.3**	**+1.5**
	6.6nm,0.4s,SNR=22							
EQES				S		**Sn**	**07 11 34.7**	**-0.1**
	9.2nm,0.4s,SNR=7.9							
EQES	**Quesada**	**4.67**	**251**	P		**Pn**	**07 10 42.3**	**+1.5**
	6.6nm,0.4s,SNR=22							
EQES				S		**Sn**	**07 11 34.7**	**-0.1**
	9.2nm,0.4s,SNR=7.9							
LEPF	**PUYLOUBIER**	**4.73**	**29**	P		**Pn**	**07 10 43.3**	**+1.7**
LEPF				S		**Sn**	**07 11 35.5**	**-0.6**
LEPF	**PUYLOUBIER**	**4.73**	**29**	P		**Pn**	**07 10 43.3**	**+1.7**
LEPF				S		**Sn**	**07 11 35.5**	**-0.6**
LASF	**Ste Croix**	**4.74**	**12**	*e*P		**Pn**	**07 10 41.8**	**+0.1**
LASF				*e*Sn		Sn	07 11 29.8	-6.6
	19nm,0.5s							
LASF	**Ste Croix**	**4.74**	**12**	P		**Pn**	**07 10 41.8**	**+0.1**
LASF				S		Sn	07 11 29.8	-6.6
	9.6nm,0.5s							
LASF	**Ste Croix**	**4.74**	**12**	P		**Pn**	**07 10 41.8**	**+0.1**
ELIZ	**Elizondo**	**4.81**	**322**	P		**Pn**	**07 10 44.4**	**+1.7**
	6.5nm,0.2s,SNR=10							
ELIZ				S		**Sn**	**07 11 37.3**	**-0.8**
	18nm,0.4s,SNR=7.9							
ELIZ	**Elizondo**	**4.81**	**322**	P		**Pn**	**07 10 44.4**	**+1.7**
	6.5nm,0.2s,SNR=10							
ELIZ				S		**Sn**	**07 11 37.3**	**-0.8**
	18nm,0.4s,SNR=7.9							
EALK	**Alkurruntz**	**4.85**	**323**	P		**Pn**	**07 10 44.8**	**+1.7**
	3.9nm,0.2s,SNR=21							
EALK				S		**Sn**	**07 11 37.8**	**-1.0**
	56nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**4.85**	**323**	P		**Pn**	**07 10 44.8**	**+1.7**
	3.9nm,0.2s,SNR=21							
EALK				S		**Sn**	**07 11 37.8**	**-1.0**
	56nm,0.3s,SNR=7.9							
LMR	**La Mourre**	**4.92**	**36**	*e*P		**Pn**	**07 10 45.2**	**+1.1**
LMR				*e*Sn		Sn	07 11 35.6	-5.0
	19nm,0.3s							
LMR	**La Mourre**	**4.92**	**36**	P		**Pn**	**07 10 45.2**	**+1.1**
LMR				S		Sn	07 11 35.6	-5.0
	9.6nm,0.3s							
LMR	**La Mourre**	**4.92**	**36**	P		**Pn**	**07 10 45.2**	**+1.1**
EBER	**Berja**	**4.96**	**241**	P		**Pn**	**07 10 46.0**	**+1.2**
	10nm,0.3s,SNR=18							
EBER				S		**Sn**	**07 11 41.1**	**-0.9**
	1.0nm,0.3s,SNR=7.9							
EBER	**Berja**	**4.96**	**241**	P		**Pn**	**07 10 46.0**	**+1.2**
	10nm,0.3s,SNR=18							
EBER				S		**Sn**	**07 11 41.1**	**-0.9**
	1.0nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**5.02**	**275**	P		**Pn**	**07 10 46.3**	**+0.7**
	28nm,0.4s,baz=90,slow=14,SNR=72							
ESDC				S		**Sn**	**07 11 41.3**	**-1.9**
	7.8nm,0.5s,baz=91,slow=25,SNR=4.7							
ESDC	**Sonseca Array**	**5.02**	**275**	Pn		**Pn**	**07 10 46.2**	**+0.7**
	15nm,0.3s,baz=90,slow=14,SNR=117							
ESDC				Sn		**Sn**	**07 11 40.9**	**-2.3**
	3.0nm,0.3s,baz=88,slow=26,SNR=7.2							
ESDC	**Sonseca Array**	**5.02**	**275**	P		**Pn**	**07 10 46.3**	**+0.7**
	28nm,0.4s,SNR=72							
ESDC				S		**Sn**	**07 11 41.3**	**-1.9**
	7.8nm,0.5s,SNR=4.7							
SMRF	**Simiane la Rot**	**5.08**	**26**	*e*P		**Pn**	**07 10 48.4**	**+2.0**
SMRF				*e*Sn		Sn	07 11 38.1	-6.6
	2.2nm,0.3s							
SMRF	**Simiane la Rot**	**5.08**	**26**	P		**Pn**	**07 10 48.4**	**+2.0**
SMRF				S		Sn	07 11 38.1	-6.6
	2.2nm,0.3s							
SMRF	**Simiane la Rot**	**5.08**	**26**	P		**Pn**	**07 10 48.4**	**+2.0**
EBAN	**Banos Encina**	**5.09**	**258**	P		Pn	07 10 46.0	-0.5
	2.4nm,0.2s,SNR=7.9							
EBAN				S		**Sn**	**07 11 43.1**	**-1.8**
	3.1nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**5.09**	**258**	P		Pn	07 10 46.0	-0.5
	2.4nm,0.2s,SNR=7.9							
EBAN				S		**Sn**	**07 11 43.1**	**-1.8**
	3.1nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.26**	**285**	P		**Pn**	**07 10 49.7**	**+0.7**
	9.5nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**07 11 48.5**	**-0.9**
	9.2nm,0.5s,SNR=7.9							
GUD	**Guadarrama**	**5.26**	**285**	P		**Pn**	**07 10 49.7**	**+0.7**
	9.5nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**07 11 48.5**	**-0.9**
	9.2nm,0.5s,SNR=7.9							
CALN	**Calern**	**5.42**	**36**	P		**Pn**	**07 10 53.3**	**+2.2**
CALN				S		**Sn**	**07 11 54.3**	**+1.2**
CALN	**Calern**	**5.42**	**36**	P		**Pn**	**07 10 53.3**	**+2.2**
CALN				S		**Sn**	**07 11 54.3**	**+1.2**
CAF	**Calviac**	**5.50**	**357**	*e*P		**Pn**	**07 10 53.3**	**+1.2**
CAF	**Calviac**	**5.50**	**357**	P		**Pn**	**07 10 53.3**	**+1.2**
CAF	**Calviac**	**5.50**	**357**	P		**Pn**	**07 10 53.3**	**+1.2**
REVF	**Revere**	**5.63**	**39**	P		**Pn**	**07 10 55.9**	**+2.0**
REVF	**Revere**	**5.63**	**39**	P		**Pn**	**07 10 55.9**	**+2.0**
MVIF	**Mont Vial**	**5.65**	**36**	P		**Pn**	**07 10 56.7**	**+2.4**
MVIF	**Mont Vial**	**5.65**	**36**	P		**Pn**	**07 10 56.7**	**+2.4**
VIVF	**Saint-Julien-l**	**5.65**	**16**	*e*P		**Pn**	**07 10 54.5**	**+0.3**
VIVF				*e*Sn		Sn	07 11 51.6	-7.1
	3.8nm,0.3s							
VIVF	**Saint-Julien-l**	**5.65**	**16**	P		**Pn**	**07 10 54.5**	**+0.3**
VIVF				S		Sn	07 11 51.6	-7.1
	1.9nm,0.3s							
VIVF	**Saint-Julien-l**	**5.65**	**16**	P		**Pn**	**07 10 54.5**	**+0.3**
LFF	**La Frestale**	**5.66**	**347**	*e*P		**Pn**	**07 10 55.3**	**+1.1**
LFF	**La Frestale**	**5.66**	**347**	P		**Pn**	**07 10 55.3**	**+1.1**
LFF	**La Frestale**	**5.66**	**347**	P		**Pn**	**07 10 55.3**	**+1.1**
SBF	**Sospel**	**5.75**	**38**	*e*P		**Pn**	**07 10 57.6**	**+1.9**
SBF				*e*Sn		Sn	07 11 55.5	-5.9
	11nm,0.4s							
SBF	**Sospel**	**5.75**	**38**	P		**Pn**	**07 10 57.6**	**+1.9**
SBF				S		Sn	07 11 55.5	-5.9
	5.6nm,0.4s							
SBF	**Sospel**	**5.75**	**38**	P		**Pn**	**07 10 57.6**	**+1.9**
TOUF	**Mont Tournerai**	**5.78**	**36**	P		**Pn**	**07 10 58.1**	**+1.9**
TOUF	**Mont Tournerai**	**5.78**	**36**	P		**Pn**	**07 10 58.1**	**+1.9**
PGF	**Pioggiola**	**5.80**	**56**	*e*P		**Pn**	**07 10 58.0**	**+1.6**
PGF				*e*Sn		Sn	07 11 56.9	-5.8
	6.1nm,0.3s							
PGF	**Pioggiola**	**5.80**	**56**	P		**Pn**	**07 10 58.0**	**+1.6**
PGF				S		Sn	07 11 56.9	-5.8
	3.1nm,0.3s							
PGF	**Pioggiola**	**5.80**	**56**	P		**Pn**	**07 10 58.0**	**+1.6**
LBL	**Lubilhac**	**5.82**	**5**	P		**Pn**	**07 10 58.1**	**+1.6**
LBL	**Lubilhac**	**5.82**	**5**	P		**Pn**	**07 10 58.1**	**+1.6**
AUTN	**L'Aution**	**5.85**	**37**	P		**Pn**	**07 10 58.9**	**+1.8**
AUTN	**L'Aution**	**5.85**	**37**	P		**Pn**	**07 10 58.9**	**+1.8**
ELAN	**Lanestosa**	**5.87**	**312**	P		**Pn**	**07 10 57.6**	**+0.4**
	1.2nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**07 12 02.6**	**-1.5**
	3.8nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**5.87**	**312**	P		**Pn**	**07 10 57.6**	**+0.4**
	1.2nm,0.2s,SNR=7.9							
ELAN				S		**Sn**	**07 12 02.6**	**-1.5**
	3.8nm,0.2s,SNR=7.9							
SAOF	**Saorge**	**5.90**	**38**	P		**Pn**	**07 10 59.5**	**+1.8**
SAOF	**Saorge**	**5.90**	**38**	P		**Pn**	**07 10 59.5**	**+1.8**
RJF	**Les Rejaudoux**	**5.91**	**353**	*e*P		**Pn**	**07 10 57.8**	**0.0**
RJF	**Les Rejaudoux**	**5.91**	**353**	P		**Pn**	**07 10 57.8**	**0.0**
RJF	**Les Rejaudoux**	**5.91**	**353**	P		**Pn**	**07 10 57.8**	**0.0**
ORIF	**Oris-en-Rattie**	**6.02**	**23**	*e*P		**Pn**	**07 11 01.2**	**+1.9**
ORIF				*e*Sn		Sn	07 12 01.0	-6.9
	4.9nm,0.5s							
ORIF	**Oris-en-Rattie**	**6.02**	**23**	P		**Pn**	**07 11 01.2**	**+1.9**
ORIF				S		Sn	07 12 01.0	-6.9
	2.5nm,0.5s							
ORIF	**Oris-en-Rattie**	**6.02**	**23**	P		**Pn**	**07 11 01.2**	**+1.9**
MBDF	**Montbardon**	**6.16**	**29**	*e*P		**Pn**	**07 11 03.5**	**+2.2**
MBDF	**Montbardon**	**6.16**	**29**	P		**Pn**	**07 11 03.5**	**+2.2**
MBDF	**Montbardon**	**6.16**	**29**	P		**Pn**	**07 11 03.5**	**+2.2**
PYM	**Petit Puy Mans**	**6.32**	**3**	P		**Pn**	**07 11 04.3**	**+0.8**
PYM	**Petit Puy Mans**	**6.32**	**3**	P		**Pn**	**07 11 04.3**	**+0.8**
ECAB	**El Cabril**	**6.35**	**260**	P		**Pn**	**07 11 03.7**	**-0.2**
	0.6nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**07 12 14.4**	**-1.7**
	0.8nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**6.35**	**260**	P		**Pn**	**07 11 03.7**	**-0.2**
	0.6nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**07 12 14.4**	**-1.7**
	0.8nm,0.2s,SNR=7.9							
KEST	**Kesra**	**6.56**	**122**	Pn		**Pn**	**07 11 08.3**	**+1.6**
	0.4nm,0.3s,baz=265,slow=18,SNR=8.0							
KEST				Sn		**Sn**	**07 12 17.4**	**-3.8**
	baz=54,slow=14,SNR=1.8							
PLDF	**La Plantade**	**6.58**	**7**	P		**Pn**	**07 11 07.6**	**+0.6**
PLDF	**La Plantade**	**6.58**	**7**	P		**Pn**	**07 11 07.6**	**+0.6**
AGO	**Saint Agoulin**	**6.63**	**4**	P		**Pn**	**07 11 08.2**	**+0.6**
AGO	**Saint Agoulin**	**6.63**	**4**	P		**Pn**	**07 11 08.2**	**+0.6**
LPG	**La Plagne**	**6.82**	**26**	*e*P		**Pn**	**07 11 12.8**	**+2.3**
LPG				*e*Sn		Sn	07 12 18.7	-9.4
	4.7nm,0.3s							
LPG	**La Plagne**	**6.82**	**26**	P		**Pn**	**07 11 12.8**	**+2.3**
LPG				S		Sn	07 12 18.7	-9.4
	2.3nm,0.3s							
LPG	**La Plagne**	**6.82**	**26**	P		**Pn**	**07 11 12.8**	**+2.3**
LPL	**La Plagne**	**6.83**	**26**	*e*P		**Pn**	**07 11 12.3**	**+1.8**
LPL				*e*Sn		Sn	07 12 18.6	-10
	3.4nm,0.2s							
LPL	**La Plagne**	**6.83**	**26**	P		**Pn**	**07 11 12.3**	**+1.8**
LPL				S		Sn	07 12 18.6	-10
	1.7nm,0.2s							
LPL	**La Plagne**	**6.83**	**26**	P		**Pn**	**07 11 12.3**	**+1.8**
EARI	**Arriondas**	**6.98**	**306**	P		**Pn**	**07 11 13.1**	**+0.7**
	1.1nm,0.3s,SNR=7.9							
EARI				S		**Sn**	**07 12 29.9**	**-1.6**
	0.6nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**6.98**	**306**	P		**Pn**	**07 11 13.1**	**+0.7**
	1.1nm,0.3s,SNR=7.9							
EARI				S		**Sn**	**07 12 29.9**	**-1.6**
	0.6nm,0.3s,SNR=7.9							
BGF	**Bois d'Agland**	**7.12**	**2**	*e*P		**Pn**	**07 11 16.3**	**+1.9**
BGF	**Bois d'Agland**	**7.12**	**2**	P		**Pn**	**07 11 16.3**	**+1.9**
BGF	**Bois d'Agland**	**7.12**	**2**	P		**Pn**	**07 11 16.3**	**+1.9**
EMIN	**Mina Concepcio**	**7.39**	**260**	P		**Pn**	**07 11 17.9**	**-0.2**
	0.1nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.39**	**260**	P		**Pn**	**07 11 17.9**	**-0.2**
	0.1nm,0.2s,SNR=7.9							
MFF	**Saint Martin d**	**7.42**	**346**	*e*P		**Pn**	**07 11 19.4**	**+0.9**
MFF	**Saint Martin d**	**7.42**	**346**	P		**Pn**	**07 11 19.4**	**+0.9**
MFF	**Saint Martin d**	**7.42**	**346**	P		**Pn**	**07 11 19.4**	**+0.9**
EBAD	**Badajoz**	**7.45**	**268**	P		**Pn**	**07 11 19.5**	**+0.7**
	0.3nm,0.2s,SNR=7.9							
EBAD				S		Sn	07 12 38.8	-4.2
	1.0nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**7.45**	**268**	P		**Pn**	**07 11 19.5**	**+0.7**
	0.3nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**7.47**	**293**	P		**Pn**	**07 11 19.6**	**+0.4**
	10nm,0.3s,SNR=7.9							
ECAL				S		Sn	07 12 40.1	-3.4
	3.8nm,0.3s,SNR=6.5							
ECAL	**Calabor**	**7.47**	**293**	P		**Pn**	**07 11 19.6**	**+0.4**
	10nm,0.3s,SNR=7.9							
ECAL				S		Sn	07 12 40.1	-3.4
	3.8nm,0.3s,SNR=6.5							
MVO	**Moncorvo**	**7.50**	**286**	*e*Pn		**Pn**	**07 11 20.7**	**+1.0**
MVO				*e*Sn		**Sn**	**07 12 43.7**	**-0.7**
MVO				A		A	07 12 55.9	
	4.7nm,0.8s							
MVO	**Moncorvo**	**7.50**	**286**	P		**Pn**	**07 11 20.0**	**+0.3**
	0.4nm,0.2s,SNR=7.9							
MVO				S		Sn	07 12 41.9	-2.5
	0.7nm,0.4s,SNR=7.9							
MVO	**Moncorvo**	**7.50**	**286**	P		**Pn**	**07 11 20.0**	**+0.3**
	0.4nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**7.50**	**286**	*e*Pn		**Pn**	**07 11 20.7**	**+1.0**
MVO				S		Sn	07 12 41.9	-2.5
	0.7nm,0.4s,SNR=7.9							
MVO				*e*Sn		**Sn**	**07 12 43.7**	**-0.7**
	4.7nm,0.8s							
CABF	**La Chapelle**	**7.63**	**19**	*e*P		**Pn**	**07 11 22.5**	**+1.0**
CABF	**La Chapelle**	**7.63**	**19**	P		**Pn**	**07 11 22.5**	**+1.0**
CABF	**La Chapelle**	**7.63**	**19**	P		**Pn**	**07 11 22.5**	**+1.0**
PMRV	**Marv??o**	**7.67**	**273**	*e*Pn		**Pn**	**07 11 22.4**	**+0.4**
PMRV				*e*Sn		**Sn**	**07 12 46.2**	**-2.4**
PMRV				A		A	07 12 51.6	
	4.5nm,0.8s							
PMRV	**Marv??o**	**7.67**	**273**	P		**Pn**	**07 11 22.4**	**+0.4**
PMRV				S		**Sn**	**07 12 46.2**	**-2.4**
	4.5nm,0.8s							
PMRV	**Marv??o**	**7.67**	**273**	P		**Pn**	**07 11 22.4**	**+0.4**
PMRV				S		**Sn**	**07 12 46.2**	**-2.4**
	4.5nm,0.8s							
PVAQ	**Vaqueiros**	**8.29**	**259**	*e*Pn		**Pn**	**07 11 31.6**	**+1.2**
PVAQ	**Vaqueiros**	**8.29**	**259**	P		**Pn**	**07 11 31.6**	**+1.2**
PVAQ	**Vaqueiros**	**8.29**	**259**	P		**Pn**	**07 11 31.6**	**+1.2**
PMTG	**Montargil**	**8.35**	**271**	*e*Pn		**Pn**	**07 11 32.5**	**+1.3**
PMTG	**Montargil**	**8.35**	**271**	*e*Pn		**Pn**	**07 11 32.5**	**+1.3**
PBDV	**Barranco-do-Ve**	**8.50**	**258**	*e*Pn		**Pn**	**07 11 34.6**	**+1.3**
PBDV	**Barranco-do-Ve**	**8.50**	**258**	P		**Pn**	**07 11 34.6**	**+1.3**
PBDV	**Barranco-do-Ve**	**8.50**	**258**	P		**Pn**	**07 11 34.6**	**+1.3**
PCAS	**Casmilo, Conde**	**8.51**	**278**	*e*Pn		**Pn**	**07 11 35.0**	**+1.5**
PCAS	**Casmilo, Conde**	**8.51**	**278**	*e*Pn		**Pn**	**07 11 35.0**	**+1.5**
HINF	**Hinteralfeld**	**8.95**	**19**	*e*Pn		Pn	07 11 36.6	-2.8
HINF	**Hinteralfeld**	**8.95**	**19**	P		Pn	07 11 36.6	-2.8
DAVOX	**Davos/Dischmat**	**9.10**	**34**	Pn		**Pn**	**07 11 43.6**	**+2.0**
	0.3nm,0.3s,baz=192,slow=14,SNR=2.4							
LDF	**La Druitiere**	**9.35**	**349**	*e*P		**Pn**	**07 11 44.6**	**-0.3**
LDF	**La Druitiere**	**9.35**	**349**	*e*P		**Pn**	**07 11 44.6**	**-0.3**
QUIF	**Quistinic**	**9.42**	**336**	*e*P		**Pn**	**07 11 46.1**	**+0.2**
QUIF	**Quistinic**	**9.42**	**336**	P		**Pn**	**07 11 46.1**	**+0.2**
QUIF	**Quistinic**	**9.42**	**336**	P		**Pn**	**07 11 46.1**	**+0.2**
SGMF	**Saint Gilles**	**9.55**	**339**	*e*P		**Pn**	**07 11 47.6**	**0.0**
SGMF	**Saint Gilles**	**9.55**	**339**	P		**Pn**	**07 11 47.6**	**0.0**
SGMF	**Saint Gilles**	**9.55**	**339**	P		**Pn**	**07 11 47.6**	**0.0**
ROSF	**Rostrenen**	**9.83**	**337**	*e*P		**Pn**	**07 11 51.1**	**-0.4**
ROSF	**Rostrenen**	**9.83**	**337**	P		**Pn**	**07 11 51.1**	**-0.4**
ROSF	**Rostrenen**	**9.83**	**337**	P		**Pn**	**07 11 51.1**	**-0.4**
GERES	**GERESS Array B**	**12.36**	**37**	Pn		**Pn**	**07 12 27.0**	**+0.9**
	0.1nm,0.3s,baz=229,slow=14,SNR=2.9							
EKA	**Eskdalemuir Ar**	**16.36**	**348**	Pn		**Pn**	**07 13 18.0**	**-1.6**
	baz=162,slow=14,SNR=2.8							
TORD	**Torodi Ar. Bea**	**26.19**	**182**	P		**P**	**07 15 05.1**	**+0.3**
	0.3nm,0.7s,baz=352,slow=9.0,SNR=3.1							
MKAR	**Makanchi Array**	**56.34**	**54**	P		**P**	**07 19 12.7**	**+1.7**
	0.4nm,0.7s,baz=287,slow=6.1,SNR=5.6							

*IDC **30** 07:14:03.2±3.3,35°.13N×141°.74E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/33,mbtmp3.3/4,ML3.3/1,MS3.3/3, Ms1 3.4/3,ms1mx2.9/18,Error ellipse: s-maj=103.0km s-min=26.3km az=55.0*

*JMA **30** 07:14:05.3±0.2,35°.17N×141°.86E,h66km±3km,M3.1*

ISC 30 07:14:04.4±4.0,35°.16N±0°.07×141°.8E±0°.1,h11km±25km, n15,σ0°.58/18,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.87**	**235**	P	**Pn**	**07 14 22.2**	**+0.2**
BSO1				S	**Sn**	**07 14 35.0**	**+0.5**
CHOJ	**Chosi**	**0.97**	**304**	P	**Pb**	**07 14 23.3**	**+0.2**
CHOJ				S	**Sn**	**07 14 37.4**	**-0.2**
BSO3	**Boso 3**	**1.15**	**252**	P	**Pn**	**07 14 26.3**	**+0.2**
BSO3				S	**Sb**	**07 14 40.7**	**-0.2**
BSO4	**Boso 4**	**1.25**	**263**	P	**Pn**	**07 14 28.0**	**+0.4**
JCN	**Nagara**	**1.37**	**281**	P	**Pn**	**07 14 29.3**	**0.0**
JIM2	**Oshima 3**	**2.03**	**258**	P	**Pn**	**07 14 37.6**	**-0.9**
JOD2	**Odawara 2**	**2.26**	**273**	P	**Pn**	**07 14 41.1**	**-0.5**
JAG	**Ashikaga**	**2.32**	**304**	P	**Pn**	**07 14 42.4**	**0.0**
JAG				S	**Sn**	**07 15 10.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.26**	**296**	Pn	**Pn**	**07 14 54.9**	**-0.5**
	3.7nm,0.3s,baz=108,slow=12,SNR=16						
MJAR				Sn	**Sn**	**07 15 34.0**	**-0.1**
	1.4nm,0.3s,baz=140,slow=11,SNR=3.6						
MJAR				LR	LR	07 16 18.7	
	comp=Z,84nm,21.1s,baz=130,slow=43						
MAT	**Matsushiro**	**3.26**	**296**	P	**Pn**	**07 14 56.6**	**+1.2**
MAT				*e*S	**Sn**	**07 15 35.2**	**+1.0**
FX1	**Attu Island--F**	**28.33**	**42**	LR	LR	07 28 55.6	
	comp=Z,262nm,20.3s,baz=301,slow=31						
SONM	**Songino Array**	**29.15**	**307**	P	**P**	**07 20 05.0**	**-0.5**
	0.2nm,0.3s,baz=99,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**45.43**	**304**	P	**P**	**07 22 23.3**	**+0.2**
	0.2nm,0.6s,baz=81,slow=8.8,SNR=3.4						
WRA	**Warramunga Arr**	**55.26**	**189**	P	P	07 23 37.9	+0.2
	0.5nm,0.5s,baz=5.0,slow=7.8,SNR=6.2						
NOA	**NORSAR Array B**	**76.05**	**338**	LR	LR	08 03 09.8	
	comp=Z,28nm,18.7s,baz=45,slow=39						

*IDC **30** 07:23:57.2±0.5,53°.89N×160°.62E,h0km,mb4.3/25, mb1 4.6/26,mb1mx4.5/40,mbtmp4.3/26,ML5.0/1,MS3.6/18, Ms1 3.6/18,ms1mx3.5/30,Error ellipse: s-maj=14.7km s-min=9.7km az=168.0*

*MOS **30** 07:24:00.5±1.0,53°.87N×160°.68E,h32km,mb5.0/39,Error ellipse: s-maj=8.8km s-min=5.1km az=90.7*

*KRSC **30** 07:24:01.0±1.2,53°.67N×161°.10E,h42km±23km,ML4.9*

*BJI **30** 07:24:02.7,54°.03N×160°.77E,h71km,mB4.9/23,mb4.6/41, Ms4.5/18,Ms7 4.2/18*

*ISCJB **30** 07:24:04.3±0.3,53°.73N±0°.02×160°.79E±0°.04,h69km±2km, mb4.6/122,Error ellipse: s-maj=4.7km s-min=2.1km az=34.8*

*NEIC **30** 07:24:05.3±0.6,53°.88N×160°.57E,h59km±6km,mb4.8/62, Error ellipse: s-maj=6.8km s-min=3.9km az=164.0*

**ISC

BDR	**Baidarnaya**	**2.79**	**6**	*eP*	**Pn**	**07 24 48.0 -1.0**
BDR				*eS*	**Sn**	**07 25 22.4 +0.7**
SMKR	**Semkarok**	**2.83**	**9**	*eP*	**Pn**	**07 24 48.2 -1.3**
SMKR				*eS*	**Sn**	**07 25 23.5 +1.0**
SRKR	**Sorokina**	**2.88**	**6**	*eP*	**Pn**	**07 24 49.0 -1.1**
SRKR				*eS*	**Sn**	**07 25 25.4 +1.7**
PAU	**Pauzhetka**	**3.31**	**227**	PN	**Pn**	**07 24 56.8 +0.9**
PAU	**Pauzhetka**	**3.31**	**227**	*eP*	**Pn**	**07 24 56.8 +0.9**
PAU				*eS*	**Sn**	**07 25 37.2 +3.2**
BKI	**Bering**	**3.40**	**63**	PN	Pn	07 24 52.0 -5.2
BKI	**Bering**	**3.40**	**63**	*eP*	Pn	07 24 52.0 -5.2
BKI				*eS*	Sn	07 25 26.4 -10
SKR	**Severo-Kuril's**	**4.18**	**224**	*e*PN	Pn	07 25 04.5 -3.3
SKR				pmax	pmax	
	comp=Z,60nm,0.5s					
SKR	**Severo-Kuril's**	**4.18**	**224**	*eP*	**Pn**	**07 25 07.6 -0.2**
SKR				*eS*	**Sn**	**07 25 55.4 0.0**
PALN	**Palana**	**5.32**	**356**	*eP*	**Pn**	**07 25 24.7 +1.5**
OSSR	**Ossora**	**5.62**	**13**	*eP*	**Pn**	**07 25 29.3 +1.9**
TILK	**Tilichiki**	**7.30**	**22**	*eP*	**Pn**	**07 25 51.9 +1.6**
FX1	**Attu Island--F**	**7.55**	**92**	*e*Pn	Pn	07 25 47.5 -6.2
FX1				Sn	Sn	07 27 05.0 -13
FX1				*e*Sn	Sn	07 27 07.7 -10
FX1	**Attu Island--F**	**7.55**	**92**	Pn	Pn	07 25 47.5 -6.2
	comp=Z,70nm,0.3s,baz=317,slow=5.3,SNR=116					
FX1				Sn	Sn	07 27 05.0 -13
	comp=Z,58nm,0.3s,baz=165,slow=17,SNR=12					
SMY	**Shemya**	**8.13**	**92**	*e*PN	Pn	07 25 56.7 -5.0
SMY				pmax	pmax	
	comp=Z,80nm,0.4s					
SMY	**Shemya**	**8.13**	**92**	*e*Pn	Pn	07 25 56.6 -5.0
	comp=Z,80nm,0.4s					
SMY				*e*Sn	Sn	07 27 20.8 -11
BILL	**Bilibino**	**14.54**	**8**	*eP*	**Pn**	**07 27 29.7 +1.7**
BILL				pmax	pmax	
	comp=Z,9.0nm,1.2s					
BILL	**Bilibino**	**14.54**	**8**	*e*Pn	**Pn**	**07 27 28.6 +0.5**
ASAJ	**Asahikawa**	**15.27**	**238**	*eP*	**Pn**	**07 27 37.9 +0.2**
ASAJ	**Asahikawa**	**15.27**	**238**	Pn	**Pn**	**07 27 37.5 -0.1**
	comp=Z,0.9nm,0.3s,baz=77,slow=13,SNR=5.1					
ASAJ				LR	LR	07 32 58.1
	comp=Z,203nm,20.8s,baz=22,slow=35					
HABR	**Khabarovsk**	**16.88**	**262**	*eP*	**Pn**	**07 27 56.4 -1.4**
HABR				S	**Sn**	**07 31 04.7 +0.1**
YAK	**Yakutsk**	**18.24**	**309**	*eP*	**P**	**07 28 12.1 -1.4**
YAK				pmax	pmax	
	comp=Z,22nm,0.9s					
YAK				pmax	pmax	
	comp=N,7.0nm,1.1s					
YAK				pmax	pmax	
	comp=E,14nm,1.2s					
YAK	**Yakutsk**	**18.24**	**309**	*eP*	**P**	**07 28 13.3 -0.2**
	comp=E,32nm,0.9s					
KLR	**Kul'dur**	**18.49**	**267**	*eP*	**P**	**07 28 13.8 -2.6**
TNA	**Tin City**	**19.49**	**41**	*eP*	**P**	**07 28 26.8 -0.3**
	comp=E,7.9nm,0.9s					
USRK	**Ussuriysk Arra**	**20.98**	**254**	P	Pn	07 28 45.3 -1.5
	comp=E,2.2nm,0.5s,baz=49,slow=13,SNR=6.9					
VLA	**Vladivostok**	**21.71**	**252**⇓	*eP*	**P**	**07 28 48.1 -3.2**
VLA				*e*		07 29 14.1
VLA				*eS*	**S**	**07 32 47.7 +0.4**
VLA				pmax	pmax	
	comp=Z,32nm,0.6s					
MDJ	**Mudanjiang**	**22.12**	**258**	P	**P**	**07 28 55.3 -0.3**
MDJ				pmax	pmax	
	comp=Z,7.0nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,97nm,4.3s					
TIXI	**Tiksi**	**22.59**	**334**⇓	*eP*	**P**	**07 29 00.6 +0.3**
TIXI				*i* *PP	**pP**	**07 29 16.5 +0.8**
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.0s					
TIXI	**Tiksi**	**22.59**	**334**	*eP*	**P**	**07 28 59.9 -0.5**
	comp=Z,12nm,1.1s					
MAJO	**Matsushiro**	**23.25**	**231**⇑	*eP*	**P**	**07 29 08.0 +0.6**
MAJO				pmax	pmax	
	comp=Z,163nm,1.1s					
MAJO	**Matsushiro**	**23.25**	**231**	*eP*	**P**	**07 29 08.3 +0.9**
	comp=Z,4.5nm,0.8s					
MAT	**Matsushiro**	**23.25**	**231**	P	**P**	**07 29 07.9 +0.5**
MAT				*eS*	**S**	**07 33 14.8 +1.3**
MJAR	**Matsushiro Arr**	**23.25**	**231**	P	**P**	**07 29 06.6 -0.7**
MJAR	**Matsushiro Arr**	**23.25**	**231**	P	**P**	**07 29 06.6 -0.7**
	comp=Z,15nm,0.8s,baz=21,slow=10,SNR=27					
MJAR				LR	LR	07 38 48.3
	comp=Z,75nm,21.5s,baz=275,slow=38					
CN2	**Changchun**	**25.01**	**261**	*eP*	**P**	**07 29 23.3 +0.1**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
IM04	**Indian Mountai**	**25.24**	**43**	*eP*	**P**	**07 29 24.0 -1.1**
HIA	**Hailar**	**25.59**	**277**	*eP*	**P**	**07 29 27.9 -0.5**
	comp=Z,16nm,0.9s					
RSO	**Redoubt South**	**25.68**	**56**	*eP*	**P**	**07 29 31.6 +2.3**
	comp=Z,30nm,0.9s					
COLD	**Coldfoot**	**26.80**	**41**	*eP*	**P**	**07 29 38.3 -0.8**
	comp=Z,2.9nm,0.8s					
MCK	**McKinley**	**27.23**	**49**	*eP*	**P**	**07 29 42.1 -1.0**
MCK				pmax	pmax	
	comp=Z,11nm,1.3s					
MCK	**McKinley**	**27.23**	**49**	*eP*	**P**	**07 29 42.1 -1.0**
	comp=Z,11nm,1.3s					
COLA	**College**	**27.66**	**46**⇑	*eP*	**P**	**07 29 46.5 -0.4**
COLA				pmax	pmax	
	comp=Z,23nm,1.0s					
COLA	**College**	**27.66**	**46**	*eP*	**P**	**07 29 46.2 -0.6**
	comp=Z,5.1nm,1.0s					
KSRS	**Korea Array**	**27.80**	**247**	P	**P**	**07 29 48.0 -0.4**
	comp=Z,1.6nm,0.6s,baz=40,slow=9.4,SNR=6.2					
KSRS				LR	LR	07 40 52.9
	comp=Z,126nm,19.9s,baz=310,slow=36					
KSAR	**Wonju Array Be**	**27.83**	**247**	P	**P**	**07 29 48.0 -0.6**
ILAR	**Eielson Array**	**28.08**	**46**	P	**P**	**07 29 49.5 -1.1**
ILAR	**Eielson Array**	**28.08**	**46**	P	**P**	**07 29 49.5 -1.1**
	comp=Z,2.9nm,0.9s,baz=266,slow=8.1,SNR=32					
ILAR				LR	LR	07 41 00.0
	comp=Z,51nm,18.8s,baz=263,slow=36					
JNU	**Nakatsue**	**29.55**	**238**	LR	LR	07 40 55.0
	comp=Z,79nm,19.0s,baz=316,slow=34					
EGAK	**Eagle**	**30.53**	**46**	*eP*	**P**	**07 30 10.8 -1.4**
	comp=Z,4.7nm,0.8s					
BJI	**Beijing**	**32.77**	**264**	P	**P**	**07 30 30.3 -1.9**
BJI				pmax	pmax	
	comp=Z,8.0nm,0.6s					
BJI				pmax	pmax	
	comp=Z,63nm,4.3s					
INK	**Inuvik**	**33.11**	**38**	*eP*	**P**	**07 30 33.7 -1.1**
	comp=Z,3.5nm,0.9s					
INK				PcP	**PcP**	**07 33 16.6 +0.5**
INK	**Inuvik**	**33.11**	**38**	P	**P**	**07 30 33.7 -1.1**
	comp=Z,1.7nm,0.6s,baz=289,slow=6.4,SNR=11					
INK				PcP	**PcP**	**07 33 16.6 +0.5**
	comp=Z,0.7nm,0.6s,baz=299,slow=3.9,SNR=3.9					
TLY	**Talaya**	**33.79**	**290**	*eP*	**pP**	**07 31 00.0 +1.3**
TLY				pmax	pmax	
	comp=Z,3.0nm,0.8s					
TLY				MLR	MLR	
	comp=Z,161nm,19.0s					
SONM	**Songino Array**	**34.07**	**283**	P	**P**	**07 30 43.2 -0.3**
SONM				PcP	**PcP**	**07 33 20.5 +1.1**
SONM	**Songino Array**	**34.07**	**283**	P	**P**	**07 30 43.3 -0.3**
	comp=Z,1.0nm,0.6s,baz=70,slow=7.7,SNR=7.4					
SONM				PcP	**PcP**	**07 33 20.5 +1.1**
	comp=Z,1.7nm,0.8s,baz=88,slow=1.4,SNR=9.6					
SONM				LR	LR	07 46 10.8
	comp=Z,183nm,18.2s,baz=64,slow=39					
H11N2	**WAKE ISLAND Hy**	**34.34**	**170**	T	T	08 07 12.8
	baz=356,slow=76,SNR=808					
H11N3	**WAKE ISLAND Hy**	**34.36**	**170**	T	T	08 07 13.8
	baz=356,slow=76,SNR=771					
H11N1	**WAKE ISLAND Hy**	**34.36**	**170**	T	T	08 07 13.8
	baz=356,slow=76,SNR=492					
HHC	**Hu-ho-hao-te**	**34.99**	**269**	*eP*	**P**	**07 30 51.0 -0.6**
HHC				pP	**pP**	**07 31 09.5 +0.2**
HHC				sP	**sP**	**07 31 19.8 +1.9**
HHC				PP	**PnPn**	**07 32 08.8 -1.9**
HHC				S	**S**	**07 36 15.8 -2.2**
HHC				sS	**sS**	**07 36 46.0 -2.4**
HHC				pmax	pmax	
	comp=Z,26nm,1.1s					
HHC				pmax	pmax	
	comp=Z,200nm,5.1s					
HHC				LR	LR	
	comp=Z,210nm,13.7s					
HHC				LR	LR	
	comp=Z,240nm,12.7s					
HHC				LR	LR	
	comp=Z,160nm,13.7s					
H11S1	**WAKE ISLAND Hy**	**35.53**	**170**	T	T	08 08 35.4
	baz=355,slow=78,SNR=32					
H11S3	**WAKE ISLAND Hy**	**35.54**	**170**	T	T	08 08 42.7
	baz=355,slow=78,SNR=54					
H11S2	**WAKE ISLAND Hy**	**35.55**	**170**	T	T	08 08 35.2
	baz=355,slow=78,SNR=22					
JOW	**Kunigami**	**35.99**	**235**	*eP*	**P**	**07 31 02.3 +2.2**
	comp=Z,137nm,1.7s					
NJ2	**Nanjing**	**36.80**	**251**	*eP*	**P**	**07 31 07.0 0.0**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
XAN	**Xi'an**	**41.09**	**263**	P	**P**	**07 31 43.0 +0.1**
XAN				pmax	pmax	
	comp=Z,1.0nm,0.9s					
YKA	**Yellowknife Ar**	**42.42**	**43**	P	**P**	**07 31 52.8 -0.4**
YKA				PcP	**PcP**	**07 33 45.4 +0.5**
YKA	**Yellowknife Ar**	**42.42**	**43**	P	**P**	**07 31 52.8 -0.4**
	comp=Z,1.0nm,0.6s,baz=298,slow=7.7,SNR=21					
YKA				PcP	**PcP**	**07 33 45.4 +0.5**
	comp=Z,0.7nm,0.8s,baz=301,slow=4.3,SNR=5.4					
RES	**Resolute Bay**	**42.54**	**22**	*eP*	**P**	**07 31 54.5 +0.4**
	comp=Z,9.7nm,0.9s					
ZALV	**Zalesovo Beam**	**42.68**	**302**	P	**P**	**07 31 54.0 -1.5**
ZALV	**Zalesovo Beam**	**42.68**	**302**	P	**P**	**07 31 54.0 -1.5**
ZALV	**Zalesovo Beam**	**42.68**	**302**	P	**P**	**07 31 54.0 -1.5**
	comp=Z,1.7nm,0.8s,baz=54,slow=7.5,SNR=5.3					
ZALV				LR	LR	07 50 49.9
	comp=Z,113nm,19.9s,baz=72,slow=38					
LZH	**Lanzhou**	**42.68**	**269**	*eP*	**P**	**07 31 56.0 +0.1**
LZH				pP	**pP**	**07 32 14.5 +0.4**
LZH				sP	**sP**	**07 32 22.0 -0.6**
LZH				pmax	pmax	
	comp=Z,16nm,1.2s					
GTA	**Gaotai**	**42.87**	**276**	*eP*	**P**	**07 31 58.3 +1.0**
GTA				pP	**pP**	**07 32 17.0 +1.5**
GTA				sP	**sP**	**07 32 25.5 +1.5**
GTA				S	**S**	**07 38 16.0 -0.3**
GTA				sS	**sS**	**07 38 47.8 +0.5**
GTA				SS	SS	07 41 21.5 -8.2
GTA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,170nm,5.5s					
GTA				LR	LR	
	comp=Z,140nm,14.7s					
GTA				LR	LR	
	comp=Z,110nm,13.3s					
GTA				LR	LR	
	comp=Z,110nm,13.5s					
NVS	**Novosibirsk**	**42.99**	**304**	*eP*	P	07 31 53.5 -4.5
CD2	**Chengdu**	**46.37**	**264**	*eP*	**P**	**07 32 24.5 -0.7**
CD2				sP	**sP**	**07 32 51.5 -0.6**
CD2				PP	**PP**	**07 34 14.3 -0.7**
CD2				S	**S**	**07 39 04.3 -2.8**
CD2				SS	SS	07 42 23.3 -10
CD2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CD2				pmax	pmax	
	comp=Z,70nm,4.8s					
CD2				LR	LR	
	comp=Z,120nm,16.7s					
CD2				LR	LR	
	comp=Z,120nm,14.3s					
WMQ	**Urumqi**	**47.06**	**289**	P	**P**	**07 32 31.5 +1.1**
WMQ				pP	**pP**	**07 32 50.0 +1.1**
WMQ				sP	**sP**	**07 32 59.0 +1.7**
WMQ				PcP	**PcP**	**07 34 03.0 +1.7**
WMQ				PP	**PP**	**07 34 22.8 +1.3**
WMQ				ScP	**ScP**	**07 37 48.5 +0.3**
WMQ				S	**S**	**07 39 16.5 -0.1**
WMQ				sS	**sS**	**07 39 48.5 +0.5**
WMQ				ScS	**ScS**	**07 42 15.5 -1.7**
WMQ				SS	**SS**	**07 42 37.0 -6.9**
WMQ				pmax	pmax	
	comp=Z,15nm,0.6s					
WMQ				pmax	pmax	
	comp=Z,49nm,5.2s					
WMQ				LR	LR	
	comp=Z,54nm,18.9s					
WMQ				LR	LR	
	comp=Z,66nm,21.2s					
WMQ				LR	LR	
	comp=Z,130nm,17.2s					
KURK	**Kurchatov**	**47.65**	**302**	*eP*	**P**	**07 32 33.1 -1.7**
KURK				pmax	pmax	
	comp=Z,3.0nm,1.0s					
KURK	**Kurchatov**	**47.65**	**302**	*eP*	**P**	**07 32 33.1 -1.7**
	comp=Z,3.0nm,1.0s					
GYA	**Guiyang**	**47.98**	**257**⇓	*iP*	**P**	**07 32 38.0 +0.1**
GYA				pP	**pP**	**07 32 58.3 +2.0**
GYA				PcP	**PcP**	**07 34 05.5 +0.6**
GYA				PP	**PP**	**07 34 30.0 -0.3**
GYA				ScP	**ScP**	**07 37 51.8 -0.6**
GYA				S	**S**	**07 39 28.5 -1.7**
GYA				sS	**sS**	**07 40 01.5 -0.1**
GYA				ScS	**ScS**	**07 42 21.3 -2.6**
GYA				SS	SS	07 42 52.0 -7.6
GYA				pmax	pmax	
	comp=Z,20nm,1.0s					
GYA				pmax	pmax	
	comp=Z,120nm,5.0s					
GYA				LR	LR	
	comp=Z,480nm,16.1s					
GYA				LR	LR	
	comp=Z,520nm,15.8s					
GYA				LR	LR	
	comp=Z,490nm,17.0s					
EDM	**Edmonton**	**48.07**	**54**	*eP*	**P**	**07 32 38.6 +0.5**
EDM	**Edmonton**	**48.07**	**54**	*eP*	**P**	**07 32 38.6 +0.5**
MK31	**Makanchi Array**	**48.15**	**295**	*eP*	**P**	**07 32 36.9 -2.0**
MK31	**Makanchi Array**	**48.15**	**295**	*eP*	**P**	**07 32 36.9 -2.0**
MKAR	**Makanchi Array**	**48.15**	**295**	*eP*	**P**	**07 32 37.1 -1.8**
MKAR	**Makanchi Array**	**48.15**	**295**	*eP*	**P**	**07 32 37.1 -1.8**
MKAR	**Makanchi Array**	**48.15**	**295**	P	**P**	**07 32 36.7 -2.2**
	comp=Z,1.1nm,0.6s,baz=58,slow=6.3,SNR=16					
MKAR				LR	LR	07 54 16.1
	comp=Z,52nm,18.1s,baz=70,slow=38					
C09A	**Chrisman Ranch**	**48.95**	**62**	*eP*	**P**	**07 32 45.9 +0.9**
	comp=Z,15nm,0.3s					
DAG	**Danmarks Havn**	**49.70**	**360**	*i* P	**P**	**07 32 49.2 -1.0**
DAG				pmax	pmax	
	comp=Z,4.0nm,0.8s					
DAG	**Danmarks Havn**	**49.70**	**360**	*i* P	**P**	**07 32 49.2 -1.0**
	comp=Z,5.0nm,0.8s					
E09A	**Wood Farm, Sta**	**49.84**	**63**	*eP*	**P**	**07 32 52.1 +0.4**
	comp=Z,8.2nm,1.1s					
BRVK	**Borovoye**	**50.24**	**308**⇑	*iP*	**P**	**07 32 53.5 -1.1**
BRVK				pmax	pmax	
	comp=Z,3.0nm,0.8s					
BRVK	**Borovoye**	**50.24**	**308**	*eP*	**P**	**07 32 53.3 -1.4**
	comp=Z,3.6nm,0.9s					
WALA	**Waterton Lakes**	**50.40**	**58**	*eP*	**P**	**07 32 56.0 -0.1**
	comp=Z,0.2nm,1.0s					
BSMT	**Bassoo Peak**	**50.73**	**60**	*eP*	**P**	**07 32 59.1 +0.4**
JTMT	**Jette**	**51.06**	**60**	*eP*	**P**	**07 33 01.4 +0.4**
	comp=Z,3.2nm,0.9s					
KMI	**Kunming**	**51.28**	**260**	P	**P**	**07 33 03.5 +0.5**
KMI				pmax	pmax	
	comp=Z,14nm,0.5s					
SLMT	**Seeley Lake**	**51.79**	**60**	*eP*	**P**	**07 33 05.9 -0.7**
QIZ	**Qiongzhong**	**52.01**	**248**	P	**P**	**07 33 08.3 0.0**
QIZ				sP	**sP**	**07 33 35.0 -0.3**
QIZ				S	**S**	**07 40 26.8 +0.7**
QIZ				pmax	pmax	
	comp=Z,5.0nm,1.2s					
QIZ	**Qiongzhong**	**52.01**	**248**	*eP*	**P**	**07 33 10.8 +2.6**
	comp=Z,14nm,0.9s					
KEV	**Kevo**	**52.25**	**341**	*eP*	**P**	**07 33 10.8 +1.4**
KEV	**Kevo**	**52.25**	**341**	*ep*	**P**	**07 33 10.8 +1.4**
FCC	**Fort Churchill**	**52.72**	**39**	*eP*	**P**	**07 33 12.4 -0.6**
FCC	**Fort Churchill**	**52.72**	**39**	*eP*	**P**	**07 33 12.4 -0.6**
	comp=Z,0.3nm,0.9s					
ARCES	**ARCESS Array B**	**52.72**	**342**	P	**P**	**07 33 11.9 -1.0**
ARCES	**ARCESS Array B**	**52.72**	**342**	P	**P**	**07 33 11.9 -1.0**
	comp=Z,2.3nm,0.7s,baz=34,slow=6.8,SNR=18					
ARCES				LR	LR	08 00 17.6
	comp=Z,58nm,19.1s,baz=58,slow=41					
APA	**Apatity**	**52.73**	**337**	*eP*	**pP**	**07 33 29.4 -2.3**
APA				MLR	MLR	
	comp=Z,2μm,22.0s					
ARU	**Arti**	**53.11**	**317**	*c iP*	**P**	**07 33 15.0 -0.9**
ARU						07 35 10.9
ARU				S	**S**	**07 40 41.2 +1.0**
ARU				SS	**SS**	**07 44 18.5 -1.1**
ARU				pmax	pmax	
	comp=Z,12nm,1.7s					
ARU	**Arti**	**53.11**	**317**	*eP*	**P**	**07 33 16.2 +0.4**
	comp=Z,81nm,2.5s					
SUMG	**Summit**	**53.22**	**7**	*i* P	**P**	**07 33 17.0 0.0**
SUMG				pmax	pmax	
	comp=Z,24nm,1.0s					
SUMG	**Summit**	**53.22**	**7**	*i* P	**P**	**07 33 17.0 0.0**
	comp=Z,24nm,1.0s					
SUMG	**Summit**	**53.22**	**7**	*eP*	**P**	**07 33 16.5 -0.5**
	comp=Z,42nm,1.1s					
LRM	**Limekiln Ridge**	**53.28**	**61**	*eP*	**P**	**07 33 17.9 +0.3**
PRGR	**Permogore**	**54.02**	**328**	*eP*	**P**	**07 33 21.9 -0.6**
PRGR				pmax	pmax	
	comp=Z,10.0nm,0.7s					
AAK	**Ala-Archa**	**55.07**	**296**⇓	*iP*	**P**	**07 33 29.9 -0.7**
AAK				pmax	pmax	
	comp=Z,6.0nm,1.0s					
NVAR	**Mina Array Bea**	**55.19**	**71**	P	**P**	**07 33 32.2 +0.7**
NVAR	**Mina Array Bea**	**55.19**	**71**	P	**P**	**07 33 32.2 +0.7**
	comp=Z,1.8nm,0.7s,baz=292,slow=7.8,SNR=13					
H17A	**Grant Village**	**55.22**	**61**	*eP*	**P**	**07 33 34.0 +2.3**
	comp=Z,1.8nm,0.8s					
ELK	**Elko**	**55.27**	**67**	*eP*	**P**	**07 33 33.4 +1.2**
	comp=Z,49nm,2.8s					
IMW	**Indian Meadow**	**55.38**	**61**	*eP*	**P**	**07 33 34.6 +1.6**
	comp=Z,31nm,2.3s					
RLMT	**Red Lodge**	**55.39**	**59**	*eP*	**P**	**07 33 33.7 +0.8**
	comp=Z,2.4nm,0.7s					
HVU	**Hansel Valley**	**55.88**	**64**	*eP*	**P**	**07 33 37.7 +1.3**
HVU				pmax	pmax	
	comp=Z,11nm,1.5s					
HVU	**Hansel Valley**	**55.88**	**64**	*eP*	**P**	**07 33 37.7 +1.3**
	comp=Z,11nm,1.5s					
TPH	**Tonopah**	**56.04**	**70**	*eP*	**P**	**07 33 38.2 +0.5**
TPH				pmax	pmax	
	comp=Z,6.0nm,1.5s					
TPH	**Tonopah**	**56.04**	**70**	*eP*	**P**	**07 33 38.1 +0.5**
	comp=Z,6.2nm,1.5s					
KSH	**Kashi**	**56.45**	**292**	*eP*	P	07 33 45.3 +4.9
KSH				*e*PP	PP	07 35 53.0 +6.6
KSH				*e*PcS	**PcS**	**07 38 39.3 +2.0**
KSH				*eS*	**S**	**07 41 29.0 +3.3**
KSH				*e*sS	sS	07 42 01.8 +3.9
KSH				*e*SS	**SS**	**07 45 18.0 +4.8**
KSH				pmax	pmax	
	comp=Z,2.0nm,0.8s					
KSH				pmax	pmax	
	comp=Z,71nm,4.6s					
KSH				LR	LR	
	comp=Z,100nm,5.3s					
KSH				LR	LR	
	comp=Z,120nm,5.4s					
KSH				LR	LR	
	comp=Z,140nm,5.7s					
KLMR	**Klimovskoe**	**56.51**	**330**	*eP*	**P**	**07 33 38.4 -2.0**
KLMR				pmax	pmax	
	comp=Z,27nm,1.9s					
KKAR	**Karatay Array**	**56.84**	**299**	*eP*	**P**	**07 33 41.3 -1.7**
KKAR	**Karatay Array**	**56.84**	**299**	*eP*	**P**	**07 33 41.3 -1.7**
BW06	**Boulder Array**	**56.89**	**62**	*eP*	**P**	**07 33 44.2 +0.5**
	comp=Z,2.3nm,0.8s					
PDAR	**Pinedale Array**	**56.89**	**62**	P	**P**	**07 33 44.4 +0.7**
PDAR	**Pinedale Array**	**56.89**	**62**	P	**P**	**07 33 44.4 +0.7**
	comp=Z,1.7nm,0.8s,baz=333,slow=2.5,SNR=14					
PDAR				LR	LR	07 57 15.5
	comp=Z,42nm,19.1s,baz=359,slow=35					
DUG	**Dugway**	**56.97**	**66**	*eP*	**P**	**07 33 45.2 +1.0**
DUG				pmax	pmax	
	comp=Z,5.0nm,1.0s					
DUG	**Dugway**	**56.97**	**66**	*eP*	**P**	**07 33 45.2 +1.0**
	comp=Z,4.7nm,1.0s					
JOF	**Joensuu**	**57.07**	**335**	*eP*	**P**	**07 33 44.0 -0.3**
JOF	**Joensuu**	**57.07**	**335**	*ep*	**P**	**07 33 44.0 -0.3**
ABKAR	**Akbulak array**	**57.59**	**310**	*eP*	**P**	**07 33 47.1 -1.2**
	comp=Z,4.0nm,0.8s					
MPU	**Maple Canyon**	**57.74**	**65**	*eP*	**P**	**07 33 50.6 +1.0**
	comp=Z,2.3nm,0.9s					
ULM	**Lac du Bonnet**	**58.09**	**47**	P	**P**	**07 33 51.4 -0.3**
ULM	**Lac du Bonnet**	**58.09**	**47**	P	**P**	**07 33 51.4 -0.3**
	comp=Z,1.9nm,0.7s,baz=314,slow=7.6,SNR=3.8					
CMAR	**Chiang Mai Arr**	**58.66**	**258**	P	**P**	**07 33 57.4 +1.3**
CMAR	**Chiang Mai Arr**	**58.66**	**258**	P	**P**	**07 33 57.4 +1.3**
	comp=Z,1.4nm,0.3s,baz=26,slow=6.6,SNR=9.6					
CMAR				LR	LR	08 01 29.1
	comp=Z,63nm,18.5s,baz=134,slow=38					
RSSD	**Black Hills**	**58.73**	**57**	*eP*	**P**	**07 33 57.1 +0.6**
RSSD				pmax	pmax	
	comp=Z,5.0nm,1.6s					
RSSD	**Black Hills**	**58.73**	**57**	*eP*	**P**	**07 33 57.1 +0.6**
	comp=Z,4.8nm,1.6s					
KAF	**Kangasniemi**	**58.97**	**337**	*eP*	**P**	**07 33 56.7 -0.9**
KAF	**Kangasniemi**	**58.97**	**337**	*ep*	**P**	**07 33 56.7 -0.9**
SRU	**San Rafael**	**58.98**	**65**	*eP*	**P**	**07 33 59.7 +1.4**
SRU				pmax	pmax	
	comp=Z,29nm,1.9s					
SRU	**San Rafael**	**58.98**	**65**	*eP*	**P**	**07 33 59.7 +1.4**
	comp=Z,29nm,1.9s					
FINES	**FINESS Array B**	**59.60**	**337**	P	**P**	**07 34 01.9 -0.1**
FINES	**FINESS Array B**	**59.60**	**337**	P	**P**	**07 34 01.9 -0.1**
	comp=Z,8.5nm,0.6s,baz=40,slow=6.9,SNR=42					
FINES				LR	LR	08 04 24.6
	comp=Z,40nm,18.6s,baz=89,slow=41					
PV04	**Paradox Valley**	**60.37**	**65**	*eP*	**P**	**07 34 07.1 -0.8**
SMCO	**Snowmass**	**60.83**	**63**	*eP*	**P**	**07 34 12.4 +1.2**
	comp=Z,5.8nm,1.1s					
OBN	**Obninsk**	**62.10**	**327**	*i* P	**P**	**07 34 19.7 +0.7**
OBN				pmax	pmax	
	comp=Z,17nm,1.2s					
OBN				MLR	MLR	
	comp=Z,100nm,20.0s					
NB2	**NORSAR Subarra**	**62.96**	**344**	P	**P**	**07 34 24.4 -0.3**
	comp=Z,6nm,0.6s,baz=20,slow=6.9					
NOA	**NORSAR Array B**	**62.96**	**344**	P	**P**	**07 34 24.6 -0.1**
NOA	**NORSAR Array B**	**62.96**	**344**	P	**P**	**07 34 24.6 -0.1**
	comp=Z,5.6nm,0.8s,baz=23,slow=6.0,SNR=24					
VRHR	**Novokhopersk**	**63.69**	**322**	*eP*	**P**	**07 34 27.1 -2.5**
VRHR				pmax	pmax	
	comp=N,7.0nm,0.9s					
VRHR				pmax	pmax	
	comp=E,7.0nm,0.9s					
VRHR				pmax	pmax	
	comp=Z,20nm,0.9s					
PMG	**Port Moresby**	**63.99**	**195**	LR	LR	07 59 21.9
	comp=Z,39nm,19.6s,baz=230,slow=33					
VSR	**Storozhevoye**	**64.47**	**324**	*eP*	**P**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KBZ	Khabaz	69.25	317	P	P	07 35 05.3	+0.1
	comp=Z,7.7nm,1.1s,baz=148,slow=3.9,SNR=7.6						
KBZ				LR	LR	08 09 51.7	
	comp=Z,102nm,18.1s,baz=20,slow=40						
TXAR	Lajitas Array	70.05	68	P	P	07 35 11.1	+0.6
TXAR	Lajitas Array	70.05	68	P	P	07 35 11.1	+0.6
	comp=Z,0.7nm,0.5s,baz=299,slow=4.3,SNR=11						
KWP	Kalwaria Pacla	71.02	333	eP	P	07 35 17.4	+1.5
KWP	Kalwaria Pacla	71.02	333	eP	P	07 35 17.4	+1.5
KWP	Kalwaria Pacla	71.02	333	⇓iP	P	07 35 17.0	+1.1
MIAR	Mount Ida	71.26	57	eP	P	07 35 17.4	-0.2
MIAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MIAR	Mount Ida	71.26	57	eP	P	07 35 17.4	-0.2
	comp=Z,8.4nm,1.1s						
KSP	Ksiaz	71.52	337	eP	P	07 35 19.7	+0.8
KSP	Ksiaz	71.52	337	eP	P	07 35 19.9	+1.0
STHS	Stebnicka Huta	71.61	333	eP	P	07 35 20.9	+1.4
STHS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STHS	Stebnicka Huta	71.61	333	eP	P	07 35 20.9	+1.4
WCI	Wyandotte Cave	71.75	50	eP	P	07 35 20.2	-0.3
WCI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WCI	Wyandotte Cave	71.75	50	eP	P	07 35 20.2	-0.3
	comp=Z,10nm,1.1s						
KOLS	Kolonicke sedl	71.78	333	eP	P	07 35 18.7	-1.8
KOLS				pmax	pmax		
	comp=Z,152nm,3.2s						
KOLS	Kolonicke sedl	71.78	333	eP	P	07 35 18.7	-1.8
CLL	Collm	71.81	339	iP	P	07 35 20.9	+0.3
CLL				pmax	pmax		
	comp=Z,18nm,0.9s						
CLL	Collm	71.81	339	iP	P	07 35 20.9	+0.3
	comp=Z,18nm,0.9s						
UPC	Upice	71.90	337	iP	P	07 35 22.0	+0.8
DPC	Dobruska-Polom	71.98	337	eP	P	07 35 22.7	+1.0
DPC				pmax	pmax		
	comp=Z,57nm,1.0s						
DPC	Dobruska-Polom	71.98	337	iP	P	07 35 22.7	+1.0
DPC	Dobruska-Polom	71.98	337	eP	P	07 35 22.7	+1.0
	comp=Z,57nm,1.0s						
OKC	Ostrava-Krasne	72.02	336	iP	P	07 35 22.5	+0.6
BRG	Berggiesshubel	72.02	339	eP	P	07 35 22.4	+0.5
	comp=Z,16nm,1.2s						
BRG	Berggiesshubel	72.02	339	eP	P	07 35 22.4	+0.5
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PRAR	RASCA	72.06	329	⇑iP	P	07 35 30.0	+7.8
BUR08	Bucovina Ar. S	72.11	330	eP	P	07 35 22.8	+0.1
BURAR	Bucovina Array	72.13	330	⇓P	P	07 35 23.6	+0.8
BURAR	Bucovina Array	72.13	330	⇓iP	P	07 35 23.6	+0.8
TRPA	Tarpa	72.43	332	⇓iP	P	07 35 25.1	+0.7
KECS	Kecovo	72.67	333	eP	P	07 35 25.9	+0.1
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KECS	Kecovo	72.67	333	eP	P	07 35 25.9	+0.1
TESR	Tescani	72.69	329	⇑iP	P	07 35 25.3	-0.7
PRU	Pruhonice	72.72	338	iP	P	07 35 26.8	+0.7
WVT	Waverly	72.75	52	eP	P	07 35 26.5	0.0
WVT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WVT	Waverly	72.75	52	eP	P	07 35 26.5	0.0
	comp=Z,6.3nm,0.7s						
VRAC	Vranov	72.88	336	⇓iP	P	07 35 28.5	+1.4
TREC	Trest	73.16	337	iP	P	07 35 29.7	+1.0
TLCR		73.18	327	⇑P	P	07 35 29.3	+0.4
TLCR		73.18	327	⇑iP	P	07 35 29.3	+0.4
VRI	Vrincioaia	73.24	328	⇑P	P	07 35 29.1	-0.2
VRI	Vrincioaia	73.24	328	⇑iP	P	07 35 29.1	-0.2
PLOR	Plostina	73.28	328	⇓P	P	07 35 30.3	+0.8
PLOR	Plostina	73.28	328	⇓iP	P	07 35 30.3	+0.8
CFR	Carcaliu	73.41	327	⇑P	P	07 35 30.5	+0.3
CFR	Carcaliu	73.41	327	⇑iP	P	07 35 30.5	+0.3
GRER		73.60	328	⇓iP	P	07 35 29.2	-2.1
DRGR		73.60	331	⇓P	P	07 35 32.5	+1.1
DRGR		73.60	331	⇓iP	P	07 35 32.5	+1.1
GRF	Grafenberg Arr	73.71	340	eP	P	07 35 33.0	+1.0
	comp=Z,8.0nm,1.0s						
KHC	Kasperske Hory	73.74	338	eP	P	07 35 33.0	+0.8
KHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KHC	Kasperske Hory	73.74	338	iP	P	07 35 32.8	+0.6
KHC	Kasperske Hory	73.74	338	eP	P	07 35 33.0	+0.8
	comp=Z,9.8nm,0.9s						
MEM	Membach	73.81	343	P	P	07 35 32.9	+0.4
MEM	Membach	73.81	343	eP	P	07 35 33.4	+1.0
MEM				pmax	pmax		
	comp=Z,38nm,1.0s						
MEM	Membach	73.81	343	eP	P	07 35 33.4	+1.0
	comp=Z,38nm,1.0s						
MLR	Muntele Rosu	73.82	329	⇓iP	P	07 35 34.7	+1.9
TIRR	Tirgusor	73.96	327	⇑P	P	07 35 33.9	+0.5
TIRR	Tirgusor	73.96	327	⇑iP	P	07 35 33.9	+0.5
TIRR	Tirgusor	73.96	327	eP	P	07 35 33.9	+0.5
	comp=Z,22nm,1.3s						
TLB	Topalu	73.97	327	⇓P	P	07 35 33.0	-0.5
TLB	Topalu	73.97	327	⇓iP	P	07 35 33.0	-0.5
ISR	Istrita	73.97	328	⇑P	P	07 35 35.0	+1.4
ISR	Istrita	73.97	328	⇑iP	P	07 35 35.0	+1.4
GEC2	GERESS Array S	73.98	338	eP	P	07 35 34.5	+0.8
GEC2	GERESS Array S	73.98	338	eP	P	07 35 34.5	+0.8
	comp=Z,2μm,0.8s						
GERES	GERESS Array B	73.98	338	P	P	07 35 34.4	+0.8
GERES	GERESS Array B	73.98	338	P	P	07 35 34.4	+0.8
	comp=Z,4.9nm,0.7s,baz=35,slow=4.9,SNR=27						
GERES				LR	LR	08 14 46.7	
	comp=Z,25nm,19.7s,baz=36,slow=41						
BCLA	Clavier	74.11	344	P	P	07 35 33.9	-0.3
VOIR		74.14	329	⇑P	P	07 35 35.7	+1.1
VOIR		74.14	329	⇑iP	P	07 35 35.7	+1.1
ARR	Arges	74.33	329	⇓iP	P	07 35 37.6	+1.9
CONA	Conrad Observa	74.35	336	⇑iP	P	07 35 37.1	+1.3
	comp=Z,11nm,1.1s,SNR=6.6						
MSAB	Monastry St. A	74.48	327	⇑iP	P	07 35 37.6	+1.1
GIVF	Givet	74.49	344	eP	P	07 35 36.4	0.0
GIVF	Givet	74.49	344	eP	P	07 35 36.4	0.0
GIVF	Givet	74.49	344	eP	P	07 35 36.4	0.0
DOU	Dourbes	74.53	344	P	P	07 35 36.8	+0.1
	comp=Z,27nm,3.6s						
BAIF	Baives	74.63	345	eP	P	07 35 36.5	-0.8
	comp=Z,16nm,0.9s						
BAIF	Baives	74.63	345	eP	P	07 35 36.5	-0.8
BAIF				pmax	pmax		
	comp=Z,16nm,0.9s						
BAIF	Baives	74.63	345	eP	P	07 35 36.5	-0.8
	comp=Z,16nm,0.9s						
PSN	Preselentsi	74.72	326	⇑P	P	07 35 38.5	+0.6
PSN	Preselentsi	74.72	326	⇑iP	P	07 35 38.5	+0.6
GZR	Gura Zlata	74.86	331	⇑P	P	07 35 39.3	+0.5
GZR	Gura Zlata	74.86	331	⇑iP	P	07 35 39.3	+0.5
BZS	Buzias	74.99	332	⇑P	P	07 35 39.9	+0.5
BZS	Buzias	74.99	332	⇑iP	P	07 35 39.9	+0.5
ARSA	Arzberg	75.06	336	⇑iP	P	07 35 41.2	+1.3
	comp=Z,7.9nm,0.8s,SNR=5.1						
PRD	Provadia	75.41	327	⇑P	P	07 35 42.8	+1.0
BFO	Black Forest	75.58	341	ceP	P	07 35 44.5	+1.7
CDF	Champ du Feu	75.70	342	eP	P	07 35 43.9	+0.3
	comp=Z,23nm,0.9s						
CDF	Champ du Feu	75.70	342	eP	P	07 35 43.9	+0.3
CDF				pmax	pmax		
	comp=Z,23nm,0.9s						
CDF	Champ du Feu	75.70	342	eP	P	07 35 43.9	+0.3
	comp=Z,23nm,0.9s						
SOKA	Soboth	75.72	336	⇑iP	P	07 35 44.6	+1.0
	comp=Z,10nm,0.8s,SNR=9.3						
KBA	Koelnbreinsper	75.73	338	⇓iP	P	07 35 45.4	+1.6
	comp=Z,39nm,1.0s						
PAGF	Fort de Pagny	75.84	343	eP	P	07 35 44.8	+0.6
	comp=Z,9.4nm,0.8s						
PAGF	Fort de Pagny	75.84	343	eP	P	07 35 44.8	+0.6
	comp=Z,9.4nm,0.8s						
OBKA	Obir	75.99	337	⇑iP	P	07 35 46.2	+1.0
	comp=Z,28nm,1.1s,SNR=6.8						
MEZF	Maizieres J'vi	76.00	344	eP	P	07 35 45.5	+0.4
	comp=Z,62nm,1.3s						
MEZF	Maizieres J'vi	76.00	344	eP	P	07 35 45.5	+0.4
	comp=Z,62nm,1.3s						
HAU	Haudompre	76.26	343	eP	P	07 35 46.8	+0.1
	comp=Z,21nm,1.0s						
HAU				eR			
	comp=Z,84nm,22.0s						
HAU	Haudompre	76.26	343	eP	P	07 35 46.8	+0.1
HAU				pmax	pmax		
	comp=Z,21nm,1.0s						
HAU	Haudompre	76.26	343	eP	P	07 35 46.8	+0.1
	comp=Z,21nm,1.0s						
BR131	Keskin Array S	76.29	321	eP	P	07 35 47.1	0.0
	comp=Z,1.4nm,0.6s						
BRTR	Keskin Array B	76.29	321	P	P	07 35 46.5	-0.6
BRTR	Keskin Array B	76.29	321	P	P	07 35 46.5	-0.6
	comp=Z,2.1nm,0.8s,baz=54,slow=3.8,SNR=10						
BRTR				LR	LR	08 12 54.8	
	comp=Z,36nm,19.4s,baz=52,slow=38						
SFTF	Sexfontaines	76.29	343	eP	P	07 35 47.0	+0.2
	comp=Z,19nm,0.7s						
SFTF	Sexfontaines	76.29	343	eP	P	07 35 47.0	+0.2
	comp=Z,19nm,0.7s						
HINF	Hinteralfeld	76.35	342	eP	P	07 35 47.2	0.0
HINF	Hinteralfeld	76.35	342	eP	P	07 35 47.2	0.0
HINF	Hinteralfeld	76.35	342	eP	P	07 35 47.2	0.0
FETA	Feichten	76.36	339	⇓iP	P	07 35 48.4	+1.0
	comp=Z,18nm,1.0s						
FLN	La Foliniere	76.58	347	eP	P	07 35 47.1	-1.3
	comp=Z,142nm,1.4s						
FLN				eR			
	comp=Z,98nm,18.5s						
FLN	La Foliniere	76.58	347	eP	P	07 35 47.1	-1.3
FLN	La Foliniere	76.58	347	eP	P	07 35 47.1	-1.3
	comp=Z,142nm,1.4s						
DAVOX	Davos/Dischmat	76.76	340	P	P	07 35 50.7	+1.0
DAVOX	Davos/Dischmat	76.76	340	P	P	07 35 50.7	+1.0
	comp=Z,5.3nm,0.7s,baz=323,slow=5.2,SNR=6.3						
WRAB	Tennant Creek	76.85	205	⇓iP	P	07 35 50.4	+0.2
WRAB				pmax	pmax		
	comp=Z,59nm,2.5s						
WRA	Warramunga Arr	76.86	205	P	P	07 35 50.5	+0.3
WRA	Warramunga Arr	76.86	205	P	P	07 35 50.5	+0.3
	comp=Z,4.2nm,1.0s,baz=15,slow=5.8,SNR=9.8						
TUE	Stuetta	77.16	340	eP	P	07 35 53.0	+1.0
	comp=Z,443nm,0.5s						
VTS	Vitosha	77.28	329	⇑P	P	07 35 53.1	+0.4
VTS	Vitosha	77.28	329	⇑iP	P	07 35 53.1	+0.4
SGMF	Saint Gilles	77.33	349	eP	P	07 35 52.6	0.0
SGMF	Saint Gilles	77.33	349	eP	P	07 35 52.6	0.0
SGMF	Saint Gilles	77.33	349	eP	P	07 35 52.6	0.0
LOR	Lormes	77.40	344	eP	P	07 35 53.1	0.0
LOR	Lormes	77.40	344	eP	P	07 35 53.1	0.0
CABF	La Chapelle	77.65	342	eP	P	07 35 55.0	+0.4
	comp=Z,91nm,1.6s						
CABF	La Chapelle	77.65	342	eP	P	07 35 55.0	+0.4
CABF				pmax	pmax		
	comp=Z,91nm,1.5s						
CABF	La Chapelle	77.65	342	eP	P	07 35 55.0	+0.4
	comp=Z,91nm,1.5s						
SSF	Saint Saulge	77.66	344	eP	P	07 35 54.6	+0.1
SSF	Saint Saulge	77.66	344	eP	P	07 35 54.6	+0.1
SSF	Saint Saulge	77.66	344	eP	P	07 35 54.6	+0.1
SMF	Signal de Mont	78.00	344	eP	P	07 35 56.6	+0.2
	comp=Z,17nm,1.0s						
SMF	Signal de Mont	78.00	344	eP	P	07 35 56.6	+0.2
SMF				pmax	pmax		
	comp=Z,17nm,1.0s						
SMF	Signal de Mont	78.00	344	eP	P	07 35 56.6	+0.2
	comp=Z,17nm,1.0s						
MMB	Musomiste	78.03	328	⇑P	P	07 35 58.1	+1.4
MMB	Musomiste	78.03	328	⇑iP	P	07 35 58.1	+1.4
LPL	La Plagne	78.59	342	eP	P	07 36 01.2	+1.2
	comp=Z,33nm,1.0s						
LPL	La Plagne	78.59	342	eP	P	07 36 01.2	+1.2
LPL				pmax	pmax		
	comp=Z,33nm,1.0s						
LPL	La Plagne	78.59	342	eP	P	07 36 01.2	+1.2
	comp=Z,33nm,1.0s						
LPG	La Plagne	78.60	342	eP	P	07 36 01.4	+1.3
	comp=Z,83nm,1.2s						
LPG	La Plagne	78.60	342	eP	P	07 36 01.4	+1.3
LPG				pmax	pmax		
	comp=Z,83nm,1.2s						
LPG	La Plagne	78.60	342	eP	P	07 36 01.4	+1.3
	comp=Z,83nm,1.2s						
TCF	Toulx Ste Croi	78.61	345	eP	P	07 35 59.4	-0.4
TCF	Toulx Ste Croi	78.61	345	eP	P	07 35 59.4	-0.4
TCF	Toulx Ste Croi	78.61	345	eP	P	07 35 59.4	-0.4
ORIF	Oris-en-Rattie	79.32	342	eP	P	07 36 05.1	+1.3
	comp=Z,39nm,1.2s						
ORIF				eR			
	comp=Z,63nm,22.8s						
ORIF	Oris-en-Rattie	79.32	342	eP	P	07 36 05.1	+1.3
ORIF				pmax	pmax		
	comp=Z,39nm,1.2s						
ORIF	Oris-en-Rattie	79.32	342	eP	P	07 36 05.1	+1.3
	comp=Z,39nm,1.2s						
MBDF	Montbardon	79.34	341	eP	P	07 36 04.9	+0.9
	comp=Z,16nm,0.8s						
MBDF	Montbardon	79.34	341	eP	P	07 36 04.9	+0.9
MBDF				pmax	pmax		
	comp=Z,16nm,0.8s						
MBDF	Montbardon	79.34	341	eP	P	07 36 04.9	+0.9
	comp=Z,16nm,0.8s						
CAF	Calviac	79.96	345	eP	P	07 36 07.5	+0.3
	comp=Z,50nm,1.3s						
CAF	Calviac	79.96	345	eP	P	07 36 07.5	+0.3
CAF				pmax	pmax		
	comp=Z,50nm,1.3s						
CAF	Calviac	79.96	345	eP	P	07 36 07.5	+0.3
	comp=Z,50nm,1.3s						
ASAR	Alice Springs	80.54	205	P	P	07 36 11.3	+1.0
ASAR	Alice Springs	80.54	205	P	P	07 36 11.3	+1.0
	comp=Z,4.5nm,0.9s,baz=15,slow=5.5,SNR=23						
EPF	Esparros	82.08	346	eP	P	07 36 18.5	0.0
	comp=Z,47nm,1.3s						
EPF	Esparros	82.08	346	eP	P	07 36 18.5	0.0
EPF				pmax	pmax		
	comp=Z,47nm,1.3s						
EPF	Esparros	82.08	346	eP	P	07 36 18.5	0.0
	comp=Z,47nm,1.3s						
PPT	Papeete	82.88	133	LR	LR	08 04 02.6	
	comp=Z,48nm,21.6s,baz=314,slow=29						
RAYN	Ar Rayn	84.95	303	eP	P	07 36 33.3	-0.2
	comp=Z,23nm,1.1s						
ESDC	Sonseca Array	85.96	348	P	P	07 36 37.3	-1.0
ESDC	Sonseca Array	85.96	348	P	P	07 36 37.3	-1.0
	comp=Z,0.6nm,0.5s,baz=13,slow=5.2,SNR=5.3						
STKA	Stephens Creek	86.91	196	P	P	07 36 42.8	+0.1
STKA	Stephens Creek	86.91	196	P	P	07 36 42.8	+0.1
	comp=Z,2.3nm,0.8s,baz=349,slow=9.1,SNR=5.8						
QSPA	South Pole Qui	143.54	180	PKPpre	PKPpre	07 43 28.1	
QSPA	South Pole Qui	143.54	180	PKhKP	PKPpre	07 43 28.0	
	comp=Z,5.3nm,1.0s,baz=297,slow=2.2,SNR=8.2						

IDC ***30*** *07:32:13.2±2.0, 24°.78S×179°.94E, h467km±20km, mb3.6/12, mb1 3.9/13, mb1mx3.7/22, mbtmp4.4/13, Error ellipse: s-maj=16.6km s-min=14.4km az=143.0*

ISCJB ***30*** *07:32:15.2±0.3, 25°.01S±0°.05×179°.90E±0°.06, h496km, mb4.4/35, Error ellipse: s-maj=8.1km s-min=5.9km az=43.6*

BJI ***30*** *07:32:16.4, 24°.97S×179°.72E, h496km, mB4.9/5, mb4.5/11*

NEIC ***30*** *07:32:16.8±2.1, 25°.12S×179°.93E, h506km±26km, mb4.7/22, Error ellipse: s-maj=19.9km s-min=11.6km az=184.0*

ISC 30 07:32:15.9±0.5**, 25°.04S**±0°.06×**179°.99W**±0°.07**, h496**km**, n81,** σ1s.**51**/104**, mb4.5**/35**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	11.05	60	P	P	07 34 42.7	-1.8
	baz=10,SNR=3.5						
OUZ	Omahuta	11.57	207	ePn	P	07 34 52.2	+2.5
DZM	Mont Dzumac	12.79	281	P	P	07 35 03.5	+0.4
	1.2nm,0.3s,baz=80,slow=18,SNR=12						
URZ	Urewera	13.41	190	ePn	P	07 35 07.7	-1.6
URZ				eSn	S	07 37 32.7	+0.5
URZ	Urewera	13.41	190	P	P	07 35 06.9	-2.3
	4.6nm,0.3s,baz=320,slow=1.6,SNR=13						
URZ				S	S	07 37 30.5	-1.7
	1.1nm,0.3s,baz=48,slow=22,SNR=10						
AFI	Afiamalu	13.50	36	P	P	07 35 04.5	-6.1
	3.1nm,0.3s,baz=343,slow=17,SNR=3.8						
AFI				S	S	07 37 22.3	-12
	1.9nm,0.3s,baz=156,slow=18,SNR=2.1						
BKZ	Black Stump Fm	14.40	191	eP	P	07 35 18.4	-1.3
BFZ	Birch Farm	15.92	190	eP	P	07 35 34.0	-1.6
	142nm,1.9s						
SNZO	South Karori	16.82	194	eP	P	07 35 44.5	-0.4
	48nm,0.8s						
KHZ	Kahutara	18.14	196	eP	P	07 35 56.4	-1.1
	332nm,2.2s						
LHI	Lord Howe Isla	19.53	246	P	P	07 36 12.6	+2.2
	baz=20,SNR=4.8						
RPZ	Rata Peaks	20.02	199	eP	P	07 36 14.0	-0.7
	20nm,0.8s						
WHZ	Wether Hill Ro	22.96	202	eP	P	07 36 40.1	-1.2
ARMA	Armidale	25.65	252	eP	P	07 37 06.4	+0.9
	23nm,0.8s						
ARMA	Armidale	25.65	252	P	P	07 37 06.7	+1.2
	baz=26,SNR=12						
EIDS	Eidsvold	26.16	263	eP	P	07 37 09.6	-0.3
	15nm,0.7s						
EIDS	Eidsvold	26.16	263	P	P	07 37 09.7	-0.3
	baz=27,SNR=6.6						
MGCD	Mangrove Creek	26.47	245	P	P	07 37 13.9	+1.3
	baz=27,SNR=9.8						
RMQ	Roma	28.15	260	P	P	07 37 28.6	+1.1
	baz=29,SNR=11						
CNB	Canberra Magne	28.31	242	P	P	07 37 30.7	+1.9
	baz=29,SNR=6.7						
MILA	Mila	28.90	238	P	P	07 37 35.2	+1.3
	baz=29,SNR=5.9						
CMSA	Cobar Meteorol	30.82	250	P	P	07 37 50.5	-0.1
	baz=31,SNR=10						
CTAO	Charters Tower	31.51	272	eP	P	07 37 56.4	-0.3
	41nm,0.5s						
TOO	Toolangi	31.85	239	P	P	07 37 59.9	+0.5
	baz=32,SNR=13						
QLP	Quilpie	32.18	259	P	P	07 38 01.9	-0.5
	baz=33,SNR=13						
STKA	Stephens Creek	34.33	250	eP	P	07 38 20.3	-0.1
	3.8nm,1.3s						
STKA	Stephens Creek	34.33	250	P	P	07 38 20.0	-0.4
	5.6nm,0.4s,baz=97,slow=11,SNR=48						
STKA	Stephens Creek	34.33	250	P	P	07 38 20.3	-0.1
	baz=35,SNR=36						
ARPS	Mount Arapiles	34.57	241	P	P	07 38 22.5	+0.1
	baz=35,SNR=5.8						
COEN	Coen	36.32	281	eP	P	07 38 37.1	-0.2
	157nm,0.9s						
COEN	Coen	36.32	281	P	P	07 38 37.3	0.0
	baz=37,SNR=8.5						
HTT	Hallett	36.63	247	P	P	07 38 39.1	-0.6
	baz=37,SNR=12						
QIS	Mount Isa	37.42	268	P	P	07 38 45.4	-0.9
	baz=38,SNR=3.4						
BBOO	Buckleboo	39.02	248	eP	P	07 38 57.9	-1.4
	194nm,0.7s						
BBOO	Buckleboo	39.02	248	P	P	07 38 58.0	-1.2
	baz=40,SNR=11						
AS31	Alice Springs	41.87	262	eP	P	07 39 21.1	-1.1
ASAR	Alice Springs	41.87	262	P	P	07 39 21.2	-1.0
	6.1nm,0.4s,baz=91,slow=6.6,SNR=150						
ASAR				ScP	ScP	07 44 10.9	+1.4
	0.9nm,0.8s,baz=113,slow=4.1,SNR=4.8						
ASAR				S	S	07 45 01.1	-2.9
	0.6nm,0.7s,baz=97,slow=14,SNR=4.9						
WRAB	Tennant Creek	42.35	267	eP	P	07 39 24.3	-1.7
	18nm,0.6s						
WRA	Warramunga Arr	42.35	267	P	P	07 39 24.4	-1.6
	14nm,0.4s,baz=100,slow=7.2,SNR=271						
WRA				ScP	ScP	07 44 13.8	+2.3
	2.9nm,0.9s,baz=100,slow=3.6,SNR=7.8						
JAY	Jayapura	43.98	294	P	P	07 39 37.0	-1.9
	14nm,0.6s,baz=142,slow=12,SNR=3.6						
FORT	Forrest	45.94	251	eP	P	07 39 52.1	-1.5
	35nm,0.7s						
FORT	Forrest	45.94	251	P	P	07 39 52.1	-1.5
	baz=46,SNR=9.3						
KDU	Kakadu	46.41	276	P	P	07 39 55.7	-1.8
	baz=47,SNR=6.4						
WRKA	Warakurna	46.61	258	P	P	07 39 57.5	-1.5
	baz=47,SNR=20						
KNRA	Kununurra	48.70	271	P	P	07 40 13.7	-1.0
	baz=49,SNR=25						
VNDA	Vanda	53.25	185	eP	P	07 40 48.6	+1.8
	29nm,2.0s						
VNDA	Vanda	53.25	185	P	P	07 40 48.4	+1.5
	1.2nm,0.7s,baz=353,slow=7.5,SNR=4.2						
MEEK	Meekatharra	54.80	254	P	P	07 40 57.1	-1.7
	baz=55,SNR=4.7						
BLDU	Ballidu	55.62	249	P	P	07 41 03.1	-1.4
	baz=56,SNR=14						
QSPA	South Pole Qui	65.05	180	P	P	07 42 07.8	+1.3
	1.9nm,0.7s,baz=9.4,slow=1.1,SNR=9.9						
PETK	Petropavlovsk-	80.20	347	P	P	07 43 32.8	-1.1
	1.9nm,0.7s,baz=163,slow=7.2,SNR=4.8						
NJ2	Nanjing	81.41	311	eP	P	07 43 41.5	+0.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ISA	Isabella	83.80	46	eP	P	07 43 52.9	+0.2
	4.3nm,0.8s						
CMB	Columbia Colle	84.02	43	eP	P	07 43 54.0	+0.3
	61nm,2.8s						
NVAR	Mina Array Bea	85.56	44	P	P	07 44 01.1	-0.4
	1.4nm,0.8s,baz=222,slow=8.1,SNR=10						
LDFC	Landfair	85.69	48	eP	P	07 44 03.0	+1.0
	12nm,1.1s						
TPH	Tonopah	86.03	45	eP	P	07 44 03.9	+0.2
	1.5nm,0.6s						
TUC	Tucson	87.20	52	eP	P	07 44 10.7	+1.5
	5.6nm,1.2s						
GYA	Guiyang	87.33	301	eP	P	07 44 10.8	+0.8
GYA				pP	pP	07 46 03.5	+3.4
GYA				sP	sP	07 46 53.5	+2.9
GYA				PP	PP	07 47 46.0	+2.4
GYA				SKS	SKSac	07 53 49.0	-1.3
GYA				S	S	07 54 07.3	-1.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
G08A	Pilot Rock	89.31	38	eP	P	07 44 19.1	+0.3
	54nm,2.7s						
XAN	Xi'an	89.45	308	P	P	07 44 18.3	-1.3
XAN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMI	Kunming	89.80	298	P	P	07 44 22.5	+0.8
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
CMAR	Chiang Mai Arr	89.93	290	P	P	07 44 23.1	+0.9
	0.9nm,0.2s,baz=125,slow=3.7,SNR=5.5						
MFID	Camas Ranch	90.01	41	eP	P	07 44 22.0	-0.1
	2.9nm,1.1s						
TMUT	Trail Mountain	90.61	46	eP	P	07 44 26.1	+0.9
	4.3nm,0.5s						
HVU	Hansel Valley	90.95	44	eP	P	07 44 26.8	+0.3
	3.7nm,0.8s						
SRU	San Rafael	90.97	47	eP	P	07 44 26.8	+0.1
	7.5nm,1.3s						
TXAR	Lajitas Array	91.02	58	P	P	07 44 27.8	+0.7
	1.7nm,0.8s,baz=217,slow=6.5,SNR=18						
HHC	Hu-ho-hao-te	91.23	315	eP	P	07 44 28.0	+0.2
HHC				pP	pP	07 46 18.8	+0.2
HHC				sP	sP	07 47 11.5	+2.6
HHC				PP	PP	07 48 14.5	+0.6
HHC				S	S	07 54 41.5	-2.0
HHC				sS	sS	07 58 01.5	-0.4
HHC				pmax	pmax		
	comp=Z,41nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,5.0s						
ILAR	Eielson Array	93.13	14	P	P	07 44 33.4	-2.4
	0.4nm,0.8s,baz=228,slow=5.1,SNR=6.8						
PDAR	Pinedale Array	93.50	44	P	P	07 44 38.0	-0.4
	0.3nm,0.7s,baz=240,slow=2.9,SNR=3.6						
LZH	Lanzhou	94.08	308	eP	P	07 44 42.0	+1.0
LZH				pP	pP	07 46 35.5	+3.4
LZH				sP	sP	07 47 26.0	+3.7
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
WMQ	Urumqi	108.48	310	Pdif	Pdif	07 45 44.8	-0.2
WMQ				PP	PP	07 50 25.5	+2.7
WMQ				S	Sdif	07 57 07.8	-1.2
WMQ				SS	SS	08 05 02.0	+0.7
WMQ				AMB	AMB		
	comp=Z,11nm,9.2s						
KSH	Kashi	115.91	303	ePKP	PKPdf	07 50 03.0	+0.9
KSH				ePP	PP	07 51 17.3	+1.9
KSH				esPKP		07 52 43.5	
KSH				eSKS	SKSdf	07 56 29.0	+2.1
KSH				eSKKS	SKKSac	07 57 20.3	-3.9
KSH				eSS	SS	08 06 36.3	-2.8
KSH				AMB	AMB		
	comp=Z,35nm,3.8s						
ARCES	ARCESS Array B	133.00	348	PKP	PKPdf	07 50 32.3	-1.4
	3.0nm,0.8s,baz=339,slow=6.5,SNR=4.2						
FINES	FINESS Array B	139.52	341	PKhKP	PKPpre	07 50 36.5	
	0.5nm,0.4s,baz=17,slow=1.5,SNR=6.9						
FINES				SKPbc	SKPbc	07 53 34.2	-0.2

3.6nm,0.9s,baz=305,slow=4.9,SNR=5.6
NOA NORSAR Array B 143.20 351 PKhKP **PKPpre** 07 50 48.7
0.8nm,0.8s,baz=16,slow=4.7,SNR=3.4
AKASG Malin Array Be 145.93 326 PKPbc **PKPdf 07 50 57.5 0.0**
0.7nm,0.3s,baz=45,slow=4.2,SNR=9.0
BRTR Keskin Array B 148.26 306 PKPbc **PKPbc 07 51 05.1 -0.9**
0.3nm,0.4s,baz=89,slow=2.3,SNR=3.8
CLL Collm 151.94 343 PKPbc **PKPbc 07 51 13.4 -0.7**
TORD Torodi Ar. Bea 168.07 188 PKP **PKPdf 07 51 24.6 -1.2**
0.6nm,1.0s,baz=29,slow=3.3,SNR=3.1
TORD PKPab **PKPab 07 52 36.9 +0.2**
0.2nm,0.6s,baz=163,slow=5.4,SNR=2.6

GUC 30 07:34:29.0±0.5, 21.56S×68.56W, h135km±3km, ML4.3, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.68**	**249**	*i*P	Pn	07 34 50.8	+0.7
PB09				*i* S	Sn	07 35 06.8	+0.9
PB09				AML	AML	07 35 09.3	
	comp=E,9μm,0.2s						
PB01	**Plate Boundary**	**1.00**	**300**	*i*P	Pn	07 34 53.0	+0.4
PB01				*i* S	Sn	07 35 11.2	+0.8
PB01				AML	AML	07 35 12.1	
	comp=N,5μm,0.4s						
PB04	**Plate Boundary**	**1.11**	**231**	*i*P	Pn	07 35 00.3	+6.9
PB04				*i* S	Sn	07 35 24.2	+12
PB04				AML	AML	07 35 28.3	
	comp=E,2μm,0.2s						
PB07	**Plate Boundary**	**1.25**	**262**	*i*P	Pn	07 34 55.9	+0.9
PB07				*i* S	Sn	07 35 16.0	+1.2
PB07				AML	AML	07 35 17.5	
	comp=N,3μm,0.3s						
MACH	**Maria Elena**	**1.28**	**240**	*i* P	Pn	07 34 56.1	+0.7
MACH				*i* S	Sn	07 35 16.7	+1.1
PB06	**Plate Boundary**	**1.48**	**219**	*i*P	Pn	07 34 58.1	+0.6
PB06				*i* S	Sn	07 35 20.3	+1.1
PB06				AML	AML	07 35 21.8	
	comp=E,3μm,0.1s						
PATCX	**Punta Patache**	**1.66**	**296**	*e*P	Pn	07 35 00.3	+0.9
PATCX				*i* S	Sn	07 35 23.8	+1.3
PATCX				AML	AML	07 35 25.6	
	comp=E,4μm,0.3s						
HMBC	**Humberstone**	**1.78**	**315**	*e*P	Pn	07 35 01.2	+0.4
HMBC				AML	AML	07 35 28.6	
	comp=N,5μm,0.4s						
CEN1	**Los Morros**	**2.37**	**219**	*e*P	Pn	07 35 12.1	+4.1
CEN1				*i* S	Sn	07 35 44.4	+6.3
CEN1				AML	AML	07 35 53.8	
	comp=N,767nm,0.6s						
PSGC	**Pisagua**	**2.44**	**323**	AML	AML	07 35 41.0	
	comp=E,1μm,0.3s						
MNMC	**Minimini**	**2.60**	**338**	*e*P	Pn	07 35 11.2	+0.1
MNMC				*i* S	Sn	07 35 44.2	+0.7
MNMC				AML	AML	07 35 47.1	
	comp=N,3μm,0.1s						

*IDC **30** 08:04:32.1±0.6, 33.43S×77.62E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.1/37, mbtmp4.2/14, MS3.9/17, Ms1 3.9/17, ms1mx3.7/27, Error ellipse: s-maj=20.1km s-min=18.3km az=54.0*
*ISCJB **30** 08:04:33.1±0.5, 33.56S±0.10×77.7E±0.1, h16km, mb4.3/20, MS4.0/17, Error ellipse: s-maj=15.9km s-min=12.9km az=149.8*
*NEIC **30** 08:04:34.0±0.5, 33.51S×77.61E, h10km, mb4.8/8, Error ellipse: s-maj=16.9km s-min=12.4km az=47.0*

ISC 30 08:04:34.9±0.6, 33.5S±0.1×77.6E±0.1, h16km, n51, σ0s86/35, mb4.4/20, MS4.0/17, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.17**	**348**	T	T	08 37 09.3	
	baz=170,slow=76,SNR=327						
H08S1	**Diego Garcia H**	**26.17**	**348**	T	T	08 37 08.0	
	baz=170,slow=76,SNR=72						
H08S3	**Diego Garcia H**	**26.19**	**348**	T	T	08 37 10.7	
	baz=170,slow=76,SNR=487						
H08N1	**Diego Garcia H**	**27.71**	**346**	T	T	08 39 18.8	
	baz=180,slow=74,SNR=9.6						
H08N3	**Diego Garcia H**	**27.72**	**346**	T	T	08 39 27.7	
	baz=180,slow=74,SNR=16						
H08N2	**Diego Garcia H**	**27.73**	**346**	T	T	08 39 22.4	
	baz=180,slow=74,SNR=8.5						
H01W2	**Cape Leeuwin H**	**30.12**	**103**	T	T	08 42 25.3	
	baz=262,slow=74,SNR=109						
H01W3	**Cape Leeuwin H**	**30.13**	**103**	T	T	08 42 24.7	
	baz=262,slow=74,SNR=93						
H01W1	**Cape Leeuwin H**	**30.14**	**103**	T	T	08 42 23.9	
	baz=262,slow=74,SNR=96						
MAW	**Mawson**	**35.20**	**190**	LR	LR	08 22 31.2	
	comp=Z,164nm,21.2s,baz=22,slow=31						
BOSA	**Boshof**	**44.74**	**262**	LR	LR	08 27 42.7	
	comp=Z,250nm,19.2s,baz=115,slow=31						
LSZ	**Lusaka**	**48.07**	**280**	*e*P	**P**	**08 13 14.3**	**+0.2**
	6.9nm,0.8s						
LSZ	**Lusaka**	**48.07**	**280**	P	**P**	**08 13 13.9**	**-0.2**
	5.9nm,0.8s,baz=96,slow=9.1,SNR=12						
KMBO	**Kilima Mbogo**	**49.67**	**302**	LR	LR	08 29 03.3	
	comp=Z,50nm,21.1s,baz=90,slow=30						
ASAR	**Alice Springs**	**49.86**	**94**	P	**P**	**08 13 27.4**	**-0.3**
ASAR	**Alice Springs**	**49.86**	**94**	P	**P**	**08 13 27.4**	**-0.3**
	3.9nm,0.9s,baz=241,slow=6.7,SNR=24						
ASAR				LR	LR	08 32 26.4	
	comp=Z,99nm,19.6s,baz=245,slow=34						
WRA	**Warramunga Arr**	**51.85**	**90**	P	**P**	**08 13 42.8**	**+0.1**
WRA	**Warramunga Arr**	**51.85**	**90**	P	**P**	**08 13 42.8**	**+0.1**
	4.7nm,0.8s,baz=247,slow=7.2,SNR=16						
WRA				LR	LR	08 34 07.1	
	comp=Z,132nm,19.4s,baz=195,slow=34						
WRAB	**Tennant Creek**	**51.87**	**90**	*e*P	**P**	**08 13 43.5**	**+0.7**
	8.8nm,0.9s						
STKA	**Stephens Creek**	**53.08**	**107**	*e*P	**P**	**08 13 52.5**	**+0.8**
	0.7nm,0.8s						
STKA	**Stephens Creek**	**53.08**	**107**	P	**P**	**08 13 51.4**	**-0.2**
	2.4nm,0.8s,baz=231,slow=10.0,SNR=5.3						
STKA				LR	LR	08 33 17.3	
	comp=Z,236nm,19.2s,baz=211,slow=32						
CMAR	**Chiang Mai Arr**	**55.53**	**25**	P	**P**	**08 14 08.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**55.53**	**25**	P	**P**	**08 14 08.7**	**-0.8**
	1.5nm,0.3s,baz=213,slow=6.9,SNR=8.4						
CMAR				LR	LR	08 33 17.8	
	comp=Z,65nm,21.8s,baz=190,slow=31						
SNAA	**Sanae**	**55.60**	**202**	P	**P**	**08 14 09.4**	**0.0**
	2.6nm,1.1s,baz=120,slow=16,SNR=3.8						
VNDA	**Vanda**	**56.32**	**165**	P	**P**	**08 14 14.4**	**-0.1**
VNDA	**Vanda**	**56.32**	**165**	P	**P**	**08 14 14.4**	**-0.1**
	2.0nm,1.0s,baz=290,slow=7.1,SNR=3.8						
VNDA				LR	LR	08 36 22.8	
	comp=Z,179nm,18.9s,baz=279,slow=34						
QSPA	**South Pole Qui**	**56.65**	**180**	*e*P	**P**	**08 14 17.2**	**+0.1**
	43nm,2.0s						
QSPA	**South Pole Qui**	**56.65**	**180**	P	**P**	**08 14 17.3**	**+0.2**
	2.4nm,1.0s,baz=278,slow=12,SNR=3.4						
JAY	**Jayapura**	**66.30**	**77**	LR	LR	08 41 06.1	
	comp=Z,101nm,21.5s,slow=33						
PMG	**Port Moresby**	**67.82**	**87**	LR	LR	08 45 09.1	
	comp=Z,267nm,18.7s,baz=231,slow=36						
KBL	**Kabul**	**68.17**	**352**	*e*P	**P**	**08 15 35.6**	**+1.1**
	5.6nm,0.8s						
AAK	**Ala-Archa**	**75.82**	**358**	*e*P	**P**	**08 16 22.7**	**+2.5**
	5.5nm,1.4s						
KKAR	**Karatay Array**	**76.52**	**355**	*e*P	**P**	**08 16 25.2**	**+1.3**
	7.5nm,0.7s						
MKAR	**Makanchi Array**	**80.04**	**3**	P	**P**	**08 16 42.4**	**-1.0**
MKAR	**Makanchi Array**	**80.04**	**3**	P	**P**	**08 16 42.4**	**-1.0**
	2.7nm,1.0s,baz=178,slow=5.6,SNR=16						
MKAR				LR	LR	08 49 24.4	
	comp=Z,68nm,21.4s,baz=196,slow=34						
MK31	**Makanchi Array**	**80.04**	**3**	*e*P	**P**	**08 16 42.2**	**-1.2**
KBZ	**Khabaz**	**83.14**	**335**	LR	LR	08 50 21.9	
	comp=Z,45nm,18.1s,baz=164,slow=33						
BRTR	**Keskin Array B**	**83.46**	**327**	P	**P**	**08 17 02.0**	**+0.3**
BRTR	**Keskin Array B**	**83.46**	**327**	P	**P**	**08 17 02.0**	**+0.3**
	1.0nm,0.9s,baz=142,slow=4.2,SNR=4.9						
BRTR				LR	LR	08 50 41.7	
	comp=Z,15nm,18.5s,baz=134,slow=33						
KURK	**Kurchatov**	**83.86**	**1**	*e*P	**P**	**08 17 03.8**	**+0.5**
	13nm,1.9s						
ABKAR	**Akbulak array**	**83.89**	**348**	*e*P	**P**	**08 17 05.0**	**+1.6**
	1.3nm,0.8s						
SONM	**Songino Array**	**84.98**	**19**	P	**P**	**08 17 08.8**	**-0.5**
SONM	**Songino Array**	**84.98**	**19**	P	**P**	**08 17 08.8**	**-0.5**
	1.3nm,1.0s,baz=199,slow=5.9,SNR=5.8						
SONM				LR	LR	08 52 39.6	
	comp=Z,76nm,21.7s,baz=218,slow=34						
TORD	**Torodi Ar. Bea**	**85.77**	**289**	P	**P**	**08 17 13.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**85.77**	**289**	P	**P**	**08 17 13.3**	**-0.5**
	1.4nm,0.8s,baz=109,slow=4.1,SNR=9.4						
TORD				LR	LR	08 54 20.4	
	comp=Z,116nm,18.2s,baz=80,slow=35						
ZAA0	**Zalesovo Array**	**87.31**	**4**	*e*P	**P**	**08 17 20.0**	**-0.4**
ZALV	**Zalesovo Beam**	**87.31**	**4**	P	**P**	**08 17 19.9**	**-0.5**
ZALV	**Zalesovo Beam**	**87.31**	**4**	P	**P**	**08 17 19.9**	**-0.5**
	2.8nm,0.6s,baz=185,slow=3.9,SNR=16						
ZALV				LR	LR	08 53 45.9	
	comp=Z,61nm,21.4s,baz=250,slow=34						
DBIC	**Dimbokro**	**87.41**	**280**	LR	LR	08 52 13.8	
	comp=Z,146nm,21.4s,baz=112,slow=33						
AKASG	**Malin Array Be**	**94.09**	**332**	P	**P**	**08 17 50.7**	**-1.4**
AKASG	**Malin Array Be**	**94.09**	**332**	P	**P**	**08 17 50.7**	**-1.4**
	0.1nm,0.4s,baz=134,slow=4.0,SNR=3.5						

*ISCJB **30** 08:32:55.6±0.5, 3.5N±0.1×97.98E±0.09, h139km±5km, mb3.3/9, Error ellipse: s-maj=19.7km s-min=11.8km az=38.0*
*IDC **30** 08:32:56.0±1.8, 3.38N×97.88E, h129km±12km, mb3.2/9, mb1 3.3/9, mb1mx3.2/35, mbtmp3.6/9, Error ellipse: s-maj=58.2km s-min=16.6km az=55.0*
*DJA **30** 08:33:03.5±0.6, 3.7N±4.4×9.8E±.°, h10km, M3.1/4, MLv3.1/4*

ISC 30 08:32:56.5±0.8, 3.4N±0.1×97.91E±0.08, h133km±6km, n16, σ1s15/18, mb3.3/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.17**	**305**	P	**Pn**	**08 33 15.4**	**+0.8**
KCSI				S	**Sn**	**08 33 28.5**	**+0.2**
TSI	**Tuntungan**	**0.66**	**83**	P	Pn	08 33 21.1	+4.2
TPTI		**0.74**	**257**	P	**Pn**	**08 33 18.8**	**+1.3**
TPTI				S	**Sn**	**08 33 30.2**	**-3.1**
PSI	**Prapat**	**1.19**	**121**	P	x	08 33 22.2	
PSI	**Prapat**	**1.19**	**121**	P	**Pn**	**08 33 22.3**	**+0.7**
	14nm,0.3s,baz=307,slow=8.8,SNR=43						
PSI				S	**Sn**	**08 33 40.7**	**0.0**
	5.4nm,0.3s,baz=315,slow=21,SNR=8.3						
SNSI	**Sinabang, Aceh**	**1.87**	**237**	P	**Pn**	**08 33 31.0**	**+1.9**
GSI	**Gunungsitoli**	**2.13**	**189**	P	**Pn**	**08 33 32.8**	**+0.5**
WRA	**Warramunga Arr**	**42.66**	**124**	P	**P**	**08 40 40.0**	**-0.3**
	0.3nm,0.5s,baz=305,slow=9.4,SNR=6.0						
ASAR	**Alice Springs**	**44.21**	**129**	P	**P**	**08 40 52.2**	**-0.5**
	0.3nm,0.7s,baz=299,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**44.84**	**8**	P	**P**	**08 40 57.4**	**-0.1**
	0.2nm,0.4s,baz=189,slow=10.0,SNR=3.7						
SONM				PcP	**PcP**	**08 42 37.9**	**+0.8**
	0.3nm,0.4s,baz=197,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**45.28**	**345**	P	**P**	**08 41 00.7**	**-0.2**
	0.3nm,0.4s,baz=155,slow=8.1,SNR=9.1						
KURBB	**Kurchatov Arra**	**49.79**	**344**	P	**P**	**08 41 35.9**	**+0.3**
	0.5nm,0.4s,baz=156,slow=7.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**51.49**	**350**	P	**P**	**08 41 48.2**	**0.0**
	1.5nm,0.3s,baz=168,slow=6.9,SNR=8.4						
BVAR	**Borovoye Array**	**54.41**	**340**	P	**P**	**08 42 09.3**	**-0.4**
	0.3nm,0.4s,baz=165,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**73.94**	**322**	P	**P**	**08 44 16.6**	**-0.6**
	0.2nm,0.3s,baz=94,slow=5.4,SNR=2.4						
FINES	**FINESS Array B**	**78.37**	**332**	P	**P**	**08 44 42.2**	**+0.2**
	0.4nm,0.6s,baz=134,slow=4.0,SNR=4.2						

IDC 30 09:31:29.3±3.0, 54.46N×87.08E, h0km, mb1 2.9/2, mb1mx2.8/29, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=26.1km s-min=17.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**250**	*i*		09 38 40.0	
	baz=68,slow=342,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.43**	**250**	Pg	Pn	09 31 53.8	-2.6
	1.3nm,0.3s,baz=64,slow=16,SNR=18						
ZALV				Lg	Lg	09 32 14.9	
	1.3nm,0.3s,baz=68,slow=29,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.48**	**237**	Pn	Pn	09 33 06.8	+0.9
	0.3nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Lg	Lg	09 34 57.7	
	0.1nm,0.3s,baz=44,slow=30,SNR=3.5						
MKAR	**Makanchi Array**	**8.26**	**204**	Pn	Pn	09 33 31.8	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=5.8						
MKAR				Sn	Sn	09 35 02.7	-1.6
	0.1nm,0.3s,baz=25,slow=27,SNR=2.9						
MKAR				Lg	Lg	09 35 48.3	
	0.0nm,0.3s,baz=15,slow=28,SNR=2.9						

*IDC **30** 09:32:32.0±1.8, 38.68N×122.89W, h0km, mb1 3.7/5, mb1mx3.3/44, mbtmp3.5/5, ML3.1/6, Error ellipse: s-maj=23.2km s-min=9.2km az=58.0*
*NEIC **30** 09:32:33.2, 38.83N×122.80W, h3km, MW3.6(BRK), After NCEDC.*
NEIC Felt [II] at Cloverdale. Also felt at Calistoga, Geyserville, Kelseyville and Middletown.

ISC 30 09:32:32.8±1.3, 38.81N±0.03×122.86W±0.04, h6km±10km, n44, σ1s23/56, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.25**	**319**	*e*Pg	**Pg**	**09 32 38.9**	**+1.2**
HOPS				*e*Sg	**Sb**	**09 32 44.1**	**+3.1**
MCCM	**Marconi Confer**	**0.66**	**181**	*e*Pg	**Pn**	**09 32 47.6**	**-1.1**
KCPM	**Cahto Peak**	**1.04**	**328**	*e*Pg	**Pg**	**09 32 53.7**	**+0.9**
KIPM	**Iron Peak**	**1.11**	**335**	*e*Pg	**Pg**	**09 32 55.0**	**+0.8**
SAC	**San Andreas**	**1.27**	**164**	*e*Pn	**Pn**	**09 32 56.1**	**-1.1**
SAC				*e*Sn	**Sn**	**09 33 15.8**	**+1.3**
WDC	**Whiskeytown Da**	**1.79**	**8**	*e*Pn	**Pn**	**09 33 04.2**	**-0.1**
CMB	**Columbia Colle**	**2.09**	**111**	*e*Pn	**Pn**	**09 33 07.6**	**-0.9**
CMB				*e*Sn	**Sn**	**09 33 34.5**	**-0.4**
N02D	**Trinity Center**	**2.17**	**3**	P	**Pb**	**09 33 12.4**	**-0.2**
	baz=2.1						
SAO	**San Andreas Ge**	**2.33**	**151**	*e*Pn	**Pn**	**09 33 11.0**	**-0.7**
M02C	**Callahan**	**2.58**	**0**	P	**Pb**	**09 33 20.1**	**+0.4**
	baz=2.6						
WAKR	**Walker**	**2.70**	**95**	*e*Pn	**Pn**	**09 33 18.4**	**+1.4**
YBH	**Yreka Blue Hor**	**2.93**	**2**	*e*Pn	**Pn**	**09 33 19.9**	**-0.1**
YBH				Pg	**Pb**	**09 33 26.8**	**+1.4**
YBH				Sn	**Sb**	**09 34 00.5**	**-1.0**
YBH	**Yreka Blue Hor**	**2.93**	**2**	Pn	**Pn**	**09 33 21.9**	**+1.9**
	0.2nm,0.3s,baz=184,slow=13,SNR=12						
YBH				Pg	**Pb**	**09 33 26.8**	**+1.4**
	1.8nm,0.3s,baz=177,slow=5.4,SNR=32						
M04C	**Macdoel**	**3.08**	**14**	P	**Pn**	**09 33 24.6**	**+2.5**
	baz=3.0						
MLAC	**Mammoth Lakes**	**3.38**	**109**	P	**Pn**	**09 33 28.9**	**+2.4**
	baz=3.3						
NVAR	**Mina Array Bea**	**3.59**	**95**	Pn	**Pn**	**09 33 29.4**	**+0.2**
NVAR				Pg	**Pb**	**09 33 36.8**	**-0.1**
NVAR				Lg		09 34 24.2	
NVAR	**Mina Array Bea**	**3.59**	**95**	Pn	**Pn**	**09 33 29.4**	**+0.2**
	1.5nm,0.3s,baz=270,slow=15,SNR=37						
NVAR				Pg	**Pb**	**09 33 36.8**	**-0.1**
	7.3nm,0.3s,baz=267,slow=19,SNR=67						
NVAR				Lg	Lg	09 34 24.2	
	2.2nm,0.3s,baz=273,slow=33,SNR=2.9						
MOD	**Modoc**	**3.66**	**31**	*e*Pn	**Pn**	**09 33 28.6**	**-1.6**
NV11	**Mina Array Sit**	**3.71**	**94**	*e*Pn	**Pn**	**09 33 31.0**	**+0.2**
NV11				*e*Sg	**Sg**	**09 34 29.8**	**-2.1**
HUMO	**Hull Mountain**	**3.80**	**359**	*e*Pn	**Pn**	**09 33 31.3**	**-0.7**
VES	**Vestal, Richgr**	**4.22**	**133**	P	**Pn**	**09 33 37.8**	**0.0**
	baz=4.2						
TPH	**Tonopah**	**4.49**	**98**	Pn	**Pn**	**09 33 40.8**	**-0.8**
BMN	**Battle Mountai**	**4.65**	**68**	Pn	**Pn**	**09 33 42.9**	**-0.9**
ISA	**Isabella**	**4.70**	**130**	Pn	**Pn**	**09 33 44.6**	**+0.2**
ISA	**Isabella**	**4.70**	**130**	P	**Pn**	**09 33 45.3**	**+0.8**
	baz=4.7						
GRAC	**Grapevine Rang**	**4.70**	**111**	Pb	**Pb**	**09 33 56.0**	**+0.2**
	baz=4.7						
WVOR	**Wild Horse Val**	**4.84**	**40**	*e*Pn	**Pn**	**09 33 44.2**	**-2.2**
ARVC	**Arvin**	**4.89**	**137**	P	**Pn**	**09 33 47.1**	**+0.2**
	baz=4.9						
DAC	**Darwin (Calif)**	**4.89**	**119**	Pg	**Pb**	**09 34 01.4**	**+2.4**
DAC				*e*Sg	**Sb**	**09 35 00.1**	**+1.9**
OSI	**Osito Adit**	**5.34**	**140**	*e*Pn	**Pn**	**09 33 54.2**	**+1.0**
	15nm,0.7s						
EDW2	**Edwards Air Fo**	**5.53**	**134**	P	**Pn**	**09 33 55.6**	**-0.2**
	baz=5.5						
R11A	**Troy Canyon, C**	**5.72**	**92**	*e*Pn	**Pn**	**09 33 58.8**	**+0.3**
	26nm,1.7s						
R11A				*e*Sg	**Sg**	**09 35 34.3**	**-2.3**
PASC	**Pasadena Art C**	**5.96**	**139**	*e*Pn	**Pn**	**09 34 01.6**	**-0.1**
	8.3nm,0.6s						
GSC	**Goldstone**	**5.97**	**124**	*e*Pn	**Pn**	**09 34 02.0**	**+0.1**
	3.1nm,0.6s						
GSC				*e*Sg	**Sg**	**09 35 42.6**	**-2.0**
ELK	**Elko**	**6.18**	**69**	Pn	**Pn**	**09 34 05.5**	**+0.6**
ELK	**Elko**	**6.18**	**69**	Pn	**Pn**	**09 34 05.5**	**+0.6**
	0.1nm,0.3s,baz=181,slow=4.0,SNR=7.1						
BFSC	**Mount Baldy Ra**	**6.19**	**136**	P	**Pn**	**09 34 04.7**	**-0.3**
	baz=6.2						
HEC	**Hector,Ludlow**	**6.57**	**125**	P	**Pn**	**09 34 11.4**	**+1.3**
	baz=6.5						
PFO	**Pinyon Flat Ob**	**7.33**	**133**	*e*Pn	**Pn**	**09 34 21.1**	**+0.5**
PFO				Sn	**Sn**	**09 35 43.8**	**-0.3**
PFO	**Pinyon Flat Ob**	**7.33**	**133**	Pn	**Pn**	**09 34 19.6**	**-0.9**
	0.2nm,0.3s,baz=321,slow=14,SNR=5.8						
PFO				Sn	**Sn**	**09 35 43.8**	**-0.3**
	0.1nm,0.3s,baz=313,slow=7.7,SNR=5.9						
PDAR	**Pinedale Array**	**10.84**	**64**	Pn	Pn	09 35 14.3	+5.6
PDAR	**Pinedale Array**	**10.84**	**64**	Pn	Pn	09 35 14.3	+5.6
	0.0nm,0.3s,baz=249,slow=12,SNR=9.7						
TXAR	**Lajitas Array**	**18.47**	**115**	P	**P**	**09 36 49.4**	**-0.1**
TXAR	**Lajitas Array**	**18.47**	**115**	P	**P**	**09 36 49.4**	**-0.1**
	0.0nm,0.3s,baz=286,slow=6.5,SNR=2.6						

*ISCJB **30** 10:05:31.9±0.6, 17.5S±0.2×178.7W±0.2, h547km, mb3.7/7, Error ellipse: s-maj=35.8km s-min=10.1km az=148.3*
*IDC **30** 10:05:32.8±1.9, 17.68S×178.53W, h550km±24km, mb3.1/6, mb1 3.5/8, mb1mx3.1/36, mbtmp4.1/8, Error ellipse: s-maj=44.3km s-min=13.6km az=151.0*

ISC 30 10:05:32.6±0.9, 17.6S±0.3×178.5W±0.2, h547km, n23, σ0s60/23, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.48**	**61**	P	**P**	**10 07 25.6**	**+0.3**
	6.5nm,0.3s,baz=51,slow=8.6,SNR=7.2						
DZM	**Mont Dzumac**	**14.81**	**250**	P	**P**	**10 08 41.5**	**+1.2**
	0.7nm,0.3s,baz=74,slow=17,SNR=8.4						
ARMA	**Armidale**	**29.98**	**239**	P	**P**	**10 10 57.8**	**+0.5**
	baz=37,SNR=5.4						
RMQ	**Roma**	**31.50**	**248**	P	**P**	**10 11 11.0**	**+0.8**
	baz=38,SNR=5.6						
CNB	**Canberra Magne**	**33.51**	**232**	P	**P**	**10 11 27.5**	**+0.4**
	baz=40,SNR=18						
CMSA	**Cobar Meteorol**	**35.19**	**240**	P	**P**	**10 11 41.2**	**0.0**
	baz=42,SNR=25						
QLP	**Quilpie**	**35.52**	**249**	P	**P**	**10 11 44.0**	**0.0**
	baz=42,SNR=9.0						
TOO	**Toolangi**	**37.26**	**230**	P	**P**	**10 11 58.6**	**+0.3**
	baz=44,SNR=5.7						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**10 12 09.7**	**-0.1**
	7.1nm,0.5s,baz=90,slow=9.6,SNR=40						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**10 12 10.1**	**+0.3**
	baz=45,SNR=29						
HTT	**Hallett**	**41.19**	**239**	P	**P**	**10 12 29.8**	**-0.2**
	baz=48,SNR=10						
BBOO	**Buckleboo**	**43.44**	**241**	P	**P**	**10 12 47.3**	**-0.3**
	baz=50,SNR=15						
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**10 12 55.4**	**-1.1**
	2.4nm,0.4s,baz=96,slow=7.5,SNR=33						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**10 12 57.8**	**-0.2**
	26nm,0.6s,baz=88,slow=8.4,SNR=434						
WRKA	**Warakurna**	**49.82**	**252**	P	**P**	**10 13 35.5**	**-0.5**
	baz=57,SNR=71						
KNRA	**Kununurra**	**50.40**	**264**	P	**P**	**10 13 40.1**	**-0.1**
	baz=57,SNR=4.1						
MEEK	**Meekatharra**	**58.42**	**249**	P	**P**	**10 14 35.3**	**-1.2**
	baz=65,SNR=5.2						
MJAR	**Matsushiro Arr**	**67.61**	**323**	P	**P**	**10 15 35.6**	**+0.4**
	1.3nm,0.8s,baz=161,slow=6.4,SNR=3.6						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**10 16 42.3**	**+0.3**
	0.3nm,0.6s,baz=225,slow=7.5,SNR=2.6						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**10 17 15.9**	**+0.4**
	0.4nm,0.7s,baz=208,slow=6.7,SNR=5.5						
PDAR	**Pinedale Array**	**87.23**	**43**	P	**P**	**10 17 20.9**	**-0.6**
	0.2nm,0.6s,baz=242,slow=1.9,SNR=2.3						
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	**PKPdf**	**10 24 06.8**	**-0.5**
	1.0nm,0.8s,baz=125,slow=4.7,SNR=5.9						
GERES	**GERESS Array B**	**147.30**	**345**	PKPbc	**PKPbc**	**10 24 14.4**	**-0.6**
	0.3nm,0.3s,baz=45,slow=4.3,SNR=2.9						

*IDC **30** 10:11:29.4±0.8, 5.17S×153.80E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/32, mbtmp4.1/12, ML3.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/29, Error ellipse: s-maj=28.8km s-min=20.6km az=97.0*
*ISCJB **30** 10:11:34.3±0.7, 5.36S±0.09×153.6E±0.1, h43km, mb4.0/12, MS3.0/2, Error ellipse: s-maj=17.3km s-min=9.4km az=40.7*
*NEIC **30** 10:11:38.5±2.5, 5.42S

GERES	GERESS Array B	124.99	329	PKP	PKPdf	10 30 31.8	+0.4		
GERES	GERESS Array B	124.99	329	PKP	PKPdf	10 30 31.8	+0.4		
	0.6nm,0.8s,baz=48,slow=1.5,SNR=2.6								
TOA0	Torodi Ar. Sit	151.35	288	*e*PKPbc	PKPbc	10 31 25.5	-0.2		
TOA0				*e*PKPab	PKPab	10 31 34.2	+0.3		
TORD	Torodi Ar. Bea	151.35	288	PKPbc	PKPbc	10 31 25.1	-0.6		
TORD				PKPab	PKPab	10 31 33.8	-0.1		
TORD	Torodi Ar. Bea	151.35	288	PKPbc	PKPbc	10 31 25.1	-0.6		
	1.9nm,0.5s,baz=52,slow=2.6,SNR=27								
TORD				PKPab	PKPab	10 31 33.8	-0.1		
	1.8nm,0.7s,baz=69,slow=4.5,SNR=7.8								

IDC 30 10:19:59.4±1.4, 5°81S×150°92E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.7/27, mbtmp4.1/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=75.5km s-min=25.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**226**	Pn	Pn	10 21 21.2	+3.3
	1.2nm,0.3s,baz=56,slow=6.7,SNR=4.6						
PMG				Sn	Sn	10 22 15.5	-2.8
	4.2nm,0.3s,baz=117,slow=18,SNR=5.0						
WRA	**Warramunga Arr**	**21.38**	**227**	P	P	10 24 48.6	-0.1
	5.4nm,0.9s,baz=53,slow=11,SNR=22						
DZM	**Mont Dzumac**	**22.06**	**139**	LR	LR	10 31 48.7	
	comp=Z,93nm,18.4s,baz=290,slow=32						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	10 25 17.1	-0.4
	4.2nm,0.6s,baz=56,slow=9.0,SNR=56						
STKA	**Stephens Creek**	**27.36**	**197**	P	P	10 25 46.3	0.0
	4.4nm,0.8s,baz=11,slow=7.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**80.96**	**327**	LR	LR	11 07 27.3	
	comp=Z,18nm,21.4s,baz=63,slow=35						
ILAR	**Eielson Array**	**83.80**	**22**	P	P	10 32 29.9	-0.5
	0.6nm,0.8s,baz=255,slow=5.2,SNR=7.6						
TORD	**Torodi Ar. Bea**	**148.81**	**286**	PKPbc	PKPbc	10 39 50.3	+0.3
	1.0nm,0.7s,baz=67,slow=2.6,SNR=7.3						

*AZER **30** 10:25:50.1±0.7, 42°.43N×42°.76E, h26km±225km, Error ellipse: s-maj=2716.0km s-min=33.1km az=293.0*
*TIF **30** 10:25:51.4, 42°.57N×43°.47E, h15km*
*DDA **30** 10:25:53.2, 42°.33N×43°.46E, h5km, MD3.1*
*CSEM **30** 10:25:53.0±0.1, 42°.54N×43°.43E, h2km, mb3.9, Error ellipse: s-maj=3.0km s-min=2.3km az=114.0*
*MOS **30** 10:25:54.0±1.4, 42°.59N×43°.49E, h11km, mb3.9/1, Error ellipse: s-maj=12.5km s-min=6.1km az=74.6*

ISC 30 10:25:52.5±0.9, 42°52N±0'.02×43°43E±0'.02, h9km±6km, n57, σ0°971/112, 5C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.07**	**12**	P	**Pg**	**10 25 54.7**	**+0.1**
ONI				S	**Sg**	**10 25 56.4**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.39**	**16**	*i* PG	**Pg**	**10 25 59.9**	**-0.4**
DIGR				*i* S	**Sg**	**10 26 05.4**	**0.0**
DIGR				pmax	pmax		
	comp=Z,148nm,0.2s						
DIGR	**Digorskoe uzhe**	**0.39**	**16**	*i* Pg	**Pg**	**10 25 59.9**	**-0.4**
	comp=Z,148nm,0.2s						
DIGR				*i* Sg	**Sg**	**10 26 05.4**	**0.0**
ZEI	**Tsey**	**0.44**	**52**	*i* PG	**Pg**	**10 26 00.6**	**-0.5**
ZEI				*i* S	**Sg**	**10 26 06.8**	**0.0**
KORR	**Kora**	**0.73**	**39**	*i* PG	**Pg**	**10 26 06.6**	**0.0**
KORR				*e*S	**Sb**	**10 26 17.0**	**-0.6**
KORR				pmax	pmax		
	comp=Z,146nm,0.2s						
KORR	**Kora**	**0.73**	**39**	*i* Pg	**Pg**	**10 26 06.6**	**0.0**
	comp=Z,146nm,0.2s						
KORR				*e*Sg	**Sb**	**10 26 17.0**	**-0.6**
GUDG	**Gudauri**	**0.78**	**94**	P	**Pg**	**10 26 06.6**	**-0.8**
GUDG				S	**Sg**	**10 26 17.1**	**-0.5**
GUDG	**Gudauri**	**0.78**	**94**	P	**Pg**	**10 26 06.6**	**-0.8**
GUDG				S	**Sg**	**10 26 17.1**	**-0.5**
LSNR	**Lesken**	**0.81**	**21**	*i* PG	**Pg**	**10 26 08.2**	**+0.1**
LSNR				*e*S	**Sb**	**10 26 19.3**	**-0.6**
LSNR	**Lesken**	**0.81**	**21**	*i* Pg	**Pg**	**10 26 08.2**	**+0.1**
LSNR				*e*Sg	**Sb**	**10 26 19.3**	**-0.6**
NEY	**Neytrino**	**0.89**	**325**	*e*PG	**Pg**	**10 26 09.4**	**-0.3**
NEY				*e*S	**Sg**	**10 26 20.2**	**-1.2**
NEY	**Neytrino**	**0.89**	**325**	*e*Pg	**Pg**	**10 26 09.4**	**-0.3**
NEY				*e*Sg	**Sg**	**10 26 20.2**	**-1.2**
ARNR	**Ardon**	**0.91**	**43**	*i* PG	**Pn**	**10 26 10.8**	**-0.7**
ARNR				*e*S	**Sb**	**10 26 23.2**	**+0.5**
ARNR	**Ardon**	**0.91**	**43**	*i* Pg	**Pn**	**10 26 10.8**	**-0.7**
ARNR				*e*Sg	**Sb**	**10 26 23.2**	**+0.5**
STDR	**Stavd-Durt**	**0.96**	**28**	*i* PG	**Pn**	**10 26 12.2**	**-0.1**
STDR				*e*S	**Sn**	**10 26 25.4**	**-0.8**
STDR	**Stavd-Durt**	**0.96**	**28**	*i* Pg	**Pn**	**10 26 12.2**	**-0.1**
STDR				*e*Sg	**Sn**	**10 26 25.4**	**-0.8**
NCK	**Nalchik**	**0.98**	**7**	PG	**Pg**	**10 26 11.0**	**-0.3**
NCK	**Nalchik**	**0.98**	**7**	Pg	**Pg**	**10 26 11.0**	**-0.3**
CHVG	**Ch'k'valeri**	**1.01**	**282**	P	**Pb**	**10 26 12.3**	**0.0**
CHVG				S	**Sn**	**10 26 26.8**	**-0.6**
CHVG	**Ch'k'valeri**	**1.01**	**282**	P	**Pb**	**10 26 12.3**	**0.0**
CHVG				S	**Sn**	**10 26 26.8**	**-0.6**
VLKR	**Vladikavkaz**	**1.05**	**60**	*e*PG	**Pg**	**10 26 12.8**	**0.0**
VLKR				*e*S	**Sb**	**10 26 27.1**	**+0.1**
VLKR	**Vladikavkaz**	**1.05**	**60**	*e*Pg	**Pg**	**10 26 12.8**	**0.0**
VLKR				*e*Sg	**Sb**	**10 26 27.1**	**+0.1**
AKH	**Akhalkalaki**	**1.11**	**178**	P	**Pb**	**10 26 13.5**	**-0.6**
AKH				S	**Sb**	**10 26 29.2**	**+0.5**
AKH	**Akhalkalaki**	**1.11**	**178**	P	**Pb**	**10 26 13.5**	**-0.6**
AKH				S	**Sb**	**10 26 29.2**	**+0.5**
SNJR	**Sundja**	**1.15**	**61**	*e*PG	**Pb**	**10 26 13.5**	**-1.1**
SNJR				*e*S	**Sb**	**10 26 29.6**	**-0.1**
SNJR	**Sundja**	**1.15**	**61**	*e*Pg	**Pb**	**10 26 13.5**	**-1.1**
SNJR				*e*Sg	**Sb**	**10 26 29.6**	**-0.1**
BTKR	**Batakoyurt**	**1.18**	**43**	*i* PG	**Pg**	**10 26 15.9**	**+0.8**
BTKR				*e*S	**Sn**	**10 26 31.8**	**+0.4**
BTKR	**Batakoyurt**	**1.18**	**43**	*i* Pg	**Pg**	**10 26 15.9**	**+0.8**
BTKR				*e*Sg	**Sn**	**10 26 31.8**	**+0.4**
TBLG	**Delisi**	**1.25**	**129**	P	**Pb**	**10 26 16.2**	**-0.1**
TBLG				S	**Sn**	**10 26 33.4**	**+0.1**
TBLG	**Delisi**	**1.25**	**129**	P	**Pb**	**10 26 16.2**	**-0.1**
TBLG				S	**Sn**	**10 26 33.4**	**+0.1**
PRTR	**Priterechnaya**	**1.38**	**27**	*e*PG	**Pg**	**10 26 19.8**	**+0.9**
PRTR				*e*S	**Sg**	**10 26 38.3**	**+1.5**
PRTR	**Priterechnaya**	**1.38**	**27**	*e*Pg	**Pg**	**10 26 19.8**	**+0.9**
PRTR				*e*Sg	**Sg**	**10 26 38.3**	**+1.5**
TRKR	**Terskaya**	**1.53**	**38**	*e*PG	**Pg**	**10 26 22.5**	**+0.6**
TRKR				*e*S	**Sg**	**10 26 42.7**	**+1.0**
TRKR	**Terskaya**	**1.53**	**38**	*e*Pg	**Pg**	**10 26 22.5**	**+0.6**
TRKR				*e*Sg	**Sg**	**10 26 42.7**	**+1.0**
KIV	**Kislovodsk**	**1.53**	**339**	*i* PG	**Pb**	**10 26 21.3**	**+0.1**
KIV				*i* S	**Sg**	**10 26 41.7**	**-0.1**
KIV				pmax	pmax		
	comp=Z,25nm,1.3s						
KIV				smax	smax		
	comp=Z,96nm,0.8s						
KIV	**Kislovodsk**	**1.53**	**339**	*i* Pg	**Pb**	**10 26 21.3**	**+0.1**
	comp=Z,25nm,1.3s						
KIV				*i* Sg	**Sg**	**10 26 41.7**	**-0.1**
	comp=Z,96nm,0.8s						
PYA	**Pyatigorsk**	**1.53**	**350**	*e*PG	**Pg**	**10 26 22.1**	**+0.2**
PYA				*e*S	**Sg**	**10 26 41.9**	**+0.1**
PYA	**Pyatigorsk**	**1.53**	**350**	*e*Pg	**Pg**	**10 26 22.1**	**+0.2**
PYA				*e*Sg	**Sg**	**10 26 41.9**	**+0.1**
ARTV	**Artvin**	**1.75**	**221**	*i* P	**Pb**	**10 26 24.4**	**-0.5**
ARTV				*i* S	**Sb**	**10 26 47.9**	**+0.9**
ARTV	**Artvin**	**1.75**	**221**	*i* P	**Pb**	**10 26 24.4**	**-0.5**
ARTV				*i* S	**Sb**	**10 26 47.9**	**+0.9**
DBOC	**Borcka**	**1.77**	**229**	*i* P	**Pb**	**10 26 24.3**	**-0.8**
DBOC				*i* S	**Sb**	**10 26 48.1**	**+0.7**
DBOC	**Borcka**	**1.77**	**229**	*i* P	**Pb**	**10 26 24.3**	**-0.8**
DBOC				*i* S	**Sb**	**10 26 48.1**	**+0.7**
DGRG	**David-gareji**	**1.80**	**126**	P	**Pb**	**10 26 25.8**	**+0.1**
DGRG				S	**Sg**	**10 26 50.2**	**-0.1**
DGRG	**David-gareji**	**1.80**	**126**	P	**Pb**	**10 26 25.8**	**+0.1**
DGRG				S	**Sg**	**10 26 50.2**	**-0.1**
DAGI	**Agillar**	**1.84**	**219**	*i* P	**Pb**	**10 26 25.8**	**-0.5**
DAGI				*i* S	**Sb**	**10 26 50.4**	**+0.9**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	**Pb**	**10 26 28.4**	**-0.5**
DBAD				*i* S	**Sb**	**10 26 54.8**	**+1.0**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	**Pb**	**10 26 28.4**	**-0.5**
DBAD				*i* S	**Sb**	**10 26 54.8**	**+1.0**
DDEM	**Demirkent**	**2.06**	**218**	*i* P	**Pb**	**10 26 29.7**	**-0.4**
DDEM				*i* S	**Sg**	**10 26 57.7**	**-1.0**
DDEM	**Demirkent**	**2.06**	**218**	*i* P	**Pb**	**10 26 29.7**	**-0.4**
DDEM				*i* S	**Sg**	**10 26 57.7**	**-1.0**
QZX	**Qazax, Azerbai**	**2.06**	**135**	⇓P	**Pb**	**10 26 28.7**	**-1.4**
QZX				⇓S	**Sb**	**10 26 56.3**	**+0.5**
QZX	**Qazax, Azerbai**	**2.06**	**135**	P	**Pb**	**10 26 28.7**	**-1.4**
QZX				S	**Sb**	**10 26 56.3**	**+0.5**
DIGO	**Kars**	**2.11**	**181**	*i* P	**Pb**	**10 26 30.5**	**-0.6**
DIGO				*i* S	**Sg**	**10 27 00.4**	**+0.2**
DIGO	**Kars**	**2.11**	**181**	*i* P	**Pb**	**10 26 30.5**	**-0.6**
DIGO				*i* S	**Sg**	**10 27 00.4**	**+0.2**
ZKTA	**Zakatala**	**2.53**	**109**	⇓P	**Pb**	**10 26 38.0**	**-0.2**
ZKTA				⇓S	**Sg**	**10 27 11.8**	**-2.0**
GANJ	**Ganja**	**2.87**	**130**	⇑P	**Pn**	**10 26 40.4**	**+2.0**
GANJ				⇓S	**Sb**	**10 27 19.2**	**+0.2**
GANJ	**Ganja**	**2.87**	**130**	P	**Pn**	**10 26 40.4**	**+2.0**
GANJ				S	**Sb**	**10 27 19.2**	**+0.2**
KELT	**Kelkit**	**3.94**	**234**	*i* P	**Pb**	**10 27 02.3**	**+0.1**
KELT				*i* S	**Sg**	**10 27 57.4**	**-1.6**

GUC 30 10:33:13.8±0.5, 21°.35S×68°.85W, h121km±4km, ML3.5, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.57**	**220**	*i* P	Pn	10 33 33.2	+0.6
PB09				*i* S	Sn	10 33 47.5	+0.7
PB09				AML	AML	10 33 48.9	
	comp=E,2μm,0.2s						
PB01	**Plate Boundary**	**0.67**	**297**	⇑*i* P	Pn	10 33 33.7	+0.5
PB01				*i* S	Sn	10 33 48.4	+0.6
PB01				AML	AML	10 33 50.0	
	comp=E,3μm,0.2s						
PB07	**Plate Boundary**	**1.04**	**249**	⇑*i* P	Pn	10 33 37.4	+0.9
PB07				*i* S	Sn	10 33 54.6	+0.9
PB07				AML	AML	10 33 55.4	
	comp=N,841nm,0.4s						
PATCX	**Punta Patache**	**1.33**	**293**	*e*P	Pn	10 33 40.7	+1.2
PATCX				*i* S	Sn	10 34 00.1	+1.1
PATCX				AML	AML	10 34 02.7	
	comp=E,995nm,0.2s						
HMBC	**Humberstone**	**1.45**	**317**	⇑*i* P	Pn	10 33 41.4	+0.6
HMBC				*i* S	Sn	10 34 02.4	+1.0
HMBC				AML	AML	10 34 04.1	
	comp=N,972nm,0.2s						
PB06	**Plate Boundary**	**1.51**	**206**	⇑*i* P	Pn	10 33 42.1	+0.5
PB06				*i* S	Sn	10 34 03.5	+0.8
PB06				AML	AML	10 34 03.9	
	comp=E,475nm,0.2s						
MNMC	**Minimini**	**2.32**	**342**	*e*P	Pn	10 33 52.6	+0.9
MNMC				*i* S	Sn	10 34 22.0	+1.2
MNMC				AML	AML	10 34 24.9	
	comp=E,323nm,0.2s						

*IDC **30** 10:38:38.6±2.5, 54°.32N×86°.08E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=19.1km s-min=12.5km az=46.0*
*NNC **30** 10:38:42.7±5.2, 54°.22N×85°.77E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=45.5km s-min=28.5km az=57.0*

ISC 30 10:38:41.6±5.4, 54°.3N±0'.2×85°.8E±0'.2, h10km, n9, σ1°94/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.67**	**237**	*i*		10 43 30.0	
	baz=66,slow=342,SNR=12						
ZALV	**Zalesovo Beam**	**0.67**	**237**	Pg	**Pg**	**10 38 52.8**	**-1.7**
	2.0nm,0.3s,baz=61,slow=16,SNR=26						
ZALV				Lg	Lg	10 39 06.3	
	6.2nm,0.3s,baz=61,slow=36,SNR=33						
ZALV				Rg	Rg	10 39 12.2	
	23nm,0.3s,baz=66,slow=35,SNR=40						
KURK	**Kurchatov**	**5.66**	**233**	⇓Pn	**Pn**	**10 40 08.5**	**+2.8**
	0.7nm,0.8s						
KURK				⇑Lg	Lg	10 41 44.1	
	2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**5.77**	**233**	Pn	**Pn**	**10 40 08.9**	**+1.8**
	0.7nm,0.3s,baz=54,slow=14,SNR=8.1						
KURBB				Lg	Lg	10 41 48.8	
	0.2nm,0.3s,baz=42,slow=28,SNR=5.5						
KUR17	**Kurchatov Arra**	**5.79**	**233**	⇓Pn	**Pn**	**10 40 09.5**	**+2.0**
	0.6nm,0.5s						
KUR17				⇓Lg	Lg	10 41 48.8	
	1.8nm,0.9s						
MK31	**Makanchi Array**	**7.85**	**198**	⇑Pn	**Pn**	**10 40 35.6**	**-0.2**
	0.4nm,0.4s,baz=28,slow=14,SNR=55						
MK31				⇓Sn	**Sn**	**10 42 05.8**	**+1.1**
	1.8nm,1.1s,baz=27,slow=25,SNR=6.4						
MK31				⇑Lg	Lg	10 42 47.1	
	2.2nm,0.8s,baz=29,slow=33,SNR=3.5						
MKAR	**Makanchi Array**	**7.85**	**198**	Pn	**Pn**	**10 40 35.3**	**-0.5**
	0.3nm,0.3s,baz=19,slow=9.3,SNR=26						
MKAR				Sn	**Sn**	**10 42 05.8**	**+1.1**
	0.2nm,0.3s,baz=16,slow=27,SNR=9.5						
MKAR				Lg	Lg	10 42 47.3	
	0.1nm,0.3s,baz=29,slow=33,SNR=6.1						
VOSK	**Vostochnaya**	**8.96**	**266**	⇑Pn	Pn	10 40 54.4	+3.6
	0.8nm,0.5s						
VOSK				⇑Sn	**Sn**	**10 42 31.9**	**+0.2**
BVAR	**Borovoye Array**	**9.22**	**268**	Sn	**Sn**	**10 42 36.0**	**-2.3**
	0.1nm,0.3s,baz=81,slow=26,SNR=4.0						

IDC 30 10:50:35.9±3.2, 54°.19N×87°.26E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=27.9km s-min=16.7km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**261**	*i*		11 00 50.0	
	baz=83,slow=383,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.46**	**261**	Pg	Pn	10 51 02.0	-1.5
	5.2nm,0.3s,baz=80,slow=16,SNR=55						
ZALV				Lg	Lg	10 51 22.3	
	2.2nm,0.3s,baz=75,slow=27,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	10 52 12.4	+0.6
	0.4nm,0.3s,baz=55,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	10 52 35.5	+1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=7.5						
MKAR				Sn	Sn	10 54 05.4	-0.6
	0.1nm,0.3s,baz=21,slow=27,SNR=4.1						
MKAR				Lg	Lg	10 54 54.4	
	0.0nm,0.3s,baz=27,slow=29,SNR=2.7						

*ISCJB **30** 10:58:08.3±0.5, 19°.8S±0°.1×177°.76W±0°.09, h550km, mb4.0/12, Error ellipse: s-maj=17.0km s-min=7.1km az=146.3*
*IDC **30** 10:58:09.1±1.8, 19°.77S×177°.74W, h546km±19km, mb3.6/12, mb1 3.8/14, mb1mx3.5/33, mbtmp4.6/14, Error ellipse: s-maj=21.1km s-min=14.1km az=127.0*

ISC 30 10:58:09.2±0.6, 19°.8S±0'.1×177°.70W±0'.09, h550km, n41, σ1°16/43, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.37**	**86**	P	**P**	**11 00 03.2**	**+2.5**
	baz=8.0,SNR=6.0						
NIUE				S	S	11 01 48.0	+16
	baz=8.0,SNR=3.6						
AFI	**Afiamalu**	**8.16**	**45**	P	**P**	**11 00 08.5**	**-0.1**
	20nm,0.3s,baz=122,slow=3.9,SNR=27						
AFI				S	**S**	**11 01 43.9**	**-2.7**
	6.1nm,0.3s,baz=26,slow=23,SNR=8.5						
DZM	**Mont Dzumac**	**14.98**	**259**	P	**P**	**11 01 18.2**	**-0.4**
	1.7nm,0.3s,baz=110,slow=13,SNR=14						
URZ	**Urewera**	**18.93**	**193**	P	**P**	**11 01 51.9**	**-3.5**
	18nm,0.3s,baz=281,slow=2.9,SNR=111						
EIDS	**Eidsvold**	**29.31**	**253**	P	**P**	**11 03 27.5**	**-0.3**
	baz=29,SNR=3.9						
ARMA	**Armidale**	**29.63**	**243**	P	**P**	**11 03 31.2**	**+0.7**
	baz=29,SNR=9.3						
RMQ	**Roma**	**31.49**	**251**	P	**P**	**11 03 47.3**	**+0.8**
	baz=31,SNR=6.3						
RABL	**Rabaul**	**33.22**	**294**	P	**P**	**11 04 03.9**	**+2.6**
	baz=33,SNR=3.3						
PMG	**Port Moresby**	**35.47**	**282**	P	**P**	**11 04 20.1**	**0.0**
	32nm,0.8s,baz=120,slow=8.1,SNR=9.1						
PMG	**Port Moresby**	**35.47**	**282**	P	**P**	**11 04 20.4**	**+0.3**
	baz=35,SNR=3.2						
QLP	**Quilpie**	**35.54**	**252**	P	**P**	**11 04 20.2**	**-0.3**
	baz=35,SNR=10						
TOO	**Toolangi**	**36.53**	**233**	P	**P**	**11 04 28.8**	**+0.1**
	baz=36,SNR=5.7						
COEN	**Coen**	**37.82**	**273**	P	**P**	**11 04 39.7**	**+0.3**
	baz=37,SNR=12						
STKA	**Stephens Creek**	**38.34**	**243**	P	**P**	**11 04 43.4**	**-0.1**
	1.3nm,0.4s,baz=87,slow=7.2,SNR=10						
STKA	**Stephens Creek**	**38.34**	**243**	P	**P**	**11 04 43.7**	**+0.2**
	baz=38,SNR=5.9						
QIS	**Mount Isa**	**40.00**	**261**	P	**P**	**11 04 56.1**	**-0.9**
	baz=39,SNR=3.1						
HTT	**Hallett**	**40.80**	**242**	P	**P**	**11 05 03.6**	**+0.4**
	baz=40,SNR=4.7						
BBOO	**Buckleboo**	**43.11**	**243**	P	**P**	**11 05 21.0**	**-0.3**
	baz=42,SNR=9.3						
ASAR	**Alice Springs**	**44.95**	**256**	P	**P**	**11 05 35.4**	**-0.5**
	14nm,0.5s,baz=90,slow=7.6,SNR=276						
ASAR				ScP	**ScP**	**11 10 05.8**	**+0.3**
	0.6nm,0.7s,baz=113,slow=4.8,SNR=4.5						
WRA	**Warramunga Arr**	**44.98**	**261**	P	**P**	**11 05 35.1**	**-0.9**
	8.1nm,0.3s,baz=97,slow=7.5,SNR=383						
KDU	**Kakadu**	**48.22**	**271**	P	**P**	**11 05 59.9**	**-0.7**
	baz=48,SNR=8.1						
MTN	**Manton Dam**	**49.44**	**270**	P	**P**	**11 06 08.7**	**-0.9**
	baz=49,SNR=5.3						
WRKA	**Warakurna**	**49.93**	**254**	P	**P**	**11 06 12.4**	**-0.7**
	baz=49,SNR=62						
WRKA				S	**S**	**11 12 42.7**	**-0.4**
	baz=49,SNR=4.2						
KNRA	**Kununurra**	**50.99**	**266**	P	**P**	**11 06 20.0**	**-0.8**
	baz=50,SNR=10						
SOEI	**Soe**	**56.76**	**271**	P	**P**	**11 07 02.8**	**+1.0**
	baz=56,SNR=3.0						
MEEK	**Meekatharra**	**58.41**	**250**	P	**P**	**11 07 11.5**	**-1.2**
	baz=58,SNR=4.1						
VNDA	**Vanda**	**58.62**	**185**	P	**P**	**11 07 14.1**	**+0.9**
	1.9nm,0.6s,baz=346,slow=6.3,SNR=9.5						
MJAR	**Matsushiro Arr**	**69.82**	**323**	P	**P**	**11 08 24.6**	**-0.2**
	4.1nm,0.6s,baz=157,slow=6.3,SNR=17						
PETK	**Petropavlovsk-**	**75.67**	**345**	P	**P**	**11 08 58.2**	**+0.2**
	3.8nm,0.8s,baz=183,slow=8.7,SNR=2.7						
USRK	**Ussuriysk Arra**	**78.55**	**326**	P	**P**	**11 09 15.4**	**+1.5**
	4.2nm,0.8s,baz=134,slow=4.4,SNR=7.0						
SEY	**Seymchan**	**85.77**	**347**	P	**P**	**11 09 49.8**	**-0.1**
	2.2nm,0.7s,baz=150,slow=20,SNR=10						
ILAR	**Eielson Array**	**87.58**	**13**	P	**P**	**11 09 57.8**	**-0.7**
	0.8nm,0.8s,baz=214,slow=5.6,SNR=12						
CMAR	**Chiang Mai Arr**	**90.15**	**289**	P	**P**	**11 10 12.5**	**+1.0**
	1.6nm,0.7s,baz=121,slow=2.8,SNR=10						
SONM	**Songino Array**	**95.42**	**319**	P	**P**	**11 10 34.4**	**-0.7**
	0.2nm,0.6s,baz=72,slow=4.7,SNR=2.4						
MKAR	**Makanchi Array**	**110.92**	**314**	PKiKP	**PKiKP**	**11 15 38.5**	**-1.6**
	0.2nm,0.6s,baz=120,slow=0.8,SNR=3.7						
ARCES	**ARCESS Array B**	**128.29**	**350**	PKP	**PKPdf**	**11 16 11.8**	**-0.9**
	5.7nm,1.1s,baz=33,slow=3.3,SNR=3.9						
FINES	**FINESS Array B**	**135.19**	**344**	PKP	**PKPdf**	**11 16 26.5**	**+0.6**
	0.4nm,0.4s,baz=111,slow=2.3,SNR=5.9						
NOA	**NORSAR Array B**	**138.33**	**353**	SKPab	**SKPab**	**11 19 25.0**	**+0.6**
	1.2nm,0.8s,baz=5.8,slow=5.3,SNR=3.5						
AKASG	**Malin Array Be**	**142.54**	**332**	PKhKP	PKPpre	11 16 35.5	
	1.5nm,0.3s,baz=43,slow=4.2,SNR=16						
BRTR	**Keskin Array B**	**146.57**	**313**	PKPbc	**PKPdf**	**11 16 49.1**	**+2.0**
	2.4nm,0.8s,baz=132,slow=4.6,SNR=11						
GERES	**GERESS Array B**	**149.61**	**345**	PKPbc	**PKPbc**	**11 16 56.9**	**0.0**
	2.1nm,0.8s,baz=20,slow=3.1,SNR=11						

*MDD **30** 11:05:47.6±2.7, 37°.46N×15°.08W, h0km, mb3.9/8, Error ellipse: s-maj=25.4km s-min=19.8km az=33.0, PRXIMO*
*INMG **30** 11:05:49.0±1.1, 37°.20N×15°.52W, h10km, ML2.5, Error ellipse: s-maj=8.7km s-min=4.1km az=121.0*
*CSEM **30** 11:05:51.3±0.6, 37°.53N×14°.76W, h10km, ML3.2/7, Error ellipse: s-maj=11.8km s-min=9.4km az=28.0*

ISC 30 11:05:47.4±3.7, 37°.50N±0'.09×15°.0W±0'.2, h10km, n60, σ1°82/93, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**4.54**	**194**	*e*Sn	Sn	11 07 29.4	-20
PMPST				A	A	11 07 38.1	
	19nm,0.8s						
PMAFR	**Mafra**	**4.73**	**70**	*e*Pn	**Pn**	**11 07 01.9**	**+3.1**
PMAFR				*e*Sn	**Sn**	**11 07 55.4**	**+1.6**
PMAFR				A	A	11 07 56.5	
	7.4nm,0.5s						
PMAFR	**Mafra**	**4.73**	**70**	P	**Pn**	**11 07 00.7**	**+1.9**
	0.9nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**11 07 52.9**	**-0.9**
	7.0nm,0.1s,SNR=7.9				

EGRO					S		Sn	11 08 21.1	-3.3
	1.9nm,0.2s,SNR=7.9								
PESTR	**Estremoz**	**6.00**	**75**	*e*Sn		Sn	11 08 24.9	0.0	
PESTR					A	A	11 08 26.2		
	1.6nm,0.4s								
PESTR	**Estremoz**	**6.00**	**75**	*e*Sn		Sn	11 08 24.9	0.0	
	1.6nm,0.4s								
PMRV	**Marv??o**	**6.28**	**70**	*e*Pn		Pn	11 07 21.9	+1.9	
PMRV				*e*Sn		Sn	11 08 31.8	0.0	
PMRV					A	A	11 08 33.3		
	2.1nm,0.2s								
PMRV	**Marv??o**	**6.28**	**70**	P		Pn	11 07 21.9	+1.9	
PMRV				S		Sn	11 08 31.8	0.0	
	2.1nm,0.2s								
PMRV	**Marv??o**	**6.28**	**70**	P		Pn	11 07 21.9	+1.9	
PMRV				S		Sn	11 08 31.8	0.0	
	2.1nm,0.2s								
PVIS	**Viseu**	**6.39**	**58**	*e*Sn		Sn	11 08 33.8	-0.9	
PVIS					A	A	11 08 34.7		
	2.4nm,0.5s								
PVIS	**Viseu**	**6.39**	**58**	S		Sn	11 08 33.8	-0.9	
	1.2nm,0.5s								
PVIS	**Viseu**	**6.39**	**58**	S		Sn	11 08 33.8	-0.9	
	1.2nm,0.5s								
EBAD	**Badajoz**	**6.42**	**76**	S		Sn	11 08 33.7	-1.7	
	5.2nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**6.42**	**76**	S		Sn	11 08 33.7	-1.7	
	5.2nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**6.62**	**85**	P		Pn	11 07 24.8	+0.1	
	1.3nm,0.3s,SNR=6.8								
EMIN					S	Sn	11 08 37.5	-2.7	
	1.2nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**6.62**	**85**	P		Pn	11 07 24.8	+0.1	
	1.3nm,0.3s,SNR=6.8								
EMIN					S	Sn	11 08 37.5	-2.7	
	1.2nm,0.3s,SNR=7.9								
POLO	**Lamas de Olo**	**6.79**	**53**	*e*Pn		Pn	11 07 28.9	+1.8	
POLO				*e*Sn		Sn	11 08 42.6	-2.0	
POLO	**Lamas de Olo**	**6.79**	**53**	*e*Pn		Pn	11 07 28.9	+1.8	
POLO				*e*Sn		Sn	11 08 42.6	-2.0	
PCAB	**Cabril**	**6.83**	**50**	*e*Pn		Pn	11 07 29.9	+2.2	
PCAB				*e*Sn		Sn	11 08 45.5	0.0	
PCAB	**Cabril**	**6.83**	**50**	P		Pn	11 07 29.9	+2.2	
PCAB				S		Sn	11 08 45.5	0.0	
PCAB	**Cabril**	**6.83**	**50**	P		Pn	11 07 29.9	+2.2	
PCAB				*e*Sn		Sn	11 08 45.5	0.0	
ELOB	**Lobios**	**6.91**	**49**	P		Pn	11 07 29.0	+0.3	
	5.8nm,0.9s,SNR=6.8								
ELOB					S	Sn	11 08 44.0	-3.3	
	3.2nm,0.3s,SNR=7.9								
ELOB	**Lobios**	**6.91**	**49**	P		Pn	11 07 29.0	+0.3	
	5.8nm,0.9s,SNR=6.8								
EMAZ	**Mazaricos**	**7.13**	**38**	P		Pn	11 07 32.5	+0.7	
	1.3nm,0.2s,SNR=7.9								
EMAZ					S	Sn	11 08 47.9	-5.0	
	2.1nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**7.13**	**38**	P		Pn	11 07 32.5	+0.7	
	1.3nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**7.18**	**57**	*e*Sn		Sn	11 08 53.1	-1.1	
MVO					A	A	11 08 57.8		
	2.5nm,0.4s								
MVO	**Moncorvo**	**7.18**	**57**	P		Pn	11 07 33.2	+0.7	
	1.4nm,0.2s,SNR=7.9								
MVO					S	Sn	11 08 50.6	-3.6	
	2.5nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**7.18**	**57**	P		Pn	11 07 33.2	+0.7	
	1.4nm,0.2s,SNR=7.9								
MVO					*e*Sn	Sn	11 08 53.1	-1.1	
	2.5nm,0.4s								
ECAB	**El Cabril**	**7.61**	**83**	S		Sn	11 09 01.0	-3.7	
	0.5nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**7.61**	**83**	S		Sn	11 09 01.0	-3.7	
	0.5nm,0.1s,SNR=7.9								
PBRG	**Braganca**	**7.69**	**53**	*e*Pn		Pn	11 07 41.6	+2.2	
PBRG	**Braganca**	**7.69**	**53**	P		Pn	11 07 41.6	+2.2	
PBRG	**Braganca**	**7.69**	**53**	P		Pn	11 07 41.6	+2.2	
ECAL	**Calabor**	**7.76**	**53**	P		Pn	11 07 41.1	+0.6	
	1.0nm,0.2s,SNR=7.9								
ECAL					S	Sn	11 09 03.5	-4.9	
	1.1nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**7.76**	**53**	P		Pn	11 07 41.1	+0.6	
	1.0nm,0.2s,SNR=7.9								

*IDC **30** 11:15:47.0±2.0,21˚.28N×122˚.71E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.3/27,mbtmp3.5/4,Error ellipse: s-maj=65.7km s-min=24.1km az=51.0*
*TAP **30** 11:16:07.5,21˚.23N×122˚.12E,h165km±1km,ML4.1,D*
*ISCJB **30** 11:16:08.9±0.7,21˚.33N±0˚.05×121˚.95E±0˚.08, h167km±6km,mb3.2/4,Error ellipse: s-maj=12.5km s-min=8.2km az=174.2*

ISC 30 11:16:06.9±1.4,21˚.22N±0˚.08×122˚.1E±0˚.1,h167km±9km, n44,σ1s03/74,mb3.2/4,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.96**	**328**	*i* P		**Pn**	**11 16 33.4**	**+0.4**
	baz=326							
TSEB	**Hengchuen, Pin**	**1.31**	**301**	*e*P		**Pn**	**11 16 37.3**	**+1.4**
	baz=299							
TSEB				*e*S		**Sn**	**11 16 59.2**	**+0.9**
	baz=299							
TWK1	**Hengchun**	**1.40**	**301**	⇑*i*P		**Pn**	**11 16 37.8**	**+1.0**
	baz=299							
TWK1				S		**Sn**	**11 16 59.5**	**-0.4**
	baz=299							
HEN	**Hengchun**	**1.49**	**302**	P		**Pn**	**11 16 38.6**	**+1.0**
	baz=300							
HEN				S		**Sn**	**11 17 00.8**	**-0.5**
	baz=300							
TAW	**Tawu**	**1.59**	**315**	*e*P		**Pn**	**11 16 38.9**	**+0.3**
	baz=314							
TAW				*e*S		**Sn**	**11 17 02.2**	**-1.1**
	baz=314							
EAST	**Anshuo**	**1.64**	**315**	⇑*i*P		**Pn**	**11 16 39.6**	**+0.4**
	baz=314							
EAST				*i* S		**Sn**	**11 17 03.3**	**-1.0**
	baz=314							
ECL	**Taimali**	**1.73**	**322**	*e*P		**Pn**	**11 16 40.1**	**-0.1**
	baz=321							
ECL				*e*S		**Sn**	**11 17 04.6**	**-1.3**
	baz=321							
TTN	**Taitung**	**1.76**	**330**	*e*P		**Pn**	**11 16 41.1**	**+0.7**
	baz=329							
SCZT	**Fangliau**	**1.79**	**310**	*i* P		**Pn**	**11 16 41.4**	**+0.6**
	baz=309							
SCZT				S		**Sn**	**11 17 06.0**	**-1.0**
	baz=309							
TWG	**Pinlang**	**1.86**	**329**	P		**Pn**	**11 16 41.6**	**+0.1**
	baz=328							
TWG				*e*S		**Sn**	**11 17 07.5**	**-0.8**
	baz=328							
TWP	**Hsiaoliuchiu**	**1.97**	**305**	*e*P		**Pn**	**11 16 44.5**	**+1.9**
	baz=304							
CHKT	**Chengkung**	**1.99**	**340**	*e*P		**Pn**	**11 16 42.2**	**-0.7**
	baz=339							
CHKT				*e*S		**Sn**	**11 17 10.3**	**-0.6**
	baz=339							
SSD	**Sandimen**	**2.04**	**318**	⇑*i*P		**Pn**	**11 16 44.1**	**+0.6**
	baz=317							
SSD				*e*S		**Sn**	**11 17 11.0**	**-0.9**
	baz=317							
ELDTW	**Lidau**	**2.20**	**333**	*e*P		**Pn**	**11 16 46.1**	**+0.7**
	baz=332							
ELDTW				*e*S		**Sn**	**11 17 13.0**	**-2.4**
	baz=332							
TWM1	**Shoushan**	**2.23**	**316**	*e*P		**Pn**	**11 16 47.4**	**+1.7**
	baz=315							
TWF1	**Yuli**	**2.25**	**341**	P		**Pn**	**11 16 46.8**	**+0.9**
	baz=340							
TWF1				*e*S		**Sn**	**11 17 14.9**	**-1.3**
	baz=340							
STYT	**Tauyuan**	**2.30**	**327**	P		**Pn**	**11 16 47.3**	**+0.8**
	baz=326							
STYT				*e*S		**Sn**	**11 17 16.4**	**-0.9**
	baz=326							
SGST	**Jiashian**	**2.33**	**323**	P		**Pn**	**11 16 47.5**	**+0.8**
	baz=322							
SGST				*e*S		**Sn**	**11 17 17.2**	**-0.6**
	baz=322							
EHY	**Hungye**	**2.38**	**343**	P		**Pn**	**11 16 48.1**	**+0.7**
	baz=341							
EHY				*e*S		**Sn**	**11 17 18.4**	**-0.6**
	baz=341							
CHN1	**Nanshi**	**2.44**	**324**	*e*P		**Pn**	**11 16 48.8**	**+0.7**
	baz=322							
CHN1				*e*S		**Sn**	**11 17 19.2**	**-1.0**
	baz=322							
WTP	**Ta-pu**	**2.44**	**326**	P		**Pn**	**11 16 48.8**	**+0.6**
	baz=325							
WTP				*e*S		**Sn**	**11 17 19.4**	**-0.9**
	baz=325							
YUS	**Yu-Shan**	**2.49**	**335**	*e*P		**Pn**	**11 16 49.9**	**+0.7**
	baz=334							
YUS				*e*S		**Sn**	**11 17 22.8**	**+0.6**
	baz=334							
TAI1	**Yung-k'ang**	**2.51**	**316**	*e*S		**Sn**	**11 17 21.2**	**-0.3**
	baz=315							
TWK	**Hsinying**	**2.52**	**324**	*e*P		**Pn**	**11 16 49.7**	**+0.6**
	baz=323							
TWK				*e*S		**Sn**	**11 17 21.1**	**-1.0**
	baz=323							
CHN4	**Tsaushan**	**2.54**	**327**	P		**Pn**	**11 16 49.9**	**+0.6**
	baz=326							
CHN4				*e*S		**Sn**	**11 17 21.5**	**-0.7**
	baz=326							
ALS	**Alishan**	**2.57**	**332**	P		**Pn**	**11 16 51.0**	**+1.0**
	baz=331							
ALS				*e*S		**Sn**	**11 17 22.4**	**-1.1**
	baz=331							
SCLT	**Jiali**	**2.63**	**318**	*e*P		**Pn**	**11 16 51.2**	**+0.9**
	baz=317							
SCLT				*e*S		**Sn**	**11 17 23.9**	**-0.2**
	baz=317							
CHN5	**Tsauling**	**2.71**	**331**	*e*P		**Pn**	**11 16 51.7**	**+0.3**
	baz=330							
CHN5				*e*S		**Sn**	**11 17 25.1**	**-0.9**
	baz=330							
CHY	**Chiayi**	**2.75**	**326**	*e*P		**Pn**	**11 16 51.3**	**-0.5**
	baz=325							
CHY				*e*S		**Sn**	**11 17 25.9**	**-0.8**
	baz=325							
WGK	**Gukeng**	**2.84**	**330**	*e*P		**Pn**	**11 16 53.7**	**+0.9**
	baz=329							
WGK				*e*S		**Sn**	**11 17 28.5**	**-0.2**
	baz=329							
SMLT	**Sun Moon Lake**	**2.87**	**337**	*e*P		**Pn**	**11 16 54.2**	**+0.8**
	baz=336							
SMLT				*e*S		**Sn**	**11 17 30.2**	**+0.5**
	baz=336							
TYC	**Yuchr**	**2.91**	**337**	*e*P		**Pn**	**11 16 54.4**	**+0.7**
	baz=336							
TYC				*e*S		**Sn**	**11 17 29.4**	**-0.9**
	baz=336							
WNT	**Mingjian**	**2.95**	**334**	*e*P		**Pn**	**11 16 55.1**	**+0.8**
	baz=333							
WSF	**Szhu**	**2.97**	**324**	*e*S		**Sn**	**11 17 30.2**	**-1.3**
	baz=323							
WHF	**Hehuan Shan**	**3.01**	**345**	*e*P		**Pn**	**11 16 56.1**	**+0.7**
	baz=344							
WDGT	**Dungji**	**3.04**	**312**	*e*P		**Pn**	**11 16 55.0**	**-0.3**
	baz=311							
WDGT				*e*S		**Sn**	**11 17 30.8**	**-2.3**
	baz=311							
TCU	**Taichung**	**3.19**	**336**	*e*P		**Pn**	**11 16 58.4**	**+1.1**
	baz=335							
TCU				*e*S		**Sn**	**11 17 36.0**	**-0.7**
	baz=335							
NNS	**Nan Shan**	**3.27**	**348**	*e*P		**Pn**	**11 17 00.7**	**+2.3**
	baz=347							
PNG	**Penghu**	**3.32**	**315**	*e*P		**Pn**	**11 16 58.6**	**-0.2**
	baz=314							
PNG				*e*S		**Sn**	**11 17 37.0**	**-2.4**
	baz=314							
TWQ1	**Liyutan**	**3.34**	**339**	*e*P		**Pn**	**11 17 00.4**	**+1.2**
	baz=338							
TWQ1				*e*S		**Sn**	**11 17 39.2**	**-0.8**
	baz=338							
CMAR	**Chiang Mai Arr**	**21.95**	**267**	P		**P**	**11 20 48.9**	**+1.5**
	0.4nm,0.4s,baz=72,slow=8.6,SNR=6.5							
MKAR	**Makanchi Array**	**41.07**	**318**	P		**P**	**11 23 34.9**	**+0.8**
	0.4nm,0.4s,baz=108,slow=9.1,SNR=7.2							
WRA	**Warramunga Arr**	**42.63**	**163**	P		P	11 23 44.0	-2.9
	0.4nm,0.7s,baz=343,slow=9.0,SNR=8.8							
ASAR	**Alice Springs**	**46.08**	**165**	P		**P**	**11 24 12.4**	**-1.8**
	0.2nm,0.3s,baz=341,slow=6.9,SNR=7.3							

*NNC **30** 11:20:48.1±4.3,36˚.88N×70˚.44E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=34.1km s-min=27.1km az=165.0*

ISC 30 11:20:52.6±3.3,36˚.8N±0˚.2×70˚.7E±0˚.1,h204km,n11, σ0s81/15,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.81**	**23**	P		**Pn**	**11 22 16.6**	**-1.2**
	SNR=27							
UCH	**Uchtor**	**6.17**	**27**	P		**Pn**	**11 22 21.4**	**-1.1**
	SNR=15							
KK31	**Karatay Array**	**6.29**	**359**	⇓Pn		**Pn**	**11 22 22.8**	**-0.9**
	3.4nm,0.3s,baz=181,slow=12,SNR=31							
KK31				⇓Sn		**S**	**11 23 35.3**	**-0.3**
	6.9nm,0.8s,baz=188,slow=23,SNR=7.5							
EKS2	**Erkin-Say**	**6.32**	**21**	P		**Pn**	**11 22 23.4**	**-0.6**
	SNR=5.8							
AAK	**Ala-Archa**	**6.52**	**26**	⇑Pn		**Pn**	**11 22 25.9**	**-0.8**
	7.0nm,0.4s							
AAK				⇑Sn		**S**	**11 23 41.6**	**+0.4**
	9.2nm,0.6s							
AAK	**Ala-Archa**	**6.52**	**26**	P		**Pn**	**11 22 26.4**	**-0.3**
	SNR=11							
CHMS	**Chumysh**	**6.93**	**26**	P		**Pn**	**11 22 31.4**	**-0.5**
	SNR=6.8							
USP	**Ospenovka**	**7.09**	**23**	P		**Pn**	**11 22 33.8**	**-0.2**
	SNR=8.1							
TKM2	**Tokmak 2**	**7.18**	**30**	⇑Pn		**Pn**	**11 22 34.6**	**-0.7**
	3.2nm,0.5s							
TKM2				⇑Sn		**S**	**11 23 57.9**	**+1.0**
	2.5nm,1.0s							
TKM2	**Tokmak 2**	**7.18**	**30**	P		**Pn**	**11 22 34.7**	**-0.7**
	SNR=6.8							
AB31	**Akbulak array**	**14.70**	**331**	Pn		**P**	**11 24 12.6**	**+0.9**
	2.4nm,0.6s,baz=148,slow=12,SNR=50							
AB31				⇑Sn		**S**	**11 26 53.6**	**-0.1**
	0.7nm,0.7s,baz=160,slow=22,SNR=4.5							

*IDC **30** 11:32:59.8±1.6,36˚.06N×141˚.56E,h0km,mb3.8/6, mb1 3.8/8,mb1mx3.6/31,mbtmp3.7/8,ML3.4/2,MS2.6/4, Ms1 2.6/4,ms1mx2.5/34,Error ellipse: s-maj=44.7km s-min=25.9km az=73.0*
*NIED **30** 11:33:00,36˚.20N×141˚.20E,h26km,Mw3.8 Best double couple: M☉5.97000×10^14 NP1:φ=283.00000°,δ53.00000°, λ17.00000°. NP2:φ=183.00000°,δ77.00000°,λ142.00000°.*
*ISCJB **30** 11:33:05.7±1.0,36˚.24N±0˚.04×141˚.26E±0˚.08,h35km±9km, mb3.6/6,MS3.2/1,Error ellipse: s-maj=10.9km s-min=6.5km az=16.8*
*JMA **30** 11:33:06.2±0.1,36˚.22N×141˚.18E,h46km±2km,M3.7*
JMA Felt I J1.

ISC 30 11:33:05.0±1.5,36˚.24N±0˚.05×141˚.29E±0˚.07,h25km±11km, n29,σ1s08/25,mb3.7/6,3C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.64**	**213**	⇓P		**Pb**	**11 33 18.2**	**+0.6**
CHOJ					S	**Sb**	**11 33 26.4**	**+0.2**
JHO	**Hitachi**	**0.69**	**302**	⇑P		**Pb**	**11 33 18.7**	**+0.3**
JYT	**Yasato**	**0.89**	**269**	P		**Pn**	**11 33 21.4**	**-0.5**
JYT					S	**Sb**	**11 33 31.3**	**-1.9**
ONAJ	**Iwakimizuishiy**	**0.94**	**335**	⇑P		**Pn**	**11 33 22.5**	**-0.3**
ONAJ					S	**Sb**	**11 33 34.4**	**-0.5**
JFK	**Kawauchi**	**1.17**	**343**	P		**Pn**	**11 33 25.8**	**-0.1**
JFK					S	**Sn**	**11 33 39.8**	**-1.2**
JFT	**Otama**	**1.49**	**329**	⇑P		**Pn**	**11 33 31.4**	**+1.2**
JFT					S	**Sn**	**11 33 49.2**	**+0.4**
JAG	**Ashikaga**	**1.50**	**278**	P		**Pn**	**11 33 30.2**	**-0.1**
JAG					S	**Sn**	**11 33 47.3**	**-1.7**
MJAR	**Matsushiro Arr**	**2.50**	**278**	Pn		**Pn**	**11 33 45.5**	**+1.3**
	8.3nm,0.3s,baz=113,slow=8.3,SNR=72							
MJAR					Sn	**Sn**	**11 34 14.1**	**+0.1**
	18nm,0.3s,baz=93,slow=24,SNR=14							
MJAR					LR	LR	11 34 53.0	
	comp=Z,129nm,20.3s,baz=140,slow=42							
MAT	**Matsushiro**	**2.51**	**278**	P		**Pn**	**11 33 45.7**	**+1.5**
MAT					S	**Sn**	**11 34 14.0**	**0.0**
ASAJ	**Asahikawa**	**7.93**	**7**	Pn		**Pn**	**11 34 58.8**	**+0.2**
	0.6nm,0.3s,baz=233,slow=10,SNR=7.9							
ASAJ					Sn	**Sn**	**11 36 26.7**	**-0.7**
	0.2nm,0.3s,baz=307,slow=20,SNR=3.4							
JCJ	**Chichijima**	**9.15**	**175**	LR		LR	11 37 48.0	
	comp=Z,23nm,20.5s,baz=172,slow=32							
USRK	**Ussuriysk Arra**	**10.66**	**321**	Pn		Pn	11 35 40.6	+4.6
	0.2nm,0.3s,baz=154,slow=15,SNR=4.7							
KSRS	**Korea Array**	**10.78**	**280**	Pn		Pn	11 35 42.7	+4.9
	baz=88,slow=14,SNR=2.9							
KSRS				LR		LR	11 40 10.5	
	comp=Z,14nm,19.5s,baz=168,slow=39							
H11N2	**WAKE ISLAND Hy**	**27.84**	**119**	T		T	12 08 13.1	
	baz=314,slow=76,SNR=9.4							
H11N1	**WAKE ISLAND Hy**	**27.84**	**119**	T		T	12 08 08.9	
	baz=314,slow=76,SNR=8.1							
H11N3	**WAKE ISLAND Hy**	**27.86**	**119**	T		T	12 08 15.8	
	baz=314,slow=76,SNR=7.4							
SONM	**Songino Array**	**28.15**	**305**	P		**P**	**11 38 55.4**	**+0.1**
	0.5nm,0.6s,baz=116,slow=9.7,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**28.52**	**121**	T		T	12 09 03.9	
	baz=317,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.52**	**122**	T		T	12 09 06.4	
	baz=317,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.54**	**122**	T		T	12 09 02.8	
	baz=317,slow=75,SNR=14							
ZALV	**Zalesovo Beam**	**42.38**	**313**	P		**P**	**11 40 58.1**	**+1.0**
	1.0nm,0.5s,baz=92,slow=6.9,SNR=6.3							
MKAR	**Makanchi Array**	**44.46**	**303**	P		**P**	**11 41 14.8**	**+0.8**
	0.6nm,0.6s,baz=90,slow=9.6,SNR=8.6							
WRA	**Warramunga Arr**	**56.27**	**188**	P		**P**	**11 42 40.9**	**-2.5**
	0.4nm,0.7s,baz=11,slow=8.3,SNR=4.4							
FINES	**FINESS Array B**	**69.47**	**332**	LR		LR	12 20 58.5	
	comp=Z,14nm,18.5s,baz=270,slow=41							
AKASG	**Malin Array Be**	**74.86**	**322**	P		**P**	**11 44 43.6**	**+0.4**
	0.5nm,0.4s,baz=45,slow=5.8,SNR=6.3							
BRTR	**Keskin Array B**	**79.30**	**312**	P		**P**	**11 45 09.6**	**+1.0**
	0.6nm,0.7s,baz=31,slow=7.6,SNR=4.2							
H03N2	**Juan Fernandez**	**147.03**	**97**	T		T	14 37 29.3	
	baz=288,slow=75,SNR=4.5							
H03N3	**Juan Fernandez**	**147.04**	**97**	T		T	14 37 28.5	
	baz=288,slow=75,SNR=5.8							
H03N1	**Juan Fernandez**	**147.05**	**97**	T		T	14 37 29.3	
	baz=288,slow=75,SNR=4.3							

*BJI **30** 11:42:49.8,54˚.86N×168˚.59E,h29km,mB4.9/8,mb4.5/11, Ms4.5/3,Ms7 4.2/4*
*IDC **30** 11:42:51.1±0.6,54˚.40N×167˚.66E,h0km,mb3.9/16, mb1 4.2/18,mb1mx4.0/35,mbtmp3.9/18,ML3.7/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/36,Error ellipse: s-maj=20.6km s-min=11.2km az=14.0*
*KRSC **30** 11:42:52.7±1.8,54˚.12N×167˚.59E,h50km±31km,ML4.4*
*ISCJB **30** 11:42:53.5±0.3,54˚.14N±0˚.03×167˚.65E±0˚.03,h33km, mb4.2/31,MS4.7/15,Error ellipse: s-maj=4.2km s-min=2.7km az=177.2*
*MOS **30** 11:42:54.3±0.9,54˚.27N×167˚.74E,h39km,mb4.5/9,Error ellipse: s-maj=12.5km s-min=7.8km az=119.9*
*NEIC **30** 11:42:56.1±0.6,54˚.22N×167˚.73E,h41km±7km,mb4.5/5, Error ellipse: s-maj=10.6km s-min=4.8km az=182.0*

ISC 30 11:42:55.6±0.4,54˚.17N±0˚.04×167˚.71E±0˚.04,h35km,n128, σ1s20/145,mb4.3/31,MS4.5/15,3C-2D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.45**	**316**		PN	**Pn**	**11 43 17.4**	**-1.8**
BKI					S	**Sn**	**11 43 35.4**	**-1.5**
BKI	**Bering**	**1.45**	**316**	*e*P		**Pn**	**11 43 17.4**	**-1.8**
BKI				*e*S		**Sn**	**11 43 35.4**	**-1.5**
KBTR	**Krutoberegovo**	**3.47**	**308**		PN	**Pn**	**11 43 45.9**	**-1.1**
KBTR					S	**Sn**	**11 44 24.7**	**-2.1**
KBTR	**Krutoberegovo**	**3.47**	**308**	*e*P		**Pn**	**11 43 45.9**	**-1.1**
KBTR				*e*S		**Sn**	**11 44 24.7**	**-2.1**
FX1	**Attu Island--F**	**3.50**	**109**	*e*Pn		**Pn**	**11 43 47.7**	**+0.3**
FX1				Sn		**Sn**	**11 44 26.8**	**-0.8**
FX1	**Attu Island--F**	**3.50**	**109**	Pn		**Pn**	**11 43 46.8**	**-0.7**
	35nm,0.3s,baz=325,slow=6.4,SNR=145							
FX1				Sn		**Sn**	**11 44 26.8**	**-0.8**
	106nm,0.3s,baz=349,slow=22,SNR=13							
FX1				LR		LR	11 45 18.6	
	comp=Z,219nm,18.6s,baz=229,slow=41							
KBG	**Krutoberegovo**	**3.55**	**308**		PN	**Pn**	**11 43 48.9**	**+0.8**
KBG					S	**Sn**	**11 44 30.8**	**+2.1**
KBG	**Krutoberegovo**	**3.55**	**308**	*e*P		**Pn**	**11 43 48.9**	**+0.8**
KBG				*e*S		**Sn**	**11 44 30.8**	**+2.1**
SMY	**Shemya**	**4.08**	**108**	*e*PN		**Pn**	**11 43 56.0**	**+0.6**
SMY				*e*			11 44 50.8	
SMY	**Shemya**	**4.08**	**108**	*e*Pn		**Pn**	**11 43 56.0**	**+0.6**
SMY				*e*Sn		Sn	11 44 50.8	+8.9
SMKR	**Semkarok**	**4.30**	**307**	*e*P		Pn	11 44 00.6	+2.1
SMKR				*e*S		**Sn**	**11 44 50.5**	**+3.0**
KZV	**Kizimen**	**4.41**	**285**	*e*P		**Pn**	**11 44 00.2**	**+0.1**
BDR	**Baidarnaya**	**4.42**	**306**	*e*P		**Pn**	**11 44 01.1**	**+1.0**
BDR				*e*S		**Sn**	**11 44 50.6**	**+0.2**
SRKR	**Sorokina**	**4.48**	**306**	*e*P		**Pn**	**11 44 02.4**	**+1.4**
SRKR				*e*S		**Sn**	**11 44 53.0**	**+1.1**
TUMR	**Tumrok**	**4.53**	**287**	*e*P		**Pn**	**11 44 02.0**	**+0.4**
TUMR				*e*S		**Sn**	**11 44 52.1**	**-0.9**
KLY	**Klyuchi**	**4.58**	**301**	PN		**Pn**	**11 44 02.6**	**+0.4**
KLY				S		**Sn**	**11 44 53.1**	**-0.9**
KLY	**Klyuchi**	**4.58**	**301**	*e*P		**Pn**	**11 44 02.6**	**+0.4**
KLY				*e*S		**Sn**	**11 44 53.1**	**-0.9**
KLY				*e*S		**Sn**	**11 44 54.1**	**+0.1**
KMNR	**Kamenistaya**	**4.59**	**293**	*e*P		**Pn**	**11 44 03.5**	**+1.0**
KMNR				*e*S		**Sn**	**11 44 53.8**	**-0.8**
KII	**Karymskiy**	**4.87**	**272**	*e*P		**Pn**	**11 44 06.7**	**+0.4**
KII				*e*S		**Sn**	**11 45 00.8**	**-0.5**
SRDR	**Sredinnyy**	**5.06**	**298**	*e*P		**Pn**	**11 44 10.1**	**+1.3**
SRDR				*e*S		**S

comp=Z,57nm,2.3s
TIXI Tiksi 24.18 331 ⇑ *i*P **P** **11 48 07.4 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 24.18 331 *e*P **P** **11 48 07.2 -0.9**
comp=Z,5.8nm,0.8s
COLA College 24.40 46 ⇓ *e*P **P** **11 48 09.7 -0.4**
COLA pmax pmax
comp=Z,17nm,0.7s
COLA College 24.40 46 *e*P **P** **11 48 09.5 -0.6**
comp=Z,1.8nm,0.8s
ILAR Eielson Array 24.80 47 P **P** **11 48 12.3 -1.5**
ILAR Eielson Array 24.80 47 P **P** **11 48 12.3 -1.5**
comp=Z,1.9nm,0.5s,baz=255,slow=8.2,SNR=56
PAX Paxson 25.40 51 PFAKE 11 48 30.0 +11
PAX LR LR
comp=Z,500nm,21.1s
EGAK Eagle 27.26 47 *e*P **P** **11 48 34.7 -1.3**
comp=Z,72nm,2.7s
INK Inuvik 30.20 39 P **P** **11 49 01.9 -0.3**
INK Inuvik 30.20 39 P **P** **11 49 01.9 -0.3**
comp=Z,0.9nm,0.5s,baz=282,slow=6.0,SNR=10.0
H11N2 WAKE ISLAND Hy 34.38 181 T T 12 26 33.9
baz=3.5,slow=77,SNR=658
H11N3 WAKE ISLAND Hy 34.40 181 T T 12 26 31.4
baz=3.5,slow=77,SNR=470
H11N1 WAKE ISLAND Hy 34.40 181 T T 12 26 35.1
baz=3.5,slow=77,SNR=367
H11S1 WAKE ISLAND Hy 35.60 182 T T 12 28 04.6
baz=3.1,slow=78,SNR=235
H11S3 WAKE ISLAND Hy 35.62 182 T T 12 28 08.3
baz=3.1,slow=78,SNR=125
H11S2 WAKE ISLAND Hy 35.62 182 T T 12 28 06.2
baz=3.1,slow=78,SNR=348
BJI Beijing 36.96 269 P **P** **11 50 01.3 +0.2**
BJI pmax pmax
comp=Z,7.0nm,0.4s
SONM Songino Array 38.01 286 P **P** **11 50 11.1 +1.0**
SONM PcP **PcP** **11 52 25.6 +0.6**
SONM Songino Array 38.01 286 P **P** **11 50 11.1 +1.0**
comp=Z,2.5nm,0.6s,baz=60,slow=8.3,SNR=29
SONM PcP **PcP** **11 52 25.5 +0.6**
comp=Z,0.4nm,0.6s,baz=61,slow=1.7,SNR=3.6
HHC Hu-ho-hao-te 39.15 274 *e*P **P** **11 50 20.0 +0.3**
HHC sP **sP** **11 50 29.5 -4.6**
HHC PP **PnPn** **11 51 55.0 +2.6**
HHC S **S** **11 56 18.5 +1.4**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.0s
HHC LR LR
comp=Z,250nm,14.0s
HHC LR LR
comp=Z,230nm,12.0s
HHC LR LR
comp=Z,120nm,15.5s
ZALV Zalesovo Beam 45.94 305 P **P** **11 51 13.5 -1.0**
ZALV Zalesovo Beam 45.94 305 P **P** **11 51 13.5 -1.0**
ZALV Zalesovo Beam 45.94 305 P **P** **11 51 13.5 -1.0**
comp=Z,0.5nm,0.4s,baz=34,slow=5.4,SNR=3.0
BSMT Bassoo Peak 46.87 64 *e*P **P** **11 51 22.2 0.0**
comp=Z,1.8nm,0.8s
WMQ Urumqi 50.81 293 *e*P **P** **11 51 53.5 +1.2**
WMQ pmax pmax
comp=Z,5.0nm,1.0s
WMQ pmax pmax
comp=Z,11nm,6.2s
KURK Kurchatov 50.93 305 *e*P **P** **11 51 52.2 -0.7**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 50.93 305 *e*P **P** **11 51 52.2 -0.7**
comp=Z,3.7nm,1.0s
NVAR Mina Array Bea 51.09 76 P **P** **11 51 55.2 +0.6**
NVAR Mina Array Bea 51.09 76 P **P** **11 51 55.2 +0.6**
comp=Z,0.5nm,0.7s,baz=302,slow=6.9,SNR=5.3
MKAR Makanchi Array 51.69 299 *e*P **P** **11 51 57.8 -1.0**
MKAR Makanchi Array 51.69 299 *e*P **P** **11 51 57.8 -1.0**
MKAR Makanchi Array 51.69 299 P **P** **11 51 57.5 -1.3**
comp=Z,0.8nm,0.6s,baz=49,slow=7.2,SNR=14
PDAR Pinedale Array 52.98 66 P **P** **11 52 08.7 0.0**
PDAR Pinedale Array 52.98 66 P **P** **11 52 08.7 0.0**
comp=Z,0.5nm,0.4s,baz=300,slow=1.6,SNR=8.6
BRVK Borovoye 53.20 312 ⇓ *i*P **P** **11 52 09.6 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 53.57 344 P **P** **11 52 11.1 -1.3**
ARCES ARCESS Array B 53.57 344 P **P** **11 52 11.1 -1.3**
comp=Z,3.6nm,0.9s,baz=24,slow=9.1,SNR=3.7
SRU San Rafael 54.99 70 *e*P **P** **11 52 23.7 +0.4**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael 54.99 70 *e*P **P** **11 52 23.7 +0.4**
comp=Z,3.0nm,0.7s
KMI Kunming 55.46 266 P **P** **11 52 26.5 -0.4**
KMI pmax pmax
comp=Z,7.0nm,1.6s
ARU Arti 55.57 320 *c i*P **P** **11 52 26.3 -0.7**
ARU S **S** **12 00 11.0 +1.3**
ARU SS **SS** **12 03 54.6 +0.4**
ARU pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 58.57 300 ⇑ P **P** **11 52 49.0 +0.4**
AAK pmax pmax
comp=Z,11nm,2.5s
KSH Kashi 60.08 297 *e*P P 11 53 02.0 +3.0
KSH *e*PcP **PcP** **11 53 47.8 +3.2**
KSH *e*PP PP 11 55 16.0 +4.7
KSH *e*S **S** **12 01 11.0 +1.5**
KSH *e*SS **SS** **12 05 09.0 +3.1**
KSH pmax pmax
comp=Z,2.0nm,1.0s
KSH pmax pmax
comp=Z,65nm,5.2s
KSH LR LR
comp=Z,34nm,3.7s
KSH LR LR
comp=Z,21nm,3.0s
KSH LR LR
comp=Z,34nm,4.2s
ABKAR Akbulak array 60.43 314 *e*P **P** **11 53 00.6 -0.5**
FINES FINESS Array B 60.80 340 P **P** **11 53 02.5 -0.9**
FINES FINESS Array B 60.80 340 P **P** **11 53 02.5 -0.9**
comp=Z,1.8nm,0.8s,baz=28,slow=8.6,SNR=5.1
CMAR Chiang Mai Arr 62.83 264 P **P** **11 53 18.2 +0.5**
CMAR Chiang Mai Arr 62.83 264 P **P** **11 53 18.2 +0.5**
comp=Z,1.7nm,0.3s,baz=25,slow=7.1,SNR=8.5
NB2 NORSAR Subarra 63.63 347 P **P** **11 53 22.1 -0.4**
comp=Z,1.7nm,0.5s,baz=16,slow=6.9
NOA NORSAR Array B 63.63 347 P **P** **11 53 22.1 -0.4**
NOA NORSAR Array B 63.63 347 P **P** **11 53 22.1 -0.4**
comp=Z,1.4nm,0.5s,baz=12,slow=6.9,SNR=14
TXAR Lajitas Array 66.01 73 P **P** **11 53 38.9 +0.4**
TXAR Lajitas Array 66.01 73 P **P** **11 53 38.9 +0.4**
comp=Z,0.6nm,0.5s,baz=302,slow=4.6,SNR=28
PQI Presque Isle 68.99 38 PFAKE 11 54 10.0 +13
PQI LR LR
comp=Z,3μm,20.3s
AKASG Malin Array Be 69.86 333 P **P** **11 54 01.0 -1.2**
AKASG Malin Array Be 69.86 333 P **P** **11 54 01.0 -1.2**
AKASG Malin Array Be 69.86 333 P **P** **11 54 01.0 -1.2**
comp=Z,0.7nm,0.4s,baz=26,slow=6.7,SNR=4.8
TRY Troy 70.16 43 PFAKE 11 54 20.0 +16
TRY LR LR
comp=Z,1μm,18.8s
KSM Kuching 70.29 243 PFAKE 11 54 20.0 +15
KSM LR LR
comp=Z,100nm,19.0s
BRNJ Basking Ridge 71.50 45 PFAKE 11 54 20.0 +7.6
BRNJ LR LR
comp=Z,1μm,20.8s
RUE Ruedersdorf 71.52 344 PFAKE 11 54 20.0 +7.7
RUE LR LR
comp=Z,300nm,22.0s
IPM Ipoh 72.86 253 PFAKE 11 54 30.0 +9.2
IPM LR LR
comp=Z,200nm,18.0s
GERES GERESS Array B 75.04 343 P **P** **11 54 33.6 +0.3**
GERES GERESS Array B 75.04 343 P **P** **11 54 33.6 +0.3**
comp=Z,0.5nm,0.5s,baz=36,slow=8.6,SNR=2.1
CTA Charters Tower 76.22 201 LR LR 12 24 10.6
comp=Z,88nm,20.1s,baz=185,slow=32
BRTR Keskin Array B 78.49 326 P **P** **11 54 52.8 -0.2**
BRTR Keskin Array B 78.49 326 P **P** **11 54 52.8 -0.2**
comp=Z,0.3nm,0.5s,baz=41,slow=2.7,SNR=2.9
ASAR Alice Springs 82.81 211 P **P** **11 55 16.7 +0.8**
ASAR Alice Springs 82.81 211 P **P** **11 55 16.7 +0.8**
comp=Z,0.3nm,0.7s,baz=9.1,slow=6.0,SNR=5.5
TIP Timpagrande 83.72 338 PFAKE 11 55 30.0 +9.3
TIP LR LR
comp=Z,100nm,21.0s
BFZ Birch Farm 94.76 173 PFAKE 11 56 20.0 +7.3
BFZ LR LR
comp=Z,500nm,19.6s
SABA Saba 96.31 48 PFAKE 11 56 30.0 +10
SABA LR LR
comp=Z,1μm,21.3s
DGAR Diego Garcia 99.04 270 PFAKE 11 56 40.0 +7.3
DGAR LR LR
comp=Z,800nm,18.0s
SDV Santo Domingo 100.42 59 PFAKE 11 56 50.0 +11
SDV LR LR
comp=Z,100nm,18.0s
LSZ Lusaka 130.05 305 PFAKE 12 02 10.0 +8.3
LSZ LR LR
comp=Z,200nm,22.0s

IDC 30 12:16:50.3±11.0, 2°04.0'N×124°54.0'E, h301km±120km, mb3.1/4, mb1 3.4/5, mb1mx3.0/32, mbtmp4.0/5, Error ellipse: s-maj=156.0km s-min=21.9km az=57.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**12.20**	**184**	P	P	12 19 36.5	0.0
	6.0nm,0.3s,baz=45,slow=2.3,SNR=6.2						
WRA	**Warramunga Arr**	**23.87**	**157**	P	P	12 21 36.5	-0.9
	1.2nm,0.3s,baz=333,slow=11,SNR=23						
ASAR	**Alice Springs**	**27.13**	**161**	P	P	12 22 07.2	+0.7
	0.2nm,0.3s,baz=347,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**37.42**	**156**	P	P	12 23 35.3	+0.1
	1.1nm,0.8s,baz=326,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**57.73**	**327**	P	P	12 26 09.8	-0.4
	0.5nm,0.3s,baz=123,slow=8.2,SNR=26						
MKAR				PcP	PcP	12 26 59.9	+0.6
	0.4nm,0.6s,baz=130,slow=3.8,SNR=4.6						

MEX 30 12:18:46.5±0.4, 17°29N×94°43W, h153km±3km, MD4.4, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.48**	**246**	*i* P	Pn	12 19 06.7	-1.4
CMIG				*i* S	Sn	12 19 22.6	-2.0
PCIG		**1.95**	**143**	*i* P	Pn	12 19 20.0	-1.3
PCIG				*e*S	Sn	12 19 46.1	-1.9
OXX	**Oaxaca**	**2.21**	**265**	*e*P	Pn	12 19 30.0	+5.5
OXX				*e*S	Sn	12 19 58.9	+5.2
VHO	**Vista Hermosa**	**2.22**	**265**	*e*P	Pn	12 19 23.5	-1.1
VHO				*i* S	Sn	12 19 52.0	-1.9
TPIG	**Tehuac#an**	**3.02**	**292**	*i* P	Pn	12 19 33.2	-1.2
TPIG				*i* S	Sn	12 20 08.9	-2.6
LVIG	**Laguna Verde**	**3.07**	**322**	*e*P	Pn	12 19 32.7	-2.2
LVIG				*e*S	Sn	12 20 08.1	-4.3
TLIG	**Tlapa**	**3.96**	**275**	*e*P	Pn	12 19 44.3	-2.3
TLIG				*i* S	Sn	12 20 30.1	-3.0
PPM	**Popocatepetl**	**4.37**	**295**	*e*P	Pn	12 19 52.5	+0.2
PPM				*e*S	Sn	12 20 40.6	-2.9
YAIG	**Yautepec**	**4.69**	**290**	*e*P	Pn	12 19 55.5	-0.5
YAIG				*e*S	Sn	12 20 48.1	-2.1
PLIG	**Platanillo**	**4.96**	**284**	*e*P	Pn	12 19 57.7	-1.9
PLIG				*i* S	Sn	12 20 54.2	-2.4
ARIG	**Puente Sto Nin**	**5.73**	**281**	*i* P	Pn	12 20 09.3	-0.4
ARIG				*e*S	Sn	12 21 12.6	-2.1

*ISCJB **30** 12:36:07.9±0.6, 6°84N±0°07×73°06W±0°07, h166km, mb3.0/3, Error ellipse: s-maj=12.1km s-min=6.7km az=41.2*
*IDC **30** 12:36:08.6±2.3, 6°60N×72°98W, h165km±21km, mb2.9/3, mb1 3.3/4, mb1mx3.1/31, mbtmp3.4/4, Error ellipse: s-maj=32.0km s-min=24.5km az=44.0*
*FUNV **30** 12:36:09.7, 6°82N×73°08W, h170km, MW3.6*
ISC 30 12:36:08.6±0.9, 6°82N±0°07×73°05W±0°08, h166km, n18, σ1§23/22, mb3.1/3, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**35**	*i* P	**Pn**	**12 36 38.4**	**+0.9**
CAPV				*e*S	**Sn**	**12 36 59.6**	**-0.2**
ROSC	**El Rosal**	**2.33**	**213**	P	**Pn**	**12 36 49.1**	**+0.1**
	36nm,0.3s,baz=268,slow=1.6,SNR=32						
ROSC				S	**Sn**	**12 37 17.3**	**-2.9**
	24nm,0.3s,baz=92,slow=17,SNR=8.1						
SOCV	**Socops**	**2.62**	**56**	*e*P	**Pn**	**12 36 52.5**	**+0.5**
SOCV				*e*S	**Sn**	**12 37 24.0**	**-1.6**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**12 37 04.5**	**+1.0**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P	**Pn**	**12 37 05.0**	**-0.6**
VIRV				*e*S	**Sn**	**12 37 47.6**	**-2.6**
QARV	**Quebrada Arrib**	**4.19**	**36**	*e*P	**Pn**	**12 37 12.5**	**+0.6**
SANV	**Sanarito**	**4.38**	**52**	*e*P	**Pn**	**12 37 14.5**	**+0.1**
CURV	**Curarigua**	**4.40**	**44**	*e*P	**Pn**	**12 37 14.9**	**+0.3**
TEPV	**Terepaima**	**4.93**	**50**	*e*P	**Pn**	**12 37 21.1**	**-0.4**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**12 37 26.5**	**-1.0**
MAPV	**Macapo**	**5.44**	**56**	*e*P	**Pn**	**12 37 28.4**	**+0.3**
MONV	**Montecano**	**5.94**	**31**	*e*P	**Pn**	**12 37 33.6**	**-1.1**
TURV	**Turiamo**	**6.29**	**55**	*e*P	**Pn**	**12 37 39.0**	**-0.3**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**12 43 00.0**	**+1.7**
	0.3nm,0.6s,baz=120,slow=8.3,SNR=6.2						
PDAR	**Pinedale Array**	**48.12**	**324**	P	**P**	**12 44 33.3**	**+1.2**
	0.3nm,0.6s,baz=120,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**73.67**	**78**	P	**P**	**12 47 24.4**	**-0.4**
	0.1nm,0.4s,baz=298,slow=7.8,SNR=4.2						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPbc**	**12 55 37.4**	**-1.0**
	0.4nm,0.5s,baz=118,slow=3.6,SNR=14						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**12 55 41.7**	**+0.3**
	0.3nm,0.4s,baz=109,slow=2.6,SNR=11						

IDC 30 12:55:10.4±65.0, 20°72S×178°62W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=1191.0km s-min=167.5km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.17**	**244**	P	P	13 02 22.8	-0.6
	0.5nm,0.4s,baz=104,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**43.91**	**257**	P	P	13 03 19.2	0.0
	0.8nm,0.7s,baz=100,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**44.00**	**262**	P	P	13 03 20.1	+0.1
	0.4nm,0.7s,baz=96,slow=7.7,SNR=5.9						

*SOF **30** 13:47:18.3, 36°95N×21°99E, h13km, MD4.1*
*BJI **30** 13:47:35.9, 38°40N×22°50E, h10km, mB5.0/17, mb4.7/34, Ms4.9/11, Ms7 4.6/11*
*MOS **30** 13:47:37.8±1.1, 38°36N×22°40E, h14km, mb4.9/23, Error ellipse: s-maj=4.6km s-min=2.9km az=102.1*
*CSEM **30** 13:47:38.8±0.1, 38°34N×22°38E, h10km, mb4.7/47, Ms3.0, Error ellipse: s-maj=1.9km s-min=1.8km az=13.0*
*THE **30** 13:47:38.7, 38°33N×22°39E, h0km±1km, ML4.5/21, Error ellipse: s-maj=1.4km s-min=0.4km az=293.0*
*ATH **30** 13:47:38.4, 38°33N×22°34E, h24km, ML4.4*
*NEIC **30** 13:47:38.7±0.3, 38°33N×22°42E, h10km±2km, mb4.7/52, ML4.5(THE), Error ellipse: s-maj=2.4km s-min=2.1km az=205.0*
*ISCJB **30** 13:47:39.0±0.2, 38°37N±0°01×22°33E±0°01, h22km±1km, mb4.6/89, MS3.9/14, Error ellipse: s-maj=1.8km s-min=1.6km az=13.6*
*IDC **30** 13:47:39.9±2.4, 38°38N×22°36E, h20km±14km, mb4.3/25, mb1 4.4/34, mb1mx4.3/49, mbtmp4.4/34, ML4.0/9, MS3.5/12, Ms1 3.5/12, ms1mx3.2/43, Error ellipse: s-maj=11.5km s-min=10.4km az=54.0*
*PDG **30** 13:47:41.1±0.6, 38°37N×22°37E, h35km±7km, ML4.5/12, Error ellipse: s-maj=4.8km s-min=2.6km az=90.0*
*SKO **30** 13:47:47.8, 39°03N×22°40E, h0km*
ISC 30 13:47:39.0±0.3, 38°34N±0°01×22°37E±0°01, h15km±1km, n937, σ1§17/1098, mb4.7/91, MS3.7/14, 39C-31D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.15**	**58**	P	**Pg**	**13 47 41.7**	**-1.2**
DSF				S	**Sg**	**13 47 44.6**	**-0.9**
DSF	**Desfina**	**0.15**	**58**	*e*PB	**Pg**	**13 47 43.0**	**+0.1**
DSF	**Desfina**	**0.15**	**58**	P	**Pg**	**13 47 43.0**	**+0.1**
DSF				S	**Sg**	**13 47 45.4**	**-0.1**
KALE	**Kalithea**	**0.19**	**287**	P	**Pg**	**13 47 43.1**	**-0.4**
KALE				S	**Sg**	**13 47 46.0**	**-0.5**
KALE	**Kalithea**	**0.19**	**287**	*e*PB	**Pg**	**13 47 43.2**	**-0.3**
KALE	**Kalithea**	**0.19**	**287**	P	**Pg**	**13 47 43.1**	**-0.4**
KALE				S	**Sg**	**13 47 46.0**	**-0.5**
KALE	**Kalithea**	**0.19**	**287**	*e*Pb	**Pg**	**13 47 43.2**	**-0.3**
KALE				S	**Sg**	**13 47 46.0**	**-0.5**
LAKA	**Lakka**	**0.32**	**253**	P	**Pg**	**13 47 45.4**	**-0.2**
LAKA	**Lakka**	**0.32**	**253**	*e*PB	**Pg**	**13 47 45.5**	**-0.2**
LAKA	**Lakka**	**0.32**	**253**	P	**Pg**	**13 47 45.4**	**-0.2**
LAKA	**Lakka**	**0.32**	**253**	P	**Pg**	**13 47 45.4**	**-0.2**
KLV	**Kalavryta, Ach**	**0.34**	**211**	P	**Pg**	**13 47 45.5**	**-0.4**
KLV				S	**Sg**	**13 47 50.1**	**-0.6**
KLV	**Kalavryta, Ach**	**0.34**	**211**	*e*PB	**Pg**	**13 47 45.6**	**-0.4**
KLV				*e*SB	**Sg**	**13 47 50.7**	**0.0**
KLV	**Kalavryta, Ach**	**0.34**	**211**	P	**Pg**	**13 47 45.5**	**-0.4**
KLV				S	**Sg**	**13 47 50.1**	**-0.6**
KLV	**Kalavryta, Ach**	**0.34**	**211**	*e*Pb	**Pg**	**13 47 45.6**	**-0.4**
KLV				S	**Sg**	**13 47 50.1**	**-0.6**
EFP	**Efpalio**	**0.38**	**284**	P	**Pg**	**13 47 46.2**	**-0.4**
EFP				S	**Sg**	**13 47 52.0**	**+0.3**
EFP	**Efpalio**	**0.38**	**284**	*e*PB	**Pg**	**13 47 46.4**	**-0.2**
EFP				*e*SB	**Sg**	**13 47 52.1**	**+0.3**
EFP	**Efpalio**	**0.38**	**284**	P	**Pg**	**13 47 46.2**	**-0.4**
EFP				S	**Sg**	**13 47 51.6**	**-0.2**
EFP				*e*Sb	**Sg**	**13 47 52.1**	**+0.3**
GUR	**Goura**	**0.40**	**183**	P	**Pg**	**13 47 45.5**	**-1.6**
GUR				S	**Sg**	**13 47 52.0**	**-0.6**
GUR	**Goura**	**0.40**	**183**	*e*PB	**Pg**	**13 47 46.8**	**-0.3**
GUR	**Goura**	**0.40**	**183**	P	**Pg**	**13 47 45.5**	**-1.6**
GUR				S	**Sg**	**13 47 52.0**	**-0.6**
GUR	**Goura**	**0.40**	**183**	P	**Pg**	**13 47 46.7**	**-0.3**
GUR				S	**Sg**	**13 47 52.0**	**-0.6**
UPR	**University Cam**	**0.46**	**264**	P	**Pg**	**13 47 48.0**	**-0.2**
UPR				S	**Sg**	**13 47 54.5**	**+0.1**
UPR	**University Cam**	**0.46**	**264**	P	**Pg**	**13 47 47.9**	**-0.2**
UPR				S	**Sg**	**13 47 54.3**	**-0.1**
AXAR	**Agios Charalam**	**0.49**	**28**	P	**Pg**	**13 47 47.6**	**-1.1**
AXAR				S	**Sg**	**13 47 54.7**	**-0.6**
AXAR	**Agios Charalam**	**0.49**	**28**	*e*PN	**Pb**	**13 47 48.9**	**-0.4**
AXAR	**Agios Charalam**	**0.49**	**28**	P	**Pg**	**13 47 47.6**	**-1.1**
AXAR				S	**Sg**	**13 47 54.7**	**-0.6**
AXAR	**Agios Charalam**	**0.49**	**28**	P	**Pg**	**13 47 47.6**	**-1.1**
AXAR	**Agios Charalam**	**0.49**	**28**	*e*Pn	**Pb**	**13 47 48.9**	**-0.4**
AXAR				S	**Sg**	**13 47 54.7**	**-0.6**
LTK	**Loutraki**	**0.56**	**123**	P	**Pg**	**13 47 49.2**	**-0.9**
LTK				S	**Sg**	**13 47 57.7**	**+0.1**
LTK	**Loutraki**	**0.56**	**123**	*e*PN	**Pb**	**13 47 50.5**	**-0.1**
LTK	**Loutraki**	**0.56**	**123**	P	**Pg**	**13 47 49.2**	**-0.9**
LTK				S	**Sg**	**13 47 57.7**	**+0.1**
LTK	**Loutraki**	**0.56**	**123**	P	**Pg**	**13 47 49.2**	**-0.9**
LTK	**Loutraki**	**0.56**	**123**	*e*Pn	**Pb**	**13 47 50.5**	**-0.1**
LTK				S	**Sg**	**13 47 57.7**	**+0.1**
LKR	**Lokris**	**0.59**	**57**	P	**Pg**	**13 47 50.1**	**-0.4**
LKR				S	**Sg**	**13 47 58.3**	**0.0**
LKR	**Lokris**	**0.59**	**57**	*e*PN	**Pg**	**13 47 50.4**	**-0.1**
LKR				*e*SN	**Sb**	**13 47 59.4**	**+0.3**
LKR	**Lokris**	**0.59**	**57**	P	**Pg**	**13 47 50.1**	**-0.4**
LKR				S	**Sg**	**13 47 58.3**	**0.0**
LKR	**Lokris**	**0.59**	**57**	P	**Pg**	**13 47 50.1**	**-0.4**
LKR	**Lokris**	**0.59**	**57**	*e*Pn	**Pg**	**13 47 50.4**	**-0.1**
LKR				S	**Sg**	**13 47 58.3**	**0.0**
LKR				*e*Sn	**Sb**	**13 47 59.4**	**+0.3**
DRO	**Drossia**	**0.65**	**234**	P	**Pg**	**13 47 51.0**	**-0.6**
DRO	**Drossia**	**0.65**	**234**	*e*PN	**Pg**	**13 47 51.0**	**-0.6**
DRO				*e*SN	**Sg**	**13 47 59.5**	**-0.7**
DRO	**Drossia**	**0.65**	**234**	P	**Pg**	**13 47 51.0**	**-0.6**
DRO				*e*Sn	**Sg**	**13 47 59.5**	**-0.7**
DRO				S	**Sb**	**13 48 00.2**	**-0.5**
AGG	**Agios Georgios**	**0.69**	**357**	P	**Pg**	**13 47 51.5**	**-0.9**
AGG	**Agios Georgios**	**0.69**	**357**	P	**Pg**	**13 47 51.5**	**-0.9**
AGG	**Agios Georgios**	**0.69**	**357**	*e*PN	**Pg**	**13 47 51.8**	**-0.6**
AGG	**Agios Georgios**	**0.69**	**357**	P	**Pg**	**13 47 51.5**	**-0.9**
AGG	**Agios Georgios**	**0.69**	**357**	P	**Pg**	**13 47 51.5**	**-0.9**
AGG	**Agios Georgios**	**0.69**	**357**	*e*Pn	**Pg**	**13 47 51.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.70**	**345**	P	**Pg**	**13 47 52.2**	**-0.5**
MAKR				S	**Sb**	**13 48 03.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.70**	**345**	*e*PN	**Pg**	**13 47 52.7**	**0.0**
MAKR	**Makrakomi, Fth**	**0.70**	**345**	P	**Pg**	**13 47 52.2**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.70**	**345**	P	**Pg**	**13 47 52.2**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.70**	**345**	*e*Pn	**Pg**	**13 47 52.7**	**0.0**
MAKR				S	**Sb**	**13 48 03.2**	**+0.7**
PVO	**Paravola**	**0.72**	**293**	P	**Pg**	**13 47 52.5**	**-0.5**
PVO				S	**Sb**	**13 48 03.7**	**+0.8**
PVO	**Paravola**	**0.72**	**293**	P	**Pg**	**13 47 52.5**	**-0.5**
PVO				S	**Sb**	**13 48 03.1**	**+0.2**
EVR	**Evrytania**	**0.73**	**323**	P	**Pg**	**13 47 52.4**	**-0.8**
EVR				S	**Sb**	**13 48 03.9**	**+0.6**
EVR	**Evrytania**	**0.73**	**323**	*e*PN	**Pg**	**13 47 52.9**	**-0.3**
EVR				*e*SN	**Sb**	**13 48 03.6**	**+0.3**
EVR	**Evrytania**	**0.73**	**323**	P	**Pg**	**13 47 52.4**	**-0.8**
EVR	**Evrytania**	**0.73**	**323**	P	**Pg**	**13 47 52.5**	**-0.8**
EVR	**Evrytania**	**0.73**	**323**	*e*Pn	**Pg**	**13 47 52.9**	**-0.3**
EVR				S	**Sb**	**13 48 03.6**	**+0.3**
RLS	**Riolos of Patr**	**0.76**	**249**	P	**Pg**	**13 47 52.9**	**-0.9**
RLS				S	**Sb**	**13 48 05.2**	**+1.1**
RLS	**Riolos of Patr**	**0.76**	**249**	*e*PN	**Pg**	**13 47 53.1**	**-0.7**
RLS	**Riolos of Patr**	**0.76**	**249**	P	**Pg**	**13 47 52.9**	**-0.9**
RLS	**Riolos of Patr**	**0.76**	**249**	P	**Pg**	**13 47 52.9**	**-0.9**
RLS				S	**Sg**	**13 48 03.4**	**-0.5**
SMIA	**Simia**	**0.85**	**50**	P	**Pb**	**13 47 54.9**	**-0.6**
SMIA				S	**Sn**	**13 48 07.9**	**-0.8**
SMIA	**Simia**	**0.85**	**50**	*e*PN	**Pb**	**13 47 55.4**	**-0.1**
SMIA				*e*SN	**Sn**	**13 48 08.4**	**-0.3**
SMIA	**Simia**	**0.85**	**50**	P	**Pb**	**13 47 54.9**	**-0.6**
SMIA	**Simia**	**0.85**	**50**	*e*Pn	**Pb**	**13 47 55.4**	**-0.1**
SMIA				S	**Sn**	**13 48 07.9**	**-0.8**
SMIA				*e*Sn	**Sn**	**13 48 08.4**	**-0.3**
AMT	**Artemida-Makis**	**0.96**	**213**	P	**Pb**	**13 47 56.4**	**-0.9**
AMT				S	**Sg**	**13 48 10.5**	**+0.5**
AMT	**Artemida-Makis**	**0.96**	**213**	*e*PN	**Pb**	**13 47 56.6**	**-0.7**
AMT	**Artemida-Makis**	**0.96**	**213**	P	**Pb**	**13 47 56.4**	**-0.9**
AMT				S	**Sg**	**13 48 10.5**	**+0.5**
VLX	**Vlachokerasia**	**0.96**	**180**	P	**Pb**	**13 47 56.7**	**-0.7**
VLX				S	**Sb**	**13 48 10.5**	**+0.5**
VLX	**Vlachokerasia**	**0.96**	**180**	*e*PN	**Pb**	**13 47 56.9**	**-0.7**
VLX	**Vlachokerasia**	**0.96**	**180**	P	**Pb**	**13 47 56.7**	**-0.7**
VLX				S	**Sb**	**13 48 10.5**	**+0.5**
VLX	**Vlachokerasia**	**0.96**	**180**	P	**Pb**	**13 47 56.7**	**-0.7**
VLX				S	**Sb**	**13 48 10.5**	**+0.5**
PDO	**Prodromos**	**0.97**	**286**	P	**Pb**	**13 47 56.5**	**-0.9**
PDO				S	**Sn**	**13 48 12.0**	**+0.5**
PDO	**Prodromos**	**0.97**	**286**	*e*PN	**Pb**	**13 47 57.5**	**+0.1**
PDO				*e*SN	**Sb**	**13 48 09.1**	**-0.9**
PDO	**Prodromos**	**0.97**	**286**	P	**Pb**	**13 47 56.8**	**-0.6**
PDO	**Prodromos**	**0.97**	**286**	*e*Pn	**Pb**	**13 47 57.5**	**+0.1**
PDO				*e*Sn	**Sb**	**13 48 09.1**	**-0.9**
PDO				S	**Sn**	**13 48 11.2**	**-0.3**

ERET	Eretria	1.14	84	P	Pb	13 48 00.1	-0.2
ERET				S	Sg	13 48 16.9	+1.2
ERET	Eretria	1.14	84	P	Pb	13 48 00.1	-0.2
ERET				S	Sg	13 48 16.9	+1.2
NEO	Neokhori	1.18	34	P	Pn	13 48 00.5	-0.5
NEO	Neokhori	1.18	34	*e*PN	Pb	13 48 01.0	-0.1
NEO				*e*SN	Sg	13 48 17.2	+0.1
NEO	Neokhori	1.18	34	P	Pn	13 48 00.5	-0.5
NEO	Neokhori	1.18	34	P	Pn	13 48 00.5	-0.5
NEO	Neokhori	1.18	34	*e*Pn	Pb	13 48 01.0	-0.1
NEO				*e*Sn	Sg	13 48 17.2	+0.1
SKIA	Skiathos	1.19	46	P	Pb	13 48 01.2	-0.1
SKIA				S	Sg	13 48 18.7	+1.1
SKIA	Skiathos	1.19	46	P	Pb	13 48 01.2	-0.1
SKIA				S	Sg	13 48 18.7	+1.1
ITM	Ithomi	1.21	197	P	Pn	13 48 00.9	-0.4
ITM	Ithomi	1.21	197	*e*PN	Pn	13 48 00.9	-0.4
ITM	Ithomi	1.21	197	P	Pn	13 48 00.9	-0.4
ITM	Ithomi	1.21	197	P	Pn	13 48 00.9	-0.4
PTL	Penteli	1.21	103	P	Pb	13 48 01.7	+0.1
PTL	Penteli	1.21	103	*e*PN	Pb	13 48 02.0	+0.4
PTL	Penteli	1.21	103	P	Pb	13 48 01.7	+0.1
PTL	Penteli	1.21	103	P	Pb	13 48 01.7	+0.1
PTL	Penteli	1.21	103	*e*Pn	Pb	13 48 02.0	+0.4
XOR	Xorichti	1.21	32	P	Pn	13 48 01.1	-0.3
XOR				S	Sg	13 48 19.0	+0.8
XOR	Xorichti	1.21	32	*e*PN	Pb	13 48 01.9	+0.2
XOR	Xorichti	1.21	32	P	Pn	13 48 01.1	-0.3
XOR				S	Sg	13 48 19.0	+0.8
XOR	Xorichti	1.21	32	P	Pn	13 48 01.1	-0.3
XOR	Xorichti	1.21	32	*e*Pn	Pb	13 48 01.9	+0.2
XOR				S	Sg	13 48 19.0	+0.8
THL	Klokotos Trika	1.26	347	P	Pn	13 48 01.8	-0.2
THL				S	Sg	13 48 20.8	+1.2
THL	Klokotos Trika	1.26	347	*e*PN	Pg	13 48 03.1	-0.1
THL	Klokotos Trika	1.26	347	P	Pn	13 48 01.8	-0.2
THL	Klokotos Trika	1.26	347	*e*Pn	Pg	13 48 03.1	-0.1
THL				S	Sg	13 48 20.8	+1.2
KFL	Anninata	1.27	260	P	Pb	13 48 02.5	0.0
KFL	Anninata	1.27	260	P	Pb	13 48 02.5	0.0
VLS	Valsamata	1.41	264	P	Pn	13 48 04.1	0.0
VLS				S	Sg	13 48 25.4	+1.0
VLS	Valsamata	1.41	264	P	Pn	13 48 04.1	0.0
VLS				S	Sg	13 48 25.4	+1.0
VLS	Valsamata	1.41	264	*e*PN	Pn	13 48 04.4	+0.3
VLS	Valsamata	1.41	264	P	Pn	13 48 04.1	0.0
VLS				S	Sg	13 48 25.4	+1.0
VLS	Valsamata	1.41	264	P	Pn	13 48 04.1	0.0
VLS	Valsamata	1.41	264	*e*Pn	Pn	13 48 04.4	+0.3
LKD2	Lefkada island	1.42	289	P	Pb	13 48 05.1	0.0
LKD2	Lefkada island	1.42	289	*e*PN	Pb	13 48 05.4	+0.3
LKD2	Lefkada island	1.42	289	P	Pb	13 48 05.1	0.0
LKD2	Lefkada island	1.42	289	P	Pb	13 48 05.1	0.0
LKD2	Lefkada island	1.42	289	*e*Pn	Pb	13 48 05.4	+0.3
AOS	Alonnisos	1.45	54	P	Pn	13 48 04.6	0.0
AOS				S	Sg	13 48 24.9	-0.7
AOS	Alonnisos	1.45	54	*e*PN	Pn	13 48 04.9	+0.3
AOS	Alonnisos	1.45	54	P	Pn	13 48 04.6	0.0
AOS				S	Sg	13 48 24.9	-0.7
AOS	Alonnisos	1.45	54	P	Pn	13 48 04.6	0.0
AOS	Alonnisos	1.45	54	*e*Pn	Pn	13 48 04.9	+0.3
AOS				S	Sg	13 48 24.9	-0.7
PYL	PYLOS	1.52	199	P	Pn	13 48 06.2	+0.6
PYL				S	Sg	13 48 28.6	+0.6
PYL	PYLOS	1.52	199	*e*PN	Pb	13 48 06.6	-0.3
PYL	PYLOS	1.52	199	P	Pn	13 48 06.2	+0.6
PYL				S	Sg	13 48 28.6	+0.6
PYL	PYLOS	1.52	199	P	Pn	13 48 06.2	+0.6
PYL	PYLOS	1.52	199	*e*Pn	Pb	13 48 06.6	-0.3
SFD	Strofades	1.52	225	P	Pb	13 48 06.7	-0.2
SFD	Strofades	1.52	225	P	Pb	13 48 06.7	-0.2
MRMA	Marmari	1.61	99	P	Pn	13 48 07.4	+0.6
MRMA	Marmari	1.61	99	P	Pn	13 48 07.4	+0.6
VLI	Veliai	1.68	164	P	Pn	13 48 07.9	+0.2
VLI				S	Sb	13 48 31.8	+1.4
VLI	Veliai	1.68	164	*e*PN	Pn	13 48 08.0	+0.2
VLI	Veliai	1.68	164	P	Pn	13 48 07.9	+0.2
VLI				S	Sb	13 48 31.8	+1.4
VLI	Veliai	1.68	164	*e*Pn	Pn	13 48 08.0	+0.2
VLI				S	Sb	13 48 31.8	+1.4
MEV	Metsovon	1.70	329	P	Pb	13 48 09.9	-0.1
MEV	Metsovon	1.70	329	P	Pb	13 48 09.9	-0.1
MEV	Metsovon	1.70	329	P	Pb	13 48 09.9	-0.1
LIT	Litokhoron	1.77	3	P	Pn	13 48 09.4	+0.4
LIT				S	Sb	13 48 33.8	+0.7
LIT	Litokhoron	1.77	3	P	Pn	13 48 09.4	+0.4
LIT				S	Sb	13 48 33.8	+0.7
LIT	Litokhoron	1.77	3	*e*PN	Pn	13 48 09.7	+0.7
LIT	Litokhoron	1.77	3	P	Pn	13 48 09.4	+0.4
LIT				S	Sb	13 48 33.8	+0.7
LIT	Litokhoron	1.77	3	P	Pn	13 48 09.4	+0.4
LIT	Litokhoron	1.77	3	*e*Pn	Pn	13 48 09.7	+0.7
LIT				S	Sb	13 48 33.8	+0.7
JAN	Janina	1.77	319	P	Pb	13 48 11.3	+0.1
JAN	Janina	1.77	319	P	Pb	13 48 11.3	+0.1
JAN	Janina	1.77	319	P	Pb	13 48 11.3	+0.1
JAN	Janina	1.77	319	P	Pb	13 48 11.3	+0.1
PAIG	Paliouri	1.89	32	P	Pn	13 48 10.9	+0.2
PAIG	Paliouri	1.89	32	P	Pn	13 48 10.9	+0.2
PAIG	Paliouri	1.89	32	*e*PB	Pn	13 48 10.9	+0.2
PAIG	Paliouri	1.89	32	P	Pn	13 48 10.9	+0.2
PAIG	Paliouri	1.89	32	*e*Pb	Pn	13 48 10.9	+0.2
IGT	Igoumenitsa	1.99	308	P	Pb	13 48 14.6	-0.2
IGT	Igoumenitsa	1.99	308	P	Pb	13 48 14.6	-0.2
IGT	Igoumenitsa	1.99	308	P	Pb	13 48 14.6	-0.2
IGT	Igoumenitsa	1.99	308	P	Pb	13 48 14.6	-0.2
KZN	Kozani	2.02	347	P	Pn	13 48 13.7	+1.1
KZN	Kozani	2.02	347	P	Pn	13 48 13.7	+1.1
KZN	Kozani	2.02	347	P	Pn	13 48 13.7	+1.1
KZN	Kozani	2.02	347	P	Pn	13 48 13.7	+1.1
KYTH	Kithira	2.12	165	P	Pn	13 48 14.8	+0.9
KYTH	Kithira	2.12	165	P	Pn	13 48 14.8	+0.9
KYTH	Kithira	2.12	165	P	Pn	13 48 14.8	+0.9
PLG	Polygyros	2.20	22	P	Pn	13 48 15.2	+0.2
PLG	Polygyros	2.20	22	P	Pn	13 48 15.2	+0.2
PLG	Polygyros	2.20	22	*e*PN	Pn	13 48 15.4	+0.4
PLG	Polygyros	2.20	22	P	Pn	13 48 15.2	+0.2
PLG	Polygyros	2.20	22	*e*Pn	Pn	13 48 15.4	+0.4
NEST	Nestorio	2.31	334	P	Pn	13 48 18.5	+1.8
NEST	Nestorio	2.31	334	*e*PB	Pn	13 48 18.0	+1.3
NEST	Nestorio	2.31	334	*e*Pb	Pn	13 48 18.0	+1.3
NEST	Nestorio	2.31	334	P	Pn	13 48 18.5	+1.8
HORT	Hortiatis	2.33	14	P	Pn	13 48 17.1	+0.3
HORT	Hortiatis	2.33	14	*e*PN	Pn	13 48 17.3	+0.5
HORT	Hortiatis	2.33	14	P	Pn	13 48 17.1	+0.3
HORT	Hortiatis	2.33	14	P	Pn	13 48 17.1	+0.3
THE	Thessaloniki	2.34	11	P	Pn	13 48 17.2	+0.3
THE	Thessaloniki	2.34	11	P	Pn	13 48 17.2	+0.3
THE	Thessaloniki	2.34	11	*e*PN	Pn	13 48 17.2	+0.3
THE	Thessaloniki	2.34	11	P	Pn	13 48 17.2	+0.3
THE	Thessaloniki	2.34	11	P	Pn	13 48 17.2	+0.3
OUR	Ouranopolis	2.36	32	P	Pn	13 48 17.5	+0.4
OUR	Ouranopolis	2.36	32	P	Pn	13 48 17.5	+0.4
OUR	Ouranopolis	2.36	32	*e*PN	Pn	13 48 17.6	+0.4
OUR	Ouranopolis	2.36	32	P	Pn	13 48 17.5	+0.4
OUR	Ouranopolis	2.36	32	P	Pn	13 48 17.5	+0.4
SRN	Sarande	2.40	311	P	Pb	13 48 20.4	-1.5
SRN	Sarande	2.40	311	P	Pb	13 48 20.4	-1.5
SRN	Sarande	2.40	311	P	Pb	13 48 20.4	-1.5
KEK	Kerkira	2.43	305	P	Pb	13 48 21.0	-1.4
KEK	Kerkira	2.43	305	P	Pb	13 48 21.0	-1.4
KEK	Kerkira	2.43	305	P	Pb	13 48 21.0	-1.4
FNA	Florina	2.56	343	P	Pn	13 48 21.3	+1.3
FNA	Florina	2.56	343	P	Pn	13 48 21.3	+1.3
FNA	Florina	2.56	343	*e*PB	Pn	13 48 21.5	+1.5
FNA	Florina	2.56	343	P	Pn	13 48 21.3	+1.3
FNA	Florina	2.56	343	P	Pn	13 48 21.3	+1.3
ANKY	Antikythira Is	2.57	163	P	Pn	13 48 20.6	+0.5
ANKY	Antikythira Is	2.57	163	*e*PN	Pn	13 48 20.5	+0.5
ANKY	Antikythira Is	2.57	163	P	Pn	13 48 20.6	+0.5
ANKY	Antikythira Is	2.57	163	*e*Pn	Pn	13 48 20.5	+0.5
KBN	Korca	2.59	332	P	Pb	13 48 23.2	-2.0
KBN	Korca	2.59	332	P	Pb	13 48 23.2	-2.0
KBN	Korca	2.59	332	P	Pb	13 48 23.2	-2.0
KBN	Korca	2.59	332	P	Pb	13 48 23.2	-2.0
SOH	Sokhos	2.60	17	P	Pn	13 48 21.5	+1.0
SOH	Sokhos	2.60	17	P	Pn	13 48 21.5	+1.0
SOH	Sokhos	2.60	17	*e*PN	Pn	13 48 21.7	+1.2
SOH	Sokhos	2.60	17	P	Pn	13 48 21.5	+1.0
SOH	Sokhos	2.60	17	P	Pn	13 48 21.5	+1.0
GRG	Griva	2.62	1	P	Pn	13 48 21.2	+0.4
GRG	Griva	2.62	1	P	Pn	13 48 21.2	+0.4
GRG	Griva	2.62	1	*e*PN	Pn	13 48 21.6	+0.8
GRG	Griva	2.62	1	P	Pn	13 48 21.2	+0.4
GRG	Griva	2.62	1	P	Pn	13 48 21.2	+0.4
GRG	Griva	2.62	1	*e*Pn	Pn	13 48 21.6	+0.8
LIA	Limnos Island	2.69	54	P	Pn	13 48 21.9	+0.2
LIA	Limnos Island	2.69	54	P	Pn	13 48 21.9	+0.2
LIA	Limnos Island	2.69	54	P	Pn	13 48 21.9	+0.2
BIA	Bitola	2.80	344	P	Pn	13 48 24.3	+1.0
BIA	Bitola	2.80	344	P	Pn	13 48 24.3	+1.0
BIA	Bitola	2.80	344	P	Pn	13 48 24.3	+1.0
APE	Apeiranthos	2.81	116	P	Pn	13 48 24.4	+0.9
APE	Apeiranthos	2.81	116	*e*P	Pn	13 48 24.4	+1.0
APE	Apeiranthos	2.81	116	ǁ*e*P	Pn	13 48 25.0	+1.6
APE	Apeiranthos	2.81	116	P	Pn	13 48 24.3	+0.9
APE	Apeiranthos	2.81	116	P	Pn	13 48 24.3	+0.9
KNT	Kendrikon	2.85	8	P	Pn	13 48 25.1	+1.1
KNT	Kendrikon	2.85	8	P	Pn	13 48 25.1	+1.1
KNT	Kendrikon	2.85	8	*e*PN	Pn	13 48 25.3	+1.3
KNT	Kendrikon	2.85	8	P	Pn	13 48 25.1	+1.1
KNT	Kendrikon	2.85	8	P	Pn	13 48 25.1	+1.1
SIGR	SIGRI	2.86	71	P	Pn	13 48 25.0	+1.0
SIGR	SIGRI	2.86	71	*e*PN	Pn	13 48 25.0	+1.0
SIGR	SIGRI	2.86	71	P	Pn	13 48 25.0	+1.0
SIGR	SIGRI	2.86	71	P	Pn	13 48 25.0	+1.0
CHOS	Chios island	2.90	88	P	Pn	13 48 25.8	+1.2
CHOS	Chios island	2.90	88	*e*PN	Pn	13 48 25.8	+1.2
CHOS	Chios island	2.90	88	P	Pn	13 48 25.8	+1.2
CHOS	Chios island	2.90	88	P	Pn	13 48 25.8	+1.2
SRS	Serrai	2.94	18	P	Pn	13 48 25.9	+0.8
SRS	Serrai	2.94	18	P	Pn	13 48 25.9	+0.8
SRS	Serrai	2.94	18	*e*PN	Pn	13 48 26.0	+0.8
SRS	Serrai	2.94	18	P	Pn	13 48 25.9	+0.8
SRS	Serrai	2.94	18	P	Pn	13 48 25.9	+0.8
VAY	Valandovo	2.99	3	S	Sn	13 49 01.8	+0.5
VAY				P	Pn	13 48 26.4	+0.6
VAY	Valandovo	2.99	3	P	Pn	13 48 26.3	+0.5
VAY				S	Sn	13 49 01.8	+0.5
KAVA	Kavala	3.13	31	P	Pn	13 48 27.7	0.0
KAVA	Kavala	3.13	31	*e*PN	Pn	13 48 27.8	0.0
KAVA	Kavala	3.13	31	P	Pn	13 48 27.7	0.0
KAVA	Kavala	3.13	31	*e*Pn	Pn	13 48 27.8	0.0
SANT	Santorini	3.15	128	*e*Pn	Pn	13 48 25.3	-2.7
SANT	Santorini	3.15	128	*e*Pn	Pn	13 48 25.3	-2.7
PRK	Paraskevi	3.18	72	P	Pn	13 48 29.3	+0.8
PRK	Paraskevi	3.18	72	P	Pn	13 48 29.3	+0.8
PRK	Paraskevi	3.18	72	P	Pn	13 48 29.3	+0.8
PRK	Paraskevi	3.18	72	P	Pn	13 48 29.3	+0.8
NVR	Nevrokopi	3.22	20	P	Pn	13 48 29.7	+0.6
NVR	Nevrokopi	3.22	20	*e*PN	Pn	13 48 30.0	+0.9
NVR	Nevrokopi	3.22	20	P	Pn	13 48 29.7	+0.6
NVR	Nevrokopi	3.22	20	P	Pn	13 48 29.7	+0.6
NVR	Nevrokopi	3.22	20	*e*Pn	Pn	13 48 30.0	+0.9
SMTH	Samothraki Isl	3.25	48	P	Pn	13 48 29.1	-0.3
SMTH	Samothraki Isl	3.25	48	P	Pn	13 48 29.1	-0.3
SMTH	Samothraki Isl	3.25	48	P	Pn	13 48 29.1	-0.3
VAM	Vamos	3.27	153	P	Pn	13 48 30.3	+0.6
VAM	Vamos	3.27	153	P	Pn	13 48 30.3	+0.6
VAM	Vamos	3.27	153	*e*PN	Pn	13 48 29.9	+0.2
VAM	Vamos	3.27	153	P	Pn	13 48 30.3	+0.6
VAM	Vamos	3.27	153	*e*Pn	Pn	13 48 29.9	+0.2
VAM	Vamos	3.27	153	P	Pn	13 48 30.3	+0.6
MMB	Musomiste	3.41	17	S	Sn	13 49 13.6	+1.7
MMB				P	Pn	13 48 32.3	+0.6
MMB	Musomiste	3.41	17	P	Pn	13 48 32.3	+0.6
MMB				S	Sn	13 49 13.6	+1.7
AYVA	Ayvalik	3.51	73	*i* P	Pn	13 48 34.3	+1.3
AYVA	Ayvalik	3.51	73	*i* P	Pn	13 48 34.3	+1.3
KKB	Krupnik	3.57	9	S	Sn	13 49 16.4	+0.7
KKB				P	Pn	13 48 34.5	+0.7
KKB	Krupnik	3.57	9	P	Pn	13 48 34.5	+0.7
KKB				S	Sn	13 49 16.4	+0.7
SMG	Samos	3.58	99	P	Pn	13 48 35.4	+1.4
SMG	Samos	3.58	99	P	Pn	13 48 35.4	+1.4
SMG	Samos	3.58	99	P	Pn	13 48 35.4	+1.4
IDI	Anoyia	3.65	146	Pn	Pn	13 48 35.8	+0.8
IDI				Sn	Sn	13 49 19.5	+1.6
IDI	Anoyia	3.65	146	Pn	Pn	13 48 35.8	+0.8
	6.3nm,0.3s,baz=231,slow=7.3,SNR=38						
IDI				Sn	Sn	13 49 19.5	+1.6
	29nm,0.3s,baz=317,slow=7.1,SNR=6.1						
IDI	Anoyia	3.65	146	Pn	Pn	13 48 35.8	+0.8
IDI				Sn	Sn	13 49 19.5	+1.6
PHP	Peshkopia	3.66	337	P	Pn	13 48 36.8	+1.7
PHP	Peshkopia	3.66	337	P	Pn	13 48 36.8	+1.7
PHP	Peshkopia	3.66	337	P	Pn	13 48 36.8	+1.7
PHP	Peshkopia	3.66	337	P	Pn	13 48 36.8	+1.7
SKO	Skopje	3.70	349	P	Pn	13 48 36.4	+0.8
SKO	Skopje	3.70	349	P	Pn	13 48 36.4	+0.8
SKO	Skopje	3.70	349	P	Pn	13 48 36.4	+0.8
SKO	Skopje	3.70	349	P	Pn	13 48 36.4	+0.8
GVD	Gavdhos	3.75	158	*e*PN	Pn	13 48 36.3	0.0
GVD	Gavdhos	3.75	158	*e*Pn	Pn	13 48 36.3	0.0
RZN	Rozhen	3.80	28	P	Pn	13 48 38.1	+0.9
RZN	Rozhen	3.80	28	P	Pn	13 48 38.1	+0.9
ALN	Alexandroupoli	3.82	47	P	Pn	13 48 37.5	+0.3
ALN	Alexandroupoli	3.82	47	P	Pn	13 48 37.5	+0.3
ALN	Alexandroupoli	3.82	47	P	Pn	13 48 37.5	+0.3
ALN	Alexandroupoli	3.82	47	P	Pn	13 48 37.5	+0.3
GCAM	G?zelcaml?	3.89	98	*i* P	Pn	13 48 41.1	+2.9
GCAM	G?zelcaml?	3.89	98	*i* P	Pn	13 48 41.1	+2.9
KDZ	Kurdzhali	4.05	34	P	Pn	13 48 40.1	-0.4
KDZ	Kurdzhali	4.05	34	ǁ*i*P	Pn	13 48 40.1	-0.4
KDZ	Kurdzhali	4.05	34	P	Pn	13 48 40.1	-0.4
PLD	Plovdiv	4.17	25	P	Pn	13 48 42.9	+0.9
PLD	Plovdiv	4.17	25	P	Pn	13 48 42.9	+0.9
PLD	Plovdiv	4.17	25	P	Pn	13 48 42.9	+0.9
PLD	Plovdiv	4.17	25	P	Pn	13 48 42.9	+0.9
BDRM	Kayabasi	4.22	106	*i* P	Pn	13 48 47.2	+4.4
BDRM	Kayabasi	4.22	106	*i* P	Pn	13 48 47.2	+4.4
AKHS	Akhisar	4.30	81	*i* P	Pn	13 48 46.0	+2.2
AKHS	Akhisar	4.30	81	*i* P	Pn	13 48 46.0	+2.2
VTS	Vitosha	4.30	8	S	Sn	13 49 33.5	-0.4
VTS				P	Pn	13 48 46.0	+2.0
VTS	Vitosha	4.30	8	P	Pn	13 48 46.0	+2.0
VTS				S	Sn	13 49 33.5	-0.4
BALY	Balya	4.32	69	*i* P	Pn	13 48 46.2	+2.0
BALY	Balya	4.32	69	*i* P	Pn	13 48 46.2	+2.0
ULC	Ulcinj	4.34	328	ǁ*i*Pn	Pn	13 48 45.6	+1.1
ULC				*e*Sn	Sn	13 49 34.2	-0.6
ULC	Ulcinj	4.34	328	ǁ*i*Pn	Pn	13 48 45.6	+1.1
ULC				*e*Sn	Sn	13 49 34.2	-0.6
SART	Tekirdag	4.40	56	*i* P	Pn	13 48 45.9	+0.6
SART	Tekirdag	4.40	56	*i* P	Pn	13 48 45.9	+0.6
PGB	Panagyurishte	4.43	17	P	Pn	13 48 46.5	+0.8
PGB	Panagyurishte	4.43	17	P	Pn	13 48 46.5	+0.8
TIP	Timpagrande	4.47	283	P	Pn	13 48 48.1	+1.9
TIP	Timpagrande	4.47	283	*e*Pn	Pn	13 48 48.1	+1.9
TIP	Timpagrande	4.47	283	P	Pn	13 48 48.1	+1.9
TAR1	Taranto	4.50	301	*e*Pn	Pn	13 48 48.0	+1.4
PE1	Pezze di Greco	4.55	304	*e*Pn	Pn	13 48 48.8	+1.6
DRME	Dracevica, Mon	4.55	329	*e*Pn	Pn	13 48 48.4	+1.1
DRME				*e*Sn	Sn	13 49 39.0	-1.0
DRME	Dracevica, Mon	4.55	329	*e*Pn	Pn	13 48 48.4	+1.1
DRME				*e*Sn	Sn	13 49 39.0	-1.0
PVY	Plav	4.63	337	*e*Pn	Pn	13 48 50.2	+1.6
PVY				*e*Sn	Sn	13 49 40.9	-1.2
PVY	Plav	4.63	337	*e*Pn	Pn	13 48 50.2	+1.6
PVY				*e*Sn	Sn	13 49 40.9	-1.2
PDG	Podgorica	4.73	331	ǁ*i*Pn	Pn	13 48 51.3	+1.6
PDG				*e*Sn	Sn	13 49 42.7	-1.6
TTG	Podgorica	4.73	331	ǁ*i*Pn	Pn	13 48 51.3	+1.6
TTG				*e*Sn	Sn	13 49 42.7	-1.6
BUM	Brajici-Budva	4.77	327	ǁ*i*Pn	Pn	13 48 51.4	+1.1
BUM				*e*Sn	Sn	13 49 43.4	-2.0
BUM	Brajici-Budva	4.77	327	ǁ*i*Pn	Pn	13 48 51.4	+1.1
BUM				*e*Sn	Sn	13 49 43.4	-2.0
MANT	Manisa	4.86	86	*i* P	Pn	13 48 54.0	+2.2
MANT	Manisa	4.86	86	*i* P	Pn	13 48 54.0	+2.2
BEY	Berane	4.91	338	*e*Pn	Pn	13 48 53.9	+1.6
BEY				*e*Sn	Sn	13 49 47.0	-1.8
IVA	Berane	4.91	338	*e*Pn	Pn	13 48 53.9	+1.6
IVA				*e*Sn	Sn	13 49 47.0	-1.8
DURS	Dursunbey	4.92	73	*i* P	Pn	13 48 54.5	+2.0
DURS	Dursunbey	4.92	73	*i* P	Pn	13 48 54.5	+2.0
BAI	Bari	5.06	305	*e*P	Pn	13 48 55.4	+1.2
SG1	Sgolgore (BA)	5.06	301	*e*Pn	Pn	13 48 52.8	-1.5
HCY	Herceg Novi	5.06	325	ǁ*i*Pn	Pn	13 48 54.7	+0.4
HCY				*e*Sn	Sn	13 49 50.8	-1.7
HCY	Herceg Novi	5.06	325	ǁ*i*Pn	Pn	13 48 54.7	+0.4
HCY				*e*Sn	Sn	13 49 50.8	-1.7
CEL	Celeste	5.09	271	*e*Pn	Pn	13 48 56.8	+2.0
CEL	Celeste	5.09	271	*e*Pn	Pn	13 48 56.8	+2.0
MPEP	Malo Peshtene	5.12	11	P	Pn	13 48 57.1	+2.0
MPEP	Malo Peshtene	5.12	11	P	Pn	13 48 57.1	+2.0
NKME	Niksic	5.13	331	ǁ*i*Pn	Pn	13 48 56.7	+1.4
NKME				*e*Sn	Sn	13 49 52.7	-1.7
NKME	Niksic	5.13	331	ǁ*i*Pn	Pn	13 48 56.7	+1.4
NKME				*e*Sn	Sn	13 49 52.7	-1.7
NKY	Niksic	5.16	331	ǁ*i*Pn	Pn	13 48 56.1	+0.4
NKY				*e*Sn	Sn	13 49 53.9	-1.1
NKY	Niksic	5.16	331	ǁ*i*Pn	Pn	13 48 56.1	+0.4
NKY				*e*Sn	Sn	13 49 53.9	-1.1
JMB	Yambol	5.23	37	P	Pn	13 48 58.3	+1.7
JMB	Yambol	5.23	37	ǁ*i*P	Pn	13 48 58.1	+1.5
JMB	Yambol	5.23	37	P	Pn	13 48 58.3	+1.7
DNZL	Cakiroluk	5.31	95	*i* P	Pn	13 49 02.2	+4.3
DNZL	Cakiroluk	5.31	95	*i* P	Pn	13 49 02.2	+4.3
CUC	Castrocucco	5.36	290	*e*Pn	Pn	13 49 00.7	+2.3
CUC	Castrocucco	5.36	290	*e*Pn	Pn	13 49 00.7	+2.3
BRY	Bratogost	5.41	329	ǁ*i*Pn	Pn	13 49 00.3	+1.1
BRY				*e*Sn	Sn	13 49 59.4	-1.9
BRY	Bratogost	5.41	329	ǁ*i*Pn	Pn	13 49 00.3	+1.1
ELBA	Catalca	5.45	57	*i* P	Pn	13 49 00.7	+1.0
PLE	Pljevlja	5.48	337	ǁ*i*Pn	Pn	13 49 01.3	+1.2
PLE				*e*Sn	Sn	13 50 01.1	-1.8
PLE	Pljevlja	5.48	337	ǁ*i*Pn	Pn	13 49 01.3	+1.2
PLE				*e*Sn	Sn	13 50 01.1	-1.8
UPM	Unac-Piva	5.53	333	ǁ*i*Pn	Pn	13 49 01.4	+0.5
UPM				*e*Sn	Sn	13 50 03.0	-1.2
UPM	Unac-Piva	5.53	333	ǁ*i*Pn	Pn	13 49 01.4	+0.5
UPM				*e*Sn	Sn	13 50 03.0	-1.2
ULDT	Uludag	5.55	69	*i* P	Pn	13 49 03.5	+2.3
KHAL	Karahalli	5.60	87	*i* P	Pn	13 49 04.6	+2.8
GDZ	Gediz	5.61	80	*i* P	Pn	13 49 04.8	+2.8
SZH	Strazhica	5.62	28	P	Pn	13 49 03.4	+1.4
SZH	Strazhica	5.62	28	P	Pn	13 49 03.4	+1.4
STON	Ston	5.76	323	*e*Pn	Pn	13 49 03.3	-0.6
STON				Sn	Sn	13 50 04.8	-4.8
STON	Ston	5.76	323	*e*Pn	Pn	13 49 03.2	-0.6
GOLH	Golhisar	5.80	99

KEST LR LR 13 55 59.3
comp=Z,60nm,18.2s,baz=286,slow=46
PGF Pioggiola 11.02 297 *e*P **Pn 13 50 18.8 +2.7**
comp=Z,16nm,0.6s
PGF Pioggiola 11.02 297 *e*P **Pn 13 50 18.8 +2.7**
PGF pmax pmax
comp=Z,16nm,0.6s
PGF Pioggiola 11.02 297 *e*P **Pn 13 50 18.8 +2.7**
comp=Z,16nm,0.6s
PGF Pioggiola 11.02 297 *e*P **Pn 13 50 18.8 +2.7**
comp=Z,8.0nm,0.6s
STHS Stebnicka Huta 11.11 356 *e*P Pn 13 50 24.1 +6.9
STHS Stebnicka Huta 11.11 356 *e* Pn 13 50 24.1 +6.9
MOA Molln 11.20 331 ⇑ *i*Pn **Pn 13 50 18.6 +0.2**
MOA Molln 11.20 331 Pn **Pn 13 50 18.6 +0.2**
KWP Kalwaria Pacla 11.30 1 *e*P Pn 13 50 25.3 +5.5
KWP Kalwaria Pacla 11.30 1 *e*P Pn 13 50 25.2 +5.5
LVV L'vov 11.54 5 *e*P Pn 13 50 29.7 +6.6
MMAI Mount Meron Ar 11.85 113 Pn **Pn 13 50 28.0 +0.5**
MMAI Mount Meron Ar 11.85 113 Pn **Pn 13 50 28.0 +0.5**
comp=Z,1.4nm,0.3s,baz=316,slow=12,SNR=3.5
MMAI Mount Meron Ar 11.85 113 Pn **Pn 13 50 28.0 +0.5**
OKC Ostrava-Krasne 11.89 347 *e*P Pn 13 50 34.7 +6.8
OKC AMS AMS 13 55 50.0
comp=Z,500nm,8.0s
TREC Trest 12.02 338 AMS AMS 13 55 40.0
comp=Z,600nm,8.9s
FUORN Ofenpass-Fuorn 12.17 317 *e*Pn **Pn 13 50 32.9 +0.9**
FUORN Ofenpass-Fuorn 12.17 317 *e*Pn **Pn 13 50 32.9 +0.9**
MOTA Moosalm 12.21 321 ⇓ *i*Pn **Pn 13 50 32.7 +0.3**
MOTA Moosalm 12.21 321 Pn **Pn 13 50 32.7 +0.3**
GEC2 GERESS Array S 12.23 332 *e*P **Pn 13 50 32.6 0.0**
GEC2 GERESS Array S 12.23 332 *e*Pn **Pn 13 50 32.6 0.0**
GEC2 GERESS Array S 12.23 332 *e*P **Pn 13 50 32.6 0.0**
GERES GERESS Array B 12.23 332 Pn **Pn 13 50 32.3 -0.3**
GERES Sn **Sn 13 52 46.8 -1.9**
comp=Z,0.5nm,0.3s,baz=155,slow=14,SNR=12
GERES GERESS Array B 12.23 332 Pn **Pn 13 50 32.3 -0.3**
GERES Sn **Sn 13 52 46.8 -1.9**
comp=Z,0.4nm,0.3s,baz=154,slow=25,SNR=3.5
GERES LR LR 13 56 35.7
comp=Z,409nm,18.3s,baz=148,slow=44
GERES GERESS Array B 12.23 332 P **Pn 13 50 32.3 -0.3**
DAVOX Davos/Dischmat 12.48 317 Pn **Pn 13 50 36.2 +0.1**
DAVOX Sn **Sn 13 52 54.2 -0.7**
DAVOX Davos/Dischmat 12.48 317 Pn **Pn 13 50 36.2 +0.1**
comp=Z,0.9nm,0.3s,baz=85,slow=20,SNR=7.9
DAVOX Sn **Sn 13 52 54.2 -0.7**
comp=Z,1.4nm,0.3s,baz=331,slow=19,SNR=5.0
DAVOX Davos/Dischmat 12.48 317 P **Pn 13 50 36.2 +0.1**
DAVOX S **Sn 13 52 54.2 -0.7**
KHC Kasperske Hory 12.51 332 *e*P **Pn 13 50 35.1 -1.4**
KHC Kasperske Hory 12.51 332 *e*P **Pn 13 50 39.6 +3.2**
KHC *ex* x 13 50 47.0
KHC *ex* x 13 51 25.5
KHC AMS AMS 13 55 40.0
comp=Z,1μm,10.9s
KHC Kasperske Hory 12.51 332 *e*Pn **Pn 13 50 35.1 -1.4**
KHC Kasperske Hory 12.51 332 *e*P **Pn 13 50 35.1 -1.4**
SBF Sospel 12.54 301 *e*P **Pn 13 50 39.6 +2.7**
comp=Z,84nm,1.0s
SBF Sospel 12.54 301 *e*P **Pn 13 50 39.6 +2.7**
SBF pmax pmax
comp=Z,84nm,1.0s
SBF Sospel 12.54 301 *e*P **Pn 13 50 39.6 +2.7**
comp=Z,84nm,1.0s
SBF Sospel 12.54 301 *e*P **Pn 13 50 39.6 +2.7**
comp=Z,42nm,1.0s
TUE Stuetta 12.59 314 *e*Pn **Pn 13 50 39.0 +1.4**
TUE Stuetta 12.59 314 *e*Pn **Pn 13 50 39.0 +1.4**
DPC Dobruska-Polom 12.76 342 *e*P **P 13 50 51.7 +0.8**
DPC AMS AMS 13 56 20.0
PRU Pruhonice 12.92 337 AMS AMS 13 56 00.0
comp=Z,600nm,8.9s
AK02 Malin Array Si 13.24 19 *e*Pn **Pn 13 50 46.2 -0.1**
AK02 Malin Array Si 13.24 19 *e*Pn **Pn 13 50 46.2 -0.1**
AK01 Malin Array Si 13.28 19 *e*Pn **Pn 13 50 47.0 +0.2**
AK01 Malin Array Si 13.28 19 *e*Pn **Pn 13 50 47.0 +0.2**
KIEV Kiev 13.28 19 *e*P **Pn 13 50 47.5 +0.7**
KIEV Kiev 13.28 19 *e*Pn **Pn 13 50 47.5 +0.7**
KIEV Kiev 13.28 19 *e*P **Pn 13 50 47.5 +0.7**
AKASG Malin Array Be 13.29 19 *i*P **Pn 13 50 46.7 -0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 13.29 19 Pn **Pn 13 50 46.8 -0.2**
AKASG Malin Array Be 13.29 19 Pn **Pn 13 50 46.8 -0.2**
comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=13
AKASG Malin Array Be 13.29 19 Pn **Pn 13 50 46.8 -0.2**
MBDF Montbardon 13.31 304 *e*P **Pn 13 50 49.7 +2.3**
comp=Z,15nm,0.7s
MBDF Montbardon 13.31 304 *e*P **Pn 13 50 49.7 +2.3**
MBDF pmax pmax
comp=Z,15nm,0.7s
MBDF Montbardon 13.31 304 *e*P **Pn 13 50 49.7 +2.3**
comp=Z,15nm,0.7s
MBDF Montbardon 13.31 304 *e*P **Pn 13 50 49.7 +2.3**
comp=Z,7.4nm,0.7s
LPG La Plagne 13.64 307 *e*P **Pn 13 50 53.0 +0.9**
comp=Z,34nm,0.8s
LPG La Plagne 13.64 307 *e*P **Pn 13 50 53.0 +0.9**
LPG pmax pmax
comp=Z,34nm,0.8s
LPG La Plagne 13.64 307 *e*P **Pn 13 50 53.0 +0.9**
comp=Z,34nm,0.8s
LPG La Plagne 13.64 307 *e*P **Pn 13 50 53.0 +0.9**
comp=Z,17nm,0.8s
LPL La Plagne 13.66 307 *e*P **Pn 13 50 53.6 +1.3**
LPL La Plagne 13.66 307 *e*P **Pn 13 50 53.6 +1.3**
LPL La Plagne 13.66 307 *e*P **Pn 13 50 53.6 +1.3**
LPL La Plagne 13.66 307 *e*P **Pn 13 50 53.6 +1.3**
SENIN Lac Senin/Sane 13.72 311 *e*Pn **Pn 13 50 53.4 +0.3**
SENIN Lac Senin/Sane 13.72 311 *e*Pn **Pn 13 50 53.3 +0.3**
ORIF Oris-en-Rattie 13.97 303 *e*P **Pn 13 50 58.4 +2.1**
ORIF *e*R
comp=Z,244nm,19.2s
ORIF Oris-en-Rattie 13.97 303 *e*P **Pn 13 50 58.4 +2.1**
ORIF Oris-en-Rattie 13.97 303 *e*P **Pn 13 50 58.4 +2.1**
ORIF Oris-en-Rattie 13.97 303 *e*P **Pn 13 50 58.4 +2.1**
BFO Black Forest 14.27 319 *i*P **Pn 13 51 02.9 +2.5**
BFO Black Forest 14.27 319 *e*Pn **Pn 13 51 00.9 +0.5**
BFO Black Forest 14.27 319 *e*Pn **Pn 13 51 00.9 +0.5**
CLL Collm 14.56 336 ⇑ *i*P **P 13 51 12.3 +1.5**
CLL Collm 14.56 336 ⇑ *i*PP **P 13 51 12.3 +1.5**
comp=Z,10.0nm,0.6s
CLL *i* (sPP) 13 51 14.4
CLL LmV 17 08 00.0
comp=Z,300nm,21.9s
CLL Collm 14.56 336 *i* P **P 13 51 12.3 +1.5**
CABF La Chapelle 14.57 310 *e*P **Pn 13 51 04.6 0.0**
comp=Z,38nm,1.0s
CABF La Chapelle 14.57 310 *e*P **Pn 13 51 04.6 0.0**
CABF pmax pmax
comp=Z,38nm,1.0s
CABF La Chapelle 14.57 310 *e*P **Pn 13 51 04.6 0.0**
comp=Z,38nm,1.0s
VIVF Saint-Julien-l 14.74 302 *e*P **Pn 13 51 08.4 +1.5**
VIVF Saint-Julien-l 14.74 302 *e*P **Pn 13 51 08.4 +1.5**
VIVF Saint-Julien-l 14.74 302 *e*P **Pn 13 51 08.4 +1.5**
HINF Hinteralfeld 14.75 315 *e*P **Pn 13 51 06.6 -0.4**
comp=Z,8.9nm,0.5s
HINF Hinteralfeld 14.75 315 *e*P **Pn 13 51 06.6 -0.4**
HINF pmax pmax
comp=Z,9.0nm,0.5s
HINF Hinteralfeld 14.75 315 *e*P **Pn 13 51 06.6 -0.4**
comp=Z,8.9nm,0.5s
CDF Champ du Feu 14.87 317 *e*P **Pn 13 51 08.8 +0.1**
comp=Z,3.4nm,0.4s
CDF Champ du Feu 14.87 317 *e*P **Pn 13 51 08.8 +0.1**
CDF pmax pmax
comp=Z,3.0nm,0.4s
CDF Champ du Feu 14.87 317 *e*P **Pn 13 51 08.8 +0.1**
comp=Z,3.4nm,0.4s
LASF Ste Croix 15.06 298 *e*P **Pn 13 51 11.9 +0.8**
LASF Ste Croix 15.06 298 *e*P **Pn 13 51 11.9 +0.8**
HAU Haudompre 15.14 315 *e*P **Pn 13 51 11.5 -0.7**
HAU *e*R
comp=Z,108nm,19.2s
HAU Haudompre 15.14 315 *e*P **Pn 13 51 11.5 -0.7**
HAU Haudompre 15.14 315 *e*P **Pn 13 51 11.5 -0.7**
SUW Suwalki 15.69 2 *e*P **P 13 51 22.9 -0.4**
SUW Suwalki 15.69 2 *e*P **P 13 51 22.9 -0.4**
SUW Suwalki 15.69 2 *e*Pn **Pn 13 51 20.6 +1.3**
comp=Z,100nm,0.8s
SUW Suwalki 15.69 2 *e*Pn **Pn 13 51 20.6 +1.3**
PAGF Fort de Pagny 15.79 316 *e*P **Pn 13 51 21.2 +0.5**
comp=Z,5.1nm,0.8s
PAGF Fort de Pagny 15.79 316 *e*P **Pn 13 51 21.2 +0.5**
comp=Z,5.1nm,0.8s
SMF Signal de Mont 15.96 307 *e*P **Pn 13 51 22.5 -0.4**
comp=Z,27nm,0.8s
SMF Signal de Mont 15.96 307 *e*P **Pn 13 51 22.5 -0.4**
SMF pmax pmax
comp=Z,27nm,0.8s
SMF Signal de Mont 15.96 307 *e*P **Pn 13 51 22.5 -0.4**
comp=Z,27nm,0.8s
SFTF Sexfontaines 15.99 314 *e*P **P 13 51 25.1 -1.6**
comp=Z,31nm,0.8s
SFTF Sexfontaines 15.99 314 *e*P **P 13 51 25.1 -1.6**
comp=Z,31nm,0.8s
SFTF Sexfontaines 15.99 314 *e*P **P 13 51 25.1 -1.6**
comp=Z,15nm,0.8s
MTLF Montolieu 16.04 295 *e*P **Pn 13 51 24.9 +1.0**
comp=Z,34nm,1.0s
MTLF Montolieu 16.04 295 *e*P **Pn 13 51 24.9 +1.0**
MTLF pmax pmax
comp=Z,35nm,1.0s
MTLF Montolieu 16.04 295 *e*P **Pn 13 51 24.9 +1.0**
comp=Z,34nm,1.0s
MEZF Maizieres J'vi 16.14 315 *e*P **Pn 13 51 23.4 -1.7**
MEZF Maizieres J'vi 16.14 315 *e*P **Pn 13 51 23.4 -1.7**
LOR Lormes 16.22 309 *e*P **Pn 13 51 26.4 +0.1**
comp=Z,13nm,0.6s
LOR *e*R
comp=Z,164nm,18.2s
LOR Lormes 16.22 309 *e*P **Pn 13 51 26.4 +0.1**
comp=Z,13nm,0.6s
KIV Kislovodsk 16.29 63 *i* P **Pn 13 51 25.5 -1.7**
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,58nm,19.0s
SSF Saint Saulge 16.35 308 *e*P **Pn 13 51 27.4 -0.5**
comp=Z,51nm,1.0s
SSF Saint Saulge 16.35 308 *e*P **Pn 13 51 27.4 -0.5**
SSF pmax pmax
comp=Z,51nm,1.0s
SSF Saint Saulge 16.35 308 *e*P **Pn 13 51 27.4 -0.5**
comp=Z,51nm,1.0s
KBZ Khabaz 16.39 64 P **P 13 51 32.1 +1.0**
KBZ Khabaz 16.39 64 Pn **P 13 51 32.1 +1.0**
KBZ Khabaz 16.39 64 Pn **P 13 51 32.1 +1.0**
comp=Z,0.1nm,0.3s,baz=347,slow=4.2,SNR=13
KBZ Khabaz 16.39 64 P **P 13 51 32.1 +1.0**
BGF Bois d'Agland 16.56 306 *e*P **P 13 51 32.5 -0.5**
comp=Z,24nm,0.7s
BGF Bois d'Agland 16.56 306 *e*P **P 13 51 32.5 -0.5**
BGF pmax pmax
comp=Z,24nm,0.7s
BGF Bois d'Agland 16.56 306 *e*P **P 13 51 32.5 -0.5**
comp=Z,24nm,0.7s
BGF Bois d'Agland 16.56 306 *e*P **P 13 51 32.5 -0.5**
comp=Z,12nm,0.7s
GOF Gofitskoye 16.82 60 *e*P **P 13 51 35.9 0.0**
GOF Gofitskoye 16.82 60 *e*P **P 13 51 35.9 0.0**
ZEI Tsey 16.95 68 *e*P **P 13 51 39.0 +1.4**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 16.95 68 *e*P **P 13 51 39.0 +1.4**
comp=Z,9.0nm,1.0s
EPF Esparros 17.34 293 *e*P **P 13 51 41.4 -0.4**
comp=Z,24nm,1.1s
EPF Esparros 17.34 293 *e*P **P 13 51 41.4 -0.4**
EPF pmax pmax
comp=Z,24nm,1.1s
EPF Esparros 17.34 293 *e*P **P 13 51 41.4 -0.4**
comp=Z,24nm,1.1s
EPF Esparros 17.34 293 *e*P **P 13 51 41.4 -0.4**
comp=Z,12nm,1.1s
GNI Garni 17.42 77 P **Pn 13 51 41.8 +0.2**
comp=Z,11nm,1.3s
BAIF Baives 17.47 318 *e*P **Pn 13 51 41.1 -0.8**
comp=Z,19nm,0.9s
BAIF Baives 17.47 318 *e*P **Pn 13 51 41.1 -0.8**
BAIF pmax pmax
comp=Z,19nm,0.9s
BAIF Baives 17.47 318 *e*P **Pn 13 51 41.1 -0.8**
comp=Z,19nm,0.9s
BAIF Baives 17.47 318 *e*P **Pn 13 51 41.1 -0.8**
comp=Z,9.6nm,0.9s
VSR Storozhevoye 17.50 37 *e*P **Pn 13 51 41.9 -0.3**
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.0s
VSR pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 17.50 37 *e*P **Pn 13 51 41.9 -0.3**
ETSF Etsaut 17.98 292 *e*P **P 13 51 50.5 +1.7**
ETSF Etsaut 17.98 292 *e*P **P 13 51 50.5 +1.7**
ETSF Etsaut 17.98 292 *e*P **P 13 51 50.5 +1.7**
ETSF Etsaut 17.98 292 *e*P **P 13 51 50.5 +1.7**
SJPF Ste Jean 18.49 292 *e*P **Pn 13 51 55.7 +1.2**
SJPF Ste Jean 18.49 292 *e*P **Pn 13 51 55.7 +1.2**
SJPF Ste Jean 18.49 292 *e*P **Pn 13 51 55.7 +1.2**
SJPF Ste Jean 18.49 292 *e*P **Pn 13 51 55.7 +1.2**
MFF Saint Martin d 18.51 304 *e*P **Pn 13 51 56.3 +1.6**
comp=Z,40nm,0.9s
MFF Saint Martin d 18.51 304 *e*P **Pn 13 51 56.3 +1.6**
MFF pmax pmax
comp=Z,40nm,0.9s
MFF Saint Martin d 18.51 304 *e*P **Pn 13 51 56.3 +1.6**
comp=Z,40nm,0.9s
MFF Saint Martin d 18.51 304 *e*P **Pn 13 51 56.3 +1.6**
comp=Z,20nm,0.9s
VRHR Novokhopersk 18.64 41 *e*P **Pn 13 52 00.0 +3.8**
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,7.0nm,1.1s
VRHR pmax pmax
comp=Z,20nm,1.1s
LDF La Druitiere 19.21 309 *e*P **Pn 13 52 03.6 +0.4**
LDF La Druitiere 19.21 309 *e*P **Pn 13 52 03.6 +0.4**
LDF La Druitiere 19.21 309 *e*P **Pn 13 52 03.6 +0.4**
LDF La Druitiere 19.21 309 *e*P **Pn 13 52 03.6 +0.4**
OBN Obninsk 19.34 25 ⇓ *i*P **P 13 52 03.4 -0.1**
OBN pmax pmax
comp=Z,26nm,1.3s
OBN MLR MLR
comp=Z,82nm,15.0s
OBN Obninsk 19.34 25 *e*Pn **Pn 13 52 04.1 -0.5**
comp=Z,44nm,1.2s
OBN Obninsk 19.34 25 P **Pn 13 52 04.8 +0.2**
comp=Z,2.8nm,0.3s,baz=25,slow=20,SNR=5.1
OBN LR LR 13 59 43.2
comp=Z,102nm,18.3s,baz=267,slow=38
OBN Obninsk 19.34 25 *i* P **P 13 52 03.4 -0.1**
comp=Z,82nm,15.0s
OBN Obninsk 19.34 25 *e*Pn **Pn 13 52 04.1 -0.5**
comp=Z,44nm,1.2s
FLN La Foliniere 19.50 310 *e*P **Pn 13 52 06.4 -0.2**
FLN *e*R
comp=Z,150nm,20.0s
FLN La Foliniere 19.50 310 *e*P **Pn 13 52 06.4 -0.2**
FLN La Foliniere 19.50 310 *e*P **Pn 13 52 06.4 -0.2**
FLN La Foliniere 19.50 310 *e*P **Pn 13 52 06.4 -0.2**
GRR Gorron 19.58 308 *e*P **Pn 13 52 07.2 -0.4**
comp=Z,28nm,0.6s
GRR Gorron 19.58 308 *e*P **Pn 13 52 07.2 -0.4**
GRR pmax pmax
comp=Z,28nm,0.6s
GRR Gorron 19.58 308 *e*P **Pn 13 52 07.2 -0.4**
comp=Z,28nm,0.6s
GRR Gorron 19.58 308 *e*P **Pn 13 52 07.2 -0.4**
comp=Z,14nm,0.6s
MOS Moscow 20.20 26 *e*P Pn 13 52 16.4 +1.5
MOS *e* 13 52 30.7
MOS pmax pmax
comp=Z,41nm,0.7s
VSU Vasula 20.34 7 ⇓ *i*P **P 13 52 14.8 +0.4**
VSU pmax pmax
comp=Z,336nm,1.2s
VSU Vasula 20.34 7 *i* P **P 13 52 14.8 +0.4**
comp=Z,336nm,1.2s
ESDC Sonseca Array 20.49 282 P **P 13 52 17.5 +1.2**
ESDC Sonseca Array 20.49 282 P Pn 13 52 17.5 -1.0
comp=Z,18nm,0.7s,baz=77,slow=11,SNR=96
ESDC Sonseca Array 20.49 282 P Pn 13 52 17.5 -1.0
ESLA Sonseca Array 20.49 282 *e*P **P 13 52 16.6 +0.3**
comp=Z,9.8nm,1.0s
ESLA Sonseca Array 20.49 282 *e*P **P 13 52 16.6 +0.3**
comp=Z,9.8nm,1.0s
SGMF Saint Gilles 20.59 307 *e*P **P 13 52 18.1 +0.8**
SGMF Saint Gilles 20.59 307 *e*P **P 13 52 18.1 +0.8**
SGMF Saint Gilles 20.59 307 *e*P **P 13 52 18.1 +0.8**
SGMF Saint Gilles 20.59 307 *e*P **P 13 52 18.1 +0.8**
PAB San Pablo 20.80 282 *e*P **P 13 52 20.2 +0.5**
PAB San Pablo 20.80 282 *e*Pn **P 13 52 20.1 +0.5**
comp=Z,4.2nm,0.8s
PAB San Pablo 20.80 282 *e*P **P 13 52 20.2 +0.5**
QUIF Quistinic 20.87 306 *e*P **P 13 52 20.5 +0.2**
comp=Z,45nm,0.6s
QUIF Quistinic 20.87 306 *e*P **P 13 52 20.5 +0.2**
QUIF pmax pmax
comp=Z,45nm,0.6s
QUIF Quistinic 20.87 306 *e*P **P 13 52 20.5 +0.2**
comp=Z,45nm,0.6s
QUIF Quistinic 20.87 306 *e*P **P 13 52 20.5 +0.2**
comp=Z,22nm,0.6s
ROSF Rostrenen 21.07 307 *e*P **P 13 52 23.5 +1.0**
ROSF Rostrenen 21.07 307 *e*P **P 13 52 23.5 +1.0**
ROSF Rostrenen 21.07 307 *e*P **P 13 52 23.5 +1.0**
ROSF Rostrenen 21.07 307 *e*P **P 13 52 23.5 +1.0**
TAM Tamanrasset 21.17 228 *e*P **P 13 52 25.6 +1.7**
TAM pmax pmax
comp=Z,8.0nm,1.0s
TAM Tamanrasset 21.17 228 *e*P **P 13 52 25.6 +1.7**
comp=Z,7.7nm,1.0s
TAM Tamanrasset 21.17 228 *e*P **P 13 52 25.6 +1.7**
comp=Z,7.7nm,1.0s
PBRG Braganca 22.50 288 *e*P **P 13 52 37.7 -0.2**
comp=Z,33nm,1.9s
HFS Hagfors 22.50 349 P **P 13 52 36.7 -1.0**
HFS Hagfors 22.50 349 P **P 13 52 36.7 -1.0**
comp=Z,6.6nm,0.5s,baz=154,slow=11,SNR=39
HFS LR LR 14 02 58.3
comp=Z,80nm,21.3s,baz=264,slow=41
HFS Hagfors 22.50 349 P **P 13 52 36.7 -1.0**
MVO Moncorvo 22.73 286 *e*P **P 13 52 39.9 -0.5**
comp=Z,42nm,1.6s
PMRV Marv??o 23.15 282 *e*P **P 13 52 43.5 -1.2**
comp=Z,37nm,1.7s
FINES FINESS Array B 23.25 5 P **P 13 52 43.8 -1.6**
FINES PcP **PcP 13 56 32.9 +0.2**
FINES FINESS Array B 23.25 5 P **P 13 52 43.8 -1.6**
comp=Z,6.4nm,0.8s,baz=152,slow=8.6,SNR=21
FINES PcP **PcP 13 56 32.9 +0.2**
comp=Z,2.9nm,0.6s,baz=120,slow=2.5,SNR=11
FINES LR LR 14 01 45.0
comp=Z,141nm,18.1s,baz=234,slow=36
FINES FINESS Array B 23.25 5 P **P 13 52 43.8 -1.6**
POLO Lamas de Olo 23.30 287 *e*P **P 13 52 49.5 +3.2**
comp=Z,14nm,1.8s
PESTR Estremoz 23.38 281 *e*P **P 13 52 46.6 -0.4**
comp=Z,19nm,1.4s
NAO01 NORSAR Array S 23.66 346 *e*P **P 13 52 48.1 -1.5**
comp=Z,6.3nm,0.5s
NAO01 NORSAR Array S 23.66 346 *e*P **P 13 52 48.1 -1.5**
comp=Z,6.3nm,0.5s
PVAQ Vaqueiros 23.72 277 *e*P **P 13 52 50.3 -0.1**
comp=Z,18nm,1.2s
NB2 NORSAR Subarra 23.78 346 P **P 13 52 50.0 -0.7**
comp=Z,10nm,0.7s,baz=159,slow=9.3
NB2 NORSAR Subarra 23.78 346 P **P 13 52 50.0 -0.7**
comp=Z,10nm,0.7s,SNR=3.6
NOA NORSAR Array B 23.78 346 P **P 13 52 50.0 -0.7**
NOA PcP **PcP 13 56 34.5 +0.6**
NOA NORSAR Array B 23.78 346 P **P 13 52 50.0 -0.7**
comp=Z,5.8nm,0.5s,baz=155,slow=10,SNR=60
NOA PcP **PcP 13 56 34.5 +0.6**
comp=Z,1.3nm,0.8s,baz=137,slow=2.5,SNR=3.4
NOA LR LR 14 04 56.3
comp=Z,74nm,18.3s,baz=140,slow=44
NOA NORSAR Array B 23.78 346 P **P 13 52 50.0 -0.7**
NOA NORSAR Array B 23.78 346 PcP **PcP 13 56 34.5 +0.6**
PBDV Barranco-do-Ve 23.92 277 *e*P **P 13 52 52.9 +0.6**
comp=Z,42nm,1.2s
KAF Kangasniemi 23.93 5 *e*P **P 13 52 51.2 -0.9**
KAF Kangasniemi 23.93 5 *e*p **P 13 52 51.2 -0.9**
KAF Kangasniemi 23.93 5 *e*P **P 13 52 51.2 -0.9**
PCAS Casmilo, Conde 23.93 284 *e*P **P 13 52 54.0 +1.7**
comp=Z,33nm,1.4s
EKA Eskdalemuir Ar 24.16 323 P **P 13 52 54.0 -0.3**
EKA Eskdalemuir Ar 24.16 323 P **P 13 52 54.0 -0.3**
comp=Z,7.0nm,0.6s,baz=120,slow=9.1,SNR=34
EKA Eskdalemuir Ar 24.16 323 P **P 13 52 54.0 -0.3**
PNCL Nicolau / Gran 24.22 279 *e*P **P 13 52 56.4 +1.3**
comp=Z,31nm,1.6s
RAYN Ar Rayn 24.64 120 *e*P **P 13 53 00.9 +1.9**
comp=Z,41nm,1.8s
RAYN Ar Rayn 24.64 120 *e*P **P 13 53 00.9 +1.9**
comp=Z,41nm,1.8s
KLMR Klimovskoe 24.98 20 *e*P **P 13 52 58.8 -2.9**
KLMR pmax pmax
comp=Z,37nm,0.9s
JOF Joensuu 25.21 10 *e*P **P 13 53 03.8 +0.1**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 25.21 10 *e*p **P 13 53 03.8 +0.1**
comp=Z,3.7nm,0.7s
JOF Joensuu 25.21 10 *e*P **P 13 53 03.8 +0.1**
comp=Z,4.0nm,0.7s
PRGR Permogore 27.41 24 *e*P **P 13 53 22.2 -1.4**
PRGR pmax pmax
comp=Z,18nm,0.7s
PRGR Permogore 27.41 24 *e*P **P 13 53 22.2 -1.4**
comp=Z,18nm,0.7s
ARU Arti 29.98 41 *d i*P **P 13 53 46.7 +0.1**
ARU S **S 13 58 42.8 -0.9**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 29.98 41 *e*P **P 13 53 44.5 -2.1**
comp=Z,5.7nm,0.9s
ARU Arti 29.98 41 *i* P **P 13 53 46.7 +0.1**
comp=Z,9.0nm,1.2s
ARU S **S 13 58 42.8 -0.9**
TOA0 Torodi Ar. Sit 31.09 222 *e*P **P 13 53 56.6 -0.1**
TOA0 Torodi Ar. Sit 31.09 222 *e*P **P 13 53 56.6 -0.1**
TORD Torodi Ar. Bea 31.09 222 P **P 13 53 57.2 +0.4**
TORD Torodi Ar. Bea 31.09 222 P **P 13 53 57.2 +0.4**
comp=Z,6.2nm,0.7s,baz=30,slow=9.0,SNR=20
TORD Torodi Ar. Bea 31.09 222 P **P 13 53 57.2 +0.4**
SVE Sverdlovsk 31.20 41 ⇓ *i*P **P 13 53 57.9 +0.6**
SVE pmax pmax
comp=Z,11nm,0.8s
SVE Sverdlovsk 31.20 41 *i* P **P 13 53 57.9 +0.6**
comp=Z,11nm,0.8s
ARCES ARCESS Array B 31.31 2 P **P 13 53 57.1 -1.1**
ARCES PcP **PcP 13 56 52.2 +0.4**
ARCES ARCESS Array B 31.31 2 P **P 13 53 57.1 -1.1**
comp=Z,2.6nm,0.8s,baz=189,slow=10.0,SNR=13
ARCES PcP **PcP 13 56 52.2 +0.4**
comp=Z,1.4nm,0.6s,baz=201,slow=2.3,SNR=8.5
ARCES LR LR 14 07 32.8
comp=Z,141nm,19.6s,baz=189,slow=38
ARCES ARCESS Array B 31.31 2 P **P 13 53 57.1 -1.1**
KEV Kevo 31.58 3 *e*P **P 13 54 00.8 +0.3**
KEV Kevo 31.58 3 *e*p **P 13 54 00.8 +0.3**
KEV Kevo 31.58 3 *e*P **P 13 54 00.8 +0.3**
BVAR Borovoye Array 35.90 50 LR LR 14 10 21.6
comp=Z,46nm,21.1s,baz=260,slow=38
EKS2 Erkin-Say 38.84 67 *e*P **P 13 55 04.2 +0.7**
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 38.84 67 *e*P **P 13 55 04.2 +0.7**
comp=Z,10nm,0.7s
EKS2 Erkin-Say 38.84 67 *e*P **P 13 55 04.2 +0.7**
comp=Z,10nm,0.7s
AAK Ala-Archa 39.36 67 P **P 13 55 09.0 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 39.36 67 *e*P **P 13 55 08.9 +1.0**
comp=Z,4.1nm,0.7s
AAK Ala-Archa 39.36 67 P **P 13 55 09.0 +1.0**
comp=Z,2.3nm,0.4s,baz=246,slow=2.2,SNR=9.0
AAK Ala-Archa 39.36 67 *e*P **P 13 55 08.9 +1.0**
comp=Z,4.1nm,0.7s
FRU Bishkek 39.41 66 *e*P **P 13 55 09.5 +1.3**
FRU pmax pmax
comp=Z,55nm,2.1s
FRU Bishkek 39.41 66 *e*P **P 13 55 09.5 +1.3**
comp=Z,55nm,2.1s
DBIC Dimbokro 40.01 225 P **P 13 55 13.8 +0.5**
comp=Z,8.6nm,0.6s

DBIC	**Dimbokro**	**40.01**	**225**	P		**P**		**13 55 13.8**	**+0.5**	
	comp=Z,8.3nm,0.7s,baz=18,slow=9.2,SNR=14									
DBIC				LR		LR		14 13 43.0		
	comp=Z,26nm,19.2s,baz=20,slow=39									
DBIC	**Dimbokro**	**40.01**	**225**	P		**P**		**13 55 13.8**	**+0.5**	
	comp=Z,8.6nm,0.6s									
SPITS	**Spitsbergen Ar**	**40.03**	**358**	P		**P**		**13 55 13.2**	**+0.3**	
SPITS				PcP		**PcP**		**13 57 17.9**	**+0.5**	
SPITS	**Spitsbergen Ar**	**40.03**	**358**	P		**P**		**13 55 13.2**	**+0.3**	
	comp=Z,1.6nm,0.5s,baz=143,slow=12,SNR=12									
SPITS				PcP		**PcP**		**13 57 17.9**	**+0.5**	
	comp=Z,8.6nm,0.9s,baz=128,slow=4.2,SNR=4.3									
SPITS	**Spitsbergen Ar**	**40.03**	**358**	P		**P**		**13 55 13.2**	**+0.3**	
TKM2	**Tokmak 2**	**40.10**	**66**	*e*P		**P**		**13 55 14.2**	**+0.1**	
TKM2				pmax		pmax				
	comp=Z,2.0nm,0.6s									
TKM2	**Tokmak 2**	**40.10**	**66**	*e*P		**P**		**13 55 14.2**	**+0.1**	
	comp=Z,2.3nm,0.6s									
TKM2	**Tokmak 2**	**40.10**	**66**	*e*P		**P**		**13 55 14.2**	**+0.1**	
	comp=Z,2.3nm,0.6s									
TIC	**Toumodi**	**40.12**	**225**	*e*P		**P**		**13 55 12.3**	**-2.0**	
	comp=Z,6.9nm,0.3s									
KIC	**Kosan Boka**	**40.20**	**225**	*e*P		**P**		**13 55 16.0**	**+1.0**	
	comp=Z,18nm,0.7s									
LIC	**Lamto**	**40.48**	**225**	*e*P		**P**		**13 55 17.4**	**+0.2**	
	comp=Z,22nm,0.6s									
LIC	**Lamto**	**40.48**	**225**	*e*P		**P**		**13 55 17.9**	**+0.7**	
	comp=Z,50nm,0.7s									
LIC	**Lamto**	**40.48**	**225**	*e*P		**P**		**13 55 17.4**	**+0.2**	
	comp=Z,22nm,0.6s									
LIC	**Lamto**	**40.48**	**225**	*e*P		**P**		**13 55 17.4**	**+0.2**	
	comp=Z,11nm,0.6s									
KURK	**Kurchatov**	**41.01**	**54**	*e*P		**P**		**13 55 20.6**	**-0.7**	
KURK				pmax		pmax				
	comp=Z,3.0nm,0.7s									
KURK	**Kurchatov**	**41.01**	**54**	*e*P		**P**		**13 55 20.6**	**-0.7**	
	comp=Z,3.0nm,0.7s									
KURK	**Kurchatov**	**41.01**	**54**	*e*P		**P**		**13 55 20.6**	**-0.7**	
	comp=Z,3.0nm,0.7s									
KSH	**Kashi**	**41.20**	**71**	*e*P		**P**		**13 55 23.0**	**-0.1**	
KSH				*e*PP		**PnPn**		**13 57 01.0**	**-1.6**	
KSH				*e*PcS		**PcS**		**14 01 13.3**	**0.0**	
KSH				*e*S		**S**		**14 01 34.0**	**-2.2**	
KSH				*e*sS		**sS**		**14 01 42.0**	**-1.9**	
KSH				*e*SS		**SS**		**14 04 32.5**	**-6.6**	
KSH				pmax		pmax				
	comp=Z,2.0nm,0.4s									
KSH				pmax		pmax				
	comp=Z,63nm,3.5s									
KSH				LR		LR				
	comp=Z,110nm,5.5s									
KSH				LR		LR				
	comp=Z,120nm,5.5s									
KSH				LR		LR				
	comp=Z,260nm,5.4s									
DAG	**Danmarks Havn**	**42.46**	**347**	*i* P		**P**		**13 55 33.0**	**+0.2**	
DAG				pmax		pmax				
	comp=Z,2.0nm,0.9s									
DAG	**Danmarks Havn**	**42.46**	**347**	*i* P		**P**		**13 55 33.0**	**+0.2**	
	comp=Z,2.6nm,0.9s									
NVS	**Novosibirsk**	**43.50**	**47**	*e*P		**P**		**13 55 40.7**	**-0.8**	
NVS				pmax		pmax				
	comp=N,3.0nm,0.7s									
NVS				pmax		pmax				
	comp=E,4.0nm,0.7s									
NVS				pmax		pmax				
	comp=Z,9.0nm,0.7s									
NVS	**Novosibirsk**	**43.50**	**47**	*e*P		**P**		**13 55 40.7**	**-0.8**	
MK31	**Makanchi Array**	**43.98**	**59**	*e*P		**P**		**13 55 44.5**	**-1.0**	
MK31	**Makanchi Array**	**43.98**	**59**	*e*P		**P**		**13 55 44.5**	**-1.0**	
MK31	**Makanchi Array**	**43.98**	**59**	*e*P		**P**		**13 55 44.5**	**-1.0**	
MKAR	**Makanchi Array**	**43.98**	**59**	P		**P**		**13 55 45.7**	**+0.2**	
MKAR								13 57 30.9		
MKAR	**Makanchi Array**	**43.98**	**59**	P		**P**		**13 55 45.7**	**+0.2**	
MKAR				PcP		**PcP**		**13 57 30.9**	**-0.2**	
MKAR				ScP		**ScP**		**14 01 20.7**	**-1.6**	
MKAR	**Makanchi Array**	**43.98**	**59**	P		**P**		**13 55 45.7**	**+0.2**	
	comp=Z,9.6nm,0.5s,baz=274,slow=7.8,SNR=75									
MKAR				PcP		**PcP**		**13 57 30.9**	**-0.2**	
	comp=Z,2.2nm,0.8s,baz=279,slow=3.6,SNR=4.6									
MKAR				ScP		**ScP**		**14 01 20.7**	**-1.6**	
	comp=Z,2.6nm,0.8s,baz=278,slow=3.7,SNR=20									
MKAR	**Makanchi Array**	**43.98**	**59**	P		**P**		**13 55 45.7**	**+0.2**	
MKAR	**Makanchi Array**	**43.98**	**59**	PcP		**PcP**		**13 57 30.9**	**-0.2**	
ZAA0	**Zalesovo Array**	**44.50**	**48**	*e*P		**P**		**13 55 49.0**	**-0.5**	
ZAA0	**Zalesovo Array**	**44.50**	**48**	*e*P		**P**		**13 55 49.0**	**-0.5**	
ZALV	**Zalesovo Beam**	**44.50**	**48**	P		**P**		**13 55 49.6**	**0.0**	
ZALV	**Zalesovo Beam**	**44.50**	**48**	P		**P**		**13 55 49.5**	**0.0**	
ZALV				ScP		**ScP**		**14 01 23.1**	**-1.1**	
ZALV	**Zalesovo Beam**	**44.50**	**48**	P		**P**		**13 55 49.5**	**0.0**	
	comp=Z,20nm,0.5s,baz=272,slow=8.8,SNR=67									
ZALV				ScP		**ScP**		**14 01 23.1**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=316,slow=4.0,SNR=3.5									
ZALV	**Zalesovo Beam**	**44.50**	**48**	P		**P**		**13 55 49.6**	**0.0**	
SUMG	**Summit**	**45.21**	**338**	*i* P		**P**		**13 55 55.1**	**-0.3**	
SUMG				pmax		pmax				
	comp=Z,5.0nm,0.9s									
SUMG	**Summit**	**45.21**	**338**	*i* P		**P**		**13 55 55.1**	**-0.3**	
	comp=Z,4.9nm,0.9s									
SUMG	**Summit**	**45.21**	**338**	*i* P		**P**		**13 55 55.1**	**-0.3**	
	comp=Z,5.0nm,0.9s									
WMQ	**Urumqi**	**48.41**	**62**	P		**P**		**13 56 20.5**	**0.0**	
WMQ				pP		**pP**		**13 56 25.0**	**-0.2**	
WMQ				sP		**sP**		**13 56 27.5**	**+0.5**	
WMQ				PcP		**PcP**		**13 57 48.0**	**+1.3**	
WMQ				PP		**PP**		**13 58 12.5**	**-0.4**	
WMQ				ScP		**ScP**		**14 01 40.8**	**0.0**	
WMQ				S		**S**		**14 03 19.0**	**-1.5**	
WMQ				sS		**sS**		**14 03 26.0**	**-2.3**	
WMQ				ScS		**ScS**		**14 06 10.5**	**-2.3**	
WMQ				SS		SS		14 06 42.5	-7.4	
WMQ				pmax		pmax				
	comp=Z,25nm,0.8s									
WMQ				pmax		pmax				
	comp=Z,46nm,5.2s									
TLY	**Talaya**	**56.11**	**48**	*e*P		**P**		**13 57 19.7**	**+2.2**	
TLY				pmax		pmax				
	comp=Z,5.0nm,0.8s									
TLY				MLR		MLR				
	comp=Z,55nm,15.0s									
TLY	**Talaya**	**56.11**	**48**	*e*P		**P**		**13 57 19.7**	**+2.2**	
	comp=Z,55nm,15.0s									
ZAK	**Zakamensk**	**56.35**	**49**	*e*P		**P**		**13 57 19.4**	**0.0**	
ZAK				pmax		pmax				
	comp=Z,3.0nm,1.5s									
ZAK	**Zakamensk**	**56.35**	**49**	*e*P		**P**		**13 57 19.4**	**0.0**	
	comp=Z,3.0nm,1.5s									
GTA	**Gaotai**	**58.47**	**63**	*e*P		**P**		**13 57 34.0**	**-0.5**	
GTA				pP		**pP**		**13 57 38.3**	**-1.0**	
GTA				sP		**sP**		**13 57 41.5**	**+0.4**	
GTA				pmax		pmax				
	comp=Z,6.0nm,1.0s									
TIXI	**Tiksi**	**58.99**	**21**↑	*e*P		**P**		**13 57 38.3**	**+0.9**	
TIXI				pmax		pmax				
	comp=Z,1.0nm,0.9s									
TIXI	**Tiksi**	**58.99**	**21**	*e*P		**P**		**13 57 38.3**	**+0.9**	
	comp=Z,1.0nm,0.9s									
SONM	**Songino Array**	**59.23**	**51**	P		**P**		**13 57 39.3**	**-0.4**	
SONM				ScP		**ScP**		**14 02 27.5**	**-0.5**	
SONM	**Songino Array**	**59.23**	**51**	P		**P**		**13 57 39.3**	**-0.4**	
	comp=Z,2.1nm,0.6s,baz=285,slow=7.6,SNR=20									
SONM				ScP		**ScP**		**14 02 27.5**	**-0.5**	
	comp=Z,0.2nm,0.4s,baz=318,slow=2.0,SNR=3.7									
SONM	**Songino Array**	**59.23**	**51**	P		**P**		**13 57 39.3**	**-0.4**	
SCHQ	**Schefferville**	**59.33**	**318**	P		**P**		**13 57 39.8**	**-0.3**	
SCHQ	**Schefferville**	**59.33**	**318**	P		**P**		**13 57 39.8**	**-0.3**	
	comp=Z,13nm,0.6s,baz=88,slow=3.1,SNR=25									
SCHQ	**Schefferville**	**59.33**	**318**	P		**P**		**13 57 39.8**	**-0.3**	
ULN	**Ulaanbaatar**	**59.62**	**51**	*e*P		**P**		**13 57 42.3**	**-0.1**	
	comp=Z,4.8nm,1.1s									
ULN	**Ulaanbaatar**	**59.62**	**51**	*i* P		**P**		**13 57 42.7**	**+0.3**	
	comp=Z,3.0nm,1.0s									
LZH	**Lanzhou**	**62.83**	**64**	*e*P		**P**		**13 58 04.5**	**+0.2**	
LZH				pP		**pP**		**13 58 10.0**	**+0.8**	
LZH				sP		**sP**		**13 58 12.3**	**+1.3**	
LZH				pmax		pmax				
	comp=Z,15nm,1.0s									
LZH				pmax		pmax				
	comp=Z,130nm,4.3s									
CD2	**Chengdu**	**65.36**	**69**	*e*P		**P**		**13 58 20.5**	**-0.4**	
CD2				pmax		pmax				
	comp=Z,10.0nm,1.0s									
HHC	**Hu-ho-hao-te**	**65.74**	**56**	*e*P		**P**		**13 58 22.8**	**-0.5**	
HHC				sP		**sP**		**13 58 29.3**	**-0.7**	
HHC				PP		**PP**		**14 00 48.8**	**+1.2**	
HHC				S		**S**		**14 07 06.3**	**-2.8**	
HHC				SS		**SS**		**14 11 19.5**	**-3.4**	
HHC				pmax		pmax				
	comp=Z,16nm,1.0s									
HHC				pmax		pmax				
	comp=Z,140nm,5.0s									
HHC				LR		LR				
	comp=Z,330nm,14.8s									
HHC				LR		LR				
	comp=Z,300nm,15.8s									
HHC				LR		LR				
	comp=Z,280nm,13.7s									
BOSA	**Boshof**	**66.66**	**177**	P		**P**		**13 58 29.1**	**+0.1**	
BOSA	**Boshof**	**66.66**	**177**	P		**P**		**13 58 29.1**	**+0.1**	
	comp=Z,2.6nm,0.8s,baz=341,slow=7.4,SNR=3.6									
BOSA				LR		LR		14 29 51.3		
	comp=Z,54nm,20.1s,baz=0.5,slow=38									
BOSA	**Boshof**	**66.66**	**177**	P		**P**		**13 58 29.1**	**+0.1**	
XAN	**Xi'an**	**67.45**	**64**	P		**P**		**13 58 33.5**	**-0.7**	
XAN				pmax		pmax				
	comp=Z,1.0nm,1.0s									
KMI	**Kunming**	**67.66**	**75**	P		**P**		**13 58 36.0**	**+0.1**	
KMI				pP		**pP**		**13 58 39.5**	**-1.3**	
KMI				sP		**sP**		**13 58 41.5**	**-1.1**	
KMI				pmax		pmax				
	comp=Z,6.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**68.43**	**83**	P		**P**		**13 58 39.3**	**-1.2**	
CMAR	**Chiang Mai Arr**	**68.43**	**83**	P		**P**		**13 58 39.3**	**-1.2**	
	comp=Z,0.6nm,0.4s,baz=304,slow=8.9,SNR=5.4									
CMAR	**Chiang Mai Arr**	**68.43**	**83**	P		**P**		**13 58 39.3**	**-1.2**	
GYA	**Guiyang**	**69.89**	**72**	*e*P		**P**		**13 58 50.0**	**+0.4**	
GYA				PP		**PP**		**14 01 25.5**	**+1.5**	
GYA				S		**S**		**14 07 56.0**	**-3.2**	
GYA				SKS		**SKSac**		**14 08 47.5**	**-2.9**	
GYA				SS		**SS**		**14 12 27.0**	**-0.7**	
GYA				pmax		pmax				
	comp=Z,10.0nm,1.0s									
GYA				pmax		pmax				
	comp=Z,110nm,5.2s									
GYA				LR		LR				
	comp=Z,450nm,21.4s									
GYA				LR		LR				
	comp=Z,420nm,22.0s									
GYA				LR		LR				
	comp=Z,490nm,20.5s									
BILL	**Bilibino**	**70.53**	**14**	*e*P		**P**		**13 58 51.6**	**-1.1**	
BILL				pmax		pmax				
	comp=Z,10.0nm,1.6s									
BILL	**Bilibino**	**70.53**	**14**	*e*P		**P**		**13 58 51.6**	**-1.1**	
	comp=Z,9.9nm,1.6s									
BILL	**Bilibino**	**70.53**	**14**	*e*P		**P**		**13 58 51.6**	**-1.1**	
	comp=Z,9.9nm,1.6s									
INK	**Inuvik**	**72.15**	**351**	*e*P		**P**		**13 59 02.7**	**+0.3**	
INK	**Inuvik**	**72.15**	**351**	P		**P**		**13 59 02.1**	**-0.4**	
	comp=Z,2.0nm,0.5s,baz=15,slow=7.5,SNR=19									
INK	**Inuvik**	**72.15**	**351**	*e*P		**P**		**13 59 02.7**	**+0.3**	
CN2	**Changchun**	**72.71**	**48**	*e*P		**P**		**13 59 06.0**	**-0.2**	
CN2				*e*sP		**sP**		**13 59 13.0**	**0.0**	
CN2				*e*S		**S**		**14 08 27.8**	**-3.2**	
CN2				pmax		pmax				
	comp=Z,10.0nm,0.7s									
CN2				pmax		pmax				
	comp=Z,200nm,4.0s									
CN2				LR		LR				
	comp=Z,300nm,13.0s									
CN2				LR		LR				
	comp=Z,300nm,13.0s									
CN2				LR		LR				
	comp=Z,200nm,13.0s									
KLR	**Kul'dur**	**72.82**	**40**	*e*P		P		13 59 02.7	-4.1	
YKA	**Yellowknife Ar**	**73.73**	**341**	P		**P**		**13 59 12.1**	**+0.1**	
YKA	**Yellowknife Ar**	**73.73**	**341**	P		**P**		**13 59 12.0**	**+0.1**	
	comp=Z,2.1nm,0.6s,baz=35,slow=5.1,SNR=4.0									
YKA	**Yellowknife Ar**	**73.73**	**341**	P		**P**		**13 59 12.1**	**+0.1**	
COLD	**Coldfoot**	**74.61**	**357**	*e*P		**P**		**13 59 18.3**	**+1.3**	
	comp=Z,5.4nm,1.1s									
COLD	**Coldfoot**	**74.61**	**357**	*e*P		**P**		**13 59 18.3**	**+1.3**	
	comp=Z,5.4nm,1.1s									
NJ2	**Nanjing**	**75.48**	**61**	*e*P		**P**		**13 59 23.5**	**+0.9**	
NJ2				pmax		pmax				
	comp=Z,10.0nm,0.6s									
FFC	**Flin Flon**	**75.77**	**330**	*e*P		**P**		**13 59 24.5**	**+0.6**	
FFC				pmax		pmax				
	comp=Z,65nm,2.4s									
FFC	**Flin Flon**	**75.77**	**330**	*e*P		**P**		**13 59 24.5**	**+0.6**	
	comp=Z,65nm,2.4s									
FFC	**Flin Flon**	**75.77**	**330**	*e*P		**P**		**13 59 24.5**	**+0.6**	
	comp=Z,65nm,2.4s									
IM04	**Indian Mountai**	**75.98**	**358**	*e*P		**P**		**13 59 25.7**	**+0.8**	
IM04	**Indian Mountai**	**75.98**	**358**	*e*P		**P**		**13 59 25.7**	**+0.8**	
TNA	**Tin City**	**76.13**	**4**	*e*P		**P**		**13 59 26.2**	**+0.5**	
	comp=Z,50nm,2.5s									
TNA	**Tin City**	**76.13**	**4**	*e*P		**P**		**13 59 26.2**	**+0.5**	
	comp=Z,50nm,2.5s									
USRK	**Ussuriysk Arra**	**76.16**	**44**	P		**P**		**13 59 25.5**	**-0.8**	
	comp=Z,3.4nm,0.9s,baz=294,slow=5.6,SNR=5.3									
ULM	**Lac du Bonnet**	**76.43**	**324**	*e*P		**P**		**13 59 28.4**	**+0.7**	
ULM	**Lac du Bonnet**	**76.43**	**324**	P		**P**		**13 59 27.4**	**-0.3**	
	comp=Z,9.0nm,0.8s,baz=30,slow=6.1,SNR=17									
ULM	**Lac du Bonnet**	**76.43**	**324**	*e*P		**P**		**13 59 28.4**	**+0.7**	
QIZ	**Qiongzhong**	**76.53**	**76**	P		**P**		**13 59 28.0**	**-0.8**	
QIZ				S		**S**		**14 09 11.5**	**-2.9**	
QIZ				LR		LR				
	comp=Z,190nm,12.6s									
ILAR	**Eielson Array**	**76.88**	**355**	P		**P**		**13 59 30.1**	**0.0**	
ILAR	**Eielson Array**	**76.88**	**355**	P		**P**		**13 59 30.1**	**0.0**	
	comp=Z,1.0nm,0.9s,baz=347,slow=2.9,SNR=16									
ILAR	**Eielson Array**	**76.88**	**355**	P		**P**		**13 59 30.1**	**0.0**	
DAWY	**Dawson**	**76.92**	**352**	*e*P		**P**		**13 59 30.9**	**+0.6**	
DAWY	**Dawson**	**76.92**	**352**	*e*P		**P**		**13 59 30.9**	**+0.6**	
DOT	**Dot Lake**	**77.78**	**354**	*e*P		P		13 59 23.5	-12	
MCK	**McKinley**	**78.04**	**356**	*e*P		**P**		**13 59 37.1**	**+0.6**	
MCK				pmax		pmax				
	comp=Z,6.0nm,0.9s									
MCK	**McKinley**	**78.04**	**356**	*e*P		**P**		**13 59 37.1**	**+0.6**	
	comp=Z,5.7nm,0.9s									
MCK	**McKinley**	**78.04**	**356**	*e*P		**P**		**13 59 37.1**	**+0.6**	
	comp=Z,5.7nm,0.9s									
KSAR	**Wonju Array Be**	**78.08**	**52**	P		**P**		**13 59 36.8**	**-0.4**	
KSAR	**Wonju Array Be**	**78.08**	**52**	P		**P**		**13 59 36.8**	**-0.4**	
KSRS	**Korea Array**	**78.10**	**52**	P		**P**		**13 59 36.8**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=310,slow=4.0,SNR=11									
KSRS	**Korea Array**	**78.10**	**52**	P		**P**		**13 59 36.8**	**-0.5**	
	comp=Z,2.0nm,0.6s									
JFWS	**Jewell Farm**	**78.64**	**316**	*e*P		**P**		**13 59 41.3**	**+1.0**	
JFWS				pmax		pmax				
	comp=Z,15nm,0.8s									
JFWS	**Jewell Farm**	**78.64**	**316**	*e*P		**P**		**13 59 41.2**	**+1.0**	
	comp=Z,15nm,0.8s									
JFWS	**Jewell Farm**	**78.64**	**316**	*e*P		**P**		**13 59 41.2**	**+1.0**	
	comp=Z,15nm,0.8s									
BLO	**Bloomington**	**79.01**	**311**	*e*P		**P**		**13 59 43.6**	**+1.3**	
BLO				pmax		pmax				
	comp=Z,30nm,0.9s									
BLO	**Bloomington**	**79.01**	**311**	*e*P		**P**		**13 59 43.6**	**+1.3**	
	comp=Z,30nm,0.9s									
BLO	**Bloomington**	**79.01**	**311**	*e*P		**P**		**13 59 43.6**	**+1.3**	
	comp=Z,30nm,0.9s									
PPLA	**Purkeypile**	**79.02**	**357**	*e*P		**P**		**13 59 43.1**	**+1.0**	
	comp=Z,18nm,1.4s									
PPLA	**Purkeypile**	**79.02**	**357**	*e*P		**P**		**13 59 43.1**	**+1.0**	
	comp=Z,18nm,1.4s									
WCI	**Wyandotte Cave**	**79.49**	**311**	*e*P		**P**		**13 59 46.2**	**+1.2**	
WCI				pmax		pmax				
	comp=Z,18nm,1.0s									
WCI	**Wyandotte Cave**	**79.49**	**311**	*e*P		**P**		**13 59 46.2**	**+1.2**	
	comp=Z,18nm,1.0s									
WCI	**Wyandotte Cave**	**79.49**	**311**	*e*P		**P**		**13 59 46.2**	**+1.2**	
	comp=Z,18nm,1.0s									
YSS	**Yuzh-Sakhalins**	**79.78**	**37**	*e*P		**P**		**13 59 46.2**	**-0.1**	
YSS	**Yuzh-Sakhalins**	**79.78**	**37**	*e*P		**P**		**13 59 46.2**	**-0.1**	
RC01	**Rabbit Creek A**	**80.72**	**356**	*e*P		**P**		**13 59 52.1**	**+0.9**	
	comp=Z,51nm,2.0s									
RC01	**Rabbit Creek A**	**80.72**	**356**	*e*P		**P**		**13 59 52.1**	**+0.9**	
	comp=Z,51nm,2.0s									
EDM	**Edmonton**	**81.08**	**335**	*e*P		**P**		**13 59 54.1**	**+0.8**	
EDM	**Edmonton**	**81.08**	**335**	*e*P		**P**		**13 59 54.1**	**+0.8**	
EDM	**Edmonton**	**81.08**	**335**	*e*P		**P**		**13 59 54.1**	**+0.8**	
ECSD	**EROS Data Cent**	**81.41**	**320**	*e*P		**P**		**13 59 56.3**	**+1.1**	
	comp=Z,8.2nm,0.7s									
ECSD	**EROS Data Cent**	**81.41**	**320**	*e*P		**P**		**13 59 56.3**	**+1.1**	
	comp=Z,8.2nm,0.7s									
LAO	**LASA Array**	**83.67**	**327**	*e*P		**P**		**14 00 08.8**	**+1.9**	
	comp=Z,8.8nm,0.8s									
LAO	**LASA Array**	**83.67**	**327**	*e*P		**P**		**14 00 08.9**	**+1.9**	
	comp=Z,8.8nm,0.8s									
BGNE	**Belgrade**	**83.88**	**319**	*e*P		**P**		**14 00 09.7**	**+1.6**	
	comp=Z,30nm,0.6s									
BGNE	**Belgrade**	**83.88**	**319**	*e*P		**P**		**14 00 09.7**	**+1.6**	
	comp=Z,30nm,0.6s									
EGMT	**Eagleton**	**84.05**	**330**	*e*P		**P**		**14 00 10.3**	**+1.4**	
	comp=Z,9.5nm,0.8s									
EGMT	**Eagleton**	**84.05**	**330**	*e*P		**P**		**14 00 10.3**	**+1.4**	
	comp=Z,9.5nm,0.8s									
KDAK	**Kodiak Island**	**84.15**	**357**	*e*P		**P**		**14 00 11.3**	**+2.2**	
KSU1	**Kansas State U**	**84.75**	**317**	*e*P		**P**		**14 00 14.0**	**+1.4**	
	comp=Z,13nm,0.6s									
KSU1	**Kansas State U**	**84.75**	**317**	*e*P		**P**		**14 00 14.0**	**+1.4**	
	comp=Z,13nm,0.6s									
WALA	**Waterton Lakes**	**84.76**	**333**	*e*P		**P**		**14 00 13.0**	**+0.4**	
	comp=Z,3.9nm,3.0s									
WALA	**Waterton Lakes**	**84.76**	**333**	*e*P		**P**		**14 00 13.0**	**+0.4**	
	comp=Z,3.9nm,3.0s									
MJAR	**Matsushiro Arr**	**84.83**	**47**	P		**P**		**14 00 12.1**	**-0.9**	
MJAR	**Matsushiro Arr**	**84.83**	**47**	P		**P**		**14 00 12.1**	**-0.9**	
	comp=Z,2.3nm,0.9s,baz=306,slow=4.7,SNR=4.0									
MJAR	**Matsushiro Arr**	**84.83**	**47**	P		**P**		**14 00 12.1**	**-0.9**	
BDFB	**Brasilia**	**84.90**	**246**	LR		LR		14 37 39.4		
	comp=Z,33nm,20.0s,baz=86,slow=35									
YBMT	**Yellow Bay**	**85.80**	**332**	*e*P		**P**		**14 00 19.0**	**+1.2**	
YBMT	**Yellow Bay**	**85.80**	**332**	*e*P		**P**		**14 00 19.0**	**+1.2**	
HRY	**Holter Researc**	**85.93**	**330**	*e*P		**P**		**14 00 19.9**	**+1.5**	
HRY	**Holter Researc**	**85.93**	**330**	*e*P		**P**		**14 00 20.0**	**+1.5**	
JTMT	**Jette**	**85.99**	**332**	*e*P		**P**		**14 00 20.1**	**+1.2**	
JTMT	**Jette**	**85.99**	**332**	*e*P		**P**		**14 00 20.0**	**+1.2**	
SWMT	**Swartz Lake**	**86.09**	**332**	*e*P		**P**		**14 00 20.4**	**+1.2**	
SWMT	**Swartz Lake**	**86.09**	**332**	*e*P		**P**		**14 00 20.4**	**+1.2**	
MIAR	**Mount Ida**	**86.29**	**312**	*e*P		**P**		**14 00 22.3**	**+2.0**	
MIAR				pmax		pmax				
	comp=Z,24nm,1.4s									
MIAR	**Mount Ida**	**86.29**	**312**	*e*P		**P**		**14 00 22.3**	**+2.0**	
	comp=Z,24nm,1.4s									
MIAR	**Mount Ida**	**86.29**	**312**	*e*P		**P**		**14 00 22.3**	**+2.0**	
	comp=Z,24nm,1.4s									
NEW	**Newport**	**86.56**	**334**	*e*P		**P**		**14 00 22.5**	**+1.1**	
	comp=Z,95nm,2.9s									
NEW	**Newport**	**86.56**	**334**	*e*P		**P**		**14 00 22.5**	**+1.1**	
	comp=Z,95nm,2.9s									
TUL1	**Tulsa**	**86.59**	**314**	*e*P		**P**		**14 00 23.3**	**+1.5**	
TUL1	**Tulsa**	**86.59**	**314**	*e*P		**P**		**14 00 23.3**	**+1.5**	
BOZ	**Bozeman (W)**	**86.73**	**330**	*e*P		**P**		**14 00 24.2**	**+1.7**	
BOZ				pmax		pmax				
	comp=Z,51nm,2.8s									
BOZ	**Bozeman (W)**	**86.73**	**330**	*e*P		**P**		**14 00 24.2**	**+1.7**	
	comp=Z,51nm,2.8s									
BOZ	**Bozeman (W)**	**86.73**	**330**	*e*P		**P**		**14 00 24.2**	**+1.7**	
	comp=Z,51nm,2.8s									
C09A	**Chrisman Ranch**	**87.35**	**335**	*e*P		**P**		**14 00 26.2**	**+1.0**	
	comp=Z,6.0nm,0.8s									
C09A	**Chrisman Ranch**	**87.35**	**335**	*e*P		**P**		**14 00 26.2**	**+1.0**	
	comp=Z,6.0nm,0.8s									
PHWY	**Pilot Hill**	**87.55**	**323**	*e*P		**P**		**14 00 27.8**

IANJ	**Anjilo**	**3.38**	**239**	*e*Pn	**Pn**	**13 50 59.3 +1.2**
IANJ				*e*		13 51 56.4
	comp=Z,1μm,0.3s					
IANJ	**Anjilo**	**3.38**	**239**	*e*Pn	**Pn**	**13 50 59.3 +1.2**
ISHM	**Shahmirzad**	**3.66**	**247**	*e*Pn	**Pn**	**13 51 03.6 +1.6**
ISHM				*e*		13 52 03.3
	comp=Z,2μm,0.3s					
ISHM	**Shahmirzad**	**3.66**	**247**	*e*Pn	**Pn**	**13 51 03.6 +1.6**
ILAS	**Lasjerd**	**4.10**	**244**	*e*Pn	**Pn**	**13 51 08.8 +0.9**
ILAS				*e*		13 52 25.5
	comp=Z,697nm,0.4s					
ILAS	**Lasjerd**	**4.10**	**244**	*e*Pn	**Pn**	**13 51 08.8 +0.9**
IFIR	**Firoozkooh**	**4.13**	**248**	*e*		13 51 12.3
	comp=Z,590nm,0.1s					
IFIR				*e*Pn	**Pn**	**13 51 09.7 +1.3**
IKOO	**Kooshah**	**5.01**	**165**	*e*Pn	**Pn**	**13 51 21.2 +0.7**
IKOO				*e*		13 52 56.3
	comp=Z,291nm,0.5s					
IKOO	**Kooshah**	**5.01**	**165**	*e*Pn	**Pn**	**13 51 21.3 +0.7**
IVRN	**Varamin**	**5.17**	**245**	*e*Pn	**Pn**	**13 51 23.1 +0.6**
IVRN	**Varamin**	**5.17**	**245**	*e*Pn	**Pn**	**13 51 23.1 +0.6**
IGZV	**Ghazvin**	**5.87**	**263**	*e*Pn	**Pn**	**13 51 34.3 +2.0**
IGZV				*e*		13 52 46.7
	comp=Z,164nm,0.2s					
IGZV	**Ghazvin**	**5.87**	**263**	*e*Pn	**Pn**	**13 51 34.3 +2.0**
IBAF	**Bafgh**	**5.89**	**196**	*e*Pn	**Pn**	**13 51 33.1 +0.6**
IBAF	**Bafgh**	**5.89**	**196**	*e*Pn	**Pn**	**13 51 33.1 +0.6**
IZEF	**Zefreh**	**6.07**	**225**	*e*Pn	**Pn**	**13 51 36.2 +1.2**
IZEF	**Zefreh**	**6.07**	**225**	*e*Pn	**Pn**	**13 51 36.2 +1.2**
IHRS	**Heris**	**8.31**	**280**	*e*Pn	**Pn**	**13 52 06.0 +0.3**
IHRS	**Heris**	**8.31**	**280**	*e*Pn	**Pn**	**13 52 06.0 +0.3**
GNI	**Garni**	**10.34**	**290**	LR	LR	13 58 23.1
	comp=Z,126nm,19.4s,baz=292,slow=48					
AB31	**Akbulak array**	**12.10**	**8**	Pn	**Pn**	**13 52 56.0 -1.4**
	comp=Z,2.1nm,0.8s,baz=189,slow=11,SNR=22					
AB31				⇑Sn	**Sn**	**13 55 10.6 -1.4**
	comp=Z,1.8nm,0.6s,baz=186,slow=23,SNR=5.1					
AB31	**Akbulak array**	**12.10**	**8**	Pn	**Pn**	**13 52 56.0 -1.4**
	comp=Z,2.1nm,0.8s,baz=189,SNR=22					
AB31				Sn	**Sn**	**13 55 10.6 -1.4**
	comp=Z,1.8nm,0.6s,baz=186,SNR=5.1					
KBZ	**Khabaz**	**12.80**	**305**	LR	LR	13 59 49.6
	comp=Z,80nm,19.4s,baz=280,slow=46					
AKTO	**Aktyubinsk**	**13.15**	**2**	⇑Pn	**Pn**	**13 53 11.7 0.0**
	comp=Z,1.2nm,0.4s					
AKTO				⇓Sn	**Sn**	**13 55 35.4 -2.3**
	comp=Z,3.5nm,0.8s					
AKTO	**Aktyubinsk**	**13.15**	**2**	Pn	**Pn**	**13 53 11.4 -0.3**
	comp=Z,0.9nm,0.3s,baz=177,slow=9.5,SNR=15					
AKTO				Sn	**Sn**	**13 55 34.0 -3.8**
	comp=Z,0.3nm,0.3s,baz=335,slow=19,SNR=3.1					
AKTO	**Aktyubinsk**	**13.15**	**2**	Pn	**Pn**	**13 53 11.7 0.0**
	comp=Z,1.2nm,0.4s					
AKTO				Sn	**Sn**	**13 55 35.4 -2.3**
	comp=Z,3.5nm,0.8s					
AAK	**Ala-Archa**	**14.11**	**62**	Pn	**Pn**	**13 53 23.3 -1.7**
	comp=Z,0.2nm,0.3s,baz=273,slow=5.6,SNR=4.7					
BVA0	**Borovoye Array**	**18.14**	**26**	P	**P**	**13 54 18.5 +1.4**
	comp=Z,2.4nm,0.6s,baz=212,slow=11,SNR=13					
BVA0	**Borovoye Array**	**18.14**	**26**	P	**P**	**13 54 18.5 +1.4**
	comp=Z,2.4nm,0.6s,SNR=13					
BVAR	**Borovoye Array**	**18.14**	**26**	P	**Pn**	**13 54 16.0 -0.8**
	comp=Z,0.8nm,0.3s,baz=205,slow=12,SNR=10					
MKAR	**Makanchi Array**	**20.67**	**55**	P	Pn	13 54 46.4 -0.8
	comp=Z,0.9nm,0.7s,baz=245,slow=10,SNR=11					
ZALV	**Zalesovo Beam**	**25.14**	**40**	P	**P**	**13 55 32.4 +2.4**
	comp=Z,1.2nm,0.5s,baz=243,slow=10,SNR=8.2					
CMAR	**Chiang Mai Arr**	**40.80**	**106**	P	**P**	**13 57 48.2 +1.6**
	comp=Z,1.0nm,0.3s,baz=300,slow=8.3,SNR=9.8					
PMG	**Port Moresby**	**95.39**	**98**	LR	LR	14 48 35.3
	comp=Z,82nm,21.9s,baz=312,slow=37					

IDC 30 14:00:37.0±4.5, 18°66S×169°09E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/28, mbtmp3.8/6, ML2.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/25, Error ellipse: s-maj=110.3km s-min=30.2km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.20**	**216**	Pn	Pn	14 01 40.6	-1.9
	0.7nm,0.3s,baz=122,slow=15,SNR=13						
DZM				Sn	Sn	14 02 31.1	-1.3
	1.4nm,0.3s,baz=348,slow=19,SNR=4.1						
DZM				LR	LR	14 03 10.5	
	comp=Z,180nm,21.7s,baz=28,slow=37						
STKA	**Stephens Creek**	**28.03**	**237**	P	P	14 06 30.6	+0.6
	1.1nm,0.6s,baz=45,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**32.78**	**262**	P	P	14 07 11.9	-0.3
	0.7nm,1.0s,baz=88,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**33.13**	**255**	P	P	14 07 15.8	+0.6
	1.1nm,0.5s,baz=82,slow=8.6,SNR=30						
ASAR				LR	LR	14 21 01.2	
	comp=Z,58nm,18.0s,baz=102,slow=37						
CMAR	**Chiang Mai Arr**	**78.14**	**294**	P	P	14 12 38.8	+0.2
	0.5nm,0.6s,baz=145,slow=3.3,SNR=5.3						
SONM	**Songino Array**	**86.67**	**323**	P	P	14 13 22.5	-0.3
	0.8nm,0.8s,baz=111,slow=6.3,SNR=5.9						

*IDC **30** 14:03:28.8±1.1, 28°.08N×87°.90E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/39, mbtmp3.6/8, ML3.4/1, Error ellipse: s-maj=46.7km s-min=18.6km az=57.0*
*ISCJB **30** 14:03:35.4±0.8, 28°.1N±0°.1×88°.1E±0°.2, h71km, mb3.6/7, Error ellipse: s-maj=26.9km s-min=7.3km az=143.8*
ISC 30 14:03:37.0±1.0, 28°.0N±0°.2×88°.1E±0°.2, h71km, n10, σ1@38/11, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Gangtok**	**0.85**	**144**	*e*P	**Pn**	**14 03 52.5**	**-1.5**
GTK				*e*S	**Sn**	**14 04 06.0**	**-0.5**
SHL	**Shillong**	**4.21**	**125**	*e*PN	Pn	14 04 44.0	+5.1
SHL				*e*SN	**Sn**	**14 05 26.5**	**-0.4**
MKAR	**Makanchi Array**	**19.27**	**348**	P	**P**	**14 07 54.6**	**-1.3**
	0.1nm,0.3s,baz=171,slow=11,SNR=9.0						
KURBB	**Kurchatov Arra**	**23.70**	**345**	P	**P**	**14 08 41.1**	**-1.1**
	0.8nm,0.2s,baz=168,slow=9.5,SNR=11						
SONM	**Songino Array**	**24.38**	**31**	P	**P**	**14 08 49.4**	**+0.8**
	0.4nm,0.4s,baz=216,slow=9.9,SNR=5.5						
FINES	**FINESS Array B**	**52.45**	**328**	P	**P**	**14 12 41.3**	**-0.8**
	1.3nm,0.9s,baz=80,slow=16,SNR=3.0						
ARCES	**ARCESS Array B**	**54.48**	**337**	P	**P**	**14 12 56.5**	**-0.5**
	2.5nm,0.7s,baz=101,slow=7.4,SNR=11						
GERES	**GERESS Array B**	**59.44**	**312**	P	**P**	**14 13 33.3**	**+0.8**
	0.2nm,0.4s,baz=84,slow=9.1,SNR=3.8						
WRA	**Warramunga Arr**	**65.40**	**132**	P	**P**	**14 14 14.2**	**+1.8**
	0.2nm,0.5s,baz=327,slow=6.7,SNR=6.0						
ASAR	**Alice Springs**	**67.79**	**135**	P	**P**	**14 14 29.6**	**+2.1**
	0.2nm,0.4s,baz=316,slow=6.0,SNR=8.8						

*ISCJB **30** 14:31:51.7±0.5, 0°.42S±0°.06×127°.02E±0°.04, h33km, mb4.1/5, Error ellipse: s-maj=8.4km s-min=5.6km az=10.3*
*IDC **30** 14:31:53.0±2.6, 0°.47S×127°.01E, h43km±22km, mb3.8/6, mb1 4.0/6, mb1mx3.5/31, mbtmp4.1/6, Error ellipse: s-maj=57.9km s-min=17.2km az=73.0*
*DJA **30** 14:31:52.3±0.8, 0°.S±4°×12°.7E±°, h12km±8km, M4.4/10, mb4.6/6, mB5.0/4, MLv4.3/10, Mw(mB)4.3/4, Mwp5.1/1*
ISC 30 14:31:52.6±0.7, 0°.42S±0°.07×127°.10E±0°.06, h35km, n33, σ1@37/31, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.46**	**119**	P	**Pn**	**14 32 03.1**	**+0.4**
TNTI	**Ternate**	**1.21**	**13**	P	**Pn**	**14 32 14.4**	**+1.3**
SANI	**Sanana**	**1.96**	**214**	P	**Pn**	**14 32 21.9**	**-1.6**
NLAI	**Namlea**	**2.80**	**180**	P	**Pn**	**14 32 35.5**	**+0.5**
KMSI	**Cibinong**	**3.27**	**288**	P	**Pn**	**14 32 42.7**	**+1.3**
MSAI	**Masohi**	**3.44**	**148**	P	Pn	14 32 47.3	+3.6
SWI	**Sorong**	**4.19**	**96**	P	Pn	14 32 57.6	+3.6
GTOI	**Gorontalo**	**4.22**	**284**	P	Pn	14 32 58.4	+3.9
LUWI	**Luwuk**	**4.37**	**262**	P	**Pn**	**14 32 55.5**	**-1.0**
LUWI	**Luwuk**	**4.37**	**262**	P	**Pn**	**14 32 56.0**	**-0.5**
	baz=4.3,SNR=7.5						
LUWI				S	**Sn**	**14 33 48.5**	**+2.2**
	baz=4.3,SNR=3.2						
MRSI	**Marisa**	**5.23**	**280**	P	**Pn**	**14 33 08.4**	**0.0**
	35nm,0.9s,565nm						
APSI	**Ampana**	**5.47**	**265**	P	**Pn**	**14 33 11.6**	**-0.1**
	69nm,0.5s,2μm4μm						
FAKI	**Fak Fak**	**5.72**	**116**	P	**Pn**	**14 33 16.7**	**+1.6**
	45nm,1.0s						
FAKI	**Fak Fak**	**5.72**	**116**	P	**Pn**	**14 33 16.6**	**+1.4**
	baz=5.8,SNR=20						

TTSI	**Tana Toraja**	**7.73**	**250**	P	**Pn**	**14 33 42.5 -0.2**
	33nm,0.9s,694nm					
BNSI	**Bone**	**8.03**	**240**	P	**Pn**	**14 33 47.4 +0.6**
	19nm,1.3s					
SPSI	**Sidrap Palu**	**8.12**	**244**	P	**Pn**	**14 33 48.9 +0.7**
BKSI	**Bulukumba**	**8.50**	**235**	P	**Pn**	**14 33 55.8 +2.5**
MTN	**Manton Dam**	**12.98**	**162**	P	**Pn**	**14 34 53.8 -0.9**
	baz=13,SNR=5.4					
KDU	**Kakadu**	**13.30**	**157**	P	**Pn**	**14 34 57.5 -1.6**
	baz=13,SNR=4.8					
KNRA	**Kununurra**	**15.25**	**174**	P	**P**	**14 35 29.3 -0.7**
	baz=15,SNR=3.4					
WRA	**Warramunga Arr**	**20.66**	**160**	P	**P**	**14 36 28.0 -1.6**
	2.8nm,0.4s,baz=340,slow=11,SNR=51					
WRA				ScP	**ScP**	**14 44 10.9 -2.4**
	0.3nm,0.5s,baz=331,slow=2.5,SNR=8.3					
COEN	**Coen**	**20.84**	**131**	P	Pn	14 36 34.7 +0.5
	baz=21,SNR=5.0					
QIS	**Mount Isa**	**23.46**	**149**	P	**P**	**14 37 01.6 +2.5**
	baz=24,SNR=4.7					
ASAR	**Alice Springs**	**24.04**	**165**	P	**P**	**14 37 04.1 -0.5**
	1.5nm,0.4s,baz=345,slow=12,SNR=70					
ASAR				ScP	**ScP**	**14 44 19.8 -2.2**
	0.3nm,0.5s,baz=341,slow=2.4,SNR=9.3					
WRKA	**Warakurna**	**24.50**	**177**	P	**P**	**14 37 09.4 +0.5**
	baz=25,SNR=7.5					
LHMI	**Lhok Sumawe**	**30.63**	**281**	P	P	14 37 54.8 -9.1
	baz=31,SNR=4.0					
RMQ	**Roma**	**33.27**	**143**	P	**P**	**14 38 28.4 +1.5**
	baz=33,SNR=9.1					
STKA	**Stephens Creek**	**34.16**	**158**	P	**P**	**14 38 34.8 +0.2**
	1.3nm,0.8s,baz=333,slow=13,SNR=2.9					
SONM	**Songino Array**	**51.33**	**342**	P	**P**	**14 40 53.5 -0.1**
	0.3nm,0.4s,baz=157,slow=8.0,SNR=4.8					
PETK	**Petropavlovsk-**	**59.13**	**21**	P	**P**	**14 41 49.4 -0.2**
	3.8nm,0.9s,baz=174,slow=5.7,SNR=8.2					
MKAR	**Makanchi Array**	**61.17**	**326**	P	**P**	**14 42 02.9 -0.9**
	2.2nm,0.3s,baz=115,slow=7.9,SNR=132					
TORD	**Torodi Ar. Bea**	**124.47**	**286**	PKP	**PKPdf**	**14 50 48.2 -1.1**
	0.2nm,0.4s,baz=78,slow=1.5,SNR=4.7					

IDC 30 14:47:36.1±4.5, 18°.77S×169°.20E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/24, mbtmp3.8/6, ML3.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/24, Error ellipse: s-maj=114.7km s-min=29.3km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.18**	**218**	Pn	Pn	14 48 40.5	-0.8
	1.2nm,0.3s,baz=115,slow=19,SNR=11						
DZM				Sn	Sn	14 49 31.1	+0.2
	2.3nm,0.3s,baz=302,slow=21,SNR=3.1						
DZM				LR	LR	14 49 57.0	
	comp=Z,68nm,18.2s,baz=28,slow=34						
PMG	**Port Moresby**	**23.29**	**291**	LR	LR	15 00 06.6	
	comp=Z,87nm,18.3s,baz=264,slow=32						
STKA	**Stephens Creek**	**28.06**	**237**	P	P	14 53 30.0	+0.6
	1.0nm,0.6s,baz=72,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**32.87**	**262**	P	P	14 54 11.7	-0.4
	1.0nm,1.1s,baz=83,slow=8.2,SNR=2.5						
ASAR	**Alice Springs**	**33.20**	**255**	P	P	14 54 15.3	+0.3
	1.4nm,0.5s,baz=82,slow=8.6,SNR=34						
CMAR	**Chiang Mai Arr**	**78.28**	**294**	P	P	14 59 38.4	-0.1
	0.4nm,0.9s,baz=74,slow=3.9,SNR=3.4						
SONM	**Songino Array**	**86.82**	**323**	P	P	15 00 22.5	-0.1
	0.5nm,0.8s,baz=315,slow=0.4,SNR=3.5						
MKAR	**Makanchi Array**	**101.38**	**316**	P	Pdif	15 01 29.0	-0.4
	0.2nm,0.5s,baz=112,slow=3.0,SNR=2.3						

*MDD **30** 15:02:19.1±3.9, 32°.74N×6°.70W, h0km, mb3.6/4, Error ellipse: s-maj=47.8km s-min=34.4km az=89.0, PRXIMO*
*INMG **30** 15:02:20.7±0.4, 32°.91N×6°.63W, h0km, ML1.9, Error ellipse: s-maj=4.4km s-min=2.5km az=176.0*
CSEM 30 15:02:22.4±0.5, 32°.99N×6°.70W, h10km, ML1.9, Error ellipse: s-maj=11.9km s-min=8.8km az=84.0, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVAQ	**Vaqueiros**	**4.48**	**350**	*e*Pn	Pn	15 03 30.4	+0.1
PVAQ				*e*Sn	Sn	15 04 22.1	-0.4
PVAQ				A	A	15 04 23.9	
	1.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.48**	**350**	P	Pn	15 03 30.4	+0.1
PVAQ				S	Sn	15 04 22.1	-0.4
	1.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.48**	**350**	P	Pn	15 03 30.4	+0.1
PVAQ				S	Sn	15 04 22.1	-0.4
	1.8nm,0.3s						
PFVI	**Vila Bisbo**	**4.48**	**338**	*e*Pn	Pn	15 03 30.3	-0.1
PFVI	**Vila Bisbo**	**4.48**	**338**	P	Pn	15 03 30.2	-0.2
	2.4nm,0.1s,SNR=5.9						
PFVI				S	Sn	15 04 22.0	-0.6
	0.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.48**	**338**	*e*Pn	Pn	15 03 30.3	-0.1
PFVI				S	Sn	15 04 22.0	-0.6
	0.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.58**	**352**	P	Pn	15 03 32.0	+0.4
	0.9nm,0.2s,SNR=7.9						
EGRO				S	Sn	15 04 25.6	+0.7
	2.4nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.58**	**352**	P	Pn	15 03 32.0	+0.3
	0.9nm,0.2s,SNR=7.9						
EGRO				S	Sn	15 04 25.6	+0.7
	2.4nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.76**	**0**	P	Pn	15 03 34.2	0.0
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	15 04 30.9	+1.4
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.76**	**0**	P	Pn	15 03 34.2	-0.1
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	15 04 30.9	+1.3
	0.4nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.83**	**341**	*e*Pn	Pn	15 03 35.4	+0.2
PTEO	**Sao Teotonio**	**4.83**	**341**	P	Pn	15 03 35.4	+0.2
PTEO	**Sao Teotonio**	**4.83**	**341**	P	Pn	15 03 35.4	+0.2
ECAB	**El Cabril**	**5.18**	**11**	P	Pn	15 03 39.8	-0.2
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 04 39.0	-0.9
	0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.18**	**11**	P	Pn	15 03 39.8	-0.2
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 04 39.0	-0.9
	0.5nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.32**	**344**	*e*Pn	Pn	15 03 41.7	-0.2
PNCL				*e*Sn	Sn	15 04 42.7	-0.5
PNCL	**Nicolau / Gran**	**5.32**	**344**	*e*Pn	Pn	15 03 41.7	-0.2
PNCL				*e*Sn	Sn	15 04 42.7	-0.5

*IDC **30** 15:06:49.8±1.1, 36°.73N×142°.12E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/33, mbtmp3.5/8, ML3.7/2, Error ellipse: s-maj=28.1km s-min=20.9km az=84.0*
*JMA **30** 15:06:53.3±0.2, 36°.82N×142°.01E, h24km±3km, M3.6*
ISC 30 15:06:50.1±2.8, 36°.78N±0°.07×142°.05E±0°.07, h1km±17km, n21, σ1@23/24, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.05**	**288**	P	**Pn**	**15 07 11.9**	**-0.1**
JFK	**Kawauchi**	**1.11**	**302**	P	**Pb**	**15 07 12.7**	**+0.7**
JHO	**Hitachi**	**1.20**	**262**	P	**Pn**	**15 07 14.3**	**+0.3**
JHO				*e*S	**Sg**	**15 07 29.3**	**+0.6**
JMM	**Marumori**	**1.48**	**318**	P	**Pn**	**15 07 17.8**	**0.0**
JMM				S	**Sn**	**15 07 35.8**	**-1.9**
JFT	**Otama**	**1.56**	**299**	P	**Pb**	**15 07 20.0**	**+0.3**
JIO	**Ouri**	**1.76**	**342**	P	**Pn**	**15 07 21.8**	**+0.1**
JOU	**Okura**	**1.93**	**326**	P	**Pn**	**15 07 25.4**	**+1.4**
JOU				*e*S	**Sn**	**15 07 48.9**	**0.0**
JFY	**Yanaizu**	**1.98**	**289**	P	**Pb**	**15 07 26.5**	**-0.4**
JFY				*e*S	**Sn**	**15 07 50.6**	**+0.5**
JAG	**Ashikaga**	**2.12**	**261**	P	**Pn**	**15 07 28.0**	**+1.4**
MJAR	**Matsushiro Arr**	**3.10**	**267**	Pn	**Pn**	**15 07 42.3**	**+2.2**
	4.7nm,0.3s,baz=151,slow=20,SNR=115						
MJAR				Sn	**Sb**	**15 08 22.4**	**-1.8**
	3.5nm,0.3s,baz=225,slow=11,SNR=5.2						
MAT	**Matsushiro**	**3.10**	**267**	P	**Pb**	**15 07 43.2**	**-2.8**
MAT				*e*S	**Sn**	**15 08 17.8**	**0.0**
ASAJ	**Asahikawa**	**7.34**	**3**	Pn	**Pn**	**15 08 37.6**	**-0.7**
	1.6nm,0.3s,baz=218,slow=9.2,SNR=19						
H11N2	**WAKE ISLAND Hy**	**27.58**	**121**	T	T	15 42 03.4	
	baz=82,slow=74,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**27.59**	**121**	T	T	15 41 48.8	
	baz=317,slow=74,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**27.60**	**121**	T	T	15 42 28.2	
	SNR=7.1						
SONM	**Songino Array**	**28.35**	**304**	P	**P**	**15 12 47.0**	**+1.4**
	0.8nm,0.7s,baz=105,slow=8.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**15 14 45.4**	**-1.0**
	0.3nm,0.4s,baz=92,slow=7.2,SNR=2.6						
MKAR	**Makanchi Array**	**44.69**	**302**	P	**P**	**15 15 04.9**	**+0.5**
	0.2nm,0.7s,baz=91,slow=10.0,SNR=3.7						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**15 15 42.2**	**+1.0**
	0.5nm,0.7s,baz=265,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**56.88**	**189**	P	**P**	**15 16 36.4**	**-0.2**
	0.6nm,0.8s,baz=7.8,slow=7.7,SNR=5.1						
ASAR	**Alice Springs**	**60.61**	**189**	P	**P**	**15 17 01.4**	**-1.0**
	0.4nm,0.9s,baz=3.5,slow=6.3,SNR=3.0						

*NEIC **30** 15:27:07.8±0.9, 19°.22S×173°.47W, h10km, mb4.7/4, Error ellipse: s-maj=24.5km s-min=10.6km az=118.0*
*IDC **30** 15:27:07.5±6.8, 19°.17S×173°.60W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/26, mbtmp4.0/4, Error ellipse: s-maj=285.3km s-min=34.8km az=144.0*
*ISCJB **30** 15:27:08.1±1.1, 19°.3S±0°.1×173°.4W±0°.2, h28km, mb4.3/7, Error ellipse: s-maj=30.7km s-min=12.8km az=27.1*
ISC 30 15:27:10.2±1.2, 19°.2S±0°.1×173°.4W±0°.2, h28km, n18, σ1@03/18, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.53**	**17**	Pn	**Pn**	**15 28 29.5**	**-1.3**
RAO	**Raoul Island**	**10.78**	**201**	Pn	**Pn**	**15 29 42.2**	**-0.5**
ARMA	**Armidale**	**33.48**	**244**	*e*P	**P**	**15 33 47.4**	**0.0**
	4.9nm,1.1s						
CAN	**Canberra**	**36.79**	**236**	*e*P	**P**	**15 34 16.6**	**+0.9**
	18nm,1.4s						
CTA	**Charters Tower**	**37.91**	**262**	P	**P**	**15 34 26.6**	**+1.2**
CTA	**Charters Tower**	**37.91**	**262**	P	**P**	**15 34 26.6**	**+1.2**
	8.4nm,1.5s,baz=102,slow=10,SNR=4.8						
CTAO	**Charters Tower**	**37.91**	**262**	*e*P	**P**	**15 34 24.4**	**-1.1**
	21nm,1.4s						
STKA	**Stephens Creek**	**42.21**	**244**	P	**P**	**15 34 59.2**	**-1.7**
AS31	**Alice Springs**	**49.00**	**255**	*e*P	**P**	**15 35 54.5**	**-0.4**
ASAR	**Alice Springs**	**49.00**	**255**	P	**P**	**15 35 54.2**	**-0.6**
ASAR	**Alice Springs**	**49.00**	**255**	P	**P**	**15 35 54.2**	**-0.6**
	0.7nm,0.6s,baz=91,slow=7.3,SNR=31						
WRAB	**Tennant Creek**	**49.04**	**260**	P	**P**	**15 35 55.4**	**+0.3**
	10nm,1.3s						
WRA	**Warramunga Arr**	**49.05**	**260**	P	**P**	**15 35 55.1**	**-0.1**
WRA	**Warramunga Arr**	**49.05**	**260**	P	**P**	**15 35 55.1**	**-0.1**
	0.8nm,0.5s,baz=94,slow=8.2,SNR=5.2						
KKM	**Kota Kinabalu**	**73.64**	**283**	P	**P**	**15 38 42.1**	**+0.2**
MAW	**Mawson**	**84.17**	**199**	P	**P**	**15 39 38.4**	**-0.1**
ILAR	**Eielson Array**	**86.19**	**11**	P	**P**	**15 39 50.1**	**+1.6**
ILAR	**Eielson Array**	**86.19**	**11**	P	**P**	**15 39 50.1**	**+1.6**
	0.5nm,1.1s,baz=205,slow=6.0,SNR=2.6						

*ISCJB **30** 15:48:02.0±0.8, 32°.03N±0°.07×138°.9E±0°.1, h295km, mb2.9/4, Error ellipse: s-maj=12.7km s-min=9.2km az=5.7*
*IDC **30** 15:48:02.8±5.4, 32°.03N×139°.01E, h289km±186km, mb2.7/4, mb1 2.8/6, mb1mx2.7/38, mbtmp3.4/6, Error ellipse: s-maj=448.3km s-min=17.5km az=64.0*
*JMA **30** 15:48:03.7±0.3, 32°.12N×138°.87E, h284km, M2.8*
ISC 30 15:48:03.4±1.1, 32°.11N±0°.10×138°.96E±0°.09, h295km, n14, σ1@80/16, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.23**	**36**	P	**Pn**	**15 48 44.3**	**0.0**
JIE	**Ise**	**2.96**	**321**	P	**Pn**	**15 48 58.3**	**0.0**
BSO3	**Boso 3**	**2.98**	**25**	P	**Pn**	**15 48 58.7**	**+0.5**
BSO1	**Boso 1**	**3.05**	**33**	S	**S**	**15 49 42.6**	**-0.1**
JKN2	**Miekihoku**	**3.10**	**314**	P	**Pn**	**15 48 59.1**	**-0.5**
JKN2				*e*S	**S**	**15 49 42.2**	**-2.4**
JOD2	**Odawara 2**	**3.15**	**2**	*e*S	**S**	**15 49 45.0**	**-0.6**
JWY	**Kouya**	**3.52**	**308**	P	**Pn**	**15 49 03.9**	**-0.3**
JYT	**Yasato**	**4.23**	**14**	*e*S	**S**	**15 50

NEIC ***30*** *15:59:42.1±1.5,2.˙36N×126.˙72E,h16km±9km,mb5.3/22, Error ellipse: s-maj=6.3km s-min=4.3km az=74.0*
BJI ***30*** *15:59:42.3,1.˙97N×126.˙78E,h46km,mB5.3/49,mb5.2/73, Ms4.7/71,Ms7 4.6/66*
GCMT ***30*** *15:59:42.1±0.1,2.˙52N×126.˙70E,h33km,MW5.4/98, Moment Tensor Solution. s91,c140; s98,c173; Duration: †s2 Moment tensor: Scale 10¹⁷Nm; Mrr1.39±.03; Mθθ0.04±.02; Mϕϕ-1.43±.02; Mrθ0.07±.03; Mθϕ-0.48±.02; Mϕr-0.67±.03; Best double couple: Mo1.62900×10¹⁷ NP1ϕs186.00000°,δ57.00000°, λ78.00000°. NP2ϕs27.00000°,δ35.00000°,λ108.00000°. Principal axes: T 1.5610, Plg75.0000°, Azm63.0000°; N 0.1390, Plg10.0000°, Azm193.0000°; P -1.6970, Plg11.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***30*** *15:59:43.3±1.0,2.˙34N×126.˙74E,h33km,mb5.6/48, MS4.3/4 Error ellipse: s-maj=9.6km s-min=4.8km az=114.0*
IDC ***30*** *15:59:43.1±2.3,2.˙33N×126.˙73E,h20km±14km,mb5.1/37, mb1 5.1/38,mb1mx5.1/42,mbtmp5.2/38,ML4.0/1,MS4.2/17, Ms1 4.2/17,ms1mx4.1/26,Error ellipse: s-maj=13.9km s-min=8.5km az=76.0*
KLM ***30*** *15:59:46.4,2.˙68N×127.˙10E,h61km,mb5.4,MS5.9*
ISCJB ***30*** *15:59:46.0±0.3,2.˙39N±0.˙02×126.˙87E±0.˙02,h59km±3km, mb5.3/162,MS4.4/41,Error ellipse: s-maj=3.7km s-min=2.6km az=165.5*
DJA ***30*** *15:59:49.8±0.2,2.˚N±2.˚×12.˚7E±.˚,h54km±3km,M5.3/93, mb5.5/93,mB5.7/78,MLv5.6/16,Mw(mB)5.3/78,Mwp5.6/2*
ISC 30 15:59:46.7±0.3,2.˙35N±0.˙03×126.˙84E±0.˙04,h49km±2km, h48km:pP-P,n705,σ1§44/791,mb5.3/157,MS4.3/41, 59C-44D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.66**	**161**	P	**Pn**	**16 00 12.7**	**-0.7**
TNTI				S	**Sn**	**16 00 33.2**	**-0.4**
SGSI	**Sangihe**	**1.86**	**315**	P	**Pn**	**16 00 15.3**	**-0.9**
SGSI				S	**Sn**	**16 00 41.1**	**+2.6**
LBMI	**Labuha**	**3.05**	**167**	P	**Pn**	**16 00 34.1**	**+1.6**
LBMI				S	Sn	16 01 15.1	+7.4
KMSI	**Cibinong**	**3.36**	**238**	P	**Pn**	**16 00 38.2**	**+1.5**
GSPH	**General Santos**	**4.16**	**333**	↑*e*P	**Pn**	**16 00 47.3**	**-0.6**
GTOI	**Gorontalo**	**4.19**	**246**	P	**Pn**	**16 00 49.3**	**+1.2**
SANI	**Sanana**	**4.46**	**191**	P	**Pn**	**16 00 51.3**	**-0.5**
MATI	**Mati**	**4.60**	**353**	*e*P	**Pn**	**16 00 54.7**	**+0.9**
MATI				*e*S	Sn	16 01 52.9	+7.0
DMPH	**Davao City--Mi**	**4.88**	**344**	↓*e*P	**Pn**	**16 00 57.2**	**-0.4**
KCP	**Kidapawan**	**4.94**	**339**	↓*e*P	**Pn**	**16 00 59.8**	**+1.2**
MRSI	**Marisa** 2µm,0.7s,15µm5.9nm	**5.24**	**249**	P	**Pn**	**16 01 04.9**	**+2.4**
LUWI	**Luwuk** 3µm,1.0s,30µm15nm	**5.28**	**230**	P	Pn	16 01 07.9	+4.8
SWI	**Sorong** 340nm,1.9s,5µm1.6nm	**5.46**	**126**	P	**Pn**	**16 01 07.5**	**+1.9**
CTBH	**Cotabato--PC H**	**5.48**	**332**	*e*P	**Pn**	**16 01 05.9**	**0.0**
CTBH				*i* S	**Sn**	**16 02 08.2**	**+0.6**
NLAI	**Namlea** 543nm,0.9s,4µm2.0nm	**5.56**	**177**	P	**Pn**	**16 01 08.4**	**+1.4**
BUKP	**Musuan**	**5.76**	**342**	*e*P	**Pn**	**16 01 11.4**	**+1.6**
BIPH	**Bislig**	**5.81**	**355**	↓*e*P	Pn	16 01 15.8	+5.3
BIPH				*i* S	**Sn**	**16 02 19.2**	**+3.4**
MSAI	**Masohi** 139nm,1.0s,2µm0.5nm	**6.04**	**160**	P	Pn	16 01 17.6	+4.1
APSI	**Ampana** 3µm,1.3s,32µm12nm	**6.12**	**238**	P	Pn	16 01 18.3	+3.7
TOLI	**Toli-Toli** 812nm,0.7s,9µm23µm3.4nm	**6.16**	**259**	*e*Pn	**Pn**	**16 01 14.9**	**-0.4**
TOLI	**Toli-Toli** 493nm,0.4s			*e*Sn	Sn	16 02 17.6	-6.9
CGP	**Cagayan de Oro**	**6.42**	**341**	↓*e*P	**Pn**	**16 01 19.5**	**+0.7**
PAGZ	**Pagadian**	**6.45**	**328**	*e*P	**Pn**	**16 01 18.7**	**-0.5**
BUTP	**Butuan**	**6.68**	**350**	*e*P	**Pn**	**16 01 24.4**	**+2.1**
IPIL	**Ipil**	**6.87**	**322**	*e*P	**Pn**	**16 01 24.9**	**-0.1**
FAKI	**Fak Fak** 286nm,1.2s,3µm0.9nm	**7.53**	**134**	P	Pn	16 01 37.7	+3.6
TBP	**Tagbilaran**	**7.87**	**338**	*e*P	Pn	16 01 44.4	+5.8
MWPI	**Manokwari, Pap** 552nm,1.3s,8µm2.0nm	**7.91**	**114**	P	x	16 01 43.1	
MSLP	**Maasin**	**7.97**	**346**	*e*P	**Pn**	**16 01 39.9**	**-0.2**
RKPI	**Ransiki, Papua**	**8.28**	**118**	P	Pn	16 01 58.5	+14
KKSI	**Kolaka, Sulawe** 444nm,0.8s,5µm	**8.30**	**219**	P	x	16 01 45.3	
LLP	**Lapu-Lapu**	**8.41**	**340**	*e*P	**Pn**	**16 01 45.3**	**-0.8**
TTSI	**Tana Toraja** 404nm,1.2s,5µm	**8.83**	**233**	P	**Pn**	**16 01 53.2**	**+1.4**
OCLP	**Ormoc**	**8.92**	**346**	*e*P	**Pn**	**16 01 55.3**	**+2.2**
PALU	**Palau** baz=9.0,SNR=11	**9.08**	**57**	↓P	**Pn**	**16 01 54.6**	**-0.6**
KMPI	**Kaimana, Papua** 506nm,1.5s,5µm	**9.10**	**131**	P	Pn	16 01 59.3	+3.7
TSM	**Tawau**	**9.15**	**282**	↑P	**Pn**	**16 01 56.6**	**+0.3**
MMSI	**Mamuju** 192nm,1.5s,3µm	**9.37**	**238**	P	x	16 02 03.0	
SPSI	**Sidrap Palu** 199nm,0.9s,2µm	**9.45**	**228**	P	**Pn**	**16 02 02.5**	**+2.2**
BNSI	**Bone** 216nm,1.4s,2µm	**9.50**	**225**	P	**Pn**	**16 02 02.1**	**+1.1**
MJSI	**Majene** 289nm,1.4s,4µm	**9.80**	**233**	P	x	16 02 09.3	
BAKI	**Biak** 1µm,1.6s,17µm	**9.92**	**111**	P	Pn	16 02 11.8	+5.1
RCP	**Roxas**	**10.01**	**336**	↑*e*P	Pn	16 02 11.7	+3.8
BKSI	**Bulukumba** 137nm,1.7s,2µm	**10.15**	**221**	P	Pn	16 02 13.5	+3.5
SDKM	**Sandakan**	**10.15**	**289**	↓P	**Pn**	**16 02 11.2**	**+1.2**
KAPI	**Kappang** 456nm,1.9s,SNR=7.8	**10.18**	**224**	Pn	**Pn**	**16 02 12.7**	**+2.3**
KAPI	**Kappang** 650nm,1.8s,8µm	**10.18**	**224**	P	x	16 02 14.4	
SRPI	**Serui, Papua** 291nm,1.0s,6µm	**10.30**	**114**	P	Pn	16 02 17.2	+5.3
BKB	**Balikpapan** 173nm,1.3s,3µm16µm	**10.57**	**250**	P	**Pn**	**16 02 17.4**	**+1.8**
KKM	**Kota Kinabalu** 228nm,1.2s,3µm	**11.21**	**289**	P	x	16 02 27.7	
KKM	**Kota Kinabalu** baz=11,SNR=16	**11.21**	**289**	↓P	**Pn**	**16 02 25.8**	**+1.3**
KKM	**Kota Kinabalu**	**11.21**	**289**	↓P	Pn	16 02 28.0	+3.5
MMRI	**Maumere**	**11.84**	**203**	P	Pn	16 02 49.9	+17
GGP	**Guinayangan**	**12.27**	**340**	↓*e*P	**Pn**	**16 02 42.0**	**+3.1**
SOEI	**Soe**	**12.30**	**192**	P	**P**	**16 02 47.3**	**-3.1**
SMPI	**Sarmi** 189nm,1.2s,4µm	**12.63**	**110**	P	**P**	**16 02 51.3**	**-2.7**
LBFI	**Labuhan Bajo,** 486nm,1.2s,5µm	**12.80**	**213**	P	x	16 02 55.8	
BATI	**Baumata** 166nm,1.1s,1µm	**12.87**	**194**	P	**P**	**16 02 53.6**	**-3.1**
BATI	**Baumata**	**12.87**	**194**	Pn	**Pn**	**16 02 49.6**	**+2.5**
BATI	**Baumata** baz=297,slow=2.3	**12.87**	**194**	Pn	**Pn**	**16 02 49.6**	**+2.5**
TGY	**Tagaytay City**	**13.05**	**334**	Pn	**Pn**	**16 02 52.7**	**+3.2**
TGY	**Tagaytay City** 5.9nm,0.3s,baz=310,slow=18,SNR=3.0	**13.05**	**334**	Pn	**Pn**	**16 02 52.7**	**+3.2**
BMNI	**Bima** 30nm,1.2s,3µm	**13.53**	**217**	P	x	16 03 03.8	
WSI	**Waingapu** 535nm,0.8s,7µm	**13.60**	**209**	P	**P**	**16 03 01.7**	**-3.1**
BTM	**Bintulu**	**13.76**	**274**	↓P	**Pn**	**16 03 01.8**	**+2.5**
GENI	**Genyem** 634nm,1.5s,7µm	**14.21**	**110**	P	**P**	**16 03 11.2**	**-0.3**
SBUM	**Sibu** 388nm,1.5s,5µm	**14.60**	**271**	P	x	16 03 13.6	
SBUM	**Sibu**	**14.60**	**271**	↑P	**P**	**16 03 14.5**	**-1.4**
JAY	**Jayapura**	**14.69**	**109**	Pn	**Pn**	**16 03 09.8**	**-1.9**
JAY	**Jayapura** 0.6nm,0.3s,baz=90,slow=4.0,SNR=2.5	**14.69**	**109**	Pn	**Pn**	**16 03 09.8**	**-1.9**
JAY	**Jayapura** baz=15,SNR=4.0	**14.69**	**109**	↓P	**Pn**	**16 03 09.5**	**-2.2**
TWSI	**Taliwang, Sumb** 5µm,0.7s	**14.83**	**222**	P	**P**	**16 03 17.3**	**-1.1**
MTNI	**Mataram** 303nm,0.8s,4µm	**15.24**	**224**	P	x	16 03 19.9	
SRBI	**Singaraja** 378nm,1.2s,4µm	**15.55**	**228**	P	**P**	**16 03 27.6**	**+1.1**
MTN	**Manton Dam** baz=16,SNR=15	**15.69**	**164**	P	**Pn**	**16 03 24.1**	**-0.6**
KMMI	**Kalianget** 580nm,1.1s,7µm	**15.88**	**234**	P	**P**	**16 03 31.9**	**+1.8**
DNP	**Denpasar**	**15.95**	**226**	P	**P**	**16 03 33.8**	**+2.9**
	2µm,1.7s,24µm						
KDU	**Kakadu** baz=16,SNR=23	**15.96**	**160**	↓P	**Pn**	**16 03 26.8**	**-1.3**
IGBI	**Denpasar** 487nm,1.5s,8µm	**16.09**	**226**	P	**P**	**16 03 35.5**	**+3.0**
ABJI	**Asem Bagus** 376nm,1.3s,4µm	**16.11**	**231**	P	**P**	**16 03 34.7**	**+2.0**
NBBI	**Negara** 527nm,1.2s,5µm	**16.18**	**229**	P	x	16 03 33.4	
BYJI	**Banyuwangi** 638nm,1.5s,11µm	**16.28**	**230**	P	x	16 03 37.3	
KSM	**Kuching** 148nm,1.9s,3µm	**16.54**	**267**	P	x	16 03 39.8	
KSM	**Kuching**	**16.54**	**267**	↓P	**P**	**16 03 39.9**	**+2.5**
JAGI	**Jajag, Banyuwa** 528nm,1.3s,5µm	**16.60**	**229**	P	**P**	**16 03 39.1**	**+1.0**
JAGI	**Jajag, Banyuwa** 855nm,1.3s	**16.60**	**229**	Pn	**Pn**	**16 03 33.2**	**-3.1**
GMJI	**Gumukmas** 328nm,1.3s,3µm	**17.02**	**232**	P	**P**	**16 03 43.2**	**+0.4**
GRJI	**Gresik** 89nm,0.8s	**17.03**	**237**	P	**P**	**16 03 45.3**	**+2.4**
MMPI	**Merauke** 723nm,1.0s	**17.26**	**129**	P	**P**	**16 03 49.1**	**+3.7**
TBJI	**Tambak Boyo** 243nm,1.5s	**17.52**	**239**	P	**P**	**16 03 51.1**	**+2.9**
KRKI	**Karangkates** 604nm,1.1s	**17.74**	**234**	P	x	16 03 54.3	
KNRA	**Kunungurra** baz=18,SNR=60	**18.02**	**174**	↓P	**P**	**16 03 52.6**	**-1.2**
NGJI	**Ngawi** 182nm,1.1s	**18.13**	**238**	P	**Pn**	**16 03 57.6**	**+2.5**
PWJI	**Pagerwojo** 168nm,1.2s,2µm	**18.19**	**235**	P	**Pn**	**16 03 57.8**	**+1.9**
PCJI	**Pacitan** 255nm,1.5s,3µm	**18.81**	**236**	P	**Pn**	**16 04 05.4**	**+2.0**
SMRI	**Semarang** 204nm,1.8s	**18.84**	**240**	P	**Pn**	**16 04 07.5**	**+3.7**
SMRI	**Semarang** 112nm,0.8s	**18.84**	**240**	*e*P	**P**	**16 04 00.2**	**-2.7**
BJII	**Banjamegara** 207nm,1.5s,3µm	**19.61**	**240**	P	x	16 04 12.2	
TPI	**Tanjungpandan** 211nm,1.2s,3µm	**19.84**	**255**	P	**Pn**	**16 04 15.2**	**-0.4**
CMJI	**Cimerak** 121nm,1.0s	**20.93**	**241**	P	**P**	**16 04 25.2**	**-0.3**
TWG	**Pinlang** 365nm,0.6s	**21.10**	**345**	*e*P	**P**	**16 04 24.0**	**-3.4**
LEM	**Lembang** 140nm,1.3s,1µm	**21.24**	**244**	P	**P**	**16 04 30.7**	**+1.6**
LEM	**Lembang** baz=21,SNR=3.6	**21.24**	**244**	↓P	**P**	**16 04 30.1**	**+1.0**
CISI	**Cisompet, Garu** 129nm,1.1s,2µm	**21.38**	**242**	P	P	16 04 36.8	+6.3
YULB	**Yu-li** 42nm,0.8s	**21.59**	**346**	*e*P	**P**	**16 04 28.7**	**-3.9**
TPUB	**Ta-pu** 88nm,0.8s	**21.67**	**344**	*e*P	**P**	**16 04 30.3**	**-3.2**
CBJI	**Citeko** 582nm,1.0s,6µm	**21.77**	**246**	P	**P**	**16 04 37.9**	**+3.3**
CNJI	**Cibinong** 191nm,1.2s,2µm	**21.88**	**244**	P	**P**	**16 04 38.7**	**+2.9**
NACB	**Ninganchiao** 32nm,0.9s	**22.28**	**347**	*e*P	**P**	**16 04 37.0**	**-2.9**
YOJ	**Yonaguni jima**	**22.29**	**351**	*e*P	**P**	**16 04 38.9**	**-1.1**
YOJ	comp=Z,72nm,1.2s			pmax	pmax		
YOJ	**Yonaguni jima** comp=Z,72nm,1.2s	**22.29**	**351**	*e*P	**P**	**16 04 38.9**	**-1.1**
SBJI	**Serang** comp=Z,258nm,1.6s,comp=Z,4µm	**22.32**	**248**	P	P	16 04 45.9	+5.3
TPRI	**Tanjung Pinang** comp=Z,68nm,1.4s	**22.34**	**267**	P	**P**	**16 04 42.8**	**+2.0**
PMBI	**Palemang** comp=Z,365nm,1.2s,comp=Z,28µm	**22.67**	**257**	P	**P**	**16 04 46.6**	**+2.3**
YHNB	**Yeheng** comp=Z,71nm,0.8s	**22.80**	**347**	*e*P	**P**	**16 04 43.7**	**-1.9**
CGJI	**Cibinong** comp=Z,169nm,1.9s,comp=Z,2µm	**22.91**	**247**	P	**P**	**16 04 45.9**	**-0.8**
COEN	**Coen** baz=23,SNR=7.8	**22.91**	**135**	↑P	**P**	**16 04 44.3**	**-2.4**
MYKOM	**Kota Tinggi** comp=Z,96nm,1.4s,comp=Z,2µm	**22.98**	**269**	P	x	16 04 48.5	
MYKOM	**Kota Tinggi**	**22.98**	**269**	↑P	**P**	**16 04 48.3**	**+0.8**
BTDF	**Bukit Timah Da** baz=23,SNR=4.5	**23.07**	**268**	↓P	**P**	**16 04 49.2**	**+0.8**
KLI	**Kotabumi** comp=Z,234nm,1.2s,comp=Z,2µm	**23.10**	**252**	P	**P**	**16 04 50.6**	**+1.9**
WRAB	**Tennant Creek** comp=Z,1µm,0.9s	**23.34**	**162**	P	**P**	**16 04 49.6**	**-1.4**
WRAB	**Tennant Creek**	**23.34**	**162**	*c i*P	**P**	**16 04 50.0**	**-1.0**
WRAB	comp=Z,170nm,0.9s			pmax	pmax		
WRA	**Warramunga Arr**	**23.35**	**162**	P	**P**	**16 04 49.2**	**-1.9**
WRA				PcP	**PcP**	**16 08 37.6**	**+0.7**
WRA				S	**S**	**16 08 59.2**	**-1.3**
WRA	**Warramunga Arr** comp=Z,75nm,0.5s,baz=342,slow=10,SNR=178	**23.35**	**162**	P	**P**	**16 04 49.2**	**-1.9**
WRA	comp=Z,4.1nm,0.5s,baz=322,slow=2.3,SNR=5.9			PcP	**PcP**	**16 08 37.6**	**+0.7**
WRA				S	**S**	**16 08 59.2**	**-1.3**
PMG	**Port Moresby** comp=Z,27nm,1.0s,baz=334,slow=15,SNR=5.8	**23.38**	**120**	P	x	16 04 51.9	
PMG	**Port Moresby** baz=23,SNR=6.6	**23.38**	**120**	↑P	**P**	**16 04 49.7**	**-1.7**
QIZ	**Qiongzhong**	**23.48**	**316**	P	**P**	**16 04 51.0**	**-1.3**
QIZ				sP	**sP**	**16 05 07.3**	**-3.0**
QIZ				S	**S**	**16 08 55.5**	**-7.1**
QIZ				sS	sS	16 09 16.5	-7.1
QIZ	comp=Z,34nm,1.8s			pmax	pmax		
QIZ	comp=Z,220nm,5.9s			pmax	pmax		
QIZ	comp=Z,610nm,22.9s			LR	LR		
QIZ	comp=Z,2µm,24.2s			LR	LR		
QIZ	**Qiongzhong** comp=Z,69nm,1.3s	**23.48**	**316**	*e*P	**P**	**16 04 50.3**	**-2.0**
KGM	**Kluang**	**23.50**	**270**	↑P	**P**	**16 04 53.4**	**+0.8**
JMBI	**JAMBI** comp=Z,450nm,1.5s,comp=Z,8µm	**23.52**	**261**	P	**P**	**16 04 55.7**	**+2.9**
MDSI	**Maura Dua** comp=Z,110nm,1.3s,comp=Z,2µm	**23.64**	**253**	P	**P**	**16 04 53.4**	**-0.4**
KASI	**Kota Agung** comp=Z,403nm,1.1s,comp=Z,3µm	**23.64**	**251**	P	**P**	**16 04 54.9**	**+1.0**
QZH	**Quanzhou**	**23.82**	**341**	P	**P**	**16 04 55.5**	**+0.1**
QZH				S	**S**	**16 09 01.0**	**-7.0**
QZH	comp=Z,60nm,0.7s			pmax	pmax		
QZH	comp=Z,7µm,27.7s			LR	LR		
QZH	comp=Z,1µm,17.4s			LR	LR		
QZH	comp=Z,8µm,27.9s			LR	LR		
KTGM	**Kuala Trenggan**	**23.83**	**278**	↑P	**P**	**16 04 55.9**	**+0.3**
LWLI	**Liwa** comp=Z,247nm,0.8s,comp=Z,7µm	**23.90**	**252**	P	**P**	**16 04 59.6**	**+3.2**
LHSI	**Lahat** comp=Z,120nm,1.5s,comp=Z,2µm	**24.09**	**255**	P	**P**	**16 04 59.6**	**+1.5**
UBPT	**Khong Chiam** comp=Z,102nm,2.0s,comp=Z,2µm	**24.67**	**303**	P	x	16 05 03.6	
UBPT	**Khong Chiam** comp=Z,102nm,2.0s,comp=Z,2µm	**24.67**	**303**	P	**P**	**16 05 02.7**	**-0.6**
MNAI	**Manna** comp=Z,436nm,1.3s,comp=Z,6µm	**24.78**	**254**	P	**P**	**16 05 08.8**	**+4.5**
MNAI	**Manna** comp=Z,432nm,1.2s	**24.78**	**254**	*e*P	**P**	**16 05 03.4**	**-0.9**
FRIM	**Kepong**	**25.20**	**273**	↓P	**P**	**16 05 07.8**	**-0.3**
IPM	**Ipoh** comp=Z,63nm,2.4s,comp=Z,991nm	**25.85**	**275**	P	x	16 05 14.6	
IPM	**Ipoh**	**25.85**	**275**	↓P	**P**	**16 05 13.6**	**-0.4**
BKNI	**Bangkinang**	**25.87**	**266**	P	P	16 05 20.0	+5.8
QIS	**Mount Isa** baz=26,SNR=75	**25.98**	**152**	↓P	**P**	**16 05 14.6**	**-0.6**
RABL	**Rabaul** baz=26,SNR=7.4	**26.13**	**104**	↑P	**P**	**16 05 14.9**	**-1.7**
KULM	**Kulim** comp=Z,57nm,1.5s,comp=Z,835nm	**26.29**	**277**	P	x	16 05 19.0	
KULM	**Kulim**	**26.29**	**277**	↑P	**P**	**16 05 17.4**	**-0.6**
CHBT	**CHBT** comp=Z,91nm,1.0s,comp=Z,1µm	**26.37**	**294**	P	x	16 05 19.1	
CHBT	**CHBT** comp=Z,91nm,1.0s,comp=Z,1µm	**26.37**	**294**	P	**P**	**16 05 19.1**	**+0.4**
PDSI	**Padang**	**26.57**	**263**	P	**P**	**16 05 23.2**	**+2.6**
	comp=Z,33nm,1.3s,comp=Z,2µm						
AS31	**Alice Springs**	**26.76**	**165**	*e*P	**P**	**16 05 21.1**	**-1.1**
ASAR	**Alice Springs**	**26.76**	**165**	P	**P**	**16 05 20.8**	**-1.4**
ASAR				PcP	**PcP**	**16 08 45.1**	**+0.6**
ASAR				S	**S**	**16 09 55.1**	**+0.2**
ASAR	**Alice Springs** comp=Z,7.0nm,0.4s,baz=348,slow=7.2,SNR=104	**26.76**	**165**	P	**P**	**16 05 20.8**	**-1.4**
ASAR				PcP	**PcP**	**16 08 45.1**	**+0.6**
ASAR	comp=Z,6.1nm,0.5s,baz=326,slow=1.7,SNR=5.5			S	**S**	**16 09 55.1**	**+0.2**
WRKA	**Warakurna** baz=27,SNR=206	**27.27**	**177**	P	**P**	**16 05 26.1**	**-0.6**
MNSI	**Mandailing Nat** comp=Z,48nm,1.4s,comp=Z,966nm	**27.29**	**267**	P	**P**	**16 05 26.9**	**-0.1**
GIRL	**Giralia** baz=28,SNR=5.1	**27.72**	**206**	↓P	**P**	**16 05 31.4**	**+0.7**
PSI	**Prapat** comp=Z,49nm,1.6s,comp=Z,746nm	**27.89**	**272**	P	x	16 05 32.2	
PSI	**Prapat**	**27.89**	**272**	P	**P**	**16 05 31.6**	**-0.9**
PSI				PcP	**PcP**	**16 08 48.6**	**+1.0**
PSI	**Prapat** comp=Z,15nm,0.8s,baz=110,slow=3.9,SNR=23	**27.89**	**272**	P	**P**	**16 05 31.6**	**-0.9**
PSI	comp=Z,11nm,1.0s,baz=232,slow=7.1,SNR=3.6			PcP	**PcP**	**16 08 48.6**	**+1.0**
PSI	comp=Z,281nm,19.9s,baz=108,slow=41			LR	LR	16 18 52.6	
PSI	**Prapat** comp=Z,28,SNR=19	**27.89**	**272**	↑P	**P**	**16 05 31.8**	**-0.7**
SURT	**Suratani** comp=Z,14nm,1.0s,comp=Z,244nm	**28.65**	**284**	P	**P**	**16 05 39.3**	**+0.2**
CBIJ	**Chichi jima**	**28.66**	**29**	P	**P**	**16 05 38.5**	**-0.6**
JCJ	**Chichijima** comp=Z,86nm,0.9s,baz=177,slow=2.5,SNR=6.8	**28.66**	**29**	P	**P**	**16 05 38.5**	**-0.6**
JCJ	comp=Z,214nm,18.1s,baz=246,slow=41			LR	LR	16 19 18.6	
KCSI	**Kotacane, Aceh** comp=Z,22nm,1.6s,comp=Z,444nm	**29.05**	**273**	P	**P**	**16 05 41.5**	**-1.2**
SSE	**Sheshan**	**29.08**	**350**	P	**P**	**16 05 43.8**	**+1.1**
SSE				pP	**pP**	**16 05 57.0**	**+1.6**
SSE				S	**S**	**16 10 28.8**	**-2.3**
SSE	comp=Z,30nm,0.9s			pmax	pmax		
SSE	comp=Z,280nm,7.1s			pmax	pmax		
SSE	comp=Z,810nm,27.7s			LR	LR		
SSE	comp=Z,360nm,28.1s			LR	LR		
SSE	comp=Z,790nm,29.7s			LR	LR		
PBKT	**Sadao Pong** comp=Z,36nm,0.8s,comp=Z,902nm	**29.10**	**301**	P	x	16 05 42.2	
PBKT	**Sadao Pong** comp=Z,46nm,0.9s,comp=Z,902nm	**29.10**	**301**	P	**P**	**16 05 42.0**	**-1.1**
GSI	**Gunungsitoli** comp=Z,70nm,1.0s,comp=Z,2µm	**29.26**	**268**	P	**P**	**16 05 42.8**	**-1.8**
CTA	**Charters Tower**	**29.34**	**140**	P	**P**	**16 05 44.3**	**-0.9**
CTA	**Charters Tower** comp=Z,31nm,1.1s,baz=326,slow=12,SNR=8.5	**29.34**	**140**	P	**P**	**16 05 44.3**	**-0.9**
SRDT	**SRDT** comp=Z,90nm,1.9s,comp=Z,3µm	**29.85**	**295**	P	x	16 05 52.4	
SRDT	**SRDT** comp=Z,90nm,1.9s,comp=Z,3µm	**29.85**	**295**	P	**P**	**16 05 52.0**	**+2.2**
MEEK	**Meekatharra** baz=30,SNR=35	**29.90**	**195**	↑P	**P**	**16 05 49.6**	**-0.5**
UTTA	**Uttaradit** comp=Z,25nm,0.9s,comp=Z,168nm	**29.98**	**302**	P	**P**	**16 05 50.0**	**-0.9**
UTHA	**Uthaitani** comp=Z,17nm,0.8s,comp=Z,121nm	**30.01**	**298**	P	**P**	**16 05 50.3**	**-0.9**
NJ2	**Nanjing**	**30.48**	**347**	*e*P	**P**	**16 05 56.5**	**+1.4**
NJ2				pP	**pP**	**16 06 06.8**	**-1.0**
NJ2				sP	**sP**	**16 06 12.5**	**-1.1**
NJ2				S	**S**	**16 10 55.5**	**+2.4**
NJ2				sS	**sS**	**16 11 14.5**	**+0.1**
NJ2	comp=Z,20nm,0.8s			pmax	pmax		
NJ2	comp=Z,140nm,7.2s			pmax	pmax		
NJ2	comp=Z,2µm,25.3s			LR	LR		
NJ2	comp=Z,910nm,28.0s			LR	LR		
NJ2	comp=Z,1µm,22.7s			LR	LR		
KHLT	**Khaolaem Dam** comp=Z,16nm,1.1s,comp=Z,297nm	**30.49**	**296**	P	**P**	**16 05 57.4**	**+2.0**
SUKH	**Sukhothai** comp=Z,27nm,0.8s,comp=Z,188nm	**30.65**	**301**	P	**P**	**16 05 56.1**	**-0.7**
GYA	**Guiyang**	**30.81**	**323**	↑*i*P	**P**	**16 05 58.3**	**0.0**
GYA				pP	**pP**	**16 06 13.5**	**+2.5**
GYA				PP	**PnPn**	**16 07 03.3**	**+3.3**
GYA				PcP	**PcP**	**16 08 55.0**	**+0.2**
GYA				S	**S**	**16 11 01.0**	**+2.3**
GYA				sS	**sS**	**16 11 21.5**	**+1.4**
GYA				ScP	**ScP**	**16 12 33.5**	**-0.2**
GYA				ScS	**ScS**	**16 16 29.3**	**-1.3**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,150nm,4.9s			pmax	pmax		
GYA	comp=Z,850nm,17.6s			LR	LR		
GYA	comp=Z,620nm,18.0s			LR	LR		
GYA	comp=Z,890nm,17.9s			LR	LR		
JNU	**Nakatsue**	**30.84**	**7**	P	**P**	**16 05 58.4**	**0.0**
JNU	**Nakatsue** comp=Z,24nm,0.9s,baz=178,slow=2.2,SNR=10	**30.84**	**7**	P	**P**	**16 05 58.4**	**0.0**
LAMP	**Lampang** comp=Z,18nm,0.8s,comp=Z,137nm	**31.12**	**303**	P	**P**	**16 06 01.5**	**+0.5**
BSI	**Banda Aceh** comp=Z,5.2nm,0.8s,comp=Z,72nm	**31.61**	**277**	P	**P**	**16 06 04.2**	**-1.2**
CM31	**Chiang Mai Arr** comp=Z,37nm,0.8s	**31.67**	**302**	*e*P	**P**	**16 06 04.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**31.67**	**302**	P	**P**	**16 06 05.2**	**-0.7**
CMAR				PcP	**PcP**	**16 08 58.1**	**+1.0**
CMAR				ScP	**ScP**	**16 12 39.1**	**+2.5**
CMAR				PKiKP	**PKiKP**	**16 16 26.8**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,32nm,0.8s,baz=126,slow=7.4,SNR=78	**31.67**	**302**	P	**P**	**16 06 05.2**	**-0.7**
CMAR	comp=Z,6.6nm,1.1s,baz=148,slow=0.9,SNR=6.3			PcP	**PcP**	**16 08 58.1**	**+1.0**
CMAR	comp=Z,2.0nm,1.1s,baz=120,slow=1.5,SNR=5.6			ScP	**ScP**	**16 12 39.1**	**+2.5**
CMAR	comp=Z,0.4nm,0.6s,baz=281,slow=0.8,SNR=4.3			PKiKP	**PKiKP**	**16 16 26.8**	**+0.5**
CMAR	comp=Z,146nm,19.1s,baz=124,slow=40			LR	LR	16 20 54.1	
CMMT	**Chiang Mai** comp=Z,107nm,0.8s,comp=Z,882nm	**31.83**	**303**	P	x	16 06 06.2	
CMMT	**Chiang Mai** comp=Z,107nm,0.8s,comp=Z,880nm	**31.83**	**303**	P	**P**	**16 06 06.0**	**-1.3**
CHTO	**Chiang Mai** comp=Z,375nm,0.8s,comp=Z,3µm	**31.83**	**303**	P	x	16 06 06.5	
CHTO	**Chiang Mai** comp=Z,375nm,0.8s,comp=Z,3µm	**31.83**	**303**	P	**P**	**16 06 06.0**	**-1.3**
ENH	**Enshi** comp=Z,21nm,0.8s	**32.27**	**331**	*e*P	**P**	**16

baz=33,SNR=28
BLDU Ballidu 34.18 196 ⇑P P 16 06 26.6 -0.9
baz=34,SNR=8.3
TIA Tai'an 34.87 346 P P 16 06 33.8 +0.3
TIA S **S** **16 12 02.0 +0.7**
TIA LR LR
comp=Z,270nm,10.1s
TIA LR LR
comp=Z,660nm,13.7s
TIA LR LR
comp=Z,680nm,35.0s
KSAR Wonju Array Be 34.93 1 P P 16 06 35.1 +1.1
KSAR PcP **PcP** **16 09 07.4 +1.6**
KSRS Korea Array 34.94 2 P P 16 06 35.1 +1.0
comp=Z,16nm,0.6s,baz=177,slow=9.7,SNR=106
KSRS PcP **PcP** **16 09 07.4 +1.6**
comp=Z,7.0nm,0.9s,baz=190,slow=3.5,SNR=7.2
MJAR Matsushiro Arr 35.60 16 P P 16 06 38.8 -1.0
MJAR PcP **PcP** **16 09 09.2 +1.4**
MJAR ScP **ScP** **16 12 52.5 +2.5**
MJAR Matsushiro Arr 35.60 16 P P 16 06 38.8 -1.0
comp=Z,27nm,0.7s,baz=195,slow=8.0,SNR=46
MJAR PcP **PcP** **16 09 09.2 +1.4**
comp=Z,13nm,1.1s,baz=199,slow=4.2,SNR=5.4
MJAR ScP **ScP** **16 12 52.6 +2.5**
comp=Z,2.9nm,1.1s,baz=201,slow=4.5,SNR=5.0
MJAR LR LR 16 18 44.9
comp=Z,717nm,21.8s,baz=195,slow=32
MAJO Matsushiro 35.61 16 ⇑*i*P P 16 06 39.4 -0.4
MAJO pmax pmax
comp=Z,290nm,1.0s
MAT Matsushiro 35.61 16 P P 16 06 38.8 -1.0
MAT S **S** **16 12 11.0 -1.6**
RMQ Roma 35.65 145 ⇑P P 16 06 39.3 -1.1
baz=36,SNR=11
XAN Xi'an 35.69 334 P P 16 06 39.3 -1.3
XAN S **S** **16 12 09.0 -5.0**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN LR LR
comp=Z,880nm,28.0s
XAN LR LR
comp=Z,210nm,29.0s
XAN LR LR
comp=Z,380nm,28.2s
CD2 Chengdu 35.81 325 ⇓*i*P P 16 06 41.0 -0.8
CD2 pP **pP** **16 06 54.3 -0.3**
CD2 sP **sP** **16 06 59.0 -1.3**
CD2 PP **PP** **16 08 06.8 +2.9**
CD2 PcP **PcP** **16 09 05.5 -3.1**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,290nm,6.0s
CD2 LR LR
comp=Z,860nm,21.4s
CD2 LR LR
comp=Z,580nm,15.5s
CD2 LR LR
comp=Z,690nm,23.8s
BBOO Buckleboo 36.05 167 P P 16 06 42.7 -0.9
baz=36,SNR=45
EIDS Eidsvold 36.22 141 P P 16 06 44.3 -0.9
baz=36,SNR=43
NWAO Narrogin (SRO) 36.25 194 P P 16 06 43.6 -1.7
NWAO Narrogin (SRO) 36.25 194 P P 16 06 43.6 -1.7
comp=Z,25nm,0.6s,baz=14,slow=7.4,SNR=19
DL2 Dalian 36.69 353 P P 16 06 50.3 +1.3
DL2 pP **pP** **16 07 05.8 +4.0**
DL2 S **S** **16 12 29.5 +0.4**
DL2 pmax pmax
comp=Z,65nm,0.7s
DL2 pmax pmax
comp=Z,160nm,3.1s
DL2 LR LR
comp=Z,220nm,19.3s
DL2 LR LR
comp=Z,470nm,19.6s
DL2 LR LR
comp=Z,380nm,20.6s
STKA Stephens Creek 36.82 159 P P 16 06 49.5 -0.6
STKA PcP **PcP** **16 09 11.5 -0.1**
STKA S **S** **16 12 29.8 -1.5**
STKA Stephens Creek 36.82 159 P P 16 06 49.5 -0.6
comp=Z,139nm,0.8s,baz=332,slow=8.3,SNR=184
STKA PcP **PcP** **16 09 11.5 -0.1**
comp=Z,19nm,0.7s,baz=351,slow=6.8,SNR=3.5
STKA S **S** **16 12 29.8 -1.5**
comp=Z,11nm,1.1s,baz=101,slow=18,SNR=3.5
STKA LR LR 16 24 45.1
comp=Z,794nm,18.0s,baz=346,slow=41
STKA Stephens Creek 36.82 159 P P 16 06 49.4 -0.8
baz=37,SNR=136
HTT Hallett 37.38 163 P P 16 06 54.7 -0.3
baz=38,SNR=11
RKGY Rocky Gully 37.92 193 ⇓P P 16 07 00.2 +0.7
baz=38,SNR=15
CMSA Cobar Meteorol 38.17 153 ⇑P P 16 07 01.4 -0.3
baz=38,SNR=43
BJT Baijiatuan 38.72 347 *e*P P 16 07 05.5 -0.7
comp=Z,88nm,0.8s
BJI Beijing 38.74 347 P P 16 07 06.3 0.0
BJI S **S** **16 13 02.5 +2.4**
BJI pmax pmax
comp=Z,83nm,1.3s
BJI pmax pmax
comp=Z,320nm,3.6s
BJI LR LR
comp=Z,500nm,24.4s
BJI LR LR
comp=Z,430nm,27.4s
BJI LR LR
comp=Z,540nm,27.4s
LZH Lanzhou 39.74 330 *e*P P 16 07 15.0 0.0
LZH pP **pP** **16 07 28.5 +0.6**
LZH sP **sP** **16 07 33.0 -0.6**
LZH PcP **PcP** **16 09 22.0 +1.2**
LZH PcS **PcS** **16 13 08.0 -3.0**
LZH S **S** **16 13 19.0 +3.4**
LZH sS **sS** **16 13 37.5 +0.2**
LZH SS **SS** **16 16 08.5 -4.4**
LZH pmax pmax
comp=Z,110nm,1.6s
LZH pmax pmax
comp=Z,330nm,4.0s
LZH LR LR
comp=Z,750nm,15.9s
LZH LR LR
comp=Z,780nm,14.8s
LZH LR LR
comp=Z,2μm,16.9s
ARMA Armidale 40.27 146 ⇑P P 16 07 19.1 -0.3
baz=40,SNR=79
HHC Hu-ho-hao-te 40.73 342 *e*P P 16 07 25.0 +2.0
HHC pP **pP** **16 07 39.5 +3.5**
HHC PP **PnPn** **16 09 05.3 +3.3**
HHC S **S** **16 13 32.3 +2.1**
HHC sS **sS** **16 13 57.0 +5.0**
HHC SS **SS** **16 16 30.3 -2.1**
HHC pmax pmax
comp=Z,39nm,0.9s
HHC pmax pmax
comp=Z,370nm,4.5s
HHC LR LR
comp=Z,1μm,18.4s
HHC LR LR
comp=Z,730nm,16.7s
HHC LR LR
comp=Z,2μm,20.1s
SHL Shillong 40.78 308 ⇑*i*P P 16 07 23.0 -0.8
SHL AMB AMB 16 07 25.3
comp=Z,46nm,1.1s
VLA Vladivostok 40.84 6 *i*P P 16 07 25.0 +1.3
VLA *e* 16 09 22.7
VLA S **S** **16 13 32.5 +1.0**
VLA pmax pmax
comp=Z,59nm,1.1s
CN2 Changchun 41.29 358 *e*P P 16 07 27.3 -0.1
CN2 *es*P **sP** **16 07 45.0 -1.1**
CN2 PcP **PcP** **16 09 26.3 +0.9**
CN2 *e*S **S** **16 13 39.5 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
ARPS Mount Arapiles 41.35 162 ⇓P P 16 07 27.7 -0.4
baz=42,SNR=29
YNG Young 41.72 153 ⇑P P 16 07 30.9 -0.2
baz=42,SNR=27
USRK Ussuriysk Arra 41.92 6 P P 16 07 33.4 +0.9
comp=Z,48nm,0.8s,baz=188,slow=7.0,SNR=79
ERM Erimo 42.12 18 ⇓*e*P P 16 07 35.7 +1.5
ERM pmax pmax
comp=Z,35nm,1.3s
MGCD Mangrove Creek 42.15 149 ⇑P P 16 07 34.6 -0.1
baz=42,SNR=5.5
MDJ Mudanjiang 42.16 3 P P 16 07 35.3 +0.8
MDJ pP **pP** **16 07 46.5 -1.0**
MDJ sP **sP** **16 07 51.5 -1.7**
MDJ PcS **PcS** **16 13 21.0 +1.1**
MDJ S **S** **16 13 53.5 +2.5**
MDJ sS **sS** **16 14 12.3 -0.5**
MDJ pmax pmax
comp=Z,64nm,1.3s
MDJ pmax pmax
comp=Z,310nm,7.0s
MDJ LR LR
comp=Z,740nm,26.3s
MDJ LR LR
comp=Z,260nm,21.2s
MDJ LR LR
comp=Z,990nm,26.9s
MDJ Mudanjiang 42.16 3 *e*P P 16 07 35.0 +0.5
comp=Z,108nm,1.3s
H11S3 WAKE ISLAND Hy 42.20 65 T T 16 52 52.8
baz=253,slow=73,SNR=9.6
H11S1 WAKE ISLAND Hy 42.22 65 T T 16 52 58.1
baz=253,slow=73,SNR=5.3
H11S2 WAKE ISLAND Hy 42.22 65 T T 16 52 57.0
baz=253,slow=73,SNR=7.5
CAN Canberra 42.84 153 *e*P P 16 07 40.3 0.0
CAN pmax pmax
comp=Z,175nm,1.3s
CAN Canberra 42.84 153 *e*P P 16 07 40.3 0.0
comp=Z,175nm,1.3s
CNB Canberra Magne 43.01 153 ⇓P P 16 07 41.5 -0.1
baz=43,SNR=8.2
TOO Toolangi 43.33 158 ⇓P P 16 07 44.9 +0.7
baz=43,SNR=8.1
LSA Lhasa 43.43 312 P P 16 07 45.5 -0.1
LSA Lhasa 43.43 312 *e*P P 16 07 44.4 -1.3
LSA pmax pmax
comp=Z,49nm,0.9s
LSA Lhasa 43.43 312 *e*P P 16 07 44.4 -1.3
comp=Z,49nm,0.9s
ASAJ Asahikawa 43.87 16 P P 16 07 49.4 +1.1
ASAJ Asahikawa 43.87 16 P P 16 07 49.4 +1.1
comp=Z,76nm,1.1s,baz=219,slow=14,SNR=15
ASAJ LR LR 16 26 05.2
comp=Z,415nm,21.6s,baz=232,slow=36
GTA Gaotai 44.33 330 P P 16 07 52.0 -0.3
GTA pP **pP** **16 08 04.0 -1.4**
GTA sP **sP** **16 08 09.8 -1.3**
GTA PP **PP** **16 09 37.5 +1.1**
GTA ScP **ScP** **16 13 26.3 +2.2**
GTA S **S** **16 14 22.8 -0.4**
GTA sS **sS** **16 14 41.0 -4.2**
GTA SS SS 16 17 34.0 -9.4
GTA ScS **ScS** **16 17 46.3 -0.3**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,150nm,5.9s
GTA LR LR
comp=Z,820nm,24.0s
GTA LR LR
comp=Z,640nm,21.4s
GTA LR LR
comp=Z,1μm,27.8s
YUK Yuzh-Kuril'sk 44.80 19 *c*P P 16 07 45.3 -10
YUK *i* 16 09 39.2
YUK *i*S **S** **16 14 26.4 -3.2**
TAPN Taplejung 44.92 307 *e*P P 16 07 56.1 -1.3
comp=Z,149nm,1.0s
BOK Bokaro 44.96 302 *e*P P 16 07 56.6 -0.8
ODAN Odare 44.96 307 *e*P P 16 07 56.4 -1.3
comp=Z,221nm,0.8s
VIS Vishakhapatnam 45.33 293 *e*P P 16 07 59.3 -1.1
VIS AMB AMB 16 08 02.7
comp=Z,49nm,1.5s
RAMN Ramite 45.63 306 *e*P P 16 08 01.9 -1.1
comp=Z,176nm,0.9s
DZM Mont Dzumac 45.67 124 *e*P P 16 08 03.3 +0.1
comp=Z,248nm,1.4s
DZM *e*S **S** **16 14 47.0 +4.0**
comp=Z,640nm,33.2s
DZM *e*LR LR 16 21 03.8
comp=Z,2μm,24.4s
DZM Mont Dzumac 45.67 124 *e*P P 16 08 02.5 -0.6
comp=Z,127nm,1.4s
DZM Mont Dzumac 45.67 124 P P 16 08 02.8 -0.4
comp=Z,74nm,1.2s,baz=345,slow=6.5,SNR=17
JIRN Jiri 46.27 307 *e*P P 16 08 06.9 -1.3
comp=Z,155nm,0.8s
HABR Khabarovsk 46.48 8 *c e*P P 16 08 08.3 -0.7
HABR *e**PP **pP** **16 08 21.2 -1.0**
HABR *e* 16 09 40.9
HABR *e*S **S** **16 14 54.4 +0.7**
HABR *e* 16 17 58.0
HABR *e*SSS SSS 16 19 20.1
HABR pmax pmax
comp=N,52nm,1.9s
HABR pmax pmax
comp=E,37nm,1.9s
HABR pmax pmax
comp=Z,146nm,1.9s
HABR MLR MLR
comp=Z,140nm,18.0s
YSS Yuzh-Sakhalins 46.53 15 ⇑*e*P P 16 08 09.9 +0.5
YSS *e* 16 09 44.0
YSS pmax pmax
comp=Z,70nm,1.2s
YSS MLR MLR
comp=Z,300nm,17.0s
GUN Gumba 46.62 307 *e*P P 16 08 09.6 -1.3
comp=Z,193nm,0.7s
PKI Pulchoki 46.85 306 *e*P P 16 08 10.9 -1.8
comp=Z,52nm,0.7s
PKIN Phulchoki 46.87 306 *e*P P 16 08 10.9 -1.8
comp=Z,43nm,0.8s
KLR Kul'dur 46.89 4 ⇓*i*P P 16 08 08.9 -3.3
KLR pmax pmax
comp=E,50nm,1.4s
KLR pmax pmax
comp=Z,100nm,1.4s
KKN Kakani 47.05 307 *e*P P 16 08 12.5 -1.6
comp=Z,119nm,0.9s
DMN Daman 47.12 306 *e*P P 16 08 13.2 -1.5
comp=Z,119nm,0.9s
HIA Hailar 47.13 354 *e*P P 16 08 13.4 -0.7
comp=Z,49nm,1.1s
GKN Gorkha 47.66 307 *e*P P 16 08 17.1 -1.7
comp=Z,74nm,0.8s
KOLN Koldanda 48.40 306 *e*P P 16 08 23.3 -1.2
comp=Z,271nm,0.9s
DANN Dangsing 48.51 307 *e*P P 16 08 24.1 -1.4
comp=Z,180nm,0.7s
SONM Songino Array 48.63 342 P P 16 08 25.9 0.0
SONM ScP **ScP** **16 13 43.4 +1.6**
SONM Songino Array 48.63 342 P P 16 08 25.9 0.0
comp=Z,12nm,0.7s,baz=160,slow=7.5,SNR=47
SONM ScP **ScP** **16 13 43.4 +1.6**
comp=Z,1.7nm,0.9s,baz=126,slow=2.6,SNR=3.7
SONM LR LR 16 32 48.6
comp=Z,301nm,18.7s,baz=154,slow=41
PYUN Piuthan 49.02 306 *e*P P 16 08 28.3 -1.1
comp=Z,189nm,0.6s
HYB Hyderabad 49.69 291 *i* P P 16 08 32.0 -2.4
HYB *es*P sP 16 08 39.0 -14
HYB *e*S S 16 15 32.0 -8.1
HYB Hyderabad 49.69 291 *e*P P 16 08 33.4 -1.0
HYB AMB AMB 16 08 36.0
comp=Z,91nm,0.8s
TRD Trivandrum 49.99 279 *e*P P 16 08 35.5 -1.2
CIT Chita 50.73 349 *e*P P 16 08 42.9 +1.2
CIT *e* 16 08 52.3
CIT pmax pmax
comp=Z,143nm,1.8s
ZAK Zakamensk 51.85 341 *e*P P 16 08 49.5 -0.7
ZAK pmax pmax
comp=Z,9.0nm,1.2s
BHPL Bhopal 52.12 298 *e*P P 16 08 51.2 -1.4
BHPL AMB AMB 16 08 53.7
comp=Z,72nm,1.1s
TLY Talaya 52.86 342 P P **16 08 58.4 +0.9**
comp=Z,171nm,1.1s,SNR=16
TLY Talaya 52.86 342 *c i*P P 16 08 58.3 +0.8
TLY *e*S **S** **16 16 23.3 +0.4**
TLY pmax pmax
comp=Z,43nm,1.1s
TLY MLR MLR
comp=Z,337nm,20.0s
IRK Irkutsk 53.16 343 *e*P P 16 08 59.9 +0.1
IRK pmax pmax
comp=Z,71nm,1.9s
MOY Mondy 53.70 340 *e*P P 16 09 04.7 +0.9
MOY pmax pmax
comp=Z,72nm,2.9s
GOA Goa 53.81 287 *e*P P 16 09 03.6 -1.5
GOA AMB AMB 16 09 07.9
comp=Z,39nm,0.8s
DDI Dehra Dun 53.86 306 *e*P P 16 09 02.7 -2.6
DDI AMB AMB 16 09 07.0
comp=Z,90nm,2.1s
WMQ Urumqi 53.91 326 P P 16 09 07.0 +1.6
WMQ pP **pP** **16 09 19.5 +0.6**
WMQ sP **sP** **16 09 25.0 +0.5**
WMQ PcP **PcP** **16 10 12.5 +2.1**
WMQ PP **PP** **16 11 09.5 +2.4**
WMQ ScP **ScP** **16 14 05.3 +0.6**
WMQ S **S** **16 16 37.3 -0.1**
WMQ ScS **ScS** **16 18 49.0 -1.9**
WMQ SS **SKiKP** **16 20 17.0 +2.2**
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ pmax pmax
comp=Z,280nm,4.2s
WMQ LR LR
comp=Z,510nm,22.9s
WMQ LR LR
comp=Z,310nm,22.6s
WMQ LR LR
comp=Z,680nm,25.0s
NDI New Delhi 53.97 304 *ex* P 16 09 02.0 -4.1
POO Poona 54.30 291 *e*P P 16 09 06.0 -2.6
POO AMB AMB 16 09 08.9
comp=Z,44nm,1.1s
CLNS Chul'man 54.34 359 *e*P P 16 09 09.0 +0.7
CLNS *e* 16 10 09.6
CLNS *e* 16 11 12.4
CLNS *e*PPP PPP 16 12 23.7
CLNS *e*S **S** **16 16 41.9 -0.9**
CLNS pmax pmax
comp=Z,29nm,1.0s
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax smax
comp=N,137nm,14.6s
CLNS smax smax
comp=E,409nm,13.5s
DHRM DHARAMSHALA 55.96 308 *e*P P 16 09 19.2 -1.5
DHRM AMB AMB 16 09 22.3
comp=Z,78nm,2.0s
DLH Dalhousie 56.33 308 *e*P P 16 09 22.0 -1.3
PETK Petropavlovsk- 56.66 22 P P 16 09 25.7 +0.7
PETK Petropavlovsk- 56.66 22 P P 16 09 25.7 +0.7
PETK Petropavlovsk- 56.66 22 P P 16 09 25.7 +0.7
comp=Z,32nm,1.1s,baz=184,slow=4.5,SNR=18
PETK LR LR 16 34 08.7
comp=Z,122nm,20.2s,baz=202,slow=36
PET Petropavlovsk 56.95 22 *e*P P 16 09 28.4 +1.4
PET *e*S S 16 17 24.1 +6.6
PET pmax pmax
comp=Z,100nm,8.6s
PET MLR MLR
comp=Z,200nm,22.0s
MK31 Makanchi Array 58.74 326 *e*P P 16 09 39.2 -0.6
MK31 Makanchi Array 58.74 326 *e*P P 16 09 39.2 -0.6
MKAR Makanchi Array 58.74 326 ScP ScP 16 14 26.8 +1.0
MKAR ⇑*e* 16 39 25.1
MKAR Makanchi Array 58.74 326 P P 16 09 39.3 -0.5
comp=Z,11nm,0.5s,baz=124,slow=8.6,SNR=45
MKAR ScP **ScP** **16 14 26.8 +1.0**
comp=Z,2.4nm,0.9s,baz=139,slow=5.8,SNR=3.6
MKAR LR LR 16 35 24.1
comp=Z,290nm,21.6s,baz=112,slow=36
MKAR PKP2bc 16 39 25.1
comp=Z,2.2nm,0.9s,baz=313,slow=1.4,SNR=7.2
KSH Kashi 59.09 316 *e*P P 16 09 43.0 +0.5
KSH *e*PP **PP** **16 11 52.3 -1.2**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,150nm,2.9s
KSH LR LR
comp=Z,630nm,21.2s
KSH LR LR
comp=Z,330nm,16.3s
KSH LR LR
comp=Z,330nm,17.3s
YAK Yakutsk 59.57 2 *c i*P P 16 09 45.7 +0.6
YAK *e**PP **pP** **16 10 01.4 +2.7**
YAK *e* 16 10 31.9
YAK *e* 16 11 57.6
YAK *e*PPP PPP 16 13 18.6
YAK *e*S **S** **16 17 49.1 -2.3**
YAK *e* 16 19 24.5
YAK pmax pmax
comp=Z,113nm,0.9s
YAK pmax pmax
comp=N,54nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,215nm,4.8s
YAK pmax pmax
comp=N,101nm,4.2s
YAK pmax pmax
comp=E,91nm,3.6s
YAK smax smax
comp=N,113nm,1.8s
YAK smax smax
comp=E,129nm,1.8s
ULHL Ulahol 60.11 319 *i* P P 16 09 50.9 +1.4
ULHL Ulahol 60.11 319 P P 16 09 51.0 +1.4
SNR=6.7
KZA Kyzart 60.70 318 *i* P P 16 09 54.0 +0.2
KZA Kyzart 60.70 318 P P 16 09 54.0 +0.2
SNR=32
TKM2 Tokmak 2 60.84 319 *i* P P 16 09 54.2 -0.3
TKM2 Tokmak 2 60.84 319 P P 16 09 54.2 -0.3
SNR=31
KBK Karagaybulak 61.15 318 P P 16 09 56.1 -0.5
SNR=17
UCH Uchtor 61.26 318 *i* P P 16 09 57.8 +0.2
UCH Uchtor 61.26 318 P P 16 09 57.9 +0.2
SNR=39
AAK Ala-Archa 61.44 318 ⇓*i*P P 16 09 59.1 +0.5
AAK pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 61.44 318 P P 16 09 58.4 -0.1
SNR=12
AAK Ala-Archa 61.44 318 P P 16 09 57.6 -0.9
AAK Ala-Archa 61.44 318 P P 16 09 57.6 -0.9
comp=Z,8.4nm,0.8s,baz=116,slow=6.2,SNR=15
FRU Bishkek 61.45 319 *e*P P 16 10 00.0 +1.6
FRU *e* 16 10 17.5
USP Ospenovka 61.72 319 *i* P P 16 09 59.7 -0.5
USP Ospenovka 61.72 319 P P 16 09 59.8 -0.5
SNR=40
AML Almayashu 61.77 318 P P 16 10 01.0 0.0
SNR=49
ZAA0 Zalesovo Array 61.85 333 *e*P P 16 09 59.8 -1.1

ZALV Zalesovo Beam 61.85 333 P **P** 16 09 59.9 -1.0
ZALV Zalesovo Beam 61.85 333 P **P** 16 09 59.9 -1.0
ZALV ⇑*e* 16 39 15.9
ZALV Zalesovo Beam 61.85 333 P **P** 16 09 59.9 -1.0
comp=Z,6.9nm,0.5s,baz=116,slow=6.8,SNR=26
ZALV PKP2bc 16 39 15.9
comp=Z,8.0nm,1.0s,baz=356,slow=4.3,SNR=16
ZALV LR LR 16 40 01.7
comp=Z,216nm,19.5s,baz=84,slow=39
EKS2 Erkin-Say 61.93 318 *i* P **P** **16 10 01.8 0.0**
EKS2 Erkin-Say 61.93 318 P **P** **16 10 01.8 0.0**
SNR=24
KURBB Kurchatov Arra 62.95 328 P **P** **16 10 07.7 -0.5**
comp=Z,21nm,0.6s,baz=130,slow=6.2,SNR=270
KURK Kurchatov 62.95 328 P **P** **16 10 07.9 -0.3**
comp=Z,251nm,0.6s,SNR=68
KURK Kurchatov 62.95 328 P **P** **16 10 07.2 -1.0**
KURK pmax pmax
comp=Z,20nm,0.6s
NVS Novosibirsk 63.14 333 *e*P P 16 10 06.2 -3.2
NVS *e*S **S** **16 18 34.4 -2.5**
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,17nm,1.1s
NVS pmax pmax
comp=Z,28nm,1.1s
NVS smax smax
comp=N,24nm,2.2s
NVS smax smax
comp=E,32nm,2.2s
FX1 Attu Island--F 63.22 29 P **P** **16 10 09.7 -0.3**
FX1 Attu Island--F 63.22 29 P **P** **16 10 09.7 -0.3**
comp=E,47nm,0.9s,baz=49,slow=9.4,SNR=5.0
SEY Seymchan 63.34 13 P **P** **16 10 10.7 +0.1**
SEY Seymchan 63.34 13 P **P** **16 10 10.7 +0.1**
SEY Seymchan 63.34 13 P **P** **16 10 10.7 +0.1**
comp=E,53nm,1.1s,baz=209,slow=6.6,SNR=52
KK31 Karatay Array 64.31 317 P **P** **16 10 16.1 -1.3**
KK31 pmax pmax
comp=Z,17nm,0.7s
BVA0 Borovoye Array 68.53 327 *i* P **P** **16 10 43.5 -0.6**
BVA0 pmax pmax
comp=Z,48nm,1.2s
BVAR Borovoye Array 68.53 327 P **P** **16 10 43.8 -0.4**
BVAR Borovoye Array 68.53 327 P **P** **16 10 43.8 -0.4**
BVAR Borovoye Array 68.53 327 P **P** **16 10 43.8 -0.4**
comp=Z,21nm,0.9s,baz=123,slow=5.5,SNR=68
BRVK Borovoye 68.60 327 P **P** **16 10 44.6 0.0**
comp=Z,246nm,1.0s,SNR=29
BRVK Borovoye 68.60 327*c i*P **P** **16 10 44.3 -0.3**
BRVK pmax pmax
comp=Z,67nm,1.3s
TIXI Tiksi 69.21 1⇑*i*P **P** **16 10 47.9 -0.1**
TIXI pmax pmax
comp=Z,56nm,1.3s
IDAH Dahanechah 69.42 304 *e*P **P** **16 10 49.5 -1.0**
IMYA Miami 69.96 308 *e*P **P** **16 10 53.6 0.0**
IKOO Kooshah 70.08 304 *e*P **P** **16 10 53.9 -0.7**
IMOG Moghan 70.51 307 *e*P **P** **16 10 56.8 -0.4**
BILL Bilibino 70.85 15 *i*P **P** **16 10 58.6 +0.5**
BILL *i* 16 11 09.9
BILL *i* 16 11 19.1
BILL *i* 16 13 40.4
BILL *i*S SKiKP 16 20 44.2 +7.7
BILL pmax pmax
comp=Z,22nm,1.8s
IAKL Akhelmad 71.07 308 *e*P **P** **16 10 59.9 -0.7**
IKRD Kardeh 71.30 308 *e*P P 16 10 57.6 -4.2
IEMG Emamgholi 71.32 309 *e*P **P** **16 11 01.7 -0.3**
ISFR Sfrayin 71.75 308 *e*P **P** **16 11 04.3 -0.3**
ABKT Ailbek 71.83 309 P **P** **16 11 04.4 -0.4**
comp=Z,118nm,1.1s,SNR=5.4
ISHV Shirvan 72.08 309 *e*P **P** **16 11 06.0 -0.5**
IBAF Bafgh 72.84 302 *e*P **P** **16 11 11.5 +0.4**
MIR Mirnyy 72.85 193⇑*i*P **P** **16 11 11.0 +0.9**
MIR *i* 16 11 20.0
MIR pmax pmax
comp=Z,63nm,1.0s
AB31 Akbulak array 73.28 321 *i* P **P** **16 11 12.2 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
IMEH Mehriz 73.62 302 *e*P **P** **16 11 13.8 -1.9**
ICHK Chekchek 73.90 303 *e*P **P** **16 11 17.2 -0.2**
IANJ Anjilo 74.75 306 *e*P **P** **16 11 21.2 -1.1**
IPAR Pars 74.78 300 *e*P **P** **16 11 20.9 -1.7**
AKTO Aktyubinsk 74.80 322 P **P** **16 11 21.4 -0.5**
AKTO pmax pmax
comp=Z,48nm,0.9s
AKTO Aktyubinsk 74.80 322 P **P** **16 11 21.8 -0.1**
AKTO Aktyubinsk 74.80 322 P **P** **16 11 21.8 -0.1**
comp=Z,21nm,0.6s,baz=105,slow=7.4,SNR=42
IGLO Ghaloghah 74.96 307 *e*P **P** **16 11 22.7 -0.8**
SVE Sverdlovsk 75.18 329*de*P **P** **16 11 24.2 +0.2**
SVE *e*S **S** **16 20 57.2 -1.8**
SVE pmax pmax
comp=Z,175nm,1.1s
KIP Kipapa 75.32 69 ⇑P **P** **16 11 27.0 +1.5**
KIP pmax pmax
comp=Z,69nm,1.6s
ILAS Lasjerd 75.51 306 *e*P **P** **16 11 26.0 -0.6**
IFIR Firoozkooh 75.71 306 *e*P **P** **16 11 27.3 -0.6**
IZEF Zefreh 75.72 303 *e*P **P** **16 11 26.1 -1.9**
ARU Arti 76.15 328 P **P** **16 11 29.5 0.0**
comp=Z,586nm,0.7s,SNR=36
ARU Arti 76.15 328*c i*P **P** **16 11 29.0 -0.5**
ARU *PP **pP** **16 11 43.3 -0.2**
ARU 16 14 21.9
ARU S **S** **16 21 10.4 +0.7**
ARU SS **SS** **16 26 05.2 +1.4**
ARU pmax pmax
comp=Z,138nm,1.2s
IPIR Pirpir 76.90 303 *e*P **P** **16 11 33.4 -1.3**
ISRB Sarab 80.00 308 *e*P **P** **16 11 52.1 +0.5**
IHRS Heris 80.53 308 *e*P **P** **16 11 54.1 -0.3**
IGHG Ghaleghazi 80.64 304 *e*P **P** **16 11 53.4 -1.7**
IDHR Dehrash 80.81 305 *e*P **P** **16 11 54.3 -1.7**
ABPO Ambohimpanom 80.95 250 *e*P **P** **16 11 56.1 -0.9**
ABPO pmax pmax
comp=Z,43nm,1.0s
ABPO Ambohimpanom 80.95 250 *e*P **P** **16 11 56.1 -0.9**
comp=Z,43nm,1.0s
ITBZ Tabriz 81.23 308 *e*P **P** **16 11 58.0 -0.1**
IMRD Marand 81.61 309 *e*P **P** **16 12 00.2 +0.1**
DGRG David-gareji 82.04 311 P **P** **16 12 03.5 +1.3**
VNDA Vanda 82.06 173 P **P** **16 12 01.5 +0.1**
VNDA Vanda 82.06 173 P **P** **16 12 01.5 +0.1**
comp=Z,26nm,0.9s,baz=318,slow=6.0,SNR=48
VNDA LR LR 16 47 35.0
comp=Z,261nm,22.0s,baz=340,slow=35
GNI Garni 82.44 310 P **P** **16 12 04.3 -0.1**
GNI Garni 82.44 310 P **P** **16 12 04.3 -0.1**
comp=Z,7.8nm,0.7s,baz=108,slow=5.5,SNR=4.3
MAW Mawson 82.51 200 P **P** **16 12 03.7 -0.2**
MAW Mawson 82.51 200 P **P** **16 12 03.7 -0.2**
comp=Z,27nm,0.9s,baz=54,slow=8.5,SNR=14
MAW Mawson 82.51 200 ⇑P **P** **16 12 04.0 +0.1**
baz=83,SNR=11
TBLG Delisi 82.54 312 P **P** **16 12 06.5 +1.8**
GUDG Gudauri 82.78 312 P **P** **16 12 08.3 +2.1**
KDAK Kodiak Island 82.99 32 P **P** **16 12 08.7 +2.1**
comp=Z,194nm,0.8s,SNR=9.8
ZEI Tsey 83.22 313 *e*P **P** **16 12 05.7 -2.8**
ZEI pmax pmax
comp=Z,92nm,1.0s
RSO Redoubt South 83.23 29 *e*P **P** **16 12 08.2 +0.1**
comp=Z,13nm,0.4s
AKH Akhalkalaki 83.45 311 P **P** **16 12 11.6 +1.9**
IM04 Indian Mountai 83.53 24 *e*P **P** **16 12 09.3 0.0**
ONI Oni 83.54 312 P **P** **16 12 12.7 +2.8**
PRGR Permogore 83.75 332⇑*i*P **P** **16 12 10.4 -0.1**
PRGR S **S** **16 22 26.0 -3.6**
GOF Gofitskoye 83.95 315 *e*P **P** **16 12 12.0 +0.1**
GOF pmax pmax
comp=Z,75nm,1.3s
KBZ Khabaz 84.00 314 P **P** **16 12 12.3 +0.2**
KBZ Khabaz 84.00 314 P **P** **16 12 12.2 +0.2**
KBZ Khabaz 84.00 314 P **P** **16 12 12.2 +0.2**
comp=Z,32nm,1.1s,baz=122,slow=3.3,SNR=23
KBZ LR LR 16 55 04.2
comp=Z,137nm,21.5s,baz=68,slow=40
KIV Kislovodsk 84.16 314 P **P** **16 12 14.7 +1.6**
comp=Z,252nm,0.8s,SNR=6.6
KIV Kislovodsk 84.16 314⇑*i*P **P** **16 12 12.9 -0.2**

KIV *i* 16 12 18.4
KIV *i*S **S** **16 22 29.2 -5.4**
KIV pmax pmax
comp=Z,33nm,1.1s
CHVG Ch'k'valeri 84.55 313 P **P** **16 12 16.9 +1.9**
PPT Papeete 84.59 108 LR LR 16 46 22.9
comp=Z,267nm,20.6s,baz=264,slow=33
PPT2 Papeete2 84.60 108 *e*S **S** **16 22 40.8 +0.9**
comp=Z,149nm,30.5s
PPT2 Papeete2 84.60 108 *e*LR LR 16 39 12.6
comp=Z,949nm,25.8s
TBI Tubuai 85.14 114 *e*LR LR 16 39 20.8
comp=Z,869nm,28.8s
VRHR Novokhopersk 85.17 321 *e*P **P** **16 12 16.2 -1.7**
VRHR *e*S **S** **16 22 38.6 -5.5**
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,90nm,0.9s
VRHR pmax pmax
comp=Z,140nm,0.9s
VRHR pmax pmax
comp=N,70nm,1.5s
VRHR pmax pmax
comp=E,210nm,1.5s
VRHR pmax pmax
comp=Z,320nm,1.5s
VRHR smax smax
comp=N,260nm,2.1s
VRHR smax smax
comp=E,320nm,2.1s
VRHR smax smax
comp=Z,60nm,2.1s
COLA College 85.89 25⇑*e*P **P** **16 12 21.8 +0.7**
COLA pmax pmax
comp=Z,12nm,0.8s
ILAR Eielson Array 86.29 25 P **P** **16 12 22.2 -1.0**
ILAR PP **PP** **16 15 44.2 -0.2**
ILAR PKKPbc **PKKPbc** **16 30 21.8 -2.0**
ILAR Eielson Array 86.29 25 P **P** **16 12 22.2 -1.0**
comp=Z,3.5nm,1.1s,baz=290,slow=3.9,SNR=24
ILAR PP **PP** **16 15 44.2 -0.2**
comp=Z,0.6nm,1.1s,baz=260,slow=6.0,SNR=4.2
ILAR PKKPbc **PKKPbc** **16 30 21.8 -2.0**
comp=Z,0.9nm,0.9s,baz=58,slow=0.3,SNR=8.3
ILAR LR LR 16 46 06.3
comp=Z,110nm,21.8s,baz=267,slow=32
SOC Sochi 86.30 313*c i*P **P** **16 12 20.8 -2.9**
SOC *e**PP **pP** **16 12 37.8 -0.1**
SOC *e*S **SKSac** **16 22 40.8 -5.4**
SOC *e*SS **SS** **16 28 37.5 +1.8**
SOC pmax pmax
comp=Z,76nm,0.9s
VORD Divnogorie 86.64 321 *e*P **P** **16 12 23.6 -1.5**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,50nm,0.8s
KLMR Klimovskoe 86.65 331 *e*P **P** **16 12 22.8 -2.2**
KLMR pmax pmax
comp=Z,77nm,1.4s
VOR Voronezh 86.70 322 *e*P **P** **16 12 24.0 -1.4**
VOR pmax pmax
comp=Z,280nm,1.4s
VSR Storozhevoye 86.72 321 *e*P **P** **16 12 24.4 -1.1**
VSR *e*S S 16 22 50.7 -8.6
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR smax smax
comp=N,400nm,3.0s
VSR smax smax
comp=E,190nm,3.0s
VSR smax smax
comp=Z,50nm,3.0s
MOS Moscow 87.62 326 *e*P **P** **16 12 29.0 -0.8**
MOS *e* 16 12 34.0
MOS pmax pmax
comp=Z,52nm,0.8s
MENT Mentasta 87.67 27 *e*P **P** **16 12 30.4 +0.5**
OBN Obninsk 88.24 325⇓*i*P **P** **16 12 32.0 -0.7**
OBN *i*S **SKSac** **16 22 55.1 -2.3**
OBN pmax pmax
comp=Z,75nm,1.5s
EGAK Eagle 88.75 25 *e*P **P** **16 12 33.9 -1.1**
comp=Z,9.4nm,0.9s
APA Apatity 89.16 337⇑*i*P P 16 12 43.4 +6.6
APA MLR MLR
comp=Z,1μm,14.0s
KMBO Kilima Mbogo 89.63 269 P **P** **16 12 39.8 -0.7**
KMBO Kilima Mbogo 89.63 269 P **P** **16 12 39.8 -0.7**
comp=Z,9.7nm,1.0s,baz=44,slow=7.5,SNR=13
KMBO LR LR 16 53 17.3
comp=Z,61nm,18.4s,baz=92,slow=36
SIM Simferopol' 90.28 315 *e*P P 16 12 46.0 +3.4
SIM S **S** **16 23 38.0 +4.7**
SIM pmax pmax
comp=Z,27nm,0.8s
SIM MLR MLR
comp=Z,160nm,20.0s
JOF Joensuu 90.44 333 *e*P **P** **16 12 42.0 -0.9**
JOF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 90.44 333 *ep* **P** **16 12 42.0 -0.9**
comp=Z,9.4nm,0.8s
HYT Haines Junctio 90.73 29 *e*P **P** **16 12 43.8 -0.7**
BR131 Keskin Array S 90.97 310 *e*P **P** **16 12 43.3 -2.8**
comp=Z,5.4nm,0.7s
BRTR Keskin Array B 90.97 310 P **P** **16 12 45.5 -0.7**
BRTR PP **PP** **16 16 25.1 +2.3**
BRTR PKKPbc **PKKPbc** **16 30 12.3 +0.9**
BRTR Keskin Array B 90.97 310 P **P** **16 12 45.5 -0.7**
comp=Z,7.2nm,0.8s,baz=124,slow=4.3,SNR=26
BRTR PP **PP** **16 16 25.1 +2.3**
comp=Z,2.2nm,1.1s,baz=94,slow=5.0,SNR=3.8
BRTR PKKPbc **PKKPbc** **16 30 12.3 +0.9**
comp=Z,1.4nm,1.1s,baz=208,slow=4.2,SNR=4.1
BRTR LR LR 17 00 07.2
comp=Z,63nm,21.5s,baz=76,slow=40
INK Inuvik 91.40 22 P **P** **16 12 47.7 +0.5**
INK Inuvik 91.40 22 P **P** **16 12 47.7 +0.5**
comp=Z,16nm,1.1s,baz=280,slow=5.6,SNR=23
ARCES ARCESS Array B 91.77 340 P **P** **16 12 48.3 -0.7**
ARCES ARCESS Array B 91.77 340 P **P** **16 12 48.3 -0.7**
comp=Z,8.3nm,0.7s,baz=75,slow=4.3,SNR=18
AKASG Malin Array Be 93.02 321 P **P** **16 12 54.2 -0.9**
AKASG Malin Array Be 93.02 321 P **P** **16 12 54.2 -0.9**
AKASG Malin Array Be 93.02 321 P **P** **16 12 54.2 -0.9**
comp=Z,5.5nm,0.6s,baz=69,slow=4.8,SNR=23
AKASG LR LR 16 58 42.3
comp=Z,128nm,20.6s,baz=35,slow=38
AKBB Malin Array Si 93.02 321 *e*P **P** **16 12 53.8 -1.3**
AKBB Malin Array Si 93.02 321 *e*P **P** **16 12 53.8 -1.3**
AK01 Malin Array Si 93.03 321 *e*P **P** **16 12 54.4 -0.7**
AK02 Malin Array Si 93.04 321 *e*P **P** **16 12 53.4 -1.8**
FINES FINESS Array B 93.09 332 P **P** **16 12 53.8 -1.4**
FINES FINESS Array B 93.09 332 P **P** **16 12 53.8 -1.4**
comp=Z,5.6nm,0.7s,baz=69,slow=3.8,SNR=15
TIRR Tirgusor 94.38 315⇑P **P** **16 13 00.8 -0.7**
TIRR Tirgusor 94.38 315⇑*i*P **P** **16 13 00.8 -0.7**
CFR Carcaliu 94.48 315⇑P **P** **16 13 01.1 -0.9**
CFR Carcaliu 94.48 315⇑*i*P **P** **16 13 01.0 -0.9**
PSN Preselentsi 94.64 314⇓P **P** **16 13 02.5 -0.3**
PSN Preselentsi 94.64 314⇓*i*P **P** **16 13 02.5 -0.3**
MSAB Monastyr St. A 94.84 314⇑*i*P **P** **16 13 04.2 +0.5**
DLBC Dease Lake 94.86 31 P **P** **16 13 04.5 +0.9**
DLBC Dease Lake 94.86 31 P **P** **16 13 04.5 +0.9**
comp=Z,7.8nm,1.1s,baz=193,slow=2.1,SNR=6.1
TESR Tescani 95.31 317⇓*i*P **P** **16 13 05.6 -0.2**
VRI Vrincioaia 95.36 316⇓P **P** **16 13 06.1 +0.1**
VRI Vrincioaia 95.36 316⇓*i*P **P** **16 13 06.1 +0.1**
PLOR Plostina 95.41 316⇑P **P** **16 13 06.7 +0.4**
PLOR Plostina 95.41 316⇑*i*P **P** **16 13 06.7 +0.4**
MLR Muntele Rosu 95.96 316⇑*i*P **P** **16 13 09.1 +0.2**
JMB Yambol 95.98 313⇓P **P** **16 13 09.9 +1.0**
JMB Yambol 95.98 313⇓*i*P **P** **16 13 09.9 +1.0**
BURAR Bucovina Array 96.09 318⇑P **P** **16 13 09.9 +0.5**
BURAR Bucovina Array 96.09 318⇑*i*P **P** **16 13 09.9 +0.5**
BUR08 Bucovina Ar. S 96.10 318 *e*P **P** **16 13 07.2 -2.3**
SUW Suwalki 96.10 325 *e*P P 16 13 14.2 +5.0
SUW Suwalki 96.10 325 *e*P P 16 13 14.2 +5.0
VOIR 96.59 316⇓P **P** **16 13 11.3 -0.4**
VOIR 96.59 316⇓*i*P **P** **16 13 11.3 -0.4**
ARR Arges 96.89 316⇑*i*P **P** **16 13 12.2 -0.9**
KWP Kalwaria Pacla 97.33 321 *e*P Pdif 16 13 16.1 +1.1
KWP Kalwaria Pacla 97.33 321 *e*P Pdif 16 13 16.1 +1.1
CJR Cluj-Napoca 97.34 318⇑P **P** **16 13 14.4 -0.7**
CJR Cluj-Napoca 97.34 318⇑*i*P **P** **16 13 14.4 -0.7**
KOLS Kolonicke sedl 97.76 320 *e*P Pdif 16 13 17.1 +0.2
KOLS pmax pmax
comp=Z,17nm,1.5s
KOLS Kolonicke sedl 97.76 320 *e*P Pdif 16 13 17.0 +0.1
UZH Uzhgorod 97.81 320 *e*P **P** **16 13 16.3 -0.7**
UZH *e* 16 13 27.3
DRGR 97.92 318⇓P Pdif 16 13 19.4 +1.6
DRGR 97.92 318⇓*i*P Pdif 16 13 19.4 +1.6
GZR Gura Zlata 98.17 316⇑P Pdif 16 13 19.0 +0.1
GZR Gura Zlata 98.17 316⇑*i*P Pdif 16 13 19.0 +0.1
MMB Musomiste 98.22 312⇑P **P** **16 13 18.5 -0.6**
MMB Musomiste 98.22 312⇑*i*P **P** **16 13 18.5 -0.6**
CRVS Cervenica-Dubn 98.29 320 *e*P **P** **16 13 19.0 -0.2**
CRVS pmax pmax
comp=Z,11nm,1.5s
CRVS Cervenica-Dubn 98.29 320 *e*P **P** **16 13 19.0 -0.2**
STHS Stebnicka Huta 98.31 321 *e*P **P** **16 13 19.3 0.0**
STHS pmax pmax
comp=Z,4.0nm,1.4s
STHS Stebnicka Huta 98.31 321 *e*P **P** **16 13 19.3 0.0**
VTS Vitosha 98.41 313⇓P **P** **16 13 19.5 -0.6**
VTS Vitosha 98.41 313⇓*i*P **P** **16 13 19.5 -0.6**
RKT Rikitea 98.45 113 *e*LR LR 16 45 32.5
comp=Z,451nm,36.2s
DAG Danmarks Havn 98.62 352 *i* P **P** **16 13 19.0 -1.1**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 98.62 352 *i* P **P** **16 13 19.0 -1.1**
comp=Z,6.8nm,0.8s
KECS Kecovo 99.01 320 *e*P **Pdif** **16 13 22.4 -0.1**
KECS pmax pmax
comp=Z,6.0nm,1.6s
KECS Kecovo 99.01 320 PDIF **Pdif** **16 13 22.4 -0.1**
RES Resolute Bay 99.14 10 P **Pdif** **16 13 22.0 -0.4**
RES Resolute Bay 99.14 10 P **Pdif** **16 13 22.0 -0.4**
comp=Z,7.9nm,0.9s,baz=252,slow=7.0,SNR=16
NB2 NORSAR Subarra100.06 334 P **Pdif** **16 13 24.9 -2.0**
comp=Z,4.0nm,0.9s,baz=69,slow=4.6
NB2 NORSAR Subarra100.06 334 P **Pdif** **16 13 24.9 -2.0**
baz=69,slow=4.6
NOA NORSAR Array B 100.06 334 P **Pdif** **16 13 25.2 -1.7**
NOA NORSAR Array B 100.06 334 P **Pdif** **16 13 25.2 -1.7**
comp=Z,2.7nm,0.8s,baz=68,slow=4.7,SNR=6.4
YKA Yellowknife Ar 100.70 25 P **Pdif** **16 13 30.1 +0.5**
YKA PP **PP** **16 17 38.9 +1.9**
YKA PKiKP **PKiKP** **16 17 56.8 +1.3**
YKA Yellowknife Ar 100.70 25 P **Pdif** **16 13 30.1 +0.5**
comp=Z,4.5nm,1.1s,baz=291,slow=4.4,SNR=14
YKA PP **PP** **16 17 38.8 +1.9**
comp=Z,0.2nm,0.3s,baz=310,slow=7.4,SNR=3.7
YKA PKiKP **PKiKP** **16 17 56.7 +1.3**
comp=Z,0.6nm,0.6s,baz=294,slow=1.7,SNR=6.5
BRG Berggiesshubel 102.40 323 *e*P **Pdif** **16 13 38.6 +1.1**
comp=Z,2.8nm,0.9s
BRG Berggiesshubel 102.40 323 *e*P **Pdif** **16 13 38.6 +1.1**
BRG pmax pmax
comp=Z,16nm,0.9s
GERES GERESS Array B 103.22 321 Pdif **Pdif** **16 13 40.0 -1.3**
GERES GERESS Array B 103.22 321 Pdiff **Pdif** **16 13 40.0 -1.3**
comp=Z,0.4nm,0.5s,baz=72,slow=4.3,SNR=4.6
NVAR Mina Array Bea 107.74 48 Pdif **Pdif** **16 14 03.5 +1.7**
NVAR PP **PP** **16 18 32.2 +1.8**
NVAR PKKPbc **PKKPbc** **16 29 25.1 +0.8**
NVAR Mina Array Bea 107.74 48 Pdiff **Pdif** **16 14 03.5 +1.7**
comp=Z,0.7nm,1.0s,baz=263,slow=7.2,SNR=3.6
NVAR PP **PP** **16 18 32.2 +1.8**
comp=Z,1.2nm,1.0s,baz=289,slow=4.8,SNR=4.5
NVAR PKKPbc **PKKPbc** **16 29 25.1 +0.8**
comp=Z,0.9nm,0.9s,baz=147,slow=4.1,SNR=5.2
PDAR Pinedale Array 112.31 42 PKiKP **PKiKP** **16 18 18.5 +0.6**
PDAR PKKPbc **PKKPbc** **16 29 08.6 -1.0**
PDAR Pinedale Array 112.31 42 PKiKP **PKiKP** **16 18 18.5 +0.6**
comp=Z,0.5nm,0.7s,baz=270,slow=0.3,SNR=3.6
PDAR PKKPbc **PKKPbc** **16 29 08.6 -1.0**
comp=Z,0.9nm,0.9s,baz=108,slow=4.8,SNR=6.3
D22A Cohagen 112.36 36 P **PKiKP** **16 18 18.9 +1.3**
baz=112
A26A Wade Farm, Ken 113.77 33 P **PKiKP** **16 18 20.0 -0.3**
baz=114
K21A Alcova 113.89 41 P **PKiKP** **16 18 21.2 +0.3**
baz=114
J22A Midwest 114.02 40 P PKPdf 16 18 20.7 -0.4
baz=114
A29A Manning Farm, 115.25 32 P **PKPdf** **16 18 24.5 +1.4**
baz=115
N22A Wattenberg Ran 115.27 42 P **PKPdf** **16 18 23.9 +0.2**
baz=115
MVCO Mesa Verde 115.41 47 P **PKPdf** **16 18 25.3 +1.2**
baz=115
I25A Rochford 115.44 38 P **PKPdf** **16 18 24.1 +0.2**
baz=115
B29A Wagenman Farm,115.46 32 P **PKPdf** **16 18 24.4 +0.9**
baz=115
J25A Sunshine Ranch 115.72 39 P **PKPdf** **16 18 24.7 +0.4**
baz=116
A30A Hoffart Farm, 115.73 31 P **PKPdf** **16 18 24.6 +0.7**
baz=116
G27A Dupree 115.80 36 P **PKPdf** **16 18 24.2 -0.1**
baz=116
O23A Lake Granby, G 115.91 43 P **PKPdf** **16 18 25.3 +0.4**
baz=116
ULM Lac du Bonnet 116.11 29 PKP **PKPdf** **16 18 23.5 -1.1**
ULM Lac du Bonnet 116.11 29 PKP **PKPdf** **16 18 23.5 -1.1**
comp=Z,4.0nm,0.7s,baz=332,slow=3.1,SNR=6.3
H27A Howes 116.12 37 P **PKPdf** **16 18 25.1 +0.2**
baz=116
ISCO Idaho Springs 116.30 43 P **PKPdf** **16 18 25.4 -0.4**
baz=116
S22A 4UR Ranch, Cre 116.39 45 P **PKPdf** **16 18 26.8 +0.8**
baz=116
F29A Eureka 116.76 35 P **PKPdf** **16 18 25.9 -0.2**
baz=117
E30A Jud 116.88 34 P **PKPdf** **16 18 26.8 +0.5**
baz=117
J27A Elkhorn Farm, 116.91 38 P **PKPdf** **16 18 27.5 +0.9**
baz=117
U22A Llaves 116.96 47 P **PKPdf** **16 18 28.7 +1.6**
baz=117
I28A Midland 117.01 37 P **PKPdf** **16 18 27.0 +0.3**
baz=117
V22A San Miguel Ran 117.12 47 P **PKPdf** **16 18 28.3 +0.9**
baz=117
P25A Willow Gulch B 117.42 43 P **PKPdf** **16 18 28.4 +0.6**
baz=117
G30A Faulkton 117.56 35 P **PKPdf** **16 18 27.9 +0.3**
baz=118
Q25A Bedland, Calha 117.66 43 P **PKPdf** **16 18 29.6 +1.3**
baz=118
121A Cookes Peak, D 117.83 51 P **PKPdf** **16 18 30.1 +1.4**
baz=118
J29A Okreek 117.85 37 P **PKPdf** **16 18 28.7 +0.5**
baz=118
P26A Davis Ranch, A 117.95 42 P **PKPdf** **16 18 29.6 +0.8**
baz=118
S25A Robets Cordova 118.12 45 P **PKPdf** **16 18 29.0 -0.2**
baz=118
Z22A Elephant Butte 118.18 50 P **PKPdf** **16 18 30.4 +1.1**
baz=118
X23A Hourglass Bar 118.22 48 P **PKPdf** **16 18 29.8 +0.3**
baz=118
T25A Trinidad 118.38 45 P **PKPdf** **16 18 30.5 +0.8**
baz=118
V24A Rampart Ranch, 118.40 47 P **PKPdf** **16 18 31.5 +1.7**
baz=118
W24A Lazy 6 Ranch, 118.53 47 P **PKPdf** **16 18 31.4 +1.4**
baz=118
Y23A Lovelace Mesa, 118.59 49 P **PKPdf** **16 18 30.9 +0.7**
baz=119
K30A Basset 118.69 38 P **PKPdf** **16 18 30.7 +0.8**
baz=119
U25A Circle Dot Ran 118.72 46 P **PKPdf** **16 18 31.2 +0.8**
baz=119
S26A Kim 118.81 44 P **PKPdf** **16 18 31.4 +1.0**
baz=119
V25A Rancho No Teng 118.83 46 P **PKPdf** **16 18 31.9 +1.3**
baz=119
T26A Comanche Natio 118.94 45 P **PKPdf** **16 18 31.7 +1.0**
baz=119

R27A	**Eads** baz=119	**118.95**	**43**	P	**PKPdf**	**16 18 31.8 +1.2**
Y24A	**Capitan** baz=119	**119.06**	**49**	P	**PKPdf**	**16 18 32.0 +0.9**
U26A	**Atchley Ranch,** baz=119	**119.20**	**46**	P	**PKPdf**	**16 18 32.2 +0.9**
W25A	**X Bar L Ranch,** baz=119	**119.22**	**47**	P	**PKPdf**	**16 18 32.3 +1.0**
Z24A	**Sheeppen Canyo** baz=119	**119.37**	**49**	P	**PKPdf**	**16 18 32.4 +0.7**
N30A	**Hueftle Ranch,** baz=119	**119.43**	**40**	P	**PKPdf**	**16 18 32.5 +1.1**
V26A	**Tequesquite Ra** baz=119	**119.44**	**46**	P	**PKPdf**	**16 18 31.8 +0.1**
R28A	**Tribune** baz=120	**119.60**	**43**	P	**PKPdf**	**16 18 32.6 +0.8**
T27A	**Campo** baz=120	**119.60**	**44**	P	**PKPdf**	**16 18 33.0 +1.0**
Y25A	**Mesa, Roswell** baz=120	**119.62**	**48**	P	**PKPdf**	**16 18 32.7 +0.6**
U27A	**Thompson Grove** baz=120	**119.84**	**45**	P	**PKPdf**	**16 18 32.8 +0.3**
ECSD	**EROS Data Cent** baz=120	**119.85**	**35**	P	**PKPdf**	**16 18 32.2 +0.1**
S28A	**Manter** baz=120	**119.92**	**44**	P	**PKPdf**	**16 18 33.5 +1.0**
T28A	**Walsh** baz=120	**120.00**	**44**	P	**PKPdf**	**16 18 33.5 +0.8**
P30A	**Selden** baz=120	**120.01**	**41**	P	**PKPdf**	**16 18 33.4 +0.8**
MNTX	**Cornudas Mount**	**120.03**	**51**	*e*PKPdf	**PKPdf**	**16 18 33.6 +0.8**
V27A	**Dan Oppiter Fa** baz=120	**120.15**	**46**	P	**PKPdf**	**16 18 33.8 +0.8**
125A	**Gardner Draw,** baz=120	**120.19**	**50**	P	**PKPdf**	**16 18 34.3 +1.1**
Y26A	**Elida** baz=120	**120.27**	**48**	P	**PKPdf**	**16 18 32.9 -0.4**
225A	**Deer Hill, Car** baz=120	**120.29**	**50**	P	**PKPdf**	**16 18 34.8 +1.3**
BGNE	**Belgrade** baz=120	**120.31**	**38**	P	**PKPdf**	**16 18 32.9 -0.1**
N32A	**Stulken Farm,** baz=120	**120.59**	**39**	P	**PKPdf**	**16 18 34.3 +0.7**
P31A	**Stockton** baz=120	**120.59**	**40**	P	**PKPdf**	**16 18 33.9 +0.2**
R30A	**Dighton** baz=121	**120.66**	**42**	P	**PKPdf**	**16 18 34.1 +0.3**
126A	**Clayton Basin,** baz=121	**120.68**	**50**	P	**PKPdf**	**16 18 34.6 +0.5**
425A	**Indio Mountain** baz=121	**120.71**	**52**	P	**PKPdf**	**16 18 34.6 +0.3**
Y27A	**Causey** baz=121	**120.78**	**48**	P	**PKPdf**	**16 18 35.2 +0.9**
226B	**Tecolote Peak,** baz=121	**120.81**	**50**	P	**PKPdf**	**16 18 35.1 +0.7**
O32A	**Brockman Farm,** baz=121	**120.89**	**39**	P	**PKPdf**	**16 18 34.4 +0.2**
SPMN	**St. Paul**	**120.99**	**32**	*e*PKPdf	**PKPdf**	**16 18 34.8 +0.6**
SPMN	**St. Paul** baz=121	**120.99**	**32**	P	**PKPdf**	**16 18 34.9 +0.7**
Z27A	**Tatum** baz=121	**120.99**	**48**	P	**PKPdf**	**16 18 35.3 +0.6**
MSTX	**Muleshoe** baz=121	**121.03**	**48**	P	**PKPdf**	**16 18 35.6 +0.8**
T30A	**Plains** baz=121	**121.13**	**43**	P	**PKPdf**	**16 18 36.7 +1.9**
R31A	**Burdett** baz=121	**121.16**	**42**	P	**PKPdf**	**16 18 36.5 +1.7**
326A	**Caldwell Ranch** baz=121	**121.28**	**51**	P	**PKPdf**	**16 18 36.2 +0.9**
Q32A	**Meitler Ranch,** baz=121	**121.41**	**41**	P	**PKPdf**	**16 18 35.6 +0.3**
Y28A	**McKinney Farm,** baz=121	**121.44**	**47**	P	**PKPdf**	**16 18 36.7 +1.2**
S31A	**Mullinville** baz=122	**121.54**	**42**	P	**PKPdf**	**16 18 35.9 +0.3**
X29A	**Tulia** baz=122	**121.59**	**47**	P	**PKPdf**	**16 18 37.1 +1.3**
R32A	**Long Quarter,** baz=122	**121.63**	**41**	P	**PKPdf**	**16 18 36.2 +0.5**
526A	**Mary Lane Ranc** baz=122	**121.71**	**52**	P	**PKPdf**	**16 18 37.3 +1.0**
P33A	**Williams Farm,** baz=122	**121.72**	**40**	P	**PKPdf**	**16 18 36.0 +0.2**
128A	**Castleberry Fa** baz=122	**121.85**	**49**	P	**PKPdf**	**16 18 37.6 +1.2**
Q33A	**Connelly Farm,** baz=122	**121.88**	**40**	P	**PKPdf**	**16 18 36.7 +0.6**
626A	**Big Bend Ranch** baz=122	**121.89**	**53**	P	**PKPdf**	**16 18 37.6 +1.1**
SCHQ	**Schefferville**	**121.90**	**9**	PKP	**PKPdf**	**16 18 35.5 -0.2**
SCHQ				*e*PKPdf	**PKiKP**	**16 18 36.3 +0.5**
SCHQ	**Schefferville** comp=Z,5.5nm,0.5s,baz=329,slow=2.0,SNR=14	**121.90**	**9**	PKP	**PKPdf**	**16 18 35.5 -0.2**
427A	**Hayter Ranch,** baz=122	**121.92**	**51**	P	**PKPdf**	**16 18 37.5 +0.9**
527A	**Woodward Ranch** baz=122	**122.06**	**52**	P	**PKPdf**	**16 18 37.9 +1.0**
Z29A	**Hungry Hill Ra** baz=122	**122.14**	**48**	P	**PKPdf**	**16 18 37.4 +0.6**
328A	**Wristen Ranch,** baz=122	**122.15**	**50**	P	**PKPdf**	**16 18 37.7 +0.8**
R33A	**Olander Ranch,** baz=122	**122.17**	**41**	P	**PKPdf**	**16 18 37.5 +0.8**
X30A	**Coker Ranch, T** baz=122	**122.19**	**46**	P	**PKPdf**	**16 18 37.5 +0.6**
COWI	**Conover**	**122.23**	**29**	*e*PKPdf	**PKPdf**	**16 18 37.1 +0.5**
V31A	**Spring Creek L** baz=122	**122.26**	**44**	P	**PKPdf**	**16 18 38.4 +1.4**
TXAR	**Lajitas Array**	**122.35**	**53**	PKP	**PKPdf**	**16 18 37.5 +0.1**
TXAR				PKKPbc	**PKKPab**	**16 28 34.3 +0.8**
TXAR	**Lajitas Array** comp=Z,2.5nm,1.0s,baz=248,slow=1.3,SNR=14	**122.35**	**53**	PKP	**PKPdf**	**16 18 37.5 +0.1**
TXAR	comp=Z,1.0nm,1.1s,baz=109,slow=6.8,SNR=5.5			PKKPbc	**PKKPab**	**16 28 34.3 +0.8**
Y30A	**Stafford Cattl** baz=122	**122.44**	**47**	P	**PKPdf**	**16 18 38.4 +1.0**
W31A	**Holland Ranch,** baz=122	**122.48**	**45**	P	**PKPdf**	**16 18 38.6 +1.1**
627A	**Terlingua Ranc** baz=122	**122.52**	**53**	P	**PKPdf**	**16 18 38.5 +0.8**
428A	**Kincaid Ranch,** baz=122	**122.53**	**51**	P	**PKPdf**	**16 18 39.2 +1.4**
Z30A	**Sanderson Ranc** baz=122	**122.56**	**48**	P	**PKPdf**	**16 18 37.6 -0.1**
KSU1	**Kansas State U**	**122.60**	**39**	*e*PKPdf	**PKPdf**	**16 18 38.0 +0.5**
KSU1	**Kansas State U** baz=123	**122.60**	**39**	P	**PKPdf**	**16 18 37.9 +0.5**
T33A	**Patterson Ranc** baz=123	**122.67**	**42**	P	**PKPdf**	**16 18 38.8 +1.1**
528A	**Cox Ranch, San** baz=123	**122.70**	**52**	P	**PKPdf**	**16 18 38.6 +0.5**
X31A	**McDonald Ranch** baz=123	**122.74**	**46**	P	**PKPdf**	**16 18 38.2 +0.3**
329A	**Wagon Wheel Ra** baz=123	**122.74**	**50**	P	**PKPdf**	**16 18 38.4 +0.3**
V32A	**Arapaho** baz=123	**122.84**	**44**	P	**PKPdf**	**16 18 39.1 +1.0**
628A	**Black Gap, Mar** baz=123	**122.90**	**52**	P	**PKPdf**	**16 18 38.9 +0.5**
130A	**Snyder** baz=123	**123.00**	**48**	P	**PKPdf**	**16 18 38.7 +0.2**
U33A	**Lingo Farm, Me** baz=123	**123.10**	**43**	P	**PKPdf**	**16 18 38.6 +0.1**
529A	**Stev Forest Ra** baz=123	**123.16**	**51**	P	**PKPdf**	**16 18 39.4 +0.5**
429A	**Davenport Ranc** baz=123	**123.19**	**51**	P	**PKPdf**	**16 18 39.5 +0.5**
Z31A	**Sharp Cattle R** baz=123	**123.26**	**47**	P	**PKPdf**	**16 18 39.4 +0.4**
V33A	**Lossen Ranch,** baz=123	**123.31**	**44**	P	**PKPdf**	**16 18 39.4 +0.4**
131A	**Roby** baz=123	**123.39**	**48**	P	**PKPdf**	**16 18 39.5 +0.2**
TOA0	**Torodi Ar. Sit**	**123.44**	**287**	*e*PKPdf	**PKPdf**	**16 18 39.6 -0.1**
TORD	**Torodi Ar. Bea**	**123.44**	**287**	PKP	**PKPdf**	**16 18 39.0 -0.6**
TORD				PKKPbc	**PKKPab**	**16 28 30.2 +1.3**
TORD	**Torodi Ar. Bea** comp=Z,6.6nm,1.0s,baz=48,slow=1.9,SNR=24	**123.44**	**287**	PKP	**PKPdf**	**16 18 39.0 -0.6**
TORD	comp=Z,1.4nm,0.7s,baz=270,slow=3.7,SNR=7.3			PKKPbc	**PKKPab**	**16 28 30.2 +1.3**
430A	**Baggett Ranch,** baz=124	**123.63**	**50**	P	**PKPdf**	**16 18 40.2 +0.4**
Z32A	**Haskell** baz=124	**123.75**	**47**	P	**PKPdf**	**16 18 40.5 +0.6**
231A	**Bronte** baz=124	**123.80**	**49**	P	**PKPdf**	**16 18 40.4 +0.4**
V34A	**Guthrie** baz=124	**123.83**	**43**	P	**PKPdf**	**16 18 40.4 +0.4**
530A	**J-C Ranch, Com** baz=124	**123.83**	**51**	P	**PKPdf**	**16 18 40.8 +0.6**
X33A	**Lawton** baz=124	**123.83**	**45**	P	**PKPdf**	**16 18 40.3 +0.3**
JFWS	**Jewell Farm**	**123.91**	**32**	*e*PKIKP	**PKPdf**	**16 18 39.2 -0.7**
JFWS	**Jewell Farm**	**123.91**	**32**	*e*PKPdf	**PKPdf**	**16 18 39.2 -0.7**
ABTX	**Abilene, Hawle** baz=124	**123.97**	**48**	P	**PKPdf**	**16 18 41.2 +0.8**
331A	**San Angelo** baz=124	**124.01**	**49**	P	**PKPdf**	**16 18 40.6 +0.1**
431A	**Sonora** baz=124	**124.16**	**50**	P	**PKPdf**	**16 18 41.4 +0.6**
X34A	**Smith Ranch, M** baz=124	**124.27**	**45**	P	**PKPdf**	**16 18 41.9 +1.1**
232A	**Coleman** baz=124	**124.32**	**48**	P	**PKPdf**	**16 18 41.5 +0.5**
531A	**Rocksprings** baz=124	**124.44**	**51**	P	**PKPdf**	**16 18 41.8 +0.5**
332A	**Millersview** baz=124	**124.49**	**49**	P	**PKPdf**	**16 18 41.7 +0.3**
Y34A	**Reagan Ranch,** baz=125	**124.66**	**45**	P	**PKPdf**	**16 18 42.1 +0.5**
432A	**Menard** baz=125	**124.69**	**49**	P	**PKPdf**	**16 18 42.2 +0.4**
631A	**Perdido Creek** baz=125	**124.75**	**51**	P	**PKPdf**	**16 18 42.4 +0.5**
233A	**Rising Star** baz=125	**124.81**	**48**	P	**PKPdf**	**16 18 42.3 +0.3**
JCT	**Junction City**	**124.87**	**50**	*e*PKIKP	**PKPdf**	**16 18 42.9 +0.7**
JCT	**Junction City**	**124.87**	**50**	*e*PKPdf	**PKPdf**	**16 18 42.9 +0.7**
JCT	**Junction City** baz=125	**124.87**	**50**	P	**PKPdf**	**16 18 42.7 +0.5**
532A	**Rocksprings** baz=125	**124.95**	**50**	P	**PKPdf**	**16 18 42.6 +0.2**
TUL1	**Tulsa** baz=125	**124.96**	**42**	P	**PKPdf**	**16 18 42.5 +0.4**
333A	**Richland Sprin** baz=125	**125.09**	**49**	P	**PKPdf**	**16 18 42.6 +0.1**
433A	**Art** baz=125	**125.28**	**49**	P	**PKPdf**	**16 18 42.8 -0.1**
632A	**Uvalde** baz=125	**125.33**	**51**	P	**PKPdf**	**16 18 44.1 +1.1**
234A	**Clairette** baz=125	**125.38**	**47**	P	**PKPdf**	**16 18 43.4 +0.4**
732A	**Laxson Ranch,** baz=126	**125.53**	**52**	P	**PKPdf**	**16 18 44.2 +0.8**
334A	**Lometa** baz=126	**125.64**	**48**	P	**PKPdf**	**16 18 43.9 +0.3**
533A	**Kerrville** baz=126	**125.64**	**50**	P	**PKPdf**	**16 18 44.1 +0.5**
832A	**Faith Ranch, C** baz=126	**125.72**	**52**	P	**PKPdf**	**16 18 45.2 +1.5**
633A	**Saathoff Ranch** baz=126	**125.82**	**51**	P	**PKPdf**	**16 18 44.6 +0.6**
434A	**Burnet** baz=126	**125.87**	**49**	P	**PKPdf**	**16 18 44.1 +0.1**
534A	**Blanco** baz=126	**126.09**	**50**	P	**PKPdf**	**16 18 44.8 +0.3**
833A	**Chaparral WMA,** baz=126	**126.17**	**52**	P	**PKPdf**	**16 18 45.4 +0.8**
335A	**Moody** baz=126	**126.27**	**48**	P	**PKPdf**	**16 18 45.2 +0.5**
933A	**Laredo** baz=127	**126.58**	**53**	P	**PKPdf**	**16 18 46.3 +0.8**
734A	**La Parita Cree** baz=127	**126.58**	**51**	P	**PKPdf**	**16 18 47.3 +1.9**
MIAR	**Mount Ida**	**127.23**	**42**	*e*PKIKP	**PKPdf**	**16 18 47.8 +1.3**
MIAR	**Mount Ida**	**127.23**	**42**	*e*PKPdf	**PKPdf**	**16 18 47.8 +1.3**
SFIN	**Scholer Farm** baz=127	**127.37**	**32**	P	**PKPdf**	**16 18 47.2 +0.6**
OLIL	**Olney**	**127.97**	**35**	*e*PKPdf	**PKPdf**	**16 18 49.2 +1.4**
WCI	**Wyandotte Cave**	**129.33**	**34**	*e*PKIKP	**PKPdf**	**16 18 50.8 +0.4**
WCI	**Wyandotte Cave**	**129.33**	**34**	*e*PKPdf	**PKPdf**	**16 18 50.8 +0.4**
KIC	**Kosan Boka** comp=Z,39nm,1.3s	**130.88**	**280**	*e*P	**PKPdf**	**16 18 53.8 -0.2**
DBIC	**Dimbokro**	**130.95**	**281**	*e*PKPdf	**PKPdf**	**16 18 54.7 +0.6**
DBIC				PKP	**PKPdf**	**16 18 54.9 +0.8**
DBIC	**Dimbokro** comp=Z,3.2nm,0.6s,baz=101,slow=1.0,SNR=5.6	**130.95**	**281**	PKP	**PKPdf**	**16 18 54.9 +0.8**
TIC	**Toumodi** comp=Z,6.9nm,0.2s	**131.12**	**281**	*e*P	**PKPdf**	**16 18 55.8 +1.4**
LIC	**Lamto** comp=Z,38nm,1.3s	**131.19**	**280**	*e*P	**PKPdf**	**16 18 55.8 +1.3**
PLCA	**Paso Flores**	**138.69**	**160**	PKP	**PKPdf**	**16 19 09.6 +1.7**
PLCA	**Paso Flores** comp=Z,1.6nm,0.5s,baz=197,slow=5.7,SNR=5.0	**138.69**	**160**	PKhKP	PKPpre	16 18 59.1
PLCA				PKP	**PKPdf**	**16 19 09.6 +1.7**
JTS	**JuntasAbangare**	**145.95**	**68**	*e*PKPbc	**PKPab**	**16 19 22.8 0.0**
JTS	**JuntasAbangare** comp=Z,26nm,0.8s,baz=255,slow=3.3,SNR=15	**145.95**	**68**	PKPbc	**PKPab**	**16 19 23.0 +0.2**
SACV	**Santiago Islan**	**146.05**	**301**	*e*PKPbc	**PKPbc**	**16 19 22.7 +0.2**
CFAA	**Coronel Fontan**	**147.62**	**156**	PKP	**PKPdf**	**16 19 24.1 +0.2**
CFAA				PKPbc	**PKPbc**	**16 19 27.0 +0.4**
CFAA	**Coronel Fontan** comp=Z,8.1nm,0.8s,baz=226,slow=2.9,SNR=33	**147.62**	**156**	PKP	**PKPdf**	**16 19 24.1 +0.2**
CFAA	comp=Z,8.1nm,0.8s,baz=226,slow=2.3,SNR=34			PKPbc	**PKPbc**	**16 19 27.0 +0.4**
LCO	**Las Campanas**	**148.67**	**149**	*e*PKPbc	**PKPbc**	**16 19 29.9 +0.2**
GTBY	**Guantanamo Bay**	**149.11**	**43**	*e*PKPbc	**PKPbc**	**16 19 31.8 +1.1**
ATAH	**Atahualpa**	**154.42**	**102**	PKP	**PKPdf**	**16 19 36.8 +1.6**
ATAH	**Atahualpa** comp=Z,9.7nm,0.9s,baz=150,slow=0.9,SNR=8.4	**154.42**	**102**	PKP	**PKPdf**	**16 19 36.8 +1.6**
OTAV	**Otavalo**	**154.59**	**85**	*e*PKPdf	**PKPdf**	**16 19 35.7 +0.2**
LVC	**Limon Verde**	**154.72**	**144**	*e*PKPdf	**PKPdf**	**16 19 35.4 +0.2**
ROSC	**El Rosal**	**157.67**	**71**	PKP	**PKPdf**	**16 19 40.5 +1.0**
ROSC	**El Rosal** comp=Z,8.9nm,0.4s,baz=200,slow=2.0,SNR=4.1	**157.67**	**71**	PKP	**PKPdf**	**16 19 40.5 +1.0**
SDV	**Santo Domingo**	**159.31**	**57**	*e*PKPdf	**PKPdf**	**16 19 41.3 +0.1**
LPAZ	**La Paz**	**159.78**	**134**	PKP	**PKPdf**	**16 19 43.3 +1.1**
LPAZ				PKPab	**PKPab**	**16 20 22.1 +1.0**
LPAZ	**La Paz** comp=Z,11nm,1.2s,baz=343,slow=1.8,SNR=4.2	**159.78**	**134**	PKP	**PKPdf**	**16 19 43.3 +1.1**
LPAZ	comp=Z,10nm,1.0s,baz=1.4,slow=2.3,SNR=4.1			PKPab	**PKPab**	**16 20 22.1 +1.0**
SIV	**San Ignacio**	**164.37**	**151**	PKP	**PKPdf**	**16 19 46.5 +0.4**
SIV				PKPab	**PKPab**	**16 20 41.6 +1.2**
SIV	**San Ignacio** comp=Z,7.5nm,1.1s,baz=225,slow=1.7,SNR=12	**164.37**	**151**	PKP	**PKPdf**	**16 19 46.5 +0.4**
SIV	comp=Z,9.9nm,0.9s,baz=224,slow=7.6,SNR=9.5			PKPab	**PKPab**	**16 20 41.6 +1.2**
BDFB	**Brasilia**	**165.85**	**201**	PKP	**PKPdf**	**16 19 47.8 +0.3**
BDFB				PKPab	**PKPab**	**16 20 47.4 +0.5**
BDFB	**Brasilia** comp=Z,1.5nm,0.5s,baz=142,slow=1.2,SNR=6.6	**165.85**	**201**	PKP	**PKPdf**	**16 19 47.8 +0.3**
BDFB	comp=Z,3.7nm,0.7s,baz=304,slow=3.7,SNR=5.8			PKPab	**PKPab**	**16 20 47.4 +0.5**
SAML	**Samuel**	**168.07**	**124**	*e*PKPdf	**PKPdf**	**16 19 48.4 -0.6**

CSEM ***30*** *16:00:37.3, 38.°03N×26.°18W, h1km, ML3.0, After PDA*

PDA 30 16:00:37.3±0.7, 38.°03N×26.°18W, h1km±4km**, MD3.6, ML3.0, Error ellipse: s-maj=5.8km s-min=1.3km az=40.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.42**	**119**	*e*P	Pg	16 00 44.8	-0.6
PSET				*e*S	Sg	16 00 51.0	+0.2
PSET	1μm,0.4s			A	A	16 00 58.9	
PSET	**Sete Cidades**	**0.42**	**119**	*e*P	Pg	16 00 44.8	-0.6
PSET				*e*S	Sg	16 00 51.0	+0.2
PDA	**Ponta Delgada**	**0.50**	**124**	*e*S	Sg	16 00 53.1	-0.1
PDA	286nm,0.2s			A	A	16 00 53.4	
PDA	**Ponta Delgada**	**0.50**	**124**	*e*S	Sg	16 00 53.1	-0.1
PSCM	**Serra do Cume**	**1.00**	**313**	*e*P	Pg	16 00 53.3	-3.2
PSCM				*e*S	Sg	16 01 05.6	-3.9
PSCM	200nm,0.2s			A	A	16 01 07.4	
PSCM	**Serra do Cume**	**1.00**	**313**	*e*P	Pg	16 00 53.3	-3.2
PSCM				*e*S	Sg	16 01 05.6	-3.9
ADH	**Angra Heroismo**	**1.04**	**307**	*e*S	Sg	16 01 06.8	-3.9
ADH	**Angra Heroismo**	**1.04**	**307**	*e*S	Sg	16 01 06.8	-3.9
PSMA	**Santa Maria**	**1.33**	**141**	*e*S	Sg	16 01 13.7	-6.2
PSMA	196nm,0.5s			A	A	16 01 14.1	
PSMN	**Pico do Norte,**	**1.35**	**139**	*e*S	Sg	16 01 14.1	-6.7
PSMN	32nm,0.2s			A	A	16 01 16.5	
PSMN	**Pico do Norte,**	**1.35**	**139**	*e*S	Sg	16 01 14.1	-6.7
ROSA	**Rosais**	**1.76**	**294**	*e*P	Pn	16 01 04.3	-4.7
ROSA				*e*S	Sn	16 01 24.4	-7.7
ROSA				A	A	16 01 26.6	
ROSA	**Rosais** 37nm,0.2s	**1.76**	**294**	*e*P	Pn	16 01 04.3	-4.7
ROSA				*e*S	Sn	16 01 24.4	-7.7
PICO	**Pico**	**1.83**	**286**	*e*P	Pn	16 01 05.4	-4.6
PICO				*e*S	Sn	16 01 26.1	-7.8
PICO	**Pico**	**1.83**	**286**	*e*P	Pn	16 01 05.4	-4.6
PICO				*e*S	Sn	16 01 26.1	-7.8
PCAN	**Candelaria**	**1.87**	**284**	*e*P	Pn	16 01 05.7	-4.8
PCAN				*e*S	Sn	16 01 26.7	-8.0
PCAN				A	A	16 01 28.6	
PCAN	**Candelaria** 76nm,0.2s	**1.87**	**284**	*e*P	Pn	16 01 05.7	-4.8
PCAN				*e*S	Sn	16 01 26.7	-8.0
CALA	**Caldeira**	**2.06**	**286**	*e*S	Sn	16 01 31.8	-7.8
CALA	**Caldeira**	**2.06**	**286**	*e*S	Sn	16 01 31.8	-7.8

BJI ***30*** *16:37:00.8, 2.°51N×126.°82E, h8km, mB4.9/26, mb4.7/43, Ms4.6/18, Ms7 4.2/17*

IDC ***30*** *16:37:00.6±0.4, 2.°32N×126.°71E, h0km, mb4.6/26, mb1 4.7/26, mb1mx4.6/30, mbtmp4.6/26, MS3.6/5, Ms1 3.6/5, ms1mx3.2/36, Error ellipse: s-maj=21.0km s-min=10.3km az=79.0*

NEIC ***30*** *16:37:04.2±2.0, 2.°41N×126.°72E, h26km±15km, mb4.8/26, Error ellipse: s-maj=7.5km s-min=5.2km az=61.0*

MOS ***30*** *16:37:04.0±1.2, 2.°35N×126.°73E, h33km, mb5.0/28, Error ellipse: s-maj=13.2km s-min=6.2km az=113.2*

ISCJB ***30*** *16:37:07.0±0.5, 2.°42N±0.°02×126.°83E±0.°03, h62km±4km, mb4.7/81, Error ellipse: s-maj=5.7km s-min=3.7km az=163.5*

DJA ***30*** *16:37:07.4±0.6, 2.°N±5.°×12.°7E±.°, h10km, M4.7/9, mb5.0/7, mB5.1/7, MLv4.7/9, Mw(mB)4.4/7*

MAN ***30*** *16:37:45, 5.°03N×125.°86E, h56km, mb5.0, ML3.9, MS4.0*

ISC 30 16:37:02.5±0.5, 2.°36N±0.°03×126.°80E±0.°05, h14km±2km**, h13**km**:pP-P, n217,σ1$30/229, mb4.7**/81**, MS3.7**/10**, 7C-4D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.68**	**160**	P	**Pb**	**16 37 33.6**	**+0.3**
SGSI	**Sangihe**	**1.83**	**316**	P	**Pg**	**16 37 38.0**	**+0.3**
LBMI	**Labuha**	**3.06**	**167**	P	**Pb**	**16 37 55.2**	**-1.7**
LBMI				S	**Sb**	**16 38 33.2**	**-1.0**
KMSI	**Cibinong**	**3.33**	**238**	P	**Pb**	**16 37 59.4**	**-2.1**
GSPH	**General Santos**	**4.13**	**333**	i*P*	**Pn**	**16 38 08.0**	**+2.5**
GTOI	**Gorontalo**	**4.16**	**246**	P	Pn	16 38 10.1	+4.4
SANI	**Sanana**	**4.46**	**191**	P	**Pn**	**16 38 12.8**	**+3.0**
MATI	**Mati**	**4.58**	**353**	*e*P	Pn	16 38 16.4	+4.8
MATI				*e*S	Sn	16 38 40.1	-25
MRSI	**Marisa** 208nm,0.6s,2μm0.8nm	**5.21**	**249**	P	Pn	16 38 26.0	+5.8
LUWI	**Luwuk** 382nm,0.8s,4μm1.5nm	**5.26**	**230**	P	Pn	16 38 27.5	+6.6
LUWI	**Luwuk**	**5.26**	**230**	*e*Pn	**Pn**	**16 38 22.7**	**+1.9**
LUWI				*e*Sn	**Sn**	**16 39 23.8**	**+2.4**
LUWI	**Luwuk** baz=5.5,SNR=15	**5.26**	**230**	P	Pn	16 38 27.7	+6.8
SWI	**Sorong** 86nm,0.9s,981nm0.3nm	**5.49**	**126**	P	Pn	16 38 29.3	+5.3
NLAI	**Namlea** 62nm,0.6s,976nm	**5.57**	**177**	P	Pn	16 38 30.3	+5.1
BUKP	**Musuan**	**5.75**	**343**	*e*P	Pn	16 38 32.5	+5.0
MSAI	**Masohi** 27nm,0.8s,298nm	**6.06**	**159**	P	Pn	16 38 39.4	+7.6
APSI	**Ampana** 373nm,1.2s,4μm	**6.09**	**238**	P	Pn	16 38 39.9	+7.6
TOLI	**Toli-Toli**	**6.13**	**258**	Pn	**Pn**	**16 38 32.9**	**0.0**
PAGZ	**Pagadian**	**6.43**	**328**	*e*P	Pn	16 38 40.8	+3.9
BUTP	**Butuan**	**6.67**	**350**	*e*P	Pn	16 38 44.5	+4.3
IPIL	**Ipil**	**6.84**	**322**	*e*P	**Pn**	**16 38 45.5**	**+3.0**
FAKI	**Fak Fak**	**7.56**	**134**	*e*Pn	Pn	16 38 56.0	+3.5
FAKI	**Fak Fak** baz=7.5,SNR=10	**7.56**	**134**	P	Pn	16 38 56.5	+4.0
PALU	**Palau** baz=8.9,SNR=9.4	**9.10**	**57**	P	Pn	16 39 16.7	+3.0
PALU	baz=8.9,SNR=4.0			S	**Sn**	**16 40 56.5**	**+0.5**
KKM	**Kota Kinabalu**	**11.17**	**289**	*e*Pn	**Pn**	**16 39 41.2**	**-1.0**
KKM	**Kota Kinabalu** baz=11,SNR=4.4	**11.17**	**289**	P	Pn	16 39 50.0	+7.9
SOEI	**Soe**	**12.30**	**192**	*e*Pn	**Pn**	**16 39 57.3**	**-0.3**
BATI	**Baumata**	**12.87**	**194**	Pn	**P**	**16 40 13.0**	**-3.1**
BATI	**Baumata** 1.4nm,0.3s,baz=315,slow=20,SNR=2.5	**12.87**	**194**	Pn	**P**	**16 40 13.0**	**-3.1**
SBUM	**Sibu**	**14.57**	**271**	*e*Pn	**Pn**	**16 40 27.4**	**-1.1**
JAY	**Jayapura**	**14.72**	**109**	Pn	**P**	**16 40 34.7**	**-2.0**
JAY	**Jayapura** 0.3nm,0.3s,baz=96,slow=18,SNR=1.4	**14.72**	**109**	Pn	**P**	**16 40 34.7**	**-2.0**
MTN	**Manton Dam** baz=16,SNR=5.3	**15.71**	**164**	P	**P**	**16 40 48.5**	**+0.8**
KDU	**Kakadu** baz=16,SNR=6.2	**15.98**	**159**	P	**P**	**16 40 52.2**	**+1.6**
JAGI	**Jajag, Banyuwa**	**16.58**	**229**	*e*Pn	**Pn**	**16 40 55.8**	**+1.0**
JAGI	**Jajag, Banyuwa** baz=17,SNR=9.4	**16.58**	**229**	P	P	16 41 03.1	+5.7
KNRA	**Kununurra** baz=18,SNR=6.3	**18.03**	**174**	P	**P**	**16 41 14.1**	**+0.7**
DLV	**T Lat**	**20.50**	**299**	*e*P	**P**	**16 41 40.1**	**-0.5**
CISI	**Cisompet, Garu** baz=22,SNR=3.9	**21.35**	**242**	P	P	16 41 55.2	+5.4
YULB	**Yu-li** 67nm,1.7s	**21.57**	**346**	*e*P	**P**	**16 41 50.0**	**-2.0**
TPUB	**Ta-pu** 32nm,1.0s	**21.66**	**344**	*e*P	**P**	**16 41 50.3**	**-2.6**
SSLB	**Suanglung** 14nm,0.7s	**22.04**	**346**	*e*P	**P**	**16 41 55.5**	**-1.5**
YHNB	**Yeheng** 17nm,0.6s	**22.79**	**347**	*e*P	**P**	**16 42 02.9**	**-2.1**
COEN	**Coen** 1μm,2.0s	**22.94**	**135**	*e*P	**P**	**16 42 06.9**	**+0.2**
WRAB	**Tennant Creek**	**23.36**	**162**	*e*P	**P**	**16 42 10.3**	**-0.6**
WRAB	comp=Z,28nm,0.9s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,28nm,0.9s	**23.36**	**162**	*e*P	**P**	**16 42 10.3**	**-0.6**
WRA	**Warramunga Arr**	**23.37**	**162**	P	**P**	**16 42 10.2**	**-0.8**
WRA				PcP	**PcP**	**16 45 57.8**	**-0.1**
WRA	**Warramunga Arr** comp=Z,18nm,0.6s,baz=338,slow=11,SNR=33	**23.37**	**162**	P	**P**	**16 42 10.2**	**-0.8**
WRA	comp=Z,1.2nm,0.5s,baz=326,slow=2.4,SNR=5.2			PcP	**PcP**	**16 45 57.8**	**-0.1**
PMG	**Port Moresby** comp=Z,166nm,21.8s,baz=325,slow=42	**23.41**	**120**	LR	LR	16 53 19.2	
QIZ	**

GYA					pmax	pmax			
	comp=Z,90nm,4.9s								
GYA					LR	LR			
	comp=Z,450nm,17.8s								
GYA					LR	LR			
	comp=Z,370nm,18.1s								
GYA					LR	LR			
	comp=Z,460nm,17.6s								
JNU	**Nakatsue**	**30.84**	**7**	*e*P	**P**		**16 43 16.6**	**-1.8**	
	comp=Z,36nm,1.2s								
JNU	**Nakatsue**	**30.84**	**7**	P	**P**		**16 43 18.8**	**+0.4**	
	comp=Z,15nm,1.0s,baz=170,slow=4.2,SNR=7.0								
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**		**16 43 25.6**	**-0.1**	
CMAR				PcP	**PcP**		**16 46 18.4**	**+0.6**	
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**		**16 43 25.6**	**-0.1**	
	comp=Z,7.7nm,0.8s,baz=126,slow=7.0,SNR=17								
CMAR				PcP	**PcP**		**16 46 18.4**	**+0.6**	
	comp=Z,1.2nm,1.0s,baz=152,slow=0.9,SNR=4.3								
CMAR				LR	LR		16 56 43.1		
	comp=Z,92nm,21.9s,baz=87,slow=37								
CMMT	**Chiang Mai**	**31.80**	**303**	P	**P**		**16 43 28.7**	**+1.7**	
CHTO	**Chiang Mai**	**31.80**	**303**	P	**P**		**16 43 28.8**	**+1.7**	
	comp=Z,88nm,0.8s								
ENH	**Enshi**	**32.25**	**331**	*e*P	**P**		**16 43 29.8**	**-1.0**	
	comp=Z,5.5nm,0.8s								
KMI	**Kunming**	**32.40**	**316**	P	**P**		**16 43 35.3**	**+2.8**	
KMI				pP	**pP**		**16 43 37.5**	**+0.8**	
KMI				sP	**sP**		**16 43 39.3**	**+0.9**	
KMI				pmax	pmax				
	comp=Z,9.0nm,1.0s								
FORT	**Forrest**	**32.98**	**178**	*e*P	**P**		**16 43 37.0**	**-0.1**	
	comp=Z,29nm,0.6s								
FORT	**Forrest**	**32.98**	**178**	P	**P**		**16 43 37.6**	**+0.5**	
	baz=33,SNR=8.3								
QLP	**Quilpie**	**33.34**	**151**	P	**P**		**16 43 40.2**	**-0.2**	
	baz=33,SNR=8.1								
KSAR	**Wonju Array Be**	**34.92**	**2**	P	**P**		**16 43 55.8**	**+1.8**	
KSRS	**Korea Array**	**34.94**	**2**	P	**P**		**16 43 55.8**	**+1.7**	
	comp=Z,6.6nm,0.6s,baz=178,slow=9.8,SNR=44								
MAJO	**Matsushiro**	**35.60**	**16**	*e*P	**P**		**16 44 00.2**	**+0.3**	
MAJO				pmax	pmax				
	comp=Z,82nm,1.0s								
MAJO	**Matsushiro**	**35.60**	**16**	*e*P	**P**		**16 43 58.3**	**-1.7**	
	comp=Z,2.7nm,0.8s								
MAT	**Matsushiro**	**35.60**	**16**	P	**P**		**16 43 59.4**	**-0.5**	
MJAR	**Matsushiro Arr**	**35.60**	**16**	P	**P**		**16 43 59.5**	**-0.4**	
MJAR	**Matsushiro Arr**	**35.60**	**16**	P	**P**		**16 43 59.5**	**-0.4**	
	comp=Z,7.4nm,0.6s,baz=199,slow=8.2,SNR=35								
MJAR				LR	LR		16 57 55.0		
	comp=Z,65nm,20.7s,baz=210,slow=35								
XAN	**Xi'an**	**35.66**	**334**	P	**P**		**16 43 59.8**	**-0.7**	
XAN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CD2	**Chengdu**	**35.79**	**325**	P	**P**		**16 44 01.8**	**+0.2**	
CD2				sP	**sP**		**16 44 08.0**	**+0.5**	
CD2				PP	**PP**		**16 45 23.8**	**+0.7**	
CD2				S	**S**		**16 49 39.0**	**+0.2**	
CD2				pmax	pmax				
	comp=Z,30nm,1.2s								
CD2				pmax	pmax				
	comp=Z,100nm,5.9s								
CD2				LR	LR				
	comp=Z,200nm,15.5s								
CD2				LR	LR				
	comp=Z,150nm,14.3s								
BBOO	**Buckleboo**	**36.06**	**167**	P	**P**		**16 44 03.9**	**0.0**	
	baz=36,SNR=7.5								
EIDS	**Eidsvold**	**36.24**	**141**	*e*P	**P**		**16 44 04.5**	**-1.1**	
	comp=Z,13nm,0.9s								
EIDS	**Eidsvold**	**36.24**	**141**	P	**P**		**16 44 05.7**	**+0.2**	
	baz=36,SNR=3.5								
NWAO	**Narrogin (SRO)**	**36.25**	**194**	P	**P**		**16 44 05.6**	**+0.2**	
NWAO	**Narrogin (SRO)**	**36.25**	**194**	P	**P**		**16 44 05.6**	**+0.2**	
	comp=Z,4.4nm,0.4s,baz=38,slow=19,SNR=5.1								
STKA	**Stephens Creek**	**36.84**	**159**	*e*P	**P**		**16 44 09.6**	**-0.9**	
	comp=Z,4.7nm,0.8s								
STKA				PcP	**PcP**		**16 46 32.3**	**-0.1**	
STKA	**Stephens Creek**	**36.84**	**159**	P	**P**		**16 44 10.5**	**0.0**	
	comp=Z,22nm,0.7s,baz=334,slow=8.5,SNR=56								
STKA				PcP	**PcP**		**16 46 32.3**	**-0.1**	
	comp=Z,2.3nm,0.6s,baz=3.9,slow=6.7,SNR=2.9								
STKA	**Stephens Creek**	**36.84**	**159**	P	**P**		**16 44 10.6**	**+0.1**	
	baz=37,SNR=36								
HTT	**Hallett**	**37.40**	**163**	P	**P**		**16 44 18.2**	**+3.0**	
	baz=38,SNR=5.5								
RKGY	**Rocky Gully**	**37.92**	**193**	P	**P**		**16 44 21.6**	**+2.0**	
	baz=38,SNR=5.4								
CMSA	**Cobar Meteorol**	**38.20**	**153**	P	**P**		**16 44 22.3**	**+0.3**	
	baz=38,SNR=9.3								
BJI	**Beijing**	**38.73**	**347**	P	**P**		**16 44 25.3**	**-1.0**	
BJI				pmax	pmax				
	comp=Z,32nm,1.1s								
BJI				pmax	pmax				
	comp=Z,86nm,3.7s								
LZH	**Lanzhou**	**39.72**	**330**	*e*P	**P**		**16 44 36.3**	**+1.4**	
LZH				pP	**pP**		**16 44 41.0**	**+1.9**	
LZH				sP	**sP**		**16 44 43.0**	**+2.2**	
LZH				pmax	pmax				
	comp=Z,32nm,1.2s								
LZH				pmax	pmax				
	comp=Z,73nm,7.6s								
ARMA	**Armidale**	**40.30**	**146**	*e*P	**P**		**16 44 39.9**	**+0.2**	
	comp=Z,29nm,0.8s								
ARMA	**Armidale**	**40.30**	**146**	P	**P**		**16 44 40.7**	**+1.0**	
	baz=40,SNR=24								
HHC	**Hu-ho-hao-te**	**40.71**	**342**	*e*P	**P**		**16 44 41.5**	**-1.5**	
HHC				sP	**sP**		**16 44 48.8**	**-0.1**	
HHC				PP	**PnPn**		**16 46 22.0**	**+1.0**	
HHC				S	**S**		**16 50 51.5**	**-1.6**	
HHC				sS	**sS**		**16 50 57.3**	**-2.8**	
HHC				SS	SS		16 53 45.8	-8.1	
HHC				pmax	pmax				
	comp=Z,23nm,1.0s								
HHC				pmax	pmax				
	comp=Z,220nm,5.2s								
HHC				LR	LR				
	comp=Z,300nm,12.3s								
HHC				LR	LR				
	comp=Z,250nm,15.6s								
HHC				LR	LR				
	comp=Z,250nm,15.2s								
CN2	**Changchun**	**41.28**	**359**	*e*P	**P**		**16 44 49.3**	**+1.8**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ARPS	**Mount Arapiles**	**41.37**	**162**	P	**P**		**16 44 50.6**	**+2.2**	
	baz=42,SNR=6.6								
USRK	**Ussuriysk Arra**	**41.91**	**6**	P	**P**		**16 44 54.2**	**+1.5**	
	comp=Z,24nm,0.8s,baz=190,slow=7.8,SNR=31								
MDJ	**Mudanjiang**	**42.15**	**3**	*e*P	**P**		**16 44 53.1**	**-1.5**	
	comp=Z,22nm,1.0s								
H11S3	**WAKE ISLAND Hy**	**42.23**	**65**	T	T		17 30 15.8		
	baz=253,slow=72,SNR=8.5								
H11S2	**WAKE ISLAND Hy**	**42.24**	**65**	T	T		17 30 12.8		
	baz=253,slow=72,SNR=10								
H11S1	**WAKE ISLAND Hy**	**42.24**	**65**	T	T		17 30 02.0		
	baz=253,slow=72,SNR=4.1								
LSA	**Lhasa**	**43.40**	**312**	P	**P**		**16 45 06.5**	**+0.9**	
LSA	**Lhasa**	**43.40**	**312**	*e*P	**P**		**16 45 04.5**	**-1.1**	
LSA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**43.40**	**312**	*e*P	**P**		**16 45 04.5**	**-1.1**	
	comp=Z,6.4nm,0.6s								
ASAJ	**Asahikawa**	**43.87**	**16**	P	**P**		**16 45 09.9**	**+1.3**	
ASAJ	**Asahikawa**	**43.87**	**16**	P	**P**		**16 45 09.9**	**+1.3**	
	comp=Z,16nm,0.9s,baz=216,slow=11,SNR=9.2								
HABR	**Khabarovsk**	**46.48**	**8**	*e*P	**P**		**16 45 28.1**	**-1.1**	
HABR				*e*			16 47 02.2		
HABR				*e*			16 47 17.4		
HABR				S	**S**		**16 52 17.2**	**+0.2**	
HABR				*e**SS	**sS**		**16 52 22.5**	**-1.5**	
HABR				*e*			16 55 23.0		
HABR				*e*SSS	SSS		16 56 38.9		
HABR				pmax	pmax				
	comp=Z,14nm,2.0s								
HABR				pmax	pmax				
	comp=E,32nm,1.8s								
KLR	**Kul'dur**	**46.88**	**4**	*e*P	**P**		**16 45 29.7**	**-2.7**	
KLR				pmax	pmax				
	comp=Z,34nm,1.2s								
ULN	**Ulaanbaatar**	**48.43**	**342**	*e*P	**P**		**16 45 43.1**	**-1.5**	
	comp=Z,9.2nm,1.0s								
SONM	**Songino Array**	**48.61**	**342**	P	**P**		**16 45 46.9**	**+0.9**	
SONM	**Songino Array**	**48.61**	**342**	P	**P**		**16 45 46.9**	**+0.9**	
	comp=Z,2.2nm,0.7s,baz=160,slow=9.1,SNR=13								
HYB	**Hyderabad**	**49.66**	**291**	*i* P	**P**		**16 45 54.0**	**-0.4**	
ZAK	**Zakamensk**	**51.83**	**341**	*e*P	**P**		**16 46 10.3**	**0.0**	
ZAK				*e*			16 47 23.7		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
TLY	**Talaya**	**52.84**	**342**	*e*P	**P**		**16 46 19.8**	**+2.1**	
TLY				*e*			16 46 28.3		
TLY				pmax	pmax				
	comp=Z,9.0nm,0.9s								
MOY	**Mondy**	**53.68**	**340**	*e*P	**P**		**16 46 25.4**	**+1.4**	
WMQ	**Urumqi**	**53.88**	**326**	P	**P**		**16 46 25.3**	**-0.3**	
WMQ				pmax	pmax				
	comp=Z,8.0nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,26nm,5.6s								
WMQ				LR	LR				
	comp=Z,59nm,24.0s								
WMQ				LR	LR				
	comp=Z,66nm,23.5s								
WMQ				LR	LR				
	comp=Z,54nm,22.5s								
CLNS	**Chul'man**	**54.33**	**359**	*e*P	**P**		**16 46 30.0**	**+1.4**	
CLNS				pmax	pmax				
	comp=Z,17nm,1.1s								
CLNS				pmax	pmax				
	comp=E,5.0nm,0.9s								
CLNS				pmax	pmax				
	comp=N,7.0nm,0.9s								
PETK	**Petropavlovsk-**	**56.66**	**22**	P	**P**		**16 46 45.9**	**+0.5**	
PETK	**Petropavlovsk-**	**56.66**	**22**	P	**P**		**16 46 45.9**	**+0.5**	
PETK	**Petropavlovsk-**	**56.66**	**22**	P	**P**		**16 46 45.9**	**+0.5**	
	comp=N,4.2nm,0.7s,baz=185,slow=3.2,SNR=7.3								
MK31	**Makanchi Array**	**58.72**	**326**	*e*P	**P**		**16 46 59.0**	**-1.0**	
MK31	**Makanchi Array**	**58.72**	**326**	*e*P	**P**		**16 46 59.0**	**-1.0**	
MKAR	**Makanchi Array**	**58.72**	**326**	*e*P	**P**		**16 47 00.1**	**+0.1**	
MKAR	**Makanchi Array**	**58.72**	**326**	*e*P	**P**		**16 47 00.2**	**+0.1**	
MKAR	**Makanchi Array**	**58.72**	**326**	P	**P**		**16 46 60.0**	**0.0**	
	comp=N,2.4nm,0.4s,baz=124,slow=7.2,SNR=18								
KSH	**Kashi**	**59.06**	**316**	*e*P	**P**		**16 47 03.0**	**+0.3**	
KSH				*e*PP	**PP**		**16 49 15.3**	**+2.0**	
KSH				*e*PcS	**PcS**		**16 51 52.0**	**-1.4**	
KSH				*e*S	**S**		**16 55 08.0**	**-1.5**	
KSH				*e*SS	**SS**		**16 59 03.0**	**-0.7**	
KSH				pmax	pmax				
	comp=N,1.0nm,0.7s								
KSH				pmax	pmax				
	comp=N,60nm,5.9s								
KSH				LR	LR				
	comp=N,84nm,4.9s								
KSH				LR	LR				
	comp=N,95nm,4.3s								
YAK	**Yakutsk**	**59.56**	**2**	*e*P	**P**		**16 47 05.6**	**+0.1**	
YAK				*e*			16 47 52.3		
YAK				*e*			16 49 18.9		
YAK				*e*PPP	PPP		16 50 41.4		
YAK				*e*S	S		16 55 07.5	-7.3	
YAK				*e*SS	**SS**		**16 59 07.2**	**-3.2**	
YAK				pmax	pmax				
	comp=Z,44nm,0.9s								
YAK				pmax	pmax				
	comp=N,18nm,1.1s								
YAK				pmax	pmax				
	comp=Z,191nm,5.0s								
YAK				pmax	pmax				
	comp=N,34nm,4.3s								
YAK				pmax	pmax				
	comp=E,118nm,4.7s								
YAK				smax	smax				
	comp=N,100nm,3.8s								
YAK				smax	smax				
	comp=E,105nm,4.5s								
YAK	**Yakutsk**	**59.56**	**2**	*e*P	**P**		**16 47 03.2**	**-2.3**	
	comp=E,44nm,0.8s								
TKM2	**Tokmak 2**	**60.81**	**319**	*e*P	**P**		**16 47 12.0**	**-2.8**	
TKM2	**Tokmak 2**	**60.81**	**319**	*e*P	**P**		**16 47 12.3**	**-2.5**	
	comp=E,3.5nm,0.8s								
AAK	**Ala-Archa**	**61.41**	**318**	*i*P	**P**		**16 47 20.3**	**+1.5**	
AAK				pmax	pmax				
	comp=Z,6.0nm,1.2s								
AAK	**Ala-Archa**	**61.41**	**318**	*e*P	**P**		**16 47 16.5**	**-2.3**	
	comp=Z,5.5nm,1.3s								
AAK	**Ala-Archa**	**61.41**	**318**	P	**P**		**16 47 19.1**	**+0.3**	
	comp=Z,1.5nm,0.6s,baz=150,slow=6.0,SNR=7.8								
ZALV	**Zalesovo Beam**	**61.83**	**333**	*i* P	**P**		**16 47 22.5**	**+1.4**	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ZALV	**Zalesovo Beam**	**61.83**	**333**	P	**P**		**16 47 20.4**	**-0.7**	
ZALV	**Zalesovo Beam**	**61.83**	**333**	P	**P**		**16 47 20.4**	**-0.7**	
	comp=Z,1.5nm,0.4s,baz=138,slow=6.9,SNR=11								
ZALV				LR	LR		17 17 21.1		
	comp=Z,60nm,18.0s,baz=66,slow=39								
EKS2	**Erkin-Say**	**61.91**	**318**	*e*P	**P**		**16 47 22.5**	**+0.5**	
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.8s								
EKS2	**Erkin-Say**	**61.91**	**318**	*e*P	**P**		**16 47 22.5**	**+0.5**	
	comp=Z,4.7nm,0.8s								
KBL	**Kabul**	**62.41**	**308**	*e*P	**P**		**16 47 24.1**	**-1.6**	
KBL				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KBL	**Kabul**	**62.41**	**308**	*e*P	**P**		**16 47 24.1**	**-1.6**	
	comp=Z,6.3nm,0.8s								
KURK	**Kurchatov**	**62.93**	**328**	*e*P	**P**		**16 47 28.2**	**-0.3**	
KURK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KURK	**Kurchatov**	**62.93**	**328**	*e*P	**P**		**16 47 28.2**	**-0.3**	
	comp=Z,8.2nm,0.8s								
AFI	**Afiamalu**	**62.98**	**107**	*e*P	**P**		**16 47 28.4**	**-1.2**	
AFI	**Afiamalu**	**62.98**	**107**	P	**P**		**16 47 27.6**	**-2.0**	
	comp=Z,15nm,0.5s,baz=253,slow=13,SNR=4.1								
SEY	**Seymchan**	**63.34**	**13**	P	**P**		**16 47 32.7**	**+1.7**	
SEY	**Seymchan**	**63.34**	**13**	P	**P**		**16 47 32.7**	**+1.7**	
SEY	**Seymchan**	**63.34**	**13**	P	**P**		**16 47 32.7**	**+1.7**	
	comp=Z,14nm,1.0s,baz=214,slow=6.1,SNR=19								
KKAR	**Karatay Array**	**64.28**	**317**	*e*P	**P**		**16 47 37.2**	**-0.5**	
KKAR	**Karatay Array**	**64.28**	**317**	*e*P	**P**		**16 47 37.2**	**-0.5**	
VOSK	**Vostochnaya**	**68.04**	**327**	*e*P	**P**		**16 48 00.9**	**-0.7**	
VOSK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
VOSK	**Vostochnaya**	**68.04**	**327**	*e*P	**P**		**16 48 00.9**	**-0.7**	
	comp=Z,4.9nm,0.9s								
BVAR	**Borovoye Array**	**68.50**	**327**	P	**P**		**16 48 04.7**	**+0.2**	
BVAR	**Borovoye Array**	**68.50**	**327**	P	**P**		**16 48 04.7**	**+0.2**	
BVAR	**Borovoye Array**	**68.50**	**327**	P	**P**		**16 48 04.7**	**+0.2**	
	comp=Z,3.6nm,0.7s,baz=120,slow=8.8,SNR=14								
BRVK	**Borovoye**	**68.57**	**327**	*i* P	**P**		**16 48 05.8**	**+0.9**	
BRVK				pmax	pmax				
	comp=Z,11nm,1.2s								
BRVK	**Borovoye**	**68.57**	**327**	*e*P	**P**		**16 48 02.7**	**-2.2**	
	comp=Z,7.1nm,0.8s								
TIXI	**Tiksi**	**69.20**	**1**	*i* P	**P**		**16 48 08.9**	**+0.5**	
TIXI				pmax	pmax				
	comp=Z,13nm,1.0s								
TIXI	**Tiksi**	**69.20**	**1**	*e*P	**P**		**16 48 08.4**	**0.0**	
	comp=Z,14nm,1.0s								
BILL	**Bilibino**	**70.85**	**15**	*e*P	**P**		**16 48 19.7**	**+1.0**	
BILL				pmax	pmax				
	comp=Z,3.0nm,1.2s								
ABKAR	**Akbulak array**	**73.25**	**321**	*e*P	**P**		**16 48 33.6**	**+0.2**	
AKTO	**Aktyubinsk**	**74.77**	**322**	LR	LR		17 24 28.7		
	comp=Z,48nm,19.7s,slow=38								
SVE	**Sverdlovsk**	**75.16**	**329**	*e*P	**P**		**16 48 44.7**	**+0.3**	
SVE				pmax	pmax				
	comp=Z,34nm,1.1s								
GAMB	**Gambell**	**75.61**	**24**	*e*P	**P**		**16 48 48.5**	**+1.7**	
ARU	**Arti**	**76.12**	**328**	*d* P	**P**		**16 48 49.8**	**-0.1**	
ARU				S	**S**		**16 58 34.8**	**+1.5**	
ARU				SS	SS		17 03 19.1	-7.5	
ARU				pmax	pmax				
	comp=Z,23nm,1.2s								
ARU	**Arti**	**76.12**	**328**	*e*P	**P**		**16 48 49.6**	**-0.4**	
OPO	**Ambohidratompo**	**80.92**	**251**	P	**P**		**16 49 18.0**	**+0.6**	
OPO	**Ambohidratompo**	**80.92**	**251**	P	**P**		**16 49 18.0**	**+0.6**	
	comp=Z,3.3nm,0.6s,baz=21,slow=2.7,SNR=6.3								
ABPO	**Ambohimpanom**	**80.92**	**250**	*e*P	**P**		**16 49 18.2**	**+0.8**	
ABPO	**Ambohimpanom**	**80.92**	**250**	*e*P	**P**		**16 49 18.2**	**+0.8**	
RAYN	**Ar Rayn**	**81.08**	**293**	*e*P	**P**		**16 49 17.1**	**-1.0**	
	comp=Z,9.4nm,0.8s								
VNDA	**Vanda**	**82.07**	**173**	P	**P**		**16 49 22.2**	**+0.2**	
VNDA	**Vanda**	**82.07**	**173**	P	**P**		**16 49 22.2**	**+0.2**	
	comp=Z,2.0nm,0.4s,baz=322,slow=7.7,SNR=12								
ZEI	**Tsey**	**83.19**	**313**	*e*P	**P**		**16 49 28.9**	**0.0**	
ZEI				pmax	pmax				
	comp=Z,23nm,1.4s								
PRGR	**Permogore**	**83.73**	**332**	*e*P	**P**		**16 49 30.2**	**-0.8**	
PRGR				pmax	pmax				
	comp=Z,17nm,0.9s								
KBZ	**Khabaz**	**83.97**	**314**	P	**P**		**16 49 32.6**	**0.0**	
KBZ	**Khabaz**	**83.97**	**314**	P	**P**		**16 49 32.6**	**0.0**	
	comp=Z,3.5nm,0.9s,baz=73,slow=4.4,SNR=5.5								
KIV	**Kislovodsk**	**84.13**	**314**	*i* P	**P**		**16 49 35.6**	**+2.0**	
KIV				pmax	pmax				
	comp=Z,11nm,1.2s								
KTH	**Kantishna Hill**	**84.45**	**26**	*e*P	**P**		**16 49 36.3**	**+1.6**	
RC01	**Rabbit Creek A**	**84.77**	**29**	*e*P	**P**		**16 49 37.1**	**+0.7**	
COLD	**Coldfoot**	**85.11**	**23**	*e*P	**P**		**16 49 40.9**	**+2.9**	
VRHR	**Novokhopersk**	**85.14**	**321**	*e*P	**P**		**16 49 37.1**	**-1.3**	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,20nm,0.9s								
MCK	**McKinley**	**85.35**	**26**	*e*P	**P**		**16 49 40.3**	**+1.1**	
MCK	**McKinley**	**85.35**	**26**	*e*P	**P**		**16 49 40.3**	**+1.1**	
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**		**16 49 43.0**	**-0.8**	
ILAR	**Eielson Array**	**86.30**	**25**	P	**P**		**16 49 43.0**	**-0.8**	
	comp=Z,0.3nm,0.5s,baz=271,slow=4.6,SNR=8.9								
VORD	**Divnogorie**	**86.61**	**321**	*e*P	**P**		**16 49 45.8**	**+0.2**	
VORD				pmax	pmax				
	comp=N,4.0nm,0.8s								
VORD				pmax	pmax				
	comp=E,8.0nm,0.8s								
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KLMR	**Klimovskoe**	**86.62**	**331**	*e*P	**P**		**16 49 45.0**	**-0.5**	
KLMR				pmax	pmax				
	comp=Z,23nm,1.6s								
VSR	**Storozhevoye**	**86.69**	**321**	*e*P	**P**		**16 49 46.8**	**+0.8**	
VSR				pmax	pmax				
	comp=N,6.0nm,0.9s								
VSR				pmax	pmax				
	comp=E,9.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
OBN	**Obninsk**	**88.21**	**325**	*i* P	**P**		**16 49 53.5**	**+0.2**	
OBN				pmax	pmax				
	comp=Z,11nm,1.3s								
BRTR	**Keskin Array B**	**90.94**	**310**	P	**P**		**16 50 06.0**	**-0.7**	
BRTR	**Keskin Array B**	**90.94**	**310**	P	**P**		**16 50 06.0**	**-0.7**	
	comp=Z,1.8nm,0.8s,baz=115,slow=6.5,SNR=7.2								
SYO	**Syowa Base**	**91.19**	**201**	*e*P	**P**		**16 50 08.0**	**+1.1**	
INK	**Inuvik**	**91.40**	**22**	*e*P	**P**		**16 50 08.6**	**+0.7**	
ARCES	**ARCESS Array B**	**91.75**	**340**	P	**P**		**16 50 08.9**	**-0.6**	
ARCES	**ARCESS Array B**	**91.75**	**340**	P	**P**		**16 50 08.9**	**-0.6**	
	comp=Z,2.5nm,0.7s,baz=81,slow=5.6,SNR=3.4								
QSPA	**South Pole Qui**	**92.28**	**180**	P	**P**		**16 50 12.5**	**+0.3**	
QSPA	**South Pole Qui**	**92.28**	**180**	P	**P**		**16 50 12.5**	**+0.3**	
	comp=Z,0.9nm,0.6s,baz=353,slow=12,SNR=4.5								
AKASG	**Malin Array Be**	**92.99**	**321**	*c*eP	**P**		**16 50 17.0**	**+1.3**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**92.99**	**321**	P	**P**		**16 50 14.3**	**-1.4**	
AKASG	**Malin Array Be**	**92.99**	**321**	P	**P**		**16 50 14.3**	**-1.4**	
	comp=Z,1.4nm,0.8s,baz=67,slow=4.8,SNR=5.9								
BUR08	**Bucovina Ar. S**	**96.07**	**318**	*e*P	**P**		**16 50 28.2**	**-1.8**	
YKA	**Yellowknife Ar**	**100.70**	**25**	P	**Pdif**		**16 50 50.6**	**+0.2**	
YKA	**Yellowknife Ar**	**100.70**	**25**	P	**Pdif**		**16 50 50.6**	**+0.2**	
	comp=Z,0.5nm,0.8s,baz=290,slow=3.7,SNR=5.9								
BRG	**Berggiesshubel**	**102.37**	**323**	*e*PDIF	**Pdif**		**16 50 59.7**	**+1.7**	
	comp=Z,5.2nm,1.2s								
BRG	**Berggiesshubel**	**102.37**	**323**	*e*P	**Pdif**		**16 50 59.7**	**+1.7**	
BRG				pmax	pmax				
	comp=Z,2.0nm,1.2s								
CLL	**Collm**	**102.78**	**324**	*e*P	**Pdif**		**16 50 59.0**	**-0.8**	
TORD	**Torodi Ar. Bea**	**123.40**	**287**	PKP	**PKPdf**		**16 56 00.4**	**-0.1**	
TORD	**Torodi Ar. Bea**	**123.40**	**287**	PKP	**PKPdf**		**16 56 00.4**	**-0.1**	
	comp=Z,1.7nm,1.0s,baz=45,slow=2.4,SNR=5.8								
PLCA	**Paso Flores**	**138.71**	**160**	PKP	**PKPdf**		**16 56 29.4**	**+0.5**	
PLCA	**Paso Flores**	**138.71**	**160**	PKP	**PKPdf**		**16 56 29.4**	**+0.5**	
	comp=Z,0.8nm,0.6s,baz=288,slow=3.8,SNR=3.3								

*BKK **30** 16:38:08.1±1.2, 11°N±12°×8°7E±1°2, h10km, M4.5/12, mB5.2/4, mb4.4/12, Mw(mB)4.5/4*
*IDC **30** 16:39:21.7±0.7, 13°99N×92°93E, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.9/43, mbtmp4.0/13, ML3.2/1, Error ellipse: s-maj=27.4km s-min=17.4km az=53.0*
ISC 30 16:39:26.5±0.5, 14°17N±0°05×93°10E±0°07, h32km, n43, σ1s28/35, mb4.1/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DGPR	**DIGLIPUR**	**1.00**	**190**	*e*P		**Pn**	**16 39 44

comp=Z,3.4nm,0.7s,baz=92,slow=6.1,SNR=6.4
GERES **GERESS Array B 72.51 317** P **P** **16 50 51.0 +0.5**
comp=Z,1.4nm,0.8s,baz=90,slow=5.3,SNR=10
NOA **NORSAR Array B 73.79 330** P **P** **16 50 57.8 +0.2**
comp=Z,1.0nm,0.8s,baz=64,slow=8.1,SNR=3.4
BOSA **Boshof 78.13 236** P **P** **16 51 22.6 -0.5**
comp=Z,2.6nm,0.6s,baz=86,slow=5.5,SNR=7.2
TORD **Torodi Ar. Bea 88.18 283** P **P** **16 52 15.2 +0.1**
comp=Z,0.9nm,0.8s,baz=78,slow=4.8,SNR=5.3
ILAR **Eielson Array 89.32 22** P **P** **16 52 20.4 +0.9**
comp=Z,0.4nm,0.7s,baz=304,slow=5.0,SNR=5.4

IDC 30 16:41:33.8±2.0, 2.63N×127.30E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, MS4.2/1, Ms1 4.1/1, ms1mx2.9/29, Error ellipse: s-maj=112.9km s-min=19.4km az=60.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.47**	**163**	P	P	16 46 45.1	-0.1
	1.3nm,0.4s,baz=341,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.92**	**167**	P	P	16 47 16.9	0.0
	0.3nm,0.6s,baz=344,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**31.92**	**302**	P	P	16 48 01.7	+0.2
	0.7nm,0.9s,baz=115,slow=6.1,SNR=4.5						
STKA	**Stephens Creek**	**36.91**	**160**	P	P	16 48 44.4	0.0
	2.0nm,0.9s,baz=354,slow=10,SNR=3.5						
STKA				LR	LR	17 04 54.2	
	comp=Z,348nm,19.0s,baz=39,slow=38						
MKAR	**Makanchi Array**	**58.78**	**325**	P	P	16 51 33.5	-0.3
	0.2nm,0.3s,baz=123,slow=8.5,SNR=2.6						

*IDC **30** 16:44:17.1±0.9, 26.88S×176.35W, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.3/20, mbtmp4.4/9, ML5.3/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=28.3km s-min=21.2km az=112.0*
*ISCJB **30** 16:44:18.0±1.1, 27.62S±0.09×176.0W±0.2, h33km, mb4.3/8, MS3.8/2, Error ellipse: s-maj=24.0km s-min=10.8km az=16.2*
ISC 30 16:44:19.9±1.0, 27.5S±0.1×176.0W±0.2, h33km, n20, σ1§43/19, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.45**	**223**	Pn	**Pb**	**16 45 02.8**	**-0.4**
	494nm,0.3s,baz=49,slow=18,SNR=8.4						
RAO				Sn	**Sb**	**16 45 36.4**	**+3.3**
	406nm,0.3s,baz=68,slow=22,SNR=8.1						
RAO				LR	LR	16 45 51.4	
	comp=Z,350nm,19.5s,baz=92,slow=34						
URZ	**Urewera**	**12.21**	**207**	Pn	**Pn**	**16 47 09.1**	**-2.4**
	0.3nm,0.3s,baz=344,slow=18,SNR=4.6						
URZ				Sn	**Sn**	**16 49 26.3**	**-0.1**
	2.6nm,0.3s,baz=183,slow=22,SNR=11						
AFI	**Afiamalu**	**14.06**	**17**	LR	LR	16 53 43.9	
	comp=Z,62nm,18.5s,baz=190,slow=42						
RAR	**Rarotonga**	**16.04**	**71**	LR	LR	16 53 14.3	
	comp=Z,177nm,18.4s,baz=226,slow=33						
DZM	**Mont Dzumac**	**16.83**	**285**	Pn	**P**	**16 48 14.3**	**-0.7**
	0.3nm,0.3s,baz=90,slow=17,SNR=3.8						
PPT	**Papeete**	**26.27**	**74**	LR	LR	16 58 37.9	
	comp=Z,130nm,18.3s,baz=202,slow=33						
CTA	**Charters Tower**	**35.22**	**274**	P	**P**	**16 51 10.5**	**-0.9**
	3.6nm,0.4s,baz=104,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**45.12**	**263**	P	**P**	**16 52 32.5**	**-0.9**
	1.7nm,0.6s,baz=102,slow=7.6,SNR=8.2						
ASAR				PcP	**PcP**	**16 54 15.0**	**+1.3**
	0.7nm,0.9s,baz=57,slow=3.4,SNR=2.6						
ASAR				LR	LR	17 10 33.2	
	comp=Z,157nm,18.0s,baz=76,slow=35						
WRA	**Warramunga Arr**	**45.85**	**268**	P	**P**	**16 52 37.5**	**-1.7**
	3.5nm,0.8s,baz=107,slow=6.2,SNR=8.8						
WRA				PcP	**PcP**	**16 54 17.7**	**+1.5**
	2.1nm,1.0s,baz=107,slow=3.5,SNR=4.2						
QSPA	**South Pole Qui**	**62.62**	**180**	P	P	16 54 47.5	+6.6
	12nm,0.9s,baz=49,slow=2.6,SNR=26						
MJAR	**Matsushiro Arr**	**76.89**	**324**	P	**P**	**16 56 07.5**	**-1.3**
	3.5nm,1.0s,baz=160,slow=6.4,SNR=8.1						
KSRS	**Korea Array**	**83.30**	**318**	P	**P**	**16 56 44.2**	**+0.9**
	1.3nm,0.7s,baz=127,slow=5.9,SNR=9.0						
NVAR	**Mina Array Bea**	**84.90**	**42**	P	**P**	**16 56 52.1**	**+0.4**
	1.1nm,1.0s,baz=229,slow=10,SNR=5.3						
CMAR	**Chiang Mai Arr**	**94.12**	**289**	P	**P**	**16 57 37.3**	**+1.7**
	0.8nm,0.7s,baz=125,slow=3.3,SNR=6.7						
MKAR	**Makanchi Array**	**117.22**	**311**	PKP	**PKPdf**	**17 03 01.9**	**+0.3**
	0.4nm,0.6s,baz=69,slow=4.8,SNR=4.5						
FINES	**FINESS Array B**	**142.95**	**343**	PKhKP	PKPpre	17 03 46.6	
	0.9nm,0.8s,baz=52,slow=11,SNR=3.3						
NB2	**NORSAR Subarra**	**146.02**	**355**	PKP	**PKPbc**	**17 03 56.4**	**+0.4**
	comp=Z,8.4nm,1.1s,baz=10,slow=4.1						
NOA	**NORSAR Array B**	**146.09**	**354**	PKPbc	**PKPdf**	**17 03 54.6**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=7.5,slow=2.5,SNR=4.5						
AKASG	**Malin Array Be**	**149.92**	**327**	PKPbc	**PKPbc**	**17 04 06.8**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=39,slow=3.5,SNR=4.2						
BRTR	**Keskin Array B**	**152.59**	**304**	PKPbc	**PKPbc**	**17 04 14.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=66,slow=3.1,SNR=4.3						

*ISCJB **30** 16:45:22.6±0.5, 4.75S±0.07×153.14E±0.09, h56km, mb4.1/15, MS3.7/3, Error ellipse: s-maj=13.9km s-min=8.0km az=24.7*
*IDC **30** 16:45:24.4±4.1, 4.81S×153.20E, h61km±37km, mb3.9/14, mb1 4.0/15, mb1mx3.9/21, mbtmp4.2/15, ML3.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/26, Error ellipse: s-maj=25.9km s-min=15.9km az=83.0*
ISC 30 16:45:24.2±0.7, 4.81S±0.09×153.3E±0.1, h56km, n35, σ1§51/30, mb4.1/15, MS3.8/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.58**	**233**	P	**Pn**	**16 47 12.2**	**-0.1**
	1.9nm,0.3s,baz=45,slow=11,SNR=11						
PMG				S	**Sn**	**16 48 34.8**	**-2.1**
	1.8nm,0.3s,baz=353,slow=19,SNR=6.7						
PMG	**Port Moresby**	**7.58**	**233**	P	**Pn**	**16 47 13.5**	**+1.2**
	baz=7.9,SNR=4.0						
PMG				S	**Sn**	**16 48 35.8**	**-1.0**
	baz=7.9,SNR=8.4						
DZM	**Mont Dzumac**	**21.39**	**145**	P	**P**	**16 50 08.4**	**+0.9**
	56nm,0.9s,baz=308,slow=9.2,SNR=23						
DZM	**Mont Dzumac**	**21.39**	**145**	*eP*	**P**	**16 50 07.9**	**+0.5**
KDU	**Kakadu**	**21.97**	**248**	P	**P**	**16 50 12.6**	**-1.1**
	baz=22,SNR=11						
RMQ	**Roma**	**21.98**	**191**	P	**P**	**16 50 15.2**	**+1.5**
	baz=22,SNR=5.0						
MTN	**Manton Dam**	**23.26**	**248**	P	**P**	**16 50 28.2**	**+1.1**
	baz=24,SNR=4.7						
QLP	**Quilpie**	**23.31**	**201**	P	**P**	**16 50 27.4**	**-0.1**
	baz=24,SNR=4.5						
WRA	**Warramunga Arr**	**23.79**	**229**	P	**P**	**16 50 30.8**	**-1.3**
	7.2nm,0.9s,baz=51,slow=9.7,SNR=24						
KNRA	**Kununurra**	**26.38**	**244**	P	**P**	**16 50 56.8**	**+1.2**
	baz=27,SNR=16						
ASAR	**Alice Springs**	**26.46**	**223**	P	**P**	**16 50 54.5**	**-1.8**
	1.1nm,0.8s,baz=57,slow=9.0,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**26.67**	**29**	T	T	17 18 52.6	
	baz=211,slow=77,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**26.68**	**29**	T	T	17 18 47.1	
	baz=211,slow=77,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**26.69**	**29**	T	T	17 18 53.8	
	baz=211,slow=77,SNR=5.3						
STKA	**Stephens Creek**	**29.07**	**201**	P	**P**	**16 51 18.9**	**-0.6**
	2.4nm,0.9s,baz=38,slow=12,SNR=3.3						
BATI	**Baumata**	**29.82**	**258**	LR	LR	17 04 56.1	
	comp=Z,243nm,19.9s,baz=60,slow=39						
WRKA	**Warakurna**	**31.29**	**227**	P	**P**	**16 51 37.9**	**-1.4**
	baz=32,SNR=4.1						
HTT	**Hallett**	**31.46**	**203**	P	**P**	**16 51 40.7**	**+0.1**
	baz=32,SNR=3.7						
MEEK	**Meekatharra**	**39.56**	**233**	P	P	16 52 53.7	+3.4
	baz=40,SNR=4.0						
URZ	**Urewera**	**39.75**	**150**	LR	LR	17 06 19.0	
	comp=Z,142nm,18.4s,baz=5.0,slow=32						
JNU	**Nakatsue**	**43.28**	**332**	P	**P**	**16 53 19.5**	**-1.1**
	5.7nm,0.9s,baz=121,slow=12,SNR=3.4						
KSRS	**Korea Array**	**48.22**	**333**	P	**P**	**16 53 58.8**	**-0.6**
	1.2nm,0.8s,baz=147,slow=7.4,SNR=5.1						
RAR	**Rarotonga**	**48.35**	**114**	LR	LR	17 11 39.9	
	comp=Z,44nm,21.6s,baz=46,slow=32						
PMBI	**Palembang**	**48.41**	**270**	S	**S**	**17 01 03.4**	**+5.1**
	baz=49,SNR=5.4						
USRK	**Ussuriysk Arra**	**52.41**	**341**	P	**P**	**16 54 30.0**	**-0.9**
	1.7nm,0.7s,baz=182,slow=6.0,SNR=4.2						
PETK	**Petropavlovsk-**	**57.82**	**3**	P	**P**	**16 55 09.8**	**0.0**
	1.8nm,0.7s,baz=157,slow=6.5,SNR=7.2						
CMAR	**Chiang Mai Arr**	**58.30**	**295**	P	**P**	**16 55 13.8**	**0.0**
	1.2nm,0.8s,baz=111,slow=5.3,SNR=14						
SONM	**Songino Array**	**66.58**	**328**	P	**P**	**16 56 09.2**	**+0.4**
	1.0nm,0.6s,baz=139,slow=5.5,SNR=8.8						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**16 57 30.9**	**-0.3**
	2.3nm,0.8s,baz=101,slow=6.3,SNR=14						
ZALV	**Zalesovo Beam**	**81.42**	**226**	P	**P**	**16 57 34.0**	**-1.1**
	0.7nm,0.5s,baz=115,slow=5.7,SNR=5.3						
ILAR	**Eielson Array**	**81.99**	**22**	P	**P**	**16 57 36.2**	**-1.7**
	0.6nm,0.9s,baz=247,slow=5.9,SNR=5.6						
QSPA	**South Pole Qui**	**85.15**	**180**	P	**P**	**16 57 54.5**	**+0.3**
	5.3nm,0.9s,baz=283,slow=0.2,SNR=10						
YKA	**Yellowknife Ar**	**95.22**	**28**	P	**P**	**16 58 44.0**	**+2.5**
	0.2nm,0.7s,baz=254,slow=4.6,SNR=3.4						
GERES	**GERESS Array B**	**124.30**	**329**	PKP	**PKPdf**	**17 04 17.0**	**-0.1**
	0.5nm,0.6s,baz=64,slow=2.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**150.75**	**288**	PKPbc	**PKPbc**	**17 05 10.2**	**-1.1**
	2.1nm,0.8s,baz=77,slow=2.4,SNR=10						

IDC 30 16:52:44.8±7.8, 4.65S×144.24E, h196km±81km, mb3.0/2, mb1 3.3/4, mb1mx2.9/18, mbtmp3.6/4, Error ellipse: s-maj=79.0km s-min=25.6km az=138.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.55**	**149**	P	Pn	16 54 05.2	-1.0
	0.4nm,0.3s,baz=318,slow=13,SNR=3.0						
PMG				S	Sn	16 55 11.7	+1.3
	0.5nm,0.3s,baz=302,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**18.00**	**212**	P	P	16 56 40.9	-0.2
	0.5nm,0.3s,baz=34,slow=12,SNR=24						
ASAR	**Alice Springs**	**21.38**	**207**	P	P	16 57 17.4	+0.1
	1.4nm,0.6s,baz=34,slow=10,SNR=21						
ILAR	**Eielson Array**	**85.34**	**24**	P	P	17 04 59.5	0.0
	0.3nm,0.8s,baz=248,slow=4.8,SNR=3.7						

IDC 30 16:53:09.1±12.0, 23.81S×179.90E, h355km±128km, mb3.2/5, mb1 3.4/5, mb1mx3.2/18, mbtmp3.9/5, Error ellipse: s-maj=81.6km s-min=32.1km az=10.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.60**	**189**	P	P	16 56 18.8	-0.2
	0.9nm,0.3s,baz=227,slow=0.6,SNR=7.3						
CTA	**Charters Tower**	**31.39**	**270**	P	P	16 59 00.1	+1.6
	2.8nm,0.3s,baz=96,slow=11,SNR=8.0						
STKA	**Stephens Creek**	**34.67**	**248**	P	P	16 59 25.8	-0.7
	0.9nm,0.5s,baz=86,slow=8.0,SNR=5.3						
ASAR	**Alice Springs**	**41.96**	**261**	P	P	17 00 26.2	-0.5
	0.3nm,0.3s,baz=91,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**42.32**	**266**	P	P	17 00 29.0	-0.7
	1.4nm,0.4s,baz=98,slow=8.4,SNR=36						
TXAR	**Lajitas Array**	**90.46**	**58**	P	P	17 05 31.3	-0.2
	0.3nm,0.7s,baz=234,slow=7.7,SNR=3.6						
BRTR	**Keskin Array B**	**147.45**	**307**	PKPbc	PKPbc	17 12 11.6	-0.3
	0.3nm,0.6s,baz=66,slow=2.4,SNR=3.2						

*ISCJB **30** 17:03:30.8±0.3, 15.92N±0.05×120.55E±0.06, h150km, mb3.8/14, Error ellipse: s-maj=8.9km s-min=5.8km az=149.1*
*MAN **30** 17:03:31, 15.87N×120.32E, h106km, mb4.5, ML3.4, MS3.3*
*IDC **30** 17:03:33.1±0.9, 15.76N×120.71E, h167km±10km, mb3.5/14, mb1 3.6/14, mb1mx3.4/29, mbtmp4.0/14, Error ellipse: s-maj=26.5km s-min=11.7km az=60.0*
ISC 30 17:03:31.6±0.6, 15.89N±0.05×120.55E±0.08, h150km, n40, σ1§33/46, mb3.8/14, 2C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.62**	**260**	*eP*	**Pn**	**17 03 50.6**	**-3.0**
SCZP				*eS*	Sn	17 04 01.7	-8.7
PCPH	**Palayan**	**0.62**	**121**	*iP*	**Pn**	**17 03 52.0**	**-1.7**
BOLP	**Bolinao**	**0.78**	**309**	*eP*	**Pn**	**17 03 53.2**	**-1.4**
BOLP				*eS*	Sn	17 04 05.0	-7.3
BALP	**Baler**	**1.00**	**98**	*eP*	**Pn**	**17 03 56.2**	**-0.2**
CAUP	**Cauayan**	**1.61**	**49**	*eP*	**Pn**	**17 04 02.8**	**+0.4**
ABRA	**Dolores**	**1.76**	**5**	*eP*	**Pn**	**17 04 02.7**	**-1.3**
TGY	**Tagaytay City**	**1.82**	**168**	P	**Pn**	**17 04 05.1**	**+0.3**
	98nm,0.3s,baz=333,slow=1.9,SNR=20						
TGY				S	**Sn**	**17 04 31.1**	**+0.9**
	88nm,0.3s,baz=29,slow=20,SNR=9.0						
LQP	**Lukban**	**2.01**	**151**	*iP*	**Pn**	**17 04 06.8**	**-0.4**
SIPP	**Brgy, Tapao**	**2.02**	**358**	*iP*	**Pn**	**17 04 06.1**	**-1.0**
APYP	**Conner**	**2.07**	**19**	*eP*	**Pn**	**17 04 07.2**	**-0.4**
CVP	**Callao Caves**	**2.18**	**34**	*iP*	**Pn**	**17 04 08.2**	**-0.7**
GQP	**Guinayangan**	**2.70**	**137**	*iP*	**Pn**	**17 04 15.2**	**0.0**
BOAC	**Boac**	**2.72**	**152**	*eP*	**Pn**	**17 04 16.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**20.80**	**280**	P	**P**	**17 08 03.7**	**+2.4**
	2.2nm,0.6s,baz=104,slow=7.3,SNR=25						
JCJ	**Chichijima**	**22.98**	**57**	P	**P**	**17 08 19.1**	**-4.2**
	20nm,0.4s,baz=247,slow=7.4,SNR=4.9						
TAPN	**Taplejung**	**32.49**	**296**	*eP*	**P**	**17 09 48.9**	**+0.4**
	4.4nm,0.4s						
ODAN	**Odare**	**32.65**	**295**	*eP*	**P**	**17 09 50.8**	**+0.9**
	7.5nm,0.5s						
RAMN	**Ramite**	**33.36**	**295**	*eP*	**P**	**17 09 56.8**	**+0.8**
	11nm,0.6s						
JIRN	**Jiri**	**33.87**	**296**	*eP*	**P**	**17 10 01.7**	**+1.1**
	14nm,0.5s						
SONM	**Songino Array**	**33.93**	**343**	P	**P**	**17 10 00.9**	**+0.4**
	0.6nm,0.7s,baz=163,slow=10.0,SNR=6.1						
SONM				PcP	**PcP**	**17 12 36.1**	**+0.6**
	0.2nm,0.5s,baz=185,slow=1.5,SNR=2.8						
GUN	**Gumba**	**34.20**	**296**	*eP*	**P**	**17 10 04.2**	**+0.8**
	16nm,0.7s						
PKI	**Pulchoki**	**34.53**	**296**	*eP*	**P**	**17 10 06.3**	**+0.1**
PKIN	**Phulchoki**	**34.54**	**296**	*eP*	**P**	**17 10 06.2**	**0.0**
DMN	**Daman**	**34.80**	**296**	*eP*	**P**	**17 10 08.7**	**+0.2**
GKN	**Gorkha**	**35.29**	**296**	*eP*	**P**	**17 10 13.0**	**+0.5**
DANN	**Dangsing**	**36.12**	**296**	*eP*	**P**	**17 10 20.4**	**+0.6**
	9.5nm,0.6s						
PYUN	**Piuthan**	**36.73**	**296**	*eP*	**P**	**17 10 25.9**	**+1.0**
	21nm,0.5s						
WRA	**Warramunga Arr**	**38.10**	**159**	P	**P**	**17 10 33.7**	**-2.4**
	0.6nm,0.6s,baz=339,slow=10,SNR=13						
WRA				pP	**pP**	**17 11 06.5**	**-2.3**
	0.8nm,0.7s,baz=339,slow=9.7,SNR=3.1						
ASAR	**Alice Springs**	**41.42**	**161**	P	**P**	**17 11 02.2**	**-1.4**
	0.4nm,0.4s,baz=338,slow=7.0,SNR=18						
ASAR				pP	**pP**	**17 11 35.5**	**-1.1**
	0.4nm,0.6s,baz=340,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**44.20**	**322**	P	**P**	**17 11 27.2**	**+1.5**
	2.1nm,0.7s,baz=127,slow=8.9,SNR=23						
MKAR				PcP	**PcP**	**17 13 08.5**	**+0.7**
	0.6nm,0.6s,baz=112,slow=2.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**47.06**	**332**	P	**P**	**17 11 48.1**	**+0.1**
	0.9nm,0.4s,baz=134,slow=6.4,SNR=9.1						
PETK	**Petropavlovsk-**	**47.20**	**30**	P	**P**	**17 11 49.9**	**+0.8**
	0.9nm,0.5s,baz=221,slow=8.4,SNR=5.0						
AAK	**Ala-Archa**	**47.43**	**314**	P	**P**	**17 11 53.2**	**+1.8**
	0.9nm,0.4s,baz=125,slow=7.1,SNR=8.3						
KURBB	**Kurchatov Arra**	**48.31**	**325**	P	**P**	**17 11 59.1**	**+1.5**
	4.2nm,0.6s,baz=122,slow=8.5,SNR=42						
BVAR	**Borovoye Array**	**53.90**	**325**	P	**P**	**17 12 40.7**	**+1.4**
	2.7nm,0.8s,baz=115,slow=9.0,SNR=19						
BVAR				PcP	**PcP**	**17 13 42.4**	**-0.5**
	0.5nm,0.5s,baz=145,slow=5.4,SNR=3.7						
AKTO	**Aktyubinsk**	**60.46**	**319**	P	**P**	**17 13 26.5**	**+1.0**
	1.9nm,0.5s,baz=103,slow=9.8,SNR=9.3						
FINES	**FINESS Array B**	**78.31**	**331**	P	**P**	**17 15 14.8**	**-0.1**
	0.8nm,0.5s,baz=66,slow=4.4,SNR=12						
NB2	**NORSAR Subarra**	**85.26**	**333**	P	**P**	**17 15 51.0**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=65,slow=5.1						
NOA	**NORSAR Array B**	**85.26**	**333**	P	**P**	**17 15 50.7**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=110,slow=4.9,SNR=4.0						
YKA	**Yellowknife Ar**	**90.82**	**22**	P	**P**	**17 16 17.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=301,slow=3.4,SNR=5.3						

IDC 30 17:45:45.7±5.0, 13.70S×167.01E, h205km±42km, mb3.3/8, mb1 3.4/9, mb1mx3.3/21, mbtmp3.8/9, Error ellipse: s-maj=35.6km s-min=25.0km az=37.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.34**	**184**	P	Pn	17 47 43.6	+0.2
	0.2nm,0.3s,baz=140,slow=12,SNR=3.2						
DZM				S	S	17 49 17.4	-0.1
	0.1nm,0.3s,baz=60,slow=20,SNR=2.1						
CTA	**Charters Tower**	**20.84**	**249**	P	P	17 50 12.4	+0.6
	2.7nm,0.5s,baz=74,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**29.48**	**228**	P	P	17 51 31.2	+0.5
	1.0nm,0.7s,baz=54,slow=8.7,SNR=5.6						
STKA				PcP	PcP	17 54 30.8	-0.2
	0.8nm,0.7s,baz=76,slow=4.2,SNR=3.0						
WRA	**Warramunga Arr**	**31.85**	**254**	P	P	17 51 51.0	-0.6
	0.4nm,0.4s,baz=86,slow=9.5,SNR=9.0						
WRA				PcP	PcP	17 54 38.2	+0.6
	0.4nm,0.8s,baz=89,slow=3.9,SNR=4.1						
ASAR	**Alice Springs**	**32.82**	**248**	P	P	17 51 59.6	-0.5
	0.8nm,0.4s,baz=74,slow=9.7,SNR=60						
ASAR				PcP	PcP	17 54 40.0	-0.1
	0.4nm,0.7s,baz=87,slow=1.6,SNR=6.0						
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	P	17 57 01.1	0.0
	0.4nm,0.6s,baz=142,slow=5.4,SNR=4.4						
QSPA	**South Pole Qui**	**76.32**	**180**	P	P	17 57 11.7	-0.2
	1.9nm,0.9s,baz=328,slow=0.3,SNR=3.8						
SONM	**Songino Array**	**81.53**	**324**	P	P	17 57 40.5	+0.1
	0.1nm,0.4s,baz=130,slow=4.5,SNR=3.3						
MKAR	**Makanchi Array**	**96.29**	**317**	P	P	17 58 50.9	0.0
	0.3nm,0.6s,baz=84,slow=6.7,SNR=5.8						
ARCES	**ARCESS Array B**	**119.20**	**345**	PKP	PKPdf	18 04 08.9	-0.9
	5.6nm,1.1s,baz=60,slow=2.2,SNR=4.6						

*IDC **30** 17:51:12.2±0.8, 13.98N×119.14E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/26, mbtmp3.6/8, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=27.2km s-min=16.3km az=46.0*
*ISCJB **30** 17:51:15.4±0.7, 14.0N±0.1×119.07E±0.06, h35km, mb3.6/7, MS2.9/1, Error ellipse: s-maj=17.8km s-min=8.5km az=10.7*
ISC 30 17:51:16.8±0.9, 14.0N±0.2×119.10E±0.09, h35km, n11, σ1§16/12, mb3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.79**	**86**	Pn	**Pn**	**17 51 44.6**	**-0.7**
	179nm,0.3s,baz=275,slow=1.9,SNR=21						
TGY				Sn	**Sn**	**17 52 07.6**	**+0.8**
	119nm,0.3s,baz=110,slow=21,SNR=7.1						
LQP	**Lukban**	**2.37**	**87**	*eP*	**Pn**	**17 51 52.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**19.85**	**286**	P	**Pn**	**17 55 46.2**	**-0.5**
	0.9nm,0.3s,baz=104,slow=7.5,SNR=4.0						
JNU	**Nakatsue**	**21.86**	**27**	LR	LR	18 04 34.1	
	comp=Z,48nm,18.8s,baz=272,slow=37						
SONM	**Songino Array**	**35.36**	**345**	P	**P**	**17 58 09.1**	**+0.1**
	0.3nm,0.8s,baz=152,slow=6.4,SNR=2.4						
WRA	**Warramunga Arr**	**36.91**	**156**	P	**P**	**17 58 21.9**	**-0.5**
	1.2nm,0.5s,baz=335,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**40.13**	**159**	P	**P**	**17 58 50.1**	**+0.6**
	0.5nm,0.6s,baz=334,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**44.88**	**324**	P	**P**	**17 59 29.5**	**+1.6**
	0.2nm,0.6s,baz=126,slow=7.6,SNR=3.5						
MKAR				PcP	**PP**	**18 01 11.0**	**-2.1**
	0.3nm,0.6s,baz=134,slow=3.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**48.09**	**333**	P	**P**	**17 59 53.2**	**+0.3**
	0.4nm,0.5s,baz=135,slow=7.4,SNR=2.8						
ARCES	**ARCESS Array B**	**78.26**	**339**	P	**P**	**18 03 14.1**	**+1.4**
	3.5nm,0.9s,baz=72,slow=5.8,SNR=3.3						
FINES	**FINESS Array B**	**79.27**	**331**	P	**P**	**18 03 18.4**	**0.0**
	0.7nm,0.8s,baz=46,slow=8.0,SNR=3.6						

IDC 30 18:03:21.2±3.3, 3.95S×135.52E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=148.1km s-min=30.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.94**	**184**	Pn	Pn	18 07 05.3	-1.7
	0.3nm,0.3s,baz=3.7,slow=13,SNR=15						
WRA				Sn	Sn	18 09 55.7	-8.9
	0.2nm,0.3s,baz=358,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**19.67**	**184**	P	Pn	18 07 52.6	-0.6
	0.2nm,0.3s,baz=358,slow=11,SNR=18						
ASAR				S	S	18 11 26.0	-8.8
	0.1

MKAR **Makanchi Array** 61.19 317 P P 18 46 56.1 +1.3
0.4nm,0.7s,baz=103,slow=5.5,SNR=3.4
ZALV **Zalesovo Beam** 61.82 326 P P 18 46 58.3 -0.5
ZALV **Zalesovo Beam** 61.82 326 P P 18 46 58.3 -0.5
0.5nm,0.4s,baz=106,slow=7.0,SNR=3.5
KURK **Kurchatov** 64.50 321 P P 18 47 17.3 +0.6
KURBB **Kurchatov Arra** 64.54 321 P P 18 47 17.3 +0.4
1.2nm,0.7s,baz=106,slow=6.7,SNR=11
PMR **Palmer** 69.91 28 eP P 18 47 51.0 +0.3
4.7nm,0.8s
BVAR **Borovoye Array** 69.94 322 P P 18 47 52.1 +1.0
BVAR **Borovoye Array** 69.94 322 P P 18 47 52.1 +1.0
1.2nm,0.5s,baz=99,slow=9.2,SNR=6.5
BRVK **Borovoye** 70.01 322 P P 18 47 52.3 +0.7
MCK **McKinley** 70.50 26 eP P 18 47 54.7 +0.3
4.6nm,0.9s
COLD **Coldfoot** 70.91 22 eP P 18 47 55.9 -0.8
6.1nm,0.9s
ILAR **Eielson Array** 71.61 25 P P 18 48 00.7 -0.3
ILAR **Eielson Array** 71.61 25 P P 18 48 00.7 -0.3
2.1nm,0.6s,baz=250,slow=5.8,SNR=46
ILAR LR LR 19 18 59.6
comp=Z,19nm,19.4s,baz=300,slow=36
PAX **Paxson** 71.87 27 eP P 18 48 02.8 +0.1
4.8nm,0.8s
YKA **Yellowknife Ar** 85.95 27 P P 18 49 19.6 -0.1
YKA **Yellowknife Ar** 85.95 27 P P 18 49 19.6 -0.1
0.6nm,0.8s,baz=280,slow=4.5,SNR=7.4
RES **Resolute Bay** 87.21 13 P P 18 49 26.8 +1.1
RES **Resolute Bay** 87.21 13 P P 18 49 26.8 +1.1
1.3nm,0.6s,baz=308,slow=5.6,SNR=6.9
ARCES **ARCESS Array B** 88.26 342 P P 18 49 29.5 -1.3
ARCES **ARCESS Array B** 88.26 342 P P 18 49 29.5 -1.3
2.0nm,0.7s,baz=83,slow=7.2,SNR=7.0
ARE0 **ARCESS Array S** 88.26 342 P P 18 49 29.4 -1.4
GNI **Garni** 88.27 310 LR LR 19 32 07.0
comp=Z,218nm,21.3s,baz=292,slow=38
JOF **Joensuu** 89.07 335 ep P 18 49 35.1 +0.4
NVAR **Mina Array Bea** 90.32 51 P P 18 49 43.3 +1.9
NVAR **Mina Array Bea** 90.32 51 P P 18 49 43.3 +1.9
1.2nm,0.8s,baz=267,slow=5.6,SNR=7.3
FINES **FINESS Array B** 91.93 334 P P 18 49 47.1 -0.9
FINES **FINESS Array B** 91.93 334 P P 18 49 47.1 -0.9
1.5nm,0.5s,baz=70,slow=3.9,SNR=16
TORD **Torodi Ar. Bea** 133.75 301 PKP PKPdf 18 55 58.0 +0.5
TORD **Torodi Ar. Bea** 133.75 301 PKP PKPdf 18 55 57.9 +0.5
0.2nm,0.6s,baz=22,slow=3.7,SNR=2.2

*IDC **30** 18:43:42.7±0.9,31°.51N×56°.24E,h0km,mb3.7/15,*
mb1 3.9/18,mb1mx3.8/32,mbtmp3.8/18,ML3.6/3,MS3.1/5,
Ms1 3.1/5,ms1mx2.7/44,Error ellipse: s-maj=23.6km
s-min=15.7km az=5.0
*ISCJB **30** 18:43:44.7±0.3,31°.75N±0°.03×56°.24E±0°.03,h10km,*
mb3.6/15,MS3.0/2, Error ellipse: s-maj=4.0km
s-min=3.1km az=2.2
*THR **30** 18:43:44.8±0.8,31°.86N×56°.33E,h17km±8km,ML4.1*
*TEH **30** 18:43:45.7,31°.70N×56°.27E,h3km,ML4.2*
*CSEM **30** 18:43:47.7±0.2,31°.77N×56°.27E,h20km,ML4.2, Error*
ellipse: s-maj=4.4km s-min=3.7km az=169.0

ISC 30 18:43:45.9±0.5,31°.79N±0°.04×56°.26E±0°.03,h10km,n104,
σ1§37/108,mb3.8/15,2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	0.63	251	⇓eP	g	**Pg**		**18 43 56.6**	**-1.4**
IBAF				eSg		**Sg**		**18 44 04.8**	**-1.5**
IBAF				e				18 44 06.5	
	comp=Z,30μm,0.1s								
IBAF	**Bafgh**	0.63	251	⇓ePg		**Pg**		**18 43 56.6**	**-1.4**
IBAF				eSg		**Sg**		**18 44 04.8**	**-1.5**
IMEH	**Mehriz**	1.46	255	ePn		**Pn**		**18 44 12.3**	**-0.2**
IMEH				eSg		**Sn**		**18 44 31.4**	**-0.5**
IMEH				e				18 44 34.1	
	comp=Z,36μm,0.1s								
IMEH	**Mehriz**	1.46	255	ePn		**Pn**		**18 44 12.3**	**-0.2**
IMEH				eSg		**Sn**		**18 44 31.4**	**-0.5**
ICHK	**Chekchek**	1.64	286	ePn		**Pn**		**18 44 14.9**	**-0.1**
ICHK				e				18 44 42.2	
	comp=Z,34μm,0.2s								
ICHK	**Chekchek**	1.64	286	ePn		**Pn**		**18 44 14.9**	**-0.1**
KRBR	**Kerman**	1.85	167	ePg		**Pn**		**18 44 19.5**	**+1.5**
KRBR				eSg		**Sg**		**18 44 45.6**	**0.0**
	comp=Z,8μm,1.0s								
KRBR	**Kerman**	1.85	167	ePg		**Pn**		**18 44 19.5**	**+1.5**
KRBR				eSg		**Sg**		**18 44 45.6**	**0.0**
KRBR				AML		AML		18 44 47.8	
	comp=E,8μm,0.8s								
KRBR				AML		AML		18 44 48.7	
	comp=N,8μm,1.0s								
TABS	**Tabas**	1.99	21	ePg		**Pn**		**18 44 19.7**	**+0.1**
	comp=N,878nm,0.9s								
TABS	**Tabas**	1.99	21	ePg		**Pn**		**18 44 19.7**	**+0.1**
TABS				AML		AML		18 44 54.7	
	comp=N,878nm,0.9s								
ISAD	**Sadrabad**	2.20	274	ePn		**Pn**		**18 44 23.4**	**+0.7**
ISAD				eSg		**Sb**		**18 44 54.6**	**+1.4**
ISAD				e				18 44 55.7	
	comp=Z,22μm,0.2s								
ISAD	**Sadrabad**	2.20	274	ePn		**Pn**		**18 44 23.4**	**+0.7**
ISAD				eSg		**Sb**		**18 44 54.7**	**+1.4**
IKOO	**Kooshah**	2.41	74	ePn		**Pn**		**18 44 25.8**	**+0.2**
IKOO				e				18 45 04.5	
	comp=Z,29μm,0.1s								
IKOO	**Kooshah**	2.41	74	ePn		**Pn**		**18 44 25.8**	**+0.2**
NASN	**Na'in**	3.09	290	ePn		**Pn**		**18 44 35.6**	**+0.5**
NASN	**Na'in**	3.09	290	ePn		**Pn**		**18 44 35.6**	**+0.5**
NASN				AML		AML		18 45 31.4	
	comp=N,300nm,0.0s								
NASN				AML		AML		18 45 34.7	
	comp=E,272nm,0.0s								
IDAH	**Dahanechah**	3.20	72	ePn		**Pn**		**18 44 37.0**	**+0.6**
IDAH				e				18 44 51.6	
	comp=Z,7μm,0.2s								
IDAH	**Dahanechah**	3.20	72	ePn		**Pn**		**18 44 37.0**	**+0.6**
IRAM	**Ramesheh**	3.30	271	eP		**Sn**		**18 45 22.6**	**+5.3**
IPAR	**Pars**	3.38	236	ePn		**Pn**		**18 44 41.0**	**+2.0**
IPAR				e				18 45 49.3	
	comp=Z,9μm,0.5s								
IPAR	**Pars**	3.38	236	ePn		**Pn**		**18 44 41.0**	**+2.0**
IZEF	**Zefreh**	3.51	289	ePn		**Pn**		**18 44 41.5**	**+0.8**
IZEF				e				18 45 44.0	
	comp=Z,3μm,0.4s								
IZEF	**Zefreh**	3.51	289	ePn		**Pn**		**18 44 41.5**	**+0.8**
IZEF	**Zefreh**	3.51	289	eP		**Sn**		**18 45 17.5**	**-4.9**
IANJ	**Anjilo**	4.16	333	ePn		**Pn**		**18 44 49.4**	**-0.2**
IANJ	**Anjilo**	4.16	333	ePn		**Pn**		**18 44 49.4**	**-0.2**
IANJ	**Anjilo**	4.16	333	eP		**Pb**		**18 45 01.6**	**+2.4**
IKLH	**Kolahrood**	4.24	292	ePn		**Pn**		**18 44 52.0**	**+1.3**
IKLH				e				18 46 08.2	
	comp=Z,2μm,0.3s								
IKLH	**Kolahrood**	4.24	292	ePn		**Pn**		**18 44 52.0**	**+1.3**
IKLH	**Kolahrood**	4.24	292	eP		Pg		18 45 15.6	+8.5
IBND	**Bandar-abas**	4.34	177	ePn		**Pn**		**18 44 51.0**	**-0.8**
IBND	**Bandar-abas**	4.34	177	ePn		**Pn**		**18 44 51.0**	**-0.8**
ZHSF	**Zahedan**	4.45	118	ePn		**Pn**		**18 44 53.6**	**0.0**
	comp=Z,97nm,0.2s								
ZHSF	**Zahedan**	4.45	118	ePn		**Pn**		**18 44 53.6**	**0.0**
ZHSF				AML		AML		18 46 17.0	
	comp=E,97nm,0.2s								
ILAS	**Lasjerd**	4.52	323	ePn		**Pn**		**18 44 55.9**	**+1.3**
ILAS				e				18 46 26.4	
	comp=N,3μm,0.3s								
ILAS	**Lasjerd**	4.52	323	ePn		**Pn**		**18 44 55.9**	**+1.3**
IPIR	**Pirpir**	4.64	282	ePn		**Pn**		**18 44 58.5**	**+2.3**
IPIR				e				18 46 16.1	
	comp=Z,930nm,0.3s								
IPIR	**Pirpir**	4.64	282	ePn		**Pn**		**18 44 58.5**	**+2.3**
ISHM	**Shahmirzad**	4.71	329	ePn		**Pn**		**18 44 57.8**	**+0.6**
ISHM				e				18 46 35.3	
	comp=Z,3μm,0.3s								
ISHM	**Shahmirzad**	4.71	329	ePn		**Pn**		**18 44 57.8**	**+0.6**
IFIR	**Firoozkooh**	4.83	324	ePn		**Pn**		**18 44 59.2**	**+0.4**
IFIR				e				18 45 25.1	
	comp=Z,782nm,0.2s								
IFIR	**Firoozkooh**	4.83	324	ePn		**Pn**		**18 44 59.2**	**+0.4**
IKIA	**Kiasar**	4.90	335	ePn		**Pn**		**18 45 00.5**	**+0.7**
IKIA				e				18 46 37.7	
	comp=Z,2μm,0.4s								
IKIA	**Kiasar**	4.90	335	ePn		**Pn**		**18 45 00.5**	**+0.7**
GHVR	**GHOM**	4.95	304	ePn		**Pn**		**18 45 01.6**	**+1.2**
	comp=Z,90nm,0.1s								
GHVR	**GHOM**	4.95	304	ePn		**Pn**		**18 45 01.6**	**+1.2**
	comp=E,90nm,0.1s								
GHVR				AML		AML		18 46 32.4	
IVRN	**Varamin**	4.96	311	ePn		**Pn**		**18 45 01.7**	**+1.2**
IVRN	**Varamin**	4.96	311	ePn		**Pn**		**18 45 01.7**	**+1.2**
IMOG	**Moghan**	5.01	30	ePn		**Pn**		**18 45 02.5**	**+1.2**
IMOG				e				18 45 24.4	
	comp=Z,1μm,0.2s								
IMOG	**Moghan**	5.01	30	ePn		**Pn**		**18 45 02.5**	**+1.2**
IGLO	**Ghaloghah**	5.11	337	ePn		**Pn**		**18 45 04.2**	**+1.5**
IGLO				e				18 46 35.9	
	comp=Z,4μm,0.6s								
IALA	**Alasht**	5.15	327	ePn		**Pn**		**18 45 04.8**	**+1.5**
IALA				e				18 46 42.2	
	comp=Z,996nm,0.2s								
IALA	**Alasht**	5.15	327	ePn		**Pn**		**18 45 04.8**	**+1.5**
IDMV	**Damavand**	5.17	318	ePn		**Pn**		**18 45 04.3**	**+0.8**
IDMV				e				18 46 55.1	
	comp=Z,2μm,0.5s								
IDMV	**Damavand**	5.17	318	ePn		**Pn**		**18 45 04.3**	**+0.8**
IPAY	**Payeh**	5.17	25	e				18 45 25.2	
	comp=Z,2μm,0.2s								
IPAY				ePn		**Pn**		**18 45 05.1**	**+1.6**
IAKL	**Akhelmad**	5.22	23	e				18 45 25.5	
	comp=Z,1μm,0.3s								
IAKL				ePn		**Pn**		**18 45 05.2**	**+0.9**
ISRO	**Mashad**	5.23	30	ePn		**Pn**		**18 45 05.3**	**+1.0**
ISRO	**Mashad**	5.23	30	ePn		**Pn**		**18 45 05.3**	**+1.0**
IKRD	**Kardeh**	5.31	20	ePn		Pn		18 45 11.8	+6.4
IKRD				e				18 45 13.1	
	comp=Z,949nm,0.1s								
IKRD	**Kardeh**	5.31	20	ePn		Pn		18 45 11.8	+6.4
ISFR	**Sfrayin**	5.44	15	e				18 45 37.1	
	comp=Z,2μm,0.3s								
ISFR				ePn		**Pn**		**18 45 08.3**	**+1.1**
IPRN	**Peran**	5.50	325	ePn		**Pn**		**18 45 09.4**	**+1.3**
IMYA	**Miami**	5.54	34	ePn		**Pn**		**18 45 10.4**	**+1.8**
IMYA				e				18 45 33.6	
	comp=Z,1μm,0.3s								
IMYA	**Miami**	5.54	34	ePn		**Pn**		**18 45 10.4**	**+1.8**
ISHV	**Shirvan**	5.85	11	ePn		**Pn**		**18 45 13.8**	**+1.0**
ISHV				e				18 47 41.2	
	comp=Z,3μm,0.5s								
ISHV	**Shirvan**	5.85	11	ePn		**Pn**		**18 45 13.8**	**+1.0**
IEMG	**Emamgholi**	5.95	19	ePn		**Pn**		**18 45 15.1**	**+0.9**
IEMG				e				18 45 43.9	
	comp=Z,588nm,0.2s								
IEMG	**Emamgholi**	5.95	19	ePn		**Pn**		**18 45 15.1**	**+0.9**
IMHD	**Mahdasht**	6.07	311	ePn		**Pn**		**18 45 17.0**	**+1.3**
IMHD				e				18 45 19.0	
	comp=Z,670nm,0.1s								
IMHD	**Mahdasht**	6.07	311	ePn		**Pn**		**18 45 17.0**	**+1.3**
IRAZ	**Razeghan**	6.39	306	ePn		**Pn**		**18 45 20.8**	**+0.4**
IRAZ				e				18 45 26.4	
	comp=Z,607nm,0.2s								
IRAZ	**Razeghan**	6.39	306	ePn		**Pn**		**18 45 20.8**	**+0.4**
IGZV	**Ghazvin**	6.79	314	ePn		**Pn**		**18 45 26.1**	**+0.3**
IGZV				e				18 45 30.8	
	comp=Z,378nm,0.2s								
IGZV	**Ghazvin**	6.79	314	ePn		**Pn**		**18 45 26.1**	**+0.3**
GNI	**Garni**	12.51	315	LR		LR		18 52 01.7	
	comp=Z,53nm,20.1s,baz=114,slow=39								
ASF	**Jabal al Asfar**	16.44	276	Pn		**Pn**		**18 47 36.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=44,slow=9.6,SNR=4.1								
AAK	**Ala-Archa**	18.07	48	P		**P**		**18 47 57.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=225,slow=8.6,SNR=9.7								
AAK				LR		LR		18 55 18.6	
	comp=Z,92nm,19.1s,baz=286,slow=38								
AKTO	**Aktyubinsk**	18.67	4	P		**Pn**		**18 48 04.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=181,slow=12,SNR=10								
AKTO				LR		LR		18 56 41.1	
	comp=Z,62nm,21.8s,baz=161,slow=41								
BRTR	**Keskin Array B**	19.96	300	P		**P**		**18 48 19.1**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=115,slow=13,SNR=16								
PYUN	**Piuthan**	23.43	92	eP		**P**		**18 48 55.1**	**-0.4**
	comp=Z,13nm,0.7s								
BVAR	**Borovoye Array**	23.56	22	P		**P**		**18 48 56.4**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=200,slow=8.8,SNR=6.7								
BVAR				LR		LR		18 59 18.0	
	comp=Z,56nm,18.3s,baz=226,slow=39								
DANN	**Dangsing**	24.02	91	eP		**P**		**18 49 01.9**	**+0.6**
	comp=Z,14nm,0.8s								
GKN	**Gorkha**	24.86	91	eP		**P**		**18 49 09.0**	**+0.2**
	comp=Z,7.4nm,0.7s								
MKAR	**Makanchi Array**	24.95	46	P		**P**		**18 49 09.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=220,slow=8.2,SNR=5.6								
KURBB	**Kurchatov Arra**	25.02	35	P		**P**		**18 49 11.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=235,slow=10,SNR=4.5								
DMN	**Daman**	25.36	92	eP		**P**		**18 49 14.4**	**+0.9**
KKN	**Kakani**	25.46	92	eP		**P**		**18 49 15.3**	**+0.9**
	comp=Z,7.4nm,0.7s								
PKIN	**Phulchoki**	25.62	92	eP		**P**		**18 49 17.1**	**+1.2**
	comp=Z,12nm,0.7s								
PKI	**Pulchoki**	25.63	92	eP		**P**		**18 49 17.3**	**+1.3**
	comp=Z,14nm,0.8s								
GUN	**Gumba**	25.94	91	eP		**P**		**18 49 19.4**	**+0.5**
	comp=Z,22nm,0.9s								
JIRN	**Jiri**	26.27	91	eP		**P**		**18 49 23.8**	**+1.9**
MLR	**Muntele Rosu**	27.16	309	P		**P**		**18 49 33.2**	**+3.7**
	comp=Z,0.3nm,0.6s,baz=168,slow=8.4,SNR=3.8								
AKASG	**Malin Array Be**	27.51	321	P		**P**		**18 49 33.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=124,slow=8.5,SNR=9.7								
ZALV	**Zalesovo Beam**	30.12	34	P		**P**		**18 49 55.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=265,slow=5.2,SNR=2.3								
ZALV				LR		LR		19 03 14.7	
	comp=Z,35nm,20.0s,baz=238,slow=39								
FINES	**FINESS Array B**	35.56	335	P		**P**		**18 50 42.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=147,slow=8.3,SNR=3.0								
GERES	**GERESS Array B**	36.10	311	P		**P**		**18 50 47.2**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=108,slow=7.2,SNR=9.2								
CMAR	**Chiang Mai Arr**	40.61	99	P		**P**		**18 51 24.4**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=296,slow=8.5,SNR=4.1								
NOA	**NORSAR Array B**	41.34	329	P		**P**		**18 51 32.6**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=104,slow=7.2,SNR=3.0								
TORD	**Torodi Ar. Bea**	53.17	263	P		**P**		**18 53 02.0**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=57,slow=7.5,SNR=13								
KSRS	**Korea Array**	57.95	63	P		**P**		**18 53 39.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=273,slow=8.4,SNR=2.6								
YKA	**Yellowknife Ar**	85.76	356	P		**P**		**18 56 24.6**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=358,slow=5.2,SNR=4.2								
WRA	**Warramunga Arr**	90.70	113	P		**P**		**18 56 46.4**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=315,slow=3.7,SNR=3.5								
ASAR	**Alice Springs**	92.42	116	P		**P**		**18 56 54.5**	**-2.6**
	comp=Z,0.8nm,0.8s,baz=310,slow=5.5,SNR=7.3								

*ISCJB **30** 18:53:03.7±0.9,5°.18S±0°.09×153°.8E±0°.1,h56km,mb3.6/8,*
Error ellipse: s-maj=16.6km s-min=10.5km az=150.7
*IDC **30** 18:53:10.8±4.8,5°.22S×153°.50E,h97km±40km,mb3.4/9,*
mb1 3.5/10,mb1mx3.4/22,mbtmp3.8/10,MS3.0/1,
Ms1 3.0/1,ms1mx2.5/13,Error ellipse: s-maj=33.8km
s-min=22.6km az=67.0

ISC 30 18:53:05.5±1.1,5°.15S±0°.09×153°.7E±0°.1,h56km,n22,
σ1§75/21,mb3.6/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	1.83	301	P		**Pn**		**18 53 34.3**	**-0.3**
	baz=1.7,SNR=159								
RABL				S		**Sn**		**18 53 57.7**	**+1.1**
	baz=1.7,SNR=15								
PMG	**Port Moresby**	7.77	237	P		**Pn**		**18 54 57.9**	**+1.9**
	1.2nm,0.3s,baz=42,slow=15,SNR=6.2								
PMG				S		**Sn**		**18 56 19.2**	**-3.4**
	4.0nm,0.3s,baz=12,slow=19,SNR=5.0								
PMG				LR		LR		18 57 59.6	
	comp=Z,114nm,18.6s,baz=30,slow=38								
PMG	**Port Moresby**	7.77	237	P		**Pn**		**18 54 58.3**	**+2.3**
	baz=7.7,SNR=4.2								
PMG				S		Sn		18 56 07.1	-16
	baz=7.7,SNR=5.1								
DZM	**Mont Dzumac**	20.85	145	P		Pn		18 57 45.9	-0.1
	3.2nm,0.5s,baz=196,slow=17,SNR=5.7								
KDU	**Kakadu**	22.28	249	P		**P**		**18 57 57.0**	**-1.3**
	baz=22,SNR=6.6								
MTN	**Manton Dam**	23.57	250	P		**P**		**18 58 15.8**	**+4.4**
	baz=24,SNR=3.1								
WRA	**Warramunga Arr**	23.92	230	P		**P**		**18 58 13.6**	**-1.0**
	3.4nm,0.7s,baz=55,slow=10,SNR=27								
WRA				PcP		**PcP**		**19 01 54.8**	**-1.3**
	0.5nm,0.6s,baz=60,slow=2.2,SNR=4.8								
ASAR	**Alice Springs**	26.53	224	P		**P**		**18 58 37.5**	**-0.7**
	0.9nm,0.5s,baz=56,slow=8.9,SNR=23								
ASAR				PcP		**PcP**		**19 02 01.9**	**0.0**
	0.7nm,0.8s,baz=46,slow=2.2,SNR=5.5								
KNRA	**Kununurra**	26.66	245	P		**P**		**18 58 41.5**	**+2.2**
	baz=27,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	26.74	28	T		T		19 27 11.1	
	baz=209,slow=77,SNR=4.6								
H11S2	**WAKE ISLAND Hy**	26.75	28	T		T		19 27 10.5	
	baz=209,slow=77,SNR=4.4								
H11S1	**WAKE ISLAND Hy**	26.76	28	T		T		19 27 11.5	
	baz=209,slow=77,SNR=3.0								
STKA	**Stephens Creek**	28.92	202	P		**P**		**18 58 59.8**	**+0.3**
	1.2nm,0.8s,baz=24,slow=12,SNR=4.7								
WRKA	**Warakurna**	31.41	228	P		**P**		**18 59 20.7**	**-0.9**
	baz=31,SNR=5.6								
MEEK	**Meekatharra**	39.74	234	P		P		19 00 39.2	+6.3
	baz=40,SNR=3.2								
CISI	**Cisompet, Garu**	45.68	264	P		**P**		**19 01 19.9**	**-1.4**
	baz=46,SNR=3.2								
CMAR	**Chiang Mai Arr**	58.86	295	P		**P**		**19 02 59.4**	**+0.4**
	1.1nm,0.9s,baz=101,slow=5.6,SNR=6.9								
SONM	**Songino Array**	67.11	327	P		**P**		**19 03 53.9**	**+0.5**
	0.2nm,0.5s,baz=137,slow=5.6,SNR=4.1								
MKAR	**Makanchi Array**	81.19	319	P		**P**		**19 05 14.8**	**-0.6**
	0.2nm,0.6s,baz=91,slow=7.2,SNR=3.1								
KURBB	**Kurchatov Arra**	84.64	322	P		**P**		**19 05 32.5**	**-0.6**
	0.2nm,0.4s,baz=102,slow=4.0,SNR=2.4								
BVAR	**Borovoye Array**	90.07	323	P		**P**		**19 05 59.6**	**+0.3**
	0.4nm,0.6s,baz=96,slow=6.4,SNR=3.0								
TORD	**Torodi Ar. Bea**	151.29	288	PKPbc		**PKPbc**		**19 12 53.2**	**-0.8**
	1.1nm,0.6s,baz=55,slow=2.2,SNR=14								

*ISCJB **30** 18:54:28.4±0.6,36°.86N±0°.05×72°.90E±0°.10,h10km,*
mb3.3/6,Error ellipse: s-maj=12.4km s-min=4.9km
az=154.7
*IDC **30** 18:54:28.8±1.1,36°.96N×72°.82E,h0km,mb3.5/6,*
mb1 3.6/12,mb1mx3.4/32,mbtmp3.4/12,ML3.0/6,Error
ellipse: s-maj=25.9km s-min=20.7km az=91.0
*NNC **30** 18:54:33.3±7.5,37°.09N×72°.80E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=63.8km s-min=61.9km az=119.0

ISC 30 18:54:29.8±0.6,36°.92N±0°.04×72°.78E±0°.09,h10km,n32,
σ1§95/32,mb3.4/6,5C-3D,Afghanistan-Tajikistan border
region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	3.17	193	P		**Pg**		**18 55 29.3**	**-1.3**
CEP				S		**Sg**		**18 56 17.0**	**+5.3**
CHCP	**Chirah Chowk**	3.28	173	P		**Pg**		**18 55 31.4**	**-1.3**
THW	**Thamme Wali**	4.20	192	P		**Pb**		**18 55 42.5**	**-1.4**
AAK	**Ala-Archa**	5.86	12	⇓P		Pn		18 55 59.8	+3.0
	2.7nm,0.6s								
AAK				⇑S		**Sn**		**18 57 07.8**	**+3.7**
	10nm,0.9s								
AAK	**Ala-Archa**	5.86	12	Pn		Pn		18 55 60.0	+3.1
	1.5nm,0.3s,baz=146,slow=9.2,SNR=22								
AAK				Sn		**Sn**		**18 57 06.5**	**+2.4**
	baz=323,slow=20,SNR=3.9								
TKM2	**Tokmak 2**	6.37	19	⇑P		Pn		18 56 06.5	+2.5
	2.2nm,0.5s								
KK31	**Karatay Array**	6.42	345	P		Pn		18 56 07.5	+3.2
	0.9nm,0.3s,baz=143,slow=11,SNR=56								
KK31				⇑S		**Sn**		**18 57 18.8**	**+1.2**
	10nm,1.1s,baz=184,slow=25,SNR=5.2								
MK31	**Makanchi Array**	12.14	33	P		**Pn**		**18 57 23.6**	**+0.8**
	3.0nm,1.1s,baz=216,slow=12,SNR=12								
MKAR	**Makanchi Array**	12.14	33	Pn		**Pn**		**18 57 24.1**	**+1.3**
	0.1nm,0.3s,baz=214,slow=14,SNR=11								
PYUN	**Piuthan**	12.30	133	eP		**Pn**		**18 57 25.7**	**+0.4**
DANN	**Dangsing**	12.59	130	eP		**Pn**		**18 57 29.3**	**0.0**
KOLN	**Koldanda**	12.91	132	eP		**Pn**		**18 57 34.1**	**+0.5**
GKN	**Gorkha**	13.38	128	eP		**Pn**		**18 57 39.3**	**-0.6**
DMN	**Daman**	13.95	128	eP		**Pn**		**18 57 46.7**	**-1.1**
PKI	**Pulchoki**	14.17	128	eP		**Pn**		**18 57 49.4**	**-1.5**
KURBB	**Kurchatov Arra**	14.31	15	Pn		**Pn**		**18 57 49.9**	**-2.4**
	0.0nm,0.3s,baz=206,slow=12,SNR=2.1								
JIRN	**Jiri**	14.61	125	eP		**Pn**		**18 57 54.7**	**-2.3**
	8.2nm,0.4s								
RAMN	**Ramite**	15.36	126	eP		**Pn**		**18 58 04.5**	**-2.4**
AB31	**Akbulak array**	15.46	327	⇑P		**P**		**18 58 09.8**	**-2.6**
	0.3nm,0.4s,baz=129,slow=13

TOO	**Toolangi**	**33.23**	**241**	P		**P**	**19 25 24.5**	**+0.4**
	baz=34,SNR=6.2							
CTA	**Charters Tower**	**34.07**	**273**	P		**P**	**19 25 33.2**	**+1.6**
CTA	**Charters Tower**	**34.07**	**273**	P		**P**	**19 25 33.2**	**+1.6**
	8.4nm,0.4s,baz=93,slow=11,SNR=26							
CTAO	**Charters Tower**	**34.07**	**273**	*eP*		**P**	**19 25 33.2**	**+1.6**
	9.0nm,0.4s							
QLP	**Quilpie**	**34.38**	**261**	P		**P**	**19 25 34.5**	**+0.4**
	baz=35,SNR=14							
ARPS	**Mount Arapiles**	**36.05**	**243**	P		**P**	**19 25 49.4**	**+1.1**
	baz=36,SNR=5.5							
STKA	**Stephens Creek**	**36.16**	**252**	*eP*		**P**	**19 25 48.6**	**-0.7**
	1.4nm,1.0s							
STKA				PcP		**PcP**	**19 28 14.3**	**+1.2**
STKA	**Stephens Creek**	**36.16**	**252**	P		**P**	**19 25 48.8**	**-0.7**
	3.4nm,0.7s,baz=100,slow=11,SNR=12							
STKA				PcP		**PcP**	**19 28 14.3**	**+1.2**
	2.0nm,0.7s,baz=216,slow=1.4,SNR=4.2							
STKA	**Stephens Creek**	**36.16**	**252**	P		**P**	**19 25 49.2**	**-0.2**
	baz=37,SNR=13							
PMG	**Port Moresby**	**37.77**	**290**	*eP*		**P**	**19 26 03.9**	**+0.7**
	9.4nm,0.7s							
HTT	**Hallett**	**38.36**	**249**	P		**P**	**19 26 07.2**	**-0.8**
	baz=39,SNR=12							
QIS	**Mount Isa**	**39.88**	**269**	P		P	19 26 12.2	-8.6
	baz=40,SNR=4.6							
BBOO	**Buckleboo**	**40.79**	**250**	P		**P**	**19 26 26.5**	**-1.6**
	baz=41,SNR=10							
AS31	**Alice Springs**	**44.13**	**263**	*eP*		**P**	**19 26 54.2**	**-1.2**
ASAR	**Alice Springs**	**44.13**	**263**	P		**P**	**19 26 54.5**	**-0.9**
ASAR	**Alice Springs**	**44.13**	**263**	P		**P**	**19 26 54.5**	**-0.9**
	8.4nm,0.5s,baz=95,slow=6.9,SNR=219							
WRAB	**Tennant Creek**	**44.77**	**268**	*eP*		**P**	**19 26 59.6**	**-0.9**
	18nm,0.8s							
WRA	**Warramunga Arr**	**44.78**	**268**	P		**P**	**19 26 59.5**	**-1.0**
WRA	**Warramunga Arr**	**44.78**	**268**	P		**P**	**19 26 59.5**	**-1.0**
	15nm,0.7s,baz=110,slow=6.6,SNR=73							
FORT	**Forrest**	**47.79**	**252**	P		**P**	**19 27 21.9**	**-2.1**
	baz=48,SNR=22							
WRKA	**Warakurna**	**48.75**	**259**	P		**P**	**19 27 29.9**	**-1.6**
	baz=49,SNR=97							
KDU	**Kakadu**	**49.06**	**276**	P		**P**	**19 27 32.9**	**-1.0**
	baz=50,SNR=5.7							
MTN	**Manton Dam**	**50.19**	**275**	P		**P**	**19 27 44.4**	**+1.9**
	baz=51,SNR=4.1							
POHA	**Pohakuloa**	**50.67**	**27**	P		**P**	**19 27 46.7**	**+0.6**
KNRA	**Kununurra**	**51.22**	**271**	P		**P**	**19 27 50.0**	**-0.2**
	baz=52,SNR=13							
SBA	**Scott Base**	**51.86**	**184**	*eP*		P	19 27 57.4	+3.3
	37nm,0.9s							
VNDA	**Vanda**	**51.92**	**186**	P		**P**	**19 27 55.3**	**+0.8**
VNDA	**Vanda**	**51.92**	**186**	P		**P**	**19 27 55.3**	**+0.8**
	7.0nm,0.5s,baz=4.9,slow=7.9,SNR=46							
MEEK	**Meekatharra**	**56.78**	**254**	P		**P**	**19 28 28.2**	**-2.4**
	baz=57,SNR=18							
BLDU	**Ballidu**	**57.40**	**249**	P		**P**	**19 28 32.4**	**-2.4**
	baz=58,SNR=5.3							
BATI	**Baumata**	**57.94**	**275**	P		**P**	**19 28 39.9**	**+1.0**
BATI	**Baumata**	**57.94**	**275**	P		**P**	**19 28 39.9**	**+1.0**
	24nm,0.7s,baz=76,slow=12							
CASY	**Casey**	**58.81**	**207**	*eP*		**P**	**19 28 42.1**	**-2.0**
	13nm,0.7s							
WSI	**Waingapu**	**61.17**	**274**	P		**P**	**19 29 01.4**	**+0.4**
	baz=62,SNR=3.5							
QSPA	**South Pole Qui**	**63.49**	**180**	*eP*		**P**	**19 29 15.0**	**-0.9**
	11nm,0.7s							
QSPA	**South Pole Qui**	**63.49**	**180**	P		**P**	**19 29 16.3**	**+0.5**
	10nm,0.7s,baz=326,slow=0.7,SNR=18							
JAGI	**Jajag, Banyuwa**	**67.17**	**272**	P		**P**	**19 29 38.9**	**-1.5**
	baz=68,SNR=3.8							
KKM	**Kota Kinabalu**	**72.09**	**286**	P		**P**	**19 30 11.5**	**+0.9**
MJAR	**Matsushiro Arr**	**75.55**	**324**	P		**P**	**19 30 31.0**	**+0.8**
MJAR	**Matsushiro Arr**	**75.55**	**324**	P		**P**	**19 30 31.0**	**+0.8**
	2.6nm,0.7s,baz=158,slow=6.2,SNR=13							
MAJO	**Matsushiro**	**75.55**	**324**	P		**P**	**19 30 31.1**	**+0.8**
KSRS	**Korea Array**	**81.93**	**319**	P		**P**	**19 31 06.5**	**+1.4**
	2.2nm,0.8s,baz=130,slow=6.3,SNR=8.7							
KSAR	**Wonju Array Be**	**81.94**	**319**	P		**P**	**19 31 06.5**	**+1.3**
PETK	**Petropavlovsk-**	**82.33**	**345**	P		**P**	**19 31 08.0**	**+1.1**
PETK	**Petropavlovsk-**	**82.33**	**345**	P		**P**	**19 31 08.0**	**+1.1**
	8.8nm,0.9s,baz=141,slow=7.6,SNR=5.8							
CMB	**Columbia Colle**	**83.49**	**42**	P		**P**	**19 31 14.7**	**+1.4**
	2.9nm,1.0s							
USRK	**Ussuriysk Arra**	**84.40**	**326**	P		**P**	**19 31 19.3**	**+1.6**
	1.2nm,0.6s,baz=151,slow=4.4,SNR=5.4							
NVAR	**Mina Array Bea**	**84.99**	**42**	P		**P**	**19 31 23.0**	**+1.9**
NVAR				PKKPbc	**PKKPbc**	**PKKPbc**	**19 49 29.0**	**-0.4**
NVAR	**Mina Array Bea**	**84.99**	**42**	P		**P**	**19 31 23.0**	**+1.9**
	1.5nm,0.7s,baz=222,slow=8.8,SNR=12							
NVAR				PKKPbc	**PKKPbc**	**PKKPbc**	**19 49 29.0**	**-0.4**
	0.3nm,0.6s,baz=158,slow=1.0,SNR=3.7							
PSI	**Prapat**	**85.75**	**275**	P		**P**	**19 31 24.0**	**-1.3**
PSI	**Prapat**	**85.75**	**275**	P		**P**	**19 31 24.0**	**-1.3**
	2.0nm,0.4s,baz=163,slow=14,SNR=4.0							
TXAR	**Lajitas Array**	**89.76**	**57**	P		**P**	**19 31 46.4**	**+2.3**
TXAR	**Lajitas Array**	**89.76**	**57**	P		**P**	**19 31 46.4**	**+2.3**
	0.5nm,0.8s,baz=203,slow=6.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**92.81**	**289**	P		**P**	**19 31 59.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**92.81**	**289**	P		**P**	**19 31 59.2**	**+0.8**
	0.7nm,0.9s,baz=126,slow=3.1,SNR=4.1							
PDAR	**Pinedale Array**	**92.91**	**43**	P		**P**	**19 31 59.5**	**+0.9**
PDAR	**Pinedale Array**	**92.91**	**43**	P		**P**	**19 31 59.5**	**+0.9**
	0.7nm,0.8s,baz=195,slow=4.0,SNR=6.3							
ILAR	**Eielson Array**	**94.09**	**13**	P		**P**	**19 32 03.6**	**+0.5**
ILAR	**Eielson Array**	**94.09**	**13**	P		**P**	**19 32 03.6**	**+0.5**
	0.6nm,0.8s,baz=218,slow=4.6,SNR=9.6							
YKA	**Yellowknife Ar**	**101.73**	**25**	PKKPbc	PKKPbc		19 48 42.7	-3.1
YKA	**Yellowknife Ar**	**101.73**	**25**	PKKPbc	PKKPbc		19 48 42.7	-3.1
	0.3nm,0.5s,baz=40,slow=2.7,SNR=11							
ZALV	**Zalesovo Beam**	**115.63**	**320**	PKP		**PKPdf**	**19 37 24.9**	**-1.8**
ZALV	**Zalesovo Beam**	**115.63**	**320**	PKP		**PKPdf**	**19 37 24.9**	**-1.8**
	0.9nm,0.5s,baz=112,slow=1.6,SNR=7.0							
MKAR	**Makanchi Array**	**115.83**	**311**	PKP		**PKPdf**	**19 37 26.1**	**-1.2**
MKAR	**Makanchi Array**	**115.83**	**311**	PKP		**PKPdf**	**19 37 26.1**	**-1.2**
	0.8nm,0.5s,baz=192,slow=0.9,SNR=19							
KURK	**Kurchatov**	**118.89**	**315**	PKP		**PKPdf**	**19 37 32.0**	**-1.1**
KURBB	**Kurchatov Arra**	**118.93**	**315**	PKP		**PKPdf**	**19 37 32.0**	**-1.2**
	1.8nm,0.8s,baz=105,slow=1.9,SNR=9.7							
BVAR	**Borovoye Array**	**124.13**	**318**	PKP		**PKPdf**	**19 37 42.3**	**-0.7**
BVAR	**Borovoye Array**	**124.13**	**318**	PKP		**PKPdf**	**19 37 42.3**	**-0.7**
	2.4nm,0.5s,baz=125,slow=1.9,SNR=37							
AKTO	**Aktyubinsk**	**131.98**	**315**	PKP		**PKPdf**	**19 37 58.0**	**-0.1**
AKTO	**Aktyubinsk**	**131.98**	**315**	PKP		**PKPdf**	**19 37 58.0**	**-0.1**
	1.7nm,0.6s,baz=26,slow=3.0,SNR=9.1							
ARCES	**ARCESS Array B**	**135.03**	**349**	PKP		**PKPdf**	**19 38 02.5**	**-0.9**
ARCES	**ARCESS Array B**	**135.03**	**349**	PKP		**PKPdf**	**19 38 02.5**	**-0.9**
	4.6nm,0.8s,baz=51,slow=1.6,SNR=14							
FINES	**FINESS Array B**	**141.79**	**342**	PKPpre	PKPpre		19 38 10.5	
FINES	**FINESS Array B**	**141.79**	**342**	PKhKP	PKPpre		19 38 10.5	
	1.5nm,0.4s,baz=54,slow=3.6,SNR=27							
GNI	**Garni**	**142.79**	**302**	P		**PKPdf**	**19 38 15.6**	**-3.0**
NB2	**NORSAR Subarra**	**145.10**	**353**	PKP		**PKPdf**	**19 38 21.7**	**-0.1**
	comp=Z,17nm,1.0s,baz=8.3,slow=2.9							
NOA	**NORSAR Array B**	**145.10**	**353**	PKPbc	PKPdf		**19 38 21.3**	**-0.5**
NOA	**NORSAR Array B**	**145.10**	**353**	PKPbc	PKPdf		**19 38 21.3**	**-0.5**
	comp=Z,9.2nm,0.8s,baz=9.7,slow=2.6,SNR=21							
NAO01	**NORSAR Array S**	**145.33**	**353**	*e*PKPdf		**PKPab**	**19 38 22.5**	**+0.1**
NACGM	**Naroch**	**146.73**	**335**	*e*		**PKPdf**	**19 38 24.0**	**-0.7**
AKASG	**Malin Array Be**	**148.60**	**327**	PKPbc		**PKPbc**	**19 38 30.9**	**-0.8**
AKASG	**Malin Array Be**	**148.60**	**327**	PKPbc		**PKPbc**	**19 38 30.9**	**-0.8**
	comp=Z,7.5nm,0.6s,baz=41,slow=3.6,SNR=57							
AK01	**Malin Array Si**	**148.61**	**327**	*e*PKPbc		**PKPbc**	**19 38 30.6**	**-1.1**
KIEV	**Kiev**	**148.61**	**327**	*e*PKPbc		**PKPbc**	**19 38 30.4**	**-1.3**
AK02	**Malin Array Si**	**148.64**	**327**	*e*PKPbc		**PKPbc**	**19 38 30.8**	**-1.0**
BR131	**Keskin Array S**	**151.20**	**305**	*e*PKPbc		**PKPbc**	**19 38 37.3**	**-1.2**
BRTR	**Keskin Array B**	**151.20**	**305**	PKPbc		**PKPbc**	**19 38 37.7**	**-0.9**
BRTR				PKPab		**PKPab**	**19 38 47.4**	**+0.6**
BRTR	**Keskin Array B**	**151.20**	**305**	PKPbc		**PKPbc**	**19 38 37.7**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=140,slow=3.8,SNR=18							
BRTR				PKPab		**PKPab**	**19 38 47.4**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=75,slow=3.0,SNR=9.0							
CSS	**Prodhromos**	**152.54**	**295**	*e*PKPbc		**PKPbc**	**19 38 40.2**	**-1.4**
BUR08	**Bucovina Ar. S**	**152.60**	**326**	*e*PKPbc		**PKPbc**	**19 38 41.3**	**-0.1**
CLL	**Collm**	**154.14**	**345**	*e*PKPbc		**PKPbc**	**19 38 45.0**	**+0.5**
CLL				*e*PKPab		**PKPab**	**19 38 59.0**	**+0.5**
BRG	**Berggiesshubel**	**154.31**	**344**	*e*(P)		**PKPab**	**19 38 58.8**	**-0.4**
	comp=Z,7.4nm,1.0s							
GERES	**GERESS Array B**	**156.23**	**342**	PKPab		**PKPab**	**19 39 08.1**	**+0.5**
GERES	**GERESS Array B**	**156.23**	**342**	PKPab		**PKPab**	**19 39 08.1**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=46,slow=5.6,SNR=4.3							
TOA0	**Torodi Ar. Sit**	**166.57**	**175**	PKPdf		**PKPdf**	**19 38 48.7**	**-2.3**
TORD	**Torodi Ar. Bea**	**166.57**	**175**	PKP		**PKPdf**	**19 38 49.6**	**-1.4**
TORD				PKPab		**PKPab**	**19 39 51.1**	**-2.3**
TORD	**Torodi Ar. Bea**	**166.57**	**175**	PKP		**PKPdf**	**19 38 49.6**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=305,slow=1.1,SNR=7.6							
TORD				PKPab		**PKPab**	**19 39 51.1**	**-2.3**

comp=Z,0.9nm,0.5s,baz=175,slow=3.3,SNR=12

*ISCJB **30** 19:21:24.8±0.7,56.78S±0.08×141.6W±0.2,h10km, mb4.8/16,MS4.9/122,Error ellipse: s-maj=14.9km s-min=11.9km az=177.2*

*IDC **30** 19:21:25.8±0.9,56.91S×141.76W,h0km,mb4.1/5, mb1 4.3/5,mb1mx4.0/24,mbtmp4.1/5,MS4.8/19, Ms1 4.8/19,ms1mx4.7/25,Error ellipse: s-maj=43.4km s-min=25.9km az=8.0*

*NEIC **30** 19:21:27.5±0.6,57.64S×141.46W,h10km,mb5.0/10, MS5.1/102,Error ellipse: s-maj=39.1km s-min=18.8km az=177.0*

*GCMT **30** 19:21:27.5±0.1,57.03S×141.32W,h24km,MW5.7/117, Moment Tensor Solution. s107,c182; s117,c300; Duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr-0.30±.04; Mθθ2.78±.05; Mϕϕ-2.47±.04; Mrθ0.23±.07; Mθϕ2.54±.04; Mϕr0.05±.06; Best double couple: M0 3.66000×10^17^ NP1:ϕs113.00000°,δ88.00000°, λ3.00000°. NP2:ϕs23.00000°,δ87.00000°,λ178.00000°. Principal axes: T 3.8210, Plg3.0000°, Azm338.0000°; N -0.3180, Plg87.0000°, Azm146.0000°; P -3.4980, Plg1.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **30** 19:21:36.5,57.70S×141.40W,h10km*

ISC 30 19:21:27.5±0.5,56.77S±0.10×141.8W±0.1,h10km,n188, σ1s62/45,mb4.8/16,MS5.0/122,1C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBA	**Scott Base**	**27.32**	**201**	P		P	19 27 04.7	-7.2
	158nm,1.8s							
SBA				LR		LR		
	comp=Z,538nm,21.0s							
VNDA	**Vanda**	**28.23**	**203**	P		**P**	**19 27 20.4**	**+0.5**
	comp=Z,19nm,1.6s							
VNDA	**Vanda**	**28.23**	**203**	LR		LR	19 35 08.2	
	comp=Z,2μm,21.1s,baz=79,slow=29							
SNZO	**South Karori**	**31.82**	**280**	PFAKE			19 28 10.0	+18
SNZO				LR		LR		
	comp=Z,4μm,21.0s							
QSPA	**South Pole Qui**	**33.39**	**180**	P		**P**	**19 28 04.5**	**-1.3**
	comp=Z,16nm,1.1s							
QSPA	**South Pole Qui**	**33.39**	**180**	P		**P**	**19 28 04.5**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=48,slow=2.1,SNR=5.8							
QSPA				LR		LR	19 39 00.5	
	comp=Z,4μm,21.0s,baz=70,slow=32							
TBI	**Tubuai**	**33.85**	**347**	*e*S		**S**	**19 33 33.3**	**-0.6**
	comp=Z,925nm,30.2s							
TBI				*e*LR		LR	19 36 59.3	
	comp=Z,8μm,29.2s,baz=172							
TBI	**Tubuai**	**33.85**	**347**	*e*T		T	20 03 21.1	
	comp=Z,91nm,0.3s							
RKT	**Rikitea**	**33.98**	**11**	*e*S		**S**	**19 33 35.9**	**+0.1**
	comp=Z,616nm,27.8s							
RKT				*e*LQ		LQ	19 35 46.2	
	comp=Z,6μm,29.5s							
RKT				*e*LR		LR	19 37 10.5	
	comp=Z,6μm,28.5s,baz=187							
RKT	**Rikitea**	**33.98**	**11**	*e*T		T	20 03 40.1	
	comp=Z,4.4nm,0.2s							
PMSA	**Palmer Station**	**36.45**	**135**	PFAKE			19 28 40.0	+8.1
PMSA				LR		LR		
	comp=Z,2μm,20.0s							
MEH	**Mehetia**	**39.11**	**350**	*e*T		T	20 10 00.9	
	comp=Z,22nm,0.2s							
TVO	**Taravao**	**39.32**	**349**	*e*T		T	20 10 16.3	
	comp=Z,3.4nm,0.3s							
PAE	**Paea**	**39.48**	**348**	*e*T		T	20 10 22.6	
	comp=Z,2.2nm,0.2s							
PPT2	**Papeete2**	**39.55**	**348**	*e*S		**S**	**19 34 59.2**	**-1.9**
	comp=Z,1μm,26.8s							
PPT2				*e*LR		LR	19 39 35.6	
	comp=Z,9μm,28.5s,baz=177							
PPT2	**Papeete2**	**39.55**	**348**	*e*T		T	20 10 21.7	
	comp=Z,5.8nm,0.3s							
PPT	**Papeete**	**39.57**	**348**	LR		LR	19 40 43.4	
	comp=Z,2μm,20.3s,baz=184,slow=29							
VAH	**Vaihoa**	**41.69**	**351**	*e*T		T	20 13 03.7	
	comp=Z,52nm,0.3s							
TAU	**Tasmania Unive**	**45.69**	**256**	P		**P**	**19 29 47.7**	**-0.5**
	comp=Z,68nm,1.4s							
TAU				LR		LR		
	comp=Z,3μm,20.0s							
CASY	**Casey**	**45.92**	**212**	PFAKE			19 30 00.0	+10
CASY				LR		LR		
	comp=Z,1μm,19.0s							
PLCA	**Paso Flores**	**47.37**	**102**	P		P	19 29 55.6	-5.8
	comp=Z,7.7nm,1.3s							
PLCA	**Paso Flores**	**47.37**	**102**	P		**P**	**19 30 00.3**	**-1.2**
	comp=Z,1.9nm,1.0s,baz=225,slow=14,SNR=3.0							
H03N3	**Juan Fernandez**	**48.08**	**89**	T		T	20 21 35.9	
	baz=221,slow=75,SNR=259							
H03N2	**Juan Fernandez**	**48.08**	**89**	T		T	20 21 25.6	
	baz=221,slow=75,SNR=348							
H03N1	**Juan Fernandez**	**48.09**	**89**	T		T	20 21 27.4	
	baz=221,slow=75,SNR=245							
CAN	**Canberra**	**50.20**	**264**	PFAKE			19 30 40.0	+17
CAN				LR		LR		
	comp=Z,1μm,21.0s							
DZM	**Mont Dzumac**	**51.11**	**291**	*e*S		**S**	**19 37 45.3**	**-2.8**
	comp=Z,855nm,28.1s							
DZM				*e*LQ		LQ	19 42 56.9	
	comp=Z,6μm,26.2s							
DZM				*e*LR		LR	19 45 05.0	
	comp=Z,2μm,26.1s							
DZM	**Mont Dzumac**	**51.11**	**291**	LR		LR	19 48 50.9	
	comp=Z,863nm,18.1s,baz=173,slow=32							
ARMA	**Armidale**	**52.45**	**271**	P		**P**	**19 30 41.7**	**+1.5**
	comp=Z,32nm,1.4s							
HOPE	**Hope Point**	**53.77**	**135**	PFAKE			19 31 00.0	+11
HOPE				LR		LR		
	comp=Z,1.0nm,21.0s							
SYO	**Syowa Base**	**54.53**	**181**	*e*pP		P	19 30 49.8	-5.0
MAW	**Mawson**	**54.60**	**191**	LR		LR	19 51 20.3	
	comp=Z,1μm,20.9s,baz=156,slow=33							
EIDS	**Eidsvold**	**56.69**	**274**	P		**P**	**19 31 11.7**	**+0.7**
	comp=Z,4.0nm,0.8s							
STKA	**Stephens Creek**	**56.84**	**261**	*e*P		**P**	**19 31 13.5**	**+1.5**
	comp=Z,0.8nm,0.9s							
STKA	**Stephens Creek**	**56.84**	**261**	P		**P**	**19 31 12.6**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=156,slow=8.8,SNR=3.9							
STKA				LR		LR	19 50 59.3	
	comp=Z,1μm,20.8s,baz=131,slow=31							
BBOO	**Buckleboo**	**59.12**	**256**	*e*P		P	19 31 37.0	+9.1
	comp=Z,535nm,1.5s							
LVC	**Limon Verde**	**62.02**	**89**	PFAKE			19 32 00.0	+12
LVC				LR		LR		
	comp=Z,424nm,19.0s							
CTA	**Charters Tower**	**63.57**	**274**	LR		LR	19 55 49.0	
	comp=Z,513nm,20.4s,slow=32							
CTAO	**Charters Tower**	**63.57**	**274**	P		**P**	**19 31 58.1**	**-0.1**
	comp=Z,77nm,1.6s							
CTAO				LR		LR		
	comp=Z,699nm,21.0s							
FORT	**Forrest**	**64.94**	**252**	P		P	19 32 03.2	-3.8
	comp=Z,14nm,0.8s							
CPUP	**Villa Florida**	**65.41**	**101**	P		**P**	**19 32 08.2**	**-1.9**
	comp=Z,1.0nm,1.2s							
NNA	**Nana**	**66.38**	**75**	PFAKE			19 32 30.0	+13
NNA				LR		LR		
	comp=Z,630nm,21.0s							
ASAR	**Alice Springs**	**67.47**	**261**	P		**P**	**19 32 22.9**	**-0.5**
ASAR	**Alice Springs**	**67.47**	**261**	P		**P**	**19 32 22.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=143,slow=6.2,SNR=15							
ASAR				LR		LR	20 00 00.7	
	comp=Z,390nm,18.8s,baz=148,slow=34							
LPAZ	**La Paz**	**67.56**	**86**	LR		LR	19 55 23.0	
	comp=Z,212nm,20.6s,baz=252,slow=30							
TARA	**Tarawa**	**68.44**	**310**	PFAKE			19 32 50.0	+21
TARA				LR		LR		
	comp=Z,2μm,22.0s							
H01W1	**Cape Leeuwin H**	**68.58**	**239**	T		T	20 48 16.1	
H01W2	**Cape Leeuwin H**	**68.58**	**239**	T		T	20 48 16.6	
	baz=145,slow=76,SNR=45							
H01W3	**Cape Leeuwin H**	**68.59**	**239**	T		T	20 48 06.4	
	baz=145,slow=76,SNR=73							
NWAO	**Narrogin (SRO)**	**68.70**	**242**	PFAKE			19 32 40.0	+9.0
NWAO				LR		LR		
	comp=Z,1.0nm,19.0s							
PAYG	**Puerto Ayora**	**69.35**	**57**	PFAKE			19 32 50.0	+15
PAYG				LR		LR		
	comp=Z,1μm,20.0s							
WRA	**Warramunga Arr**	**70.24**	**264**	P		**P**	**19 32 40.5**	**-0.2**
WRA	**Warramunga Arr**	**70.24**	**264**	P		**P**	**19 32 40.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=146,slow=5.6,SNR=7.0							
WRA				LR		LR	19 59 35.6	
	comp=Z,1μm,20.6s,baz=140,slow=33							
WRAB	**Tennant Creek**	**70.24**	**264**	P		**P**	**19 32 37.5**	**-3.2**
	comp=Z,9.4nm,0.9s							
WRAB				LR		LR		
	comp=Z,1μm,22.0s							
COEN	**Coen**	**70.25**	**275**	P		P	19 32 47.5	+6.8
	comp=Z,245nm,1.2s							
SIV	**San Ignacio**	**71.69**	**91**	LR		LR	20 00 50.4	
	comp=Z,154nm,18.4s,baz=184,slow=33							
PMG	**Port Moresby**	**71.83**	**281**	LR		LR	19 59 21.3	
	comp=Z,535nm,21.2s,baz=152,slow=32							
OTAV	**Otavalo**	**75.89**	**67**	PFAKE			19 33 30.0	+15
OTAV				LR		LR		
	comp=Z,240nm,20.0s							
SAML	**Samuel**	**76.31**	**85**	PFAKE			19 33 30.0	+13
SAML				LR		LR		
	comp=Z,221nm,21.0s							
JAY	**Jayapura**	**81.07**	**279**	LR		LR	20 06 15.1	
	comp=Z,335nm,20.2s,baz=110,slow=33							
JTS	**JuntasAbangare**	**81.46**	**56**	LR		LR	20 01 51.2	
	comp=Z,742nm,21.8s,baz=206,slow=30							
ROSC	**El Rosal**	**81.93**	**68**	LR		LR	20 04 23.5	
	comp=Z,96nm,19.8s,baz=282,slow=31							
BCIP	**Isla Barro Col**	**82.89**	**61**	PFAKE			19 34 00.0	+7.8
BCIP				LR		LR		
	comp=Z,356nm,22.0s							
TGUH	**Tegucigalpa,Un**	**83.75**	**53**	PFAKE			19 34 10.0	+13
TGUH				LR		LR		
	comp=Z,333nm,19.0s							
PTGA	**Pitinga**	**84.89**	**84**	LR		LR	20 05 44.1	
	comp=Z,216nm,18.1s,baz=222,slow=31							
SDV	**Santo Domingo**	**87.26**	**69**	PFAKE			19 34 30.0	+16
SDV				LR		LR		
	comp=Z,343nm,20.0s							
TEIG	**Tepich**	**88.81**	**49**	PFAKE			19 34 30.0	+8.7
TEIG				LR		LR		
	comp=Z,385nm,20.0s							
SUR	**Sutherland**	**89.98**	**165**	PFAKE			19 34 30.0	+2.8
SUR				LR		LR		
	comp=Z,937nm,19.0s							
KAPI	**Kappang**	**90.48**	**260**	PFAKE			19 34 40.0	+11
KAPI				LR		LR		
	comp=Z,1μm,21.0s							
KVTX	**Kingsville**	**91.81**	**38**	PFAKE			19 34 50.0	+15
KVTX				LR		LR		
	comp=Z,697nm,19.0s							
MTDJ	**Mount Denham**	**91.83**	**59**	PFAKE			19 34 50.0	+14
MTDJ				LR		LR		
	comp=Z,587nm,20.0s							
TUC	**Tucson**	**92.54**	**26**	PFAKE			19 34 50.0	+11
TUC				LR		LR		
	comp=Z,577nm,19.0s							
PFO	**Pinyon Flat Ob**	**92.55**	**21**	PFAKE			19 34 50.0	+11
PFO				LR		LR		
	comp=Z,1μm,22.0s							
MNTX	**Cornudas Mount**	**93.36**	**30**	PFAKE			19 35 00.0	+18
MNTX				LR		LR		
	comp=Z,759nm,22.0s							
RCBR	**Riachuelo**	**93.76**	**106**	PFAKE			19 34 50.0	+5.3
RCBR				LR		LR		
	comp=Z,471nm,20.0s							
JCT	**Junction City**	**93.89**	**35**	PFAKE			19 35 00.0	+15
JCT				LR		LR		
	comp=Z,288nm,19.0s							
BOSA	**Boshof**	**94.25**	**169**	LR		LR	20 15 23.8	
	comp=Z,781nm,18.2s,baz=180,slow=34							
GRGR	**Grenville**	**94.69**	**75**	PFAKE			19 35 00.0	+11
GRGR				LR		LR		
	comp=Z,295nm,20.

NEW	**Newport**	**106.66**	**17**	PFAKE			19 40 00.0		
NEW				LR	LR				
	comp=Z,584nm,21.0s								
ECSD	**EROS Data Cent**	**107.07**	**33**	PFAKE			19 40 10.0		
ECSD				LR	LR				
	comp=Z,864nm,21.0s								
LAO	**LASA Array**	**107.28**	**25**	PFAKE			19 40 10.0		
LAO				LR	LR				
	comp=Z,706nm,21.0s								
LSZ	**Lusaka**	**107.74**	**170**	PFAKE			19 40 00.0		
LSZ				LR	LR				
	comp=Z,818nm,19.0s								
EGMT	**Eagleton**	**107.77**	**22**	PFAKE			19 40 10.0		
EGMT				LR	LR				
	comp=Z,494nm,21.0s								
KULM	**Kulim**	**109.29**	**249**	PFAKE			19 40 10.0		
KULM				LR	LR				
	comp=Z,173nm,19.0s								
AGMN	**Agassiz Nation**	**111.44**	**31**	PFAKE			19 40 10.0		
AGMN				LR	LR				
	comp=Z,627nm,20.0s								
EYMN	**Ely**	**112.42**	**34**	PFAKE			19 40 20.0		
EYMN				LR	LR				
	comp=Z,740nm,19.0s								
WRAK	**Wrangell Islan**	**113.09**	**6**	PFAKE			19 40 20.0		
WRAK				LR	LR				
	comp=Z,906nm,20.0s								
YHNB	**Yeheng**	**113.97**	**279**	PFAKE			19 40 20.0		
YHNB				LR	LR				
	comp=Z,242nm,20.0s								
TATO	**Taipei**	**114.16**	**279**	PFAKE			19 40 20.0		+13
TATO				LR	LR				
	comp=Z,436nm,20.0s								
KDAK	**Kodiak Island**	**114.53**	**354**	PFAKE			19 40 20.0		+14
KDAK				LR	LR				
	comp=Z,1μm,20.0s								
FFC	**Flin Flon**	**115.75**	**24**	PFAKE			19 40 20.0		+11
FFC				LR	LR				
	comp=Z,526nm,21.0s								
QIZ	**Qiongzhong**	**115.78**	**265**	PFAKE			19 40 20.0		+10
QIZ				LR	LR				
	comp=Z,337nm,21.0s								
ERM	**Erimo**	**116.81**	**306**	PFAKE			19 40 20.0		+8.8
ERM				LR	LR				
	comp=Z,505nm,20.0s								
MSEY	**Mahe Island**	**117.17**	**199**	PFAKE			19 40 20.0		+7.1
MSEY				LR	LR				
	comp=Z,577nm,19.0s								
SACV	**Santiago Islan**	**117.74**	**106**	PFAKE			19 40 20.0		+6.2
SACV				LR	LR				
	comp=Z,188nm,19.0s								
MSKU	**Masuku**	**118.45**	**152**	PFAKE			19 40 30.0		+15
MSKU				LR	LR				
	comp=Z,3.0nm,22.0s								
PET	**Petropavlovsk**	**119.79**	**323**	PFAKE			19 40 30.0		+13
PET				LR	LR				
	comp=Z,1μm,20.0s								
YSS	**Yuzh-Sakhalins**	**120.90**	**309**	PFAKE			19 40 30.0		+11
YSS				LR	LR				
	comp=Z,159nm,19.0s								
INCN	**Inchon**	**121.20**	**292**	PFAKE			19 40 30.0		+10
INCN				LR	LR				
	comp=Z,207nm,20.0s								
EGAK	**Eagle**	**121.22**	**0**	PFAKE			19 40 30.0		+11
EGAK				LR	LR				
	comp=Z,484nm,22.0s								
CMAR	**Chiang Mai Arr**	**121.22**	**255**	PKP		**PKPdf**	**19 40 21.7**		**+1.3**
CMAR	**Chiang Mai Arr**	**121.22**	**255**	PKP		**PKPdf**	**19 40 21.7**		**+1.3**
	comp=Z,0.4nm,0.8s,baz=186,slow=0.9,SNR=3.5								
ILAR	**Eielson Array**	**121.28**	**357**	PKP		**PKPdf**	**19 40 20.4**		**+1.4**
ILAR	**Eielson Array**	**121.28**	**357**	PKP		**PKPdf**	**19 40 20.4**		**+1.4**
	comp=Z,1.3nm,0.9s,baz=242,slow=1.9,SNR=4.8								
COLA	**College**	**121.40**	**357**	PFAKE			19 40 30.0		+11
COLA				LR	LR				
	comp=Z,616nm,20.0s								
CHTO	**Chiang Mai**	**121.52**	**256**	PFAKE			19 40 30.0		+9.0
CHTO				LR	LR				
	comp=Z,233nm,20.0s								
KMBO	**Kilima Mbogo**	**122.29**	**179**	PFAKE			19 40 30.0		+7.0
KMBO				LR	LR				
	comp=Z,1μm,22.0s								
ENH	**Enshi**	**124.87**	**273**	PFAKE			19 40 40.0		+13
ENH				LR	LR				
	comp=Z,10.0nm,20.0s								
MDJ	**Mudanjiang**	**125.10**	**299**	PFAKE			19 40 40.0		+13
MDJ				LR	LR				
	comp=Z,289nm,21.0s								
BJT	**Baijiatuau**	**128.54**	**286**	PFAKE			19 40 50.0		+16
BJT				LR	LR				
	comp=Z,174nm,20.0s								
BILL	**Bilibino**	**130.23**	**337**	PFAKE			19 40 50.0		+14
BILL				LR	LR				
	comp=Z,2μm,20.0s								
HIA	**Hailar**	**133.16**	**297**	PFAKE			19 40 50.0		+7.7
HIA				LR	LR				
	comp=Z,294nm,21.0s								
LSA	**Lhasa**	**134.46**	**257**	PFAKE			19 41 00.0		+14
LSA				LR	LR				
	comp=Z,206nm,20.0s								
YAK	**Yakutsk**	**136.85**	**316**	PFAKE			19 41 00.0		+11
YAK				LR	LR				
	comp=Z,261nm,20.0s								
TAM	**Tamanrasset**	**138.51**	**131**	PFAKE			19 41 00.0		+6.7
TAM				LR	LR				
	comp=Z,259nm,20.0s								
ULN	**Ulaanbaatar**	**138.69**	**288**	PFAKE			19 41 10.0		+17
ULN				LR	LR				
	comp=Z,210nm,22.0s								
TIXI	**Tiksi**	**142.17**	**329**	*e*PKPdf		**PKPdf**	**19 40 59.6**		**+1.5**
TIXI				LR	LR				
	comp=Z,296nm,21.0s								
TLY	**Talaya**	**142.74**	**291**	PFAKE			19 41 10.0		+10
TLY				LR	LR				
	comp=Z,177nm,21.0s								
MTE	**Manteigas**	**146.32**	**99**	PFAKE			19 41 20.0		+11
MTE				LR	LR				
	comp=Z,262nm,20.0s								
RAYN	**Ar Rayn**	**146.37**	**192**	*e*PKPdf		**PKPbc**	**19 41 08.3**		**+0.1**
SUMG	**Summit**	**146.53**	**32**	*i* P		**PKPab**	**19 41 13.8**		**+5.0**
	comp=Z,6.2nm,1.0s								
SUMG	**Summit**	**146.53**	**32**	*e*PKPbc		**PKPab**	**19 41 09.4**		**+0.5**
ESDC	**Sonseca Array**	**147.74**	**104**	PKPbc		**PKPbc**	**19 41 10.9**		**-0.8**
ESDC	**Sonseca Array**	**147.74**	**104**	PKPbc		**PKPbc**	**19 41 10.9**		**-0.8**
	comp=Z,2.1nm,0.9s,baz=244,slow=2.6,SNR=6.5								
KBL	**Kabul**	**149.49**	**236**	PKPbc		**PKPbc**	**19 41 18.2**		**+1.7**
MK31	**Makanchi Array**	**151.45**	**269**	PKPdf		**PKPdf**	**19 41 14.5**		**+0.1**
MK31				*e*PKPbc		**PKPbc**	**19 41 20.6**		**0.0**
MKAR	**Makanchi Array**	**151.45**	**269**	PKPbc		**PKPbc**	**19 41 18.8**		**-1.8**
MKAR	**Makanchi Array**	**151.45**	**269**	PKPbc		**PKPbc**	**19 41 18.8**		**-1.8**
	comp=Z,2.4nm,0.9s,baz=113,slow=3.2,SNR=11								
TKM2	**Tokmak 2**	**152.61**	**256**	*e*PKPbc		**PKPbc**	**19 41 25.4**		**+1.9**
TKM2				*e*PKPab		**PKPab**	**19 41 34.5**		**+0.2**
TKM2				LR	LR				
	comp=Z,177nm,20.0s								
AAK	**Ala-Archa**	**153.00**	**254**	*e*PKPdf		**PKPdf**	**19 41 19.0**		**+1.9**
AAK				*e*PKPbc		**PKiKP**	**19 41 26.5**		**+1.9**
AAK				LR	LR				
	comp=Z,255nm,21.0s								
EKS2	**Erkin-Say**	**153.39**	**253**	PKP		**PKPbc**	**19 41 22.6**		**-2.7**
EKS2				LR	LR				
	comp=Z,268nm,19.0s								
ZAA0	**Zalesovo Array**	**153.77**	**284**	PKPab		**PKPab**	**19 41 35.9**		**-2.7**
ZALV	**Zalesovo Beam**	**153.77**	**284**	PKPbc		**PKPbc**	**19 41 25.9**		**+0.4**
ZALV				PKPab		**PKPab**	**19 41 37.1**		**-1.4**
ZALV	**Zalesovo Beam**	**153.77**	**284**	PKPbc		**PKPbc**	**19 41 25.9**		**+0.4**
	comp=Z,0.2nm,0.3s,baz=225,slow=1.8,SNR=2.6								
ZALV				PKPab		**PKPab**	**19 41 37.1**		**-1.4**
	comp=Z,1.2nm,0.6s,baz=104,slow=3.6,SNR=5.6								
KURK	**Kurchatov**	**155.64**	**273**	PFAKE			19 41 30.0		+10
KURK				LR	LR				
	comp=Z,122nm,21.0s								
CEL	**Celeste**	**156.31**	**132**	PFAKE			19 41 30.0		+8.3
CEL				LR	LR				
	comp=Z,475nm,21.0s								
TIP	**Timpagrande**	**157.44**	**132**	PFAKE			19 41 30.0		+6.9
TIP				LR	LR				
	comp=Z,170nm,22.0s								
CUC	**Castrocucco**	**157.73**	**129**	PFAKE			19 41 30.0		+6.6
CUC				LR	LR				
	comp=Z,273nm,19.0s								
SANT	**Santorini**	**157.86**	**152**	PFAKE			19 41 30.0		+6.3
SANT				LR	LR				
	comp=Z,769nm,22.0s								
VLC	**Villacollemand**	**158.43**	**114**	PFAKE			19 41 30.0		+5.9
VLC				LR	LR				
	comp=Z,379nm,19.0s								
AQU	**L'Aquila**	**158.55**	**122**	PFAKE			19 41 30.0		+5.7
AQU				LR	LR				
	comp=Z,512nm,19.0s								
ECH	**Echery**	**159.39**	**101**	PFAKE			19 41 40.0		+15
ECH				LR	LR				
	comp=Z,331nm,19.0s								
TUE	**Stuetta**	**159.47**	**108**	PFAKE			19 41 40.0		+15
TUE				LR	LR				
	comp=Z,654nm,19.0s								
BFO	**Black Forest**	**160.09**	**102**	PFAKE			19 41 40.0		+14
BFO				LR	LR				
	comp=Z,378nm,22.0s								
ISP	**Isparta**	**160.36**	**162**	PFAKE			19 41 40.0		+13
ISP				LR	LR				
	comp=Z,542nm,21.0s								
BRVK	**Borovoye**	**161.31**	**272**	PFAKE			19 41 40.0		+13
BRVK				LR	LR				
	comp=Z,284nm,20.0s								
ANTO	**Ankara**	**162.72**	**166**	PFAKE			19 41 40.0		+11
ANTO				LR	LR				
	comp=Z,391nm,21.0s								
GNI	**Garni**	**162.83**	**197**	PFAKE			19 41 40.0		+11
GNI				LR	LR				
	comp=Z,498nm,20.0s								
PSZ	**Piszkesteto**	**165.75**	**121**	PFAKE			19 41 40.0		+8.5
PSZ				LR	LR				
	comp=Z,331nm,20.0s								
KEV	**Kevo**	**166.06**	**16**	PFAKE			19 41 40.0		+9.1
KEV				LR	LR				
	comp=Z,477nm,20.0s								
KIV	**Kislovodsk**	**166.87**	**194**	PFAKE			19 41 40.0		+7.5
KIV				LR	LR				
	comp=Z,430nm,21.0s								
KWP	**Kalwaria Pacla**	**168.28**	**121**	PFAKE			19 41 40.0		+6.8
KWP				LR	LR				
	comp=Z,504nm,21.0s								
ARU	**Arti**	**168.79**	**277**	PFAKE			19 41 40.0		+6.7
ARU				LR	LR				
	comp=Z,436nm,22.0s								
KIEV	**Kiev**	**171.90**	**135**	PFAKE			19 41 50.0		+15
KIEV				LR	LR				
	comp=Z,446nm,19.0s								
OBN	**Obninsk**	**178.10**	**150**	PFAKE			19 41 50.0		+13
OBN				LR	LR				
	comp=Z,539nm,20.0s								

*IDC **30** 19:27:52.0±1.0, 11°.50N×142°.37E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/34, mbtmp3.5/7, Error ellipse: s-maj=36.5km s-min=21.0km az=97.0*
*ISCJB **30** 19:27:54.1±1.0, 11°.5N±0°.1×142°.3E±0°.2, h25km, mb3.5/7, Error ellipse: s-maj=33.6km s-min=19.0km az=2.9*
ISC 30 19:27:56.0±1.1, 11°.5N±0°.2×142°.3E±0°.2, h25km, n7, σ0s62/7, mb3.6/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.20**	**194**	P	**P**	**19 34 21.9**	**-0.4**
	0.9nm,0.9s,baz=18,slow=10.0,SNR=3.2						
ASAR	**Alice Springs**	**35.88**	**193**	P	**P**	**19 34 54.6**	**+0.4**
	0.2nm,0.7s,baz=24,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**42.41**	**285**	P	**P**	**19 35 49.0**	**+0.1**
	0.3nm,0.6s,baz=91,slow=7.0,SNR=4.4						
SONM	**Songino Array**	**47.09**	**327**	P	**P**	**19 36 26.5**	**+0.5**
	0.3nm,0.8s,baz=133,slow=8.1,SNR=3.6						
BVAR	**Borovoye Array**	**70.06**	**322**	P	**P**	**19 39 05.2**	**-0.6**
	0.4nm,0.5s,baz=107,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**71.53**	**25**	P	**P**	**19 39 14.1**	**-0.5**
	1.1nm,0.7s,baz=246,slow=6.2,SNR=16						
YKA	**Yellowknife Ar**	**85.86**	**27**	P	**P**	**19 40 34.0**	**+0.6**
	0.4nm,0.9s,baz=273,slow=5.7,SNR=5.2						

*ISCJB **30** 19:56:50.5±0.7, 17°.81S±0°.08×69°.52W±0°.08, h144km±9km, mb3.6/3, Error ellipse: s-maj=14.7km s-min=10.8km az=137.4*
*GUC **30** 19:56:52.2±0.5, 17°.94S×69°.67W, h142km±2km, ML4.1*
*IDC **30** 19:56:56.1±4.1, 17°.56S×69°.27W, h163km±22km, mb3.5/3, mb1 3.5/5, mb1mx3.2/32, mbtmp4.0/5, Error ellipse: s-maj=63.9km s-min=26.1km az=18.0*
ISC 30 19:56:51.6±0.9, 17°.83S±0°.07×69°.53W±0°.10, h139km±9km, n13, σ0s99/20, mb3.6/3, 1C-4D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCH	**Arica**	**0.98**	**228**	*i* P	**Pn**	**19 57 15.0**	**-0.2**
ARCH				*i* S	**Sn**	**19 57 32.0**	**-1.1**
MNMC	**Minimini**	**1.30**	**183**	*i* P	**Pn**	**19 57 19.8**	**+1.3**
MNMC				*i* S	**Sn**	**19 57 40.4**	**+1.4**
PSGC	**Pisagua**	**1.85**	**198**	*i* P	**Pn**	**19 57 24.1**	**-0.3**
PSGC				*i* S	**Sn**	**19 57 48.5**	**-1.0**
PB11	**Plate Boundary**	**1.93**	**184**	*i* P	**Pn**	**19 57 26.3**	**+0.9**
PB11				*i* S	**Sn**	**19 57 51.8**	**+0.5**
PB11				AML	AML	19 57 53.8	
	comp=N,2μm,0.4s						
LPAZ	**La Paz**	**2.03**	**41**	P	**Pn**	**19 57 29.2**	**+2.1**
	comp=Z,222,slow=7.4						
HMBC	**Humberstone**	**2.46**	**188**	*i* P	**Pn**	**19 57 32.0**	**+0.1**
HMBC				*i* S	**Sn**	**19 58 02.4**	**-0.4**
PB01	**Plate Boundary**	**3.20**	**179**	*i* P	**Pn**	**19 57 41.9**	**+0.6**
PB01				*i* S	**Sn**	**19 58 19.6**	**0.0**
PB01				AML	AML	19 58 20.8	
	comp=E,200nm,0.8s						
SIV	**San Ignacio**	**8.30**	**79**	P	**Pn**	**19 58 48.5**	**-0.7**
	comp=E,1.9nm,0.3s,baz=279,slow=14,SNR=17						
SIV				S	**Sn**	**20 00 20.2**	**-1.2**
	comp=E,0.2nm,0.3s,baz=0.0,slow=20,SNR=4.4						
PTGA	**Pitinga**	**19.42**	**30**	P	**P**	**20 01 06.3**	**-1.0**
	comp=E,1.1nm,0.3s,baz=343,slow=19,SNR=6.4						
DBIC	**Dimbokro**	**68.31**	**75**	P	**P**	**20 07 38.4**	**0.0**
	comp=E,0.8nm,0.5s,baz=239,slow=5.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.71**	**71**	P	**P**	**20 08 27.8**	**-0.3**
	comp=E,0.6nm,0.5s,baz=248,slow=6.1,SNR=7.4						
YKA	**Yellowknife Ar**	**87.55**	**341**	P	**P**	**20 09 23.6**	**+0.2**
	comp=E,0.3nm,0.4s,baz=133,slow=4.8,SNR=8.8						
SONM	**Songino Array**	**149.89**	**5**	PKPbc	**PKPbc**	**20 16 26.7**	**+1.0**
	comp=E,0.3nm,0.9s,baz=11,slow=1.5,SNR=3.3						

*IDC **30** 19:59:06.2±1.4, 19°.49S×173°.62W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.0/37, mbtmp4.0/10, Error ellipse: s-maj=64.5km s-min=19.2km az=149.0*
*NEIC **30** 19:59:08.5±0.5, 19°.27S×173°.82W, h10km, mb4.8/5, Error ellipse: s-maj=16.3km s-min=10.1km az=137.0*
ISC 30 19:59:14.7±0.8, 19°.1S±0°.1×173°.8W±0°.1, h56km, n32, σ1s36/32, mb4.3/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.54**	**21**	*e*Pn	Pn	20 00 23.9	-11
AFI				*e*Sn	**Sn**	**20 01 33.4**	**-3.7**
RAO	**Raoul Island**	**10.76**	**199**	Pn	Pn	20 01 39.8	-6.2
DZM	**Mont Dzumac**	**18.69**	**258**	*e*Pn	**P**	**20 03 27.5**	**-1.0**
	35nm,0.7s						
CTA	**Charters Tower**	**37.54**	**262**	P	**P**	**20 06 22.9**	**-0.9**
CTA	**Charters Tower**	**37.54**	**262**	P	**P**	**20 06 22.9**	**-0.9**
	13nm,1.1s,baz=92,slow=12,SNR=6.0						
CTAO	**Charters Tower**	**37.54**	**262**	*e*P	**P**	**20 06 22.5**	**-1.2**
STKA	**Stephens Creek**	**41.91**	**243**	P	**P**	**20 06 58.8**	**-1.1**
STKA	**Stephens Creek**	**41.91**	**243**	P	**P**	**20 06 58.8**	**-1.1**
	2.1nm,0.7s,baz=99,slow=9.2,SNR=5.4						
AS31	**Alice Springs**	**48.65**	**255**	*e*P	**P**	**20 07 52.5**	**-1.0**
ASAR	**Alice Springs**	**48.65**	**255**	P	**P**	**20 07 53.2**	**-0.2**
ASAR	**Alice Springs**	**48.65**	**255**	P	**P**	**20 07 53.2**	**-0.2**
	7.8nm,1.0s,baz=99,slow=7.8,SNR=4.3						
WRAB	**Tennant Creek**	**48.67**	**260**	*e*P	**P**	**20 07 52.2**	**-1.5**
WRA	**Warramunga Arr**	**48.68**	**260**	P	**P**	**20 07 53.7**	**0.0**
WRA	**Warramunga Arr**	**48.68**	**260**	P	**P**	**20 07 53.7**	**0.0**
	2.1nm,0.6s,baz=96,slow=7.7,SNR=44						
MJAR	**Matsushiro Arr**	**71.51**	**321**	P	**P**	**20 10 32.0**	**+2.3**
MJAR	**Matsushiro Arr**	**71.51**	**321**	P	**P**	**20 10 32.0**	**+2.3**
	0.5nm,0.8s,baz=157,slow=6.3,SNR=4.3						
NVAR	**Mina Array Bea**	**77.36**	**42**	P	**P**	**20 11 03.3**	**-0.6**
NVAR	**Mina Array Bea**	**77.36**	**42**	P	**P**	**20 11 03.3**	**-0.6**
	0.3nm,0.6s,baz=225,slow=7.5,SNR=3.8						
PMSA	**Palmer Station**	**80.98**	**156**	*e*P	**P**	**20 11 21.8**	**-1.1**
	12nm,0.7s						
TXAR	**Lajitas Array**	**83.03**	**56**	P	**P**	**20 11 35.0**	**+0.6**
TXAR	**Lajitas Array**	**83.03**	**56**	P	**P**	**20 11 35.0**	**+0.6**
	0.4nm,0.8s,baz=216,slow=4.5,SNR=3.3						
MCK	**McKinley**	**84.83**	**11**	*e*P	**P**	**20 11 43.3**	**+0.6**
	6.8nm,1.0s						
SEY	**Seymchan**	**85.98**	**345**	P	**P**	**20 11 50.8**	**+2.4**
SEY	**Seymchan**	**85.98**	**345**	P	**P**	**20 11 50.8**	**+2.4**
	2.0nm,0.8s,baz=105,slow=4.7,SNR=4.8						
COLA	**College**	**86.07**	**11**	*e*P	**P**	**20 11 49.7**	**+0.9**
	5.2nm,0.8s						
ILAR	**Eielson Array**	**86.15**	**11**	P	**P**	**20 11 49.5**	**+0.3**
ILAR	**Eielson Array**	**86.15**	**11**	P	**P**	**20 11 49.5**	**+0.3**
	0.8nm,0.7s,baz=226,slow=5.8,SNR=18						
YKA	**Yellowknife Ar**	**93.65**	**24**	P	**P**	**20 12 24.7**	**+0.1**
YKA	**Yellowknife Ar**	**93.65**	**24**	P	**P**	**20 12 24.7**	**+0.1**
	0.1nm,0.5s,baz=242,slow=4.8,SNR=4.3						
CLL	**Collm**	**147.42**	**352**	*e*PKPbc	**PKPab**	**20 18 53.0**	**-1.1**
CLL				*e*PKPab	**PKiKP**	**20 18 56.0**	**+1.7**
BRTR	**Keskin Array B**	**148.66**	**317**	PKPbc	**PKPbc**	**20 18 56.2**	**+0.2**
BRTR	**Keskin Array B**	**148.66**	**317**	PKPbc	**PKPbc**	**20 18 56.2**	**+0.2**
	0.8nm,0.8s,baz=116,slow=2.9,SNR=5.1						

*IDC **30** 19:59:43.7±1.2, 53°.92N×160°.94E, h0km, mb3.4/5, mb1 3.9/7, mb1mx3.5/45, mbtmp3.5/7, ML3.1/2, Error ellipse: s-maj=44.1km s-min=13.4km az=3.0*
*MOS **30** 19:59:44.1±0.8, 53°.64N×160°.95E, h18km, mb4.1/1, Error ellipse: s-maj=18.4km s-min=9.5km az=72.9*
*KRSC **30** 19:59:44.5±0.9, 53°.66N×160°.91E, h42km±20km, ML4.0*
*ISCJB **30** 19:59:46.2±0.4, 53°.65N±0°.03×160°.89E±0°.05, h40km, mb3.4/5, Error ellipse: s-maj=4.9km s-min=2.2km az=41.3*
ISC 30 19:59:47.9±0.8, 53°.66N±0°.03×160°.84E±0°.04, h40km, n47, σ1s20/81, mb3.7/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.91**	**295**	*e*P	**Pn**	**20 00 02.6**	**-1.6**
KII				*e*S	**Sn**	**20 00 13.9**	**-2.3**
NLC	**Nalytchevo**	**1.02**	**242**	*e*S	**Sn**	**20 00 16.8**	**-1.9**
SDLR	**Sedlovina**	**1.23**	**253**	*e*P	**Pn**	**20 00 07.7**	**-1.0**
SDLR				*e*S	**Sn**	**20 00 23.7**	**-0.4**
SMAR	**Somma**	**1.28**	**253**	*e*P	**Pn**	**20 00 08.7**	**-0.8**
SMAR				*e*S	**Sn**	**20 00 24.9**	**-0.6**
UGLR	**Uglovaya**	**1.29**	**250**	*e*P	**Pn**	**20 00 08.5**	**-1.0**
UGLR				*e*S	**Sn**	**20 00 24.7**	**-0.8**
KRER	**Koryakskii**	**1.30**	**255**	*i* P	**Pn**	**20 00 09.1**	**-0.6**
KRER				*e*S	**Sn**	**20 00 25.6**	**-0.3**
AVH	**Avacha**	**1.32**	**253**	*i* P	**Pn**	**20 00 09.3**	**-0.5**
AVH				*e*S	**Sn**	**20 00 25.0**	**-1.2**
KRX	**Arik**	**1.34**	**258**	*e*P	**Pn**	**20 00 09.3**	**-1.0**
KRX				*e*S	**Sn**	**20 00 25.1**	**-1.8**
KOK	**Koryaka**	**1.37**	**255**	*i* P	**Pn**	**20 00 09.8**	**-0.8**
KOK				*e*S	**Sn**	**20 00 25.7**	**-1.8**
PET	**Petropavlovsk**	**1.46**	**245**	*e*PN	**Pn**	**20 00 10.8**	**-0.9**
PET				*e*S	**Sn**	**20 00 28.5**	**-1.0**
PET				smax	smax		
	comp=N,756nm,0.5s						
PET				smax	smax		
	comp=E,893nm,0.4s						
PET	**Petropavlovsk**	**1.46**	**245**	*e*P	**Pn**	**20 00 10.8**	**-0.9**
PET				*e*S	**Sn**	**20 00 28.5**	**-1.0**
KZV	**Kizimen**	**1.49**	**348**	*e*P	**Pn**	**20 00 11.2**	**-1.1**
KZV				*e*S	**Sn**	**20 00 28.8**	**-1.9**
TUMR	**Tumrok**	**1.68**	**346**	*e*P	**Pn**	**20 00 14.1**	**-0.8**
TUMR				*e*S	**Sn**	**20 00 34.0**	**-1.2**
GNL	**Ganaly**	**1.72**	**272**	*i* P	**Pn**	**20 00 14.7**	**-0.8**
GNL				*e*S	**Sn**	**20 00 35.9**	**-0.4**
RUS	**Russkaya**	**1.86**	**230**	PN	**Pn**	**20 00 16.5**	**-0.8**
RUS				S	**Sn**	**20 00 38.0**	**-1.6**
RUS	**Russkaya**	**1.86**	**230**	*e*P	**Pn**	**20 00 16.5**	**-0.8**
RUS				*e*S	**Sn**	**20 00 38.0**	**-1.6**
PETK	**Petropavlovsk-**	**1.96**	**255**	PN	**Pn**	**20 00 18.3**	**-0.3**
PETK						20 00 43.1	
PETK				pmax	pmax		
	comp=Z,14nm,0.3s						
PETK				smax	smax		
	comp=N,34nm,0.3s						
PETK	**Petropavlovsk-**	**1.96**	**255**	Pn	**Pn**	**20 00 18.3**	**-0.3**
	comp=N,14nm,0.3s,baz=91,slow=22,SNR=363						
PETK				Sn	**Sn**	**20 00 43.1**	**+1.1**
	comp=N,34nm,0.3s,baz=185,slow=7.4,SNR=27						
MTVR	**Mutnovka**	**1.99**	**235**	*e*P	**Pn**	**20 00 18.6**	**-0.5**
MTVR				*e*S	**Sn**	**20 00 42.4**	**-0.4**
KMNR	**Kamenistaya**	**2.13**	**351**	*e*P	**Pn**	**20 00 21.0**	**-0.1**
KMNR				*e*S	**Sn**	**20 00 47.4**	**+1.1**
ASAK	**Asacha**	**2.19**	**235**	*e*P	**Pn**	**20 00 22.0**	**+0.2**
ASAK				*e*S	**Sn**	**20 00 48.5**	**+0.8**
APC	**Apacha**	**2.33**	**253**	*e*P	**Pn**	**20 00 23.8**	**+0.2**
APC				*e*S	**Sn**	**20 00 52.9**	**+1.9**
KOZ	**Kozyrevsk**	**2.47**	**347**	*e*P	**Pn**	**20 00 25.0**	**-0.6**
KOZ				*e*S	**Sn**	**20 00 53.8**	**-0.7**
KOZR	**Kozyr**	**2.47**	**348**	PN	**Pn**	**20 00 25.0**	**-0.7**
KOZR				S	**Sn**	**20 00 53.8**	**-0.8**
ESO	**Esso**	**2.59**	**332**	PN	**Pn**	**20 00 26.3**	**-0.9**
ESO	**Esso**	**2.59**	**332**	*e*P	**Pn**	**20 00 26.3**	**-0.9**
KLY	**Klyuchi**	**2.66**	**358**	PN	**Pn**	**20 00 28.3**	**+0.1**
KLY				S	**Sn**	**20 00 57.5**	**-1.7**
KLY	**Klyuchi**	**2.66**	**358**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.90**	**197**	*e*PN	**Pn**	**20 01 59.0**	**+0.5**
OUZ	**Omahuta**	**5.39**	**245**	PN	**Pn**	**20 02 04.8**	**-0.4**
OUZ				*e*SN	**Sn**	**20 03 06.1**	**+0.2**
MWZ	**Matawai**	**5.51**	**197**	*e*PN	**Pn**	**20 02 04.3**	**-2.6**
MWZ				SN	**Sn**	**20 03 12.2**	**+3.1**
URZ	**Urewera**	**5.55**	**200**	P	**Pn**	**20 02 07.5**	**+0.1**
	8.2nm,0.3s,baz=34,slow=3.1,SNR=21						
URZ				S	**Sn**	**20 03 13.8**	**+3.8**
	0.8nm,0.3s,baz=287,slow=20,SNR=3.7						
BKZ	**Black Stump Fm**	**6.58**	**201**	*e*PN	**Pn**	**20 02 20.3**	**-1.3**
MRZ	**Mangatainoka R**	**8.22**	**202**	*e*PN	**Pn**	**20 02 41.1**	**-3.1**
ASAR	**Alice Springs**	**40.98**	**271**	P	**P**	**20 08 28.4**	**+1.3**
	4.5nm,0.7s,baz=106,slow=7.7,SNR=9.9						
WRA	**Warramunga Arr**	**42.21**	**276**	P	**P**	**20 08 36.2**	**-0.9**
	2.8nm,0.8s,baz=114,slow=7.8,SNR=6.3						
QSPA	**South Pole Qui**	**57.05**	**180**	*e*P	**P**	**20 10 27.8**	**-1.9**
	12nm,1.1s						
QSPA	**South Pole Qui**	**57.05**	**180**	P	**P**	**20 10 28.2**	**-1.5**
	6.8nm,0.7s,baz=17,slow=4.3,SNR=41						
NVAR	**Mina Array Bea**	**91.60**	**44**	P	**P**	**20 13 53.5**	**+2.7**
	0.7nm,0.8s,baz=209,slow=6.9,SNR=4.8						
FINES	**FINES Array B**	**146.85**	**337**	PKPbc	**PKPab**	**20 20 27.5**	**+1.1**
	1.4nm,0.8s,baz=95,slow=4.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**160.08**	**186**	PKPab	**PKPab**	**20 21 19.9**	**-3.2**
	0.3nm,0.6s,baz=169,slow=3.5,SNR=3.0						

*IDC **30** 20:02:22.3±1.6, 19°.06S×169°.78E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.8/34, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=45.2km s-min=29.3km az=116.0*

*ISCJB **30** 20:02:26.3±1.4, 19°.1S±0°.2×169°.7E±0°.2, h33km, mb4.0/5, Error ellipse: s-maj=38.6km s-min=13.7km az=35.9*

ISC 30 20:02:27.9±1.5, 19°.1S±0°.2×169°.7E±0°.2, h35km, n7, σ0§86/8, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.27**	**225**	Pn	**Pn**	**20 03 29.4**	**-1.1**
	1.4nm,0.3s,baz=114,slow=13,SNR=29						
DZM				Sn	**Sn**	**20 04 19.9**	**+0.7**
	3.1nm,0.3s,baz=114,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**28.31**	**238**	P	**P**	**20 08 19.2**	**+0.8**
	1.5nm,0.7s,baz=63,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**33.60**	**256**	P	**P**	**20 09 04.8**	**-0.5**
	2.5nm,0.5s,baz=82,slow=8.6,SNR=13						
QSPA	**South Pole Qui**	**70.96**	**180**	P	**P**	**20 13 42.0**	**+0.3**
	2.2nm,1.0s,baz=40,slow=5.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**78.86**	**294**	P	**P**	**20 14 28.8**	**+0.7**
	0.8nm,0.8s,baz=129,slow=4.0,SNR=4.7						
SONM	**Songino Array**	**87.38**	**323**	P	**P**	**20 15 11.4**	**-0.1**
	1.5nm,0.9s,baz=134,slow=4.2,SNR=12						
GERES	**GERESS Array B**	**144.58**	**332**	PKP	**PKPab**	**20 21 58.8**	**-0.6**
	0.7nm,0.8s,baz=29,slow=3.0,SNR=5.3						

IDC 30 20:12:14.3±3.2, 6°.01S×150°.69E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/36, mbtmp3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=105.9km s-min=29.2km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**226**	Sn	Sb	20 14 42.0	+2.4
	1.0nm,0.3s,baz=198,slow=19,SNR=3.5						
HNR	**Honiara**	**9.78**	**111**	LR	LR	20 18 19.2	
	comp=Z,69nm,19.1s,baz=336,slow=37						
WRA	**Warramunga Arr**	**21.08**	**227**	P	P	20 17 02.0	+1.6
	1.5nm,0.5s,baz=52,slow=10,SNR=18						
ASAR	**Alice Springs**	**23.86**	**221**	P	P	20 17 27.8	-1.9
	1.2nm,0.7s,baz=56,slow=8.8,SNR=22						
SONM	**Songino Array**	**66.25**	**329**	P	P	20 23 04.6	+0.2
	0.2nm,0.6s,baz=144,slow=5.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**148.64**	**285**	PKPbc	PKPbc	20 32 04.3	-0.2
	0.3nm,0.7s,baz=75,slow=2.2,SNR=2.7						

*PRE **30** 20:21:46.7±3.5, 26°.47S×27°.49E, h2km, ML3.5*

*IDC **30** 20:21:47.3±1.6, 26°.38S×27°.47E, h0km, mb3.5/2, mb1 3.8/7, mb1mx3.6/32, mbtmp3.8/7, ML3.6/3, Error ellipse: s-maj=25.7km s-min=18.1km az=45.0*

*ISCJB **30** 20:21:48.4±1.2, 26°.43S±0°.03×27°.48E±0°.03, h15km±8km, mb3.5/2, Error ellipse: s-maj=5.2km s-min=2.9km az=145.4*

ISC 30 20:21:47.0±0.7, 26°.42S±0°.03×27°.48E±0°.02, h13km±4km, n29, σ1§74/73, 5C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.05**	**267**	*i* P	**Pg**	**20 21 49.8**	**+0.1**
WDLM				*e*P	**Pg**	**20 21 49.9**	**+0.1**
WDLM				*i* S	**Sg**	**20 21 50.4**	**-1.3**
WDLM				*e*S	**Sg**	**20 21 50.8**	**-0.8**
WDLM				AML	AML	20 21 51.0	
	comp=Z,13μm,0.2s						
WDLM				AML	AML	20 21 51.2	
	comp=Z,2352μm,0.1s						
KLOF	**Kloof**	**0.14**	**58**	*e*P	**Pg**	**20 21 50.6**	**+0.1**
KLOF				*i* P	**Pg**	**20 21 50.7**	**+0.1**
KLOF				*i* S	**Sg**	**20 21 51.9**	**-1.3**
KLOF				*e*S	**Sg**	**20 21 52.5**	**-0.7**
KLOF				AML	AML	20 21 52.6	
	comp=Z,91μm,0.1s						
KLOF				AML	AML	20 21 52.9	
	comp=Z,7μm,0.3s						
PRYS	**Parys**	**0.51**	**192**	*e*P	**Pb**	**20 21 57.7**	**-0.4**
PRYS				*e*P	**Pb**	**20 21 57.7**	**-0.4**
PRYS				*e*S	**Sg**	**20 22 03.3**	**-0.8**
PRYS				*e*S	**Sb**	**20 22 03.9**	**-1.7**
PRYS				AML	AML	20 22 05.2	
	comp=Z,18μm,0.1s						
PRYS				AML	AML	20 22 09.7	
	comp=Z,219nm,0.5s						
OBSV	**Observatory**	**0.58**	**66**⇑	*i* P	**Pg**	**20 21 58.8**	**+0.3**
OBSV				*i* P	**Pg**	**20 21 58.8**	**+0.3**
OBSV				*i* S	**Sg**	**20 22 03.5**	**-2.7**
OBSV				*e*S	**Sb**	**20 22 05.4**	**-2.1**
OBSV				AML	AML	20 22 06.5	
	comp=Z,447nm,0.7s						
OBSV				AML	AML	20 22 06.7	
	comp=Z,4μm,0.1s						
ERPM	**east rand prop**	**0.69**	**84**	*i* P	**Pb**	**20 22 01.0**	**0.0**
ERPM				⇑*i* P	**Pb**	**20 22 01.0**	**0.0**
ERPM				*i* S	**Sg**	**20 22 07.6**	**-1.9**
ERPM				*e*S	**Sb**	**20 22 08.3**	**-2.2**
ERPM				AML	AML	20 22 09.6	
ERPM				AML	AML	20 22 10.1	
	comp=Z,259nm,0.4s						
BFSD	**Buffelsfontein**	**0.76**	**234**	*i* P	**Pb**	**20 22 02.8**	**+0.5**
BFSD				⇑*i* P	**Pb**	**20 22 02.9**	**+0.5**
BFSD				*i* S	**Sg**	**20 22 09.9**	**-2.1**
BFSD				*e*S	**Sb**	**20 22 12.1**	**-0.7**
BFSD				AML	AML	20 22 19.0	
	comp=Z,2μm,0.1s						
MOAB	**Moab Khotsong**	**0.83**	**227**	*e*P	**Pb**	**20 22 03.4**	**-0.1**
MOAB				*e*P	**Pg**	**20 22 03.9**	**+0.7**
MOAB				*e*S	**Sg**	**20 22 12.8**	**-1.3**
MOAB				*e*S	**Sb**	**20 22 14.1**	**-0.6**
MOAB				AML	AML	20 22 14.8	
	comp=Z,3μm,0.1s						
MOAB				AML	AML	20 22 21.9	
	comp=Z,212nm,0.6s						
TLEK	**Tau Lekoa**	**0.90**	**233**	*i* P	**Pb**	**20 22 05.0**	**+0.3**
TLEK				*e*P	**Pn**	**20 22 05.3**	**-0.4**
TLEK				*i* S	**Sg**	**20 22 14.0**	**-2.4**
TLEK				*e*S	**Sb**	**20 22 16.5**	**-0.2**
TLEK				AML	AML	20 22 22.0	
	comp=Z,364nm,0.3s						
TLEK				AML	AML	20 22 22.9	
	comp=Z,161nm,0.2s						
SLR	**Silverton**	**0.99**	**47**	*e*P	**Pg**	**20 22 06.4**	**+0.2**
SLR				*e*S	**Sb**	**20 22 19.5**	**+0.3**
SLR				AML	AML	20 22 24.6	
	comp=Z,274nm,0.4s						
SWZ	**Schweizer**	**2.07**	**248**	*e*P	**Pb**	**20 22 23.4**	**-1.1**
SWZ				⇑*i* P	**Pn**	**20 22 23.6**	**+1.9**
SWZ				*e*S	**Sn**	**20 22 45.7**	**-1.7**
SWZ				*e*S	**Sb**	**20 22 51.8**	**+1.5**
SWZ				AML	AML	20 22 52.8	
	comp=Z,330nm,0.6s						
SWZ				AML	AML	20 22 54.3	
	comp=Z,5μm,0.2s						
LBTB	**Lobatse**	**2.20**	**309**⇓	*i* P	**Pb**	**20 22 26.2**	**-0.7**
LBTB				*e*S	**Sn**	**20 22 51.2**	**+0.5**
LBTB				AML	AML	20 22 57.9	
	comp=Z,306nm,0.6s						
LBTB	**Lobatse**	**2.20**	**309**	Pn	**Pb**	**20 22 26.1**	**-0.8**
	comp=Z,45nm,0.3s,baz=139,slow=15,SNR=489						
LBTB				Pg	**Pg**	**20 22 27.5**	**-1.8**
	comp=Z,45nm,0.3s,baz=140,slow=17,SNR=482						
LBTB				Lg	Lg	20 22 55.6	
	comp=Z,97nm,0.3s,baz=228,slow=22,SNR=37						
BOSA	**Boshof**	**2.95**	**222**⇑	*i*P	**Pn**	**20 22 35.5**	**+1.7**
BOSA				*e*S	**Sn**	**20 23 09.0**	**-0.1**
BOSA				AML	AML	20 23 22.7	
	comp=Z,37nm,0.7s						
BOSA	**Boshof**	**2.95**	**222**	Pn	**Pn**	**20 22 35.4**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=43,slow=13,SNR=121						
BOSA				Sn	**Sb**	**20 23 16.9**	**+1.3**
	comp=Z,13nm,0.3s,baz=324,slow=16,SNR=11						
POGA	**Pongola**	**3.81**	**105**	*e*P	Pn	20 22 48.5	+3.0
POGA				*e*S	**Sn**	**20 23 32.3**	**+2.2**
POGA				AML	AML	20 23 50.1	
	comp=Z,61nm,0.7s						
KSD	**Kokstad**	**4.44**	**158**	*e*P	**Pn**	**20 22 56.8**	**+2.4**
KSD				*e*P	**Pb**	**20 23 04.9**	**-0.2**
KSD				*e*S	**Sn**	**20 23 43.1**	**-3.0**
KSD				*e*S	**Sn**	**20 23 46.9**	**+0.8**
KSD				AML	AML	20 24 10.1	
	comp=Z,654nm,0.6s						
KSD				AML	AML	20 24 11.1	
	comp=Z,26nm,0.6s						
HVD	**Gariep Dam**	**4.52**	**202**	*e*P	**Pn**	**20 22 54.7**	**-0.7**
HVD				*e*S	**Sn**	**20 23 47.2**	**-0.7**
HVD				AML	AML	20 24 18.8	
	comp=Z,25nm,0.4s						
MOPA	**Mopani**	**4.58**	**52**	*e*P	**Pn**	**20 22 57.5**	**+1.4**
MOPA				*e*S	**Sn**	**20 23 50.4**	**+1.1**
MOPA				AML	AML	20 24 24.9	
	comp=Z,25nm,0.4s						
MSNA	**Messina**	**4.67**	**30**	*e*P	**Pn**	**20 23 00.2**	**+2.8**
MSNA				*e*S	**Sn**	**20 23 51.5**	**-0.1**
MSNA				AML	AML	20 24 16.4	
	comp=Z,24nm,0.4s						
UPI	**Upington**	**5.87**	**249**	*e*P	**Pn**	**20 23 16.2**	**+2.3**
UPI				*e*S	**Sn**	**20 24 18.4**	**-2.6**
UPI				AML	AML	20 24 55.1	
	comp=Z,19nm,0.3s						
GRM	**Grahamstown**	**6.92**	**187**	*e*P	Pn	20 23 31.9	+3.6
GRM				*e*S	**Sn**	**20 24 42.6**	**-4.4**
GRM				AML	AML	20 25 31.2	
	comp=Z,12nm,0.7s						
BUFB	**Buffelsbos**	**8.06**	**196**	*e*P	**Pn**	**20 23 45.0**	**+1.1**
BUFB				*e*S	**Sn**	**20 25 13.1**	**-1.8**
BUFB				AML	AML	20 26 01.3	
	comp=Z,1.4nm,0.4s						
SUR	**Sutherland**	**8.31**	**223**	Pn	**Pn**	**20 23 49.6**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=13,slow=8.8,SNR=16						
SUR				Sn	**Sn**	**20 25 18.5**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=123,slow=20,SNR=3.3						
SUR				Lg	Lg	20 26 06.6	
	comp=Z,2.0nm,0.3s,baz=309,slow=23,SNR=5.7						
KOMG	**Komaggas**	**9.45**	**247**	*e*P	**Pn**	**20 24 04.1**	**+1.2**
KOMG				*e*S	**Sn**	**20 25 46.4**	**-2.7**
KOMG				AML	AML	20 26 45.3	
	comp=Z,9.5nm,0.5s						
ELIM	**Elim**	**10.53**	**217**	*e*P	**Pn**	**20 24 18.7**	**+1.0**
ELIM				*e*S	**Sn**	**20 26 10.9**	**-4.7**
ELIM				AML	AML	20 27 37.2	
	comp=Z,9.6nm,0.7s						
LSZ	**Lusaka**	**11.11**	**4**	Pn	**Pn**	**20 24 26.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=180,slow=14,SNR=12						
LSZ				Sn	**Sn**	**20 26 25.3**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=225,slow=20,SNR=3.1						
LSZ				Lg	Lg	20 27 31.0	
	comp=Z,0.3nm,0.3s,baz=260,slow=17,SNR=3.4						
TSUM	**Tsumeb**	**11.61**	**306**	Pn	**Pn**	**20 24 33.8**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=127,slow=11,SNR=15						
TSUM				Lg	Lg	20 27 44.0	
	comp=Z,0.2nm,0.3s,baz=74,slow=8.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**46.65**	**324**	P	**P**	**20 30 17.1**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=149,slow=7.1,SNR=6.5						
MKAR	**Makanchi Array**	**88.08**	**34**	P	**P**	**20 34 39.4**	**+2.2**
	comp=Z,0.1nm,0.5s,baz=217,slow=2.9,SNR=3.6						

IDC 30 20:24:25.0±5.6, 18°.86S×169°.45E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/34, mbtmp3.7/4, ML2.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/32, Error ellipse: s-maj=138.6km s-min=42.6km az=120.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.26**	**221**	Pn	Pn	20 25 30.9	-0.4
	0.7nm,0.3s,baz=113,slow=15,SNR=11						
WRA	**Warramunga Arr**	**33.10**	**262**	P	P	20 31 02.6	-0.4
	0.7nm,0.9s,baz=81,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**33.41**	**255**	P	P	20 31 06.0	+0.3
	1.2nm,0.4s,baz=83,slow=8.6,SNR=34						
ASAR				LR	LR	20 43 04.5	
	comp=Z,66nm,19.6s,baz=300,slow=34						
SONM	**Songino Array**	**87.04**	**323**	P	P	20 37 12.6	0.0
	0.5nm,0.8s,baz=139,slow=5.7,SNR=4.5						

MAN 30 20:31:28, 17°.92N×121°.03E, h11km, mb4.2, ML3.0, MS2.8, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.21**	**105**	*e*P	Pb	20 31 34.3	+0.3
APYP				*e*S	Sg	20 31 37.9	+2.2
ABRA	**Dolores**	**0.40**	**228**	*e*P	Pb	20 31 36.7	-0.4
ABRA				*e*S	Sb	20 31 42.4	-0.9
SIPP	**Brgy, Tapao**	**0.54**	**270**⇑	*e*P	Pn	20 31 40.9	-0.8
SIPP				*i* S	Sn	20 31 55.1	+4.4
CVP	**Callao Caves**	**0.79**	**106**⇓	*i*P	Pg	20 31 43.5	+0.2
CVP				*i* S	Sg	20 31 54.0	+0.4
CAUP	**Cauayan**	**1.23**	**142**	*e*P	Pb	20 31 51.5	+0.2
BALP	**Baler**	**2.23**	**166**	*e*P	Pn	20 32 05.5	+0.6
PCPH	**Palayan**	**2.35**	**178**⇓	*e*P	Pn	20 32 08.1	+1.6

IDC 30 20:35:08.4±1.4, 2°.72S×139°.11E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/24, mbtmp3.3/3, ML3.6/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/15, Error ellipse: s-maj=29.8km s-min=22.7km az=162.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.61**	**83**	Pn	Pn	20 35 38.5	+0.4
	4.9nm,0.3s,baz=345,slow=3.4,SNR=21						
JAY				Sn	Sn	20 35 58.9	-0.7
	13nm,0.3s,baz=218,slow=9.3,SNR=7.0						
WRA	**Warramunga Arr**	**17.74**	**195**	P	Pn	20 39 15.9	-1.1
	0.2nm,0.3s,baz=14,slow=13,SNR=17						
ASAR	**Alice Springs**	**21.42**	**193**	P	P	20 39 58.8	+0.5
	0.6nm,0.6s,baz=11,slow=9.6,SNR=10						
DZM	**Mont Dzumac**	**32.78**	**128**	LR	LR	20 55 26.4	
	comp=Z,361nm,20.6s,baz=50,slow=37						
MKAR	**Makanchi Array**	**70.04**	**322**	P	P	20 46 22.3	0.0
	0.2nm,0.6s,baz=107,slow=7.2,SNR=3.6						

*IDC **30** 20:36:04.9±2.9, 4°.69S×153°.00E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=90.1km s-min=24.4km az=113.0*

ISC 30 20:36:09.9±2.5, 4°.9S±0°.3×153°.2E±0°.4, h43km, n6, σ0§79/7, mb3.4/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.52**	**233**	Pn	**Pn**	**20 37 57.1**	**0.0**
	0.9nm,0.3s,baz=65,slow=19,SNR=3.5						
PMG				Sn	**Sn**	**20 39 20.9**	**-0.1**
	0.6nm,0.3s,baz=157,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**23.72**	**229**	P	**P**	**20 41 17.9**	**-0.3**
	1.0nm,0.8s,baz=52,slow=10.0,SNR=5.8						
ASAR	**Alice Springs**	**26.39**	**223**	P	**P**	**20 41 43.5**	**+1.0**
	0.2nm,0.4s,baz=44,slow=11,SNR=3.5						
SONM	**Songino Array**	**66.58**	**329**	P	**P**	**20 46 56.5**	**+0.6**
	0.2nm,0.6s,baz=134,slow=4.2,SNR=2.4						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**20 48 17.9**	**-0.3**
	0.6nm,0.9s,baz=94,slow=5.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.70**	**288**	PKPbc	**PKPbc**	**20 55 57.6**	**-0.9**
	0.8nm,0.8s,baz=67,slow=1.8,SNR=4.1						

*ISCJB **30** 20:42:09.2±0.5, 67°.82N±0°.03×20°.18E±0°.09, h0km, Error ellipse: s-maj=5.4km s-min=3.6km az=24.1*

*NAO **30** 20:42:09.5±2.0, 67°.80N×20°.22E, ML2.1*

*UPP **30** 20:42:09.6, 67°.87N×20°.19E, h0km, ML1.1, Suspected Mining explosion.*

*CSEM **30** 20:42:09.7±0.2, 67°.83N×20°.27E, h2km, ML1.1, Error ellipse: s-maj=6.1km s-min=4.9km az=146.0, Suspected Mining explosion.*

*HEL **30** 20:42:10.1±0.1, 67°.88N×20°.18E, h0km, ML1.8, ML1.1(UPP), Suspected explosion*

*IDC **30** 20:42:11.2±1.3, 67°.91N×20°.07E, h0km, mb1 2.9/3, mb1mx2.7/30, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=22.3km s-min=9.4km az=120.0*

*BER **30** 20:42:13.0±3.4, 67°.82N×20°.18E, h0km, ML1.9, ML2.1(NAO), Suspected explosion*

ISC 30 20:42:10.0±0.7, 67°.85N±0°.03×20°.12E±0°.03, h0km, n49, σ1§40/69, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**39**	*i* P	**Pg**	**20 42 11.9**	**-0.7**
KUA				*i* S	**Sg**	**20 42 13.5**	**-0.8**
KUA	**Kurravaara**	**0.13**	**39**	P	**Pg**	**20 42 11.9**	**-0.7**
KUA				S	**Sg**	**20 42 13.5**	**-0.8**
NIKU	**Nikkaluokta**	**0.41**	**273**	*i* P	**Pg**	**20 42 17.9**	**0.0**
NIKU	**Nikkaluokta**	**0.41**	**273**	P	**Pg**	**20 42 17.9**	**0.0**
LANU	**Lannavaara**	**0.73**	**73**	*i* P	**Pg**	**20 42 22.7**	**-1.3**
LANU	**Lannavaara**	**0.73**	**73**	P	**Pg**	**20 42 22.7**	**-1.3**
SALU	**Saltoluokta**	**0.78**	**233**	*i* P	**Pg**	**20 42 24.9**	**0.0**
SALU	**Saltoluokta**	**0.78**	**233**	P	**Pg**	**20 42 24.9**	**0.0**
MASU	**Masugnsbyn**	**0.82**	**118**	*i* P	**Pg**	**20 42 24.6**	**-1.1**
MASU	**Masugnsbyn**	**0.82**	**118**	P	**Pg**	**20 42 24.6**	**-1.1**
KIF	**Kilpisjarvi**	**1.19**	**12**	*e*PN	**Pb**	**20 42 33.4**	**+0.1**
KIF				*e*SN	**Sn**	**20 42 50.3**	**-0.3**
KIF				MSG		20 42 50.3	
	comp=Z,9.0nm,0.3s						
KIF	**Kilpisjarvi**	**1.19**	**12**	Pn	**Pb**	**20 42 33.4**	**+0.1**
KIF				Sn	**Sn**	**20 42 50.3**	**-0.3**
HEF	**Hetta**	**1.44**	**66**	*e*P	**Pn**	**20 42 35.5**	**-1.8**
HEF				*e*S	**Sg**	**20 42 55.0**	**-1.2**
HEF				MSG		20 42 55.0	
	comp=Z,4.6nm,0.3s						
HEF	**Hetta**	**1.44**	**66**	P	**Pn**	**20 42 35.5**	**-1.8**
HEF				S	**Sg**	**20 42 55.0**	**-1.2**
ERTU	**Ertsjaerv**	**1.53**	**147**	*e*P	**Pn**	**20 42 37.2**	**-1.4**
ERTU	**Ertsjaerv**	**1.53**	**147**	P	**Pn**	**20 42 37.2**	**-1.4**
KTK1	**Kautokeino**	**1.64**	**43**	*e*Sg	**Sg**	**20 43 04.0**	**+1.4**
KTK1				IAML		20 43 07.2	
	comp=N,20nm,0.3s						
KTK1	**Kautokeino**	**1.64**	**43**	*e*Sg	**Sg**	**20 43 04.0**	**+1.4**
	SNR=90						
HARU	**Harads**	**1.73**	**168**	*e*P	**Pn**	**20 42 41.2**	**-0.1**
HARU	**Harads**	**1.73**	**168**	P	**Pn**	**20 42 41.2**	**-0.1**
KALU	**Kalix**	**2.38**	**146**	*e*P	**Pn**	**20 42 50.1**	**-0.1**
KALU	**Kalix**	**2.38**	**146**	P	**Pn**	**20 42 50.0**	**-0.1**
SJUU	**Sjulsmark**	**2.43**	**165**	*e*P	**Pn**	**20 42 52.0**	**+1.0**
SJUU	**Sjulsmark**	**2.43**	**165**	P	**Pn**	**20 42 51.9**	**+1.0**
SGF	**Sodankyl**	**2.48**	**97**	*e*PB	**Pn**	**20 42 53.1**	**+1.4**
SGF				*e*SG	**Sb**	**20 43 26.6**	**0.0**
SGF				MSG		20 43 26.6	
	comp=Z,3.7nm,0.2s						
SGF	**Sodankyl**	**2.48**	**97**	Pb	**Pn**	**20 42 53.1**	**+1.4**
SGF				Sg	**Sb**	**20 43 26.5**	**0.0**
ARA0	**ARCESS Array S**	**2.59**	**47**	Pn	**Pn**	**20 42 53.0**	**-0.2**
	baz=228,slow=14						
ARA0				Sn	**Sn**	**20 43 26.6**	**+1.2**
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**47**	Pn	**Pn**	**20 42 53.0**	**-0.2**
	baz=228,slow=14						
ARA0				Sn	**Sn**	**20 43 26.6**	**+1.2**
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**47**	*e*P	**Pn**	**20 42 52.4**	**-0.8**
ARA0				*e*SG	**Sb**	**20 43 28.2**	**-1.5**
ARA0				MSG		20 43 28.2	
	comp=Z,3.9nm,0.3s						
ARA0	**ARCESS Array S**	**2.59**	**47**	P	**Pn**	**20 42 52.4**	**-0.8**
ARA0	**ARCESS Array S**	**2.59**	**47**	Pn	**Pn**	**20 42 53.0**	**-0.2**
	SNR=50						
ARA0				Sn	**Sn**	**20 43 26.5**	**+1.2**
	SNR=50						
ARA0				Sg	**Sb**	**20 43 28.2**	**-1.5**
ARCES	**ARCESS Array B**	**2.59**	**47**	Pn	**Pn**	**20 42 54.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=231,slow=14,SNR=34						
ARCES				Sn	**Sn**	**20 43 26.6**	**+1.3**
	comp=Z,3.5nm,0.3s,baz=225,slow=24,SNR=13						
RNF	**Rovaniemi**	**2.61**	**116**	*e*PB	**Pn**	**20 42 54.4**	**+1.0**
RNF				*e*SB	**Sb**	**20 43 28.8**	**-1.5**
RNF				MSG		20 43 28.8	
	comp=Z,5.7nm,0.2s						
RNF	**Rovaniemi**	**2.61**	**116**	Pb	**Pn**	**20 42 54.4**	**+1.0**
RNF				Sb	**Sb**	**20 43 28.7**	**-1.5**
MOR8	**Moi Rana**	**2.79**	**236**	*e*Sg	**Sb**	**20 43 34.2**	**-1.3**
MOR8				IAML		20 43 36.4	
	comp=Z,16nm,0.3s						
KEV	**Kevo**	**3.15**	**49**	*e*S	**Sn**	**20 43 40.8**	**+1.8**
KEV				MSG		20 43 40.8	
	comp=Z,1.7nm,0.2s						
KEV	**Kevo**	**3.15**	**49**	S	**Sn**	**20 43 40.7**	**+1.8**
VRF	**Varrio**	**3.60**	**87**	MSG	**Sb**	**20 44 01.6**	**+2.8**
	comp=Z,3.3nm,0.3s						
VRF				*e*SG	**Sb**	**

1.7nm,0.6s,baz=101,slow=7.6,SNR=28
WRA Warramunga Arr 46.64 261 P P 21 09 55.2 -1.2
0.4nm,0.3s,baz=96,slow=7.5,SNR=27
BRTR Keskin Array B 147.60 315 PKPbc PKPbc 21 21 12.2 -0.6
0.4nm,0.6s,baz=151,slow=4.2,SNR=4.4

IDC 30 21:04:24.4±1.8, 60°.92S×41°.37W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.7/21, mbtmp4.1/2, Error ellipse: s-maj=68.7km s-min=58.3km az=40.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**45.46**	**351**	P	P	21 12 45.2	0.0
	0.9nm,0.3s,baz=168,slow=14,SNR=3.2						
H10S2	**ASCENSION HYDR**	**55.52**	**33**	T	T	22 16 34.4	
	baz=198,slow=75,SNR=7.1						
H10S3	**ASCENSION HYDR**	**55.52**	**33**	T	T	22 16 35.6	
	baz=198,slow=75,SNR=9.0						
H10S1	**ASCENSION HYDR**	**55.53**	**33**	T	T	22 16 36.7	
	baz=198,slow=75,SNR=9.1						
H10N3	**ASCENSION HYDR**	**56.63**	**32**	T	T	22 17 56.8	
	baz=198,slow=75,SNR=6.2						
H10N1	**ASCENSION HYDR**	**56.63**	**32**	T	T	22 17 56.9	
	baz=198,slow=75,SNR=6.7						
H10N2	**ASCENSION HYDR**	**56.64**	**32**	T	T	22 17 59.4	
	baz=198,slow=75,SNR=6.5						
TORD	**Torodi Ar. Bea**	**81.34**	**42**	P	P	21 16 42.4	-0.1
	1.3nm,0.7s,baz=200,slow=6.2,SNR=9.2						
YKA	**Yellowknife Ar**	**135.02**	**321**	PKP	PKPdf	21 23 42.0	-1.8
	0.3nm,0.8s,baz=122,slow=2.0,SNR=4.8						
MKAR	**Makanchi Array**	**145.09**	**88**	PKPbc	PKPbc	21 24 01.6	-0.5
	0.1nm,0.5s,baz=204,slow=3.2,SNR=3.0						
ILAR	**Eielson Array**	**147.60**	**310**	PKPbc	PKPbc	21 24 08.6	-0.4
	1.5nm,0.7s,baz=133,slow=1.8,SNR=16						

MEX 30 21:20:58.7±0.7, 15°.39N×95°.34W, h16km±24km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.83**	**297**	*e*P	Pb	21 21 11.5	-3.3
HUIG				*i* S	Sb	21 21 21.4	-4.3
CMIG	**Matias Romero**	**1.74**	**14**	*e*P	Pn	21 21 25.5	-2.8
CMIG				*i* S	Sn	21 21 44.7	-5.6
PCIG		**2.07**	**81**	*e*P	Pn	21 21 34.3	+1.5
PCIG				*i* S	Sn	21 21 58.1	-0.1
VHO	**Vista Hermosa**	**2.14**	**321**	*e*P	Pn	21 21 30.9	-3.2
VHO				*i* S	Sn	21 21 56.2	-4.3
TPIG	**Tehuac#an**	**3.58**	**328**	*i* P	Pn	21 21 51.0	-2.9
TPIG				*i* S	Sn	21 22 32.2	-3.7
PLIG	**Platanillo**	**4.98**	**307**	*i* P	Pn	21 22 11.5	-1.5
PLIG				*i* S	Sn	21 23 07.1	-3.2

NIED ***30*** *21:26:00, 41°.00N×143°.10E, h29km, Mw4.2 Best double couple: M₀2.20000×10¹⁵ NP1:φ₈176.00000°, δ24.00000°, λ56.00000°. NP2:φ₈33.00000°, δ70.00000°, λ104.00000°.*
BJI ***30*** *21:26:46.2, 41°.01N×143°.35E, h39km, mB4.8/18, mb4.4/28, Ms4.5/9, Ms7 4.3/7*
ISCJB ***30*** *21:26:48.9±0.4, 41°.00N±0°.03×143°.16E±0°.04, h44km±3km, mb4.2/44, MS4.5/5, Error ellipse: s-maj=6.5km s-min=3.2km az=34.7*
JMA ***30*** *21:26:48.3±0.1, 40°.97N×143°.07E, h22km, M4.3*
JMA Felt I J1.
MOS ***30*** *21:26:49.2±1.3, 41°.06N×143°.06E, h44km, mb4.5/25, Error ellipse: s-maj=10.4km s-min=6.5km az=91.7*
SKHL ***30*** *21:26:49.6±0.1, 40°.84N×143°.48E, h55km±6km, mb5.0/2*
NEIC ***30*** *21:26:50.3±0.9, 40°.98N×143°.16E, h46km±7km, mb4.5/15, MW4.2(NIED), Error ellipse: s-maj=16.2km s-min=6.4km az=109.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.
IDC ***30*** *21:26:51.9±0.7, 40°.98N×142°.97E, h49km±5km, mb3.7/19, mb1 3.9/22, mb1mx3.8/39, mbtmp4.0/22, MS3.3/3, Ms1 3.3/3, ms1mx2.8/31, Error ellipse: s-maj=14.7km s-min=12.8km az=143.0*

ISC 30 21:26:51.2±0.5, 41°.03N±0°.04×143°.15E±0°.04, h48km±3km, h48km:pP-P, n127, σ1§37/155, mb4.3/44, MS4.6/6, 4C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.98**	**1**	*d i*P	**Pn**	**21 27 08.1**	**-0.5**
ERM	**Erimo**	**0.98**	**1**	*e*Pn	**Pn**	**21 27 07.6**	**-1.0**
ERM				*e*Sn	**Sn**	**21 27 19.3**	**-2.2**
JEM	**Erimo**	**0.98**	**1**	⇑P	**Pn**	**21 27 07.5**	**-1.1**
JNBK	**Urakawa-nobuka**	**1.28**	**347**	⇑P	**Pn**	**21 27 11.8**	**-0.9**
JNBK				S	**Sn**	**21 27 29.1**	**+0.4**
JANG	**Nango**	**1.40**	**243**	⇓P	**Pn**	**21 27 11.7**	**-2.7**
JCH	**Churui**	**1.59**	**6**	P	**Pn**	**21 27 16.0**	**-0.9**
JCH				S	**Sn**	**21 27 36.0**	**-0.3**
JTM	**Tenmabayashi**	**1.59**	**262**	P	**Pn**	**21 27 14.8**	**-2.2**
JTM				S	**Sn**	**21 27 34.6**	**-1.8**
JOT	**Ohata**	**1.62**	**283**	P	**Pn**	**21 27 15.4**	**-1.9**
JOT				*e*S	**Sn**	**21 27 35.5**	**-1.5**
JKB	**Kayabe**	**1.80**	**299**	P	**Pn**	**21 27 18.2**	**-1.6**
JKB				S	**Sn**	**21 27 39.9**	**-1.6**
JBT2	**Biratori 2**	**1.84**	**342**	P	**Pn**	**21 27 19.4**	**-0.9**
JOM	**Ohasama**	**2.11**	**223**	P	**Pn**	**21 27 22.7**	**-1.3**
JOM				S	**Sn**	**21 27 48.5**	**-0.5**
JFR	**Furan**	**2.17**	**349**	P	**Pn**	**21 27 24.7**	**-0.2**
JEW	**Eniwo**	**2.21**	**326**	P	**Pn**	**21 27 25.3**	**0.0**
JAK	**Akkeshi**	**2.28**	**30**	P	**Pn**	**21 27 25.2**	**-1.1**
JAK				S	**Sn**	**21 27 51.4**	**-1.7**
JAR	**Ashorobuto**	**2.31**	**11**	P	**Pn**	**21 27 25.8**	**-1.0**
JAR				S	**Sn**	**21 27 53.1**	**-0.9**
JMK	**Ichinoseki**	**2.55**	**216**	⇑P	**Pn**	**21 27 29.0**	**-1.1**
JMK				*e*S	**Sn**	**21 27 58.5**	**-1.4**
ASAJ	**Asahikawa**	**3.11**	**353**	*e*Pn	**Pn**	**21 27 38.0**	**+0.2**
ASAJ	**Asahikawa**	**3.11**	**353**	P	**Pn**	**21 27 38.4**	**+0.6**
	4.8nm,0.3s,baz=200,slow=19,SNR=69						
YUK	**Yuzh-Kuril'sk**	**3.61**	**33**	*c i*P	**Pn**	**21 27 43.8**	**-0.8**
YUK				*i* S	**Sn**	**21 28 24.5**	**-1.4**
YUK				pmax	pmax		
	comp=E,69nm,0.5s						
YUK				pmax	pmax		
	comp=Z,207nm,0.5s						
YUK				pmax	pmax		
	comp=N,73nm,0.3s						
YUK				smax	smax		
	comp=N,344nm,0.7s						
YUK				smax	smax		
	comp=E,543nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.61**	**33**	*e*P	**Pn**	**21 27 43.8**	**-0.8**
YUK				AMB	AMB	21 27 46.2	
	comp=E,210nm,0.5s						
YUK				*e*S	**Sn**	**21 28 24.5**	**-1.4**
YUK				A	A	21 28 25.2	
	comp=E,344nm,0.7s						
YUK				A	A	21 28 25.2	
	comp=E,543nm,0.7s						
SHO	**Shikotan**	**3.93**	**43**	*e*P	**Pn**	**21 27 48.6**	**-0.4**
SHO				*e*S	**Sn**	**21 28 29.4**	**-4.5**
SHO				A	A	21 28 34.0	
	comp=E,272nm,0.7s						
SHO				A	A	21 28 34.0	
	comp=E,332nm,0.7s						
KUR	**Kuril'sk**	**5.44**	**38**	*e*P	**Pn**	**21 28 09.4**	**-0.2**
KUR				*e*S	**Sn**	**21 29 09.2**	**-1.6**
KUR				pmax	pmax		
	comp=Z,240nm,0.8s						
KUR				pmax	pmax		
	comp=N,100nm,0.7s						
KUR				pmax	pmax		
	comp=E,80nm,0.7s						
KUR				smax	smax		
	comp=N,130nm,0.8s						
KUR				smax	smax		
	comp=E,90nm,0.8s						
KUR	**Kuril'sk**	**5.44**	**38**	*e*P	**Pn**	**21 28 09.4**	**-0.2**
KUR				AMB	AMB	21 28 21.5	
	comp=E,240nm,0.8s						
KUR				*e*S	**Sn**	**21 29 09.2**	**-1.6**
KUR				A	A	21 29 12.0	
	comp=E,130nm,0.8s						
KUR				A	A	21 29 12.0	
	comp=E,490nm,0.8s						
MJA0	**Matsu Arr-Jizo**	**5.89**	**222**	*e*P	**Pn**	**21 28 16.3**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.91**	**222**	P	**Pn**	**21 28 16.4**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=30,slow=13,SNR=43						
MJAR				LR	LR	21 30 54.1	
	comp=Z,205nm,18.6s,baz=45,slow=42						
MAJO	**Matsushiro**	**5.91**	**222**	⇓*i*P	**Pn**	**21 28 16.7**	**+0.4**
MAJO	**Matsushiro**	**5.91**	**222**	*e*Pn	**Pn**	**21 28 16.1**	**-0.1**
MAT	**Matsushiro**	**5.91**	**222**	P	**Pn**	**21 28 16.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**5.93**	**357**	*e*P	**Pn**	**21 28 17.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**5.93**	**357**	*e*P	**Pn**	**21 28 17.5**	**+1.2**
JHJ2	**Mitsune**	**8.34**	**200**	*e*Pn	**Pn**	**21 28 47.7**	**-1.8**
USRK	**Ussuriysk Arra**	**8.81**	**295**	P	**Pn**	**21 28 57.2**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=97,slow=14,SNR=19						
USRK				LR	LR	21 32 26.5	
	comp=Z,313nm,19.6s,baz=61,slow=38						
HABR	**Khabarovsk**	**9.40**	**325**	*e*P	Pn	21 29 20.7	+17
HABR				*e*S	**Sn**	**21 30 47.8**	**-0.4**
HABR				pmax	pmax		
	comp=N,14nm,2.0s						
HABR				pmax	pmax		
	comp=Z,25nm,2.0s						
HABR				pmax	pmax		
	comp=E,19nm,2.0s						
HABR				MLR	MLR		
	comp=Z,163nm,19.0s						
MDJ	**Mudanjiang**	**10.58**	**294**	P	**Pn**	**21 29 20.3**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,93nm,4.2s						
KLR	**Kul'dur**	**11.48**	**319**	*e*P	**Pn**	**21 29 29.9**	**-2.4**
KSRS	**Korea Array**	**12.33**	**258**	P	**Pn**	**21 29 46.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=66,slow=13,SNR=5.6						
KSRS				LR	LR	21 33 59.7	
	comp=Z,155nm,20.6s,baz=38,slow=35						
KS01	**Wonju Array Si**	**12.34**	**258**	*e*Pn	**Pn**	**21 29 43.0**	**-1.2**
JNU	**Nakatsue**	**12.57**	**235**	*e*Pn	**Pn**	**21 29 46.4**	**-1.0**
BJI	**Beijing**	**20.50**	**276**	P	**P**	**21 31 24.0**	**-1.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJI				LR	LR		
	comp=Z,140nm,22.5s						
BJI				LR	LR		
	comp=Z,160nm,20.5s						
YAK	**Yakutsk**	**22.54**	**343**	*e*P	P	21 31 41.8	-5.0
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK	**Yakutsk**	**22.54**	**343**	*e*P	**P**	**21 31 42.7**	**-4.1**
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**22.61**	**11**	P	**P**	**21 31 44.0**	**-3.5**
SEY	**Seymchan**	**22.61**	**11**	P	**P**	**21 31 44.0**	**-3.5**
	comp=Z,2.1nm,0.8s,baz=193,slow=9.5,SNR=5.5						
SSLB	**Suanglung**	**25.32**	**234**	*e*P	**P**	**21 32 12.4**	**-1.0**
	comp=Z,6.9nm,0.9s						
YULB	**Yu-li**	**25.40**	**233**	*e*P	**P**	**21 32 12.6**	**-1.6**
	comp=Z,50nm,1.8s						
TPUB	**Ta-pu**	**25.88**	**234**	*e*P	**P**	**21 32 16.9**	**-1.6**
	comp=Z,111nm,2.2s						
ULN	**Ulaanbaatar**	**26.48**	**297**	*e*P	**P**	**21 32 22.0**	**-1.9**
	comp=Z,5.0nm,0.9s						
SONA1	**Songino Array**	**26.91**	**297**	*e*P	**P**	**21 32 27.5**	**-0.3**
SONM	**Songino Array**	**26.92**	**297**	P	**P**	**21 32 27.5**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=81,slow=8.4,SNR=21						
SONM				pP	**pP**	**21 32 39.9**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=88,slow=8.4,SNR=10.0						
TLY	**Talaya**	**28.93**	**305**	*e*P	**P**	**21 32 45.2**	**-0.4**
TLY				pmax	pmax		
	comp=Z,14nm,1.6s						
TLY	**Talaya**	**28.93**	**305**	*e*P	**P**	**21 32 45.2**	**-0.4**
	comp=Z,14nm,1.6s						
ZAK	**Zakamensk**	**29.06**	**302**	*e*P	**P**	**21 32 45.4**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
ENH	**Enshi**	**29.22**	**259**	*e*P	**P**	**21 32 46.7**	**-1.7**
	comp=Z,2.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.34**	**129**	T	T	22 04 02.6	
	baz=320,slow=76,SNR=89						
H11N1	**WAKE ISLAND Hy**	**29.35**	**129**	T	T	22 04 20.2	
	baz=320,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy**	**29.36**	**129**	T	T	22 04 12.0	
	baz=320,slow=76,SNR=84						
BILL	**Bilibino**	**29.81**	**17**	*e*P	**P**	**21 32 51.1**	**-2.1**
BILL				pmax	pmax		
	comp=Z,13nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**30.19**	**131**	T	T	22 05 02.8	
	baz=328,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**30.19**	**131**	T	T	22 05 27.0	
	baz=328,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	22 04 57.1	
	baz=328,slow=76,SNR=23						
ZAA0	**Zalesovo Array**	**40.33**	**309**	*e*P	**P**	**21 34 24.1**	**+0.4**
ZALV	**Zalesovo Beam**	**40.33**	**309**	P	**P**	**21 34 23.7**	**0.0**
ZALV				*PP	**pP**	**21 34 36.3**	**-0.3**
ZALV						21 36 27.0	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.33**	**309**	P	**P**	**21 34 23.7**	**0.0**
	comp=Z,4.2nm,0.5s,baz=88,slow=8.5,SNR=16						
ZALV				pP	**pP**	**21 34 36.3**	**-0.3**
	comp=Z,12nm,0.8s,baz=92,slow=7.9,SNR=13						
ZALV				PcP	**PcP**	**21 36 27.0**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=107,slow=3.5,SNR=3.1						
WMQ	**Urumqi**	**40.38**	**293**	*e*P	**P**	**21 34 25.0**	**+0.6**
WMQ				pP	**pP**	**21 34 37.0**	**-0.2**
WMQ				sP	**sP**	**21 34 42.5**	**-0.4**
WMQ				PP	**PnPn**	**21 36 02.8**	**+0.9**
WMQ				PcP	**PcP**	**21 36 27.0**	**+0.2**
WMQ				ScP	**ScP**	**21 40 11.0**	**-0.9**
WMQ				S	**S**	**21 40 31.0**	**+2.0**
WMQ				sS	**sS**	**21 40 52.3**	**+1.7**
WMQ				SS	**SS**	**21 43 27.3**	**-1.7**
WMQ				ScS	**ScS**	**21 44 24.0**	**-2.0**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,12nm,4.8s						
WMQ				LR	LR		
	comp=Z,1μm,10.0s						
WMQ				LR	LR		
	comp=Z,1μm,10.8s						
WMQ				LR	LR		
	comp=Z,890nm,14.5s						
NVS	**Novosibirsk**	**41.16**	**310**	*e*P	P	21 34 39.6	+9.1
DLV	**T Lat**	**41.97**	**236**	*e*P	**P**	**21 34 36.9**	**-0.9**
	comp=Z,74nm,1.9s						
MKAR	**Makanchi Array**	**43.25**	**299**	*e*P	**P**	**21 34 47.2**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**43.25**	**299**	*e*P	**P**	**21 34 47.1**	**-0.7**
MKAR	**Makanchi Array**	**43.25**	**299**	P	**P**	**21 34 47.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=83,slow=9.7,SNR=33						
CHTO	**Chiang Mai**	**43.67**	**253**	*e*P	**P**	**21 34 51.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHTO	**Chiang Mai**	**43.67**	**253**	*e*P	**P**	**21 34 51.1**	**-0.2**
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.90**	**253**	P	**P**	**21 34 53.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=44,slow=6.7,SNR=8.4						
CM01	**Chiang Mai Arr**	**43.91**	**253**	*e*P	**P**	**21 34 53.3**	**0.0**
KURK	**Kurchatov**	**44.63**	**305**	*e*P	**P**	**21 34 57.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**44.63**	**305**	*e*P	**P**	**21 34 57.7**	**-1.0**
	comp=Z,6.6nm,0.8s						
IL1	**Eielson Array**	**45.42**	**34**	*e*P	**P**	**21 35 04.3**	**-0.5**
ILAR	**Eielson Array**	**45.42**	**34**	P	**P**	**21 35 06.2**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=260,slow=5.8,SNR=8.0						
ILAR				pP	**pP**	**21 35 18.9**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=264,slow=6.7,SNR=12						
TAPN	**Taplejung**	**47.11**	**271**	*e*P	**P**	**21 35 18.2**	**-0.7**
	comp=Z,16nm,1.1s						
ODAN	**Odare**	**47.61**	**271**	*e*P	**P**	**21 35 23.5**	**+0.8**
	comp=Z,9.9nm,0.8s						
JIRN	**Jiri**	**48.09**	**273**	*e*P	**P**	**21 35 26.2**	**-0.4**
	comp=Z,13nm,0.8s						
RAMN	**Ramite**	**48.16**	**271**	*e*P	**P**	**21 35 26.5**	**-0.5**
	comp=Z,17nm,0.6s						
GUN	**Gumba**	**48.20**	**273**	*e*P	**P**	**21 35 27.4**	**0.0**
	comp=Z,29nm,0.5s						
VOSK	**Vostochnaya**	**48.70**	**310**	*e*P	**P**	**21 35 31.2**	**+0.7**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VOSK	**Vostochnaya**	**48.70**	**310**	*e*P	**P**	**21 35 31.2**	**+0.7**
	comp=Z,6.0nm,0.8s						
KKN	**Kakani**	**48.72**	**273**	*e*P	**P**	**21 35 31.0**	**-0.2**
	comp=Z,15nm,0.7s						
PKI	**Pulchoki**	**48.73**	**273**	*e*P	**P**	**21 35 31.5**	**0.0**
	comp=Z,4.5nm,0.4s						
PKIN	**Phulchoki**	**48.74**	**273**	*e*P	**P**	**21 35 31.7**	**+0.2**
	comp=Z,4.8nm,0.5s						
BVAR	**Borovoye Array**	**48.95**	**310**	P	**P**	**21 35 32.3**	**-0.2**
BVAR	**Borovoye Array**	**48.95**	**310**	P	**P**	**21 35 32.3**	**-0.2**
	baz=77,slow=7.6						
TKM2	**Tokmak 2**	**49.01**	**296**	*e*P	**P**	**21 35 31.1**	**-2.1**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TKM2	**Tokmak 2**	**49.01**	**296**	*e*P	**P**	**21 35 31.1**	**-2.1**
	comp=Z,5.4nm,0.7s						
BRVK	**Borovoye**	**49.01**	**310**	*e*P	**P**	**21 35 33.6**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**49.01**	**310**	*e*P	**P**	**21 35 33.6**	**+0.8**
	comp=Z,5.0nm,1.0s						
GKN	**Gorkha**	**49.09**	**274**	*e*P	**P**	**21 35 34.3**	**+0.3**
	comp=Z,6.8nm,0.5s						
DANN	**Dangsing**	**49.57**	**275**	*e*P	**P**	**21 35 37.8**	**0.0**
	comp=Z,33nm,0.6s						
AAK	**Ala-Archa**	**49.87**	**296**	*e*P	**P**	**21 35 39.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**49.87**	**296**	*e*P	**P**	**21 35 39.5**	**-0.2**
	comp=Z,2.3nm,0.8s						
AAK	**Ala-Archa**	**49.87**	**296**	P	**P**	**21 35 39.1**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=152,slow=5.4,SNR=4.4						
KOLN	**Koldanda**	**49.99**	**274**	*e*P	**P**	**21 35 41.8**	**+0.8**
	comp=Z,12nm,0.8s						
KSH	**Kashi**	**50.10**	**292**	*e*P	**P**	**21 35 44.0**	**+2.5**
KSH				*e*PcP	**PcP**	**21 37 03.3**	**+2.8**
KSH				*e*PP	**PP**	**21 37 40.3**	**+3.6**
KSH				*e*S	**S**	**21 42 51.5**	**+2.0**
KSH				*e*sS	**sS**	**21 43 12.3**	**+0.8**
KSH				*e*SS	**SS**	**21 46 21.5**	**-1.2**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,130nm,4.3s						
KSH				LR	LR		
	comp=Z,62nm,11.1s						
KSH				LR	LR		
	comp=Z,110nm,5.2s						
KSH				LR	LR		
	comp=Z,140nm,4.4s						
INK	**Inuvik**	**50.23**	**29**	P	**P**	**21 35 43.5**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=288,slow=6.6,SNR=5.8						
INK				pP	**pP**	**21 35 56.9**	**+1.8**
	comp=Z,4.3nm,0.8s,baz=296,slow=4.1,SNR=7.9						
PYUN	**Piuthan**	**50.28**	**275**	*e*P	**P**	**21 35 44.4**	**+1.3**
	comp=Z,20nm,0.4s						
EKS2	**Erkin-Say**	**50.34**	**296**	*e*P	**P**	**21 35 43.9**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**50.34**	**296**	*e*P	**P**	**21 35 43.9**	**+0.6**
	comp=Z,2.9nm,0.8s						
SVE	**Sverdlovsk**	**53.09**	**317**	*e*P	P	21 36 09.0	+5.6
SVE				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	**Arti**	**54.31**	**317**	*d i*P	**P**	**21 36 12.9**	**+0.6**
ARU						21 38 16.9	
ARU				S	**S**	**21 43 49.6**	**+3.2**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ABKAR	**Akbulak array**	**56.45**	**309**	*e*P	**P**	**21 36 27.7**	**-0.1**
AKTO	**Aktyubinsk**	**57.05**	**311**	P	**P**	**21 36 32.0**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**57.05**	**311**	P	**P**	**21 36 32.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=135,slow=5.7,SNR=3.2						
RES	**Resolute Bay**	**58.40**	**15**	P	**P**	**21 36 41.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=323,slow=7.7,SNR=4.8						
YKA	**Yellowknife Ar**	**59.69**	**32**	P	**P**	**21 36 52.5**	**+2.2**
	comp=Z,0.1nm,0.5s,baz=304,slow=6.9,SNR=2.5						
YKA				pP	**pP**	**21 37 06.7**	**+3.0**
	comp=Z,0.3nm,0.6s,baz=301,slow=6.8,SNR=3.5						
WRA	**Warramunga Arr**	**61.21**	**189**	P	**P**	**21 37 00.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=6.6,slow=6.8,SNR=22						
ASAR	**Alice Springs**	**64.94**	**189**	P	**P**	**21 37 26.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=9.1,slow=8.6,SNR=15						
VRHR	**Novokhopersk**	**65.65**	**317**	*e*P	P	21 37 24.4	-5.7
VRHR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,3.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN	**Obninsk**	**65.72**	**323**	*e*P	**P**	**21 37 28.5**	**-2.0**
OBN				*e*S	S	21 46 28.2	+15
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,479nm,23.0s						
FINES	**FINESS Array B**	**65.91**	**332**	P	**P**	**21 37 31.7**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=51,slow=6.9,SNR=33						
VSR	**Storozhevoye**	**66.83**	**318**	*e*P	**P**	**21 37 37.3**	**-0.4**
VSR				pmax	pmax		
	comp=N,3.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VSR				MLR	MLR		
	comp=Z,620nm,22.0s						
KIV	**Kislovodsk**	**69.32**	**311**	⇓*i*P	**P**	**21 37 55.2**	**+1.6**
KIV				*i*		21 38 14.7	
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV				MLR	MLR		
	comp=Z,288nm,17.0s						
KBZ	**Khabaz**	**69.33**	**310**	P	**P**	**21 37 54.5**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**69.33**	**310**	P	**P**	**21 37 54.5**	**+1.0**
	comp=Z,4.7nm,0.9s,baz=73,slow=3.3,SNR=9.8						
NOA	**NORSAR Array B**	**71.02**	**337**	P	**P**	**21 38 04.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=25,slow=8.9,SNR=4.0						
AKASG	**Malin Array Be**	**71.96**	**322**	*e*P	**P**	**21 38 09.6**	**+0

ENH	**Enshi**	**3.22**	**89**	*e*Pn	Pn	21 37 52.3	+3.2		
ENH				*e*Sn	**Sb**	**21 38 34.8**	**-0.2**		
GYA	**Guiyang**	**3.89**	**168**	⇑*i*Pn	**Pn**	**21 37 58.5**	**+0.2**		
GYA				Pg	**Pb**	**21 38 08.5**	**+1.3**		
GYA				Sn	**Sn**	**21 38 46.5**	**+2.7**		
GYA				Sg	**Sg**	**21 38 59.3**	**-4.3**		
GYA				smax	smax				
	comp=N,3μm,1.0s								
GYA				smax	smax				
	comp=E,5μm,0.9s								
GYA				LR	LR				
	comp=N,3μm,5.0s								
GYA				LR	LR				
	comp=E,11μm,4.9s								
GYA				LR	LR				
	comp=Z,5μm,3.7s								
XAN	**Xi'an**	**4.61**	**35**	Pn	**Pn**	**21 38 08.8**	**+0.7**		
XAN				Pg	Pg	21 38 24.3	-2.7		
XAN				Sg	**Sg**	**21 39 22.0**	**-4.7**		
XAN				smax	smax				
	comp=N,1μm,1.1s								
XAN				smax	smax				
	comp=E,740nm,1.3s								
XAN				LR	LR				
	comp=N,4μm,4.1s								
XAN				LR	LR				
	comp=E,3μm,4.0s								
XAN				LR	LR				
	comp=Z,1μm,4.6s								
KMI	**Kunming**	**5.79**	**208**	Pn	**Pn**	**21 38 25.8**	**+1.3**		
KMI				Sn	**Sn**	**21 39 33.0**	**+2.1**		
KMI				smax	smax				
	comp=N,420nm,1.2s								
KMI				smax	smax				
	comp=E,330nm,1.6s								
KMI				LR	LR				
	comp=N,2μm,4.1s								
KMI				LR	LR				
	comp=E,3μm,4.1s								
KMI				LR	LR				
	comp=Z,2μm,6.7s								
LZH	**Lanzhou**	**6.01**	**345**	Pn	**Pn**	**21 38 29.3**	**+1.8**		
LZH				Sn	**Sn**	**21 39 39.8**	**+3.6**		
LZH				Sg	**Sg**	**21 40 06.5**	**-5.2**		
LZH				smax	smax				
	comp=N,1μm,1.2s								
LZH				smax	smax				
	comp=E,2μm,1.4s								
LZH				LR	LR				
	comp=N,6μm,4.7s								
LZH				LR	LR				
	comp=E,9μm,6.8s								
LZH				LR	LR				
	comp=Z,5μm,7.2s								
WHN	**Wuhan**	**7.42**	**86**	⇑Pn	**Pn**	**21 38 48.0**	**+1.3**		
WHN				Sn	**Sn**	**21 40 11.5**	**+0.8**		
WHN				LR	LR				
	comp=N,12μm,4.7s								
WHN				LR	LR				
	comp=E,7μm,5.8s								
WHN				LR	LR				
	comp=Z,8μm,3.8s								
SLVN	**Son La**	**9.06**	**191**	*e*Pn	**Pn**	**21 39 08.8**	**-0.6**		
GZH	**Guangzhou**	**9.86**	**135**	P	Pn	21 39 15.5	-4.6		
GZH				S	Sn	21 41 03.5	-7.2		
GZH				LR	LR				
	comp=N,7μm,7.6s								
GZH				LR	LR				
	comp=E,6μm,8.2s								
GTA	**Gaotai**	**10.34**	**333**	*e*P	**Pn**	**21 39 27.0**	**+0.3**		
GTA				pP		21 39 31.3			
GTA				sP		21 39 34.5			
GTA				S	**Sn**	**21 41 23.0**	**+0.5**		
GTA				SS	**SnSn**	**21 41 38.3**	**+3.8**		
GTA				pmax	pmax				
	comp=E,19nm,0.9s								
GTA				pmax	pmax				
	comp=E,150nm,5.5s								
GTA				LR	LR				
	comp=E,2μm,9.5s								
GTA				LR	LR				
	comp=E,2μm,9.3s								
GTA				LR	LR				
	comp=E,2μm,10.7s								
BTO	**Baotou**	**10.87**	**17**	*e*P	**Pn**	**21 39 31.5**	**-2.6**		
BTO				S	Sn	21 41 51.0	+15		
BTO				LR	LR				
	comp=N,360nm,3.0s								
BTO				LR	LR				
	comp=E,270nm,3.0s								
TIA	**Tai'an**	**11.20**	**55**	P	**Pn**	**21 39 36.8**	**-1.7**		
TIA				S	Sn	21 41 49.5	+6.0		
TIA				LR	LR				
	comp=N,2μm,12.5s								
TIA				LR	LR				
	comp=E,2μm,12.3s								
TIA				LR	LR				
	comp=Z,2μm,11.9s								
NJ2	**Nanjing**	**11.35**	**78**	*e*P	**Pn**	**21 39 41.8**	**+1.2**		
NJ2				pmax	pmax				
	comp=Z,40nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,220nm,4.7s								
NJ2				LR	LR				
	comp=Z,3μm,10.3s								
NJ2				LR	LR				
	comp=Z,3μm,10.0s								
NJ2				LR	LR				
	comp=Z,5μm,12.6s								
HHC	**Hu-ho-hao-te**	**11.55**	**23**	*e*P	Pn	21 39 47.5	+4.1		
HHC				sP		21 39 54.0			
HHC				PP	**PnPn**	**21 39 58.3**	**+7.1**		
HHC				S	**Sn**	**21 41 56.5**	**+4.2**		
HHC				sS		21 42 00.0			
HHC				SS	**SnSn**	**21 42 11.8**	**+7.3**		
HHC				pmax	pmax				
	comp=Z,34nm,1.2s								
HHC				pmax	pmax				
	comp=Z,190nm,5.1s								
HHC				LR	LR				
	comp=Z,2μm,6.4s								
HHC				LR	LR				
	comp=Z,3μm,6.0s								
HHC				LR	LR				
	comp=Z,2μm,12.6s								
QIZ	**Qiongzhong**	**11.80**	**161**	P	**Pn**	**21 39 43.8**	**-2.9**		
QIZ				S	**Sn**	**21 42 01.0**	**+2.7**		
QIZ				LR	LR				
	comp=N,3μm,10.1s								
QIZ				LR	LR				
	comp=Z,4μm,10.1s								
QIZ	**Qiongzhong**	**11.80**	**161**	*e*Pn	Pn	21 39 43.5	-3.3		
QIZ				*e*Sn	Sn	21 41 51.3	-7.0		
CMAI	**Chiengmai2**	**11.96**	**212**	P	**Pn**	**21 39 50.9**	**+1.8**		
	comp=Z,48nm,1.3s,comp=Z,20μm								
QZH	**Quanzhou**	**12.55**	**112**	P	Pn	21 39 50.5	-6.5		
QZH				S	**Sn**	**21 42 12.8**	**-3.9**		
QZH				LR	LR				
	comp=N,4μm,7.2s								
QZH				LR	LR				
	comp=E,8μm,7.6s								
QZH				LR	LR				
	comp=Z,13μm,8.6s								
LSA	**Lhasa**	**12.68**	**271**	P	**Pn**	**21 39 58.3**	**-0.9**		
LSA				LR	LR				
	comp=Z,800nm,12.6s								
LSA				LR	LR				
	comp=Z,2μm,9.8s								
LSA				LR	LR				
	comp=Z,3μm,12.6s								
LSA	**Lhasa**	**12.68**	**271**	*e*P	**Pn**	**21 39 58.4**	**-0.8**		
LSA	**Lhasa**	**12.68**	**271**	*e*Pn	**Pn**	**21 39 58.4**	**-0.8**		
BJT	**Baijiatuau**	**12.91**	**38**	*e*Pn	**Pn**	**21 40 01.4**	**-0.4**		
BJI	**Beijing**	**12.93**	**38**	P	**Pn**	**21 40 04.8**	**+2.7**		
BJI				pmax	pmax				
	comp=Z,24nm,1.2s								
BJI				pmax	pmax				
	comp=Z,110nm,3.8s								
BJI				LR	LR				
	comp=Z,1μm,12.2s								
BJI				LR	LR				
	comp=Z,1μm,13.0s								
BJI				LR	LR				
	comp=Z,400nm,17.6s								
LAMP	**Lampang**	**12.96**	**207**	P	**Pn**	**21 40 04.7**	**+2.0**		
	comp=Z,23nm,1.1s,comp=Z,208nm								

CHTO	**Chiang Mai**	**12.98**	**210**	*e*P	**Pn**	**21 40 04.2**	**+1.2**		
CHTO	**Chiang Mai**	**12.98**	**210**	P	x	21 40 04.3			
	comp=Z,113nm,1.1s,comp=Z,2μm								
CHTO	**Chiang Mai**	**12.98**	**210**	P	**Pn**	**21 40 04.7**	**+1.7**		
	comp=Z,113nm,1.1s,comp=Z,2μm								
CHTO	**Chiang Mai**	**12.98**	**210**	*e*Pn	**Pn**	**21 40 04.2**	**+1.2**		
CMMT	**Chiang Mai**	**12.98**	**210**	P	x	21 40 04.5			
	comp=Z,32nm,1.1s,comp=Z,483nm								
CMMT	**Chiang Mai**	**12.98**	**210**	P	**Pn**	**21 40 04.6**	**+1.6**		
	comp=Z,32nm,1.1s,comp=Z,483nm								
CMAR	**Chiang Mai Arr**	**13.30**	**209**	Pn	**Pn**	**21 40 08.3**	**+1.1**		
CMAR	**Chiang Mai Arr**	**13.30**	**209**	Pn	**Pn**	**21 40 08.3**	**+1.1**		
	comp=Z,0.2nm,0.3s,baz=21,slow=10,SNR=55								
CMAR				LR	LR	21 45 50.5			
	comp=Z,474nm,19.6s,baz=18,slow=40								
SSE	**Sheshan**	**13.30**	**83**	P	**Pn**	**21 40 08.5**	**+1.3**		
SSE				S	**Sn**	**21 42 35.5**	**+0.5**		
SSE				pmax	pmax				
	comp=Z,17nm,0.8s								
SSE				pmax	pmax				
	comp=Z,76nm,3.7s								
SSE				LR	LR				
	comp=Z,440nm,11.1s								
SSE				LR	LR				
	comp=Z,3μm,11.0s								
SSE				LR	LR				
	comp=Z,3μm,9.0s								
UTTA	**Uttaradit**	**13.35**	**202**	P	**P**	**21 40 17.7**	**+0.2**		
SUKH	**Sukhothai**	**13.91**	**205**	P	**Pn**	**21 40 17.6**	**+2.0**		
	comp=Z,21nm,0.8s,comp=Z,142nm								
MHMT	**Maesarieng**	**14.00**	**212**	P	**Pn**	**21 40 18.6**	**+1.8**		
	comp=Z,27nm,1.0s,comp=Z,189nm								
PBKT	**Sadao Pong**	**14.33**	**199**	P	x	21 40 22.4			
	comp=Z,39nm,0.8s								
PBKT	**Sadao Pong**	**14.33**	**199**	P	**Pn**	**21 40 22.9**	**+1.5**		
	comp=Z,39nm,0.8s								
TATO	**Taipei**	**14.90**	**107**	*e*Pn	**P**	**21 40 32.2**	**-2.6**		
	comp=Z,13nm,0.8s								
UBPT	**Khong Chiam**	**14.93**	**181**	P	x	21 40 30.4			
	comp=Z,186nm,1.0s,comp=Z,2μm								
UBPT	**Khong Chiam**	**14.93**	**181**	P	**P**	**21 40 35.6**	**+0.5**		
	comp=Z,186nm,1.0s,comp=Z,2μm								
YHNB	**Yeheng**	**14.94**	**108**	*e*Pn	**P**	**21 40 32.9**	**-2.4**		
	comp=Z,64nm,1.0s								
TPUB	**Ta-pu**	**14.98**	**114**	*e*Pn	**Pn**	**21 40 31.5**	**+1.3**		
	comp=Z,85nm,1.5s								
SSLB	**Suanglung**	**14.99**	**112**	*e*Pn	**Pn**	**21 40 31.7**	**+1.3**		
	comp=Z,24nm,1.1s								
YULB	**Yu-li**	**15.46**	**113**	*e*Pn	**P**	**21 40 38.8**	**-2.2**		
	comp=Z,52nm,1.3s								
TWG	**Pinlang**	**15.57**	**115**	*e*Pn	**Pn**	**21 40 36.2**	**-1.9**		
	comp=Z,101nm,1.0s								
DL2	**Dalian**	**15.63**	**52**	P	**Pn**	**21 40 40.3**	**+1.7**		
DL2				pmax	pmax				
	comp=Z,36nm,1.0s								
DL2				pmax	pmax				
	comp=Z,86nm,4.2s								
DL2				LR	LR				
	comp=Z,430nm,8.0s								
DL2				LR	LR				
	comp=Z,350nm,6.7s								
DL2				LR	LR				
	comp=Z,580nm,5.0s								
UTHA	**Uthaitani**	**15.76**	**203**	P	**P**	**21 40 42.6**	**-1.7**		
	comp=Z,39nm,1.0s,comp=Z,308nm								
TAPN	**Taplejung**	**16.09**	**264**	*e*P	**Pn**	**21 40 41.4**	**-3.5**		
	comp=Z,581nm,1.3s								
ODAN	**Odare**	**16.50**	**263**	*e*P	**Pn**	**21 40 45.8**	**-4.3**		
	comp=Z,162nm,1.1s								
KHLT	**Khaolaem Dam**	**16.76**	**205**	P	**P**	**21 40 55.6**	**+0.1**		
	comp=Z,36nm,1.4s,comp=Z,434nm								
RAMN	**Ramite**	**17.15**	**264**	*e*P	**Pn**	**21 40 54.3**	**-4.0**		
	comp=Z,124nm,1.1s								
JIRN	**Jiri**	**17.32**	**266**	*e*P	**Pn**	**21 40 57.0**	**-3.7**		
	comp=Z,139nm,1.1s								
GUN	**Gumba**	**17.54**	**267**	*e*P	**Pn**	**21 40 59.5**	**-3.8**		
SONM	**Songino Array**	**17.54**	**1**	P	**Pn**	**21 41 03.0**	**0.0**		
SONM	**Songino Array**	**17.54**	**1**	P	**Pn**	**21 41 03.0**	**0.0**		
	comp=Z,0.2nm,0.3s,baz=181,slow=11,SNR=97								
SONA1	**Songino Array**	**17.55**	**1**	*e*Pn	**Pn**	**21 41 03.1**	**0.0**		
ULN	**Ulaanbaatar**	**17.59**	**3**	P	x	21 41 04.1			
	comp=Z,25nm,1.4s,comp=Z,372nm								
ULN	**Ulaanbaatar**	**17.59**	**3**	*e*Pn	**Pn**	**21 41 03.3**	**-0.4**		
	comp=Z,38nm,1.3s								
CHBT	**CHBT**	**17.73**	**191**	P	x	21 41 09.0			
CHBT	**CHBT**	**17.73**	**191**	P	**P**	**21 41 08.9**	**+2.8**		
	comp=Z,48nm,1.6s,comp=Z,678nm								
PATY	**Pattaya**	**17.86**	**196**	P	**P**	**21 41 09.9**	**+2.4**		
	comp=Z,19nm,0.7s								
PKI	**Pulchoki**	**18.02**	**266**	*e*P	**Pn**	**21 41 05.0**	**-4.2**		
PKIN	**Phulchoki**	**18.03**	**266**	*e*P	**Pn**	**21 41 05.1**	**-4.2**		
SNY	**Shenyang**	**18.41**	**46**	⇓P	**P**	**21 41 13.0**	**-0.5**		
SNY				S	**S**	**21 44 46.5**	**+3.1**		
SNY				pmax	pmax				
	comp=Z,14nm,1.4s								
SNY				pmax	pmax				
	comp=Z,180nm,5.1s								
SNY				LR	LR				
	comp=Z,600nm,15.3s								
SNY				LR	LR				
	comp=Z,440nm,14.3s								
SNY				LR	LR				
	comp=Z,430nm,24.4s								
DLV	**T Lat**	**18.42**	**172**	*e*P	**Pn**	**21 41 14.7**	**+0.7**		
	comp=Z,32nm,1.2s								
KSAR	**Wonju Array Be**	**19.69**	**63**	P	**Pn**	**21 41 28.6**	**-0.5**		
KS01	**Wonju Array Si**	**19.70**	**63**	*e*P	**P**	**21 41 28.1**	**+0.4**		
WMQ	**Urumqi**	**19.71**	**318**	P	Pn	21 41 39.5	+10		
WMQ				pP	pP	21 41 43.5	+12		
WMQ				sP	sP	21 41 46.5	+13		
WMQ				PP	PnPn	21 41 58.0	+15		
WMQ				S	**Sn**	**21 45 15.5**	**+5.0**		
WMQ				SS	SnSn	21 45 42.8	+18		
WMQ				PcP	PcP	21 45 57.5	+11		
WMQ				pmax	pmax				
	comp=Z,35nm,1.6s								
WMQ				pmax	pmax				
	comp=Z,360nm,4.6s								
WMQ				LR	LR				
	comp=N,1μm,10.8s								
WMQ				LR	LR				
	comp=E,1μm,9.6s								
WMQ				LR	LR				
	comp=Z,880nm,13.9s								
KSRS	**Korea Array**	**19.72**	**63**	P	**P**	**21 41 28.6**	**+0.7**		
	comp=Z,0.3nm,0.3s,baz=250,slow=11,SNR=43								
KSRS				LR	LR	21 49 58.8			
	comp=Z,495nm,22.0s,baz=260,slow=40								
JOW	**Kunigami**	**20.07**	**94**	PFAKE		21 41 50.0	+16		
JOW				LR	LR				
	comp=Z,600nm,18.4s								
ZAK	**Zakamensk**	**20.17**	**355**	*e*P	**P**	**21 41 33.8**	**+1.0**		
ZAK				pmax	pmax				
	comp=Z,23nm,1.3s								
CN2	**Changchun**	**20.65**	**44**	⇓P	Pn	21 41 39.3	-1.0		
CN2				*e*sP	sP	21 41 46.3	+2.9		
CN2				PP	**PnPn**	**21 42 01.0**	**+5.2**		
CN2				*e*S	**S**	**21 45 24.3**	**-4.0**		
CN2				pmax	pmax				
	comp=Z,100nm,1.0s								
CN2				LR	LR				
	comp=Z,500nm,11.0s								
CN2				LR	LR				
	comp=Z,500nm,11.0s								
CN2				LR	LR				
	comp=Z,700nm,13.0s								
TLY	**Talaya**	**21.44**	**356**	P	**P**	**21 41 48.1**	**+1.6**		
	comp=Z,52nm,0.9s,SNR=7.3								
TLY	**Talaya**	**21.44**	**356**	*e*P	**P**	**21 41 47.0**	**+0.5**		
TLY				pmax	pmax				
	comp=Z,16nm,1.5s								
TLY				MLR	MLR				
	comp=Z,179nm,9.0s								
TLY	**Talaya**	**21.44**	**356**	*e*P	**P**	**21 41 47.8**	**+1.3**		
	comp=Z,9.4nm,1.0s								
JNU	**Nakatsue**	**21.54**	**76**	*e*P	**P**	**21 41 50.8**	**+3.1**		
	comp=Z,22nm,0.9s								
JNU	**Nakatsue**	**21.54**	**76**	P	**P**	**21 41 51.2**	**+3.4**		
	comp=Z,16nm,0.8s,baz=251,slow=2.3,SNR=10								
JNU				LR	LR	21 51 21.9			
	comp=Z,671nm,18.2s,baz=274,slow=40								
MOY	**Mondy**	**21.66**	**352**	*e*P	**P**	**21 41 49.6**	**+0.7**		
MOY				pmax	pmax				
	comp=Z,57nm,2.2s								
HIA	**Hailar**	**21.73**	**25**	*e*P	**P**	**21 41 50.1**	**+0.5**		
	comp=Z,39nm,0.9s								
IRK	**Irkutsk**	**21.97**	**358**	⇑*i*P	**P**	**21 41 53.5**	**+1.3**		

IRK				pmax	pmax				
	comp=Z,260nm,1.5s								
SURT	**Suratani**	**22.19**	**198**	P	**P**	**21 41 55.6**	**+0.9**		
	comp=Z,26nm,1.1s,comp=Z,277nm								
CIT	**Chita**	**22.48**	**13**	*e*P	**P**	**21 41 58.1**	**+0.5**		
CIT				*e*		21 42 09.3			
CIT				pmax	pmax				
	comp=Z,98nm,1.6s								
PKDT	**Phuket**	**23.33**	**199**	P	**P**	**21 42 07.1**	**+0.4**		
	comp=Z,81nm,1.4s								
MDJ	**Mudanjiang**	**23.61**	**46**	P	**P**	**21 42 10.0**	**+0.7**		
MDJ				pP	**pP**	**21 42 13.0**	**-0.2**		
MDJ				sP	**sP**	**21 42 14.5**	**-0.4**		
MDJ				PcP	**PcP**	**21 45 54.5**	**+0.6**		
MDJ				S	**S**	**21 46 24.5**	**+1.2**		
MDJ				sS	**sS**	**21 46 28.8**	**-1.2**		
MDJ				PcS	**PcS**	**21 49 32.0**	**-1.2**		
MDJ				pmax	pmax				
	comp=Z,43nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,120nm,3.8s								
MDJ				LR	LR				
	comp=Z,260nm,10.8s								
MDJ				LR	LR				
	comp=Z,320nm,11.0s								
MDJ				LR	LR				
	comp=Z,250nm,11.5s								
MDJ	**Mudanjiang**	**23.61**	**46**	*e*P	**P**	**21 42 09.7**	**+0.5**		
	comp=Z,212nm,1.8s								
VLA	**Vladivostok**	**24.44**	**51**κ	*i*P	**P**	**21 42 17.3**	**+0.2**		
VLA				*e*		21 42 47.3			
VLA				*e*		21 45 54.7			
VLA				S	**S**	**21 46 36.3**	**-0.3**		
VLA				pmax	pmax				
	comp=Z,34nm,1.0s								
MK01	**Makanchi Array**	**24.52**	**319**	*e*P	**P**	**21 42 17.8**	**0.0**		
MKAR	**Makanchi Array**	**24.54**	**319**	*i* P	**P**	**21 42 18.7**	**+0.8**		
MKAR				pmax	pmax				
	comp=Z,37nm,1.0s								
MKAR	**Makanchi Array**	**24.54**	**319**	*e*P	**P**	**21 42 17.5**	**-0.5**		
MKAR				PcP	**PcP**	**21 45 57.5**	**+1.5**		
MKAR	**Makanchi Array**	**24.54**	**319**	P	**P**	**21 42 18.8**	**+0.8**		
	comp=Z,37nm,1.0s,baz=129,slow=9.6,SNR=15								
MKAR				PcP	**PcP**	**21 45 57.5**	**+1.5**		
	comp=Z,3.4nm,0.9s,baz=129,slow=5.9,SNR=3.8								
MKAR				LR	LR	21 52 57.3			
	comp=Z,1μm,18.8s,baz=124,slow=39								
KTGM	**Kuala Trenggan**	**24.94**	**186**	⇓P	**P**	**21 42 23.5**	**+1.7**		
USRK	**Ussuriysk Arra**	**24.95**	**49**	P	**P**	**21 42 22.0**	**+0.4**		
	comp=Z,15nm,0.8s,baz=246,slow=8.5,SNR=25								
USRK				LR	LR	21 53 17.6			
	comp=Z,426nm,18.4s,baz=235,slow=39								
KULM	**Kulim**	**25.32**	**192**	P	x	21 42 26.7			
	comp=Z,28nm,1.6s								
KULM	**Kulim**	**25.32**	**192**	*e*P	**P**	**21 42 24.4**	**-0.8**		
	comp=Z,27nm,1.0s								
KULM	**Kulim**	**25.32**	**192**	⇓P	**P**	**21 42 26.5**	**+1.3**		
KSH	**Kashi**	**26.02**	**299**	*e*P	**P**	**21 42 35.0**	**+3.4**		
KSH				*e*PP	**PnPn**	**21 43 15.8**	**+6.4**		
KSH				*e*PcP	**PcP**	**21 46 03.0**	**+3.5**		
KSH				*e*S	**S**	**21 47 02.0**	**-0.2**		
KSH				*e*sS	**sS**	**21 47 12.0**	**+3.2**		
KSH				*e*SS	**SnSn**	**21 48 09.0**	**+10**		
KSH				pmax	pmax				
	comp=Z,50nm,0.8s								
KSH				pmax	pmax				
	comp=Z,250nm,3.9s								
KSH				LR	LR				
	comp=Z,510nm,7.6s								
KSH				LR	LR				
	comp=Z,810nm,13.1s								
KSH				LR	LR				
	comp=Z,920nm,13.9s								
KKM	**Kota Kinabalu**	**26.04**	**156**	*e*P	**P**	**21 42 29.2**	**-2.7**		
	comp=Z,28nm,1.0s								
IPM	**Ipoh**	**26.05**	**191**	P	x	21 42 31.5			
	comp=Z,46nm,0.8s								
IPM	**Ipoh**	**26.05**	**191**	*e*P	**P**	**21 42 30.6**	**-1.3**		
	comp=Z,31nm,0.7s								
IPM	**Ipoh**	**26.05**	**191**	⇑P	**P**	**21 42 31.0**	**-0.8**		
SDKM	**Sandakan**	**26.77**	**154**	⇑P	**P**	**21 42 39.0**	**+0.6**		
TKM2	**Tokmak 2**	**27.15**	**306**	PFAKE		21 42 50.0	+8.1		
TKM2				LR	LR				
	comp=Z,600nm,21.0s								
KLR	**Kul'dur**	**27.30**	**39**	*e*P	**P**	**21 42 38.4**	**-4.5**		
KLR				MLR	MLR				
	comp=N,500nm,11.0s								
KLR				MLR	MLR				
	comp=E,900nm,11.0s								
KLR				MLR	MLR				
	comp=Z,2μm,11.0s								
TSI	**Tuntungan**	**27.49**	**196**	P	**P**	**21 42 47.4**	**+2.6**		
	comp=Z,91nm,0.9s								
KCSI	**Kotacane, Aceh**	**27.66**	**197**	P	P	21 42 54.3	+7.9		
MAJO	**Matsushiro**	**27.71**	**68**‖	*e*P	**P**	**21 42 49.0**	**+2.3**		
MAJO				pmax	pmax				
	comp=Z,82nm,1.0s								
MAJO	**Matsushiro**	**27.71**	**68**	*e*P	**P**	**21 42 47.1**	**+0.4**		
	comp=Z,2.8nm,1.1s								
MAT	**Matsushiro**	**27.71**	**68**	P	**P**	**21 42 45.6**	**-1.1**		
MAT				S	**S**	**21 47 30.2**	**+1.5**		
MJAR	**Matsushiro Arr**	**27.71**	**68**	P	**P**	**21 42 46.4**	**-0.3**		
MJAR	**Matsushiro Arr**	**27.71**	**68**	P	**P**	**21 42 46.4**	**-0.3**		
	comp=Z,8.9nm,0.9s,baz=266,slow=8.3,SNR=18								
MJAR				LR	LR	21 55 27.7			
	comp=Z,153nm,18.7s,baz=260,slow=40								
AAK	**Ala-Archa**	**27.85**	**305**	PFAKE		21 43 00.0	+12		
AAK				LR	LR				
	comp=Z,900nm,19.0s								
PSI	**Prapat**	**28.09**	**195**	P	x	21 42 51.0			
	comp=Z,22nm,0.9s								
PSI	**Prapat**	**28.09**	**195**	P	**P**	**21 42 50.8**	**+0.5**		
PSI	**Prapat**	**28.09**	**195**	P	**P**	**21 42 50.8**	**+0.5**		
	comp=Z,10nm,0.7s,baz=0.7,slow=7.4,SNR=15								
ZALV	**Zalesovo Beam**	**28.09**	**333**	LR	LR	21 53 25.9			
	comp=Z,157nm,18.6s,baz=81,slow=35								
SBUM	**Sibu**	**28.35**	**166**	P	x	21 42 53.1			
	comp=Z,44nm,1.4s,comp=Z,466nm								
SBUM	**Sibu**	**28.35**	**166**	*e*P	**P**	**21 42 53.8**	**+1.3**		
	comp=Z,31nm,0.9s								
SBUM	**Sibu**	**28.35**	**166**	⇓P	**P**	**21 42 54.0**	**+1.6**		
EKS2	**Erkin-Say**	**28.36**	**305**	PFAKE		21 43 00.0	+7.4		
EKS2				LR	LR				
	comp=Z,800nm,20.0s								
MYKOM	**Kota Tinggi**	**28.39**	**184**	P	x	21 42 53.9			
	comp=Z,44nm,1.2s								
MYKOM	**Kota Tinggi**	**28.39**	**184**	*e*P	**P**	**21 42 52.0**	**-0.8**		
	comp=Z,29nm,0.9s								
MYKOM	**Kota Tinggi**	**28.39**	**184**	⇓P	**P**	**21 42 54.4**	**+1.5**		
KURBB	**Kurchatov Arra**	**28.76**	**323**	P	**P**	**21 42 56.2**	**+0.4**		
	comp=Z,18nm,0.8s,baz=132,slow=9.2,SNR=23								
KURK	**Kurchatov**	**28.76**	**323**	P	**

VOSK LR LR
comp=Z,500nm,18.8s
LHSI Lahat 33.98 184 P **P** **21 43 43.2 +1.1**
comp=Z,89nm,1.1s
KMSI Cibinong 34.24 146 P **P** **21 43 46.6 +2.2**
comp=Z,232nm,0.9s,comp=Z,2µm
BVAR Borovoye Array 34.32 322 P **P** **21 43 45.3 +0.5**
BVAR 21 46 21.2
BVAR Borovoye Array 34.32 322 P P **21 43 45.3 +0.5**
BVAR PcP **PcP** **21 46 21.2 +0.5**
BVAR Borovoye Array 34.32 322 P **P** **21 43 45.3 +0.5**
comp=Z,4.7nm,0.6s,baz=126,slow=7.5,SNR=3.6
BVAR PcP **PcP** **21 46 21.2 +0.5**
comp=Z,6.2nm,0.7s,baz=98,slow=3.0,SNR=6.0
BRVK Borovoye 34.39 322 ||P **P** **21 43 47.1 +1.7**
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 34.39 322 *e*P **P** **21 43 45.3 -0.1**
comp=Z,41nm,1.5s
APSI Ampana 34.51 151 P **P** **21 43 48.7 +2.0**
comp=Z,45nm,1.1s
MDSI Maura Dua 34.60 183 P **P** **21 43 47.9 +0.4**
comp=Z,22nm,1.3s,comp=Z,656nm
MMSI Mamuju 35.11 157 P x 21 43 53.0
comp=Z,109nm,0.9s,comp=Z,997nm
LUWI Luwuk 35.11 149 P **P** **21 43 52.7 +0.8**
comp=Z,79nm,0.9s,comp=Z,1µm
LUWI Luwuk 35.11 149 *e*P **P** **21 43 51.5 -0.4**
YAK Yakutsk 35.39 19*d i*P **P** **21 43 54.0 +0.2**
YAK *e**PP pP 21 43 03.8 +5.9
YAK *e* 21 45 11.8
YAK *e*PPP PPP 21 45 27.5
YAK *e* 21 46 22.2
YAK *e*S **S** **21 49 27.5 -0.4**
YAK *e*SS **SnSn** **21 51 38.8 -7.9**
YAK *e*SSS SSS 21 52 06.7
YAK *e* 21 54 08.7
YAK pmax pmax
comp=Z,29nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,105nm,5.6s
YAK pmax pmax
comp=N,123nm,4.4s
YAK pmax pmax
comp=E,101nm,4.9s
YAK smax smax
comp=N,77nm,4.4s
YAK smax smax
comp=E,119nm,4.8s
YAK MLR MLR
comp=Z,263nm,12.0s
YAK MLR MLR
comp=N,104nm,15.0s
YAK MLR MLR
comp=E,151nm,17.0s
YAK Yakutsk 35.39 19 *e*P **P** **21 43 53.6 -0.2**
comp=E,40nm,0.6s
TTSI Tana Toraja 35.76 155 P **P** **21 43 58.8 +1.4**
comp=E,49nm,1.0s
SPSI Sidrap Palu 36.59 156 P **P** **21 44 05.4 +0.8**
comp=E,45nm,1.2s,comp=E,478nm
LEM Lembang 36.94 177 P **P** **21 44 10.0 +2.3**
comp=E,57nm,0.8s
LBMI Labuha 37.07 142 P P 21 44 16.6 +7.9
BNSI Bone 37.12 156 P **P** **21 44 09.7 +0.6**
comp=E,47nm,1.1s
KAPI Kappang 37.56 157 P x 21 44 13.6
comp=E,276nm,1.1s
KAPI Kappang 37.56 157 *e*P **P** **21 44 12.7 -0.2**
comp=E,99nm,0.9s
BJII Banjamegara 37.59 174 P x 21 44 15.5
comp=E,73nm,1.2s
NGJI Ngawi 37.83 171 P P 21 44 19.0 +3.9
BKSI Bulukumba 37.98 156 P **P** **21 44 16.8 +0.4**
comp=E,35nm,1.0s
JAGI Jajag, Banyuwa 39.36 167 P **P** **21 44 29.2 +1.2**
comp=E,54nm,1.1s
JAGI Jajag, Banyuwa 39.36 167 *e*P **P** **21 44 26.6 -1.3**
comp=E,60nm,1.1s
MTNI Mataram 39.96 164 P x 21 44 39.0
BMNI Bima 40.55 160 P x 21 44 37.5
comp=E,135nm,1.0s,comp=E,2µm
LBFI Labuhan Bajo, 40.86 158 P x 21 44 40.7
comp=E,182nm,0.9s
SVE Sverdlovsk 41.01 324‖ *e*P **P** **21 44 42.1 +0.8**
SVE *e* 21 46 17.8
SVE *e*S **S** **21 50 47.4 -5.6**
SVE pmax pmax
comp=Z,44nm,1.3s
SVE MLR MLR
comp=Z,418nm,15.0s
MMRI Maumere 41.80 155 P **P** **21 44 48.1 -0.1**
comp=Z,153nm,1.3s
MMRI Maumere 41.80 155 *e*P **P** **21 44 46.9 -1.3**
ARU Arti 41.96 322*d i*P **P** **21 44 49.6 +0.6**
ARU S **S** **21 51 08.9 +1.8**
ARU SS SS 21 54 00.3 -13
ARU pmax pmax
comp=Z,57nm,1.2s
ARU MLR MLR
comp=Z,197nm,14.0s
ARU Arti 41.96 322 *e*P **P** **21 44 48.6 -0.4**
comp=Z,46nm,1.1s
TIXI Tiksi 43.29 10*d i*P **P** **21 44 59.4 -0.2**
TIXI pmax pmax
comp=Z,34nm,1.3s
TIXI Tiksi 43.29 10 *e*P **P** **21 44 58.7 -1.0**
comp=Z,23nm,1.0s
PETK Petropavlovsk- 43.80 43 P **P** **21 45 04.4 +0.4**
PETK Petropavlovsk- 43.80 43 P **P** **21 45 04.4 +0.4**
PETK Petropavlovsk- 43.80 43 P **P** **21 45 04.4 +0.4**
comp=Z,5.7nm,0.9s,baz=228,slow=7.8,SNR=3.8
PETK LR LR 22 05 00.2
comp=Z,53nm,21.4s,baz=248,slow=38
SEY Seymchan 44.12 29 P **P** **21 45 07.4 +0.9**
SEY Seymchan 44.12 29 P **P** **21 45 07.3 +0.9**
SEY Seymchan 44.12 29 P **P** **21 45 07.3 +0.9**
comp=Z,4.6nm,0.8s,baz=253,slow=6.2,SNR=13
SMPI Sarmi 44.91 130 P **P** **21 45 15.4 +2.1**
comp=Z,86nm,1.4s
GENI Genyem 46.33 129 P P 21 45 30.0 +5.4
PRGR Permogore 49.72 327 *e*P **P** **21 45 49.7 -0.5**
PRGR pmax pmax
comp=Z,35nm,0.8s
KIV Kislovodsk 50.96 304‖ *i*P **P** **21 46 01.1 +1.1**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,267nm,15.0s
KIV Kislovodsk 50.96 304 *e*P **P** **21 46 00.8 +0.8**
comp=Z,40nm,1.1s
VRHR Novokhopersk 51.15 313 *e*P **P** **21 46 00.1 -1.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
BILL Bilibino 51.32 25‖ *e*P **P** **21 46 01.8 -0.4**
BILL pmax pmax
comp=Z,102nm,1.6s
BILL Bilibino 51.32 25 *e*P **P** **21 46 01.8 -0.4**
comp=Z,21nm,1.5s
KLMR Klimovskoe 52.55 326 *e*P **P** **21 46 10.9 -0.6**
KLMR pmax pmax
comp=Z,112nm,1.3s
VORD Divnogorie 52.62 313 *e*P **P** **21 46 10.9 -1.3**
VORD pmax pmax
comp=E,30nm,1.2s
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,20nm,1.0s
VSR Storozhevoye 52.69 313 *e*P **P** **21 46 11.9 -0.8**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 53.42 319 *e*P **P** **21 46 17.7 -0.3**
MOS pmax pmax
comp=Z,90nm,1.2s
OBN Obninsk 54.05 318‖ *i*P **P** **21 46 22.8 +0.3**
OBN pmax pmax
comp=Z,43nm,1.2s
OBN MLR MLR
comp=Z,461nm,22.0s
OBN Obninsk 54.05 318 *e*P **P** **21 46 22.4 -0.1**
comp=Z,91nm,1.4s
OBN Obninsk 54.05 318 P **P** **21 46 22.8 +0.3**
comp=Z,22nm,0.8s,baz=88,slow=16,SNR=6.8
APA Apatity 55.67 334‖ *i*P **P** **21 46 35.0 +0.8**
APA MLR MLR
comp=Z,1µm,14.0s
PMG Port Moresby 56.02 128 *e*P **P** **21 46 35.8 -1.6**
comp=Z,20nm,0.8s
COEN Coen 56.85 135 *e*P **P** **21 46 42.9 -0.4**
comp=Z,1µm,2.2s
WRAB Tennant Creek 57.00 148 P **P** **21 46 44.9 +0.7**
comp=Z,243nm,0.9s,SNR=6.3
WRAB Tennant Creek 57.00 148‖ *i*P **P** **21 46 44.3 +0.1**
WRAB pmax pmax
comp=Z,84nm,1.0s
WRAB Tennant Creek 57.00 148 *e*P **P** **21 46 44.4 +0.2**
comp=Z,36nm,0.9s
WRA Warramunga Arr 57.00 148 P **P** **21 46 44.0 -0.3**
WRA Warramunga Arr 57.00 148 P **P** **21 46 44.0 -0.3**
comp=Z,24nm,0.9s,baz=338,slow=7.6,SNR=68
ASF Jabal al Asfar 57.97 291 P **P** **21 46 52.5 +1.4**
ASF Jabal al Asfar 57.97 291 P **P** **21 46 52.5 +1.4**
comp=Z,22nm,1.0s,baz=43,slow=3.3,SNR=18
DAMY Dhamar 58.21 269 *e*P **P** **21 46 51.2 -2.1**
comp=Z,32nm,1.0s
BRTR Keskin Array B 58.39 300 P **P** **21 46 54.6 +0.5**
BRTR Keskin Array B 58.39 300 P **P** **21 46 54.6 +0.5**
comp=Z,8.3nm,0.8s,baz=97,slow=6.8,SNR=20
MMAI Mount Meron Ar 58.91 292 P **P** **21 46 58.4 +0.7**
MMAI Mount Meron Ar 58.91 292 P **P** **21 46 58.4 +0.7**
comp=Z,14nm,1.1s,baz=100,slow=7.7,SNR=7.2
ANTO Ankara 58.98 301 *e*P **P** **21 46 56.7 -1.4**
ANTO pmax pmax
comp=Z,22nm,1.0s
ANTO Ankara 58.98 301 *e*P **P** **21 46 56.7 -1.4**
comp=Z,22nm,1.0s
AKASG Malin Array Be 58.99 314 P **P** **21 46 57.7 -0.2**
AKASG Malin Array Be 58.99 314 P **P** **21 46 57.6 -0.2**
AKASG Malin Array Be 58.99 314 P **P** **21 46 57.6 -0.2**
comp=Z,4.0nm,0.6s,baz=70,slow=6.4,SNR=13
AKASG LR LR 22 13 59.8
comp=Z,368nm,19.5s,baz=65,slow=38
KIEV Kiev 59.00 314 *e*P **P** **21 46 57.2 -0.7**
KIEV pmax pmax
comp=Z,29nm,1.4s
KIEV Kiev 59.00 314 *e*P **P** **21 46 57.2 -0.7**
comp=Z,29nm,1.4s
AK11 Malin Array Si 59.03 314 *e*P **P** **21 46 57.1 -1.0**
FINES FINESS Array B 59.04 327 P **P** **21 46 58.5 +0.4**
FINES FINESS Array B 59.04 327 P **P** **21 46 58.5 +0.4**
comp=Z,10nm,0.9s,baz=81,slow=12,SNR=6.6
GAMB Gambell 60.04 31 *e*P **P** **21 47 04.2 -0.7**
comp=Z,6.4nm,1.0s
ASAR Alice Springs 60.06 150 P **P** **21 47 05.7 +0.1**
ASAR Alice Springs 60.06 150 P **P** **21 47 05.7 +0.1**
comp=Z,11nm,0.8s,baz=334,slow=6.4,SNR=80
ASAR LR LR 22 16 12.2
comp=Z,43nm,18.1s,baz=334,slow=39
EIL Elat 60.36 289 P **P** **21 47 08.6 +0.9**
EIL Elat 60.36 289 P **P** **21 47 08.6 +0.9**
comp=Z,32nm,0.8s,baz=21,slow=4.2,SNR=22
ISP Isparta 61.26 299 *e*P **P** **21 47 12.5 -1.3**
ISP pmax pmax
comp=Z,24nm,0.8s
ISP Isparta 61.26 299 *e*P **P** **21 47 12.5 -1.3**
comp=Z,24nm,0.8s
TNA Tin City 61.36 28 *e*P **P** **21 47 14.1 +0.3**
comp=Z,28nm,0.5s
MLR Muntele Rosu 62.34 309 P **P** **21 47 21.3 +0.3**
MLR Muntele Rosu 62.34 309 P **P** **21 47 21.3 +0.3**
comp=Z,1.6nm,0.9s,baz=198,slow=13,SNR=4.6
KOLS Kolonicke sedl 63.78 313 *e*P **P** **21 47 30.0 -0.3**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 63.78 313 *e*P **P** **21 47 30.0 -0.3**
UZH Uzhgorod 63.85 313 *e*P **P** **21 47 31.1 +0.3**
UZH *e* 21 47 38.1
UZH *e* 21 47 44.5
UZH *e* 21 48 06.1
CRVS Cervenica-Dubn 64.30 313 *e*P **P** **21 47 33.8 0.0**
CRVS pmax pmax
comp=Z,13nm,1.5s
CRVS Cervenica-Dubn 64.30 313 *e*P **P** **21 47 33.8 0.0**
OJC Ojcow 64.94 315 *e*P **P** **21 47 38.0 +0.1**
OJC pmax pmax
comp=Z,28nm,1.4s
OJC Ojcow 64.94 315 *e*P **P** **21 47 38.0 +0.1**
comp=Z,28nm,1.4s
NOA NORSAR Array B 66.12 328 P **P** **21 47 44.4 -1.0**
NOA NORSAR Array B 66.12 328 P **P** **21 47 44.4 -1.0**
comp=Z,4.4nm,1.0s,baz=69,slow=6.5,SNR=3.2
KRLC Kraliky 66.82 316 *e*P **P** **21 47 50.1 0.0**
KSP Ksiaz 66.86 316 *e*P **P** **21 47 51.0 +0.8**
KSP MLR MLR
comp=Z,2µm,20.4s
DPC Dobruska-Polom 67.01 316 *e*P **P** **21 47 51.5 +0.3**
DPC Dobruska-Polom 67.01 316 *e*P **P** **21 47 51.6 +0.3**
DPC AMS AMS 22 18 30.0
DPC Dobruska-Polom 67.01 316 *e*P **P** **21 47 51.5 +0.3**
comp=Z,214nm,1.8s
VRAC Vranov 67.20 315 P **P** **21 47 53.3 +0.9**
VRAC Vranov 67.20 315 P **P** **21 47 53.3 +0.9**
comp=Z,3.1nm,0.7s,baz=75,slow=11,SNR=3.5
COLD Coldfoot 67.64 24 *e*P **P** **21 47 55.0 +0.1**
comp=Z,17nm,1.0s
COLD *e*PKiKP PKiKP 21 54 14.1 -5.1
BRG Berggiesshubel 68.24 317 *e*P **P** **21 47 59.6 +0.6**
comp=Z,10.0nm,1.1s
BRG
comp=N,251nm,19.7s
BRG
comp=E,295nm,16.4s
BRG
comp=Z,438nm,14.3s
BRG Berggiesshubel 68.24 317 *e*P **P** **21 47 59.6 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=E,251nm,16.4s
BRG MLR MLR
comp=Z,295nm,14.3s
CHGN Chignik 68.43 37 *e*P **P** **21 47 59.8 -0.2**
CLL Collm 68.63 318 *i* P **P** **21 48 01.6 +0.2**
CLL pmax pmax
comp=Z,15nm,1.5s
CLL Collm 68.63 318 *i* P **P** **21 48 01.6 +0.2**
comp=Z,15nm,1.5s
PPLA Purkeypile 68.70 29 *e*P **P** **21 48 02.1 +0.3**
comp=Z,47nm,1.3s
KTH Kantishna Hill 68.94 28 *e*P **P** **21 48 04.0 +0.8**
comp=Z,101nm,1.2s
GERES GERESS Array B 69.14 315 P **P** **21 48 04.5 -0.2**
GERES GERESS Array B 69.14 315 P **P** **21 48 04.5 -0.2**
comp=Z,1.7nm,0.8s,baz=70,slow=7.8,SNR=5.6
GERES LR LR 22 20 14.5
comp=Z,393nm,18.4s,baz=71,slow=38
RSO Redoubt South 69.49 31 *e*P **P** **21 48 07.5 +0.7**
COLA College 69.55 26 *e*P **P** **21 48 07.0 +0.2**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 69.55 26 *e*P **P** **21 48 07.0 +0.2**
comp=Z,7.5nm,0.9s
MCK McKinley 69.65 27 *e*P **P** **21 48 08.1 +0.5**
MCK pmax pmax
comp=Z,92nm,2.5s
MCK McKinley 69.65 27 *e*P **P** **21 48 08.1 +0.5**
comp=Z,92nm,2.5s
TARA Tarawa 69.67 101 PFAKE
TARA LR LR 21 48 20.0 +12
comp=Z,3µm,21.0s
ILAR Eielson Array 69.96 26 P **P** **21 48 08.7 -0.7**
ILAR Eielson Array 69.96 26 P **P** **21 48 08.7 -0.7**
comp=Z,5.6nm,1.0s,baz=279,slow=5.1,SNR=34
ILAR LR LR 22 19 05.1
comp=Z,69nm,18.9s,baz=274,slow=36
ILB Eielson Array 69.96 26 *e*P **P** **21 48 08.4 -1.0**
EIDS Eidsvold 70.33 137 *e*P **P** **21 48 12.9 +0.8**
comp=Z,20nm,0.9s
RC01 Rabbit Creek A 70.54 30 *e*P **P** **21 48 12.7 -0.3**
comp=Z,12nm,0.8s
STKA Stephens Creek 70.55 148 *e*P **P** **21 48 12.8 -0.6**
comp=Z,3.0nm,0.8s
STKA Stephens Creek 70.55 148 P **P** **21 48 13.9 +0.5**
comp=Z,10nm,0.7s,baz=328,slow=6.4,SNR=21
PMR Palmer 70.56 29 *e*P **P** **21 48 13.2 +0.1**
PMR pmax pmax
comp=Z,32nm,0.9s
PMR Palmer 70.56 29 *e*P **P** **21 48 13.2 +0.1**
comp=Z,32nm,0.9s
SEW Seward 71.12 31 *e*P **P** **21 48 16.3 -0.2**
comp=Z,68nm,1.5s
PAX Paxson 71.39 27 *e*P **P** **21 48 18.4 +0.1**
PAX pmax pmax
comp=Z,15nm,1.3s
PAX Paxson 71.39 27 *e*P **P** **21 48 18.4 +0.1**
comp=Z,15nm,1.3s
DOT Dot Lake 71.59 26 *e*P **P** **21 48 19.0 -0.4**
comp=Z,8.8nm,0.9s
EGAK Eagle 72.06 24 *e*P **P** **21 48 21.5 -0.7**
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 72.12 258 *e*P P 21 48 20.2 -3.4
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 72.12 258 P **P** **21 48 24.2 +0.6**
comp=Z,9.3nm,0.8s,baz=43,slow=8.5,SNR=15
FUORN Ofenpass-Fuorn 72.16 314 *e*P **P** **21 48 22.3 -1.1**
DIV Divide 72.20 29 *e*P **P** **21 48 23.0 -0.1**
comp=Z,19nm,0.9s
DAVOX Davos/Dischmat 72.33 314 P **P** **21 48 24.6 +0.3**
DAVOX Davos/Dischmat 72.33 314 P **P** **21 48 24.6 +0.3**
comp=Z,5.5nm,0.8s,baz=350,slow=1.2,SNR=5.0
INK Inuvik 72.46 20 *e*P **P** **21 48 23.6 -0.8**
comp=Z,22nm,0.9s
INK Inuvik 72.46 20 P **P** **21 48 24.7 +0.3**
comp=Z,17nm,0.8s,baz=327,slow=7.3,SNR=46
BFO Black Forest 72.61 316 *i* P **P** **21 48 26.5 +0.8**
BMRM Bremner River 72.77 29 *e*P **P** **21 48 27.1 +0.5**
comp=Z,35nm,1.0s
DAWY Dawson 73.10 25 *e*P **P** **21 48 28.0 -0.4**
CDF Champ du Feu 73.20 316 *e*P **P** **21 48 29.0 -0.3**
CDF Champ du Feu 73.20 316 *e*P **P** **21 48 29.0 -0.3**
CDF Champ du Feu 73.20 316 *e*P **P** **21 48 29.0 -0.3**
HINF Hinteralfeld 73.72 316 *e*P **P** **21 48 31.8 -0.6**
comp=Z,18nm,1.2s
HINF Hinteralfeld 73.72 316 *e*P **P** **21 48 31.8 -0.6**
HINF pmax pmax
comp=Z,18nm,1.2s
HINF Hinteralfeld 73.72 316 *e*P **P** **21 48 31.8 -0.6**
comp=Z,18nm,1.2s
GIVF Givet 73.85 319 *e*P **P** **21 48 33.0 0.0**
GIVF Givet 73.85 319 *e*P **P** **21 48 33.0 0.0**
GIVF Givet 73.85 319 *e*P **P** **21 48 33.0 0.0**
HAU Haudompre 73.94 316 *e*P **P** **21 48 33.1 -0.5**
comp=Z,20nm,1.2s
HAU *e*R
comp=Z,373nm,19.8s
HAU Haudompre 73.94 316 *e*P **P** **21 48 33.1 -0.5**
HAU pmax pmax
comp=Z,20nm,1.2s
HAU Haudompre 73.94 316 *e*P **P** **21 48 33.1 -0.5**
comp=Z,20nm,1.2s
PAGF Fort de Pagny 74.05 317 *e*P **P** **21 48 34.2 0.0**
comp=Z,7.5nm,1.2s
PAGF Fort de Pagny 74.05 317 *e*P **P** **21 48 34.2 0.0**
comp=Z,7.5nm,1.2s
BAIF Baives 74.22 319 *e*P **P** **21 48 35.1 -0.1**
comp=Z,28nm,1.2s
BAIF Baives 74.22 319 *e*P **P** **21 48 35.1 -0.1**
BAIF pmax pmax
comp=Z,28nm,1.2s
BAIF Baives 74.22 319 *e*P **P** **21 48 35.1 -0.1**
comp=Z,28nm,1.2s
RES Resolute Bay 74.42 6 *e*P **P** **21 48 36.4 +0.5**
comp=Z,12nm,0.9s
MEZF Maizieres J'vi 74.47 317 *e*P **P** **21 48 36.5 -0.2**
MEZF Maizieres J'vi 74.47 317 *e*P **P** **21 48 36.5 -0.2**
SUMG Summit 74.52 349 *e*P **P** **21 48 34.1 -2.9**
SUMG Summit 74.52 349 *e*P **P** **21 48 34.1 -2.9**
SFTF Sexfontaines 74.62 317 *e*P **P** **21 48 37.0 -0.6**
comp=Z,70nm,1.5s
SFTF Sexfontaines 74.62 317 *e*P **P** **21 48 37.0 -0.6**
comp=Z,70nm,1.5s
ABPO Ambohimpanom 74.65 237 *e*P **P** **21 48 36.1 -2.1**
ABPO pmax pmax
comp=Z,21nm,1.3s
ABPO Ambohimpanom 74.65 237 *e*P **P** **21 48 36.1 -2.1**
comp=Z,21nm,1.3s
CABF La Chapelle 74.74 315 *e*P **P** **21 48 37.9 -0.5**
comp=Z,88nm,1.5s
CABF La Chapelle 74.74 315 *e*P **P** **21 48 37.9 -0.5**
CABF pmax pmax
comp=Z,88nm,1.5s
CABF La Chapelle 74.74 315 *e*P **P** **21 48 37.9 -0.5**
comp=Z,88nm,1.5s
LPG La Plagne 74.85 314 *e*P **P** **21 48 39.5 +0.2**
comp=Z,52nm,1.1s
LPG La Plagne 74.85 314 *e*P **P** **21 48 39.5 +0.2**
LPG pmax pmax
comp=Z,52nm,1.1s
LPG La Plagne 74.85 314 *e*P **P** **21 48 39.5 +0.2**
comp=Z,52nm,1.1s
LPL La Plagne 74.85 314 *e*P **P** **21 48 39.4 +0.2**
comp=Z,60nm,1.3s
LPL La Plagne 74.85 314 *e*P **P** **21 48 39.4 +0.2**
LPL pmax pmax
comp=Z,60nm,1.3s
LPL La Plagne 74.85 314 *e*P **P** **21 48 39.4 +0.2**
comp=Z,60nm,1.3s
SBF Sospel 75.18 312 *e*P **P** **21 48 40.6 -0.3**
SBF Sospel 75.18 312 *e*P **P** **21 48 40.6 -0.3**
SBF Sospel 75.18 312 *e*P **P** **21 48 40.6 -0.3**
ORIF Oris-en-Rattie 75.67 314 *e*P **P** **21 48 43.6 -0.2**
comp=Z,17nm,0.9s
ORIF *e*R
comp=Z,403nm,18.0s
ORIF Oris-en-Rattie 75.67 314 *e*P **P** **21 48 43.6 -0.2**
ORIF pmax pmax
comp=Z,17nm,0.9s
ORIF Oris-en-Rattie 75.67 314 *e*P **P** **21 48 43.6 -0.2**
comp=Z,17nm,0.9s
LOR Lormes 75.77 317 *e*P **P** **21 48 43.4 -0.8**
comp=Z,32nm,1.4s
LOR *e*R
comp=Z,294nm,20.2s
LOR Lormes 75.77 317 *e*P **P** **21 48 43.4 -0.8**
comp=Z,32nm,1.4s
SSF Saint Saulge 76.08 317 *e*P **P** **21 48 45.4 -0.6**
comp=Z,7.2nm,0.9s
SSF Saint Saulge 76.08 317 *e*P **P** **21 48 45.4 -0.6**
SSF pmax pmax
comp=Z,7.0nm,0.9s
SSF Saint Saulge 76.08 317 *e*P **P** **21 48 45.4 -0.6**
comp=Z,7.2nm,0.9s
SMF Signal de Mont 76.08 316 *e*P **P** **21 48 45.4 -0.6**
SMF Signal de Mont 76.08 316 *e*P **P** **21 48 45.4 -0.6**
SMF Signal de Mont 76.08 316 *e*P **P** **21 48 45.4 -0.6**
TCF Toulx Ste Croi 77.24 316 *e*P **P** **21 48 52.4 -0.2**
comp=Z,22nm,1.1s
TCF Toulx Ste Croi 77.24 316 *e*P **P** **21 48 52.4 -0.2**
TCF pmax pmax
comp=Z,22nm,1.1s
TCF Toulx Ste Croi 77.24 316 *e*P **P** **21 48 52.4 -0.2**
comp=Z,22nm,1.1s
LDF La Druitiere 77.41 319 *e*P **P** **21 48 53.1 -0.3**
LDF La Druitiere 77.41 319 *e*P **P** **21 48 53.1 -0.3**
LDF La Druitiere 77.41 319 *e*P **P** **21 48 53.1 -0.3**
KEST Kesra 77.70 304 LR LR 22 30 18.9
comp=Z,24nm,18.3s,baz=298,slow=41
CAF Calviac 78.02 315 *e*P **P** **21 48 57.2 +0.2**
CAF Calviac 78.02 315 *e*P **P** **21 48 57.2 +0.2**
CAF Calviac 78.02 315 *e*P **P** **21 48 57.2 +0.2**
MFF Saint Martin d 78.47 317 *e*P **P** **21 48 59.3 -0.1**
comp=Z,87nm,1.3s
MFF Saint Martin d 78.47 317 *e*P **P** **21 48 59.3 -0.1**
MFF pmax pmax
comp=Z,87nm,1.3s
MFF Saint Martin d 78.47 317 *e*P **P** **21 48 59.3 -0.1**
comp=Z,87nm,1.3s
SGMF Saint Gilles 78.96 320 *e*P **P** **21 49 02.2 +0.2**
SGMF Saint Gilles 78.96 320 *e*P **P** **21 49 02.2 +0.2**
SGMF Saint Gilles 78.96 320 *e*P **P** **21 49 02.2 +0.2**
YKA Yellowknife Ar 82.05 18 P **P** **21 49 18.6 +0.2**
YKA PKKPbc **PKKPbc** **22 07 45.5 -2.7**
YKA Yellowknife Ar 82.05 18 P **P** **21 49 18.5 +0.2**
comp=Z,3.9nm,0.7s,baz=328,slow=5.0,SNR=61
YKA PKKPbc **PKKPbc** **22 07 45.5 -2.7**

comp=Z,0.3nm,0.7s,baz=139,slow=2.4,SNR=6.1
YKB5 Yellowknife Ar 82.05 18 *e*P **P 21 49 17.7 -0.6**
ES19 SONSECA Array 84.57 313 *e*P **P 21 49 30.7 -1.1**
ESDC Sonseca Array 84.62 313 P **P 21 49 32.4 +0.2**
ESDC Sonseca Array 84.62 313 P **P 21 49 32.4 +0.2**
comp=Z,1.6nm,0.8s,baz=59,slow=5.7,SNR=5.4
MVO Moncorvo 85.64 316 *e*P **P 21 49 38.4 +1.1**
comp=Z,40nm,2.1s
PCAB Cabril 85.91 317 *e*P **P 21 49 40.0 +1.5**
comp=Z,57nm,1.6s
PVRL Vila Real 85.99 316 *e*P **P 21 49 40.1 +1.2**
comp=Z,28nm,1.6s
LSZ Lusaka 87.23 251 *e*P **P 21 49 44.8 -0.7**
EVO Evora 87.84 314 *e*P **P 21 49 49.2 +1.3**
comp=Z,24nm,1.6s
PBEJ Beja 88.06 314 *e*P **P 21 49 50.1 +1.1**
comp=Z,20nm,1.5s
PNCL Nicolau / Gran 88.42 314 *e*P **P 21 49 51.3 +0.6**
comp=Z,17nm,1.8s
PBDV Barranco-do-Ve 88.57 313 *e*P **P 21 49 51.4 -0.1**
comp=Z,31nm,1.6s
FCC Fort Churchill 89.76 10 *e*P **P 21 49 55.6 -0.9**
EDM Edmonton 90.16 22 *e*P **P 21 49 58.2 -0.4**
EDM Edmonton 90.16 22 *e*P **P 21 49 58.2 -0.4**
B08A Colville Reser 91.92 28 *e*P **P 21 50 07.3 +0.4**
comp=Z,7.5nm,1.1s
FFC Flin Flon 92.03 16 *e*P **P 21 50 06.7 -0.5**
FFC pmax pmax
comp=Z,63nm,2.8s
FFC Flin Flon 92.03 16 *e*P **P 21 50 06.7 -0.5**
comp=Z,63nm,2.8s
C09A Chrisman Ranch 92.79 28 *e*P **P 21 50 11.6 +0.7**
SLMT Seeley Lake 95.12 26 *e*P **P 21 50 21.4 -0.4**
TORD Torodi Ar. Bea 95.25 288 PP PP 21 54 10.4 -2.2
TORD Torodi Ar. Bea 95.25 288 PP PP 21 54 10.4 -2.2
comp=Z,1.2nm,0.9s,baz=60,slow=7.3,SNR=4.6
TORD LR LR 22 38 07.4
comp=Z,67nm,18.6s,baz=150,slow=38
BKZ Black Stump Fm 95.37 133 PFAKE
BKZ LR LR 21 50 30.0 +7.3
comp=Z,400nm,20.0s
BOSA Boshof 96.52 241 LR LR 22 34 00.4
comp=Z,64nm,18.1s,baz=62,slow=36
DLMT Dillon 97.03 26 PFAKE 21 50 40.0 +9.4
DLMT LR LR
comp=Z,200nm,18.4s
IMW Indian Meadow 98.90 26 PFAKE 21 50 50.0 +11
IMW LR LR
comp=Z,300nm,20.5s
SPUT South Promonto 100.50 28 PFAKE 21 51 00.0 +14
SPUT LR LR
comp=Z,400nm,20.9s
BGU Big Grassy Mou 100.58 29 PFAKE 21 51 00.0 +14
BGU LR LR
comp=Z,100nm,18.9s
TCUT Toone Canyon 101.08 28 PFAKE 21 51 00.0 +11
TCUT LR LR
comp=Z,400nm,19.3s
RWWY Rawlins 102.19 25 PFAKE 21 51 10.0 +16
RWWY LR LR
comp=Z,800nm,21.9s
DBIC Dimbokro 104.16 286 PP PP 21 55 18.2 -2.4
DBIC Dimbokro 104.16 286 PP PP 21 55 18.2 -2.4
comp=Z,3.7nm,1.0s,baz=81,slow=8.8,SNR=3.8
FRNY Flat Rock 105.24 360 PFAKE 21 55 30.0
FRNY LR LR
comp=Z,300nm,19.5s
BRYW Bryant College 108.12 358 PFAKE 21 55 40.0
BRYW LR LR
comp=Z,2µm,19.7s
MVL Millersville 110.05 2 PFAKE 21 55 40.0
MVL LR LR
comp=Z,700nm,19.6s
PBMO Poplar Bluff 111.59 14 PFAKE 21 55 40.0
PBMO LR LR
comp=Z,3µm,18.9s
TXAR Lajitas Array 114.42 28 PKP PKPdf 21 55 38.0 -0.8
TXAR PP **PP 21 56 35.1 +1.3**
TXAR PKKPbc **PKKPbc 22 06 17.6 -0.1**
TXAR Lajitas Array 114.42 28 PKP PKPdf 21 55 38.0 -0.8
comp=Z,0.1nm,0.4s,baz=325,slow=1.4,SNR=3.4
TXAR PP **PP 21 56 35.1 +1.3**
comp=Z,0.3nm,0.7s,baz=321,slow=9.7,SNR=4.5
TXAR PKKPbc **PKKPbc 22 06 17.6 -0.1**
comp=Z,0.7nm,1.0s,baz=150,slow=5.2,SNR=5.7
QSPA South Pole Qui 120.06 180 *e*PKPdf **PKPdf 21 55 47.5 -0.8**
CDVI St. Croix 131.38 348 PFAKE 21 56 20.0 +8.6
CDVI LR LR
comp=Z,700nm,19.4s
OTAV Otavalo 149.39 8 *e*PKPdf **PKPdf 21 56 44.3 -0.1**
BDFB Brasilia 151.89 295 PKPbc **PKPbc 21 56 54.4 +0.3**
BDFB PKPab **PKPab 21 57 03.8 +0.5**
BDFB Brasilia 151.89 295 PKPbc **PKPbc 21 56 54.4 +0.3**
comp=Z,2.3nm,0.6s,baz=70,slow=5.9,SNR=3.9
BDFB PKPab **PKPab 21 57 03.8 +0.5**
comp=Z,8.0nm,0.8s,baz=104,slow=4.5,SNR=8.4

IDC ***30*** *21:37:30.5±0.5, 36°.46N×71°.28E, h0km, mb4.4/28, mb1 4.6/32, mb1mx4.4/44, mbtmp4.5/32, ML4.6/5, MS3.3/5, Ms1 3.3/5, ms1mx2.9/35, Error ellipse: s-maj=13.5km s-min=10.3km az=16.0*

ISCJB ***30*** *21:37:41.6±0.1, 36°.70N±0°.02×71°.44E±0°.02, h106km, mb4.7/111, Error ellipse: s-maj=3.0km s-min=2.3km az=140.5*

MOS ***30*** *21:37:41.6±0.9, 36°.72N×71°.34E, h101km, mb4.9/30, Error ellipse: s-maj=6.9km s-min=4.5km az=111.4*

NEIC ***30*** *21:37:42.5±0.7, 36°.76N×71°.31E, h93km±6km, mb5.0/43, Error ellipse: s-maj=5.2km s-min=4.4km az=193.0*

NNC ***30*** *21:37:51.2±4.8, 37°.47N×71°.16E, h191km±47km, mb4.0, mpv5.1, Error ellipse: s-maj=43.2km s-min=25.4km az=22.0*

ISC 30 21:37:43.4±0.3, 36°.75N±0°.04×71°.36E±0°.04, h106km, n365, σ 1§20/358, mb4.7/113, 27C-21D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.91**	**221**	*e*PN	**Pn**	**21 38 27.0**	**-1.3**
KBL				*e*		21 38 59.7	
KBL	**Kabul**	**2.91**	**221**	*e*Pn	**Pn**	**21 38 27.0**	**-1.3**
KBL				*e*Sn	**Sn**	**21 38 59.7**	**-3.0**
CEP	**Cherat**	**2.96**	**171**	⇓P	**Pn**	**21 38 29.1**	**+0.2**
CEP				S	**Sn**	**21 39 05.0**	**+1.1**
CHCP	**Chirah Chowk**	**3.46**	**153**	P	**Pn**	**21 38 36.3**	**+0.8**
THW	**Thamme Wali**	**3.96**	**175**	P	**Pn**	**21 38 41.3**	**-0.9**
SARP	**Sargodha**	**4.94**	**167**	P	**Pn**	**21 38 53.9**	**-1.5**
DLH	**Dalhousie**	**5.66**	**137**	*e*P	**Pn**	**21 39 04.0**	**-1.3**
DLH				*e*S	**Sn**	**21 40 07.0**	**-2.2**
AML	**Almayashu**	**5.67**	**18**	P	**Pn**	**21 39 05.2**	**-0.2**
	SNR=451						
UCH	**Uchtor**	**5.98**	**23**	P	**Pn**	**21 39 09.8**	**0.0**
	SNR=133						
DHRM	**DHARAMSHALA**	**6.07**	**136**	*e*P	**Pn**	**21 39 10.8**	**0.0**
DHRM				*e*S	**Sn**	**21 40 17.3**	**-1.7**
KZA	**Kyzart**	**6.11**	**28**	P	**Pn**	**21 39 11.5**	**0.0**
	SNR=128						
EKS2	**Erkin-Say**	**6.19**	**17**	*e*PN	**Pn**	**21 39 12.3**	**-0.1**
EKS2	**Erkin-Say**	**6.19**	**17**	P	**Pn**	**21 39 12.2**	**-0.1**
	SNR=228						
EKS2	**Erkin-Say**	**6.19**	**17**	*e*Pn	**Pn**	**21 39 12.2**	**-0.1**
EKS2				*e*Sn	**Sn**	**21 40 21.3**	**-0.4**
AAK	**Ala-Archa**	**6.35**	**21**	Pn	**Pn**	**21 39 14.0**	**-0.5**
	3µm,0.4s						
AAK	**Ala-Archa**	**6.35**	**21**	⇑P	**Pn**	**21 39 14.8**	**+0.4**
	109nm,0.4s						
AAK				⇓S	**Sn**	**21 40 25.3**	**-0.4**
	135nm,0.6s						
AAK	**Ala-Archa**	**6.35**	**21**	*e*PN	**Pn**	**21 39 15.2**	**+0.7**
AAK	**Ala-Archa**	**6.35**	**21**	P	**Pn**	**21 39 14.9**	**+0.4**
	SNR=380						
AAK	**Ala-Archa**	**6.35**	**21**	*e*Pn	**Pn**	**21 39 15.2**	**+0.7**
AAK				*e*Sn	**Sn**	**21 40 22.0**	**-3.7**
AAK				*e*Sn	Sn	21 40 22.8	-3.0
AAK	**Ala-Archa**	**6.35**	**21**	Pn	**Pn**	**21 39 14.9**	**+0.4**
	83nm,0.3s,baz=169,slow=5.8,SNR=875						
AAK				Sn	**Sn**	**21 40 25.4**	**-0.2**
	14nm,0.3s,baz=330,slow=21,SNR=7.2						
AAK				LR	LR	21 41 43.2	
	comp=Z,158nm,20.7s,baz=204,slow=38						
KK31	**Karatay Array**	**6.38**	**354**	⇓P	**Pn**	**21 39 13.0**	**-1.7**
	48nm,0.6s,baz=171,slow=12,SNR=860						
KK31				⇓S	Sn	21 40 19.8	-6.3
	93nm,0.5s,baz=185,slow=21,SNR=6.4						
KKAR	**Karatay Array**	**6.38**	**354**	*e*PN	**Pn**	**21 39 13.3**	**-1.5**
KKAR	**Karatay Array**	**6.38**	**354**	*e*Pn	**Pn**	**21 39 13.3**	**-1.5**
KKAR				*e*Sn	**Sn**	**21 40 22.9**	**-3.1**
KBK	**Karagaybulak**	**6.51**	**24**	P	**Pn**	**21 39 17.1**	**+0.4**
	SNR=50						
FRU	**Bishkek**	**6.57**	**21**	⇑*i*PN	**Pn**	**21 39 18.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,240nm,0.7s						
ULHL	**Ulahol**	**6.66**	**33**	P	**Pn**	**21 39 19.6**	**+0.8**
	SNR=49						
CHMS	**Chumysh**	**6.76**	**22**	P	**Pn**	**21 39 19.8**	**-0.1**
	SNR=318						
USP	**Ospenovka**	**6.94**	**19**	P	**Pn**	**21 39 22.0**	**-0.4**
	SNR=151						
TKM2	**Tokmak 2**	**6.97**	**27**	⇑P	**Pn**	**21 39 23.0**	**0.0**
	comp=Z,82nm,0.5s						
TKM2				⇑S	Sn	21 40 34.1	-6.6
	comp=Z,128nm,1.1s						
TKM2	**Tokmak 2**	**6.97**	**27**	*e*PN	**Pn**	**21 39 23.3**	**+0.4**
TKM2	**Tokmak 2**	**6.97**	**27**	P	**Pn**	**21 39 23.2**	**+0.2**
	SNR=270						
TKM2	**Tokmak 2**	**6.97**	**27**	*e*Pn	**Pn**	**21 39 23.3**	**+0.4**
SDNR	**Sundarnagar**	**7.01**	**137**	*e*P	**Pn**	**21 39 21.0**	**-2.4**
SDNR				*ex*	x	21 40 34.6	
KNDC	**Almaty**	**7.75**	**32**	⇓P	**Pn**	**21 39 35.0**	**+1.4**
	comp=Z,154nm,0.8s						
AAA	**Alma-Ata**	**7.79**	**32**	*i* PN	**Pn**	**21 39 35.1**	**+1.1**
AAA				pmax	pmax		
	comp=Z,300nm,0.8s						
DDI	**Dehra Dun**	**8.51**	**137**	*e*P	**Pn**	**21 39 42.5**	**-1.3**
DDI				*e*P	**Pn**	**21 39 43.1**	**-0.7**
DDI				*ex*	x	21 41 12.5	
DDI				*ex*	x	21 41 13.8	
NDI	**New Delhi**	**9.44**	**147**	*e*P	**Pn**	**21 39 55.0**	**-1.4**
NDI				*e*S	**Sn**	**21 41 38.0**	**-2.6**
LGTI	**Lohaghat**	**10.41**	**132**	*ex*	Pn	21 40 17.1	+7.5
LGTI				*ex*	**Sn**	**21 42 04.9**	**+0.5**
ABKT	**Ailbek**	**10.61**	**280**	Pn	Pn	21 40 05.6	-6.7
	comp=Z,1µm,0.4s,SNR=72						
MK01	**Makanchi Array**	**12.90**	**36**	*e*Pn	**Pn**	**21 40 41.9**	**-0.8**
MK31	**Makanchi Array**	**12.91**	**36**	P	**Pn**	**21 40 42.1**	**-0.7**
	comp=Z,14nm,0.7s,baz=228,slow=16,SNR=178						
MKAR	**Makanchi Array**	**12.91**	**36**	P	**Pn**	**21 40 41.6**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**12.91**	**36**	*e*Pn	**Pn**	**21 40 42.3**	**-0.5**
MKAR	**Makanchi Array**	**12.91**	**36**	Pn	**Pn**	**21 40 41.6**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=226,slow=14,SNR=164						
PYUN	**Piuthan**	**13.06**	**128**	*e*P	Pn	21 40 41.1	-4.0
	comp=Z,506nm,0.3s						
DANN	**Dangsing**	**13.39**	**125**	*e*P	Pn	21 40 45.2	-4.3
	comp=Z,268nm,0.3s						
BHJ	**Bhuj**	**13.54**	**187**	*e*P	Pn	21 40 47.8	-3.3
BHJ				AMB	AMB	21 40 51.1	
	comp=Z,26nm,0.5s						
KOLN	**Koldanda**	**13.68**	**127**	*e*P	Pn	21 40 49.3	-3.9
	comp=Z,142nm,0.3s						
GKN	**Gorkha**	**14.20**	**124**	*e*P	Pn	21 40 55.8	-4.0
	comp=Z,315nm,0.5s						
BHPL	**Bhopal**	**14.45**	**157**	*e*P	Pn	21 40 59.9	-3.0
BHPL				AMB	AMB	21 41 08.4	
	comp=Z,41nm,0.5s						
KKN	**Kakani**	**14.77**	**123**	*e*P	Pn	21 41 03.5	-3.6
	comp=Z,160nm,0.5s						
DMN	**Daman**	**14.77**	**124**	*e*P	Pn	21 41 03.0	-4.2
	comp=Z,120nm,0.4s						
KURBB	**Kurchatov Arra**	**14.79**	**18**	⇓P	Pn	21 41 02.6	-4.4
	comp=Z,17nm,0.6s						
KURBB	**Kurchatov Arra**	**14.79**	**18**	Pn	Pn	21 41 03.2	-3.7
	comp=Z,0.4nm,0.3s,baz=210,slow=12,SNR=22						
KURBB				Lg	Lg	21 45 20.1	
	comp=Z,0.2nm,0.3s,baz=226,slow=32,SNR=3.5						
KURK	**Kurchatov**	**14.90**	**18**	⇑P	Pn	21 41 02.6	-5.7
	comp=Z,12nm,1.3s						
KURK	**Kurchatov**	**14.90**	**18**	*e*P	**Pn**	**21 41 08.8**	**+0.4**
KURK	**Kurchatov**	**14.90**	**18**	*e*Pn	**Pn**	**21 41 08.8**	**+0.4**
KURK				Lg	Lg	21 45 20.1	
PKIN	**Phulchoki**	**14.99**	**124**	*e*P	Pn	21 41 06.5	-3.4
	comp=Z,105nm,0.3s						
PKI	**Pulchoki**	**15.00**	**124**	*e*P	Pn	21 41 06.6	-3.5
	comp=Z,73nm,0.3s						
AB31	**Akbulak array**	**15.01**	**330**	P	Pn	21 41 05.2	-4.5
	comp=Z,5.9nm,0.3s,baz=141,slow=12,SNR=444						
AB31				⇑S	Sn	21 43 41.1	-14
	comp=Z,13nm,0.5s,baz=149,slow=23,SNR=6.7						
ABKAR	**Akbulak array**	**15.01**	**330**	*e*Pn	Pn	21 41 05.2	-4.6
ABKAR				*e*Sn	Sn	21 43 37.5	-18
GUN	**Gumba**	**15.10**	**122**	*e*P	**Pn**	**21 41 07.7**	**-3.7**
	comp=Z,283nm,0.6s						
JIRN	**Jiri**	**15.47**	**122**	*e*P	**Pn**	**21 41 12.5**	**-3.6**
	comp=Z,192nm,0.3s						
VOSK	**Vostochnaya**	**15.97**	**359**	⇑P	**Pn**	**21 41 18.8**	**-3.0**
	comp=Z,8.7nm,0.7s						
BRVK	**Borovoye**	**16.32**	**358**	*e*P	**Pn**	**21 41 24.1**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,20nm,0.7s						
VOSK	**Vostochnaya**	**15.97**	**359**	*e*P	**Pn**	**21 41 19.1**	**-2.7**
VOSK				pmax	pmax		
	comp=Z,19nm,1.0s						
VOSK	**Vostochnaya**	**15.97**	**359**	*e*Pn	**Pn**	**21 41 19.1**	**-2.7**
	comp=Z,19nm,1.0s						
RAMN	**Ramite**	**16.20**	**123**	*e*P	**Pn**	**21 41 21.6**	**-3.5**
	comp=Z,133nm,0.4s						
BVA0	**Borovoye Array**	**16.28**	**358**	P	**Pn**	**21 41 23.4**	**-2.3**
	comp=Z,14nm,1.1s,baz=162,slow=12,SNR=127						
BVAR	**Borovoye Array**	**16.28**	**358**	P	**Pn**	**21 41 23.2**	**-2.5**
BVAR	**Borovoye Array**	**16.28**	**358**	Pn	**Pn**	**21 41 23.2**	**-2.5**
BVAR	**Borovoye Array**	**16.28**	**358**	Pn	**Pn**	**21 41 23.2**	**-2.5**
	comp=Z,1.8nm,0.3s,baz=162,slow=12,SNR=41						
BRVK	**Borovoye**	**16.32**	**358**	⇑P	**Pn**	**21 41 23.2**	**-2.9**
	comp=Z,38nm,1.2s						
BRVK	**Borovoye**	**16.32**	**358**	*e*P	**Pn**	**21 41 24.1**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,20nm,0.7s						
BRVK	**Borovoye**	**16.32**	**358**	*e*Pn	**Pn**	**21 41 24.1**	**-2.0**
	comp=Z,20nm,0.7s						
AKTO	**Aktyubinsk**	**16.71**	**329**	⇑P	**Pn**	**21 41 28.2**	**-2.7**
	comp=Z,41nm,0.7s						
AKTO				⇑S	Sn	21 44 19.5	-17
	comp=Z,41nm,0.8s						
AKTO	**Aktyubinsk**	**16.71**	**329**	P	**Pn**	**21 41 27.8**	**-3.1**
AKTO	**Aktyubinsk**	**16.71**	**329**	Pn	**Pn**	**21 41 27.8**	**-3.1**
AKTO				Sn	Sn	21 44 19.8	-17
AKTO	**Aktyubinsk**	**16.71**	**329**	Pn	**Pn**	**21 41 27.8**	**-3.1**
	comp=Z,4.0nm,0.3s,baz=142,slow=8.2,SNR=48						
AKTO				Sn	Sn	21 44 19.8	-17
	comp=Z,0.5nm,0.3s,baz=330,slow=3.9,SNR=4.9						
AKTO				LR	LR	21 48 25.9	
	comp=Z,77nm,20.3s,baz=159,slow=39						
TAPN	**Taplejung**	**16.71**	**119**	*e*P	**Pn**	**21 41 28.1**	**-3.3**
	comp=Z,281nm,0.7s						
ODAN	**Odare**	**16.80**	**121**	*e*P	**Pn**	**21 41 29.2**	**-3.2**
	comp=Z,275nm,0.8s						
UOSS	**Wadi Hilu**	**17.52**	**232**	P	**P**	**21 41 39.8**	**-0.8**
	comp=Z,236nm,0.6s,SNR=7.0						
NAZ	**Nazwa, Dubai**	**17.84**	**233**	*i* P	**P**	**21 41 44.7**	**+0.6**
	SNR=13						
LSA	**Lhasa**	**17.97**	**107**	*e*P	**P**	**21 41 46.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,35nm,0.6s						
LSA	**Lhasa**	**17.97**	**107**	*e*P	**P**	**21 41 46.5**	**+0.5**
	comp=Z,35nm,0.6s						
FAQ	**Al Faqa, Dubai**	**18.05**	**233**	*i* P	**P**	**21 41 46.9**	**+0.5**
	SNR=12						
POO	**Poona**	**18.29**	**172**	*e*P	**P**	**21 41 49.3**	**+0.2**
POO				AMB	AMB	21 41 55.5	
	comp=Z,18nm,0.0s						
ASUD	**Al Ashush, Dub**	**18.31**	**233**	*i* P	**P**	**21 41 49.9**	**+0.7**
	SNR=21						
ZAA0	**Zalesovo Array**	**19.56**	**24**	*e*P	**P**	**21 42 02.4**	**-0.2**
ZALV	**Zalesovo Beam**	**19.56**	**24**	P	**P**	**21 42 02.0**	**-0.6**
ZALV	**Zalesovo Beam**	**19.56**	**24**	P	**P**	**21 42 02.0**	**-0.6**
ZALV	**Zalesovo Beam**	**19.56**	**24**	P	**P**	**21 42 02.0**	**-0.6**
	comp=Z,5.2nm,0.3s,baz=212,slow=10,SNR=92						
NVS	**Novosibirsk**	**19.84**	**21**	*e*P	**P**	**21 42 04.3**	**-1.3**
NVS				*e*S	**S**	**21 45 43.9**	**+0.8**
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				smax	smax		
	comp=N,14nm,1.6s						
NVS				smax	smax		
	comp=E,7.0nm,1.1s						
HYB	**Hyderabad**	**20.29**	**160**	*e*P	**P**	**21 42 11.0**	**+0.3**
HYB				*e*S	Sn	21 46 17.0	+14
HYB	**Hyderabad**	**20.29**	**160**	⇑*i*P	**P**	**21 42 11.0**	**+0.3**
HYB	**Hyderabad**	**20.29**	**160**	*e*P	**P**	**21 42 11.1**	**+0.3**
HYB	**Hyderabad**	**20.29**	**160**	*e*P	**P**	**21 42 11.0**	**+0.3**
HYB				*e*S	Sn	21 46 17.0	+14
DGRG	**David-gareji**	**20.67**	**291**	P	**P**	**21 42 15.9**	**+1.2**
SHL	**Shillong**	**20.76**	**117**	*e*P	**P**	**21 42 16.0**	**0.0**
GNI	**Garni**	**21.09**	**287**	*e*P	**P**	**21 42 19.4**	**0.0**
	comp=E,64nm,0.9s						
GNI	**Garni**	**21.09**	**287**	P	**P**	**21 42 19.6**	**+0.2**
	comp=E,43nm,0.6s,baz=343,slow=1.1,SNR=34						
GNI	**Garni**	**21.09**	**287**	*i* P	**P**	**21 42 21.3**	**+1.9**
	SNR=13						
TBLG	**Delisi**	**21.17**	**292**	P	**P**	**21 42 20.2**	**+0.1**
GOA	**Goa**	**21.29**	**173**	*e*P	**P**	**21 42 22.7**	**+1.2**
SVE	**Sverdlovsk**	**21.33**	**344**	*e*P	**P**	**21 42 21.5**	**-0.1**
SVE				pmax	pmax		
	comp=Z,21nm,0.6s						
GUDG	**Gudauri**	**21.44**	**294**	P	**P**	**21 42 24.1**	**+0.9**
ARU	**Arti**	**21.49**	**340**	P	**P**	**21 42 23.3**	**0.0**
	comp=Z,176nm,0.5s,SNR=10						
ARU	**Arti**	**21.49**	**340**	*d i*P	**P**	**21 42 22.8**	**-0.5**
ARU				S	**S**	**21 46 17.0**	**+1.7**
ARU				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	**Arti**	**21.49**	**340**	*e*P	**P**	**21 42 23.0**	**-0.2**
	comp=Z,44nm,1.1s						
ZEI	**Tsey**	**21.90**	**294**	*e*P	**P**	**21 42 26.2**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,21nm,0.9s						
ONI	**Oni**	**22.20**	**294**	P	**P**	**21 42 32.1**	**+1.0**
KBZ	**Khabaz**	**22.74**	**297**	P	**P**	**21 42 35.2**	**-1.3**
KBZ	**Khabaz**	**22.74**	**297**	P	**P**	**21 42 35.2**	**-1.3**
KBZ	**Khabaz**	**22.74**	**297**	P	**P**	**21 42 35.2**	**-1.3**
	comp=Z,11nm,0.8s,baz=119,slow=7.7,SNR=22						
KBZ				LR	LR	21 53 13.5	
	comp=Z,56nm,18.2s,baz=136,slow=41						
GOF	**Gofitskoye**	**22.87**	**300**	⇑*i*P	**P**	**21 42 37.9**	**+0.2**
GOF				pmax	pmax		
	comp=Z,24nm,0.8s						
KIV	**Kislovodsk**	**22.93**	**297**	P	**P**	**21 42 37.6**	**-0.8**
	comp=Z,104nm,0.5s,SNR=5.1						
KIV	**Kislovodsk**	**22.93**	**297**	*e*P	**P**	**21 42 37.6**	**-0.8**
KIV				pmax	pmax		
	comp=Z,28nm,0.7s						
KIV	**Kislovodsk**	**22.93**	**297**	*e*P	**P**	**21 42 37.5**	**-0.8**
	comp=Z,28nm,0.7s						
CHVG	**Ch'k'valeri**	**23.22**	**294**	P	**P**	**21 42 44.5**	**+3.5**
VRHR	**Novokhopersk**	**25.56**	**314**	*e*P	**P**	**21 43 00.5**	**-1.6**
VRHR				pmax	pmax		
	comp=N,5.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD	**Divnogorie**	**26.88**	**312**	*e*P	**P**	**21 43 15.5**	**+1.4**
VORD				pmax	pmax		
	comp=N,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VSR	**Storozhevoye**	**27.04**	**313**	*e*P	**P**	**21 43 14.8**	**-0.7**
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TLY	**Talaya**	**27.25**	**47**	*e*P	**P**	**21 43 16.3**	**-1.1**
TLY				pmax	pmax		
	comp=Z,49nm,2.0s						
TLY	**Talaya**	**27.25**	**47**	*e*P	**P**	**21 43 16.3**	**-1.1**
	comp=Z,49nm,2.0s						
SONM	**Songino Array**	**27.95**	**56**	P	**P**	**21 43 24.8**	**+1.0**
SONM	**Songino Array**	**27.95**	**56**	P	**P**	**21 43 24.8**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=271,slow=8.8,SNR=10						
SONA1	**Songino Array**	**27.96**	**56**	*e*P	**P**	**21 43 26.4**	**+2.5**
ULN	**Ulaanbaatar**	**28.39**	**56**	*e*P	**P**	**21 43 30.2**	**+2.4**
	comp=Z,8.1nm,1.0s						
MMAI	**Mount Meron Ar**	**29.62**	**274**	P	**P**	**21 43 39.5**	**+0.7**
MMAI	**Mount Meron Ar**	**29.62**	**274**	P	**P**	**21 43 39.5**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=60,slow=9.0,SNR=4.5						
BRTR	**Keskin Array B**	**29.63**	**287**	P	**P**	**21 43 39.8**	**+0.9**
BRTR	**Keskin Array B**	**29.63**	**287**	P	**P**	**21 43 39.8**	**+0.9**
	comp=Z,11nm,0.6s,baz=102,slow=9.2,SNR=80						
OBN	**Obninsk**	**29.93**	**319**	LR	LR	21 56 53.8	
	comp=Z,64nm,20.9s,baz=89,slow=39						
BR231	**Keskin MP Arra**	**30.28**	**288**	*e*P	P	21 43 40.6	-4.0
CMAR	**Chiang Mai Arr**	**30.32**	**119**	P	**P**	**21 43 44.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.32**	**119**	P	**P**	**21 43 44.0**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=302,slow=8.9,SNR=7.4						
EIL	**Elat**	**31.13**	**268**	P	**P**	**21 43 53.5**	**+1.5**
EIL	**Elat**	**31.13**	**268**	P	**P**	**21 43 53.5**	**+1.5**
	comp=Z,9.7nm,1.0s,baz=82,slow=7.7,SNR=4.9						
AKASG	**Malin Array Be**	**33.01**	**308**	P	**P**	**21 44 08.2**	**0.0**
AKASG	**Malin Array Be**	**33.01**	**308**	P	**P**	**21 44 08.2**	**0.0**
AKASG	**Malin Array Be**	**33.01**	**308**	P	**P**	**21 44 08.2**	**0.0**
	comp=Z,3.5nm,0.5s,baz=81,slow=7.3,SNR=41						
KIEV	**Kiev**	**33.02**	**308**	*e*P	**P**	**21 44 08.0**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIEV	**Kiev**	**33.02**	**308**	*e*P	**P**	**21 44 08.0**	**-0.3**
	comp=Z,7.7nm,0.6s						
AK11	**Malin Array Si**	**33.05**	**308**	*e*P	**P**	**21 44 07.7**	**-0.8**
TIRR	**Tirgusor**	**33.19**	**297**	*e*P	**P**	**21 44 09.5**	**-0.3**
TIRR				pmax	pmax		
	comp=Z,56nm,1.9s						
TIRR	**Tirgusor**	**33.19**	**297**	*e*P	**P**	**21 44 09.5**	**-0.3**
	comp=Z,56nm,1.9s						
**

	comp=Z,7.6nm,0.7s							
KEV	**Kevo**	**40.67**	**338**	*e*P		**P**	**21 45 13.4**	**+0.6**
KEV				pmax		pmax		
	comp=Z,210nm,2.4s							
KEV	**Kevo**	**40.67**	**338**	*ep*		**P**	**21 45 13.4**	**+0.6**
	comp=Z,3.4nm,0.4s							
KEV	**Kevo**	**40.67**	**338**	*e*P		**P**	**21 45 13.4**	**+0.6**
	comp=Z,210nm,2.4s							
KRLC	**Kraliky**	**40.93**	**307**⇑	*e*P		**P**	**21 45 15.9**	**+0.7**
KRLC				*ex*		x	21 45 23.0	
ARA0	**ARCESS Array S**	**41.02**	**337**	*e*P		**P**	**21 45 16.3**	**+0.6**
ARCES	**ARCESS Array B**	**41.02**	**337**	P		**P**	**21 45 16.6**	**+0.9**
ARCES	**ARCESS Array B**	**41.02**	**337**	P		**P**	**21 45 16.6**	**+0.9**
	comp=Z,6.4nm,0.4s,baz=112,slow=8.0,SNR=109							
VRAC	**Vranov**	**41.09**	**306**⇓	*i*P		**P**	**21 45 18.1**	**+1.6**
VRAC	**Vranov**	**41.09**	**306**	P		**P**	**21 45 17.7**	**+1.2**
VRAC	**Vranov**	**41.09**	**306**	P		**P**	**21 45 17.7**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=89,slow=8.3,SNR=11							
DPC	**Dobruska-Polom**	**41.21**	**307**	*e*P		**P**	**21 45 18.2**	**+0.6**
DPC				pmax		pmax		
	comp=Z,30nm,0.8s							
DPC	**Dobruska-Polom**	**41.21**	**307**⇑	*i*P		**P**	**21 45 18.6**	**+1.1**
DPC	**Dobruska-Polom**	**41.21**	**307**	*e*P		**P**	**21 45 18.2**	**+0.6**
	comp=Z,30nm,0.8s							
UPC	**Upice**	**41.40**	**307**⇑	*e*P		**P**	**21 45 19.5**	**+0.4**
CONA	**Conrad Observa**	**41.68**	**304**	P		**P**	**21 45 22.5**	**+1.0**
	comp=Z,13nm,1.0s,SNR=8.9							
TREC	**Trest**	**41.81**	**306**⇑	*e*P		**P**	**21 45 23.7**	**+1.3**
IPM	**Ipoh**	**42.10**	**133**	*e*P		**P**	**21 45 25.6**	**+0.5**
	comp=Z,12nm,0.9s							
PSI	**Prapat**	**42.26**	**137**	P		**P**	**21 45 26.8**	**+0.2**
PSI	**Prapat**	**42.26**	**137**	P		**P**	**21 45 26.8**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=342,slow=9.6,SNR=3.3							
PERS	**Pernice**	**42.33**	**302**	*i*P		**P**	**21 45 27.7**	**+0.9**
PRU	**Pruhonice**	**42.37**	**307**⇑	*i*P		**P**	**21 45 28.0**	**+1.0**
SOKA	**Soboth**	**42.38**	**302**	P		**P**	**21 45 28.2**	**+1.0**
	comp=Z,10nm,0.8s,SNR=9.1							
BOJS	**Bojanci**	**42.39**	**300**	*i*P		**P**	**21 45 29.0**	**+1.8**
TIP	**Timpagrande**	**42.57**	**291**	*e*P		**P**	**21 45 28.6**	**-0.2**
	comp=Z,53nm,1.9s							
BRG	**Berggiesshubel**	**42.70**	**308**	*e*P		**P**	**21 45 30.4**	**+0.8**
	comp=Z,6.7nm,0.6s							
BRG				*e*			21 45 37.0	
	comp=Z,8.1nm,1.1s							
BRG	**Berggiesshubel**	**42.70**	**308**	*e*P		**P**	**21 45 30.4**	**+0.8**
GSI	**Gunungsitoli**	**42.79**	**139**	*e*P		**P**	**21 45 32.5**	**+1.8**
	comp=Z,23nm,1.1s							
GERES	**GERESS Array B**	**43.02**	**305**	P		**P**	**21 45 33.0**	**+0.7**
GERES	**GERESS Array B**	**43.02**	**305**	P		**P**	**21 45 33.0**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=87,slow=6.8,SNR=12							
HFS	**Hagfors**	**43.05**	**322**	P		**P**	**21 45 32.5**	**+0.3**
HFS	**Hagfors**	**43.05**	**322**	P		**P**	**21 45 32.5**	**+0.3**
	comp=Z,12nm,0.6s,baz=96,slow=12,SNR=33							
KHC	**Kasperske Hory**	**43.07**	**306**	*e*P		**P**	**21 45 33.3**	**+0.6**
KHC				pmax		pmax		
	comp=Z,68nm,2.8s							
KHC	**Kasperske Hory**	**43.07**	**306**⇑	*e*P		**P**	**21 45 33.9**	**+1.2**
KHC	**Kasperske Hory**	**43.07**	**306**	*e*P		**P**	**21 45 33.3**	**+0.6**
	comp=Z,68nm,2.8s							
CUC	**Castrocucco**	**43.07**	**292**	*e*P		**P**	**21 45 33.9**	**+1.1**
	comp=Z,29nm,0.8s							
CLL	**Collm**	**43.26**	**309**	*e*P		**P**	**21 45 34.0**	**-0.1**
CLL				*es*P		**sP**	**21 46 11.0**	**+0.4**
NB2	**NORSAR Subarra**	**44.35**	**323**	P		**P**	**21 45 42.5**	**-0.3**
	comp=Z,7.1nm,0.4s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**21 45 42.8**	**+0.1**
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**21 45 42.8**	**+0.1**
	comp=Z,6.7nm,0.5s,baz=99,slow=7.9,SNR=23							
KSAR	**Wonju Array Be**	**44.50**	**71**	P		**P**	**21 45 46.1**	**+2.0**
KSRS	**Korea Array**	**44.52**	**71**	P		**P**	**21 45 46.1**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=274,slow=6.6,SNR=4.6							
KSRS				LR		LR	22 07 03.5	
	comp=Z,95nm,18.6s,baz=189,slow=40							
NBO02	**NORSAR Array S**	**44.53**	**323**	*e*P		**P**	**21 45 43.9**	**-0.2**
KONO	**Kongsberg**	**45.07**	**321**	*e*P		**P**	**21 45 48.1**	**-0.3**
KONO				pmax		pmax		
	comp=Z,298nm,2.3s							
KONO	**Kongsberg**	**45.07**	**321**	*e*P		**P**	**21 45 48.1**	**-0.3**
	comp=Z,298nm,2.3s							
FETA	**Feichten**	**45.25**	**303**	P		**P**	**21 45 50.1**	**-0.1**
	comp=Z,9.9nm,1.2s							
TIXI	**Tiksi**	**45.43**	**22**	*e*P		**P**	**21 45 52.2**	**+1.1**
TIXI				pmax		pmax		
	comp=Z,15nm,1.2s							
TIXI	**Tiksi**	**45.43**	**22**	*e*P		**P**	**21 45 52.2**	**+1.1**
	comp=Z,15nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**45.64**	**302**	*e*P		**P**	**21 45 53.4**	**0.0**
	comp=Z,25nm,1.6s							
DAVA	**Damuels**	**45.78**	**303**	P		**P**	**21 45 54.6**	**+0.2**
	comp=Z,11nm,0.5s							
DAVOX	**Davos/Dischmat**	**45.87**	**303**	P		**P**	**21 45 55.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**45.87**	**303**	P		**P**	**21 45 55.0**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=304,slow=20,SNR=14							
MYKOM	**Kota Tinggi**	**45.92**	**132**	*e*P		**P**	**21 45 57.5**	**+1.8**
	comp=Z,201nm,2.6s							
VLC	**Villacollemand**	**46.05**	**299**	*e*P		**P**	**21 45 56.8**	**+0.5**
	comp=Z,84nm,1.5s							
BFO	**Black Forest**	**46.62**	**305**	*e*P		**P**	**21 46 01.4**	**+0.6**
BFO				pmax		pmax		
	comp=Z,82nm,2.5s							
BFO	**Black Forest**	**46.62**	**305**	*e*P		**P**	**21 46 01.4**	**+0.6**
	comp=Z,82nm,2.5s							
CDF	**Champ du Feu**	**47.30**	**305**	*e*P		**P**	**21 46 06.3**	**+0.1**
	comp=Z,7.3nm,0.8s							
CDF	**Champ du Feu**	**47.30**	**305**	*e*P		**P**	**21 46 06.3**	**+0.1**
CDF	**Champ du Feu**	**47.30**	**305**	*e*P		**P**	**21 46 06.3**	**+0.1**
SPITS	**Spitsbergen Ar**	**47.31**	**347**	P		**P**	**21 46 07.1**	**+1.3**
SPITS	**Spitsbergen Ar**	**47.31**	**347**	P		**P**	**21 46 07.1**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=111,slow=7.9,SNR=9.5							
PGF	**Pioggiola**	**47.41**	**297**	*e*P		**P**	**21 46 07.2**	**+0.1**
HINF	**Hinteralfeld**	**47.69**	**305**	*e*P		**P**	**21 46 09.4**	**+0.3**
	comp=Z,6.6nm,0.5s							
SENIN	**Lac Senin/Sane**	**47.69**	**303**	*e*P		**P**	**21 46 09.4**	**0.0**
HAU	**Haudompre**	**47.99**	**305**	*e*P		**P**	**21 46 11.7**	**+0.3**
	comp=Z,4.6nm,0.4s							
SBF	**Sospel**	**48.18**	**299**	*e*P		**P**	**21 46 13.8**	**+0.8**
SBF	**Sospel**	**48.18**	**299**	*e*P		**P**	**21 46 13.8**	**+0.8**
SBF	**Sospel**	**48.18**	**299**	*e*P		**P**	**21 46 13.8**	**+0.8**
JNU	**Nakatsue**	**48.25**	**76**	P		**P**	**21 46 15.2**	**+1.5**
JNU	**Nakatsue**	**48.25**	**76**	P		**P**	**21 46 15.2**	**+1.5**
	comp=Z,5.9nm,0.9s,baz=326,slow=3.6,SNR=3.0							
LPG	**La Plagne**	**48.26**	**302**	*e*P		**P**	**21 46 14.4**	**+0.5**
LPL	**La Plagne**	**48.27**	**302**	*e*P		**P**	**21 46 14.5**	**+0.7**
PAGF	**Fort de Pagny**	**48.29**	**306**	*e*P		**P**	**21 46 14.7**	**+1.1**
	comp=Z,3.2nm,0.5s							
BNI	**Bardonecchia**	**48.42**	**301**	*e*P		**P**	**21 46 13.6**	**-1.3**
	comp=Z,113nm,2.3s							
MBDF	**Montbardon**	**48.43**	**301**	*e*P		**P**	**21 46 15.9**	**+0.9**
	comp=Z,24nm,0.9s							
CABF	**La Chapelle**	**48.46**	**303**	*e*P		**P**	**21 46 16.1**	**+1.0**
	comp=Z,13nm,0.6s							
CABF	**La Chapelle**	**48.46**	**303**	*e*P		**P**	**21 46 16.1**	**+1.0**
CABF	**La Chapelle**	**48.46**	**303**	*e*P		**P**	**21 46 16.1**	**+1.0**
MEZF	**Maizieres J'vi**	**48.73**	**306**	*e*P		**P**	**21 46 18.0**	**+0.9**
SFTF	**Sexfontaines**	**48.80**	**305**	*e*P		**P**	**21 46 18.2**	**+0.6**
BAIF	**Baives**	**48.97**	**308**	*e*P		**P**	**21 46 19.9**	**+1.1**
KMBO	**Kilima Mbogo**	**49.22**	**228**	*e*P		**P**	**21 46 22.1**	**+0.7**
	comp=Z,3.8nm,0.7s							
KMBO	**Kilima Mbogo**	**49.22**	**228**	P		**P**	**21 46 22.3**	**+0.9**
	comp=Z,3.6nm,0.6s,baz=40,slow=13,SNR=15							
KEST	**Kesra**	**49.23**	**288**	*e*P		**P**	**21 46 22.0**	**+0.9**
KEST	**Kesra**	**49.23**	**288**	P		**P**	**21 46 22.2**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=336,slow=1.6,SNR=16							
LOR	**Lormes**	**49.79**	**305**	*e*P		**P**	**21 46 25.1**	**-0.1**
LOR	**Lormes**	**49.79**	**305**	*e*P		**P**	**21 46 25.1**	**-0.1**
VIVF	**Saint-Julien-l**	**49.84**	**301**	*e*P		**P**	**21 46 26.1**	**+0.5**
	comp=Z,13nm,0.8s							
VIVF	**Saint-Julien-l**	**49.84**	**301**	*e*P		**P**	**21 46 26.1**	**+0.5**
VIVF	**Saint-Julien-l**	**49.84**	**301**	*e*P		**P**	**21 46 26.1**	**+0.5**
SMF	**Signal de Mont**	**49.95**	**304**	*e*P		**P**	**21 46 26.7**	**+0.3**
	comp=Z,11nm,0.5s							
SSF	**Saint Saulge**	**50.08**	**304**	*e*P		**P**	**21 46 27.4**	**+0.1**
HYF	**Humbligny**	**50.60**	**305**	*e*P		**P**	**21 46 32.0**	**+0.8**
LASF	**Ste Croix**	**50.62**	**301**	*e*P		**P**	**21 46 32.4**	**+0.9**
	comp=Z,32nm,0.9s							
BGF	**Bois d'Agland**	**50.64**	**304**	*e*P		**P**	**21 46 31.7**	**+0.1**
	comp=Z,12nm,0.8s							
TCF	**Toulx Ste Croi**	**51.13**	**304**	*e*P		**P**	**21 46 36.0**	**+0.7**
	comp=Z,11nm,0.6s							
CAF	**Calviac**	**51.61**	**302**	*e*P		**P**	**21 46 39.7**	**+0.8**
	comp=Z,12nm,0.8s							
RJF	**Les Rejaudoux**	**51.87**	**303**	*e*P		**P**	**21 46 41.7**	**+0.9**
MTLF	**Montolieu**	**51.97**	**300**	*e*P		**P**	**21 46 42.1**	**+0.6**
	comp=Z,22nm,0.9s							
MTLF	**Montolieu**	**51.97**	**300**	*e*P		**P**	**21 46 42.1**	**+0.6**
MTLF	**Montolieu**	**51.97**	**300**	*e*P		**P**	**21 46 42.1**	**+0.6**
LDF	**La Druitiere**	**52.06**	**307**	*e*P		**P**	**21 46 42.1**	**0.0**
	comp=Z,8.3nm,0.5s							
LDF	**La Druitiere**	**52.06**	**307**	*e*P		**P**	**21 46 42.1**	**0.0**
LDF	**La Druitiere**	**52.06**	**307**	*e*P		**P**	**21 46 42.1**	**0.0**
FLN	**La Foliniere**	**52.24**	**307**	*e*P		**P**	**21 46 43.5**	**+0.1**
LFF	**La Frestale**	**52.50**	**302**	*e*P		**P**	**21 46 46.2**	**+0.8**
	comp=Z,16nm,0.6s							
GRR	**Gorron**	**52.58**	**307**	*e*P		**P**	**21 46 46.0**	**0.0**
	comp=Z,29nm,0.8s							
MFF	**Saint Martin d**	**52.61**	**305**	*e*P		**P**	**21 46 46.2**	**0.0**
	comp=Z,9.6nm,0.7s							
EPF	**Esparros**	**53.37**	**300**	*e*P		**P**	**21 46 51.6**	**-0.3**
	comp=Z,10nm,0.7s							
EPF	**Esparros**	**53.37**	**300**	*e*P		**P**	**21 46 51.6**	**-0.3**
EPF	**Esparros**	**53.37**	**300**	*e*P		**P**	**21 46 51.6**	**-0.3**
SGMF	**Saint Gilles**	**53.71**	**307**	*e*P		**P**	**21 46 54.6**	**+0.4**
	comp=Z,12nm,0.6s							
SGMF	**Saint Gilles**	**53.71**	**307**	*e*P		**P**	**21 46 54.6**	**+0.4**
SGMF	**Saint Gilles**	**53.71**	**307**	*e*P		**P**	**21 46 54.6**	**+0.4**
ETSF	**Etsaut**	**54.04**	**300**	*e*P		**P**	**21 46 57.6**	**+0.8**
	comp=Z,26nm,0.5s							
ETSF	**Etsaut**	**54.04**	**300**	*e*P		**P**	**21 46 57.6**	**+0.8**
ETSF	**Etsaut**	**54.04**	**300**	*e*P		**P**	**21 46 57.6**	**+0.8**
ROSF	**Rostrenen**	**54.14**	**307**	*e*P		**P**	**21 46 57.7**	**+0.3**
QUIF	**Quistinic**	**54.20**	**307**	*e*P		**P**	**21 46 57.8**	**0.0**
QUIF	**Quistinic**	**54.20**	**307**	*e*P		**P**	**21 46 57.8**	**0.0**
QUIF	**Quistinic**	**54.20**	**307**	*e*P		**P**	**21 46 57.8**	**0.0**
DAG	**Danmarks Havn**	**54.57**	**344**	*i*P		**P**	**21 47 00.9**	**+0.9**
DAG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
DAG	**Danmarks Havn**	**54.57**	**344**	*i*P		**P**	**21 47 00.9**	**+0.9**
	comp=Z,4.8nm,0.8s							
ES19	**SONSECA Array**	**57.54**	**298**	*e*P		**P**	**21 47 22.4**	**+0.6**
ESDC	**Sonseca Array**	**57.59**	**298**	P		**P**	**21 47 22.6**	**+0.4**
ESDC	**Sonseca Array**	**57.59**	**298**	P		**P**	**21 47 22.6**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=55,slow=7.7,SNR=58							
PAB	**San Pablo**	**57.92**	**298**	*e*P		**P**	**21 47 24.5**	**0.0**
PAB				pmax		pmax		
	comp=Z,31nm,1.5s							
PAB	**San Pablo**	**57.92**	**298**	*e*P		**P**	**21 47 24.5**	**0.0**
	comp=Z,31nm,1.5s							
MTE	**Manteigas**	**59.82**	**300**	*e*P		**P**	**21 47 38.9**	**+1.2**
	comp=Z,22nm,1.0s							
MTE	**Manteigas**	**59.82**	**300**	*e*P		**P**	**21 47 38.2**	**+0.6**
	comp=Z,233nm,2.5s							
PVIS	**Viseu**	**59.94**	**300**	*e*P		**P**	**21 47 38.9**	**+0.5**
	comp=Z,32nm,2.1s							
PMRV	**Marv??o**	**60.12**	**299**	*e*P		**P**	**21 47 40.2**	**+0.6**
	comp=Z,26nm,1.4s							
PESTR	**Estremoz**	**60.49**	**298**	*e*P		**P**	**21 47 42.8**	**+0.6**
	comp=Z,19nm,1.4s							
PTOM	**Tomar**	**60.75**	**299**	*e*P		**P**	**21 47 44.0**	**+0.1**
	comp=Z,33nm,1.6s							
SUMG	**Summit**	**60.91**	**341**	*e*P		**P**	**21 47 45.5**	**+0.5**
SUMG				pmax		pmax		
	comp=Z,241nm,2.9s							
SUMG	**Summit**	**60.91**	**341**	*i*P		**P**	**21 47 46.9**	**+1.9**
	comp=Z,5.8nm,0.7s							
SUMG	**Summit**	**60.91**	**341**	*e*P		**P**	**21 47 45.5**	**+0.5**
	comp=Z,241nm,2.9s							
EVO	**Evora**	**60.94**	**298**	*e*P		**P**	**21 47 46.1**	**+0.9**
	comp=Z,21nm,1.4s							
PBEJ	**Beja**	**61.05**	**298**	*e*P		**P**	**21 47 46.8**	**+0.8**
	comp=Z,17nm,1.9s							
PVAQ	**Vaqueiros**	**61.21**	**297**	*e*P		**P**	**21 47 47.6**	**+0.5**
	comp=Z,20nm,1.3s							
PBDV	**Barranco-do-Ve**	**61.44**	**297**	*e*P		**P**	**21 47 49.8**	**+1.2**
	comp=Z,23nm,1.4s							
PNCL	**Nicolau / Gran**	**61.48**	**298**	*e*P		**P**	**21 47 50.1**	**+1.2**
	comp=Z,18nm,1.9s							
PMAFR	**Mafra**	**61.65**	**299**	*e*P		**P**	**21 47 50.7**	**+0.7**
	comp=Z,74nm,1.5s							
LSZ	**Lusaka**	**65.84**	**226**	*e*P		**P**	**21 48 18.1**	**+0.3**
	comp=Z,33nm,1.1s							
TOA0	**Torodi Ar. Sit**	**66.01**	**269**	*e*P		**P**	**21 48 17.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P		**P**	**21 48 17.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P		**P**	**21 48 17.4**	**-1.5**
	comp=Z,7.4nm,0.5s,baz=48,slow=6.0,SNR=197							
INK	**Inuvik**	**73.61**	**9**	*e*P		**P**	**21 49 06.1**	**+1.5**
	comp=Z,35nm,2.0s							
INK	**Inuvik**	**73.61**	**9**	P		**P**	**21 49 05.6**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=328,slow=5.5,SNR=7.8							
ILAR	**Eielson Array**	**74.45**	**16**	P		**P**	**21 49 10.6**	**+1.0**
ILAR	**Eielson Array**	**74.45**	**16**	P		**P**	**21 49 10.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=316,slow=4.5,SNR=3.1							
KTH	**Kantishna Hill**	**74.53**	**18**	*e*P		**P**	**21 49 11.2**	**+1.1**
	comp=Z,9.2nm,1.1s							
PPLA	**Purkeypile**	**74.75**	**19**	*e*P		**P**	**21 49 11.7**	**+0.2**
	comp=Z,66nm,2.1s							
MCK	**McKinley**	**74.87**	**17**	*e*P		**P**	**21 49 13.5**	**+1.5**
MCK				pmax		pmax		
	comp=Z,92nm,2.5s							
MCK	**McKinley**	**74.87**	**17**	*e*P		**P**	**21 49 13.5**	**+1.5**
	comp=Z,92nm,2.5s							
DBIC	**Dimbokro**	**75.00**	**267**	*e*P		**P**	**21 49 12.0**	**-1.6**
	comp=Z,14nm,1.4s							
DBIC	**Dimbokro**	**75.00**	**267**	P		**P**	**21 49 12.0**	**-1.6**
	comp=Z,3.8nm,0.7s,baz=14,slow=8.6,SNR=4.7							
LBTB	**Lobatse**	**75.06**	**222**	*e*P		**P**	**21 49 14.0**	**+0.3**
	comp=Z,72nm,2.0s							
KIC	**Kean Boka**	**75.09**	**267**	*e*P		**P**	**21 49 12.6**	**-1.5**
	comp=Z,23nm,1.1s							
TIC	**Toumodi**	**75.15**	**267**	*e*P		**P**	**21 49 12.4**	**-2.0**
	comp=Z,4.3nm,0.3s							
TSUM	**Tsumeb**	**75.30**	**232**	*e*P		**P**	**21 49 15.3**	**+0.1**
	comp=Z,24nm,1.8s							
LIC	**Lamto**	**75.40**	**267**	*e*P		**P**	**21 49 14.1**	**-1.7**
	comp=Z,16nm,0.8s							
PAX	**Paxson**	**76.33**	**16**	*e*P		**P**	**21 49 20.7**	**+0.2**
PAX				pmax		pmax		
	comp=Z,117nm,3.0s							
PAX	**Paxson**	**76.33**	**16**	*e*P		**P**	**21 49 20.7**	**+0.2**
	comp=Z,117nm,3.0s							
BOSA	**Boshof**	**78.13**	**220**	*e*P		**P**	**21 49 30.4**	**-0.5**
	comp=Z,47nm,1.7s							
BOSA	**Boshof**	**78.13**	**220**	P		**P**	**21 49 30.6**	**-0.3**
	comp=Z,2.7nm,0.4s,baz=32,slow=2.8,SNR=13							
YKA	**Yellowknife Ar**	**80.98**	**3**	P		**P**	**21 49 47.2**	**+1.4**
YKA	**Yellowknife Ar**	**80.98**	**3**	P		**P**	**21 49 47.2**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=350,slow=5.4,SNR=12							
YKB5	**Yellowknife Ar**	**80.98**	**3**	*e*P		**P**	**21 49 46.4**	**+0.6**
WRA	**Warramunga Arr**	**81.88**	**122**	P		**P**	**21 49 50.6**	**-0.6**
WRA	**Warramunga Arr**	**81.88**	**122**	P		**P**	**21 49 50.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=324,slow=4.9,SNR=25							
WRAB	**Tennant Creek**	**81.88**	**122**	*e*P		**P**	**21 49 50.5**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,200nm,2.9s							
WRAB	**Tennant Creek**	**81.88**	**122**	*e*P		**P**	**21 49 50.5**	**-0.7**
	comp=Z,200nm,2.9s							
SCHQ	**Schefferville**	**81.97**	**337**	*e*P		**P**	**21 49 52.3**	**+1.1**
	comp=Z,474nm,3.0s							
ASAR	**Alice Springs**	**84.16**	**125**	P		**P**	**21 50 02.5**	**-0.4**
ASAR	**Alice Springs**	**84.16**	**125**	P		**P**	**21 50 02.5**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=309,slow=5.2,SNR=12							
AS01	**Alice Springs**	**84.19**	**125**	*e*P		**P**	**21 50 03.0**	**-0.1**
CHMT	**Chamberlain Mo**	**96.61**	**3**	*e*P		**P**	**21 50 59.3**	**-2.2**
ROSC	**El Rosal**	**127.66**	**315**	PKP		**PKPdf**	**21 56 37.6**	**+0.3**
ROSC	**El Rosal**	**127.66**	**315**	PKP		**PKPdf**	**21 56 37.6**	**+0.3**
	comp=Z,43nm,0.8s,baz=67,slow=3.1,SNR=20							

IDC ***30*** *22:31:53.7±0.8, 36°.21N×68°.54E, h0km, mb3.9/17, mb1 4.1/22, mb1mx3.9/48, mbtmp4.0/22, ML4.0/5, MS3.3/15, Ms1 3.4/15, ms1mx3.1/38, Error ellipse: s-maj=18.4km s-min=13.3km az=156.0*

ISCJB ***30*** *22:31:56.4±0.3, 36°.43N±0°.03×68°.51E±0°.04, h24km, mb3.9/28, MS3.5/12, Error ellipse: s-maj=5.2km s-min=4.1km az=149.7*

MOS ***30*** *22:31:58.1±1.3, 36°.46N×68°.47E, h33km, mb4.2/27, Error ellipse: s-maj=10.0km s-min=5.3km az=72.7*

NNC ***30*** *22:32:01.2±5.4, 36°.54N×68°.36E, h112km±65km, mb3.9, mpv4.4, Error ellipse: s-maj=40.9km s-min=32.2km az=6.0*

BJI ***30*** *22:32:01.4, 36°.65N×68°.97E, h10km, mB4.4/4, mb4.0/13, ML4.2/2, Ms4.0/6, Ms7 3.6/6*

ISC 30 22:31:58.7±0.5, 36°.47N±0°.06×68°.34E±0°.06, h24km, n103, σ2=01/96, mb4.0/28, MS3.4/12, 10C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.94**	**131**	P	**Pn**	**22 33 00.0**	**+2.2**
CEP				S	Sb	22 34 01.0	+6.2
THW	**Thamme Wali**	**4.62**	**142**	P	**Pn**	**22 33 08.1**	**+1.1**
CHCP	**Chirah Chowk**	**4.92**	**123**	P	**Pn**	**22 33 12.6**	**+1.5**
KSH	**Kashi**	**6.75**	**61**	Pn	Pn	22 33 31.8	-4.5
KSH				smax	smax		
	comp=N,130nm,0.8s						
KSH				smax	smax		
	comp=E,100nm,1.0s						
KK31	**Karatay Array**	**6.83**	**13**⇑	P	**Pn**	**22 33 38.0**	**+0.7**
	2.1nm,0.2s,baz=179,slow=9.8						
KK31				⇑S	**Sn**	**22 34 53.9**	**-0.5**
	25nm,0.8s,baz=198,slow=22						
AML	**Almayashu**	**7.01**	**35**	*i* PN	**Pn**	**22 33 40.3**	**+0.2**
AML	**Almayashu**	**7.01**	**35**	P	**Pn**	**22 33 40.3**	**+0.2**
	SNR=57						
EKS2	**Erkin-Say**	**7.47**	**32**	*i* P	**Pn**	**22 33 47.3**	**+1.1**
EKS2	**Erkin-Say**	**7.47**	**32**	P	**Pn**	**22 33 47.4**	**+1.1**
	SNR=23						
UCH	**Uchtor**	**7.47**	**38**	*i* P	**Pn**	**22 33 46.7**	**+0.1**
UCH	**Uchtor**	**7.47**	**38**	P	**Pn**	**22 33 46.7**	**+0.1**
	SNR=133						
KZA	**Kyzart**	**7.75**	**42**	*i* P	**Pn**	**22 33 51.0**	**+0.7**
KZA	**Kyzart**	**7.75**	**42**	P	**Pn**	**22 33 51.0**	**+0.7**
	SNR=59						
AAK	**Ala-Archa**	**7.77**	**36**	⇓P	**Pn**	**22 33 50.9**	**+0.4**
	21nm,0.6s						
AAK				⇑S	**Sn**	**22 35 17.9**	**+0.2**
	18nm,0.6s						
AAK	**Ala-Archa**	**7.77**	**36**	*i* P	**Pn**	**22 33 50.9**	**+0.4**
AAK	**Ala-Archa**	**7.77**	**36**	P	**Pn**	**22 33 50.8**	**+0.4**
	SNR=63						
AAK	**Ala-Archa**	**7.77**	**36**	Pn	**Pn**	**22 33 50.8**	**+0.4**
	6.4nm,0.3s,baz=199,slow=6.6,SNR=159						
AAK				Sn	**Sn**	**22 35 20.0**	**+2.2**
	1.0nm,0.3s,baz=236,slow=11,SNR=2.0						
AAK				LR	LR	22 37 25.0	
	comp=Z,307nm,18.4s,baz=220,slow=42						
DHRM	**DHARAMSHALA**	**7.81**	**120**	*e*P	**Pn**	**22 33 51.5**	**+0.5**
DHRM				*e*S	**Sn**	**22 35 20.4**	**+1.6**
FRU	**Bishkek**	**7.98**	**35**	*i* P	**Pn**	**22 33 54.5**	**+1.3**
FRU				*i* S	**Sn**	**22 35 26.5**	**+3.8**
FRU				pmax	pmax		
	comp=Z,85nm,1.9s						
FRU				smax	smax		
	comp=E,160nm,2.0s						
KBK	**Karagaybulak**	**8.01**	**38**	P	**Pn**	**22 33 54.7**	**+1.1**
	SNR=86						
CHMS	**Chumysh**	**8.17**	**35**	*i* P	**Pn**	**22 33 56.3**	**+0.5**
CHMS	**Chumysh**	**8.17**	**35**	P	**Pn**	**22 33 56.3**	**+0.5**
	SNR=34						
USP	**Ospenovka**	**8.27**	**33**	*i* P	**Pn**	**22 33 57.5**	**+0.4**
USP	**Ospenovka**	**8.27**	**33**	P	**Pn**	**22 33 57.5**	**+0.4**
	SNR=9.1						
ULHL	**Ulahol**	**8.40**	**44**	*i* P	**Pn**	**22 33 59.6**	**+0.5**
ULHL	**Ulahol**	**8.40**	**44**	P	**Pn**	**22 33 59.7**	**+0.5**
	SNR=5.9						
TKM2	**Tokmak 2**	**8.53**	**39**⇑	P	**Pn**	**22 34 00.8**	**0.0**
	comp=E,11nm,0.4s						
TKM2				⇓S	**Sn**	**22 35 35.8**	**-0.5**
	comp=E,17nm,1.1s						
TKM2	**Tokmak 2**	**8.53**	**39

	comp=Z,1.0nm,0.8s								
KBZ	**Khabaz**	**20.72**	**298**	P	Pn	22 36 41.1	+1.4		
	comp=Z,1.4nm,0.8s,baz=239,slow=16,SNR=4.6								
ZALV	**Zalesovo Beam**	**20.89**	**28**	*e*P	**P**	**22 36 38.8**	**-0.2**		
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.3s								
ZALV	**Zalesovo Beam**	**20.89**	**28**	P	**P**	**22 36 38.3**	**-0.7**		
	comp=Z,3.5nm,0.3s,baz=211,slow=10,SNR=34								
ZALV				LR	LR	22 45 43.6			
	comp=Z,200nm,18.4s,baz=250,slow=39								
SVE	**Sverdlovsk**	**21.01**	**348**	*e*P	**P**	**22 36 43.0**	**+2.7**		
SVE				pmax	pmax				
	comp=Z,9.0nm,0.8s								
ARU	**Arti**	**21.03**	**345**	*d i*P	**P**	**22 36 41.1**	**+0.6**		
ARU						22 37 00.2			
ARU				S	Sn	22 40 38.4	-1.6		
ARU				SS	**SnSn**	**22 40 56.3**	**+1.3**		
ARU				pmax	pmax				
	comp=Z,17nm,1.7s								
NVS	**Novosibirsk**	**21.03**	**24**	*e*P	**P**	**22 36 38.7**	**-1.8**		
NVS				pmax	pmax				
	comp=N,8.0nm,1.1s								
NVS				pmax	pmax				
	comp=Z,7.0nm,1.1s								
NVS				pmax	pmax				
	comp=E,4.0nm,0.7s								
VRHR	**Novokhopersk**	**24.03**	**316**	*e*P	P	22 37 17.9	+6.3		
VRHR				pmax	pmax				
	comp=N,9.0nm,0.8s								
VRHR				pmax	pmax				
	comp=E,9.0nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,9.0nm,0.8s								
GTA	**Gaotai**	**24.93**	**74**	*e*P	**P**	**22 37 21.8**	**+1.7**		
GTA				pP	**pP**	**22 37 26.0**	**-1.2**		
GTA				sP	**sP**	**22 37 29.0**	**-1.2**		
GTA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
VORD	**Divnogorie**	**25.30**	**314**	*e*P	P	22 37 29.3	+6.2		
VORD				pmax	pmax				
	comp=N,10.0nm,1.1s								
VORD				pmax	pmax				
	comp=E,10.0nm,1.1s								
VORD				pmax	pmax				
	comp=Z,4.0nm,1.1s								
VSR	**Storozhevoye**	**25.48**	**315**	*e*P	**P**	**22 37 26.0**	**+1.3**		
VSR				pmax	pmax				
	comp=N,10.0nm,1.4s								
VSR				pmax	pmax				
	comp=E,8.0nm,1.4s								
VSR				pmax	pmax				
	comp=Z,7.0nm,1.4s								
BRTR	**Keskin Array B**	**27.40**	**287**	P	**P**	**22 37 44.0**	**+1.5**		
	comp=Z,0.9nm,0.8s,baz=90,slow=8.7,SNR=5.4								
BRTR				LR	LR	22 50 34.1			
	comp=Z,20nm,18.3s,baz=82,slow=40								
ZAK	**Zakamensk**	**28.63**	**50**	*e*P	**P**	**22 37 53.9**	**+0.6**		
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.6s								
EIL	**Elat**	**28.69**	**266**	LR	LR	22 51 37.2			
	comp=Z,45nm,19.5s,baz=84,slow=41								
TLY	**Talaya**	**29.22**	**47**	*e*P	**P**	**22 37 55.7**	**-2.7**		
TLY				pmax	pmax				
	comp=Z,5.0nm,1.8s								
TLY				MLR	MLR				
	comp=Z,55nm,12.0s								
SONM	**Songino Array**	**30.12**	**56**	P	**P**	**22 38 07.2**	**+0.7**		
	comp=Z,1.6nm,0.7s,baz=270,slow=7.9,SNR=16								
SONM				LR	LR	22 51 26.3			
	comp=Z,277nm,21.1s,baz=235,slow=39								
CMAR	**Chiang Mai Arr**	**32.35**	**115**	P	**P**	**22 38 25.9**	**-0.3**		
	comp=Z,0.9nm,0.4s,baz=302,slow=8.5,SNR=12								
MLR	**Muntele Rosu**	**32.93**	**299**	P	**P**	**22 38 33.8**	**+2.5**		
	comp=Z,0.4nm,0.8s,baz=186,slow=10,SNR=4.6								
FINES	**FINESS Array B**	**36.33**	**327**	P	**P**	**22 39 00.7**	**+0.5**		
	comp=Z,1.0nm,0.8s,baz=123,slow=10,SNR=3.2								
VRAC	**Vranov**	**39.28**	**306**	P	**P**	**22 39 26.4**	**+1.0**		
	comp=Z,0.8nm,0.4s,baz=36,slow=18,SNR=4.1								
ARCES	**ARCESS Array B**	**40.37**	**339**	P	**P**	**22 39 35.0**	**+0.9**		
	comp=Z,1.9nm,0.7s,baz=122,slow=7.6,SNR=6.2								
ARCES				LR	LR	22 59 30.3			
	comp=Z,20nm,19.1s,baz=134,slow=41								
GERES	**GERESS Array B**	**41.20**	**305**	LR	LR	22 58 46.2			
	comp=Z,22nm,18.7s,baz=300,slow=39								
CLL	**Collm**	**41.54**	**309**	*e*P	**P**	**22 39 44.0**	**0.0**		
HFS	**Hagfors**	**41.77**	**322**	P	**P**	**22 39 45.3**	**-0.5**		
	comp=Z,3.5nm,0.7s,baz=100,slow=13,SNR=6.0								
NB2	**NORSAR Subarra**	**43.12**	**323**	P	**P**	**22 39 56.6**	**-0.2**		
	comp=Z,0.9nm,0.6s,baz=101,slow=8.6								
NOA	**NORSAR Array B**	**43.12**	**323**	P	**P**	**22 39 57.0**	**+0.3**		
	comp=Z,0.9nm,0.7s,baz=101,slow=8.1,SNR=5.2								
NOA				LR	LR	23 00 42.8			
	comp=Z,40nm,18.5s,baz=265,slow=40								
TIXI	**Tiksi**	**46.61**	**22**	*i*P	**P**	**22 40 25.9**	**+1.6**		
TIXI				pmax	pmax				
	comp=Z,8.0nm,1.7s								
KSRS	**Korea Array**	**46.91**	**70**	LR	LR	23 02 18.8			
	comp=Z,32nm,19.4s,baz=140,slow=39								
USRK	**Ussuriysk Arra**	**48.04**	**60**	LR	LR	23 02 14.7			
	comp=Z,65nm,20.0s,baz=238,slow=38								
EKA	**Eskdalemuir Ar**	**50.81**	**316**	P	**P**	**22 40 57.8**	**+0.8**		
	comp=Z,2.1nm,0.8s,baz=85,slow=8.8,SNR=3.6								
DAG	**Danmarks Havn**	**54.15**	**344**	*i*P	**P**	**22 41 22.3**	**+1.0**		
DAG				pmax	pmax				
	comp=Z,2.0nm,0.8s								
DAG	**Danmarks Havn**	**54.15**	**344**	*i*P	**P**	**22 41 22.3**	**+1.0**		
	comp=Z,2.7nm,0.8s								
ESDC	**Sonseca Array**	**55.57**	**297**	P	**P**	**22 41 32.6**	**+0.4**		
	comp=Z,0.4nm,0.6s,baz=71,slow=7.4,SNR=4.5								
SEY	**Seymchan**	**55.63**	**33**	LR	LR	23 07 09.9			
	comp=Z,816nm,21.9s,baz=156,slow=38								
TORD	**Torodi Ar. Bea**	**63.58**	**267**	P	**P**	**22 42 27.2**	**-0.4**		
	comp=Z,1.2nm,0.7s,baz=42,slow=6.2,SNR=11								
INK	**Inuvik**	**74.26**	**8**	P	**P**	**22 43 34.3**	**+1.1**		
	comp=Z,2.2nm,0.6s,baz=358,slow=6.3,SNR=12								
ILAR	**Eielson Array**	**75.37**	**15**	P	**P**	**22 43 40.5**	**+0.8**		
	comp=Z,0.6nm,0.9s,baz=339,slow=5.5,SNR=7.4								
JAY	**Jayapura**	**77.40**	**103**	LR	LR	23 22 10.2			
	comp=Z,63nm,18.0s,slow=39								
YKA	**Yellowknife Ar**	**81.35**	**1**	P	**P**	**22 44 13.4**	**+0.6**		
	comp=Z,1.0nm,0.6s,baz=351,slow=5.7,SNR=31								
WRA	**Warramunga Arr**	**83.81**	**120**	P	P	22 44 23.1	-3.1		
	comp=Z,0.5nm,0.7s,baz=328,slow=4.9,SNR=6.0								
ASAR	**Alice Springs**	**86.01**	**123**	P	P	22 44 34.0	-3.3		
	comp=Z,0.5nm,0.6s,baz=312,slow=5.1,SNR=10								

IDC 30 22:36:42.8±2.4, 28°.84S×177°.94W, h92km±38km, mb3.6/2, mb1 3.8/2, mb1mx3.3/24, mbtmp3.9/2, Error ellipse: s-maj=122.4km s-min=42.0km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.41**	**178**	P	Pn	22 36 58.4	+1.3
	799nm,0.3s,baz=89,slow=8.8,SNR=23						
RAO				S	Sn	22 37 09.6	+1.9
	898nm,0.3s,baz=103,slow=23,SNR=21						
STKA	**Stephens Creek**	**34.91**	**255**	P	P	22 43 26.5	+0.9
	1.2nm,0.6s,baz=106,slow=7.4,SNR=3.2						
WRA	**Warramunga Arr**	**44.12**	**271**	P	P	22 44 41.5	-0.7
	0.8nm,0.4s,baz=111,slow=7.6,SNR=19						
FINES	**FINESS Array B**	**143.70**	**341**	PKP	PKPbc	22 56 04.6	+0.6
	1.3nm,0.5s,baz=57,slow=3.7,SNR=18						
AKASG	**Malin Array Be**	**150.08**	**324**	PKPbc	PKPbc	22 56 22.1	-0.3
	0.4nm,0.3s,baz=28,slow=0.8,SNR=6.2						

*DDA **30** 22:48:21.7, 37°.74N×26°.95E, h7km, MD2.9*
*CSEM **30** 22:48:22.4±0.4, 37°.76N×27°.06E, h15km, MD2.6, Error ellipse: s-maj=10.5km s-min=7.2km az=49.0*
*ISCJB **30** 22:48:23.4±0.8, 37°.77N±0°.05×27°.07E±0°.07, h17km±13km, Error ellipse: s-maj=10.3km s-min=7.0km az=42.5*
*ISK **30** 22:48:24.2, 37°.94N×27°.09E, h6km, MD2.6*
ISC 30 22:48:22.9±1.0, 37°.77N±0°.04×27°.05E±0°.04, h17km±9km, n10, σ0°87/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.16**	**116**	*i*P	**Pg**	**22 48 26.8**	**-0.3**
GCAM				*i*S	**Sb**	**22 48 30.6**	**+0.1**
GCAM	**G?zelcaml?**	**0.16**	**116**	*i*P	**Pg**	**22 48 26.8**	**-0.3**
GCAM				*i*S	**Sb**	**22 48 30.6**	**+0.1**
IZM	**Izmir**	**0.65**	**15**	*e*PG	**Pg**	**22 48 34.2**	**-1.4**
IZM	**Izmir**	**0.65**	**15**	*e*Pg	**Pg**	**22 48 34.2**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**75**	*e*PG	**Pb**	**22 48 36.9**	**+0.4**
AYDB				*e*SG	**Sg**	**22 48 45.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**75**	*e*Pg	**Pb**	**22 48 36.9**	**+0.4**
AYDB				*e*Sg	**Sg**	**22 48 45.7**	**+0.1**
BDRM	**Kayabasi**	**0.77**	**156**	*i* P	**Pg**	**22 48 36.4**	**-1.6**
BDRM				*i* S	**Sb**	**22 48 48.4**	**+0.3**
BDRM	**Kayabasi**	**0.77**	**156**	*i* P	**Pg**	**22 48 36.4**	**-1.6**
BDRM				*i* S	**Sb**	**22 48 48.4**	**+0.3**
CHOS	**Chios island**	**1.00**	**308**	*e*PG	**Pn**	**22 48 42.9**	**+0.7**
CHOS				*e*SG	**Sg**	**22 48 55.5**	**+0.2**
CHOS	**Chios island**	**1.00**	**308**	*e*Pg	**Pn**	**22 48 42.9**	**+0.7**
CHOS				*e*Sg	**Sg**	**22 48 55.5**	**+0.2**

*ISCJB **30** 22:50:08.1±0.2, 13°.61N±0°.03×88°.33W±0°.03, h194km±2km, mb4.6/122, Error ellipse: s-maj=6.3km s-min=2.9km az=36.2*
*CASC **30** 22:50:08.3±3.1, 12°.26N×89°.06W, h0km±6km, MD4.4, ML4.2, mb4.8(NEIC)*
*NEIC **30** 22:50:09.7±0.2, 13°.60N×88°.34W, mb4.8/113, MD4.4(SNET), Error ellipse: s-maj=5.3km s-min=3.5km az=215.0*
NEIC Felt [II] at San Salvador.
*IDC **30** 22:50:09.2±0.7, 13°.58N×88°.15W, h199km±5km, mb3.9/20, mb1 4.1/22, mb1mx4.0/38, mbtmp4.5/22, Error ellipse: s-maj=20.4km s-min=8.1km az=51.0*
ISC 30 22:50:09.1±0.5, 13°.56N±0°.05×88°.37W±0°.05, h197km±3km, n604, σ1°.06/635, mb4.8/126, 170C-183D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.16**	**144**	*i*P	**Pn**	**22 50 33.7**	**-1.6**
BLLM	**Bellamira**	**0.17**	**132**	*e*P	**Pn**	**22 50 33.3**	**-1.9**
SNVI	**San Vicente**	**0.46**	**277**	*e*P	**Pn**	**22 50 34.1**	**-1.8**
SNVI				*e*S	**Sn**	**22 50 55.3**	**-1.2**
CNCH	**Conchagua**	**0.59**	**118**	*e*P	**Pn**	**22 50 35.1**	**-1.3**
LFRS	**El Faro**	**0.67**	**276**	*i*P	**Pn**	**22 50 34.7**	**-2.1**
LBRS	**Las Brisas**	**0.68**	**285**	*e*P	**Pn**	**22 50 34.9**	**-1.8**
LFU	**La Fuente**	**0.75**	**285**	*i*P	**Pn**	**22 50 35.2**	**-1.8**
SNET	**Serv Nac Est T**	**0.85**	**279**	*e*P	**Pn**	**22 50 35.3**	**-2.4**
SNET				AML	AML	22 50 36.7	
	comp=Z,4μm,0.8s						
SNET				*e*S	**Sn**	**22 50 56.9**	**-2.8**
BOQS	**Boqueron**	**0.90**	**281**	*e*P	**Pn**	**22 50 36.1**	**-2.1**
TGUH	**Tegucigalpa,Un**	**1.18**	**65**	*e*Pn	**Pn**	**22 50 39.1**	**-0.7**
TGUH				*e*Sn	**Sn**	**22 51 03.0**	**-0.6**
SNJE	**San Jose**	**1.24**	**285**	*i*P	**Pn**	**22 50 38.4**	**-2.2**
SBLS	**San Blas**	**1.25**	**283**	*i*P	**Pn**	**22 50 38.6**	**-2.1**
SBLS				*e*S	**Sn**	**22 51 04.4**	**-0.6**
RTR	**El Retiro**	**1.28**	**285**	*i*P	**Pn**	**22 50 39.2**	**-1.7**
MRL	**Marmol**	**1.97**	**320**	*i*P	**Pn**	**22 50 47.4**	**+0.1**
NBG	**Las Nubes**	**2.17**	**298**	*i*P	**Pn**	**22 50 49.4**	**-0.1**
PCG	**Pacaya**	**2.32**	**291**	*e*P	**Pn**	**22 50 50.7**	**-0.5**
JAT	**Jato**	**3.26**	**284**	*e*P	**Pn**	**22 51 01.1**	**-0.6**
GBS2	**Las Lilas**	**3.93**	**133**	*i* S	**Sn**	**22 51 55.1**	**-2.7**
GB1A	**Borinquen Arri**	**3.98**	**133**	*i* S	**Sn**	**22 51 55.5**	**-3.5**
NY14	**Universidad de**	**4.01**	**136**	*i* P	**Pn**	**22 51 12.7**	**+1.7**
JTS	**JuntasAbangare**	**4.66**	**134**	*e*Pn	**Pn**	**22 51 19.9**	**+0.7**
JTS				*e*Sn	**Sn**	**22 52 12.3**	**-2.1**
JTS	**JuntasAbangare**	**4.66**	**134**	P	**Pn**	**22 51 19.5**	**+0.3**
	comp=Z,28nm,0.3s,baz=315,slow=6.5,SNR=53						
JTS				S	**Sn**	**22 52 10.8**	**-3.6**
	comp=Z,23nm,0.3s,baz=315,slow=14,SNR=4.3						
JCR	**Jicaral**	**4.88**	**139**	*e*P	**Pn**	**22 51 22.9**	**+1.0**
JCR				*e*S	**Sn**	**22 52 15.7**	**-3.7**
CGA2	**Cerro Gallo 2**	**5.20**	**132**	*e*P	**Pn**	**22 51 28.2**	**+2.0**
QCR	**Quepos**	**5.82**	**134**	*e*P	**Pn**	**22 51 35.0**	**+0.9**
QCR				*e*S	**Sn**	**22 52 39.6**	**-1.6**
BUS	**Buena Vista**	**6.02**	**131**	*i*P	**Pn**	**22 51 38.7**	**+1.6**
BUS				*e*S	**Sn**	**22 52 46.5**	**0.0**
TEIG	**Tepich**	**6.63**	**1**	*e*Pn	**Pn**	**22 51 43.9**	**-0.6**
TEIG	**Tepich**	**6.63**	**1**	P	**Pn**	**22 51 44.6**	**+0.1**
	comp=Z,4.5nm,0.3s,baz=268,slow=21,SNR=18						
ACR	**Cerro Adams**	**7.06**	**133**	*e*P	**Pn**	**22 51 51.6**	**+1.3**
ACR				*e*S	**Sn**	**22 53 10.3**	**-0.2**
MTDJ	**Mount Denham**	**11.41**	**65**	*e*Pn	**Pn**	**22 52 48.2**	**+1.5**
GTBY	**Guantanamo Bay**	**14.19**	**62**	*e*Pn	**Pn**	**22 53 22.1**	**+0.6**
PAYG	**Puerto Ayora**	**14.27**	**188**	*e*Pn	**P**	**22 53 25.0**	**+0.8**
035Z	**Hargill**	**15.73**	**326**	⇑P	**Pn**	**22 53 41.4**	**+1.0**
	baz=16						
035A	**Encino**	**16.13**	**327**	⇓P	**Pn**	**22 53 45.5**	**+0.3**
	baz=16						
ROSC	**El Rosal**	**16.33**	**121**	*e*P	**Pn**	**22 53 49.8**	**+1.7**
ROSC	**El Rosal**	**16.33**	**121**	P	**Pn**	**22 53 50.1**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=43,slow=3.6,SNR=5.5						
OTAV	**Otavalo**	**16.48**	**143**	*e*P	**Pn**	**22 53 50.8**	**+0.8**
	comp=Z,3.3nm,0.6s						
034A	**Hebbronville**	**16.54**	**326**	⇓P	**Pn**	**22 53 51.2**	**+1.1**
	baz=17,SNR=7.5						
934A	**Benavides**	**16.88**	**327**	⇓P	**Pn**	**22 53 55.0**	**+0.8**
	baz=17						
835A	**Beeville**	**17.10**	**330**	⇓P	**Pn**	**22 53 56.5**	**-0.2**
	baz=17						
SDDR	**Presa de Saban**	**17.26**	**70**	*e*P	**Pn**	**22 53 58.5**	**-0.3**
	comp=Z,27nm,0.9s						
933A	**Laredo**	**17.30**	**326**	⇓P	**Pn**	**22 53 58.4**	**-0.6**
	baz=17,SNR=6.5						
834A	**Tilden**	**17.32**	**328**	⇑P	**Pn**	**22 53 59.0**	**-0.3**
	baz=17						
735A	**Kenedy**	**17.57**	**332**	⇑P	**Pn**	**22 54 01.9**	**-0.3**
	baz=18						
HKT	**Hockley**	**17.71**	**338**	*e*P	**P**	**22 54 01.7**	**-0.2**
	comp=Z,15nm,1.0s						
636A	**Smothers Creek**	**17.77**	**334**	P	**Pn**	**22 54 04.3**	**-0.3**
	baz=18						
734A	**La Parita Cree**	**17.92**	**330**	⇓P	**P**	**22 54 05.2**	**+0.9**
	baz=18						
833A	**Chaparral WMA,**	**17.92**	**327**	⇓P	**P**	**22 54 04.9**	**+0.6**
	baz=18,SNR=26						
635A	**Leesville**	**18.00**	**333**	⇓P	**P**	**22 54 06.1**	**+0.9**
	baz=18						
SDV	**Santo Domingo**	**18.00**	**103**	*e*P	**P**	**22 54 06.2**	**+0.6**
	comp=Z,10.0nm,0.6s						
733A	**Divot King Ran**	**18.18**	**328**	⇑P	**P**	**22 54 07.5**	**+0.4**
	baz=18,SNR=19						
832A	**Faith Ranch, C**	**18.20**	**325**	⇓P	**P**	**22 54 07.8**	**+0.4**
	baz=18,SNR=25						
634A	**China Grove, S**	**18.26**	**331**	⇓P	**P**	**22 54 08.0**	**0.0**
	baz=18						
536A	**Bastrop**	**18.30**	**335**	⇑P	**P**	**22 54 09.0**	**+0.7**
	baz=18						
TIGA	**Tifton**	**18.33**	**13**	*e*P	**Pn**	**22 54 10.7**	**-0.4**
TIGA	**Tifton**	**18.33**	**13**	⇑P	**Pn**	**22 54 10.2**	**-1.0**
	baz=18,SNR=7.1						
535A	**Dale**	**18.47**	**334**	⇓P	**P**	**22 54 10.5**	**+0.2**
	baz=18						
732A	**Laxson Ranch,**	**18.55**	**326**	⇑P	**P**	**22 54 11.1**	**-0.1**
	baz=19,SNR=9.3						
VBMS	**Vicksburg**	**18.68**	**354**	*e*P	**Pn**	**22 54 14.7**	**-0.5**
	comp=Z,268nm,0.8s						
633A	**Saathoff Ranch**	**18.73**	**329**	⇓P	**P**	**22 54 13.0**	**-0.1**
	baz=19,SNR=18						
534A	**Blanco**	**18.86**	**332**	⇓P	**P**	**22 54 14.3**	**-0.3**
	baz=19,SNR=12						
632A	**Uvalde**	**19.07**	**328**	⇑P	**P**	**22 54 17.0**	**+0.2**
	baz=19,SNR=18						
435B	**Jarrell**	**19.13**	**335**	⇑P	**P**	**22 54 17.5**	**+0.1**
	baz=19						
533A	**Kerrville**	**19.16**	**331**	⇓P	**P**	**22 54 17.7**	**-0.1**
	baz=19,SNR=20						
631A	**Perdido Creek**	**19.41**	**326**	⇑P	**P**	**22 54 19.9**	**-0.6**
	baz=20,SNR=18						
434A	**Burnet**	**19.45**	**334**	⇓P	**P**	**22 54 21.0**	**+0.1**
	baz=20,SNR=8.6						
532A	**Rocksprings**	**19.63**	**329**	⇓P	**P**	**22 54 23.1**	**+0.2**
	baz=20,SNR=17						
433A	**Art**	**19.76**	**332**	⇑P	**P**	**22 54 23.6**	**-0.6**
	baz=20,SNR=6.3						
JCT	**Junction City**	**19.87**	**330**	*e*P	**P**	**22 54 25.1**	**-0.3**
	comp=Z,14nm,0.7s						
JCT	**Junction City**	**19.87**	**330**	⇓P	**P**	**22 54 25.4**	**-0.1**
	baz=20						
334A	**Lometa**	**19.88**	**334**	⇓P	**P**	**22 54 26.3**	**+0.8**
	baz=20						
531A	**Rocksprings**	**19.99**	**328**	⇓P	**P**	**22 54 27.6**	**+0.9**
	baz=20						
WHTX	**Lake Whitney**	**20.15**	**337**	⇓P	**P**	**22 54 29.2**	**+0.9**
	baz=20						
432A	**Menard**	**20.19**	**330**	⇓P	**P**	**22 54 28.6**	**-0.3**
	baz=20,SNR=8.3						
333A	**Richland Sprin**	**20.20**	**333**	⇓P	**P**	**22 54 28.4**	**-0.5**
	baz=20,SNR=11						
GOGA	**Godfrey**	**20.26**	**12**	*e*P	**P**	**22 54 30.4**	**+1.0**
	comp=Z,64nm,0.8s						
530A	**J-C Ranch, Com**	**20.40**	**326**	⇑P	**P**	**22 54 31.8**	**+0.7**
	baz=20,SNR=6.0						
234A	**Clairette**	**20.43**	**336**	⇑P	**P**	**22 54 31.7**	**+0.4**
	baz=20						
431A	**Sonora**	**20.44**	**328**	⇑P	**P**	**22 54 32.1**	**+0.6**
	baz=20,SNR=20						
332A	**Millersview**	**20.59**	**331**	⇑P	**P**	**22 54 32.9**	**-0.1**
	baz=21,SNR=25						
135A	**Vickery Place,**	**20.64**	**338**	⇑P	**P**	**22 54 34.0**	**+0.5**
	baz=21						
233A	**Rising Star**	**20.75**	**334**	⇓P	**P**	**22 54 34.5**	**-0.3**
	baz=21,SNR=10						
628A	**Black Gap, Mar**	**20.79**	**322**	⇑P	**P**	**22 54 35.3**	**+0.1**
	baz=21,SNR=12						
430A	**Baggett Ranch,**	**20.84**	**327**	⇑P	**P**	**22 54 36.0**	**+0.1**
	baz=21,SNR=7.0						
NHSC	**New Hope**	**20.84**	**20**	*e*P	**P**	**22 54 36.2**	**+0.5**
	comp=Z,1um,2.0s						
331A	**San Angelo**	**20.86**	**330**	⇑P	**P**	**22 54 35.3**	**-0.6**
	baz=21,SNR=18						
529A	**Stev Forest Ra**	**20.87**	**324**	⇓P	**P**	**22 54 36.7**	**+0.6**
	baz=21						
OXF	**Oxford**	**20.88**	**358**	*e*P	**P**	**22 54 37.5**	**+1.4**
	comp=Z,63nm,1.0s						
134A	**White-Moore Ra**	**20.91**	**336**	⇑P	**P**	**22 54 36.9**	**+0.6**
	baz=21,SNR=6.8						
232A	**Coleman**	**20.97**	**332**	⇓P	**P**	**22 54 36.2**	**-0.9**
	baz=21,SNR=18						
627A	**Terlingua Ranc**	**21.07**	**321**	⇓P	**P**	**22 54 38.3**	**+0.1**
	baz=21,SNR=21						
429A	**Davenport Ranc**	**21.07**	**326**	⇑P	**P**	**22 54 38.3**	**+0.1**
	baz=21,SNR=14						
TXAR	**Lajitas Array**	**21.15**	**320**	P	**P**	**22 54 39.5**	**+0.3**
TXAR				pP	**pP**	**22 55 14.4**	**+2.0**
TXAR	**Lajitas Array**	**21.15**	**320**	P	**P**	**22 54 39.5**	**+0.3**
	comp=Z,8.5nm,0.6s,baz=137,slow=9.9,SNR=126						
TXAR				pP	**pP**	**22 55 14.4**	**+2.0**
	comp=Z,4.8nm,0.8s,baz=143,slow=9.9,SNR=4.9						
TX31	**Lajitas Ar. Si**	**21.15**	**320**	*e*P	**P**	**22 54 39.6**	**+0.5**
528A	**Cox Ranch, San**	**21.22**	**323**	⇓P	**P**	**22 54 40.4**	**+0.5**
	baz=21						
133A	**Hamilton Ranch**	**21.27**	**335**	⇑P	**P**	**22 54 40.4**	**+0.2**
	baz=21,SNR=6.5						
Z35A	**Perchaven, San**	**21.28**	**339**	⇓P	**P**	**22 54 40.7**	**+0.4**
	baz=21,SNR=8.2						
330A	**Mertzon**	**21.31**	**329**	⇑P	**P**	**22 54 39.6**	**-1.1**
	baz=21,SNR=10						
231A	**Bronte**	**21.32**	**331**	⇓P	**P**	**22 54 39.9**	**-0.9**
	baz=21						
OBIP	**Obispado Ponce**	**21.41**	**75**	*e*P	**P**	**22 54 42.3**	**+0.5**
	comp=Z,32nm,0.9s						
MIAR	**Mount Ida**	**21.42**	**348**	*e*P	**P**	**22 54 41.8**	**+0.1**
	comp=Z,94nm,1.0s						
UALR	**University of**	**21.43**	**351**	*e*P	**P**	**22 54 42.2**	**+0.4**
	comp=Z,49nm,0.6s						
CELP	**Cerrillos**	**21.44**	**75**	*e*P	**P**	**22 54 41.4**	**-0.7**
Z34A	**Collier Ranch,**	**21.55**	**338**	⇓P	**P**	**22 54 43.7**	**+0.5**
	baz=22,SNR=6.9						
428A	**Kincaid Ranch,**	**21.59**	**325**	⇓P	**P**	**22 54 45.1**	**+1.5**
	baz=22						
ABTX	**Abilene, Hawle**	**21.59**	**333**	*e*P	**P**	**22 54 42.3**	**-1.3**
ABTX	**Abilene, Hawle**	**21.59**	**333**	⇓P	**P**	**22 54 43.3**	**-0.3**
	baz=22						
626A	**Big Bend Ranch**	**21.60**	**320**	⇑P	**P**	**22 54 43.9**	**+0.2**
	baz=22,SNR=16						
JSC	**Jenkinsville**	**21.62**	**16**	*e*P	**P**	**22 54 45.3**	**+1.6**
230A	**Sterling City**	**21.66**	**329**	⇑P	**P**	**22 54 44.7**	**+0.3**
	baz=22,SNR=5.0						
SWET	**Sewanee**	**21.68**	**5**	*e*P	**P**	**22 54 44.1**	**-0.3**
	comp=Z,180nm,1.9s						
527A	**Woodward Ranch**	**21.70**	**322**	⇑P	**P**	**22 54 45.1**	**+0.3**
	baz=22,SNR=13						
329A	**Wagon Wheel Ra**	**21.79**	**327**	⇓P	**P**	**22 54 46.2**	**+0.6**
	baz=22,SNR=26						
Z33A	**Whitaker Ranch**	**21.80**	**336**	⇑P	**P**	**22 54 44.9**	**-0.8**
	baz=22,SNR=6.4						
526A	**Mary Lane Ranc**	**21.93**	**321**	⇓P	**P**	**22 54 46.9**	**-0.2**
	baz=22,SNR=11						
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comp=Z,64nm,0.8s
W32A Sentinel 23.61 337 ⇓P P 22 55 02.7 +0.4
baz=24
GDL2 Guadalupe Moun 23.64 324 eP P 22 55 03.9 +1.2
V34A Guthrie 23.66 341 ⇓P P 22 55 02.5 -0.2
baz=24,SNR=6.0
X30A Coker Ranch, T 23.68 334 ⇓P P 22 55 03.7 +0.7
baz=24,SNR=34
126A Clayton Basin, 23.78 326 ⇑P P 22 55 04.5 +0.6
baz=24,SNR=9.2
225A Deer Hill, Car 23.83 324 ⇑P P 22 55 04.5 0.0
baz=24,SNR=11
Y28A McKinney Farm, 23.86 330 ⇓P P 22 55 05.0 +0.3
baz=24,SNR=7.3
MNTX Cornudas Mount 23.87 322 eP P 22 55 04.7 0.0
comp=Z,52nm,1.8s
Z27A Tatum 23.87 328 ⇑P P 22 55 04.5 -0.3
baz=24,SNR=17
V33A Lossen Ranch, 23.90 340 ⇑P P 22 55 05.0 +0.1
baz=24,SNR=12
W31A Holland Ranch, 23.93 336 ⇓P P 22 55 05.6 +0.3
baz=24
X29A Tulia 24.05 332 ⇓P P 22 55 06.8 +0.4
baz=24,SNR=12
V32A Arapaho 24.07 338 ⇓P P 22 55 07.1 +0.6
baz=24,SNR=8.4
SIUC Southern Illin 24.07 358 eP P 22 55 06.4 0.0
comp=Z,52nm,0.8s
125A Gardner Draw, 24.14 325 ⇑P P 22 55 07.9 +0.6
baz=24,SNR=32
MSTX Muleshoe 24.16 330 eP P 22 55 07.4 -0.1
MSTX Muleshoe 24.16 330 ⇑P P 22 55 07.8 +0.3
baz=24,SNR=25
U34A Anderson Ranch 24.22 342 ⇓P P 22 55 07.5 -0.3
baz=24,SNR=12
Z26A Caprock 24.23 327 ⇓P P 22 55 08.2 +0.1
baz=24,SNR=11
Y27A Causey 24.29 329 ⇑P P 22 55 08.7 +0.1
baz=24,SNR=30
USIN University of 24.32 1 eP P 22 55 07.7 -0.9
comp=Z,192nm,1.8s
X28A Dimmitt 24.34 331 ⇑P P 22 55 09.4 +0.3
baz=24
U33A Lingo Farm, Me 24.40 341 ⇓P P 22 55 08.9 -0.5
baz=24,SNR=12
AMTX Amarillo 24.41 333 eP P 22 55 09.9 +0.3
comp=Z,50nm,1.3s
AMTX Amarillo 24.41 333 ⇑P P 22 55 09.9 +0.3
baz=24
V31A Spring Creek L 24.41 337 ⇑P P 22 55 10.9 +1.3
baz=24,SNR=17
W29A Amraillo 24.59 333 ⇓P P 22 55 11.6 +0.3
baz=25
BLA Blacksburg 24.60 15 eP P 22 55 12.4 +1.1
comp=Z,824nm,3.0s
WCI Wyandotte Cave 24.64 4 eP P 22 55 11.4 -0.2
comp=Z,44nm,0.8s
Z25A Roswell 24.64 326 ⇓P P 22 55 12.6 +0.8
baz=25,SNR=24
U32A Winter Ranch, 24.64 339 ⇓P P 22 55 11.8 +0.1
baz=25,SNR=8.8
Y26A Elida 24.66 328 ⇓P P 22 55 12.3 +0.4
baz=25,SNR=24
V30A Spur Ranch, Mi 24.73 336 ⇓P P 22 55 13.2 +0.6
baz=25
X27A F and S Farms, 24.87 330 ⇓P P 22 55 14.1 +0.2
baz=25,SNR=7.2
U31A Nine Bar Ranch 24.94 338 ⇑P P 22 55 15.0 +0.6
baz=25
W28A Vega 24.95 332 ⇑P P 22 55 14.9 +0.3
baz=25
T33A Patterson Ranc 25.03 341 ⇑P P 22 55 14.9 -0.3
baz=25
Z24A Sheeppen Canyo 25.04 325 ⇑P P 22 55 16.6 +1.1
baz=25,SNR=19
OLIL Olney 25.08 1 eP P 22 55 15.4 -0.1
comp=Z,34nm,0.8s
Y25A Mesa, Roswell 25.11 327 ⇓P P 22 55 17.1 +1.0
baz=25,SNR=24
X26A CR and CF Fran 25.14 329 ⇑P P 22 55 16.7 +0.4
baz=25,SNR=8.5
V29A Stinnett 25.17 334 ⇓P P 22 55 16.9 +0.3
baz=25
W27A Bowe Ranch, En 25.19 331 ⇓P P 22 55 17.4 +0.7
baz=25,SNR=20
T32A Huddler Ranch, 25.34 340 ⇓P P 22 55 18.5 +0.5
baz=25
V28A Channing 25.37 333 ⇓P P 22 55 18.9 +0.5
baz=25
U30A WK&E Inc. Balk 25.39 336 ⇑P P 22 55 19.1 +0.7
baz=25,SNR=6.0
Y24A Capitan 25.52 326 ⇑P P 22 55 20.8 +1.0
baz=26,SNR=22
T31A Randall Ranch, 25.53 339 ⇓P P 22 55 19.8 +0.2
baz=26
W26A Owens Ranch, T 25.55 330 ⇑P P 22 55 20.5 +0.5
baz=26,SNR=5.5
X25A Clemmons Ranch 25.56 328 ⇓P P 22 55 20.8 +0.7
baz=26,SNR=9.0
BLO Bloomington 25.56 3 eP P 22 55 19.7 -0.2
comp=Z,62nm,1.2s
V27A Dan Oppiter Fa 25.65 332 ⇑P P 22 55 21.6 +0.7
baz=26
T30A Plains 25.80 337 ⇓P P 22 55 23.0 +0.8
baz=26
S32A Newby Ranch, P 25.82 340 P P 22 55 22.4 +0.1
baz=26
Y23A Lovelace Mesa, 25.87 325 ⇑P P 22 55 24.1 +1.1
baz=26,SNR=18
Z22A Elephant Butte 25.91 322 ⇓P P 22 55 25.1 +1.8
baz=26
121A Cookes Peak, D 25.91 320 ⇑P P 22 55 25.6 +2.2
baz=26,SNR=6.4
S31A Mullinville 25.93 340 ⇑P P 22 55 23.8 +0.5
baz=26
W25A X Bar L Ranch, 26.00 329 ⇓P P 22 55 24.9 +0.9
baz=26,SNR=18
R33A Olander Ranch, 26.09 343 ⇓P P 22 55 24.8 +0.2
baz=26
V26A Tequesquite Ra 26.13 331 ⇓P P 22 55 25.9 +0.7
baz=26,SNR=16
319A Douglas 26.14 316 ⇓P P 22 55 26.9 +1.5
baz=26
T29A Hugoton 26.18 336 ⇑P P 22 55 26.2 +0.6
baz=26
U27A Thompson Grove 26.20 333 ⇓P P 22 55 26.2 +0.3
baz=26,SNR=5.4
S30A Montezuma 26.29 338 ⇑P P 22 55 27.1 +0.6
baz=26
BNM Barren Site 26.35 324 eP P 22 55 27.2 -0.2
R32A Long Quarter, 26.41 342 ⇑P P 22 55 27.6 0.0
baz=26
CBN Corbin 26.42 20 eP P 22 55 28.9 +1.3
comp=Z,51nm,0.8s
KSU1 Kansas State U 26.46 346 eP P 22 55 26.7 -1.3
comp=Z,18nm,0.8s
KSU1 Kansas State U 26.46 346 ⇓P P 22 55 27.8 -0.2
baz=26
LPM Los Pinos Moun 26.47 324 eP P 22 55 27.6 -0.8
W24A Lazy 6 Ranch, 26.48 327 ⇓P P 22 55 29.7 +1.3
baz=26,SNR=15
T28A Walsh 26.48 335 ⇓P P 22 55 28.8 +0.5
baz=26
S29A Ulysses 26.52 337 ⇑P P 22 55 30.4 +1.8
baz=27
R31A Burdett 26.55 340 ⇓P P 22 55 29.3 +0.5
baz=27,SNR=6.5
LENM Lemitar 26.56 324 eP P 22 55 28.2 -0.9
V25A Rancho No Teng 26.57 329 ⇑P P 22 55 30.3 +1.1
baz=27,SNR=18
U26A Atchley Ranch, 26.59 331 ⇑P P 22 55 30.1 +0.7
baz=27,SNR=6.8
Q33A Connelly Farm, 26.68 343 ⇓P P 22 55 29.9 -0.1
baz=27
T27A Campo 26.69 334 ⇑P P 22 55 30.2 0.0
baz=27
SFIN Scholer Farm 26.74 2 eP P 22 55 29.1 -1.4
comp=Z,483nm,3.0s
SFIN Scholer Farm 26.74 2 ⇑P P 22 55 29.8 -0.7
baz=27,SNR=5.7
S28A Manter 26.80 336 ⇓P P 22 55 31.2 0.0
baz=27
R30A Dighton 26.80 339 ⇑P P 22 55 31.9 +0.8
baz=27,SNR=10
V24A Rampart Ranch, 26.81 328 ⇓P P 22 55 32.6 +1.2
baz=27,SNR=9.0
W23A Werner Place, 26.84 326 ⇑P P 22 55 33.2 +1.5
baz=27,SNR=14

ANMO Albuquerque 26.84 326 eP P 22 55 33.1 +1.4
comp=Z,6.5nm,0.9s
ANMO Albuquerque 26.84 326 P P 22 55 33.6 +1.9
comp=Z,4.2nm,0.9s,baz=152,slow=9.4,SNR=13
Q32A Meitler Ranch, 26.89 342 ⇑P P 22 55 31.7 -0.1
baz=27,SNR=6.4
U25A Circle Dot Ran 26.91 331 ⇓P P 22 55 32.3 0.0
baz=27
ACSO Alum Creek Sta 26.99 9 eP P 22 55 32.0 -0.6
comp=Z,42nm,0.8s
P33A Williams Farm, 27.06 344 ⇓P P 22 55 33.7 +0.4
baz=27
MCWV Mont Chateau 27.06 15 eP P 22 55 34.0 +0.7
comp=Z,223nm,2.0s
Q31A Ellis 27.16 341 ⇑P P 22 55 34.8 +0.5
baz=27
R29A Marienthal 27.23 338 ⇑P P 22 55 36.0 +1.0
baz=27
S27A Las Animas 27.29 334 P P 22 55 35.9 +0.3
baz=27
V23A Ortiz Mt. (NFS 27.29 327 ⇓P P 22 55 37.2 +1.5
baz=27
U24A Moreno Valley 27.34 329 ⇑P P 22 55 37.5 +1.3
baz=27
Q30A Quinter 27.40 340 ⇑P P 22 55 37.0 +0.5
baz=28
R28A Tribune 27.42 337 ⇓P P 22 55 37.2 +0.6
baz=28,SNR=6.6
S26A Kim 27.48 333 ⇓P P 22 55 37.9 +0.6
baz=28
T25A Trinidad 27.51 331 ⇓P P 22 55 38.2 +0.6
baz=28
Q29A Oakley 27.59 338 ⇓P P 22 55 38.7 +0.6
baz=28
P31A Stockton 27.62 341 ⇑P P 22 55 39.1 +0.7
baz=28
SDMD Soldier's Deli 27.69 19 eP P 22 55 39.6 +0.7
comp=Z,29nm,0.7s
TUC Tucson 27.72 316 eP P 22 55 39.0 -0.4
comp=Z,4.8nm,1.0s
U23A El Rito 27.74 328 ⇓P P 22 55 41.4 +1.6
baz=28,SNR=18
R27A Eads 27.76 335 ⇓P P 22 55 40.2 +0.5
baz=28
V22A San Miguel Ran 27.81 326 ⇑P P 22 55 41.2 +0.9
baz=28
T24B San Luis 27.91 330 ⇑P P 22 55 43.2 +1.9
baz=28,SNR=7.6
P30A Selden 27.92 340 ⇑P P 22 55 41.8 +0.8
baz=28
S25A Robets Cordova 27.95 332 ⇓P P 22 55 42.5 +1.1
baz=28
R26A Arlington 28.04 334 ⇓P P 22 55 43.0 +0.7
baz=28
Q28A Sharon Springs 28.05 337 ⇓P P 22 55 43.4 +1.2
baz=28
O31A Woolen Ranch, 28.19 342 ⇓P P 22 55 44.0 +0.7
baz=28
P29A Atwood 28.20 339 ⇓P P 22 55 44.2 +0.6
baz=28
T23A Casias Ranch, 28.21 329 ⇑P P 22 55 45.2 +1.3
baz=28
R25A Fountain Ranch 28.28 333 ⇓P P 22 55 45.8 +1.4
baz=28
S24A Houchin Ranch, 28.29 331 ⇑P P 22 55 46.1 +1.5
baz=28
KSCO Kaye Shedlock' 28.31 336 eP P 22 55 43.9 -0.7
KSCO Kaye Shedlock' 28.31 336 ⇓P P 22 55 45.3 +0.7
baz=28
MVL Millersville 28.38 20 eP P 22 55 44.1 -0.9
comp=Z,240nm,2.5s
O30A MW Ranch, Wils 28.44 341 ⇑P P 22 55 46.6 +1.0
baz=28
N32A Stulken Farm, 28.46 344 ⇓P P 22 55 46.8 +1.0
baz=28
P28A Saint Francis 28.47 338 ⇓P P 22 55 47.1 +1.1
baz=28,SNR=5.5
SSPA Standing Stone 28.50 17 eP P 22 55 45.6 -0.4
comp=Z,182nm,2.2s
SDCO Great Sand Dun 28.51 331 eP P 22 55 47.7 +1.1
comp=Z,14nm,1.1s
SCIA State Center 28.56 352 eP P 22 55 45.9 -0.7
comp=Z,306nm,2.3s
Q26A Hugo 28.60 335 ⇓P P 22 55 48.7 +1.5
baz=29
O29A 4D Ranch, Culb 28.63 340 ⇑P P 22 55 47.9 +0.6
baz=29
R24A Sanders Place, 28.72 332 ⇑P P 22 55 49.7 +1.4
baz=29
S23A Nye Farm, Mont 28.72 330 ⇑P P 22 55 49.9 +1.5
baz=29
Q25A Bedland, Calha 28.90 334 ⇓P P 22 55 51.2 +1.3
baz=29
AAM Ann Arbor 28.93 7 eP P 22 55 50.0 +0.1
comp=Z,74nm,1.5s
R23A Moffat 29.02 331 ⇓P P 22 55 52.5 +1.4
baz=29,SNR=11
BGNE Belgrade 29.03 345 eP P 22 55 50.1 -0.7
comp=Z,31nm,0.8s
BGNE Belgrade 29.03 345 ⇑P P 22 55 51.0 +0.2
baz=29
S22A 4UR Ranch, Cre 29.16 329 ⇓P P 22 55 53.4 +1.1
baz=29,SNR=14
M31A Lambtecht Ranc 29.19 343 ⇑P P 22 55 53.0 +0.8
baz=29,SNR=5.1
N29A Votaw Ranch, W 29.20 341 ⇓P P 22 55 53.4 +1.1
baz=29
LUPA Lehigh Univers 29.25 21 eP P 22 55 54.0 +1.3
comp=Z,3.2nm,0.7s
JFWS Jewell Farm 29.30 357 eP P 22 55 52.0 -1.1
comp=Z,49nm,1.6s
ERPA Erie 29.37 13 eP P 22 55 53.9 +0.2
comp=Z,66nm,1.4s
X16A Lo Mia Camp, P 29.46 319 ⇑P P 22 55 56.0 +1.2
baz=30
MVCO Mesa Verde 29.63 326 eP P 22 55 55.9 -0.5
comp=Z,7.5nm,0.9s
MVCO Mesa Verde 29.63 326 ⇑P P 22 55 57.5 +1.1
baz=30,SNR=6.0
OGNE Ogallala 29.78 339 ⇓P P 22 55 58.6 +1.1
baz=30
M29A Burnside Ranch 29.79 341 ⇓P P 22 55 58.2 +0.7
baz=30
N27A Anderson Farm, 29.84 338 ⇓P P 22 55 58.8 +0.7
baz=30
ODNJ Ogdensburg 29.94 21 eP P 22 55 59.4 +0.6
comp=Z,37nm,1.4s
L30A Spencer Herefo 29.96 343 ⇑P P 22 55 59.8 +0.8
baz=30
KSPA Keystone Colle 29.98 19 eP P 22 55 59.5 +0.4
comp=Z,392nm,2.8s
P23A Jefferson 29.98 332 ⇑P P 22 56 01.2 +1.6
baz=30,SNR=6.7
PAL Palisades 30.12 22 eP P 22 56 00.4 0.0
comp=Z,26nm,0.7s
ISCO Idaho Springs 30.22 333 eP P 22 56 02.4 +0.7
comp=Z,4.1nm,1.0s
ISCO Idaho Springs 30.22 333 ⇑P P 22 56 02.3 +0.7
baz=30
L29A Maesberg Ranch 30.28 342 ⇑P P 22 56 02.6 +0.7
baz=30
PV01 Paradox Valley 30.35 327 eP P 22 56 02.5 -0.2
SMCO Snowmass 30.35 331 eP P 22 56 04.2 +1.2
comp=Z,8.6nm,0.8s
N25A Grover 30.43 336 ⇑P P 22 56 04.0 +0.6
baz=30
BINY Binghamton 30.49 18 eP P 22 56 04.0 +0.4
comp=Z,427nm,2.8s
L28A Connealy Angus 30.56 341 ⇓P P 22 56 05.1 +0.7
baz=31
P22A Eagle 30.58 331 ⇓P P 22 56 05.8 +1.0
baz=31
PV05 Paradox Valley 30.59 327 eP P 22 56 05.8 +1.0
K30A Basset 30.60 344 ⇓P P 22 56 05.2 +0.6
baz=31,SNR=10
O23A Lake Granby, G 30.70 333 ⇑P P 22 56 06.6 +0.8
baz=31
PV04 Paradox Valley 30.72 327 eP P 22 56 06.9 +1.0
PV10 Paradox Valley 30.77 327 eP P 22 56 07.3 +0.8
K29A Lazy Trails An 30.88 343 ⇓P P 22 56 07.8 +0.7
baz=31,SNR=6.3
L27A T5 Ranch, Ellis 30.89 340 ⇑P P 22 56 07.8 +0.5
baz=31
ECSD EROS Data Cent 30.89 348 eP P 22 56 06.3 -0.8
comp=Z,17nm,0.9s
ECSD EROS Data Cent 30.89 348 ⇑P P 22 56 06.5 -0.7
baz=31,SNR=8.5
PV09 Paradox Valley 30.91 327 eP P 22 56 09.3 +1.6

O22A Kremmling 30.94 332 ⇑P P 22 56 08.2 +0.2
baz=31,SNR=5.8
GLA Glamis 30.94 313 ⇑P P 22 56 09.0 +1.2
baz=31
K28A Ten Mile Ranch 31.15 341 ⇓P P 22 56 10.5 +1.0
baz=31
PDMCI Parker Dam,Lak 31.16 316 ⇑P P 22 56 10.5 +0.9
baz=31
J30A Dallas 31.17 344 ⇑P P 22 56 09.7 0.0
baz=31,SNR=5.5
N23A Red Feather La 31.27 334 ⇓P P 22 56 11.6 +0.8
baz=31
U15A North Rim 31.27 321 ⇑P P 22 56 11.8 +0.8
baz=31
M24A Cheyenne 31.28 336 ⇓P P 22 56 11.8 +0.9
baz=31
PHWY Pilot Hill 31.40 335 eP P 22 56 12.2 +0.2
comp=Z,74nm,2.6s
N22A Wattenberg Ran 31.41 333 ⇑P P 22 56 13.3 +1.2
baz=32
W13A Hualapai Mount 31.46 317 ⇓P P 22 56 13.7 +1.2
baz=32
J29A Okreek 31.47 343 ⇓P P 22 56 12.8 +0.6
baz=32,SNR=15
PTGA Pitinga 31.53 115 P P 22 56 11.7 -1.4
PTGA Pitinga 31.53 115 P P 22 56 11.7 -1.4
comp=Z,2.2nm,0.5s,baz=288,slow=13,SNR=3.9
O20A White River Ci 31.71 330 eP P 22 56 16.1 +1.6
O20A White River Ci 31.71 330 ⇑P P 22 56 16.0 +1.4
baz=32,SNR=11
BC3 Big Chuckawall 31.71 314 ⇓P P 22 56 15.4 +0.8
baz=32
J28A Allard Ranch, 31.75 342 ⇑P P 22 56 15.6 +0.8
baz=32,SNR=9.8
SPMN St. Paul 31.79 354 ⇓P P 22 56 14.3 -0.7
baz=32,SNR=12
QUA2 Belchertown 31.81 23 eP P 22 56 14.0 -1.2
comp=Z,203nm,2.0s
BRYW Bryant College 31.82 24 eP P 22 56 15.8 +0.5
comp=Z,320nm,2.4s
J27A Elkhorn Farm, 31.84 341 ⇓P P 22 56 15.9 +0.4
baz=32
I29A Vivian Onida 32.03 344 ⇓P P 22 56 17.3 +0.2
baz=32,SNR=7.3
BRSD Miller 32.08 346 eP P 22 56 17.0 -0.6
BRSD Miller 32.08 346 ⇑P P 22 56 17.0 -0.6
baz=32
SRU San Rafael 32.10 326 eP P 22 56 18.8 +0.7
comp=Z,9.5nm,0.8s
L23A Garrett 32.18 335 ⇑P P 22 56 19.5 +0.8
baz=32
J26A Sides Ranch, S 32.24 340 ⇑P P 22 56 20.1 +1.1
baz=32,SNR=6.7
I28A Midland 32.26 343 ⇓P P 22 56 19.7 +0.5
baz=32,SNR=7.5
N20A Spence Gulch, 32.26 331 ⇑P P 22 56 21.0 +1.5
baz=32,SNR=15
BELC Belle Mtn. Jos 32.28 314 ⇓P P 22 56 20.6 +1.0
baz=32
ACCN Adirondack Com 32.30 20 eP P 22 56 20.3 +0.8
comp=Z,243nm,2.8s
HRV Adam Dziewonsk 32.31 24 eP P 22 56 20.4 +0.9
comp=Z,149nm,1.9s
L22A Ellis Ranch, M 32.41 334 ⇓P P 22 56 22.4 +1.6
baz=32
COWI Conover 32.44 359 eP P 22 56 19.8 -0.9
comp=Z,28nm,0.7s
J25A Sunshine Ranch 32.56 339 ⇓P P 22 56 22.1 +0.2
baz=33
H29A Onida 32.57 344 ⇓P P 22 56 21.1 -0.7
baz=33
I27A Quinn 32.59 342 ⇑P P 22 56 22.7 +0.7
baz=33
TMUT Trail Mountain 32.60 326 eP P 22 56 23.2 +0.7
comp=Z,140nm,2.9s
MVU Marysvale 32.61 324 eP P 22 56 23.6 +1.1
comp=Z,14nm,1.6s
CCUT Cedar City 32.66 322 eP P 22 56 24.9 +1.9
comp=Z,41nm,2.4s
G30A Faulkton 32.77 346 ⇓P P 22 56 22.8 -0.7
baz=33,SNR=8.4
PTN Potsdam (NY) 32.95 18 eP P 22 56 25.4 +0.3
comp=Z,26nm,0.6s
K22A Casper 32.96 335 ⇓P P 22 56 26.3 +0.8
baz=33
I25A Rochford 33.09 340 ⇑P P 22 56 27.7 +1.2
baz=33
H27A Howes 33.10 342 ⇑P P 22 56 27.2 +0.7
baz=33,SNR=6.7
LONY Lake Ozonia 33.12 18 eP P 22 56 26.4 -0.2
comp=Z,455nm,3.0s
K21A Alcova 33.25 334 ⇓P P 22 56 28.8 +0.8
baz=33
I24A Kuemmerle Ranc 33.26 338 ⇑P P 22 56 28.9 +1.0
baz=33
RSSD Black Hills 33.28 339 eP P 22 56 28.9 +0.6
comp=Z,2.4nm,0.6s
MPU Maple Canyon 33.35 327 eP P 22 56 29.9 +1.1
comp=Z,10.0nm,0.9s
DAU Daniels Canyon 33.43 327 eP P 22 56 31.2 +1.5
SAML Samuel 33.55 130 eP P 22 56 29.6 -1.0
comp=Z,1.7nm,0.8s
H25A Fruitdale 33.57 340 ⇑P P 22 56 31.6 +1.0
baz=34
J22A Midwest 33.58 336 ⇑P P 22 56 31.2 +0.5
baz=34,SNR=5.1
JLU Jordanelle 33.67 327 eP P 22 56 31.4 -0.3
comp=Z,5.8nm,0.8s
G27A Dupree 33.74 343 ⇑P P 22 56 32.5 +0.5
baz=34,SNR=5.7
G26A Maurine 33.86 342 ⇓P P 22 56 33.5 +0.5
baz=34,SNR=6.3
CTU Camp Tracy 33.90 327 eP P 22 56 34.2 +0.7
comp=Z,8.2nm,0.8s
J21A Lysite 33.92 335 ⇓P P 22 56 35.2 +1.5
baz=34,SNR=8.7
I22A 9 Mile Ranch, 33.98 336 ⇑P P 22 56 34.9 +0.7
baz=34,SNR=5.5
H24A Dirks Ranch, A 34.01 339 ⇓P P 22 56 35.2 +0.9
baz=34,SNR=8.1
E30A Jud 34.02 347 ⇑P P 22 56 33.9 -0.4
baz=34
G25A Newell 34.02 341 ⇓P P 22 56 35.5 +1.1
baz=34
TCUT Toone Canyon 34.03 328 eP P 22 56 36.1 +1.3
comp=Z,10.0nm,0.7s
DUG Dugway 34.12 326 eP P 22 56 36.8 +1.4
comp=Z,7.4nm,1.2s
DUG Dugway 34.12 326 ⇓P P 22 56 36.4 +1.0
baz=34,SNR=6.2
J20A Shoshoni 34.19 334 ⇓P P 22 56 37.3 +1.3
baz=34
F27A Lemmon 34.22 343 ⇑P P 22 56 36.4 +0.3
baz=34,SNR=7.0
I21A Big Trails, Te 34.24 335 ⇑P P 22 56 37.0 +0.5
baz=34
E29A Napoleon 34.24 346 ⇑P P 22 56 35.6 -0.7
baz=34
BW06 Boulder Array 34.38 332 eP P 22 56 38.3 +0.6
PD31 Pinedale Array 34.38 332 eP P 22 56 38.3 +0.6
PDAR Pinedale Array 34.38 332 P P 22 56 37.7 0.0
PDAR Pinedale Array 34.38 332 P P 22 56 37.7 0.0
comp=Z,3.3nm,0.8s,baz=126,slow=10.0,SNR=30
EYMN Ely 34.38 356 eP P 22 56 36.1 -1.3
comp=Z,15nm,0.7s
F26A Lodgepole 34.39 342 ⇑P P 22 56 37.7 +0.1
baz=34
HWUT Hardware Ranch 34.47 329 eP P 22 56 38.9 +0.5
comp=Z,19nm,0.8s
G24A Alzada 34.47 340 ⇑P P 22 56 39.2 +0.9
baz=34
E28A Huff 34.51 345 ⇓P P 22 56 38.4 -0.1
baz=35
H22A Clearmont 34.53 337 ⇓P P 22 56 39.3 +0.5
baz=35
J19A Crowheart 34.54 333 ⇓P P 22 56 39.7 +0.7
baz=35,SNR=8.2
D30A Buchanan 34.56 347 ⇓P P 22 56 38.5 -0.4
baz=35,SNR=7.6
E27A Carson 34.60 344 ⇑P P 22 56 40.1 +0.7
baz=35
F25A Bowman 34.69 341 ⇑P P 22 56 40.8 +0.6
baz=35,SNR=6.6
G23A Biddle 34.70 339 ⇓P P 22 56 41.0 +0.8
baz=35
I20A Worland 34.70 335 ⇓P P 22 56 41.4 +1.1
baz=35,SNR=7.8
D29A Pettibone, Tap 34.70 346 ⇓P P 22 56 39.5 -0.7

baz=35
SPUT South Promonto 34.71 327 eP P 22 56 41.2 +0.7
comp=Z,7.3nm,0.8s
BGU Big Grassy Mou 34.74 326 eP P 22 56 41.9 +1.0
comp=Z,6.8nm,1.5s
H21A Big Horn, Sher 34.82 336 ⇓P P 22 56 41.9 +0.6
baz=35
E26A Carlson Angus 34.89 343 ⇓P P 22 56 42.7 +0.8
baz=35
F24A Ekalaka 34.94 340 ⇑P P 22 56 43.1 +0.8
baz=35,SNR=6.6
G22A Birney 35.04 338 ⇓P P 22 56 43.3 +0.1
baz=35
D28A Regan 35.05 345 ⇓P P 22 56 43.6 +0.4
baz=35,SNR=8.7
C30A Mose, Pekin 35.07 348 ⇑P P 22 56 43.0 -0.3
baz=35,SNR=12
H20A Greybull 35.08 335 ⇑P P 22 56 44.0 +0.4
baz=35,SNR=6.1
AHID Auburn Hatcher 35.10 330 eP P 22 56 44.2 +0.4
comp=Z,25nm,0.9s
I19A Meeteetse 35.13 334 ⇓P P 22 56 45.6 +1.4
baz=35,SNR=7.4
F23A Volborg 35.15 339 ⇓P P 22 56 44.7 +0.6
baz=35
AGMN Agassiz Nation 35.19 351 eP P 22 56 43.6 -0.7
comp=Z,92nm,1.3s
AGMN Agassiz Nation 35.19 351 ⇑P P 22 56 43.8 -0.5
baz=35,SNR=21
E25A Miller Ranch, 35.19 342 ⇓P P 22 56 45.1 +0.7
baz=35,SNR=6.3
HVU Hansel Valley 35.21 328 eP P 22 56 45.3 +0.4
comp=Z,9.4nm,0.9s
D27A Center 35.22 344 ⇑P P 22 56 44.8 +0.2
baz=35
G21A Lodge Grass 35.38 337 ⇓P P 22 56 46.3 +0.2
baz=35
D26A Manning 35.39 343 ⇑P P 22 56 46.3 +0.2
baz=36,SNR=6.6
REDW Red Top Meadow 35.44 331 eP P 22 56 47.6 +0.8
comp=Z,44nm,0.8s
SNOW Snow King Moun 35.47 331 eP P 22 56 48.1 +1.0
comp=Z,43nm,0.8s
C28A Hausauer Farms 35.50 346 ⇑P P 22 56 46.7 -0.2
baz=36
F22A Rosebud 35.50 338 ⇓P P 22 56 47.3 +0.2
baz=36,SNR=7.1
LOHW Long Hollow 35.52 332 eP P 22 56 48.2 +0.8
comp=Z,17nm,0.9s
E24A Baker 35.52 341 ⇓P P 22 56 48.3 +1.0
baz=36,SNR=9.8
TPAW Teton Pass 35.58 331 eP P 22 56 48.6 +0.6
comp=Z,26nm,1.0s
H19A Powell 35.64 334 ⇑P P 22 56 49.2 +0.8
baz=36
MOOW Moose Ponds 35.69 332 eP P 22 56 49.5 +0.6
comp=Z,11nm,0.9s
FXWY Fox Creek 35.73 331 eP P 22 56 49.5 +0.2
comp=Z,6.8nm,0.9s
I17A Pilgrim Ck. 35.74 332 ⇑P P 22 56 50.8 +1.4
baz=36,SNR=9.6
D25A Fairfield 35.75 342 ⇑P P 22 56 50.0 +0.8
baz=36
B30A Myrvik Farm, E 35.76 349 ⇓P P 22 56 48.7 -0.4
baz=36,SNR=9.0
C27A Sayler Ranch, 35.77 345 ⇑P P 22 56 49.6 +0.3
baz=36
G20A Bridger 35.77 336 ⇑P P 22 56 49.6 +0.1
baz=36,SNR=7.2
ELK Elko 35.85 324 eP P 22 56 51.4 +1.0
comp=Z,3.9nm,0.9s
IMW Indian Meadow 35.89 332 eP P 22 56 51.6 +0.9
comp=Z,15nm,1.2s
FLWY Flagg Ranch 35.92 332 eP P 22 56 51.9 +1.0
comp=Z,20nm,1.0s
H18A Shoshone NF, C 35.93 334 ⇓P P 22 56 51.6 +0.6
baz=36,SNR=17
B29A Wagenman Farm, 35.98 348 ⇑P P 22 56 51.0 0.0
baz=36,SNR=9.2
D24A Glendive 36.02 341 ⇓P P 22 56 52.3 +0.8
baz=36,SNR=7.2
C26A Wahner Farm, P 36.03 344 ⇓P P 22 56 51.7 +0.2
baz=36,SNR=6.8
H17A Grant Village 36.11 333 eP P 22 56 52.9 +0.4
H17A Grant Village 36.11 333 ⇓P P 22 56 54.1 +1.6
baz=36
RLMT Red Lodge 36.12 335 eP P 22 56 52.2 -0.3
comp=Z,26nm,1.4s
B28A Dugan Ranch, T 36.18 346 ⇓P P 22 56 52.9 +0.2
baz=36,SNR=8.9
A30A Hoffart Farm, 36.22 349 ⇑P P 22 56 52.6 -0.5
baz=36,SNR=12
F20A Billings 36.23 336 ⇑P P 22 56 53.7 +0.4
baz=36,SNR=7.5
C25A Freed Ranch, W 36.24 343 ⇑P P 22 56 53.8 +0.5
baz=36,SNR=6.0
LAO LASA Array 36.27 339 eP P 22 56 52.1 -1.5
comp=Z,88nm,2.3s
NV01 Mina Array Sit 36.28 319 eP P 22 56 54.9 +0.9
NVAR Mina Array Bea 36.28 319 P P 22 56 55.4 +1.4
NVAR pP pP 22 57 36.7 +1.6
NVAR PcP PcP 22 59 14.2 -0.5
NVAR Mina Array Bea 36.28 319 P P 22 56 55.4 +1.4
comp=Z,2.0nm,0.7s,baz=134,slow=7.3,SNR=16
NVAR pP pP 22 57 36.7 +1.6
comp=Z,1.3nm,0.8s,baz=141,slow=8.3,SNR=4.1
NVAR PcP PcP 22 59 14.2 -0.5
comp=Z,0.7nm,0.8s,baz=147,slow=5.2,SNR=3.5
D23A Lindsay 36.35 341 ⇑P P 22 56 55.2 +0.9
baz=36
A29A Manning Farm, 36.38 348 ⇑P P 22 56 54.1 -0.4
baz=36,SNR=13
C24A Savage 36.42 342 ⇓P P 22 56 55.8 +0.9
baz=36,SNR=11
E21A Keefer Ranch, 36.45 338 ⇑P P 22 56 55.6 +0.5
baz=36,SNR=7.9
YMR Madison River 36.50 333 eP P 22 56 57.3 +1.5
comp=Z,33nm,1.0s
F19A Roth Farm, Mol 36.59 336 ⇑P P 22 56 56.8 +0.4
baz=37,SNR=16
D22A Cohagen 36.66 340 ⇑P P 22 56 57.9 +1.1
baz=37,SNR=6.4
B25A Knox Farm, Ray 36.72 343 ⇓P P 22 56 58.3 +0.9
baz=37
E20A Meyer Farm, Mu 36.81 337 ⇑P P 22 56 59.1 +1.0
baz=37,SNR=13
GCMT Greycliff 36.83 335 eP P 22 56 58.6 +0.1
QLMT Earthquake Lak 36.83 332 eP P 22 56 59.8 +1.2
D21A La Casta Ranch 36.87 339 ⇓P P 22 56 59.6 +0.9
baz=37,SNR=7.0
C23A Lambert 36.90 341 ⇑P P 22 56 59.6 +0.7
baz=37,SNR=8.1
A26A Wade Farm, Ken 37.00 345 ⇓P P 22 56 59.9 +0.2
baz=37,SNR=6.1
E19A Rath Farm, Rou 37.02 336 ⇑P P 22 57 00.7 +0.7
baz=37
C22A Vida 37.08 340 ⇓P P 22 57 01.3 +0.9
baz=37,SNR=12
ULM Lac du Bonnet 37.10 352 eP P 22 56 58.6 -1.8
comp=Z,28nm,0.9s
ULM Lac du Bonnet 37.10 352 P P 22 56 59.3 -1.1
comp=Z,26nm,0.7s,baz=170,slow=8.5,SNR=45
DGMT Dagmar 37.20 343 eP P 22 57 01.3 0.0
comp=Z,54nm,0.8s
DGMT Dagmar 37.20 343 ⇑P P 22 57 02.1 +0.7
baz=37
D20A Manuel Ranch, 37.30 338 ⇑P P 22 57 03.2 +0.9
baz=37,SNR=19
A25A Svangstu Ranch 37.32 344 ⇓P P 22 57 03.1 +0.8
baz=37
HLID Hailey 37.33 328 eP P 22 57 03.1 +0.3
comp=Z,4.7nm,0.8s
HLID Hailey 37.33 328 ⇑P P 22 57 03.4 +0.6
baz=37,SNR=10
B23A Brockton 37.43 342 ⇑P P 22 57 04.2 +0.9
baz=38,SNR=14
MCMT McKenzie Canyo 37.49 331 eP P 22 57 06.0 +1.9
A24A Westby 37.55 343 ⇓P P 22 57 05.3 +1.0
baz=38,SNR=12
BOZ Bozeman (W) 37.55 333 eP P 22 57 05.1 +0.5
comp=Z,84nm,2.0s
B22A Reddig Ranch S 37.60 341 ⇑P P 22 57 05.7 +1.0
baz=38
D19A Cripps Ranch, 37.64 337 ⇑P P 22 57 05.9 +0.7
baz=38,SNR=10
DLMT Dillon 37.77 332 eP P 22 57 07.9 +1.5
comp=Z,16nm,0.8s
C20A Veseth Ranch, 37.78 338 ⇑P P 22 57 06.9 +0.7
baz=38
A23A Redstone 37.84 342 ⇓P P 22 57 07.4 +0.6
baz=38,SNR=6.3
LRM Limekiln Ridge 38.06 332 eP P 22 57 10.0 +1.1
C19A Slack Wire Ran 38.18 337 ⇓P P 22 57 10.3 +0.6
baz=38,SNR=16
A22A Carney Farms, 38.18 341 ⇓P P 22 57 10.7 +1.1
baz=38,SNR=5.4
B20A Solberg Farm, 38.40 339 ⇑P P 22 57 11.9 +0.5
baz=38,SNR=5.4
HRY Holter Researc 38.47 334 eP P 22 57 13.1 +0.9
EGMT Eagleton 38.69 337 eP P 22 57 14.7 +0.8
comp=Z,27nm,1.3s
EGMT Eagleton 38.69 337 ⇓P P 22 57 14.5 +0.6
baz=39,SNR=7.4
A20A Cobblestone Ra 38.74 339 ⇑P P 22 57 15.4 +1.0
baz=39,SNR=17
B19A Brinkman Farms 38.74 338 ⇓P P 22 57 14.9 +0.5
baz=39,SNR=11
WVOR Wild Horse Val 38.88 324 eP P 22 57 16.1 +0.4
comp=Z,5.7nm,1.0s
A19A Klindworth Far 39.07 339 ⇑P P 22 57 17.9 +0.8
baz=39,SNR=6.1
CHMT Chamberlain Mo 39.25 333 eP P 22 57 19.3 +0.6
MSO Missoula 39.49 332 eP P 22 57 21.5 +0.9
comp=Z,19nm,1.1s
MSO Missoula 39.49 332 ⇑P P 22 57 21.2 +0.5
baz=40,SNR=13
SLMT Seeley Lake 39.61 333 eP P 22 57 22.1 +0.5
SWMT Swartz Lake 40.03 333 eP P 22 57 24.9 -0.2
YBMT Yellow Bay 40.31 333 eP P 22 57 26.3 -1.0
JTMT Jette 40.34 333 eP P 22 57 27.4 -0.2
I07A Izee 40.41 325 eP P 22 57 28.4 +0.2
comp=Z,58nm,2.5s
M04C Macdoel 40.41 320 ⇓P P 22 57 28.8 +0.5
baz=40
F10A Beach Ranch, E 40.45 329 eP P 22 57 28.5 0.0
comp=Z,14nm,1.0s
BSMT Basso Peak 40.64 333 eP P 22 57 30.4 +0.3
WALA Waterton Lakes 41.18 334 eP P 22 57 33.0 -1.4
E09A Wood Farm, Sta 41.28 329 eP P 22 57 35.2 0.0
comp=Z,21nm,1.6s
J04D Umpqua Nationa 41.41 322 ⇓P P 22 57 36.3 -0.2
baz=41
NEW Newport 42.01 331 eP P 22 57 40.8 -0.3
comp=Z,6.3nm,1.0s
NEW Newport 42.01 331 P P 22 57 40.9 -0.2
comp=Z,3.3nm,0.8s,baz=133,slow=10.0
NEW Newport 42.01 331 ⇓P P 22 57 41.0 -0.1
baz=42,SNR=5.8
D08A Wollman Farm, 42.05 329 eP P 22 57 41.8 +0.4
comp=Z,9.9nm,0.7s
G05D Wamic, OR 42.15 325 ⇑P P 22 57 43.5 +1.3
baz=42
E07A Sunnyside 42.19 328 eP P 22 57 42.8 +0.3
comp=Z,9.9nm,0.9s
C09A Chrisman Ranch 42.23 330 eP P 22 57 42.9 0.0
comp=Z,5.5nm,0.6s
H04A Detroit Lake 42.30 324 eP P 22 57 43.5 0.0
comp=Z,72nm,2.1s
FFC Flin Flon 42.43 348 eP P 22 57 44.5 +0.1
comp=Z,6.3nm,0.8s
B08A Colville Reser 43.13 330 eP P 22 57 49.8 -0.3
comp=Z,7.1nm,0.9s
LON Longmire 43.35 326 eP P 22 57 52.1 +0.1
comp=Z,19nm,1.8s
DRLN Deer Lake 43.70 29 eP P 22 57 54.5 -0.1
comp=Z,1nm,2.8s
EDM Edmonton 44.26 339 eP P 22 57 58.8 -0.2
B06A Marblemount 44.31 329 eP P 22 57 59.3 -0.1
comp=Z,20nm,0.8s
SCHQ Schefferville 44.49 18 eP P 22 57 60.0 -0.8
comp=Z,40nm,1.1s
SCHQ Schefferville 44.49 18 P P 22 58 00.1 -0.6
comp=Z,27nm,1.0s,baz=220,slow=7.6,SNR=16
NLWA Neilton Lookou 44.86 326 eP P 22 58 04.3 +0.5
comp=Z,308nm,2.8s
FCC Fort Churchill 45.32 356 eP P 22 58 06.7 -0.5
CPUP Villa Florida 49.84 143 P P 22 58 41.2 -1.2
CPUP PcP PcP 23 00 00.3 +0.3
CPUP Villa Florida 49.84 143 P P 22 58 41.2 -1.2
comp=Z,0.7nm,0.4s,baz=315,slow=11,SNR=2.6
CPUP PcP PcP 23 00 00.3 +0.3
comp=Z,2.2nm,0.6s,baz=292,slow=5.4,SNR=3.8
YKA Yellowknife Ar 52.31 345 P P 22 58 59.9 -0.4
YKA pP pP 22 59 44.3 +0.1
YKA Yellowknife Ar 52.31 345 P P 22 58 59.9 -0.4
comp=Z,7.1nm,0.7s,baz=139,slow=7.7,SNR=169
YKA pP pP 22 59 44.3 +0.1
comp=Z,6.9nm,0.9s,baz=143,slow=7.4,SNR=7.8
YKB5 Yellowknife Ar 52.31 345 eP P 22 59 00.1 -0.2
CRAG Craig 54.21 330 eP P 22 59 14.5 +0.3
comp=Z,104nm,1.6s
DLBC Dease Lake 54.53 335 eP P 22 59 17.9 +1.2
DLBC Dease Lake 54.53 335 P P 22 59 18.1 +1.4
comp=Z,14nm,0.7s,baz=142,slow=5.5,SNR=37
PLCA Paso Flores 56.49 164 P P 22 59 33.7 +3.0
PLCA Paso Flores 56.49 164 P P 22 59 33.7 +3.0
comp=Z,0.8nm,0.3s,baz=24,slow=2.0,SNR=3.2
RES Resolute Bay 61.23 358 eP P 23 00 01.8 -1.0
RES pP pP 23 00 48.6 +0.6
RES Resolute Bay 61.23 358 P P 23 00 02.1 -0.6
comp=Z,2.9nm,0.5s,baz=178,slow=8.9,SNR=17
RES pP pP 23 00 48.6 +0.6
comp=Z,8.1nm,1.0s,baz=188,slow=11,SNR=8.9
INK Inuvik 61.88 343 eP P 23 00 07.2 0.0
comp=Z,34nm,1.2s
INK Inuvik 61.88 343 P P 23 00 07.1 -0.2
comp=Z,3.8nm,0.7s,baz=127,slow=6.9,SNR=15
SUMG Summit 65.75 15 i P pP 23 01 21.1 +2.3
comp=Z,8.3nm,1.0s
SUMG Summit 65.75 15 eP P 23 00 32.9 -0.1
comp=Z,29nm,1.4s
DAG Danmarks Havn 72.28 13 i P P 23 01 11.6 -1.0
comp=Z,2.9nm,0.6s
ESDC Sonseca Array 77.22 52 P P 23 01 41.8 +0.1
ESDC Sonseca Array 77.22 52 P P 23 01 41.8 +0.1
comp=Z,1.0nm,0.6s,baz=292,slow=5.2,SNR=9.2
ES19 SONSECA Array 77.26 52 eP P 23 01 41.6 -0.3
SPITS Spitsbergen Ar 79.81 12 P P 23 01 55.4 +0.4
SPITS Spitsbergen Ar 79.81 12 P P 23 01 55.4 +0.4
comp=Z,8.3nm,0.9s,baz=254,slow=0.6,SNR=5.0
NOA NORSAR Array B 82.84 29 P P 23 02 09.4 -1.9
NOA NORSAR Array B 82.84 29 P P 23 02 09.4 -1.9
comp=Z,1.9nm,0.9s,baz=284,slow=5.2,SNR=3.7
ARCES ARCESS Array B 85.43 19 P P 23 02 23.8 -0.4
ARCES ARCESS Array B 85.43 19 P P 23 02 23.8 -0.4
comp=Z,4.2nm,0.9s,baz=283,slow=5.1,SNR=5.2
CLL Collm 86.50 38 eP P 23 02 30.0 +0.2
TORD Torodi Ar. Bea 87.05 77 P P 23 02 30.3 -2.8
TORD Torodi Ar. Bea 87.05 77 P P 23 02 30.3 -2.8
comp=Z,0.3nm,0.5s,baz=292,slow=5.0,SNR=7.6
GERES GERESS Array B 87.68 40 P P 23 02 33.1 -2.5
GERES GERESS Array B 87.68 40 P P 23 02 33.1 -2.5
comp=Z,0.7nm,0.8s,baz=290,slow=4.0,SNR=5.2
MKAR Makanchi Array 119.34 7 PKP PKPdf 23 08 32.9 -2.3
MKAR Makanchi Array 119.34 7 PKP PKPdf 23 08 32.9 -2.3
comp=Z,0.1nm,0.3s,baz=325,slow=2.5,SNR=7.8
BJI Beijing 122.00 338 PKP PKPdf 23 08 40.5 +0.1
WMQ Urumqi 122.79 3 PKP PKPdf 23 08 42.0 0.0
WMQ PP PP 23 10 26.3 +5.1
WMQ PKS PKSdf 23 12 17.5 -1.2
WMQ SKS SKSdf 23 15 36.5 +1.1
WMQ SKKS SKKSac 23 17 00.8 -0.9
WMQ SS SS 23 26 52.3 +4.9
WMQ AMB AMB
comp=Z,12nm,10.1s
WMQ LR LR
comp=Z,45nm,28.9s
WMQ LR LR
comp=Z,17nm,29.5s
WMQ LR LR
comp=Z,35nm,29.9s
HHC Hu-ho-hao-te 122.80 342 ePKP PKPdf 23 08 37.8 -4.4
HHC AMB AMB
comp=Z,61nm,5.9s
KSH Kashi 125.22 15 ePKP PKPdf 23 08 43.0 -3.9
KSH eSKS SKSdf 23 15 38.3 -2.0
KSH AMB AMB
comp=Z,27nm,3.4s
KSH LR LR
comp=Z,8.0nm,3.5s
KSH LR LR
comp=Z,17nm,3.0s
LZH Lanzhou 129.29 347 ePKP PKPdf 23 08 56.8 +2.0
XAN Xi'an 129.88 341 PKP PKPdf 23 08 53.3 -2.5
STKA Stephens Creek 130.89 240 PKP PKPdf 23 08 58.7 +1.0
STKA Stephens Creek 130.89 240 PKP PKPdf 23 08 58.7 +1.0
comp=Z,1.8nm,0.4s,baz=106,slow=5.0,SNR=7.7
GYA Guiyang 137.62 340 ePdif Pdif 23 06 19.0 -0.9
GYA PKP PKPdf 23 09 10.0 -0.6
GYA sPKP 23 10 19.5
GYA PP PP 23 12 01.5 +4.0
GYA AMB AMB
comp=Z,90nm,7.8s
WRA Warramunga Arr 138.70 255 PKP PKPdf 23 09 12.7 +0.2
WRA Warramunga Arr 138.70 255 PKP PKPdf 23 09 12.7 +0.2
comp=Z,6.5nm,0.6s,baz=88,slow=2.1,SNR=22
ASAR Alice Springs 138.83 250 PKP PKPdf 23 09 13.3 +0.6
ASAR Alice Springs 138.83 250 PKP PKPdf 23 09 13.3 +0.6
comp=Z,2.7nm,0.6s,baz=106,slow=2.6,SNR=4.3
KMI Kunming 140.06 344 PKP PKPdf 23 09 13.8 -1.4
CMAR Chiang Mai Arr 147.38 347 PKPbc PKPdf 23 09 28.8 +0.9
CMAR pPKPbc pPKPbc 23 10 20.1 -1.0
CMAR Chiang Mai Arr 147.38 347 PKPbc PKPdf 23 09 28.8 +0.9
comp=Z,1.1nm,0.6s,baz=337,slow=3.2,SNR=7.7
CMAR pPKPbc pPKPbc 23 10 20.1 -1.0
comp=Z,1.1nm,0.7s,baz=349,slow=4.2,SNR=3.5

*ISCJB **30** 22:58:34.9±0.3, 61°.73N±0°.02×151°.66W±0°.06, h109km±3km, mb3.9/6, Error ellipse: s-maj=4.8km s-min=3.5km az=32.2*
*NEIC **30** 22:58:37.1, 61°.72N×151°.75W, h96km, MG3.5(AEIC), After AEIC.*
*IDC **30** 22:58:39.5±5.1, 62°.03N×151°.66W, h120km±37km, mb3.6/6, mb1 3.7/9, mb1mx3.3/44, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.5/34, Error ellipse: s-maj=45.1km s-min=22.6km az=17.0*

ISC 30 22:58:36.1±0.7, 61°.73N±0°.03×151°.70W±0°.04, h101km±5km, n96, σ0°.69/106, mb3.9/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	Strandline Lak	0.24	196	P	Pn	22 58 50.1	-0.4
SKT	Skwentna	0.27	17	P	Pn	22 58 50.4	-0.2
SKT				S	Sn	22 59 00.9	-0.6
CGLM	Capps Glacier	0.45	200	P	Pn	22 58 51.1	-0.5
CGLM				S	Sn	22 59 02.1	-1.2
SUA	Susitna One	0.53	120	P	Pn	22 58 52.7	+0.4
SUA				S	Sn	22 59 05.0	+0.6
SPBG	Spurr Blockage	0.57	215	P	Pn	22 58 52.2	-0.3
BGL	Barrier Glacie	0.57	216	P	Pn	22 58 52.2	+0.3
CKL	Chakachamna La	0.61	210	P	Pn	22 58 52.4	-0.5
FIB	Fire Island	0.92	127	P	Pn	22 58 56.7	+1.1
RC01	Rabbit Creek A	1.14	123	P	Pn	22 58 58.4	+0.4
RC01				S	Sn	22 59 15.2	+0.6
PPLA	Purkeypile	1.20	349	P	Pn	22 58 58.9	+0.1
PMR	Palmer	1.23	95	P	Pn	22 58 58.8	-0.2
PMR				S	Sn	22 59 16.2	-0.2
DFR	Drift River	1.23	203	P	Pn	22 58 59.2	-0.1
NCT	North Crescent	1.31	208	P	Pn	22 59 00.2	+0.1
RDN	Redoubt North	1.32	204	P	Pn	22 59 00.2	-0.1
SLKM	Skilak Lake	1.42	149	P	Pn	22 59 01.4	0.0
PTE	Portage	1.55	123	P	Pn	22 59 03.0	+0.1
PTE				S	Sn	22 59 23.2	-0.1
HUR	Hurricane	1.58	36	P	Pn	22 59 03.6	+0.3
HUR				S	Sn	22 59 24.4	+0.4
CAST	Castle Rocks	1.71	354	P	Pn	22 59 04.9	0.0
ILW	Iliamna West	1.81	203	P	Pn	22 59 06.1	-0.2
PWL	Port Wells	1.84	117	P	Pn	22 59 06.1	-0.5
TRF	Thorofare Moun	1.85	20	P	Pn	22 59 07.3	+0.5
KTH	Kantishna Hill	1.87	11	P	Pn	22 59 07.3	+0.3
SEW	Seward	1.96	145	P	Pn	22 59 07.6	-0.5
SVW2	Sparrevohn	1.97	253	P	Pn	22 59 07.6	-0.6
BRLK	Bradley Lake	2.01	168	P	Pn	22 59 08.3	-0.4
SCM	Sheep Creek Mo	2.08	85	P	Pn	22 59 09.7	0.0
RND	Reindeer	2.14	37	P	Pn	22 59 10.9	+0.4
OPT	Oil Point	2.21	201	P	Pn	22 59 11.8	+0.4
TT01	Tatalina	2.34	302	P	Pn	22 59 12.6	-0.4
MCK	McKinley	2.38	31	P	Pn	22 59 14.2	+0.6
DHY	Denali Highway	2.43	54	P	Pn	22 59 14.6	+0.3
JPK	Jack Peak	2.54	103	P	Pn	22 59 14.9	-0.9
AUI	Augustine Isla	2.55	200	P	Pn	22 59 16.2	+0.4
VLZ	Valdez	2.65	101	P	Pn	22 59 16.1	-0.9
KLU	Klutina	2.77	92	P	Pn	22 59 18.0	-0.7
MCNL	McNeil River	2.87	208	P	Pn	22 59 20.7	+0.7
DIV	Divide	2.91	99	P	Pn	22 59 19.5	-1.1
PS11	TAPS Pump St11	2.97	80	P	Pn	22 59 21.8	+0.5
EYAK	Cordova Ski Ar	3.12	110	P	Pn	22 59 21.9	-1.3
PS12	TAPS Pump St12	3.14	92	P	Pn	22 59 22.8	-0.8
HARP	HAARP	3.15	75	P	Pn	22 59 24.6	+0.8
PAX	Paxson	3.16	64	P	Pn	22 59 24.5	+0.5
WRH	Wood River Hil	3.21	29	P	Pn	22 59 24.1	-0.3
PS10	TAPS Pump St10	3.23	56	P	Pn	22 59 26.2	+1.4
MLY	Manley	3.35	7	P	Pn	22 59 26.0	-0.4
SGAM	Sherman Glacie	3.38	108	P	Pn	22 59 25.4	-1.5
CCB	Clear Creek Bu	3.42	29	P	Pn	22 59 26.8	-0.5
HDA	Harding Lake	3.45	37	P	Pn	22 59 27.7	0.0
BMRM	Bremner River	3.50	99	P	Pn	22 59 27.5	-1.0
KAHC	Katmai Hardscr	3.50	210	P	Pn	22 59 28.7	+0.1
GOAT	Goat Mountain	3.57	106	P	Pn	22 59 28.2	-1.2
PS08	TAPS Pump Stn8	3.59	36	P	Pn	22 59 29.6	0.0
MDM	Murphy Dome	3.60	24	P	Pn	22 59 29.5	-0.3
COLA	College	3.60	27	P	Pn	22 59 29.8	0.0
RAGM	Ragged Mountai	3.67	108	P	Pn	22 59 29.7	-1.0
IL1	Eielson Array	3.75	33	P	Pn	22 59 31.4	-0.4
ILAR	Eielson Array	3.75	33	P	Pn	22 59 31.4	-0.4
ILAR				S	Sn	23 00 13.6	-1.4
ILAR	Eielson Array	3.75	33	P	Pn	22 59 31.4	-0.4
	15nm,0.3s,baz=221,slow=14,SNR=273						
ILAR				S	Sn	23 00 13.6	-1.4
	8.8nm,0.3s,baz=222,slow=25,SNR=14						
GLB	Gilahina Butte	3.78	91	P	Pn	22 59 31.6	-0.7
GLM	Gilmore Dome	3.81	29	P	Pn	22 59 33.0	+0.5
KVTA	Katmai Vly 10	3.81	210	P	Pn	22 59 33.3	+0.7
GCSA	Galena City Sc	3.83	325	P	Pn	22 59 32.8	-0.1
KAKN	Katmai Knife C	3.83	208	P	Pn	22 59 33.2	+0.2
KELA	Mount Kelaz	3.87	213	P	Pn	22 59 34.3	+0.8
KCE	Katmai Mt Cerb	3.91	208	P	Pn	22 59 34.8	+0.8
KABR	Katmai Barrier	3.96	206	P	Pn	22 59 35.1	+0.4
KDAK	Kodiak Island	3.98	187	P	Pn	22 59 33.5	-1.4
DOT	Dot Lake	4.01	58	P	Pn	22 59 35.6	+0.2
PS06	TAPS Pump Stn6	4.24	11	P	Pn	22 59 38.8	+0.5
IM3	Indian Mountai	4.37	349	P	Pn	22 59 40.1	0.0
BCA3	Beaver Creek A	4.80	69	P	Pn	22 59 46.1	+0.1
COLD	Coldfoot	5.56	6	P	Pn	22 59 57.0	+0.8
EGAK	Eagle	5.66	53	P	Pn	22 59 57.4	-0.1
DAWY	Dawson	6.09	62	P	Pn	23 00 03.6	+0.1
BM3	Burnt Mountain	6.48	25	P	Pn	23 00 08.9	+0.2
INK	Inuvik	10.09	41	P	Pn	23 00 57.5	-0.3
INK	Inuvik	10.09	41	P	Pn	23 00 57.5	-0.3
	1.6nm,0.3s,baz=242,slow=12,SNR=27						
YKA	Yellowknife Ar	17.22	71	P	P	23 02 30.4	+0.6
YKA				PcP	PcP	23 07 07.2	+0.2
YKA	Yellowknife Ar	17.22	71	P	P	23 02 30.4	+0.6
	0.2nm,0.3s,baz=284,slow=11,SNR=27						
YKA				PcP	PcP	23 07 07.2	+0.2
	0.0nm,0.3s,baz=284,slow=1.5,SNR=4.3						
ULM	Lac du Bonnet	32.23	85	P	P	23 04 56.0	+1.7
ULM	Lac du Bonnet	32.23	85	P	P	23 04 56.0	+1.7
	1.2nm,0.6s,baz=0.2,slow=7.5,SNR=3.0						
ARCES	ARCESS Array B	49.01	1	PcP	PcP	23 08 33.8	-0.2
ARCES	ARCESS Array B	49.01	1	PcP	PcP	23 08 33.8	-0.2
	2.4nm,0.7s,baz=1.3,slow=5.3,SNR=4.4						
SONM	Songino Array	54.30	306	P	P	23 07 52.7	+1.2
SONM	Songino Array	54.30	306	P	P	23 07 52.7	+1.2
	2.4nm,0.6s,baz=39,slow=7.6,SNR=27						
JCJ	Chichijima	55.23	263	LR	LR	23 29 47.1	
	comp=Z,30nm,20.7s,baz=203,slow=34						
ZALV	Zalesovo Beam	56.36	324	P	P	23 08 05.3	-0.7
ZALV	Zalesovo Beam	56.36	324	P	P	23 08 05.3	-0.7
	1.6nm,0.5s,baz=35,slow=6.4,SNR=9.9						
FINES	FINESS Array B	57.14	1	P	P	23 08 11.0	-0.5
FINES	FINESS Array B	57.14	1	P	P	23 08 11.0	-0.5
	1.2nm,0.8s,baz=5.4,slow=8.0,SNR=4.2						
MKAR	Makanchi Array	63.48	322	P	P	23 08 53.9	-1.0
MKAR	Makanchi Array	63.48	322	P	P	23 08 53.9	-1.0
	0.2nm,0.3s,baz=42,slow=7.4,SNR=9.8						
AKASG	Malin Array Be	67.92	359	P	P	23 09 22.7	-0.6
AKASG	Malin Array Be	67.92	359	P	P	23 09 22.7	-0.6
	0.6nm,0.5s,baz=1.6,slow=6.1,SNR=8.5						
BOSA	Boshof	146.82	5	PKPbc	PKPbc	23 18 05.4	-0.7
BOSA	Boshof	146.82	5	PKPbc	PKPbc	23 18 05.4	-0.7
	2.9nm,0.9s,baz=349,slow=5.2,SNR=3.0						

*ISCJB **30** 22:59:54.7±0.2,22.22S±0.04×171.55E±0.03, h98km, mb5.0/91, Error ellipse: s-maj=5.5km s-min=3.5km az=167.7*

*NOU **30** 22:59:55.8±1.1,21.60S×171.74E, h30km, MD3.4, ML4.8*

*IDC **30** 22:59:56.5±2.0,22.28S×171.60E, h107km±16km, mb4.3/14, mb1 4.5/17, mb1mx4.4/25, mbtmp4.7/17, MS3.6/13, Ms1 3.6/13, ms1mx3.4/24, Error ellipse: s-maj=16.0km s-min=12.3km az=167.0*

*MOS **30** 22:59:58.1±1.3,22.17S×171.51E, h127km, mb5.0/19, Error ellipse: s-maj=13.0km s-min=9.8km az=17.3*

*NEIC **30** 22:59:59.4±1.0,22.29S×171.53E, h133km±9km, mb5.2/60, Error ellipse: s-maj=6.4km s-min=5.1km az=198.0*

*GCMT **30** 22:59:59.4±0.2,22.37S×171.37E, h116km±2km, MW5.2/81, Moment Tensor Solution. s49,c66; s81,c128; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.15±.17; Mθθ -1.84±.20; Mϕϕ 0.69±.20; Mrθ 4.27±.12; Mϕθ 4.84±.18; Mϕr 1.27±.12; Best double couple: Mo 6.76700×10^16 NP1: θ 86.00000°, δ 82.00000°, λ 42.00000°. NP2: ϕ 349.00000°, δ 49.00000°, λ 169.00000°. Principal axes: T 6.9260, Plg34.0000°, Azm316.0000°; N -0.3160, Plg48.0000°, Azm95.0000°; P -6.6080, Plg21.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **30** 23:00:03.8,21.80S×171.33E, h159km, mB5.0/26, mb4.7/43*

ISC 30 22:59:55.3±0.3,22°30S±0.05×171°64E±0.05, h98km, n304, σ1s47/307, mb5.1/90, 28C-18D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.41**	**271**	*e*P			**Pn**	**23 01 01.2**	**+1.3**
BAYA				*e*S			**Sn**	**23 01 48.8**	**-1.3**
BAYA				AMP				23 01 52.3	
	comp=Z,444nm,1.4s								
PLUM	**Mont Dore**	**4.63**	**269**	*e*P			**Pn**	**23 01 04.6**	**+1.7**
PLUM				*e*S			**Sn**	**23 01 56.1**	**+0.5**
PLUM				AMP				23 02 08.2	
	comp=Z,5μm,8.1s								
DZM	**Mont Dzumac**	**4.82**	**272**	*e*Pn			**Pn**	**23 01 07.6**	**+1.9**
	comp=Z,255nm,0.2s								
DZM				*e*Sn			**Sn**	**23 01 59.0**	**-1.3**
	comp=Z,5μm,0.3s								
DZM	**Mont Dzumac**	**4.82**	**272**	P			**Pn**	**23 01 07.6**	**+1.9**
DZM				S			**Sn**	**23 02 00.2**	**-0.1**
DZM	**Mont Dzumac**	**4.82**	**272**	P			**Pn**	**23 01 07.6**	**+1.9**
	comp=Z,95nm,0.3s,baz=143,slow=19,SNR=1614								
DZM				S			**Sn**	**23 02 00.2**	**-0.1**
	comp=Z,492nm,0.3s,baz=95,slow=23,SNR=25								
DZM	**Mont Dzumac**	**4.82**	**272**	AMP				23 01 07.6	
	comp=Z,26μm,3.4s								
NOUC	**Port Laguerre**	**4.95**	**271**	*e*P			**Pn**	**23 01 10.1**	**+2.8**
NOUC				*e*S			**Sn**	**23 02 05.5**	**+2.2**
NOUC				AMP				23 02 08.5	
	comp=Z,2μm,8.7s								
NFK	**Norfolk Island**	**7.50**	**206**	P			**Pn**	**23 01 44.1**	**+2.1**
	baz=7.3,SNR=59								
NFK				S			**Sn**	**23 03 02.4**	**-3.1**
	baz=7.3,SNR=14								
RAO	**Raoul Island**	**11.68**	**129**	LR			LR	23 06 23.8	
	comp=Z,299nm,19.7s,baz=349,slow=33								
OUZ	**Omahuta**	**12.99**	**173**	*e*Pn			**P**	**23 03 00.4**	**-2.4**
OUZ				*e*Sn			**Sn**	**23 05 17.3**	**-1.7**
URZ	**Urewera**	**16.59**	**165**	*e*Pn			**P**	**23 03 44.3**	**+1.5**
	comp=Z,234nm,1.7s								
URZ	**Urewera**	**16.59**	**165**	P			**P**	**23 03 44.6**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=24,slow=2.5,SNR=7.3								
URZ				LR			LR	23 09 22.9	
	comp=Z,526nm,18.2s,baz=347,slow=34								
HNR	**Honiara**	**17.02**	**317**	*e*P			**P**	**23 03 47.6**	**0.0**
	comp=Z,381nm,1.1s								
BKZ	**Black Stump Fm**	**17.32**	**167**	*e*P			**Pn**	**23 03 53.2**	**+2.3**
	comp=Z,149nm,1.3s								
AFI	**Afiamalu**	**17.82**	**65**	P			**Pn**	**23 03 58.5**	**+1.2**
AFI	**Afiamalu**	**17.82**	**65**	P			**Pn**	**23 03 58.5**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=202,slow=5.4,SNR=3.8								
BFZ	**Birch Farm**	**18.74**	**169**	*e*P			**P**	**23 04 07.2**	**+0.8**
	comp=Z,741nm,2.0s								
EIDS	**Eidsvold**	**19.05**	**257**	*e*P			**P**	**23 04 10.9**	**+1.0**
	comp=Z,61nm,1.1s								
EIDS	**Eidsvold**	**19.05**	**257**	P			**Pn**	**23 04 12.9**	**+1.2**
	baz=19,SNR=6.9								
ARMA	**Armidale**	**19.65**	**242**	*e*P			**Pn**	**23 04 18.6**	**-0.2**
	comp=Z,34nm,1.0s								
ARMA	**Armidale**	**19.65**	**242**	P			**Pn**	**23 04 19.7**	**+0.9**
	baz=20,SNR=6.5								
KHZ	**Kahutara**	**20.13**	**176**	*e*P			**P**	**23 04 21.7**	**+0.3**
	comp=Z,114nm,1.4s								
RMQ	**Roma**	**21.24**	**254**	P			**P**	**23 04 36.6**	**+3.0**
	baz=21,SNR=21								
RPZ	**Rata Peaks**	**21.37**	**181**	*e*P			**P**	**23 04 36.1**	**+1.4**
	comp=Z,245nm,1.6s								
ODZ	**Otahua Downs**	**22.71**	**182**	*e*P			**P**	**23 04 50.3**	**+1.5**
	comp=Z,101nm,1.6s								
CNB	**Canberra Magne**	**23.37**	**231**	P			**P**	**23 04 57.6**	**+2.3**
	baz=23,SNR=7.4								
YNG	**Young**	**23.64**	**235**	P			**P**	**23 04 59.5**	**+1.8**
	baz=24,SNR=7.9								
WHZ	**Wether Hill Ro**	**23.73**	**186**	*e*P			**P**	**23 04 59.6**	**+1.1**
	comp=Z,544nm,2.7s								
CTA	**Charters Tower**	**23.76**	**271**	P			**P**	**23 05 00.2**	**+1.2**
CTA	**Charters Tower**	**23.76**	**271**	P			**P**	**23 05 00.2**	**+1.2**
	comp=Z,5.5nm,0.5s,baz=78,slow=11,SNR=7.7								
CTAO	**Charters Tower**	**23.76**	**271**	*e*P			**P**	**23 05 00.4**	**+1.4**
CTAO				pmax			pmax		
	comp=Z,298nm,2.3s								
CTAO	**Charters Tower**	**23.76**	**271**	*e*P			**P**	**23 05 00.4**	**+1.4**
	comp=Z,298nm,2.3s								
CMSA	**Cobar Meteorol**	**24.85**	**243**	P			**P**	**23 05 09.9**	**+1.2**
	baz=25,SNR=20								
QLP	**Quilpie**	**25.29**	**255**	P			**P**	**23 05 13.3**	**+0.6**
	baz=25,SNR=5.8								
COEN	**Coen**	**28.25**	**282**	*e*P			**P**	**23 05 40.9**	**+1.4**
	comp=Z,615nm,1.6s								
COEN	**Coen**	**28.25**	**282**	P			**P**	**23 05 40.6**	**+1.1**
	baz=28,SNR=7.5								
STKA	**Stephens Creek**	**28.32**	**244**	*e*P			**P**	**23 05 41.4**	**+1.5**
	comp=Z,4.4nm,1.3s								
STKA				PcP			**PcP**	**23 08 50.6**	**0.0**
STKA	**Stephens Creek**	**28.32**	**244**	P			**P**	**23 05 40.6**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=89,slow=9.0,SNR=10								
STKA				PcP			**PcP**	**23 08 50.6**	**0.0**
	comp=Z,2.8nm,0.8s,baz=43,slow=4.7,SNR=3.9								
STKA				LR			LR	23 15 17.5	
	comp=Z,127nm,21.4s,baz=67,slow=32								
STKA	**Stephens Creek**	**28.32**	**244**	P			**P**	**23 05 41.3**	**+1.4**
	baz=28,SNR=4.9								
HTT	**Hallett**	**30.86**	**242**	P			**P**	**23 06 03.7**	**+1.3**
	baz=31,SNR=5.7								
BBOO	**Buckleboo**	**33.10**	**244**	*e*P			**P**	**23 06 21.6**	**-0.4**
	comp=Z,494nm,1.8s								
BBOO	**Buckleboo**	**33.10**	**244**	P			**P**	**23 06 22.7**	**+0.7**
	baz=33,SNR=5.0								
AS01	**Alice Springs**	**34.66**	**260**	*e*P			**P**	**23 06 35.4**	**-0.3**
ASAR	**Alice Springs**	**34.70**	**260**	P			**P**	**23 06 35.5**	**-0.5**
ASAR				PcP			**PcP**	**23 09 06.3**	**-1.6**
ASAR	**Alice Springs**	**34.70**	**260**	P			**P**	**23 06 35.5**	**-0.5**
	comp=Z,26nm,0.9s,baz=86,slow=8.9,SNR=111								
ASAR				PcP			**PcP**	**23 09 06.3**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=102,slow=3.4,SNR=4.6								
ASAR				LR			LR	23 20 40.9	
	comp=Z,36nm,18.3s,baz=92,slow=36								
WRAB	**Tennant Creek**	**34.81**	**267**	*e*P			**P**	**23 06 35.8**	**-1.1**
WRAB				pmax			pmax		
	comp=Z,86nm,2.1s								
WRAB	**Tennant Creek**	**34.81**	**267**	*e*P			**P**	**23 06 35.8**	**-1.1**
	comp=Z,86nm,2.1s								
WRA	**Warramunga Arr**	**34.82**	**267**	P			**P**	**23 06 35.8**	**-1.3**
WRA				PcP			**PcP**	**23 09 05.8**	**-2.5**
WRA				S			**S**	**23 12 01.3**	**+0.5**
WRA	**Warramunga Arr**	**34.82**	**267**	P			**P**	**23 06 35.8**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=97,slow=8.5,SNR=186								
WRA				PcP			**PcP**	**23 09 05.8**	**-2.5**
	comp=Z,1.2nm,0.6s,baz=101,slow=3.3,SNR=4.7								
WRA				S			**S**	**23 12 01.3**	**+0.5**
	comp=Z,4.9nm,1.2s,baz=102,slow=14,SNR=4.7								
JAY	**Jayapura**	**35.90**	**299**	P			**P**	**23 06 46.2**	**-0.1**
JAY	**Jayapura**	**35.90**	**299**	P			**P**	**23 06 46.2**	**-0.1**
	comp=Z,28nm,0.7s,baz=296,slow=8.7,SNR=5.4								
JAY	**Jayapura**	**35.90**	**299**	P			**P**	**23 06 46.9**	**+0.6**
	baz=36,SNR=3.9								
PPT2	**Papeete2**	**36.69**	**90**	*e*LR			LR	23 17 02.8	
	comp=Z,342nm,27.2s								
KDU	**Kakadu**	**38.46**	**278**	P			**P**	**23 07 07.3**	**-0.6**
	baz=38,SNR=5.0								
MTN	**Manton Dam**	**39.64**	**277**	P			**P**	**23 07 16.9**	**-0.9**
	baz=40,SNR=16								
WRKA	**Warakurna**	**39.67**	**257**	P			**P**	**23 07 17.4**	**-0.6**
	baz=40,SNR=31								
WRKA				S			**S**	**23 13 11.8**	**-2.6**
	baz=40,SNR=5.0								
FORT	**Forrest**	**39.69**	**248**	*e*P			**P**	**23 07 18.1**	**0.0**
	comp=Z,29nm,0.9s								
KNRA	**Kununurra**	**40.97**	**272**	P			**P**	**23 07 28.2**	**-0.5**
	baz=41,SNR=3.7								
KNRA				S			**S**	**23 13 38.6**	**+4.9**
	baz=41,SNR=6.5								
MWPI	**Manokwari, Pap**	**42.29**	**295**	P			x	23 07 43.7	
FAKI	**Fak Fak**	**42.78**	**291**	*e*P			**P**	**23 07 43.0**	**-0.6**
	comp=Z,133nm,1.5s								
FAKI	**Fak Fak**	**42.78**	**291**	P			**P**	**23 07 43.3**	**-0.3**
	baz=43,SNR=4.3								
SOEI	**Soe**	**47.02**	**278**	P			**P**	**23 08 17.0**	**-0.3**
	comp=Z,43nm,1.3s								
NLAI	**Namlea**	**47.13**	**287**	P			**P**	**23 08 17.6**	**-0.5**
	comp=Z,54nm,1.5s								
LBMI	**Labuha**	**48.02**	**291**	P			**P**	**23 08 25.4**	**+0.4**
	comp=Z,41nm,1.6s								
MEEK	**Meekatharra**	**48.18**	**254**	P			**P**	**23 08 25.5**	**-0.6**
	baz=48,SNR=6.7								
SANI	**Sanana**	**48.67**	**288**	P			**P**	**23 08 29.9**	**0.0**
	comp=Z,87nm,1.3s,comp=Z,922nm								
BLDU	**Ballidu**	**49.46**	**248**	P			**P**	**23 08 35.2**	**-0.6**
	baz=49,SNR=7.2								
LBFI	**Labuhan Bajo,**	**51.50**	**277**	P			x	23 08 50.8	
	comp=Z,76nm,1.1s								
LUWI	**Luwuk**	**51.98**	**287**	P			**P**	**23 08 55.1**	**+0.2**
	comp=Z,83nm,1.3s,comp=Z,2μm								
LUWI	**Luwuk**	**51.98**	**287**	*e*P			**P**	**23 08 55.6**	**+0.7**
	comp=Z,139nm,1.3s								
BKSI	**Bulukumba**	**52.51**	**281**	P			**P**	**23 08 58.5**	**-0.3**
	comp=Z,28nm,1.0s								
GTOI	**Gorontalo**	**52.56**	**289**	P			**P**	**23 09 00.5**	**+1.3**
	comp=Z,78nm,1.4s,comp=Z,954nm								
BMNI	**Bima**	**52.58**	**276**	P			x	23 09 01.4	
KAPI	**Kappang**	**52.97**	**281**	*e*P			**P**	**23 09 02.6**	**+0.4**
	comp=Z,160nm,1.4s								
APSI	**Ampana**	**53.03**	**287**	P			**P**	**23 09 03.6**	**+0.9**
	comp=Z,46nm,1.6s,comp=Z,609nm								
MRSI	**Marisa**	**53.42**	**288**	P			**P**	**23 09 04.9**	**-0.6**
VNDA	**Vanda**	**55.48**	**183**	LR			LR	23 29 40.5	
	comp=Z,84nm,19.2s,baz=7.0,slow=32								
CBIJ	**Chichi jima**	**56.77**	**328**	*e*P			**P**	**23 09 29.4**	**+0.1**
	comp=Z,286nm,1.7s								
JAGI	**Jajag, Banyuwa**	**56.79**	**274**	*e*P			**P**	**23 09 28.9**	**-0.9**
	comp=Z,29nm,0.7s								
UGM	**Wanagama**	**60.34**	**274**	*e*P			**P**	**23 09 54.5**	**0.0**
	comp=Z,456nm,1.8s								
UGM	**Wanagama**	**60.34**	**274**	P			**P**	**23 09 55.0**	**+0.4**
	baz=60,SNR=3.9								
KKM	**Kota Kinabalu**	**61.10**	**291**	*e*P			**P**	**23 10 00.3**	**+0.6**
	comp=Z,150nm,1.8s								
KKM	**Kota Kinabalu**	**61.10**	**291**	P			**P**	**23 10 00.3**	**+0.6**
	baz=61,SNR=4.5								
SBUM	**Sibu**	**62.95**	**285**	*e*P			**P**	**23 10 12.3**	**+0.3**
	comp=Z,54nm,1.7s								
CISI	**Cisompet, Garu**	**62.98**	**273**	*e*P			**P**	**23 10 11.5**	**-0.8**
	comp=Z,101nm,1.5s								
KSM	**Kuching**	**64.24**	**283**	*e*P			**P**	**23 10 20.9**	**+0.4**
	comp=Z,74nm,1.4s								
MJA0	**Matsu Arr-Jizo**	**66.48**	**331**	*e*P			**P**	**23 10 34.2**	**-0.3**
MJA0				pmax			pmax		
	comp=Z,3.0nm,0.6s								
MJAR	**Matsushiro Arr**	**66.50**	**331**	P			**P**	**23 10 34.2**	**-0.3**
MJAR	**Matsushiro Arr**	**66.50**	**331**	P			**P**	**23 10 34.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=172,slow=8.7,SNR=18								
MJAR				LR			LR	23 42 05.3	
	comp=Z,8.0nm,18.0s,baz=145,slow=38								
MAJO	**Matsushiro**	**66.50**	**331**	*i* P			**P**	**23 10 34.9**	**+0.4**
MAJO				pmax			pmax		
	comp=Z,108nm,1.2s								
MAJO	**Matsushiro**	**66.50**	**331**	*e*P			**P**	**23 10 34.5**	**0.0**
	comp=Z,13nm,1.0s								
MAT	**Matsushiro**	**66.50**	**331**	P			**P**	**23 10 34.1**	**-0.4**
TPUB	**Ta-pu**	**67.21**	**309**	*e*P			**P**	**23 10 38.2**	**-1.2**
	comp=Z,58nm,1.7s								
SSLB	**Suanglung**	**67.28**	**310**	*e*P			**P**	**23 10 38.5**	**-1.3**
	comp=Z,7.1nm,0.6s								
JNU	**Nakatsue**	**67.45**	**324**	*e*P			**P**	**23 10 40.8**	**+0.1**
	comp=Z,45nm,1.4s								
QSPA	**South Pole Qui**	**67.77**	**180**	*e*P			**P**	**23 10 42.2**	**-0.3**
	comp=Z,24nm,1.1s								
QSPA				*e*PcP			**pP**	**23 11 07.3**	**+0.2**
QSPA	**South Pole Qui**	**67.77**	**180**	P			**P**	**23 10 42.9**	**+0.5**
	comp=Z,15nm,1.0s,baz=221,slow=0.4,SNR=28								
KSRS	**Korea Array**	**72.28**	**325**	P			**P**	**23 11 10.7**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=144,slow=6.5,SNR=19								
KSAR	**Wonju Array Be**	**72.30**	**325**	P			**P**	**23 11 10.7**	**+0.5**
KS01	**Wonju Array Si**	**72.32**	**325**	*e*P			**P**	**23 11 10.3**	**-0.1**
INCN	**Inchon**	**73.00**	**324**	*e*P			**P**	**23 11 14.8**	**+0.3**
	comp=Z,38nm,1.0s								
QIZ	**Qiongzhong**	**73.03**	**299**	P			**P**	**23 11 15.5**	**+0.5**
QIZ				S			**S**	**23 20 30.0**	**-4.7**
QIZ				LR			LR		
	comp=Z,72nm,36.2s								
IPM	**Ipoh**	**73.90**	**282**	*e*P			**P**	**23 11 18.8**	**-1.5**
	comp=Z,19nm,0.9s								
NJ2	**Nanjing**	**73.95**	**315**	*e*P			**P**	**23 11 20.0**	**-0.1**
NJ2				pmax			pmax		
	comp=Z,20nm,1.1s								
KULM	**Kulim**	**74.58**	**282**	*e*P			**P**	**23 11 22.6**	**-1.6**
	comp=Z,40nm,1.4s								
PSI	**Prapat**	**75.13**	**279**	P			**P**	**23 11 27.1**	**-0.4**
	baz=75,SNR=6.9								
USRK	**Ussuriysk Arra**	**75.47**	**332**	P			**P**	**23 11 29.6**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=151,slow=4.4,SNR=5.8								
USRK				LR			LR	23 40 18.0	
	comp=Z,22nm,21.6s,baz=131,slow=32								
GSI	**Gunungsitoli**	**75.78**	**277**	*e*P			**P**	**23 11 29.7**	**-1.4**
	comp=Z,80nm,1.7s								
PEA0	**Petropavlovsk-**	**76.06**	**351**	*e*P			**P**	**23 11 31.9**	**+0.1**
PETK	**Petropavlovsk-**	**76.06**	**351**	P			**P**	**23 11 31.5**	**-0.2**
PETK	**Petropavlovsk-**	**76.06**	**351**	P			**P**	**23 11 31.5**	**-0.2**
PETK	**Petropavlovsk-**	**76.06**	**351**	P			**P**	**23 11 31.5**	**-0.2**
	comp=Z,4.1nm,0.7s,baz=150,slow=8.6,SNR=8.0								
PETK				LR			LR	23 39 01.6	
	comp=Z,54nm,19.9s,baz=130,slow=31								
MAW	**Mawson**	**76.45**	**202**	LR			LR	23 41 56.6	
	comp=Z,83nm,18.5s,baz=115,slow=33								
MDJ	**Mudanjiang**	**76.87**	**331**	P			**P**	**23 11 38.8**	**+2.3**
MDJ				pmax			pmax		
	comp=Z,6.0nm,1.2s								
MDJ				pmax			pmax		
	comp=Z,53nm,4.2s								
SURT	**Suratani**	**77.78**	**285**	P			**P**	**23 11 43.9**	**+1.6**
	comp=Z,11nm,1.3s								
CN2	**Changchun**	**78.23**	**328**	*e*P			**P**	**23 11 44.3**	**+0.2**
CN2				pmax			pmax		
	comp=Z,30nm,1.2s								
PBKT	**Sadao Pong**	**79.22**	**293**	P			**P**	**23 11 51.9**	**+1.8**
	comp=Z,9.7nm,1.8s								
ENH	**Enshi**	**79.33**	**309**	*e*P			**P**	**23 11 49.1**	**-1.5**
	comp=Z,35nm,1.8s								
GYA	**Guiyang**	**79.39**	**304**	P			**P**	**23 11 52.0**	**+0.9**
GYA				pP			pP	23 12 32.5	+16
GYA				sP			sP	23 12 51.8	+25
GYA				PP			**PP**	**23 14 55.5**	**+2.8**
GYA				pmax			pmax		
	comp=Z,20nm,1.0s								
GYA				pmax			pmax		
	comp=Z,130nm,5.0s								
UTHA	**Uthaitani**	**80.07**	**291**	P			**P**	**23 11 56.3**	**+1.5**
	comp=Z,6.5nm,0.9s								
KHLT	**Khaolaem Dam**	**80.48**	**290**	P			**P**	**23 11 59.9**	**+3.0**
	comp=Z,6.8nm,1.3s								
BJI	**Beijing**	**80.71**	**320**	P			**P**	**23 11 58.0**	**+0.3**
BJI				S			**S**	**23 21 55.8**	**-1.5**
BJI				pmax			pmax		
	comp=Z,20nm,1.4s								
BJI				pmax			pmax		
	comp=Z,200nm,4.6s								
BJI				LR			LR		
	comp=Z,120nm,31.6s								
CM01	**Chiang Mai Arr**	**81.76**	**294**	*e*P			**P**	**23 12 04.2**	**+0.5**
KMI	**Kunming**	**81.78**	**301**	P			**P**	**23 12 04.8**	**+0.8**
KMI				pP			pP	23 12 44.5	+15
KMI				pmax			pmax		
	comp=Z,11nm,1.5s								
KMI				LR			LR		
	comp=Z,44nm,29.3s								
CMAR	**Chiang Mai Arr**	**81.79**	**294**	P			**P**	**23 12 05.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**81.79**	**294**	P			**P**	**23 12 05.3**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=134,slow=4.1,SNR=19								
CMAR				LR			LR	23 50 46.3	
	comp=Z,39nm,18.8s,baz=186,slow=37								
XAN	**Xi'an**	**81.82**	**312**	P			**P**	**23 12 04.0**	**+0.3**
XAN				pmax			pmax		
	comp=Z,5.0nm,1.5s								
CMMT	**Chiang Mai**	**81.94**	**294**	P			**P**	**23 12 05.9**	**+1.2**
	comp=Z,14nm,1.4s								
CHTO	**Chiang Mai**	**81.95**	**294**	*e*P			**P**	**23 12 04.9**	**+0.2**
CHTO				pmax			pmax		
	comp=Z,26nm,1.5s								
CHTO	**Chiang Mai**	**81.95**	**294**	P			**P**	**23 12 05.9**	**+1.2**
	comp=Z,48nm,1.4s								
CHTO	**Chiang Mai**	**81.95**	**294**	*e*P			**P**	**23 12 04.9**	**+0.2**
	comp=Z,26nm,1.5s								
CHGN	**Chignik**	**82.29**	**16**	*e*P			**P**	**23 12 05.8**	**+0.2**
CMAI	**Chiengmai2**	**82.37**	**295**	P			P	23 12 03.2	-3.9
MHMT	**Maesarieng**	**82.53**	**293**	P			**P**	**23 12 10.2**	**+2.5**
	comp=Z,8.0nm,1.6s								
CD2	**Chengdu**	**83.86**	**307**	*e*P			**P**	**23 12 15.0**	**+0.6**
CD2				pP			pP	23 12 55.5	+15
CD2				sP			sP	23 13 13.3	+23
CD2				PP			**PP**	**23 15 31.3**	**+1.9**
CD2				S			**SKSac**	**23 22 25.0**	**-3.7**
CD2				pmax			pmax		
	comp=Z,10.0nm,1.6s								
CD2				pmax			pmax		
	comp=Z,80nm,5.9s								
HHC	**Hu-ho-hao-te**	**83.99**	**319**	*e*P			**P**	**23 12 15.8**	**+0.9**
HHC				pP			pP	23 12 55.5	+15
HHC				sP			sP	23 13 13.3	+22
HHC				PP			**PP**	**23 15 31.5**	**+1.2**
HHC				S			**SKSac**	**23 22 25.5**	**-3.7**
HHC				sS			sS	23 23 28.5	+13
HHC				pmax			pmax		
	comp=Z,54nm,1.2s								
HHC				pmax			pmax		
	comp=Z,280nm,5.4s								
OHAK	**Old Harbor**	**84.51**	**18**	*e*P			**P**	**23 12 17.8**	**+0.8**
	comp=Z,99nm,2.0s								
SNAA	**Sanae**	**86.20**	**182**	*e*P			**P**	**23 12 23.9**	**-1.6**
	comp=Z,48nm,2.1s								
KCPM	**Cahto Peak**	**86.30**	**44**	*e*P			**P**	**23 12 26.9**	**+0.5**
	comp=Z,79nm,1.9s								
LZH	**Lanzhou**	**86.43**	**311**	*e*P			**P**	**23 12 28.3**	**+1.1**
LZH				pP			pP	23 13 10.3	+17
LZH				sP			sP	23 13 28.5	+25
LZH				pmax			pmax		
	comp=Z,19nm,1.0s								
LZH				pmax			pmax		
	comp=Z,120nm,7.6s								
KIPM	**Iron Peak**	**86.43**	**44**	*e*P			**P**	**23 12 28.2**	**+1.1**
KMRM	**Mail Ridge**	**86.51**	**44**	*e*P			**P**	**23 12 28.9**	**+1.5**
	comp=Z,113nm,1.8s								
MWC	**Mount Wilson**	**87.28**	**51**	*e*P			**P**	**23 12 31.3**	**-0.2**
MWC				pmax			pmax		
	comp=Z,22nm,1.5s								
MWC	**Mount Wilson**	**87.28**	**51**	*e*P			**P**	**23 12 31.3**	**-0.2**
	comp=Z,22nm,1.5s								
CMB	**Columbia Colle**	**87.55**	**47**	*e*P			**P**	**23 12 33.3**	**+0.8**
CMB				pmax			pmax		
	comp=Z,25nm,1.8s								
CMB	**Columbia Colle**	**87.55**	**47**	*e*P			**P**	**23 12 33.3**	**+0.8**
	comp=Z,25nm,1.8s								
N02D	**Trinity Center**	**87.56**	**44**	P			**P**	**23 12 34.3**	**+1.8**
	baz=88								
EDW2	**Edwards Air Fo**	**87.65**	**51**	P			**P**	**23 12 34.1**	**+1.1**
	baz=88								
M02C	**Callahan**	**87.69**	**43**	P			**P**	**23 12 34.6**	**+1.5**
	baz=88								
ISA	**Isabella**	**87.69**	**50**	*e*P			**P**	**23 12 32.8**	**-0.4**
ISA				pmax			pmax		
	comp=Z,45nm,1.9s								
ISA	**Isabella**	**87.69**	**50**	*e*P			**P**	**23 12 32.8**	**-0.4**
	comp=Z,45nm,1.9s								
ISA	**Isabella**	**87.69**	**50**	P			**P**	**23 12 34.7**	**+1.4**
	baz=88								
MONP	**Monument Peak**	**87.84**	**53**	P			**P**	**23 12 35.2**	**+1.0**
	baz=88								
YBH	**Yreka Blue Hor**	**87.96**	**43**	*e*P			**P**	**23 12 35.7**	**+1.3**
	comp=Z,56nm,2.1s

	comp=Z,12nm,1.8s								
U15A	**North Rim**	**92.48**	**52**	P	**P**	**23 12 57.2**	**+1.4**		
	baz=93								
ILAR	**Eielson Array**	**92.49**	**17**	P	**P**	**23 12 53.3**	**-1.6**		
ILAR	**Eielson Array**	**92.49**	**17**	P	**P**	**23 12 53.3**	**-1.6**		
	comp=Z,0.9nm,0.7s,baz=229,slow=4.4,SNR=14								
IL1	**Eielson Array**	**92.49**	**17**	*e*P	**P**	**23 12 53.2**	**-1.7**		
WUAZ	**Wupatki**	**92.76**	**53**	*e*P	**P**	**23 12 56.9**	**-0.1**		
	comp=Z,8.1nm,1.3s								
WUAZ	**Wupatki**	**92.76**	**53**	P	**P**	**23 12 58.4**	**+1.4**		
	baz=93								
LSA	**Lhasa**	**93.03**	**301**	*e*P	**P**	**23 12 55.9**	**-2.9**		
LSA				pmax	pmax				
	comp=Z,18nm,1.8s								
LSA	**Lhasa**	**93.03**	**301**	*e*P	**P**	**23 12 55.9**	**-2.9**		
	comp=Z,18nm,1.8s								
ZAK	**Zakamensk**	**94.08**	**323**	*e*P	P	23 12 58.7	-3.9		
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.5s								
PDAR	**Pinedale Array**	**97.06**	**47**	LR	LR	23 54 09.1			
	comp=Z,23nm,18.5s,baz=247,slow=34								
WMQ	**Urumqi**	**100.92**	**313**	P	**Pdif**	**23 13 35.0**	**+1.4**		
WMQ				PP	**PP**	**23 17 47.8**	**+4.6**		
WMQ				SKS	**SKSac**	**23 23 57.3**	**-6.5**		
WMQ				S	**Sdif**	**23 24 55.0**	**-8.6**		
WMQ				sS	sS	23 26 06.5	+18		
WMQ				SS	**SS**	**23 31 59.5**	**-5.1**		
WMQ				pmax	pmax				
	comp=Z,7.0nm,1.4s								
WMQ				pmax	pmax				
	comp=Z,20nm,8.7s								
WMQ				LR	LR				
	comp=Z,29nm,22.2s								
WMQ				LR	LR				
	comp=Z,58nm,28.5s								
WMQ				LR	LR				
	comp=Z,47nm,22.0s								
BVAR	**Borovoye Array**	**114.19**	**319**	PKIKP	PKPdf	23 18 21.6	-1.4		
BVAR	**Borovoye Array**	**114.19**	**319**	PKP	PKPdf	23 18 21.6	-1.4		
BVAR	**Borovoye Array**	**114.19**	**319**	PKP	PKPdf	23 18 21.6	-1.4		
	comp=Z,0.4nm,0.4s,baz=161,slow=1.7,SNR=7.9								
BOSA	**Boshof**	**119.89**	**214**	PKP	**PKPdf**	**23 18 34.7**	**-0.3**		
BOSA	**Boshof**	**119.89**	**214**	PKP	**PKPdf**	**23 18 34.7**	**-0.3**		
	comp=Z,1.3nm,0.4s,baz=103,slow=3.3,SNR=6.6								
AKTO	**Aktyubinsk**	**121.82**	**316**	PKIKP	**PKPdf**	**23 18 36.6**	**-1.2**		
AKTO	**Aktyubinsk**	**121.82**	**316**	PKP	**PKPdf**	**23 18 36.6**	**-1.2**		
AKTO	**Aktyubinsk**	**121.82**	**316**	PKP	**PKPdf**	**23 18 36.6**	**-1.2**		
	comp=Z,1.2nm,0.6s,baz=53,slow=7.5,SNR=5.4								
ARCES	**ARCESS Array B**	**128.58**	**345**	PKP	**PKPdf**	**23 18 48.1**	**-2.0**		
ARCES	**ARCESS Array B**	**128.58**	**345**	PKP	**PKPdf**	**23 18 48.1**	**-2.0**		
	comp=Z,4.3nm,1.0s,baz=305,slow=4.3,SNR=4.3								
AKASG	**Malin Array Be**	**139.27**	**324**	PKIKP	PKPpre	23 19 05.8			
AKASG	**Malin Array Be**	**139.27**	**324**	PKPpre	PKPpre	23 19 05.8			
AKASG	**Malin Array Be**	**139.27**	**324**	PKhKP	PKPpre	23 19 05.8			
	comp=Z,0.7nm,0.7s,baz=60,slow=2.7,SNR=4.4								
BRTR	**Keskin Array B**	**140.43**	**306**	PKPpre	PKPpre	23 19 07.1			
BRTR				PKP	**PKPdf**	**23 19 14.4**	**+1.1**		
BRTR	**Keskin Array B**	**140.43**	**306**	PKhKP	PKPpre	23 19 07.1			
	comp=Z,0.3nm,0.4s,baz=146,slow=2.9,SNR=4.5								
BRTR				PKP	**PKPdf**	**23 19 14.4**	**+1.1**		
	comp=Z,0.5nm,0.5s,baz=120,slow=3.4,SNR=8.2								
VRI	**Vrincioaia**	**143.07**	**318**	⇓PKIKP	PKPbc	23 19 15.0	+0.1		
VRI	**Vrincioaia**	**143.07**	**318**	⇓*i*P	PKPbc	23 19 14.9	0.0		
BURAR	**Bucovina Array**	**143.11**	**321**	⇑PKIKP	**PKPdf**	**23 19 16.9**	**-1.0**		
BURAR	**Bucovina Array**	**143.11**	**321**	⇑*i*P	**PKPdf**	**23 19 16.9**	**-1.0**		
BUR04	**Bucovina Ar. S**	**143.11**	**321**	*e*PKPdf	PKPbc	23 19 15.2	+0.1		
MLR	**Muntele Rosu**	**143.73**	**318**	⇑*i*P	PKPbc	23 19 17.3	+0.4		
PRD	**Provadia**	**143.79**	**314**	⇑PKIKP	PKPbc	23 19 17.3	+0.4		
DOPR	**Dopca**	**143.84**	**319**	⇓*i*P	PKPbc	23 19 17.8	+0.7		
SECR		**143.86**	**317**	⇑*i*P	PKPbc	23 19 17.6	+0.5		
SULR		**143.91**	**317**	⇓*i*P	PKPbc	23 19 17.7	+0.5		
KOLS	**Kolonicke sedl**	**144.00**	**325**	*e*PKIKP	PKPbc	23 19 18.2	+0.8		
KOLS	**Kolonicke sedl**	**144.00**	**325**	*e*PKP	PKPbc	23 19 18.2	+0.8		
BMR	**Baia Mare**	**144.06**	**323**	⇓PKIKP	PKPbc	23 19 18.1	+0.5		
BMR	**Baia Mare**	**144.06**	**323**	⇓*i*P	PKPbc	23 19 18.1	+0.5		
UZH	**Uzhgorod**	**144.17**	**325**	*d i*PKIKP	**PKPab**	**23 19 17.5**	**0.0**		
UZH				*e*		23 19 47.3			
CIOR	**Ciorogarla**	**144.25**	**316**	⇑*i*P	**PKPab**	**23 19 18.3**	**+0.4**		
VOIR		**144.31**	**318**	⇓PKIKP	**PKPab**	**23 19 18.5**	**+0.3**		
VOIR		**144.31**	**318**	⇓*i*P	**PKPab**	**23 19 18.5**	**+0.3**		
TRPA	**Tarpa**	**144.33**	**324**	⇑*i*P	**PKPab**	**23 19 18.4**	**+0.3**		
MTUR	**Matau**	**144.40**	**318**	⇑PKIKP	**PKPab**	**23 19 18.8**	**+0.2**		
MTUR	**Matau**	**144.40**	**318**	⇑*i*P	**PKPab**	**23 19 18.8**	**+0.2**		
CRVS	**Cervenica-Dubn**	**144.45**	**326**	*e*PKIKP	**PKPab**	**23 19 18.8**	**+0.3**		
CRVS	**Cervenica-Dubn**	**144.45**	**326**	*e*PKP	**PKPab**	**23 19 18.8**	**+0.3**		
CJR	**Cluj-Napoca**	**144.53**	**321**	⇓PKIKP	PKPbc	23 19 19.9	+0.7		
CJR	**Cluj-Napoca**	**144.53**	**321**	⇓*i*P	PKPbc	23 19 19.9	+0.7		
ARR	**Arges**	**144.60**	**318**	⇓*i*P	PKPbc	23 19 20.2	+0.7		
JMB	**Yambol**	**144.63**	**313**	⇑PKIKP	**PKPdf**	**23 19 22.1**	**+1.6**		
JMB	**Yambol**	**144.63**	**313**	⇑*i*P	**PKPdf**	**23 19 22.1**	**+1.6**		
NIE	**Niedzica**	**144.72**	**327**	*e*PKIKP	**PKPab**	**23 19 19.7**	**+0.2**		
NIE	**Niedzica**	**144.72**	**327**	*e*PKPdf	**PKPab**	**23 19 19.7**	**+0.2**		
DRGR		**144.99**	**322**	⇑PKIKP	**PKPdf**	**23 19 21.6**	**+0.5**		
DRGR		**144.99**	**322**	⇑*i*P	**PKPdf**	**23 19 21.6**	**+0.5**		
LOT	**Lotru**	**145.09**	**319**	⇑*i*P	**PKPab**	**23 19 21.5**	**+0.3**		
KECS	**Kecovo**	**145.22**	**326**	*e*PKIKP	**PKPbc**	**23 19 21.3**	**0.0**		
KECS	**Kecovo**	**145.22**	**326**	*e*PKP	**PKPbc**	**23 19 21.2**	**0.0**		
RUE	**Ruedersdorf**	**145.40**	**336**	*e*PKPdf	**PKPdf**	**23 19 20.4**	**-1.1**		
OKC	**Ostrava-Krasne**	**145.50**	**329**	*e*PKP	**PKPdf**	**23 19 21.7**	**-0.1**		
KSP	**Ksiaz**	**145.62**	**332**	*e*PKP2	**PKPdf**	**23 19 22.2**	**+0.2**		
KSP	**Ksiaz**	**145.62**	**332**	*e*PKP	**PKPdf**	**23 19 22.4**	**+0.4**		
GZR	**Gura Zlata**	**145.71**	**320**	⇓PKIKP	**PKPdf**	**23 19 22.7**	**+0.3**		
GZR	**Gura Zlata**	**145.71**	**320**	⇓*i*P	**PKPdf**	**23 19 22.7**	**+0.3**		
KDZ	**Kurdzhali**	**145.75**	**312**	⇓PKP2	**PKPbc**	**23 19 23.2**	**+0.1**		
KDZ	**Kurdzhali**	**145.75**	**312**	⇓*i*P	**PKPbc**	**23 19 23.2**	**+0.1**		
SRE	**Strehaia**	**145.83**	**318**	⇓PKP2	**PKPab**	**23 19 25.9**	**+2.1**		
SRE	**Strehaia**	**145.83**	**318**	⇓*i*P	**PKPab**	**23 19 25.9**	**+2.1**		
PSZ	**Piszkesteto**	**145.88**	**325**	*e*PKP2	**PKPdf**	**23 19 22.4**	**-0.2**		
PSZ	**Piszkesteto**	**145.88**	**325**	*e*PKPdf	**PKPdf**	**23 19 22.4**	**-0.2**		
DPC	**Dobruska-Polom**	**145.97**	**331**	*e*PKP2	**PKPdf**	**23 19 23.4**	**+0.7**		
DPC	**Dobruska-Polom**	**145.97**	**331**	*e*PKP	**PKPdf**	**23 19 23.2**	**+0.5**		
DPC				*ep*PKP	**pPKPdf**	**23 19 53.1**	**+3.4**		
DPC	**Dobruska-Polom**	**145.97**	**331**	*e*PKPdf	**PKPdf**	**23 19 23.4**	**+0.7**		
UPC	**Upice**	**145.99**	**332**	*e*PKP	**PKPbc**	**23 19 23.5**	**-0.1**		
BZS	**Buzias**	**146.28**	**321**	⇑PKP2	**PKPdf**	**23 19 24.0**	**+0.7**		
BZS	**Buzias**	**146.28**	**321**	⇑*i*P	**PKPdf**	**23 19 24.0**	**+0.7**		
BRG	**Berggiesshubel**	**146.59**	**334**	*e*PKP	**PKPbc**	**23 19 24.8**	**-0.5**		
	comp=Z,37nm,1.9s								
BRG				*e*		23 19 54.5			
	comp=Z,16nm,1.5s								
BRG	**Berggiesshubel**	**146.59**	**334**	*e*PKP2	**PKPbc**	**23 19 24.8**	**-0.5**		
VRAC	**Vranov**	**146.59**	**330**	⇑*i*P	**PKPdf**	**23 19 24.4**	**+0.7**		
CLL	**Collm**	**146.62**	**335**	⇑*i*PKP2	**PKPdf**	**23 19 24.6**	**+1.0**		
CLL				pmax	pmax				
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	**146.62**	**335**	⇑*i*PKPbc	**PKPdf**	**23 19 24.6**	**+1.0**		
	comp=Z,8.0nm,0.9s								
CLL				*i*	pPKPbc	pPKPbc	23 19 55.9	+3.9	
VTS	**Vitosha**	**146.83**	**315**	⇑PKP2	**PKPbc**	**23 19 26.1**	**-0.4**		
VTS	**Vitosha**	**146.83**	**315**	⇑*i*P	**PKPbc**	**23 19 26.1**	**-0.4**		
MMB	**Musomiste**	**146.93**	**313**	⇑PKP2	**PKPbc**	**23 19 26.4**	**-0.2**		
MMB	**Musomiste**	**146.93**	**313**	⇑*i*P	**PKPbc**	**23 19 26.4**	**-0.2**		
PRA	**Prague**	**147.00**	**333**	PKP	**PKPbc**	**23 19 26.0**	**-0.5**		
PRU	**Pruhonice**	**147.01**	**333**	*e*PKP	**PKPbc**	**23 19 26.0**	**-0.5**		
PRU				*ep*PKP	**pPKPdf**	**23 19 57.9**	**+6.5**		
TREC	**Trest**	**147.11**	**331**	*e*PKP	**PKPdf**	**23 19 26.0**	**+1.4**		
PKSM	**Moragy**	**147.61**	**324**	⇑PKP2	**PKPbc**	**23 19 27.9**	**-0.4**		
PKSM	**Moragy**	**147.61**	**324**	⇑*i*P	**PKPbc**	**23 19 27.9**	**-0.4**		
KHC	**Kasperske Hory**	**148.07**	**332**	*e*PKP	**PKPbc**	**23 19 28.9**	**-0.6**		
KHC				*ex*	x	23 19 32.3			
KHC				*ep*PKP	pPKPdf	23 20 00.5	+7.2		
GEC2	**GERESS Array S**	**148.23**	**332**	*e*PKP2	**PKPbc**	**23 19 28.7**	**-1.3**		
GEC2	**GERESS Array S**	**148.23**	**332**	*e*PKPdf	**PKPbc**	**23 19 28.7**	**-1.3**		
GERES	**GERESS Array B**	**148.23**	**332**	PKPbc	**PKPbc**	**23 19 29.5**	**-0.5**		
GERES	**GERESS Array B**	**148.23**	**332**	PKPbc	**PKPbc**	**23 19 29.5**	**-0.5**		
	comp=Z,2.4nm,0.7s,baz=41,slow=2.8,SNR=18								
PERS	**Pernice**	**149.17**	**328**	*i* PKPbc	**PKPbc**	**23 19 31.3**	**-1.1**		
PERS				*i*		23 19 45.2			
PERS				*i*		23 20 03.3			
SOKA	**Soboth**	**149.18**	**328**	⇑*i*PKPbc	**PKPbc**	**23 19 31.4**	**-1.1**		
	comp=Z,13nm,1.4s								
BOJS	**Bojanci**	**149.88**	**326**	*i* PKPbc	**PKPbc**	**23 19 33.8**	**-0.3**		
BOJS				*i*		23 19 47.7			
BOJS				*i*		23 20 05.5			
VISS	**Visnje**	**149.88**	**327**	*i* PKPbc	**PKPbc**	**23 19 33.5**	**-0.6**		
VISS				*i*		23 20 05.8			
JAVS	**Javornik**	**150.21**	**328**	*i* PKPbc	**PKPbc**	**23 19 34.6**	**-0.4**		
JAVS				*i*		23 19 47.8			
MOTA	**Moosalm**	**150.50**	**333**	⇑*i*PKPbc	**PKPbc**	**23 19 34.4**	**-1.3**		
	comp=Z,11nm,1.1s								
DAVA	**Damuels**	**151.06**	**334**	⇑*i*PKPbc	**PKPbc**	**23 19 36.5**	**-0.6**		
	comp=Z,14nm,1.2s								

ESDC	**Sonseca Array**	**162.28**	**349**	PKPab	**PKPab**	**23 20 32.6**	**-0.5**		
ESDC	**Sonseca Array**	**162.28**	**349**	PKPab	**PKPab**	**23 20 32.6**	**-0.5**		
	comp=Z,0.2nm,0.4s,baz=16,slow=3.7,SNR=4.1								
TOA0	**Torodi Ar. Sit**	**166.79**	**228**	*e*PKPdf	**PKPdf**	**23 19 49.2**	**-1.0**		
TOA0				*e*PKPab	**PKPab**	**23 20 53.1**	**-0.5**		
TORD	**Torodi Ar. Bea**	**166.79**	**228**	PKP	**PKPdf**	**23 19 49.5**	**-0.8**		
TORD				PKPab	**PKPab**	**23 20 53.1**	**-0.5**		
TORD	**Torodi Ar. Bea**	**166.79**	**228**	PKP	**PKPdf**	**23 19 49.5**	**-0.8**		
	comp=Z,1.1nm,0.9s,baz=4.6,slow=1.3,SNR=5.7								
TORD				PKPab	**PKPab**	**23 20 53.1**	**-0.5**		
	comp=Z,1.7nm,0.8s,baz=122,slow=4.3,SNR=8.9								

*ISCJB **30** 23:09:12.6±0.5, 5°.36S±0°.04×147°.40E±0°.09, h170km, mb3.9/12, Error ellipse: s-maj=13.4km s-min=5.7km az=10.6*
*IDC **30** 23:09:15.0±1.2, 5°.59S×147°.56E, h193km±14km, mb3.7/12, mb1 3.9/14, mb1mx3.8/30, mbtmp4.3/14, MS3.2/2, Ms1 3.2/2, ms1mx2.7/23, Error ellipse: s-maj=31.2km s-min=8.5km az=106.0*

ISC 30 23:09:13.9±0.7, 5°.43S±0°.06×147°.4E±0°.1, h170km, n30, σ1$25/34, mb4.0/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.95**	**183**	P	**Pn**	**23 10 15.3**	**+1.1**
	21nm,0.3s,baz=5.7,slow=10,SNR=46						
PMG				S	**Sn**	**23 10 59.4**	**-1.8**
	63nm,0.3s,baz=72,slow=20,SNR=20						
PMG	**Port Moresby**	**3.95**	**183**	P	**Pn**	**23 10 15.2**	**+1.1**
	baz=3.9,SNR=23						
PMG				S	**Sn**	**23 11 00.7**	**-0.5**
	baz=3.9,SNR=4.8						
RABL	**Rabaul**	**4.91**	**76**	P	**Pn**	**23 10 28.7**	**+2.1**
	baz=4.9,SNR=7.0						
COEN	**Coen**	**9.43**	**206**	P	**Pn**	**23 11 29.0**	**+2.8**
	baz=9.5,SNR=9.6						
COEN				S	**Sn**	**23 13 11.3**	**+0.1**
	baz=9.5,SNR=4.9						
CTA	**Charters Tower**	**14.61**	**184**	P	**P**	**23 12 34.0**	**-0.5**
	1.1nm,0.3s,baz=357,slow=12,SNR=17						
KDU	**Kakadu**	**16.39**	**243**	P	**Pn**	**23 12 55.0**	**+0.5**
	baz=16,SNR=38						
QIS	**Mount Isa**	**16.83**	**206**	P	**Pn**	**23 13 00.4**	**+0.7**
	baz=17,SNR=25						
MTN	**Manton Dam**	**17.65**	**244**	P	**Pn**	**23 13 09.8**	**+0.2**
	baz=18,SNR=20						
WRA	**Warramunga Arr**	**19.21**	**220**	P	**P**	**23 13 25.6**	**+0.5**
	6.0nm,0.3s,baz=47,slow=12,SNR=250						
WRA				S	**S**	**23 16 51.5**	**-2.3**
	0.2nm,0.3s,baz=44,slow=20,SNR=5.1						
KNRA	**Kununurra**	**20.93**	**239**	P	**P**	**23 13 44.2**	**+0.8**
	baz=21,SNR=15						
RMQ	**Roma**	**20.98**	**177**	P	**P**	**23 13 44.4**	**+0.5**
	baz=21,SNR=14						
QLP	**Quilpie**	**21.25**	**188**	P	**P**	**23 13 47.2**	**+0.4**
	baz=21,SNR=15						
QLP				S	S	23 17 08.2	-25
	baz=21,SNR=3.3						
ASAR	**Alice Springs**	**22.30**	**214**	P	**P**	**23 13 58.1**	**+0.5**
	20nm,0.8s,baz=49,slow=8.8,SNR=150						
ASAR				S	**S**	**23 17 47.0**	**-3.5**
	1.4nm,1.1s,baz=48,slow=15,SNR=3.5						
WRKA	**Warakurna**	**26.75**	**221**	P	**P**	**23 14 37.9**	**0.0**
	baz=207,SNR=32						
STKA	**Stephens Creek**	**26.86**	**191**	P	**P**	**23 14 37.7**	**-1.1**
	2.5nm,0.7s,baz=352,slow=9.7,SNR=8.8						
STKA	**Stephens Creek**	**26.86**	**191**	P	**P**	**23 14 38.2**	**-0.6**
	baz=27,SNR=5.0						
MEEK	**Meekatharra**	**34.62**	**229**	P	**P**	**23 15 47.2**	**+0.2**
	baz=35,SNR=6.6						
JNU	**Nakatsue**	**41.42**	**339**	P	**P**	**23 16 43.7**	**-0.1**
	6.6nm,0.8s,baz=207,slow=4.5,SNR=4.0						
MJAR	**Matsushiro Arr**	**42.63**	**349**	P	**P**	**23 16 53.1**	**-0.5**
	4.3nm,1.0s,baz=170,slow=6.6,SNR=10						
MAT	**Matsushiro**	**42.63**	**349**	P	**P**	**23 16 53.3**	**-0.3**
KSRS	**Korea Array**	**46.37**	**339**	P	**P**	**23 17 23.9**	**+0.8**
	0.7nm,0.3s,baz=148,slow=9.8,SNR=6.2						
ASAJ	**Asahikawa**	**49.51**	**355**	LR	LR	23 36 08.9	
	comp=Z,29nm,20.6s,baz=164,slow=32						
CMAR	**Chiang Mai Arr**	**53.33**	**298**	P	**P**	**23 18 17.1**	**+1.1**
	0.6nm,0.4s,baz=118,slow=6.2,SNR=6.1						
SONM	**Songino Array**	**64.10**	**331**	P	**P**	**23 19 30.9**	**+0.9**
	2.3nm,0.8s,baz=151,slow=5.7,SNR=17						
MKAR	**Makanchi Array**	**77.31**	**320**	P	**P**	**23 20 49.4**	**-0.3**
	1.5nm,0.5s,baz=105,slow=7.2,SNR=22						
ZALV	**Zalesovo Beam**	**78.74**	**328**	P	**P**	**23 20 56.2**	**-1.1**
	2.2nm,0.6s,baz=107,slow=5.7,SNR=11						
ZALV				LR	LR	23 57 31.7	
	comp=Z,9.9nm,20.2s,baz=68,slow=37						
AAK	**Ala-Archa**	**81.22**	**314**	P	**P**	**23 21 11.0**	**-0.2**
	1.5nm,0.6s,baz=127,slow=7.2,SNR=9.9						
ILAR	**Eielson Array**	**84.81**	**23**	P	**P**	**23 21 27.6**	**-1.3**
	0.8nm,0.8s,baz=258,slow=5.5,SNR=7.6						
BVAR	**Borovoye Array**	**86.54**	**324**	P	**P**	**23 21 36.3**	**-1.4**
	1.2nm,0.7s,baz=110,slow=5.9,SNR=9.7						
TORD	**Torodi Ar. Bea**	**145.32**	**285**	PKPbc	**PKPdf**	**23 28 31.6**	**-0.9**
	2.5nm,0.6s,baz=74,slow=3.1,SNR=26						

*IDC **30** 23:16:32.9±1.3, 2°.21N×126°.77E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/28, mbtmp3.5/6, Error ellipse: s-maj=209.7km s-min=17.4km az=69.0*

ISC 30 23:16:39.1±1.2, 2°.1N±0°.5×126°.7E±°, h47km, n6, σ1$38/6, mb3.5/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.18**	**161**	P	**P**	**23 21 42.4**	**+0.5**
	1.0nm,0.6s,baz=341,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.57**	**165**	P	**P**	**23 22 14.2**	**+1.2**
	0.2nm,0.5s,baz=344,slow=8.0,SNR=4.4						
STKA	**Stephens Creek**	**36.66**	**158**	P	**P**	**23 23 40.5**	**-0.9**
	1.4nm,0.6s,baz=326,slow=13,SNR=4.0						
SONM	**Songino Array**	**48.80**	**342**	P	**P**	**23 25 19.1**	**-0.6**
	0.1nm,0.6s,baz=173,slow=7.1,SNR=2.4						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**23 26 32.2**	**-0.6**
	0.2nm,0.6s,baz=118,slow=8.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**61.98**	**334**	P	**P**	**23 26 55.8**	**+1.6**
	1.1nm,0.6s,baz=107,slow=12,SNR=7.0						

*ISCJB **30** 23:24:50.7±0.2, 5°.39N±0°.02×125°.65E±0°.03, h217km±2km, mb4.5/62, Error ellipse: s-maj=5.3km s-min=3.2km az=171.3*
*BJI **30** 23:24:50.6, 5°.07N×125°.60E, h230km, mB4.6/14, mb4.4/23*
*IDC **30** 23:24:52.0±1.2, 5°.37N×125°.45E, h211km±10km, mb3.8/19, mb1 4.0/20, mb1mx3.8/34, mbtmp4.4/20, Error ellipse: s-maj=14.2km s-min=8.0km az=70.0*
*KLM **30** 23:24:52.9, 5°.34N×125°.70E, h219km, mb5.0, MS6.0*
*NEIC **30** 23:24:52.8±0.8, 5°.36N×125°.66E, h228km±8km, mb4.9/34, Error ellipse: s-maj=6.3km s-min=4.6km az=72.0*
NEIC Felt [I PIVS] at General Santos.
*MAN **30** 23:24:54, 5°.46N×125°.59E, h180km, mb4.9, ML3.9, MS4.0*
*DJA **30** 23:25:08.7±1.7, 4°.1N×12°.5E±°, h120km±10km, M4.6/11, mb4.8/11, mB5.2/8, ML4.5/5, Mw(mB)4.6/8*

ISC 30 23:24:52.9±0.3, 5°.42N±0°.03×125°.61E±0°.04, h223km±2km, h223km:pP-P, n208, σ1$54/249, mb4.5/64, 11C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.94**	**315**	⇑*i*P	Pn	23 25 21.4	-3.3
GSPH				*eS*	S	23 25 43.1	-6.6
MATI	**Mati**	**1.64**	**23**	*e*P	**Pn**	**23 25 28.3**	**-1.5**
MATI				*eS*	S	23 25 53.1	-5.6
DMPH	**Davao City--Mi**	**1.65**	**356**	⇑*e*P	**Pn**	**23 25 28.9**	**-1.1**
DMPH				*eS*	**S**	**23 25 58.0**	**-0.8**
KCP	**Kidapawan**	**1.66**	**342**	⇓*i*P	Pn	23 25 27.2	-2.8
KCP				*i* S	**S**	**23 25 54.6**	**-4.5**
SGSI	**Sangihe**	**1.73**	**183**	P	Pn	23 25 26.3	-4.3
CTBH	**Cotabato--PC H**	**2.25**	**323**	⇑*e*P	**Pn**	**23 25 34.0**	**-1.5**
CTBH				*i* S	**S**	**23 26 05.8**	**-3.1**
BUKP	**Musuan**	**2.50**	**347**	*e*P	**Pn**	**23 25 37.6**	**-0.7**
BUKP				*eS*	**S**	**23 26 10.1**	**-3.7**
CGP	**Cagayan de Oro**	**3.15**	**343**	*e*P	**Pn**	**23 25 44.4**	**-1.1**
CGP				*i* S	S	23 26 33.6	+7.0
PAGZ	**Pagadian**	**3.27**	**318**	*e*P	**Pn**	**23 25 45.3**	**-1.6**
BUTP	**Butuan**	**3.52**	**0**	*e*P	**Pn**	**23 25 50.7**	**+0.9**
MSLP	**Maasin**	**4.74**	**351**	*e*P	**Pn**	**23 26 03.8**	**-0.9**
TNTI	**Ternate**	**4.94**	**159**	P	**Pn**	**23 26 04.5**	**-2.6**
TNTI				S	S	23 26 48.3	-18
KMSI	**Cibinong**	**5.08**	**199**	P	Pn	23 26 04.5	-4.4

GTOI	**Gorontalo**	**5.42**	**209**	P	Pn	23 26 09.5	-3.7		
MRSI	**Marisa**	**6.13**	**217**	P	**Pn**	**23 26 20.0**	**-2.2**		
LBMI	**Labuha**	**6.31**	**163**	P	Pn	23 26 21.4	-3.1		
	80nm,0.6s,2μm								
LUWI	**Luwuk**	**7.02**	**204**	P	**Pn**	**23 26 32.8**	**-0.8**		
	117nm,0.9s,2μm								
LUWI	**Luwuk**	**7.02**	**204**	*e*Pn	**Pn**	**23 26 32.0**	**-1.6**		
LUWI				*eS*	**S**	**23 27 53.1**	**-0.9**		
LUWI	**Luwuk**	**7.02**	**204**	P	**Pn**	**23 26 32.4**	**-1.2**		
	baz=7.0,SNR=17								
SANI	**Sanana**	**7.43**	**177**	P	Pn	23 26 32.6	-6.3		
	182nm,0.7s,5μm								
APSI	**Ampana**	**7.43**	**212**	P	**Pn**	**23 26 38.9**	**0.0**		
	110nm,1.0s,1μm								
TSM	**Tawau**	**7.79**	**262**	⇑P	**Pn**	**23 26 42.7**	**-0.8**		
SDKM	**Sandakan**	**8.38**	**272**	⇑P	**Pn**	**23 26 51.0**	**-0.1**		
PALU	**Palau**	**9.01**	**77**	P	**Pn**	**23 27 01.5**	**+2.3**		
	baz=9.1,SNR=4.9								
PALU				S	**S**	**23 28 39.6**	**-1.2**		
	baz=9.1,SNR=7.1								
KKM	**Kota Kinabalu**	**9.37**	**274**	*e*Pn	**Pn**	**23 27 05.5**	**+1.6**		
KKM	**Kota Kinabalu**	**9.37**	**274**	⇑P	**P**	**23 27 09.1**	**-2.8**		
TTSI	**Tana Toraja**	**10.21**	**215**	P	**Pn**	**23 27 14.1**	**-0.5**		
	79nm,1.3s,2μm								
MMSI	**Mamuju**	**10.48**	**220**	P	x	23 27 17.3			
	26nm,0.8s,1μm								
FAKI	**Fak Fak**	**10.61**	**141**	*e*Pn	Pn	23 27 16.5	-3.2		
SPSI	**Sidrap Palu**	**11.00**	**212**	P	**Pn**	**23 27 23.6**	**-1.0**		
	27nm,0.9s								
BNSI	**Bone**	**11.20**	**210**	P	**Pn**	**23 27 26.4**	**-0.8**		

CMAR				ScP	**ScP**	**23 36 57.5 +1.7**			
CMAR	**Chiang Mai Arr**	**29.07**	**299**	P	**P**	**23 30 33.8 +0.8**			
	2.3nm,0.7s,baz=114,slow=7.1,SNR=11								
CMAR				ScP	**ScP**	**23 36 57.5 +1.7**			
	0.9nm,0.4s,baz=158,slow=2.2,SNR=8.1								
CMMT	**Chiang Mai**	**29.21**	**299**	P	P	23 30 38.6 +4.4			
	14nm,1.1s								
CHTO	**Chiang Mai**	**29.21**	**299**	P	P	23 30 38.7 +4.5			
	47nm,1.5s								
CHTO	**Chiang Mai**	**29.21**	**299**	*eP*	**P**	**23 30 34.2 0.0**			
	4.4nm,0.6s								
QIS	**Mount Isa**	**29.25**	**152**	P	**P**	**23 30 34.5 0.0**			
	baz=29,SNR=6.0								
KMI	**Kunming**	**29.41**	**314**	P	**P**	**23 30 37.3 +1.2**			
KMI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MHMT	**Maesariang**	**29.86**	**297**	P	**P**	**23 30 42.0 +2.2**			
	8.8nm,0.8s,242nm								
ASAR	**Alice Springs**	**30.02**	**165**	P	**P**	**23 30 40.7 -0.6**			
ASAR				PcP	**PcP**	**23 33 38.4 +0.7**			
ASAR				S	**S**	**23 35 20.3 -2.6**			
ASAR				ScP	**ScP**	**23 37 00.8 +2.1**			
ASAR	**Alice Springs**	**30.02**	**165**	P	**P**	**23 30 40.7 -0.6**			
	7.9nm,0.5s,baz=341,slow=7.0,SNR=329								
ASAR				PcP	**PcP**	**23 33 38.4 +0.7**			
	3.2nm,0.4s,baz=342,slow=2.5,SNR=8.4								
ASAR				S	**S**	**23 35 20.3 -2.6**			
	1.2nm,0.8s,baz=0.2,slow=24,SNR=4.2								
ASAR				ScP	**ScP**	**23 37 00.8 +2.1**			
	4.9nm,0.8s,baz=342,slow=2.5,SNR=22								
GIRL	**Giralia**	**30.03**	**201**	P	**P**	**23 30 40.7 -0.6**			
	baz=30,SNR=3.7								
AS01	**Alice Springs**	**30.03**	**165**	*eP*	**P**	**23 30 40.7 -0.6**			
AS01				*ePcP*	**PcP**	**23 33 38.3 +0.6**			
AS01				*eScP*	**ScP**	**23 37 00.4 +1.6**			
WRKA	**Warakurna**	**30.39**	**175**	P	**P**	**23 30 43.9 -0.5**			
	baz=30,SNR=38								
KSAR	**Wonju Array Be**	**31.94**	**3**	P	**P**	**23 30 59.6 +1.8**			
KSAR				PcP	**PcP**	**23 33 43.4 +0.8**			
KSRS	**Korea Array**	**31.95**	**3**	P	**P**	**23 30 59.6 +1.7**			
	1.3nm,0.7s,baz=181,slow=9.7,SNR=6.3								
KSRS				PcP	**PcP**	**23 33 43.4 +0.8**			
	1.2nm,0.6s,baz=164,slow=3.8,SNR=5.1								
MEEK	**Meekatharra**	**32.58**	**192**	P	**P**	**23 31 02.1 -1.4**			
	baz=33,SNR=14								
CD2	**Chengdu**	**32.63**	**324**	*eP*	**P**	**23 31 05.8 +1.8**			
CD2				sP	**sP**	**23 32 18.5 +3.7**			
CD2				S	**S**	**23 36 03.5 +0.2**			
CD2				sS	**sS**	**23 37 27.8 +3.9**			
CD2				SS	**SS**	**23 38 20.0 -9.2**			
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CD2				pmax	pmax				
	comp=Z,150nm,7.1s								
MJAR	**Matsushiro Arr**	**33.06**	**19**	P	**P**	**23 31 08.9 +1.3**			
MJAR	**Matsushiro Arr**	**33.06**	**19**	P	**P**	**23 31 08.9 +1.3**			
	1.6nm,0.6s,baz=198,slow=9.7,SNR=9.7								
BJI	**Beijing**	**35.50**	**347**	P	**P**	**23 31 29.3 +0.9**			
BJI				pmax	pmax				
	comp=Z,5.0nm,0.6s								
MORW	**Morawa**	**35.51**	**195**	P	**P**	**23 31 27.5 -1.1**			
	baz=36,SNR=6.6								
FORT	**Forrest**	**36.07**	**176**	*eP*	**P**	**23 31 32.8 -0.6**			
	41nm,0.8s								
FORT	**Forrest**	**36.07**	**176**	P	**P**	**23 31 33.1 -0.3**			
	baz=36,SNR=15								
LZH	**Lanzhou**	**36.49**	**330**	*eP*	**P**	**23 31 39.5 +2.4**			
LZH				pP	**pP**	**23 32 27.0 +4.0**			
LZH				sP	**sP**	**23 32 52.5 +4.0**			
LZH				pmax	pmax				
	comp=Z,15nm,1.0s								
BLDU	**Balliduj**	**36.83**	**193**	P	**P**	**23 31 38.7 -1.1**			
	baz=37,SNR=47								
HHC	**Hu-ho-hao-te**	**37.46**	**342**	*eP*	**P**	**23 31 47.8 +2.7**			
HHC				S	**S**	**23 37 17.0 +0.1**			
HHC				sS	sS	23 38 47.8 +9.1			
HHC				SS	**SS**	**23 40 08.0 -3.4**			
HHC				pmax	pmax				
	comp=Z,39nm,1.0s								
HHC				pmax	pmax				
	comp=Z,170nm,5.1s								
NWAO	**Narrogin (SRO)**	**38.96**	**191**	P	**P**	**23 31 57.1 -0.4**			
NWAO	**Narrogin (SRO)**	**38.96**	**191**	P	**P**	**23 31 57.1 -0.4**			
	28nm,0.4s,baz=26,slow=7.5,SNR=67								
USRK	**Ussuriysk Arra**	**39.03**	**7**	P	P	23 32 01.4 +3.4			
	1.4nm,0.5s,baz=208,slow=6.5,SNR=4.7								
MDJ	**Mudanjiang**	**39.19**	**4**	P	**P**	**23 32 00.3 +0.9**			
MDJ				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,24nm,2.8s								
BBOO	**Buckleboo**	**39.30**	**166**	*eP*	**P**	**23 32 00.8 +0.4**			
	571nm,0.4s								
BBOO	**Buckleboo**	**39.30**	**166**	P	**P**	**23 32 00.8 +0.4**			
	baz=40,SNR=282								
STKA	**Stephens Creek**	**40.10**	**159**	*eP*	**P**	**23 32 07.6 +0.7**			
	2.5nm,0.8s								
STKA				ScP	**ScP**	**23 37 35.5 +0.5**			
STKA	**Stephens Creek**	**40.10**	**159**	P	**P**	**23 32 07.2 +0.2**			
	12nm,0.7s,baz=330,slow=8.1,SNR=20								
STKA				ScP	**ScP**	**23 37 35.5 +0.5**			
	1.1nm,0.5s,baz=328,slow=7.0,SNR=3.3								
STKA	**Stephens Creek**	**40.10**	**159**	P	**P**	**23 32 07.7 +0.7**			
	baz=40,SNR=13								
LSA	**Lhasa**	**40.50**	**311**	*eP*	**P**	**23 32 11.4 +0.5**			
	5.3nm,0.7s								
RKGY	**Rocky Gully**	**40.64**	**191**	P	**P**	**23 32 12.0 +0.6**			
	baz=41,SNR=66								
HTT	**Hallett**	**40.65**	**163**	P	**P**	**23 32 12.5 +1.0**			
	baz=41,SNR=29								
GTA	**Gaotai**	**41.08**	**329**	*eP*	**P**	**23 32 16.0 +0.9**			
TAPN	**Taplejung**	**42.13**	**305**	*eP*	**P**	**23 32 24.0 0.0**			
	12nm,0.5s								
ODAN	**Odare**	**42.19**	**305**	*eP*	**P**	**23 32 24.4 -0.1**			
	21nm,0.7s								
RAMN	**Ramite**	**42.88**	**304**	*eP*	**P**	**23 32 30.1 +0.1**			
	17nm,0.7s								
JIRN	**Jiri**	**43.49**	**305**	*eP*	**P**	**23 32 34.9 -0.1**			
	16nm,0.5s								
GUN	**Gumba**	**43.84**	**305**	*eP*	**P**	**23 32 37.7 -0.1**			
	26nm,0.7s								
PKI	**Pulchoki**	**44.09**	**305**	*eP*	**P**	**23 32 39.0 -0.8**			
	5.2nm,0.5s								
PKIN	**Phulchoki**	**44.11**	**305**	*eP*	**P**	**23 32 39.1 -0.7**			
KKN	**Kakani**	**44.28**	**305**	*eP*	**P**	**23 32 40.7 -0.4**			
	5.5nm,0.3s								
DMN	**Daman**	**44.36**	**304**	*eP*	**P**	**23 32 41.1 -0.7**			
ARPS	**Mount Arapiles**	**44.63**	**161**	P	**P**	**23 32 44.5 +1.1**			
	baz=45,SNR=22								
GKN	**Gorkha**	**44.89**	**305**	*eP*	**P**	**23 32 45.2 -0.7**			
	4.2nm,0.3s								
YNG	**Young**	**44.99**	**153**	P	**P**	**23 32 48.2 +2.0**			
	baz=45,SNR=5.8								
SONM	**Songino Array**	**45.35**	**342**	P	**P**	**23 32 49.3 +0.2**			
SONM				PcP	**PcP**	**23 34 25.3 +0.7**			
SONM	**Songino Array**	**45.35**	**342**	P	**P**	**23 32 49.3 +0.2**			
	0.2nm,0.3s,baz=164,slow=9.6,SNR=4.0								
SONM				PcP	**PcP**	**23 34 25.3 +0.7**			
	1.4nm,0.8s,baz=173,slow=3.3,SNR=7.0								
SONA1	**Songino Array**	**45.36**	**342**	*eP*	**P**	**23 32 49.6 +0.5**			
KOLN	**Koldanda**	**45.66**	**304**	*eP*	**P**	**23 32 51.8 -0.1**			
	36nm,0.6s								
DANN	**Dangsing**	**45.74**	**305**	*eP*	**P**	**23 32 52.4 -0.3**			
	36nm,0.5s								
CNB	**Canberra Magne**	**46.27**	**153**	P	**P**	**23 32 58.3 +1.9**			
	baz=46,SNR=6.9								
PYUN	**Piuthan**	**46.28**	**304**	*eP*	**P**	**23 32 56.8 0.0**			
	30nm,0.4s								
WMQ	**Urumqi**	**50.71**	**325**	P	**P**	**23 33 31.5 +1.4**			
WMQ				pP	**pP**	**23 34 20.5 +1.7**			
WMQ				sP	**sP**	**23 34 45.3 +1.8**			
WMQ				PP	**PP**	**23 35 31.3 +2.8**			
WMQ				ScP	**ScP**	**23 38 18.5 -0.3**			
WMQ				PcS	**PcS**	**23 38 41.5 -0.2**			
WMQ				S	**S**	**23 40 28.8 +0.8**			
WMQ				sS	**sS**	**23 41 54.8 +1.2**			
WMQ				ScS	**ScS**	**23 42 55.8 -1.8**			
WMQ				SS	**SS**	**23 44 04.5 -1.0**			
WMQ				pmax	pmax				
	comp=Z,20nm,6.2s								
WMQ				LR	LR				
	comp=N,28nm,26.0s								
WMQ				LR	LR				
	comp=E,16nm,27.2s								
WMQ				LR	LR				
	comp=Z,35nm,29.9s								

MK01	**Makanchi Array**	**55.52**	**325**	*eP*	**P**	**23 34 04.8 -0.2**			
MKAR	**Makanchi Array**	**55.54**	**325**	*eP*	**P**	**23 34 04.9 -0.2**			
MKAR				ScP	**ScP**	**23 38 40.5 +0.7**			
MKAR	**Makanchi Array**	**55.54**	**325**	P	**P**	**23 34 05.2 0.0**			
	1.9nm,0.5s,baz=118,slow=6.8,SNR=47								
MKAR				ScP	**ScP**	**23 38 40.5 +0.7**			
	0.4nm,0.5s,baz=118,slow=5.6,SNR=3.5								
KSH	**Kashi**	**56.07**	**315**	*eP*	**P**	**23 34 10.3 +1.1**			
KSH				*ePP*	**PP**	**23 36 18.5 +1.8**			
KSH				*ePcS*	**PcS**	**23 39 06.0 +0.6**			
KSH				*eS*	**S**	**23 41 36.8 -3.6**			
KSH				pmax	pmax				
	comp=Z,140nm,3.3s								
KSH				LR	LR				
	comp=N,100nm,5.5s								
KSH				LR	LR				
	comp=E,140nm,5.0s								
KSH				LR	LR				
	comp=Z,110nm,4.3s								
TKM2	**Tokmak 2**	**57.75**	**318**	*eP*	**P**	**23 34 20.9 -0.1**			
	3.3nm,0.6s								
AAK	**Ala-Archa**	**58.36**	**318**	*eP*	**P**	**23 34 25.4 +0.1**			
	3.9nm,1.2s								
AAK	**Ala-Archa**	**58.36**	**318**	P	**P**	**23 34 25.8 +0.6**			
	0.9nm,0.5s,baz=99,slow=6.2,SNR=8.0								
ZAA0	**Zalesovo Array**	**58.59**	**333**	*eP*	**P**	**23 34 25.4 -0.9**			
ZALV	**Zalesovo Beam**	**58.59**	**333**	P	**P**	**23 34 25.5 -0.8**			
ZALV	**Zalesovo Beam**	**58.59**	**333**	P	**P**	**23 34 25.5 -0.8**			
	0.9nm,0.3s,baz=125,slow=6.5,SNR=7.4								
EKS2	**Erkin-Say**	**58.86**	**317**	*eP*	**P**	**23 34 27.9 -0.7**			
	4.4nm,0.7s								
KBL	**Kabul**	**59.62**	**307**	*eP*	**P**	**23 34 33.4 -0.6**			
	18nm,0.8s								
KBL	**Kabul**	**59.62**	**307**	P	P	23 34 37.8 +3.8			
	baz=60,SNR=34								
KURBB	**Kurchatov Arra**	**59.72**	**327**	P	**P**	**23 34 33.7 -0.4**			
	3.7nm,0.6s,baz=126,slow=6.3,SNR=24								
KURK	**Kurchatov**	**59.73**	**327**	*eP*	**P**	**23 34 34.1 0.0**			
	4.3nm,0.5s								
KKAR	**Karatay Array**	**61.24**	**317**	*eP*	**P**	**23 34 44.5 -0.1**			
BKZ	**Black Stump Fm**	**64.58**	**138**	*eP*	**P**	**23 35 05.8 -0.9**			
	69nm,1.6s								
VOSK	**Vostochnaya**	**64.85**	**327**	*eP*	**P**	**23 35 07.2 -0.8**			
	3.4nm,0.5s								
BVAR	**Borovoye Array**	**65.30**	**327**	P	**P**	**23 35 10.5 -0.6**			
BVAR	**Borovoye Array**	**65.30**	**327**	P	**P**	**23 35 10.5 -0.6**			
	1.3nm,0.6s,baz=135,slow=10,SNR=16								
BRVK	**Borovoye**	**65.38**	**327**	*eP*	**P**	**23 35 11.2 -0.2**			
	12nm,1.6s								
TIXI	**Tiksi**	**66.18**	**1**	*eP*	**P**	**23 35 16.9 +0.7**			
	9.0nm,0.4s								
ABKAR	**Akbulak array**	**70.14**	**321**	*eP*	**P**	**23 35 40.6 -0.7**			
AKTO	**Aktyubinsk**	**71.65**	**321**	P	**P**	**23 35 49.9 -0.5**			
AKTO	**Aktyubinsk**	**71.65**	**321**	P	**P**	**23 35 49.9 -0.5**			
	3.1nm,0.6s,baz=102,slow=9.0,SNR=12								
ARU	**Arti**	**72.92**	**328**	*eP*	**P**	**23 35 56.7 -1.0**			
	68nm,2.5s								
ABPO	**Ambohimpanom**	**80.84**	**250**	*eP*	**P**	**23 36 40.9 -1.9**			
	185nm,3.0s								
IL1	**Eielson Array**	**84.06**	**25**	*eP*	**P**	**23 36 58.0 -0.4**			
ILAR	**Eielson Array**	**84.06**	**25**	P	**P**	**23 36 59.4 +1.1**			
ILAR				pP	**pP**	**23 37 51.5 -0.6**			
ILAR	**Eielson Array**	**84.06**	**25**	P	**P**	**23 36 59.4 +1.1**			
	0.4nm,0.4s,baz=257,slow=4.5,SNR=15								
ILAR				pP	**pP**	**23 37 51.5 -0.6**			
	1.4nm,0.7s,baz=236,slow=5.4,SNR=11								
ILB	**Eielson Array**	**84.06**	**25**	*eP*	**P**	**23 36 57.3 -1.0**			
VNDA	**Vanda**	**85.23**	**173**	*eP*	**P**	**23 37 02.5 -1.3**			
	26nm,1.5s								
VNDA	**Vanda**	**85.23**	**173**	P	**P**	**23 37 04.2 +0.4**			
	1.4nm,0.5s,baz=325,slow=6.9,SNR=6.1								
BRTR	**Keskin Array B**	**88.09**	**310**	P	**P**	**23 37 17.0 -1.7**			
BRTR	**Keskin Array B**	**88.09**	**310**	P	**P**	**23 37 17.0 -1.7**			
	0.6nm,0.4s,baz=126,slow=4.1,SNR=15								
ARA0	**ARCESS Array S**	**88.49**	**340**	*eP*	**P**	**23 37 19.2 -0.5**			
ARCES	**ARCESS Array B**	**88.49**	**340**	P	**P**	**23 37 18.2 -1.5**			
ARCES	**ARCESS Array B**	**88.49**	**340**	P	**P**	**23 37 18.2 -1.5**			
	4.1nm,0.9s,baz=82,slow=6.0,SNR=7.9								
FINES	**FINESS Array B**	**89.83**	**332**	P	**P**	**23 37 25.4 -0.7**			
FINES	**FINESS Array B**	**89.83**	**332**	P	**P**	**23 37 25.4 -0.7**			
	0.9nm,0.4s,baz=55,slow=5.0,SNR=20								
BUR04	**Bucovina Ar. S**	**93.01**	**318**	*eP*	**P**	**23 37 40.4 -1.0**			
NOA	**NORSAR Array B**	**96.79**	**333**	P	**P**	**23 37 56.8 -1.3**			
NOA	**NORSAR Array B**	**96.79**	**333**	P	**P**	**23 37 56.8 -1.3**			
	1.5nm,1.1s,baz=110,slow=4.6,SNR=3.1								
NVAR	**Mina Array Bea**	**106.60**	**47**	PKKPbc	PKKPbc	23 54 12.6 -0.6			
NVAR	**Mina Array Bea**	**106.60**	**47**	PKKPbc	PKKPbc	23 54 12.6 -0.6			
	0.3nm,0.6s,baz=159,slow=2.8,SNR=4.4								
PDAR	**Pinedale Array**	**110.81**	**40**	PKKPab	PKKPab	23 54 08.1 -2.7			
PDAR	**Pinedale Array**	**110.81**	**40**	PKKPab	PKKPab	23 54 08.1 -2.7			
	0.4nm,0.5s,baz=122,slow=6.7,SNR=4.6								
TORD	**Torodi Ar. Bea**	**121.33**	**289**	PKP	**PKPdf**	**23 43 20.4 -0.1**			
TORD				SKP		23 46 36.3			
TORD	**Torodi Ar. Bea**	**121.33**	**289**	PKP	**PKPdf**	**23 43 20.4 -0.1**			
	1.9nm,0.6s,baz=49,slow=1.3,SNR=20								
TORD				SKP		23 46 36.3			
	0.7nm,0.7s,baz=50,slow=0.4,SNR=4.9								
TXAR	**Lajitas Array**	**121.42**	**51**	PKP	**PKPdf**	**23 43 22.1 +1.6**			
TXAR	**Lajitas Array**	**121.42**	**51**	PKP	**PKPdf**	**23 43 22.1 +1.6**			
	0.3nm,0.7s,baz=189,slow=1.5,SNR=4.7								
DBIC	**Dimbokro**	**129.13**	**283**	PKP	**PKPdf**	**23 43 35.5 -0.1**			
DBIC	**Dimbokro**	**129.13**	**283**	PKP	**PKPdf**	**23 43 35.5 -0.1**			
	1.5nm,0.6s,baz=136,slow=0.8,SNR=3.4								
PLCA	**Paso Flores**	**141.97**	**160**	PKP	**PKPdf**	**23 43 56.9 -1.9**			
PLCA	**Paso Flores**	**141.97**	**160**	PKP	**PKPdf**	**23 43 56.9 -1.9**			
	1.5nm,0.8s,baz=243,slow=2.3,SNR=2.7								

*ISCJB **30** 23:29:34.4±0.5, 18°.30N±0°.06×73°.05W±0°.04, h6km, mb3.9/7, MS3.2/5, Error ellipse: s-maj=8.9km s-min=5.7km az=15.1*
*IDC **30** 23:29:34.5±1.9, 18°.13N×73°.41W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/29, mbtmp3.9/6, MS3.2/6, Ms1 3.2/6, ms1mx2.9/30, Error ellipse: s-maj=59.9km s-min=29.0km az=60.0*
*NEIC **30** 23:29:36.6±0.6, 18°.42N×73°.02W, h10km, mb4.1/1, Error ellipse: s-maj=14.6km s-min=8.6km az=10.0*
ISC 30 23:29:36.5±0.6, 18°.28N±0°.08×73°.06W±0°.06, h6km, n32, σ1℘50/25, mb4.0/7, MS3.3/5, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**1.82**	**67**	*ePn*	Pn	23 30 05.5	-3.0
SDDR				*eSn*	**Sn**	**23 30 29.5**	**-2.4**
GTBY	**Guantanamo Bay**	**2.53**	**311**	*ePn*	**Pn**	**23 30 15.5**	**-2.8**
GTBY				*eSn*	**Sn**	**23 30 46.9**	**-2.6**
GRTK	**Grand Turk**	**3.69**	**29**	*ePn*	Pn	23 30 30.8	-3.3
MTDJ	**Mount Denham**	**4.25**	**270**	*ePn*	**Pn**	**23 30 42.7**	**+0.8**
CRPR	**Pitinga Rojo, PR**	**5.67**	**92**	*ePn*	**Pn**	**23 31 00.6**	**-0.7**
LSP	**Las Mesas**	**5.68**	**90**	*ePn*	Pn	23 31 07.5	+5.9
LRS	**Lares**	**5.91**	**89**	*ePn*	Pn	23 31 10.7	+6.0
OBIP	**Obispado Ponce**	**6.14**	**91**	Pn	**Pn**	**23 31 07.5**	**-0.4**
CELP	**Cerrillos**	**6.17**	**91**	*ePn*	**Pn**	**23 31 09.0**	**+0.8**
SDV	**Santo Domingo**	**9.63**	**166**	*ePn*	**Pn**	**23 31 56.0**	**0.0**
SDV				*eSn*	**Sn**	**23 33 43.4**	**-1.4**
BCIP	**Isla Barro Col**	**11.20**	**217**	*ePn*	Pn	23 32 12.6	-4.6
JTS	**JuntasAbangare**	**13.99**	**237**	LR	LR	23 38 24.0	
	comp=Z,51nm,21.1s,baz=12,slow=39						
TEIG	**Tepich**	**14.50**	**280**	*ePn*	**Pn**	**23 33 04.2**	**+1.8**
TEIG	**Tepich**	**14.50**	**280**	Pn	**Pn**	**23 33 04.2**	**+1.8**
	0.8nm,0.3s,baz=135,slow=8.6,SNR=5.1						
PTGA	**Pitinga**	**22.87**	**144**	LR	LR	23 43 14.2	
	comp=Z,30nm,18.1s,baz=12,slow=36						
ATAH	**Atahualpa**	**25.80**	**192**	LR	LR	23 47 07.1	
	comp=Z,49nm,21.0s,baz=36,slow=41						
MNTX	**Cornudas Mount**	**32.06**	**301**	P	**P**	**23 36 02.1**	**-2.2**
	2.6nm,1.0s						
LPAZ	**La Paz**	**34.69**	**172**	LR	LR	23 51 35.0	
	comp=Z,64nm,18.9s,baz=55,slow=38						
BDFB	**Brasilia**	**41.77**	**142**	P	**P**	**23 37 26.4**	**-0.7**
BDFB	**Brasilia**	**41.77**	**142**	P	**P**	**23 37 26.4**	**-0.7**
	1.8nm,0.6s,baz=297,slow=6.8,SNR=3.1						
WALA	**Waterton Lakes**	**44.96**	**322**	*eP*	**P**	**23 37 53.8**	**+1.2**
YKA	**Yellowknife Ar**	**52.67**	**337**	P	**P**	**23 38 50.5**	**-0.9**
YKA	**Yellowknife Ar**	**52.67**	**337**	P	**P**	**23 38 50.5**	**-0.9**
	0.5nm,0.8s,baz=126,slow=7.5,SNR=8.2						
ESDC	**Sonseca Array**	**62.62**	**54**	P	**P**	**23 40 03.4**	**+1.3**
ESDC	**Sonseca Array**	**62.62**	**54**	P	**P**	**23 40 03.4**	**+1.3**
	3.5nm,1.2s,baz=265,slow=7.0,SNR=5.5						
ESDC				LR	LR	00 04 37.4	
	comp=Z,18nm,18.1s,baz=250,slow=33						
TORD	**Torodi Ar. Bea**	**71.71**	**82**	P	**P**	**23 41 01.6**	**+1.5**
TORD	**Torodi Ar. Bea**	**71.71**	**82**	P	**P**	**23 41 01.6**	**+1.5**
	0.7nm,1.0s,baz=295,slow=4.8,SNR=3.1						
GERES	**GERESS Array B**	**74.37**	**43**	P	**P**	**23 41 15.6**	**+0.3**
GERES	**GERESS Array B**	**74.37**	**43**	P	**P**	**23 41 15.6**	**+0.3**
	0.9nm,0.8s,baz=251,slow=8.3,SNR=5.5						
FINES	**FINESS Array B**	**78.41**	**29**	LR	LR	00 14 30.6	
	comp=Z,20nm,19.2s,baz=89,slow=34						
BRTR	**Keskin Array B**	**90.69**	**48**	P	**P**	**23 42 41.6**	**+0.9**
BRTR	**Keskin Array B**	**90.69**	**48**	P	**P**	**23 42 41.6**	**+0.9**
	0.7nm,0.8s,baz=337,slow=4.2,SNR=2.3						

*ISCJB **30** 23:55:21.5±1.0, 50°.26N±0°.04×126°.49E±0°.08, h10km, Error ellipse: s-maj=7.6km s-min=5.8km az=174.3*
*BJI **30** 23:55:25.4, 50°.12N×125°.74E, h7km, ML3.9/9*
*SKHL **30** 23:55:27.2±2.0, 50°.28N×126°.13E, h24km±5km, mb4.0/5*
ISC 30 23:55:27.3±1.0, 50°.34N±0°.04×126°.29E±0°.07, h10km, n8, σ1℘85/17, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**3.45**	**10**	*ePn*	Pn	23 56 24.6	+3.6
ZEA				*ePg*	**Pg**	**23 56 33.1**	**-0.2**
ZEA				AMB	AMB	23 56 37.6	
	19nm,0.5s						
ZEA				AMB	AMB	23 56 37.6	
	24nm,0.5s						
ZEA				*erx*	rx	23 56 39.6	
ZEA				*eSn*	**Sn**	**23 57 02.6**	**+0.7**
ZEA				*eSg*	**Sg**	**23 57 19.7**	**+1.7**
ZEA				A	A	23 57 25.3	
	190nm,0.7s						
ZEA				A	A	23 57 25.3	
	150nm,0.7s						
KLR	**Kul'dur**	**3.71**	**105**	*ePn*	**Pn**	**23 56 23.8**	**-0.8**
KLR				*eSn*	**Sn**	**23 57 10.0**	**+1.6**
KROS	**Kirovskiy**	**4.12**	**6**	*ePn*	**Pn**	**23 56 28.**	**-1.7**
KROS				*erx*	rx	23 56 33.7	
KROS				*ePg*	**Pb**	**23 56 42.4**	**+2.6**
KROS				AMB	AMB	23 56 49.3	
	23nm,0.5s						
KROS				*eSn*	**Sn**	**23 57 16.0**	**-2.4**
KROS				*eSg*	**Sg**	**23 57 38.8**	**-0.6**
KROS				A	A	23 57 45.5	
	59nm,0.5s						
KROS				A	A	23 57 45.5	
	91nm,0.5s						
BMKR	**Bomnak**	**4.64**	**19**	*ePn*	**Pn**	**23 56 36.6**	**-0.8**
BMKR				*erx*	rx	23 56 41.0	
BMKR				*ePg*	Pb	23 56 53.3	+4.5
BMKR				AMB	AMB	23 56 59.8	
	16nm,0.5s						
BMKR				*eSn*	**Sn**	**23 57 30.9**	**-0.4**
BMKR				*eSg*	**Sg**	**23 57 55.7**	**-0.6**
BMKR				A	A	23 57 58.9	
	61nm,0.5s						
EKMR	**Ekimchan**	**4.96**	**54**	*ePn*	**Pn**	**23 56 43.1**	**+1.3**
EKMR				*ePg*	Pb	23 56 59.3	+5.1
EKMR				AMB	AMB	23 57 06.9	
	5.0nm,0.5s						
EKMR				*eSg*	**Sg**	**23 58 05.3**	**-1.2**
EKMR				A	A	23 58 19.0	
	43nm,0.6s						
EKMR				A	A	23 58 19.0	
	21nm,0.6s						
EKMR				A	A	23 58 19.0	
	19nm,0.6s						
GRNR	**Gornyy**	**6.47**	**82**	*eSg*	**Sg**	**23 58 53.0**	**-1.9**
CN2	**Changchun**	**6.57**	**185**	*ePg*	**Pg**	**23 57 30.5**	**-2.5**
CN2				*eSg*	**Sb**	**23 58 43.5**	**+3.4**
CN2				smax	smax		
	comp=N,30nm,0.7s						
CN2				smax	smax		
	comp=E,20nm,0.7s						
NKL	**Nikolayevsk**	**9.36**	**67**	*erx*	rx	00 00 35.8	

*ISCJB **31** 00:15:36.8±1.0, 43°.62N±0°.06×145°

*DDA **31** 00:31:44.4, 40˚.20N×42˚.01E, h5km, ML3.8*
*ISK **31** 00:31:44.1, 40˚.22N×42˚.05E, h5km, MD3.4*
*CSEM **31** 00:31:45.7±0.2, 40˚.20N×42˚.01E, h2km, MD3.4, Error ellipse: s-maj=4.2km s-min=4.0km az=51.0*

ISC 31 00:31:44.8±1.0, 40˚.21N±0˚.02×42˚.01E±0˚.02, h6km±9km, n69, σ1§11/99, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.18**	**205**	*i* P	**Pg**	**00 31 48.2**	**-0.3**
HOMI				*i* S	**Sg**	**00 31 50.9**	**-0.3**
EATA	**Eleskirt**	**0.51**	**133**	*i* P	**Pg**	**00 31 54.7**	**-0.1**
EATA				*i* S	**Sg**	**00 32 02.8**	**+1.3**
EATA	**Eleskirt**	**0.51**	**133**	*i* P	**Pg**	**00 31 54.7**	**-0.1**
EATA				*i* S	**Sg**	**00 32 02.8**	**+1.3**
ERZM	**Erzurum**	**0.58**	**238**	*i* P	**Pg**	**00 31 56.3**	**+0.2**
ERZM				*i* S	**Sg**	**00 32 02.5**	**-1.1**
ERZM	**Erzurum**	**0.58**	**238**	*i* P	**Pg**	**00 31 56.3**	**+0.2**
ERZM				*i* S	**Sg**	**00 32 02.5**	**-1.1**
EZM	**Erzurum**	**0.58**	**238**	*e*PG	**Pb**	**00 31 56.9**	**-0.7**
EZM				*e*SG	**Sb**	**00 32 06.9**	**+0.7**
DDEM	**Demirkent**	**0.71**	**344**	*i* P	**Pb**	**00 31 59.4**	**-0.2**
DDEM				*i* S	**Sb**	**00 32 10.5**	**+0.8**
DDEM	**Demirkent**	**0.71**	**344**	*i* P	**Pb**	**00 31 59.4**	**-0.2**
DDEM				*i* S	**Sb**	**00 32 10.5**	**+0.8**
DBAD	**Bademkaya**	**0.84**	**344**	*i* P	**Pb**	**00 32 01.6**	**-0.3**
DBAD				*i* S	**Sb**	**00 32 14.2**	**+0.8**
DBAD	**Bademkaya**	**0.84**	**344**	*i* P	**Pb**	**00 32 01.6**	**-0.3**
DBAD				*i* S	**Sb**	**00 32 14.2**	**+0.8**
DAGI	**Agillar**	**0.87**	**355**	*i* P	**Pb**	**00 32 02.2**	**-0.1**
DAGI				*i* S	**Sb**	**00 32 15.2**	**+1.0**
KARS	**Kars**	**0.92**	**63**	*e*PG	**Pg**	**00 32 02.3**	**-0.2**
KARS				*e*SG	**Sb**	**00 32 15.5**	**-0.2**
KARS	**Kars**	**0.92**	**63**	*e*Pg	**Pg**	**00 32 02.3**	**-0.2**
KARS				*e*Sg	**Sb**	**00 32 15.5**	**-0.2**
ARTV	**Artvin**	**0.97**	**357**	*i* P	**Pb**	**00 32 04.0**	**-0.3**
ARTV				*i* S	**Sn**	**00 32 18.2**	**-1.3**
ARTV	**Artvin**	**0.97**	**357**	*i* P	**Pb**	**00 32 04.0**	**-0.3**
ARTV				*i* S	**Sn**	**00 32 18.2**	**-1.3**
AGRB	**Hanur-Agry**	**0.99**	**130**	*e*PG	**Pg**	**00 32 03.3**	**-0.5**
AGRB				*e*SG	**Sb**	**00 32 18.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.99**	**130**	*e*Pg	**Pg**	**00 32 03.3**	**-0.5**
AGRB				*e*Sg	**Sb**	**00 32 18.4**	**+0.5**
TUTA	**Tutak**	**1.02**	**142**	*i* P	**Pg**	**00 32 03.8**	**-0.6**
TUTA				*i* S	**Sn**	**00 32 20.3**	**-0.4**
DIGO	**Kars**	**1.07**	**79**	*i* P	**Pg**	**00 32 04.4**	**-0.9**
DIGO				*i* S	**Sn**	**00 32 21.2**	**-0.6**
VRTB	**Varto-Mus**	**1.13**	**202**	*e*PN	**Pn**	**00 32 07.1**	**-0.3**
VRTB	**Varto-Mus**	**1.13**	**202**	*e*Pn	**Pn**	**00 32 07.1**	**-0.3**
DBOC	**Borcka**	**1.16**	**347**	*i* P	**Pb**	**00 32 07.2**	**-0.1**
DBOC				*i* S	**Sn**	**00 32 23.6**	**-0.2**
DBOC	**Borcka**	**1.16**	**347**	*i* P	**Pb**	**00 32 07.2**	**-0.1**
DBOC				*i* S	**Sn**	**00 32 23.6**	**-0.2**
BCA	**Borcka**	**1.26**	**347**	*e*PN	**Pg**	**00 32 09.2**	**+0.1**
BCA	**Borcka**	**1.26**	**347**	*e*Pn	**Pg**	**00 32 09.2**	**+0.1**
BNGL	**BINGOL**	**1.42**	**208**	*i* P	**Pn**	**00 32 10.5**	**-0.9**
BNGL				*i* S	**Sg**	**00 32 32.5**	**+1.9**
DYDN	**Diyadin**	**1.46**	**117**	*i* P	**Pn**	**00 32 11.7**	**-0.2**
DYDN				*i* S	**Sg**	**00 32 33.2**	**+1.5**
DYDN	**Diyadin**	**1.46**	**117**	*i* P	**Pn**	**00 32 11.7**	**-0.2**
DYDN				*i* S	**Sg**	**00 32 33.2**	**+1.5**
AKH	**Akhalkalaki**	**1.64**	**43**	P	**Pg**	**00 32 01.3**	**-0.1**
AKH	**Akhalkalaki**	**1.64**	**43**	P	**Pg**	**00 32 16.3**	**-0.1**
TATV	**Tatvan**	**1.71**	**173**	*i* P	**Pb**	**00 32 16.3**	**-0.6**
TATV				*i* S	**Sg**	**00 32 40.0**	**+0.1**
TATV	**Tatvan**	**1.71**	**173**	*i* P	**Pb**	**00 32 16.3**	**-0.6**
TATV				*i* S	**Sg**	**00 32 40.0**	**+0.1**
CLDR	**Caldiran**	**1.82**	**125**	*e*PN	**Pb**	**00 32 18.1**	**-0.6**
CLDR	**Caldiran**	**1.82**	**125**	*e*Pn	**Pb**	**00 32 18.1**	**-0.6**
EUZM	**Uzumlu**	**1.84**	**255**	*i* P	**Pn**	**00 32 17.7**	**+0.6**
EUZM	**Uzumlu**	**1.84**	**255**	*i* P	**Pn**	**00 32 17.7**	**+0.6**
MACK	**Trabzon**	**1.85**	**294**	*i* P	**Pg**	**00 32 19.8**	**-0.6**
MACK				*i* S	**Sg**	**00 32 44.9**	**+0.5**
MACK	**Trabzon**	**1.85**	**294**	*i* P	**Pg**	**00 32 19.8**	**-0.6**
MACK				*i* S	**Sg**	**00 32 44.9**	**+0.5**
ERZN	**Erzincan**	**1.86**	**251**	*e*PN	**Pb**	**00 32 19.0**	**-0.3**
KTUT	**Trabzon**	**1.87**	**295**	*e*PN	**Pb**	**00 32 18.7**	**-0.7**
KTUT	**Trabzon**	**1.87**	**295**	*e*Pn	**Pb**	**00 32 18.7**	**-0.7**
GUMT	**Gumushane**	**1.95**	**278**	*e*PN	**Pb**	**00 32 20.6**	**0.0**
GUMT	**Gumushane**	**1.95**	**278**	*e*Pn	**Pb**	**00 32 20.8**	**0.0**
TVAN	**Van**	**2.00**	**147**	*i* P	**Pb**	**00 32 21.7**	**-0.1**
TVAN				*i* S	**Sg**	**00 32 53.0**	**+3.8**
TVAN	**Van**	**2.00**	**147**	*i* P	**Pb**	**00 32 21.7**	**-0.1**
EZC	**Erzincan**	**2.09**	**258**	*e*Pn	**Pn**	**00 32 19.0**	**-1.5**
KELT	**Kelkit**	**2.11**	**269**	*i* P	**Pg**	**00 32 24.4**	**-0.8**
KELT				*i* S	**Sg**	**00 32 53.5**	**+0.9**
KELT	**Kelkit**	**2.11**	**269**	*i* P	**Pg**	**00 32 24.4**	**-0.8**
BEST	**Besiri**	**2.39**	**194**	*i* P	**Pb**	**00 32 27.3**	**-1.0**
BEST				*i* S	**Sg**	**00 33 01.6**	**+0.1**
PTK	**Pertek**	**2.41**	**238**	*e*PN	**Pb**	**00 32 27.0**	**-1.8**
PTK	**Pertek**	**2.41**	**238**	*e*Pn	**Pb**	**00 32 27.0**	**-1.8**
CHVG	**Ch'k'valeri**	**2.50**	**1**	P	**Pg**	**00 32 33.1**	**+0.2**
TBLG	**Delisi**	**2.56**	**53**	P	**Pb**	**00 32 29.1**	**-2.2**
TBLG	**Delisi**	**2.56**	**53**	P	**Pb**	**00 32 29.1**	**-2.2**
ONI	**Oni**	**2.61**	**24**	P	**Pb**	**00 32 32.9**	**+0.8**
ONI	**Oni**	**2.61**	**24**	P	**Pb**	**00 32 32.9**	**+0.8**
DYBB	**Diyarbakir**	**2.68**	**213**	*e*PN	**Pn**	**00 32 30.8**	**+2.2**
DIY	**Diyarbakir**	**2.70**	**211**	*e*Pn	**Pn**	**00 32 30.8**	**+2.0**
ILIC	**ilic-Erzincan**	**2.75**	**255**	*e*PN	**Pn**	**00 32 31.9**	**+2.2**
ILIC	**ilic-Erzincan**	**2.75**	**255**	*e*Pn	**Pn**	**00 32 31.9**	**+2.2**
DGRG	**David-gareji**	**2.84**	**63**	P	**Pb**	**00 32 33.2**	**-2.7**
DGRG	**David-gareji**	**2.84**	**63**	P	**Pb**	**00 32 33.2**	**-2.7**
GUDG	**Gudauri**	**2.92**	**39**	P	**Pb**	**00 32 35.9**	**-1.5**
GUDG	**Gudauri**	**2.92**	**39**	P	**Pb**	**00 32 35.9**	**-1.5**
GRSN	**GIRESUNGRSN**	**2.93**	**285**	*i* P	**Pb**	**00 32 37.2**	**-0.3**
GRSN				*i* S	**Sg**	**00 33 17.2**	**-1.9**
MAZI	**Mazidag**	**3.01**	**204**	*e*PN	**Pn**	**00 32 34.9**	**+1.8**
MAZI	**Mazidag**	**3.01**	**204**	*e*Pn	**Pn**	**00 32 34.9**	**+1.8**
DARE	**Darende-Malaty**	**3.87**	**246**	*e*PN	Pn	00 32 48.0	+3.1
DARE	**Darende-Malaty**	**3.87**	**246**	*e*Pn	Pn	00 32 48.0	+3.1

IDC 31 00:33:02.5±1.1, 19˚.92N×145˚.26E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, Error ellipse: s-maj=54.0km s-min=22.8km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.03**	**196**	P	P	00 40 47.7	0.0
	0.1nm,0.3s,baz=19,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**44.71**	**195**	P	P	00 41 17.4	-0.2
	0.4nm,0.8s,baz=16,slow=6.7,SNR=5.2						
MKAR	**Makanchi Array**	**57.33**	**313**	P	P	00 42 53.5	+1.2
	0.3nm,0.6s,baz=81,slow=8.8,SNR=4.4						
ILAR	**Eielson Array**	**62.74**	**27**	P	P	00 43 29.8	+0.6
	0.2nm,0.6s,baz=254,slow=6.5,SNR=1.7						
YKA	**Yellowknife Ar**	**77.11**	**28**	P	P	00 44 57.8	+0.3
	0.2nm,0.5s,baz=291,slow=5.4,SNR=2.7						
FINES	**FINESS Array B**	**85.61**	**335**	P	P	00 45 40.9	-1.7
	7.2nm,1.3s,baz=58,slow=3.4,SNR=9.5						

*NIED **31** 00:41:00, 25˚.10N×126˚.70E, h41km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φs306.00000°, δ62.00000°, λ-24.00000°. NP2:φs48.00000°, δ69.00000°, λ-150.00000°.*
*IDC **31** 00:41:39.1±0.8, 24˚.92N×126˚.48E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.7/27, mbtmp3.7/13, ML3.7/1, Error ellipse: s-maj=40.8km s-min=16.3km az=66.0*
*JMA **31** 00:41:43.8±0.3, 25˚.07N×126˚.70E, h67km, M3.5*
*ISCJB **31** 00:41:44.1±0.5, 25˚.10N±0˚.06×126˚.69E±0˚.06, h64km, mb3.7/13, Error ellipse: s-maj=10.4km s-min=3.9km az=137.8*

ISC 31 00:41:46.1±0.8, 25˚.09N±0˚.08×126˚.69E±0˚.07, h64km, n25, σ1§77/29, mb3.7/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.21**	**255**	P	**Pn**	**00 42 05.3**	**-1.7**
JOGS				*e*S	**Sn**	**00 42 20.5**	**-2.1**
JKE	**Kume jima 2**	**1.24**	**4**	P	**Pn**	**00 42 05.8**	**-1.6**
JMJ	**Miyako jima 2**	**1.29**	**258**	P	**Pn**	**00 42 06.6**	**-1.5**
JMJ				*e*S	**Sn**	**00 42 22.3**	**-2.3**
JJT2	**Tamagusuku 2**	**1.42**	**42**	*e*S	**Sn**	**00 42 25.2**	**-2.4**
JAGN	**Aguni-jima**	**1.58**	**18**	P	**Pn**	**00 42 10.4**	**-1.5**
JAGN				*e*S	**Sn**	**00 42 29.5**	**-1.9**
JTJ	**Tarama**	**1.86**	**257**	P	**Pn**	**00 42 13.8**	**-1.9**
JOW	**Kunigami**	**2.25**	**39**	P	**Pn**	**00 42 19.5**	**-1.6**
JOW				*e*S	**Sn**	**00 42 45.1**	**-2.6**
JIH	**Iheya**	**2.25**	**30**	P	**Pn**	**00 42 19.7**	**-1.4**
JIH				*e*S	**Sn**	**00 42 45.8**	**-2.0**
JIJ	**Ishigaki jima**	**2.42**	**253**	P	**Pn**	**00 42 21.0**	**-2.4**
JKRS	**Kuro-shima**	**2.58**	**251**	P	**Pn**	**00 42 23.1**	**-2.4**
IRIF	**Iriomote-Funau**	**2.79**	**255**	P	**Pn**	**00 42 26.4**	**-2.0**
JNU	**Nakatsue**	**8.80**	**24**	Pn	**Pn**	**00 43 49.9**	**-0.8**
	0.7nm,0.3s,baz=290,slow=5.1,SNR=5.8						
JNU				Sn	**Sn**	**00 45 27.1**	**-1.2**
	0.3nm,0.3s,baz=139,slow=19,SNR=3.8						
SONM	**Songino Array**	**27.80**	**330**	P	**P**	**00 47 30.3**	**+1.1**
	2.4nm,0.6s,baz=146,slow=8.1,SNR=25						
JAY	**Jayapura**	**30.62**	**152**	P	**P**	**00 47 54.5**	**+0.1**
	8.7nm,0.5s,baz=70,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**41.28**	**313**	P	**P**	**00 49 26.2**	**+1.0**
	2.0nm,0.5s,baz=99,slow=10,SNR=33						
ZALV	**Zalesovo Beam**	**42.33**	**324**	P	**P**	**00 49 34.5**	**+0.9**
	0.9nm,0.6s,baz=89,slow=8.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**44.73**	**318**	P	**P**	**00 49 54.0**	**+1.0**
	0.6nm,0.5s,baz=107,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	**45.38**	**170**	P	**P**	**00 49 58.3**	**-0.1**
	1.0nm,1.0s,baz=348,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**48.97**	**171**	P	**P**	**00 50 26.2**	**-0.1**
	0.2nm,0.5s,baz=356,slow=8.5,SNR=3.6						
BVAR	**Borovoye Array**	**50.21**	**319**	P	**P**	**00 50 36.1**	**+0.7**
	0.2nm,0.3s,baz=96,slow=7.9,SNR=4.2						
ARCES	**ARCESS Array B**	**70.56**	**339**	P	**P**	**00 52 55.7**	**+1.7**
	1.8nm,0.8s,baz=61,slow=7.3,SNR=3.5						
FINES	**FINESS Array B**	**73.17**	**330**	P	**P**	**00 53 11.4**	**+1.7**
	1.2nm,0.6s,baz=66,slow=6.2,SNR=14						
BRTR	**Keskin Array B**	**76.63**	**308**	P	P	00 53 33.0	+2.6
	0.3nm,0.8s,baz=77,slow=6.4,SNR=2.7						
NOA	**NORSAR Array B**	**79.71**	**333**	P	**P**	**00 53 49.0**	**+2.2**
	0.4nm,0.7s,baz=56,slow=5.5,SNR=3.0						
YKA	**Yellowknife Ar**	**80.14**	**24**	P	P	00 53 53.4	+4.4
	0.1nm,0.6s,baz=304,slow=5.5,SNR=2.5						

*IDC **31** 00:46:44.8±1.8, 10˚.81S×161˚.31E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.8/26, Error ellipse: s-maj=37.6km s-min=30.4km az=99.0*
*ISCJB **31** 00:46:51.9±1.3, 10˚.8S±0˚.1×161˚.1E±0˚.2, h62km, mb3.5/5, Error ellipse: s-maj=26.1km s-min=14.2km az=155.6*

ISC 31 00:46:53.6±1.4, 10˚.7S±0˚.2×161˚.1E±0˚.2, h62km, n7, σ1§30/7, mb3.5/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.73**	**318**	Pn	**Pn**	**00 47 20.0**	**-1.3**
	19nm,0.3s,baz=165,slow=12,SNR=6.1						
HNR				Sn	**Sn**	**00 47 43.1**	**+0.7**
	108nm,0.3s,baz=142,slow=20,SNR=12						
WRA	**Warramunga Arr**	**27.36**	**247**	P	**P**	**00 52 33.3**	**+0.1**
	1.0nm,0.8s,baz=75,slow=9.9,SNR=5.9						
ASAR	**Alice Springs**	**28.93**	**240**	P	**P**	**00 52 46.9**	**-0.3**
	0.8nm,1.0s,baz=62,slow=9.6,SNR=3.4						
ASAR				LR	LR	01 04 07.1	
	comp=Z,76nm,18.6s,baz=31,slow=36						
PPT	**Papeete**	**48.19**	**104**	LR	LR	01 13 00.4	
	comp=Z,56nm,19.6s,baz=238,slow=33						
SONM	**Songino Array**	**75.77**	**325**	P	**P**	**00 58 34.9**	**+2.0**
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.9						
ILAR	**Eielson Array**	**84.72**	**20**	P	**P**	**00 59 19.8**	**-0.7**
	0.4nm,0.3s,baz=236,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**90.20**	**318**	P	**P**	**00 59 47.2**	**-0.2**
	0.2nm,0.5s,baz=100,slow=4.4,SNR=5.8						

*IDC **31** 00:50:54.9±1.1, 51˚.92N×174˚.24E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/29, mbtmp3.6/9, Error ellipse: s-maj=27.8km s-min=13.5km az=43.0*
*ISCJB **31** 00:50:57.4±0.9, 51˚.9N±0˚.1×174˚.2E±0˚.2, h28km, mb3.5/9, Error ellipse: s-maj=21.3km s-min=11.3km az=135.0*

ISC 31 00:50:59.4±1.0, 52˚.0N±0˚.1×174˚.2E±0˚.1, h28km, n16, σ0§65/11, mb3.5/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.07**	**325**	Pn	**Pn**	**00 51 17.2**	**-1.3**
	28nm,0.3s,baz=179,slow=3.4,SNR=275						
FX1				Sn	**Sn**	**00 51 33.8**	**+0.8**
	195nm,0.3s,baz=245,slow=19,SNR=17						
ILAR	**Eielson Array**	**23.61**	**42**	P	**P**	**00 56 08.0**	**+0.3**
	0.7nm,0.8s,baz=248,slow=9.4,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**32.71**	**193**	T	T	01 32 29.0	
	baz=11,slow=76,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**32.73**	**193**	T	T	01 32 29.0	
	baz=11,slow=76,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**32.73**	**193**	T	T	01 32 29.0	
	baz=11,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**33.94**	**193**	T	T	01 34 02.5	
	baz=15						
H11S3	**WAKE ISLAND Hy**	**33.96**	**193**	T	T	01 34 03.6	
	baz=15						
H11S2	**WAKE ISLAND Hy**	**33.96**	**193**	T	T	01 34 03.1	
	baz=15						
YKA	**Yellowknife Ar**	**37.94**	**46**	P	**P**	**00 58 13.9**	**-0.1**
	0.4nm,0.6s,baz=287,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**56.14**	**304**	P	**P**	**01 00 36.1**	**-0.1**
	0.2nm,0.5s,baz=56,slow=6.2,SNR=4.9						
TXAR	**Lajitas Array**	**62.82**	**77**	P	**P**	**01 01 22.1**	**-0.4**
	0.2nm,0.4s,baz=305,slow=6.0,SNR=4.4						
NOA	**NORSAR Array B**	**66.48**	**351**	P	**P**	**01 01 46.3**	**+0.5**
	1.1nm,1.0s,baz=12,slow=6.4,SNR=3.1						
HFS	**Hagfors**	**67.11**	**350**	P	**P**	**01 01 49.6**	**-0.2**
	1.1nm,0.6s,baz=39,slow=5.5,SNR=3.6						
AKASG	**Malin Array Be**	**73.45**	**338**	P	**P**	**01 02 29.1**	**+0.4**
	0.2nm,0.3s,baz=27,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**79.63**	**218**	P	**P**	**01 03 04.1**	**+0.1**
	0.6nm,1.0s,baz=30,slow=6.2,SNR=3.1						
BRTR	**Keskin Array B**	**82.40**	**330**	P	**P**	**01 03 19.4**	**+0.6**
	0.5nm,0.8s,baz=1.9,slow=4.3,SNR=3.0						

*SZGRF **31** 00:58:01.0, 23˚.09S×177˚.18W, h33km, South of Fiji Islands*
*BJI **31** 00:59:04.0, 20˚.36S×177˚.36W, h505km, mB4.9/20, mb4.9/41*
*ISCJB **31** 00:59:06.1±0.7, 20˚.42S±0˚.05×178˚.19W±0˚.03, h503km±8km, mb4.8/196, Error ellipse: s-maj=7.6km s-min=3.7km az=160.4*
*MOS **31** 00:59:08.9±0.9, 20˚.27S×178˚.17W, h532km, mb4.8/27, Error ellipse: s-maj=11.3km s-min=9.2km az=46.6*
*NEIC **31** 00:59:08.7±0.7, 20˚.54S×178˚.10W, h534km±7km, mb4.9/156, Error ellipse: s-maj=6.9km s-min=3.9km az=153.0*
*GCMT **31** 00:59:08.7±0.7, 20˚.49S×177˚.83W, h545km±3km, MW5.2/45, Moment Tensor Solution. s45,c53; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.97±.36; Mθθ3.80±.56; Mφφ 1.17±.69; Mrθ -3.11±.61; Mθφ 0.92±.55; Mφr -4.88±.60; Best double couple: M0 7.22500×10^16 NP1:φs43.00000°, δ72.00000°, λ-103.00000°. NP2: φs260.00000°, δ22.00000°, λ-56.00000°. Principal axes: T 6.3320, Plg26.0000°, Azm143.0000°; N 1.7860, Plg12.0000°, Azm47.0000°; P -8.1170, Plg61.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **31** 00:59:09.5±1.4, 20˚.51S×178˚.09W, h537km±14km, mb4.2/20, mb1 4.3/22, mb1mx4.3/25, mbtmp5.0/22 Error ellipse: s-maj=13.9km s-min=9.4km az=145.0*
*AUST **31** 00:59:11.8±0.0, 20˚.30S×177˚.85W, h586km, Error ellipse: s-maj=1.9km s-min=1.3km az=318.0*

ISC 31 00:59:07.4±0.4, 20˚.49S±0˚.05×178˚.05W±0˚.05, h516km±3km, h516km:pP-P, n832, σ1§06/884, mb4.9/198, 192C-139D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.78**	**81**	P	**P**	**01 01 03.4**	**+1.5**
	baz=7.6,SNR=5.8						
NIUE				S	S	01 02 44.7	+8.8
	baz=7.6,SNR=4.6						
RAO	**Raoul Island**	**8.72**	**179**	*e*P	**P**	**01 01 11.7**	**+0.2**
AFI	**Afiamalu**	**8.87**	**43**	*e*P	**P**	**01 01 12.8**	**-0.5**
AFI				*e*S	**S**	**01 02 53.4**	**-3.3**
AFI	**Afiamalu**	**8.87**	**43**	P	**P**	**01 01 12.6**	**-0.7**
	20nm,0.3s,baz=203,slow=7.7,SNR=21						
AFI				S	S	01 02 50.1	-6.6
	68nm,0.3s,baz=205,slow=17,SNR=15						
DZM	**Mont Dzumac**	**14.54**	**261**	P	**P**	**01 02 14.4**	**+1.7**
DZM	**Mont Dzumac**	**14.54**	**261**	P	**P**	**01 02 14.4**	**+1.7**
	0.7nm,0.3s,baz=82,slow=18,SNR=8.0						
OUZ	**Omahuta**	**16.42**	**205**	*e*P	**P**	**01 02 31.3**	**-0.5**
	29nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.20**	**192**	*e*P	**P**	**01 02 46.9**	**-1.6**
	25nm,0.8s						
URZ	**Urewera**	**18.20**	**192**	P	**P**	**01 02 48.0**	**-0.6**
	2.2nm,0.3s,baz=2.6,slow=7.8,SNR=13						
BKZ	**Black Stump Fm**	**19.20**	**193**	*e*P	**P**	**01 02 56.7**	**-1.1**
	295nm,2.4s						
BFZ	**Birch Farm**	**20.71**	**192**	*e*P	**P**	**01 03 09.7**	**-1.7**
	1µm,2.7s						
KHZ	**Kahutara**	**22.98**	**196**	*e*P	**P**	**01 03 31.6**	**-0.2**
	53nm,1.1s						
RPZ	**Rata Peaks**	**24.89**	**199**	*e*P	**P**	**01 03 49.1**	**+0.3**
	185nm,2.3s						
WHZ	**Wether Hill Ro**	**27.83**	**201**	*e*P	**P**	**01 04 15.3**	**+0.6**
	25nm,0.8s						
EIDS	**Eidsvold**	**28.80**	**254**	*e*P	**P**	**01 04 24.3**	**+0.8**
	43nm,1.4s						
ARMA	**Armidale**	**29.03**	**244**	*e*P	**P**	**01 04 26.5**	**+0.9**
	136nm,2.1s						
RMQ	**Roma**	**30.96**	**252**	P	**P**	**01 04 44.1**	**+1.9**
	baz=31,SNR=7.6						
CNB	**Canberra Magne**	**32.19**	**236**	P	**P**	**01 04 54.0**	**+1.4**
	baz=32,SNR=6.0						
CTA	**Charters Tower**	**33.44**	**264**	P	**P**	**01 05 04.1**	**+0.7**
CTA	**Charters Tower**	**33.44**	**264**	P	**P**	**01 05 04.1**	**+0.7**
	32nm,0.9s,baz=94,slow=10,SNR=20						
CTAO	**Charters Tower**	**33.44**	**264**	*e*P	**P**	**01 05 04.4**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,41nm,0.9s						
CTAO	**Charters Tower**	**33.44**	**264**	*e*P	**P**	**01 05 04.4**	**+1.0**
	comp=Z,41nm,0.9s						
CMSA	**Cobar Meteorol**	**34.25**	**244**	P	**P**	**01 05 10.6**	**+0.6**
	baz=34,SNR=5.7						
QLP	**Quilpie**	**35.02**	**253**	P	**P**	**01 05 16.9**	**+0.4**
	baz=35,SNR=5.3						
PMG	**Port Moresby**	**35.29**	**283**	*e*P	**P**	**01 05 19.9**	**+0.9**
	comp=Z,49nm,1.3s						
TOO	**Toolgi**	**35.86**	**234**	P	**P**	**01 05 24.5**	**+1.1**
	baz=36,SNR=4.7						
TAU	**Tasmania Unive**	**36.60**	**224**	*e*P	**P**	**01 05 28.2**	**-1.2**
TAU	**Tasmania Unive**	**36.60**	**224**	*e*P	**P**	**01 05 28.2**	**-1.2**
	comp=Z,665nm,2.5s						
COEN	**Coen**	**37.53**	**274**	*e*P	**P**	**01 05 37.5**	**+0.1**
	comp=Z,866nm,1.9s						
COEN	**Coen**	**37.53**	**274**	P	**P**	**01 05 38.8**	**+1.3**
	baz=38,SNR=4.9						
STKA	**Stephens Creek**	**37.75**	**244**	*e*P	**P**	**01 05 39.8**	**+0.8**
	comp=Z,5.6nm,1.3s						
STKA				*e*PcP	**PcP**	**01 07 43.0**	**+0.5**
STKA				ScP	**ScP**	**01 10 41.7**	**+0.7**
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**01 05 39.8**	**+0.8**
	comp=Z,12nm,1.0s,baz=77,slow=8.4,SNR=9.4						
STKA				PcP	**PcP**	**01 07 42.3**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=95,slow=2.8,SNR=3.6						
STKA				ScP	**ScP**	**01 10 41.7**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=118,slow=3.0,SNR=3.4						
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**01 05 40.2**	**+1.2**
	baz=38,SNR=6.2						
HTT	**Hallett**	**40.19**	**242**	P	**P**	**01 05 59.8**	**+1.0**
	baz=40,SNR=3.6						
BBOO	**Buckleboo**	**42.51**	**243**	*e*P	**P**	**01 06 17.0**	**-0.1**
	comp=Z,418nm,1.4s						
BBOO	**Buckleboo**	**42.51**	**243**	P	**P**	**01 06 17.5**	**+0.3**
	baz=43,SNR=7.7						
JAY	**Jayapura**	**43.99**	**289**	P	**P**	**01 06 29.8**	**+0.7**
JAY	**Jayapura**	**43.99**	**289**	P	**P**	**01 06 29.8**	**+0.7**
	comp=Z,76nm,1.0s,baz=174,slow=9.2,SNR=8.2						
JAY	**Jayapura**	**43.99**	**289**	P	**P**	**01 06

comp=Z,310nm,1.2s
ASAJ Asahikawa 73.69 332 *e*P **P** **01 09 49.4 +1.2**
comp=Z,63nm,0.9s
SSLB Suanglung 73.93 304 *e*P **P** **01 09 48.4 -1.7**
comp=Z,13nm,0.6s
TPUB Ta-pu 73.93 303 *e*P **P** **01 09 48.9 -1.2**
comp=Z,41nm,0.8s
YHNB Yeheng 74.06 305 *e*P **P** **01 09 49.9 -0.9**
comp=Z,38nm,1.0s
TATO Taipei 74.14 305 *e*P **P** **01 09 50.5 -0.6**
comp=Z,110nm,1.1s
UNV Unalaska Valle 74.70 7 *e*P **P** **01 09 53.1 -0.5**
comp=Z,45nm,0.9s
AKUT Akutan 75.06 7 *e*P **P** **01 09 55.3 -0.4**
comp=Z,271nm,1.4s
YSS Yuzh-Sakhalins 75.86 333 ⇓*i*P **P** **01 10 01.3 +1.0**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 75.86 333 *e*P **P** **01 10 00.8 +0.5**
comp=Z,69nm,0.9s
PEA0 Petropavlovsk- 76.25 345 *e*P **P** **01 10 02.8 +0.5**
PETK Petropavlovsk- 76.25 345 P **P** **01 10 02.4 +0.1**
PETK Petropavlovsk- 76.25 345 P **P** **01 10 02.4 +0.1**
PETK Petropavlovsk- 76.25 345 P **P** **01 10 02.4 +0.1**
comp=Z,35nm,0.7s,baz=143,slow=8.8,SNR=33
KASI Kota Agung 76.35 269 P **P** **01 10 03.2 -0.6**
comp=Z,75nm,1.1s
KSRS Korea Array 76.85 319 P **P** **01 10 06.4 +0.5**
comp=Z,76nm,0.7s,baz=132,slow=6.0,SNR=26
KSAR Wonju Array Be 76.86 319 P **P** **01 10 06.4 +0.4**
KS01 Wonju Array Si 76.88 319 *e*P **P** **01 10 06.7 +0.6**
PMBI Palembang 76.97 272 *e*P **P** **01 10 06.4 -0.8**
comp=Z,100nm,0.6s
MDSI Maura Dua 77.00 270 P **P** **01 10 06.3 -1.1**
comp=Z,39nm,0.9s,comp=Z,809nm
SDPT Sand Point 77.01 10 *e*P **P** **01 10 06.1 -0.3**
comp=Z,73nm,0.8s
LHSI Lahat 77.83 270 P **P** **01 10 12.2 +0.3**
comp=Z,38nm,1.0s,comp=Z,1μm
SAO San Andreas Ge 78.05 43 *e*P **P** **01 10 13.0 +0.4**
SAO pmax pmax
comp=Z,29nm,0.9s
SAO San Andreas Ge 78.05 43 *e*P **P** **01 10 13.0 +0.4**
comp=Z,29nm,0.9s
PTRM Twissleman Ran 78.20 45 *e*P **P** **01 10 11.9 -1.5**
CHGN Chignik 78.27 11 *e*P **P** **01 10 13.1 -0.1**
HOPS Hopland 78.39 41 *e*P **P** **01 10 14.7 +0.3**
comp=Z,42nm,1.1s
KCPM Cahto Peak 78.52 40 *e*P **P** **01 10 15.9 +0.8**
comp=Z,279nm,2.9s
KIPM Iron Peak 78.65 40 *e*P **P** **01 10 17.4 +1.5**
KMRM Mail Ridge 78.78 39 *e*P **P** **01 10 17.9 +1.4**
comp=Z,58nm,0.8s
ARVC Arvin 78.82 46 ⇓P **P** **01 10 18.1 +1.4**
baz=79
MWC Mount Wilson 78.83 47 *e*P **P** **01 10 16.8 -0.2**
MWC pmax pmax
comp=Z,17nm,0.9s
MWC Mount Wilson 78.83 47 *e*P **P** **01 10 16.8 -0.2**
comp=Z,17nm,0.9s
USRK Ussuriysk Arra 78.93 326 P **P** **01 10 18.0 +1.0**
comp=Z,26nm,0.8s,baz=132,slow=4.1,SNR=42
BAR Barrett 78.95 49 *e*P **P** **01 10 18.6 +1.1**
comp=Z,54nm,1.3s
MURC Murrieta 79.08 48 ⇑P **P** **01 10 19.5 +1.3**
baz=79,SNR=5.1
BFSC Mount Baldy Ra 79.11 47 ⇓P **P** **01 10 19.5 +1.0**
baz=79,SNR=5.1
MONP Monument Peak 79.24 49 ⇑P **P** **01 10 20.6 +1.3**
baz=80,SNR=10
EDW2 Edwards Air Fo 79.25 46 ⇑P **P** **01 10 20.7 +1.6**
baz=80
SII Sitkinak Islan 79.35 13 *e*P **P** **01 10 19.4 +0.4**
comp=Z,88nm,0.7s
ISA Isabella 79.36 46 *e*P **P** **01 10 20.9 +1.2**
ISA pmax pmax
comp=Z,32nm,1.6s
ISA Isabella 79.36 46 *e*P **P** **01 10 20.9 +1.2**
comp=Z,32nm,1.6s
ISA Isabella 79.36 46 ⇑P **P** **01 10 21.1 +1.4**
baz=80
CMB Columbia Colle 79.49 43 *e*P **P** **01 10 21.1 +0.9**
CMB pmax pmax
comp=Z,17nm,1.0s
CMB Columbia Colle 79.49 43 *e*P **P** **01 10 21.1 +0.9**
comp=Z,17nm,1.0s
WDC Whiskeytown Da 79.70 40 *e*P **P** **01 10 22.9 +1.7**
WDC pmax pmax
comp=Z,16nm,0.9s
WDC Whiskeytown Da 79.70 40 *e*P **P** **01 10 22.9 +1.7**
comp=Z,16nm,0.9s
SWSC Sam W. Stewart 79.71 49 ⇓P **P** **01 10 22.8 +1.4**
baz=80
LRMC Laurel Mountai 79.79 46 ⇓P **P** **01 10 23.3 +1.4**
baz=80
N02D Trinity Center 79.84 39 ⇑P **P** **01 10 24.0 +1.9**
baz=80
M02C Callahan 80.02 39 ⇑P **P** **01 10 24.6 +1.6**
baz=80
CWC Cottonwood Cre 80.06 45 ⇑P **P** **01 10 24.7 +1.2**
baz=80
BELC Belle Mtn. Jos 80.14 48 ⇓P **P** **01 10 24.8 +0.9**
baz=80,SNR=10.0
OHAK Old Harbor 80.15 13 *e*P **P** **01 10 22.5 -0.7**
comp=Z,48nm,1.2s
MPMC Manual Prospec 80.25 46 ⇓P **P** **01 10 25.7 +1.2**
baz=80,SNR=9.0
GSC Goldstone 80.29 47 *e*P **P** **01 10 24.0 -0.6**
GSC pmax pmax
comp=Z,17nm,1.4s
GSC Goldstone 80.29 47 *e*P **P** **01 10 24.0 -0.6**
comp=Z,17nm,1.4s
GSC Goldstone 80.29 47 ⇑P **P** **01 10 25.9 +1.3**
baz=80
YBH Yreka Blue Hor 80.31 39 *e*P **P** **01 10 25.2 +0.7**
comp=Z,23nm,0.8s
BC3 Big Chuckawall 80.33 49 ⇓P **P** **01 10 26.4 +1.5**
baz=81,SNR=7.4
HEC Hector,Ludlow 80.36 47 ⇓P **P** **01 10 26.4 +1.5**
baz=81
WAKR Walker 80.37 43 *e*P **P** **01 10 26.7 +1.6**
HABR Khabarovsk 80.41 330 *e*P **P** **01 10 25.3 +0.6**
HABR *e* 01 13 35.6
HABR *e*PPP PPP 01 15 29.2
HABR *e*S **S** **01 19 48.9 +0.8**
HABR *e*SS **SS** **01 25 13.1 -2.1**
HABR *e*SSS SSS 01 28 45.4
HABR pmax pmax
comp=N,16nm,1.6s
HABR pmax pmax
comp=E,24nm,1.6s
HABR pmax pmax
comp=Z,87nm,1.3s
GLA Glamis 80.45 49 *e*P **P** **01 10 27.0 +1.6**
GLA pmax pmax
comp=Z,26nm,1.1s
GLA Glamis 80.45 49 *e*P **P** **01 10 27.0 +1.6**
comp=Z,26nm,1.1s
GLA Glamis 80.45 49 ⇓P **P** **01 10 27.5 +2.0**
baz=81
MDJ Mudanjiang 80.48 325 P **P** **01 10 26.5 +1.3**
MDJ pP **pP** **01 12 16.8 +0.1**
MDJ sP **sP** **01 13 09.5 -0.2**
MDJ S **SKSac** **01 19 51.8 -1.9**
MDJ pmax pmax
comp=Z,36nm,0.9s
MDJ Mudanjiang 80.48 325 *e*P **P** **01 10 26.2 +0.9**
comp=Z,29nm,0.8s
HUMO Hull Mountain 80.72 38 *e*P **P** **01 10 27.5 +1.0**
comp=Z,29nm,1.2s
GMRC Granite Mounta 80.79 48 ⇑P **P** **01 10 28.4 +1.1**
baz=81,SNR=6.5
IRM Iron Mountain 80.81 48 ⇑P **P** **01 10 28.9 +1.7**
baz=81,SNR=12
KDAK Kodiak Island 80.82 13 *e*P **P** **01 10 26.6 -0.1**
comp=Z,28nm,0.8s
GRAC Grapevine Rang 80.85 45 ⇓P **P** **01 10 29.0 +1.6**
baz=81
M04C Macdoel 80.86 39 ⇓P **P** **01 10 29.1 +1.7**
baz=81
FURC Furnace Creek, 80.90 46 ⇑P **P** **01 10 28.8 +1.2**
baz=81
TUQ Turquoise Moun 80.96 47 ⇑P **P** **01 10 29.4 +1.3**
baz=81
Y12C Blythe 81.04 49 ⇓P **P** **01 10 30.3 +1.9**
baz=81,SNR=7.9
NV01 Mina Array Sit 81.05 43 *e*P **P** **01 10 29.7 +1.1**

NVAR Mina Array Bea 81.05 43 P **P** **01 10 29.6 +1.0**
NVAR Mina Array Bea 81.05 43 P **P** **01 10 29.6 +1.0**
comp=Z,12nm,0.8s,baz=225,slow=9.5,SNR=81
113A Mohawk Valley, 81.07 50 ⇑P **P** **01 10 30.0 +1.4**
baz=81
I03D Drain, OR 81.18 37 ⇓P **P** **01 10 30.8 +1.9**
baz=82
LDFC Landfair 81.33 48 *e*P **P** **01 10 30.5 +0.5**
comp=Z,37nm,0.9s
214A Organ Pipe Nat 81.34 51 ⇑P **P** **01 10 31.9 +1.8**
baz=82
NEE2 Needles Airpor 81.51 48 ⇑P **P** **01 10 32.7 +1.9**
baz=82
TPH Tonopah 81.55 44 *e*P **P** **01 10 32.0 +0.8**
TPH pmax pmax
comp=Z,20nm,0.9s
TPH Tonopah 81.55 44 *e*P **P** **01 10 32.0 +0.8**
comp=Z,20nm,0.9s
BKNI Bangkinang 81.60 273 *e*P **P** **01 10 31.4 -0.4**
comp=Z,64nm,0.4s
J04D Umpqua Nationa 81.60 38 ⇑P **P** **01 10 33.1 +1.8**
baz=82
PDMCI Parker Dam,Lak 81.60 49 ⇑P **P** **01 10 32.8 +1.6**
baz=82,SNR=7.6
PDSI Padang 81.70 272 P **P** **01 10 31.7 -0.6**
comp=Z,17nm,1.1s
I04A Tendick Farm, 81.77 37 ⇑P **P** **01 10 33.5 +1.5**
baz=82
MOD Modoc 81.84 40 *e*P **P** **01 10 33.6 +1.1**
comp=Z,28nm,1.0s
Z14A Wintersburg 81.96 50 ⇓P **P** **01 10 35.3 +2.1**
baz=82,SNR=10
K05A Summer Lake 81.99 39 *e*P **P** **01 10 34.6 +1.3**
comp=Z,60nm,1.0s
SHPR Sheep Range 82.06 46 *e*P **P** **01 10 35.0 +1.2**
J05D Fort Rock, OR 82.13 38 ⇑P **P** **01 10 36.0 +2.0**
baz=82
G03D McMinnville, O 82.19 36 ⇑P **P** **01 10 35.6 +1.6**
baz=82
W13A Hualapai Mount 82.19 48 ⇑P **P** **01 10 36.0 +1.4**
baz=82
Y14A Wickenburg 82.22 50 ⇓P **P** **01 10 35.7 +1.2**
baz=82,SNR=10.0
CN2 Changchun 82.26 322 *e*P **P** **01 10 34.8 +0.4**
CN2 *e*pP **pP** **01 12 26.3 -0.2**
CN2 *e*sP **sP** **01 13 17.5 -1.8**
CN2 *e*PP **PP** **01 13 54.3 +1.7**
CN2 *e*S **S** **01 20 08.3 +1.3**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,150nm,4.0s
WHN Wuhan 82.40 306 P **P** **01 10 36.8 +1.4**
H04A Detroit Lake 82.45 37 *e*P **P** **01 10 35.8 +0.4**
comp=Z,30nm,1.0s
F03A Seaside 82.48 35 *e*P **P** **01 10 36.5 +1.0**
comp=Z,187nm,1.6s
KLR Kul'dur 82.49 329 *e*P P 01 10 32.2 -3.2
PINOR Pine Mountain 82.66 38 *e*P **P** **01 10 37.8 +1.4**
I05D Terrebonne, OR 82.71 37 ⇓P **P** **01 10 38.5 +1.8**
baz=83
R11A Troy Canyon, C 82.78 45 *e*P **P** **01 10 37.7 +0.3**
comp=Z,7.0nm,1.1s
R11A Troy Canyon, C 82.78 45 ⇓P **P** **01 10 38.2 +0.8**
baz=83
E03A Lebam 82.87 34 *e*P **P** **01 10 38.2 +0.8**
comp=Z,50nm,0.9s
BMN Battle Mountai 82.88 42 *e*P **P** **01 10 38.3 +0.5**
BMN pmax pmax
comp=Z,22nm,0.9s
BMN Battle Mountai 82.88 42 *e*P **P** **01 10 38.3 +0.5**
comp=Z,22nm,0.9s
TUC Tucson 83.01 52 *e*P **P** **01 10 40.1 +1.5**
TUC pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 83.01 52 *e*P **P** **01 10 40.0 +1.5**
comp=Z,16nm,0.9s
IPM Ipoh 83.08 277 P x 01 10 40.1
comp=Z,54nm,0.9s
IPM Ipoh 83.08 277 *e*P **P** **01 10 38.4 -0.8**
comp=Z,34nm,0.8s
UBPT Khong Chiam 83.08 289 P x 01 10 40.4
comp=Z,20nm,1.0s
UBPT Khong Chiam 83.08 289 P **P** **01 10 40.5 +1.3**
comp=Z,20nm,1.0s
MNSI Mandailing Nat 83.13 273 P **P** **01 10 39.0 -0.5**
comp=Z,32nm,0.8s,comp=Z,2μm
WVOR Wild Horse Val 83.15 40 *e*P **P** **01 10 39.5 +0.4**
WVOR pmax pmax
comp=Z,28nm,1.2s
WVOR Wild Horse Val 83.15 40 *e*P **P** **01 10 39.5 +0.4**
comp=Z,28nm,1.2s
TIA Tai'an 83.23 313 ⇓P **P** **01 10 40.3 +0.8**
TIA pmax pmax
comp=Z,30nm,1.3s
RSO Redoubt South 83.24 12 *e*P **P** **01 10 38.6 -0.6**
NLWA Neilton Lookou 83.25 34 *e*P **P** **01 10 38.6 -0.7**
comp=Z,24nm,1.0s
G05D Wanic, OR 83.28 36 ⇑P **P** **01 10 41.0 +1.5**
baz=84
SVW2 Sparrevohn 83.30 11 *e*P **P** **01 10 38.7 -0.6**
comp=Z,10nm,0.9s
X16A Lo Mia Camp, P 83.58 50 ⇑P **P** **01 10 43.6 +2.1**
baz=84,SNR=19
I07A Izee 83.61 38 *e*P **P** **01 10 42.4 +1.0**
comp=Z,28nm,1.0s
SEW Seward 83.62 14 *e*P **P** **01 10 39.4 -1.3**
comp=Z,26nm,0.8s
319A Douglas 83.68 53 ⇑P **P** **01 10 44.2 +2.2**
baz=84
KULM Kulim 83.72 278 P x 01 10 43.6
comp=Z,29nm,0.9s
KULM Kulim 83.72 278 *e*P **P** **01 10 42.0 -0.5**
comp=Z,18nm,0.8s
CCUT Cedar City 83.83 46 *e*P **P** **01 10 44.1 +1.4**
comp=Z,16nm,1.2s
ARUT Antelope Range 83.91 46 *e*P **P** **01 10 43.6 +0.5**
ARUT Antelope Range 83.91 46 *e*P **P** **01 10 43.6 +0.5**
KNB Kanab 83.93 47 *e*P **P** **01 10 43.6 +0.5**
KNB pmax pmax
comp=Z,31nm,1.4s
KNB Kanab 83.93 47 *e*P **P** **01 10 43.6 +0.5**
comp=Z,30nm,1.4s
U15A North Rim 83.99 48 ⇓P **P** **01 10 45.3 +1.7**
baz=84
D05A Enumclaw 84.12 35 *e*P **P** **01 10 43.2 -0.4**
comp=Z,64nm,1.4s
GAMB Gambell 84.14 3 *e*P **P** **01 10 43.7 +0.5**
comp=Z,32nm,0.8s
WUAZ Wupatki 84.17 49 *e*P **P** **01 10 45.0 +0.6**
comp=Z,10nm,1.0s
WUAZ Wupatki 84.17 49 ⇓P **P** **01 10 45.9 +1.5**
baz=84,SNR=7.2
PGC Sidney 84.28 33 *e*P **P** **01 10 45.5 +1.2**
ELK Elko 84.31 43 *e*P **P** **01 10 45.5 +0.5**
comp=Z,15nm,1.5s
RC01 Rabbit Creek A 84.44 13 *e*P **P** **01 10 44.8 0.0**
comp=Z,36nm,1.0s
PSI Prapat 84.44 275 P x 01 10 45.8
comp=Z,28nm,1.4s
PSI Prapat 84.44 275 P **P** **01 10 45.9 -0.3**
PSI Prapat 84.44 275 P **P** **01 10 45.9 -0.3**
comp=Z,19nm,0.9s,baz=195,slow=4.9,SNR=12
PSI Prapat 84.44 275 P P 01 10 39.0 -7.2
baz=85,SNR=7.3
G08A Pilot Rock 84.64 37 *e*P **P** **01 10 47.0 +0.6**
comp=Z,26nm,1.0s
X18A Snowflake 84.70 50 ⇑P **P** **01 10 48.2 +1.2**
baz=85,SNR=6.2
CRAG Craig 84.73 24 *e*P **P** **01 10 45.3 -1.1**
comp=Z,167nm,1.8s
LTY Liberty 84.87 35 *e*P **P** **01 10 47.8 +0.4**
comp=Z,12nm,1.0s
E07A Sunnyside 84.89 36 *e*P **P** **01 10 47.2 -0.3**
comp=Z,23nm,1.0s
CHBT CHBT 84.92 286 P x 01 10 50.0
comp=Z,16nm,1.2s,comp=Z,6μm
CHBT CHBT 84.92 286 P **P** **01 10 50.0 +1.7**
comp=Z,16nm,1.2s
HAWA Hanford 84.97 36 *e*P **P** **01 10 48.3 +0.5**
comp=Z,25nm,1.0s
PMR Palmer 85.02 13 *e*P **P** **01 10 47.2 -0.4**
comp=Z,75nm,1.4s
MVU Marysvale 85.11 46 *e*P **P** **01 10 50.1 +1.1**
comp=Z,85nm,2.9s
GSI Gunungsitoli 85.18 273 *e*P **P** **01 10 50.3 +0.7**
comp=Z,78nm,1.1s

BMO Blue Mountains 85.34 39 *e*P **P** **01 10 50.4 +0.6**
comp=Z,9.4nm,0.8s
121A Cookes Peak, D 85.34 53 ⇓P **P** **01 10 52.2 +2.0**
baz=86
DIV Divide 85.39 15 *e*P **P** **01 10 49.2 -0.3**
comp=Z,35nm,0.9s
MFID Camas Ranch 85.41 40 *e*P **P** **01 10 49.7 -0.5**
comp=Z,15nm,1.2s
BMRM Bremner River 85.54 16 *e*P **P** **01 10 50.3 0.0**
comp=Z,32nm,0.8s
DUG Dugway 85.58 44 ⇓P **P** **01 10 51.8 +0.7**
baz=86
PPLA Purkeypile 85.58 12 *e*P **P** **01 10 49.0 -1.5**
comp=Z,20nm,1.2s
D08A Wollman Farm, 85.70 36 *e*P **P** **01 10 52.0 +0.7**
comp=Z,24nm,0.9s
WRAK Wrangell Islan 85.73 24 *e*P **P** **01 10 50.9 -0.2**
comp=Z,26nm,0.9s
E09A Wood Farm, Sta 85.81 37 *e*P **P** **01 10 52.7 +0.8**
comp=Z,26nm,1.1s
BJT Baijiatuao 85.84 315 *e*P **P** **01 10 51.9 -0.3**
comp=Z,27nm,0.9s
BJI Beijing 85.85 315 P **P** **01 10 53.0 +0.8**
BJI pmax pmax
comp=Z,30nm,0.8s
ENH Enshi 85.99 304 *e*P **P** **01 10 53.6 +0.4**
comp=Z,23nm,0.8s
F10A Beach Ranch, E 86.02 38 *e*P **P** **01 10 53.4 +0.4**
comp=Z,47nm,0.8s
CAST Castle Rocks 86.08 11 *e*P **P** **01 10 51.5 -1.2**
comp=Z,21nm,0.8s
TNA Tin City 86.13 4 *e*P **P** **01 10 52.6 -0.3**
comp=Z,14nm,0.8s
TMUT Trail Mountain 86.18 46 *e*P **P** **01 10 54.6 +0.4**
comp=Z,10nm,0.9s
B08A Colville Reser 86.25 35 *e*P **P** **01 10 54.1 +0.1**
comp=Z,19nm,0.9s
MPU Maple Canyon 86.26 45 *e*P **P** **01 10 53.4 -1.1**
comp=Z,97nm,2.9s
Z22A Elephant Butte 86.29 53 ⇑P **P** **01 10 55.6 +0.9**
baz=86,SNR=8.6
HLID Hailey 86.35 41 *e*P **P** **01 10 55.1 +0.4**
comp=Z,7.7nm,0.8s
HLID Hailey 86.35 41 ⇑P **P** **01 10 56.1 +1.4**
baz=87
SPUT South Promonto 86.39 43 *e*P **P** **01 10 54.7 -0.3**
comp=Z,6.8nm,1.0s
KTH Kantishna Hill 86.42 12 *e*P **P** **01 10 53.3 -1.2**
comp=Z,26nm,0.9s
HVU Hansel Valley 86.43 43 *e*P **P** **01 10 54.8 -0.4**
comp=Z,175nm,3.0s
TRF Thorofare Moun 86.45 12 *e*P **P** **01 10 54.0 -0.7**
comp=Z,52nm,0.8s
C09A Chrisman Ranch 86.49 36 *e*P **P** **01 10 54.8 -0.3**
comp=Z,17nm,0.8s
SRU San Rafael 86.55 46 *e*P **P** **01 10 55.4 -0.4**
comp=Z,12nm,0.9s
GYA Guiyang 86.60 300 *e*P **P** **01 10 57.0 +0.7**
GYA pP **pP** **01 12 51.3 +1.5**
GYA sP **sP** **01 13 42.0 -0.3**
GYA PP **PP** **01 14 30.8 +2.9**
GYA SKS **SKSac** **01 20 32.5 -1.4**
GYA S **S** **01 20 50.5 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
LAZ Ladron 86.69 52 *e*P **P** **01 10 55.0 -1.6**
425A Indio Mountain 86.69 56 ⇓P **P** **01 10 58.0 +1.4**
baz=87,SNR=20
SURT Suratani 86.76 281 P **P** **01 10 59.2 +2.1**
comp=Z,16nm,1.1s
MNTX Cornudas Mount 86.78 55 *e*P **P** **01 10 56.8 -0.1**
comp=Z,10nm,0.9s
626A Big Bend Ranch 86.82 57 ⇓P **P** **01 10 58.5 +1.3**
baz=87,SNR=11
SLVN Son La 86.83 294 *e*P **P** **01 10 57.0 -0.4**
comp=Z,7.1nm,1.0s
BNM Barren Site 86.95 52 *e*P **P** **01 10 58.1 +0.2**
TCUT Toone Canyon 86.97 44 *e*P **P** **01 10 57.3 -0.5**
comp=Z,127nm,2.2s
MCK McKinley 86.97 13 *e*P **P** **01 10 56.4 -0.6**
comp=Z,30nm,0.8s
SKAG Skagway 86.99 20 *e*P **P** **01 10 57.8 +0.7**
comp=Z,37nm,1.4s
LPM Los Pinos Moun 87.02 52 *e*P **P** **01 10 57.7 -0.5**
PV05 Paradox Valley 87.02 48 *e*P **P** **01 10 58.5 +0.4**
PAX Paxson 87.06 14 *e*P **P** **01 10 56.9 -0.6**
comp=Z,8.7nm,0.8s
526A Mary Lane Ranc 87.07 57 ⇓P **P** **01 10 59.8 +1.4**
baz=87,SNR=10
TX31 Lajitas Ar. Si 87.09 57 *e*P **P** **01 10 59.2 +0.7**
TXAR Lajitas Array 87.09 57 P **P** **01 10 59.5 +1.1**
TXAR Lajitas Array 87.09 57 P **P** **01 10 59.5 +1.1**
comp=Z,5.3nm,0.7s,baz=221,slow=6.7,SNR=52
LHMI Lhok Sumawe 87.14 277 *e*P **P** **01 10 57.9 -1.0**
comp=Z,84nm,1.0s
PV09 Paradox Valley 87.20 47 *e*P **P** **01 10 59.9 +0.9**
PV10 Paradox Valley 87.20 47 *e*P **P** **01 10 59.3 +0.3**
Y23A Lovelace Mesa, 87.27 52 ⇑P **P** **01 11 00.5 +1.2**
baz=88
627A Terlingua Ranc 87.36 57 ⇓P **P** **01 11 01.4 +1.6**
baz=88,SNR=11
426A McDonald Obser 87.38 56 ⇓P **P** **01 11 01.4 +1.4**
baz=88,SNR=17
HYT Haines Junctio 87.38 19 *e*P **P** **01 11 00.2 +1.1**
225A Deer Hill, Car 87.39 54 ⇓P **P** **01 11 01.6 +1.6**
baz=88,SNR=11
NEW Newport 87.39 36 *e*P **P** **01 10 58.8 -0.6**
comp=Z,8.4nm,1.0s
NEW Newport 87.39 36 ⇑P **P** **01 11 00.5 +1.1**
baz=88,SNR=8.9
PV01 Paradox Valley 87.41 48 *e*P **P** **01 11 00.1 +0.1**
ANMO Albuquerque 87.44 51 *e*P **P** **01 10 59.4 -0.7**
comp=Z,7.3nm,1.0s
MENT Mentasta 87.44 15 *e*P **P** **01 10 58.5 -0.7**
527A Woodward Ranch 87.48 57 ⇓P **P** **01 11 01.2 +0.9**
baz=88,SNR=9.9
Z24A Sheeppen Canyo 87.52 53 ⇓P **P** **01 11 01.5 +1.0**
baz=88,SNR=5.4
V22A San Miguel Ran 87.55 50 ⇑P **P** **01 11 02.0 +1.4**
baz=88
PBKT Sadao Pong 87.57 289 P x 01 11 02.6
comp=Z,25nm,1.2s
PBKT Sadao Pong 87.57 289 P **P** **01 11 02.5 +1.7**
comp=Z,25nm,1.2s
326A Caldwell Ranch 87.70 55 ⇑P **P** **01 11 02.3 +1.1**
baz=88
Y24A Capitan 87.73 53 ⇑P **P** **01 11 02.9 +1.4**
baz=88,SNR=23
125A Gardner Draw, 87.76 54 ⇑P **P** **01 11 02.8 +1.2**
baz=88,SNR=5.5
628A Black Gap, Mar 87.77 58 ⇓P **P** **01 11 02.6 +1.0**
baz=88,SNR=6.0
U22A Llaves 87.80 50 ⇑P **P** **01 11 02.9 +1.1**
baz=88
226B Tecolote Peak, 87.88 55 ⇓P **P** **01 11 03.3 +1.2**
baz=88,SNR=14
427A Hayter Ranch, 87.94 56 ⇑P **P** **01 11 03.9 +1.5**
baz=88,SNR=23
DOT Dot Lake 87.97 14 *e*P **P** **01 11 01.9 +0.3**
comp=Z,20nm,1.0s
MCMT McKenzie Canyo 87.98 40 *e*P **P** **01 11 03.7 +1.2**
Z25A Roswell 87.98 53 ⇑P **P** **01 11 04.0 +1.4**
baz=88
V23A Ortiz Mt. (NFS 88.00 51 ⇑P **P** **01 11 03.6 +0.9**
baz=88
DLBC Dease Lake 88.06 23 *e*P **P** **01 11 02.2 -0.1**
XAN Xi'an 88.09 307 P **P** **01 11 04.0 +1.0**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN pmax pmax
comp=Z,27nm,5.8s
528A Cox Ranch, San 88.13 57 ⇑P **P** **01 11 04.2 +0.9**
baz=88,SNR=5.8
COLA College 88.21 12*d i*P **P** **01 11 02.0 -0.7**
COLA College 88.21 12 *e*P **P** **01 11 02.3 -0.4**
comp=Z,61nm,0.7s
126A Clayton Basin, 88.24 54 ⇑P **P** **01 11 04.6 +0.8**
baz=88
U23A El Rito 88.25 50 ⇓P **P** **01 11 04.9 +1.0**
baz=88
Y25A Mesa, Roswell 88.28 53 ⇓P **P** **01 11 05.0 +1.0**
baz=88,SNR=8.6
IL1 Eielson Array 88.31 13 *e*P **P** **01 11 02.5 -0.7**
ILAR Eielson Array 88.31 13 P **P** **01 11 02.8 -0.4**
ILAR Eielson Array 88.31 13 P **P** **01 11 02.8 -0.4**
comp=Z,15nm,0.8s,baz=225,slow=5.5,SNR=43
ILB Eielson Array 88.31 13 *e*P **P** **01 11 02.7 -0.5**

W24A	Lazy 6 Ranch, baz=88	88.32	51	⇓P		P	01 11 05.2	+1.0
UTTA	Uttaradit comp=Z,5.4nm,1.1s	88.38	289	P		P	01 11 06.4	+1.8
MSO	Missoula comp=Z,14nm,1.4s	88.39	38	eP		P	01 11 04.0	-0.2
MSO	Missoula baz=89	88.39	38	⇑P		P	01 11 05.2	+1.0
DLMT	Dillon comp=Z,16nm,1.0s	88.41	40	eP		P	01 11 04.9	+0.5
S22A	4UR Ranch, Cre baz=89,SNR=7.3	88.45	49	⇑P		P	01 11 05.9	+1.0
428A	Kincaid Ranch, baz=89	88.45	56	⇑P		P	01 11 05.4	+0.6
REDW	Red Top Meadow comp=Z,28nm,1.3s	88.46	42	eP		P	01 11 04.3	-0.4
BSMT	Bassoo Peak	88.46	37	eP		P	01 11 04.0	-0.6
TPAW	Teton Pass comp=Z,7.6nm,0.8s	88.46	42	eP		P	01 11 04.4	-0.3
FXWY	Fox Creek comp=Z,21nm,1.5s	88.49	42	eP		P	01 11 05.4	+0.5
Z26A	Caprock baz=89,SNR=8.8	88.54	54	⇑P		P	01 11 06.7	+1.5
UTHA	Uthaitani comp=Z,11nm,0.8s	88.56	287	P		P	01 11 07.3	+1.8
529A	Stev Forest Ra baz=89,SNR=6.9	88.56	57	⇑P		P	01 11 06.6	+1.2
SNOW	Snow King Moun comp=Z,25nm,1.1s	88.57	42	eP		P	01 11 05.8	+0.6
O20A	White River Ci comp=Z,177nm,3.0s	88.59	46	eP		P	01 11 06.3	+0.9
O20A	White River Ci baz=89	88.59	46	⇑P		P	01 11 06.1	+0.7
VNA2	Neumayer--Watz	88.60	177	P		P	01 11 05.0	+0.3
328A	Wristen Ranch, baz=89,SNR=5.8	88.63	56	⇓P		P	01 11 06.5	+0.9
V24A	Rampart Ranch, baz=89	88.65	51	⇓P		P	01 11 06.6	+0.8
HIA	Hailar comp=Z,12nm,0.7s	88.66	325	eP		P	01 11 05.1	-0.1
IMW	Indian Meadow comp=Z,17nm,0.9s	88.67	42	eP		P	01 11 06.8	+1.0
JTMT	Jette	88.69	37	eP		P	01 11 05.4	-0.2
MOOW	Moose Ponds comp=Z,3.9nm,0.9s	88.72	42	eP		P	01 11 06.1	+0.2
SWMT	Swartz Lake	88.72	38	eP		P	01 11 04.0	-1.7
LRM	Limekiln Ridge	88.73	40	eP		P	01 11 05.7	-0.3
LOHW	Long Hollow comp=Z,32nm,1.6s	88.74	42	eP		P	01 11 05.9	-0.1
VNA1	Neumayer--Stat	88.82	177	P		P	01 11 05.5	-0.1
CHMT	Chamberlain Mo	88.84	38	eP		P	01 11 06.7	+0.3
QLMT	Earthquake Lak	88.84	41	eP		P	01 11 07.5	+1.1
SLMT	Seeley Lake	88.87	38	eP		P	01 11 06.0	-0.5
N20A	Spence Gulch, baz=89,SNR=9.3	88.91	45	⇓P		P	01 11 08.1	+1.2
YBMT	Yellow Bay	88.91	37	eP		P	01 11 05.5	-1.1
I17A	Pilgrim Ck. baz=89,SNR=9.5	88.91	42	⇓P		P	01 11 08.3	+1.5
FLWY	Flagg Ranch comp=Z,20nm,0.9s	88.92	42	eP		P	01 11 08.1	+1.3
Y26A	Elida baz=89,SNR=9.1	88.93	53	⇑P		P	01 11 07.9	+0.9
BW06	Boulder Array comp=Z,9.7nm,0.8s	88.99	43	eP		P	01 11 06.7	-0.5
PD31	Pinedale Array	88.99	43	eP		P	01 11 07.0	-0.2
PDAR	Pinedale Array	88.99	43	P		P	01 11 07.5	+0.3
PDAR	Pinedale Array comp=Z,7.7nm,0.7s,baz=211,slow=3.2,SNR=68	88.99	43	P		P	01 11 07.5	+0.3
SMCO	Snowmass comp=Z,101nm,2.9s	89.00	47	eP		P	01 11 05.5	-2.1
W25A	X Bar L Ranch, baz=89,SNR=11	89.02	52	⇓P		P	01 11 08.3	+0.9
429A	Davenport Ranc baz=89,SNR=19	89.03	57	⇓P		P	01 11 08.8	+1.3
YMR	Madison River comp=Z,15nm,0.8s	89.05	41	eP		P	01 11 07.9	+0.5
SUKH	Sukhothai comp=Z,11nm,0.9s	89.10	289	P		P	01 11 09.8	+1.9
228A	UT Block 9, Go baz=89	89.11	55	⇑P		P	01 11 08.8	+1.0
Z27A	Tatum baz=89	89.13	54	⇓P		P	01 11 08.8	+0.9
BOZ	Bozeman (W)	89.14	40	eP		P	01 11 07.5	-0.2
BOZ	comp=Z,16nm,0.9s			pmax		pmax		
BOZ	Bozeman (W) comp=Z,16nm,0.9s	89.14	40	eP		P	01 11 07.5	-0.2
H17A	Grant Village comp=Z,12nm,0.8s	89.15	41	eP		P	01 11 09.5	+1.6
H17A	Grant Village baz=89,SNR=7.7	89.15	41	⇓P		P	01 11 10.1	+2.1
T24B	San Luis baz=89	89.17	50	⇑P		P	01 11 09.7	+1.4
V25A	Rancho No Teng baz=89,SNR=6.6	89.18	51	⇓P		P	01 11 09.2	+1.0
530A	J-C Ranch, Com baz=90	89.27	57	⇓P		P	01 11 09.8	+1.2
KMI	Kunming	89.30	297	P		P	01 11 11.0	+2.0
KMI	comp=Z,24nm,1.0s			pmax		pmax		
HHC	Hu-ho-hao-te	89.31	314	eP		P	01 11 09.5	+0.9
HHC				pP		pP	01 13 01.0	-1.9
HHC				PP		PP	01 14 49.8	+0.8
HHC				S		S	01 21 15.0	+0.4
HHC				sS		sS	01 24 38.0	-0.6
HHC				SS		SS	01 27 28.0	+2.7
HHC	comp=Z,44nm,1.1s			pmax		pmax		
HHC	comp=Z,180nm,5.1s			pmax		pmax		
329A	Wagon Wheel Ra baz=90,SNR=6.0	89.32	56	⇓P		P	01 11 09.7	+1.0
P22A	Eagle baz=90	89.34	47	⇓P		P	01 11 10.0	+1.1
R23A	Moffat baz=90	89.35	49	⇓P		P	01 11 10.0	+0.9
SDCO	Great Sand Dun comp=Z,16nm,1.7s	89.39	49	eP		P	01 11 08.0	-1.2
128A	Castleberry Fa baz=90,SNR=7.2	89.40	55	⇓P		P	01 11 10.2	+1.1
Y27A	Causey baz=90,SNR=5.3	89.41	53	⇑P		P	01 11 10.0	+0.8
DAWY	Dawson	89.46	16	eP		P	01 11 07.2	-1.4
W26A	Owens Ranch, T baz=90	89.48	52	⇑P		P	01 11 10.2	+0.7
LAMP	Lampang comp=Z,19nm,0.8s	89.48	290	P		P	01 11 11.6	+1.9
S24A	Houchin Ranch, baz=90	89.54	49	⇑P		P	01 11 11.5	+1.5
J19A	Crowheart baz=90,SNR=12	89.55	43	⇑P		P	01 11 10.7	+1.0
HRY	Holter Researc	89.56	39	eP		P	01 11 09.5	-0.1
U25A	Circle Dot Ran baz=90	89.58	51	⇑P		P	01 11 11.1	+1.1
631A	Perdido Creek baz=90	89.58	58	⇑P		P	01 11 11.3	+1.4
WALA	Waterton Lakes	89.61	36	eP		P	01 11 09.3	-0.5
EGAK	Eagle comp=Z,29nm,0.8s	89.61	15	eP		P	01 11 08.7	-0.5
430A	Baggett Ranch, baz=90	89.61	57	⇓P		P	01 11 11.0	+0.8
832A	Faith Ranch, C baz=90,SNR=7.0	89.61	60	⇑P		P	01 11 11.2	+1.0
229A	Bryant Ranch, baz=90	89.65	56	⇓P		P	01 11 11.4	+1.1
MSTX	Muleshoe comp=Z,14nm,0.9s	89.75	53	eP		P	01 11 09.7	-1.1
MSTX	Muleshoe baz=90	89.75	53	⇑P		P	01 11 11.7	+0.9
O22A	Kremmling baz=90,SNR=5.3	89.75	47	⇑P		P	01 11 11.8	+0.9
Z28A	Tucker Farm, M baz=90	89.75	54	⇑P		P	01 11 11.5	+0.7
V26A	Tequesquite Ra baz=90	89.77	51	⇓P		P	01 11 11.4	+0.5
X27A	F and S Farms, baz=90	89.79	53	⇑P		P	01 11 12.0	+1.0
732A	Laxson Ranch, baz=90	89.79	59	⇑P		P	01 11 12.1	+1.1
H18A	Shoshone NF, C baz=90	89.86	42	⇑P		P	01 11 12.4	+1.2
COLD	Coldfoot comp=Z,17nm,0.8s	89.88	10	eP		P	01 11 10.7	+0.3
129A	Stewart Farms, baz=90,SNR=5.5	89.88	55	⇑P		P	01 11 12.3	+1.0
R24A	Sanders Place, baz=90	89.88	49	⇑P		P	01 11 12.8	+1.3
T25A	Trinidad baz=90	89.89	50	⇓P		P	01 11 12.6	+1.1
531A	Rocksprings baz=90,SNR=6.7	89.90	58	⇓P		P	01 11 12.5	+1.0
330A	Mertzon baz=90	89.91	56	⇓P		P	01 11 12.1	+0.5
I19A	Meeteetse baz=90,SNR=8.5	89.96	42	⇓P		P	01 11 13.1	+1.5
W27A	Bowe Ranch, En baz=90	89.99	52	⇑P		P	01 11 12.7	+0.8
CM01	Chiang Mai Arr	90.04	290	eP		P	01 11 13.8	+1.5
U26A	Atchley Ranch, baz=90	90.06	51	⇑P		P	01 11 12.8	+0.5
CMAR	Chiang Mai Arr	90.07	290	P		P	01 11 12.9	+0.4
CMAR	Chiang Mai Arr comp=Z,20nm,0.9s,baz=123,slow=2.9,SNR=79	90.07	290	P		P	01 11 12.9	+0.4
N22A	Wattenberg Ran baz=90,SNR=8.1	90.11	46	⇑P		P	01 11 13.6	+1.1
S25A	Robets Cordova baz=90,SNR=5.1	90.11	50	⇓P		P	01 11 13.5	+1.0
230A	Sterling City baz=90	90.16	56	⇑P		P	01 11 13.8	+1.2
034A	Hebbronville baz=90	90.19	61	⇑P		P	01 11 14.1	+1.3
CMMT	Chiang Mai comp=Z,48nm,0.8s	90.19	290	P		x	01 11 14.4	
CMMT	Chiang Mai comp=Z,48nm,0.8s	90.19	290	P		P	01 11 14.3	+1.3
CHTO	Chiang Mai	90.19	290	eP		P	01 11 13.1	+0.1
CHTO	comp=Z,24nm,0.8s			pmax		pmax		
CHTO	Chiang Mai comp=Z,165nm,0.9s	90.19	290	P		x	01 11 14.5	
CHTO	Chiang Mai comp=Z,165nm,0.9s	90.19	290	P		P	01 11 14.3	+1.3
CHTO	Chiang Mai comp=Z,24nm,0.8s	90.19	290	eP		P	01 11 13.1	+0.1
O23A	Lake Granby, G baz=90	90.20	47	⇑P		P	01 11 13.8	+0.9
J20A	Shoshoni baz=90,SNR=19	90.22	43	⇑P		P	01 11 14.0	+1.2
ISCO	Idaho Springs baz=90	90.22	47	⇑P		P	01 11 14.2	+1.1
632A	Uvalde baz=90	90.25	59	⇑P		P	01 11 14.2	+1.1
Z29A	Hungry Hill Ra baz=90	90.26	55	⇑P		P	01 11 13.6	+0.5
H19A	Powell baz=90,SNR=6.1	90.28	42	⇑P		P	01 11 14.1	+1.1
M22A	Cedar Creek Ra baz=90,SNR=7.7	90.28	45	⇓P		P	01 11 14.4	+1.1
RLMT	Red Lodge comp=Z,11nm,1.0s	90.32	41	eP		P	01 11 13.9	+0.6
733A	Divot King Ran baz=90	90.33	59	⇑P		P	01 11 14.7	+1.2
532A	Rocksprings baz=91,SNR=6.0	90.40	58	⇑P		P	01 11 14.9	+1.1
GCMT	Greycliff	90.40	41	eP		P	01 11 13.0	-0.6
K21A	Alcova baz=91,SNR=11	90.42	44	⇓P		P	01 11 14.7	+0.9
331A	San Angelo baz=91	90.46	57	⇑P		P	01 11 14.6	+0.5
I20A	Worland baz=91,SNR=7.1	90.47	43	⇓P		P	01 11 15.0	+1.1
N23A	Red Feather La baz=91	90.49	46	⇓P		P	01 11 14.9	+0.6
T26A	Comanche Natio baz=91	90.50	50	⇑P		P	01 11 15.0	+0.7
CMAI	Chiengmai2 comp=Z,107nm,1.4s	90.51	291	P		P	01 11 16.0	+1.3
Y29A	Porterfield Fa baz=91,SNR=9.9	90.53	54	⇑P		P	01 11 15.1	+0.7
035A	Encino baz=91	90.61	62	⇑P		P	01 11 15.8	+1.0
JCT	Junction City	90.62	58	eP		P	01 11 12.6	-2.2
JCT	comp=Z,5.0nm,0.7s			pmax		pmax		
JCT	Junction City comp=Z,5.3nm,0.7s	90.62	58	eP		P	01 11 12.6	-2.2
JCT	Junction City baz=91	90.62	58	⇓P		P	01 11 15.5	+0.7
J21A	Lysite baz=91,SNR=12	90.62	43	⇓P		P	01 11 15.8	+1.1
L22A	Ellis Ranch, M baz=91,SNR=12	90.68	45	⇑P		P	01 11 16.2	+1.1
633A	Saathoff Ranch baz=91,SNR=5.3	90.72	59	⇓P		P	01 11 16.3	+1.0
U27A	Thompson Grove baz=91	90.74	51	⇑P		P	01 11 15.7	+0.4
O24A	Longmont baz=91	90.74	47	⇓P		P	01 11 16.7	+1.5
CD2	Chengdu	90.74	303	eP		P	01 11 16.5	+1.1
CD2				sP		sP	01 14 03.3	+1.3
CD2				PP		PP	01 15 03.8	+3.5
CD2				SKS		SKSac	01 21 00.8	+3.1
CD2				S		ScS	01 21 31.5	+1.7
CD2				SS		SS	01 27 49.5	+3.5
CD2	comp=Z,10.0nm,1.5s			pmax		pmax		
CD2	comp=Z,100nm,5.9s			pmax		pmax		
X29A	Tulia baz=91	90.75	53	⇓P		P	01 11 15.9	+0.5
S26A	Kim baz=91	90.78	50	⇓P		P	01 11 16.2	+0.7
432A	Menard baz=91,SNR=6.7	90.78	57	⇑P		P	01 11 16.2	+0.6
231A	Bronte baz=91,SNR=11	90.79	56	⇑P		P	01 11 16.0	+0.4
H20A	Greybull baz=91	90.81	42	⇑P		P	01 11 16.1	+0.6
F19A	Roth Farm, Mol baz=91	90.87	41	⇓P		P	01 11 16.7	+1.0
M23A	Laramie baz=91	90.90	46	⇑P		P	01 11 17.2	+1.1
K22A	Casper comp=Z,13nm,0.9s	90.90	44	eP		P	01 11 15.4	-0.6
K22A	Casper baz=91,SNR=5.3	90.90	44	⇑P		P	01 11 17.1	+1.1
I21A	Big Trails, Te baz=91,SNR=8.6	90.94	43	⇓P		P	01 11 17.3	+1.2
AMTX	Amarillo baz=91	90.94	53	⇑P		P	01 11 17.3	+1.0
G20A	Bridger baz=91	91.02	42	⇓P		P	01 11 17.4	+0.9
332A	Millersview baz=91,SNR=13	91.02	57	⇓P		P	01 11 17.4	+0.7
131A	Roby baz=91,SNR=6.0	91.03	55	⇑P		P	01 11 17.2	+0.6
533A	Kerrville baz=91,SNR=5.5	91.07	58	⇑P		P	01 11 17.8	+0.9
R26A	Arlington baz=91	91.09	49	⇑P		P	01 11 17.9	+1.0
P25A	Willow Gulch B baz=91	91.10	48	⇑P		P	01 11 18.0	+1.0
Y30A	Stafford Cattl baz=91	91.13	54	⇑P		P	01 11 17.8	+0.7
L23A	Garrett baz=91,SNR=10	91.20	45	⇑P		P	01 11 18.6	+1.1
E19A	Rath Farm, Rou baz=92	91.26	40	⇑P		P	01 11 18.9	+1.4
J22A	Midwest baz=92,SNR=6.7	91.28	44	⇓P		P	01 11 18.4	+0.7
433A	Art baz=92,SNR=10	91.29	58	⇑P		P	01 11 18.6	+0.7
232A	Coleman baz=92,SNR=5.5	91.30	56	⇑P		P	01 11 18.8	+0.8
EGMT	Eagleton baz=92	91.44	39	⇓P		P	01 11 19.5	+1.3
Z31A	Sharp Cattle R baz=92	91.48	55	⇑P		P	01 11 19.4	+0.7
I22A	9 Mile Ranch, baz=92	91.50	43	⇑P		P	01 11 19.3	+0.7
534A	Blanco baz=92,SNR=17	91.50	59	⇑P		P	01 11 19.6	+0.8
M24A	Cheyenne baz=92	91.50	46	⇑P		P	01 11 19.7	+0.9
K23A	Bowen Ranch, D baz=92	91.54	45	⇑P		P	01 11 19.7	+0.8
D19A	Cripps Ranch, baz=92	91.54	40	⇑P		P	01 11 20.4	+1.7
R27A	Eads baz=92	91.54	50	⇓P		P	01 11 19.8	+0.8
ABTX	Abilene, Hawle comp=Z,25nm,1.4s	91.59	56	eP		P	01 11 18.8	-0.5
ABTX	Abilene, Hawle baz=92	91.59	56	⇑P		P	01 11 20.2	+1.0
333A	Richland Sprin	91.60	57	⇑P		P	01 11 19.6	+0.3
E20A	Meyer Farm, Mu baz=92	91.68	40	⇓P		P	01 11 20.6	+1.2
C19A	Slack Wire Ran baz=92	91.72	39	⇑P		P	01 11 21.3	+1.8
S28A	Manter baz=92	91.90	51	⇓P		P	01 11 21.6	+1.0
H22A	Clearmont baz=92	91.90	43	⇑P		P	01 11 21.4	+0.9
233A	Rising Star baz=92	91.93	57	⇑P		P	01 11 21.6	+0.7
D20A	Manuel Ranch, baz=92	91.95	40	⇓P		P	01 11 21.7	+1.2
434A	Burnet baz=92,SNR=7.2	91.97	58	⇑P		P	01 11 21.5	+0.5
F21A	Absaloka Mine, baz=92	91.98	41	⇑P		P	01 11 22.1	+1.3
Z32A	Haskell baz=92	91.98	55	⇑P		P	01 11 21.8	+0.8
K24A	Anderson Ranch baz=92	92.06	45	⇓P		P	01 11 22.7	+1.4
YAK	Yakutsk	92.08	338	eP		P	01 11 19.5	-1.2
YAK	comp=Z,34nm,1.2s			pmax		pmax		
YAK	comp=E,6.0nm,1.1s			pmax		pmax		
YAK	comp=N,4.0nm,1.0s			pmax		pmax		
YAK	Yakutsk comp=N,29nm,0.7s	92.08	338	eP		P	01 11 20.2	-0.5
B19A	Brinkman Farms baz=92	92.13	38	⇓P		P	01 11 22.6	+1.3
EDM	Edmonton	92.13	33	eP		P	01 11 20.4	-0.8
EDM	Edmonton	92.13	33	eP		P	01 11 20.4	-0.8
133A	Hamilton Ranch baz=92	92.15	56	⇑P		P	01 11 22.1	+0.4
334A	Lometa baz=92	92.19	57	⇑P		P	01 11 23.0	+1.0
R28A	Tribune baz=92,SNR=8.1	92.27	50	⇑P		P	01 11 22.8	+0.5
N26A	Koester Ranch, baz=93	92.32	47	⇑P		P	01 11 23.8	+1.3
C20A	Veseth Ranch, baz=93	92.33	39	⇑P		P	01 11 24.0	+1.7
E21A	Keefer Ranch, baz=93	92.34	41	⇑P		P	01 11 23.5	+1.1
W31A	Holland Ranch, baz=93	92.37	53	⇑P		P	01 11 23.8	+1.0
A19A	Klindworth Far baz=93	92.47	38	⇓P		P	01 11 24.1	+1.2
Z33A	Whitaker Ranch baz=93	92.53	55	⇑P		P	01 11 24.5	+1.0
Q28A	Sharon Springs baz=93	92.55	49	⇓P		P	01 11 24.8	+1.2
X32A	Elmer baz=93	92.57	54	⇓P		P	01 11 24.2	+0.5
D21A	La Casta Ranch baz=93	92.63	40	⇑P		P	01 11 25.4	+1.6
536A	Bastrop baz=93	92.65	59	⇓P		P	01 11 25.2	+1.1
B20A	Solberg Farm, baz=93	92.66	39	⇑P		P	01 11 25.0	+1.2
V31A	Spring Creek L baz=93	92.68	53	⇓P		P	01 11 25.8	+1.7
LZH	Lanzhou	92.72	307	eP		P	01 11 25.3	+0.8
LZH				pP		pP	01 13 19.0	-0.2
LZH				sP		sP	01 14 08.3	-3.0
LZH				pmax		pmax		
LZH	comp=N,27nm,1.0s			pmax		pmax		
LZH	comp=N,140nm,5.0s			pmax		pmax		
G23A	Biddle baz=93	92.78	43	⇓P		P	01 11 25.3	+0.8
335A	Moody baz=93	92.81	58	⇑P		P	01 11 25.5	+0.7
P28A	Saint Francis baz=93	92.82	49	⇑P		P	01 11 26.3	+1.5
W32A	Sentinel baz=93	92.87	54	⇑P		P	01 11 25.7	+0.6
A20A	Cobblestone Ra baz=93	92.92	38	⇓P		P	01 11 26.1	+1.1
S30A	Montezuma baz=93	92.96	51	⇑P		P	01 11 26.5	+1.1
E22A	Miles City baz=93	92.99	41	⇓P		P	01 11 26.4	+1.1
F23A	Volborg baz=93	93.00	42	⇑P		P	01 11 26.3	+0.8
O28A	Krutsinger Ran baz=93	93.03	48	⇑P		P	01 11 26.9	+1.1
Q29A	Oakley baz=93	93.09	50	⇑P		P	01 11 26.9	+0.9
H24A	Dirks Ranch, A baz=93	93.12	43	⇓P		P	01 11 26.8	+0.8
K26A	Motz Farm, Whi baz=93	93.14	45	⇑P		P	01 11 27.6	+1.4
RSSD	Black Hills	93.18	44	eP		P	01 11 26.5	0.0
RSSD	comp=Z,17nm,1.4s			pmax		pmax		
RSSD	Black Hills comp=Z,17nm,1.4s	93.18	44	eP		P	01 11 26.5	0.0
I25A	Rochford baz=94	93.33	44	⇓P		P	01 11 28.2	+1.0
R30A	Dighton baz=94	93.35	50	⇓P		P	01 11 28.1	+0.9
N28A	Pribbeno Ranch baz=94	93.42	48	⇑P		P	01 11 28.6	+1.1
Q30A	Quinter baz=94	93.67	50	⇓P		P	01 11 29.7	+1.1
H25A	Fruitdale baz=94	93.68	44	⇓P		P	01 11 29.6	+1.1
O29A	4D Ranch, Culb baz=94	93.71	49	⇓P		P	01 11 30.0	+1.1
Z35A	Perchaven, San baz=94	93.72	56	⇓P		P	01 11 29.5	+0.6
X34A	Smith Ranch, M baz=94	93.75	55	⇓P		P	01 11 30.3	+1.3
P30A	Selden baz=94	93.87	49	⇓P		P	01 11 31.0	+1.4
C23A	Lambert baz=94	94.06	40	⇓P		P	01 11 31.2	+1.0
N29A	Votaw Ranch, W baz=94	94.11	48	⇑P		P	01 11 31.9	+1.2
J27A	Elkhorn Farm, baz=94	94.15	45	⇑P		P	01 11 32.0	+1.2
INK	Inuvik comp=Z,14nm,1.1s	94.28	15	eP		P	01 11 29.9	-0.6
INK	Inuvik comp=Z,6.0nm,0.9s,baz=223,slow=4.0,SNR=16	94.28	15	P		P	01 11 30.2	-0.3
B23A	Brockton baz=95	94.47	40	⇑P		P	01 11 33.7	+1.7
R32A	Long Quarter, baz=95	94.54	51	⇓P		P	01 11 33.1	+0.5
Q32A	Meitler Ranch, baz=95	94.86	50	⇑P		P	01 11 35.3	+1.3
M30A	Dale-Ortello V baz=95	94.92	48	⇑P		P	01 11 35.4	+1.1
ULN	Ulaanbaatar	95.32	319	P		x	01 11 36.0	
ULN	Ulaanbaatar comp=Z,4.2nm,0.9s	95.32	319	eP		P	01 11 34.3	-1.7
SONA1	Songino Array	95.71	319	eP		P	01 11 38.0	+0.2
SONM	Songino Array	95.71	319	P		P	01 11 37.5	-0.3
SONM				PP		PP	01 15 36.8	-1.6
SONM	Songino Array comp=Z,1.7nm,0.9s,baz=128,slow=5.5,SNR=9.8	95.71	319	P		P	01 11 37.5	-0.3
SONM	comp=Z,0.6nm,0.8s,baz=111,slow=7.9,SNR=3.8			PP		PP	01 15 36.8	-1.6
YKA	Yellowknife Ar	96.52	25	P		P	01 11 40.8	-0.1
YKA	Yellowknife Ar comp=Z,1.3nm,0.8s,baz=242,slow=4.4,SNR=16	96.52	25	P		P	01 11 40.8	-0.1
YKB5	Yellowknife Ar	96.52	25	eP		P	01 11 39.9	-1.0
GTA	Gaotai	96.93	309	eP		P	01 11 44.0	+0.5
GTA				pP		pP	01 13 39.5	+1.0
GTA				sP		sP	01 14 28.3	-2.2
GTA	comp=Z,5.0nm,1.2s			pmax		pmax		
ZAK	Zakamensk	98.59	321	eP		Pdif	01 11 48.9	-1.7
ZAK	comp=Z,2.0nm,1.6s			pmax		pmax		
TIXI	Tiksi	98.72	345	⇑iP		Pdif	01 11 50.1	-0.4
TIXI	comp=Z,4.0nm,1.3s			pmax		pmax		
ZAA0	Zalesovo Array	110.45	321	ePKiKP		PKiKP	01 16 38.5	-2.1
ZALV	Zalesovo Beam	110.45	321	PKiKP		PKiKP	01 16 39.3	-1.2
ZALV	Zalesovo Beam	110.45	321	PKiKP		PKiKP	01 16 39.2	-1.2
ZALV	Zalesovo Beam comp=Z,2.9nm,0.6s,baz=152,slow=1.2,SNR=19	110.45	321	PKiKP		PKiKP	01 16 39.2	-1.2
MK01	Makanchi Array	111.15	313	ePKiKP		PKiKP	01 16 39.8	-2.4

MKAR Makanchi Array 111.16 313 P Pdif 01 12 47.7 +1.2
MKAR *i* 01 16 40.1
MKAR Makanchi Array 111.16 313 Pdif Pdif 01 12 47.7 +1.2
MKAR *e*PKiKP **PKiKP 01 16 40.1 -2.0**
MKAR Makanchi Array 111.16 313 Pdiff Pdif 01 12 47.7 +1.2
comp=Z,0.5nm,0.7s,baz=103,slow=4.6,SNR=5.9
MKAR PKiKP **PKiKP 01 16 41.0 -1.1**
comp=Z,2.6nm,0.6s,baz=68,slow=1.8,SNR=37
NVS Novosibirsk 111.47 322 *e*PKiKP **PKiKP 01 16 39.7 -2.7**
KURK Kurchatov 113.95 317 *e*PKiKP **PKiKP 01 16 46.0 -1.3**
KURK Kurchatov 113.95 317 *e*PKiKP **PKiKP 01 16 46.0 -1.3**
KURBB Kurchatov Arra 114.01 317 PKP **PKiKP 01 16 46.3 -1.1**
comp=Z,3.5nm,0.7s,baz=94,slow=1.8,SNR=30
KSH Kashi 114.84 305 *e*PKP PKPdf 01 16 50.0 +0.4
KSH *e*SKS **SKSdf 01 23 11.5 -1.2**
KSH AMB AMB
comp=Z,15nm,4.0s
TKM2 Tokmak 2 115.47 309 *e*PKiKP **PKPdf 01 16 49.6 -1.2**
TKM2 Tokmak 2 115.47 309 *e*PKPdf **PKPdf 01 16 49.6 -1.2**
AAK Ala-Archa 116.25 308 PKiKP **PKPdf 01 16 51.4 -0.8**
AAK Ala-Archa 116.25 308 PKP **PKPdf 01 16 51.4 -0.8**
AAK Ala-Archa 116.25 308 PKP **PKPdf 01 16 51.4 -0.8**
comp=Z,1.5nm,0.7s,baz=146,slow=2.8,SNR=8.7
VOSK Vostochnaya 118.70 320 *e*PKiKP **PKPdf 01 16 55.4 -1.0**
VOSK Vostochnaya 118.70 320 *e*PKPdf **PKPdf 01 16 55.4 -1.0**
BRVK Borovoye 119.10 320↑*i*PKiKP **PKPdf 01 16 56.8 -0.3**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 119.10 320 *e*PKPdf **PKPdf 01 16 56.2 -1.0**
KKAR Karatay Array 119.20 309 *e*PKiKP **PKPdf 01 16 56.6 -1.1**
KKAR Karatay Array 119.20 309 *e*PKPdf **PKPdf 01 16 56.6 -1.1**
KBL Kabul 119.84 299 *e*PKiKP **PKPdf 01 16 58.6 -0.8**
KBL Kabul 119.84 299 *e*PKPdf **PKPdf 01 16 58.6 -0.8**
DAG Danmarks Havn 122.73 6 *i*PKiKP **PKPdf 01 17 01.5 -2.0**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 122.73 6 *i*P **PKPdf 01 17 01.5 -2.0**
comp=Z,2.8nm,0.9s
SUMG Summit 123.15 13 *i*PKiKP **PKPdf 01 17 04.1 -0.8**
SUMG pmax pmax
comp=Z,7.0nm,1.2s
SUMG Summit 123.15 13 *i*P **PKPdf 01 17 04.1 -0.8**
comp=Z,6.7nm,1.2s
SVE Sverdlovsk 123.95 326 *e*PKiKP **PKPdf 01 17 05.9 -0.4**
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 125.17 325 *i*PKiKP **PKPdf 01 17 07.8 -0.9**
ARU PS **SP 01 28 12.3 -3.2**
ARU Arti 125.17 325 *e*PKPdf **PKPdf 01 17 08.4 -0.2**
ABKAR Akbulak array 126.05 317 *e*PKPdf **PKPdf 01 17 09.7 -0.9**
ARA0 ARCESS Array S 128.90 350 *e*PKPdf **PKPdf 01 17 14.9 -0.6**
ARCES ARCESS Array B 128.90 350 PKP **PKPdf 01 17 14.8 -0.6**
ARCES ARCESS Array B 128.90 350 PKP **PKPdf 01 17 14.8 -0.6**
comp=Z,4.5nm,0.6s,baz=29,slow=2.1,SNR=17
KLMR Klimovskoe 131.85 336 *e*PKiKP **PKPdf 01 17 18.9 -2.3**
KLMR *e* 01 19 55.9
KLMR pmax pmax
comp=Z,18nm,1.4s
FINES FINESS Array B 135.75 344 PKPpre PKPpre 01 17 15.7
FINES SKPbc **SKPbc 01 20 10.6 -1.0**
FINES FINESS Array B 135.75 344 PKiKP PKPpre 01 17 15.7
comp=Z,1.2nm,0.7s,baz=48,slow=2.8,SNR=4.9
FINES SKPbc **SKPbc 01 20 10.6 -1.0**
comp=Z,6.2nm,1.0s,baz=27,slow=2.1,SNR=7.3
LSZ Lusaka 136.09 218 PKP **PKPdf 01 17 31.8 +1.1**
LSZ Lusaka 136.09 218 PKP **PKPdf 01 17 31.8 +1.1**
comp=Z,0.4nm,0.5s,baz=123,slow=3.7,SNR=3.7
VRHR Novokhopersk 136.47 324 *e*PKiKP **PKPdf 01 17 30.0 -0.2**
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 136.72 332 *i*PKiKP **PKPdf 01 17 29.9 -0.6**
OBN pmax pmax
comp=Z,14nm,1.3s
VSR Storozhevoye 137.74 326 *e*PKiKP **PKPdf 01 17 31.4 -1.1**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 137.81 325 *e*PKiKP **PKPdf 01 17 31.9 -0.7**
VORD pmax pmax
comp=N,70nm,0.9s
VORD pmax pmax
comp=E,70nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 138.48 312 *i*PKiKP **PKPdf 01 17 35.0 +0.5**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra138.97 353 PKP PKPpre 01 17 24.7
comp=Z,1.7nm,0.7s,baz=10,slow=3.2
NOA NORSAR Array B138.97 353 PKPpre PKPpre 01 17 25.0
NOA SKPbc **SKPbc 01 20 20.2 -0.7**
NOA NORSAR Array B138.97 353 PKhKP PKPpre 01 17 25.0
comp=Z,3.3nm,0.7s,baz=12,slow=2.3,SNR=11
NOA SKPbc **SKPbc 01 20 20.2 -0.7**
comp=Z,4.2nm,0.9s,baz=16,slow=4.4,SNR=7.1
NACGM Naroch 140.85 337 *e* PKPpre 01 17 30.0
SOC Sochi 141.04 315 *e*PKiKP **PKPdf 01 17 36.1 -2.7**
SOC *e* 01 20 38.2
SOC pmax pmax
comp=Z,47nm,1.0s
SUW Suwalki 142.81 339 *e*PKiKP PKPpre 01 17 39.1
SUW Suwalki 142.81 339 *e*PKP PKPpre 01 17 39.0
SUW Suwalki 142.81 339 *e*PKPpre PKPpre 01 17 38.9
AKASG Malin Array Be 142.98 331 PKHKP PKPpre 01 17 38.7
AKASG Malin Array Be 142.98 331 PKPpre PKPpre 01 17 38.7
AKASG SKPbc **SKPbc 01 20 31.1 -0.3**
AKASG Malin Array Be 142.98 331 PKhKP PKPpre 01 17 38.7
comp=Z,47nm,0.7s,baz=43,slow=4.2,SNR=194
AKASG SKPbc **SKPbc 01 20 31.1 -0.3**
comp=Z,2.0nm,0.7s,baz=39,slow=2.9,SNR=9.2
KIEV Kiev 142.99 331 *e*PKHKP PKPpre 01 17 38.9
KIEV Kiev 142.99 331 *e*PKPpre PKPpre 01 17 38.9
AK11 Malin Array Si 143.02 331 *e*PKPpre PKPpre 01 17 38.9
MUD Monsted U'grnd 143.68 353 *i*PKiKP PKPab 01 17 41.7 0.0
MUD pmax pmax
comp=Z,68nm,0.9s
MUD Monsted U'grnd 143.68 353 *i*P PKPab 01 17 41.7 0.0
comp=Z,68nm,0.8s
COP Copenhagen 143.99 350 *i*PKiKP PKPbc 01 17 42.4 -0.4
COP pmax pmax
comp=Z,44nm,0.8s
COP Copenhagen 143.99 350 *i*P PKPbc 01 17 42.4 -0.4
comp=Z,44nm,0.8s
BSD Bornholm Skovb 144.07 347 *i*PKiKP PKPbc 01 17 42.4 -0.7
BSD pmax pmax
comp=Z,80nm,0.8s
BSD Bornholm Skovb 144.07 347 *i*P PKPbc 01 17 42.4 -0.7
comp=Z,80nm,0.8s
LLD Lille Linde 144.36 350 *i*PKiKP PKPbc 01 17 43.1 -0.9
LLD pmax pmax
comp=Z,61nm,0.9s
LLD Lille Linde 144.36 350 *i*P PKPbc 01 17 43.1 -0.9
comp=Z,61nm,0.9s
ESK Eskdalemuir 145.01 5 *e*PKiKP **PKPdf 01 17 44.3 -1.1**
ESK Eskdalemuir 145.01 5 *e*PKPdf **PKPdf 01 17 44.3 -1.1**
GKP Gorka Klasztor 145.22 344 *e*PKiKP **PKPdf 01 17 46.0 +0.2**
GKP Gorka Klasztor 145.22 344 *e*PKP **PKPdf 01 17 45.9 +0.2**
BEL Belsk 145.43 339 *e*PKP2 **PKPbc 01 17 47.7 +0.4**
BEL Belsk 145.43 339 *e*PKP **PKPbc 01 17 47.6 +0.3**
KIS Kishinev 145.70 327↑*i*PKP2 **PKPbc 01 17 48.0 -0.3**
KIS pmax pmax
comp=Z,180nm,1.4s
LVV L'vov 145.88 334 *e*PKiKP **PKPbc 01 17 48.1 -0.6**
BSEG Bad Segeberg 146.00 351 *e*PKPbc **PKPbc 01 17 49.2 +0.3**
IAS Iasi 146.21 328↑*i*P **PKPdf 01 17 45.2 -2.4**
KWP Kalwaria Pacla 146.55 335 *e*PKP2 **PKPbc 01 17 50.7 +0.1**
KWP Kalwaria Pacla 146.55 335 *e*PKP **PKPbc 01 17 50.7 +0.1**
KWP Kalwaria Pacla 146.55 335↑*i*P **PKPbc 01 17 50.3 -0.3**
DSB Dublin 146.68 9 *e*PKPdf **PKPbc 01 17 50.2 -0.6**
PRAR RASCA 146.74 329↓*i*P **PKPdf 01 17 49.8 +1.2**
RUE Ruedersdorf 146.77 347 *e*PKPdf **PKPdf 01 17 48.3 0.0**
BRTR Keskin Array B 146.80 312 PKPbc **PKPbc 01 17 50.9 -0.9**
BRTR SKPbc **SKPbc 01 20 39.9 -0.9**
BRTR SKPab SKiKP 01 21 05.5 +25
BRTR Keskin Array B 146.80 312 PKPbc **PKPbc 01 17 50.9 -0.9**
comp=Z,13nm,0.8s,baz=103,slow=3.1,SNR=65
BRTR SKPbc **SKPbc 01 20 39.9 -0.9**
comp=Z,1.1nm,0.8s,baz=142,slow=2.3,SNR=3.1
BRTR SKPab SKiKP 01 21 05.5 +25
comp=Z,1.2nm,0.9s,baz=73,slow=3.3,SNR=3.5
TLCR 146.87 324↓↓PKiKP **PKPdf 01 17 49.4 +0.6**
TLCR 146.87 324↓↓*i*P **PKPdf 01 17 49.4 +0.6**
BUR04 Bucovina Ar. S 147.03 331 *e*PKPdf **PKPdf 01 17 50.0 +0.8**
BURAR Bucovina Array 147.03 331 ↓↓PKP2 **PKPbc 01 17 52.3 +0.2**
BURAR Bucovina Array 147.03 331↓↓*i*P **PKPbc 01 17 52.3 +0.2**
TESR Tescani 147.13 328↑*i*P **PKPdf 01 17 49.9 +0.7**
OJC Ojcow 147.13 339 *e*PKiKP **PKPdf 01 17 48.9 -0.2**
OJC Ojcow 147.13 339 *e*PKP **PKPbc 01 17 52.0 -0.2**
OJC Ojcow 147.13 339 *e*PKPdf **PKPdf 01 17 48.9 -0.2**
CFR Carcaliu 147.25 325↑↑PKP2 **PKPbc 01 17 52.2 -0.4**
CFR Carcaliu 147.25 325↑↑*i*P **PKPbc 01 17 52.2 -0.4**
KOLS Kolonicke sedl 147.28 335 *e*PKiKP **PKPdf 01 17 49.7 +0.3**
KOLS Kolonicke sedl 147.28 335 *e*PKP **PKPdf 01 17 49.7 +0.3**
STHS Stebnicka Huta 147.29 336 *e*PKP2 **PKPbc 01 17 52.1 -0.5**
STHS Stebnicka Huta 147.29 336 *e*PKP **PKPbc 01 17 52.1 -0.5**
ANTO Ankara 147.31 313 ↓↓PKP2 **PKPbc 01 17 52.8 -0.3**
ANTO Ankara 147.31 313↓↓*i*P **PKPbc 01 17 52.8 -0.3**
BR231 Keskin MP Arra 147.34 313 *e*PKPdf **PKPdf 01 17 49.4 -0.5**
PETR Petresti 147.37 326↓↓*i*P **PKPbc 01 17 52.2 -0.7**
NRDL Niedersach Rie 147.43 351 *e*PKPbc **PKPbc 01 17 53.0 +0.3**
UZH Uzhgorod 147.51 335*c*PKP2 **PKPbc 01 17 52.3 -0.9**
VRI Vrincioaia 147.53 327 ↓↓PKP2 **PKPbc 01 17 53.3 -0.1**
VRI Vrincioaia 147.53 327↓↓*i*P **PKPbc 01 17 53.3 -0.1**
TIRR Tirgusor 147.55 324↑↑PKP2 **PKPbc 01 17 53.3 -0.1**
TIRR Tirgusor 147.55 324↑↑*i*P **PKPbc 01 17 53.3 -0.1**
PLOR Plostina 147.58 327↑↑PKiKP **PKPbc 01 17 52.5 -1.0**
PLOR Plostina 147.58 327↑↑*i*P **PKPbc 01 17 52.5 -1.0**
NIE Niedzica 147.63 337 *e*PKP2 **PKPbc 01 17 53.9 +0.4**
NIE Niedzica 147.63 337 *e*PKP **PKPbc 01 17 53.9 +0.4**
KSP Ksiaz 147.67 343 *e*PKiKP **PKPdf 01 17 50.0 0.0**
KSP Ksiaz 147.67 343 *e*PKPdf **PKPdf 01 17 49.9 0.0**
KSP *e*PKPbc **PKPbc 01 17 54.0 +0.5**
KSP *e*PKPab **PKPab 01 17 58.4 +0.8**
GRER 147.73 326↓↓*i*P **PKPbc 01 17 54.8 +0.9**
BMR Baia Mare 147.76 332↑↑PKP2 **PKPbc 01 17 54.4 +0.6**
BMR Baia Mare 147.76 332↑↑*i*P **PKPbc 01 17 54.4 +0.6**
TRPA Tarpa 147.81 334↓↓*i*P **PKPbc 01 17 54.2 +0.3**
TRPA Tarpa 147.81 334↑↑*e* **PKPbc 01 17 54.1 +0.2**
MANR Mangalia 147.85 322↓↓*i*P **PKPbc 01 17 54.7 +0.5**
IBBN Ibbenburen 147.92 353 *e*PKPbc **PKPbc 01 17 54.4 +0.3**
OKC Ostrava-Krasne 148.01 340 *e*PKPDF **PKPdf 01 17 51.4 +0.9**
OKC ↑↑*e*PKP **PKPbc 01 17 54.3 -0.1**
OKC *e*PKPAB **PKPab 01 17 59.4 +0.4**
CLZ Clausthal 148.02 350 *e*PKPbc **PKPbc 01 17 54.8 +0.3**
CLL Collm 148.04 347 *e*PKPbc **PKPbc 01 17 54.6 +0.2**
CLL Collm 148.04 347 *e*PKPdf **PKPdf 01 17 51.0 +0.5**
CLL ↓↓*i*PKPbc **PKPbc 01 17 54.4 0.0**
comp=Z,78nm,0.9s
CLL *i* 01 17 58.3
CLL ↑↑*i*PKPab **PKPab 01 17 59.1 +0.1**
comp=Z,30nm,0.8s
CLL *e*pPKPab **pPKPab 01 20 02.0 +6.0**
PGOR Pogoanele 148.04 325↑↑*i*P **PKPbc 01 17 54.6 0.0**
UPC Upice 148.05 343↑↑*e*PKP **PKPbc 01 17 54.9 +0.4**
UPC *e*PKPAB **PKPab 01 18 00.0 +0.9**
AMRR Amara 148.05 325↓↓*i*P **PKPbc 01 17 53.4 -1.3**
DPC Dobruska-Polom 148.10 342 *e*PKHKP **PKPdf 01 17 50.5 -0.3**
DPC Dobruska-Polom 148.10 342 *e*PKPDF **PKPdf 01 17 51.0 +0.2**
DPC ↑*i*PKP **PKPbc 01 17 55.1 +0.4**
DPC *e*PKPAB **PKPab 01 17 58.9 -0.5**
DPC Dobruska-Polom 148.10 342 *e*PKPdf **PKPdf 01 17 50.5 -0.3**
MSAB Monastry St. A 148.11 323↓↓*i*P **PKPbc 01 17 55.2 +0.4**
DOPR Dopca 148.13 328↓↓*i*P **PKPbc 01 17 55.7 +0.8**
ISR Istrita 148.13 326 ↓↓PKP2 **PKPbc 01 17 55.2 +0.2**
ISR Istrita 148.13 326↑↑*i*P **PKPbc 01 17 55.2 +0.2**
MLR Muntele Rosu 148.19 327↓↓*i*P **PKPbc 01 17 55.0 -0.2**
BRG Berggiesshubel 148.24 346 *e*PKP **PKPdf 01 17 50.9 -0.1**
comp=Z,15nm,1.3s
BRG *i* 01 17 55.2
comp=Z,36nm,0.8s
BRG *i* 01 18 00.1
comp=Z,28nm,0.8s
BRG Berggiesshubel 148.24 346 *e*PKHKP **PKPdf 01 17 50.8 -0.1**
BRG *i* 01 18 00.1
BRG pmax pmax
comp=Z,2.0nm,1.3s
BRG Berggiesshubel 148.24 346 *e*PKPbc **PKPbc 01 17 55.2 +0.2**
KECS Kecovo 148.34 336 *e*PKP2 **PKPbc 01 17 54.9 -0.4**
KECS Kecovo 148.34 336 *e*PKP **PKPbc 01 17 54.9 -0.4**
WTSB Winterswijk 148.36 354 *e*PKP **PKPbc 01 17 55.0 -0.2**
comp=Z,80nm,0.8s
SECR 148.44 326↑↑*i*P **PKPbc 01 17 55.7 0.0**
CJR Cluj-Napoca 148.44 331 ↓↓PKP2 **PKPbc 01 17 55.7 0.0**
CJR Cluj-Napoca 148.44 331↓↓*i*P **PKPbc 01 17 55.7 0.0**
SULR 148.58 326↓↓*i*P **PKPbc 01 17 55.3 -0.7**
VOIR 148.68 328 ↓↓PKP2 **PKPbc 01 17 56.3 0.0**
VOIR 148.68 328↓↓*i*P **PKPbc 01 17 56.3 0.0**
DRGR 148.78 332↑↑*i*P **PKPbc 01 17 56.2 -0.3**
BUG Bochum--Univer 148.83 354 *e*PKPbc **PKPbc 01 17 56.4 0.0**
EIL Elat 148.83 294 PKPbc **PKPbc 01 17 57.2 +0.1**
EIL Elat 148.83 294 PKPbc **PKPbc 01 17 57.2 +0.1**
comp=Z,18nm,0.8s,baz=149,slow=2.7,SNR=12
PRA Prague 148.86 344↑↑PKP **PKPbc 01 17 57.0 +0.5**
PRA PKPAB **PKPab 01 18 02.0 -0.5**
PRU Pruhonice 148.91 344↑↑*e*PKP **PKPbc 01 17 56.7 +0.1**
PRU *e*PKPAB **PKPab 01 18 02.3 -0.4**
PRD Provadia 148.91 323↑↑PKHKP **PKPbc 01 17 56.0 -0.8**
ARR Arges 148.93 328↑↑*i*P **PKPdf 01 17 52.7 +0.4**
CIOR Ciorogarla 148.94 326↑↑*i*P **PKPbc 01 17 55.9 -1.0**
MOX Moxa 148.95 348 *e*PKPbc **PKPbc 01 17 57.0 +0.2**
TANN Tannenbergstha 149.00 347 *e*PKPbc **PKPbc 01 17 57.2 +0.3**
PSZ Piszkesteto 149.03 336↑↑PKHKP **PKPbc 01 17 56.7 -0.4**
PSZ Piszkesteto 149.03 336↑↑*i*P **PKPbc 01 17 56.7 -0.4**
PSZ Piszkesteto 149.03 336↑↑*e* **PKPbc 01 17 57.0 -0.1**
UBBA Unterbreizbach 149.07 350 *e*PKPbc **PKPbc 01 17 56.9 0.0**
GOLR 149.14 327↑↑*i*P **PKPbc 01 17 55.7 -1.7**
TREC Trest 149.29 343↑↑*e*PKP **PKPbc 01 17 57.7 +0.1**
TREC *e*PKPAB **PKPab 01 18 04.6 +0.3**
LOT Lotru 149.30 329↑↑*i*P **PKPbc 01 17 57.4 -0.5**
DEV Deva 149.38 331↑↑*i*P **PKPbc 01 17 57.4 -0.5**
HGN Heimansgroeve 149.62 355 *e*PKP **PKPbc 01 17 58.1 -0.2**
comp=Z,27nm,0.9s
ROTZ Rotzenmuhle 149.66 347 *e*PKPbc **PKPbc 01 17 58.9 +0.4**
BUD Budapest 149.72 337↑↑*e* **PKPbc 01 17 58.7 +0.1**
MEM Membach 149.77 355 PKPbc **PKPbc 01 17 58.6 -0.1**
GZR Gura Zlata 149.81 330↑↑PKiKP **PKPbc 01 17 58.0 -1.0**
GZR Gura Zlata 149.81 330↑↑*i*P **PKPbc 01 17 58.0 -1.0**
JMB Yambol 149.84 322 ↓↓PKP2 **PKPbc 01 18 00.9 +1.8**
JMB Yambol 149.84 322↓↓*i*P **PKPbc 01 18 00.9 +1.8**
TNS Taunus Mts 149.88 352 *e*PKPbc **PKPbc 01 17 59.2 +0.1**
GRF Grafenberg Arr 149.94 348 *e*PKPbc **PKPbc 01 17 59.5 +0.3**
KHC Kasperske Hory 149.94 345 *e*PKiKP **PKPdf 01 17 53.0 -0.7**
KHC *e* 01 18 06.9
KHC Kasperske Hory 149.94 345 *e*PKPDF **PKPdf 01 17 53.5 -0.2**
KHC ↑↑*i*PKP **PKPbc 01 17 59.4 +0.2**
KHC *e*PKPAB **PKPab 01 18 07.1 0.0**
KHC Kasperske Hory 149.94 345 *e*PKPdf **PKPdf 01 17 53.0 -0.7**
KHC *e*PKPab **PKPab 01 18 06.9 -0.1**
SNF Seneffe 149.99 357 PKPbc **PKPbc 01 17 59.4 +0.2**
SNF PKPab **PKPab 01 18 07.1 +0.1**
BCLA Clavier 150.01 356 PKPbc **PKPbc 01 17 59.3 0.0**
BCLA PKPab **PKPab 01 18 05.9 -1.3**
PKSG 150.03 337↑↑*e* **PKPbc 01 17 59.2 -0.2**
PKS7 Kunszentmiklos 150.03 336↑↑*e* **PKPbc 01 17 59.3 -0.1**
CSKK Cs^tkako 150.10 337↑↑*e* **PKPbc 01 17 59.2 -0.4**
WET Wettzell 150.10 346 *e*PKPbc **PKPbc 01 17 59.7 +0.1**
SRE Strehaia 150.14 329↑↑*i*P **PKPbc 01 17 59.5 -0.3**
BZS Buzias 150.17 332↓↓*i*P **PKPbc 01 17 59.3 -0.5**
GEC2 GERESS Array S 150.18 344 *e*PKiKP **PKPdf 01 17 53.2 -1.0**
GEC2 *e* 01 18 08.4
GEC2 GERESS Array S 150.18 344 *e*PKPbc **PKPbc 01 17 59.9 +0.1**
GEC2 GERESS Array S 150.18 344 *e*PKPdf **PKPdf 01 17 53.1 -1.0**
GEC2 *e*PKPab **PKPab 01 18 08.4 +0.2**
GERES GERESS Array B 150.18 344 PKP **PKPdf 01 17 54.1 -0.1**
GERES PKPbc **PKPbc 01 17 59.8 -0.1**
comp=Z,1.4nm,0.8s,baz=29,slow=2.2,SNR=13
GERES PKPbc **PKPbc 01 17 59.8 -0.1**
comp=Z,13nm,0.8s,baz=42,slow=2.2,SNR=71
PKST T^^s 150.27 338↑↑*e* **PKPbc 01 17 59.6 -0.4**
DOU Dourbes 150.38 357 PKPbc **PKPbc 01 18 00.1 0.0**
SOP Sopron 150.40 340↓↓*e* **PKPbc 01 18 00.3 0.0**
CONA Conrad Observa 150.40 341 *i*PKiKP **PKPbc 01 18 00.6 +0.2**
comp=Z,26nm,0.7s,SNR=7.3
WLF Walferdange 150.70 354 PKPbc **PKPbc 01 18 01.4 +0.5**
WLF PKPab **PKPab 01 18 10.1 0.0**
PKS9 Tamasi 150.75 337↑↑*e* **PKPbc 01 18 00.7 -0.4**
PKSM Moragy 150.92 336↓↓PKIKP **PKPbc 01 18 00.7 -0.8**
PKSM Moragy 150.92 336↓↓*i*P **PKPbc 01 18 00.7 -0.8**
PKSM Moragy 150.92 336↓↓*e* **PKPbc 01 18 01.2 -0.3**
MOA Molln 150.94 343↑↑*i*PKPdf **PKPdf 01 17 54.7 -0.6**
comp=Z,4.0nm,0.9s
MOA ↓↓*i*PKiKP **PKPbc 01 18 01.3 -0.2**
comp=Z,9.9nm,0.7s
KDZ Kurdzhali 151.03 322↑↑PKIKP **PKPbc 01 18 01.4 -0.5**
KDZ Kurdzhali 151.03 322↑↑*i*P **PKPbc 01 18 01.4 -0.5**
ARSA Arzberg 151.11 341↑↑*i*PKiKP **PKPbc 01 18 01.7 -0.3**
comp=Z,7.2nm,1.1s
STU Stuttgart 151.19 350 *e*PKIKP **PKPdf 01 17 53.9 -1.7**
STU *e* 01 18 11.8
STU Stuttgart 151.19 350 *e*PKPbc **PKPbc 01 18 02.1 +0.1**
STU Stuttgart 151.19 350 *e*PKPdf **PKPdf 01 17 53.9 -1.7**
STU *e*PKPab **PKPab 01 18 11.8 -0.5**
FUR Furstenfeldbru 151.38 347 *e*PKPbc **PKPbc 01 18 02.6 +0.1**
RJOB Jochberg 151.43 345 *e*PKPbc **PKPbc 01 18 02.2 -0.5**
KOGS Kog 151.59 339 *i*PKPbc **PKPbc 01 18 02.4 -0.6**
KOGS *i* 01 18 14.2
VTS Vitosha 151.62 326↓↓PKIKP **PKPbc 01 18 03.0 -0.4**
VTS Vitosha 151.62 326↓↓*i*P **PKPbc 01 18 03.0 -0.4**
BFO Black Forest 151.75 351 *e*PKPbc **PKPbc 01 18 03.0 -0.4**
SOKA Soboth 151.78 341↑↑*i*PKPbc **PKPbc 01 18 02.7 -0.9**
comp=Z,13nm,0.9s
KBA Koelnbreinsper 151.90 343↑↑*i*PKPbc **PKPbc 01 18 03.2 -0.8**
comp=Z,12nm,0.7s
MMB Musomiste 152.03 324↓↓PKIKP **PKPbc 01 18 03.5 -0.7**
MMB Musomiste 152.03 324↓↓*i*P **PKPbc 01 18 03.5 -0.7**
OBKA Obir 152.07 341↓↓*i*PKiKP **PKPbc 01 18 02.3 -1.9**
comp=Z,5.4nm,0.6s
RETA Reutte 152.13 347↓↓*i*PKiKP **PKPbc 01 18 03.9 -0.4**
comp=Z,12nm,1.6s
MOTA Moosalm 152.20 347↑↑*i*PKPdf **PKPdf 01 17 56.5 -0.8**
comp=Z,4.1nm,0.8s
MOTA ↓↓*i*PKPbc **PKPbc 01 18 03.7 -0.9**
comp=Z,12nm,0.8s,SNR=5.8
MOTA ↑↑*i*PKPab **PKPab 01 18 16.8 +0.1**
comp=Z,16nm,0.9s
GCIS Gornji Cirnik 152.30 339 *e*PKPbc **PKPbc 01 18 04.5 -0.1**
LJU Ljubljana 152.50 341 *i*PKPbc **PKPbc 01 18 04.7 -0.4**
DAVA Damuels 152.50 348↑↑*i*PKiKP **PKPbc 01 18 05.1 -0.1**
comp=Z,19nm,1.2s
CRNS Crni Vrh 152.55 341 *i*PKPbc **PKPbc 01 18 04.5 -0.7**
FETA Feichten 152.58 347↓↓*i*PKPdf **PKPdf 01 17 57.6 -0.3**
comp=Z,15nm,1.0s
FUORN Ofenpass-Fuorn 153.06 347 *e*PKPdf **PKPdf 01 17 56.1 -2.7**
FUORN *e*PKPab **PKPab 01 18 20.1 -0.4**
BNI Bardonecchia 155.19 352 *e*PKIKP **PKPdf 01 18 03.3 +1.7**
BNI *e* 01 18 29.9
BNI Bardonecchia 155.19 352 *e*PKPdf **PKPdf 01 18 03.3 +1.7**
BNI *e*PKPab **PKPab 01 18 29.9 +0.4**
PBRG Braganca 157.51 17 *e*PKPab **PKPab 01 18 40.0 +0.4**
MVO Moncorvo 158.02 18 *e*PKPab **PKPab 01 18 42.9 +1.1**
PVIS Viseu 158.16 20 *e*PKPab **PKPab 01 18 42.8 +0.4**
PCAS Casmilo, Conde 158.55 22 *e*PKPab **PKPab 01 18 44.4 +0.3**
MTE Manteigas 158.56 20 *e*PKPab **PKPab 01 18 44.5 +0.3**
PTOM Tomar 158.96 23 *e*PKPab **PKPab 01 18 46.1 +0.2**
PMAFR Mafra 159.21 25 *e*PKPab **PKPab 01 18 47.4 +0.4**
PMRV Marv??o 159.49 21 *e*PKPab **PKPab 01 18 48.4 +0.2**
PMTG Montargil 159.51 23 *e*PKPab **PKPab 01 18 48.2 -0.1**
PESTR Estremoz 159.92 22 *e*PKPab **PKPab 01 18 50.2 +0.1**
EVO Evora 160.06 23 *e*PKPdf **PKPdf 01 18 07.9 +0.4**
EVO Evora 160.06 23 *e*PKPab **PKPab 01 18 50.8 +0.1**
ES19 SONSECA Array 160.21 13 *e*PKPab **PKPab 01 18 51.5 +0.1**
ESDC Sonseca Array 160.22 14 PKP **PKPdf 01 18 08.0 +0.2**
ESDC PKPab **PKPab 01 18 51.3 -0.1**
ESDC Sonseca Array 160.22 14 PKP **PKPdf 01 18 07.9 +0.2**
comp=Z,0.3nm,0.7s,baz=311,slow=1.6,SNR=3.6
ESDC PKPab **PKPab 01 18 51.3 -0.1**
comp=Z,5.5nm,1.0s,baz=341,slow=4.3,SNR=14
PNCL Nicolau / Gran 160.23 25 *e*PKPdf **PKPdf 01 18 07.9 +0.2**
PNCL Nicolau / Gran 160.23 25 *e*PKPab **PKPab 01 18 51.7 +0.2**
PBEJ Beja 160.56 24 *e*PKPdf **PKPdf 01 18 08.9 +0.8**
PVAQ Vaqueiros 161.16 24 *e*PKPab **PKPab 01 18 56.2 +0.6**
KEST Kesra 163.48 338 *e*PKPab **PKPab 01 19 02.8 -3.1**
KEST Kesra 163.48 338 PKPab **PKPab 01 19 05.4 -0.5**
comp=Z,4.0nm,1.0s,baz=72,slow=3.2,SNR=5.0
LIC Lamto 164.29 154 *e*PKIKP **PKPdf 01 18 11.0 -1.5**
comp=Z,22nm,1.0s
KIC Kosan Boka 164.53 154 *e*PKIKP **PKPdf 01 18 11.3 -1.4**
comp=Z,30nm,1.1s
TIC Toumodi 164.67 153 *e*PKIKP **PKPdf 01 18 11.4 -1.4**
comp=Z,20nm,0.9s
DBIC Dimbokro 164.76 153 PKP **PKPdf 01 18 11.7 -1.1**
DBIC Dimbokro 164.76 153 PKP **PKPdf 01 18 11.7 -1.1**
comp=Z,6.2nm,1.0s,baz=304,slow=3.6,SNR=4.9
TOA0 Torodi Ar. Sit 172.69 178 *e*PKPdf **PKPdf 01 18 15.6 -2.3**
TORD Torodi Ar. Bea 172.69 178 PKP **PKPdf 01 18 16.6 -1.2**
TORD PKPab **PKPab 01 19 47.2 +0.3**
TORD Torodi Ar. Bea 172.69 178 PKP **PKPdf 01 18 16.6 -1.2**
comp=Z,4.5nm,0.9s,baz=335,slow=0.3,SNR=24
TORD PKPab **PKPab 01 19 47.2 +0.3**
comp=Z,0.4nm,0.8s,baz=179,slow=3.3,SNR=4.2

*CSEM **31** 01:25:23.1,34.63N×50.70E,h5km,ML3.5,After TEH*

TEH 31 01:25:23.1,34.63N×50.70E,h5km,ML3.5,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IVRN	**Varamin**	**0.92**	**67**	*e*Pg		Pg	01 25 40.0	-0.9
IVRN				*e*			01 25 55.0	
comp=Z,45μm,0.1s								
IVRN	**Varamin**	**0.92**	**67**	*e*Pg		Pg	01 25 40.1	-0.8
IRAZ	**Razeghan**	**0.99**	**321**	*e*Pg		Pg	01 25 40.2	-2.3
IRAZ				*e*			01 25 59.5	
comp=Z,9μm,0.2s								
IRAZ	**Razeghan**	**0.99**	**321**	*e*Pg		Pg	01 25 40.2	-2.3
IMHD	**Mahdasht**	**1.05**	**359**	*e*Pg		Pg	01 25 41.9	-1.6
IMHD				*e*			01 25 42.5	
comp=Z,24μm,0.1s								
IMHD				*e*Sg		Sg	01 25 57.0	-0.1
IMHD	**Mahdasht**	**1.05**	**359**	*e*Pg		Pg	01 25 41.9	-1.5
IMHD				*e*Sg		Sg	01 25 57.1	-0.1
QAM	**Ghamsar**	**1.07**	**145**	*e*Pg		Pg	01 25 41.5	-2.4
QAM				*e*Sg		Sg	01 25 56.0	-1.9

ICHK	**Chekchek**	**3.91**	**126**	*e*Pn	Pn	01 26 23.3	-0.9
ICHK	comp=Z,424nm,0.2s			*e*		01 27 37.6	
ICHK	**Chekchek**	**3.91**	**126**	*e*Pn	Pn	01 26 23.3	-0.9
IMEH	**Mehriz**	**4.61**	**133**	*e*Pn	Pn	01 26 33.2	-0.6
IMEH	comp=Z,171nm,0.3s			*e*		01 28 03.4	
IMEH	**Mehriz**	**4.61**	**133**	*e*Pn	Pn	01 26 33.2	-0.7
IBAF	**Bafgh**	**5.09**	**125**	*e*Pn	Pn	01 26 39.5	-0.8
IBAF	comp=Z,202nm,0.0s			*e*		01 26 41.1	
IBAF	**Bafgh**	**5.09**	**125**	*e*Pn	Pn	01 26 39.5	-0.8

IDC 31 01:36:19.5±15.0, 18°.54S×175°.81W, h170km±151km, mb3.6/7, mb1 3.8/7, mb1mx3.5/21, mbtmp4.1/7, Error ellipse: s-maj=60.9km s-min=36.6km az=172.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.60**	**196**	P	P	01 40 45.2	-0.1
	8.6nm,0.4s,baz=56,slow=2.6,SNR=14						
CTA	**Charters Tower**	**35.79**	**261**	P	P	01 43 03.1	+0.5
	4.2nm,0.7s,baz=111,slow=8.6,SNR=1.5						
STKA	**Stephens Creek**	**40.51**	**242**	P	P	01 43 43.5	+1.5
	1.1nm,0.7s,baz=85,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**46.95**	**260**	P	P	01 44 32.8	-0.8
	2.1nm,0.4s,baz=98,slow=6.9,SNR=80						
ASAR	**Alice Springs**	**47.01**	**255**	P	P	01 44 33.4	-0.6
	2.7nm,0.5s,baz=90,slow=8.5,SNR=52						
MJAR	**Matsushiro Arr**	**69.91**	**322**	P	P	01 47 12.6	+0.4
	2.8nm,1.2s,baz=159,slow=6.2,SNR=4.4						
ILAR	**Eielson Array B**	**85.97**	**12**	P	P	01 48 39.9	-0.1
	0.2nm,0.9s,baz=207,slow=3.8,SNR=1.2						
BRTR	**Keskin Array B**	**146.97**	**316**	PKPbc	PKPdf	01 55 41.4	+1.1
	0.3nm,0.6s,baz=85,slow=4.0,SNR=2.2						

IDC 31 01:49:58.0±3.8, 19°.00S×169°.36E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/18, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=104.5km s-min=40.1km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.09**	**221**	Pn	Pn	01 51 02.6	+0.6
	0.7nm,0.3s,baz=29,slow=19,SNR=12						
WRA	**Warramunga Arr**	**32.99**	**262**	P	P	01 56 34.9	-0.1
	0.8nm,1.1s,baz=105,slow=10.0,SNR=3.2						
ASAR	**Alice Springs**	**33.29**	**256**	P	P	01 56 37.5	-0.1
	0.4nm,0.4s,baz=84,slow=8.6,SNR=7.9						
SONM	**Songino Array**	**87.10**	**323**	P	P	02 02 44.9	-0.9
	0.7nm,0.9s,baz=134,slow=4.2,SNR=4.3						
GERES	**GERESS Array B**	**144.34**	**332**	PKP	PKPdf	02 09 37.4	+1.2
	0.2nm,0.6s,baz=84,slow=3.1,SNR=3.7						

*SZGRF **31** 02:00:01.0, 22°.90S×177°.13W, h33km, South of Fiji Islands*
*BJI **31** 02:01:06.7, 20°.70S×178°.01W, h542km, mB5.0/29, mb5.0/44*
*ISCJB **31** 02:01:10.0±0.7, 21°.00S±0°.04×178°.69W±0°.02, h562km±9km, mb4.9/214, Error ellipse: s-maj=6.0km s-min=3.2km az=165.4*
*IDC **31** 02:01:11.3±1.2, 20°.87S×178°.59W, h568km±12km, mb4.3/16, mb1 4.5/18, mb1mx4.4/23, mbtmp5.2/18, Error ellipse: s-maj=14.6km s-min=10.9km az=131.0*
*MOS **31** 02:01:13.0±0.8, 20°.77S×178°.78W, h594km, mb4.8/29, Error ellipse: s-maj=10.7km s-min=8.7km az=59.7*
*GCMT **31** 02:01:15.1±0.3, 20°.85S×178°.61W, h608km±2km, MW5.3/71, Moment Tensor Solution. s71,c103; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=0.82±.03; Mθθ 0.93±.05; Mϕϕ -0.11±.05; Mrθ -0.46±.05; Mθϕ -0.01±.05; Mϕr -0.32±.05; Best double couple: M0 1.04200×10^17 NP1:ϕs 72.00000°, δ62.00000°, λ-110.00000°. NP2:ϕs 289.00000°, δ34.00000°, λ-58.00000°. Principal axes: T 1.0470, Plg14.0000°, Azm176.0000°; N -0.0110, Plg17.0000°, Azm82.0000°; P -1.0370, Plg67.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **31** 02:01:15.1±0.8, 21°.01S×178°.75W, h616km±9km, mb4.9/135 Error ellipse: s-maj=6.0km s-min=4.0km az=155.0*

ISC 31 02:01:09.2±0.3, 20°.94S±0°.04×178°.56W±0°.05, h550km±2km, n1140, σ1§29/1213, mb5.0/206, 212C-196D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.30**	**176**	S	**S**	**02 04 51.6**	**+2.9**
RAO	**Raoul Island**	**8.30**	**176**	S	**S**	**02 04 51.6**	**+2.9**
	270nm,0.3s,baz=275,slow=21,SNR=5.1						
NIUE	**Niue**	**8.33**	**79**	P	**P**	**02 03 13.3**	**+3.1**
	baz=8.2,SNR=4.1						
NIUE				S	S	02 05 05.3	+16
	baz=8.2,SNR=4.0						
AFI	**Afiamalu**	**9.53**	**44**	*e*P	**P**	**02 03 23.1**	**+0.6**
AFI				S	S	**02 05 07.5**	**-4.3**
AFI				*e*S	S	02 05 08.0	-3.9
AFI	**Afiamalu**	**9.53**	**44**	P	**P**	**02 03 23.2**	**+0.7**
	33nm,0.3s,baz=139,slow=19,SNR=51						
AFI				S	**S**	**02 05 07.5**	**-4.3**
	36nm,0.3s,baz=218,slow=20,SNR=14						
DZM	**Mont Dzumac**	**14.00**	**263**	*e*LR	LR	02 06 39.3	
	854nm,25.1s						
DZM	**Mont Dzumac**	**14.00**	**263**	*e*P	**P**	**02 04 10.5**	**+1.9**
	75nm,0.6s						
DZM	**Mont Dzumac**	**14.00**	**263**	P	**P**	**02 04 09.8**	**+1.3**
	9.8nm,0.3s,baz=114,slow=22,SNR=24						
OUZ	**Omahuta**	**15.81**	**204**	*e*P	**P**	**02 04 29.5**	**+2.8**
	284nm,0.8s						
OUZ	**Omahuta**	**15.81**	**204**	PN	**P**	**02 04 30.2**	**+3.5**
URZ	**Urewera**	**17.66**	**191**	*e*P	**P**	**02 04 42.9**	**-0.9**
	107nm,0.6s						
URZ				*e*S	**S**	**02 07 35.2**	**-3.4**
URZ	**Urewera**	**17.66**	**191**	P	**P**	**02 04 42.2**	**-1.6**
	21nm,0.3s,baz=281,slow=2.7,SNR=69						
URZ				S	**S**	**02 07 32.1**	**-6.5**
	3.6nm,0.3s,baz=110,slow=20,SNR=7.6						
URZ	**Urewera**	**17.66**	**191**	PN	**P**	**02 04 41.9**	**-1.8**
URZ				SN	**S**	**02 07 32.6**	**-6.0**
MWZ	**Matawai**	**17.66**	**190**	PN	**P**	**02 04 43.1**	**-0.7**
MWZ				SN	**S**	**02 07 33.2**	**-5.5**
HIZ	**Hauiti**	**18.41**	**197**	PN	**P**	**02 04 53.6**	**+2.9**
BKZ	**Black Stump Fm**	**18.66**	**192**	*e*P	**P**	**02 04 52.8**	**-0.2**
	40nm,0.7s						
BFZ	**Birch Farm**	**20.17**	**192**	*e*P	**P**	**02 05 06.4**	**-0.2**
	2µm,2.9s						
MRZ	**Mangatainoka R**	**20.29**	**193**	PN	**P**	**02 05 06.8**	**-0.8**
KIW	**Kapiti Island**	**20.62**	**194**	PN	**P**	**02 05 10.3**	**-0.4**
SNZO	**South Karori**	**21.10**	**194**	*e*P	**P**	**02 05 15.1**	**+0.2**
	159nm,0.8s						
QRZ	**Quartz Range**	**21.23**	**199**	PN	**P**	**02 05 17.6**	**+1.4**
NNZ	**Nelson**	**21.34**	**197**	PN	**P**	**02 05 17.1**	**-0.1**
THZ	**Tophouse**	**21.98**	**197**	PN	**P**	**02 05 22.8**	**-0.2**
THZ				SN	**S**	**02 08 42.3**	**-5.4**
DSZ	**Denniston Nort**	**22.29**	**199**	PN	**P**	**02 05 26.0**	**+0.3**
KHZ	**Kahutara**	**22.42**	**195**	*e*P	**P**	**02 05 26.6**	**-0.2**
	98nm,1.1s						
KHZ				*e*S	**S**	**02 08 51.2**	**-3.3**
LTZ	**Lake Taylor**	**23.10**	**197**	PN	**P**	**02 05 32.1**	**-0.8**
MQZ	**McQueen's Vall**	**23.86**	**196**	PN	**P**	**02 05 39.2**	**-0.3**
RPZ	**Rata Peaks**	**24.31**	**199**	*e*P	**P**	**02 05 43.6**	**0.0**
	38nm,0.6s						
FOZ	**Fox Glacier**	**24.60**	**201**	PN	**P**	**02 05 45.5**	**-0.7**
JCZ	**Jackson Bay**	**25.37**	**202**	PN	**P**	**02 05 53.3**	**+0.3**
ODZ	**Otahua Downs**	**25.64**	**198**	*e*P	**P**	**02 05 55.2**	**-0.1**
	221nm,2.4s						
TBI	**Tubuai**	**27.04**	**101**	*e*LR	LR	02 12 29.1	
	285nm,31.0s						
DCZ	**Deep Cove**	**27.15**	**202**	*e*P	**P**	**02 06 09.4**	**+0.8**
	103nm,1.2s						
WHZ	**Wether Hill Ro**	**27.24**	**201**	*e*P	**P**	**02 06 11.4**	**+2.0**
	127nm,0.5s						
PPT2	**Papeete2**	**27.55**	**88**	*e*LR	LR	02 12 54.0	
	380nm,25.8s						
APZ	**The Paps**	**28.06**	**200**	PN	**P**	**02 06 17.8**	**+1.2**
EIDS	**Eidsvold**	**28.23**	**255**	*e*P	**P**	**02 06 19.6**	**+1.3**
	406nm,2.5s						
EIDS	**Eidsvold**	**28.23**	**255**	P	**P**	**02 06 19.4**	**+1.1**
	baz=28,SNR=26						
ARMA	**Armidale**	**28.40**	**245**	*e*P	**P**	**02 06 22.2**	**+2.3**
	30nm,0.7s						
ARMA	**Armidale**	**28.40**	**245**	P	**P**	**02 06 22.3**	**+2.3**
	baz=28,SNR=36						
MGCD	**Mangrove Creek**	**29.53**	**239**	P	**P**	**02 06 32.0**	**+2.4**
	baz=30,SNR=5.7						
RMQ	**Roma**	**30.38**	**253**	P	**P**	**02 06 39.2**	**+2.3**
	baz=30,SNR=11						
CNB	**Canberra Magne**	**31.55**	**236**	P	**P**	**02 06 49.0**	**+2.1**
	baz=32,SNR=19						
CTA	**Charters Tower**	**32.93**	**265**	P	**P**	**02 06 59.9**	**+1.1**
CTA	**Charters Tower**	**32.93**	**265**	P	**P**	**02 06 59.9**	**+1.1**
	59nm,0.4s,baz=88,slow=12,SNR=23						
CTAO	**Charters Tower**	**32.93**	**265**	*e*P	**P**	**02 07 00.0**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,78nm,0.4s						
CTAO	**Charters Tower**	**32.93**	**265**	*e*P	**P**	**02 06 60.0**	**+1.2**
	comp=Z,78nm,0.4s						
RABL	**Rabaul**	**32.96**	**296**	P	**P**	**02 07 00.3**	**+1.2**
	baz=33,SNR=5.2						
CMSA	**Cobar Meteorol**	**33.62**	**244**	P	**P**	**02 07 05.9**	**+1.4**
	baz=34,SNR=77						
QLP	**Quilpie**	**34.43**	**253**	P	**P**	**02 07 12.3**	**+1.0**
	baz=34,SNR=54						
PMG	**Port Moresby**	**34.93**	**284**	P	x	02 07 16.5	
	comp=Z,290nm,0.8s,comp=Z,2µm						
PMG	**Port Moresby**	**34.93**	**284**	*e*P	**P**	**02 07 16.5**	**+0.9**
	comp=Z,206nm,0.7s						
PMG	**Port Moresby**	**34.93**	**284**	P	**P**	**02 07 16.8**	**+1.1**
	baz=35,SNR=21						
TOO	**Toolangi**	**35.22**	**234**	P	**P**	**02 07 19.4**	**+1.6**
	baz=35,SNR=9.0						
COEN	**Coen**	**37.09**	**274**	*e*P	**P**	**02 07 34.5**	**+1.0**
	comp=Z,533nm,0.8s						
COEN	**Coen**	**37.09**	**274**	P	**P**	**02 07 34.9**	**+1.4**
	baz=37,SNR=37						
STKA	**Stephens Creek**	**37.13**	**245**	*e*P	**P**	**02 07 35.0**	**+1.5**
	comp=Z,5.5nm,0.6s						
STKA				PcP	**PcP**	**02 09 39.5**	**+0.4**
STKA				*e*PcP	**PcP**	**02 09 39.7**	**+0.6**
STKA	**Stephens Creek**	**37.13**	**245**	P	**P**	**02 07 34.9**	**+1.5**
	comp=Z,21nm,0.5s,baz=88,slow=9.0,SNR=41						
STKA				PcP	**PcP**	**02 09 39.5**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=17,slow=4.9,SNR=3.7						
STKA	**Stephens Creek**	**37.13**	**245**	P	**P**	**02 07 35.1**	**+1.5**
	baz=37,SNR=37						
ARPS	**Mount Arapiles**	**37.81**	**237**	P	**P**	**02 07 40.3**	**+1.3**
	baz=38,SNR=4.6						
QIS	**Mount Isa**	**39.04**	**263**	P	**P**	**02 07 49.7**	**+0.4**
	baz=39,SNR=9.5						
HTT	**Hallett**	**39.56**	**243**	P	**P**	**02 07 54.5**	**+1.2**
	baz=40,SNR=17						
BBOO	**Buckleboo**	**41.88**	**244**	*e*P	**P**	**02 08 12.3**	**+0.5**
	comp=Z,750nm,0.9s						
BBOO	**Buckleboo**	**41.88**	**244**	P	**P**	**02 08 12.5**	**+0.8**
	baz=42,SNR=50						
JAY	**Jayapura**	**43.69**	**289**	P	**P**	**02 08 27.2**	**+1.0**
	baz=44,SNR=29						
AS31	**Alice Springs**	**43.91**	**257**	*e*P	**P**	**02 08 28.3**	**+0.6**
AS31				*e*PcP	**PcP**	**02 10 01.6**	**-0.1**
AS31				*e*S	**S**	**02 14 16.9**	**-2.8**
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**02 08 28.4**	**+0.7**
ASAR				PcP	**PcP**	**02 10 01.6**	**0.0**
ASAR				ScP	**ScP**	**02 13 00.2**	**-1.0**
ASAR				S	**S**	**02 14 16.1**	**-3.6**
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**02 08 28.4**	**+0.7**
	comp=Z,82nm,0.7s,baz=97,slow=7.7,SNR=1020						
ASAR				PcP	**PcP**	**02 10 01.6**	**0.0**
	comp=Z,16nm,0.6s,baz=101,slow=4.0,SNR=12						
ASAR				ScP	**ScP**	**02 13 00.2**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=99,slow=4.4,SNR=5.0						
ASAR				S	**S**	**02 14 16.1**	**-3.6**
	comp=Z,11nm,0.8s,baz=95,slow=15,SNR=29						
WRAB	**Tennant Creek**	**44.01**	**263**	P	**P**	**02 08 28.0**	**-0.6**
	comp=Z,429nm,0.4s						
WRAB	**Tennant Creek**	**44.01**	**263**	*d*P	**P**	**02 08 28.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,170nm,1.2s						
WRAB	**Tennant Creek**	**44.01**	**263**	*e*P	**P**	**02 08 28.6**	**0.0**
	comp=Z,244nm,1.6s						
WRAB				*e*S	**S**	**02 14 16.2**	**-5.0**
WRA	**Warramunga Arr**	**44.02**	**263**	P	**P**	**02 08 28.6**	**0.0**
WRA				PcP	**PcP**	**02 10 01.9**	**-0.1**
WRA				S	**S**	**02 14 16.1**	**-5.2**
WRA	**Warramunga Arr**	**44.02**	**263**	P	**P**	**02 08 28.7**	**0.0**
	comp=Z,25nm,0.3s,baz=96,slow=7.5,SNR=653						
WRA				PcP	**PcP**	**02 10 01.9**	**-0.1**
	comp=Z,7.7nm,0.9s,baz=101,slow=4.2,SNR=6.5						
WRA				S	**S**	**02 14 16.1**	**-5.2**
	comp=Z,7.8nm,0.8s,baz=97,slow=13,SNR=7.4						
SMPI	**Sarmi**	**45.69**	**289**	P	**P**	**02 08 42.1**	**+0.6**
	comp=Z,107nm,1.0s						
KDU	**Kakadu**	**47.44**	**272**	P	**P**	**02 08 54.8**	**+0.1**
	baz=48,SNR=30						
SRPI	**Serui, Papua**	**47.95**	**287**	P	**P**	**02 08 59.1**	**+0.6**
	comp=Z,126nm,0.7s						
BAKI	**Biak**	**48.37**	**288**	P	**P**	**02 09 01.7**	**+0.1**
	comp=Z,147nm,1.6s						
FORT	**Forest**	**48.64**	**247**	*e*P	**P**	**02 09 03.5**	**+0.1**
	comp=Z,89nm,0.5s						
FORT	**Forrest**	**48.64**	**247**	P	**P**	**02 09 03.7**	**+0.3**
	baz=49,SNR=45						
MTN	**Manton Dam**	**48.64**	**271**	P	**P**	**02 09 03.5**	**-0.2**
	baz=49,SNR=23						
WRKA	**Warakurna**	**48.84**	**255**	P	**P**	**02 09 05.5**	**+0.4**
	baz=49,SNR=314						
WRKA				S	**S**	**02 15 24.9**	**-3.3**
	baz=49,SNR=5.9						
KMPI	**Kaimana, Papua**	**49.46**	**284**	P	**P**	**02 09 11.1**	**+1.4**
	comp=Z,165nm,0.8s						
GUMO	**Guam**	**49.68**	**311**	*e*P	**P**	**02 09 11.4**	**+0.2**
	comp=Z,752nm,1.6s						
KNRA	**Kununurra**	**50.11**	**267**	P	**P**	**02 09 14.8**	**+0.4**
	baz=50,SNR=32						
FAKI	**Fak Fak**	**51.09**	**284**	*e*P	**P**	**02 09 22.0**	**+0.3**
	comp=Z,64nm,1.0s						
FAKI	**Fak**	**51.09**	**284**	P	**P**	**02 09 21.9**	**+0.3**
	baz=51,SNR=4.1						
SWI	**Sorong**	**52.85**	**286**	P	**P**	**02 09 34.6**	**+0.3**
	comp=Z,237nm,0.9s,comp=Z,2µm						
MSAI	**Masohi**	**53.95**	**282**	P	**P**	**02 09 44.4**	**+2.4**
	comp=Z,20nm,0.6s						
NLAI	**Namlea**	**55.66**	**281**	P	**P**	**02 09 55.0**	**+1.0**
	comp=Z,96nm,0.8s,comp=Z,2µm						
SOEI	**Soe**	**55.99**	**272**	P	**P**	**02 09 57.6**	**+1.2**
	comp=Z,346nm,0.9s,comp=Z,3µm						
SOEI	**Soe**	**55.99**	**272**	*e*P	**P**	**02 09 58.1**	**+1.6**
	comp=Z,207nm,0.7s						
SOEI	**Soe**	**55.99**	**272**	P	**P**	**02 09 58.4**	**+1.9**
	baz=56,SNR=23						
LBMI	**Labuha**	**56.35**	**284**	P	**P**	**02 09 59.1**	**+0.3**
	comp=Z,117nm,1.0s,comp=Z,1µm						
TNTI	**Ternate**	**57.06**	**285**	P	**P**	**02 10 03.5**	**-0.2**
	comp=Z,227nm,0.9s						
SANI	**Sanana**	**57.15**	**282**	P	**P**	**02 10 04.0**	**-0.3**
	comp=Z,82nm,1.0s,comp=Z,982nm						
MEEK	**Meekatharra**	**57.28**	**251**	P	**P**	**02 10 04.7**	**-0.3**
	baz=57,SNR=42						
SBA	**Scott Base**	**57.40**	**184**	*e*P	P	02 10 08.5	+3.6
SBA				pmax	pmax		
	comp=Z,226nm,2.1s						
SBA	**Scott Base**	**57.40**	**184**	*e*P	P	02 10 08.5	+3.6
	comp=Z,226nm,2.1s						
VNDA	**Vanda**	**57.43**	**185**	*e*P	**P**	**02 10 07.1**	**+2.0**
	comp=Z,7.6nm,0.8s						
VNDA				ScP	**ScP**	**02 13 56.9**	**-1.5**
VNDA				*e*ScP	ScP	02 13 57.6	-0.8
VNDA	**Vanda**	**57.43**	**185**	P	**P**	**02 10 06.8**	**+1.7**
	comp=Z,5.4nm,0.5s,baz=357,slow=6.8,SNR=24						
VNDA				ScP	**ScP**	**02 13 56.9**	**-1.5**
	comp=Z,12nm,0.9s,baz=344,slow=4.1,SNR=12						
RKGY	**Rocky Gully**	**57.77**	**242**	P	**P**	**02 10 09.3**	**+1.1**
	baz=58,SNR=11						
MMRI	**Maumere**	**58.25**	**273**	*e*P	**P**	**02 10 11.2**	**-0.5**
	comp=Z,137nm,1.2s						
BLDU	**Ballidu**	**58.40**	**246**	P	**P**	**02 10 12.7**	**+0.2**
	baz=58,SNR=34						
MORW	**Morawa**	**59.18**	**248**	P	**P**	**02 10 18.0**	**+0.2**
	baz=59,SNR=13						
LBFI	**Labuhan Bajo,**	**60.49**	**272**	P	x	02 10 26.2	
	comp=Z,309nm,0.8s,comp=Z,3µm						
LUWI	**Luwuk**	**60.50**	**281**	P	**P**	**02 10 27.5**	**+0.8**
	comp=Z,162nm,1.1s,comp=Z,6µm						
LUWI	**Luwuk**	**60.50**	**281**	*e*P	**P**	**02 10 27.5**	**+0.8**
	comp=Z,63nm,0.5s						
BKSI	**Bulukumba**	**61.35**	**275**	P	**P**	**02 10 31.1**	**-1.2**
	comp=Z,29nm,0.7s,comp=Z,486nm						
APSI	**Ampana**	**61.58**	**281**	P	**P**	**02 10 35.0**	**+1.2**
	comp=Z,130nm,0.8s,comp=Z,1µm						
BMNI	**Bima**	**61.59**	**271**	P	x	02 10 36.0	
	comp=Z,342nm,0.8s,comp=Z,3µm						
BNSI	**Bone**	**61.69**	**276**	P	**P**	**02 10 34.7**	**+0.1**
	comp=Z,56nm,0.7s						
KAPI	**Kappang**	**61.80**	**276**	*e*P	**P**	**02 10 35.3**	**0.0**
	comp=Z,106nm,0.9s						
MRSI	**Marisa**	**61.87**	**282**	P	**P**	**02 10 36.5**	**+0.8**
	comp=Z,38nm,1.1s,comp=Z,653nm						
GIRL	**Giralia**	**61.93**	**255**	P	**P**	**02 10 37.4**	**+1.4**
	baz=62,SNR=15						
SPSI	**Sidrap Palu**	**62.16**	**277**	P	**P**	**02 10 35.5**	**-2.1**
	comp=Z,36nm,0.8s						
TTSI	**Tana Toraja**	**62.46**	**278**	P	**P**	**02 10 39.1**	**-0.4**
	comp=Z,23nm,0.8s,comp=Z,899nm,comp=Z,20µm						
TOLI	**Toli-Toli**	**63.18**	**282**	P	x	02 10 45.5	
	comp=Z,175nm,0.4s,comp=Z,16µm						
MTNI	**Mataram**	**63.92**	**270**	P	x	02 10 50.2	
	comp=Z,60nm,0.6s						
SRBI	**Singaraja**	**64.99**	**271**	P	**P**	**02 10 55.3**	**-0.4**
	comp=Z,76nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.86**	**270**	P	**P**	**02 10 59.5**	**-1.6**
	comp=Z,101nm,1.0s						
JAGI	**Jajag, Banyuwa**	**65.86**	**270**	*e*P	**P**	**02 11 00.0**	**-1.1**
	comp=Z,50nm,0.8s						
JAGI	**Jajag, Banyuwa**	**65.86**	**270**	P	**P**	**02 11 00.3**	**-0.9**
	baz=66,SNR=7.6						
ABJI	**Asem Bagus**	**66.00**	**271**	P	**P**	**02 11 01.8**	**-0.2**
	comp=Z,69nm,1.3s						
GMJI	**Gumukmas**	**66.58**	**270**	P	**P**	**02 11 05.7**	**+0.1**
	comp=Z,61nm,1.3s						
PWJI	**Pagerwojo**	**68.20**	**270**	P	**P**	**02 11 15.2**	**-0.3**
	comp=Z,58nm,0.8s						
PCJI	**Pacitan**	**68.73**	**269**	P	**P**	**02 11 19.1**	**+0.4**
	comp=Z,320nm,0.7s,comp=Z,2µm						
QSPA	**South Pole Qui**	**69.13**	**180**	*e*P	**P**	**02 11 21.4**	**+1.1**
	comp=Z,30nm,1.1s						
KKM	**Kota Kinabalu**	**69.36**	**285**	P	x	02 11 23.5	
	comp=Z,79nm,1.4s,comp=Z,1µm						
KKM	**Kota Kinabalu**	**69.36**	**285**	*e*P	**P**	**02 11 22.7**	**+0.1**
	comp=Z,29nm,0.5s						
KKM	**Kota Kinabalu**	**69.36**	**285**	P	**P**	**02 11 23.3**	**+0.7**
	baz=70,SNR=11						
UGM	**Wanagama**	**69.43**	**269**	P	**P**	**02 11 22.8**	**-0.2**
	baz=70,SNR=6.2						
MJAR	**Matsushiro Arr**	**70.25**	**324**	P	**P**	**02 11 27.2**	**-0.1**
MJAR	**Matsushiro Arr**	**70.25**	**324**	P	**P**	**02 11 27.2**	**-0.1**
	comp=Z,15nm,0.6s,baz=157,slow=6.3,SNR=70						
MAJO	**Matsushiro**	**70.25**	**324**	*e*P	**P**	**02 11 27.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**70.25**	**324**	*e*P	**P**	**02 11 27.6**	**+0.2**
	comp=Z,3.3nm,0.6s						
MAT	**Matsushiro**	**70.25**	**324**	P	**P**	**02 11 27.1**	**-0.2**
MAT				X		02 18 48.0	
BJII	**Banjamegara**	**70.38**	**270**	P	x	02 11 29.4	
	comp=Z,29nm,1.1s						
SBUM	**Sibu**	**71.56**	**280**	P	x	02 11 36.1	
	comp=Z,32nm,1.5s,comp=Z,418nm						
SBUM	**Sibu**	**71.56**	**280**	*e*P	**P**	**02 11 36.3**	**+0.8**
CISI	**Cisompet, Garu**	**72.08**	**269**	P	**P**	**02 11 37.9**	**-0.7**
	comp=Z,88nm,1.1s,comp=Z,9µm						
CISI	**Cisompet, Garu**	**72.08**	**269**	*e*P	**P**	**02 11 38.1**	**-0.5**
	comp=Z,46nm,0.8s						
JNU	**Nakatsue**	**72.23**	**317**	*e*P	**P**	**02 11 39.3**	**+0.2**
LEM	**Lembang**	**72.51**	**269**	P	**P**	**02 11 42.0**	**+0.8**
	comp=Z,188nm,1.0s,comp=Z,2µm						
ADK	**Adak**	**72.53**	**1**	*e*P	**P**	**02 11 40.0**	**-0.2**
ADK				pmax	pmax		
	comp=Z,49nm,0.5s						
ADK	**Adak**	**72.53**	**1**	*e*P	**P**	**02 11 40.0**	**-0.2**
	comp=Z,49nm,0.5s						
KSM	**Kuching**	**72.95**	**278**	P	x	02 11 44.3	
	comp=Z,120nm,1.0s,comp=Z,1µm						
KSM	**Kuching**	**72.95**	**278**	*e*P	**P**	**02 11 44.1**	**+0.6**
	comp=Z,74nm,0.7s						
KSM	**Kuching**	**72.95**	**278**	P	**P**	**02 11 44.5**	**+0.9**
	baz=73,SNR=16						
TWG	**Pinlang**	**73.18**	**303**	*e*P	**P**	**02 11 43.0**	**-1.6**
	comp=Z,163nm,0.6s						
YULB	**Yu-li**	**73.30**	**304**	*e*P	**P**	**02 11 44.4**	**-0.9**
	comp=Z,16nm,0.6s						
DBJI	**Dramaga**	**73.41**	**269**	P	**P**	**02 11 47.4**	**+1.2**
	comp=Z,119nm,1.3s						
NACB	**Ninganchiao**	**73.49**	**305**	*e*P	**P**	**02 11 45.9**	**-0.4**
	comp=Z,86nm,1.0s						
TPUB	**Ta-pu**	**73.77**	**303**	*e*P	**P**	**02 11 46.9**	**-1.1**
	comp=Z,112nm,0.7s						
SSLB	**Suanglung**	**73.78**	**304**	*e*P	**P**	**02 11 47.0**	**-1.1**
	comp=Z,32nm,0.6s						
ASAJ	**Asahikawa**	**73.86**	**332**	*e*P	**P**	**02 11 50.2**	**+2.2**
	comp=Z,19nm,1.1s						
YHNB	**Yeheng**	**73.92**	**305**	*e*P	**P**	**02 11 48.5**	**-0.4**
	comp=Z,17nm,0.3s						
TATO	**Taipei**	**74.00**	**305**	*e*P	**P**	**02 11 49.4**	**+0.2**

ISA					pmax		pmax				
	comp=Z,28nm,1.3s										
ISA	**Isabella**	**80.02**	**46**	*e*P		**P**		**02 12 23.2**	**+1.3**		
	comp=Z,28nm,1.3s										
ISA	**Isabella**	**80.02**	**46**	⇑P		**P**		**02 12 23.5**	**+1.6**		
	baz=80,SNR=13										
CMB	**Columbia Colle**	**80.14**	**43**	*e*P		**P**		**02 12 23.2**	**+0.7**		
CMB					pmax		pmax				
	comp=Z,38nm,1.4s										
CMB	**Columbia Colle**	**80.14**	**43**	*e*P		**P**		**02 12 23.2**	**+0.7**		
	comp=Z,38nm,1.4s										
OHCM	**Honcut**	**80.23**	**41**	*e*P		**P**		**02 12 24.4**	**+1.6**		
PFO	**Pinyon Flat Ob**	**80.26**	**48**	*e*P		**P**		**02 12 24.9**	**+1.7**		
PFO	**Pinyon Flat Ob**	**80.26**	**48**	⇓P		**P**		**02 12 24.7**	**+1.4**		
	baz=81										
BBRC	**Big Bear Solar**	**80.29**	**48**	⇓P		**P**		**02 12 25.0**	**+1.4**		
	baz=81										
WDC	**Whiskeytown Da**	**80.34**	**40**	*e*P		**P**		**02 12 25.0**	**+1.6**		
WDC					pmax		pmax				
	comp=Z,36nm,1.2s										
WDC	**Whiskeytown Da**	**80.34**	**40**	*e*P		**P**		**02 12 25.0**	**+1.6**		
	comp=Z,36nm,1.2s										
SWSC	**Sam W. Stewart**	**80.36**	**49**	⇓P		**P**		**02 12 25.4**	**+1.8**		
	baz=81,SNR=7.1										
LRMC	**Laurel Mountai**	**80.44**	**46**	⇓P		**P**		**02 12 25.6**	**+1.5**		
	baz=81,SNR=8.7										
N02D	**Trinity Center**	**80.49**	**39**	⇓P		**P**		**02 12 26.4**	**+2.2**		
	baz=81										
QIZ	**Qiongzhong**	**80.56**	**294**		P		**P**	**02 12 26.0**	**+1.0**		
QIZ					pP		**pP**	**02 14 22.3**	**-0.1**		
QIZ					sP		**sP**	**02 15 18.0**	**-0.6**		
QIZ					S		**SKSac**	**02 21 50.0**	**-1.2**		
QIZ					pmax		pmax				
	comp=Z,97nm,6.2s										
HABR	**Khabarovsk**	**80.57**	**331**	*e*P			**P**	**02 12 24.0**	**-0.3**		
HABR				*e**PP			pP	02 14 29.8	+8.0		
HABR				*e**SP			sP	02 15 30.7	+13		
HABR				*e*				02 15 37.9			
HABR				*e*PPP			PPP	02 17 33.0			
HABR				*e*S			**S**	**02 21 42.7**	**-3.3**		
HABR				*e*SS			**SS**	**02 27 11.5**	**-3.7**		
HABR				*e*SSS			SSS	02 30 45.8			
HABR					pmax		pmax				
	comp=N,40nm,2.0s										
HABR					pmax		pmax				
	comp=E,47nm,2.0s										
HABR					pmax		pmax				
	comp=Z,55nm,2.0s										
HABR					MLR		MLR				
	comp=Z,99nm,18.0s										
MDJ	**Mudanjiang**	**80.58**	**325**		P		**P**	**02 12 25.5**	**+1.0**		
MDJ					pP		**pP**	**02 14 21.0**	**-1.0**		
MDJ					sP		**sP**	**02 15 16.5**	**-1.6**		
MDJ					S		**S**	**02 21 48.0**	**+1.6**		
MDJ					pmax		pmax				
	comp=Z,34nm,1.1s										
MDJ	**Mudanjiang**	**80.58**	**325**	*e*P			**P**	**02 12 25.6**	**+1.1**		
	comp=Z,41nm,1.1s										
M02C	**Callahan**	**80.66**	**39**	⇑P			**P**	**02 12 27.1**	**+2.0**		
	baz=81										
OHAK	**Old Harbor**	**80.70**	**14**	*e*P			**P**	**02 12 25.1**	**+0.3**		
	comp=Z,76nm,1.6s										
L02D	**Cave Junction,**	**80.71**	**38**	⇑P			**P**	**02 12 27.7**	**+2.5**		
	baz=81										
BELC	**Belle Mtn. Jos**	**80.79**	**48**	⇑P			**P**	**02 12 28.0**	**+2.0**		
	baz=81,SNR=11										
MLAC	**Mammoth Lakes**	**80.90**	**44**	⇑P			**P**	**02 12 28.3**	**+1.7**		
	baz=81										
MTUM	**Tungsten Hills**	**80.92**	**44**	*e*P			**P**	**02 12 28.4**	**+1.7**		
GSC	**Goldstone**	**80.94**	**47**	*e*P			**P**	**02 12 28.0**	**+1.3**		
GSC					pmax		pmax				
	comp=Z,23nm,1.3s										
GSC	**Goldstone**	**80.94**	**47**	*e*P			**P**	**02 12 28.0**	**+1.3**		
	comp=Z,23nm,1.3s										
GSC	**Goldstone**	**80.94**	**47**	⇓P			**P**	**02 12 28.4**	**+1.7**		
	baz=81,SNR=10.0										
DAC	**Darwin (Calif)**	**80.95**	**46**	*e*P			**P**	**02 12 28.4**	**+1.5**		
DAC					pmax		pmax				
	comp=Z,6.0nm,0.9s										
DAC	**Darwin (Calif)**	**80.95**	**46**	*e*P			**P**	**02 12 28.4**	**+1.5**		
	comp=Z,6.1nm,0.9s										
YBH	**Yreka Blue Hor**	**80.96**	**39**	*e*P			**P**	**02 12 29.0**	**+2.3**		
	comp=Z,50nm,1.3s										
TIN	**Tinemaha**	**80.97**	**45**	⇓P			**P**	**02 12 28.8**	**+1.9**		
	baz=81,SNR=5.8										
BC3	**Big Chuckawall**	**80.98**	**49**	⇑P			**P**	**02 12 29.2**	**+2.2**		
	baz=81,SNR=9.4										
HEC	**Hector,Ludlow**	**81.01**	**47**	⇑P			**P**	**02 12 28.8**	**+1.7**		
	baz=81,SNR=6.1										
WAKR	**Walker**	**81.02**	**43**	*e*P			**P**	**02 12 28.5**	**+1.3**		
PMSA	**Palmer Station**	**81.09**	**157**	*e*P			**P**	**02 12 28.3**	**+1.4**		
	comp=Z,27nm,1.3s										
GLA	**Glamis**	**81.11**	**50**	*e*P			**P**	**02 12 29.3**	**+1.7**		
GLA					pmax		pmax				
	comp=Z,32nm,1.1s										
GLA	**Glamis**	**81.11**	**50**	*e*P			**P**	**02 12 29.3**	**+1.7**		
	comp=Z,32nm,1.1s										
GLA	**Glamis**	**81.11**	**50**	⇑P			**P**	**02 12 29.6**	**+2.0**		
	baz=82,SNR=16										
PDSI	**Padang**	**81.25**	**272**		P		**P**	**02 12 29.7**	**+1.0**		
	comp=Z,39nm,0.9s										
HUMO	**Hull Mountain**	**81.36**	**38**	*e*P			**P**	**02 12 30.7**	**+2.1**		
	comp=Z,46nm,1.2s										
GMRC	**Granite Mounta**	**81.44**	**48**	⇓P			**P**	**02 12 31.1**	**+1.7**		
	baz=82,SNR=11										
IRM	**Iron Mountain**	**81.47**	**49**	⇑P			**P**	**02 12 31.3**	**+1.9**		
	baz=82,SNR=14										
M04C	**Macdoel**	**81.50**	**39**	⇑P			**P**	**02 12 31.5**	**+2.0**		
	baz=82										
GRAC	**Grapevine Rang**	**81.50**	**45**	⇑P			**P**	**02 12 31.4**	**+1.9**		
	baz=82,SNR=24										
FURC	**Furnace Creek,**	**81.55**	**46**	⇑P			**P**	**02 12 31.7**	**+2.0**		
	baz=82										
TUQ	**Turquoise Moun**	**81.62**	**47**	⇑P			**P**	**02 12 31.9**	**+1.7**		
	baz=82,SNR=12										
SHOC	**Shoshone**	**81.63**	**47**	⇓P			**P**	**02 12 31.8**	**+1.7**		
	baz=82										
Y12C	**Blythe**	**81.69**	**49**	⇓P			**P**	**02 12 32.4**	**+2.0**		
	baz=82,SNR=10										
NVAR	**Mina Array Bea**	**81.70**	**44**		P		**P**	**02 12 32.1**	**+1.4**		
NVAR					PKKPbc		**PKKPbc**	**02 30 59.6**	**+0.3**		
NVAR	**Mina Array Bea**	**81.70**	**44**		P		**P**	**02 12 32.1**	**+1.4**		
	comp=Z,9.8nm,0.7s,baz=228,slow=7.5,SNR=88										
NVAR					PKKPbc		**PKKPbc**	**02 30 59.6**	**+0.3**		
	comp=Z,0.4nm,0.7s,baz=64,slow=3.7,SNR=5.3										
113A	**Mohawk Valley,**	**81.72**	**50**	⇑P			**P**	**02 12 32.0**	**+1.4**		
	baz=82,SNR=19										
NV11	**Mina Array Sit**	**81.80**	**44**	*e*P			**P**	**02 12 31.7**	**+0.5**		
I03D	**Drain, OR**	**81.82**	**37**	⇑P			**P**	**02 12 32.9**	**+2.1**		
	baz=82										
LDFC	**Landfair**	**81.99**	**48**	*e*P			**P**	**02 12 33.7**	**+1.6**		
	comp=Z,80nm,1.3s										
214A	**Organ Pipe Nat**	**82.00**	**52**	*e*P			**P**	**02 12 33.9**	**+1.8**		
	comp=Z,51nm,1.6s										
214A	**Organ Pipe Nat**	**82.00**	**52**	⇓P			**P**	**02 12 33.4**	**+1.3**		
	baz=82,SNR=8.1										
NEE2	**Needles Airpor**	**82.16**	**48**	⇑P			**P**	**02 12 34.4**	**+1.5**		
	baz=82										
TPH	**Tonopah**	**82.20**	**44**	*e*P			**P**	**02 12 34.3**	**+1.0**		
TPH					pmax		pmax				
	comp=Z,40nm,1.2s										
TPH	**Tonopah**	**82.20**	**44**	*e*P			**P**	**02 12 34.3**	**+1.0**		
	comp=Z,40nm,1.2s										
J04D	**Umpqua Nationa**	**82.24**	**38**	⇓P			**P**	**02 12 35.3**	**+2.0**		
	baz=83										
PDMCI	**Parker Dam,Lak**	**82.25**	**49**	⇑P			**P**	**02 12 35.0**	**+1.7**		
	baz=83,SNR=9.3										
WHN	**Wuhan**	**82.28**	**307**		P		**P**	**02 12 34.5**	**+1.0**		
CN2	**Changchun**	**82.33**	**323**	*e*P			**P**	**02 12 34.0**	**+0.5**		
CN2				*e*pP			**pP**	**02 14 31.5**	**-0.1**		
CN2				*e*sP			**sP**	**02 15 25.0**	**-2.6**		
CN2				*e*PP			**PP**	**02 15 54.5**	**+1.8**		
CN2				*e*S			**S**	**02 22 05.0**	**+1.0**		
CN2				*e*SS			**SS**	**02 27 45.0**	**+3.7**		
CN2					pmax		pmax				
	comp=Z,40nm,1.1s										
CN2					pmax		pmax				
	comp=Z,200nm,4.0s										
I04A	**Tendick Farm,**	**82.41**	**37**	⇑P			**P**	**02 12 35.8**	**+1.8**		
	baz=83										
MOD	**Modoc**	**82.49**	**40**	*e*P			**P**	**02 12 35.4**	**+0.9**		
	comp=Z,14nm,1.4s										
Z14A	**Wintersburg**	**82.62**	**50**	⇑P			**P**	**02 12 37.2**	**+2.0**		
	baz=83,SNR=11										
K05A	**Summer Lake**	**82.63**	**39**	*e*P			**P**	**02 12 36.9**	**+1.6**		
	comp=Z,70nm,1.2s										
KLR	**Kul'dur**	**82.64**	**330**	*e*P			P	02 12 31.7	-3.2		
KLR					pmax		pmax				
	comp=Z,42nm,1.6s										
IPM	**Ipoh**	**82.67**	**278**		P		x	02 12 36.4			
	comp=Z,104nm,0.9s,comp=Z,1μm										
IPM	**Ipoh**	**82.67**	**278**	*e*P			**P**	**02 12 36.3**	**+0.4**		
	comp=Z,48nm,0.6s										
MNSI	**Mandailing Nat**	**82.68**	**274**		P		**P**	**02 12 34.9**	**-1.0**		
	comp=Z,74nm,0.8s										
SHPR	**Sheep Range**	**82.72**	**47**	*e*P			**P**	**02 12 37.3**	**+1.5**		
J05D	**Fort Rock, OR**	**82.77**	**38**	⇑P			**P**	**02 12 38.0**	**+2.1**		
	baz=83										
UBPT	**Khong Chiam**	**82.78**	**289**		P		x	02 12 36.4			
	comp=Z,34nm,1.7s,comp=Z,1μm										
UBPT	**Khong Chiam**	**82.78**	**289**		P		**P**	**02 12 37.5**	**+1.2**		
	comp=Z,34nm,1.7s,comp=Z,1μm										
G03D	**McMinnville, O**	**82.83**	**36**	⇑P			**P**	**02 12 38.2**	**+2.3**		
	baz=83										
W13A	**Hualapai Mount**	**82.85**	**48**	⇓P			**P**	**02 12 38.3**	**+1.7**		
	baz=83										
Y14A	**Wickenburg**	**82.87**	**50**	⇑P			**P**	**02 12 38.3**	**+1.8**		
	baz=83,SNR=11										
H04A	**Detroit Lake**	**83.09**	**37**	*e*P			**P**	**02 12 38.6**	**+1.2**		
	comp=Z,90nm,1.5s										
PINOR	**Pine Mountain**	**83.30**	**38**	*e*P			**P**	**02 12 40.2**	**+1.9**		
	comp=Z,57nm,1.2s										
KULM	**Kulim**	**83.31**	**278**		P		x	02 12 39.5			
	comp=Z,49nm,1.0s										
KULM	**Kulim**	**83.31**	**278**	*e*P			**P**	**02 12 39.7**	**+0.6**		
	comp=Z,23nm,0.6s										
I05D	**Terrebonne, OR**	**83.36**	**37**	⇓P			**P**	**02 12 40.7**	**+2.0**		
	baz=84										
R11A	**Troy Canyon, C**	**83.43**	**45**	*e*P			**P**	**02 12 40.1**	**+0.7**		
R11A	**Troy Canyon, C**	**83.43**	**45**	⇓P			**P**	**02 12 41.0**	**+1.6**		
	baz=84										
BMN	**Battle Mountai**	**83.53**	**42**	*e*P			**P**	**02 12 40.9**	**+1.1**		
BMN					pmax		pmax				
	comp=Z,14nm,0.8s										
BMN	**Battle Mountai**	**83.53**	**42**	*e*P			**P**	**02 12 40.9**	**+1.1**		
	comp=Z,14nm,0.8s										
TUC	**Tucson**	**83.66**	**52**	*e*P			**P**	**02 12 42.1**	**+1.5**		
TUC					pmax		pmax				
	comp=Z,30nm,1.2s										
TUC	**Tucson**	**83.66**	**52**	*e*P			**P**	**02 12 42.1**	**+1.5**		
	comp=Z,30nm,1.2s										
RSO	**Redoubt South**	**83.78**	**13**	*e*P			**P**	**02 12 40.4**	**-0.2**		
WVOR	**Wild Horse Val**	**83.80**	**40**	*e*P			**P**	**02 12 42.3**	**+1.2**		
WVOR					pmax		pmax				
	comp=Z,28nm,1.1s										
WVOR	**Wild Horse Val**	**83.80**	**40**	*e*P			**P**	**02 12 42.2**	**+1.2**		
	comp=Z,28nm,1.1s										
NLWA	**Neilton Lookou**	**83.89**	**34**	*e*P			**P**	**02 12 43.2**	**+2.0**		
	comp=Z,27nm,1.2s										
G05D	**Wamic, OR**	**83.92**	**37**	⇑P			**P**	**02 12 43.3**	**+1.9**		
	baz=84										
PSI	**Prapat**	**84.01**	**275**		P		x	02 12 42.6			
	comp=Z,57nm,1.0s,comp=Z,477nm										
PSI	**Prapat**	**84.01**	**275**		P		**P**	**02 12 42.3**	**-0.4**		
	baz=84,SNR=16										
TDL	**Tradedollar La**	**84.11**	**35**		P		**P**	**02 12 44.1**	**+1.6**		
SEW	**Seward**	**84.17**	**14**	*e*P			**P**	**02 12 42.3**	**+0.1**		
X16A	**Lo Mia Camp, P**	**84.23**	**50**	⇑P			**P**	**02 12 45.0**	**+1.6**		
	baz=85,SNR=19										
OSD	**Olympics--Snow**	**84.25**	**34**		P		**P**	**02 12 45.0**	**+1.8**		
I07A	**Izee**	**84.26**	**38**	*e*P			**P**	**02 12 44.8**	**+1.6**		
	comp=Z,30nm,1.2s										
319A	**Douglas**	**84.33**	**54**	⇑P			**P**	**02 12 45.5**	**+1.5**		
	baz=85,SNR=16										
HDW	**Hoodsport**	**84.48**	**34**		P		**P**	**02 12 45.8**	**+1.6**		
STW	**Striped Peak**	**84.48**	**33**		P		**P**	**02 12 46.0**	**+1.9**		
CCUT	**Cedar City**	**84.49**	**46**	*e*P			**P**	**02 12 46.3**	**+1.6**		
	comp=Z,28nm,1.7s										
LON	**Longmire**	**84.58**	**35**	*e*P			**P**	**02 12 45.8**	**+1.1**		
LON	**Longmire**	**84.58**	**35**	*e*P			**P**	**02 12 45.8**	**+1.1**		
GAMB	**Gambell**	**84.61**	**3**	*e*P			**P**	**02 12 45.4**	**+1.1**		
	comp=Z,47nm,1.4s										
U15A	**North Rim**	**84.64**	**48**	⇑P			**P**	**02 12 47.1**	**+1.5**		
	baz=85										
GSI	**Gunungsitoli**	**84.73**	**273**	*e*P			**P**	**02 12 47.2**	**+1.0**		
	comp=Z,107nm,0.6s										
D05A	**Enumclaw**	**84.76**	**35**	*e*P			**P**	**02 12 47.4**	**+2.0**		
	comp=Z,91nm,1.4s										
WUAZ	**Wupatki**	**84.83**	**49**	*e*P			**P**	**02 12 47.7**	**+1.4**		
	comp=Z,17nm,1.1s										
WUAZ	**Wupatki**	**84.83**	**49**	⇓P			**P**	**02 12 47.6**	**+1.4**		
	baz=85										
RC01	**Rabbit Creek A**	**84.98**	**14**	*e*P			**P**	**02 12 46.1**	**-0.1**		
	comp=Z,32nm,1.0s										
G08A	**Pilot Rock**	**85.28**	**38**	*e*P			**P**	**02 12 49.2**	**+1.0**		
	comp=Z,56nm,1.4s										
KCSI	**Kotacane, Aceh**	**85.34**	**276**		P		**P**	**02 12 49.3**	**+0.2**		
	comp=Z,27nm,0.8s										
X18A	**Snowflake**	**85.35**	**50**	⇓P			**P**	**02 12 50.5**	**+1.6**		
	baz=86										
LTY	**Liberty**	**85.51**	**35**	*e*P			**P**	**02 12 50.4**	**+1.2**		
	comp=Z,15nm,1.0s										
E07A	**Sunnyside**	**85.53**	**36**	*e*P			**P**	**02 12 50.8**	**+1.5**		
	comp=Z,33nm,1.1s										
PMR	**Palmer**	**85.56**	**14**	*e*P			**P**	**02 12 48.9**	**-0.1**		
PMR					pmax		pmax				
	comp=Z,87nm,1.5s										
PMR	**Palmer**	**85.56**	**14**	*e*P			**P**	**02 12 48.9**	**-0.1**		
	comp=Z,87nm,1.5s										
HAWA	**Hanford**	**85.61**	**37**	*e*P			**P**	**02 12 51.0**	**+1.4**		
	comp=Z,39nm,1.1s										
MVU	**Marysvale**	**85.76**	**46**	*e*P			**P**	**02 12 52.4**	**+1.6**		
	comp=Z,5.9nm,0.9s										
W18A	**Petrified Fore**	**85.79**	**50**	⇑P			**P**	**02 12 51.7**	**+0.7**		
	baz=86										
TPTI		**85.80**	**275**		P		**P**	**02 12 51.1**	**-0.1**		
	comp=Z,17nm,1.0s										
BJT	**Baijiatuan**	**85.83**	**316**	*e*P			**P**	**02 12 51.3**	**+0.5**		
	comp=Z,17nm,0.6s										
BJI	**Beijing**	**85.83**	**316**		P		**P**	**02 12 51.3**	**+0.5**		
BJI					pP		**pP**	**02 14 52.0**	**+1.7**		
BJI					S		**S**	**02 22 39.8**	**+1.6**		
BJI					pmax		pmax				
	comp=Z,34nm,0.6s										
B06A	**Marblemount**	**85.85**	**34**	*e*P			**P**	**02 12 51.8**	**+1.1**		
	comp=Z,14nm,1.0s										
ENH	**Enshi**	**85.85**	**304**	*e*P			**P**	**02 12 51.7**	**+0.5**		
	comp=Z,37nm,0.9s										
DIV	**Divide**	**85.94**	**15**	*e*P			**P**	**02 12 50.8**	**-0.1**		
	comp=Z,50nm,1.1s										
PATY	**Pattaya**	**85.97**	**285**		P		**P**	**02 12 54.2**	**+2.2**		
	comp=Z,24nm,0.8s,comp=Z,2μm										
BMO	**Blue Mountains**	**85.98**	**39**	*e*P			**P**	**02 12 52.3**	**+0.7**		
	comp=Z,81nm,1.9s										
121A	**Cookes Peak, D**	**86.00**	**53**	*e*P			**P**	**02 12 53.4**	**+1.4**		
	comp=Z,29nm,1.4s										
121A	**Cookes Peak, D**	**86.00**	**53**	⇑P			**P**	**02 12 52.9**	**+0.9**		
	baz=86,SNR=9.3										
MFID	**Camas Ranch**	**86.06**	**40**	*e*P			**P**	**02 12 52.7**	**+0.7**		
	comp=Z,27nm,1.3s										
BMRM	**Bremner River**	**86.10**	**16**	*e*P			**P**	**02 12 51.1**	**-0.5**		
	comp=Z,74nm,1.4s										
PPLA	**Purkeypile**	**86.11**	**12**	*e*P			**P**	**02 12 51.3**	**-0.5**		
WTV	**Waterville**	**86.16**	**35**		P		**P**	**02 12 53.1**	**+0.9**		
DUG	**Dugway**	**86.23**	**44**	*e*P			**P**	**02 12 55.8**	**+2.9**		
DUG					pmax		pmax				
	comp=Z,14nm,1.6s										
DUG	**Dugway**	**86.23**	**44**	*e*P			**P**	**02 12 55.8**	**+2.9**		
	comp=Z,14nm,1.6s										
DUG	**Dugway**	**86.23**	**44**	⇓P			**P**	**02 12 54.2**	**+1.3**		
	baz=87										
WRAK	**Wrangell Islan**	**86.33**	**24**	*e*P			**P**	**02 12 54.3**	**+1.6**		
	comp=Z,44nm,1.4s										
D08A	**Wollman Farm,**	**86.34**	**36**	*e*P			**P**	**02 12 54.4**	**+1.4**		
	comp=Z,22nm,0.8s										
SURT	**Suratani**	**86.37**	**281**		P		**P**	**02 12 55.7**	**+1.8**		
	comp=Z,22nm,1.0s,comp=Z,237nm										
GYA	**Guiyang**	**86.41**	**300**	⇓*i*P			**P**	**02 12 54.5**	**+0.5**		
GYA					pP		**pP**	**02 14 54.3**	**+0.6**		
GYA					sP		**sP**	**02 15 49.0**	**-0.3**		
GYA					PP		**PP**	**02 16 28.8**	**+2.9**		
GYA					SKS		**SKSac**	**02 22 28.5**	**0.0**		
GYA					S		**S**	**02 22 45.0**	**+0.4**		
GYA					pmax		pmax				
	comp=Z,20nm,0.7s										
GYA					pmax		pmax				
	comp=Z,120nm,5.6s										
E09A	**Wood Farm, Sta**	**86.46**	**37**	*e*P			**P**	**02 12 54.4**	**+0.8**		
	comp=Z,42nm,1.3s										
SAW	**Saint Andrews**	**86.46**	**36**		P		**P**	**02 12 54.6**	**+0.9**		
SLVN	**Son La**	**86.58**	**294**	*e*P			**P**	**02 12 56.1**	**+1.2**		
TNA	**Tin City**	**86.61**	**4**	*e*P			**P**	**02 12 53.9**	**+0.1**		
	comp=Z,5.0nm,0.8s										
CAST	**Castle Rocks**	**86.61**	**12**	*e*P			**P**	**02 12 53.1**	**-0.9**		
F10A	**Beach Ranch, E**	**86.67**	**38**	*e*P			**P**	**02 12 55.4**	**+0.7**		
	comp=Z,54nm,1.0s										
TMUT	**Trail Mountain**	**86.84**	**46**	*e*P			**P**	**02 12 57.9**	**+1.9**		
B08A	**Colville Reser**	**86.89**	**35**	*e*P			**P**	**02 12 56.1**	**+0.5**		
	comp=Z,52nm,1.4s										
MPU	**Maple Canyon**	**86.92**	**45**	*e*P			**P**	**02 12 59.3**	**+3.1**		
Z22A	**Elephant Butte**	**86.94**	**53**	⇓P			**P**	**02 12 57.5**	**+1.1**		
	baz=87,SNR=10										
KTH	**Kantishna Hill**	**86.95**	**12**	*e*P			**P**	**02 12 54.1**	**-1.5**		
	comp=Z,18nm,0.9s										
TRF	**Thorofare Moun**	**86.99**	**12**	*e*P			**P**	**02 12 54.7**	**-1.2**		
HLID	**Hailey**	**87.00**	**41**	*e*P			**P**	**02 12 57.6**	**+1.1**		
	comp=Z,20nm,1.1s										
HLID	**Hailey**	**87.00**	**41**	⇑P			**P**	**02 12 57.8**	**+1.3**		
	baz=87										
SPUT	**South Promonto**	**87.05**	**44**	*e*P			**P**	**02 12 57.7**	**+1.0**		
	comp=Z,32nm,1.6s										
HVU	**Hansel Valley**	**87.08**	**43**	*e*P			**P**	**02 12 57.9**	**+1.0**		
HVU					pmax		pmax				
	comp=Z,31nm,1.4s										
HVU	**Hansel Valley**	**87.08**	**43**	*e*P			**P**	**02 12 57.9**	**+1.0**		
	comp=Z,31nm,1.4s										
C09A	**Chrisman Ranch**	**87.14**	**36**	*e*P			**P**	**02 12 57.7**	**+0.9**		
	comp=Z,48nm,1.3s										
SRU	**San Rafael**	**87.20**	**46**	*e*P			**P**	**02 12 58.3**	**+0.8**		
SRU					pmax		pmax				
	comp=Z,11nm,0.8s										
SRU	**San Rafael**	**87.20**	**46**	*e*P			**P**	**02 12 58.3**	**+0.8**		
	comp=Z,11nm,0.8s										
PBKT	**Sadao Pong**	**87.26**	**289**		P		**P**	**02 12 59.5**	**+1.5**		
	comp=Z,37nm,1.3s,comp=Z,3μm										
425A	**Indio Mountain**	**87.33**	**56**	⇓P			**P**	**02 12 59.0**	**+0.7**		
	baz=88,SNR=21										
JLU	**Jordanelle**	**87.33**	**45**	*e*P			**P**	**02 12 59.5**	**+1.3**		
LAZ	**Ladron**	**87.34**	**52**	*e*P			**P**	**02 12 59.7**	**+1.4**		
	comp=Z,15nm,1.8s										
Y22D	**IRIS PASSCAL I**	**87.35**	**52**	⇑P			**P**	**02 12 59.6**	**+1.3**		
	baz=88										
MNTX	**Cornudas Mount**	**87.43**	**55**	*e*P			**P**	**02 12 59.7**	**+1.1**		
	comp=Z,17nm,1.2s										
MNTX				*e*pP			pP	02 15 05.0	+6.4		
626A	**Big Bend Ranch**	**87.46**	**57**	⇓P			**P**	**02 12 59.8**	**+1.0**		
	baz=88,SNR=14										
MCK	**McKinley**	**87.51**	**13**	*e*P			**P**	**02 12 57.6**	**-0.6**		
MCK					pmax		pmax				
	comp=Z,33nm,1.0s										
MCK	**McKinley**	**87.51**	**13**	*e*P			**P**	**02 12 57.6**	**-0.6**		
	comp=Z,33nm,1.0s										
SNAA	**Sanae**	**87.59**	**179**	*e*P			**P**	**02 12 59.1**	**+0.4**		
	comp=Z,9.4nm,1.4s										
BNM	**Barren Site**	**87.60**	**52**	*e*P			**P**	**02 13 00.4**	**+0.8**		

BSMT	Bassoo Peak	89.11	37	eP		P	02 13 06.0	-0.3
REDW	Red Top Meadow	89.11	42	eP		P	02 13 07.5	+1.1
TPAW	Teton Pass	89.11	42	eP		P	02 13 07.7	+1.2
	comp=Z,27nm,1.3s							
FXWY	Fox Creek	89.14	42	eP		P	02 13 07.6	+1.0
	comp=Z,13nm,1.1s							
227A	Bennet, Jal	89.17	55	⇓P		P	02 13 07.6	+0.9
	baz=90							
Z26A	Caprock	89.19	54	⇓P		P	02 13 08.1	+1.2
	baz=90,SNR=10							
LAMP	Lampang	89.19	290	P		P	02 13 08.6	+1.6
	comp=Z,21nm,0.9s,comp=Z,183nm							
529A	Stev Forest Ra	89.21	57	⇑P		P	02 13 07.9	+1.0
	baz=90							
X25A	Clemmons Ranch	89.22	52	⇑P		P	02 13 08.1	+1.1
	baz=90							
O20A	White River Ci	89.24	46	⇑P		P	02 13 08.3	+1.2
	baz=90,SNR=6.8							
328A	Wristen Ranch,	89.27	56	⇑P		P	02 13 08.4	+1.1
	baz=90,SNR=5.5							
HHC	Hu-ho-hao-te	89.28	315	eP		P	02 13 07.8	+0.7
HHC				sP		sP	02 16 03.3	+0.3
HHC				PP		PP	02 16 52.5	+4.2
HHC				S		S	02 23 11.3	+0.8
HHC				sS		sS	02 26 42.3	-3.4
HHC				SS		SS	02 29 26.5	+4.1
HHC				pmax		pmax		
	comp=Z,38nm,1.0s							
HHC				pmax		pmax		
	comp=Z,240nm,5.0s							
V24A	Rampart Ranch,	89.30	51	⇓P		P	02 13 08.8	+1.3
	baz=90,SNR=5.5							
IMW	Indian Meadow	89.32	42	eP		P	02 13 08.7	+1.2
	comp=Z,32nm,1.2s							
T23A	Casias Ranch,	89.34	50	⇑P		P	02 13 08.5	+0.8
	baz=90							
MOOW	Moose Ponds	89.37	42	eP		P	02 13 08.5	+0.9
LRM	Limekiln Ridge	89.38	40	eP		P	02 13 08.3	+0.7
LOHW	Long Hollow	89.39	42	eP		P	02 13 08.6	+0.9
127A	Arkansas Junct	89.40	55	⇓P		P	02 13 08.9	+1.0
	baz=90,SNR=8.3							
BILL	Bilibino	89.42	354	eP		P	02 13 06.8	-0.1
BILL	Bilibino	89.42	354	eP		P	02 13 06.8	-0.1
CHMT	Chamberlain Mo	89.48	39	eP		P	02 13 08.7	+0.7
QLMT	Earthquake Lak	89.49	41	eP		P	02 13 09.8	+1.7
SLMT	Seeley Lake	89.52	38	eP		P	02 13 08.7	+0.6
	comp=Z,8.9nm,1.4s							
N20A	Spence Gulch,	89.56	46	⇓P		P	02 13 09.7	+1.1
	baz=90,SNR=18							
I17A	Pilgrim Ck.	89.56	42	⇑P		P	02 13 09.6	+1.1
	baz=90,SNR=7.4							
FLWY	Flagg Ranch	89.57	42	eP		P	02 13 10.4	+1.9
	comp=Z,25nm,1.1s							
Y26A	Elida	89.58	53	⇑P		P	02 13 09.7	+1.0
	baz=90,SNR=7.0							
U24A	Moreno Valley	89.60	51	⇓P		P	02 13 09.8	+0.9
	baz=90							
BW06	Boulder Array	89.64	43	eP		P	02 13 09.4	+0.6
	comp=Z,6.9nm,0.8s							
PDAR	Pinedale Array	89.64	43	P		P	02 13 09.5	+0.7
PDAR				PKKPbc		PKKPbc	02 30 39.3	-1.4
PDAR	Pinedale Array	89.64	43	P		P	02 13 09.5	+0.7
	comp=Z,7.8nm,0.6s,baz=212,slow=4.0,SNR=76							
PDAR				PKKPbc		PKKPbc	02 30 39.3	-1.4
	comp=Z,0.6nm,0.8s,baz=79,slow=4.7,SNR=5.3							
SMCO	Snowmass	89.66	48	eP		P	02 13 10.4	+1.2
S23A	Nye Farm, Mont	89.67	49	⇓P		P	02 13 10.3	+1.1
	baz=90							
429A	Davenport Ranc	89.67	57	⇓P		P	02 13 10.4	+1.2
	baz=90,SNR=19							
W25A	X Bar L Ranch,	89.67	52	⇑P		P	02 13 10.1	+1.0
	baz=90,SNR=10.0							
YMR	Madison River	89.70	41	eP		P	02 13 10.7	+1.7
	comp=Z,20nm,1.1s							
228A	UT Block 9, Go	89.75	55	⇓P		P	02 13 10.2	+0.7
	baz=90							
CM31	Chiang Mai Arr	89.77	290	eP		P	02 13 11.3	+1.5
	comp=Z,7.0nm,0.3s							
CMAR	Chiang Mai Arr	89.77	290	P		P	02 13 10.3	+0.5
CMAR	Chiang Mai Arr	89.77	290	P		P	02 13 10.3	+0.5
	comp=Z,24nm,0.9s,baz=124,slow=3.0,SNR=94							
Z27A	Tatum	89.78	54	⇓P		P	02 13 10.6	+1.0
	baz=90							
BOZ	Bozeman (W)	89.79	40	eP		P	02 13 10.7	+1.3
BOZ				pmax		pmax		
	comp=Z,15nm,1.1s							
BOZ	Bozeman (W)	89.79	40	eP		P	02 13 10.7	+1.3
	comp=Z,15nm,1.1s							
H17A	Grant Village	89.80	42	eP		P	02 13 11.2	+1.6
	comp=Z,11nm,0.9s							
H17A	Grant Village	89.80	42	⇑P		P	02 13 10.6	+1.0
	baz=90,SNR=7.5							
T24B	San Luis	89.82	50	⇓P		P	02 13 10.5	+0.6
	baz=90							
V25A	Rancho No Teng	89.83	51	⇓P		P	02 13 10.5	+0.7
	baz=90,SNR=8.0							
X26A	CR and CF Fran	89.86	53	⇓P		P	02 13 10.8	+0.8
	baz=90							
CMMT	Chiang Mai	89.89	290	P		x	02 13 11.0	
	comp=Z,66nm,0.8s,comp=Z,624nm							
CMMT	Chiang Mai	89.89	290	P		P	02 13 11.5	+1.2
	comp=Z,66nm,0.8s,comp=Z,620nm							
CHTO	Chiang Mai	89.90	290	eP		P	02 13 11.6	+1.2
CHTO	Chiang Mai	89.90	290	P		P	02 13 11.5	+1.2
	comp=Z,229nm,0.8s,comp=Z,2µm							
CHTO	Chiang Mai	89.90	290	eP		P	02 13 11.6	+1.2
530A	J-C Ranch, Com	89.91	58	⇓P		P	02 13 10.9	+0.6
	baz=90							
329A	Wagon Wheel Ra	89.96	56	⇑P		P	02 13 11.2	+0.8
	baz=90							
P22A	Eagle	90.00	47	⇑P		P	02 13 11.4	+0.8
	baz=90							
R23A	Moffat	90.01	49	⇓P		P	02 13 11.4	+0.6
	baz=90							
DAWY	Dawson	90.02	16	eP		P	02 13 10.2	+0.3
SDCO	Great Sand Dun	90.04	49	eP		P	02 13 11.6	+0.7
	comp=Z,11nm,1.3s							
128A	Castleberry Fa	90.05	55	⇓P		P	02 13 11.6	+0.8
	baz=90,SNR=6.1							
Y27A	Causey	90.06	54	⇓P		P	02 13 11.8	+0.8
	baz=90,SNR=5.5							
W26A	Owens Ranch, T	90.13	52	⇓P		P	02 13 12.4	+1.2
	baz=90							
EGAK	Eagle	90.16	15	eP		P	02 13 10.6	+0.1
	comp=Z,49nm,1.4s							
S24A	Houchin Ranch,	90.20	50	⇓P		P	02 13 12.2	+0.6
	baz=90,SNR=7.5							
J19A	Crowheart	90.20	43	⇓P		P	02 13 12.7	+1.3
	baz=91,SNR=14							
HRY	Holter Researc	90.21	39	eP		P	02 13 12.3	+1.1
631A	Perdido Creek	90.22	59	⇓P		P	02 13 12.2	+0.7
	baz=90,SNR=17							
U25A	Circle Dot Ran	90.23	51	⇓P		P	02 13 12.5	+0.8
	baz=91,SNR=7.0							
CMAI	Chiengmai2	90.23	291	P		P	02 13 13.2	+1.2
	comp=Z,130nm,1.3s,comp=Z,8µm							
WALA	Waterton Lakes	90.25	36	eP		P	02 13 12.0	+0.6
	comp=Z,0.3nm,1.1s							
832A	Faith Ranch, C	90.25	60	⇑P		P	02 13 12.4	+0.6
	baz=91,SNR=11							
430A	Baggett Ranch,	90.25	57	⇑P		P	02 13 12.7	+0.9
	baz=91							
229A	Bryant Ranch,	90.29	56	⇓P		P	02 13 13.0	+1.1
	baz=91							
MSTX	Muleshoe	90.39	54	eP		P	02 13 13.0	+0.6
	comp=Z,13nm,1.3s							
MSTX	Muleshoe	90.39	54	⇓P		P	02 13 13.3	+0.8
	baz=91,SNR=7.1							
Z28A	Tucker Farm, M	90.40	54	⇓P		P	02 13 13.2	+0.7
	baz=91							
COLD	Coldfoot	90.40	11	eP		P	02 13 12.1	+0.6
	comp=Z,19nm,1.2s							
O22A	Kremmling	90.40	47	⇑P		P	02 13 13.4	+0.9
	baz=91,SNR=9.3							
V26A	Tequesquite Ra	90.42	52	⇑P		P	02 13 13.4	+0.9
	baz=91							
732A	Laxson Ranch,	90.43	59	⇑P		P	02 13 13.5	+1.0
	baz=91,SNR=6.8							
X27A	F and S Farms,	90.44	53	⇑P		P	02 13 13.6	+0.9
	baz=91							
H18A	Shoshone NF, C	90.51	42	⇓P		P	02 13 14.2	+1.4
	baz=91							
129A	Stewart Farms,	90.52	55	⇑P		P	02 13 13.8	+0.8
	baz=91							
P23A	Jefferson	90.53	48	⇑P		P	02 13 14.3	+1.1
	baz=91							
R24A	Sanders Place,	90.53	49	⇓P		P	02 13 14.1	+1.0
	baz=91							
531A	Rocksprings	90.55	58	⇑P		P	02 13 14.0	+0.8
	baz=91,SNR=8.3							
T25A	Trinidad	90.55	50	⇑P		P	02 13 14.3	+1.1
	baz=91							
933A	Laredo	90.55	61	⇓P		P	02 13 14.1	+1.0
	baz=91							
MHMT	Maesarieng	90.55	289	P		P	02 13 15.2	+1.9
	comp=Z,12nm,1.1s,comp=Z,437nm							
330A	Mertzon	90.56	57	⇓P		P	02 13 14.0	+0.8
	baz=91							
CD2	Chengdu	90.58	303	eP		P	02 13 14.0	+0.7
CD2				pP		pP	02 15 14.8	+0.7
CD2				sP		sP	02 16 04.8	-4.5
CD2				PP		PP	02 16 57.0	-1.6
CD2				S		ScS	02 23 28.0	+3.5
CD2				sS		sS	02 26 56.0	-2.4
CD2				pmax		pmax		
	comp=Z,20nm,0.8s							
CD2				pmax		pmax		
	comp=Z,70nm,7.0s							
I19A	Meeteetse	90.61	43	⇓P		P	02 13 14.5	+1.1
	baz=91,SNR=5.3							
W27A	Bowe Ranch, En	90.64	53	⇑P		P	02 13 14.7	+1.1
	baz=91							
431A	Sonora	90.70	57	⇑P		P	02 13 14.5	+0.7
	baz=91							
U26A	Atchley Ranch,	90.71	51	⇑P		P	02 13 14.6	+0.6
	baz=91							
833A	Chaparral WMA,	90.73	60	⇑P		P	02 13 15.2	+1.2
	baz=91,SNR=6.1							
N22A	Wattenberg Ran	90.76	46	⇓P		P	02 13 15.3	+1.2
	baz=91,SNR=12							
S25A	Robets Cordova	90.76	50	⇓P		P	02 13 15.3	+1.2
	baz=91,SNR=8.6							
Y28A	McKinney Farm,	90.76	54	⇑P		P	02 13 14.8	+0.7
	baz=91							
230A	Sterling City	90.80	56	⇑P		P	02 13 15.0	+0.7
	baz=91							
034A	Hebbronville	90.82	61	⇑P		P	02 13 15.0	+0.6
	baz=91,SNR=5.4							
Q24A	Divide	90.83	48	⇓P		P	02 13 15.1	+0.6
	baz=91							
O23A	Lake Granby, G	90.85	47	⇑P		P	02 13 15.4	+0.8
	baz=91							
J20A	Shoshoni	90.87	43	⇑P		P	02 13 15.9	+1.5
	baz=91,SNR=15							
ISCO	Idaho Springs	90.88	47	⇑P		P	02 13 15.8	+1.0
	baz=91							
632A	Uvalde	90.89	59	⇑P		P	02 13 15.8	+1.1
	baz=91,SNR=8.6							
Z29A	Hungry Hill Ra	90.91	55	⇓P		P	02 13 15.8	+1.0
	baz=91							
H19A	Powell	90.93	42	⇑P		P	02 13 16.2	+1.5
	baz=91							
M22A	Cedar Creek Ra	90.94	46	⇑P		P	02 13 16.1	+1.1
	baz=91,SNR=8.4							
733A	Divot King Ran	90.97	60	⇓P		P	02 13 16.1	+1.1
	baz=91							
532A	Rocksprings	91.04	58	⇓P		P	02 13 16.5	+1.1
	baz=91,SNR=5.5							
X28A	Dimmitt	91.06	53	⇓P		P	02 13 15.9	+0.4
	baz=91							
K21A	Alcova	91.07	44	⇑P		P	02 13 16.4	+1.0
	baz=91,SNR=10							
R25A	Fountain Ranch	91.08	49	⇓P		P	02 13 16.4	+0.9
	baz=91,SNR=5.8							
331A	San Angelo	91.10	57	⇓P		P	02 13 16.2	+0.6
	baz=91							
I20A	Worland	91.12	43	⇓P		P	02 13 16.6	+1.0
	baz=92,SNR=6.6							
N23A	Red Feather La	91.14	46	⇑P		P	02 13 16.7	+0.7
	baz=92,SNR=7.0							
T26A	Comanche Natio	91.15	50	⇓P		P	02 13 16.9	+0.9
	baz=92							
Y29A	Porterfield Fa	91.18	54	⇑P		P	02 13 16.9	+0.8
	baz=92,SNR=9.9							
130A	Snyder	91.20	56	⇑P		P	02 13 16.9	+0.8
	baz=92							
035A	Encino	91.25	62	⇑P		P	02 13 17.1	+0.8
	baz=92							
JCT	Junction City	91.26	58	eP		P	02 13 16.3	-0.1
JCT				pmax		pmax		
	comp=Z,4.0nm,0.9s							
JCT	Junction City	91.26	58	eP		P	02 13 16.2	-0.1
	comp=Z,3.8nm,0.9s							
JCT	Junction City	91.26	58	⇓P		P	02 13 17.3	+0.8
	baz=92							
J21A	Lysite	91.28	44	⇑P		P	02 13 17.6	+1.2
	baz=92,SNR=14							
L22A	Ellis Ranch, M	91.33	45	⇓P		P	02 13 17.9	+1.2
	baz=92,SNR=9.8							
834A	Tilden	91.34	60	⇓P		P	02 13 17.6	+0.8
	baz=92							
633A	Saathoff Ranch	91.36	59	⇓P		P	02 13 17.9	+1.0
	baz=92,SNR=8.7							
W28A	Vega	91.36	53	⇓P		P	02 13 17.7	+0.9
	baz=92							
Z30A	Sanderson Ranc	91.36	55	⇓P		P	02 13 17.7	+0.8
	baz=92							
U27A	Thompson Grove	91.39	51	⇑P		P	02 13 17.7	+0.7
	baz=92							
O24A	Logmont	91.39	47	⇑P		P	02 13 18.1	+1.1
	baz=92							
X29A	Tulia	91.40	54	⇑P		P	02 13 17.7	+0.7
	baz=92							
432A	Menard	91.42	58	⇓P		P	02 13 17.8	+0.7
	baz=92,SNR=8.0							
S26A	Kim	91.43	50	⇓P		P	02 13 17.8	+0.6
	baz=92,SNR=5.3							
231A	Bronte	91.44	56	⇑P		P	02 13 18.0	+0.8
	baz=92,SNR=12							
Q25A	Bedland, Calha	91.44	49	⇑P		P	02 13 17.9	+0.6
	baz=92							
H20A	Greybull	91.46	42	⇓P		P	02 13 18.3	+1.2
	baz=92							
F19A	Roth Farm, Mol	91.52	41	⇓P		P	02 13 18.3	+1.0
	baz=92							
V28A	Channing	91.55	52	⇓P		P	02 13 18.4	+0.7
	baz=92							
M23A	Laramie	91.55	46	⇓P		P	02 13 18.8	+1.0
	baz=92,SNR=6.8							
K22A	Casper	91.56	45	eP		P	02 13 18.6	+0.9
K22A	Casper	91.56	45	⇑P		P	02 13 19.0	+1.4
	baz=92,SNR=5.4							
I21A	Big Trails, Te	91.59	43	⇑P		P	02 13 18.7	+0.9
	baz=92,SNR=7.0							
AMTX	Amarillo	91.59	53	⇓P		P	02 13 18.9	+1.0
	baz=92							
734A	La Parita Cree	91.61	60	⇓P		P	02 13 18.7	+0.7
	baz=92							
PHWY	Pilot Hill	91.66	46	eP		P	02 13 19.2	+0.9
332A	Millersview	91.67	57	⇑P		P	02 13 18.9	+0.7
	baz=92,SNR=9.6							
G20A	Bridger	91.67	42	⇓P		P	02 13 19.0	+0.9
	baz=92							
131A	Roby	91.68	56	⇑P		P	02 13 18.7	+0.5
	baz=92							
533A	Kerrville	91.71	59	⇓P		P	02 13 19.3	+0.8
	baz=92,SNR=11							
W29A	Amraillo	91.72	53	⇓P		P	02 13 19.1	+0.6
	baz=92							
T27A	Campo	91.73	51	⇓P		P	02 13 19.2	+0.6
	baz=92							
R26A	Arlington	91.74	50	⇑P		P	02 13 19.8	+1.2
	baz=92,SNR=5.6							
P25A	Willow Gulch B	91.75	48	⇑P		P	02 13 19.7	+1.0
	baz=92,SNR=5.9							
Y30A	Stafford Cattl	91.77	54	⇑P		P	02 13 19.7	+0.9
	baz=92							
U28A	Mallet	91.81	52	⇓P		P	02 13 19.6	+0.7
	baz=92							
N24A	Carr	91.83	47	⇑P		P	02 13 20.4	+1.4
	baz=92							
L23A	Garrett	91.86	45	⇑P		P	02 13 19.8	+0.7
	baz=92,SNR=11							
S27A	Las Animas	91.87	50	⇑P		P	02 13 20.2	+1.0
	baz=92							
E19A	Rath Farm, Rou	91.91	40	⇓P		P	02 13 20.5	+1.4
	baz=92							
433A	Art	91.93	58	⇑P		P	02 13 20.0	+0.6
	baz=92,SNR=8.7							
J22A	Midwest	91.93	44	⇑P		P	02 13 20.4	+1.0
	baz=92,SNR=8.4							
232A	Coleman	91.94	57	⇑P		P	02 13 20.3	+0.8
	baz=92							
Q26A	Hugo	91.95	49	⇓P		P	02 13 20.7	+1.1
	baz=92							
F20A	Billings	91.98	41	⇓P		P	02 13 20.4	+0.9
	baz=92							
835A	Beeville	91.99	61	⇓P		P	02 13 20.4	+0.7
	baz=92							
X30A	Coker Ranch, T	92.02	54	⇑P		P	02 13 20.5	+0.7
	baz=92							
936A	North Padre Is	92.08	62	⇑P		P	02 13 20.6	+0.5
	baz=92							
EGMT	Eagleton	92.09	39	⇑P		P	02 13 21.1	+1.3
	baz=92							
V29A	Stinnett	92.12	52	⇑P		P	02 13 21.2	+0.9
	baz=92							
Z31A	Sharp Cattle R	92.12	55	⇓P		P	02 13 21.0	+0.7
	baz=92							
H21A	Big Horn, Sher	92.13	43	⇓P		P	02 13 21.5	+1.3
	baz=92							
534A	Blanco	92.14	59	⇑P		P	02 13 21.4	+1.0
	baz=92,SNR=13							
I22A	9 Mile Ranch,	92.15	44	⇑P		P	02 13 21.3	+1.0
	baz=92							
M24A	Cheyenne	92.16	46	⇓P		P	02 13 21.4	+1.0
	baz=92							
D19A	Cripps Ranch,	92.19	40	⇓P		P	02 13 21.9	+1.5
	baz=93							
K23A	Bowen Ranch, D	92.19	45	⇑P		P	02 13 21.4	+0.9
	baz=92							
R27A	Eads	92.19	50	⇑P		P	02 13 21.4	+0.8
	baz=92							
T28A	Walsh	92.20	51	⇑P		P	02 13 21.2	+0.5
	baz=92							
735A	Kenedy	92.22	60	⇓P		P	02 13 21.4	+0.6
	baz=92							
ABTX	Abilene, Hawle	92.23	56	⇑P		P	02 13 21.8	+1.0
	baz=93							
333A	Richland Sprin	92.24	57	⇓P		P	02 13 21.6	+0.8
	baz=93							
Y31A	Rekieta Farm,	92.29	55	⇑P		P	02 13 22.2	+1.1
	baz=93							
YAK	Yakutsk	92.32	338	eP		P	02 13 18.5	-1.9
YAK				pmax		pmax		
	comp=Z,27nm,1.1s							
YAK	Yakutsk	92.32	338	eP		P	02 13 19.3	-1.1
	comp=Z,20nm,0.6s							
E20A	Meyer Farm, Mu	92.33	41	⇓P		P	02 13 22.5	+1.5
	baz=93							
L24A	Wheatland	92.34	46	⇓P		P	02 13 22.7	+1.5
	baz=93							
P26A	Davis Ranch, A	92.35	48	⇓P		P	02 13 22.5	+1.1
	baz=93							
C19A	Slack Wire Ran	92.36	39	⇑P		P	02 13 22.6	+1.4
	baz=93							
N25A	Grover	92.37	47	⇑P		P	02 13 22.3	+0.8
	baz=93							
635A	Leesville	92.45	60	⇑P		P	02 13 22.5	+0.7
	baz=93							
233A	Rising Star	92.58	57	⇓P		P	02 13 23.1	+0.7
	baz=93							
D20A	Manuel Ranch,	92.60	40	⇓P		P	02 13 23.6	+1.4
	baz=93							
434A	Burnet	92.61	58	⇓P		P	02 13 23.3	+0.7
	baz=93,SNR=5.5							
LZH	Lanzhou	92.62	308	eP		P	02 13 24.0	+1.3
LZH				pP		pP	02 15 24.5	+0.8
LZH				sP		sP	02 16 17.8	-1.0
LZH				pmax		pmax		
	comp=Z,28nm,1.0s							
LZH				pmax		pmax		
	comp=Z,140nm,4.0s							
KSCO	Kaye Shedlock'	92.62	49	eP		P	02 13 23.9	+1.3
KSCO	Kaye Shedlock'	92.62	49	⇑P		P	02 13 23.3	+0.7
	baz=93							
F21A	Absaloka Mine,	92.63	42	⇑P		P	02 13 23.3	+0.9
	baz=93							
Z32A	Haskell	92.63	55	⇑P		P	02 13 23.6	+1.0
	baz=93							
O26A	Horse Wrangler	92.66	48	⇑P		P	02 13 23.5	+0.7
	baz=93							
K24A	Anderson Ranch	92.71	45	⇑P		P	02 13 24.2	+1.2
	baz=93							
B19A	Brinkman Farms	92.77	39	⇑P		P	02 13 24.3	+1.4
	baz=93							
X31A	McDonald Ranch	92.77	54	⇑P		P	02 13 24.2	+0.9
	baz=93							
133A	Hamilton Ranch	92.79	56	⇓P		P	02 13 24.0	+0.6
	baz=93							
T29A	Hugoton	92.81	51	⇑P		P	02 13 24.4	+0.9
	baz=93							
334A	Lometa	92.83	58	⇑P		P	02 13 24.5	+0.9
	baz=93							
535A	Dale	92.86	59	⇓P		P	02 13 24.6	+0.9
	baz=93							
G22A	Birney	92.87	42	⇑P		P	02 13 24.8	+1.2
	baz=93							
P27A	Ficken Ranch,	92.88	49	⇓P		P	02 13 25.2	+1.4
	baz=93							
R28A	Tribune	92.92	50	⇑P		P	02 13 25.1	+1.2
	baz=93,SNR=12							
Y32A	R-V Farms, Ver	92.93	55	⇑P		P	02 13 25.0	+1.0
	baz=93							
C20A	Veseth Ranch,	92.97	40	⇓P		P	02 13 25.5	+1.6
	baz=93							
A19A	Klindworth Far	93.12	38	⇑P		P	02 13 25.9	+1.3
	baz=94							
234A	Clairette	93.17	57	⇓P		P	02 13 25.9	+0.8
	baz=94							
Z33A	Whitaker Ranch	93.17	56	⇓P		P	02 13 26.1	+1.0
	baz=94							
Q28A	Sharon Springs	93.21	49	⇓P		P	02 13 26.4	+1.2
	baz=94							
X32A	Elmer	93.22	54	⇓P		P	02 13 26.0	+0.7
	baz=94							
D21A	La Casta Ranch	93.28	41	⇑P		P	02 13 26.6	+1.3
	baz=94							
K25A	Mack Ranch, Ha	93.29	45	⇓P		P	02 13 26.6	+1.0
	baz=94							
B20A	Solberg Farm,	93.31	39	⇑P		P	02 13 26.4	+1.0
	baz=94							
G23A	Biddle	93.44	43	⇑P		P	02 13 27.2	+1.1
	baz=94							
R29A	Marienthal	93.44	50	⇑P		P	02 13 27.1	+0.8
	baz=94							
P28A	Saint Francis	93.47	49	⇓P		P	02 13 27.6	+1.2
	baz=94							
W32A	Sentinel	93.52	54	⇑P		P	02 13 27.3	+0.7
	baz=94							
A20A	Cobblestone Ra	93.57	39	⇑P		P	02 13 27.6	+1.1
	baz=94							
C21A	Desert Coulee	93.57	40	⇑P		P	02 13 28.2	+1.6
	baz=94							
E22A	Miles City	93.64	41	⇓P		P	02 13 28

X34A	Smith Ranch, M	94.39	55	⇑P		P		02 13 31.4	+0.8
	baz=95								
B22A	Reddig Ranch S	94.44	40	⇑P		P		02 13 32.2	+1.6
	baz=95								
P30A	Selden	94.53	49	⇑P		P		02 13 32.5	+1.4
	baz=95								
C23A	Lambert	94.71	40	⇓P		P		02 13 33.0	+1.2
	baz=95								
J27A	Elkhorn Farm,	94.81	45	⇓P		P		02 13 33.7	+1.3
	baz=95								
INK	Inuvik	94.83	15	*e*P		P		02 13 30.9	-0.9
	comp=Z,11nm,1.4s								
H26A	Fairpoint	94.86	44	⇓P		P		02 13 33.8	+1.3
	baz=95								
B23A	Brockton	95.12	40	⇑P		P		02 13 35.2	+1.6
	baz=96								
R32A	Long Quarter,	95.19	51	⇓P		P		02 13 35.1	+0.9
	baz=96								
G26A	Maurine	95.26	43	⇓P		P		02 13 35.4	+1.1
	baz=96								
H27A	Howes	95.32	44	⇓P		P		02 13 35.5	+0.9
	baz=96								
ULN	Ulaanbaatar	95.35	319	P		x		02 13 34.2	
ULN	Ulaanbaatar	95.35	319	*e*P		P		02 13 34.4	-0.4
L29A	Maesberg Ranch	95.36	47	⇑P		P		02 13 36.1	+1.2
	baz=96								
SONM	Songino Array	95.74	319	P		P		02 13 36.0	-0.5
SONM	Songino Array	95.74	319	P		P		02 13 36.0	-0.5
	comp=Z,0.7nm,0.5s,baz=114,slow=4.3,SNR=6.4								
K29A	Lazy Trails An	95.74	46	⇑P		P		02 13 37.7	+1.1
	baz=96								
H29A	Onida	96.54	45	⇓P		P		02 13 41.2	+1.1
	baz=97								
C26A	Wahner Farm, P	96.61	41	⇑P		P		02 13 41.8	+1.5
	baz=97								
GTA	Gaotai	96.84	309	*e*P		P		02 13 42.5	+0.8
GTA				pP		pP		02 15 44.0	+0.9
GTA				sP		sP		02 16 37.5	-0.6
GTA				PP		PP		02 17 47.5	+0.9
GTA				SKS		SKSac		02 23 27.5	+1.6
GTA				S		S		02 24 10.5	-6.0
GTA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,68nm,4.8s								
YKA	Yellowknife Ar	97.13	25	P		Pdif		02 13 42.0	-0.2
YKA				PKiKP		PKiKP		02 18 13.1	-1.1
YKA	Yellowknife Ar	97.13	25	P		Pdif		02 13 42.0	-0.2
	comp=Z,1.0nm,0.7s,baz=245,slow=4.6,SNR=16								
YKA				PKiKP		PKiKP		02 18 13.0	-1.1
	comp=Z,0.3nm,0.8s,baz=233,slow=1.4,SNR=4.3								
YKW3	Yellowknife Ar	97.16	25	*e*P		Pdif		02 13 42.0	-0.3
ZAK	Zakamensk	98.63	321	*e*P		Pdif		02 13 40.3	-9.1
ZAK				pmax		pmax			
	comp=Z,2.0nm,2.0s								
TIXI	Tiksi	99.03	345	⇑*i*P		Pdif		02 13 50.9	+0.4
TIXI				pmax		pmax			
	comp=Z,5.0nm,2.5s								
WMQ	Urumqi	106.82	311	Pdif		Pdif		02 14 26.5	+0.6
WMQ				PP		PP		02 19 03.0	+2.9
WMQ				S		Sdif		02 25 37.5	-1.9
WMQ				SS		SS		02 33 26.3	+1.3
WMQ				AMB		AMB			
	comp=Z,12nm,10.0s								
SAML	Samuel	109.93	108	*e*PKP		PKiKP		02 18 39.3	+0.2
ZAA0	Zalesovo Array	110.50	321	*e*PKP		PKiKP		02 18 37.2	-1.7
ZALV	Zalesovo Beam	110.50	321	PKiKP		PKiKP		02 18 37.5	-1.5
ZALV	Zalesovo Beam	110.50	321	PKiKP		PKiKP		02 18 37.5	-1.5
ZALV	Zalesovo Beam	110.50	321	PKiKP		PKiKP		02 18 37.5	-1.5
	comp=Z,4.1nm,0.6s,baz=100,slow=0.5,SNR=29								
MK31	Makanchi Array	111.12	313	*e*PKiKP		PKiKP		02 18 38.9	-1.5
MK31	Makanchi Array	111.12	313	*e*PKP		PKiKP		02 18 38.9	-1.5
MKAR	Makanchi Array	111.12	313	P		Pdif		02 14 46.4	+1.5
MKAR				*i*				02 18 39.2	
MKAR	Makanchi Array	111.12	313	Pdif		Pdif		02 14 46.4	+1.5
MKAR				PKiKP		PKiKP		02 18 39.2	-1.2
MKAR				PKiKPbc		PKKPbc		02 29 38.9	-0.6
MKAR	Makanchi Array	111.12	313	Pdiff		Pdif		02 14 46.4	+1.5
	comp=Z,0.8nm,0.7s,baz=96,slow=4.9,SNR=9.5								
MKAR				PKiKP		PKiKP		02 18 39.2	-1.2
	comp=Z,1.6nm,0.4s,baz=68,slow=2.0,SNR=36								
MKAR				PKKPbc		PKKPbc		02 29 38.9	-0.6
	comp=Z,0.6nm,0.6s,baz=260,slow=3.9,SNR=8.1								
NVS	Novosibirsk	111.53	322	*e*PKiKP		PKiKP		02 18 38.1	-2.7
NVS				*e*S		SKSac		02 24 26.2	-4.9
NVS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
NVS				pmax		pmax			
	comp=N,2.0nm,0.5s								
NVS				pmax		pmax			
	comp=E,2.0nm,0.5s								
NVS				smax		smax			
	comp=N,3.0nm,1.1s								
NVS				smax		smax			
	comp=E,8.0nm,1.6s								
KURK	Kurchatov	113.96	317	*e*PKiKP		PKiKP		02 18 44.0	-1.6
KURK	Kurchatov	113.96	317	*e*PKP		PKiKP		02 18 44.0	-1.6
KSH	Kashi	114.71	305	*e*PKP		PKPdf		02 18 48.0	+0.4
KSH				*es*PKP				02 21 46.3	
KSH				*e*SKS		SKSdf		02 25 09.0	+1.1
KSH				AMB		AMB			
	comp=E,28nm,3.5s								
TKM2	Tokmak 2	115.37	309	*e*PKiKP		PKPdf		02 18 47.8	-1.1
TKM2	Tokmak 2	115.37	309	P		PKPdf		02 18 47.8	-1.1
	SNR=5.6								
TKM2	Tokmak 2	115.37	309	*e*PKPdf		PKPdf		02 18 47.8	-1.1
UCH	Uchtor	116.11	308	P		PKPdf		02 18 50.5	-0.2
	SNR=6.4								
AAK	Ala-Archa	116.16	308	*e*PKiKP		PKPdf		02 18 49.2	-1.2
AAK	Ala-Archa	116.16	308	*e*PKPdf		PKPdf		02 18 49.1	-1.2
USP	Ospenovka	116.20	309	P		PKPdf		02 18 49.5	-0.8
	SNR=8.8								
EKS2	Erkin-Say	116.69	308	*e*PKiKP		PKPdf		02 18 50.5	-0.9
EKS2	Erkin-Say	116.69	308	P		PKPdf		02 18 50.9	-0.5
	SNR=5.0								
EKS2	Erkin-Say	116.69	308	*e*PKPdf		PKPdf		02 18 50.5	-0.9
AML	Almayashu	116.70	308	P		PKPdf		02 18 51.2	-0.6
	SNR=6.3								
KKAR	Karatay Array	119.11	308	*e*PKiKP		PKPdf		02 18 54.8	-1.1
KKAR	Karatay Array	119.11	308	*e*PKPdf		PKPdf		02 18 54.8	-1.1
BRVK	Borovoye	119.14	320	⇑*i*PKiKP		PKPdf		02 18 54.8	-0.8
BRVK				pmax		pmax			
	comp=Z,16nm,1.7s								
BRVK	Borovoye	119.14	320	*e*PKPdf		PKPdf		02 18 54.7	-0.8
BDFB	Brasilia	119.36	123	PKP		PKPdf		02 18 56.4	-0.8
BDFB	Brasilia	119.36	123	PKP		PKPdf		02 18 56.4	-0.8
	comp=Z,2.4nm,0.8s,baz=215,slow=3.8,SNR=3.1								
KBL	Kabul	119.64	299	*e*PKiKP		PKPdf		02 18 57.0	-0.4
KBL	Kabul	119.64	299	*e*PKPdf		PKPdf		02 18 57.0	-0.4
ILULI	Ilulissat	122.33	20	*i* PKiKP		PKPdf		02 19 00.1	-1.1
ILULI				pmax		pmax			
	comp=Z,11nm,0.7s								
ILULI	Ilulissat	122.33	20	*i* P		PKPdf		02 19 00.1	-1.1
	comp=Z,11nm,0.7s								
DAG	Danmarks Havn	123.22	5	*i* PKiKP		PKPdf		02 19 01.1	-1.7
DAG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
DAG	Danmarks Havn	123.22	5	*i* P		PKPdf		02 19 01.1	-1.7
	comp=Z,4.5nm,1.0s								
SUMG	Summit	123.70	13	*i* PKiKP		PKPdf		02 19 04.0	-0.3
SUMG				pmax		pmax			
	comp=Z,9.0nm,1.0s								
SUMG	Summit	123.70	13	*i* P		PKPdf		02 19 04.0	-0.3
	comp=Z,9.3nm,1.0s								
SUMG	Summit	123.70	13	*e*PKPdf		PKPdf		02 19 03.4	-0.9
SUR	Sutherland	123.83	200	*e*PKPdf		PKPdf		02 19 05.5	-0.1
SUR	Sutherland	123.83	200	PKP		PKPdf		02 19 05.7	+0.1
	comp=Z,14nm,0.9s,baz=58,slow=1.7,SNR=8.4								
SVE	Sverdlovsk	124.05	325	*e*PKiKP		PKPdf		02 19 03.5	-1.4
SVE				pmax		pmax			
	comp=Z,24nm,0.9s								
ARU	Arti	125.26	325	*i* PKiKP		PKPdf		02 19 06.8	-0.4
ARU								02 21 06.7	
ARU				SS		SS		02 37 17.6	-3.8
ARU	Arti	125.26	325	*e*PKPdf		PKPdf		02 19 06.7	-0.5
BOSA	Boshof	125.63	206	*e*PKPdf		PKPdf		02 19 08.8	-0.3
BOSA				PKP		PKPdf		02 19 09.4	+0.4
BOSA	Boshof	125.63	206	PKP		PKPdf		02 19 09.4	+0.4
	comp=Z,7.4nm,1.0s,baz=229,slow=2.4,SNR=4.5								
ABKAR	Akbulak array	126.04	316	*e*PKPdf		PKPdf		02 19 08.2	-0.7
LBTB	Lobatse	128.64	208	*e*PKPdf		PKPdf		02 19 15.1	+0.2
LBTB	Lobatse	128.64	208	PKP		PKPdf		02 19 14.6	-0.3
	comp=Z,2.3nm,0.6s,baz=178,slow=3.8,SNR=8.0								
KEV	Kevo	128.80	349	*e*PKiKP		PKPdf		02 19 12.3	-1.3
KEV	Kevo	128.80	349	*e*pkp		PKPdf		02 19 12.3	-1.3
PRGR	Permogore	129.22	335	*e*PKiKP		PKPdf		02 19 12.9	-1.6
PRGR				pmax		pmax			
	comp=Z,11nm,0.7s								
ARCES	ARCESS Array B	129.25	349	PKP		PKPdf		02 19 13.8	-0.7
ARCES	ARCESS Array B	129.25	349	PKP		PKPdf		02 19 13.8	-0.7
	comp=Z,11nm,0.6s,baz=15,slow=1.0,SNR=56								
ARE0	ARCESS Array S	129.25	349	*e*PKPdf		PKPdf		02 19 14.1	-0.4
KLMR	Klimovskoe	132.07	336	*e*PKiKP		PKPdf		02 19 19.2	-0.8
KLMR				*e*				02 21 51.2	
KLMR				pmax		pmax			
	comp=Z,33nm,1.2s								
JOF	Joensuu	133.38	342	*e*PKiKP		PKPdf		02 19 20.2	-2.2
JOF	Joensuu	133.38	342	*e*pkp		PKPdf		02 19 20.2	-2.2
KAF	Kangasniemi	135.42	344	*e*PKiKP		PKPdf		02 19 24.5	-1.7
KAF	Kangasniemi	135.42	344	*e*pkp		PKPdf		02 19 24.5	-1.7
LSZ	Lusaka	135.45	218	*e*PKPdf		PKPdf		02 19 27.6	-0.2
LSZ	Lusaka	135.45	218	PKP		PKPdf		02 19 27.5	-0.3
	comp=Z,3.6nm,0.6s,baz=102,slow=2.2,SNR=10								
FIA1	FINESS Array S	136.04	343	*e*PKPdf		PKPdf		02 19 26.8	-0.6
FINES	FINESS Array B	136.04	343	PKPpre		PKPpre		02 19 14.0	
FINES				PKP		PKPdf		02 19 28.0	+0.6
FINES				SKPbc		SKPbc		02 22 05.9	-2.0
FINES	FINESS Array B	136.04	343	PKhKP		PKPpre		02 19 14.0	
	comp=Z,1.8nm,0.8s,baz=66,slow=3.4,SNR=7.6								
FINES				PKP		PKPdf		02 19 28.0	+0.6
	comp=Z,5.9nm,0.7s,baz=68,slow=2.8,SNR=19								
FINES				SKPbc		SKPbc		02 22 05.9	-2.0
	comp=Z,6.9nm,0.8s,baz=60,slow=3.4,SNR=11								
VRHR	Novokhopersk	136.56	324	*e*PKiKP		PKPdf		02 19 26.8	-1.9
VRHR				pmax		pmax			
	comp=N,5.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,4.0nm,0.8s								
VRHR				pmax		pmax			
	comp=Z,20nm,0.8s								
OBN	Obninsk	136.89	331	*e*PKiKP		PKPdf		02 19 28.4	-0.7
OBN				pmax		pmax			
	comp=Z,22nm,1.3s								
OBN	Obninsk	136.89	331	*e*PKPdf		PKPdf		02 19 27.6	-1.5
TSUM	Tsumeb	137.09	203	*e*PKPdf		PKPdf		02 19 31.7	+0.8
VSR	Storozhevoye	137.83	325	*e*PKiKP		PKPdf		02 19 29.3	-1.7
VSR				pmax		pmax			
	comp=N,1.0nm,0.9s								
VSR				pmax		pmax			
	comp=E,5.0nm,0.9s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ZEI	Tsey	138.43	312	*i* PKiKP		PKPdf		02 19 33.6	+0.9
ZEI				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KMBO	Kilima Mbogo	138.67	242	PKPpre		PKPpre		02 19 25.9	
KMBO				*e*PKPdf		PKPdf		02 19 33.6	-0.4
KMBO	Kilima Mbogo	138.67	242	PKhKP		PKPpre		02 19 25.9	
	comp=Z,1.7nm,0.6s,baz=190,slow=6.1,SNR=6.0								
KBZ	Khabaz	138.81	313	PKiKP		PKPpre		02 19 24.1	
KBZ	Khabaz	138.81	313	PKPpre		PKPpre		02 19 24.1	
KBZ	Khabaz	138.81	313	PKhKP		PKPpre		02 19 24.1	
	comp=Z,0.9nm,0.6s,baz=124,slow=3.6,SNR=3.9								
KIV	Kislovodsk	138.88	314	*e*PKiKP		PKPdf		02 19 32.1	-1.2
KIV	Kislovodsk	138.88	314	*e*PKPdf		PKPdf		02 19 32.1	-1.2
RAYN	Ar Rayn	139.25	282	*e*PKPdf		PKPdf		02 19 34.0	-0.6
NB2	NORSAR Subarra	139.35	353	PKP		PKPpre		02 19 24.9	
	comp=Z,1.5nm,0.5s,baz=10,slow=3.2								
NOA	NORSAR Array B	139.35	353	PKPpre		PKPpre		02 19 24.3	
NOA				PKP		PKPdf		02 19 32.9	-0.7
NOA				SKPbc		SKPbc		02 22 14.7	-2.7
NOA	NORSAR Array B	139.35	353	PKhKP		PKPpre		02 19 24.3	
	comp=Z,1.4nm,0.5s,baz=16,slow=1.6,SNR=17								
NOA				PKP		PKPdf		02 19 32.9	-0.7
	comp=Z,1.7nm,0.6s,baz=14,slow=4.1,SNR=7.8								
NOA				SKPbc		SKPbc		02 22 14.7	-2.7
	comp=Z,2.7nm,0.8s,baz=16,slow=4.4,SNR=4.6								
CLDR	Caldiran	139.42	306	*e*P		PKPpre		02 19 25.9	
NAO01	NORSAR Array S	139.58	353	*e*PKPpre		PKPpre		02 19 27.3	
AGRB	Hanur-Agry	140.00	307	*e*P		PKPpre		02 19 25.9	
CUKT	Cukurca	140.08	303	*e*P		PKPpre		02 19 28.0	
SIRT	Sirnak	140.94	304	*e*P		PKPpre		02 19 30.1	
NACGM	Naroch	141.08	337	*e*		PKPdf		02 19 38.0	+1.2
EZM	Erzurum	141.12	308	*e*P		PKPdf		02 19 33.5	-4.2
VRTB	Varto-Mus	141.26	307	*e*P		PKPdf		02 19 32.7	-5.2
GUMT	Gumushane	142.31	310	*e*P		PKPdf		02 19 35.4	-4.3
ERZN	Erzincan	142.42	308	*e*P		PKPdf		02 19 34.6	-5.3
MAZI	Mazidag	142.48	305	*e*P		PKPdf		02 19 33.9	-6.2
MVH1	Achvaich	142.83	5	*e*P		PKPdf		02 19 36.4	-3.4
PTK	Pertek	142.88	307	*e*P		PKPdf		02 19 36.4	-4.4
SFNV	Sufian	143.00	303	*e*P		PKPdf		02 19 39.2	-1.7
SFNV				*e*				02 19 39.2	
SUW	Suwalki	143.06	339	*e*PKiKP		PKPab		02 19 38.0	0.0
SUW	Suwalki	143.06	339	*e*PKP		PKPab		02 19 37.5	-0.5
SUW	Suwalki	143.06	339	*e*PKPdf		PKPab		02 19 38.0	+0.1
AKASG	Malin Array Be	143.14	330	PKiKP		PKPab		02 19 37.8	-0.6
AKASG	Malin Array Be	143.14	330	PKPpre		PKPab		02 19 37.8	-0.6
AKASG				SKPbc		SKPbc		02 22 25.0	-2.2
AKASG	Malin Array Be	143.14	330	PKhKP		PKPab		02 19 37.8	-0.6
	comp=Z,42nm,0.4s,baz=43,slow=4.2,SNR=470								
AKASG				SKPbc		SKPbc		02 22 25.0	-2.2
	comp=Z,6.0nm,0.9s,baz=39,slow=2.4,SNR=11								
AKBB	Malin Array Si	143.14	330	*e*PKiKP		PKPab		02 19 37.6	-0.8
AKBB	Malin Array Si	143.14	330	*e*PKPdf		PKPab		02 19 37.6	-0.8
AK01	Malin Array Si	143.15	330	*e*PKPdf		PKPab		02 19 37.8	-0.6
KIEV	Kiev	143.15	330	*e*PKHKP		PKPab		02 19 37.4	-1.0
KIEV	Kiev	143.15	330	*e*PKPdf		PKPab		02 19 37.4	-1.0
KAC	Achnashellach	143.15	6	*e*P		PKPab		02 19 37.9	-0.3
AK02	Malin Array Si	143.18	330	*e*PKPdf		PKPab		02 19 37.7	-0.9
MCD	Coleburn Disti	143.24	4	*e*P		PKPab		02 19 37.3	-1.3
KPL	Plockton	143.27	6	*e*P		PKPab		02 19 38.5	-0.2
MDO	Dochfour	143.29	5	*e*P		PKPab		02 19 38.1	-0.7
URFA	Urfa	143.73	305	*e*P		PKPbc		02 19 40.0	-1.3
RSDY	Resadiye-TOKAT	143.87	311	*e*P		PKPbc		02 19 39.1	-2.4
MUD	Monsted U'grnd	144.07	353	⇓*i*PKiKP		PKPbc		02 19 41.2	-0.3
MUD				pmax		pmax			
	comp=Z,60nm,1.0s								
MUD	Monsted U'grnd	144.07	353	⇓*i*P		PKPbc		02 19 41.2	-0.3
	comp=Z,60nm,1.0s								
COP	Copenhagen	144.34	349	*i* PKiKP		PKPbc		02 19 41.8	-0.5
COP				pmax		pmax			
	comp=Z,23nm,0.9s								
COP	Copenhagen	144.34	349	*i* P		PKPbc		02 19 41.8	-0.5
	comp=Z,23nm,0.8s								
BSD	Bornholm Skovb	144.40	347	*i* PKiKP		PKPbc		02 19 41.9	-0.6
BSD				pmax		pmax			
	comp=Z,59nm,1.0s								
BSD	Bornholm Skovb	144.40	347	*i* P		PKPbc		02 19 41.9	-0.6
	comp=Z,59nm,0.9s								
DARE	Darende-Malaty	144.40	308	*e*P		PKPbc		02 19 41.5	-1.8
JHLN	Al Jahlan	144.50	302	*e*P		PKPab		02 19 52.5	+8.4
KVT	Kavak	144.51	312	*e*P		PKPbc		02 19 43.6	+0.2
EAB	Aberfoyle	144.54	6	*e*P		PKPdf		02 19 42.3	-0.6
LLD	Lille Linde	144.71	349	*e*PKiKP		PKPdf		02 19 43.3	+0.2
LLD				pmax		pmax			
	comp=Z,32nm,0.9s								
LLD	Lille Linde	144.71	349	*i* P		PKPdf		02 19 43.3	+0.2
	comp=Z,32nm,0.9s								
SLMH	Al Salmeh	144.76	304	*e*P		PKPbc		02 19 44.2	-0.1
PGBU	Glenifferbraes	144.90	6	*e*P		PKPdf		02 19 43.4	0.0
ESY	Stoneypath	144.94	4	*e*P		PKPdf		02 19 43.8	+0.3
EBL	Broad Law	145.05	4	*e*P		PKPdf		02 19 44.0	+0.3
KMRS	Kahramanmaras	145.17	306	*e*P		PKPdf		02 19 42.1	-2.5
ESK	Eskdalemuir	145.50	5	*e*PKiKP		PKPdf		02 19 44.9	+0.4
ESK	Eskdalemuir	145.50	5	*e*PKPbc		PKPdf		02 19 44.9	+0.4
BNN	Bunyan	145.50	309	*e*P		PKPdf		02 19 44.0	-1.2
BZK	Bozkurt	145.51	315	*e*P		PKPdf		02 19 43.2	-1.7
GKP	Gorka Klasztor	145.52	343	*e*PKP2		PKPbc		02 19 45.7	-0.3
GKP	Gorka Klasztor	145.52	343	*e*PKP		PKPbc		02 19 45.7	-0.3
YOZ	Yozgat	145.59	310	*e*P		PKPdf		02 19 45.8	+0.5
BEL	Belsk	145.67	339	*e*PKP2		PKPbc		02 19 46.6	+0.1
BEL	Belsk	145.67	339	*e*PKP		PKPbc		02 19 46.6	+0.1
KIS	Kishinev	145.81	326	⇑*i*PKiKP		PKPdf		02 19 46.0	+0.7
KIS				pmax		pmax			
	comp=Z,220nm,1.5s								
KIS	Kishinev	145.81	326	⇓*i*P		PKPdf		02 19 46.0	+0.7
KIS				XM				02 19 47.0	
	comp=Z,200nm,1.5s								
CORM	Corum	145.86	312	*e*P		PKPdf		02 19 44.9	-0.9
BTCH	Batrach	145.95	304	*e*P		PKPbc		02 19 48.6	+0.7
KOZT	Kozan	145.99	307	*e*P		PKPdf		02 19 46.1	+0.1
XAL	Allendale	146.02	4	*e*P		PKPbc		02 19 46.8	-0.6
LVV	L'vov	146.07	334	*e*PKiKP		PKPdf		02 19 46.5	+0.8
CEYT	Ceyhan	146.20	306	*e*P		PKPdf		02 19 40.5	-5.8
KESW	Keswick, Cumbr	146.23	5	*e*P		PKPbc		02 19 47.6	-0.3
IAS	Iasi	146.33	327	⇓PKiKP		PKPbc		02 19 47.4	-1.1
IAS	Iasi	146.33	327	⇑*i*P		PKPbc		02 19 47.4	-1.1
BSEG	Bad Segeberg	146.37	351	*e*PKPbc		PKPbc		02 19 48.7	+0.4
CANT	Cankiri	146.38	313	*e*P		PKPbc		02 19 48.4	-0.5
KARA	Karaisali	146.64	307	*e*P		PKPdf		02 19 44.3	-2.8
SAFT	Safranbolu	146.72	315	*e*P		PKPdf		02 19 47.0	-0.1
BR131	Keskin Array S	146.74	311	*e*PKPbc		PKPbc		02 19 49.5	-0.5
BR131				*e*PKPab		PKPab		02 19 53.7	+0.7
BRTR	Keskin Array B	146.74	311	PKP		PKPdf		02 19 46.6	-0.7
BRTR				PKPbc		PKPbc		02 19 49.5	-0.5
BRTR	Keskin Array B	146.74	311	PKP		PKPdf		02 19 46.6	-0.7
	comp=Z,19nm,0.7s,baz=135,slow=1.7,SNR=153								
BRTR				PKPbc		PKPbc		02 19 49.5	-0.5
	comp=Z,20nm,0.7s,baz=134,slow=3.3,SNR=157								
KWP	Kalwaria Pacla	146.75	335	*e*PKiKP		PKPdf		02 19 46.1	-0.7
KWP				*e*				02 19 52.6	
KWP	Kalwaria Pacla	146.75	335	*e*PKP		PKPbc		02 19 49.4	-0.2
KWP	Kalwaria Pacla	146.75	335	⇓*i*P		PKPbc		02 19 49.8	+0.2
KWP	Kalwaria Pacla	146.75	335	*e*PKPdf		PKPdf		02 19 46.1	-0.7
KWP				*e*PKPbc		PKPbc		02 19 49.4	-0.2
KWP				*e*PKPab		PKPab		02 19 52.6	+0.1
PRAR	RASCA	146.87	329	⇓*i*P		PKPbc		02 19 49.7	-0.3
TLCR		146.95	323	⇑PKP2		PKPbc		02 19 50.0	-0.2
TLCR		146.95	323	⇑*i*P		PKPbc		02 19 50.0	-0.2
HPK	Haverah Park	146.95	3	*e*P		PKPbc		02 19 49.6	-0.3
BRBR	Barbar	147.03	299	*e*P		PKPbc		02 19 51.4	+0.3
RUE	Ruedersdorf	147.10	346	*e*PKPdf		PKPdf		02 19 47.6	+0.4
RUE				*e*PKPbc		PKPbc		02 19 50.1	-0.2
RUE				*e*PKPab		PKPab		02 19 53.9	+0.2
RCY	Rachaya	147.11	300	*e*P		PKPbc		02 19 51.1	-0.1
BHL	Bhannes	147.16	300	*e*P		PKPbc		02 19 50.9	-0.4
BUR08	Bucovina Ar. S	147.17	330	*e*PKPbc		PKPbc		02 19 51.1	+0.2
MERS	Mersin	147.18	306	*e*P		PKPdf		02 19 48.4	+0.4
BURAR	Bucovina Array	147.18	330	⇑PKP2		PKPbc		02 19 51.1	+0.2
BURAR	Bucovina Array	147.18	330	⇑*i*P		PKPbc		02 19 51.1	+0.2
TCHB	Talchebab	147.18	298	*e*P		PKPbc		02 19 51.6	+0.3
TESR	Tescani	147.25	327	⇑*i*P		PKPbc		02 19 50.2	-0.8
AFSR	Af`ar-Bala (A	147.25	311	*e*P		PKPdf		02 19 48.9	+0.8
ANTO	Ankara	147.27	312	*e*P		PKPdf		02 19 49.5	+1.4
ANTO	Ankara	147.27	312	*e*PKiKP		PKPdf		02 19 47.5	-0.6
ANTO				*e*				02 19 54.6	
ANTO	Ankara	147.27

PRU			⇑*e*PKP	**PKPbc**	**02 19 55.7**	**0.0**	
PRU			*e*PKPAB	**PKPab**	**02 20 02.4**	**-0.1**	
BUG	**Bochum--Univer**	**149.22 353**	*e*PKPbc	**PKPbc**	**02 19 55.8**	**+0.1**	
VRAC	**Vranov**	**149.22 340**	⇓*i*P	**PKPbc**	**02 19 55.9**	**+0.1**	
PSZ	**Piszkesteto**	**149.24 335**	⇓*i*P	**PKPbc**	**02 19 55.8**	**-0.2**	
PSZ	**Piszkesteto**	**149.24 335**	*e*PKPdf	**PKPdf**	**02 19 51.2**	**+0.1**	
PSZ			*e*PKPbc	**PKPbc**	**02 19 55.6**	**-0.4**	
PSZ			*e*PKPab	**PKPab**	**02 20 02.7**	**-0.1**	
GOLR		**149.25 326**	⇑*i*P	**PKPbc**	**02 19 56.1**	**+0.1**	
MOX	**Moxa**	**149.29 347**	*e*PKPbc	**PKPbc**	**02 19 56.2**	**+0.3**	
BGKT	**Bogazkoy**	**149.30 317**	*e*P	**PKPbc**	**02 19 55.1**	**-1.1**	
TANN	**Tannenbergstha**	**149.32 346**	*e*PKPbc	**PKPbc**	**02 19 56.3**	**+0.2**	
SWN1	**Swindon**	**149.38 4**	*e*P	**PKPbc**	**02 19 55.6**	**-0.5**	
SHUT	**Suhut-Afyon**	**149.41 311**	*e*P	**PKPdf**	**02 19 50.1**	**-1.6**	
UBBA	**Unterbreizbach**	**149.43 349**	*e*PKPbc	**PKPbc**	**02 19 56.6**	**+0.5**	
LOT	**Lotru**	**149.43 328**	⇓*i*P	**PKPbc**	**02 19 55.9**	**-0.7**	
CTKS	**Kestanelik-??a**	**149.44 318**	*e*P	**PKPdf**	**02 19 53.6**	**+2.2**	
ALT	**Altintas**	**149.49 313**	*e*P	**PKPbc**	**02 19 55.2**	**-1.7**	
DEV	**Deva**	**149.53 330**	⇑*i*P	**PKPbc**	**02 19 56.8**	**+0.1**	
SUTC	**Sutluce-Ispart**	**149.56 309**	*e*P	**PKPbc**	**02 19 54.7**	**-2.5**	
TREC	**Trest**	**149.57 342**	*e*PKPDF	**PKPdf**	**02 19 51.3**	**-0.1**	
TREC			⇑*e*PKP	**PKPbc**	**02 19 56.4**	**-0.3**	
TREC			*e*PKPAB	**PKPab**	**02 20 04.0**	**0.0**	
ARMT	**Armutlu**	**149.57 316**	*e*P	PKPdf	02 19 46.5	-5.2	
WOL	**Wolverton**	**149.61 3**	*e*P	**PKPbc**	**02 19 55.7**	**-0.9**	
SLVT	**Silivri**	**149.63 318**	*e*P	**PKPbc**	**02 19 57.0**	**0.0**	
HEX	**Exmoor**	**149.65 7**	*e*P	**PKPbc**	**02 19 56.1**	**-0.7**	
MDNY	**Mudanya-Bursa**	**149.66 316**	*e*P	**PKPbc**	**02 19 55.3**	**-1.8**	
TVSB	**Tavsanli**	**149.74 314**	*e*P	**PKPdf**	**02 19 53.6**	**+1.5**	
ISP	**Isparta**	**149.75 310**	*e*P	**PKPbc**	**02 19 56.4**	**-1.2**	
ISP	**Isparta**	**149.75 310**	⇑*i*P	**PKPdf**	**02 19 54.0**	**+1.8**	
SZH	**Strazhica**	**149.77 323**	*i* P	**PKPbc**	**02 19 56.8**	**-0.5**	
ORLT	**Orhaneli**	**149.82 315**	*e*P	**PKPdf**	**02 19 53.4**	**+1.3**	
ZIMR		**149.83 324**	⇑*i*P	**PKPbc**	**02 19 57.2**	**-0.2**	
BCK	**Bucak**	**149.86 309**	*e*P	**PKPbc**	**02 19 56.0**	**-1.8**	
JMB	**Yambol**	**149.89 321**	⇓PKP2	**PKPbc**	**02 19 58.8**	**+1.2**	
JMB	**Yambol**	**149.89 321**	*i* P	**PKPbc**	**02 19 58.9**	**+1.3**	
JMB	**Yambol**	**149.89 321**	⇓*i*P	**PKPbc**	**02 19 58.8**	**+1.2**	
BUD	**Budapest**	**149.93 336**	⇓*e*	**PKPbc**	**02 19 57.2**	**-0.3**	
GZR	**Gura Zlata**	**149.95 329**	⇑PKIKP	**PKPbc**	**02 19 57.6**	**-0.2**	
GZR	**Gura Zlata**	**149.95 329**	⇑*i*P	**PKPbc**	**02 19 57.5**	**-0.2**	
CRLT	**Corlu**	**149.98 318**	*e*P	**PKPdf**	**02 19 52.5**	**+0.3**	
ROTZ	**Rotzenmuhle**	**149.99 346**	*e*PKPbc	**PKPbc**	**02 19 58.0**	**+0.4**	
BEBN	**Eben Emael**	**150.02 355**	PKPbc	**PKPbc**	**02 19 57.7**	**+0.1**	
BEBN			PKPab	**PKPab**	**02 20 05.7**	**-0.1**	
HGN	**Heimansgroeve**	**150.03 354**	*e*PKP	**PKPbc**	**02 19 56.6**	**-1.0**	
	comp=Z,28nm,0.9s						
PVL	**Pavlikeni**	**150.14 324**	*i* P	**PKPbc**	**02 19 58.3**	**+0.2**	
MEM	**Membach**	**150.17 354**	PKP	**PKPdf**	**02 19 52.1**	**-0.2**	
MEM			PKPbc	**PKPbc**	**02 19 57.9**	**-0.1**	
EDRB	**Edirne**	**150.17 320**	*e*P	**PKPdf**	**02 19 55.2**	**+2.7**	
KHL	**Karahalli**	**150.23 312**	*e*P	**PKPbc**	**02 19 56.6**	**-2.1**	
PKS7	**Kunszentmiklos**	**150.24 335**	⇑*e*	**PKPbc**	**02 19 58.2**	**-0.1**	
KHC	**Kasperske Hory**	**150.24 344**	*e*PKIKP	**PKPdf**	**02 19 50.9**	**-1.6**	
KHC			*e*		02 20 07.4		
KHC	**Kasperske Hory**	**150.24 344**	*e*PKPDF	**PKPdf**	**02 19 50.9**	**-1.6**	
KHC			⇑*e*PKP	**PKPbc**	**02 19 58.2**	**0.0**	
KHC			*i* PKPAB	**PKPab**	**02 20 07.3**	**+0.5**	
KHC			*e*pPKP	pPKPdf	02 22 14.5	+13	
KHC	**Kasperske Hory**	**150.24 344**	*e*PKPdf	**PKPdf**	**02 19 50.9**	**-1.6**	
KHC			*e*PKPbc	**PKPbc**	**02 19 58.3**	**0.0**	
KHC			*e*PKPab	**PKPab**	**02 20 07.4**	**+0.5**	
TNS	**Taunus Mts**	**150.25 351**	*e*PKPbc	**PKPbc**	**02 19 58.4**	**+0.1**	
GRF	**Grafenberg Arr**	**150.27 347**	*e*PKPbc	**PKPbc**	**02 19 58.8**	**+0.5**	
SRF	**Strehaia**	**150.27 328**	⇑PKIKP	**PKPbc**	**02 19 58.5**	**+0.4**	
SRE	**Strehaia**	**150.27 328**	⇑*i*P	**PKPbc**	**02 19 58.8**	**+0.4**	
BNT	**Bandirma**	**150.29 317**	*e*P	**PKPbc**	**02 19 57.5**	**-1.2**	
CSKK	**Cs˘˙kako**	**150.32 337**	⇑*e*	**PKPbc**	**02 19 58.2**	**-0.3**	
BZS	**Buzias**	**150.33 331**	⇓PKIKP	**PKPbc**	**02 19 57.7**	**-0.8**	
BZS	**Buzias**	**150.33 331**	⇓*i*P	**PKPbc**	**02 19 57.7**	**-0.8**	
EDC	**Edincik**	**150.33 317**	*e*P	**PKPbc**	**02 19 57.1**	**-1.6**	
MRMT	**Marmara Adasi**	**150.36 317**	*e*P	**PKPbc**	**02 19 56.1**	**-2.8**	
SNF	**Seneffe**	**150.41 356**	PKPbc	**PKPbc**	**02 19 58.5**	**0.0**	
SNF			PKPab	**PKPab**	**02 20 07.3**	**-0.1**	
WET	**Wettzell**	**150.41 345**	*e*PKPbc	**PKPbc**	**02 19 58.8**	**+0.1**	
BCLA	**Clavier**	**150.42 355**	PKPab	**PKPab**	**02 20 07.3**	**-0.2**	
GEC2	**GERESS Array S**	**150.47 343**	*e*PKPbc	**PKPbc**	**02 19 59.0**	**+0.1**	
GERES	**GERESS Array B**	**150.47 343**	PKP	**PKPdf**	**02 19 52.5**	**-0.4**	
GERES			PKPbc	**PKPbc**	**02 19 58.8**	**-0.1**	
GERES	**GERESS Array B**	**150.47 343**	PKP	**PKPdf**	**02 19 52.5**	**-0.4**	
	comp=Z,1.0nm,0.8s,baz=11,slow=1.0,SNR=8.3						
GERES			PKPbc	**PKPbc**	**02 19 58.8**	**-0.1**	
	comp=Z,16nm,0.7s,baz=29,slow=2.4,SNR=96						
PKST	**T˜˙s**	**150.49 337**	⇓*e*	**PKPbc**	**02 19 58.2**	**-0.7**	
GONE	**Gonen-Balikesi**	**150.61 316**	*e*P	**PKPbc**	**02 19 56.9**	**-2.5**	
ELL	**Elmali**	**150.65 309**	*e*P	**PKPbc**	**02 19 57.6**	**-2.2**	
SOP	**Sopron**	**150.65 339**	⇓*e*	**PKPbc**	**02 19 59.1**	**-0.1**	
CONA	**Conrad Observa**	**150.67 340**	*i* PKiKP	**PKPbc**	**02 19 59.5**	**+0.1**	
	comp=Z,30nm,0.7s,SNR=11						
KRBG	**Karabiga-Canak**	**150.67 317**	*e*P	**PKPbc**	**02 19 57.9**	**-1.5**	
BALB	**Balikesir**	**150.70 315**	*e*P	**PKPbc**	**02 19 56.6**	**-3.0**	
BANR	**Banloc**	**150.72 331**	⇑*i*P	**PKPbc**	**02 20 01.5**	**+2.1**	
KULA	**Kula-Manisa**	**150.74 313**	*e*P	**PKPbc**	**02 19 58.0**	**-1.8**	
DIM	**Dimitrovgrad**	**150.76 321**	*i* P	**PKPbc**	**02 19 59.5**	**-0.1**	
DOU	**Dourbes**	**150.80 356**	PKP	**PKPdf**	**02 19 52.4**	**+0.2**	
DOU			PKPbc	**PKPbc**	**02 19 58.9**	**-0.5**	
DOU			PKPab	**PKPab**	**02 20 08.8**	**-0.2**	
PKS9	**Tamasi**	**150.96 336**	⇑*e*	**PKPbc**	**02 19 59.6**	**-0.4**	
ERIK	**Erikli-Kesan**	**151.00 318**	*e*P	**PKPbc**	**02 19 58.5**	**-1.7**	
LPK	**Lapseki**	**151.02 318**	*e*P	**PKPbc**	**02 19 58.4**	**-1.9**	
KDZ	**Kurdzhali**	**151.08 321**	⇑PKIKP	**PKPbc**	**02 19 59.5**	**-0.9**	
KDZ	**Kurdzhali**	**151.08 321**	*i* P	**PKPbc**	**02 19 59.6**	**-0.9**	
KDZ	**Kurdzhali**	**151.08 321**	⇑*i*P	**PKPbc**	**02 19 59.5**	**-0.9**	
WLF	**Walferdange**	**151.09 354**	PKPbc	**PKPbc**	**02 19 59.9**	**-0.3**	
WLF			PKPab	**PKPab**	**02 20 10.7**	**+0.3**	
PKSM	**Moragy**	**151.13 335**	⇑PKIKP	**PKPbc**	**02 20 00.0**	**-0.3**	
PKSM	**Moragy**	**151.13 335**	⇑*i*P	**PKPbc**	**02 20 00.0**	**-0.3**	
AKS	**Akhisar**	**151.13 314**	*e*P	**PKPdf**	**02 19 55.0**	**+0.8**	
ALN	**Alexandroupoli**	**151.16 319**	*e*P	**PKPbc**	**02 19 58.7**	**-1.9**	
GELI	**Tayfur-Gelibol**	**151.18 318**	*e*P	**PKPdf**	**02 19 57.1**	**+2.9**	
PGB	**Panagyurishte**	**151.22 324**	*i* P	**PKPbc**	**02 19 59.0**	**-1.8**	
ARSA	**Arzberg**	**151.37 340**	⇓*i*PKiKP	**PKPbc**	**02 20 00.4**	**-0.5**	
	comp=Z,17nm,1.3s						
RZN	**Rozhen**	**151.47 322**	*i* P	**PKPbc**	**02 20 00.8**	**-0.7**	
STU	**Stuttgart**	**151.54 349**	*e*PKIKP	**PKPbc**	**02 20 01.1**	**-0.1**	
STU			*e*		02 20 12.1		
STU	**Stuttgart**	**151.54 349**	*e*PKPbc	**PKPbc**	**02 20 01.3**	**+0.1**	
STU	**Stuttgart**	**151.54 349**	*e*PKPbc	**PKPbc**	**02 20 01.1**	**-0.1**	
STU			*e*PKPab	**PKPab**	**02 20 12.1**	**-0.2**	
AYDB	**Zeytinkoy-Aydi**	**151.54 312**	*e*P	**PKPbc**	**02 20 00.7**	**-1.1**	
LANF	**Langenberg**	**151.56 351**	PKP	**PKPbc**	**02 20 01.6**	**+0.3**	
EZN	**Ezine**	**151.60 317**	*e*P	**PKPbc**	**02 20 00.1**	**-1.5**	
YER	**Yerkesik**	**151.65 311**	*e*P	**PKPbc**	**02 19 59.9**	**-2.0**	
JSA	**Saint Aubin**	**151.66 5**	*e*P	**PKPbc**	**02 20 00.6**	**-0.8**	
FUR	**Furstenfeldbru**	**151.70 346**	*e*PKPbc	**PKPbc**	**02 20 01.6**	**0.0**	
VTS	**Vitosha**	**151.72 325**	*e*P	**PKPbc**	**02 19 59.3**	**-2.7**	
VTS	**Vitosha**	**151.72 325**	⇓PKIKP	**PKPbc**	**02 20 01.5**	**-0.5**	
VTS	**Vitosha**	**151.72 325**	*i* P	**PKPbc**	**02 20 01.6**	**-0.5**	
VTS	**Vitosha**	**151.72 325**	⇓*i*P	**PKPbc**	**02 20 01.5**	**-0.5**	
RJOB	**Jochberg**	**151.73 344**	*e*PKPbc	**PKPbc**	**02 20 01.4**	**-0.3**	
IZM	**Izmir**	**151.75 314**	*e*P	**PKPbc**	**02 20 00.9**	**-1.2**	
KOGS	**Kog**	**151.83 338**	*i* PKPbc	**PKPbc**	**02 20 01.2**	**-0.7**	
SOKA	**Soboth**	**152.03 340**	⇓PKiKP	**PKPbc**	**02 20 01.5**	**-1.0**	
	comp=Z,21nm,1.2s						
PERS	**Pernice**	**152.04 340**	*i* PKPbc	**PKPbc**	**02 20 01.7**	**-0.8**	
MMB	**Musomiste**	**152.10 323**	⇓PKIKP	**PKPbc**	**02 20 02.3**	**-0.4**	
MMB	**Musomiste**	**152.10 323**	*i* P	**PKPbc**	**02 20 02.0**	**-0.7**	
MMB	**Musomiste**	**152.10 323**	⇓*i*P	**PKPbc**	**02 20 02.3**	**-0.4**	
BFO	**Black Forest**	**152.11 350**	*e*PKIKP	**PKPbc**	**02 20 01.9**	**-0.6**	
BFO			*e*		02 20 14.0		
BFO	**Black Forest**	**152.11 350**	*e*PKPbc	**PKPbc**	**02 20 02.4**	**-0.1**	
BFO	**Black Forest**	**152.11 350**	*e*PKPbc	**PKPbc**	**02 20 01.9**	**-0.6**	
BFO			*e*PKPab	**PKPab**	**02 20 14.0**	**-0.7**	
KKB	**Krupnik**	**152.28 324**	*i* P	**PKPbc**	**02 20 02.6**	**-0.5**	
ECH	**Echery**	**152.40 352**	PKP	**PKPbc**	**02 20 03.0**	**-0.2**	
WATA	**Walderalm**	**152.41 345**	⇓*i*PKPbc	**PKPbc**	**02 20 02.2**	**-1.1**	
	comp=Z,8.6nm,0.5s,SNR=7.8						
RETA	**Reutte**	**152.46 346**	⇓*i*PKiKP	**PKPbc**	**02 20 02.8**	**-0.6**	
	comp=Z,6.3nm,0.7s						
MOTA	**Moosalm**	**152.51 346**	⇓*i*PKPdf	**PKPdf**	**02 19 54.6**	**-1.5**	
	comp=Z,8.3nm,1.1s						
MOTA			*i* PKiKP	**PKPbc**	**02 20 03.2**	**-0.4**	
	comp=Z,22nm,1.0s,SNR=7.5						
MOTA			⇑*i*PKPab	**PKPab**	**02 20 16.6**	**-0.1**	
	comp=Z,13nm,0.6s						
THEF	**They Montfort**	**152.53 353**	PKP	**PKPbc**	**02 20 03.5**	**+0.1**	
GCIS	**Gornji Cirnik**	**152.55 338**	*e*PKPbc	**PKPbc**	**02 20 03.2**	**-0.3**	
LJU	**Ljubljana**	**152.76 340**	*i* PKPbc	**PKPbc**	**02 20 03.6**	**-0.3**	
MOF	**Molkenrain**	**152.76 352**	PKP	**PKPbc**	**02 20 03.6**	**-0.4**	
CRNS	**Crni Vrh**	**152.81 340**	*i* PKPbc	**PKPbc**	**02 20 03.5**	**-0.7**	
FETA	**Feichten**	**152.91 346**	⇑*i*PKPdf	**PKPdf**	**02 19 56.2**	**-0.5**	
	comp=Z,8.0nm,0.9s						
FETA			⇓*i*PKiKP	**PKPbc**	**02 20 04.3**	**-0.2**	
	comp=Z,12nm,0.8s						
VAY	**Valandovo**	**152.93 323**	*i* P	**PKPbc**	**02 20 02.6**	**-1.9**	
LOMF	**Lomont**	**153.29 352**	PKP	**PKPbc**	**02 20 03.5**	**-1.7**	
BNI	**Bardonecchia**	**155.56 351**	*e*PKIKP	**PKPdf**	**02 20 00.0**	**-0.4**	
BNI			*e*		02 20 29.9		
BNI	**Bardonecchia**	**155.56 351**	*e*PKPdf	**PKPdf**	**02 20 00.0**	**-0.4**	
BNI			*e*PKPab	**PKPab**	**02 20 29.9**	**+0.1**	
AQU	**L'Aquila**	**156.39 337**	*e*PKPdf	**PKPdf**	**02 20 00.6**	**-0.9**	
AQU			*e*PKPab	**PKPab**	**02 20 34.1**	**+0.7**	
PBRG	**Braganca**	**158.08 17**	*e*PKPab	**PKPab**	**02 20 41.3**	**+0.7**	
POLO	**Lamas de Olo**	**158.18 19**	*e*PKPab	**PKPab**	**02 20 41.6**	**+0.5**	
PVRL	**Vila Real**	**158.29 19**	*e*PKPab	**PKPab**	**02 20 42.2**	**+0.6**	
MVO	**Moncorvo**	**158.59 18**	*e*PKPab	**PKPab**	**02 20 43.4**	**+0.5**	
PVIS	**Viseu**	**158.75 20**	*e*PKPab	**PKPab**	**02 20 43.2**	**-0.4**	
PCAS	**Casmilo, Conde**	**159.14 22**	*e*PKPab	**PKPab**	**02 20 45.4**	**+0.1**	
PTOM	**Tomar**	**159.56 22**	*e*PKPab	**PKPab**	**02 20 47.1**	**0.0**	
PCBR	**Castelo Branco**	**159.67 20**	*e*PKPdf	**PKPdf**	**02 20 05.8**	**+0.4**	
PCBR	**Castelo Branco**	**159.67 20**	*e*PKPab	**PKPab**	**02 20 47.5**	**-0.1**	
PMAFR	**Mafra**	**159.81 25**	*e*PKPab	**PKPab**	**02 20 48.6**	**+0.3**	
PMTG	**Montargil**	**160.11 23**	*e*PKPab	**PKPab**	**02 20 49.3**	**-0.2**	
PESTR	**Estremoz**	**160.51 22**	*e*PKPdf	**PKPdf**	**02 20 06.9**	**+0.5**	
PESTR	**Estremoz**	**160.51 22**	*e*PKPab	**PKPab**	**02 20 51.1**	**-0.2**	
EVO	**Evora**	**160.66 23**	*e*PKPab	**PKPab**	**02 20 51.9**	**-0.1**	
ESDC	**Sonseca Array**	**160.76 13**	PKP	**PKPdf**	**02 20 06.4**	**-0.2**	
ESDC			PKPab	**PKPab**	**02 20 52.3**	**-0.1**	
ESDC	**Sonseca Array**	**160.76 13**	PKP	**PKPdf**	**02 20 06.4**	**-0.2**	
	comp=Z,1.2nm,0.9s,baz=351,slow=3.3,SNR=5.2						
ESDC			PKPab	**PKPab**	**02 20 52.3**	**-0.1**	
	comp=Z,7.4nm,1.0s,baz=350,slow=4.0,SNR=18						
PNCL	**Nicolau / Gran**	**160.84 25**	*e*PKPdf	**PKPdf**	**02 20 04.7**	**-2.0**	
PNCL	**Nicolau / Gran**	**160.84 25**	*e*PKPab	**PKPab**	**02 20 52.6**	**-0.1**	
PBEJ	**Beja**	**161.16 23**	*e*PKPdf	**PKPdf**	**02 20 07.0**	**-0.1**	
PBEJ	**Beja**	**161.16 23**	*e*PKPab	**PKPab**	**02 20 54.4**	**+0.2**	
PVAQ	**Vaqueiros**	**161.77 24**	*e*PKPab	**PKPab**	**02 20 57.5**	**+0.7**	
KEST	**Kesra**	**163.71 336**	*e*PKPab	**PKPab**	**02 21 05.5**	**0.0**	
KEST	**Kesra**	**163.71 336**	PKPab	**PKPab**	**02 21 05.5**	**0.0**	
	comp=Z,6.0nm,1.1s,baz=321,slow=3.5,SNR=7.9						
LIC	**Lamto**	**164.09 156**	*e*PKIKP	**PKPdf**	**02 20 09.2**	**-1.4**	
	comp=Z,42nm,1.0s						
KIC	**Kosan Boka**	**164.32 157**	*e*PKIKP	**PKPdf**	**02 20 09.6**	**-1.2**	
	comp=Z,33nm,1.1s						
TIC	**Toumodi**	**164.47 155**	*e*PKIKP	**PKPdf**	**02 20 09.8**	**-1.1**	
	comp=Z,28nm,1.0s						
DBIC	**Dimbokro**	**164.56 156**	*e*PKPdf	**PKPdf**	**02 20 09.6**	**-1.4**	
DBIC			*e*PKPab	**PKPab**	**02 21 08.8**	**-0.8**	
DBIC	**Dimbokro**	**164.56 156**	PKP	**PKPdf**	**02 20 10.2**	**-0.8**	
	comp=Z,7.6nm,0.9s,baz=198,slow=0.6,SNR=6.9						
TOA0	**Torodi Ar. Sit**	**172.25 182**	*e*PKPdf	**PKPdf**	**02 20 14.4**	**-1.5**	
TORD	**Torodi Ar. Bea**	**172.25 182**	PKP	**PKPdf**	**02 20 14.8**	**-1.1**	
TORD			PKPab	**PKPab**	**02 21 43.8**	**+0.3**	
TORD	**Torodi Ar. Bea**	**172.25 182**	PKP	**PKPdf**	**02 20 14.8**	**-1.1**	
	comp=Z,6.5nm,1.0s,baz=351,slow=0.5,SNR=31						
TORD			PKPab	**PKPab**	**02 21 43.8**	**+0.3**	
	comp=Z,1.3nm,0.9s,baz=169,slow=4.4,SNR=4.9						
TAM	**Tamanrasset**	**175.78 297**	*e*PKIKP	**PKPdf**	**02 20 17.5**	**+0.4**	
TAM			*e*		02 22 00.0		
TAM	**Tamanrasset**	**175.78 297**	*e*PKPdf	**PKPdf**	**02 20 17.5**	**+0.4**	
TAM			*e*PKPab	**PKPab**	**02 21 60.0**	**+0.2**	

IDC 31 02:18:22.0*±1.3, *0°.46S*×*125°.54E*, *h0*km, *mb3.3*/4, *mb1 3.6*/4, *mb1mx3.4*/38, *mbtmp3.4*/4, *Error ellipse: s-maj=145.6km s-min=22.2km az=68.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.20**	**157**	P	P	P	02 23 09.0	-0.4
	0.9nm,0.4s,baz=336,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**24.46**	**161**	P	P		02 23 43.2	+0.3
	0.6nm,0.4s,baz=345,slow=11,SNR=5.7							
SONM	**Songino Array**	**50.91**	**343**	P	P		02 27 25.7	+0.6
	0.2nm,0.5s,baz=141,slow=7.4,SNR=2.8							
MKAR	**Makanchi Array**	**60.35**	**327**	P	P		02 28 32.2	-0.7
	0.2nm,0.5s,baz=124,slow=7.4,SNR=6.3							

*ISCJB **31** 02:50:35.9*±*1.7, 43°.43N*±*0°.10*×*127°.4W*±*0°.2, h14km, mb2.9/1, Error ellipse: s-maj=19.9km s-min=9.9km az=145.7*

*NEIC **31** 02:50:36.5*±*1.4, 43°.39N*×*127°.42W, h10km, ML2.8, Error ellipse: s-maj=16.8km s-min=8.3km az=55.0*

*IDC **31** 02:50:38.0*±*3.6, 43°.63N*×*127°.47W, h0km, mb2.8/2, mb1 3.3/3, mb1mx3.1/43, mbtmp2.9/3, ML2.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/12, Error ellipse: s-maj=98.2km s-min=21.0km az=54.0*

ISC 31 02:50:36.8*±*1.9, 43°.4N*±*0°.1*×*127°.5W*±*0°.2, h14*km, *n34, σ1*°*03/24, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.38**	**101**	*e*Pn	**Pn**	**Pn**	**02 51 53.5**	**-1.9**
RNO	**Roman Nose**	**2.79**	**77**	P	**Pn**	**Pn**	**02 51 20.4**	**-0.6**
MPOR	**Mary's Peak**	**3.08**	**67**	P	**Pn**	**Pn**	**02 51 23.2**	**-1.8**
COR	**Corvallis**	**3.27**	**67**	*e*Pn	**Pn**	**Pn**	**02 51 26.4**	**-1.2**
HUMO	**Hull Mountain**	**3.42**	**101**	*e*Pn	**Pn**	**Pn**	**02 51 29.1**	**-0.7**
BROR	**Big Rock Looko**	**3.77**	**74**	P	**Pn**	**Pn**	**02 51 34.2**	**-0.3**
YBH	**Yreka Blue Hor**	**3.90**	**113**	*e*Pn	**Pn**	**Pn**	**02 51 35.5**	**-0.9**
BMW	**Boistfort Moun**	**4.34**	**43**	P	**Pn**	**Pn**	**02 51 40.7**	**-1.7**
LVP	**Lakeview Peak**	**4.53**	**52**	P	**Pn**	**Pn**	**02 51 44.5**	**-0.5**
TDH	**Tom, Dick, Har**	**4.53**	**63**	P	**Pn**	**Pn**	**02 51 45.0**	**0.0**
FL2	**Flat Top 2**	**4.63**	**51**	P	**Pn**	**Pn**	**02 51 46.4**	**-0.1**
VFP	**Flag Point**	**4.75**	**64**	P	**Pn**	**Pn**	**02 51 48.8**	**+0.6**
NLWA	**Neilton Lookou**	**4.77**	**31**	*e*Pn	**Pn**	**Pn**	**02 51 46.7**	**-1.5**
TDL	**Tradedollar La**	**4.80**	**50**	P	**Pn**	**Pn**	**02 51 48.3**	**-0.4**
PINOR	**Pine Mountain**	**4.84**	**82**	*e*Pn	**Pn**	**Pn**	**02 51 50.3**	**+1.1**
KOSW	**Kosmos**	**4.88**	**49**	P	**Pn**	**Pn**	**02 51 49.7**	**-0.1**
VIPM	**Ingram Point**	**5.10**	**75**	P	**Pn**	**Pn**	**02 51 52.8**	**-0.2**
MOD	**Modoc**	**5.51**	**103**	*e*Pn	**Pn**	**Pn**	**02 51 57.8**	**-0.8**
PGC	**Sidney**	**5.99**	**27**	*e*Pn	**Pn**	**Pn**	**02 52 03.6**	**-1.3**
HAWA	**Hanford**	**6.42**	**59**	*e*Pn	**Pn**	**Pn**	**02 52 10.4**	**-0.5**
	4.8nm,0.8s							
NVAR	**Mina Array Bea**	**8.54**	**122**	Pn	Pn	Pn	02 52 46.4	+6.2
NVAR	**Mina Array Bea**	**8.54**	**122**	Pn	Pn	Pn	02 52 46.4	+6.2
	0.1nm,0.3s,baz=302,slow=12,SNR=2.8							
NEW	**Newport**	**8.75**	**52**	LR	LR	LR	02 56 02.7	
	comp=Z,134nm,19.7s,baz=256,slow=38							
PFO	**Pinyon Flat Ob**	**13.02**	**135**	LR	LR	LR	02 58 35.2	
	comp=Z,112nm,19.0s,baz=295,slow=36							
YKA	**Yellowknife Ar**	**20.60**	**17**	P	**P**	**P**	**02 55 15.7**	**+0.5**
YKA	**Yellowknife Ar**	**20.60**	**17**	P	**P**	**P**	**02 55 15.6**	**+0.5**
	0.2nm,0.6s,baz=209,slow=12,SNR=3.3							
ILAR	**Eielson Array**	**24.07**	**340**	P	**P**	**P**	**02 55 52.3**	**+1.0**
ILAR	**Eielson Array**	**24.07**	**340**	P	**P**	**P**	**02 55 52.3**	**+1.0**
	0.4nm,0.9s,baz=157,slow=9.4,SNR=7.8							
H11N3	**WAKE ISLAND Hy**	**59.10**	**269**	T	T	T	04 04 27.6	
	baz=52,slow=75,SNR=40							
H11N2	**WAKE ISLAND Hy**	**59.10**	**269**	T	T	T	04 04 30.0	
	baz=52,slow=75,SNR=27							
H11N1	**WAKE ISLAND Hy**	**59.12**	**269**	T	T	T	04 04 30.4	
	baz=52,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**60.02**	**268**	T	T	T	04 05 35.1	
	baz=50,slow=75,SNR=87							
H11S2	**WAKE ISLAND Hy**	**60.03**	**268**	T	T	T	04 05 32.9	
	baz=50,slow=75,SNR=60							
H11S3	**WAKE ISLAND Hy**	**60.04**	**268**	T	T	T	04 05 33.0	
	baz=50,slow=75,SNR=70							

*KRNET **31** 02:56:28.5*±*0.1, 41°.48N*×*72°.64E, h7km, mb3.4*

*KNET **31** 02:56:31.1*±*0.5, 41°.59N*×*72°.76E, h10km*±*2km, ml3.3, Error ellipse: s-maj=5.8km s-min=2.6km az=160.0*

*NNC **31** 02:56:34.6*±*4.8, 41°.84N*×*72°.68E, h13km*±*21km, mb4.0, mpv3.6, Error ellipse: s-maj=44.5km s-min=8.2km az=6.0*

ISC 31 02:56:29.5*±*1.2, 41°.56N*±*0°.04*×*72°.61E*±*0°.03, h8*km*±*10km, n31, σ1*°*21/44, 25C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.54**	**296**	*e*P	**Pg**	**Pg**	**02 56 40.2**	**+0.3**
	baz=302							
ARK				*e*S	**Sb**	**Sb**	**02 56 48.7**	**-0.4**
	baz=302							
AML	**Almayashu**	**0.99**	**55**	P	**Pg**	**Pg**	**02 56 48.3**	**-0.3**
	130nm,0.2s,SNR=92							
AML				⇓S	**Sg**	**Sg**	**02 57 02.2**	**+0.7**
	759nm,0.2s							
AML	**Almayashu**	**0.99**	**55**	⇑*i*P	**Pg**	**Pg**	**02 56 48.2**	**-0.3**
	baz=50							
AML				⇑*i*S	**Sg**	**Sg**	**02 57 01.7**	**+0.2**
	baz=50							
OHH	**Osh**	**1.04**	**173**	⇓*i*P	**Pg**		02 56 47.0	-2.5
	baz=174							
OHH				⇓*e*S	**Sg**	**Sg**	**02 57

ARE	**Arequipa**	**2.04**	**296**	⇑*iP*		**Pn**	**03 51 22.5**	**-1.9**
ARE				*eS*		**Sn**	**03 51 49.0**	**-2.8**
PSGC	**Pisagua**	**2.26**	**193**	⇓*iP*		**Pn**	**03 51 25.3**	**-1.6**
PSGC				*i* S		**Sn**	**03 51 51.8**	**-4.6**
PSGC				AML	AML		03 52 02.1	
	comp=E,3µm,0.5s							
PB11	**Plate Boundary**	**2.37**	**182**	⇓*iP*		**Pn**	**03 51 27.6**	**-0.6**
PB11				*i* S		**Sn**	**03 51 55.5**	**-3.2**
PB11				AML	AML		03 51 59.1	
	comp=N,35µm,0.7s							
HMBC	**Humberstone**	**2.90**	**186**	⇓*iP*		**Pn**	**03 51 33.4**	**-1.3**
HMBC				⇑*e*			03 51 34.6	
HMBC				*i* S		**Sn**	**03 52 05.9**	**-4.5**
HMBC				AML	AML		03 52 14.2	
	comp=N,6µm,0.6s							
LVC	**Limon Verde**	**5.25**	**173**	*e*Pn		**Pn**	**03 52 05.1**	**-0.4**
LVC				*e*Sn		**Sn**	**03 53 02.1**	**-3.3**
SIV	**San Ignacio**	**8.28**	**82**	P		**Pn**	**03 52 43.3**	**-2.5**
SIV	**San Ignacio**	**8.28**	**82**	P		**Pn**	**03 52 43.3**	**-2.5**
	comp=N,172nm,0.3s,baz=281,slow=10,SNR=245							
NNA	**Nana**	**8.83**	**306**	*e*Pn		Pn	03 52 49.9	-3.3
NNA				*e*Sn		Sn	03 54 20.3	-11
SAML	**Samuel**	**10.44**	**37**	*e*Pn		Pn	03 53 10.9	-3.7
SAML				*e*Sn		Sn	03 55 03.3	-6.9
LCO	**Las Campanas**	**11.62**	**185**	*e*Pn		Pn	03 53 25.6	-4.7
LCO				*e*Sn		Sn	03 55 31.0	-7.8
ATAH	**Atahualpa**	**13.32**	**319**	P		**Pn**	**03 53 51.5**	**-1.0**
ATAH	**Atahualpa**	**13.32**	**319**	P		**Pn**	**03 53 51.5**	**-1.0**
	comp=N,0.3nm,0.3s,baz=209,slow=19,SNR=3.0							
CFAA	**Coronel Fontan**	**14.22**	**175**	P		Pn	03 54 00.5	-2.8
CFAA				S		Sn	03 56 29.7	-11
CFAA	**Coronel Fontan**	**14.22**	**175**	P		Pn	03 54 00.5	-2.8
	comp=N,0.5nm,0.3s,baz=0.4,slow=12,SNR=85							
CFAA				S		Sn	03 56 29.7	-11
	comp=N,0.6nm,0.3s,baz=255,slow=20,SNR=8.2							
CPUP	**Villa Florida**	**14.44**	**130**	*e*Pn		Pn	03 54 02.5	-3.6
	comp=N,0.2nm,0.4s							
CPUP	**Villa Florida**	**14.44**	**130**	P		**Pn**	**03 54 05.7**	**-0.4**
	comp=N,0.8nm,0.3s,baz=294,slow=14,SNR=5.6							
H03N1	**Juan Fernandez**	**18.06**	**206**	T		T	04 12 53.1	
	baz=27,slow=75,SNR=5.5							
H03N2	**Juan Fernandez**	**18.07**	**206**	T		T	04 12 53.0	
	baz=27,slow=75,SNR=6.0							
H03N3	**Juan Fernandez**	**18.07**	**206**	T		T	04 12 53.2	
	baz=27,slow=75,SNR=6.0							
PTGA	**Pitinga**	**19.06**	**31**	*e*P		**P**	**03 54 57.3**	**-2.3**
	comp=N,9.3nm,0.7s							
PTGA	**Pitinga**	**19.06**	**31**	P		**P**	**03 54 57.6**	**-2.1**
	comp=N,4.4nm,0.3s,baz=206,slow=12,SNR=36							
PTGA				LR		LR	04 03 25.1	
	comp=N,56nm,19.8s,baz=177,slow=40							
BB16B	**Bebedouro**	**20.16**	**104**	⇑*iP*		**P**	**03 55 10.1**	**-1.4**
BB16B				*i*			03 55 11.9	
BB16B				*i*			03 55 14.8	
BB16B				*i*			03 55 17.7	
BB16B				*e*			03 55 35.3	
BB16B				*e*			03 55 46.9	
BDFB	**Brasilia**	**20.76**	**88**	P		**P**	**03 55 16.6**	**-1.4**
BDFB	**Brasilia**	**20.76**	**88**	P		**P**	**03 55 16.6**	**-1.4**
	comp=N,74nm,0.5s,baz=259,slow=11,SNR=52							
PLCA	**Paso Flores**	**23.29**	**182**	*e*P		**P**	**03 55 44.1**	**+1.0**
	comp=N,126nm,0.8s							
PLCA	**Paso Flores**	**23.29**	**182**	P		**P**	**03 55 44.2**	**+1.1**
	comp=N,100nm,0.8s,baz=0.1,slow=10,SNR=131							
SDV	**Santo Domingo**	**26.12**	**358**	*e*P		**P**	**03 56 07.5**	**-1.6**
	comp=N,56nm,1.5s							
JTS	**JuntasAbangare**	**31.41**	**330**	*e*P		**P**	**03 56 53.5**	**-2.4**
	comp=N,8.6nm,1.0s							
JTS	**JuntasAbangare**	**31.41**	**330**	LR		LR	04 08 50.8	
	comp=N,46nm,18.4s,baz=112,slow=34							
RCBR	**Riachuelo**	**34.87**	**75**	*e*P		**P**	**03 57 25.1**	**-0.9**
	comp=N,12nm,0.7s							
RCBR	**Riachuelo**	**34.87**	**75**	P		**P**	**03 57 25.2**	**-0.8**
	comp=N,12nm,0.6s,baz=239,slow=9.5,SNR=16							
RCBR				LR		LR	04 14 05.7	
	comp=N,153nm,18.1s,baz=234,slow=40							
CRPR	**Cabo Rojo, PR**	**35.25**	**4**	*e*P		**P**	**03 57 26.1**	**-2.9**
	comp=N,20nm,0.7s							
CELP	**Cerrillos**	**35.36**	**5**	*e*P		**P**	**03 57 27.7**	**-2.2**
USHA	**Ushuaia**	**37.39**	**179**	P		**P**	**03 57 48.6**	**+1.8**
USHA	**Ushuaia**	**37.39**	**179**	P		**P**	**03 57 48.6**	**+1.8**
	comp=N,22nm,0.7s,baz=1.2,slow=7.6,SNR=10							
TEIG	**Tepich**	**41.63**	**333**	*e*P		**P**	**03 58 21.8**	**-0.5**
TEIG	**Tepich**	**41.63**	**333**	P		**P**	**03 58 21.9**	**-0.4**
	comp=N,5.9nm,0.6s,baz=157,slow=2.4,SNR=5.5							
PMSA	**Palmer Station**	**47.50**	**177**	*e*P		**P**	**03 59 10.1**	**+1.7**
	comp=N,28nm,1.2s							
PMSA	**Palmer Station**	**47.50**	**177**	P		**P**	**03 59 09.2**	**+0.9**
	comp=N,13nm,0.9s,baz=352,slow=7.3,SNR=4.2							
034A	**Hebbronville**	**52.43**	**327**	⇑P		**P**	**03 59 46.6**	**+0.6**
	baz=53							
933A	**Laredo**	**53.18**	**327**	⇓P		**P**	**03 59 51.7**	**+0.2**
	baz=53							
833A	**Chaparral WMA,**	**53.82**	**327**	⇓P		**P**	**03 59 56.2**	**0.0**
	baz=54							
733A	**Divot King Ran**	**54.08**	**327**	⇓P		**P**	**03 59 58.2**	**+0.2**
	baz=54							
832A	**Faith Ranch, C**	**54.09**	**327**	⇓P		**P**	**03 59 58.0**	**-0.1**
	baz=54							
536A	**Bastrop**	**54.10**	**330**	⇓P		**P**	**03 59 58.6**	**+0.4**
	baz=54							
634A	**China Grove, S**	**54.15**	**329**	⇑P		**P**	**03 59 58.8**	**+0.3**
	baz=54							
535A	**Dale**	**54.30**	**330**	⇑P		**P**	**04 00 00.5**	**+0.8**
	baz=54							
732A	**Laxson Ranch,**	**54.44**	**327**	⇓P		**P**	**04 00 00.6**	**0.0**
	baz=55							
633A	**Saathoff Ranch**	**54.62**	**328**	⇓P		**P**	**04 00 02.1**	**+0.1**
	baz=55,SNR=6.8							
534A	**Blanco**	**54.74**	**329**	⇑P		**P**	**04 00 03.1**	**+0.3**
	baz=55							
435B	**Jarrell**	**54.94**	**330**	⇑P		**P**	**04 00 04.8**	**+0.6**
	baz=55							
632A	**Uvalde**	**54.97**	**328**	⇑P		**P**	**04 00 04.7**	**+0.2**
	baz=55							
533A	**Kerrville**	**55.05**	**329**	⇓P		**P**	**04 00 05.5**	**+0.4**
	baz=55							
434A	**Burnet**	**55.29**	**330**	⇑P		**P**	**04 00 07.1**	**+0.3**
	baz=55							
631A	**Perdido Creek**	**55.30**	**327**	⇑P		**P**	**04 00 06.8**	**-0.1**
	baz=55							
532A	**Rocksprings**	**55.53**	**328**	⇓P		**P**	**04 00 08.6**	**0.0**
	baz=56							
433A	**Art**	**55.64**	**329**	⇓P		**P**	**04 00 09.1**	**-0.1**
	baz=56							
334A	**Lometa**	**55.70**	**330**	⇓P		**P**	**04 00 09.5**	**-0.2**
	baz=56							
JCT	**Junction City**	**55.77**	**328**	*e*P		**P**	**04 00 09.9**	**-0.3**
	comp=N,4.1nm,0.6s							
JCT	**Junction City**	**55.77**	**328**	⇑P		**P**	**04 00 10.2**	**0.0**
	baz=56							
WHTX	**Lake Whitney**	**55.89**	**331**	⇑P		**P**	**04 00 11.1**	**+0.1**
	baz=56							
531A	**Rocksprings**	**55.89**	**327**	⇓P		**P**	**04 00 11.3**	**+0.2**
	baz=56							
333A	**Richland Sprin**	**56.06**	**330**	⇓P		**P**	**04 00 12.3**	**+0.1**
	baz=56							
432A	**Menard**	**56.09**	**329**	⇑P		**P**	**04 00 12.2**	**-0.2**
	baz=56,SNR=6.6							
234A	**Clairette**	**56.22**	**331**	⇑P		**P**	**04 00 13.3**	**0.0**
	baz=56,SNR=8.3							
530A	**J-C Ranch, Com**	**56.29**	**327**	⇑P		**P**	**04 00 14.0**	**0.0**
	baz=56							
431A	**Sonora**	**56.34**	**328**	⇑P		**P**	**04 00 14.2**	**-0.1**
	baz=56,SNR=5.2							
332A	**Millersview**	**56.47**	**329**	⇑P		**P**	**04 00 15.3**	**+0.1**
	baz=57,SNR=7.6							
233A	**Rising Star**	**56.59**	**330**	⇑P		**P**	**04 00 16.0**	**0.0**
	baz=57,SNR=7.2							
628A	**Black Gap, Mar**	**56.60**	**325**	⇓P		**P**	**04 00 16.3**	**+0.1**
	baz=57,SNR=5.5							
134A	**White-Moore Ra**	**56.66**	**331**	⇓P		**P**	**04 00 16.9**	**+0.4**
	baz=57							
529A	**Stev Forest Ra**	**56.74**	**326**	⇓P		**P**	**04 00 17.2**	**+0.1**
	baz=57,SNR=6.3							
430A	**Baggett Ranch,**	**56.74**	**327**	⇑P		**P**	**04 00 17.3**	**+0.1**
	baz=57							
331A	**San Angelo**	**56.75**	**328**	⇑P		**P**	**04 00 17.0**	**-0.1**
	baz=57							
232A	**Coleman**	**56.84**	**329**	⇓P		**P**	**04 00 17.6**	**-0.1**
	baz=57,SNR=5.4							
627A	**Terlingua Ranc**	**56.85**	**325**	⇑P		**P**	**04 00 18.1**	**+0.1**
	baz=57							
TXAR	**Lajitas Array**	**56.91**	**324**	P		**P**	**04 00 18.1**	**-0.3**
TXAR				pP		**pP**	**04 00 53.9**	**+0.8**
TXAR	**Lajitas Array**	**56.91**	**324**	P		**P**	**04 00 18.1**	**-0.3**
	comp=N,0.9nm,0.7s,baz=151,slow=9.2,SNR=9.6							
TXAR				pP		**pP**	**04 00 53.9**	**+0.8**
	comp=N,1.9nm,0.8s,baz=148,slow=7.4,SNR=9.5							
Z35A	**Perchaven, San**	**56.93**	**332**	⇑P		**P**	**04 00 18.5**	**+0.2**
	baz=57							
429A	**Davenport Ranc**	**56.96**	**327**	⇓P		**P**	**04 00 18.6**	**0.0**
	baz=57,SNR=7.4							
528A	**Cox Ranch, San**	**57.07**	**326**	⇓P		**P**	**04 00 19.4**	**-0.1**
	baz=57							
133A	**Hamilton Ranch**	**57.08**	**330**	⇑P		**P**	**04 00 19.3**	**-0.1**
	baz=57,SNR=5.5							
231A	**Bronte**	**57.20**	**329**	⇑P		**P**	**04 00 20.2**	**-0.2**
	baz=57							
330A	**Mertzon**	**57.21**	**328**	⇓P		**P**	**04 00 20.3**	**-0.1**
	baz=57							
Z34A	**Collier Ranch,**	**57.26**	**332**	⇓P		**P**	**04 00 20.7**	**+0.1**
	baz=57							
626A	**Big Bend Ranch**	**57.34**	**324**	⇑P		**P**	**04 00 21.6**	**+0.2**
	baz=58,SNR=5.3							
ABTX	**Abilene, Hawle**	**57.44**	**330**	*e*P		**P**	**04 00 21.3**	**-0.6**
	comp=N,5.4nm,0.8s							
ABTX				*e*pP		**pP**	**04 00 58.3**	**+1.6**
ABTX	**Abilene, Hawle**	**57.44**	**330**	⇑P		**P**	**04 00 21.9**	**0.0**
	baz=58							
428A	**Kincaid Ranch,**	**57.46**	**326**	⇑P		**P**	**04 00 22.5**	**+0.4**
	baz=58							
527A	**Woodward Ranch**	**57.51**	**325**	⇑P		**P**	**04 00 22.7**	**+0.1**
	baz=58							
230A	**Sterling City**	**57.56**	**328**	⇓P		**P**	**04 00 23.0**	**+0.1**
	baz=58							
Z33A	**Whitaker Ranch**	**57.58**	**331**	⇓P		**P**	**04 00 23.0**	**+0.1**
	baz=58,SNR=6.8							
Y34A	**Reagan Ranch,**	**57.68**	**332**	⇓P		**P**	**04 00 23.7**	**+0.1**
	baz=58,SNR=5.2							
329A	**Wagon Wheel Ra**	**57.69**	**327**	⇓P		**P**	**04 00 23.6**	**-0.1**
	baz=58							
526A	**Mary Lane Ranc**	**57.70**	**324**	⇑P		**P**	**04 00 23.9**	**-0.1**
	baz=58							
131A	**Roby**	**57.84**	**329**	⇓P		**P**	**04 00 24.8**	**+0.1**
	baz=58							
Z32A	**Haskell**	**57.92**	**330**	⇑P		**P**	**04 00 25.4**	**+0.1**
	baz=58							
427A	**Hayter Ranch,**	**57.94**	**326**	⇑P		**P**	**04 00 25.8**	**+0.3**
	baz=58							
229A	**Bryant Ranch,**	**57.98**	**328**	⇓P		**P**	**04 00 25.8**	**0.0**
	baz=58							
328A	**Wristen Ranch,**	**58.04**	**326**	⇑P		**P**	**04 00 26.3**	**+0.1**
	baz=58							
130A	**Snyder**	**58.06**	**329**	⇓P		**P**	**04 00 26.5**	**+0.2**
	baz=58							
Y33A	**Hilltop Ranch,**	**58.11**	**332**	⇓P		**P**	**04 00 26.7**	**+0.1**
	baz=58							
426A	**McDonald Obser**	**58.14**	**325**	⇑P		**P**	**04 00 27.0**	**-0.1**
	baz=58							
Z31A	**Sharp Cattle R**	**58.25**	**330**	⇓P		**P**	**04 00 27.5**	**-0.1**
	baz=58,SNR=5.4							
X34A	**Smith Ranch, M**	**58.26**	**333**	⇓P		**P**	**04 00 27.6**	**0.0**
	baz=58							
327A	**Balmorhea Ranc**	**58.39**	**326**	⇑P		**P**	**04 00 29.3**	**+0.6**
	baz=58							
Y32A	**R-V Farms, Ver**	**58.48**	**331**	⇓P		**P**	**04 00 29.5**	**+0.3**
	baz=59,SNR=6.9							
228A	**UT Block 9, Go**	**58.50**	**327**	⇓P		**P**	**04 00 29.5**	**+0.1**
	baz=59							
X33A	**Lawton**	**58.50**	**332**	⇑P		**P**	**04 00 29.9**	**+0.6**
	baz=59							
TUL1	**Tulsa**	**58.52**	**335**	⇓P		**P**	**04 00 29.7**	**+0.3**
	baz=59							
129A	**Stewart Farms,**	**58.54**	**328**	⇓P		**P**	**04 00 30.5**	**+0.8**
	baz=59							
Z30A	**Sanderson Ranc**	**58.70**	**329**	⇓P		**P**	**04 00 31.6**	**+0.9**
	baz=59							
425A	**Indio Mountain**	**58.76**	**324**	⇑P		**P**	**04 00 32.1**	**+0.8**
	baz=59							
X32A	**Elmer**	**58.76**	**331**	⇓P		**P**	**04 00 32.0**	**+1.0**
	baz=59							
W34A	**Bridge Creek,**	**58.77**	**333**	⇑P		**P**	**04 00 31.8**	**+0.7**
	baz=59							
227A	**Bennet, Jal**	**58.78**	**327**	⇑P		**P**	**04 00 32.2**	**+0.8**
	baz=59							
Y31A	**Rekieta Farm,**	**58.83**	**330**	⇓P		**P**	**04 00 32.4**	**+0.8**
	baz=59,SNR=5.7							
128A	**Castleberry Fa**	**58.85**	**328**	⇓P		**P**	**04 00 32.3**	**+0.5**
	baz=59							
Z29A	**Hungry Hill Ra**	**58.96**	**329**	⇑P		**P**	**04 00 33.0**	**+0.4**
	baz=59							
W33A	**Caddo, Fort Co**	**59.00**	**333**	⇑P		**P**	**04 00 33.3**	**+0.6**
	baz=59,SNR=7.1							
Y30A	**Stafford Cattl**	**59.07**	**330**	⇑P		**P**	**04 00 33.6**	**+0.3**
	baz=59							
V34A	**Guthrie**	**59.17**	**334**	⇓P		**P**	**04 00 34.5**	**+0.7**
	baz=59							
X31A	**McDonald Ranch**	**59.25**	**331**	⇓P		**P**	**04 00 34.8**	**+0.3**
	baz=59,SNR=8.2							
226B	**Tecolote Peak,**	**59.30**	**326**	⇑P		**P**	**04 00 35.4**	**+0.4**
	baz=59							
W32A	**Sentinel**	**59.32**	**332**	⇓P		**P**	**04 00 35.4**	**+0.4**
	baz=60							
Z28A	**Tucker Farm, M**	**59.33**	**328**	⇑P		**P**	**04 00 35.6**	**+0.5**
	baz=60							
127A	**Arkansas Junct**	**59.34**	**327**	⇑P		**P**	**04 00 35.8**	**+0.5**
	baz=60							
Y29A	**Porterfield Fa**	**59.43**	**329**	⇑P		**P**	**04 00 36.5**	**+0.7**
	baz=60							
V33A	**Lossen Ranch,**	**59.49**	**333**	⇓P		**P**	**04 00 36.7**	**+0.7**
	baz=60							
X30A	**Coker Ranch, T**	**59.52**	**330**	⇓P		**P**	**04 00 36.9**	**+0.6**
	baz=60							
225A	**Deer Hill, Car**	**59.68**	**325**	⇑P		**P**	**04 00 38.0**	**+0.3**
	baz=60							
U34A	**Anderson Ranch**	**59.69**	**334**	⇑P		**P**	**04 00 38.3**	**+0.9**
	baz=60							
W31A	**Holland Ranch,**	**59.69**	**331**	⇓P		**P**	**04 00 38.3**	**+0.8**
	baz=60							
V32A	**Arapaho**	**59.73**	**332**	⇑P		**P**	**04 00 38.3**	**+0.5**
	baz=60							
Y28A	**McKinney Farm,**	**59.75**	**329**	⇑P		**P**	**04 00 38.8**	**+0.8**
	baz=60							
Z27A	**Tatum**	**59.77**	**328**	⇓P		**P**	**04 00 39.1**	**+0.9**
	baz=60,SNR=5.7							
U33A	**Lingo Farm, Me**	**59.93**	**334**	⇑P		**P**	**04 00 39.8**	**+0.8**
	baz=60							
W30A	**Crocket Farms**	**59.98**	**331**	⇑P		**P**	**04 00 40.0**	**+0.5**
	baz=60							
125A	**Gardner Draw,**	**60.01**	**326**	⇑P		**P**	**04 00 40.5**	**+0.6**
	baz=60							
MSTX	**Muleshoe**	**60.06**	**328**	*e*P		**P**	**04 00 39.6**	**-0.6**
	comp=N,2.5nm,0.5s							
MSTX				*e*pP		**pP**	**04 01 16.6**	**+1.4**
MSTX	**Muleshoe**	**60.06**	**328**	⇓P		**P**	**04 00 40.6**	**+0.4**
	baz=60							
Z26A	**Caprock**	**60.13**	**327**	⇓P		**P**	**04 00 40.8**	**+0.2**
	baz=60							
V31A	**Spring Creek L**	**60.13**	**332**	⇑P		**P**	**04 00 41.0**	**+0.4**
	baz=60							
Y27A	**Causey**	**60.19**	**328**	⇑P		**P**	**04 00 41.6**	**+0.5**
	baz=60							
Z25A	**Roswell**	**60.52**	**326**	⇑P		**P**	**04 00 43.3**	**0.0**
	baz=61							
X27A	**F and S Farms,**	**60.76**	**329**	⇑P		**P**	**04 00 45.3**	**+0.4**
	baz=61							
Z24A	**Sheeppen Canyo**	**60.91**	**326**	⇓P		**P**	**04 00 46.0**	**0.0**
	baz=61							
Y25A	**Mesa, Roswell**	**61.01**	**327**	⇓P		**P**	**04 00 46.9**	**+0.3**
	baz=61							
X26A	**CR and CF Fran**	**61.05**	**328**	⇓P		**P**	**04 00 46.9**	**0.0**
	baz=61							
U30A	**W&E Inc. Balk**	**61.13**	**332**	⇓P		**P**	**04 00 47.6**	**+0.4**
	baz=61							
T31A	**Randall Ranch,**	**61.16**	**333**	⇑P		**P**	**04 00 47.7**	**+0.3**
	baz=61							
V28A	**Channing**	**61.22**	**330**	⇓P		**P**	**04 00 48.8**	**+0.9**
	baz=61							
BBTS	**Babate**	**61.26**	**62**	P		**P**	**04 00 47.6**	**-0.8**
BBTS	**Babate**	**61.26**	**62**	P		**P**	**04 00 47.6**	**-0.8**
	comp=N,10nm,0.7s,baz=193,slow=1.4,SNR=3.7							
S32A	**Newby Ranch, P**	**61.35**	**334**	⇓P		**P**	**04 00 49.4**	**+0.7**
	baz=62							
S31A	**Mullinville**	**61.52**	**333**	⇑P		**P**	**04 00 51.0**	**+1.1**
	baz=62							
121A	**Cookes Peak, D**	**61.64**	**324**	⇓P		**P**	**04 00 51.8**	**+0.9**
	baz=62							
319A	**Douglas**	**61.66**	**322**	⇑P		**P**	**04 00 51.7**	**+0.7**
	baz=62							
Z22A	**Elephant Butte**	**61.72**	**325**	⇓P		**P**	**04 00 52.2**	**+0.8**
	baz=62							
R32A	**Long Quarter,**	**61.87**	**334**	⇓P		**P**	**04 00 52.9**	**+0.8**
	baz=62							
Q33A	**Connelly Farm,**	**62.00**	**335**	⇓P		**P**	**04 00 53.9**	**+0.9**
	baz=62							
V26A	**Tequesquite Ra**	**62.02**	**329**	⇑P		**P**	**04 00 54.1**	**+0.8**
	baz=62							
U27A	**Thompson Grove**	**62.05**	**330**	⇑P		**P**	**04 00 54.3**	**+0.8**
	baz=62							
R31A	**Burdett**	**62.10**	**334**	⇑P		**P**	**04 00 54.5**	**+0.8**
	baz=62							
Q32A	**Meitler Ranch,**	**62.29**	**335**	⇓P		**P**	**04 00 55.8**	**+0.9**
	baz=62,SNR=5.1							
W24A	**Lazy 6 Ranch,**	**62.38**	**327**	⇓P		**P**	**04 00 56.7**	**+0.9**
	baz=62							
U26A	**Atchley Ranch,**	**62.47**	**329**	⇑P		**P**	**04 00 57.2**	**+0.8**
	baz=63							
LAZ	**Ladron**	**62.68**	**325**	*e*P		**P**	**04 00 58.4**	**+0.6**
	comp=N,1.5nm,0.9s							
LAZ				*e*			04 01 35.2	
ANMO	**Albuquerque**	**62.72**	**326**	pP		pP	04 01 35.2	+1.7
ANMO	**Albuquerque**	**62.72**	**326**	pP		pP	04 01 35.2	+1.7
	baz=153,slow=9.9							
R29A	**Marienthal**	**62.91**	**333**	⇑P		**P**	**04 00 59.8**	**+0.6**
	baz=63							
Q30A	**Quinter**	**62.97**	**334**	⇑P		**P**	**04 01 00.3**	**+0.8**
	baz=63							
P31A	**Stockton**	**63.07**	**334**	⇓P		**P**	**04 01 01.1**	**+1.0**
	baz=63							
R28A	**Tribune**	**63.14**	**332**	⇑P		**P**	**04 01 01.4**	**+0.7**
	baz=63							
Q29A	**Oakley**	**63.22**	**333**	⇓P		**P**	**04 01 02.1**	**+0.9**
	baz=63							
S26A	**Kim**	**63.32**	**330**	⇑P		**P**	**04 01 02.8**	**+0.8**
	baz=64							
O31A	**Woolen Ranch,**	**63.59**	**335**	⇓P		**P**	**04 01 04.2**	**+0.7**
	baz=64							
V22A	**San Miguel Ran**	**63.70**	**327**	⇑P		**P**	**04 01 05.5**	**+0.9**
	baz=64							
P29A	**Atwood**	**63.79**	**333**	⇓P		**P**	**04 01 06.1**	**+1.2**
	baz=64							
R26A	**Arlington**	**63.85**	**331**	⇑P		**P**	**04 01 06.4**	**+1.0**
	baz=64							
U22A	**Llaves**	**64.03**	**327**	⇑P		**P**	**04 01 07.8**	**+1.1**
	baz=64							
T23A	**Casias Ranch,**	**64.11**	**328**	⇓P		**P**	**04 01 08.4**	**+1.1**
	baz=64							
P28A	**Saint Francis**	**64.13**	**333**	⇓P		**P**	**04 01 08.4**	**+1.3**
	baz=64							
S24A	**Houghin Ranch,**	**64.17**	**329**	⇓P		**P**	**04 01 08.8**	**+1.0**
	baz=64							
214A	**Organ Pipe Nat**	**64.21**	**320**	⇑P		**P**	**04 01 08.8**	**+1.0**
	baz=64							
VNA1	**Neumayer--Stat**	**64.36**	**161**	P		**P**	**04 01 10.0**	**+1.9**
M31A	**Lambtecht Ranc**	**64.46**	**336**	⇓P		**P**	**04 01 10.5**	**+1.3**
	baz=65							
R24A	**Sanders Place,**	**64.59**	**330**	⇓P		**P**	**04 01 11.2**	**+0.9**
	baz=65							
S23A	**Nye Farm, Mont**	**64.62**	**329**	⇓P		**P**	**04 01 11.4**	**+0.8**
	baz=65							
W18A	**Petrified Fore**	**64.64**	**324**	⇑P		**P**	**04 01 11.6**	**+0.9**
	baz=65							
VNA2	**Neumayer--Watz**	**64.73**	**161**	P		**P**	**04 01 12.0**	**+1.4**
R23A	**Moffat**	**64.91**	**329**	⇓P		**P**	**04 01 13.7**	**+1.3**
	baz=65							
O27A	**Beecher Island**	**64.95**	**333**	⇓P		**P**	**04 01 13.4**	**+0.9**
	baz=65							
S22A	**4UR Ranch, Cre**	**65.06**	**328**	⇓P		**P**	**04 01 14.0**	**+0.5**
	baz=65							
X16A	**Lo Mia Camp, P**	**65.10**	**323**	⇓P		**P**	**04 01 14.7**	**+1.0**
	baz=65							
L31A	**Butterfield Fa**	**65.12**	**336**	⇑P		**P**	**04 01 14.2**	**+0.7**
	baz=65							
P25A	**Willow Gulch B**	**65.16**	**331**	⇓P		**P**	**04 01 14.7**	**+0.7**
	baz=65							
L30A	**Spencer Herefo**	**65.27**	**336**	⇓P		**P**	**04 01 15.7**	**+1.3**
	baz=65							
113A	**Mohawk Valley,**	**65.35**	**320**	⇑P		**P**	**04 01 16.1**	**+1.0**
	baz=66							
MVCO	**Mesa Verde**	**65.52**	**327**	⇓P		**P**	**04 01 17.1**	**+0.8**
	baz=66							
ECSD	**EROS Data Cent**	**65.66**	**339**	*e*P		**P**	**04 01 16.1**	**-0.8**
	comp=N,27nm,1.4s							
ECSD				*e*pP		**pP**	**04 01 54.0**	**+1.5**
Y14A	**Wickenburg**	**65.69**	**321**	⇑P		**P**	**04 01 18.3**	**+0.9**
	baz=66							
SPMN	**St. Paul**	**65.78**	**342**	*e*P		**P**	**04

baz=70
PDAR **Pinedale Array** 70.24 330 P P 04 01 45.6 -0.2
PDAR pP pP 04 02 22.9 +1.1
PDAR **Pinedale Array** 70.24 330 P P 04 01 45.6 -0.2
comp=N,0.5nm,0.4s,baz=125,slow=9.1,SNR=8.7
PDAR pP pP 04 02 22.9 +1.1
comp=N,1.1nm,0.8s,baz=163,slow=7.5,SNR=3.1
GRAC **Grapevine Rang** 70.38 321 ⇑P P 04 01 47.6 +1.1
baz=70
VES **Vestal, Richgr** 70.68 319 ⇑P P 04 01 49.8 +1.5
baz=71
D25A **Fairfield** 71.03 336 ⇑P P 04 01 51.4 +1.2
baz=71
ULM **Lac du Bonnet** 71.22 343 *e*P P 04 01 49.8 -1.3
comp=N,8.6nm,0.8s
ULM **Lac du Bonnet** 71.22 343 P P 04 01 49.9 -1.3
comp=N,9.1nm,0.4s,baz=150,slow=5.5,SNR=39
NVAR **Mina Array Bea** 71.88 322 P P 04 01 56.4 +0.6
NVAR pP pP 04 02 34.0 +2.1
NVAR **Mina Array Bea** 71.88 322 P P 04 01 56.4 +0.6
comp=N,1.7nm,0.8s,baz=134,slow=6.4,SNR=14
NVAR pP pP 04 02 34.0 +2.1
comp=N,1.3nm,0.8s,baz=159,slow=7.2,SNR=4.6
D22A **Cohagen** 72.16 335 ⇓P P 04 01 58.1 +1.1
baz=72
QSPA **South Pole Qui** 72.79 180 *e*P P 04 02 02.1 +1.5
comp=N,9.2nm,1.1s
QSPA *e*pP pP 04 02 37.6 +0.7
QSPA **South Pole Qui** 72.79 180 P P 04 02 02.1 +1.5
baz=143,slow=3.9
HLID **Hailey** 73.23 328 *e*P P 04 02 05.4 +1.8
comp=N,38nm,2.6s
HLID **Hailey** 73.23 328 ⇓P P 04 02 04.9 +1.3
baz=73
MFID **Camas Ranch** 73.86 327 *e*P P 04 02 08.0 +0.8
comp=N,7.7nm,1.1s
EGMT **Eagleton** 74.35 333 *e*P P 04 02 09.2 -0.6
comp=N,32nm,1.7s
EGMT *e*pP pP 04 02 47.4 +1.1
MOD **Modoc** 75.30 323 *e*P P 04 02 15.7 +0.2
comp=N,15nm,1.6s
BMO **Blue Mountains** 75.62 327 *e*P P 04 02 17.3 0.0
comp=N,10nm,1.7s
TOA0 **Torodi Ar. Sit** 76.62 72 *e*P P 04 02 22.6 -0.8
TOA0 *e*pP pP 04 02 59.9 -0.2
TORD **Torodi Ar. Bea** 76.62 72 P P 04 02 22.6 -0.8
TORD pP pP 04 03 00.7 +0.7
TORD **Torodi Ar. Bea** 76.62 72 P P 04 02 22.6 -0.8
comp=N,75nm,0.8s,baz=257,slow=5.4,SNR=516
TORD pP pP 04 03 00.7 +0.7
comp=N,4.6nm,0.8s,baz=245,slow=6.8,SNR=1.1
TORD LR LR 04 36 20.9
comp=N,116nm,18.1s,baz=235,slow=36
J05D **Fort Rock, OR** 76.71 324 ⇓P P 04 02 24.5 +0.9
baz=77
FFC **Flin Flon** 76.94 341 *e*P P 04 02 24.1 -0.2
comp=N,5.3nm,1.0s
I04A **Tendick Farm,** 77.69 324 ⇑P P 04 02 30.5 +1.7
baz=78
G05D **Wamic, OR** 78.01 325 ⇓P P 04 02 32.0 +1.4
baz=78
FCC **Fort Churchill** 78.49 347 *e*P P 04 02 31.7 -1.1
comp=N,0.1nm,0.8s
PFVI **Vila Bisbo** 78.80 45 *e*P P 04 02 35.9 +0.9
comp=N,48nm,1.4s
MORF **Marmelete** 79.01 45 *e*P P 04 02 36.8 +0.6
comp=N,39nm,2.1s
PTEO **Sao Teotonio** 79.08 45 *e*P P 04 02 36.9 +0.4
comp=N,59nm,1.8s
PBDV **Barranco-do-Ve** 79.46 46 *e*P P 04 02 39.5 +0.8
comp=N,38nm,1.2s
PNCL **Nicolau / Gran** 79.51 45 *e*P P 04 02 39.3 +0.4
comp=N,31nm,2.1s
MESJ **Messejana** 79.58 45 *e*P P 04 02 39.4 +0.2
MESJ AMb AMB 04 02 42.2
comp=Z,28nm,1.5s
MESJ **Messejana** 79.58 45 *e*P P 04 02 39.4 +0.2
comp=Z,28nm,1.5s
D05A **Enumclaw** 79.61 327 *e*P P 04 02 40.4 +1.2
comp=Z,15nm,0.9s
PVAQ **Vaqueiros** 79.69 46 *e*P P 04 02 40.2 +0.3
comp=Z,19nm,2.0s
PBEJ **Beja** 79.91 45 *e*P P 04 02 40.3 -0.8
comp=Z,15nm,1.5s
EVOP **Sao Brissos** 80.00 44⇑*i*P P 04 02 41.1 -0.4
comp=Z,34nm,0.9s
EVO **Evora** 80.08 44⇑*i*P P 04 02 41.1 -0.8
comp=Z,34nm,0.9s
EVO **Evora** 80.08 44 *e*P P 04 02 42.2 +0.3
comp=Z,17nm,1.6s
PMTG **Montargil** 80.22 44 *e*P P 04 02 42.9 +0.3
comp=Z,23nm,1.8s
PTOM **Tomar** 80.39 43 *e*P P 04 02 43.6 +0.1
comp=Z,53nm,1.1s
PESTR **Estremoz** 80.53 44 *e*P P 04 02 44.6 +0.2
comp=Z,25nm,2.0s
PCAS **Casmilo, Conde** 80.56 43 *e*P P 04 02 44.5 0.0
comp=Z,52nm,2.3s
VNDA **Vanda** 80.78 190 *e*P P 04 02 46.7 +1.7
comp=Z,7.6nm,0.9s
VNDA **Vanda** 80.78 190 P P 04 02 46.2 +1.2
comp=Z,6.5nm,0.8s,baz=131,slow=4.8,SNR=17
PMRV **Marv??o** 80.96 44 *e*P P 04 02 46.6 0.0
comp=Z,20nm,1.5s
PCBR **Castelo Branco** 81.11 44 *e*P P 04 02 47.5 +0.1
comp=Z,24nm,1.8s
PVIS **Viseu** 81.30 43 *e*P P 04 02 48.4 0.0
comp=Z,32nm,1.9s
MTE **Manteigas** 81.36 43 *e*P P 04 02 48.6 -0.2
comp=Z,32nm,1.3s
MTE **Manteigas** 81.36 43 *e*P P 04 02 48.7 -0.1
comp=Z,21nm,0.9s
PVRL **Vila Real** 81.71 42 *e*P P 04 02 50.3 -0.3
comp=Z,33nm,2.0s
POLO **Lamas de Olo** 81.71 42 *e*P P 04 02 50.5 -0.1
comp=Z,22nm,1.0s
PCAB **Cabril** 81.74 42 *e*P P 04 02 50.3 -0.4
comp=Z,38nm,1.7s
TSUM **Tsumeb** 81.86 108 *e*P P 04 02 52.3 +0.3
comp=Z,7.2nm,0.9s
MVO **Moncorvo** 82.09 43 *e*P P 04 02 52.7 +0.1
comp=Z,36nm,1.0s
PBRG **Bragança** 82.61 42 *e*P P 04 02 55.4 +0.2
comp=Z,32nm,2.1s
PAB **San Pablo** 83.05 45 *e*P P 04 02 57.6 0.0
comp=Z,2.4nm,0.7s
ESDC **Sonseca Array** 83.38 45 P P 04 02 59.2 -0.1
ESDC **Sonseca Array** 83.38 45 P P 04 02 59.2 -0.1
comp=Z,6.4nm,0.7s,baz=255,slow=5.1,SNR=44
TAM **Tamanrasset** 83.57 64 *e*P P 04 03 01.1 +0.4
comp=Z,14nm,1.3s
BOSA **Boshof** 85.95 119 *e*P P 04 03 12.8 +0.1
comp=Z,4.2nm,0.6s
BOSA **Boshof** 85.95 119 P P 04 03 13.9 +1.2
comp=Z,1.0nm,0.5s,baz=250,slow=3.6,SNR=3.4
SJPF **Ste Jean** 86.81 43 *e*P P 04 03 15.6 -0.6
comp=Z,36nm,1.0s
SJPF **Ste Jean** 86.81 43 *e*P P 04 03 15.6 -0.6
comp=Z,36nm,1.0s
YKA **Yellowknife Ar** 87.11 341 P P 04 03 17.1 -0.1
YKA pP pP 04 03 55.5 +0.8
YKA **Yellowknife Ar** 87.11 341 P P 04 03 17.1 -0.1
comp=Z,4.8nm,0.6s,baz=133,slow=4.8,SNR=87
YKA pP pP 04 03 55.4 +0.8
comp=Z,1.4nm,0.7s,baz=137,slow=4.9,SNR=2.5
ETSF **Etsaut** 87.15 43 *e*P P 04 03 17.2 -0.7
comp=Z,34nm,0.8s
ETSF **Etsaut** 87.15 43 *e*P P 04 03 17.2 -0.7
comp=Z,34nm,0.8s
YKW3 **Yellowknife Ar** 87.16 341 *e*P P 04 03 17.4 0.0
comp=Z,0.2nm,0.9s
LBTB **Lobatse** 87.33 115 *e*P P 04 03 19.3 -0.1
comp=Z,4.4nm,0.8s
EPF **Esparros** 87.80 44 *e*P P 04 03 19.9 -1.1
comp=Z,20nm,0.9s
EPF **Esparros** 87.80 44 *e*P P 04 03 19.9 -1.1
comp=Z,20nm,0.9s
QUIF **Quistinic** 87.86 38 *e*P P 04 03 19.2 -1.9
comp=Z,33nm,1.1s
QUIF **Quistinic** 87.86 38 *e*P P 04 03 19.2 -1.9
comp=Z,33nm,1.1s
ROSF **Rostrenen** 88.00 38 *e*P P 04 03 20.0 -1.8
comp=Z,30nm,0.9s
ROSF **Rostrenen** 88.00 38 *e*P P 04 03 20.0 -1.8
comp=Z,30nm,0.9s
SGMF **Saint Gilles** 88.39 38 *e*P P 04 03 21.5 -2.1
SGMF **Saint Gilles** 88.39 38 *e*P P 04 03 21.5 -2.1
MAW **Mawson** 88.44 164 *e*P P 04 03 25.2 +1.7
comp=Z,3.5nm,0.8s
MAW **Mawson** 88.44 164 P P 04 03 24.8 +1.2
comp=Z,12nm,0.6s,baz=186,slow=4.1,SNR=6.5
LFF **La Frestale** 88.89 42 *e*P P 04 03 24.7 -1.3
comp=Z,59nm,1.0s
LFF **La Frestale** 88.89 42 *e*P P 04 03 24.7 -1.3
comp=Z,59nm,1.0s
MFF **Saint Martin d** 89.07 40 *e*P P 04 03 25.8 -1.1
comp=Z,18nm,0.9s
MFF **Saint Martin d** 89.07 40 *e*P P 04 03 25.8 -1.1
comp=Z,18nm,0.9s
MTLF **Montolieu** 89.17 44 *e*P P 04 03 26.0 -1.4
comp=Z,39nm,1.0s
MTLF **Montolieu** 89.17 44 *e*P P 04 03 26.0 -1.4
comp=Z,39nm,1.0s
GRR **Gorron** 89.45 38 *e*P P 04 03 26.6 -2.0
comp=Z,64nm,1.0s
GRR **Gorron** 89.45 38 *e*P P 04 03 26.6 -2.0
comp=Z,64nm,1.0s
RJF **Les Rejaudoux** 89.55 42 *e*P P 04 03 27.5 -1.6
comp=Z,25nm,0.9s
RJF **Les Rejaudoux** 89.55 42 *e*P P 04 03 27.5 -1.6
comp=Z,25nm,0.9s
CAF **Calviac** 89.74 42 *e*P P 04 03 29.2 -0.9
comp=Z,18nm,0.9s
CAF **Calviac** 89.74 42 *e*P P 04 03 29.2 -0.9
comp=Z,18nm,0.9s
FLN **La Foliniere** 89.84 38 *e*P P 04 03 28.6 -1.8
comp=Z,20nm,0.8s
FLN **La Foliniere** 89.84 38 *e*P P 04 03 28.6 -1.8
comp=Z,20nm,0.8s
LDF **La Druitiere** 89.98 38 *e*P P 04 03 29.7 -1.3
comp=Z,22nm,0.7s
LDF **La Druitiere** 89.98 38 *e*P P 04 03 29.7 -1.3
comp=Z,22nm,0.7s
TCF **Toulx Ste Croi** 90.41 41 *e*P P 04 03 31.8 -1.3
comp=Z,12nm,0.9s
TCF **Toulx Ste Croi** 90.41 41 *e*P P 04 03 31.8 -1.3
comp=Z,12nm,0.9s
LASF **Ste Croix** 90.56 44 *e*P P 04 03 32.7 -1.2
comp=Z,28nm,1.1s
LASF **Ste Croix** 90.56 44 *e*P P 04 03 32.7 -1.2
comp=Z,28nm,1.1s
BGF **Bois d'Agland** 90.92 41 *e*P P 04 03 34.3 -1.2
comp=Z,19nm,0.7s
BGF **Bois d'Agland** 90.92 41 *e*P P 04 03 34.3 -1.2
comp=Z,19nm,0.7s
HYF **Humbligny** 91.08 40 *e*P P 04 03 35.3 -0.9
HYF **Humbligny** 91.08 40 *e*P P 04 03 35.3 -0.9
KEST **Kesra** 91.35 53 *e*P P 04 03 37.7 -0.1
KEST **Kesra** 91.35 53 P P 04 03 37.9 0.0
comp=Z,3.0nm,0.9s,baz=261,slow=3.5,SNR=8.9
VIVF **Saint-Julien-l** 91.40 43 *e*P P 04 03 36.8 -1.0
comp=Z,23nm,1.0s
VIVF **Saint-Julien-l** 91.40 43 *e*P P 04 03 36.8 -1.0
comp=Z,23nm,1.0s
SSF **Saint Saulge** 91.54 41 *e*P P 04 03 36.7 -1.6
comp=Z,9.2nm,0.9s
SSF **Saint Saulge** 91.54 41 *e*P P 04 03 36.7 -1.6
comp=Z,9.2nm,0.9s
SMF **Signal de Mont** 91.58 41 *e*P P 04 03 37.5 -1.0
comp=Z,14nm,0.7s
SMF **Signal de Mont** 91.58 41 *e*P P 04 03 37.5 -1.0
comp=Z,14nm,0.7s
SMRF **Simiane la Rot** 91.66 44 *e*P P 04 03 38.4 -0.6
SMRF **Simiane la Rot** 91.66 44 *e*P P 04 03 38.4 -0.6
LOR **Lormes** 91.84 41 *e*P P 04 03 38.2 -1.5
comp=Z,8.5nm,0.9s
LOR **Lormes** 91.84 41 *e*P P 04 03 38.2 -1.5
comp=Z,8.5nm,0.9s
ORIF **Oris-en-Rattie** 92.22 43 *e*P P 04 03 41.6 0.0
comp=Z,31nm,0.8s
ORIF **Oris-en-Rattie** 92.22 43 *e*P P 04 03 41.6 0.0
comp=Z,31nm,0.8s
MBDF **Montbardon** 92.73 44 *e*P P 04 03 43.8 -0.3
MBDF **Montbardon** 92.73 44 *e*P P 04 03 43.8 -0.3
BNI **Bardonecchia** 92.79 44 *e*P P 04 03 43.8 -0.5
comp=Z,33nm,1.4s
SFTF **Sexfontaines** 92.94 40 *e*P P 04 03 42.9 -1.9
comp=Z,26nm,1.0s
SFTF **Sexfontaines** 92.94 40 *e*P P 04 03 42.9 -1.9
comp=Z,26nm,1.0s
CABF **La Chapelle** 92.99 42 *e*P P 04 03 43.7 -1.5
CABF **La Chapelle** 92.99 42 *e*P P 04 03 43.7 -1.5
LPL **La Plagne** 93.00 43 *e*P P 04 03 44.8 -0.6
comp=Z,17nm,0.9s
LPL **La Plagne** 93.00 43 *e*P P 04 03 44.8 -0.6
comp=Z,17nm,0.9s
LPG **La Plagne** 93.01 43 *e*P P 04 03 44.9 -0.6
comp=Z,20nm,0.9s
LPG **La Plagne** 93.01 43 *e*P P 04 03 44.9 -0.6
comp=Z,20nm,0.9s
MEZF **Maizieres J'vi** 93.07 40 *e*P P 04 03 43.6 -1.7
comp=Z,17nm,0.7s
MEZF **Maizieres J'vi** 93.07 40 *e*P P 04 03 43.6 -1.7
comp=Z,17nm,0.7s
BAIF **Baives** 93.17 38 *e*P P 04 03 44.4 -1.3
BAIF **Baives** 93.17 38 *e*P P 04 03 44.4 -1.3
PAGF **Fort de Pagny** 93.50 40 *e*P P 04 03 45.8 -1.5
comp=Z,3.8nm,0.8s
PAGF **Fort de Pagny** 93.50 40 *e*P P 04 03 45.8 -1.5
comp=Z,3.8nm,0.8s
GIVF **Givet** 93.55 38 *e*P P 04 03 45.9 -1.6
comp=Z,18nm,0.8s
GIVF **Givet** 93.55 38 *e*P P 04 03 45.9 -1.6
comp=Z,18nm,0.8s
HAU **Haudompre** 93.68 41 *e*P P 04 03 46.7 -1.5
comp=Z,4.5nm,0.6s
HAU **Haudompre** 93.68 41 *e*P P 04 03 46.7 -1.5
comp=Z,4.5nm,0.6s
HINF **Hinteralfeld** 93.92 41 *e*P P 04 03 47.8 -1.6
comp=Z,5.2nm,0.8s
HINF **Hinteralfeld** 93.92 41 *e*P P 04 03 47.8 -1.6
comp=Z,5.2nm,0.8s
CDF **Champ du Feu** 94.41 41 *e*P P 04 03 49.8 -1.8
comp=Z,28nm,1.2s
CDF **Champ du Feu** 94.41 41 *e*P P 04 03 49.8 -1.8
comp=Z,28nm,1.2s
STU **Stuttgart** 95.72 41 *e*P P 04 03 57.0 -0.5
comp=Z,13nm,0.9s
INK **Inuvik** 96.87 340 *e*P P 04 04 01.5 -0.7
comp=Z,2.0nm,1.0s
GERES **GERESS Array B** 98.58 42 P P 04 04 10.0 -0.6
GERES **GERESS Array B** 98.58 42 P P 04 04 10.0 -0.6
comp=Z,1.5nm,0.8s,baz=259,slow=4.8,SNR=11
STKA **Stephens Creek** 122.62 212 PKP PKPdf 04 09 27.5 +0.4
STKA **Stephens Creek** 122.62 212 PKP PKPdf 04 09 27.5 +0.4
comp=Z,2.4nm,0.7s,baz=90,slow=3.0,SNR=5.0
ARU **Arti** 125.07 32 *e*PKPdf PKPdf 04 09 31.6 +0.6
H11N3 **WAKE ISLAND Hyd** 126.59 282 T T 06 29 36.9
baz=100
H11N2 **WAKE ISLAND Hyd** 126.61 282 T T 06 29 35.7
baz=100
H11N1 **WAKE ISLAND Hyd** 126.61 282 T T 06 29 34.5
baz=100
H11S2 **WAKE ISLAND Hyd** 126.62 280 T T 06 29 30.0
baz=100
H11S1 **WAKE ISLAND Hyd** 126.63 280 T T 06 29 30.0
baz=100
H11S3 **WAKE ISLAND Hyd** 126.64 280 T T 06 29 31.2
baz=100
ABKAR **Akbulak array** 128.50 40 *e*PKPdf PKPdf 04 09 38.5 +0.8
AS31 **Alice Springs** 133.19 210 *e*PKPdf PKPdf 04 09 47.8 +0.2
ASAR **Alice Springs** 133.19 210 PKP PKPdf 04 09 47.5 -0.1
ASAR PP PP 04 12 13.8 -0.8
ASAR SKPbc SKPbc 04 13 01.4 -0.5
ASAR **Alice Springs** 133.19 210 PKP PKPdf 04 09 47.5 -0.1
comp=Z,1.5nm,0.7s,baz=136,slow=2.0,SNR=20
ASAR PP PP 04 12 13.8 -0.8
comp=Z,1.3nm,1.1s,baz=140,slow=6.1,SNR=4.3
ASAR SKPbc SKPbc 04 13 01.4 -0.5
comp=Z,1.0nm,0.8s,baz=142,slow=3.5,SNR=4.6
WRA **Warramunga Arr** 136.09 213 PKPpre PKPpre 04 09 37.8
WRA PKP PKPdf 04 09 53.2 +0.2
WRA pPKP pPKPdf 04 10 32.4 0.0
WRA SKPbc SKPbc 04 13 10.7 -0.6
WRA **Warramunga Arr** 136.09 213 PKhKP PKPpre 04 09 37.8
comp=Z,0.6nm,1.0s,baz=143,slow=2.7,SNR=3.4
WRA PKP PKPdf 04 09 53.2 +0.2
comp=Z,2.5nm,0.6s,baz=150,slow=1.8,SNR=25
WRA pPKP pPKPdf 04 10 32.4 0.0
comp=Z,1.6nm,0.9s,baz=141,slow=1.9,SNR=3.7
WRA SKPbc SKPbc 04 13 10.7 -0.6
comp=Z,2.0nm,0.8s,baz=155,slow=2.5,SNR=8.0
WRAB **Tennant Creek** 136.10 213 *e*PKPdf PKPdf 04 09 53.6 +0.6
KURK **Kurchatov** 138.17 30 *e*PKPdf PKPdf 04 09 56.4 +0.6
ZAA0 **Zalesovo Array** 138.46 23 *e*PKPdf PKPdf 04 09 56.8 +0.5
ZAA0 *e*SKPbc SKPbc 04 13 17.8 +0.8
ZAA0 *e*SKPab SKPab 04 13 25.2 -0.8
ZALV **Zalesovo Beam** 138.46 23 PKP PKPdf 04 09 56.2 -0.1
ZALV pPKP pPKPdf 04 10 36.5 +0.8
ZALV SKPbc SKPbc 04 13 17.2 +0.1
ZALV **Zalesovo Beam** 138.46 23 PKP PKPdf 04 09 56.2 -0.1
comp=Z,3.7nm,0.6s,baz=301,slow=1.2,SNR=17
ZALV pPKP pPKPdf 04 10 36.5 +0.8
comp=Z,1.1nm,0.5s,baz=301,slow=3.0,SNR=2.2
ZALV SKPbc SKPbc 04 13 17.2 +0.1
comp=Z,4.0nm,0.9s,baz=318,slow=1.9,SNR=11
EKS2 **Erkin-Say** 139.97 43 *e*PKPdf PKPdf 04 09 59.7 +0.1
AAK **Ala-Archa** 140.45 43 *e*PKPdf PKPdf 04 09 60.0 -0.5
MKAR **Makanchi Array** 142.59 32 PKPpre PKPpre 04 09 58.8
MKAR PKP PKPdf 04 10 04.8 +0.7
MKAR pPKP pPKPdf 04 10 46.4 +2.8
MKAR SKPbc SKPbc 04 13 27.0 -1.2
MKAR **Makanchi Array** 142.59 32 PKhKP PKPpre 04 09 58.8
comp=Z,0.7nm,0.5s,baz=321,slow=3.2,SNR=14
MKAR PKP PKPdf 04 10 04.8 +0.7
comp=Z,0.6nm,0.6s,baz=304,slow=2.4,SNR=6.4
MKAR pPKP pPKPdf 04 10 46.4 +2.8
comp=Z,0.8nm,0.7s,baz=8.5,slow=2.5,SNR=3.1
MKAR SKPbc SKPbc 04 13 27.0 -1.2
comp=Z,1.2nm,0.8s,baz=321,slow=2.0,SNR=7.0
KSH **Kashi** 142.88 46 *e*PKP PKPdf 04 10 03.0 -1.9
KSH *e*SKS SKSdf 04 17 02.5 +1.5
KSH AMB AMB
comp=Z,44nm,4.1s
KSH LR LR
comp=Z,41nm,4.8s
KSH LR LR
comp=Z,39nm,4.5s
KSH LR LR
comp=Z,48nm,5.4s
TLY **Talaya** 145.36 7 *e*PKPbc PKPab 04 10 09.4 +0.3
TLY *e*pPKPdf pPKPdf 04 10 48.7 +0.5
WMQ **Urumqi** 147.40 31 PKPbc PKPdf 04 10 13.5 +1.0
WMQ pPKP pPKPdf 04 10 40.3 -12
WMQ sPKP 04 10 51.0
WMQ PKS PKSdf 04 13 47.5 -0.1
WMQ SKS SKSdf 04 17 10.5 +3.2
WMQ AMB AMB
comp=Z,14nm,7.4s
WMQ LR LR
comp=Z,37nm,18.7s
WMQ LR LR
comp=Z,53nm,18.9s
WMQ LR LR
comp=Z,51nm,19.5s
USRK **Ussuriysk Arra** 147.67 330 PKPbc PKPbc 04 10 15.8 +0.1
comp=Z,1.9nm,0.6s,baz=54,slow=5.7,SNR=5.9
USRK pPKPbc pPKPbc 04 10 54.0 -0.7
comp=Z,3.6nm,0.7s,baz=48,slow=2.1,SNR=3.1
MDJ **Mudanjiang** 148.42 333 PKPbc PKPdf 04 10 14.8 +0.8
MJAR **Matsushiro Arr** 148.90 313 PKPbc PKPbc 04 10 19.2 0.0
MJAR pPKPbc pPKPbc 04 10 57.6 -0.7
MJAR **Matsushiro Arr** 148.90 313 PKPbc PKPbc 04 10 19.2 0.0
comp=Z,2.3nm,0.8s,baz=112,slow=1.9,SNR=8.3
MJAR pPKPbc pPKPbc 04 10 57.6 -0.7
comp=Z,1.4nm,0.6s,baz=76,slow=1.9,SNR=2.8
SONM **Songino Array** 149.45 5 PKPbc PKPbc 04 10 19.9 -0.5
SONM pPKPbc pPKPbc 04 11 00.4 +0.8
SONM **Songino Array** 149.45 5 PKPbc PKPbc 04 10 19.9 -0.5
comp=Z,4.4nm,0.6s,baz=328,slow=1.6,SNR=42
SONM pPKPbc pPKPbc 04 11 00.4 +0.8
comp=Z,6.6nm,0.8s,baz=334,slow=1.7,SNR=9.2
ULN **Ulaanbaatar** 149.47 4 *e*PKPbc PKPbc 04 10 20.7 +0.2
ULN *e*PKPab PKPab 04 10 24.4 -1.3
HYB **Hyderabad** 149.62 85 *i* PKP PKPab 04 10 28.0 +0.9
CN2 **Changchun** 150.75 337 *e*PKPbc PKPdf 04 10 16.8 -0.9
KAPI **Kappang** 155.91 203 *e*PKPab PKPab 04 10 53.1 -0.3
HHC **Hu-ho-hao-te** 156.59 358 *e*PKP PKPdf 04 10 27.0 +0.7
HHC PP PP 04 14 34.5 +1.3
HHC SKS SKSdf 04 17 19.8 +1.0
HHC AMB AMB
comp=Z,100nm,7.1s
LZH **Lanzhou** 160.48 16 *e*PKP PKPdf 04 10 31.5 +0.4
LZH pPKP pPKPdf 04 11 00.0 -11
LZH sPKP 04 11 12.5
XAN **Xi'an** 163.36 4 PKP PKPdf 04 10 34.3 +0.3
NJ2 **Nanjing** 163.51 334 *e*PKP PKPdf 04 10 35.5 +1.4
CD2 **Chengdu** 165.23 23 *e*PKP PKPdf 04 10 36.8 +1.0
CMAR **Chiang Mai Arr** 169.03 83 PKPab PKPab 04 11 50.8 -0.3
CMAR **Chiang Mai Arr** 169.03 83 PKPab PKPab 04 11 50.8 -0.3
comp=Z,1.0nm,0.4s,baz=265,slow=5.3,SNR=3.0
GYA **Guiyang** 170.32 20 *e*PKP PKPdf 04 10 39.3 -0.2
GYA pPKP pPKPdf 04 11 08.8 -10
GYA sPKP 04 11 22.3
GYA PKPab PKPab 04 11 57.0 +0.6
GYA PKS PKSdf 04 14 10.5 -1.7
GYA AMB AMB
comp=Z,90nm,8.2s

IDC 31 04:10:35.3±8.4, 18°.81S×173°.29W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/30, mbtmp3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/17, Error ellipse: s-maj=367.3km s-min=37.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**11.22**	**201**	LR	LR	04 17 04.3	
	comp=Z,806nm,20.8s,baz=134,slow=35						
ASAR	**Alice Springs**	**49.23**	**255**	P	P	04 19 26.6	+0.6
	0.6nm,0.8s,baz=98,slow=7.6,SNR=7.6						
WRA	**Warramunga Arr**	**49.25**	**260**	P	P	04 19 25.3	-0.8
	0.4nm,0.5s,baz=97,slow=8.2,SNR=8.0						
ILAR	**Eielson Array**	**85.75**	**11**	P	P	04 23 15.9	0.0
	0.2nm,0.7s,baz=220,slow=7.5,SNR=3.7						

*ISK **31** 04:18:11.6, 36°.96N×29°.34E, h7km, ML3.7*
*DDA **31** 04:18:12.0, 36°.93N×29°.34E, h7km, ML4.0*
*ISCJB **31** 04:18:12.2±0.5, 36°.94N±0°.02×29°.35E±0°.02, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.1km az=0.7*
*CSEM **31** 04:18:12.7±0.1, 36°.94N×29°.33E, h5km, ML4.0, Error ellipse: s-maj=3.9km s-min=2.6km az=15.0*

ISC 31 04:18:11.5±1.3, 36°.93N±0°.02×29°.34E±0°.02, h2km±12km, n112,σ1812/125, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.36**	**30**	*i* P	**Pb**	**04 18 19.1**	**-1.5**
GOLH				*i* S	**Sb**	**04 18 25.4**	**-1.3**
GOLH	**Golhisar**	**0.36**	**30**	*i* P	**Pb**	**04 18 19.1**	**-1.5**
GOLH				*i* S	**Sb**	**04 18 25.4**	**-1.3**
ELL	**Elmali**	**0.49**	**111**	PG	**Pb**	**04 18 21.8**	**-1.1**
ELL				SG	**Sb**	**04 18 29.3**	**-1.3**
ELL	**Elmali**	**0.49**	**111**	*i* Pg	**Pb**	**04 18 21.8**	**-1.1**
ELL				*i* Sg	**Sb**	**04 18 29.3**	**-1.3**
DALY	**Dalyan (Mu˘la**	**0.56**	**259**	PG	**Pb**	**04 18 23.2**	**-0.8**
DALY				SG	**Sb**	**04 18 31.2**	**-1.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**259**	*i* Pg	**Pb**	**04 18 23.2**	**-0.8**
DALY				*i* Sg	**Sb**	**04 18 31.3**	**-1.1**
TURN	**Turunc**	**0.59**	**265**	*i* P	**Pn**	**04 18 28.4**	**+1.5**
TURN				*i* S	Sn	04 18 42.3	+5.3
AKAS	**Kas**	**0.73**	**163**	*i* P	**Pn**	**04 18 27.0**	**-1.8**
AKAS				*i* S	**Sn**	**04 18 41.4**	**+0.9**
AKAS	**Kas**	**0.73**	**163**	*i* P	**Pn**	**04 18 27.0**	**-1.8**
DNZL	**Cakiroluk**	**0.80**	**343**	*i* P	**Pn**	**04 18 29.9**	**0.0**
DNZL				*i* S	**Sb**	**04 18 39.2**	**-0.2**
DNZL	**Cakiroluk**	**0.80**	**343**	*i* P	**Pn**	**04 18 29.9**	**0.0**
DNZL				*i* S	**Sb**	**04 18 39.2**	**-0.2**
KSL	**Kastellorizon**	**0.80**	**166**	*e*P	**Pn**	**04 18 29.0**	**-0.7**
KORT	**Korkueli**	**0.81**	**85**	*i* P	**Pb**	**04 18 28.0**	**-0.4**
KORT				*i* S	**Sn**	**04 18 43.4**	**+0.7**
KORT	**Korkueli**	**0.81**	**85**	*i* P	**Pb**	**04 18 28.0**	**-0.4**
YER	**Yerkesik**	**0.87**	**284**	*e*PG	**Pb**	**04 18 28.6**	**-0.7**
YER				*e*SG	**Sb**	**04 18 41.1**	**-0.3**
YER	**Yerkesik**	**0.87**	**284**	*e*Pg	**Pb**	**04 18 28.6**	**-0.7**
YER				*e*Sg	**Sb**	**04 18 41.1**	**-0.3**
ANTB	**Antalya**	**1.05**	**91**	*e*PG	**Pn**	**04 18 32.7**	**-0.5**
ANTB	**Antalya**	**1.05**	**91**	*e*Pg	**Pn**	**04 18 32.7**	**-0.5**
BCK	**Bucak**	**1.13**	**62**	*e*PN	**Pb**	**04 18 33.1**	**-0.6**
BCK	**Bucak**	**1.13**	**62**	*e*Pn	**Pb**	**04 18 33.2**	**-0.6**
ARG	**Arkhangelos**	**1.21**	**234**	*e*P	**Pn**	**04 18 34.9**	**-0.4**
ISP	**Isparta**	**1.30**	**46**	*e*PN	**Pg**	**04 18 36.2**	**-0.2**
ISP	**Isparta**	**1.30**	**46**	*e*Pn	**Pg**	**04 18 36.2**	**-0.2**
AYDN	**Tasoluk**	**1.38**	**303**	*i* P	Pg	04 18 44.5	+6.7
AYDN				*i* S	Sg	04 19 02.4	+6.8
KHL	**Karahalli**	**1.40**	**6**	*e*PN	**Pn**	**04 18 37.3**	**-0.8**

KHL	Karahalli	1.40	6	ePn		Pn	04 18 37.3	-0.8
SUTC	Sutluce-Ispart	1.44	67	ePN		Pg	04 18 39.0	0.0
SUTC	Sutluce-Ispart	1.44	67	ePN		Pg	04 18 39.0	0.0
KHAL	Karahalli	1.45	5	*i* P		Pg	04 18 38.9	-0.3
KHAL				*i* S		Sg	04 18 58.5	+0.5
KHAL	Karahalli	1.45	5	*i* P		Pg	04 18 38.9	-0.3
KHAL				*i* S		Sg	04 18 58.5	+0.5
BDRM	Kayabasi	1.52	276	*i* P		Pg	04 18 40.4	-0.2
BDRM				*i* S		Sg	04 19 02.5	+2.1
BDRM	Kayabasi	1.52	276	*i* P		Pg	04 18 40.4	-0.2
BDRM				*i* S		Sg	04 19 02.5	+2.1
AYDB	Zeytinkoy-Aydi	1.54	312	ePN		Pb	04 18 39.8	-0.9
AYDB	Zeytinkoy-Aydi	1.54	312	ePn		Pb	04 18 39.8	-0.9
KULA	Kula-Manisa	1.67	341	ePN		Pb	04 18 41.9	-1.1
KULA	Kula-Manisa	1.67	341	ePn		Pb	04 18 41.9	-1.1
NIS1	Nisyros Isl.	1.77	260	ePN		Pg	04 18 44.4	-0.9
NIS1	Nisyros Isl.	1.77	260	eP		Pg	04 18 45.3	0.0
NIS1	Nisyros Isl.	1.77	260	ePn		Pg	04 18 44.4	-0.9
SHUT	Suhut-Afyon	1.89	30	ePN		Pb	04 18 45.6	-1.1
SHUT	Suhut-Afyon	1.89	30	ePn		Pb	04 18 45.6	-1.1
SMG	Samos	2.14	292	eP		Pb	04 18 48.7	-2.2
GDZ	Gediz	2.16	3	*i* P		Pb	04 18 49.2	-2.2
GDZ				*i* S		Sb	04 19 16.8	-1.9
GDZ	Gediz	2.16	3	*i* P		Pb	04 18 49.2	-2.2
GDZ				*i* S		Sb	04 19 16.7	-1.9
IZM	Izmir	2.21	312	ePN		Pn	04 18 49.2	+0.1
IZM	Izmir	2.21	312	ePn		Pn	04 18 49.2	+0.1
ALT	Altintas	2.21	16	ePN		Pn	04 18 49.8	+0.6
ALT	Altintas	2.21	16	ePn		Pn	04 18 49.8	+0.6
KARP	Karpathos	2.23	233	eP		Pb	04 18 51.0	-1.6
AKS	Akhisar	2.29	329	ePN		Pn	04 18 50.4	+0.1
AKS	Akhisar	2.29	329	ePn		Pn	04 18 50.4	+0.1
TVSB	Tavsanli	2.52	2	ePN		Pn	04 18 54.6	+1.1
TVSB	Tavsanli	2.52	2	ePn		Pn	04 18 54.6	+1.1
KONT	Konya--Tatoy	2.61	66	ePN		Pn	04 18 55.6	+0.9
KONT	Konya--Tatoy	2.61	66	ePn		Pn	04 18 55.6	+0.9
LADK	Ladik-KONYA	2.72	61	ePN		Pn	04 18 56.9	+0.6
LADK	Ladik-KONYA	2.72	61	ePn		Pn	04 18 56.9	+0.6
BALB	Balikesir	2.94	337	ePN		Pn	04 18 59.8	+0.6
BALB	Balikesir	2.94	337	ePn		Pn	04 18 59.8	+0.6
CHOS	Chios island	2.98	300	ePN		Pn	04 19 00.6	+0.8
CHOS	Chios island	2.98	300	eP		Pn	04 19 00.9	+1.1
CHOS	Chios island	2.98	300	ePn		Pn	04 19 00.6	+0.8
SVRH	Sivrihisar-ESK	3.05	34	ePN		Pn	04 19 01.0	+0.3
SVRH	Sivrihisar-ESK	3.05	34	ePn		Pn	04 19 01.0	+0.3
APE	Apeiranthos	3.05	274	ePN		Pn	04 19 01.2	+0.5
APE	Apeiranthos	3.05	274	ePn		Pn	04 19 01.2	+0.5
ZKR	Zakros	3.11	235	eP		Pb	04 19 04.1	-3.4
GONE	Gonen-Balikesi	3.37	338	ePN		Pn	04 19 05.2	+0.1
GONE	Gonen-Balikesi	3.37	338	ePn		Pn	04 19 05.2	+0.1
LEF	Lefka	3.40	121	ePN		Pn	04 19 06.5	+1.0
LEF	Lefka	3.40	121	ePn		Pn	04 19 06.5	+1.0
MDNY	Mudanya-Bursa	3.46	354	ePN		Pn	04 19 07.7	+1.5
MDNY	Mudanya-Bursa	3.46	354	ePn		Pn	04 19 07.7	+1.5
GEMT	Gemlik	3.50	358	ePN		Pn	04 19 07.7	+0.8
GEMT	Gemlik	3.50	358	ePn		Pn	04 19 07.7	+0.8
SULT	Sultanhani-AKS	3.55	68	ePN		Pn	04 19 09.6	+1.9
SULT	Sultanhani-AKS	3.55	68	ePn		Pn	04 19 09.6	+1.9
LAST	Lasithi	3.59	242	eP		Pn	04 19 10.7	+2.5
CSS	Prodhromos	3.79	120	ePN		Pn	04 19 12.2	+1.4
CSS	Prodhromos	3.79	120	ePn		Pn	04 19 12.2	+1.4
KRBG	Karabiga-Canak	3.81	336	ePN		Pn	04 19 11.4	+0.3
KRBG	Karabiga-Canak	3.81	336	ePn		Pn	04 19 11.4	+0.3
MDUB	Mudurnu	3.83	22	ePN		Pn	04 19 11.9	+0.4
MDUB	Mudurnu	3.83	22	ePn		Pn	04 19 11.9	+0.4
AFSR	Af ar-Bala (A	3.87	48	ePN		Pn	04 19 13.1	+1.1
AFSR	Af ar-Bala (A	3.87	48	ePn		Pn	04 19 13.1	+1.1
LPK	Lapseki	3.99	330	ePN		Pn	04 19 14.7	+1.1
LPK	Lapseki	3.99	330	ePn		Pn	04 19 14.7	+1.1
LOD	Lodumlu	4.00	41	ePN		Pn	04 19 13.9	+0.1
LOD	Lodumlu	4.00	41	ePn		Pn	04 19 13.9	+0.1
ANTO	Ankara	4.00	42	ePN		Pn	04 19 14.9	+1.1
ANTO	Ankara	4.00	42	ePn		Pn	04 19 14.9	+1.1
GELI	Tayfur-Gelibol	4.13	328	ePN		Pn	04 19 16.4	+1.0
GELI	Tayfur-Gelibol	4.13	328	ePn		Pn	04 19 16.4	+1.0
ISK	Istanbul-Kandi	4.14	357	ePN		Pn	04 19 16.9	+1.3
ISK	Istanbul-Kandi	4.14	357	ePn		Pn	04 19 16.9	+1.3
MERS	Mersin	4.16	89	ePN		Pn	04 19 17.3	+1.3
MERS	Mersin	4.16	89	ePn		Pn	04 19 17.3	+1.3
KARA	Karaisali	4.58	84	ePN		Pn	04 19 23.9	+2.2
KARA	Karaisali	4.58	84	ePn		Pn	04 19 23.9	+2.2
ALN	Alexandroupoli	4.72	328	ePN		Pn	04 19 24.4	+0.8
ALN	Alexandroupoli	4.72	328	ePn		Pn	04 19 24.4	+0.8
KOZT	Kozan	5.21	82	ePN		Pn	04 19 32.2	+1.9
KOZT	Kozan	5.21	82	ePn		Pn	04 19 32.2	+1.9
CORM	Corum	5.27	50	ePN		Pn	04 19 32.7	+1.4
CORM	Corum	5.27	50	ePn		Pn	04 19 32.7	+1.4
EDRB	Edirne	5.31	339	ePN		Pn	04 19 32.6	+0.9
EDRB	Edirne	5.31	339	ePn		Pn	04 19 32.6	+0.9
KMRS	Kahramanmaras	6.06	82	ePN		Pn	04 19 44.3	+2.2
KMRS	Kahramanmaras	6.06	82	ePn		Pn	04 19 44.3	+2.2
DARE	Darende-Malaty	6.66	73	ePN		Pn	04 19 53.1	+2.7
DARE	Darende-Malaty	6.66	73	ePn		Pn	04 19 53.1	+2.7

IDC ***31*** *04:37:21.3±5.0, 36°26′N×70°64′E, h135km±41km, mb3.5/7, mb1 3.5/12, mb1mx3.2/43, mbtmp3.9/12, MS3.2/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=44.2km s-min=28.8km az=148.0*

ISCJB ***31*** *04:37:24.4±0.4, 36°43′N±0°03′×70°76′E±0°07, h188km, mb3.4/6, Error ellipse: s-maj=8.2km s-min=4.1km az=159.9*

NNC ***31*** *04:37:26.0±4.1, 36°72′N×70°32′E, h129km±46km, mb3.1, mpv3.6, Error ellipse: s-maj=31.7km s-min=24.0km az=11.0*

ISC 31 04:37:25.6±0.6, 36°40′N±0°06×70°86′E±0°09, h188km, n44, σ1§38/45, mb3.3/6, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	Cherat	2.71	161	P		Pn	04 38 10.1	-1.3
CEP				S		Sn	04 38 45.0	-2.1
CHCP	Chirah Chowk	3.38	143	P		Pn	04 38 19.1	-0.2
THW	Thamme Wali	3.67	168	P		Pn	04 38 21.6	-1.3
SARP	Sargodha	4.71	161	P		Pn	04 38 34.7	-1.4
KK31	Karatay Array	6.70	358	P		Pn	04 38 58.5	-3.3
	1.0nm,0.3s,baz=174,slow=12,SNR=94							
KK31				S		Sn	04 40 10.9	-7.0
	3.6nm,0.3s,baz=195,slow=19,SNR=9.8							
AAK	Ala-Archa	6.83	23	⇓P		Pn	04 39 02.4	-1.2
	3.3nm,0.5s							
AAK				⇓S		Sn	04 40 18.7	-2.5
	14nm,0.7s							
AAK	Ala-Archa	6.83	23	P		Pn	04 39 02.7	-0.9
	1.3nm,0.3s,baz=161,slow=5.9,SNR=11							
AAK				S		Sn	04 40 19.3	-1.9
	1.2nm,0.3s,baz=332,slow=21,SNR=16							
TKM2	Tokmak 2	7.47	28	⇑P		Pn	04 39 09.5	-2.5
	3.6nm,0.7s							
TKM2				⇑S		Sn	04 40 33.7	-2.6
	3.1nm,0.8s							
PYUN	Piuthan	13.18	125	eP		Pn	04 40 25.9	-0.1
	22nm,0.4s							
PYUN				eS		Sn	04 42 43.5	-9.4
MK09	Makanchi Array	13.42	36	P		P	04 40 33.2	+1.7
MKAR	Makanchi Array	13.44	36	P		Pn	04 40 29.8	+1.0
	0.1nm,0.3s,baz=226,slow=16,SNR=12							
DANN	Dangsing	13.53	123	eP		Pn	04 40 30.9	+0.4
	8.5nm,0.3s							
KOLN	Koldanda	13.80	125	eP		Pn	04 40 33.8	0.0
GKN	Gorkha	14.35	122	eP		Pn	04 40 40.6	+0.1
	23nm,0.5s							
DMN	Daman	14.92	122	eP		Pn	04 40 47.8	+0.2
	9.0nm,0.4s							
KKN	Kakani	14.93	121	eP		P	04 40 48.2	-0.5
	33nm,0.5s							
AB31	Akbulak array	15.12	332	⇑P		Pn	04 40 46.9	-2.6
	0.5nm,0.3s,baz=145,slow=13,SNR=68							
AB31				⇑S		S	04 43 23.3	-15
	2.0nm,0.6s,baz=153,slow=22,SNR=7.2							
PKIN	Phulchoki	15.14	121	eP		P	04 40 51.7	+0.6
	8.2nm,0.3s							
PKI	Pulchoki	15.15	121	eP		P	04 40 52.1	+0.8
	15nm,0.6s							
KURBB	Kurchatov Arra	15.25	19	P		P	04 40 53.2	+1.4
KURBB	Kurchatov Arra	15.25	19	P		P	04 40 53.0	+1.2
	0.2nm,0.3s,baz=209,slow=10,SNR=17							
GUN	Gumba	15.27	119	eP		P	04 40 53.5	+0.9
KURK	Kurchatov	15.36	19	P		P	04 40 54.1	+1.0
JIRN	Jiri	15.64	120	eP		P	04 40 57.6	+0.9
	22nm,0.3s							
VOSK	Vostochnaya	16.32	0	⇑P		P	04 41 03.2	-0.5
	1.3nm,0.9s							
RAMN	Ramite	16.36	121	eP		Pn	04 41 06.6	+1.4
	6.0nm,0.3s							
BVA0	Borovoye Array	16.63	359	⇑P		P	04 41 05.9	-1.0
	1.7nm,1.1s,baz=195,slow=10,SNR=6.7							
BVAR	Borovoye Array	16.63	359	P		Pn	04 41 08.0	+0.2
	0.5nm,0.3s,baz=166,slow=9.6,SNR=8.7							
BRVK	Borovoye	16.66	359	⇑P		P	04 41 07.4	+0.1
	3.6nm,0.7s							
AKTO	Aktyubinsk	16.81	331	⇑P		Pn	04 41 09.5	-0.5
	1.5nm,0.6s							
AKTO	Aktyubinsk	16.81	331	P		P	04 41 08.6	-0.4
	0.2nm,0.3s,baz=133,slow=14,SNR=6.5							
TAPN	Taplejung	16.90	118	eP		Pn	04 41 14.1	+2.4
ODAN	Odare	16.97	119	eP		Pn	04 41 14.3	+1.9
ZALV	Zalesovo Beam	20.05	25	P		P	04 41 45.8	+1.6
	16nm,0.4s,baz=219,slow=11,SNR=98							
CMAR	Chiang Mai Arr	30.51	118	LR		LR	04 56 41.0	
	comp=Z,26nm,18.8s,baz=60,slow=38							
AKASG	Malin Array Be	32.92	309	P		P	04 43 41.6	-0.3
	0.2nm,0.3s,baz=83,slow=7.4,SNR=3.8							
FINES	FINESS Array B	37.50	326	P		P	04 44 21.9	+1.0
	1.5nm,0.8s,baz=132,slow=8.0,SNR=6.6							
ARCES	ARCESS Array B	41.19	338	P		P	04 44 53.2	+1.8
	1.4nm,0.9s,baz=106,slow=8.5,SNR=5.9							
HFS	Hagfors	43.07	322	P		P	04 45 07.7	+1.1
	baz=111,slow=7.9							
NB2	NORSAR Subarra	44.39	323	P		P	04 45 17.9	+0.8
	comp=Z,0.2nm,0.7s,baz=96,slow=8.6							
NOA	NORSAR Array B	44.39	323	P		P	04 45 17.9	+0.8
	comp=Z,1.4nm,0.7s,baz=97,slow=8.0,SNR=4.7							
TORD	Torodi Ar. Bea	65.60	269	P		P	04 47 49.6	0.0
	comp=Z,0.4nm,0.5s,baz=48,slow=5.7,SNR=12							
RES	Resolute Bay	68.79	356	LR		LR	05 21 23.5	
	comp=Z,22nm,18.9s,baz=3,slow=38							
YKA	Yellowknife Ar	81.35	3	P		P	04 49 22.9	+2.2
	comp=Z,0.3nm,0.7s,baz=349,slow=5.9,SNR=4.5							

KRSC 31 04:54:11.1±2.5, 49°44′N×155°02′E, h199km±19km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	Severo-Kuril's	1.44	29	eP		Pn	04 54 41.0	-3.0
SKR				eS		Sn	04 55 08.3	-1.5
SKR	Severo-Kuril's	1.44	29	eP		Pn	04 54 41.0	-3.0
SKR				eS		Sn	04 55 08.3	-1.5
PAU	Pauzhetka	2.33	29	eP		Pn	04 54 52.3	-0.7
PAU				eS		Sn	04 55 27.6	+1.8
PAU	Pauzhetka	2.33	29	eP		Pn	04 54 52.3	-0.7
PAU				eS		Sn	04 55 27.6	+1.8
RUS	Russkaya	3.73	35	eS		Sn	04 55 57.1	+2.0
RUS	Russkaya	3.73	35	eS		Sn	04 55 57.1	+2.0
APC	Apacha	3.75	20	eS		Pn	04 55 07.5	-2.0
UGLR	Uglovaya	4.47	31	eP		Pn	04 55 20.5	+1.8
UGLR	Uglovaya	4.47	31	eP		Pn	04 55 20.5	+1.8
KOK	Koryaka	4.48	29	eP		Pn	04 55 20.6	+1.8
KOK	Koryaka	4.48	29	eP		Pn	04 55 20.6	+1.8
AVH	Avacha	4.49	30	eP		Pn	04 55 20.7	+1.8
AVH				eS		Sn	04 56 16.6	+4.2
AVH	Avacha	4.49	30	eP		Pn	04 55 20.7	+1.8
AVH				eS		Sn	04 56 16.6	+4.2
KRER	Koryakskii	4.52	30	eP		Pn	04 55 21.5	+2.0
KRER	Koryakskii	4.52	30	eP		Pn	04 55 21.5	+2.0
KRX	Arik	4.54	29	eP		Pn	04 55 21.5	+1.9
KRX	Arik	4.54	29	eP		Pn	04 55 21.5	+1.9
GNL	Ganaly	4.64	22	eP		Pn	04 55 23.1	+2.2
GNL	Ganaly	4.64	22	eP		Pn	04 55 23.1	+2.2
KBTR	Krutoberegovo	8.26	32	eP		Pn	04 56 07.7	+0.2
BKI	Bering	8.85	45	eS		Sn	04 57 52.1	-2.2
BKI	Bering	8.85	45	eS		Sn	04 57 52.1	-2.2

MEX 31 04:57:48.1±1.1, 16°69′N×98°36′W, h10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLIG	Tlapa	0.89	347	eP		Pg	04 58 01.9	-3.7
TLIG				eS		Sg	04 58 15.0	-2.3
ACX	Acapulco	1.45	277	eP		Pn	04 58 11.9	-2.5
TPIG	Tehuac#an	1.97	29	eP		Pn	04 58 18.8	-3.0
TPIG				eS		Sn	04 58 42.8	-3.9
YAIG	Yautepec	2.27	343	eP		Pn	04 58 23.9	-2.0
YAIG				eS		Sn	04 58 51.2	-2.8
ARIG	Puente Sto Nin	2.47	310	eP		Pn	04 58 25.9	-2.6
ARIG				eS		Sn	04 58 55.2	-3.7
CMIG	Matias Romero	3.35	83	eP		Pn	04 58 37.8	-2.8

ISCJB ***31*** *05:01:24.0±1.1, 67°73′N±0°04×33°7′E±0°2, h0km, Error ellipse: s-maj=8.3km s-min=5.7km az=1.6*

NAO ***31*** *05:01:25.3±1.2, 67°63′N×33°84′E, ML2.7*

HEL ***31*** *05:01:26.4±0.4, 67°67′N×33°75′E, h0km, ML2.2, Explosion*

CSEM ***31*** *05:01:26.6±0.6, 67°58′N×33°46′E, h2km, ML2.7, Error ellipse: s-maj=11.0km s-min=6.3km az=85.0, Mining explosion.*

KOLA ***31*** *05:01:26.2, 67°69′N×33°78′E, h0km*

IDC ***31*** *05:01:27.9±1.7, 67°71′N×33°54′E, h0km, mb1 3.5/5, mb1mx3.1/50, mbtmp3.5/5, ML2.8/5, Error ellipse: s-maj=18.1km s-min=9.0km az=84.0*

ISC 31 05:01:22.5±1.6, 67°69′N±0°04×34°10′E±0°09, h0km, n35, σ1§45/58, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APA	Apatity	0.29	246	P		Pg	05 01 29.5	+1.4
APA				S		Sg	05 01 31.9	+0.1
APA0	Apatity Array	0.43	259	Pg		Pg	05 01 29.2	-1.5
APA0				Pg		Pb	05 01 31.5	-1.4
	baz=94,slow=16							
APA0				Lg		Lg	05 01 32.0	
APA0				Lg		Lg	05 01 36.0	
	baz=85,slow=28							
APA0	Apatity Array	0.43	259	Pg		Pg	05 01 29.2	-1.5
APA0				Pg		Pb	05 01 31.5	-1.4
	baz=94,slow=16							
APA0				Lg		Lg	05 01 32.0	
APA0				Lg		Lg	05 01 36.0	
	baz=85,slow=28							
APA0	Apatity Array	0.43	259	P		Pg	05 01 31.7	+1.0
APA0				S		Sg	05 01 35.8	-0.5
APA0	Apatity Array	0.43	259	Pg		Pg	05 01 29.2	-1.5
	SNR=91							
APA0				Lg		Lg	05 01 32.0	
	SNR=90							
VRF	Varrio	1.71	274	PG		Pn	05 01 54.4	+0.9
	baz=88							
VRF				SG		Sn	05 02 14.6	-1.5
VRF				MSG			05 02 14.6	
	comp=Z,17nm,0.3s							
VRF	Varrio	1.71	274	Pg		Pn	05 01 54.4	+0.9
VRF				Sg		Sn	05 02 14.6	-1.5
KU6	Riekki	2.36	227	PB		Pb	05 02 05.1	-0.7
KU6				SG		Sb	05 02 35.4	0.0
KU6	Riekki	2.36	227	Pb		Pb	05 02 05.0	-0.7
KU6				Sg		Sb	05 02 35.4	0.0
MSF	Maaselka	2.69	231	PB		Pb	05 02 10.3	-1.0
MSF				SG		Sb	05 02 45.6	+0.8
MSF				MSG			05 02 45.6	
	comp=Z,7.4nm,0.3s							
MSF	Maaselka	2.69	231	Pb		Pb	05 02 10.3	-1.0
MSF				Sg		Sb	05 02 45.6	+0.8
SGF	Sodankyl	2.92	269	PN		Pn	05 02 11.8	+1.8
SGF				SB		Sn	05 02 48.3	+2.6
SGF				MSG			05 02 48.3	
	comp=Z,20nm,0.3s							
SGF	Sodankyl	2.92	269	Pn		Pn	05 02 11.8	+1.8
SGF				Sb		Sn	05 02 48.3	+2.6
KEV	Kevo	3.31	312	PN		Pn	05 02 18.4	+2.9
KEV				SN		Sn	05 02 56.9	+1.3
KEV				MSG			05 02 56.9	
	comp=Z,7.2nm,0.2s							
KEV	Kevo	3.31	312	Pn		Pn	05 02 18.3	+2.9
KEV				Sn		Sn	05 02 56.8	+1.3
RNF	Rovaniemi	3.34	255	PN		Pn	05 02 17.6	+1.8
RNF				SN		Sn	05 02 56.9	+0.8
RNF				MSG			05 02 56.9	
	comp=Z,13nm,0.3s							
RNF	Rovaniemi	3.34	255	Pn		Pn	05 02 17.6	+1.8
RNF				Sn		Sn	05 02 56.9	+0.8
ARA0	ARCESS Array S	3.65	304	Pn		Pn	05 02 22.2	+2.1
	baz=122,slow=16							
ARA0				Sn		Sn	05 03 02.6	-1.2
	baz=127,slow=28							
ARA0				Lg		Lg	05 03 13.9	
	baz=112,slow=37							
ARA0	ARCESS Array S	3.65	304	Pn		Pn	05 02 22.2	+2.1
	baz=122,slow=16							
ARA0				Sn		Sn	05 03 02.6	-1.2
	baz=127,slow=28							
ARA0				Lg		Lg	05 03 13.9	
	baz=112,slow=37							
ARA0	ARCESS Array S	3.65	304	PN		Pn	05 02 21.8	+1.7
ARA0				SN		Sn	05 03 03.2	-0.7
ARA0				MSG			05 03 03.2	
	comp=Z,6.0nm,0.2s							
ARA0	ARCESS Array S	3.65	304	Pn		Pn	05 02 22.2	+2.1
	SNR=50							
ARA0				Sn		Sn	05 03 03.2	-0.7
ARA0				Lg		Lg	05 03 13.9	
ARCES	ARCESS Array B	3.65	304	Pn		Pn	05 02 22.4	+2.3
	comp=Z,1.9nm,0.3s,baz=115,slow=15,SNR=248							
ARCES				Pg		Pg	05 02 30.8	-1.6
	comp=Z,1.5nm,0.3s,baz=118,slow=15,SNR=10							
ARCES				Sn		Sn	05 03 03.4	-0.5
	comp=Z,3.2nm,0.3s,baz=117,slow=26,SNR=12							
ARCES				Lg		Lg	05 03 15.5	
	comp=Z,5.7nm,0.3s,baz=115,slow=30,SNR=12							
HEF	Hetta	3.99	285	PN		Pn	05 02 26.3	+1.6
HEF				SN		Sn	05 03 11.8	-0.4
HEF				MSG			05 03 11.8	
	comp=Z,1.9nm,0.2s							
HEF	Hetta	3.99	285	Pn		Pn	05 02 26.3	+1.6
HEF				Sn		Sn	05 03 11.7	-0.4
OUL	Oulu	4.21	235	PN		Pn	05 02 31.6	+3.8
	baz=47							
OUL	Oulu	4.21	235	Pn		Pn	05 02 31.6	+3.8
FIA0	FINESS Array S	7.16	213	Pn		Pn	05 03 08.9	+0.8
	baz=17,slow=16							
FIA0				Sn		Sn	05 04 24.3	-5.7
	baz=23,slow=22							
FIA0				Lg		Lg	05 05 02.5	
	baz=29,slow=28							
FIA0	FINESS Array S	7.16	213	Pn		Pn	05 03 08.9	+0.8
	baz=17,slow=16							
FIA0				Sn		Sn	05 04 24.3	-5.7
	baz=23,slow=22							
FIA0				Lg		Lg	05 05 02.5	
	baz=29,slow=28							
FIA0	FINESS Array S	7.16	213	Pn		Pn	05 03 08.9	+0.8
	SNR=50							
FINES	FINESS Array B	7.16	213	Pn		Pn	05 03 09.9	+1.7
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=5.7							
FINES				Sn		Sn	05 04 28.1	-1.9
	comp=Z,0.2nm,0.3s,baz=38,slow=19,SNR=3.2							
FINES				Lg		Lg	05 05 05.1	
	comp=Z,0.9nm,0.3s,baz=34,slow=26,SNR=9.1							
SPA0	Spitsbergen Ar	11.66	342	Pn		Pn	05 04 09.6	-0.2
	baz=143,slow=14							
SPA0	Spitsbergen Ar	11.66	342	P		Pn	05 04 09.6	-0.2
	baz=143,slow=14							
SPITS	Spitsbergen Ar	11.66	342	Pn		Pn	05 04 09.5	-0.2
	baz=142,slow=18,SNR=6.4							
HFS	Hagfors	11.69	239	Pn		Pn	05 04 09.2	-1.1
	comp=Z,0.2nm,0.3s,baz=85,slow=16,SNR=3.0							
HFS				Lg		Lg	05 07 26.3	
	comp=Z,0.1nm,0.3s,baz=22,slow=20,SNR=2.2							
NOA	NORSAR Array B	11.88	247	Pn		Pn	05 04 12.6	-0.3
	comp=Z,0.1nm,0.3s,baz=34,slow=11,SNR=3.1							
NOA				Lg		Lg	05 07 32.9	
	comp=Z,0.2nm,0.3s,baz=38,slow=23,SNR=3.6							

IDC 31 05:04:54.0±12.0, 11°24S×163°35E, h239km±142km, mb3.3/6, mb1 3.5/8, mb1mx3.3/37, mbtmp4.0/8, MS3.4/3, Ms1 3.4/3, ms1mx2.9/16, Error ellipse: s-maj=102.2km s-min=26.4km az=161.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	Mont Dzumac	11.17	165	P		Pn	05 07 26.9	-0.7
	0.4nm,0.3s,baz=342,slow=20,SNR=4.0							
CTA	Charters Tower	18.65	240	P		P	05 08 55.9	+1.4
	0.4nm,0.3s,baz=53,slow=11,SNR=3.6							
AFI	Afiamalu	24.41	99	LR		LR	05 19 10.2	
	comp=Z,55nm,19.2s,baz=78,slow=35							
WRA	Warramunga Arr	29.22	249	P		P	05 10 33.9	-0.1
	1

H11N1	**WAKE ISLAND Hy**	**32.88**	**193**	T	T	05 54 43.4		
	baz=11,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**34.10**	**193**	T	T	05 56 21.0		
	baz=9.6,slow=78,SNR=19							
H11S3	**WAKE ISLAND Hy**	**34.11**	**193**	T	T	05 56 27.3		
	baz=9.6,slow=78,SNR=21							
H11S2	**WAKE ISLAND Hy**	**34.11**	**193**	T	T	05 56 22.4		
	baz=9.6,slow=78,SNR=9.5							
YKA	**Yellowknife Ar**	**37.81**	**46**	P	**P**	**05 20 34.2**	**+0.4**	
	comp=E,1.0nm,0.6s,baz=286,slow=7.7,SNR=14							
TLY	**Talaya**	**41.95**	**299**	*e*P	**P**	**05 21 07.5**	**-0.9**	
TLY				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,71nm,17.0s							
SONM	**Songino Array**	**42.40**	**292**	P	**P**	**05 21 12.7**	**+0.5**	
	comp=Z,0.4nm,0.5s,baz=58,slow=6.9,SNR=3.6							
NEW	**Newport**	**42.60**	**67**	P	**P**	**05 21 13.3**	**-0.4**	
	comp=Z,1.5nm,0.7s,baz=280,slow=8.5,SNR=4.9							
NVAR	**Mina Array Bea**	**47.69**	**79**	P	**P**	**05 21 54.1**	**-0.4**	
	comp=Z,0.3nm,0.5s,baz=292,slow=7.8,SNR=4.6							
PDAR	**Pinedale Array**	**50.12**	**69**	P	**P**	**05 22 12.4**	**-0.6**	
	comp=Z,0.8nm,0.7s,baz=316,slow=3.3,SNR=6.6							
ULM	**Lac du Bonnet**	**52.78**	**54**	P	**P**	**05 22 32.5**	**-0.1**	
	comp=Z,1.9nm,0.8s,baz=292,slow=8.2,SNR=3.4							
MKAR	**Makanchi Array**	**56.09**	**304**	*e*P	P	05 23 00.2	+3.4	
MKAR	**Makanchi Array**	**56.09**	**304**	P	**P**	**05 22 56.0**	**-0.8**	
	comp=Z,1.4nm,0.6s,baz=48,slow=7.0,SNR=25							
ARCES	**ARCESS Array B**	**56.49**	**347**	P	**P**	**05 22 59.0**	**-0.2**	
	comp=Z,5.1nm,0.9s,baz=34,slow=6.8,SNR=11							
BRVK	**Borovoye**	**57.44**	**316**	*i* P	**P**	**05 23 06.6**	**+0.5**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
ARU	**Arti**	**59.57**	**325**	*d i* P	**P**	**05 23 21.5**	**+0.6**	
ARU						05 25 32.6		
ARU				S	**S**	**05 31 30.7**	**+2.2**	
ARU				SS	**SS**	**05 35 18.7**	**-4.5**	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TXAR	**Lajitas Array**	**62.74**	**77**	P	**P**	**05 23 43.1**	**+0.1**	
	comp=Z,0.6nm,0.3s,baz=306,slow=5.4,SNR=14							
AAK	**Ala-Archa**	**62.97**	**305**	*e*P	**P**	**05 23 45.2**	**+0.8**	
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
FINES	**FINESS Array B**	**63.94**	**344**	P	**P**	**05 23 50.6**	**+0.3**	
	comp=Z,1.0nm,0.7s,baz=31,slow=7.8,SNR=5.6							
NB2	**NORSAR Subarra**	**66.34**	**351**	P	**P**	**05 24 05.9**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=11,slow=6.5							
NOA	**NORSAR Array B**	**66.34**	**351**	P	**P**	**05 24 06.2**	**+0.3**	
	comp=Z,0.3nm,0.4s,baz=2.9,slow=5.3,SNR=11							
CMAR	**Chiang Mai Arr**	**66.66**	**270**	P	**P**	**05 24 09.0**	**+0.5**	
	comp=Z,1.3nm,0.3s,baz=27,slow=6.7,SNR=4.1							
OBN	**Obninsk**	**67.48**	**335**	*e*P	**P**	**05 24 13.2**	**0.0**	
OBN				*i*		05 24 40.3		
OBN				pmax	pmax			
	comp=Z,13nm,2.4s							
AKASG	**Malin Array Be**	**73.33**	**338**	*ce*P	**P**	**05 24 49.0**	**+0.1**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**73.33**	**338**	P	**P**	**05 24 49.1**	**+0.1**	
	comp=Z,1.2nm,0.4s,baz=23,slow=6.4,SNR=14							
KBZ	**Khabaz**	**75.67**	**326**	P	**P**	**05 25 03.9**	**+1.3**	
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**75.67**	**326**	P	**P**	**05 25 03.9**	**+1.3**	
	comp=Z,1.9nm,0.8s,baz=357,slow=7.1,SNR=5.2							
GERES	**GERESS Array B**	**78.02**	**347**	P	**P**	**05 25 16.5**	**+0.5**	
	comp=Z,0.3nm,0.7s,baz=14,slow=5.0,SNR=2.6							
WRA	**Warramunga Arr**	**79.78**	**218**	P	**P**	**05 25 24.6**	**-1.2**	
	comp=Z,1.3nm,0.7s,baz=30,slow=6.3,SNR=7.8							
BRTR	**Keskin Array B**	**82.29**	**330**	P	**P**	**05 25 39.3**	**+0.1**	
	comp=Z,1.6nm,0.6s,baz=81,slow=3.0,SNR=12							
ASAR	**Alice Springs**	**83.33**	**217**	P	**P**	**05 25 43.8**	**-0.6**	
	comp=Z,0.5nm,0.9s,baz=19,slow=6.0,SNR=3.5							
COCO	**West Island**	**91.95**	**253**	*i* P	**P**	**05 26 27.7**	**+1.5**	

*ISCJB **31** 05:22:01.4±1.3, 9.°95N±0.°05×126.°5E±0.°1, h55km±13km, mb3.8/6, Error ellipse: s-maj=18.0km s-min=7.4km az=166.3*
*MAN **31** 05:22:01, 10.°00N×126.°37E, h26km, mb4.7, ML3.6, MS3.6*
*IDC **31** 05:22:05.5±14.0, 9.°71N×125.°87E, h76km±135km, mb3.4/6, mb1 3.6/6, mb1mx3.3/31, mbtmp3.7/6, Error ellipse: s-maj=182.7km s-min=22.6km az=70.0*
ISC 31 05:22:02.8±1.8, **9.°96N**±0.°06×**126.°4E**±0.°1, **h52**km±18km, **n14**, σ1°**23**/19, **mb3.7**/6, **1C-1D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.90**	**259**	*e*P	**Pn**	**05 22 18.1**	**-1.3**
SCPH				*e*S	**Sn**	**05 22 31.3**	**-0.2**
BUTP	**Butuan**	**1.24**	**218**	*e*P	**Pn**	**05 22 23.1**	**-0.8**
BUTP				*e*S	**Sn**	**05 22 40.9**	**+1.4**
MSLP	**Maasin**	**1.52**	**277**	*e*P	**Pn**	**05 22 28.0**	**+0.4**
BIPH	**Bislig**	**1.76**	**181**	*i* P	**Pn**	**05 22 32.6**	**+1.6**
BIPH				*i* S	**Sn**	**05 22 50.0**	**-2.3**
PLP	**Palo**	**1.83**	**311**	*e*P	**Pn**	**05 22 32.0**	**0.0**
PLP				*i* S	**Sn**	**05 22 55.7**	**+1.7**
CGP	**Cagayan de Oro**	**2.24**	**228**	*e*P	**Pn**	**05 22 37.4**	**-0.2**
CGP				*i* S	**Sn**	**05 23 04.9**	**+0.9**
BUKP	**Musuan**	**2.45**	**213**	*e*P	**Pn**	**05 22 42.1**	**+1.7**
CNP	**Catarman**	**3.05**	**326**	*e*P	**Pn**	**05 22 48.4**	**-0.2**
WRA	**Warramunga Arr**	**30.73**	**165**	P	**P**	**05 28 13.7**	**+0.6**
	0.3nm,0.8s,baz=344,slow=8.9,SNR=3.5						
ASAR	**Alice Springs**	**34.22**	**168**	P	**P**	**05 28 42.0**	**-1.7**
	1.2nm,1.2s,baz=347,slow=7.0,SNR=6.6						
SONM	**Songino Array**	**41.35**	**340**	P	**P**	**05 29 44.4**	**+0.6**
	0.2nm,0.5s,baz=146,slow=8.4,SNR=2.2						
MKAR	**Makanchi Array**	**52.35**	**323**	P	**P**	**05 31 09.0**	**-0.5**
	0.4nm,0.6s,baz=110,slow=6.7,SNR=4.7						
ARCES	**ARCESS Array B**	**84.53**	**340**	P	**P**	**05 34 30.1**	**+0.1**
	5.8nm,1.1s,baz=64,slow=8.1,SNR=5.2						
FINES	**FINESS Array B**	**86.22**	**332**	P	**P**	**05 34 38.4**	**-0.2**
	2.9nm,1.1s,baz=61,slow=3.5,SNR=4.7						

*MOS **31** 05:28:23.7±1.6, 50.°67N×156.°77E, h79km, mb4.3/5, Error ellipse: s-maj=23.3km s-min=9.7km az=77.8*
*ISCJB **31** 05:28:25.6±0.9, 50.°72N±0.°09×156.°9E±0.°1, h95km±5km, mb3.6/14, Error ellipse: s-maj=19.5km s-min=8.9km az=137.6*
*SKHL **31** 05:28:25.5±0.1, 50.°47N×157.°21E, h70km, mb4.7/3*
*IDC **31** 05:28:28.6±2.7, 50.°79N×156.°82E, h104km±24km, mb3.4/14, mb1 3.6/15, mb1mx3.4/30, mbtmp3.7/15, Error ellipse: s-maj=18.6km s-min=16.5km az=154.0*
ISC 31 05:28:25.4±1.2, **50.°6N**±0.°1×**157.°01E**±0.°09, **h81**km±8km, **n37**, σ1°**32**/34, **mb3.7**/14, **1C**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.58**	**280**	*i* PN	Pn	05 28 36.0	-4.0
SKR				*i* S	**Sn**	**05 28 47.0**	**-3.7**
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				pmax	pmax		
	comp=N,1μm,0.3s						
SKR				pmax	pmax		
	comp=E,1μm,0.3s						
SKR				smax	smax		
	comp=N,3μm,0.3s						
SKR				smax	smax		
	comp=E,4μm,0.3s						
SKR	**Severo-Kuril's**	**0.58**	**280**	*e*P	**Pn**	**05 28 40.2**	**+0.2**
SKR				AMB	AMB	05 28 40.4	
	comp=E,145nm,0.4s						
SKR				*e*S	**Sn**	**05 28 51.2**	**+0.5**
SKR				A	A	05 28 51.7	
	comp=E,4μm,0.6s						
PAU	**Pauzhetka**	**0.89**	**352**	*e*PN	**Pn**	**05 28 44.0**	**+0.7**
PAU				*e*S	**Sn**	**05 28 58.0**	**+1.4**
PAU				pmax	pmax		
	comp=Z,540nm,0.5s						
PAU				smax	smax		
	comp=N,870nm,0.3s						
PAU				smax	smax		
	comp=E,790nm,0.3s						
PAU	**Pauzhetka**	**0.89**	**352**	*e*P	**Pn**	**05 28 44.0**	**+0.7**
PAU				AMB	AMB	05 28 46.2	
	comp=E,543nm,0.5s						
PAU				*e*S	**Sn**	**05 28 58.0**	**+1.4**
PAU				A	A	05 28 58.5	
	comp=E,868nm,0.3s						
PAU				A	A	05 28 58.5	
	comp=E,790nm,0.3s						

RUS	**Russkaya**	**2.07**	**26**	PN	**Pn**	**05 28 57.5**	**-0.8**	
RUS				S	**Sn**	**05 29 21.4**	**-2.0**	
PETK	**Petropavlovsk-**	**2.56**	**9**	PN	**Pn**	**05 29 06.2**	**+1.4**	
PETK				S	Sn	05 29 26.9	-8.2	
PETK				pmax	pmax			
	comp=Z,5.0nm,0.3s							
PETK				smax	smax			
	comp=N,6.0nm,0.3s							
PETK	**Petropavlovsk-**	**2.56**	**9**	P	**Pn**	**05 29 06.2**	**+1.4**	
	comp=N,5.0nm,0.3s,baz=194,slow=17,SNR=90							
PETK				S	Sn	05 29 26.9	-8.2	
	comp=N,5.5nm,0.3s,baz=171,slow=19,SNR=9.4							
PET	**Petropavlovsk**	**2.65**	**22**	*e*PN	**Pn**	**05 29 06.0**	**+0.1**	
PET				*e*S	**Sn**	**05 29 36.8**	**-0.2**	
PET				smax	smax			
	comp=N,114nm,0.5s							
PET				smax	smax			
	comp=E,133nm,0.5s							
PET	**Petropavlovsk**	**2.65**	**22**	*e*P	**Pn**	**05 29 06.4**	**+0.5**	
PET				AMB	AMB	05 29 06.8		
	comp=E,366nm,0.5s							
PET				*e*S	**Sn**	**05 29 37.0**	**-0.1**	
PET				A	A	05 29 38.8		
	comp=E,1μm,0.6s							
PET				A	A	05 29 38.8		
	comp=E,1μm,0.6s							
KBTR	**Krutoberegovo**	**6.62**	**29**	PN	**Pn**	**05 29 59.1**	**-0.8**	
BKI	**Bering**	**7.12**	**46**	PN	**Pn**	**05 30 05.7**	**-1.1**	
H11N2	**WAKE ISLAND Hy**	**31.77**	**162**	T	T	06 08 24.2		
	baz=350,slow=77,SNR=85							
H11N3	**WAKE ISLAND Hy**	**31.79**	**162**	T	T	06 08 25.5		
	baz=350,slow=77,SNR=110							
H11N1	**WAKE ISLAND Hy**	**31.79**	**162**	T	T	06 08 25.5		
	baz=350,slow=77,SNR=64							
SONM	**Songino Array**	**32.66**	**285**	P	**P**	**05 34 49.3**	**-0.3**	
	comp=E,0.2nm,0.5s,baz=69,slow=7.2,SNR=2.9							
H11S1	**WAKE ISLAND Hy**	**32.92**	**163**	T	T	06 09 42.4		
	baz=351,slow=78,SNR=57							
H11S3	**WAKE ISLAND Hy**	**32.94**	**163**	T	T	06 09 52.8		
	baz=351,slow=78,SNR=74							
H11S2	**WAKE ISLAND Hy**	**32.94**	**163**	T	T	06 09 46.2		
	baz=351,slow=78,SNR=63							
MKAR	**Makanchi Array**	**47.53**	**296**	*i* P	**P**	**05 36 51.7**	**-0.6**	
MKAR	**Makanchi Array**	**47.53**	**296**	P	**P**	**05 36 51.3**	**-0.9**	
	comp=E,0.4nm,0.4s,baz=42,slow=6.8,SNR=14							
ARCES	**ARCESS Array B**	**55.06**	**341**	P	**P**	**05 37 47.0**	**-1.2**	
	comp=E,4.0nm,1.1s,baz=41,slow=8.4,SNR=3.4							
CMAR	**Chiang Mai Arr**	**55.77**	**257**	P	**P**	**05 37 56.1**	**+2.1**	
	comp=E,1.0nm,0.3s,baz=38,slow=6.2,SNR=3.8							
NVAR	**Mina Array Bea**	**58.45**	**67**	P	**P**	**05 38 14.2**	**+1.3**	
	comp=E,0.3nm,0.5s,baz=301,slow=7.3,SNR=3.2							
PDAR	**Pinedale Array**	**60.45**	**58**	P	**P**	**05 38 27.8**	**+1.1**	
	comp=E,0.5nm,0.8s,baz=295,slow=4.2,SNR=4.4							
FINES	**FINESS Array B**	**61.64**	**336**	P	**P**	**05 38 32.6**	**-1.4**	
	comp=E,2.5nm,0.9s,baz=32,slow=7.5,SNR=5.7							
NOA	**NORSAR Array B**	**65.39**	**342**	P	**P**	**05 38 58.3**	**-0.5**	
	comp=E,0.9nm,0.8s,baz=31,slow=6.5,SNR=2.5							
AKASG	**Malin Array Be**	**69.74**	**328**	P	**P**	**05 39 24.8**	**-1.5**	
AKASG	**Malin Array Be**	**69.74**	**328**	P	**P**	**05 39 24.8**	**-1.5**	
	comp=E,0.4nm,0.4s,baz=31,slow=6.8,SNR=3.1							
KBZ	**Khabaz**	**70.01**	**315**	P	**P**	**05 39 27.1**	**-0.9**	
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**70.01**	**315**	P	**P**	**05 39 27.1**	**-0.9**	
	comp=Z,1.9nm,0.8s,baz=50,slow=7.9,SNR=3.0							
WRA	**Warramunga Arr**	**73.02**	**202**	P	**P**	**05 39 46.9**	**+0.6**	
	comp=Z,0.5nm,0.9s,baz=19,slow=5.8,SNR=10							
TXAR	**Lajitas Array**	**73.42**	**64**	P	**P**	**05 39 50.1**	**+1.2**	
	comp=Z,0.3nm,0.5s,baz=270,slow=2.7,SNR=4.1							
GERES	**GERESS Array B**	**76.07**	**336**	P	**P**	**05 40 03.9**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=36,slow=3.7,SNR=3.4							
ASAR	**Alice Springs**	**76.70**	**202**	P	**P**	**05 40 08.8**	**+1.3**	
	comp=Z,0.2nm,0.6s,baz=9.2,slow=6.9,SNR=3.6							
H03N2	**Juan Fernandez**	**136.14**	**89**	T	T	08 18 48.0		
	baz=311,slow=75,SNR=29							
H03N1	**Juan Fernandez**	**136.16**	**89**	T	T	08 18 48.2		
	baz=311,slow=75,SNR=29							
H03N3	**Juan Fernandez**	**136.16**	**89**	T	T	08 18 51.2		
	baz=311,slow=75,SNR=18							

*JMA **31** 06:19:41.1±0.3, 32.°03N×138.°29E, h441km, M3.2*
*ISCJB **31** 06:19:42.5±0.4, 31.°96N±0.°05×138.°27E±0.°06, h416km±3km, mb3.4/13, Error ellipse: s-maj=8.9km s-min=7.6km az=138.6*
*IDC **31** 06:19:42.6±0.8, 31.°95N×138.°21E, h395km±8km, mb3.1/11, mb1 3.2/15, mb1mx3.1/40, mbtmp3.9/15, Error ellipse: s-maj=17.6km s-min=9.6km az=68.0*
ISC 31 06:19:43.8±0.8, **32.°03N**±0.°07×**138.°24E**±0.°07, **h411**km±7km, **n39**, σ1°**56**/53, **mb3.6**/13, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.68**	**51**	P	**P**	**06 20 39.4**	**+0.5**
JHJ2	**Mitsune**	**1.72**	**51**	P	**P**	**06 20 39.5**	**+0.4**
JHJ2				*e*S	**S**	**06 21 26.2**	**+2.4**
TK02	**Tokai 2**	**1.96**	**348**	P	**P**	**06 20 41.3**	**+1.2**
TTO3	**TONANKAI O.B.S**	**1.96**	**339**	P	**P**	**06 20 41.6**	**+1.4**
TTO3				*e*S	**S**	**06 21 28.2**	**+2.2**
TTO2	**TONANKAI O.B.S**	**1.98**	**329**	P	**P**	**06 20 41.5**	**+1.3**
TTO2				S	**S**	**06 21 28.1**	**+2.1**
TTO4	**TONANKAI O.B.S**	**2.06**	**344**	P	**P**	**06 20 41.9**	**+1.2**
TK03	**Tokai 3**	**2.15**	**354**	S	**S**	**06 21 30.6**	**+2.5**
JWZ	**Kozaga**	**2.60**	**306**	P	**P**	**06 20 44.3**	**-0.3**
JIE	**Ise**	**2.69**	**332**	P	**P**	**06 20 45.9**	**+0.7**
JIE				S	**S**	**06 21 35.1**	**-0.1**
JWY	**Kouya**	**3.11**	**315**	P	**P**	**06 20 49.0**	**+0.3**
JOD2	**Odawara 2**	**3.31**	**12**	P	**P**	**06 20 50.2**	**0.0**
JOD2				S	**S**	**06 21 42.8**	**-1.4**
JYN	**Shimob**	**3.47**	**4**	P	**P**	**06 20 52.5**	**+0.9**
BSO1	**Boso 1**	**3.48**	**40**	P	**P**	**06 20 51.0**	**0.0**
BSO1				*e*S	**S**	**06 21 45.1**	**-0.8**
JAI	**Aioi**	**3.64**	**300**	P	**P**	**06 20 52.6**	**-0.4**
JWT	**Wachi**	**4.02**	**325**	P	**P**	**06 20 56.8**	**+0.4**
JWT				S	**S**	**06 21 53.3**	**-2.5**
JRY	**Ryogami san**	**4.02**	**8**	P	**P**	**06 20 57.0**	**+0.5**
JRY				S	**S**	**06 21 53.9**	**-1.9**
JMN	**Monobe**	**4.04**	**296**	P	**P**	**06 20 56.6**	**-0.1**
JAG	**Ashikaga**	**4.50**	**13**	P	**P**	**06 21 00.3**	**-0.7**
JAG				*e*S	**S**	**06 21 59.6**	**-4.6**
MJAR	**Matsushiro Arr**	**4.50**	**360**	P	**P**	**06 21 00.9**	**-0.2**
	1.6nm,0.3s,baz=174,slow=11,SNR=23						
MJAR				S	**S**	**06 22 04.0**	**-0.3**
	0.3nm,0.3s,baz=223,slow=20,SNR=3.4						
MAT	**Matsushiro**	**4.50**	**360**	P	**P**	**06 21 01.0**	**-0.1**
MAT				S	**S**	**06 22 02.2**	**-2.1**
JTO	**Tosashimizu**	**4.67**	**282**	P	**P**	**06 21 02.1**	**-0.7**
JCJ	**Chichijima**	**6.00**	**144**	P	**P**	**06 21 14.2**	**-2.4**
	6.6nm,0.3s,baz=17,slow=14,SNR=7.4						
JCJ				S	**S**	**06 22 27.1**	**-5.6**
	30nm,0.3s,baz=270,slow=21,SNR=12						
JNU	**Nakatsue**	**6.31**	**282**	P	**P**	**06 21 18.6**	**-1.2**
	0.9nm,0.3s,baz=118,slow=6.4,SNR=11						
JNU				S	**S**	**06 22 36.3**	**-2.4**
	0.6nm,0.3s,baz=84,slow=19,SNR=2.8						
KSRS	**Korea Array**	**10.06**	**305**	P	**P**	**06 22 01.9**	**+0.1**
	0.2nm,0.3s,baz=121,slow=9.4,SNR=5.9						
SONM	**Songino Array**	**28.82**	**312**	P	**P**	**06 25 06.7**	**+0.3**
	0.4nm,0.5s,baz=125,slow=9.1,SNR=8.0						
CMAR	**Chiang Mai Arr**	**37.81**	**259**	P	**P**	**06 26 22.4**	**-0.8**
	0.8nm,0.3s,baz=46,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**43.54**	**316**	PcP	**PcP**	**06 28 48.0**	**0.0**
	0.6nm,0.5s,baz=113,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**44.74**	**306**	P	**P**	**06 27 18.3**	**-0.2**
	0.4nm,0.6s,baz=79,slow=8.9,SNR=3.4						
MKAR				PcP	**PcP**	**06 28 52.3**	**-0.1**
	0.2nm,0.6s,baz=81,slow=4.4,SNR=3.2						
WRA	**Warramunga Arr**	**51.81**	**185**	P	**P**	**06 28 11.6**	**-0.2**
	0.5nm,0.4s,baz=0.2,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**55.53**	**185**	P	**P**	**06 28 39.5**	**+1.0**
	0.4nm,0.7s,baz=17,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**67.75**	**339**	P	**P**	**06 29 59.3**	**+1.0**
	2.7nm,0.9s,baz=58,slow=7.0,SNR=8.4						
JOF	**Joensuu**	**69.14**	**332**	*ep*	**P**	**06 30 06.1**	**-0.8**
	1.3nm,0.6s						
KAF	**Kangasniemi**	**71.54**	**333**	*ep*	**P**	**06 30 20.7**	**-0.5**
	0.5nm,0.3s						
FINES	**FINESS Array B**	**72.01**	**332**	P	**P**	**06 30 24.4**	**+0.4**
	1.1nm,0.4s,baz=64,slow=5.3,SNR=20						
KBZ	**Khabaz**	**72.17**	**311**	P	**P**	**06 30 26.2**	**+1.0**
	1.6nm,0.8s,baz=279,slow=4.6,SNR=4.4						
AKASG	**Malin Array Be**	**76.62**	**322**	P	**P**	**06 30 50.5**	**0.0**
	1.0nm,0.4s,baz=50,slow=5.6,SNR=14						
NOA	**NORSAR Array B**	**77.75**	**337**	P	**P**	**06 30 57.0**	**+0.4**
	0.6nm,0.9s,baz=45,slow=5.6,SNR=3.8						

BRTR	**Keskin Array B**	**80.16**	**311**	P	**P**	**06 31 10.5**	**+0.5**	
	0.6nm,0.6s,baz=139,slow=3.4,SNR=5.5							
TORD	**Torodi Ar. Bea**	**118.77**	**310**	PKP	**PKPdf**	**06 37 45.1**	**+0.4**	
	0.8nm,1.1s,baz=25,slow=2.7,SNR=4.1							

*ISCJB **31** 06:24:03.4±0.4, 1.°80N±0.°05×127.°37E±0.°06, h112km, mb4.3/16, Error ellipse: s-maj=8.2km s-min=6.4km az=175.7*
*IDC **31** 06:24:04.7±3.7, 1.°73N×127.°30E, h107km±34km, mb3.9/11, mb1 4.0/11, mb1mx3.8/30, mbtmp4.3/11, Error ellipse: s-maj=40.4km s-min=10.4km az=77.0*
*NEIC **31** 06:24:05.7±0.9, 1.°73N×127.°37E, h120km±8km, mb4.5/4, Error ellipse: s-maj=15.2km s-min=7.4km az=70.0*
*AUST **31** 06:24:13.8±2.1, 1.°35N×127.°00E, h182km, Error ellipse: s-maj=2.6km s-min=1.4km az=41.0*
*DJA **31** 06:24:15.0±0.7, 1.°1N±7.°1×12.°7E±.°, h10km, M4.5/7, mb4.7/3, mB4.9/1, MLv4.3/7, Mw(mB)4.2/1*
ISC 31 06:24:05.2±0.6, **1.°85N**±0.°06×**127.°39E**±0.°07, **h112**km, **n52**, σ1°**43**/57, **mb4.4**/16, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**181**	P	**Pn**	**06 24 27.6**	**+0.3**
TNTI				S	**Sn**	**06 24 46.8**	**+2.8**
TNTI	**Ternate**	**1.07**	**181**	*e*Pn	**Pn**	**06 24 27.8**	**+0.5**
TNTI				*e*Sn	**Sn**	**06 24 46.2**	**+2.2**
LBMI	**Labuha**	**2.48**	**178**	P	Pn	06 24 49.1	+4.7
LBMI				S	**Sn**	**06 25 16.1**	**+1.6**
KMSI	**Cibinong**	**3.64**	**250**	P	**Pn**	**06 24 58.8**	**-0.9**
SANI	**Sanana**	**4.12**	**200**	P	**Pn**	**06 25 04.1**	**-2.1**
NLAI	**Namlea**	**5.07**	**183**	P	**Pn**	**06 25 19.8**	**+0.9**
LUWI	**Luwuk**	**5.44**	**238**	*e*Pn	**Pn**	**06 25 22.7**	**-1.3**
LUWI	**Luwuk**	**5.44**	**238**	P	**Pn**	**06 25 22.7**	**-1.3**
	baz=4.9,SNR=4.6						
LUWI				S	**Sn**	**06 26 27.8**	**+2.4**
	baz=4.9,SNR=4.0						
MRSI	**Marisa**	**5.62**	**256**	P	**Pn**	**06 25 26.7**	**+0.3**
TTSI	**Tana Toraja**	**9.00**	**237**	P	**Pn**	**06 26 10.5**	**-1.8**
	28nm,1.3s,0.1nm						
SPSI	**Sidrap Palu**	**9.56**	**233**	P	**Pn**	**06 26 17.2**	**-2.7**
	60nm,0.7s,656nm						
BNSI	**Bone**	**9.57**	**230**	P	**Pn**	**06 26 18.3**	**-1.7**
WSI	**Waingapu**	**13.45**	**212**	S	**S**	**06 30 00.4**	**+4.8**
	baz=13,SNR=3.1						
MTN	**Manton Dam**	**15.06**	**166**	P	**Pn**	**06 27 30.7**	**-1.5**
	baz=15,SNR=12						
KDU	**Kakadu**	**15.30**	**161**	P	**P**	**06 27 38.2**	**+0.8**
	baz=15,SNR=4.6						
KNRA	**Kununurra**	**17.47**	**176**	P	**P**	**06 28 00.8**	**-0.7**
	baz=17,SNR=14						
PMG	**Port Moresby**	**22.64**	**120**	*e*P	**P**	**06 28 55.3**	**-1.8**
	21nm,1.2s						
WRAB	**Tennant Creek**	**22.70**	**163**	*e*P	**P**	**06 28 56.5**	**-1.1**
	23nm,0.8s						
WRA	**Warramunga Arr**	**22.71**	**163**	P	**P**	**06 28 56.1**	**-1.6**
WRA				S	**S**	**06 32 57.8**	**-0.1**
WRA	**Warramunga Arr**	**22.71**	**163**	P	**P**	**06 28 56.1**	**-1.6**
	8.7nm,0.4s,baz=339,slow=10,SNR=92						
WRA				S	**S**	**06 32 57.8**	**-0.1**
	0.6nm,0.6s,baz=345,slow=19,SNR=4.0						
QIS	**Mount Isa**	**25.28**	**152**	P	**P**	**06 29 21.5**	**+0.2**
	baz=25,SNR=6.3						
AS31	**Alice Springs**	**26.14**	**166**	*e*P	**P**	**06 29 27.8**	**-1.3**
ASAR	**Alice Springs**	**26.14**	**166**	P	**P**	**06 29 27.9**	**-1.2**
ASAR	**Alice Springs**	**26.14**	**166**	P	**P**	**06 29 27.9**	**-1.2**
	1.9nm,0.6s,baz=350,slow=7.7,SNR=35						
WRKA	**Warkurna**	**26.74**	**178**	P	**P**	**06 29 33.8**	**-0.7**
	baz=26,SNR=7.3						
MEEK	**Meekatharra**	**29.56**	**196**	P	**P**	**06 29 58.5**	**-1.1**
	baz=29,SNR=8.4						
MORW	**Morawa**	**32.61**	**199**	P	**P**	**06 30 25.0**	**-1.2**
	baz=32,SNR=4.0			

PTL				*e*SN	**Sb**	07 00 24.1	+0.4	
PTL	**Penteli**	**1.17**	**244**	*e*Pn	**Pn**	07 00 08.2	-0.5	
PTL				*e*Sn	**Sb**	07 00 24.1	+0.4	
AOS	**Alonnisos**	**1.19**	**301**	P	**Pn**	07 00 08.6	-0.4	
AOS				S	**Sn**	07 00 24.8	-0.1	
AOS	**Alonnisos**	**1.19**	**301**	*e*PN	**Pg**	07 00 10.0	+0.3	
AOS				*e*SN	**Sg**	07 00 26.7	+1.5	
AOS	**Alonnisos**	**1.19**	**301**	*e*PN	**Pn**	07 00 08.9	-0.1	
AOS				*e*SN	**Sg**	07 00 26.2	+1.0	
AOS	**Alonnisos**	**1.19**	**301**	P	**Pn**	07 00 08.6	-0.4	
AOS	**Alonnisos**	**1.19**	**301**	*e*Pn	**Pn**	07 00 08.9	-0.1	
AOS				S	**Sn**	07 00 24.8	-0.1	
AOS				*e*Sn	**Sg**	07 00 26.2	+1.0	
ATHU	**Athens Univers**	**1.26**	**242**	P	**Pn**	07 00 09.4	-0.5	
ATHU				S	**Sn**	07 00 27.1	+0.4	
ATHU	**Athens Univers**	**1.26**	**242**	P	**Pn**	07 00 09.4	-0.5	
ATHU				S	**Sn**	07 00 27.1	+0.4	
MRKA	**Markates**	**1.27**	**277**	P	**Pn**	07 00 09.9	-0.1	
MRKA				S	**Sb**	07 00 26.7	+0.1	
MRKA	**Markates**	**1.27**	**277**	*e*PN	**Pn**	07 00 10.2	+0.2	
MRKA				*e*SN	**Sn**	07 00 26.9	+0.1	
MRKA	**Markates**	**1.27**	**277**	P	**Pn**	07 00 09.9	-0.1	
MRKA	**Markates**	**1.27**	**277**	*e*Pn	**Pn**	07 00 10.2	+0.2	
MRKA				S	**Sb**	07 00 26.7	+0.1	
ATH	**Athens Observa**	**1.31**	**243**	P	**Pn**	07 00 10.2	-0.3	
ATH				S	**Sn**	07 00 28.4	+0.7	
ATH	**Athens Observa**	**1.31**	**243**	*e*PB	**Pn**	07 00 09.3	-1.2	
ATH				*e*SN	**Sg**	07 00 28.7	-0.2	
ATH	**Athens Observa**	**1.31**	**243**	*e*Pb	**Pn**	07 00 09.3	-1.2	
ATH	**Athens Observa**	**1.31**	**243**	P	**Pn**	07 00 10.2	-0.3	
ATH				S	**Sn**	07 00 28.4	+0.7	
LIA	**Limnos Island**	**1.33**	**360**	P	**Sb**	07 00 27.7	-0.6	
LIA				S	**Sb**	07 00 27.7	-0.6	
LIA	**Limnos Island**	**1.33**	**360**	*e*PN	**Pn**	07 00 10.5	-0.4	
LIA				*e*SN	**Sn**	07 00 28.4	0.0	
LIA	**Limnos Island**	**1.33**	**360**	P	**Pn**	07 00 10.5	-0.4	
LIA				S	**Sb**	07 00 27.7	-0.6	
LIA				*e*Sn	**Sn**	07 00 28.4	0.0	
AYVA	**Ayvalik**	**1.38**	**57**	*i* P	**Pb**	07 00 11.9	-0.4	
AYVA				*i* S	**Sb**	07 00 30.1	+0.3	
AYVA	**Ayvalik**	**1.38**	**57**	*i* P	**Pb**	07 00 11.9	-0.4	
AYVA				*i* S	**Sb**	07 00 30.1	+0.3	
SKIA	**Skiathos**	**1.48**	**294**	P	**Pn**	07 00 11.8	-1.1	
SKIA				S	**Sn**	07 00 31.9	-0.1	
SKIA	**Skiathos**	**1.48**	**294**	*e*PN	**Pn**	07 00 13.0	+0.1	
SKIA				*e*SN	**Sn**	07 00 31.7	-0.3	
SKIA	**Skiathos**	**1.48**	**294**	P	**Pn**	07 00 11.8	-1.1	
SKIA	**Skiathos**	**1.48**	**294**	*e*Pn	**Pn**	07 00 13.0	+0.1	
SKIA				S	**Sn**	07 00 31.9	-0.1	
APE	**Apeiranthos**	**1.52**	**170**	P	**Pn**	07 00 13.0	-0.5	
APE				S	**Sn**	07 00 33.5	+0.4	
APE	**Apeiranthos**	**1.52**	**170**	*e*PN	**Pn**	07 00 13.3	-0.2	
APE				*e*SN	**Sb**	07 00 33.7	-0.1	
APE	**Apeiranthos**	**1.52**	**170**	*e*PB	**Pn**	07 00 12.8	-0.7	
APE				*e*SN	**Sn**	07 00 32.8	-0.3	
APE	**Apeiranthos**	**1.52**	**170**	P	**Pn**	07 00 13.0	-0.5	
APE	**Apeiranthos**	**1.52**	**170**	*e*Pn	**Pn**	07 00 13.3	-0.2	
APE				*e*Sn	**Sn**	07 00 32.8	-0.3	
APE				S	**Sn**	07 00 33.5	+0.4	
SMG	**Samos**	**1.55**	**123**	P	**Pn**	07 00 13.4	-0.5	
SMG				S	**Sn**	07 00 33.6	-0.3	
SMG	**Samos**	**1.55**	**123**	*e*PN	**Pn**	07 00 13.4	-0.5	
SMG				*e*SN	**Sn**	07 00 33.7	-0.2	
SMG	**Samos**	**1.55**	**123**	P	**Pn**	07 00 13.4	-0.5	
SMG				S	**Sn**	07 00 33.6	-0.3	
NAIG	**Nisos Aigina**	**1.57**	**240**	*e*PN	**Pn**	07 00 14.3	+0.2	
NAIG	**Nisos Aigina**	**1.57**	**240**	*e*Pn	**Pn**	07 00 14.3	+0.2	
SMIA	**Simia**	**1.58**	**282**	*e*PN	**Pn**	07 00 14.5	+0.1	
SMIA				*e*SN	**Sn**	07 00 34.5	-0.2	
SMIA	**Simia**	**1.58**	**282**	*e*Pn	**Pn**	07 00 14.5	+0.1	
SMIA				*e*Sn	**Sn**	07 00 34.5	-0.2	
IZM	**Izmir**	**1.63**	**95**	*e*PN	**Pg**	07 00 19.4	+1.3	
NEO	**Neokhori**	**1.71**	**296**	P	**Pn**	07 00 15.9	-0.2	
NEO	**Neokhori**	**1.71**	**296**	*e*PB	**Pn**	07 00 15.9	-0.2	
NEO				*e*SN	**Sn**	07 00 38.0	+0.3	
NEO	**Neokhori**	**1.71**	**296**	P	**Pn**	07 00 15.9	-0.2	
NEO				*e*Sn	**Sn**	07 00 38.0	+0.3	
LKR	**Lokris**	**1.72**	**273**	P	**Pn**	07 00 16.1	-0.2	
LKR	**Lokris**	**1.72**	**273**	*e*PB	**Pn**	07 00 16.0	-0.2	
LKR	**Lokris**	**1.72**	**273**	P	**Pn**	07 00 16.1	-0.2	
XOR	**Xorichti**	**1.75**	**298**	*e*PN	**Pb**	07 00 18.0	-0.7	
XOR				*e*SN	**Sn**	07 00 38.8	-0.1	
XOR	**Xorichti**	**1.75**	**298**	*e*Pn	**Pb**	07 00 18.0	-0.7	
XOR				*e*Sn	**Sn**	07 00 38.8	-0.1	
PAIG	**Paliouri**	**1.80**	**320**	*e*PN	**Pn**	07 00 17.5	-0.3	
PAIG	**Paliouri**	**1.80**	**320**	*e*Pn	**Pn**	07 00 17.0	-0.3	
GCAM	**G?zelcaml?**	**1.82**	**118**	*i* P	**Pn**	07 00 15.9	-1.7	
GCAM				*i* S	**Sg**	07 00 47.0	+1.6	
GCAM	**G?zelcaml?**	**1.82**	**118**	*i* P	**Pn**	07 00 15.9	-1.7	
LTK	**Loutraki**	**1.83**	**254**	P	**Pn**	07 00 17.6	-0.2	
LTK				S	**Sn**	07 00 40.8	-0.1	
LTK	**Loutraki**	**1.83**	**254**	*e*PN	**Pn**	07 00 17.4	-0.4	
LTK				*e*SN	**Sn**	07 00 41.0	+0.1	
LTK	**Loutraki**	**1.83**	**254**	P	**Pn**	07 00 17.6	-0.2	
LTK				S	**Sn**	07 00 40.8	-0.1	
DID	**Didima**	**1.87**	**236**	P	**Pn**	07 00 17.9	-0.5	
DID				S	**Sn**	07 00 42.0	+0.2	
DID	**Didima**	**1.87**	**236**	*e*PN	**Pn**	07 00 18.1	-0.3	
DID	**Didima**	**1.87**	**236**	*e*Pn	**Pn**	07 00 18.1	-0.3	
DID				S	**Sn**	07 00 42.0	+0.2	
SMTH	**Samothraki Isl**	**1.92**	**8**	*e*PN	**Pn**	07 00 18.8	-0.2	
SMTH	**Samothraki Isl**	**1.92**	**8**	*e*Pn	**Pn**	07 00 18.8	-0.2	
AXAR	**Agios Charalam**	**2.00**	**277**	*e*PB	**Pn**	07 00 20.7	+0.7	
AXAR	**Agios Charalam**	**2.00**	**277**	*e*Pb	**Pn**	07 00 20.7	+0.7	
OUR	**Ouranopolis**	**2.00**	**332**	*e*PB	**Pn**	07 00 20.9	+0.8	
OUR	**Ouranopolis**	**2.00**	**332**	*e*Pb	**Pn**	07 00 20.9	+0.8	
AKHS	**Akhisar**	**2.07**	**81**	*i* P	**Pg**	07 00 25.8	-0.7	
AKHS				*i* S	**Sg**	07 00 54.5	+1.1	
DSF	**Desfina**	**2.10**	**267**	*e*PN	**Pn**	07 00 21.3	-0.2	
DSF	**Desfina**	**2.10**	**267**	*e*Pn	**Pn**	07 00 21.3	-0.2	
LPK	**Lapseki**	**2.17**	**33**	*e*PN	**Pg**	07 00 29.1	+0.7	
AYDB	**Zeytinkoy-Aydi**	**2.21**	**105**	*e*PN	**Pb**	07 00 27.8	+1.3	
AYDB				*e*SN	**Sg**	07 00 58.6	+0.8	
BALY	**Balya**	**2.22**	**57**	*i* P	**Pg**	07 00 28.4	-1.0	
BALY				*i* S	**Sg**	07 00 59.0	+0.8	
PLG	**Polygyros**	**2.26**	**324**	*e*PN	**Pn**	07 00 23.4	-0.3	
PLG	**Polygyros**	**2.26**	**324**	*e*Pn	**Pn**	07 00 23.4	-0.3	
AGG	**Agios Georgios**	**2.28**	**282**	*e*PN	**Pn**	07 00 24.7	+0.7	
AGG	**Agios Georgios**	**2.28**	**282**	*e*Pn	**Pn**	07 00 24.7	+0.7	
AYDN	**Tasoluk**	**2.30**	**112**	*i* P	Pg	07 00 06.5	+5.6	
AYDN				*i* S	**Sg**	07 01 06.1	+5.3	
GUR	**Goura**	**2.33**	**255**	*e*PN	**Pn**	07 00 24.9	+0.1	
GUR	**Goura**	**2.33**	**255**	*e*Pn	**Pn**	07 00 24.9	+0.1	
BALB	**Balikesir**	**2.35**	**62**	*e*PN	**Pg**	07 00 31.6	-0.1	
KALE	**Kalithea**	**2.40**	**267**	*e*PN	**Pn**	07 00 26.5	+0.8	
KALE	**Kalithea**	**2.40**	**267**	*e*Pn	**Pn**	07 00 26.5	+0.8	
ALN	**Alexandroupoli**	**2.42**	**15**	*e*PN	**Pn**	07 00 25.8	0.0	
ALN	**Alexandroupoli**	**2.42**	**15**	*e*Pn	**Pn**	07 00 25.8	0.0	
GONE	**Gonen-Balikesi**	**2.43**	**52**	*e*PN	**Pg**	07 00 33.0	-0.4	
MAKR	**Makrakomi, Fth**	**2.44**	**282**	*e*PB	**Pn**	07 00 27.4	+1.3	
MAKR	**Makrakomi, Fth**	**2.44**	**282**	*e*Pb	**Pn**	07 00 27.4	+1.3	
KRBG	**Karabiga-Canak**	**2.44**	**41**	*e*PN	**Pg**	07 00 32.2	-1.4	
KLV	**Kalavryta, Ach**	**2.45**	**259**	*e*PN	**Pn**	07 00 26.3	-0.1	
KLV	**Kalavryta, Ach**	**2.45**	**259**	*e*Pn	**Pn**	07 00 26.3	-0.1	
KAVA	**Kavala**	**2.48**	**348**	*e*PN	**Pn**	07 00 26.3	-0.4	
KAVA	**Kavala**	**2.48**	**348**	*e*Pn	**Pn**	07 00 26.3	-0.4	
LAKA	**Lakka**	**2.55**	**264**	*e*PN	**Pn**	07 00 28.0	+0.3	
LAKA	**Lakka**	**2.55**	**264**	*e*Pn	**Pn**	07 00 28.0	+0.3	
VLI	**Veliai**	**2.57**	**225**	*e*PN	**Pn**	07 00 27.4	-0.6	
VLI	**Veliai**	**2.57**	**225**	*e*PB	**Pn**	07 00 27.5	-0.5	
VLI				*e*SB	**Pg**	07 00 34.0	-2.0	
VLI	**Veliai**	**2.57**	**225**	*e*Pn	**Pn**	07 00 27.4	-0.6	
EFP	**Efpalio**	**2.58**	**268**	*e*PN	**Pn**	07 00 28.8	+0.7	
EFP	**Efpalio**	**2.58**	**268**	*e*Pn	**Pn**	07 00 28.8	+0.7	
HORT	**Hortiatis**	**2.60**	**322**	*e*PN	**Pn**	07 00 27.3	-1.1	
HORT	**Hortiatis**	**2.60**	**322**	*e*Pn	**Pn**	07 00 27.3	-1.1	
LIT	**Litokhoron**	**2.60**	**307**	*e*PN	**Pn**	07 00 28.4	+0.1	
LIT	**Litokhoron**	**2.60**	**307**	*e*Pn	**Pn**	07 00 28.4	+0.1	
RKY	**Sarkoy-Tekirda**	**2.61**	**35**	*e*PN	**Pg**	07 00 35.4	-1.4	
SOH	**Sokhos**	**2.66**	**328**	*e*PN	**Pn**	07 00 29.7	+0.4	
SOH	**Sokhos**	**2.66**	**328**	*e*Pn	**Pn**	07 00 29.7	+0.4	
THL	**Klokotos Trika**	**2.67**	**293**	*e*PN	**Pn**	07 00 30.3	+1.0	
THL	**Klokotos Trika**	**2.67**	**293**	*e*Pn	**Pn**	07 00 30.3	+1.0	
EVR	**Evrytania**	**2.67**	**279**	*e*PN	**Pn**	07 00 29.4	0.0	
EVR	**Evrytania**	**2.67**	**279**	*e*Pn	**Pn**	07 00 29.4	0.0	
THE	**Thessaloniki**	**2.69**	**321**	*e*PN	**Pn**	07 00 30.2	+0.7	
THE	**Thessaloniki**	**2.69**	**321**	*e*Pn	**Pn**	07 00 30.2	+0.7	
KULA	**Kula-Manisa**	**2.72**	**90**	*e*PN	**Pb**	07 00 36.1	+0.9	
DURS	**Dursunbey**	**2.75**	**67**	*i* P	**Pn**	07 00 32.4	+1.9	
DURS				*i* S	**Sg**	07 01 13.5	-1.7	
DURS	**Dursunbey**	**2.75**	**67**	*i* P	**Pn**	07 00 32.4	+1.9	
MRMT	**Marmara Adasi**	**2.75**	**42**	*e*PN	**Pb**	07 00 37.6	+1.8	
DEMI	**Demirci**	**2.79**	**79**	*i* P	**Pg**	07 00 38.7	-1.6	
DRO	**Drossia**	**2.81**	**258**	*e*PN	**Pn**	07 00 32.2	+0.9	
DRO	**Drossia**	**2.81**	**258**	*e*Pn	**Pn**	07 00 32.2	+0.9	
SRS	**Serrai**	**2.83**	**335**	*e*PN	**Pn**	07 00 32.1	+0.6	
SRS	**Serrai**	**2.83**	**335**	*e*Pn	**Pn**	07 00 32.1	+0.6	
KYTH	**Kithira**	**2.86**	**218**	*e*PN	**Pn**	07 00 31.9	0.0	
KYTH	**Kithira**	**2.86**	**218**	*e*PN	**Pn**	07 00 31.9	0.0	
KYTH	**Kithira**	**2.86**	**218**	*e*Pn	**Pn**	07 00 31.9	0.0	
ITM	**Ithomi**	**2.93**	**243**	*e*PN	**Pn**	07 00 33.2	+0.3	
ITM				*e*SN	**Pg**	07 00 42.2	-0.8	
NVR	**Nevrokopi**	**2.96**	**340**	*e*PN	**Pn**	07 00 33.6	+0.2	
NVR	**Nevrokopi**	**2.96**	**340**	*e*Pn	**Pn**	07 00 33.6	+0.2	
KNT	**Kendrikon**	**3.14**	**326**	*e*PN	**Pn**	07 00 36.0	+0.2	
KNT	**Kendrikon**	**3.14**	**326**	*e*Pn	**Pn**	07 00 36.0	+0.2	
PDO	**Prodromos**	**3.14**	**272**	*e*PN	**Pn**	07 00 37.6	+1.8	
PDO	**Prodromos**	**3.14**	**272**	*e*Pn	**Pn**	07 00 37.6	+1.8	
DNZL	**Cakiroluk**	**3.16**	**105**	*i* P	**Pg**	07 00 47.7	+0.4	
DNZL				*i* S	**Sg**	07 01 30.3	+2.0	
GRG	**Griva**	**3.21**	**319**	*e*PN	**Pn**	07 00 38.2	+1.4	
GRG	**Griva**	**3.21**	**319**	*e*Pn	**Pn**	07 00 38.2	+1.4	
ORLT	**Orhaneli**	**3.23**	**62**	*e*PN	**Pb**	07 00 44.5	+0.6	
VAM	**Vamos**	**3.25**	**194**	*e*PN	**Pn**	07 00 37.4	+0.1	
VAM	**Vamos**	**3.25**	**194**	*e*Pn	**Pn**	07 00 37.4	+0.1	
KHAL	**Karahalli**	**3.38**	**92**	*i* P	**Pg**	07 00 49.6	-1.9	
KHAL				*i* S	**Sg**	07 01 32.5	-2.8	
GDZ	**Gediz**	**3.39**	**80**	*i* P	**Pb**	07 00 47.6	+1.0	
GDZ				*i* S	**Sg**	07 01 34.6	-0.9	
TVSB	**Tavsanli**	**3.44**	**74**	*e*PN	**Pb**	07 00 47.0	-0.5	
ARMT	**Armutlu**	**3.47**	**54**	*e*PN	**Pb**	07 00 47.0	-0.1	
EDRB	**Edirne**	**3.48**	**19**	*e*PN	**Pb**	07 00 47.5	-0.7	
FNA	**Florina**	**3.69**	**308**	*e*PN	**Pn**	07 00 44.8	+1.5	
FNA	**Florina**	**3.69**	**308**	*e*Pn	**Pn**	07 00 44.8	+1.5	
NEST	**Nestorio**	**3.70**	**301**	*e*PN	**Pn**	07 00 45.3	+1.7	
NEST	**Nestorio**	**3.70**	**301**	*e*Pn	**Pn**	07 00 45.3	+1.7	

MOS ***31*** *07:02:43.1±1.0,2.˚72S×101.˚13E,h33km,mb5.4/43, MS4.3/6,Error ellipse: s-maj=9.9km s-min=4.8km az=112.1*

BJI ***31*** *07:02:45.6,2.˚82S×100.˚90E,h65km,mB5.1/50,mb5.2/65, Ms4.7/57,Ms7 4.5/54*

IDC ***31*** *07:02:46.7±0.5,2.˚80S×101.˚11E,h49km±3km,mb4.7/26, mb1 4.7/27,mb1mx4.6/34,mbtmp4.9/27,MS4.0/22, Ms1 4.0/22,ms1mx3.9/28,Error ellipse: s-maj=14.5km s-min=9.7km az=60.0*

GCMT ***31*** *07:02:46.3±0.3,2.˚95S×100.˚63E,h54km±1km,MW5.0/67, Moment Tensor Solution. s55,c78; s67,c96; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.93±.16; Mθθ-1.28±.13; Mφφ-1.64±.16; Mrθ2.16±.10; Mrφ2.55±.10; Mθφ-0.52±.11; Best double couple: Mo4.19800×10¹⁶ NP1:φs116.00000°,δ63.00000°,λ66.00000°. NP2: φs341.00000°,δ36.00000°,λ129.00000°. Principal axes: T 3.8990, Plg64.0000°, Azm345.0000°; N 0.6070, Plg22.0000°, Azm128.0000°; P -4.4960, Plg14.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *07:02:46.3±0.2,2.˚88S×100.˚91E,mb5.3/28 Error ellipse: s-maj=6.1km s-min=5.2km az=58.0*

NEIC Felt [III] at Mukomuko, Padang and Padangpanjang, Sumatra.

ISCJB ***31*** *07:02:47.0±0.4,2.˚81S±0.˚03×101.˚01E±0.˚03,h69km±3km, mb5.1/116,Error ellipse: s-maj=5.5km s-min=3.3km az=135.1*

DJA ***31*** *07:02:46.6±0.6,3.˚S±3.˚×10.˚1E±.˚,h26km±5km,M5.1/38, mb5.2/38,mB5.5/26,MLv5.5/27,Mw(mB)5.0/26,Mwp5.4/1*

AUST ***31*** *07:02:46.7±0.7,2.˚90S×100.˚77E,h62km±6km, Error ellipse: s-maj=7.5km s-min=5.2km az=64.0*

ISC 31 07:02:46.8±0.3, 2.˚89S±0.˚03×100.˚92E±0.˚04, h57km±1km, h57km:pP-P,n664,σ1§41/738,mb5.2/116,MS4.2/42, 141C-113D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
MASI	**Maura Aman, Be**	**1.34**	**101**	P		**Pn**	**07**	**03**	**09.2**	**-0.2**
PDSI	**Padang**	**2.02**	**347**	P		**Pn**	**07**	**03**	**18.6**	**+0.1**
PDSI				S		**Sn**	**07**	**03**	**42.8**	**+0.1**
MNAI	**Manna**	**2.50**	**126**	P		**Pn**	**07**	**03**	**25.8**	**+0.7**
LHSI	**Lahat**	**2.76**	**110**	P		**Pn**	**07**	**03**	**30.3**	**+1.6**
RGNI	**Rengat**	**2.90**	**29**	P		**Pn**	**07**	**03**	**47.8**	**+0.3**
JMBI	**JAMBI**	**3.00**	**65**	P		**Pn**	**07**	**03**	**31.3**	**+0.5**
BKNI	**Bangkinang**	**3.20**	**2**	P		**Pn**	**07**	**03**	**36.0**	**+1.3**
MDSI	**Maura Dua**	**3.62**	**116**	P		**Pn**	**07**	**03**	**42.0**	**+1.6**
LWLI	**Liwa**	**3.78**	**124**	P		**Pn**	**07**	**03**	**44.5**	**+1.8**
PMBI	**Palembang**	**3.85**	**91**	*e*Pn		Pn	07	03	47.6	+4.0
MNSI	**Mandailing Nat**	**3.90**	**340**	P		**Pn**	**07**	**03**	**46.3**	**+2.1**
KLI	**Kotabumi**	**4.39**	**117**	P		Pn	07	03	54.6	+3.6
KASI	**Kota Agung**	**4.42**	**126**	P		**Pn**	**07**	**03**	**48.6**	**-2.8**
BTDF	**Bukit Timah Da** baz=5.2,SNR=74	**5.10**	**34**	P		**Pn**	**07**	**04**	**01.2**	**+0.5**
TPRI	**Tanjung Pinang** 751nm,0.8s,15µm3.2nm	**5.23**	**44**	P		**Pn**	**07**	**04**	**03.1**	**+0.6**
GSI	**Gunungsitoli** 657.0s,9µm4.6nm	**5.34**	**321**	P		**Pn**	**07**	**04**	**05.7**	**+1.7**
GSI	**Gunungsitoli**	**5.34**	**321**	*e*Pn		**Pn**	**07**	**04**	**03.4**	**-0.7**
MYKOM	**Kota Tinggi** 597nm,1.0s,8µm13µm2.0nm	**5.50**	**32**	P		x	07	04	06.5	
MYKOM	**Kota Tinggi**	**5.50**	**32**	*e*Pn		**Pn**	**07**	**04**	**06.8**	**+0.7**
PSI	**Prapat** 202nm,0.9s,2µm1.0nm	**6.00**	**341**	P		x	07	04	12.2	
PSI	**Prapat**	**6.00**	**341**	P		**Pn**	**07**	**04**	**11.6**	**-1.5**
PSI				S		**Sn**	**07**	**05**	**23.9**	**+3.4**
PSI	**Prapat** 12nm,0.3s,baz=172,slow=6.2,SNR=30	**6.00**	**341**	P		**Pn**	**07**	**04**	**11.6**	**-1.5**
PSI	baz=149,slow=19,SNR=2.4			S		**Sn**	**07**	**05**	**23.9**	**+3.4**
PSI	comp=Z,5µm,20.5s,baz=148,slow=42			LR		LR	07	06	55.0	
PSI	**Prapat** baz=5.9,SNR=18	**6.00**	**341**	⇓P		**Pn**	**07**	**04**	**11.3**	**-1.8**
CGJI	**Cibinong** 192nm,0.8s,4µm1.5nm	**6.03**	**128**	P		**Pn**	**07**	**04**	**12.9**	**-0.5**
TSI	**Tuntungan** 265nm,0.8s,5µm2.3nm	**6.77**	**340**	P		Pn	07	04	29.2	+5.6
DBJI	**Dramaga** 213nm,1.3s,1.4nm	**6.86**	**122**	P		Pn	07	04	30.1	+5.3
CBJI	**Citeko** 830nm,1.3s,3.8nm	**6.87**	**121**	P		Pn	07	04	33.7	+8.7
SNSI	**Sinabang, Aceh** 270nm,1.0s,6µm1.5nm	**6.98**	**319**	P		**Pn**	**07**	**04**	**27.6**	**+1.0**
KCSI	**Kotacane, Aceh** 124nm,0.9s,3µm2.4nm	**7.10**	**334**	P		**Pn**	**07**	**04**	**28.6**	**+0.4**
TPTI	40nm,0.8s,1.3nm	**7.16**	**329**	P		**Pn**	**07**	**04**	**29.8**	**+0.8**
IPM	**Ipoh** 231nm,0.7s,2µm0.8nm	**7.32**	**1**	P		x	07	04	33.8	
IPM	**Ipoh**	**7.32**	**1**	*e*Pn		**Pn**	**07**	**04**	**33.2**	**+2.0**
CNJI	**Cibinong** 218nm,0.9s,2µm0.8nm	**7.58**	**126**	P		**Pn**	**07**	**04**	**34.6**	**-0.2**
KULM	**Kulim** 267nm,1.0s,2µm0.8nm	**8.13**	**358**	P		x	07	04	44.4	
KULM	**Kulim**	**8.13**	**358**	*e*Pn		**Pn**	**07**	**04**	**42.7**	**+0.4**
CISI	**Ciscompet, Garu** 212nm,0.5s,6µm	**8.29**	**124**	P		**Pn**	**07**	**04**	**43.3**	**-1.1**
COCO	**West Island** 4µm,0.5s,SNR=9.8	**10.09**	**203**	Pn		**Pn**	**07**	**05**	**07.6**	**-1.4**
COCO	**West Island**	**10.09**	**203**	*e*P		**Pn**	**07**	**05**	**07.2**	**-1.8**
COCO	**West Island**	**10.09**	**203**	*e*Pn		**Pn**	**07**	**05**	**07.2**	**-1.8**
KSM	**Kuching** 46nm,1.1s	**10.34**	**65**	P		x	07	05	15.4	
KSM	**Kuching**	**10.34**	**65**	*e*Pn		**Pn**	**07**	**05**	**14.4**	**+1.9**
KSM	**Kuching** baz=10,SNR=7.9	**10.34**	**65**	P		**Pn**	**07**	**05**	**15.5**	**+3.0**
SMRI	**Semarang**	**10.35**	**114**	*e*Pn		**Pn**	**07**	**05**	**15.1**	**+2.4**
NGJI	**Ngawi**	**11.40**	**113**	P		Pn	07	05	35.4	+8.4
SURT	**Suratani**	**11.96**	**350**	P		Pn	07	05	47.1	+12
PWJI	**Pagerwojo**	**11.97**	**116**	P		Pn	07	05	49.3	+14
SBUM	**Sibu** 70nm,1.4s,1µm	**12.48**	**65**	P		x	07	05	45.3	
SBUM	**Sibu**	**12.48**	**65**	*e*Pn		**Pn**	**07**	**05**	**44.8**	**+3.0**
ABJI	**Asem Bagus** 111nm,0.8s	**14.12**	**111**	P		**P**	**07**	**06**	**09.5**	**-0.5**
JAGI	**Jajag, Banyuwa** 96nm,0.8s	**14.28**	**113**	P		**Pn**	**07**	**06**	**03.7**	**-2.5**
CHBT	**CHBT** 101nm,1.0s,2µm	**15.61**	**5**	P		x	07	06	22.6	
CHBT	**CHBT**	**15.61**	**5**	P		**Pn**	**07**	**06**	**22.4**	**-0.9**
	101nm,1.0s,2µm									
BKB	**Balikpapan** 187nm,0.9s,4µm	**16.05**	**85**	P		**P**	**07**	**06**	**35.6**	**+4.2**
DLV	**T Lat**	**16.55**	**27**	*e*Pn		**Pn**	**07**	**06**	**36.3**	**+0.9**
KKM	**Kota Kinabalu** 50nm,1.1s,897nm	**17.67**	**60**	P		x	07	06	53.2	
KKM	**Kota Kinabalu** 49nm,1.0s	**17.67**	**60**	*e*Pn		**P**	**07**	**06**	**50.6**	**+1.1**
KKM	**Kota Kinabalu** baz=18,SNR=4.5	**17.67**	**60**	⇑P		**P**	**07**	**06**	**50.5**	**+1.1**
KHLT	**Khaolaem Dam**	**17.73**	**353**	P		P	07	06	58.7	+8.8
MJSI	**Majene** 145nm,2.1s,4µm	**18.05**	**93**	P		x	07	06	55.8	
UTHA	**Uthaitani** 7.8nm,0.9s,76nm	**18.39**	**355**	P		**P**	**07**	**06**	**56.6**	**-0.6**
BMNI	**Bima** 33nm,1.1s	**18.55**	**108**	P		x	07	06	58.1	
UBPT	**Khong Chiam** 39nm,1.1s,862nm	**18.61**	**14**	P		x	07	06	57.7	
UBPT	**Khong Chiam** 39nm,1.1s,868nm	**18.61**	**14**	P		**P**	**07**	**06**	**59.0**	**-0.6**
SPSI	**Sidrap Palu** 39nm,1.0s,906nm	**18.85**	**94**	P		**Pn**	**07**	**07**	**03.9**	**+0.5**
TTSI	**Tana Toraja** 86nm,0.9s,1µm	**18.88**	**91**	P		**Pn**	**07**	**07**	**04.6**	**+0.8**
KAPI	**Kappang** 852nm,0.8s,SNR=11	**18.91**	**97**	Pn		**Pn**	**07**	**07**	**04.7**	**+0.6**
KAPI	**Kappang** 730nm,1.0s	**18.91**	**97**	*e*Pn		**Pn**	**07**	**07**	**04.7**	**+0.6**
BNSI	**Bone** 92nm,1.2s,1µm	**19.21**	**95**	P		**Pn**	**07**	**07**	**09.2**	**+1.5**
BKSI	**Bulukumba** 129nm,1.2s,2µm	**19.31**	**98**	P		**Pn**	**07**	**07**	**09.0**	**+0.1**
PBKT	**Sadao Pong** 24nm,0.9s	**19.34**	**0**	P		**P**	**07**	**07**	**07.3**	**-0.3**
SUKH	**Sukhothai** 9.8nm,0.7s,86nm	**20.28**	**356**	P		**P**	**07**	**07**	**16.1**	**-1.8**
UTTA	**U

CD2 LR LR
comp=Z,1μm,21.4s
CD2 LR LR
comp=Z,560nm,14.3s
CD2 LR LR
comp=Z,1μm,20.2s
LSA Lhasa 33.73 345 P **P** **07 09 23.3 -0.1**
LSA Lhasa 33.73 345 *e*P **P** **07 09 23.5 +0.1**
LSA pmax pmax
comp=Z,40nm,0.8s
LSA Lhasa 33.73 345 *e*P **P** **07 09 23.5 +0.1**
comp=Z,40nm,0.8s
PKI Pulchoki 33.77 335 *e*P **P** **07 09 24.5 +0.8**
PKIN Phulchoki 33.78 335 *e*P **P** **07 09 24.6 +0.9**
YHNB Yeheng 33.85 35 *e*P **P** **07 09 24.1 0.0**
comp=Z,38nm,1.1s
GUN Gumba 33.87 336 *e*P **P** **07 09 26.0 +1.4**
comp=Z,353nm,0.5s
DMN Daman 33.94 334 *e*P **P** **07 09 26.2 +1.2**
ENH Enshi 33.98 13 *e*P **P** **07 09 23.5 -1.6**
comp=Z,25nm,0.9s
KKN Kakani 34.02 335 *e*P **P** **07 09 26.8 +1.1**
comp=Z,80nm,0.4s
POO Poona 34.11 310 *e*P **P** **07 09 27.0 +0.6**
H01W3 Cape Leeuwin H 34.12 160 T T 07 45 50.4
baz=337,slow=76,SNR=8.8
H01W2 Cape Leeuwin H 34.13 160 T T 07 45 50.4
baz=337,slow=76,SNR=11
H01W1 Cape Leeuwin H 34.14 160 T T 07 45 50.4
baz=337,slow=76,SNR=9.0
GKN Gorkha 34.48 334 *e*P **P** **07 09 30.8 +1.2**
comp=Z,79nm,0.5s
KOLN Koldanda 34.75 332 *e*P **P** **07 09 33.4 +1.4**
comp=Z,231nm,0.8s
DANN Dangsing 35.17 333 *e*P **P** **07 09 36.9 +1.2**
comp=Z,258nm,0.5s
PYUN Piuthan 35.31 332 *e*P **P** **07 09 38.0 +1.2**
WHN Wuhan 35.63 20 P **P** **07 09 39.5 +0.2**
WHN S **S** **07 15 09.5 -2.1**
WHN LR LR
comp=Z,860nm,12.0s
WHN LR LR
comp=Z,520nm,13.1s
WHN LR LR
comp=Z,2μm,14.9s
WRA Warramunga Arr 36.76 120 P **P** **07 09 48.2 -0.8**
WRA PcP **PcP** **07 12 11.2 +0.6**
WRA S **S** **07 15 24.9 -4.2**
WRA Warramunga Arr 36.76 120 P **P** **07 09 48.2 -0.8**
comp=Z,14nm,0.3s,baz=313,slow=9.2,SNR=245
WRA PcP **PcP** **07 12 11.2 +0.6**
comp=Z,4.5nm,0.9s,baz=315,slow=2.1,SNR=5.3
WRA S **S** **07 15 24.9 -4.2**
comp=Z,5.0nm,1.0s,baz=292,slow=16,SNR=9.7
WRA LR LR 07 26 44.2
comp=Z,110nm,21.6s,baz=335,slow=39
WRAB Tennant Creek 36.76 120 P **P** **07 09 48.3 -0.8**
comp=Z,312nm,0.4s,SNR=86
WRAB Tennant Creek 36.76 120 *e*P **P** **07 09 48.4 -0.7**
WRAB Tennant Creek 36.76 120 *e*P **P** **07 09 48.4 -0.7**
AGRA Agra 37.25 325 *e*P **P** **07 09 52.3 -0.8**
AGRA AMB AMB 07 09 53.5
comp=Z,21nm,1.1s
XAN Xi'an 37.50 11 P **P** **07 09 53.5 -1.7**
XAN pP **pP** **07 10 11.3 +1.5**
XAN PP **PP** **07 11 21.0 -0.8**
XAN pmax pmax
comp=Z,28nm,0.7s
XAN pmax pmax
comp=Z,20nm,6.5s
XAN LR LR
comp=Z,420nm,15.2s
XAN LR LR
comp=Z,98nm,15.2s
XAN LR LR
comp=Z,220nm,21.9s
LGTI Lohaghat 37.77 330 *e*P **P** **07 10 00.2 +2.8**
ASAR Alice Springs 37.99 126 P **P** **07 09 59.5 0.0**
ASAR PcP **PcP** **07 12 15.3 +0.9**
ASAR S **S** **07 15 44.6 -3.3**
ASAR Alice Springs 37.99 126 P **P** **07 09 59.5 0.0**
comp=Z,12nm,0.8s,baz=296,slow=7.5,SNR=61
ASAR PcP **PcP** **07 12 15.3 +0.9**
comp=Z,5.6nm,0.8s,baz=308,slow=2.6,SNR=7.6
ASAR S **S** **07 15 44.6 -3.3**
comp=Z,3.4nm,0.9s,baz=298,slow=14,SNR=11
ASAR LR LR 07 29 17.3
comp=Z,122nm,18.5s,baz=304,slow=42
AS31 Alice Springs 37.99 126 *e*P **P** **07 09 59.5 0.0**
AYAN Aya Nagar 38.67 325 *e*P **P** **07 10 05.1 0.0**
NJ2 Nanjing 38.70 25 *e*P **P** **07 10 06.5 +1.2**
NJ2 pP **pP** **07 10 19.5 -0.4**
NJ2 sP **sP** **07 10 27.5 +0.9**
NJ2 PP **PP** **07 11 34.3 -0.6**
NJ2 S **S** **07 15 56.5 -1.7**
NJ2 sS **sS** **07 16 26.5 +3.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,100nm,6.5s
NJ2 LR LR
comp=Z,610nm,13.6s
NJ2 LR LR
comp=Z,520nm,16.4s
NDI New Delhi 38.78 326⇑ *i*P **P** **07 10 07.0 +1.0**
NDI *ex* x 07 16 02.0
KUDL Kundal 38.78 324 *e*P **P** **07 10 05.7 -0.3**
LZH Lanzhou 38.87 4 *e*P **P** **07 10 06.3 -0.6**
LZH pP **pP** **07 10 21.5 0.0**
LZH sP **sP** **07 10 28.0 -0.2**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.2s
LZH LR LR
comp=Z,950nm,16.2s
LZH LR LR
comp=Z,440nm,15.8s
LZH LR LR
comp=Z,1μm,18.1s
SSE Sheshan 38.93 28 P **P** **07 10 07.5 +0.3**
SSE S **S** **07 16 05.0 +3.4**
SSE pmax pmax
comp=Z,29nm,1.0s
SSE pmax pmax
comp=Z,33nm,2.7s
SSE LR LR
comp=Z,260nm,27.8s
SSE LR LR
comp=Z,160nm,27.8s
SSE LR LR
comp=Z,430nm,27.8s
BHGR Bahadurgarh 38.94 325 *e*P **P** **07 10 07.7 +0.4**
BHGR AMB AMB 07 10 12.3
comp=Z,67nm,0.3s
KHET Khetri 39.13 324 *e*P **P** **07 10 09.6 +0.6**
RTK Rohtak 39.50 325 *e*P **P** **07 10 11.9 0.0**
RTK AMB AMB 07 10 15.1
comp=Z,52nm,0.2s
SDNR Sundarnagar 41.09 328 *ex* **P** **07 10 26.0 +0.8**
BHK Bhakra 41.32 328 *ex* **P** **07 10 28.3 +1.2**
QIS Mount Isa 41.58 118 P **P** **07 10 28.8 -0.5**
baz=42,SNR=18
GTA Gaotai 42.11 359 *e*P **P** **07 10 33.0 -0.5**
GTA pP **pP** **07 10 48.0 -0.3**
GTA sP **sP** **07 10 55.0 0.0**
GTA PcP **PcP** **07 12 28.0 +0.7**
GTA S **S** **07 16 49.0 -0.1**
GTA sS **sS** **07 17 16.0 +1.9**
GTA SS **SS** **07 19 54.3 -4.3**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,220nm,5.0s
GTA LR LR
comp=Z,460nm,17.1s
GTA LR LR
comp=Z,320nm,16.2s
GTA LR LR
comp=Z,640nm,20.7s
BBOO Buckleboo 44.37 136 P **P** **07 10 52.4 +0.6**
baz=45,SNR=5.9
HHC Hu-ho-hao-te 44.60 12 *e*P **P** **07 10 54.0 +0.4**
HHC pP **pP** **07 11 12.0 +3.5**
HHC sP **sP** **07 11 17.0 +1.9**

HHC PP **PP** **07 12 43.5 +4.8**
HHC S **S** **07 17 28.5 +2.9**
HHC sS **sS** **07 17 52.5 +1.8**
HHC SS ScS 07 20 37.5 -8.9
HHC pmax pmax
comp=Z,49nm,1.1s
HHC pmax pmax
comp=Z,130nm,4.9s
HHC LR LR
comp=Z,880nm,14.9s
HHC LR LR
comp=Z,910nm,16.3s
HHC LR LR
comp=Z,780nm,15.4s
BJT Baijiatuau 44.94 17 *e*P **P** **07 10 56.0 -0.1**
comp=Z,13nm,0.6s
BJI Beijing 44.96 17 P **P** **07 10 56.0 -0.2**
BJI S **S** **07 17 35.8 +5.4**
BJI sS **sS** **07 17 59.3 +3.7**
BJI pmax pmax
comp=Z,26nm,0.7s
BJI pmax pmax
comp=Z,120nm,3.3s
BJI LR LR
comp=Z,740nm,18.4s
BJI LR LR
comp=Z,340nm,17.1s
BJI LR LR
comp=Z,520nm,20.3s
JNU Nakatsue 45.66 36 *e*P **P** **07 11 01.9 -0.1**
HTT Hallett 46.72 135 P **P** **07 11 11.4 +1.1**
baz=47,SNR=8.1
KSAR Wonju Array Be 47.30 29 P **P** **07 11 14.1 -0.7**
KSAR pP **pP** **07 11 27.6 -2.2**
KSAR PcP **PcP** **07 12 45.4 +0.4**
KSRS Korea Array 47.33 29 P **P** **07 11 14.1 -0.9**
comp=Z,3.4nm,0.5s,baz=222,slow=7.8,SNR=21
KSRS pP **pP** **07 11 27.6 -2.4**
comp=Z,24nm,1.1s,baz=222,slow=7.9,SNR=12
KSRS PcP **PcP** **07 12 45.4 +0.3**
comp=Z,2.3nm,0.8s,baz=227,slow=3.6,SNR=4.8
KSRS LR LR 07 33 45.1
comp=Z,168nm,18.1s,baz=234,slow=39
CTAO Charters Tower 47.39 115 *e*P **P** **07 11 15.3 -0.5**
CTAO pmax pmax
comp=Z,38nm,1.1s
CTAO Charters Tower 47.39 115 *e*P **P** **07 11 15.3 -0.5**
comp=Z,38nm,1.1s
QLP Quilpie 47.70 124 ⇓P **P** **07 11 18.8 +0.7**
baz=48,SNR=8.7
KBL Kabul 47.79 324 *e*P **P** **07 11 19.4 +0.6**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 47.79 324 *e*P **P** **07 11 19.4 +0.6**
comp=Z,14nm,0.8s
STKA Stephens Creek 47.88 132 P **P** **07 11 20.1 +0.7**
comp=Z,16nm,0.9s,baz=311,slow=7.0,SNR=31
STKA LR LR 07 32 18.6
comp=Z,183nm,21.6s,baz=297,slow=37
STKA Stephens Creek 47.88 132 ⇑P **P** **07 11 19.9 +0.6**
baz=48,SNR=23
WMQ Urumqi 48.00 347 P **P** **07 11 21.8 +1.7**
WMQ pP **pP** **07 11 37.3 +2.1**
WMQ sP **sP** **07 11 44.5 +2.7**
WMQ PcP **PcP** **07 12 49.5 +2.0**
WMQ PP **PP** **07 13 13.8 +1.1**
WMQ ScP **ScP** **07 16 37.3 +0.1**
WMQ S **S** **07 18 14.3 +0.3**
WMQ sS **sS** **07 18 41.0 +1.6**
WMQ ScS **ScS** **07 21 06.5 -1.8**
WMQ SS **SS** **07 21 38.5 -5.2**
WMQ pmax pmax
comp=Z,230nm,0.7s
WMQ pmax pmax
comp=Z,920nm,4.0s
WMQ LR LR
comp=Z,130nm,25.4s
WMQ LR LR
comp=Z,180nm,27.7s
WMQ LR LR
comp=Z,190nm,22.3s
KSH Kashi 48.03 334⇑ *i*P **P** **07 11 20.0 -0.5**
KSH *e*PP **PP** **07 13 10.0 -3.2**
KSH *e*PcS **PcS** **07 16 42.5 -1.1**
KSH *e*S **S** **07 18 10.0 -4.7**
KSH *e*sS **sS** **07 18 36.0 -4.1**
KSH *e*SS SS 07 21 32.5 -12
KSH pmax pmax
comp=Z,26nm,0.6s
KSH pmax pmax
comp=Z,140nm,4.5s
KSH LR LR
comp=Z,99nm,5.0s
KSH LR LR
comp=Z,97nm,4.9s
KSH LR LR
comp=Z,170nm,4.9s
ULHL Ulahol 50.19 336 *i*P **P** **07 11 37.7 +0.7**
ULHL Ulahol 50.19 336 P **P** **07 11 37.8 +0.7**
SNR=9.6
KZA Kyzart 50.45 335 *i*P **P** **07 11 40.5 +1.2**
KZA Kyzart 50.45 335 P **P** **07 11 40.6 +1.2**
SNR=13
SONM Songino Array 50.74 5 P **P** **07 11 41.5 +0.4**
SONM pP **pP** **07 11 54.5 -1.7**
SONM PcP **PcP** **07 12 57.6 +0.2**
SONM ScP **ScP** **07 16 48.4 -0.5**
SONM Songino Array 50.74 5 P **P** **07 11 41.5 +0.4**
comp=Z,79nm,0.9s,baz=184,slow=8.6,SNR=378
SONM pP **pP** **07 11 54.5 -1.7**
comp=Z,9.6nm,0.6s,baz=188,slow=8.4,SNR=3.5
SONM PcP **PcP** **07 12 57.6 +0.2**
comp=Z,5.6nm,0.5s,baz=187,slow=4.0,SNR=6.8
SONM ScP **ScP** **07 16 48.4 -0.5**
comp=Z,1.8nm,1.1s,baz=188,slow=4.4,SNR=4.7
SONM LR LR 07 35 04.6
comp=Z,343nm,20.2s,baz=180,slow=38
ULN Ulaanbaatar 50.83 5 *e*P **P** **07 11 42.1 +0.4**
CMSA Cobar Meteorol 50.84 129⇑P **P** **07 11 42.8 +0.8**
baz=51,SNR=34
UCH Uchtor 50.89 335 *i*P **P** **07 11 43.8 +1.2**
UCH Uchtor 50.89 335 P **P** **07 11 43.9 +1.2**
SNR=27
TKM2 Tokmak 2 51.01 336 *e*P **P** **07 11 44.3 +1.0**
TKM2 pmax pmax
comp=Z,49nm,0.8s
TKM2 Tokmak 2 51.01 336 P **P** **07 11 44.3 +1.0**
SNR=56
TKM2 Tokmak 2 51.01 336 *e*P **P** **07 11 44.3 +1.0**
comp=Z,49nm,0.8s
KBK Karagaybulak 51.06 335 P **P** **07 11 45.3 +1.7**
SNR=12
AML Almayashu 51.16 334 P **P** **07 11 45.9 +1.3**
SNR=58
AAK Ala-Archa 51.23 335 P **P** **07 11 46.6 +1.7**
comp=Z,119nm,0.9s,SNR=15
AAK Ala-Archa 51.23 335 P **P** **07 11 45.6 +0.7**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 51.23 335 P **P** **07 11 46.2 +1.4**
SNR=17
AAK Ala-Archa 51.23 335 P **P** **07 11 46.1 +1.3**
comp=Z,16nm,0.8s,baz=151,slow=6.1,SNR=46
JHJ2 Mitsune 51.31 42 *e*P P 07 11 49.3 +3.9
comp=Z,172nm,1.4s
FRU Bishkek 51.34 335⇑ *i*P **P** **07 11 46.0 +0.5**
FRU *i* 07 11 59.0
FRU *e* 07 19 04.0
FRU pmax pmax
comp=Z,70nm,1.6s
FRU MLR MLR
comp=Z,200nm,20.0s
CHMS Chumysh 51.42 336 *i*P **P** **07 11 46.7 +0.6**
CHMS Chumysh 51.42 336 P **P** **07 11 46.8 +0.6**
SNR=23
CN2 Changchun 51.44 23 *e*P **P** **07 11 44.5 -1.7**
CN2 *es*P **sP** **07 12 08.0 0.0**
CN2 PcP **PcP** **07 13 00.0 0.0**
CN2 *e*S **S** **07 19 01.0 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,90nm,4.0s
CN2 LR LR
comp=Z,390nm,17.0s
CN2 LR LR
comp=Z,260nm,17.0s
CN2 LR LR
comp=Z,340nm,20.0s
EKS2 Erkin-Say 51.55 335 *i*P **P** **07 11 48.7 +1.5**
EKS2 Erkin-Say 51.55 335 P **P** **07 11 48.8 +1.5**
SNR=87
USP Ospenovka 51.75 336 *i*P **P** **07 11 49.3 +0.8**
USP Ospenovka 51.75 336 P **P** **07 11 49.4 +0.8**
SNR=49
MKAR Makanchi Array 52.13 344 P **P** **07 11 51.5 +0.1**
MKAR Makanchi Array 52.13 344 P **P** **07 11 51.5 +0.1**
MKAR Makanchi Array 52.13 344 P **P** **07 11 51.5 +0.1**
comp=Z,73nm,0.8s,baz=146,slow=7.3,SNR=418
MAJO Matsushiro 52.40 38 *i*P **P** **07 11 51.8 -1.7**
MAJO Matsushiro 52.40 38 *e*P **P** **07 11 52.0 -1.5**
comp=Z,5.3nm,0.6s
MAT Matsushiro 52.40 38 P **P** **07 11 51.7 -1.8**
MAT S **S** **07 19 19.8 +4.4**
MJAR Matsushiro Arr 52.40 38 P **P** **07 11 51.7 -1.8**
MJAR Matsushiro Arr 52.40 38 P **P** **07 11 51.7 -1.8**
comp=Z,7.5nm,0.9s,baz=210,slow=7.4,SNR=26
MJAR LR LR 07 34 52.7
comp=Z,94nm,19.6s,baz=275,slow=37
IDAH Dahanechah 52.57 316 *e*P **P** **07 11 56.1 +0.9**
ZAK Zakamensk 53.10 2 *e*P **P** **07 11 58.2 -0.3**
ZAK pmax pmax
comp=Z,14nm,1.0s
EIDS Eidsvold 53.12 120 *e*P **P** **07 11 59.6 +0.6**
comp=Z,53nm,1.2s
EIDS Eidsvold 53.12 120 P **P** **07 11 59.5 +0.5**
baz=53,SNR=6.0
KK31 Karatay Array 53.36 332 P **P** **07 12 00.1 -0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
MDJ Mudanjiang 53.79 25 P **P** **07 12 05.3 +1.7**
MDJ pP **pP** **07 12 21.0 +2.2**
MDJ sP **sP** **07 12 28.0 +2.6**
MDJ ScP **ScP** **07 17 02.0 -0.1**
MDJ PcS **PcS** **07 17 08.8 +0.9**
MDJ S **S** **07 19 36.5 +2.5**
MDJ pmax pmax
comp=Z,14nm,1.8s
MDJ pmax pmax
comp=Z,81nm,3.6s
MDJ LR LR
comp=Z,240nm,23.8s
MDJ LR LR
comp=Z,330nm,21.8s
MDJ LR LR
comp=Z,450nm,20.6s
MDJ Mudanjiang 53.79 25 *e*P **P** **07 12 03.3 -0.3**
MOY Mondy 54.35 0 *e*P **P** **07 12 07.9 +0.2**
MOY pmax pmax
comp=Z,37nm,3.9s
TLY Talaya 54.41 2 P **P** **07 12 08.6 +0.6**
comp=Z,306nm,0.9s,SNR=9.7
TLY Talaya 54.41 2 *e*P **P** **07 12 08.7 +0.7**
TLY *e* 07 23 27.5
TLY pmax pmax
comp=Z,44nm,0.8s
TLY MLR MLR
comp=Z,521nm,18.0s
TLY Talaya 54.41 2 *e*P **P** **07 12 08.4 +0.4**
HIA Hailar 54.45 15 *e*P **P** **07 12 07.6 -0.8**
comp=Z,4.4nm,0.3s
USRK Ussuriysk Arra 54.52 27 P **P** **07 12 08.5 -0.3**
comp=Z,53nm,0.7s,baz=222,slow=5.9,SNR=103
USRK LR LR 07 36 19.9
comp=Z,248nm,21.1s,baz=209,slow=37
IRK Irkutsk 55.00 3 *e*P **P** **07 12 11.4 -0.8**
IRK pmax pmax
comp=Z,65nm,2.1s
IBAF Bafgh 55.05 312 *e*P **P** **07 12 13.7 +0.6**
IPAY Payeh 55.28 319 *e*P **P** **07 12 16.2 +1.4**
IAKL Akhelmad 55.53 319 *e*P **P** **07 12 16.8 +0.1**
IKRD Kardeh 55.79 319 *e*P **P** **07 12 15.3 -3.1**
IEMG Emamgholi 56.07 320 *e*P **P** **07 12 20.9 +0.3**
IPAR Pars 56.13 309 *e*P **P** **07 12 21.3 +0.1**
ISFR Sfrayin 56.28 319 *e*P **P** **07 12 22.1 +0.1**
KURK Kurchatov 56.72 343 P **P** **07 12 24.7 +0.2**
comp=Z,116nm,0.7s,SNR=36
KURK Kurchatov 56.72 343 *e*P **P** **07 12 24.6 +0.1**
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 56.72 343 *e*P **P** **07 12 24.6 +0.1**
comp=Z,25nm,1.0s
ISHV Shirvan 56.75 319 *e*P **P** **07 12 23.6 -1.7**
ZAA0 Zalesovo Array 58.21 349 *e*P **P** **07 12 34.8 -0.1**
ZALV Zalesovo Beam 58.21 349 P **P** **07 12 34.9 -0.1**
ZALV *SP **sP** **07 12 53.9 -3.0**
ZALV Zalesovo Beam 58.21 349 P **P** **07 12 34.9 -0.1**
ZALV sP **sP** **07 12 53.9 -3.0**
ZALV Zalesovo Beam 58.21 349 P **P** **07 12 34.9 -0.1**
comp=Z,169nm,0.8s,baz=160,slow=4.7,SNR=628
ZALV sP **sP** **07 12 53.9 -3.0**
comp=Z,9.4nm,0.4s,baz=154,slow=8.1,SNR=2.3
ZALV LR LR 07 41 01.6
comp=Z,158nm,20.6s,baz=204,slow=40
KLR Kul'dur 58.38 23 *e*P P 07 12 30.2 -6.0
KLR *e* 07 12 44.6
KLR pmax pmax
comp=Z,64nm,1.8s
IGLO Ghaloghah 58.78 316 *e*P **P** **07 12 39.8 +0.2**
HNR Honiara 58.99 99 *e*P **P** **07 12 39.9 -1.2**
IFIR Firoozkooh 59.10 315 *e*P **P** **07 12 42.5 +0.6**
HABR Khabarovsk 59.15 26 *e*P **P** **07 12 38.5 -3.1**
HABR *e**PP **pP** **07 12 54.6 -2.5**
HABR *e* 07 13 27.1
HABR *e* 07 14 49.2
HABR *e*S **S** **07 20 40.5 -4.3**
HABR *e**SS **sS** **07 21 07.7 -3.2**
HABR *e* 07 22 22.5
HABR *e*SS **SS** **07 24 35.6 -4.4**
HABR pmax pmax
comp=Z,19nm,1.5s
HABR MLR MLR
comp=Z,293nm,20.0s
NVS Novosibirsk 59.37 348 *e*P **P** **07 12 41.2 -1.7**
NVS *e* 07 20 45.0
NVS pmax pmax
comp=N,26nm,1.0s
NVS pmax pmax
comp=Z,47nm,1.0s
NVS pmax pmax
comp=E,18nm,0.7s
IVRN Varamin 59.52 314 *e*P **P** **07 12 46.0 +1.4**
ASAJ Asahikawa 59.83 34 P **P** **07 12 46.1 -0.3**
ASAJ Asahikawa 59.83 34 P **P** **07 12 46.1 -0.3**
comp=E,6.1nm,0.4s,baz=214,slow=8.0,SNR=7.4
RAYN Ar Rayn 59.97 299 *e*P **P** **07 12 49.6 +1.8**
RAYN *e*pP **pP** **07 13 03.8 +0.5**
IR3 Iran Long-Peri 60.25 314 *e*P pP 07 13 01.4 -3.6
VOSK Vostochnaya 60.88 340 *e*P **P** **07 12 52.8 -0.6**
VOSK pmax pmax
comp=Z,23nm,0.8s
VOSK Vostochnaya 60.88 340 *e*P **P** **07 12 52.8 -0.6**
comp=Z,23nm,0.8s
IRAZ Razeghan 61.01 313 *e*P **P** **07 12 56.3 +1.4**
BRVK Borovoye 61.40 339 P **P** **07 12 56.5 -0.4**
comp=Z,159nm,0.8s,SNR=7.9
BRVK Borovoye 61.40 339*c* *i*P **P** **07 12 56.4 -0.4**
BRVK pmax pmax
comp=Z,22nm,0.8s
BRVK Borovoye 61.40 339 *e*P **P** **07 12 56.6 -0.4**
comp=Z,19nm,0.8s
YUK Yuzh-Kuril'sk 61.63 35*c* *i*P **P** **07 13 00.0 +1.4**
YUK *i* 07 13 44.0
YUK *i* 07 15 18.5
YUK *i*S **S** **07 21 14.0 -2.6**
YUK *i*SS **SS** **07 25 22.7 +3.6**
YUK MLR MLR
comp=N,69nm,17.0s
YUK MLR MLR
comp=Z,128nm,17.0s
YSS Yuzh-Sakhalins 61.76 31⇓ *i*P **P** **07 12 59.0 -0.4**
YSS *e* 07 13 11.7
YSS Yuzh-Sakhalins 61.76 31 *e*P **P** **07 12 59.5 +0.1**
comp=Z,40nm,0.9s
CLNS Chul'man 62.63 15 *e*P **P** **07 13 04.7 -0.4**
CLNS *e* 07 13 42.5
CLNS *e* 07 15 23.2
CLNS *e*PPP PPP 07 16 52.8
CLNS *e*S **S** **07 21 26.9 -2.1**
CLNS *e**SS sS 07 22 01.9 +6.6

CLNS e 07 22 44.0
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,19nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS smax smax
comp=N,196nm,11.1s
CLNS smax smax
comp=E,228nm,10.8s
AB31 Akbulak array 62.86 331 P **P 07 13 06.8 +0.1**
AB31 pmax pmax
comp=Z,47nm,0.7s
ABKAR Akbulak array 62.86 331 *eP* **P 07 13 06.1 -0.6**
CASY Casey 63.63 176 *eP* **P 07 13 11.0 -0.5**
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 63.64 270 LR LR 07 35 34.5
comp=Z,140nm,20.6s,baz=96,slow=31
ISRB Sarab 63.73 315 *eP* **P 07 13 13.4 +0.4**
IBST Bostanabad 64.22 315 *eP* **P 07 13 15.3 -1.0**
AKTO Aktyubinsk 64.57 331 P **P 07 13 17.6 -0.4**
AKTO pmax pmax
comp=Z,39nm,1.2s
GNI Garni 66.80 316 P **P 07 13 34.3 +1.5**
DGRG David-gareji 66.94 318 P **P 07 13 35.6 +2.1**
SVE Sverdlovsk 67.85 337 *d iP* **P 07 13 39.4 +0.5**
SVE pmax pmax
comp=Z,79nm,1.0s
YAK Yakutsk 68.37 14 *eP* **P 07 13 40.5 -1.5**
YAK Yakutsk 68.37 14 *eP* **P 07 13 40.5 -1.5**
ARU Arti 68.39 336 P **P 07 13 42.2 0.0**
comp=Z,224nm,1.2s,SNR=12
ARU Arti 68.39 336 *eP* **P 07 13 42.0 -0.2**
ARU pmax pmax
comp=Z,49nm,1.1s
ARU Arti 68.39 336 *eP* **P 07 13 42.0 -0.2**
comp=Z,49nm,1.1s
ZEI Tsey 68.51 318 *eP* **P 07 13 44.2 +0.6**
ZEI pmax pmax
comp=Z,28nm,0.9s
ONI Oni 68.72 318 P **P 07 13 46.5 +1.8**
NCK Nalchik 69.02 319 ⇓ *iP* **P 07 13 48.0 +1.5**
KBZ Khabaz 69.58 319 P **P 07 13 51.0 +1.2**
KBZ *PP **pP 07 14 05.1 -0.6**
KBZ Khabaz 69.58 319 P **P 07 13 51.0 +1.2**
KBZ pP **pP 07 14 05.1 -0.6**
KBZ Khabaz 69.58 319 P **P 07 13 51.0 +1.2**
comp=Z,23nm,0.8s,baz=109,slow=4.9,SNR=54
KBZ pP **pP 07 14 05.1 -0.6**
comp=Z,19nm,0.7s,baz=121,slow=6.3,SNR=9.4
MAW Mawson 69.66 195 LR LR 07 38 08.1
comp=Z,248nm,21.6s,baz=22,slow=30
KIV Kislovodsk 69.81 319 *eP* **P 07 13 52.5 +1.0**
KIV *e* 07 14 10.7
KIV *eS* **S 07 22 57.5 +0.8**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 69.81 319 *eP* **P 07 13 52.4 +1.0**
comp=Z,46nm,1.1s
GOF Gofitskoye 70.06 320 *eP* **P 07 13 53.8 +1.0**
GOF pmax pmax
comp=Z,45nm,1.3s
EIL Elat 70.77 303 P **P 07 13 59.1 +1.6**
EIL Elat 70.77 303 P **P 07 13 59.1 +1.6**
comp=Z,14nm,0.8s,baz=108,slow=3.2,SNR=7.0
SOC Sochi 71.63 318 *eP* **P 07 14 01.5 -0.9**
SOC *e*PP **pP 07 14 18.2 -0.1**
SOC *eS* **S 07 23 15.7 -1.9**
SOC pmax pmax
comp=Z,42nm,1.0s
LSZ Lusaka 72.58 255 *eP* **P 07 14 09.7 +0.8**
comp=Z,13nm,1.3s
PEA0B Petropavlovsk- 73.15 32 *eP* **P 07 14 10.8 -0.5**
PETK Petropavlovsk- 73.15 32 P **P 07 14 10.6 -0.7**
PETK Petropavlovsk- 73.15 32 P **P 07 14 10.6 -0.7**
PETK Petropavlovsk- 73.15 32 P **P 07 14 10.6 -0.7**
comp=Z,5.9nm,0.7s,baz=226,slow=3.7,SNR=14
PETK LR LR 07 47 09.9
comp=Z,55nm,21.4s,baz=264,slow=36
VRHR Novokhopersk 73.58 326 *eP* **P 07 14 13.2 -0.6**
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,70nm,0.9s
PET Petropavlovsk 73.61 32 *eP* **P 07 14 12.8 -1.1**
PET pmax pmax
comp=Z,60nm,1.1s
BR131 Keskin Array S 74.60 312 *eP* **P 07 14 20.3 +0.1**
comp=Z,18nm,0.9s
BRTR Keskin Array B 74.60 312 P **P 07 14 20.4 +0.1**
BRTR pP **pP 07 14 35.6 -0.6**
BRTR Keskin Array B 74.60 312 P **P 07 14 20.4 +0.1**
comp=Z,12nm,0.7s,baz=132,slow=7.1,SNR=80
BRTR pP **pP 07 14 35.6 -0.6**
comp=Z,10nm,0.8s,baz=134,slow=7.0,SNR=9.2
BRTR LR LR 07 49 21.5
comp=Z,38nm,18.9s,baz=98,slow=37
VORD Divnogorie 74.85 325 *eP* **P 07 14 19.7 -1.5**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 75.03 325 *eP* **P 07 14 21.4 -0.8**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,60nm,0.9s
SIM Simferopol' 75.87 318 *eP* P 07 14 20.9 -6.3
SIM pmax pmax
comp=Z,18nm,0.8s
BOSA Boshof 76.03 241 P **P 07 14 31.3 +2.6**
BOSA Boshof 76.03 241 P **P 07 14 31.3 +2.6**
comp=Z,1.5nm,0.6s,baz=31,slow=2.8,SNR=5.1
BOSA LR LR 07 40 51.0
comp=Z,246nm,22.0s,baz=94,slow=30
SEY Seymchan 76.11 22 P **P 07 14 28.3 +0.1**
SEY Seymchan 76.11 22 P **P 07 14 28.2 +0.1**
SEY Seymchan 76.11 22 P **P 07 14 28.2 +0.1**
comp=Z,18nm,0.6s,baz=218,slow=3.6,SNR=43
TIXI Tiksi 76.59 9 ⇑ *iP* **P 07 14 29.0 -1.7**
TIXI pmax pmax
comp=Z,44nm,1.0s
TIXI Tiksi 76.59 9 *eP* **P 07 14 29.5 -1.3**
comp=Z,44nm,1.0s
PRGR Permogore 76.85 336 *eP* **P 07 14 31.6 -0.7**
PRGR 07 14 43.0
PRGR *e*PP **pP 07 14 48.3 -0.1**
PRGR pmax pmax
comp=Z,78nm,0.7s
SYO Syowa Base 77.33 199 ⇓ *eP* **P 07 14 33.6 -1.3**
MOS Moscow 77.73 329 *eP* **P 07 14 37.3 -0.1**
MOS *e* 07 14 50.6
MOS pmax pmax
comp=Z,57nm,0.8s
OBN Obninsk 78.03 328 ⇓ *iP* **P 07 14 39.5 +0.4**
OBN *i* 07 14 50.2
OBN pmax pmax
comp=Z,88nm,1.7s
OBN MLR MLR
comp=Z,126nm,25.0s
OBN Obninsk 78.03 328 *eP* **P 07 14 39.8 +0.7**
comp=Z,22nm,0.6s
KLMR Klimovskoe 79.03 334 *eP* **P 07 14 42.0 -2.5**
KLMR pmax pmax
comp=Z,65nm,1.3s
PSN Preselentsi 79.60 315 ⇓ P P 07 14 43.8 -4.2
PSN Preselentsi 79.60 315 ⇓ *iP* P 07 14 43.8 -4.2
TIRR Tirgusor 79.63 316 ⇓ P **P 07 14 48.9 +0.8**
TIRR Tirgusor 79.63 316 ⇓ *iP* **P 07 14 48.9 +0.8**
KIS Kishinev 80.00 319 *eP* **P 07 14 51.0 +0.9**
KIS *i* 07 15 09.0
KIS Kishinev 80.00 319 *eP* **P 07 14 51.0 +0.9**

PRD Provadia 80.04 315 ⇑ P **P 07 14 50.5 +0.2**
SANT Santorini 80.05 308 P P 07 14 46.2 -4.4
JMB Yambol 80.45 314 ⇑ P P 07 14 55.9 +3.3
JMB Yambol 80.45 314 ⇑ *iP* P 07 14 55.9 +3.3
AK02 Malin Array Si 80.74 322 *eP* **P 07 14 54.0 0.0**
AKASG Malin Array Be 80.75 322 *i P* **P 07 14 54.0 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 80.75 322 P **P 07 14 54.0 0.0**
AKASG pP **pP 07 15 09.7 -0.4**
AKASG Malin Array Be 80.75 322 P **P 07 14 54.0 0.0**
comp=Z,3.1nm,0.7s,baz=91,slow=4.6,SNR=28
AKASG pP **pP 07 15 09.7 -0.4**
comp=Z,7.5nm,0.9s,baz=88,slow=4.5,SNR=5.8
AKASG LR LR 07 54 42.2
comp=Z,47nm,22.0s,baz=70,slow=39
AKBB Malin Array Si 80.75 322 *eP* **P 07 14 54.2 +0.2**
AKBB Malin Array Si 80.75 322 *eP* **P 07 14 54.2 +0.2**
AK01 Malin Array Si 80.75 322 *eP* **P 07 14 54.1 +0.1**
KIEV Kiev 80.75 322 ⇓ *iP* **P 07 14 54.5 +0.5**
KIEV Kiev 80.75 322 *eP* **P 07 14 53.9 -0.2**
comp=Z,20nm,1.3s
KIEV *e*PcP **PcP 07 15 00.0 -0.5**
VNDA Vanda 81.11 169 P **P 07 14 58.3 +2.8**
VNDA Vanda 81.11 169 P **P 07 14 58.3 +2.8**
comp=Z,1.3nm,0.7s,baz=342,slow=6.4,SNR=2.9
VNDA LR LR 07 44 41.2
comp=Z,120nm,21.8s,baz=310,slow=31
VRI Vrincioaia 81.12 317 ⇑ P **P 07 14 57.9 +1.7**
VRI Vrincioaia 81.12 317 ⇑ *iP* **P 07 14 57.9 +1.7**
KDZ Kurdzhali 81.13 313 ⇑ P **P 07 14 57.3 +1.0**
KDZ Kurdzhali 81.13 313 ⇑ *iP* **P 07 14 57.3 +1.0**
PLOR Plostina 81.17 317 ⇑ P **P 07 14 58.1 +1.6**
PLOR Plostina 81.17 317 ⇑ *iP* **P 07 14 58.1 +1.6**
MLR Muntele Rosu 81.57 317 ⇑ *iP* **P 07 15 00.1 +1.4**
VOIR 82.18 316 ⇓ P **P 07 15 02.2 +0.4**
VOIR 82.18 316 ⇓ *iP* **P 07 15 02.2 +0.4**
ARR Arges 82.45 316 ⇑ *iP* **P 07 15 03.9 +0.7**
BURAR Bucovina Array 82.53 319 ⇑ P **P 07 15 05.4 +1.7**
BURAR Bucovina Array 82.53 319 ⇑ *iP* **P 07 15 05.4 +1.7**
BUR08 Bucovina Ar. S 82.55 319 *eP* **P 07 15 05.5 +1.8**
VTS Vitosha 82.92 313 ⇑ P **P 07 15 06.7 +0.8**
VTS Vitosha 82.92 313 ⇑ *iP* **P 07 15 06.7 +0.8**
LOT Lotru 83.06 316 ⇑ *iP* **P 07 15 07.3 +0.8**
NACGM Naroch 83.29 326 *e* **P 07 15 06.0 -1.3**
JOF Joensuu 83.41 334 *eP* **P 07 15 07.2 -0.5**
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 83.41 334 *ep* **P 07 15 07.2 -0.5**
comp=Z,10nm,0.7s
IIGN Ignalina 83.72 326 *eP* **P 07 15 10.1 +0.6**
IIGN AMB AMB 07 15 12.1
comp=Z,25nm,1.3s
GZR Gura Zlata 83.74 316 ⇑ P **P 07 15 10.9 +1.0**
GZR Gura Zlata 83.74 316 ⇑ *iP* **P 07 15 10.9 +1.0**
LVV L'vov 83.77 321 *eP* **P 07 15 10.7 +0.9**
LVV *e* 07 15 28.9
ISAL Salakas 83.83 327 *eP* **P 07 15 10.7 +0.7**
ISAL AMB AMB 07 15 13.0
comp=Z,19nm,1.3s
APA Apatity 84.24 339 ⇓ *iP* **P 07 15 12.0 +0.1**
APA *i* 07 15 17.2
APA *i S* **S 07 25 28.0 -4.5**
APA MLR MLR
comp=Z,300nm,14.0s
TRPA Tarpa 84.40 319 ⇑ *iP* **P 07 15 14.3 +1.2**
BZS Buzias 84.58 316 ⇑ P **P 07 15 15.6 +1.5**
BZS Buzias 84.58 316 ⇑ *iP* **P 07 15 15.4 +1.3**
UZH Uzhgorod 84.65 319 *eP* **P 07 15 15.2 +0.9**
UZH *e* 07 15 24.6
UZH *i* 07 15 31.8
KOLS Kolonicke sedl 84.72 320 *eP* **P 07 15 16.3 +1.6**
KOLS pmax pmax
comp=Z,28nm,1.0s
KOLS Kolonicke sedl 84.72 320 *eP* **P 07 15 16.3 +1.6**
SUW Suwalki 85.14 325 *eP* **P 07 15 17.5 +0.9**
SUW *e* 07 15 35.5
SUW Suwalki 85.14 325 *eP* **P 07 15 17.5 +0.9**
SUW *e* 07 15 35.5
SUW Suwalki 85.14 325 *eP* **P 07 15 17.2 +0.6**
comp=Z,93nm,1.0s
FINES FINESS Array B 85.32 332 P **P 07 15 18.5 +1.1**
FINES pP **pP 07 15 31.7 -2.0**
FINES sP **sP 07 15 38.7 -1.3**
FINES FINESS Array B 85.32 332 P **P 07 15 18.5 +1.1**
comp=Z,12nm,0.9s,baz=87,slow=7.8,SNR=20
FINES pP **pP 07 15 31.7 -2.0**
comp=Z,4.0nm,0.7s,baz=105,slow=5.5,SNR=3.9
FINES sP **sP 07 15 38.7 -1.3**
comp=Z,1.8nm,0.5s,baz=112,slow=5.5,SNR=2.1
FINES LR LR 07 57 23.2
comp=Z,86nm,21.2s,baz=89,slow=38
KAF Kangasniemi 85.39 333 *eP* **P 07 15 17.4 -0.3**
KAF pmax pmax
comp=Z,15nm,0.7s
KAF Kangasniemi 85.39 333 *ep* **P 07 15 17.4 -0.3**
comp=Z,15nm,0.7s
STHS Stebnicka Huta 85.47 320 *eP* **P 07 15 19.6 +1.1**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 85.47 320 *eP* **P 07 15 19.6 +1.1**
KECS Kecovo 85.81 319 *eP* **P 07 15 20.8 +0.6**
KECS Kecovo 85.81 319 *eP* **P 07 15 20.8 +0.6**
PSZ Piszkesteto 86.11 318 ⇑ P **P 07 15 23.0 +1.2**
PSZ Piszkesteto 86.11 318 ⇑ *iP* **P 07 15 23.0 +1.2**
KEV Kevo 87.17 340 *eP* P 07 15 29.7 +3.4
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 87.17 340 *ep* P 07 15 29.7 +3.4
comp=Z,0.7nm,0.3s
OKC Ostrava-Krasne 87.52 320 *eP* **P 07 15 29.8 +1.3**
OKC *ep***P 07 15 45.5 +0.7**
OKC *es***P 07 15 48.8 -2.3**
ARCES ARCESS Array B 87.62 340 P **P 07 15 29.2 +0.7**
ARCES pP **pP 07 15 44.0 -0.9**
ARCES PP **PP 07 18 57.1 +2.9**
ARCES ARCESS Array B 87.62 340 P **P 07 15 29.2 +0.7**
comp=Z,21nm,0.9s,baz=98,slow=5.6,SNR=39
ARCES pP **pP 07 15 44.0 -0.9**
comp=Z,8.3nm,0.8s,baz=104,slow=4.5,SNR=4.2
ARCES PP **PP 07 18 57.1 +2.9**
comp=Z,7.0nm,0.9s,baz=70,slow=5.3,SNR=4.7
ARCES LR LR 07 58 22.6
comp=Z,105nm,21.7s,baz=118,slow=38
KRLC Kraliky 88.43 320 *eP* **P 07 15 34.7 +1.8**
KRLC *ep***P 07 15 49.7 +0.5**
KRLC *es***P 07 15 53.3 -2.2**
VRAC Vranov 88.47 319 LR LR 07 59 33.6
comp=Z,34nm,20.9s,baz=173,slow=38
GKP Gorka Klasztor 88.51 323 *eP* **P 07 15 34.5 +1.4**
GKP Gorka Klasztor 88.51 323 *eP* **P 07 15 34.4 +1.4**
DPC Dobruska-Polom 88.75 320 *eP* **P 07 15 36.4 +2.0**
DPC *ep***P 07 15 51.2 +0.4**
DPC *es***P 07 15 55.6 -1.5**
KSP Ksiaz 88.82 321 ⇑ *eP* **P 07 15 36.3 +1.7**
KSP Ksiaz 88.82 321 *eP* **P 07 15 36.4 +1.8**
KSP *e* 07 15 55.8
UPC Upice 88.97 320 *eP* **P 07 15 36.8 +1.5**
UPC *ep***P 07 15 52.4 +0.7**
ARSA Arzberg 88.97 317 ⇓ *iPcP* **PcP 07 15 37.1 +0.2**
comp=Z,8.9nm,0.9s,SNR=4.6
TREC Trest 89.19 319 *eP* **P 07 15 37.8 +1.4**
TREC *ep***P 07 15 53.2 +0.4**
TREC *es***P 07 15 56.8 -2.3**
SOKA Soboth 89.25 317 *i PcP* **PcP 07 15 38.7 +0.4**
comp=Z,21nm,1.2s,SNR=8.1
PRU Pruhonice 89.86 320 *eP* **P 07 15 40.9 +1.4**
PRU *es***P 07 16 00.3 -1.9**
PRA Prague 89.93 320 P **P 07 15 41.0 +1.2**
BRG Berggiesshubel 90.31 321 *eP* **P 07 15 43.2 +1.6**
comp=Z,12nm,1.1s
BRG *ep***P 07 15 58.2 +0.2**
comp=Z,10nm,1.1s
BRG *e* 07 16 02.4
comp=Z,14nm,1.1s
BRG Berggiesshubel 90.31 321 *eP* **P 07 15 43.2 +1.6**
BRG *e**PP **pP 07 15 58.2 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 90.32 319 P **P 07 15 43.2 +1.4**
GERES *ep***P 07 15 58.5 +0.3**
GERES GERESS Array B 90.32 319 P **P 07 15 43.2 +1.4**
comp=Z,5.3nm,0.9s,baz=84,slow=5.5,SNR=29
GERES pP **pP 07 15 58.5 +0.3**
comp=Z,4.3nm,0.9s,baz=87,slow=2.8,SNR=7.7
KHC Kasperske Hory 90.42 319 *eP* **P 07 15 42.9 +0.7**
KHC *ep***P 07 15 59.7 +1.1**
KHC *es***P 07 16 02.7 -2.2**
CLL Collm 90.93 321 *i P* **P 07 15 45.5 +1.1**
CLL *e* 07 15 59.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 90.93 321 *i P* **P 07 15 45.5 +1.1**
comp=Z,7.0nm,1.0s
CLL *ep***P 07 15 59.0 -1.8**
CLL *es***P 07 16 04.0 -3.1**
CLL *e*PPP PPP 07 21 18.0
CLL *e*(S) (S) 07 27 06.0
CLL *e*SSSS 07 39 36.0
CLL LmV 08 03 00.0
comp=Z,100nm,21.0s
HFS Hagfors 91.10 330 P **P 07 15 46.0 +1.0**
HFS Hagfors 91.10 330 P **P 07 15 46.0 +1.0**
comp=Z,14nm,0.8s,baz=108,slow=4.8,SNR=15
MOTA Moosalm 91.98 317 ⇑ *iPcP* **P 07 15 49.9 +0.3**
comp=Z,7.3nm,0.8s
RETA Reutte 92.22 317 ⇓ *iPcP* **PcP 07 15 51.6 +0.2**
comp=Z,6.9nm,0.7s
FETA Feichten 92.22 317 ⇓ *iPcP* **PcP 07 15 51.9 +0.4**
comp=Z,10nm,1.2s
NB2 NORSAR Subarra 92.36 331 P **P 07 15 50.9 0.0**
comp=Z,6.9nm,0.9s,baz=93,slow=4.6
NB2 NORSAR Subarra 92.36 331 P **P 07 15 50.9 0.0**
baz=93,slow=4.6
NOA NORSAR Array B 92.36 331 P **P 07 15 51.2 +0.3**
NOA sP **sP 07 16 10.4 -3.3**
NOA NORSAR Array B 92.36 331 P **P 07 15 51.2 +0.3**
comp=Z,4.7nm,0.8s,baz=93,slow=4.7,SNR=14
NOA sP **sP 07 16 10.4 -3.3**
comp=Z,3.0nm,0.8s,baz=94,slow=4.5,SNR=4.1
NOA LR LR 08 01 35.7
comp=Z,92nm,21.7s,baz=85,slow=38
BFO Black Forest 93.86 318 *i P* **P 07 15 59.3 +1.2**
IM04 Indian Mountai 98.84 24 *eP* **P 07 16 20.3 0.0**
DAG Danmarks Havn 99.34 348 *i P* **Pdif 07 16 21.0 -1.3**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 99.34 348 *i P* **Pdif 07 16 21.0 -1.3**
comp=Z,2.3nm,0.8s
TORD Torodi Ar. Bea 99.63 283 P **Pdif 07 16 26.3 +1.4**
TORD PKKPbc **PKKPbc 07 32 47.2 +0.8**
TORD Torodi Ar. Bea 99.63 283 P **Pdif 07 16 26.3 +1.4**
comp=Z,0.9nm,1.0s,baz=33,slow=0.9,SNR=3.5
TORD PKKPbc **PKKPbc 07 32 47.2 +0.8**
comp=Z,0.3nm,0.6s,baz=303,slow=4.4,SNR=4.1
TORD LR LR 07 57 31.2
comp=Z,81nm,21.7s,baz=95,slow=33
MCK McKinley 101.42 25 *eP* **Pdif 07 16 31.0 -0.8**
MCK McKinley 101.42 25 *ePdif* **Pdif 07 16 31.0 -0.8**
ILAR Eielson Array 101.94 24 P **Pdif 07 16 32.7 -1.4**
ILAR PP **PP 07 20 43.1 -2.5**
ILAR Eielson Array 101.94 24 P **Pdif 07 16 32.7 -1.4**
comp=Z,0.9nm,1.1s,baz=268,slow=4.5,SNR=5.0
ILAR PP **PP 07 20 43.1 -2.5**
comp=Z,0.6nm,0.8s,baz=298,slow=7.7,SNR=6.1
DBIC Dimbokro 105.99 276 *e*PKPdf **PKiKP 07 21 03.2 -2.2**
YKA Yellowknife Ar 114.95 17 PKP PKPdf 07 21 20.4 -0.5
YKA Yellowknife Ar 114.95 17 PKP PKPdf 07 21 20.4 -0.5
comp=Z,0.7nm,0.8s,baz=329,slow=2.2,SNR=6.7
EDM Edmonton 122.43 24 *e*PKIKP **PKPdf 07 21 35.7 0.0**
EDM Edmonton 122.43 24 *e*PKPdf **PKPdf 07 21 35.7 0.0**
G03D McMinnville, O 122.80 36 ⇓ P **PKPdf 07 21 37.3 +0.7**
baz=123
I03D Drain, OR 123.59 37 ⇓ P **PKPdf 07 21 39.0 +0.8**
baz=124
G05D Wamic, OR 123.91 35 ⇑ P **PKPdf 07 21 39.9 +1.1**
baz=124
I04A Tendick Farm, 124.10 37 ⇑ P **PKPdf 07 21 39.9 +0.7**
baz=124
NEW Newport 124.25 30 ⇓ P **PKPdf 07 21 39.4 0.0**
baz=124
I05D Terrebonne, OR 124.42 36 ⇑ P **PKPdf 07 21 40.4 +0.5**
baz=124
J04D Umpqua Nationa 124.59 37 ⇓ P **PKPdf 07 21 41.0 +0.6**
baz=124
J05D Fort Rock, OR 125.09 37 ⇓ P **PKPdf 07 21 42.1 +0.8**
baz=125
M02C Callahan 125.14 40 ⇓ P **PKPdf 07 21 42.2 +0.8**
baz=125
N02D Trinity Center 125.46 40 ⇑ P **PKPdf 07 21 42.9 +0.9**
baz=125
M04C Macdoel 125.57 39 ⇓ P **PKPdf 07 21 42.7 +0.5**
baz=126
MSO Missoula 126.81 29 ⇑ P **PKPdf 07 21 44.8 +0.4**
baz=127
A19A Klindworth Far 127.59 24 ⇓ P **PKPdf 07 21 46.1 +0.3**
baz=128
EGMT Eagleton 127.86 26 ⇑ P **PKPdf 07 21 47.1 +0.7**
baz=128
HRY Holter Researc 127.91 28 *e*PKPdf **PKPdf 07 21 47.0 +0.5**
A20A Cobblestone Ra 127.96 24 ⇑ P **PKPdf 07 21 46.9 +0.4**
baz=128
MFID Camas Ranch 128.13 34 *e*PKPdf **PKPdf 07 21 47.4 +0.4**
B20A Solberg Farm, 128.27 24 ⇑ P **PKPdf 07 21 47.6 +0.5**
baz=128
C19A Slack Wire Ran 128.39 25 ⇑ P **PKPdf 07 21 48.1 +0.8**
baz=128
A22A Carney Farms, 128.66 22 ⇑ P **PKPdf 07 21 48.5 +0.7**
baz=128
B21A Ellsworth Farm 128.69 24 ⇓ P **PKPdf 07 21 48.8 +0.9**
baz=128
HLID Hailey 128.81 33 ⇑ P **PKPdf 07 21 49.6 +1.2**
baz=129
C20A Veseth Ranch, 128.85 25 ⇑ P **PKPdf 07 21 49.2 +1.0**
baz=129
D19A Cripps Ranch, 128.90 26 ⇓ P **PKPdf 07 21 48.3 -0.1**
baz=129
A23A Redstone 129.08 22 ⇓ P **PKPdf 07 21 49.5 +0.9**
baz=129
C21A Desert Coulee 129.14 24 ⇓ P **PKPdf 07 21 49.4 +0.6**
baz=129
B22A Reddig Ranch S 129.19 23 ⇓ P **PKPdf 07 21 49.6 +0.7**
baz=129
D20A Manuel Ranch, 129.28 25 ⇑ P **PKPdf 07 21 49.0 -0.1**
baz=129
A24A Westby 129.43 21 ⇓ P **PKPdf 07 21 50.1 +0.9**
baz=129
B23A Brockton 129.44 22 ⇓ P **PKPdf 07 21 49.5 +0.2**
baz=129
E19A Rath Farm, Rou 129.49 26 ⇑ P **PKPdf 07 21 49.8 +0.3**
baz=129
C22A Vida 129.69 23 ⇓ P **PKPdf 07 21 50.9 +1.1**
baz=130
NVAR Mina Array Bea 129.69 40 PKP **PKPdf 07 21 51.8 +1.4**
NVAR pPKP **pPKPdf 07 22 04.8 -2.5**
NVAR SKPbc SKPbc 07 25 08.3 +0.5
NVAR Mina Array Bea 129.69 40 PKP **PKPdf 07 21 51.8 +1.4**
comp=Z,1.6nm,0.6s,baz=287,slow=2.1,SNR=16
NVAR pPKP **pPKPdf 07 22 04.8 -2.5**
comp=Z,0.9nm,0.8s,baz=299,slow=2.6,SNR=4.6
NVAR SKPbc SKPbc 07 25 08.3 +0.5
comp=Z,1.7nm,0.7s,baz=271,slow=3.6,SNR=12
A25A Svangstu Ranch 129.73 20 ⇑ P **PKPdf 07 21 50.2 +0.4**
baz=130
DGMT Dagmar 129.73 22 ⇑ P **PKPdf 07 21 50.5 +0.7**
baz=130
E20A Meyer Farm, Mu 129.74 26 ⇑ P **PKPdf 07 21 50.8 +0.9**
baz=130
D21A La Casta Ranch 129.78 25 ⇑ P **PKPdf 07 21 50.5 +0.5**
baz=130
YMR Madison River 129.81 29 *e*PKPdf **PKPdf 07 21 51.6 +1.3**
D22A Cohagen 130.05 24 ⇓ P **PKPdf 07 21 52.3 +1.8**
baz=130
B25A Knox Farm, Ray 130.28 21 ⇓ P **PKPdf 07 21 52.3 +1.4**
baz=130
D23A Lindsay 130.42 23 ⇓ P **PKPdf 07 21 52.3 +1.0**
baz=130
G20A Bridger 130.69 27 ⇑ P **PKPdf 07 21 52.9 +1.0**
baz=131
ULM Lac du Bonnet 130.71 14 PKP **PKPdf 07 21 51.4 -0.1**
ULM Lac du Bonnet 130.71 14 PKP **PKPdf 07 21 51.4 -0.1**
comp=Z,5.4nm,0.7s,baz=346,slow=3.0,SNR=10
C25A Freed Ranch, W 130.71 21 ⇑ P **PKPdf 07 21 52.7 +1.0**
baz=131
E22A Miles City 130.72 24 ⇑ P **PKPdf 07 21 52.7 +1.0**
baz=131
H19A Powell 130.76 28 ⇑ P **PKPdf 07 21 53.4 +1.3**
baz=131
D24A Glendive 130.81 23 ⇓ P **PKPdf 07 21 53.5 +1.5**
baz=131

C26A	Wahner Farm, P	131.03	20	⇓P		PKPdf	07 21 52.8	+0.5
	baz=131							
GRAC	Grapevine Rang	131.12	41	⇓P		PKPdf	07 21 53.8	+1.0
	baz=131							
D25A	Fairfield	131.16	22	⇓P		PKPdf	07 21 53.9	+1.3
	baz=131							
A30A	Hoffart Farm,	131.26	17	⇓P		PKPdf	07 21 53.0	+0.3
	baz=131							
H20A	Greybull	131.35	27	⇑P		PKPdf	07 21 54.1	+1.0
	baz=131							
R11A	Troy Canyon, C	131.47	39	⇑P		PKPdf	07 21 54.9	+1.2
	baz=131							
F23A	Volborg	131.52	25	⇓P		PKPdf	07 21 54.4	+1.1
	baz=131							
I20A	Worland	131.71	28	⇑P		PKPdf	07 21 54.5	+0.7
	baz=132							
PDAR	Pinedale Array	131.89	30	PKP		PKPdf	07 21 54.5	+0.1
PDAR				SKPbc		SKPbc	07 25 15.0	-0.6
PDAR	Pinedale Array	131.89	30	PKP		PKPdf	07 21 54.5	+0.1
	comp=Z,0.9nm,0.6s,baz=212,slow=1.8,SNR=8.3							
PDAR				SKPbc		SKPbc	07 25 15.0	-0.6
	comp=Z,3.5nm,1.1s,baz=318,slow=2.0,SNR=12							
DUG	Dugway	131.95	35	⇓P		PKPdf	07 21 55.2	+0.8
	baz=132							
D28A	Regan	132.10	20	⇑P		PKPdf	07 21 55.2	+0.8
	baz=132							
J20A	Shoshoni	132.18	29	⇓P		PKPdf	07 21 55.6	+0.8
	baz=132							
G24A	Alzada	132.25	24	⇑P		PKPdf	07 21 54.9	+0.1
	baz=132							
E27A	Carson	132.41	21	⇓P		PKPdf	07 21 56.2	+1.2
	baz=132							
BFSC	Mount Baldy Ra	132.45	44	⇓P		PKPdf	07 21 55.6	+0.1
	baz=132							
J21A	Lysite	132.49	28	⇑P		PKPdf	07 21 55.6	+0.1
	baz=132							
F26A	Lodgepole	132.50	22	⇑P		PKPdf	07 21 55.5	+0.3
	baz=132							
AGMN	Agassiz Nation	132.52	15	⇓P		PKPdf	07 21 54.8	-0.2
	baz=132							
D29A	Pettibone, Tap	132.54	19	⇑P		PKPdf	07 21 55.2	0.0
	baz=132							
H24A	Dirks Ranch, A	132.66	25	⇓P		PKPdf	07 21 56.2	+0.6
	baz=132							
F27A	Lemmon	132.72	22	⇑P		PKPdf	07 21 56.3	+0.7
	baz=133							
G25A	Newell	132.76	23	⇑P		PKPdf	07 21 56.6	+0.9
	baz=133							
D30A	Buchanan	132.76	18	⇑P		PKPdf	07 21 56.3	+0.7
	baz=133							
J22A	Midwest	132.88	27	⇑P		PKPdf	07 21 56.7	+0.6
	baz=133							
G26A	Maurine	132.99	23	⇑P		PKPdf	07 21 56.9	+0.8
	baz=133							
MURC	Murrieta	133.11	45	⇑P		PKPdf	07 21 56.6	-0.1
	baz=133							
K21A	Alcova	133.12	29	⇑P		PKPdf	07 21 56.6	-0.1
	baz=133							
G27A	Dupree	133.17	22	⇑P		PKPdf	07 21 56.6	+0.2
	baz=133							
RSSD	Black Hills	133.39	25	ePKIKP		PKPdf	07 21 56.4	-0.7
RSSD	Black Hills	133.39	25	ePKPdf		PKPdf	07 21 56.4	-0.7
K22A	Casper	133.45	28	⇑P		PKPdf	07 21 57.8	+0.6
	baz=133							
I25A	Rochford	133.59	25	⇓P		PKPdf	07 21 57.5	0.0
	baz=133							
H27A	Howes	133.75	23	⇓P		PKPdf	07 21 58.3	+0.8
	baz=134							
K23A	Bowen Ranch, D	133.79	27	⇓P		PKPdf	07 21 57.4	-0.4
	baz=134							
G28A	Parade	133.81	21	⇑P		PKPdf	07 21 58.4	+0.7
	baz=134							
N20A	Spence Gulch,	133.97	31	⇑P		PKPdf	07 21 59.0	+0.7
	baz=134							
H28A	Mission Ridge	134.11	22	⇑P		PKPdf	07 21 58.4	+0.1
	baz=134							
I27A	Quinn	134.23	23	⇓P		PKPdf	07 21 59.2	+0.7
	baz=134							
G30A	Faulkton	134.39	20	⇑P		PKPdf	07 21 59.7	+1.0
	baz=134							
H29A	Onida	134.45	21	⇑P		PKPdf	07 21 59.9	+1.1
	baz=134							
O20A	White River Ci	134.49	32	⇓P		PKPdf	07 22 00.5	+1.2
	baz=134							
W13A	Hualapai Mount	134.52	41	⇓P		PKPdf	07 22 00.4	+0.9
	baz=134							
I28A	Midland	134.63	22	⇓P		PKPdf	07 22 00.5	+1.3
	baz=134							
U15A	North Rim	134.71	38	⇓P		PKPdf	07 22 01.1	+1.1
	baz=135							
K26A	Motz Farm, Whi	134.91	25	⇓P		PKPdf	07 22 00.7	+0.9
	baz=135							
J28A	Allard Ranch,	135.09	23	⇓P		PKPdf	07 22 01.6	+1.4
	baz=135							
J29A	Okreek	135.46	22	⇓P		PKPdf	07 22 02.6	+1.8
	baz=135							
O23A	Lake Granby, G	135.62	30	⇓P		PKPdf	07 22 02.0	+0.5
	baz=136							
Y14A	Wickenburg	135.79	42	⇓P		PKPdf	07 22 02.9	+1.2
	baz=136							
J30A	Dallas	135.84	21	⇓P		PKPdf	07 22 02.7	+1.2
	baz=136							
WUAZ	Wupatki	135.87	39	⇓P		PKPdf	07 22 02.9	+1.0
	baz=136							
K29A	Lazy Trails An	136.01	23	⇓P		PKPdf	07 22 03.3	+1.4
	baz=136							
SPMN	St. Paul	136.15	14	⇑P		PKPdf	07 22 03.1	+1.2
	baz=136							
K30A	Basset	136.35	22	⇑P		PKPdf	07 22 04.1	+1.6
	baz=136							
ECSD	EROS Data Cent	136.46	18	⇑P		PKPdf	07 22 04.5	+1.9
	baz=136							
S22A	4UR Ranch, Cre	136.99	33	⇑P		PKPdf	07 22 05.4	+1.2
	baz=137							
L31A	Butterfield Fa	137.07	22	⇑P		PKPdf	07 22 05.1	+1.3
	baz=137							
R23A	Moffat	137.19	31	⇑P		PKPdf	07 22 04.9	+0.4
	baz=137							
N28A	Pribbeno Ranch	137.26	25	⇑P		PKPdf	07 22 05.1	+0.8
	baz=137							
P26A	Davis Ranch, A	137.36	28	⇑P		PKPdf	07 22 05.9	+1.3
	baz=137							
Q25A	Bedland, Calha	137.44	29	⇓P		PKPdf	07 22 06.1	+1.2
	baz=137							
N29A	Votaw Ranch, W	137.53	24	⇓P		PKPdf	07 22 06.4	+1.6
	baz=137							
Q26A	Hugo	137.78	29	⇓P		PKPdf	07 22 06.7	+1.3
	baz=138							
S24A	Houchin Ranch,	137.93	31	⇓P		PKPdf	07 22 06.7	+0.8
	baz=138							
T23A	Casias Ranch,	137.94	33	⇓P		PKPdf	07 22 07.2	+1.3
	baz=138							
T25A	Trinidad	138.72	31	⇓P		PKPdf	07 22 08.1	+0.9
	baz=139							
T26A	Comanche Natio	139.11	30	⇓P		PKPdf	07 22 08.8	+0.8
	baz=139							
U25A	Circle Dot Ran	139.28	32	⇑P		PKPdf	07 22 09.5	+1.3
	baz=139							
V24A	Rampart Ranch,	139.32	33	⇑P		PKPdf	07 22 09.8	+1.4
	baz=139							
Y24A	Capitan	140.53	35	⇑P		PKPdf	07 22 11.8	+1.2
	baz=140							
Y25A	Mesa, Roswell	140.96	35	⇓P		PKPdf	07 22 12.6	+1.3
	baz=141							
X26A	CR and CF Fran	140.99	33	⇑P		PKPdf	07 22 12.5	+1.1
	baz=141							
Z24A	Sheeppen Canyo	141.00	36	⇑P		PKPdf	07 22 12.6	+1.1
	baz=141							
W27A	Bowe Ranch, En	141.01	32	⇓P		PKPdf	07 22 12.3	+1.0
	baz=141							
425A	Indio Mountain	143.00	39	⇓P		PKPbc	07 22 12.9	+1.0
	baz=143							
Y30A	Stafford Cattl	143.06	31	⇓P		PKPbc	07 22 12.8	+0.9
	baz=143							
Z29A	Hungry Hill Ra	143.11	32	⇑P		PKPbc	07 22 12.9	+0.9
	baz=143							
W33A	Caddo, Fort Co	143.20	27	⇓P		PKPbc	07 22 12.9	+0.8
	baz=143							
326A	Caldwell Ranch	143.25	37	⇑P		PKPbc	07 22 13.1	+0.6
	baz=143							
Z30A	Sanderson Ranc	143.40	32	⇑P		PKPbc	07 22 13.1	+0.3
	baz=143							
X32A	Elmer	143.42	29	⇑P		PKPbc	07 22 12.9	+0.2
	baz=143							
W34A	Bridge Creek,	143.44	26	⇑P		PKPbc	07 22 13.6	+0.8
	baz=143							
228A	UT Block 9, Go	143.48	35	⇑P		PKPbc	07 22 13.5	+0.4
	baz=143							
129A	Stewart Farms,	143.50	33	⇑P		PKPbc	07 22 13.5	+0.3
	baz=143							
426A	McDonald Obser	143.68	38	⇑P		PKPbc	07 22 14.4	+0.5
	baz=144,SNR=7.3							
Y32A	R-V Farms, Ver	143.68	29	⇓P		PKPbc	07 22 13.5	0.0
	baz=144,SNR=5.0							
TUL1	Tulsa	143.69	23	ePKPdf		PKPab	07 22 12.9	+0.3
TUL1	Tulsa	143.69	23	⇑P		PKPbc	07 22 13.4	0.0
	baz=144,SNR=6.7							
Z31A	Sharp Cattle R	143.88	31	⇑P		PKPbc	07 22 14.0	-0.1
	baz=144,SNR=13							
328A	Wristen Ranch,	143.90	36	⇓P		PKPbc	07 22 14.6	+0.2
	baz=144,SNR=9.8							
427A	Hayter Ranch,	143.93	37	⇑P		PKPbc	07 22 15.1	+0.6
	baz=144,SNR=5.6							
X34A	Smith Ranch, M	143.95	27	⇑P		PKPbc	07 22 14.2	-0.1
	baz=144							
130A	Snyder	144.02	32	⇑P		PKPbc	07 22 14.9	+0.3
	baz=144							
229A	Bryant Ranch,	144.03	34	⇓P		PKPbc	07 22 14.9	+0.2
	baz=144							
526A	Mary Lane Ranc	144.06	39	⇑P		PKPbc	07 22 15.3	+0.3
	baz=144,SNR=6.0							
Y33A	Hilltop Ranch,	144.07	28	⇓P		PKPbc	07 22 15.1	+0.4
	baz=144							
CPUP	Villa Florida	144.13	215	ePKPdf		PKPab	07 22 14.4	-0.2
CPUP				PKP		PKPdf	07 22 17.4	+0.5
CPUP	Villa Florida	144.13	215	PKP		PKPdf	07 22 17.4	+0.5
	comp=Z,1.6nm,0.6s,baz=102,slow=4.2,SNR=4.6							
BDFB	Brasilia	144.17	238	PKP		PKPdf	07 22 17.8	+0.4
BDFB	Brasilia	144.17	238	PKP		PKPdf	07 22 17.8	+0.4
	comp=Z,2.9nm,0.6s,baz=110,slow=4.9,SNR=6.1							
Z32A	Haskell	144.23	30	⇑P		PKPbc	07 22 15.2	0.0
	baz=144,SNR=11							
131A	Roby	144.26	32	⇓P		PKPbc	07 22 15.5	+0.1
	baz=144,SNR=8.8							
329A	Wagon Wheel Ra	144.30	35	⇑P		PKPbc	07 22 15.5	-0.1
	baz=144,SNR=8.8							
527A	Woodward Ranch	144.30	38	⇑P		PKPbc	07 22 15.9	+0.2
	baz=144,SNR=38							
626A	Big Bend Ranch	144.38	39	⇑P		PKPbc	07 22 16.2	+0.3
	baz=144,SNR=18							
428A	Kincaid Ranch,	144.45	36	⇑P		PKPdf	07 22 17.2	-0.3
	baz=144							
230A	Sterling City	144.48	33	⇓P		PKPbc	07 22 16.6	+0.5
	baz=144,SNR=32							
Y34A	Reagan Ranch,	144.52	27	⇑P		PKPbc	07 22 16.3	+0.2
	baz=144,SNR=17							
Z33A	Whitaker Ranch	144.59	29	⇓P		PKPab	07 22 15.3	-0.8
	baz=144							
ABTX	Abilene, Hawle	144.69	31	ePKPdf		PKPbc	07 22 17.0	+0.3
ABTX	Abilene, Hawle	144.69	31	⇓P		PKPbc	07 22 16.7	0.0
	baz=145							
528A	Cox Ranch, San	144.79	37	⇑P		PKPdf	07 22 18.0	-0.1
	baz=145,SNR=36							
330A	Mertzon	144.81	34	⇑P		PKPbc	07 22 17.3	+0.1
	baz=145,SNR=19							
TXAR	Lajitas Array	144.83	39	PKP		PKPdf	07 22 17.9	-0.3
TXAR	Lajitas Array	144.83	39	PKP		PKPdf	07 22 17.9	-0.3
	comp=Z,18nm,0.7s,baz=272,slow=1.0,SNR=190							
231A	Bronte	144.87	32	⇑P		PKPab	07 22 17.2	-0.1
	baz=145,SNR=16							
627A	Terlingua Ranc	144.92	39	⇑P		PKPab	07 22 17.2	-0.4
	baz=145,SNR=78							
Z34A	Collier Ranch,	144.93	28	⇓P		PKPab	07 22 16.2	-1.2
	baz=145,SNR=14							
429A	Davenport Ranc	144.98	36	⇓P		PKPab	07 22 17.7	-0.1
	baz=145,SNR=9.7							
133A	Hamilton Ranch	145.07	30	⇓P		PKPab	07 22 18.0	+0.1
	baz=145,SNR=26							
529A	Stev Forest Ra	145.16	37	⇓P		PKPbc	07 22 18.1	-0.2
	baz=145,SNR=24							
628A	Black Gap, Mar	145.21	38	⇑P		PKPbc	07 22 18.2	-0.3
	baz=145,SNR=41							
430A	Baggett Ranch,	145.24	35	⇓P		PKPab	07 22 18.7	0.0
	baz=145,SNR=14							
232A	Coleman	145.26	32	⇑P		PKPab	07 22 18.8	0.0
	baz=145,SNR=14							
Z35A	Perchaven, San	145.27	27	⇓P		PKPbc	07 22 18.5	0.0
	baz=145,SNR=16							
331A	San Angelo	145.30	33	⇓P		PKPdf	07 22 19.0	0.0
	baz=145,SNR=29							
JSRW	J. Sargeant Re	145.35	358	ePKPbc		PKPbc	07 22 18.4	-0.1
134A	White-Moore Ra	145.51	29	⇓P		PKPab	07 22 19.7	+0.1
	baz=145,SNR=12							
233A	Rising Star	145.55	31	⇑P		PKPab	07 22 19.9	+0.1
	baz=145,SNR=49							
332A	Millersview	145.61	32	⇑P		PKPab	07 22 20.5	+0.5
	baz=146,SNR=71							
530A	J-C Ranch, Com	145.66	36	⇑P		PKPab	07 22 20.8	+0.6
	baz=146,SNR=49							
431A	Sonora	145.68	34	⇓P		PKPab	07 22 20.3	0.0
	baz=146,SNR=17							
MIAR	Mount Ida	145.74	22	ePKP2		PKPab	07 22 20.3	0.0
MIAR	Mount Ida	145.74	22	ePKPbc		PKPab	07 22 20.2	0.0
HBAR	Harrisburg	145.77	17	ePKPbc		PKPbc	07 22 20.1	+0.1
135A	Vickery Place,	145.84	28	⇓P		PKPab	07 22 20.5	-0.2
	baz=146							
234A	Clairette	145.94	30	⇓P		PKPab	07 22 21.0	-0.2
	baz=146,SNR=22							
WVT	Waverly	145.95	13	ePKP2		PKPdf	07 22 19.8	0.0
WVT	Waverly	145.95	13	ePKPbc		PKPdf	07 22 19.8	0.0
432A	Menard	145.98	33	⇑P		PKPab	07 22 21.4	0.0
	baz=146,SNR=27							
333A	Richland Sprin	146.06	31	⇓P		PKPbc	07 22 21.1	0.0
	baz=146,SNR=35							
531A	Rocksprings	146.10	35	⇓P		PKPbc	07 22 21.5	+0.2
	baz=146,SNR=21							
JCT	Junction City	146.28	33	ePKP2		PKPdf	07 22 20.4	-0.2
JCT	Junction City	146.28	33	ePKPdf		PKPdf	07 22 20.4	-0.2
JCT				ePKPbc		PKPbc	07 22 21.8	0.0
JCT	Junction City	146.28	33	⇑P		PKPbc	07 22 21.8	0.0
	baz=146,SNR=57							
WHTX	Lake Whitney	146.28	29	⇑P		PKPab	07 22 22.1	-0.3
	baz=146							
334A	Lometa	146.43	31	⇓P		PKPbc	07 22 22.3	+0.2
	baz=146,SNR=17							
433A	Art	146.45	32	⇑P		PKPbc	07 22 22.1	-0.1
	baz=146,SNR=20							
532A	Rocksprings	146.49	34	⇓P		PKPbc	07 22 22.3	-0.1
	baz=146,SNR=20							
631A	Perdido Creek	146.65	36	⇑P		PKPbc	07 22 22.6	-0.2
	baz=146							
434A	Burnet	146.83	31	⇑P		PKPbc	07 22 22.8	-0.6
	baz=147,SNR=29							
335A	Moody	146.88	30	⇓P		PKPbc	07 22 23.8	+0.3
	baz=147,SNR=13							
533A	Kerrville	147.01	33	⇑P		PKPbc	07 22 23.8	-0.1
	baz=147,SNR=26							
632A	Uvalde	147.03	34	⇓P		PKPbc	07 22 24.1	+0.2
	baz=147,SNR=11							
OXF	Oxford	147.10	16	ePKIKP		PKPdf	07 22 20.8	-1.0
OXF				e			07 22 23.5	
OXF	Oxford	147.10	16	ePKPdf		PKPdf	07 22 20.8	-1.0
OXF				ePKPbc		PKPbc	07 22 23.5	-0.4
435B	Jarrell	147.21	30	⇑P		PKPbc	07 22 24.5	+0.1
	baz=147,SNR=8.9							
CPCT	Cooper Cave	147.21	8	ePKPbc		PKPbc	07 22 24.9	+0.7
CPCT				ePKPab		PKiKP	07 22 26.4	-0.2
SWET	Sewanee	147.21	10	ePKPbc		PKPbc	07 22 23.2	-1.1
534A	Blanco	147.35	32	⇑P		PKPbc	07 22 24.3	-0.5
	baz=147,SNR=12							
633A	Saathoff Ranch	147.41	34	⇑P		PKPbc	07 22 25.3	+0.3
	baz=147,SNR=24							
732A	Laxson Ranch,	147.51	36	⇑P		PKPbc	07 22 25.4	+0.1
	baz=147,SNR=9.6							
535A	Dale	147.82	31	⇑P		PKPbc	07 22 26.5	+0.4
	baz=148							
832A	Faith Ranch, C	147.84	36	⇑P		PKPbc	07 22 25.7	-0.5
	baz=148,SNR=24							
KMSC	Kings Mountain	147.84	3	ePKPbc		PKPbc	07 22 25.6	-0.4
KMSC				ePKPab		PKiKP	07 22 27.7	-0.2
KMSC	Kings Mountain	147.84	3	⇓P		PKPbc	07 22 25.8	-0.2
	baz=148							
733A	Divot King Ran	147.91	35	⇑P		PKPbc	07 22 26.3	-0.1
	baz=148							
634A	China Grove, S	147.92	33	⇓P		PKPbc	07 22 26.5	+0.2
	baz=148							
536A	Bastrop	148.04	30	⇓P		PKPbc	07 22 27.1	+0.5
	baz=148							
833A	Chaparral WMA,	148.15	35	⇑P		PKPbc	07 22 28.1	+1.1
	baz=148							
734A	La Parita Cree	148.22	34	⇓P		PKPbc	07 22 28.5	+1.3
	baz=148							
635A	Leesville	148.22	32	⇑P		PKPbc	07 22 28.2	+1.0
	baz=148							
735A	Kenedy	148.62	33	⇓P		PKPbc	07 22 29.7	+1.5
	baz=148							
933A	Laredo	148.75	36	⇓P		PKPbc	07 22 29.9	+1.3
	baz=149							
HKT	Hockley	148.75	29	ePKP2		PKPbc	07 22 29.4	+1.0
HKT	Hockley	148.75	29	ePKPbc		PKPbc	07 22 29.4	+1.0
834A	Tilden	148.78	35	⇓P		PKPbc	07 22 30.0	+1.4
	baz=149							
835A	Beeville	149.06	33	⇑P		PKPbc	07 22 31.0	+1.7
	baz=149							
934A	Benavides	149.20	35	⇓P		PKPbc	07 22 31.7	+2.0
	baz=149							
034A	Hebbronville	149.50	36	⇑P		PKPbc	07 22 32.5	+2.1
	baz=149							
035A	Encino	149.94	36	⇓P		PKPbc	07 22 32.9	+1.4
	baz=150							
035Z	Hargill	150.32	36	⇑P		PKPbc	07 22 34.4	+2.0
	baz=150							
TIGA	Tifton	151.29	8	⇓P		PKPbc	07 22 35.3	+0.7
	baz=151							
LPAZ	La Paz	158.08	209	PKP		PKPdf	07 22 41.1	+2.0
LPAZ	La Paz	158.08	209	PKP		PKPdf	07 22 41.1	+2.0
	comp=Z,2.6nm,1.0s,baz=4.0,slow=1.9,SNR=7.1							

DJA 31 07:08:22.1±1.5, 3°S±9′×10°1E±1°5, h10km, M4.6/4, MLv4.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	Maura Aman, Be	1.49	100	P	Pn	07 08 47.2	-1.8
MASI				S	Sn	07 09 08.6	0.0
PDSI	Padang	1.98	351	P	Pn	07 08 56.1	+0.4
PDSI				S	Sn	07 09 20.1	-0.5
MNAI	Manna	2.63	124	P	Pn	07 09 04.3	-0.4
MNAI				S	Sn	07 09 35.1	-1.6
RGRI	Rengat	2.96	32	P	Pn	07 09 10.2	+1.0
MDSI	Maura Dua	3.76	115	P	Pn	07 09 20.9	+0.7

ISCJB 31 07:28:49.0±0.8, 25°.3N±0°.2×94°.6E±0°.2, h100km, mb3.6/10, Error ellipse: s-maj=35.3km s-min=11.6km az=147.4
IDC 31 07:28:49.9±3.8, 25°.39N×94°.72E, h88km±37km, mb3.5/9, mb1 3.6/10, mb1mx3.3/33, mbtmp3.8/10, Error ellipse: s-maj=35.3km s-min=14.3km az=55.0
ISC 31 07:28:50.6±1.1, 25°.3N±0°.2×94°.5E±0°.3, h100km, n11, σ0s73/9, mb3.7/10, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.95	148	P	Pn	07 30 43.8	+0.3
	0.6nm,0.3s,baz=311,slow=13,SNR=5.4						
MKAR	Makanchi Array	23.56	339	P	P	07 33 52.7	+0.7
	1.4nm,0.5s,baz=156,slow=9.0,SNR=12						
AAK	Ala-Archa	23.88	321	P	P	07 33 53.9	-1.2
	0.6nm,0.3s,baz=157,slow=8.5,SNR=4.6						
SONM	Songino Array	24.36	20	P	P	07 34 03.9	+4.6
	0.6nm,0.7s,baz=206,slow=8.4,SNR=5.0						
KURBB	Kurchatov Arra	28.13	338	P	P	07 34 32.6	-0.4
	0.5nm,0.2s,baz=155,slow=9.9,SNR=6.5						
ZALV	Zalesovo Beam	29.51	348	P	P	07 34 45.1	-0.2
	0.8nm,0.5s,baz=166,slow=8.5,SNR=5.9						
MJAR	Matsushiro Arr	38.81	63	P	P	07 36 05.7	-0.1
	0.5nm,0.5s,baz=272,slow=11,SNR=5.2						
FINES	FINESS Array B	57.83	328	P	P	07 38 32.2	+0.9
	0.7nm,0.6s,baz=106,slow=6.8,SNR=4.5						
WRA	Warramunga Arr	59.33	136	P	P	07 38 42.1	-0.3
	1.0nm,0.7s,baz=321,slow=7.4,SNR=13						
ASAR	Alice Springs	61.84	139	P	P	07 38 59.0	-0.4
	0.5nm,0.4s,baz=319,slow=6.7,SNR=9.7						
TORD	Torodi Ar. Bea	87.00	283	P	P	07 41 28.3	+2.9
	0.2nm,0.5s,baz=65,slow=5.2,SNR=4.8						

IDC 31 08:09:48.3±2.8, 54°.45N×86°.89E, h0km, mb1 3.7/2, mb1mx3.1/30, mbtmp3.7/2, ML3.5/2, Error ellipse: s-maj=25.5km s-min=17.5km az=49.0
NNC 31 08:09:53.1±4.6, 54°.30N×86°.32E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=33.5km s-min=30.5km az=48.0
ISC 31 08:09:51.7±4.4, 54°.5N±0°.2×86°.7E±0°.2, h35km, n9, σ2s20/13, 8C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.23	243	*i*		08 17 03.4	
	baz=69,slow=343,SNR=35						
ZALV	Zalesovo Beam	1.23	243	Pg	Pn	08 10 11.8	-0.6
	5.4nm,0.3s,baz=66,slow=16,SNR=113						
ZALV				Lg	Lg	08 10 31.0	
	5.0nm,0.3s,baz=64,slow=27,SNR=14						
KURK	Kurchatov	6.21	235	⇓Pn	Pn	08 11 22.8	+2.1
	4.8nm,0.7s						
KURK				⇓Sn	Sn	08 12 32.2	+1.8
	3.9nm,0.9s						
KURK				⇑Lg	Lg	08 13 03.0	
	12nm,1.1s						
KURBB	Kurchatov Arra	6.31	235	⇑Pn	Pn	08 11 24.4	+2.2
	16nm,0.7s						
KURBB				⇑Sn	Sn	08 12 35.3	+2.3
	15nm,0.8s						
KURBB				⇑Lg	Lg	08 13 06.1	
	20nm,0.8s						
KURBB	Kurchatov Arra	6.31	235	Pn	Pn	08 11 24.3	+2.1
	1.8nm,

AYDB				*e*SG	**Sn**	**08 34 59.6**	**+1.0**
AKHS	**Akhisar**	**0.67**	**28**	*i* P	**Pg**	**08 34 48.9**	**-0.5**
AKHS				*i* S	**Sg**	**08 34 58.6**	**+0.4**

NEIC ***31*** *08:36:25.6,36˚.25S×178˚.61E, h114km, MG4.5(WEL), After WEL.*

WEL 31 08:36:24.6±0.7, 36˚.17S×178˚.67E, h12km, ML4.3/17, 1C-1D, Error ellipse: s-maj=5.0km s-min=4.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.42**	**192**	P*	Pn	08 36 50.3	0.0
MXZ				S*	Sn	08 37 08.7	-0.1
MXZ				AML	AML	08 37 14.2	
MXZ				AML	AML	08 37 14.2	
MXZ				AML	AML	08 37 14.2	
MXZ	**Matakaoa Point**	**1.42**	**192**	Pn	Pn	08 36 50.3	+0.1
MXZ				Sn	Sg	08 37 13.8	+3.4
HAZ	**Te Kaha**	**1.74**	**204**	P*	Pn	08 36 53.3	-1.2
PUZ	**Puketiti**	**1.93**	**190**	PN	Pn	08 36 56.6	-0.6
PUZ				SN	Sn	08 37 20.0	-1.5
PUZ				AML	AML	08 37 31.8	
PUZ	**Puketiti**	**1.93**	**190**	Pn	Pn	08 36 56.6	-0.6
PUZ				Sn	Sn	08 37 20.0	-1.5
CNGZ	**Carnagh Statio**	**2.34**	**189**	PN	Pn	08 37 02.2	-0.7
CNGZ	**Carnagh Statio**	**2.34**	**189**	Pn	Pn	08 37 02.2	-0.7
MWZ	**Matawai**	**2.35**	**203**	P*	Pn	08 37 02.4	-0.6
MWZ				S*	Sn	08 37 29.3	-2.5
MWZ				AML	AML	08 37 42.4	
MWZ				AML	AML	08 37 42.4	
MWZ				AML	AML	08 37 43.4	
MWZ	**Matawai**	**2.35**	**203**	Pn	Pn	08 37 02.4	-0.6
OPRZ	**Ohinepanea**	**2.38**	**225**	P*	Pn	08 37 02.4	-1.1
OPRZ	**Ohinepanea**	**2.38**	**225**	Pn	Pn	08 37 02.4	-1.1
MARZ	**Manawahe**	**2.42**	**221**	P*	Pn	08 37 02.9	-1.0
MARZ	**Manawahe**	**2.42**	**221**	Pn	Pn	08 37 02.9	-1.0
URZ	**Urewera**	**2.43**	**210**	P*	Pn	08 37 02.6	-1.5
URZ				S*	Sn	08 37 30.5	-3.3
URZ				AML	AML	08 37 37.0	
URZ	**Urewera**	**2.43**	**210**	Pn	Pn	08 37 02.6	-1.5
KUZ	**Kuaotunu**	**2.45**	**256**	PN	Pn	08 37 03.4	-1.0
KUZ				AML	AML	08 37 03.5	
KUZ				AML	AML	08 37 43.5	
KUZ	**Kuaotunu**	**2.45**	**256**	Pn	Pn	08 37 03.4	-1.0
TGRZ	**Tauranga**	**2.48**	**230**	⇓P*	Pn	08 37 04.2	-0.6
TGRZ				AML	AML	08 37 05.1	
TGRZ				AML	AML	08 37 07.9	
TGRZ	**Tauranga**	**2.48**	**230**	Pn	Pn	08 37 04.2	-0.6
RIGZ	**Rimuhau**	**2.63**	**196**	PN	Pn	08 37 05.3	-1.6
TARZ	**Mount Tarawera**	**2.69**	**219**	P*	Pn	08 37 07.7	-0.2
TARZ	**Mount Tarawera**	**2.69**	**219**	Pn	Pn	08 37 07.7	-0.2
RRRZ	**Republican Roa**	**2.77**	**218**	P*	Pn	08 37 07.5	-1.3
RRRZ	**Republican Roa**	**2.77**	**218**	Pn	Pn	08 37 08.0	-0.8
SNGZ	**Shannon Statio**	**2.81**	**202**	PN	Pn	08 37 08.1	-1.4
SNGZ				SN	Sn	08 37 40.3	-3.0
PRRZ	**Plateau Road**	**2.95**	**217**	P*	Pn	08 37 09.7	-1.6
PRRZ	**Plateau Road**	**2.95**	**217**	Pn	Pn	08 37 09.7	-1.6
KNZ	**Kokohu**	**2.96**	**195**	PN	Pn	08 37 08.7	-2.6
KNZ	**Kokohu**	**2.96**	**195**	Pn	Pn	08 37 08.7	-2.6
MKAZ	**Moumakai**	**2.97**	**251**	PN	Pn	08 37 10.5	-1.0
MKAZ				AML	AML	08 37 10.9	
MKAZ	**Moumakai**	**2.97**	**251**	Pn	Pn	08 37 10.5	-1.0
TOZ	**Tahuroa Road**	**2.98**	**238**	P*	Pn	08 37 10.4	-1.2
TOZ	**Tahuroa Road**	**2.98**	**238**	Pn	Pn	08 37 10.4	-1.2
RAHZ	**Arahi**	**3.02**	**204**	PN	Pn	08 37 10.4	-1.9
RAHZ	**Arahi**	**3.02**	**204**	Pn	Pn	08 37 10.4	-1.9
ALRZ	**Allen Road**	**3.03**	**217**	P*	Pn	08 37 10.9	-1.4
ALRZ	**Allen Road**	**3.03**	**217**	Pn	Pn	08 37 10.9	-1.4
WHHZ	**Waihua**	**3.12**	**201**	PN	Pn	08 37 11.7	-1.9
NMHZ	**Naumai**	**3.28**	**206**	PN	Pn	08 37 13.9	-2.0
NMHZ	**Naumai**	**3.28**	**206**	Pn	Pn	08 37 13.9	-2.0
BKZ	**Black Stump Fm**	**3.46**	**209**	⇑P*	Pn	08 37 15.5	-2.8
BKZ				AML	AML	08 38 12.1	
BKZ				AML	AML	08 38 13.1	
BKZ	**Black Stump Fm**	**3.46**	**209**	Pn	Pn	08 37 15.5	-2.8
MCHZ	**McNeill Hill**	**3.62**	**205**	PN	Pn	08 37 17.5	-3.0
MCHZ	**McNeill Hill**	**3.62**	**205**	Pn	Pn	08 37 17.5	-3.0
OTVZ	**Oturere**	**3.83**	**218**	P*	Pn	08 37 21.2	-2.3
OTVZ				AML	AML	08 38 13.3	
OTVZ				AML	AML	08 38 17.1	
OTVZ	**Oturere**	**3.83**	**218**	Pn	Pn	08 37 21.2	-2.3
KAHZ	**Kahuranaki**	**3.89**	**201**	PN	Pn	08 37 20.8	-3.4
BHHZ	**Black Hill Sta**	**3.91**	**211**	P*	Pn	08 37 21.3	-3.2
BHHZ	**Black Hill Sta**	**3.91**	**211**	Pn	Pn	08 37 21.3	-3.2
MOVZ	**Moawhango**	**3.98**	**215**	P*	Pn	08 37 21.9	-3.6
MOVZ				AML	AML	08 38 18.4	
MOVZ				AML	AML	08 38 20.1	
MOVZ	**Moawhango**	**3.98**	**215**	Pn	Pn	08 37 21.9	-3.6
PXZ	**Pawanui**	**4.11**	**200**	PN	Pn	08 37 22.4	-4.8
PXZ				SN	Sn	08 38 07.5	-7.7
PXZ				AML	AML	08 38 09.3	
PXZ				AML	AML	08 38 09.6	
PXZ				AML	AML	08 38 11.3	
PXZ	**Pawanui**	**4.11**	**200**	Pn	Pn	08 37 22.4	-4.8
PNHZ	**Pukenui**	**4.22**	**207**	PN	Pn	08 37 23.8	-4.9
PNHZ	**Pukenui**	**4.22**	**207**	Pn	Pn	08 37 23.8	-4.9
PRHZ	**Porangahau**	**4.39**	**201**	PN	Pn	08 37 26.4	-4.7
PRHZ	**Porangahau**	**4.39**	**201**	Pn	Pn	08 37 26.4	-4.7
TSZ	**Takapari Road**	**4.43**	**208**	PN	Pn	08 37 26.8	-4.9
TSZ				AML	AML	08 38 38.3	
TSZ				AML	AML	08 38 40.2	
TSZ	**Takapari Road**	**4.43**	**208**	Pn	Pn	08 37 26.8	-4.9
DVHZ	**Dannevirke**	**4.57**	**205**	PN	Pn	08 37 22.8	-11
DVHZ	**Dannevirke**	**4.57**	**205**	Pn	Pn	08 37 22.9	-11
MRZ	**Mangatainoka R**	**5.10**	**208**	PN	Pn	08 37 34.5	-6.3
MRZ				AML	AML	08 38 32.2	
MRZ				AML	AML	08 38 32.7	
HOWZ	**Holdsworth Sta**	**5.33**	**207**	PN	Pn	08 37 37.3	-6.7
KIW	**Kapiti Island**	**5.54**	**211**	PN	Pn	08 37 40.6	-6.2
MTW	**Mount Morrison**	**5.56**	**206**	PN	Pn	08 37 40.4	-6.7
MTW				AML	AML	08 38 41.4	
MTW				AML	AML	08 38 41.5	
CAW	**Cannon Point**	**5.68**	**209**	PN	Pn	08 37 41.7	-7.1
CAW				AML	AML	08 38 45.9	
CAW				AML	AML	08 38 14.6	
MSWZ	**Moikau Station**	**5.88**	**206**	AML	AML	08 38 49.8	
TCW	**Tory Channel**	**6.10**	**213**	AML	AML	08 37 34.0	
TCW				AML	AML	08 38 56.7	
NNZ	**Nelson**	**6.52**	**218**	PN	Pn	08 37 54.5	-5.8
QRZ	**Quartz Range**	**6.70**	**224**	PN	Pn	08 37 56.1	-6.6
KHZ	**Kahutara**	**7.40**	**211**	PN	Pn	08 38 04.2	-8.1
DSZ	**Denniston Nort**	**7.72**	**222**	PN	Pn	08 38 08.9	-7.9
LTZ	**Lake Taylor**	**8.25**	**215**	PN	Pn	08 38 16.1	-8.0
CTZ	**Chatham Island**	**8.37**	**156**	PN	Pn	08 38 22.6	-3.1
OXZ	**Oxford**	**8.78**	**214**	PN	Pn	08 38 22.1	-9.3
ODZ	**Otahua Downs**	**10.76**	**212**	PN	Pn	08 38 48.8	-10

MEX 31 08:46:13.4±0.5, 16˚.61N×100˚.61W, h10km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.74**	**69**	*e*P	Pg	08 46 26.1	-1.7
ACP2				*e*S	Sg	08 46 35.5	-2.1
ACX	**Acapulco**	**0.77**	**70**	*e*P	Pn	08 46 30.2	-0.1
ACX				*e*S	Sb	08 46 39.8	+0.3
ARIG	**Puente Sto Nin**	**1.68**	**9**	*e*P	Pn	08 46 39.2	-3.8
ARIG				*i* S	Sn	08 46 59.6	-5.0
PLIG	**Platanillo**	**2.07**	**31**	*e*P	Pn	08 46 45.4	-3.0
PLIG				*e*S	Sn	08 47 09.8	-4.4
TLIG	**Tlapa**	**2.17**	**64**	*e*P	Pn	08 46 47.2	-2.7
TLIG				*e*S	Sn	08 47 11.5	-5.5
YAIG	**Yautepec**	**2.68**	**33**	*e*P	Pn	08 46 53.0	-3.8
YAIG				*e*S	Sn	08 47 26.3	-3.3

AUST ***31*** *08:48:23.8, 17˚.55S×178˚.50W, h450km*
BJI ***31*** *08:48:33.1, 17˚.40S×178˚.60W, h589km, mB4.8/2, mb4.2/5*
IDC ***31*** *08:48:34.5±1.7, 17˚.89S×178˚.49W, h611km±20km, mb3.7/12, mb1 4.0/13, mb1mx3.7/22, mbtmp4.7/13, Error ellipse: s-maj=32.2km s-min=10.4km az=154.0*
NEIC ***31*** *08:48:34.2±0.8, 17˚.44S×178˚.62W, h589km±10km, mb4.2/36, Error ellipse: s-maj=18.0km s-min=6.9km az=149.0*
ISC 31 08:48:30.7±0.6, 17˚.3S±0˚.1×178˚.7W±0˚.1, h547km, n92, σ1§28/88, mb4.2/52, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**64**	*e*P	P	08 50 28.1	+4.8
AFI	**Afiamalu**	**7.46**	**64**	P	P	08 50 28.5	+5.3
	4.2nm,0.3s,baz=70,slow=6.2,SNR=6.2						
NFK	**Norfolk Island**	**16.95**	**224**	P	P	08 51 49.3	-10
	baz=17,SNR=5.8						
NFK				S	**S**	**08 54 51.6**	**+2.5**
	baz=17,SNR=3.6						
SNZO	**South Karori**	**24.61**	**192**	*e*P	**P**	**08 53 09.1**	**+1.2**
	837nm,2.1s						
EIDS	**Eidsvold**	**29.23**	**249**	P	**P**	**08 53 49.0**	**+0.2**
	baz=29,SNR=3.8						
ARMA	**Armidale**	**30.02**	**239**	*e*P	**P**	**08 53 56.2**	**+0.6**
	286nm,2.8s						
RMQ	**Roma**	**31.48**	**247**	P	**P**	**08 54 08.7**	**+0.6**
	baz=32,SNR=6.4						
CNB	**Canberra Magne**	**33.59**	**231**	P	**P**	**08 54 25.0**	**-1.0**
	baz=34,SNR=14						
PMG	**Port Moresby**	**34.09**	**279**	*e*P	**P**	08 54 33.6	+3.2
	35nm,0.9s						
PMG	**Port Moresby**	**34.09**	**279**	P	**P**	08 54 33.9	+3.6
	30nm,0.8s,baz=89,slow=11,SNR=6.9						
PMG	**Port Moresby**	**34.09**	**279**	P	P	08 54 34.4	+4.0
	baz=34,SNR=4.7						
CMSA	**Cobar Meteorol**	**35.22**	**240**	P	**P**	**08 54 38.8**	**-0.8**
	baz=35,SNR=8.3						
QLP	**Quilpie**	**35.50**	**248**	P	**P**	**08 54 41.6**	**-0.4**
	baz=36,SNR=12						
COEN	**Coen**	**36.83**	**270**	*e*P	**P**	**08 54 55.5**	**+2.4**
	214nm,0.6s						
COEN	**Coen**	**36.83**	**270**	P	**P**	**08 54 55.6**	**+2.4**
	baz=37,SNR=39						
STKA	**Stephens Creek**	**38.69**	**240**	*e*P	**P**	**08 55 07.5**	**-0.6**
	3.5nm,1.0s						
STKA	**Stephens Creek**	**38.69**	**240**	P	**P**	**08 55 07.3**	**-0.7**
	8.9nm,0.5s,baz=88,slow=8.9,SNR=26						
STKA	**Stephens Creek**	**38.69**	**240**	P	**P**	**08 55 07.5**	**-0.6**
	baz=39,SNR=19						
QIS	**Mount Isa**	**39.50**	**258**	P	**P**	**08 55 17.7**	**+2.9**
	baz=40,SNR=3.5						
HTT	**Hallett**	**41.23**	**239**	P	**P**	**08 55 27.3**	**-1.0**
	baz=41,SNR=6.3						
JAY	**Jayapura**	**42.47**	**286**	P	**P**	**08 55 41.4**	**+3.0**
	20nm,0.7s,baz=169,slow=8.3,SNR=5.0						
BBOO	**Buckleboo**	**43.47**	**240**	P	**P**	**08 55 44.5**	**-1.4**
	baz=44,SNR=21						
WRA	**Warramunga Arr**	**44.48**	**259**	P	**P**	**08 55 53.2**	**-0.7**
	10.0nm,0.7s,baz=95,slow=7.5,SNR=253						
AS31	**Alice Springs**	**44.70**	**254**	*e*P	**P**	**08 55 55.1**	**-0.5**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**08 55 55.1**	**-0.5**
	44nm,0.7s,baz=87,slow=8.6,SNR=618						
ASAR				S	**S**	**09 01 48.0**	**-4.7**
	1.9nm,0.8s,baz=93,slow=15,SNR=12						
KDU	**Kakadu**	**47.30**	**269**	P	**P**	**08 56 16.0**	**+0.6**
	baz=48,SNR=4.3						
KDU				S	S	09 02 57.6	+29
	baz=48,SNR=4.6						
MTN	**Manton Dam**	**48.54**	**268**	P	**P**	**08 56 24.9**	**+0.2**
	baz=49,SNR=4.8						
MTN				S	S	09 02 53.6	+7.3
	baz=49,SNR=5.7						
WRKA	**Warakurna**	**49.78**	**252**	P	**P**	**08 56 32.9**	**-0.9**
	baz=50,SNR=22						
KNRA	**Kununurra**	**50.28**	**264**	P	**P**	**08 56 37.5**	**+0.1**
	baz=50,SNR=3.2						
MEEK	**Meekatharra**	**58.40**	**249**	P	**P**	**08 57 32.3**	**-2.1**
	baz=58,SNR=4.1						
MJAR	**Matsushiro Arr**	**67.25**	**323**	P	**P**	**08 58 33.2**	**+2.2**
	0.5nm,0.6s,baz=154,slow=6.5,SNR=4.9						
UGM	**Wanagama**	**69.39**	**268**	P	**P**	**08 58 44.2**	**-0.4**
	baz=70,SNR=3.9						
PETK	**Petropavlovsk-**	**73.01**	**345**	P	**P**	**08 59 07.0**	**+2.1**
	4.2nm,0.6s,baz=122,slow=7.7,SNR=5.2						
MDJ	**Mudanjiang**	**77.52**	**325**	P	**P**	**08 59 32.0**	**+1.8**
MDJ				pP	pP	09 01 32.3	+6.3
MDJ				sP	sP	09 02 32.8	+11
MDJ				S	**S**	**09 08 33.3**	**-3.6**
MDJ				ScS	**ScS**	**09 08 57.5**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.7s						
CMB	**Columbia Colle**	**77.58**	**43**	*e*P	**P**	**08 59 30.4**	**-0.3**
	4.0nm,0.8s						
ISA	**Isabella**	**77.59**	**46**	*e*P	**P**	**08 59 31.2**	**+0.3**
	19nm,0.8s						
WAKR	**Walker**	**78.46**	**43**	*e*P	**P**	**08 59 36.0**	**+0.4**
NVAR	**Mina Array Bea**	**79.17**	**44**	P	**P**	**08 59 39.2**	**-0.3**
	2.9nm,0.7s,baz=224,slow=8.9,SNR=31						
LDFC	**Landfair**	**79.65**	**48**	*e*P	**P**	**08 59 42.7**	**+0.7**
	6.9nm,0.8s						
TPH	**Tonopah**	**79.71**	**45**	*e*P	**P**	**08 59 42.3**	**0.0**
	7.7nm,1.4s						
MOD	**Modoc**	**79.79**	**40**	*e*P	**P**	**08 59 43.0**	**+0.4**
	6.5nm,0.7s						
H04A	**Detroit Lake**	**80.27**	**37**	*e*P	**P**	**08 59 44.5**	**-0.3**
	6.6nm,0.6s						
BMN	**Battle Mountai**	**80.94**	**43**	*e*P	**P**	**08 59 48.9**	**+0.3**
	5.8nm,0.9s						
R11A	**Troy Canyon, C**	**80.95**	**45**	*e*P	**P**	**08 59 48.5**	**-0.2**
	2.3nm,1.0s						
WVOR	**Wild Horse Val**	**81.11**	**40**	*e*P	**P**	**08 59 49.5**	**+0.1**
	10nm,1.1s						
I07A	**Izee**	**81.50**	**39**	*e*P	**P**	**08 59 52.0**	**+0.7**
	5.9nm,0.8s						
TUC	**Tucson**	**81.54**	**52**	*e*P	**P**	**08 59 51.2**	**-0.5**
	4.9nm,1.2s						
CCUT	**Cedar City**	**82.09**	**47**	*e*P	**P**	**08 59 54.5**	**-0.1**
	70nm,3.0s						
ELK	**Elko**	**82.39**	**43**	*e*P	**P**	**08 59 56.0**	**-0.1**
	3.7nm,1.0s						
G08A	**Pilot Rock**	**82.49**	**38**	*e*P	**P**	**08 59 56.6**	**+0.3**
	11nm,1.4s						
E07A	**Sunnyside**	**82.68**	**37**	*e*P	**P**	**08 59 57.5**	**+0.3**
	7.3nm,0.9s						
HAWA	**Hanford**	**82.77**	**37**	*e*P	**P**	**08 59 57.9**	**+0.4**
	5.8nm,0.8s						
MFID	**Camas Ranch**	**83.38**	**41**	*e*P	**P**	**09 00 00.9**	**+0.1**
	4.1nm,1.1s						
KTH	**Kantishna Hill**	**83.43**	**12**	*e*P	**P**	**09 00 00.1**	**-0.4**
	32nm,1.0s						
TRF	**Thorofare Moun**	**83.47**	**12**	*e*P	**P**	**09 00 00.8**	**0.0**
	11nm,0.6s						
D08A	**Wollman Farm,**	**83.50**	**36**	*e*P	**P**	**09 00 01.8**	**+0.6**
	4.8nm,0.9s						
F10A	**Beach Ranch, E**	**83.88**	**38**	*e*P	**P**	**09 00 03.2**	**0.0**
	7.0nm,0.9s						
B08A	**Colville Reser**	**83.99**	**35**	*e*P	**P**	**09 00 03.3**	**-0.3**
	3.8nm,0.8s						
MCK	**McKinley**	**84.00**	**13**	*e*P	**P**	**09 00 03.8**	**+0.5**
	10nm,1.1s						
C09A	**Chrisman Ranch**	**84.27**	**36**	*e*P	**P**	**09 00 05.3**	**+0.3**
	44nm,2.5s						
HLID	**Hay**	**84.34**	**41**	*e*P	**P**	**09 00 06.3**	**+0.6**
	2.8nm,0.8s						
GYA	**Guiyang**	**84.49**	**300**	*e*P	**P**	**09 00 07.0**	**+0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
COLA	**College**	**85.23**	**13**	*e*P	**P**	**09 00 08.9**	**-0.3**
	4.5nm,0.6s						
ILAR	**Eielson Array**	**85.35**	**13**	P	**P**	**09 00 09.3**	**-0.5**
	1.6nm,0.4s,baz=221,slow=4.9,SNR=78						
TXAR	**Lajitas Array**	**85.90**	**58**	P	**P**	**09 00 13.3**	**-0.1**
	2.8nm,0.8s,baz=225,slow=6.0,SNR=30						
REDW	**Red Top Meadow**	**86.52**	**43**	*e*P	**P**	**09 00 16.1**	**-0.1**
	5.8nm,1.0s						
FXWY	**Fox Creek**	**86.53**	**42**	*e*P	**P**	**09 00 16.1**	**-0.2**
	2.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**86.64**	**315**	*e*P	**P**	**09 00 17.3**	**+0.6**
HHC				pP	pP	09 02 24.8	+8.9
HHC				S	**S**	**09 10 04.8**	**-3.5**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,7.1s						
IMW	**Indian Meadow**	**86.71**	**42**	*e*P	**P**	**09 00 17.4**	**+0.3**
	5.5nm,0.9s						
COLD	**Coldfoot**	**86.86**	**11**	*e*P	**P**	**09 00 17.7**	**+0.8**
	5.0nm,1.0s						
FLWY	**Flagg Ranch**	**86.95**	**42**	*e*P	**P**	**09 00 18.1**	**-0.1**
	8.7nm,1.1s						
PDAR	**Pinedale Array**	**87.09**	**44**	P	**P**	**09 00 18.3**	**-0.6**
	2.3nm,0.6s,baz=222,slow=3.5,SNR=26						
H17A	**Grant Village**	**87.17**	**42**	*e*P	**P**	**09 00 20.8**	**+1.5**
	3.0nm,0.8s						
RWWY	**Rawlins**	**88.19**	**45**	*e*P	**P**	**09 00 21.9**	**-2.2**
	16nm,0.7s						
INK	**Inuvik**	**91.36**	**15**	*e*P	**P**	**09 00 37.7**	**-0.1**
	61nm,2.8s						
YKA	**Yellowknife Ar**	**93.89**	**25**	P	**P**	**09 00 48.8**	**-0.6**
	0.5nm,0.5s,baz=240,slow=4.6,SNR=10						
MKAR	**Makanchi Array**	**108.51**	**314**	PKiKP	**PKiKP**	**09 05 54.6**	**-2.9**
	0.2nm,0.5s,baz=90,slow=1.4,SNR=4.0						
FINES	**FINESS Array B**	**132.52**	**344**	PKP	**PKPdf**	**09 06 40.6**	**-2.1**
	0.4nm,0.5s,baz=45,slow=4.1,SNR=3.9						
AKASG	**Malin Array Be**	**139.89**	**332**	PKP	**PKPdf**	**09 06 56.8**	**+0.1**
	0.4nm,0.4s,baz=36,slow=2.9,SNR=3.9						
BUR08	**Bucovina Ar. S**	**143.93**	**332**	*e*PKPbc	PKPab	09 07 03.6	0.0
BRTR	**Keskin Array B**	**144.15**	**315**	PKP	PKPbc	09 07 03.8	-0.6
	0.6nm,0.5s,baz=95,slow=2.3,SNR=4.5						
CLL	**Collm**	**144.80**	**347**	⇑*i*PKPbc	**PKPdf**	**09 07 05.2**	**-0.2**
	comp=Z,9.0nm,0.8s						
UPC	**Upice**	**144.82**	**344**	*e*PKP	**PKPdf**	**09 07 05.6**	**+0.1**
DPC	**Dobruska-Polom**	**144.88**	**343**	*e*PKP	PKPbc	09 07 06.2	0.0
DPC				*ex*	x	09 07 07.6	
DPC				*ex*	x	09 09 12.9	
DPC	**Dobruska-Polom**	**144.88**	**343**	*e*PKPdf	**PKPdf**	**09 07 05.9**	**+0.2**
KRLC	**Kraliky**	**145.00**	**343**	*e*PKP	**PKPdf**	**09 07 06.2**	**+0.4**
KRLC				*ex*	x	09 07 07.7	
BRG	**Berggiesshubel**	**145.00**	**346**	*e*PKP	**PKPdf**	**09 07 06.0**	**+0.2**
	comp=Z,3.0nm,0.6s						
PRU	**Pruhonice**	**145.68**	**345**	*e*PKP	**PKPbc**	**09 07 08.2**	**-0.3**
KHC	**Kasperske Hory**	**146.71**	**345**	*e*PKP	**PKPbc**	**09 07 10.8**	**-0.6**
KHC				*ex*	x	09 07 15.5	
GERES	**GERESS Array B**	**146.94**	**345**	PKPbc	**PKPbc**	**09 07 11.1**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=28,slow=2.7,SNR=19						
CONA	**Conrad Observa**	**147.19**	**342**	⇑*i*PKPbc	**PKPbc**	**09 07 12.2**	**-0.6**
	comp=Z,4.8nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**149.82**	**348**	*e*PKPdf	**PKPbc**	**09 07 18.9**	**-0.7**

ISCJB ***31*** *09:00:34.4±0.4, 23˚.02S±0˚.04×70˚.05W±0˚.06, h65km±5km, mb3.9/8, Error ellipse: s-maj=9.9km s-min=5.5km az=21.5*
GUC ***31*** *09:00:35.8±0.5, 22˚.95S×69˚.91W, h61km±3km, ML4.2*
IDC ***31*** *09:00:36.3±2.6, 23˚.02S×69˚.73W, h69km±23km, mb3.7/8, mb1 3.9/12, mb1mx3.7/37, mbtmp4.0/12, MS2.6/1, Ms1 2.7/1, ms1mx2.4/18, Error ellipse: s-maj=31.7km s-min=18.9km az=90.0*
SJA ***31*** *09:00:46.4±0.8, 22˚.42S×68˚.91W, h80km±8km, ML4.3*
ISC 31 09:00:35.0±0.8, 23˚.03S±0˚.06×69˚.95W±0˚.09, h57km±8km, n38, σ1§09/30, mb3.9/8, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.42**	**213**	⇑*i*P	Pn	09 00 50.8	+4.7
PB06	**Plate Boundary**	**0.48**	**47**	⇑*i*P	**Pn**	**09 00 47.5**	**+0.8**
PB06				*i* S	**Sn**	**09 00 55.8**	**+0.8**
ANCH	**Antofagasta**	**0.77**	**213**	⇓*i*P	**Pn**	**09 00 49.9**	**-0.1**
ANCH				*e*S	**Sn**	**09 01 02.4**	**+1.5**
PB04	**Plate Boundary**	**0.88**	**29**	⇓*i*P	**Pn**	**09 00 50.2**	**-1.1**
PB04				*i* S	**Sn**	**09 01 01.1**	**-2.2**
PB04				AML	AML	09 01 02.8	
	comp=E,22μm,0.8s						
LVC	**Limon Verde**	**1.04**	**67**	*e*S	**Sn**	**09 01 08.8**	**+1.2**
PB07	**Plate Boundary**	**1.30**	**2**	*i* P	**Pn**	**09 00 57.5**	**+0.3**
PB07				*i* S	**Sn**	**09 01 13.9**	**+0.2**
PB07				AML	AML	09 01 16.6	
	comp=E,5μm,0.1s						
PB01	**Plate Boundary**	**2.03**	**12**	⇓*i*P	**Pn**	**09 01 07.6**	**+0.7**
PB01				*i* S	**Sn**	**09 01 31.5**	**+0.3**
PB01				AML	AML	09 01 33.7	
	comp=E,4μm,0.2s						
SLA	**San Lorenzo**	**4.40**	**113**	*i* P	Pn	09 01 45.2	+5.8
AZAP	**Zapla**	**4.63**	**106**	*i* P	Pn	09 01 46.9	+4.2
ASTB	**Santa Barbara**	**5.10**	**101**	*i* P	Pn	09 01 52.9	+3.9
ALOL	**LOMAS DE OLMED**	**5.54**	**99**	*i* P	Pn	09 01 57.8	+2.7
ALOL				*e*S	Sn	09 02 48.9	-8.6
LPAZ	**La Paz**	**6.93**	**15**	P	**Pn**	**09 02 16.0**	**+1.5**
LPAZ	comp=E,2.1nm,0.3s,baz=205,slow=4.6,SNR=35			LR	LR	09 05 55.1	
	comp=E,50nm,19.8s,baz=267,slow=46						
LPAZ	**La Paz**	**6.93**	**15**	*i* P	**Pn**	**09 02 16.2**	**+1.7**
AVFE	**Valle Fertil**	**7.91**	**164**	AML	AML	09 04 17.1	
	comp=Z,21nm,0.6s						
CFAA	**Coronel Fontan**	**8.67**	**170**	P	**Pn**	**09 02 37.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=346,slow=

comp=Z,101nm,21.6s,baz=242,slow=33
ELK Elko 13.10 349 Pn **Pn 09 09 48.6 +1.7**
0.1nm,0.3s,baz=187,slow=12,SNR=7.9
ELK LR LR 09 14 26.0
comp=Z,85nm,21.8s,baz=179,slow=36
PDAR Pinedale Array 14.98 7 Pn **Pn 09 10 12.5 -0.1**
0.0nm,0.3s,baz=194,slow=14,SNR=3.0
YBH Yreka Blue Hor 16.35 330 LR LR 09 16 00.2
comp=Z,104nm,18.1s,baz=178,slow=34
NEW Newport 20.73 350 P **P 09 11 19.6 -1.6**
2.8nm,0.9s,baz=172,slow=13,SNR=7.4
NEW LR LR 09 18 33.1
comp=Z,82nm,18.3s,baz=166,slow=35
TEIG Tepich 22.96 104 LR LR 09 22 02.0
comp=Z,65nm,19.0s,baz=274,slow=40
TKL Tuckaleechee C 25.18 65 LR LR 09 22 38.6
comp=Z,91nm,18.5s,baz=320,slow=38
BBB Bella Bella 27.10 338 LR LR 09 23 24.5
comp=Z,84nm,18.9s,baz=172,slow=37
ILAR Eielson Array 42.98 339 P **P 09 14 38.9 -0.7**
0.6nm,0.8s,baz=138,slow=7.0,SNR=4.5

IDC 31 09:14:53.5±26.0, 18°02S×173°34W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/21, mbtmp4.2/4, Error ellipse: s-maj=483.5km s-min=160.9km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.19**	**260**	P	P	09 22 16.1	+1.0
	2.2nm,0.3s,baz=104,slow=8.3,SNR=3.6						
STKA	**Stephens Creek**	**42.84**	**242**	P	P	09 22 53.5	0.0
	3.7nm,1.0s,baz=73,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**49.35**	**259**	P	P	09 23 44.6	-0.5
	1.2nm,0.3s,baz=97,slow=7.7,SNR=56						
ASAR	**Alice Springs**	**49.41**	**254**	P	P	09 23 45.0	-0.5
	2.4nm,0.7s,baz=87,slow=8.1,SNR=42						

IDC 31 09:16:43.9±3.1, 15°14S×176°58W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/24, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=174.4km s-min=27.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**14.10**	**185**	LR	LR	09 24 06.8	
	comp=Z,185nm,21.3s,baz=61,slow=31						
WRA	**Warramunga Arr**	**46.92**	**257**	P	P	09 25 16.8	+0.1
	0.3nm,0.4s,baz=94,slow=7.5,SNR=6.0						
ASAR	**Alice Springs**	**47.28**	**252**	P	P	09 25 19.2	-0.2
	1.8nm,0.5s,baz=87,slow=8.0,SNR=26						
NVAR	**Mina Array Bea**	**76.22**	**43**	P	P	09 28 35.1	+0.5
	0.4nm,0.7s,baz=248,slow=7.4,SNR=4.1						
ILAR	**Eielson Array**	**82.82**	**12**	P	P	09 29 09.2	-0.5
	0.3nm,0.7s,baz=217,slow=5.2,SNR=7.0						

IDC 31 09:27:44.1±2.1, 8°30S×129°49E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.2/22, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=100.4km s-min=32.5km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.49**	**158**	Pn	Pn	09 30 43.3	+0.1
	0.2nm,0.3s,baz=337,slow=13,SNR=10						
WRA				Sn	Sn	09 32 58.4	-4.9
	0.4nm,0.3s,baz=335,slow=25,SNR=6.6						
ASAR	**Alice Springs**	**15.86**	**165**	Pn	Pn	09 31 28.7	-0.1
	0.0nm,0.3s,baz=343,slow=8.6,SNR=3.4						
ASAR				Sn	Sn	09 34 19.6	-5.9
	0.1nm,0.3s,baz=348,slow=25,SNR=5.2						
MKAR	**Makanchi Array**	**69.03**	**327**	P	P	09 38 51.7	0.0
	0.2nm,0.3s,baz=125,slow=7.3,SNR=4.8						

IDC 31 09:27:56.3±999.0, 58°73N×28°38E, h0km, Error ellipse: s-maj=853.4km s-min=103.5km az=107.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**5.15**	**109**	*i*		10 01 40.0	
	baz=296,slow=336,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**18.97**	**103**	*i*		11 23 20.0	
	baz=308,slow=332,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**30.84**	**74**	*i*		12 36 07.5	
	baz=302,slow=337,SNR=0.5						

AUST ***31*** *09:41:26.0±8.4, 10°.35S×117°.79E, h86km, Error ellipse: s-maj=3.9km s-min=1.1km az=29.0*

ISCJB ***31*** *09:41:33.9±1.5, 9°.80S±0°.07×118°.5E±0°.1, h37km, Error ellipse: s-maj=16.6km s-min=9.7km az=19.4*

DJA ***31*** *09:41:43.7±0.9, 9°S±7°×11°9E±°, h60km±17km, M4.0/5, MLv4.0/5*

ISC 31 09:41:35.6±2.1, 9°8S±0°.1×118°.5E±0°.1, h37km, n9, σ1°18/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**1.29**	**8**	P	x	09 42 02.8	
WSI	**Waingapu**	**1.76**	**85**	P	**Pn**	**09 42 03.8 +0.3**	
WSI	**Waingapu**	**1.76**	**85**	P	**Pn**	**09 42 04.6 +1.1**	
	baz=2.6,SNR=6.7						
WSI				S	**Sn**	**09 42 23.2 -1.4**	
	baz=2.6,SNR=5.7						
LBFI	**Labuhan Bajo,**	**1.90**	**45**	P	x	09 42 03.7	
LBFI				S	x	09 42 17.8	
MTNI	**Mataram**	**2.60**	**297**	P	x	09 42 28.4	
BKSI	**Bulukumba**	**4.75**	**20**	P	**Pn**	**09 42 44.7 +0.1**	
MTN	**Manton Dam**	**12.73**	**105**	P	**Pn**	**09 44 34.6 +0.5**	
	baz=13,SNR=4.9						
KDU	**Kakadu**	**13.98**	**103**	P	Pn	09 44 44.3	-6.9
	baz=15,SNR=14						
MEEK	**Meekatharra**	**16.72**	**180**	S	**Sn**	**09 48 31.1 -0.8**	
	baz=16,SNR=6.4						

ISCJB ***31*** *09:45:25.5±0.5, 0°.40S±0°.07×100°.9E±0°.1, h150km, mb3.5/8, Error ellipse: s-maj=17.2km s-min=6.6km az=148.8*

IDC ***31*** *09:45:26.0±3.1, 0°.51S×100°.87E, h150km±26km, mb3.3/8, mb1 3.4/9, mb1mx3.2/25, mbtmp3.7/9, Error ellipse: s-maj=59.9km s-min=18.4km az=50.0*

DJA ***31*** *09:45:26.3±0.6, 0°S±5°×10°1E±°, h148km±5km, M3.5/5, mb3.7/2, mB4.7/1, MLv3.4/4, MLv3.5/5, Mw(mB)3.9/1*

ISC 31 09:45:26.3±0.8, 0°46S±0°.08×100°8E±0°.1, h150km, n17, σ1°26/19, mb3.5/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.57**	**217**	P	**Pn**	**09 45 49.4 +1.3**	
PDSI				S	**Sn**	**09 46 05.8 +1.1**	
BKNI	**Bangkinang**	**0.81**	**17**	P	**Pn**	**09 45 50.8 +1.2**	
BKNI				S	**Sn**	**09 46 08.9 +1.5**	
BKNI	**Bangkinang**	**0.81**	**17**	P	**Pn**	**09 45 51.2 +1.5**	
	baz=20,SNR=16						
MNSI	**Mandailing Nat**	**1.74**	**315**	P	**Pn**	**09 46 00.0 +1.4**	
PSI	**Prapat**	**3.74**	**330**	P	**Pn**	**09 46 23.1 -0.3**	
	1.3nm,0.3s,baz=140,slow=14,SNR=4.3						
MNAI	**Manna**	**4.43**	**151**	S	**Sn**	**09 47 23.0 -0.8**	
KCSI	**Kotacane, Aceh**	**4.98**	**323**	S	**Sn**	**09 47 34.5 -2.1**	
TPTI		**5.17**	**316**	P	**Pn**	**09 46 43.8 +1.8**	
	9.6nm,1.0s,0.1nm0.1nm						
MDSI	**Maura Dua**	**5.23**	**140**	P	**Pn**	**09 46 44.5 +1.6**	
WRA	**Warramunga Arr**	**38.11**	**123**	P	**P**	**09 52 29.9 -1.2**	
	0.2nm,0.5s,baz=304,slow=9.0,SNR=1.4						
ASAR	**Alice Springs**	**39.54**	**128**	P	**P**	**09 52 41.7 -1.3**	
	0.2nm,0.5s,baz=299,slow=7.3,SNR=1.3						
SONM	**Songino Array**	**48.34**	**5**	P	**P**	**09 53 53.0 +0.1**	
	0.5nm,0.6s,baz=184,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**49.78**	**343**	P	**P**	**09 54 03.5 -0.1**	
	0.3nm,0.4s,baz=162,slow=8.6,SNR=12						
MKAR				pP	pP	09 54 29.8	-8.0
	0.3nm,0.4s,baz=118,slow=8.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**55.81**	**349**	P	**P**	**09 54 47.3 -0.5**	
	0.5nm,0.3s,baz=165,slow=6.0,SNR=3.8						
BRTR	**Keskin Array B**	**72.89**	**312**	P	**P**	**09 56 39.3 -0.1**	
	0.6nm,0.6s,baz=119,slow=5.1,SNR=4.9						
FINES	**FINESS Array B**	**83.13**	**332**	P	**P**	**09 57 35.7 +0.6**	
	3.9nm,1.2s,baz=107,slow=4.8,SNR=7.1						
ARCES	**ARCESS Array B**	**85.30**	**340**	P	**P**	**09 57 46.3 +0.2**	
	3.3nm,1.0s,baz=98,slow=6.5,SNR=13						

IDC ***31*** *09:55:39.4±0.6, 25°.70S×176°.52W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.6/18, mbtmp4.4/14, MS4.2/25, Ms1 4.2/25, ms1mx4.1/30, Error ellipse: s-maj=24.9km s-min=18.5km az=153.0*

ISCJB ***31*** *09:55:44.5±0.2, 25°.55S±0°.05×176°.68W±0°.06, h33km, mb4.9/60, MS4.3/33, Error ellipse: s-maj=9.0km s-min=5.3km az=38.5*

MOS ***31*** *09:55:44.7±1.4, 25°.45S×176°.69W, h33km, mb5.0/15, Error ellipse: s-maj=13.8km s-min=11.8km az=46.9*

BJI ***31*** *09:55:45.5, 25°.44S×176°.87W, h30km, mB5.4/21, mb5.1/28, Ms5.0/16, Ms7 4.6/19*

GCMT ***31*** *09:55:45.9±0.3, 25°.68S×176°.30W, h25km±1km, MW5.1/65, Moment Tensor Solution. s25,c32; s65,c84; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.13±.15; Mθθ 1.20±.12; Mϕϕ -1.32±.10; Mrθ 1.62±.27; Mϕϕ -0.20±.09; Mϕr 5.90±.47; Best double couple: Mo6.17600×10¹⁶ NP1:ϕs16.00000°, δ87.00000°, λ.95.00000°. NP2: ϕs140.00000°, δ6.00000°, λ.34.00000°. Principal axes: T 5.6210, Plg48.0000°, Azm291.0000°; N 1.1180, Plg5.0000°, Azm196.0000°; P -6.7310, Plg42.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *09:55:45.9±0.2, 25°.47S×176°.68W, h35km, mb4.9/40 Error ellipse: s-maj=11.1km s-min=6.3km az=135.0*

AUST ***31*** *09:56:03.6±5.8, 24°.08S×175°.69W, h330km±1km, Error ellipse: s-maj=3.0km s-min=2.3km az=270.0*

ISC 31 09:55:45.2±0.6, 25°59S±0°06×176°50W±0°08, h34km±1km, h34km:pP-P, n237, σ1°59/236, mb4.9/60, MS4.3/34, 11C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.86**	**199**	*e*Pn	**Pn**	**09 56 43.4 +1.2**	
RAO				*e*Sn	**Sn**	**09 57 28.3 +1.9**	
RAO	**Raoul Island**	**3.86**	**199**	Pn	**Pn**	**09 56 42.1 -0.1**	
	142nm,0.3s,baz=90,slow=20,SNR=2.7						
RAO				Sn	**Sn**	**09 57 25.7 -0.6**	
	616nm,0.3s,baz=127,slow=20,SNR=9.0						
NIUE	**Niue**	**8.89**	**44**	P	Pn	09 57 46.8	-4.4
	baz=7.3,SNR=20						
NIUE				S	Sn	09 59 17.6	-13
	baz=7.3,SNR=7.1						
AFI	**Afiamalu**	**12.44**	**22**	*e*Pn	Pn	09 58 35.1	-4.9
AFI				Sn	Sn	10 00 42.8	-15
AFI				*e*Sn	Sn	10 00 53.5	-4.1
AFI	**Afiamalu**	**12.44**	**22**	Pn	Pn	09 58 34.9	-5.1
	17nm,0.3s,baz=215,slow=0.8,SNR=9.4						
AFI				Sn	Sn	10 00 42.8	-15
	3.1nm,0.3s,baz=233,slow=20,SNR=3.3						
OUZ	**Omahuta**	**12.85**	**219**	*e*Pn	P	09 58 52.6	-3.2
URZ	**Urewera**	**13.74**	**202**	*e*Pn	**Pn**	**09 58 59.4 +1.8**	
URZ				*e*Sn	Sn	10 01 21.9	-7.2
URZ	**Urewera**	**13.74**	**202**	Pn	Pn	09 58 46.2	-11
	0.3nm,0.3s,baz=22,slow=19,SNR=2.3						
URZ				Sn	Sn	10 01 14.5	-15
	1.2nm,0.3s,baz=114,slow=20,SNR=6.7						
BKZ	**Black Stump Fm**	**14.77**	**202**	*e*Pn	**Pn**	**09 59 14.3 +2.6**	
RAR	**Rarotonga**	**15.96**	**78**	Pn	Pn	09 59 22.1	-5.2
RAR				Sn	Sn	10 01 58.2	-25
RAR	**Rarotonga**	**15.96**	**78**	Pn	Pn	09 59 22.0	-5.2
	3.8nm,0.3s,baz=13,slow=0.0,SNR=6.0						
RAR				Sn	Sn	10 01 58.2	-25
	6.4nm,0.3s,baz=103,slow=0.0,SNR=6.0						
RAR				LR	LR	10 04 26.7	
	comp=Z,1μm,18.4s,baz=225,slow=33						
DZM	**Mont Dzumac**	**16.00**	**279**	*e*LR	LR	10 03 13.2	
	4μm,25.7s						
DZM	**Mont Dzumac**	**16.00**	**279**	Pn	**P**	**09 59 33.4 +2.3**	
DZM	**Mont Dzumac**	**16.00**	**279**	Pn	**P**	**09 59 33.4 +2.3**	
	0.4nm,0.3s,baz=108,slow=19,SNR=3.1						
DZM				LR	LR	10 04 37.4	
	comp=Z,1μm,20.3s,baz=71,slow=34						
BFZ	**Birch Farm**	**16.22**	**200**	*e*Pn	**Pn**	**09 59 31.8 +1.3**	
	2μm,2.8s						
KHZ	**Kahutara**	**18.68**	**204**	*e*P	**P**	**09 59 56.2 -4.2**	
	237nm,1.9s						
KHZ				*e*S	Sn	10 03 11.3	-18
DCZ	**Deep Cove**	**23.81**	**209**	*e*P	**P**	**10 00 56.5 +1.7**	
	105nm,1.8s						
TBI	**Tubuai**	**24.70**	**91**	*e*LR	LR	10 07 06.4	
	2μm,27.0s,baz=257						
TBI	**Tubuai**	**24.70**	**91**	*e*T	T	10 26 18.6	
	71nm,0.3s						
PAE	**Paea**	**26.20**	**78**	*e*T	T	10 28 13.3	
	26nm,0.4s						
PPT2	**Papeete2**	**26.23**	**78**	*e*LR	LR	10 07 47.3	
	3μm,25.8s,baz=245						
PPT2	**Papeete2**	**26.23**	**78**	*e*T	T	10 28 16.4	
	16nm,0.3s						
PPT	**Papeete**	**26.24**	**78**	LR	LR	10 08 51.7	
	comp=Z,862nm,21.8s,baz=200,slow=30						
TIAR	**Tiarei**	**26.45**	**78**	*e*T	T	10 28 31.7	
	5.8nm,0.3s						
MEH	**Mehetia**	**27.46**	**79**	*e*T	T	10 29 47.6	
	64nm,0.3s						
HNR	**Honiara**	**27.54**	**301**	LR	LR	10 10 37.8	
	comp=Z,915nm,20.5s,baz=159,slow=33						
VAH	**Vaihoa**	**28.89**	**75**	*e*T	T	10 31 35.1	
	14nm,0.2s						
EIDS	**Eidsvold**	**29.23**	**263**	*e*P	**P**	**10 01 44.5 +0.4**	
	100nm,1.8s						
EIDS	**Eidsvold**	**29.23**	**263**	P	**P**	**10 01 44.3 +0.3**	
	baz=30,SNR=9.7						
RMQ	**Roma**	**31.18**	**261**	P	**P**	**10 02 02.8 +1.5**	
	baz=32,SNR=12						
CMSA	**Cobar Meteorol**	**33.62**	**251**	P	**P**	**10 02 22.4 -0.2**	
	baz=35,SNR=7.8						
CTA	**Charters Tower**	**34.68**	**271**	P	**P**	**10 02 31.9 -0.1**	
CTA	**Charters Tower**	**34.68**	**271**	P	**P**	**10 02 31.9 -0.1**	
	3.9nm,0.5s,baz=84,slow=11,SNR=6.6						
CTA				LR	LR	10 14 42.4	
	comp=Z,770nm,20.7s,baz=46,slow=33						
CTAO	**Charters Tower**	**34.68**	**271**	*e*P	**P**	**10 02 31.7 -0.3**	
CTAO				pmax	pmax		
	comp=Z,370nm,2.9s						
CTAO	**Charters Tower**	**34.68**	**271**	*e*P	**P**	**10 02 31.7 -0.3**	
	comp=Z,370nm,2.9s						
QLP	**Quilpie**	**35.19**	**260**	P	**P**	**10 02 35.4 -0.8**	
	baz=36,SNR=11						
STKA	**Stephens Creek**	**37.11**	**250**	*e*P	**P**	**10 02 53.5 +0.9**	
	comp=Z,26nm,2.8s						
STKA	**Stephens Creek**	**37.11**	**250**	P	**P**	**10 02 52.0 -0.6**	
	comp=Z,4.0nm,0.4s,baz=95,slow=13,SNR=7.1						
STKA				LR	LR	10 16 25.7	
	comp=Z,892nm,19.9s,baz=65,slow=34						
STKA	**Stephens Creek**	**37.11**	**250**	P	**P**	**10 02 53.0 +0.4**	
	baz=38,SNR=4.5						
RKT	**Rikitea**	**37.80**	**95**	*e*LR	LR	10 13 10.1	
	comp=Z,1μm,28.0s						
RKT	**Rikitea**	**37.80**	**95**	*e*T	T	10 42 40.3	
	comp=Z,5.3nm,0.3s						
PMG	**Port Moresby**	**38.05**	**288**	*e*P	**P**	**10 03 00.7 -0.1**	
	comp=Z,11nm,0.6s						
PMG	**Port Moresby**	**38.05**	**288**	LR	LR	10 17 00.1	
	comp=Z,592nm,18.6s,baz=119,slow=34						
HTT	**Hallett**	**39.34**	**248**	P	**P**	**10 03 10.7 -0.8**	
	baz=40,SNR=4.6						
COEN	**Coen**	**39.53**	**279**	*e*P	**P**	**10 03 14.3 +1.2**	
	comp=Z,415nm,1.7s						
BBOO	**Buckleboo**	**41.76**	**249**	*e*P	**P**	**10 03 29.6 -1.8**	
	comp=Z,143nm,0.8s						
BBOO	**Buckleboo**	**41.76**	**249**	P	P	10 03 24.6	-6.8
	baz=43,SNR=8.0						
AS31	**Alice Springs**	**44.92**	**261**	*e*P	**P**	**10 03 55.3 -1.8**	
AS31				*e*		10 04 08.7	
ASAR	**Alice Springs**	**44.92**	**261**	P	**P**	**10 03 55.0 -2.0**	
ASAR	**Alice Springs**	**44.92**	**261**	P	**P**	**10 03 55.0 -2.0**	
	comp=Z,5.6nm,0.5s,baz=97,slow=7.0,SNR=45						
ASAR				LR	LR	10 21 05.7	
	comp=Z,497nm,20.9s,baz=102,slow=34						
WRAB	**Tennant Creek**	**45.47**	**267**	P	**P**	**10 03 59.0 -2.5**	
	comp=Z,46nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**45.47**	**267**	*e*P	**P**	**10 04 01.4 -0.1**	
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**45.47**	**267**	*e*P	**P**	**10 03 59.4 -2.1**	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**45.48**	**267**	P	**P**	**10 03 59.1 -2.4**	
WRA	**Warramunga Arr**	**45.48**	**267**	P	**P**	**10 03 59.1 -2.4**	
	comp=Z,2.1nm,0.3s,baz=104,slow=7.3,SNR=74						
WRA				LR	LR	10 21 59.0	
	comp=Z,508nm,19.9s,baz=110,slow=35						

JAY Jayapura 47.10 292 LR LR 10 22 44.4
comp=Z,329nm,21.1s,slow=34
FORT Forrest 48.73 251 *e*P **P 10 04 26.3 -0.5**
comp=Z,35nm,0.6s
FORT Forrest 48.73 251 P **P 10 04 26.4 -0.4**
baz=50,SNR=7.4
WRKA Warakurna 49.59 258 P **P 10 04 30.4 -3.0**
baz=51,SNR=18
KNRA Kununurra 51.87 270 P **P 10 04 48.4 -2.2**
baz=53,SNR=9.4
VNDA Vanda 53.00 186 *e*P P 10 05 01.9 +3.8
comp=Z,26nm,1.5s
VNDA Vanda 53.00 186 P **P 10 04 58.4 +0.3**
comp=Z,3.2nm,1.1s,baz=4.4,slow=8.9,SNR=3.4
VNDA LR LR 10 25 29.5
comp=Z,113nm,19.4s,baz=24,slow=34
NWAO Narrogin (SRO) 57.45 246 LR LR 10 26 56.5
comp=Z,169nm,20.8s,slow=33
MEEK Meekatharra 57.69 254 P **P 10 05 33.8 +1.1**
baz=59,SNR=5.4
MORW Morawa 59.29 250 P **P 10 05 41.5 -2.4**
baz=60,SNR=5.7
JCJ Chichijima 65.79 320 LR LR 10 30 11.0
comp=Z,134nm,20.2s,baz=121,slow=31
MJAR Matsushiro Arr 75.11 324 P **P 10 07 24.8 +0.9**
MJAR Matsushiro Arr 75.11 324 P **P 10 07 24.8 +0.9**
comp=Z,1.4nm,0.7s,baz=153,slow=5.6,SNR=3.8
MJAR LR LR 10 34 46.4
comp=Z,171nm,21.5s,baz=130,slow=31
JNU Nakatsue 76.92 317 LR LR 10 36 15.0
comp=Z,107nm,21.7s,baz=148,slow=32
MAW Mawson 77.26 200 LR LR 10 40 46.8
comp=Z,163nm,19.7s,baz=114,slow=35
YUK Yuzh-Kuril'sk 77.40 333 *d*P **P 10 07 35.7 -0.9**
YUK *i* 10 07 49.1
YUK *i* 10 10 28.7
YUK *i* PPP PPP 10 12 14.0
YUK *i* S S 10 17 17.2 -7.5
YUK *i* 10 17 59.6
YUK *i* SSS SSS 10 25 34.1
YUK MLR MLR
comp=Z,270nm,22.0s
YUK MLR MLR
comp=N,414nm,22.0s
H06E1 SOCORRO T-PHAS 77.50 62 T T 11 32 40.2
SNR=31
ASAJ Asahikawa 78.84 331 LR LR 10 34 37.2
comp=N,43nm,20.8s,baz=240,slow=30
YSS Yuzh-Sakhalins 81.04 333 *e*P **P 10 07 58.3 +1.8**
PETK Petropavlovsk- 81.52 345 P **P 10 08 00.8 +1.9**
PETK Petropavlovsk- 81.52 345 P **P 10 08 00.8 +1.9**
PETK Petropavlovsk- 81.52 345 P **P 10 08 00.8 +1.9**
comp=N,8.3nm,0.6s,baz=236,slow=9.8,SNR=20
KSRS Korea Array 81.60 318 P **P 10 07 59.9 +0.3**
comp=N,0.6nm,0.5s,baz=128,slow=6.2,SNR=5.4
KSRS LR LR 10 37 39.5
comp=N,148nm,22.0s,baz=141,slow=31
KSAR Wonju Array Be 81.61 318 P **P 10 07 59.9 +0.2**
ISA Isabella 81.95 44 *e*P **P 10 08 02.3 +0.6**
ISA pmax pmax
comp=Z,8.0nm,1.4s
ISA Isabella 81.95 44 *e*P **P 10 08 02.3 +0.6**
comp=Z,7.9nm,1.4s
SYO Syowa Base 82.08 192 *e*P **P 10 08 02.2 +0.4**
CMB Columbia Colle 82.30 41 *e*P **P 10 08 04.8 +1.4**
CMB pmax pmax
comp=Z,6.0nm,1.3s
CMB Columbia Colle 82.30 41 *e*P **P 10 08 04.8 +1.4**
comp=Z,6.3nm,1.3s
LDFC Landfair 83.75 46 *e*P **P 10 08 12.4 +1.3**
comp=Z,11nm,0.8s
NVAR Mina Array Bea 83.81 42 P **P 10 08 11.8 +0.4**
NVAR Mina Array Bea 83.81 42 P **P 10 08 11.8 +0.4**
comp=Z,2.1nm,0.9s,baz=222,slow=8.7,SNR=13
NVAR LR LR 10 37 26.9
comp=Z,84nm,21.7s,baz=114,slow=30
USRK Ussuriysk Arra 83.93 326 P **P 10 08 13.4 +1.8**
comp=Z,3.0nm,0.8s,baz=137,slow=4.1,SNR=7.0
USRK LR LR 10 39 55.2
comp=Z,204nm,21.6s,baz=138,slow=32
NJ2 Nanjing 84.18 310 *e*P **P 10 08 11.3 -1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 84.20 294 P **P 10 08 14.3 +0.7**
QIZ pP **pP 10 08 23.5 -0.7**
QIZ S **S 10 18 37.5 +0.8**
QIZ pmax pmax
comp=Z,11nm,2.1s
QIZ LR LR
comp=Z,130nm,18.1s
TPH Tonopah 84.24 43 *e*P **P 10 08 14.0 +0.4**
TPH pmax pmax
comp=Z,7.0nm,1.3s
TPH Tonopah 84.24 43 *e*P **P 10 08 14.0 +0.4**
comp=Z,7.1nm,1.3s
SHPR Sheep Range 84.58 45 *e*P **P 10 08 16.2 +0.9**
comp=Z,3.4nm,1.2s
PLCA Paso Flores 84.80 133 LR LR 10 37 07.0
comp=Z,110nm,20.7s,baz=265,slow=29
MOD Modoc 84.88 39 *e*P **P 10 08 17.4 +0.7**
comp=Z,3.6nm,0.9s
TUC Tucson 85.06 51 *e*P **P 10 08 19.1 +1.3**
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 85.06 51 *e*P **P 10 08 19.1 +1.3**
comp=Z,4.3nm,0.8s
MDJ Mudanjiang 85.46 325 P **P 10 08 20.3 +1.0**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
WHN Wuhan 86.56 306 P **P 10 08 22.5 -2.6**
WHN LR LR
comp=Z,680nm,23.7s
CN2 Changchun 87.15 322 *e*P **P 10 08 28.8 +1.1**
CN2 *e*pP **pP 10 08 39.3 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,140nm,5.0s
CN2 LR LR
comp=Z,150nm,18.0s
CN2 LR LR
comp=Z,130nm,18.0s
CN2 LR LR
comp=Z,130nm,20.0s
KLR Kul'dur 87.59 329 *e*P P 10 08 35.8 +6.2
G08A Pilot Rock 87.83 37 *e*P **P 10 08 32.7 +1.6**
comp=Z,73nm,2.8s
E07A Sunnyside 88.18 35 *e*P **P 10 08 34.5 +1.9**
HAWA Hanford 88.24 35 *e*P **P 10 08 34.2 +1.4**
comp=Z,6.1nm,1.5s
TXAR Lajitas Array 88.66 57 P **P 10 08 36.0 +0.6**
TXAR Lajitas Array 88.66 57 P **P 10 08 36.0 +0.6**
comp=Z,0.6nm,0.7s,baz=205,slow=5.5,SNR=6.9
TXAR LR LR 10 39 26.8
comp=Z,135nm,22.0s,baz=0.0,slow=30
TMUT Trail Mountain 88.74 45 *e*P **P 10 08 36.9 +1.1**
comp=Z,5.8nm,0.8s
D08A Wollman Farm, 88.99 35 *e*P **P 10 08 37.3 +0.9**
comp=Z,7.1nm,1.0s
E09A Wood Farm, Sta 89.05 36 *e*P **P 10 08 37.8 +1.2**
comp=Z,81nm,2.8s
SRU San Rafael 89.07 45 *e*P **P 10 08 37.7 +0.5**
SRU pmax pmax
comp=Z,2.0nm,0.8s
SRU San Rafael 89.07 45 *e*P **P 10 08 37.7 +0.5**
comp=Z,2.2nm,0.8s
F10A Beach Ranch, E 89.20 37 *e*P **P 10 08 37.5 0.0**
comp=Z,50nm,2.3s
ANMO Albuquerque 89.53 51 *e*P **P 10 08 40.2 +0.8**
comp=Z,5.6nm,0.9s
B08A Colville Reser 89.63 34 *e*P **P 10 08 39.4 0.0**
comp=Z,101nm,2.6s
C09A Chrisman Ranch 89.81 35 *e*P **P 10 08 41.1 +1.0**
comp=Z,29nm,1.8s
GYA Guiyang 90.35 299 P **P 10 08 43.8 +0.4**
GYA pP **pP 10 08 55.0 +0.9**
GYA PP **PP 10 12 21.0 +2.9**
GYA SKS **SKSac 10 19 10.5 -2.0**
GYA S **S 10 19 33.5 -2.4**
GYA sS **sS 10 19 51.3 -2.3**
GYA SS **SS 10 25 37.5 +0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR

comp=Z,560nm,20.9s
GYA LR LR
comp=Z,490nm,21.0s
GYA LR LR
comp=Z,550nm,21.8s
BJI Beijing 90.46 315 P **P** 10 08 45.0 +1.6
BJI S **S** 10 19 32.5 -3.5
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI LR LR
comp=Z,190nm,22.2s
BJI LR LR
comp=Z,150nm,16.3s
BJI LR LR
comp=Z,140nm,24.5s
MCMT McKenzie Canyo 90.95 40 *eP* **P** 10 08 47.9 +2.0
comp=Z,2.2nm,1.2s
REDW Red Top Meadow 91.28 42 *eP* **P** 10 08 48.9 +1.5
comp=Z,15nm,1.4s
TPAW Teton Pass 91.29 42 *eP* **P** 10 08 49.1 +1.5
comp=Z,6.8nm,1.3s
DLMT Dillon 91.41 39 *eP* **P** 10 08 49.6 +1.7
comp=Z,58nm,2.8s
IMW Indian Meadow 91.53 41 *eP* **P** 10 08 50.4 +1.7
comp=Z,4.5nm,1.1s
MSTX Muleshoe 91.64 53 *eP* **P** 10 08 49.1 -0.1
comp=Z,4.2nm,0.8s
SDCO Great Sand Dun 91.65 49 *eP* **P** 10 08 49.8 +0.4
comp=Z,3.2nm,1.1s
PDAR Pinedale Array 91.73 43 P **P** 10 08 49.4 -0.2
PDAR Pinedale Array 91.73 43 P **P** 10 08 49.4 -0.2
comp=Z,1.1nm,0.8s,baz=204,slow=3.3,SNR=8.5
PDAR LR LR 10 41 58.6
comp=Z,81nm,21.7s,baz=244,slow=30
BOZ Bozeman (W) 92.13 39 *eP* **P** 10 08 51.2 0.0
BOZ pmax pmax
comp=Z,11nm,1.3s
BOZ Bozeman (W) 92.13 39 *eP* **P** 10 08 51.2 0.0
comp=Z,11nm,1.3s
XAN Xi'an 92.29 307 P **P** 10 08 53.5 +1.4
XAN S **S** 10 19 55.8 +2.7
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN pmax pmax
comp=Z,28nm,5.0s
XAN LR LR
comp=Z,110nm,22.3s
XAN LR LR
comp=Z,48nm,26.9s
XAN LR LR
comp=Z,73nm,25.8s
KMI Kunming 92.86 296 P **P** 10 08 56.5 +1.3
KMI pmax pmax
comp=Z,9.0nm,0.8s
COLA College 92.87 12 *i* P **P** 10 08 53.5 -0.4
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 92.87 12 *eP* **P** 10 08 53.6 -0.4
comp=Z,2.3nm,0.8s
ILAR Eielson Array 92.96 12 P **P** 10 08 53.4 -1.0
ILAR Eielson Array 92.96 12 P **P** 10 08 53.4 -1.0
comp=Z,1.3nm,0.7s,baz=221,slow=4.4,SNR=40
CMAR Chiang Mai Arr 93.09 289 P **P** 10 08 56.9 +0.8
CMAR Chiang Mai Arr 93.09 289 P **P** 10 08 56.9 +0.8
comp=Z,3.2nm,0.8s,baz=133,slow=3.1,SNR=15
CMAR LR LR 10 51 29.2
comp=Z,45nm,19.0s,baz=151,slow=36
CHTO Chiang Mai 93.24 289 *eP* **P** 10 08 56.6 -0.2
CHTO pmax pmax
comp=Z,4.0nm,0.5s
CHTO Chiang Mai 93.24 289 *eP* **P** 10 08 56.6 -0.2
comp=Z,3.6nm,0.5s
HHC Hu-ho-hao-te 93.87 314 *eP* **P** 10 09 01.3 +2.0
HHC sP **sP** 10 09 15.0 +1.1
HHC PP **PP** 10 12 50.0 +4.4
HHC S **S** 10 20 06.5 -0.4
HHC sS **sS** 10 20 22.0 -2.7
HHC SS **SS** 10 26 27.0 -0.1
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.6s
HHC LR LR
comp=Z,280nm,19.8s
HHC LR LR
comp=Z,270nm,16.5s
HHC LR LR
comp=Z,290nm,18.0s
BILL Bilibino 94.22 354 ⇓*iP* **P** 10 09 00.3 +0.2
BILL pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 95.86 44 *eP* **P** 10 09 08.2 -0.3
RSSD pmax pmax
comp=Z,2.0nm,0.7s
RSSD Black Hills 95.86 44 *eP* **P** 10 09 08.2 -0.3
comp=Z,1.6nm,0.7s
LZH Lanzhou 96.93 307 *eP* **P** 10 09 15.0 +1.5
LZH pP **pP** 10 09 25.5 +1.3
LZH sP **sP** 10 09 29.8 +1.8
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,72nm,4.3s
LZH LR LR
comp=Z,190nm,15.1s
LZH LR LR
comp=Z,240nm,15.8s
LZH LR LR
comp=Z,210nm,15.2s
LPAZ La Paz 98.83 113 LR LR 10 45 40.0
comp=Z,106nm,19.9s,baz=183,slow=30
WMQ Urumqi 111.26 309 PKP **PKiKP** 10 14 16.0 +0.4
WMQ sPKP 10 14 30.5
WMQ PP **PP** 10 14 59.8 +3.8
WMQ PKS **PKSdf** 10 17 51.5 -0.6
WMQ SKS **SKSdf** 10 21 23.5 -1.7
WMQ SKKS **SKKSac** 10 21 49.8 -6.0
WMQ SS **SS** 10 30 25.8 -1.3
WMQ AMB AMB
comp=Z,13nm,8.1s
WMQ LR LR
comp=Z,52nm,22.7s
WMQ LR LR
comp=Z,85nm,29.9s
WMQ LR LR
comp=Z,120nm,29.9s
ZALV Zalesovo Beam 115.28 320 PKIKP **PKPdf** 10 14 21.3 -1.5
ZALV Zalesovo Beam 115.28 320 PKP **PKPdf** 10 14 21.2 -1.5
ZALV Zalesovo Beam 115.28 320 PKP **PKPdf** 10 14 21.3 -1.5
comp=Z,0.9nm,0.5s,baz=90,slow=0.3,SNR=5.6
MKAR Makanchi Array 115.64 312 PKIKP **PKPdf** 10 14 22.0 -1.8
MKAR Makanchi Array 115.64 312 PKP **PKPdf** 10 14 21.9 -1.8
MKAR Makanchi Array 115.64 312 PKP **PKPdf** 10 14 21.9 -1.8
comp=Z,1.1nm,0.6s,baz=74,slow=3.6,SNR=12
KURK Kurchatov 118.62 316 PKIKP **PKPdf** 10 14 27.3 -2.1
KURK Kurchatov 118.62 316 PKP **PKPdf** 10 14 27.3 -2.1
KURBB Kurchatov Arra 118.67 315 PKP **PKPdf** 10 14 27.3 -2.2
comp=Z,1.2nm,0.6s,baz=107,slow=1.7,SNR=15
KSH Kashi 118.86 303 *e*PKP **PKPdf** 10 14 31.8 +1.4
KSH *es*PKP 10 14 46.0
KSH *e*SKS **SKSdf** 10 21 39.0 -1.1
KSH LR LR
comp=Z,43nm,4.5s
KSH LR LR
comp=Z,41nm,4.2s
KSH LR LR
comp=Z,63nm,3.3s
BVAR Borovoye Array 123.81 318 PKIKP **PKPdf** 10 14 38.3 -1.0
BVAR Borovoye Array 123.81 318 PKP **PKPdf** 10 14 38.3 -1.0
BVAR Borovoye Array 123.81 318 PKP **PKPdf** 10 14 38.3 -1.0
comp=Z,1.5nm,0.6s,baz=100,slow=1.6,SNR=11
ARU Arti 130.13 323 PKIKP **PKPdf** 10 14 52.5 +1.3
ARU Arti 130.13 323 *e*PKPdf **PKPdf** 10 14 52.9 +1.7
AKTO Aktyubinsk 131.72 316 PKIKP **PKPdf** 10 14 54.9 +0.4
AKTO Aktyubinsk 131.72 316 PKP **PKPdf** 10 14 54.9 +0.4
AKTO Aktyubinsk 131.72 316 PKP **PKPdf** 10 14 54.9 +0.4
comp=Z,0.7nm,0.4s,baz=63,slow=2.3,SNR=2.8
ARCES ARCESS Array B 134.15 349 PKP **PKPdf** 10 14 56.7 -1.8
ARCES ARCESS Array B 134.15 349 PKP **PKPdf** 10 14 56.7 -1.8
comp=Z,4.0nm,0.6s,baz=48,slow=1.3,SNR=9.8
JOF Joensuu 138.38 341 *e*PKIKP **PKPdf** 10 15 04.6 -1.8
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 138.38 341 *ep* **PKPdf** 10 15 04.6 -1.8
comp=Z,1.8nm,0.6s
KAF Kangasniemi 140.40 343 *e*PKHKP PKPpre 10 15 02.8
KAF Kangasniemi 140.40 343 *ep* PKPpre 10 15 02.8
FINES FINESS Array B 141.02 343 PKPpre PKPpre 10 15 04.0
FINES PKP **PKPdf** 10 15 10.2 -1.1
FINES FINESS Array B 141.02 343 PKhKP PKPpre 10 15 04.0
comp=Z,2.7nm,0.9s,baz=11,slow=1.4,SNR=5.8
FINES PKP **PKPdf** 10 15 10.2 -1.1
comp=Z,2.0nm,0.7s,baz=45,slow=2.4,SNR=8.6
KIV Kislovodsk 143.38 310 *i* PKIKP **PKPdf** 10 15 16.8 +0.6
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,67nm,21.0s
NB2 NORSAR Subarra 144.17 354 PKP **PKPab** 10 15 13.5 -1.2
comp=Z,5.9nm,0.7s,baz=9.9,slow=3.4
NOA NORSAR Array B 144.17 354 PKP **PKPab** 10 15 13.9 -0.8
NOA NORSAR Array B 144.17 354 PKP **PKPab** 10 15 13.9 -0.8
comp=Z,6.8nm,0.7s,baz=3.2,slow=2.3,SNR=30
KONO Kongsberg 145.69 355 *e*PKP2 **PKPdf** 10 15 19.5 -0.1
KONO Kongsberg 145.69 355 *e*PKPdf **PKPdf** 10 15 19.5 -0.1
ISAL Salakas 145.79 337 *e*P **PKPdf** 10 15 18.4 -1.5
ISAL AMB AMB 10 15 33.8
comp=Z,14nm,1.5s
IIGN Ignalina 145.93 337 *eP* **PKPdf** 10 15 18.5 -1.6
IIGN AMB AMB 10 15 32.4
comp=Z,19nm,1.3s
MICGM Minsk 145.97 335 *e* **PKPab** 10 15 23.0 +1.5
MNK Minsk 145.98 335 *e*PKP2 **PKPab** 10 15 23.0 +1.4
NACGM Naroch 146.08 336 *e* **PKPdf** 10 15 19.0 -1.4
SUW Suwalki 148.06 338 *e*PKP2 **PKPab** 10 15 29.2 -0.5
SUW Suwalki 148.06 338 *e*PKP **PKPab** 10 15 30.0 +0.3
SUW Suwalki 148.06 338 *e*PKPab **PKPab** 10 15 29.2 -0.5
AKASG Malin Array Be 148.09 329 PKP2 **PKPbc** 10 15 26.0 -1.1
AKASG Malin Array Be 148.09 329 PKPbc **PKPbc** 10 15 26.0 -1.1
AKASG Malin Array Be 148.09 329 PKPbc **PKPbc** 10 15 26.0 -1.1
comp=Z,3.8nm,0.5s,baz=43,slow=4.2,SNR=18
AKBB Malin Array Si 148.09 329 *e*PKP2 **PKPbc** 10 15 28.3 +1.2
AKBB Malin Array Si 148.09 329 *e*PKPbc **PKPbc** 10 15 28.3 +1.2
AK01 Malin Array Si 148.10 329 *e*PKPbc **PKPbc** 10 15 26.5 -0.6
KIEV Kiev 148.10 329 *i* PKP2 **PKPbc** 10 15 26.1 -1.0
KIEV Kiev 148.10 329 *e*PKPbc **PKPbc** 10 15 27.5 +0.4
AK02 Malin Array Si 148.13 328 *e*PKPbc **PKPbc** 10 15 26.8 -0.4
ASF Jabal al Asfar 150.11 290 PKPbc **PKPbc** 10 15 32.5 -0.4
ASF Jabal al Asfar 150.11 290 PKPbc **PKPbc** 10 15 32.5 -0.4
comp=Z,0.7nm,0.3s,baz=45,slow=2.9,SNR=2.5
LVV L'vov 151.05 332 *e*PKIKP **PKPab** 10 15 45.5 +3.4
LVV *e* 10 15 53.5
BR131 Keskin Array S 151.13 307 *e*PKPbc **PKPbc** 10 15 33.9 -1.2
BRTR Keskin Array B 151.13 307 PKPbc **PKPbc** 10 15 34.0 -1.2
BRTR Keskin Array B 151.13 307 PKPbc **PKPbc** 10 15 34.0 -1.2
comp=Z,2.1nm,0.6s,baz=137,slow=4.6,SNR=9.0
ANTO Ankara 151.69 307 *e*PKIKP **PKPbc** 10 15 36.9 +0.5
ANTO Ankara 151.69 307 *e*PKPbc **PKPbc** 10 15 36.9 +0.5
KWP Kalwaria Pacla 151.75 333 ⇑PKIKP **PKPbc** 10 15 34.5 -1.6
KWP Kalwaria Pacla 151.75 333 ⇑*iP* **PKPbc** 10 15 34.5 -1.6
BUR08 Bucovina Ar. S 152.11 328 *e*PKPbc **PKPbc** 10 15 36.4 -0.7
BURAR Bucovina Array 152.12 328 ⇑PKIKP **PKPbc** 10 15 36.7 -0.4
BURAR Bucovina Array 152.12 328 ⇑*iP* **PKPbc** 10 15 36.7 -0.4
TESR Tescani 152.15 324 ⇓*iP* **PKPbc** 10 15 39.5 +2.4
CFR Carcaliu 152.16 321 ⇓PKIKP **PKPbc** 10 15 39.3 +2.2
CFR Carcaliu 152.16 321 ⇓*iP* **PKPbc** 10 15 39.3 +2.2
KOLS Kolonicke sedl 152.47 333 *e*PKIKP **PKPbc** 10 15 41.3 +3.6
KOLS Kolonicke sedl 152.47 333 *e* **PKPbc** 10 15 41.3 +3.6
STHS Stebnicka Huta 152.50 334 *e*PKIKP **PKPbc** 10 15 37.7 -0.1
STHS Stebnicka Huta 152.50 334 *e*PKP **PKPbc** 10 15 37.7 -0.1
KSP Ksiaz 152.94 342 *e*PKIKP **PKPbc** 10 15 38.3 -0.4
KSP Ksiaz 152.94 342 *e*PKP **PKPbc** 10 15 38.5 -0.2
OKC Ostrava-Krasne 153.26 339 *e*PKPAB **PKPab** 10 15 52.6 +1.3
CLL Collm 153.31 347 *e*PKIKP **PKPbc** 10 15 39.0 -0.5
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 153.31 347 *e*PKPbc **PKPbc** 10 15 39.0 -0.5
comp=Z,5.0nm,0.8s
CLL *i* PKPab **PKPab** 10 15 51.0 -0.4
comp=Z,6.0nm,0.8s
CLL *ep*PKPab **pPKPab** 10 16 02.0 -0.2
CLL LmV 11 29 00.0
comp=Z,100nm,18.6s
UPC Upice 153.32 342 *e*PKPAB **PKPab** 10 15 51.9 +0.4
DPC Dobruska-Polom 153.37 342 ⇑*e*PKP **PKPbc** 10 15 40.0 +0.3
DPC *e*PKPAB **PKPab** 10 15 52.1 +0.3
DPC *ep*PKP pPKPdf 10 16 01.8 +19
KRLC Kraliky 153.48 341 ⇑*e*PKP **PKPbc** 10 15 40.4 +0.4
KRLC *e*PKPAB **PKPab** 10 15 51.5 -0.8
KRLC *ep*PKP pPKPdf 10 16 02.2 +19
BRG Berggiesshubel 153.51 345 *e*PKP **PKPbc** 10 15 39.9 0.0
comp=Z,3.9nm,0.8s
BRG Berggiesshubel 153.51 345 *e*PKIKP **PKPbc** 10 15 39.9 -0.1
BRG pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 153.55 334 *e*PKIKP **PKPab** 10 15 48.0 -4.6
KECS Kecovo 153.55 334 *e* **PKPab** 10 15 48.0 -4.6
VOIR 153.69 324 ⇑PKIKP **PKPbc** 10 15 43.2 +2.6
VOIR 153.69 324 ⇑*iP* **PKPbc** 10 15 43.2 +2.6
ARR Arges 153.96 325 ⇑*iP* **PKPbc** 10 15 40.8 -0.4
PRU Pruhonice 154.18 344 *e*PKPAB **PKPab** 10 15 57.5 +2.3
KHC Kasperske Hory 155.22 344 ⇑*e*PKP PKPdf 10 15 43.6 +8.8
KHC *e*PKPAB **PKPab** 10 16 02.1 +2.4
GERES GERESS Array B 155.45 344 PKP **PKPdf** 10 15 33.4 -1.8
GERES PKPab **PKPab** 10 16 03.6 +2.8
GERES GERESS Array B 155.45 344 PKP **PKPdf** 10 15 33.4 -1.8
comp=Z,0.2nm,0.4s,baz=28,slow=2.3,SNR=3.5
GERES PKPab **PKPab** 10 16 03.6 +2.8
comp=Z,0.7nm,0.7s,baz=35,slow=4.9,SNR=4.6
DBIC Dimbokro 159.56 156 PKPab **PKPab** 10 16 18.8 -0.4
DBIC Dimbokro 159.56 156 PKPab **PKPab** 10 16 18.8 -0.4
comp=Z,2.2nm,0.8s,baz=173,slow=8.1,SNR=3.6
TORD Torodi Ar. Bea 167.51 172 PKP **PKPdf** 10 15 46.7 -1.9
TORD PKPab **PKPab** 10 15 53.3 -0.7
TORD Torodi Ar. Bea 167.51 172 PKP **PKPdf** 10 15 46.7 -1.9
comp=Z,1.0nm,0.6s,baz=204,slow=3.2,SNR=8.0
TORD PKPab **PKPab** 10 15 53.3 -0.7
comp=Z,2.2nm,0.6s,baz=189,slow=4.3,SNR=12

*KRNET **31** 10:15:55.8±0.1, 40.°22N×77.°87E, h3km, mb3.9*
*NNC **31** 10:16:01.1±2.3, 40.°23N×77.°20E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=20.0km s-min=15.1km az=164.0*
ISC 31 10:15:55.9±2.7, 40.°23N±0.°09×77.°8E±0.°1, h10km, n21, σ2s01/24, 4C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.81**	**312**	*eP*	**Pn**	**10 16 26.6**	**-0.9**
	baz=311						
NRN				*eS*	**Sn**	**10 16 50.7**	**0.0**
	baz=311						
ULHL	**Ulahol**	**2.33**	**331**	P	**Pb**	**10 16 38.4**	**+0.2**
	SNR=21						
BOOM	**Boomskoye usch**	**2.65**	**329**	*eP*	**Pb**	**10 16 43.8**	**+0.2**
	baz=328						
BOOM				*eS*	**Sg**	**10 17 20.3**	**-0.9**
	baz=328						
KZA	**Kyzart**	**2.66**	**315**	P	**Pn**	**10 16 41.0**	**+1.8**
	SNR=36						
KZA	**Kyzart**	**2.66**	**315**	⇑*iP*	**Pn**	**10 16 40.9**	**+1.6**
	baz=314						
KZA				⇑*iS*	**Sb**	**10 17 16.5**	**-0.3**
	baz=314						
KNDC	**Almaty**	**3.05**	**349**	Pn	**Pg**	**10 16 52.3**	**-2.1**
KNDC				Lg	Lg	10 17 36.9	
TKM2	**Tokmak 2**	**3.15**	**329**	⇓Pn	Pn	10 16 48.8	+3.0
	10nm,0.7s						
TKM2				⇑Lg	Lg	10 17 35.1	
	37nm,0.6s						
TKM2	**Tokmak 2**	**3.15**	**329**	P	**Pb**	**10 16 49.2**	**-3.0**
	SNR=18						
UCH	**Uchtor**	**3.17**	**310**	P	**Pn**	**10 16 47.6**	**+1.3**
	SNR=12						
KBK	**Karagaybulak**	**3.23**	**320**	P	**Pn**	**10 16 49.2**	**+2.3**
	SNR=14						
SFK	**Sufi-Kurgan**	**3.29**	**268**	*eP*	**Pn**	**10 16 49.4**	**+1.7**
	baz=268						
SFK				*eS*	**Sn**	**10 17 30.2**	**+3.2**
	baz=268						
AAK	**Ala-Archa**	**3.45**	**315**	⇓Pn	**Pn**	**10 16 52.1**	**+2.2**
	11nm,0.6s						
AAK				⇓Lg	Lg	10 17 40.2	
	44nm,0.6s						
AAK	**Ala-Archa**	**3.45**	**315**	P	**Pn**	**10 16 52.0**	**+2.2**
	SNR=7.6						
CHMS	**Chumysh**	**3.58**	**322**	P	**Pn**	**10 16 54.2**	**+2.6**
	SNR=5.6						
AML	**Almayashu**	**3.62**	**303**	P	**Pn**	**10 16 53.4**	**+0.9**
	SNR=52						
ARSB	**Arslanbob**	**3.81**	**288**	*eP*	**Pb**	**10 17 01.0**	**-2.3**
	baz=288						
ARSB				*eS*	**Sb**	**10 17 50.2**	**+0.7**
	baz=288						
OHH	**Osh**	**3.83**	**276**	*eP*	Pb	10 16 59.8	-3.8
	baz=276						
OHH				*eS*	**Sb**	**10 17 48.4**	**-1.7**
	baz=276						
EKS2	**Erkin-Say**	**3.87**	**310**	P	**Pn**	**10 16 57.7**	**+2.1**
	SNR=15						
USP	**Ospenovka**	**3.91**	**322**	P	**Sb**	**10 17 55.9**	**+3.6**
	SNR=8.3						
KK31	**Karatay Array**	**6.16**	**300**	⇓Pn	**Pn**	**10 17 27.9**	**+0.9**
	0.7nm,0.5s,baz=120,slow=14,SNR=5.2						
KK31				⇓Lg	Lg	10 19 03.0	
	5.2nm,0.8s,baz=125,slow=27,SNR=4.4						
MK31	**Makanchi Array**	**7.33**	**25**	⇓Pn	Pn	10 17 50.1	+7.0
	0.3nm,0.6s,baz=200,slow=14,SNR=5.2						
MK31				⇓Pg	Pg	10 18 18.4	+2.1
	0.6nm,0.5s,baz=200,slow=14,SNR=5.2						
MK31				⇑Sn	Sb	10 19 19.1	-12
	0.6nm,0.5s						
MK31				⇓Lg	Lg	10 19 55.4	
	1.3nm,0.5s						

IDC 31 10:17:09.6±8.5, 2.°39N×126.°76E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/22, mbtmp3.5/3, Error ellipse: s-maj=181.5km s-min=131.1km az=75.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.41**	**162**	P	P	10 22 20.1	-0.3
	0.7nm,0.7s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.82**	**165**	P	P	10 22 52.8	+1.0
	0.2nm,0.8s,baz=352,slow=8.1,SNR=3.2						
STKA	**Stephens Creek**	**36.88**	**159**	P	P	10 24 19.2	-0.8
	1.2nm,0.5s,baz=346,slow=4.1,SNR=3.7						

IDC 31 10:17:47.8±3.6, 2.°76S×101.°02E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=154.1km s-min=24.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.81**	**259**	T	T	10 53 02.5	
	baz=80						
H08S3	**Diego Garcia H**	**28.82**	**259**	T	T	10 53 04.6	
	baz=80						
H08S1	**Diego Garcia H**	**28.83**	**259**	T	T	10 53 04.8	
	baz=80						
WRA	**Warramunga Arr**	**36.73**	**120**	P	P	10 24 56.9	-0.3
	0.4nm,0.4s,baz=301,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**37.98**	**126**	P	P	10 25 07.9	+0.1
	0.3nm,0.9s,baz=296,slow=7.4,SNR=5.0						
SONM	**Songino Array**	**50.61**	**5**	P	P	10 26 49.0	+0.4
	0.4nm,0.5s,baz=185,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**52.04**	**344**	P	P	10 26 59.0	-0.2
	0.3nm,0.4s,baz=156,slow=9.3,SNR=5.4						
TXAR	**Lajitas Array**	**144.66**	**39**	PKP	PKPab	10 37 25.9	-0.1
	0.3nm,0.7s,baz=333,slow=1.0,SNR=2.9						

*IDC **31** 10:30:29.8±1.4, 19.°08S×169.°69E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/25, mbtmp4.0/8, ML3.4/1, MS3.9/8, Ms1 3.8/8, ms1mx3.5/18, Error ellipse: s-maj=58.4km s-min=20.9km az=141.0*
*ISCJB **31** 10:30:30.4±1.2, 19.°0S±0.°2×169.°6E±0.°2, h10km, mb3.9/7, MS3.9/5, Error ellipse: s-maj=41.2km s-min=8.5km az=37.2*
ISC 31 10:30:31.4±1.2, 18.°9S±0.°2×169.°6E±0.°3, h10km, n18, σ1s01/18, mb4.1/7, MS3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.30**	**223**	Pn	**Pn**	**10 31 36.4**	**-0.5**
	2.0nm,0.3s,baz=47,slow=18,SNR=45						
DZM				Sn	**Sn**	**10 32 29.1**	**+1.9**
	15nm,0.3s,baz=139,slow=20,SNR=5.1						
DZM				LR	LR	10 33 06.1	
	comp=Z,2μm,19.4s,baz=58,slow=37						
DZM	**Mont Dzumac**	**4.30**	**223**	*eP*	**Pn**	**10 31 37.0**	**0.0**
DZM				*eS*	**Sn**	**10 32 28.7**	**+1.5**
DZM	**Mont Dzumac**	**4.30**	**223**	*eP*	**Pn**	**10 31 37.0**	**0.0**
DZM				*eS*	**Sn**	**10 32 28.7**	**+1.5**
NOUC	**Port Laguerre**	**4.41**	**224**	*eP*	**Pn**	**10 31 37.7**	**-0.8**
NOUC				*eS*	**Sn**	**10 32 28.8**	**-1.1**
NOUC	**Port Laguerre**	**4.41**	**224**	*eP*	**Pn**	**10 31 37.7**	**-0.8**
NOUC				*eS*	**Sn**	**10 32 28.8**	**-1.1**
HNR	**Honiara**	**13.28**	**314**	LR	LR	10 37 46.6	
	comp=Z,155nm,18.6s,baz=133,slow=32						
AFI	**Afiamalu**	**18.55**	**77**	LR	LR	10 40 15.2	
	comp=Z,429nm,21.9s,baz=248,slow=32						
STKA	**Stephens Creek**	**28.29**	**237**	P	**P**	**10 36 25.0**	**-0.2**
	2.4nm,0.7s,baz=79,slow=7.4,SNR=4.2						
STKA				LR	LR	10 47 14.2	
	comp=Z,282nm,19.5s,baz=50,slow=36						
WRA	**Warramunga Arr**	**33.22**	**262**	P	**P**	**10 37 09.4**	**+0.5**
	1.6nm,1.1s,baz=86,slow=8.4,SNR=5.7						
ASAR	**Alice Springs**	**33.53**	**256**	P	**P**	**10 37 10.8**	**-0.7**
	1.9nm,0.4s,baz=83,slow=8.5,SNR=43						
ASAR				LR	LR	10 51 09.2	
	comp=Z,176nm,18.6s,baz=90,slow=37						
PETK	**Petropavlovsk-**	**72.47**	**353**	LR	LR	11 07 36.9	
	comp=Z,84nm,20.7s,baz=144,slow=31						
CMAR	**Chiang Mai Arr**	**78.68**	**294**	P	P	10 42 36.6	+2.3
	0.6nm,0.3s,baz=118,slow=5.2,SNR=6.4						
MAW	**Mawson**	**78.84**	**202**	LR	LR	11 12 47.2	
	comp=Z,142nm,21.7s,baz=112,slow=32						
SONM	**Songino Array**	**87.18**	**323**	P	**P**	**10 43 18.7**	**+0.8**
	1.5nm,1.0s,baz=138,slow=3.6,SNR=8.5						
SONM				LR	LR	11 22 48.2	
	comp=Z,22nm,18.6s,baz=138,slow=36						
NVAR	**Mina Array Bea**	**88.35**	**48**	P	**P**	**10 43 24.8**	**+0.9**
	0.2nm,0.5s,baz=224,slow=7.3,SNR=2.9						
ILAR	**Eielson Array**	**89.84**	**17**	P	**P**	**10 43 29.5**	**-0.4**
	0.1nm,0.5s,baz=205,slow=4.0,SNR=3.0						
GERES	**GERESS Array B**	**144.38**	**332**	PKP	**PKPdf**	**10 50 07.1**	**-0.9**
	0.5nm,0.7s,baz=43,slow=4.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**167.03**	**245**	PKP	**PKPdf**	**10 50 37.8**	**-0.6**
	1.1nm,1.1s,baz=62,slow=1.2,SNR=3.8						

IDC 31 10:32:20.1±6.7, 21.°80S×179.°47W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.6/2, Error ellipse: s-maj=294.6km s-min=69.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.90**	**258**	P	P	10 40 19.4	-1.4
	0.5nm,0.4s,baz=96,slow=6.9,SNR=12						
WRA	**Warramunga Arr**	**43.08**	**264**	P	P	10 40 23.2	+1.0
	0.3nm,0.3s,baz=98,slow=6.8,SNR=12						
BRTR	**Keskin Array B**	**146.66**	**310**	PKPbc	PKPbc	10 52 03.6	-0.6
	0.7nm,0.7s,baz=81,slow=4.5,SNR=3.8						

*IDC **31** 11:22:31.2±3.3, 10.°19N×91.°80E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/42, Error ellipse: s-maj=139.7km s-min=20.9km az=66.0*
*ISCJB **31** 11:22:33.8±2.6, 10.°1N±0.°3×91.°7E±0.°7, h33km, mb3.7/6, MS3.5/1, Error ellipse: s-maj=109.1km s-min=17.4km az=155.6*
ISC 31 11:22:36.0±3.0, 10.°2N±0.°4×91.°7E±0.°8, h35km, n10, σ1s29/6, mb3.8/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**26.06**	**228**	T	T	11 55 03.0	
	baz=47,slow=75,SNR=234						
H08S2	**Diego Garcia H**	**26.06**	**228**	T	T	11 55 03.5	
	baz=47,slow=75,SNR=216						
H08S1	**Diego Garcia H**	**26.08**	**228**	T	T	11 55 07.4	
	baz=47,slow=75,SNR=84						
MKAR	**Makanchi Array**	**37.37**	**349**	P	**P**	**11 29 44.2**	**-1.1**
	0.5nm,0.8s,baz=167,slow=7.2,SNR=3.3						
SONM	**Songino Array**	**39.53**	**16**	P	**P**	**11 30 03.2**	**-0.4**
	0.4nm,0.7s,baz=196,slow=8.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**44.01**	**354**	P	**P**	**11 30 41.9**	**+1.9**
	0.2nm,0.3s,baz=165,slow=6.0,SNR=2.4						

WRA	**Warramunga Arr**	**51.54**	**126**	P	**P**	**11 31 38.8**	**-0.1**
	2.1nm,0.7s,baz=306,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**53.22**	**130**	P	**P**	**11 31 51.4**	**0.0**
	1.2nm,0.6s,baz=303,slow=7.6,SNR=28						
KMBO	**Kilima Mbogo**	**55.34**	**262**	LR	LR	11 51 42.8	
	comp=Z,50nm,22.0s,baz=89,slow=32						
STKA	**Stephens Creek**	**63.42**	**133**	P	**P**	**11 33 02.5**	**0.0**
	2.4nm,0.9s,baz=323,slow=5.1,SNR=3.8						

*ISCJB **31** 11:34:56.2±0.7,5°.85N±0°.08×127°.05E±0°.08, h83km, mb3.8/8, Error ellipse: s-maj=13.8km s-min=8.5km az=135.9*
*MAN **31** 11:34:56, 5°.90N×127°.19E, h68km, mb4.9, ML3.9, MS4.0*
*IDC **31** 11:35:01.7±9.9, 6°.05N×127°.24E, h128km±93km, mb3.6/8, mb1 3.6/8, mb1mx3.4/24, mbtmp3.9/8, Error ellipse: s-maj=80.3km s-min=18.3km az=74.0*

ISC 31 11:34:57.7±0.9, 5°.84N±0°.09×127°.0E±0°.1, h83km, n16, σ1§37/17, mb4.0/8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.31**	**327**	*eP*	**Pn**	**11 35 20.1**	**-0.7**
MATI				*eS*	Sn	11 35 28.2	-10
DMPH	**Davao City--Mi**	**1.91**	**310**	*eP*	**Pn**	**11 35 29.9**	**+1.3**
DMPH				*eS*	**Sn**	**11 35 54.6**	**+2.5**
GSPH	**General Santos**	**2.03**	**277**	*iP*	**Pn**	**11 35 29.2**	**-1.1**
GSPH				*iS*	**Sn**	**11 35 54.1**	**-1.0**
BUKP	**Musuan**	**2.78**	**317**	*eP*	**Pn**	**11 35 41.0**	**+0.8**
BUTP	**Butuan**	**3.39**	**337**	*eP*	**Pn**	**11 35 49.0**	**+0.6**
CGP	**Cagayan de Oro**	**3.45**	**319**	*eP*	**Pn**	**11 35 49.6**	**+0.4**
PAGZ	**Pagadian**	**4.09**	**299**	*eP*	**Pn**	**11 35 59.3**	**+1.3**
WRA	**Warramunga Ar**	**26.62**	**164**	P	**P**	**11 40 29.9**	**+1.2**
	0.6nm,0.6s,baz=346,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**30.09**	**167**	P	**P**	**11 41 00.2**	**+0.6**
	0.3nm,0.4s,baz=342,slow=7.2,SNR=14						
NWAO	**Narrogin (SRO)**	**39.65**	**193**	P	**P**	**11 42 23.3**	**+1.7**
	3.2nm,0.4s,baz=21,slow=6.4,SNR=8.3						
SONM	**Songino Array**	**45.40**	**341**	P	**P**	**11 43 07.7**	**-0.5**
	0.2nm,0.4s,baz=156,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**11 44 26.5**	**-1.2**
	1.6nm,0.3s,baz=117,slow=7.6,SNR=29						
ZALV	**Zalesovo Beam**	**58.84**	**332**	P	**P**	**11 44 45.6**	**-2.0**
	0.4nm,0.3s,baz=114,slow=7.2,SNR=3.7						
ARCES	**ARCESS Array B**	**88.57**	**340**	P	P	11 47 37.5	-3.5
	1.4nm,0.9s,baz=88,slow=7.3,SNR=0.9						
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**11 47 48.0**	**-0.3**
	1.2nm,0.7s,baz=46,slow=6.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**122.48**	**290**	PKP	**PKPdf**	**11 53 43.1**	**-1.5**
	0.5nm,0.7s,baz=84,slow=1.3,SNR=4.9						

*NEIC **31** 11:43:57.7±0.8, 1°.49N×85°.10W, h10km, mb4.4/3, Error ellipse: s-maj=15.6km s-min=14.2km az=63.0*
*IDC **31** 11:43:58.6±1.0, 1°.27N×85°.30W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.8/22, mbtmp3.6/8, ML3.9/2, MS3.8/20, Ms1 3.9/20, ms1mx3.8/23, Error ellipse: s-maj=70.1km s-min=17.8km az=63.0*
*GCMT **31** 11:44:00.0±0.3, 1°.27N×85°.29W, h20km±1km, MW5.0/81, Moment Tensor Solution. s49,c68; s81,c119; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.34±.11; Mθθ=0.79±.09; Mϕϕ=-0.45±.10; Mrθ=-0.10±.17; Mθϕ=3.41±.10; Mϕr=0.53±.20; Best double couple: M₀=3.51100×10¹⁶ NP1:ϕs=186.00000°, δ87.00000°, λ=-171.00000°. NP2: ϕs=95.00000°, δ81.00000°, λ=-4.00000°. Principal axes: T 3.6520, Plg4.0000°, Azm320.0000°; N -0.2820, Plg80.0000°, Azm207.0000°; P -3.3700, Plg9.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **31** 11:44:01.1±0.8, 1°.60N±0°.10×84°.9W±0°.1, h35km, mb3.7/8, MS3.8/17 Error ellipse: s-maj=21.2km s-min=10.2km az=150.7*

ISC 31 11:44:03.5±0.7, 1°.61N±0°.09×84°.8W±0°.1, h35km, n45, σ1§88/22, mb3.8/8, MS3.8/17, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**5.94**	**248**	Pn	Pn	11 45 19.4	-10
JTS	**JuntasAbangare**	**8.62**	**359**	*e*Pn	**Pn**	**11 46 04.0**	**-2.0**
JTS	**JuntasAbangare**	**8.62**	**359**	Pn	**Pn**	**11 46 07.6**	**+1.6**
	0.3nm,0.3s,baz=255,slow=16,SNR=1.4						
JTS				LR	LR	11 48 52.2	
	comp=Z,624nm,19.4s,baz=186,slow=33						
ATAH	**Atahualpa**	**10.79**	**144**	Pn	**Pn**	**11 46 36.9**	**+1.0**
ATAH	**Atahualpa**	**10.79**	**144**	Pn	**Pn**	**11 46 36.9**	**+1.0**
	3.9nm,0.3s,baz=324,slow=12,SNR=22						
ROSC	**El Rosal**	**10.94**	**79**	LR	LR	11 50 46.0	
	comp=Z,636nm,19.9s,baz=193,slow=35						
SDV	**Santo Domingo**	**15.84**	**62**	Pn	**Pn**	**11 47 43.8**	**-0.4**
TEIG	**Tepich**	**18.81**	**350**	LR	LR	11 55 10.4	
	comp=Z,393nm,18.8s,baz=232,slow=35						
SAML	**Samuel**	**23.96**	**116**	*eP*	**P**	**11 49 14.4**	**-0.4**
	7.7nm,1.2s						
LPAZ	**La Paz**	**24.23**	**138**	*eP*	**P**	**11 49 17.7**	**-0.4**
	11nm,1.1s						
LPAZ	**La Paz**	**24.23**	**138**	P	**P**	**11 49 18.2**	**+0.2**
	9.0nm,1.1s,baz=330,slow=8.1,SNR=11						
LPAZ				LR	LR	11 59 37.5	
	comp=Z,540nm,22.0s,baz=306,slow=39						
PTGA	**Pitinga**	**24.94**	**95**	LR	LR	11 58 41.3	
	comp=Z,123nm,18.8s,baz=272,slow=35						
SIV	**San Ignacio**	**29.25**	**128**	LR	LR	12 02 04.0	
	comp=Z,379nm,21.7s,baz=319,slow=37						
TXAR	**Lajitas Array**	**32.91**	**329**	P	**P**	**11 50 33.7**	**-1.0**
TXAR	**Lajitas Array**	**32.91**	**329**	P	**P**	**11 50 33.7**	**-1.0**
	0.3nm,0.9s,baz=139,slow=8.4,SNR=2.4						
TXAR				LR	LR	12 02 49.7	
	comp=Z,198nm,21.0s,baz=0.0,slow=34						
H03N2	**Juan Fernandez**	**35.30**	**171**	T	T	12 27 48.2	
	baz=349,slow=76,SNR=114						
H03N1	**Juan Fernandez**	**35.30**	**171**	T	T	12 27 48.5	
	baz=349,slow=76,SNR=105						
H03N3	**Juan Fernandez**	**35.32**	**171**	T	T	12 27 49.4	
	baz=349,slow=76,SNR=95						
CPUP	**Villa Florida**	**38.41**	**138**	LR	LR	12 09 01.4	
	comp=Z,203nm,20.6s,baz=304,slow=39						
BDFB	**Brasilia**	**40.20**	**117**	LR	LR	12 09 56.4	
	comp=Z,346nm,18.3s,baz=290,slow=38						
PLCA	**Paso Flores**	**44.10**	**164**	P	**P**	**11 52 06.4**	**-2.1**
PLCA	**Paso Flores**	**44.10**	**164**	P	**P**	**11 52 06.4**	**-2.1**
	1.5nm,0.5s,baz=337,slow=7.8,SNR=3.3						
PLCA				LR	LR	12 06 04.0	
	comp=Z,164nm,20.1s,baz=274,slow=30						
PDAR	**Pinedale Array**	**46.58**	**335**	LR	LR	12 12 41.9	
	comp=Z,237nm,18.2s,baz=144,slow=37						
NVAR	**Mina Array Bea**	**47.78**	**324**	P	**P**	**11 52 36.5**	**-1.3**
NVAR				PcP	**PcP**	**11 54 09.4**	**+2.9**
NVAR	**Mina Array Bea**	**47.78**	**324**	P	**P**	**11 52 36.5**	**-1.3**
	0.7nm,0.9s,baz=132,slow=7.4,SNR=4.0						
NVAR				PcP	**PcP**	**11 54 09.4**	**+2.9**
	0.2nm,0.6s,baz=131,slow=5.2,SNR=1.8						
ULM	**Lac du Bonnet**	**49.37**	**351**	P	**P**	**11 52 46.9**	**-2.6**
	3.5nm,0.8s						
ULM	**Lac du Bonnet**	**49.37**	**351**	P	P	11 52 52.8	+3.2
	1.4nm,0.7s,baz=166,slow=8.4,SNR=3.0						
ULM				LR	LR	12 14 23.4	
	comp=Z,62nm,21.6s,baz=234,slow=37						
RKT	**Rikitea**	**54.66**	**240**	*e*LR	LR	12 09 19.3	
	288nm,28.5s						
YKA	**Yellowknife Ar**	**64.69**	**345**	P	**P**	**11 54 39.1**	**+1.3**
YKA	**Yellowknife Ar**	**64.69**	**345**	P	**P**	**11 54 39.1**	**+1.3**
	0.2nm,0.7s,baz=130,slow=8.3,SNR=4.1						
PPT	**Papeete**	**66.55**	**250**	LR	LR	12 17 01.6	
	comp=Z,96nm,19.2s,baz=14,slow=30						
PPT2	**Papeete2**	**66.55**	**250**	*e*S	**S**	**12 03 39.6**	**-0.2**
	91nm,27.0s						
PPT2	**Papeete2**	**66.55**	**250**	*e*LR	LR	12 14 45.5	
	275nm,27.5s						
TBI	**Tubuai**	**67.53**	**244**	*e*LR	LR	12 15 16.5	
	434nm,29.2s						
ILAR	**Eielson Array**	**76.95**	**337**	P	**P**	**11 55 55.0**	**+2.8**
ILAR	**Eielson Array**	**76.95**	**337**	P	**P**	**11 55 55.1**	**+2.8**
	0.1nm,0.6s,baz=136,slow=2.9,SNR=4.4						
ILAR				LR	LR	12 31 40.8	
	comp=Z,91nm,18.5s,baz=128,slow=37						
DBIC	**Dimbokro**	**79.83**	**84**	LR	LR	12 31 24.7	
	comp=Z,42nm,18.3s,baz=256,slow=35						
ESDC	**Sonseca Array**	**81.92**	**50**	LR	LR	12 29 16.4	
	comp=Z,19nm,20.1s,baz=75,slow=33						
TORD	**Torodi Ar. Bea**	**86.22**	**77**	LR	LR	12 34 59.9	
	comp=Z,28nm,19.2s,baz=270,slow=35						
NOA	**NORSAR Array B**	**91.52**	**29**	LR	LR	12 34 21.5	
	comp=Z,28nm,20.9s,baz=240,slow=33						
GERES	**GERESS Array B**	**94.40**	**41**	LR	LR	12 34 56.6	
	comp=Z,26nm,19.0s,baz=287,slow=32						
ARCES	**ARCESS Array B**	**95.50**	**19**	LR	LR	12 35 48.5	
	comp=Z,32nm,21.4s,baz=164,slow=32						
H01W1	**Cape Leeuwin H**	**142.47**	**206**	T	T	14 42 11.1	
	baz=146						
H01W2	**Cape Leeuwin H**	**142.47**	**206**	T	T	14 42 13.8	
	baz=146						
H01W3	**Cape Leeuwin H**	**142.49**	**206**	T	T	14 42 13.7	
	baz=146						

*ISCJB **31** 11:53:07.2±0.7, 14°.16S±0°.06×167°.2E±0°.1, h200km, mb4.2/16, Error ellipse: s-maj=16.1km s-min=7.8km az=5.8*
*IDC **31** 11:53:09.9±3.1, 14°.29S×167°.21E, h209km±28km, mb3.9/13, mb1 4.0/14, mb1mx3.9/21, mbtmp4.4/14, Error ellipse: s-maj=23.5km s-min=18.2km az=107.0*
*NEIC **31** 11:53:09.2±1.9, 14°.30S×167°.27E, h206km±17km, mb4.4/6, Error ellipse: s-maj=15.6km s-min=13.0km az=136.0*
*AUST **31** 11:53:30.7, 14°.98S×167°.43E, h450km*

ISC 31 11:53:08.6±0.7, 14°.24S±0°.07×167°.3E±0°.1, h200km, n64, σ0§87/70, mb4.4/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.83**	**186**	*e*Pn	**Pn**	**11 54 59.5**	**-0.2**
DZM				S	**Sn**	**11 56 29.2**	**+1.0**
DZM	**Mont Dzumac**	**7.83**	**186**	P	**Pn**	**11 55 00.8**	**+1.1**
	0.6nm,0.3s,baz=107,slow=13,SNR=7.5						
DZM				S	**Sn**	**11 56 29.2**	**+1.0**
	0.5nm,0.3s,baz=49,slow=20,SNR=2.3						
EIDS	**Eidsvold**	**18.83**	**232**	*e*P	**P**	**11 57 14.7**	**+1.2**
	8.7nm,0.7s						
EIDS	**Eidsvold**	**18.83**	**232**	P	**Pn**	**11 57 15.1**	**-1.3**
	baz=18,SNR=3.2						
CTA	**Charters Tower**	**20.92**	**251**	P	**P**	**11 57 35.5**	**-0.4**
CTA	**Charters Tower**	**20.92**	**251**	P	**P**	**11 57 35.5**	**-0.4**
	5.3nm,0.7s,baz=72,slow=9.6,SNR=3.7						
RMQ	**Roma**	**21.19**	**232**	P	**P**	**11 57 39.8**	**+1.1**
	baz=21,SNR=29						
ARMA	**Armidale**	**21.62**	**219**	P	**P**	**11 57 45.4**	**+2.3**
	baz=21,SNR=7.4						
COEN	**Coen**	**23.39**	**268**	P	**P**	**11 58 01.0**	**+1.3**
	baz=24,SNR=5.9						
QLP	**Quilpie**	**24.81**	**237**	P	**P**	**11 58 12.5**	**+0.1**
	baz=24,SNR=19						
CMSA	**Cobar Meteorol**	**26.23**	**225**	P	**P**	**11 58 25.6**	**+0.4**
	baz=26,SNR=5.9						
QIS	**Mount Isa**	**27.14**	**253**	P	**P**	**11 58 33.5**	**0.0**
	baz=27,SNR=3.9						
STKA	**Stephens Creek**	**29.33**	**229**	*e*P	**P**	**11 58 53.2**	**+0.5**
	4.4nm,0.5s						
STKA				PcP	**PcP**	**12 01 54.0**	**-0.1**
STKA	**Stephens Creek**	**29.33**	**229**	P	**P**	**11 58 53.3**	**+0.5**
	25nm,0.5s,baz=55,slow=8.7,SNR=164						
STKA				PcP	**PcP**	**12 01 54.0**	**-0.1**
	2.3nm,0.6s,baz=79,slow=5.2,SNR=3.4						
STKA	**Stephens Creek**	**29.33**	**229**	P	**P**	**11 58 53.3**	**+0.5**
	baz=29,SNR=126						
TOO	**Toolangi**	**30.26**	**216**	P	**P**	**11 59 01.3**	**+0.4**
	baz=30,SNR=4.8						
WRAB	**Tennant Creek**	**31.96**	**255**	*e*P	**P**	**11 59 14.9**	**-1.1**
	6.3nm,0.4s						
WRA	**Warramunga Arr**	**31.97**	**255**	P	**P**	**11 59 14.8**	**-1.3**
WRA	**Warramunga Arr**	**31.97**	**255**	P	**P**	**11 59 14.8**	**-1.3**
	7.1nm,0.6s,baz=86,slow=9.4,SNR=105						
HTT	**Hallett**	**32.06**	**228**	P	**P**	**11 59 17.2**	**+0.4**
	baz=32,SNR=7.3						
AS31	**Alice Springs**	**32.87**	**248**	*e*P	**P**	**11 59 22.6**	**-1.4**
ASAR	**Alice Springs**	**32.87**	**248**	P	**P**	**11 59 22.7**	**-1.2**
ASAR				PcP	**PcP**	**12 02 02.8**	**-1.0**
ASAR	**Alice Springs**	**32.87**	**248**	P	**P**	**11 59 22.7**	**-1.2**
	7.2nm,0.4s,baz=76,slow=9.4,SNR=207						
ASAR				PcP	**PcP**	**12 02 02.8**	**-1.0**
	0.7nm,0.7s,baz=86,slow=1.7,SNR=4.6						
BBOO	**Buckleboo**	**33.90**	**232**	P	**P**	**11 59 32.7**	**+0.1**
	baz=34,SNR=25						
WRKA	**Warakurna**	**38.14**	**248**	P	**P**	**12 00 08.0**	**-0.9**
	baz=38,SNR=25						
FORT	**Forrest**	**39.57**	**239**	*e*P	**P**	**12 00 20.0**	**-0.5**
	26nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.13**	**259**	*e*P	**P**	**12 00 25.2**	**-0.1**
	9.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.13**	**259**	P	**P**	**12 00 25.5**	**+0.2**
	baz=40,SNR=8.4						
MEEK	**Meekatharra**	**47.00**	**247**	P	**P**	**12 01 19.7**	**-0.3**
	baz=47,SNR=11						
MORW	**Morawa**	**49.50**	**244**	P	**P**	**12 01 38.4**	**-0.7**
	baz=49,SNR=8.0						
MJAR	**Matsushiro Arr**	**57.48**	**332**	P	**P**	**12 02 36.7**	**-0.2**
MJAR	**Matsushiro Arr**	**57.48**	**332**	P	**P**	**12 02 36.7**	**-0.2**
	1.0nm,0.6s,baz=170,slow=9.3,SNR=7.3						
KSRS	**Korea Array**	**63.35**	**326**	P	**P**	**12 03 16.8**	**+0.3**
	0.7nm,0.5s,baz=140,slow=6.8,SNR=4.4						
KSAR	**Wonju Array Be**	**63.36**	**326**	P	**P**	**12 03 16.9**	**+0.2**
PETK	**Petropavlovsk-**	**67.58**	**354**	P	**P**	**12 03 44.6**	**+1.3**
PETK	**Petropavlovsk-**	**67.58**	**354**	P	**P**	**12 03 44.6**	**+1.3**
	6.1nm,0.9s,baz=162,slow=6.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**74.77**	**294**	P	**P**	**12 04 28.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**74.77**	**294**	P	**P**	**12 04 28.5**	**+1.3**
	1.4nm,0.7s,baz=123,slow=4.8,SNR=11						
QSPA	**South Pole Qui**	**75.79**	**180**	*e*P	**P**	**12 04 31.3**	**-1.0**
	3.4nm,0.8s						
SONM	**Songino Array**	**82.12**	**324**	P	**P**	**12 05 07.8**	**+0.9**
SONM	**Songino Array**	**82.12**	**324**	P	**P**	**12 05 07.8**	**+0.9**
	0.7nm,0.4s,baz=138,slow=5.5,SNR=14						
MAW	**Mawson**	**82.35**	**202**	P	**P**	**12 05 06.8**	**-0.8**
MAW	**Mawson**	**82.35**	**202**	P	**P**	**12 05 06.8**	**-0.8**
	5.1nm,0.6s,baz=126,slow=6.9,SNR=4.2						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**12 05 25.0**	**-1.2**
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**12 05 25.0**	**-1.2**
	0.4nm,0.7s,baz=240,slow=4.7,SNR=4.1						
MKAR	**Makanchi Array**	**96.87**	**316**	P	**P**	**12 06 16.4**	**-0.5**
MKAR	**Makanchi Array**	**96.87**	**316**	P	**P**	**12 06 16.4**	**-0.5**
	1.8nm,0.7s,baz=95,slow=6.2,SNR=15						
ZALV	**Zalesovo Beam**	**97.01**	**324**	P	**P**	**12 06 16.4**	**-0.9**
ZALV	**Zalesovo Beam**	**97.01**	**324**	P	**P**	**12 06 16.4**	**-0.9**
	1.4nm,0.7s,baz=122,slow=5.2,SNR=8.2						
ARCES	**ARCESS Array B**	**119.78**	**345**	PKP	**PKPdf**	**12 11 34.1**	**-0.2**
ARCES	**ARCESS Array B**	**119.78**	**345**	PKP	**PKPdf**	**12 11 34.1**	**-0.2**
	1.8nm,0.5s,baz=76,slow=2.2,SNR=35						
JOF	**Joensuu**	**122.44**	**338**	*e*pkp	**PKPdf**	**12 11 38.5**	**-1.1**
FINES	**FINESS Array B**	**125.28**	**338**	PKP	**PKPdf**	**12 11 45.0**	**0.0**
FINES	**FINESS Array B**	**125.28**	**338**	PKP	**PKPdf**	**12 11 45.0**	**0.0**
	0.6nm,0.3s,baz=76,slow=1.7,SNR=13						
AKASG	**Malin Array Be**	**130.34**	**326**	PKP	**PKPdf**	**12 11 54.6**	**-0.4**
AKASG	**Malin Array Be**	**130.34**	**326**	PKP	**PKPdf**	**12 11 54.6**	**-0.4**
	0.3nm,0.4s,baz=44,slow=2.4,SNR=4.3						
BRTR	**Keskin Array B**	**132.21**	**311**	PKP	**PKPdf**	**12 11 59.8**	**+0.7**
BRTR	**Keskin Array B**	**132.21**	**311**	PKP	**PKPdf**	**12 11 59.8**	**+0.7**
	1.1nm,0.9s,baz=98,slow=2.9,SNR=4.7						
GERES	**GERESS Array B**	**139.22**	**333**	PKP	**PKPdf**	**12 12 12.7**	**+0.9**
GERES	**GERESS Array B**	**139.22**	**333**	PKP	**PKPdf**	**12 12 12.7**	**+0.9**
	0.5nm,0.6s,baz=46,slow=2.8,SNR=3.7						
KEST	**Kesra**	**150.85**	**321**	PKPbc	**PKPbc**	**12 12 38.7**	**+0.8**
KEST	**Kesra**	**150.85**	**321**	PKPbc	**PKPbc**	**12 12 38.7**	**+0.8**
	2.8nm,0.6s,baz=45,slow=4.3,SNR=8.9						
TORD	**Torodi Ar. Bea**	**165.96**	**267**	PKPab	**PKPab**	**12 13 51.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.96**	**267**	PKPab	**PKPab**	**12 13 51.7**	**-0.1**
	0.8nm,0.8s,baz=104,slow=3.6,SNR=3.8						

MEX 31 12:01:00.8±0.4, 16°.83N×95°.67W, h88km±4km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.80**	**71**	*eP*	Pn	12 01 16.8	-1.3
CMIG				*iS*	Sn	12 01 29.4	-1.7
VHO	**Vista Hermosa**	**1.05**	**283**	*eP*	Pn	12 01 14.6	-6.6
VHO				*eS*	Sn	12 01 29.7	-6.8
HUIG	**Huatulco**	**1.14**	**202**	*eP*	Pn	12 01 20.8	-1.2
HUIG				*iS*	Sn	12 01 36.1	-1.8
TPIG	**Tehuac#an**	**2.26**	**315**	*iP*	Pn	12 01 35.7	-0.9
TPIG				*eS*	Sn	12 02 02.1	-1.9
PNIG	**Pinotepa**	**2.40**	**260**	*eP*	Pn	12 01 36.4	-1.8
PNIG				*eS*	Sn	12 02 05.7	-1.3
PCIG		**2.61**	**115**	*iP*	Pn	12 01 40.5	-0.5
PCIG				*iS*	Sn	12 02 11.4	-0.5
TLIG	**Tlapa**	**2.86**	**285**	*eP*	Pn	12 01 43.5	-1.2
TLIG				*iS*	Sn	12 02 16.1	-2.2
ARIG	**Puente Sto Nin**	**4.69**	**289**	*iP*	Pn	12 02 09.9	+0.6
ARIG				*eS*	Sn	12 03 02.2	-0.3

*ISCJB **31** 12:44:26.0±0.6, 76°.97N±0°.04×18°.5E±0°.1, h7km±6km, mb3.0/1, Error ellipse: s-maj=7.3km s-min=4.2km az=37.7*
*CSEM **31** 12:44:26.9±0.2, 77°.04N×18°.55E, h5km, ML3.5, Error ellipse: s-maj=5.5km s-min=3.3km az=52.0*
*IDC **31** 12:44:27.6±0.9, 77°.15N×19°.15E, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.1/33, mbtmp3.4/3, ML2.8/2, Error ellipse: s-maj=17.8km s-min=9.1km az=66.0*
*NAO **31** 12:44:28.3±1.0, 76°.99N×18°.25E, h15km±9km, ML3.5*
*BER **31** 12:44:30.3±2.9, 77°.05N×18°.42E, h18km±14km, MD2.4, ML3.4, ML3.5(NAO)*

ISC 31 12:44:26.9±1.2, 77°.03N±0°.03×18°.38E±0°.03, h5km±11km, n29, σ0§87/43, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.64**	**270**	Pg	**Pb**	**12 44 40.4**	**-0.1**
HSP				Lg	Lg	12 44 48.7	
HSP	**Hornsund**	**0.64**	**270**	*e*P	**Pb**	**12 44 40.5**	**-0.1**
HSP				*e*S	**Sg**	**12 44 48.6**	**+1.2**
HSP	**Hornsund**	**0.64**	**270**	Pg	**Pb**	**12 44 40.4**	**-0.1**
HSP				Lg	Lg	12 44 48.7	
HSPB	**Hornsund (broa**	**0.64**	**269**	*e*P	**Pb**	**12 44 40.4**	**-0.2**
HSPB				*e*S	**Sb**	**12 44 48.9**	**-1.0**
HSPB	**Hornsund (broa**	**0.64**	**269**	*e*P	**Pb**	**12 44 40.4**	**-0.2**
	SNR=98						
HSPB				*e*S	**Sb**	**12 44 48.9**	**-1.0**
	SNR=98						
SPA0	**Spitsbergen Ar**	**1.23**	**340**	Pn	**Pg**	**12 44 50.8**	**+0.2**
	baz=156,slow=22						
SPA0				Pg	**Pn**	**12 44 51.9**	**+1.1**
SPA0				Lg	Lg	12 45 08.3	
	baz=161,slow=28						
SPA0	**Spitsbergen Ar**	**1.23**	**340**	Pn	**Pg**	**12 44 50.8**	**+0.2**
	baz=156,slow=22						
SPA0				Pg	**Pn**	**12 44 51.9**	**+1.1**
SPA0				Lg	Lg	12 45 08.3	
	baz=161,slow=28						
SPA0	**Spitsbergen Ar**	**1.23**	**340**	Pn	**Pg**	**12 44 50.8**	**+0.2**
	SNR=9.4						
SPA0	**Spitsbergen Ar**	**1.23**	**340**	Pg	**Pn**	**12 44 51.9**	**+1.1**
SPA0				Lg	Lg	12 45 08.3	
	SNR=9.1						
SPITS	**Spitsbergen Ar**	**1.23**	**340**	Pn	**Pg**	**12 44 50.5**	**0.0**
	baz=148,slow=21,SNR=1013						
SPITS				Sn	**Sn**	**12 45 08.2**	**+0.3**
	baz=147,slow=33,SNR=8.8						
HOPEN	**Hopen**	**1.61**	**106**	Pn	**Pb**	**12 44 56.2**	**-0.9**
HOPEN				Pg	**Pg**	**12 44 59.0**	**+1.3**
HOPEN				Sn	**Sn**	**12 45 15.9**	**-1.2**
HOPEN				Lg	Lg	12 45 19.1	
HOPEN	**Hopen**	**1.61**	**106**	*e*P	**Pb**	**12 44 56.3**	**-0.9**
HOPEN				*e*Sg	**Sb**	**12 45 16.8**	**-0.9**
HOPEN				IAML		12 45 21.6	
	comp=Z,788nm,0.3s						
HOPEN	**Hopen**	**1.61**	**106**	*e*P	**Pb**	**12 44 56.3**	**-0.9**
	SNR=55						
HOPEN				*e*Sg	**Sb**	**12 45 16.8**	**-0.9**
	SNR=92						
KBS	**Kingsbay**	**2.33**	**328**	Pn	**Pn**	**12 45 05.6**	**-0.3**
KBS				Pg	**Pg**	**12 45 11.1**	**-0.5**
KBS				Lg	Lg	12 45 40.2	
KBS	**Kingsbay**	**2.33**	**328**	*e*P	**Pn**	**12 45 05.5**	**-0.4**
KBS				*e*Sg	**Sg**	**12 45 40.9**	**-0.9**
KBS				IAML		12 45 47.6	
	comp=Z,730nm,0.5s						
KBS	**Kingsbay**	**2.33**	**328**	Pn	**Pn**	**12 45 05.6**	**-0.3**
KBS	**Kingsbay**	**2.33**	**328**	Pg	**Pg**	**12 45 11.1**	**-0.5**
KBS				Lg	Lg	12 45 40.2	
BJO	**Bjornoya**	**2.54**	**175**	*e*Pg	**Pg**	**12 45 15.5**	**-0.1**
BJO				*e*Sg	**Sg**	**12 45 48.4**	**-0.1**
BJO				IAML		12 45 51.8	
	comp=Z,188nm,0.5s						
BJO	**Bjornoya**	**2.54**	**175**	*e*Pg	**Pg**	**12 45 15.5**	**-0.1**
	SNR=91						
BJO				*e*Sg	**Sg**	**12 45 48.4**	**-0.1**
	SNR=91						
KEV	**Kevo

TUWZ				AML	AML	12 50 59.5		
TUWZ				AML	AML	12 51 03.1		
PNHZ	**Pukenui**	**1.21**	**59**	⇓PN	Pn	12 50 44.8	-1.1	
ANWZ	**Angora Road**	**1.24**	**86**	PN	Pn	12 50 45.1	-1.1	
MTVZ	**Mangateitei**	**1.26**	**22**	PN	Pn	12 50 46.2	-0.4	
NNZ	**Nelson**	**1.30**	**239**	⇑PN	Pn	12 50 46.0	-1.0	
WPHZ	**Waipukurau**	**1.31**	**69**	PN	Pn	12 50 46.1	-1.1	
PKVZ	**Pokaka**	**1.31**	**17**	PN	Pn	12 50 46.8	-0.5	
MOVZ	**Moawhango**	**1.33**	**31**	PN	Pn	12 50 46.9	-0.7	
WNVZ	**Wahianoa**	**1.35**	**25**	⇑PN	Pn	12 50 47.7	-0.2	
TRVZ	**Turoa**	**1.36**	**23**	PN	Pn	12 50 47.9	-0.3	
NMEZ	**Namu Road**	**1.36**	**326**	PN	Pn	12 50 47.7	-0.2	
BSWZ	**Blackbirch Sta**	**1.38**	**212**	PN	Pn	12 50 47.3	-0.9	
BSWZ				AML	AML	12 51 08.8		
BSWZ				AML	AML	12 51 12.0		
DRZ	**Dome Shelter**	**1.39**	**23**	PN	Pn	12 50 48.7	+0.1	
WHVZ	**Whangaehu Hut**	**1.39**	**24**	PN	Pn	12 50 48.5	-0.1	
PRHZ	**Porangahau**	**1.39**	**79**	PN	Pn	12 50 47.4	-0.9	
FWVZ	**Far West T-bar**	**1.40**	**23**	PN	Pn	12 50 48.6	-0.1	
NEZ	**North Egmont**	**1.41**	**335**	PN	Pn	12 50 48.4	-0.2	
BHHZ	**Black Hill Sta**	**1.41**	**42**	PN	Pn	12 50 48.3	-0.3	
KHEZ	**Kahui Hut**	**1.41**	**333**	⇓PN	Pn	12 50 48.6	-0.2	
TUVZ	**Tukino**	**1.42**	**26**	PN	Pn	12 50 49.0	0.0	
VRZ	**Vera Road**	**1.43**	**357**	PN	Pn	12 50 48.3	-0.5	
WPVZ	**Whakapapa**	**1.45**	**22**	PN	Pn	12 50 48.9	-0.3	
DREZ	**Durham Road**	**1.45**	**340**	PN	Pn	12 50 49.0	-0.1	
COVZ	**Chateau Observ**	**1.45**	**22**	⇓PN	Pn	12 50 49.2	-0.1	
NWEZ	**Newall Road**	**1.48**	**329**	PN	Pn	12 50 49.7	+0.1	
NGZ	**Ngauruhoe**	**1.49**	**23**	PN	Pn	12 50 50.0	+0.2	
OTVZ	**Oturere**	**1.52**	**25**	PN	Pn	12 50 50.3	0.0	
MHEZ	**Mangahewa**	**1.53**	**344**	PN	Pn	12 50 50.5	+0.4	
TWVZ	**Taurewa**	**1.54**	**17**	PN	Pn	12 50 50.0	-0.6	
PXZ	**Pawanui**	**1.62**	**72**	AML	AML	12 51 24.7		
PXZ				AML	AML	12 51 29.8		
PXZ				AML	AML	12 51 29.8		
KATZ	**Kakaramea**	**1.70**	**23**	PN	Pn	12 50 53.1	+0.4	
RITZ	**Rihia Road**	**1.75**	**27**	PN	Pn	12 50 54.5	+1.2	
QRZ	**Quartz Range**	**1.79**	**260**	⇑PN	Pn	12 50 52.3	-1.5	
MCHZ	**McNeill Hill**	**1.80**	**53**	PN	Pn	12 50 56.6	+2.7	
BKZ	**Black Stump Fm**	**1.87**	**43**	PN	Pn	12 50 53.5	-1.4	
BKZ				AML	AML	12 51 26.6		
BKZ				AML	AML	12 51 30.9		
THZ	**Tophouse**	**1.91**	**230**	⇑PN	Pn	12 50 54.2	-1.2	
WATZ	**Wairara**	**1.96**	**21**	PN	Pn	12 50 56.6	+0.5	
HIZ	**Hauiti**	**2.04**	**0**	⇑PN	Pn	12 50 57.0	-0.1	
KHZ	**Kahutara**	**2.11**	**207**	PN	Pn	12 50 56.5	-1.5	
TLZ	**Tolley Road**	**2.28**	**14**	PN	Pn	12 50 59.6	-0.9	
DSZ	**Denniston Nort**	**2.59**	**242**	PN	Pn	12 51 02.8	-2.0	
TOZ	**Tahuroa Road**	**2.86**	**10**	PN	Pn	12 51 07.6	-0.8	
URZ	**Urewera**	**2.88**	**38**	PN	Pn	12 51 05.7	-2.9	
URZ				AML	AML	12 51 48.7		
URZ				AML	AML	12 51 51.9		
LTZ	**Lake Taylor**	**2.95**	**220**	PN	Pn	12 51 07.5	-2.3	
MKAZ	**Moumakai**	**3.44**	**4**	PN	Pn	12 51 15.8	-0.6	
CRLZ	**Canterbury Las**	**3.45**	**208**	PN	Pn	12 51 13.2	-3.2	
KBAZ	**Karaka Road Bo**	**3.45**	**0**	PN	Pn	12 51 16.5	0.0	
OXZ	**Oxford**	**3.48**	**216**	PN	Pn	12 51 13.2	-3.6	
MQZ	**McQueen's Vall**	**3.55**	**207**	⇑PN	Pn	12 51 13.9	-4.0	
HAZ	**Te Kaha**	**3.60**	**40**	PN	Pn	12 51 16.2	-2.4	
RVAZ	**Riverhead Bore**	**3.78**	**357**	PN	Pn	12 51 20.8	-0.2	
WVZ	**Waitaha Valley**	**3.98**	**229**	PN	Pn	12 51 21.1	-2.6	
FOZ	**Fox Glacier**	**4.88**	**230**	PN	Pn	12 51 31.9	-4.2	
LBZ	**Lake Benmore**	**5.16**	**220**	PN	Pn	12 51 36.8	-3.1	
OUZ	**Omahuta**	**5.41**	**349**	PN	Pn	12 51 43.1	-0.3	
ODZ	**Otahua Downs**	**5.45**	**213**	PN	Pn	12 51 40.1	-3.9	
CTZ	**Chatham Island**	**7.09**	**119**	PN	Pn	12 52 04.5	-1.9	

IDC 31 12:57:32.7±9.8, 4°45S×152°66E, h89km±68km, mb3.3/2, mb1 3.5/3, mb1mx3.1/22, mbtmp3.6/3, ML2.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/13, Error ellipse: s-maj=141.9km s-min=62.2km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.35**	**228**	P	Pn	12 59 16.7	-0.7
	0.9nm,0.3s,baz=342,slow=14,SNR=1.8						
PMG				S	Sn	13 00 42.5	+3.3
	1.7nm,0.3s,baz=345,slow=20,SNR=2.6						
HNR	**Honiara**	**8.76**	**125**	LR	LR	13 02 25.0	
	comp=Z,51nm,20.2s,baz=66,slow=33						
WRA	**Warramunga Arr**	**23.57**	**228**	P	P	13 02 34.1	-1.4
	1.5nm,0.6s,baz=51,slow=9.8,SNR=4.1						
ASAR	**Alice Springs**	**26.31**	**222**	P	P	13 02 59.7	-0.6
	0.2nm,0.3s,baz=52,slow=8.8,SNR=1.8						
KSRS	**Korea Array**	**47.63**	**333**	LR	LR	13 22 42.8	
	comp=Z,131nm,22.0s,baz=155,slow=32						
TORD	**Torodi Ar. Bea**	**150.06**	**289**	PKPbc	PKPbc	13 17 15.1	+0.9
	0.3nm,0.5s,baz=75,slow=2.3,SNR=2.9						

*IDC **31** 13:21:19.4±2.8, 40°.51N×78°.45E, h0km, mb3.6/1, mb1 3.3/5, mb1mx3.1/35, mbtmp3.3/5, ML3.0/4, MS3.9/2, Ms1 3.8/2, ms1mx2.6/38, Error ellipse: s-maj=39.4km s-min=22.4km az=142.0*

*KRNET **31** 13:21:20.7±0.1, 40°.83N×77°.91E, h3km, mb3.3*

*NNC **31** 13:21:29.1±1.8, 41°.19N×78°.06E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=15.6km s-min=10.4km az=167.0*

ISC 31 13:21:24.1±2.3, 40°.84N±0°.08×78°.12E±0°.04, h10km±17km, n37, σ1°33/37, 25C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.71**	**291**	*e*P	**Pn**	**13 21 53.2**	**-1.0**
	baz=293						
NRN				*e*S	**Sn**	**13 22 13.1**	**-3.1**
	baz=293						
ANVS	**Anan'yevo**	**1.97**	**350**	⇓*i*P	**Pn**	**13 21 58.0**	**+0.3**
	baz=355						
ULHL	**Ulahol**	**1.99**	**316**	P	**Pn**	**13 21 57.8**	**-0.2**
	SNR=30						
ULHL	**Ulahol**	**1.99**	**316**	⇑*i*P	**Pn**	**13 21 57.6**	**-0.4**
	baz=319						
ULHL				⇑*i*S	**Sn**	**13 22 22.9**	**-0.2**
	baz=319						
BOOM	**Boomskoye usch**	**2.32**	**316**	*e*P	Pn	13 22 04.8	+2.3
	baz=319						
BOOM				*e*S	Sb	13 22 37.6	+2.7
	baz=319						
KZA	**Kyzart**	**2.48**	**301**	P	Pn	13 22 06.8	+1.8
	SNR=17						
KZA	**Kyzart**	**2.48**	**301**	⇑*i*P	Pn	13 22 06.8	+1.8
	baz=303						
KZA				⇑*i*S	**Sb**	**13 22 38.9**	**-1.0**
	baz=303						
KNDC	**Almaty**	**2.52**	**341**	⇓Pn	Pn	13 22 07.0	+1.7
	38nm,0.8s						
KNDC				⇑Lg	Lg	13 22 39.5	
	164nm,0.5s						
TKM2	**Tokmak 2**	**2.80**	**319**	⇑Pn	Pn	13 22 11.0	+1.8
TKM2				⇑Lg	Lg	13 22 48.5	
	36nm,0.6s						
TKM2	**Tokmak 2**	**2.80**	**319**	P	Pn	13 22 11.3	+2.1
	SNR=9.0						
TKM2	**Tokmak 2**	**2.80**	**319**	⇑*i*P	Pn	13 22 11.0	+1.8
	baz=321						
TKM2				⇑*i*S	**Sb**	**13 22 47.5**	**-1.4**
	baz=321						
KBK	**Karagaybulak**	**2.98**	**308**	P	**Pb**	**13 22 16.0**	**-1.5**
	SNR=14						
KBK	**Karagaybulak**	**2.98**	**308**	⇑*i*P	**Pb**	**13 22 15.7**	**-1.8**
	baz=310						
KBK				⇑*i*S	**Sb**	**13 22 53.2**	**-0.9**
	baz=310						
ARLS	**Aral**	**3.03**	**291**	*i* P	**Pn**	**13 22 12.9**	**+0.6**
	baz=292						
ARLS				⇓*i*S	**Sb**	**13 22 57.8**	**+2.4**
	baz=292						
UCH	**Uchtor**	**3.04**	**298**	P	Pn	13 22 14.5	+1.8
	SNR=17						
UCH	**Uchtor**	**3.04**	**298**	⇑*i*P	Pn	13 22 14.8	+2.1
	baz=300						
UCH				⇑*i*S	**Sb**	**13 22 55.8**	**-0.1**
	baz=300						
AAK	**Ala-Archa**	**3.25**	**305**	⇓Pn	Pb	13 22 19.5	-2.4
	9.4nm,0.4s						
AAK				⇓Lg	Lg	13 23 03.3	
	48nm,0.6s						
AAK	**Ala-Archa**	**3.25**	**305**	P	**Pb**	**13 22 20.6**	**-1.4**
	SNR=8.4						
AAK	**Ala-Archa**	**3.25**	**305**	Pn	**Pb**	**13 22 20.5**	**-1.4**
	6.7nm,0.3s,baz=118,slow=8.5,SNR=25						
AAK				Pg	Pg	13 22 22.9	-3.4
	7.0nm,0.3s,baz=131,slow=8.6,SNR=25						
AAK				Sn	**Sb**	**13 23 02.4**	**+0.8**
	3.7nm,0.3s,baz=4.1,slow=22,SNR=3.9						
AAK	**Ala-Archa**	**3.25**	**305**	⇑*i*P	**Pb**	**13 22 20.4**	**-1.6**
	baz=306						
AAK				⇑*i*S	**Sb**	**13 23 02.0**	**+0.4**
	baz=306						
CHMS	**Chumysh**	**3.31**	**312**	P	**Pb**	**13 22 22.0**	**-0.9**
	SNR=12						
CHMS	**Chumysh**	**3.31**	**312**	⇑*i*P	**Pb**	**13 22 21.7**	**-1.2**
	baz=314						
CHMS				⇑*i*S	**Sb**	**13 23 03.3**	**0.0**
	baz=314						
AML	**Almayashu**	**3.56**	**293**	P	**Pb**	**13 22 26.9**	**-0.6**
	SNR=9.7						
AML	**Almayashu**	**3.56**	**293**	⇑*i*P	**Pb**	**13 22 26.6**	**-0.9**
	baz=294						
AML				⇑*i*S	**Sb**	**13 23 12.6**	**+1.7**
	baz=294						
USP	**Ospenovka**	**3.62**	**313**	P	Sb	13 23 14.3	+2.0
	SNR=5.5						
USP	**Ospenovka**	**3.62**	**313**	⇑*i*P	Pb	13 22 25.9	-2.4
	baz=315						
USP				⇑*i*S	**Sb**	**13 23 12.7**	**+0.4**
	baz=315						
EKS2	**Erkin-Say**	**3.72**	**301**	P	**Pb**	**13 22 29.9**	**-0.1**
	SNR=14						
EKS2	**Erkin-Say**	**3.72**	**301**	⇑*i*P	**Pb**	**13 22 29.5**	**-0.5**
	baz=302						
EKS2				⇑*i*S	**Sb**	**13 23 17.2**	**+2.0**
	baz=302						
ARSB	**Arslanbob**	**3.91**	**279**	*e*P	**Pb**	**13 22 34.5**	**+1.3**
	baz=279						
ARSB				*e*S	Sb	13 23 26.3	+5.7
	baz=279						
KK31	**Karatay Array**	**6.10**	**294**	⇓Pg	Pb	13 23 13.6	+3.2
	0.8nm,0.3s,baz=112,slow=16,SNR=10						
KK31				⇓Lg	Lg	13 24 37.0	
	1.7nm,0.5s,baz=109,slow=27,SNR=5.7						
MK31	**Makanchi Array**	**6.67**	**25**	Pn	**Pn**	**13 23 02.8**	**+0.6**
	0.3nm,0.4s,baz=206,slow=14,SNR=13						
MK31				⇑Sn	**Sn**	**13 24 19.1**	**+0.9**
	1.1nm,0.5s						
MK31				⇑Lg	Lg	13 24 49.2	
	1.5nm,0.6s,baz=211,slow=28,SNR=3.1						
MKAR	**Makanchi Array**	**6.67**	**25**	Pn	**Pn**	**13 23 02.6**	**+0.4**
	0.3nm,0.3s,baz=207,slow=15,SNR=9.7						
MKAR				Sn	**Sn**	**13 24 21.0**	**+2.8**
	0.4nm,0.3s,baz=209,slow=25,SNR=3.5						
MKAR				Lg	Lg	13 24 50.5	
	0.5nm,0.3s,baz=214,slow=27,SNR=3.3						
KURBB	**Kurchatov Arra**	**9.79**	**2**	Pn	**Pn**	**13 23 44.8**	**-0.1**
	0.1nm,0.3s,baz=186,slow=12,SNR=3.6						
KURBB				Lg	Lg	13 26 34.0	
	0.1nm,0.3s,baz=185,slow=29,SNR=6.3						
ZALV	**Zalesovo Beam**	**13.87**	**17**	Pn	**Pn**	**13 24 39.4**	**-1.2**
	0.1nm,0.3s,baz=206,slow=9.4,SNR=1.8						
JNU	**Nakatsue**	**42.31**	**83**	LR	LR	13 46 22.9	
	comp=Z,271nm,18.9s,slow=36						
TORD	**Torodi Ar. Bea**	**71.29**	**271**	P	**P**	**13 32 42.4**	**-1.6**
	0.5nm,0.7s,baz=59,slow=5.7,SNR=3.3						
ULM	**Lac du Bonnet**	**89.14**	**356**	LR	LR	14 17 17.0	
	comp=Z,24nm,18.5s,baz=312,slow=38						

IDC 31 13:42:24.5±3.1, 6°.79S×129°.32E, h0km, mb4.0/1, mb1 3.7/3, mb1mx3.2/34, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=119.5km s-min=41.1km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.96**	**160**	Pn	Pn	13 45 42.6	-1.1
	0.1nm,0.3s,baz=339,slow=13,SNR=2.2						
WRA				Sn	Sn	13 48 14.9	-4.7
	0.1nm,0.3s,baz=332,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**17.35**	**166**	P	P	13 46 29.2	-0.6
	0.0nm,0.3s,baz=344,slow=9.4,SNR=2.3						
ILAR	**Eielson Array**	**93.44**	**25**	P	P	13 55 41.5	-0.1
	0.3nm,0.5s,baz=261,slow=5.1,SNR=3.1						

*IDC **31** 13:47:40.7±1.0, 15°.27N×122°.55E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.5/40, mbtmp3.6/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=37.7km s-min=17.9km az=73.0*

*ISCJB **31** 13:47:45.6±0.9, 15°.39N±0°.05×122°.33E±0°.07, h39km±10km, mb3.7/8, MS3.2/1, Error ellipse: s-maj=12.7km s-min=5.9km az=148.0*

*MAN **31** 13:47:45, 15°.43N×122°.28E, h25km, mb4.7, ML3.6, MS3.6*

ISC 31 13:47:46.7±1.2, 15°.37N±0°.06×122°.30E±0°.08, h37km±2km, n28, σ1°30/28, mb3.7/8, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.79**	**298**	*e*P	**Pn**	**13 47 60.0**	**-1.3**
BALP				*e*S	**Sn**	**13 48 10.7**	**-1.1**
PCPH	**Palayan**	**1.17**	**279**	⇓*i*P	**Pn**	**13 48 05.1**	**-1.4**
LQP	**Lukban**	**1.45**	**210**	⇓*e*P	**Pn**	**13 48 09.6**	**-1.1**
LQP				*e*S	**Sn**	**13 48 29.8**	**+1.3**
GQP	**Guinayangan**	**1.47**	**174**	⇓*e*P	**Pn**	**13 48 10.1**	**-0.5**
GQP				*e*S	**Sn**	**13 48 28.0**	**-0.6**
TGY	**Tagaytay City**	**1.82**	**226**	Pn	**Pn**	**13 48 15.5**	**-0.1**
	baz=37,slow=6.5						
TGY				Sn	**Sn**	**13 48 38.5**	**+1.0**
	267nm,0.3s,baz=2.8,slow=5.0,SNR=10						
TGY	**Tagaytay City**	**1.82**	**226**	⇑*e*P	**Pn**	**13 48 15.9**	**+0.3**
TGY				*e*S	**Sn**	**13 48 39.2**	**+1.7**
BCPH	**Baguio City Da**	**1.93**	**301**	⇑*i*P	**Pn**	**13 48 18.0**	**+0.8**
BCPH				*i* S	**Sn**	**13 48 40.1**	**-0.2**
BOAC	**Boac**	**1.95**	**193**	*e*P	**Pn**	**13 48 19.1**	**+1.8**
AUQP	**San Andres**	**2.07**	**170**	*e*P	**Pn**	**13 48 20.6**	**+1.6**
BOLP	**Bolinao**	**2.50**	**294**	*e*P	**Pn**	**13 48 26.5**	**+1.6**
PVCP	**Virac**	**2.52**	**134**	*e*P	**Pn**	**13 48 24.9**	**-0.2**
OTRP	**Odiongan**	**3.00**	**185**	*e*P	**Pn**	**13 48 31.4**	**-0.4**
SJMP	**San Jose**	**3.11**	**202**	*e*P	**Pn**	**13 48 33.2**	**0.0**
BUSP	**Coron**	**3.92**	**212**	*e*P	**Pn**	**13 48 43.5**	**-0.9**
SONM	**Songino Array**	**34.94**	**341**	P	**P**	**13 54 36.2**	**+1.0**
	0.2nm,0.3s,baz=151,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**37.04**	**161**	P	**P**	**13 54 50.2**	**-3.1**
	0.4nm,0.8s,baz=342,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**40.42**	**163**	P	**P**	**13 55 19.8**	**-1.9**
	0.2nm,0.4s,baz=341,slow=6.7,SNR=18						
ASAR				LR	LR	14 12 59.2	
	comp=Z,33nm,18.9s,baz=16,slow=38						
H11S3	**WAKE ISLAND Hy**	**42.50**	**79**	T	T	14 42 06.6	
	baz=41,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**42.51**	**79**	T	T	14 42 02.1	
	baz=52,slow=74,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**42.52**	**79**	T	T	14 41 59.9	
H11N1	**WAKE ISLAND Hy**	**42.65**	**77**	T	T	14 41 29.2	
	baz=276,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**42.65**	**77**	T	T	14 41 30.0	
	baz=276,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**42.67**	**77**	T	T	14 41 31.0	
	baz=276,slow=75,SNR=4.4						
MKAR	**Makanchi Array**	**45.65**	**322**	P	**P**	**13 56 04.8**	**+1.1**
	0.6nm,0.7s,baz=113,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**48.32**	**331**	P	**P**	**13 56 25.1**	**+0.7**
	0.6nm,0.4s,baz=145,slow=8.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**49.70**	**325**	P	**P**	**13 56 36.1**	**+1.2**
	0.8nm,0.6s,baz=122,slow=8.7,SNR=11						
FINES	**FINESS Array B**	**79.58**	**331**	P	**P**	**13 59 49.7**	**-0.1**
	2.0nm,0.9s,baz=60,slow=4.6,SNR=5.1						
YKA	**Yellowknife Ar**	**90.64**	**23**	P	**P**	**14 00 46.0**	**+0.8**
	0.3nm,0.7s,baz=305,slow=4.3,SNR=2.6						

*IDC **31** 13:52:56.0±2.2, 33°.52S×179°.21E, h225km±19km, mb3.9/8, mb1 4.0/9, mb1mx3.7/26, mbtmp4.4/9, Error ellipse: s-maj=21.5km s-min=14.7km az=22.0*

*NEIC **31** 13:53:45.7, 37°.06S×178°.21E, h84km, ML4.1(WEL), After WEL.*

ISC 31 13:52:54.3±1.4, 33°.74S±0°.09×179°.6E±0°.2, h250km, n121, σ1°42/109, mb4.1/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.96**	**195**	P*	Pn	13 53 59.8	+2.3
MXZ	**Matakaoa Point**	**3.96**	**195**	PN	Pn	13 53 59.8	+2.3
MXZ				SN	**S**	**13 54 48.1**	**+0.3**
HAZ	**Te Kaha**	**4.28**	**200**	PN	**Pn**	**13 54 03.1**	**+1.8**
PUZ	**Puketiti**	**4.46**	**194**	Pn	**Pn**	**13 54 05.1**	**+1.5**
PUZ	**Puketiti**	**4.46**	**194**	PN	**Pn**	**13 54 05.1**	**+1.5**
PUZ				SN	**S**	**13 54 58.5**	**-0.2**
OPRZ	**Ohinepanea**	**4.79**	**210**	P*	Pn	13 54 09.8	+2.4
OPRZ	**Ohinepanea**	**4.79**	**210**	PN	Pn	13 54 09.8	+2.4
MARZ	**Manawahe**	**4.86**	**209**	P*	Pn	13 54 11.9	+3.6
MARZ	**Manawahe**	**4.86**	**209**	*e*PN	Pn	13 54 11.2	+2.8
CNGZ	**Carnagh Statio**	**4.87**	**193**	Pn	**Pn**	**13 54 10.1**	**+1.7**
CNGZ	**Carnagh Statio**	**4.87**	**193**	PN	**Pn**	**13 54 10.1**	**+1.7**
MWZ	**Matawai**	**4.89**	**200**	P*	**Pn**	**13 54 10.4**	**+1.7**
MWZ	**Matawai**	**4.89**	**200**	PN	**Pn**	**13 54 09.9**	**+1.2**
MWZ				SN	**S**	**13 55 09.0**	**+1.0**
URZ	**Urewera**	**4.95**	**203**	P*	**Pn**	**13 54 10.4**	**+1.1**
URZ				S	**S**	**13 55 10.1**	**+0.9**
URZ	**Urewera**	**4.95**	**203**	P	**Pn**	**13 54 10.5**	**+1.1**
	13nm,0.3s,baz=273,slow=4.5,SNR=88						
URZ				S	**S**	**13 55 10.1**	**+0.9**
	22nm,0.3s,baz=272,slow=23,SNR=20						
TARZ	**Mount Tarawera**	**5.14**	**208**	P*	Pn	13 54 15.8	+3.9
TARZ	**Mount Tarawera**	**5.14**	**208**	PN	Pn	13 54 15.1	+3.2
SNGZ	**Shannon Statio**	**5.36**	**199**	PN	**Pn**	**13 54 15.3**	**+0.9**
SNGZ				SN	**S**	**13 55 18.6**	**+0.2**
PRRZ	**Plateau Road**	**5.42**	**208**	Pn	Pn	13 54 17.3	+2.1
PRRZ	**Plateau Road**	**5.42**	**208**	PN	**Pn**	**13 54 16.6**	**+1.4**
PRRZ				SN	**S**	**13 55 20.9**	**+1.2**
ALRZ	**Allen Road**	**5.49**	**208**	Pn	**Pn**	**13 54 17.6**	**+1.5**
ALRZ	**Allen Road**	**5.49**	**208**	PN	**Pn**	**13 54 17.6**	**+1.5**
RAHZ	**Arahi**	**5.56**	**201**	Pn	**Pn**	**13 54 17.7**	**+0.9**
RAHZ	**Arahi**	**5.56**	**201**	PN	**Pn**	**13 54 17.5**	**+0.7**
MHGZ	**Mahia Peninsul**	**5.58**	**194**	Pn	**Pn**	**13 54 18.4**	**+1.3**
MHGZ	**Mahia Peninsul**	**5.58**	**194**	PN	**Pn**	**13 54 18.3**	**+1.3**
WHHZ	**Waihua**	**5.66**	**199**	PN	**Pn**	**13 54 19.3**	**+1.2**
NMHZ	**Naumai**	**5.81**	**202**	Pn	**Pn**	**13 54 21.0**	**+1.0**
NMHZ	**Naumai**	**5.81**	**202**	PN	**Pn**	**13 54 21.0**	**+1.0**
BKZ	**Black Stump Fm**	**5.97**	**204**	Pn	**Pn**	**13 54 22.5**	**+0.5**
BKZ	**Black Stump Fm**	**5.97**	**204**	PN	**Pn**	**13 54 22.5**	**+0.5**
HIZ	**Hauiti**	**6.12**	**218**	Pn	Pn	13 54 28.8	+4.9
HIZ	**Hauiti**	**6.12**	**218**	PN	Pn	13 54 27.8	+3.9
MCHZ	**McNeill Hill**	**6.16**	**202**	Pn	**Pn**	**13 54 24.9**	**+0.5**
MCHZ	**McNeill Hill**	**6.16**	**202**	PN	**Pn**	**13 54 24.9**	**+0.5**
CKHZ	**Cape Kidnapper**	**6.25**	**198**	Pn	**Pn**	**13 54 26.4**	**+0.9**
OTVZ	**Oturere**	**6.28**	**209**	Pn	**Pn**	**13 54 26.6**	**+0.6**
TUVZ	**Tukino**	**6.37**	**209**	Pn	**Pn**	**13 54 28.6**	**+1.5**
TUVZ	**Tukino**	**6.37**	**209**	PN	**Pn**	**13 54 28.6**	**+1.5**
BHHZ	**Black Hill Sta**	**6.41**	**205**	Pn	**Pn**	**13 54 28.0**	**+0.5**
BHHZ	**Black Hill Sta**	**6.41**	**205**	PN	**Pn**	**13 54 28.0**	**+0.5**
KAHZ	**Kahuranaki**	**6.43**	**199**	Pn	**Pn**	**13 54 27.8**	**0.0**
KAHZ	**Kahuranaki**	**6.43**	**199**	PN	**Pn**	**13 54 27.8**	**0.0**
WNVZ	**Wahianoa**	**6.45**	**209**	Pn	**Pn**	**13 54 29.1**	**+1.3**
WNVZ	**Wahianoa**	**6.45**	**209**	PN	**Pn**	**13 54 29.4**	**+1.3**
MOVZ	**Moawhango**	**6.45**	**208**	Pn	**Pn**	**13 54 27.6**	**-0.4**
PKVZ	**Pokaka**	**6.52**	**211**	Pn	**Pn**	**13 54 30.1**	**+1.3**
PKVZ	**Pokaka**	**6.52**	**211**	PN	**Pn**	**13 54 30.1**	**+1.3**
PXZ	**Pawanui**	**6.66**	**199**	Pn	**Pn**	**13 54 29.8**	**-0.8**
PNHZ	**Pukenui**	**6.74**	**203**	Pn	**Pn**	**13 54 30.6**	**-1.1**
PNHZ	**Pukenui**	**6.74**	**203**	PN	**Pn**	**13 54 30.6**	**-1.1**
WPHZ	**Waipukurau**	**6.81**	**201**	Pn	**Pn**	**13 54 33.2**	**+0.8**
PRHZ	**Porangahau**	**6.94**	**199**	*e*Pn	**Pn**	**13 54 33.2**	**-0.9**
PRHZ	**Porangahau**	**6.94**	**199**	PN	**Pn**	**13 54 33.2**	**-0.9**
TSZ	**Takapari Road**	**6.95**	**204**	Pn	**Pn**	**13 54 33.6**	**-0.7**
WAZ	**Wanganui**	**7.06**	**210**	Pn	**Pn**	**13 54 35.9**	**+0.2**
WAZ	**Wanganui**	**7.06**	**210**	PN	**Pn**	**13 54 35.9**	**+0.2**
DVHZ	**Dannevirke**	**7.11**	**202**	Pn	**Pn**	**13 54 36.2**	**0.0**
DVHZ	**Dannevirke**	**7.11**	**202**	PN	**Pn**	**13 54 36.2**	**0.0**
ANWZ	**Ang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**1.52**	**20**	*eP*	Pn	14 06 43.0	-3.6
ARIG				*i* S	Sn	14 07 00.9	-5.2
PLIG	**Platanillo**	**2.03**	**40**	*eP*	Pn	14 06 50.4	-3.2
PLIG				*eS*	Sn	14 07 14.2	-4.6
TLIG	**Tlapa**	**2.33**	**72**	*eP*	Pn	14 06 54.7	-3.1
TLIG				*i* S	Sn	14 07 21.8	-4.5
YAIG	**Yautepec**	**2.66**	**41**	*eP*	Pn	14 06 59.4	-2.9
YAIG				*i* S	Sn	14 07 30.3	-4.0

DJA 31 14:11:14.0±1.2, 0°S±5°×12°5E±°, h12km±10km, M3.6/6, MLv3.6/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.12**	**305**	P	Pb	14 11 33.5	-1.8
KMSI				S	Sb	14 11 48.3	-1.6
SANI	**Sanana**	**2.25**	**151**	P	Pn	14 11 48.7	-2.3
SANI				S	Sn	14 12 14.7	-4.0
LUWI	**Luwuk**	**2.34**	**246**	P	Pn	14 11 53.6	+1.3
LUWI				S	Sn	14 12 21.9	+1.0
LBMI	**Labuha**	**2.66**	**102**	P	Pn	14 11 58.0	+1.2
LBMI				S	Sn	14 12 30.0	+1.0
MRSI	**Marisa**	**3.01**	**280**	P	Pn	14 12 01.5	0.0
APSI	**Ampana**	**3.36**	**256**	P	Pn	14 12 06.5	+0.2

KRSC 31 15:14:43.7±2.7, 49°58N×153°38E, h150km±27km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.08**	**57**	*eP*	Pn	15 15 22.1	+2.4
SKR				*eS*	Sn	15 15 49.9	+2.4
PAU	**Pauzhetka**	**2.90**	**48**	*eS*	Sn	15 16 06.0	+0.7
RUS	**Russkaya**	**4.33**	**47**	*eP*	Pn	15 15 48.5	+0.4
RUS				S	Sn	15 16 39.7	+1.4
KOK	**Koryaka**	**4.97**	**39**	*eP*	Pn	15 15 58.4	+1.7
UGLR	**Uglovaya**	**4.99**	**41**	*eP*	Pn	15 15 58.5	+1.5
AVH	**Avacha**	**4.99**	**40**	*eP*	Pn	15 15 58.5	+1.5
GNL	**Ganaly**	**5.01**	**33**	*eP*	Pn	15 16 00.0	+2.7
KRX	**Arik**	**5.02**	**39**	*eP*	Pn	15 15 58.6	+1.1
KRER	**Koryakskii**	**5.02**	**40**	*eP*	Pn	15 15 58.4	+0.8
KBTR	**Krutoberegovo**	**8.75**	**37**	*eP*	Pn	15 16 51.5	+4.5

IDC ***31*** *15:16:17.7±6.0, 15°.83N×99°.05W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/40, mbtmp3.4/6, ML3.0/1, Error ellipse: s-maj=133.6km s-min=101.9km az=72.0*
ISCJB ***31*** *15:16:29.6±0.8, 16°.67N±0°.06×100°.51W±0°.04, h18km, mb3.3/4, Error ellipse: s-maj=8.7km s-min=5.0km az=13.0*
MEX ***31*** *15:16:31.8±0.7, 16°.67N×100°.53W, h4km±9km, MD4.2*
ISC 31 15:16:32.0±1.2, 16°.75N±0°.08×100°.52W±0°.05, h18km, n18, σ1°25°/22, mb3.3/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.64**	**79**	*i* P	**Pn**	**15 16 47.2**	**+1.0**
ACX				*eS*	**Sn**	**15 16 56.8**	**+0.9**
ARIG	**Puente Sto Nin**	**1.53**	**6**	*eP*	**Pn**	**15 16 57.3**	**-1.2**
ARIG				*i* S	**Sn**	**15 17 16.9**	**-1.1**
PLIG	**Platanillo**	**1.90**	**30**	*eP*	**Pn**	**15 17 02.9**	**-0.7**
PLIG				*i* S	**Sn**	**15 17 27.6**	**+0.5**
TLIG	**Tlapa**	**2.03**	**66**	*eP*	**Pn**	**15 17 04.8**	**-0.7**
TLIG				*i* S	**Sn**	**15 17 28.8**	**-1.6**
YAIG	**Yautepec**	**2.51**	**33**	*eP*	**Pn**	**15 17 10.8**	**-1.3**
YAIG				*i* S	**Sn**	**15 17 42.9**	**+0.5**
MMIG	**Aquila**	**3.10**	**300**	*eP*	**Pn**	**15 17 18.9**	**-1.2**
MMIG				*i* S	**Sn**	**15 17 56.9**	**+0.1**
TPIG	**Tehuac#an**	**3.44**	**61**	*i* P	**Pn**	**15 17 24.3**	**-0.6**
TPIG				*eS*	**Sn**	**15 18 04.9**	**-0.3**
VHO	**Vista Hermosa**	**3.63**	**84**	*eP*	**Pn**	**15 17 26.4**	**-1.2**
VHO				*i* S	**Sn**	**15 18 09.3**	**-0.8**
HUIG	**Huatulco**	**4.34**	**102**	*eP*	**Pn**	**15 17 36.5**	**-0.7**
HUIG				*i* S	**Sn**	**15 18 26.1**	**-1.3**
TXAR	**Lajitas Array**	**12.86**	**348**	Pn	P	15 19 39.8	-5.0
	0.0nm,0.3s,baz=168,slow=13,SNR=4.8						
ANMO	**Albuquerque**	**18.89**	**345**	P	**Pn**	**15 20 55.5**	**+3.2**
	1.1nm,0.9s,baz=146,slow=10,SNR=4.3						
NVAR	**Mina Array Bea**	**26.64**	**328**	P	**P**	**15 22 11.6**	**+1.6**
	0.5nm,0.7s,baz=150,slow=11,SNR=5.6						
PDAR	**Pinedale Array**	**27.06**	**345**	P	**P**	**15 22 13.5**	**-0.2**
	0.4nm,0.8s,baz=152,slow=10.0,SNR=3.6						
YKA	**Yellowknife Ar**	**46.75**	**351**	P	P	15 24 56.3	-3.6
	0.7nm,0.8s,baz=160,slow=7.4,SNR=6.9						
H03N2	**Juan Fernandez**	**53.99**	**158**	T	T	16 24 12.2	
	baz=333,slow=75,SNR=5.1						
H03N1	**Juan Fernandez**	**54.00**	**158**	T	T	16 24 11.3	
	baz=333,slow=75,SNR=6.5						
H03N3	**Juan Fernandez**	**54.01**	**158**	T	T	16 24 11.8	
	baz=333,slow=75,SNR=7.1						
ILAR	**Eielson Array**	**57.17**	**338**	P	**P**	**15 26 16.5**	**-1.0**
	0.3nm,1.0s,baz=145,slow=6.4,SNR=3.3						

SZGRF ***31*** *15:18:09.2,20°.98S×170°.64E, h245km, Vanuatu Islands*
NOU ***31*** *15:18:23.0±1.0, 17°.35S×170°.64E, h30km, MD3.6, ML3.5*
MOS ***31*** *15:18:44.8±0.9, 18°.80S×169°.32E, h241km, mb5.3/30, Error ellipse: s-maj=10.9km s-min=8.4km az=156.8*
GCMT ***31*** *15:18:44.9±0.2, 18°.77S×169°.29E, h254km±2km, MW5.2/79, Moment Tensor Solution. s56,c69; s79,c102; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.29±.20; Mθθ 0.90±.24; Mϕϕ -2.19±.24; Mrθ 0.93±.24; Mθϕ -5.50±.19; Mϕr -5.26±.19; Best double couple: M₀7.89900×10¹⁶ NP1:ϕs176.00000°, δ83.00000°, λ44.00000°. NP2:ϕs79.00000°, δ46.00000°, λ171.00000°. Principal axes: T 7.8130, Plg35.0000°, Azm47.0000°; N 0.1720, Plg46.0000°, Azm182.0000°; P -7.9860, Plg24.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *15:18:44.9±0.2, 18°.78S×169°.39E, mb5.1/100 Error ellipse: s-maj=7.5km s-min=3.7km az=157.0*
ISCJB ***31*** *15:18:45.5±0.7, 18°.85S±0°.05×169°.33E±0°.03, h248km±7km, mb5.0/173, Error ellipse: s-maj=8.5km s-min=3.7km az=170.6*
BJI ***31*** *15:18:46.2, 18°.30S×169°.18E, h231km, mB4.9/30, mb4.7/42*
IDC ***31*** *15:18:47.6±0.9, 18°.90S×169°.30E, h257km±7km, mb4.6/21, mb1 4.7/23, mb1mx4.6/32, mbtmp5.2/23, Error ellipse: s-maj=9.7km s-min=8.0km az=154.0*
AUST ***31*** *15:18:48.7±2.9, 18°.83S×169°.44E, h274km±31km, Error ellipse: s-maj=15.7km s-min=11.5km az=122.0*
ISC 31 15:18:44.9±0.4, 18°.82S±0°.05×169°.44E±0°.05, h236km±2km, h236km:pP-P,n591, σ1°23/597, mb5.0/168, 103C-100D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.28**	**220**	P	**Pn**	**15 19 52.8**	**+1.2**
DZM				S	**S**	**15 20 44.9**	**+0.5**
DZM	**Mont Dzumac**	**4.28**	**220**	P	**Pn**	**15 19 52.8**	**+1.2**
	8.4nm,0.3s,baz=56,slow=14,SNR=178						
DZM				S	**S**	**15 20 44.9**	**+0.5**
	7.5nm,0.3s,baz=260,slow=15,SNR=3.2						
DZM	**Mont Dzumac**	**4.28**	**220**	*eP*	**Pn**	**15 19 49.7**	**-1.9**
PLUM	**Mont Dore**	**4.32**	**217**	*eP*	**Pn**	**15 19 51.3**	**-0.7**
PLUM				AMP		15 21 05.3	
	comp=Z,168nm,0.4s						
NORM	**Noumea**	**4.38**	**219**	*eP*	**Pn**	**15 19 52.2**	**-0.4**
NORM				*eS*	S	15 20 57.1	+11
NOUC	**Port Laguerre**	**4.39**	**221**	*eP*	**Pn**	**15 19 52.6**	**-0.3**
NOUC				*eS*	S	15 20 59.1	+12
NOUC				AMP		15 21 16.1	
	comp=Z,60nm,3.3s						
EIDS	**Eidsvold**	**18.21**	**246**	*eP*	**Pn**	**15 22 42.5**	**-1.2**
	comp=Z,53nm,0.8s						
EIDS	**Eidsvold**	**18.21**	**246**	⇓P	**P**	**15 22 42.2**	**+1.5**
	baz=18,SNR=27						
AFI	**Afiamalu**	**18.67**	**78**	*eP*	**Pn**	**15 22 50.3**	**+1.1**
	comp=Z,61nm,0.9s						
AFI	**Afiamalu**	**18.67**	**78**	P	**Pn**	**15 22 50.6**	**+1.3**
	comp=Z,3.7nm,0.3s,baz=242,slow=5.5,SNR=6.3						
ARMA	**Armidale**	**19.86**	**231**	*eP*	**P**	**15 23 00.2**	**+1.7**
	comp=Z,44nm,0.8s						
ARMA	**Armidale**	**19.86**	**231**	⇑P	**P**	**15 23 00.1**	**+1.7**
	baz=20,SNR=29						
TARA	**Tarawa**	**20.34**	**10**	P	**P**	**15 23 01.4**	**-2.2**
	comp=Z,287nm,1.1s						
URZ	**Urewera**	**20.49**	**163**	P	**P**	**15 23 07.3**	**+2.3**
URZ				S	**S**	**15 26 42.7**	**+2.3**
URZ	**Urewera**	**20.49**	**163**	P	**P**	**15 23 07.3**	**+2.3**
	comp=Z,17nm,0.9s,baz=301,slow=2.8,SNR=8.7						
URZ				S	**S**	**15 26 42.7**	**+2.3**
	comp=Z,12nm,0.9s,baz=162,slow=22,SNR=2.5						
RMQ	**Roma**	**20.54**	**244**	⇓P	**P**	**15 23 07.0**	**+1.3**
	baz=20,SNR=65						
MGCD	**Mangrove Creek**	**21.78**	**225**	⇑P	**P**	**15 23 19.1**	**+1.0**
	baz=22,SNR=14						
CTA	**Charters Tower**	**21.90**	**263**	P	**P**	**15 23 19.4**	**+0.1**
CTA	**Charters Tower**	**21.90**	**263**	P	**P**	**15 23 19.4**	**+0.1**
	comp=Z,92nm,0.8s,baz=90,slow=12,SNR=60						
CTAO	**Charters Tower**	**21.90**	**263**	*eP*	**P**	**15 23 19.7**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,149nm,1.0s						
CTAO	**Charters Tower**	**21.90**	**263**	*eP*	**P**	**15 23 19.7**	**+0.4**
	comp=Z,149nm,1.0s						
RABL	**Rabaul**	**22.28**	**309**	⇑P	**P**	**15 23 22.1**	**-0.8**
	baz=22,SNR=9.1						
PMG	**Port Moresby**	**23.52**	**290**	P	x	15 23 35.2	
	comp=Z,436nm,0.9s,comp=Z,3μm						
PMG	**Port Moresby**	**23.52**	**290**	*eP*	**P**	**15 23 34.4**	**+0.3**
	comp=Z,305nm,0.8s						
PMG	**Port Moresby**	**23.52**	**290**	P	**P**	**15 23 35.3**	**+1.2**
	comp=Z,303nm,0.8s,baz=120,slow=8.2,SNR=77						
PMG	**Port Moresby**	**23.52**	**290**	⇓P	**P**	**15 23 35.0**	**+0.8**
	baz=24,SNR=66						
CNB	**Canberra Magne**	**24.20**	**223**	⇑P	**P**	**15 23 40.7**	**+0.5**
	baz=24,SNR=31						
YNG	**Young**	**24.25**	**226**	⇑P	**P**	**15 23 41.2**	**+0.6**
	baz=24,SNR=9.6						
QLP	**Quilpie**	**24.47**	**247**	P	**P**	**15 23 42.8**	**+0.2**
	baz=24,SNR=89						
CMSA	**Cobar Meteorol**	**24.88**	**235**	⇑P	**P**	**15 23 46.1**	**-0.2**
	baz=25,SNR=35						
COEN	**Coen**	**25.64**	**277**	*eP*	**P**	**15 23 54.2**	**+0.9**
	comp=Z,1μm,1.4s						
COEN	**Coen**	**25.64**	**277**	⇓P	**P**	**15 23 54.0**	**+0.6**
	baz=26,SNR=14						
TOO	**Toolangi**	**28.05**	**223**	⇓P	**P**	**15 24 14.2**	**-0.4**
	baz=28,SNR=8.9						
QIS	**Mount Isa**	**28.12**	**261**	P	**P**	**15 24 15.6**	**+0.2**
	baz=28,SNR=35						
STKA	**Stephens Creek**	**28.23**	**237**	*eP*	**P**	**15 24 16.7**	**+0.5**
	comp=Z,14nm,0.7s						
STKA				*ep*P	**pP**	**15 25 02.9**	**-0.1**
STKA				ScP	**ScP**	**15 30 42.6**	**+0.7**
STKA	**Stephens Creek**	**28.23**	**237**	P	**P**	**15 24 16.7**	**+0.5**
	comp=Z,69nm,0.7s,baz=67,slow=8.2,SNR=183						
STKA				ScP	**ScP**	**15 30 42.6**	**+0.7**
	comp=Z,11nm,0.9s,baz=57,slow=3.4,SNR=8.7						
STKA	**Stephens Creek**	**28.23**	**237**	P	**P**	**15 24 16.7**	**+0.5**
	baz=28,SNR=103						
ARPS	**Mount Arapiles**	**30.10**	**228**	P	**P**	**15 24 33.4**	**+0.8**
	baz=30,SNR=8.8						
HTT	**Hallett**	**30.88**	**236**	⇓P	**P**	**15 24 39.8**	**+0.1**
	baz=31,SNR=21						
JAY	**Jayapura**	**32.46**	**297**	P	**P**	**15 24 53.9**	**+0.3**
JAY	**Jayapura**	**32.46**	**297**	P	**P**	**15 24 53.9**	**+0.3**
	comp=Z,14nm,0.5s,baz=64,slow=5.4,SNR=5.2						
GENI	**Genyem**	**32.88**	**296**	P	**P**	**15 24 57.7**	**+0.6**
	comp=Z,764nm,1.1s,comp=Z,8μm						
BBOO	**Buckleboo**	**32.96**	**238**	*eP*	**P**	**15 24 57.7**	**0.0**
	comp=Z,832nm,0.9s						
BBOO	**Buckleboo**	**32.96**	**238**	⇑P	**P**	**15 24 57.3**	**-0.4**
	baz=33,SNR=20						
WRAB	**Tennant Creek**	**33.09**	**262**	*d iP*	**P**	**15 24 57.9**	**-1.0**
	comp=Z,692nm,1.0s,SNR=71						
WRAB	**Tennant Creek**	**33.09**	**262**	*d iP*	**P**	**15 24 57.9**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,401nm,1.4s						
WRAB	**Tennant Creek**	**33.09**	**262**	*eP*	**P**	**15 24 57.0**	**-1.9**
	comp=Z,115nm,0.9s						
WRA	**Warramunga Arr**	**33.09**	**262**	P	**P**	**15 24 58.2**	**-0.8**
WRA				PP	**PP**	**15 26 23.8**	**+4.7**
WRA				S	**S**	**15 29 56.7**	**-3.7**
WRA				ScP	**ScP**	**15 30 58.0**	**-0.2**
WRA				PKiKP	**PKiKP**	**15 34 59.8**	**-2.5**
WRA				*e*		15 56 11.2	
WRA	**Warramunga Arr**	**33.09**	**262**	P	**P**	**15 24 58.2**	**-0.8**
	comp=Z,94nm,0.9s,baz=95,slow=8.6,SNR=348						
WRA				PP	**PP**	**15 26 23.8**	**+4.7**
	comp=Z,8.2nm,1.0s,baz=88,slow=11,SNR=5.0						
WRA				S	**S**	**15 29 56.7**	**-3.7**
	comp=Z,14nm,1.1s,baz=93,slow=15,SNR=12						
WRA				ScP	**ScP**	**15 30 58.0**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=88,slow=3.9,SNR=10.0						
WRA				PKiKP	**PKiKP**	**15 34 59.8**	**-2.5**
	comp=Z,0.4nm,0.9s,baz=32,slow=1.4,SNR=5.3						
WRA				P3KPbc		15 56 11.2	
	comp=Z,0.5nm,0.8s,baz=294,slow=2.9,SNR=7.6						
AS31	**Alice Springs**	**33.41**	**255**	*eP*	**P**	**15 25 01.4**	**-0.4**
ASAR	**Alice Springs**	**33.41**	**255**	P	**P**	**15 25 01.4**	**-0.4**
ASAR				S	**S**	**15 30 02.0**	**-3.3**
ASAR				ScP	**ScP**	**15 30 59.3**	**0.0**
ASAR				PKiKP	**PKiKP**	**15 35 00.1**	**-2.3**
ASAR				*e*		15 56 10.3	
ASAR	**Alice Springs**	**33.41**	**255**	P	**P**	**15 25 01.4**	**-0.4**
	comp=Z,360nm,0.6s,baz=82,slow=8.8,SNR=7104						
ASAR				S	**S**	**15 30 02.0**	**-3.3**
	comp=Z,5.3nm,0.7s,baz=85,slow=16,SNR=9.4						
ASAR				ScP	**ScP**	**15 30 59.3**	**0.0**
	comp=Z,3.9nm,0.9s,baz=89,slow=3.7,SNR=8.4						
ASAR				PKiKP	**PKiKP**	**15 35 00.1**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=103,slow=1.9,SNR=5.3						
ASAR				P3KPbc		15 56 10.3	
	comp=Z,0.7nm,0.8s,baz=278,slow=4.4,SNR=8.6						
SMPI	**Sarmi**	**34.43**	**295**	P	**P**	**15 25 11.6**	**+1.1**
	comp=Z,86nm,1.6s						
KDU	**Kakadu**	**36.05**	**274**	⇑P	**P**	**15 25 23.6**	**-0.6**
	baz=36,SNR=30						
SRPI	**Serui, Papua**	**36.62**	**293**	P	**P**	**15 25 30.7**	**+1.6**
	comp=Z,266nm,0.9s,comp=Z,2μm						
BAKI	**Biak**	**37.08**	**294**	P	**P**	**15 25 35.0**	**+2.0**
	comp=Z,377nm,0.9s,comp=Z,3μm						
MTN	**Manton Dam**	**37.27**	**273**	⇓P	**P**	**15 25 33.9**	**-0.7**
	baz=37,SNR=62						
WRKA	**Warkurna**	**38.55**	**253**	P	**P**	**15 25 45.0**	**-0.3**
	baz=38,SNR=75						
KNRA	**Kununurra**	**38.91**	**268**	P	**P**	**15 25 47.8**	**-0.4**
	baz=39,SNR=46						
FORT	**Forrest**	**39.20**	**244**	*eP*	**P**	**15 25 50.0**	**-0.5**
	comp=Z,110nm,1.2s						
FORT	**Forrest**	**39.20**	**244**	P	**P**	**15 25 50.2**	**-0.2**
	baz=39,SNR=9.5						
SWI	**Sorong**	**41.47**	**291**	P	**P**	**15 26 09.8**	**+0.6**
	comp=Z,147nm,0.9s,comp=Z,1μm						
PALU	**Palau**	**43.18**	**304**	⇑P	**P**	**15 26 23.7**	**+0.7**
	baz=43,SNR=6.5						
NLAI	**Namlea**	**44.19**	**285**	P	**P**	**15 26 31.7**	**+0.7**
	comp=Z,69nm,1.2s,comp=Z,1μm						
SOEI	**Soe**	**44.59**	**275**	P	**P**	**15 26 34.9**	**+0.6**
	comp=Z,123nm,1.0s						
SOEI	**Soe**	**44.59**	**275**	*eP*	**P**	**15 26 35.2**	**+0.9**
	comp=Z,58nm,0.8s						
SANI	**Sanana**	**45.69**	**286**	P	**P**	**15 26 42.0**	**-0.8**
	comp=Z,56nm,1.5s,comp=Z,720nm						
MEEK	**Meekatharra**	**47.27**	**251**	⇓P	**P**	**15 26 54.1**	**-0.9**
	baz=47,SNR=70						
WSI	**Waingapu**	**48.36**	**274**	P	**P**	**15 27 04.4**	**+1.0**
	baz=48,SNR=7.1						
NWAO	**Narrogin (SRO)**	**48.57**	**242**	P	**P**	**15 27 04.0**	**-0.9**
NWAO	**Narrogin (SRO)**	**48.57**	**242**	P	**P**	**15 27 04.0**	**-0.9**
	comp=Z,46nm,0.9s,baz=89,slow=8.2,SNR=14						
KKSI	**Kolaka, Sulawe**	**48.86**	**281**	P	x	15 27 07.9	
	comp=Z,48nm,1.0s,comp=Z,1μm						
RKGY	**Rocky Gully**	**48.90**	**240**	⇑P	**P**	**15 27 06.6**	**-0.7**
	baz=49,SNR=25						
BLDU	**Ballidu**	**48.93**	**246**	P	**P**	**15 27 06.8**	**-0.7**
	baz=49,SNR=13						
LBFI	**Labuhan Bajo,**	**49.09**	**275**	P	x	15 27 07.9	
	comp=Z,102nm,0.7s,comp=Z,2μm						
MORW	**Morawa**	**49.50**	**248**	P	**P**	**15 27 11.3**	**-0.6**
	baz=50,SNR=13						
BKSI	**Bukumba**	**49.88**	**279**	P	**P**	**15 27 15.6**	**+0.7**
	comp=Z,50nm,1.0s						
APSI	**Ampana**	**50.11**	**285**	P	**P**	**15 27 17.6**	**+1.0**
	comp=Z,109nm,1.1s,comp=Z,1μm						
BMNI	**Bima**	**50.20**	**275**	P	x	15 27 19.9	
BNSI	**Bone**	**50.22**	**280**	P	**P**	**15 27 18.4**	**+1.0**
	comp=Z,60nm,1.3s						
KAPI	**Kappang**	**50.33**	**279**	*eP*	**P**	**15 27 18.3**	**0.0**
	comp=Z,950nm,1.6s						
MRSI	**Marisa**	**50.41**	**287**	P	**P**	**15 27 18.2**	**-0.7**
	comp=Z,53nm,0.8s,comp=Z,417nm						
KIP	**Kipapa**	**51.14**	**40**	*eP*	**P**	**15 27 24.6**	**+0.5**
KIP				pmax	pmax		
	comp=Z,76nm,1.0s						
KIP	**Kipapa**	**51.14**	**40**	*eP*	**P**	**15 27 24.6**	**+0.5**
	comp=Z,76nm,1.0s						
POHA	**Pohakuloa**	**51.48**	**44**	*eP*	**P**	**15 27 27.5**	**+0.5**
	comp=Z,81nm,0.8s						
MTNI	**Mataram**	**52.56**	**273**	P	x	15 27 34.8	
	comp=Z,42nm,0.7s,comp=Z,2μm						
TGY	**Tagaytay City**	**57.91**	**301**	P	**P**	**15 28 13.7**	**+0.8**
TGY	**Tagaytay City**	**57.91**	**301**	P	**P**	**15 28 13.7**	**+0.8**
	comp=Z,75nm,0.2s,baz=108,slow=18,SNR=4.8						
KKM	**Kota Kinabalu**	**57.97**	**290**	P	x	15 28 15.2	
	comp=Z,72nm,0.9s,comp=Z,879nm						
KKM	**Kota Kinabalu**	**57.97**	**290**	*eP*	**P**	**15 28 13.9**	**+0.4**
	comp=Z,69nm,1.1s						
KKM	**Kota Kinabalu**	**57.97**	**290**	⇑P	**P**	**15 28 13.8**	**+0.4**
	baz=58,SNR=8.9						
SBUM	**Sibu**	**60.08**	**284**	P	x	15 28 28.9	
	comp=Z,28nm,1.6s						
CISI	**Cisompet, Garu**	**60.78**	**272**	*eP*	**P**	**15 28 31.8**	**-0.8**
	comp=Z,175nm,1.3s						
LEM	**Lembang**	**61.18**	**273**	⇓P	**P**	**15 28 35.8**	**+0.4**
	baz=61,SNR=11						
KSM	**Kuching**	**61.47**	**282**	P	x	15 28 37.4	
	comp=Z,114nm,0.9s,comp=Z,951nm						
KSM	**Kuching**	**61.47**	**282**	*eP*	**P**	**15 28 37.5**	**+0.3**
	comp=Z,74nm,0.8s						
KSM	**Kuching**	**61.47**	**282**	⇓P	**P**	**15 28 37.2**	**0.0**
	baz=62,SNR=29						
XMI	**Christmas Isla**	**61.97**	**268**	⇑P	**P**	**15 28 40.6**	**0.0**
	baz=62,SNR=3.7						
MJAR	**Matsushiro Arr**	**62.47**	**332**	P	**P**	**15 28 43.7**	**+0.3**
MJAR	**Matsushiro Arr**	**62.47**	**332**	P	**P**	**15 28 43.7**	**+0.3**
	comp=Z,7.7nm,0.9s,baz=168,slow=7.0,SNR=20						
MAJO	**Matsushiro**	**62.48**	**332**	*eP*	**P**	**15 28 43.7**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,13nm,1.0s						
MAJO	**Matsushiro**	**62.48**	**332**	*eP*	**P**	**15 28 43.7**	**+0.3**
	comp=Z,13nm,1.0s						
CGJI	**Cibinong**	**63.07**	**272**	P	**P**	**15 28 46.9**	**-0.9**
	comp=Z,327nm,0.8s,comp=Z,2μm						
TPUB	**Ta-pu**	**63.42**	**309**	*eP*	**P**	**15 28 49.4**	**-0.5**
	comp=Z,37nm,0.8s						
SSLB	**Suanglung**	**63.48**	**310**	*eP*	**P**	**15 28 49.8**	**-0.5**
	comp=Z,26nm,0.8s						
YHNB	**Yeheng**	**63.72**	**311**	*eP*	**P**	**15 28 52.1**	**+0.2**
	comp=Z,48nm,1.1s						
BLSI	**Bandar Lampung**	**63.87**	**273**	P	**P**	**15 28 52.2**	**-0.9**
	comp=Z,202nm,0.7s						
KASI	**Kota Agung**	**64.53**	**273**	P	**P**	**15 28 56.2**	**-1.1**
	comp=Z,269nm,0.8s,comp=Z,2μm						
PMBI	**Palembang**	**65.10**	**276**	P	**P**	**15 29 02.2**	**+1.2**
	comp=Z,273nm,1.2s						
LWLI	**Liwa**	**65.10**	**273**	P	**P**	**15 29 00.3**	**-0.8**
	comp=Z,170nm,0.9s						
MDSI	**Maura Dua**	**65.16**	**274**	P	**P**	**15 28 59.9**	**-1.4**
	comp=Z,111nm,0.8s,comp=Z,935nm						
JMBI	**JAMBI**	**66.59**	**277**	P	**P**	**15 29 12.5**	**+2.0**
KSRS	**Korea Array**	**68.27**	**325**	P	**P**	**15 29 21.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=148,slow=7.4,SNR=6.7						
KSAR	**Wonju Array Be**	**68.28**	**325**	P	**P**	**15 29 21.6**	**+1.1**
QIZ	**Qiongzhong**	**69.54**	**299**	P	**P**	**15 29 29.3**	**+0.7**
QIZ				pP	**pP**	**15 30 22.5**	**-0.9**
QIZ				S	**S**	**15 38 18.8**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,24nm,1.2s						
QIZ				LR	LR		
	comp=Z,140nm,15.9s						
BKNI	**Bangkinang**	**69.70**	**278**	P	**P**	**15 29 31.5**	**+1.7**
	comp=Z,123nm,1.2s						
YSS	**Yuzh-Sakhalins**	**69.75**	**341**	*eP*	P	15 29 20.9	-8.4
NJ2	**Nanjing**	**70.04**	**316**	*eP*	**P**	**15 29 31.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VLA	**Vladivostok**	**70.64**	**332**	⇑*eP*	**P**	**15 29 34.7**	**-0.1**
VLA						15 29 53.4	
VLA						15 32 15.1	
VLA				*eS*	**S**	**15 38 29.4**	**+0.2**
VLA				pmax	pmax		
	comp=Z,30nm,1.5s						
IPM	**Ipoh**	**71.18**	**282**	P	x	15 29 38.8	
	comp=Z,50nm,0.9s						
QSPA	**South Pole Qui**	**71.23**	**180**	*eP*	**P**	**15 29 37.6**	**-0.6**
	comp=Z,30nm,1.0s						
QSPA	**South Pole Qui**	**71.23**	**180**	P	**P**	**15 29 37.7**	**-0.6**
	comp=Z,23nm,0.9s,baz=24,slow=1.2,SNR=53						
MNSI	**Mandalling Nat**	**71.23**	**277**	P	**P**	**15 29 38.4**	**-0.6**
	comp=Z,41nm,0.7s						
USRK	**Ussuriysk Arra**	**71.45**	**

PBKT Sadao Pong 75.97 293 P x 15 30 07.6
comp=Z,18nm,1.0s
PBKT Sadao Pong 75.97 293 P **P** **15 30 07.5 +1.1**
comp=Z,18nm,1.0s
SRDT SRDT 76.69 290 P x 15 30 12.4
SRDT SRDT 76.69 290 P **P** **15 30 12.2 +1.7**
comp=Z,72nm,1.3s,comp=Z,5µm
BJT Baijiatuau 76.72 321 *eP* **P** **15 30 10.9 +0.8**
BJI Beijing 76.73 321 P **P** **15 30 11.0 +0.8**
BJI pmax pmax
comp=Z,28nm,0.8s
UTTA Uttaradit 76.82 294 P **P** **15 30 12.4 +1.2**
comp=Z,5.2nm,0.9s,comp=Z,66nm
UTHA Uthaitani 76.89 292 P **P** **15 30 13.1 +1.5**
comp=Z,7.6nm,1.0s,comp=Z,71nm
KHLT Khaolaem Dam 77.34 291 P **P** **15 30 16.0 +1.9**
comp=Z,9.9nm,1.4s
SUKH Sukhothai 77.51 293 P **P** **15 30 16.4 +1.4**
comp=Z,5.4nm,0.9s,comp=Z,61nm
LAMP Lampang 77.94 294 P **P** **15 30 19.0 +1.6**
comp=Z,14nm,0.8s,comp=Z,112nm
XAN Xi'an 77.97 312 P **P** **15 30 18.0 +0.7**
XAN pP **pP** **15 31 14.0 +0.7**
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN pmax pmax
comp=Z,19nm,4.7s
KMI Kunming 78.22 302 P **P** **15 30 20.8 +1.7**
KMI pP **pP** **15 31 17.5 +2.4**
KMI pmax pmax
comp=Z,47nm,1.0s
CM31 Chiang Mai Arr 78.51 294 *eP* **P** **15 30 21.6 +1.1**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 78.51 294 P **P** **15 30 21.9 +1.4**
CMAR Chiang Mai Arr 78.51 294 P **P** **15 30 21.9 +1.4**
comp=Z,12nm,0.8s,baz=133,slow=4.3,SNR=118
CMMT Chiang Mai 78.65 294 P **P** **15 30 22.3 +1.0**
comp=Z,39nm,1.0s
CHTO Chiang Mai 78.65 294 *eP* **P** **15 30 22.2 +0.9**
CHTO *PP **pP** **15 31 17.3 -0.1**
CHTO pmax pmax
comp=Z,28nm,1.0s
CHTO Chiang Mai 78.65 294 P **P** **15 30 22.3 +0.9**
comp=Z,136nm,1.0s
CHTO Chiang Mai 78.65 294 *eP* **P** **15 30 22.2 +0.9**
comp=Z,28nm,1.0s
CHTO pP **pP** **15 31 17.3 -0.1**
CMAI Chiengmai2 79.03 295 P **P** **15 30 24.6 +1.1**
comp=Z,69nm,1.1s,comp=Z,10µm
MHMT Maesarieng 79.27 293 P **P** **15 30 26.2 +1.6**
comp=Z,12nm,0.9s,comp=Z,772nm
HHC Hu-ho-hao-te 80.03 319 *eP* **P** **15 30 30.3 +1.9**
HHC pP **pP** **15 31 23.0 -1.7**
HHC sP **sP** **15 31 51.8 +2.1**
HHC PP **PP** **15 33 34.0 -0.1**
HHC S **S** **15 40 15.5 +2.9**
HHC sS **sS** **15 41 50.5 -0.8**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,220nm,6.2s
CD2 Chengdu 80.13 307 *eP* **P** **15 30 30.0 +0.9**
CD2 pP **pP** **15 31 23.5 -1.9**
CD2 sP **sP** **15 31 50.3 -0.1**
CD2 PP **PP** **15 33 39.5 +4.4**
CD2 S **S** **15 40 13.5 -0.5**
CD2 sS **sS** **15 41 50.8 -1.9**
CD2 SS **SS** **15 45 30.0 -0.6**
CD2 pmax pmax
comp=Z,20nm,1.5s
OHAK Old Harbor 81.90 19 *eP* **P** **15 30 38.4 +0.7**
comp=Z,74nm,0.8s
KDAK Kodiak Island 82.58 19 P **P** **15 30 42.9 +1.7**
comp=Z,338nm,0.9s,SNR=7.1
KDAK Kodiak Island 82.58 19 *eP* **P** **15 30 42.1 +0.9**
comp=Z,106nm,1.3s
LZH Lanzhou 82.59 312 P **P** **15 30 44.0 +2.0**
LZH pP **pP** **15 31 38.0 -0.7**
LZH S **S** **15 40 40.0 +0.8**
LZH sS **sS** **15 42 14.5 -4.1**
LZH SS **SS** **15 46 08.0 +0.8**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.2s
GAMB Gambell 83.63 8 *eP* **P** **15 30 47.3 +0.9**
comp=Z,18nm,0.7s
RSO Redoubt South 84.71 18 *eP* **P** **15 30 51.7 -0.5**
comp=Z,64nm,1.0s
KCPM Cahto Peak 85.30 45 *eP* **P** **15 30 56.8 +1.2**
comp=Z,46nm,0.9s
HOPS Hopland 85.32 46 *eP* **P** **15 30 56.5 +1.0**
comp=Z,39nm,1.1s
SAO San Andreas Ge 85.41 49 *eP* **P** **15 30 57.0 +1.0**
SAO pmax pmax
comp=Z,40nm,0.9s
SAO San Andreas Ge 85.41 49 *eP* **P** **15 30 57.0 +1.0**
comp=Z,40nm,0.9s
SEW Seward 85.41 19 *eP* **P** **15 30 55.1 -0.2**
BSC Santa Cruz Isl 85.49 52 ⇓P **P** **15 30 57.3 +0.9**
baz=86
SMMC Simmler 85.80 51 ⇑P **P** **15 30 59.5 +1.5**
baz=86
SCI San Clemente I 85.87 53 ⇓P **P** **15 30 59.4 +1.1**
baz=86
TNA Tin City 85.87 9 *eP* **P** **15 30 58.2 +0.7**
comp=Z,63nm,1.2s
RC01 Rabbit Creek A 86.10 19 *eP* **P** **15 30 57.5 -1.3**
comp=Z,18nm,1.0s
CIS Catalina Islan 86.16 53 ⇓P **P** **15 31 00.3 +0.5**
baz=86
FMP Fort Macarthur 86.37 53 ⇓P **P** **15 31 01.9 +1.2**
baz=86
WDC Whiskeytown Da 86.43 45 *eP* **P** **15 31 01.9 +1.0**
WDC pmax pmax
comp=Z,42nm,1.0s
WDC Whiskeytown Da 86.43 45 *eP* **P** **15 31 01.9 +1.0**
comp=Z,42nm,1.0s
OSI Osito Adit 86.44 52 *eP* **P** **15 31 02.8 +1.7**
comp=Z,11nm,0.4s
L02D Cave Junction, 86.49 43 ⇓P **P** **15 31 02.7 +1.5**
baz=87
N02D Trinity Center 86.51 45 ⇑P **P** **15 31 02.6 +1.2**
baz=87
DECC Green Verdugo 86.57 52 ⇑P **P** **15 31 02.3 +0.5**
baz=87
ARVC Arvin 86.58 51 ⇓P **P** **15 31 02.5 +0.7**
baz=87,SNR=9.8
M02C Callahan 86.61 44 ⇓P **P** **15 31 03.6 +1.7**
baz=87
ULN Ulaanbaatar 86.64 323 *eP* **P** **15 31 02.4 +0.4**
comp=Z,4.1nm,0.8s
PASC Pasadena Art C 86.65 52 *eP* **P** **15 31 02.5 +0.4**
comp=Z,34nm,0.8s
PMR Palmer 86.68 18 *eP* **P** **15 31 00.8 -0.7**
PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR Palmer 86.68 18 *eP* **P** **15 31 00.8 -0.7**
comp=Z,6.6nm,0.6s
VES Vestal, Richgr 86.70 51 ⇑P **P** **15 31 03.0 +0.7**
baz=87,SNR=8.7
CMB Columbia Colle 86.74 48 *eP* **P** **15 31 03.3 +0.8**
CMB pmax pmax
comp=Z,47nm,0.9s
CMB Columbia Colle 86.74 48 *eP* **P** **15 31 03.3 +0.8**
comp=Z,47nm,0.9s
MWC Mount Wilson 86.77 52 *eP* **P** **15 31 03.6 +0.7**
MWC pmax pmax
comp=Z,17nm,0.5s
MWC Mount Wilson 86.77 52 *eP* **P** **15 31 03.5 +0.7**
comp=Z,18nm,0.5s
RCTC Rector, Farmer 86.79 50 ⇑P **P** **15 31 03.2 +0.5**
baz=87
YBH Yreka Blue Hor 86.87 44 *eP* **P** **15 31 04.3 +1.2**
comp=Z,38nm,0.9s
109C Camp Elliot, M 86.93 54 ⇓P **P** **15 31 04.1 +0.6**
baz=87
GTA Gaotai 86.98 313 *eP* **P** **15 31 04.0 +0.3**
GTA pP **pP** **15 32 04.5 +3.5**
GTA sP **sP** **15 32 24.5 -1.2**
GTA pmax pmax
comp=Z,3.0nm,0.4s
SONM Songino Array 87.00 323 P **P** **15 31 04.5 +0.9**
SONM PKKP **PKKPdf** **15 48 53.6 +2.6**
SONM Songino Array 87.00 323 P **P** **15 31 04.5 +0.9**
comp=Z,2.8nm,0.8s,baz=147,slow=5.6,SNR=23
SONM PKKP **PKKPdf** **15 48 53.6 +2.6**
comp=Z,0.6nm,0.7s,baz=294,slow=2.5,SNR=4.7
BFSC Mount Baldy Ra 87.07 52 ⇑P **P** **15 31 04.8 +0.4**
baz=87,SNR=25
ISA Isabella 87.07 51 *eP* **P** **15 31 05.2 +1.0**
ISA pmax pmax
comp=Z,44nm,0.9s
ISA Isabella 87.07 51 *eP* **P** **15 31 05.2 +1.0**
comp=Z,44nm,0.9s
ISA Isabella 87.07 51 ⇓P **P** **15 31 05.3 +1.1**
baz=87,SNR=53
EDW2 Edwards Air Fo 87.09 52 ⇓P **P** **15 31 05.2 +0.8**
baz=87,SNR=21
HUMO Hull Mountain 87.13 43 *eP* **P** **15 31 05.6 +1.4**
comp=Z,40nm,0.9s
MURC Murrieta 87.15 53 ⇓P **P** **15 31 05.2 +0.6**
baz=87
BAR Barrett 87.17 54 *eP* **P** **15 31 05.4 +0.7**
comp=Z,87nm,0.9s
I03D Drain, OR 87.40 42 ⇑P **P** **15 31 06.7 +1.3**
baz=88
MONP Monument Peak 87.45 54 ⇑P **P** **15 31 06.9 +0.7**
baz=88
M04C Macdoel 87.47 44 ⇑P **P** **15 31 06.8 +0.8**
baz=88
LRMC Laurel Mountai 87.57 51 ⇑P **P** **15 31 07.7 +1.1**
baz=88,SNR=26
WAKR Walker 87.62 48 *eP* **P** **15 31 08.0 +1.2**
comp=Z,44nm,1.1s
BBRC Big Bear Solar 87.64 53 ⇓P **P** **15 31 07.6 +0.5**
baz=88
MLAC Mammoth Lakes 87.66 49 ⇓P **P** **15 31 07.9 +0.8**
baz=88
KTH Kantishna Hill 87.72 17 *eP* **P** **15 31 05.1 -1.5**
PFO Pinyon Flat Ob 87.72 53 P **P** **15 31 08.0 +0.6**
comp=Z,141nm,1.0s,SNR=9.0
PFO Pinyon Flat Ob 87.72 53 *eP* **P** **15 31 07.9 +0.6**
comp=Z,31nm,1.1s
PFO Pinyon Flat Ob 87.72 53 P **P** **15 31 08.2 +0.9**
comp=Z,17nm,0.8s,baz=266,slow=4.4,SNR=29
TRF Thorofare Moun 87.81 17 *eP* **P** **15 31 06.1 -1.1**
comp=Z,18nm,1.0s
RRX Edison Barstow 87.83 52 ⇓P **P** **15 31 08.8 +1.0**
baz=88
TIN Tinemaha 87.85 50 ⇑P **P** **15 31 08.9 +1.0**
baz=88
SWSC Sam W. Stewart 87.95 54 ⇓P **P** **15 31 09.5 +1.2**
baz=88
J04D Umpqua Nationa 87.98 43 ⇓P **P** **15 31 09.9 +1.4**
baz=88
DAC Darwin (Calif) 87.98 51 *eP* **P** **15 31 09.4 +0.8**
DAC Darwin (Calif) 87.98 51 *eP* **P** **15 31 09.4 +0.8**
comp=Z,2.8nm,0.8s
I04A Tendick Farm, 88.05 42 ⇓P **P** **15 31 09.3 +0.7**
baz=88
GSC Goldstone 88.15 52 *eP* **P** **15 31 10.1 +0.7**
GSC pmax pmax
comp=Z,57nm,1.6s
GSC Goldstone 88.15 52 *eP* **P** **15 31 10.1 +0.7**
comp=Z,57nm,1.6s
GSC Goldstone 88.15 52 ⇓P **P** **15 31 10.2 +0.9**
baz=88,SNR=16
G03D McMinnville, O 88.19 41 ⇑P **P** **15 31 10.6 +1.5**
baz=88
BELC Belle Mtn. Jos 88.23 53 ⇑P **P** **15 31 10.9 +1.1**
baz=88,SNR=40
HEC Hector,Ludlow 88.31 52 ⇓P **P** **15 31 10.9 +0.8**
baz=88
NVAR Mina Array Bea 88.38 48 P **P** **15 31 11.5 +1.0**
NVAR Mina Array Bea 88.38 48 P **P** **15 31 11.5 +1.0**
comp=Z,15nm,0.8s,baz=227,slow=8.7,SNR=123
GRAC Grapevine Rang 88.45 50 ⇓P **P** **15 31 11.6 +1.0**
baz=89
NV11 Mina Array Sit 88.49 48 P **P** **15 31 11.2 +0.2**
BC3 Big Chuckawall 88.50 54 ⇑P **P** **15 31 12.0 +1.0**
baz=89
MOD Modoc 88.54 45 *eP* **P** **15 31 12.1 +1.0**
comp=Z,53nm,1.0s
J05D Fort Rock, OR 88.56 43 ⇓P **P** **15 31 12.6 +1.5**
baz=89
FURC Furnace Creek, 88.60 51 ⇓P **P** **15 31 12.5 +1.3**
baz=89,SNR=19
GLA Glamis 88.74 55 *eP* **P** **15 31 13.3 +1.2**
GLA pmax pmax
comp=Z,111nm,1.4s
GLA Glamis 88.74 55 *eP* **P** **15 31 13.3 +1.2**
comp=Z,111nm,1.4s
GLA Glamis 88.74 55 ⇑P **P** **15 31 13.6 +1.5**
baz=89
SHOC Shoshone 88.79 51 ⇓P **P** **15 31 13.2 +0.9**
baz=89,SNR=24
GMRC Granite Mounta 88.80 53 ⇓P **P** **15 31 13.2 +0.7**
baz=89,SNR=17
TUQ Turquoise Moun 88.86 52 ⇑P **P** **15 31 13.7 +0.9**
baz=89,SNR=18
NLWA Neilton Lookou 88.89 39 *eP* **P** **15 31 13.7 +1.3**
comp=Z,51nm,1.3s
IRM Iron Mountain 88.94 53 ⇓P **P** **15 31 14.0 +1.0**
baz=89,SNR=40
IM04 Indian Mountai 88.97 14 *eP* **P** **15 31 12.1 -0.2**
I05D Terrebonne, OR 88.98 42 ⇑P **P** **15 31 14.3 +1.3**
baz=89
TPH Tonopah 89.00 49 *eP* **P** **15 31 14.3 +0.9**
TPH pmax pmax
comp=Z,35nm,1.0s
TPH Tonopah 89.00 49 *eP* **P** **15 31 14.3 +0.9**
comp=Z,35nm,1.0s
PINOR Pine Mountain 89.04 43 *eP* **P** **15 31 14.6 +1.5**
comp=Z,57nm,0.9s
LVP Lakeview Peak 89.13 40 P **P** **15 31 14.9 +1.2**
TDH Tom, Dick, Har 89.14 41 P **P** **15 31 14.8 +1.0**
FL2 Flat Top 2 89.23 40 P **P** **15 31 15.6 +1.4**
Y12C Blythe 89.25 54 ⇑P **P** **15 31 15.7 +1.3**
baz=89,SNR=29
NVL N'lazarevskaya 89.29 187 *eP* **P** **15 31 13.1 -0.9**
NVL pmax pmax
comp=Z,11nm,0.8s
VLL Laurance Lake 89.29 41 P **P** **15 31 15.8 +1.3**
WRAK Wrangell Islan 89.39 28 *eP* **P** **15 31 15.2 +0.7**
comp=Z,24nm,1.0s
G05D Wamic, OR 89.42 41 ⇑P **P** **15 31 16.3 +1.4**
baz=90
113A Mohawk Valley, 89.45 55 ⇑P **P** **15 31 16.6 +1.2**
baz=90
LSA Lhasa 89.47 302 *eP* **P** **15 31 16.6 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 89.47 302 *eP* **P** **15 31 16.6 +0.5**
comp=Z,3.7nm,0.6s
HDW Hoodsport 89.50 39 P **P** **15 31 16.9 +1.6**
COLA College 89.59 17 *i* P **P** **15 31 13.5 -1.7**
COLA pmax pmax
comp=Z,85nm,0.9s
COLA College 89.59 17 *eP* **P** **15 31 13.2 -1.9**
comp=Z,24nm,0.9s
BLN Blyn Mountain 89.72 38 P **P** **15 31 17.9 +1.6**
PGC Sidney 89.75 38 *eP* **P** **15 31 17.2 +0.9**
comp=Z,4.6nm,1.1s
PDMCI Parker Dam,Lak 89.76 54 ⇑P **P** **15 31 18.0 +1.3**
baz=90,SNR=40
DOT Dot Lake 89.77 19 *eP* **P** **15 31 15.4 -0.7**
comp=Z,19nm,1.0s
ILAR Eielson Array 89.78 17 P **P** **15 31 15.2 -0.9**
ILAR Eielson Array 89.78 17 P **P** **15 31 15.2 -0.9**
comp=Z,8.2nm,0.8s,baz=237,slow=4.7,SNR=103
LON Longmire 89.82 40 *eP* **P** **15 31 17.2 +0.4**
LON pmax pmax
comp=Z,36nm,1.1s
LON Longmire 89.82 40 *eP* **P** **15 31 17.2 +0.4**
comp=Z,36nm,1.1s
SHPR Sheep Range 89.86 51 *eP* **P** **15 31 18.5 +1.1**
comp=Z,47nm,1.1s
WVOR Wild Horse Val 89.89 45 *eP* **P** **15 31 18.5 +1.1**
WVOR pmax pmax
comp=Z,53nm,1.0s
WVOR Wild Horse Val 89.89 45 *eP* **P** **15 31 18.4 +1.1**
comp=Z,53nm,1.0s
214A Organ Pipe Nat 89.89 56 *eP* **P** **15 31 18.7 +1.3**
comp=Z,42nm,1.0s
214A Organ Pipe Nat 89.89 56 ⇓P **P** **15 31 18.8 +1.3**
baz=90
BMN Battle Mountai 89.99 47 *eP* **P** **15 31 18.9 +1.0**
BMN pmax pmax
comp=Z,49nm,1.2s
BMN Battle Mountai 89.99 47 *eP* **P** **15 31 18.9 +1.0**
comp=Z,49nm,1.2s
SKAG Skagway 89.99 25 *eP* **P** **15 31 18.2 +1.0**
comp=Z,14nm,0.8s
HYT Haines Junctio 90.03 23 *eP* **P** **15 31 17.4 -0.2**
ZAK Zakamensk 90.07 324 *eP* **P** **15 31 18.0 0.0**
W13A Hualapai Mount 90.26 53 ⇓P **P** **15 31 20.4 +1.0**
baz=90,SNR=36
R11A Troy Canyon, C 90.29 49 *eP* **P** **15 31 20.0 +0.6**
comp=Z,14nm,1.0s
R11A Troy Canyon, C 90.29 49 ⇑P **P** **15 31 20.3 +0.9**
baz=90
Z14A Wintersburg 90.32 55 ⇓P **P** **15 31 21.0 +1.6**
baz=90,SNR=26
TRW Toppenish Ridg 90.38 41 P **P** **15 31 20.6 +1.2**
JCW Jim Creek 90.42 39 P **P** **15 31 20.7 +1.1**
VNA2 Neumayer--Watz 90.46 181 P **P** **15 31 18.5 -0.9**
Y14A Wickenburg 90.49 54 ⇓P **P** **15 31 21.5 +1.3**
baz=91,SNR=17
TLY Talaya 90.52 325 *eP* **P** **15 31 23.0 +3.1**
TLY pmax pmax
comp=Z,2.0nm,0.6s
RPW Rockport 90.79 38 P **P** **15 31 22.0 +0.7**
COLD Coldfoot 90.83 15 *eP* **P** **15 31 21.5 +0.6**
comp=Z,20nm,1.0s
HAWA Hanford 91.05 41 *eP* **P** **15 31 23.3 +0.8**
comp=Z,101nm,1.2s
WTV Waterville 91.38 40 P **P** **15 31 24.6 +0.6**
EGAK Eagle 91.47 19 *eP* **P** **15 31 23.3 -0.7**
comp=Z,16nm,0.6s
ELK Elko 91.50 47 P **P** **15 31 25.8 +0.8**
ELK Elko 91.50 47 P **P** **15 31 25.8 +0.8**
comp=Z,7.0nm,0.9s,baz=180,slow=0.8,SNR=26
DAWY Dawson 91.54 20 *eP* **P** **15 31 23.9 -0.5**
DLBC Dease Lake 91.59 27 *eP* **P** **15 31 25.2 +0.4**
CCUT Cedar City 91.59 51 *eP* **P** **15 31 26.6 +1.1**
comp=Z,39nm,1.1s
TUC Tucson 91.62 56 *eP* **P** **15 31 26.9 +1.4**
TUC pmax pmax
comp=Z,49nm,1.1s
TUC Tucson 91.62 56 *eP* **P** **15 31 26.9 +1.4**
comp=Z,49nm,1.1s
ARUT Antelope Range 91.63 51 *eP* **P** **15 31 26.4 +0.8**
ARUT Antelope Range 91.63 51 *eP* **P** **15 31 26.4 +0.8**
comp=Z,454nm,1.2s
BMO Blue Mountains 91.79 43 *eP* **P** **15 31 26.5 +0.4**
BMO pmax pmax
comp=Z,19nm,1.5s
BMO Blue Mountains 91.79 43 *eP* **P** **15 31 26.5 +0.4**
comp=Z,19nm,1.5s
X16A Lo Mia Camp, P 91.87 54 ⇓P **P** **15 31 28.3 +1.5**
baz=92,SNR=72
U15A North Rim 91.97 52 ⇓P **P** **15 31 28.8 +1.5**
baz=92,SNR=72
MFID Camas Ranch 92.17 45 *eP* **P** **15 31 28.4 +0.5**
comp=Z,18nm,0.9s
WUAZ Wupatki 92.32 53 *eP* **P** **15 31 29.9 +1.1**
comp=Z,52nm,1.2s
WUAZ Wupatki 92.32 53 ⇓P **P** **15 31 29.7 +0.9**
baz=92,SNR=26
319A Douglas 92.48 58 ⇑P **P** **15 31 31.1 +1.4**
baz=93
MVU Marysvale 92.79 50 *eP* **P** **15 31 31.7 +0.6**
comp=Z,8.1nm,0.9s
DUG Dugway 92.99 49 *eP* **P** **15 31 31.4 -0.4**
DUG pmax pmax
comp=Z,12nm,1.2s
DUG Dugway 92.99 49 *eP* **P** **15 31 31.4 -0.4**
comp=Z,12nm,1.2s
DUG Dugway 92.99 49 ⇑P **P** **15 31 32.5 +0.7**
baz=93
X18A Snowflake 93.06 55 ⇑P **P** **15 31 33.5 +1.2**
baz=93,SNR=21
BGU Big Grassy Mou 93.11 48 *eP* **P** **15 31 32.5 +0.2**
comp=Z,1.4nm,0.7s
HLID Hailey 93.17 45 *eP* **P** **15 31 33.3 +0.7**
comp=Z,13nm,0.9s
HLID Hailey 93.17 45 ⇑P **P** **15 31 33.9 +1.3**
baz=93
NEW Newport 93.34 40 *eP* **P** **15 31 34.0 +0.9**
comp=Z,9.2nm,1.0s
NEW Newport 93.34 40 ⇓P **P** **15 31 34.2 +1.1**
baz=94
W18A Petrified Fore 93.43 54 ⇓P **P** **15 31 34.7 +0.7**
baz=94
HVU Hansel Valley 93.61 47 *eP* **P** **15 31 35.1 +0.5**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 93.61 47 *eP* **P** **15 31 35.1 +0.5**
comp=Z,11nm,0.8s
TMUT Trail Mountain 93.81 50 *eP* **P** **15 31 36.7 +0.9**
comp=Z,15nm,1.0s
CTU Camp Tracy 93.93 48 *eP* **P** **15 31 36.2 +0.1**
comp=Z,9.7nm,1.0s
121A Cookes Peak, D 94.07 57 *eP* **P** **15 31 37.7 +0.8**
comp=Z,24nm,1.1s
121A Cookes Peak, D 94.07 57 ⇓P **P** **15 31 37.9 +1.0**
baz=94,SNR=10
DAU Daniels Canyon 94.18 49 *eP* **P** **15 31 38.9 +1.4**
DAU pmax pmax
comp=Z,9.0nm,1.1s
DAU Daniels Canyon 94.18 49 *eP* **P** **15 31 38.9 +1.4**
comp=Z,9.5nm,1.1s
TCUT Toone Canyon 94.33 48 *eP* **P** **15 31 38.7 +0.7**
comp=Z,12nm,0.7s
HWUT Hardware Ranch 94.39 48 *eP* **P** **15 31 38.1 -0.1**
comp=Z,4.2nm,0.8s
BSMT Bassoo Peak 94.60 41 *eP* **P** **15 31 38.6 -0.5**
comp=Z,3.5nm,0.8s
MCMT McKenzie Canyo 94.70 44 *eP* **P** **15 31 40.0 +0.3**
comp=Z,3.0nm,1.2s
MSO Missoula 94.74 42 ⇓P **P** **15 31 39.8 +0.2**
baz=95
Z22A Elephant Butte 94.96 57 ⇑P **P** **15 31 41.7 +0.7**
baz=95,SNR=7.6
MVCO Mesa Verde 95.09 53 ⇑P **P** **15 31 42.2 +0.7**
baz=95
SLMT Seeley Lake 95.18 42 *eP* **P** **15 31 42.7 +1.0**
PV04 Paradox Valley 95.18 51 P **P** **15 31 40.4 -1.5**
LENM Lemitar 95.25 56 *eP* **P** **15 31 43.3 +1.0**
Y22D iRIS PASSCAL I 95.27 56 ⇓P **P** **15 31 43.1 +0.7**
baz=95
LRM Limekiln Ridge 95.32 43 *eP* **P** **15 31 42.4 -0.1**
comp=Z,43nm,1.0s
PV01 Paradox Valley 95.34 52 *eP* **P** **15 31 43.3 +0.5**
comp=Z,471nm,0.8s
BNM Barren Site 95.52 56 *eP* **P** **15 31 43.2 -0.5**
comp=Z,5.6nm,1.0s
MNTX Cornudas Mount 95.73 59 *eP* **P** **15 31 43.6 -0.7**
comp=Z,12nm,1.2s
425A Indio Mountain 95.77 60 ⇓P **P** **15 31 45.6 +0.9**
baz=96,SNR=15
BOZ Bozeman (W) 95.80 44 *eP* **P** **15 31 44.5 0.0**
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ Bozeman (W) 95.80 44 *eP* **P** **15 31 44.5 0.0**
comp=Z,13nm,1.3s
V22A San Miguel Ran 95.87 54 ⇑P **P** **15 31 45.9 +0.7**
baz=96
I17A Pilgrim Ck. 95.89 46 ⇑P **P** **15 31 46.2 +1.1**
baz=96
Y23A Lovelace Mesa, 95.90 56 ⇑P **P** **15 31 45.6 +0.3**
baz=96
ANMO Albuquerque 95.91 55 *eP* **P** **15 31 45.5 +0.1**
comp=Z,7.2nm,0.9s
X23A Hourglass Bar 96.00 56 ⇑P **P** **15 31 46.5 +0.7**
baz=96
HRY Holter Researc 96.05 43 *eP* **P** **15 31 46.1 +0.5**
comp=Z,17nm,0.7s
H17A Grant Village 96.06 45 *eP* **P** **15 31 47.4 +1.6**
comp=Z,3.6nm,0.7s
H17A Grant Village 96.06 45 ⇑P **P** **15 31 47.2 +1.4**
baz=96
U22A Llaves 96.06 54 ⇑P **P** **15 31 46.6 +0.6**
baz=96
626A Big Bend Ranch 96.08 61 ⇑P **P** **15 31 47.3 +1.2**
baz=96,SNR=11
INK Inuvik 96.09 18 *eP* **P** **15 31 44.7 -0.4**
comp=Z,28nm,1.4s
PDAR Pinedale Array 96.19 47 P **P** **15 31 46.4 -0.1**
PDAR PP **PP** **15 35 41.4 -1.8**
PDAR Pinedale Array 96.19 47 P **P** **15 31 46.4 -0.1**
comp=Z,4.6nm,1.1s,baz=194,slow=2.8,SNR=13
PDAR PP **PP** **15 35 41.4 -1.8**
comp=Z,0.8nm,0.9s,baz=245,slow=6.4,SNR=4.0
W23A Werner Place, 96.22 55 ⇑P **P** **15 31 47.4 +0.7**
baz=96
O20A White River Ci 96.25 50 *eP* **P** **15 31 46.9 +0.1**
comp=Z,6.9nm,0.8s
O20A White River Ci 96.25 50 ⇑P **P** **15 31 47.9 +1.1**

	baz=96								
Z24A	**Sheeppen Canyo**	**96.26**	**57**	⇑P		**P**		**15 31 47.5**	**+0.6**
	baz=96								
526A	**Mary Lane Ranc**	**96.28**	**61**	⇑P		**P**		**15 31 48.2**	**+1.1**
	baz=96,SNR=8.9								
225A	**Deer Hill, Car**	**96.31**	**58**	⇑P		**P**		**15 31 47.7**	**+0.5**
	baz=96,SNR=5.8								
V23A	**Ortiz Mt. (NFS**	**96.38**	**55**	⇑P		**P**		**15 31 48.7**	**+1.3**
	baz=96								
Y24A	**Capitan**	**96.39**	**56**	⇓P		**P**		**15 31 47.9**	**+0.4**
	baz=96,SNR=10								
TXAR	**Lajitas Array**	**96.40**	**61**	P		**P**		**15 31 48.7**	**+1.2**
TXAR	**Lajitas Array**	**96.40**	**61**	P		**P**		**15 31 48.7**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=226,slow=5.7,SNR=39								
N20A	**Spence Gulch,**	**96.46**	**49**	⇓P		**P**		**15 31 48.4**	**+0.6**
	baz=97								
426A	**McDonald Obser**	**96.51**	**60**	⇓P		**P**		**15 31 48.8**	**+0.6**
	baz=97,SNR=15								
S22A	**4UR Ranch, Cre**	**96.52**	**52**	⇑P		**P**		**15 31 49.1**	**+1.0**
	baz=97								
U23A	**El Rito**	**96.55**	**54**	⇓P		**P**		**15 31 48.9**	**+0.7**
	baz=97								
X24A	**Lazy VL Ranch,**	**96.59**	**56**	⇑P		**P**		**15 31 49.5**	**+1.1**
	baz=97								
125A	**Gardner Draw,**	**96.61**	**58**	⇓P		**P**		**15 31 49.1**	**+0.7**
	baz=97								
627A	**Terlingua Ranc**	**96.67**	**61**	⇑P		**P**		**15 31 49.9**	**+1.1**
	baz=97,SNR=8.9								
527A	**Woodward Ranch**	**96.69**	**61**	⇑P		**P**		**15 31 49.9**	**+0.9**
	baz=97,SNR=10								
J19A	**Crowheart**	**96.71**	**47**	⇓P		**P**		**15 31 49.7**	**+1.0**
	baz=97								
326A	**Caldwell Ranch**	**96.75**	**59**	⇓P		**P**		**15 31 49.6**	**+0.5**
	baz=97								
Z25A	**Roswell**	**96.76**	**57**	⇓P		**P**		**15 31 49.7**	**+0.6**
	baz=97								
H18A	**Shoshone NF, C**	**96.77**	**45**	⇓P		**P**		**15 31 49.9**	**+0.9**
	baz=97								
W24A	**Lazy 6 Ranch,**	**96.81**	**55**	⇑P		**P**		**15 31 49.9**	**+0.5**
	baz=97								
226B	**Tecolote Peak,**	**96.83**	**59**	⇑P		**P**		**15 31 50.2**	**+0.8**
	baz=97,SNR=5.2								
T23A	**Casias Ranch,**	**96.89**	**53**	⇑P		**P**		**15 31 50.7**	**+0.8**
	baz=97								
Y25A	**Mesa, Roswell**	**96.97**	**57**	⇓P		**P**		**15 31 50.5**	**+0.4**
	baz=97,SNR=5.4								
I19A	**Meeteetse**	**97.00**	**46**	⇑P		Pdif		15 31 50.6	+0.5
	baz=97								
WMQ	**Urumqi**	**97.05**	**314**	P		Pdif		15 31 52.0	+1.8
WMQ				SKS		**SKSac**		**15 42 06.0**	**+1.7**
WMQ				sS		sS		15 44 27.5	-6.9
WMQ				SS		**SS**		**15 49 35.0**	**-0.3**
WMQ				pmax		pmax			
	comp=Z,9.0nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,45nm,7.8s								
WMQ				LR		LR			
	comp=Z,24nm,19.0s								
WMQ				LR		LR			
	comp=Z,27nm,19.1s								
WMQ				LR		LR			
	comp=Z,24nm,22.7s								
V24A	**Rampart Ranch,**	**97.07**	**55**	⇑P		Pdif		15 31 51.1	+0.4
	baz=97								
427A	**Hayter Ranch,**	**97.08**	**60**	⇑P		Pdif		15 31 51.3	+0.7
	baz=97,SNR=6.7								
628A	**Black Gap, Mar**	**97.09**	**61**	⇓P		Pdif		15 31 51.6	+0.9
	baz=97								
126A	**Clayton Basin,**	**97.12**	**58**	⇓P		Pdif		15 31 51.5	+0.7
	baz=97								
P22A	**Eagle**	**97.16**	**51**	⇑P		Pdif		15 31 51.8	+0.8
	baz=97								
H19A	**Powell**	**97.22**	**45**	⇓P		Pdif		15 31 52.0	+1.0
	baz=97								
Z26A	**Caprock**	**97.34**	**57**	⇑P		Pdif		15 31 52.4	+0.6
	baz=98,SNR=8.0								
528A	**Cox Ranch, San**	**97.38**	**61**	⇑P		Pdif		15 31 52.7	+0.7
	baz=98,SNR=6.3								
T24B	**San Luis**	**97.40**	**53**	⇑P		Pdif		15 31 52.8	+0.6
	baz=98								
J20A	**Shoshoni**	**97.41**	**47**	⇑P		Pdif		15 31 52.5	+0.6
	baz=98								
R23A	**Moffat**	**97.41**	**52**	⇑P		Pdif		15 31 52.9	+0.7
	baz=98								
O22A	**Kremmling**	**97.49**	**50**	⇑P		Pdif		15 31 53.0	+0.5
	baz=98								
227A	**Bennet, Jal**	**97.52**	**59**	⇑P		Pdif		15 31 53.2	+0.7
	baz=98								
W25A	**X Bar L Ranch,**	**97.55**	**55**	⇑P		Pdif		15 31 52.7	0.0
	baz=98								
I20A	**Worland**	**97.57**	**46**	⇑P		Pdif		15 31 52.9	+0.4
	baz=98								
V25A	**Rancho No Teng**	**97.61**	**55**	⇓P		Pdif		15 31 53.5	+0.4
	baz=98								
428A	**Kincaid Ranch,**	**97.63**	**60**	⇓P		Pdif		15 31 54.2	+1.1
	baz=98								
F19A	**Roth Farm, Mol**	**97.64**	**44**	⇑P		Pdif		15 31 53.5	+0.8
	baz=98								
127A	**Arkansas Junct**	**97.66**	**58**	⇑P		Pdif		15 31 53.6	+0.4
	baz=98								
S24A	**Houchin Ranch,**	**97.70**	**53**	⇓P		Pdif		15 31 54.5	+0.9
	baz=98								
328A	**Wristen Ranch,**	**97.72**	**60**	⇑P		Pdif		15 31 54.3	+0.8
	baz=98								
N22A	**Wattenberg Ran**	**97.75**	**50**	⇑P		Pdif		15 31 54.3	+0.7
	baz=98								
K21A	**Alcova**	**97.76**	**48**	⇑P		Pdif		15 31 53.9	+0.4
	baz=98								
M22A	**Cedar Creek Ra**	**97.84**	**49**	⇑P		Pdif		15 31 55.1	+1.1
	baz=98								
J21A	**Lysite**	**97.85**	**47**	⇑P		Pdif		15 31 54.3	+0.4
	baz=98								
G20A	**Bridger**	**97.92**	**45**	⇓P		Pdif		15 31 54.2	+0.1
	baz=98								
E19A	**Rath Farm, Rou**	**97.94**	**44**	⇑P		Pdif		15 31 54.9	+0.8
	baz=98								
U25A	**Circle Dot Ran**	**97.94**	**54**	⇓P		**P**		**15 31 54.2**	**-0.2**
	baz=98								
R24A	**Sanders Place,**	**97.96**	**52**	⇓P		Pdif		15 31 55.2	+0.7
	baz=98								
O23A	**Lake Granby, G**	**97.96**	**50**	⇓P		Pdif		15 31 55.2	+0.6
	baz=98								
ISCO	**Idaho Springs**	**98.06**	**51**	⇑P		Pdif		15 31 55.3	+0.3
	baz=98								
D19A	**Cripps Ranch,**	**98.10**	**43**	⇑P		Pdif		15 31 55.4	+0.6
	baz=98								
228A	**UT Block 9, Go**	**98.12**	**59**	⇓P		Pdif		15 31 55.9	+0.7
	baz=98								
L22A	**Ellis Ranch, M**	**98.15**	**48**	⇓P		Pdif		15 31 56.0	+0.8
	baz=98								
N23A	**Red Feather La**	**98.15**	**50**	⇓P		**P**		**15 31 55.3**	**-0.1**
	baz=98								
T25A	**Trinidad**	**98.16**	**54**	⇓P		**P**		**15 31 55.2**	**-0.3**
	baz=98								
Y27A	**Causey**	**98.17**	**57**	⇑P		Pdif		15 31 55.7	+0.3
	baz=98								
429A	**Davenport Ranc**	**98.25**	**61**	⇑P		Pdif		15 31 56.3	+0.4
	baz=98,SNR=7.9								
S25A	**Robets Cordova**	**98.30**	**53**	⇓P		Pdif		15 31 56.3	+0.3
	baz=98								
128A	**Castleberry Fa**	**98.35**	**58**	⇓P		Pdif		15 31 56.6	+0.4
	baz=98								
E20A	**Meyer Farm, Mu**	**98.38**	**44**	⇓P		Pdif		15 31 56.6	+0.6
	baz=98								
B19A	**Brinkman Farms**	**98.47**	**42**	⇑P		**P**		**15 31 57.4**	**+1.0**
	baz=99								
MSTX	**Muleshoe**	**98.51**	**57**	*e*P		**P**		**15 31 57.3**	**+0.4**
	comp=Z,10nm,1.0s								
MSTX	**Muleshoe**	**98.51**	**57**	⇓P		**P**		**15 31 57.2**	**+0.2**
	baz=99								
D20A	**Manuel Ranch,**	**98.56**	**43**	⇓P		**P**		**15 31 57.9**	**+1.1**
	baz=99								
Z28A	**Tucker Farm, M**	**98.62**	**58**	⇓P		**P**		**15 31 57.5**	**0.0**
	baz=99								
L23A	**Garrett**	**98.69**	**49**	⇑P		**P**		**15 31 57.9**	**+0.2**
	baz=99								
A19A	**Klindworth Far**	**98.75**	**41**	⇑P		**P**		**15 31 57.8**	**+0.2**
	baz=99								
C20A	**Veseth Ranch,**	**98.84**	**43**	⇑P		**P**		**15 31 58.4**	**+0.3**
	baz=99								
Y28A	**McKinney Farm,**	**98.91**	**57**	⇑P		**P**		**15 31 58.8**	**0.0**
	baz=99								
K23A	**Bowen Ranch, D**	**98.94**	**48**	⇓P		**P**		**15 31 59.0**	**+0.3**
	baz=99								
631A	**Perdido Creek**	**99.00**	**62**	⇓P		**Pdif**		**15 31 59.3**	**+0.1**
	baz=99								
832A	**Faith Ranch, C**	**99.19**	**63**	⇓P		**Pdif**		**15 32 00.2**	**+0.2**
	baz=99								
R26A	**Arlington**	**99.23**	**53**	⇑P		**Pdif**		**15 32 00.4**	**+0.4**
	baz=99								
531A	**Rocksprings**	**99.24**	**61**	⇓P		**Pdif**		**15 32 00.4**	**+0.2**
	baz=99								
Y29A	**Porterfield Fa**	**99.36**	**57**	⇑P		**Pdif**		**15 32 01.2**	**+0.6**
	baz=100								
Z30A	**Sanderson Ranc**	**99.63**	**58**	⇑P		**Pdif**		**15 32 02.3**	**+0.4**
	baz=100								
AMTX	**Amarillo**	**99.64**	**56**	⇓P		**Pdif**		**15 32 02.2**	**+0.3**
	baz=100								
331A	**San Angelo**	**99.66**	**60**	⇑P		**Pdif**		**15 32 02.6**	**+0.5**
	baz=100								
632A	**Uvalde**	**99.69**	**62**	⇓P		**Pdif**		**15 32 02.7**	**+0.5**
	baz=100								
231A	**Bronte**	**99.92**	**60**	⇓P		**Pdif**		**15 32 03.5**	**+0.3**
	baz=100								
Y30A	**Stafford Cattl**	**99.98**	**58**	⇓P		**Pdif**		**15 32 03.9**	**+0.5**
	baz=100								
633A	**Saathoff Ranch**	**100.19**	**62**	⇓P		**Pdif**		**15 32 04.8**	**+0.4**
	baz=100								
YKA	**Yellowknife Ar**	**100.21**	**27**	P		**Pdif**		**15 32 03.5**	**-0.1**
YKA				PP		**PP**		**15 36 08.3**	**-4.6**
YKA	**Yellowknife Ar**	**100.21**	**27**	P		**Pdif**		**15 32 03.5**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=253,slow=4.5,SNR=62								
YKA				PP		**PP**		**15 36 08.3**	**-4.6**
	comp=Z,0.8nm,0.9s,baz=247,slow=7.6,SNR=4.0								
332A	**Millersview**	**100.24**	**60**	⇓P		**Pdif**		**15 32 04.8**	**+0.2**
	baz=100								
H24A	**Dirks Ranch, A**	**100.25**	**46**	⇓P		**Pdif**		**15 32 04.5**	**+0.1**
	baz=100								
Z31A	**Sharp Cattle R**	**100.43**	**58**	⇓P		**Pdif**		**15 32 05.9**	**+0.5**
	baz=101								
232A	**Coleman**	**100.45**	**60**	⇓P		**Pdif**		**15 32 06.0**	**+0.5**
	baz=101								
R28A	**Tribune**	**100.48**	**53**	⇓P		**Pdif**		**15 32 06.4**	**+0.8**
	baz=101								
Y31A	**Rekieta Farm,**	**100.51**	**58**	⇓P		**Pdif**		**15 32 06.2**	**+0.4**
	baz=101								
L26A	**Underwood Farm**	**100.54**	**49**	⇓P		**Pdif**		**15 32 05.9**	**+0.1**
	baz=101								
433A	**Art**	**100.61**	**61**	⇑P		**Pdif**		**15 32 07.2**	**+0.9**
	baz=101								
I25A	**Rochford**	**100.62**	**47**	⇓P		**Pdif**		**15 32 06.7**	**+0.5**
	baz=101								
ABTX	**Abilene, Hawle**	**100.65**	**59**	*e*Pdif		**Pdif**		**15 32 06.2**	**-0.2**
	comp=Z,18nm,1.4s								
ABTX	**Abilene, Hawle**	**100.65**	**59**	⇑P		**Pdif**		**15 32 06.7**	**+0.3**
	baz=101								
Z32A	**Haskell**	**100.97**	**59**	⇑P		**Pdif**		**15 32 08.6**	**+0.9**
	baz=101								
233A	**Rising Star**	**101.10**	**60**	⇓P		**Pdif**		**15 32 09.1**	**+0.7**
	baz=101								
Y32A	**R-V Farms, Ver**	**101.18**	**58**	⇓P		**Pdif**		**15 32 09.4**	**+0.8**
	baz=101								
133A	**Hamilton Ranch**	**101.24**	**59**	⇑P		**Pdif**		**15 32 09.6**	**+0.6**
	baz=101								
X32A	**Elmer**	**101.41**	**57**	⇓P		**Pdif**		**15 32 10.2**	**+0.4**
	baz=102								
MKAR	**Makanchi Array**	**101.57**	**316**	P		**Pdif**		**15 32 11.4**	**+1.3**
MKAR								15 36 24.9	
MKAR	**Makanchi Array**	**101.57**	**316**	P		**Pdif**		**15 32 11.4**	**+1.3**
MKAR				PP		**PP**		**15 36 24.9**	**+1.2**
MKAR				PKKPbc		**PKKPbc**		**15 48 14.8**	**-3.6**
MKAR	**Makanchi Array**	**101.57**	**316**	P		**Pdif**		**15 32 11.4**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=101,slow=6.3,SNR=12								
MKAR				PP		**PP**		**15 36 24.9**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=118,slow=7.0,SNR=5.1								
MKAR				PKKPbc		**PKKPbc**		**15 48 14.8**	**-3.6**
	comp=Z,0.5nm,0.6s,baz=286,slow=3.5,SNR=6.2								
W32A	**Sentinel**	**101.62**	**57**	⇓P		**Pdif**		**15 32 11.5**	**+0.8**
	baz=102								
KURK	**Kurchatov**	**104.84**	**319**	PKKPbc		PKKPbc		15 48 05.6	-3.1
KURBB	**Kurchatov Arra**	**104.88**	**319**	PKKPbc		PKKPbc		15 48 05.6	-3.0
	comp=Z,0.3nm,0.2s,baz=274,slow=3.5,SNR=4.2								
BVAR	**Borovoye Array**	**110.22**	**321**	PKIKP		**PKiKP**		**15 36 47.5**	**-0.9**
BVAR	**Borovoye Array**	**110.22**	**321**	PKiKP		**PKiKP**		**15 36 47.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=151,slow=1.3,SNR=8.5								
ARU	**Arti**	**117.01**	**324**	*i* PKIKP		**PKPdf**		**15 37 00.4**	**-0.9**
ARU						**PP**		**15 38 13.6**	**-1.0**
ARU				SP		**PS**		**15 48 00.2**	**-1.1**
AKTO	**Aktyubinsk**	**117.89**	**318**	PKIKP		**PKPdf**		**15 37 02.1**	**-1.1**
AKTO	**Aktyubinsk**	**117.89**	**318**	PKP		**PKPdf**		**15 37 02.1**	**-1.1**
AKTO	**Aktyubinsk**	**117.89**	**318**	PKP		**PKPdf**		**15 37 02.1**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=103,slow=3.2,SNR=8.8								
SDV	**Santo Domingo**	**121.08**	**91**	*e*PKPdf		**PKPdf**		**15 37 09.3**	**-1.4**
SCHQ	**Schefferville**	**124.46**	**36**	PKP		**PKPdf**		**15 37 13.9**	**-1.8**
SCHQ	**Schefferville**	**124.46**	**36**	PKP		**PKPdf**		**15 37 13.9**	**-1.8**
	comp=Z,6.2nm,0.7s,baz=256,slow=1.9,SNR=6.9								
ARCES	**ARCESS Array B**	**124.71**	**345**	PKP		**PKPdf**		**15 37 15.1**	**-0.7**
ARCES	**ARCESS Array B**	**124.71**	**345**	PKP		**PKPdf**		**15 37 15.1**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=63,slow=2.5,SNR=46								
VRHR	**Novokhopersk**	**127.96**	**321**	*e*PKIKP		**PKPdf**		**15 37 20.4**	**-2.0**
VRHR				pmax		pmax			
	comp=N,5.0nm,1.0s								
VRHR				pmax		pmax			
	comp=E,10.0nm,1.0s								
VRHR				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MOS	**Moscow**	**128.43**	**327**	*e*PKHKP		PKPpre		15 37 02.4	
MOS				pmax		pmax			
	comp=Z,40nm,0.7s								
VSR	**Storozhevoye**	**129.38**	**322**	*e*PKHKP		PKPpre		15 36 55.1	
VSR				pmax		pmax			
	comp=N,4.0nm,0.9s								
VSR				pmax		pmax			
	comp=E,3.0nm,0.9s								
VSR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
VORD	**Divnogorie**	**129.39**	**321**	*e*PKHKP		PKPpre		15 36 54.3	
VORD				pmax		pmax			
	comp=E,10.0nm,1.0s								
VORD				pmax		pmax			
	comp=Z,4.0nm,1.0s								
VORD				pmax		pmax			
	comp=N,10.0nm,0.9s								
BDFB	**Brasilia**	**129.68**	**130**	PKP		**PKPdf**		**15 37 25.9**	**-1.0**
BDFB				SKPbc		SKPab		15 40 25.9	-0.6
BDFB	**Brasilia**	**129.68**	**130**	PKP		**PKPdf**		**15 37 25.9**	**-1.0**
	comp=N,3.8nm,0.7s,baz=264,slow=4.4,SNR=5.1								
BDFB				SKPbc		SKPab		15 40 25.9	-0.6
	comp=N,3.6nm,0.9s,baz=277,slow=11,SNR=4.7								
KAF	**Kangasniemi**	**129.74**	**338**	*ep*		SKPab		15 40 22.2	-3.0
	comp=N,5.3nm,0.6s								
FINES	**FINESS Array B**	**130.27**	**338**	PKPpre		PKPpre		15 37 15.6	
FINES				PKP		**PKPdf**		**15 37 25.8**	**-0.7**
FINES				SKPbc		**SKPbc**		**15 40 25.4**	**-1.9**
FINES	**FINESS Array B**	**130.27**	**338**	PKhKP		PKPpre		15 37 15.6	
	comp=N,1.9nm,0.9s,baz=338,slow=6.3,SNR=3.3								
FINES				PKP		**PKPdf**		**15 37 25.8**	**-0.7**
	comp=N,2.4nm,0.9s,baz=112,slow=2.1,SNR=7.0								
FINES				SKPbc		**SKPbc**		**15 40 25.4**	**-1.9**
	comp=N,11nm,0.7s,baz=80,slow=4.6,SNR=30								
NB2	**NORSAR Subarra**	**135.09**	**345**	PKP		**PKPdf**		**15 37 36.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=10,slow=3.2								
NOA	**NORSAR Array B**	**135.09**	**345**	PKP		**PKPdf**		**15 37 36.2**	**+0.5**
NOA	**NORSAR Array B**	**135.09**	**345**	PKP		**PKPdf**		**15 37 36.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=40,slow=3.5,SNR=3.5								
HFS	**Hagfors**	**135.22**	**343**	PKP		**PKPdf**		**15 37 36.0**	**+0.1**
HFS				SKPbc		**SKPbc**		**15 40 41.7**	**-2.6**
HFS	**Hagfors**	**135.22**	**343**	PKP		**PKPdf**		**15 37 36.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=75,slow=1.7,SNR=5.3								
HFS				SKPbc		**SKPbc**		**15 40 41.7**	**-2.6**
	comp=Z,3.3nm,0.8s,baz=222,slow=2.0,SNR=3.9								
AKASG	**Malin Array Be**	**135.26**	**325**	PKIKP		**PKPdf**		**15 37 35.6**	**-0.6**
AKASG	**Malin Array Be**	**135.26**	**325**	PKP		**PKPdf**		**15 37 35.6**	**-0.6**
AKASG				SKPbc		**SKPbc**		**15 40 43.1**	**-1.6**
AKASG	**Malin Array Be**	**135.26**	**325**	PKP		**PKPdf**		**15 37 35.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=46,slow=2.8,SNR=6.7								
AKASG				SKPbc		**SKPbc**		**15 40 43.1**	**-1.6**
	comp=Z,4.6nm,0.6s,baz=47,slow=4.1,SNR=32								
BRTR	**Keskin Array B**	**136.70**	**308**	PKP		**PKPdf**		**15 37 39.3**	**-0.2**
BRTR				SKP				15 40 48.2	
BRTR	**Keskin Array B**	**136.70**	**308**	PKP		**PKPdf**		**15 37 39.3**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=125,slow=3.1,SNR=6.8								
BRTR				SKP				15 40 48.2	
	comp=Z,0.9nm,0.8s,baz=126,slow=3.2,SNR=4.6								
LVV	**L'vov**	**138.54**	**326**	*e*PKHKP		PKPpre		15 37 22.9	
KOLS	**Kolonicke sedl**	**139.99**	**326**	*e*PKIKP		**PKPdf**		**15 37 45.2**	**+0.1**
KOLS	**Kolonicke sedl**	**139.99**	**326**	*e*PKP		**PKPdf**		**15 37 45.2**	**+0.1**
KRLC	**Kraliky**	**141.94**	**331**	*e*PKPpre		PKPpre		15 37 43.7	
KRLC				*e*PKPdf		**PKPdf**		**15 37 48.5**	**-0.1**
KRLC				*e*SKP				15 41 02.7	
DPC	**Dobruska-Polom**	**141.95**	**332**	*e*PKPpre		PKPpre		15 37 44.2	
DPC				*e*PKPdf		**PKiKP**		**15 37 50.5**	**-1.1**
DPC				*e*SKP				15 41 02.7	
BRG	**Berggiesshubel**	**142.58**	**334**	*e*PKP		PKPpre		15 37 44.0	
	comp=Z,8.1nm,1.2s								
BRG				*e*				15 37 53.1	
	comp=Z,9.8nm,1.3s								
BRG	**Berggiesshubel**	**142.58**	**334**	*e*PKP		**SKPbc**		**15 41 03.9**	**-1.1**
	comp=Z,7.0nm,0.9s								
BRG	**Berggiesshubel**	**142.58**	**334**	*e*PKHKP		PKPpre		15 37 44.0	
BRG				pmax		pmax			
	comp=Z,4.0nm,1.2s								
BRG	**Berggiesshubel**	**142.58**	**334**	*e*PKPbc		**PKPdf**		**15 37 47.5**	**-2.1**
CLL	**Collm**	**142.62**	**336**	*e*PKPdf		**PKPdf**		**15 37 47.0**	**-2.7**
PRA	**Prague**	**142.98**	**333**	PKPpre		PKPpre		15 37 48.0	
PRU	**Pruhonice**	**142.99**	**333**	*e*PKPpre		PKPpre		15 37 47.5	
PRU				*e*SKP				15 41 03.8	
CLZ	**Clausthal**	**143.16**	**338**	*e*PKPbc		PKPbc		15 37 48.0	-0.3
TANN	**Tannenbergstha**	**143.53**	**335**	*e*PKPbc		PKPbc		15 37 49.3	-0.1
IBBN	**Ibbenburen**	**143.63**	**341**	*e*PKPbc		PKPbc		15 37 50.1	+0.6
MOX	**Moxa**	**143.68**	**336**	*e*PKPbc		PKPbc		15 37 49.6	-0.2
KHC	**Kasperske Hory**	**144.05**	**333**	*e*PKIKP		**PKPab**		**15 37 50.2**	**-0.3**
KHC	**Kasperske Hory**	**144.05**	**333**	*e*PKPdf		**PKPab**		**15 37 50.7**	**+0.2**
KHC				*ex*		x		15 37 58.4	
KHC				*e*SKP				15 41 07.6	
KHC	**Kasperske Hory**	**144.05**	**333**	*e*PKPpre		**PKPab**		**15 37 50.2**	**-0.3**
ROTZ	**Rotzenmuhle**	**144.14**	**335**	*e*PKPbc		PKPbc		15 37 51.7	+0.5
UBBA	**Unterbreizbach**	**144.14**	**338**	*e*PKPbc		PKPbc		15 37 51.2	+0.2
GEC2	**GERESS Array S**	**144.21**	**332**	*e*PKPbc		PKPbc		15 37 51.6	+0.1
GERES	**GERESS Array B**	**144.21**	**332**	PKP		PKPbc		15 37 51.4	-0.1
GERES				SKPbc		**SKPbc**		**15 41 06.8**	**-2.4**
GERES	**GERESS Array B**	**144.21**	**332**	PKP		PKPbc		15 37 51.4	-0.1
	comp=Z,4.8nm,0.7s,baz=35,slow=3.6,SNR=42								
GERES				SKPbc		**SKPbc**		**15 41 06.8**	**-2.4**
	comp=Z,2.0nm,0.8s,baz=45,slow=2.1,SNR=7.5								
HPK	**Haverah Park**	**144.26**	**351**	*e*P		**PKPab**		**15 37 50.2**	**-0.8**
WET	**Wettzell**	**144.34**	**333**	*e*PKPbc		PKPbc		15 37 52.1	+0.3
ARSA	**Arzberg**	**144.52**	**329**	⇑*i*PKPdf		PKPbc		15 37 52.7	+0.3
	comp=Z,15nm,1.2s								
BUG	**Bochum--Univer**	**144.53**	**341**	*e*PKPbc		**PKPab**		**15 37 52.1**	**0.0**
GRF	**Grafenberg Arr**	**144.59**	**335**	*e*PKPbc		**PKPdf**		**15 37 53.1**	**-0.1**
MOA	**Molln**	**144.69**	**331**	*i* PKPdf		**PKPdf**		**15 37 53.4**	**0.0**
	comp=Z,28nm,0.9s,SNR=7.4								
LHO	**Holmfirth**	**144.69**	**351**	*e*P		**PKPab**		**15 37 52.1**	**-0.6**
KBI1	**Birley Grange**	**144.92**	**351**	*e*P		PKPbc		15 37 52.8	-0.6
SOKA	**Soboth**	**145.16**	**329**	⇑*i*PKPab		**PKPdf**		**15 37 54.1**	**-0.3**
	comp=Z,9.9nm,0.9s								
TNS	**Taunus Mts**	**145.19**	**339**	*e*PKPbc		**PKPab**		**15 37 54.9**	**+0.2**
WPM1	**Penmaenmawr**	**145.24**	**353**	*e*P		**PKPbc**		**15 37 54.3**	**-0.1**
WLF1	**Llynfaes**	**145.27**	**354**	*e*P		**PKPdf**		**15 37 53.9**	**-0.3**
YRC	**Rhoscolyn**	**145.32**	**354**	*e*P		**PKPdf**		**15 37 54.0**	**-0.3**
RJOB	**Jochberg**	**145.44**	**332**	*e*PKPbc		**PKPbc**		**15 37 55.2**	**-0.1**
RJOB				*e*pPKPbc		p

MEX 31 15:34:41.7±0.2, 16°71'N×100°70'W, h10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.82**	**79**	*eP*	Pg	15 34 54.6	-3.0
ACX				*i* S	Sg	15 35 04.6	-3.8
ARIG	**Puente Sto Nin**	**1.60**	**12**	*eP*	Pn	15 35 06.5	-3.6
ARIG				*eS*	Sn	15 35 25.7	-5.1
PLIG	**Platanillo**	**2.02**	**34**	*i* P	Pn	15 35 12.8	-3.3
PLIG				*i* S	Sn	15 35 37.0	-4.6
TLIG	**Tlapa**	**2.21**	**67**	*eP*	Pn	15 35 15.4	-3.3
TLIG				*i* S	Sn	15 35 41.9	-4.3
YAIG	**Yautepec**	**2.65**	**36**	*eP*	Pn	15 35 21.8	-2.8
YAIG				*i* S	Sn	15 35 52.9	-4.0

MEX 31 15:35:52.2±0.3, 16°92N×100°62W, h8km±12km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.73**	**94**	*eP*	Pg	15 36 03.6	-2.6
ACX				*i* S	Sg	15 36 13.1	-2.7
ARIG	**Puente Sto Nin**	**1.38**	**11**	*eP*	Pn	15 36 14.2	-3.6
ARIG				*i* S	Sb	15 36 30.9	-5.2
PLIG	**Platanillo**	**1.81**	**36**	*i* P	Pn	15 36 20.3	-3.5
PLIG				*i* S	Sn	15 36 42.4	-4.6
TLIG	**Tlapa**	**2.06**	**72**	*eP*	Pn	15 36 24.0	-3.3
TLIG				*i* S	Sn	15 36 48.7	-4.6
YAIG	**Yautepec**	**2.43**	**37**	*eP*	Pn	15 36 29.0	-3.4
YAIG				*i* S	Sn	15 36 57.5	-5.0

MEX 31 15:40:44.8±0.5, 17°02N×100°50W, h5km±12km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.64**	**104**	*i* P	Pg	15 40 55.4	-1.7
ACX				*eS*	Sg	15 41 04.8	-0.6
ARIG	**Puente Sto Nin**	**1.26**	**7**	*eP*	Pg	15 41 05.5	-3.6
ARIG				*eS*	Sg	15 41 21.6	-3.9
PLIG	**Platanillo**	**1.66**	**35**	*eP*	Pn	15 41 11.3	-3.5
PLIG				*i* S	Sn	15 41 31.6	-5.1
TLIG	**Tlapa**	**1.93**	**74**	*i* P	Pn	15 41 14.9	-3.6
TLIG				*i* S	Sn	15 41 38.6	-4.6
YAIG	**Yautepec**	**2.28**	**37**	*eP*	Pn	15 41 20.0	-3.5
YAIG				*i* S	Sn	15 41 47.5	-4.6
TPIG	**Tehuac#an**	**3.30**	**65**	*eP*	Pn	15 41 40.0	+2.5
TPIG				*i* S	Sb	15 42 26.5	+1.7

MEX 31 15:51:30.2±0.4, 16°75N×100°76W, h5km±23km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.87**	**82**	*eP*	Pg	15 51 44.8	-2.3
ACX				*i* S	Sg	15 51 55.1	-3.4
ARIG	**Puente Sto Nin**	**1.58**	**14**	*eP*	Pn	15 51 55.2	-3.7
ARIG				*i* S	Sn	15 52 14.8	-4.9
PLIG	**Platanillo**	**2.03**	**36**	*eP*	Pn	15 52 01.6	-3.7
PLIG				*i* S	Sn	15 52 26.4	-4.7
TLIG	**Tlapa**	**2.25**	**69**	*eP*	Pn	15 52 05.1	-3.2
TLIG				*i* S	Sn	15 52 32.6	-4.0
YAIG	**Yautepec**	**2.65**	**37**	*eP*	Pn	15 52 10.7	-3.2
YAIG				*eS*	Sn	15 52 43.1	-3.5

IDC 31 15:55:05.2±1.7, 34°85N×24°05E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/27, mbtmp3.5/4, Error ellipse: s-maj=58.4km s-min=29.7km az=136.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**27.48**	**346**	P	P	16 00 53.0	+0.1
	0.7nm,0.8s,baz=153,slow=8.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**29.59**	**229**	P	P	16 01 12.0	0.0
	0.3nm,0.3s,baz=35,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**44.71**	**56**	P	P	16 03 20.5	+0.5
	0.1nm,0.5s,baz=282,slow=7.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.88**	**46**	P	P	16 03 28.2	-0.9
	0.4nm,0.4s,baz=300,slow=9.6,SNR=2.4						

MEX 31 15:55:10.0±0.4, 16°84N×100°69W, h10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.80**	**88**	*i* P	Pg	15 55 22.3	-3.2
ACX				*i* S	Sg	15 55 32.2	-3.8
ARIG	**Puente Sto Nin**	**1.47**	**13**	*eP*	Pn	15 55 33.0	-3.6
ARIG				*eS*	Sn	15 55 50.2	-5.7
PLIG	**Platanillo**	**1.92**	**36**	*eP*	Pn	15 55 39.6	-3.2
PLIG				*i* S	Sn	15 56 02.5	-4.7
TLIG	**Tlapa**	**2.16**	**70**	*eP*	Pn	15 55 42.9	-3.3
TLIG				*i* S	Sn	15 56 08.8	-4.3
YAIG	**Yautepec**	**2.54**	**37**	*i* P	Pn	15 55 48.5	-2.9
YAIG				*eS*	Sn	15 56 19.9	-2.8

MEX 31 16:00:10.7±0.4, 16°88N×100°74W, h10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.84**	**91**	*eP*	Pg	16 00 23.7	-3.3
ACX				*i* S	Sg	16 00 33.7	-4.4
PLIG	**Platanillo**	**1.91**	**38**	*eP*	Pn	16 00 39.7	-3.8
PLIG				*i* S	Sn	16 01 02.8	-4.9
TLIG	**Tlapa**	**2.19**	**72**	*eP*	Pn	16 00 44.4	-2.9
TLIG				*i* S	Sn	16 01 10.4	-4.1
YAIG	**Yautepec**	**2.53**	**39**	*i* P	Pn	16 00 49.6	-2.5
YAIG				*eS*	Sn	16 01 18.8	-4.5

*IDC **31** 16:21:51.5±4.3, 5°71S×105°75E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/35, mbtmp3.3/4, Error ellipse: s-maj=191.6km s-min=24.5km az=53.0*

ISC 31 16:21:52.6±1.1, 5°72S±0°08×105°6E±0°1, h10km, n8, σ2°33/9, mb3.4/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**2.89**	**129**	P	Pg	16 22 51.9	+3.8
	baz=0.9,SNR=5.3						
XMI	**Christmas Isla**	**4.70**	**178**	P	**Pb**	**16 23 13.3**	**-1.9**
	baz=3.3,SNR=4.2						
XMI				S	**Sn**	**16 24 00.7**	**+2.4**
	baz=3.3,SNR=4.0						
XMIS	**Christmas Isla**	**4.73**	**179**	P	**Pb**	**16 23 13.4**	**-2.3**
	baz=3.3,SNR=9.0						
XMIS				S	**Sn**	**16 24 02.9**	**+3.8**
	baz=3.3,SNR=6.8						
UGM	**Wanagama**	**5.39**	**114**	P	**Pb**	**16 23 26.3**	**-0.7**
	baz=3.6,SNR=3.8						
WRA	**Warramunga Arr**	**31.34**	**119**	P	**P**	**16 28 12.7**	**-1.0**
	0.4nm,1.0s,baz=307,slow=8.7,SNR=7.9						
ASAR	**Alice Springs**	**32.59**	**126**	P	**P**	**16 28 23.6**	**-1.0**
	0.2nm,0.8s,baz=298,slow=7.8,SNR=8.7						
SONM	**Songino Array**	**53.33**	**1**	P	**P**	**16 31 12.3**	**+0.3**
	0.2nm,0.4s,baz=174,slow=5.8,SNR=2.0						
MKAR	**Makanchi Array**	**56.21**	**341**	P	**P**	**16 31 33.8**	**+0.9**
	0.2nm,0.5s,baz=154,slow=8.0,SNR=5.8						

*ISCJB **31** 16:22:19.9±0.8, 15°99S±0°10×73°11W±0°08, h82km, mb3.7/6, Error ellipse: s-maj=14.4km s-min=10.6km az=17.5*

*IDC **31** 16:22:25.0±2.6, 16°07S×72°96W, h112km±24km, mb3.6/6, mb1 3.8/10, mb1mx3.6/27, mbtmp4.0/10, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=22.5km s-min=17.4km az=56.0*

ISC 31 16:22:21.7±0.9, 16°0S±0°1×73°1W±0°1, h82km, n22, σ1°48/12, mb3.8/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.78**	**94**	P	**Pn**	**16 23 34.9**	**+3.0**
	10nm,0.3s,baz=301,slow=7.5,SNR=199						
LPAZ				S	**Sn**	**16 24 26.4**	**+0.1**
	baz=176,slow=16,SNR=1.4						
ATAH	**Atahualpa**	**10.25**	**329**	P	Pn	16 24 52.6	+6.3
	0.4nm,0.3s,baz=129,slow=14,SNR=3.1						
SIV	**San Ignacio**	**11.56**	**91**	P	**Pn**	**16 25 01.2**	**-2.7**
	0.8nm,0.3s,baz=305,slow=9.8,SNR=6.2						
CFAA	**Coronel Fontan**	**16.13**	**165**	P	**Pn**	**16 26 02.9**	**-0.6**
	0.2nm,0.3s,baz=331,slow=11,SNR=16						
CPUP	**Villa Florida**	**17.91**	**128**	LR	LR	16 33 47.4	
	comp=Z,34nm,20.2s,baz=149,slow=38						
H03N1	**Juan Fernandez**	**18.12**	**196**	T	T	16 44 52.8	
	baz=17,slow=75,SNR=380						
H03N2	**Juan Fernandez**	**18.12**	**196**	T	T	16 44 55.3	
	baz=17,slow=75,SNR=410						
H03N3	**Juan Fernandez**	**18.13**	**196**	T	T	16 44 56.2	
	baz=17,slow=75,SNR=508						
PTGA	**Pitinga**	**19.97**	**42**	P	**P**	**16 26 46.9**	**-0.7**
	1.0nm,0.3s,baz=204,slow=12,SNR=12						
BDFB	**Brasilia**	**24.13**	**93**	P	**P**	**16 27 31.3**	**+1.0**
	4.5nm,0.6s,baz=266,slow=12,SNR=9.2						
PLCA	**Paso Flores**	**24.71**	**175**	P	**P**	**16 27 35.2**	**-0.1**
	2.4nm,0.5s,baz=355,slow=10,SNR=12						
TXAR	**Lajitas Array**	**53.90**	**327**	P	**P**	**16 31 37.6**	**+0.7**
	0.2nm,0.5s,baz=150,slow=7.3,SNR=2.7						
ULM	**Lac du Bonnet**	**68.97**	**345**	P	**P**	**16 33 17.6**	**-0.4**
	1.1nm,0.5s,baz=156,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**79.42**	**73**	P	**P**	**16 34 18.8**	**-0.7**
	0.4nm,0.6s,baz=269,slow=6.1,SNR=3.6						
YKA	**Yellowknife Ar**	**84.76**	**342**	P	**P**	**16 34 46.5**	**+0.2**
	0.6nm,0.8s,baz=138,slow=5.2,SNR=8.3						
H11N3	**WAKE ISLAND Hyd**	**23.02**	**283**	T	T	18 57 04.5	
	SNR=3.2						
H11N2	**WAKE ISLAND Hyd**	**23.03**	**283**	T	T	18 56 49.8	
H11N1	**WAKE ISLAND Hyd**	**23.03**	**283**	T	T	18 57 04.5	
H11S2	**WAKE ISLAND Hyd**	**23.06**	**282**	T	T	18 56 46.7	
	baz=101,slow=73,SNR=5.4						
H11S1	**WAKE ISLAND Hyd**	**23.06**	**282**	T	T	18 56 48.6	
	baz=101,slow=73,SNR=4.5						
H11S3	**WAKE ISLAND Hyd**	**23.08**	**282**	T	T	18 56 57.3	
	baz=101,slow=73,SNR=5.2						
SONM	**Songino Array**	**148.28**	**1**	PKPbc	**PKPbc**	**16 41 59.0**	**+0.4**
	0.3nm,0.5s,baz=312,slow=3.9,SNR=2.6						

*ISCJB **31** 16:35:02.8±1.6, 22°6N±0°2×93°2E±0°4, h33km, mb3.4/5, Error ellipse: s-maj=58.0km s-min=9.0km az=149.0*

*IDC **31** 16:35:07.7±5.8, 22°67N×93°41E, h58km±48km, mb3.2/5, mb1 3.3/6, mb1mx3.1/33, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=86.9km s-min=18.3km az=66.0*

ISC 31 16:35:05.0±2.1, 22°6N±0°3×93°2E±0°4, h35km, n7, σ1°07/8, mb3.7/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.16**	**339**	*eP*	**Pn**	**16 35 53.0**	**+0.6**
SHL				*eS*	**Sn**	**16 36 28.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**6.82**	**126**	P	**Pn**	**16 36 43.1**	**+0.5**
	0.1nm,0.3s,baz=309,slow=13,SNR=6.3						
MKAR	**Makanchi Array**	**25.67**	**343**	P	**P**	**16 40 31.4**	**-0.2**
	0.4nm,0.7s,baz=152,slow=10,SNR=5.9						
SONM	**Songino Array**	**27.31**	**20**	P	**P**	**16 40 45.5**	**-0.9**
	0.3nm,0.7s,baz=206,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**31.91**	**351**	P	**P**	**16 41 28.5**	**+1.5**
	0.4nm,0.4s,baz=167,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**58.36**	**133**	P	**P**	**16 44 56.2**	**-0.9**
	0.4nm,0.6s,baz=321,slow=7.5,SNR=4.9						
ASAR	**Alice Springs**	**60.71**	**137**	P	**P**	**16 45 12.6**	**-0.6**
	1.0nm,1.1s,baz=318,slow=6.7,SNR=7.1						

*IDC **31** 16:50:58.6±1.1, 36°64S×95°98W, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.9/30, mbtmp4.1/5, MS3.5/6, Ms1 3.5/6, ms1mx3.3/20, Error ellipse: s-maj=44.5km s-min=27.8km az=104.0*

*NEIC **31** 16:50:59.2±0.9, 36°77S×96°01W, h10km, mb4.3/2, Error ellipse: s-maj=33.9km s-min=23.3km az=127.0*

ISC 31 16:50:57.8±1.5, 37°1S±0°3×96°0W±0°2, h10km, n22, σ0°17/11, mb4.1/6, MS3.4/7, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**14.42**	**80**	T	T	17 09 06.6	
	baz=246,slow=74,SNR=99						
H03N3	**Juan Fernandez**	**14.42**	**81**	T	T	17 09 10.5	
	baz=246,slow=74,SNR=114						
H03N1	**Juan Fernandez**	**14.43**	**80**	T	T	17 09 12.1	
	baz=246,slow=74,SNR=97						
PLCA	**Paso Flores**	**20.12**	**108**	LR	LR	17 01 22.9	
	comp=Z,73nm,18.3s,baz=5.5,slow=31						
CFAA	**Coronel Fontan**	**23.53**	**85**	LR	LR	17 02 12.6	
	comp=Z,5.4nm,19.4s,baz=250,slow=29						
USHA	**Ushuaia**	**25.86**	**142**	LR	LR	17 04 16.8	
	comp=Z,184nm,18.7s,baz=326,slow=30						
LVC	**Limon Verde**	**27.45**	**66**	*eP*	**P**	**16 56 44.4**	**+0.1**
	4.0nm,0.9s						
LPAZ	**La Paz**	**32.20**	**57**	*eP*	**P**	**16 57 26.7**	**-0.1**
	7.5nm,1.2s						
LPAZ	**La Paz**	**32.20**	**57**	P	**P**	**16 57 26.9**	**+0.1**
	3.1nm,0.7s,baz=215,slow=6.7,SNR=12						
LPAZ				LR	LR	17 07 23.2	
	comp=Z,68nm,21.9s,baz=246,slow=31						
CPUP	**Villa Florida**	**34.40**	**83**	LR	LR	17 09 37.8	
	comp=Z,61nm,18.5s,baz=231,slow=33						
ROSC	**El Rosal**	**46.37**	**31**	LR	LR	17 16 12.2	
	comp=Z,79nm,18.2s,baz=7.5,slow=33						
QSPA	**South Pole Qui**	**53.14**	**180**	LR	LR	17 20 41.5	
	comp=Z,56nm,18.8s,baz=160,slow=33						
VNDA	**Vanda**	**56.67**	**195**	P	P	17 00 46.2	+5.5
VNDA	**Vanda**	**56.67**	**195**	P	P	17 00 46.2	+5.5
	8.4nm,1.2s,baz=138,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**66.46**	**353**	P	**P**	**17 01 47.4**	**0.0**
TXAR	**Lajitas Array**	**66.46**	**353**	P	**P**	**17 01 47.4**	**0.0**
	0.6nm,0.8s,baz=178,slow=8.1,SNR=7.0						
NVAR	**Mina Array Bea**	**77.91**	**342**	P	**P**	**17 02 56.1**	**+0.2**
NVAR	**Mina Array Bea**	**77.91**	**342**	P	**P**	**17 02 56.1**	**+0.2**
	1.1nm,0.9s,baz=163,slow=4.6,SNR=6.8						
PDAR	**Pinedale Array**	**80.43**	**350**	P	**P**	**17 03 09.3**	**-0.2**
PDAR	**Pinedale Array**	**80.43**	**350**	P	**P**	**17 03 09.3**	**-0.2**
	0.8nm,0.8s,baz=163,slow=7.1,SNR=6.1						
CMAR	**Chiang Mai Arr**	**157.27**	**219**	PKPab	**PKPab**	**17 11 25.2**	**0.0**
CMAR	**Chiang Mai Arr**	**157.27**	**219**	PKPab	**PKPab**	**17 11 25.2**	**0.0**
	0.1nm,0.3s,baz=173,slow=2.3,SNR=4.1						

*IDC **31** 17:15:32.0±0.6, 58°69S×25°13W, h0km, mb4.4/8, mb1 4.4/9, mb1mx4.2/23, mbtmp4.3/9, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/22, Error ellipse: s-maj=25.6km s-min=18.5km az=72.0*

*ISCJB **31** 17:15:34.6±0.7, 58°7S±0°1×25°1W±0°3, h28km, mb4.2/9, MS3.4/2, Error ellipse: s-maj=23.7km s-min=13.2km az=152.1*

ISC 31 17:15:36.2±0.6, 58°7S±0°1×25°1W±0°2, h28km, n23, σ0°71/19, mb4.3/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.84**	**154**	Pn	**Pn**	**17 19 15.8**	**-1.2**
	0.7nm,0.3s,baz=23,slow=11,SNR=95						
SNAA				Sn	Sn	17 21 57.8	-14
	0.1nm,0.3s,baz=262,slow=12,SNR=1.4						
QSPA	**South Pole Qui**	**31.52**	**180**	P	**P**	**17 21 56.3**	**+0.8**
	3.2nm,0.7s,baz=192,slow=2.6,SNR=20						
PLCA	**Paso Flores**	**33.61**	**282**	P	**P**	**17 22 13.8**	**-0.2**
	1.2nm,0.4s,baz=175,slow=10,SNR=3.4						
MAW	**Mawson**	**37.35**	**141**	LR	LR	17 36 43.9	
	comp=Z,72nm,18.8s,baz=224,slow=34						
CFAA	**Coronel Fontan**	**39.66**	**294**	P	**P**	**17 23 05.3**	**-0.2**
	0.1nm,0.4s,baz=127,slow=4.0,SNR=5.2						
CFAA				PcP	**PcP**	**17 25 11.6**	**-0.3**
	0.2nm,0.7s,baz=185,slow=11,SNR=3.7						
VNDA	**Vanda**	**43.94**	**182**	P	**P**	**17 23 41.4**	**+1.4**
	5.5nm,0.9s,baz=162,slow=5.2,SNR=7.2						
H10S2	**ASCENSION HYDR**	**50.29**	**14**	T	T	18 18 49.5	
	baz=187						
H10S3	**ASCENSION HYDR**	**50.30**	**13**	T	T	18 18 49.9	
	baz=187						
H10S1	**ASCENSION HYDR**	**50.31**	**14**	T	T	18 18 51.5	
	baz=187						
LPAZ	**La Paz**	**52.83**	**305**	P	**P**	**17 24 49.5**	**-0.2**
	1.2nm,0.6s,baz=162,slow=2.5,SNR=5.6						
LPAZ				PcP	**PcP**	**17 25 59.0**	**+0.2**
	0.8nm,0.5s,baz=43,slow=3.6,SNR=3.5						
RCBR	**Riachuelo**	**53.42**	**347**	LR	LR	17 44 37.1	
	comp=Z,31nm,19.7s,baz=155,slow=33						
DBIC	**Dimbokro**	**67.19**	**22**	P	**P**	**17 26 28.0**	**+0.5**
	1.3nm,0.4s,baz=187,slow=7.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**74.89**	**27**	P	**P**	**17 27 14.9**	**+0.8**
	3.4nm,0.4s,baz=201,slow=6.2,SNR=62						
STKA	**Stephens Creek**	**89.06**	**169**	P	**P**	**17 28 28.2**	**-0.3**
	3.7nm,1.0s,baz=186,slow=4.6,SNR=3.1						
ASAR	**Alice Springs**	**96.09**	**161**	P	**P**	**17 29 00.4**	**-0.8**
	0.6nm,0.7s,baz=194,slow=5.6,SNR=3.7						
PDAR	**Pinedale Array**	**122.68**	**299**	PKP	**PKPdf**	**17 34 27.8**	**-0.8**
	0.5nm,0.8s,baz=8.1,slow=2.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**123.09**	**110**	PKP	**PKPdf**	**17 34 29.6**	**-0.2**
	1.0nm,0.9s,baz=230,slow=3.9,SNR=7.5						
NVAR	**Mina Array Bea**	**123.42**	**290**	PKP	**PKPdf**	**17 34 31.0**	**+0.9**
	0.6nm,0.6s,baz=152,slow=3.1,SNR=6.5						
FINES	**FINESS Array B**	**126.23**	**28**	PKP	**PKPdf**	**17 34 33.6**	**-0.8**
	1.6nm,0.8s,baz=70,slow=2.2,SNR=4.9						
YKA	**Yellowknife Ar**	**138.88**	**315**	PKP	**PKPdf**	**17 34 58.2**	**+0.1**
	1.2nm,0.6s,baz=130,slow=2.4,SNR=18						
ZALV	**Zalesovo Beam**	**142.50**	**66**	PKhKP	PKPpre	17 35 00.5	
	0.5nm,0.3s,baz=242,slow=3.9,SNR=4.0						
SONM	**Songino Array**	**149.70**	**89**	PKPbc	**PKPbc**	**17 35 22.1**	**-0.3**
	3.0nm,0.8s,baz=227,slow=3.3,SNR=25						
ILAR	**Eielson Array**	**152.68**	**307**	PKPbc	**PKPbc**	**17 35 28.4**	**-0.1**
	3.9nm,0.8s,baz=144,slow=5.0,SNR=50						

FUNV 31 17:42:29.1, 10°46N×69°75W, h2km, MW4.0, 2C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIQV	**Siquisique**	**0.20**	**342**	*eS*	Sg	17 42 35.7	+0.1
CURV	**Curarigua**	**0.49**	**205**	*eP*	Pg	17 42 38.2	-0.5
CURV				*eS*	Sg	17 42 45.3	+0.1
TEPV	**Terepaima**	**0.74**	**132**	*eP*	Pg	17 42 44.0	+0.6
TEPV				*eS*	Sg	17 42 54.0	+1.0
QARV	**Quebrada Arrib**	**0.81**	**252**	*eP*	Pg	17 42 44.7	0.0
SANV	**Sanarito**	**0.98**	**168**	*i* P	Pg	17 42 48.2	+0.2
SANV				*eS*	Sg	17 43 01.1	+0.3
DABV	**Dabajuro**	**0.99**	**298**	*eP*	Pg	17 42 47.7	-0.4
DABV				*eS*	Sb	17 43 01.9	-0.6
JACV	**Jacura**	**1.09**	**55**	*eP*	Pg	17 42 49.4	-0.8
JACV				*eS*	Sg	17 43 04.5	+0.1
MAPV	**Macapo**	**1.42**	**116**	*eP*	Pn	17 42 55.3	-0.7
MAPV				*eS*	Sg	17 43 14.3	-0.4
MONV	**Montecano**	**1.50**	**352**	*eP*	Pn	17 42 56.5	-0.6
MONV				*eS*	Sb	17 43 17.2	-0.1
TURV	**Turiamo**	**1.88**	**90**	*eP*	Pn	17 43 01.3	-1.0
TURV				*eS*	Sn	17 43 25.1	-1.4
BAUV	**El Baul**	**2.26**	**132**	*eP*	Pn	17 43 07.5	0.0
BAUV				*eS*	Sn	17 43 35.1	-0.9
SOCV	**Socops**	**2.42**	**207**	*eP*	Pn	17 43 09.6	-0.2
SOCV				*eS*	Sn	17 43 37.9	-2.3
VIRV	**Villa del Rosa**	**2.62**	**271**	*eP*	Pn	17 43 11.0	-1.4
ELOV	**Elorza**	**3.45**	**176**	*eP*	Pn	17 43 23.5	-0.4
CAPV	**Capacho**	**3.62**	**225**	*eP*	Pn	17 43 25.4	-1.1
CUPV	**Cœpira**	**3.92**	**96**	*eP*	Pn	17 43 30.1	-0.4
PCRV	**Puerto La Cruz**	**5.04**	**93**	*eP*	Pn	17 43 45.1	-0.8

IDC 31 17:48:50.3±5.1, 8°93S×156°68E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=90.8km s-min=72.7km az=175.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**241**	P	P	17 54 08.2	-0.7
	1.2nm,0.6s,baz=68,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**26.26**	**233**	P	P	17 54 28.4	+0.9
	0.3nm,0.9s,baz=62,slow=10,SNR=2.0						
STKA	**Stephens Creek**	**26.79**	**209**	P	P	17 54 32.2	+0.1
	2.5nm,1.0s,baz=23,slow=15,SNR=2.1						

*ISCJB **31** 17:49:47.9±0.3, 39°71N±0°02×27°56E±0°02, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.4km az=140.8*

*DDA **31** 17:49:47.9, 39°70N×27°63E, h17km, MD3.1*

*ISK **31** 17:49:47.2, 39°70N×27°57E, h8km, ML3.6*

*CSEM **31** 17:49:48.2±0.1, 39°70N×27°56E, h8km, MD3.1, Error ellipse: s-maj=2.4km s-min=2.0km az=48.0*

*ATH **31** 17:49:54.7, 39°59N×26°78E, h81km±4km*

ISC 31 17:49:48.1±0.8, 39°70N±0°01×27°56E±0°02, h12km±5km, n165, σ1°05/197, 19C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.06**	**51**	*i* P	**Pg**	**17 49 50.6**	**+0.1**
BALY				*i* S	**Sg**	**17 49 52.3**	**0.0**
BALY	**Balya**	**0.06**	**51**	*i* P	**Pg**	**17 49 50.6**	**+0.1**
BALY				*i* S	**Sg**	**17 49 52.3**	**0.0**
BALB	**Balikesir**	**0.26**	**104**	PG	**Pg**	**17 49 52.7**	**-0.7**
BALB				SG	**Sg**	**17 49 56.0**	**-1.0**
BALB	**Balikesir**	**0.26**	**104**	*i* Pg	**Pg**	**17 49 52.7**	**-0.7**
BALB				*i* Sg	**Sg**	**17 49 56.0**	**-1.0**
GONE	**Gonen-Balikesi**	**0.36**	**16**	PG	**Pg**	**17 49 54.9**	**-0.4**
GONE				*eSG*	**Sg**	**17 50 00.3**	**+0.2**
GONE	**Gonen-Balikesi**	**0.36**	**16**	*i* Pg	**Pg**	**17 49 54.9**	**-0.4**
GONE				*eSg*	**Sg**	**17 50 00.3**	**+0.2**
EDC	**Edincik**	**0.69**	**20**	*ePG*	**Pg**	**17 50 00.8**	**-0.5**
EDC				*eSG*	**Sg**	**17 50 10.9**	**+0.5**
EDC	**Edincik**	**0.69**	**20**	*ePg*	**Pg**	**17 50 00.9**	**-0.5**
EDC				*eSg*	**Sg**	**17 50 10.9**	**+0.5**
BNT	**Bandirma**	**0.71**	**23**	*ePG*	**Pg**	**17 50 01.3**	**-0.6**
BNT	**Bandirma**	**0.71**	**23**	*ePg*	**Pg**	**17 50 01.3**	**-0.6**
DURS	**Dursunbey**	**0.71**	**98**	*i* P	**Pg**	**17 50 01.0**	**-1.0**
DURS				*i* S

MANT				*i*	S		**Sn**	17 50 33.2	**0.0**
GEMT	**Gemlik**	**1.45**	**59**	*e*	PN		**Pn**	17 50 14.2	**+0.1**
GEMT	**Gemlik**	**1.45**	**59**	*e*	PN		**Pn**	17 50 14.3	**+0.1**
KULA	**Kula-Manisa**	**1.46**	**144**	*e*	PN		**Pn**	17 50 14.6	**+0.1**
KULA	**Kula-Manisa**	**1.46**	**144**	*e*	PN		**Pn**	17 50 14.6	**+0.1**
ENEZ	**Enez**	**1.49**	**314**	*e*	PN		**Pn**	17 50 15.2	**+0.5**
ENEZ	**Enez**	**1.49**	**314**	*e*	PN		**Pn**	17 50 15.2	**+0.5**
TVSB	**Tavsanli**	**1.49**	**99**	*e*	PN		**Pn**	17 50 14.9	**+0.1**
TVSB	**Tavsanli**	**1.49**	**99**	*e*	PN		**Pn**	17 50 14.9	**+0.1**
URLA	**Izmir**	**1.54**	**210**	*i*	P		**Pg**	17 50 17.6	**+0.1**
URLA				*i*	S		**Sg**	17 50 38.8	**+1.4**
URLA	**Izmir**	**1.54**	**210**	*i*	P		**Pg**	17 50 17.6	**+0.1**
SLVT	**Silivri**	**1.60**	**18**	*e*	PN		**Pn**	17 50 16.2	**-0.1**
SLVT	**Silivri**	**1.60**	**18**	*e*	PN		**Pn**	17 50 16.2	**-0.1**
GDZ	**Gediz**	**1.61**	**112**	*i*	P		**Pn**	17 50 16.6	**+0.1**
GDZ				*i*	S		**Sb**	17 50 38.5	**+0.2**
GDZ	**Gediz**	**1.61**	**112**	*i*	P		**Pn**	17 50 16.6	**+0.1**
GDZ				*i*	S		**Sb**	17 50 38.5	**+0.2**
ALN	**Alexandroupoli**	**1.66**	**316**	*e*	PN		**Pn**	17 50 17.5	**+0.4**
ALN	**Alexandroupoli**	**1.66**	**316**	*e*	P		**Pb**	17 50 19.4	**+0.7**
ALN	**Alexandroupoli**	**1.66**	**316**	*e*	Pn		**Pn**	17 50 17.5	**+0.4**
ALN	**Alexandroupoli**	**1.66**	**316**	*e*	P		**Pb**	17 50 19.4	**+0.7**
CTKS	**Kestanelik-??a**	**1.69**	**25**	*e*	PN		**Pn**	17 50 17.9	**+0.4**
CTKS	**Kestanelik-??a**	**1.69**	**25**	*e*	Pn		**Pn**	17 50 17.9	**+0.4**
SMTH	**Samothraki Isl**	**1.73**	**297**	*e*	P		**Pn**	17 50 18.9	**+0.8**
SMTH				*e*	S		**Sn**	17 50 36.4	**-3.8**
SMTH	**Samothraki Isl**	**1.73**	**297**	*e*	P		**Pn**	17 50 18.9	**+0.8**
SMTH				*e*	S		**Sn**	17 50 36.4	**-3.8**
BGKT	**Bogazkoy**	**1.74**	**32**	*e*	PN		**Pn**	17 50 17.8	**-0.4**
BGKT	**Bogazkoy**	**1.74**	**32**	*e*	Pn		**Pn**	17 50 17.8	**-0.4**
CHOS	**Chios island**	**1.76**	**222**	*e*	PN		**Pn**	17 50 18.8	**+0.3**
CHOS	**Chios island**	**1.76**	**222**	*e*	P		**Pn**	17 50 18.8	**-0.3**
CHOS	**Chios island**	**1.76**	**222**	*e*	P		**Pn**	17 50 18.2	**-0.3**
CHOS	**Chios island**	**1.76**	**222**	*e*	PN		**Pn**	17 50 18.8	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**171**	*e*	PN		**Pn**	17 50 18.8	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**171**	*e*	PN		**Pn**	17 50 18.8	**+0.1**
ISK	**Istanbul-Kandi**	**1.78**	**40**	*e*	PN		**Pn**	17 50 19.1	**+0.4**
ISK	**Istanbul-Kandi**	**1.78**	**40**	*e*	PN		**Pn**	17 50 19.1	**+0.4**
CAVI	**Cavuskoy**	**1.83**	**73**	*e*	PN		**Pn**	17 50 20.3	**+0.9**
CAVI	**Cavuskoy**	**1.83**	**73**	*e*	PN		**Pn**	17 50 20.3	**+0.9**
LIA	**Limnos Island**	**1.84**	**277**	*e*	P		**Pn**	17 50 17.5	**-2.0**
LIA				*e*	S		Sn	17 50 34.5	-8.2
LIA	**Limnos Island**	**1.84**	**277**	*e*	P		**Pn**	17 50 17.5	**-2.0**
CTYL	**Yal??k??y-??at**	**1.86**	**17**	*e*	PN		**Pn**	17 50 20.3	**+0.5**
CTYL	**Yal??k??y-??at**	**1.86**	**17**	*e*	Pn		**Pn**	17 50 20.3	**+0.5**
KLYT	**Kilyos**	**1.92**	**36**	*e*	PN		**Pn**	17 50 20.8	**+0.2**
KLYT	**Kilyos**	**1.92**	**36**	*e*	Pn		**Pn**	17 50 20.8	**+0.2**
PHSR	**Pinarhisar**	**1.93**	**359**	*e*	PN		**Pn**	17 50 21.2	**+0.5**
PHSR	**Pinarhisar**	**1.93**	**359**	*e*	Pn		**Pn**	17 50 21.2	**+0.5**
HRT	**Hereke**	**1.96**	**55**	*e*	PN		**Pn**	17 50 22.3	**+1.0**
HRT	**Hereke**	**1.96**	**55**	*e*	Pn		**Pn**	17 50 22.3	**+1.0**
KHL	**Karahalli**	**2.06**	**131**	*e*	PN		**Pn**	17 50 22.9	**+0.3**
KHL	**Karahalli**	**2.06**	**131**	*e*	Pn		**Pn**	17 50 23.0	**+0.3**
SMG	**Samos**	**2.07**	**196**	*e*	P		**Pb**	17 50 26.7	**+1.1**
SMG	**Samos**	**2.07**	**196**	*e*	P		**Pb**	17 50 26.7	**+1.1**
ALT	**Altintas**	**2.08**	**107**	*e*	PN		**Pn**	17 50 23.4	**+0.4**
ALT	**Altintas**	**2.08**	**107**	*i*	P		Pn	17 50 16.1	-6.8
ALT				*i*	S		Sn	17 50 39.6	-9.3
ALT	**Altintas**	**2.08**	**107**	*e*	Pn		**Pn**	17 50 23.4	**+0.4**
SILT	**Sile**	**2.15**	**47**	*e*	PN		**Pn**	17 50 24.4	**+0.6**
SILT	**Sile**	**2.15**	**47**	*e*	Pn		**Pn**	17 50 24.4	**+0.6**
EDRB	**Edirne**	**2.23**	**344**	*e*	PN		**Pn**	17 50 25.5	**+0.6**
EDRB	**Edirne**	**2.23**	**344**	*e*	Pn		**Pn**	17 50 25.5	**+0.6**
SPNC	**Sapanca-Adapaz**	**2.33**	**64**	*e*	PN		**Pn**	17 50 26.9	**+0.8**
SPNC	**Sapanca-Adapaz**	**2.33**	**64**	*e*	Pn		**Pn**	17 50 27.0	**+0.8**
KDZ	**Kurdzhali**	**2.54**	**321**	⇑	P		**Pn**	17 50 29.8	**+0.7**
KDZ	**Kurdzhali**	**2.54**	**321**	⇑	P		**Pn**	17 50 29.8	**+0.7**
SHUT	**Suhut-Afyon**	**2.60**	**115**	*e*	PN		**Pn**	17 50 30.9	**+0.9**
SHUT	**Suhut-Afyon**	**2.60**	**115**	*e*	PN		**Pn**	17 50 30.9	**+0.9**
YER	**Yerkesik**	**2.63**	**167**	*e*	PN		**Pn**	17 50 31.0	**+0.6**
YER	**Yerkesik**	**2.63**	**167**	*e*	PN		**Pn**	17 50 31.0	**+0.6**
KAVA	**Kavala**	**2.66**	**300**	*e*	P		**Pn**	17 50 30.9	**+0.1**
KAVA	**Kavala**	**2.66**	**300**	*e*	P		**Pn**	17 50 30.9	**+0.1**
JMB	**Yambol**	**2.86**	**345**	⇑	P		**Pb**	17 50 37.6	**-1.5**
JMB	**Yambol**	**2.86**	**345**		S		**Sg**	17 51 22.3	**+2.4**
JMB	**Yambol**	**2.86**	**345**	⇑	P		**Pb**	17 50 37.6	**-1.5**
MDUB	**Mudurnu**	**2.90**	**73**	*e*	PN		**Pn**	17 50 35.2	**+1.0**
MDUB	**Mudurnu**	**2.90**	**73**	*e*	Pn		**Pn**	17 50 35.2	**+1.0**
ISP	**Isparta**	**2.98**	**128**	*e*	PN		**Pn**	17 50 36.6	**+1.3**
ISP	**Isparta**	**2.98**	**128**	⇑	P		**Pn**	17 50 35.3	**0.0**
ISP	**Isparta**	**2.98**	**128**	⇑	P		**Pn**	17 50 35.3	**0.0**
ISP	**Isparta**	**2.98**	**128**	*e*	Pn		**Pn**	17 50 36.6	**+1.3**
SVRH	**Sivrihisar-ESK**	**3.08**	**93**	*e*	PN		**Pn**	17 50 37.7	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.08**	**93**	*e*	Pn		**Pn**	17 50 37.7	**+1.1**
NVR	**Nevrokopi**	**3.26**	**301**	*e*	P		**Pn**	17 50 39.7	**+0.6**
NVR	**Nevrokopi**	**3.26**	**301**	*e*	P		**Pn**	17 50 39.7	**+0.6**
SRS	**Serrai**	**3.34**	**296**	*e*	P		**Pn**	17 50 40.4	**+0.2**
SRS	**Serrai**	**3.34**	**296**	*e*	P		**Pn**	17 50 40.4	**+0.2**
KIZT	**Kizilcal**	**3.45**	**102**	*e*	PN		**Pn**	17 50 43.0	**+1.2**
KIZT	**Kizilcal**	**3.45**	**102**	*e*	Pn		**Pn**	17 50 43.1	**+1.2**
MMB	**Musomiste**	**3.47**	**304**	⇓	P		**Pn**	17 50 43.1	**+1.1**
MMB	**Musomiste**	**3.47**	**304**		S		**Sg**	17 51 37.6	**-1.9**
MMB	**Musomiste**	**3.47**	**304**	⇓	P		**Pn**	17 50 43.1	**+1.1**
LOD	**Lodumlu**	**4.01**	**86**	*e*	PN		**Pn**	17 50 51.6	**+2.1**
LOD	**Lodumlu**	**4.01**	**86**	*e*	Pn		**Pn**	17 50 51.6	**+2.1**
ANTO	**Ankara**	**4.04**	**86**	*e*	PN		**Pn**	17 50 51.1	**+1.3**
ANTO	**Ankara**	**4.04**	**86**	⇑	P		**Pn**	17 50 50.3	**+0.5**
ANTO	**Ankara**	**4.04**	**86**		S		**Sg**	17 51 57.7	**0.0**
ANTO	**Ankara**	**4.04**	**86**	⇑	P		**Pn**	17 50 50.3	**+0.5**
ANTO	**Ankara**	**4.04**	**86**	*e*	Pn		**Pn**	17 50 51.1	**+1.3**
AFSR	**Af˙ar-Bala (A**	**4.27**	**92**	*e*	PN		**Pn**	17 50 55.2	**+2.2**
AFSR	**Af˙ar-Bala (A**	**4.27**	**92**	*e*	Pn		**Pn**	17 50 55.2	**+2.2**
VTS	**Vitosha**	**4.37**	**313**	*e*	PN		**Pn**	17 50 56.3	**+1.5**
VTS	**Vitosha**	**4.37**	**313**	⇑	P		Pn	17 50 58.2	**+3.7**
VTS	**Vitosha**	**4.37**	**313**		S		**Sn**	17 51 47.7	**+2.3**
VTS	**Vitosha**	**4.37**	**313**	*e*	Pn		**Pn**	17 50 56.0	**+1.5**
VTS	**Vitosha**	**4.37**	**313**	⇑	P		Pn	17 50 58.2	**+3.7**
MSAB	**Monastry St. A**	**4.39**	**3**	⇑	P		**Pn**	17 50 55.5	**+0.9**
MSAB	**Monastry St. A**	**4.39**	**3**		S		**Sn**	17 51 45.0	**-0.6**
MSAB	**Monastry St. A**	**4.39**	**3**	⇑	P		**Pn**	17 50 55.5	**+0.9**
MSAB					S		**Sn**	17 51 45.0	**-0.6**
TIRR	**Tirgusor**	**4.79**	**7**	⇑	P		**Pn**	17 51 00.2	**+0.1**
TIRR	**Tirgusor**	**4.79**	**7**		S		**Sn**	17 51 53.7	**-1.9**
TIRR	**Tirgusor**	**4.79**	**7**	⇑	P		**Pn**	17 51 00.2	**+0.1**
TIRR					S		**Sn**	17 51 53.7	**-1.9**
CORM	**Corum**	**5.46**	**83**	*e*	PN		**Pn**	17 51 11.7	**+2.3**
CORM	**Corum**	**5.46**	**83**	*e*	Pn		**Pn**	17 51 11.7	**+2.3**
CFR	**Carcaliu**	**5.49**	**4**	⇑	P		**Pn**	17 51 09.9	**+0.2**
CFR	**Carcaliu**	**5.49**	**4**	⇑	P		**Pn**	17 51 09.9	**+0.2**
MLR	**Muntele Rosu**	**5.91**	**349**	⇑	P		**Pn**	17 51 18.5	**+3.0**
MLR	**Muntele Rosu**	**5.91**	**349**		S		**Sn**	17 52 24.4	**+1.2**
MLR	**Muntele Rosu**	**5.91**	**349**		S		**Sn**	17 52 24.4	**+1.2**
PLOR	**Plostina**	**6.18**	**354**	⇓	P		**Pn**	17 51 21.9	**+2.7**
PLOR	**Plostina**	**6.18**	**354**	⇓	P		**Pn**	17 51 21.9	**+2.7**
VRI	**Vrincioaia**	**6.19**	**355**	⇑	P		**Pn**	17 51 21.9	**+2.6**
VRI	**Vrincioaia**	**6.19**	**355**	⇑	P		**Pn**	17 51 21.9	**+2.6**
BURAR	**Bucovina Array**	**8.09**	**349**	⇓	P		Pn	17 51 48.8	+3.3

*IDC **31** 18:37:28.1±1.4,23˚.63S×115˚.99W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.7/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/28, Error ellipse: s-maj=54.0km s-min=32.7km az=34.0*

ISC 31 18:37:28.1±1.5, 24˚.0S×115˚.9W±0˚.3, h10km, n20, σ0.968, mb3.8/5, MS3.6/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H03N2	**Juan Fernandez**	**33.66**	**115**	T		T	19 19 38.7	
	baz=276,slow=75,SNR=45							
H03N3	**Juan Fernandez**	**33.67**	**115**	T		T	19 19 35.5	
	baz=276,slow=75,SNR=49							
H03N1	**Juan Fernandez**	**33.68**	**115**	T		T	19 19 36.1	
	baz=276,slow=75,SNR=54							
PLCA	**Paso Flores**	**41.35**	**125**	LR		LR	18 57 30.7	
	comp=Z,84nm,19.8s,baz=268,slow=29							
LPAZ	**La Paz**	**45.36**	**90**	P		**P**	**18 45 47.6**	**0.0**
	0.5nm,0.6s,baz=241,slow=10,SNR=2.6							
LPAZ				LR		LR	19 00 56.7	
	comp=Z,46nm,19.4s,baz=240,slow=31							
JTS	**JuntasAbangare**	**45.55**	**45**	LR		LR	18 59 41.7	
	comp=Z,30nm,19.5s,baz=218,slow=29							
CPUP	**Villa Florida**	**52.72**	**106**	LR		LR	19 04 45.7	
	comp=Z,75nm,18.9s,baz=182,slow=31							
AFI	**Afiamalu**	**53.47**	**270**	LR		LR	19 05 10.1	
	comp=Z,116nm,18.1s,baz=158,slow=31							
PTGA	**Pitinga**	**58.87**	**76**	LR		LR	19 09 02.2	
	comp=Z,52nm,18.7s,baz=144,slow=32							
NVAR	**Mina Array Bea**	**62.09**	**358**	P		**P**	**18 47 49.5**	**+0.2**
	0.5nm,0.8s,baz=189,slow=9.1,SNR=3.6							

BDFB	**Brasilia**	**63.93**	**96**	P		P	18 48 05.9	+3.9
	0.9nm,0.4s,baz=254,slow=0.8,SNR=3.8							
PDAR	**Pinedale Array**	**66.65**	**5**	P		**P**	**18 48 19.4**	**+0.4**
	0.6nm,0.9s,baz=165,slow=6.2,SNR=5.0							
YKA	**Yellowknife Ar**	**86.15**	**1**	P		**P**	**18 50 08.6**	**-0.3**
	0.4nm,0.8s,baz=177,slow=5.5,SNR=11							
H11S2	**WAKE ISLAND Hy**	**86.40**	**292**	T		T	20 25 42.6	
	baz=121,slow=74,SNR=24							
H11S1	**WAKE ISLAND Hy**	**86.41**	**292**	T		T	20 25 53.3	
	baz=121,slow=74,SNR=23							
H11S3	**WAKE ISLAND Hy**	**86.42**	**292**	T		T	20 25 45.7	
	baz=121,slow=74,SNR=25							
ZALV	**Zalesovo Beam**	**146.23**	**338**	PKPbc		**PKPdf**	**18 57 07.0**	**-0.4**
	0.5nm,0.6s,baz=3.4,slow=4.9,SNR=3.5							
CMAR	**Chiang Mai Arr**	**147.08**	**267**	PKPbc		**PKPab**	**18 57 14.2**	**+0.6**
	1.3nm,1.1s,baz=90,slow=0.9,SNR=5.7							
BRTR	**Keskin Array B**	**149.93**	**51**	PKPbc		**PKPbc**	**18 57 19.7**	**+0.7**
	1.5nm,1.1s,baz=243,slow=1.4,SNR=4.8							
MKAR	**Makanchi Array**	**152.92**	**332**	PKPbc		**PKPbc**	**18 57 24.6**	**-1.0**
	0.3nm,0.9s,baz=354,slow=5.8,SNR=3.0							

IDC 31 18:44:19.6±2.4, 31˚.59S×178˚.20W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/19, mbtmp4.2/4, Error ellipse: s-maj=61.5km s-min=37.1km az=48.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**33.84**	**281**	P		P	18 51 04.7	+0.8
	3.2nm,0.8s,baz=121,slow=5.9,SNR=2.3							
ASAR	**Alice Springs**	**42.88**	**268**	P		P	18 52 19.8	-0.3
	1.0nm,0.3s,baz=108,slow=7.3,SNR=32							
WRA	**Warramunga Arr**	**43.98**	**273**	P		P	18 52 28.4	-0.5
	2.1nm,0.5s,baz=113,slow=8.0,SNR=35							
VNDA	**Vanda**	**46.90**	**186**	P		P	18 52 50.9	-0.3
	4.5nm,1.2s,baz=34,slow=7.3,SNR=4.6							
FINES	**FINESS Array B**	**146.20**	**339**	PKPbc		PKPdf	19 04 00.5	+0.4
	1.5nm,0.9s,baz=76,slow=5.9,SNR=3.6							

*IDC **31** 18:57:49.9±2.6, 16˚.51N×99˚.98W, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.9/26, mbtmp3.7/10, ML3.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/27, Error ellipse: s-maj=57.4km s-min=32.8km az=40.0*

*MEX **31** 18:57:53.8±0.5, 16˚.52N×100˚.51W, h10km±14km, MD4.1*

ISC 31 18:57:54.4±1.9, 16˚.55N±0˚.09×100˚.45W±0˚.05, h28km±12km, n22, σ1¶61/24, mb3.9/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACX	**Acapulco**	**0.65**	**61**	*i*	P	**Pb**	**18 58 08.0**	**+0.8**
ACX				*i*	S	**Sb**	**18 58 14.8**	**-1.3**
ARIG	**Puente Sto Nin**	**1.73**	**3**	*e*	P	**Pn**	**18 58 20.8**	**-1.8**
ARIG				*i*	S	**Sn**	**18 58 41.9**	**-1.9**
PLIG	**Platanillo**	**2.05**	**26**	*e*	P	**Pn**	**18 58 26.1**	**-0.9**
PLIG				*e*	S	**Sn**	**18 58 50.9**	**-0.9**
TLIG	**Tlapa**	**2.07**	**61**	*e*	P	**Pn**	**18 58 26.5**	**-0.9**
TLIG				*i*	S	**Sn**	**18 58 51.9**	**-0.4**
YAIG	**Yautepec**	**2.65**	**30**	*e*	P	**Pn**	**18 58 33.7**	**-1.8**
YAIG				*i*	S	**Sn**	**18 59 06.0**	**-0.8**
MMIG	**Aquila**	**3.26**	**303**	*e*	P	**Pn**	**18 58 41.7**	**-1.9**
MMIG				*i*	S	**Sn**	**18 59 19.5**	**-2.0**
TPIG	**Tehuac#an**	**3.49**	**57**	*i*	P	**Pn**	**18 58 46.0**	**-0.9**
TPIG				*i*	S	**Sn**	**18 59 27.7**	**+0.2**
HUIG	**Huatulco**	**4.25**	**100**	*i*	P	Pb	18 59 27.7	+19
HUIG				*e*	S	**Sn**	**18 59 43.7**	**-2.3**
H06E1	**SOCORRO T-PHAS**	**10.23**	**284**	T		T	19 10 36.1	
	SNR=10							
TXAR	**Lajitas Array**	**13.06**	**347**	Pn		**Pn**	**19 01 00.9**	**+2.6**
	0.0nm,0.3s,baz=168,slow=13,SNR=2.9							
TXAR				Lg		Lg	19 04 49.1	
	0.0nm,0.3s,baz=172,slow=32,SNR=3.1							
JTS	**JuntasAbangare**	**16.30**	**110**	Pn		Pn	19 01 35.3	-6.3
	0.2nm,0.3s,baz=300,slow=20,SNR=2.3							
ANMO	**Albuquerque**	**19.09**	**345**	P		**P**	**19 02 15.8**	**+0.6**
	0.1nm,0.3s,baz=151,slow=16,SNR=4.3							
ANMO				LR		LR	19 10 54.2	
	comp=Z,90nm,20.8s,baz=178,slow=41							
TKL	**Tuckaleechee C**	**24.15**	**35**	P		**P**	**19 03 05.7**	**-2.5**
	2.7nm,0.7s,baz=204,slow=8.8,SNR=2.4							
NVAR	**Mina Array Bea**	**26.84**	**328**	P		**P**	**19 03 35.4**	**+2.5**
	1.5nm,0.8s,baz=147,slow=10,SNR=11							
PDAR	**Pinedale Array**	**27.27**	**345**	P		**P**	**19 03 37.6**	**+1.0**
	1.7nm,0.8s,baz=138,slow=9.6,SNR=11							
PDAR				LR		LR	19 14 38.3	
	comp=Z,36nm,20.5s,baz=174,slow=37							
ULM	**Lac du Bonnet**	**33.82**	**5**	P		**P**	**19 04 33.7**	**-0.4**
	0.8nm,0.4s,baz=193,slow=4.7,SNR=3.9							
YKA	**Yellowknife Ar**	**46.96**	**351**	P		**P**	**19 06 22.7**	**+0.2**
	1.2nm,0.9s,baz=161,slow=7.6,SNR=12							
H03N2	**Juan Fernandez**	**53.79**	**158**	T		T	20 05 39.5	
	baz=332							
H03N1	**Juan Fernandez**	**53.80**	**158**	T		T	20 05 30.1	
	baz=332							
H03N3	**Juan Fernandez**	**53.80**	**158**	T		T	20 05 38.0	
	baz=332							
INK	**Inuvik**	**55.83**	**346**	P		**P**	**19 07 29.5**	**+0.6**
	0.9nm,0.7s,baz=150,slow=6.7,SNR=2.6							
ILAR	**Eielson Array**	**57.38**	**338**	P		**P**	**19 07 41.1**	**+1.1**
	0.8nm,1.0s,baz=121,slow=3.5,SNR=5.5							

*IDC **31** 19:03:10.4±0.7, 14˚.34N×92˚.87E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/28, mbtmp3.8/15, ML3.9/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/40, Error ellipse: s-maj=29.3km s-min=14.6km az=55.0*

*ISCJB **31** 19:03:14.3±0.6, 14˚.65N±0˚.07×92˚.86E±0˚.05, h33km, mb3.8/14, MS3.5/2, Error ellipse: s-maj=10.7km s-min=5.7km az=28.8*

*BKK **31** 19:03:14.2±2.6, 15˚.N±6˚×93˚.E±2˚.5, h0km, M4.4/7, mB5.1/6, mb4.4/7, MLv4.4/4, Mw(mB)4.5/6*

ISC 31 19:03:16.5±0.6, 14˚.61N±0˚.08×92˚.93E±0˚.08, h35km, n43, σ1¶43/43, mb3.9/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHLT	**Khaolaem Dam**	**5.48**	**87**	P		**Pn**	**19 04 36.5**	**+0.8**
	18nm,0.7s,355nm0.1nm							
MHMT	**Maesarieng**	**5.97**	**53**	P		**Pn**	**19 04 43.8**	**+1.4**
SRDT	**SRDT**	**6.00**	**92**	P		**Pn**	**19 04 43.7**	**+0.8**
	52nm,0.8s,7µm							
UTHA	**Uthaitani**	**6.37**	**81**	P		**Pn**	**19 04 49.1**	**+1.3**
	5.2nm,0.8s,222nm0.1nm							
CMAR	**Chiang Mai Arr**	**6.92**	**56**	Pn		**Pn**	**19 04 56.0**	**+0.5**
	0.6nm,0.3s,baz=242,slow=15,SNR=14							
CMAR				Sn		**Sn**	**19 06 10.7**	**-2.4**
	5.9nm,0.3s,baz=248,slow=18,SNR=17							
CMAR				LR		LR	19 07 58.8	
	comp=Z,117nm,20.9s,baz=318,slow=40							
CHTO	**Chiang Mai**	**7.12**	**53**	P		**Pn**	**19 04 59.0**	**+0.8**
	36nm,0.6s,2µm0.7nm							
CMMT	**Chiang Mai**	**7.12**	**53**	P		**Pn**	**19 04 59.1**	**+0.9**
	10nm,0.7s,787nm							
CMAI	**Chiengmai2**	**7.88**	**47**	P		**Pn**	**19 05 10.2**	**+1.4**
PSI	**Prapat**	**13.14**	**153**	Pn		**Pn**	**19 06 22.9**	**+2.1**
	0.6nm,0.3s,baz=328,slow=17,SNR=3.9							
ODAN	**Odan**	**13.24**	**338**	*e*	P	**Pn**	**19 06 20.9**	**-1.3**
	46nm,0.3s							
TAPN	**Taplejung**	**13.58**	**340**	*e*	P	**Pn**	**19 06 25.0**	**-1.9**
	40nm,0.4s							
RAMN	**Ramite**	**13.62**	**335**	*e*	P	**Pn**	**19 06 26.2**	**-1.3**
	32nm,0.3s							
JIRN	**Jiri**	**14.42**	**335**	*e*	P	**Pn**	**19 06 36.8**	**-1.7**
	23nm,0.3s							
PKI	**Pulchoki**	**14.67**	**333**	*e*	P	**Pn**	**19 06 39.7**	**-2.2**
	34nm,0.5s							
PKIN	**Phulchoki**	**14.69**	**333**	*e*	P	**Pn**	**19 06 40.0**	**-2.0**
	34nm,0.3s							
GUN	**Gumba**	**14.77**	**335**	*e*	P	**Pn**	**19 06 41.4**	**-1.8**
	14nm,0.4s							
DMN	**Daman**	**14.84**	**332**	*e*	P	**Pn**	**19 06 42.1**	**-2.0**
	32nm,0.8s							
KKN	**Kakani**	**14.92**	**333**	*e*	P	**Pn**	**19 06 43.6**	**-1.5**
GKN	**Gorkha**	**15.39**	**331**	*e*	P	**Pn**	**19 06 49.8**	**-1.5**
	27nm,0.3s							
KOLN	**Koldanda**	**15.71**	**328**	*e*	P	**Pn**	**19 06 53.3**	**-2.1**
DANN	**Dangsing**	**16.10**	**330**	*e*	P	**Pn**	**19 06 59.3**	**-1.3**
	8.8nm,0.3s							
PYUN	**Piuthan**	**16.29**	**327**	*e*	P	**Pn**	**19 07 01.5**	**-1.4**
	32nm,0.4s							
H08S3	**Diego Garcia H**	**29.99**	**224**	T		T	19 41 25.0	
	baz=45							
H08S2	**Diego Garcia H**	**30.00**	**224**	T		T	19 41 21.0	
	baz=45							
H08S1	**Diego Carcia H**	**30.01**	**224**	T		T	19 41 30.3	
	baz=45							
MKAR	**Makanchi Array**	**33.30**	**347**	P		**P**	**19 09 52.1**	**+1.4**
	0.1nm,0.4s,baz=144,slow=6.6,SNR=3.9							
SONM	**Songino Array**	**34.96**	**16**	P		**P**	**19 10 07.6**	**+2.3**
	0.1nm,0.4s,baz=193,slow=5.9,SNR=2.7							
SONM				PcP		**PcP**	**19 12 37.7**	**+0.4**
	0.4nm,0.6s,baz=191,slow=4.0,SNR=3.3							
SONM				LR		LR	19 27 08.1	
	comp=Z,110nm,20.9s,baz=134,slow=41							
KURBB	**Kurchatov Arra**	**37.77**	**345**	P		**P**	**19 10 29.1**	**+0.1**
	0.5nm,0.3s,baz=165,slow=8.1,SNR=5.4							
KSRS	**Korea Array**	**38.47**	**47**	P		**P**	**19 10 35.4**	**+0.2**
	0.8nm,0.7s,baz=233,slow=7.5,SNR=2.8							
ZALV	**Zalesovo Beam**	**39.76**	**353**	P		**P**	**19 10 46.9**	**+1.2**
	0.3nm,0.3s,baz=186,slow=10,SNR=2.5							
WRA	**Warramunga Arr**	**53.27**	**129**	P		**P**	**19 12 29.9**	**-2.2**
	1.4nm,0.5s,baz=314,slow=8.2,SNR=34							
WRA				PcP		**PcP**	**19 13 38.5**	**-1.1**
	0.5nm,0.5s,baz=323,slow=3.0,SNR=8.6							
ASAR	**Alice Springs**	**55.24**	**133**	P		**P**	**19 12 44.5**	**-1.9**
	1.4nm,0.5s,baz=309,slow=7.4,SNR=62							
ASAR				PcP		**P

h27km±14km, mb3.6/7, MS3.4/1, Error ellipse: s-maj=6.8km s-min=5.5km az=176.9
*JMA **31** 19:23:54.0±0.2, 23°.35N×124°.86E, h46km, M3.5*
ISC 31 19:23:52.4±2.0, 23°.39N±0°.07×124°.89E±0°.04, h12km±11km, n30, σ1s09/43, mb3.6/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**1.17**	**317**	P	**Pg**	**19 24 14.9**	**-0.1**
JKRS				S	**Sn**	**19 24 29.9**	**-0.7**
JIJ	**Ishigaki jima**	**1.19**	**325**	P	**Pb**	**19 24 14.9**	**-0.1**
JIJ				S	**Sb**	**19 24 29.5**	**-0.9**
HATJ	**Hateruma jima**	**1.20**	**304**	P	**Pn**	**19 24 14.5**	**-0.6**
HATJ				S	**Sb**	**19 24 29.0**	**-1.6**
JTJ	**Tarama**	**1.26**	**352**	P	**Pb**	**19 24 16.3**	**+0.1**
JTJ				*eS*	**Sg**	**19 24 33.0**	**-0.1**
JISG	**Ishigakijimahi**	**1.31**	**336**	P	**Pb**	**19 24 16.6**	**-0.4**
JISG				S	**Sb**	**19 24 33.2**	**-0.6**
IRIF	**Iriomote-Funau**	**1.42**	**312**	P	**Pb**	**19 24 18.3**	**-0.6**
IRIF				S	**Sn**	**19 24 36.2**	**-0.6**
JOGS	**Gusukube**	**1.45**	**19**	P	**Pb**	**19 24 19.0**	**-0.4**
JOGS				*eS*	**Sn**	**19 24 37.3**	**-0.1**
JIRB	**Irabujima**	**1.46**	**10**	P	**Pn**	**19 24 18.7**	**0.0**
JIRB				S	**Sn**	**19 24 37.7**	**0.0**
JMJ	**Miyako jima 2**	**1.47**	**14**	P	**Pn**	**19 24 19.0**	**+0.2**
JMJ				*eS*	**Sb**	**19 24 38.0**	**-0.4**
JIKM	**Ikemajima**	**1.56**	**12**	P	**Pb**	**19 24 20.8**	**-0.6**
JIKM				*eS*	**Sb**	**19 24 40.6**	**-0.6**
YOJ	**Yonaguni jima**	**2.03**	**302**	P	**Pn**	**19 24 26.8**	**+0.3**
YOJ				S	**Sn**	**19 24 50.0**	**-1.8**
JYNG	**Yonagunijimaku**	**2.07**	**301**	P	**Pn**	**19 24 27.3**	**+0.2**
JYNG				S	**Sn**	**19 24 50.7**	**-2.2**
JKE	**Kume jima 2**	**3.40**	**30**	P	**Pn**	**19 24 44.6**	**-0.7**
JJT2	**Tamagusuku 2**	**3.77**	**43**	P	**Pn**	**19 24 51.4**	**+0.9**
JJT2				*eS*	**Sn**	**19 25 32.5**	**-2.4**
JNTH	**Nagotoyohara**	**4.22**	**42**	P	**Pn**	**19 24 56.1**	**-0.5**
JNTH				*eS*	**Sn**	**19 25 42.8**	**-3.1**
JIH	**Iheya**	**4.58**	**37**	P	**Pn**	**19 25 00.5**	**-1.1**
JOW	**Kunigami**	**4.60**	**41**	P	**Pn**	**19 25 01.4**	**-0.5**
JOKE	**Okinoerabujima**	**5.17**	**39**	P	**Pn**	**19 25 08.7**	**-1.0**
JNU	**Nakatsue**	**11.04**	**27**	Pn	**Pn**	**19 26 29.8**	**-0.4**
	0.3nm,0.3s,baz=214,slow=7.3,SNR=3.6						
JNU				LR	LR	19 30 25.8	
	comp=Z,284nm,20.8s,baz=140,slow=36						
KSRS	**Korea Array**	**14.26**	**10**	Pn	**Pn**	**19 27 15.3**	**+1.1**
	0.2nm,0.3s,baz=191,slow=13,SNR=12						
MAT	**Matsushiro**	**17.44**	**38**	P	**P**	**19 27 58.0**	**+1.1**
MJAR	**Matsushiro Array**	**17.44**	**38**	P	**P**	**19 27 58.4**	**+1.5**
	0.2nm,0.3s,baz=227,slow=9.6,SNR=22						
CMAR	**Chiang Mai Arr**	**24.71**	**263**	P	**P**	**19 29 14.3**	**+0.5**
	0.8nm,0.7s,baz=68,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**28.51**	**333**	P	**P**	**19 29 49.0**	**+1.1**
	0.3nm,0.6s,baz=160,slow=8.8,SNR=2.2						
PETK	**Petropavlovsk-**	**38.70**	**31**	LR	LR	19 47 41.1	
	comp=Z,55nm,20.3s,baz=210,slow=37						
MKAR	**Makanchi Array**	**41.28**	**315**	P	**P**	**19 31 38.4**	**+0.6**
	0.9nm,0.7s,baz=102,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**42.78**	**326**	P	**P**	**19 31 49.6**	**-0.2**
	0.5nm,0.5s,baz=123,slow=8.4,SNR=2.9						
WRA	**Warramunga Arr**	**44.04**	**167**	P	**P**	**19 31 58.8**	**-1.6**
	1.2nm,0.6s,baz=347,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**47.58**	**169**	P	**P**	**19 32 27.6**	**-0.7**
	0.9nm,0.5s,baz=353,slow=13,SNR=18						
FINES	**FINESS Array B**	**73.83**	**330**	P	**P**	**19 35 28.3**	**+1.6**
	2.7nm,1.0s,baz=95,slow=3.5,SNR=3.4						

IDC 31 19:29:14.9±8.2, 13°.74N×93°.05W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/25, mbtmp3.6/5, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/31, Error ellipse: s-maj=148.7km s-min=51.1km az=166.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**7.90**	**35**	Pn	Pn	19 31 11.3	+0.2
	6.0nm,0.3s,baz=252,slow=3.2,SNR=18						
TEIG				Sn	Sn	19 32 33.4	-7.9
	0.6nm,0.3s,baz=315,slow=20,SNR=3.9						
TEIG				LR	LR	19 34 17.6	
	comp=Z,81nm,20.4s,baz=359,slow=38						
H06N1	**SOCORRO T-PHASE**	**7.95**	**289**	T	T	19 52 02.0	
	SNR=3.3						
TXAR	**Lajitas Array**	**18.38**	**329**	P	P	19 33 31.6	0.0
	0.0nm,0.3s,baz=134,slow=13,SNR=3.9						
NVAR	**Mina Array Bea**	**33.25**	**322**	P	P	19 35 53.9	-0.3
	0.4nm,0.8s,baz=139,slow=8.4,SNR=3.3						
NVAR				LR	LR	19 51 18.2	
	comp=Z,38nm,18.9s,baz=84,slow=40						
NEW	**Newport**	**39.79**	**335**	LR	LR	19 55 34.3	
	comp=Z,31nm,18.1s,baz=160,slow=40						
YKA	**Yellowknife Ar**	**51.05**	**347**	P	P	19 38 18.5	-0.2
	0.8nm,0.7s,baz=153,slow=7.4,SNR=15						
INK	**Inuvik**	**60.40**	**344**	P	P	19 39 25.9	+0.2
	0.6nm,0.6s,baz=115,slow=3.1,SNR=3.6						

PRE 31 19:33:20.0±1.3, 21°.41S×33°.29E, h5km, ML3.8, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.73**	**219**	*e*P	Pn	19 34 05.5	+0.9
MOPA				*e*P	Pb	19 34 05.7	-3.7
MOPA				*e*S	Sn	19 34 36.5	-1.5
MOPA				*e*S	Sb	19 34 38.7	-4.5
MOPA				AML	AML	19 34 46.6	
	comp=Z,3μm,0.1s						
MOPA				AML	AML	19 34 55.7	
	comp=Z,47nm,0.3s						
MSNA	**Messina**	**3.17**	**252**	*e*P	Pn	19 34 11.1	+0.4
MSNA				*e*P	Pb	19 34 12.7	-4.3
MSNA				*e*S	Sn	19 34 49.2	+0.2
MSNA				*e*S	Sb	19 34 52.7	-3.4
MSNA				AML	AML	19 35 03.3	
	comp=Z,7μm,0.1s						
MSNA				AML	AML	19 35 10.4	
	comp=Z,53nm,0.2s						
SLR	**Silverton**	**6.29**	**226**	*e*S	Sn	19 36 03.7	-2.6
SLR				AML	AML	19 36 45.5	
	comp=Z,16nm,0.5s						
OBSV	**Observatory**	**6.74**	**224**	*e*S	Sn	19 36 14.8	-2.4
ERPM	**east rand prop**	**6.74**	**222**	*e*P	Pn	19 35 00.5	+0.6
ERPM				*e*S	Sn	19 36 13.0	-4.3
ERPM				AML	AML	19 36 56.6	
	comp=Z,8.7nm,0.8s						
LBTB	**Lobatse**	**7.93**	**242**	*e*P	Pn	19 35 17.1	+0.9
LBTB				*e*S	Sn	19 36 43.0	-3.4
LBTB				AML	AML	19 37 33.8	
	comp=Z,7.6nm,0.5s						
SWZ	**Schweizer**	**9.26**	**230**	*e*P	Pn	19 35 35.1	+0.8
SWZ				*e*S	Sn	19 37 14.4	-4.7
SWZ				AML	AML	19 38 13.9	
	comp=Z,5.7nm,0.6s						
BOSA	**Boshof**	**10.22**	**224**	*e*P	Pn	19 35 48.7	+1.1
BOSA				*e*S	Sn	19 37 37.2	-5.6
BOSA				AML	AML	19 37 51.4	
	comp=Z,1.3nm,0.6s						

*JMA **31** 19:49:45.2±0.2, 43°.86N×147°.95E, h89km, M3.4*
*SKHL **31** 19:49:45.3±0.2, 44°.06N×148°.17E, h50km, mb4.3/3*
ISC 31 19:49:40.9±3.0, 44°.0N±0°.1×148°.2E±0°.2, h95km±21km, n12, σ2s04/20, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.02**	**264**	*e*P	**Pn**	**19 50 02.7**	**+1.5**
SHO				AMB	AMB	19 50 03.3	
	204nm,0.8s						
SHO				*e*S	**Sn**	**19 50 15.8**	**-0.7**
SHO				A	A	19 50 16.4	
	2μm,0.4s						
KUR	**Kuril'sk**	**1.28**	**348**	*e*P	**Pn**	**19 50 05.0**	**+0.9**
KUR				AMB	AMB	19 50 05.2	
	90nm,0.5s						
KUR				*e*S	**Sn**	**19 50 19.6**	**-2.1**
KUR				A	A	19 50 20.1	
	340nm,0.5s						
KUR				A	A	19 50 20.1	
	160nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**273**	*e*P	**Pn**	**19 50 10.5**	**+0.9**
YUK				AMB	AMB	19 50 11.5	
	79nm,0.2s						
YUK				AMB	AMB	19 50 11.5	
	46nm,0.2s						
YUK				AMB	AMB	19 50 11.5	
	210nm,0.2s						
YUK				*e*S	**Sn**	**19 50 29.5**	**-1.9**
YUK				A	A	19 50 31.8	
	260nm,0.3s						
YUK				A	A	19 50 31.8	
	480nm,0.3s						
NEM2	**Nemuro 2**	**1.91**	**252**	P	**Pn**	**19 50 13.6**	**+1.5**
NEM2				*e*S	**Sn**	**19 50 34.6**	**-1.3**
JRA	**Rausu**	**2.25**	**270**	P	**Pn**	**19 50 18.5**	**+2.0**
JNK	**Nakash**	**2.58**	**262**	P	**Pn**	**19 50 22.5**	**+1.6**
JNK				*e*S	**Sn**	**19 50 50.9**	**-0.7**
JAK	**Akkeshi**	**2.76**	**250**	P	**Pn**	**19 50 24.7**	**+1.4**
JAK				*e*S	**Sn**	**19 50 54.6**	**-1.3**
JTKR	**Abashiri--Toko**	**3.13**	**271**	P	**Pn**	**19 50 29.8**	**+1.7**
JAR	**Ashorobuto**	**3.32**	**260**	P	**Pn**	**19 50 33.1**	**+2.4**
JAR				*e*S	**Sn**	**19 51 09.4**	**+0.2**
JCH	**Churui**	**3.81**	**251**	P	**Pn**	**19 50 39.1**	**+1.7**
JCH				*e*S	**Sn**	**19 51 20.0**	**-1.2**
JOT	**Ohata**	**5.90**	**246**	*e*S	**Sn**	**19 52 08.2**	**-3.8**
JANG	**Nango**	**6.16**	**236**	*e*S	**Sn**	**19 52 14.8**	**-3.5**

*IDC **31** 20:28:53.9±2.2, 49°.37S×126°.09E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/27, mbtmp4.0/4, MS3.4/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=68.1km s-min=42.0km az=128.0*
ISC 31 20:28:55.1±1.7, 49°.4S±0°.3×126°.1E±0°.4, h10km, n12, σ0s62/7, mb3.9/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.97**	**324**	T	T	20 50 15.5	
	baz=151,slow=74,SNR=9.5						
H01W2	**Cape Leeuwin H**	**16.97**	**324**	T	T	20 50 21.8	
	baz=151,slow=74,SNR=9.2						
H01W3	**Cape Leeuwin H**	**16.98**	**324**	T	T	20 50 12.2	
	baz=151,slow=74,SNR=8.1						
NWAO	**Narrogin (SRO)**	**17.75**	**335**	LR	LR	20 38 02.3	
	comp=Z,136nm,19.5s,baz=209,slow=31						
STKA	**Stephens Creek**	**21.03**	**39**	P	**P**	**20 33 39.4**	**+0.4**
	2.8nm,0.9s,baz=202,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.43**	**16**	P	**P**	**20 34 31.8**	**-0.2**
	4.3nm,0.9s,baz=193,slow=9.0,SNR=40						
WRA	**Warramunga Arr**	**30.14**	**16**	P	**P**	**20 35 04.5**	**-0.6**
	1.1nm,0.8s,baz=194,slow=8.0,SNR=5.4						
VNDA	**Vanda**	**31.30**	**166**	LR	LR	20 46 37.0	
	comp=Z,65nm,18.6s,baz=326,slow=34						
CMAR	**Chiang Mai Arr**	**71.75**	**333**	P	**P**	**20 40 17.9**	**+0.6**
	1.1nm,0.8s,baz=171,slow=6.2,SNR=5.5						
GERES	**GERESS Array B**	**137.13**	**296**	PKP	**PKPdf**	**20 48 17.1**	**-0.6**
	0.2nm,0.4s,baz=183,slow=3.9,SNR=3.1						
TXAR	**Lajitas Array**	**137.52**	**99**	PKP	**PKPdf**	**20 48 19.4**	**+0.4**
	0.2nm,0.7s,baz=226,slow=2.4,SNR=2.5						
YKA	**Yellowknife Ar**	**145.00**	**45**	PKP	**PKPdf**	**20 48 30.9**	**-0.3**
	2.3nm,0.7s,baz=269,slow=3.7,SNR=39						

*KRSC **31** 20:36:27.8±1.2, 53°.31N×160°.68E, h52km±13km, ML4.0*
*ISCJB **31** 20:36:29.8±0.5, 53°.32N±0°.03×160°.62E±0°.06, h56km±5km, mb3.5/12, MS3.2/1, Error ellipse: s-maj=6.6km s-min=2.9km az=34.8*
*MOS **31** 20:36:29.6±1.7, 53°.35N×160°.58E, h54km, mb4.1/4, Error ellipse: s-maj=14.5km s-min=8.0km az=69.6*
*IDC **31** 20:36:30.5±1.4, 53°.48N×160°.64E, h47km±14km, mb3.3/12, mb1 3.6/13, mb1mx3.4/39, mbtmp3.6/13, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/24, Error ellipse: s-maj=19.7km s-min=10.2km az=169.0*
ISC 31 20:36:30.0±0.8, 53°.28N±0°.04×160°.65E±0°.04, h45km±8km, n63, σ1s21/89, mb3.5/12, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.42**	**244**	PN	**Pn**	**20 36 40.0**	**0.0**
SPN				S	**Sn**	**20 36 46.6**	**-0.4**
SPN	**Mys Shipunski**	**0.42**	**244**	*i* P	**Pn**	**20 36 40.0**	**0.0**
SPN				*i* S	**Sn**	**20 36 46.6**	**-0.4**
NLC	**Nalytchevo**	**0.79**	**262**	PN	**Pn**	**20 36 44.2**	**-0.6**
NLC				S	**Sn**	**20 36 54.5**	**-1.0**
NLC	**Nalytchevo**	**0.79**	**262**	*e*P	**Pn**	**20 36 44.2**	**-0.6**
NLC				*e*S	**Sn**	**20 36 54.5**	**-1.0**
KII	**Karymskiy**	**1.04**	**317**	*i* P	**Pn**	**20 36 47.5**	**-0.7**
KII				*i* S	**Sn**	**20 37 00.3**	**-1.3**
SDLR	**Sedlovina**	**1.06**	**271**	*e*P	**Pn**	**20 36 48.5**	**0.0**
UGLR	**Uglovaya**	**1.10**	**267**	*i* P	**Pn**	**20 36 49.5**	**+0.4**
UGLR				*e*S	**Sn**	**20 37 03.4**	**+0.3**
KRER	**Koryakskii**	**1.14**	**272**	*i* P	**Pn**	**20 36 50.1**	**+0.4**
KRER				*e*S	**Sn**	**20 37 04.2**	**-0.1**
AVH	**Avacha**	**1.15**	**270**	*i* P	**Pn**	**20 36 50.0**	**+0.3**
AVH				*i* S	**Sn**	**20 37 04.9**	**+0.6**
KRX	**Arik**	**1.20**	**274**	*i* P	**Pn**	**20 36 50.4**	**-0.1**
KRX				*i* S	**Sn**	**20 37 04.8**	**-0.9**
KOK	**Koryaka**	**1.21**	**271**	*e*P	**Pn**	**20 36 50.8**	**+0.3**
PET	**Petropavlovsk**	**1.23**	**259**	PN	**Pn**	**20 36 50.8**	**+0.1**
PET				S	**Sn**	**20 37 05.5**	**-0.6**
PET	**Petropavlovsk**	**1.23**	**259**	*i* P	**Pn**	**20 36 50.8**	**+0.1**
PET				*i* S	**Sn**	**20 37 05.5**	**-0.6**
RUS	**Russkaya**	**1.55**	**238**	PN	**Pn**	**20 36 55.1**	**0.0**
RUS				S	**Sn**	**20 37 13.7**	**-0.2**
RUS	**Russkaya**	**1.55**	**238**	*i* P	**Pn**	**20 36 55.1**	**0.0**
RUS				*i* S	**Sn**	**20 37 13.7**	**-0.2**
GNL	**Ganaly**	**1.67**	**285**	*e*P	**Pn**	**20 36 57.4**	**+0.5**
GNL				*e*S	**Sn**	**20 37 17.9**	**+0.8**
PETK	**Petropavlovsk-**	**1.78**	**266**	PN	**Pn**	**20 36 59.6**	**+1.3**
PETK				S	**Sn**	**20 37 21.4**	**+1.6**
PETK				pmax	pmax		
	comp=Z,58nm,0.3s						
PETK				smax	smax		
	comp=N,29nm,0.3s						
PETK				MLR	MLR		
	comp=Z,82nm,22.0s						
PETK	**Petropavlovsk-**	**1.78**	**266**	P	**Pn**	**20 36 59.6**	**+1.3**
	comp=Z,58nm,0.3s,baz=77,slow=16,SNR=455						
PETK				S	**Sn**	**20 37 21.4**	**+1.6**
	comp=Z,29nm,0.3s,baz=69,slow=15,SNR=7.0						
PETK				LR	LR	20 37 51.5	
	comp=Z,82nm,22.0s,baz=122,slow=45						
KZV	**Kizimen**	**1.85**	**354**	*e*P	**Pn**	**20 36 59.7**	**+0.3**
ASAK	**Asacha**	**1.89**	**243**	*i* P	**Pn**	**20 37 01.0**	**+1.1**
ASAK				*i* S	**Sn**	**20 37 24.2**	**+1.6**
TUMR	**Tumrok**	**2.03**	**352**	*i* P	**Pn**	**20 37 02.9**	**+1.1**
TUMR				*i* S	**Sn**	**20 37 26.5**	**+0.6**
APC	**Apacha**	**2.13**	**262**	*e*P	**Pn**	**20 37 04.5**	**+1.4**
APC				*e*S	**Sn**	**20 37 29.3**	**+1.0**
KMNR	**Kamenistaya**	**2.49**	**355**	*e*P	**Pn**	**20 37 09.5**	**+1.4**
KMNR				*e*S	**Sn**	**20 37 39.2**	**+1.9**
KOZ	**Kozyrevsk**	**2.82**	**351**	*e*P	**Pn**	**20 37 13.6**	**+1.1**
KOZ				*e*S	**Sn**	**20 37 45.8**	**+0.6**
KOZR	**Kozyr**	**2.82**	**351**	PN	**Pn**	**20 37 13.6**	**+1.0**
KOZR				S	**Sn**	**20 37 45.9**	**+0.5**
ESO	**Esso**	**2.88**	**338**	PN	**Pn**	**20 37 14.0**	**+0.6**
ESO	**Esso**	**2.88**	**338**	*e*P	**Pn**	**20 37 14.0**	**+0.6**
PAU	**Pauzhetka**	**2.97**	**234**	PN	**Pn**	**20 37 16.8**	**+2.2**
PAU				S	**Sn**	**20 37 50.6**	**+1.6**
PAU	**Pauzhetka**	**2.97**	**234**	*e*P	**Pn**	**20 37 16.8**	**+2.2**
PAU				*e*S	**Sn**	**20 37 50.6**	**+1.6**
KLY	**Klyuchi**	**3.04**	**0**	*e*S	**Sn**	**20 37 50.4**	**-0.2**
SRDR	**Sredinnyy**	**3.09**	**350**	*e*P	**Pn**	**20 37 17.1**	**+0.8**
SRDR				*e*S	**Sn**	**20 37 51.0**	**-1.0**
KBTR	**Krutoberegovo**	**3.19**	**22**	PN	**Pn**	**20 37 18.5**	**+0.9**
KBTR				S	**Sn**	**20 37 54.4**	**0.0**
KBTR	**Krutoberegovo**	**3.19**	**22**	*e*P	**Pn**	**20 37 18.5**	**+0.9**
KBTR				*e*S	**Sn**	**20 37 54.4**	**0.0**
KBG	**Krutoberegovo**	**3.21**	**21**	PN	**Pn**	20 37 21.1	+3.3
KBG				S	**Sn**	**20 37 55.0**	**+0.2**
KBG	**Krutoberegovo**	**3.21**	**21**	*e*P	Pn	20 37 21.1	+3.3
KBG				*e*S	**Sn**	**20 37 55.0**	**+0.2**
BDR	**Baidarnaya**	**3.31**	**5**	*e*P	**Pn**	**20 37 20.7**	**+1.4**
BDR				*e*S	**Sn**	**20 37 57.3**	**-0.1**
SMKR	**Semkarok**	**3.34**	**8**	*e*P	**Pn**	**20 37 21.3**	**+1.5**
SMKR				*e*S	**Sn**	**20 37 58.0**	**-0.2**
SRKR	**Sorokina**	**3.39**	**5**	*e*P	**Pn**	**20 37 22.6**	**+2.1**
SRKR				*e*S	**Sn**	**20 37 59.7**	**+0.2**
BKI	**Bering**	**3.67**	**56**	PN	**Pn**	**20 37 24.9**	**+0.7**
BKI	**Bering**	**3.67**	**56**	*e*P	**Pn**	**20 37 24.9**	**+0.7**
BKI				*e*S	**Sn**	**20 38 03.2**	**-2.9**
SKR	**Severo-Kuril's**	**3.82**	**229**	*e*PN	Pn	20 37 31.2	+4.9
SKR				*e*S	**Sn**	**20 38 11.7**	**+1.8**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax	smax		
	comp=N,80nm,0.5s						
SKR				smax	smax		
	comp=E,110nm,0.5s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
SKR	**Severo-Kuril's**	**3.82**	**229**	*e*S	**Sn**	**20 38 12.9**	**+3.0**
FX1	**Attu Island--F**	**7.55**	**88**	P	**Pn**	**20 38 18.6**	**+1.2**
	comp=Z,4.8nm,0.3s,baz=270,slow=2.0,SNR=20						
FX1				S	**Sn**	**20 39 37.9**	**-3.7**
	comp=Z,6.1nm,0.3s,baz=164,slow=18,SNR=6.5						
MJAR	**Matsushiro Arr**	**22.93**	**232**	P	**P**	**20 41 31.3**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=9.6,slow=14,SNR=11						
H11N2	**WAKE ISLAND Hy**	**33.84**	**169**	T	T	21 19 36.0	
	baz=355,slow=77,SNR=16						
H11N3	**WAKE ISLAND Hy**	**33.85**	**169**	T	T	21 19 42.8	
	baz=355,slow=77,SNR=15						
H11N1	**WAKE ISLAND Hy**	**33.85**	**169**	T	T	21 19 39.7	
	baz=355,slow=77,SNR=15						
SONM	**Songino Array**	**34.18**	**283**	P	**P**	**20 43 10.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=93,slow=7.2,SNR=3.5						
SONM				LR	LR	20 59 08.0	
	comp=Z,42nm,20.3s,baz=116,slow=40						
H11S1	**WAKE ISLAND Hy**	**35.02**	**170**	T	T	21 20 46.7	
	baz=357						
H11S3	**WAKE ISLAND Hy**	**35.03**	**170**	T	T	21 20 55.6	
	baz=357						
H11S2	**WAKE ISLAND Hy**	**35.04**	**170**	T	T	21 21 00.5	
	baz=357						
YKA	**Yellowknife Ar**	**42.80**	**43**	P	**P**	**20 44 23.1**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=294,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**48.37**	**296**	P	**P**	**20 45 05.2**	**-1.9**
MKAR	**Makanchi Array**	**48.37**	**296**	P	**P**	**20 45 05.2**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=55,slow=7.8,SNR=9.1						
ARCES	**ARCESS Array B**	**53.21**	**342**	P	**P**	**20 45 41.6**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=46,slow=6.8,SNR=2.6						
CMAR	**Chiang Mai Arr**	**58.55**	**258**	P	**P**	**20 46 21.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=22,slow=7.8,SNR=3.4						
FINES	**FINESS Array B**	**60.08**	**337**	P	**P**	**20 46 30.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=36,slow=7.3,SNR=7.8						
NOA	**NORSAR Array B**	**63.45**	**344**	P	**P**	**20 46 53.7**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=38,slow=7.6,SNR=2.7						
AKASG	**Malin Array Be**	**68.62**	**329**	P	**P**	**20 47 26.2**	**-1.7**
AKASG	**Malin Array Be**	**68.62**	**329**	P	**P**	**20 47 26.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=30,slow=7.0,SNR=2.8						
TXAR	**Lajitas Array**	**70.26**	**67**	P	**P**	**20 47 40.3**	**+1.8**
	comp=Z,0.3nm,0.9s,baz=310,slow=7.0,SNR=3.4						
WRA	**Warramunga Arr**	**76.39**	**205**	P	**P**	**20 48 15.3**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=21,slow=6.2,SNR=4.6						
ASAR	**Alice Springs**	**80.07**	**205**	P	**P**	**20 48 36.3**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=16,slow=4.8,SNR=7.5						

*NEIC **31** 20:46:59.8, 19°.07N×65°.91W, h18km, MD2.8(RSPR), After RSPR.*
RSPR 31 20:46:59.8, 19°.07N×65°.91W, h18km±8km, MD2.8/3, 13C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.79**	**176**	*e*P	Pb	20 47 12.9	-2.3
CBYP	**Canovanas**	**0.79**	**176**	*e*P	Pb	20 47 13.0	-2.2
CBYP	**Canovanas**	**0.79**	**176**	*e*P	Pb	20 47 12.9	-2.3
CBYP	**Canovanas**	**0.79**	**176**	*e*P	Pb	20 47 13.1	-2.1
CBYP				*e*S	Sb	20 47 23.5	-2.2
CBYP				*e*S	Sg	20 47 23.6	-2.5
CBYP	**Canovanas**	**0.79**	**176**	*e*P	Pb	20 47 13.0	-2.2
CBYP				*e*S	Sb	20 47 23.5	-2.2
HUMP	**Col San Antoni**	**0.92**	**176**	*e*P	Pb	20 47 15.0	-2.3
HUMP	**Col San Antoni**	**0.92**	**176**	*e*P	Pb	20 47 15.0	-2.3
HUMP	**Col San Antoni**	**0.92**	**176**	*e*P	Pb	20 47 15.3	-2.0
HUMP	**Col San Antoni**	**0.92**	**176**	*e*P	Pb	20 47 15.4	-1.9
HUMP				*e*S	Sb	20 47 26.9	-2.4
HUMP				*e*S	Sg	20 47 27.0	-3.0
HUMP	**Col San Antoni**	**0.92**	**176**	*e*P	Pb	20 47 15.0	-2.3
HUMP				*e*S	Sb	20 47 27.0	-2.2
SJG	**San Juan**	**0.98**	**193**	*e*P	Pb	20 47 16.2	-2.0
SJG				*e*S	Sb	20 47 28.9	-1.9
SJG	**San Juan**	**0.98**	**193**	*e*P	Pb	20 47 16.0	-2.2
SJG				*e*S	Sb	20 47 28.4	-2.4
SJG	**San Juan**	**0.98**	**193**	*e*P	Pb	20 47 16.0	-2.2
SJG	**San Juan**	**0.98**	**193**	*e*P	Pb	20 47 16.2	-2.0
SJG				*e*S	Sb	20 47 28.4	-2.4
SJG				*e*S	Sg	20 47 28.9	-2.7
SJG	**San Juan**	**0.98**	**193**	*e*P	Pb	20 47 16.0	-2.2
SJG				*e*S	Sb	20 47 28.4	-2.4
AOPR	**Arecibo Observ**	**1.07**	**228**	*e*P	Pb	20 47 17.1	-2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.09**	**154**	Pn	Pn	21 21 57.6	+2.2
	0.3nm,0.3s,baz=333,slow=12,SNR=14						
WRA				Sn	Sn	21 24 31.2	-12
	0.1nm,0.3s,baz=338,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**18.32**	**161**	P	Pn	21 22 35.3	-1.3
	0.8nm,0.3s,baz=342,slow=11,SNR=41						
MKAR	**Makanchi Array**	**66.31**	**328**	P	P	21 29 11.7	+0.5
	0.4nm,0.5s,baz=115,slow=8.2,SNR=14						
KURBB	**Kurchatov Arra**	**70.64**	**329**	P	P	21 29 37.6	-0.6
	0.2nm,0.4s,baz=124,slow=5.6,SNR=6.6						

*ISCJB **31** 21:19:12.6±0.4,38°.49N±0°.03×73°.81E±0°.09,h107km, mb3.6/6,Error ellipse: s-maj=9.9km s-min=3.7km az=164.1*

*IDC **31** 21:19:14.3±5.0,38°.59N×73°.53E,h89km±39km,mb3.4/5, mb1 3.5/10,mb1mx3.2/33,mbtmp3.7/10,Error ellipse: s-maj=45.0km s-min=35.1km az=128.0*

*NNC **31** 21:19:19.1±2.6,39°.01N×73°.41E,h162km±32km,mb3.1, mpv3.8,Error ellipse: s-maj=27.1km s-min=13.1km az=5.0*

ISC 31 21:19:14.2±0.7,38°.55N±0°.06×73.76E±0°.09,h107km,n46, σ1°79/46,mb3.6/6,6C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.58**	**359**	P	**Pn**	**21 20 08.3**	**+0.2**
	SNR=44						
KZA	**Kyzart**	**3.70**	**17**	P	**Pn**	**21 20 10.6**	**+0.8**
	SNR=56						
UCH	**Uchtor**	**3.72**	**9**	P	**Pn**	**21 20 11.0**	**+0.9**
	SNR=160						
EKS2	**Erkin-Say**	**4.11**	**0**	P	**Pn**	**21 20 15.6**	**+0.7**
	SNR=76						
AAK	**Ala-Archa**	**4.12**	**8**	⇑P	**Pn**	**21 20 15.5**	**+0.4**
	8.4nm,0.3s						
AAK				⇑S	**Sn**	**21 21 01.1**	**-1.3**
	21nm,0.8s						
AAK	**Ala-Archa**	**4.12**	**8**	P	**Pn**	**21 20 16.5**	**+1.3**
	SNR=41						
AAK	**Ala-Archa**	**4.12**	**8**	P	**Pn**	**21 20 16.4**	**+1.3**
	8.4nm,0.3s,baz=167,slow=7.4,SNR=129						
AAK				S	**Sn**	**21 21 02.1**	**-0.3**
	2.9nm,0.3s,baz=17,slow=17,SNR=9.7						
ULHL	**Ulahol**	**4.15**	**26**	P	**Pn**	**21 20 16.8**	**+1.2**
	SNR=54						
KBK	**Karagaybulak**	**4.20**	**12**	P	**Pn**	**21 20 17.7**	**+1.4**
	SNR=22						
CHMS	**Chumysh**	**4.51**	**9**	P	**Pn**	**21 20 21.4**	**+1.1**
	SNR=9.0						
TKM2	**Tokmak 2**	**4.58**	**17**	⇑P	**Pn**	**21 20 22.5**	**+1.0**
	5.0nm,0.4s						
TKM2				⇓S	**Sn**	**21 21 13.1**	**-0.7**
	7.4nm,0.7s						
TKM2	**Tokmak 2**	**4.58**	**17**	P	**Pn**	**21 20 22.8**	**+1.3**
	SNR=23						
USP	**Ospenovka**	**4.74**	**7**	P	**Pn**	**21 20 25.2**	**+1.7**
	SNR=13						
CHCP	**Chirah Chowk**	**4.90**	**185**	P	Pn	21 20 29.7	+4.0
CEP	**Cherat**	**4.95**	**198**	P	Pn	21 20 29.5	+3.1
KK31	**Karatay Array**	**5.17**	**333**	P	**Pn**	**21 20 28.4**	**-0.8**
	16nm,0.5s,baz=147,slow=15,SNR=396						
KK31				⇓S	**Sn**	**21 21 22.5**	**-5.1**
	3.0nm,0.2s,baz=162,slow=23,SNR=6.0						
THW	**Thamme Wali**	**5.97**	**197**	P	**Pn**	**21 20 42.4**	**+2.2**
SMLA	**Simla**	**7.92**	**158**	*e*P	Pn	21 21 11.5	+5.0
SMLA				*e*S	**Sn**	**21 22 32.5**	**-1.9**
MK31	**Makanchi Array**	**10.35**	**35**	⇓P	**Pn**	**21 21 40.8**	**+1.3**
	0.3nm,0.6s,baz=222,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**10.35**	**35**	P	**Pn**	**21 21 41.3**	**+1.8**
	0.1nm,0.3s,baz=214,slow=14,SNR=4.5						
KURBB	**Kurchatov Arra**	**12.54**	**14**	P	**Pn**	**21 22 06.8**	**-1.7**
	0.1nm,0.3s,baz=203,slow=11,SNR=6.6						
PYUN	**Piuthan**	**12.96**	**141**	*e*P	**Pn**	**21 22 12.5**	**-2.0**
	45nm,0.4s						
DANN	**Dangsing**	**13.15**	**138**	*e*P	**Pn**	**21 22 14.7**	**-2.4**
	12nm,0.4s						
KOLN	**Koldanda**	**13.54**	**140**	*e*P	**Pn**	**21 22 19.8**	**-2.3**
GKN	**Gorkha**	**13.90**	**136**	*e*P	**Pn**	**21 22 24.8**	**-1.9**
	5.4nm,0.3s						
KKN	**Kakani**	**14.42**	**135**	*e*P	**Pn**	**21 22 30.9**	**-2.5**
	5.5nm,0.5s						
DMN	**Daman**	**14.46**	**136**	*e*P	**Pn**	**21 22 32.0**	**-2.0**
AB31	**Akbulak array**	**14.59**	**322**	P	Pn	21 22 31.3	-3.9
	1.1nm,0.5s,baz=128,slow=14,SNR=27						
AB31				⇑S	Sn	21 25 02.0	-14
	1.0nm,0.6s,baz=130,slow=24,SNR=8.6						
PKIN	**Phulchoki**	**14.65**	**135**	*e*P	**Pn**	**21 22 34.8**	**-1.6**
	3.4nm,0.4s						
PKI	**Pulchoki**	**14.66**	**135**	*e*P	**Pn**	**21 22 34.5**	**-2.1**
BVA0	**Borovoye Array**	**14.66**	**352**	⇑P	**Pn**	**21 22 33.9**	**-2.2**
	4.5nm,0.6s,baz=158,slow=9.5,SNR=36						
BVAR	**Borovoye Array**	**14.66**	**352**	P	**Pn**	**21 22 34.5**	**-1.6**
	0.2nm,0.3s,baz=153,slow=17,SNR=7.9						
BRVK	**Borovoye**	**14.71**	**352**	⇓P	Pn	21 22 32.9	-3.7
	10nm,0.6s						
JIRN	**Jiri**	**15.04**	**133**	*e*P	**Pn**	**21 22 39.3**	**-2.1**
	7.0nm,0.4s						
RAMN	**Ramite**	**15.81**	**133**	*e*P	**Pn**	**21 22 49.2**	**-1.8**
TAPN	**Taplejung**	**16.16**	**130**	*e*P	**Pn**	**21 22 53.9**	**-1.5**
AKTO	**Aktyubinsk**	**16.31**	**322**	⇑P	**Pn**	**21 22 54.1**	**-2.6**
	1.6nm,0.4s						
AKTO	**Aktyubinsk**	**16.31**	**322**	P	**Pn**	**21 22 55.0**	**-1.7**
	0.5nm,0.3s,baz=109,slow=14,SNR=6.9						
ODAN	**Odare**	**16.34**	**132**	*e*P	**Pn**	**21 22 55.5**	**-2.0**
ZALV	**Zalesovo Beam**	**17.16**	**23**	P	**Pn**	**21 23 07.2**	**+0.1**
	0.9nm,0.3s,baz=212,slow=11,SNR=19						
JOF	**Joensuu**	**35.25**	**328**	*ep*	**P**	**21 25 59.5**	**+1.5**
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**40.13**	**336**	P	**P**	**21 26 40.4**	**+1.4**
	1.9nm,1.0s,baz=108,slow=9.0,SNR=7.5						
HFS	**Hagfors**	**42.85**	**320**	P	**P**	**21 27 02.6**	**+1.3**
	0.8nm,0.4s,baz=95,slow=10,SNR=9.3						
NOA	**NORSAR Array B**	**44.10**	**322**	P	**P**	**21 27 12.2**	**+0.8**
	0.6nm,0.5s,baz=94,slow=7.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**67.94**	**269**	P	**P**	**21 30 02.4**	**+0.6**
	0.2nm,0.4s,baz=46,slow=5.6,SNR=8.3						
YKA	**Yellowknife Ar**	**79.08**	**4**	P	**P**	**21 31 08.1**	**+1.9**
	0.2nm,0.4s,baz=349,slow=5.8,SNR=3.4						

*IDC **31** 21:21:29.9±1.5,42°.37N×13°.30E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.3/28,mbtmp3.3/5,ML3.2/2,Error ellipse: s-maj=26.3km s-min=16.2km az=89.0*

*LDG **31** 21:21:29.9±0.1,42°.22N×13°.45E,h10km,Ml3.1/5,Error ellipse: s-maj=4.5km s-min=3.0km az=7.0*

*ROM **31** 21:21:30.5±0.1,42°.27N×13°.42E,h10km,Ml3.4/30,Error ellipse: s-maj=1.2km s-min=0.9km az=59.0*

*CSEM **31** 21:21:30.7±0.1,42°.27N×13°.42E,h2km,ML4.0/9,Error ellipse: s-maj=2.8km s-min=2.2km az=41.0*

*ISCJB **31** 21:21:30.8±0.2,42°.28N±0°.02×13°.43E±0°.02,h16km±2km, mb3.3/3,Error ellipse: s-maj=3.1km s-min=2.4km az=44.0*

*PRU **31** 21:21:32.2,42°.33N×13°.51E,h0km*

ISC 31 21:21:31.3±0.7,42°.28N±0°.02×13°.43E±0°.02,h12km±4km, n151,σ1°29/183,mb3.2/3,12C-13D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.07**	**344**	Pg	**Pg**	**21 21 33.5**	**-0.5**
AQU				Sg	**Sg**	**21 21 35.4**	**-0.6**
	27µm,0.4s						
AQU	**L'Aquila**	**0.07**	**344**	Pg	**Pg**	**21 21 33.5**	**-0.5**
AQU				Sg	**Sg**	**21 21 35.4**	**-0.6**
	27µm,0.4s						
T0104	**Madonna delle**	**0.10**	**319**	Pg	**Pg**	**21 21 33.9**	**-0.4**
T0104				Sg	**Sg**	**21 21 36.0**	**-0.5**
FAGN	**Fagnano**	**0.12**	**98**	Pg	**Pg**	**21 21 34.0**	**-0.5**
FAGN				Sg	**Sg**	**21 21 36.2**	**-0.5**
	37µm,0.3s						
FAGN	**Fagnano**	**0.12**	**98**	Pg	**Pg**	**21 21 34.0**	**-0.5**
FAGN				Sg	**Sg**	**21 21 36.2**	**-0.5**
	37µm,0.3s						
FIAM	**Fiamignano**	**0.23**	**267**	Pg	**Pg**	**21 21 36.0**	**-0.3**
FIAM				Sg	**Sg**	**21 21 39.8**	**+0.1**
	6µm,0.7s						
FIAM	**Fiamignano**	**0.23**	**267**	Pg	**Pg**	**21 21 36.0**	**-0.3**
FIAM				Sg	**Sg**	**21 21 39.8**	**+0.1**
	6µm,0.7s						
CAMP	**Campotosto**	**0.26**	**357**	Pg	**Pg**	**21 21 36.1**	**-0.6**
CAMP				Sg	**Sb**	**21 21 41.3**	**-1.1**
	5µm,0.5s						
CAMP	**Campotosto**	**0.26**	**357**	Pg	**Pg**	**21 21 36.1**	**-0.6**

CAMP				Sg	**Sb**	**21 21 41.3**	**-1.1**
	5µm,0.5s						
T0110	**Collepietro**	**0.27**	**102**	Pg	**Pg**	**21 21 36.5**	**-0.4**
VCEL	**Villa Celiera**	**0.33**	**69**	Pg	**Pg**	**21 21 37.3**	**-0.7**
VCEL				Sg	**Sb**	**21 21 44.1**	**-0.3**
	10µm,0.4s						
VCEL	**Villa Celiera**	**0.33**	**69**	Pg	**Pg**	**21 21 37.3**	**-0.7**
VCEL				Sg	**Sb**	**21 21 44.1**	**-0.3**
	10µm,0.4s						
SMA1	**SAN MARTINO**	**0.36**	**349**	Pg	**Pg**	**21 21 37.8**	**-0.7**
SMA1				Sg	**Sb**	**21 21 44.6**	**-0.7**
	3µm,0.4s						
TERO	**Teramo**	**0.36**	**21**	Pg	**Pg**	**21 21 37.6**	**-1.1**
TERO				Sg	**Sg**	**21 21 44.2**	**+0.6**
	3µm,0.4s						
TERO	**Teramo**	**0.36**	**21**	Pg	**Pg**	**21 21 37.6**	**-1.1**
TERO				Sg	**Sg**	**21 21 44.2**	**+0.6**
	3µm,0.4s						
VVLD	**Villa Vallelon**	**0.43**	**161**	Pg	**Pg**	**21 21 39.2**	**-0.7**
VVLD				Sg	**Sg**	**21 21 45.6**	**-0.1**
	3µm,0.5s						
VVLD	**Villa Vallelon**	**0.43**	**161**	Pg	**Pg**	**21 21 39.2**	**-0.7**
VVLD				Sg	**Sg**	**21 21 45.6**	**-0.1**
	3µm,0.5s						
INTR	**Introdacqua**	**0.44**	**127**	Pg	**Pg**	**21 21 39.4**	**-0.7**
INTR				Sg	**Sb**	**21 21 47.5**	**-0.3**
	7µm,0.3s						
INTR	**Introdacqua**	**0.44**	**127**	Pg	**Pg**	**21 21 39.4**	**-0.7**
INTR				Sg	**Sb**	**21 21 47.5**	**-0.3**
	7µm,0.3s						
GUAR	**Guarcino**	**0.49**	**190**	Pg	**Pg**	**21 21 40.3**	**-0.7**
	2µm,0.3s						
GUAR	**Guarcino**	**0.49**	**190**	Pg	**Pg**	**21 21 40.3**	**-0.7**
	2µm,0.3s						
MNS	**Montasola**	**0.56**	**281**	Pg	**Pg**	**21 21 41.3**	**-1.1**
	977nm,0.5s						
MNS	**Montasola**	**0.56**	**281**	Pg	**Pg**	**21 21 41.3**	**-1.1**
	977nm,0.5s						
MTCE	**Montecelio**	**0.57**	**243**	Pg	**Pg**	**21 21 41.6**	**-0.9**
	1µm,0.4s						
MTCE	**Montecelio**	**0.57**	**243**	Pg	**Pg**	**21 21 41.6**	**-0.9**
	1µm,0.4s						
NRCA	**Norcia**	**0.60**	**337**	Pg	**Pg**	**21 21 42.1**	**-0.9**
NRCA				Sg	**Sb**	**21 21 51.6**	**-0.7**
NRCA	**Norcia**	**0.60**	**337**	Pg	**Pg**	**21 21 42.1**	**-0.9**
NRCA				Sg	**Sb**	**21 21 51.6**	**-0.7**
POFI	**Posta Fibreno**	**0.60**	**159**	Pg	**Pg**	**21 21 41.9**	**-1.2**
	908nm,0.5s						
POFI	**Posta Fibreno**	**0.60**	**159**	Pg	**Pg**	**21 21 41.9**	**-1.2**
	908nm,0.5s						
LPEL	**Lama dei Pelig**	**0.61**	**112**	Pg	**Pg**	**21 21 42.2**	**-1.0**
LPEL				Sg	**Sb**	**21 21 51.9**	**-0.5**
	5µm,0.2s						
LPEL	**Lama dei Pelig**	**0.61**	**112**	Pg	**Pg**	**21 21 42.2**	**-1.0**
LPEL				Sg	**Sb**	**21 21 51.9**	**-0.5**
	5µm,0.2s						
SDI	**San Donato**	**0.64**	**154**	Pg	**Pg**	**21 21 42.7**	**-1.1**
SDI	**San Donato**	**0.64**	**154**	Pg	**Pg**	**21 21 42.7**	**-1.1**
OFFI	**Offida**	**0.68**	**16**	Pg	**Pg**	**21 21 44.3**	**-0.3**
	4µm,0.5s						
OFFI	**Offida**	**0.68**	**16**	Pg	**Pg**	**21 21 44.3**	**-0.3**
	4µm,0.5s						
CAFR	**Castel Frentan**	**0.68**	**94**	Pg	**Pg**	**21 21 44.1**	**-0.5**
CAFR	**Castel Frentan**	**0.68**	**94**	Pg	**Pg**	**21 21 44.1**	**-0.5**
CESX	**Cesi**	**0.71**	**298**	Pg	**Pg**	**21 21 44.1**	**-1.0**
	1µm,0.5s						
CESX	**Cesi**	**0.71**	**298**	Pg	**Pg**	**21 21 44.1**	**-1.0**
	1µm,0.5s						
RMP	**Rome, Mte Porz**	**0.72**	**229**	Pg	**Pg**	**21 21 44.1**	**-1.1**
	2µm,0.7s						
RMP	**Rome, Mte Porz**	**0.72**	**229**	Pg	**Pg**	**21 21 44.1**	**-1.1**
	2µm,0.7s						
GIUL	**Giuliano Di Ro**	**0.73**	**190**	Pg	**Pg**	**21 21 44.3**	**-1.3**
	949nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.73**	**190**	Pg	**Pg**	**21 21 44.3**	**-1.3**
	949nm,0.6s						
T0401	**Montottone (Fe**	**0.79**	**9**	Pg	**Pg**	**21 21 46.3**	**-0.3**
	2µm,0.6s						
FDMO	**Fiordimonte**	**0.80**	**342**	Pg	**Pg**	**21 21 45.5**	**-1.2**
	627nm,0.5s						
FDMO	**Fiordimonte**	**0.80**	**342**	Pg	**Pg**	**21 21 45.5**	**-1.2**
	627nm,0.5s						
CERA	**Filignano**	**0.81**	**147**	Pg	**Pg**	**21 21 45.6**	**-1.4**
	2µm,0.6s						
CERA	**Filignano**	**0.81**	**147**	Pg	**Pg**	**21 21 45.6**	**-1.4**
	2µm,0.6s						
ROM9	**Roma**	**0.82**	**237**	Pg	**Pg**	**21 21 46.4**	**-0.7**
	1µm,0.5s						
ROM9	**Roma**	**0.82**	**237**	Pg	**Pg**	**21 21 46.4**	**-0.7**
	1µm,0.5s						
CESI	**CESI - Serrava**	**0.82**	**332**	Pg	**Pg**	**21 21 46.1**	**-1.1**
	329nm,0.5s						
CESI	**CESI - Serrava**	**0.82**	**332**	Pg	**Pg**	**21 21 46.1**	**-1.1**
	329nm,0.5s						
GUMA	**Gualdo di Mace**	**0.86**	**25**	Pg	**Pg**	**21 21 45.6**	**-2.5**
	2µm,0.5s						
GUMA	**Gualdo di Mace**	**0.86**	**25**	Pg	**Pg**	**21 21 45.6**	**-2.5**
	2µm,0.5s						
MIDA	**Miranda**	**0.89**	**136**	Pg	**Pg**	**21 21 46.8**	**-1.7**
	1µm,0.3s						
MIDA	**Miranda**	**0.89**	**136**	Pg	**Pg**	**21 21 46.8**	**-1.7**
	1µm,0.3s						
TRIV	**Trivento**	**0.98**	**121**	Pg	**Pg**	**21 21 48.9**	**-1.3**
	822nm,0.9s						
TRIV	**Trivento**	**0.98**	**121**	Pg	**Pg**	**21 21 48.9**	**-1.3**
	822nm,0.9s						
VAGA	**Valle Agricola**	**1.05**	**145**	Pg	**Pg**	**21 21 50.4**	**-1.2**
	515nm,0.4s						
VAGA	**Valle Agricola**	**1.05**	**145**	Pg	**Pg**	**21 21 50.4**	**-1.2**
	515nm,0.4s						
CING	**Cingoli**	**1.11**	**351**	Pg	**Pg**	**21 21 51.0**	**-1.7**
CING	**Cingoli**	**1.11**	**351**	Pg	**Pg**	**21 21 51.0**	**-1.7**
BSSO	**Busso**	**1.14**	**130**	Pg	**Pg**	**21 21 51.7**	**-1.5**
BSSO	**Busso**	**1.14**	**130**	Pg	**Pg**	**21 21 51.7**	**-1.5**
SGG	**Gregorio Mates**	**1.14**	**141**	Pg	**Pg**	**21 21 51.9**	**-1.4**
	549nm,0.6s						
SGG	**Gregorio Mates**	**1.14**	**141**	Pg	**Pg**	**21 21 51.9**	**-1.4**
	549nm,0.6s						
MGAB	**Montegabbione**	**1.16**	**303**	Pg	**Pb**	**21 21 52.5**	**-0.8**
	374nm,0.4s						
MGAB	**Montegabbione**	**1.16**	**303**	Pg	**Pb**	**21 21 52.5**	**-0.8**
	374nm,0.4s						
SACS	**San Casciano d**	**1.26**	**297**	Pg	**Pg**	**21 21 55.1**	**-0.4**
	202nm,0.6s						
AOI	**Ancona**	**1.27**	**6**	Pg	**Pg**	**21 21 55.6**	**-0.2**
	345nm,0.7s						
AOI	**Ancona**	**1.27**	**6**	Pg	**Pg**	**21 21 55.6**	**-0.2**
	345nm,0.7s						
CDT	**Castel del Mon**	**2.44**	**118**	*e*Pn	**Pn**	**21 22 11.8**	**+0.7**
NVLJ	**Novalja**	**2.51**	**24**	*i* Pn	**Pn**	**21 22 12.3**	**+0.4**
NVLJ				Sn	**Sn**	**21 22 40.0**	**-2.5**
MAIM	**Mastiano**	**2.70**	**308**	P	**Pn**	**21 22 14.5**	**0.0**
UDBI	**Udbina**	**2.82**	**36**	*e*Pn	**Pn**	**21 22 17.7**	**+1.4**
UDBI				Sn	**Sn**	**21 22 49.8**	**-0.4**
UDBI	**Udbina**	**2.82**	**36**	*e*Pn	**Pn**	**21 22 17.6**	**+1.4**
UDBI				Sn	**Sn**	**21 22 49.7**	**-0.4**
SG1	**Sgolgore (BA)**	**2.83**	**119**	*e*Sn	**Sb**	**21 22 54.0**	**-2.4**
STON	**Ston**	**3.21**	**78**	*e*Pn	**Pn**	**21 22 22.0**	**+0.4**
STON				Sn	**Sn**	**21 22 59.2**	**-0.5**
STON	**Ston**	**3.21**	**78**	*e*Pn	**Pn**	**21 22 21.9**	**+0.4**
STON				Sn	**Sn**	**21 22 59.1**	**-0.5**
PGF	**Pioggiola**	**3.29**	**276**	*e*P	**Pn**	**21 22 23.4**	**+0.6**
PGF				*e*Sn	**Sn**	**21 22 56.9**	**-5.0**
	16nm,0.6s						
SKDS	**Skadanscina**	**3.29**	**7**	*i* Pn	**Pn**	**21 22 23.1**	**+0.4**
SKDS				*i* Sn	**Sn**	**21 23 02.1**	**+0.3**
SKDS	**Skadanscina**	**3.29**	**7**	*i* Pn	**Pn**	**21 22 23.1**	**+0.4**
SKDS				*i* Sn	**Sn**	**21 23 02.1**	**+0.3**
PE1	**Pezze di Greco**	**3.34**	**115**	*e*Pn	**Pn**	**21 22 24.5**	**+1.2**
JAVS	**Javornik**	**3.64**	**7**	*i* Pn	**Pn**	**21 22 27.9**	**+0.4**
JAVS	**Javornik**	**3.64**	**7**	*i* Pn	**Pn**	**21 22 27.9**	**+0.4**
OBKA	**Obir**	**4.30**	**10**	‖*i*Pn	**Pn**	**21 22 36.8**	**+0.2**
OBKA	**Obir**	**4.30**	**10**	Pn	**Pn**	**21 22 36.8**	**+0.2**
ABTA	**Abfaltersbach**	**4.51**	**352**	‖*i*Pn	**Pn**	**21 22 40.5**	**+0.9**
ABTA	**Abfaltersbach**	**4.51**	**352**	Pn	**Pn**	**21 22 40.5**	**+0.9**
SOKA	**Soboth**	**4.54**	**14**	⇑*i*Pn	**Pn**	**21 22 40.5**	**+0.6**
SOKA	**Soboth**	**4.54**	**14**	Pn	**Pn**	**21 22 40.5**	**+0.6**
BBLS	**Lazići**	**4.66**	**68**	*e*Pn	**Pn**	**21 22 43.2**	**+1.7**
SBF	**Sospel**	**4.67**	**292**	*e*P	**Pn**	**21 22 42.5**	**+0.9**
SBF	**Sospel**	**4.67**	**292**	*e*P	**Pn**	**21 22 42.5**	**+0.9**
IVAS	**Ivanjica**	**5.10**	**73**	⇑*i*Pn	**Pn**	**21 22 48.9**	**+1.3**
DIVS	**Divibare**	**5.13**	**67**	*e*Pn	**Pn**	**21 22 48.6**	**+0.6**
FRF	**La Foret Royal**	**5.14**	**287**	*e*P	**Pn**	**21 22 48.3**	**+0.2**
FRF	**La Foret Royal**	**5.14**	**287**	*e*P	**Pn**	**21 22 48.3**	**+0.2**
DAVOX	**Davos/Dischmat**	**5.16**	**332**	Pn	**Pn**	**21 22 50.6**	**+2.0**

	1.6nm,0.3s,baz=165,slow=18,SNR=20						
DAVOX				Sn	**Sn**	**21 23 49.9**	**+1.8**
	0.4nm,0.3s,baz=319,slow=19,SNR=2.1						
LMR	**La Mourre**	**5.20**	**284**	*e*P	**Pn**	**21 22 49.0**	**+0.1**
LMR	**La Mourre**	**5.20**	**284**	*e*P	**Pn**	**21 22 49.0**	**+0.1**
MOTA	**Moosalm**	**5.33**	**343**	⇑*i*Pn	**Pn**	**21 22 53.2**	**+2.4**
MOTA	**Moosalm**	**5.33**	**343**	Pn	**Pn**	**21 22 53.2**	**+2.4**
MBDF	**Montbardon**	**5.42**	**299**	*e*P	**Pn**	**21 22 54.2**	**+2.1**
MBDF	**Montbardon**	**5.42**	**299**	*e*P	**Pn**	**21 22 54.2**	**+2.1**
PKSM	**Moragy**	**5.43**	**42**	‖*i*P	**Pn**	**21 22 52.8**	**+0.8**
PKSM	**Moragy**	**5.43**	**42**	‖*i*P	**Pn**	**21 22 52.8**	**+0.8**
TRUS	**Trudell**	**5.45**	**67**	⇑*i*Pn	**Pn**	**21 22 52.3**	**-0.1**
GRUS	**Gruza**	**5.57**	**71**	‖*i*Pn	**Pn**	**21 22 55.0**	**+1.0**
MOA	**Molln**	**5.60**	**6**	⇑*i*Pn	**Pn**	**21 22 55.1**	**+0.7**
MOA	**Molln**	**5.60**	**6**	Pn	**Pn**	**21 22 55.1**	**+0.7**
DAVA	**Damuels**	**5.61**	**334**	⇑*i*Pn	**Pn**	**21 22 57.2**	**+2.6**
DAVA	**Damuels**	**5.61**	**334**	Pn	**Pn**	**21 22 57.2**	**+2.6**
LPL	**La Plagne**	**5.82**	**306**	*e*P	**Pn**	**21 22 59.2**	**+1.6**
LPL				*e*Sn	Sn	21 23 58.4	-5.9
	1.6nm,0.3s						
LPL	**La Plagne**	**5.82**	**306**	*e*P	**Pn**	**21 22 59.2**	**+1.6**
CONA	**Conrad Observa**	**5.90**	**16**	⇑*i*Pn	**Pn**	**21 22 59.1**	**+0.5**
CONA	**Conrad Observa**	**5.90**	**16**	Pn	**Pn**	**21 22 59.1**	**+0.5**
SMRF	**Simiane la Rot**	**5.99**	**289**	*e*P	**Pn**	**21 23 01.5**	**+1.7**
SMRF	**Simiane la Rot**	**5.99**	**289**	*e*P	**Pn**	**21 23 01.5**	**+1.7**
ORIF	**Oris-en-Rattie**	**6.08**	**298**	*e*P	**Pn**	**21 23 03.5**	**+2.4**
ORIF	**Oris-en-Rattie**	**6.08**	**298**	*e*P	**Pn**	**21 23 03.5**	**+2.4**
GERES	**GERESS Array B**	**6.57**	**2**	Pn	**Pn**	**21 23 07.4**	**-0.4**
	0.3nm,0.3s,baz=178,slow=12,SNR=11						
GERES				Sn	**Sn**	**21 24 20.6**	**-2.0**
	0.6nm,0.3s,baz=176,slow=22,SNR=7.6						
BZS	**Buzias**	**6.78**	**58**	‖*i*P	**Pn**	**21 23 11.8**	**+1.2**
BZS	**Buzias**	**6.78**	**58**	‖*i*P	**Pn**	**21 23 11.8**	**+1.2**
ZAPS	**Zavoj**	**6.84**	**79**	⇑*i*Pn	**Pn**	**21 23 13.7**	**+2.2**
KHC	**Kasperske Hory**	**6.85**	**1**	*e*PN	**Pn**	**21 23 11.7**	**+0.1**
KHC				*ex*	x	21 23 20.6	
KHC				*e*SN	**Sn**	**21 24 26.1**	**-3.4**
KHC				*ex*	x	21 24 40.4	
KHC	**Kasperske Hory**	**6.85**	**1**	Pn	**Pn**	**21 23 11.7**	**+0.1**
VIVF	**Saint-Julien-l**	**6.86**	**295**	*e*P	**Pn**	**21 23 13.7**	**+2.0**
VIVF	**Saint-Julien-l**	**6.86**	**295**	*e*P	**Pn**	**21 23 13.7**	**+2.0**
HINF	**Hinteralfeld**	**7.23**	**322**	*e*Pn	**Pn**	**21 23 14.7**	**-2.1**
HINF				*e*Sn	Sn	21 24 32.1	-6.7
	5.1nm,0.5s						
HINF	**Hinteralfeld**	**7.23**	**322**	*e*Pn	**Pn**	**21 23 14.7**	**-2.1**
VTS	**Vitosha**	**7.24**	**84**	⇑*i*P	**Pn**	**21 23 18.5**	**+1.4**
VTS	**Vitosha**	**7.24**	**84**	S	**Sn**	**21 24 41.1**	**+1.8**
VTS	**Vitosha**	**7.24**	**84**	⇑*i*P	**Pn**	**21 23 18.5**	**+1.4**
KEST	**Kesra**	**7.27**	**207**	Pn	Pn	21 23 22.3	+4.9
	0.6nm,0.3s,baz=349,slow=5.2,SNR=39						
KEST				Sn	Sn	21 24 27.9	-12
	0.0nm,0.3s,baz=144,slow=23,SNR=6.6						
GZR	**Gura Zlata**	**7.44**	**62**	‖*i*P	**Pn**	**21 23 20.5**	**+0.8**
GZR	**Gura Zlata**	**7.44**	**62**	‖*i*P	**Pn**	**21 23 20.5**	**+0.8**
CDF	**Champ du Feu**	**7.51**	**327**	*e*Pn	**Pn**	**21 23 19.7**	**-0.9**
CDF				*e*Sn	Sn	21 24 38.7	-7.0
	3.1nm,0.6s						
CDF	**Champ du

SNGZ				SN	**Sn**	**22 29 39.4**	**+1.1**
MKAZ	**Moumakai**	**4.31**	**243**	PN	**Pn**	**22 28 54.6**	**0.0**
TOZ	**Tahuroa Road**	**4.37**	**234**	PN	**Pn**	**22 28 56.4**	**+1.0**
BKZ	**Black Stump Fm**	**4.79**	**215**	PN	**Pn**	**22 29 00.7**	**-0.4**
PPT	**Papeete**	**32.28**	**65**	LR	LR	22 45 08.7	
	comp=Z,27nm,20.6s,baz=230,slow=33						
ASAR	**Alice Springs**	**41.43**	**273**	P	**P**	**22 35 32.3**	**+0.1**
	0.9nm,0.7s,baz=117,slow=7.6,SNR=8.8						
WRA	**Warramunga Arr**	**42.86**	**279**	P	**P**	**22 35 42.8**	**-1.0**
	1.2nm,0.6s,baz=120,slow=7.5,SNR=17						
TORD	**Torodi Ar. Bea**	**157.92**	**184**	PKPab	**PKPab**	**22 48 15.7**	**+0.9**
	0.3nm,0.9s,baz=185,slow=4.9,SNR=2.5						

NIED ***31*** *22:40:00,39.°50N×141.°20E,h77km,Mw4.0 Best double couple: M₀9.56000×10¹⁴ NP1:φ₀14.00000°,δ23.00000°, λ91.00000°. NP2:φ₀193.00000°,δ67.00000°,λ89.00000°.*

ISCJB ***31*** *22:40:09.1±0.3,39.°47N±0.°03×141.°25E±0.°07,h98km±2km, mb3.8/22,Error ellipse: s-maj=9.0km s-min=5.0km az=14.8*

IDC ***31*** *22:40:10.3±0.8,39.°47N×141.°14E,h93km±6km,mb3.6/20, mb1 3.8/23,mb1mx3.8/29,mbtmp3.9/23,MS3.4/1, Ms1 3.6/1,ms1mx2.4/39,Error ellipse: s-maj=14.1km s-min=12.0km az=130.0*

JMA ***31*** *22:40:10.3,39.°46N×141.°21E,h90km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φ₀175.00000°,δ71.00000°,λ96.00000°. NP2: φ₀338.00000°,δ19.00000°,λ74.00000°. Principal axes: T Plg63.0000°, Azm94.0000°; N Plg5.0000°, Azm354.0000°; P Plg26.0000°, Azm261.0000°;*

JMA Felt II J1.

ISC 31 22:40:10.2±0.6,39.°47N±0.°04×141.°28E±0.°07,h92km±4km, n58,σ0s85/63,mb3.8/22,8C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOM	**Ohasama**	**0.01**	**88**	↑P	**Pn**	**22 40 22.8**	**-0.3**
JOM				S	**Sn**	**22 40 32.4**	**-0.3**
JRG	**Rokugo**	**0.51**	**262**	↑P	**Pn**	**22 40 24.8**	**-0.4**
JRG				S	**Sn**	**22 40 36.0**	**-0.3**
JMK	**Ichinoseki**	**0.52**	**185**	↑P	**Pn**	**22 40 25.1**	**-0.2**
JMK				S	**Sn**	**22 40 35.9**	**-0.6**
JAH	**Hinai**	**0.87**	**326**	↑P	**Pn**	**22 40 28.5**	**-0.1**
JAH				*e*S	**Sn**	**22 40 42.3**	**-0.1**
JYK	**Kaneyama**	**0.90**	**232**	↑P	**Pn**	**22 40 28.7**	**-0.3**
JYK				S	**Sn**	**22 40 42.5**	**-0.5**
JANG	**Nango**	**0.92**	**11**	↓P	**Pn**	**22 40 29.2**	**+0.1**
JANG				S	**Sn**	**22 40 43.6**	**+0.3**
JIO	**Ouri**	**1.02**	**177**	↑P	**Pn**	**22 40 30.2**	**0.0**
JIO				S	**Sn**	**22 40 44.7**	**-0.5**
JOU	**Okura**	**1.21**	**204**	↑P	**Pn**	**22 40 32.7**	**+0.3**
JOU				*e*S	**Sn**	**22 40 49.6**	**+0.4**
JTM	**Tenmabayashi**	**1.32**	**353**	↑P	**Pn**	**22 40 34.2**	**+0.4**
JTM				S	**Sn**	**22 40 52.5**	**+0.9**
MJAR	**Matsushiro Arr**	**3.80**	**221**	P	**Pn**	**22 41 07.1**	**+0.6**
	9.0nm,0.3s,baz=27,slow=13,SNR=82						
MAT	**Matsushiro**	**3.80**	**221**	P	**Pn**	**22 41 07.6**	**+1.1**
MAT				S	**Sn**	**22 41 52.9**	**+2.7**
ASAJ	**Asahikawa**	**4.74**	**12**	P	**Pn**	**22 41 19.2**	**-0.1**
	2.4nm,0.3s,baz=203,slow=11,SNR=5.0						
USRK	**Ussuriysk Arra**	**8.39**	**307**	P	**Pn**	**22 42 09.8**	**+1.0**
	1.1nm,0.3s,baz=117,slow=14,SNR=22						
KSRS	**Korea Array**	**10.67**	**263**	P	**Pn**	**22 42 42.2**	**+2.3**
	0.4nm,0.3s,baz=72,slow=14,SNR=5.4						
SEY	**Seymchan**	**24.43**	**12**	P	**P**	**22 45 20.8**	**+1.0**
	1.0nm,0.4s,baz=190,slow=6.4,SNR=5.8						
SONM	**Songino Array**	**26.41**	**300**	P	**P**	**22 45 36.6**	**-1.5**
	0.4nm,0.3s,baz=97,slow=8.4,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**29.55**	**124**	T	T	23 16 48.8	
	baz=320,slow=76,SNR=229						
H11N1	**WAKE ISLAND Hy**	**29.56**	**124**	T	T	23 16 47.3	
	baz=320,slow=76,SNR=314						
H11N3	**WAKE ISLAND Hy**	**29.57**	**124**	T	T	23 16 48.0	
	baz=320,slow=76,SNR=301						
H11S1	**WAKE ISLAND Hy**	**30.33**	**126**	T	T	23 17 43.2	
	baz=322,slow=76,SNR=78						
H11S3	**WAKE ISLAND Hy**	**30.33**	**126**	T	T	23 17 52.7	
	baz=322,slow=76,SNR=118						
H11S2	**WAKE ISLAND Hy**	**30.35**	**126**	T	T	23 17 54.0	
	baz=322,slow=76,SNR=93						
ZALV	**Zalesovo Beam**	**40.23**	**310**	P	**P**	**22 47 36.8**	**-0.7**
	2.9nm,0.5s,baz=87,slow=8.0,SNR=20						
ZALV				PcP	**PcP**	**22 49 39.3**	**-0.3**
	0.7nm,0.3s,baz=71,slow=3.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**42.07**	**253**	P	**P**	**22 47 53.7**	**+0.8**
	1.0nm,0.3s,baz=46,slow=5.2,SNR=5.2						
CMAR				LR	LR	23 07 12.4	
	comp=Z,49nm,19.4s,baz=162,slow=39						
MKAR	**Makanchi Array**	**42.77**	**300**	P	**P**	**22 47 57.5**	**-1.0**
	0.8nm,0.5s,baz=83,slow=12,SNR=23						
TAPN	**Taplejung**	**45.72**	**272**	*e*P	**P**	**22 48 21.5**	**-1.0**
JIRN	**Jiri**	**46.74**	**273**	*e*P	**P**	**22 48 30.0**	**-0.6**
RAMN	**Ramite**	**46.77**	**272**	*e*P	**P**	**22 48 29.4**	**-1.3**
GUN	**Gumba**	**46.86**	**273**	*e*P	**P**	**22 48 30.8**	**-0.7**
	8.6nm,0.3s						
PKIN	**Phulchoki**	**47.39**	**273**	*e*P	**P**	**22 48 35.2**	**-0.3**
ILAR	**Eielson Array**	**47.51**	**34**	P	**P**	**22 48 36.4**	**+0.8**
	1.6nm,0.7s,baz=267,slow=6.1,SNR=29						
DMN	**Daman**	**47.60**	**273**	*e*P	**P**	**22 48 36.1**	**-1.0**
GKN	**Gorkha**	**47.77**	**274**	*e*P	**P**	**22 48 37.7**	**-0.6**
DANN	**Dangsing**	**48.28**	**275**	*e*P	**P**	**22 48 42.0**	**-0.4**
	23nm,0.5s						
KOLN	**Koldanda**	**48.69**	**274**	*e*P	**P**	**22 48 44.6**	**-0.8**
PYUN	**Piuthan**	**49.00**	**275**	*e*P	**P**	**22 48 46.9**	**-0.9**
	9.4nm,0.3s						
INK	**Inuvik**	**52.28**	**28**	P	**P**	**22 49 12.5**	**+1.0**
	3.7nm,0.5s,baz=279,slow=6.1,SNR=23						
WRA	**Warramunga Arr**	**59.46**	**188**	P	**P**	**22 50 02.4**	**-1.0**
	1.7nm,0.5s,baz=5.1,slow=6.8,SNR=41						
ARCES	**ARCESS Array B**	**61.68**	**339**	P	**P**	**22 50 17.1**	**-0.8**
	2.7nm,0.9s,baz=53,slow=8.0,SNR=3.9						
YKA	**Yellowknife Ar**	**61.76**	**31**	P	**P**	**22 50 18.9**	**+0.4**
	0.3nm,0.6s,baz=301,slow=6.5,SNR=7.8						
YKA				pP	**pP**	**22 50 41.2**	**-0.4**
	0.3nm,0.6s,baz=302,slow=6.5,SNR=5.2						
ASAR	**Alice Springs**	**63.19**	**188**	P	**P**	**22 50 28.4**	**0.0**
	1.0nm,0.5s,baz=0.3,slow=5.9,SNR=12						
JOF	**Joensuu**	**63.77**	**331**	*e*p	**P**	**22 50 31.3**	**-0.6**
	0.4nm,0.3s						
KAF	**Kangasniemi**	**66.10**	**332**	*e*p	**P**	**22 50 46.1**	**-0.9**
	0.6nm,0.4s						
FINES	**FINESS Array B**	**66.61**	**332**	P	**P**	**22 50 49.8**	**-0.5**
	1.3nm,0.5s,baz=41,slow=9.5,SNR=12						
KBZ	**Khabaz**	**69.25**	**310**	P	**P**	**22 51 07.2**	**+0.2**
	0.8nm,0.6s,baz=117,slow=4.5,SNR=3.4						
NB2	**NORSAR Subarra**	**71.90**	**337**	P	**P**	**22 51 22.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.90**	**337**	P	**P**	**22 51 22.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.7,SNR=5.4						
AKASG	**Malin Array Be**	**72.31**	**322**	P	**P**	**22 51 24.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=44,slow=6.7,SNR=8.4						
NVAR	**Mina Array Bea**	**73.62**	**54**	P	**P**	**22 51 35.2**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=292,slow=5.9,SNR=8.4						
PDAR	**Pinedale Array**	**76.04**	**46**	P	**P**	**22 51 48.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=267,slow=1.5,SNR=9.7						
PDAR				pP	**pP**	**22 52 12.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=290,slow=2.6,SNR=1.8						
BRTR	**Keskin Array B**	**77.16**	**311**	P	**P**	**22 51 54.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=110,slow=3.5,SNR=5.5						
BRTR				pP	**pP**	**22 52 17.7**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=35,slow=5.3,SNR=2.5						
GERES	**GERESS Array B**	**80.59**	**328**	P	**P**	**22 52 12.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=58,slow=5.9,SNR=3.0						
TXAR	**Lajitas Array**	**88.72**	**52**	P	**P**	**22 52 53.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=288,slow=3.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**115.53**	**316**	PKP	**PKPdf**	**22 58 40.0**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=350,slow=1.5,SNR=4.6						
LPAZ	**La Paz**	**145.49**	**56**	PKPbc	**PKPab**	**22 59 39.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=6.8,slow=3.4,SNR=6.3						
H03N2	**Juan Fernandez**	**147.30**	**92**	T	T	01 44 45.3	
	baz=288						
H03N3	**Juan Fernandez**	**147.31**	**92**	T	T	01 44 43.5	
	baz=288						
H03N1	**Juan Fernandez**	**147.32**	**92**	T	T	01 44 43.7	
	baz=288						

DDA 31 23:07:45.0,39.°23N×27.°73E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.36**	**169**	*i* P	Pg	23 07 51.9	0.0
AKHS				*i* S	Sg	23 07 58.0	+1.3

ISCJB ***31*** *23:26:21.9±0.6,7.°65S±0.°05×128.°66E±0.°06,h150km, mb3.7/3,Error ellipse: s-maj=8.8km s-min=6.0km az=146.3*

IDC ***31*** *23:26:23.1±4.8,7.°69S×128.°50E,h140km±48km,mb3.5/3, mb1 3.7/6,mb1mx3.4/30,mbtmp4.0/6,Error ellipse: s-maj=44.4km s-min=24.8km az=44.0*

AUST ***31*** *23:26:25.8±8.3,8.°28S×128.°54E,h21km,Error ellipse: s-maj=2.1km s-min=1.1km az=13.0*

ISC 31 23:26:23.3±0.8,7.°78S±0.°07×128.°59E±0.°07,h150km,n15, σ2s11/18,mb3.8/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.70**	**245**	P	**Pn**	**23 27 33.6**	**+0.7**
	baz=4.5,SNR=4.6						
BATI	**Baumata**	**5.43**	**243**	P	**Pn**	**23 27 43.0**	**+0.5**
	3.3nm,0.3s,baz=11,slow=5.2,SNR=5.9						
BATI				S	**Sn**	**23 28 42.8**	**-1.5**
	baz=81,slow=19						
MTN	**Manton Dam**	**5.62**	**154**	P	Pn	23 27 39.2	-5.9
	baz=5.2,SNR=11						
MTN				S	**Sn**	**23 28 50.3**	**+1.3**
	baz=5.2,SNR=6.8						
FAKI	**Fak Fak**	**6.05**	**37**	P	**Pn**	**23 27 48.6**	**-2.1**
	baz=6.5,SNR=3.9						
KDU	**Kakadu**	**6.20**	**142**	P	**Pn**	**23 27 54.6**	**+1.9**
	baz=5.9,SNR=87						
KDU				S	**Sn**	**23 29 03.5**	**+0.7**
	baz=5.9,SNR=7.8						
KNRA	**Kununurra**	**7.86**	**179**	P	**Pn**	**23 28 16.2**	**+1.3**
	baz=7.4,SNR=59						
KNRA				S	**Sn**	**23 29 40.1**	**-2.3**
	baz=7.4,SNR=6.3						
WRA	**Warramunga Arr**	**13.32**	**156**	P	**Pn**	**23 29 26.4**	**-0.3**
	1.4nm,0.3s,baz=334,slow=14,SNR=44						
WRA				S	Sn	23 31 47.2	-7.0
	2.8nm,0.3s,baz=330,slow=22,SNR=12						
COEN	**Coen**	**15.58**	**114**	S	Sn	23 32 41.6	-7.1
	baz=15,SNR=7.4						
QIS	**Mount Isa**	**16.59**	**141**	P	Pn	23 30 13.0	+5.7
	baz=16,SNR=4.9						
QIS				S	S	23 33 04.7	-7.1
	baz=16,SNR=4.4						
ASAR	**Alice Springs**	**16.61**	**163**	P	**Pn**	**23 30 10.0**	**+2.5**
	0.9nm,0.3s,baz=338,slow=11,SNR=50						
ASAR				S	**S**	**23 33 09.0**	**-3.2**
	0.7nm,0.3s,baz=321,slow=21,SNR=7.9						
WRKA	**Warakurna**	**17.17**	**181**	P	**Pn**	**23 30 18.1**	**+3.8**
	baz=17,SNR=4.4						
WRKA				S	**S**	**23 33 21.4**	**-3.6**
	baz=17,SNR=3.1						
SONM	**Songino Array**	**58.74**	**343**	P	**P**	**23 36 06.1**	**+0.6**
	1.0nm,0.7s,baz=164,slow=6.7,SNR=11						
MKAR	**Makanchi Array**	**68.11**	**328**	P	**P**	**23 37 07.2**	**+0.1**
	0.7nm,0.5s,baz=124,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**71.66**	**334**	P	**P**	**23 37 27.6**	**-0.9**
	0.6nm,0.5s,baz=151,slow=6.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**127.58**	**281**	PKP	**PKPdf**	**23 45 12.7**	**+1.0**
	0.7nm,1.1s,baz=90,slow=1.4,SNR=2.5						

IDC 31 23:40:30.5±1.7,2.°69S×124.°83E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.2/32,mbtmp3.2/3,ML3.2/1,Error ellipse: s-maj=182.1km s-min=26.0km az=63.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.51**	**152**	P	P	23 44 57.9	-1.6
	0.1nm,0.3s,baz=328,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**22.63**	**158**	P	P	23 45 34.7	+1.3
	0.2nm,0.5s,baz=339,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**61.84**	**328**	P	P	23 50 51.5	-0.1
	0.5nm,1.0s,baz=126,slow=7.3,SNR=3.1						

ISC Computed Locations for January 2010

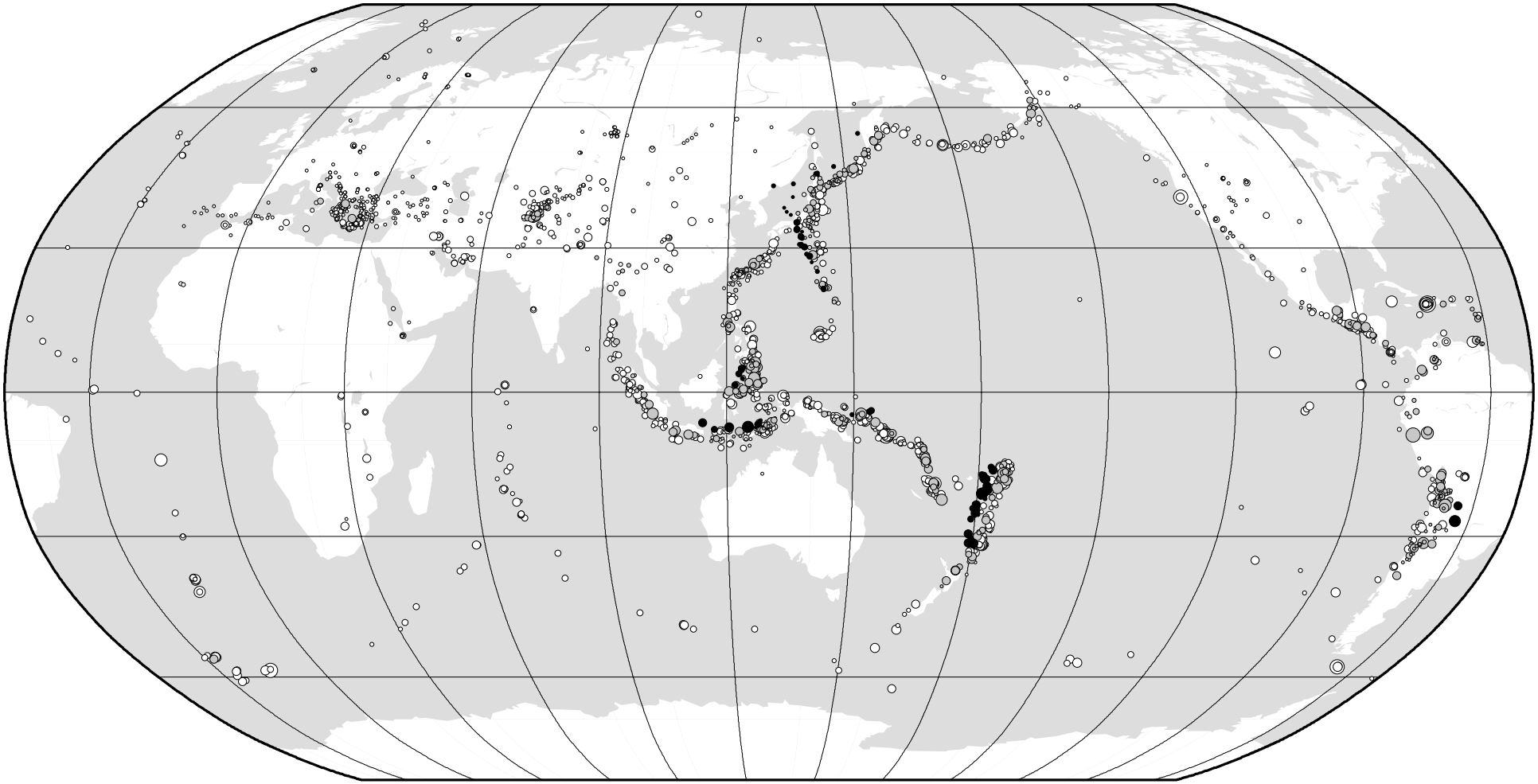

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2654 Events